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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*IDC **01** 00:01:06.1±0.8, 36°.55S×73°.05W, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.2/18, mbtmp4.1/11, ML4.0/2, Error ellipse: s-maj=27.3km s-min=26.2km az=123.0*
*ISCJB **01** 00:01:08.9±0.8, 36°.40S±0°.10×73°.0W±0°.1, h25km, mb4.2/8, Error ellipse: s-maj=16.4km s-min=13.7km az=163.2*
*NEIC **01** 00:01:11.7±0.5, 36°.43S×73°.05W, h35km, mb4.6/3, Error ellipse: s-maj=12.1km s-min=9.2km az=88.0*

ISC 01 00:01:10.4±0.7, 36°.36S±0°.10×73°.1W±0°.1, h25km, n26, σ0=87/28, mb4.2/8, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**6.24**	**42**	Pn		**Pn**	**Pn**	**00 02 39.7**	**-1.3**
0.6nm,0.3s,baz=206,slow=16,SNR=4.8									
TRQA	**Tornquist**	**9.05**	**104**	*e*Pn			**Pn**	**00 03 20.3**	**+0.8**
LVC	**Limon Verde**	**14.18**	**16**	*e*Pn			**Pn**	**00 04 30.2**	**+0.3**
CPUP	**Villa Florida**	**16.77**	**58**	Pn			**Pn**	**00 05 03.5**	**-0.1**
0.4nm,0.3s,baz=197,slow=14,SNR=2.6									
LPAZ	**La Paz**	**20.48**	**14**	P			**P**	**00 05 48.3**	**+1.2**
2.0nm,0.6s,baz=179,slow=14,SNR=4.1									
LPAZ	**La Paz**	**20.48**	**14**	*e*P			**P**	**00 05 48.0**	**+0.9**
36nm,1.2s									
SIV	**San Ignacio**	**22.95**	**31**	P			**P**	**00 06 14.1**	**+1.1**
2.6nm,0.6s,baz=224,slow=13,SNR=7.2									
BDFB	**Brasilia**	**30.42**	**54**	P			**P**	**00 07 22.6**	**+1.6**
2.7nm,0.7s,baz=140,slow=3.6,SNR=3.6									
SYO	**Syowa Base**	**64.00**	**158**	*e*P			**P**	**00 11 41.2**	**0.0**
TXAR	**Lajitas Array**	**71.38**	**332**	P			**P**	**00 12 29.6**	**+1.3**
1.1nm,0.5s,baz=143,slow=13,SNR=5.4									
DBIC	**Dimbokro**	**76.78**	**71**	P			**P**	**00 12 58.7**	**-1.4**
2.3nm,0.5s,baz=197,slow=5.6,SNR=9.2									
DBIC	**Dimbokro**	**76.78**	**71**	*e*P			**P**	**00 12 59.3**	**-0.8**
2.6nm,0.6s									
BOSA	**Boshof**	**79.76**	**118**	P			**P**	**00 13 16.2**	**-0.5**
8.3nm,0.9s,baz=258,slow=5.7,SNR=10									
BOSA	**Boshof**	**79.76**	**118**	*e*P			**P**	**00 13 16.7**	**0.0**
6.9nm,0.7s									
NVAR	**Mina Array Bea**	**85.33**	**326**	P			**P**	**00 13 45.7**	**+0.4**
1.0nm,0.8s,baz=145,slow=7.0,SNR=5.8									
TOA0	**Torodi Ar. Sit**	**85.84**	**70**	*e*P			**P**	**00 13 47.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**85.84**	**70**	P			**P**	**00 13 47.0**	**-1.2**
1.3nm,0.8s,baz=256,slow=3.8,SNR=8.2									
ULM	**Lac du Bonnet**	**88.55**	**346**	P			**P**	**00 14 00.2**	**-0.2**
1.8nm,0.7s,baz=210,slow=9.5,SNR=3.3									
WRA	**Warramunga Arr**	**118.27**	**210**	PKP			**PKPdf**	**00 19 55.9**	**-0.1**
0.5nm,0.5s,baz=154,slow=1.7,SNR=8.6									
NOA	**NORSAR Array B**	**118.48**	**33**	PKP			**PKPdf**	**00 19 54.5**	**-0.5**
0.8nm,1.0s,baz=55,slow=7.1,SNR=4.7									
BRTR	**Keskin Array B**	**123.73**	**63**	PKP			**PKPdf**	**00 20 04.7**	**-1.3**
0.4nm,0.7s,baz=221,slow=3.8,SNR=4.1									
BVAR	**Borovoye Array**	**149.59**	**45**	PKP			**PKPdf**	**00 20 52.8**	**+0.3**
1.2nm,0.5s,baz=198,slow=0.9,SNR=3.6									
BVAR				PKPbc			**PKPbc**	**00 20 57.4**	**+0.3**
1.2nm,0.5s,baz=300,slow=2.9,SNR=10									
AAK	**Ala-Archa**	**154.34**	**66**	PKPbc			**PKPbc**	**00 21 08.8**	**+0.4**
1.1nm,0.7s,baz=202,slow=2.6,SNR=8.4									
ZALV	**Zalesovo Beam**	**156.69**	**34**	PKP			**PKPdf**	**00 21 01.9**	**-0.8**
1.3nm,0.8s,baz=270,slow=3.0,SNR=5.7									
MKAR	**Makanchi Array**	**158.94**	**53**	PKP			**PKPdf**	**00 21 06.1**	**+0.3**
1.0nm,0.8s,baz=278,slow=0.8,SNR=8.0									
MKAR				PKPab			**PKPab**	**00 21 41.7**	**-0.5**
0.9nm,0.8s,baz=273,slow=4.5,SNR=5.0									
SONM	**Songino Array**	**168.53**	**2**	PKPab			**PKPab**	**00 22 24.0**	**-0.2**
0.5nm,0.9s,baz=20,slow=2.3,SNR=3.6									

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*ISCJB **01** 00:01:24.3±0.3, 38°.31S±0°.06×73°.79W±0°.08, h33km, mb4.9/34, MS4.9/33, Error ellipse: s-maj=10.7km s-min=6.1km az=139.9*
*IDC **01** 00:01:24.0±6.1, 38°.38S×74°.00W, h22km±37km, mb4.5/11, mb1 4.6/14, mb1mx4.5/21, mbtmp4.6/14, ML4.5/3, Error ellipse: s-maj=24.3km s-min=15.6km az=99.0*
*NEIC **01** 00:01:26.2±1.6, 38°.31S×73°.92W, h35km±5km, mb5.1/31, MS4.8/36, Error ellipse: s-maj=16.9km s-min=9.5km az=51.0*
NEIC Felt at Temuco.

ISC 01 00:01:26.3±0.4, 38°.30S±0°.06×73°.78W±0°.08, h35km, n233, σ0=93/222, mb4.9/36, MS4.7/32, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.48**	**135**	Pn			**Pn**	**00 02 18.1**	**+0.1**
8.6nm,0.3s,baz=288,slow=9.0,SNR=20									
PLCA				Lg			Lg	00 03 17.6	
36nm,0.3s,baz=19,slow=16,SNR=7.4									
PLCA	**Paso Flores**	**3.48**	**135**	*e*Pn			**Pn**	**00 02 19.4**	**+1.3**
PLCA	**Paso Flores**	**3.48**	**135**	*e*Pn			**Pn**	**00 02 18.9**	**+0.9**
TRQA	**Tornquist**	**9.29**	**92**	*e*Pn			**Pn**	**00 03 39.5**	**+1.7**
USHA	**Ushuaia**	**16.93**	**169**	Pn			**Pn**	**00 05 18.8**	**-1.5**
0.4nm,0.3s,baz=337,slow=7.9,SNR=5.5									
EFI	**East Falkland**	**17.34**	**146**	*e*Pn			**Pn**	**00 05 24.3**	**-1.1**
436nm,1.9s									
CPUP	**Villa Florida**	**18.29**	**54**	P			**Pn**	**00 05 37.9**	**+0.7**
1.3nm,0.3s,baz=223,slow=8.9,SNR=13									
CPUP	**Villa Florida**	**18.29**	**54**	*e*P			**P**	**00 05 35.5**	**-1.6**
LPAZ	**La Paz**	**22.48**	**14**	P			**P**	**00 06 23.9**	**+0.6**
16nm,0.9s,baz=118,slow=8.1,SNR=10									
LPAZ	**La Paz**	**22.48**	**14**	*e*P			**P**	**00 06 23.1**	**-0.2**
20nm,0.9s									
LPAZ				*e*S			**S**	**00 10 27.8**	**-0.6**
LPAZ				LR			LR		
comp=Z,500nm,18.5s									
SIV	**San Ignacio**	**24.88**	**30**	P			**P**	**00 06 43.6**	**-2.2**
comp=Z,8.8nm,0.9s,baz=234,slow=13,SNR=5.6									
NNA	**Nana**	**26.35**	**353**	PFAKE				00 07 10.0	+11
NNA				LR			LR		
comp=Z,500nm,19.0s									
SAML	**Samuel**	**30.74**	**21**	*e*P			**P**	**00 07 37.5**	**-0.7**
comp=Z,18nm,1.6s									
SAML				LR			LR		
comp=Z,700nm,19.2s									
BDFB	**Brasilia**	**32.00**	**52**	P			**P**	**00 07 49.4**	**-0.1**
comp=Z,3.7nm,0.7s,baz=216,slow=7.5,SNR=6.0									
BDFB	**Brasilia**	**32.00**	**52**	*e*P			**P**	**00 07 49.7**	**+0.2**
OTAV	**Otavalo**	**38.59**	**352**	*e*P			**P**	**00 08 46.2**	**-0.4**
comp=Z,19nm,1.4s									
RCBR	**Riachuelo**	**47.14**	**56**	P			**P**	**00 09 56.6**	**+1.2**
comp=Z,23nm,1.1s,baz=222,slow=12,SNR=6.2									
RCBR	**Riachuelo**	**47.14**	**56**	*e*P			**P**	**00 09 56.6**	**+1.2**
comp=Z,40nm,1.3s									
RCBR				LR			LR		
comp=Z,500nm,18.8s									
SNAA	**Sanae**	**48.18**	**156**	P			**P**	**00 10 00.9**	**-1.9**
comp=Z,3.7nm,0.8s,baz=293,slow=8.5,SNR=12									
SNAA	**Sanae**	**48.18**	**156**	*e*P			**P**	**00 10 02.1**	**-0.7**
comp=Z,24nm,1.1s									
QSPA	**South Pole Qui**	**51.94**	**180**	P			**P**	**00 10 31.8**	**+0.3**
comp=Z,14nm,0.9s,baz=141,slow=4.7,SNR=20									
QSPA	**South Pole Qui**	**51.94**	**180**	*e*P			**P**	**00 10 31.7**	**+0.3**
comp=Z,16nm,0.9s									
RKT	**Rikitea**	**53.85**	**268**	*e*LR			LR	00 26 10.3	
comp=Z,405nm,26.8s									
RKT	**Rikitea**	**53.85**	**268**	*e*T			T	01 08 21.0	
comp=Z,2.2nm,0.3s									
CDVI	**St. Croix**	**56.39**	**10**	PFAKE				00 11 20.0	+16
CDVI				LR			LR		
comp=Z,600nm,20.3s									
SEUS	**St. Eustatius**	**56.41**	**12**	PFAKE				00 11 20.0	+16
SEUS				LR			LR		
comp=Z,300nm,21.1s									
SABA	**Saba**	**56.50**	**12**	PFAKE				00 11 20.0	+15
SABA				LR			LR		
comp=Z,300nm,18.7s									
SMRT	**St. Maarten**	**56.95**	**12**	PFAKE				00 11 20.0	+12
SMRT				LR			LR		
comp=Z,500nm,21.8s									
TBI	**Tubuai**	**65.04**	**259**	*e*T			T	01 22 22.6	
comp=Z,8.9nm,0.3s									
MEH	**Mehetia**	**66.97**	**265**	*e*T			T	01 24 50.2	
comp=Z,23nm,0.3s									
TVO	**Taravao**	**67.95**	**264**	*e*T			T	01 25 58.8	
comp=Z,1.4nm,0.2s									
TIAR	**Tiarei**	**68.16**	**264**	*e*T			T	01 26 04.0	
comp=Z,11nm,0.2s									
PPT2	**Papeete2**	**68.32**	**264**	*e*S			S	00 21 16.8	-6.3
comp=Z,339nm,25.0s									
PPT2	**Papeete2**	**68.32**	**264**	*e*LR			LR	00 32 53.9	
comp=Z,279nm,27.8s									
832A	**Faith Ranch, C**	**70.63**	**336**	P			**P**	**00 12 38.2**	**+0.1**
baz=71									
636A	**Smothers Creek**	**70.86**	**339**	P			**P**	**00 12 40.3**	**+0.9**
baz=71									
732A	**Laxson Ranch,**	**71.04**	**336**	P			**P**	**00 12 40.5**	**-0.1**
baz=71									
632A	**Uvalde**	**71.70**	**336**	P			**P**	**00 12 44.9**	**+0.3**
baz=72									
340A	**Bronson**	**71.85**	**342**	P			**P**	**00 12 45.5**	**+0.2**
baz=72									
533A	**Kerrville**	**72.00**	**337**	P			**P**	**00 12 46.9**	**+0.6**
baz=72									
436A	**Wall Ranch, Ga**	**72.00**	**339**	P			**P**	**00 12 46.8**	**+0.6**
baz=72									
337A	**Centerville**	**72.26**	**340**	P			**P**	**00 12 49.0**	**+1.2**
baz=73									
532A	**Rocksprings**	**72.32**	**336**	P			**P**	**00 12 48.3**	**+0.1**
baz=73									
434A	**Burnet**	**72.46**	**338**	P			**P**	**00 12 48.6**	**-0.4**
baz=73									
531A	**Rocksprings**	**72.56**	**336**	P			**P**	**00 12 49.8**	**+0.1**
baz=73									
JCT	**Junction City**	**72.61**	**337**	P			**P**	**00 12 50.0**	**0.0**
baz=81									
JCT	**Junction City**	**72.61**	**337**	*e*P			**P**	**00 12 49.6**	**-0.4**
comp=Z,11nm,0.9s									
433A	**Art**	**72.65**	**337**	P			**P**	**00 12 49.8**	**-0.4**
baz=73									
530A	**J-C Ranch, Com**	**72.80**	**335**	P			**P**	**00 12 51.5**	**+0.4**
baz=73									
LTX	**Lajitas**	**72.86**	**333**	*e*P			**P**	**00 12 51.5**	**0.0**
TXAR	**Lajitas Array**	**72.86**	**333**	P			**P**	**00 12 51.5**	**0.0**
comp=Z,2.8nm,0.7s,baz=156,slow=9.6,SNR=7.5									
TX31	**Lajitas Ar. Si**	**72.86**	**333**	*e*P			**P**	**00 12 51.2**	**-0.4**
334A	**Lometa**	**72.94**	**338**	P			**P**	**00 12 51.6**	**-0.3**
baz=73									
431A	**Sonora**	**73.06**	**336**	P			**P**	**00 12 52.0**	**-0.7**
baz=73									
333A	**Richland Sprin**	**73.15**	**338**	P			**P**	**00 12 52.5**	**-0.7**
baz=73									
430A	**Baggett Ranch,**	**73.35**	**336**	P			**P**	**00 12 54.2**	**-0.3**
baz=74									
429A	**Davenport Ranc**	**73.42**	**335**	P			**P**	**00 12 54.6**	**-0.2**
baz=74									
332A	**Millersview**	**73.43**	**337**	P			**P**	**00 12 54.4**	**-0.5**
baz=74									
234A	**Clairette**	**73.54**	**339**	P			**P**	**00 12 54.4**	**-1.0**
baz=74									
331A	**San Angelo**	**73.58**	**336**	P			**P**	**00 12 55.4**	**-0.4**
baz=74									
233A	**Rising Star**	**73.77**	**338**	P			**P**	**00 12 55.8**	**-1.0**
baz=74									
232A	**Coleman**	**73.87**	**337**	P			**P**	**00 12 57.0**	**-0.4**
baz=74									
330A	**Mertzon**	**73.91**	**336**	P			**P**	**00 12 56.6**	**-1.0**
baz=74									
SUR	**Sutherland**	**74.00**	**119**	*e*P			**P**	**00 12 59.0**	**+0.3**
comp=Z,45nm,1.3s									
231A	**Bronte**	**74.12**	**337**	P			**P**	**00 12 58.3**	**-0.6**
baz=74									
329A	**Wagon Wheel Ra**	**74.24**	**335**	P			**P**	**00 12 59.4**	**-0.2**
baz=74									
133A	**Hamilton Ranch**	**74.33**	**338**	P			**P**	**00 12 59.8**	**-0.3**
baz=75									
Z35A	**Perchaven, San**	**74.54**	**340**	P			**P**	**00 13 00.9**	**-0.3**
baz=75									
ABTX	**Abilene, Hawle**	**74.56**	**338**	P			**P**	**00 13 00.8**	**-0.6**
baz=75									
ABTX	**Abilene, Hawle**	**74.56**	**338**	*e*P			**P**	**00 13 00.8**	**-0.6**
comp=Z,16nm,1.1s									
229A	**Bryant Ranch,**	**74.63**	**336**	P			**P**	**00 13 01.5**	**-0.4**
baz=75									
131A	**Roby**	**74.83**	**337**	P			**P**	**00 13 02.7**	**-0.3**
baz=75									
TZTN	**Tazewell**	**75.02**	**352**	*e*P			**P**	**00 13 02.3**	**-1.6**
comp=Z,274nm,3.0s									
228A	**UT Block 9, Go**	**75.03**	**335**	P			**P**	**00 13 03.6**	**-0.6**
baz=75									
Z32A	**Haskell**	**75.15**	**338**	P			**P**	**00 13 04.5**	**-0.3**
baz=76									
WVT	**Waverly**	**75.19**	**348**	*e*P			**P**	**00 13 03.8**	**-1.1**
comp=Z,22nm,1.0s									
129A	**Stewart Farms,**	**75.26**	**336**	P			**P**	**00 13 04.8**	**-0.7**
baz=76									
Y34A	**Reagan Ranch,**	**75.27**	**340**	P			**P**	**00 13 04.9**	**-0.5**
baz=76									
Z31A	**Sharp Cattle R**	**75.36**	**337**	P			**P**	**00 13 05.5**	**-0.5**
baz=76									
128A	**Castleberry Fa**	**75.45**	**335**	P			**P**	**00 13 06.3**	**-0.4**
baz=76									
Z30A	**Sanderson Ranc**	**75.63**	**337**	P			**P**	**00 13 06.9**	**-0.7**
baz=76									
Y32A	**R-V Farms, Ver**	**75.79**	**338**	P			**P**	**00 13 08.2**	**-0.2**
baz=76									
Z29A	**Hungry Hill Ra**	**75.79**	**336**	P			**P**	**00 13 07.9**	**-0.6**
baz=76									
X34A	**Smith Ranch, M**	**75.89**	**340**	P			**P**	**00 13 08.6**	**-0.4**
baz=76									
Y31A	**Rekieta Farm,**	**75.99**	**338**	P			**P**	**00 13 09.3**	**-0.3**
baz=76									
W34A	**Bridge Creek,**	**76.47**	**340**	P			**P**	**00 13 12.2**	**-0.1**
baz=77									
X31A	**McDonald Ranch**	**76.53**	**338**	P			**P**	**00 13 12.0**	**-0.6**
baz=77									
W33A	**Caddo, Fort Co**	**76.58**	**339**	P			**P**	**00 13 13.4**	**+0.4**
baz=77									
TUL1	**Leonard**	**76.60**	**342**	P			**P**	**00 13 12.3**	**-0.7**
baz=77									
TUL1	**Leonard**	**76.60**	**342**	*e*P			**P**	**00 13 12.4**	**-0.6**
comp=Z,18nm,0.8s									
W32A	**Sentinel**	**76.78**	**339**	P			**P**	**00 13 14.0**	**0.0**
baz=77									
319A	**Douglas**	**76.82**	**329**	P			**P**	**00 13 13.6**	**-0.9**
baz=77									
Y27A	**Causey**	**76.83**	**335**	P			**P**	**00 13 14.2**	**-0.3**
baz=77									
V34A	**Guthrie**	**76.97**	**340**	P			**P**	**00 13 14.4**	**-0.7**
baz=77									
V34A	**Guthrie**	**76.97**	**340**	*e*P			**P**	**00 13 14.3**	**-0.8**
comp=Z,10nm,0.8s									
W31A	**Holland Ranch,**	**77.04**	**338**	P			**P**	**00 13 14.5**	**-1.0**
baz=77									
Y26A	**Elida**	**77.09**	**335**	P			**P**	**00 13 15.9**	**-0.1**
baz=77									
V33A	**Lossen Ranch,**	**77.16**	**340**	P			**P**	**00 13 16.2**	**0.0**
baz=78									
AMTX	**Amarillo**	**77.28**	**337**	*e*P			**P**	**00 13 16.8**	**-0.1**
comp=Z,16nm,1.1s									
V32A	**Arapaho**	**77.28**	**339**	P			**P**	**00 13 17.1**	**+0.3**
baz=78									
Y25A	**Mesa, Roswell**	**77.38**	**334**	P			**P**	**00 13 18.0**	**+0.3**
baz=78									
W29A	**Amarillo**	**77.49**	**337**	P			**P**	**00 13 18.4**	**+0.3**
baz=78									
V31A	**Spring Creek L**	**77.56**	**339**	P			**P**	**00 13 18.1**	**-0.3**
baz=78									
W27A	**Bowe Ranch, En**	**77.88**	**336**	P			**P**	**00 13 20.2**	**-0.2**
baz=78									
DBIC	**Dimbokro**	**77.88**	**71**	P			**P**	**00 13 21.6**	**+0.9**
comp=Z,7.6nm,0.7s,baz=193,slow=3.1,SNR=3.5									
DBIC	**Dimbokro**	**77.88**	**71**	*e*P			**P**	**00 13 21.4**	**+0.7**
comp=Z,50nm,1.6s									
U32A	**Winter Ranch,**	**77.88**	**339**	P			**P**	**00 13 20.2**	**0.0**
baz=78									
TUC	**Tucson**	**78.25**	**329**	*e*P			**P**	**00 13 23.0**	**+0.6**
comp=Z,6.4nm,1.1s									
BNM	**Barren Site**	**78.27**	**333**	*e*P			**P**	**00 13 22.6**	**-0.1**
W25A	**X Bar L Ranch,**	**78.48**	**335**	P			**P**	**00 13 23.5**	**-0.2**
baz=79									
T32A	**Huddler Ranch,**	**78.61**	**340**	P			**P**	**00 13 24.3**	**0.0**
baz=79									
LAZ	**Ladron**	**78.68**	**332**	*e*P			**P**	**00 13 24.6**	**-0.3**
V26A	**Tequesquite Ra**	**78.79**	**336**	P			**P**	**00 13 25.2**	**-0.1**
baz=79									
ANMO	**Albuquerque**	**78.93**	**333**	*e*P			**P**	**00 13 26.4**	**+0.2**
comp=Z,8.2nm,1.1s									
ODNJ	**Ogdensburg**	**79.01**	**359**	*e*P			**P**	**00 13 26.7**	**+0.5**
comp=Z,197nm,2.7s									
BOSA	**Boshof**	**79.31**	**118**	P			**P**	**00 13 29.6**	**+1.0**
comp=Z,14nm,0.8s,baz=232,slow=4.6,SNR=17									
BOSA	**Boshof**	**79.31**	**118**	*e*P			**P**	**00 13 28.5**	**-0.1**
comp=Z,18nm,0.9s									
TSUM	**Tsumeb**	**79.39**	**106**	*e*P			**P**	**00 13 29.3**	**+0.1**
comp=Z,37nm,1.9s									
T28A	**Walsh**	**79.48**	**337**	P			**P**	**00 13 28.8**	**-0.3**
baz=80									
BKZ	**Black Stump Fm**	**79.53**	**228**	PFAKE				00 13 40.0	+10
BKZ				LR			LR		
comp=Z,600nm,21.5s									
S29A	**Ulysses**	**79.64**	**338**	P			**P**	**00 13 30.7**	**+0.8**
baz=80									
URZ	**Urewera**	**79.76**	**229**	P			**P**	**00 13 28.2**	**-2.5**
comp=Z,3.4nm,0.2s,baz=206,slow=6.3,SNR=10									
BRYW	**Bryant College**	**79.87**	**2**	PFAKE				00 13 40.0	+9.1
BRYW				LR			LR		
comp=Z,2μm,20.0s									
113A	**Mohawk Valley,**	**79.90**	**327**	P			**P**	**00 13 32.2**	**+0.9**
baz=80									
V22A	**San Miguel Ran**	**79.96**	**333**	P			**P**	**00 13 32.7**	**+0.8**
baz=80									
T25A	**Trinidad**	**80.22**	**336**	P			**P**	**00 13 33.9**	**+0.7**
baz=80									
X16A	**Lo Mia Camp, P**	**80.35**	**329**	P			**P**	**00 13 34.8**	**+0.8**
baz=81									
U22A	**Llaves**	**80.35**	**333**	P			**P**	**00 13 35.5**	**+1.5**
baz=81									
S26A	**Kim**	**80.36**	**336**	P			**P**	**00 13 34.4**	**+0.6**
baz=81									
T24B	**San Luis**	**80.47**	**335**	P			**P**	**00 13 35.3**	**+0.6**
baz=81									
S25A	**Robets Cordova**	**80.70**	**336**	P			**P**	**00 13 35.8**	**+0.1**
baz=81									
R27A	**Eads**	**80.76**	**337**	P			**P**	**00 13 36.2**	**+0.2**
baz=81									
S24A	**Houchin Ranch,**	**80.94**	**335**	P			**P**	**00 13 37.8**	**+0.6**
baz=81									
R26A	**Arlington**	**80.97**	**337**	P			**P**	**00 13 37.6**	**+0.5**
baz=81									
WUAZ	**Wupatki**	**81.28**	**330**	P			**P**	**00 13 39.6**	**+0.7**
baz=82									
R24A	**Sanders Place,**	**81.44**	**336**	P			**P**	**00 13 40.7**	**+1.0**
baz=82									
S22A	**4UR Ranch, Cre**	**81.58**	**334**	P			**P**	**00 13 41.4**	**+0.8**
baz=82									
MVCO	**Mesa Verde**	**81.69**	**333**	P			**P**	**00 13 41.6**	**+0.6**
baz=82									
LBTB	**Lobatse**	**81.76**	**115**	*e*P			**P**	**00 13 40.3**	**-1.5**
comp=Z,54nm,1.6s									
MDV	**Middlebury**	**81.92**	**0**	*e*P			**P**	**00 13 42.2**	**+0.4**
LBNH	**Lisbon**	**82.18**	**1**	*e*P			**P**	**00 13 43.0**	**-0.2**
comp=Z,454nm,2.7s									
U15A	**North Rim**	**82.44**	**330**	P			**P**	**00 13 46.1**	**+1.0**
baz=83									
PV05	**Paradox Valley**	**82.67**	**333**	*e*P			**P**	**00 13 46.4**	**+0.2**
EMMW	**East Machias**	**82.83**	**5**	PFAKE				00 14 00.0	+14
EMMW				LR			LR		
comp=Z,1μm,20.9s									
SMCO	**Snowmass**	**82.91**	**335**	*e*P			**P**	**00 13 47.4**	**-0.3**
comp=Z,5.3nm,0.9s									
PV10	**Paradox Valley**	**82.92**	**333**	*e*P			**P**	**00 13 47.2**	**-0.3**
KNB	**Kanab**	**83.16**	**329**	*e*P			**P**	**00 13 49.6**	**+0.9**
comp=Z,11nm,1.2s									
N26A	**Koester Ranch,**	**83.23**	**338**	P			**P**	**00 13 49.4**	**+0.6**
baz=84									
O23A	**Lake Granby, G**	**83.50**	**336**	P			**P**	**00 13 51.4**	**+0.9**
baz=84									
CCUT	**Cedar City**	**83.84**	**329**	*e*P			**P**	**00 13 52.8**	**+0.6**
comp=Z,90nm,2.7s									
N23A	**Red Feather La**	**84.12**	**336**	P			**P**	**00 13 54.3**	**+0.6**
baz=84									
ECSD	**EROS Data Cent**	**84.24**	**344**	P			**P**	**00 13 53.6**	**-0.2**
baz=85									
ECSD	**EROS Data Cent**	**84.24**	**344**	*e*P			**P**	**00 13 53.2**	**-0.6**
comp=Z,12nm,0.8s									
DAC	**Darwin (Calif)**	**84.54**	**326**	PFAKE				00 14 10.0	+14
DAC				LR			LR		
comp=Z,700nm,20.0s									
MPU	**Maple Canyon**	**85.31**	**332**	PFAKE				00 14 10.0	+10
MPU				LR			LR		
comp=Z,1μm,21.7s									
DUG	**Dugway, Tooele**	**85.91**	**331**	P			**P**	**00 14 03.1**	**+0.6**
baz=86									
DUG	**Dugway, Tooele**	**85.91**	**331**	*e*P			**P**	**00 14 02.9**	**+0.5**
comp=Z,11nm,1.3s									
CTU	**Camp Tracy**	**85.94**	**332**	PFAKE				00 14 10.0	+7.3
CTU				LR			LR		
comp=Z,200nm,18.2s									
TCUT	**Toone Canyon**	**86.19**	**332**	PFAKE				00 14 20.0	+16
TCUT				LR			LR		
comp=Z,400nm,19.5s									
BGU	**Big Grassy Mou**	**86.62**	**331**	PFAKE				00 14 20.0	+14
BGU				LR			LR		
comp=Z,300nm,21.4s									
SPUT	**South Promonto**	**86.74**	**332**	PFAKE				00 14 20.0	+13
SPUT				LR			LR		
comp=Z,300nm,19.5s									
MSKU	**Masuku**	**86.93**	**90**	PFAKE				00 14 20.0	+12
MSKU				LR			LR		
comp=Z,100nm,20.4s									
TOA0	**Torodi Ar

BRVK	**Borovoye**	**151.23**	**47**	*e*PKPbc	**PKPbc**	**00 21 15.6**	**+0.3**
BVAR	**Borovoye Array**	**151.30**	**47**	PKPbc	**PKPbc**	**00 21 16.0**	**+0.5**
	comp=Z,5.1nm,0.7s,baz=300,slow=3.0,SNR=18						
VOSK	**Vostochnaya**	**151.73**	**48**	*e*PKPbc	**PKPbc**	**00 21 17.0**	**+0.5**
EKS2	**Erkin-Say**	**155.03**	**70**	*e*PKPdf	**PKPdf**	**00 21 16.8**	**+1.4**
EKS2				*e*PKPab	**PKPab**	**00 21 40.5**	**+0.5**
EKS2				LR	LR		
	comp=Z,100nm,20.3s						
AAK	**Ala-Archa**	**155.56**	**70**	PKPab	**PKPab**	**00 21 42.3**	**0.0**
	comp=Z,5.1nm,0.7s,baz=201,slow=4.3,SNR=10						
AAK	**Ala-Archa**	**155.56**	**70**	*e*PKPdf	**PKPdf**	**00 21 17.0**	**+0.9**
AAK				*e*PKPab	**PKPab**	**00 21 42.8**	**+0.6**
TKM2	**Tokmak 2**	**156.37**	**69**	*e*PKPdf	**PKPdf**	**00 21 17.9**	**+0.6**
TKM2				*e*PKPab	**PKPab**	**00 21 46.3**	**+0.5**
TKM2				LR	LR		
	comp=Z,100nm,21.0s						
KSH	**Kashi**	**156.48**	**78**	PKP	**PKPdf**	**00 21 18.4**	**+1.0**
KSH				sPKP		00 21 31.7	
KSH				PKS	**PKSdf**	**00 24 50.8**	**-0.5**
KSH				PP	**PP**	**00 25 24.1**	**-0.7**
KSH				SKS	**SKSdf**	**00 28 19.9**	**-1.0**
KSH				SKKS	**SKKSac**	**00 32 10.0**	**-1.1**
KSH				SS	**SS**	**00 45 11.5**	**-2.4**
KSH				PPMZ			
	comp=Z,110nm,6.8s						
KSH				LN			
	comp=Z,23nm,3.5s						
KSH				LE			
	comp=Z,48nm,5.7s						
KSH				LZ			
	comp=Z,170nm,6.9s						
ZAA1	**Zalesovo Array**	**158.56**	**36**	*e*PKPab	**PKPab**	**00 21 54.5**	**0.0**
ZALV	**Zalesovo Beam**	**158.57**	**36**	PKPab	**PKPab**	**00 21 54.5**	**0.0**
	comp=Z,6.2nm,1.0s,baz=299,slow=6.1,SNR=8.5						
CHTO	**Chiang Mai**	**159.57**	**160**	PFAKE		00 21 30.0	+8.4
CHTO				LR	LR		
	comp=Z,100nm,19.0s						
TWG	**Pinlang**	**160.00**	**224**	PFAKE		00 21 30.0	+8.0
TWG				LR	LR		
	comp=Z,500nm,21.1s						
MK32	**Makanchi Array**	**160.49**	**57**	*e*PKPdf	**PKPdf**	**00 21 22.2**	**+0.4**
MK32				*e*PKPab	**PKPab**	**00 22 03.5**	**+0.3**
MKAR	**Makanchi Array**	**160.49**	**57**	PKP	**PKPdf**	**00 21 22.2**	**+0.4**
	comp=Z,1.9nm,1.0s,baz=304,slow=2.2,SNR=7.5						
MKAR				PKPab	**PKPab**	**00 22 03.5**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=286,slow=4.1,SNR=18						
MKAR	**Makanchi Array**	**160.49**	**57**	*e*PKPdf	**PKPdf**	**00 21 22.2**	**+0.4**
MKAR				*e*PKPab	**PKPab**	**00 22 03.0**	**-0.3**
MK01	**Makanchi Array**	**160.50**	**57**	*e*PKPdf	**PKPdf**	**00 21 22.0**	**+0.1**
MK01				*e*PKPab	**PKPab**	**00 22 03.4**	**0.0**
MDJ	**Mudanjiang**	**161.41**	**297**	PKP	**PKPdf**	**00 21 24.6**	**+1.8**
KS01	**Wonju Array Si**	**162.87**	**274**	*e*PKPdf	**PKPdf**	**00 21 22.7**	**-1.8**
CN2	**Changchun**	**164.50**	**297**	*e*PKP	**PKPdf**	**00 21 23.2**	**-2.6**
CN2				*e*PP	**PP**	**00 26 08.3**	**+0.7**
CN2				PPMZ			
	comp=Z,200nm,4.0s						
WMQ	**Urumqi**	**164.98**	**63**	*e*PKP	**PKPdf**	**00 21 27.5**	**+1.1**
WMQ				LN			
	comp=Z,52nm,22.0s						
WMQ				LE			
	comp=Z,68nm,20.0s						
WMQ				LZ			
	comp=Z,86nm,20.0s						
KMI	**Kunming**	**166.53**	**166**	PKP	**PKPdf**	**00 21 29.6**	**+1.2**
NJ2	**Nanjing**	**167.94**	**243**	*e*PKP	**PKPdf**	**00 21 31.5**	**+2.6**
GYA	**Guiyang**	**168.19**	**182**	*e*PKP	**PKPdf**	**00 21 29.4**	**0.0**
GYA				pPKP	**pPKPdf**	**00 21 41.0**	**+0.1**
GYA				PKS	**PKSdf**	**00 25 00.4**	**-1.8**
GYA				PP	**PP**	**00 26 29.3**	**+3.8**
GYA				SKKS		00 33 11.2	
GYA				SS	**SS**	**00 47 13.5**	**+0.8**
GYA				PPMZ			
	comp=Z,120nm,8.3s						
GYA				LN			
	comp=Z,130nm,22.0s						
GYA				LE			
	comp=Z,120nm,21.8s						
GYA				LZ			
	comp=Z,120nm,24.3s						
SONA1	**Songino Array**	**170.46**	**359**	*e*PKPdf	**PKPdf**	**00 21 29.0**	**-1.2**
SONA1				*e*PKPab	**PKPab**	**00 22 47.6**	**+0.5**
SONA0	**Songino Array**	**170.47**	**359**	*e*PKPdf	**PKPdf**	**00 21 28.5**	**-1.7**
SONA0				*e*PKPab	**PKPab**	**00 22 47.8**	**+0.7**
SONM	**Songino Array**	**170.47**	**359**	PKP	**PKPdf**	**00 21 28.5**	**-1.7**
	comp=Z,0.7nm,1.0s,baz=106,slow=0.5,SNR=4.0						
SONM				PKPab	**PKPab**	**00 22 47.8**	**+0.7**
	comp=Z,1.8nm,1.0s,baz=328,slow=3.0,SNR=8.2						
CD2	**Chengdu**	**172.35**	**164**	*e*PKP	**PKPdf**	**00 21 32.2**	**+0.6**
CD2				sPKP		00 21 47.2	
CD2				PP	**PP**	**00 26 50.4**	**+4.0**
CD2				SKKS		00 33 31.9	
CD2				SS	**SS**	**00 47 54.8**	**+0.8**
CD2				PPMZ			
	comp=Z,70nm,8.3s						
HHC	**Hu-ho-hao-te**	**175.15**	**303**	*e*PKP	**PKPdf**	**00 21 33.2**	**+0.9**
HHC				PKS	**PKSdf**	**00 25 04.0**	**-0.5**
HHC				PP	**PP**	**00 27 05.0**	**+3.8**
HHC				SKS	**SKSdf**	**00 28 31.0**	**-1.7**
HHC				SKKS	**SKKSac**	**00 33 45.9**	**+1.4**
HHC				SS	**SS**	**00 48 22.8**	**-0.3**
HHC				PPMZ			
	comp=Z,46nm,5.7s						
HHC				LN			
	comp=Z,220nm,19.6s						
HHC				LE			
	comp=Z,150nm,20.8s						
HHC				LZ			
	comp=Z,200nm,21.4s						
LZH	**Lanzhou**	**177.09**	**139**	*e*PKP	**PKPdf**	**00 21 33.6**	**+0.6**
LZH				pPKP	**pPKPdf**	**00 21 44.0**	**-0.5**
LZH				sPKP		00 21 47.8	

*IDC **01** 00:03:19.3±0.7,34.°00S×72.°10W,h0km,mb4.5/9,*
mb1 4.5/11,mb1mx4.3/30,mbtmp4.5/11,ML3.9/3,MS4.4/1,
Ms1 4.4/1,ms1mx3.6/16,Error ellipse: s-maj=25.1km
s-min=17.1km az=121.0
*ISCJB **01** 00:03:20.1±1.5,34.°05S±0.°07×72.°37W±0.°07,h19km±9km,*
mb4.5/11,MS4.3/1,Error ellipse: s-maj=11.7km
s-min=9.6km az=160.9
*GUC **01** 00:03:22.2±0.4,34.°03S×72.°30W,h29km±6km,ML4.7*
*NEIC **01** 00:03:24.7±0.4,33.°99S×71.°98W,h35km,mb4.6/8,Error*
ellipse: s-maj=13.2km s-min=9.7km az=108.0

ISC 01 00:03:22.6±2.2,34.°02S±0.°07×72.°20W±0.°08,h23km±14km,
n44,σ0.°07/46,mb4.6/11,3C-4D,Near coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.66**	**85**	*i* P		**Pn**	**00 03 36.0**	**-0.6**
IHA	**Instituto Hidr**	**1.10**	**25**	↑ *i*P		**Pb**	**00 03 42.0**	**-0.9**
IHA				*i* S		**Sn**	**00 03 57.2**	**+0.2**
TACH	**Talagante**	**1.11**	**71**	↓ *i*P		**Pn**	**00 03 42.9**	**+0.1**
RCDM	**Rinconada Maip**	**1.27**	**66**	↑ *i*P		**Pn**	**00 03 43.5**	**-1.6**
RCDM				*i* S		**Sn**	**00 04 01.3**	**-0.2**
RCDM				AML	AML		00 04 10.4	
	comp=N,10μm,0.6s							
CHCH	**Chadas Angostu**	**1.29**	**87**	↑ *i*P		**Pb**	**00 03 45.8**	**-0.4**
SAN	**Santiago**	**1.40**	**67**	↓ *i*P		**Pb**	**00 03 47.8**	**-0.3**
SAN				*i* S1		**Sg**	**00 04 06.9**	**+2.3**
SAN				AML	AML		00 04 14.3	
	comp=E,16μm,0.6s							
STL	**Santa Lucia**	**1.42**	**66**	↓ *i*P		**Pb**	**00 03 47.4**	**-1.1**
STL				*i* S		**Sb**	**00 04 07.2**	**+1.0**
ROCH	**El Roble**	**1.44**	**44**	*e*P1		**Pg**	**00 03 48.3**	**+0.7**
PCH	**Pirque**	**1.46**	**75**	*e*P		**Pb**	**00 03 48.6**	**-0.5**
PEL	**Peldehue**	**1.54**	**56**	↓ *i*P		**Pb**	**00 03 50.2**	**-0.3**
PEL				*i* S		**Sb**	**00 04 10.6**	**+1.1**
PEL				AML	AML		00 04 19.1	
	comp=E,45μm,0.6s							
FCH	**Farellones**	**1.73**	**67**	*i* P9			00 03 54.3	
FCH				*i* S		**Sb**	**00 04 18.0**	**+2.5**
FCH				AML	AML		00 04 25.4	
	comp=N,11μm,0.5s							
CFAA	**Coronel Fontan**	**4.11**	**55**	Pn		**Pn**	**00 04 23.8**	**-0.3**
	comp=N,0.7nm,0.3s,baz=214,slow=11,SNR=2.1							
CFAA				Lg	Lg		00 05 26.5	
	comp=N,8.8nm,0.3s,baz=55,slow=16,SNR=7.4							
CPUP	**Villa Florida**	**14.96**	**63**	Pn		**Pn**	**00 06 50.9**	**-1.8**
	comp=N,0.3nm,0.3s,baz=221,slow=12,SNR=1.6							
CPUP	**Villa Florida**	**14.96**	**63**	*e*Pn		**Pn**	**00 06 50.2**	**-2.4**
	comp=N,0.8nm,0.7s							
LPAZ	**La Paz**	**18.03**	**13**	P		**P**	**00 07 33.3**	**+0.5**
	comp=N,0.4nm,0.3s,baz=176,slow=8.9,SNR=3.5							
LPAZ	**La Paz**	**18.03**	**13**	*e*Pn		**Pn**	**00 07 31.4**	**-1.0**
	comp=N,26nm,0.9s							
SIV	**San Ignacio**	**20.56**	**32**	P		**P**	**00 07 58.3**	**-1.6**
	comp=N,11nm,0.8s,baz=230,slow=15,SNR=4.8							
SAML	**Samuel**	**26.30**	**20**	*e*P		**P**	**00 08 55.9**	**-0.7**
	comp=N,9.7nm,0.7s							
BDFB	**Brasília**	**28.45**	**56**	P		**P**	**00 09 15.0**	**-1.1**
	comp=N,7.8nm,0.9s,baz=170,slow=6.8,SNR=3.0							
PMSA	**Palmer Station**	**31.18**	**173**	LR		LR	00 22 03.6	
	comp=N,684nm,18.9s,baz=297,slow=36							
OTAV	**Otavalo**	**34.58**	**349**	*e*P		**P**	**00 10 12.7**	**+2.4**
	comp=N,1.9nm,0.7s							
SNAA	**Sanae**	**51.62**	**158**	P		**P**	**00 12 28.2**	**+1.2**
	comp=N,2.4nm,0.8s,baz=278,slow=6.3,SNR=3.6							
SNAA	**Sanae**	**51.62**	**158**	*e*P		**P**	**00 12 26.9**	**0.0**
	comp=N,16nm,1.0s							
TEIG	**Tepich**	**56.08**	**342**	*e*P		**P**	**00 12 59.5**	**-0.4**
	comp=N,11nm,0.5s							
QSPA	**South Pole Qui**	**56.22**	**180**	P		**P**	**00 13 01.2**	**+0.5**
	comp=N,8.0nm,1.0s,baz=143,slow=0.7,SNR=6.1							
QSPA	**South Pole Qui**	**56.22**	**180**	*e*P		**P**	**00 13 01.2**	**+0.5**
	comp=N,3.5nm,0.6s							
H06S1	**SOCORRO T**	**64.15**	**319**	T		T	01 24 34.5	
	SNR=6.6							
TXAR	**Lajitas Array**	**69.69**	**331**	P		**P**	**00 14 31.2**	**+0.6**
	comp=N,0.6nm,0.5s,baz=134,slow=7.8,SNR=3.3							
DBIC	**Dimbokro**	**75.31**	**71**	P		**P**	**00 15 03.8**	**-0.5**
	comp=N,5.3nm,0.8s,baz=192,slow=6.8,SNR=3.2							
DBIC	**Dimbokro**	**75.31**	**71**	*e*P		**P**	**00 15 04.1**	**-0.2**
	comp=N,4.2nm,0.6s							
BOSA	**Boshof**	**80.18**	**118**	P		**P**	**00 15 31.8**	**+0.3**
	comp=N,3.3nm,0.5s,baz=270,slow=3.0,SNR=6.1							
BOSA	**Boshof**	**80.18**	**118**	*e*P		**P**	**00 15 31.5**	**0.0**
	comp=N,3.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**84.34**	**70**	P		**P**	**00 15 53.3**	**+0.1**
	comp=N,6.7nm,0.9s,baz=266,slow=5.8,SNR=23							
SCHQ	**Schefferville**	**88.61**	**3**	P		**P**	**00 16 13.8**	**+0.6**
	comp=N,3.9nm,1.0s,baz=156,slow=10.0,SNR=3.5							
WRA	**Warramunga Arr**	**120.68**	**209**	PKP		**PKPdf**	**00 22 12.3**	**-0.9**
	comp=N,0.6nm,0.4s,baz=159,slow=1.7,SNR=16							
MMAI	**Mount Meron Ar**	**120.87**	**69**	PKP		**PKPdf**	**00 22 13.1**	**-0.1**
	comp=N,5.8nm,1.0s,baz=54,slow=2.2,SNR=4.1							
BRTR	**Keskin Array B**	**121.96**	**61**	PKP		**PKPdf**	**00 22 14.9**	**-0.2**
	comp=N,1.1nm,0.9s,baz=198,slow=2.3,SNR=4.5							
AKASG	**Malin Array Be**	**122.30**	**48**	PKP		**PKPdf**	**00 22 13.6**	**-1.6**
	comp=N,0.7nm,0.6s,baz=267,slow=2.2,SNR=4.7							
H11N3	**WAKE ISLAND Hyl**	**126.05**	**271**	T		T	02 40 25.8	
	SNR=11							
BVAR	**Borovoye Array**	**147.39**	**43**	PKPbc		**PKPbc**	**00 23 04.8**	**+0.8**
	comp=N,5.4nm,0.6s,baz=288,slow=2.0,SNR=12							
AAK	**Ala-Archa**	**152.63**	**62**	PKPbc		**PKPbc**	**00 23 18.0**	**+0.6**
	comp=N,5.9nm,1.0s,baz=26,slow=1.0,SNR=4.7							
ZALV	**Zalesovo Beam**	**154.31**	**32**	PKPbc		**PKPbc**	**00 23 20.5**	**+0.1**
	comp=N,6.9nm,0.7s,baz=301,slow=3.0,SNR=14							
MKAR	**Makanchi Array**	**156.88**	**49**	PKPab		**PKPab**	**00 23 45.9**	**+0.1**
	comp=N,1.6nm,0.6s,baz=289,slow=3.5,SNR=7.0							
SONM	**Songino Array**	**166.16**	**4**	PKPab		**PKPab**	**00 24 26.9**	**+0.6**
	comp=N,1.3nm,1.0s,baz=316,slow=2.2,SNR=4.9							

*IDC **01** 00:07:15.3±0.6,34.°01S×72.°00W,h0km,mb4.3/14,*
mb1 4.5/15,mb1mx4.3/31,mbtmp4.3/15,Error ellipse:
s-maj=27.0km s-min=16.9km az=68.0
*GUC **01** 00:07:18.5±0.7,34.°04S×72.°10W,h39km±4km,ML4.3*
*NEIC **01** 00:07:20.6±0.4,34.°02S×72.°14W,h35km,mb4.4/5,Error*
ellipse: s-maj=13.9km s-min=11.0km az=94.0

ISC 01 00:07:19.1±2.5,34.°00S±0.°08×72.°08W±0.°10,h25km±16km,
n44,σ0.°77/47,mb4.4/15,3C-4D,Off coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.56**	**86**	↓ *i*P		**Pb**	**00 07 30.3**	**+0.1**
TACH	**Talagante**	**1.01**	**70**	↑ *i*P		**Pb**	**00 07 36.9**	**-1.1**
IHA	**Instituto Hidr**	**1.04**	**21**	↑ *i*P		**Pn**	**00 07 38.0**	**-0.1**
IHA				*i* S1		**Sg**	**00 07 52.4**	**+0.9**
RCDM	**Rinconada Maip**	**1.17**	**65**	↓ *i*P		**Pb**	**00 07 40.6**	**-0.2**
RCDM				*i* S1		**Sg**	**00 07 56.9**	**+1.7**
CHCH	**Chadas Angostu**	**1.19**	**87**	↑ *i*P		**Pn**	**00 07 39.9**	**-0.3**
SAN	**Santiago**	**1.30**	**66**	↓ *i*P		**Pn**	**00 07 42.0**	**+0.2**
SAN				*i* S1		**Sg**	**00 07 59.9**	**+1.6**
STL	**Santa Lucia**	**1.32**	**65**	*e*P1		**Pn**	**00 07 41.5**	**-0.6**
STL				*i* S1		**Sb**	**00 08 00.0**	**+0.2**
PCH	**Pirque**	**1.35**	**74**	*e*P1		**Pn**	**00 07 43.0**	**+0.5**
FCH	**Farellones**	**1.63**	**66**	↓ *i*P		**Pn**	**00 07 46.4**	**-0.2**
FCH				*i* S1		**Sb**	**00 08 07.7**	**-1.4**
FCH				AML	AML		00 08 13.1	
	comp=N,6μm,0.4s							
CFAA	**Coronel Fontan**	**4.02**	**55**	Pn		Pn	00 08 23.0	+3.8
	comp=N,2.3nm,0.3s,baz=283,slow=2.3,SNR=7.9							
CFAA				Lg		Lg	00 09 17.9	
	comp=N,2.8nm,0.3s,baz=56,slow=22,SNR=4.4							
LPAZ	**La Paz**	**17.99**	**12**	P		**P**	**00 11 29.0**	**+0.4**
	baz=174,slow=9.9,SNR=4.4							
SIV	**San Ignacio**	**20.49**	**32**	P		**P**	**00 11 54.5**	**-0.9**
	comp=N,4.4nm,0.8s,baz=239,slow=19,SNR=4.5							
SAML	**Samuel**	**26.24**	**20**	*e*P		**P**	**00 12 51.9**	**-0.4**
	comp=N,1.4nm,0.6s							
SNAA	**Sanae**	**51.60**	**158**	P		**P**	**00 16 22.9**	**-0.2**
	comp=N,1.2nm,0.6s,baz=259,slow=8.2,SNR=7.5							
SNAA	**Sanae**	**51.60**	**158**	*e*P		**P**	**00 16 23.4**	**+0.3**
TEIG	**Tepich**	**56.09**	**342**	*e*P		**P**	**00 16 56.4**	**+0.1**
QSPA	**South Pole Qui**	**56.24**	**180**	P		**P**	**00 16 57.7**	**+0.6**
	comp=N,5.0nm,0.8s,baz=153,slow=1.9,SNR=13							
QSPA	**South Pole Qui**	**56.24**	**180**	*e*P		**P**	**00 16 57.8**	**+0.7**
	comp=N,4.0nm,0.7s							
TXAR	**Lajitas Array**	**69.72**	**331**	P		**P**	**00 18 27.3**	**+0.3**
	comp=N,1.1nm,0.6s,baz=152,slow=8.7,SNR=4.8							
TKL	**Tuckaleechee C**	**70.16**	**350**	P		**P**	**00 18 28.9**	**-0.5**
	comp=N,4.6nm,0.7s,baz=160,slow=6.0,SNR=6.0							
DBIC	**Dimbokro**	**75.21**	**71**	P		**P**	**00 18 59.6**	**-0.3**
	comp=N,2.2nm,0.6s,baz=199,slow=8.7,SNR=5.8							
ANMO	**Albuquerque**	**75.77**	**331**	P		**P**	**00 19 04.3**	**+1.4**
	comp=N,2.1nm,0.9s,baz=150,slow=7.2,SNR=7.0							
ANMO	**Albuquerque**	**75.77**	**331**	*e*P		**P**	**00 19 04.0**	**+1.0**
	comp=N,1.9nm,1.0s							
BOSA	**Boshof**	**80.10**	**118**	P		**P**	**00 19 26.9**	**-0.4**
	comp=N,1.6nm,0.5s,baz=248,slow=3.7,SNR=9.0							
BOSA	**Boshof**	**80.10**	**118**	*e*P		**P**	**00 19 27.5**	**+0.2**
	comp=N,5.0nm,1.0s							
PDAR	**Pinedale Array**	**83.75**	**333**	P		**P**	**00 19 45.9**	**-0.2**
	comp=N,1.3nm,0.8s,baz=181,slow=3.2,SNR=9.3							
NVAR	**Mina Array Bea**	**83.86**	**325**	P		**P**	**00 19 47.6**	**+0.8**
	comp=N,1.7nm,0.7s,baz=154,slow=6.1,SNR=8.2							
TOA0	**Torodi Ar. Sit**	**84.24**	**70**	*e*P		**P**	**00 19 48.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**84.24**	**70**	P		**P**	**00 19 48.5**	**-0.4**
	comp=N,4.4nm,0.8s,baz=257,slow=4.0,SNR=14							
ELK	**Elko**	**84.34**	**329**	P		**P**	**00 19 51.0**	**+1.9**
	comp=N,1.9nm,0.8s,baz=207,slow=1.4,SNR=8.8							
RLMT	**Red Lodge**	**85.67**	**335**	*e*P		**P**	**00 19 55.8**	**+0.1**
	comp=N,3.7nm,0.6s							
ULM	**Lac du Bonnet**	**86.49**	**345**	P		**P**	**00 19 58.8**	**-0.5**
	comp=N,3.5nm,0.8s,baz=154,slow=6.6,SNR=4.9							
YBH	**Yreka Blue Hor**	**88.55**	**325**	P		**P**	**00 20 09.0**	**-0.6**
	comp=N,1.4nm,0.6s,baz=117,slow=4.5,SNR=6.2							
YKA	**Yellowknife Ar**	**102.05**	**341**	P		**Pdif**	**00 21 09.6**	**-0.9**
	comp=N,0.2nm,0.6s,baz=146,slow=5.0,SNR=5.3							
WRA	**Warramunga Arr**	**120.75**	**209**	PKP		**PKPdf**	**00 26 08.2**	**-1.4**
	comp=N,0.6nm,0.8s,baz=151,slow=1.4,SNR=7.5							
BRTR	**Keskin Array B**	**121.86**	**61**	PKP		**PKPdf**	**00 26 10.4**	**-0.7**
	comp=N,0.6nm,0.8s,baz=191,slow=5.8,SNR=3.9							
ARCES	**ARCESS Array B**	**124.03**	**25**	PKP		**PKPdf**	**00 26 14.0**	**-0.3**
	comp=N,2.2nm,0.9s,baz=262,slow=6.3,SNR=2.4							
H11S1	**WAKE ISLAND Hyl**	**125.75**	**269**	T		T	02 44 39.0	
	SNR=11							
H11N3	**WAKE ISLAND Hyl**	**126.15**	**271**	T		T	02 46 23.4	
	SNR=15							
GEYT	**Alibeck**	**139.88**	**70**	PKP		**PKPdf**	**00 26 45.6**	**+0.4**
	comp=N,0.7nm,0.6s,baz=298,slow=3.2,SNR=3.7							
BVAR	**Borovoye Array**	**147.30**	**43**	PKPbc		**PKPbc**	**00 27 00.6**	**+0.6**
	comp=N,2.6nm,0.6s,baz=295,slow=3.6,SNR=10							
ZALV	**Zalesovo Beam**	**154.24**	**32**	PKPbc		**PKPbc**	**00 27 16.6**	**+0.2**
	comp=N,4.4nm,0.6s,baz=308,slow=3.0,SNR=13							
ZALV				PKPab		**PKPab**	**00 27 30.9**	**+0.5**
	comp=N,2.5nm,0.6s,baz=293,slow=4.2,SNR=5.4							
MKAR	**Makanchi Array**	**156.79**	**49**	PKPab		**PKPab**	**00 27 41.6**	**-0.1**
	comp=N,1.2nm,0.6s,baz=274,slow=3.9,SNR=8.7							
SONM	**Songino Array**	**166.13**	**4**	PKPab		**PKPab**	**00 28 22.1**	**-0.3**
	comp=N,0.6nm,1.0s,baz=76,slow=0.0,SNR=3.8							

*ISCJB **01** 00:08:49.8±0.4,35.°29N±0.°07×137.°02E±0.°07,*
h311km±3km,mb3.5/14,Error ellipse: s-maj=12.3km
s-min=7.9km az=144.3

*JMA **01** 00:08:50.1±0.1,35.°36N×136.°92E,h309km±1km,M3.5*
*IDC **01** 00:08:50.1±0.8,35.°16N×137.°00E,h301km±8km,mb3.1/11,*
mb1 3.3/11,mb1mx3.1/50,mbtmp3.8/11,Error ellipse:
s-maj=20.4km s-min=12.7km az=73.0

ISC 01 00:08:50.7±0.7,35.°30N±0.°08×136.°99E±0.°07,h304km±6km,
n38,σ0.°82/48,mb3.3/14,Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.23**	**97**	P		**Pn**	**00 09 29.6**	**+0.3**
JAO				S		**S**	**00 10 00.2**	**+0.1**
JEG	**Eigenji**	**0.51**	**252**	P		**Pn**	**00 09 30.1**	**+0.3**
JNY	**Yasuok**	**0.72**	**85**	P		**Pn**	**00 09 30.6**	**+0.2**
JNY				S		**S**	**00 10 02.3**	**+0.2**
HMMJ	**Hamamatsu 2**	**0.75**	**126**	P		**Pn**	**00 09 30.8**	**+0.3**
JHMK	**Hamakita**	**0.80**	**127**	P		**Pn**	**00 09 30.8**	**+0.3**
JIE	**Ise**	**0.93**	**194**	P		**Pn**	**00 09 31.7**	**+0.4**
JKN2	**Miekihoku**	**1.21**	**209**	P		**Pn**	**00 09 32.7**	**+0.1**
JYN	**Shimob**	**1.29**	**81**	P		**Pn**	**00 09 33.4**	**+0.4**
JYN				S		**S**	**00 10 07.1**	**+0.4**
JWT	**Wachi**	**1.29**	**270**	P		**Pn**	**00 09 33.0**	**0.0**
JWT				S		**S**	**00 10 05.0**	**-1.6**
TK02	**Tokai 2**	**1.49**	**154**	P		**Pn**	**00 09 35.3**	**+1.3**
JWY	**Kouya**	**1.57**	**227**	P		**Pn**	**00 09 35.0**	**+0.2**
MAT	**Matsushiro**	**1.59**	**38**	P		**Pn**	**00 09 34.4**	**-0.4**
MAT				S		**S**	**00 10 09.1**	**-0.8**
MAT	**Matsushiro**	**1.59**	**38**	P		**Pn**	**00 09 34.9**	**+0.1**
MAT				S		**S**	**00 10 10.0**	**+0.1**
MJAR	**Matsushiro Arr**	**1.59**	**38**	P		**Pn**	**00 09 35.1**	**+0.4**
	12nm,0.3s,baz=213,slow=7.8,SNR=74							
MJAR				S		**S**	**00 10 10.2**	**+0.3**
	0.5nm,0.3s,baz=54,slow=28,SNR=7.1							
TTO1	**TONANKAI O.B.S**	**1.68**	**186**	P		**Pn**	**00 09 36.5**	**+1.4**
JRY	**Ryogami san**	**1.72**	**65**	P		**Pn**	**00 09 36.3**	**+0.6**
JRY				S		**S**	**00 10 11.8**	**+0.2**
JHU	**Hanno**	**1.95**	**73**	P		**Pn**	**00 09 37.5**	**+0.1**
JHU				S		**S**	**00 10 15.0**	**+0.4**
JWZ	**Kozaga**	**2.05**	**211**	P		**Pn**	**00 09 38.1**	**-0.2**
JAG	**Ashikaga**	**2.30**	**60**	P		**Pn**	**00 09 39.5**	**-0.7**
JAG				S		**S**	**00 10 17.7**	**-2.0**
JAI	**Aioi**	**2.57**	**235**	P		**Pn**	**00 09 42.4**	**-0.3**
BSO3	**Boso 3**	**2.93**	**99**	S		**S**	**00 10 28.4**	**-1.4**
JHO	**Hitachi**	**3.19**	**65**	P		**Pn**	**00 09 48.1**	**-0.4**
ASAJ	**Asahikawa**	**9.81**	**24**	P		**Pn**	**00 11 04.6**	**-1.7**
	1.4nm,0.3s,baz=170,slow=1.7,SNR=4.5							
SONM	**Songino Array**	**25.91**	**308**	P		**P**	**00 13 56.2**	**+0.6**
	0.3nm,0.5s,baz=109,slow=8.5,SNR=4.5							
ZALV	**Zalesovo Beam**	**40.49**	**314**	P		**P**	**00 16 00.6**	**+0.4**
	0.3nm,0.3s,baz=113,slow=9.6,SNR=3.4							
MKAR	**Makanchi Array**	**42.03**	**303**	P		**P**	**00 16 12.5**	**-0.4**
	0.6nm,0.7s,baz=90,slow=8.4,SNR=6.4							
AAK	**Ala-Archa**	**48.16**	**299**	P		**P**	**00 17 01.0**	**0.0**
	0.3nm,0.3s,baz=76,slow=5.1,SNR=5.0							
BVAR	**Borovoye Array**	**49.10**	**313**	P		**P**	**00 17 08.3**	**+0.6

STL	Santa Lucia	1.98	51	eP	Pn	00 23 24.6 +0.2
STL				eS1	Sn	00 23 47.4 -1.9
PEL	Peldehue	2.15	44	⇓iP	Pn	00 23 28.7 +1.9
PEL				eS4	Sb	00 23 56.5 -0.2
PEL				AML	AML	00 24 19.9
	comp=E,5µm,0.6s					
FCH	Farellones	2.28	54	eP4	Pn	00 23 28.4 -0.3
FCH				eS	Sn	00 23 52.6 -4.4
FCH				AML	AML	00 24 08.3
	comp=N,2µm,0.6s					
CFAA	Coronel Fontan	4.71	50	Pn	Pn	00 24 04.1 +2.2
	comp=N,2.7nm,0.3s,baz=222,slow=11,SNR=18					
CFAA				Lg	Lg	00 25 09.4
	comp=N,1.2nm,0.3s,baz=228,slow=19,SNR=3.0					
TRQA	Tornquist	9.11	115	ePn	Pn	00 25 04.8 +2.6
CPUP	Villa Florida	15.48	61	Pn	Pn	00 26 31.4 +2.3
	comp=N,0.3nm,0.3s,baz=209,slow=18,SNR=2.2					
CPUP	Villa Florida	15.48	61	ePn	Pn	00 26 30.1 +0.9
	comp=N,0.2nm,0.5s					
LPAZ	La Paz	18.75	13	P	Pn	00 27 11.9 +1.1
	comp=N,0.5nm,0.3s,baz=197,slow=4.5,SNR=9.5					
LPAZ	La Paz	18.75	13	eP	P	00 27 11.6 +1.1
	comp=N,14nm,0.8s					
USHA	Ushuaia	20.33	173	P	P	00 27 26.8 -0.1
	comp=N,17nm,0.9s,baz=280,slow=4.1,SNR=3.8					
SIV	San Ignacio	21.26	32	P	P	00 27 37.0 -0.3
	comp=N,8.0nm,0.7s,baz=213,slow=12,SNR=12					
NNA	Nana	22.95	349	P	P	00 27 54.6 -0.7
	comp=N,3.4nm,0.5s,baz=206,slow=9.7,SNR=3.8					
SAML	Samuel	27.01	21	eP	P	00 28 33.1 +0.1
	comp=N,4.4nm,0.9s					
BDFB	Brasilia	29.03	55	P	P	00 28 50.2 -1.0
	comp=N,1.5nm,0.6s,baz=228,slow=12,SNR=2.6					
SNAA	Sanae	51.08	158	P	P	00 31 52.3 -0.7
	comp=N,2.7nm,0.9s,baz=74,slow=11,SNR=36					
SNAA	Sanae	51.08	158	eP	P	00 31 53.4 +0.4
	comp=N,9.0nm,1.0s					
QSPA	South Pole Qui	55.54	180	P	P	00 32 25.1 -0.9
	comp=N,3.0nm,1.0s,baz=114,slow=3.0,SNR=3.3					
QSPA				LR	LR	00 57 29.7
	comp=N,67nm,18.2s,baz=281,slow=38					
TEIG	Tepich	56.65	342	eP	P	00 32 33.9 -0.3
	comp=N,7.1nm,0.6s					
833A	Chaparral WMA,	67.65	334	⇓P	P	00 33 49.0 +1.1
	baz=68					
832A	Faith Ranch, C	67.82	334	⇑P	P	00 33 49.6 +0.6
	baz=68					
732A	Laxson Ranch,	68.23	334	⇓P	P	00 33 52.4 +0.9
	baz=68					
632A	Uvalde	68.87	335	⇓P	P	00 33 56.5 +1.0
	baz=69					
534A	Blanco	68.89	336	⇓P	P	00 33 56.5 +0.9
	baz=69					
436A	Wall Ranch, Ga	69.03	338	⇓P	P	00 33 56.9 +0.5
	baz=69					
532A	Rocksprings	69.47	335	⇑P	P	00 33 59.7 +0.4
	baz=70,SNR=6.2					
434A	Burnet	69.55	336	⇑P	P	00 33 59.6 -0.1
	baz=70					
531A	Rocksprings	69.74	334	⇓P	P	00 34 01.9 +1.0
	baz=70					
JCT	Junction City	69.76	335	⇓P	P	00 34 01.7 +0.6
	baz=70					
433A	Art	69.77	336	⇓P	P	00 34 01.2 +0.2
	baz=70					
530A	J-C Ranch, Com	70.01	334	⇓P	P	00 34 03.1 +0.5
	baz=70					
334A	Lometa	70.02	337	⇑P	P	00 34 02.9 +0.3
	baz=70					
TXAR	Lajitas Array	70.17	331	P	P	00 34 04.4 +0.8
	comp=N,1.3nm,0.5s,baz=159,slow=13,SNR=3.3					
431A	Sonora	70.23	334	⇑P	P	00 34 04.4 +0.5
	baz=70					
333A	Richland Sprin	70.25	336	⇓P	P	00 34 04.0 -0.1
	baz=71					
529A	Stev Forest Ra	70.31	333	⇑P	P	00 34 05.6 +1.1
	baz=71					
430A	Baggett Ranch,	70.55	334	⇓P	P	00 34 06.4 +0.5
	baz=71					
332A	Millersview	70.56	335	⇓P	P	00 34 06.2 +0.2
	baz=71					
234A	Clairette	70.60	337	⇑P	P	00 34 05.9 -0.3
	baz=71					
429A	Davenport Ranc	70.64	333	⇑P	P	00 34 07.0 +0.5
	baz=71					
331A	San Angelo	70.73	335	⇓P	P	00 34 06.8 -0.2
	baz=71,SNR=5.2					
233A	Rising Star	70.86	336	⇓P	P	00 34 07.8 0.0
	baz=71					
232A	Coleman	70.99	336	⇓P	P	00 34 08.7 +0.1
	baz=71					
330A	Mertzon	71.09	334	⇑P	P	00 34 09.1 -0.1
	baz=71					
231A	Bronte	71.27	335	⇑P	P	00 34 10.4 +0.1
	baz=72					
329A	Wagon Wheel Ra	71.45	334	⇓P	P	00 34 11.6 +0.3
	baz=72					
230A	Sterling City	71.50	335	⇓P	P	00 34 12.0 +0.3
	baz=72					
Z35A	Perchaven, San	71.55	338	⇑P	P	00 34 12.1 +0.3
	baz=72					
ABTX	Abilene, Hawle	71.67	336	⇓P	P	00 34 13.1 +0.5
	baz=72					
229A	Bryant Ranch,	71.82	334	⇓P	P	00 34 14.2 +0.6
	baz=72					
WVT	Waverly	71.91	347	eP	P	00 34 13.2 -0.7
	comp=N,5.4nm,0.6s					
131A	Roby	71.96	335	⇑P	P	00 34 14.8 +0.4
	baz=72					
Z33A	Whitaker Ranch	71.99	337	⇑P	P	00 34 14.8 +0.3
	baz=72					
130A	Snyder	72.09	335	⇓P	P	00 34 15.4 +0.2
	baz=72					
Z32A	Haskell	72.24	336	⇑P	P	00 34 16.1 +0.1
	baz=73					
228A	UT Block 9, Go	72.24	333	⇓P	P	00 34 16.7 +0.5
	baz=72					
Y34A	Reagan Ranch,	72.29	338	⇓P	P	00 34 16.4 +0.1
	baz=73					
Z31A	Sharp Cattle R	72.47	336	⇑P	P	00 34 17.9 +0.5
	baz=73					
Y33A	Hilltop Ranch,	72.61	337	⇑P	P	00 34 18.2 +0.1
	baz=73					
128A	Castleberry Fa	72.66	334	⇑P	P	00 34 19.0 +0.4
	baz=73,SNR=5.6					
Z30A	Sanderson Ranc	72.78	335	⇓P	P	00 34 19.3 0.0
	baz=73					
Y32A	R-V Farms, Ver	72.86	337	⇑P	P	00 34 19.8 +0.1
	baz=73					
MNTX	Cornudas Mount	72.94	331	eP	P	00 34 19.2 -1.0
	comp=N,2.7nm,0.6s					
Z29A	Hungry Hill Ra	72.95	335	⇓P	P	00 34 20.6 +0.2
	baz=73					
Y31A	Rekieta Farm,	73.10	336	⇑P	P	00 34 21.4 +0.3
	baz=73					
Z28A	Tucker Farm, M	73.22	334	⇓P	P	00 34 21.6 -0.4
	baz=74					
Y29A	Porterfield Fa	73.48	335	⇑P	P	00 34 23.6 +0.1
	baz=74					
TUL1	Leonard	73.54	340	⇑P	P	00 34 23.5 -0.1
	baz=74					
X31A	McDonald Ranch	73.61	337	⇓P	P	00 34 24.4 +0.3
	baz=74					
Y28A	McKinney Farm,	73.73	335	⇑P	P	00 34 25.3 +0.4
	baz=74					
Z26A	Caprock	73.79	333	⇑P	P	00 34 26.0 +0.6
	baz=74					
W32A	Sentinel	73.83	337	⇓P	P	00 34 25.8 +0.4
	baz=74					
MSTX	Muleshoe	73.97	334	⇑P	P	00 34 26.5 +0.1
	baz=74					
MSTX	Muleshoe	73.97	334	eP	P	00 34 26.2 -0.2
	comp=N,5.3nm,0.6s					
Y27A	Causey	74.04	334	⇓P	P	00 34 26.9 +0.1
	baz=74					
Z25A	Roswell	74.08	332	⇑P	P	00 34 27.8 +0.8
	baz=74					
W31A	Holland Ranch,	74.11	337	⇑P	P	00 34 27.0 -0.1
	baz=74					
Y26A	Elida	74.31	333	⇑P	P	00 34 29.0 +0.6
	baz=75					
Z24A	Sheeppen Canyo	74.37	332	⇑P	P	00 34 29.7 +0.8
	baz=75					
AMTX	Amarillo	74.42	335	⇑P	P	00 34 29.2 +0.3
	baz=75					
W29A	Amarillo	74.62	336	⇑P	P	00 34 30.4 +0.3
	baz=75					
Y25A	Mesa, Roswell	74.64	333	⇓P	P	00 34 30.7 +0.4
	baz=75					
121A	Cookes Peak, D	74.65	330	⇓P	P	00 34 32.2 +1.7
	baz=75					
X26A	CR and CF Fran	74.87	334	⇑P	P	00 34 32.2 +0.6
	baz=75					
Y24A	Capitan	74.93	332	⇓P	P	00 34 32.9 +0.9
	baz=75					
W27A	Bowe Ranch, En	75.06	334	⇑P	P	00 34 33.2 +0.5
	baz=75					
Y23A	Lovelace Mesa,	75.17	332	⇓P	P	00 34 34.6 +1.1
	baz=76					
V27A	Dan Oppiter Fa	75.60	335	⇑P	P	00 34 36.2 +0.4
	baz=76					
W25A	X Bar L Ranch,	75.70	333	⇑P	P	00 34 36.8 +0.3
	baz=76					
DBIC	Dimbokro	75.75	71	P	P	00 34 37.5 +0.5
	comp=N,2.6nm,0.7s,baz=195,slow=6.4,SNR=4.8					
DBIC	Dimbokro	75.75	71	eP	P	00 34 38.3 +1.3
	comp=N,2.8nm,0.6s					
X23A	Hourglass Bar	75.80	332	⇓P	P	00 34 38.3 +1.3
	baz=76					
V26A	Tequesquite Ra	75.98	334	⇑P	P	00 34 38.4 +0.4
	baz=76					
W24A	Lazy 6 Ranch,	76.05	333	⇓P	P	00 34 39.2 +0.7
	baz=76,SNR=5.5					
U27A	Thompson Grove	76.20	335	⇓P	P	00 34 39.5 +0.3
	baz=76					
ANMO	Albuquerque	76.22	332	P	P	00 34 39.8 +0.3
	comp=N,3.9nm,0.9s,baz=162,slow=7.1,SNR=11					
ANMO	Albuquerque	76.22	332	eP	P	00 34 39.1 -0.4
	comp=N,4.5nm,0.9s					
W23A	Werner Place,	76.29	332	⇓P	P	00 34 41.1 +1.3
	baz=77					
V25A	Rancho No Teng	76.31	334	⇑P	P	00 34 40.3 +0.3
	baz=77,SNR=6.8					
214A	Organ Pipe Nat	76.38	326	⇑P	P	00 34 41.7 +1.5
	baz=77					
U26A	Atchley Ranch,	76.50	334	⇓P	P	00 34 41.2 +0.2
	baz=77					
T28A	Walsh	76.59	336	⇓P	P	00 34 41.4 +0.1
	baz=77					
S29A	Ulysses	76.72	337	⇑P	P	00 34 42.6 +0.6
	baz=77					
U25A	Circle Dot Ran	76.74	334	⇑P	P	00 34 43.2 +0.8
	baz=77					
T27A	Campo	76.74	336	⇑P	P	00 34 42.8 +0.6
	baz=77					
S28A	Manter	76.94	336	⇓P	P	00 34 44.1 +0.7
	baz=77					
T26A	Comanche Natio	77.14	335	⇓P	P	00 34 45.3 +0.6
	baz=78					
Q32A	Meitler Ranch,	77.19	339	⇑P	P	00 34 44.2 -0.5
	baz=78					
V22A	San Miguel Ran	77.25	332	⇓P	P	00 34 46.4 +1.1
	baz=78					
X18A	Snowflake	77.28	329	⇑P	P	00 34 46.9 +1.5
	baz=78					
U23A	El Rito	77.34	333	⇓P	P	00 34 47.1 +1.3
	baz=78					
T25A	Trinidad	77.40	334	⇑P	P	00 34 47.1 +1.0
	baz=78,SNR=7.7					
S26A	Kim	77.50	335	⇓P	P	00 34 47.4 +0.9
	baz=78					
R28A	Tribune	77.60	337	⇓P	P	00 34 47.5 +0.5
	baz=78					
U22A	Llaves	77.63	332	⇓P	P	00 34 48.8 +1.4
	baz=78					
T24B	San Luis	77.68	334	⇑P	P	00 34 49.1 +1.3
	baz=78					
X16A	Lo Mia Camp, P	77.83	328	⇑P	P	00 34 50.5 +2.0
	baz=78					
Q29A	Oakley	77.83	338	⇑P	P	00 34 48.8 +0.5
	baz=78					
R27A	Eads	77.87	336	⇓P	P	00 34 49.1 +0.5
	baz=78					
S25A	Robets Cordova	77.88	335	⇓P	P	00 34 49.6 +0.9
	baz=78					
P31A	Stockton	77.92	339	⇑P	P	00 34 48.8 +0.1
	baz=78					
R26A	Arlington	78.11	336	⇑P	P	00 34 51.3 +1.4
	baz=78					
Y14A	Wickenburg	78.12	326	⇑P	P	00 34 51.5 +1.5
	baz=78					
S24A	Houchin Ranch,	78.14	334	⇑P	P	00 34 51.5 +1.2
	baz=78,SNR=8.0					
R24A	Sanders Place,	78.62	334	⇑P	P	00 34 53.7 +0.9
	baz=79,SNR=10					
Y12C	Blythe	78.67	325	⇓P	P	00 34 54.6 +1.7
	baz=79					
WUAZ	Wupatki	78.73	329	⇓P	P	00 34 54.8 +1.4
	baz=79					
S22A	4UR Ranch, Cre	78.82	333	⇓P	P	00 34 54.9 +0.9
	baz=79					
R23A	Moffat	78.85	334	⇑P	P	00 34 54.9 +0.7
	baz=79					
MVCO	Mesa Verde	79.00	331	⇑P	P	00 34 55.8 +0.9
	baz=79					
BC3	Big Chuckawall	79.03	325	⇓P	P	00 34 56.5 +1.4
	baz=79					
P26A	Davis Ranch, A	79.21	336	⇑P	P	00 34 56.6 +0.7
	baz=80					
Q24A	Divide	79.29	335	⇑P	P	00 34 57.5 +0.9
	baz=80					
IRM	Iron Mountain	79.30	325	⇓P	P	00 34 57.9 +1.4
	baz=80					
P25A	Willow Gulch B	79.44	336	⇑P	P	00 34 58.5 +1.3
	baz=80					
PFO	Pinyon Flats O	79.48	324	⇓P	P	00 34 59.5 +2.0
	baz=80					
W13A	Hualapai Mount	79.49	327	⇑P	P	00 34 59.0 +1.3
	baz=80					
O27A	Beecher Island	79.49	337	⇑P	P	00 34 58.5 +1.1
	baz=80					
O26A	Horse Wrangler	79.81	337	⇓P	P	00 35 00.1 +0.9
	baz=80					
U15A	North Rim	79.90	328	⇓P	P	00 35 01.6 +1.7
	baz=80					
SCI	San Clemente I	80.01	322	⇓P	P	00 35 02.6 +2.3
	baz=80					
GMRC	Granite Mounta	80.05	325	⇑P	P	00 35 02.3 +1.7
	baz=80					
BOSA	Boshof	80.07	118	P	P	00 35 00.7 -0.5
	comp=N,3.5nm,0.9s,baz=271,slow=8.7,SNR=4.5					
BOSA	Boshof	80.07	118	eP	P	00 35 00.8 -0.3
	comp=N,2.8nm,0.5s					
M29A	Burnside Ranch	80.08	339	⇑P	P	00 35 00.4 -0.1
	baz=80					
ISCO	Idaho Springs	80.20	335	⇓P	P	00 35 01.5 0.0
	baz=80					
O24A	Longmont	80.30	335	⇑P	P	00 35 02.4 +0.5
	baz=81					
N26A	Koester Ranch,	80.31	337	⇓P	P	00 35 02.7 +0.8
	baz=81					
HEC	Hector,Ludlow	80.41	325	⇓P	P	00 35 04.3 +1.8
	baz=81					
P22A	Eagle	80.43	334	⇑P	P	00 35 03.8 +1.1
	baz=81					
O23A	Lake Granby, G	80.67	335	⇑P	P	00 35 04.8 +0.7
	baz=81,SNR=6.7					
O22A	Kremmling	80.85	334	⇓P	P	00 35 05.8 +0.8
	baz=81					
N24A	Carr	80.86	336	⇓P	P	00 35 05.8 +0.9
	baz=81					
GSC	Goldstone, Bar	81.02	325	⇓P	P	00 35 07.1 +1.4
	baz=81					
ECSD	EROS Data Cent	81.10	343	⇓P	P	00 35 05.7 -0.2
	baz=81					
ECSD	EROS Data Cent	81.10	343	eP	P	00 35 05.4 -0.5
	comp=N,8.0nm,0.7s					
EDW2	Edwards Air Fo	81.25	324	⇓P	P	00 35 08.2 +1.2
	baz=82					
N23A	Red Feather La	81.28	335	⇓P	P	00 35 08.3 +1.0
	baz=82					
N22A	Wattenberg Ran	81.38	335	⇓P	P	00 35 09.0 +1.2
	baz=82					
O20A	White River Ci	81.44	333	⇓P	P	00 35 09.1 +1.1
	baz=82					
LRMC	Laurel Mtn Rad	81.58	324	⇑P	P	00 35 10.2 +1.4
	baz=82					
SPMN	Marine on St.	81.66	346	⇓P	P	00 35 08.4 -0.4
	baz=82					
L25A	Engebretsen Ra	81.75	337	⇑P	P	00 35 10.1 +0.7
	baz=82					
N20A	Spence Gulch,	82.06	333	⇑P	P	00 35 11.8 +0.4
	baz=82					
ISA	Isabella, Lake	82.11	324	⇑P	P	00 35 13.3 +1.8
	baz=82					
J27A	Elkhorn Farm,	82.13	339	⇓P	P	00 35 12.3 +0.9
	baz=82					
I28A	Midland	82.57	340	⇓P	P	00 35 14.0 +0.3
	baz=83					
J25A	Sunshine Ranch	82.81	338	⇓P	P	00 35 15.8 +0.8
	baz=83					
K23A	Bowen Ranch, D	82.83	336	⇑P	P	00 35 16.0 +0.8
	baz=83					
H29A	Onida	82.87	340	⇓P	P	00 35 15.1 -0.1
	baz=83					
R11A	Troy Canyon, C	82.94	327	⇓P	P	00 35 17.4 +1.5
	baz=83					
J24A	Dixon Ranch, L	83.03	337	⇑P	P	00 35 17.1 +1.0
	baz=83					
K22A	Casper	83.04	335	⇓P	P	00 35 17.2 +0.9
	baz=83					
G30A	Faulkton	83.05	341	⇓P	P	00 35 16.4 +0.3
	baz=83					
K21A	Alcova	83.28	335	⇓P	P	00 35 18.0 +0.4
	baz=84,SNR=5.2					
DUG	Dugway, Tooele	83.29	330	⇑P	P	00 35 18.4 +0.7
	baz=84					
I25A	Rochford	83.35	338	⇓P	P	00 35 18.4 +0.5
	baz=84					
G28A	Parade	83.48	340	⇑P	P	00 35 18.9 +0.6
	baz=84					
I24A	Kuemmerle Ranc	83.49	337	⇑P	P	00 35 19.4 +0.8
	baz=84					
RSSD	Black Hills	83.54	338	eP	P	00 35 18.9 +0.1
	comp=N,3.2nm,0.8s					
J22A	Midwest	83.70	336	⇑P	P	00 35 19.2 -0.4
	baz=84					
H25A	Fruitdale	83.86	338	⇑P	P	00 35 20.3 0.0
	baz=84					
HWUT	Hardware Ranch	83.99	332	eP	P	00 35 20.6 -0.6
	comp=N,4.7nm,0.7s					
I22A	9 Mile Ranch,	84.13	336	⇓P	P	00 35 21.7 -0.1
	baz=84					
G26A	Maurine	84.17	339	⇓P	P	00 35 21.7 -0.2
	baz=84					
J20A	Shoshoni	84.20	335	⇓P	P	00 35 23.1 +0.9
	baz=84,SNR=6.2					
PDAR	Pinedale Array	84.22	333	P	P	00 35 22.1 -0.4
	comp=N,1.0nm,0.7s,baz=160,slow=4.7,SNR=8.9					
NVAR	Mina Array Bea	84.25	326	P	P	00 35 23.1 +0.4
	comp=N,2.3nm,0.8s,baz=155,slow=6.0,SNR=13					
H24A	Dirks Ranch, A	84.26	338	⇑P	P	00 35 22.5 0.0
	baz=85					
E30A	Jud	84.27	342	⇓P	P	00 35 22.4 +0.1
	baz=85					
G25A	Newell	84.32	339	⇑P	P	00 35 23.1 +0.4
	baz=85					
I21A	Big Trails, Te	84.33	335	⇑P	P	00 35 23.4 +0.5
	baz=85					
J19A	Crowheart	84.47	334	⇓P	P	00 35 24.1 +0.5
	baz=85					
E29A	Napoleon	84.52	342	⇓P	P	00 35 23.5 -0.1
	baz=85					
F27A	Lemmon	84.53	340	⇓P	P	00 35 23.9 +0.3
	baz=85					
F26A	Lodgepole	84.69	339	⇓P	P	00 35 24.6 0.0
	baz=85					
I20A	Worland	84.74	335	⇑P	P	00 35 25.6 +0.7
	baz=85					
D30A	Buchanan	84.79	342	⇑P	P	00 35 24.8 -0.1
	baz=85					
TOA0	Torodi Ar. Sit	84.79	70	eP	P	00 35 25.4 -0.2
TORD	Torodi Ar. Bea	84.79	70	P	P	00 35 26.0 +0.3
	comp=N,2.6nm,0.8s,baz=254,slow=3.8,SNR=14					
H21A	Big Horn, Sher	84.97	336	⇑P	P	00 35 26.2 +0.2
	baz=85					
F25A	Bowman	84.99	339	⇑P	P	00 35 26.4 +0.4
	baz=85					
I19A	Meeteetse	85.12	334	⇑P	P	00 35 27.3 +0.4
	baz=85					
H20A	Greybull	85.17	335	⇑P	P	00 35 26.7 -0.3
	baz=86,SNR=9.7					
F24A	Ekalaka	85.22	338	⇑P	P	00 35 27.2 0.0
	baz=86					
AGMN	Agassiz Nation	85.23	345	⇑P	P	00 35 27.2 +0.1
	baz=86					
G22A	Birney	85.24	337	⇑P	P	00 35 27.3 0.0
	baz=86					
C30A	Mose, Pekin	85.28	343	⇓P	P	00 35 27.8 +0.4
	baz=86					
F23A	Volborg	85.40	338	⇓P	P	00 35 28.2 +0.1
	baz=86					
D27A	Center	85.52	341	⇓P	P	00 35 28.7 +0.1
	baz=86					
I17A	Pilgrim Ck.	85.59	333	⇓P	P	00 35 30.1 +0.8
	baz=86					
H19A	Powell	85.67	335	⇑P	P	00 35 29.6 +0.1
	baz=86					
D26A	Manning	85.70	340	⇓P	P	00 35 29.8 +0.3
	baz=86					
F22A	Rosebud	85.73	337	⇓P	P	00 35 30.1 +0.4
	baz=86					
G20A	Bridger	85.88	336	⇓P	P	00 35 29.8 -0.8
	baz=86,SNR=8.0					
H18A	Shoshone NF, C	85.91	334	⇑P	P	00 35 30.8 -0.1
	baz=86,SNR=15					
B30A	Myrvik Farm, E	85.94	343	⇓P	P	00 35 30.6 0.0
	baz=86					
D25A	Fairfield	86.06	339	⇑P	P	00 35 31.8 +0.5
	baz=86					
C27A	Sayler Ranch,	86.07	341	⇓P	P	00 35 31.5 +0.2
	baz=86					
RLMT	Red Lodge	86.16	335	eP	P	00 35 31.3 -0.8
	comp=N,3.8nm,0.5s					
D24A	Glendive	86.33	339	⇓P	P	00 35 32.9 +0.3
	baz=87					
C26A	Wahner Farm, P	86.33	341	⇑P	P	00 35 33.1 +0.5
	baz=87					
A30A	Hoffart Farm,	86.39	343	⇓P	P	00 35 32.3 -0.5
	baz=87					
A29A	Manning Farm,	86.60	343	⇓P	P	00 35 33.8 0.0
	baz=87					
D23A	Lindsay	86.64	338	⇑P	P	00 35 35.1 +0.9
	baz=87					
E21A	Keefer Ranch,	86.67	337	⇑P	P	00 35 34.4 +0.1
	baz=87					
C24A	Savage	86.73	339	⇓P	P	00 35 35.1 +0.5
	baz=87					
HLID	Hailey	86.77	331	⇓P	P	00 35 36.1 +1.1
	baz=87					
D22A	Cohagen	86.92	338	⇓P	P	00 35 35.7 +0.1
	baz=87					
E20A	Meyer Farm, Mu	86.98	336	⇓P	P	00 35 35.8 0.0
	baz=87,SNR=9.4					
B25A	Knox Farm, Ray	87.03	340	⇓P	P	00 35 35.8 -0.2
	baz=87					
ULM	Lac du Bonnet	87.08	345	P	P	00 35 35.1 -1.1
	comp=N,2.2nm,0.8s,baz=171,slow=3.8,SNR=4.4					
E19A	Rath Farm, Rou	87.16	336	⇑P	P	00 35 36.4 -0.3
	baz=88,SNR=5.1					
C23A	Lambert	87.20	339	⇑P	P	00 35 37.1 +0.2
	baz=88					
MCMT	McKenzie Canyo	87.22	333	ePcP	P	00 35 38.2 +0.9
	comp=N,0.7nm,0.6s					
A26A	Wade Farm, Ken	87.29	341	⇑P	P	00 35 37.2 -0.1
	baz=88					
C22A	Vida	87.36	338	⇑P	P	00 35 37.0 -0.7
	baz=88					
D20A	Manuel Ranch,	87.50	337	⇓P	P	00 35 38.3 0.0
	baz=88					
DGMT	Dagmar	87.51	340	⇓P	P	00 35 39.2 +0.9
	baz=88					
DGMT	Dagmar	87.51	340	eP	P	00 35 38.3 0.0
	comp=N,16nm,0.6s					
C21A	Desert Coulee	87.81	337	⇑P	P	00 35 39.7 -0.1
	baz=88					
A24A	Westby	87.86	340	⇓P	P	00 35 40.0 0.0
	baz=88					
N02D	Trinity Center	88.34	324	⇑P	P	00 35 43.2 +0.7
	baz=89					
C19A	Slack Wire Ran	88.36	336	⇑P	P	00 35 42.1 -0.3
	baz=89					
A22A	Carney Farms,	88.48	339	⇓P	P	00 35 43.0 +0.1
	baz=89					
M04C	Macdoel	88.56	325	⇓P	P	00 35 44.6 +1.0
	baz=89					
M02C	Callahan	88.73	325	⇑P	P	00 35 45.1 +0.7
	baz=89					
A21A	Bergtoll Ranch	88.79	338	⇑P	P	00 35 43.9 -

baz=90
YKA Yellowknife Ar 102.60 341 P Pdif 00 36 45.7 -1.2
comp=N,0.3nm,0.9s,baz=144,slow=4.4,SNR=6.2
ILAR Eielson Array 114.65 333 PKP PKPdf 00 41 29.4 -1.0
comp=N,0.2nm,0.8s,baz=184,slow=2.4,SNR=3.2
ASAR Alice Springs 116.78 207 PKP **PKPdf 00 41 33.9 -2.1**
comp=N,0.5nm,0.6s,baz=130,slow=2.1,SNR=4.5
WRA Warramunga Arr 119.97 209 PKP **PKPdf 00 41 40.1 -2.0**
comp=N,1.5nm,0.7s,baz=160,slow=1.7,SNR=16
BRTR Keskin Array B 122.49 61 PKP **PKPdf 00 41 45.4 -1.0**
comp=N,0.5nm,0.8s,baz=214,slow=6.0,SNR=3.7
FINES FINESS Array B 123.77 35 PKP **PKPdf 00 41 46.9 -1.0**
comp=N,1.6nm,1.0s,baz=250,slow=16,SNR=2.9
ARCES ARCESS Array B 124.80 25 PKP **PKPdf 00 41 49.3 -0.5**
comp=N,1.5nm,0.8s,baz=252,slow=5.5,SNR=3.1
SEY Seymchan 140.45 330 PKP **PKPdf 00 42 17.7 -1.6**
comp=N,0.9nm,0.3s,baz=17,slow=20,SNR=3.8
PSI Prapat 147.27 164 PKPbc **PKPdf 00 42 33.6 +0.7**
comp=N,5.0nm,0.8s,baz=232,slow=8.1,SNR=4.4
BVAR Borovoye Array 148.04 44 PKPbc **PKPbc 00 42 36.9 +0.9**
comp=N,3.4nm,0.7s,baz=298,slow=4.1,SNR=16
AAK Ala-Archa 153.15 63 PKPbc **PKPbc 00 42 49.3 +0.6**
comp=N,2.4nm,0.7s,baz=250,slow=5.2,SNR=12
ZALV Zalesovo Beam 155.01 33 PKP **PKPdf 00 42 42.6 -0.7**
comp=N,1.0nm,0.7s,baz=279,slow=2.9,SNR=5.6
ZALV PKPbc PKPbc 00 42 52.2
comp=N,1.7nm,0.7s,baz=292,slow=4.0,SNR=7.5
ZALV PKPab **PKPab 00 43 07.0 -0.7**
comp=N,2.0nm,0.7s,baz=303,slow=4.4,SNR=6.6
MKAR Makanchi Array 157.50 50 PKPab **PKPab 00 43 18.8 +0.1**
comp=N,0.7nm,0.7s,baz=307,slow=2.4,SNR=5.2
SONM Songino Array 166.85 3 PKP **PKPdf 00 42 55.4 -1.0**
comp=N,0.2nm,0.3s,baz=338,slow=1.6,SNR=5.3
SONM PKPab **PKPab 00 44 00.0 +0.5**
comp=N,0.8nm,0.9s,baz=329,slow=2.6,SNR=5.3

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*NIED **01** 00:31:00, 37°.70N×142°.30E, h20km, Mw3.6 Best double couple: M0 3.17000×10^14 NP1:φ=115.00000°, δ37.00000°, λ-27.00000°. NP2:φ=227.00000°, δ74.00000°, λ-124.00000°.*
*JMA **01** 00:31:25.9±0.2, 37°.70N×142°.29E, h33km±3km, M3.9*
*IDC **01** 00:31:47.4±7.3, 37°.71N×140°.32E, h117km±42km, mb3.2/5, mb1 3.2/7, mb1mx3.0/37, mbtmp3.5/7, Error ellipse: s-maj=111.4km s-min=20.8km az=71.0*
ISC 01 00:31:24.2±3.6, 37°.75N±0°.06×142°.3E±0°.1, h4km±22km, n25, σ0=92/26, mb3.5/5, 1C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.00**	**315**	⇑P	**Pb**	**00 31 44.8**	**+0.6**
JIO				S	**Sb**	**00 31 58.0**	**+0.3**
JFK	**Kawauchi**	**1.16**	**251**	P	**Pb**	**00 31 46.2**	**-0.7**
JFK				*e*S	**Sb**	**00 32 01.0**	**-1.3**
JMM	**Marumori**	**1.16**	**276**	⇓P	**Pb**	**00 31 46.8**	**-0.1**
JMM				S	**Sb**	**00 32 01.6**	**-0.7**
JOU	**Okura**	**1.40**	**297**	P	**Pn**	**00 31 51.1**	**+0.6**
JOU				S	**Sn**	**00 32 09.2**	**-0.3**
JMK	**Ichinoseki**	**1.45**	**326**	P	**Pn**	**00 31 51.6**	**+0.4**
JMK				*e*S	**Sn**	**00 32 09.9**	**-0.8**
JFT	**Otama**	**1.54**	**262**	⇓P	**Pn**	**00 31 52.9**	**+0.4**
JFT				*e*S	**Sn**	**00 32 12.3**	**-0.6**
JYS	**Shiratake**	**1.79**	**286**	P	**Pb**	**00 31 57.3**	**-0.3**
JYS				*e*S	**Sb**	**00 32 20.0**	**-0.5**
JOM	**Ohasama**	**1.88**	**337**	P	**Pn**	**00 31 57.6**	**+0.4**
JOM				*e*S	**Sn**	**00 32 20.8**	**-0.5**
JYK	**Kaneyama**	**1.89**	**309**	P	**Pn**	**00 31 58.2**	**+0.9**
JYK				*e*S	**Sn**	**00 32 22.1**	**+0.4**
JFY	**Yanaizu**	**2.05**	**261**	P	**Pn**	**00 32 00.4**	**+0.9**
JFY				*e*S	**Sn**	**00 32 26.4**	**+0.8**
JRG	**Rokugo**	**2.08**	**323**	P	**Pn**	**00 32 01.3**	**+1.4**
JRG				*e*S	**Sb**	**00 32 28.0**	**-0.7**
MJAR	**Matsushiro Arr**	**3.45**	**251**	P	Pn	00 32 21.2	+2.5
	1.8nm,0.3s,baz=77,slow=15,SNR=7.1						
MAT	**Matsushiro**	**3.45**	**251**	P	Pn	00 32 20.8	+2.1
MAT				*e*S	**Sn**	**00 33 02.7**	**+2.6**
USRK	**Ussuriysk Ar.**	**10.09**	**313**	P	Pn	00 33 54.6	+4.9
	0.4nm,0.3s,baz=127,slow=13,SNR=7.9						
SONM	**Songino Array**	**27.95**	**303**	P	**P**	**00 37 16.1**	**+0.4**
	0.8nm,0.7s,baz=103,slow=8.2,SNR=8.5						
H11N2	**WAKE ISLAND Hy 27.96**	**123**		T	T	01 06 29.2	
	baz=315,slow=75,SNR=73						
H11N1	**WAKE ISLAND Hy 27.96**	**123**		T	T	01 06 29.9	
	baz=315,slow=75,SNR=47						
H11N3	**WAKE ISLAND Hy 27.97**	**123**		T	T	01 06 28.9	
	baz=315,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hy 28.70**	**125**		T	T	01 07 24.5	
	baz=317,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy 28.70**	**125**		T	T	01 07 22.7	
	baz=317,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy 28.72**	**125**		T	T	01 07 25.8	
	baz=317,slow=76,SNR=33						
ZALV	**Zalesovo Beam**	**41.93**	**312**	P	**P**	**00 39 15.2**	**-0.5**
	0.5nm,0.6s,baz=92,slow=9.2,SNR=4.0						
MKAR	**Makanchi Array**	**44.31**	**302**	P	**P**	**00 39 34.2**	**-1.0**
	0.2nm,0.5s,baz=85,slow=11,SNR=6.5						
BVAR	**Borovoye Array**	**50.59**	**312**	P	P	00 40 26.9	+3.0
	0.3nm,0.4s,baz=86,slow=7.4,SNR=3.9						
WRA	**Warramunga Arr**	**57.86**	**189**	P	P	00 41 25.1	+7.9
	0.7nm,0.9s,baz=6.4,slow=7.3,SNR=6.7						

IDC 01 00:33:15.0±4.3, 37°.75S×73°.06W, h0km, mb3.5/1, mb1 3.5/2, mb1mx3.3/29, mbtmp3.4/2, ML3.7/1, MS3.9/4, Ms1 3.9/4, ms1mx3.2/26, Error ellipse: s-maj=158.6km s-min=23.7km az=66.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.56**	**148**	Pn	Pn	00 34 11.5	-0.2
	1.4nm,0.3s,baz=304,slow=11,SNR=4.9						
PLCA				Lg	Lg	00 35 08.4	
	7.7nm,0.3s,baz=41,slow=23,SNR=5.8						
CPUP	**Villa Florida**	**17.50**	**54**	LR	LR	00 44 24.7	
	comp=Z,602nm,18.0s,baz=227,slow=38						
SIV	**San Ignacio**	**24.12**	**29**	LR	LR	00 48 48.3	
	comp=Z,268nm,18.9s,baz=196,slow=39						
BDFB	**Brasilia**	**31.21**	**52**	LR	LR	00 52 21.2	
	comp=Z,156nm,19.1s,baz=224,slow=37						
RPN	**Rapa Nui**	**32.22**	**278**	LR	LR	00 49 53.8	
	comp=Z,136nm,19.1s,baz=63,slow=31						
TORD	**Torodi Ar. Bea**	**86.25**	**70**	P	P	00 45 58.6	-0.3
	0.2nm,0.6s,baz=227,slow=3.2,SNR=3.5						
BVAR	**Borovoye Array**	**150.51**	**47**	PKPbc	PKPbc	00 53 07.7	-0.4
	0.6nm,0.6s,baz=275,slow=3.4,SNR=5.7						
MKAR	**Makanchi Array**	**159.71**	**56**	PKPab	PKPab	00 53 54.2	+0.1
	0.3nm,0.7s,baz=285,slow=5.0,SNR=5.4						

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*ISCJB **01** 00:34:17.6±0.9, 34°.71S±0°.09×72°.5W±0°.1, h10km, mb3.7/5, Error ellipse: s-maj=17.4km s-min=8.8km az=36.4*
*IDC **01** 00:34:17.5±1.1, 34°.66S×72°.39W, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.8/30, mbtmp3.8/7, ML3.5/2, Error ellipse: s-maj=40.4km s-min=24.7km az=104.0*
*GUC **01** 00:34:20.1±0.3, 34°.62S×72°.44W, h31km±5km, ML4.4*
*NEIC **01** 00:34:22.8±0.8, 34°.57S×72°.38W, h35km, mb4.1/2, Error ellipse: s-maj=18.9km s-min=14.2km az=94.0*
ISC 01 00:34:19.2±0.9, 34°.61S±0°.09×72°.4W±0°.1, h10km, n16, σ0=95/18, mb3.7/5, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.05**	**52**	⇓*i*P	**Pg**	**00 34 39.2**	**-0.2**
CHCH	**Chadas Angostu**	**1.60**	**66**	⇓*i*P	**Pn**	**00 34 48.1**	**+0.5**
RCDM	**Rinconada Maip**	**1.73**	**50**	⇑*i*P	**Pn**	**00 34 50.0**	**+0.6**
STL	**Santa Lucia**	**1.87**	**52**	⇑*i*P	**Pn**	**00 34 51.6**	**+0.3**
STL				*i* S	**Sb**	**00 35 17.1**	**+0.1**
PEL	**Peldehue**	**2.04**	**45**	⇓*i*P	**Pn**	**00 34 55.0**	**+1.2**
PEL				*i* S	**Sb**	**00 35 21.2**	**-0.7**
PEL				AML	AML	00 35 30.1	
	comp=N,4μm,0.3s						
CFAA	**Coronel Fontan**	**4.60**	**51**	Pn	**Pn**	**00 35 29.9**	**+0.9**
	comp=N,0.6nm,0.3s,baz=232,slow=11,SNR=6.7						
CFAA				Lg	Lg	00 36 37.0	
	comp=N,1.1nm,0.3s,baz=314,slow=13,SNR=3.9						
TRQA	**Tornquist**	**9.09**	**115**	*e*Pn	**Pn**	**00 36 31.4**	**+1.0**
LPAZ	**La Paz**	**18.64**	**13**	P	**Pn**	**00 38 38.9**	**+0.8**
	comp=N,0.2nm,0.3s,baz=183,slow=5.5,SNR=6.1						
LPAZ	**La Paz**	**18.64**	**13**	*e*P	**P**	**00 38 37.6**	**-0.2**
	comp=N,6.0nm,0.7s						
SIV	**San Ignacio**	**21.15**	**32**	P	**P**	**00 39 03.2**	**-1.3**
	comp=N,2.9nm,0.8s,baz=235,slow=11,SNR=5.8						
QSPA	**South Pole Qui**	**55.63**	**180**	P	**P**	**00 43 55.0**	**0.0**
	comp=N,2.7nm,1.1s,baz=148,slow=3.6,SNR=3.5						

BOSA	**Boshof**	**80.06**	**118**	P	**P**	**00 46 29.9**	**+0.4**
	comp=N,1.4nm,0.9s,baz=255,slow=16,SNR=2.5						
PDAR	**Pinedale Array**	**84.17**	**333**	P	**P**	**00 46 51.4**	**+0.8**
	comp=N,0.2nm,0.8s,baz=184,slow=6.1,SNR=2.1						
TORD	**Torodi Ar. Bea**	**84.70**	**70**	P	**P**	**00 46 52.5**	**-1.2**
	comp=N,0.4nm,0.8s,baz=235,slow=4.9,SNR=3.0						
WRA	**Warramunga Arr**	**120.08**	**209**	PKP	**PKPdf**	**00 53 08.9**	**-1.9**
	comp=N,0.4nm,0.8s,baz=152,slow=1.7,SNR=5.5						
BVAR	**Borovoye Array**	**147.93**	**43**	PKPbc	**PKPbc**	**00 54 04.9**	**+0.8**
	comp=N,0.5nm,0.7s,baz=309,slow=4.6,SNR=3.7						

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*IDC **01** 00:36:38.3±1.4, 37°.14S×72°.93W, h0km, mb3.8/6, mb1 4.0/8, mb1mx4.0/18, mbtmp3.8/8, ML4.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/28, Error ellipse: s-maj=39.7km s-min=29.7km az=76.0*
*ISCJB **01** 00:36:42.2±1.0, 37°.16S±0°.10×72°.6W±0°.2, h35km, mb3.9/7, Error ellipse: s-maj=28.3km s-min=13.6km az=175.7*
*NEIC **01** 00:36:43.6±1.2, 37°.26S×72°.75W, h35km, mb4.4/2, Error ellipse: s-maj=34.8km s-min=16.5km az=86.0*
ISC 01 00:36:44.0±1.2, 37°.25±0°.1×72°.6W±0°.2, h35km, n12, σ1=83/12, mb4.0/7, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.84**	**156**	Pn	**Pn**	**00 37 40.3**	**-0.4**
	2.7nm,0.3s,baz=301,slow=16,SNR=3.9						
PLCA				Lg	Lg	00 38 39.4	
	6.0nm,0.3s,baz=43,slow=22,SNR=4.3						
PLCA				LR	LR	00 39 21.7	
	comp=Z,705nm,19.1s,baz=305,slow=40						
CFAA	**Coronel Fontan**	**6.69**	**34**	Pn	**Pn**	**00 38 18.6**	**-1.3**
	0.1nm,0.3s,baz=96,slow=9.2,SNR=1.6						
LVC	**Limon Verde**	**14.93**	**13**	*e*P	**Pn**	**00 40 15.4**	**+2.7**
	13nm,0.9s						
LPAZ	**La Paz**	**21.25**	**12**	P	**P**	**00 41 25.9**	**-1.8**
	1.0nm,0.5s,baz=185,slow=12,SNR=1.9						
SIV	**San Ignacio**	**23.51**	**29**	P	**P**	**00 41 49.3**	**-1.6**
	1.0nm,0.7s,baz=247,slow=7.7,SNR=2.4						
DBIC	**Dimbokro**	**76.68**	**71**	P	**P**	**00 48 34.1**	**+2.4**
	2.4nm,0.6s,baz=216,slow=5.6,SNR=6.8						
DBIC	**Dimbokro**	**76.68**	**71**	*e*P	**P**	**00 48 34.2**	**+2.4**
	2.7nm,0.6s						
BOSA	**Boshof**	**79.00**	**117**	*e*P	**P**	**00 48 45.3**	**+0.6**
	2.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**85.77**	**70**	P	**P**	**00 49 19.4**	**-0.5**
	0.7nm,1.0s,baz=199,slow=4.5,SNR=3.9						
NVAR	**Mina Array Bea**	**86.28**	**326**	P	**P**	**00 49 21.1**	**-1.1**
	0.7nm,0.7s,baz=155,slow=5.4,SNR=4.9						
PDAR	**Pinedale Array**	**86.44**	**334**	P	**P**	**00 49 21.6**	**-1.3**
	0.9nm,0.9s,baz=134,slow=4.3,SNR=6.0						
BVAR	**Borovoye Array**	**149.92**	**46**	PKPbc	**PKPbc**	**00 56 29.7**	**-0.2**
	1.1nm,0.6s,baz=291,slow=2.9,SNR=9.2						

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*BER **01** 00:41:48.0, 62°.03N×4°.58E, h10km, MD2.5, ML2.1, ML2.1(NAO)*
*NAO **01** 00:41:49.6±3.2, 61°.77N×5°.11E, ML2.1*
CSEM 01 00:41:46.3±0.4, 62°.03N×4°.53E, h15km, ML2.1, Error ellipse: s-maj=7.9km s-min=3.7km az=115.0, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOO	**Floro**	**0.49**	**150**	*e*P	Pb	00 41 57.0	+0.3
FOO				*e*S	Sb	00 42 03.9	+0.3
FOO				IAML		00 42 04.6	
	comp=Z,80nm,0.2s						
FOO	**Floro**	**0.49**	**150**	*e*P	Pb	00 41 57.0	+0.4
	SNR=101						
FOO				*e*S	Sb	00 42 03.9	+0.3
	SNR=101						
SUE	**Sulen**	**0.98**	**173**	*e*P	Pb	00 42 05.0	+0.1
SUE				*e*S	Sn	00 42 19.0	0.0
SUE				IAML		00 42 21.8	
	comp=Z,77nm,0.2s						
SUE	**Sulen**	**0.98**	**173**	*e*P	Pb	00 42 05.0	+0.1
	SNR=70						
SUE				*e*S	Sn	00 42 19.0	0.0
	SNR=70						
AKN	**Aaknes**	**1.17**	**81**	Pg	Pn	00 42 07.7	-0.4
AKN				Lg	Lg	00 42 23.0	
AKN	**Aaknes**	**1.17**	**81**	*e*P	Pn	00 42 07.6	-0.5
AKN				*e*S	Sb	00 42 22.9	-0.3
AKN				IAML		00 42 23.8	
	comp=Z,182nm,0.1s						
AKN	**Aaknes**	**1.17**	**81**	*e*P	Pn	00 42 07.6	-0.5
	SNR=70						
AKN				*e*S	Sb	00 42 23.0	-0.2
	SNR=70						
HYA	**Hoyanger**	**1.17**	**137**	*e*P	Pn	00 42 08.0	-0.1
HYA				*e*S	Sg	00 42 24.3	+0.2
HYA				IAML		00 42 25.1	
	comp=Z,106nm,0.2s						
HYA	**Hoyanger**	**1.17**	**137**	*e*P	Pn	00 42 07.9	-0.2
	SNR=70						
HYA				*e*S	Sg	00 42 24.3	+0.2
	SNR=70						
MOL	**Molde**	**1.51**	**68**	*e*P	Pn	00 42 13.2	+0.4
MOL				*e*S	Sb	00 42 32.8	-0.1
MOL	**Molde**	**1.51**	**68**	*e*P	Pn	00 42 13.1	+0.3
	SNR=50						
MOL				*e*S	Sb	00 42 32.8	-0.1
	SNR=50						
ASK	**Askoy**	**1.58**	**168**	*e*P	Pn	00 42 14.1	+0.3
ASK				*e*S	Sb	00 42 34.8	-0.1
ASK				IAML		00 42 38.5	
	comp=Z,30nm,0.1s						
RUND	**Rundenannen**	**1.67**	**166**	*e*P	Pn	00 42 14.2	-0.8
RUND				*e*S	Sn	00 42 35.8	-0.3
RUND				IAML		00 42 38.4	
	comp=Z,41nm,0.3s						
RUND	**Rundenannen**	**1.67**	**166**	*e*P	Pn	00 42 14.2	-0.8
	SNR=50						
RUND				*e*S	Sn	00 42 35.8	-0.3
	SNR=50						
DOMB	**Dombas**	**2.14**	**88**	*e*P	Pb	00 42 24.8	0.0
DOMB				*e*S	Sn	00 42 49.3	+1.6
DOMB				IAML		00 42 53.8	
	comp=Z,20nm,0.1s						
DOMB	**Dombas**	**2.14**	**88**	*e*P	Pb	00 42 24.8	+0.1
	SNR=50						
DOMB				*e*S	Sn	00 42 49.3	+1.6
	SNR=50						
ODD1	**Odda**	**2.35**	**153**	*e*P	Pn	00 42 25.1	+0.7
ODD1				*e*S	Sn	00 42 53.4	+0.2
ODD1				*e*Sg	Sg	00 42 59.9	-2.2
ODD1				IAML		00 43 01.2	
	comp=Z,29nm,0.2s						
ODD1	**Odda**	**2.35**	**153**	*e*P	Pn	00 42 25.1	+0.6
	SNR=50						
ODD1				*e*S	Sn	00 42 53.4	+0.3
	SNR=50						
ODD1				*e*Sg	Sg	00 42 59.8	-2.3
	SNR=92						
BLS5	**Blasjo**	**2.78**	**159**	*e*P	Pn	00 42 30.8	+0.6
BLS5				*e*S	Sn	00 43 02.9	-0.6
BLS5				IAML		00 43 20.3	
	comp=Z,14nm,0.3s						
BLS5	**Blasjo**	**2.78**	**159**	*e*P	Pn	00 42 30.8	+0.6
	SNR=50						
BLS5				*e*S	Sn	00 43 02.9	-0.6
	SNR=50						
KMY	**Karmoy**	**2.85**	**173**	*e*P	Pn	00 42 31.2	+0.1
KMY				*e*S	Sn	00 43 03.9	-1.1
KMY				IAML		00 43 15.9	
	comp=Z,6.1nm,0.5s						
KMY	**Karmoy**	**2.85**	**173**	*e*P	Pn	00 42 31.2	+0.1
	SNR=50						
KMY				*e*S	Sn	00 43 03.9	-1.2
	SNR=50						
NB2	**NORSAR Subarra**	**3.35**	**104**	Pn	Pn	00 42 38.0	-0.2
	baz=289,slow=14						
NB2				Pg	Pb	00 42 43.9	-1.6
	baz=285,slow=18						
NB2				Lg	Lg	00 43 25.1	
	baz=287,slow=37						
NB2	**NORSAR Subarra**	**3.35**	**104**	Pn	Pn	00 42 38.0	-0.2
	baz=289,slow=14						
NB2				Pg	Pb	00 42 43.9	-1.6
	baz=285,slow=18						
NB2				Lg	Lg	00 43 25.1	
	baz=287,slow=37						
NB2	**NORSAR Subarra**	**3.35**	**104**	Pn	Pn	00 42 38.0	-0.1
	SNR=50						
NB2	**NORSAR Subarra**	**3.35**	**104**	Pg	Pb	00 42 43.8	-1.6
	SNR=92						
NB2				Lg	Lg	00 43 25.1	
KONO	**Kongsberg**	**3.44**	**132**	*e*P	Pn	00 42 39.3	+0.1
KONO				*e*S	Sn	00 43 18.6	-1.2
KONO				IAML		00 43 37.5	
	comp=Z,8.3nm,0.3s						
KONO	**Kongsberg**	**3.44**	**132**	*e*P	Pn	00 42 39.3	0.0
	SNR=50						
KONO				*e*S	Sn	00 43 18.6	-1.1
	SNR=50						
SNART	**Snartemo**	**3.93**	**159**	*e*P	Pn	00 42 45.9	-0.2
SNART				*e*S	Sn	00 43 30.9	-1.0
SNART				*e*Sg	Sg	00 43 47.6	-4.9
SNART				IAML		00 43 50.1	
	comp=Z,11nm,0.2s						
SNART	**Snartemo**	**3.93**	**159**	*e*P	Pn	00 42 45.9	-0.2
	SNR=49						
SNART				*e*S	Sn	00 43 30.9	-1.0
	SNR=49						
SNART				*e*Sg	Sg	00 43 47.6	-4.9
	SNR=91						
HOMB	**Homborsund**	**4.26**	**150**	*e*P	Pn	00 42 51.1	+0.6
HOMB	**Homborsund**	**4.26**	**150**	*e*P	Pn	00 42 51.1	+0.6
	SNR=49						
HFS	**Hagfors**	**4.84**	**109**	Pn	Pn	00 42 58.6	+0.1
	baz=294,slow=16						
HFS				Sn	Sn	00 43 50.1	-4.0
	baz=297,slow=18						
HFS				Lg	Lg	00 44 11.6	
	baz=292,slow=37						
HFS	**Hagfors**	**4.84**	**109**	Pn	Pn	00 42 58.6	+0.1
	baz=294,slow=16						
HFS				Sn	Sn	00 43 50.1	-4.0
	baz=297,slow=18						
HFS				Lg	Lg	00 44 11.6	
	baz=292,slow=37						
HFS	**Hagfors**	**4.84**	**109**	Pn	Pn	00 42 58.6	+0.1
	SNR=50						
HFS				Sn	Sn	00 43 50.1	-4.0
	SNR=50						
HFS				Lg	Lg	00 44 11.6	
FIA0	**FINESS Array S**	**10.22**	**84**	Pn	Pn	00 44 12.2	0.0
	baz=263,slow=12						
FIA0				Sn	Sn	00 46 00.8	-5.6
FIA0				Lg	Lg	00 46 59.6	
	baz=284,slow=28						
FIA0	**FINESS Array S**	**10.22**	**84**	Pn	Pn	00 44 12.2	0.0
	baz=263,slow=12						
FIA0				Sn	Sn	00 46 00.8	-5.6
FIA0				Lg	Lg	00 46 59.6	
	baz=284,slow=28						
FIA0	**FINESS Array S**	**10.22**	**84**	Pn	Pn	00 44 12.2	-0.1
	SNR=50						

JMA 01 00:45:10.1±0.3, 26°.00N×128°.70E, h33km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.80**	**310**	P	Pn	00 45 24.8	-0.2
JNTH				S	Sn	00 45 35.5	-0.3
JJT2	**Tamagusuku 2**	**0.87**	**279**	P	Pn	00 45 26.1	+0.1
JJT2				S	Sb	00 45 38.0	0.0
JOW	**Kunigami**	**0.91**	**335**	P	Pb	00 45 27.2	-0.3
JOW				S	Sn	00 45 38.1	-0.6
JIH	**Iheya**	**1.22**	**328**	P	Pb	00 45 31.8	-0.9
JIH				S	Sn	00 45 47.2	+0.9
JOKE	**Okinoerabujima**	**1.36**	**355**	P	Pb	00 45 34.0	-1.1
JOKE				S	Sn	00 45 49.8	+0.1
JAGN	**Aguni-jima**	**1.43**	**294**	P	Pn	00 45 34.5	+0.7
JAGN				*e*S	Sb	00 45 53.0	-1.2
JKE	**Kume jima 2**	**1.75**	**281**	P	Pn	00 45 38.1	0.0
JKE				S	Sn	00 45 59.2	-0.1
JTK	**Tokunoshima**	**1.79**	**7**	P	Pn	00 45 39.9	+1.1
JTK				S	Sn	00 46 01.3	+0.9
JAMN	**Amaminishikomi**	**2.27**	**11**	P	Pn	00 45 46.6	+1.3
JAMN				S	Sn	00 46 13.8	+1.6
JMZ	**Minamidaito 2**	**2.28**	**94**	P	Pn	00 45 45.5	+0.1
JMZ				S	Sn	00 46 09.8	-2.5
JAM	**Amami Oshima**	**2.53**	**18**	P	Pn	00 45 49.8	+0.9
JAM				S	Sn	00 46 19.8	+1.2
JTJ	**Tarama**	**3.86**	**250**	P	Pn	00 46 06.6	-0.6
JTJ				S	Sn	00 46 48.0	-3.5
JISG	**Ishigakijimahi**	**4.21**	**251**	P	Pn	00 46 11.0	-1.0
JIJ	**Ishigaki jima**	**4.44**	**249**	P	Pn	00 46 14.3	-0.8
JIJ				S	Sn	00 47 01.4	-4.3

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*IDC **01** 00:49:08.5±0.5, 34°.60S×72°.69W, h0km, mb4.4/13, mb1 4.5/16, mb1mx4.4/32, mbtmp4.4/16, ML4.4/3, MS4.0/6, Ms1 4.0/6, ms1mx3.6/30, Error ellipse: s-maj=22.3km s-min=14.3km az=88.0*
*ISCJB **01** 00:49:09.1±0.3, 34°.68S±0°.05×72°.65W±0°.04, h10km, mb4.7/58, MS4.7/30, Error ellipse: s-maj=7.1km s-min=4.7km az=154.5*
*GUC **01** 00:49:10.4±0.4, 35°.30S×71°.52W, h17km±3km, ML4.4*
*BJI **01** 00:49:14.1, 34°.70S×72°.60W, h35km, mB5.3/3, Ms5.2/4, Ms7 4.9/2*
*NEIC **01** 00:49:15.7±0.9, 34°.63S×72°.48W, h49km±8km, mb4.8/49, MS4.7/24, Error ellipse: s-maj=8.9km s-min=5.2km az=74.0*
ISC 01 00:49:10.1±0.4, 34°.67S±0°.05×72°.55W±0°.07, h10km, n153, σ1=38/152, mb4.8/59, MS4.6/30, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.86**	**51**	⇑*i*P	**Pn**	**00 49 42.4**	**+0.3**
RCDM				*i* S	**Sn**	**00 50 06.4**	**+0.7**
RCDM				AML	AML	00 50 15.8	
	comp=N,3μm,0.5s						
STL	**Santa Lucia**	**2.00**	**53**	⇑*i*P	**Pn**	**00 49 44.0**	**-0.1**
STL				*i* S	**Sn**	**00 50 09.2**	**0.0**
PEL	**Peldehue**	**2.17**	**46**	*e*P	**Pb**	**00 49 47.9**	**-1.6**
PEL				*i* S	**Sb**	**00 50 16.7**	**+0.2**
PEL				AML	AML	00 50 23.7	
	comp=E,6μm,0.5s						
FCH	**Farellones**	**2.30**	**55**	⇓*i*P	**Pb**	**00 49 51.5**	**-0.5**
FCH				*e*S	**Sb**	**00 50 20.3**

	comp=N,19nm,1.4s						
ROSC	**El Rosal**	39.35	357	P		**P**	**00 56 42.7 +2.5**
	comp=N,4.7nm,0.5s,baz=75,slow=13,SNR=5.3						
ROSC	**El Rosal**	39.35	357	*e*P		**P**	**00 56 40.8 +0.6**
RCBR	**Riachuelo**	44.35	58	LR		LR	01 17 44.5
	comp=N,396nm,18.7s,baz=177,slow=39						
SNAA	**Sanae**	51.13	158	P		**P**	**00 58 14.4 +1.7**
	comp=N,5.7nm,0.9s,baz=229,slow=5.7,SNR=29						
SNAA	**Sanae**	51.13	158	*e*P		**P**	**00 58 13.0 +0.2**
	comp=N,28nm,1.1s						
CRPR	**Cabo Rojo, PR**	52.64	7	*e*P		**P**	**00 58 23.4 -1.0**
	comp=N,11nm,0.8s						
SEUS	**St. Eustatius**	52.66	12	PFAKE			00 58 40.0 +15
SEUS				LR		LR	
	comp=Z,300nm,20.5s						
CELP	**Cerrillos**	52.76	7	*e*P		**P**	**00 58 24.7 -0.6**
AOPR	**Arecibo Observ**	53.01	7	PFAKE			00 58 40.0 +13
AOPR				LR		LR	
	comp=Z,900nm,19.4s						
SMRT	**St. Maarten**	53.19	11	PFAKE			00 58 40.0 +11
SMRT				LR		LR	
	comp=Z,200nm,21.1s						
QSPA	**South Pole Qui**	55.57	180	P		**P**	**00 58 47.4 +1.9**
	comp=Z,7.3nm,0.9s,baz=146,slow=2.4,SNR=15						
SYO	**Syowa Base**	65.40	158	*e*P		**P**	**00 59 50.7 -1.7**
JCT	**Junction City**	69.71	335	*e*P		**P**	**01 00 20.6 +0.5**
	comp=Z,14nm,1.1s						
LTX	**Lajitas**	70.11	331	*e*P		**P**	**01 00 22.6 -0.1**
TX31	**Lajitas Ar. Si**	70.11	331	*e*P		**P**	**01 00 23.4 +0.7**
TXAR	**Lajitas Array**	70.11	331	P		**P**	**01 00 22.6 -0.1**
	comp=Z,1.3nm,0.8s,baz=165,slow=5.2,SNR=4.8						
ABTX	**Abilene, Hawle**	71.61	336	*e*P		**P**	**01 00 31.3 -0.3**
	comp=Z,34nm,1.8s						
WVT	**Waverly**	71.86	347	*e*P		**P**	**01 00 32.7 -0.4**
	comp=Z,14nm,0.9s						
MNTX	**Cornudas Mount**	72.89	331	*e*P		**P**	**01 00 37.7 -1.5**
	comp=Z,3.7nm,1.0s						
MSTX	**Muleshoe**	73.92	334	*e*P		**P**	**01 00 45.5 0.0**
	comp=Z,9.3nm,1.0s						
AMTX	**Amarillo**	74.36	335	*e*P		**P**	**01 00 47.4 -0.6**
	comp=Z,28nm,1.5s						
CPNY	**Central Park**	75.10	359	PFAKE			01 01 00.0 +8.1
CPNY				LR		LR	
	comp=Z,1μm,21.8s						
BNM	**Barren Site**	75.54	331	*e*P		**P**	**01 00 55.8 +0.8**
YLE	**Yale**	75.61	360	PFAKE			01 01 10.0 +15
YLE				LR		LR	
	comp=Z,900nm,21.6s						
TUC	**Tucson**	75.70	327	*e*P		**P**	**01 00 56.5 +0.8**
	comp=Z,6.1nm,1.3s						
DBIC	**Dimbokro**	75.79	71	P		**P**	**01 00 56.8 +0.2**
	comp=Z,3.1nm,0.7s,baz=203,slow=6.7,SNR=5.6						
DBIC	**Dimbokro**	75.79	71	*e*P		**P**	**01 00 56.8 +0.2**
	comp=Z,37nm,1.8s						
LAZ	**Ladron**	75.96	331	*e*P		**P**	**01 00 56.8 -0.6**
ANMO	**Albuquerque**	76.17	332	*e*P		**P**	**01 00 59.3 +0.8**
	comp=Z,5.6nm,1.0s						
SDCO	**Great Sand Dun**	78.28	334	*e*P		**P**	**01 01 10.5 +0.1**
	comp=Z,63nm,2.8s						
WUAZ	**Wupatki**	78.68	329	*e*P		**P**	**01 01 13.6 +1.1**
	comp=Z,9.3nm,1.0s						
MVCO	**Mesa Verde**	78.94	331	*e*P		**P**	**01 01 14.3 +0.2**
	comp=Z,12nm,1.3s						
EMMW	**East Machias**	79.14	4	PFAKE			01 01 30.0 +15
EMMW				LR		LR	
	comp=Z,1μm,20.5s						
SMCO	**Snowmass**	80.08	334	*e*P		**P**	**01 01 21.7 +1.3**
	comp=Z,7.7nm,1.0s						
BOSA	**Boshof**	80.13	118	P		**P**	**01 01 20.9 +0.1**
	comp=Z,5.6nm,1.0s,baz=250,slow=5.2,SNR=6.7						
ISCO	**Idaho Springs**	80.14	335	*e*P		**P**	**01 01 20.9 +0.3**
	comp=Z,16nm,1.8s						
KNB	**Kanab**	80.57	328	*e*P		**P**	**01 01 24.1 +1.3**
	comp=Z,16nm,1.1s						
ECSD	**EROS Data Cent**	81.06	343	*e*P		**P**	**01 01 24.6 -0.4**
	comp=Z,12nm,1.0s						
SHPR	**Sheep Range**	81.18	326	*e*P		**P**	**01 01 26.9 +0.9**
CCUT	**Cedar City**	81.25	328	*e*P		**P**	**01 01 27.8 +1.3**
	comp=Z,12nm,1.2s						
SRU	**San Rafael Swe**	81.39	331	*e*P		**P**	**01 01 27.2 +0.1**
	comp=Z,4.4nm,0.9s						
PHWY	**Pilot Hill**	81.43	336	*e*P		**P**	**01 01 27.7 +0.3**
	comp=Z,11nm,1.3s						
ARUT	**Antelope Range**	81.48	328	*e*P		**P**	**01 01 29.3 +1.7**
MVU	**Marysvale**	81.56	330	*e*P		**P**	**01 01 29.2 +1.1**
	comp=Z,5.0nm,0.8s						
LBTB	**Lobatse**	82.41	115	PFAKE			01 01 40.0 +7.1
LBTB				LR		LR	
	comp=Z,200nm,19.1s						
MPU	**Maple Canyon**	82.61	331	*e*P		**P**	**01 01 33.8 +0.3**
	comp=Z,7.2nm,1.0s						
BKZ	**Black Stump Fm**	82.70	227	PFAKE			01 01 50.0 +16
BKZ				LR		LR	
	comp=Z,400nm,21.0s						
NLU	**North Lily Min**	82.73	330	*e*P		**P**	**01 01 32.6 -1.6**
	comp=Z,76nm,2.8s						
R11A	**Troy Canyon, C**	82.89	327	*e*P		**P**	**01 01 36.0 +1.0**
	comp=Z,5.8nm,1.0s						
URZ	**Urewera**	82.90	228	LR		LR	01 30 32.8
	comp=Z,102nm,19.5s,baz=186,slow=30						
K22A	**Casper**	82.99	335	*e*P		**P**	**01 01 35.7 +0.3**
	comp=Z,21nm,1.5s						
JLU	**Jordanelle**	83.03	331	*e*P		**P**	**01 01 35.4 -0.4**
	comp=Z,22nm,1.8s						
DUG	**Dugway, Tooele**	83.24	330	*e*P		**P**	**01 01 37.3 +0.6**
	comp=Z,20nm,1.4s						
TPH	**Tonopah**	83.41	326	*e*P		**P**	**01 01 38.5 +0.8**
	comp=Z,8.5nm,1.1s						
TCUT	**Toone Canyon**	83.45	332	*e*P		**P**	**01 01 36.7 -1.2**
	comp=Z,41nm,1.9s						
TCUT				LR		LR	
	comp=Z,799nm,20.9s						
HWUT	**Hardware Ranch**	83.93	332	*e*P		**P**	**01 01 40.6 +0.3**
	comp=Z,9.2nm,1.1s						
BGU	**Big Grassy Mou**	83.94	330	*e*P		**P**	**01 01 40.8 +0.5**
	comp=Z,5.0nm,1.3s						
BGU				LR		LR	
	comp=Z,200nm,19.7s						
PD31	**Pinedale Array**	84.17	334	*e*P		**P**	**01 01 40.8 -0.7**
PDAR	**Pinedale Array**	84.17	334	P		**P**	**01 01 40.9 -0.7**
	comp=Z,1.2nm,0.9s,baz=177,slow=5.9,SNR=9.0						
BW06	**Boulder Array**	84.17	334	*e*P		**P**	**01 01 40.7 -0.8**
NV01	**Mina Array Sit**	84.19	326	*e*P		**P**	**01 01 42.4 +0.7**
NVAR	**Mina Array Bea**	84.19	326	P		**P**	**01 01 42.0 +0.3**
	comp=Z,1.9nm,0.9s,baz=148,slow=6.2,SNR=10						
ELK	**Elko**	84.71	329	*e*P		**P**	**01 01 44.8 +0.4**
	comp=Z,5.5nm,1.1s						
AHID	**Auburn Hatcher**	84.74	333	*e*P		**P**	**01 01 43.5 -1.0**
	comp=Z,32nm,1.9s						
TOA0	**Torodi Ar. Sit**	84.83	70	*e*P		**P**	**01 01 45.4 +0.1**
TORD	**Torodi Ar. Bea**	84.83	70	P		**P**	**01 01 45.4 +0.1**
	comp=Z,4.5nm,0.9s,baz=259,slow=3.9,SNR=24						
REDW	**Red Top Meadow**	85.16	333	*e*P		**P**	**01 01 46.4 -0.1**
	comp=Z,42nm,2.3s						
BMN	**Battle Mountai**	85.32	327	PFAKE			01 02 00.0 +13
BMN				LR		LR	
	comp=Z,300nm,22.0s						
IMW	**Indian Meadow**	85.65	333	*e*P		**P**	**01 01 49.0 0.0**
	comp=Z,24nm,2.0s						
FLWY	**Flagg Ranch**	85.72	333	*e*P		**P**	**01 01 48.6 -0.7**
	comp=Z,36nm,2.0s						
YFT	**Old Faithful**	86.09	334	PFAKE			01 02 00.0 +8.8
YFT				LR		LR	
	comp=Z,500nm,19.4s						
RLMT	**Red Lodge**	86.11	335	*e*P		**P**	**01 01 50.9 -0.3**
	comp=Z,4.7nm,0.8s						
YNR	**Norris Junctio**	86.26	334	PFAKE			01 02 00.0 +8.0
YNR				LR		LR	
	comp=Z,1μm,20.1s						
YMR	**Madison River**	86.33	334	*e*P		**P**	**01 01 52.8 +0.5**
	comp=Z,14nm,1.2s						
LAO	**LASA Array**	86.47	338	*e*P		**P**	**01 01 52.6 -0.1**
	comp=Z,142nm,3.0s						
HLID	**Hailey**	86.71	331	*e*P		**P**	**01 01 54.9 +0.7**
	comp=Z,53nm,2.6s						
ULM	**Lac du Bonnet**	87.03	345	P		**P**	**01 01 54.3 -1.0**
	comp=Z,4.1nm,1.0s,baz=164,slow=4.9,SNR=4.6						
ULM	**Lac du Bonnet**	87.03	345	*e*P		**P**	**01 01 54.5 -0.8**
	comp=Z,12nm,1.3s						
MCMT	**McKenzie Canyo**	87.16	333	*e*P		**P**	**01 01 57.3 +0.9**
DGMT	**Dagmar**	87.46	340	*e*P		**P**	**01 01 57.5 0.0**
	comp=Z,17nm,0.9s						
LRM	**Limekiln Ridge**	87.86	333	*e*P		**P**	**01 01 59.6 -0.1**
MOD	**Modoc Plateau**	87.88	326	*e*P		**P**	**01 02 00.3 +0.5**
	comp=Z,11nm,1.2s						
WDC	**Whiskeytown Da**	87.90	324	*e*P		**P**	**01 01 59.0 -0.7**
	comp=Z,15nm,1.3s						
K05A	**Summer Lake**	88.80	327	*e*P		**P**	**01 02 05.4 +1.2**
	comp=Z,114nm,2.3s						
YKA	**Yellowknife Ar**	102.55	341	P		**Pdif**	**01 03 04.6 -1.5**
	comp=Z,0.1nm,0.3s,baz=238,slow=22,SNR=4.4						
MEM	**Membach**	109.40	41	PFAKE			01 07 50.0
MEM				LR		LR	
	comp=Z,421μm,20.0s						
TIP	**Timpagrande**	110.40	56	PFAKE			01 07 50.0
TIP				LR		LR	
	comp=Z,102nm,20.0s						
SML	**Sawmill**	113.72	330	PFAKE			01 08 00.0
SML				LR		LR	
	comp=Z,200nm,19.5s						
ILAR	**Eielson Array**	114.60	333	PKP		PKPdf	01 07 49.6 -0.1
	comp=Z,0.5nm,1.0s,baz=205,slow=3.8,SNR=3.5						
DPC	**Dobruska-Polom**	115.11	45	PFAKE			01 08 00.0 +8.9
DPC				LR		LR	
	comp=Z,800nm,21.0s						
AS12	**Alice Springs**	116.78	207	*e*PKPdf		**PKPdf**	**01 07 53.8 -1.5**
ASAR	**Alice Springs**	116.78	207	PKP		**PKPdf**	**01 07 53.8 -1.5**
	comp=Z,0.4nm,0.4s,baz=113,slow=1.7,SNR=4.2						
WRA	**Warramunga Arr**	119.97	209	PKP		**PKPdf**	**01 08 00.3 -1.2**
	comp=Z,1.2nm,0.7s,baz=151,slow=1.5,SNR=14						
BR231	**Keskin MP Arra**	121.94	61	*e*PKPdf		**PKPdf**	**01 08 03.1 -1.6**
BR101	**Keskin Array S**	122.52	61	*e*PKPdf		**PKPdf**	**01 08 04.5 -1.4**
BRTR	**Keskin Array B**	122.52	61	PKP		**PKPdf**	**01 08 04.5 -1.4**
	comp=Z,0.7nm,0.7s,baz=188,slow=1.9,SNR=5.8						
AKASG	**Malin Array Be**	122.95	48	PKP		**PKPdf**	**01 08 04.7 -1.4**
	comp=Z,0.1nm,0.2s,baz=256,slow=2.4,SNR=4.9						
AKBB	**Malin Array Si**	122.95	48	*e*PKPdf		**PKPdf**	**01 08 04.7 -1.4**
GAMB	**Gambell**	124.44	328	PFAKE			01 08 20.0 +11
GAMB				LR		LR	
	comp=Z,400nm,20.8s						
ARA0	**ARCESS Array S**	124.80	25	*e*PKPdf		**PKPdf**	**01 08 08.5 -0.7**
ARCES	**ARCESS Array B**	124.80	25	PKP		**PKPdf**	**01 08 08.5 -0.7**
	comp=Z,1.8nm,0.8s,baz=244,slow=3.5,SNR=8.0						
RAYN	**Ar Rayn**	125.48	84	PFAKE			01 08 20.0 +8.1
RAYN				LR		LR	
	comp=Z,100nm,22.0s						
ABKAR	**Akbulak array**	142.42	52	*e*PKPpre		PKPpre	01 08 37.4
ABKAR				*e*PKPdf		**PKPdf**	**01 08 44.0 +1.3**
TOLI	**Toli-Toli**	144.38	203	PFAKE			01 09 00.0 +13
TOLI				LR		LR	
	comp=Z,100nm,19.0s						
MYKOM	**Kota Tinggi**	147.12	173	PFAKE			01 09 00.0 +4.5
MYKOM				LR		LR	
	comp=Z,100nm,19.0s						
SBUM	**Sibu**	147.64	189	PFAKE			01 09 00.0 +2.5
SBUM				LR		LR	
	comp=Z,200nm,20.0s						
BRVK	**Borovoye**	147.98	43	*e*PKPdf		**PKPdf**	**01 08 52.8 +0.7**
BRVK				*e*PKPbc		**PKPbc**	**01 08 55.8 +0.7**
VOSK	**Vostochnaya**	148.50	44	*e*PKPdf		**PKPdf**	**01 08 53.9 +0.9**
VOSK				*e*PKPbc		**PKiKP**	**01 08 57.4 -0.7**
KBL	**Kabul**	148.51	79	*e*PKPdf		**PKPdf**	**01 08 55.4 +1.5**
KBL				LR		LR	
	comp=Z,100nm,19.7s						
HYB	**Hyderabad**	149.02	116	*e*P		**PKPbc**	**01 08 58.0 -1.0**
LHMI	**Lhok Sumawe**	149.13	159	*e*PKPdf		**PKPdf**	**01 08 54.7 -0.5**
YAK	**Yakutsk**	149.21	340	*e*PKPbc		**PKPbc**	**01 08 57.8 -0.2**
IPM	**Ipoh**	149.38	167	*e*PKPbc		**PKPbc**	**01 08 59.4 -0.6**
IPM				LR		LR	
	comp=Z,100nm,20.0s						
KKAR	**Karatay Array**	150.23	62	*e*PKPbc		**PKPbc**	**01 09 00.9 -0.3**
EKS2	**Erkin-Say**	152.66	63	*e*PKPdf		**PKPdf**	**01 09 01.1 +1.2**
EKS2				*e*PKPbc		**PKiKP**	**01 09 07.6 +0.4**
TKM2	**Tokmak 2**	153.96	62	PFAKE			01 09 10.0 +0.1
TKM2				LR		LR	
	comp=Z,102nm,21.0s						
KSH	**Kashi**	154.50	70	PKPbc		**PKPdf**	**01 09 03.5 +0.8**
KSH				sPKP			01 09 17.0
KSH				PKS		**PKSdf**	**01 12 36.6 -0.3**
KSH				PP		**PP**	**01 13 02.0 +0.6**
KSH				SKS		**SKSdf**	**01 16 06.0 -3.5**
KSH				SKKS		**SKKSac**	**01 19 48.3 -2.9**
KSH				SS		**SS**	**01 32 38.1 -4.6**
KSH				PPMZ			
	comp=Z,130nm,5.7s						
KSH				LN			
	comp=Z,32nm,4.9s						
KSH				LE			
	comp=Z,47nm,4.4s						
KSH				LZ			
	comp=Z,74nm,6.4s						
ZAA1	**Zalesovo Array**	155.01	33	*e*PKPdf		**PKPdf**	**01 09 02.4 -0.3**
ZAA1				*e*PKPbc		PKPab	01 09 11.4 -16
ZAA1				*e*PKPab		PKPab	01 09 26.8 -0.3
ZAA0	**Zalesovo Array**	155.01	33	*e*PKPdf		**PKPdf**	**01 09 01.6 -1.0**
ZAA0				*e*PKPbc		PKPab	01 09 11.2 -16
ZALV	**Zalesovo Beam**	155.01	33	PKP		**PKPdf**	**01 09 02.4 -0.3**
	comp=Z,2.6nm,1.1s,baz=320,slow=3.9,SNR=6.9						
ZALV				PKPbc		PKPab	01 09 11.4 -16
	comp=Z,3.6nm,0.8s,baz=294,slow=1.5,SNR=3.8						
ZALV				PKPab		PKPab	01 09 26.8 -0.3
	comp=Z,6.1nm,1.0s,baz=289,slow=5.8,SNR=6.2						
MK32	**Makanchi Array**	157.52	50	*e*PKPdf		**PKPdf**	**01 09 05.0 -1.3**
MK32				*e*PKPab		**PKPab**	**01 09 37.6 -0.5**
MKAR	**Makanchi Array**	157.52	50	PKP		**PKPdf**	**01 09 05.0 -1.3**
	comp=Z,0.4nm,0.8s,baz=41,slow=1.2,SNR=5.6						
MKAR				PKPab		**PKPab**	**01 09 37.6 -0.5**
	comp=Z,0.9nm,0.8s,baz=303,slow=4.2,SNR=6.9						
CM01	**Chiang Mai Arr**	162.14	153	*e*PKPdf		**PKPdf**	**01 09 11.9 -0.4**
CM01				*e*PKPab		**PKPab**	**01 09 59.0 +0.2**
WMQ	**Urumqi**	162.21	53	*e*PKP		**PKPdf**	**01 09 12.5 +0.8**
WMQ				LN			
	comp=Z,52nm,22.0s						
WMQ				LE			
	comp=Z,59nm,24.0s						
LSA	**Lhasa**	165.34	105	*e*PKPab		**PKPab**	**01 10 14.0 +0.6**
SONA1	**Songino Array**	166.81	3	*e*PKPab		**PKPab**	**01 10 18.2 -0.6**
SONA0	**Songino Array**	166.82	3	*e*PKPdf		**PKPdf**	**01 09 15.2 -0.6**
SONA0				*e*PKPab		**PKPab**	**01 10 18.7 -0.1**
SONM	**Songino Array**	166.82	3	PKP		**PKPdf**	**01 09 15.2 -0.6**
	comp=Z,0.7nm,0.9s,baz=222,slow=1.8,SNR=4.1						
SONM				PKPab		**PKPab**	**01 10 18.7 -0.1**
	comp=Z,1.1nm,0.9s,baz=343,slow=4.6,SNR=6.5						
KMI	**Kunming**	169.65	156	PKP		**PKPdf**	**01 09 16.0 -2.5**
NJ2	**Nanjing**	170.11	258	*e*PKP		**PKPdf**	**01 09 19.5 +1.3**
HHC	**Hu-ho-hao-te**	173.02	333	*e*PKP		**PKPdf**	**01 09 20.5 +0.9**
HHC				PKS		**PKSdf**	**01 12 51.3 -0.5**
HHC				PP		**PP**	**01 14 42.0 +4.3**
HHC				SKS		**SKSdf**	**01 16 18.4 -4.4**
HHC				SKKS		**SKKSac**	**01 21 23.9 -0.8**
HHC				SS		**SS**	**01 35 50.0 -1.3**
HHC				PPMZ			
	comp=Z,66nm,5.6s						
HHC				LN			
	comp=Z,160nm,19.8s						
HHC				LE			
	comp=Z,280nm,20.0s						
HHC				LZ			
	comp=Z,140nm,21.6s						
CD2	**Chengdu**	175.13	139	*e*PKP		**PKPdf**	**01 09 21.1 +0.6**
LZH	**Lanzhou**	176.73	63	*e*PKP		**PKPdf**	**01 09 21.8 +0.9**
LZH				pPKP		**pPKPdf**	**01 09 31.5 +7.2**
LZH				sPKP			01 09 35.4

*IDC **01** 00:52:38.3±1.2, 37°.22S×72°.97W, h0km, mb4.0/8, mb1 4.1/8, mb1mx4.0/31, mbtmp4.0/8, Error ellipse: s-maj=44.8km s-min=21.0km az=91.0*
*ISCJB **01** 00:52:41.7±1.0, 37°.28S±0°.10×72°.9W±0°.3, h33km, mb4.0/8, Error ellipse: s-maj=35.8km s-min=13.3km az=174.0*
*NEIC **01** 00:52:43.6±1.1, 37°.25S×72°.83W, h35km, mb4.5/4, Error ellipse: s-maj=41.1km s-min=14.9km az=85.0*

ISC 01 00:52:43.4±1.1, 37°.3S±0°.1×72°.9W±0°.3, h33km, n13, σ1§46/12, mb4.0/8, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	3.90	153	*e*Pn	**Pn**	00 53 39.9	**-1.2**
LPAZ	**La Paz**	21.32	13	P	**P**	00 57 26.2	**-1.9**
	3.3nm,1.0s,baz=207,slow=6.8,SNR=4.3						
LPAZ	**La Paz**	21.32	13	*e*P	**P**	00 57 26.8	**-1.3**
	5.2nm,0.9s						
SIV	**San Ignacio**	23.63	29	P	**P**	00 57 49.8	**-1.8**
	1.7nm,0.8s,baz=231,slow=14,SNR=3.8						
SNAA	**Sanae**	48.83	157	P	**P**	01 01 25.5	**+0.3**
	1.3nm,1.0s,baz=323,slow=10,SNR=3.0						
SNAA	**Sanae**	48.83	157	*e*P	**P**	01 01 26.0	**+0.7**
	5.6nm,0.9s						
QSPA	**South Pole Qui**	52.97	180	P	**P**	01 01 55.5	**-1.0**
	1.9nm,1.0s,baz=139,slow=8.6,SNR=2.6						
QSPA	**South Pole Qui**	52.97	180	*e*P	P	01 01 55.4	-1.1
	5.1nm,1.0s						
TXAR	**Lajitas Array**	72.28	332	P	**P**	01 04 06.4	**+0.9**
	1.3nm,0.8s,baz=169,slow=7.4,SNR=3.7						
DBIC	**Dimbokro**	76.87	71	P	**P**	01 04 34.0	**+1.5**
	2.6nm,0.6s,baz=213,slow=4.3,SNR=5.6						
BOSA	**Boshof**	79.15	118	P	**P**	01 04 46.9	**+1.7**
	1.9nm,0.9s,baz=142,slow=4.4,SNR=2.0						
TORD	**Torodi Ar. Bea**	85.95	70	P	**P**	01 05 20.8	**+0.3**
	0.8nm,0.8s,baz=216,slow=5.7,SNR=4.7						
MKAR	**Makanchi Array**	159.31	55	PKPab	**PKPab**	01 13 14.4	**-1.1**
	0.5nm,0.8s,baz=288,slow=3.7,SNR=3.9						

GUC 01 00:54:35.9±0.5, 34°.40S×73°.88W, h20km, ML4.0, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	2.55	74	*e*P	Pn	00 55 17.9	+1.7
RCDM	**Rinconada Maip**	2.71	71	*e*P	Pn	00 55 20.3	+2.0
RCDM				*i* S	Sb	00 55 53.9	-2.7
RCDM				AML	AML	00 56 01.9	
	comp=E,1μm,0.3s						
CHCH	**Chadas Angostu**	2.71	81	*e*P	Pn	00 55 20.5	+2.0
SAN	**Santiago**	2.84	72	*i* P	Pb	00 55 24.3	-1.6
STL	**Santa Lucia**	2.86	71	*e*P	Pn	00 55 22.2	+1.8
STL				*i* S	Sn	00 55 57.4	+3.1
STL				AML	AML	00 56 07.2	
	comp=E,312nm,0.2s						

*ISCJB **01** 00:55:00.8±1.0, 34°.7S±0°.1×72°.4W±0°.2, h10km, mb3.8/6, Error ellipse: s-maj=25.6km s-min=18.3km az=8.2*
*IDC **01** 00:55:00.3±1.0, 34°.71S×72°.47W, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.8/30, mbtmp3.8/8, ML3.6/2, Error ellipse: s-maj=34.2km s-min=25.4km az=73.0*

ISC 01 00:55:01.9±1.1, 34°.7S±0°.1×72°.5W±0°.2, h10km, n9, σ0§72/9, mb3.9/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	4.72	50	Pn	**Pn**	00 56 13.5	**+0.4**
	0.5nm,0.3s,baz=274,slow=14,SNR=3.0						
CFAA				Lg	Lg	00 57 23.2	
	1.6nm,0.3s,baz=97,slow=16,SNR=3.0						
LPAZ	**La Paz**	18.74	13	P	**Pn**	00 59 21.7	**-0.2**
	0.3nm,0.3s,baz=197,slow=5.1,SNR=2.9						
SNAA	**Sanae**	51.09	158	P	**P**	01 04 04.9	**+0.7**
	1.3nm,0.9s,baz=264,slow=9.2,SNR=3.4						
DBIC	**Dimbokro**	75.76	71	P	**P**	01 06 48.0	**-0.2**
	2.0nm,0.7s,baz=224,slow=6.1,SNR=4.4						
BOSA	**Boshof**	80.08	118	P	**P**	01 07 12.1	**-0.2**
	1.9nm,0.9s,baz=173,slow=8.1,SNR=1.7						
PDAR	**Pinedale Array**	84.21	334	P	**P**	01 07 33.8	**+0.3**
	0.3nm,0.7s,baz=197,slow=2.8,SNR=2.8						
NVAR	**Mina Array Bea**	84.24	326	P	**P**	01 07 34.5	**+0.7**
	0.4nm,0.7s,baz=160,slow=5.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	84.80	70	P	**P**	01 07 36.4	**-0.5**
	0.6nm,0.7s,baz=257,slow=4.5,SNR=3.9						
WRA	**Warramunga Arr**	119.97	209	PKP	**PKPdf**	01 13 52.0	**-1.2**
	0.2nm,0.4s,baz=155,slow=1.7,SNR=5.9						

*IGIL **01** 00:58:14.9, 39°.39N×13°.73W, h27km, ML2.9*
*MDD **01** 00:58:15.3±1.6, 39°.47N×13°.38W, h0km, mb4.4/12, Error ellipse: s-maj=15.3km s-min=10.9km az=76.0, PRXIMO*
*INMG **01** 00:58:17.8±2.2, 39°.45N×13°.75W, h10km, ML2.9, Error ellipse: s-maj=8.2km s-min=4.7km az=88.0*
*CSEM **01** 00:58:18.7±0.4, 39°.49N×13°.04W, h10km, ML3.5/7, Error ellipse: s-maj=7.3km s-min=5.0km az=75.0*

ISC 01 00:58:17.3±1.3, 39°.50N±0°.03×13°.09W±0°.06, h10km, n97, σ1§29/169, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	3.01	99	*e*Pn	Pn	00 59 06.9	+1.8
PMAFR				*e*Sn	**Sb**	**00 59 45.0**	**-2.8**
PMAFR				A	A	00 59 46.8	
	46nm,0.2s						
PMAFR	**Mafra**	3.01	99	P	**Pn**	**00 59 06.0**	**+0.9**
	SNR=7.9						
PMAFR				S	**Sn**	**00 59 43.9**	**+2.7**
	SNR=7.9						
PMAFR	**Mafra**	3.01	99	P	**Pn**	**00 59 06.0**	**+0.9**
	SNR=7.9						
PMAFR	**Mafra**	3.01	99	*e*Pn	Pn	00 59 06.9	+1.8
PMAFR				S	**Sn**	**00 59 43.9**	**+2.7**
	SNR=7.9						
PMAFR				*e*Sn	**Sb**	**00 59 45.0**	**-2.8**
	46nm,0.2s						
PCAS	**Casmilo, Conde**	3.58	80	*e*Pn	**Pn**	**00 59 14

MESJ Messejana 4.16 112 P **Pn 00 59 21.2 +0.3**
MESJ S **Sn 01 00 09.6 +0.1**
comp=N,11nm,0.2s
MESJ Messejana 4.16 112 P **Pn 00 59 21.2 +0.3**
MESJ S **Sn 01 00 09.6 +0.1**
comp=N,11nm,0.2s
PESTR Estremoz 4.32 97 *e*Pn **Pn 00 59 24.4 +1.3**
PESTR *e*Sn **Sn 01 00 15.4 +1.8**
PESTR A A 01 00 19.4
comp=N,7.1nm,0.4s
PESTR Estremoz 4.32 97 *e*Pn **Pn 00 59 24.4 +1.3**
PESTR *e*Sn **Sn 01 00 15.4 +1.8**
comp=N,7.1nm,0.4s
PCBR Castelo Branco 4.35 84 *e*Pn **Pn 00 59 24.6 +1.2**
PCBR *e*Sn **Sn 01 00 14.2 +0.1**
PCBR A A 01 00 20.3
comp=N,10nm,0.3s
PCBR Castelo Branco 4.35 84 P **Pn 00 59 24.6 +1.2**
PCBR S **Sn 01 00 14.2 +0.1**
comp=N,5.2nm,0.3s
PCBR Castelo Branco 4.35 84 P **Pn 00 59 24.6 +1.2**
PCBR S **Sn 01 00 14.2 +0.1**
comp=N,5.2nm,0.3s
MTE Manteigas 4.36 76 *e*Sn **Sn 01 00 16.3 +1.8**
MTE A A 01 00 19.2
comp=N,9.0nm,0.4s
MTE Manteigas 4.36 76 S **Sn 01 00 16.3 +1.8**
comp=N,4.5nm,0.4s
MTE Manteigas 4.36 76 S **Sn 01 00 16.3 +1.8**
comp=N,4.5nm,0.4s
PMRV Marv??o 4.41 89 *e*Pn **Pn 00 59 26.0 +1.6**
PMRV *e*Sn **Sn 01 00 16.9 +1.1**
PMRV A A 01 00 21.3
comp=N,8.4nm,0.2s
PMRV Marv??o 4.41 89 P **Pn 00 59 26.0 +1.6**
PMRV S **Sn 01 00 16.9 +1.1**
comp=N,8.4nm,0.2s
PMRV Marv??o 4.41 89 P **Pn 00 59 26.0 +1.6**
PMRV S **Sn 01 00 16.9 +1.1**
comp=N,8.4nm,0.2s
POLO Lamas de Olo 4.45 64 *e*Pn **Pn 00 59 26.4 +1.4**
POLO *e*Sn **Sn 01 00 17.5 +0.6**
POLO A A 01 00 19.5
comp=N,1.8nm,0.1s
POLO Lamas de Olo 4.45 64 *e*Pn **Pn 00 59 26.4 +1.4**
POLO *e*Sn **Sn 01 00 17.5 +0.6**
comp=N,1.8nm,0.1s
ELOB Lobios 4.50 57 P **Pn 00 59 25.6 0.0**
comp=N,2.1nm,0.1s,SNR=118
ELOB S **Sn 01 00 17.4 -0.5**
comp=N,7.9nm,0.1s,SNR=6.3
ELOB Lobios 4.50 57 P **Pn 00 59 25.6 0.0**
comp=N,2.1nm,0.1s,SNR=118
ELOB S **Sn 01 00 17.4 -0.5**
comp=N,7.9nm,0.1s,SNR=6.3
EMAZ Mazaricos 4.63 41 P **Pn 00 59 27.4 0.0**
comp=N,1.4nm,0.1s,SNR=4.0
EMAZ S **Sn 01 00 17.9 -3.4**
comp=N,6.8nm,0.1s,SNR=7.9
EMAZ Mazaricos 4.63 41 P **Pn 00 59 27.4 0.0**
comp=N,1.4nm,0.1s,SNR=4.0
PBDV Barranco-do-Ve 4.64 117 *e*Pn **Pn 00 59 27.8 +0.3**
PBDV *e*Sn **Sn 01 00 20.3 -1.2**
PBDV A A 01 00 25.3
comp=N,10.0nm,0.2s
PBDV Barranco-do-Ve 4.64 117 P **Pn 00 59 27.8 +0.3**
PBDV S **Sn 01 00 20.3 -1.2**
comp=N,10.0nm,0.2s
PBDV Barranco-do-Ve 4.64 117 P **Pn 00 59 27.8 +0.3**
PBDV S **Sn 01 00 20.3 -1.2**
comp=N,10.0nm,0.2s
PVAQ Vaqueiros 4.71 115 *e*Pn **Pn 00 59 29.2 +0.7**
PVAQ *e*Sn **Sn 01 00 22.1 -1.0**
PVAQ A A 01 00 26.9
comp=N,6.8nm,0.3s
PVAQ Vaqueiros 4.71 115 P **Pn 00 59 29.2 +0.7**
PVAQ S **Sn 01 00 22.1 -1.0**
comp=N,6.8nm,0.3s
PVAQ Vaqueiros 4.71 115 P **Pn 00 59 29.2 +0.7**
PVAQ S **Sn 01 00 22.1 -1.0**
comp=N,6.8nm,0.3s
EBAD Badajoz 4.79 97 P **Pn 00 59 30.4 +0.9**
comp=N,1.2nm,0.1s,SNR=11
EBAD S **Sn 01 00 25.5 +0.5**
comp=N,4.7nm,0.1s,SNR=8.5
EBAD Badajoz 4.79 97 P **Pn 00 59 30.4 +0.9**
comp=N,1.2nm,0.1s,SNR=11
EBAD S **Sn 01 00 25.5 +0.5**
comp=N,4.7nm,0.1s,SNR=8.5
STS Santiago 4.81 44 P **Pn 00 59 29.1 -0.7**
comp=N,2.2nm,0.1s,SNR=7.9
STS S **Sn 01 00 23.1 -2.5**
comp=N,3.8nm,0.2s,SNR=7.9
STS Santiago 4.81 44 P **Pn 00 59 29.1 -0.7**
comp=N,2.2nm,0.1s,SNR=7.9
EGRO El Granado 4.82 112 P **Pn 00 59 30.3 +0.4**
comp=N,4.2nm,0.1s,SNR=32
EGRO S **Sn 01 00 24.3 -1.5**
comp=N,8.9nm,0.2s,SNR=5.6
EGRO El Granado 4.82 112 P **Pn 00 59 30.3 +0.4**
comp=N,4.2nm,0.1s,SNR=32
EGRO S **Sn 01 00 24.3 -1.5**
comp=N,8.9nm,0.2s,SNR=5.6
PBAR Barrancos 4.91 104 *e*Pn **Pn 00 59 32.4 +1.2**
PBAR *e*Sn **Sn 01 00 28.7 +0.7**
PBAR A A 01 00 33.3
comp=N,12nm,0.5s
PBAR Barrancos 4.91 104 P **Pn 00 59 32.4 +1.2**
PBAR S **Sn 01 00 28.7 +0.7**
comp=N,12nm,0.5s
PBAR Barrancos 4.91 104 P **Pn 00 59 32.4 +1.2**
PBAR S **Sn 01 00 28.7 +0.7**
comp=N,12nm,0.5s
MVO Moncorvo 4.92 68 *e*Pn Pn 00 59 33.4 +2.0
MVO *e*Sn **Sn 01 00 28.7 +0.3**
MVO A A 01 00 34.2
comp=N,10.0nm,0.2s
MVO Moncorvo 4.92 68 P **Pn 00 59 32.6 +1.3**
comp=N,3.3nm,0.1s,SNR=7.8
MVO S **Sn 01 00 27.7 -0.8**
comp=N,5.1nm,0.1s,SNR=7.3
MVO Moncorvo 4.92 68 P **Pn 00 59 32.7 +1.3**
comp=N,3.3nm,0.1s,SNR=7.8
MVO Moncorvo 4.92 68 *e*Pn Pn 00 59 33.4 +2.0
MVO S **Sn 01 00 27.7 -0.8**
comp=N,5.1nm,0.1s,SNR=7.3
MVO *e*Sn **Sn 01 00 28.7 +0.3**
comp=N,10.0nm,0.2s
EMIN Mina Concepcio 5.32 107 P **Pn 00 59 37.6 +0.8**
comp=N,0.9nm,0.1s,SNR=12
EMIN S **Sn 01 00 37.2 -0.9**
comp=N,2.1nm,0.1s,SNR=7.8
EMIN Mina Concepcio 5.32 107 P **Pn 00 59 37.6 +0.8**
comp=N,0.9nm,0.1s,SNR=12
EMIN S **Sn 01 00 37.2 -0.9**
comp=N,2.1nm,0.1s,SNR=7.8
PBRG Braganca 5.35 63 *e*Pn Pn 00 59 38.9 +1.6
PBRG *e*Sn **Sn 01 00 40.6 +1.7**
PBRG A A 01 00 43.9
comp=N,3.5nm,0.1s
PBRG Braganca 5.35 63 P Pn 00 59 38.9 +1.6
PBRG S **Sn 01 00 40.6 +1.7**
comp=N,1.8nm,0.1s
PBRG Braganca 5.35 63 P Pn 00 59 38.9 +1.6
PBRG S **Sn 01 00 40.6 +1.7**
comp=N,1.8nm,0.1s
ECAL Calabor 5.41 61 P **Pn 00 59 38.6 +0.5**
comp=N,2.4nm,0.1s,SNR=7.9
ECAL S **Sn 01 00 40.1 -0.3**
comp=N,6.7nm,0.2s,SNR=7.9
ECAL Calabor 5.41 61 P **Pn 00 59 38.6 +0.5**
comp=N,2.4nm,0.1s,SNR=7.9
ECAL S **Sn 01 00 40.1 -0.3**
comp=N,6.7nm,0.2s,SNR=7.9
EPLA Plasencia 5.43 82 P **Pn 00 59 39.6 +1.2**
comp=N,0.8nm,0.1s,SNR=7.9
EPLA S **Sn 01 00 41.3 +0.4**
comp=N,8.3nm,0.3s,SNR=7.9
EPLA Plasencia 5.43 82 P **Pn 00 59 39.6 +1.2**
comp=N,0.8nm,0.1s,SNR=7.9
EPLA S **Sn 01 00 41.3 +0.4**
comp=N,8.3nm,0.3s,SNR=7.9
EPON Pontenova 5.88 48 P **Pn 00 59 43.9 -0.6**
comp=N,1.2nm,0.1s,SNR=5.8
EPON S **Sn 01 00 47.2 -4.6**
comp=N,3.1nm,0.2s,SNR=5.0
EPON Pontenova 5.88 48 P **Pn 00 59 43.9 -0.6**
comp=N,1.2nm,0.1s,SNR=5.8
ECAB El Cabril 6.16 101 P **Pn 00 59 49.5 +1.1**
comp=N,1.7nm,0.2s,SNR=6.2
ECAB S **Sn 01 00 59.3 +0.3**
comp=N,1.4nm,0.2s,SNR=7.9
ECAB El Cabril 6.16 101 P **Pn 00 59 49.5 +1.1**
comp=N,1.7nm,0.2s,SNR=6.2
ECAB S **Sn 01 00 59.3 +0.3**
comp=N,1.4nm,0.2s,SNR=7.9
ESPR Espera 6.28 113 P Pn 00 59 51.3 +1.3
comp=N,1.0nm,0.1s,SNR=4.6
ESPR S **Sn 01 01 02.1 +0.4**
comp=N,11nm,0.2s,SNR=7.9
ESPR Espera 6.28 113 P Pn 00 59 51.3 +1.3
comp=N,1.0nm,0.1s,SNR=4.6
ESPR S **Sn 01 01 02.1 +0.4**
comp=N,11nm,0.2s,SNR=7.9
GUD Guadarrama 6.95 78 P **Pn 01 00 00.9 +1.6**
comp=N,1.6nm,0.3s,SNR=6.7
GUD S **Sn 01 01 16.6 -1.8**
comp=N,3.2nm,0.4s,SNR=7.9
GUD Guadarrama 6.95 78 P **Pn 01 00 00.9 +1.6**
comp=N,1.6nm,0.3s,SNR=6.7
EARI Arriondas 7.04 55 P **Pn 01 00 01.6 +1.2**
comp=N,3.3nm,0.3s,SNR=16
EARI S **Sn 01 01 19.7 -0.7**
comp=N,0.4nm,0.2s,SNR=4.0
EARI Arriondas 7.04 55 P **Pn 01 00 01.6 +1.2**
comp=N,3.3nm,0.3s,SNR=16
EARI S **Sn 01 01 19.7 -0.7**
comp=N,0.4nm,0.2s,SNR=4.0
ESDC Sonseca Array 7.05 86 P **Pn 01 00 01.6 +0.9**
comp=N,1.1nm,0.1s,baz=271,slow=12,SNR=18
ESDC S **Sn 01 01 19.0 -1.9**
comp=N,0.9nm,0.2s,baz=276,slow=22,SNR=6.4
ESDC Sonseca Array 7.05 86 P **Pn 01 00 01.6 +0.9**
comp=N,1.1nm,0.1s,SNR=18
ESDC S **Sn 01 01 19.0 -1.9**
comp=N,0.9nm,0.2s,SNR=6.4
EMIJ Mijas 7.19 111 P **Pn 01 00 03.4 +0.9**
comp=N,0.3nm,0.1s,SNR=4.0
EMIJ S **Sn 01 01 22.4 -1.9**
comp=N,1.8nm,0.4s,SNR=4.0
EMIJ Mijas 7.19 111 P **Pn 01 00 03.4 +0.9**
comp=N,0.3nm,0.1s,SNR=4.0
EMIJ S **Sn 01 01 22.4 -1.9**
comp=N,1.8nm,0.4s,SNR=4.0
EQES Quesada 8.02 99 S **Sn 01 01 45.6 +0.7**
comp=N,0.5nm,0.1s,SNR=4.0
EQES Quesada 8.02 99 S **Sn 01 01 45.6 +0.7**
comp=N,0.5nm,0.1s,SNR=4.0
ELAN Lanestosa 8.16 60 P Pn 01 00 17.5 +1.7
comp=N,0.4nm,0.2s,SNR=4.0
ELAN Lanestosa 8.16 60 P Pn 01 00 17.5 +1.7
comp=N,0.4nm,0.2s,SNR=4.0
ETOR Torete 8.55 78 P Pn 01 00 23.7 +2.4
comp=N,2.1nm,0.2s,SNR=7.9
ETOR S **Sn 01 01 56.7 -1.2**
comp=N,1.5nm,0.2s,SNR=4.0
ETOR Torete 8.55 78 P Pn 01 00 23.7 +2.4
comp=N,2.1nm,0.2s,SNR=7.9
ETOR S **Sn 01 01 56.7 -1.2**
comp=N,1.5nm,0.2s,SNR=4.0
ETOB Tobarra 9.02 92 P **Pn 01 00 29.1 +1.4**
comp=N,0.2nm,0.2s,SNR=7.9
ETOB S **Sn 01 02 08.8 -0.6**
comp=N,0.3nm,0.2s,SNR=4.0
ETOB Tobarra 9.02 92 P **Pn 01 00 29.1 +1.4**
comp=N,0.2nm,0.2s,SNR=7.9
ETOB S **Sn 01 02 08.8 -0.6**
comp=N,0.3nm,0.2s,SNR=4.0
IELO Elcoad 9.54 66 P **Pn 01 00 36.3 +1.5**
comp=N,0.3nm,0.2s,SNR=7.9
IELO S **Sn 01 02 21.5 -0.6**
comp=N,0.4nm,0.2s,SNR=7.9
IELO Elcoad 9.54 66 P **Pn 01 00 36.3 +1.5**
comp=N,0.3nm,0.2s,SNR=7.9
IELO S **Sn 01 02 21.5 -0.6**
comp=N,0.4nm,0.2s,SNR=7.9

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*IDC **01** 00:59:16.6±1.9, 33°.22S×72°.36W, h0km, mb4.2/3, mb1 4.0/6, mb1mx3.8/22, mbtmp3.9/6, ML3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/34, Error ellipse: s-maj=53.1km s-min=38.6km az=110.0*
*ISCJB **01** 00:59:20.0±1.6, 33°.17S±0°.06×72°.18W±0°.09, h27km±8km, mb4.0/5, Error ellipse: s-maj=13.5km s-min=8.9km az=147.1*
*GUC **01** 00:59:21.3±0.6, 33°.14S×72°.06W, h34km±3km, ML3.8*
*NEIC **01** 00:59:22.7±0.9, 33°.09S×72°.30W, h35km, mb4.1/4, Error ellipse: s-maj=20.5km s-min=12.8km az=88.0*
ISC 01 00:59:21.4±2.5, 33°.17S±0°.08×72°.1W±0°.1, h24km±14km, n19, σ1.918/24, mb4.1/5, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.43**	**70**	↓*iP*	**Pb**	**00 59 30.0**	**-0.4**
IHA				*i* S	**Sb**	**00 59 36.0**	**-0.4**
RCDM	**Rinconada Maip**	**1.14**	**106**	*eP*	**Pn**	**00 59 41.0**	**-0.9**
RCDM				*i* S	**Sn**	**00 59 55.9**	**-1.0**
RCDM				AML	AML	00 59 57.1	
	comp=E,3μm,0.3s						
STL	**Santa Lucia**	**1.27**	**102**	*i* P	**Pn**	**00 59 42.5**	**-1.1**
STL				*i* S	**Sn**	**00 59 59.0**	**-0.9**
FCH	**Farellones**	**1.54**	**96**	↓*iP*	**Pb**	**00 59 49.7**	**+0.2**
FCH				*i* S	**Sb**	**01 00 09.9**	**+1.2**
FCH				AML	AML	01 00 16.7	
	comp=E,3μm,0.4s						
CMCH	**Combarbala**	**2.21**	**26**	*i* P	**Pn**	**00 59 56.3**	**-0.4**
CMCH				*i* S	**Sn**	**01 00 23.1**	**-0.1**
CFAA	**Coronel Fontan**	**3.64**	**66**	Pn	**Pn**	**01 00 19.1**	**+2.8**
	comp=E,2.7nm,0.3s,baz=235,slow=13,SNR=19						
CFAA				Lg	Lg	01 01 10.0	
	comp=E,1.7nm,0.3s,baz=160,slow=19,SNR=4.7						
PLCA	**Paso Flores**	**7.65**	**171**	LR	LR	01 04 09.1	
	comp=E,164nm,19.7s,baz=300,slow=38						
TRQA	**Tornquist**	**9.58**	**123**	*eP*	**Pn**	**01 01 40.4**	**+2.5**
LPAZ	**La Paz**	**17.19**	**13**	P	**Pn**	**01 03 19.6**	**-1.0**
	comp=E,0.1nm,0.3s,baz=176,slow=13,SNR=2.7						
LPAZ	**La Paz**	**17.19**	**13**	*e*Pn	**Pn**	**01 03 19.2**	**-1.4**
	comp=E,1.7nm,0.6s						
SIV	**San Ignacio**	**19.81**	**33**	P	**P**	**01 03 50.1**	**-0.3**
	comp=E,0.2nm,0.3s,baz=81,slow=11,SNR=3.0						
SAML	**Samuel**	**25.48**	**21**	*eP*	**P**	**01 04 48.9**	**+1.1**
	comp=E,3.2nm,0.8s						
BDFB	**Brasilia**	**27.93**	**57**	P	**P**	**01 05 10.5**	**+0.4**
	comp=E,1.0nm,0.5s,baz=209,slow=12,SNR=4.5						
QSPA	**South Pole Qui**	**57.06**	**180**	*eP*	**P**	**01 09 06.0**	**+0.6**
	comp=E,3.3nm,1.0s						
BOSA	**Boshof**	**80.52**	**118**	P	**P**	**01 11 31.9**	**-0.1**
	comp=E,1.6nm,0.9s,baz=250,slow=5.1,SNR=4.7						
BOSA	**Boshof**	**80.52**	**118**	*eP*	**P**	**01 11 32.0**	**0.0**
	comp=E,1.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.99**	**70**	P	**P**	**01 11 49.1**	**-0.9**
	comp=E,1.6nm,0.7s,baz=262,slow=4.4,SNR=11						
ZALV	**Zalesovo Beam**	**153.56**	**31**	PKPbc	**PKPbc**	**01 19 18.3**	**+0.9**
	comp=E,0.5nm,0.6s,baz=20,slow=4.7,SNR=2.8						
ZALV				PKPab	**PKPab**	**01 19 29.0**	**-0.9**
	comp=E,0.8nm,0.7s,baz=308,slow=5.5,SNR=4.3						
MKAR	**Makanchi Array**	**156.26**	**48**	PKPab	**PKPab**	**01 19 41.5**	**-0.3**
	comp=E,0.5nm,0.6s,baz=274,slow=3.7,SNR=6.3						

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*GUC **01** 01:10:55.5±0.5, 35°.16S×72°.51W, h30km, ML5.7*
*ISCJB **01** 01:10:56.6±0.2, 35°.13S±0°.04×71°.69W±0°.05, h42km, mb5.4/178, MS4.4/18, Error ellipse: s-maj=6.7km s-min=4.0km az=145.3*
*MOS **01** 01:10:56.0±0.9, 35°.08S×71°.76W, h33km, mb5.7/52, Error ellipse: s-maj=13.3km s-min=6.7km az=97.5*
*NEIC **01** 01:10:57.8±1.6, 35°.24S×71°.92W, h41km±3km, mb5.4/187, Error ellipse: s-maj=15.8km s-min=10.8km az=86.0*
NEIC Felt at Santiago.
*IDC **01** 01:10:57.7±0.4, 35°.24S×71°.99W, h42km±3km, mb5.1/21, mb1 5.2/25, mb1mx5.1/33, mbtmp5.3/25, ML4.9/4, MS4.4/21, Ms1 4.4/21, ms1mx4.3/28, Error ellipse: s-maj=13.2km s-min=9.1km az=90.0*
*GCMT **01** 01:10:57.8±0.2, 35°.40S×72°.33W, h58km±1km, MW5.2/87, Moment Tensor Solution. s67,c98; s87,c127; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.51±.02; $M_{\theta\theta}$0.22±.02; $M_{\phi\phi}$-0.72±.02; $M_{r\theta}$0.13±.01; $M_{\theta\phi}$-0.15±.02; $M_{\phi r}$-0.45±.02; Best double couple: $M_0$0.79500×10^{17} NP1:ϕ_s169.00000°, δ65.00000°, λ67.00000°. NP2: ϕ_s34.00000°, δ33.00000°, λ130.00000°. Principal axes: T 0.7110, Plg63.0000°, Azm43.0000°; N 0.1670, Plg20.0000°, Azm179.0000°; P -0.8790, Plg17.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 01:10:57.5±0.3, 35°.28S±0°.04×71°.98W±0°.06, h43km±2km, h43km:pP-P, n1077, σ0.97/1191, mb5.4/177, MS4.6/18, 259C-221D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**2.03**	**29**	↓*iP*	**Pn**	**01 11 31.1**	**+1.8**
STL	**Santa Lucia**	**2.15**	**31**	↓*iP*	**Pn**	**01 11 32.2**	**+1.3**
STL				*i* S1	**Sn**	**01 12 00.8**	**+4.6**
IHA	**Instituto Hidr**	**2.26**	**7**	↓*iP*	**Pn**	**01 11 32.6**	**+0.1**
PEL	**Peldehue**	**2.38**	**27**	↓*iP*	**Pn**	**01 11 35.7**	**+1.5**
PEL				*i* S	**Sn**	**01 12 06.5**	**+4.2**
PEL				AML	AML	01 12 12.8	
	comp=N,71μm,0.6s						
FCH	**Farellones**	**2.40**	**36**	AML	AML	01 12 07.0	
	comp=E,25μm,0.2s						
CMCH	**Combarbala**	**4.17**	**12**	↑*iP*	**Pn**	**01 11 58.6**	**-0.2**
CMCH				*i* S1	**Sn**	**01 12 46.4**	**+0.1**
CFAA	**Coronel Fontan**	**4.82**	**42**	P	**Pn**	**01 12 08.0**	**+0.4**
	comp=E,6.0nm,0.3s,baz=215,slow=15,SNR=66						
CFAA				S	**Sn**	**01 13 05.7**	**+3.6**
	comp=E,7.5nm,0.3s,baz=64,slow=2.9,SNR=4.2						
CFAA				LR	LR	01 14 12.3	
	comp=E,928nm,21.8s,baz=232,slow=41						
LSCH	**La Serena**	**5.39**	**7**	↓*iP*	**Pn**	**01 12 15.2**	**-0.2**
PLCA	**Paso Flores**	**5.56**	**169**	*eP*	**Pn**	**01 12 20.3**	**+2.5**
PLCA	**Paso Flores**	**5.56**	**169**	P	**Pn**	**01 12 20.4**	**+2.6**
	comp=E,17nm,0.3s,baz=336,slow=12,SNR=34						
PLCA				LR	LR	01 14 38.6	
	comp=E,4μm,20.2s,baz=350,slow=40						
PLCA	**Paso Flores**	**5.56**	**169**	*e*Pn	**Pn**	**01 12 20.2**	**+2.5**
VACH	**Vallenar**	**6.76**	**9**	*e*P1	**Pn**	**01 12 33.5**	**-0.8**
TRQA	**Tornquist**	**8.50**	**112**	*e*Pn	**Pn**	**01 13 00.5**	**+2.4**
TRQA				*e*Sn	**Sn**	**01 14 37.2**	**+4.6**
CPUP	**Villa Florida**	**15.41**	**59**	*eP*	**Pn**	**01 14 28.5**	**-3.5**
CPUP	**Villa Florida**	**15.41**	**59**	P	**Pn**	**01 14 28.3**	**-3.7**
	comp=E,1.5nm,0.3s,baz=212,slow=12,SNR=8.5						
CPUP				LR	LR	01 21 03.3	
	comp=E,5μm,20.5s,baz=218,slow=39						
CPUP	**Villa Florida**	**15.41**	**59**	*e*Pn	**Pn**	**01 14 28.5**	**-3.5**
EFI	**East Falkland**	**19.20**	**153**	*eP*	**P**	**01 15 16.5**	**-1.0**
EFI				pmax	pmax		
	comp=Z,767nm,2.1s						
EFI	**East Falkland**	**19.20**	**153**	*eP*	**P**	**01 15 16.5**	**-1.0**
	comp=Z,767nm,2.1s						
LPAZ	**La Paz**	**19.22**	**11**	*eP*	**Pn**	**01 15 20.5**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,147nm,0.8s						
LPAZ	**La Paz**	**19.22**	**11**	P	**Pn**	**01 15 19.6**	**-0.4**
	comp=Z,4.3nm,0.3s,baz=187,slow=7.3,SNR=202						
LPAZ	**La Paz**	**19.22**	**11**	*eP*	**Pn**	**01 15 20.5**	**+0.6**
	comp=Z,147nm,0.8s						
LPAZ				*e*PcP	**PcP**	**01 19 40.7**	**-0.2**
USHA	**Ushuaia**	**19.71**	**174**	P	**Pn**	**01 15 24.8**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=341,slow=6.2,SNR=12						
USHA				LR	LR	01 22 48.4	
	comp=Z,2μm,21.4s,baz=340,slow=36						
SIV	**San Ignacio**	**21.55**	**30**	P	**P**	**01 15 42.7**	**-0.6**
	comp=Z,142nm,0.7s,baz=221,slow=10,SNR=280						
SIV				LR	LR	01 25 24.9	
	comp=Z,1μm,18.0s,baz=220,slow=40						
NNA	**Nana**	**23.60**	**348**	P	**P**	**01 16 05.9**	**+1.3**
	comp=Z,440nm,0.8s,SNR=6.8						
NNA	**Nana**	**23.60**	**348**	*ce*P	**P**	**01 16 05.3**	**+0.7**
NNA	**Nana**	**23.60**	**348**	P	**P**	**01 16 03.8**	**-0.8**
	comp=Z,51nm,0.7s,baz=204,slow=9.6,SNR=27						
NNA				LR	LR	01 23 08.5	
	comp=Z,379nm,20.8s,baz=162,slow=31						
NNA	**Nana**	**23.60**	**348**	*eP*	**P**	**01 16 04.4**	**-0.3**
	comp=Z,57nm,0.8s						
SAML	**Samuel**	**27.41**	**19**	*eP*	**P**	**01 16 38.6**	**-0.5**
	comp=Z,24nm,0.8s						
SAML				*e*PcP	**PcP**	**01 19 55.2**	**-2.0**
ATAH	**Atahualpa**	**28.62**	**347**	P	**P**	**01 16 50.2**	**-0.2**
	comp=Z,8.9nm,0.8s,baz=191,slow=3.8,SNR=8.0						
ATAH				LR	LR	01 26 11.5	
	comp=Z,270nm,20.9s,baz=192,slow=32						
BDFB	**Brasilia**	**29.03**	**54**	P	**P**	**01 16 52.4**	**-1.3**
	comp=Z,53nm,0.8s,baz=216,slow=7.6,SNR=84						
BDFB				LR	LR	01 29 44.4	
	comp=Z,3μm,18.6s,baz=223,slow=39						
PMSA	**Palmer Station**	**29.92**	**173**	LR	LR	01 28 39.8	
	comp=Z,1μm,19.6s,baz=306,slow=36						
OTAV	**Otavalo**	**35.85**	**349**	*eP*	**P**	**01 17 55.3**	**+1.6**
	comp=Z,98nm,1.5s						
OTAV				*e*PcP	**PcP**	**01 20 21.5**	**+1.0**
ROSC	**El Rosal**	**39.98**	**356**	P	**P**	**01 18 29.0**	**+0.5**
	comp=Z,65nm,0.7s,baz=140,slow=3.4,SNR=52						
ROSC	**El Rosal**	**39.98**	**356**	*eP*	**P**	**01 18 30.3**	**+1.8**
RCBR	**Riachuelo**	**44.28**	**57**	P	**P**	**01 19 02.6**	**-0.6**
	comp=Z,14nm,0.6s,baz=216,slow=13,SNR=18						
RCBR	**Riachuelo**	**44.28**	**57**	*eP*	**P**	**01 19 02.9**	**-0.4**
	comp=Z,22nm,0.8s						
BCIP	**Isla Barro Col**	**44.82**	**349**	*eP*	**P**	**01 19 07.8**	**+0.4**
	comp=Z,88nm,0.9s						
JTS	**JuntasAbangare**	**46.95**	**342**	*eP*	**P**	**01 19 25.1**	**+0.9**
JTS				pmax	pmax		
	comp=Z,87nm,1.6s						
JTS	**JuntasAbangare**	**46.95**	**342**	P	**P**	**01 19 24.3**	**+0.1**
	comp=Z,19nm,0.8s,baz=223,slow=2.7,SNR=3.6						
JTS	**JuntasAbangare**	**46.95**	**342**	*eP*	**P**	**01 19 25.1**	**+0.9**
	comp=Z,87nm,1.6s						
GRGR	**Grenville**	**48.16**	**14**	*eP*	**P**	**01 19 33.2**	**-0.3**
	comp=Z,266nm,0.8s						
VNA3	**Neumayer Olymp**	**48.16**	**157**	P	**P**	**01 19 33.9**	**+0.9**
VNA1	**Neumayer--Stat**	**48.48**	**156**	P	**P**	**01 19 36.8**	**+1.4**
VNA2	**Neumayer--Watz**	**48.82**	**157**	P	**P**	**01 19 39.0**	**+0.9**
SNAA	**Sanae**	**50.39**	**157**	P	**P**	**01 19 50.6**	**+0.6**
SNAA	**Sanae**	**50.39**	**157**	↑*iP*	**P**	**01 19 50.5**	**+0.5**
SNAA	**Sanae**	**50.39**	**157**	*eP*	**P**	**01 19 50.0**	**0.0**
SNAA				pmax	pmax		
	comp=Z,80nm,1.1s						
SNAA	**Sanae**	**50.39**	**157**	P	**P**	**01 19 50.6**	**+0.6**
	comp=Z,16nm,0.8s,baz=289,slow=6.4,SNR=52						
SNAA	**Sanae**	**50.39**	**157**	*eP*	**P**	**01 19 50.0**	**0.0**
	comp=Z,80nm,1.1s						
FDF	**Fort de France**	**50.79**	**14**	*eP*	**P**	**01 19 52.4**	**-1.2**
BVM	**Bellevue**	**50.80**	**14**	*eP*	**P**	**01 19 53.3**	**-0.4**
APG	**El Apazote**	**52.99**	**337**	P	**P**	**01 20 07.1**	**-3.2**
	comp=Z,26nm,0.9s,baz=162,slow=5.1,SNR=29						
CRPR	**Cabo Rojo, PR**	**53.19**	**6**	*eP*	**P**	**01 20 10.7**	**-0.6**
	comp=Z,88nm,0.6s						
SABA	**Saba**	**53.26**	**10**	*eP*	**P**	**01 20 11.3**	**-0.6**
	comp=Z,106nm,0.8s						
OBIP	**Obispado Ponce**	**53.27**	**6**	*eP*	**P**	**01 20 10.9**	**-1.0**
	comp=Z,126nm,0.8s						
CELP	**Cerrillos**	**53.31**	**6**	*eP*	**P**	**01 20 11.9**	**-0.3**
CPD	**Cerro la Pandu**	**53.33**	**7**	*eP*	**P**	**01 20 11.6**	**-0.9**
CPD				pmax	pmax		
	comp=Z,34nm,0.6s						
CPD	**Cerro la Pandu**	**53.33**	**7**	*eP*	**P**	**01 20 11.6**	**-0.9**
	comp=Z,34nm,0.6s						
LSP	**Las Mesas**	**53.36**	**6**	*eP*	**P**	**01 20 10.4**	**-2.3**
MPR	**Mayaguez**	**53.39**	**6**	*eP*	**P**	**01 20 11.9**	**-0.9**
	comp=Z,31nm,1.1s						
HUMP	**Col San Antoni**	**53.44**	**7**	*eP*	**P**	**01 20 12.2**	**-1.0**
	comp=Z,60nm,1.3s						
LRS	**Lares**	**53.50**	**6**	*eP*	**P**	**01 20 12.8**	**-0.8**
ANWB	**Willy Bob**	**53.54**	**12**	*eP*	**P**	**01 20 12.4**	**-1.5**
	comp=Z,162nm,0.8s						
AOPR	**Arecibo Observ**	**53.56**	**6**	*eP*	**P**	**01 20 12.0**	**-2.1**
	comp=Z,41nm,0.7s						
CBYP	**Canovanas**	**53.57**	**7**	*eP*	**P**	**01 20 12.6**	**-1.6**
	comp=Z,79nm,0.8s						
STVI	**Saint Thomas**	**53.75**	**8**	*eP*	**P**	**01 20 13.7**	**-1.8**
	comp=Z,34nm,1.0s						
SDDR	**Presa de Saban**	**53.97**	**1**	*eP*	**P**	**01

GRTK **Grand Turk** 56.48 1 eP P 01 20 35.8 +0.7
comp=Z,663nm,1.8s
TEIG **Tepich** 57.33 342 P P 01 20 40.7 -0.5
comp=Z,98nm,0.7s,baz=154,slow=2.8,SNR=57
TEIG pP pP 01 20 53.2 -0.3
comp=Z,30nm,0.6s,baz=116,slow=2.8,SNR=5.5
TEIG LR LR 01 39 41.4
comp=Z,109nm,21.7s,baz=349,slow=30
TEIG **Tepich** 57.33 342 eP P 01 20 41.4 +0.3
comp=Z,106nm,0.8s
TEIG epP pP 01 20 53.2 -0.3
VNDA **Vanda** 62.86 191 LR LR 01 46 01.2
comp=Z,161nm,18.5s,baz=128,slow=33
SYO **Syowa Base** 64.66 158 ⇓iP P 01 21 29.0 -1.4
H06S1 **SOCORRO T** 65.22 319 T T 02 31 38.1
SNR=5.5
035A **Encino** 66.63 335 ⇑P P 01 21 45.1 +1.7
baz=67
034A **Hebbronville** 66.95 334 ⇑P P 01 21 46.8 +1.3
baz=67,SNR=6.1
TIGA **Tifton** 67.26 349 ⇑P P 01 21 47.4 0.0
baz=68
TIGA **Tifton** 67.26 349 eP P 01 21 47.3 -0.1
comp=Z,44nm,0.8s
934A **Benavides** 67.38 335 ⇓P P 01 21 49.6 +1.3
baz=68
BRAL **Brewton** 67.45 346 eP P 01 21 48.7 +0.1
comp=Z,42nm,0.8s
933A **Laredo** 67.66 334 ⇑P P 01 21 51.7 +1.6
baz=68
835A **Beeville** 67.77 335 ⇑P P 01 21 52.1 +1.4
baz=68
834A **Tilden** 67.87 335 ⇓P P 01 21 53.1 +1.8
baz=68,SNR=15
735A **Kenedy** 68.29 336 ⇑P P 01 21 55.4 +1.4
baz=69,SNR=9.4
833A **Chaparral WMA,** 68.35 334 ⇓P P 01 21 55.7 +1.3
baz=69,SNR=9.6
NHSC **New Hope** 68.46 353 eP P 01 21 55.2 +0.3
comp=Z,196nm,1.2s
832A **Faith Ranch, C** 68.52 334 ⇓P P 01 21 56.1 +0.7
baz=69,SNR=10
734A **La Parita Cree** 68.53 335 ⇑P P 01 21 56.4 +0.9
baz=69
636A **Smothers Creek** 68.61 337 ⇑P P 01 21 57.3 +1.3
baz=69,SNR=5.2
HKT **Hockley** 68.66 338 eP P 01 21 55.8 -0.4
HKT pmax pmax
comp=Z,33nm,1.5s
HKT **Hockley** 68.66 338 eP P 01 21 55.8 -0.4
comp=Z,33nm,1.5s
733A **Divot King Ran** 68.67 334 ⇑P P 01 21 58.1 +1.7
baz=69
MEH **Mehetia** 68.73 263 eT T 02 36 06.9
comp=Z,23nm,0.2s
635A **Leesville** 68.77 336 ⇑P P 01 21 58.0 +1.1
baz=69
732A **Laxson Ranch,** 68.93 334 ⇓P P 01 21 58.8 +0.8
baz=69,SNR=14
537A **Green Hill Far** 68.93 337 ⇑P P 01 21 58.9 +1.0
baz=69
634A **China Grove, S** 68.95 335 ⇑P P 01 21 59.3 +1.2
baz=69
536A **Bastrop** 69.17 337 ⇓P P 01 22 00.5 +1.1
baz=70
GOGA **Godfrey** 69.17 350 eP P 01 21 59.0 -0.4
GOGA pmax pmax
comp=Z,29nm,0.7s
GOGA **Godfrey** 69.17 350 eP P 01 21 59.0 -0.4
comp=Z,29nm,0.7s
535A **Dale** 69.29 336 ⇑P P 01 22 00.6 +0.4
baz=70,SNR=6.7
633A **Saathoff Ranch** 69.31 335 ⇑P P 01 22 01.1 +0.8
baz=70,SNR=11
VBMS **Vicksburg** 69.36 343 eP P 01 22 01.5 +1.0
comp=Z,57nm,0.6s
LRAL **Lakeview Retre** 69.40 347 eP P 01 22 00.7 -0.1
comp=Z,96nm,1.8s
340A **Bronson** 69.47 340 ⇑P P 01 22 02.1 +0.8
baz=70,SNR=7.8
632A **Uvalde** 69.57 334 ⇓P P 01 22 02.8 +0.9
baz=70,SNR=20
339A **Huntington** 69.58 339 ⇑P P 01 22 02.9 +1.0
baz=70,SNR=5.8
631A **Perdido Creek** 69.77 334 ⇓P P 01 22 03.6 +0.4
baz=70,SNR=14
338A **Crockett** 69.82 339 ⇑P P 01 22 04.5 +1.1
baz=70
533A **Kerrville** 69.82 335 ⇓P P 01 22 04.1 +0.6
baz=70,SNR=15
TIAR **Tiarei** 69.93 262 eT T 02 37 36.9
comp=Z,3.1nm,0.2s
337A **Centerville** 69.95 338 ⇑P P 01 22 05.4 +1.2
baz=70,SNR=6.3
435B **Jarrell** 69.99 337 ⇓P P 01 22 05.3 +0.8
baz=70,SNR=6.0
PPT2 **Papeete2** 70.10 262 eS S 01 31 21.8 +7.9
comp=Z,263nm,26.8s
PPT2 **Papeete2** 70.10 262 eLR LR 01 43 27.1
comp=Z,1μm,26.8s,baz=121
PPT **Papeete** 70.11 262 LR LR 01 44 51.5
comp=Z,337nm,18.2s,baz=126,slow=29
532A **Rocksprings** 70.17 334 ⇑P P 01 22 06.7 +1.0
baz=70,SNR=35
239A **Gary** 70.20 340 P P 01 22 06.6 +0.9
baz=70
434A **Burnet** 70.24 336 ⇑P P 01 22 06.6 +0.5
baz=70,SNR=29
336A **Riesel** 70.31 338 ⇓P P 01 22 07.1 +0.7
baz=71,SNR=15
CNNC **Cliffs of the** 70.37 355 eP P 01 22 07.2 +0.5
comp=Z,99nm,0.9s
335A **Moody** 70.40 337 ⇑P P 01 22 07.8 +0.8
baz=71
531A **Rocksprings** 70.44 334 ⇓P P 01 22 08.4 +1.1
baz=71,SNR=38
JCT **Junction City** 70.46 335 eP P 01 22 07.6 +0.2
JCT pmax pmax
comp=Z,45nm,0.9s
JCT **Junction City** 70.46 335 ⇑P P 01 22 08.3 +0.9
baz=71,SNR=13
JCT **Junction City** 70.46 335 eP P 01 22 07.6 +0.2
comp=Z,45nm,0.9s
433A **Art** 70.46 335 ⇑P P 01 22 07.8 +0.4
baz=71,SNR=22
237A **Washetta, Mont** 70.57 339 P P 01 22 08.9 +1.0
baz=71
KMSC **Kings Mountain** 70.60 352 ⇓P P 01 22 08.0 -0.1
baz=71
KMSC **Kings Mountain** 70.60 352 eP P 01 22 07.6 -0.5
comp=Z,45nm,1.0s
334A **Lometa** 70.71 336 ⇓P P 01 22 09.4 +0.6
baz=71,SNR=25
530A **J-C Ranch, Com** 70.71 333 ⇑P P 01 22 10.0 +1.0
baz=71,SNR=17
432A **Menard** 70.82 335 ⇓P P 01 22 09.9 +0.3
baz=71,SNR=12
LTX **Lajitas** 70.87 331 eP P 01 22 10.9 +0.9
LTX **Lajitas** 70.87 331 eP P 01 22 10.9 +0.9
TX31 **Lajitas Ar. Si** 70.87 331 eP P 01 22 10.8 +0.8
TXAR **Lajitas Array** 70.87 331 P P 01 22 10.9 +0.8
comp=Z,11nm,0.6s,baz=152,slow=8.6,SNR=78
TXAR LR LR 01 48 57.6
comp=Z,364nm,18.3s,baz=0.0,slow=32
431A **Sonora** 70.93 334 ⇓P P 01 22 10.7 +0.4
baz=71,SNR=25
333A **Richland Sprin** 70.95 336 ⇑P P 01 22 10.8 +0.4
baz=71,SNR=27
529A **Stev Forest Ra** 71.02 333 ⇓P P 01 22 11.5 +0.6
baz=71,SNR=27
WHTX **Lake Whitney,** 71.07 337 ⇓P P 01 22 11.7 +0.7
baz=71,SNR=9.9
WHTX **Lake Whitney,** 71.07 337 eP P 01 22 11.4 +0.4
comp=Z,45nm,0.8s
WHTX epP pP 01 22 23.8 +0.1
137A **Heron Place, G** 71.11 339 P P 01 22 12.2 +1.0
baz=71
430A **Baggett Ranch,** 71.25 334 ⇓P P 01 22 12.9 +0.6
baz=72,SNR=24
332A **Millersview** 71.26 335 ⇓P P 01 22 12.7 +0.4
baz=72,SNR=15
234A **Clairette** 71.30 337 ⇑P P 01 22 12.9 +0.5
baz=72,SNR=16
OXF **Oxford** 71.32 345 eP P 01 22 12.1 -0.4
OXF pmax pmax
comp=Z,54nm,0.6s
OXF **Oxford** 71.32 345 eP P 01 22 12.1 -0.4
comp=Z,54nm,0.6s

429A **Davenport Ranc** 71.34 333 ⇑P P 01 22 13.6 +0.7
baz=72,SNR=20
TKL **Tuckaleechee C** 71.42 350 eP P 01 22 12.5 -0.6
TKL e*PP pP 01 22 24.7 -1.2
TKL **Tuckaleechee C** 71.42 350 P P 01 22 12.8 -0.3
comp=Z,24nm,0.8s,baz=161,slow=7.6,SNR=25
TKL pP pP 01 22 24.9 -1.0
comp=Z,14nm,0.8s,baz=180,slow=6.9,SNR=4.8
TKL **Tuckaleechee C** 71.42 350 eP P 01 22 12.5 -0.6
TKL epP pP 01 22 24.7 -1.2
331A **San Angelo** 71.43 335 ⇑P P 01 22 13.8 +0.5
baz=72,SNR=47
233A **Rising Star** 71.56 336 ⇓P P 01 22 14.1 +0.1
baz=72,SNR=20
135A **Vickery Place,** 71.58 338 ⇓P P 01 22 14.2 +0.1
baz=72,SNR=5.3
232A **Coleman** 71.69 335 ⇑P P 01 22 15.1 +0.3
baz=72,SNR=23
330A **Mertzon** 71.79 334 ⇓P P 01 22 15.6 +0.1
baz=72,SNR=16
134A **White-Moore Ra** 71.80 337 ⇑P P 01 22 15.5 +0.1
baz=72,SNR=7.9
MAW **Mawson** 71.94 163 eP P 01 22 16.4 +0.5
MAW pmax pmax
comp=Z,433nm,2.6s
MAW **Mawson** 71.94 163 P P 01 22 16.5 +0.6
comp=Z,107nm,1.1s,baz=197,slow=5.8,SNR=7.2
MAW LR LR 01 53 57.1
comp=Z,531nm,19.9s,baz=237,slow=36
MAW **Mawson** 71.94 163 eP P 01 22 16.4 +0.6
comp=Z,433nm,2.6s
231A **Bronte** 71.96 335 ⇓P P 01 22 16.6 +0.2
baz=72,SNR=34
133A **Hamilton Ranch** 72.11 336 ⇓P P 01 22 17.7 +0.5
baz=72
329A **Wagon Wheel Ra** 72.15 333 ⇑P P 01 22 18.2 +0.5
baz=72,SNR=22
230A **Sterling City** 72.20 334 ⇓P P 01 22 18.2 +0.3
baz=72,SNR=9.6
UALR **University of** 72.24 342 eP P 01 22 17.6 -0.4
comp=Z,15nm,0.8s
Z35A **Perchaven, San** 72.24 338 ⇓P P 01 22 18.7 +0.6
baz=73,SNR=18
TZTN **Tazewell** 72.26 350 eP P 01 22 17.7 -0.5
comp=Z,113nm,1.6s
MIAR **Mount Ida** 72.34 341 eP P 01 22 18.6 0.0
MIAR e*PP pP 01 22 31.1 -0.3
MIAR **Mount Ida** 72.34 341 eP P 01 22 18.6 0.0
MIAR epP pP 01 22 31.1 -0.3
ABTX **Abilene, Hawle** 72.36 336 ⇓P P 01 22 19.1 +0.3
baz=73,SNR=10.0
ABTX **Abilene, Hawle** 72.36 336 eP P 01 22 19.3 +0.5
comp=Z,39nm,0.7s
ABTX epP pP 01 22 31.6 0.0
Z34A **Collier Ranch,** 72.49 337 ⇑P P 01 22 19.8 +0.2
baz=73,SNR=14
229A **Bryant Ranch,** 72.52 334 ⇓P P 01 22 20.1 +0.3
baz=73,SNR=8.8
VWCC **Virginia Weste** 72.54 353 eP P 01 22 18.9 -0.8
BLA **Blacksburg** 72.55 353 eP P 01 22 19.8 -0.1
BLA pmax pmax
comp=Z,385nm,2.6s
BLA **Blacksburg** 72.55 353 eP P 01 22 19.8 -0.1
comp=Z,385nm,2.6s
WVT **Waverly** 72.56 347 eP P 01 22 19.8 -0.1
WVT e*PP pP 01 22 32.4 -0.2
WVT pmax pmax
comp=Z,126nm,0.8s
WVT **Waverly** 72.56 347 eP P 01 22 19.8 -0.1
comp=Z,126nm,0.8s
WVT epP pP 01 22 32.4 -0.2
131A **Roby** 72.66 335 ⇑P P 01 22 21.0 +0.4
baz=73,SNR=10.0
URVA **University of** 72.67 355 eP P 01 22 21.1 +0.6
URVA epP pP 01 22 33.8 +0.6
Z33A **Whitaker Ranch** 72.68 337 ⇓P P 01 22 21.1 +0.5
baz=73,SNR=18
130A **Snyder** 72.79 335 ⇑P P 01 22 21.7 +0.3
baz=73,SNR=20
JSRW **J. Sargeant Re** 72.81 355 eP P 01 22 21.6 +0.3
JSRW epP pP 01 22 34.3 +0.2
Z32A **Haskell** 72.93 336 ⇓P P 01 22 22.6 +0.5
baz=73,SNR=24
228A **UT Block 9, Go** 72.94 333 ⇑P P 01 22 22.7 +0.4
baz=73,SNR=17
Y34A **Reagan Ranch,** 72.98 338 ⇓P P 01 22 22.8 +0.4
baz=73,SNR=8.8
KOMG **Komaggas** 73.09 115 eP P 01 22 24.2 +0.7
KOMG AMB AMB 01 22 41.3
comp=Z,77nm,3.3s
129A **Stewart Farms,** 73.14 334 ⇓P P 01 22 23.2 -0.4
baz=73,SNR=8.2
Z31A **Sharp Cattle R** 73.16 336 ⇑P P 01 22 23.8 +0.2
baz=74,SNR=26
Y33A **Hilltop Ranch,** 73.30 337 ⇑P P 01 22 24.2 -0.1
baz=74,SNR=15
128A **Castleberry Fa** 73.36 333 ⇑P P 01 22 25.3 +0.5
baz=74,SNR=24
Z30A **Sanderson Ranc** 73.47 335 ⇑P P 01 22 25.3 -0.1
baz=74,SNR=16
Y32A **R-V Farms, Ver** 73.56 336 ⇓P P 01 22 26.2 +0.3
baz=74,SNR=17
X34A **Smith Ranch, M** 73.60 338 ⇑P P 01 22 26.7 +0.6
baz=74,SNR=15
MNTX **Cornudas Mount** 73.65 331 eP P 01 22 26.1 -0.3
comp=Z,17nm,0.7s
MNTX epP pP 01 22 39.0 -0.3
Z29A **Hungry Hill Ra** 73.65 334 ⇓P P 01 22 26.5 0.0
baz=74,SNR=22
PBMO **Poplar Bluff** 73.72 345 eP P 01 22 26.3 -0.4
comp=Z,34nm,0.6s
127A **Arkansas Junct** 73.73 333 ⇑P P 01 22 27.4 +0.3
baz=74,SNR=5.2
X33A **Lawton** 73.75 337 ⇑P P 01 22 26.7 -0.3
baz=74,SNR=7.1
Y31A **Rekieta Farm,** 73.79 336 ⇓P P 01 22 27.6 +0.3
baz=74,SNR=14
X32A **Elmer** 73.89 337 ⇓P P 01 22 28.0 +0.2
baz=74,SNR=9.7
Z28A **Tucker Farm, M** 73.92 334 ⇓P P 01 22 28.0 -0.1
baz=74,SNR=8.3
Y30A **Stafford Cattl** 73.93 335 ⇑P P 01 22 28.3 +0.2
baz=74,SNR=5.9
W34A **Bridge Creek,** 74.17 338 ⇓P P 01 22 29.5 +0.1
baz=74,SNR=7.1
W34A **Bridge Creek,** 74.17 338 eP P 01 22 29.5 +0.1
comp=Z,25nm,0.6s
W34A epP pP 01 22 41.8 -0.4
SUR **Sutherland** 74.17 119 P P 01 22 31.7 +1.7
comp=Z,174nm,0.9s,SNR=8.6
SUR **Sutherland** 74.17 119 eP P 01 22 31.1 +1.1
comp=Z,53nm,1.0s
Y29A **Porterfield Fa** 74.18 335 ⇑P P 01 22 29.9 +0.2
baz=74,SNR=19
TUL1 **Leonard** 74.22 340 ⇓P P 01 22 29.7 0.0
baz=74,SNR=14
TUL1 **Leonard** 74.22 340 eP P 01 22 29.5 -0.2
comp=Z,42nm,0.8s
Z27A **Tatum** 74.25 333 ⇑P P 01 22 30.9 +0.8
baz=75
W33A **Caddo, Fort Co** 74.30 338 ⇓P P 01 22 31.1 +0.8
baz=75,SNR=30
X31A **McDonald Ranch** 74.31 336 ⇑P P 01 22 30.6 +0.3
baz=75,SNR=18
WCI **Wyandotte Cave** 74.33 348 eP P 01 22 29.4 -0.9
WCI pmax pmax
comp=Z,16nm,0.8s
WCI **Wyandotte Cave** 74.33 348 eP P 01 22 29.4 -0.9
comp=Z,16nm,0.8s
SIUC **Southern Illin** 74.37 346 eP P 01 22 30.2 -0.3
comp=Z,46nm,0.8s
Y28A **McKinney Farm,** 74.43 334 ⇓P P 01 22 31.8 +0.7
baz=75,SNR=7.4
X30A **Coker Ranch, T** 74.44 336 ⇑P P 01 22 30.9 -0.2
baz=75
SDMD **Soldier's Deli** 74.45 356 eP P 01 22 31.0 +0.1
comp=Z,44nm,0.8s
Z26A **Caprock** 74.49 333 ⇑P P 01 22 32.2 +0.7
baz=75,SNR=79
W32A **Sentinel** 74.52 337 ⇓P P 01 22 32.2 +0.7
baz=75,SNR=32
V34A **Guthrie** 74.65 339 ⇓P P 01 22 32.2 0.0
baz=75
V34A **Guthrie** 74.65 339 eP P 01 22 31.7 -0.5
comp=Z,48nm,1.1s
V34A epP pP 01 22 44.5 -0.4
MSTX **Muleshoe** 74.67 334 ⇓P P 01 22 32.7 +0.2

baz=75,SNR=9.7
MSTX **Muleshoe** 74.67 334 eP P 01 22 32.6 +0.1
comp=Z,34nm,0.7s
MSTX epP pP 01 22 45.2 -0.1
X29A **Tulia** 74.72 335 ⇑P P 01 22 33.0 +0.2
baz=75,SNR=7.9
Y27A **Causey** 74.74 333 ⇑P P 01 22 33.1 +0.2
baz=75
Z25A **Roswell** 74.78 332 ⇓P P 01 22 34.2 +1.1
baz=75,SNR=11
W31A **Holland Ranch,** 74.81 337 ⇑P P 01 22 33.2 +0.1
baz=75,SNR=6.2
V33A **Lossen Ranch,** 74.87 338 ⇓P P 01 22 33.9 +0.5
baz=75,SNR=17
X28A **Dimmitt** 74.96 335 ⇑P P 01 22 34.8 +0.6
baz=75
319A **Douglas** 75.00 328 ⇑P P 01 22 36.3 +1.8
baz=75,SNR=13
V32A **Arapaho** 75.01 337 ⇑P P 01 22 35.2 +1.0
baz=75
MVL **Millersville** 75.02 357 eP P 01 22 34.5 +0.4
comp=Z,49nm,1.2s
Y26A **Elida** 75.02 333 ⇓P P 01 22 35.2 +0.7
baz=75,SNR=8.5
Z24A **Sheeppen Canyo** 75.08 332 ⇑P P 01 22 35.7 +0.7
baz=75,SNR=25
AMTX **Amarillo** 75.11 335 ⇑P P 01 22 35.7 +0.8
baz=75
AMTX **Amarillo** 75.11 335 eP P 01 22 35.5 +0.5
comp=Z,84nm,1.3s
LIC **Lamto** 75.14 71 ⇑iP P 01 22 35.6 +0.1
comp=Z,177nm,1.0s,baz=239
LIC eR
comp=Z,658nm,21.8s
LIC **Lamto** 75.14 71 eP P 01 22 35.6 +0.1
comp=Z,242nm,1.0s
LIC **Lamto** 75.14 71 eP P 01 22 35.6 +0.1
OLIL **Olney** 75.14 347 eP P 01 22 34.1 -0.8
comp=Z,20nm,0.9s
U34A **Anderson Ranch** 75.21 339 ⇓P P 01 22 35.7 +0.2
baz=76,SNR=9.6
U34A **Anderson Ranch** 75.21 339 eP P 01 22 35.2 -0.2
comp=Z,46nm,1.0s
BLO **Bloomington** 75.29 348 eP P 01 22 35.0 -0.8
BLO pmax pmax
comp=Z,29nm,0.7s
BLO **Bloomington** 75.29 348 eP P 01 22 35.0 -0.8
comp=Z,28nm,0.7s
V31A **Spring Creek L** 75.31 337 ⇓P P 01 22 37.0 +0.9
baz=76,SNR=8.0
W29A **Amarillo** 75.32 335 ⇑P P 01 22 36.8 +0.6
baz=76,SNR=19
Y25A **Mesa, Roswell** 75.34 332 ⇓P P 01 22 36.5 +0.1
baz=76,SNR=6.5
121A **Cookes Peak, D** 75.36 329 ⇓P P 01 22 38.2 +1.6
baz=76,SNR=19
U33A **Lingo Farm, Me** 75.38 338 ⇓P P 01 22 36.4 0.0
baz=76,SNR=5.1
X27A **F and S Farms,** 75.40 334 ⇑P P 01 22 37.3 +0.6
baz=76
TIC **Toumodi** 75.40 71 eP P 01 22 37.2 +0.1
comp=Z,135nm,0.9s
KIC **Kosan Boka** 75.44 71 eP P 01 22 37.6 +0.3
comp=Z,339nm,0.9s
SLM **Saint Louis** 75.46 345 eP P 01 22 36.5 -0.3
SLM pmax pmax
comp=Z,82nm,0.9s
SLM **Saint Louis** 75.46 345 eP P 01 22 36.5 -0.3
comp=Z,82nm,0.9s
DBIC **Dimbokro** 75.55 71 ⇑iP P 01 22 37.8 0.0
DBIC **Dimbokro** 75.55 71 eP P 01 22 38.2 +0.3
DBIC pmax pmax
comp=Z,131nm,0.8s
DBIC **Dimbokro** 75.55 71 P P 01 22 38.2 +0.3
comp=Z,112nm,0.8s,baz=206,slow=6.4,SNR=126
DBIC LR LR 01 52 32.6
comp=Z,398nm,21.3s,baz=210,slow=33
DBIC **Dimbokro** 75.55 71 eP P 01 22 38.2 +0.3
comp=Z,131nm,0.8s
LUPA **Lehigh Univers** 75.57 357 eP P 01 22 37.4 +0.1
comp=Z,6.3nm,0.9s
X26A **CR and CF Fran** 75.57 333 ⇓P P 01 22 38.4 +0.7
baz=76,SNR=15
V30A **Spur Ranch, Mi** 75.58 336 ⇑P P 01 22 38.8 +1.1
baz=76
U32A **Winter Ranch,** 75.60 338 ⇓P P 01 22 38.5 +0.8
baz=76,SNR=5.9
BRNJ **Basking Ridge** 75.63 358 eP P 01 22 39.1 +1.5
comp=Z,62nm,0.8s
Y24A **Capitan** 75.63 332 ⇑P P 01 22 39.1 +1.0
baz=76,SNR=17
W28A **Vega** 75.63 335 ⇑P P 01 22 39.1 +1.1
baz=76
Z22A **Elephant Butte** 75.65 330 ⇓P P 01 22 39.5 +1.3
baz=76,SNR=9.9
SSPA **Standing Stone** 75.74 355 eP P 01 22 37.8 -0.5
comp=Z,41nm,0.9s
W27A **Bowe Ranch, En** 75.76 334 ⇓P P 01 22 39.6 +0.8
baz=76,SNR=33
ACSO **Alum Creek Sta** 75.82 351 eP P 01 22 38.2 -0.6
comp=Z,90nm,0.9s
Y23A **Lovelace Mesa,** 75.88 331 ⇑P P 01 22 41.0 +1.5
baz=76
V29A **Stinnett** 75.95 336 ⇓P P 01 22 40.8 +1.0
baz=76
T33A **Patterson Ranc** 76.02 339 ⇑P P 01 22 41.0 +1.0
baz=76,SNR=15
ODNJ **Ogdensburg** 76.03 358 eP P 01 22 40.1 +0.2
comp=Z,44nm,0.8s
W26A **Owens Ranch, T** 76.04 334 ⇑P P 01 22 41.2 +0.8
baz=76,SNR=12
V28A **Channing** 76.08 335 ⇓P P 01 22 41.5 +1.0
baz=76,SNR=14
X24A **Lazy VL Ranch,** 76.19 332 ⇓P P 01 22 42.4 +1.1
baz=76,SNR=12
YLE **Yale** 76.23 359 eP P 01 22 42.2 +1.2
comp=Z,123nm,0.8s
U30A **WK&E Inc. Balk** 76.26 337 ⇑P P 01 22 42.2 +0.7
baz=77,SNR=12
BNM **Barren Site** 76.30 331 eP P 01 22 43.0 +1.0
V27A **Dan Oppiter Fa** 76.30 335 ⇑P P 01 22 42.7 +0.8
baz=77,SNR=12
T32A **Huddler Ranch,** 76.32 338 ⇓P P 01 22 42.2 +0.5
baz=77,SNR=5.0
W25A **X Bar L Ranch,** 76.41 333 ⇑P P 01 22 42.9 +0.4
baz=77,SNR=14
S33A **Kaszmaul Farm,** 76.42 339 ⇓P P 01 22 42.9 +0.6
baz=77
LENM **Lemitar** 76.45 331 eP P 01 22 44.2 +1.4
TUC **Tucson** 76.46 327 eP P 01 22 44.0 +1.2
TUC pmax pmax
comp=Z,31nm,1.1s
TUC **Tucson** 76.46 327 eP P 01 22 44.0 +1.2
comp=Z,31nm,1.1s
T31A **Randall Ranch,** 76.47 338 ⇑P P 01 22 43.7 +1.1
baz=77
X23A **Hourglass Bar** 76.50 332 ⇑P P 01 22 44.5 +1.5
baz=77,SNR=14
KSPA **Keystone Colle** 76.54 357 eP P 01 22 42.7 -0.2
comp=Z,390nm,2.9s
SFIN **Lafayette** 76.56 348 ⇑P P 01 22 42.0 -1.0
baz=77
SFIN **Lafayette** 76.56 348 eP P 01 22 41.5 -1.5
comp=Z,80nm,1.6s
WIN **Windhoek** 76.61 108 eP P 01 22 44.5 +0.3
WIN AMB AMB 01 23 03.3
comp=Z,12nm,1.4s
UPI **Upington** 76.64 115 eP P 01 22 44.1 0.0
UPI AMB AMB 01 23 01.5
comp=Z,65nm,3.3s
U28A **Mallet** 76.65 335 ⇑P P 01 22 44.1 +0.4
baz=77
V26A **Tequesquite Ra** 76.68 334 ⇑P P 01 22 44.4 +0.4
baz=77,SNR=9.0
T30A **Plains** 76.70 337 ⇑P P 01 22 44.8 +0.8
baz=77
LAZ **Ladron** 76.72 331 eP P 01 22 45.6 +1.3
W24A **Lazy 6 Ranch,** 76.75 332 ⇑P P 01 22 45.3 +0.8
baz=77,SNR=24
S32A **Newby Ranch, P** 76.80 338 ⇑P P 01 22 45.1 +0.6
baz=77,SNR=12
BRYW **Bryant College** 76.82 0 eP P 01 22 45.5 +1.1
comp=Z,79nm,0.9s
S31A **Mullinville** 76.89 338 ⇓P P 01 22 45.5 +0.5
baz=77,SNR=7.7
U27A **Thompson Grove** 76.90 335 ⇑P P 01 22 45.9 +0.7
baz=77,SNR=10
ALLY **Alegheny Colle** 76.92 354 eP P 01 22 44.7 -0.3

comp=Z,44nm,0.9s
ANMO Albuquerque 76.93 331⇑ iP P 01 22 46.5 +1.1
ANMO pmax pmax
comp=Z,86nm,1.2s
ANMO Albuquerque 76.93 331 eP P 01 22 46.1 +0.7
comp=Z,28nm,1.1s
W23A Werner Place, 77.00 332 ⇓P P 01 22 47.3 +1.4
baz=77,SNR=16
V25A Rancho No Teng 77.02 333 ⇑P P 01 22 46.7 +0.7
baz=77,SNR=30
T29A Hugoton 77.05 336 ⇓P P 01 22 46.5 +0.5
baz=77,SNR=14
R33A Olander Ranch, 77.08 339 ⇓P P 01 22 46.5 +0.5
baz=77,SNR=5.8
214A Organ Pipe Nat 77.09 325 ⇓P P 01 22 47.9 +1.6
baz=77,SNR=10
V24A Rampart Ranch, 77.16 333 ⇓P P 01 22 47.6 +0.8
baz=78,SNR=9.9
QUA2 Belchertown 77.19 360 eP P 01 22 46.8 +0.3
comp=Z,56nm,0.8s
BINY Binghamton 77.19 357 eP P 01 22 46.3 -0.3
comp=Z,34nm,0.9s
U26A Atchley Ranch, 77.20 334 ⇑P P 01 22 47.4 +0.5
baz=78,SNR=11
S30A Montezuma 77.22 337 ⇓P P 01 22 47.5 +0.7
baz=78,SNR=5.7
T28A Walsh 77.28 336 ⇑P P 01 22 47.9 +0.6
baz=78,SNR=36
R32A Long Quarter, 77.40 339 ⇑P P 01 22 48.3 +0.5
baz=78,SNR=13
S29A Ulysses 77.41 337 ⇓P P 01 22 48.7 +0.8
baz=78,SNR=16
HRV Adam Dziewonsk 77.41 0 eP P 01 22 48.8 +1.1
HRV pmax pmax
comp=Z,59nm,0.8s
HRV Adam Dziewonsk 77.41 0 eP P 01 22 48.8 +1.1
comp=Z,59nm,0.8s
KSU1 Kansas State U 77.43 341 ⇓P P 01 22 47.8 -0.1
baz=78,SNR=7.7
KSU1 Kansas State U 77.43 341 eP P 01 22 47.5 -0.5
comp=Z,27nm,0.7s
T27A Campo 77.44 335 ⇑P P 01 22 48.9 +0.7
baz=78,SNR=16
U25A Circle Dot Ran 77.44 334 ⇑P P 01 22 49.0 +0.7
baz=78,SNR=22
R31A Burdett 77.52 338 ⇓P P 01 22 49.1 +0.6
baz=78,SNR=9.7
V23A Ortiz Mt. (NFS 77.52 332 ⇓P P 01 22 50.0 +1.2
baz=78,SNR=8.8
S28A Manter 77.64 336 ⇑P P 01 22 50.0 +0.8
baz=78,SNR=28
TRY Troy 77.65 359 eP P 01 22 49.3 +0.3
comp=Z,76nm,0.9s
Q33A Connelly Farm, 77.68 340 ⇑P P 01 22 49.5 +0.1
baz=78,SNR=5.5
GRM Grahamstown 77.69 122 eP P 01 22 49.8 0.0
GRM AMB AMB 01 23 08.2
comp=Z,82nm,4.2s
R30A Dighton 77.75 338 ⇓P P 01 22 50.2 +0.4
baz=78,SNR=7.5
U24A Moreno Valley 77.77 333 ⇑P P 01 22 51.7 +1.5
baz=78
MMNY Mt. Morris Dam 77.83 356 eP P 01 22 50.1 0.0
comp=Z,124nm,1.0s
T26A Comanche Natio 77.84 335 ⇓P P 01 22 51.5 +1.0
baz=78,SNR=25
Q32A Meitler Ranch, 77.88 339 ⇓P P 01 22 51.0 +0.5
baz=78,SNR=6.0
AAM Ann Arbor 77.94 351 eP P 01 22 49.9 -0.8
AAM pmax pmax
comp=Z,49nm,1.2s
AAM Ann Arbor 77.94 351 eP P 01 22 49.9 -0.8
comp=Z,49nm,1.2s
V22A San Miguel Ran 77.95 332 ⇓P P 01 22 52.9 +1.7
baz=78,SNR=37
X18A Snowflake 77.99 329 ⇓P P 01 22 53.0 +1.6
baz=78,SNR=15
U23A El Rito 78.04 332 ⇑P P 01 22 53.1 +1.4
baz=78,SNR=11
S27A Las Animas 78.06 335 ⇓P P 01 22 52.7 +1.1
baz=78
T25A Trinidad 78.10 334 ⇑P P 01 22 53.4 +1.5
baz=78,SNR=34
Q31A Ellis 78.14 338 ⇑P P 01 22 52.8 +0.8
baz=78,SNR=10.0
R29A Marienthal 78.15 337 ⇓P P 01 22 53.1 +1.0
baz=78
S26A Kim 78.20 335 ⇓P P 01 22 53.8 +1.3
baz=78,SNR=24
113A Mohawk Valley, 78.21 325 ⇓P P 01 22 53.6 +1.2
baz=78
R28A Tribune 78.29 336 ⇑P P 01 22 53.6 +0.8
baz=79,SNR=26
ACCN Adirondack Com 78.30 359 eP P 01 22 53.0 +0.4
comp=Z,49nm,0.9s
Z14A Wintersburg 78.33 326 ⇑P P 01 22 54.4 +1.3
baz=79
U22A Llaves 78.33 332 ⇓P P 01 22 55.3 +1.9
baz=79,SNR=9.3
Q30A Quinter 78.37 338 ⇓P P 01 22 54.1 +0.9
baz=79,SNR=20
T24B San Luis 78.39 333 ⇓P P 01 22 55.3 +1.6
baz=79,SNR=23
W18A Petrified Fore 78.40 329 ⇑P P 01 22 55.8 +2.1
baz=79
W18A Petrified Fore 78.40 329 eP P 01 22 54.6 +0.9
comp=Z,59nm,1.2s
P32A Huiting Farm, 78.48 339 ⇑P P 01 22 54.2 +0.5
baz=79,SNR=7.1
HVD Gariep Dam 78.49 119⇑ iP P 01 22 55.0 +0.5
HVD AMB AMB 01 22 55.6
comp=Z,66nm,1.1s
Q29A Oakley 78.52 337 ⇓P P 01 22 54.5 +0.4
baz=79,SNR=15
X16A Lo Mia Camp, P 78.54 328 ⇑P P 01 22 55.9 +1.4
baz=79,SNR=36
R27A Eads 78.57 336 ⇑P P 01 22 55.3 +0.9
baz=79,SNR=31
S25A Robets Cordova 78.57 334 ⇑P P 01 22 55.8 +1.2
baz=79,SNR=15
T23A Casias Ranch, 78.60 333 ⇑P P 01 22 56.1 +1.3
baz=79,SNR=6.6
HNH Hanover 78.61 360 eP P 01 22 55.2 +0.9
comp=Z,51nm,0.8s
P31A Stockton 78.61 339 ⇑P P 01 22 55.1 +0.6
baz=79,SNR=9.7
R26A Arlington 78.80 335 ⇑P P 01 22 56.6 +0.8
baz=79,SNR=16
TSUM Tsumeb 78.82 106 eP P 01 22 56.6 +0.2
comp=Z,52nm,1.3s
Y14A Wickenburg 78.83 326 ⇑P P 01 22 57.1 +1.2
baz=79,SNR=11
S24A Houchin Ranch, 78.84 334 ⇓P P 01 22 57.6 +1.5
baz=79,SNR=34
P30A Selden 78.89 338 ⇑P P 01 22 56.8 +0.7
baz=79,SNR=5.5
MDV Middlebury 78.91 359 eP P 01 22 56.5 +0.5
GLA Glamis 78.95 324 eP P 01 22 58.1 +1.5
GLA pmax pmax
comp=Z,130nm,2.1s
GLA Glamis 78.95 324 ⇑P P 01 22 58.0 +1.5
baz=79
GLA Glamis 78.95 324 eP P 01 22 58.1 +1.5
comp=Z,130nm,2.1s
Q28A Sharon Springs 78.95 337 ⇓P P 01 22 57.2 +0.7
baz=79,SNR=10
R25A Fountain Ranch 78.95 335 ⇑P P 01 22 57.6 +1.1
baz=79,SNR=7.1
O32A Brockman Farm, 78.98 340 ⇓P P 01 22 57.3 +0.8
baz=79
SDCO Great Sand Dun 79.03 334 eP P 01 22 58.1 +0.9
comp=Z,18nm,0.9s
LBNH Lisbon 79.14 0 eP P 01 22 58.1 +0.8
LBNH pmax pmax
comp=Z,78nm,0.8s
LBNH Lisbon 79.14 0 eP P 01 22 58.0 +0.8
comp=Z,78nm,0.8s
P29A Atwood 79.16 338 ⇓P P 01 22 58.7 +1.2
baz=80
KSCO Kaye Shedlock' 79.17 336 ⇑P P 01 22 59.0 +1.3
baz=80
KSCO Kaye Shedlock' 79.17 336 eP P 01 22 58.8 +1.1
comp=Z,66nm,1.3s
O31A Woolen Ranch, 79.18 339 ⇑P P 01 22 58.3 +0.7
baz=80,SNR=6.7
S23A Nye Farm, Mont 79.18 333 ⇑P P 01 22 59.4 +1.4
baz=80
SCIA State Center 79.24 344 eP P 01 22 57.7 -0.2
comp=Z,57nm,1.1s
R24A Sanders Place, 79.32 334 ⇑P P 01 23 00.0 +1.3
baz=80,SNR=34
SWSC Sam W. Stewart 79.32 324 ⇓P P 01 23 00.4 +1.9
baz=80
Y12C Blythe 79.38 325 ⇑P P 01 23 00.4 +1.5
baz=80,SNR=8.7
Q26A Hugo 79.39 335 ⇑P P 01 22 60.0 +1.0
baz=80,SNR=8.2
P28A Saint Francis 79.39 337 ⇑P P 01 23 00.0 +1.1
baz=80
O30A MW Ranch, Wils 79.42 338 ⇑P P 01 22 59.6 +0.7
baz=80,SNR=7.2
BOSA Boshof 79.44 117⇑ iP P 01 22 59.7 +0.1
BOSA AMB AMB 01 23 00.4
comp=Z,76nm,0.9s
BOSA Boshof 79.44 117 eP P 01 22 59.7 +0.1
BOSA pmax pmax
comp=Z,80nm,0.9s
BOSA Boshof 79.44 117 P P 01 22 59.8 +0.1
comp=Z,73nm,0.8s,baz=236,slow=4.8,SNR=114
BOSA LR LR 01 53 30.5
comp=Z,262nm,20.8s,baz=232,slow=32
BOSA Boshof 79.44 117 eP P 01 22 59.7 +0.1
comp=Z,80nm,0.9s
WUAZ Wupatki 79.44 328 ⇑P P 01 23 00.9 +1.6
baz=80,SNR=17
WUAZ Wupatki 79.44 328 eP P 01 23 00.8 +1.5
comp=Z,44nm,1.1s
N32A Stulken Farm, 79.45 340 ⇑P P 01 22 59.8 +0.7
baz=80
WVL Waterville 79.50 2 eP P 01 23 00.2 +1.1
comp=Z,60nm,0.9s
S22A 4UR Ranch, Cre 79.53 333 ⇓P P 01 23 01.0 +1.1
baz=80,SNR=15
R23A Moffat 79.55 333 ⇑P P 01 23 01.1 +1.1
baz=80,SNR=10.0
LONY Lake Ozonia 79.56 358 eP P 01 22 59.9 +0.3
comp=Z,56nm,0.9s
JFWS Jewell Farm 79.59 346 eP P 01 22 59.5 -0.2
JFWS pmax pmax
comp=Z,45nm,1.0s
JFWS Jewell Farm 79.59 346 eP P 01 22 59.5 -0.2
comp=Z,44nm,1.0s
O29A 4D Ranch, Culb 79.60 338 ⇓P P 01 23 01.2 +1.3
baz=80
Q25A Bedland, Calha 79.63 335 ⇓P P 01 23 01.2 +0.8
baz=80,SNR=10
P27A Ficken Ranch, 79.64 336 ⇓P P 01 23 01.1 +0.8
baz=80
PDMCI Parker Dam,Lak 79.66 326 ⇓P P 01 23 01.7 +1.5
baz=80
N31A Bailey Ranch, 79.69 340 ⇓P P 01 23 01.2 +0.8
baz=80
MVCO Mesa Verde 79.70 331 ⇑P P 01 23 01.8 +1.0
baz=80,SNR=12
MVCO Mesa Verde 79.70 331 eP P 01 23 01.8 +1.0
comp=Z,40nm,1.1s
BC3 Big Chuckawall 79.74 324 ⇓P P 01 23 02.6 +1.6
baz=80,SNR=9.8
EML El Monte Cty P 79.80 323 ePKiKP PKiKP 01 28 33.0 +1.1
O28A Krutsinger Ran 79.90 337 ⇓P P 01 23 02.7 +1.1
baz=80,SNR=6.0
P26A Davis Ranch, A 79.90 336 ⇑P P 01 23 02.8 +1.0
baz=80,SNR=5.1
Q24A Divide 79.99 334 ⇑P P 01 23 03.4 +1.0
baz=80,SNR=13
BGNE Belgrade 80.01 340 ⇑P P 01 23 02.5 +0.5
baz=80
BGNE Belgrade 80.01 340 eP P 01 23 02.3 +0.2
comp=Z,115nm,1.4s
IRM Iron Mountain 80.01 325 ⇓P P 01 23 03.7 +1.4
baz=80,SNR=8.3
P25A Willow Gulch B 80.14 335 ⇑P P 01 23 04.4 +1.4
baz=80,SNR=31
M31A Lambtecht Ranc 80.18 340 ⇑P P 01 23 03.8 +0.8
baz=80,SNR=8.8
N29A Votaw Ranch, W 80.18 338 ⇑P P 01 23 04.1 +1.0
baz=80,SNR=6.4
O27A Beecher Island 80.19 337 ⇑P P 01 23 04.3 +1.1
baz=80
PFO Pinyon Flats O 80.19 324 P P 01 23 05.0 +1.6
comp=Z,128nm,0.9s,SNR=5.2
PFO Pinyon Flats O 80.19 324 eP P 01 23 05.5 +2.1
PFO pmax pmax
comp=Z,27nm,0.9s
PFO Pinyon Flats O 80.19 324 ⇓P P 01 23 05.3 +2.0
baz=80,SNR=7.8
PFO Pinyon Flats O 80.19 324 eP P 01 23 05.5 +2.1
comp=Z,27nm,0.9s
W13A Hualapai Mount 80.20 326 ⇓P P 01 23 04.9 +1.4
baz=80
BELC Belle Mtn. Jos 80.28 324 ⇓P P 01 23 05.5 +1.6
baz=81
SWZ Schweizer 80.30 116 eP P 01 23 04.0 -0.4
SWZ AMB AMB 01 23 05.2
comp=Z,52nm,4.4s
N28A Pribbeno Ranch 80.34 338 ⇑P P 01 23 04.8 +0.9
baz=81
P24A Kohler Place, 80.39 335 ⇓P P 01 23 05.7 +1.2
baz=81
O26A Horse Wrangler 80.50 336 ⇓P P 01 23 06.5 +1.6
baz=81,SNR=12
PV01 Paradox Valley 80.53 332 eP P 01 23 06.5 +1.2
MURC Murrieta 80.54 323 ⇓P P 01 23 06.8 +1.7
baz=81
P23A Jefferson 80.60 334 ⇓P P 01 23 07.4 +1.7
baz=81,SNR=5.8
U15A North Rim 80.61 328 ⇑P P 01 23 07.6 +1.8
baz=81,SNR=22
M30A Dale-Ortello V 80.62 339 ⇑P P 01 23 06.8 +1.4
baz=81
O25A Wiggins 80.66 336 ⇓P P 01 23 07.9 +2.2
baz=81
PV05 Paradox Valley 80.69 331 eP P 01 23 07.0 +0.9
OGNE Ogallala 80.73 337 ⇑P P 01 23 07.0 +1.0
baz=81
LDFC Landfair 80.75 325 eP P 01 23 06.8 +0.5
comp=Z,32nm,1.1s
GMRC Granite Mounta 80.76 325 ⇓P P 01 23 08.0 +1.6
baz=81,SNR=12
N27A Anderson Farm, 80.76 337 ⇑P P 01 23 07.5 +1.2
baz=81,SNR=10
M29A Burnside Ranch 80.77 339 ⇓P P 01 23 07.3 +1.0
baz=81,SNR=5.2
SMCO Snowmass 80.84 333 eP P 01 23 08.3 +1.3
comp=Z,35nm,0.9s
PV04 Paradox Valley 80.89 331 eP P 01 23 07.7 +0.6
ISCO Idaho Springs 80.90 334 eP P 01 23 08.0 +0.7
ISCO pmax pmax
comp=Z,52nm,1.7s
ISCO Idaho Springs 80.90 334 ⇓P P 01 23 08.0 +0.7
baz=81,SNR=17
ISCO Idaho Springs 80.90 334 eP P 01 23 08.0 +0.7
comp=Z,52nm,1.7s
L31A Butterfield Fa 80.91 340 ⇓P P 01 23 07.7 +0.8
baz=81,SNR=21
PV10 Paradox Valley 80.93 331 eP P 01 23 07.9 +0.5
M28A Bar X Bar Ranc 80.93 338 ⇑P P 01 23 08.1 +1.0
baz=81
L30A Spencer Herefo 80.95 339 ⇓P P 01 23 08.0 +0.8
baz=81,SNR=7.2
O24A Longmont 80.99 335 ⇑P P 01 23 08.7 +1.2
baz=81
N26A Koester Ranch, 81.00 337 ⇑P P 01 23 08.8 +1.2
baz=81,SNR=6.7
PV09 Paradox Valley 81.07 331 eP P 01 23 09.2 +1.0
HEC Hector,Ludlow 81.12 324 ⇑P P 01 23 10.2 +1.9
baz=81,SNR=9.5
P22A Eagle 81.13 334 ⇑P P 01 23 09.4 +1.0
baz=81,SNR=13
RUDU RUNDU 81.22 106 eP P 01 23 10.4 +1.0
RUDU AMB AMB 01 23 28.4
comp=Z,80nm,1.2s
N25A Grover 81.28 336 ⇓P P 01 23 10.3 +1.3
baz=82
L29A Maesberg Ranch 81.28 339 ⇓P P 01 23 10.2 +1.3
baz=82
BFSC Mount Baldy Ra 81.28 323 ⇓P P 01 23 10.5 +1.3
baz=82,SNR=6.4
SEK Senekal 81.31 118⇑ iP P 01 23 09.5 -0.3
SEK AMB AMB 01 23 10.5
comp=Z,70nm,1.0s
KNB Kanab 81.33 328 eP P 01 23 11.1 +1.6
KNB pmax pmax
comp=Z,52nm,1.1s
KNB Kanab 81.33 328 eP P 01 23 11.1 +1.6
comp=Z,52nm,1.1s
SBI Santa Barbara 81.36 322 eP P 01 23 14.2 +4.8
O23A Lake Granby, G 81.37 334 ⇓P P 01 23 11.1 +1.3
baz=82,SNR=24
M27A Reverse DX Ran 81.37 337 ⇑P P 01 23 10.6 +1.1
baz=82
TUQ Turquoise Moun 81.42 325 ⇓P P 01 23 11.8 +1.8
baz=82,SNR=6.1
MWC Mount Wilson 81.47 323 eP P 01 23 11.8 +1.5
MWC pmax pmax
comp=Z,17nm,0.9s
MWC Mount Wilson 81.47 323 eP P 01 23 11.8 +1.5
comp=Z,17nm,0.9s
BFSD Buffelsfontein 81.54 117 eP P 01 23 10.8 -0.3
BFSD AMB AMB 01 23 11.6
comp=Z,50nm,1.2s
O22A Kremmling 81.55 334 ⇓P P 01 23 11.8 +1.1
baz=82,SNR=23
N24A Carr 81.56 335 ⇓P P 01 23 11.8 +1.2
baz=82
K30A Basset 81.59 340 ⇓P P 01 23 11.8 +1.3
baz=82,SNR=11
LBTB Lobatse 81.73 115⇑ iP P 01 23 11.8 -0.2
LBTB AMB AMB 01 23 30.6
comp=Z,53nm,2.8s
LBTB Lobatse 81.73 115 eP P 01 23 11.7 -0.2
LBTB pmax pmax
comp=Z,47nm,0.7s
LBTB Lobatse 81.73 115 eP P 01 23 11.7 -0.2
comp=Z,47nm,0.7s
GSC Goldstone, Bar 81.73 324 eP P 01 23 13.1 +1.6
GSC pmax pmax
comp=Z,16nm,1.0s
GSC Goldstone, Bar 81.73 324 ⇑P P 01 23 13.0 +1.5
baz=82,SNR=5.2
GSC Goldstone, Bar 81.73 324 eP P 01 23 13.1 +1.6
comp=Z,16nm,1.0s
ECSD EROS Data Cent 81.78 342 ⇓P P 01 23 11.8 +0.3
baz=82,SNR=44
ECSD EROS Data Cent 81.78 342 eP P 01 23 11.5 0.0
comp=Z,62nm,1.0s
K29A Lazy Trails An 81.87 339 ⇑P P 01 23 13.1 +1.0
baz=82
PRYS Parys 81.93 117⇑ iP P 01 23 12.3 -0.7
PRYS AMB AMB 01 23 13.3
comp=Z,17nm,1.3s
SHPR Sheep Range 81.94 326 eP P 01 23 14.3 +1.6
EDW2 Edwards Air Fo 81.96 323 ⇓P P 01 23 13.7 +1.0
baz=82,SNR=6.1
N23A Red Feather La 81.98 335 ⇑P P 01 23 13.7 +0.7
baz=82,SNR=11
CCUT Cedar City 82.01 328 eP P 01 23 15.0 +1.9
comp=Z,35nm,1.0s
N22A Wattenberg Ran 82.08 334 ⇑P P 01 23 14.6 +1.1
baz=82,SNR=18
OSI Osito Audit: C 82.11 323 ⇑P P 01 23 15.4 +1.9
baz=82
OSI Osito Audit: C 82.11 323 eP P 01 23 15.0 +1.6
comp=Z,30nm,0.9s
M24A Cheyenne 82.11 336 ⇓P P 01 23 14.7 +1.2
baz=82,SNR=8.4
K28A Ten Mile Ranch 82.14 339 ⇓P P 01 23 14.7 +1.3
baz=82,SNR=9.5
SRU San Rafael Swe 82.15 331 eP P 01 23 14.3 +0.6
SRU pmax pmax
comp=Z,24nm,1.0s
SRU San Rafael Swe 82.15 331 eP P 01 23 14.3 +0.6
comp=Z,24nm,1.0s
O20A White River Ci 82.15 333 ⇓P P 01 23 14.5 +0.8
baz=82,SNR=8.6
O20A White River Ci 82.15 333 eP P 01 23 14.4 +0.7
comp=Z,25nm,1.0s
J30A Dallas 82.16 340 ⇓P P 01 23 13.8 +0.3
baz=82,SNR=7.6
PHWY Pilot Hill 82.18 335 eP P 01 23 14.5 +0.5
comp=Z,27nm,1.1s
ARUT Antelope Range 82.24 328 eP P 01 23 16.1 +1.9
ARUT Antelope Range 82.24 328 eP P 01 23 16.1 +1.9
LRMC Laurel Mtn Rad 82.29 324 ⇓P P 01 23 15.7 +1.2
baz=83,SNR=8.3
SPMN Marine on St. 82.32 345 ⇑P P 01 23 13.8 -0.4
baz=83,SNR=9.3
SPMN Marine on St. 82.32 345 eP P 01 23 13.5 -0.7
comp=Z,28nm,0.9s
MVU Marysvale 82.32 329 eP P 01 23 16.0 +1.3
comp=Z,19nm,1.0s
K27A Flueckinger Fa 82.39 338 ⇓P P 01 23 15.6 +0.8
baz=83
M23A Laramie 82.42 335 ⇑P P 01 23 15.8 +0.7
baz=83
L25A Engebretsen Ra 82.44 337 ⇓P P 01 23 16.3 +1.2
baz=83
J29A Okreek 82.47 340 ⇓P P 01 23 15.5 +0.4
baz=83,SNR=32
TMUT Trail Mountain 82.58 330 eP P 01 23 17.4 +1.2
comp=Z,26nm,1.0s
L24A Wheatland 82.66 336 ⇓P P 01 23 17.3 +1.0
baz=83
M22A Cedar Creek Ra 82.66 334 ⇑P P 01 23 17.8 +1.4
baz=83,SNR=7.5
K26A Motz Farm, Whi 82.68 337 ⇑P P 01 23 17.1 +0.8
baz=83
I30A Oacoma 82.68 340 ⇑P P 01 23 16.3 +0.1
baz=83,SNR=18
FURC Furnace Creek, 82.70 325 ⇑P P 01 23 17.9 +1.5
baz=83
J28A Allard Ranch, 82.75 339 ⇑P P 01 23 17.6 +1.0
baz=83,SNR=16
N20A Spence Gulch, 82.77 333 ⇑P P 01 23 17.9 +0.9
baz=83,SNR=10
CRWM Crown Mines 82.80 117 eP P 01 23 17.2 -0.5
CRWM AMB AMB 01 23 36.3
comp=Z,40nm,1.3s
J27A Elkhorn Farm, 82.82 338 ⇓P P 01 23 18.1 +1.1
baz=83,SNR=16
K25A Mack Ranch, Ha 82.82 337 ⇓P P 01 23 18.4 +1.3
baz=83,SNR=6.8
ISA Isabella, Lake 82.82 323 eP P 01 23 18.8 +1.6
ISA pmax pmax
comp=Z,19nm,0.9s
ISA Isabella, Lake 82.82 323 ⇑P P 01 23 18.4 +1.2
baz=83,SNR=9.9
ISA Isabella, Lake 82.82 323 eP P 01 23 18.8 +1.6
comp=Z,19nm,0.9s
OBSV Observatory 82.88 117 eP P 01 23 17.7 -0.4
OBSV AMB AMB 01 23 18.4
comp=Z,36nm,1.3s
ERPM east rand prop 82.91 117⇑ iP P 01 23 18.1 -0.1
ERPM AMB AMB 01 23 37.2
comp=Z,55nm,4.4s
L23A Garrett 82.98 335 ⇓P P 01 23 18.1 0.0
baz=83,SNR=6.2
I29A Vivian Onida 83.03 340 ⇑P P 01 23 18.2 +0.2
baz=83,SNR=5.5
BRSD Miller 83.05 341 ⇑P P 01 23 18.0 0.0
baz=83
BRSD Miller 83.05 341 eP P 01 23 18.1 0.0
comp=Z,56nm,0.9s
L22A Ellis Ranch, M 83.16 335 ⇑P P 01 23 20.1 +1.2
baz=84,SNR=5.9
J26A Sides Ranch, S 83.20 338 ⇓P P 01 23 20.1 +1.1
baz=84,SNR=14
K24A Anderson Ranch 83.23 336 ⇓P P 01 23 20.5 +1.3
baz=84,SNR=23
I28A Midland 83.25 339 ⇑P P 01 23 19.7 +0.5
baz=84,SNR=21
VES Vestal, Richgr 83.26 323 ⇓P P 01 23 20.6 +1.2
baz=84,SNR=6.6
SLR Silverton 83.29 117 eP P 01 23 19.6 -0.6
SLR AMB AMB 01 23 38.6
comp=Z,47nm,1.3s
SMMC Simmler 83.30 322 ⇓P P 01 23 21.4 +1.8
baz=84
MPU Maple Canyon 83.36 330 eP P 01 23 20.9 +0.8
comp=Z,39nm,1.1s
GRAC Grapevine Rang 83.37 325 ⇑P P 01 23 22.0 +2.0
baz=84
NLU North Lily Min 83.49 330 eP P 01 23 21.8 +1.1
comp=Z,26nm,1.3s
J25A Sunshine Ranch 83.50 337 ⇑P P 01 23 21.5 +0.9
baz=84,SNR=15
K23A Bowen Ranch, D 83.53 336 ⇑P P 01 23 21.5 +0.7
baz=84,SNR=11
DAU Daniels Canyon 83.55 331 eP P 01 23 22.1 +0.9
DAU Daniels Canyon 83.55 331 eP P 01 23 22.1 +0.9
H29A Onida 83.56 340 ⇑P P 01 23 21.2 +0.6
baz=84,SNR=19
I27A Quinn 83.58 339 ⇑P P 01 23 21.4 +0.5

baz=84,SNR=7.2
R11A Troy Canyon, C 83.65 327 ⇑P P 01 23 23.1 +1.5
baz=84
R11A Troy Canyon, C 83.65 327 eP P 01 23 22.9 +1.4
comp=Z,20nm,0.9s
DCU Deer Creek Res 83.66 331 eP P 01 23 20.7 -0.8
RCTC Rector, Farmer 83.71 323 ⇑P P 01 23 22.6 +1.0
baz=84
J24A Dixon Ranch, L 83.72 337 ⇑P P 01 23 22.6 +0.9
baz=84,SNR=14
G30A Faulkton 83.73 341 ⇑P P 01 23 22.1 +0.6
baz=84,SNR=12
K22A Casper 83.74 335 ⇑P P 01 23 22.3 +0.5
baz=84,SNR=12
K22A Casper 83.74 335 eP P 01 23 22.6 +0.7
comp=Z,43nm,1.1s
I26A New Underwood 83.78 338 ⇓P P 01 23 22.4 +0.5
baz=84,SNR=5.7
JLU Jordanelle 83.79 331 eP P 01 23 23.1 +0.9
comp=Z,18nm,0.8s
H28A Mission Ridge 83.83 340 ⇑P P 01 23 22.4 +0.3
baz=84,SNR=19
K21A Alcova 83.98 335 ⇑P P 01 23 23.7 +0.5
baz=84,SNR=33
CTU Camp Tracy 83.99 331 eP P 01 23 23.6 +0.5
comp=Z,13nm,0.8s
DUG Dugway, Tooele 84.00 330 eP P 01 23 24.1 +0.9
DUG pmax pmax
comp=Z,39nm,1.0s
DUG Dugway, Tooele 84.00 330 ⇓P P 01 23 23.9 +0.7
baz=84,SNR=19
DUG Dugway, Tooele 84.00 330 eP P 01 23 24.1 +0.9
comp=Z,39nm,1.0s
G29A Hoven 84.00 341 ⇑P P 01 23 23.0 +0.1
baz=84,SNR=7.1
I25A Rochford 84.04 338 ⇑P P 01 23 23.9 +0.5
baz=84,SNR=14
H27A Howes 84.10 339 ⇓P P 01 23 23.7 +0.3
baz=84,SNR=15
G28A Parade 84.17 340 ⇓P P 01 23 24.2 +0.4
baz=84,SNR=21
TPH Tonopah 84.17 326 eP P 01 23 25.3 +1.1
TPH pmax pmax
comp=Z,30nm,1.0s
TPH Tonopah 84.17 326 eP P 01 23 25.3 +1.1
comp=Z,30nm,1.0s
I24A Kuemmerle Ranc 84.18 337 ⇓P P 01 23 24.4 +0.4
baz=84,SNR=5.6
TCUT Toone Canyon 84.21 331 eP P 01 23 25.6 +1.2
comp=Z,28nm,0.9s
RSSD Black Hills 84.23 337 eP P 01 23 24.6 +0.2
RSSD pmax pmax
comp=Z,20nm,0.9s
RSSD Black Hills 84.23 337 eP P 01 23 24.6 +0.2
comp=Z,20nm,0.9s
FPU Francis Peak 84.31 331 eP P 01 23 25.7 +0.7
F30A Leola 84.36 341 ⇓P P 01 23 24.9 +0.2
baz=85,SNR=6.4
J22A Midwest 84.40 335 ⇑P P 01 23 25.0 -0.1
baz=85,SNR=14
H25A Fruitdale 84.55 338 ⇓P P 01 23 26.1 +0.4
baz=85,SNR=9.1
MCU Monte Cristo P 84.55 331 eP P 01 23 26.8 +0.6
F29A Eureka 84.57 341 ⇓P P 01 23 26.0 +0.2
baz=85,SNR=15
TOA0 Torodi Ar. Sit 84.60 70 eP P 01 23 26.5 -0.2
TOA0 epP pP 01 23 39.3 -0.3
TORD Torodi Ar. Bea 84.60 70 P P 01 23 26.6 0.0
comp=Z,51nm,0.8s,baz=258,slow=4.1,SNR=268
TORD pP pP 01 23 39.3 -0.4
comp=Z,24nm,0.8s,baz=291,slow=5.4,SNR=10
TORD LR LR 01 59 27.2
comp=Z,335nm,19.6s,baz=225,slow=34
J21A Lysite 84.67 335 ⇑P P 01 23 26.9 +0.3
baz=85,SNR=6.9
EYMN Ely 84.67 347 eP P 01 23 26.2 0.0
comp=Z,28nm,1.0s
HWUT Hardware Ranch 84.69 331 eP P 01 23 27.1 +0.4
comp=Z,53nm,1.1s
G27A Dupree 84.73 339 ⇑P P 01 23 26.9 +0.3
baz=85,SNR=5.2
I22A 9 Mile Ranch, 84.82 336 ⇑P P 01 23 27.5 +0.3
baz=85,SNR=19
F28A McLaughlin 84.84 340 ⇑P P 01 23 27.5 +0.3
baz=85,SNR=8.7
G26A Maurine 84.85 339 ⇓P P 01 23 27.5 +0.2
baz=85,SNR=14
J20A Shoshoni 84.90 334 ⇑P P 01 23 28.6 +0.9
baz=85,SNR=40
BW06 Boulder Array 84.92 333 eP P 01 23 27.1 -0.8
PD31 Pinedale Array 84.92 333 eP P 01 23 27.9 0.0
PD31 epP pP 01 23 40.9 -0.1
PD31 ePKKPbc PKKPbc 01 41 35.2 -1.9
PDAR Pinedale Array 84.92 333 P P 01 23 27.9 0.0
comp=Z,5.6nm,0.8s,baz=168,slow=4.5,SNR=44
PDAR pP pP 01 23 40.9 -0.1
comp=Z,8.0nm,0.9s,baz=157,slow=4.7,SNR=12
PDAR PKKPbc PKKPbc 01 41 35.2 -1.9
comp=Z,0.9nm,0.7s,baz=98,slow=2.0,SNR=7.5
PDAR LR LR 01 57 27.8
comp=Z,229nm,18.5s,baz=164,slow=33
E30A Jud 84.94 342 ⇓P P 01 23 27.8 +0.2
baz=85,SNR=5.4
H24A Dirks Ranch, A 84.96 337 ⇓P P 01 23 28.1 +0.2
baz=85,SNR=16
NV01 Mina Array Sit 84.96 325 eP P 01 23 29.2 +1.0
NV01 epP pP 01 23 42.0 +0.8
NVAR Mina Array Bea 84.96 325 P P 01 23 29.1 +0.9
comp=Z,6.3nm,0.8s,baz=156,slow=6.0,SNR=41
NVAR pP pP 01 23 41.7 +0.5
comp=Z,10nm,0.8s,baz=159,slow=6.1,SNR=19
NVAR PKKPbc PKKPbc 01 41 36.5 -0.3
comp=Z,0.6nm,0.7s,baz=299,slow=3.8,SNR=4.8
G25A Newell 85.01 338 ⇑P P 01 23 28.8 +0.7
baz=85,SNR=12
I21A Big Trails, Te 85.03 335 ⇓P P 01 23 28.7 +0.3
baz=85,SNR=31
DRLN Deer Lake 85.14 9 eP P 01 23 28.6 +0.1
comp=Z,124nm,0.8s
J19A Crowheart 85.17 334 ⇓P P 01 23 29.3 +0.2
baz=86,SNR=25
E29A Napoleon 85.19 341 ⇓P P 01 23 29.0 0.0
baz=86,SNR=6.1
F27A Lemmon 85.21 339 ⇓P P 01 23 29.4 +0.4
baz=86,SNR=14
HVU Hansel Valley 85.32 331 eP P 01 23 30.4 +0.5
HVU pmax pmax
comp=Z,36nm,0.9s
HVU Hansel Valley 85.32 331 eP P 01 23 30.4 +0.5
comp=Z,36nm,0.9s
F26A Lodgepole 85.38 339 ⇑P P 01 23 30.3 +0.4
baz=86,SNR=11
H22A Clearmont 85.40 336 ⇑P P 01 23 30.2 0.0
baz=86,SNR=7.7
G24A Alzada 85.43 338 ⇓P P 01 23 30.4 +0.2
baz=86,SNR=6.1
I20A Worland 85.44 335 ⇑P P 01 23 31.0 +0.6
baz=86,SNR=42
D30A Buchanan 85.47 342 ⇑P P 01 23 30.7 +0.4
baz=86,SNR=12
ELK Elko 85.47 329 eP P 01 23 31.4 +0.6
ELK pmax pmax
comp=Z,20nm,1.0s
ELK Elko 85.47 329 eP P 01 23 31.4 +0.6
comp=Z,20nm,1.0s
E28A Huff 85.48 341 ⇓P P 01 23 30.6 +0.3
baz=86,SNR=7.5
AHID Auburn Hatcher 85.50 332 eP P 01 23 31.2 +0.5
comp=Z,33nm,1.3s
WAKR Walker 85.55 325 eP P 01 23 33.0 +1.9
E27A Carson 85.59 340 ⇑P P 01 23 31.1 +0.1
baz=86,SNR=5.2
G23A Biddle 85.63 337 ⇓P P 01 23 31.4 +0.2
baz=86,SNR=11
CMB Columbia Colle 85.64 324 eP P 01 23 32.1 +0.7
CMB pmax pmax
comp=Z,17nm,1.0s
CMB Columbia Colle 85.64 324 eP P 01 23 32.1 +0.7
comp=Z,17nm,1.0s
D29A Pettibone, Tap 85.64 341 ⇑P P 01 23 31.4 +0.3
baz=86
H21A Big Horn, Sher 85.66 336 ⇑P P 01 23 31.3 -0.1
baz=86,SNR=16
F25A Bowman 85.68 339 ⇓P P 01 23 31.9 +0.5
baz=86,SNR=9.4
I19A Meeteetse 85.82 334 ⇑P P 01 23 32.6 +0.3
baz=86,SNR=18

H20A Greybull 85.86 335 ⇑P P 01 23 32.6 +0.1
baz=86,SNR=53
E26A Carlson Angus 85.88 339 ⇓P P 01 23 32.5 +0.1
baz=86,SNR=6.9
AGMN Agassiz Nation 85.90 344 ⇓P P 01 23 32.5 +0.2
baz=86,SNR=16
AGMN Agassiz Nation 85.90 344 eP P 01 23 32.1 -0.2
comp=Z,20nm,0.7s
F24A Ekalaka 85.91 338 ⇑P P 01 23 33.0 +0.4
baz=86,SNR=10
REDW Red Top Meadow 85.92 333 eP P 01 23 33.2 +0.4
comp=Z,24nm,1.0s
G22A Birney 85.94 336 ⇑P P 01 23 32.7 -0.1
baz=86,SNR=8.2
C30A Mose, Pekin 85.95 342 ⇓P P 01 23 33.2 +0.5
baz=86,SNR=29
SNOW Snow King Moun 85.97 333 eP P 01 23 33.2 +0.1
comp=Z,20nm,0.8s
D28A Regan 86.02 341 ⇑P P 01 23 33.3 +0.3
baz=86
LOHW Long Hollow 86.04 333 eP P 01 23 33.7 +0.3
comp=Z,16nm,0.9s
TPAW Teton Pass 86.06 333 eP P 01 23 34.1 +0.5
comp=Z,26nm,0.9s
F23A Volborg 86.10 337 ⇓P P 01 23 33.7 +0.2
baz=86,SNR=25
E25A Miller Ranch, 86.18 339 ⇓P P 01 23 34.2 +0.3
baz=86,SNR=14
D27A Center 86.20 340 ⇓P P 01 23 34.4 +0.5
baz=86,SNR=5.3
FXWY Fox Creek 86.22 333 eP P 01 23 34.5 +0.2
comp=Z,21nm,1.3s
G21A Lodge Grass 86.24 336 ⇑P P 01 23 34.4 +0.1
baz=87,SNR=15
I17A Pilgrim Ck. 86.29 333 ⇓P P 01 23 35.6 +0.8
baz=87,SNR=15
H19A Powell 86.37 335 ⇑P P 01 23 35.3 +0.3
baz=87,SNR=17
D26A Manning 86.38 340 ⇑P P 01 23 35.5 +0.6
baz=87,SNR=20
IMW Indian Meadow 86.41 333 eP P 01 23 35.8 +0.5
comp=Z,30nm,1.0s
F22A Rosebud 86.42 337 ⇓P P 01 23 35.2 +0.1
baz=87,SNR=16
C28A Hausauer Farms 86.45 341 ⇑P P 01 23 35.6 +0.5
baz=87
E24A Baker 86.51 338 ⇓P P 01 23 35.9 +0.5
baz=87,SNR=13
MSNA Messina 86.57 115 eP P 01 23 35.5 -1.1
MSNA AMB AMB 01 23 56.1
comp=Z,42nm,1.3s
G20A Bridger 86.58 335 ⇑P P 01 23 35.8 -0.1
baz=87,SNR=37
B30A Myrvik Farm, E 86.61 343 ⇓P P 01 23 36.2 +0.3
baz=87,SNR=50
H18A Shoshone NF, C 86.61 334 ⇑P P 01 23 36.6 +0.3
baz=87,SNR=71
H17A Grant Village 86.70 333 ⇑P P 01 23 37.3 +0.5
baz=87,SNR=5.3
H17A Grant Village 86.70 333 eP P 01 23 37.8 +1.0
comp=Z,10nm,1.0s
F21A Absaloka Mine, 86.74 336 ⇑P P 01 23 37.0 +0.3
baz=87,SNR=5.6
C27A Sayler Ranch, 86.75 341 ⇑P P 01 23 37.2 +0.6
baz=87,SNR=26
D25A Fairfield 86.75 339 ⇓P P 01 23 37.1 +0.5
baz=87,SNR=23
E23A Ismay 86.76 338 ⇓P P 01 23 36.7 0.0
baz=87,SNR=5.9
LKWY Lake 86.78 334 eP P 01 23 38.3 +1.1
LKWY e*PP pP 01 23 50.6 +0.4
LKWY Lake 86.78 334 eP P 01 23 38.3 +1.1
LKWY epP pP 01 23 50.6 +0.4
RLMT Red Lodge 86.86 335 eP P 01 23 37.7 +0.2
RLMT epP pP 01 23 50.6 +0.2
B29A Wagenman Farm, 86.88 342 ⇑P P 01 23 37.3 +0.2
baz=87,SNR=12
E22A Miles City 86.91 337 ⇓P P 01 23 37.4 0.0
baz=87,SNR=8.7
C26A Wahner Farm, P 87.01 340 ⇑P P 01 23 38.4 +0.5
baz=87,SNR=15
D24A Glendive 87.01 339 ⇑P P 01 23 38.5 +0.6
baz=87,SNR=8.9
A30A Hoffart Farm, 87.06 343 ⇓P P 01 23 38.2 +0.1
baz=87,SNR=18
F20A Billings 87.06 336 ⇑P P 01 23 38.3 0.0
baz=87,SNR=6.6
YMR Madison River 87.08 333 eP P 01 23 39.5 +1.0
YMR epP pP 01 23 52.2 +0.6
B28A Dugan Ranch, T 87.12 342 ⇑P P 01 23 38.9 +0.5
baz=87,SNR=28
LAO LASA Array 87.22 337 eP P 01 23 39.0 +0.1
comp=Z,47nm,0.9s
LAO epP pP 01 23 51.7 -0.3
C25A Freed Ranch, W 87.24 339 ⇓P P 01 23 39.7 +0.7
baz=88
A29A Manning Farm, 87.27 342 ⇑P P 01 23 39.3 +0.3
baz=88,SNR=44
B27A Peters Farms, 87.31 341 ⇓P P 01 23 39.9 +0.6
baz=88
D23A Lindsay 87.33 338 ⇑P P 01 23 40.2 +0.7
baz=88,SNR=50
E21A Keefer Ranch, 87.36 337 ⇓P P 01 23 40.1 +0.4
baz=88,SNR=9.9
F19A Roth Farm, Mol 87.38 335 ⇑P P 01 23 39.9 +0.1
baz=88,SNR=15
QLMT Earthquake Lak 87.39 333 eP P 01 23 41.1 +1.1
QLMT epP pP 01 23 53.5 +0.5
C24A Savage 87.42 339 ⇓P P 01 23 40.3 +0.5
baz=88,SNR=51
HLID Hailey 87.47 331 ⇓P P 01 23 41.4 +1.0
baz=88,SNR=25
HLID Hailey 87.47 331 eP P 01 23 41.6 +1.2
HLID epP pP 01 23 53.7 +0.3
A28A Rude Farm, Bot 87.52 342 ⇑P P 01 23 40.5 +0.2
baz=88,SNR=7.8
B26A Jensen Ranch, 87.55 340 ⇑P P 01 23 41.1 +0.6
baz=88
GCMT Greycliff 87.58 335 eP P 01 23 41.0 +0.2
GCMT epP pP 01 23 53.6 -0.3
D22A Cohagen 87.61 337 ⇓P P 01 23 41.2 +0.4
baz=88,SNR=19
E20A Meyer Farm, Mu 87.67 336 ⇓P P 01 23 41.5 +0.4
baz=88,SNR=28
B25A Knox Farm, Ray 87.72 340 ⇑P P 01 23 42.3 +1.1
baz=88,SNR=19
ULM Lac du Bonnet 87.74 345 eP P 01 23 40.9 -0.3
ULM pmax pmax
comp=Z,45nm,0.9s
ULM Lac du Bonnet 87.74 345 P P 01 23 40.9 -0.3
comp=Z,48nm,0.9s,baz=169,slow=3.3,SNR=73
ULM Lac du Bonnet 87.74 345 eP P 01 23 40.9 -0.3
comp=Z,45nm,0.9s
D21A La Casta Ranch 87.80 337 ⇓P P 01 23 42.2 +0.5
baz=88,SNR=9.5
A27A Ledoux Ranch, 87.81 341 P P 01 23 42.2 +0.5
baz=88
E19A Rath Farm, Rou 87.86 336 ⇑P P 01 23 42.4 +0.4
baz=88,SNR=35
C23A Lambert 87.89 338 ⇑P P 01 23 42.5 +0.4
baz=88,SNR=31
MCMT McKenzie Canyo 87.92 332 eP P 01 23 43.7 +1.1
MFID Camas Ranch 87.92 330 eP P 01 23 43.3 +0.8
MFID epP pP 01 23 55.6 0.0
A26A Wade Farm, Ken 87.97 341 ⇑P P 01 23 42.9 +0.5
baz=88,SNR=20
C22A Vida 88.05 338 ⇑P P 01 23 43.2 +0.3
baz=88,SNR=11
D20A Manuel Ranch, 88.19 336 ⇑P P 01 23 43.7 +0.1
baz=88,SNR=25
DGMT Dagmar 88.19 339 ⇑P P 01 23 44.1 +0.5
baz=88,SNR=25
DGMT Dagmar 88.19 339 eP P 01 23 44.0 +0.5
comp=Z,106nm,0.9s
DGMT epP pP 01 23 56.8 +0.2
DLMT Dillon 88.28 333 eP P 01 23 44.8 +0.6
comp=Z,24nm,1.3s
A25A Svangstu Ranch 88.31 340 ⇓P P 01 23 44.8 +0.7
baz=89,SNR=13
WVOR Wild Horse Val 88.33 327 eP P 01 23 45.6 +1.1
WVOR e*PP pP 01 23 58.2 +0.7
WVOR Wild Horse Val 88.33 327 eP P 01 23 45.6 +1.1
WVOR epP pP 01 23 58.2 +0.7
B23A Brockton 88.42 339 ⇓P P 01 23 45.2 +0.6
baz=89,SNR=5.3
C21A Desert Coulee 88.50 337 ⇓P P 01 23 45.2 +0.2
baz=89,SNR=15

D19A Cripps Ranch, 88.50 336 ⇓P P 01 23 45.1 0.0
baz=89,SNR=6.8
A24A Westby 88.55 340 ⇑P P 01 23 45.5 +0.3
baz=89,SNR=8.6
B22A Reddig Ranch S 88.58 338 ⇓P P 01 23 45.8 +0.4
baz=89,SNR=5.6
LRM Limekiln Ridge 88.61 333 eP P 01 23 46.5 +0.6
LRM epP pP 01 23 59.1 +0.2
MOD Modoc Plateau 88.65 326 eP P 01 23 47.0 +1.0
MOD epP pP 01 23 59.7 +0.6
WDC Whiskeytown Da 88.67 324 eP P 01 23 45.9 0.0
WDC e*PP pP 01 23 59.0 0.0
WDC Whiskeytown Da 88.67 324 eP P 01 23 45.9 0.0
WDC epP pP 01 23 59.0 0.0
A23A Redstone 88.83 339 ⇑P P 01 23 47.0 +0.4
baz=89
B21A Ellsworth Farm 89.01 338 ⇓P P 01 23 48.0 +0.7
baz=89
N02D Trinity Center 89.05 324 ⇓P P 01 23 48.6 +0.8
baz=89
C19A Slack Wire Ran 89.06 336 ⇓P P 01 23 47.7 0.0
baz=89,SNR=8.0
A22A Carney Farms, 89.17 338 ⇑P P 01 23 48.3 +0.2
baz=90,SNR=14
M04C Macdoel 89.27 325 ⇑P P 01 23 49.7 +0.8
baz=90
M02C Callahan 89.44 324 ⇓P P 01 23 50.4 +0.8
baz=90
A21A Bergtoll Ranch 89.48 338 ⇑P P 01 23 49.0 -0.6
baz=90,SNR=8.8
EGMT Eagleton 89.54 336 ⇑P P 01 23 49.3 -0.6
baz=90,SNR=6.5
EGMT Eagleton 89.54 336 eP P 01 23 49.3 -0.6
comp=Z,13nm,1.0s
K05A Summer Lake 89.57 326 eP P 01 23 52.1 +1.8
comp=Z,48nm,0.8s
YBH Yreka Blue Hor 89.64 325 eP P 01 23 51.0 +0.5
YBH e*PP pP 01 24 03.2 -0.4
YBH Yreka Blue Hor 89.64 325 eP P 01 23 51.0 +0.5
YBH epP pP 01 24 03.2 -0.4
B19A Brinkman Farms 89.65 336 ⇓P P 01 23 50.1 -0.3
baz=90,SNR=5.3
A20A Cobblestone Ra 89.69 337 ⇑P P 01 23 50.1 -0.5
baz=90,SNR=15
BMO Blue Mountains 89.71 330 eP P 01 23 51.1 +0.2
BMO epP pP 01 24 04.0 +0.1
SCHQ Schefferville 89.86 3 P P 01 23 50.5 -0.6
comp=Z,16nm,0.9s,baz=197,slow=4.8,SNR=13
SCHQ LR LR 02 05 23.2
comp=Z,102nm,20.7s,baz=119,slow=36
SCHQ Schefferville 89.86 3 eP P 01 23 50.7 -0.4
comp=Z,21nm,1.0s
SCHQ epP pP 01 24 03.8 -0.4
K04D Chiloquin, OR 89.88 326 ⇓P P 01 23 52.5 +0.7
baz=90
A19A Klindworth Far 90.00 337 ⇓P P 01 23 51.5 -0.5
baz=90,SNR=13
MSO Missoula 90.02 333 ⇓P P 01 23 53.0 +0.8
baz=90
MSO Missoula 90.02 333 eP P 01 23 52.9 +0.7
comp=Z,16nm,1.5s
I07A Izee 90.03 328 eP P 01 23 53.5 +1.2
I07A epP pP 01 24 06.3 +0.9
J05D Fort Rock, OR 90.16 326 ⇓P P 01 23 54.4 +1.3
baz=90
PINOR Pine Mountain 90.41 327 eP P 01 23 55.6 +1.6
PINOR epP pP 01 24 08.0 +1.0
J04D Umpqua Nationa 90.53 326 ⇓P P 01 23 55.3 +0.5
baz=91
G08A Pilot Rock 90.76 329 eP P 01 23 56.6 +0.9
G08A epP pP 01 24 09.0 +0.2
JTMT Jette 90.91 333 eP P 01 23 57.0 +0.6
JTMT epP pP 01 24 09.8 +0.3
I05D Terrebonne, OR 91.04 327 ⇓P P 01 23 57.9 +0.9
baz=91
I04A Tendick Farm, 91.09 326 ⇑P P 01 23 58.2 +0.9
baz=91
BLMT Blacktail Moun 91.16 333 eP P 01 23 57.4 -0.3
BLMT epP pP 01 24 10.7 -0.1
BSMT Bassoo Peak 91.19 333 eP P 01 23 58.0 +0.2
BSMT epP pP 01 24 10.8 -0.1
E09A Wood Farm, Sta 91.40 330 eP P 01 23 58.3 -0.2
E09A epP pP 01 24 11.2 -0.4
G06A Carlson Farm, 91.43 328 eP P 01 24 00.1 +1.3
G06A epP pP 01 24 11.8 -0.1
I03D Drain, OR 91.45 325 ⇑P P 01 23 59.7 +0.9
baz=92
H04A Detroit Lake 91.68 327 eP P 01 24 00.4 +0.5
H04A epP pP 01 24 13.1 0.0
G05D Wamic, OR 91.73 328 ⇑P P 01 24 01.3 +1.1
baz=92
WALA Waterton Lakes 91.87 334 eP P 01 24 01.1 +0.2
WALA epP pP 01 24 13.9 0.0
E07A Sunnyside 92.15 329 eP P 01 24 02.9 +0.9
E07A epP pP 01 24 15.8 +0.6
D08A Wollman Farm, 92.16 330 eP P 01 24 02.6 +0.5
D08A epP pP 01 24 15.4 +0.3
NEW Newport 92.42 332 eP P 01 24 02.9 -0.3
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 92.42 332 ⇑P P 01 24 03.1 -0.1
baz=93
NEW Newport 92.42 332 eP P 01 24 02.9 -0.3
comp=Z,6.2nm,1.0s
C09A Chrisman Ranch 92.49 331 eP P 01 24 04.0 +0.5
C09A epP pP 01 24 16.9 +0.2
F04A Amboy 92.76 327 eP P 01 24 05.2 +0.4
F04A epP pP 01 24 18.0 +0.1
LTY Liberty 93.04 329 eP P 01 24 06.4 +0.2
LTY epP pP 01 24 19.4 +0.1
LON Longmire 93.13 328 eP P 01 24 06.7 +0.1
LON pmax pmax
comp=Z,8.0nm,0.8s
LON Longmire 93.13 328 eP P 01 24 06.7 +0.1
comp=Z,8.2nm,0.8s
FFC Flin Flon 93.28 343 eP P 01 24 06.1 -0.9
FFC pmax pmax
comp=Z,87nm,2.5s
FFC Flin Flon 93.28 343 eP P 01 24 06.1 -0.9
comp=Z,87nm,2.5s
B08A Colville Reser 93.37 331 eP P 01 24 07.1 -0.5
comp=Z,20nm,1.8s
D05A Enumclaw 93.55 328 eP P 01 24 08.7 +0.3
comp=Z,25nm,0.9s
PVAQ Vaqueiros 93.72 46 eLR LR 01 55 53.0
comp=Z,220nm,18.0s
EDM Edmonton 95.17 336 eP P 01 24 14.4 -1.4
EDM Edmonton 95.17 336 eP P 01 24 14.4 -1.4
FCC Fort Churchill 95.49 349 eP P 01 24 16.7 -0.3
FCC pmax pmax
comp=Z,16nm,0.8s
FCC Fort Churchill 95.49 349 eP P 01 24 16.6 -0.3
comp=Z,16nm,0.8s
MTE Manteigas 95.83 44 eLR LR 01 58 51.1
comp=Z,216nm,20.0s
MVO Moncorvo 96.63 44 eP P 01 24 23.1 +0.3
comp=Z,50nm,1.2s
MVO Moncorvo 96.63 44 eLR LR 01 57 18.6
comp=Z,199nm,22.0s
PBRG Braganca 97.22 43 eP P 01 24 23.3 -2.1
comp=Z,54nm,1.6s
ESDC Sonseca Array 97.42 46 P Pdif 01 24 26.6 +0.1
comp=Z,4.7nm,0.7s,baz=245,slow=4.1,SNR=20
ESDC LR LR 02 08 29.3
comp=Z,102nm,18.5s,baz=260,slow=35
ES19 SONSECA Array 97.48 46 eP P 01 24 26.5 -0.1
DZM Mont Dzumac 100.52 233 eLR LR 01 57 43.0
comp=Z,725nm,26.2s
SJPF Ste Jean 101.19 45 eP Pdif 01 24 43.1 0.0
comp=Z,24nm,0.9s
SJPF Ste Jean 101.19 45 eP Pdif 01 24 43.1 0.0
SJPF Ste Jean 101.19 45 ePdif Pdif 01 24 43.1 0.0
ETSF Etsaut 101.44 45 eP Pdif 01 24 45.0 +0.7
comp=Z,17nm,0.8s
ETSF Etsaut 101.44 45 eP Pdif 01 24 45.0 +0.7
ETSF Etsaut 101.44 45 ePdif Pdif 01 24 45.0 +0.7
EPF Esparros 102.05 46 eP Pdif 01 24 47.5 +0.6
comp=Z,12nm,1.0s
EPF Esparros 102.05 46 eP Pdif 01 24 47.5 +0.6
EPF Esparros 102.05 46 ePdif Pdif 01 24 47.5 +0.6
QUIF Quistinic 103.09 40 eP Pdif 01 24 51.2 -0.2
comp=Z,21nm,0.9s
QUIF Quistinic 103.09 40 eP Pdif 01 24 51.2 -0.2
QUIF Quistinic 103.09 40 ePdif Pdif 01 24 51.2 -0.2
YKA Yellowknife Ar 103.28 341 Pdiff Pdif 01 24 51.4 -0.4

comp=Z,1.4nm,0.8s,baz=140,slow=4.4,SNR=27
YKA PKKPbc **PKKPbc** 01 40 45.7 -2.5
comp=Z,0.3nm,0.7s,baz=330,slow=3.0,SNR=6.2
YKB5 Yellowknife Ar 103.28 341 *e*Pdif **Pdif** 01 24 51.4 -0.4
YKB5 *e*PKKPbc **PKKPbc** 01 40 45.7 -2.5
ROSF Rostrenen 103.30 40 *e*P **Pdif** 01 24 52.2 -0.1
comp=Z,4.5nm,1.1s
ROSF Rostrenen 103.30 40 *e*P **Pdif** 01 24 52.2 -0.1
ROSF Rostrenen 103.30 40 *e*Pdif **Pdif** 01 24 52.2 -0.1
MTLF Montolieu 103.33 46 *e*P **Pdif** 01 24 52.8 +0.2
comp=Z,16nm,1.2s
MTLF Montolieu 103.33 46 *e*P **Pdif** 01 24 52.8 +0.2
MTLF Montolieu 103.33 46 *e*Pdif **Pdif** 01 24 52.8 +0.2
LFF La Frestale 103.42 44 *e*P **Pdif** 01 24 52.7 -0.2
comp=Z,17nm,0.7s
LFF La Frestale 103.42 44 *e*P **Pdif** 01 24 52.7 -0.2
LFF La Frestale 103.42 44 *e*Pdif **Pdif** 01 24 52.7 -0.2
SGMF Saint Gilles 103.62 40 *e*P **Pdif** 01 24 53.4 -0.3
SGMF Saint Gilles 103.62 40 *e*P **Pdif** 01 24 53.4 -0.3
SGMF Saint Gilles 103.62 40 *e*Pdif **Pdif** 01 24 53.4 -0.3
MFF Saint Martin d 103.92 42 *e*P **Pdif** 01 24 54.7 -0.4
MFF Saint Martin d 103.92 42 *e*P **Pdif** 01 24 54.7 -0.4
MFF Saint Martin d 103.92 42 *e*Pdif **Pdif** 01 24 54.7 -0.4
RJF Les Rejaudoux 104.08 44 *e*P **Pdif** 01 24 55.2 -0.7
comp=Z,12nm,1.0s
RJF *e*R
comp=Z,255nm,22.0s
RJF Les Rejaudoux 104.08 44 *e*P **Pdif** 01 24 55.2 -0.7
RJF Les Rejaudoux 104.08 44 *e*Pdif **Pdif** 01 24 55.2 -0.7
CAF Calviac 104.17 45 *e*P **Pdif** 01 24 56.9 +0.6
comp=Z,36nm,1.2s
CAF Calviac 104.17 45 *e*P **Pdif** 01 24 56.9 +0.6
CAF Calviac 104.17 45 *e*Pdif **Pdif** 01 24 56.9 +0.6
GRR Gorron 104.60 41 *e*P **Pdif** 01 24 57.8 -0.3
GRR Gorron 104.60 41 *e*P **Pdif** 01 24 57.8 -0.3
GRR Gorron 104.60 41 *e*Pdif **Pdif** 01 24 57.8 -0.3
LASF Ste Croix 104.73 46 *e*P **Pdif** 01 25 00.0 +1.2
comp=Z,35nm,1.4s
LASF Ste Croix 104.73 46 *e*Pdif **Pdif** 01 25 00.0 +1.2
TCF Toulx Ste Croi 105.05 44 *e*P **Pdif** 01 25 00.3 +0.1
comp=Z,27nm,1.2s
TCF Toulx Ste Croi 105.05 44 *e*P **Pdif** 01 25 00.3 +0.1
TCF Toulx Ste Croi 105.05 44 *e*Pdif **Pdif** 01 25 00.3 +0.1
BGF Bois d'Agland 105.57 44 *e*P **Pdif** 01 25 02.7 +0.3
BGF Bois d'Agland 105.57 44 *e*P **Pdif** 01 25 02.7 +0.3
BGF Bois d'Agland 105.57 44 *e*Pdif **Pdif** 01 25 02.7 +0.3
HYF Humbligny 105.86 43 *e*P **Pdif** 01 25 04.2 +0.5
HYF Humbligny 105.86 43 *e*Pdif **Pdif** 01 25 04.2 +0.5
AVF Avril sur Loir 105.98 44 *e*P **Pdif** 01 25 03.5 -0.8
comp=Z,35nm,1.5s
AVF Avril sur Loir 105.98 44 *e*P **Pdif** 01 25 03.5 -0.8
AVF Avril sur Loir 105.98 44 *e*Pdif **Pdif** 01 25 03.5 -0.8
SMF Signal de Mont 106.18 44 *e*P **Pdif** 01 25 04.8 -0.4
comp=Z,22nm,1.1s
SMF Signal de Mont 106.18 44 *e*P **Pdif** 01 25 04.8 -0.4
SMF Signal de Mont 106.18 44 *e*Pdif **Pdif** 01 25 04.8 -0.4
LOR Lormes 106.54 44 *e*P **Pdif** 01 25 06.9 +0.1
comp=Z,26nm,1.2s
LOR *e*R
comp=Z,235nm,20.0s
LOR Lormes 106.54 44 *e*P **Pdif** 01 25 06.9 +0.1
LOR Lormes 106.54 44 *e*Pdif **Pdif** 01 25 06.9 +0.1
MBDF Montbardon 106.83 47 *e*P **Pdif** 01 25 10.1 +1.8
comp=Z,20nm,1.1s
MBDF Montbardon 106.83 47 *e*P **Pdif** 01 25 10.1 +1.8
MBDF Montbardon 106.83 47 *e*Pdif **Pdif** 01 25 10.1 +1.8
GEC2 GERESS Array S 113.01 46 *e*PKiKP **PKiKP** 01 29 29.5 -0.1
GERES GERESS Array B 113.01 46 PKiKP **PKiKP** 01 29 29.5 -0.1
comp=Z,2.1nm,0.8s,baz=202,slow=1.4,SNR=8.2
PKSM Moragy 114.83 50 ⇓PKIKP PKPdf 01 29 32.3 -0.7
PKSM Moragy 114.83 50 ⇓*i*P PKPdf 01 29 32.3 -0.7
ILAR Eielson Array 115.35 333 PKP **PKPdf** 01 29 33.1 -0.3
comp=Z,1.4nm,0.8s,baz=171,slow=1.9,SNR=15
ILAR pPKP **pPKiKP** 01 29 46.5 -0.5
comp=Z,1.4nm,0.8s,baz=200,slow=1.3,SNR=7.5
ILB Eielson Array 115.35 333 *e*PKPdf **PKPdf** 01 29 33.1 -0.3
ILB *e* 01 29 46.5
VYHS Vyhne 115.92 48 *e*PKIKP **PKPdf** 01 29 35.0 0.0
VYHS *e* 01 29 48.7
VYHS Vyhne 115.92 48 *e*PKP **PKPdf** 01 29 35.0 0.0
VYHS *e* 01 29 48.7
AS01 Alice Springs 116.44 207 *e*PKPdf **PKPdf** 01 29 35.6 -1.5
AS12 Alice Springs 116.45 207 *e*PKPdf **PKPdf** 01 29 36.3 -0.7
AS12 *e*PKKPbc **PKKPbc** 01 40 04.9 +0.4
ASAR Alice Springs 116.45 207 PKP **PKPdf** 01 29 36.3 -0.7
comp=Z,1.8nm,0.8s,baz=139,slow=1.8,SNR=16
ASAR PKKPbc **PKKPbc** 01 40 04.9 +0.4
comp=Z,1.3nm,0.6s,baz=339,slow=2.9,SNR=14
BZS Buzias 116.46 51 ⇑PKIKP **PKPdf** 01 29 36.2 0.0
BZS Buzias 116.46 51 ⇑*i*P **PKPdf** 01 29 36.2 0.0
NB200 NORSAR Array S 117.07 33 *e*PKPdf **PKPdf** 01 29 35.7 -1.2
NB200 *e*PP **PP** 01 30 50.2 +2.5
NOA NORSAR Array B 117.07 33 PKP **PKPdf** 01 29 35.7 -1.2
comp=Z,1.5nm,0.8s,baz=280,slow=2.3,SNR=4.2
NOA PP **PP** 01 30 50.2 +2.5
comp=Z,1.0nm,1.0s,baz=154,slow=12,SNR=3.3
GZR Gura Zlata 117.11 52 ⇑PKIKP **PKPdf** 01 29 37.4 -0.1
GZR Gura Zlata 117.11 52 ⇑*i*P **PKPdf** 01 29 37.4 -0.1
KDZ Kurdzhali 117.36 57 ⇑PKIKP **PKPdf** 01 29 37.3 -0.8
KDZ Kurdzhali 117.36 57 ⇑*i*P **PKPdf** 01 29 37.3 -0.8
DEV Deva 117.39 52 ⇓PKIKP **PKPdf** 01 29 38.3 +0.4
DEV Deva 117.39 52 ⇓*i*P **PKPdf** 01 29 38.3 +0.4
DRGR 117.63 51 ⇓PKIKP **PKPdf** 01 29 38.6 +0.1
DRGR 117.63 51 ⇓*i*P **PKPdf** 01 29 38.6 +0.1
TRPA Tarpa 118.04 49 ⇑*i*P **PKPdf** 01 29 39.2 +0.1
KOLS Kolonicke sedl 118.18 48 *e*PKIKP **PKPdf** 01 29 39.7 +0.3
KOLS Kolonicke sedl 118.18 48 *e*PKP **PKPdf** 01 29 39.7 +0.3
ARR Arges 118.31 53 ⇑*i*P **PKPdf** 01 29 39.7 -0.1
JMB Yambol 118.48 56 ⇑PKIKP **PKPdf** 01 29 36.9 -3.2
JMB Yambol 118.48 56 ⇑*i*P **PKPdf** 01 29 36.9 -3.2
VOIR 118.61 53 ⇑PKIKP **PKPdf** 01 29 40.4 0.0
VOIR 118.61 53 ⇑*i*P **PKPdf** 01 29 40.4 0.0
KWP Kalwaria Pacla 118.70 48 *e*PKIKP **PKPdf** 01 29 40.5 +0.1
KWP Kalwaria Pacla 118.70 48 *e*PKP **PKPdf** 01 29 40.5 +0.1
DOPR Dopca 119.03 52 ⇓*i*P **PKPdf** 01 29 41.2 +0.1
MLR Muntele Rosu 119.21 53 ⇓PKIKP **PKPdf** 01 29 41.3 -0.3
MLR Muntele Rosu 119.21 53 ⇓*i*P **PKPdf** 01 29 41.3 -0.3
MLR Muntele Rosu 119.21 53 PKP **PKPdf** 01 29 41.1 -0.6
comp=Z,1.2nm,0.7s,baz=67,slow=7.7
BUR04 Bucovina Ar. S 119.52 50 *e*PKPdf **PKPdf** 01 29 42.3 +0.1
BURAR Bucovina Array 119.52 50 ⇓PKIKP **PKPdf** 01 29 41.9 -0.2
BURAR Bucovina Array 119.52 50 ⇓*i*P **PKPdf** 01 29 41.9 -0.2
WRA Warramunga Arr 119.67 209 PKP **PKPdf** 01 29 42.8 -0.5
comp=Z,4.8nm,0.7s,baz=166,slow=1.6,SNR=54
WRA pPKP **pPKPdf** 01 29 55.0 -1.8
comp=Z,2.7nm,0.9s,baz=167,slow=1.4,SNR=5.6
WRA PKKPbc **PKKPbc** 01 39 52.1 -0.8
comp=Z,1.0nm,0.9s,baz=349,slow=4.1,SNR=5.5
PLOR Plostina 119.80 53 ⇓PKIKP **PKPdf** 01 29 41.7 -0.9
PLOR Plostina 119.80 53 ⇓*i*P **PKPdf** 01 29 41.7 -0.9
VRI Vrincioaia 119.86 53 ⇑PKIKP **PKPdf** 01 29 41.9 -0.8
VRI Vrincioaia 119.86 53 ⇑*i*P **PKPdf** 01 29 41.9 -0.8
TESR Tescani 120.04 52 ⇓*i*P **PKPdf** 01 29 42.8 -0.2
PRAR RASCA 120.07 51 ⇓*i*P **PKPdf** 01 29 43.0 -0.1
TIRR Tirgusor 120.46 55 ⇑PKIKP **PKPdf** 01 29 43.3 -0.6
TIRR Tirgusor 120.46 55 ⇑*i*P **PKPdf** 01 29 43.3 -0.6
SUW Suwalki 120.50 43 *e*PKIKP **PKPdf** 01 29 43.3 -0.4
SUW Suwalki 120.50 43 *e*PKP **PKPdf** 01 29 43.2 -0.4
SUW Suwalki 120.50 43 *e*PKPdf **PKPdf** 01 29 43.0 -0.7
CFR Carcaliu 120.54 54 ⇑PKIKP **PKPdf** 01 29 43.8 -0.2
CFR Carcaliu 120.54 54 ⇑*i*P **PKPdf** 01 29 43.8 -0.2
TLCR 120.99 54 ⇑PKIKP **PKPdf** 01 29 45.0 +0.1
TLCR 120.99 54 ⇑*i*P **PKPdf** 01 29 45.0 +0.1
MMAI Mount Meron Ar 121.14 70 PKP **PKPdf** 01 29 45.5 -0.2
comp=Z,14nm,0.9s,baz=103,slow=2.9,SNR=4.7
BR231 Keskin MP Arra 121.83 61 *e*PKPdf **PKPdf** 01 29 47.3 +0.4
ANTO Ankara 121.85 61 ⇑PKIKP **PKPdf** 01 29 46.0 -0.8
ANTO Ankara 121.85 61 ⇑*i*P **PKPdf** 01 29 46.0 -0.8
ANTO Ankara 121.85 61 *e*PKPdf **PKPdf** 01 29 47.1 +0.3
ASF Jabal al Asfar 121.95 71 PKP **PKPdf** 01 29 47.2 -0.1
comp=Z,4.3nm,0.9s,baz=285,slow=21,SNR=4.0
PMG Port Moresby 122.20 227 *i* PKIKP **PKPdf** 01 29 48.3 +0.1
PMG pmax pmax
comp=Z,13nm,1.7s
BR101 Keskin Array S 122.40 62 *e*PKPdf **PKPdf** 01 29 47.8 -0.2
BR101 epPKPdf **pPKPdf** 01 30 01.3 -0.2
BRTR Keskin Array B 122.40 62 PKP **PKPdf** 01 29 47.8 -0.2
comp=Z,8.0nm,0.7s,baz=193,slow=3.1,SNR=63
BRTR pPKP **pPKPdf** 01 30 01.3 -0.2
comp=Z,3.1nm,0.8s,baz=200,slow=3.9,SNR=6.7
AK11 Malin Array Si 122.97 48 *e*PKPdf **PKPdf** 01 29 47.1 -1.3
KIEV Kiev 123.00 48 ⇑*i*PKIKP **PKPdf** 01 29 47.6 -0.9
KIEV Kiev 123.00 48 *e*PKPdf **PKPdf** 01 29 47.4 -1.1

AKASG Malin Array Be 123.01 48 PKP **PKPdf** 01 29 47.6 -1.0
comp=Z,6.8nm,0.7s,baz=260,slow=2.8,SNR=58
AKASG pPKP **pPKPdf** 01 30 01.0 -1.1
comp=Z,3.0nm,0.7s,baz=268,slow=2.6,SNR=6.1
AKASG PP **PP** 01 31 30.5 +1.7
comp=Z,0.7nm,0.7s,baz=252,slow=6.0,SNR=4.1
AKBB Malin Array Si 123.01 48 *e*PKIKP **PKPdf** 01 29 47.6 -1.0
AKBB *e* 01 30 01.0
AKBB *e* 01 31 30.5
AKBB Malin Array Si 123.01 48 *e*PKPdf **PKPdf** 01 29 47.6 -1.0
AKBB *ep*PKPdf **pPKPdf** 01 30 01.0 -1.1
AKBB *e*PP **PP** 01 31 30.5 +1.7
MNK Minsk 123.25 43 *e*PKIKP **PKPdf** 01 29 47.0 -1.9
MICGM Minsk 123.28 43 *e* **PKPdf** 01 29 47.0 -2.0
VSU Vasula 123.66 39 *i* PKIKP **PKPdf** 01 29 49.2 -0.3
TNA Tin City 123.92 330 *e*PKPdf **PKPdf** 01 29 50.0 +0.2
FIA0 FINESS Array S 124.01 35 *e*PKIKP **PKPdf** 01 29 49.9 -0.2
FIA0 FINESS Array S 124.01 35 *e*PKPdf **PKPdf** 01 29 49.9 -0.2
FINES FINESS Array B 124.01 35 PKP **PKPdf** 01 29 49.9 -0.2
comp=Z,3.2nm,0.8s,baz=170,slow=3.3,SNR=7.7
KAF Kangasniemi 124.25 34 *e*PKIKP **PKPdf** 01 29 49.4 -1.2
KAF Kangasniemi 124.25 34 *ep* **PKPdf** 01 29 49.4 -1.2
FITZ Fitzroy Crossi 124.34 200 *e*PKPdf **PKPdf** 01 29 51.9 -0.3
SIM Simferopol' 124.47 56 *i* PKIKP **PKPdf** 01 29 51.6 0.0
SIM *e* 01 30 07.0
SIM *e* 01 31 41.0
SIM pmax pmax
comp=Z,12nm,0.8s
RAYN Ar Rayn 125.08 84 *e*PKPdf **PKPdf** 01 29 53.9 +0.4
ARA0 ARCESS Array S 125.15 25 *e*PKPdf **PKPdf** 01 29 51.4 -0.8
ARCES ARCESS Array B 125.15 25 PKP **PKPdf** 01 29 51.4 -0.8
comp=Z,4.4nm,0.9s,baz=252,slow=2.3,SNR=5.1
GAMB Gambell 125.20 328 *e*PKPdf **PKPdf** 01 29 52.6 +0.3
MALT Malatya 125.41 65 ⇓PKIKP **PKPdf** 01 29 54.4 +0.7
MALT Malatya 125.41 65 ⇓*i*P **PKPdf** 01 29 54.4 +0.7
H11N3 WAKE ISLAND Hyl 126.23 270 T T 03 48 39.0
baz=116,slow=78,SNR=9.2
H11N1 WAKE ISLAND Hyl 126.25 270 T T 03 48 46.6
baz=116,slow=78,SNR=18
H11N2 WAKE ISLAND Hyl 126.25 270 T T 03 48 37.3
baz=116,slow=78,SNR=12
JOF Joensuu 126.68 34 *e*PKIKP **PKPdf** 01 29 54.6 -0.6
JOF Joensuu 126.68 34 *ep* **PKPdf** 01 29 54.6 -0.6
ANN Anapa 126.68 57 *i* PKIKP **PKPdf** 01 29 55.4 -0.4
ANN pmax pmax
comp=Z,41nm,1.2s
SOC Sochi 127.94 59 *i* PKIKP **PKPdf** 01 29 59.1 +0.9
SOC *e* 01 32 00.5
SOC *e*PPP PPP 01 34 42.1
SOC *e*SSS SSS 01 54 02.8
SOC pmax pmax
comp=Z,25nm,0.6s
OBN Obninsk 128.32 44 ⇓*i*PKIKP **PKPdf** 01 29 58.2 -0.4
OBN *i* 01 30 12.9
OBN pmax pmax
comp=Z,28nm,1.5s
OBN MLR MLR
comp=Z,153nm,19.0s
OBN Obninsk 128.32 44 PKP **PKPdf** 01 29 59.1 +0.5
comp=Z,4.5nm,0.6s,baz=161,slow=19,SNR=5.4
OBN Obninsk 128.32 44 *e*PKPdf **PKPdf** 01 29 58.7 +0.2
MOS Moscow 129.01 43 *e*PKIKP PKPdf 01 30 18.2 +18
VSR Storozhevoye 129.25 49 *e*PKIKP **PKPdf** 01 29 59.8 -0.7
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,2.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 130.11 59 *e*PKIKP **PKPdf** 01 30 02.7 +0.2
KIV Kislovodsk 130.11 59 *e*PKPdf **PKPdf** 01 30 02.7 +0.2
KBZ Khabaz 130.21 59 PKP **PKPdf** 01 30 03.5 +1.0
comp=Z,6.9nm,0.8s,baz=235,slow=2.1,SNR=17
ONI Oni 130.33 61 P **PKPdf** 01 30 03.2 +0.3
KLMR Klimovskoe 130.40 37 *e*PKIKP **PKPdf** 01 30 01.1 -1.3
KLMR pmax pmax
comp=Z,50nm,1.6s
GOF Gofitskoye 130.61 58 ⇓*i*PKIKP **PKPdf** 01 30 04.2 +0.9
GOF pmax pmax
comp=Z,39nm,1.0s
GNI Garni 130.64 64*c* *i*PKIKP **PKPdf** 01 30 04.7 +1.0
GNI pmax pmax
comp=Z,31nm,1.7s
GNI Garni 130.64 64 PKP **PKPdf** 01 30 04.9 +1.2
comp=Z,7.2nm,0.8s,baz=338,slow=2.9,SNR=11
GNI Garni 130.64 64 *e*PKPdf **PKPdf** 01 30 04.1 +0.4
NCK Nalchik 130.65 60 *i* PKIKP **PKPdf** 01 30 02.5 -1.0
VRHR Novokhopersk 130.75 50 *e*PKIKP **PKPdf** 01 30 03.5 +0.2
VRHR pmax pmax
comp=N,3.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=E,5.0nm,0.8s
TBLG Delisi 131.04 62 P **PKPdf** 01 30 05.2 +0.9
DUS Dusheti 131.10 62 P **PKPdf** 01 30 03.9 -0.6
DGRG David-gareji 131.43 63 P **PKPdf** 01 30 02.8 -2.3
PRGR Permogore 133.33 36 *e*PKIKP **PKPdf** 01 30 07.0 -0.9
PRGR pmax pmax
comp=Z,16nm,0.8s
BILL Bilibino 134.00 334 ⇑*i*PKIKP **PKPdf** 01 30 10.5 +1.5
BILL *i* 01 30 23.4
BILL pmax pmax
comp=Z,17nm,1.8s
BILL Bilibino 134.00 334 *e*PKPdf **PKPdf** 01 30 09.2 +0.2
GEYT Alibeck 140.23 71 PKhKP PKPpre 01 30 13.1
comp=Z,2.5nm,0.6s,baz=270,slow=3.9,SNR=10
GEYT PKP **PKPdf** 01 30 22.4 +0.9
comp=Z,11nm,0.7s,baz=270,slow=1.5,SNR=14
ARU Arti 140.67 42 *i* PKIKP **PKPdf** 01 30 22.5 +0.9
ARU 01 33 18.4
ARU Arti 140.67 42 *e*PKPpre PKPpre 01 30 13.4
PEA0 Petropavlovsk- 141.07 313 *e*PKPdf **PKPdf** 01 30 20.6 -1.9
AKTO Aktyubinsk 141.11 51 PKhKP PKPpre 01 30 14.4
comp=Z,6.4nm,0.8s,baz=271,slow=3.7,SNR=22
SEY Seymchan 141.16 329 PKhKP PKPpre 01 30 14.3
comp=Z,2.4nm,0.6s,baz=52,slow=8.3,SNR=8.0
SEY PKP **PKPdf** 01 30 22.6 +0.2
comp=Z,7.0nm,0.8s,baz=98,slow=4.6,SNR=16
TIXI Tiksi 141.96 349 *i* PKIKP **PKPdf** 01 30 23.2 -0.3
AB31 Akbulak array 142.42 53 *i* PKHKP PKPpre 01 30 19.0
AB31 pmax pmax
comp=Z,23nm,0.7s
ABKAR Akbulak array 142.42 53 *e*PKPpre PKPpre 01 30 19.9
BKNI Bangkinang 144.62 168 *e*PKPdf **PKPab** 01 30 28.1 -0.4
GSI Gunungsitoli 144.83 162 *e*PKPdf **PKPdf** 01 30 30.4 0.0
KSM Kuching 146.30 184 *e*PKPdf **PKPdf** 01 30 33.0 +0.1
MYKOM Kota Tinggi 146.46 172 *e*PKPdf **PKPdf** 01 30 33.1 0.0
SBUM Sibu 147.10 188 *e*PKPdf **PKPdf** 01 30 34.8 +0.5
BRVK Borovoye 148.10 44*c* *i*PKIKP **PKPdf** 01 30 33.7 -0.9
BRVK Borovoye 148.10 44 *e*PKPdf **PKPdf** 01 30 35.5 +0.8
BRVK *e*PKPbc **PKPbc** 01 30 38.4 +0.5
KBL Kabul 148.16 80 *e*PKIKP **PKPdf** 01 30 36.0 +0.3
KBL *e* 01 30 38.9
KBL Kabul 148.16 80 *e*PKPdf **PKPdf** 01 30 36.0 +0.3
KBL *e*PKPbc **PKPbc** 01 30 38.9 0.0
BVA0 Borovoye Array 148.17 44 *i* PKIKP **PKPdf** 01 30 35.3 +0.5
BVA0 pmax pmax
comp=Z,32nm,0.8s
BVAR Borovoye Array 148.17 44 PKPbc **PKPdf** 01 30 35.4 +0.7
comp=Z,19nm,0.7s,baz=266,slow=2.4,SNR=39
HYB Hyderabad 148.34 117 *i* PKP **PKPdf** 01 30 35.0 -1.2
MYLDM Lahad Datu 148.52 200 *e*PKPdf **PKPbc** 01 30 38.8 -1.4
MYLDM *e*PKPbc **PKiKP** 01 30 41.5 -0.2
VOSK Vostochnaya 148.61 45 *e*PKIKP **PKPdf** 01 30 35.9 +0.4
VOSK *e* 01 30 39.9
VOSK Vostochnaya 148.61 45 *e*PKPdf **PKPdf** 01 30 35.9 +0.4
VOSK *e*PKPbc **PKPbc** 01 30 39.9 +0.6
IPM Ipoh 148.68 166 *e*PKPdf **PKPdf** 01 30 36.7 -0.2
IPM *e*PKPbc **PKPbc** 01 30 40.1 -0.5
KULM Kulim 149.39 165 *e*PKPdf **PKPdf** 01 30 37.0 -1.0
KULM *e*PKPbc **PKPbc** 01 30 42.0 -0.3
YUK Yuzh-Kuril'sk 149.80 298 PKIKP **PKPdf** 01 30 34.7 -2.9
YUK *e* 01 37 47.5
YUK *e*SS SS 01 53 34.7 +5.0
KKM Kota Kinabalu 149.94 196 *e*PKPdf **PKPdf** 01 30 37.2 -1.8
KKM *e*PKPbc **PKPbc** 01 30 43.7 -0.2
YAK Yakutsk 149.94 340 *e*PKHKP **PKPbc** 01 30 41.4 -0.8
YAK pmax pmax
comp=Z,88nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=Z,128nm,1.3s
YAK Yakutsk 149.94 340 *e*PKPdf **PKPdf** 01 30 36.8 -0.5
YAK *e*PKPbc **PKPbc** 01 30 42.1 -0.1
KK31 Karatay Array 150.09 63 *i* PKHKP **PKPbc** 01 30 42.3 -1.0
KK31 pmax pmax
comp=Z,61nm,1.1s
KKAR Karatay Array 150.09 63 *e*PKPdf **PKPdf** 01 30 38.3 +0.1
KKAR *e*PKPbc **PKPbc** 01 30 43.4 +0.1
PKDT Phuket 151.33 160 PKP **PKPbc** 01 30 46.9 -0.1
YSS Yuzh-Sakhalins 151.58 305 *e*PKIKP **PKPbc** 01 30 46.3 -0.3
YSS pmax pmax
comp=Z,40nm,0.9s
YSS Yuzh-Sakhalins 151.58 305 *e*PKPdf **PKPdf** 01 30 40.0 -0.3
YSS *e*PKPbc **PKPbc** 01 30 46.4 -0.1
ASAJ Asahikawa 152.14 299 PKPbc **PKPbc** 01 30 48.0 0.0
comp=Z,37nm,1.1s,baz=204,slow=6.1,SNR=8.2
ASAJ Asahikawa 152.14 299 *e*PKPdf **PKPdf** 01 30 42.1 +0.9
ASAJ *e*PKPbc **PKiKP** 01 30 48.4 +0.2
SURT Suratani 152.48 160 PKP **PKPbc** 01 30 49.5 -0.1
AML Almayashu 152.48 65 P **PKPdf** 01 30 43.0 +0.7
SNR=6.2
EKS2 Erkin-Say 152.51 64 P **PKPbc** 01 30 50.0 +1.0
SNR=5.5
EKS2 Erkin-Say 152.51 64 *e*PKIKP **PKPdf** 01 30 43.1 +1.0
EKS2 *e* 01 30 49.9
EKS2 Erkin-Say 152.51 64 *e*PKPdf **PKPdf** 01 30 43.1 +1.0
EKS2 *e*PKPbc **PKiKP** 01 30 49.9 +0.6
USP Ospenovka 152.99 63 P **PKPbc** 01 30 50.4 +0.4
SNR=17
AAK Ala-Archa 153.04 64 P **PKPbc** 01 30 51.2 +1.0
SNR=5.6
AAK Ala-Archa 153.04 64 *e*PKIKP **PKPdf** 01 30 43.8 +0.9
AAK *e* 01 30 51.3
AAK Ala-Archa 153.04 64 PKP **PKPdf** 01 30 43.0 +0.1
comp=Z,3.3nm,0.8s,baz=21,slow=2.5,SNR=9.4
AAK PKPbc **PKPbc** 01 30 51.2 +1.0
comp=Z,66nm,0.7s,baz=178,slow=2.2,SNR=116
AAK Ala-Archa 153.04 64 *e*PKPdf **PKPdf** 01 30 43.8 +0.9
AAK *e*PKPbc **PKPbc** 01 30 51.3 +1.0
UCH Uchtor 153.09 65 P **PKPdf** 01 30 44.5 +1.1
SNR=7.0
FRU Bishkek 153.12 64 *e*PKIKP **PKPbc** 01 30 50.0 -0.2
FRU pmax pmax
comp=Z,114nm,1.8s
NDI New Delhi 153.13 95 *e*P **PKPbc** 01 30 51.0 +0.3
CHMS Chumysh 153.20 63 P **PKPbc** 01 30 50.9 +0.4
SNR=14
KBK Karagaybulak 153.37 64 P **PKPbc** 01 30 51.8 +0.8
SNR=10
KZA Kyzart 153.64 65 P **PKPdf** 01 30 45.5 +1.4
SNR=5.5
KURK Kurchatov 153.76 45 *e*PKIKP **PKPdf** 01 30 43.5 +0.1
KURK *e* 01 30 51.6
KURK Kurchatov 153.76 45 *e*PKPdf **PKPdf** 01 30 43.5 +0.1
KURK *e*PKPbc **PKiKP** 01 30 51.6 +0.3
TKM2 Tokmak 2 153.82 63 P **PKPdf** 01 30 44.4 +0.3
SNR=8.8
TKM2 Tokmak 2 153.82 63 *e*PKIKP **PKPdf** 01 30 44.1 0.0
TKM2 *e* 01 30 52.1
TKM2 Tokmak 2 153.82 63 *e*PKPdf **PKPdf** 01 30 44.1 0.0
TKM2 *e*PKPbc **PKiKP** 01 30 52.1 0.0
NVS Novosibirsk 153.99 34 ⇑*i*PKIKP **PKPdf** 01 30 42.6 -1.0
NVS *e* 01 34 42.0
NVS pmax pmax
comp=Z,50nm,1.1s
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,12nm,1.4s
KSH Kashi 154.27 71 PKPbc **PKPdf** 01 30 45.1 +0.4
KSH sPKP 01 31 00.0
KSH PKS **PKSdf** 01 34 18.3 -0.7
KSH PP **PP** 01 34 40.0 -2.8
KSH SKS **SKSdf** 01 37 47.1 -0.9
KSH SKKS **SKKSac** 01 41 28.3 -0.5
KSH SS **SS** 01 54 15.1 -4.5
KSH LN
comp=E,83nm,6.1s
KSH LE
comp=E,260nm,16.3s
KSH LZ
comp=E,160nm,5.6s
ULHL Ulahol 154.36 65 P **PKPdf** 01 30 45.7 +0.9
SNR=5.4
ZAA1 Zalesovo Array 155.26 34 *e*PKPdf **PKPdf** 01 30 44.8 -0.6
ZAA1 *e*PKPbc PKPbc 01 30 54.3
ZAA1 *e*PKPab **PKPab** 01 31 09.3 -1.4
ZAA0 Zalesovo Array 155.27 34 *e*PKPdf **PKPdf** 01 30 44.5 -0.9
ZAA0 *e*PKPbc PKPbc 01 30 54.2
ZALV Zalesovo Beam 155.27 34 PKP **PKPdf** 01 30 44.8 -0.6
comp=E,8.7nm,0.9s,baz=279,slow=2.9,SNR=37
ZALV PKPbc PKPbc 01 30 54.3
comp=E,9.5nm,0.8s,baz=298,slow=3.2,SNR=16
ZALV PKPab **PKPab** 01 31 09.3 -1.4
comp=E,21nm,0.7s,baz=305,slow=5.2,SNR=17
MJAR Matsushiro Arr 155.56 282 PKPab **PKPab** 01 31 10.7 -1.9
comp=E,4.8nm,0.9s,baz=96,slow=1.9,SNR=4.9
MK31 Makanchi Array 157.54 51 *i* PKIKP **PKPdf** 01 30 48.2 -0.5
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MK32 Makanchi Array 157.54 51 *e*PKPdf **PKPdf** 01 30 48.4 -0.2
MK32 *e*PKPab **PKPab** 01 31 20.5 -0.3
MKAR Makanchi Array 157.54 51 PKP **PKPdf** 01 30 48.4 -0.2
comp=Z,2.6nm,0.8s,baz=348,slow=0.4,SNR=28
MKAR PKPab **PKPab** 01 31 20.5 -0.3
comp=Z,19nm,0.8s,baz=292,slow=4.4,SNR=23
MK01 Makanchi Array 157.56 51 *e*PKPdf **PKPdf** 01 30 48.5 -0.2
KLR Kul'dur 157.70 316 *e*PKP2 **PKPab** 01 31 25.3 +4.0
KOLN Koldanda 157.91 103 *e*P **PKPdf** 01 30 49.4 -0.6
comp=Z,24nm,0.9s
DANN Dangsing 158.29 102 *e*P **PKPdf** 01 30 50.4 -0.1
comp=Z,73nm,0.8s
GKN Gorkha 158.84 104 *e*P **PKPdf** 01 30 50.4 -0.6
comp=Z,35nm,1.0s
DMN Daman 159.04 105 *e*P **PKPdf** 01 30 51.1 -0.3
PKIN Phulchoki 159.25 105 *e*P **PKPdf** 01 30 52.0 +0.3
KKN Kakani 159.26 105 *e*P **PKPdf** 01 30 51.5 -0.1
PKI Pulchoki 159.26 105 *e*P **PKPdf** 01 30 51.2 -0.5
UMPA Umpang Tak 159.31 154 PKP **PKPdf** 01 30 53.3 +1.6
USRK Ussuriysk Ar. 159.58 303 PKPab **PKPab** 01 31 30.6 +1.0
comp=Z,2.5nm,0.7s,baz=36,slow=6.0,SNR=4.2
GUN Gumba 159.78 105 *e*P **PKPdf** 01 30 52.1 -0.3
RAMN Ramite 159.90 108 *e*P **PKPdf** 01 30 52.5 +0.1
comp=Z,44nm,1.0s
JIRN Jiri 159.91 106 *e*P **PKPdf** 01 30 52.2 -0.3
comp=Z,18nm,0.9s
ODAN Odare 160.46 110 *e*P **PKPdf** 01 30 53.1 +0.1
MHMT Maesarieng 160.75 150 PKP **PKPdf** 01 30 53.8 +0.6
TAPN Taplejung 160.95 109 *e*P **PKPdf** 01 30 52.7 -0.9
MDJ Mudanjiang 161.06 306 PKP **PKPdf** 01 30 52.9 +0.1
UTTA Uttaradit 161.31 157 PKP **PKPdf** 01 30 54.3 +0.5
CM01 Chiang Mai Arr 161.38 152 *e*PKPdf **PKPdf** 01 30 53.7 -0.2
CM31 Chiang Mai Arr 161.41 152 *e*PKPdf **PKPdf** 01 30 54.0 +0.1
CM31 *e*PKPab **PKPab** 01 31 37.8 -0.3
CMAR Chiang Mai Arr 161.41 152 PKP **PKPdf** 01 30 54.0 +0.1
comp=Z,5.7nm,0.9s,baz=244,sl

TLY			*e*PKPab	**PKPab**	**01 31 46.5**	**+0.9**
CRAI	**Chiangrai**	**163.56 154**	PKP	**PKPdf**	**01 30 55.3**	**-0.7**
KSRS	**Korea Array**	**163.82 284**	PKPab	**PKPab**	**01 31 49.8**	**+1.4**
comp=Z,5.6nm,1.0s,baz=75,slow=5.7,SNR=6.1						
KS01	**Wonju Array Si**	**163.84 284**	*e*PKPdf	**PKPdf**	**01 30 54.5**	**-1.3**
KS01			*e*PKPab	**PKPab**	**01 31 50.0**	**+1.4**
KS15	**Wonju Array Si**	**163.85 283**	*e*PKPab	**PKPab**	**01 31 49.8**	**+1.2**
CN2	**Changchun**	**164.11 308**	*e*PKP	PKPdf	01 30 49.0	-6.8
CN2			*e*pPKP	pPKPdf	01 30 59.8	-10
ZAK	**Zakamensk**	**164.51 11**	*e*PKP2	**PKPab**	**01 31 51.0**	**-0.1**
ZAK			pmax	pmax		
comp=Z,9.0nm,1.1s						
LSA	**Lhasa**	**164.72 107**	*e*PKIKP	**PKPdf**	**01 30 56.8**	**-0.6**
LSA			*e*		01 31 53.9	
LSA	**Lhasa**	**164.72 107**	*e*PKPdf	**PKPdf**	**01 30 56.8**	**-0.6**
LSA			*e*PKPab	**PKPab**	**01 31 53.9**	**+0.7**
SONA1	**Songino Array**	**167.38 5**	*e*PKPdf	**PKPdf**	**01 30 57.2**	**-1.4**
SONA1			*e*PKPab	**PKPab**	**01 32 04.4**	**+0.6**
SONA0	**Songino Array**	**167.40 5**	*e*PKPdf	**PKPdf**	**01 30 57.9**	**-0.6**
SONA0			*e*PKPab	**PKPab**	**01 32 04.6**	**+0.7**
SONM	**Songino Array**	**167.40 5**	PKP	**PKPdf**	**01 30 57.9**	**-0.6**
comp=Z,1.0nm,0.9s,baz=207,slow=1.7,SNR=4.8						
SONM			PKPab	**PKPab**	**01 32 04.6**	**+0.7**
comp=Z,11nm,0.8s,baz=326,slow=3.8,SNR=37						
ULN	**Ulaanbaatar**	**167.40 3**	*e*PKP2	**PKPab**	**01 32 04.7**	**+0.8**
ULN	**Ulaanbaatar**	**167.40 3**	*e*PKPab	**PKPab**	**01 32 04.7**	**+0.8**
KMI	**Kunming**	**168.90 154**	PKP	**PKPdf**	**01 31 00.0**	**-0.4**
KMI			PP	**PP**	**01 36 03.5**	**+3.7**
KMI			SKKS		01 42 44.5	
KMI			LZ			
comp=Z,140nm,23.9s						
NJ2	**Nanjing**	**170.42 253**	*e*PKP	**PKPdf**	**01 31 00.8**	**+0.1**
GYA	**Guiyang**	**171.13 172**	PKP	**PKPdf**	**01 31 01.6**	**+0.1**
GYA			pPKP	**pPKPdf**	**01 31 14.0**	**-1.1**
GYA			PP	PP	01 36 15.8	+5.2
GYA			SKKS		01 42 55.5	
GYA			SS	**SS**	**01 57 13.4**	**+1.9**
GYA			PPMZ			
comp=Z,160nm,8.3s						
GYA			LN			
comp=Z,150nm,22.4s						
GYA			LE			
comp=Z,130nm,21.2s						
GYA			LZ			
comp=Z,160nm,24.0s						
GTA	**Gaotai**	**172.27 55**	*e*PKP	**PKPdf**	**01 31 02.2**	**+0.5**
GTA			pPKP	**pPKPdf**	**01 31 12.4**	**-2.9**
GTA			sPKP		01 31 16.8	
GTA			PKPab	**PKPab**	**01 32 26.4**	**+0.5**
HHC	**Hu-ho-hao-te**	**173.78 334**	*e*PKP	**PKPdf**	**01 31 03.7**	**+1.5**
HHC			PKS	**PKSdf**	**01 34 34.5**	**+0.1**
HHC			PP	**PP**	**01 36 29.0**	**+5.1**
HHC			SKS	**SKSdf**	**01 38 01.6**	**-0.2**
HHC			SS	**SS**	**01 57 40.2**	**+2.4**
HHC			PPMZ			
comp=Z,79nm,5.4s						
HHC			LN			
comp=Z,260nm,19.8s						
HHC			LE			
comp=Z,280nm,21.0s						
HHC			LZ			
comp=Z,180nm,20.4s						
CD2	**Chengdu**	**174.36 139**	*e*PKP	**PKPdf**	**01 31 03.1**	**+0.5**
CD2			sPKP		01 31 19.8	
CD2			PKPab	**PKPab**	**01 32 37.8**	**+2.6**
CD2			PP	**PP**	**01 36 27.8**	**+0.7**
CD2			SKS	**SKSdf**	**01 37 59.3**	**-3.0**
CD2			SKKS	**SKKSac**	**01 43 07.6**	**-2.8**
CD2			SS	**SS**	**01 57 44.4**	**+0.3**
CD2			PPMZ			
comp=Z,90nm,11.2s						
CD2			LE			
comp=Z,170nm,20.2s						
CD2			LZ			
comp=Z,200nm,17.8s						
LZH	**Lanzhou**	**176.50 75**	*e*PKP	**PKPdf**	**01 31 03.4**	**+0.2**
LZH			pPKP	**pPKPdf**	**01 31 14.5**	**-2.3**
LZH			sPKP		01 31 19.9	
LZH			PP	**PP**	**01 36 37.1**	**-1.4**
LZH			SKKS		01 43 24.3	
LZH			PPMZ			
comp=Z,230nm,6.4s						

*IDC **01** 01:15:07.8±0.6, 35°.13S×74°.02W, h0km, mb4.6/17, mb1 4.8/19, mb1mx4.6/36, mbtmp4.6/19, ML4.7/2, MS4.3/1, Ms1 4.3/1, ms1mx3.3/24, Error ellipse: s-maj=22.6km s-min=15.1km az=67.0*

*ISCJB **01** 01:15:12.1±0.4, 34°.99S±0°.08×73°.7W±0°.1, h33km, mb4.8/39, Error ellipse: s-maj=12.5km s-min=10.7km az=140.2*

*NEIC **01** 01:15:12.8±0.2, 35°.17S×73°.82W, h35km, mb5.0/25, Error ellipse: s-maj=8.8km s-min=5.4km az=67.0*

ISC 01 01:15:13.0±0.5, 35°.21S±0°.07×73°.94W±0°.10, h35km, n457, σ0=63/454, mb4.8/39, 150C-211D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.97**	**55**	Pn	**Pn**	**01 16 38.6**	**-0.4**
0.5nm,0.3s,baz=210,slow=16,SNR=3.7							
CFAA				Sn	**Sn**	**01 17 47.7**	**+1.6**
4.2nm,0.3s,baz=356,slow=13,SNR=7.2							
PLCA	**Paso Flores**	**6.13**	**155**	Pn	**Pn**	**01 16 40.1**	**-0.9**
8.1nm,0.3s,baz=327,slow=13,SNR=13							
LPAZ	**La Paz**	**19.55**	**17**	P	**P**	**01 19 38.2**	**-0.1**
0.5nm,0.3s,baz=178,slow=8.8,SNR=6.1							
LPAZ	**La Paz**	**19.55**	**17**	P	**P**	**01 19 35.8**	**-2.6**
8.9nm,0.7s							
USHA	**Ushuaia**	**19.99**	**171**	P	**P**	**01 19 40.2**	**-2.0**
26nm,0.9s,baz=354,slow=2.8,SNR=4.6							
SIV	**San Ignacio**	**22.34**	**34**	P	**P**	**01 20 05.5**	**-2.4**
18nm,1.1s,baz=256,slow=13,SNR=4.5							
NNA	**Nana**	**23.27**	**353**	P	**P**	**01 20 16.4**	**-1.1**
19nm,0.8s,baz=198,slow=12,SNR=7.8							
OTAV	**Otavalo**	**35.52**	**352**	*e*P	**P**	**01 22 07.8**	**+0.6**
23nm,1.4s							
ROSC	**El Rosal**	**39.86**	**359**	LR	LR	01 37 34.9	
comp=Z,399nm,21.4s,baz=194,slow=34							
SNAA	**Sanae**	**51.06**	**157**	P	**P**	**01 24 12.7**	**+1.3**
4.9nm,1.2s,baz=242,slow=9.0,SNR=4.1							
SNAA	**Sanae**	**51.06**	**157**	*e*P	**P**	**01 24 12.2**	**+0.8**
APG	**El Apazote**	**52.34**	**340**	P	P	01 24 17.8	-4.0
7.5nm,0.8s,baz=167,slow=8.1,SNR=8.4							
QSPA	**South Pole Qui**	**55.03**	**180**	P	**P**	**01 24 41.6**	**+0.8**
12nm,0.9s,baz=174,slow=5.0,SNR=4.7							
QSPA	**South Pole Qui**	**55.03**	**180**	*e*P	**P**	**01 24 41.4**	**+0.6**
14nm,0.9s							
TEIG	**Tepich**	**56.79**	**344**	P	**P**	**01 24 52.6**	**-1.0**
12nm,0.7s,baz=5.0,slow=5.0,SNR=8.8							
TEIG	**Tepich**	**56.79**	**344**	*e*P	**P**	**01 24 53.0**	**-0.6**
17nm,0.8s							
H06S1	**SOCORRO T**	**64.13**	**321**	T	T	02 37 12.3	
SNR=10							
034A	**Hebbronville**	**66.21**	**336**	⇑P	**P**	**01 25 57.5**	**+0.3**
baz=66							
934A	**Benavides**	**66.65**	**336**	⇓P	**P**	**01 26 00.3**	**+0.3**
baz=67							
933A	**Laredo**	**66.92**	**336**	⇑P	**P**	**01 26 02.6**	**+0.8**
baz=67							
835A	**Beeville**	**67.07**	**337**	⇓P	**P**	**01 26 03.1**	**+0.4**
baz=67							
834A	**Tilden**	**67.15**	**336**	⇓P	**P**	**01 26 03.9**	**+0.8**
baz=68							
833A	**Chaparral WMA,**	**67.61**	**336**	⇓P	**P**	**01 26 06.2**	**+0.1**
baz=68,SNR=7.4							
832A	**Faith Ranch, C**	**67.77**	**335**	⇑P	**P**	**01 26 07.2**	**0.0**
baz=68,SNR=8.1							
734A	**La Parita Cree**	**67.82**	**337**	⇑P	**P**	**01 26 07.8**	**+0.4**
baz=68							
636A	**Smothers Creek**	**67.94**	**338**	⇑P	**P**	**01 26 08.8**	**+0.7**
baz=68							
733A	**Divot King Ran**	**67.94**	**336**	⇓P	**P**	**01 26 08.6**	**+0.5**
baz=68							
732A	**Laxson Ranch,**	**68.18**	**335**	⇓P	**P**	**01 26 09.8**	**+0.2**
baz=68,SNR=11							
634A	**China Grove, S**	**68.25**	**337**	⇑P	**P**	**01 26 10.3**	**+0.2**
baz=69							
537A	**Green Hill Far**	**68.28**	**339**	⇓P	**P**	**01 26 10.9**	**+0.6**
baz=69							
536A	**Bastrop**	**68.50**	**339**	⇑P	**P**	**01 26 12.1**	**+0.5**
baz=69							
633A	**Saathoff Ranch**	**68.59**	**336**	⇓P	**P**	**01 26 12.6**	**+0.4**
baz=69							
535A	**Dale**	**68.61**	**338**	⇓P	**P**	**01 26 12.6**	**+0.2**
baz=69							
632A	**Uvalde**	**68.83**	**336**	⇓P	**P**	**01 26 13.8**	**+0.1**
baz=69,SNR=7.5							
340A	**Bronson**	**68.88**	**342**	⇑P	**P**	**01 26 14.0**	**0.0**
baz=69							
534A	**Blanco**	**68.89**	**337**	⇓P	**P**	**01 26 14.7**	**+0.5**
baz=69							
339A	**Huntington**	**68.97**	**341**	⇓P	**P**	**01 26 15.1**	**+0.6**
baz=69							
631A	**Perdido Creek**	**69.01**	**335**	⇓P	**P**	**01 26 15.1**	**+0.2**
baz=69							
533A	**Kerrville**	**69.11**	**337**	⇓P	**P**	**01 26 15.6**	**+0.1**
baz=69,SNR=6.2							
338A	**Crockett**	**69.20**	**341**	⇓P	**P**	**01 26 16.7**	**+0.8**
baz=70							
435B	**Jarrell**	**69.31**	**338**	⇓P	**P**	**01 26 17.2**	**+0.5**
baz=70							
337A	**Centerville**	**69.32**	**340**	⇑P	**P**	**01 26 17.1**	**+0.4**
baz=70							
532A	**Rocksprings**	**69.44**	**336**	⇓P	**P**	**01 26 17.9**	**+0.3**
baz=70,SNR=11							
434A	**Burnet**	**69.55**	**338**	⇓P	**P**	**01 26 18.2**	**0.0**
baz=70,SNR=11							
336A	**Riesel**	**69.66**	**339**	⇓P	**P**	**01 26 19.0**	**+0.2**
baz=70							
531A	**Rocksprings**	**69.69**	**336**	⇓P	**P**	**01 26 19.5**	**+0.4**
baz=70,SNR=8.6							
JCT	**Junction City**	**69.73**	**336**	⇑P	**P**	**01 26 19.5**	**+0.2**
baz=70,SNR=5.9							
JCT	**Junction City**	**69.73**	**336**	*e*P	**P**	**01 26 19.1**	**-0.3**
335A	**Moody**	**69.73**	**339**	⇓P	**P**	**01 26 19.5**	**+0.2**
baz=70							
433A	**Art**	**69.76**	**337**	⇑P	**P**	**01 26 19.3**	**-0.1**
baz=70,SNR=7.1							
530A	**J-C Ranch, Com**	**69.95**	**335**	⇑P	**P**	**01 26 21.3**	**+0.6**
baz=70,SNR=11							
334A	**Lometa**	**70.03**	**338**	⇑P	**P**	**01 26 21.1**	**0.0**
baz=70,SNR=8.8							
TXAR	**Lajitas Array**	**70.05**	**333**	P	**P**	**01 26 21.0**	**-0.4**
5.1nm,0.9s,baz=150,slow=8.4,SNR=13							
432A	**Menard**	**70.09**	**336**	⇑P	**P**	**01 26 21.7**	**+0.1**
baz=70							
431A	**Sonora**	**70.19**	**336**	⇓P	**P**	**01 26 22.3**	**+0.1**
baz=70							
529A	**Stev Forest Ra**	**70.24**	**334**	⇓P	**P**	**01 26 22.8**	**+0.3**
baz=71,SNR=7.3							
333A	**Richland Sprin**	**70.25**	**337**	⇓P	**P**	**01 26 22.3**	**-0.2**
baz=71							
KMSC	**Kings Mountain**	**70.33**	**354**	⇓P	**P**	**01 26 21.9**	**-1.0**
baz=71							
WHTX	**Lake Whitney,**	**70.41**	**339**	⇓P	**P**	**01 26 23.5**	**+0.1**
baz=71							
WHTX	**Lake Whitney,**	**70.41**	**339**	*e*P	**P**	**01 26 23.0**	**-0.4**
5.1nm,0.5s							
430A	**Baggett Ranch,**	**70.50**	**335**	⇑P	**P**	**01 26 24.2**	**+0.2**
baz=71,SNR=8.1							
332A	**Millersview**	**70.55**	**337**	⇓P	**P**	**01 26 24.1**	**-0.2**
baz=71,SNR=6.2							
429A	**Davenport Ranc**	**70.58**	**335**	⇓P	**P**	**01 26 24.8**	**+0.2**
baz=71,SNR=6.6							
234A	**Clairette**	**70.62**	**338**	⇑P	**P**	**01 26 24.7**	**0.0**
baz=71,SNR=7.4							
331A	**San Angelo**	**70.70**	**336**	⇑P	**P**	**01 26 25.1**	**-0.2**
baz=71,SNR=8.2							
233A	**Rising Star**	**70.87**	**338**	⇑P	**P**	**01 26 26.1**	**-0.2**
baz=71,SNR=5.7							
135A	**Vickery Place,**	**70.92**	**339**	⇑P	**P**	**01 26 26.3**	**-0.2**
baz=71							
232A	**Coleman**	**70.98**	**337**	⇑P	**P**	**01 26 26.8**	**-0.1**
baz=71,SNR=6.7							
CPCT	**Cooper Cave**	**70.99**	**351**	*e*P	**P**	**01 26 28.0**	**+1.2**
330A	**Mertzon**	**71.04**	**336**	⇓P	**P**	**01 26 27.1**	**-0.2**
baz=71							
TKL	**Tuckaleechee C**	**71.10**	**352**	P	**P**	**01 26 26.6**	**-0.9**
5.5nm,0.8s,baz=176,slow=6.3,SNR=4.6							
134A	**White-Moore Ra**	**71.13**	**339**	⇑P	**P**	**01 26 27.8**	**0.0**
baz=72							
231A	**Bronte**	**71.24**	**336**	⇓P	**P**	**01 26 28.5**	**-0.1**
baz=72,SNR=7.7							
329A	**Wagon Wheel Ra**	**71.39**	**335**	⇓P	**P**	**01 26 29.3**	**-0.2**
baz=72,SNR=6.4							
133A	**Hamilton Ranch**	**71.42**	**338**	⇑P	**P**	**01 26 29.6**	**+0.1**
baz=72							
230A	**Sterling City**	**71.46**	**336**	⇑P	**P**	**01 26 29.6**	**-0.2**
baz=72							
Z35A	**Perchaven, San**	**71.60**	**340**	⇓P	**P**	**01 26 30.5**	**-0.1**
baz=72,SNR=7.6							
ABTX	**Abilene, Hawle**	**71.66**	**337**	⇑P	**P**	**01 26 31.0**	**0.0**
baz=72,SNR=5.1							
ABTX	**Abilene, Hawle**	**71.66**	**337**	*e*P	**P**	**01 26 30.7**	**-0.3**
40nm,1.3s							
ABTX				*e*		01 26 39.2	
229A	**Bryant Ranch,**	**71.77**	**335**	⇑P	**P**	**01 26 31.9**	**+0.2**
baz=72							
MIAR	**Mount Ida**	**71.78**	**343**	*e*P	**P**	**01 26 29.7**	**-1.9**
Z34A	**Collier Ranch,**	**71.83**	**339**	⇓P	**P**	**01 26 32.0**	**0.0**
baz=72							
131A	**Roby**	**71.94**	**337**	⇓P	**P**	**01 26 32.8**	**+0.1**
baz=72,SNR=5.7							
Z33A	**Whitaker Ranch**	**72.00**	**338**	⇑P	**P**	**01 26 33.0**	**-0.1**
baz=72,SNR=6.3							
130A	**Snyder**	**72.06**	**336**	⇑P	**P**	**01 26 33.5**	**0.0**
baz=72							
228A	**UT Block 9, Go**	**72.18**	**335**	⇓P	**P**	**01 26 34.0**	**-0.3**
baz=72,SNR=5.7							
Z32A	**Haskell**	**72.24**	**338**	⇓P	**P**	**01 26 34.5**	**0.0**
baz=73,SNR=9.4							
Y34A	**Reagan Ranch,**	**72.33**	**339**	⇓P	**P**	**01 26 35.1**	**+0.1**
baz=73							
129A	**Stewart Farms,**	**72.40**	**336**	⇓P	**P**	**01 26 35.7**	**+0.2**
baz=73							
Z31A	**Sharp Cattle R**	**72.46**	**337**	⇓P	**P**	**01 26 35.7**	**-0.1**
baz=73,SNR=6.6							
128A	**Castleberry Fa**	**72.60**	**335**	⇑P	**P**	**01 26 36.7**	**0.0**
baz=73,SNR=8.8							
Y33A	**Hilltop Ranch,**	**72.63**	**339**	⇓P	**P**	**01 26 36.8**	**0.0**
baz=73							
MNTX	**Cornudas Mount**	**72.82**	**332**	*e*P	**P**	**01 26 37.0**	**-1.0**
8.2nm,1.1s							
Y32A	**R-V Farms, Ver**	**72.88**	**338**	⇓P	**P**	**01 26 38.1**	**-0.1**
baz=73							
Z29A	**Hungry Hill Ra**	**72.92**	**336**	⇓P	**P**	**01 26 38.2**	**-0.4**
baz=73,SNR=8.0							
127A	**Arkansas Junct**	**72.95**	**334**	⇑P	**P**	**01 26 38.9**	**0.0**
baz=73							
X34A	**Smith Ranch, M**	**72.95**	**340**	⇓P	**P**	**01 26 38.3**	**-0.4**
baz=73,SNR=5.0							
Y31A	**Rekieta Farm,**	**73.09**	**337**	⇓P	**P**	**01 26 39.7**	**+0.2**
baz=73							
X33A	**Lawton**	**73.09**	**339**	⇓P	**P**	**01 26 38.9**	**-0.6**
baz=73							
Z28A	**Tucker Farm, M**	**73.17**	**335**	⇓P	**P**	**01 26 39.8**	**-0.3**
baz=74,SNR=5.3							
X32A	**Elmer**	**73.22**	**338**	⇑P	**P**	**01 26 40.0**	**-0.3**
baz=74							
Y30A	**Stafford Cattl**	**73.22**	**337**	⇑P	**P**	**01 26 40.1**	**-0.2**
baz=74							
Y29A	**Porterfield Fa**	**73.45**	**336**	⇓P	**P**	**01 26 41.6**	**-0.1**
baz=74							
Z27A	**Tatum**	**73.48**	**335**	⇑P	**P**	**01 26 42.0**	**0.0**
baz=74							
W34A	**Bridge Creek,**	**73.53**	**340**	⇓P	**P**	**01 26 41.8**	**-0.3**
baz=74							
X31A	**McDonald Ranch**	**73.62**	**338**	⇓P	**P**	**01 26 42.5**	**-0.1**
baz=74,SNR=5.3							
TUL1	**Leonard**	**73.63**	**342**	⇑P	**P**	**01 26 42.3**	**-0.3**
baz=74,SNR=5.5							
TUL1	**Leonard**	**73.63**	**342**	*e*P	**P**	**01 26 41.9**	**-0.7**
32nm,0.9s							
TUL1				*e*		01 26 49.9	
W33A	**Caddo, Fort Co**	**73.65**	**339**	⇓P	**P**	**01 26 43.2**	**+0.4**
baz=74,SNR=8.8							
Y28A	**McKinney Farm,**	**73.69**	**336**	⇑P	**P**	**01 26 42.9**	**-0.2**
baz=74							
Z26A	**Caprock**	**73.71**	**334**	⇓P	**P**	**01 26 43.5**	**+0.2**
baz=74,SNR=17							
W32A	**Sentinel**	**73.86**	**339**	⇓P	**P**	**01 26 43.9**	**-0.1**
baz=74,SNR=14							
MSTX	**Muleshoe**	**73.92**	**335**	⇓P	**P**	**01 26 44.5**	**-0.1**
baz=74							
MSTX	**Muleshoe**	**73.92**	**335**	*e*P	**P**	**01 26 44.3**	**-0.2**
SIUC	**Southern Illin**	**73.93**	**347**	*e*P	**P**	**01 26 43.8**	**-0.5**
12nm,0.7s							
Y27A	**Causey**	**73.98**	**335**	⇓P	**P**	**01 26 44.7**	**-0.2**
baz=74							
Z25A	**Roswell**	**73.99**	**334**	⇓P	**P**	**01 26 45.1**	**+0.1**
baz=74							
X29A	**Tulia**	**74.00**	**336**	⇓P	**P**	**01 26 44.9**	**0.0**
baz=74							
V34A	**Guthrie**	**74.02**	**340**	⇓P	**P**	**01 26 44.7**	**-0.2**
baz=74							
319A	**Douglas**	**74.10**	**329**	⇓P	**P**	**01 26 46.7**	**+1.0**
baz=74							
W31A	**Holland Ranch,**	**74.12**	**338**	⇓P	**P**	**01 26 45.6**	**0.0**
baz=74							
V33A	**Lossen Ranch,**	**74.23**	**340**	⇑P	**P**	**01 26 46.1**	**0.0**
baz=75,SNR=8.3							
Y26A	**Elida**	**74.25**	**335**	⇓P	**P**	**01 26 46.6**	**+0.1**
baz=75							
Z24A	**Sheeppen Canyo**	**74.27**	**333**	⇓P	**P**	**01 26 47.3**	**+0.6**
baz=75,SNR=7.3							
V32A	**Arapaho**	**74.35**	**339**	⇑P	**P**	**01 26 47.0**	**+0.2**
baz=75							
AMTX	**Amarillo**	**74.39**	**337**	⇓P	**P**	**01 26 47.3**	**+0.1**
baz=75							
AMTX	**Amarillo**	**74.39**	**337**	*e*P	**P**	**01 26 47.0**	**-0.2**
121A	**Cookes Peak, D**	**74.50**	**331**	⇑P	**P**	**01 26 48.9**	**+0.9**
baz=75,SNR=5.7							
Y25A	**Mesa, Roswell**	**74.56**	**334**	⇓P	**P**	**01 26 48.3**	**+0.1**
baz=75							
U34A	**Anderson Ranch**	**74.59**	**340**	⇑P	**P**	**01 26 48.2**	**-0.1**
baz=75,SNR=5.8							
U34A	**Anderson Ranch**	**74.59**	**340**	*e*P	**P**	**01 26 47.9**	**-0.3**
W29A	**Amarillo**	**74.60**	**337**	⇑P	**P**	**01 26 48.6**	**+0.2**
baz=75							
V31A	**Spring Creek L**	**74.64**	**338**	⇓P	**P**	**01 26 49.2**	**+0.6**
baz=75							
U33A	**Lingo Farm, Me**	**74.75**	**340**	⇑P	**P**	**01 26 48.8**	**-0.4**
baz=75							
X26A	**CR and CF Fran**	**74.81**	**335**	⇓P	**P**	**01 26 50.1**	**+0.4**
baz=75,SNR=7.2							
Z22A	**Elephant Butte**	**74.81**	**332**	⇑P	**P**	**01 26 50.5**	**+0.7**
baz=75,SNR=7.3							
Y24A	**Capitan**	**74.83**	**333**	⇑P	**P**	**01 26 50.1**	**+0.2**
baz=75,SNR=6.1							
U32A	**Winter Ranch,**	**74.95**	**339**	⇓P	**P**	**01 26 50.9**	**+0.5**
baz=75							
W27A	**Bowe Ranch, En**	**75.02**	**336**	⇑P	**P**	**01 26 50.9**	**+0.1**
baz=75,SNR=8.3							
Y23A	**Lovelace Mesa,**	**75.07**	**333**	⇓P	**P**	**01 26 52.0**	**+0.8**
baz=75							
W26A	**Owens Ranch, T**	**75.28**	**335**	⇑P	**P**	**01 26 53.0**	**+0.6**
baz=76							
V28A	**Channing**	**75.36**	**337**	⇓P	**P**	**01 26 53.4**	**+0.6**
baz=76							
T33A	**Patterson Ranc**	**75.39**	**340**	⇑P	**P**	**01 26 53.1**	**+0.2**
baz=76							
X24A	**Lazy VL Ranch,**	**75.40**	**334**	⇑P	**P**	**01 26 53.8**	**+0.5**
baz=76							
ACSO	**Alum Creek Sta**	**75.53**	**353**	*e*P	**P**	**01 26 52.9**	**-0.6**
TUC	**Tucson**	**75.55**	**328**	*e*P	**P**	**01 26 54.1**	**+0.2**
V27A	**Dan Oppiter Fa**	**75.57**	**336**	⇓P	**P**	**01 26 54.8**	**+0.8**
baz=76							
U30A	**WK&E Inc. Balk**	**75.58**	**338**	⇑P	**P**	**01 26 54.7**	**+0.6**
baz=76							
W25A	**X Bar L Ranch,**	**75.64**	**335**	⇑P	**P**	**01 26 54.8**	**+0.3**
baz=76							
T32A	**Huddler Ranch,**	**75.68**	**340**	⇑P	**P**	**01 26 55.0**	**+0.5**
baz=76							
X23A	**Hourglass Bar**	**75.69**	**333**	⇓P	**P**	**01 26 55.3**	**+0.4**
baz=76,SNR=5.2							
T31A	**Randall Ranch,**	**75.82**	**339**	⇑P	**P**	**01 26 55.4**	**+0.1**
baz=76							
LAZ	**Ladron**	**75.89**	**332**	*e*P	**P**	**01 26 56.2**	**+0.2**
V26A	**Tequesquite Ra**	**75.93**	**335**	⇓P	**P**	**01 26 55.9**	**-0.2**
baz=76							
U28A	**Mallet**	**75.94**	**337**	⇑P	**P**	**01 26 56.8**	**+0.7**
baz=76							
W24A	**Lazy 6 Ranch,**	**75.97**	**334**	⇑P	**P**	**01 26 57.0**	**+0.5**
baz=76							
ANMO	**Albuquerque**	**76.12**	**333**	P	**P**	**01 26 57.5**	**+0.2**
7.5nm,1.1s,baz=141,slow=8.6,SNR=8.1							
ANMO	**Albuquerque**	**76.12**	**333**	*e*P	**P**	**01 26 57.4**	**+0.1**
214A	**Organ Pipe Nat**	**76.14**	**327**	⇑P	**P**	**01 26 58.6**	**+1.3**
baz=76							
214A	**Organ Pipe Nat**	**76.14**	**327**	*e*P	**P**	**01 26 57.7**	**+0.5**
S32A	**Newby Ranch, P**	**76.17**	**340**	⇑P	**P**	**01 26 57.3**	**0.0**
baz=76							
U27A	**Thompson Grove**	**76.17**	**336**	⇓P	**P**	**01 26 57.7**	**+0.2**
baz=76							
SFIN	**Lafayette**	**76.19**	**350**	⇑P	**P**	**01 26 56.1**	**-1.2**
baz=76							
W23A	**Werner Place,**	**76.20**	**333**	⇓P	**P**	**01 26 58.3**	**+0.6**
baz=76							
S31A	**Mullinville**	**76.25**	**339**	⇑P	**P**	**01 26 57.8**	**0.0**
baz=77							
V25A	**Rancho No Teng**	**76.25**	**335**	⇓P	**P**	**01 26 58.2**	**+0.2**
baz=77,SNR=5.6							
T29A	**Hugoton**	**76.36**	**338**	⇓P	**P**	**01 26 58.5**	**0.0**
baz=77							
V24A	**Rampart Ranch,**	**76.38**	**334**	⇑P	**P**	**01 26 59.3**	**+0.5**
baz=77							
U26A	**Atchley Ranch,**	**76.46**	**336**	⇓P	**P**	**01 26 59.8**	**+0.6**
baz=77							
R33A	**Olander Ranch,**	**76.47**	**341**	⇓P	**P**	**01 26 58.9**	**-0.1**
baz=77							
S30A	**Montezuma**	**76.55**	**339**	⇓P	**P**	**01 26 59.9**	**+0.3**
baz=77							
T28A	**Walsh**	**76.58**	**337**	⇓P	**P**	**01 27 00.1**	**+0.3**
baz=77,SNR=12							
U25A	**Circle Dot Ran**	**76

baz=78
Y14A Wickenburg 77.90 328 ⇓P P 01 27 08.0 +0.8
baz=78
P31A Stockton 77.99 340 ⇓P P 01 27 07.5 0.0
baz=78
S24A Houchin Ranch, 78.08 335 ⇑P P 01 27 09.5 +1.1
baz=78,SNR=10
R26A Arlington 78.09 337 ⇓P P 01 27 08.9 +0.8
baz=78,SNR=8.5
R25A Fountain Ranch 78.22 336 ⇓P P 01 27 09.8 +0.8
baz=79
P30A Selden 78.25 340 ⇑P P 01 27 09.3 +0.3
baz=79
Q28A Sharon Springs 78.28 338 ⇑P P 01 27 09.8 +0.6
baz=79
SDCO Great Sand Dun 78.28 335 eP P 01 27 09.5 +0.1
O32A Brockman Farm, 78.38 341 ⇑P P 01 27 10.1 +0.5
baz=79
Y12C Blythe 78.42 326 ⇓P P 01 27 11.3 +1.3
baz=79,SNR=5.4
KSCO Kaye Shedlock' 78.47 338 ⇑P P 01 27 10.9 +0.5
baz=79
P29A Atwood 78.50 339 ⇓P P 01 27 11.0 +0.6
baz=79
WUAZ Wupatki 78.55 330 ⇓P P 01 27 12.0 +1.1
baz=79,SNR=5.6
WUAZ Wupatki 78.55 330 eP P 01 27 11.8 +0.9
O31A Woolen Ranch, 78.56 340 ⇓P P 01 27 11.2 +0.5
baz=79
R24A Sanders Place, 78.58 335 ⇑P P 01 27 11.9 +0.9
baz=79,SNR=11
Q26A Hugo 78.68 337 ⇑P P 01 27 11.8 +0.3
baz=79
P28A Saint Francis 78.72 338 ⇑P P 01 27 12.1 +0.5
baz=79
S22A 4UR Ranch, Cre 78.75 334 ⇓P P 01 27 12.9 +0.8
baz=79
BC3 Big Chuckawall 78.77 326 ⇑P P 01 27 13.2 +1.2
baz=79
R23A Moffat 78.79 335 ⇓P P 01 27 13.1 +0.9
baz=79
O30A MW Ranch, Wils 78.79 340 ⇓P P 01 27 12.5 +0.6
baz=79,SNR=5.6
N32A Stulken Farm, 78.86 341 ⇓P P 01 27 12.7 +0.5
baz=79
MVCO Mesa Verde 78.89 333 ⇑P P 01 27 13.6 +0.8
baz=79,SNR=5.5
MVCO Mesa Verde 78.89 333 eP P 01 27 12.9 +0.1
Q25A Bedland, Calha 78.91 336 ⇑P P 01 27 13.2 +0.5
baz=79
O29A 4D Ranch, Culb 78.95 339 ⇑P P 01 27 13.4 +0.6
baz=79
P27A Ficken Ranch, 78.96 338 ⇑P P 01 27 13.7 +0.8
baz=79
IRM Iron Mountain 79.05 326 ⇓P P 01 27 14.6 +1.1
baz=79
JFWS Jewell Farm 79.17 348 eP P 01 27 13.1 -0.7
33nm,1.1s
PFO Pinyon Flats O 79.20 325 P P 01 27 14.9 +0.5
6.6nm,0.8s,baz=138,slow=2.9,SNR=6.2
PFO Pinyon Flats O 79.20 325 ⇓P P 01 27 16.1 +1.7
baz=80
P26A Davis Ranch, A 79.20 337 ⇑P P 01 27 14.8 +0.4
baz=80
O28A Krutsinger Ran 79.24 339 ⇓P P 01 27 15.2 +0.8
baz=80
Q24A Divide 79.25 336 ⇑P P 01 27 15.5 +0.6
baz=80,SNR=5.6
W13A Hualapai Mount 79.27 328 ⇓P P 01 27 15.8 +0.9
baz=80
BELC Belle Mtn. Jos 79.31 326 ⇑P P 01 27 16.5 +1.4
baz=80
BGNE Belgrade 79.42 342 ⇓P P 01 27 15.5 +0.2
baz=80
P25A Willow Gulch B 79.42 337 ⇓P P 01 27 16.4 +0.8
baz=80,SNR=10
O27A Beecher Island 79.51 338 ⇑P P 01 27 16.7 +0.8
baz=80
MURC Murrieta 79.54 324 ⇑P P 01 27 17.5 +1.3
baz=80
N29A Votaw Ranch, W 79.54 340 ⇓P P 01 27 16.7 +0.7
baz=80
M31A Lambtecht Ranc 79.58 341 ⇓P P 01 27 16.7 +0.5
baz=80
N28A Pribbeno Ranch 79.69 339 ⇓P P 01 27 17.2 +0.4
baz=80
U15A North Rim 79.72 329 ⇓P P 01 27 18.5 +1.1
baz=80,SNR=6.2
PV01 Paradox Valley 79.73 333 eP P 01 27 17.9 +0.6
GMRC Granite Mounta 79.80 326 ⇑P P 01 27 19.1 +1.4
baz=80
O26A Horse Wrangler 79.81 338 ⇓P P 01 27 18.4 +0.8
baz=80,SNR=5.5
O25A Wiggins 79.95 337 ⇓P P 01 27 18.8 +0.4
baz=80
M30A Dale-Ortello V 80.00 341 ⇓P P 01 27 18.8 +0.3
baz=80
N27A Anderson Farm, 80.09 338 ⇑P P 01 27 19.6 +0.5
baz=80
M29A Burnside Ranch 80.14 340 ⇑P P 01 27 19.8 +0.6
baz=80
HEC Hector,Ludlow 80.14 326 ⇓P P 01 27 21.1 +1.6
baz=80
ISCO Idaho Springs 80.16 336 ⇓P P 01 27 20.3 +0.5
baz=80
ISCO Idaho Springs 80.16 336 eP P 01 27 20.1 +0.4
O24A Longmont 80.27 336 ⇓P P 01 27 20.5 +0.4
baz=81
BFSC Mount Baldy Ra 80.28 324 ⇑P P 01 27 21.6 +1.3
baz=81
L31A Butterfield Fa 80.32 341 ⇓P P 01 27 20.5 +0.3
baz=81,SNR=6.1
N26A Koester Ranch, 80.32 338 ⇓P P 01 27 21.0 +0.7
baz=81
L30A Spencer Herefo 80.34 341 ⇑P P 01 27 20.8 +0.5
baz=81
P22A Eagle 80.37 335 ⇓P P 01 27 21.5 +0.7
baz=81
TUQ Turquoise Moun 80.46 326 ⇓P P 01 27 22.3 +1.1
baz=81,SNR=5.6
N25A Grover 80.58 337 ⇑P P 01 27 22.0 +0.2
baz=81
O23A Lake Granby, G 80.63 336 ⇓P P 01 27 22.9 +0.7
baz=81,SNR=8.3
L29A Maesberg Ranch 80.66 340 ⇑P P 01 27 21.6 -0.4
baz=81
GSC Goldstone, Bar 80.75 326 ⇓P P 01 27 24.1 +1.4
baz=81
O22A Kremmling 80.80 335 ⇑P P 01 27 23.6 +0.5
baz=81,SNR=8.8
N24A Carr 80.84 337 ⇓P P 01 27 24.1 +0.9
baz=81
BOSA Boshof 80.88 118 P P 01 27 24.4 +0.5
5.2nm,0.8s,baz=186,slow=9.1,SNR=3.9
EDW2 Edwards Air Fo 80.96 325 ⇑P P 01 27 25.5 +1.7
baz=81
K30A Basset 80.99 341 ⇓P P 01 27 23.8 0.0
baz=81,SNR=5.9
SHPR Sheep Range 81.01 327 eP P 01 27 24.9 +0.7
CCUT Cedar City 81.12 329 eP P 01 27 25.8 +1.0
M25A Palm-Egli Farm 81.13 338 ⇓P P 01 27 25.1 +0.4
baz=82
ECSD EROS Data Cent 81.24 344 ⇑P P 01 27 24.8 -0.3
baz=82,SNR=20
ECSD EROS Data Cent 81.24 344 eP P 01 27 24.5 -0.5
N23A Red Feather La 81.25 336 ⇓P P 01 27 26.0 +0.5
baz=82
LRMC Laurel Mtn Rad 81.31 325 ⇓P P 01 27 26.6 +0.9
baz=82
SRU San Rafael Swe 81.32 332 eP P 01 27 25.5 -0.3
N22A Wattenberg Ran 81.34 336 ⇑P P 01 27 26.6 +0.6
baz=82,SNR=5.3
ARUT Antelope Range 81.35 329 eP P 01 27 26.4 +0.4
45nm,0.8s
O20A White River Ci 81.37 334 ⇑P P 01 27 26.4 +0.4
baz=82
O20A White River Ci 81.37 334 eP P 01 27 26.3 +0.3
M24A Cheyenne 81.41 337 ⇑P P 01 27 26.5 +0.3
baz=82
MVU Marysvale 81.46 331 eP P 01 27 27.1 +0.4
K28A Ten Mile Ranch 81.50 340 ⇓P P 01 27 27.3 +0.7
baz=82
J30A Dallas 81.56 341 ⇓P P 01 27 26.2 -0.6
baz=82
MPMC Manual Prospec 81.69 326 ⇑P P 01 27 29.8 +2.0
baz=82
FURC Furnace Creek, 81.74 326 ⇓P P 01 27 29.3 +1.5
baz=82
K27A Flueckinger Fa 81.74 339 ⇑P P 01 27 28.3 +0.5
baz=82
TMUT Trail Mountain 81.75 332 eP P 01 27 28.9 +0.7
3.7nm,0.7s
ISA Isabella, Lake 81.83 325 ⇑P P 01 27 29.5 +1.1
baz=82
ISA Isabella, Lake 81.83 325 eP P 01 27 29.1 +0.6
6.8nm,1.1s
J29A Okreek 81.86 341 ⇓P P 01 27 28.7 +0.3
baz=82,SNR=13
SPMN Marine on St. 81.87 347 ⇓P P 01 27 27.5 -0.7
baz=82
SPMN Marine on St. 81.87 347 eP P 01 27 27.3 -0.9
16nm,0.9s
M22A Cedar Creek Ra 81.93 336 ⇓P P 01 27 29.5 +0.5
baz=82
L24A Wheatland 81.96 337 ⇓P P 01 27 29.3 +0.3
baz=82
N20A Spence Gulch, 82.00 334 ⇓P P 01 27 29.7 +0.3
baz=82,SNR=5.6
K26A Motz Farm, Whi 82.02 339 ⇓P P 01 27 29.2 0.0
baz=82
I30A Oacoma 82.10 342 ⇓P P 01 27 29.5 -0.1
baz=82
J28A Allard Ranch, 82.12 340 ⇓P P 01 27 29.9 +0.1
baz=82,SNR=7.3
K25A Mack Ranch, Ha 82.14 338 ⇓P P 01 27 30.4 +0.4
baz=82
J27A Elkhorn Farm, 82.18 340 ⇓P P 01 27 30.9 +0.7
baz=82,SNR=6.1
VES Vestal, Richgr 82.26 324 ⇓P P 01 27 31.6 +1.0
baz=83
L23A Garrett 82.27 337 ⇑P P 01 27 30.9 +0.1
baz=83
GRAC Grapevine Rang 82.41 326 ⇑P P 01 27 32.6 +1.2
baz=83
I29A Vivian Onida 82.43 341 ⇓P P 01 27 31.4 +0.1
baz=83
L22A Ellis Ranch, M 82.44 336 ⇑P P 01 27 32.0 +0.4
baz=83
BRSD Miller 82.47 342 ⇑P P 01 27 31.3 -0.2
baz=83
BRSD Miller 82.47 342 eP P 01 27 30.4 -1.2
13nm,0.7s
MPU Maple Canyon 82.53 332 eP P 01 27 32.1 -0.1
12nm,1.0s
K24A Anderson Ranch 82.54 338 ⇑P P 01 27 32.5 +0.5
baz=83
J26A Sides Ranch, S 82.55 339 ⇓P P 01 27 32.2 +0.2
baz=83
I28A Midland 82.64 341 ⇓P P 01 27 32.4 0.0
baz=83,SNR=5.9
R11A Troy Canyon, C 82.74 328 ⇓P P 01 27 34.4 +1.1
baz=83,SNR=9.3
R11A Troy Canyon, C 82.74 328 eP P 01 27 32.9 -0.3
K23A Bowen Ranch, D 82.82 337 ⇓P P 01 27 33.8 +0.3
baz=83,SNR=5.5
J25A Sunshine Ranch 82.83 339 ⇓P P 01 27 33.9 +0.3
baz=83
I27A Quinn 82.95 340 ⇓P P 01 27 34.2 +0.2
baz=83
H29A Onida 82.97 341 ⇑P P 01 27 33.9 -0.2
baz=83,SNR=6.7
JLU Jordanelle 82.97 332 eP P 01 27 34.8 +0.4
8.7nm,0.8s
K22A Casper 83.02 336 ⇑P P 01 27 35.0 +0.5
baz=83,SNR=5.2
K22A Casper 83.02 336 eP P 01 27 34.6 0.0
7.3nm,0.9s
J24A Dixon Ranch, L 83.04 338 ⇓P P 01 27 35.2 +0.6
baz=83
I26A New Underwood 83.14 339 ⇓P P 01 27 35.2 +0.2
baz=84
DUG Dugway, Tooele 83.15 331 ⇑P P 01 27 36.0 +0.8
baz=84,SNR=11
DUG Dugway, Tooele 83.15 331 eP P 01 27 35.6 +0.4
81nm,1.1s
CTU Camp Tracy 83.16 332 eP P 01 27 35.1 -0.2
6.4nm,0.9s
G30A Faulkton 83.16 342 ⇑P P 01 27 35.1 0.0
baz=84
H28A Mission Ridge 83.22 341 ⇑P P 01 27 35.4 0.0
baz=84
TPH Tonopah 83.23 327 eP P 01 27 36.7 +0.9
K21A Alcova 83.24 336 ⇑P P 01 27 36.0 +0.2
baz=84,SNR=11
I25A Rochford 83.39 339 ⇑P P 01 27 36.7 +0.2
baz=84
G29A Hoven 83.42 342 ⇓P P 01 27 36.3 -0.1
baz=84
H27A Howes 83.47 340 ⇓P P 01 27 36.4 -0.3
baz=84
G28A Parade 83.57 341 ⇓P P 01 27 37.1 0.0
baz=84,SNR=5.1
RSSD Black Hills 83.57 339 eP P 01 27 37.0 -0.4
J22A Midwest 83.69 337 ⇓P P 01 27 37.7 -0.3
baz=84
F30A Leola 83.80 343 ⇑P P 01 27 38.2 -0.1
baz=84
HWUT Hardware Ranch 83.88 333 eP P 01 27 39.1 0.0
H25A Fruitdale 83.90 339 ⇓P P 01 27 38.9 0.0
baz=84
J21A Lysite 83.94 336 ⇓P P 01 27 39.1 -0.3
baz=84
F29A Eureka 83.99 342 ⇑P P 01 27 39.1 -0.2
baz=84,SNR=6.3
NVAR Mina Array Bea 84.00 326 P P 01 27 40.2 +0.4
3.5nm,0.7s,baz=154,slow=6.7,SNR=14
I22A 9 Mile Ranch, 84.12 337 ⇓P P 01 27 39.9 -0.3
baz=84
G27A Dupree 84.12 341 ⇑P P 01 27 39.7 -0.3
baz=84
BW06 Boulder Array 84.16 334 eP P 01 27 39.4 -1.1
PDAR Pinedale Array 84.16 334 P P 01 27 40.2 -0.3
2.0nm,0.7s,baz=159,slow=4.6,SNR=7.3
J20A Shoshoni 84.16 336 ⇓P P 01 27 40.9 +0.5
baz=84,SNR=11
G26A Maurine 84.23 340 ⇓P P 01 27 40.2 -0.3
baz=85,SNR=6.2
F28A McLaughlin 84.26 341 ⇓P P 01 27 40.6 0.0
baz=85
H24A Dirks Ranch, A 84.29 339 ⇓P P 01 27 40.8 -0.1
baz=85
I21A Big Trails, Te 84.31 336 ⇑P P 01 27 40.8 -0.4
baz=85,SNR=5.7
G25A Newell 84.37 340 ⇑P P 01 27 41.3 0.0
baz=85
E30A Jud 84.39 343 ⇓P P 01 27 40.9 -0.4
baz=85
J19A Crowheart 84.42 335 ⇓P P 01 27 41.8 +0.1
baz=85,SNR=6.9
HVU Hansel Valley 84.49 332 eP P 01 27 41.7 -0.4
ELK Elko 84.59 330 P P 01 27 42.3 -0.4
3.7nm,0.8s,baz=176,slow=3.1,SNR=9.8
F27A Lemmon 84.60 341 ⇑P P 01 27 42.3 -0.1
baz=85,SNR=6.5
E29A Napoleon 84.63 343 ⇓P P 01 27 42.3 -0.2
baz=85
H22A Clearmont 84.71 337 ⇑P P 01 27 43.1 0.0
baz=85
I20A Worland 84.71 336 ⇓P P 01 27 43.2 +0.1
baz=85,SNR=5.5
AHID Auburn Hatcher 84.71 333 eP P 01 27 41.6 -1.6
F26A Lodgepole 84.76 340 ⇑P P 01 27 42.9 -0.3
baz=85
E28A Huff 84.90 342 ⇑P P 01 27 43.9 0.0
baz=85
D30A Buchanan 84.93 343 ⇓P P 01 27 43.8 -0.1
baz=85,SNR=6.9
G23A Biddle 84.96 338 ⇓P P 01 27 43.7 -0.6
baz=85
E27A Carson 84.99 341 ⇓P P 01 27 44.3 -0.1
baz=85
F25A Bowman 85.05 340 ⇑P P 01 27 44.5 -0.2
baz=85
D29A Pettibone, Tap 85.08 343 ⇑P P 01 27 44.4 -0.3
baz=85
H20A Greybull 85.14 336 ⇓P P 01 27 45.4 +0.1
baz=86,SNR=8.5
G22A Birney 85.25 338 ⇓P P 01 27 45.4 -0.4
baz=86
F24A Ekalaka 85.26 339 ⇑P P 01 27 45.7 -0.1
baz=86
E26A Carlson Angus 85.27 341 ⇑P P 01 27 45.3 -0.5
baz=86
AGMN Agassiz Nation 85.41 346 ⇓P P 01 27 46.1 -0.3
baz=86,SNR=11
AGMN Agassiz Nation 85.41 346 eP P 01 27 45.2 -1.2
C30A Mose, Pekin 85.42 344 ⇓P P 01 27 46.7 +0.2
baz=86,SNR=13
F23A Volborg 85.43 338 ⇑P P 01 27 46.3 -0.3
baz=86
D28A Regan 85.45 342 ⇓P P 01 27 45.9 -0.7
baz=86
I17A Pilgrim Ck. 85.52 334 ⇓P P 01 27 48.1 +0.7
baz=86
G21A Lodge Grass 85.54 337 ⇑P P 01 27 47.1 -0.1
baz=86
E25A Miller Ranch, 85.56 340 ⇑P P 01 27 47.3 +0.1
baz=86
D27A Center 85.61 342 ⇑P P 01 27 47.4 0.0
baz=86
H19A Powell 85.63 336 ⇓P P 01 27 47.7 0.0
baz=86
F22A Rosebud 85.74 338 ⇓P P 01 27 47.7 -0.5
baz=86
D26A Manning 85.78 341 ⇑P P 01 27 48.1 -0.2
baz=86,SNR=5.4
G20A Bridger 85.86 336 ⇓P P 01 27 48.5 -0.3
baz=86,SNR=6.4
H18A Shoshone NF, C 85.87 335 ⇓P P 01 27 49.2 +0.2
baz=86,SNR=8.1
E24A Baker 85.87 340 ⇑P P 01 27 48.5 -0.2
baz=86
B30A Myrvik Farm, E 86.09 344 ⇓P P 01 27 49.5 -0.3
baz=86,SNR=14
TORD Torodi Ar. Bea 86.09 71 P P 01 27 50.9 +0.4
3.2nm,0.9s,baz=271,slow=3.0,SNR=4.8
RLMT Red Lodge 86.12 336 eP P 01 27 49.2 -1.0
D25A Fairfield 86.13 340 ⇑P P 01 27 50.4 +0.3
baz=86,SNR=7.1
C27A Sayler Ranch, 86.17 342 ⇑P P 01 27 50.3 +0.1
baz=86,SNR=8.0
E22A Miles City 86.24 338 ⇓P P 01 27 50.3 -0.2
baz=87
YMR Madison River 86.31 334 eP P 01 27 51.9 +0.7
B29A Wagenman Farm, 86.34 343 ⇓P P 01 27 50.7 -0.2
baz=87
F20A Billings 86.36 337 ⇓P P 01 27 51.1 -0.2
baz=87
C26A Wahner Farm, P 86.42 341 ⇑P P 01 27 51.6 +0.2
baz=87,SNR=6.9
A30A Hoffart Farm, 86.54 344 ⇑P P 01 27 51.8 -0.2
baz=87
B28A Dugan Ranch, T 86.56 343 ⇓P P 01 27 51.9 -0.2
baz=87,SNR=6.1
HLID Hailey 86.64 332 ⇓P P 01 27 53.4 +0.6
baz=87,SNR=7.7
HLID Hailey 86.64 332 eP P 01 27 52.1 -0.7
F19A Roth Farm, Mol 86.66 336 ⇓P P 01 27 52.4 -0.4
baz=87
E21A Keefer Ranch, 86.68 338 ⇑P P 01 27 52.9 +0.2
baz=87
D23A Lindsay 86.68 339 ⇓P P 01 27 53.0 +0.2
baz=87,SNR=9.2
A29A Manning Farm, 86.74 344 ⇑P P 01 27 52.7 -0.2
baz=87,SNR=9.4
B27A Peters Farms, 86.75 342 ⇓P P 01 27 52.8 -0.1
baz=87
C24A Savage 86.78 340 ⇓P P 01 27 53.4 +0.2
baz=87,SNR=14
D22A Cohagen 86.95 339 ⇑P P 01 27 53.8 -0.2
baz=87
A28A Rude Farm, Bot 86.97 343 ⇓P P 01 27 54.0 -0.1
baz=87
E20A Meyer Farm, Mu 86.97 337 ⇓P P 01 27 54.1 -0.1
baz=87,SNR=5.1
MFID Camas Ranch 87.07 331 eP P 01 27 55.0 +0.2
7.6nm,1.3s
B25A Knox Farm, Ray 87.11 341 ⇑P P 01 27 55.1 +0.3
baz=88,SNR=8.4
MCMT McKenzie Canyo 87.13 333 eP P 01 27 56.0 +0.7
E19A Rath Farm, Rou 87.15 337 ⇑P P 01 27 55.0 -0.1
baz=88
C23A Lambert 87.25 340 ⇓P P 01 27 55.5 +0.1
baz=88,SNR=5.9
ULM Lac du Bonnet 87.28 346 P P 01 27 54.9 -0.6
8.8nm,0.8s,baz=157,slow=1.8,SNR=8.4
A26A Wade Farm, Ken 87.40 342 ⇓P P 01 27 56.3 +0.2
baz=88,SNR=8.1
C22A Vida 87.40 339 ⇑P P 01 27 55.9 -0.3
baz=88
WVOR Wild Horse Val 87.42 329 eP P 01 27 56.1 -0.5
D20A Manuel Ranch, 87.50 337 ⇓P P 01 27 56.3 -0.4
baz=88,SNR=5.1
DGMT Dagmar 87.58 340 ⇓P P 01 27 57.1 0.0
baz=88,SNR=6.6
DGMT Dagmar 87.58 340 eP P 01 27 57.0 0.0
MOD Modoc Plateau 87.71 327 eP P 01 27 58.4 +0.3
A25A Svangstu Ranch 87.71 341 ⇑P P 01 27 57.6 0.0
baz=88
D19A Cripps Ranch, 87.80 337 ⇓P P 01 27 57.6 -0.6
baz=88
C21A Desert Coulee 87.83 338 ⇑P P 01 27 58.1 -0.2
baz=88
LRM Limekiln Ridge 87.84 334 eP P 01 27 58.3 -0.3
B22A Reddig Ranch S 87.93 339 ⇑P P 01 27 58.7 0.0
baz=88
A24A Westby 87.94 341 ⇓P P 01 27 58.9 +0.1
baz=88
M04C Macdoel 88.31 326 ⇓P P 01 28 01.8 +1.0
baz=89
A22A Carney Farms, 88.53 340 ⇓P P 01 28 01.7 +0.1
baz=89
YBH Yreka Blue Hor 88.67 326 P P 01 28 02.1 -0.3
3.8nm,0.9s,baz=69,slow=6.7,SNR=7.8
A21A Bergtoll Ranch 88.82 339 ⇑P P 01 28 02.3 -0.6
baz=89
K04D Chiloquin, OR 88.94 327 ⇑P P 01 28 05.0 +1.2
baz=89
A20A Cobblestone Ra 89.02 338 ⇑P P 01 28 03.6 -0.3
baz=89
J05D Fort Rock, OR 89.23 328 ⇓P P 01 28 05.9 +0.8
baz=90
PINOR Pine Mountain 89.50 328 eP P 01 28 05.6 -0.5
8.2nm,0.9s
J04D Umpqua Nationa 89.58 327 ⇑P P 01 28 08.0 +1.1
baz=90
I05D Terrebonne, OR 90.12 328 ⇓P P 01 28 10.3 +1.2
baz=90
G05D Wamic, OR 90.83 329 ⇓P P 01 28 14.1 +1.7
baz=91
HAWA Hanford 91.02 330 eP P 01 28 13.8 +0.6
33nm,1.9s
GERES GERESS Array B 114.12 46 PKP PKPdf 01 33 47.4 -0.7
0.3nm,0.5s,baz=164,slow=4.0,SNR=3.0
BRTR Keskin Array B 123.79 62 PKP PKPdf 01 34 06.8 -0.3
0.6nm,0.7s,baz=144,slow=2.1,SNR=4.5
AKASG Malin Array Be 124.17 48 PKP PKPdf 01 34 06.5 -0.8
0.6nm,0.6s,baz=262,slow=2.8,SNR=6.2
GEYT Alibeck 141.73 71 PKP PKPdf 01 34 41.4 +0.7
1.4nm,0.3s,baz=318,slow=4.1,SNR=9.5
IPM Ipoh 149.07 170 ePKPbc PKPbc 01 34 57.5 -0.6
BVAR Borovoye Array 149.23 44 PKPbc PKPbc 01 34 58.1 +0.8
3.4nm,0.8s,baz=268,slow=1.7,SNR=8.0
MKAR Makanchi Array 158.74 50 PKPab PKPab 01 35 43.0 +0.6
1.3nm,0.7s,baz=287,slow=4.7,SNR=3.8
SONM Songino Array 167.38 359 PKPab PKPab 01 36 19.4 -0.9
1.2nm,0.8s,baz=289,slow=4.4,SNR=3.2

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*UPP **01** 01:28:00.5, 67°.83N×20°.20E, h0km, ML0.7, Mining explosion.*
*CSEM **01** 01:28:00.3±0.2, 67°.81N×20°.19E, h2km, ML0.9, Error ellipse: s-maj=4.5km s-min=3.7km az=161.0, Mining explosion.*

HEL 01 01:28:01.2±0.0, 67°.83N×20°.19E, h0km, ML0.9, ML0.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KUA	Kurravaara	0.13	24	i	P	Pg	01 28 03.4	-0.4
KUA				i	S	Sg	01 28 05.4	-0.2
KUA	Kurravaara	0.13	24		P	Pg	01 28 03.4	-0.4
KUA					S	Sg	01 28 05.4	-0.1
NIKU	Nikkaluokta	0.44	275	i	P	Pg	01 28 08.9	-0.7
NIKU	Nikkaluokta	0.44	275		P	Pg	01 28 08.9	-0.7
LANU	Lannavaara	0.71	71	e	P	Pg	01 28 13.8	-1.1
LANU				e	S	Sg	01 28 23.2	-0.9
LANU	Lannavaara	0.71	71		P	Pg	01 28 13.9	-1.0
LANU					S	Sg	01 28 23.2	-1.0
MASU	Masugnsbyn	0.79	118	i	P	Pg	01 28 15.2	-1.2
MASU	Masugnsbyn	0.79	118		P	Pg	01 28 15.2	-1.2
SALU	Saltoluokta	0.79	236	i	P	Pg	01 28 15.4	-0.9

SALU	Saltoluokta	0.79	236	P	Pg	01 28 15.4	-1.0
KIF	Kilpisjarvi	1.20	11	*e*PB	Pg	01 28 23.8	-0.4
KIF				*e*SB	Sg	01 28 39.7	+0.1
KIF	Kilpisjarvi	1.20	11	Pb	Pg	01 28 23.7	-0.4
KIF				Sb	Sg	01 28 39.7	+0.1
HEF	Hetta	1.42	64	*e*P	Pn	01 28 26.6	-1.7
	baz=242						
HEF				*e*SN	Sn	01 28 49.1	+1.4
HEF				MSG		01 28 49.1	
	comp=Z,0.9nm,0.2s						
HEF	Hetta	1.42	64	P	Pn	01 28 26.5	-1.8
HEF				Sn	Sn	01 28 49.1	+1.4
	comp=Z,0.9nm,0.2s						
ERTU	Ertsjaerv	1.50	148	*e*SB	Sg	01 28 47.9	-1.6
ERTU	Ertsjaerv	1.50	148	P	Pn	01 28 27.7	-1.7
ERTU				Sb	Sg	01 28 47.9	-1.6
SGF	Sodankyl	2.46	96	*e*PG	Pb	01 28 44.5	-1.6
ARA0	ARCESS Array S	2.59	46	*e*P	Pn	01 28 44.6	+0.3
ARA0	ARCESS Array S	2.59	46	P	Pn	01 28 44.6	+0.3
KEV	Kevo	3.14	49	*e*S	Sn	01 29 30.0	+0.1
KEV				MSG		01 29 30.0	
	comp=Z,0.2nm,0.2s						
KEV	Kevo	3.14	49	S	Sn	01 29 30.0	+0.1
	comp=Z,0.2nm,0.2s						
KU6	Riekki	4.23	111	*e*S	Sn	01 29 54.8	-2.0
KU6	Riekki	4.23	111	S	Sn	01 29 54.7	-2.1

*IDC **01** 01:33:39.4±0.6, 33°.78S×71°.92W, h0km, mb4.2/12, mb1 4.3/15, mb1mx4.2/29, mbtmp4.2/15, ML4.1/4, MS3.2/3, Ms1 3.2/3, ms1mx3.0/26, Error ellipse: s-maj=21.8km s-min=17.0km az=88.0*

*ISCJB **01** 01:33:41.9±1.5, 33°.83S±0°.06×72°.04W±0°.07, h27km±10km, mb4.3/15, MS3.4/2, Error ellipse: s-maj=10.0km s-min=8.8km az=39.6*

*GUC **01** 01:33:43.8±0.7, 33°.79S×71°.93W, h41km±3km, ML5.0*

*NEIC **01** 01:33:44.9±0.3, 33°.77S×71°.91W, h35km, mb4.6/7, Error ellipse: s-maj=8.2km s-min=6.5km az=85.0*

ISC 01 01:33:42.4±2.2, 33°.78S±0°.06×72°.02W±0°.08, h19km±9km, n47, σ0§93/55, mb4.3/15, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	0.81	23	⇓*i*P		Pn	01 33 59.0	+0.2
IHA				*i* S1		Sn	01 34 10.1	-0.2
TACH	Talagante	0.91	83	⇑*i*P		Pb	01 33 59.3	-0.3
RCDM	Rinconada Maip	1.05	74	*e*P1		Pb	01 34 01.5	-0.5
RCDM				*i* S1		Sb	01 34 14.9	-0.5
SAN	Santiago	1.18	74	⇑*i*P		Pn	01 34 03.8	-0.1
SAN				*i* S1		Sb	01 34 18.6	-0.4
STL	Santa Lucia	1.20	74	⇓*i*P		Pn	01 34 03.1	-1.1
STL				*i* S1		Sb	01 34 18.2	-1.4
PEL	Peldehue	1.28	61	⇑*i*P		Pb	01 34 06.0	0.0
PEL				*i* S		Sn	01 34 22.5	+0.5
PEL				AML	AML	01 34 28.9	
	comp=N,55μm,0.5s						
CMCH	Combarbala	2.73	19	⇓*i*P		Pn	01 34 25.7	+0.4
CFAA	Coronel Fontan	3.85	57	Pn		Pn	01 34 40.8	+0.1
	comp=N,6.4nm,0.3s,baz=228,slow=12,SNR=40						
CFAA				Lg	Lg	01 35 36.1	
	comp=N,11nm,0.3s,baz=92,slow=12,SNR=7.0						
CFAA				LR	LR	01 36 32.4	
	comp=N,57nm,19.9s,baz=242,slow=46						
PLCA	Paso Flores	7.04	171	Pn		Pn	01 35 24.9	+0.4
	comp=N,0.4nm,0.3s,baz=329,slow=15,SNR=1.7						
PLCA				Lg	Lg	01 37 18.4	
	comp=N,0.4nm,0.3s,baz=341,slow=9.6,SNR=3.1						
TRQA	Tornquist	9.19	121	*e*Pn		Pn	01 35 55.8	+1.8
	comp=N,16nm,0.9s						
LVC	Limon Verde	11.45	15	*e*Pn		Pn	01 36 21.1	-4.1
	comp=N,8.7nm,0.7s						
LVC				*e*S		Sn	01 38 32.7	-0.1
CPUP	Villa Florida	14.72	64	Pn		Pn	01 37 09.0	-0.5
	comp=N,0.5nm,0.3s,baz=226,slow=9.3,SNR=4.1						
CPUP	Villa Florida	14.72	64	*e*Pn		Pn	01 37 08.7	-0.8
	comp=N,0.7nm,0.7s						
CPUP				*e*S		Sn	01 39 56.1	+4.0
LPAZ	La Paz	17.76	12	P		P	01 37 50.2	+0.2
	comp=N,0.7nm,0.3s,baz=188,slow=6.9,SNR=18						
LPAZ	La Paz	17.76	12	*e*Pn		P	01 37 50.3	+0.2
	comp=N,11nm,0.8s						
SIV	San Ignacio	20.28	32	P		P	01 38 16.6	-0.4
	comp=N,4.3nm,0.6s,baz=222,slow=8.4,SNR=13						
SIV				LR	LR	01 47 19.5	
	comp=N,250nm,19.4s,baz=230,slow=40						
NNA	Nana	22.13	347	LR	LR	01 45 35.5	
	comp=N,107nm,18.8s,baz=164,slow=32						
SAML	Samuel	26.02	20	*e*P		P	01 39 14.5	+0.2
	comp=N,12nm,0.6s						
BDFB	Brasilia	28.20	56	P		P	01 39 33.0	-1.0
	comp=N,2.5nm,0.6s,baz=214,slow=12,SNR=5.8						
SNAA	Sanae	51.78	158	P		P	01 42 48.5	0.0
	comp=N,2.3nm,0.9s,baz=305,slow=8.4,SNR=5.3						
SNAA	Sanae	51.78	158	*e*P		P	01 42 49.0	+0.5
	comp=N,8.1nm,1.0s						
TEIG	Tepich	55.89	341	*e*P		P	01 43 19.7	+0.7
	comp=N,83nm,1.6s						
QSPA	South Pole Qui	56.46	180	P		P	01 43 23.5	+0.7
	comp=N,4.1nm,0.9s,baz=159,slow=2.1,SNR=10						
QSPA	South Pole Qui	56.46	180	*e*P		P	01 43 23.1	+0.3
	comp=N,4.5nm,1.1s						
TXAR	Lajitas Array	69.55	331	P		P	01 44 51.2	+1.2
	comp=N,0.5nm,0.6s,baz=160,slow=8.9,SNR=8.7						
WVT	Waverly	71.10	347	*e*P		P	01 44 59.5	+0.3
	comp=N,12nm,0.9s						
DBIC	Dimbokro	75.09	71	P		P	01 45 23.2	-0.2
	comp=N,1.7nm,0.7s,baz=225,slow=8.6,SNR=3.7						
DRV	Dumont d'Urvil	76.92	193	R			01 46 00.0	
BOSA	Boshof	80.16	118	P		P	01 45 51.5	-0.3
	comp=N,2.6nm,1.1s,baz=242,slow=15,SNR=3.0						
PDAR	Pinedale Array	83.57	333	P		P	01 46 09.8	+0.6
	comp=N,0.8nm,0.8s,baz=134,slow=4.3,SNR=5.6						
NVAR	Mina Array Bea	83.71	325	P		P	01 46 11.5	+1.4
	comp=N,0.6nm,0.8s,baz=141,slow=6.1,SNR=5.5						
TOA0	Torodi Ar. Sit	84.12	70	*e*P		P	01 46 11.9	-0.6
TORD	Torodi Ar. Bea	84.12	70	P		P	01 46 12.5	+0.1
	comp=N,4.7nm,0.8s,baz=285,slow=6.6,SNR=29						
ULM	Lac du Bonnet	86.29	345	P		P	01 46 21.8	-0.7
	comp=N,2.2nm,0.8s,baz=261,slow=4.7,SNR=3.9						
MCMT	McKenzie Canyo	86.58	332	*e*P		P	01 46 25.5	+1.1
	comp=N,1.6nm,1.3s						
YBH	Yreka Blue Hor	88.40	325	P		P	01 46 33.7	+0.7
	comp=N,2.6nm,1.0s,baz=58,slow=4.8,SNR=5.5						
YKA	Yellowknife Ar	101.85	341	P		Pdif	01 47 32.3	-1.4
	comp=N,0.3nm,0.8s,baz=141,slow=4.7,SNR=4.5						
WRA	Warramunga Arr	120.96	209	PKP		PKPdf	01 52 33.3	-0.8
	comp=N,0.6nm,0.8s,baz=154,slow=1.7,SNR=7.7						
BRTR	Keskin Array B	121.71	61	PKP		PKPdf	01 52 34.1	-0.9
	comp=N,0.5nm,0.8s,baz=201,slow=5.6,SNR=3.2						
AKASG	Malin Array Be	122.03	47	PKP		PKPdf	01 52 33.8	-1.3
	comp=N,0.3nm,0.4s,baz=270,slow=2.1,SNR=5.4						
SEY	Seymchan	139.85	330	PKP		PKPdf	01 53 07.7	-0.6
	comp=N,0.9nm,0.4s,baz=158,slow=6.8,SNR=3.5						
BRVK	Borovoye	147.03	43	*e*PKPbc		PKPbc	01 53 23.1	-0.3
EKS2	Erkin-Say	151.86	62	*e*PKPbc		PKPbc	01 53 36.6	+0.7
EKS2				*e*PKPab		PKPab	01 53 44.8	-0.3
AAK	Ala-Archa	152.38	61	*e*PKPbc		PKPbc	01 53 37.7	+0.6
ZAA0	Zalesovo Array	154.03	32	*e*PKPbc		PKPbc	01 53 40.4	+0.2
ZAA0				*e*PKPab		PKPab	01 53 52.5	-1.1
ZALV	Zalesovo Beam	154.03	32	PKP		PKPdf	01 53 31.9	-0.2
	comp=N,0.7nm,0.6s,baz=308,slow=3.6,SNR=4.4						
ZALV				PKPbc		PKiKP	01 53 40.3	+0.1
	comp=N,2.0nm,0.5s,baz=302,slow=3.3,SNR=13						
MKAR	Makanchi Array	156.60	49	PKP		PKPdf	01 53 35.2	-0.6
	comp=N,0.4nm,0.8s,baz=302,slow=2.3,SNR=4.2						
MKAR				PKPab		PKPab	01 54 04.0	-1.0
	comp=N,0.7nm,0.7s,baz=275,slow=3.0,SNR=8.8						

*IDC **01** 01:38:26.5±1.1, 37°.78S×73°.76W, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.8/23, mbtmp3.8/9, ML3.3/2, Error ellipse: s-maj=33.7km s-min=17.6km az=88.0*

ISC 01 01:38:30.4±1.0, 37°.85S±0°.07×73°.5W±0°.1, h22km, n11, σ1§43/13, mb3.8/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	Paso Flores	3.67	142	Pn		Pn	01 39 27.9	+2.1
	0.9nm,0.3s,baz=315,slow=8.6,SNR=5.7						
PLCA				Sn		Sb	01 40 16.0	-2.7
	3.5nm,0.3s,baz=22,slow=9.1,SNR=3.2						
CFAA	Coronel Fontan	7.59	36	Pn		Pn	01 40 19.7	+0.1
	0.2nm,0.3s,baz=223,slow=14,SNR=2.3						
CFAA				Sn		Sn	01 41 45.1	+0.2
	0.3nm,0.3s,baz=282,slow=19,SNR=5.2						
LPAZ	La Paz	22.00	14	P		P	01 43 23.1	-0.6
	3.0nm,0.8s,baz=190,slow=11,SNR=2.4						
SIV	San Ignacio	24.38	30	P		P	01 43 46.7	-0.4
	2.3nm,1.0s,baz=221,slow=11,SNR=2.8						
SNAA	Sanae	48.50	157	P		P	01 47 10.2	-0.9
	0.8nm,0.8s,baz=283,slow=14,SNR=3.2						
QSPA	South Pole Qui	52.39	180	P		P	01 47 41.6	+0.9
	2.0nm,1.0s,baz=248,slow=1.4,SNR=5.1						
TXAR	Lajitas Array	72.56	333	P		P	01 49 54.0	-1.7
	0.6nm,1.0s,baz=148,slow=5.2,SNR=3.1						
DBIC	Dimbokro	77.53	71	P		P	01 50 24.6	-0.1
	3.0nm,1.0s,baz=170,slow=14,SNR=3.0						
TORD	Torodi Ar. Bea	86.62	71	P		P	01 51 12.7	+0.4
	0.7nm,1.0s,baz=216,slow=5.0,SNR=3.1						
ZALV	Zalesovo Beam	158.07	36	PKPab		PKPab	01 58 58.7	+0.3
	0.7nm,0.6s,baz=319,slow=6.3,SNR=3.3						
MKAR	Makanchi Array	160.05	56	PKPab		PKPab	01 59 09.3	+1.9
	0.3nm,0.9s,baz=315,slow=2.7,SNR=2.9						

*IDC **01** 01:54:30.9±0.8, 32°.90S×72°.06W, h0km, mb3.8/6, mb1 4.0/9, mb1mx3.9/27, mbtmp3.9/9, ML3.8/3, Error ellipse: s-maj=22.3km s-min=17.9km az=123.0*

*ISCJB **01** 01:54:31.5±0.7, 32°.98S±0°.08×72°.38W±0°.06, h15km, mb3.8/6, Error ellipse: s-maj=11.8km s-min=6.1km az=16.6*

*GUC **01** 01:54:33.0±0.3, 33°.08S×72°.29W, h6km±2km, ML4.4*

ISC 01 01:54:33.2±0.8, 32°.89S±0°.09×72°.14W±0°.07, h15km, n17, σ0§98/21, mb4.0/6, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	0.44	108	⇓*i*P		Pn	01 54 44.2	-0.8
IHA				*i* S		Sn	01 54 52.6	0.0
PEL	Peldehue	1.25	102	⇓*i*P		Pg	01 54 57.5	+0.3
PEL				*i* S		Sg	01 55 15.8	+2.3
PEL				AML	AML	01 55 17.9	
	comp=E,22μm,0.5s						
RCDM	Rinconada Maip	1.27	118	*i* P		Pn	01 54 56.4	0.0
RCDM				*i* S		Sg	01 55 14.4	+0.3
STL	Santa Lucia	1.37	114	*i* P9		Pn	01 54 58.0	+0.3
STL				*i* S		Sg	01 55 17.6	+0.2
FCH	Farellones	1.61	106	*i* P9		Sn	01 55 20.8	-1.3
FCH				*i* S		Sg	01 55 44.0	+18
FCH				AML	AML	01 55 49.0	
	comp=E,3μm,0.4s						
CFAA	Coronel Fontan	3.54	70	Pn		Pn	01 55 27.9	+0.1
	comp=E,0.1nm,0.3s,baz=278,slow=11,SNR=3.4						
CFAA				Lg	Lg	01 56 24.2	
	comp=E,1.1nm,0.3s,baz=289,slow=22,SNR=3.2						
PLCA	Paso Flores	7.93	171	Pn		Pn	01 56 27.8	-0.2
	comp=E,0.3nm,0.3s,baz=57,slow=16,SNR=3.7						
LPAZ	La Paz	16.93	13	Pn		Pn	01 58 30.7	+0.5
	comp=E,0.1nm,0.3s,baz=210,slow=4.6,SNR=5.8						
SIV	San Ignacio	19.59	33	P		P	01 59 00.1	-0.7
	comp=E,0.3nm,0.3s,baz=237,slow=12,SNR=8.5						
BDFB	Brasilia	27.80	58	P		P	02 00 19.6	-2.3
	comp=E,2.4nm,0.5s,baz=218,slow=8.5,SNR=6.7						
SNAA	Sanae	52.64	158	P		P	02 03 45.9	-0.4
	comp=E,1.4nm,0.9s,baz=313,slow=16,SNR=3.3						
QSPA	South Pole Qui	57.34	180	P		P	02 04 20.9	+0.5
	comp=E,2.2nm,0.9s,baz=159,slow=2.6,SNR=5.5						
TXAR	Lajitas Array	68.73	331	P		P	02 05 37.3	+0.8
	comp=E,0.2nm,0.6s,baz=146,slow=9.7,SNR=2.6						
PDAR	Pinedale Array	82.74	333	P		P	02 06 57.6	+1.1
	comp=E,0.2nm,0.5s,baz=150,slow=8.1,SNR=2.3						
TORD	Torodi Ar. Bea	83.91	70	P		P	02 07 02.9	0.0
	comp=E,1.4nm,0.9s,baz=279,slow=4.2,SNR=6.4						
ZALV	Zalesovo Beam	153.33	31	PKPbc		PKPbc	02 14 30.0	-0.1
	comp=E,0.2nm,0.3s,baz=320,slow=4.4,SNR=4.0						
MKAR	Makanchi Array	156.09	47	PKPab		PKPab	02 14 53.2	-1.0
	comp=E,0.4nm,0.6s,baz=288,slow=4.5,SNR=6.4						

*ISCJB **01** 01:56:35.9±0.6, 34°.72S±0°.06×72°.29W±0°.10, h10km, mb4.3/14, Error ellipse: s-maj=11.7km s-min=8.7km az=3.3*

*IDC **01** 01:56:35.7±0.7, 34°.68S×72°.30W, h0km, mb4.2/10, mb1 4.4/13, mb1mx4.2/28, mbtmp4.2/13, ML4.2/3, MS2.3/1, Ms1 2.3/1, ms1mx2.3/29, Error ellipse: s-maj=24.7km s-min=17.5km az=83.0*

*GUC **01** 01:56:37.7±0.6, 34°.66S×72°.44W, h29km±11km, ML4.6*

*NEIC **01** 01:56:41.2±0.3, 34°.66S×72°.19W, h35km, mb4.7/6, Error ellipse: s-maj=9.2km s-min=6.7km az=81.0*

ISC 01 01:56:37.2±0.6, 34°.74S±0°.05×72°.24W±0°.09, h10km, n35, σ1§16/38, mb4.3/14, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCDM	Rinconada Maip	1.72	44	⇑*i*P		Pn	01 57 07.6	+0.4
RCDM				*i* S1		Sg	01 57 31.1	-1.4
IHA	Instituto Hidr	1.78	16	⇓*i*P		Pn	01 57 07.5	-0.5
STL	Santa Lucia	1.86	46	*e*P1		Pn	01 57 09.8	+0.7
PEL	Peldehue	2.05	39	⇑*i*P		Pn	01 57 13.0	+1.3
PEL				*i* S1		Sn	01 57 38.6	+1.1
PEL				AML	AML	01 57 50.6	
	comp=E,10μm,0.6s						
CMCH	Combarbala	3.71	17	*e*P1			01 57 34.2	
CFAA	Coronel Fontan	4.59	48	Pn		Pn	01 57 46.8	+0.1
	baz=218,slow=16,SNR=1.3						
CFAA				Lg	Lg	01 58 53.9	
	comp=E,2.3nm,0.3s,baz=93,slow=15,SNR=3.9						
CFAA				LR	LR	01 59 58.4	
	comp=E,34nm,20.3s,baz=223,slow=44						
PLCA	Paso Flores	6.13	168	Pn		Pn	01 58 09.6	+1.7
	comp=E,1.4nm,0.3s,baz=328,slow=9.7,SNR=4.9						
PLCA				Lg	Lg	01 59 47.4	
	comp=E,1.0nm,0.3s,baz=311,slow=18,SNR=3.0						
PLCA	Paso Flores	6.13	168	*e*Pn		Pn	01 58 10.0	+2.1
PLCA				*e*S		Sb	01 59 33.3	-4.2
PLCA				Lg	Lg	01 59 47.4	
TRQA	Tornquist	8.91	115	*e*Pn		Pn	01 58 46.4	+0.4
LVC	Limon Verde	12.43	14	*e*Pn		Pn	01 59 34.5	0.0
	comp=E,20nm,0.8s						
CPUP	Villa Florida	15.33	61	Pn		Pn	02 00 14.9	+1.3
	comp=E,0.3nm,0.3s,baz=146,slow=6.4,SNR=2.8						
LPAZ	La Paz	18.74	12	P		Pn	02 00 57.7	+0.5
	comp=E,0.3nm,0.3s,baz=179,slow=9.9,SNR=9.5						
LPAZ	La Paz	18.74	12	*e*P		Pn	02 00 58.0	+0.7
	comp=E,6.6nm,0.8s						
SIV	San Ignacio	21.19	31	P		P	02 01 22.1	-0.8
	comp=E,4.3nm,0.8s,baz=223,slow=12,SNR=9.3						
NNA	Nana	23.03	348	P		P	02 01 41.9	-0.8
	comp=E,7.9nm,0.7s,baz=206,slow=11,SNR=5.4						
OTAV	Otavalo	35.28	349	*e*P		P	02 03 32.1	-0.7
	comp=E,7.2nm,1.3s						
QSPA	South Pole Qui	55.50	180	P		P	02 06 13.1	+1.0
	comp=E,5.3nm,0.8s,baz=177,slow=1.4,SNR=14						
QSPA	South Pole Qui	55.50	180	*e*P		P	02 06 14.0	+1.9
	comp=E,21nm,1.4s						
TXAR	Lajitas Array	70.30	331	P		P	02 07 49.9	-1.0
	comp=E,1.2nm,0.7s,baz=153,slow=8.6,SNR=11						
WVT	Waverly	71.99	347	*e*P		P	02 08 00.2	-0.7
	comp=E,16nm,0.8s						
DBIC	Dimbokro	75.57	71	P		P	02 08 22.9	+0.5
	comp=E,2.8nm,0.7s,baz=191,slow=3.6,SNR=5.9						
BOSA	Boshof	79.87	118	P		P	02 08 46.8	+0.3
	comp=E,3.2nm,0.8s,baz=235,slow=4.6,SNR=6.7						
PDAR	Pinedale Array	84.35	333	P		P	02 09 09.3	-0.2
	comp=E,0.8nm,0.7s,baz=170,slow=4.2,SNR=7.6						
NVAR	Mina Array Bea	84.40	325	P		P	02 09 11.1	+1.3
	comp=E,1.1nm,0.8s,baz=147,slow=5.7,SNR=10						
TORD	Torodi Ar. Bea	84.62	70	P		P	02 09 11.1	-0.1
	comp=E,1.2nm,0.8s,baz=244,slow=4.3,SNR=6.2						
ULM	Lac du Bonnet	87.17	345	P		P	02 09 22.9	-0.1
	comp=E,0.9nm,0.6s,baz=206,slow=2.3,SNR=3.2						
MCMT	McKenzie Canyo	87.34	332	*e*P		P	02 09 24.9	+0.6
	comp=E,2.8nm,1.3s						
DGMT	Dagmar	87.62	339	*e*P		P	02 09 25.5	+0.3
	comp=E,15nm,1.0s						
YKA	Yellowknife Ar	102.70	341	P		Pdif	02 10 32.8	-0.9
	comp=E,0.1nm,0.5s,baz=145,slow=5.0,SNR=5.1						
ILAR	Eielson Array	114.78	333	PKP		PKPdf	02 15 16.8	-0.2
	comp=E,0.2nm,0.8s,baz=174,slow=3.6,SNR=3.1						
WRA	Warramunga Arr	120.04	209	PKP		PKPdf	02 15 28.2	-0.5
	comp=E,2.1nm,1.1s,baz=158,slow=1.8,SNR=8.9						
BRTR	Keskin Array B	122.33	61	PKP		PKPdf	02 15 32.5	0.0
	comp=E,0.4nm,0.7s,baz=54,slow=2.5,SNR=3.5						
AAK	Ala-Archa	153.00	63	*e*PKPbc		PKPbc	02 16 35.6	+0.8
ZALV	Zalesovo Beam	154.94	33	PKP		PKPdf	02 16 28.7	-0.9
	comp=E,0.4nm,0.3s,baz=317,slow=6.1,SNR=2.9						
ZALV				PKPbc		PKPbc	02 16 38.0	-0.4
	comp=E,0.7nm,0.4s,baz=338,slow=3.5,SNR=5.6						
ZALV				PKPab		PKPab	02 16 54.0	+0.2
	comp=E,1.4nm,0.7s,baz=311,slow=5.3,SNR=5.0						
MKAR	Makanchi Array	157.37	50	PKPab		PKPab	02 17 04.5	-0.1
	comp=E,0.7nm,0.7s,baz=296,slow=4.2,SNR=6.4						

*IDC **01** 01:59:54.4±0.7, 34°.57S×73°.75W, h0km, mb4.3/10, ML4.2/1, Error ellipse: s-maj=24.6km s-min=18.8km az=88.0*

*ISCJB **01** 01:59:58.1±0.6, 34°.54S±0°.09×73°.7W±0°.1, h33km, mb4.3/13, Error ellipse: s-maj=15.2km s-min=10.1km az=143.1*

*NEIC **01** 01:59:59.9±0.5, 34°.54S×73°.69W, h35km, mb4.6/5, Error ellipse: s-maj=15.1km s-min=11.7km az=100.0*

ISC 01 01:59:59.7±0.7, 34°.5S±0°.1×73°.8W±0°.1, h35km, n23, σ0§89/24, mb4.4/13, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	Coronel Fontan	5.48	59	Pn		Pn	02 01 18.1	-0.9
	baz=237,slow=17						
CFAA				Sn		Sn	02 02 21.8	+1.0
	1.3nm,0.3s,baz=348,slow=20,SNR=6.4						
LPAZ	La Paz	18.86	17	P		Pn	02 04 18.4	+0.2
	0.3nm,0.3s,baz=181,slow=8.1,SNR=8.3						
LPAZ	La Paz	18.86	17	*e*P		Pn	02 04 18.7	+0.5
SIV	San Ignacio	21.70	35	P		P	02 04 47.4	-0.3
	7.3nm,0.7s,baz=230,slow=9.5,SNR=13						
SAML	Samuel	27.25	23	P		P	02 05 40.6	-0.1
	2.6nm,1.0s						
SNAA	Sanae	51.64	158	P		P	02 09 01.7	-0.8
	2.5nm,0.9s,baz=283,slow=11,SNR=8.9						
SNAA	Sanae	51.64	158	*e*P		P	02 09 02.5	0.0
	44nm,1.6s						
QSPA	South Pole Qui	55.71	180	P		P	02 09 33.1	+0.6
	7.5nm,1.0s,baz=150,slow=4.9,SNR=8.6						
QSPA	South Pole Qui	55.71	180	*e*P		P	02 09 33.0	+0.5
	10nm,1.1s						
TXAR	Lajitas Array	69.52	332	P		P	02 11 05.5	+0.6
	1.5nm,0.7s,baz=157,slow=9.6,SNR=13						
WVT	Waverly	71.51	348	*e*P		P	02 11 16.0	-0.7
	10nm,1.1s						
DBIC	Dimbokro	76.70	72	P		P	02 11 48.0	+0.4
	7.7nm,0.7s,baz=219,slow=5.5,SNR=13						
BOSA	Boshof	81.08	118	P		P	02 12 12.1	+0.4
	5.7nm,1.0s,baz=202,slow=4.7,SNR=6.0						
NVAR	Mina Array Bea	83.52	326	P		P	02 12 25.5	+1.4
	0.7nm,0.8s,baz=149,slow=8.4,SNR=4.0						
PDAR	Pinedale Array	83.61	334	P		P	02 12 25.2	+0.8
	1.5nm,1.1s,baz=147,slow=6.2,SNR=4.9						
TORD	Torodi Ar. Bea	85.73	71	P		P	02 12 35.8	+0.3
	2.5nm,0.7s,baz=256,slow=4.0,SNR=14						
MCMT	McKenzie Canyo	86.58	333	*e*P		P	02 12 40.5	+1.1
	1.8nm,1.2s						
ULM	Lac du Bonnet	86.65	346	P		P	02 12 37.8	-1.4
	1.8nm,0.7s,baz=145,slow=4.2,SNR=3.3						
BRTR	Keskin Array B	123.34	62	PKP		PKPdf	02 18 52.1	-0.9
	0.6nm,0.9s,baz=207,slow=2.5,SNR=4.1						
AKASG	Malin Array Be	123.61	48	PKP		PKPdf	02 18 51.0	-1.9
	0.4nm,0.6s,baz=256,slow=3.5,SNR=5.3						
BRVK	Borovoye	148.57	43	*e*PKPbc		PKPbc	02 19 43.4	+1.0
ZALV	Zalesovo Beam	155.43	31	PKP		PKPdf	02 19 48.4	-0.5
	baz=326,slow=1.5						
ZALV				PKPbc		PKPab	02 19 58.3	-16
	2.0nm,0.7s,baz=327,slow=2.5,SNR=9.0						
ZALV				PKPab		PKPab	02 20 14.3	-0.2
	baz=319,slow=4.6						
MKAR	Makanchi Array	158.19	49	PKPab		PKPab	02 20 27.1	+0.3
	0.8nm,0.7s,baz=307,slow=3.8,SNR=8.6						

*IDC **01** 02:01:49.2±0.9, 35°.09S×73°.97W, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.0/26, mbtmp4.0/10, ML3.5/2, Error ellipse: s-maj=25.9km s-min=24.6km az=87.0*

*ISCJB **01** 02:01:52.7±0.8, 35°.1S

GOGA Godfrey 70.68 351 *eP* **P 02 24 55.7 -1.0**
1.8nm,0.6s
TXAR Lajitas Array 71.93 332 P **P 02 25 05.3 +0.8**
0.7nm,0.6s,baz=152,slow=8.7,SNR=13
SWET Sewanee 72.80 349 *eP* **P 02 25 09.5 0.0**
5.3nm,0.6s
DBIC Dimbokro 76.93 71 P **P 02 25 34.8 +1.0**
2.4nm,0.5s,baz=212,slow=6.6,SNR=7.0
ANMO Albuquerque 77.99 332 *eP* **P 02 25 39.0 -0.5**
3.9nm,1.2s
BOSA Boshof 79.44 118 P **P 02 25 48.2 +0.4**
1.6nm,0.8s,baz=156,slow=8.4,SNR=3.4
LBTB Lobatse 81.82 115 *eP* **P 02 26 01.0 +0.5**
12nm,1.0s
ECSD EROS Data Cent 83.12 343 *eP* **P 02 26 06.7 +0.3**
5.0nm,0.8s
MPU Maple Canyon 84.40 331 *eP* **P 02 26 13.9 +0.5**
3.5nm,1.0s
DUG Dugway, Tooele 85.02 331 *eP* **P 02 26 18.0 +1.6**
2.7nm,1.0s
NVAR Mina Array Bea 85.85 326 P **P 02 26 22.1 +1.5**
0.8nm,0.6s,baz=158,slow=6.2,SNR=6.6
TORD Torodi Ar. Bea 86.01 70 P **P 02 26 22.5 +0.8**
0.7nm,0.8s,baz=215,slow=4.7,SNR=11
PDAR Pinedale Array 86.03 334 P **P 02 26 21.9 +0.5**
0.4nm,0.7s,baz=120,slow=5.3,SNR=3.5
ULM Lac du Bonnet 89.14 346 P **P 02 26 35.8 -0.1**
1.8nm,0.7s,baz=232,slow=5.2,SNR=3.2
BRTR Keskin Array B 123.97 63 PKP **PKPdf 02 32 39.6 +0.7**
0.1nm,0.3s,baz=194,slow=4.6,SNR=2.5
GEYT Alibeck 141.59 73 PKP **PKPdf 02 33 11.9 0.0**
0.4nm,0.3s,baz=262,slow=2.9,SNR=3.2
ABKAR Akbulak array 144.13 55 *e*PKPdf PKPbc 02 33 14.9 +0.8
ZALV Zalesovo Beam 157.16 35 PKPab **PKPab 02 34 07.8 +1.0**
1.4nm,0.6s,baz=320,slow=3.9,SNR=4.4
MKAR Makanchi Array 159.27 54 PKP **PKPdf 02 33 39.3 +0.7**
0.3nm,0.7s,baz=214,slow=0.4,SNR=3.7
MKAR PKPab **PKPab 02 34 16.8 +0.5**
0.5nm,0.7s,baz=285,slow=4.8,SNR=4.9

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*IDC **01** 02:14:22.6±0.7,36°.73S×73°.30W,h0km,mb4.5/15, mb1 4.6/17,mb1mx4.5/31,mbtmp4.5/17,ML4.6/2,MS3.9/3, Ms1 3.9/3,ms1mx3.7/20,Error ellipse: s-maj=20.8km s-min=15.1km az=94.0*
*ISCJB **01** 02:14:24.7±0.4,36°.66S±0°.06×73°.30W±0°.09,h25km, mb4.6/28,Error ellipse: s-maj=10.1km s-min=8.1km az=7.5*
*NEIC **01** 02:14:27.6±2.8,36°.64S×73°.19W,h33km±19km,mb4.8/15, Error ellipse: s-maj=12.5km s-min=6.9km az=71.0*
ISC 01 02:14:26.3±0.5,**36°.70S**±0°.07×**73°.27W**±0°.10,**h25**km,**n56,** σ1**9**04/50,**mb4.6**/28,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.56**	**153**	LR	LR	02 17 23.7	
	comp=Z,2μm,19.6s,baz=332,slow=40						
PLCA	**Paso Flores**	**4.56**	**153**	Pn	**Pn**	**02 15 34.6**	**+0.9**
CFAA	**Coronel Fontan**	**6.57**	**41**	Pn	**Pn**	**02 16 01.4**	**0.0**
	1.7nm,0.3s,baz=225,slow=11,SNR=5.4						
CFAA				Sn	**Sn**	**02 17 18.4**	**+2.8**
	1.0nm,0.3s,baz=127,slow=15,SNR=2.2						
CFAA				Lg	Lg	02 17 54.5	
	0.4nm,0.3s,baz=328,slow=19,SNR=2.4						
CFAA				LR	LR	02 18 56.0	
	comp=Z,335nm,19.7s,baz=228,slow=41						
TRQA	**Tornquist**	**9.09**	**102**	*e*Pn	**Pn**	**02 16 34.0**	**-1.9**
CPUP	**Villa Florida**	**17.05**	**57**	P	**Pn**	**02 18 22.6**	**-0.4**
	1.8nm,0.3s,baz=195,slow=10,SNR=3.1						
CPUP	**Villa Florida**	**17.05**	**57**	*e*Pn	**Pn**	**02 18 22.4**	**-0.6**
	1.4nm,0.8s						
USHA	**Ushuaia**	**18.44**	**171**	LR	LR	02 25 14.9	
	comp=Z,827nm,20.9s,baz=324,slow=35						
LPAZ	**La Paz**	**20.83**	**14**	P	Pn	02 19 07.4	-1.9
	9.6nm,0.6s,baz=168,slow=6.7,SNR=5.8						
LPAZ	**La Paz**	**20.83**	**14**	*e*P	**P**	**02 19 07.2**	**+0.4**
SIV	**San Ignacio**	**23.30**	**31**	P	**P**	**02 19 31.8**	**-0.5**
	23nm,0.9s,baz=237,slow=13,SNR=6.6						
NNA	**Nana**	**24.81**	**352**	P	**P**	**02 19 46.7**	**+0.1**
	11nm,0.9s,baz=196,slow=9.8,SNR=4.6						
SAML	**Samuel**	**29.10**	**21**	*e*P	**P**	**02 20 24.4**	**-0.6**
	6.8nm,0.9s						
BDFB	**Brasilia**	**30.71**	**54**	P	**P**	**02 20 40.0**	**+0.5**
	8.3nm,0.9s,baz=204,slow=3.9,SNR=6.4						
OTAV	**Otavalo**	**37.06**	**351**	*e*P	**P**	**02 21 35.7**	**+0.7**
ROSC	**El Rosal**	**41.35**	**358**	P	**P**	**02 22 12.1**	**+1.4**
	7.9nm,0.6s,baz=78,slow=2.5,SNR=8.2						
ROSC	**El Rosal**	**41.35**	**358**	*e*P	**P**	**02 22 09.8**	**-0.9**
SNAA	**Sanae**	**49.49**	**157**	P	**P**	**02 23 15.2**	**+0.9**
	2.8nm,0.9s,baz=330,slow=8.0,SNR=4.5						
QSPA	**South Pole Qui**	**53.55**	**180**	P	**P**	**02 23 45.1**	**+0.4**
	6.4nm,0.8s,baz=335,slow=1.5,SNR=8.6						
APG	**El Apazote**	**53.92**	**339**	P	**P**	**02 23 49.5**	**+1.5**
	6.5nm,1.0s,baz=117,slow=10,SNR=4.4						
CELP	**Cerrillos**	**54.84**	**8**	*e*P	**P**	**02 23 53.0**	**-1.4**
LRS	**Lares**	**55.02**	**7**	*e*P	**P**	**02 23 53.6**	**-2.2**
PPT2	**Papeete2**	**68.89**	**263**	*e*S	S	02 34 52.0	+20
	13nm,23.5s						
PPT2	**Papeete2**	**68.89**	**263**	*e*LR	LR	02 46 25.2	
	408nm,23.8s						
TXAR	**Lajitas Array**	**71.62**	**332**	P	**P**	**02 25 45.7**	**0.0**
	1.2nm,0.6s,baz=152,slow=8.9,SNR=11						
SWET	**Sewanee**	**72.51**	**349**	*e*P	**P**	**02 25 49.9**	**-0.9**
	21nm,0.8s						
CPCT	**Cooper Cave**	**72.54**	**350**	*e*P	**P**	**02 25 51.5**	**+0.6**
MNTX	**Cornudas Mount**	**74.38**	**332**	*e*P	**P**	**02 26 00.9**	**-1.0**
	3.4nm,1.0s						
TUL1	**Leonard**	**75.21**	**341**	*e*P	**P**	**02 26 05.2**	**-1.4**
	13nm,0.8s						
DBIC	**Dimbokro**	**76.99**	**71**	P	**P**	**02 26 18.1**	**+0.8**
	18nm,0.8s,baz=202,slow=5.7,SNR=12						
DBIC	**Dimbokro**	**76.99**	**71**	*e*P	**P**	**02 26 17.9**	**+0.7**
	28nm,1.4s						
ACSO	**Alum Creek Sta**	**77.07**	**352**	*e*P	**P**	**02 26 15.2**	**-1.9**
	20nm,1.1s						
LAZ	**Ladron**	**77.45**	**332**	*e*P	**P**	**02 26 21.5**	**+1.9**
	3.7nm,1.1s						
ANMO	**Albuquerque**	**77.68**	**333**	*e*P	**P**	**02 26 21.5**	**+0.7**
	8.7nm,1.1s						
TSUM	**Tsumeb**	**79.44**	**106**	*e*P	**P**	**02 26 31.2**	**+0.2**
	8.5nm,1.3s						
BOSA	**Boshof**	**79.71**	**118**	P	**P**	**02 26 32.9**	**+0.6**
	8.6nm,1.0s,baz=247,slow=6.3,SNR=5.8						
LBTB	**Lobatse**	**82.08**	**115**	*e*P	**P**	**02 26 45.2**	**+0.2**
	14nm,0.7s						
SHPR	**Sheep Range**	**82.55**	**327**	*e*P	**P**	**02 26 48.1**	**+1.1**
	5.3nm,1.0s						
ECSD	**EROS Data Cent**	**82.81**	**343**	*e*P	**P**	**02 26 46.8**	**-1.2**
	14nm,0.8s						
NVAR	**Mina Array Bea**	**85.54**	**326**	P	**P**	**02 27 03.0**	**+0.7**
	0.6nm,0.8s,baz=153,slow=6.1,SNR=2.2						
PDAR	**Pinedale Array**	**85.72**	**334**	P	**P**	**02 27 03.3**	**+0.2**
	1.4nm,0.9s,baz=144,slow=5.3,SNR=5.9						
HVU	**Hansel Valley**	**86.05**	**332**	*e*P	**P**	**02 27 03.8**	**-0.8**
	6.3nm,1.2s						
TOA0	**Torodi Ar. Sit**	**86.06**	**71**	*e*P	**P**	**02 27 04.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**86.06**	**71**	P	**P**	**02 27 05.1**	**0.0**
	5.6nm,0.8s,baz=237,slow=3.4,SNR=13						
AGMN	**Agassiz Nation**	**86.98**	**345**	*e*P	**P**	**02 27 07.7**	**-1.2**
	5.7nm,0.8s						
ULM	**Lac du Bonnet**	**88.84**	**346**	P	**P**	**02 27 17.2**	**-0.5**
	3.6nm,0.8s,baz=171,slow=9.4,SNR=4.6						
TAM	**Tamanrasset**	**94.88**	**65**	*e*P	**P**	**02 27 46.5**	**-0.1**
	1.6nm,0.9s						
DZM	**Mont Dzumac**	**98.84**	**234**	*e*LR	LR	03 00 35.0	
	221nm,24.9s						
BRTR	**Keskin Array B**	**123.99**	**63**	PKP	**PKPdf**	**02 33 21.9**	**-0.4**
	0.9nm,0.8s,baz=150,slow=0.9,SNR=6.9						
AKASG	**Malin Array Be**	**124.73**	**49**	PKP	**PKPdf**	**02 33 21.6**	**-1.6**
	0.7nm,0.6s,baz=268,slow=2.6,SNR=7.3						
POO	**Poona**	**145.93**	**113**	*e*P	PKPdf	02 33 58.0	-5.4
HYB	**Hyderabad**	**148.59**	**120**	*i*PKP	**PKPbc**	**02 34 10.5**	**-1.0**
KKAR	**Karatay Array**	**151.65**	**66**	*e*PKPbc	**PKPbc**	**02 34 18.1**	**-0.1**
TKM2	**Tokmak 2**	**155.38**	**66**	*e*PKPab	**PKPab**	**02 34 43.0**	**0.0**
ZALV	**Zalesovo Beam**	**157.03**	**34**	PKPab	**PKPab**	**02 34 49.9**	**+0.4**
	3.7nm,0.8s,baz=297,slow=6.5,SNR=6.5						
MKAR	**Makanchi Array**	**159.24**	**53**	PKPab	**PKPab**	**02 34 59.2**	**-0.1**
	2.2nm,0.8s,baz=292,slow=4.0,SNR=8.4						
CMAR	**Chiang Mai Arr**	**160.58**	**157**	PKPab	**PKPab**	**02 35 05.9**	**+0.2**
	0.8nm,0.3s,baz=347,slow=31,SNR=5.1						

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*IDC **01** 02:19:43.0±2.3,34°.57S×72°.48W,h0km,mb3.6/4, mb1 3.9/6,mb1mx3.8/27,mbtmp3.6/6,ML3.4/2,Error ellipse: s-maj=57.5km s-min=25.2km az=155.0*

*GUC **01** 02:19:46.2±0.3,34°.59S×72°.63W,h26km,ML4.0*
ISC 01 02:19:44.1±1.5,**34°.7S**±0°.2×**72°.5W**±0°.1,**h10**km,**n11,** σ0**9**96/14,**mb3.7**/4,**3C-1D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.14**	**53**	⇓*i*P	**Pn**	**02 20 06.4**	**+0.2**
LNV				*i* S	**Sg**	**02 20 21.3**	**+0.4**
CHCH	**Chadas Angostu**	**1.69**	**65**	⇑*i*P	**Pb**	**02 20 15.3**	**-0.1**
RCDM	**Rinconada Maip**	**1.83**	**51**	⇑*i*P	**Pn**	**02 20 15.9**	**+0.3**
RCDM				AML	AML	02 20 46.7	
	comp=E,980nm,0.4s						
STL	**Santa Lucia**	**1.97**	**52**	*e*P4	**Pn**	**02 20 18.0**	**+0.4**
STL				*i* S	**Sb**	**02 20 44.3**	**-0.4**
PEL	**Peldehue**	**2.14**	**46**	⇑*i*P	**Pn**	**02 20 21.2**	**+1.3**
PEL				*i* S4	**Sn**	**02 20 46.9**	**+0.3**
PEL				AML	AML	02 21 01.9	
	comp=N,3μm,0.7s						
CFAA	**Coronel Fontan**	**4.70**	**51**	Pn	**Pn**	**02 20 56.4**	**+1.2**
	comp=N,0.5nm,0.3s,baz=235,slow=13,SNR=5.7						
CFAA				Lg	Lg	02 22 09.6	
	comp=N,1.2nm,0.3s,baz=101,slow=18,SNR=5.7						
LPAZ	**La Paz**	**18.71**	**13**	P	**Pn**	**02 24 03.5**	**-0.2**
	comp=N,0.1nm,0.3s,baz=213,slow=6.5,SNR=3.8						
SIV	**San Ignacio**	**21.23**	**32**	P	**P**	**02 24 28.0**	**-2.3**
	comp=N,2.1nm,0.8s,baz=233,slow=9.4,SNR=3.5						
TXAR	**Lajitas Array**	**70.12**	**331**	P	**P**	**02 30 56.6**	**-0.2**
	comp=N,0.1nm,0.5s,baz=154,slow=11,SNR=5.6						
NVAR	**Mina Array Bea**	**84.20**	**326**	P	**P**	**02 32 16.6**	**+0.8**
	comp=N,0.6nm,0.8s,baz=144,slow=5.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**84.80**	**70**	P	**P**	**02 32 19.1**	**-0.1**
	comp=N,0.4nm,0.5s,baz=233,slow=5.1,SNR=4.2						

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*TIR **01** 02:22:16.3,40°.09N×19°.86E,h0km,ML2.8*
*ATH **01** 02:22:20.3,40°.13N×19°.74E,h16km±2km,MD3.2/8*
*CSEM **01** 02:22:21.5±0.4,40°.08N×19°.82E,h2km,MD3.2,Error ellipse: s-maj=12.7km s-min=6.7km az=65.0*
*SKO **01** 02:22:25.6,40°.03N×19°.93E,h0km,M2.0,ML2.3*
ISC 01 02:22:21.5±1.1,**40°.07N**±0°.03×**19°.78E**±0°.04,**h9**km±11km, **n22,** σ0**9**91/34,**Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.25**	**137**	*i* PG	**Pg**	**02 22 25.7**	**-0.9**
SRN				*i* SG	**Sg**	**02 22 30.3**	**+0.3**
SRN	**Sarande**	**0.25**	**137**	*i* Pg	**Pg**	**02 22 25.7**	**-0.9**
SRN				*i* Sg	**Sg**	**02 22 30.3**	**+0.3**
KEK	**Kerkira**	**0.35**	**177**	*e*PB	**Pg**	**02 22 27.9**	**-0.6**
KEK				*e*SB	**Sg**	**02 22 34.9**	**+1.7**
KEK	**Kerkira**	**0.35**	**177**	*e*Pb	**Pg**	**02 22 27.9**	**-0.6**
KEK				*e*Sb	**Sg**	**02 22 34.9**	**+1.7**
VLO	**Vlora**	**0.46**	**332**	*i* PG	**Pg**	**02 22 30.1**	**-0.4**
VLO				*i* SG	**Sb**	**02 22 38.1**	**-0.6**
VLO	**Vlora**	**0.46**	**332**	*i* Pg	**Pg**	**02 22 30.1**	**-0.4**
VLO				*i* Sg	**Sb**	**02 22 38.1**	**-0.6**
IGT	**Igoumenitsa**	**0.68**	**141**	*e*PB	**Pg**	**02 22 33.9**	**-0.8**
IGT	**Igoumenitsa**	**0.68**	**141**	*e*Pb	**Pg**	**02 22 33.9**	**-0.8**
JAN	**Janina**	**0.92**	**116**	*e*PN	**Pg**	**02 22 38.6**	**-0.7**
DSL	**Palaion Diasel**	**1.38**	**132**	*e*PN	**Pg**	**02 22 48.2**	**+0.2**
DSL	**Palaion Diasel**	**1.38**	**132**	*e*Pn	**Pg**	**02 22 48.2**	**+0.2**
FNA	**Florina**	**1.42**	**59**	*e*PN	**Pn**	**02 22 47.0**	**-0.5**
FNA	**Florina**	**1.42**	**59**	*e*Pn	**Pn**	**02 22 47.0**	**-0.5**
LKD2	**Lefkada island**	**1.45**	**152**	*e*PN	**Pg**	**02 22 49.4**	**+0.1**
LKD2				*e*SN	**Sg**	**02 23 10.2**	**+2.2**
LKD2	**Lefkada island**	**1.45**	**152**	*e*Pn	**Pg**	**02 22 49.4**	**+0.1**
LKD2				*e*Sn	**Sg**	**02 23 10.2**	**+2.2**
THL	**Klokotos Trika**	**1.79**	**105**	*e*PN	**Pb**	**02 22 53.5**	**-1.0**
THL				*e*SN	**Sb**	**02 23 17.3**	**+0.2**
THL	**Klokotos Trika**	**1.79**	**105**	*e*Pn	**Pb**	**02 22 53.5**	**-1.0**
THL				*e*Sn	**Sb**	**02 23 17.3**	**+0.2**
EVR	**Evrytania**	**1.94**	**125**	*e*PN	**Pb**	**02 22 56.7**	**-0.5**
EVR	**Evrytania**	**1.94**	**125**	*e*Pn	**Pb**	**02 22 56.7**	**-0.5**
SKO	**Skopje**	**2.28**	**33**	*e*Pn	**Pg**	**02 23 05.8**	**+0.5**
VAY	**Valandovo**	**2.46**	**59**	*e*Pn	**Pb**	**02 23 06.5**	**+0.5**
VAY				*e*Sn	**Sb**	**02 23 36.3**	**-0.2**
VAY				*e*Lg	Lg	02 23 47.5	
	comp=E,161nm,3.7s						
VAY				*e*Lg	Lg	02 23 52.7	
	comp=N,17nm,1.2s						
VAY	**Valandovo**	**2.46**	**59**	*e*Pn	**Pb**	**02 23 06.5**	**+0.5**
VAY				*e*Sn	**Sb**	**02 23 36.2**	**-0.2**
VAY				*e*Lg	Lg	02 23 52.7	
	comp=N,17nm,1.2s						

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*IDC **01** 02:25:13.7±1.3,33°.99S×73°.15W,h0km,mb3.7/4, mb1 3.8/6,mb1mx3.6/28,mbtmp3.6/6,ML4.3/1,Error ellipse: s-maj=42.2km s-min=25.6km az=89.0*
*ISCJB **01** 02:25:16.9±1.2,34°.1S±0°.1×73°.1W±0°.2,h33km,mb3.7/4, Error ellipse: s-maj=28.3km s-min=16.7km az=14.2*
ISC 01 02:25:19.0±1.2,**34°.1S**±0°.1×**73°.1W**±0°.2,**h35**km,**n6,** σ0**9**73/6, **mb3.9**/4,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.76**	**61**	Pn	**Pn**	**02 26 28.6**	**+0.3**
	0.3nm,0.3s,baz=214,slow=11,SNR=3.7						
PLCA	**Paso Flores**	**6.97**	**164**	Pn	**Pn**	**02 26 58.1**	**-0.6**
	1.4nm,0.3s,baz=336,slow=12,SNR=11						
SNAA	**Sanae**	**51.87**	**158**	P	**P**	**02 34 24.2**	**+0.7**
	1.3nm,0.8s,baz=252,slow=9.6,SNR=5.4						
QSPA	**South Pole Qui**	**56.19**	**180**	P	**P**	**02 34 55.6**	**+0.4**
	2.5nm,0.9s,baz=163,slow=4.9,SNR=6.2						
TXAR	**Lajitas Array**	**69.36**	**332**	P	**P**	**02 36 23.1**	**-0.1**
	0.1nm,0.5s,baz=151,slow=6.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**85.05**	**71**	P	**P**	**02 37 50.7**	**-0.7**
	0.4nm,0.6s,baz=233,slow=5.3,SNR=7.3						

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*IDC **01** 02:26:02.5±1.0,34°.72S×73°.71W,h0km,mb4.3/7, mb1 4.4/10,mb1mx4.2/29,mbtmp4.2/10,ML3.9/3,MS2.7/2, Ms1 2.8/2,ms1mx2.7/28,Error ellipse: s-maj=31.0km s-min=24.5km az=5.0*
*ISCJB **01** 02:26:06.4±0.9,34°.6S±0°.1×73°.7W±0°.1,h33km,mb4.3/9, Error ellipse: s-maj=20.4km s-min=10.6km az=158.7*
*NEIC **01** 02:26:07.9±0.5,34°.70S×73°.65W,h35km,mb4.3/1,Error ellipse: s-maj=14.6km s-min=11.6km az=148.0*
ISC 01 02:26:08.0±0.9,**34°.7S**±0°.2×**73°.7W**±0°.1,**h35**km,**n21,** σ0**9**65/21,**mb4.3**/9,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.50**	**58**	Pn	**Pn**	**02 27 26.7**	**-0.8**
	0.7nm,0.3s,baz=255,slow=14,SNR=4.8						
CFAA				Sn	**Sn**	**02 28 30.6**	**+1.0**
	3.3nm,0.3s,baz=342,slow=19,SNR=12						
CFAA				LR	LR	02 29 12.5	
	comp=Z,15nm,18.2s,baz=228,slow=34						
PLCA	**Paso Flores**	**6.54**	**159**	LR	LR	02 30 26.2	
	comp=Z,294nm,18.5s,baz=332,slow=40						
LVC	**Limon Verde**	**12.72**	**20**	Pn	**Pn**	**02 29 07.5**	**+0.8**
CPUP	**Villa Florida**	**16.35**	**64**	Pn	**Pn**	**02 29 54.2**	**-0.7**
	0.1nm,0.3s,baz=209,slow=13,SNR=3.5						
LPAZ	**La Paz**	**18.97**	**17**	P	**Pn**	**02 30 27.8**	**-0.1**
	0.3nm,0.3s,baz=192,slow=6.4,SNR=10						
SIV	**San Ignacio**	**21.78**	**34**	P	**P**	**02 30 55.7**	**-1.2**
	7.3nm,0.8s,baz=240,slow=12,SNR=12						
TXAR	**Lajitas Array**	**69.67**	**332**	P	**P**	**02 37 13.9**	**-0.2**
	1.6nm,0.8s,baz=156,slow=7.8,SNR=15						
DBIC	**Dimbokro**	**76.69**	**72**	P	**P**	**02 37 55.9**	**+0.2**
	5.1nm,0.7s,baz=206,slow=5.2,SNR=7.5						
BOSA	**Boshof**	**80.96**	**118**	P	**P**	**02 38 19.6**	**+0.3**
	3.9nm,0.9s,baz=251,slow=4.7,SNR=5.3						
NVAR	**Mina Array Bea**	**83.67**	**326**	P	**P**	**02 38 33.3**	**+0.2**
	0.6nm,0.7s,baz=143,slow=5.9,SNR=5.3						
PDAR	**Pinedale Array**	**83.76**	**334**	P	**P**	**02 38 34.1**	**+0.6**
	2.4nm,1.2s,baz=161,slow=6.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**85.72**	**71**	P	**P**	**02 38 44.0**	**+0.2**
	3.3nm,1.0s,baz=262,slow=3.5,SNR=11						
MCMT	**McKenzie Canyo**	**86.73**	**333**	*e*P	**P**	**02 38 47.6**	**-0.7**
	2.6nm,1.3s						
DGMT	**Dagmar**	**87.14**	**340**	*e*P	**P**	**02 38 49.5**	**-0.4**
	7.8nm,0.7s						
BRTR	**Keskin Array B**	**123.35**	**62**	PKP	**PKPdf**	**02 45 00.6**	**-0.8**
	0.4nm,0.8s,baz=157,slow=3.5,SNR=3.8						
AKASG	**Malin Array Be**	**123.65**	**48**	PKP	**PKPdf**	**02 45 00.9**	**-0.4**
	0.2nm,0.5s,baz=270,slow=2.0,SNR=5.3						
ABKAR	**Akbulak array**	**143.17**	**52**	*e*PKPdf	PKPbc	02 45 35.6	+0.7
BRVK	**Borovoye**	**148.63**	**43**	*e*PKPbc	**PKPbc**	**02 45 51.6**	**+0.9**
AAK	**Ala-Archa**	**154.03**	**63**	*e*PKPbc	**PKPbc**	**02 46 04.5**	**+0.7**
ZALV	**Zalesovo Beam**	**155.51**	**31**	PKP	**PKPdf**	**02 45 57.2**	**0.0**
	0.3nm,0.4s,baz=324,slow=3.8,SNR=2.7						
ZALV				PKPbc	PKPbc	02 46 06.7	
	1.7nm,0.7s,baz=287,slow=4.0,SNR=6.7						
ZALV				PKPab	**PKPab**	**02 46 23.5**	**+0.3**
	0.5nm,0.3s,baz=328,slow=5.3,SNR=3.9						
MKAR	**Makanchi Array**	**158.23**	**49**	PKPab	**PKPab**	**02 46 35.5**	**+0.3**
	0.7nm,0.7s,baz=304,slow=4.2,SNR=8.0						

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*GUC **01** 02:44:39.2±0.6,34°.02S×73°.37W,h17km±4km,ML5.5*
*ISCJB **01** 02:44:41.0±0.1,34°.98S±0°.03×72°.50W±0°.04,h23km, mb5.8/219,MS5.4/194,Error ellipse: s-maj=4.4km s-min=3.4km az=147.8*
*BJI **01** 02:44:41.0,35°.00S×72°.50W,h22km,mB5.6/37,Ms5.7/36, Ms7 5.5/38*
*NEIC **01** 02:44:42.2±0.1,35°.04S×72°.49W,mb5.9/204,MS5.4/165, MW5.7,ML5.5(GUC),Error ellipse: s-maj=4.0km s-min=2.8km az=64.0,Moment Tensor Solution. s15 Moment tensor: Scale 10^{17}Nm; M_{rr}2.47; $M_{\theta\theta}$0.64; $M_{\phi\phi}$-3.10; $M_{r\theta}$-1.85; $M_{\theta\phi}$1.04; $M_{\phi r}$-3.98; Best double couple: $M_0$5.30000×10^{17} NP1:ϕ_s196.00000°,δ76.00000°, λ112.00000°. NP2:ϕ_s318.00000°,δ26.00000°,λ34.00000°. Principal axes: T 5.4700, Plg54.0000°, Azm133.0000°; N -0.2900, Plg21.0000°, Azm10.0000°; P -5.1700, Plg27.0000°, Azm269.0000°;*
NEIC Felt at Curico, San Felipe, Santiago and Villarrica. Felt [II] at Mendoza, Argentina.
*IDC **01** 02:44:42.8±0.5,35°.01S×72°.43W,h25km±2km,mb5.1/27, mb1 5.2/31,mb1mx5.1/34,mbtmp5.2/31,ML5.1/3,MS5.3/18, Ms1 5.2/18,ms1mx5.1/28 Error ellipse: s-maj=13.0km s-min=10.7km az=58.0*
*MOS **01** 02:44:42.9±1.1,34°.93S×72°.50W,h33km,mb5.9/55, MS5.3/35,Error ellipse: s-maj=10.0km s-min=5.8km az=92.1*
*GCMT **01** 02:44:42.2±0.2,35°.22S×72°.75W,h19km,MW5.6/98, Moment Tensor Solution. s89,c140; s98,c186; Duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}1.40±.05; $M_{\theta\theta}$0.40±.04; $M_{\phi\phi}$-1.80±.04; $M_{r\theta}$-0.31±.09; $M_{\theta\phi}$1.30±.03; $M_{\phi r}$-2.55±.16; Best double couple: $M_0$3.29800×10^{17} NP1:ϕ_s183.00000°,δ75.00000°, λ115.00000°. NP2:ϕ_s302.00000°,δ29.00000°,λ32.00000°. Principal axes: T 3.1250, Plg53.0000°, Azm123.0000°; N 0.3490, Plg24.0000°, Azm356.0000°; P -3.4710, Plg26.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 02:44:42.4±0.3,**35°.02S**±0°.04×**72°.50W**±0°.04,**h25**km±2km, **h25**km:**pP-P**,**n1376,** σ1**9**11/1401,**mb5.8**/219,**MS5.4**/194, **266C-254D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**1.88**	**44**	*i* P	**Pn**	**02 45 13.9**	**+0.9**
TACH				*i* S	**Sb**	**02 45 39.6**	**+0.5**
TACH	**Talagante**	**1.88**	**44**	*e*P	**Pn**	**02 45 13.5**	**+0.5**
RCDM	**Rinconada Maip**	**2.07**	**43**	*i* P	**Pn**	**02 45 15.4**	**-0.2**
RCDM				*i* S	**Sb**	**02 45 43.5**	**-1.2**
RCDM				AML	AML	02 45 59.1	
	comp=E,32μm,0.7s						
RCDM	**Rinconada Maip**	**2.07**	**43**	*e*P	**Pn**	**02 45 15.5**	**-0.1**
RCDM				*e*S	**Sb**	**02 45 43.3**	**-1.4**
SAN	**Santiago**	**2.18**	**45**	*e*P	**Pn**	**02 45 17.7**	**+0.6**
SAN	**Santiago**	**2.18**	**45**	*e*P	**Pn**	**02 45 17.9**	**+0.7**
SAN				*i* S	**Sb**	**02 45 47.1**	**-0.7**
SAN				AML	AML	02 46 15.1	
	comp=N,20μm,0.6s						
SAN	**Santiago**	**2.18**	**45**	*e*P	**Pn**	**02 45 17.7**	**+0.6**
STL	**Santa Lucia**	**2.21**	**45**	*i* P	**Pn**	**02 45 17.7**	**+0.2**
STL				*i* S	**Sb**	**02 45 47.3**	**-1.2**
PEL	**Peldehue**	**2.40**	**39**	⇑*i*P	**Pn**	**02 45 21.0**	**+0.8**
PEL				*i* S	**Sb**	**02 45 52.6**	**-1.6**
PEL	**Peldehue**	**2.40**	**39**	*e*P	**Pn**	**02 45 21.1**	**+0.8**
PEL				*i* S	**Sb**	**02 45 52.1**	**-2.0**
PEL				AML	AML	02 46 07.4	
	comp=N,68μm,2.4s						
PEL	**Peldehue**	**2.40**	**39**	⇑*i*P	**Pn**	**02 45 21.0**	**+0.8**
PEL				*i* S	**Sb**	**02 45 52.6**

comp=Z,7µm,20.0s
RPN Rapa Nui 32.38 274 P P 02 51 10.6 +0.5
comp=Z,16nm,0.4s,baz=357,slow=5.2,SNR=3.7
OTAV Otavalo 35.51 350 *e*P **P 02 51 39.5 +1.7**
comp=Z,215nm,1.4s
OTAV LR LR
comp=Z,2µm,18.0s
PAYG Puerto Ayora 37.98 330 *e*P **P 02 51 58.0 -0.4**
comp=Z,144nm,1.2s
PAYG LR LR
comp=Z,5µm,20.0s
ROSC El Rosal 39.70 357 *e*P P 02 52 16.6 +3.4
BCIP Isla Barro Col 44.49 350 *e*P P 02 52 59.8 +8.0
comp=Z,105nm,0.9s
RCBR Riachuelo 44.50 58 P **P 02 52 52.3 +0.3**
comp=Z,38nm,1.0s,baz=215,slow=10,SNR=4.1
RCBR Riachuelo 44.50 58 *e*P **P 02 52 52.4 +0.3**
comp=Z,239nm,1.4s
RCBR LR LR
comp=Z,12µm,19.0s
JTS JuntasAbangare 46.58 343 P **P 02 53 10.8 +2.5**
comp=Z,434nm,1.0s,SNR=5.5
JTS JuntasAbangare 46.58 343 P **P 02 53 09.4 +1.1**
JTS pmax pmax
comp=Z,11nm,0.8s
JTS JuntasAbangare 46.58 343 P **P 02 53 09.4 +1.1**
comp=Z,11nm,0.8s,baz=143,slow=5.1,SNR=3.0
JTS JuntasAbangare 46.58 343 *e*P **P 02 53 10.0 +1.6**
comp=Z,88nm,1.1s
JTS LR LR
comp=Z,1µm,20.0s
GRGR Grenville 48.01 14 *e*P **P 02 53 21.9 +2.5**
comp=Z,448nm,0.9s
GRGR LR LR
comp=Z,3µm,19.0s
VNA3 Neumayer Olymp 48.56 157 P **P 02 53 23.8 +0.6**
VNA1 Neumayer--Stat 48.89 157 P **P 02 53 26.7 +1.1**
VNA2 Neumayer--Watz 49.23 157 P **P 02 53 29.1 +0.8**
BBGH Gun Hill 49.45 17 PFAKE 02 53 40.0 +10
BBGH LR LR
comp=Z,4µm,19.0s
FDF Fort de France 50.64 14 *e*P **P 02 53 38.6 -0.9**
FDF pmax pmax
comp=Z,784nm,1.1s
FDF Fort de France 50.64 14 *e*P **P 02 53 38.8 -0.8**
FDF Fort de France 50.64 14 *e*P **P 02 53 39.7 +0.2**
FDF Fort de France 50.64 14 *e*P **P 02 53 38.6 -0.9**
comp=Z,784nm,1.1s
BVM Bellevue 50.66 14 *e*P P 02 53 46.3 +6.5
SNAA Sanae 50.79 157 P **P 02 53 41.0 +0.8**
SNAA Sanae 50.79 157⇑*i*P **P 02 53 40.5 +0.3**
SNAA Sanae 50.79 157 *e*P **P 02 53 40.1 -0.1**
SNAA pmax pmax
comp=Z,426nm,1.2s
SNAA MLR MLR
comp=Z,3µm,18.0s
SNAA Sanae 50.79 157 *e*P **P 02 53 40.1 -0.1**
comp=Z,426nm,1.2s
SNAA LR LR
comp=Z,3µm,18.0s
BBL Barber's Block 51.34 14 *e*P **P 02 53 43.8 -1.1**
PHG Guadaloupe-2 51.79 13 *e*P **P 02 53 47.2 -1.1**
LKG Breislack 51.81 13 *e*P P 02 53 54.4 +5.9
DEG La Desirade 52.19 14 *e*P **P 02 53 50.6 -0.6**
SEG Port Louis 52.19 13 *e*P **P 02 53 50.1 -1.0**
APG El Apazote 52.59 338 P P 02 53 50.8 -3.6
comp=Z,26nm,0.9s,baz=145,slow=5.0,SNR=39
APG LR LR 03 11 38.0
comp=Z,2µm,19.2s,baz=152,slow=31
ICMP Isla Caja de M 52.92 7 *e*P **P 02 53 55.7 -0.8**
JAKH Jacmel 52.96 360 *e*P P 02 54 04.8 +8.0
JAKH LR LR
comp=Z,1µm,19.2s
CRPR Cabo Rojo, PR 52.98 6 *e*P **P 02 53 56.4 -0.5**
comp=Z,288nm,1.0s
CDVI St. Croix 52.99 9 *e*P P 02 54 03.3 +6.3
comp=Z,161nm,1.0s
CDVI LR LR
comp=Z,4µm,21.3s
SEUS St. Eustatius 53.00 11 PFAKE 02 54 10.0 +13
SEUS LR LR
comp=Z,3µm,20.5s
OBIP Obispado Ponce 53.06 7 *e*P **P 02 53 57.7 +0.2**
OBIP *e*pP **pP 02 54 05.1 -0.2**
SABA Saba 53.08 11 *e*P **P 02 53 57.7 0.0**
SABA *e*pP **pP 02 54 04.4 -1.1**
SABA LR LR
comp=Z,3µm,20.4s
CELP Cerrillos 53.10 7 *e*P **P 02 53 58.0 +0.2**
CELP *e*pP **pP 02 54 05.8 +0.2**
CPD Cerro la Pandu 53.13 8 *e*P **P 02 53 57.5 -0.6**
CPD *e**PP **pP 02 54 04.1 -1.8**
CPD *e* 02 55 02.1
CPD Cerro la Pandu 53.13 8 *e*P **P 02 53 57.5 -0.6**
CPD *e*pP **pP 02 54 04.1 -1.8**
CPD *e*PcP **PcP 02 55 02.1 -4.1**
LSP Las Mesas 53.15 6 *e*P **P 02 53 57.9 -0.3**
LSP *e*pP **pP 02 54 05.2 -0.8**
MPR Mayaguez 53.18 6 *e*P **P 02 54 00.2 +1.8**
MPR *e*pP **pP 02 54 05.0 -1.2**
MPR LR LR
comp=Z,1µm,19.7s
HUMP Col San Antoni 53.24 8 *e*P **P 02 53 57.5 -1.3**
HUMP *e*pP **pP 02 54 04.7 -1.9**
HUMP LR LR
comp=Z,3µm,20.3s
PAPH Port-au-Prince 53.24 0 *e*P P 02 54 07.0 +8.1
PAPH LR LR
comp=Z,1µm,21.8s
LRS Lares 53.29 7 *e*P **P 02 53 58.4 -0.9**
LRS *e*pP **pP 02 54 05.3 -1.7**
AOPR Arecibo Observ 53.35 7 *e*P **P 02 54 01.2 +1.5**
comp=Z,193nm,1.1s
AOPR *e*PP PP 02 56 06.2 +5.9
CBYP Canovanas 53.37 8 *e*P **P 02 53 59.2 -0.7**
CBYP *e*pP **pP 02 54 05.6 -2.1**
CBYP LR LR
comp=Z,2µm,19.8s
ANWB Willy Bob 53.38 13 *e*P **P 02 53 59.0 -0.8**
ANWB *e*pP **pP 02 54 05.4 -2.2**
ANWB LR LR
comp=Z,2µm,20.0s
SMRT St. Maarten 53.53 11 *e*P **P 02 54 02.0 +1.0**
comp=Z,145nm,1.0s
SMRT LR LR
comp=Z,3µm,21.3s
STVI Saint Thomas 53.56 9 *e*P **P 02 54 02.5 +1.3**
STVI *e*pP **pP 02 54 07.0 -1.9**
STVI LR LR
comp=Z,2µm,21.9s
SDDR Presa de Saban 53.71 1 *e*P **P 02 54 03.4 +1.0**
comp=Z,74nm,1.0s
SDDR LR LR
comp=Z,1µm,20.0s
SMN1 Samana, DR 53.99 4 *e*P **P 02 54 04.1 -0.3**
SMN1 *i* 02 54 12.0
GTBY Guantanamo Bay 54.70 357 *e*P **P 02 54 09.6 +0.1**
GTBY *e*pP **pP 02 54 16.2 -1.0**
GTBY LR LR
comp=Z,1µm,19.0s
RKT Rikitea 55.09 265 *e*S **S 03 01 50.7 -3.1**
comp=Z,2µm,28.2s
RKT *e*LQ LQ 03 07 54.9
comp=Z,2µm,28.0s
RKT *e*LR LR 03 10 11.4
comp=Z,3µm,28.2s,baz=121
RKT Rikitea 55.09 265 *e*T T 03 53 11.6
comp=Z,6.1nm,0.2s
QSPA South Pole Qui 55.22 180 LR LR 03 17 38.6
comp=Z,2µm,18.0s,baz=168,slow=36
QSPA South Pole Qui 55.22 180⇑*i*P **P 02 54 13.6 +0.6**
comp=Z,142nm,1.1s
NVL N'lazarevskaya 55.54 156 *e*P **P 02 54 15.0 0.0**
NVL *e*PPP PPP 02 57 36.1
NVL pmax pmax
comp=Z,180nm,1.0s
GRTK Grand Turk 56.23 2 *e*P P 02 54 28.8 +8.4
comp=Z,329nm,1.0s
TEIG Tepich 56.95 342 P **P 02 54 25.5 -0.1**
comp=Z,76nm,0.7s,baz=164,slow=3.2,SNR=49
TEIG pP **pP 02 54 33.4 0.0**
comp=Z,142nm,0.7s,baz=174,slow=9.5,SNR=24
TEIG Tepich 56.95 342 *e*P **P 02 54 25.4 -0.2**
TEIG *e*pP **pP 02 54 32.9 -0.5**
TEIG LR LR
comp=Z,800nm,20.5s
ASCN Ascension 59.50 78 *e*P **P 02 54 44.2 +0.4**
comp=Z,670nm,1.6s
ASCN LR LR
comp=Z,4µm,22.0s
SHEL Horse Pasture 62.12 90 *e*P **P 02 55 02.5 +0.9**
SHEL pmax pmax
comp=Z,2µm,2.5s
SHEL Horse Pasture 62.12 90 *e*P **P 02 55 02.5 +0.9**
comp=Z,2µm,2.5s
SYO Syowa Base 65.06 158‖*e*P **P 02 55 18.6 -1.5**
035A Encino 66.21 335⇓P **P 02 55 28.8 +0.8**
baz=66
034A Hebbronville 66.53 335⇓P **P 02 55 30.7 +0.7**
baz=67,SNR=9.0
TBI Tubuai 66.71 257 *e*T T 04 07 40.1
comp=Z,9.2nm,0.2s
TIGA Tifton 66.92 350⇓P **P 02 55 32.5 0.0**
baz=67
TIGA Tifton 66.92 350 *e*P **P 02 55 32.3 -0.1**
TIGA *e*pP **pP 02 55 39.0 -1.4**
934A Benavides 66.97 335⇓P **P 02 55 33.8 +0.9**
baz=67
BRAL Brewton 67.09 346 *e*P **P 02 55 34.6 +1.0**
BRAL *e*pP **pP 02 55 41.6 +0.1**
933A Laredo 67.24 334⇑P **P 02 55 35.3 +0.7**
baz=68,SNR=8.6
835A Beeville 67.36 336⇑P **P 02 55 36.4 +1.1**
baz=68
BBSR BB Station 67.44 7 *e*P **P 02 55 36.3 +0.6**
BBSR *e*pP **pP 02 55 43.3 -0.3**
834A Tilden 67.46 335⇑P **P 02 55 37.3 +1.3**
baz=68
735A Kenedy 67.88 336⇓P **P 02 55 39.7 +1.1**
baz=68,SNR=15
833A Chaparral WMA, 67.93 335⇑P **P 02 55 39.8 +0.8**
baz=68,SNR=32
RGRS Roger Stewart 67.95 353 *e*P **P 02 55 39.0 +0.1**
RGRS *i* 02 55 47.0
SACV Santiago Islan 67.98 52 PFAKE 02 55 50.0 +10
SACV LR LR
comp=Z,4µm,18.0s
832A Faith Ranch, C 68.10 334⇑P **P 02 55 39.7 -0.3**
baz=68,SNR=33
734A La Parita Cree 68.12 335⇓P **P 02 55 40.6 +0.5**
baz=68,SNR=9.5
NHSC New Hope 68.15 353 *e*P **P 02 55 38.0 -2.1**
comp=Z,554nm,1.1s
NHSC LR LR
comp=Z,899nm,18.0s
636A Smothers Creek 68.21 337⇑P **P 02 55 42.0 +1.4**
baz=69,SNR=20
733A Divot King Ran 68.26 335⇑P **P 02 55 41.7 +0.7**
baz=69,SNR=10
HKT Hockley 68.26 338 *e*P **P 02 55 41.7 +0.8**
HKT pmax pmax
comp=Z,114nm,1.4s
HKT Hockley 68.26 338 *e*P **P 02 55 41.7 +0.8**
comp=Z,114nm,1.4s
MEH Mehetia 68.34 263 *e*T T 04 09 43.6
comp=Z,147nm,0.2s
635A Leesville 68.36 336⇓P **P 02 55 41.9 +0.4**
baz=69,SNR=7.5
538A Harpers Horsep 68.41 339⇑P **P 02 55 43.2 +1.3**
baz=69
732A Laxson Ranch, 68.51 334⇓P **P 02 55 43.1 +0.6**
baz=69,SNR=53
537A Green Hill Par 68.53 338⇑P **P 02 55 43.7 +1.0**
baz=69,SNR=9.6
634A China Grove, S 68.54 336⇓P **P 02 55 43.0 +0.2**
baz=69
536A Bastrop 68.76 337⇑P **P 02 55 44.9 +0.8**
baz=69,SNR=6.5
GOGA Godfrey 68.84 350 *e*P **P 02 55 44.0 -0.5**
GOGA *e**PP **pP 02 55 51.5 -1.0**
GOGA MLR MLR
comp=Z,800nm,20.0s
GOGA Godfrey 68.84 350 *e*P **P 02 55 44.0 -0.5**
GOGA *e*pP **pP 02 55 51.5 -1.0**
GOGA LR LR
comp=Z,800nm,20.0s
LPIG La Paz 68.86 323 P **P 02 55 45.8 +1.0**
comp=Z,14nm,0.4s,baz=2.7,slow=4.7,SNR=3.3
LPIG LR LR 03 19 15.8
comp=Z,844nm,19.6s,baz=150,slow=30
535A Dale 68.88 337⇑P **P 02 55 45.5 +0.6**
baz=69,SNR=7.6
633A Saathoff Ranch 68.89 335⇑P **P 02 55 45.5 +0.6**
baz=69,SNR=26
438A Sam Houston St 68.90 339 P **P 02 55 45.7 +0.7**
baz=69
VBMS Vicksburg 68.99 344 *e*P **P 02 55 46.3 +0.9**
comp=Z,121nm,0.9s
LRAL Lakeview Retre 69.05 347 *e*P **P 02 55 45.9 +0.1**
comp=Z,136nm,1.3s
340A Bronson 69.08 340⇓P **P 02 55 46.5 +0.5**
baz=69
632A Uvalde 69.15 335⇓P **P 02 55 47.1 +0.5**
baz=70,SNR=41
534A Blanco 69.18 336⇓P **P 02 55 46.7 -0.1**
baz=70,SNR=11
339A Huntington 69.19 340⇑P **P 02 55 47.3 +0.6**
baz=70,SNR=7.4
436A Wall Ranch, Ga 69.32 338⇓P **P 02 55 48.2 +0.7**
baz=70
631A Perdido Creek 69.34 334⇓P **P 02 55 48.2 +0.4**
baz=70,SNR=15
533A Kerrville 69.41 336⇓P **P 02 55 48.7 +0.5**
baz=70,SNR=17
338A Crockett 69.42 339⇑P **P 02 55 49.4 +1.2**
baz=70,SNR=11
TIAR Tiarei 69.55 263 *e*T T 04 11 13.8
comp=Z,14nm,0.3s
337A Centerville 69.56 339⇓P **P 02 55 50.0 +1.0**
baz=70,SNR=8.2
435B Jarrell 69.58 337⇓P **P 02 55 49.9 +0.8**
baz=70,SNR=7.3
NATX Nacogdoches 69.62 340 *e*P **P 02 55 47.7 -1.6**
comp=Z,147nm,1.0s
PAE Paea 69.68 262 *e*T T 04 11 24.2
comp=Z,1.8nm,0.2s
PPT2 Papeete2 69.72 262 *e*S **S 03 04 57.6 -0.6**
comp=Z,2µm,24.2s
PPT2 Papeete2 69.72 262 *e*LR LR 03 17 05.9
comp=Z,5µm,26.5s,baz=121
PPT2 Papeete2 69.72 262 *e*T T 04 11 26.0
comp=Z,3.7nm,0.2s
PPT Papeete 69.73 262 *e*P **P 02 55 51.7 +1.2**
PPT Papeete 69.73 262 P **P 02 55 52.1 +1.6**
comp=Z,161nm,1.0s,baz=163,slow=5.1,SNR=8.6
PPT Papeete 69.73 262 *e*P **P 02 55 51.7 +1.2**
532A Rockspring 69.76 335⇓P **P 02 55 51.0 +0.6**
baz=70,SNR=76
239A Gary 69.81 340 P **P 02 55 51.0 +0.5**
baz=70
434A Burnet 69.83 337⇑P **P 02 55 51.1 +0.3**
baz=70,SNR=43
336A Riesel 69.91 338⇓P **P 02 55 51.9 +0.7**
baz=70,SNR=9.9
238A Jacksonville 69.98 340 P **P 02 55 52.2 +0.7**
baz=70
335A Moody 70.00 337⇓P **P 02 55 51.9 +0.1**
baz=70,SNR=7.8
531A Rockspring 70.02 334⇓P **P 02 55 52.6 +0.6**
baz=70,SNR=33
JCT Junction City 70.04 335 *e*P **P 02 55 52.5 +0.4**
JCT pmax pmax
comp=Z,287nm,1.3s
JCT MLR MLR
comp=Z,698nm,20.0s
JCT Junction City 70.04 335⇓P **P 02 55 52.5 +0.4**
baz=70,SNR=36
JCT Junction City 70.04 335 *e*P **P 02 55 52.5 +0.4**
comp=Z,287nm,1.3s
JCT LR LR
comp=Z,698nm,20.0s
433A Art 70.05 336⇓P **P 02 55 52.2 +0.1**
baz=70,SNR=68
CNNC Cliffs of the 70.08 355 *e*P **P 02 55 52.7 +0.6**
CNNC *e*pP **pP 02 56 00.2 +0.2**
CNNC LR LR
comp=Z,900nm,19.3s
237A Washetta, Mont 70.17 339 P **P 02 55 53.6 +0.8**
baz=70
KMSC Kings Mountain 70.28 352⇑P **P 02 55 53.1 -0.3**
baz=71,SNR=11
KMSC Kings Mountain 70.28 352 *e*P **P 02 55 52.5 -0.9**
KMSC *e*pP **pP 02 56 00.8 -0.6**
KMSC LR LR
comp=Z,900nm,19.7s
530A J-C Ranch, Com 70.29 334⇓P **P 02 55 54.4 +0.8**
baz=71,SNR=42
334A Lometa 70.30 337⇑P **P 02 55 54.0 +0.4**
baz=71,SNR=43
432A Menard 70.40 335⇓P **P 02 55 54.3 0.0**
baz=71,SNR=19
LTX Lajitas 70.44 331 *e*P **P 02 55 55.2 +0.6**
LTX *e* 02 56 03.3
LTX Lajitas 70.44 331 *e*P **P 02 55 55.1 +0.6**
LTX *e*PcP **pP 02 56 03.2 +0.7**
LTX *e*PKiKP **PKiKP 03 02 09.4 +3.6**
TXAR Lajitas Array 70.44 331 P **P 02 55 55.1 +0.5**
comp=Z,14nm,0.7s,baz=157,slow=7.9,SNR=101
TXAR pP **pP 02 56 03.2 +0.7**
comp=Z,17nm,0.7s,baz=153,slow=7.4,SNR=18
TXAR LR LR 03 22 14.9
comp=Z,3µm,18.4s,baz=0.0,slow=32
TX31 Lajitas Ar. Si 70.44 331 *e*P **P 02 55 54.7 +0.1**
431A Sonora 70.51 334⇑P **P 02 55 55.1 +0.1**
baz=71,SNR=24
333A Richland Sprin 70.54 336⇓P **P 02 55 55.1 0.0**
baz=71,SNR=47
138A Matatall Enter 70.58 340 P **P 02 55 55.8 +0.5**
baz=71
529A Stev Forest Ra 70.59 333⇓P **P 02 55 55.7 +0.2**
baz=71,SNR=58
WHTX Lake Whitney, 70.66 338⇓P **P 02 55 56.1 +0.3**
baz=71,SNR=31
WHTX Lake Whitney, 70.66 338 *e*P **P 02 55 56.5 +0.7**
comp=Z,144nm,0.8s
430A Baggett Ranch, 70.83 334⇑P **P 02 55 57.4 +0.5**
baz=71,SNR=42
332A Millersview 70.85 336⇓P **P 02 55 56.9 -0.1**
baz=71,SNR=39
234A Clairette 70.89 337⇑P **P 02 55 57.4 +0.3**
baz=71,SNR=34
429A Davenport Ranc 70.92 333⇓P **P 02 55 58.1 +0.6**
baz=71,SNR=35
OXF Oxford 70.96 345 *e*P **P 02 55 57.0 -0.5**
OXF *e**PP **pP 02 56 04.7 -0.8**
OXF Oxford 70.96 345 *e*P **P 02 55 57.0 -0.5**
OXF *e*pP **pP 02 56 04.7 -0.8**
SWET Sewanee 70.99 348 *e*P **P 02 55 57.5 -0.3**
comp=Z,384nm,1.0s
SWET *i* 02 56 06.0
CPCT Cooper Cave 71.00 350 *e*P **P 02 55 59.9 +2.1**
331A San Angelo 71.02 335⇑P **P 02 55 58.1 0.0**
baz=71,SNR=26
TKL Tuckaleechee C 71.10 350 *e*P **P 02 55 57.6 -0.8**
TKL *e* 02 56 05.1
TKL Tuckaleechee C 71.10 350 P **P 02 55 58.0 -0.3**
comp=Z,22nm,0.7s,baz=166,slow=8.0,SNR=30
TKL Tuckaleechee C 71.10 350 *e*P **P 02 55 57.5 -0.8**
TKL *e*PcP **pP 02 56 05.1 -1.3**
233A Rising Star 71.15 336⇑P **P 02 55 58.9 +0.1**
baz=72,SNR=28
135A Vickery Place, 71.17 338⇓P **P 02 55 58.9 0.0**
baz=72,SNR=6.6
232A Coleman 71.28 336⇓P **P 02 55 59.8 +0.2**
baz=72,SNR=40
330A Mertzon 71.37 334⇑P **P 02 55 59.9 -0.2**
baz=72,SNR=29
134A White-Moore Ra 71.40 337⇓P **P 02 56 00.1 -0.1**
baz=72,SNR=12
231A Bronte 71.55 335⇑P **P 02 56 01.2 -0.1**
baz=72,SNR=47
133A Hamilton Ranch 71.70 337⇓P **P 02 56 02.2 +0.1**
baz=72
329A Wagon Wheel Ra 71.73 334⇑P **P 02 56 02.7 +0.4**
baz=72,SNR=38
230A Sterling City 71.78 335⇓P **P 02 56 02.3 -0.3**
baz=72,SNR=8.9
Z35A Perchaven, San 71.84 338⇓P **P 02 56 03.2 +0.3**
baz=72,SNR=16
UALR University of 71.87 343 *e*P **P 02 56 02.8 -0.2**
comp=Z,102nm,1.2s
TZTN Tazewell 71.94 351 *e*P **P 02 56 02.8 -0.6**
TZTN *e*pP **pP 02 56 10.7 -0.7**
ABTX Abilene, Hawle 71.95 336⇑P **P 02 56 03.7 +0.1**
baz=72,SNR=19
ABTX Abilene, Hawle 71.95 336 *e*P **P 02 56 03.9 +0.2**
comp=Z,130nm,0.8s
MIAR Mount Ida 71.96 342 *e*P **P 02 56 03.8 +0.3**
MIAR pmax pmax
comp=Z,83nm,1.2s
MIAR Mount Ida 71.96 342 *e*P **P 02 56 03.8 +0.3**
comp=Z,83nm,1.2s
Z34A Collier Ranch, 72.08 338⇑P **P 02 56 04.3 -0.1**
baz=72,SNR=15
229A Bryant Ranch, 72.10 334⇑P **P 02 56 04.7 +0.1**
baz=72,SNR=25
WVT Waverly 72.21 347 *e*P **P 02 56 04.8 -0.2**
WVT *e**PP **pP 02 56 11.9 -1.1**
WVT Waverly 72.21 347 *e*P **P 02 56 04.8 -0.2**
WVT *e*pP **pP 02 56 11.9 -1.1**
VWCC Virginia Weste 72.23 354 *e*P **P 02 56 05.1 -0.1**
VWCC *e*pP **pP 02 56 12.6 -0.6**
BLA Blacksburg 72.24 353 *e*P **P 02 56 04.9 -0.4**
BLA pmax pmax
comp=Z,90nm,1.1s
BLA MLR MLR
comp=Z,1µm,20.0s
BLA Blacksburg 72.24 353 *e*P **P 02 56 04.9 -0.4**
comp=Z,90nm,1.1s
BLA LR LR
comp=Z,1µm,20.0s
131A Roby 72.25 336⇓P **P 02 56 05.6 +0.2**
baz=73,SNR=16
Z33A Whitaker Ranch 72.27 337⇑P **P 02 56 05.5 0.0**
baz=73,SNR=33
MAW Mawson 72.31 164 P **P 02 56 05.9 +0.5**
comp=Z,38nm,0.9s,baz=299,slow=10,SNR=3.7
MAW LR LR 03 29 49.1
comp=Z,3µm,18.1s,baz=227,slow=37
130A Snyder 72.37 335⇓P **P 02 56 06.2 +0.1**
baz=73,SNR=16
URVA University of 72.37 356 *e*P **P 02 56 06.7 +0.7**
URVA *e*pP **pP 02 56 13.4 -0.6**
GNAR Gosnell 72.48 345 *e*P **P 02 56 06.7 +0.1**
comp=Z,3µm,1.2s
GNAR *e* 02 56 15.1
BBTS Babate 72.49 57 P **P 02 56 06.8 -0.3**
comp=Z,66nm,1.0s,baz=127,slow=2.4,SNR=6.8
BBTS pP **pP 02 56 14.9 -0.2**
comp=Z,246nm,1.1s,baz=266,slow=1.8,SNR=13
JSRW J. Sargeant Re 72.52 356 *e*P **P 02 56 07.3 +0.5**
JSRW *e*pP **pP 02 56 14.8 -0.1**
228A UT Block 9, Go 72.52 334⇓P **P 02 56 07.0 -0.1**
baz=73,SNR=32
Z32A Haskell 72.52 337⇑P **P 02 56 07.0 0.0**
baz=73,SNR=41
Y34A Reagan Ranch, 72.58 338⇓P **P 02 56 07.1 -0.2**
baz=73,SNR=17
129A Stewart Farms, 72.72 334⇓P **P 02 56 08.2 -0.1**
baz=73,SNR=24
Z31A Sharp Cattle R 72.75 336⇓P **P 02 56 08.4 0.0**
baz=73,SNR=44
ELIM Elim 72.76 120 *e*P **P 02 56 09.2 +0.5**
ELIM AMB AMB 02 56 10.2
comp=Z,154nm,1.3s
ELIM Elim 72.76 120 P **P 02 56 09.2 +0.5**
comp=Z,154nm,1.3s
PVMO Portageville 72.85 346 *e*P **P 02 56 09.1 +0.2**
PVMO *e*PcP **pP 02 56 17.1 +0.3**
Y33A Hilltop Ranch, 72.89 337⇑P **P 02 56 09.1 -0.1**
baz=73,SNR=20
128A Castleberry Fa 72.94 334⇓P **P 02 56 09.3 -0.3**
baz=73,SNR=40
CBN Corbin Frederi 73.00 356 *e*P **P 02 56 09.3 -0.3**
comp=Z,189nm,1.1s
Z30A Sanderson Ranc 73.06 335⇓P **P 02 56 10.2 -0.1**
baz=73,SNR=37
Y32A R-V Farms, Ver 73.15 337⇓P **P 02 56 10.5 -0.2**
baz=74,SNR=20
X34A Smith Ranch, M 73.20 338⇑P **P 02 56 11.0 0.0**
baz=74,SNR=23
MNTX Cornudas Mount 73.21 331 *e*P **P 02 56 08.3 -2.8**
comp=Z,45nm,1.0s
MNTX LR LR
comp=Z,2µm,20.0s
Z29A Hungry Hill Ra 73.23 335⇑P **P 02 56 10.9 -0.4**
baz=74,SNR=47
GDL2 Guadalupe Moun 73.26 332 *e*P **P 02 56 12.2 +0.7**

127A	Arkansas Junct	73.31 333	⇓P	P	02 56 11.7	-0.1
	baz=74,SNR=18					
X33A	Lawton	73.35 338	⇓P	P	02 56 11.1	-0.7
	baz=74,SNR=11					
PBMO	Poplar Bluff	73.36 345	eP	P	02 56 11.3	-0.5
	comp=Z,125nm,0.9s					
Y31A	Rekieta Farm,	73.38 336	⇑P	P	02 56 12.1	0.0
	baz=74,SNR=30					
X32A	Elmer	73.48 337	⇑P	P	02 56 12.7	0.0
	baz=74,SNR=13					
Z28A	Tucker Farm, M	73.50 334	⇓P	P	02 56 12.4	-0.5
	baz=74,SNR=22					
Y30A	Stafford Cattl	73.52 336	⇓P	P	02 56 12.5	-0.4
	baz=74					
KOMG	Komaggas	73.58 115	eP	P	02 56 14.4	+0.8
KOMG			AMB	AMB	02 56 15.7	
	comp=Z,167nm,1.2s					
KOMG	Komaggas	73.58 115	P	P	02 56 14.4	+0.8
	comp=Z,167nm,1.2s					
Y29A	Porterfield Fa	73.77 335	⇓P	P	02 56 14.4	0.0
	baz=74,SNR=30					
W34A	Bridge Creek,	73.77 339	⇓P	P	02 56 14.3	-0.1
	baz=74,SNR=11					
W34A	Bridge Creek,	73.77 339	eP	P	02 56 14.1	-0.3
	comp=Z,136nm,1.1s					
CPRX	Cap Rock	73.81 333	eP	P	02 56 15.5	+0.8
	comp=Z,26nm,0.7s					
Z27A	Tatum	73.82 334	⇓P	P	02 56 14.6	-0.2
	baz=74,SNR=20					
TUL1	Leonard	73.83 340	⇓P	P	02 56 14.3	-0.4
	baz=74,SNR=20					
TUL1	Leonard	73.83 340	eP	P	02 56 14.5	-0.2
	comp=Z,129nm,0.9s					
X31A	McDonald Ranch	73.90 337	⇓P	P	02 56 15.1	0.0
	baz=74,SNR=23					
W33A	Caddo, Fort Co	73.90 338	⇑P	P	02 56 15.4	+0.3
	baz=74,SNR=43					
USIN	University of	73.97 348	eP	P	02 56 15.0	-0.4
USIN			epP	pP	02 56 21.8	-1.6
USIN			LR	LR		
	comp=Z,900nm,21.9s					
WCI	Wyandotte Cave	73.99 349	eP	P	02 56 14.6	-1.0
WCI			e*PP	pP	02 56 21.6	-2.0
WCI			MLR	MLR		
	comp=Z,899nm,21.2s					
WCI	Wyandotte Cave	73.99 349	eP	P	02 56 14.6	-1.0
WCI			epP	pP	02 56 21.6	-2.0
WCI			LR	LR		
	comp=Z,899nm,21.2s					
Y28A	McKinney Farm,	74.01 335	⇓P	P	02 56 15.9	0.0
	baz=74,SNR=12					
SIUC	Southern Illin	74.01 346	eP	P	02 56 15.4	-0.2
SIUC			epP	pP	02 56 22.1	-1.6
X30A	Coker Ranch, T	74.03 336	⇑P	P	02 56 15.7	-0.2
	baz=74,SNR=9.0					
Z26A	Caprock	74.07 333	⇓P	P	02 56 16.4	+0.2
	baz=74,SNR=130					
W32A	Sentinel	74.12 337	⇓P	P	02 56 16.4	0.0
	baz=74,SNR=63					
SDMD	Soldier's Deli	74.17 357	eP	P	02 56 17.0	+0.5
SDMD			epP	pP	02 56 24.3	-0.3
V34A	Guthrie	74.25 339	⇑P	P	02 56 16.8	-0.3
	baz=75,SNR=14					
V34A	Guthrie	74.25 339	eP	P	02 56 16.8	-0.3
V34A			epP	pP	02 56 24.1	-1.0
MSTX	Muleshoe	74.25 334	⇓P	P	02 56 17.3	0.0
	baz=75,SNR=37					
MSTX	Muleshoe	74.25 334	eP	P	02 56 17.0	-0.3
	comp=Z,115nm,0.9s					
X29A	Tulia	74.31 335	⇑P	P	02 56 17.6	0.0
	baz=75,SNR=20					
Y27A	Causey	74.32 334	⇑P	P	02 56 17.3	-0.4
	baz=75,SNR=17					
Z25A	Roswell	74.35 332	⇓P	P	02 56 18.0	0.0
	baz=75,SNR=22					
W31A	Holland Ranch,	74.40 337	⇓P	P	02 56 17.8	-0.3
	baz=75,SNR=11					
V33A	Lossen Ranch,	74.47 338	⇑P	P	02 56 18.3	-0.1
	baz=75,SNR=24					
X28A	Dimmitt	74.55 335	⇑P	P	02 56 19.1	+0.1
	baz=75,SNR=12					
319A	Douglas	74.56 328	⇑P	P	02 56 20.1	+0.9
	baz=75,SNR=9.8					
Y26A	Elida	74.59 333	⇑P	P	02 56 19.4	0.0
	baz=75,SNR=19					
W30A	Crocket Farms	74.60 336	⇑P	P	02 56 19.2	-0.1
	baz=75					
V32A	Arapaho	74.61 338	⇓P	P	02 56 19.6	+0.4
	baz=75,SNR=7.8					
Z24A	Sheeppen Canyo	74.65 332	⇑P	P	02 56 20.1	+0.4
	baz=75,SNR=56					
SUR	Sutherland	74.67 119	P	P	02 56 21.4	+1.2
	comp=Z,706nm,1.0s,SNR=15					
SUR	Sutherland	74.67 119	eP	P	02 56 21.2	+1.1
	comp=Z,135nm,1.0s					
SUR			LR	LR		
	comp=Z,4μm,21.0s					
AMTX	Amarillo	74.70 335	⇓P	P	02 56 19.9	+0.1
	baz=75					
AMTX	Amarillo	74.70 335	eP	P	02 56 19.9	+0.1
	comp=Z,271nm,1.3s					
MVL	Millersville	74.73 357	eP	P	02 56 21.0	+1.2
MVL			epP	pP	02 56 27.2	-0.6
MVL			LR	LR		
	comp=Z,1μm,21.0s					
OLIL	Olney	74.79 347	eP	P	02 56 19.4	-0.7
OLIL			epP	pP	02 56 26.5	-1.7
U34A	Anderson Ranch	74.82 339	⇓P	P	02 56 20.0	-0.4
	baz=75,SNR=8.7					
U34A	Anderson Ranch	74.82 339	eP	P	02 56 20.7	+0.3
	comp=Z,226nm,1.1s					
W29A	Amarillo	74.90 336	⇑P	P	02 56 21.2	+0.1
	baz=75,SNR=36					
V31A	Spring Creek L	74.91 337	⇓P	P	02 56 22.1	+1.1
	baz=75,SNR=12					
Y25A	Mesa, Roswell	74.92 333	⇑P	P	02 56 20.8	-0.3
	baz=75,SNR=17					
121A	Cookes Peak, D	74.92 330	⇓P	P	02 56 22.4	+1.1
	baz=75,SNR=40					
BLO	Bloomington	74.95 349	eP	P	02 56 20.4	-0.7
BLO			e*PP	pP	02 56 27.2	-1.9
BLO	Bloomington	74.95 349	eP	P	02 56 20.4	-0.7
BLO			epP	pP	02 56 27.2	-1.9
X27A	F and S Farms,	74.98 334	⇓P	P	02 56 21.3	-0.2
	baz=75,SNR=5.3					
U33A	Lingo Farm, Me	74.98 339	⇑P	P	02 56 21.3	-0.1
	baz=75,SNR=8.6					
SLM	Saint Louis	75.11 346	eP	P	02 56 21.9	-0.1
SLM			pmax	pmax		
	comp=Z,248nm,1.0s					
SLM	Saint Louis	75.11 346	eP	P	02 56 21.9	-0.1
	comp=Z,248nm,1.0s					
X26A	CR and CF Fran	75.15 334	⇑P	P	02 56 22.9	+0.4
	baz=76,SNR=11					
V30A	Spur Ranch, Mi	75.17 337	⇑P	P	02 56 23.1	+0.6
	baz=76,SNR=10					
Y24A	Capitan	75.20 332	⇓P	P	02 56 23.2	+0.3
	baz=76,SNR=57					
U32A	Winter Ranch,	75.20 338	⇓P	P	02 56 22.8	+0.2
	baz=76,SNR=20					
Z22A	Elephant Butte	75.21 331	⇑P	P	02 56 23.8	+0.8
	baz=76,SNR=21					
W28A	Vega	75.22 335	⇑P	P	02 56 22.9	0.0
	baz=76					
LUPA	Lehigh Univers	75.29 358	eP	P	02 56 22.4	-0.6
	comp=Z,27nm,1.2s					
W27A	Bowe Ranch, En	75.34 334	⇓P	P	02 56 23.7	+0.1
	baz=76,SNR=49					
BRNJ	Basking Ridge	75.35 358	eP	P	02 56 23.4	+0.1
	comp=Z,197nm,1.1s					
BRNJ			LR	LR		
	comp=Z,2μm,21.9s					
X25A	Clemmons Ranch	75.44 333	⇓P	P	02 56 24.2	0.0
	baz=76					
Y23A	Lovelace Mesa,	75.45 332	⇓P	P	02 56 25.2	+0.9
	baz=76					
SSPA	Standing Stone	75.45 356	eP	P	02 56 24.3	+0.4
SSPA			epP	pP	02 56 30.8	-1.1
CPNY	Central Park	75.45 359	eP	P	02 56 24.2	+0.4
	comp=Z,147nm,1.3s					
U31A	Nine Bar Ranch	75.46 337	⇑P	P	02 56 24.2	+0.1
	baz=76,SNR=5.2					
LIC	Lamto	75.46 72	⇑iP	P	02 56 25.1	+0.5
	comp=Z,436nm,1.0s,baz=241					
LIC	Lamto	75.46 72	⇑iP	P	02 56 25.1	+0.5
	comp=Z,436nm,1.0s					
ACSO	Alum Creek Sta	75.50 352	eP	P	02 56 24.0	-0.2
	comp=Z,376nm,1.1s					
ACSO			LR	LR		
	comp=Z,999nm,21.0s					
V29A	Stinnett	75.54 336	⇑P	P	02 56 24.7	0.0
	baz=76					
W26A	Owens Ranch, T	75.61 334	⇓P	P	02 56 25.5	+0.3
	baz=76,SNR=18					
DRV	Dumont d'Urvil	75.63 193	S	SKiKP	03 05 50.0	+5.7
DRV			SS	SS	03 10 45.0	-9.1
DRV			L	L	03 16 00.0	
DRV			R		03 22 00.0	
T33A	Patterson Ranc	75.63 339	⇓P	P	02 56 25.5	+0.4
	baz=76					
PAL	Palisades	75.66 359	eP	P	02 56 33.2	+8.1
PAL	Palisades	75.66 359	eP	P	02 56 33.2	+8.1
V28A	Channing	75.67 335	⇑P	P	02 56 25.9	+0.5
	baz=76,SNR=31					
ODNJ	Ogdensburg	75.75 358	eP	P	02 56 26.4	+0.7
	comp=Z,203nm,1.2s					
X24A	Lazy VL Ranch,	75.77 332	⇑P	P	02 56 26.8	+0.7
	baz=76,SNR=10					
U30A	WK&E Inc. Balk	75.86 337	⇑P	P	02 56 26.8	+0.3
	baz=76,SNR=16					
BNM	Barren Site	75.86 331	eP	P	02 56 27.7	+1.0
DBIC	Dimbokro	75.87 71	⇑iP	P	02 56 27.6	+0.6
DBIC	Dimbokro	75.87 71	eP	P	02 56 27.7	+0.8
DBIC			e*PP	pP	02 56 34.8	-0.2
DBIC	Dimbokro	75.87 71	P	P	02 56 27.5	+0.6
	comp=Z,65nm,1.0s,baz=202,slow=6.3,SNR=41					
DBIC			pP	pP	02 56 35.6	+0.6
	comp=Z,146nm,0.7s,baz=206,slow=5.8,SNR=28					
DBIC			LR	LR	03 27 09.2	
	comp=Z,2μm,19.6s,baz=213,slow=34					
DBIC	Dimbokro	75.87 71	eP	P	02 56 27.7	+0.8
DBIC			epP	pP	02 56 34.8	-0.2
V27A	Dan Oppiter Fa	75.89 335	⇓P	P	02 56 27.0	+0.4
	baz=76,SNR=17					
Y22D	IRIS PASSCAL I	75.91 331	⇓P	P	02 56 27.8	+0.9
	baz=76					
T32A	Huddler Ranch,	75.92 339	⇑P	P	02 56 27.1	+0.4
	baz=76,SNR=7.7					
YLE	Yale	75.96 360	eP	P	02 56 27.9	+1.1
	comp=Z,586nm,1.1s					
W25A	X Bar L Ranch,	75.98 333	⇓P	P	02 56 27.5	+0.2
	baz=76,SNR=36					
U29A	Oasis Ranch, S	75.99 336	⇓P	P	02 56 27.4	+0.2
	baz=76					
LPM	Los Pinos Moun	76.01 331	eP	P	02 56 28.5	+1.0
LENM	Lemitar	76.01 331	eP	P	02 56 28.0	+0.5
TUC	Tucson	76.01 327	eP	P	02 56 27.9	+0.4
TUC			pmax	pmax		
	comp=Z,93nm,1.3s					
TUC			MLR	MLR		
	comp=Z,1μm,18.0s					
TUC	Tucson	76.01 327	eP	P	02 56 27.9	+0.4
	comp=Z,93nm,1.3s					
TUC			LR	LR		
	comp=Z,1μm,18.0s					
S33A	Kaszmaul Farm,	76.03 339	⇑P	P	02 56 27.5	+0.2
	baz=76					
X23A	Hourglass Bar	76.07 332	⇓P	P	02 56 28.6	+0.7
	baz=76,SNR=6.0					
T31A	Randall Ranch,	76.07 338	⇑P	P	02 56 27.6	0.0
	baz=76,SNR=6.2					
SFIN	Lafayette	76.22 349	⇓P	P	02 56 27.2	-1.1
	baz=77,SNR=5.8					
SFIN	Lafayette	76.22 349	eP	P	02 56 26.8	-1.5
SFIN			epP	pP	02 56 33.9	-2.5
SFIN			LR	LR		
	comp=Z,900nm,19.0s					
U28A	Mallet	76.24 336	⇑P	P	02 56 28.9	+0.3
	baz=77,SNR=13					
V26A	Tequesquite Ra	76.26 334	⇑P	P	02 56 28.8	-0.1
	baz=77,SNR=19					
LAZ	Ladron	76.28 331	eP	P	02 56 30.1	+1.0
T30A	Plains	76.30 337	⇓P	P	02 56 29.4	+0.5
	baz=77					
W24A	Lazy 6 Ranch,	76.33 333	⇓P	P	02 56 29.7	+0.3
	baz=77,SNR=30					
S32A	Newby Ranch, P	76.40 339	⇓P	P	02 56 29.8	+0.3
	baz=77,SNR=9.4					
U27A	Thompson Grove	76.48 335	⇑P	P	02 56 30.6	+0.5
	baz=77,SNR=28					
S31A	Mullinville	76.49 338	⇑P	P	02 56 30.4	+0.4
	baz=77,SNR=11					
ANMO	Albuquerque	76.50 332	eP	P	02 56 31.1	+0.8
ANMO			pmax	pmax		
	comp=Z,78nm,1.0s					
ANMO			MLR	MLR		
	comp=Z,3μm,19.0s					
ANMO	Albuquerque	76.50 332	P	P	02 56 31.1	+0.8
	comp=Z,33nm,0.9s,baz=161,slow=7.4,SNR=97					
ANMO	Albuquerque	76.50 332	eP	P	02 56 31.1	+0.8
	comp=Z,78nm,1.0s					
ANMO			LR	LR		
	comp=Z,3μm,19.0s					
W23A	Werner Place,	76.57 332	⇑P	P	02 56 31.6	+0.9
	baz=77,SNR=29					
BRYW	Bryant College	76.57 1	eP	P	02 56 31.4	+1.2
	comp=Z,464nm,1.1s					
V25A	Rancho No Teng	76.59 334	⇑P	P	02 56 31.3	+0.5
	baz=77,SNR=62					
ALLY	Alegheny Colle	76.62 354	eP	P	02 56 30.4	-0.1
	comp=Z,294nm,1.2s					
ALLY			e		02 56 37.7	
214A	Organ Pipe Nat	76.64 326	⇓P	P	02 56 32.0	+1.1
	baz=77,SNR=16					
214A	Organ Pipe Nat	76.64 326	eP	P	02 56 30.1	-0.8
	comp=Z,74nm,1.3s					
T29A	Hugoton	76.64 337	⇓P	P	02 56 31.1	+0.2
	baz=77,SNR=7.0					
R33A	Olander Ranch,	76.69 340	⇑P	P	02 56 31.0	-0.1
	baz=77,SNR=7.2					
V24A	Rampart Ranch,	76.73 333	⇓P	P	02 56 32.1	+0.4
	baz=77,SNR=25					
U26A	Atchley Ranch,	76.78 335	⇓P	P	02 56 32.1	+0.2
	baz=77,SNR=15					
S30A	Montezuma	76.81 338	⇑P	P	02 56 32.1	+0.2
	baz=77,SNR=11					
T28A	Walsh	76.87 336	⇑P	P	02 56 32.6	+0.4
	baz=77,SNR=53					
BINY	Binghamton	76.91 357	eP	P	02 56 32.7	+0.5
	comp=Z,181nm,1.3s					
S29A	Ulysses	77.00 337	⇓P	P	02 56 33.4	+0.4
	baz=77,SNR=25					
R32A	Long Quarter,	77.00 339	⇓P	P	02 56 33.2	+0.3
	baz=77,SNR=18					
U25A	Circle Dot Ran	77.02 334	⇑P	P	02 56 33.8	+0.6
	baz=77,SNR=32					
T27A	Campo	77.03 336	⇑P	P	02 56 33.4	+0.2
	baz=77,SNR=25					
KSU1	Kansas State U	77.05 341	⇓P	P	02 56 32.5	-0.5
	baz=77,SNR=9.7					
KSU1	Kansas State U	77.05 341	eP	P	02 56 32.4	-0.7
	comp=Z,107nm,1.1s					
V23A	Ortiz Mt. (NFS	77.09 332	⇓P	P	02 56 34.3	+0.7
	baz=77,SNR=15					
WIN	Windhoek	77.10 109	⇑iP	P	02 56 35.4	+1.2
WIN			AMB	AMB	02 56 44.5	
	comp=Z,34nm,1.1s					
WIN	Windhoek	77.10 109	P	P	02 56 35.4	+1.2
WIN			pmax	pmax		
	comp=Z,34nm,1.1s					
WIN	Windhoek	77.10 109	P	P	02 56 35.4	+1.2
	comp=Z,34nm,1.1s					
R31A	Burdett	77.12 338	⇓P	P	02 56 33.6	0.0
	baz=78,SNR=12					
UPI	Upington	77.14 116	⇑iP	P	02 56 34.9	+0.8
UPI			AMB	AMB	02 56 35.7	
	comp=Z,153nm,1.4s					
UPI	Upington	77.14 116	P	P	02 56 34.9	+0.8
	comp=Z,153nm,1.4s					
HRV	Adam Dziewonsk	77.16 1	eP	P	02 56 33.0	-0.5
HRV			pmax	pmax		
	comp=Z,288nm,1.1s					
HRV	Adam Dziewonsk	77.16 1	eP	P	02 56 33.0	-0.5
	comp=Z,288nm,1.1s					
S28A	Manter	77.23 336	⇓P	P	02 56 34.4	+0.2
	baz=78,SNR=40					
Q33A	Connelly Farm,	77.29 340	⇑P	P	02 56 34.4	0.0
	baz=78,SNR=6.3					
U24A	Moreno Valley	77.34 333	⇑P	P	02 56 36.0	+0.8
	baz=78,SNR=14					
R30A	Dighton	77.35 338	⇑P	P	02 56 34.9	+0.1
	baz=78,SNR=11					
TRY	Troy	77.38 359	eP	P	02 56 36.3	+1.5
	comp=Z,437nm,1.1s					
T26A	Comanche Natio	77.43 335	⇓P	P	02 56 36.1	+0.6
	baz=78,SNR=37					
Q32A	Meitler Ranch,	77.49 339	⇓P	P	02 56 35.6	+0.1
	baz=78,SNR=11					
V22A	San Miguel Ran	77.52 332	⇑P	P	02 56 37.5	+1.4
	baz=78,SNR=77					
MMNY	Mt. Morris Dam	77.54 356	eP	P	02 56 35.7	0.0
	comp=Z,706nm,1.1s					
X18A	Snowflake	77.55 329	⇓P	P	02 56 37.3	+1.1
	baz=78,SNR=14					
U23A	El Rito	77.61 333	⇑P	P	02 56 37.9	+1.3
	baz=78,SNR=32					
AAM	Ann Arbor	77.62 352	eP	P	02 56 35.4	-0.7
AAM			pmax	pmax		
	comp=Z,184nm,1.1s					
AAM	Ann Arbor	77.62 352	eP	P	02 56 35.4	-0.7
	comp=Z,184nm,1.1s					
S27A	Las Animas	77.65 336	⇑P	P	02 56 37.1	+0.5
	baz=78					
P33A	Williams Farm,	77.66 340	⇑P	P	02 56 36.4	0.0
	baz=78					
T25A	Trinidad	77.68 334	⇓P	P	02 56 37.8	+0.8
	baz=78,SNR=82					
Q31A	Ellis	77.75 339	⇓P	P	02 56 37.4	+0.4
	baz=78,SNR=15					
R29A	Marienthal	77.75 337	⇓P	P	02 56 37.4	+0.3
	baz=78,SNR=15					
113A	Mohawk Valley,	77.76 325	⇓P	P	02 56 38.4	+1.3
	baz=78					
S26A	Kim	77.79 335	⇓P	P	02 56 38.0	+0.6
	baz=78,SNR=51					
Z14A	Wintersburg	77.87 326	⇑P	P	02 56 38.5	+0.7
	baz=78,SNR=6.1					
R28A	Tribune	77.89 337	⇓P	P	02 56 38.0	+0.2
	baz=78,SNR=41					
U22A	Llaves	77.91 332	⇓P	P	02 56 39.6	+1.4
	baz=78,SNR=25					
T24B	San Luis	77.96 334	⇑P	P	02 56 39.9	+1.3
	baz=78,SNR=37					
W18A	Petrified Fore	77.96 330	⇓P	P	02 56 39.6	+1.2
	baz=78,SNR=12					
W18A	Petrified Fore	77.96 330	eP	P	02 56 39.7	+1.2
	comp=Z,166nm,1.2s					
W18A			LR	LR		
	comp=Z,2μm,18.0s					
Q30A	Quinter	77.97 338	⇑P	P	02 56 38.8	+0.5
	baz=78,SNR=22					
ACCN	Adirondack Com	78.04 359	eP	P	02 56 39.4	+0.9
	comp=Z,331nm,1.3s					
P32A	Huiting Farm,	78.09 340	⇓P	P	02 56 39.0	+0.2
	baz=78,SNR=12					
X16A	Lo Mia Camp, P	78.09 328	⇑P	P	02 56 40.3	+1.1
	baz=78,SNR=62					
Q29A	Oakley	78.12 338	⇑P	P	02 56 39.4	+0.2
	baz=78,SNR=26					
S25A	Robets Cordova	78.16 335	⇑P	P	02 56 40.4	+0.9
	baz=78,SNR=28					
R27A	Eads	78.16 336	⇑P	P	02 56 39.5	+0.1
	baz=78,SNR=55					
T23A	Casias Ranch,	78.18 333	⇓P	P	02 56 40.6	+0.9
	baz=78,SNR=24					
GRM	Grahamstown	78.19 122	⇑iP	P	02 56 40.3	+0.4
GRM			AMB	AMB	02 56 50.3	
	comp=Z,183nm,1.4s					
GRM	Grahamstown	78.19 122	P	P	02 56 40.3	+0.4
GRM	Grahamstown	78.19 122	P	P	02 56 40.3	+0.4
P31A	Stockton	78.22 339	⇑P	P	02 56 40.0	+0.4
	baz=79,SNR=16					
HNH	Hanover	78.35 0	eP	P	02 56 41.5	+1.4
	comp=Z,350nm,1.4s					
Y14A	Wickenburg	78.38 327	⇓P	P	02 56 41.3	+0.6
	baz=79,SNR=20					
R26A	Arlington	78.39 336	⇓P	P	02 56 41.3	+0.6
	baz=79,SNR=32					
S24A	Houchin Ranch,	78.42 334	⇓P	P	02 56 42.1	+1.0
	baz=79,SNR=55					
GLA	Glamis	78.49 325	eP	P	02 56 42.2	+0.9
GLA			pmax	pmax		
	comp=Z,121nm,1.5s					
GLA			MLR	MLR		
	comp=Z,2μm,19.8s					
GLA	Glamis	78.49 325	⇑P	P	02 56 42.2	+0.9
	baz=79,SNR=5.8					
GLA	Glamis	78.49 325	eP	P	02 56 42.2	+0.9
	comp=Z,121nm,1.5s					
GLA			LR	LR		
	comp=Z,2μm,19.8s					
P30A	Selden	78.50 338	⇑P	P	02 56 41.5	+0.4
	baz=79,SNR=8.1					
R25A	Fountain Ranch	78.54 335	⇑P	P	02 56 42.0	+0.4
	baz=79,SNR=14					
Q28A	Sharon Springs	78.55 337	⇓P	P	02 56 42.2	+0.7
	baz=79,SNR=14					
O32A	Brockman Farm,	78.59 340	⇑P	P	02 56 41.4	-0.2
	baz=79,SNR=6.6					
SDCO	Great Sand Dun	78.61 334	eP	P	02 56 42.6	+0.5
	comp=Z,71nm,1.1s					
SDCO			LR	LR		
	comp=Z,2μm,20.0s					
NCB	Newcomb	78.63 359	eP	P	02 56 41.9	+0.2
	comp=Z,158nm,1.2s					
NCB			i		02 56 49.5	
MDV	Middlebury	78.65 359	eP	P	02 56 42.2	+0.4
MDV			e		02 56 49.5	
KSCO	Kaye Shedlock'	78.76 337	⇓P	P	02 56 43.6	+0.9
	baz=79,SNR=8.5					
KSCO	Kaye Shedlock'	78.76 337	eP	P	02 56 43.2	+0.4
	comp=Z,269nm,1.3s					
P29A	Atwood	78.76 338	⇓P	P	02 56 43.4	+0.7
	baz=79,SNR=13					
S23A	Nye Farm, Mont	78.76 333	⇑P	P	02 56 43.8	+0.9
	baz=79,SNR=6.0					
O31A	Woolen Ranch,	78.78 339	⇑P	P	02 56 43.0	+0.3
	baz=79,SNR=11					
SWSC	Sam W. Stewart	78.86 324	⇓P	P	02 56 44.1	+0.9
	baz=79					
SCIA	State Center	78.88 344	eP	P	02 56 42.6	-0.5
	comp=Z,226nm,1.1s					
LBNH	Lisbon	78.89 0	eP	P	02 56 44.6	+1.4
LBNH			pmax	pmax		
	comp=Z,286nm,1.1s					
LBNH	Lisbon	78.89 0	eP	P	02 56 44.5	+1.4
	comp=Z,286nm,1.1s					
R24A	Sanders Place,	78.90 334	⇑P	P	02 56 44.6	+1.0
	baz=79,SNR=68					
Y12C	Blythe	78.92 325	⇑P	P	02 56 44.9	+1.3
	baz=79,SNR=17					
Q26A	Hugo	78.97 336	⇓P	P	02 56 44.9	+0.9
	baz=79,SNR=18					
P28A	Saint Francis	78.99 337	⇑P	P	02 56 44.6	+0.7
	baz=79,SNR=15					
HVD	Gariep Dam	78.99 120	⇑iP	P	02 56 45.2	+0.7
HVD			AMB	AMB	02 56 55.2	
	comp=Z,242nm,1.4s					
HVD	Gariep Dam	78.99 120	P	P	02 56 45.2	+0.7
HVD			pmax	pmax		
	comp=Z,242nm,1.4s					
HVD	Gariep Dam	78.99 120	P	P	02 56 45.2	+0.7
	comp=Z,242nm,1.4s					
WUAZ	Wupatki	79.00 329	⇑P	P	02 56 45.3	+1.1
	baz=79,SNR=33					
WUAZ	Wupatki	79.00 329	eP	P	02 56 45.6	+1.4
	comp=Z,117nm,1.1s					
WUAZ			LR	LR		
	comp=Z,1μm,19.0s					
O30A	MW Ranch, Wils	79.02 339	⇑P	P	02 56 44.4	+0.4
	baz=79,SNR=12					
N32A	Stulken Farm,	79.06 340	⇑P	P	02 56 44.3	+0.1
	baz=79					
BAR	Barrett	79.08 323	eP	P	02 56 45.0	+0.5
	comp=Z,96nm,1.6s					
S22A	4UR Ranch, Cre	79.10 333	⇑P	P	02 56 45.5	+0.7
	baz=80,SNR=25					
MONP	Monument Peak,	79.12 324	⇑P	P	02 56 46.1	+1.1
	baz=79					
R23A	Moffat	79.12 334	⇓P	P	02 56 45.7	+0.7
	baz=80,SNR=19					
O29A	4D Ranch, Culb	79.20 338	⇓P	P	02 56 45.6	+0.6
	baz=80,SNR=6.4					
PDMCI	Parker Dam,Lak	79.20 326	⇑P	P	02 56 45.7	+0.6
	baz=80					
Q25A	Bedland, Calha	79.21 335	⇓P	P	02 56 45.7	+0.4
	baz=80,

JFWS MLR MLR
comp=Z,1μm,20.0s
JFWS Jewell Farm 79.24 347 *eP* **P 02 56 45.0 -0.1**
JFWS LR LR
comp=Z,1μm,20.0s
PTN Potsdam (NY) 79.25 358 *eP* **P 02 56 46.0 +0.9**
PTN *e**PP **pP 02 56 52.4 -0.7**
PTN Potsdam (NY) 79.25 358 *eP* **P 02 56 46.0 +0.9**
PTN *ep*P **pP 02 56 52.4 -0.7**
WVL Waterville 79.25 2 *eP* **P 02 56 47.1 +2.1**
comp=Z,393nm,1.1s
MVCO Mesa Verde 79.27 331 ⇑P **P 02 56 46.6 +0.9**
baz=80,SNR=22
MVCO Mesa Verde 79.27 331 *eP* **P 02 56 46.7 +0.9**
comp=Z,130nm,1.1s
MVCO LR LR
comp=Z,4μm,18.0s
BC3 Big Chuckawall 79.28 325 ⇓P **P 02 56 46.8 +1.1**
baz=80,SNR=15
LONY Lake Ozonia 79.29 358 *eP* **P 02 56 45.9 +0.5**
comp=Z,248nm,1.1s
LONY *i* 02 56 53.3
N31A Bailey Ranch, 79.30 340 ⇑P **P 02 56 46.6 +1.0**
baz=80
TSUM Tsumeb 79.30 106 *eP* **P 02 56 46.8 +0.5**
comp=Z,172nm,1.4s
TSUM LR LR
comp=Z,3μm,22.0s
109C Camp Elliot, M 79.46 323 ⇑P **P 02 56 47.2 +0.7**
baz=80
EMMW East Machias 79.49 4 PFAKE 02 57 00.0 +14
EMMW LR LR
comp=Z,2μm,20.8s
P26A Davis Ranch, A 79.49 336 ⇑P **P 02 56 47.5 +0.7**
baz=80,SNR=18
O28A Krutsinger Ran 79.50 338 ⇑P **P 02 56 47.4 +0.7**
baz=80,SNR=15
IRM Iron Mountain 79.56 325 ⇓P **P 02 56 48.3 +1.2**
baz=80,SNR=19
Q24A Divide 79.57 335 ⇑P **P 02 56 48.0 +0.6**
baz=80,SNR=19
N30A Hueftle Ranch, 79.61 339 ⇓P **P 02 56 47.5 +0.2**
baz=80
BGNE Belgrade 79.62 341 ⇓P **P 02 56 47.4 +0.2**
baz=80,SNR=8.0
BGNE Belgrade 79.62 341 *eP* **P 02 56 46.7 -0.5**
comp=Z,297nm,1.5s
P25A Willow Gulch B 79.72 336 ⇓P **P 02 56 49.0 +0.9**
baz=80,SNR=46
PFO Pinyon Flats O 79.72 324 P **P 02 56 49.3 +1.1**
comp=Z,245nm,1.3s,SNR=9.0
PFO Pinyon Flats O 79.72 324 P **P 02 56 48.9 +0.7**
comp=Z,28nm,0.9s,baz=135,slow=3.6,SNR=33
PFO LR LR 03 25 52.4
comp=Z,1μm,18.1s,baz=174,slow=31
PFO Pinyon Flats O 79.72 324 ⇑P **P 02 56 49.2 +1.1**
baz=80,SNR=14
PFO Pinyon Flats O 79.72 324 *eP* **P 02 56 49.5 +1.3**
comp=Z,106nm,1.4s
W13A Hualapai Mount 79.75 327 ⇑P **P 02 56 49.4 +1.0**
baz=80
O27A Beecher Island 79.78 337 ⇓P **P 02 56 49.1 +0.9**
baz=80,SNR=15
N29A Votaw Ranch, W 79.78 339 ⇓P **P 02 56 48.7 +0.5**
baz=80,SNR=9.4
M31A Lambtecht Ranc 79.79 340 ⇓P **P 02 56 49.0 +0.8**
baz=80,SNR=9.9
NEE2 Needles Airpor 79.81 326 ⇓P **P 02 56 48.9 +0.5**
baz=80
BELC Belle Mtn. Jos 79.83 324 ⇓P **P 02 56 49.4 +0.7**
baz=80
BOSA Boshof 79.94 118 ⇑*iP* **P 02 56 50.1 +0.5**
BOSA AMB AMB 02 56 59.9
comp=Z,195nm,1.5s
BOSA Boshof 79.94 118 P **P 02 56 49.9 +0.3**
BOSA pmax pmax
comp=Z,125nm,1.0s
BOSA MLR MLR
comp=Z,1μm,18.1s
BOSA Boshof 79.94 118 P **P 02 56 49.9 +0.3**
comp=Z,125nm,0.9s,baz=237,slow=5.0,SNR=122
BOSA LR LR 03 31 56.1
comp=Z,1μm,18.1s,baz=234,slow=36
BOSA Boshof 79.94 118 *eP* **P 02 56 49.6 0.0**
comp=Z,376nm,1.4s
N28A Pribbeno Ranch 79.94 338 ⇑P **P 02 56 49.4 +0.3**
baz=80,SNR=6.4
P24A Kohler Place, 79.98 335 ⇑P **P 02 56 49.9 +0.5**
baz=80,SNR=6.4
MURC Murrieta 80.08 323 ⇓P **P 02 56 50.7 +0.8**
baz=80,SNR=7.5
O26A Horse Wrangler 80.10 337 ⇓P **P 02 56 51.0 +1.0**
baz=80,SNR=13
PV01 Paradox Valley 80.10 332 *eP* **P 02 56 51.1 +0.9**
U15A North Rim 80.16 328 ⇑P **P 02 56 51.7 +1.1**
baz=80,SNR=45
P23A Jefferson 80.18 334 ⇓P **P 02 56 51.9 +1.2**
baz=80,SNR=10
M30A Dale-Ortello V 80.22 339 ⇓P **P 02 56 50.9 +0.4**
baz=81,SNR=6.5
O25A Wiggins 80.25 336 ⇑P **P 02 56 52.0 +1.2**
baz=81,SNR=17
SCI San Clemente I 80.25 322 ⇓P **P 02 56 52.1 +1.3**
baz=81
PV05 Paradox Valley 80.26 331 *eP* **P 02 56 51.9 +0.9**
LDFC Landfair 80.29 326 *eP* **P 02 56 52.3 +1.1**
comp=Z,129nm,1.3s
LDFC *e*PKiKP **PKiKP 03 02 22.3 +2.0**
GMRC Granite Mounta 80.30 325 ⇓P **P 02 56 52.5 +1.2**
baz=81,SNR=37
OGNE Ogallala 80.33 338 ⇓P **P 02 56 51.7 +0.5**
baz=81
OGNE Ogallala 80.33 338 *eP* **P 02 56 51.8 +0.7**
comp=Z,264nm,1.7s
OGNE *i* 02 56 59.3
N27A Anderson Farm, 80.36 337 ⇓P **P 02 56 52.0 +0.6**
baz=81,SNR=17
M29A Burnside Ranch 80.38 339 ⇑P **P 02 56 52.1 +0.7**
baz=81,SNR=8.4
SMCO Snowmass 80.42 334 *eP* **P 02 56 53.3 +1.3**
comp=Z,257nm,1.4s
SMCO LR LR
comp=Z,800nm,19.1s
PV04 Paradox Valley 80.46 332 *eP* **P 02 56 52.1 0.0**
ISCO Idaho Springs 80.48 335 *eP* **P 02 56 52.7 +0.4**
ISCO pmax pmax
comp=Z,66nm,1.0s
ISCO Idaho Springs 80.48 335 ⇑P **P 02 56 53.0 +0.7**
baz=81,SNR=28
ISCO Idaho Springs 80.48 335 *eP* **P 02 56 52.7 +0.4**
comp=Z,66nm,1.0s
BBRC Big Bear Solar 80.48 324 ⇑P **P 02 56 54.1 +1.8**
baz=81
CIS Catalina Islan 80.52 322 P **P 02 56 53.1 +0.8**
baz=81
L31A Butterfield Fa 80.52 340 ⇑P **P 02 56 52.4 +0.3**
baz=81,SNR=21
M28A Bar X Bar Ranc 80.53 338 ⇑P **P 02 56 53.1 +0.8**
baz=81
L30A Spencer Herefo 80.56 340 ⇑P **P 02 56 53.0 +0.6**
baz=81,SNR=12
O24A Longmont 80.58 335 ⇓P **P 02 56 53.0 +0.4**
baz=81,SNR=6.3
N26A Koester Ranch, 80.60 337 ⇓P **P 02 56 53.0 +0.4**
baz=81
PV09 Paradox Valley 80.64 332 *eP* **P 02 56 54.0 +0.9**
HEC Hector,Ludlow 80.66 325 ⇓P **P 02 56 54.1 +1.0**
baz=81,SNR=36
P22A Eagle 80.70 334 ⇑P **P 02 56 54.1 +0.7**
baz=81,SNR=16
SWZ Schweizer 80.80 117 *eP* **P 02 56 53.8 -0.5**
SWZ AMB AMB 02 57 04.4
comp=Z,153nm,1.4s
SWZ Schweizer 80.80 117 P **P 02 56 53.8 -0.5**
comp=Z,153nm,1.4s
BFSC Mount Baldy Ra 80.82 323 ⇓P **P 02 56 54.9 +0.9**
baz=81,SNR=9.6
N25A Grover 80.87 336 ⇓P **P 02 56 54.7 +0.5**
baz=81,SNR=7.0
L29A Maesberg Ranch 80.88 339 ⇓P **P 02 56 54.6 +0.5**
baz=81,SNR=17
KNB Kanab 80.89 328 *eP* **P 02 56 55.7 +1.3**
KNB pmax pmax
comp=Z,146nm,1.0s
KNB MLR MLR
comp=Z,1μm,20.0s
KNB Kanab 80.89 328 *eP* **P 02 56 55.7 +1.3**
comp=Z,146nm,1.0s
KNB LR LR
comp=Z,1μm,20.0s
O23A Lake Granby, G 80.95 335 ⇑P **P 02 56 55.8 +1.0**
baz=81,SNR=35
TUQ Turquoise Moun 80.96 325 ⇑P **P 02 56 55.8 +1.1**
baz=81,SNR=6.0
MWC Mount Wilson 81.00 323 *eP* **P 02 56 56.3 +1.2**
MWC pmax pmax
comp=Z,76nm,1.2s
MWC Mount Wilson 81.00 323 *eP* **P 02 56 56.3 +1.2**
comp=Z,76nm,1.2s
PASC Pasadena Art C 81.02 323 *eP* **P 02 56 55.5 +0.6**
comp=Z,102nm,1.4s
O22A Kremmling 81.13 334 ⇑P **P 02 56 56.2 +0.4**
baz=82,SNR=34
L28A Connealy Angus 81.14 339 ⇑P **P 02 56 56.2 +0.7**
baz=82
N24A Carr 81.14 336 ⇓P **P 02 56 56.4 +0.8**
baz=82
M26A McRoberts Ranc 81.15 337 ⇑P **P 02 56 56.0 +0.4**
baz=82
DECC Green Verdugo 81.16 323 ⇓P **P 02 56 56.6 +0.9**
baz=82
K30A Basset 81.20 340 ⇑P **P 02 56 56.1 +0.4**
baz=82,SNR=32
GSC Goldstone, Bar 81.27 325 *eP* **P 02 56 57.0 +0.7**
GSC pmax pmax
comp=Z,68nm,1.3s
GSC Goldstone, Bar 81.27 325 ⇑P **P 02 56 57.0 +0.7**
baz=82,SNR=14
GSC Goldstone, Bar 81.27 325 *eP* **P 02 56 57.0 +0.7**
comp=Z,68nm,1.3s
ECSD EROS Data Cent 81.40 343 ⇓P **P 02 56 56.6 -0.2**
baz=82,SNR=18
ECSD EROS Data Cent 81.40 343 *eP* **P 02 56 56.4 -0.3**
comp=Z,172nm,1.0s
M25A Palm-Egli Farm 81.41 337 ⇑P **P 02 56 57.6 +0.5**
baz=82,SNR=5.7
L27A T5 Ranch, Ells 81.45 338 ⇑P **P 02 56 57.8 +0.6**
baz=82
K29A Lazy Trails An 81.48 340 ⇑P **P 02 56 57.7 +0.5**
baz=82,SNR=15
SHPR Sheep Range 81.49 326 *eP* **P 02 56 58.8 +1.2**
EDW2 Edwards Air Fo 81.50 324 ⇓P **P 02 56 58.0 +0.5**
baz=82,SNR=9.9
SHOC Shoshone, Teco 81.51 325 ⇑P **P 02 56 58.1 +0.6**
baz=82,SNR=6.2
CCUT Cedar City 81.57 328 *eP* **P 02 56 59.2 +1.2**
comp=Z,120nm,1.2s
N23A Red Feather La 81.57 335 ⇓P **P 02 56 58.5 +0.5**
baz=82,SNR=17
OSI Osito Audit: C 81.64 323 ⇑P **P 02 56 59.0 +0.7**
baz=82
OSI Osito Audit: C 81.64 323 *eP* **P 02 56 57.6 -0.7**
comp=Z,76nm,1.0s
L26A Underwood Farm 81.64 337 ⇑P **P 02 56 58.6 +0.4**
baz=82
N22A Wattenberg Ran 81.66 335 ⇑P **P 02 56 59.4 +0.9**
baz=82,SNR=28
BFZ Birch Farm 81.68 226 PFAKE 02 57 10.0 +11
BFZ LR LR
comp=Z,1μm,19.9s
M24A Cheyenne 81.70 336 ⇓P **P 02 56 59.2 +0.6**
baz=82,SNR=12
RUDU RUNDU 81.70 106 ⇑*iP* **P 02 57 00.2 +1.0**
RUDU AMB AMB 02 57 10.5
comp=Z,280nm,1.6s
RUDU RUNDU 81.70 106 P **P 02 57 00.2 +1.0**
comp=Z,280nm,1.6s
SRU San Rafael Swe 81.71 331 *eP* **P 02 56 57.9 -0.8**
SRU MLR MLR
comp=Z,2μm,18.0s
SRU San Rafael Swe 81.71 331 *eP* **P 02 56 57.9 -0.8**
SRU LR LR
comp=Z,2μm,18.0s
O20A White River Ci 81.72 333 ⇑P **P 02 56 59.3 +0.5**
baz=82,SNR=15
O20A White River Ci 81.72 333 *eP* **P 02 56 58.6 -0.2**
comp=Z,104nm,1.4s
O20A LR LR
comp=Z,1μm,21.3s
K28A Ten Mile Ranch 81.74 339 ⇓P **P 02 56 59.8 +1.2**
baz=82,SNR=34
PHWY Pilot Hill 81.76 336 *eP* **P 02 56 59.4 +0.4**
comp=Z,166nm,1.4s
J30A Dallas 81.77 340 ⇓P **P 02 56 58.5 -0.2**
baz=82,SNR=16
ARUT Antelope Range 81.80 328 *eP* **P 02 57 00.9 +1.7**
ARUT Antelope Range 81.80 328 *eP* **P 02 57 00.9 +1.7**
KSD Kokstad 81.80 121 *eP* **P 02 57 00.7 +1.1**
KSD AMB AMB 02 57 09.9
comp=Z,29nm,1.7s
KSD Kokstad 81.80 121 P **P 02 57 00.7 +1.1**
comp=Z,29nm,1.7s
SEK Senekal 81.81 119 ⇑*iP* **P 02 56 59.9 +0.2**
SEK AMB AMB 02 57 09.3
comp=Z,153nm,1.3s
SEK Senekal 81.81 119 P **P 02 56 59.9 +0.2**
comp=Z,153nm,1.3s
LRMC Laurel Mtn Rad 81.83 324 ⇓P **P 02 57 00.0 +0.7**
baz=82,SNR=14
MVU Marysvale 81.88 330 *eP* **P 02 57 01.1 +1.3**
comp=Z,61nm,1.1s
MVU LR LR
comp=Z,2μm,18.0s
SPMN Marine on St. 81.96 346 ⇑P **P 02 56 58.8 -0.8**
baz=82,SNR=12
SPMN Marine on St. 81.96 346 *eP* **P 02 56 59.1 -0.5**
comp=Z,72nm,1.0s
K27A Flueckinger Fa 81.99 338 ⇓P **P 02 57 00.6 +0.7**
baz=82,SNR=13
M23A Laramie 82.00 335 ⇑P **P 02 57 00.7 +0.4**
baz=82,SNR=6.1
L25A Engebretsen Ra 82.03 337 ⇓P **P 02 57 01.0 +0.7**
baz=82,SNR=5.6
BFSD Buffelsfontein 82.04 117 *eP* **P 02 57 01.6 +0.7**
BFSD AMB AMB 02 57 11.1
comp=Z,143nm,1.7s
BFSD Buffelsfontein 82.04 117 P **P 02 57 01.6 +0.7**
comp=Z,143nm,1.7s
J29A Okreek 82.08 340 ⇓P **P 02 57 00.3 0.0**
baz=82,SNR=42
KHZ Kahutara 82.12 223 *eP* **P 02 57 01.4 +0.6**
comp=Z,148nm,1.3s
ROA Roan Cliffs 82.12 331 *eP* **P 02 57 01.9 +0.8**
TMUT Trail Mountain 82.15 331 *eP* **P 02 57 02.4 +1.2**
comp=Z,253nm,1.7s
LBTB Lobatse 82.22 115 ⇑*iP* **P 02 57 02.1 +0.3**
LBTB AMB AMB 02 57 12.0
comp=Z,135nm,2.6s
LBTB Lobatse 82.22 115 *eP* **P 02 57 02.4 +0.6**
LBTB pmax pmax
comp=Z,218nm,1.4s
LBTB Lobatse 82.22 115 *eP* **P 02 57 02.4 +0.6**
comp=Z,218nm,1.4s
WCU Willow Creek 82.22 330 *eP* **P 02 57 02.5 +0.9**
SGU Sterling 82.22 330 *eP* **P 02 57 02.9 +1.4**
FURC Furnace Creek, 82.25 325 ⇑P **P 02 57 02.3 +1.0**
baz=83,SNR=9.0
M22A Cedar Creek Ra 82.25 335 ⇑P **P 02 57 01.9 +0.4**
baz=83,SNR=11
L24A Wheatland 82.25 336 ⇑P **P 02 57 02.1 +0.7**
baz=83
K26A Motz Farm, Whi 82.28 338 ⇑P **P 02 57 02.1 +0.6**
baz=83,SNR=7.3
I30A Oacoma 82.30 341 ⇓P **P 02 57 01.1 -0.3**
baz=83,SNR=28
ARGU Argyle Ridge 82.33 331 *eP* **P 02 57 03.0 +0.9**
N20A Spence Gulch, 82.34 333 ⇑P **P 02 57 02.7 +0.6**
baz=83,SNR=12
J28A Allard Ranch, 82.35 339 ⇑P **P 02 57 02.4 +0.6**
baz=83,SNR=24
ISA Isabella, Lake 82.36 324 *eP* **P 02 57 03.0 +0.9**
ISA pmax pmax
comp=Z,38nm,0.9s
ISA MLR MLR
comp=Z,2μm,18.8s
ISA Isabella, Lake 82.36 324 ⇓P **P 02 57 03.0 +0.9**
baz=83,SNR=17
ISA Isabella, Lake 82.36 324 *eP* **P 02 57 03.0 +0.9**
comp=Z,38nm,0.9s
ISA LR LR
comp=Z,2μm,18.8s
K25A Mack Ranch, Ha 82.42 337 ⇓P **P 02 57 03.2 +0.9**
baz=83,SNR=6.8
J27A Elkhorn Farm, 82.42 339 ⇑P **P 02 57 03.0 +0.8**
baz=83,SNR=23
PRYS Parys 82.42 117 *eP* **P 02 57 02.5 -0.4**
PRYS AMB AMB 02 57 03.5
comp=Z,49nm,1.4s
PRYS Parys 82.42 117 P **P 02 57 02.5 -0.4**
comp=Z,49nm,1.4s
ELU Electric Lake 82.44 331 *eP* **P 02 57 03.5 +0.8**
BKZ Black Stump Fm 82.50 227 *eP* **P 02 57 04.4 +1.5**
comp=Z,87nm,1.2s
BKZ LR LR
comp=Z,2μm,22.0s
L23A Garrett 82.57 336 ⇓P **P 02 57 03.2 +0.1**
baz=83,SNR=10
RPZ Rata Peaks 82.63 221 *eP* **P 02 57 04.2 +0.7**
comp=Z,187nm,1.1s
I29A Vivian Onida 82.64 340 ⇓P **P 02 57 03.0 -0.2**
baz=83,SNR=5.1
BRSD Miller 82.66 341 ⇑P **P 02 57 03.1 -0.2**
baz=83,SNR=13
BRSD Miller 82.66 341 *eP* **P 02 57 03.2 -0.1**
comp=Z,97nm,0.9s
URZ Urewera 82.69 228 LR LR 03 25 01.0
comp=Z,1μm,21.0s,baz=182,slow=29
URZ Urewera 82.69 228 *eP* **P 02 57 04.3 +0.4**
comp=Z,94nm,1.3s
KSR Koster 82.70 116 *eP* **P 02 57 04.3 -0.2**
KSR AMB AMB 02 57 14.7
comp=Z,76nm,1.4s
KSR Koster 82.70 116 P **P 02 57 04.3 -0.2**
comp=Z,76nm,1.4s
L22A Ellis Ranch, M 82.75 335 ⇑P **P 02 57 04.9 +0.8**
baz=83,SNR=8.3
WHZ Wether Hill Ro 82.75 218 *eP* **P 02 57 04.8 +0.6**
comp=Z,95nm,1.2s
J26A Sides Ranch, S 82.80 338 ⇑P **P 02 57 04.8 +0.7**
baz=83,SNR=19
VES Vestal, Richgr 82.80 323 ⇓P **P 02 57 05.1 +0.8**
baz=83,SNR=14
SMMC Simmler 82.83 323 ⇓P **P 02 57 04.8 +0.4**
baz=83
I28A Midland 82.86 340 ⇑P **P 02 57 04.5 +0.1**
baz=83,SNR=26
GRAC Grapevine Rang 82.91 325 ⇑P **P 02 57 05.8 +0.9**
baz=83
MPU Maple Canyon 82.93 331 *eP* **P 02 57 05.2 +0.1**
comp=Z,143nm,1.3s
NLU North Lily Min 83.06 330 *eP* **P 02 57 06.2 +0.4**
comp=Z,146nm,1.5s
NLU LR LR
comp=Z,2μm,21.8s
WMUT West Mountain 83.06 331 *eP* **P 02 57 06.6 +0.8**
J25A Sunshine Ranch 83.10 338 ⇑P **P 02 57 06.3 +0.6**
baz=84,SNR=7.8
K23A Bowen Ranch, D 83.11 336 ⇓P **P 02 57 06.2 +0.3**
baz=84,SNR=18
DAU Daniels Canyon 83.12 331 *eP* **P 02 57 06.8 +0.6**
DAU Daniels Canyon 83.12 331 *eP* **P 02 57 06.8 +0.6**
H29A Onida 83.17 340 ⇓P **P 02 57 05.9 -0.1**
baz=84,SNR=25
I27A Quinn 83.18 339 ⇑P **P 02 57 06.4 +0.3**
baz=84,SNR=15
R11A Troy Canyon, C 83.20 327 ⇑P **P 02 57 07.4 +0.9**
baz=84,SNR=48
R11A Troy Canyon, C 83.20 327 *eP* **P 02 57 07.5 +0.9**
comp=Z,66nm,1.0s
R11A LR LR
comp=Z,1μm,18.6s
RCTC Rector, Farmer 83.25 324 ⇓P **P 02 57 06.6 +0.1**
baz=84
CRWM Crown Mines 83.30 117 *eP* **P 02 57 07.8 +0.2**
CRWM AMB AMB 02 57 17.5
comp=Z,92nm,1.5s
J24A Dixon Ranch, L 83.31 337 ⇓P **P 02 57 07.5 +0.6**
baz=84,SNR=15
K22A Casper 83.33 335 ⇓P **P 02 57 07.1 +0.1**
baz=84,SNR=22
K22A Casper 83.33 335 *eP* **P 02 57 07.3 +0.3**
comp=Z,203nm,1.3s
K22A LR LR
comp=Z,1μm,20.0s
G30A Faulkton 83.35 341 ⇑P **P 02 57 06.5 -0.3**
baz=84,SNR=19
JLU Jordanelle 83.36 331 *eP* **P 02 57 07.5 +0.2**
comp=Z,54nm,1.0s
JLU LR LR
comp=Z,2μm,18.9s
TIN Tinemaha, Big 83.36 325 ⇓P **P 02 57 08.2 +0.9**
baz=84,SNR=7.0
OBSV Observatory 83.37 117 ⇑*iP* **P 02 57 07.9 0.0**
OBSV AMB AMB 02 57 17.9
comp=Z,84nm,1.5s
I26A New Underwood 83.39 338 ⇓P **P 02 57 07.5 +0.3**
baz=84,SNR=7.0
ERPM east rand prop 83.41 117 *eP* **P 02 57 08.2 +0.2**
ERPM AMB AMB 02 57 18.6
comp=Z,118nm,1.6s
ERPM east rand prop 83.41 117 P **P 02 57 08.2 +0.2**
H28A Mission Ridge 83.44 340 ⇑P **P 02 57 07.4 0.0**
baz=84,SNR=14
CTU Camp Tracy 83.55 331 *eP* **P 02 57 08.0 -0.3**
comp=Z,28nm,1.0s
DUG Dugway, Tooele 83.56 330 *eP* **P 02 57 08.4 +0.1**
DUG pmax pmax
comp=Z,158nm,1.1s
DUG MLR MLR
comp=Z,1μm,18.0s
DUG Dugway, Tooele 83.56 330 ⇓P **P 02 57 09.2 +0.9**
baz=84,SNR=43
DUG Dugway, Tooele 83.56 330 *eP* **P 02 57 08.4 +0.1**
comp=Z,158nm,1.1s
DUG LR LR
comp=Z,1μm,18.0s
K21A Alcova 83.56 335 ⇓P **P 02 57 08.6 +0.3**
baz=84,SNR=42
G29A Hoven 83.61 341 ⇑P **P 02 57 08.1 -0.1**
baz=84,SNR=11
I25A Rochford 83.64 338 ⇓P **P 02 57 09.1 +0.5**
baz=84,SNR=24
H27A Howes 83.70 339 ⇑P **P 02 57 08.6 -0.2**
baz=84,SNR=25
TPH Tonopah 83.72 326 *eP* **P 02 57 09.9 +0.7**
TPH pmax pmax
comp=Z,124nm,1.3s
TPH Tonopah 83.72 326 *eP* **P 02 57 09.9 +0.7**
comp=Z,124nm,1.3s
G28A Parade 83.78 340 ⇓P **P 02 57 09.3 +0.2**
baz=84,SNR=34
I24A Kuemmerle Ranc 83.78 337 ⇓P **P 02 57 09.5 +0.2**
baz=84,SNR=9.6
TCUT Toone Canyon 83.78 331 *eP* **P 02 57 10.4 +0.9**
comp=Z,290nm,1.6s
SLR Silverton 83.79 117 ⇑*iP* **P 02 57 09.2 -0.8**
SLR AMB AMB 02 57 19.8
comp=Z,126nm,1.6s
SLR Silverton 83.79 117 P **P 02 57 09.2 -0.8**
SLR pmax pmax
comp=Z,126nm,1.6s
SLR Silverton 83.79 117 P **P 02 57 09.2 -0.8**
comp=Z,126nm,1.6s
RSSD Black Hills 83.83 338 *eP* **P 02 57 09.4 -0.2**
RSSD pmax pmax
comp=Z,38nm,0.9s
RSSD Black Hills 83.83 338 *eP* **P 02 57 09.4 -0.2**
comp=Z,38nm,0.9s
H26A Fairpoint 83.89 339 ⇓P **P 02 57 09.4 -0.3**
baz=84
F30A Leola 83.97 342 ⇓P **P 02 57 10.1 0.0**
baz=84,SNR=10
J22A Midwest 83.98 336 ⇑P **P 02 57 10.0 -0.4**
baz=84,SNR=14
MLAC Mammoth, Mammo 84.11 325 ⇑P **P 02 57 12.3 +1.0**
baz=84,SNR=14
MCU Monte Cristo P 84.11 332 *eP* **P 02 57 11.6 +0.4**
H25A Fruitdale 84.15 338 ⇓P **P 02 57 11.2 +0.1**
baz=84,SNR=13
F29A Eureka 84.18 341 ⇓P **P 02 57 11.0 -0.1**
baz=85,SNR=14
RSUT Red Spur Mount 84.23 332 *eP* **P 02 57 12.0 +0.1**
J21A Lysite 84.25 335 ⇑P **P 02 57 12.0 +0.2**
baz=85,SNR=13
HWUT Hardware Ranch 84.26 332 *eP* **P 02 57 11.6 -0.3**
comp=Z,85nm,1.0s
HWUT LR LR
comp=Z,2μm,20.0s
BGU Big Grassy Mou 84.27 330 *eP* **P 02 57 11.9 0.0**
BGU LR LR

comp=Z,700nm,18.7s
GZU Grizzly Peak 84.27 331 eP P 02 57 12.3 +0.3
EYMN Ely 84.33 347 eP P 02 57 11.3 -0.5
comp=Z,92nm,1.1s
G27A Dupree 84.34 340 ⇑P P 02 57 11.8 -0.2
baz=85,SNR=13
SPUT South Promonto 84.36 331 eP P 02 57 12.9 +0.6
comp=Z,109nm,1.1s
SPUT LR LR
comp=Z,1µm,19.9s
I22A 9 Mile Ranch, 84.41 336 ⇓P P 02 57 12.4 -0.1
baz=85,SNR=21
F28A McLaughlin 84.46 341 ⇑P P 02 57 12.7 +0.1
baz=85,SNR=21
G26A Maurine 84.46 339 ⇓P P 02 57 12.3 -0.3
baz=85,SNR=19
J20A Shoshoni 84.48 335 ⇑P P 02 57 13.6 +0.7
baz=85,SNR=51
PD31 Pinedale Array 84.50 334 eP P 02 57 13.1 0.0
PD31 epP pP 02 57 22.1 +0.9
PD31 ePKKPbc PKKPbc 03 15 23.7 -1.8
PDAR Pinedale Array 84.50 334 P P 02 57 13.1 0.0
comp=Z,6.4nm,0.7s,baz=151,slow=4.9,SNR=49
PDAR pP pP 02 57 22.1 +0.9
comp=Z,25nm,1.0s,baz=151,slow=4.3,SNR=24
PDAR PKKPbc PKKPbc 03 15 23.7 -1.8
comp=Z,0.5nm,0.6s,baz=89,slow=1.1,SNR=4.4
BW06 Boulder Array 84.50 334 eP P 02 57 12.6 -0.5
BW06 LR LR
comp=Z,2µm,20.0s
NV01 Mina Array Sit 84.50 326 eP P 02 57 13.6 +0.4
NVAR Mina Array Bea 84.50 326 P P 02 57 14.1 +0.9
comp=Z,13nm,0.8s,baz=156,slow=6.3,SNR=97
NVAR PKKPbc PKKPbc 03 15 23.8 -1.4
comp=Z,0.5nm,0.6s,baz=279,slow=2.4,SNR=4.1
HDU Hyde Park 84.51 332 eP P 02 57 13.2 +0.1
LTU Little Mountai 84.52 331 eP P 02 57 13.2 +0.1
H24A Dirks Ranch, A 84.55 338 ⇑P P 02 57 12.7 -0.4
baz=85,SNR=16
E30A Jud 84.56 342 ⇓P P 02 57 12.9 -0.1
baz=85,SNR=12
G25A Newell 84.61 339 ⇑P P 02 57 13.3 -0.1
baz=85,SNR=33
I21A Big Trails, Te 84.61 335 ⇑P P 02 57 13.3 -0.3
baz=85,SNR=32
H23A Clabaugh Cattl 84.66 337 ⇓P P 02 57 13.2 -0.4
baz=85
CRZF Crozet Islands 84.71 145 S SKSac 03 07 18.0 -19
CRZF SS SS 03 12 36.0 -35
CRZF R 03 23 00.0
J19A Crowheart 84.75 334 ⇑P P 02 57 14.2 -0.1
baz=85,SNR=37
E29A Napoleon 84.81 342 ⇑P P 02 57 14.1 -0.3
baz=85,SNR=8.7
F27A Lemmon 84.82 340 ⇓P P 02 57 14.1 -0.3
baz=85,SNR=26
MLI Malad Range 84.84 332 eP P 02 57 14.9 +0.2
HVU Hansel Valley 84.88 331 eP P 02 57 15.2 +0.2
HVU pmax pmax
comp=Z,67nm,0.9s
HVU MLR MLR
comp=Z,2µm,20.1s
HVU Hansel Valley 84.88 331 eP P 02 57 15.2 +0.2
comp=Z,67nm,0.9s
HVU LR LR
comp=Z,2µm,20.1s
TOA0 Torodi Ar. Sit 84.91 70 eP P 02 57 14.7 -0.8
TOA0 ePKKPbc PKKPbc 03 15 23.5 +0.9
TORD Torodi Ar. Bea 84.91 70 P P 02 57 15.7 +0.1
comp=Z,33nm,1.0s,baz=248,slow=3.3,SNR=138
TORD PKKPbc PKKPbc 03 15 23.5 +0.9
comp=Z,0.8nm,0.8s,baz=22,slow=2.4,SNR=3.4
TORD LR LR 03 33 23.0
comp=Z,2µm,19.2s,baz=235,slow=34
DRLN Deer Lake 84.96 10 eP P 02 57 15.2 +0.3
comp=Z,333nm,1.0s
F26A Lodgepole 84.99 339 ⇓P P 02 57 15.0 -0.2
baz=85,SNR=12
H22A Clearmont 84.99 336 ⇑P P 02 57 14.9 -0.5
baz=85,SNR=12
I20A Worland 85.02 335 ⇑P P 02 57 15.6 0.0
baz=85,SNR=34
ELK Elko 85.03 329 eP P 02 57 16.3 +0.5
ELK pmax pmax
comp=Z,52nm,1.1s
ELK MLR MLR
comp=Z,1µm,20.3s
ELK Elko 85.03 329 eP P 02 57 16.3 +0.5
comp=Z,52nm,1.1s
ELK LR LR
comp=Z,1µm,20.3s
G24A Alzada 85.03 338 ⇓P P 02 57 15.0 -0.5
baz=85,SNR=8.5
AHID Auburn Hatcher 85.07 333 eP P 02 57 15.0 -1.0
comp=Z,129nm,1.4s
AHID LR LR
comp=Z,2µm,20.0s
D30A Buchanan 85.09 342 ⇑P P 02 57 15.8 +0.1
baz=86,SNR=20
WAKR Walker 85.09 325 eP P 02 57 16.9 +0.8
E28A Huff 85.10 341 ⇓P P 02 57 16.0 +0.2
baz=86,SNR=6.7
CMB Columbia Colle 85.17 324 eP P 02 57 16.9 +0.5
CMB pmax pmax
comp=Z,55nm,1.3s
CMB MLR MLR
comp=Z,1µm,21.0s
CMB Columbia Colle 85.17 324 eP P 02 57 16.9 +0.5
comp=Z,55nm,1.3s
CMB LR LR
comp=Z,1µm,21.0s
E27A Carson 85.20 340 ⇑P P 02 57 16.6 +0.3
baz=86,SNR=9.5
G23A Biddle 85.22 337 ⇓P P 02 57 16.1 -0.4
baz=86,SNR=16
H21A Big Horn, Sher 85.25 336 ⇑P P 02 57 15.8 -0.9
baz=86,SNR=10
D29A Pettibone, Tap 85.26 342 ⇓P P 02 57 16.3 -0.2
baz=86
F25A Bowman 85.28 339 ⇑P P 02 57 16.6 -0.1
baz=86,SNR=13
I19A Meeteetse 85.40 335 ⇓P P 02 57 17.8 +0.3
baz=86,SNR=18
H20A Greybull 85.45 335 ⇓P P 02 57 17.4 -0.2
baz=86,SNR=64
E26A Carlson Angus 85.49 340 ⇑P P 02 57 17.5 -0.2
baz=86,SNR=8.0
REDW Red Top Meadow 85.49 333 eP P 02 57 17.4 -0.7
comp=Z,70nm,1.1s
REDW LR LR
comp=Z,2µm,20.1s
F24A Ekalaka 85.51 338 ⇓P P 02 57 17.6 -0.3
baz=86,SNR=16
G22A Birney 85.53 337 ⇓P P 02 57 17.7 -0.3
baz=86,SNR=10
AGMN Agassiz Nation 85.53 345 ⇓P P 02 57 17.8 -0.1
baz=86,SNR=20
AGMN Agassiz Nation 85.53 345 eP P 02 57 16.8 -1.0
comp=Z,101nm,1.3s
SNOW Snow King Moun 85.54 333 eP P 02 57 17.9 -0.4
comp=Z,54nm,1.0s
SNOW LR LR
comp=Z,2µm,19.9s
C30A Mose, Pekin 85.58 343 ⇑P P 02 57 18.2 +0.1
baz=86,SNR=16
LOHW Long Hollow 85.61 333 PFAKE 02 57 30.0 +11
LOHW LR LR
comp=Z,2µm,19.3s
BMN Battle Mountai 85.63 327 eP P 02 57 18.4 -0.4
BMN pmax pmax
comp=Z,16nm,1.2s
BMN MLR MLR
comp=Z,2µm,18.0s
BMN Battle Mountai 85.63 327 eP P 02 57 18.4 -0.4
comp=Z,16nm,1.2s
BMN LR LR
comp=Z,2µm,18.0s
D28A Regan 85.63 341 ⇓P P 02 57 18.5 +0.1
baz=86
TPAW Teton Pass 85.64 333 eP P 02 57 19.2 +0.3
comp=Z,82nm,1.3s
TPAW LR LR
comp=Z,2µm,21.6s
F23A Volborg 85.69 338 ⇓P P 02 57 18.4 -0.4
baz=86,SNR=33
E25A Miller Ranch, 85.79 339 ⇑P P 02 57 19.3 0.0
baz=86,SNR=16

FXWY Fox Creek 85.79 333 eP P 02 57 19.4 -0.2
comp=Z,35nm,1.1s
FXWY LR LR
comp=Z,2µm,20.3s
D27A Center 85.81 341 ⇑P P 02 57 19.5 +0.2
baz=86
G21A Lodge Grass 85.83 336 ⇓P P 02 57 19.2 -0.3
baz=86,SNR=16
I17A Pilgrim Ck. 85.87 333 ⇓P P 02 57 20.5 +0.6
baz=86,SNR=14
H19A Powell 85.95 335 ⇓P P 02 57 20.3 +0.1
baz=86,SNR=22
IMW Indian Meadow 85.98 333 eP P 02 57 20.7 +0.2
comp=Z,140nm,1.4s
IMW LR LR
comp=Z,2µm,20.9s
D26A Manning 85.99 340 ⇓P P 02 57 20.3 +0.1
baz=86,SNR=20
F22A Rosebud 86.02 337 ⇓P P 02 57 20.1 -0.3
baz=86,SNR=21
FLWY Flagg Ranch 86.06 333 eP P 02 57 21.6 +0.7
comp=Z,200nm,1.6s
FLWY LR LR
comp=Z,2µm,19.5s
C28A Hausauer Farms 86.07 342 ⇑P P 02 57 20.3 -0.3
baz=86
E24A Baker 86.11 339 ⇑P P 02 57 21.1 +0.3
baz=86,SNR=15
G20A Bridger 86.17 336 ⇓P P 02 57 20.6 -0.6
baz=86,SNR=52
H18A Shoshone NF, C 86.19 334 ⇓P P 02 57 21.5 0.0
baz=86,SNR=69
B30A Myrvik Farm, E 86.24 343 ⇓P P 02 57 21.4 0.0
baz=87,SNR=48
H17A Grant Village 86.28 334 ⇑P P 02 57 23.1 +1.2
baz=87,SNR=10.0
H17A Grant Village 86.28 334 eP P 02 57 22.6 +0.7
comp=Z,46nm,1.3s
H17A LR LR
comp=Z,4µm,20.1s
MCID Moose Creek 86.33 333 eP P 02 57 22.8 +0.6
F21A Absaloka Mine, 86.33 337 ⇓P P 02 57 21.7 -0.3
baz=87,SNR=5.3
D25A Fairfield 86.36 339 ⇑P P 02 57 22.3 +0.3
baz=87,SNR=18
E23A Ismay 86.36 338 ⇑P P 02 57 21.4 -0.6
baz=87,SNR=8.0
LKWY Lake 86.36 334 eP P 02 57 23.4 +1.0
LKWY pmax pmax
comp=Z,43nm,1.4s
LKWY MLR MLR
comp=Z,2µm,20.0s
LKWY Lake 86.36 334 eP P 02 57 23.4 +1.0
comp=Z,43nm,1.4s
LKWY LR LR
comp=Z,2µm,20.0s
C27A Sayler Ranch, 86.36 341 ⇓P P 02 57 22.5 +0.5
baz=87,SNR=15
YFT Old Faithful 86.42 334 eP P 02 57 24.3 +1.6
comp=Z,89nm,1.1s
RLMT Red Lodge 86.44 335 eP P 02 57 22.6 -0.1
comp=Z,190nm,1.5s
RLMT LR LR
comp=Z,1µm,19.0s
B29A Wagenman Farm, 86.50 342 ⇓P P 02 57 22.6 0.0
baz=87,SNR=13
E22A Miles City 86.50 338 ⇓P P 02 57 22.3 -0.5
baz=87,SNR=13
YNR Norris Junctio 86.59 334 eP P 02 57 24.4 +0.9
comp=Z,44nm,1.3s
D24A Glendive 86.62 339 ⇓P P 02 57 23.6 +0.3
baz=87,SNR=12
C26A Wahner Farm, P 86.63 341 ⇑P P 02 57 23.4 +0.1
baz=87,SNR=16
F20A Billings 86.65 336 ⇑P P 02 57 23.2 -0.4
baz=87,SNR=6.8
YMR Madison River 86.66 334 eP P 02 57 24.6 +0.8
comp=Z,124nm,1.0s
A30A Hoffart Farm, 86.69 343 ⇑P P 02 57 23.3 -0.2
baz=87,SNR=18
B28A Dugan Ranch, T 86.74 342 ⇓P P 02 57 23.9 +0.1
baz=87,SNR=27
YMC Maple Creek 86.75 334 eP P 02 57 24.9 +0.7
LAO LASA Array 86.81 337 eP P 02 57 23.8 -0.5
comp=Z,142nm,1.1s
LAO LR LR
comp=Z,1µm,19.0s
C25A Freed Ranch, W 86.85 340 ⇑P P 02 57 24.2 -0.2
baz=87
A29A Manning Farm, 86.90 343 ⇓P P 02 57 24.3 -0.3
baz=87,SNR=32
B27A Peters Farms, 86.93 341 ⇓P P 02 57 24.5 -0.3
baz=87
D23A Lindsay 86.93 338 ⇓P P 02 57 25.3 +0.5
baz=87,SNR=59
E21A Keefer Ranch, 86.95 337 ⇓P P 02 57 24.7 -0.3
baz=87,SNR=22
QLMT Earthquake Lak 86.97 333 eP P 02 57 26.3 +1.1
comp=Z,12nm,1.2s
F19A Roth Farm, Mol 86.97 335 ⇓P P 02 57 24.7 -0.4
baz=87,SNR=16
C24A Savage 87.02 339 ⇑P P 02 57 25.6 +0.4
baz=87,SNR=69
HLID Hailey 87.04 331 ⇓P P 02 57 26.5 +0.9
baz=87,SNR=73
HLID Hailey 87.04 331 eP P 02 57 26.5 +0.9
comp=Z,77nm,1.3s
HLID LR LR
comp=Z,899nm,19.0s
MSNA Messina 87.07 115 ⇑iP P 02 57 26.3 0.0
MSNA AMB AMB 02 57 37.2
comp=Z,66nm,3.0s
MSNA Messina 87.07 115 P P 02 57 26.3 0.0
A28A Rude Farm, Bot 87.14 342 ⇓P P 02 57 25.7 -0.1
baz=88,SNR=12
GCMT Greycliff 87.16 335 eP P 02 57 26.0 -0.1
B26A Jensen Ranch, 87.17 341 ⇓P P 02 57 25.9 0.0
baz=88
D22A Cohagen 87.21 338 ⇑P P 02 57 26.2 0.0
baz=88,SNR=31
E20A Meyer Farm, Mu 87.26 336 ⇓P P 02 57 26.5 0.0
baz=88,SNR=50
B25A Knox Farm, Ray 87.33 340 ⇑P P 02 57 27.3 +0.6
baz=88,SNR=5.6
ULM Lac du Bonnet 87.38 345 P P 02 57 26.6 -0.3
ULM pmax pmax
comp=Z,28nm,0.9s
ULM Lac du Bonnet 87.38 345 P P 02 57 26.6 -0.3
comp=Z,28nm,0.9s,baz=166,slow=3.2,SNR=39
ULM Lac du Bonnet 87.38 345 eP P 02 57 26.5 -0.4
comp=Z,104nm,1.1s
D21A La Casta Ranch 87.39 337 ⇑P P 02 57 27.1 +0.1
baz=88,SNR=20
A27A Ledoux Ranch, 87.43 342 P P 02 57 27.4 +0.3
baz=88
E19A Rath Farm, Rou 87.45 336 ⇓P P 02 57 27.1 -0.2
baz=88,SNR=41
MFID Camas Ranch 87.49 330 eP P 02 57 27.9 +0.2
comp=Z,79nm,1.4s
C23A Lambert 87.49 339 ⇓P P 02 57 27.4 -0.1
baz=88,SNR=37
MCMT McKenzie Canyo 87.49 333 eP P 02 57 28.8 +1.0
A26A Wade Farm, Ken 87.59 341 ⇓P P 02 57 28.1 +0.2
baz=88,SNR=15
C22A Vida 87.65 338 ⇓P P 02 57 28.1 -0.1
baz=88,SNR=12
BOZ Bozeman (W) 87.74 334 eP P 02 57 28.8 -0.1
BOZ pmax pmax
comp=Z,42nm,1.4s
BOZ MLR MLR
comp=Z,2µm,21.0s
BOZ Bozeman (W) 87.74 334 eP P 02 57 28.8 -0.1
comp=Z,42nm,1.4s
BOZ LR LR
comp=Z,2µm,21.0s
D20A Manuel Ranch, 87.78 337 ⇓P P 02 57 28.9 -0.1
baz=88,SNR=31
DGMT Dagmar 87.80 340 ⇑P P 02 57 29.2 +0.3
baz=88,SNR=58
DGMT Dagmar 87.80 340 eP P 02 57 29.3 +0.3
comp=Z,376nm,1.1s
DLMT Dillon 87.85 333 eP P 02 57 29.7 +0.3
comp=Z,116nm,1.3s
WVOR Wild Horse Val 87.88 328 eP P 02 57 30.6 +1.0
WVOR pmax pmax
comp=Z,75nm,1.4s
WVOR MLR MLR
comp=Z,2µm,18.0s

WVOR Wild Horse Val 87.88 328 eP P 02 57 30.6 +1.0
comp=Z,75nm,1.4s
WVOR LR LR
comp=Z,2µm,18.0s
A25A Svangstu Ranch 87.92 340 ⇑P P 02 57 29.9 +0.4
baz=88,SNR=9.6
B23A Brockton 88.03 339 ⇓P P 02 57 30.0 0.0
baz=88,SNR=16
KIPM Iron Peak 88.06 323 eP P 02 57 31.6 +1.1
comp=Z,132nm,1.4s
D19A Cripps Ranch, 88.09 336 ⇑P P 02 57 30.0 -0.5
baz=88,SNR=10
C21A Desert Coulee 88.10 337 ⇑P P 02 57 30.0 -0.4
baz=88,SNR=26
A24A Westby 88.16 340 ⇓P P 02 57 30.8 +0.1
baz=88,SNR=12
B22A Reddig Ranch S 88.18 338 ⇑P P 02 57 30.7 -0.1
baz=88,SNR=9.9
LRM Limekiln Ridge 88.19 333 eP P 02 57 31.6 +0.4
MOD Modoc Plateau 88.20 326 eP P 02 57 32.2 +1.0
comp=Z,63nm,0.9s
MOD LR LR
comp=Z,2µm,20.0s
WDC Whiskeytown Da 88.20 324 eP P 02 57 30.7 -0.3
WDC pmax pmax
comp=Z,28nm,0.8s
WDC Whiskeytown Da 88.20 324 eP P 02 57 30.7 -0.3
comp=Z,28nm,0.8s
C20A Veseth Ranch, 88.29 337 ⇑P P 02 57 31.1 -0.2
baz=89,SNR=5.1
A23A Redstone 88.44 339 ⇑P P 02 57 31.6 -0.4
baz=89
KMRM Mail Ridge 88.49 323 eP P 02 57 33.9 +1.3
comp=Z,166nm,1.3s
N02D Trinity Center 88.59 324 ⇓P P 02 57 32.9 0.0
baz=89
B21A Ellsworth Farm 88.61 338 ⇑P P 02 57 32.4 -0.4
baz=89
C19A Slack Wire Ran 88.64 336 ⇓P P 02 57 32.8 -0.2
baz=89,SNR=8.4
HRY Holter Researc 88.72 334 eP P 02 57 33.8 +0.3
A22A Carney Farms, 88.77 339 ⇓P P 02 57 33.4 -0.2
baz=89,SNR=21
M04C Macdoel 88.81 325 ⇑P P 02 57 34.4 +0.3
baz=89
B20A Solberg Farm, 88.93 337 ⇓P P 02 57 33.9 -0.4
baz=89,SNR=13
M02C Callahan 88.98 325 ⇓P P 02 57 35.2 +0.4
baz=89
A21A Bergtoll Ranch 89.08 338 ⇑P P 02 57 34.3 -0.7
baz=89,SNR=12
HOG Hogback Mounta 89.11 326 P P 02 57 36.6 +1.1
K05A Summer Lake 89.12 327 PFAKE 02 57 50.0 +14
K05A LR LR
comp=Z,2µm,19.8s
EGMT Eagleton 89.13 336 ⇓P P 02 57 34.6 -0.8
baz=90,SNR=7.8
EGMT Eagleton 89.13 336 eP P 02 57 34.9 -0.5
comp=Z,66nm,1.4s
YBH Yreka Blue Hor 89.18 325 P P 02 57 35.5 -0.2
YBH pmax pmax
comp=Z,12nm,1.0s
YBH Yreka Blue Hor 89.18 325 P P 02 57 35.5 -0.2
comp=Z,12nm,1.0s,baz=132,slow=2.8,SNR=25
YBH Yreka Blue Hor 89.18 325 eP P 02 57 35.7 0.0
comp=Z,41nm,1.3s
BMO Blue Mountains 89.27 330 eP P 02 57 36.9 +0.7
comp=Z,24nm,1.2s
BMO LR LR
comp=Z,1µm,20.0s
A20A Cobblestone Ra 89.29 338 ⇓P P 02 57 35.3 -0.7
baz=90,SNR=16
CHMT Chamberlain Mo 89.41 333 eP P 02 57 37.4 +0.6
K04D Chiloquin, OR 89.43 326 ⇑P P 02 57 36.3 -0.7
baz=90
I07A Izee 89.58 328 eP P 02 57 38.8 +1.2
comp=Z,100nm,1.4s
I07A LR LR
comp=Z,2µm,20.1s
A19A Klindworth Far 89.59 337 ⇑P P 02 57 37.0 -0.5
baz=90
MSO Missoula 89.59 333 ⇑P P 02 57 37.6 0.0
baz=90
MSO Missoula 89.59 333 eP P 02 57 38.6 +1.0
comp=Z,51nm,1.5s
MSO LR LR
comp=Z,2µm,20.0s
SCHQ Schefferville 89.62 3 P P 02 57 37.1 -0.3
comp=Z,7.2nm,1.0s,baz=152,slow=5.0,SNR=4.3
SCHQ LR LR 03 38 42.4
comp=Z,476nm,20.4s,baz=170,slow=36
SCHQ Schefferville 89.62 3 eP P 02 57 37.7 +0.4
comp=Z,93nm,1.2s
KTRM Thompson Ridge 89.63 325 P P 02 57 39.5 +1.6
J05D Fort Rock, OR 89.71 327 ⇓P P 02 57 39.0 +0.7
baz=90
SLMT Seeley Lake 89.77 333 eP P 02 57 39.0 +0.5
L02D Cave Junction, 89.93 325 ⇓P P 02 57 39.8 +0.7
baz=90
PINOR Pine Mountain 89.96 327 eP P 02 57 40.9 +1.7
comp=Z,127nm,1.5s
HUMO Hull Mountain 89.97 325 eP P 02 57 39.9 +0.5
comp=Z,38nm,1.5s
J04D Umpqua Nationa 90.07 326 ⇑P P 02 57 40.6 +0.6
baz=90
SWMT Swartz Lake 90.18 333 eP P 02 57 41.4 +1.0
G08A Pilot Rock 90.32 329 eP P 02 57 41.7 +0.7
comp=Z,26nm,1.1s
G08A LR LR
comp=Z,1µm,18.4s
YBMT Yellow Bay 90.48 333 eP P 02 57 42.0 +0.3
JTMT Jette 90.49 333 eP P 02 57 42.4 +0.7
I05D Terrebonne, OR 90.59 327 ⇓P P 02 57 43.0 +0.8
baz=91
I04A Tendick Farm, 90.64 326 ⇓P P 02 57 42.7 +0.2
baz=91
BLMT Blacktail Moun 90.74 333 eP P 02 57 42.8 -0.2
BSMT Bassoo Peak 90.76 333 P P 02 57 43.4 +0.3
G06A Carlson Farm, 90.99 328 eP P 02 57 44.6 +0.5
comp=Z,67nm,1.4s
I03D Drain, OR 91.00 326 ⇑P P 02 57 45.2 +1.1
baz=91
H04A Detroit Lake 91.23 327 eP P 02 57 45.3 +0.1
comp=Z,48nm,1.3s
H04A LR LR
comp=Z,1µm,18.0s
G05D Wamic, OR 91.29 328 ⇓P P 02 57 45.6 +0.3
baz=92
HAWA Hanford 91.44 330 eP P 02 57 46.5 +0.5
comp=Z,56nm,1.2s
WALA Waterton Lakes 91.45 334 eP P 02 57 45.9 -0.3
comp=Z,40nm,1.1s
WALA LR LR
comp=Z,2µm,19.0s
E07A Sunnyside 91.70 329 eP P 02 57 47.9 +0.6
comp=Z,32nm,1.1s
D08A Wollman Farm, 91.72 330 eP P 02 57 47.4 +0.1
comp=Z,48nm,1.2s
TRW Toppenish Ridg 91.78 329 P P 02 57 48.7 +1.0
OD2 Odessa Site #2 91.90 331 P P 02 57 48.7 +0.5
NEW Newport 91.99 332 eP P 02 57 48.1 -0.5
NEW pmax pmax
comp=Z,38nm,1.3s
NEW MLR MLR
comp=Z,1µm,20.0s
NEW Newport 91.99 332 ⇑P P 02 57 48.3 -0.3
baz=92,SNR=6.7
NEW Newport 91.99 332 eP P 02 57 48.1 -0.5
comp=Z,38nm,1.3s
NEW LR LR
comp=Z,1µm,20.0s
C09A Chrisman Ranch 92.06 331 eP P 02 57 49.0 +0.2
comp=Z,48nm,1.1s
ASR Mount Adams--S 92.12 328 P P 02 57 50.4 +1.1
NAC Naches 92.25 329 P P 02 57 50.6 +0.8
EBG Ellensburg 92.28 329 P P 02 57 51.1 +1.1
WTV Waterville 92.66 330 P P 02 57 52.1 +0.4
LON Longmire 92.68 329 P P 02 57 51.9 +0.1
LON MLR MLR
comp=Z,1µm,18.4s
LON Longmire 92.68 329 P P 02 57 51.9 +0.1
LON LR LR
comp=Z,1µm,18.4s
ETW Entiat 92.73 330 P P 02 57 52.5 +0.3
FFC Flin Flon 92.91 343 eP P 02 57 51.9 -0.7
FFC pmax pmax
comp=Z,14nm,1.1s

FFC	Flin Flon	92.91	343	eP	P	02 57 51.9	-0.7
	comp=Z,14nm,1.1s						
B08A	Colville Reser	92.93	331	eP	P	02 57 52.0	-0.9
	comp=Z,33nm,1.3s						
D05A	Enumclaw	93.10	329	eP	P	02 57 51.6	-2.1
	comp=Z,45nm,1.3s						
D05A				LR	LR		
	comp=Z,2μm,18.4s						
MORF	Marmelete	93.23	46	eP	P	02 57 56.3	+1.7
MORF				AMS	AMS	03 40 25.9	
	comp=Z,2μm,17.0s						
MORF	Marmelete	93.23	46	eP	P	02 57 56.3	+1.7
E03A	Lebam	93.29	327	eP	P	02 57 55.0	+0.5
	comp=Z,89nm,1.4s						
PIER	Pier 30 Seattl	93.56	329	eP	P	02 57 58.5	+2.8
TAM	Tamanrasset	93.60	65	eP	P	02 57 57.4	+0.6
TAM				e		02 58 05.3	
TAM				pmax	pmax		
	comp=Z,38nm,0.9s						
TAM	Tamanrasset	93.60	65	eP	P	02 57 57.4	+0.6
	comp=Z,38nm,0.9s						
TAM				e		02 58 05.2	
PBDV	Barranco-do-Ve	93.61	46	eP	P	02 58 04.8	+8.5
	comp=Z,150nm,1.7s						
MESJ	Messejana	93.84	46	eP	P	02 57 59.1	+1.8
MESJ				AMS	AMS	03 37 37.0	
	comp=Z,2μm,19.3s						
MESJ	Messejana	93.84	46	eP	P	02 57 59.1	+1.8
PNCL	Nicolau / Gran	93.84	45	eP	P	02 58 05.1	+7.8
	comp=Z,42nm,1.6s						
PVAQ	Vaqueiros	93.84	46	eP	P	02 58 05.5	+8.1
	comp=Z,109nm,1.6s						
PVAQ	Vaqueiros	93.84	46	eLR	LR	03 34 45.6	
	comp=Z,2μm,18.0s						
LIS	Lisbon	93.89	44	eP	P	02 57 59.2	+1.7
LIS				AMS	AMS	03 40 25.6	
	comp=Z,1μm,18.2s						
LIS	Lisbon	93.89	44	eP	P	02 57 59.3	+1.7
LIS	Lisbon	93.89	44	A	A	03 40 25.6	
	comp=Z,1μm,18.2s						
LIS	Lisbon	93.89	44	eP	P	02 57 59.2	+1.7
B06A	Marblemount	93.93	330	PFAKE		02 58 10.0	+13
B06A				LR	LR		
	comp=Z,1μm,19.5s						
EVO	Evora	94.42	45	eP	P	02 58 07.9	+7.9
	comp=Z,69nm,1.7s						
A05A	Maple Falls	94.56	330	PFAKE		02 58 10.0	+10
A05A				LR	LR		
	comp=Z,2μm,21.0s						
PBAR	Barrancos	94.76	46	eP	P	02 58 09.3	+7.8
	comp=Z,94nm,1.6s						
EDM	Edmonton	94.77	337	eP	P	02 57 59.8	-1.5
EDM	Edmonton	94.77	337	eP	P	02 57 59.8	-1.5
PGC	Sidney	94.86	329	eP	P	02 58 01.8	+0.1
	comp=Z,1.3nm,1.1s						
PESTR	Estremoz	94.89	45	eP	P	02 58 10.1	+7.9
	comp=Z,65nm,1.7s						
MSVF	Nonsavu	95.02	244	PFAKE		02 58 10.0	+6.5
MSVF				LR	LR		
	comp=Z,2μm,18.0s						
FCC	Fort Churchill	95.15	349	eP	P	02 58 02.3	-0.5
FCC				pmax	pmax		
	comp=Z,35nm,1.0s						
FCC	Fort Churchill	95.15	349	eP	P	02 58 02.3	-0.5
	comp=Z,35nm,1.0s						
PMRV	Marv??o	95.38	45	eP	P	02 58 11.8	+7.4
PMRV	Marv??o	95.38	45	eLR	LR	03 33 25.9	
	comp=Z,1μm,18.0s						
MTE	Manteigas	95.94	44	eP	P	02 58 13.3	+6.3
	comp=Z,62nm,1.4s						
MTE	Manteigas	95.94	44	eLR	LR	03 35 32.2	
	comp=Z,1μm,20.0s						
MTE	Manteigas	95.94	44	PFAKE		02 58 20.0	+13
MTE				LR	LR		
	comp=Z,2μm,19.0s						
MVO	Moncorvo	96.74	44	eP	P	02 58 18.5	+7.9
	comp=Z,49nm,1.6s						
MVO	Moncorvo	96.74	44	eLR	LR	03 35 55.9	
	comp=Z,3μm,18.0s						
PAB	San Pablo	97.24	46	PFAKE		02 58 20.0	+7.0
PAB				LR	LR		
	comp=Z,2μm,19.0s						
PBRG	Braganca	97.32	43	eP	Pdif	02 58 20.7	+7.4
	comp=Z,62nm,1.5s						
ESDC	Sonseca Array	97.55	46	P	P	02 58 14.1	-0.3
	comp=Z,1.6nm,0.8s,baz=256,slow=3.8,SNR=8.1						
ESDC				pP	pP	02 58 21.9	-0.6
	comp=Z,4.7nm,0.8s,baz=232,slow=4.2,SNR=14						
ES19	SONSECA Array	97.61	46	eP	P	02 58 14.6	0.0
ES19				epP	pP	02 58 22.3	-0.5
ES19				ePP	PP	03 02 13.1	+0.3
ETRT	Tiaret	98.18	52	P	Pdif	02 58 23.5	+6.1
EANR	'Ain N'Sour	98.39	52	P	Pdif	02 58 20.0	+1.8
DZM	Mont Dzumac	100.33	234	eSP	SP	03 11 23.1	-7.3
	comp=Z,363nm,27.2s						
DZM				eSS	SS	03 16 57.6	+1.4
	comp=Z,619nm,24.2s						
DZM	Mont Dzumac	100.33	234	eLR	LR	03 31 12.6	
	comp=Z,2μm,29.9s						
SJPF	Ste Jean	101.31	45	eP	Pdif	02 58 29.5	-1.4
	comp=Z,97nm,1.4s						
SJPF	Ste Jean	101.31	45	eP	Pdif	02 58 29.5	-1.4
SJPF				pmax	pmax		
	comp=Z,97nm,1.4s						
SJPF	Ste Jean	101.31	45	eP	Pdif	02 58 29.5	-1.4
	comp=Z,97nm,1.4s						
ABPO	Ambohimpanom	101.54	123	PFAKE		02 58 40.0	+7.1
ABPO				LR	LR		
	comp=Z,2μm,21.0s						
ETSF	Etsaut	101.56	45	eP	Pdif	02 58 30.8	-1.4
	comp=Z,34nm,1.1s						
ETSF	Etsaut	101.56	45	eP	Pdif	02 58 30.8	-1.4
ETSF				pmax	pmax		
	comp=Z,34nm,1.1s						
ETSF	Etsaut	101.56	45	eP	Pdif	02 58 30.8	-1.4
	comp=Z,34nm,1.1s						
EPF	Esparros	102.17	46	eP	Pdif	02 58 33.6	-1.2
EPF	Esparros	102.17	46	eP	Pdif	02 58 33.6	-1.2
EPF	Esparros	102.17	46	eP	Pdif	02 58 33.6	-1.2
YKA	Yellowknife Ar	102.90	341	P	Pdif	02 58 36.8	-0.6
	comp=Z,1.5nm,0.8s,baz=142,slow=4.3,SNR=31						
YKA				PP	PKiKP	03 02 56.1	-1.4
	comp=Z,1.3nm,0.8s,baz=142,slow=7.9,SNR=4.8						
YKA				PKKPbc	PKKPdf	03 14 47.1	+1.9
	comp=Z,0.2nm,0.7s,baz=321,slow=2.9,SNR=5.5						
YKB5	Yellowknife Ar	102.90	341	ePdif	Pdif	02 58 36.5	-1.0
YKW3	Yellowknife Ar	102.96	341	eP	Pdif	02 58 36.5	-1.3
QUIF	Quistinic	103.17	40	eP	Pdif	02 58 36.7	-2.3
	comp=Z,182nm,1.6s						
QUIF	Quistinic	103.17	40	eP	Pdif	02 58 36.7	-2.3
QUIF				pmax	pmax		
	comp=Z,182nm,1.6s						
QUIF	Quistinic	103.17	40	eP	Pdif	02 58 36.7	-2.3
	comp=Z,182nm,1.6s						
MTLF	Montolieu	103.47	46	eP	Pdif	02 58 38.5	-2.0
	comp=Z,29nm,1.3s						
MTLF	Montolieu	103.47	46	eP	Pdif	02 58 38.5	-2.0
MTLF				pmax	pmax		
	comp=Z,29nm,1.3s						
MTLF	Montolieu	103.47	46	eP	Pdif	02 58 38.5	-2.0
	comp=Z,29nm,1.3s						
LFF	La Frestale	103.54	44	eP	Pdif	02 58 39.0	-1.7
	comp=Z,79nm,1.2s						
LFF	La Frestale	103.54	44	eP	Pdif	02 58 39.0	-1.7
LFF				pmax	pmax		
	comp=Z,79nm,1.2s						
LFF	La Frestale	103.54	44	eP	Pdif	02 58 39.0	-1.7
	comp=Z,79nm,1.2s						
MFF	Saint Martin d	104.02	43	eP	Pdif	02 58 41.0	-1.9
	comp=Z,72nm,1.4s						
MFF	Saint Martin d	104.02	43	eP	Pdif	02 58 41.0	-1.9
MFF				pmax	pmax		
	comp=Z,72nm,1.4s						
MFF	Saint Martin d	104.02	43	eP	Pdif	02 58 41.0	-1.9
	comp=Z,72nm,1.4s						
RJF	Les Rejaudoux	104.19	44	eP	Pdif	02 58 41.8	-1.9
	comp=Z,94nm,1.7s						
RJF	Les Rejaudoux	104.19	44	eP	Pdif	02 58 41.8	-1.9
RJF				pmax	pmax		
	comp=Z,94nm,1.7s						
RJF	Les Rejaudoux	104.19	44	eP	Pdif	02 58 41.8	-1.9
	comp=Z,94nm,1.7s						
CAF	Calviac	104.29	45	eP	Pdif	02 58 42.5	-1.7
	comp=Z,44nm,1.4s						
CAF	Calviac	104.29	45	eP	Pdif	02 58 42.5	-1.7
CAF				pmax	pmax		
	comp=Z,44nm,1.4s						
CAF	Calviac	104.29	45	eP	Pdif	02 58 42.5	-1.7
	comp=Z,44nm,1.4s						
LASF	Ste Croix	104.86	46	eP	Pdif	02 58 45.2	-1.5
	comp=Z,103nm,1.9s						
LASF	Ste Croix	104.86	46	eP	Pdif	02 58 45.2	-1.5
	comp=Z,103nm,1.9s						
DSB	Dublin	104.89	35	PFAKE		02 59 00.0	+13
DSB				LR	LR		
	comp=Z,2μm,18.0s						
TCF	Toulx Ste Croi	105.16	44	eP	Pdif	02 58 47.3	-0.7
	comp=Z,56nm,1.6s						
TCF	Toulx Ste Croi	105.16	44	eP	Pdif	02 58 47.3	-0.7
TCF				pmax	pmax		
	comp=Z,56nm,1.6s						
TCF	Toulx Ste Croi	105.16	44	eP	Pdif	02 58 47.3	-0.7
	comp=Z,56nm,1.6s						
LDF	La Druitiere	105.20	41	eP	Pdif	02 58 46.2	-1.9
LDF	La Druitiere	105.20	41	eP	Pdif	02 58 46.2	-1.9
LDF	La Druitiere	105.20	41	eP	Pdif	02 58 46.2	-1.9
KMBO	Kilima Mbogo	105.44	103	PFAKE		03 03 20.0	
KMBO				LR	LR		
	comp=Z,2μm,19.0s						
BGF	Bois d'Agland	105.67	44	eP	Pdif	02 58 48.4	-1.8
	comp=Z,27nm,1.1s						
BGF	Bois d'Agland	105.67	44	eP	Pdif	02 58 48.4	-1.8
BGF				pmax	pmax		
	comp=Z,27nm,1.1s						
BGF	Bois d'Agland	105.67	44	eP	Pdif	02 58 48.4	-1.8
	comp=Z,27nm,1.1s						
VIVF	Saint-Julien-l	105.78	46	eP	Pdif	02 58 49.4	-1.4
VIVF	Saint-Julien-l	105.78	46	eP	Pdif	02 58 49.4	-1.4
VIVF	Saint-Julien-l	105.78	46	eP	Pdif	02 58 49.4	-1.4
VSL	Villasalto	105.79	53	PFAKE		03 03 20.0	
VSL				LR	LR		
	comp=Z,2μm,22.0s						
AVF	Avril sur Loir	106.09	44	eP	Pdif	02 58 50.3	-1.8
	comp=Z,90nm,1.8s						
AVF	Avril sur Loir	106.09	44	eP	Pdif	02 58 50.3	-1.8
AVF				pmax	pmax		
	comp=Z,90nm,1.8s						
AVF	Avril sur Loir	106.09	44	eP	Pdif	02 58 50.3	-1.8
	comp=Z,90nm,1.8s						
SMF	Signal de Mont	106.29	44	eP	Pdif	02 58 51.4	-1.6
	comp=Z,77nm,1.4s						
SMF	Signal de Mont	106.29	44	eP	Pdif	02 58 51.4	-1.6
SMF				pmax	pmax		
	comp=Z,77nm,1.4s						
SMF	Signal de Mont	106.29	44	eP	Pdif	02 58 51.4	-1.6
	comp=Z,77nm,1.4s						
SSF	Saint Saulge	106.33	44	eP	Pdif	02 58 50.9	-2.2
	comp=Z,45nm,1.4s						
SSF	Saint Saulge	106.33	44	eP	Pdif	02 58 50.9	-2.2
SSF				pmax	pmax		
	comp=Z,45nm,1.4s						
SSF	Saint Saulge	106.33	44	eP	Pdif	02 58 50.9	-2.2
	comp=Z,45nm,1.4s						
ORIF	Oris-en-Rattie	106.53	47	eP	Pdif	02 58 52.1	-2.1
	comp=Z,31nm,1.3s						
ORIF	Oris-en-Rattie	106.53	47	eP	Pdif	02 58 52.1	-2.1
ORIF				pmax	pmax		
	comp=Z,31nm,1.3s						
ORIF	Oris-en-Rattie	106.53	47	eP	Pdif	02 58 52.1	-2.1
	comp=Z,31nm,1.3s						
LOR	Lormes	106.65	44	eP	Pdif	02 58 53.7	-0.9
	comp=Z,46nm,1.3s						
LOR	Lormes	106.65	44	eP	Pdif	02 58 53.7	-0.9
LOR				pmax	pmax		
	comp=Z,46nm,1.3s						
LOR	Lormes	106.65	44	eP	Pdif	02 58 53.7	-0.9
	comp=Z,46nm,1.3s						
MBDF	Montbardon	106.96	47	eP	Pdif	02 58 55.1	-1.1
MBDF	Montbardon	106.96	47	eP	Pdif	02 58 55.1	-1.1
MBDF	Montbardon	106.96	47	eP	Pdif	02 58 55.1	-1.1
BNI	Bardonecchia	107.08	47	PFAKE		03 03 20.0	
BNI				LR	LR		
	comp=Z,2μm,21.0s						
EIDS	Eidsvold	107.13	221	PFAKE		03 03 20.0	
EIDS				LR	LR		
	comp=Z,800nm,19.9s						
LPL	La Plagne	107.36	46	eP	Pdif	02 58 57.2	-0.9
LPL	La Plagne	107.36	46	eP	Pdif	02 58 57.2	-0.9
LPL	La Plagne	107.36	46	eP	Pdif	02 58 57.2	-0.9
LPG	La Plagne	107.36	46	eP	Pdif	02 58 57.1	-1.0
	comp=Z,58nm,1.6s						
LPG	La Plagne	107.36	46	eP	Pdif	02 58 57.1	-1.0
LPG				pmax	pmax		
	comp=Z,58nm,1.6s						
LPG	La Plagne	107.36	46	eP	Pdif	02 58 57.1	-1.0
	comp=Z,58nm,1.6s						
WDD	Wield Dalam	107.37	58	PFAKE		03 03 20.0	
WDD				LR	LR		
	comp=Z,4μm,20.0s						
MEZF	Maizieres J'vi	107.99	43	eP	Pdif	02 59 00.0	-0.5
MEZF	Maizieres J'vi	107.99	43	eP	Pdif	02 59 00.0	-0.5
EDI	Edinburgh	108.00	34	PFAKE		03 03 20.0	
EDI				LR	LR		
	comp=Z,900nm,19.0s						
VLC	Villacollemand	108.87	49	PFAKE		03 03 20.0	
VLC				LR	LR		
	comp=Z,800nm,19.0s						
WLF	Walferdange	109.22	42	PFAKE		03 03 20.0	
WLF				LR	LR		
	comp=Z,2μm,18.0s						
TUE	Stuetta	109.42	47	PFAKE		03 03 20.0	
TUE				LR	LR		
	comp=Z,2μm,18.0s						
CEL	Celeste	109.52	57	PFAKE		03 03 20.0	
CEL				LR	LR		
	comp=Z,4μm,19.0s						
MEM	Membach	109.64	42	PFAKE		03 03 20.0	
MEM				LR	LR		
	comp=Z,2μm,19.7s						
BFO	Black Forest	109.77	44	PFAKE		03 03 20.0	
BFO				LR	LR		
	comp=Z,1μm,18.0s						
SUMG	Summit	109.87	10	iP	PKKPdf	03 14 28.0	-4.7
	comp=Z,3.6nm,1.1s						
AQU	L'Aquila	109.88	52	PFAKE		03 03 20.0	
AQU				LR	LR		
	comp=Z,2μm,22.0s						
FUORN	Ofenpass-Fuorn	110.04	47	PFAKE		03 03 20.0	
FUORN				LR	LR		
	comp=Z,2μm,20.4s						
CUC	Castrocucco	110.31	55	PFAKE		03 03 20.0	
CUC				LR	LR		
	comp=Z,2μm,18.0s						
STU	Stuttgart	110.48	44	PFAKE		03 03 20.0	
STU				LR	LR		
	comp=Z,1μm,18.0s						
TIP	Timpagrande	110.56	56	PFAKE		03 03 20.0	
TIP				LR	LR		
	comp=Z,2μm,19.0s						
FURI	Furi	112.38	95	PFAKE		03 03 30.0	
FURI				LR	LR		
	comp=Z,2μm,20.0s						
MOA	Molln	113.02	47⇑	ipPKiKP	pPKiKP	03 03 25.2	-0.2
	comp=Z,12nm,1.2s						
GEC2	GERESS Array S	113.14	46	ePKIKP	PKiKP	03 03 17.3	+0.1
GEC2	GERESS Array S	113.14	46	ePKiKP	PKiKP	03 03 17.3	+0.1
GERES	GERESS Array B	113.14	46	PKiKP	PKiKP	03 03 16.9	-0.3
	comp=Z,1.6nm,0.8s,baz=205,slow=4.3,SNR=4.8						
KHC	Kasperske Hory	113.19	45	ePKIKP	PKiKP	03 03 18.8	+1.5
KHC				e		03 03 25.4	
KHC				MLR	MLR		
	comp=Z,1μm,18.7s						
KHC	Kasperske Hory	113.19	45	ePKP	PKiKP	03 03 18.8	+1.5
KHC				epPKP	pPKiKP	03 03 25.4	-0.3
KHC				AMS	AMS	03 53 10.0	
	comp=Z,1μm,18.7s						
KHC	Kasperske Hory	113.19	45	PFAKE		03 03 30.0	
KHC				LR	LR		
	comp=Z,1μm,18.2s						
PAX	Paxson	113.47	332	PFAKE		03 03 30.0	
PAX				LR	LR		
	comp=Z,1μm,18.7s						
CLL	Collm	113.85	43	ePKiKP	PKiKP	03 03 18.0	-0.3
CLL				i pPKiKP	pPKiKP	03 03 26.3	-0.5
	comp=Z,14nm,1.2s						
CLL				ePP	PP	03 04 18.0	+5.5
CLL				eSdif	Sdif	03 12 05.0	+12
CLL				ePS	PKKPbc	03 13 58.0	-3.4
CLL				ePPS	PPS	03 15 10.0	
CLL				eSS	SS	03 20 09.0	+9.0
CLL				eSSS	SSS	03 24 48.0	
CLL				Lm	MLR	03 50 00.0	
	comp=N,900nm,21.3s						
CLL				Lm	MLR	03 50 00.0	
	comp=E,1μm,19.4s						
CLL				Lm	MLR	03 50 00.0	
	comp=Z,2μm,21.0s						
CLL	Collm	113.85	43	PFAKE		03 03 30.0	
CLL				LR	LR		
	comp=Z,2μm,20.0s						
CONA	Conrad Observa	114.02	47⇑	iPKPdf	PKPdf	03 03 19.3	+0.4
	comp=Z,9.5nm,1.8s						
PRA	Prague	114.11	45	PKP	PKPdf	03 03 21.0	+2.1
PRU	Pruhonice	114.14	45	ePKIKP	PKPdf	03 03 20.3	+1.3
PRU				MLR	MLR		
	comp=Z,1μm,20.1s						
PRU	Pruhonice	114.14	45	ePKP	PKPdf	03 03 20.3	+1.3
PRU				eS	Sdif	03 11 52.0	-3.6
PRU				ePKKP	PKKPbc	03 14 00.8	+0.5
PRU				AMS	AMS	03 50 50.0	
	comp=Z,1μm,20.1s						
BRG	Berggiesshubel	114.19	44	ePKP	PKPdf	03 03 21.2	+2.2
	comp=Z,11nm,1.2s						
BRG				PP	PP	03 04 13.0	-1.9
BRG				e		03 14 08.5	
	comp=Z,4.7nm,1.0s						
BRG				ePKPPKP	P'P'df	03 22 39.2	+8.3
	comp=Z,11nm,1.7s						
BRG	Berggiesshubel	114.19	44	ePKIKP	PKPdf	03 03 21.2	+2.2
BRG						03 04 13.0	
BRG				pmax	pmax		
	comp=Z,11nm,1.2s						
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRG				MLR	MLR		
	comp=N,11μm,16.6s						
BRG				MLR	MLR		
	comp=E,706nm,19.9s						
BRG				MLR	MLR		
	comp=Z,1μm,18.8s						
TREC	Trest	114.39	46	AMS	AMS	03 52 40.0	
	comp=Z,1μm,18.7s						
PVCC	Panska Ves	114.39	44	AMS	AMS	03 55 20.0	
	comp=Z,1μm,18.0s						
RUE	Ruedersdorf	114.80	42	PFAKE		03 03 30.0	+10
RUE				LR	LR		
	comp=Z,2μm,19.0s						
ILAR	Eielson Array	114.93	333	PKP	PKPdf	03 03 19.6	-0.4
	comp=Z,0.9nm,0.7s,baz=170,slow=1.4,SNR=4.1						
ILAR				PKKPbc	PKKPbc	03 13 58.5	+0.5
	comp=Z,0.8nm,0.7s,baz=307,slow=4.5,SNR=7.9						
ILB	Eielson Array	114.93	333	ePKiKP	PKPdf	03 03 19.6	-0.4
ILB				eSP	SP	03 13 58.5	+3.8
PKSM	Moragy	114.99	50⇑	PKIKP	PKPdf	03 03 28.1	+7.4
PKSM	Moragy	114.99	50⇑	iP	PKPdf	03 03 28.1	+7.4
DPC	Dobruska-Polom	115.33	45	ePKIKP	PKPdf	03 03 22.2	+0.9
DPC				e		03 03 29.7	
DPC				e		03 04 19.7	
DPC				e		03 14 00.6	
DPC	Dobruska-Polom	115.33	45	ePKP	PKPdf	03 03 22.2	+0.9
DPC				epPKP	PKiKP	03 03 29.7	+8.4
DPC				ePP	PP	03 04 19.7	-3.4
DPC				ePKKP	PKKPab	03 14 00.6	+1.6
DPC				AMS	AMS	03 55 00.0	
DPC	Dobruska-Polom	115.33	45	PFAKE		03 03 30.0	+8.7
DPC				LR	LR		
	comp=Z,6μm,20.0s						
COLA	College	115.34	333	i PKIKP	PKPdf	03 03 18.9	-1.9
SANT	Santorini	115.41	62	PFAKE		03 03 30.0	+8.1
SANT				LR	LR		
	comp=Z,800nm,19.0s						
RGN	Rugen	115.43	40	PFAKE		03 03 30.0	+8.8
RGN				LR	LR		
	comp=Z,1μm,18.0s						
KSP	Ksiaz	115.52	45	ePKP	PKPdf	03 03 30.0	+8.4
KONO	Kongsberg	115.77	34	PFAKE		03 03 30.0	+8.2
KONO				LR	LR		
	comp=Z,1μm,19.0s						
MORC	Moravsky Berou	115.81	46⇓	PKIKP	PKPdf	03 03 30.1	+7.8
MORC	Moravsky Berou	115.81	46⇓	iP	PKPdf	03 03 30.1	+7.8
MORC	Moravsky Berou	115.81	46	eP	PKPdf	03 03 21.9	-0.3
MORC				e		03 03 30.3	
MORC				LR	LR		
	comp=Z,1μm,19.0s						
VYHS	Vyhne	116.06	48	ePKIKP	PKPdf	03 03 22.7	0.0
VYHS				e		03 03 30.1	
VYHS	Vyhne	116.06	48	ePKP	PKPdf	03 03 22.7	0.0
VYHS				e		03 03 30.1	
VYHS				e		03 26 35.5	
KKB	Krupnik	116.07	56	eP	PP	03 04 27.0	-1.4
OKC	Ostrava-Krasne	116.19	46	ePKIKP	PKPdf	03 03 23.4	+0.5
OKC				e		03 03 31.0	
OKC				MLR	MLR		
	comp=Z,900nm,18.9s						
OKC	Ostrava-Krasne	116.19	46	ePKP	PKPdf	03 03 23.4	+0.5
OKC				epPKP	pPKPdf	03 03 31.0	-0.3
OKC				AMS	AMS	03 54 40.0	
	comp=Z,900nm,18.9s						
CAST	Castle Rocks	116.32	330	PFAKE		03 03 30.0	+7.2
CAST				LR	LR		
	comp=Z,600nm,20.1s						
DAG	Danmarks Havn	116.38	12	i PKIKP	PKPdf	03 03 28.9	+6.4
DAG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DAG				MLR	MLR		
	comp=Z,710nm,18.0s						
DAG	Danmarks Havn	116.38	12	i P	PKPdf	03 03 28.9	+6.4
	comp=Z,3.8nm,0.9s						
DAG				e		03 04 26.0	
DAG	Danmarks Havn	116.38	12	i P	PKKPbc	03 13 51.0	-2.1
	comp=Z,2.8nm,0.9s						
MMB	Musomiste	116.39	56	eP	PP	03 04 33.5	+2.7
PSZ	Piszkesteto	116.47	49	PFAKE		03 03 40.0	+16
PSZ				LR	LR		
	comp=Z,898nm,18.0s						
AS01	Alice Springs	116.47	207	ePKPdf	PKPdf	03 03 22.9	-1.6
AS12	Alice Springs	116.49	207	ePKPdf	PKPdf	03 03 23.4	-1.1
AS12				ePKKPbc	PKKPbc	03 13 52.4	+0.6
ASAR	Alice Springs	116.49	207	PKP	PKPdf	03 03 23.4	-1.1
	comp=Z,0.9nm,0.7s,baz=151,slow=2.1,SNR=10						
ASAR				PKKPbc	PKKPbc	03 13 52.4	+0.6
	comp=Z,0.9nm,0.6s,baz=346,slow=2.8,SNR=5.7						
BZS	Buzias	116.63	52⇑	PKIKP	PKPdf	03 03 23.2	-0.7
BZS	Buzias	116.63	52⇑	iP	PKPdf	03 03 23.2	-0.7
BZS	Buzias	116.63	52⇑	iP	PKPdf	03 03 23.2	-0.7
NB2	NORSAR Subarra	117.08	33	PKPdf	PKPdf	03 03 31.7	+7.3
	comp=Z,7.8nm,1.2s,baz=248,slow=1.9						
NB2	NORSAR Subarra	117.08	33	PKPdf	PKPdf	03 03 31.7	+7.3
	baz=248,slow=1.9						
NB200	NORSAR Array S	117.08	33	ePKPdf	PKPdf	03 03 24.4	+0.1
NB200				ePKKPbc	PKKPab	03 13 52.2	+1.4
NOA	NORSAR Array B	117.08	33	PKP	PKPdf	03 03 24.4	+0.1
	comp=Z,1.5nm,1.0s,baz=228,slow=1.5,SNR=3.3						
NOA				PKKPbc	PKKPab	03 13 52.2	+1.4
	comp=Z,1.4nm,0.9s,baz=68,slow=4.4,SNR=3.6						
MPEP	Malo Peshtene	117.12	55	eP	PP	03 04 41.0	+5.3
MSEY	Mahe Island	117.21	118	PFAKE		03 03 40.0	+14
MSEY				LR	LR		
	comp=Z,1μm,20.0s

KWP	**Kalwaria Pacla**	**118.84**	**48**	⇑PKIKP	**PKPdf**	**03 03 28.5**	**+0.4**
KWP	**Kalwaria Pacla**	**118.84**	**48**	*e*PKP	**PKPdf**	**03 03 28.4**	**+0.4**
KWP	**Kalwaria Pacla**	**118.84**	**48**	⇑*i*P	**PKPdf**	**03 03 28.5**	**+0.4**
KWP	**Kalwaria Pacla**	**118.84**	**48**	*e*P	**PKPdf**	**03 03 28.8**	**+0.7**
KWP				*e*		03 03 36.4	
KWP				LR	LR		
comp=Z,2μm,19.0s							
DOPR	**Dopca**	**119.20**	**52**	⇑*i*P	**PKPdf**	**03 03 29.3**	**+0.4**
DOPR	**Dopca**	**119.20**	**52**	⇑*i*P	**PKPdf**	**03 03 29.3**	**+0.4**
MLR	**Muntele Rosu**	**119.39**	**53**	⇑PKIKP	**PKPdf**	**03 03 30.1**	**+0.7**
MLR	**Muntele Rosu**	**119.39**	**53**	⇑*i*P	**PKPdf**	**03 03 30.1**	**+0.7**
MLR	**Muntele Rosu**	**119.39**	**53**	⇑*i*P	**PKPdf**	**03 03 30.1**	**+0.7**
PRD	**Provadia**	**119.53**	**56**	⇓PKIKP	PKPdf	03 03 38.0	+8.5
BUR04	**Bucovina Ar. S**	**119.68**	**51**	*e*PKPdf	**PKPdf**	**03 03 30.4**	**+0.6**
BUR08	**Bucovina Ar. S**	**119.68**	**50**	*e*P	**PKPdf**	**03 03 30.2**	**+0.3**
ISP	**Isparta**	**119.69**	**63**	PFAKE		03 03 40.0	+10
ISP				LR	LR		
comp=Z,1μm,21.0s							
WRA	**Warramunga Arr**	**119.69**	**209**	PKP	**PKPdf**	**03 03 29.7**	**-1.0**
comp=Z,2.9nm,0.7s,baz=158,slow=1.7,SNR=30							
WRA				PKKPab	**PKKPab**	**03 13 45.2**	**-0.2**
comp=Z,5.6nm,1.1s,baz=349,slow=4.0,SNR=7.8							
WRAB	**Tennant Creek**	**119.69**	**209**	*i* PKIKP	**PKPdf**	**03 03 27.7**	**-3.0**
WRAB	**Tennant Creek**	**119.69**	**209**	*e*PKPdf	**PKPdf**	**03 03 29.3**	**-1.5**
WRAB				LR	LR		
comp=Z,1μm,21.0s							
EIL	**Elat**	**119.71**	**73**	PKP	**PKPdf**	**03 03 30.9**	**+0.5**
comp=Z,2.9nm,0.7s,baz=180,slow=13,SNR=2.3							
LVV	**L'vov**	**119.72**	**48**	*e*PKIKP	**PKPdf**	**03 03 29.0**	**-0.7**
PLOR	**Plostina**	**119.98**	**53**	⇑PKIKP	PKPdf	03 03 37.4	+7.0
PLOR	**Plostina**	**119.98**	**53**	⇑*i*P	PKPdf	03 03 37.4	+7.0
PLOR	**Plostina**	**119.98**	**53**	⇑*i*P	PKPdf	03 03 37.4	+7.0
VRI	**Vrincioaia**	**120.04**	**53**	⇑PKIKP	**PKPdf**	**03 03 29.3**	**-1.2**
VRI	**Vrincioaia**	**120.04**	**53**	⇑*i*P	**PKPdf**	**03 03 29.3**	**-1.2**
TESR	**Tescani**	**120.22**	**52**	⇓*i*P	**PKPdf**	**03 03 30.7**	**-0.1**
HARR	**Harsova**	**120.42**	**54**	⇑PKIKP	**PKPdf**	**03 03 31.1**	**-0.1**
HARR	**Harsova**	**120.42**	**54**	⇑*i*P	**PKPdf**	**03 03 31.1**	**-0.1**
HARR	**Harsova**	**120.42**	**54**	⇑*i*P	**PKPdf**	**03 03 31.1**	**-0.1**
SUW	**Suwalki**	**120.60**	**43**	*e*PKIKP	**PKPdf**	**03 03 30.7**	**-0.5**
SUW	**Suwalki**	**120.60**	**43**	*e*PKP	**PKPdf**	**03 03 30.7**	**-0.5**
SUW	**Suwalki**	**120.60**	**43**	*e*PKPdf	**PKPdf**	**03 03 31.0**	**-0.2**
SUW				LR	LR		
comp=Z,1μm,19.0s							
TIRR	**Tirgusor**	**120.66**	**55**	⇓PKIKP	**PKPdf**	**03 03 31.4**	**-0.3**
TIRR	**Tirgusor**	**120.66**	**55**	⇓*i*P	**PKPdf**	**03 03 31.4**	**-0.3**
TIRR	**Tirgusor**	**120.66**	**55**	⇓*i*P	**PKPdf**	**03 03 31.4**	**-0.3**
TIRR	**Tirgusor**	**120.66**	**55**	PFAKE		03 03 40.0	+8.3
TIRR				LR	LR		
comp=Z,1μm,20.0s							
COEN	**Coen**	**120.69**	**221**	PFAKE		03 03 40.0	+7.3
COEN				LR	LR		
comp=Z,5μm,20.1s							
CFR	**Carcaliu**	**120.73**	**54**	⇑PKIKP	**PKPdf**	**03 03 31.8**	**0.0**
CFR	**Carcaliu**	**120.73**	**54**	⇑*i*P	**PKPdf**	**03 03 31.8**	**0.0**
LEOM	**Leova**	**121.24**	**53**	⇓PKIKP	**PKPdf**	**03 03 32.3**	**-0.4**
LEOM	**Leova**	**121.24**	**53**	⇓*i*P	**PKPdf**	**03 03 32.3**	**-0.4**
KIS	**Kishinev**	**121.78**	**52**	*e*PKIKP	PKPdf	03 03 41.0	+7.2
KIS				*e*		03 03 50.0	
KIS				*e*		03 05 06.0	
KIS				*e*		03 14 50.0	
KIS				MLR	MLR		
comp=Z,2μm,22.0s							
KIS				MLR	MLR		
comp=Z,1μm,23.0s							
KIS	**Kishinev**	**121.78**	**52**	*e*PKP	PKPdf	03 03 41.0	+7.2
KIS	**Kishinev**	**121.78**	**52**	*e*PP	PP	03 05 06.0	-1.7
KIS				*e*SKKS		03 13 18.0	
KIS	**Kishinev**	**121.78**	**52**	*e*PS	PS	03 15 20.0	+19
KIS				LRM	MLR	03 55 00.0	
comp=Z,1μm,22.0s							
PMG	**Port Moresby**	**122.06**	**228**	*i* PKIKP	**PKPdf**	**03 03 31.9**	**-3.5**
BR231	**Keskin MP Arra**	**122.08**	**61**	*e*PKPdf	**PKPdf**	**03 03 35.4**	**+0.7**
ANTO	**Ankara**	**122.10**	**61**	⇓PKIKP	**PKPdf**	**03 03 35.5**	**+0.8**
ANTO	**Ankara**	**122.10**	**61**	⇓*i*P	**PKPdf**	**03 03 35.5**	**+0.8**
ANTO	**Ankara**	**122.10**	**61**	*e*PKPdf	**PKPdf**	**03 03 35.0**	**+0.2**
ANTO				*e*PP	PP	03 05 02.3	-7.9
ANTO				LR	LR		
comp=Z,1μm,20.0s							
BR101	**Keskin Array S**	**122.66**	**62**	*e*PKPdf	**PKPdf**	**03 03 36.0**	**+0.1**
BR101				*e*PP	**PP**	**03 05 17.0**	**+2.9**
BR131	**Keskin Array S**	**122.66**	**62**	*e*P	**PKPdf**	**03 03 35.8**	**-0.1**
BR131				*e*		03 03 44.7	
BRTR	**Keskin Array B**	**122.66**	**62**	PKP	**PKPdf**	**03 03 36.0**	**+0.1**
comp=Z,5.1nm,0.7s,baz=194,slow=2.8,SNR=39							
BRTR				PP	**PP**	**03 05 17.0**	**+2.9**
comp=Z,7.2nm,1.1s,baz=223,slow=6.4,SNR=5.1							
NACGM	**Naroch**	**122.87**	**43**	*e*	**PKPdf**	**03 03 39.0**	**+3.4**
MBWA	**Marble Bar**	**122.94**	**194**	PFAKE		03 03 50.0	+13
MBWA				LR	LR		
comp=Z,1μm,18.3s							
KBS	**Kingsbay**	**123.03**	**13**	PFAKE		03 03 50.0	+15
KBS				LR	LR		
comp=Z,700nm,20.0s							
AK11	**Malin Array Si**	**123.12**	**48**	*e*PKPdf	**PKPdf**	**03 03 35.2**	**-1.0**
AK02	**Malin Array Si**	**123.13**	**48**	*e*P	**PKPdf**	**03 03 34.9**	**-1.4**
AK02				*e*		03 03 43.1	
KIEV	**Kiev**	**123.14**	**48**	*e*PKIKP	**PKPdf**	**03 03 35.3**	**-0.9**
KIEV				*e*		03 05 20.5	
KIEV				MLR	MLR		
comp=Z,1μm,18.0s							
KIEV	**Kiev**	**123.14**	**48**	*e*PKPdf	**PKPdf**	**03 03 35.3**	**-0.9**
KIEV				*e*PP	**PP**	**03 05 20.5**	**+3.7**
KIEV				LR	LR		
comp=Z,1μm,18.0s							
AK01	**Malin Array Si**	**123.15**	**48**	*e*P	**PKPdf**	**03 03 34.8**	**-1.4**
AK01				*e*		03 03 42.9	
AKASG	**Malin Array Be**	**123.16**	**48**	PKP	**PKPdf**	**03 03 35.4**	**-0.9**
comp=Z,4.9nm,0.8s,baz=263,slow=2.8,SNR=38							
AKASG				PP	**PP**	**03 05 20.3**	**+3.4**
comp=Z,5.5nm,0.9s,baz=253,slow=7.4,SNR=7.4							
AKASG				PKKPbc	**PKKPbc**	**03 13 27.5**	**+0.1**
comp=Z,0.1nm,0.3s,baz=54,slow=4.3,SNR=4.1							
AKBB	**Malin Array Si**	**123.16**	**48**	*e*PKIKP	**PKPdf**	**03 03 35.4**	**-0.9**
AKBB				*e*		03 05 20.3	
AKBB	**Malin Array Si**	**123.16**	**48**	*e*PKPdf	**PKPdf**	**03 03 35.4**	**-0.9**
AKBB				*e*PP	**PP**	**03 05 20.3**	**+3.4**
AKBB				*e*PKKPbc	**PKKPbc**	**03 13 27.5**	**+0.1**
MNK	**Minsk**	**123.36**	**43**	*e*PKIKP	**PKPdf**	**03 03 33.0**	**-3.5**
MICGM	**Minsk**	**123.39**	**43**	*e*	**PKPdf**	**03 03 33.0**	**-3.6**
TNA	**Tin City**	**123.49**	**330**	*e*PKPdf	**PKPdf**	**03 03 35.7**	**-0.8**
VSU	**Vasula**	**123.72**	**39**	*i* PKIKP	**PKPdf**	**03 03 37.1**	**0.0**
FIA0	**FINESS Array S**	**124.04**	**35**	*e*PKIKP	**PKPdf**	**03 03 37.4**	**-0.2**
FIA0	**FINESS Array S**	**124.04**	**35**	*e*PKPdf	**PKPdf**	**03 03 37.4**	**-0.2**
FINES	**FINESS Array B**	**124.04**	**35**	PKP	**PKPdf**	**03 03 37.4**	**-0.2**
comp=Z,4.4nm,0.9s,baz=25,slow=5.0,SNR=8.2							
FIA1	**FINESS Array S**	**124.04**	**35**	*e*PKPdf	**PKPdf**	**03 03 36.8**	**-0.8**
KAF	**Kangasniemi**	**124.28**	**34**	*e*PKIKP	**PKPdf**	**03 03 36.9**	**-1.2**
KAF	**Kangasniemi**	**124.28**	**34**	*e*p	**PKPdf**	**03 03 36.9**	**-1.2**
SIM	**Simferopol'**	**124.67**	**56**	*i* PKIKP	PKPdf	03 03 47.4	+8.0
SIM				*e*PPP	PPP	03 10 35.0	
SIM				*e*PS	**PS**	**03 15 28.0**	**+1.2**
SIM				*e*PPS	PPS	03 17 04.0	
SIM				*e*SS	SS	03 22 21.0	+0.9
SIM				pmax	pmax		
comp=Z,30nm,0.9s							
GAMB	**Gambell**	**124.76**	**328**	*e*PKPdf	**PKPdf**	**03 03 37.6**	**-1.3**
ARA0	**ARCESS Array S**	**125.10**	**25**	*e*PKPdf	**PKPdf**	**03 03 39.6**	**+0.2**
ARCES	**ARCESS Array B**	**125.10**	**25**	PKP	**PKPdf**	**03 03 39.6**	**+0.1**
comp=Z,3.9nm,0.9s,baz=246,slow=4.2,SNR=5.6							
RAYN	**Ar Rayn**	**125.48**	**84**	*e*PKPdf	**PKPdf**	**03 03 41.0**	**-0.7**
RAYN				*e*PP	**PP**	**03 05 32.1**	**-1.0**
RAYN				LR	LR		
comp=Z,2μm,19.0s							
KEV	**Kevo**	**125.64**	**25**	PFAKE		03 03 50.0	+10
KEV				LR	LR		
comp=Z,800nm,19.1s							
MALT	**Malatya**	**125.68**	**65**	⇑PKIKP	**PKPdf**	**03 03 42.3**	**+0.6**
MALT	**Malatya**	**125.68**	**65**	⇑*i*P	**PKPdf**	**03 03 42.3**	**+0.6**
PUL	**Pulkovo**	**125.79**	**37**	*i* PKIKP	**PKPdf**	**03 03 41.2**	**+0.2**
DGAR	**Diego Garcia**	**126.38**	**135**	PFAKE		03 04 00.0	+16
DGAR				LR	LR		
comp=Z,1μm,20.0s							
JOF	**Joensuu**	**126.70**	**34**	*e*PKIKP	**PKPdf**	**03 03 41.0**	**-1.7**
JOF	**Joensuu**	**126.70**	**34**	*e*p	**PKPdf**	**03 03 41.0**	**-1.7**
ANN	**Anapa**	**126.90**	**57**	*i* PKIKP	PKPdf	03 03 49.7	+6.1
ANN				*e*		03 05 46.0	
ANN				*e*		03 10 57.4	
ANN				pmax	pmax		
comp=Z,62nm,1.3s							
APA	**Apatity**	**127.87**	**28**	*i* PKIKP	PKPdf	03 03 53.8	+9.0
APA				*i*		03 15 44.0	
APA				*i* PS	**PS**	**03 16 00.0**	**+6.0**
APA				*i* SS	SS	03 23 00.0	+1.3
APA				MLR	MLR		
comp=Z,800nm,18.0s							
SOC	**Sochi**	**128.17**	**59**	*e*P	**Pdif**	**03 00 29.5**	**-0.8**
SOC				*e*		03 05 47.6	
SOC				*e*PS	**PS**	**03 16 03.2**	**+5.7**
SOC				MLR	MLR		
comp=Z,368nm,20.0s							
LVZ	**Lovozero**	**128.34**	**27**	*e*PKIKP	**PKPdf**	**03 03 46.0**	**+0.2**
LVZ	**Lovozero**	**128.34**	**27**	*e*PKPdf	**PKPdf**	**03 03 46.0**	**+0.2**
OBN	**Obninsk**	**128.44**	**44**	⇓*i*PKIKP	**PKPdf**	**03 03 46.2**	**0.0**
OBN				*i*		03 03 53.8	
OBN				*i*		03 05 57.4	
OBN				pmax	pmax		
comp=Z,40nm,1.3s							
OBN				MLR	MLR		
comp=Z,1μm,18.0s							
OBN	**Obninsk**	**128.44**	**44**	*e*PKPdf	**PKPdf**	**03 03 46.2**	**0.0**
OBN				*e*PP	**PP**	**03 05 48.9**	**-2.9**
OBN				LR	LR		
comp=Z,1μm,19.0s							
MOS	**Moscow**	**129.11**	**43**	*e*PKIKP	**PKPdf**	**03 03 46.2**	**-1.3**
MOS				*e*		03 05 53.6	
MOS				pmax	pmax		
comp=Z,48nm,1.1s							
VSR	**Storozhevoye**	**129.40**	**49**	*e*PKIKP	**PKPdf**	**03 03 47.4**	**-0.8**
VSR				pmax	pmax		
comp=N,10.0nm,1.2s							
VSR				pmax	pmax		
comp=E,4.0nm,1.2s							
VSR				pmax	pmax		
comp=Z,40nm,1.2s							
AKH	**Akhalkalaki**	**130.31**	**62**	P	PKPdf	03 03 59.9	+9.4
KIV	**Kislovodsk**	**130.34**	**59**	*i* PKIKP	**PKPdf**	**03 03 50.3**	**-0.1**
KIV				*e*		03 06 01.8	
KIV				*e*PS	**PS**	**03 16 20.2**	**+3.6**
KIV				*e*SS	SS	03 23 32.2	+1.3
KIV				pmax	pmax		
comp=Z,64nm,1.0s							
KIV	**Kislovodsk**	**130.34**	**59**	*e*PKPdf	**PKPdf**	**03 03 50.5**	**+0.2**
KIV				*e*PP	PP	03 06 10.4	+5.5
KBZ	**Khabaz**	**130.44**	**59**	PKP	**PKPdf**	**03 03 51.5**	**+1.1**
comp=Z,6.0nm,0.9s,baz=355,slow=1.7,SNR=4.7							
KBZ				PP	**PP**	**03 06 06.9**	**+1.5**
comp=Z,6.2nm,1.1s,baz=284,slow=6.0,SNR=3.6							
KLMR	**Klimovskoe**	**130.45**	**37**	*e*PKIKP	**PKPdf**	**03 03 49.6**	**-0.3**
KLMR				*e*		03 06 06.3	
KLMR				pmax	pmax		
comp=Z,91nm,1.5s							
ONI	**Oni**	**130.57**	**61**	P	**PKPdf**	**03 03 52.1**	**+1.3**
GOF	**Gofitskoye**	**130.83**	**58**	*e*PKIKP	PKPdf	03 03 44.5	-6.6
GOF				pmax	pmax		
comp=Z,110nm,1.3s							
NCK	**Nalchik**	**130.88**	**60**	*i* PKIKP	**PKPdf**	**03 03 50.6**	**-0.7**
GNI	**Garni**	**130.91**	**64**	*c i* PKIKP	**PKPdf**	**03 03 51.0**	**-0.7**
GNI	**Garni**	**130.91**	**64**	*e*PKPdf	**PKPdf**	**03 03 52.5**	**+0.8**
GNI				*e*PP	**PP**	**03 06 13.6**	**+4.8**
GNI				LR	LR		
comp=Z,700nm,18.0s							
VRHR	**Novokhopersk**	**130.91**	**50**	*e*PKIKP	**PKPdf**	**03 03 51.1**	**0.0**
VRHR				pmax	pmax		
comp=N,10.0nm,0.9s							
VRHR				pmax	pmax		
comp=E,8.0nm,0.9s							
VRHR				pmax	pmax		
comp=Z,30nm,0.9s							
ZEI	**Tsey**	**130.94**	**61**	*i* PKIKP	**PKPdf**	**03 03 51.4**	**-0.3**
ZEI				pmax	pmax		
comp=Z,22nm,1.1s							
TBLG	**Delisi**	**131.30**	**62**	P	**PKPdf**	**03 03 56.1**	**+3.9**
SAUI	**Saumlaki**	**131.68**	**212**	PFAKE		03 04 10.0	+16
SAUI				LR	LR		
comp=Z,700nm,20.8s							
DGRG	**David-gareji**	**131.70**	**63**	P	**PKPdf**	**03 03 54.8**	**+1.8**
SOEI	**Soe**	**132.73**	**203**	PFAKE		03 04 10.0	+14
SOEI				LR	LR		
comp=Z,2μm,20.0s							
PRGR	**Permogore**	**133.37**	**35**	*e*PKIKP	**PKPdf**	**03 03 54.9**	**-0.5**
PRGR						03 06 25.3	
PRGR				pmax	pmax		
comp=Z,59nm,1.7s							
MAK	**Makhachkala**	**133.57**	**61**	*e*PKIKP	**PKPdf**	**03 03 56.0**	**-0.3**
MAK				*e*PPP	PPP	03 09 18.8	
MAK				*e*		03 11 02.2	
MAK				pmax	pmax		
comp=Z,40nm,2.5s							
BILL	**Bilibino**	**133.58**	**334**	⇓*i*PKIKP	**PKPdf**	**03 03 56.1**	**+0.5**
BILL				*i*		03 04 05.0	
BILL				*i*		03 06 22.2	
BILL				pmax	pmax		
comp=Z,19nm,1.5s							
BILL				MLR	MLR		
comp=Z,636nm,21.0s							
BILL	**Bilibino**	**133.58**	**334**	*e*PKPdf	**PKPdf**	**03 03 57.1**	**+1.5**
MMRI	**Maumere**	**134.40**	**201**	PFAKE		03 04 10.0	+11
MMRI				LR	LR		
comp=Z,500nm,19.0s							
KAPI	**Kappang**	**138.54**	**199**	PFAKE		03 04 20.0	+13
KAPI				LR	LR		
comp=Z,800nm,20.0s							
SOKR	**Solikamsk**	**139.13**	**37**	⇓*i*PKIKP	PKPdf	03 04 15.4	+9.3
SOKR				pmax	pmax		
comp=Z,30nm,0.9s							
PET	**Petropavlovsk**	**140.02**	**313**	*i* PKIKP	**PKPdf**	**03 04 12.0**	**+4.1**
GEYT	**Alibeck**	**140.55**	**71**	PKhKP	PKPpre	03 04 01.9	
comp=Z,1.3nm,0.4s,baz=270,slow=7.0,SNR=5.4							
GEYT				PKP	**PKPdf**	**03 04 10.1**	**+0.6**
comp=Z,9.3nm,0.8s,baz=262,slow=4.3,SNR=8.1							
PEA2	**Petropavlovsk-**	**140.58**	**313**	*e*PKPpre	PKPpre	03 04 01.0	
PEA0	**Petropavlovsk-**	**140.58**	**313**	*e*PKPdf	**PKPdf**	**03 04 10.0**	**+1.0**
ARU	**Arti**	**140.76**	**41**	*i* PKIKP	**PKPdf**	**03 04 09.2**	**0.0**
ARU						03 07 09.0	
ARU				SS	SS	03 25 30.5	-4.0
ARU	**Arti**	**140.76**	**41**	*e*PKPdf	**PKPdf**	**03 04 06.6**	**-2.6**
ARU				LR	LR		
comp=Z,1μm,19.0s							
AKTO	**Aktyubinsk**	**141.28**	**51**	PKhKP	PKPpre	03 04 04.0	
comp=Z,2.8nm,0.8s,baz=246,slow=3.2,SNR=10							
AKTO				PKP	**PKPdf**	**03 04 10.3**	**-0.1**
comp=Z,10nm,0.8s,baz=280,slow=2.4,SNR=18							
TIXI	**Tiksi**	**141.62**	**349**	*i* PKIKP	**PKPdf**	**03 04 11.5**	**+1.2**
TIXI	**Tiksi**	**141.62**	**349**	*e*PKPpre	PKPpre	03 04 07.2	
SVE	**Sverdlovsk**	**141.79**	**40**	*i* PKIKP	**PKPdf**	**03 04 11.7**	**+0.7**
SVE				*e*PPP	PPP	03 10 24.5	
SVE				pmax	pmax		
comp=Z,29nm,1.3s							
SVE				MLR	MLR		
comp=Z,1μm,20.0s							
AB31	**Akbulak array**	**142.61**	**53**	*i* PKHKP	PKPpre	03 04 08.0	
AB31				pmax	pmax		
comp=Z,36nm,0.9s							
ABKAR	**Akbulak array**	**142.61**	**53**	*e*PKPpre	PKPpre	03 04 08.1	
ABKAR				*e*PKPdf	**PKPdf**	**03 04 12.8**	**0.0**
PALK	**Pallekele**	**143.00**	**132**	*i* PKHKP	PKPpre	03 04 08.7	
PALK				pmax	pmax		
comp=Z,14nm,0.9s							
PALK	**Pallekele**	**143.00**	**132**	PKhKP	PKPpre	03 04 08.7	
comp=Z,14nm,0.9s,baz=234,slow=5.9,SNR=5.2							
PALK	**Pallekele**	**143.00**	**132**	*e*PKPpre	PKPpre	03 04 10.1	
PALK				LR	LR		
comp=Z,900nm,19.0s							
BKNI	**Bangkinang**	**144.96**	**169**	*e*PKPdf	**PKPab**	**03 04 16.2**	**-1.0**
BKNI				LR	LR		
comp=Z,600nm,20.0s							
GSI	**Gunungsitoli**	**145.21**	**162**	*e*PKPbc	**PKPdf**	**03 04 18.7**	**+0.2**
KSM	**Kuching**	**146.52**	**185**	*e*PKPdf	**PKPbc**	**03 04 22.3**	**+0.2**
KSM				LR	LR		
comp=Z,500nm,20.0s							
MYKOM	**Kota Tinggi**	**146.77**	**173**	*e*PKPdf	**PKPdf**	**03 04 20.2**	**-0.9**
MYKOM				LR	LR		
comp=Z,800nm,21.0s							
PSI	**Prapat**	**146.97**	**164**	PKPbc	**PKPbc**	**03 04 22.7**	**-0.8**
comp=Z,63nm,1.0s,baz=196,slow=8.3,SNR=32							
SBUM	**Sibu**	**147.30**	**189**	*e*PKPdf	**PKPbc**	**03 04 24.3**	**0.0**
SBUM				LR	LR		
comp=Z,800nm,22.0s							
BRVK	**Borovoye**	**148.21**	**44**	*c i* PKIKP	**PKPdf**	**03 04 22.5**	**+0.3**
BRVK	**Borovoye**	**148.21**	**44**	*e*PKPdf	**PKPdf**	**03 04 22.7**	**+0.5**
BVA0	**Borovoye Array**	**148.28**	**44**	*i* PKIKP	**PKPdf**	**03 04 23.0**	**+0.6**
BVA0				pmax	pmax		
comp=Z,232nm,1.6s							
BVAR	**Borovoye Array**	**148.28**	**44**	PKPbc	**PKPdf**	**03 04 23.4**	**+1.0**
comp=Z,17nm,0.8s,baz=254,slow=2.6,SNR=41							
KBL	**Kabul**	**148.54**	**80**	*e*PKIKP	**PKPdf**	**03 04 24.0**	**+0.3**
KBL	**Kabul**	**148.54**	**80**	*e*PKPdf	**PKPdf**	**03 04 24.0**	**+0.3**
VOSK	**Vostochnaya**	**148.72**	**44**	PKIKP	**PKPdf**	**03 04 22.9**	**-0.2**
VOSK				pmax	pmax		
comp=Z,430nm,1.6s							
VOSK	**Vostochnaya**	**148.72**	**44**	*e*PKPdf	**PKPdf**	**03 04 23.4**	**+0.3**
VOSK				*e*PKPbc	**PKiKP**	**03 04 27.9**	**-0.4**
LHMI	**Lhok Sumawe**	**148.79**	**159**	*e*PKPbc	**PKPbc**	**03 04 28.1**	**-0.1**
HYB	**Hyderabad**	**148.83**	**117**	*i* PKP	**PKPdf**	**03 04 23.5**	**-0.9**
IPM	**Ipoh**	**149.03**	**167**	*e*PKPdf	**PKPdf**	**03 04 25.1**	**+0.2**
IPM				*e*PKPbc	**PKPbc**	**03 04 28.0**	**-0.9**
IPM				LR	LR		
comp=Z,700nm,21.0s							
YUK	**Yuzh-Kuril'sk**	**149.30**	**299**	*e*PKIKP	PKPdf	03 04 12.7	-12
YAK	**Yakutsk**	**149.55**	**339**	*i* PKP2	**PKPbc**	**03 04 27.9**	**-0.8**
YAK				*e*		03 08 00.2	
YAK				*e*PPP	PPP	03 11 22.6	
YAK				pmax	pmax		
comp=Z,418nm,1.1s							
YAK				pmax	pmax		
comp=E,83nm,1.5s							
YAK				pmax	pmax		
comp=N,77nm,1.6s							
YAK				pmax	pmax		
comp=Z,169nm,3.2s							
YAK				pmax	pmax		
comp=N,88nm,2.8s							
YAK				pmax	pmax		
comp=E,60nm,3.3s							
YAK	**Yakutsk**	**149.55**	**339**	*e*PKPbc	**PKPbc**	**03 04 28.2**	**-0.4**
KULM	**Kulim**	**149.75**	**166**	*e*PKPbc	**PKPbc**	**03 04 29.6**	**-1.0**
KULM				LR	LR		
comp=Z,1μm,22.0s							
KKM	**Kota Kinabalu**	**150.07**	**198**	*e*PKPbc	**PKPbc**	**03 04 30.8**	**-0.8**
KKM				LR	LR		
comp=Z,400nm,20.0s							
KK31	**Karatay Array**	**150.36**	**63**	*i* PKIKP	**PKPbc**	**03 04 30.5**	**-0.8**
KK31				pmax	pmax		
comp=Z,151nm,1.5s							
KKAR	**Karatay Array**	**150.36**	**63**	*e*PKIKP	**PKPdf**	**03 04 26.5**	**+0.4**
KKAR				*e*		03 04 31.8	
KKAR	**Karatay Array**	**150.36**	**63**	*e*PKPdf	**PKPdf**	**03 04 26.5**	**+0.4**
KKAR				*e*PKPbc	**PKiKP**	**03 04 31.8**	**-0.3**
YSS	**Yuzh-Sakhalins**	**151.08**	**305**	⇑PKIKP	**PKPbc**	**03 04 32.3**	**-0.5**
YSS				*i*		03 04 40.4	
YSS				pmax	pmax		
comp=Z,40nm,1.0s							
YSS	**Yuzh-Sakhalins**	**151.08**	**305**	*e*PKPbc	**PKPbc**	**03 04 32.0**	**-0.8**
YSS				*e*PKPab	**PKPab**	**03 04 41.0**	**+0.5**
ERM	**Erimo**	**151.39**	**295**	*e*PKIKP	**PKPbc**	**03 04 34.4**	**+0.7**
ERM				*e*		03 04 44.0	
ERM	**Erimo**	**151.39**	**295**	*e*PKPbc	**PKPbc**	**03 04 34.4**	**+0.7**
ERM				*e*PKPab	**PKPab**	**03 04 44.0**	**+2.0**
PKDT	**Phuket**	**151.72**	**161**	P	**PKPbc**	**03 04 38.3**	**+3.0**
comp=Z,88nm,1.0s							
AML	**Almayashu**	**152.76**	**65**	P	**PKPdf**	**03 04 31.4**	**+1.1**
SNR=5.8							
EKS2	**Erkin-Say**	**152.78**	**64**	P	**PKPdf**	**03 04 30.7**	**+0.8**
SNR=9.2							
EKS2	**Erkin-Say**	**152.78**	**64**	*e*PKIKP	**PKPdf**	**03 04 30.9**	**+1.0**
EKS2				*e*		03 04 37.8	
EKS2				*e*		03 04 45.9	
EKS2				*e*		03 08 21.4	
EKS2	**Erkin-Say**	**152.78**	**64**	*e*PKPdf	**PKPdf**	**03 04 30.9**	**+1.0**
EKS2				*e*PKPbc	**PKiKP**	**03 04 37.8**	**+0.6**
EKS2				*e*PKPab	**PKPab**	**03 04 45.9**	**-2.2**
EKS2				*e*PP	**PP**	**03 08 21.4**	**-0.1**
SURT	**Suratani**	**152.86**	**161**	P	**PKPab**	**03 04 45.5**	**-3.2**
comp=Z,13nm,1.4s							
USP	**Ospenovka**	**153.25**	**62**	P	**PKPbc**	**03 04 38.9**	**+1.0**
SNR=8.9							
AAK	**Ala-Archa**	**153.31**	**64**	P	**PKPd

	comp=Z,71nm,1.2s						
KLR	**Kul'dur**	**157.21**	**316**	*e*PKIKP	**PKPdf**	**03 04 30.7**	**-4.8**
MK31	**Makanchi Array**	**157.71**	**50**	*i* PKIKP	**PKPdf**	**03 04 35.7**	**-0.6**
MK31				pmax	pmax		
	comp=Z,40nm,1.3s						
MK31	**Makanchi Array**	**157.71**	**50**	*e*PKPdf	**PKPdf**	**03 04 35.8**	**-0.6**
MK32	**Makanchi Array**	**157.71**	**50**	*e*PKPdf	**PKPdf**	**03 04 36.4**	**+0.1**
MK32				*e*PKPab	**PKPab**	**03 05 08.7**	**-0.2**
MK32				*e*PP	PP	03 08 53.9	+5.4
MKAR	**Makanchi Array**	**157.71**	**50**	PKP	**PKPdf**	**03 04 36.4**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=328,slow=0.3,SNR=33						
MKAR				PKPab	**PKPab**	**03 05 08.7**	**-0.2**
	comp=Z,13nm,1.0s,baz=35,slow=3.0,SNR=3.9						
MKAR				PP	PP	03 08 53.9	+5.4
	comp=Z,8.1nm,1.1s,baz=262,slow=3.7,SNR=4.5						
MK01	**Makanchi Array**	**157.73**	**51**	*e*PKPdf	**PKPdf**	**03 04 36.1**	**-0.2**
SRDT	**SRDT**	**158.08**	**158**	P	**PKPab**	**03 05 11.5**	**+0.5**
	comp=Z,111nm,1.2s						
KOLN	**Koldanda**	**158.39**	**103**	*e*P	**PKPdf**	**03 04 37.4**	**-0.6**
	comp=Z,26nm,0.9s						
DANN	**Dangsing**	**158.76**	**102**	*e*P	**PKPdf**	**03 04 38.4**	**-0.1**
	comp=Z,92nm,0.9s						
USRK	**Ussuriysk Ar.**	**159.09**	**303**	PKPab	**PKPab**	**03 05 15.0**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=78,slow=3.2,SNR=7.4						
GKN	**Gorkha**	**159.32**	**103**	*e*P	**PKPdf**	**03 04 38.6**	**-0.4**
	comp=Z,64nm,1.2s						
DMN	**Daman**	**159.52**	**105**	*e*P	**PKPdf**	**03 04 39.0**	**-0.4**
KKN	**Kakani**	**159.74**	**105**	*e*P	**PKPdf**	**03 04 39.1**	**-0.5**
PKI	**Pulchoki**	**159.74**	**105**	*e*P	**PKPdf**	**03 04 39.2**	**-0.5**
GUN	**Gumba**	**160.26**	**105**	*e*P	**PKPdf**	**03 04 39.8**	**-0.5**
RAMN	**Ramite**	**160.38**	**108**	*e*P	**PKPdf**	**03 04 40.3**	**-0.1**
JIRN	**Jiri**	**160.40**	**106**	*e*P	**PKPdf**	**03 04 39.9**	**-0.6**
MDJ	**Mudanjiang**	**160.56**	**306**	PKP	**PKPdf**	**03 04 40.6**	**+1.0**
MDJ				PP	**PP**	**03 09 05.6**	**+1.5**
MDJ				PPMZ			
	comp=Z,180nm,10.3s						
MDJ				LN			
	comp=Z,360nm,32.9s						
MDJ				LE			
	comp=Z,220nm,20.4s						
MDJ				LZ			
	comp=Z,480nm,33.5s						
MDJ	**Mudanjiang**	**160.56**	**306**	*e*PKPdf	**PKPdf**	**03 04 37.1**	**-2.5**
ODAN	**Odare**	**160.95**	**110**	*e*P	**PKPdf**	**03 04 40.8**	**-0.2**
TAPN	**Taplejung**	**161.44**	**109**	*e*P	**PKPdf**	**03 04 41.2**	**-0.3**
UTTA	**Uttaradit**	**161.72**	**158**	P	**PKPab**	**03 05 26.4**	**-0.3**
	comp=Z,16nm,0.9s						
CM01	**Chiang Mai Arr**	**161.81**	**153**	*e*PKPdf	**PKPdf**	**03 04 41.2**	**-0.6**
CM01				*e*PKPab	**PKPab**	**03 05 26.7**	**-0.5**
CM31	**Chiang Mai Arr**	**161.84**	**153**	*e*PKPdf	**PKPdf**	**03 04 42.2**	**+0.4**
CM31				*e*PKPab	**PKPab**	**03 05 26.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**161.84**	**153**	PKP	**PKPdf**	**03 04 42.2**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=244,slow=2.7,SNR=16						
CMAR				PKPab	**PKPab**	**03 05 26.9**	**-0.4**
	comp=Z,5.3nm,0.6s,baz=221,slow=5.1,SNR=10.0						
CHTO	**Chiang Mai**	**162.16**	**153**	*e*PKIKP	**PKPdf**	**03 04 41.9**	**-0.2**
CHTO				*e*		03 05 28.0	
CHTO	**Chiang Mai**	**162.16**	**153**	*e*PKPdf	**PKPdf**	**03 04 41.9**	**-0.2**
CHTO				*e*PKPab	**PKPab**	**03 05 28.0**	**-0.7**
WMQ	**Urumqi**	**162.38**	**54**	PKP	**PKPdf**	**03 04 42.2**	**+0.5**
WMQ				pPKP	**pPKPdf**	**03 04 50.7**	**+0.6**
WMQ				PKPab	**PKPab**	**03 05 32.3**	**+2.9**
WMQ				PP	**PP**	**03 09 18.4**	**+4.4**
WMQ				SKS	**SKSdf**	**03 11 41.8**	**-3.0**
WMQ				SKKS	**SKKSac**	**03 16 01.2**	**+0.9**
WMQ				SS	**SS**	**03 29 35.0**	**+1.0**
WMQ				PPMZ			
	comp=Z,130nm,7.6s						
WMQ				LN			
	comp=Z,210nm,20.0s						
WMQ				LE			
	comp=Z,690nm,23.0s						
WMQ				LZ			
	comp=Z,660nm,26.0s						
IRK	**Irkutsk**	**162.63**	**7**	*e*PKP2	PKPab	03 05 37.4	+7.5
IRK				*e*		03 09 20.3	
IRK				pmax	pmax		
	comp=Z,871nm,1.3s						
MOY	**Mondy**	**162.71**	**14**	*e*PKIKP	PKPdf	03 04 48.7	+6.9
TLY	**Talaya**	**163.12**	**8**	*e*PKIKP	**PKPdf**	**03 04 42.7**	**+0.6**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KSRS	**Korea Array**	**163.34**	**284**	PKIKP	**PKPdf**	**03 04 42.7**	**0.0**
KSRS						03 05 34.4	
KSRS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KSRS				pmax	pmax		
	comp=Z,13nm,0.9s						
KSRS	**Korea Array**	**163.34**	**284**	PKP	**PKPdf**	**03 04 42.6**	**0.0**
	comp=Z,2.2nm,1.0s,baz=7.1,slow=32,SNR=5.4						
KSRS				PKPab	**PKPab**	**03 05 34.4**	**+0.7**
	comp=Z,13nm,0.9s,baz=101,slow=4.0,SNR=11						
KS01	**Wonju Array Si**	**163.37**	**284**	*e*PKPdf	**PKPdf**	**03 04 42.5**	**-0.3**
KS01				*e*PKPab	**PKPab**	**03 05 34.4**	**+0.6**
KS15	**Wonju Array Si**	**163.38**	**284**	*e*PKPdf	**PKPdf**	**03 04 42.6**	**-0.1**
KS15				*e*PKPab	**PKPab**	**03 05 34.4**	**+0.6**
KSAR	**Wonju Array Be**	**163.38**	**284**	PKIKP	**PKPdf**	**03 04 42.7**	**-0.1**
KSAR						03 05 34.4	
KSAR	**Wonju Array Be**	**163.38**	**284**	PKP	**PKPdf**	**03 04 42.6**	**-0.1**
KSAR				PKPab	**PKPab**	**03 05 34.4**	**+0.6**
CN2	**Changchun**	**163.61**	**308**	*e*PKP	PKPdf	03 04 36.2	-6.6
CN2				*e*pPKP	pPKPdf	03 04 47.0	-4.2
CN2				LN			
	comp=Z,500nm,22.0s						
CN2				LE			
	comp=Z,600nm,22.0s						
CN2				LZ			
	comp=Z,500nm,23.0s						
CRAI	**Chiangrai**	**163.98**	**155**	P	**PKPab**	**03 05 35.6**	**-1.1**
ZAK	**Zakamensk**	**164.34**	**10**	*e*PKIKP	**PKPdf**	**03 04 42.1**	**-1.3**
ZAK				*e*		03 05 38.2	
ZAK				pmax	pmax		
	comp=Z,40nm,1.1s						
LSA	**Lhasa**	**165.20**	**106**	*e*PKIKP	**PKPdf**	**03 04 45.9**	**+0.6**
LSA	**Lhasa**	**165.20**	**106**	*e*PKPdf	**PKPdf**	**03 04 45.9**	**+0.6**
LSA				*e*PKPab	**PKPab**	**03 05 43.9**	**+1.2**
SONA1	**Songino Array**	**167.16**	**3**	*e*PKPdf	**PKPdf**	**03 04 45.3**	**-0.5**
SONA1				*e*PKPab	**PKPab**	**03 05 51.3**	**+1.2**
ULN	**Ulaanbaatar**	**167.16**	**1**	*e*PKIKP	**PKPdf**	**03 04 44.9**	**-0.9**
ULN	**Ulaanbaatar**	**167.16**	**1**	*e*PKPdf	**PKPdf**	**03 04 44.9**	**-0.9**
ULN				*e*PKPab	**PKPab**	**03 05 51.4**	**+1.2**
SONA0	**Songino Array**	**167.17**	**3**	*e*PKPdf	**PKPdf**	**03 04 44.7**	**-1.1**
SONA0				*e*PKPab	**PKPab**	**03 05 49.7**	**-0.5**
SONA0				*e*PP	PP	03 09 44.1	+6.2
SONM	**Songino Array**	**167.17**	**3**	PKP	**PKPdf**	**03 04 44.7**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=211,slow=2.6,SNR=4.3						
SONM				PKPab	**PKPab**	**03 05 49.7**	**-0.5**
	comp=Z,4.1nm,0.9s,baz=350,slow=5.0,SNR=5.3						
SONM				PP	PP	03 09 44.1	+6.2
	comp=Z,9.3nm,1.1s,baz=0.0,slow=7.4,SNR=7.4						
KMI	**Kunming**	**169.31**	**156**	PKP	**PKPdf**	**03 04 47.6**	**-0.5**
NJ2	**Nanjing**	**170.07**	**256**	*e*PKP	**PKPdf**	**03 04 49.8**	**+1.8**
GYA	**Guiyang**	**171.44**	**175**	*i* PKP	**PKPdf**	**03 04 49.0**	**-0.1**
GYA				PKPab	**PKPab**	**03 06 08.7**	**-0.9**
GYA				PKS	**PKSdf**	**03 08 19.4**	**-2.2**
GYA				PP	**PP**	**03 10 01.8**	**+2.4**
GYA				SKKS		03 16 45.0	
GYA				SS	**SS**	**03 31 02.5**	**-1.0**
GYA				PPMZ			
	comp=Z,190nm,8.8s						
GYA				LN			
	comp=Z,180nm,22.7s						
GYA				LE			
	comp=Z,160nm,21.5s						
GYA				LZ			
	comp=Z,190nm,24.2s						
BJI	**Beijing**	**171.48**	**309**	PKP	PKPdf	03 04 55.2	+6.7
BJI				PP	**PP**	**03 10 02.7**	**+2.2**
TIA	**Tai'an**	**172.07**	**281**	||P	PKPdf	03 04 56.5	+7.6
GTA	**Gaotai**	**172.46**	**52**	*e*PKP	**PKPdf**	**03 04 49.3**	**+0.1**
GTA				pPKP	**pPKPdf**	**03 04 59.8**	**+2.2**
GTA				PKPab	**PKPab**	**03 06 15.1**	**+1.0**
GTA				PP	**PP**	**03 10 09.1**	**+3.5**
GTA				SKS	**SKSdf**	**03 11 48.9**	**-2.0**
GTA				SKKS	**SKKSac**	**03 16 50.5**	**-0.1**
GTA				SS	**SS**	**03 31 16.1**	**+0.5**
GTA				PPMZ			
	comp=Z,400nm,5.7s						
GTA				LN			
	comp=Z,480nm,21.9s						
GTA				LE			
	comp=Z,960nm,18.5s						
GTA				LZ			
	comp=Z,1μm,20.4s						

HHC	**Hu-ho-hao-te**	**173.35**	**332**	*e*PKP	**PKPdf**	**03 04 47.6**	**-1.9**
HHC				PKS	**PKSdf**	**03 08 18.4**	**-3.3**
HHC				PP	**PP**	**03 10 11.0**	**+1.8**
HHC				SKS	**SKSdf**	**03 11 45.5**	**-5.5**
HHC				SKKS	**SKKSac**	**03 16 52.5**	**-1.9**
HHC				SS	**SS**	**03 31 20.6**	**-2.3**
HHC				PPMZ			
	comp=Z,240nm,5.8s						
HHC				LN			
	comp=Z,370nm,20.8s						
HHC				LE			
	comp=Z,680nm,20.4s						
HHC				LZ			
	comp=Z,480nm,22.2s						
CD2	**Chengdu**	**174.84**	**141**	*e*PKP	**PKPdf**	**03 04 50.4**	**+0.2**
CD2				PKPab	**PKPab**	**03 06 21.8**	**-2.8**
CD2				PKS	**PKSdf**	**03 08 20.6**	**-1.9**
CD2				PP	**PP**	**03 10 14.8**	**-1.8**
CD2				SKS	**SKSdf**	**03 11 50.5**	**-1.2**
CD2				SKKS	**SKKSac**	**03 17 00.9**	**-0.9**
CD2				SS	**SS**	**03 31 36.2**	**-1.4**
CD2				PPMZ			
	comp=Z,630nm,10.5s						
CD2				LN			
	comp=Z,610nm,19.0s						
CD2				LE			
	comp=Z,670nm,19.0s						
CD2				LZ			
	comp=Z,590nm,22.6s						
LZH	**Lanzhou**	**176.83**	**69**	PKP	**PKPdf**	**03 04 49.2**	**-1.5**
LZH				pPKP	**pPKPdf**	**03 04 56.8**	**-2.3**
LZH				sPKP		03 05 00.5	
LZH				SKKS		03 17 09.5	
LZH				SS	**SS**	**03 31 54.2**	**-4.4**
LZH				PPMZ			
	comp=Z,920nm,6.4s						
LZH				LN			
	comp=Z,670nm,19.0s						
LZH				LE			
	comp=Z,580nm,19.0s						
LZH				LZ			
	comp=Z,870nm,20.4s						
XAN	**Xi'an**	**178.47**	**231**	PKP	**PKPdf**	**03 04 50.1**	**-0.7**
XAN				PKPab		03 06 44.8	
XAN				PKS	**PKSdf**	**03 08 20.6**	**-2.4**
XAN				SKS	**SKSdf**	**03 11 47.6**	**-4.5**
XAN				SKKS	**SKKSac**	**03 17 20.1**	**+1.2**
XAN				SS	**SS**	**03 32 15.1**	**+2.3**
XAN				PPMZ			
	comp=Z,170nm,10.2s						
XAN				LN			
	comp=Z,320nm,21.1s						
XAN				LE			
	comp=Z,190nm,21.1s						
XAN				LZ			
	comp=Z,200nm,21.1s						

*CSEM **01** 02:46:59.5, 42°.91N×13°.17E, h11km, MD1.8/9*
ROM 01 02:46:59.5±0.1, 42°.91N×13°.17E, h11km±1km, Md1.8/9, Ml2.0/4, Error ellipse: s-maj=2.0km s-min=1.5km az=82.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.09**	**207**	Pg	Pg	02 47 02.7	+0.5
NRCA				Sg	Sg	02 47 05.1	+1.0
NRCA	**Norcia**	**0.09**	**207**	Pg	Pg	02 47 02.7	+0.5
NRCA				Sg	Sg	02 47 05.1	+1.0
FDMO	**Fiordimonte**	**0.14**	**335**	Pg	Pg	02 47 03.3	+0.5
FDMO				Sg	Sg	02 47 06.0	+0.8
FDMO	**Fiordimonte**	**0.14**	**335**	Pg	Pg	02 47 03.3	+0.5
FDMO				Sg	Sg	02 47 06.0	+0.8
CESI	**CESI - Serrava**	**0.21**	**296**	Pg	Pg	02 47 04.6	+0.4
CESI				Sg	Sg	02 47 08.5	+1.2
CESI	**CESI - Serrava**	**0.21**	**296**	Pg	Pg	02 47 04.6	+0.4
CESI				Sg	Sg	02 47 08.5	+1.2
SMA1	**SAN MARTINO**	**0.31**	**156**	Pg	Pg	02 47 05.9	0.0
SMA1				Sg	Sg	02 47 11.1	+1.0
T0401	**Montottone (Fe**	**0.35**	**64**	Pg	Pb	02 47 07.5	-0.3
T0401				Sg	Sb	02 47 13.0	-0.3
	228nm,0.3s						
CAMP	**Campotosto**	**0.42**	**155**	Pg	Pg	02 47 07.7	-0.2
CAMP				Sg	Sg	02 47 14.3	+0.7
	134nm,0.2s						
CAMP	**Campotosto**	**0.42**	**155**	Pg	Pg	02 47 07.7	-0.2
CAMP				Sg	Sg	02 47 14.3	+0.7
	134nm,0.2s						
TERO	**Teramo**	**0.43**	**132**	Pg	Pg	02 47 07.8	-0.3
TERO				Sg	Sg	02 47 14.6	+0.7
	92nm,0.4s						
TERO	**Teramo**	**0.43**	**132**	Pg	Pg	02 47 07.8	-0.3
TERO				Sg	Sg	02 47 14.6	+0.7
	92nm,0.4s						
T0104	**Madonna delle**	**0.57**	**167**	Pg	Pg	02 47 10.1	-0.5
T0104				Sg	Sb	02 47 19.3	-0.4
MNS	**Montasola**	**0.64**	**214**	Pg	Pg	02 47 11.5	-0.5
MNS				Sg	Sb	02 47 21.5	-0.2
	49nm,0.5s						
MNS	**Montasola**	**0.64**	**214**	Pg	Pg	02 47 11.5	-0.5
MNS				Sg	Sb	02 47 21.5	-0.2
	49nm,0.5s						
FAGN	**Fagnano**	**0.71**	**154**	Pg	Pg	02 47 12.6	-0.8
FAGN				Sg	Sb	02 47 24.2	+0.2
FAGN	**Fagnano**	**0.71**	**154**	Pg	Pg	02 47 12.6	-0.8
FAGN				Sg	Sb	02 47 24.2	+0.2

*IDC **01** 02:51:15.6±1.0, 10°.05N×104°.50W, h0km, mb4.3/5, mb1 4.5/6, mb1mx4.2/37, mbtmp4.2/6, ML3.6/1, MS3.9/7, Ms1 3.9/7, ms1mx3.7/38, Error ellipse: s-maj=55.1km s-min=25.7km az=66.0*
*ISCJB **01** 02:51:19.0±1.3, 10°.1N±0°.2×104°.5W±0°.3, h33km, mb4.4/5, MS4.0/6, Error ellipse: s-maj=53.1km s-min=21.4km az=151.6*
ISC 01 02:51:20.9±1.1, 10°.1N±0°.2×104°.4W±0°.3, h35km, n16, σ0s58/8, mb4.5/5, MS3.8/6, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06S1	**SOCORRO T**	**10.68**	**324**	T	T	03 04 45.4	
	SNR=9.1						
H06E1	**SOCORRO T-PHAS**	**10.69**	**325**	T	T	03 04 46.2	
	SNR=22						
LPIG	**La Paz**	**15.03**	**339**	LR	LR	02 59 13.0	
	comp=Z,2μm,18.4s,baz=162,slow=32						
TXAR	**Lajitas Array**	**19.16**	**2**	P	**Pn**	**02 55 43.1**	**+0.6**
	0.0nm,0.3s,baz=182,slow=12,SNR=17						
TXAR				LR	LR	03 02 09.4	
	comp=Z,231nm,19.2s,baz=0.0,slow=34						
ANMO	**Albuquerque**	**24.81**	**356**	LR	LR	03 05 34.3	
	comp=Z,265nm,19.8s,baz=174,slow=35						
PFO	**Pinyon Flats O**	**25.89**	**337**	LR	LR	03 04 15.8	
	comp=Z,112nm,19.7s,baz=126,slow=30						
PDAR	**Pinedale Array**	**32.86**	**353**	LR	LR	03 11 03.4	
	comp=Z,121nm,18.4s,baz=152,slow=36						
NEW	**Newport**	**39.52**	**347**	LR	LR	03 14 47.3	
	comp=Z,192nm,19.9s,baz=69,slow=36						
LPAZ	**La Paz**	**44.45**	**126**	P	**P**	**02 59 29.6**	**-0.1**
	4.0nm,0.6s,baz=317,slow=6.6,SNR=6.0						
LPAZ				LR	LR	03 14 04.3	
	comp=Z,125nm,19.6s,baz=56,slow=31						
YKA	**Yellowknife Ar**	**52.83**	**354**	P	**P**	**03 00 32.2**	**-0.5**
	0.7nm,0.5s,baz=164,slow=7.5,SNR=10.0						
ILAR	**Eielson Array**	**62.06**	**341**	P	**P**	**03 01 37.9**	**+0.2**
	3.0nm,0.8s,baz=148,slow=4.5,SNR=22						
PETK	**Petropavlovsk-**	**86.71**	**323**	P	**P**	**03 04 01.0**	**-0.2**
	3.1nm,0.8s,baz=99,slow=8.9,SNR=3.6						
SEY	**Seymchan**	**87.03**	**334**	P	**P**	**03 04 02.1**	**-0.4**
	3.3nm,0.6s,baz=106,slow=3.9,SNR=11						
DAVOX	**Davos/Dischmat**	**98.74**	**39**	LR	LR	03 51 30.3	
	comp=Z,1μm,18.1s,baz=235,slow=37						
WRA	**Warramunga Arr**	**122.65**	**253**	PKP	**PKPdf**	**03 10 14.2**	**+0.4**
	1.3nm,0.9s,baz=91,slow=1.5,SNR=5.4						
ASAR	**Alice Springs**	**122.93**	**248**	PKP	**PKPdf**	**03 10 15.2**	**+0.8**
	0.8nm,1.0s,baz=103,slow=2.0,SNR=3.1						

*IDC **01** 02:53:03.3±1.4, 29°.42N×81°.46E, h0km, mb3.8/7, mb1 3.8/10, mb1mx3.6/46, mbtmp3.7/10, ML4.0/3, Error ellipse: s-maj=44.4km s-min=19.2km az=52.0*
*ISCJB **01** 02:53:05.3±1.2, 29°.4N±0°.2×81°.5E±0°.2, h27km, mb3.6/7, Error ellipse: s-maj=34.4km s-min=13.3km az=139.7*

ISC 01 02:53:07.7±1.4, 29°.6N±0°.2×81°.6E±0°.2, h27km, n10, σ1s34/10, mb3.7/7, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**14.24**	**338**	**Pn**	**Pn**	**02 56 27.3**	**-0.4**
	0.2nm,0.3s,baz=157,slow=13,SNR=2.6						
MKAR	**Makanchi Array**	**17.19**	**2**	Pn	**Pn**	**02 57 03.4**	**-2.5**
	0.3nm,0.3s,baz=182,slow=12,SNR=16						
CMAR	**Chiang Mai Arr**	**19.28**	**121**	P	**Pn**	**02 57 31.5**	**-0.1**
	0.6nm,0.3s,baz=310,slow=13,SNR=3.8						
ZALV	**Zalesovo Beam**	**24.46**	**5**	P	**P**	**02 58 24.3**	**+0.1**
	2.8nm,0.6s,baz=191,slow=10,SNR=18						
BVAR	**Borovoye Array**	**24.84**	**344**	P	**P**	**02 58 28.9**	**+1.3**
	0.4nm,0.4s,baz=170,slow=8.8,SNR=3.1						
SONM	**Songino Array**	**26.38**	**39**	P	**P**	**02 58 43.8**	**+2.0**
	1.7nm,0.8s,baz=251,slow=7.7,SNR=3.6						
AKTO	**Aktyubinsk**	**27.38**	**326**	P	**P**	**02 58 51.1**	**+0.5**
	0.4nm,0.5s,baz=119,slow=15,SNR=3.5						
FINES	**FINESS Array B**	**48.13**	**328**	P	**P**	**03 01 45.0**	**0.0**
	1.4nm,0.7s,baz=111,slow=8.4,SNR=4.1						
NOA	**NORSAR Array B**	**55.17**	**326**	P	**P**	**03 02 37.3**	**-0.3**
	0.6nm,0.8s,baz=86,slow=7.2,SNR=2.3						
ASAR	**Alice Springs**	**72.98**	**131**	P	**P**	**03 04 34.7**	**-0.5**
	0.8nm,1.0s,baz=312,slow=5.9,SNR=3.0						

SKO 01 03:02:19.0, 41°.42N×22°.66E, h15km, M0.7, ML1.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.12**	**214**	*i* Pg	Pg	03 02 22.6	+0.1
VAY				*e*Sg	Sg	03 02 24.7	-0.1
VAY				*e*Lg	Lg	03 02 24.8	
	comp=N,95nm,0.3s						
VAY				*e*Lg	Lg	03 02 24.9	
	comp=E,59nm,0.3s						
VAY	**Valandovo**	**0.12**	**214**	*i* Pg	Pg	03 02 22.6	+0.1
VAY				*e*Sg	Sg	03 02 24.6	-0.2
VAY				*e*Lg	Lg	03 02 24.9	
	comp=E,59nm,0.3s						

GUC 01 03:02:30.4±0.5, 35°.27S×71°.50W, h28km±4km, ML3.6, 3C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**1.68**	**16**	*e*P	Pn	03 02 59.3	+1.3
RCDM	**Rinconada Maip**	**1.87**	**18**	⇑*i*P	Pn	03 03 01.8	+1.2
RCDM				*e*S	Sb	03 03 26.1	-0.8
RCDM				AML	AML	03 03 33.4	
	comp=N,753nm,0.5s						
SAN	**Santiago**	**1.94**	**21**	*e*P	Pb	03 03 03.6	-1.6
SAN				*i* S	Sb	03 03 28.5	-0.6
STL	**Santa Lucia**	**1.96**	**21**	*e*P	Pb	03 03 03.8	-1.8
STL				*e*S	Sb	03 03 28.8	-0.9
FCH	**Farellones**	**2.18**	**28**	⇑*i*P	Pb	03 03 12.1	+2.4
FCH				*i* S4	Sb	03 03 40.3	+3.7
FCH				AML	AML	03 03 47.0	
	comp=N,739nm,0.3s						
PEL	**Peldehue**	**2.23**	**18**	⇑*i*P	Pn	03 03 07.3	+1.8
PEL				*i* S	Sb	03 03 35.9	-1.4

*NEIC **01** 03:06:41.6, 17°.86N×64°.11W, h138km, MD3.6(RSPR), After RSPR.*
RSPR 01 03:06:41.6, 17°.86N×64°.11W, h138km±1km, MD3.6/10, 10C-10D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDVI	**St. Croix**	**0.64**	**261**	⇑*e*P	Pn	03 07 02.5	+0.1
CDVI	**St. Croix**	**0.64**	**261**	⇑*e*P	Pn	03 07 02.5	+0.1
CDVI				*e*S	Sn	03 07 18.4	+0.2
TBVI	**Tortola**	**0.74**	**319**	⇓*e*P	Pn	03 07 03.0	-0.1
TBVI				*e*S	Sn	03 07 19.0	-0.5
TBVI	**Tortola**	**0.74**	**319**	⇓*e*P	Pn	03 07 03.0	-0.1
TBVI				*e*S	Sn	03 07 19.0	-0.5
ABV	**Anegada**	**0.89**	**346**	*e*S	Sn	03 07 21.9	+0.2
ABV	**Anegada**	**0.89**	**346**	⇑*e*P	Pn	03 07 04.5	+0.2
ABVI	**Anegada Island**	**0.89**	**346**	⇑*e*P	Pn	03 07 04.5	+0.2
ABVI				*e*S	Sn	03 07 21.9	+0.2
STVI	**Saint Thomas**	**0.94**	**301**	⇓*e*P	Pn	03 07 04.8	+0.1
STVI				*e*S	Sn	03 07 22.4	0.0
STVI	**Saint Thomas**	**0.94**	**301**	⇑*e*P	Pn	03 07 04.7	0.0
STVI	**Saint Thomas**	**0.94**	**301**	⇑*e*P	Pn	03 07 04.7	0.0
SMRT	**St. Maarten**	**1.00**	**79**	⇓*e*P	Pn	03 07 04.7	-0.5
SMRT	**St. Maarten**	**1.00**	**79**	⇓*e*P	Pn	03 07 04.7	-0.5
SMRT				*e*S	Sn	03 07 22.9	-0.4
HUMP	**Col San Antoni**	**1.68**	**280**	⇓*e*P	Pn	03 07 12.1	-0.2
HUMP	**Col San Antoni**	**1.68**	**280**	⇓*e*P	Pn	03 07 12.1	-0.2
HUMP				*e*S	Sn	03 07 36.6	+0.8
CBYP	**Canovanas**	**1.72**	**284**	⇓*e*P	Pn	03 07 12.4	-0.4
CBYP	**Canovanas**	**1.72**	**284**	*e*Pn	Pn	03 07 12.2	-0.5
CBYP				*e*S	Sn	03 07 36.2	-0.3
CPD	**Cerro la Pandu**	**1.73**	**276**	⇑*e*P	Pn	03 07 12.7	-0.2
CPD	**Cerro la Pandu**	**1.73**	**276**	⇑*e*P	Pn	03 07 12.7	-0.2
CPD				*e*S	Sn	03 07 37.3	+0.4
SJG	**San Juan**	**1.96**	**278**	⇑*i*P	Pn	03 07 15.4	-0.1
SJG	**San Juan**	**1.96**	**278**	*i* Pu	Pn	03 07 15.4	-0.1
AOPR	**Arecibo Observ**	**2.57**	**281**	⇑*e*P	Pn	03 07 22.5	-0.5
AOPR	**Arecibo Observ**	**2.57**	**281**	⇑*e*P	Pn	03 07 22.5	-0.5
AOPR				*e*S	Sn	03 07 54.8	-0.1
CRPR	**Cabo Rojo, PR**	**2.86**	**273**	⇓*e*P	Pn	03 07 26.0	-0.7

ROSC **El Rosal** 40.73 358 *e*P P 03 15 28.4 +0.7
SNAA **Sanae** 49.90 157 *e*P P 03 16 37.3 -2.1
SNAA pmax pmax
comp=Z,29nm,1.0s
SNAA **Sanae** 49.90 157 P P 03 16 39.8 +0.4
comp=Z,6.9nm,0.8s,baz=310,slow=6.7,SNR=9.4
SNAA **Sanae** 49.90 157 *e*P P 03 16 37.3 -2.1
comp=Z,29nm,1.0s
APG **El Apazote** 53.49 339 P P 03 17 03.5 -3.4
comp=Z,6.3nm,0.7s,baz=123,slow=4.3,SNR=11
CRPR **Cabo Rojo, PR** 54.03 7 *e*P P 03 17 09.5 -1.1
comp=Z,19nm,0.8s
CELP **Cerrillos** 54.15 7 *e*P P 03 17 10.8 -0.7
QSPA **South Pole Qui** 54.18 180 P P 03 17 12.1 +0.7
comp=Z,15nm,0.8s,baz=162,slow=1.1,SNR=46
TEIG **Tepich** 57.88 343 *e*P P 03 17 38.1 0.0
comp=Z,30nm,0.7s
SYO **Syowa Base** 64.16 158⇓*e*P P 03 18 15.0 -5.2
SYO **Syowa Base** 64.16 158⇓*e*X P 03 18 24.6 +4.4
035A **Encino** 67.08 335 ⇑P P 03 18 40.8 +1.4
baz=67
034A **Hebbronville** 67.39 335 ⇓P P 03 18 42.9 +1.4
baz=68
933A **Laredo** 68.10 335 ⇓P P 03 18 47.0 +1.1
baz=68
834A **Tilden** 68.32 336 ⇑P P 03 18 48.7 +1.4
baz=69,SNR=6.2
735A **Kenedy** 68.75 336 ⇑P P 03 18 51.0 +1.1
baz=69
833A **Chaparral WMA,** 68.79 335 ⇑P P 03 18 51.0 +0.8
baz=69,SNR=9.7
832A **Faith Ranch, C** 68.96 334 ⇓P P 03 18 51.7 +0.5
baz=69,SNR=7.1
734A **La Parita Cree** 68.99 336 ⇓P P 03 18 52.3 +0.9
baz=69
636A **Smothers Creek** 69.10 337 ⇑P P 03 18 53.4 +1.3
baz=69,SNR=6.6
733A **Divot King Ran** 69.12 335 ⇓P P 03 18 53.5 +1.2
baz=69
635A **Leesville** 69.24 337 ⇑P P 03 18 53.4 +0.5
baz=70
732A **Laxson Ranch,** 69.36 335 ⇓P P 03 18 54.3 +0.5
baz=70,SNR=21
537A **Green Hill Far** 69.43 338 ⇑P P 03 18 55.4 +1.3
baz=70
536A **Bastrop** 69.65 338 ⇑P P 03 18 56.4 +0.9
baz=70
633A **Saathoff Ranch** 69.76 336 ⇑P P 03 18 56.8 +0.5
baz=70,SNR=9.0
535A **Dale** 69.77 337 ⇑P P 03 18 57.0 +0.7
baz=70
632A **Uvalde** 70.01 335 ⇓P P 03 18 58.4 +0.6
baz=70,SNR=13
534A **Blanco** 70.06 336 ⇑P P 03 18 58.1 +0.1
baz=70
339A **Huntington** 70.10 340 ⇑P P 03 18 59.1 +0.9
baz=70
631A **Perdido Creek** 70.20 334 ⇓P P 03 18 59.5 +0.6
baz=70
436A **Wall Ranch, Ga** 70.22 338 ⇓P P 03 18 59.6 +0.6
baz=70
533A **Kerrville** 70.28 336 ⇑P P 03 18 59.9 +0.5
baz=71,SNR=12
338A **Crockett** 70.33 340 ⇑P P 03 19 00.8 +1.1
baz=71
337A **Centerville** 70.46 339 ⇓P P 03 19 01.6 +1.2
baz=71
435B **Jarrell** 70.47 337 ⇓P P 03 19 01.6 +1.0
baz=71
532A **Rocksprings** 70.62 335 ⇓P P 03 19 02.2 +0.7
baz=71,SNR=27
434A **Burnet** 70.72 337 ⇓P P 03 19 02.4 +0.3
baz=71,SNR=21
336A **Riesel** 70.81 338 ⇑P P 03 19 03.1 +0.5
baz=71,SNR=16
531A **Rocksprings** 70.88 335 ⇓P P 03 19 03.8 +0.7
baz=71,SNR=23
335A **Moody** 70.89 338 ⇓P P 03 19 03.6 +0.5
baz=71,SNR=5.8
JCT **Junction City** 70.91 335 ⇓P P 03 19 03.6 +0.4
baz=71,SNR=8.0
433A **Art** 70.93 336 ⇓P P 03 19 03.5 +0.2
baz=71,SNR=16
530A **J-C Ranch, Com** 71.14 334 ⇓P P 03 19 05.5 +0.8
baz=71,SNR=14
334A **Lometa** 71.19 337 ⇓P P 03 19 05.2 +0.3
baz=72,SNR=13
LTX **Lajitas** 71.27 332 *e*P P 03 19 05.5 0.0
LTX **Lajitas** 71.27 332 *e*P P 03 19 05.5 0.0
TXAR **Lajitas Array** 71.27 332 P P 03 19 05.5 0.0
comp=Z,6.2nm,0.7s,baz=157,slow=9.1,SNR=114
432A **Menard** 71.27 336 ⇓P P 03 19 05.4 -0.1
baz=72,SNR=6.2
KMSC **Kings Mountain** 71.29 353 ⇓P P 03 19 05.1 -0.3
baz=72
431A **Sonora** 71.37 335 ⇑P P 03 19 06.1 0.0
baz=72,SNR=12
333A **Richland Sprin** 71.42 336 ⇑P P 03 19 06.4 +0.1
baz=72,SNR=14
529A **Stev Forest Ra** 71.44 333 ⇑P P 03 19 06.9 +0.4
baz=72,SNR=13
WHTX **Lake Whitney,** 71.56 338 ⇑P P 03 19 07.2 +0.1
baz=72,SNR=5.9
430A **Baggett Ranch,** 71.68 334 ⇓P P 03 19 08.3 +0.3
baz=72,SNR=17
332A **Millersview** 71.72 336 ⇓P P 03 19 08.2 +0.1
baz=72,SNR=8.4
429A **Davenport Ranc** 71.77 334 ⇑P P 03 19 09.0 +0.5
baz=72,SNR=14
234A **Clairette** 71.78 337 ⇓P P 03 19 08.7 +0.2
baz=72,SNR=12
331A **San Angelo** 71.88 335 ⇓P P 03 19 09.3 +0.2
baz=72,SNR=14
233A **Rising Star** 72.03 337 ⇑P P 03 19 10.0 0.0
baz=72,SNR=9.9
135A **Vickery Place,** 72.07 338 ⇓P P 03 19 10.3 +0.1
baz=72
232A **Coleman** 72.15 336 ⇓P P 03 19 10.7 -0.1
baz=72,SNR=13
330A **Mertzon** 72.23 335 ⇓P P 03 19 11.1 -0.2
baz=72,SNR=8.9
134A **White-Moore Ra** 72.29 338 ⇓P P 03 19 11.6 +0.1
baz=73
231A **Bronte** 72.42 336 ⇑P P 03 19 12.1 -0.2
baz=73,SNR=24
133A **Hamilton Ranch** 72.58 337 ⇓P P 03 19 13.6 +0.4
baz=73
329A **Wagon Wheel Ra** 72.58 334 ⇑P P 03 19 13.7 +0.3
baz=73,SNR=12
230A **Sterling City** 72.64 335 ⇑P P 03 19 14.0 +0.3
baz=73
Z35A **Perchaven, San** 72.74 339 ⇓P P 03 19 14.3 +0.2
baz=73,SNR=6.4
ABTX **Abilene, Hawle** 72.83 336 ⇑P P 03 19 14.9 +0.2
baz=73,SNR=6.6
229A **Bryant Ranch,** 72.96 334 ⇓P P 03 19 15.6 +0.1
baz=73,SNR=8.0
Z34A **Collier Ranch,** 72.98 338 ⇑P P 03 19 15.9 +0.3
baz=73
131A **Roby** 73.12 336 ⇓P P 03 19 16.6 +0.1
baz=73,SNR=5.4
Z33A **Whitaker Ranch** 73.16 337 ⇑P P 03 19 16.7 +0.1
baz=74,SNR=15
130A **Snyder** 73.24 335 ⇑P P 03 19 17.0 -0.2
baz=74,SNR=7.8
228A **UT Block 9, Go** 73.37 334 ⇓P P 03 19 18.1 0.0
baz=74,SNR=7.4
Z32A **Haskell** 73.41 337 ⇓P P 03 19 18.3 +0.2
baz=74,SNR=13
Y34A **Reagan Ranch,** 73.48 338 ⇓P P 03 19 18.4 -0.1
baz=74,SNR=5.8
129A **Stewart Farms,** 73.58 335 ⇑P P 03 19 19.3 0.0
baz=74
Z31A **Sharp Cattle R** 73.63 336 ⇓P P 03 19 19.5 +0.1
baz=74,SNR=14
Y33A **Hilltop Ranch,** 73.79 338 ⇓P P 03 19 20.3 -0.1
baz=74,SNR=10
128A **Castleberry Fa** 73.79 334 ⇑P P 03 19 20.6 +0.1
baz=74,SNR=14
Z30A **Sanderson Ranc** 73.93 336 ⇓P P 03 19 21.0 -0.2
baz=74,SNR=8.3
Y32A **R-V Farms, Ver** 74.04 337 ⇓P P 03 19 22.0 +0.2
baz=74
Z29A **Hungry Hill Ra** 74.10 335 ⇑P P 03 19 22.0 -0.3
baz=74,SNR=16
X34A **Smith Ranch, M** 74.10 339 ⇑P P 03 19 22.2 +0.1
baz=74,SNR=7.9
127A **Arkansas Junct** 74.15 333 ⇓P P 03 19 22.8 +0.2
baz=74
X33A **Lawton** 74.24 338 ⇓P P 03 19 22.6 -0.3
baz=74
Y31A **Rekieta Farm,** 74.26 336 ⇑P P 03 19 23.1 0.0
baz=75,SNR=7.0
Z28A **Tucker Farm, M** 74.36 335 ⇓P P 03 19 23.5 -0.3
baz=75,SNR=5.3
X32A **Elmer** 74.37 337 ⇓P P 03 19 23.8 +0.1
baz=75
Y30A **Stafford Cattl** 74.39 336 ⇑P P 03 19 24.2 +0.3
baz=75
Y29A **Porterfield Fa** 74.63 335 ⇓P P 03 19 25.3 -0.1
baz=75,SNR=7.5
W34A **Bridge Creek,** 74.67 339 ⇑P P 03 19 25.3 -0.2
baz=75
Z27A **Tatum** 74.67 334 ⇑P P 03 19 26.0 +0.3
baz=75
TUL1 **Leonard** 74.75 341 ⇓P P 03 19 25.5 -0.4
baz=75,SNR=8.1
X31A **McDonald Ranch** 74.78 337 ⇑P P 03 19 26.2 0.0
baz=75,SNR=8.5
W33A **Caddo, Fort Co** 74.80 338 ⇑P P 03 19 26.9 +0.7
baz=75,SNR=10
Y28A **McKinney Farm,** 74.87 335 ⇑P P 03 19 27.2 +0.5
baz=75
X30A **Coker Ranch, T** 74.90 336 ⇓P P 03 19 27.9 +1.0
baz=75
Z26A **Caprock** 74.91 333 ⇓P P 03 19 27.2 +0.1
baz=75,SNR=30
W32A **Sentinel** 75.01 338 ⇑P P 03 19 27.6 +0.1
baz=75,SNR=14
MSTX **Muleshoe** 75.11 334 ⇑P P 03 19 28.1 -0.1
baz=75,SNR=7.4
V34A **Guthrie** 75.16 339 ⇑P P 03 19 28.0 -0.2
baz=76
Y27A **Causey** 75.17 334 ⇓P P 03 19 28.1 -0.5
baz=76
X29A **Tulia** 75.18 336 ⇑P P 03 19 28.6 0.0
baz=76,SNR=6.1
Z25A **Roswell** 75.19 333 ⇑P P 03 19 29.1 +0.4
baz=76
W31A **Holland Ranch,** 75.28 337 ⇑P P 03 19 29.1 0.0
baz=76
319A **Douglas** 75.34 328 ⇑P P 03 19 30.6 +1.0
baz=76,SNR=5.8
V33A **Lossen Ranch,** 75.37 339 ⇑P P 03 19 29.5 +0.1
baz=76,SNR=7.7
X28A **Dimmitt** 75.41 335 ⇓P P 03 19 30.1 +0.2
baz=76
Y26A **Elida** 75.44 334 ⇓P P 03 19 30.6 +0.5
baz=76
Z24A **Sheeppen Canyo** 75.48 332 ⇑P P 03 19 30.8 +0.4
baz=76,SNR=14
W30A **Crocket Farms** 75.48 337 ⇓P P 03 19 30.6 +0.4
baz=76
V32A **Arapaho** 75.50 338 ⇑P P 03 19 30.8 +0.5
baz=76
AMTX **Amarillo** 75.57 336 ⇓P P 03 19 31.0 +0.2
baz=76
121A **Cookes Peak, D** 75.72 330 ⇓P P 03 19 32.9 +1.1
baz=76,SNR=7.2
U34A **Anderson Ranch** 75.73 340 ⇑P P 03 19 31.5 0.0
baz=76
Y25A **Mesa, Roswell** 75.76 333 ⇑P P 03 19 31.6 -0.3
baz=76
W29A **Amarillo** 75.78 336 ⇑P P 03 19 32.1 +0.2
baz=76,SNR=9.4
V31A **Spring Creek L** 75.80 338 ⇑P P 03 19 33.1 +1.1
baz=76
X27A **F and S Farms,** 75.84 335 ⇓P P 03 19 32.2 -0.1
baz=76
U33A **Lingo Farm, Me** 75.89 339 ⇓P P 03 19 32.2 -0.2
baz=76
X26A **CR and CF Fran** 76.00 334 ⇑P P 03 19 33.6 +0.3
baz=76,SNR=10
Z22A **Elephant Butte** 76.03 331 ⇑P P 03 19 34.5 +1.0
baz=76
Y24A **Capitan** 76.04 332 ⇓P P 03 19 34.1 +0.5
baz=76,SNR=7.7
V30A **Spur Ranch, Mi** 76.05 337 ⇓P P 03 19 34.7 +1.3
baz=76
U32A **Winter Ranch,** 76.10 338 ⇓P P 03 19 34.2 +0.5
baz=76
W27A **Bowe Ranch, En** 76.20 335 ⇑P P 03 19 34.6 +0.2
baz=76,SNR=17
Y23A **Lovelace Mesa,** 76.28 332 ⇑P P 03 19 35.9 +0.9
baz=77
DBIC **Dimbokro** 76.38 71 *e*P P 03 19 36.4 +0.7
DBIC pmax pmax
comp=Z,13nm,0.8s
DBIC **Dimbokro** 76.38 71 P P 03 19 36.2 +0.5
comp=Z,9.9nm,0.6s,baz=203,slow=5.8,SNR=20
DBIC **Dimbokro** 76.38 71 *e*P P 03 19 36.4 +0.7
comp=Z,13nm,0.8s
W26A **Owens Ranch, T** 76.47 334 ⇓P P 03 19 36.3 +0.4
baz=77
ACSO **Alum Creek Sta** 76.50 352 *e*P P 03 19 35.4 -0.5
comp=Z,28nm,0.6s
T33A **Patterson Ranc** 76.53 339 ⇓P P 03 19 36.9 +0.8
baz=77
V28A **Channing** 76.54 336 ⇓P P 03 19 37.0 +0.7
baz=77
X24A **Lazy VL Ranch,** 76.60 333 ⇑P P 03 19 37.4 +0.6
baz=77,SNR=8.1
U30A **WK&E Inc. Balk** 76.74 337 ⇑P P 03 19 38.0 +0.7
baz=77
V27A **Dan Oppiter Fa** 76.75 335 ⇑P P 03 19 38.0 +0.5
baz=77,SNR=6.1
TUC **Tucson** 76.79 328 *e*P P 03 19 38.5 +0.8
TUC pmax pmax
comp=Z,4.0nm,0.9s
TUC **Tucson** 76.79 328 *e*P P 03 19 38.5 +0.8
comp=Z,4.0nm,0.9s
T32A **Huddler Ranch,** 76.82 339 ⇓P P 03 19 38.2 +0.5
baz=77
W25A **X Bar L Ranch,** 76.83 334 ⇓P P 03 19 38.1 +0.1
baz=77,SNR=5.8
X23A **Hourglass Bar** 76.90 332 ⇓P P 03 19 39.2 +0.7
baz=77,SNR=7.0
T31A **Randall Ranch,** 76.97 338 ⇑P P 03 19 38.9 +0.3
baz=77
U28A **Mallet** 77.11 336 ⇓P P 03 19 39.8 +0.3
baz=77
V26A **Tequesquite Ra** 77.11 335 ⇓P P 03 19 39.1 -0.5
baz=77
W24A **Lazy 6 Ranch,** 77.17 333 ⇓P P 03 19 40.5 +0.5
baz=78,SNR=7.5
S32A **Newby Ranch, P** 77.31 339 ⇑P P 03 19 40.6 +0.2
baz=78
U27A **Thompson Grove** 77.35 336 ⇓P P 03 19 41.4 +0.5
baz=78
214A **Organ Pipe Nat** 77.39 326 ⇑P P 03 19 41.4 +0.4
baz=78
S31A **Mullinville** 77.39 339 ⇑P P 03 19 41.3 +0.3
baz=78
W23A **Werner Place,** 77.40 332 ⇓P P 03 19 42.0 +0.7
baz=78
V25A **Rancho No Teng** 77.44 334 ⇑P P 03 19 41.8 +0.3
baz=78,SNR=9.0
T29A **Hugoton** 77.52 337 ⇓P P 03 19 42.4 +0.6
baz=78
V24A **Rampart Ranch,** 77.58 333 ⇓P P 03 19 42.8 +0.5
baz=78
R33A **Olander Ranch,** 77.60 340 ⇑P P 03 19 42.4 +0.3
baz=78
U26A **Atchley Ranch,** 77.64 335 ⇓P P 03 19 42.9 +0.3
baz=78
S30A **Montezuma** 77.71 338 ⇓P P 03 19 43.4 +0.7
baz=78
T28A **Walsh** 77.75 336 ⇑P P 03 19 43.3 +0.2
baz=78,SNR=8.0
U25A **Circle Dot Ran** 77.88 334 ⇓P P 03 19 44.4 +0.6
baz=78,SNR=6.5
S29A **Ulysses** 77.89 337 ⇓P P 03 19 44.3 +0.6
baz=78
T27A **Campo** 77.90 336 ⇑P P 03 19 44.7 +0.8
baz=78
R32A **Long Quarter,** 77.91 339 ⇑P P 03 19 44.4 +0.6
baz=78
V23A **Ortiz Mt. (NFS** 77.93 333 ⇑P P 03 19 45.7 +1.4
baz=78
KSU1 **Kansas State U** 77.97 341 ⇓P P 03 19 44.1 0.0
baz=78
KSU1 **Kansas State U** 77.97 341 *e*P P 03 19 43.8 -0.3
comp=Z,9.0nm,0.8s
R31A **Burdett** 78.03 339 ⇓P P 03 19 44.9 +0.4
baz=78
S28A **Manter** 78.11 337 ⇑P P 03 19 45.3 +0.3
baz=78,SNR=8.9
Q33A **Connelly Farm,** 78.20 340 ⇓P P 03 19 45.6 +0.2
baz=78
R30A **Dighton** 78.24 338 ⇑P P 03 19 46.1 +0.5
baz=79
T26A **Comanche Natio** 78.29 335 ⇑P P 03 19 46.7 +0.5
baz=79,SNR=5.0
X18A **Snowflake** 78.35 329 ⇑P P 03 19 47.6 +1.1
baz=79,SNR=5.9
V22A **San Miguel Ran** 78.35 332 ⇓P P 03 19 48.0 +1.4
baz=79,SNR=11
Q32A **Meitler Ranch,** 78.40 340 ⇓P P 03 19 46.7 +0.2
baz=79,SNR=5.3
U23A **El Rito** 78.45 333 ⇑P P 03 19 48.3 +1.2
baz=79,SNR=5.2
113A **Mohawk Valley,** 78.51 326 ⇑P P 03 19 48.1 +0.9
baz=79
T25A **Trinidad** 78.54 335 ⇓P P 03 19 48.6 +1.1
baz=79,SNR=10
R29A **Marienthal** 78.64 338 ⇑P P 03 19 48.2 +0.3
baz=79
Q31A **Ellis** 78.65 339 ⇑P P 03 19 48.6 +0.7
baz=79
S26A **Kim** 78.66 336 ⇑P P 03 19 48.7 +0.6
baz=79,SNR=8.3
U22A **Llaves** 78.74 333 ⇓P P 03 19 50.0 +1.2
baz=79
R28A **Tribune** 78.77 337 ⇑P P 03 19 48.9 +0.3
baz=79,SNR=7.1
T24B **San Luis** 78.81 334 ⇑P P 03 19 49.9 +0.7
baz=79
Q30A **Quinter** 78.87 338 ⇓P P 03 19 49.6 +0.5
baz=79,SNR=9.5
X16A **Lo Mia Camp, P** 78.88 328 ⇑P P 03 19 50.6 +1.1
baz=79,SNR=9.8
P32A **Hulting Farm,** 79.00 340 ⇑P P 03 19 49.9 +0.1
baz=79
Q29A **Oakley** 79.02 338 ⇓P P 03 19 50.3 +0.3
baz=79,SNR=5.6
S25A **Robets Cordova** 79.02 335 ⇓P P 03 19 51.0 +0.8
baz=79,SNR=5.7
T23A **Casias Ranch,** 79.03 333 ⇑P P 03 19 51.0 +0.7
baz=79
R27A **Eads** 79.03 336 ⇓P P 03 19 50.5 +0.4
baz=79,SNR=5.2
P31A **Stockton** 79.12 339 ⇑P P 03 19 51.2 +0.8
baz=79
Y14A **Wickenburg** 79.15 327 ⇓P P 03 19 51.7 +0.9
baz=79
TSUM **Tsumeb** 79.20 106 *e*P P 03 19 52.2 +0.6
comp=Z,14nm,1.4s
GLA **Glamis** 79.23 325 ⇑P P 03 19 52.4 +1.2
baz=80
R26A **Arlington** 79.26 336 ⇓P P 03 19 52.4 +1.0
baz=80,SNR=6.8
S24A **Houchin Ranch,** 79.27 334 ⇓P P 03 19 52.4 +0.8
baz=80,SNR=9.4
P30A **Selden** 79.40 339 ⇓P P 03 19 52.5 +0.5
baz=80
R25A **Fountain Ranch** 79.40 335 ⇑P P 03 19 52.9 +0.7
baz=80
Q28A **Sharon Springs** 79.44 337 ⇑P P 03 19 53.2 +1.0
baz=80
SDCO **Great Sand Dun** 79.47 334 *e*P P 03 19 53.3 +0.6
comp=Z,4.6nm,1.0s
O32A **Brockman Farm,** 79.50 340 ⇑P P 03 19 53.0 +0.5
baz=80
BOSA **Boshof** 79.61 118 *e*P P 03 19 53.9 +0.1
BOSA *e* 03 20 02.0
BOSA pmax pmax
comp=Z,19nm,0.8s
BOSA **Boshof** 79.61 118 P P 03 19 54.0 +0.1
comp=Z,18nm,0.7s,baz=233,slow=4.9,SNR=40
BOSA pP PcP 03 20 02.0 +0.4
comp=Z,9.7nm,0.9s,baz=276,slow=5.3,SNR=5.8
BOSA **Boshof** 79.61 118 *e*P P 03 19 53.9 +0.1
BOSA *e*PcP PcP 03 20 02.0 +0.4
P29A **Atwood** 79.66 338 ⇓P P 03 19 54.3 +0.8
baz=80
Y12C **Blythe** 79.68 326 ⇓P P 03 19 55.1 +1.5
baz=80
O31A **Woolen Ranch,** 79.69 340 ⇓P P 03 19 54.3 +0.7
baz=80
R24A **Sanders Place,** 79.76 335 ⇓P P 03 19 55.1 +0.9
baz=80,SNR=9.0
WUAZ **Wupatki** 79.79 329 ⇓P P 03 19 55.8 +1.4
baz=80
Q26A **Hugo** 79.85 336 ⇑P P 03 19 55.9 +1.3
baz=80
P28A **Saint Francis** 79.88 338 ⇑P P 03 19 55.7 +1.1
baz=80
O30A **MW Ranch, Wils** 79.93 339 ⇓P P 03 19 56.1 +1.2
baz=80
S22A **4UR Ranch, Cre** 79.94 333 ⇑P P 03 19 56.3 +1.0
baz=80
R23A **Moffat** 79.98 334 ⇓P P 03 19 56.5 +1.0
baz=80
BC3 **Big Chuckawall** 80.03 325 ⇑P P 03 19 57.0 +1.3
baz=80
Q25A **Bedland, Calha** 80.08 336 ⇓P P 03 19 56.8 +0.8
baz=80
O29A **4D Ranch, Culb** 80.10 339 ⇑P P 03 19 56.5 +0.7
baz=80
MVCO **Mesa Verde** 80.10 332 ⇓P P 03 19 57.0 +0.9
baz=80
IRM **Iron Mountain** 80.30 325 ⇑P P 03 19 58.4 +1.4
baz=81
P26A **Davis Ranch, A** 80.37 336 ⇓P P 03 19 58.4 +1.0
baz=81
O28A **Krutsinger Ran** 80.39 338 ⇓P P 03 19 58.5 +1.1
baz=81
Q24A **Divide** 80.43 335 ⇓P P 03 19 59.0 +1.0
baz=81
PFO **Pinyon Flats O** 80.46 324 ⇑P P 03 19 59.8 +1.8
baz=81
W13A **Hualapai Mount** 80.52 327 ⇓P P 03 19 59.4 +1.0
baz=81
BGNE **Belgrade** 80.54 341 ⇑P P 03 19 58.4 +0.3
baz=81
BELC **Belle Mtn. Jos** 80.57 325 ⇓P P 03 19 59.6 +1.0
baz=81
P25A **Willow Gulch B** 80.60 336 ⇓P P 03 19 59.6 +1.0
baz=81,SNR=7.5
O27A **Beecher Island** 80.67 337 ⇓P P 03 19 59.9 +1.0
baz=81
N29A **Votaw Ranch, W** 80.69 339 ⇓P P 03 19 59.7 +0.8
baz=81
M31A **Lambtecht Ranc** 80.71 340 ⇓P P 03 19 59.7 +0.7
baz=81
MURC **Murrieta** 80.81 324 ⇑P P 03 20 00.9 +1.2
baz=81
N28A **Pribbeno Ranch** 80.83 338 ⇓P P 03 20 00.6 +0.8
baz=81
P24A **Kohler Place,** 80.85 335 ⇑P P 03 20 01.4 +1.4
baz=81
U15A **North Rim** 80.95 329 ⇑P P 03 20 02.1 +1.3
baz=81,SNR=7.9
O26A **Horse Wrangler** 80.98 337 ⇑P P 03 20 01.5 +0.9
baz=81
GMRC **Granite Mounta** 81.05 325 ⇓P P 03 20 02.5 +1.3
baz=81,SNR=6.7
O25A **Wiggins** 81.12 336 ⇑P P 03 20 02.8 +1.4
baz=81
N27A **Anderson Farm,** 81.25 338 ⇑P P 03 20 02.8 +0.8
baz=82
SMCO **Snowmass** 81.27 334 *e*P P 03 20 03.5 +1.0
comp=Z,8.0nm,1.0s
M29A **Burnside Ranch** 81.28 339 ⇓P P 03 20 03.0 +0.8
baz=82
ISCO **Idaho Springs** 81.34 335 *e*P P 03 20 03.4 +0.6
ISCO pmax pmax
comp=Z,82nm,2.8s
ISCO **Idaho Springs** 81.34 335 ⇓P P 03 20 03.2 +0.4
baz=82
ISCO **Idaho Springs** 81.34 335 *e*P P 03 20 03.4 +0.6
comp=Z,82nm,2.8s
HEC **Hector,Ludlow** 81.40 325 ⇑P P 03 20 04.4 +1.5
baz=82
L31A **Butterfield Fa** 81.44 341 ⇓P P 03 20 03.5 +0.6
baz=82,SNR=6.0
N26A **Koester Ranch,** 81.48 337 ⇑P P 03 20 04.0 +0.7
baz=82
P22A **Eagle** 81.56 334 ⇑P P 03 20 04.6 +0.7
baz=82
KNB **Kanab** 81.67 329 *e*P P 03 20 05.8 +1.4
KNB pmax pmax
comp=Z,11nm,1.0s

KNB	Kanab	81.67 329	eP	P	03 20 05.8	+1.4
	comp=Z,11nm,1.0s					
TUQ	Turquoise Moun	81.72 326	⇓P	P	03 20 06.1	+1.5
	baz=82					
N25A	Grover	81.75 336	⇓P	P	03 20 05.3	+0.6
	baz=82					
L29A	Maesberg Ranch	81.79 339	⇑P	P	03 20 05.7	+0.9
	baz=82					
O23A	Lake Granby, G	81.81 335	⇑P	P	03 20 06.1	+0.9
	baz=82,SNR=7.7					
LBTB	Lobatse	81.95 115	eP	P	03 20 06.4	+0.1
LBTB			pmax	pmax		
	comp=Z,14nm,0.8s					
LBTB	Lobatse	81.95 115	eP	P	03 20 06.4	+0.1
	comp=Z,14nm,0.8s					
O22A	Kremmling	81.99 334	⇓P	P	03 20 07.0	+0.8
	baz=82					
GSC	Goldstone, Bar	82.01 325	eP	P	03 20 07.3	+1.2
GSC			pmax	pmax		
	comp=Z,6.0nm,0.8s					
GSC	Goldstone, Bar	82.01 325	⇑P	P	03 20 07.3	+1.2
	baz=82,SNR=5.2					
GSC	Goldstone, Bar	82.01 325	eP	P	03 20 07.3	+1.2
	comp=Z,6.3nm,0.8s					
K30A	Basset	82.12 340	⇓P	P	03 20 07.2	+0.7
	baz=82,SNR=8.4					
EDW2	Edwards Air Fo	82.23 324	⇑P	P	03 20 08.4	+1.2
	baz=82					
SHPR	Sheep Range	82.26 327	eP	P	03 20 08.8	+1.3
M25A	Palm-Egli Farm	82.30 337	⇑P	P	03 20 08.5	+0.9
	baz=83					
ECSD	EROS Data Cent	82.34 343	⇓P	P	03 20 07.4	-0.1
	baz=83,SNR=19					
ECSD	EROS Data Cent	82.34 343	eP	P	03 20 07.5	-0.1
	comp=Z,18nm,0.8s					
CCUT	Cedar City	82.36 329	eP	P	03 20 09.7	+1.6
	comp=Z,80nm,2.5s					
K29A	Lazy Trails An	82.39 340	⇑P	P	03 20 08.6	+0.7
	baz=83					
N23A	Red Feather La	82.43 335	⇓P	P	03 20 09.4	+1.0
	baz=83					
N22A	Wattenberg Ran	82.53 335	⇑P	P	03 20 10.2	+1.3
	baz=83					
SRU	San Rafael Swe	82.53 331	eP	P	03 20 09.4	+0.5
SRU			pmax	pmax		
	comp=Z,34nm,2.0s					
SRU	San Rafael Swe	82.53 331	eP	P	03 20 09.4	+0.5
	comp=Z,34nm,2.0s					
O20A	White River Ci	82.57 333	⇓P	P	03 20 10.1	+1.0
	baz=83					
LRMC	Laurel Mtn Rad	82.57 324	⇑P	P	03 20 10.4	+1.3
	baz=83					
M24A	Cheyenne	82.57 336	⇓P	P	03 20 10.1	+1.0
	baz=83					
PHWY	Pilot Hill	82.63 336	eP	P	03 20 09.9	+0.4
	comp=Z,5.2nm,0.9s					
K28A	Ten Mile Ranch	82.64 339	⇑P	P	03 20 10.2	+0.9
	baz=83,SNR=8.2					
J30A	Dallas	82.69 341	⇑P	P	03 20 09.5	+0.1
	baz=83					
M23A	Laramie	82.87 336	⇓P	P	03 20 11.6	+0.9
	baz=83					
K27A	Flueckinger Fa	82.89 339	⇑P	P	03 20 11.3	+0.8
	baz=83					
SPMN	Marine on St.	82.92 346	⇑P	P	03 20 09.6	-0.9
	baz=83					
SPMN	Marine on St.	82.92 346	eP	P	03 20 09.4	-1.1
	comp=Z,9.1nm,0.6s					
TMUT	Trail Mountain	82.96 331	eP	P	03 20 11.9	+0.6
	comp=Z,92nm,2.4s					
J29A	Okreek	82.99 340	⇓P	P	03 20 11.3	+0.3
	baz=83,SNR=9.7					
FURC	Furnace Creek,	83.00 326	⇑P	P	03 20 12.6	+1.5
	baz=83					
ISA	Isabella, Lake	83.09 324	⇓P	P	03 20 12.7	+1.0
	baz=83,SNR=5.8					
N20A	Spence Gulch,	83.19 334	⇑P	P	03 20 12.9	+0.6
	baz=84					
I30A	Oacoma	83.22 341	⇑P	P	03 20 11.9	-0.2
	baz=84,SNR=7.3					
J28A	Allard Ranch,	83.26 340	⇓P	P	03 20 12.7	+0.3
	baz=84					
K25A	Mack Ranch, Ha	83.30 337	⇑P	P	03 20 13.4	+0.7
	baz=84					
J27A	Elkhorn Farm,	83.33 339	⇓P	P	03 20 13.7	+0.9
	baz=84					
L23A	Garrett	83.44 336	⇑P	P	03 20 14.0	+0.4
	baz=84					
VES	Vestal, Richgr	83.53 324	⇓P	P	03 20 14.7	+0.9
	baz=84					
I29A	Vivian Onida	83.55 340	⇑P	P	03 20 13.8	-0.1
	baz=84					
BRSD	Miller	83.59 341	⇑P	P	03 20 14.2	+0.2
	baz=84					
BRSD	Miller	83.59 341	eP	P	03 20 13.6	-0.4
	comp=Z,17nm,0.8s					
L22A	Ellis Ranch, M	83.61 335	⇑P	P	03 20 15.5	+1.0
	baz=84					
GRAC	Grapevine Rang	83.67 326	⇑P	P	03 20 16.0	+1.4
	baz=84					
J26A	Sides Ranch, S	83.70 338	⇓P	P	03 20 15.5	+0.9
	baz=84					
MPU	Maple Canyon	83.75 331	eP	P	03 20 15.9	+0.8
	comp=Z,8.8nm,1.1s					
I28A	Midland	83.77 340	⇑P	P	03 20 15.2	+0.3
	baz=84,SNR=6.3					
R11A	Troy Canyon, C	83.98 327	⇑P	P	03 20 17.4	+1.0
	baz=84,SNR=7.5					
R11A	Troy Canyon, C	83.98 327	eP	P	03 20 17.4	+1.0
	comp=Z,87nm,2.8s					
J25A	Sunshine Ranch	83.99 338	⇑P	P	03 20 16.5	+0.3
	baz=84					
K23A	Bowen Ranch, D	83.99 336	⇑P	P	03 20 17.0	+0.7
	baz=84					
I27A	Quinn	84.09 339	⇓P	P	03 20 17.0	+0.4
	baz=84					
H29A	Onida	84.09 341	⇓P	P	03 20 16.4	-0.1
	baz=84,SNR=5.5					
K22A	Casper	84.19 336	⇑P	P	03 20 17.7	+0.4
	baz=84,SNR=5.5					
K22A	Casper	84.19 336	eP	P	03 20 17.9	+0.6
	comp=Z,17nm,1.1s					
J24A	Dixon Ranch, L	84.20 337	⇑P	P	03 20 18.1	+0.8
	baz=84					
G30A	Faulkton	84.28 342	⇓P	P	03 20 17.7	+0.2
	baz=85					
I26A	New Underwood	84.29 339	⇓P	P	03 20 18.2	+0.5
	baz=85					
H28A	Mission Ridge	84.35 340	⇑P	P	03 20 18.1	+0.2
	baz=85					
DUG	Dugway, Tooele	84.37 330	eP	P	03 20 19.1	+0.8
DUG			pmax	pmax		
	comp=Z,9.0nm,1.1s					
DUG	Dugway, Tooele	84.37 330	⇑P	P	03 20 18.9	+0.7
	baz=85,SNR=7.1					
DUG	Dugway, Tooele	84.37 330	eP	P	03 20 19.1	+0.8
	comp=Z,8.7nm,1.1s					
K21A	Alcova	84.42 335	⇓P	P	03 20 18.8	+0.2
	baz=85,SNR=7.2					
TPH	Tonopah	84.48 326	eP	P	03 20 20.1	+1.2
TPH			pmax	pmax		
	comp=Z,13nm,1.1s					
TPH	Tonopah	84.48 326	eP	P	03 20 20.1	+1.2
	comp=Z,13nm,1.1s					
G29A	Hoven	84.54 341	⇓P	P	03 20 18.8	-0.1
	baz=85					
I25A	Rochford	84.54 338	⇑P	P	03 20 19.4	+0.3
	baz=85,SNR=5.3					
H27A	Howes	84.61 339	⇑P	P	03 20 19.3	0.0
	baz=85					
I24A	Kuemmerle Ranc	84.67 337	⇓P	P	03 20 19.9	+0.2
	baz=85					
G28A	Parade	84.69 340	⇓P	P	03 20 19.9	+0.2
	baz=85,SNR=5.1					
RSSD	Black Hills	84.72 338	eP	P	03 20 20.1	+0.1
RSSD			pmax	pmax		
	comp=Z,7.0nm,0.9s					
RSSD	Black Hills	84.72 338	eP	P	03 20 20.1	+0.1
	comp=Z,7.2nm,0.9s					
MLAC	Mammoth, Mammo	84.86 325	⇓P	P	03 20 22.3	+1.4
	baz=85					
J22A	Midwest	84.86 336	⇓P	P	03 20 20.3	-0.4
	baz=85,SNR=5.3					
I23A	Meade Ranch, G	85.02 337	⇓P	P	03 20 22.4	+1.0
	baz=85					
H25A	Fruitdale	85.04 338	⇑P	P	03 20 21.9	+0.5
	baz=85,SNR=5.5					
HWUT	Hardware Ranch	85.09 332	eP	P	03 20 22.3	+0.4
	comp=Z,12nm,1.2s					
F29A	Eureka	85.11 341	⇑P	P	03 20 21.6	-0.1
	baz=85					
J21A	Lysite	85.12 335	⇑P	P	03 20 22.2	+0.1
	baz=85					
G27A	Dupree	85.25 340	⇓P	P	03 20 22.3	-0.1
	baz=86					
NV01	Mina Array Sit	85.26 326	eP	P	03 20 23.9	+1.0
NV01			epP	pP	03 20 31.4	-1.5
NVAR	Mina Array Bea	85.26 326	P	P	03 20 23.9	+1.0
	comp=Z,4.0nm,0.7s,baz=156,slow=6.1,SNR=31					
NVAR			pP	pP	03 20 31.6	-1.3
	comp=Z,2.7nm,0.7s,baz=160,slow=6.1,SNR=11					
I22A	9 Mile Ranch,	85.29 336	⇓P	P	03 20 22.5	-0.3
	baz=86,SNR=6.6					
J20A	Shoshoni	85.35 335	⇓P	P	03 20 23.4	+0.3
	baz=86,SNR=7.8					
BW06	Boulder Array	85.35 334	eP	P	03 20 22.9	-0.3
PD31	Pinedale Array	85.35 334	eP	P	03 20 23.0	-0.2
PDAR	Pinedale Array	85.35 334	P	P	03 20 23.0	-0.2
	comp=Z,1.7nm,1.0s,baz=167,slow=3.2,SNR=8.0					
G26A	Maurine	85.36 339	⇓P	P	03 20 22.7	-0.3
	baz=86					
TOA0	Torodi Ar. Sit	85.44 70	eP	P	03 20 23.8	-0.3
TOA0			epP	pP	03 20 33.0	-1.1
TORD	Torodi Ar. Bea	85.44 70	P	P	03 20 24.0	-0.1
	comp=Z,4.2nm,0.8s,baz=243,slow=4.3,SNR=26					
TORD			pP	pP	03 20 33.0	-1.1
	comp=Z,3.4nm,0.8s,baz=236,slow=4.2,SNR=9.5					
H24A	Dirks Ranch, A	85.45 338	⇓P	P	03 20 23.1	-0.3
	baz=86,SNR=5.6					
I21A	Big Trails, Te	85.48 336	⇓P	P	03 20 23.4	-0.4
	baz=86,SNR=7.4					
E30A	Jud	85.50 342	⇓P	P	03 20 23.7	+0.1
	baz=86					
G25A	Newell	85.51 339	⇑P	P	03 20 24.1	+0.3
	baz=86,SNR=9.4					
J19A	Crowheart	85.61 334	⇑P	P	03 20 24.4	-0.1
	baz=86,SNR=7.2					
HVU	Hansel Valley	85.70 331	eP	P	03 20 24.8	-0.1
HVU			pmax	pmax		
	comp=Z,6.0nm,0.8s					
HVU	Hansel Valley	85.70 331	eP	P	03 20 24.8	-0.1
	comp=Z,5.5nm,0.8s					
F27A	Lemmon	85.73 340	⇓P	P	03 20 24.9	+0.1
	baz=86					
E29A	Napoleon	85.74 342	⇑P	P	03 20 25.0	+0.2
	baz=86					
H22A	Clearmont	85.87 337	⇑P	P	03 20 25.5	-0.2
	baz=86					
I20A	Worland	85.89 335	⇑P	P	03 20 25.9	+0.1
	baz=86,SNR=12					
F26A	Lodgepole	85.89 340	⇓P	P	03 20 25.7	+0.1
	baz=86,SNR=6.7					
G24A	Alzada	85.93 338	⇑P	P	03 20 25.7	-0.2
	baz=86					
E28A	Huff	86.02 341	⇓P	P	03 20 26.5	+0.3
	baz=86					
D30A	Buchanan	86.03 343	⇑P	P	03 20 26.3	+0.1
	baz=86					
G23A	Biddle	86.11 338	⇑P	P	03 20 26.4	-0.4
	baz=86					
E27A	Carson	86.12 340	⇑P	P	03 20 26.9	+0.1
	baz=86					
H21A	Big Horn, Sher	86.13 336	⇓P	P	03 20 26.5	-0.4
	baz=86					
F25A	Bowman	86.19 339	⇑P	P	03 20 27.3	+0.2
	baz=86					
D29A	Pettibone, Tap	86.19 342	⇓P	P	03 20 27.3	+0.3
	baz=86					
I19A	Meeteetse	86.26 335	⇓P	P	03 20 27.9	+0.2
	baz=87					
H20A	Greybull	86.32 336	⇓P	P	03 20 27.5	-0.4
	baz=87,SNR=7.7					
REDW	Red Top Meadow	86.34 333	eP	P	03 20 28.4	+0.3
	comp=Z,6.8nm,1.0s					
E26A	Carlson Angus	86.40 340	⇑P	P	03 20 28.1	-0.1
	baz=87					
F24A	Ekalaka	86.41 338	⇓P	P	03 20 28.3	+0.1
	baz=87					
G22A	Birney	86.41 337	⇑P	P	03 20 27.9	-0.4
	baz=87					
LOHW	Long Hollow	86.46 333	eP	P	03 20 28.7	0.0
	comp=Z,3.6nm,0.9s					
TPAW	Teton Pass	86.48 333	eP	P	03 20 29.2	+0.3
	comp=Z,5.2nm,0.9s					
AGMN	Agassiz Nation	86.49 345	⇓P	P	03 20 28.0	-0.4
	baz=87,SNR=5.5					
AGMN	Agassiz Nation	86.49 345	eP	P	03 20 27.9	-0.4
	comp=Z,6.6nm,0.7s					
C30A	Mose, Pekin	86.52 343	⇓P	P	03 20 28.6	0.0
	baz=87,SNR=8.1					
F23A	Volborg	86.58 338	⇑P	P	03 20 28.7	-0.3
	baz=87,SNR=7.7					
FXWY	Fox Creek	86.64 333	eP	P	03 20 29.6	0.0
	comp=Z,29nm,2.3s					
E25A	Miller Ranch,	86.70 339	⇓P	P	03 20 29.8	+0.2
	baz=87					
G21A	Lodge Grass	86.71 336	⇑P	P	03 20 29.7	-0.1
	baz=87					
I17A	Pilgrim Ck.	86.72 334	⇓P	P	03 20 30.2	+0.2
	baz=87					
D27A	Center	86.73 341	⇑P	P	03 20 29.8	+0.1
	baz=87					
H19A	Powell	86.81 335	⇑P	P	03 20 30.2	-0.1
	baz=87					
F22A	Rosebud	86.90 337	⇑P	P	03 20 30.6	0.0
	baz=87					
FLWY	Flagg Ranch	86.90 334	eP	P	03 20 31.2	+0.4
	comp=Z,79nm,2.6s					
D26A	Manning	86.91 340	⇓P	P	03 20 30.6	0.0
	baz=87,SNR=8.1					
E24A	Baker	87.01 339	⇑P	P	03 20 31.2	0.0
	baz=87					
G20A	Bridger	87.04 336	⇓P	P	03 20 30.9	-0.5
	baz=87,SNR=6.3					
H18A	Shoshone NF, C	87.05 335	⇑P	P	03 20 31.4	-0.2
	baz=87,SNR=9.2					
B30A	Myrvik Farm, E	87.18 343	⇑P	P	03 20 31.9	0.0
	baz=88,SNR=17					
D25A	Fairfield	87.27 340	⇑P	P	03 20 32.7	+0.4
	baz=88,SNR=5.8					
C27A	Sayler Ranch,	87.28 341	⇑P	P	03 20 32.8	+0.4
	baz=88,SNR=6.2					
RLMT	Red Lodge	87.31 335	eP	P	03 20 32.7	-0.1
	comp=Z,75nm,2.7s					
E22A	Miles City	87.40 338	⇑P	P	03 20 32.5	-0.4
	baz=88					
B29A	Wagenman Farm,	87.44 343	⇓P	P	03 20 33.2	+0.1
	baz=88					
YMR	Madison River	87.51 334	eP	P	03 20 34.2	+0.4
	comp=Z,6.1nm,0.9s					
D24A	Glendive	87.52 339	⇑P	P	03 20 34.1	+0.6
	baz=88					
C26A	Wahner Farm, P	87.55 341	⇓P	P	03 20 33.7	+0.1
	baz=88					
A30A	Hoffart Farm,	87.63 343	⇓P	P	03 20 33.6	-0.4
	baz=88,SNR=5.7					
B28A	Dugan Ranch, T	87.67 342	⇓P	P	03 20 34.2	0.0
	baz=88,SNR=6.2					
C25A	Freed Ranch, W	87.76 340	⇑P	P	03 20 35.2	+0.6
	baz=88					
D23A	Lindsay	87.83 338	⇓P	P	03 20 35.4	+0.3
	baz=88					
A29A	Manning Farm,	87.84 343	⇓P	P	03 20 34.7	-0.3
	baz=88,SNR=10					
E21A	Keefer Ranch,	87.84 337	⇓P	P	03 20 35.4	+0.3
	baz=88					
HLID	Hailey	87.86 331	⇓P	P	03 20 36.0	+0.6
	baz=88					
HLID	Hailey	87.86 331	eP	P	03 20 35.9	+0.5
	comp=Z,23nm,2.1s					
C24A	Savage	87.92 339	⇓P	P	03 20 35.7	+0.3
	baz=88					
A28A	Rude Farm, Bot	88.08 342	⇑P	P	03 20 36.2	+0.1
	baz=88					
D22A	Cohagen	88.10 338	⇑P	P	03 20 36.3	0.0
	baz=88					
E20A	Meyer Farm, Mu	88.14 336	⇑P	P	03 20 36.6	+0.1
	baz=88					
B25A	Knox Farm, Ray	88.24 340	⇓P	P	03 20 37.4	+0.5
	baz=89					
D21A	La Casta Ranch	88.28 337	⇓P	P	03 20 37.1	-0.1
	baz=89					
E19A	Rath Farm, Rou	88.32 336	⇑P	P	03 20 37.1	-0.3
	baz=89					
MCMT	McKenzie Canyo	88.33 333	eP	P	03 20 38.6	+0.9
ULM	Lac du Bonnet	88.34 345	eP	P	03 20 36.8	-0.5
ULM			pmax	pmax		
	comp=Z,7.0nm,0.8s					
ULM	Lac du Bonnet	88.34 345	P	P	03 20 36.6	-0.7
	comp=Z,9.0nm,0.8s,baz=164,slow=3.0,SNR=17					
ULM	Lac du Bonnet	88.34 345	eP	P	03 20 36.8	-0.5
	comp=Z,7.4nm,0.8s					
A26A	Wade Farm, Ken	88.52 341	⇓P	P	03 20 38.2	0.0
	baz=89					
D20A	Manuel Ranch,	88.66 337	⇓P	P	03 20 39.0	0.0
	baz=89					
DLMT	Dillon	88.69 333	eP	P	03 20 40.0	+0.7
	comp=Z,69nm,2.8s					
DGMT	Dagmar	88.71 340	⇑P	P	03 20 39.5	+0.4
	baz=89					
DGMT	Dagmar	88.71 340	eP	P	03 20 39.6	+0.4
	comp=Z,21nm,1.1s					
A25A	Svangstu Ranch	88.84 341	⇑P	P	03 20 40.2	+0.5
	baz=89					
MOD	Modoc Plateau	88.96 327	eP	P	03 20 41.4	+0.7
	comp=Z,8.6nm,0.9s					
D19A	Cripps Ranch,	88.97 336	⇓P	P	03 20 39.9	-0.6
	baz=89					
C21A	Desert Coulee	88.99 338	⇓P	P	03 20 40.2	-0.3
	baz=89					
N02D	Trinity Center	89.33 325	⇓P	P	03 20 42.5	+0.2
	baz=90					
B21A	Ellsworth Farm	89.50 338	⇓P	P	03 20 42.8	0.0
	baz=90					
A22A	Carney Farms,	89.68 339	⇑P	P	03 20 43.6	-0.1
	baz=90					
A21A	Bergtoll Ranch	89.97 338	⇑P	P	03 20 44.7	-0.4
	baz=90					
A20A	Cobblestone Ra	90.18 338	⇓P	P	03 20 45.7	-0.3
	baz=90					
I07A	Izee	90.37 328	eP	P	03 20 48.0	+0.9
	comp=Z,9.2nm,1.3s					
A19A	Klindworth Far	90.48 337	⇓P	P	03 20 47.4	-0.1
	baz=91					
G08A	Pilot Rock	91.11 329	eP	P	03 20 50.9	+0.3
	comp=Z,48nm,2.5s					
PIER	Pier 30 Seattl	94.35 329	eP	PKiKP	03 25 50.1	+1.5
KDKW	Coast Env Seat	94.36 329	eP	P	03 21 04.2	-1.0
YKA	Yellowknife Ar	103.83 341	Pdiff	Pdif	03 21 46.8	-0.6
	comp=Z,0.3nm,0.9s,baz=149,slow=4.9,SNR=3.3					
ILAR	Eielson Array	115.77 333	PKP	PKPdf	03 26 27.1	-0.4
	comp=Z,0.2nm,0.7s,baz=194,slow=1.2,SNR=6.2					
ILB	Eielson Array	115.77 333	ePKPdf	PKPdf	03 26 27.1	-0.4
WRA	Warramunga Arr	118.69 209	PKP	PKPdf	03 26 33.3	-1.3
	comp=Z,1.2nm,0.5s,baz=158,slow=1.7,SNR=6.0					
BR231	Keskin MP Arra	122.73 62	ePKPdf	PKPdf	03 26 42.2	+0.4
BR101	Keskin Array S	123.31 62	ePKPdf	PKPdf	03 26 42.7	-0.3
BR101			epPKPdf	pPKPdf	03 26 51.8	-1.6
BRTR	Keskin Array B	123.31 62	PKP	PKPdf	03 26 42.7	-0.3
	comp=Z,1.2nm,0.7s,baz=185,slow=3.5,SNR=11					
BRTR			pPKP	pPKPdf	03 26 51.8	-1.6
	comp=Z,0.9nm,0.8s,baz=197,slow=3.9,SNR=6.0					
AKASG	Malin Array Be	123.99 49	PKP	PKPdf	03 26 42.7	-1.0
	comp=Z,0.3nm,0.4s,baz=256,slow=2.1,SNR=5.9					
AKASG			pPKP	pPKPdf	03 26 52.1	-2.0
	comp=Z,0.4nm,0.5s,baz=260,slow=2.4,SNR=2.8					
AKBB	Malin Array Si	123.99 49	ePKIKP	PKPdf	03 26 42.7	-1.0
AKBB			e		03 26 52.1	
AKBB	Malin Array Si	123.99 49	ePKPdf	PKPdf	03 26 42.7	-1.0
AKBB			epPKPdf	pPKPdf	03 26 52.1	-2.0
RAYN	Ar Rayn	125.76 85	ePKPdf	PKPdf	03 26 48.4	+0.3
ARA0	ARCESS Array S	126.12 26	ePKPdf	PKPdf	03 26 47.1	-0.2
ARCES	ARCESS Array B	126.12 26	PKP	PKPdf	03 26 47.1	-0.2
	comp=Z,6.5nm,1.0s,baz=247,slow=2.7,SNR=4.3					
MOS	Moscow	129.99 44	e	PP	03 29 09.6	+1.6
GOF	Gofitskoye	131.54 59	ePKIKP	PKPdf	03 26 58.3	0.0
SEY	Seymchan	141.51 329	PKP	PKPdf	03 27 15.3	-0.8
	comp=Z,2.9nm,0.9s,baz=122,slow=9.5,SNR=3.4					
MYKOM	Kota Tinggi	145.75 174	ePKPdf	PKPdf	03 27 24.4	-0.8
PSI	Prapat	146.01 165	PKPbc	PKPdf	03 27 25.7	-0.1
	comp=Z,37nm,0.8s,baz=162,slow=2.9,SNR=34					
SBUM	Sibu	146.24 189	ePKPdf	PKPbc	03 27 26.7	-0.4
HYB	Hyderabad	148.51 119	i PKP	PKPbc	03 27 32.0	-1.3
BVAR	Borovoye Array	149.15 45	PKPbc	PKPbc	03 27 34.1	+0.3
	baz=304,slow=2.0					
YAK	Yakutsk	150.46 339	ePKIKP	PKPbc	03 27 35.4	-1.3
YAK			e		03 27 45.1	
YAK			pmax	pmax		
	comp=Z,37nm,0.9s					
AAK	Ala-Archa	153.93 65	PKPbc	PKPbc	03 27 46.2	+0.8
	comp=Z,6.0nm,0.8s,baz=92,slow=1.0,SNR=8.0					
AAK			PKPab	PKPab	03 27 59.4	+0.6
	comp=Z,5.8nm,0.6s,baz=156,slow=1.7,SNR=8.2					
TKM2	Tokmak 2	154.72 65	ePKIKP	PKPdf	03 27 37.8	-0.8
TKM2	Tokmak 2	154.72 65	ePKPdf	PKPdf	03 27 37.8	-0.8
KSH	Kashi	155.09 73	PKPbc	PKPdf	03 27 39.2	+0.1
KSH			sPKP		03 27 56.2	
KSH			PKS	PKSdf	03 31 12.7	-0.6
KSH			PP	PP	03 31 40.4	-0.2
KSH			SKS	SKSdf	03 34 41.6	-1.8
KSH			SKKS	SKKSac	03 38 26.4	-1.2
KSH			SS	SS	03 51 20.2	-2.5
KSH			PPMZ			
	comp=Z,150nm,4.8s					
KSH			LN			
	comp=Z,75nm,7.8s					
KSH			LE			
	comp=Z,120nm,6.7s					
KSH			LZ			
	comp=Z,1μm,19.8s					
ZAA1	Zalesovo Array	156.25 34	ePKPdf	PKPdf	03 27 39.2	-0.7
ZAA1			ePKPab	PKPab	03 28 08.7	+0.6
ZALV	Zalesovo Beam	156.26 34	PKP	PKPdf	03 27 39.2	-0.7
	comp=Z,1.4nm,0.8s,baz=354,slow=3.0,SNR=3.5					
ZALV			PKPab	PKPab	03 28 08.7	+0.6
	comp=Z,3.3nm,0.6s,baz=290,slow=4.3,SNR=5.5					
BOD	Bodaibo	157.78 350	ePKP2	PKPab	03 28 12.6	-1.9
BOD			pmax	pmax		
	comp=Z,5.0nm,1.0s					
MK32	Makanchi Array	158.50 52	ePKPdf	PKPdf	03 27 43.0	-0.1
MK32			ePKPab	PKPab	03 28 17.8	-0.3
MKAR	Makanchi Array	158.50 52	PKP	PKPdf	03 27 43.0	-0.1
	comp=Z,2.2nm,0.8s,baz=94,slow=1.0,SNR=3.6					
MKAR			PKPab	PKPab	03 28 17.8	-0.3
	comp=Z,2.3nm,0.8s,baz=270,slow=2.4,SNR=3.7					
CM31	Chiang Mai Arr	160.98 155	ePKPdf	PKPdf	03 27 46.8	+0.1
CMAR	Chiang Mai Arr	160.98 155	PKP	PKPdf	03 27 46.8	+0.1
	comp=Z,0.9nm,0.3s,baz=232,slow=3.0,SNR=5.4					
WMQ	Urumqi	163.13 57	ePKP	PKPdf	03 27 47.7	-0.5
WMQ			LN			
	comp=Z,72nm,18.0s					
WMQ			LE			
	comp=Z,140nm,18.0s					
WMQ			LZ			
	comp=Z,160nm,18.0s					
CN2	Changchun	164.08 305	ePKP	PKPdf	03 27 49.8	+0.8
CN2			epPKP	pPKPdf	03 28 00.9	+1.5
SONA0	Songino Array	168.22 3	ePKPab	PKPab	03 29 00.7	+0.1
SONM	Songino Array	168.22 3	PKPab	PKPab	03 29 00.7	+0.1
	comp=Z,1.5nm,0.9s,baz=296,slow=4.8,SNR=4.0					
KMI	Kunming	168.42 159	PKP	PKPdf	03 27 53.0	-0.3
NJ2	Nanjing	169.59 251	ePKP	PKPdf	03 27 53.6	+0.1
GYA	Guiyang	170.41 177	ePKP	PKPdf	03 27 53.8	-0.6
GYA			pPKP	pPKPdf	03 28 07.2	+2.4
GYA			PKPab	PKPab	03 29 12.0	+1.1

LZH	**Lanzhou**	**177.22**	**88**	*e*PKP	**PKPdf**	**03 27 57.5 +0.9**
LZH				pPKP	**pPKPdf**	**03 28 09.4 +2.4**
LZH				sPKP		03 28 14.5

IDC ***01*** *03:15:48.7±0.5, 7°.03N×126°.45E, h0km, mb4.5/23, mb1 4.6/23, mb1mx4.4/42, mbtmp4.5/23, ML5.5/1, MS4.1/7, Ms1 4.1/7, ms1mx3.7/46, Error ellipse: s-maj=20.9km s-min=10.7km az=81.0*
BJI ***01*** *03:15:49.7, 6°.86N×126°.44E, h19km, mB5.0/21, mb4.7/21, Ms4.8/18, Ms7 4.5/18*
ISCJB ***01*** *03:15:50.4±0.6, 7°.04N±0°.02×126°.52E±0°.03, h21km±4km, mb4.8/70, MS4.1/6, Error ellipse: s-maj=5.1km s-min=2.9km az=170.6*
MOS ***01*** *03:15:51.9±1.1, 7°.05N×126°.41E, h33km, mb4.9/30, Error ellipse: s-maj=15.0km s-min=6.8km az=114.4*
NEIC ***01*** *03:15:53.3±2.1, 7°.05N×126°.31E, h28km±4km, mb5.1/21, Error ellipse: s-maj=13.4km s-min=7.0km az=196.0*
NEIC Felt [V PIVS] at Mati, [IV PIVS] at Tarragona and [II PIVS] at Davao. Also felt at Maragusan.
MAN ***01*** *03:15:53, 6°.93N×126°.26E, h21km, mb5.6, ML4.8, MS5.0*
MAN INTENSITY V - BRGY MAYO MATI DAVAO ORIENTAL; INTENSITY IV - POBLACION.
DJA ***01*** *03:16:01.0±0.7, 7°N±5°×12°6E±°, h49km±7km, M5.0/44, mB5.4/20, mb5.2/44, MLv5.5/6, Mw(mB)4.9/20*
KLM ***01*** *03:16:05.4, 6°.52N×125°.95E, h93km, mb4.8, MS5.8*
ISC 01 03:15:52.1±0.5, 7°.01N±0°.03×126°.48E±0°.04, h19km±1km, n233, σ1$60/255, mb4.9/70, MS3.8/6, 25C-19D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.23**	**255**	*e*P	**Pb**	**03 15 56.1**	**-1.3**
DAV	**Davao City (W)**	**0.90**	**274**	*e*Pg	**Pb**	**03 16 06.7**	**-2.4**
DAV				*e*Sn	**Sb**	**03 16 16.8**	**-3.9**
DMPH	**Davao City--Mi**	**0.97**	**275**	⇑*e*P	**Pb**	**03 16 08.2**	**-2.1**
DMPH				*e*S	**Sb**	**03 16 21.4**	**-1.3**
BIPH	**Bislig**	**1.18**	**354**	⇑*i*P	**Pn**	**03 16 11.8**	**-1.8**
BIPH				*i*S	**Sb**	**03 16 26.3**	**-2.4**
BUKP	**Musuan**	**1.65**	**302**	*e*P	**Pn**	**03 16 19.2**	**-0.9**
GSPH	**General Santos**	**1.78**	**239**	⇑*i*P	Pn	03 16 17.5	-4.5
GSPH				*i*S	Sn	03 16 37.2	-6.9
BUTP	**Butuan**	**2.13**	**336**	*e*P	**Pb**	**03 16 30.3**	**+0.3**
CTBH	**Cotabato--PC H**	**2.23**	**276**	⇑*i*P	**Pn**	**03 16 26.1**	**-1.9**
CGP	**Cagayan de Oro**	**2.28**	**309**	⇑*i*P	**Pn**	**03 16 29.4**	**+0.7**
CGP				*i*S	**Sg**	**03 17 03.4**	**-2.1**
SCPH	**Surigao**	**2.93**	**340**	⇓*e*P	**Pn**	**03 16 39.8**	**+2.2**
PAGZ	**Pagadian**	**3.19**	**285**	*e*P	**Pn**	**03 16 41.3**	**+0.1**
PAGZ				*e*S	Sn	03 17 07.5	-11
SGSI	**Sangihe**	**3.43**	**196**	P	**Pn**	**03 16 45.8**	**+1.2**
MSLP	**Maasin**	**3.50**	**333**	*e*P	**Pn**	**03 16 46.4**	**+0.9**
TBP	**Tagbilaran**	**3.72**	**316**	*e*P	**Pn**	**03 16 49.9**	**+1.3**
TBP				*e*S	**Sn**	**03 17 31.8**	**-0.1**
SNPH	**Sibulan**	**3.96**	**306**	⇑*i*P	**Pn**	**03 16 49.4**	**-2.5**
SNPH				*i*S	**Sb**	**03 17 44.9**	**-4.1**
LLP	**Lapu-Lapu**	**4.12**	**323**	*e*P	**Pn**	**03 16 54.6**	**+0.5**
LLP				*e*S	**Sn**	**03 17 43.0**	**+1.1**
ZMPH	**Zamboanga City**	**4.38**	**270**	⇑*i*P	**Pn**	**03 16 56.1**	**-1.6**
PLP	**Palo**	**4.39**	**340**	⇑*e*P	**Pn**	**03 17 00.3**	**+2.5**
GUIM	**Jordan**	**5.26**	**313**	*e*P	**Pn**	**03 17 11.5**	**+1.7**
CNP	**Catarman**	**5.75**	**342**	*e*P	Pn	03 17 22.0	+5.4
TNTI	**Ternate**	**6.26**	**172**	P	**Pn**	**03 17 26.0**	**+2.5**
	529nm,0.9s,7μm2.2nm						
TNTI	**Ternate**	**6.26**	**172**	*e*Pn	**Pn**	**03 17 26.5**	**+3.0**
TNTI				*e*Sn	**Sn**	**03 18 33.9**	**-0.6**
KMSI	**Cibinong**	**6.86**	**201**	P	**Pn**	**03 17 31.4**	**-0.3**
	644nm,0.8s,2.8nm						
PVCP	**Virac**	**6.94**	**341**	⇑*e*P	Pn	03 17 38.0	+5.3
LBMI	**Labuha**	**7.66**	**172**	P	Pn	03 17 47.0	+4.2
	194nm,0.7s,2μm2.4nm						
LBMI				S	Sn	03 19 18.2	+9.0
	194nm,0.7s,2μm2.4nm						
MRSI	**Marisa**	**7.91**	**215**	P	**Pn**	**03 17 44.1**	**-2.1**
	219nm,0.8s,2μm1.4nm						
PALU	**Palau**	**7.94**	**87**	⇓P	Pn	03 17 42.7	-3.8
	baz=7.9,SNR=4.3						
PALU				⇓S	**Sn**	**03 19 12.2**	**-3.7**
	baz=7.9,SNR=4.2						
I39PW	**PALAU INFRASON**	**8.02**	**86**	*i*		04 08 50.0	
	baz=270,slow=297,SNR=0.5						
MYLDM	**Lahad Datu**	**8.14**	**258**	*e*Pn	**Pn**	**03 17 48.9**	**-0.4**
LUWI	**Luwuk**	**8.81**	**205**	P	**Pn**	**03 18 01.2**	**+2.7**
	360nm,0.9s,4μm						
LUWI				S	**Sn**	**03 19 40.8**	**+3.4**
	360nm,0.9s,4μm						
LUWI	**Luwuk**	**8.81**	**205**	*e*Pn	**Pn**	**03 18 01.1**	**+2.5**
LUWI				*e*Sn	**Sn**	**03 19 38.5**	**+1.1**
SANI	**Sanana**	**9.01**	**183**	P	**Pn**	**03 18 01.5**	**+0.2**
	258nm,0.8s,2μm						
SANI				S	**Sn**	**03 19 39.9**	**-2.4**
	258nm,0.8s,2μm						
SWI	**Sorong**	**9.16**	**148**	P	**Pn**	**03 18 04.9**	**+1.6**
	85nm,0.7s,1μm						
SWI	**Sorong**	**9.16**	**148**	⇑P	**Pn**	**03 18 05.2**	**+1.9**
	baz=9.4,SNR=5.4						
APSI	**Ampana**	**9.23**	**212**	P	**Pn**	**03 18 06.4**	**+2.2**
	188nm,1.2s,2μm						
MPSI	**Mapaga**	**9.33**	**225**	P	**Pn**	**03 18 07.8**	**+2.2**
	24nm,0.7s						
NLAI	**Namlea**	**10.20**	**177**	P	**Pn**	**03 18 17.6**	**+0.1**
	124nm,0.9s,2μm						
FAKI	**Fak Fak**	**11.42**	**150**	⇑P	**Pn**	**03 18 36.3**	**+2.0**
	baz=12,SNR=4.5						
TTSI	**Tana Toraja**	**12.00**	**214**	P	**Pn**	**03 18 44.1**	**+1.9**
	166nm,0.9s						
BAKI	**Biak**	**12.59**	**130**	P	P	03 18 56.9	-4.9
	135nm,1.3s						
SPSI	**Sidrap Palu**	**12.79**	**212**	P	Pn	03 18 56.3	+3.2
	46nm,1.3s						
BNSI	**Bone**	**13.00**	**209**	P	Pn	03 18 59.3	+3.4
	182nm,1.3s,2μm						
KAPI	**Kappang**	**13.70**	**210**	*e*Pn	**Pn**	**03 19 08.3**	**+2.8**
BKSI	**Bulukumba**	**13.79**	**208**	P	**Pn**	**03 19 08.2**	**+1.4**
	57nm,1.1s,639nm						
SBUM	**Sibu**	**14.91**	**253**	*e*Pn	**Pn**	**03 19 19.3**	**-2.8**
SBUM				*e*Sn	Sn	03 21 47.7	-19
SMPI	**Sarmi**	**15.13**	**126**	P	**P**	**03 19 28.3**	**-1.7**
	84nm,1.1s,3μm						
BBKI	**Banjar Baru**	**15.59**	**229**	P	**Pn**	**03 19 32.8**	**+1.8**
	104nm,1.0s						
MMRI	**Maumere**	**16.11**	**195**	P	**P**	**03 19 45.0**	**+4.2**
MMRI	**Maumere**	**16.11**	**195**	*e*Pn	**Pn**	**03 19 36.6**	**-1.0**
	407nm,1.6s						
STKI	**Sintang**	**16.48**	**246**	P	**Pn**	**03 19 42.9**	**+0.5**
	37nm,1.0s,27μm						
SOEI	**Soe**	**16.80**	**188**	P	**P**	**03 19 48.2**	**-0.4**
	132nm,1.0s,2μm						
SOEI	**Soe**	**16.80**	**188**	⇓P	**P**	**03 19 48.8**	**+0.2**
	baz=17,SNR=3.9						
SOEI	**Soe**	**16.80**	**188**	*e*Pn	**P**	**03 19 48.3**	**-0.4**
	133nm,0.9s						
KSM	**Kuching**	**17.03**	**252**	⇓P	**Pn**	**03 19 49.6**	**+0.1**
BATI	**Baumata**	**17.33**	**189**	P	**P**	**03 19 54.3**	**-0.1**
	108nm,0.8s						
BATI	**Baumata**	**17.33**	**189**	P	**P**	**03 19 54.4**	**-0.1**
	16nm,0.3s,baz=329,slow=1.3,SNR=13						
BATI				LR	LR	03 27 38.8	
	comp=Z,312nm,19.8s,baz=18,slow=41						
KMMI	**Kalianget**	**18.73**	**222**	P	**Pn**	**03 20 11.2**	**+0.9**
	121nm,0.8s						
SRBI	**Singaraja**	**18.73**	**217**	P	**Pn**	**03 20 11.0**	**+0.6**
	76nm,0.6s						
BWJI	**Bawean**	**18.80**	**228**	P	**Pn**	**03 20 14.8**	**+3.6**
	88nm,1.0s						
QZH	**Quanzhou**	**19.37**	**338**	⇓*i*P	**P**	**03 20 15.9**	**-0.9**
QZH				S	Sn	03 23 45.2	-10
BLJI	**Banyuglugur**	**19.49**	**221**	P	**Pn**	**03 20 20.9**	**+1.4**
	67nm,0.8s						
GRJI	**Gresik**	**19.66**	**226**	P	**Pn**	**03 20 23.6**	**+2.1**
	103nm,0.9s,894nm						
JAGI	**Jajag, Banyuwa**	**19.68**	**219**	P	**P**	**03 20 20.6**	**+0.3**
	91nm,0.9s						
JAGI	**Jajag, Banyuwa**	**19.68**	**219**	⇑P	**Pn**	**03 20 22.1**	**+0.3**
	baz=20,SNR=4.5						
JAGI	**Jajag, Banyuwa**	**19.68**	**219**	*e*P	**Pn**	**03 20 21.7**	**-0.1**
	76nm,0.9s						
GMJI	**Gumukmas**	**19.98**	**221**	P	**Pn**	**03 20 26.0**	**+0.6**
	58nm,0.9s						
MTN	**Manton Dam**	**20.25**	**167**	⇑P	Pn	03 20 28.3	-0.2
	baz=21,SNR=8.6						
KDU	**Kakadu**	**20.45**	**163**	P	**P**	**03 20 29.6**	**+1.0**
	baz=21,SNR=27						
NGJI	**Ngawi**	**20.70**	**227**	P	Pn	03 20 34.8	+1.1
	76nm,1.1s						
WOJI	**Wonogiri, Jawa**	**21.40**	**227**	P	P	03 20 45.2	+6.2
	71nm,1.2s,3μm						
UBPT	**Khong Chiam**	**22.18**	**294**	P	**P**	**03 20 49.8**	**+2.5**
	27nm,1.6s						
KPJI	**Karang Pucung**	**22.57**	**231**	P	**P**	**03 20 52.8**	**+1.3**
	78nm,1.0s						
JCJI	**Jatiwangi**	**22.58**	**234**	P	P	03 20 57.1	+5.5
	148nm,0.9s						
KNRA	**Kununurra**	**22.65**	**174**	P	**P**	**03 20 52.7**	**+0.4**
	baz=23,SNR=47						
MYKOM	**Kota Tinggi**	**23.14**	**258**	⇑P	**P**	**03 20 58.3**	**+0.8**
MYKOM	**Kota Tinggi**	**23.14**	**258**	*e*P	**P**	**03 20 57.6**	**+0.1**
	22nm,0.8s						
LEM	**Lembang**	**23.30**	**234**	P	**P**	**03 20 59.6**	**+0.3**
	101nm,0.8s						
CISI	**Cisompet, Garu**	**23.58**	**232**	P	**P**	**03 21 00.4**	**-1.4**
	90nm,0.9s,5μm						
CISI	**Cisompet, Garu**	**23.58**	**232**	⇓P	**P**	**03 21 02.3**	**+0.4**
	baz=24						
CISI	**Cisompet, Garu**	**23.58**	**232**	*e*P	**P**	**03 21 00.5**	**-1.4**
	61nm,0.7s						
KGM	**Kluang**	**23.61**	**259**	⇓P	**P**	**03 21 02.3**	**+0.1**
CNJI	**Cibinong**	**23.98**	**234**	P	**P**	**03 21 10.0**	**+4.4**
	117nm,1.1s,1μm						
CHBT	**CHBT**	**24.46**	**285**	P	P	03 21 16.4	+6.3
KLI	**Kotabumi**	**24.59**	**242**	P	**P**	**03 21 13.2**	**+1.9**
	124nm,1.2s						
CGJI	**Cibinong**	**24.76**	**237**	P	**P**	**03 21 12.0**	**-0.9**
	82nm,0.8s						
CBI	**Chichi jima**	**24.93**	**35**	*e*P	**P**	**03 21 12.1**	**-2.1**
CBIJ	**Chichi jima**	**24.93**	**35**	*e*P	**P**	**03 21 13.8**	**-0.5**
	228nm,1.1s						
JCJ	**Chichijima**	**24.93**	**35**	P	**P**	**03 21 12.1**	**-2.2**
	128nm,0.8s,baz=279,slow=16,SNR=4.6						
JCJ				LR	LR	03 30 01.8	
	comp=Z,175nm,21.6s,baz=146,slow=34						
FITZ	**Fitzroy Crossi**	**24.96**	**182**	P	**P**	**03 21 14.5**	**-0.1**
	baz=25,SNR=38						
FITZ	**Fitzroy Crossi**	**24.96**	**182**	*e*P	**P**	**03 21 14.3**	**-0.2**
	57nm,1.0s						
MDSI	**Maura Dua**	**25.02**	**243**	P	**P**	**03 21 13.8**	**-1.4**
	54nm,1.0s,1μm						
LHSI	**Lahat**	**25.32**	**246**	P	**P**	**03 21 17.0**	**-0.9**
	73nm,1.1s						
LWLI	**Liwa**	**25.37**	**242**	P	**P**	**03 21 23.1**	**+4.6**
	164nm,0.7s						
IPM	**Ipoh**	**25.45**	**266**	⇓P	**P**	**03 21 19.2**	**+0.1**
IPM	**Ipoh**	**25.45**	**266**	*e*P	**P**	**03 21 18.3**	**-0.8**
	17nm,0.9s						
CHAI	**Chaiyaphum**	**25.56**	**292**	P	**P**	**03 21 24.5**	**+4.4**
	6.4nm,0.9s,162nm						
KULM	**Kulim**	**25.74**	**268**	⇓P	**P**	**03 21 21.7**	**-0.1**
KULM	**Kulim**	**25.74**	**268**	*e*P	**P**	**03 21 20.2**	**-1.5**
	30nm,1.3s						
NJ2	**Nanjing**	**25.91**	**345**	*e*P	**P**	**03 21 25.0**	**+1.9**
NJ2				PMZ			
	10.0nm,0.8s						
MNAI	**Manna**	**26.05**	**245**	P	**P**	**03 21 25.1**	**+0.5**
MNAI	**Manna**	**26.05**	**245**	*e*P	**P**	**03 21 25.2**	**+0.6**
	181nm,1.1s						
PMG	**Port Moresby**	**26.27**	**128**	P	**P**	**03 21 26.8**	**+0.3**
	4.0nm,0.3s,baz=288,slow=6.4,SNR=3.0						
JNU	**Nakatsue**	**26.30**	**8**	P	**P**	**03 21 25.4**	**-1.3**
	17nm,0.8s,baz=125,slow=5.3,SNR=4.5						
JNU	**Nakatsue**	**26.30**	**8**	*e*P	**P**	**03 21 25.6**	**-1.1**
	349nm,2.7s						
COEN	**Coen**	**26.61**	**142**	⇓P	**P**	**03 21 29.9**	**+0.3**
	baz=27,SNR=6.1						
COEN	**Coen**	**26.61**	**142**	*e*P	**P**	**03 21 30.1**	**+0.4**
	198nm,1.3s						
PBKT	**Sadao Pong**	**26.69**	**293**	P	**P**	**03 21 31.4**	**+1.1**
	37nm,1.1s,10μm						
LOEI	**Loei**	**26.72**	**295**	P	**P**	**03 21 27.8**	**-2.8**
	20nm,1.2s						
GYA	**Guiyang**	**27.02**	**318**	⇑*i*P	**P**	**03 21 34.0**	**+0.6**
GYA				PP	**PnPn**	**03 22 19.8**	**+3.7**
GYA				S	**S**	**03 26 10.0**	**-0.3**
GYA				SS	**SnSn**	**03 27 22.5**	**+5.6**
GYA				ScP	**ScP**	**03 28 36.4**	**+2.1**
GYA				PMZ			
	20nm,0.9s						
GYA				PMZ			
	130nm,4.9s						
GYA				LN			
	690nm,16.7s						
GYA				LE			
	560nm,17.0s						
GYA				LZ			
	670nm,16.8s						
PSI	**Prapat**	**27.77**	**263**	*e*P	**P**	**03 21 39.0**	**-1.2**
PSI	**Prapat**	**27.77**	**263**	P	**P**	**03 21 39.0**	**-1.2**
	1.8nm,0.3s,baz=22,slow=9.7,SNR=3.5						
PSI				LR	LR	03 34 47.4	
	comp=Z,215nm,20.0s,baz=60,slow=41						
WRAB	**Tennant Creek**	**27.87**	**164**	*e*P	**P**	**03 21 41.9**	**+1.1**
WRAB				pmax	pmax		
	comp=Z,63nm,1.4s						
WRA	**Warramunga Arr**	**27.87**	**164**	P	**P**	**03 21 40.5**	**-0.4**
	comp=Z,6.1nm,0.7s,baz=338,slow=11,SNR=45						
WRA				ScP	**ScP**	**03 28 37.3**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=345,slow=3.8,SNR=5.1						
LAMP	**Lampang**	**28.53**	**296**	P	**P**	**03 21 45.8**	**-1.0**
	comp=Z,8.4nm,0.8s,comp=Z,198nm						
KMI	**Kunming**	**28.98**	**311**	P	**P**	**03 21 53.3**	**+2.3**
KMI				S	**S**	**03 26 43.3**	**+1.9**
CM01	**Chiang Mai Arr**	**29.10**	**296**	*e*P	**P**	**03 21 50.8**	**-1.0**
QIS	**Mount Isa**	**30.28**	**155**	⇑P	**P**	**03 22 02.2**	**-0.1**
	baz=31,SNR=17						
KS15	**Wonju Array Si**	**30.32**	**2**	*e*P	**P**	**03 22 02.5**	**+0.1**
KS15				*e*		03 36 04.2	
KSRS	**Korea Array**	**30.34**	**2**	P	**P**	**03 22 02.5**	**-0.1**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSRS				MLR	MLR		
	comp=Z,201nm,18.7s						
KSRS	**Korea Array**	**30.34**	**2**	P	**P**	**03 22 02.5**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=192,slow=10.0,SNR=3.6						
KSRS				LR	LR	03 36 04.2	
	comp=Z,201nm,18.6s,baz=172,slow=40						
MAJO	**Matsushiro**	**31.29**	**18**	⇑*i*P	**P**	**03 22 09.5**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,57nm,0.7s						
MAJO	**Matsushiro**	**31.29**	**18**	*e*P	**P**	**03 22 09.6**	**-1.5**
	comp=Z,46nm,1.6s						
MAT	**Matsushiro**	**31.29**	**18**	P	**P**	**03 22 08.6**	**-2.5**
MJAR	**Matsushiro Arr**	**31.29**	**18**	P	**P**	**03 22 08.8**	**-2.2**
	comp=Z,6.7nm,0.7s,baz=190,slow=9.9,SNR=15						
MJAR				LR	LR	03 33 50.1	
	comp=Z,223nm,20.2s,baz=195,slow=35						
AS15	**Alice Springs**	**31.31**	**167**	⇑P	**P**	**03 22 12.1**	**+0.8**
	baz=32						
AS12	**Alice Springs**	**31.34**	**167**	*e*P	**P**	**03 22 11.7**	**+0.1**
AS12				*e*ScP	**ScP**	**03 28 46.8**	**-1.1**
ASAR	**Alice Springs**	**31.34**	**167**	P	**P**	**03 22 11.7**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ASAR				pmax	pmax		
	comp=N,2.0nm,0.9s						
ASAR	**Alice Springs**	**31.34**	**167**	P	**P**	**03 22 11.7**	**+0.1**
	comp=N,5.5nm,0.5s,baz=343,slow=6.6,SNR=62						
ASAR				ScP	**ScP**	**03 28 46.8**	**-1.1**
	comp=N,2.3nm,0.9s,baz=347,slow=2.4,SNR=6.7						
AS01	**Alice Springs**	**31.34**	**167**	*e*P	**P**	**03 22 11.3**	**-0.4**
GIRL	**Giralia**	**31.81**	**202**	⇑P	**P**	**03 22 16.1**	**+0.4**
	baz=32,SNR=3.5						
WRKA	**Warakurna**	**31.90**	**177**	⇓P	**P**	**03 22 16.9**	**+0.4**
	baz=32,SNR=32						
CD2	**Chengdu**	**31.91**	**321**	P	**P**	**03 22 17.2**	**+0.6**
CD2				sP	**sP**	**03 22 24.5**	**-0.2**
CD2				PP	**PnPn**	**03 23 22.8**	**+1.1**
CD2				PcP	**PcP**	**03 25 07.6**	**+0.6**
CD2				S	**S**	**03 27 27.0**	**+0.1**
CD2				SS	**SnSn**	**03 29 16.9**	**+1.0**
CD2				ScS	**ScS**	**03 32 46.8**	**-1.5**
CD2				PMZ			
	comp=N,30nm,1.3s						
CD2				PMZ			
	comp=N,170nm,9.5s						
CD2				LN			
	comp=N,1μm,13.1s						
CD2				LZ			
	comp=N,1μm,10.7s						
LZH	**Lanzhou**	**35.59**	**328**	P	**P**	**03 22 51.3**	**+2.5**
LZH				pP	**pP**	**03 22 55.0**	**+0.4**
LZH				sP	**sP**	**03 22 56.8**	**-0.1**
LZH				S	**S**	**03 28 26.0**	**+1.9**
LZH				PMZ			
	comp=N,39nm,1.1s						
LZH				PMZ			
	comp=N,160nm,4.0s						
LZH				LN			
	comp=N,920nm,10.2s						
LZH				LE			
	comp=N,1μm,13.9s						
LZH				LZ			
	comp=N,1μm,15.8s						
HHC	**Hu-ho-hao-te**	**36.24**	**341**	*e*P	**P**	**03 22 56.3**	**+2.2**
HHC				PP	**PP**	**03 24 18.6**	**+1.9**
HHC				S	**S**	**03 28 36.8**	**+3.1**
HHC				ScS	**ScS**	**03 33 12.9**	**+2.1**
HHC				PMZ			
	comp=N,18nm,1.1s						
HHC				PMZ			
	comp=N,170nm,5.7s						
HHC				LN			
	comp=N,630nm,17.1s						
HHC				LE			
	comp=N,520nm,17.5s						
HHC				LZ			
	comp=N,870nm,16.5s						
CN2	**Changchun**	**36.66**	**359**	*e*P	**P**	**03 22 57.4**	**-0.1**
CN2				*es*P	**sP**	**03 23 04.6**	**-1.1**
CN2				LN			
	comp=N,400nm,16.0s						
CN2				LE			
	comp=N,600nm,16.0s						
CN2				LZ			
	comp=N,500nm,18.0s						
MORW	**Morawa**	**37.25**	**195**	⇓P	**P**	**03 23 01.7**	**-1.0**
	baz=38,SNR=9.7						
USRK	**Ussuriysk Ar.**	**37.36**	**7**	P	**P**	**03 23 03.0**	**-0.4**
	comp=N,3.5nm,0.7s,baz=192,slow=7.9,SNR=5.7						
MDJ	**Mudanjiang**	**37.56**	**4**	P	**P**	**03 23 07.2**	**+2.0**
MDJ				S	**S**	**03 28 58.3**	**+4.7**
MDJ				PMZ			
	comp=N,4.0nm,0.8s						
MDJ				PMZ			
	comp=N,70nm,4.3s						
MDJ				LN			
	comp=N,950nm,12.9s						
MDJ				LE			
	comp=N,190nm,8.1s						
MDJ				LZ			
	comp=N,1μm,12.2s						
QLP	**Quilpie**	**37.57**	**153**	⇓P	**P**	**03 23 04.4**	**-1.1**
	baz=38,SNR=5.3						
FORT	**Forrest**	**37.60**	**178**	⇑P	**P**	**03 23 06.2**	**+0.5**
	baz=38,SNR=35						
FORT	**Forrest**	**37.60**	**178**	*e*P	**P**	**03 23 05.1**	**-0.5**
	comp=N,60nm,0.6s						
BLDU	**Ballidu**	**38.56**	**194**	⇑P	**P**	**03 23 12.8**	**-1.0**
	baz=39,SNR=25						
KLBR	**Kellerberrin**	**39.28**	**192**	P	**P**	**03 23 19.8**	**0.0**
	baz=40,SNR=7.1						
EIDS	**Eidsvold**	**40.10**	**144**	⇑P	**P**	**03 23 27.6**	**+0.8**
	baz=40						
BBOO	**Buckleboo**	**40.63**	**168**	⇓P	**P**	**03 23 31.9**	**+0.9**
	baz=41,SNR=41						
BBOO	**Buckleboo**	**40.63**	**168**	*e*P	**P**	**03 23 31.7**	**+0.7**
	comp=N,183nm,0.6s						
NWAO	**Narrogin (SRO)**	**40.67**	**192**	P	**P**	**03 23 30.2**	**-1.2**
NWAO				pmax	pmax		
	comp=Z,85nm,0.9s						
NWAO	**Narrogin (SRO)**	**40.67**	**192**	P	**P**	**03 23 30.2**	**-1.2**
	comp=Z,85nm,0.9s,baz=24,slow=7.9,SNR=30						
STKA	**Stephens Creek**	**41.27**	**160**	*e*P	**P**	**03 23 37.0**	**+0.7**
STKA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
STKA	**Stephens Creek**	**41.27**	**160**	P	**P**	**03 23 36.5**	**+0.2**
	comp=Z,22nm,0.9s,baz=334,slow=7.4,SNR=20						
STKA	**Stephens Creek**	**41.27**	**160**	⇑P	**P**	**03 23 36.5**	**+0.2**
	baz=42,SNR=6.4						
STKA	**Stephens Creek**	**41.27**	**160**	*e*P	**P**	**03 23 37.0**	**+0.7**
	comp=Z,4.9nm,1.0s						
RKGY	**Rocky Gully**	**42.35**	**192**	P	**P**	**03 23 46.8**	**+1.6**
	baz=43,SNR=11						
HIA	**Hailar**	**42.50**	**353**	*e*P	**P**	**03 23 44.5**	**-1.7**
HIA				pmax	pmax		
	comp=Z,11nm,1.9s						
CMSA	**Cobar Meteorol**	**42.50**	**155**	⇓P	**P**	**03 23 47.6**	**+1.3**
	baz=43						
ULN	**Ulaanbaatar**	**43.95**	**341**	⇑*i*P	**P**	**03 23 56.9**	**-1.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SONA0	**Songino Array**	**44.14**	**341**	*e*P	**P**	**03 23 57.9**	**-1.7**
SONM	**Songino Array**	**44.14**	**341**	P	**P**	**03 23 57.9**	**-1.7**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**44.14**	**341**	P	**P**	**03 23 57.9**	**-1.7**
	comp=Z,1.9nm,0.9s,baz=156,slow=6.4,SNR=3.1						
ARMA	**Armidale**	**44.35**	**148**	⇓P	**P**	**03 24 02.7**	**+1.3**
	baz=45						
TLY	**Talaya**	**48.36**	**341**	P	**P**	**03 24 33.5**	**+0.9**
	comp=Z,3.0nm,0.6s,baz=116,slow=7.4,SNR=2.3						
WMQ	**Urumqi**	**49.93**	**324**	P	**P**	**03 24 45.4**	**+0.5**
WMQ				PMZ			
	comp=Z,8.0nm,1.4s						
WMQ				PMZ			
	comp=Z,220nm,5.2s						
WMQ				LN			
	comp=Z,650nm,24.0s						
WMQ				LE			
	comp=Z,280nm,20.0s						
WMQ				LZ			
	comp=Z,320nm,21.0s						
BOD	**Bodaibo**	**51.61**	**352**	*e*P	**P**	**03 24 54.6**	**-2.5**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s						
PETK	**Petropavlovsk-**	**52.52**	**23**	P	**P**	**03

KURK	**Kurchatov**	**58.87**	**327**	*e*P	**P**	**03 25 49.3**	**-0.4**
	comp=Z,17nm,1.1s						
FX1	**Attu Island--F**	**59.40**	**31**	LR	LR	03 48 38.5	
	comp=Z,598nm,21.3s,baz=114,slow=33						
KKAR	**Karatay Array**	**60.70**	**316**	*e*P	**P**	**03 26 02.5**	**+0.1**
KKAR	**Karatay Array**	**60.70**	**316**	*e*P	**P**	**03 26 02.5**	**+0.1**
VOSK	**Vostochnaya**	**64.01**	**326**	*e*P	**P**	**03 26 24.0**	**-0.4**
BVAR	**Borovoye Array**	**64.47**	**326**	P	**P**	**03 26 27.0**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BVAR	**Borovoye Array**	**64.47**	**326**	P	**P**	**03 26 27.0**	**-0.4**
	comp=Z,4.6nm,0.7s,baz=126,slow=7.7,SNR=7.8						
BRVK	**Borovoye**	**64.54**	**326**	*e*P	**P**	**03 26 27.7**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,35nm,1.5s						
BRVK	**Borovoye**	**64.54**	**326**	*e*P	**P**	**03 26 27.7**	**-0.1**
	comp=Z,35nm,1.5s						
TIXI	**Tiksi**	**64.59**	**1**	*e*P	**P**	**03 26 26.3**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.6s						
SVE	**Sverdlovsk**	**71.06**	**328**	*e*P	**P**	**03 27 08.2**	**-0.7**
SVE				pmax	pmax		
	comp=Z,28nm,1.2s						
ARU	**Arti**	**72.06**	**327**	*d i*P	**P**	**03 27 14.1**	**-0.8**
ARU						03 29 52.3	
ARU				S	**S**	**03 36 37.7**	**+2.0**
ARU				SS	SS	03 41 05.5	-7.3
ARU				pmax	pmax		
	comp=Z,26nm,1.7s						
ARU	**Arti**	**72.06**	**327**	*e*P	**P**	**03 27 13.7**	**-1.1**
	comp=Z,12nm,0.8s						
GNI	**Garni**	**79.21**	**309**	LR	LR	04 07 44.2	
	comp=Z,628nm,19.2s,baz=88,slow=39						
PRGR	**Permogore**	**79.52**	**331**	*e*P	**P**	**03 27 55.6**	**-1.8**
PRGR				*e*		03 28 02.9	
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KIV	**Kislovodsk**	**80.72**	**313**	*e*P	**P**	**03 28 05.7**	**+1.3**
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
VRHR	**Novokhopersk**	**81.36**	**321**	*e*P	**P**	**03 28 05.8**	**-1.7**
VRHR				pmax	pmax		
	comp=N,2.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,4.0nm,0.7s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ILAR	**Eielson Array**	**82.27**	**26**	P	**P**	**03 28 12.7**	**+0.6**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**82.27**	**26**	P	**P**	**03 28 12.7**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=261,slow=4.7,SNR=4.5						
ILB	**Eielson Array**	**82.27**	**26**	*e*P	**P**	**03 28 12.7**	**+0.6**
KLMR	**Klimovskoe**	**82.45**	**330**	*e*P	**P**	**03 28 11.7**	**-1.4**
KLMR				pmax	pmax		
	comp=Z,47nm,1.3s						
VORD	**Divnogorie**	**82.84**	**320**	*e*P	**P**	**03 28 13.3**	**-2.0**
VORD				pmax	pmax		
	comp=N,10.0nm,0.7s						
VORD				pmax	pmax		
	comp=E,9.0nm,0.7s						
VORD				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VSR	**Storozhevoye**	**82.91**	**321**	*e*P	**P**	**03 28 14.3**	**-1.4**
VSR				pmax	pmax		
	comp=N,1.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,5.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
OBN	**Obninsk**	**84.26**	**325**	⇓*i*P	**P**	**03 28 22.1**	**-0.4**
OBN				pmax	pmax		
	comp=Z,36nm,1.8s						
ANN	**Anapa**	**84.44**	**314**	*e*P	**P**	**03 28 22.8**	**-0.9**
ANN				pmax	pmax		
	comp=Z,66nm,1.6s						
JOF	**Joensuu**	**86.17**	**333**	*e*P	**P**	**03 28 30.7**	**-1.2**
JOF				pmax	pmax		
	comp=Z,9.0nm,0.5s						
JOF	**Joensuu**	**86.17**	**333**	*e*p	**P**	**03 28 30.7**	**-1.2**
	comp=Z,8.7nm,0.5s						
ARA0	**ARCESS Array S**	**87.31**	**340**	*e*P	**P**	**03 28 36.6**	**-0.7**
ARCES	**ARCESS Array B**	**87.31**	**340**	P	**P**	**03 28 36.7**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**87.31**	**340**	P	**P**	**03 28 36.6**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=84,slow=6.0,SNR=7.6						
KAF	**Kangasniemi**	**88.60**	**332**	*e*P	**P**	**03 28 41.7**	**-1.9**
KAF	**Kangasniemi**	**88.60**	**332**	*e*p	**P**	**03 28 41.7**	**-1.9**
FIA0	**FINESS Array S**	**88.85**	**332**	*e*P	**P**	**03 28 44.1**	**-0.7**
FIA0	**FINESS Array S**	**88.85**	**332**	*e*P	**P**	**03 28 44.1**	**-0.7**
FINES	**FINESS Array B**	**88.85**	**332**	P	**P**	**03 28 44.1**	**-0.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**88.85**	**332**	P	**P**	**03 28 44.1**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=101,slow=6.0,SNR=3.9						
AKASG	**Malin Array Be**	**89.21**	**321**	P	**P**	**03 28 46.1**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**89.21**	**321**	P	**P**	**03 28 46.0**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=66,slow=5.1,SNR=3.3						
AKBB	**Malin Array Si**	**89.21**	**321**	*e*P	**P**	**03 28 46.0**	**-0.7**
AKBB	**Malin Array Si**	**89.21**	**321**	*e*P	**P**	**03 28 46.0**	**-0.7**
KIEV	**Kiev**	**89.22**	**321**	*e*P	**P**	**03 28 46.1**	**-0.7**
NB200	**NORSAR Array S**	**95.76**	**334**	*e*P	**P**	**03 29 14.7**	**-2.2**
NOA	**NORSAR Array B**	**95.76**	**334**	P	**P**	**03 29 14.7**	**-2.2**
	comp=Z,1.3nm,0.8s,baz=75,slow=6.9,SNR=2.3						
YKA	**Yellowknife Ar**	**96.63**	**24**	P	**P**	**03 29 20.6**	**-0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**96.63**	**24**	P	**P**	**03 29 20.6**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=303,slow=4.8,SNR=2.7						
QSPA	**South Pole Qui**	**96.89**	**180**	P	**P**	**03 29 21.7**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=2.1,slow=3.4,SNR=4.4						
PASC	**Pasadena Art C**	**106.52**	**51**	*e*PKiKP	**PKiKP**	**03 34 17.6**	**+1.1**
LTX	**Lajitas**	**119.76**	**51**	*e*PKIKP	**PKPdf**	**03 34 42.7**	**+0.8**
LTX	**Lajitas**	**119.76**	**51**	*e*PKPdf	**PKPdf**	**03 34 42.7**	**+0.8**
TXAR	**Lajitas Array**	**119.76**	**51**	PKP	**PKPdf**	**03 34 42.7**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=298,slow=1.9,SNR=3.7						
TOA0	**Torodi Ar. Sit**	**121.62**	**290**	⇑P	**PKPdf**	**03 34 41.3**	**-4.4**
	baz=122,SNR=4.5						
TOA0	**Torodi Ar. Sit**	**121.62**	**290**	*e*PKPdf	**PKPdf**	**03 34 44.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**121.62**	**290**	PKP	**PKPdf**	**03 34 44.7**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=49,slow=1.7,SNR=22						

NIED ***01*** *03:15:00,26.°00N×128.°70E,h8km,Mw4.8 Best double couple: M0=2.01000×10^16 NP1:φ=225.00000°,δ=53.00000°, λ=-5.00000°. NP2:φ=319.00000°,δ=86.00000°, λ=-143.00000°.*

BJI ***01*** *03:15:54.9,25.°91N×128.°49E,h19km,mB5.0/41,mb4.8/62, Ms4.8/64,Ms7 4.6/61*

IDC ***01*** *03:15:54.0±0.6,25.°96N×128.°48E,h0km,mb4.5/25, mb1 4.6/29,mb1mx4.5/48,mbtmp4.4/29,ML4.0/4,MS4.1/5, Ms1 4.1/5,ms1mx3.7/45,Error ellipse: s-maj=16.0km s-min=11.7km az=83.0*

ISCJB ***01*** *03:15:55.3±0.7,25.°94N±0.°03×128.°56E±0.°03,h21km±4km, mb4.9/85,MS4.6/15,Error ellipse: s-maj=5.0km s-min=3.9km az=148.8*

JMA ***01*** *03:15:56.2±0.3,25.°95N×128.°67E,h35km,M4.8*

MOS ***01*** *03:15:57.1±1.0,25.°99N×128.°50E,h33km,mb5.2/53, MS4.6/13,Error ellipse: s-maj=8.3km s-min=4.8km az=113.4*

NEIC ***01*** *03:15:59.0±1.9,25.°95N×128.°45E,h36km±7km,mb5.1/36, MW4.8(NIED),Error ellipse: s-maj=14.8km s-min=1.0km az=130.0*

SZGRF ***01*** *03:16:10.8,27.°20N×127.°95E,h33km,mb5.0,Ryukyu Islands, Japan*

ISC 01 03:15:57.3±0.5,26.°01N±0.°04×128.°47E±0.°03,h19km±1km, h19km:pP-P,n330,σ1§58/373,mb5.0/88,MS4.7/16, 23C-17D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.65**	**322**	P	**Pn**	**03 16 11.0**	**-0.5**
JNTH				*e*S	**Sn**	**03 16 21.6**	**+0.4**
JJT2	**Tamagusuku 2**	**0.66**	**282**	P	**Pn**	**03 16 11.9**	**+0.3**
JJT2				*e*S	**Sn**	**03 16 23.2**	**+1.7**
JOW	**Kunigami**	**0.84**	**348**	P	**Pg**	**03 16 13.6**	**-0.2**
JOW	**Kunigami**	**0.84**	**348**	Pn	**Pb**	**03 16 13.3**	**0.0**
	85nm,0.3s,baz=159,slow=15,SNR=95						
JOW				Sn	**Sn**	**03 16 26.9**	**+0.9**
	157nm,0.3s,baz=131,slow=19,SNR=36						
JOW				LR	LR	03 16 41.9	
	comp=Z,808nm,20.0s,baz=309,slow=54						
JOW	**Kunigami**	**0.84**	**348**	*e*Pn	**Pg**	**03 16 13.8**	**0.0**
JOW				*e*Sn	**Sb**	**03 16 22.4**	**-1.8**
JIH	**Iheya**	**1.12**	**336**	P	**Pb**	**03 16 18.1**	**0.0**
JAGN	**Aguni-jima**	**1.25**	**298**	P	**Pb**	**03 16 20.4**	**+0.2**
JOKE	**Okinoerabujima**	**1.35**	**4**	P	**Pn**	**03 16 20.5**	**-0.7**
JOKE				*e*S	**Sn**	**03 16 37.9**	**-0.7**
JKE	**Kume jima 2**	**1.55**	**282**	P	**Pn**	**03 16 23.9**	**+0.1**
JKE				*e*S	**Sn**	**03 16 43.7**	**+0.3**
JTK	**Tokunoshima**	**1.82**	**13**	P	**Pn**	**03 16 26.7**	**-0.9**
JTK				*e*S	**Sn**	**03 16 48.1**	**-2.1**
JAMN	**Amaminishikomi**	**2.32**	**16**	P	**Pn**	**03 16 33.3**	**-1.1**
JMZ	**Minamidaito 2**	**2.48**	**94**	P	Pn	03 16 31.9	-4.8
JMZ				*e*S	Sn	03 16 57.9	-8.5
JAM	**Amami Oshima**	**2.60**	**23**	P	**Pn**	**03 16 36.5**	**-1.8**
JAM				*e*S	**Sn**	**03 17 06.7**	**-2.6**
YOJ	**Yonaguni jima**	**5.18**	**254**	*e*P	**Pn**	**03 17 12.4**	**-1.3**
YOJ	**Yonaguni jima**	**5.18**	**254**	*e*Pn	**Pn**	**03 17 12.4**	**-1.3**
TATO	**Taipei**	**6.39**	**262**	*e*Pn	**Pn**	**03 17 32.3**	**+1.9**
NACB	**Ninganchiao**	**6.50**	**255**	*e*Pn	**Pn**	**03 17 29.9**	**-2.0**
YHNB	**Yeheng**	**6.56**	**260**	*e*Pn	**Pn**	**03 17 33.0**	**+0.2**
YULB	**Yu-li**	**7.02**	**250**	*e*Pn	Pn	03 17 35.5	-3.6
YULB				*e*Sn	Sn	03 18 50.5	-7.9
SSLB	**Suanglung**	**7.17**	**254**	*e*Pn	**Pn**	**03 17 38.9**	**-2.3**
SSLB				*e*Sn	Sn	03 18 53.8	-8.4
JNU	**Nakatsue**	**7.39**	**16**	Pn	**Pn**	**03 17 45.1**	**+0.9**
	10nm,0.3s,baz=214,slow=2.3,SNR=45						
JNU	**Nakatsue**	**7.39**	**16**	*e*Pn	**Pn**	**03 17 44.4**	**+0.1**
TWG	**Pinlang**	**7.45**	**246**	*e*Pn	Pn	03 17 40.1	-4.9
TWG				*e*Sn	Sn	03 19 01.5	-7.5
TPUB	**Ta-pu**	**7.62**	**251**	*e*Pn	**Pn**	**03 17 45.8**	**-1.6**
TPUB				*e*Sn	**Sn**	**03 19 08.2**	**-5.1**
QZH	**Quanzhou**	**8.99**	**265**	⇓*i*P	**Pn**	**03 18 06.7**	**+0.6**
QZH				S	**Sn**	**03 19 45.9**	**-0.9**
QZH				LN			
	5μm,13.8s						
QZH				LE			
	2μm,12.8s						
QZH				LZ			
	4μm,13.0s						
NJ2	**Nanjing**	**10.35**	**308**	*e*P	**Pn**	**03 18 26.4**	**+1.7**
NJ2				S	**Sn**	**03 20 22.0**	**+1.9**
NJ2				PMZ			
	20nm,1.4s						
NJ2				LN			
	2μm,14.0s						
NJ2				LE			
	4μm,14.0s						
NJ2				LZ			
	5μm,16.0s						
KS15	**Wonju Array Si**	**11.41**	**358**	*e*Pn	**Pn**	**03 18 39.0**	**-0.2**
KSRS	**Korea Array**	**11.43**	**358**	Pn	**Pn**	**03 18 39.0**	**-0.4**
	0.3nm,0.3s,baz=175,slow=14,SNR=12						
KSRS				LR	LR	03 23 20.4	
	comp=Z,1μm,19.3s,baz=167,slow=39						
WHN	**Wuhan**	**13.24**	**293**	⇑*i*P	**P**	**03 19 15.9**	**+1.9**
WHN				S	S	03 21 44.8	-10
MAJO	**Matsushiro**	**13.39**	**36**	*i* P	**Pn**	**03 19 06.1**	**-0.2**
MAJO	**Matsushiro**	**13.39**	**36**	*e*Pn	**Pn**	**03 19 06.8**	**+0.4**
MJAR	**Matsushiro Arr**	**13.39**	**36**	Pn	**Pn**	**03 19 06.6**	**+0.2**
	0.4nm,0.3s,baz=244,slow=14,SNR=5.4						
DL2	**Dalian**	**14.09**	**338**	*e*P	**P**	**03 19 24.2**	**+0.8**
DL2				*e*S	**S**	**03 22 08.7**	**-4.0**
SNY	**Shenyang**	**16.29**	**347**	⇓P	**P**	**03 19 49.7**	**+1.9**
SNY				S	**S**	**03 22 56.1**	**-1.5**
SNY				PMZ			
	29nm,1.5s						
SNY				PMZ			
	520nm,7.2s						
SNY				LN			
	1μm,12.7s						
SNY				LE			
	890nm,12.6s						
SNY				LZ			
	2μm,16.1s						
BJT	**Baijiatuau**	**17.34**	**327**	*e*P	**P**	**03 19 59.8**	**+0.3**
BJT				pmax	pmax		
	comp=Z,38nm,0.7s						
BJT	**Baijiatuau**	**17.34**	**327**	*e*P	**P**	**03 19 59.8**	**+0.3**
	comp=Z,38nm,0.7s						
BJI	**Beijing**	**17.36**	**327**	P	**P**	**03 20 00.3**	**+0.6**
BJI				S	**Sn**	**03 23 13.9**	**+2.9**
BJI				PMZ			
	comp=Z,52nm,0.6s						
BJI				PMZ			
	comp=Z,430nm,8.2s						
BJI				LN			
	comp=Z,2μm,16.9s						
BJI				LE			
	comp=Z,3μm,16.9s						
BJI				LZ			
	comp=Z,620nm,16.1s						
CN2	**Changchun**	**17.93**	**353**	*e*P	**P**	**03 20 06.3**	**+0.4**
CN2				*e*pP	**pP**	**03 20 11.1**	**-0.3**
CN2				*e*PP	**PnPn**	**03 20 21.2**	**+4.8**
CN2				*e*S	**Sn**	**03 23 24.2**	**-0.5**
CN2				PMZ			
	comp=Z,20nm,1.2s						
CN2				LN			
	comp=Z,2μm,12.0s						
CN2				LE			
	comp=Z,700nm,12.0s						
CN2				LZ			
	comp=Z,500nm,13.0s						
USRK	**Ussuriysk Ar.**	**18.38**	**8**	P	**Pn**	**03 20 11.4**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=182,slow=9.6,SNR=17						
USRK				LR	LR	03 27 06.2	
	comp=Z,431nm,19.7s,baz=158,slow=36						
QIZ	**Qiongzhong**	**18.55**	**252**	P	**Pn**	**03 20 13.5**	**+0.3**
QIZ				S	**Sn**	**03 23 40.2**	**+0.1**
QIZ				LN			
	comp=Z,1μm,18.8s						
QIZ				LE			
	comp=Z,250nm,19.8s						
QIZ				LZ			
	comp=Z,1μm,16.8s						
MDJ	**Mudanjiang**	**18.59**	**3**	P	**Pn**	**03 20 15.3**	**+1.7**
MDJ				pP	**pP**	**03 20 18.4**	**-0.3**
MDJ				sP	**sP**	**03 20 19.8**	**-1.5**
MDJ				S	**S**	**03 23 44.4**	**0.0**
MDJ				sS	**sS**	**03 23 53.4**	**+0.3**
MDJ				PMZ			
	comp=Z,10.0nm,1.3s						
MDJ				PMZ			
	comp=Z,120nm,5.7s						
MDJ				LN			
	comp=Z,950nm,12.9s						
MDJ				LE			
	comp=Z,310nm,12.9s						
MDJ				LZ			
	comp=Z,1μm,12.1s						
XAN	**Xi'an**	**18.71**	**300**	P	**P**	**03 20 14.8**	**+0.1**
XAN				pP	**pP**	**03 20 18.0**	**-2.1**
XAN				S	**Sn**	**03 23 43.0**	**-0.9**
XAN				sS	**S**	**03 23 48.8**	**+1.8**
XAN				PMZ			
	comp=Z,13nm,1.0s						
XAN				PMZ			
	comp=Z,53nm,4.9s						
XAN				LN			
	comp=Z,890nm,13.3s						
XAN				LE			
	comp=Z,510nm,13.3s						
XAN				LZ			
	comp=Z,410nm,16.6s						
GYA	**Guiyang**	**19.57**	**276**	⇑*i*P	**Pn**	**03 20 25.8**	**+0.2**
GYA				PP	**PnPn**	**03 20 43.5**	**+4.4**
GYA				S	**S**	**03 23 59.4**	**-5.2**
GYA				SS	**SnSn**	**03 24 23.7**	**+4.5**
GYA				PMZ			
	comp=Z,20nm,0.9s						
GYA				PMZ			
	comp=Z,130nm,4.6s						
GYA				LN			
	comp=Z,640nm,15.7s						
GYA				LE			
	comp=Z,560nm,16.2s						
GYA				LZ			
	comp=Z,620nm,15.8s						
ERM	**Erimo**	**20.03**	**33**	*e*P	**P**	**03 20 29.3**	**+0.3**
HHC	**Hu-ho-hao-te**	**20.40**	**321**	*e*P	**P**	**03 20 33.6**	**+0.4**
HHC				PP	**PnPn**	**03 20 54.0**	**+3.6**
HHC				S	**S**	**03 24 15.2**	**-5.7**
HHC				SS	**SnSn**	**03 24 44.7**	**+5.3**
HHC				PMZ			
	comp=Z,43nm,1.2s						
HHC				PMZ			
	comp=Z,350nm,5.7s						
HHC				LN			
	comp=Z,2μm,10.6s						
HHC				LE			
	comp=Z,3μm,12.5s						
HHC				LZ			
	comp=Z,3μm,13.0s						
BTO	**Baotou**	**21.15**	**318**	*e*P	**P**	**03 20 40.9**	**-0.4**
ASAJ	**Asahikawa**	**21.40**	**29**	P	**P**	**03 20 44.5**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ASAJ	**Asahikawa**	**21.40**	**29**	P	**P**	**03 20 44.5**	**+0.8**
	comp=Z,5.9nm,0.5s,baz=314,slow=11,SNR=2.2						
CD2	**Chengdu**	**22.25**	**288**	⇓*i*P	**P**	**03 20 51.1**	**-2.1**
CD2				pP	**pP**	**03 20 57.2**	**-1.5**
CD2				sP	**sP**	**03 21 00.5**	**-0.7**
CD2				PP	**PnPn**	**03 21 18.2**	**+2.4**
CD2				S	**S**	**03 24 50.5**	**-6.8**
CD2				SS	**SnSn**	**03 25 30.1**	**+5.2**
CD2				PMZ			
	comp=Z,40nm,1.2s						
CD2				PMZ			
	comp=Z,190nm,9.5s						
CD2				LN			
	comp=Z,3μm,13.1s						
CD2				LE			
	comp=Z,3μm,13.2s						
CD2				LZ			
	comp=Z,2μm,13.1s						
YUK	**Yuzh-Kuril'sk**	**22.86**	**34**	*c i*P	**P**	**03 21 02.5**	**+3.1**
YUK				MLR	MLR		
	comp=Z,845nm,22.0s						
KMI	**Kunming**	**23.22**	**273**	P	**P**	**03 21 04.4**	**+0.8**
KMI				sP	**sP**	**03 21 12.1**	**+0.4**
KMI				S	**S**	**03 25 08.4**	**-6.5**
KMI				PMZ			
	comp=Z,53nm,1.0s						
KMI				PMZ			
	comp=Z,290nm,4.3s						
KMI				LN			
	comp=Z,1μm,17.1s						
KMI				LE			
	comp=Z,1μm,9.4s						
KMI				LZ			
	comp=Z,1μm,12.0s						
LZH	**Lanzhou**	**23.31**	**301**	P	**P**	**03 21 03.6**	**-0.7**
LZH				pP	**pP**	**03 21 09.5**	**-0.5**
LZH				sP	**sP**	**03 21 12.3**	**-0.2**
LZH				S	**S**	**03 25 15.2**	**-0.9**
LZH				sS	**sS**	**03 25 21.5**	**-4.4**
LZH				SS	**SnSn**	**03 25 58.8**	**+7.8**
LZH				PMZ			
	comp=Z,73nm,1.2s						
LZH				PMZ			
	comp=Z,500nm,7.8s						
LZH				LN			
	comp=Z,920nm,11.2s						
LZH				LE			
	comp=Z,1μm,12.9s						
LZH				LZ			
	comp=Z,1μm,13.8s						
KLR	**Kul'dur**	**23.33**	**5**	*e*P	**P**	**03 21 00.0**	**-4.1**
KLR				pmax	pmax		
	comp=Z,62nm,1.6s						
KLR				MLR	MLR		
	comp=E,900nm,12.0s						
KLR				MLR	MLR		
	comp=Z,4μm,12.0s						
YSS	**Yuzh-Sakhalins**	**23.78**	**25**	*e*P	**P**	**03 21 08.6**	**0.0**
YSS				*e*		03 21 19.3	
YSS				pmax	pmax		
	comp=N,90nm,1.2s						
YSS				pmax	pmax		
	comp=Z,230nm,1.2s						
YSS	**Yuzh-Sakhalins**	**23.78**	**25**	*e*P	**P**	**03 21 09.3**	**+0.7**
	comp=Z,144nm,1.0s						
HIA	**Hailar**	**24.20**	**346**	*e*P	**P**	**03 21 12.3**	**-0.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,1.7s						
UTTA	**Uttaradit**	**27.14**	**258**	P	**P**	**03 21 40.2**	**+0.8**
	comp=Z,3.7nm,0.8s,comp=Z,112nm						
GTA	**Gaotai**	**27.44**	**306**	⇑P	**P**	**03 21 41.2**	**-0.9**
GTA				pP	**pP**	**03 21 46.5**	**-1.5**
GTA				sP	**sP**	**03 21 50.0**	**-0.4**
GTA				S	**S**	**03 26 18.0**	**-3.7**
GTA				SS	**SnSn**	**03 27 36.1**	**+4.4**
GTA				PMZ			
	comp=Z,73nm,1.0s						
GTA				PMZ			
	comp=Z,190nm,5.2s						
GTA				LN			
	comp=Z,1μm,12.6s						
GTA				LE			
	comp=Z,940nm,13.8s						
GTA				LZ			
	comp=Z,1μm,13.5s						
ULN	**Ulaanbaatar**	**27.56**	**328**	*e*P	**P**	**03 21 42.4**	**-0.7**
ULN				pmax	pmax		
	comp=Z,25nm,0.8s						
ULN	**Ulaanbaatar**	**27.56**	**328**	P	**P**	**03 21 46.1**	**+3.0**
	SNR=16						
ULN	**Ulaanbaatar**	**27.56**	**328**	*e*P	**P**	**03 21 42.4**	**-0.7**
	comp=Z,25nm,0.8s						
CMAI	**Chiengmai2**	**27.72**	**264**	P	**P**	**03 21 47.7**	**+2.9**
SONA0	**Songino Array**	**27.86**	**327**	*e*P	**P**	**03 21 46.2**	**+0.5**
SONM	**Songino Array**	**27.86**	**327**	P	**P**	**03 21 46.2**	**+0.5**
SONM				pmax	pmax		
	comp=Z,13nm,0.8s						
SONM	**Songino Array**	**27.86**	**327**	P	**P**	**03 21 46.2**	**+0.5**
	comp=Z,13nm,0.8s,baz=146,slow=6.0,SNR=27						
SONA1	**Songino Array**	**27.86**	**327**	*e*P	**P**	**03 21 44.9**	**-0.9**
CHTO	**Chiang Mai**	**28.18**	**261**	P	**P**	**03 21 50.5**	**+1.7**
	SNR=5.3						
CHTO	**Chiang Mai**	**28.18**	**261**	P	**P**	**03 21 50.0**	**+1.3**
	comp=Z,78nm,0.9s						
CHTO	**Chiang Mai**	**28.18**	**261**	*e*P	**P**	**03 21 49.9**	**+1.2**
	comp=Z,12nm,0.8s						
CM31	**Chiang Mai Arr**	**28.30**	**261**	*e*P	**P**	**03 21 50.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**28.30**	**261**	P	**P**	**03 21 50.3**	**+0.5**
	comp=Z,7.6nm,1.1s,baz=52,slow=7.7,SNR=12						
ZAK	**Zakamensk**	**31.09**	**328**	*e*P	**P**	**03 22 11.6**	**-2.8**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
TLY	**Talaya**	**31.82**	**330**	*e*P	**P**	**03 22 20.4**	**-0.2**
TLY				*e*SS	SS	03 29 36.4	-10
TLY				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TLY				MLR	MLR		
	comp=Z,701nm,14.0s						
TLY	**Talaya**	**31.82**	**330**	P	**P**	**03 22 19.8**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=143,slow=7.4,SNR=5.4						
MOY	**Mondy**	**33.03**	**328**	*e*P	**P**	**03 22 30.4**	**-0.9**
BOD	**Bodaibo**	**33.42**	**346**	*e*P	P	03 22 25.2	-9.3
PETK	**Petropavlovsk-**	**34.78**	**31**	P	**P**	**03 22 46.4**	**0.0**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PETK				MLR	MLR		
	comp=Z,162nm,19.0s						
PETK	**Petropavlovsk-**	**34.78**	**31**	P	**P**	**03 22 46.4**	**0.0**
	comp=Z,2.7nm,0.6s,baz=199,slow=8.5,SNR=4.5						
PETK				LR	LR	03 38 32.3	
	comp=Z,162nm,19.0s,baz=206,slow=39						
PEA2	**Petropavlovsk-**	**34.78**	**31**	*e*P	**P**	**03 22 46.4**	**0.0**
PET	**Petropavlovsk**	**35.17**	**32

comp=E,79nm,4.9s
YAK smax smax
comp=N,342nm,4.2s
YAK smax smax
comp=E,190nm,2.9s
YAK MLR MLR
comp=Z,352nm,18.0s
YAK MLR MLR
comp=N,128nm,12.0s
YAK MLR MLR
comp=E,161nm,12.0s
YAK Yakutsk 36.03 1 *e*P P 03 22 56.9 0.0
comp=E,75nm,0.9s
TAPN Taplejung 36.34 281 *e*P P 03 23 01.1 +0.6
comp=E,59nm,0.9s
HVS Khovu-Aksy 36.45 323*d i*P P 03 23 00.8 -0.1
HVS pmax pmax
comp=Z,79nm,1.4s
ODAN Odare 36.68 281 *e*P P 03 23 03.9 +0.5
comp=Z,134nm,0.9s
PMBI Palembang 36.79 222 *e*P P 03 23 00.5 -3.5
comp=Z,380nm,0.6s
RAMN Ramite 37.37 281 *e*P P 03 23 09.5 +0.3
comp=Z,26nm,0.6s
WMQ Urumqi 37.42 309 P **P 03 23 09.1 -0.2**
WMQ pP **pP 03 23 14.9 -0.4**
WMQ PP **PnPn 03 24 37.0 +1.6**
WMQ PcP **PcP 03 25 28.2 +0.5**
WMQ S **S 03 28 55.7 -1.0**
WMQ sS **sS 03 29 05.8 -0.8**
WMQ PMZ
comp=Z,39nm,1.0s
WMQ PMZ
comp=Z,150nm,6.0s
WMQ LN
comp=Z,610nm,19.0s
WMQ LE
comp=Z,410nm,22.0s
WMQ LZ
comp=Z,450nm,18.5s
JIRN Jiri 37.63 282 *e*P P 03 23 12.0 +0.4
comp=Z,78nm,1.1s
GUN Gumba 37.88 283 *e*P P 03 23 13.9 +0.3
comp=Z,109nm,1.1s
PKI Pulchoki 38.33 282 *e*P P 03 23 17.5 +0.1
PKIN Phulchoki 38.34 282 *e*P P 03 23 18.2 +0.8
KKN Kakani 38.42 283 *e*P P 03 23 18.4 +0.4
DMN Daman 38.59 282 *e*P P 03 23 19.9 +0.4
comp=Z,123nm,1.2s
GKN Gorkha 38.95 283 *e*P P 03 23 22.8 +0.4
DANN Dangsing 39.68 284 *e*P P 03 23 29.4 +0.8
comp=Z,73nm,0.6s
KOLN Koldanda 39.89 283 *e*P P 03 23 30.8 +0.4
comp=Z,82nm,0.9s
SEY Seymchan 40.17 17 P **P 03 23 31.9 0.0**
comp=Z,3.7nm,0.6s,baz=212,slow=8.2,SNR=9.9
PYUN Piuthan 40.38 284 *e*P P 03 23 34.8 +0.4
MK01 Makanchi Array 41.83 312 *e*P P 03 23 44.8 -1.1
MK31 Makanchi Array 41.85 312 *i* P P 03 23 45.1 -0.9
MK31 pmax pmax
comp=Z,14nm,0.8s
MK32 Makanchi Array 41.85 312 *e*P P 03 23 45.6 -0.4
MKAR Makanchi Array 41.85 312 P **P 03 23 45.6 -0.4**
comp=Z,7.8nm,0.7s,baz=100,slow=10,SNR=105
ZAA0 Zalesovo Array 42.56 323 *e*P P 03 23 50.3 -1.3
ZALV Zalesovo Beam 42.56 323 P **P 03 23 51.0 -0.6**
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV MLR MLR
comp=Z,285nm,20.3s
ZALV Zalesovo Beam 42.56 323 P **P 03 23 51.0 -0.6**
comp=Z,6.1nm,0.7s,baz=113,slow=7.1,SNR=28
ZALV LR LR 03 44 05.0
comp=Z,285nm,20.3s,baz=42,slow=40
ZAA1 Zalesovo Array 42.56 323 *e*P P 03 23 51.0 -0.7
NVS Novosibirsk 43.76 324⇑*i*P P 03 23 59.8 -1.5
NVS pmax pmax
comp=Z,28nm,2.0s
NVS pmax pmax
comp=N,9.0nm,1.8s
NVS pmax pmax
comp=E,19nm,1.8s
KURK Kurchatov 45.13 317 P **P 03 24 11.2 -1.2**
comp=E,59nm,1.6s,SNR=16
KURK Kurchatov 45.13 317 *e*P P 03 24 11.4 -1.0
KURK pmax pmax
comp=Z,11nm,0.9s
KURK Kurchatov 45.13 317 P **P 03 24 12.4 0.0**
SNR=14
KURK Kurchatov 45.13 317 *e*P P 03 24 11.4 -1.0
comp=Z,11nm,0.9s
ULHL Ulahol 45.46 305 P **P 03 24 16.3 +0.8**
SNR=6.8
ULHL Ulahol 45.46 305 *i* P P 03 24 16.2 +0.8
KSH Kashi 45.56 301 P P 03 24 19.7 +3.6
KSH PP **PP 03 26 06.9 +4.1**
KSH S **S 03 31 01.1 +3.6**
KSH sS sS 03 31 10.9 +3.4
KSH SS **SS 03 34 19.1 -2.2**
KSH PMZ
comp=Z,8.0nm,0.7s
KSH PMZ
comp=Z,130nm,3.2s
KSH LN
comp=Z,370nm,12.1s
KSH LE
comp=Z,450nm,10.2s
KSH LZ
comp=Z,320nm,13.9s
TIXI Tiksi 45.68 0 *e*P P 03 24 15.9 -0.5
TIXI pmax pmax
comp=Z,71nm,1.7s
TIXI Tiksi 45.68 0 *e*P P 03 24 15.9 -0.5
comp=Z,71nm,1.7s
TKM2 Tokmak 2 45.98 305 P **P 03 24 20.2 +0.6**
SNR=18
TKM2 Tokmak 2 45.98 305 *i* P P 03 24 20.1 +0.6
TKM2 Tokmak 2 45.98 305 *e*P P 03 24 19.4 -0.1
comp=Z,12nm,0.8s
WRAB Tennant Creek 46.02 172⇑*i*P P 03 24 18.8 -0.8
WRAB pmax pmax
comp=Z,34nm,1.0s
WRAB Tennant Creek 46.02 172 *e*P P 03 24 18.9 -0.8
comp=Z,22nm,0.8s
WRA Warramunga Arr 46.03 172 P **P 03 24 18.4 -1.3**
comp=Z,15nm,0.7s,baz=351,slow=8.3,SNR=14
KZA Kyzart 46.19 304 P **P 03 24 23.0 +1.5**
SNR=7.6
KZA Kyzart 46.19 304 *i* P P 03 24 22.9 +1.5
CHMS Chumysh 46.61 306 P **P 03 24 23.9 -0.3**
SNR=5.6
CHMS Chumysh 46.61 306 *i* P P 03 24 23.9 -0.3
UCH Uchtor 46.74 304 P **P 03 24 27.4 +1.5**
SNR=23
UCH Uchtor 46.74 304 *i* P P 03 24 27.3 +1.5
AAK Ala-Archa 46.78 305 P **P 03 24 26.3 +0.6**
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 46.78 305 P **P 03 24 26.3 +0.6**
comp=Z,1.6nm,0.6s,baz=95,slow=6.3,SNR=7.9
AAK Ala-Archa 46.78 305 *e*P P 03 24 25.8 +0.1
comp=Z,55nm,2.6s
HYB Hyderabad 46.93 270 *i* P P 03 24 26.5 -0.5
EKS2 Erkin-Say 47.31 305 *e*P P 03 24 29.5 -0.3
EKS2 pmax pmax
comp=Z,7.0nm,0.7s
EKS2 Erkin-Say 47.31 305 *e*P P 03 24 29.5 -0.3
comp=Z,7.5nm,0.7s
AML Almayashu 47.35 304 P **P 03 24 32.9 +2.4**
SNR=9.3
AML Almayashu 47.35 304 *i* P P 03 24 32.8 +2.4
BILL Bilibino 47.82 18⇓*i*P P 03 24 33.8 +0.6
BILL *e* 03 26 26.1
BILL pmax pmax
comp=Z,14nm,1.0s
BILL MLR MLR
comp=Z,281nm,16.0s
BILL Bilibino 47.82 18 *e*P P 03 24 34.0 +0.8
comp=Z,19nm,1.0s
CTA Charters Tower 48.96 158 P **P 03 24 41.5 -1.1**
comp=Z,8.8nm,0.8s,baz=352,slow=10,SNR=7.1
AS12 Alice Springs 49.66 173 *e*P P 03 24 47.4 -0.5
ASAR Alice Springs 49.66 173 P **P 03 24 47.4 -0.5**
ASAR pmax pmax
comp=Z,8.0nm,0.8s
ASAR MLR MLR
comp=Z,439nm,18.7s
ASAR Alice Springs 49.66 173 P **P 03 24 47.4 -0.5**
comp=Z,8.3nm,0.8s,baz=2.6,slow=8.9,SNR=13
ASAR LR LR 03 46 25.3
comp=Z,439nm,18.7s,baz=164,slow=37
AS01 Alice Springs 49.66 173 *e*P P 03 24 46.8 -1.1
KKAR Karatay Array 49.72 306 *e*P P 03 24 48.3 +0.1
KKAR Karatay Array 49.72 306 *e*P P 03 24 48.3 +0.1
VOSK Vostochnaya 50.19 318 *e*P P 03 24 51.7 +0.1
VOSK pmax pmax
comp=Z,9.0nm,1.2s
VOSK Vostochnaya 50.19 318 *e*P P 03 24 51.7 +0.1
comp=Z,9.4nm,1.2s
BVA0 Borovoye Array 50.59 318 *i* P P 03 24 53.5 -1.1
BVA0 pmax pmax
comp=Z,44nm,1.5s
BVAR Borovoye Array 50.59 318 P **P 03 24 54.6 0.0**
BVAR pmax pmax
comp=Z,7.0nm,0.7s
BVAR Borovoye Array 50.59 318 P **P 03 24 54.6 0.0**
comp=Z,6.8nm,0.7s,baz=81,slow=9.2,SNR=40
BRVK Borovoye 50.65 318 P **P 03 24 55.4 +0.3**
comp=Z,137nm,0.9s,SNR=8.1
BRVK Borovoye 50.65 318*c i*P P 03 24 55.0 -0.1
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 50.65 318 P **P 03 24 55.7 +0.6**
SNR=9.8
BRVK Borovoye 50.65 318 *e*P P 03 24 55.3 +0.1
comp=Z,17nm,0.9s
POO Poona 50.80 273⇓*i*P P 03 24 56.0 -0.7
comp=Z,30nm,1.0s
KBL Kabul 51.39 295 *e*P P 03 25 01.9 +0.7
comp=Z,20nm,0.8s
GAMB Gambell 53.73 28 *e*P P 03 25 18.2 +0.5
GAMB *e*pP **pP 03 25 24.2 +0.2**
TNA Tin City 55.74 27 *e*P P 03 25 32.7 +0.4
comp=Z,18nm,1.1s
SVE Sverdlovsk 56.57 322 *e*P P 03 25 39.1 +0.7
SVE pmax pmax
comp=Z,23nm,1.4s
SVE MLR MLR
comp=Z,743nm,14.0s
AB31 Akbulak array 56.96 313 *i* P P 03 25 41.4 +0.1
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 56.96 313 *e*P P 03 25 41.3 0.0
ARU Arti 57.70 322*c i*P P 03 25 46.0 -0.4
ARU 03 27 51.7
ARU S **S 03 33 44.6 +0.6**
ARU SS **SS 03 37 32.4 -1.6**
ARU pmax pmax
comp=Z,28nm,1.7s
ARU MLR MLR
comp=Z,553nm,16.0s
ARU Arti 57.70 322 *e*P P 03 25 45.9 -0.5
comp=Z,12nm,0.8s
IMYA Miami 58.32 298 *e*P P 03 25 53.5 +2.1
IKRD Kardeh 59.50 299 *e*P P 03 25 56.3 -3.3
ABKT Ailbek 59.59 300 P **P 03 26 00.6 +0.6**
comp=Z,100nm,0.8s,SNR=5.3
GEYT Alibeck 59.59 300 P **P 03 26 00.9 +0.9**
comp=Z,8.1nm,0.7s,baz=31,slow=3.8,SNR=17
COLD Coldfoot 62.97 26 *e*P P 03 26 23.9 +1.6
comp=Z,17nm,1.5s
IBAF Bafgh 63.06 294 *e*P P 03 26 24.4 +0.7
IGLO Ghaloghah 63.24 300 *e*P P 03 26 25.4 +0.5
IANJ Anjilo 63.42 298 *e*P P 03 26 26.9 +0.8
MCK McKinley 63.76 29 *e*P P 03 26 28.5 +0.9
comp=Z,53nm,1.7s
IFIR Firoozkooh 64.29 299 *e*P P 03 26 33.7 +1.8
ISAD Sadrabad 64.52 295 *e*P P 03 26 32.2 -1.2
IL1 Eielson Array 64.53 28 *e*P P 03 26 32.3 -0.3
ILAR Eielson Array 64.53 28 P **P 03 26 32.4 -0.2**
comp=Z,0.5nm,0.6s,baz=266,slow=3.1,SNR=13
ILB Eielson Array 64.53 28 *e*P P 03 26 32.4 -0.2
IVRN Varamin 65.27 298 *e*P P 03 26 37.1 -1.0
IZEF Zefreh 65.35 296 *e*P P 03 26 38.6 -0.3
ISRV Sarvestan 65.71 292 *e*P P 03 26 41.6 +0.3
IKLH Kolahrood 65.84 297 *e*P P 03 26 43.1 +1.1
IPIR Pirpir 66.57 296 *e*P P 03 26 46.3 -0.4
KLMR Klimovskoe 67.15 328 *e*P P 03 26 46.1 -3.4
KLMR pmax pmax
comp=Z,19nm,1.1s
IHRS Heris 67.99 303 *e*P P 03 26 56.3 +0.7
APA Apatity 68.15 336⇑*i*P P 03 26 56.6 +0.9
APA MLR MLR
comp=Z,600nm,15.0s
VRHR Novokhopersk 68.31 317 *e*P P 03 26 55.5 -1.5
VRHR pmax pmax
comp=Z,10.0nm,1.1s
VRHR pmax pmax
comp=N,7.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,1.1s
VRHR MLR MLR
comp=N,230nm,18.0s
VRHR MLR MLR
comp=Z,680nm,18.0s
VRHR MLR MLR
comp=E,280nm,17.0s
DGRG David-gareji 68.35 307 P **P 03 26 58.4 +0.8**
DUS Dusheti 68.66 307 P P 03 27 03.7 +4.2
ZEI Tsey 69.03 308 *e*P P 03 27 00.4 -1.6
ZEI pmax pmax
comp=Z,24nm,1.4s
NCK Nalchik 69.05 309 *e*P P 03 27 01.1 -0.7
GNI Garni 69.18 305 P **P 03 27 05.3 +2.4**
SNR=6.7
GNI Garni 69.18 305 *e*P P 03 27 03.0 +0.1
comp=Z,59nm,1.7s
MOS Moscow 69.38 323 *e*P P 03 27 03.6 0.0
MOS *e* 03 29 37.2
ONI Oni 69.41 308 P **P 03 27 06.4 +2.2**
KBZ Khabaz 69.47 309 P **P 03 27 04.7 +0.3**
comp=Z,14nm,0.9s,baz=82,slow=3.8,SNR=36
KIV Kislovodsk 69.55 310 *e*P P 03 27 06.0 +1.0
KIV pmax pmax
comp=Z,44nm,1.1s
KIV MLR MLR
comp=Z,388nm,18.0s
KIV Kislovodsk 69.55 310 P **P 03 27 06.7 +1.6**
SNR=15
KIV Kislovodsk 69.55 310 *e*P P 03 27 05.9 +0.8
comp=Z,90nm,1.5s
AKH Akhalkalaki 69.72 307 P **P 03 27 08.3 +2.1**
VORD Divnogorie 69.76 318 *e*P P 03 27 04.3 -1.7
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=N,6.0nm,0.9s
VORD pmax pmax
comp=E,9.0nm,1.0s
VSR Storozhevoye 69.76 318 *e*P P 03 27 04.8 -1.3
VSR pmax pmax
comp=Z,20nm,1.2s
VSR pmax pmax
comp=N,7.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.2s
VSR MLR MLR
comp=N,360nm,18.0s
VSR MLR MLR
comp=E,740nm,18.0s
VSR MLR MLR
comp=Z,1μm,18.0s
OBN Obninsk 70.14 322 *e*P P 03 27 07.7 -0.5
OBN *e* 03 29 45.9
OBN pmax pmax
comp=Z,32nm,1.2s
OBN MLR MLR
comp=Z,1μm,17.0s
OBN Obninsk 70.14 322 *e*P P 03 27 07.4 -0.8
comp=Z,18nm,0.9s
ARA0 ARCESS Array S 70.29 339 *e*P P 03 27 09.2 +0.2
ARCES ARCESS Array B 70.29 339 P **P 03 27 09.2 +0.2**
ARCES pmax pmax
comp=Z,8.0nm,0.9s
ARCES ARCESS Array B 70.29 339 P **P 03 27 09.2 +0.2**
comp=Z,7.9nm,0.9s,baz=31,slow=13,SNR=6.1
JOF Joensuu 70.34 331 *e*P P 03 27 08.1 -1.3
JOF Joensuu 70.34 331 *e*p P 03 27 08.1 -1.3
SOC Sochi 71.71 310 *e*P P 03 27 18.5 +0.4
SOC *e*PP **pP 03 27 25.8 +1.4**
SOC *e*SP **sP 03 27 30.4 +3.6**
SOC *e*PPP PPP 03 31 40.4
SOC *e*S **S 03 36 38.6 +1.5**
SOC *e*SS **SS 03 41 07.9 -4.5**
SOC pmax pmax
comp=Z,58nm,0.9s
KAF Kangasniemi 72.80 331 *e*P P 03 27 22.8 -1.4
KAF Kangasniemi 72.80 331 *e*p P 03 27 22.8 -1.4
ANN Anapa 72.87 312 *e*P P 03 27 23.0 -1.9
ANN *e*S S 03 36 41.6 -8.6
ANN pmax pmax
comp=Z,57nm,1.3s
FIA0 FINESS Array S 73.17 331 *e*P P 03 27 26.5 +0.1
FIA0 FINESS Array S 73.17 331 *e*P P 03 27 26.4 +0.1
FINES FINESS Array B 73.17 331 P **P 03 27 26.5 +0.1**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 73.17 331 P **P 03 27 26.4 +0.1**
comp=Z,6.4nm,0.7s,baz=67,slow=4.9,SNR=25
VSU Vasula 74.05 328 *e*P P 03 27 31.9 +0.3
VSU pmax pmax
comp=Z,74nm,1.3s
RAYN Ar Rayn 74.09 289 P **P 03 27 32.8 +0.2**
comp=Z,1.0nm,1.0s,SNR=5.2
RAYN Ar Rayn 74.09 289 *e*P P 03 27 33.3 +0.7
comp=Z,11nm,1.0s
MALT Malatya 74.41 305⇑*i*P P 03 27 36.3 +2.0
SIM Simferopol' 75.02 313*d i*P P 03 27 38.5 +0.9
SIM pmax pmax
comp=Z,23nm,0.8s
MICGM Minsk 75.06 324 *e* P 03 27 37.0 -0.6
MNK Minsk 75.09 324 *e*P P 03 27 37.0 -0.8
NACGM Naroch 75.48 324 *e* P 03 27 37.0 -3.0
DAG Danmarks Havn 75.51 353 *e*P P 03 27 40.2 +0.4
DAG pmax pmax
comp=Z,3.0nm,1.0s
DAG Danmarks Havn 75.51 353 *i* P P 03 27 40.2 +0.4
comp=Z,2.8nm,1.0s
RES Resolute Bay 75.73 11 *e*P P 03 27 41.4 +0.4
RES pmax pmax
comp=Z,14nm,0.9s
RES Resolute Bay 75.73 11 *e*P P 03 27 41.4 +0.4
comp=Z,14nm,0.9s
AKASG Malin Array Be 75.84 320 P **P 03 27 42.0 -0.1**
AKASG pmax pmax
comp=Z,16nm,0.8s
AKASG Malin Array Be 75.84 320 P **P 03 27 42.0 -0.1**
comp=Z,16nm,0.8s,baz=57,slow=6.3,SNR=75
AKBB Malin Array Si 75.84 320 *e*P P 03 27 42.0 -0.1
AKBB Malin Array Si 75.84 320 *e*P P 03 27 42.0 -0.1
KIEV Kiev 75.86 320 *e*P P 03 27 42.1 -0.1
KIEV pmax pmax
comp=Z,19nm,0.9s
KIEV Kiev 75.86 320 *e*P P 03 27 42.1 -0.1
comp=Z,19nm,0.9s
AK11 Malin Array Si 75.89 320 *e*P P 03 27 41.8 -0.6
BR101 Keskin Array S 77.34 308 *e*P P 03 27 51.5 +0.4
BRTR Keskin Array B 77.34 308 P **P 03 27 51.5 +0.4**
BRTR pmax pmax
comp=Z,9.0nm,0.8s
BRTR Keskin Array B 77.34 308 P **P 03 27 51.5 +0.4**
comp=Z,9.5nm,0.8s,baz=94,slow=5.5,SNR=56
SUW Suwalki 77.76 324 *e*P P 03 27 52.1 -0.8
SUW pmax pmax
comp=Z,40nm,1.0s
SUW Suwalki 77.76 324 *e*P P 03 27 52.1 -0.8
comp=Z,40nm,1.0s
ANTO Ankara 77.88 308 *e*P P 03 27 53.6 -0.4
ANTO pmax pmax
comp=Z,70nm,1.9s
ANTO Ankara 77.88 308 *e*P P 03 27 53.5 -0.4
comp=Z,70nm,1.9s
BR231 Keskin MP Arra 77.91 308 *e*P P 03 27 52.4 -1.8
YKA Yellowknife Ar 78.64 25 P **P 03 27 58.1 +0.5**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 78.64 25 P **P 03 27 58.1 +0.5**
comp=Z,0.8nm,0.7s,baz=300,slow=5.7,SNR=16
YKB5 Yellowknife Ar 78.64 25 *e*P P 03 27 57.9 +0.3
CFR Carcaliu 78.81 315⇓*i*P P 03 27 59.3 +0.4
PRAR RASCA 79.04 317⇑*i*P P 03 28 00.6 +0.4
TESR Tescani 79.16 317⇑*i*P P 03 28 01.4 +0.6
VRI Vrincioaia 79.40 316⇑*i*P P 03 28 04.0 +1.8
PLOR Plostina 79.45 316⇓*i*P P 03 28 04.0 +1.5
MSAB Monastry St. A 79.48 314⇑*i*P P 03 28 02.4 -0.2
BURAR Bucovina Array 79.54 318⇓*i*P P 03 28 03.8 +0.8
BUR04 Bucovina Ar. S 79.54 318 *e*P P 03 28 02.5 -0.6
KULLO Kullorsuaq 79.60 2 *e*P P 03 28 07.8 +5.2
KULLO pmax pmax
comp=Z,10.0nm,0.8s
KULLO Kullorsuaq 79.60 2 *i* P P 03 28 07.8 +5.2
comp=Z,10nm,0.8s
NB2 NORSAR Subarra 79.61 334 P **P 03 28 02.5 -0.5**
comp=Z,12nm,1.0s,baz=52,slow=5.9
NB200 NORSAR Array S 79.61 334 *e*P P 03 28 02.8 -0.2
NOA NORSAR Array B 79.61 334 P **P 03 28 02.8 -0.2**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA NORSAR Array B 79.61 334 P **P 03 28 02.8 -0.2**
comp=Z,4.8nm,0.8s,baz=52,slow=5.5,SNR=20
MLR Muntele Rosu 80.06 316⇓*i*P P 03 28 07.0 +1.1
KWP Kalwaria Pacla 80.08 321 *e*P P 03 28 06.7 +1.0
KWP Kalwaria Pacla 80.08 321 *e*P P 03 28 06.7 +1.0
KWP Kalwaria Pacla 80.08 321⇓*i*P P 03 28 06.9 +1.2
SECR 80.19 315⇓*i*P P 03 28 07.7 +1.3
DOPR Dopca 80.19 316⇓*i*P P 03 28 07.7 +1.3
ISP Isparta 80.34 307 *e*P P 03 28 06.4 -1.2
ISP pmax pmax
comp=Z,10.0nm,0.9s
ISP Isparta 80.34 307⇑*i*P P 03 28 05.1 -2.4
ISP Isparta 80.34 307 *e*P P 03 28 06.3 -1.2
comp=Z,10nm,0.9s
VOIR 80.64 316⇑*i*P P 03 28 10.1 +1.1
KOLS Kolonicke sedl 80.66 320 *e*P P 03 28 09.1 +0.2
KOLS pmax pmax
comp=Z,117nm,3.5s
KOLS Kolonicke sedl 80.66 320 *e*P P 03 28 09.1 +0.2
TRPA Tarpa 80.89 319⇓*i*P P 03 28 11.5 +1.4
ARR Arges 80.94 316⇓*i*P P 03 28 11.8 +1.3
JMB Yambol 81.02 313⇑*i*P P 03 28 09.5 -1.4
SUMG Summit 81.27 356 *e*P P 03 28 12.4 +0.2
SUMG pmax pmax
comp=Z,81nm,1.7s
SUMG Summit 81.27 356 *i* P P 03 28 17.4 +5.2
comp=Z,14nm,0.8s
SUMG Summit 81.27 356 *e*P P 03 28 12.4 +0.2
comp=Z,81nm,1.7s
OJC Ojcow 81.42 322 *e*P P 03 28 13.1 +0.2
OJC pmax pmax
comp=Z,65nm,1.8s
OJC Ojcow 81.42 322 *e*P P 03 28 14.3 +1.4
OJC Ojcow 81.42 322 *e*P P 03 28 13.1 +0.2
comp=Z,65nm,1.8s
LOT Lotru 81.43 316⇓*i*P P 03 28 14.4 +1.2
DRGR 81.44 318⇑*i*P P 03 28 14.0 +0.8
NIE Niedzica 81.54 321 *e*P P 03 28 15.2 +1.6
NIE Niedzica 81.54 321 *e*P P 03 28 15.2 +1.6
GZR Gura Zlata 82.07 317⇑*i*P P 03 28 17.4 +0.9
OKC Ostrava-Krasne 82.53 322 *e*P P 03 28 22.7 +3.9
OKC Ostrava-Krasne 82.53 322 *e*P P 03 28 22.7 +3.9
VYHS Vyhne 82.85 321 *e*P P 03 28 21.2 +0.7
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 82.85 321 *e*P P 03 28 21.2 +0.7
ATES Arlington Traf 82.89 39 *e*P P 03 28 19.6 -1.0
MORC Moravsky Berou 82.90 322 *e*P P 03 28 20.3 -0.5
MORC pmax pmax
comp=Z,10.0nm,1.3s
MORC Moravsky Berou 82.90 322 *e*P P 03 28 20.2 -0.5
comp=Z,9.7nm,1.3s
KSP Ksiaz 83.00 324 *e*P P 03 28 22.0 +0.8
PIER Pier 30 Seattl 83.07 40 *e*P P 03 28 24.6 +3.1
DPC Dobruska-Polom 83.25 323 *e*P P 03 28 22.7 +0.1
DPC Dobruska-Polom 83.25 323 *e*P P 03 28 22.7 +0.1
UPC Upice 83.33 324 *e*P P 03 28 19.7 -3.2
UPC Upice 83.33 324 *e*P P 03 28 19.7 -3.2
VRAC Vranov 83.67 322⇑*i*P P 03 28 24.4 -0.3
PVCC Panska Ves 84.09 324 *e*P P 03 28 28.7 +1.9
PVCC Panska Ves 84.09 324 *e*P P 03 28 28.7 +1.9
PRU Pruhonice 84.41 324 *e*P P 03 28 29.5 +1.1
PRU Pruhonice 84.41 324 *e*P P 03 28 29.5 +1.1
CLL Collm 84.46 325 *i* P P 03 28 32.3 +3.7
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 84.46 325 *i* (P) P 03 28 32.3 +3.7

comp=Z,12nm,1.0s
CLL Lm MLR 08 54 00.0
comp=Z,400nm,20.8s
KHC Kasperske Hory 85.41 323 *eP* **P 03 28 35.2 +1.7**
KHC *e* 03 28 47.9
KHC Kasperske Hory 85.41 323 *eP* **P 03 28 35.2 +1.7**
KHC *ex* x 03 28 47.9
GEC2 GERESS Array S 85.51 323 *eP* **P 03 28 33.3 -0.8**
GEC2 GERESS Array S 85.51 323 *eP* **P 03 28 33.3 -0.8**
GERES GERESS Array B 85.51 323 P **P 03 28 32.6 -1.5**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 85.51 323 P **P 03 28 32.6 -1.5**
comp=Z,0.8nm,0.6s,baz=46,slow=3.4,SNR=3.7
GRF Grafenberg Arr 86.33 325 *eP* P 03 28 42.5 +4.5
comp=Z,14nm,1.2s
MOD Modoc Plateau 87.31 44 *eP* **P 03 28 42.1 -1.0**
comp=Z,17nm,1.5s
ABTA Abfaltersbach 87.38 322⇑ *i*PcP P 03 28 46.9 +3.6
comp=Z,15nm,1.5s
MOTA Moosalm 87.80 323⇑ *i*PcP P 03 28 49.6 +4.2
comp=Z,4.4nm,0.8s
FCC Fort Churchill 88.47 21 *eP* **P 03 28 47.9 -0.2**
FCC pmax pmax
comp=Z,70nm,2.5s
FCC Fort Churchill 88.47 21 *eP* **P 03 28 47.9 -0.2**
comp=Z,70nm,2.5s
DAVA Damuels 88.50 323⇑ *i*PcP P 03 28 52.9 +4.2
comp=Z,9.7nm,0.8s
FFC Flin Flon 88.69 27 *eP* **P 03 28 49.5 +0.2**
FFC pmax pmax
comp=Z,114nm,2.8s
FFC Flin Flon 88.69 27 *eP* **P 03 28 49.5 +0.2**
comp=Z,114nm,2.8s
NV01 Mina Array Sit 90.50 46 *eP* **P 03 28 57.3 -1.1**
NVAR Mina Array Bea 90.50 46 P **P 03 28 58.6 +0.2**
comp=Z,0.1nm,0.4s,baz=281,slow=4.0,SNR=2.6
TPH Tonopah 91.41 46 *eP* **P 03 29 01.9 -0.6**
TPH pmax pmax
comp=Z,7.0nm,1.1s
TPH Tonopah 91.41 46 *eP* **P 03 29 01.9 -0.6**
comp=Z,6.6nm,1.1s
DJJ Donna J Jenkin 92.82 50 *e*PKiKP **PKiKP 03 33 55.2 -1.6**
PD31 Pinedale Array 93.20 39 *eP* **P 03 29 11.4 +0.6**
PDAR Pinedale Array 93.20 39 P **P 03 29 11.4 +0.6**
comp=Z,0.4nm,0.9s,baz=308,slow=4.1,SNR=2.7
DPP Dos Picos Cty 94.49 50 *eP* **P 03 29 14.3 -2.4**

GUC 01 03:16:24.1±0.3, 33°.96S×72°.18W, h26km±9km, ML4.0, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.64**	**90**	⇓ *i*P	Pb	03 16 36.3	-0.4
LNV				*i* S	Sb	03 16 45.2	0.0
IHA	**Instituto Hidr**	**1.04**	**26**	⇑ *i*P	Pn	03 16 42.3	-0.6
IHA				*i* S	Sb	03 16 56.3	-0.3
RCDM	**Rinconada Maip**	**1.24**	**68**	*i* P	Pn	03 16 45.4	-0.4
RCDM				*i* S	Sn	03 17 01.7	0.0
CHCH	**Chadas Angostu**	**1.27**	**89**	⇑ *i*P	Pn	03 16 46.1	-0.2
CHCH				*i* S	Sn	03 17 03.0	+0.5
PEL	**Peldehue**	**1.49**	**57**	*e*P	Pn	03 16 49.7	+0.4
PEL				*i* S	Sb	03 17 09.2	-0.6
PEL				AML	AML	03 17 17.0	
comp=N,5μm,0.6s							
FCH	**Farellones**	**1.70**	**69**	⇑ *i*P	Pn	03 16 53.7	+1.2
FCH				*i* S	Sb	03 17 16.2	-0.2
FCH				AML	AML	03 17 20.3	
comp=N,2μm,0.3s							

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*ISCJB **01** 03:16:48.3±0.8, 50°.10N±0°.05×178°.35W±0°.06, h33km, mb3.5/4, Error ellipse: s-maj=7.5km s-min=5.2km az=172.2*
*IDC **01** 03:16:48.3±3.2, 50°.47N×178°.23W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/52, mbtmp3.6/7, ML3.0/2, Error ellipse: s-maj=72.6km s-min=13.5km az=7.0*
*NEIC **01** 03:16:49.9, 50°.20N×178°.30W, h10km, ML3.4(AEIC), After AEIC.*
ISC 01 03:16:49.8±1.1, 50°.10N±0°.10×178°.35W±0°.04, h35km, n25, σ1§15/37, mb3.7/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAFL	**Tanaga Flats**	**1.69**	**10**	P	**Pn**	**03 17 16.0**	**-0.7**
TAFL				S	**Sn**	**03 17 37.1**	**0.0**
GAEA	**Gareloi East**	**1.71**	**352**	P	**Pn**	**03 17 16.6**	**-0.5**
GAEA				S	**Sn**	**03 17 37.9**	**+0.3**
TASE	**Tanaga Southea**	**1.75**	**6**	P	**Pn**	**03 17 17.2**	**-0.5**
TASE				S	**Sn**	**03 17 38.6**	**-0.2**
TAFP	**Tanaga Falls P**	**1.82**	**7**	P	**Pn**	**03 17 17.8**	**-0.8**
TAFP				S	**Sn**	**03 17 40.0**	**-0.5**
KIKV	**Kanaga Island**	**1.93**	**22**	P	**Pn**	**03 17 19.5**	**-0.7**
KIKV				S	**Sn**	**03 17 41.7**	**-1.5**
KICM	**Kanaga Island**	**1.96**	**21**	P	**Pn**	**03 17 20.3**	**-0.3**
AMKA	**Amchitka**	**1.97**	**312**	*e*Pn	**Pn**	**03 17 19.0**	**-1.6**
AMKA				*e*S	**Sn**	**03 17 41.5**	**-2.6**
KIRH	**Kanaga Island**	**1.97**	**23**	P	**Pn**	**03 17 20.2**	**-0.5**
ADK	**Adak**	**2.08**	**30**	*e*Pn	**Pn**	**03 17 21.0**	**-1.1**
ADK				*e*S	**Sn**	**03 17 45.3**	**-1.4**
CERAA	**Semis' Rag'd T**	**2.20**	**326**	P	**Pn**	**03 17 23.4**	**-0.4**
CERAA				S	**Sn**	**03 17 50.0**	**+0.3**
CESW	**Semis' Southwe**	**2.23**	**325**	P	**Pn**	**03 17 23.8**	**-0.5**
CESW				S	**Sn**	**03 17 50.5**	**-0.2**
GSCK	**Great Sitkin C**	**2.36**	**35**	P	**Pn**	**03 17 25.4**	**-0.7**
GSTD	**Great Sitkin T**	**2.40**	**35**	P	**Pn**	**03 17 26.0**	**-0.7**
GSTD				S	**Sn**	**03 17 53.2**	**-1.7**
GSMY	**Great Sitkin M**	**2.43**	**36**	P	**Pn**	**03 17 26.2**	**-0.7**
LSPA	**Little Sitkin**	**2.69**	**315**	P	**Pn**	**03 17 30.4**	**-0.2**
LSPA				S	**Sn**	**03 18 01.8**	**-0.1**
LSNW	**Little Sitkin**	**2.73**	**315**	P	**Pn**	**03 17 30.5**	**-0.5**
FX1	**Attu Island--F**	**5.99**	**301**	Pn	**Pn**	**03 18 16.0**	**+0.2**
1.8nm,0.3s,baz=157,slow=2.2,SNR=26							
FX1				Sn	**Sn**	**03 19 19.1**	**-4.0**
2.3nm,0.3s,baz=20,slow=19,SNR=8.4							
FX1	**Attu Island--F**	**5.99**	**301**	*e*Pn	**Pn**	**03 18 16.3**	**+0.5**
PETK	**Petropavlovsk-**	**15.16**	**291**	Pn	**Pn**	**03 20 21.8**	**+0.7**
0.2nm,0.3s,baz=99,slow=15,SNR=5.6							
SEY	**Seymchan**	**20.40**	**320**	P	**P**	**03 21 24.4**	**+1.0**
0.5nm,0.3s,baz=118,slow=13,SNR=4.2							
ILAR	**Eielson Array**	**22.09**	**37**	P	**P**	**03 21 41.6**	**+0.1**
0.8nm,1.1s,baz=239,slow=9.0,SNR=4.2							
YKA	**Yellowknife Ar**	**35.92**	**45**	P	**P**	**03 23 47.5**	**+1.2**
0.9nm,0.7s,baz=278,slow=7.5,SNR=18							
PDAR	**Pinedale Array**	**46.44**	**71**	P	**P**	**03 25 14.0**	**+0.8**
0.5nm,0.7s,baz=316,slow=4.1,SNR=3.8							
BORC	**Borrego Spring**	**47.81**	**86**	*e*PKiKP	**P**	**03 25 22.3**	**-1.5**
BORC				*e*		03 25 27.7	
NOA	**NORSAR Array B**	**68.95**	**355**	P	**P**	**03 27 51.6**	**+0.8**
0.9nm,0.8s,baz=6.1,slow=6.4,SNR=3.9							

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*IDC **01** 03:31:25.9±1.1, 34°.82S×72°.37W, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.9/29, mbtmp3.8/8, ML4.0/2, Error ellipse: s-maj=32.3km s-min=25.5km az=70.0*
*GUC **01** 03:31:28.7±0.3, 35°.21S×71°.89W, h70km, ML4.1*
ISC 01 03:31:30.7±0.8, 34°.79S±0°.09×72°.2W±0°.1, h29km, n17, σ1§56/20, mb3.8/6, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TACH	**Talagante**	**1.51**	**42**	⇑ *i*P	**Pb**	**03 31 58.0**	**0.0**
RCDM	**Rinconada Maip**	**1.71**	**41**	⇑ *i*P	**Pb**	**03 32 00.5**	**-0.9**
RCDM				AML	AML	03 32 30.8	
comp=E,2μm,0.6s							
SAN	**Santiago**	**1.81**	**43**	*e*P4	**Pb**	**03 32 02.9**	**-0.4**
STL	**Santa Lucia**	**1.84**	**43**	⇑ *e*P	**Pb**	**03 32 02.5**	**-1.1**
STL				*i* S	**Sb**	**03 32 28.4**	**+2.1**
STL				AML	AML	03 32 32.5	
comp=E,502nm,0.5s							
PEL	**Peldehue**	**2.04**	**37**	*e*P	**Pb**	**03 32 05.7**	**-1.4**
PEL				*i* S	**Sb**	**03 32 33.6**	**+1.5**
PEL				AML	AML	03 32 47.3	
comp=N,5μm,0.7s							
CFAA	**Coronel Fontan**	**4.56**	**47**	Pn	**Pn**	**03 32 40.0**	**+2.2**
comp=N,0.2nm,0.3s,baz=225,slow=14,SNR=5.6							
CFAA				Sn	**Sb**	**03 33 39.8**	**-4.8**
comp=N,0.7nm,0.3s,baz=208,slow=12,SNR=3.0							
PLCA	**Paso Flores**	**6.07**	**168**	Pn	**Pn**	**03 32 58.2**	**-0.3**
comp=N,1.1nm,0.3s,baz=338,slow=13,SNR=5.3							
PLCA				Lg	Lg	03 34 33.5	
comp=N,0.8nm,0.3s,baz=300,slow=18,SNR=2.1							

LPAZ La Paz 18.77 12 P **Pn 03 35 49.4 +0.6**
comp=N,0.1nm,0.3s,baz=147,slow=7.1,SNR=6.2
SIV San Ignacio 21.19 31 P **P 03 36 13.7 -0.3**
comp=N,3.0nm,0.8s,baz=220,slow=10,SNR=8.8
TXAR Lajitas Array 70.38 331 P **P 03 42 41.6 -0.3**
comp=N,0.7nm,0.7s,baz=145,slow=8.3,SNR=9.2
BOSA Boshof 79.79 118 P **P 03 43 37.4 +0.8**
comp=N,1.5nm,0.8s,baz=168,slow=17,SNR=3.2
PDAR Pinedale Array 84.42 333 P **P 03 43 59.7 -0.7**
comp=N,0.5nm,0.9s,baz=129,slow=4.6,SNR=3.6
NVAR Mina Array Bea 84.48 325 P **P 03 44 00.4 -0.4**
comp=N,0.5nm,0.8s,baz=168,slow=4.8,SNR=4.4
TORD Torodi Ar. Bea 84.56 70 P **P 03 44 01.5 0.0**
comp=N,0.5nm,0.8s,baz=246,slow=4.1,SNR=3.1
BVAR Borovoye Array 147.91 44 PKPbc **PKPbc 03 51 12.7 +0.2**
comp=N,0.7nm,0.6s,baz=310,slow=3.2,SNR=3.9
ZALV Zalesovo Beam 154.94 33 PKPab **PKPab 03 51 43.6 -0.7**
comp=N,0.8nm,0.7s,baz=349,slow=6.8,SNR=3.8
MKAR Makanchi Array 157.34 50 PKPab **PKPab 03 51 54.9 -0.1**
comp=N,0.3nm,0.7s,baz=300,slow=3.6,SNR=4.0

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*IDC **01** 03:33:02.8±1.8, 26°.13N×129°.00E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/48, mbtmp3.5/5, MS3.8/2, Ms1 3.8/2, ms1mx3.1/33, Error ellipse: s-maj=95.6km s-min=16.9km az=60.0*
*ISCJB **01** 03:33:05.2±1.1, 25°.89N±0°.05×128°.67E±0°.05, h26km±8km, mb3.4/5, MS4.0/1, Error ellipse: s-maj=8.8km s-min=7.5km az=44.1*
*JMA **01** 03:33:05.6±0.4, 25°.88N×128°.66E, h30km, M3.3*
ISC 01 03:33:05.1±1.8, 25°.89N±0°.06×128°.64E±0°.05, h16km±11km, n17, σ1§24/22, mb3.5/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.83**	**319**	P	**Pg**	**03 33 21.0**	**-0.4**
JNTH				*e*S	**Sb**	**03 33 32.6**	**+0.3**
JJT2	**Tamagusuku 2**	**0.84**	**287**	P	**Pb**	**03 33 21.6**	**+0.3**
JJT2				*e*S	**Sb**	**03 33 32.7**	**+0.3**
JOW	**Kunigami**	**0.99**	**341**	P	**Pg**	**03 33 24.2**	**-0.1**
JOW	**Kunigami**	**0.99**	**341**	Pn	**Pg**	**03 33 24.3**	**-0.1**
7.9nm,0.3s,baz=153,slow=29,SNR=7.9							
JOW				Sn	**Sn**	**03 33 38.9**	**+0.7**
14nm,0.3s,baz=320,slow=29,SNR=10							
JIH	**Iheya**	**1.29**	**332**	P	**Pn**	**03 33 28.7**	**+0.2**
JAGN	**Aguni-jima**	**1.43**	**299**	P	**Pn**	**03 33 30.6**	**+0.1**
JOKE	**Okinoerabujima**	**1.47**	**358**	P	**Pn**	**03 33 31.1**	**+0.1**
JOKE				*e*S	**Sn**	**03 33 48.5**	**-1.4**
JKE	**Kume jima 2**	**1.72**	**285**	P	**Pn**	**03 33 33.6**	**-0.9**
JKE				*e*S	**Sn**	**03 33 53.0**	**-3.2**
JTK	**Tokunoshima**	**1.91**	**8**	P	**Pn**	**03 33 36.7**	**-0.4**
JTK				*e*S	**Sn**	**03 33 59.5**	**-1.3**
JMZ	**Minamidaito 2**	**2.33**	**91**	P	**Pn**	**03 33 42.4**	**-0.4**
JMZ				*e*S	**Sn**	**03 34 08.8**	**-2.4**
JNU	**Nakatsue**	**7.46**	**15**	LR	LR	03 37 36.5	
comp=Z,410nm,21.2s,baz=181,slow=38							
PETK	**Petropavlovsk-**	**34.80**	**31**	LR	LR	03 54 37.3	
comp=Z,283nm,21.6s,baz=58,slow=38							
MKAR	**Makanchi Array**	**42.03**	**312**	P	**P**	**03 40 55.5**	**-0.5**
0.1nm,0.4s,baz=90,slow=9.6,SNR=6.3							
WRA	**Warramunga Arr**	**45.90**	**173**	P	**P**	**03 41 28.2**	**+1.0**
0.9nm,0.7s,baz=353,slow=8.5,SNR=5.1							
ASAR	**Alice Springs**	**49.53**	**174**	P	**P**	**03 41 57.5**	**+2.2**
0.2nm,0.3s,baz=0.7,slow=14,SNR=4.6							
FINES	**FINESS Array B**	**73.34**	**331**	P	**P**	**03 44 35.8**	**-0.1**
1.1nm,0.9s,baz=69,slow=6.3,SNR=4.5							
AKASG	**Malin Array Be**	**76.03**	**320**	P	**P**	**03 44 52.2**	**+0.5**
0.1nm,0.3s,baz=59,slow=6.2,SNR=2.9							

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*IDC **01** 03:35:54.0±1.6, 34°.92S×73°.98W, h0km, mb4.1/6, mb1 4.4/7, mb1mx4.1/26, mbtmp4.1/7, MS3.1/2, Ms1 3.1/2, ms1mx3.0/27, Error ellipse: s-maj=47.8km s-min=36.4km az=6.0*
ISC 01 03:36:00.7±1.4, 34°.7S±0°.3×74°.0W±0°.3, h35km, n12, σ0§62/11, mb4.1/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.69**	**59**	LR	LR	03 39 25.3	
comp=Z,55nm,18.5s,baz=58,slow=36							
CPUP	**Villa Florida**	**16.55**	**64**	LR	LR	03 45 56.6	
comp=Z,181nm,19.0s,baz=322,slow=36							
LPAZ	**La Paz**	**19.05**	**17**	P	**Pn**	**03 40 22.1**	**+0.7**
baz=194,slow=4.9,SNR=4.3							
SIV	**San Ignacio**	**21.91**	**35**	P	**P**	**03 40 50.4**	**-0.5**
8.4nm,1.0s,baz=230,slow=13,SNR=7.7							
TXAR	**Lajitas Array**	**69.58**	**332**	P	**P**	**03 47 06.5**	**+0.3**
1.2nm,0.7s,baz=152,slow=8.8,SNR=10							
NVAR	**Mina Array Bea**	**83.56**	**326**	P	**P**	**03 48 25.4**	**+0.2**
0.4nm,0.7s,baz=142,slow=5.6,SNR=4.5							
PDAR	**Pinedale Array**	**83.68**	**334**	P	**P**	**03 48 25.6**	**-0.2**
1.3nm,1.0s,baz=104,slow=6.3,SNR=6.3							
TORD	**Torodi Ar. Bea**	**85.92**	**71**	P	**P**	**03 48 37.6**	**+0.2**
3.5nm,1.2s,baz=256,slow=4.5,SNR=5.8							
ULM	**Lac du Bonnet**	**86.76**	**346**	P	**P**	**03 48 40.0**	**-0.7**
4.5nm,1.0s,baz=218,slow=2.7,SNR=4.3							
BVAR	**Borovoye Array**	**148.85**	**43**	PKPbc	**PKPdf**	**03 55 40.9**	**+0.8**
0.9nm,0.6s,baz=301,slow=3.1,SNR=4.9							
ZALV	**Zalesovo Beam**	**155.64**	**31**	PKPab	**PKPab**	**03 56 15.4**	**-1.0**
0.7nm,0.6s,baz=322,slow=9.4,SNR=4.1							
MKAR	**Makanchi Array**	**158.40**	**49**	PKP	**PKPdf**	**03 55 53.7**	**-0.2**
0.4nm,0.7s,baz=355,slow=1.5,SNR=5.1							
MKAR				PKPab	**PKPab**	**03 56 28.8**	**+0.2**
0.7nm,0.7s,baz=292,slow=3.9,SNR=7.4							

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*IDC **01** 03:40:23.0±1.2, 26°.00N×128°.55E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.7/42, mbtmp3.7/10, ML3.2/1, Error ellipse: s-maj=54.2km s-min=14.3km az=75.0*
*ISCJB **01** 03:40:24.5±0.9, 25°.97N±0°.05×128°.70E±0°.04, h27km±6km, mb3.7/9, Error ellipse: s-maj=8.1km s-min=6.2km az=20.8*
*JMA **01** 03:40:26.0±0.5, 25°.98N×128°.62E, h35km, M3.3*
ISC 01 03:40:23.6±1.9, 25°.98N±0°.06×128°.61E±0°.05, h8km±11km, n24, σ0§93/31, mb3.8/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.76**	**316**	P	**Pn**	**03 40 39.9**	**-0.7**
JNTH				*e*S	**Sn**	**03 40 50.3**	**-2.0**
JJT2	**Tamagusuku 2**	**0.79**	**282**	P	**Pn**	**03 40 41.0**	**-0.1**
JJT2				*e*S	**Sn**	**03 40 52.3**	**-0.9**
JOW	**Kunigami**	**0.91**	**341**	P	**Pn**	**03 40 42.9**	**+0.2**
JOW	**Kunigami**	**0.91**	**341**	Pn	**Pn**	**03 40 42.6**	**-0.1**
8.8nm,0.3s,baz=131,slow=22,SNR=30							
JOW				Sn	**Sn**	**03 40 55.5**	**-0.4**
20nm,0.3s,baz=143,slow=20,SNR=18							
JIH	**Iheya**	**1.20**	**331**	P	**Pg**	**03 40 47.3**	**+0.5**
JIH				*e*S	**Sg**	**03 41 02.1**	**-0.3**
JAGN	**Aguni-jima**	**1.37**	**297**	P	**Pb**	**03 40 49.4**	**-0.2**
JAGN				S	**Sg**	**03 41 07.2**	**-0.7**
JOKE	**Okinoerabujima**	**1.38**	**358**	P	**Pn**	**03 40 49.4**	**+0.2**
JOKE				S	**Sb**	**03 41 05.6**	**-1.9**
JKE	**Kume jima 2**	**1.68**	**282**	P	**Pn**	**03 40 53.0**	**-0.3**
JKE				S	**Sn**	**03 41 13.6**	**-1.4**
JTK	**Tokunoshima**	**1.83**	**9**	P	**Pn**	**03 40 55.5**	**+0.1**
JMZ	**Minamidaito 2**	**2.35**	**93**	P	**Pn**	**03 41 00.8**	**-1.8**
JMZ				S	Sn	03 41 26.4	-5.3
JNU	**Nakatsue**	**7.39**	**15**	Pn	**Pn**	**03 42 12.5**	**+0.7**
0.4nm,0.3s,baz=153,slow=2.3,SNR=3.5							
SONM	**Songino Array**	**27.95**	**327**	P	**P**	**03 46 15.9**	**+1.3**
0.8nm,0.5s,baz=143,slow=9.4,SNR=3.2							
ODAN	**Odare**	**36.81**	**281**	*e*P	**P**	**03 47 32.9**	**+0.4**
13nm,0.6s							
GKN	**Gorkha**	**39.08**	**283**	*e*P	**P**	**03 47 51.7**	**+0.1**
DANN	**Dangsing**	**39.81**	**284**	*e*P	**P**	**03 47 58.4**	**+0.6**
10.0nm,0.5s							
KOLN	**Koldanda**	**40.02**	**283**	*e*P	**P**	**03 47 59.9**	**+0.4**
8.7nm,0.9s							
MKAR	**Makanchi Array**	**41.96**	**312**	P	**P**	**03 48 14.8**	**-0.2**
0.5nm,0.5s,baz=98,slow=10.0,SNR=12							
ZALV	**Zalesovo Beam**	**42.66**	**323**	P	**P**	**03 48 19.7**	**-0.9**
0.5nm,0.5s,baz=111,slow=6.3,SNR=3.2							
WRA	**Warramunga Arr**	**45.98**	**172**	P	**P**	**03 48 47.6**	**+0.1**
1.1nm,0.6s,baz=353,slow=8.4,SNR=11							
ASAR	**Alice Springs**	**49.61**	**174**	P	**P**	**03 49 17.1**	**+1.5**
0.9nm,0.8s,baz=4.0,slow=14,SNR=7.1							
BVAR	**Borovoye Array**	**50.69**	**318**	P	**P**	**03 49 25.1**	**+1.6**
0.3nm,0.4s,baz=96,slow=7.7,SNR=3.3							
FINES	**FINESS Array B**	**73.25**	**331**	P	**P**	**03 51 55.0**	**-0.1**
0.3nm,0.4s,baz=90,slow=9.5,SNR=3.5							
AKASG	**Malin Array Be**	**75.95**	**320**	P	**P**	**03 52 11.0**	**+0.1**
0.9nm,0.6s,baz=59,slow=6.5,SNR=6.3							
BRTR	**Keskin Array B**	**77.46**	**308**	P	**P**	**03 52 20.1**	**+0.2**
0.8nm,0.9s,baz=86,slow=4.3,SNR=5.0							

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*IDC **01** 03:41:53.7±0.9, 38°.02S×73°.83W, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/25, mbtmp4.0/7, ML4.0/1, Error ellipse: s-maj=40.5km s-min=22.7km az=69.0*
*ISCJB **01** 03:41:54.8±0.9, 38°.1S±0°.2×73°.8W±0°.3, h18km, mb4.0/6, Error ellipse: s-maj=36.6km s-min=16.9km az=151.8*
ISC 01 03:41:56.6±0.9, 38°.1S±0°.2×73°.8W±0°.2, h18km, n9, σ0§61/9, mb4.2/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.68**	**138**	Pn	**Pn**	**03 42 52.2**	**-0.4**
2.5nm,0.3s,baz=308,slow=8.6,SNR=3.9							
PLCA				Sn	**Sb**	**03 43 45.4**	**+0.1**
18nm,0.3s,baz=305,slow=5.0,SNR=6.0							
SNAA	**Sanae**	**48.41**	**156**	P	**P**	**03 50 37.2**	**-0.1**
2.0nm,0.8s,baz=293,slow=6.7,SNR=4.8							
QSPA	**South Pole Qui**	**52.19**	**180**	P	**P**	**03 51 06.3**	**+0.3**
3.1nm,0.9s,baz=163,slow=1.8,SNR=9.7							
TXAR	**Lajitas Array**	**72.62**	**333**	P	**P**	**03 53 22.9**	**-0.1**
0.3nm,0.9s,baz=159,slow=7.7,SNR=3.6							
DBIC	**Dimbokro**	**77.83**	**72**	P	**P**	**03 53 53.5**	**+0.3**
6.7nm,0.8s,baz=213,slow=5.0,SNR=8.1							
PDAR	**Pinedale Array**	**86.76**	**334**	P	**P**	**03 54 39.0**	**-0.6**
0.2nm,0.6s,baz=143,slow=5.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	**86.91**	**71**	P	**P**	**03 54 40.3**	**-0.3**
0.9nm,0.7s,baz=218,slow=4.3,SNR=9.5							
AKTO	**Aktyubinsk**	**143.95**	**54**	PKP	PKPbc	04 01 28.6	+0.4
0.7nm,0.5s,baz=128,slow=2.5,SNR=4.1							
BVAR	**Borovoye Array**	**151.15**	**47**	PKPbc	**PKPbc**	**04 01 49.2**	**+1.2**
1.5nm,0.6s,baz=285,slow=2.5,SNR=9.8							

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*ISCJB **01** 03:43:55.6±1.0, 35°.2S±0°.1×72°.8W±0°.2, h10km, mb3.8/6, Error ellipse: s-maj=25.6km s-min=13.3km az=141.0*
*IDC **01** 03:43:56.0±1.3, 35°.10S×72°.65W, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.9/27, mbtmp3.9/8, ML3.7/2, Error ellipse: s-maj=35.6km s-min=29.1km az=42.0*
ISC 01 03:43:57.1±1.1, 35°.2S±0°.2×72°.8W±0°.2, h10km, n10, σ1§30/11, mb3.9/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.21**	**48**	Pn	**Pn**	**03 45 13.6**	**-1.4**
0.6nm,0.3s,baz=225,slow=12,SNR=7.7							
CFAA				Sn	**Sn**	**03 46 17.2**	**+2.1**
0.4nm,0.3s,baz=286,slow=18,SNR=1.8							
LPAZ	**La Paz**	**19.28**	**14**	P	**P**	**03 48 23.4**	**+0.7**
0.4nm,0.3s,baz=191,slow=5.3,SNR=6.1							
SIV	**San Ignacio**	**21.80**	**32**	P	**P**	**03 48 47.4**	**-2.0**
8.6nm,0.6s,baz=194,slow=7.0,SNR=22							
TXAR	**Lajitas Array**	**70.50**	**332**	P	**P**	**03 55 13.1**	**+1.1**
0.3nm,0.6s,baz=150,slow=8.2,SNR=7.1							
DBIC	**Dimbokro**	**76.12**	**71**	P	**P**	**03 55 45.3**	**-0.1**
1.7nm,0.7s,baz=250,slow=12,SNR=3.1							
BOSA	**Boshof**	**80.03**	**118**	P	**P**	**03 56 08.2**	**+1.0**
1.4nm,0.7s,baz=258,slow=4.6,SNR=3.5							
NVAR	**Mina Array Bea**	**84.54**	**326**	P	**P**	**03 56 29.8**	**-0.6**
0.2nm,0.5s,baz=145,slow=5.0,SNR=3.5							
TORD	**Torodi Ar. Bea**	**85.17**	**70**	P	**P**	**03 56 33.8**	**-0.1**
0.4nm,0.7s,baz=248,slow=3.7,SNR=5.3							
ZALV	**Zalesovo Beam**	**155.55**	**33**	PKPab	**PKPab**	**04 04 16.3**	**0.0**
0.2nm,0.3s,baz=326,slow=4.4,SNR=2.5							
MKAR	**Makanchi Array**	**157.99**	**51**	PKPab	**PKPab**	**04 04 26.6**	**-0.5**
0.2nm,0.6s,baz=294,slow=4.9,SNR=3.1							

IDC 01 03:47:14.1±3.3, 10°.74S×119°.48E, h0km, mb3.4/1, mb1 3.9/3, mb1mx3.4/33, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=260.5km s-min=29.6km az=49.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.99**	**124**	Pn	Pn	03 51 12.0	-1.5
0.3nm,0.3s,baz=296,slow=13,SNR=15							
WRA				Sn	Sn	03 54 10.4	-13
0.1nm,0.3s,baz=288,slow=22,SNR=3.3							
ASAR	**Alice Springs**	**18.82**	**135**	P	Pn	03 51 36.5	+0.4
0.6nm,0.3s,baz=310,slow=12,SNR=40							
MKAR	**Makanchi Array**	**66.21**	**333**	P	P	03 58 03.8	0.0
0.2nm,0.5s,baz=147,slow=5.4,SNR=5.3							

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*IDC **01** 03:47:46.8±1.0, 35°.94S×72°.74W, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.1/26, mbtmp4.0/9, ML3.8/2, MS3.8/1, Ms1 3.8/1, ms1mx3.0/24, Error ellipse: s-maj=28.9km s-min=23.6km az=77.0*
*ISCJB **01** 03:47:50.5±0.8, 35°.97S±0°.09×72°.8W±0°.1, h35km, mb4.1/7, MS3.8/1, Error ellipse: s-maj=17.9km s-min=10.9km az=23.3*
**

comp=N,1.2nm,0.7s,baz=272,slow=4.2,SNR=6.4
MKAR Makanchi Array 156.58 49 PKPab **PKPab 04 11 31.0 +0.1**
comp=N,0.3nm,0.6s,baz=296,slow=4.3,SNR=4.4

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*IDC **01** 03:53:10.9±0.6,38.°62S×73.°07W,h0km,mb4.5/15,*
mb1 4.6/17,mb1mx4.5/26,mbtmp4.5/17,ML3.9/2,MS4.0/11,
Ms1 4.0/11,ms1mx3.8/28,Error ellipse: s-maj=21.6km
s-min=11.3km az=65.0
*ISCJB **01** 03:53:14.0±0.3,38.°54S±0.°06×72.°94W±0.°08,h25km,*
mb4.8/27,MS4.0/7,Error ellipse: s-maj=10.8km
s-min=6.6km az=138.2
*MOS **01** 03:53:15.2±0.9,38.°53S×73.°04W,h33km,mb5.1/4,Error*
ellipse: s-maj=21.6km s-min=12.8km az=95.0
*NEIC **01** 03:53:16.2±0.3,38.°60S×73.°11W,h35km,mb5.0/12,Error*
ellipse: s-maj=9.6km s-min=6.7km az=66.0
NEIC Felt [III] at Temuco and Villarrica.
ISC 01 03:53:14.7±0.4,38.°62S±0.°07×73.°05W±0.°09,h25km,n251,
σ1°10/264,mb4.8/27,MS4.0/7,87C-80D,Near coast of
central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.86**	**138**	*e*P	**Pn**	**03 54 01.8**	**+3.1**
PLCA						03 54 43.0	
PLCA	**Paso Flores**	**2.86**	**138**	Pn	**Pn**	**03 53 58.7**	**-0.1**
1.1nm,0.3s,baz=333,slow=11,SNR=6.4							
PLCA				Pg	**Pb**	**03 54 02.6**	**-2.4**
41nm,0.3s,baz=316,slow=14,SNR=57							
PLCA				Lg	Lg	03 54 43.0	
109nm,0.3s,baz=21,slow=19,SNR=9.4							
PLCA				LR	LR	03 55 22.3	
comp=Z,2μm,18.8s,baz=318,slow=46							
PLCA	**Paso Flores**	**2.86**	**138**	*e*Pn	**Pn**	**03 54 01.8**	**+3.1**
PLCA				Lg	Lg	03 54 43.0	
CFAA	**Coronel Fontan**	**8.03**	**31**	LR	LR	03 58 49.1	
comp=Z,95nm,18.3s,baz=218,slow=42							
TRQA	**Tornquist**	**8.72**	**90**	*e*Pn	**Pn**	**03 55 21.1**	**+1.9**
18nm,0.6s							
USHA	**Ushuaia**	**16.52**	**171**	LR	LR	04 03 50.2	
comp=Z,726nm,18.3s,baz=26,slow=39							
CPUP	**Villa Florida**	**18.03**	**52**	P	**P**	**03 57 24.7**	**+0.9**
0.9nm,0.3s,baz=216,slow=4.5,SNR=5.7							
CPUP				LR	LR	04 04 38.4	
comp=Z,614nm,18.1s,baz=196,slow=38							
LPAZ	**La Paz**	**22.67**	**12**	*e*P	**P**	**03 58 15.0**	**+0.2**
LPAZ				pmax	pmax		
comp=Z,21nm,0.7s							
LPAZ	**La Paz**	**22.67**	**12**	P	**P**	**03 58 15.7**	**+0.9**
comp=Z,23nm,0.8s,baz=169,slow=4.9,SNR=37							
LPAZ	**La Paz**	**22.67**	**12**	*e*P	**P**	**03 58 15.0**	**+0.2**
comp=Z,21nm,0.7s							
SIV	**San Ignacio**	**24.88**	**28**	P	**P**	**03 58 35.3**	**-0.2**
comp=Z,13nm,0.8s,baz=213,slow=9.0,SNR=21							
SIV				LR	LR	04 10 07.7	
comp=Z,215nm,18.4s,baz=208,slow=41							
PMSA	**Palmer Station**	**26.72**	**171**	LR	LR	04 08 44.8	
comp=Z,407nm,19.0s,baz=316,slow=35							
NNA	**Nana**	**26.74**	**352**	P	**P**	**03 58 53.0**	**+0.6**
NNA	**Nana**	**26.74**	**352**	P	**P**	**03 58 53.0**	**+0.6**
comp=Z,4.2nm,0.6s,baz=182,slow=3.5,SNR=3.7							
NNA				LR	LR	04 06 55.3	
comp=Z,86nm,20.6s,baz=182,slow=31							
SAML	**Samuel**	**30.85**	**19**	*e*P	**P**	**03 59 28.4**	**-0.4**
comp=Z,9.2nm,1.0s							
ATAH	**Atahualpa**	**31.72**	**350**	P	**P**	**03 59 38.2**	**+1.2**
comp=Z,3.7nm,0.6s,baz=163,slow=12,SNR=2.8							
BDFB	**Brasilia**	**31.75**	**51**	P	**P**	**03 59 36.2**	**-0.8**
comp=Z,5.8nm,0.8s,baz=201,slow=6.8,SNR=7.0							
BDFB				LR	LR	04 13 56.8	
comp=Z,303nm,18.1s,baz=228,slow=39							
OTAV	**Otavalo**	**38.99**	**351**	*e*P	**P**	**04 00 40.6**	**+1.1**
comp=Z,15nm,1.3s							
ROSC	**El Rosal**	**43.27**	**358**	P	**P**	**04 01 15.9**	**+1.2**
comp=Z,8.0nm,0.7s,baz=89,slow=23,SNR=5.2							
VNA3	**Neumayer Olymp**	**45.43**	**156**	P	**P**	**04 01 32.4**	**+1.4**
VNA2	**Neumayer--Watz**	**46.12**	**155**	P	**P**	**04 01 37.6**	**+1.3**
RCBR	**Riachuelo**	**46.85**	**55**	LR	LR	04 22 42.6	
comp=Z,867nm,18.1s,baz=220,slow=38							
SNAA	**Sanae**	**47.66**	**156**	P	**P**	**04 01 49.9**	**+1.5**
SNAA	**Sanae**	**47.66**	**156**	*e*P	**P**	**04 01 49.0**	**+0.5**
SNAA				pmax	pmax		
comp=Z,22nm,0.9s							
SNAA	**Sanae**	**47.66**	**156**	P	**P**	**04 01 49.5**	**+1.1**
comp=Z,6.8nm,0.8s,baz=287,slow=6.9,SNR=18							
SNAA	**Sanae**	**47.66**	**156**	*e*P	**P**	**04 01 49.0**	**+0.5**
comp=Z,22nm,0.9s							
GRGR	**Grenville**	**51.60**	**14**	P	**P**	**04 02 18.5**	**-0.5**
comp=Z,55nm,1.0s							
QSPA	**South Pole Qui**	**51.62**	**180**	P	**P**	**04 02 20.0**	**+1.2**
comp=Z,9.8nm,0.8s,baz=165,slow=2.8,SNR=24							
QSPA	**South Pole Qui**	**51.62**	**180**	*e*P	**P**	**04 02 19.8**	**+1.0**
comp=Z,13nm,1.0s							
NVL	**N'lazarevskaya**	**52.44**	**155**	*e*P	**P**	**04 02 26.5**	**+1.9**
NVL				pmax	pmax		
comp=Z,19nm,0.6s							
SYO	**Syowa Base**	**61.89**	**158‖**	*e*P	P	04 03 28.0	-3.4
833A	**Chaparral WMA,**	**71.01**	**336**	⇓P	**P**	**04 04 30.6**	**+0.5**
baz=71							
732A	**Laxson Ranch,**	**71.57**	**335**	⇑P	**P**	**04 04 33.9**	**+0.4**
baz=72,SNR=5.3							
632A	**Uvalde**	**72.23**	**336**	⇓P	**P**	**04 04 38.0**	**+0.5**
baz=72							
631A	**Perdido Creek**	**72.40**	**335**	⇑P	**P**	**04 04 39.2**	**+0.7**
baz=73							
339A	**Huntington**	**72.42**	**341**	⇑P	**P**	**04 04 39.4**	**+0.8**
baz=73							
533A	**Kerrville**	**72.51**	**337**	⇑P	**P**	**04 04 39.6**	**+0.4**
baz=73							
338A	**Crockett**	**72.64**	**340**	⇓P	**P**	**04 04 41.2**	**+1.3**
baz=73							
337A	**Centerville**	**72.76**	**340**	⇓P	**P**	**04 04 41.5**	**+0.9**
baz=73							
532A	**Rocksprings**	**72.84**	**336**	⇓P	**P**	**04 04 41.5**	**+0.3**
baz=73							
434A	**Burnet**	**72.97**	**337**	⇑P	**P**	**04 04 42.3**	**+0.4**
baz=73							
531A	**Rocksprings**	**73.08**	**335**	⇑P	**P**	**04 04 42.9**	**+0.3**
baz=73							
336A	**Riesel**	**73.09**	**339**	⇓P	**P**	**04 04 43.2**	**+0.6**
baz=73							
JCT	**Junction City**	**73.13**	**336**	⇑P	**P**	**04 04 43.4**	**+0.5**
baz=73							
433A	**Art**	**73.17**	**337**	⇑P	**P**	**04 04 43.0**	**-0.1**
baz=74							
530A	**J-C Ranch, Com**	**73.33**	**335**	⇓P	**P**	**04 04 44.8**	**+0.7**
baz=74							
TXAR	**Lajitas Array**	**73.40**	**332**	P	**P**	**04 04 44.6**	**+0.1**
comp=Z,1.0nm,0.7s,baz=154,slow=7.2,SNR=10							
TXAR				LR	LR	04 31 29.0	
comp=Z,177nm,18.3s,baz=0.0,slow=31							
334A	**Lometa**	**73.45**	**338**	⇓P	**P**	**04 04 45.3**	**+0.6**
baz=74							
432A	**Menard**	**73.50**	**336**	⇓P	**P**	**04 04 45.3**	**+0.2**
baz=74							
431A	**Sonora**	**73.58**	**335**	⇑P	**P**	**04 04 46.5**	**+0.9**
baz=74							
333A	**Richland Sprin**	**73.67**	**337**	⇑P	**P**	**04 04 46.0**	**0.0**
baz=74							
KMSC	**Kings Mountain**	**73.80**	**353**	⇑P	**P**	**04 04 46.7**	**+0.1**
baz=74							
430A	**Baggett Ranch,**	**73.88**	**335**	⇓P	**P**	**04 04 47.5**	**+0.2**
baz=74							
332A	**Millersview**	**73.95**	**336**	⇑P	**P**	**04 04 48.1**	**+0.4**
baz=74							
429A	**Davenport Ranc**	**73.96**	**334**	⇑P	**P**	**04 04 48.3**	**+0.5**
baz=74							
234A	**Clairette**	**74.05**	**338**	⇑P	**P**	**04 04 48.3**	**+0.1**
baz=74							
331A	**San Angelo**	**74.10**	**336**	⇓P	**P**	**04 04 48.9**	**+0.4**
baz=74							
233A	**Rising Star**	**74.28**	**337**	⇓P	**P**	**04 04 50.0**	**+0.4**
baz=75							
232A	**Coleman**	**74.39**	**337**	⇓P	**P**	**04 04 50.5**	**+0.3**
baz=75							
SWET	**Sewanee**	**74.43**	**349**	*e*P	**P**	**04 04 50.5**	**+0.1**
comp=Z,26nm,0.9s							
231A	**Bronte**	**74.65**	**336**	⇑P	**P**	**04 04 52.1**	**+0.4**
baz=75							
329A	**Wagon Wheel Ra**	**74.78**	**335**	⇑P	**P**	**04 04 52.9**	**+0.4**
baz=75							
133A	**Hamilton Ranch**	**74.84**	**338**	⇑P	**P**	**04 04 53.3**	**+0.4**
baz=75							
230A	**Sterling City**	**74.86**	**336**	⇑P	**P**	**04 04 53.5**	**+0.6**
baz=75							
Z35A	**Perchaven, San**	**75.04**	**339**	⇓P	**P**	**04 04 54.8**	**+0.9**
baz=75							
229A	**Bryant Ranch,**	**75.16**	**335**	⇓P	**P**	**04 04 55.4**	**+0.7**
baz=75							
131A	**Roby**	**75.35**	**336**	⇑P	**P**	**04 04 56.5**	**+0.8**
baz=76							
Z33A	**Whitaker Ranch**	**75.43**	**338**	⇑P	**P**	**04 04 56.6**	**+0.5**
baz=76							
130A	**Snyder**	**75.46**	**336**	⇓P	**P**	**04 04 56.9**	**+0.5**
baz=76							
228A	**UT Block 9, Go**	**75.56**	**334**	⇑P	**P**	**04 04 57.4**	**+0.4**
baz=76							
Z32A	**Haskell**	**75.66**	**337**	⇓P	**P**	**04 04 58.0**	**+0.5**
baz=76							
Z31A	**Sharp Cattle R**	**75.87**	**337**	⇑P	**P**	**04 04 59.2**	**+0.4**
baz=76							
128A	**Castleberry Fa**	**75.98**	**335**	⇓P	**P**	**04 04 60.0**	**+0.5**
baz=76							
Y33A	**Hilltop Ranch,**	**76.06**	**338**	⇑P	**P**	**04 05 00.3**	**+0.5**
baz=76							
Z30A	**Sanderson Ranc**	**76.15**	**336**	⇓P	**P**	**04 05 00.5**	**+0.1**
baz=76							
Y32A	**R-V Farms, Ver**	**76.30**	**338**	⇑P	**P**	**04 05 01.7**	**+0.6**
baz=77							
Z29A	**Hungry Hill Ra**	**76.31**	**336**	⇑P	**P**	**04 05 01.1**	**-0.2**
baz=77,SNR=5.5							
Y31A	**Rekieta Farm,**	**76.51**	**337**	⇑P	**P**	**04 05 02.9**	**+0.6**
baz=77							
Y29A	**Porterfield Fa**	**76.85**	**336**	⇑P	**P**	**04 05 04.6**	**+0.2**
baz=77							
W34A	**Bridge Creek,**	**76.97**	**339**	⇓P	**P**	**04 05 05.1**	**+0.1**
baz=77							
LIC	**Lamto**	**77.03**	**71**	*e*P	**P**	**04 05 06.1**	**+0.4**
comp=Z,61nm,1.6s							
X31A	**McDonald Ranch**	**77.04**	**337**	⇑P	**P**	**04 05 05.4**	**+0.1**
baz=77							
Z26A	**Caprock**	**77.08**	**334**	⇑P	**P**	**04 05 05.6**	**-0.2**
baz=77							
TUL1	**Leonard**	**77.09**	**341**	⇓P	**P**	**04 05 05.7**	**+0.2**
baz=77							
X30A	**Coker Ranch, T**	**77.14**	**337**	⇑P	**P**	**04 05 06.2**	**+0.3**
baz=77							
W32A	**Sentinel**	**77.28**	**338**	⇑P	**P**	**04 05 06.9**	**+0.2**
baz=78							
TIC	**Toumodi**	**77.31**	**71**	*e*P	**P**	**04 05 07.8**	**+0.5**
comp=Z,22nm,0.9s							
MSTX	**Muleshoe**	**77.31**	**335**	⇓P	**P**	**04 05 07.0**	**0.0**
baz=78							
KIC	**Kosan Boka**	**77.33**	**71**	*e*P	**P**	**04 05 07.7**	**+0.3**
comp=Z,37nm,0.9s							
DBIC	**Dimbokro**	**77.45**	**71**	*e*P	**P**	**04 05 08.6**	**+0.5**
DBIC				pmax	pmax		
comp=Z,7.0nm,0.8s							
DBIC	**Dimbokro**	**77.45**	**71**	P	**P**	**04 05 08.5**	**+0.4**
comp=Z,8.3nm,0.6s,baz=193,slow=6.1,SNR=18							
DBIC	**Dimbokro**	**77.45**	**71**	*e*P	**P**	**04 05 08.6**	**+0.5**
comp=Z,7.4nm,0.8s							
Y26A	**Elida**	**77.62**	**334**	⇓P	**P**	**04 05 09.2**	**+0.4**
baz=78							
V32A	**Arapaho**	**77.78**	**339**	⇓P	**P**	**04 05 10.4**	**+1.0**
baz=78							
W29A	**Amarillo**	**78.01**	**336**	⇓P	**P**	**04 05 11.4**	**+0.6**
baz=78							
Y24A	**Capitan**	**78.19**	**333**	⇑P	**P**	**04 05 12.4**	**+0.5**
baz=78							
W27A	**Bowe Ranch, En**	**78.41**	**335**	⇓P	**P**	**04 05 13.8**	**+0.8**
baz=79							
Y23A	**Lovelace Mesa,**	**78.42**	**332**	⇓P	**P**	**04 05 14.8**	**+1.6**
baz=79							
BOSA	**Boshof**	**78.66**	**117**	P	**P**	**04 05 15.1**	**+0.3**
comp=Z,3.8nm,0.7s,baz=236,slow=6.7,SNR=9.5							
TSUM	**Tsumeb**	**78.75**	**106**	*e*P	**P**	**04 05 15.4**	**-0.1**
comp=Z,1.8nm,0.6s							
X24A	**Lazy VL Ranch,**	**78.76**	**333**	⇓P	**P**	**04 05 16.2**	**+1.1**
baz=79							
T33A	**Patterson Ranc**	**78.83**	**340**	⇓P	**P**	**04 05 16.2**	**+1.0**
baz=79							
W24A	**Lazy 6 Ranch,**	**79.34**	**334**	⇑P	**P**	**04 05 19.2**	**+1.0**
baz=80							
214A	**Organ Pipe Nat**	**79.37**	**326**	⇓P	**P**	**04 05 19.8**	**+1.5**
baz=80							
V25A	**Rancho No Teng**	**79.63**	**334**	⇓P	**P**	**04 05 20.8**	**+1.0**
baz=80							
V24A	**Rampart Ranch,**	**79.75**	**334**	⇑P	**P**	**04 05 21.6**	**+1.0**
baz=80							
U26A	**Atchley Ranch,**	**79.85**	**335**	⇓P	**P**	**04 05 21.7**	**+0.6**
baz=80							
URZ	**Urewera**	**79.98**	**229**	LR	LR	04 35 06.3	
comp=Z,91nm,18.8s,baz=222,slow=32							
T28A	**Walsh**	**79.99**	**337**	⇓P	**P**	**04 05 23.1**	**+1.4**
baz=80							
V23A	**Ortiz Mt. (NFS**	**80.09**	**333**	⇑P	**P**	**04 05 23.8**	**+1.4**
baz=80							
S28A	**Manter**	**80.36**	**337**	⇑P	**P**	**04 05 24.2**	**+0.6**
baz=81							
X18A	**Snowflake**	**80.42**	**330**	⇑P	**P**	**04 05 25.2**	**+1.1**
baz=81							
113A	**Mohawk Valley,**	**80.48**	**326**	⇑P	**P**	**04 05 25.2**	**+1.0**
baz=81							
V22A	**San Miguel Ran**	**80.50**	**333**	⇑P	**P**	**04 05 26.1**	**+1.5**
baz=81							
T26A	**Comanche Natio**	**80.51**	**336**	⇑P	**P**	**04 05 25.6**	**+1.0**
baz=81							
U23A	**El Rito**	**80.62**	**333**	⇓P	**P**	**04 05 26.6**	**+1.4**
baz=81							
T25A	**Trinidad**	**80.75**	**335**	⇑P	**P**	**04 05 27.3**	**+1.5**
baz=81							
W18A	**Petrified Fore**	**80.85**	**330**	⇓P	**P**	**04 05 28.2**	**+1.7**
baz=81							
S26A	**Kim**	**80.88**	**336**	⇓P	**P**	**04 05 27.7**	**+1.2**
baz=81							
X16A	**Lo Mia Camp, P**	**80.92**	**329**	⇑P	**P**	**04 05 28.5**	**+1.7**
baz=81							
T24B	**San Luis**	**81.00**	**334**	⇑P	**P**	**04 05 28.5**	**+1.2**
baz=81							
R28A	**Tribune**	**81.03**	**337**	⇓P	**P**	**04 05 28.5**	**+1.3**
baz=81							
Q30A	**Quinter**	**81.15**	**339**	⇓P	**P**	**04 05 28.7**	**+0.9**
baz=82							
S25A	**Robets Cordova**	**81.23**	**335**	⇑P	**P**	**04 05 29.9**	**+1.5**
baz=82							
R27A	**Eads**	**81.28**	**337**	⇑P	**P**	**04 05 29.4**	**+0.9**
baz=82							
Q29A	**Oakley**	**81.29**	**338**	⇓P	**P**	**04 05 29.4**	**+0.9**
baz=82							
P32A	**Huiting Farm,**	**81.31**	**340**	⇓P	**P**	**04 05 29.6**	**+1.0**
baz=82							
S24A	**Houchin Ranch,**	**81.47**	**335**	⇓P	**P**	**04 05 31.3**	**+1.5**
baz=82							
R26A	**Arlington**	**81.49**	**336**	⇑P	**P**	**04 05 31.3**	**+1.6**
baz=82							
R25A	**Fountain Ranch**	**81.62**	**336**	⇑P	**P**	**04 05 32.6**	**+2.2**
baz=82							
Y12C	**Blythe**	**81.65**	**326**	⇑P	**P**	**04 05 32.6**	**+2.2**
baz=82							
R24A	**Sanders Place,**	**81.97**	**335**	⇑P	**P**	**04 05 33.9**	**+1.6**
baz=82							
Q26A	**Hugo**	**82.09**	**336**	⇑P	**P**	**04 05 34.5**	**+1.7**
baz=82							
S22A	**4UR Ranch, Cre**	**82.11**	**334**	⇓P	**P**	**04 05 34.9**	**+1.7**
baz=82							
R23A	**Moffat**	**82.17**	**334**	⇓P	**P**	**04 05 34.4**	**+1.0**
baz=82							
O30A	**MW Ranch, Wils**	**82.23**	**339**	⇑P	**P**	**04 05 34.6**	**+1.2**
baz=82							
MVCO	**Mesa Verde**	**82.23**	**332**	⇑P	**P**	**04 05 35.0**	**+1.2**
baz=82							
Q25A	**Bedland, Calha**	**82.31**	**336**	⇑P	**P**	**04 05 34.9**	**+0.9**
baz=83							
W13A	**Hualapai Mount**	**82.52**	**327**	⇑P	**P**	**04 05 37.1**	**+1.8**
baz=83							
P26A	**Davis Ranch, A**	**82.61**	**337**	⇓P	**P**	**04 05 36.8**	**+1.2**
baz=83							
Q24A	**Divide**	**82.64**	**335**	⇑P	**P**	**04 05 37.2**	**+1.2**
baz=83							
O28A	**Krutsinger Ran**	**82.67**	**338**	⇑P	**P**	**04 05 37.1**	**+1.3**
baz=83							
P25A	**Willow Gulch B**	**82.83**	**336**	⇑P	**P**	**04 05 38.1**	**+1.4**
baz=83							
N29A	**Votaw Ranch, W**	**82.98**	**339**	⇓P	**P**	**04 05 38.4**	**+1.0**
baz=83							
U15A	**North Rim**	**83.01**	**329**	⇓P	**P**	**04 05 39.4**	**+1.5**
baz=83							
GMRC	**Granite Mounta**	**83.02**	**326**	⇑P	**P**	**04 05 39.5**	**+1.8**
baz=83							
P23A	**Jefferson**	**83.24**	**335**	⇑P	**P**	**04 05 40.9**	**+1.8**
baz=84							
ISCO	**Idaho Springs**	**83.55**	**335**	⇓P	**P**	**04 05 42.0**	**+1.3**
baz=84							
L31A	**Butterfield Fa**	**83.77**	**341**	⇓P	**P**	**04 05 42.7**	**+1.3**
baz=84							
O22A	**Kremmling**	**84.19**	**335**	⇓P	**P**	**04 05 45.0**	**+1.2**
baz=84							
K30A	**Basset**	**84.44**	**341**	⇑P	**P**	**04 05 46.4**	**+1.7**
baz=85							
ARUT	**Antelope Range**	**84.64**	**329**	*e*P	**P**	**04 05 47.5**	**+1.5**
ARUT				pmax	pmax		
comp=Z,71nm,1.2s							
ARUT	**Antelope Range**	**84.64**	**329**	*e*P	**P**	**04 05 47.5**	**+1.5**
comp=Z,71nm,1.2s							
N23A	**Red Feather La**	**84.65**	**336**	⇓P	**P**	**04 05 47.3**	**+1.1**
baz=85							
ECSD	**EROS Data Cent**	**84.71**	**343**	⇓P	**P**	**04 05 46.8**	**+0.8**
baz=85							
ECSD	**EROS Data Cent**	**84.71**	**343**	*e*P	**P**	**04 05 46.0**	**-0.1**
comp=Z,22nm,0.8s							
K28A	**Ten Mile Ranch**	**84.94**	**339**	⇓P	**P**	**04 05 48.8**	**+1.5**
baz=85							
J30A	**Dallas**	**85.02**	**341**	⇑P	**P**	**04 05 49.2**	**+1.6**
baz=85							
J29A	**Okreek**	**85.31**	**340**	⇑P	**P**	**04 05 49.9**	**+0.8**
baz=86,SNR=5.2							
SPMN	**Marine on St.**	**85.34**	**346**	⇑P	**P**	**04 05 49.1**	**0.0**
baz=86							
SPMN	**Marine on St.**	**85.34**	**346**	*e*P	**P**	**04 05 48.8**	**-0.3**
comp=Z,13nm,0.8s							
N20A	**Spence Gulch,**	**85.37**	**334**	⇑P	**P**	**04 05 50.3**	**+0.6**
baz=86							
I30A	**Oacoma**	**85.55**	**341**	⇓P	**P**	**04 05 50.6**	**+0.4**
baz=86							
J28A	**Allard Ranch,**	**85.57**	**340**	⇑P	**P**	**04 05 51.3**	**+0.9**
baz=86							
J27A	**Elkhorn Farm,**	**85.62**	**339**	⇓P	**P**	**04 05 51.9**	**+1.2**
baz=86							
GRAC	**Grapevine Rang**	**85.63**	**326**	⇑P	**P**	**04 05 52.5**	**+1.7**
baz=86							
BRSD	**Miller**	**85.93**	**342**	⇑P	**P**	**04 05 52.2**	**+0.1**
baz=86							
J26A	**Sides Ranch, S**	**85.98**	**339**	⇓P	**P**	**04 05 53.3**	**+0.8**
baz=86							
R11A	**Troy Canyon, C**	**86.00**	**328**	⇓P	**P**	**04 05 54.9**	**+2.1**
baz=86							
I28A	**Midland**	**86.08**	**340**	⇓P	**P**	**04 05 53.1**	**+0.2**
baz=86,SNR=7.4							
H29A	**Onida**	**86.42**	**341**	⇓P	**P**	**04 05 55.1**	**+0.6**
baz=87							
K22A	**Casper**	**86.42**	**336**	⇑P	**P**	**04 05 55.3**	**+0.5**
baz=87							
DUG	**Dugway, Tooele**	**86.47**	**331**	⇓P	**P**	**04 05 56.3**	**+1.2**
baz=87							
TORD	**Torodi Ar. Bea**	**86.55**	**70**	P	**P**	**04 05 55.7**	**-0.1**
comp=Z,3.6nm,0.6s,baz=220,slow=4.8,SNR=42							
G30A	**Faulkton**	**86.62**	**342**	⇑P	**P**	**04 05 56.0**	**+0.5**
baz=87							
H28A	**Mission Ridge**	**86.67**	**340**	⇓P	**P**	**04 05 56.2**	**+0.4**
baz=87,SNR=5.0							
J23A	**Dilts Ranch, B**	**86.80**	**337**	⇓P	**P**	**04 05 57.1**	**+0.5**
baz=87							
G28A	**Parade**	**87.02**	**341**	⇓P	**P**	**04 05 57.5**	**0.0**
baz=87,SNR=5.4							
NVAR	**Mina Array Bea**	**87.23**	**326**	P	**P**	**04 05 59.7**	**+0.8**
comp=Z,0.4nm,0.4s,baz=174,slow=4.2,SNR=3.1							
H25A	**Fruitdale**	**87.33**	**339**	⇑P	**P**	**04 06 00.1**	**+1.0**
baz=88							
F29A	**Eureka**	**87.45**	**342**	⇑P	**P**	**04 05 59.9**	**+0.4**
baz=88							
PDAR	**Pinedale Array**	**87.53**	**334**	P	**P**	**04 06 00.4**	**+0.1**
comp=Z,1.4nm,0.8s,baz=156,slow=5.6,SNR=14							
J20A	**Shoshoni**	**87.56**	**335**	⇑P	**P**	**04 06 01.1**	**+0.8**
baz=88							
G27A	**Dupree**	**87.57**	**340**	⇑P	**P**	**04 06 00.6**	**+0.5**
baz=88							
G26A	**Maurine**	**87.67**	**340**	⇓P	**P**	**04 06 01.1**	**+0.5**
baz=88							
F28A	**McLaughlin**	**87.71**	**341**	⇓P	**P**	**04 06 01.0**	**+0.3**
baz=88							
H24A	**Dirks Ranch, A**	**87.72**	**338**	⇑P	**P**	**04 06 00.0**	**-0.9**
baz=88							
G25A	**Newell**	**87.80**	**339**	⇓P	**P**	**04 06 01.9**	**+0.7**
baz=88							
E30A	**Jud**	**87.86**	**342**	⇓P	**P**	**04 06 02.0**	**+0.6**
baz=88							
F27A	**Lemmon**	**88.05**	**340**	⇑P	**P**	**04 06 03.0**	**+0.6**
baz=88							
D30A	**Buchanan**	**88.39**	**343**	⇓P	**P**	**04 06 04.8**	**+0.8**
baz=89							
E26A	**Carlson Angus**	**88.72**	**340**	⇑P	**P**	**04 06 05.9**	**+0.3**
baz=89							
C30A	**Mose, Pekin**	**88.89**	**343**	⇓P	**P**	**04 06 06.5**	**+0.2**
baz=89,SNR=8.1							
AGMN	**Agassiz Nation**	**88.89**	**345**	⇑P	**P**	**04 06 06.1**	**-0.1**
baz=89,SNR=7.3							
I17A	**Pilgrim Ck.**	**88.90**	**334**	⇑P	**P**	**04 06 07.2**	**+0.6**
baz=89							
E25A	**Miller Ranch,**	**89.00**	**340**	⇑P	**P**	**04 06 07.6**	**+0.7**
baz=89							
D26A	**Manning**	**89.23**	**340**	⇑P	**P**	**04 06 08.3**	**+0.4**
baz=90							
H18A	**Shoshone NF, C**	**89.25**	**335**	⇑P	**P**	**04 06 08.4**	**+0.1**
baz=90							
G20A	**Bridger**	**89.27**	**336**	⇑P	**P**	**04 06 08.3**	**0.0**
baz=90							
B30A	**Myrvik Farm, E**	**89.56**	**343**	⇓P	**P**	**04 06 09.5**	**+0.1**
baz=90,SNR=15							
C27A	**Sayler Ranch,**	**89.62**	**341**	⇓P	**P**	**04 06 10.6**	**+0.9**
baz=90							
B29A	**Wagenman Farm,**	**89

BVAR				PKPbc	**PKiKP**	04 13 05.5	+0.1
	comp=Z,6.4nm,0.7s,baz=280,slow=3.4,SNR=26						
BVAR				PKPab	**PKPab**	04 13 13.1	+0.4
	comp=Z,2.6nm,0.8s,baz=266,slow=6.8,SNR=4.9						
AAK	**Ala-Archa**	**155.13**	**70**	PKiKP	**PKPdf**	04 13 05.8	+0.4
AAK				*e*		04 13 15.3	
AAK	**Ala-Archa**	**155.13**	**70**	PKP	**PKPdf**	04 13 05.8	+0.4
	comp=Z,1.2nm,0.7s,baz=161,slow=7.5,SNR=4.5						
AAK	**Ala-Archa**	**155.13**	**70**	PKP	**PKPdf**	04 13 05.8	+0.4
AAK				*e*PKPdf	**PKPdf**	04 13 06.2	+0.8
AAK				*e*PKPbc	PKPab	04 13 15.3	-15
KSH	**Kashi**	**155.99**	**78**	*e*PKP	**PKPdf**	04 13 05.4	-1.2
KSH				sPKP		04 13 20.2	
KSH				PKS	**PKSdf**	04 16 39.1	-1.6
KSH				PP	**PP**	04 17 10.6	-1.3
KSH				SKS	**SKSdf**	04 20 06.1	-5.2
KSH				LN			
	comp=Z,51nm,7.1s						
KSH				LE			
	comp=Z,32nm,6.9s						
KSH				LZ			
	comp=Z,94nm,7.0s						
NVS	**Novosibirsk**	**157.21**	**37**	*e*PKP2	**PKPab**	04 13 38.5	0.0
ZALV	**Zalesovo Beam**	**158.48**	**37**	PKP	**PKPdf**	04 13 09.3	+0.2
	comp=Z,0.8nm,0.7s,baz=307,slow=1.0,SNR=3.3						
ZALV				PKPab	**PKPab**	04 13 44.4	+0.4
	comp=Z,1.5nm,0.6s,baz=289,slow=5.8,SNR=5.9						
MKAR	**Makanchi Array**	**160.18**	**58**	PKP	**PKPdf**	04 13 11.1	-0.3
	comp=Z,0.8nm,0.9s,baz=5.6,slow=1.4,SNR=5.3						
MKAR				PKPab	**PKPab**	04 13 51.7	-0.1
	comp=Z,2.5nm,0.7s,baz=283,slow=4.1,SNR=20						
BOD	**Bodaibo**	**160.24**	**349**	*e*PKP2	**PKPab**	04 13 49.8	-1.7
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s						
QIZ	**Qiongzhong**	**160.31**	**188**	PKP	**PKPdf**	04 13 11.3	-1.0
QIZ				PP	**PP**	04 17 34.8	+0.9
QIZ				SS	SS	04 37 44.3	+1.9
CN2	**Changchun**	**165.15**	**296**	*e*PKP	**PKPdf**	04 13 12.9	-3.4
CN2				LN			
	comp=Z,700nm,22.0s						
CN2				LE			
	comp=Z,500nm,22.0s						
CN2				LZ			
	comp=Z,500nm,23.0s						
KMI	**Kunming**	**166.08**	**164**	PKP	**PKPdf**	04 13 19.0	+1.1
GYA	**Guiyang**	**167.87**	**179**	*e*PKP	**PKPdf**	04 13 18.0	-1.1
GYA				pPKP	**pPKPdf**	04 13 29.6	+2.1
GYA				PKPab	**PKPab**	04 14 27.3	+1.4
GYA				PKS	**PKSdf**	04 16 49.5	-2.4
GYA				PP	**PP**	04 18 16.2	+2.5
GYA				SKKS		04 24 58.0	
GYA				SS	**SS**	04 38 59.7	-0.6
GYA				PPMZ			
	comp=Z,120nm,8.2s						
GYA				LN			
	comp=Z,130nm,22.5s						
GYA				LE			
	comp=Z,120nm,21.8s						
GYA				LZ			
	comp=Z,120nm,24.2s						
NJ2	**Nanjing**	**168.28**	**240**	*e*PKP	**PKPdf**	04 13 19.6	+0.6
CD2	**Chengdu**	**171.87**	**160**	*e*PKP	**PKPdf**	04 13 20.9	-0.3
HHC	**Hu-ho-hao-te**	**175.80**	**303**	*e*PKP	**PKPdf**	04 13 22.4	0.0
HHC				PKS	**PKSdf**	04 16 53.1	-1.4
HHC				PP	**PP**	04 18 57.1	+3.0
HHC				SKS	**SKSdf**	04 20 20.1	-3.6
HHC				SKKS	**SKKSac**	04 25 38.0	-0.5
HHC				SS	**SS**	04 40 17.3	-2.8
HHC				LN			
	comp=Z,250nm,21.4s						
HHC				LE			
	comp=Z,490nm,21.8s						
HHC				LZ			
	comp=Z,160nm,21.4s						
LZH	**Lanzhou**	**176.46**	**135**	*e*PKP	**PKPdf**	04 13 22.7	-0.1
LZH				pPKP	**pPKPdf**	04 13 33.1	+1.9
LZH				sPKP		04 13 37.4	

*IDC **01** 04:01:46.4±1.8, 38°.00S×73°.62W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.7/6, Error ellipse: s-maj=62.3km s-min=36.2km az=26.0*

ISC 01 04:01:49.9±1.8, 38°.0S±0°.4×73°.6W±0°.3, h22km, n7, σ1º06/7, mb3.7/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**22.16**	**14**	P	**P**	**04 06 45.1**	**+0.1**
	1.8nm,0.7s,baz=194,slow=11,SNR=4.5						
TXAR	**Lajitas Array**	**72.65**	**333**	P	**P**	**04 13 15.1**	**-0.7**
	0.1nm,0.5s,baz=166,slow=8.4,SNR=3.3						
DBIC	**Dimbokro**	**77.66**	**71**	P	**P**	**04 13 44.6**	**-0.4**
	2.4nm,0.7s,baz=189,slow=5.3,SNR=4.1						
NVAR	**Mina Array Bea**	**86.47**	**326**	P	**P**	**04 14 30.2**	**-0.7**
	0.1nm,0.4s,baz=141,slow=5.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**86.75**	**71**	P	**P**	**04 14 32.2**	**-0.3**
	0.5nm,0.7s,baz=219,slow=4.8,SNR=6.1						
PDAR	**Pinedale Array**	**86.78**	**334**	P	**P**	**04 14 33.8**	**+1.5**
	0.6nm,0.9s,baz=139,slow=4.9,SNR=3.4						
BVAR	**Borovoye Array**	**151.00**	**47**	PKPbc	**PKPbc**	**04 21 41.4**	**+1.1**
	0.9nm,0.6s,baz=297,slow=1.8,SNR=7.1						

*IDC **01** 04:11:55.3±1.0, 34°.91S×72°.82W, h0km, mb3.8/6, mb1 3.9/9, mb1mx3.8/31, mbtmp3.8/9, ML3.9/2, Error ellipse: s-maj=34.4km s-min=16.2km az=92.0*
*ISCJB **01** 04:11:58.2±0.9, 34°.93S±0°.08×72°.9W±0°.2, h33km, mb3.8/6, Error ellipse: s-maj=19.7km s-min=9.4km az=25.4*

ISC 01 04:12:00.2±0.9, 34°.91S±0°.10×72°.9W±0°.2, h35km, n12, σ0º86/13, mb4.0/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.10**	**51**	Pn	**Pn**	**04 13 13.7**	**-0.5**
	0.2nm,0.3s,baz=233,slow=12,SNR=2.4						
CFAA				Sn	**Sn**	04 14 13.1	+1.3
	0.2nm,0.3s,baz=247,slow=9.9,SNR=2.6						
PLCA	**Paso Flores**	**6.10**	**163**	Pn	**Pn**	**04 13 27.2**	**-0.7**
	1.0nm,0.3s,baz=338,slow=10,SNR=4.2						
PLCA				Lg	Lg	04 15 06.8	
	0.6nm,0.3s,baz=50,slow=22,SNR=4.3						
LPAZ	**La Paz**	**19.03**	**14**	P	**Pn**	**04 16 20.4**	**-0.3**
	0.1nm,0.3s,baz=231,slow=8.1,SNR=4.3						
SIV	**San Ignacio**	**21.61**	**32**	P	**P**	**04 16 45.8**	**-1.4**
	1.7nm,0.8s,baz=216,slow=7.5,SNR=3.3						
SNAA	**Sanae**	**51.02**	**158**	P	**P**	**04 20 58.5**	**+0.3**
	1.9nm,1.0s,baz=287,slow=8.8,SNR=4.6						
QSPA	**South Pole Qui**	**55.33**	**180**	P	**P**	**04 21 30.7**	**+0.5**
	2.7nm,1.1s,baz=142,slow=1.5,SNR=5.7						
TXAR	**Lajitas Array**	**70.19**	**332**	P	**P**	**04 23 10.0**	**+0.6**
	0.3nm,0.7s,baz=149,slow=8.0,SNR=4.2						
BOSA	**Boshof**	**80.27**	**118**	P	**P**	**04 24 08.4**	**+0.7**
	3.1nm,1.1s,baz=180,slow=3.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**85.18**	**70**	P	**P**	**04 24 32.9**	**-0.3**
	0.6nm,0.7s,baz=259,slow=3.8,SNR=11						
BVAR	**Borovoye Array**	**148.42**	**44**	PKPbc	**PKPbc**	**04 31 43.3**	**+0.9**
	0.3nm,0.4s,baz=302,slow=3.1,SNR=3.3						
ZALV	**Zalesovo Beam**	**155.37**	**33**	PKPab	**PKPab**	**04 32 14.8**	**+0.1**
	0.3nm,0.4s,baz=301,slow=5.2,SNR=3.0						
MKAR	**Makanchi Array**	**157.88**	**50**	PKP	**PKPdf**	**04 31 51.9**	**-0.9**
	0.2nm,0.7s,baz=331,slow=2.5,SNR=2.6						

*IDC **01** 04:14:01.4±0.8, 34°.27S×73°.52W, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/30, mbtmp4.0/8, ML3.5/2, Error ellipse: s-maj=30.2km s-min=19.5km az=88.0*
*GUC **01** 04:14:02.7±0.6, 34°.19S×73°.21W, h8km±11km, ML4.2*
*ISCJB **01** 04:14:05.2±0.7, 34°.3S±0°.1×73°.27W±0°.09, h33km, mb4.0/7, Error ellipse: s-maj=16.2km s-min=7.7km az=150.5*
*NEIC **01** 04:14:06.8±0.5, 34°.27S×73°.42W, h35km, mb4.6/2, Error ellipse: s-maj=17.7km s-min=11.5km az=109.0*

ISC 01 04:14:07.0±0.7, 34°.2S±0°.1×73°.26W±0°.10, h35km, n20, σ1º05/25, mb4.1/7, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**1.81**	**49**	*e*P1	Pn	04 14 32.6	-3.1
IHA				*i* S1	**Sn**	**04 14 56.0**	**-1.4**
RCDM	**Rinconada Maip**	**2.17**	**70**	*e*P1	**Pn**	**04 14 39.1**	**-1.6**
RCDM				*i* S	**Sn**	**04 14 05.8**	**-0.6**
PEL	**Peldehue**	**2.41**	**64**	*i*P	**Pn**	**04 14 42.5**	**-1.5**
PEL				*i* S	**Sn**	**04 15 13.3**	**+1.0**
PEL				AML	AML	04 15 15.6	
	comp=N,2μm,0.4s						
FCH	**Farellones**	**2.63**	**71**	*e*P9	**Pn**	**04 14 45.3**	**-2.0**
FCH				AML	AML	04 15 16.8	
	comp=N,1μm,0.3s						
FCH				*i* S1	**Sn**	**04 15 18.3**	**+0.1**
CFAA	**Coronel Fontan**	**4.97**	**59**	Pn	**Pn**	**04 15 19.8**	**+0.6**
	comp=N,0.6nm,0.3s,baz=127,slow=16,SNR=5.6						
CFAA				Sn	**Sn**	**04 16 16.2**	**+0.7**
	comp=N,1.3nm,0.3s,baz=316,slow=22,SNR=10						
LPAZ	**La Paz**	**18.46**	**16**	P	**Pn**	**04 18 21.5**	**+0.8**
	comp=N,0.1nm,0.3s,baz=208,slow=3.7,SNR=7.2						
SIV	**San Ignacio**	**21.22**	**34**	P	**P**	**04 18 52.1**	**+2.2**
	comp=N,2.4nm,0.7s,baz=238,slow=12,SNR=5.6						
SNAA	**Sanae**	**51.74**	**158**	P	**P**	**04 23 10.7**	**+0.2**
	comp=N,2.0nm,0.6s,baz=282,slow=8.7,SNR=16						
SNAA	**Sanae**	**51.74**	**158**	*e*P	**P**	**04 23 10.7**	**+0.2**
	comp=N,5.2nm,0.6s						
QSPA	**South Pole Qui**	**55.99**	**180**	P	**P**	**04 23 42.3**	**+0.5**
	comp=N,3.3nm,1.0s,baz=140,slow=1.2,SNR=6.1						
QSPA	**South Pole Qui**	**55.99**	**180**	*e*P	**P**	**04 23 42.2**	**+0.5**
	comp=N,4.5nm,0.9s						
TXAR	**Lajitas Array**	**69.46**	**332**	P	**P**	**04 25 11.8**	**0.0**
	comp=N,0.8nm,0.6s,baz=157,slow=9.0,SNR=13						
BOSA	**Boshof**	**80.85**	**118**	P	**P**	**04 26 18.4**	**+0.7**
	comp=N,2.6nm,0.9s,baz=280,slow=6.1,SNR=3.2						
PDAR	**Pinedale Array**	**83.53**	**334**	P	**P**	**04 26 29.7**	**-1.6**
	comp=N,1.1nm,1.2s,baz=144,slow=5.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**85.24**	**71**	P	**P**	**04 26 40.5**	**+0.2**
	comp=N,0.9nm,0.7s,baz=255,slow=4.3,SNR=10.0						
WRA	**Warramunga Arr**	**120.05**	**210**	PKP	**PKPdf**	**04 32 53.3**	**-1.2**
	comp=N,0.5nm,0.8s,baz=160,slow=1.6,SNR=5.1						
BRTR	**Keskin Array B**	**122.84**	**61**	PKP	**PKPdf**	**04 32 59.6**	**+0.2**
	comp=N,0.3nm,0.7s,baz=263,slow=5.7,SNR=3.6						
BVAR	**Borovoye Array**	**148.14**	**43**	PKPbc	**PKPbc**	**04 33 49.2**	**+0.7**
	comp=N,1.7nm,0.6s,baz=286,slow=4.0,SNR=7.9						
ZALV	**Zalesovo Beam**	**154.96**	**31**	PKPbc	**PKPbc**	**04 34 04.3**	**+0.1**
	comp=N,1.0nm,0.5s,baz=316,slow=4.0,SNR=4.7						
ZALV				PKPab	**PKPab**	**04 34 19.2**	**-0.6**
	comp=N,0.6nm,0.5s,baz=328,slow=6.5,SNR=3.2						
MKAR	**Makanchi Array**	**157.68**	**48**	PKPab	**PKPab**	**04 34 31.7**	**-0.1**
	comp=N,0.4nm,0.7s,baz=298,slow=2.6,SNR=5.3						

*IDC **01** 04:16:57.6±2.1, 34°.20S×73°.56W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/28, mbtmp3.7/5, ML2.8/1, Error ellipse: s-maj=75.2km s-min=29.0km az=5.0*

ISC 01 04:17:03.3±1.7, 34°.1S±0°.4×73°.5W±0°.2, h35km, n6, σ0º84/7, mb3.8/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.10**	**62**	Pn	**Pn**	**04 18 17.2**	**-0.1**
	0.4nm,0.3s,baz=228,slow=13,SNR=4.5						
CFAA				Sn	**Sn**	**04 19 15.0**	**0.0**
	0.3nm,0.3s,baz=115,slow=19,SNR=3.0						
TXAR	**Lajitas Array**	**69.25**	**332**	P	**P**	**04 28 07.9**	**+1.0**
	0.4nm,0.6s,baz=149,slow=8.3,SNR=5.7						
DBIC	**Dimbokro**	**76.38**	**72**	P	**P**	**04 28 49.4**	**0.0**
	2.2nm,0.7s,baz=227,slow=7.6,SNR=3.3						
NVAR	**Mina Array Bea**	**83.29**	**326**	P	**P**	**04 29 25.3**	**-1.3**
	0.1nm,0.5s,baz=154,slow=5.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**85.41**	**71**	P	**P**	**04 29 37.7**	**+0.2**
	0.8nm,0.8s,baz=250,slow=5.4,SNR=8.6						
MKAR	**Makanchi Array**	**157.76**	**48**	PKPab	**PKPab**	**04 37 28.9**	**+0.4**
	0.5nm,0.6s,baz=297,slow=3.2,SNR=7.5						

*IDC **01** 04:22:30.2±1.1, 35°.10S×72°.70W, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.7/31, mbtmp3.6/7, ML3.4/3, Error ellipse: s-maj=32.1km s-min=20.2km az=86.0*
*ISCJB **01** 04:22:31.1±0.9, 35°.10S±0°.09×72°.7W±0°.1, h18km, mb3.6/4, Error ellipse: s-maj=19.2km s-min=11.1km az=30.4*

ISC 01 04:22:33.0±1.0, 35°.1S±0°.1×72°.7W±0°.1, h18km, n9, σ0º78/10, mb3.7/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.14**	**48**	Pn	**Pn**	**04 23 49.6**	**+0.5**
	0.5nm,0.3s,baz=227,slow=9.8,SNR=8.3						
CFAA				Sn	**Sn**	**04 24 48.1**	**+0.2**
	0.2nm,0.3s,baz=229,slow=15,SNR=2.8						
PLCA	**Paso Flores**	**5.88**	**164**	Pn	**Pn**	**04 23 59.0**	**-0.2**
	0.3nm,0.3s,baz=318,slow=14,SNR=1.9						
PLCA				Lg	Lg	04 25 35.7	
	0.6nm,0.3s,baz=275,slow=23,SNR=3.3						
LPAZ	**La Paz**	**19.19**	**14**	P	**P**	**04 26 55.8**	**-0.7**
	0.1nm,0.3s,baz=211,slow=5.9,SNR=2.7						
SIV	**San Ignacio**	**21.72**	**32**	P	**P**	**04 27 22.3**	**-1.0**
	1.6nm,0.5s,baz=204,slow=7.3,SNR=5.8						
TXAR	**Lajitas Array**	**70.42**	**332**	P	**P**	**04 33 45.6**	**-0.5**
	0.2nm,0.6s,baz=147,slow=7.1,SNR=3.8						
NVAR	**Mina Array Bea**	**84.46**	**326**	P	**P**	**04 35 05.7**	**+1.0**
	0.4nm,0.8s,baz=143,slow=6.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**85.13**	**70**	P	**P**	**04 35 08.5**	**+0.2**
	0.9nm,0.8s,baz=253,slow=3.8,SNR=8.2						
BRTR	**Keskin Array B**	**122.87**	**62**	PKP	**PKPdf**	**04 41 28.6**	**+0.6**
	0.3nm,0.7s,baz=225,slow=2.6,SNR=2.8						
MKAR	**Makanchi Array**	**157.92**	**50**	PKPab	**PKPab**	**04 43 00.6**	**-0.8**
	0.1nm,0.4s,baz=283,slow=2.5,SNR=3.9						

*IDC **01** 04:27:29.1±2.0, 16°.44S×178°.65W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.8/39, mbtmp3.7/6, Error ellipse: s-maj=133.1km s-min=23.8km az=152.0*
*ISCJB **01** 04:27:32.8±1.8, 16°.5S±0°.8×178°.7W±0°.4, h33km, mb3.6/6, Error ellipse: s-maj=124.2km s-min=21.7km az=153.0*

ISC 01 04:27:34.4±2.0, 16°.5S±0°.8×178°.7W±0°.4, h35km, n6, σ0º61/6, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.65**	**258**	P	**P**	**04 35 44.0**	**0.0**
	0.4nm,0.8s,baz=93,slow=8.4,SNR=5.1						
ASAR	**Alice Springs**	**44.94**	**253**	P	**P**	**04 35 46.4**	**0.0**
	1.5nm,0.4s,baz=89,slow=8.2,SNR=22						
NVAR	**Mina Array Bea**	**78.58**	**44**	P	**P**	**04 39 33.1**	**+0.2**
	0.5nm,0.8s,baz=229,slow=10.0,SNR=3.5						
ILAR	**Eielson Array**	**84.56**	**13**	P	**P**	**04 40 03.7**	**+0.1**
	0.3nm,0.8s,baz=224,slow=5.3,SNR=6.6						
TXAR	**Lajitas Array**	**85.46**	**58**	P	**P**	**04 40 09.4**	**+0.3**
	0.4nm,0.7s,baz=213,slow=6.0,SNR=5.1						
PDAR	**Pinedale Array**	**86.50**	**44**	P	**P**	**04 40 13.1**	**-1.0**
	0.4nm,0.7s,baz=231,slow=1.9,SNR=3.7						

*IDC **01** 04:28:33.8±1.1, 35°.08S×73°.95W, h0km, mb4.0/6, mb1 4.0/9, mb1mx3.8/32, mbtmp3.9/9, ML3.7/3, MS3.3/3, Ms1 3.3/3, ms1mx3.1/25, Error ellipse: s-maj=33.7km s-min=22.2km az=90.0*
*ISCJB **01** 04:28:36.7±1.1, 35°.11S±0°.09×73°.9W±0°.2, h33km, mb3.9/6, MS4.2/1, Error ellipse: s-maj=26.1km s-min=13.1km az=2.6*

ISC 01 04:28:39.1±1.1, 35°.1S±0°.1×73°.9W±0°.2, h35km, n12, σ0º65/13, mb4.0/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.87**	**55**	Pn	**Pn**	**04 30 04.0**	**+0.3**
	0.5nm,0.3s,baz=222,slow=11,SNR=9.2						
CFAA				LR	LR	04 32 38.9	
	comp=Z,35nm,18.8s,baz=246,slow=42						
PLCA	**Paso Flores**	**6.22**	**156**	Pn	**Pn**	**04 30 08.2**	**-0.2**
	1.0nm,0.3s,baz=324,slow=13,SNR=2.6						
PLCA				LR	LR	04 32 35.8	
	comp=Z,295nm,21.0s,baz=47,slow=39						
LPAZ	**La Paz**	**19.43**	**17**	P	**P**	**04 33 03.1**	**0.0**
	0.1nm,0.3s,baz=162,slow=3.2,SNR=2.7						
SIV	**San Ignacio**	**22.22**	**34**	P	**P**	**04 33 32.9**	**+0.2**
	1.7nm,0.7s,baz=231,slow=15,SNR=5.6						
BDFB	**Brasilia**	**30.21**	**57**	P	**P**	**04 34 45.9**	**-0.6**
	2.9nm,0.8s,baz=219,slow=9.6,SNR=4.4						
SNAA	**Sanae**	**51.16**	**157**	P	**P**	**04 37 38.4**	**+0.1**
	1.3nm,0.9s,baz=266,slow=15,SNR=3.9						
TXAR	**Lajitas Array**	**69.97**	**333**	P	**P**	**04 39 46.4**	**-0.6**
	0.6nm,0.8s,baz=157,slow=9.1,SNR=7.3						
DBIC	**Dimbokro**	**76.97**	**72**	P	**P**	**04 40 27.7**	**-0.8**
	2.7nm,0.9s,baz=231,slow=6.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**86.02**	**71**	P	**P**	**04 41 16.7**	**+0.4**
	1.7nm,1.2s,baz=260,slow=4.1,SNR=6.2						
TORD				LR	LR	05 19 25.8	
	comp=Z,84nm,18.4s,baz=290,slow=36						
BVAR	**Borovoye Array**	**149.12**	**43**	PKPbc	**PKPbc**	**04 48 24.0**	**+0.9**
	1.1nm,0.9s,baz=318,slow=1.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**155.96**	**32**	PKP	**PKPdf**	**04 48 28.8**	**-0.1**
	0.3nm,0.3s,baz=290,slow=4.2,SNR=4.0						
MKAR	**Makanchi Array**	**158.63**	**50**	PKP	**PKPdf**	**04 48 33.9**	**+1.3**
	0.8nm,1.0s,baz=325,slow=1.9,SNR=4.3						
MKAR				PKPab	**PKPab**	**04 49 08.2**	**+0.1**
	0.7nm,1.0s,baz=290,slow=4.0,SNR=4.9						

*IDC **01** 04:34:35.5±1.2, 35°.02S×72°.41W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/26, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=44.6km s-min=24.5km az=91.0*
*ISCJB **01** 04:34:36.6±1.2, 35°.0S±0°.1×72°.5W±0°.4, h18km, mb3.9/5, Error ellipse: s-maj=43.2km s-min=19.7km az=4.1*

ISC 01 04:34:38.4±1.2, 35°.0S±0°.2×72°.4W±0°.3, h18km, n6, σ0º63/6, mb4.0/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**19.03**	**13**	P	**Pn**	**04 39 01.7**	**+0.8**
	0.1nm,0.3s,baz=204,slow=13,SNR=5.0						
SIV	**San Ignacio**	**21.48**	**31**	P	**P**	**04 39 25.7**	**-0.5**
	5.1nm,0.6s,baz=223,slow=10.0,SNR=13						
QSPA	**South Pole Qui**	**55.23**	**180**	P	**P**	**04 44 10.2**	**+0.1**
	1.5nm,0.9s,baz=74,slow=3.5,SNR=2.7						
TXAR	**Lajitas Array**	**70.48**	**331**	P	**P**	**04 45 51.6**	**-0.3**
	0.2nm,0.4s,baz=157,slow=7.5,SNR=7.4						
BOSA	**Boshof**	**79.85**	**118**	P	**P**	**04 46 46.5**	**+0.2**
	2.9nm,0.9s,baz=260,slow=3.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**84.82**	**70**	P	**P**	**04 47 11.8**	**-0.3**
	0.7nm,0.7s,baz=231,slow=3.9,SNR=4.4						

KRSC 01 04:39:04.8±2.5, 48°.71N×156°.72E, h6km±2km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.01**	**349**	P	Pn	04 39 38.6	-0.7
SKR				S	Sn	04 40 04.2	-0.5
MIPR	**Malaya Ipel'ka**	**3.57**	**0**	P	Pn	04 40 02.1	+1.4
ASAK	**Asacha**	**3.75**	**11**	P	Pn	04 40 07.3	+4.0
MTVR	**Mutnovka**	**3.89**	**13**	P	Pn	04 40 09.0	+3.7
MTVR				S	Sb	04 40 57.0	-4.4
RUS	**Russkaya**	**3.90**	**16**	P	Pn	04 40 07.9	+2.7
RUS				S	Sb	04 40 56.7	-4.5
UGLR	**Uglovaya**	**4.69**	**16**	P	Pn	04 40 21.4	+5.1
AVH	**Avacha**	**4.73**	**15**	P	Pn	04 40 21.6	+4.8
KOK	**Koryaka**	**4.74**	**14**	P	Pn	04 40 21.9	+5.0
SDLR	**Sedlovina**	**4.77**	**16**	P	Pn	04 40 21.4	+4.0
KRER	**Koryakskii**	**4.77**	**15**	P	Pn	04 40 21.7	+4.2
KRX	**Arik**	**4.81**	**14**	P	Pn	04 40 22.0	+4.1
GNL	**Ganaly**	**5.05**	**8**	P	Pn	04 40 26.0	+4.8
MKZ	**Mys Kozlova**	**6.63**	**26**	P	Pn	04 40 46.7	+4.0

*IDC **01** 04:49:23.1±0.9, 35°.96S×73°.02W, h0km, mb3.9/8, mb1 4.1/10, mb1mx4.0/27, mbtmp3.9/10, ML3.8/2, MS3.5/4, Ms1 3.4/4, ms1mx3.1/25, Error ellipse: s-maj=32.8km s-min=20.3km az=91.0*
*ISCJB **01** 04:49:25.7±0.7, 35°.97S±0°.09×72°.9W±0°.2, h28km, mb3.9/7, MS3.7/3, Error ellipse: s-maj=22.4km s-min=12.4km az=2.6*

ISC 01 04:49:27.3±0.9, 36°.0S±0°.1×73°.0W±0°.2, h28km, n12, σ1º05/10, mb4.0/7, MS3.6/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**5.13**	**159**	Pn	**Pn**	**04 50 42.5**	**+0.1**
	2.1nm,0.3s,baz=333,slow=9.3,SNR=6.0						
PLCA				Lg	Lg	04 51 59.6	
	2.2nm,0.3s,baz=270,slow=20,SNR=2.3						
PLCA				LR	LR	04 52 04.9	
	comp=Z,73nm,20.6s,baz=348,slow=32						
CFAA	**Coronel Fontan**	**5.88**	**44**	Pn	**Pn**	**04 50 53.2**	**+0.5**
	0.3nm,0.3s,baz=209,slow=10,SNR=4.4						
CFAA				LR	LR	04 53 23.6	
	comp=Z,25nm,21.2s,baz=168,slow=41						
LPAZ	**La Paz**	**20.07**	**14**	P	**P**	**04 53 59.8**	**+0.5**
	2.8nm,0.8s,baz=177,slow=9.0,SNR=5.8						
SIV	**San Ignacio**	**22.56**	**31**	P	**P**	**04 54 23.8**	**-1.6**
	4.0nm,0.7s,baz=248,slow=14,SNR=16						
SIV				LR	LR	05 04 49.1	
	comp=Z,230nm,18.7s,baz=151,slow=41						
NNA	**Nana**	**24.13**	**351**	LR	LR	05 02 06.3	
	comp=Z,117nm,20.0s,baz=138,slow=32						
RCBR	**Riachuelo**	**45.35**	**58**	LR	LR	05 18 30.2	
	comp=Z,159nm,18.5s,baz=176,slow=38						
QSPA	**South Pole Qui**	**54.27**	**180**	P

15nm,0.5s
TPUB eSn Sn 05 04 44.7 -7.3
KSRS Korea Array 11.38 357 LR LR 05 08 49.3
comp=Z,147nm,21.6s,baz=170,slow=39
MAJO Matsushiro 13.25 36 *e*Pn **Pn 05 04 36.6 -1.1**
MJAR Matsushiro Arr 13.25 36 Pn Pn 05 04 42.4 +4.7
0.2nm,0.3s,baz=214,slow=6.9,SNR=2.6
USRK Ussuriysk Ar. 18.30 8 P **P 05 05 44.8 +1.1**
0.1nm,0.3s,baz=184,slow=8.6,SNR=3.5
ULN Ulaanbaatar 27.61 328 *e*P **P 05 07 19.2 +1.9**
22nm,1.3s
SONM Songino Array 27.90 327 P **P 05 07 20.9 +0.9**
3.2nm,0.5s,baz=136,slow=9.8,SNR=9.8
CMAR Chiang Mai Arr 28.48 261 P **P 05 07 26.0 +0.8**
0.8nm,0.4s,baz=59,slow=8.0,SNR=6.9
PETK Petropavlovsk- 34.64 31 LR LR 05 25 24.0
comp=Z,39nm,18.3s,baz=200,slow=41
TAPN Taplejung 36.49 281 *e*P **P 05 08 35.3 -0.4**
52nm,1.3s
ODAN Odare 36.84 281 *e*P **P 05 08 38.0 -0.6**
100nm,1.1s
RAMN Ramite 37.52 281 *e*P **P 05 08 43.9 -0.5**
JIRN Jiri 37.79 282 *e*P **P 05 08 46.0 -0.8**
GUN Gumba 38.03 283 *e*P **P 05 08 47.8 -1.0**
12nm,0.4s
PKI Pulchoki 38.48 282 *e*P **P 05 08 51.9 -0.7**
PKIN Phulchoki 38.49 282 *e*P **P 05 08 52.6 0.0**
KKN Kakani 38.57 283 *e*P **P 05 08 52.7 -0.5**
DMN Daman 38.75 282 *e*P **P 05 08 54.0 -0.7**
GKN Gorkha 39.10 283 *e*P **P 05 08 57.0 -0.6**
DANN Dangsing 39.83 284 *e*P **P 05 09 03.5 -0.3**
53nm,0.9s
KOLN Koldanda 40.05 283 *e*P **P 05 09 05.2 -0.3**
51nm,1.1s
SEY Seymchan 40.07 17 P **P 05 09 06.5 +1.5**
0.9nm,0.5s,baz=212,slow=13,SNR=5.4
PYUN Piuthan 40.53 284 *e*P **P 05 09 09.2 -0.4**
MKAR Makanchi Array 41.93 312 P **P 05 09 20.1 -0.5**
1.9nm,0.6s,baz=97,slow=9.6,SNR=23
MKAR PcP **PcP 05 11 16.6 +0.4**
0.5nm,0.8s,baz=104,slow=2.4,SNR=3.0
FX1 Attu Island--F 42.58 39 *e*P **P 05 09 26.4 +0.6**
ZALV Zalesovo Beam 42.61 323 P **P 05 09 24.7 -1.3**
1.0nm,0.4s,baz=107,slow=9.9,SNR=6.5
ZALV LR LR 05 28 41.7
comp=Z,93nm,18.9s,baz=72,slow=38
KURK Kurchatov 45.21 317 *e*P **P 05 09 46.1 -0.8**
9.3nm,1.4s
TIXI Tiksi 45.62 0 *e*P **P 05 09 50.1 +0.2**
7.2nm,0.3s
WRA Warramunga Arr 46.06 173 P **P 05 09 53.2 -0.7**
1.4nm,0.4s,baz=352,slow=8.4,SNR=21
TKM2 Tokmak 2 46.09 305 *e*P **P 05 09 55.1 +0.8**
6.9nm,1.2s
ASAR Alice Springs 49.69 174 P **P 05 10 21.7 -0.3**
1.2nm,0.7s,baz=359,slow=6.8,SNR=11
BVAR Borovoye Array 50.66 318 P **P 05 10 28.7 -0.4**
1.5nm,0.5s,baz=99,slow=8.9,SNR=12
KBL Kabul 51.52 295 *e*P **P 05 10 36.5 +0.3**
2.8nm,0.6s
ABKAR Akbulak array 57.04 313 *e*P **P 05 11 15.6 -0.3**
1.8nm,0.6s
GEYT Alibeck 59.71 300 P **P 05 11 35.9 +1.2**
2.2nm,0.6s,baz=68,slow=8.2,SNR=5.5
DZM Mont Dzumac 60.25 139 *e*P **P 05 11 41.1 +2.4**
29nm,0.6s
ILAR Eielson Array 64.40 28 P **P 05 12 06.2 +0.4**
0.3nm,0.8s,baz=265,slow=5.0,SNR=4.2
KBZ Khabaz 69.56 310 P **P 05 12 39.3 +0.3**
2.0nm,0.7s,baz=79,slow=5.2,SNR=5.1
ARCES ARCESS Array B 70.30 339 P **P 05 12 44.0 +0.9**
3.3nm,0.9s,baz=53,slow=6.2,SNR=5.5
ARCES LR LR 05 49 45.0
comp=Z,51nm,18.0s,baz=336,slow=41
FINES FINESS Array B 73.20 331 P **P 05 12 59.8 -0.9**
2.8nm,0.8s,baz=79,slow=7.2,SNR=8.1
RAYN Ar Rayn 74.23 289 *e*P **P 05 13 08.0 +0.5**
10nm,1.1s
DAG Danmarks Havn 75.47 353 *i* P P 05 13 16.8 +3.2
1.3nm,0.9s
AKASG Malin Array Be 75.91 320 P **P 05 13 15.7 -0.9**
2.3nm,0.6s,baz=58,slow=6.3,SNR=14
AKASG LR LR 05 49 08.5
comp=Z,126nm,18.9s,baz=75,slow=38
BRTR Keskin Array B 77.44 308 P **P 05 13 25.4 -0.3**
2.9nm,0.9s,baz=72,slow=6.2,SNR=18
YKA Yellowknife Ar 78.52 25 P **P 05 13 31.1 +0.1**
0.3nm,0.6s,baz=298,slow=5.0,SNR=7.1
NB2 NORSAR Subarra 79.63 334 P **P 05 13 36.4 -0.8**
comp=Z,2.5nm,1.0s,baz=54,slow=5.9
NOA NORSAR Array B 79.63 334 P **P 05 13 36.6 -0.7**
comp=Z,1.2nm,0.7s,baz=54,slow=5.4,SNR=4.3
NOA LR LR 05 51 43.2
comp=Z,30nm,18.7s,baz=80,slow=38
SUMG Summit 81.23 356 *i* P P 05 13 50.0 +3.9
comp=Z,5.8nm,0.8s
GERES GERESS Array B 85.57 323 LR LR 05 55 35.0
comp=Z,109nm,18.3s,baz=253,slow=38
PFO Pinyon Flats O 94.31 49 LR LR 05 48 52.2
comp=Z,46nm,20.0s,baz=191,slow=30

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*ISCJB **01** 05:03:55.1±1.0,58°.49S±0°.10×25°.9W±0°.5,h100km, mb4.0/5,Error ellipse: s-maj=35.7km s-min=11.3km az=166.3*
*IDC **01** 05:03:59.1±7.3,58°.67S×25°.95W,h129km±65km,mb3.8/5, mb1 3.8/6,mb1mx3.6/26,mbtmp4.2/6,Error ellipse: s-maj=34.1km s-min=27.4km az=82.0*
*AWI **01** 05:04:14.4,60°.04S×24°.69W*
ISC 01 05:03:57.7±1.1,**58°.5S**±0°.1×**25°.6W**±0°.3,**h100**km,**n21**, σ1**90**/10,**mb4.0/5,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.19**	**156**	P	**Pn**	**05 07 13.2**	**-0.4**
VNA3	**Neumayer Olymp**	**14.38**	**159**	P	**Pn**	**05 07 15.1**	**-1.1**
VNA3	**Neumayer Olymp**	**14.38**	**159**	S	Sn	05 09 38.0	-16
VNA2	**Neumayer--Watz**	**14.59**	**156**	P	**Pn**	**05 07 18.7**	**-0.1**
baz=311,slow=15							
VNA2	**Neumayer--Watz**	**14.59**	**156**	S	Sn	05 09 45.3	-14
SNAA	**Sanae**	**16.14**	**154**	P	**Pn**	**05 07 38.9**	**+0.6**
SNAA	**Sanae**	**16.14**	**154**	S	Sn	05 10 21.4	-16
SNAA	**Sanae**	**16.14**	**154**	P	**Pn**	**05 07 37.8**	**-0.6**
1.3nm,0.3s,baz=316,slow=14,SNR=84							
SNAA				S	Sn	05 10 21.1	-16
0.2nm,0.3s,baz=142,slow=19,SNR=5.5							
BOSA	**Boshof**	**45.81**	**72**	P	**P**	**05 12 09.6**	**+0.1**
2.4nm,0.5s,baz=219,slow=7.0,SNR=12							
BDFB	**Brasilia**	**45.93**	**329**	P	**P**	**05 12 09.1**	**-1.3**
0.8nm,0.4s,baz=153,slow=6.8,SNR=3.5							
H10S2	**ASCENSION HYDR**	**50.14**	**14**	T	T	06 07 16.8	
baz=188,slow=74,SNR=6.9							
H10S3	**ASCENSION HYDR**	**50.14**	**14**	T	T	06 07 16.4	
baz=188,slow=74,SNR=8.0							
H10S1	**ASCENSION HYDR**	**50.15**	**14**	T	T	06 07 18.9	
baz=188,slow=74,SNR=7.7							
DBIC	**Dimbokro**	**67.07**	**22**	P	**P**	**05 14 40.0**	**-0.1**
1.7nm,0.6s,baz=170,slow=8.0,SNR=3.4							
TORD	**Torodi Ar. Bea**	**74.80**	**28**	P	P	05 15 26.3	-0.5
0.8nm,0.3s,baz=198,slow=6.2,SNR=47							
H08N3	**Diego Garcia H**	**88.07**	**99**	T	T	06 55 06.4	
baz=240,slow=76,SNR=29							
H08N1	**Diego Garcia H**	**88.08**	**99**	T	T	06 55 08.5	
baz=240,slow=76,SNR=33							
H08N2	**Diego Garcia H**	**88.09**	**99**	T	T	06 55 07.7	
baz=240,slow=76,SNR=32							
ASAR	**Alice Springs**	**96.38**	**161**	P	P	05 17 12.7	-2.5
0.3nm,0.6s,baz=179,slow=3.7,SNR=3.2							
ARCES	**ARCESS Array B**	**132.90**	**22**	PKP	**PKPdf**	**05 22 57.8**	**-1.5**
2.3nm,0.8s,baz=248,slow=1.7,SNR=4.0							
ILAR	**Eielson Array**	**152.36**	**308**	PKPbc	**PKPdf**	**05 23 37.7**	**+4.4**
0.1nm,0.4s,baz=144,slow=2.2,SNR=9.3							

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*IDC **01** 05:08:05.4±1.1,35°.72S×72°.38W,h0km,mb3.9/8, mb1 4.0/10,mb1mx3.9/27,mbtmp3.9/10,ML3.3/2,MS2.3/1, Ms1 2.3/1,ms1mx2.3/27,Error ellipse: s-maj=35.1km s-min=20.5km az=96.0*
*ISCJB **01** 05:08:06.6±1.0,35°.7S±0°.1×72°.5W±0°.2,h20km,mb3.9/8, Error ellipse: s-maj=29.5km s-min=14.0km az=12.8*
ISC 01 05:08:08.3±1.1,**35°.7S**±0°.1×**72°.5W**±0°.2,**h20**km,**n12**, σ0**80**/12,**mb4.0/8,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.38**	**42**	Pn	**Pn**	**05 09 28.9**	**+1.3**
0.5nm,0.3s,baz=218,slow=14,SNR=6.3							
CFAA				LR	LR	05 11 46.3	
comp=Z,32nm,19.5s,baz=225,slow=41							
LPAZ	**La Paz**	**19.70**	**12**	P	**Pn**	**05 12 37.3**	**-1.3**
0.1nm,0.3s,baz=187,slow=8.1,SNR=5.1							
SIV	**San Ignacio**	**22.09**	**30**	P	**P**	**05 13 01.7**	**-0.7**
4.2nm,0.9s,baz=228,slow=11,SNR=6.2							
BDFB	**Brasilia**	**29.59**	**54**	P	**P**	**05 14 11.9**	**-0.3**
2.1nm,0.7s,baz=233,slow=5.1,SNR=4.1							
SNAA	**Sanae**	**50.17**	**157**	P	**P**	**05 17 01.8**	**-0.3**
1.3nm,0.8s,baz=281,slow=4.7,SNR=3.6							
QSPA	**South Pole Qui**	**54.56**	**180**	P	**P**	**05 17 35.1**	**+0.3**
1.5nm,0.8s,baz=165,slow=3.8,SNR=4.3							
TXAR	**Lajitas Array**	**71.04**	**331**	P	**P**	**05 19 25.8**	**+0.9**
0.1nm,0.5s,baz=158,slow=9.7,SNR=3.3							
DBIC	**Dimbokro**	**76.05**	**71**	P	**P**	**05 19 54.9**	**+0.2**
2.2nm,0.7s,baz=223,slow=5.8,SNR=2.6							
BOSA	**Boshof**	**79.60**	**118**	P	**P**	**05 20 14.4**	**0.0**
1.9nm,0.7s,baz=225,slow=4.3,SNR=3.2							
TORD	**Torodi Ar. Bea**	**85.11**	**70**	P	**P**	**05 20 43.1**	**-0.1**
0.4nm,0.7s,baz=240,slow=4.3,SNR=3.6							
ZALV	**Zalesovo Beam**	**155.82**	**34**	PKPab	**PKPab**	**05 28 26.7**	**-0.3**
1.6nm,0.9s,baz=333,slow=4.8,SNR=4.1							
MKAR	**Makanchi Array**	**158.10**	**52**	PKPab	**PKPab**	**05 28 36.4**	**-0.8**
0.2nm,0.6s,baz=268,slow=3.6,SNR=3.6							

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*IDC **01** 05:14:04.2±1.8,36°.93S×72°.89W,h0km,mb3.8/6, mb1 4.0/7,mb1mx3.9/17,mbtmp3.8/7,ML4.4/1,MS3.0/1, Ms1 3.0/1,ms1mx2.4/27,Error ellipse: s-maj=46.6km s-min=37.2km az=6.0*
*ISCJB **01** 05:14:07.8±0.6,36°.93S±0°.08×72°.77W±0°.09,h35km, mb4.0/13,Error ellipse: s-maj=12.8km s-min=8.5km az=39.9*
*NEIC **01** 05:14:09.5±0.5,36°.92S×72°.78W,h35km,mb4.1/9,Error ellipse: s-maj=13.3km s-min=8.9km az=71.0*
ISC 01 05:14:09.6±0.7,**36°.90S**±0°.09×**72°.83W**±0°.10,**h35**km,**n21**, σ0**92**/21,**mb4.0**/13,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.22**	**156**	LR	LR	05 16 41.7	
comp=Z,169nm,19.2s,baz=270,slow=37							
PLCA	**Paso Flores**	**4.22**	**156**	*e*Pn	**Pn**	**05 15 09.8**	**-1.6**
TRQA	**Tornquist**	**8.70**	**101**	*e*Pn	**Pn**	**05 16 11.4**	**-1.6**
TRQA				*e*Sn	**Sn**	**05 17 50.9**	**+1.1**
LVC	**Limon Verde**	**14.64**	**14**	*e*Pn	**Pn**	**05 17 33.5**	**-0.9**
CPUP	**Villa Florida**	**16.87**	**56**	Pn	**Pn**	**05 18 03.4**	**+0.4**
0.3nm,0.3s,baz=273,slow=17,SNR=3.0							
LPAZ	**La Paz**	**20.95**	**13**	P	**P**	**05 18 50.5**	**+0.3**
1.8nm,0.7s,baz=199,slow=8.0,SNR=4.6							
LPAZ	**La Paz**	**20.95**	**13**	*e*P	**P**	**05 18 51.3**	**+1.1**
1.2nm,0.5s							
SIV	**San Ignacio**	**23.30**	**30**	P	**P**	**05 19 13.7**	**-0.7**
3.3nm,0.6s,baz=220,slow=7.8,SNR=7.6							
OTAV	**Otavalo**	**37.32**	**351**	*e*P	**P**	**05 21 18.7**	**-0.5**
0.7nm,0.5s							
QSPA	**South Pole Qui**	**53.34**	**180**	*e*P	**P**	**05 23 25.6**	**+0.5**
1.5nm,0.9s							
JCT	**Junction City**	**71.64**	**336**	*e*P	**P**	**05 25 28.1**	**+0.5**
0.9nm,0.4s							
TXAR	**Lajitas Array**	**71.97**	**332**	P	**P**	**05 25 28.9**	**-0.7**
0.4nm,0.6s,baz=151,slow=7.7,SNR=5.3							
SWET	**Sewanee**	**72.78**	**349**	*e*P	**P**	**05 25 34.4**	**+0.1**
3.5nm,0.4s							
WVT	**Waverly**	**73.99**	**347**	*e*P	**P**	**05 25 41.4**	**+0.1**
2.3nm,0.7s							
DBIC	**Dimbokro**	**76.72**	**71**	P	**P**	**05 25 57.7**	**+0.2**
1.6nm,0.6s,baz=225,slow=5.7,SNR=3.7							
ACSO	**Alum Creek Sta**	**77.33**	**352**	*e*P	**P**	**05 26 00.0**	**-0.3**
2.5nm,0.4s							
ANMO	**Albuquerque**	**78.03**	**332**	*e*P	**P**	**05 26 03.2**	**-1.4**
0.3nm,0.3s							
LBTB	**Lobatse**	**81.67**	**115**	*e*P	**P**	**05 26 26.0**	**+1.3**
1.9nm,0.6s							
TORD	**Torodi Ar. Bea**	**85.80**	**70**	P	**P**	**05 26 46.0**	**+0.4**
0.1nm,0.4s,baz=235,slow=5.4,SNR=4.7							
NVAR	**Mina Array Bea**	**85.91**	**326**	P	**P**	**05 26 46.9**	**+1.0**
0.3nm,0.6s,baz=154,slow=6.9,SNR=3.8							
BVAR	**Borovoye Array**	**149.80**	**46**	PKPbc	**PKPbc**	**05 33 55.5**	**+0.2**
0.6nm,0.5s,baz=285,slow=5.5,SNR=4.7							

GUC 01 05:29:15.3±0.4,**33°.11S**×**71°.98W**,**h33**km±1km,**ML4.0**, **2C-3D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.30**	**75**	⇓*i*P	Pb	05 29 22.7	-0.3
IHA				*i* S	Sb	05 29 28.5	+0.2
LNV	**Longovilo**	**0.97**	**151**	*e*P	Pn	05 29 32.6	-0.1
LNV				*i* S1	Sn	05 29 46.3	+0.9
RCDM	**Rinconada Maip**	**1.06**	**112**	⇑*i*P	Pn	05 29 34.1	+0.3
RCDM				*e*S	Sn	05 29 48.1	+0.6
RCDM				AML	AML	05 29 54.4	
comp=N,3μm,0.4s							
STL	**Santa Lucia**	**1.17**	**107**	⇓*i*P	Pn	05 29 35.9	+0.5
STL				*i* S	Sb	05 29 51.5	-0.5
CHCH	**Chadas Angostu**	**1.38**	**127**	⇓*i*P	Pb	05 29 39.8	-0.9
CHCH				*i* S	Sb	05 29 58.2	0.0
CMCH	**Combarbala**	**2.10**	**24**	⇑*i*P	Pn	05 29 49.5	+1.3
CMCH				*i* S	Sn	05 30 15.9	+2.6
CMCH				AML	AML	05 30 26.9	
comp=E,4μm,0.8s							

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*IDC **01** 05:30:29.8±0.5,34°.74S×73°.73W,h0km,mb4.8/16, mb1 4.9/19,mb1mx4.8/29,mbtmp4.8/19,ML4.4/3,MS4.1/11, Ms1 4.1/11,ms1mx3.8/27,Error ellipse: s-maj=18.3km s-min=13.2km az=81.0*
*ISCJB **01** 05:30:33.9±0.2,34°.60S±0°.04×73°.57W±0°.05,h33km, mb5.1/134,MS4.1/10,Error ellipse: s-maj=6.5km s-min=4.8km az=143.5*
*MOS **01** 05:30:34.3±1.1,34°.62S×73°.64W,h33km,mb5.4/30,Error ellipse: s-maj=17.8km s-min=8.1km az=102.7*
*BJI **01** 05:30:35.6,34°.50S×73°.50W,h35km,mB5.2/12,Ms5.3/10, Ms7 5.2/10*
*NEIC **01** 05:30:35.6±0.1,34°.67S×73°.60W,h35km,mb5.1/114, Error ellipse: s-maj=5.1km s-min=3.7km az=59.0*
NEIC Felt at San Fernando and Vina del Mar.
*GCMT **01** 05:30:35.6±0.4,34°.72S×73°.88W,h16km±1km,MW4.9/65, Moment Tensor Solution. s13,c14; s65,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.81±.26; $M_{\theta\theta}$1.16±.13; $M_{\phi\phi}$1.64±.17; $M_{r\theta}$0.54±.42; $M_{\theta\phi}$1.18±.08; $M_{\phi r}$-0.80±.46; Best double couple: $M_0$2.85300×10^{16} NP1:ϕ_s24.00000°,δ50.00000°,λ-111.00000°. NP2: ϕ_s234.00000°,δ44.00000°,λ-67.00000°. Principal axes: T 2.6200, Plg3.0000°, Azm128.0000°; N 0.4560, Plg16.0000°, Azm37.0000°; P -3.0850, Plg74.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 05:30:35.6±0.6,**34°.67S**±0°.05×**73°.64W**±0°.07,**h41**km±4km, **h41**km:**pP-P**,**n716**,σ1**91**/746,**mb5.**1/134,**MS4.0**/10, **216C-213D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.46**	**58**	Pn	**Pn**	**05 31 54.3**	**-0.2**
2.4nm,0.3s,baz=230,slow=13,SNR=10							
CFAA				Sn	**Sn**	**05 32 58.1**	**+2.0**
2.5nm,0.3s,baz=137,slow=19,SNR=5.5							
PLCA	**Paso Flores**	**6.53**	**159**	*e*P	**Pn**	**05 32 08.5**	**-0.6**
PLCA				*e*		05 33 26.1	
PLCA	**Paso Flores**	**6.53**	**159**	*e*Pn	**Pn**	**05 32 08.5**	**-0.6**
PLCA				*e*Sn	**Sn**	**05 33 26.1**	**+3.7**
TRQA	**Tornquist**	**9.99**	**113**	*e*Pn	**Pn**	**05 32 57.5**	**+0.9**
LVC	**Limon Verde**	**12.70**	**20**	*e*Pn	**Pn**	**05 33 34.8**	**+0.9**
CPUP	**Villa Florida**	**16.31**	**64**	*e*P	**Pn**	**05 34 20.8**	**-0.9**
CPUP				*e*		05 37 25.8	
CPUP	**Villa Florida**	**16.31**	**64**	Pn	**Pn**	**05 34 21.8**	**+0.1**
0.9nm,0.3s,baz=228,slow=15,SNR=7.4							
CPUP	**Villa Florida**	**16.31**	**64**	*e*Pn	**Pn**	**05 34 20.8**	**-0.9**
CPUP				*e*Sn	**Sn**	**05 37 25.8**	**+4.2**
LPAZ	**La Paz**	**18.96**	**16**	*e*P	**Pn**	**05 34 56.2**	**+1.3**
LPAZ	**La Paz**	**18.96**	**16**	P	**Pn**	**05 34 56.0**	**+1.1**
0.6nm,0.3s,baz=189,slow=8.0,SNR=64							
LPAZ				LR	LR	05 42 07.7	
comp=Z,128nm,21.1s,baz=190,slow=37							
LPAZ	**La Paz**	**18.96**	**16**	*e*P	**Pn**	**05 34 56.2**	**+1.3**
USHA	**Ushuaia**	**20.49**	**171**	P	**P**	**05 35 09.2**	**-0.5**
16nm,1.0s,baz=356,slow=12,SNR=3.7							
USHA				LR	LR	05 43 01.2	
comp=Z,782nm,20.3s,baz=342,slow=37							
SIV	**San Ignacio**	**21.75**	**34**	P	**P**	**05 35 24.4**	**+0.7**
48nm,1.0s,baz=229,slow=11,SNR=72							
NNA	**Nana**	**22.77**	**352**	*e*P	**P**	**05 35 36.5**	**+2.0**
NNA	**Nana**	**22.77**	**352**	P	**P**	**05 35 34.9**	**+0.4**
27nm,0.8s,baz=192,slow=11,SNR=17							
NNA				LR	LR	05 42 21.9	
comp=Z,346nm,18.7s,baz=190,slow=31							
NNA	**Nana**	**22.77**	**352**	*e*P	**P**	**05 35 35.0**	**+0.4**
34nm,0.8s							
SAML	**Samuel**	**27.34**	**23**	*e*P	**P**	**05 36 17.3**	**+0.6**
5.6nm,1.1s							
ATAH	**Atahualpa**	**27.75**	**350**	P	**P**	**05 36 22.7**	**+1.8**
4.0nm,0.6s,baz=212,slow=6.2,SNR=6.1							
ATAH				LR	LR	05 45 03.8	
comp=Z,265nm,19.2s,baz=194,slow=31							
BDFB	**Brasilia**	**29.80**	**57**	*e*P	**P**	**05 36 39.8**	**+1.0**
BDFB	**Brasilia**	**29.80**	**57**	P	**P**	**05 36 39.2**	**+0.4**
4.1nm,0.8s,baz=243,slow=8.3,SNR=5.9							
BDFB	**Brasilia**	**29.80**	**57**	*e*P	**P**	**05 36 39.8**	**+1.0**
PMSA	**Palmer Station**	**30.70**	**172**	LR	LR	05 48 51.2	
comp=Z,272nm,18.8s,baz=321,slow=36							
OTAV	**Otavalo**	**35.02**	**352**	*e*P	**P**	**05 37 26.2**	**+1.4**
26nm,1.2s							
ROSC	**El Rosal**	**39.32**	**359**	P	**P**	**05 38 01.6**	**+0.3**
7.7nm,0.6s,baz=255,slow=5.2,SNR=8.3							
ROSC				LR	LR	05 53 33.7	
comp=Z,176nm,18.1s,baz=222,slow=35							
RCBR	**Riachuelo**	**45.12**	**59**	*e*P	**P**	**05 38 49.1**	**+0.9**
11nm,0.9s							
JTS	**JuntasAbangare**	**45.98**	**344**	LR	LR	05 53 55.1	
comp=Z,76nm,18.1s,baz=123,slow=30							
VNA2	**Neumayer--Watz**	**49.92**	**157**	P	**P**	**05 39 25.6**	**+1.0**
SNAA	**Sanae**	**51.47**	**158**	P	**P**	**05 39 37.2**	**+0.7**
SNAA	**Sanae**	**51.47**	**158**	⇑*e*P	**P**	**05 39 36.4**	**-0.1**
SNAA				pmax	pmax		
comp=Z,24nm,1.2s							
SNAA	**Sanae**	**51.47**	**158**	*e*P	**P**	**05 39 36.9**	**+0.4**
comp=Z,3.8nm,0.9s,baz=278,slow=7.7,SNR=9.8							
SNAA	**Sanae**	**51.47**	**158**	*e*P	**P**	**05 39 37.3**	**+0.8**
SNAA				*e*pP	**pP**	**05 39 45.6**	**-2.6**
SNAA				*e*sP	**sP**	**05 39 52.4**	**-0.7**
CRPR	**Cabo Rojo, PR**	**52.75**	**8**	*e*P	**P**	**05 39 46.6**	**+0.2**
comp=Z,24nm,1.0s							
OBIP	**Obispado Ponce**	**52.84**	**8**	*e*P	**P**	**05 39 47.0**	**-0.1**
comp=Z,30nm,1.0s							
CELP	**Cerrillos**	**52.88**	**8**	*e*P	**P**	**05 39 47.8**	**+0.5**
LSP	**Las Mesas**	**52.92**	**8**	*e*P	**P**	**05 39 47.0**	**-0.6**
CPD	**Cerro la Pandu**	**52.92**	**9**	*e*P	**P**	**05 39 47.0**	**-0.7**
CPD				pmax	pmax		
comp=Z,40nm,1.4s							
CPD	**Cerro la Pandu**	**52.92**	**9**	*e*P	**P**	**05 39 47.0**	**-0.7**
comp=Z,40nm,1.4s							
LRS	**Lares**	**53.06**	**8**	*e*P	**P**	**05 39 48.0**	**-0.7**
CBYP	**Canovanas**	**53.16**	**9**	*e*P	**P**	**05 39 48.7**	**-0.9**
comp=Z,23nm,0.9s							
SDDR	**Presa de Saban**	**53.40**	**3**	*e*P	**P**	**05 39 51.6**	**+0.4**
comp=Z,16nm,1.0s							
QSPA	**South Pole Qui**	**55.57**	**180**	P	**P**	**05 40 06.9**	**+0.2**
baz=132,slow=4.9							
QSPA	**South Pole Qui**	**55.57**	**180**	*e*P	**P**	**05 40 07.3**	**+0.7**
comp=Z,11nm,0.8s							
NVL	**N'lazarevskaya**	**56.23**	**157**	*e*P	**pP**	**05 40 20.2**	**-2.8**
NVL				*e*S	S	05 48 15.1	+18
NVL				pmax	pmax		
comp=Z,14nm,0.8s							
TEIG	**Tepich**	**56.34**	**343**	*e*P	**P**	**05 40 12.5**	**+0.1**
comp=Z,34nm,0.8s							
035A	**Encino**	**65.50**	**336**	⇑P	**P**	**05 41 15.9**	**+1.3**
baz=66							
034A	**Hebbronville**	**65.82**	**336**	⇓P	**P**	**05 41 17.9**	**+1.3**
baz=66							
934A	**Benavides**	**66.26**	**336**	⇓P	**P**	**05 41 20.7**	**+1.3**
baz=67							
TIGA	**Tifton**	**66.42**	**351**	*e*P	**P**	**05 41 20.2**	**-0.2**
comp=Z,20nm,0.9s							
933A	**Laredo**	**66.53**	**335**	⇑P	**P**	**05 41 22.0**	**+0.9**
baz=67,SNR=5.6							
835A	**Beeville**	**66.66**	**337**	⇓P	**P**	**05 41 23.5**	**+1.5**
baz=67							
834A	**Tilden**	**66.75**	**336**	⇑P	**P**	**05 41 23.9**	**+1.4**
baz=67,SNR=6.9							
735A	**Kenedy**	**67.18**	**337**	⇓P	**P**	**05 41 26.5**	**+1.2**
baz=68							
833A	**Chaparral WMA,**	**67.22**	**335**	⇑P	**P**	**05 41 26.4**	**+0.8**
baz=68,SNR=13							
832A	**Faith Ranch, C**	**67.38**	**335**	⇑P	**P**	**05 41 27.3**	**+0.7**
baz=68,SNR=13							
734A	**La Parita Cree**	**67.42**	**336**	⇓P	**P**	**05 41 27.5**	**+0.7**
baz=68							
636A	**Smothers Creek**	**67.53**	**338**	⇓P	**P**	**05 41 29.0**	**+1.5**
baz=68,SNR=5.8							
733A	**Divot King Ran**	**67.55**	**336**	⇓P	**P**	**05 41 28.4**	**+0.7**
baz=68							
HKT	**Hockley**	**67.60**	**339**	*e*P	**P**	**05 41 28.3**	**+0.5**
HKT				pmax	pmax		
comp=Z,79nm,2.1s							
HKT	**Hockley**	**67.60**	**339**	*e*P	**P**	**05 41 28.3**	**+0.5**
comp=Z,79nm,2.1s							
635A	**Leesville**	**67.67**	**337**	⇑P	**P**	**05 41 28.9**	**+0.6**
baz=68							
538A	**Harpers Horsep**	**67.75**	**340**	⇓P	**P**	**05 41 30.8**	**+1.9**
baz=68							
732A	**Laxson Ranch,**	**67.79**	**335**	⇑P	**P**	**05 41 29.8**	**+0.7**
baz=68,SNR=26							
634A	**China Grove, S**	**67.85**	**337**	⇓P	**P**	**05 41 30.1**	**+0.7**
baz=68							
537A	**Green Hill Far**	**67.86**	**339**	⇓P	**P**	**05 41 30.9**	**+1.3**
baz=68							
536A	**Bastrop**	**68.08**	**338**	⇑P	**P**	**

baz=70,SNR=29
237A **Washetta, Mont** 69.52 340 P P 05 41 40.7 +0.8
baz=70
530A **J-C Ranch, Com** 69.56 335 ⇑P P 05 41 40.9 +0.7
baz=70,SNR=26
334A **Lometa** 69.62 338 ⇑P P 05 41 41.0 +0.5
baz=70,SNR=20
TXAR **Lajitas Array** 69.69 332 P P 05 41 40.5 -0.6
comp=Z,10nm,0.7s,baz=152,slow=8.4,SNR=119
TXAR LR LR 06 07 05.7
comp=Z,221nm,19.6s,baz=0.0,slow=32
432A **Menard** 69.70 336 ⇓P P 05 41 41.2 +0.1
baz=70,SNR=8.3
431A **Sonora** 69.80 335 ⇑P P 05 41 42.0 +0.3
baz=70,SNR=8.7
KMSC **Kings Mountain** 69.82 353 ⇓P P 05 41 41.6 -0.1
baz=70
KMSC **Kings Mountain** 69.82 353 eP P 05 41 42.0 +0.3
comp=Z,16nm,0.9s
333A **Richland Sprin** 69.85 337 ⇑P P 05 41 42.2 +0.2
baz=70,SNR=13
529A **Stev Forest Ra** 69.86 334 ⇑P P 05 41 42.6 +0.5
baz=70,SNR=28
WHTX **Lake Whitney,** 69.99 339 ⇑P P 05 41 43.2 +0.5
baz=70,SNR=9.9
WHTX **Lake Whitney,** 69.99 339 eP P 05 41 43.4 +0.7
comp=Z,45nm,0.9s
137A **Heron Place, G** 70.06 340 P P 05 41 44.1 +0.9
baz=70
430A **Baggett Ranch,** 70.11 335 ⇓P P 05 41 44.1 +0.5
baz=70,SNR=19
332A **Millersview** 70.15 336 ⇓P P 05 41 44.2 +0.4
baz=70,SNR=11
429A **Davenport Ranc** 70.19 334 ⇑P P 05 41 44.7 +0.6
baz=70,SNR=17
234A **Clairette** 70.21 338 ⇓P P 05 41 44.5 +0.4
baz=71,SNR=14
331A **San Angelo** 70.31 336 ⇑P P 05 41 45.1 +0.3
baz=71,SNR=27
233A **Rising Star** 70.46 337 ⇑P P 05 41 46.0 +0.3
baz=71,SNR=12
SWET **Sewanee** 70.47 349 eP P 05 41 45.9 +0.3
comp=Z,30nm,0.9s
135A **Vickery Place,** 70.50 339 ⇓P P 05 41 45.9 0.0
baz=71
232A **Coleman** 70.58 337 ⇓P P 05 41 46.8 +0.3
baz=71,SNR=14
330A **Mertzon** 70.65 335 ⇓P P 05 41 47.0 +0.1
baz=71,SNR=14
134A **White-Moore Ra** 70.72 338 ⇑P P 05 41 47.4 +0.1
baz=71
231A **Bronte** 70.84 336 ⇓P P 05 41 48.0 0.0
baz=71,SNR=25
329A **Wagon Wheel Ra** 71.01 335 ⇓P P 05 41 49.6 +0.5
baz=71,SNR=15
133A **Hamilton Ranch** 71.01 338 ⇑P P 05 41 49.5 +0.5
baz=71,SNR=16
230A **Sterling City** 71.07 335 ⇑P P 05 41 49.3 -0.1
baz=71,SNR=5.8
Z35A **Perchaven, San** 71.18 339 ⇓P P 05 41 50.4 +0.5
baz=72,SNR=6.2
ABTX **Abilene, Hawle** 71.26 337 ⇓P P 05 41 50.9 +0.3
baz=72,SNR=11
ABTX **Abilene, Hawle** 71.26 337 eP P 05 41 50.8 +0.3
comp=Z,44nm,1.0s
UALR **University of** 71.27 344 eP P 05 41 50.9 +0.4
comp=Z,21nm,1.3s
MIAR **Mount Ida** 71.34 343 eP P 05 41 51.2 +0.3
MIAR pmax pmax
comp=Z,75nm,2.1s
MIAR **Mount Ida** 71.34 343 eP P 05 41 51.2 +0.3
comp=Z,75nm,2.1s
229A **Bryant Ranch,** 71.38 335 ⇓P P 05 41 51.5 +0.2
baz=72,SNR=5.4
Z34A **Collier Ranch,** 71.41 339 ⇓P P 05 41 51.7 +0.2
baz=72,SNR=5.1
131A **Roby** 71.55 336 ⇑P P 05 41 52.7 +0.4
baz=72,SNR=15
Z33A **Whitaker Ranch** 71.59 338 ⇑P P 05 41 52.9 +0.4
baz=72,SNR=17
130A **Snyder** 71.67 336 ⇓P P 05 41 53.3 +0.3
baz=72,SNR=11
WVT **Waverly** 71.67 348 eP P 05 41 53.0 +0.1
WVT pmax pmax
comp=Z,41nm,1.0s
WVT **Waverly** 71.67 348 eP P 05 41 53.0 +0.1
comp=Z,41nm,1.0s
228A **UT Block 9, Go** 71.80 334 ⇓P P 05 41 54.1 +0.2
baz=72,SNR=11
Z32A **Haskell** 71.83 337 ⇓P P 05 41 54.3 +0.3
baz=72,SNR=21
Y34A **Reagan Ranch,** 71.91 339 ⇓P P 05 41 54.6 +0.2
baz=72,SNR=10.0
129A **Stewart Farms,** 72.01 335 ⇑P P 05 41 55.2 +0.1
baz=72,SNR=10
Z31A **Sharp Cattle R** 72.06 337 ⇑P P 05 41 55.7 +0.4
baz=72,SNR=14
128A **Castleberry Fa** 72.21 335 ⇑P P 05 41 56.6 +0.3
baz=73,SNR=22
Y33A **Hilltop Ranch,** 72.22 338 ⇑P P 05 41 56.5 +0.3
baz=73,SNR=12
Z30A **Sanderson Ranc** 72.35 336 ⇑P P 05 41 57.1 -0.1
baz=73,SNR=20
MNTX **Cornudas Mount** 72.46 332 eP P 05 41 57.4 -0.3
comp=Z,12nm,0.9s
Y32A **R-V Farms, Ver** 72.47 338 ⇑P P 05 41 58.0 +0.3
baz=73,SNR=12
GDL2 **Guadalupe Moun** 72.52 333 eP P 05 41 59.2 +1.0
Z29A **Hungry Hill Ra** 72.52 336 ⇑P P 05 41 58.1 -0.1
baz=73,SNR=21
X34A **Smith Ranch, M** 72.53 339 ⇓P P 05 41 58.6 +0.5
baz=73,SNR=11
127A **Arkansas Junct** 72.58 334 ⇓P P 05 41 59.0 +0.5
baz=73,SNR=8.8
X33A **Lawton** 72.68 339 ⇓P P 05 41 58.6 -0.3
baz=73
Y31A **Rekieta Farm,** 72.69 337 ⇓P P 05 41 59.4 +0.3
baz=73,SNR=16
PBMO **Poplar Bluff** 72.78 346 eP P 05 41 59.4 -0.1
comp=Z,24nm,1.1s
Z28A **Tucker Farm, M** 72.78 335 ⇓P P 05 41 59.6 -0.1
baz=73,SNR=7.2
X32A **Elmer** 72.80 338 ⇓P P 05 41 59.9 +0.2
baz=73,SNR=6.7
Y30A **Stafford Cattl** 72.82 336 ⇑P P 05 41 59.9 0.0
baz=73
MAW **Mawson** 72.91 164 LR LR 06 14 25.5
comp=Z,315nm,18.2s,baz=238,slow=36
Y29A **Porterfield Fa** 73.06 336 ⇑P P 05 42 01.6 +0.3
baz=73,SNR=19
Z27A **Tatum** 73.10 334 ⇓P P 05 42 01.6 0.0
baz=73,SNR=8.8
W34A **Bridge Creek,** 73.11 340 ⇑P P 05 42 01.7 +0.2
baz=74,SNR=7.1
W34A **Bridge Creek,** 73.11 340 eP P 05 42 01.5 0.0
comp=Z,23nm,0.9s
TUL1 **Leonard** 73.20 341 ⇑P P 05 42 02.0 0.0
baz=74,SNR=14
TUL1 **Leonard** 73.20 341 eP P 05 42 02.2 +0.2
comp=Z,39nm,1.0s
X31A **McDonald Ranch** 73.21 338 ⇑P P 05 42 02.4 +0.2
baz=74,SNR=16
W33A **Caddo, Fort Co** 73.23 339 ⇓P P 05 42 02.9 +0.7
baz=74,SNR=13
Y28A **McKinney Farm,** 73.30 335 ⇑P P 05 42 02.8 0.0
baz=74,SNR=8.7
X30A **Coker Ranch, T** 73.33 337 ⇑P P 05 42 02.8 -0.1
baz=74
Z26A **Caprock** 73.34 334 ⇓P P 05 42 03.3 +0.3
baz=74,SNR=68
W32A **Sentinel** 73.44 338 ⇓P P 05 42 03.9 +0.4
baz=74,SNR=38
SIUC **Southern Illin** 73.46 347 eP P 05 42 03.7 +0.2
comp=Z,23nm,0.9s
MSTX **Muleshoe** 73.54 335 ⇑P P 05 42 04.4 +0.2
baz=74,SNR=18
MSTX **Muleshoe** 73.54 335 eP P 05 42 04.6 +0.5
comp=Z,36nm,0.8s
Y27A **Causey** 73.59 335 ⇓P P 05 42 04.5 -0.1
baz=74,SNR=8.9
V34A **Guthrie** 73.60 340 ⇓P P 05 42 04.4 +0.1
baz=74,SNR=8.6
V34A **Guthrie** 73.60 340 eP P 05 42 04.1 -0.3
comp=Z,32nm,1.0s
X29A **Tulia** 73.60 336 ⇓P P 05 42 05.0 +0.5
baz=74,SNR=14
Z25A **Roswell** 73.61 333 ⇓P P 05 42 04.9 +0.2
baz=74,SNR=6.6

W31A **Holland Ranch,** 73.72 338 ⇑P P 05 42 05.4 +0.2
baz=74,SNR=8.0
319A **Douglas** 73.77 329 ⇓P P 05 42 07.0 +1.4
baz=74,SNR=10
V33A **Lossen Ranch,** 73.80 339 ⇑P P 05 42 05.8 +0.2
baz=74,SNR=13
X28A **Dimmitt** 73.84 336 ⇑P P 05 42 06.1 +0.1
baz=74
Y26A **Elida** 73.87 334 ⇑P P 05 42 06.5 +0.3
baz=74,SNR=33
Z24A **Sheeppen Canyo** 73.90 333 ⇓P P 05 42 07.2 +0.7
baz=74,SNR=25
W30A **Crocket Farms** 73.91 337 ⇑P P 05 42 06.6 +0.3
baz=74
V32A **Arapaho** 73.93 339 ⇑P P 05 42 06.7 +0.3
baz=74
AMTX **Amarillo** 74.00 336 ⇓P P 05 42 07.0 +0.1
baz=74
AMTX **Amarillo** 74.00 336 eP P 05 42 06.9 +0.1
comp=Z,36nm,1.0s
121A **Cookes Peak, D** 74.15 330 ⇑P P 05 42 09.0 +1.1
baz=74,SNR=27
121A **Cookes Peak, D** 74.15 330 eP P 05 42 08.6 +0.7
comp=Z,24nm,0.9s
U34A **Anderson Ranch** 74.17 340 ⇓P P 05 42 07.8 +0.1
baz=74,SNR=6.6
U34A **Anderson Ranch** 74.17 340 eP P 05 42 08.0 +0.3
comp=Z,24nm,0.9s
Y25A **Mesa, Roswell** 74.18 334 ⇑P P 05 42 08.1 +0.1
baz=74,SNR=5.3
W29A **Amarillo** 74.20 336 ⇑P P 05 42 08.4 +0.3
baz=75,SNR=14
V31A **Spring Creek L** 74.23 338 ⇑P P 05 42 09.2 +1.1
baz=75,SNR=5.9
X27A **F and S Farms,** 74.26 335 ⇓P P 05 42 08.7 +0.2
baz=75
U33A **Lingo Farm, Me** 74.33 340 ⇓P P 05 42 08.8 +0.2
baz=75
MVL **Millersville** 74.34 358 eP P 05 42 10.0 +1.4
comp=Z,63nm,1.8s
X26A **CR and CF Fran** 74.42 334 ⇓P P 05 42 10.1 +0.6
baz=75,SNR=23
Z22A **Elephant Butte** 74.45 331 ⇓P P 05 42 11.0 +1.3
baz=75,SNR=12
Y24A **Capitan** 74.46 333 ⇑P P 05 42 10.4 +0.8
baz=75,SNR=28
W28A **Vega** 74.51 336 ⇑P P 05 42 10.4 +0.6
baz=75
U32A **Winter Ranch,** 74.53 339 ⇑P P 05 42 10.3 +0.4
baz=75,SNR=12
W27A **Bowe Ranch, En** 74.63 335 ⇑P P 05 42 10.9 +0.3
baz=75,SNR=17
Y23A **Lovelace Mesa,** 74.70 332 ⇓P P 05 42 12.2 +1.1
baz=75
X25A **Clemmons Ranch** 74.71 334 ⇓P P 05 42 11.2 +0.1
baz=75
U31A **Nine Bar Ranch** 74.78 338 ⇓P P 05 42 11.9 +0.6
baz=75
V29A **Stinnett** 74.85 337 ⇓P P 05 42 12.0 +0.3
baz=75
W26A **Owens Ranch, T** 74.89 335 ⇑P P 05 42 12.9 +0.8
baz=75,SNR=9.3
V28A **Channing** 74.97 336 ⇓P P 05 42 13.1 +0.7
baz=75,SNR=9.2
T33A **Patterson Ranc** 74.97 340 ⇑P P 05 42 13.0 +0.7
baz=75,SNR=6.9
ACSO **Alum Creek Sta** 75.03 353 eP P 05 42 12.3 -0.2
comp=Z,29nm,0.8s
X24A **Lazy VL Ranch,** 75.03 333 ⇓P P 05 42 13.8 +0.8
baz=75,SNR=29
U30A **WK&E Inc. Balk** 75.17 338 ⇑P P 05 42 14.3 +0.7
baz=76,SNR=5.1
V27A **Dan Oppiter Fa** 75.18 336 ⇓P P 05 42 14.3 +0.6
baz=76,SNR=14
TUC **Tucson** 75.22 328 eP P 05 42 15.0 +1.0
TUC pmax pmax
comp=Z,17nm,1.0s
TUC **Tucson** 75.22 328 eP P 05 42 15.0 +1.0
comp=Z,17nm,1.0s
LPM **Los Pinos Moun** 75.25 332 eP P 05 42 15.8 +1.5
T32A **Huddler Ranch,** 75.25 339 ⇓P P 05 42 14.5 +0.5
baz=76,SNR=5.1
W25A **X Bar L Ranch,** 75.26 334 ⇑P P 05 42 14.7 +0.5
baz=76,SNR=12
X23A **Hourglass Bar** 75.32 333 ⇑P P 05 42 15.8 +1.1
baz=76
S33A **Kaszmaul Farm,** 75.38 340 ⇓P P 05 42 15.1 +0.5
baz=76
T31A **Randall Ranch,** 75.40 339 ⇓P P 05 42 15.4 +0.5
baz=76
U28A **Mallet** 75.54 336 ⇓P P 05 42 16.3 +0.5
baz=76
V26A **Tequesquite Ra** 75.54 335 ⇓P P 05 42 16.0 +0.2
baz=76,SNR=9.7
W24A **Lazy 6 Ranch,** 75.59 334 ⇓P P 05 42 16.9 +0.7
baz=76,SNR=9.3
T30A **Plains** 75.62 338 ⇓P P 05 42 16.9 +0.8
baz=76
SFIN **Lafayette** 75.70 349 P P 05 42 17.9 +1.5
baz=76
S32A **Newby Ranch, P** 75.74 340 ⇓P P 05 42 17.4 +0.7
baz=76
ANMO **Albuquerque** 75.75 333c iP P 05 42 18.4 +1.3
ANMO pmax pmax
comp=Z,89nm,1.2s
ANMO **Albuquerque** 75.75 333 eP P 05 42 18.1 +1.0
comp=Z,16nm,1.0s
U27A **Thompson Grove** 75.78 336 ⇓P P 05 42 17.8 +0.6
baz=76,SNR=6.0
214A **Organ Pipe Nat** 75.82 326 ⇓P P 05 42 18.8 +1.5
baz=76,SNR=13
214A **Organ Pipe Nat** 75.82 326 eP P 05 42 18.6 +1.2
comp=Z,16nm,1.0s
W23A **Werner Place,** 75.82 333 ⇓P P 05 42 18.6 +1.0
baz=76,SNR=8.9
S31A **Mullinville** 75.83 339 ⇑P P 05 42 17.9 +0.6
baz=76
V25A **Rancho No Teng** 75.87 334 ⇓P P 05 42 18.4 +0.6
baz=76,SNR=16
T29A **Hugoton** 75.95 338 ⇑P P 05 42 18.4 +0.4
baz=76
V24A **Rampart Ranch,** 76.00 334 ⇑P P 05 42 19.2 +0.6
baz=76,SNR=12
R33A **Olander Ranch,** 76.04 340 ⇓P P 05 42 18.5 +0.1
baz=76
U26A **Atchley Ranch,** 76.06 335 ⇑P P 05 42 19.4 +0.5
baz=76,SNR=6.7
S30A **Montezuma** 76.14 338 ⇑P P 05 42 19.5 +0.4
baz=76
T28A **Walsh** 76.18 337 ⇑P P 05 42 19.9 +0.5
baz=76,SNR=17
LIC **Lamto** 76.24 72 eP P 05 42 21.3 +1.2
comp=Z,33nm,0.7s
U25A **Circle Dot Ran** 76.30 335 ⇓P P 05 42 21.2 +1.0
baz=77,SNR=12
S29A **Ulysses** 76.32 338 ⇓P P 05 42 20.9 +0.7
baz=77,SNR=10
T27A **Campo** 76.33 336 ⇓P P 05 42 21.0 +0.8
baz=77,SNR=8.2
R32A **Long Quarter,** 76.35 340 ⇑P P 05 42 20.8 +0.6
baz=77,SNR=10
V23A **Ortiz Mt. (NFS** 76.36 333 ⇑P P 05 42 21.6 +1.0
baz=77
KSU1 **Kansas State U** 76.42 342 ⇓P P 05 42 20.5 -0.1
baz=77
KSU1 **Kansas State U** 76.42 342 eP P 05 42 20.8 +0.2
comp=Z,9.9nm,0.8s
R31A **Burdett** 76.46 339 ⇓P P 05 42 21.5 +0.6
baz=77
TIC **Toumodi** 76.50 72 eP P 05 42 22.8 +1.2
comp=Z,24nm,1.0s
S28A **Manter** 76.54 337 ⇑P P 05 42 22.2 +0.8
baz=77,SNR=26
KIC **Kosan Boka** 76.55 72 eP P 05 42 23.2 +1.3
comp=Z,32nm,0.7s
DBIC **Dimbokro** 76.64 72 P P 05 42 23.0 +0.6
comp=Z,12nm,0.7s,baz=222,slow=6.0,SNR=20
Q33A **Connelly Farm,** 76.64 341 ⇓P P 05 42 22.1 +0.3
baz=77
R30A **Dighton** 76.68 339 ⇑P P 05 42 22.5 +0.4
baz=77,SNR=5.9
T26A **Comanche Natio** 76.72 336 ⇑P P 05 42 23.2 +0.7
baz=77,SNR=16
X18A **Snowflake** 76.77 330 ⇓P P 05 42 24.3 +1.4
baz=77,SNR=8.8
V22A **San Miguel Ran** 76.78 333 ⇑P P 05 42 24.6 +1.6
baz=77,SNR=34
Q32A **Meitler Ranch,** 76.84 340 ⇓P P 05 42 23.5 +0.5

baz=77,SNR=7.8
U23A **El Rito** 76.88 334 ⇓P P 05 42 25.1 +1.5
baz=77,SNR=13
113A **Mohawk Valley,** 76.94 326 ⇓P P 05 42 24.8 +1.2
baz=77
T25A **Trinidad** 76.97 335 ⇓P P 05 42 25.3 +1.3
baz=77,SNR=26
P33A **Williams Farm,** 77.02 341 ⇓P P 05 42 24.3 +0.3
baz=77
R29A **Marienthal** 77.07 338 ⇑P P 05 42 25.0 +0.7
baz=77
Z14A **Wintersburg** 77.07 327 ⇑P P 05 42 25.6 +1.2
baz=77
S26A **Kim** 77.08 336 ⇑P P 05 42 25.6 +1.1
baz=77
Q31A **Ellis** 77.09 340 ⇓P P 05 42 25.2 +0.9
baz=77,SNR=5.8
U22A **Llaves** 77.17 333 ⇓P P 05 42 26.8 +1.7
baz=78,SNR=8.6
W18A **Petrified Fore** 77.19 330 ⇑P P 05 42 26.3 +1.1
baz=78,SNR=5.8
W18A **Petrified Fore** 77.19 330 eP P 05 42 26.8 +1.6
comp=Z,41nm,1.3s
R28A **Tribune** 77.20 338 ⇑P P 05 42 25.8 +0.7
baz=78,SNR=18
T24B **San Luis** 77.24 334 ⇓P P 05 42 27.1 +1.5
baz=78,SNR=13
Q30A **Quinter** 77.30 339 ⇓P P 05 42 26.4 +0.8
baz=78,SNR=13
X16A **Lo Mia Camp, P** 77.30 329 ⇑P P 05 42 27.2 +1.3
baz=78,SNR=27
P32A **Huiting Farm,** 77.44 340 ⇑P P 05 42 26.9 +0.6
baz=78,SNR=8.5
S25A **Robets Cordova** 77.44 335 ⇑P P 05 42 27.6 +1.0
baz=78,SNR=12
Q29A **Oakley** 77.45 338 ⇑P P 05 42 27.0 +0.6
baz=78,SNR=7.6
T23A **Casias Ranch,** 77.45 334 ⇓P P 05 42 27.9 +1.2
baz=78,SNR=9.0
R27A **Eads** 77.46 337 ⇑P P 05 42 27.4 +0.8
baz=78,SNR=26
P31A **Stockton** 77.56 340 ⇓P P 05 42 27.7 +0.7
baz=78,SNR=6.3
Y14A **Wickenburg** 77.58 327 ⇑P P 05 42 28.5 +1.3
baz=78,SNR=11
GLA **Glamis** 77.67 326 eP P 05 42 29.3 +1.5
GLA pmax pmax
comp=Z,14nm,0.8s
GLA **Glamis** 77.67 326 ⇑P P 05 42 29.1 +1.4
baz=78,SNR=7.1
GLA **Glamis** 77.67 326 eP P 05 42 29.3 +1.5
comp=Z,14nm,0.8s
R26A **Arlington** 77.69 336 ⇑P P 05 42 28.7 +0.8
baz=78,SNR=20
S24A **Houchin Ranch,** 77.70 335 ⇑P P 05 42 29.4 +1.3
baz=78,SNR=29
R25A **Fountain Ranch** 77.83 336 ⇓P P 05 42 29.6 +0.9
baz=78,SNR=6.5
P30A **Selden** 77.83 339 ⇓P P 05 42 29.3 +0.7
baz=78
Q28A **Sharon Springs** 77.87 338 ⇑P P 05 42 29.8 +1.0
baz=78
SDCO **Great Sand Dun** 77.89 335 eP P 05 42 30.1 +0.9
comp=Z,6.3nm,0.8s
O32A **Brockman Farm,** 77.95 341 ⇓P P 05 42 29.4 +0.3
baz=78
SWSC **Sam W. Stewart** 78.03 325 ⇑P P 05 42 31.2 +1.4
baz=78
S23A **Nye Farm, Mont** 78.03 334 ⇓P P 05 42 31.1 +1.1
baz=78
KSCO **Kaye Shedlock'** 78.07 337 ⇑P P 05 42 31.1 +1.1
baz=78
KSCO **Kaye Shedlock'** 78.07 337 eP P 05 42 31.5 +1.5
comp=Z,16nm,0.7s
P29A **Atwood** 78.09 339 ⇑P P 05 42 31.0 +1.0
baz=78,SNR=17
Y12C **Blythe** 78.11 326 ⇑P P 05 42 31.8 +1.7
baz=78,SNR=9.2
O31A **Woolen Ranch,** 78.13 340 ⇑P P 05 42 30.8 +0.6
baz=78,SNR=6.7
R24A **Sanders Place,** 78.19 335 ⇑P P 05 42 32.2 +1.4
baz=78,SNR=26
WUAZ **Wupatki** 78.21 329 ⇑P P 05 42 32.3 +1.4
baz=78,SNR=13
WUAZ **Wupatki** 78.21 329 eP P 05 42 32.5 +1.6
comp=Z,21nm,0.9s
BAR **Barrett** 78.24 324 eP P 05 42 31.6 +0.6
comp=Z,17nm,1.0s
Q26A **Hugo** 78.28 337 ⇓P P 05 42 32.2 +1.0
baz=79,SNR=9.3
MONP **Monument Peak,** 78.29 324 ⇑P P 05 42 32.6 +1.2
baz=79
P28A **Saint Francis** 78.31 338 ⇓P P 05 42 32.3 +1.0
baz=79,SNR=9.2
O30A **MW Ranch, Wils** 78.36 340 ⇓P P 05 42 32.2 +0.7
baz=79,SNR=9.8
S22A **4UR Ranch, Cre** 78.37 334 ⇓P P 05 42 33.0 +1.1
baz=79,SNR=8.6
PDMCI **Parker Dam,Lak** 78.39 327 ⇑P P 05 42 32.6 +0.9
baz=79
R23A **Moffat** 78.40 335 ⇓P P 05 42 33.1 +1.0
baz=79,SNR=8.9
N32A **Stulken Farm,** 78.42 341 ⇓P P 05 42 32.3 +0.5
baz=79
BC3 **Big Chuckawall** 78.46 325 ⇓P P 05 42 33.5 +1.3
baz=79,SNR=15
Q25A **Bedland, Calha** 78.51 336 ⇓P P 05 42 33.2 +0.7
baz=79
MVCO **Mesa Verde** 78.52 332 ⇓P P 05 42 33.8 +1.1
baz=79,SNR=10
MVCO **Mesa Verde** 78.52 332 eP P 05 42 33.9 +1.1
comp=Z,20nm,1.0s
O29A **4D Ranch, Culb** 78.53 339 ⇑P P 05 42 33.3 +0.9
baz=79
P27A **Ficken Ranch,** 78.55 338 ⇑P P 05 42 33.6 +1.0
baz=79
N31A **Bailey Ranch,** 78.66 341 ⇑P P 05 42 33.8 +0.8
baz=79
IRM **Iron Mountain** 78.74 326 ⇓P P 05 42 35.3 +1.6
baz=79,SNR=8.8
P26A **Davis Ranch, A** 78.80 337 ⇓P P 05 42 35.2 +1.1
baz=79,SNR=8.2
O28A **Krutsinger Ran** 78.82 338 ⇓P P 05 42 35.2 +1.1
baz=79,SNR=6.3
Q24A **Divide** 78.86 335 ⇓P P 05 42 35.6 +1.0
baz=79,SNR=6.7
PFO **Pinyon Flats O** 78.89 325 P P 05 42 36.0 +1.3
comp=Z,132nm,0.9s,SNR=5.8
PFO **Pinyon Flats O** 78.89 325 eP P 05 42 36.7 +2.1
PFO **Pinyon Flats O** 78.89 325 P P 05 42 35.8 +1.1
comp=Z,18nm,0.9s,baz=122,slow=5.0,SNR=23
PFO **Pinyon Flats O** 78.89 325 ⇑P P 05 42 36.5 +1.8
baz=79,SNR=9.1
PFO **Pinyon Flats O** 78.89 325 eP P 05 42 36.7 +2.1
W13A **Hualapai Mount** 78.95 327 ⇑P P 05 42 36.6 +1.6
baz=79,SNR=13
N30A **Hueftle Ranch,** 78.95 340 ⇑P P 05 42 35.6 +0.9
baz=79
BGNE **Belgrade** 78.99 341 ⇓P P 05 42 35.3 +0.5
baz=79
BGNE **Belgrade** 78.99 341 eP P 05 42 35.6 +0.8
comp=Z,92nm,1.5s
BELC **Belle Mtn. Jos** 79.00 325 ⇑P P 05 42 36.8 +1.6
baz=79,SNR=5.2
P25A **Willow Gulch B** 79.02 336 ⇑P P 05 42 36.8 +1.5
baz=79,SNR=28
O27A **Beecher Island** 79.10 338 ⇑P P 05 42 36.9 +1.3
baz=80
N29A **Votaw Ranch, W** 79.12 339 ⇓P P 05 42 36.6 +0.9
baz=80,SNR=5.5
M31A **Lambtecht Ranc** 79.15 341 ⇓P P 05 42 36.7 +0.9
baz=80,SNR=9.4
MURC **Murrieta** 79.25 324 ⇓P P 05 42 38.0 +1.5
baz=80,SNR=8.1
N28A **Pribbeno Ranch** 79.27 339 ⇑P P 05 42 37.3 +0.9
baz=80
P24A **Kohler Place,** 79.27 336 ⇓P P 05 42 37.9 +1.2
baz=80
PV01 **Paradox Valley** 79.36 333 eP P 05 42 38.5 +1.3
comp=Z,1μm,1.0s
U15A **North Rim** 79.38 329 ⇓P P 05 42 38.9 +1.5
baz=80,SNR=25
SCI **San Clemente I** 79.40 323 ⇑P P 05 42 39.3 +2.0
baz=80
O26A **Horse Wrangler** 79.41 337 ⇓P P 05 42 38.6 +1.3
baz=80
P23A **Jefferson** 79.46 335 ⇑P P 05 42 39.1 +1.1
baz=80

LDFC	Landfair	79.48 326	eP	P	05 42 39.9 +2.1
	comp=Z,27nm,1.2s				
GMRC	Grande Mounta	79.48 326	⇑P	P	05 42 39.3 +1.4
	baz=80,SNR=13				
O25A	Wiggins	79.55 337	⇓P	P	05 42 39.7 +1.6
	baz=80				
M30A	Dale-Ortello V	79.57 340	⇑P	P	05 42 38.8 +0.7
	baz=80				
BBRC	Big Bear Solar	79.65 325	⇑P	P	05 42 40.7 +1.8
	baz=80				
N27A	Anderson Farm,	79.68 338	⇓P	P	05 42 39.8 +1.0
	baz=80,SNR=8.0				
SMCO	Snowmass	79.69 334	eP	P	05 42 40.5 +1.3
	comp=Z,24nm,1.0s				
M29A	Burnside Ranch	79.72 340	⇑P	P	05 42 39.9 +1.0
	baz=80				
ISCO	Idaho Springs	79.77 336	eP	P	05 42 40.6 +1.0
ISCO			pmax	pmax	
	comp=Z,8.0nm,0.9s				
ISCO	Idaho Springs	79.77 336	⇑P	P	05 42 40.5 +1.0
	baz=80,SNR=10				
ISCO	Idaho Springs	79.77 336	eP	P	05 42 40.6 +1.0
	comp=Z,8.0nm,0.9s				
HEC	Hector,Ludlow	79.84 325	⇑P	P	05 42 41.5 +1.8
	baz=80				
M28A	Bar X Bar Ranc	79.87 339	⇓P	P	05 42 40.9 +1.2
	baz=80				
O24A	Longmont	79.87 336	⇑P	P	05 42 40.6 +0.8
	baz=80				
L31A	Butterfield Fa	79.89 341	⇓P	P	05 42 40.5 +0.8
	baz=80,SNR=10.0				
L30A	Spencer Herefo	79.91 341	⇑P	P	05 42 40.7 +0.8
	baz=80				
N26A	Koester Ranch,	79.91 338	⇑P	P	05 42 41.1 +1.1
	baz=80,SNR=8.6				
P22A	Eagle	79.98 335	⇓P	P	05 42 42.0 +1.4
	baz=80,SNR=11				
BFSC	Mount Baldy Ra	79.98 324	⇑P	P	05 42 41.8 +1.2
	baz=80,SNR=6.2				
TUQ	Turquoise Moun	80.15 326	⇑P	P	05 42 42.9 +1.5
	baz=80,SNR=11				
N25A	Grover	80.17 337	⇑P	P	05 42 42.7 +1.2
	baz=80,SNR=5.1				
RRX	Edison Barstow	80.19 325	⇑P	P	05 42 43.4 +1.9
	baz=80				
L29A	Maesberg Ranch	80.23 340	⇓P	P	05 42 42.5 +0.8
	baz=81,SNR=7.0				
O23A	Lake Granby, G	80.24 335	⇑P	P	05 42 43.1 +1.1
	baz=81,SNR=22				
TSUM	Tsumeb	80.30 107	eP	P	05 42 44.4 +1.6
	comp=Z,14nm,1.3s				
DECC	Green Verdugo	80.32 324	⇓P	P	05 42 43.7 +1.4
	baz=81				
O22A	Kremmling	80.41 335	⇓P	P	05 42 43.8 +0.8
	baz=81,SNR=17				
N24A	Carr	80.44 336	⇑P	P	05 42 44.1 +1.2
	baz=81,SNR=7.2				
GSC	Goldstone, Bar	80.45 325	eP	P	05 42 44.5 +1.5
GSC			pmax	pmax	
	comp=Z,10.0nm,0.8s				
GSC	Goldstone, Bar	80.45 325	⇑P	P	05 42 44.6 +1.5
	baz=81,SNR=8.5				
GSC	Goldstone, Bar	80.45 325	eP	P	05 42 44.5 +1.5
	comp=Z,9.7nm,0.8s				
L28A	Connealy Angus	80.48 339	⇓P	P	05 42 43.7 +0.7
	baz=81				
K30A	Basset	80.56 341	⇓P	P	05 42 43.9 +0.6
	baz=81,SNR=13				
EDW2	Edwards Air Fo	80.67 324	⇓P	P	05 42 45.0 +0.8
	baz=81,SNR=6.5				
SHPR	Sheep Range	80.69 327	eP	P	05 42 46.2 +1.9
M25A	Palm-Egli Farm	80.73 337	⇓P	P	05 42 45.4 +0.9
	baz=81,SNR=5.6				
BSC	Santa Cruz Isl	80.76 323	⇓P	P	05 42 45.7 +1.1
	baz=81				
CCUT	Cedar City	80.78 329	eP	P	05 42 46.9 +2.0
	comp=Z,26nm,1.0s				
ECSD	EROS Data Cent	80.79 343	⇑P	P	05 42 44.7 +0.2
	baz=81,SNR=23				
ECSD	EROS Data Cent	80.79 343	eP	P	05 42 44.8 +0.3
	comp=Z,32nm,0.9s				
OSI	Osito Audit: C	80.81 324	⇑P	P	05 42 45.9 +1.0
	baz=81				
OSI	Osito Audit: C	80.81 324	eP	P	05 42 46.5 +1.6
	comp=Z,27nm,0.9s				
K29A	Lazy Trails An	80.83 340	⇓P	P	05 42 45.7 +0.9
	baz=81,SNR=5.6				
N23A	Red Feather La	80.86 336	⇓P	P	05 42 46.4 +1.1
	baz=81,SNR=11				
BOSA	Boshof	80.92 118	eP	P	05 42 47.1 +1.1
BOSA			pmax	pmax	
	comp=Z,18nm,0.9s				
BOSA	Boshof	80.92 118	P	P	05 42 46.7 +0.7
	comp=Z,17nm,0.8s,baz=232,slow=4.9,SNR=27				
BOSA			LR	LR	06 15 16.1
	comp=Z,116nm,19.1s,baz=198,slow=33				
BOSA	Boshof	80.92 118	eP	P	05 42 47.1 +1.1
	comp=Z,18nm,0.9s				
N22A	Wattenberg Ran	80.95 335	⇑P	P	05 42 47.1 +1.3
	baz=81,SNR=11				
SRU	San Rafael Swe	80.96 332	eP	P	05 42 46.9 +1.1
SRU			pmax	pmax	
	comp=Z,16nm,0.8s				
SRU	San Rafael Swe	80.96 332	eP	P	05 42 46.9 +1.1
	comp=Z,16nm,0.8s				
L26A	Underwood Farm	80.97 338	⇓P	P	05 42 46.7 +1.0
	baz=81				
O20A	White River Ci	80.99 334	⇓P	P	05 42 47.0 +1.0
	baz=81,SNR=8.9				
M24A	Cheyenne	81.00 337	⇑P	P	05 42 47.1 +1.2
	baz=81,SNR=10				
LRMC	Laurel Mtn Rad	81.01 325	⇓P	P	05 42 47.4 +1.3
	baz=81,SNR=5.9				
ARUT	Antelope Range	81.01 329	eP	P	05 42 48.1 +2.0
ARUT			pmax	pmax	
	comp=Z,291nm,1.0s				
ARUT	Antelope Range	81.01 329	eP	P	05 42 48.1 +2.0
	comp=Z,291nm,1.0s				
PHWY	Pilot Hill	81.06 336	eP	P	05 42 47.2 +0.8
	comp=Z,22nm,1.1s				
K28A	Ten Mile Ranch	81.08 340	⇓P	P	05 42 47.5 +1.3
	baz=81,SNR=11				
MVU	Marysvale	81.11 330	eP	P	05 42 48.1 +1.4
	comp=Z,13nm,0.9s				
J30A	Dallas	81.13 341	⇓P	P	05 42 46.8 +0.4
	baz=82,SNR=5.2				
ARVC	Arvin	81.27 324	⇑P	P	05 42 48.3 +1.0
	baz=82				
M23A	Laramie	81.30 336	⇑P	P	05 42 48.4 +0.8
	baz=82,SNR=15				
K27A	Flueckinger Fa	81.33 339	⇓P	P	05 42 48.5 +0.9
	baz=82,SNR=7.3				
L25A	Engebretsen Ra	81.35 338	⇑P	P	05 42 48.4 +0.7
	baz=82				
TMUT	Trail Mountain	81.39 331	eP	P	05 42 49.7 +1.5
	comp=Z,22nm,1.1s				
SPMN	Marine on St.	81.39 346	⇑P	P	05 42 47.2 -0.5
	baz=82,SNR=7.7				
SPMN	Marine on St.	81.39 346	eP	P	05 42 47.5 -0.1
	comp=Z,16nm,0.9s				
FURC	Furnace Creek,	81.43 326	⇓P	P	05 42 49.7 +1.6
	baz=82,SNR=7.0				
J29A	Okreek	81.43 341	⇑P	P	05 42 48.7 +0.7
	baz=82,SNR=30				
ISA	Isabella, Lake	81.53 325	eP	P	05 42 50.3 +1.6
ISA			pmax	pmax	
	comp=Z,11nm,0.8s				
ISA	Isabella, Lake	81.53 325	⇓P	P	05 42 50.4 +1.7
	baz=82,SNR=10				
ISA	Isabella, Lake	81.53 325	eP	P	05 42 50.3 +1.6
	comp=Z,11nm,0.8s				
M22A	Cedar Creek Ra	81.53 336	⇓P	P	05 42 49.8 +1.0
	baz=82,SNR=7.4				
K26A	Motz Farm, Whi	81.60 338	⇑P	P	05 42 49.8 +0.8
	baz=82				
N20A	Spence Gulch,	81.61 334	⇑P	P	05 42 49.7 +0.4
	baz=82,SNR=9.0				
I30A	Oacoma	81.66 341	⇑P	P	05 42 49.2 +0.1
	baz=82,SNR=13				
J28A	Allard Ranch,	81.70 340	⇓P	P	05 42 50.1 +0.7
	baz=82,SNR=11				
K25A	Mack Ranch, Ha	81.73 338	⇓P	P	05 42 50.9 +1.1
	baz=82				
J27A	Elkhorn Farm,	81.76 339	⇑P	P	05 42 51.1 +1.3
	baz=82,SNR=15				
L23A	Garrett	81.87 336	⇓P	P	05 42 51.2 +0.7
	baz=82,SNR=6.2				
VES	Vestal, Richgr	81.97 324	⇓P	P	05 42 52.2 +1.3
	baz=82,SNR=7.4				
SMMC	Simmler	81.99 323	⇓P	P	05 42 52.5 +1.4
	baz=82				
I29A	Vivian Onida	82.00 341	⇓P	P	05 42 50.9 0.0
	baz=82				
BRSD	Miller	82.03 342	⇓P	P	05 42 51.2 +0.1
	baz=82				
L22A	Ellis Ranch, M	82.04 336	⇓P	P	05 42 52.2 +0.7
	baz=82				
GRAC	Grapevine Rang	82.10 326	⇓P	P	05 42 53.1 +1.4
	baz=82,SNR=6.0				
J26A	Sides Ranch, S	82.13 339	⇑P	P	05 42 52.8 +1.1
	baz=82,SNR=11				
MPU	Maple Canyon	82.17 331	eP	P	05 42 53.5 +1.3
	comp=Z,25nm,0.9s				
I28A	Midland	82.21 340	⇓P	P	05 42 52.7 +0.6
	baz=83,SNR=14				
NLU	North Lily Min	82.29 331	eP	P	05 42 54.2 +1.4
	comp=Z,51nm,1.8s				
DAU	Daniels Canyon	82.36 332	eP	P	05 42 54.4 +1.1
DAU	Daniels Canyon	82.36 332	eP	P	05 42 54.4 +1.1
R11A	Troy Canyon, C	82.41 328	⇑P	P	05 42 54.9 +1.5
	baz=83,SNR=20				
R11A	Troy Canyon, C	82.41 328	eP	P	05 42 55.0 +1.5
	comp=Z,14nm,1.1s				
J25A	Sunshine Ranch	82.42 338	⇑P	P	05 42 53.9 +0.6
	baz=83,SNR=8.2				
K23A	Bowen Ranch, D	82.42 337	⇓P	P	05 42 54.1 +0.7
	baz=83,SNR=11				
I27A	Quinn	82.52 340	⇓P	P	05 42 54.2 +0.5
	baz=83,SNR=6.2				
H29A	Onida	82.53 341	⇑P	P	05 42 53.9 +0.2
	baz=83,SNR=9.8				
TIN	Tinemaha, Big	82.54 325	⇓P	P	05 42 55.5 +1.5
	baz=83				
JLU	Jordanelle	82.60 332	eP	P	05 42 55.4 +0.9
	comp=Z,17nm,0.8s				
K22A	Casper	82.62 336	⇓P	P	05 42 55.1 +0.7
	baz=83,SNR=13				
K22A	Casper	82.62 336	eP	P	05 42 55.2 +0.7
	comp=Z,36nm,1.1s				
J24A	Dixon Ranch, L	82.63 338	⇑P	P	05 42 55.3 +0.9
	baz=83,SNR=6.9				
I26A	New Underwood	82.72 339	⇓P	P	05 42 55.2 +0.4
	baz=83,SNR=5.2				
G30A	Faulkton	82.72 342	⇓P	P	05 42 54.9 +0.2
	baz=83,SNR=7.8				
DUG	Dugway, Tooele	82.79 331	⇓P	P	05 42 56.6 +1.3
	baz=83,SNR=24				
H28A	Mission Ridge	82.80 341	⇓P	P	05 42 55.4 +0.3
	baz=83,SNR=11				
CTU	Camp Tracy	82.80 332	eP	P	05 42 55.8 +0.4
	comp=Z,8.8nm,0.8s				
K21A	Alcova	82.85 336	⇓P	P	05 42 56.3 +0.6
	baz=83,SNR=26				
TPH	Tonopah	82.91 327	eP	P	05 42 57.2 +1.2
TPH			pmax	pmax	
	comp=Z,21nm,1.0s				
TPH	Tonopah	82.91 327	eP	P	05 42 57.2 +1.2
	comp=Z,21nm,1.0s				
I25A	Rochford	82.97 339	⇓P	P	05 42 57.0 +0.8
	baz=83,SNR=14				
G29A	Hoven	82.98 342	⇓P	P	05 42 56.3 +0.2
	baz=83,SNR=5.7				
TCUT	Toone Canyon	83.03 332	eP	P	05 42 57.7 +1.0
	comp=Z,20nm,1.0s				
H27A	Howes	83.05 340	⇑P	P	05 42 56.6 +0.1
	baz=83,SNR=10				
I24A	Kuemmerle Ranc	83.10 338	⇑P	P	05 42 57.4 +0.6
	baz=84				
G28A	Parade	83.14 341	⇑P	P	05 42 57.2 +0.3
	baz=84,SNR=12				
RSSD	Black Hills	83.16 338	eP	P	05 42 57.5 +0.3
RSSD			pmax	pmax	
	comp=Z,12nm,0.8s				
RSSD	Black Hills	83.16 338	eP	P	05 42 57.5 +0.3
	comp=Z,12nm,0.8s				
LBTB	Lobatse	83.22 116	eP	P	05 42 59.2 +1.2
LBTB			pmax	pmax	
	comp=Z,18nm,0.8s				
LBTB	Lobatse	83.22 116	eP	P	05 42 59.2 +1.2
	comp=Z,18nm,0.8s				
J22A	Midwest	83.29 337	⇑P	P	05 42 57.9 +0.1
	baz=84,SNR=9.4				
MLAC	Mammoth, Mammo	83.29 325	⇓P	P	05 42 59.5 +1.5
	baz=84,SNR=6.0				
F30A	Leola	83.35 342	⇑P	P	05 42 58.1 +0.1
	baz=84				
H25A	Fruitdale	83.48 339	⇑P	P	05 42 59.1 +0.4
	baz=84,SNR=7.0				
BGU	Big Grassy Mou	83.50 331	eP	P	05 42 59.9 +0.9
	comp=Z,21nm,1.8s				
J21A	Lysite	83.55 336	⇓P	P	05 42 59.6 +0.4
	baz=84,SNR=6.3				
F29A	Eureka	83.55 342	⇓P	P	05 42 58.9 0.0
	baz=84,SNR=7.7				
SPUT	South Promonto	83.60 332	eP	P	05 43 00.6 +1.1
	comp=Z,14nm,0.9s				
NVAR	Mina Array Bea	83.69 326	P	P	05 43 01.0 +0.9
	comp=Z,6.8nm,0.8s,baz=157,slow=6.4,SNR=48				
NVAR	Mina Array Bea	83.69 326	P	P	05 43 01.0 +0.9
G27A	Dupree	83.69 340	⇓P	P	05 42 59.9 +0.1
	baz=84,SNR=7.4				
I22A	9 Mile Ranch,	83.72 337	⇑P	P	05 43 00.2 +0.2
	baz=84,SNR=9.4				
J20A	Shoshoni	83.77 335	⇓P	P	05 43 01.4 +1.1
	baz=84,SNR=29				
BW06	Boulder Array	83.77 334	eP	P	05 43 00.7 +0.2
	comp=Z,7.3nm,1.0s				
PDAR	Pinedale Array	83.77 334	P	P	05 43 00.7 +0.2
	comp=Z,5.7nm,1.0s,baz=160,slow=4.9,SNR=30				
PDAR			LR	LR	06 16 05.3
	comp=Z,160nm,19.1s,baz=148,slow=33				
G26A	Maurine	83.80 340	⇑P	P	05 43 00.5 +0.2
	baz=84,SNR=12				
F28A	McLaughlin	83.82 341	⇓P	P	05 43 00.8 +0.5
	baz=84,SNR=9.5				
H24A	Dirks Ranch, A	83.88 338	⇑P	P	05 43 00.7 -0.1
	baz=84,SNR=8.6				
I21A	Big Trails, Te	83.91 336	⇑P	P	05 43 01.0 0.0
	baz=84,SNR=14				
G25A	Newell	83.95 339	⇑P	P	05 43 01.5 +0.4
	baz=84,SNR=19				
E30A	Jud	83.95 343	⇑P	P	05 43 01.1 +0.2
	baz=84,SNR=6.2				
J19A	Crowheart	84.03 335	⇓P	P	05 43 02.0 +0.3
	baz=84,SNR=15				
HVU	Hansel Valley	84.13 332	eP	P	05 43 02.8 +0.6
HVU			pmax	pmax	
	comp=Z,39nm,0.9s				
HVU	Hansel Valley	84.13 332	eP	P	05 43 02.8 +0.6
	comp=Z,40nm,0.9s				
F27A	Lemmon	84.17 340	⇓P	P	05 43 02.4 +0.3
	baz=84,SNR=14				
E29A	Napoleon	84.19 342	⇑P	P	05 43 02.3 +0.1
	baz=85				
ELK	Elko	84.25 330	eP	P	05 43 03.8 +0.9
ELK			pmax	pmax	
	comp=Z,13nm,0.9s				
ELK	Elko	84.25 330	eP	P	05 43 03.8 +0.9
	comp=Z,13nm,0.9s				
WAKR	Walker	84.27 326	eP	P	05 43 05.2 +2.1
H22A	Clearmont	84.30 337	⇑P	P	05 43 03.0 +0.1
	baz=85				
I20A	Worland	84.31 336	⇓P	P	05 43 03.7 +0.6
	baz=85,SNR=19				
F26A	Lodgepole	84.33 340	⇓P	P	05 43 03.2 +0.3
	baz=85,SNR=6.6				
AHID	Auburn Hatcher	84.33 333	eP	P	05 43 04.0 +0.7
	comp=Z,10nm,0.9s				
CMB	Columbia Colle	84.34 325	eP	P	05 43 04.6 +1.4
CMB			pmax	pmax	
	comp=Z,8.0nm,1.0s				
CMB	Columbia Colle	84.34 325	eP	P	05 43 04.6 +1.4
	comp=Z,8.1nm,1.0s				
G24A	Alzada	84.36 339	⇓P	P	05 43 02.6 -0.6
	baz=85				
E28A	Huff	84.47 342	⇑P	P	05 43 03.7 +0.1
	baz=85				
D30A	Buchanan	84.48 343	⇑P	P	05 43 03.8 +0.2
	baz=85,SNR=6.7				
G23A	Biddle	84.54 338	⇑P	P	05 43 04.0 -0.1
	baz=85,SNR=8.4				
H21A	Big Horn, Sher	84.55 337	⇑P	P	05 43 04.0 -0.2
	baz=85,SNR=5.9				
E27A	Carson	84.56 341	⇑P	P	05 43 04.0 -0.1
	baz=85				
F25A	Bowman	84.62 340	⇑P	P	05 43 04.9 +0.4
	baz=85,SNR=5.5				
D29A	Pettibone, Tap	84.64 343	⇓P	P	05 43 04.6 +0.1
	baz=85				
I19A	Meeteetse	84.69 335	⇓P	P	05 43 05.5 +0.5
	baz=85,SNR=5.8				
H20A	Greybull	84.75 336	⇑P	P	05 43 05.1 -0.1
	baz=85,SNR=24				
REDW	Red Top Meadow	84.76 334	eP	P	05 43 06.2 +0.8
	comp=Z,24nm,1.4s				
BMN	Battle Mountai	84.84 328	eP	P	05 43 06.5 +0.7
BMN			pmax	pmax	
	comp=Z,4.0nm,0.8s				
BMN	Battle Mountai	84.84 328	eP	P	05 43 06.5 +0.7
	comp=Z,3.8nm,0.8s				
F24A	Ekalaka	84.84 339	⇑P	P	05 43 05.8 +0.2
	baz=85,SNR=6.5				
G22A	Birney	84.84 337	⇑P	P	05 43 05.3 -0.3
	baz=85				
E26A	Carlson Angus	84.84 340	⇑P	P	05 43 05.8 +0.3
	baz=85,SNR=5.1				
LOHW	Long Hollow	84.89 334	eP	P	05 43 06.2 +0.1
	comp=Z,27nm,1.5s				
TPAW	Teton Pass	84.91 334	eP	P	05 43 07.1 +0.9
	comp=Z,15nm,1.0s				
AGMN	Agassiz Nation	84.95 345	⇑P	P	05 43 06.2 +0.2
	baz=85,SNR=9.6				
AGMN	Agassiz Nation	84.95 345	eP	P	05 43 06.0 +0.1
	comp=Z,18nm,0.8s				
C30A	Mose, Pekin	84.97 343	⇑P	P	05 43 06.5 +0.4
	baz=85,SNR=18				
D28A	Regan	85.01 342	⇓P	P	05 43 06.7 +0.4
	baz=85				
F23A	Volborg	85.02 338	⇑P	P	05 43 06.5 0.0
	baz=85,SNR=13				
FXWY	Fox Creek	85.06 334	eP	P	05 43 07.2 +0.3
	comp=Z,11nm,1.3s				
E25A	Miller Ranch,	85.13 340	⇓P	P	05 43 07.4 +0.3
	baz=86				
G21A	Lodge Grass	85.14 337	⇓P	P	05 43 06.9 -0.2
	baz=86				
I17A	Pilgrim Ck.	85.14 334	⇓P	P	05 43 08.1 +0.7
	baz=86,SNR=9.4				
D27A	Center	85.18 341	⇑P	P	05 43 07.3 +0.1
	baz=86				
H19A	Powell	85.24 336	⇓P	P	05 43 08.1 +0.4
	baz=86,SNR=10.0				
IMW	Indian Meadow	85.25 334	eP	P	05 43 08.6 +0.6
	comp=Z,16nm,1.2s				
FLWY	Flagg Ranch	85.33 334	eP	P	05 43 09.1 +0.9
	comp=Z,31nm,1.3s				
F22A	Rosebud	85.33 338	⇓P	P	05 43 08.1 0.0
	baz=86,SNR=11				
D26A	Manning	85.35 341	⇓P	P	05 43 08.6 +0.6
	baz=86,SNR=8.2				
E24A	Baker	85.45 339	⇓P	P	05 43 09.0 +0.4
	baz=86,SNR=6.2				
G20A	Bridger	85.47 336	⇓P	P	05 43 08.7 -0.1
	baz=86,SNR=22				
H18A	Shoshone NF, C	85.48 335	⇓P	P	05 43 09.2 +0.2
	baz=86,SNR=21				
H17A	Grant Village	85.56 334	⇑P	P	05 43 10.1 +0.6
	baz=86				
H17A	Grant Village	85.56 334	eP	P	05 43 10.8 +1.4
	comp=Z,3.7nm,1.0s				
B30A	Myrvik Farm, E	85.64 344	⇓P	P	05 43 09.6 +0.2
	baz=86,SNR=24				
F21A	Absaloka Mine,	85.64 337	⇑P	P	05 43 09.6 0.0
	baz=86				
TORD	Torodi Ar. Bea	85.68 71	P	P	05 43 11.0 +0.6
	comp=Z,5.9nm,0.9s,baz=227,slow=6.1,SNR=27				
E23A	Ismay	85.69 339	⇑P	P	05 43 09.8 +0.1
	baz=86				
YFT	Old Faithful	85.70 334	eP	P	05 43 12.3 +2.2
	comp=Z,22nm,1.2s				
D25A	Fairfield	85.70 340	⇓P	P	05 43 10.4 +0.6
	baz=86,SNR=13				
C27A	Sayler Ranch,	85.73 342	⇑P	P	05 43 10.4 +0.6
	baz=86,SNR=5.1				
RLMT	Red Lodge	85.73 336	eP	P	05 43 10.3 +0.1
	comp=Z,5.6nm,0.6s				
E22A	Miles City	85.83 338	⇑P	P	05 43 10.3 -0.2
	baz=86,SNR=9.8				
B29A	Wagenman Farm,	85.89 343	⇓P	P	05 43 11.0 +0.4
	baz=86,SNR=8.0				
OHCM	Honcut	85.90 325	eP	P	05 43 12.4 +1.5
YMR	Madison River	85.93 334	eP	P	05 43 12.5 +1.3
	comp=Z,35nm,1.1s				
F20A	Billings	85.96 337	⇓P	P	05 43 10.8 -0.3
	baz=86				
D24A	Glendive	85.96 340	⇑P	P	05 43 11.7 +0.6
	baz=86,SNR=8.5				
C26A	Wahner Farm, P	85.99 341	⇑P	P	05 43 11.7 +0.5
	baz=86,SNR=7.1				
A30A	Hoffart Farm,	86.09 344	⇑P	P	05 43 11.6 0.0
	baz=86,SNR=8.2				
B28A	Dugan Ranch, T	86.12 343	⇑P	P	05 43 12.1 +0.3
	baz=86,SNR=11				
LAO	LASA Array	86.14 338	eP	P	05 43 12.1 +0.2
	comp=Z,26nm,0.9s				
C25A	Freed Ranch, W	86.20 340	⇓P	P	05 43 12.9 +0.7
	baz=87,SNR=6.7				
QLMT	Earthquake Lak	86.24 334	eP	P	05 43 14.3 +1.6
F19A	Roth Farm, Mol	86.27 336	⇑P	P	05 43 12.7 0.0
	baz=87,SNR=6.2				
D23A	Lindsay	86.27 339	⇓P	P	05 43 13.2 +0.6
	baz=87,SNR=31				
E21A	Keefer Ranch,	86.27 338	⇓P	P	05 43 12.8 +0.1
	baz=87,SNR=8.6				
HLID	Hailey	86.28 332	⇑P	P	05 43 14.0 +1.1
	baz=87,SNR=17				
HLID	Hailey	86.28 332	eP	P	05 43 14.0 +1.1
	comp=Z,14nm,0.9s				
A29A	Manning Farm,	86.29 343	⇑P	P	05 43 12.8 +0.2
	baz=87,SNR=10				
B27A	Peters Farms,	86.31 342	⇑P	P	05 43 13.3 +0.6
	baz=87				
C24A	Savage	86.36 340	⇑P	P	05 43 13.8 +0.8
	baz=87,SNR=13				
A28A	Rude Farm, Bot	86.53 343	⇑P	P	05 43 14.0 +0.2
	baz=87				
B26A	Jensen Ranch,	86.53 341	⇑P	P	05 43 14.4 +0.5
	baz=87				
D22A	Cohagen	86.54 338	⇑P	P	05 43 14.3 +0.4
	baz=87,SNR=9.0				
E20A	Meyer Farm, Mu	86.57 337	⇓P	P	05 43 14.4 +0.3
	baz=87,SNR=40				
B25A	Knox Farm, Ray	86.68 341	⇑P	P	05 43 15.5 +0.9
	baz=87,SNR=19				
D21A	La Casta Ranch	86.71 338	⇓P	P	05 43 14.9 +0.1
	baz=87,SNR=11				
MFID	Camas Ranch	86.72 331	eP	P	05 43 16.2 +1.2
	comp=Z,11nm,1.0s				
E19A	Rath Farm, Rou	86.75 337	⇓P	P	05 43 15.1 0.0
	baz=87,SNR=26				
MCMT	McKenzie Canyo	86.75 333	eP	P	05 43 16.4 +1.1
	comp=Z,13nm,0.8s				
A27A	Ledoux Ranch,	86.81 342	P	P	05 43 15.7 +0.5
	baz=87				
ULM	Lac du Bonnet	86.81 346	P	P	05 43 15.0 -0.1
ULM	Lac du Bonnet	86.81 346	P	P	05 43 14.9 -0.1
	comp=Z,13nm,0.9s,baz=167,slow=3.0,SNR=18				
C23A	Lambert	86.83 339	⇓P	P	05 43 15.5 +0.2
	baz=87,SNR=12				
A26A	Wade Farm, Ken	86.96 342	⇑P	P	05 43 16.3 +0.4
	baz=87,SNR=10				
C22A	Vida	86.98 339	⇓P	P	05 43 16.1 0.0
	baz=87,SNR=12				
BOZ	Bozeman (W)	87.01 334	eP	P	05 43 16.9 +0.5
BOZ			pmax	pmax	
	comp=Z,7.0nm,1.1s				
BOZ	Bozeman (W)	87.01 334	eP	P	05 43 16.9 +0.5
	comp=Z,7.3nm,1.1s				
WVOR	Wild Horse Val	87.09 328	eP	P	05 43 17.9 +1.1
WVOR			pmax	pmax	
	comp=Z,15nm,1.0s				
WVOR	Wild Horse Val	87.09 328	eP	P	05 43 17.9 +1.1
	comp=Z,15nm,1.0s				
D20A	Manuel Ranch,	87.09 337	⇓P	P	05 43 16.8 +0.1
	baz=87,SNR=24				
DLMT	Dillon	87.12 334	eP	P	05 43 17.8 +0.9
	comp=Z,21nm,1.1s				
DGMT	Dagmar	87.15 340	⇓P	P	05 43 17.4 +0.5
	baz=88,SNR=23				
DGMT	Dagmar	87.15 340	eP	P	05 43 17.6 +0.7
	comp=Z,71nm,0.8s				
A25A	Svangstu Ranch	87.28 341	⇑P	P	05 43 18.1 +0.6
	baz=88,SNR=10				
B23A	Brockton	87.37 340	⇓P	P	05 43 18.1 +0.2

baz=88,SNR=7.2
WDC Whiskeytown Da 87.38 325 *e*P **P 05 43 18.4 +0.3**
WDC pmax pmax
comp=Z,15nm,0.8s
WDC Whiskeytown Da 87.38 325 *e*P **P 05 43 18.4 +0.3**
comp=Z,15nm,0.8s
MOD Modoc Plateau 87.39 327 *e*P **P 05 43 19.5 +1.1**
comp=Z,34nm,0.8s
D19A Cripps Ranch, 87.40 337 ⇑P **P 05 43 18.0 -0.2**
baz=88,SNR=6.2
C21A Desert Coulee 87.42 338 ⇑P **P 05 43 18.1 -0.1**
baz=88,SNR=12
LRM Limekiln Ridge 87.46 334 *e*P **P 05 43 19.5 +0.8**
A24A Westby 87.51 341 ⇑P **P 05 43 18.9 +0.4**
baz=88,SNR=10
B22A Reddig Ranch S 87.51 339 ⇓P **P 05 43 18.9 +0.3**
baz=88,SNR=12
C20A Veseth Ranch, 87.60 338 ⇓P **P 05 43 18.8 -0.3**
baz=88,SNR=6.1
N02D Trinity Center 87.76 325 ⇑P **P 05 43 20.8 +0.7**
baz=88
A23A Redstone 87.78 340 ⇓P **P 05 43 19.8 -0.1**
baz=88
B21A Ellsworth Farm 87.93 338 ⇑P **P 05 43 20.6 0.0**
baz=88,SNR=9.5
C19A Slack Wire Ran 87.95 337 ⇓P **P 05 43 20.6 -0.2**
baz=88,SNR=6.7
M04C Macdoel 87.99 326 ⇑P **P 05 43 22.2 +1.0**
baz=88
HRY Holter Researc 88.00 335 *e*P **P 05 43 22.1 +1.0**
A22A Carney Farms, 88.11 339 ⇑P **P 05 43 21.6 +0.1**
baz=88,SNR=12
M02C Callahan 88.16 325 ⇑P **P 05 43 23.0 +1.0**
baz=88
B20A Solberg Farm, 88.25 338 ⇓P **P 05 43 22.0 -0.2**
baz=89,SNR=5.3
K05A Summer Lake 88.31 327 *e*P **P 05 43 24.4 +1.6**
comp=Z,54nm,0.9s
YBH Yreka Blue Hor 88.36 326 *e*P **P 05 43 23.5 +0.6**
YBH pmax pmax
comp=Z,11nm,0.8s
YBH Yreka Blue Hor 88.36 326 *e*P **P 05 43 23.5 +0.6**
comp=Z,12nm,0.8s
A21A Bergtoll Ranch 88.41 339 ⇓P **P 05 43 22.6 -0.3**
baz=89,SNR=8.0
EGMT Eagleton 88.44 337 ⇑P **P 05 43 22.6 -0.5**
baz=89
EGMT Eagleton 88.44 337 *e*P **P 05 43 23.0 -0.1**
comp=Z,2.8nm,0.8s
BMO Blue Mountains 88.51 331 *e*P **P 05 43 24.0 +0.5**
comp=Z,6.0nm,0.9s
B19A Brinkman Farms 88.55 337 ⇑P **P 05 43 23.1 -0.4**
baz=89
A20A Cobblestone Ra 88.61 338 ⇓P **P 05 43 23.8 0.0**
baz=89,SNR=7.1
K04D Chiloquin, OR 88.62 327 ⇑P **P 05 43 25.1 +1.0**
baz=89
I07A Izee 88.79 329 *e*P **P 05 43 26.3 +1.4**
comp=Z,20nm,0.9s
KTRM Thompson Ridge 88.81 325 P **P 05 43 26.9 +1.9**
MSO Missoula 88.86 334 ⇑P **P 05 43 26.7 +1.5**
baz=89
MSO Missoula 88.86 334 *e*P **P 05 43 25.9 +0.8**
comp=Z,46nm,2.4s
A19A Klindworth Far 88.91 338 ⇑P **P 05 43 25.4 +0.1**
baz=89
J05D Fort Rock, OR 88.91 327 ⇓P **P 05 43 27.1 +1.6**
baz=89
SLMT Seeley Lake 89.05 334 *e*P **P 05 43 26.9 +0.8**
L02D Cave Junction, 89.11 325 ⇓P **P 05 43 27.9 +1.6**
baz=89
J04D Umpqua Nationa 89.27 327 ⇓P **P 05 43 28.6 +1.3**
baz=90
SCHQ Schefferville 89.33 4 P **P 05 43 27.2 +0.2**
comp=Z,3.9nm,0.8s,baz=198,slow=6.5,SNR=4.3
F10A Beach Ranch, E 89.40 331 *e*P **P 05 43 28.2 +0.6**
comp=Z,6.5nm,0.9s
SWMT Swartz Lake 89.45 334 *e*P **P 05 43 28.8 +0.8**
G08A Pilot Rock 89.54 330 *e*P **P 05 43 29.3 +0.9**
comp=Z,9.1nm,1.0s
JTMT Jette 89.76 334 *e*P **P 05 43 29.0 -0.3**
YBMT Yellow Bay 89.76 334 *e*P **P 05 43 30.3 +0.9**
I05D Terrebonne, OR 89.79 328 ⇑P **P 05 43 31.0 +1.5**
baz=90
I04A Tendick Farm, 89.84 327 ⇑P **P 05 43 30.4 +0.7**
baz=90
BSMT Bassoo Peak 90.03 334 *e*P **P 05 43 31.5 +0.8**
H04A Detroit Lake 90.43 328 *e*P **P 05 43 33.2 +0.8**
comp=Z,14nm,1.1s
HAWA Hanford 90.67 330 *e*P **P 05 43 34.9 +1.4**
comp=Z,16nm,1.4s
WALA Waterton Lakes 90.73 335 *e*P **P 05 43 34.6 +0.7**
D08A Wollman Farm, 90.96 331 *e*P **P 05 43 35.5 +0.7**
NEW Newport 91.24 333 ⇓P **P 05 43 36.0 -0.2**
baz=92
C09A Chrisman Ranch 91.31 332 *e*P **P 05 43 37.4 +1.0**
comp=Z,13nm,1.1s
ASR Mount Adams--S 91.33 329 P **P 05 43 38.2 +1.5**
EBG Ellensburg 91.51 330 P **P 05 43 38.9 +1.5**
F04A Amboy 91.52 328 *e*P **P 05 43 38.2 +0.8**
comp=Z,196nm,2.8s
LON Longmire 91.90 329 *e*P **P 05 43 39.8 +0.6**
LON pmax pmax
comp=Z,5.0nm,1.0s
LON Longmire 91.90 329 *e*P **P 05 43 39.8 +0.6**
comp=Z,5.2nm,1.0s
ETW Entiat 91.97 330 P **P 05 43 40.4 +0.8**
B08A Colville Reser 92.17 331 *e*P **P 05 43 40.8 +0.3**
comp=Z,19nm,1.6s
EDM Edmonton 94.08 337 *e*P **P 05 43 48.1 -1.0**
EDM Edmonton 94.08 337 *e*P **P 05 43 48.0 -1.0**
FCC Fort Churchill 94.63 349 *e*P **P 05 43 51.8 +0.4**
FCC Fort Churchill 94.63 349 *e*P **P 05 43 51.8 +0.4**
YKA Yellowknife Ar 102.27 342 P **Pdif 05 44 25.2 -0.5**
comp=Z,0.9nm,0.8s,baz=143,slow=4.3,SNR=16
GERES GERESS Array B 113.56 46 PKiKP **PKiKP 05 49 09.7 +0.7**
comp=Z,0.5nm,0.6s,baz=238,slow=3.3,SNR=3.8
ASAR Alice Springs 116.37 208 PKP **PKPdf 05 49 14.6 -0.6**
comp=Z,0.8nm,0.7s,baz=115,slow=3.4,SNR=2.7
WRA Warramunga Arr 119.53 210 PKP **PKPdf 05 49 20.6 -0.7**
comp=Z,1.3nm,0.7s,baz=159,slow=1.5,SNR=4.2
BRTR Keskin Array B 123.31 62 PKP **PKPdf 05 49 28.5 +0.4**
comp=Z,3.7nm,0.7s,baz=191,slow=2.1,SNR=31
KIEV Kiev 123.61 48 *i* PKIKP **PKPdf 05 49 28.1 0.0**
AKASG Malin Array Be 123.62 48 PKP **PKPdf 05 49 27.8 -0.3**
comp=Z,2.3nm,0.8s,baz=262,slow=2.9,SNR=19
H11S2 WAKE ISLAND Hyl 24.44 270 T T 08 06 58.5
baz=115
H11S1 WAKE ISLAND Hyl 24.45 270 T T 08 06 57.9
baz=115
H11S3 WAKE ISLAND Hyl 24.46 270 T T 08 06 59.1
baz=115
OBN Obninsk 128.83 44 *i* PKIKP **PKPdf 05 49 39.0 +1.1**
OBN pmax pmax
comp=Z,16nm,1.4s
MOS Moscow 129.50 43 *e*PKHKP PKPpre 05 49 24.5
KLMR Klimovskoe 130.72 36 *e*PKIKP **PKPdf 05 49 39.6 -1.7**
KLMR pmax pmax
comp=Z,21nm,1.2s
KIV Kislovodsk 130.97 59 *e*PKIKP **PKPdf 05 49 44.5 +2.0**
KIV pmax pmax
comp=Z,7.0nm,0.8s
KBZ Khabaz 131.07 59 PKP **PKPdf 05 49 44.3 +1.8**
comp=Z,1.8nm,0.7s,baz=299,slow=3.7,SNR=5.1
PRGR Permogore 133.62 35 PKIKP **PKPdf 05 49 47.0 +0.2**
PRGR pmax pmax
comp=Z,4.0nm,0.3s
ISRV Sarvestan 134.98 81 *e*P **PKPdf 05 49 50.1 -0.7**
ITEG Tejag 140.67 79 *e*P **PKPdf 05 50 00.9 -0.1**
IKOO Kooshah 140.75 79 *e*P **PKPdf 05 50 03.0 +1.7**
GEYT Alibeck 141.32 71 PKP **PKPdf 05 50 02.5 +0.7**
comp=Z,1.4nm,0.4s,baz=242,slow=7.7,SNR=3.7
ABKAR Abkulak array 143.13 52 *e*PKPdf PKPbc 05 50 01.8 +0.1
PSI Prapat 147.55 166 PKPbc **PKPdf 05 50 15.1 +1.6**
comp=Z,16nm,0.8s,baz=177,slow=2.9,SNR=18
BRVK Borovoye 148.60 43 *e*PKIKP **PKPdf 05 50 14.5 +0.7**
BRVK *e* 05 50 19.0
BRVK *e* 05 50 21.8
BRVK Borovoye 148.60 43 *e*PKPdf **PKPdf 05 50 14.4 +0.7**
BRVK *e*PKPbc **PKiKP 05 50 19.0 0.0**
BRVK *e*PKPab **PKPab 05 50 21.8 +0.6**
BVA0 Borovoye Array 148.67 43 *i* PKP2 **PKPbc 05 50 18.1 +0.4**
BVA0 pmax pmax
comp=Z,18nm,0.7s
YAK Yakutsk 148.89 339 *e*PKIKP **PKPbc 05 50 16.8 -1.2**
YAK pmax pmax
comp=Z,23nm,1.0s
KBL Kabul 149.39 79 *e*PKPdf **PKPdf 05 50 17.0 +1.0**
KBL *e*PKPbc **PKPbc 05 50 21.2 +0.8**
IPM Ipoh 149.56 169 *e*PKPdf **PKPdf 05 50 17.4 +0.8**
IPM *e*PKPbc **PKPbc 05 50 20.9 -0.3**
HYB Hyderabad 149.82 118 *i* PKP **PKPbc 05 50 21.0 -0.7**
KULM Kulim 150.29 168 *e*PKPdf **PKPdf 05 50 18.3 +0.5**
KULM *e*PKPbc **PKPbc 05 50 22.7 -0.2**
KULM *e*PKPab **PKPab 05 50 29.5 +0.5**
KK31 Karatay Array 151.03 62 PKIKP **PKPbc 05 50 23.8 0.0**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 151.03 62 *e*PKIKP **PKPdf 05 50 19.0 +1.0**
KKAR *e* 05 50 24.1
KKAR Karatay Array 151.03 62 *e*PKPdf **PKPdf 05 50 19.0 +1.0**
KKAR *e*PKPbc **PKPbc 05 50 24.1 +0.3**
EKS2 Erkin-Say 153.46 63 *e*PKIKP **PKPdf 05 50 23.1 +1.3**
EKS2 *e* 05 50 30.7
EKS2 Erkin-Say 153.46 63 *e*PKPdf **PKPdf 05 50 23.1 +1.3**
EKS2 *e*PKPbc **PKiKP 05 50 30.7 +1.1**
AAK Ala-Archa 153.99 63 *e*PKIKP **PKPdf 05 50 23.8 +1.2**
AAK *e* 05 50 31.8
AAK *e* 05 50 44.8
AAK Ala-Archa 153.99 63 *e*PKPdf **PKPdf 05 50 23.8 +1.2**
AAK *e*PKPbc **PKiKP 05 50 31.8 +1.1**
AAK *e*PKPab **PKPab 05 50 44.8 +0.6**
NVS Novosibirsk 154.20 31 *e*PKIKP **PKPdf 05 50 22.5 +0.3**
KURK Kurchatov 154.27 43 *e*PKIKP **PKPdf 05 50 23.0 +0.6**
KURK *e* 05 50 31.6
KURK *e* 05 50 46.1
KURK Kurchatov 154.27 43 *e*PKPdf **PKPdf 05 50 23.0 +0.6**
KURK *e*PKPbc **PKiKP 05 50 31.6 +0.8**
KURK *e*PKPab **PKPab 05 50 46.1 +1.2**
TKM2 Tokmak 2 154.75 62 *e*PKIKP **PKPdf 05 50 24.5 +0.8**
TKM2 *e* 05 50 33.1
TKM2 *e* 05 50 48.7
TKM2 Tokmak 2 154.75 62 *e*PKPdf **PKPdf 05 50 24.4 +0.8**
TKM2 *e*PKPbc **PKiKP 05 50 33.1 +0.8**
TKM2 *e*PKPab **PKPab 05 50 48.7 +1.2**
KSH Kashi 155.34 70 PKPbc **PKPdf 05 50 25.3 +0.8**
KSH sPKP 05 50 38.8
KSH PKS **PKSdf 05 53 59.9 +1.2**
KSH PP **PP 05 54 25.7 -1.4**
KSH SKS **SKSdf 05 57 26.1 -1.7**
KSH SS **SS 06 14 06.9 -2.9**
KSH PPMZ
comp=Z,87nm,4.4s
KSH LN
comp=Z,61nm,6.0s
KSH LE
comp=Z,37nm,7.0s
KSH LZ
comp=Z,110nm,5.3s
ZALV Zalesovo Beam 155.49 32 PKP **PKPdf 05 50 24.2 +0.2**
comp=Z,2.6nm,0.8s,baz=285,slow=2.6,SNR=12
ZALV PKPbc PKPbc 05 50 33.2
comp=Z,7.0nm,0.8s,baz=297,slow=2.6,SNR=20
BOD Bodaibo 156.28 350 *e*PKIKP PKPdf 05 50 36.8 +12
BOD *e* 05 50 52.4
BOD pmax pmax
comp=Z,11nm,1.1s
MK31 Makanchi Array 158.20 49 *i* PKP2 **PKPab 05 51 02.6 +0.7**
MKAR Makanchi Array 158.20 49 PKP **PKPdf 05 50 28.0 +0.1**
comp=Z,0.7nm,0.7s,baz=318,slow=1.9,SNR=7.0
MKAR PKPab **PKPab 05 51 03.0 +1.1**
comp=Z,3.6nm,0.7s,baz=300,slow=4.3,SNR=19
MKAR PP **PP 05 54 43.9 +1.6**
comp=Z,0.6nm,0.9s,baz=287,slow=4.4,SNR=3.7
MDJ Mudanjiang 159.60 306 PKP **PKPdf 05 50 29.7 +0.2**
KSRS Korea Array 162.35 285 PKPab **PKPab 05 51 21.1 +0.7**
comp=Z,2.6nm,0.9s,baz=108,slow=4.1,SNR=4.4
KSAR Wonju Array Be 162.38 285 PKP2 **PKPab 05 51 21.1 +0.6**
KSAR Wonju Array Be 162.38 285 PKPab **PKPab 05 51 21.1 +0.6**
CMAR Chiang Mai Arr 162.56 156 PKP **PKPdf 05 50 33.2 -0.2**
comp=Z,0.5nm,0.4s,baz=230,slow=2.1,SNR=6.5
CN2 Changchun 162.66 307 *e*PKP PKPdf 05 50 27.8 -5.0
CN2 *e*PP **PP 05 55 04.6 -1.7**
CN2 SKS **SKSdf 05 57 28.3 -5.8**
CN2 LN
comp=Z,400nm,25.0s
CN2 LE
comp=Z,300nm,25.0s
CN2 LZ
comp=Z,400nm,25.0s
TLY Talaya 162.88 6 *e*PKP2 **PKPab 05 51 23.3 +1.2**
TLY pmax pmax
comp=Z,4.0nm,1.1s
WMQ Urumqi 162.92 52 *e*PKP **PKPdf 05 50 34.4 +1.3**
WMQ LN
comp=Z,26nm,22.0s
WMQ LE
comp=Z,41nm,20.0s
WMQ LZ
comp=Z,64nm,26.0s
ZAK Zakamensk 164.13 7 *e*PKP2 **PKPab 05 51 28.3 +0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
SONM Songino Array 166.84 360 PKPab **PKPab 05 51 40.8 +1.0**
comp=Z,0.6nm,0.4s,baz=345,slow=3.3,SNR=3.8
NJ2 Nanjing 169.23 259 *e*PKP **PKPdf 05 50 40.0 +1.6**
KMI Kunming 169.98 161 PKP **PKPdf 05 50 38.4 -1.0**
GYA Guiyang 171.81 182 *e*PKP **PKPdf 05 50 40.2 0.0**
GYA pPKP **pPKPdf 05 50 51.8 -1.4**
GYA PKPab **PKPab 05 52 05.0 +2.8**
GYA PKS **PKSdf 05 54 11.4 -1.3**
GYA PP **PP 05 55 57.3 +5.1**
GYA SKKS 06 02 39.0
GYA SS **SS 06 17 01.3 +4.7**
GYA PPMZ
comp=Z,130nm,8.6s
GYA LN
comp=Z,130nm,22.6s
GYA LE
comp=Z,120nm,21.2s
GYA LZ
comp=Z,140nm,24.0s
HHC Hu-ho-hao-te 172.58 328 *e*PKP **PKPdf 05 50 41.3 +1.2**
HHC PKS **PKSdf 05 54 12.2 -0.2**
HHC PP **PP 05 56 00.6 +4.0**
HHC SKS **SKSdf 05 57 39.3 -0.7**
HHC SKKS **SKKSac 06 02 42.4 +2.3**
HHC SS **SS 06 17 06.1 +1.0**
HHC PPMZ
comp=Z,130nm,5.5s
HHC LN
comp=Z,130nm,21.4s
HHC LE
comp=Z,290nm,21.0s
HHC LZ
comp=Z,130nm,21.4s
GTA Gaotai 172.94 46 *e*PKP **PKPdf 05 50 41.4 +1.1**
GTA pPKP **pPKPdf 05 50 51.8 -1.5**
GTA sPKP 05 50 55.8
GTA PKPab **PKPab 05 52 08.5 +1.3**
CD2 Chengdu 175.66 149 *e*PKP **PKPdf 05 50 42.0 +0.7**
LZH Lanzhou 177.50 55 *e*PKP **PKPdf 05 50 42.8 +1.1**
LZH pPKP **pPKPdf 05 50 53.0 -1.7**
LZH sPKP 05 50 56.7

*IDC **01** 05:36:51.6±0.6, 36°.87S×73°.36W, h0km, mb4.4/15, mb1 4.5/19, mb1mx4.4/34, mbtmp4.4/19, ML4.2/4, MS4.1/5, Ms1 4.1/5, ms1mx3.5/26, Error ellipse: s-maj=21.0km s-min=12.9km az=86.0*
*ISCJB **01** 05:36:52.5±0.3, 36°.81S±0°.05×73°.40W±0°.07, h14km, mb4.6/30, MS4.0/4, Error ellipse: s-maj=9.0km s-min=5.6km az=147.2*
*NEIC **01** 05:36:57.0±0.2, 36°.85S×73°.39W, h35km, mb4.8/18, Error ellipse: s-maj=8.3km s-min=5.4km az=72.0*
ISC 01 05:36:53.8±0.4, 36°.81S±0°.06×73°.43W±0°.08, h14km, n87, σ1974/97, mb4.6/30, MS4.1/4, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.52**	**151**	Pn	**Pn**	**05 38 01.8**	**-0.2**
	2.1nm,0.3s,baz=327,slow=14,SNR=5.7						
PLCA				Lg	Lg	05 39 08.1	
	5.5nm,0.3s,baz=252,slow=16,SNR=4.0						
PLCA	**Paso Flores**	**4.52**	**151**	*e*Pn	**Pn**	**05 38 02.4**	**+0.5**
PLCA				*e*Sn	**Sn**	**05 38 57.1**	**+2.8**
PLCA				Lg	Lg	05 39 08.1	
CFAA	**Coronel Fontan**	**6.74**	**41**	Pn	**Pn**	**05 38 33.0**	**+0.6**
	1.5nm,0.3s,baz=212,slow=13,SNR=33						
TRQA	**Tornquist**	**9.20**	**101**	*e*Pn	**Pn**	**05 39 08.4**	**+2.4**
TRQA				*e*Sn	**Sn**	**05 40 50.9**	**+1.6**
LVC	**Limon Verde**	**14.68**	**17**	*e*Pn	Pn	05 40 17.8	-3.5
LVC				*e*Sn	Sn	05 42 53.6	-11
CPUP	**Villa Florida**	**17.22**	**57**	P	**Pn**	**05 40 54.0**	**0.0**
	1.6nm,0.3s,baz=211,slow=12,SNR=10						
CPUP				LR	LR	05 48 11.6	
	comp=Z,812nm,18.1s,baz=218,slow=40						
CPUP	**Villa Florida**	**17.22**	**57**	*e*Pn	**P**	**05 40 55.5**	**+0.1**
USHA	**Ushuaia**	**18.35**	**171**	P	**Pn**	**05 41 06.3**	**-1.4**
	0.2nm,0.3s,baz=8.1,slow=14,SNR=2.2						
LPAZ	**La Paz**	**20.97**	**14**	P	**P**	**05 41 37.0**	**-0.2**
	5.8nm,0.6s,baz=187,slow=7.8,SNR=22						
LPAZ	**La Paz**	**20.97**	**14**	*e*Pn	Pn	05 41 39.5	-0.4
	17nm,0.9s						
SIV	**San Ignacio**	**23.46**	**31**	P	**P**	**05 42 02.9**	**0.0**
	15nm,1.0s,baz=224,slow=10.0,SNR=14						
SIV				LR	LR	05 52 55.3	
	comp=Z,289nm,21.2s,baz=218,slow=41						
NNA	**Nana**	**24.90**	**352**	P	**P**	**05 42 16.8**	**+0.3**
	3.2nm,0.4s,baz=176,slow=14,SNR=4.5						
SAML	**Samuel**	**29.25**	**21**	*e*P	**P**	**05 42 55.3**	**-0.2**
	2.9nm,0.9s						
BDFB	**Brasilia**	**30.88**	**54**	P	**P**	**05 43 09.4**	**-0.6**
	4.1nm,0.8s,baz=222,slow=8.8,SNR=8.6						
BDFB				LR	LR	05 56 55.8	
	comp=Z,425nm,20.5s,baz=218,slow=39						
BDFB	**Brasilia**	**30.88**	**54**	*e*P	**P**	**05 43 10.1**	**+0.1**
OTAV	**Otavalo**	**37.15**	**352**	*e*P	**P**	**05 44 07.4**	**+2.6**
	32nm,1.9s						
ROSC	**El Rosal**	**41.45**	**359**	P	**P**	**05 44 41.1**	**+0.4**
	7.3nm,0.5s,baz=108,slow=13,SNR=8.8						
ROSC	**El Rosal**	**41.45**	**359**	*e*P	**P**	**05 44 41.7**	**+1.0**
RCBR	**Riachuelo**	**46.10**	**57**	P	**P**	**05 45 17.4**	**-0.4**
	baz=207,slow=6.8						
RCBR	**Riachuelo**	**46.10**	**57**	*e*P	**P**	**05 45 17.1**	**-0.6**
	7.5nm,0.6s						
BCIP	**Isla Barro Col**	**46.12**	**351**	*e*P	**P**	**05 45 19.4**	**+1.7**
	17nm,0.7s						
JTS	**JuntasÁbangare**	**48.08**	**345**	*e*P	**P**	**05 45 33.7**	**+0.7**
JTS				*e*pP	pP	05 45 43.7	+6.2
SNAA	**Sanae**	**49.44**	**157**	P	**P**	**05 45 42.2**	**-0.8**
	2.0nm,0.5s,baz=272,slow=9.8,SNR=33						
SNAA	**Sanae**	**49.44**	**157**	*e*P	**P**	**05 45 42.5**	**-0.5**
QSPA	**South Pole Qui**	**53.44**	**180**	P	**P**	**05 46 12.6**	**-0.5**
	1.7nm,0.4s,baz=87,slow=4.0,SNR=35						
QSPA				LR	LR	06 10 35.8	
	comp=Z,143nm,18.6s,baz=228,slow=38						
QSPA	**South Pole Qui**	**53.44**	**180**	*e*P	**P**	**05 46 13.0**	**-0.1**
	18nm,1.3s						
RKT	**Rikitea**	**54.20**	**266**	*e*T	T	06 44 18.1	
	3.3nm,0.2s						
CRPR	**Cabo Rojo, PR**	**54.84**	**7**	*e*P	**P**	**05 46 23.3**	**-0.2**
	10.0nm,0.7s						
CELP	**Cerrillos**	**54.97**	**8**	*e*P	**P**	**05 46 24.6**	**+0.1**
PAPH	**Port-au-Prince**	**55.04**	**1**	*e*P	**P**	**05 46 24.2**	**-0.8**
SDDR	**Presa de Saban**	**55.52**	**2**	*e*P	**P**	**05 46 29.3**	**+0.8**
TEIG	**Tepich**	**58.43**	**344**	*e*P	**P**	**05 46 49.7**	**+0.6**
	15nm,0.7s						
SYO	**Syowa Base**	**63.68**	**158**	‖*e*P	**P**	**05 47 21.5**	**-2.7**
TBI	**Tubuai**	**65.60**	**258**	*e*T	T	06 58 31.6	
	5.6nm,0.3s						
MEH	**Mehetia**	**67.39**	**264**	*e*T	T	07 00 47.3	
	58nm,0.2s						
TIAR	**Tiarei**	**68.58**	**264**	*e*T	T	07 02 16.9	
	9.7nm,0.2s						
PAE	**Paea**	**68.71**	**263**	*e*T	T	07 02 26.5	
	1.0nm,0.2s						
PPT2	**Papeete2**	**68.75**	**264**	*e*LR	LR	06 08 43.8	
	189nm,23.2s						
LPIG	**La Paz**	**69.85**	**324**	LR	LR	06 11 17.2	
	comp=Z,110nm,19.2s,baz=179,slow=30						
MAW	**Mawson**	**70.81**	**164**	P	**P**	**05 48 09.5**	**+0.1**
	12nm,0.5s,baz=225,slow=7.1,SNR=3.1						
JCT	**Junction City**	**71.36**	**336**	*e*P	**P**	**05 48 13.7**	**+0.6**
TXAR	**Lajitas Array**	**71.66**	**332**	P	**P**	**05 48 15.9**	**+0.9**
	1.2nm,0.6s,baz=154,slow=8.5,SNR=19						
SWET	**Sewanee**	**72.59**	**349**	*e*P	**P**	**05 48 20.7**	**+0.3**
	15nm,0.7s						
WVT	**Waverly**	**73.79**	**348**	*e*P	**P**	**05 48 27.7**	**+0.3**
	134nm,2.9s						
TUL1	**Leonard**	**75.27**	**341**	*e*P	**P**	**05 48 36.5**	**+0.4**
	8.1nm,0.9s						
DBIC	**Dimbokro**	**77.15**	**72**	P	**P**	**05 48 47.6**	**+0.3**
	9.3nm,0.6s,baz=211,slow=5.7,SNR=21						
ANMO	**Albuquerque**	**77.72**	**333**	P	**P**	**05 48 51.1**	**+0.8**
	1.2nm,0.8s,baz=196,slow=6.5,SNR=6.6						
ANMO	**Albuquerque**	**77.72**	**333**	*e*P	**P**	**05 48 51.8**	**+1.5**
TSUM	**Tsumeb**	**79.54**	**106**	*e*P	**P**	**05 49 01.3**	**+0.6**
	2.7nm,0.7s						
BOSA	**Boshof**	**79.77**	**118**	P	**P**	**05 49 01.4**	**-0.4**
	8.0nm,1.0s,baz=247,slow=4.4,SNR=8.2						
SMCO	**Snowmass**	**81.69**	**334**	*e*P	**P**	**05 49 12.1**	**+0.2**
	6.8nm,1.1s						
LBTB	**Lobatse**	**82.15**	**115**	*e*P	**P**	**05 49 14.4**	**-0.2**
	21nm,0.8s						
CCUT	**Cedar City**	**82.70**	**329**	*e*P	**P**	**05 49 17.5**	**+0.4**
	2.0nm,1.0s						
ECSD	**EROS Data Cent**	**82.89**	**343**	*e*P	**P**	**05 49 18.2**	**+0.6**
	7.7nm,0.7s						
SRU	**San Rafael Swe**	**82.92**	**332**	*e*P	**P**	**05 49 17.6**	**-0.6**
TMUT	**Trail Mountain**	**83.34**	**331**	*e*P	**P**	**05 49 20.2**	**-0.2**
	30nm,1.4s						
DUG	**Dugway, Tooele**	**84.74**	**331**	*e*P	**P**	**05 49 27.4**	**0.0**
	5.5nm,1.4s						
RSSD	**Black Hills**	**85.20**	**338**	*e*P	**P**	**05 49 30.4**	**+0.7**
NVAR	**Mina Array Bea**	**85.56**	**326**	P	**P**	**05 49 32.5**	**+0.9**
	0.6nm,0.6s,baz=162,slow=5.9,SNR=6.2						
PDAR	**Pinedale Array**	**85.77**	**334**	P	**P**	**05 49 33.5**	**+0.9**
	0.5nm,0.8s,baz=160,slow=5.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**86.22**	**71**	P	**P**	**05 49 34.9**	**-0.3**
	2.1nm,0.8s,baz=219,slow=4.7,SNR=12						
WRA	**Warramunga Arr**	**117.76**	**210**	PKP	**PKPdf**	**05 55 38.8**	**-1.4**
	0.5nm,0.7s,baz=159,slow=1.6,SNR=7.9						
BRTR	**Keskin Array B**	**124.15**	**63**	PKP	**PKPdf**	**05 55 51.2**	**-0.7**
	1.2nm,0.8s,baz=198,slow=3.0,SNR=9.9						
H11S2	**WAKE ISLAND Hyl**	**24.56**	**268**	T	T	08 12 43.9	
	baz=112						
H11S1	**WAKE ISLAND Hyl**	**24.58**	**268**	T	T	08 12 37.9	
	baz=112						
H11S3	**WAKE ISLAND Hyl**	**24.58**	**268**	T	T	08 12 52.5	
	baz=112						
AKASG	**Malin Array Be**	**124.90**	**49**	PKP	**PKPdf**	**05 55 51.6**	**-1.2**
	0.5nm,0.7s,baz=264,slow=3.2,SNR=4.9						
H11N3	**WAKE ISLAND Hyl**	**25.05**	**269**	T	T	08 13 12.6	
	baz=115						
H11N1	**WAKE ISLAND Hyl**	**25.06**	**269**	T	T	08 13 12.0	
	baz=115						
H11N2	**WAKE ISLAND Hyl**	**25.06**	**269**	T	T	08 13 12.6	
	baz=115						
ABKAR	**Akbulak array**	**144.27**	**55**	*e*PKPdf	**PKPab**	**05 56 26.3**	**-0.5**
HYB	**Hyderabad**	**148.64**	**120**	*i* PKP	**PKPbc**	**05 56 39.5**	**-1.5**
BRVK	**Borovoye**	**150.01**	**46**	*e*PKPdf	**PKPdf**	**05 56 38.7**	**+0.4**
BRVK				*e*PKPbc	**PKiKP**	**05 56 43.8**	**-0.3**
BRVK				*e*PKPab	**PKPab**	**05 56 49.1**	**+0.1**
KKAR	**Karatay Array**	**151.81**	**66**	*e*PKPbc	**PKPbc**	**05 56 47.5**	**-0.3**
EKS2	**Erkin-Say**	**154.22**	**67**	*e*PKPdf	**PKPdf**	**05 56 45.7**	**+0.6**
EKS2				*e*PKPbc	**PKiKP**	**05 56 53.7**	**+0.3**
EKS2				*e*PKPab	**PKPab**	**05 57 08.1**	**+0.8**
AAK	**Ala-Archa**	**154.75**	**67**	*e*PKPdf	**PKPdf**	**05 56 46.9**	**+1.0**
AAK				*e*PKPbc	**PKiKP**	**05 56 55.0**	**+0.5**
AAK				*e*PKPab	**PKPab**	**05 57 10.1**	**+0.6**
TKM2	**Tokmak 2**	**155.54**	**66**	*e*PKPdf	**PKPdf**	**05 56 47.0**	**0.0**
TKM2				*e*pPKPdf	**pPKPdf**	**05 56 56.1**	**+4.3**
TKM2				*e*PKPab	**PKPab**	**05 57 13.2**	**+0.1**
KSH	**Kashi**	**155.85**	**74**	*e*PKP	**PKPdf**	**05 56 47.3**	**-0.1**
KSH				sPKP		05 57 00.6	
KSH				PKS	**PKSdf**	**06 00 20.6**	**-0.9**
KSH				PP	**PP**	**06 00 50.7**	**-1.3**
KSH				SKS	**SKSdf**	**06 03 48.3**	**-5.1**
KSH				SKKS	**SKKSac**	**06 07 37.0**	**-3.9**
KSH				SS	**SS**	**06 20 34.7**	**-5.2**
KSH				PPMZ			
	110nm,4.6s						
KSH				LN			
	46nm,6.2s						
KSH				LE			
	38nm,5.4s						
KSH				LZ			
	140nm,6.0s						
ZALV	**Zalesovo Beam**	**157.19**	**34**	PKP	**PKPdf**	**05 56 47.9**	**-0.7**
	1.8nm,0.7s,baz=321,slow=1.8,SNR=8.6						
ZALV				PKPab	**PKPab**	**05 57 19.5**	**+0.1**
	2.5nm,0.5s,baz=308,slow=5.5,SNR=6.5						

MKAR	**Makanchi Array**	**159.41**	**53**	PKP	**PKPdf**	**05 56 51.0**	**-0.5**
	0.7nm,0.8s,baz=343,slow=1.3,SNR=6.2						
MKAR				PKPab	**PKPab**	**05 57 29.1**	**-0.2**
	2.9nm,0.8s,baz=293,slow=4.0,SNR=20						
KMI	**Kunming**	**167.90**	**163**	PKP	**PKPdf**	**05 57 00.6**	**+0.3**
NJ2	**Nanjing**	**168.80**	**249**	*e*PKP	**PKPdf**	**05 57 01.0**	**+0.6**
SONM	**Songino Array**	**168.98**	**1**	PKPab	**PKPab**	**05 58 11.6**	**+0.3**
	1.8nm,0.7s,baz=2.9,slow=2.9,SNR=5.0						
GYA	**Guiyang**	**169.68**	**180**	*e*PKP	**PKPdf**	**05 57 00.2**	**-1.1**
GYA				pPKP	**pPKPdf**	**05 57 11.6**	**+5.5**
GYA				PKPab	**PKPab**	**05 58 16.0**	**+1.1**
GYA				PKS	**PKSdf**	**06 00 31.4**	**-2.6**
GYA				PP	**PP**	**06 02 06.0**	**+2.3**
GYA				SS	SS	06 22 57.3	-3.1
GYA				PPMZ			
	120nm,8.0s						
GYA				LN			
	130nm,22.0s						
GYA				LE			
	120nm,21.2s						
GYA				LZ			
	120nm,24.4s						
CD2	**Chengdu**	**173.67**	**158**	*e*PKP	**PKPdf**	**05 57 02.2**	**-0.8**
HHC	**Hu-ho-hao-te**	**174.39**	**318**	*e*PKP	**PKPdf**	**05 57 02.9**	**-0.1**
HHC				PP	**PP**	**06 02 30.5**	**+2.7**
HHC				SKS	**SKSdf**	**06 04 00.8**	**-4.9**
HHC				SKKS	**SKKSac**	**06 09 08.2**	**-5.7**
HHC				PPMZ			
	110nm,5.6s						
HHC				LN			
	240nm,20.4s						
HHC				LE			
	390nm,20.4s						
HHC				LZ			
	130nm,20.8s						
LZH	**Lanzhou**	**177.69**	**107**	*e*PKP	**PKPdf**	**05 57 03.7**	**-0.3**
LZH				pPKP	**pPKPdf**	**05 57 14.1**	**+5.3**
LZH				sPKP		05 57 18.5	

*IDC **01** 05:37:41.2±1.2,8.°86S×111.°32E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.7/42,mbtmp3.8/7,MS3.4/2,Ms1 3.5/2, ms1mx2.8/39,Error ellipse: s-maj=76.3km s-min=18.9km az=49.0*

*NEIC **01** 05:37:45.5±0.7,8.°86S×111.°30E,h35km,mb4.3/3,Error ellipse: s-maj=18.6km s-min=11.5km az=205.0*

*ISCJB **01** 05:37:46.8±0.5,9.°13S±0.°05×111.°26E±0.°03,h65km±7km, mb3.8/10,Error ellipse: s-maj=8.8km s-min=4.4km az=9.3*

*DJA **01** 05:37:50.4±0.4,9.°S±6.°×11.°1E±.°,h68km±8km,M4.3/26, MLv4.3/26*

ISC 01 05:37:48.0±1.0,**9.°14S**±0.°06×**111.°23E**±0.°03,**h55**km±10km, **n45**,σ1§**74**/51,**mb4.0**/10,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WOJI	**Wonogiri, Jawa**	**1.33**	**347**	P	**Pn**	**05 38 10.4**	**+0.1**
WOJI				S	**Sn**	**05 38 26.5**	**-0.4**
UGM	**Wanagama**	**1.40**	**330**	P	**Pn**	**05 38 11.7**	**+0.4**
UGM				S	**Sn**	**05 38 29.8**	**+1.0**
UGM	**Wanagama**	**1.40**	**330**	P	**Pn**	**05 38 12.1**	**+0.7**
	baz=1.5,SNR=340						
UGM				S	**Sn**	**05 38 29.2**	**+0.4**
	baz=1.5,SNR=11						
NGJI	**Ngawi**	**1.77**	**7**	P	**Pn**	**05 38 19.1**	**+2.8**
GMJI	**Gumukmas**	**2.35**	**69**	P	**Pn**	**05 38 24.5**	**+0.3**
GMJI				S	**Sn**	**05 38 49.0**	**-2.9**
TBJI	**Tambak Boyo**	**2.38**	**15**	P	**Pn**	**05 38 25.5**	**+0.8**
GRJI	**Gresik**	**2.53**	**29**	P	**Pn**	**05 38 26.9**	**+0.2**
BLJI	**Banyuglugur**	**2.72**	**60**	P	**Pn**	**05 38 29.0**	**-0.2**
KPJI	**Karang Pucung**	**2.90**	**308**	P	Pn	05 38 35.0	+3.3
KPJI				S	**Sn**	**05 39 08.6**	**+3.3**
JAGI	**Jajag, Banyuwa**	**2.96**	**77**	P	**Pn**	**05 38 32.6**	**0.0**
JAGI				S	**Sn**	**05 39 05.2**	**-1.7**
JAGI	**Jajag, Banyuwa**	**2.96**	**77**	P	**Pn**	**05 38 32.5**	**-0.1**
	baz=3.0,SNR=10						
JAGI	**Jajag, Banyuwa**	**2.96**	**77**	*e*Pn	Pn	05 38 28.2	-4.4
JAGI				*e*Sg	**Sn**	**05 39 11.8**	**+4.9**
CMJI	**Cimerak**	**3.06**	**296**	P	**Pn**	**05 38 35.3**	**+1.3**
CMJI				S	**Sn**	**05 39 09.0**	**-0.4**
ABJI	**Asem Bagus**	**3.26**	**66**	P	**Pn**	**05 38 37.2**	**+0.6**
BWJI	**Bawean**	**3.56**	**24**	P	**Pn**	**05 38 38.6**	**-2.2**
CISI	**Cisompet, Garu**	**3.73**	**295**	P	**Pn**	**05 38 45.1**	**+2.0**
CISI				S	**Sn**	**05 39 26.7**	**+0.9**
CISI	**Cisompet, Garu**	**3.73**	**295**	P	**Pn**	**05 38 44.5**	**+1.4**
	baz=3.8,SNR=12						
CISI				S	**Sn**	**05 39 26.1**	**+0.2**
	baz=3.8,SNR=8.0						
CISI	**Cisompet, Garu**	**3.73**	**295**	*e*Pn	Pn	05 38 37.6	-5.5
CISI				*e*Sn	**Sn**	**05 39 23.0**	**-2.9**
IGBI	**Denpasar**	**3.88**	**86**	P	**Pn**	**05 38 45.2**	**+0.1**
JCJI	**Jatiwangi**	**3.94**	**312**	P	**Pn**	**05 38 43.9**	**-2.1**
JCJI				S	**Sn**	**05 39 29.7**	**-1.3**
SRBI	**Singaraja**	**4.07**	**75**	P	**Pn**	**05 38 48.4**	**+0.6**
SRBI				S	**Sn**	**05 39 32.9**	**-1.4**
LEM	**Lembang**	**4.25**	**302**	P	Pn	05 38 54.4	+4.0
CNJI	**Cibinong**	**4.45**	**294**	P	**Pn**	**05 38 55.1**	**+2.2**
XMI	**Christmas Isla**	**5.62**	**256**	P	**Pn**	**05 39 07.7**	**-1.2**
	baz=5.6,SNR=3.5						
XMI				S	**Sn**	**05 40 11.0**	**-1.2**
	baz=5.6,SNR=3.5						
XMIS	**Christmas Isla**	**5.66**	**256**	P	**Pn**	**05 39 10.3**	**+0.7**
	baz=5.7,SNR=8.2						
XMIS				S	**Sn**	**05 40 08.8**	**-4.5**
	baz=5.7,SNR=3.9						
KAPI	**Kappang**	**9.39**	**65**	*e*Pn	Pn	05 39 54.4	-6.3
KAPI				*e*Sn	Sn	05 41 38.8	-6.3
KSM	**Kuching**	**10.58**	**355**	*e*Pn	Pn	05 40 09.4	-7.6
GIRL	**Giralia**	**13.73**	**168**	P	**Pn**	**05 40 58.1**	**-1.9**
	baz=14,SNR=11						
MEEK	**Meekatharra**	**18.76**	**159**	P	**Pn**	**05 42 03.9**	**+0.3**
	baz=19,SNR=8.4						
MTN	**Manton Dam**	**19.88**	**102**	P	**Pn**	**05 42 20.7**	**+3.7**
	baz=20,SNR=3.7						
NWAO	**Narrogin (SRO)**	**24.32**	**168**	LR	LR	05 53 08.5	
	comp=Z,95nm,18.2s,baz=350,slow=38						
WRA	**Warramunga Arr**	**24.78**	**118**	P	**P**	**05 43 05.4**	**+0.6**
	0.2nm,0.4s,baz=293,slow=11,SNR=10						
WRA				PcP	**PcP**	**05 46 42.1**	**+1.6**
	0.4nm,0.9s,baz=313,slow=2.2,SNR=2.8						
ASAR	**Alice Springs**	**26.05**	**126**	P	**P**	**05 43 16.9**	**+0.5**
	0.4nm,0.5s,baz=302,slow=9.4,SNR=7.5						
ASAR				PcP	**PcP**	**05 46 45.1**	**+1.8**
	0.4nm,0.5s,baz=305,slow=1.9,SNR=4.2						
CMAR	**Chiang Mai Arr**	**29.98**	**336**	LR	LR	05 56 37.3	
	comp=Z,58nm,19.3s,baz=173,slow=38						
H08S2	**Diego Garcia H**	**38.34**	**269**	T	T	06 25 49.1	
	baz=95						
H08S3	**Diego Garcia H**	**38.35**	**269**	T	T	06 25 49.7	
	baz=95						
H08S1	**Diego Carcia H**	**38.36**	**269**	T	T	06 25 48.5	
	baz=95						
SONM	**Songino Array**	**56.88**	**356**	P	**P**	**05 47 26.1**	**-1.1**
	0.6nm,0.5s,baz=189,slow=8.3,SNR=2.8						
MKAR	**Makanchi Array**	**61.37**	**338**	P	**P**	**05 47 57.6**	**-0.7**
	0.8nm,0.4s,baz=150,slow=7.5,SNR=28						
ZALV	**Zalesovo Beam**	**66.70**	**343**	P	**P**	**05 48 32.1**	**-0.9**
	0.8nm,0.4s,baz=144,slow=5.7,SNR=6.1						
ABKAR	**Akbulak array**	**73.41**	**328**	*e*P	**P**	**05 49 13.9**	**-0.4**
	6.6nm,0.8s						
AKTO	**Aktyubinsk**	**75.12**	**328**	P	**P**	**05 49 23.6**	**-0.5**
	1.0nm,0.4s,baz=107,slow=5.8,SNR=6.5						
QSPA	**South Pole Qui**	**80.86**	**180**	*e*P	**P**	**05 49 55.8**	**-0.2**
	1.2nm,0.6s						
TIXI	**Tiksi**	**81.46**	**6**	*e*P	**P**	**05 49 57.8**	**-0.9**
	1.7nm,0.5s						
BRTR	**Keskin Array B**	**86.38**	**311**	P	**P**	**05 50 25.2**	**+0.5**
	0.7nm,0.8s,baz=128,slow=4.0,SNR=2.5						

*IDC **01** 05:39:32.1±0.8,34.°30S×179.°02W,h0km,mb4.7/5, mb1 4.8/6,mb1mx4.2/46,mbtmp4.7/6,ML4.7/1,MS4.5/3, Ms1 4.5/3,ms1mx3.4/39,Error ellipse: s-maj=28.6km s-min=26.4km az=93.0*

*NEIC **01** 05:39:33.6±0.5,34.°29S×178.°95W,h10km,mb4.9/4,Error ellipse: s-maj=13.6km s-min=9.7km az=120.0*

*ISCJB **01** 05:39:35.8±0.6,34.°48S±0.°04×179.°12W±0.°08,h33km, mb4.8/9,MS4.5/3,Error ellipse: s-maj=10.4km s-min=5.0km az=16.9*

ISC 01 05:39:37.2±0.7,**34.°49S**±0.°07×**178.°97W**±0.°09,**h35**km,**n69**, σ1§**27**/71,**mb4.7**/9,**MS4.4**/3,**1D**,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.78**	**215**	PN	**Pn**	**05 40 32.6**	**-0.4**
MXZ				*e*SN	**Sn**	**05 41 17.0**	**+0.9**
WMGZ	**Waiomatatini S**	**3.94**	**212**	*e*PN	**Pn**	**05 40 35.5**	**+0.4**
WMGZ				SN	**Sn**	**05 41 21.8**	**+1.7**
HAZ	**Te Kaha**	**4.18**	**218**	PN	**Pn**	**05 40 39.4**	**+0.9**
HAZ				SN	**Sn**	**05 41 26.8**	**+0.6**
PUZ	**Puketiti**	**4.22**	**211**	*e*PN	**Pn**	**05 40 38.6**	**-0.4**
TWGZ	**Tauwhareparae**	**4.42**	**213**	*e*PN	**Pn**	**05 40 42.3**	**+0.4**
MWZ	**Matawai**	**4.76**	**215**	*e*PN	**Pn**	**05 40 46.1**	**-0.4**
MWZ				*e*SN	**Sn**	**05 41 40.6**	**+0.1**
URZ	**Urewera**	**4.91**	**219**	Pn	**Pn**	**05 40 49.2**	**+0.7**
	30nm,0.3s,baz=29,slow=8.9,SNR=102						
URZ				Sn	**Sn**	**05 41 45.1**	**+1.0**
	11nm,0.3s,baz=120,slow=20,SNR=3.8						
URZ	**Urewera**	**4.91**	**219**	*e*PN	**Pn**	**05 40 48.4**	**-0.1**
URZ				*e*SN	**Sn**	**05 41 44.6**	**+0.5**
URZ	**Urewera**	**4.91**	**219**	*e*Pn	**Pn**	**05 40 48.7**	**+0.2**
	0.1nm,0.9s						
URZ				*e*Sn	Sn	05 41 51.2	+7.1
OPRZ	**Ohinepanea**	**4.93**	**226**	PN	**Pn**	**05 40 49.3**	**+0.6**
RAGZ	**Rawiri**	**4.94**	**215**	*e*PN	**Pn**	**05 40 48.8**	**-0.2**
RIGZ	**Rimuhau**	**4.96**	**211**	*e*PN	**Pn**	**05 40 49.6**	**+0.4**
PRGZ	**Paritu Road**	**5.09**	**209**	*e*PN	**Pn**	**05 40 49.8**	**-1.3**
KNZ	**Kokohu**	**5.26**	**210**	PN	**Pn**	**05 40 52.0**	**-1.3**
RAO	**Raoul Island**	**5.30**	**10**	*e*Pn	Pn	05 40 49.5	-4.4
RAHZ	**Arahi**	**5.43**	**215**	*e*PN	**Pn**	**05 40 56.2**	**+0.5**
WHHZ	**Waihua**	**5.50**	**213**	*e*PN	**Pn**	**05 40 58.0**	**+1.5**
NMHZ	**Naumai**	**5.71**	**215**	*e*PN	**Pn**	**05 40 59.9**	**+0.3**
BKZ	**Black Stump Fm**	**5.92**	**217**	*e*PN	**Pn**	**05 41 01.7**	**-0.7**
BKZ				*e*SN	**Sn**	**05 42 09.2**	**+0.3**
MCHZ	**McNeill Hill**	**6.04**	**214**	*e*PN	**Pn**	**05 41 03.5**	**-0.5**
OUZ	**Omahuta**	**6.16**	**261**	*e*Pn	**Pn**	**05 41 07.8**	**+2.2**
	161nm,0.7s						
OUZ				*e*Sn	**Sn**	**05 42 12.4**	**-2.3**
KAHZ	**Kahuranaki**	**6.25**	**211**	*e*PN	**Pn**	**05 41 04.9**	**-2.0**
PXZ	**Pawanui**	**6.45**	**210**	*e*PN	**Pn**	**05 41 09.3**	**-0.4**
MOVZ	**Moawhango**	**6.47**	**219**	*e*PN	**Pn**	**05 41 09.2**	**-0.9**
WNVZ	**Wahianoa**	**6.50**	**220**	*e*PN	**Pn**	**05 41 10.5**	**+0.1**
BFZ	**Birch Farm**	**7.25**	**210**	*e*PN	Pn	05 41 17.2	-3.4
BFZ				*e*SN	**Sn**	**05 42 38.3**	**-3.4**
MRZ	**Mangatainoka R**	**7.53**	**213**	*e*PN	Pn	05 41 21.2	-3.2
MRZ				*e*SN	**Sn**	**05 42 43.5**	**-5.0**
THZ	**Tophouse**	**9.67**	**219**	*e*PN	**Pn**	**05 41 51.1**	**-2.8**
THZ				*e*SN	Sn	05 43 35.1	-6.2
MQZ	**McQueen's Vall**	**11.26**	**213**	*e*SN	Sn	05 44 09.1	-11
RPZ	**Rata Peaks**	**12.03**	**217**	*e*Pn	**Pn**	**05 42 26.0**	**0.0**
RPZ				*e*Sn	**Sn**	**05 44 40.0**	**+1.1**
DZM	**Mont Dzumac**	**17.81**	**310**	*e*LR	LR	05 47 13.9	
	654nm,22.1s						
RMQ	**Roma**	**28.84**	**277**	P	**P**	**05 45 34.4**	**+2.0**
	baz=24,SNR=8.4						
PPT2	**Papeete2**	**31.16**	**65**	*e*LR	LR	05 53 53.6	
	173nm,24.5s						
QLP	**Quilpie**	**32.52**	**274**	P	**P**	**05 46 05.5**	**+0.7**
	baz=27,SNR=6.6						
STKA	**Stephens Creek**	**32.97**	**263**	LR	LR	05 59 04.5	
	comp=Z,483nm,18.2s,baz=60,slow=36						
CTA	**Charters Tower**	**33.89**	**286**	P	**P**	**05 46 17.4**	**+0.6**
	4.4nm,0.5s,baz=128,slow=10,SNR=11						
CTAO	**Charters Tower**	**33.89**	**286**	*e*P	**P**	**05 46 17.8**	**+1.0**
TARA	**Tarawa**	**36.46**	**346**	*e*P	**P**	**05 46 36.9**	**-2.0**
	124nm,0.8s						
COEN	**Coen**	**39.80**	**291**	P	**P**	**05 47 08.4**	**+1.3**
	baz=34,SNR=5.0						
AS31	**Alice Springs**	**42.24**	**272**	*e*P	**P**	**05 47 26.8**	**-0.5**
ASAR	**Alice Springs**	**42.24**	**272**	P	**P**	**05 47 26.6**	**-0.7**
	9.0nm,0.8s,baz=113,slow=7.4,SNR=59						
ASAR				PcP	**PcP**	**05 49 19.9**	**-0.9**
	2.2nm,0.7s,baz=114,slow=3.3,SNR=6.0						
WB2	**Warramunga Arr**	**43.59**	**277**	*e*P	**P**	**05 47 37.5**	**-0.7**
WRAB	**Tennant Creek**	**43.60**	**277**	*e*P	**P**	**05 47 37.6**	**-0.6**
	3.4nm,0.4s						
WRA	**Warramunga Arr**	**43.60**	**277**	P	**P**	**05 47 37.2**	**-1.0**
	3.3nm,0.4s,baz=117,slow=7.7,SNR=72						
WRKA	**Warakurna**	**46.30**	**267**	P	**P**	**05 47 58.2**	**-1.5**
	baz=41,SNR=3.6						
KNRA	**Kununurra**	**50.34**	**278**	P	**P**	**05 48 31.2**	**+0.4**
	baz=45,SNR=3.6						
FITZ	**Fitzroy Crossi**	**51.66**	**274**	P	**P**	**05 48 40.6**	**-0.2**
	baz=46,SNR=6.2						
FITZ	**Fitzroy Crossi**	**51.66**	**274**	*e*P	**P**	**05 48 40.0**	**-0.7**
	3.1nm,0.6s						
MEEK	**Meekatharra**	**53.58**	**260**	P	**P**	**05 48 54.5**	**-0.5**
	baz=48,SNR=4.2						
QSPA	**South Pole Qui**	**55.63**	**180**	P	**P**	**05 49 11.6**	**+2.3**
	8.1nm,1.1s,baz=166,slow=1.5,SNR=5.5						
QSPA	**South Pole Qui**	**55.63**	**180**	*e*P	P	05 49 13.0	+3.6
BATI	**Baumata**	**57.47**	**281**	LR	LR	06 14 26.3	
	comp=Z,273nm,18.9s,baz=101,slow=36						
SYO	**Syowa Base**	**72.95**	**194‖**	*e*P	**P**	**05 51 03.0**	**+0.5**
PLCA	**Paso Flores**	**80.32**	**133**	LR	LR	06 19 26.7	
	comp=Z,652nm,21.0s,baz=328,slow=30						
PLCA	**Paso Flores**	**80.32**	**133**	*e*P	**P**	**05 51 46.5**	**+1.7**
	32nm,0.8s						
PETK	**Petropavlovsk-**	**89.57**	**346**	P	**P**	**05 52 31.1**	**+0.6**
	8.1nm,0.8s,baz=142,slow=7.3,SNR=12						
ARCES	**ARCESS Array B**	**142.38**	**346**	PKhKP	PKPpre	05 59 01.2	
	7.4nm,1.2s,baz=46,slow=3.5,SNR=6.4						
JOF	**Joensuu**	**145.86**	**336**	*ep*	**PKPdf**	**05 59 10.5**	**-0.8**
KBZ	**Khabaz**	**146.53**	**299**	PKPbc	**PKPbc**	**05 59 14.2**	**-0.3**
	2.1nm,0.9s,baz=45,slow=4.3,SNR=3.9						
KAF	**Kangasniemi**	**148.07**	**338**	*ep*	**PKPbc**	**05 59 16.8**	**-1.4**
FINES	**FINESS Array B**	**148.64**	**337**	PKPbc	**PKPbc**	**05 59 19.7**	**0.0**
	6.6nm,0.7s,baz=67,slow=3.6,SNR=20						
ASF	**Jabal al Asfar**	**150.04**	**276**	PKPbc	**PKPbc**	**05 59 24.6**	**+0.3**
	3.3nm,0.8s,baz=146,slow=3.6,SNR=4.5						
MMAI	**Mount Meron Ar**	**151.46**	**277**	PKPbc	**PKPbc**	**05 59 27.0**	**-0.6**
	7.2nm,0.8s,baz=27,slow=3.5,SNR=3.4						
NB2	**NORSAR Subarra**	**152.64**	**349**	PKP	**PKPbc**	**05 59 28.8**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**152.64**	**349**	PKPbc	**PKPbc**	**05 59 29.8**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=14,slow=4.0,SNR=4.1						
HFS	**Hagfors**	**153.05**	**346**	PKPbc	**PKPbc**	**05 59 30.4**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=44,slow=6.4,SNR=3.7						
HFS				PKPab	**PKPab**	**05 59 40.8**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=73,slow=5.1,SNR=9.1						
BRTR	**Keskin Array B**	**153.56**	**291**	PKPbc	**PKPbc**	**05 59 31.9**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=126,slow=3.7,SNR=10.0						
AKASG	**Malin Array Be**	**153.89**	**317**	PKPbc	**PKPbc**	**05 59 31.2**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=66,slow=2.0,SNR=7.1						
TORD	**Torodi Ar. Bea**	**158.74**	**182**	PKPab	**PKPab**	**06 00 08.3**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=215,slow=2.8,SNR=3.1						

TRN 01 05:43:20.7,13.°87N×60.°49W,h20km,MD3.5,1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCLT	**Moule a Chique**	**0.47**	**250**	*e*P	Pn	05 43 33.4	+1.0
MCLT				*e*S	Sn	05 43 42.6	+2.4
SLB	**Belfond**	**0.54**	**265**	*e*P	Pn	05 43 35.3	+1.9
SLB				*e*S	Sn	05 43 43.8	+1.7
MVM	**Montagne Vaucl**	**0.79**	**330**	*e*P	Pn	05 43 37.4	+0.7
LPMF	**Morne Lapointe**	**0.84**	**326‖**	*e*P	Pn	05 43 38.1	+0.7
TRMF	**Trois Ilets**	**0.86**	**320**	*e*P	Pn	05 43 38.4	+0.7
ZAM	**Aeronautique**	**0.87**	**323**	*e*P	Pn	05 43 38.6	+0.8
SSV	**Crater Summit**	**0.88**	**232**	*e*P	Pn	05 43 39.9	+1.8
SSV				*e*S	Sn	05 43 53.4	+3.0
SVV	**Soufriere Volc**	**0.90**	**232**	*e*P	Pg	05 43 40.1	+1.7
SVV				*e*S	Sn	05 43 53.3	+2.5
SVB	**Belmont**	**0.96**	**231**	*e*P	Pg	05 43 39.9	+0.5
SVB	**Belmont**	**0.96**	**231**	*e*P	Pg	05 43 40.0	+0.5
SVB				*e*S	Sn	05 43 53.6	+1.4
BVM	**Bellevue**	**1.02**	**327**	*e*P	Pg	05 43 40.8	0.0
FCV	**Fort Charlotte**	**1.03**	**226**	*e*P	Pg	05 43 41.4	+0.6
FCV				*e*S	Sg	05 43 55.2	+0.9
FDF	**Fort de France**	**1.07**	**323**	*e*P	Pg	05 43 41.6	0.0
FDF	**Fort de France**	**1.07**	**323‖**	*e*P	Pg	05 43 41.8	+0.2
FDF				*e*S	Sg	05 43 55.9	+0.1
FDF				*e*S	Sn	05 43 56.1	+1.0
SVN	**Savane Anatole**	**1.17**	**326**	*e*P	Pg	05 43 43.8	+0.3
SVN				*e*S	Sg	05 43 58.8	-0.1
BBL	**Barber's Block**	**1.90**	**330**	*e*P	Pn	05 43 53.2	+1.2
GRW	**Mount Saint Ca**	**2.05**	**214**	*e*P	Pn	05 43 55.8	+1.5
GRW				*e*S	Sb	05 44 21.2	-1.4
TBG	**Guadaloupe-3**	**2.26**	**330**	*e*P	Pn	05 43 58.4	+1.3
SSG	**Sans Toucher**	**2.49**	**332**	*e*P	Pn	05 44 01.1	+0.8

*IDC **01** 05:44:25.9±1.1,38.°68S×72.°97W,h0km,mb4.0/6, mb1 4.1/6,mb1mx3.8/32,mbtmp4.0/6,MS3.1/1,Ms1 3.1/1, ms1mx2.9/28,Error ellipse: s-maj=41.8km s-min=25.5km az=83.0*

*ISCJB **01** 05:44:29.0±0.6,38.°44S±0.°08×72.°84W±0.°09,h25km, mb4.1/14,Error ellipse: s-maj=13.2km s-min=7.5km az=38.0*

*NEIC **01** 05:44:31.8±0.6,38.°48S×72.°93W,h35km,mb4.3/9,Error ellipse: s-maj=18.1km s-min=11.5km az=47.0*

ISC 01 05:44:30.1±0.7,**38.°62S**±0.°09×**72.°96W**±0.°10,**h25**km,**n22**, σ1§**28**/23,**mb4.1**/14,**Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.81**	**139**	Pn	**Pb**	**05 45 18.8**	**-0.9**
	13nm,0.3s,baz=314,slow=12,SNR=20						
PLCA				Lg	Lg	05 45 58.7	
	43nm,0.3s,baz=252,slow=7.8,SNR=10						
PLCA				LR	LR	05 46 25.0	
	comp=Z,416nm,22.0s,baz=291,slow=43						
PLCA	**Paso Flores**	**2.81**	**139**	*e*Pn	**Pb**	**05 45 17.3**	**-2.4**
PLCA				*e*Sn	**Sn**	**05 45 49.6**	**+2.9**
PLCA				Lg	Lg	05 45 58.7	
TRQA	**Tornquist**	**8.65**	**90**	*e*Pn	**Pn**	**05 46 35.5**	**+1.9**
TRQA				*e*Sn	**Sn**	**05 48 10.2**	**-0.1**
CPUP	**Villa Florida**	**17.97**	**52**	*e*P	**Pn**	**05 48 36.1**	**-2.1**
	0.5nm,0.9s						
LPAZ	**La Paz**	**22.65**	**12**	P	**P**	**05 49 31.4**	**+1.4**
	2.5nm,0.7s,baz=182,slow=7.0,SNR=6.0						
OTAV	**Otavalo**	**39.00**	**351**	*e*P	**P**	**05 51 56.4**	**+1.4**
	2.5nm,1.0s						
QSPA	**South Pole Qui**	**51.62**	**180**	P	**P**	**05 53 33.9**	**-0.4**
	2.9nm,0.8s,baz=194,slow=1.3,SNR=8.5						
QSPA	**South Pole Qui**	**51.62**	**180**	*e*P	**P**	**05 53 34.4**	**+0.1**
	5.4nm,1.0s						
TXAR	**Lajitas Array**	**73.43**	**332**	P	**P**	**05 55 59.9**	**-0.3**
	0.3nm,0.8s,baz=153,slow=6.1,SNR=3.2						
SWET	**Sewanee**	**74.44**	**349**	*e*P	**P**	**05 56 04.8**	**-1.0**
	3.9nm,0.6s						
WVT	**Waverly**	**75.64**	**348**	*e*P	**P**	**05 56 12.5**	**-0.2**
	0.9nm,0.6s						
TUL1	**Leonard**	**77.11**	**341**	*e*P	**P**	**05 56 19.9**	**-1.1**
	2.2nm,0.5s						
DBIC	**Dimbokro**	**77.38**	**71**	P	**P**	**05 56 23.3**	**+0.2**
	1.3nm,0.6s,baz=203,slow=7.7,SNR=2.7						
BOSA	**Boshof**	**78.60**	**117**	P	**P**	**05 56 29.8**	**-0.2**
	1.7nm,0.8s,baz=250,slow=6.2,SNR=2.5						
ANMO	**Albuquerque**	**79.50**	**333**	*e*P	**P**	**05 56 34.2**	**-0.3**
	1.8nm,1.0s						
CCUT	**Cedar City**	**84.44**	**329**	*e*P	**P**	**05 57 01.0**	**+0.4**
	1.1nm,0.6s						
ECSD	**EROS Data Cent**	**84.73**	**343**	*e*P	**P**	**05 57 00.9**	**-0.7**
	3.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**86.48**	**70**	P	**P**	**05 57 10.1**	**-0.8**
	0.8nm,0.8s,baz=230,slow=4.4,SNR=3.9						
DUG	**Dugway, Tooele**	**86.50**	**331**	*e*P	**P**	**05 57 11.9**	**+1.3**
	5.5nm,1.4s						
ABKAR	**Abkulak array**	**144.98**	**57**	*e*PKPbc	PKPbc	06 04 03.1	-0.8
AAK	**Ala-Archa**	**155.06**	**70**	*e*PKPbc	PKPbc	06 04 29.4	
AAK				*e*PKPab	**PKPab**	**06 04 45.0**	**-0.4**
MKAR	**Makanchi Array**	**160.12**	**58**	PKPab	**PKPab**	**06 05 06.1**	**-0.9**
	0.4nm,0.7s,baz=289,slow=3.7,SNR=4.5						

GUC 01 05:46:54.2±0.5,**34.°01S×72.°42W,h38**km±2km,**ML3.8, 1C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.18**	**34‖**	*i*P	Pn	05 47 15.1	+0.9
IHA				*i* S	Sn	05 47 30.7	+1.7
TACH	**Talagante**	**1.29**	**74‖**	*i*P	Pn	05 47 16.9	+1.2
TACH				*i* S	Sn	05 47 33.

ASAR Alice Springs 19.57 205 P P 06 02 22.6 -0.1
2.2nm,0.3s,baz=30,slow=10,SNR=96
ASAR S S 06 05 50.3 -12
0.5nm,0.3s,baz=22,slow=27,SNR=7.7
QLP Quilpie 20.56 176 P Pn 06 02 35.3 -0.5
baz=21,SNR=6.5
FITZ Fitzroy Crossi 20.62 233 *e*P **P 06 02 32.9 -1.3**
22nm,0.8s
EIDS Eidsvold 20.89 158 P Pn 06 02 41.9 +2.3
baz=21,SNR=3.9
RMQ Roma 21.20 165 P **P 06 02 45.0 +4.6**
baz=21,SNR=7.7
BKSI Bulukumba 22.54 270 P **P 06 02 54.0 -0.8**
36nm,1.0s
BNSI Bone 22.62 273 P **P 06 02 54.2 -1.4**
48nm,1.1s
KAPI Kappang 22.93 271 *e*P **P 06 02 58.8 -0.1**
64nm,1.0s
SPSI Sidrap Palu 23.00 274 P **P 06 02 59.9 +0.3**
WRKA Warakurna 23.50 215 P **P 06 03 02.8 -1.7**
baz=24,SNR=16
STKA Stephens Creek 25.82 182 P **P 06 03 26.2 +0.6**
6.2nm,0.9s,baz=6.5,slow=12,SNR=5.8
STKA LR LR 06 16 01.2
comp=Z,76nm,18.9s,baz=344,slow=42
DZM Mont Dzumac 27.94 127 LR LR 06 14 14.1
comp=Z,147nm,19.2s,baz=172,slow=35
MJAR Matsushiro Arr 42.49 355 P **P 06 05 49.0 -0.5**
2.3nm,0.9s,baz=195,slow=8.0,SNR=4.2
KSAR Wonju Array Be 45.35 343 P **P 06 06 12.2 -0.3**
KSRS Korea Array 45.35 343 P **P 06 06 12.2 -0.2**
1.9nm,0.7s,baz=165,slow=8.6,SNR=4.1
CMAR Chiang Mai Arr 49.55 300 P **P 06 06 45.7 +0.2**
1.9nm,0.6s,baz=124,slow=6.2,SNR=12
PETK Petropavlovsk- 60.18 10 P **P 06 08 01.8 0.0**
2.6nm,0.8s,baz=122,slow=3.9,SNR=6.4
TAPN Taplejung 62.63 305 *e*P **P 06 08 19.9 +0.6**
ODAN Odare 62.70 304 *e*P **P 06 08 20.3 +0.6**
42nm,1.4s
RAMN Ramite 63.39 304 *e*P **P 06 08 25.0 +0.7**
JIRN Jiri 64.00 305 *e*P **P 06 08 29.0 +0.6**
5.4nm,0.6s
FX1 Attu Island--F 64.02 20 P **P 06 08 26.6 -1.0**
9.2nm,0.7s,baz=196,slow=7.4,SNR=2.6
GUN Gumba 64.35 305 *e*P **P 06 08 31.5 +0.8**
GKN Gorkha 65.40 304 *e*P **P 06 08 37.8 +0.5**
KOLN Koldanda 66.17 304 *e*P **P 06 08 42.9 +0.6**
51nm,1.3s
DANN Dangsing 66.25 304 *e*P **P 06 08 43.0 +0.1**
16nm,0.7s
PYUN Piuthan 66.79 304 *e*P **P 06 08 46.7 +0.4**
19nm,0.5s
MKAR Makanchi Array 74.82 322 P **P 06 09 35.0 +0.5**
3.2nm,0.8s,baz=111,slow=7.0,SNR=28
MKAR Makanchi Array 74.82 322 P **P 06 09 35.0 +0.5**
ZALV Zalesovo Beam 76.77 329 P **P 06 09 44.8 -0.6**
0.7nm,0.5s,baz=122,slow=5.4,SNR=5.7
QSPA South Pole Qui 84.01 180 P **P 06 10 23.7 -0.6**
5.9nm,1.0s,baz=357,slow=2.2,SNR=9.3
BRVK Borovoye 84.34 325 *e*P **P 06 10 26.6 +0.5**
16nm,1.1s
ILAR Eielson Array 87.12 24 P **P 06 10 38.8 -0.8**
2.5nm,0.8s,baz=258,slow=4.6,SNR=32
ABKAR Akbulak array 89.79 319 *e*P **P 06 10 51.6 -1.0**
0.8nm,0.7s
DBIC Dimbokro 147.81 273 PKPbc **PKPbc 06 17 39.6 -0.4**
3.7nm,0.8s,baz=77,slow=2.1,SNR=4.4

*IDC **01** 05:57:52.9±0.9, 34°.25S×73°.47W, h0km, mb3.9/6, mb1 4.0/9, mb1mx3.9/30, mbtmp3.9/9, ML3.7/3, Error ellipse: s-maj=33.4km s-min=19.1km az=95.0*
*ISCJB **01** 05:57:56.4±0.6, 34°.27S±0°.07×73°.32W±0°.10, h33km, mb4.0/10, Error ellipse: s-maj=12.6km s-min=8.2km az=145.4*
*NEIC **01** 05:57:58.4±0.5, 34°.28S×73°.29W, h35km, mb4.2/6, Error ellipse: s-maj=12.1km s-min=10.6km az=73.0*
ISC 01 05:57:58.3±0.7, 34°.26S±0°.08×73°.4W±0°.1, h35km, n23, σ1§07/25, mb4.0/10, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.11**	**60**	Pn	**Pn**	**05 59 11.2**	**-1.1**
0.3nm,0.3s,baz=253,slow=20,SNR=3.7							
PLCA	**Paso Flores**	**6.85**	**161**	Pn	**Pn**	05 59 34.9	-1.4
1.0nm,0.3s,baz=336,slow=12,SNR=4.3							
TRQA	**Tornquist**	**10.00**	**116**	*e*Pn	**Pn**	**06 00 18.4**	**-1.1**
TRQA				*e*Sn	**Sn**	**06 02 12.9**	**+2.5**
LVC	**Limon Verde**	**12.27**	**20**	*e*Pn	**Pn**	**06 00 50.1**	**-0.6**
LPAZ	**La Paz**	**18.52**	**16**	P	**P**	**06 02 11.7**	**-0.7**
0.1nm,0.3s,baz=191,slow=7.3,SNR=7.6							
LPAZ	**La Paz**	**18.52**	**16**	*e*P	**Pn**	06 02 12.6	-0.1
3.3nm,0.8s							
SIV	**San Ignacio**	**21.32**	**34**	P	**P**	06 02 41.8	-0.4
2.8nm,0.7s,baz=225,slow=9.7,SNR=6.5							
OTAV	**Otavalo**	**34.64**	**351**	*e*P	**P**	**06 04 46.3**	**+1.4**
2.8nm,1.1s							
SNAA	**Sanae**	**51.78**	**158**	P	**P**	**06 07 02.4**	**+0.3**
0.9nm,0.8s,baz=275,slow=9.5,SNR=9.2							
QSPA	**South Pole Qui**	**55.97**	**180**	P	**P**	**06 07 33.4**	**+0.5**
2.6nm,1.0s,baz=159,slow=5.0,SNR=4.2							
QSPA	**South Pole Qui**	**55.97**	**180**	*e*P	**P**	**06 07 33.8**	**+0.9**
4.3nm,1.0s							
TXAR	**Lajitas Array**	**69.41**	**332**	P	**P**	**06 09 02.9**	**+0.1**
0.7nm,0.6s,baz=156,slow=8.1,SNR=11							
SWET	**Sewanee**	**70.10**	**349**	*e*P	**P**	**06 09 07.1**	**+0.3**
WVT	**Waverly**	**71.31**	**348**	*e*P	**P**	**06 09 13.9**	**-0.1**
4.2nm,0.7s							
DBIC	**Dimbokro**	**76.36**	**72**	P	**P**	**06 09 44.3**	**+0.1**
1.8nm,0.7s,baz=222,slow=7.9,SNR=3.6							
CCUT	**Cedar City**	**80.52**	**329**	*e*P	**P**	**06 10 09.0**	**+2.0**
0.5nm,0.4s							
TPH	**Tonopah**	**82.66**	**327**	*e*P	**P**	**06 10 19.3**	**+1.1**
HVU	**Hansel Valley**	**83.85**	**332**	*e*P	**P**	**06 10 23.7**	**-0.5**
0.5nm,0.3s							
TORD	**Torodi Ar. Bea**	**85.39**	**71**	P	**P**	**06 10 32.2**	**-0.2**
0.6nm,0.7s,baz=261,slow=3.7,SNR=3.7							
WRA	**Warramunga Arr**	**119.96**	**210**	PKP	**PKPdf**	**06 16 44.6**	**-1.0**
0.5nm,0.8s,baz=168,slow=1.3,SNR=3.6							
BVAR	**Borovoye Array**	**148.26**	**43**	PKPbc	**PKPbc**	**06 17 40.0**	**-0.1**
1.2nm,0.6s,baz=289,slow=4.4,SNR=6.1							
AAK	**Ala-Archa**	**153.65**	**62**	*e*PKPdf	**PKPdf**	**06 17 43.6**	**-1.9**
AAK				*e*PKPbc	**PKPbc**	**06 17 53.0**	**-0.4**
MKAR	**Makanchi Array**	**157.80**	**48**	PKPab	**PKPab**	**06 18 23.5**	**-0.2**
0.3nm,0.6s,baz=316,slow=4.0,SNR=3.8							

*IDC **01** 06:03:43.5±0.6, 33°.29S×71°.92W, h0km, mb4.3/10, mb1 4.4/13, mb1mx4.3/19, mbtmp4.3/13, ML4.4/3, MS3.9/10, Ms1 3.9/10, ms1mx3.8/26, Error ellipse: s-maj=19.9km s-min=15.6km az=121.0*
*ISCJB **01** 06:03:46.5±0.8, 33°.38S±0°.04×72°.03W±0°.05, h26km±5km, mb4.4/27, MS3.9/6, Error ellipse: s-maj=6.9km s-min=5.3km az=143.5*
*GUC **01** 06:03:47.0±0.5, 33°.36S×71°.99W, h35km±2km, ML4.5*
*NEIC **01** 06:03:49.2±0.5, 33°.40S×71°.98W, h35km, mb4.7/18, Error ellipse: s-maj=13.2km s-min=10.8km az=223.0*
ISC 01 06:03:48.1±1.3, 33°.37S±0°.04×71°.96W±0°.06, h29km±8km, n72, σ1§01/78, mb4.6/27, MS4.0/6, 1C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.43**	**39**	*i* P	**Pb**	**06 03 56.9**	**-0.5**
IHA				*i* S	**Sb**	**06 04 03.6**	**-0.1**
LNV	**Longovilo**	**0.75**	**142**	⇓*i* P	**Pb**	**06 04 01.2**	**-1.3**
LNV				⇓*i* S	**Sb**	**06 04 12.4**	**0.0**
RCDM	**Rinconada Maip**	**0.97**	**98**	⇓*i* P	**Pn**	**06 04 05.0**	**-0.8**
RCDM				*i* S	**Sn**	**06 04 18.3**	**-0.4**
RCDM				AML	AML	06 04 24.1	
comp=N,13μm,0.3s							
PEL	**Peldehue**	**1.09**	**79**	⇑*i* P	**Pn**	**06 04 07.6**	**+0.1**
PEL				*i* S	**Sb**	**06 04 22.8**	**+0.5**
PEL				AML	AML	06 04 30.2	
comp=N,36μm,0.4s							
STL	**Santa Lucia**	**1.11**	**94**	⇓*i* P	**Pn**	**06 04 06.6**	**-1.1**
STL				*i* S	**Sn**	**06 04 21.8**	**-0.2**
FSR	**Penalolen**	**1.21**	**96**	⇓*i* P	**Pb**	**06 04 10.3**	**+0.1**
FSR				*i* S	**Sb**	**06 04 27.1**	**+1.5**
CHCH	**Chadas Angostu**	**1.23**	**118**	⇓*i* P	**Pn**	**06 04 09.1**	**-0.3**
CHCH				*i* S	**Sn**	**06 04 25.9**	**+0.8**
CMCH	**Combarbala**	**2.33**	**21**	⇓*i* P	**Pn**	**06 04 24.1**	**-0.4**
CMCH				*i* S	**Sn**	**06 04 53.0**	**+0.7**
CFAA	**Coronel Fontan**	**3.60**	**62**	Pg	Pb	06 04 47.4	-3.8
comp=N,5.4nm,0.3s,baz=220,slow=12,SNR=62							
CFAA				Lg	Lg	06 05 36.4	
comp=N,7.9nm,0.3s,baz=334,slow=18,SNR=7.2							
CFAA				LR	LR	06 06 21.3	
comp=N,372nm,18.5s,baz=252,slow=45							
PLCA	**Paso Flores**	**7.44**	**172**	Pn	**Pn**	**06 05 35.3**	**+0.6**
comp=N,2.7nm,0.3s,baz=335,slow=11,SNR=5.4							
PLCA				LR	LR	06 08 46.7	
comp=N,822nm,19.3s,baz=327,slow=40							
TRQA	**Tornquist**	**9.37**	**123**	*e*Pn	**Pn**	**06 06 02.4**	**+1.2**
LVC	**Limon Verde**	**11.05**	**15**	*e*Pn	**Pn**	**06 06 25.4**	**+1.0**
comp=N,6.4nm,0.6s							
LVC				*e*Sn	**Sn**	**06 08 25.7**	**-1.4**
CPUP	**Villa Florida**	**14.50**	**65**	Pn	**Pn**	**06 07 12.4**	**+1.1**
comp=N,1.4nm,0.3s,baz=220,slow=13,SNR=8.9							
CPUP				LR	LR	06 13 09.9	
comp=N,905nm,19.2s,baz=228,slow=39							
LPAZ	**La Paz**	**17.35**	**12**	P	**Pn**	**06 07 48.1**	**-0.7**
comp=N,0.2nm,0.3s,baz=209,slow=10,SNR=11							
SIV	**San Ignacio**	**19.90**	**32**	P	**P**	**06 08 16.6**	**-0.8**
comp=N,0.5nm,0.3s,baz=209,slow=11,SNR=10.0							
SIV				LR	LR	06 17 14.0	
comp=N,571nm,19.0s,baz=225,slow=41							
NNA	**Nana**	**21.74**	**347**	LR	LR	06 15 23.0	
comp=N,160nm,19.7s,baz=182,slow=32							
SAML	**Samuel**	**25.61**	**20**	*e*P	**P**	**06 09 13.6**	**-1.4**
comp=N,6.5nm,1.0s							
SAML				*e*S	**S**	**06 13 41.9**	**+0.4**
ATAH	**Atahualpa**	**26.77**	**346**	LR	LR	06 18 18.2	
comp=N,141nm,19.5s,baz=179,slow=33							
BDFB	**Brasilia**	**27.93**	**57**	P	**P**	**06 09 34.9**	**-1.2**
comp=N,5.0nm,0.7s,baz=239,slow=6.7,SNR=8.3							
BDFB				LR	LR	06 21 46.7	
comp=N,923nm,18.4s,baz=225,slow=39							
BDFB	**Brasilia**	**27.93**	**57**	*e*P	**P**	**06 09 35.6**	**-0.5**
RPN	**Rapa Nui**	**32.75**	**271**	LR	LR	06 19 42.6	
comp=N,252nm,20.1s,baz=88,slow=29							
OTAV	**Otavalo**	**33.98**	**348**	*e*P	**P**	**06 10 32.3**	**+2.5**
comp=N,1.4nm,0.8s							
JTS	**JuntasAbangare**	**45.14**	**342**	P	**P**	**06 11 59.5**	**-2.7**
SNAA	**Sanae**	**52.15**	**158**	P	**P**	**06 12 56.0**	**+0.5**
comp=N,2.9nm,0.9s,baz=278,slow=6.8,SNR=10							
SNAA	**Sanae**	**52.15**	**158**	*e*P	**P**	**06 12 55.6**	**+0.1**
comp=N,14nm,1.1s							
TEIG	**Tepich**	**55.52**	**341**	*e*P	**P**	**06 13 20.4**	**-0.2**
comp=N,7.4nm,0.6s							
QSPA	**South Pole Qui**	**56.87**	**180**	P	**P**	**06 13 30.8**	**+0.9**
comp=N,9.8nm,1.0s,baz=164,slow=3.2,SNR=16							
JCT	**Junction City**	**68.74**	**334**	*e*P	**P**	**06 14 51.0**	**+1.7**
comp=N,95nm,2.9s							
TXAR	**Lajitas Array**	**69.21**	**331**	P	**P**	**06 14 52.5**	**+0.2**
comp=N,0.4nm,0.8s,baz=155,slow=6.5,SNR=4.9							
SWET	**Sewanee**	**69.47**	**348**	*e*P	**P**	**06 14 53.6**	**0.0**
comp=N,5.1nm,0.8s							
PPT	**Papeete**	**70.40**	**262**	LR	LR	06 38 57.3	
comp=N,110nm,18.0s,baz=139,slow=30							
WVT	**Waverly**	**70.71**	**346**	*e*P	**P**	**06 15 00.3**	**-0.8**
comp=N,14nm,1.1s							
MSTX	**Muleshoe**	**72.97**	**334**	*e*P	**P**	**06 15 15.6**	**+0.7**
comp=N,8.4nm,1.0s							
DBIC	**Dimbokro**	**74.92**	**71**	P	**P**	**06 15 26.8**	**+0.1**
comp=N,3.7nm,0.8s,baz=225,slow=5.7,SNR=4.0							
DBIC				LR	LR	06 47 32.5	
comp=N,79nm,18.8s,baz=186,slow=35							
ANMO	**Albuquerque**	**75.26**	**331**	*e*P	**P**	**06 15 29.8**	**+1.4**
comp=N,1.1nm,0.8s							
SMCO	**Snowmass**	**79.14**	**333**	*e*P	**P**	**06 15 52.1**	**+1.8**
comp=N,9.5nm,1.3s							
ECSD	**EROS Data Cent**	**79.97**	**342**	*e*P	**P**	**06 15 54.3**	**+0.1**
comp=N,6.1nm,0.9s							
BOSA	**Boshof**	**80.31**	**118**	P	**P**	**06 15 55.7**	**-1.1**
comp=N,6.9nm,1.1s,baz=249,slow=5.3,SNR=5.0							
CCUT	**Cedar City**	**80.40**	**328**	*e*P	**P**	**06 15 59.3**	**+2.3**
comp=N,4.8nm,1.3s							
SRU	**San Rafael Swe**	**80.49**	**331**	*e*P	**P**	**06 15 56.8**	**-0.6**
comp=N,0.4nm,0.5s							
R11A	**Troy Canyon, C**	**82.06**	**327**	*e*P	**P**	**06 16 07.6**	**+1.8**
comp=N,29nm,2.3s							
DUG	**Dugway, Tooele**	**82.36**	**330**	*e*P	**P**	**06 16 09.2**	**+2.1**
comp=N,22nm,1.9s							
LBTB	**Lobatse**	**82.51**	**115**	*e*P	**P**	**06 16 08.8**	**+0.3**
comp=N,21nm,1.3s							
TPH	**Tonopah**	**82.61**	**326**	*e*P	**P**	**06 16 09.1**	**+0.5**
comp=N,1.7nm,0.6s							
PDAR	**Pinedale Array**	**83.23**	**333**	P	**P**	**06 16 10.4**	**-1.3**
comp=N,0.8nm,0.9s,baz=141,slow=5.8,SNR=4.2							
NVAR	**Mina Array Bea**	**83.40**	**325**	P	**P**	**06 16 12.9**	**+0.2**
comp=N,1.8nm,0.9s,baz=147,slow=5.1,SNR=7.6							
TORD	**Torodi Ar. Bea**	**83.94**	**70**	P	**P**	**06 16 15.4**	**-0.3**
comp=N,5.2nm,0.9s,baz=249,slow=4.8,SNR=23							
YMR	**Madison River**	**85.38**	**333**	*e*P	**P**	**06 16 24.4**	**+1.8**
HLID	**Hailey**	**85.82**	**331**	*e*P	**P**	**06 16 26.3**	**+1.5**
comp=N,58nm,2.8s							
ULM	**Lac du Bonnet**	**85.90**	**345**	P	**P**	**06 16 24.4**	**-0.4**
comp=N,2.7nm,0.9s,baz=127,slow=5.1,SNR=2.8							
DGMT	**Dagmar**	**86.42**	**339**	*e*P	**P**	**06 16 29.0**	**+1.6**
WRA	**Warramunga Arr**	**121.34**	**209**	PKP	**PKPdf**	**06 22 38.3**	**-0.8**
comp=N,0.3nm,0.4s,baz=159,slow=1.6,SNR=7.1							
BRTR	**Keskin Array B**	**121.47**	**61**	PKP	**PKPdf**	**06 22 38.1**	**-0.7**
comp=N,0.4nm,0.8s,baz=197,slow=1.5,SNR=3.8							
H11S2	**WAKE ISLAND Hyl**	**25.84**	**270**	T	T	08 41 29.7	
baz=118,slow=75,SNR=46							
H11S1	**WAKE ISLAND Hyl**	**25.85**	**270**	T	T	08 41 29.4	
baz=118,slow=75,SNR=72							
H11S3	**WAKE ISLAND Hyl**	**25.86**	**270**	T	T	08 41 29.7	
baz=118,slow=75,SNR=44							
H11N3	**WAKE ISLAND Hyl**	**26.24**	**271**	T	T	08 41 58.4	
baz=114,slow=78,SNR=8.5							
H11N1	**WAKE ISLAND Hyl**	**26.25**	**271**	T	T	08 41 59.0	
baz=114,slow=78,SNR=12							
H11N2	**WAKE ISLAND Hyl**	**26.26**	**271**	T	T	08 41 57.9	
baz=114,slow=78,SNR=23							
ABKAR	**Akbulak array**	**141.24**	**51**	*e*PKPdf	PKPdf	06 23 10.1	-5.4
BRVK	**Borovoye**	**146.70**	**42**	*e*PKPdf	**PKPab**	**06 23 27.3**	**-0.5**
BVAR	**Borovoye Array**	**146.77**	**42**	PKPbc	**PKPbc**	**06 23 25.9**	**-0.9**
comp=N,3.9nm,0.6s,baz=298,slow=3.2,SNR=19							
HYB	**Hyderabad**	**149.13**	**114**	*i* PKP	**PKPbc**	**06 23 33.5**	**-0.7**
KKAR	**Karatay Array**	**149.18**	**61**	*e*PKPbc	**PKPbc**	**06 23 33.1**	**-0.5**
EKS2	**Erkin-Say**	**151.62**	**61**	*e*PKPdf	**PKPdf**	**06 23 33.1**	**-0.2**
EKS2				*e*PKPbc	**PKiKP**	**06 23 40.3**	**+0.3**
EKS2				*e*PKPab	**PKPab**	**06 23 47.5**	**-0.8**
AAK	**Ala-Archa**	**152.15**	**61**	PKPbc	**PKPbc**	**06 23 40.9**	**+0.1**
comp=N,3.0nm,0.5s,baz=187,slow=3.3,SNR=13							
AAK	**Ala-Archa**	**152.15**	**61**	*e*PKPbc	**PKPbc**	**06 23 41.4**	**+0.5**
KURK	**Kurchatov**	**152.37**	**42**	*e*PKPdf	**PKPdf**	**06 23 33.9**	**-0.1**
KURK				*e*PKPbc	**PKPbc**	**06 23 40.8**	**0.0**
KURK				*e*PKPab	**PKPab**	**06 23 50.0**	**-1.0**
TKM2	**Tokmak 2**	**152.90**	**60**	*e*PKPdf	**PKPbc**	**06 23 43.0**	**+0.4**
TKM2				*e*PKPab	**PKPab**	**06 23 54.5**	**+0.7**
ZALV	**Zalesovo Beam**	**153.66**	**32**	PKP	**PKPdf**	**06 23 35.2**	**-0.6**
comp=N,0.8nm,0.6s,baz=300,slow=2.9,SNR=6.1							
ZALV				PKPbc	**PKPbc**	**06 23 43.5**	**-0.1**
comp=N,2.8nm,0.5s,baz=298,slow=3.2,SNR=15							
MKAR	**Makanchi Array**	**156.30**	**48**	PKP	**PKPdf**	**06 23 39.7**	**+0.1**
comp=N,0.7nm,0.9s,baz=349,slow=1.2,SNR=6.6							
MKAR				PKPbc	PKPbc	06 23 49.8	
comp=N,0.6nm,0.8s,baz=318,slow=1.6,SNR=5.6							
MKAR				PKPab	**PKPab**	**06 24 07.3**	**-0.6**
comp=N,2.3nm,0.5s,baz=284,slow=3.2,SNR=40							
MKAR	**Makanchi Array**	**156.30**	**48**	PKP	**PKPdf**	**06 23 39.7**	**+0.1**
MKAR				PKPbc	PKPbc	06 23 49.8	
MKAR				PKPab	**PKPab**	**06 24 07.3**	**-0.6**
MKAR				*e*PKPab	PKPab	06 24 08.1	+0.2

*IDC **01** 06:12:27.8±1.0, 36°.15S×73°.51W, h0km, mb4.1/9, mb1 4.2/12, mb1mx4.1/32, mbtmp4.1/12, ML4.0/3, Error ellipse: s-maj=28.1km s-min=16.1km az=84.0*
*ISCJB **01** 06:12:31.3±0.5, 36°.17S±0°.07×73°.43W±0°.08, h33km, mb4.1/18, Error ellipse: s-maj=10.8km s-min=7.6km az=41.8*
*NEIC **01** 06:12:33.1±0.5, 36°.18S×73°.50W, h35km, mb4.2/12, Error ellipse: s-maj=11.0km s-min=8.8km az=66.0*
ISC 01 06:12:33.2±0.7, 36°.16S±0°.08×73°.50W±0°.10, h35km, n28, σ0§93/28, mb4.2/18, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.12**	**154**	Pn	**Pn**	**06 13 47.2**	**-0.1**
1.2nm,0.3s,baz=326,slow=15,SNR=3.6							
PLCA				Lg	Lg	06 15 10.8	
2.3nm,0.3s,baz=258,slow=22,SNR=2.9							
PLCA	**Paso Flores**	**5.12**	**154**	*e*Pn	**Pn**	**06 13 45.9**	**-1.4**
PLCA				Lg	Lg	06 15 10.8	
PLCA				*e*Sg	Sn	06 15 11.9	+27
CFAA	**Coronel Fontan**	**6.31**	**45**	Pn	**Pn**	**06 14 02.6**	**-1.2**
0.9nm,0.3s,baz=216,slow=13,SNR=13							
CFAA				Lg	Lg	06 15 41.7	
0.3nm,0.3s,baz=266,slow=14,SNR=6.0							
TRQA	**Tornquist**	**9.40**	**105**	*e*Pn	**Pn**	**06 14 48.0**	**+2.0**
15nm,0.9s							
TRQA				*e*Sn	**Sn**	**06 16 31.3**	**+0.8**
LVC	**Limon Verde**	**14.08**	**18**	*e*Pn	**Pn**	**06 15 51.2**	**+0.8**
CPUP	**Villa Florida**	**16.93**	**59**	Pn	**Pn**	**06 16 26.4**	**-0.9**
0.4nm,0.3s,baz=216,slow=12,SNR=3.4							
LPAZ	**La Paz**	**20.36**	**15**	P	**P**	**06 17 07.5**	**+0.1**
13nm,0.9s,baz=184,slow=10,SNR=19							
LPAZ	**La Paz**	**20.36**	**15**	*e*P	Pn	06 17 08.2	-1.5
17nm,0.9s							
SIV	**San Ignacio**	**22.94**	**32**	P	**P**	**06 17 33.5**	**-0.9**
11nm,0.9s,baz=222,slow=11,SNR=15							
BDFB	**Brasilia**	**30.55**	**55**	P	**P**	**06 18 43.1**	**-0.5**
9.4nm,1.1s,baz=222,slow=8.5,SNR=6.4							
OTAV	**Otavalo**	**36.51**	**352**	*e*P	**P**	**06 19 36.8**	**+1.0**
0.6nm,0.5s							
SNAA	**Sanae**	**50.05**	**157**	P	**P**	**06 21 24.1**	**+0.1**
3.0nm,1.1s,baz=284,slow=12,SNR=3.5							
QSPA	**South Pole Qui**	**54.08**	**180**	P	**P**	**06 21 54.1**	**0.0**
3.4nm,0.8s,baz=187,slow=4.7,SNR=3.8							
QSPA	**South Pole Qui**	**54.08**	**180**	*e*P	**P**	**06 21 54.5**	**+0.4**
2.9nm,1.0s							
TXAR	**Lajitas Array**	**71.06**	**332**	P	**P**	**06 23 47.7**	**0.0**
0.6nm,0.6s,baz=153,slow=8.5,SNR=7.7							
SWET	**Sewanee**	**71.95**	**349**	*e*P	**P**	**06 23 53.9**	**+1.0**
5.6nm,0.9s							
TUL1	**Leonard**	**74.65**	**341**	*e*P	**P**	**06 24 08.2**	**-0.5**
1.6nm,0.6s							
ANMO	**Albuquerque**	**77.13**	**333**	*e*P	**P**	**06 24 23.9**	**+0.7**
2.0nm,1.0s							
BOSA	**Boshof**	**80.12**	**118**	P	**P**	**06 24 39.8**	**-0.2**
1.5nm,0.7s,baz=201,slow=5.1,SNR=3.6							
CCUT	**Cedar City**	**82.12**	**329**	*e*P	**P**	**06 24 48.0**	**-2.2**
ECSD	**EROS Data Cent**	**82.25**	**343**	*e*P	**P**	**06 24 51.4**	**+0.9**
1.9nm,0.8s							
SRU	**San Rafael Swe**	**82.33**	**332**	*e*P	**P**	**06 24 50.3**	**-0.9**
0.8nm,0.7s							
LBTB	**Lobatse**	**82.47**	**115**	*e*P	**P**	**06 24 52.5**	**0.0**
6.0nm,1.1s							
DUG	**Dugway, Tooele**	**84.15**	**331**	*e*P	**P**	**06 25 01.1**	**+0.6**
0.8nm,0.7s							
TPH	**Tonopah**	**84.22**	**327**	*e*P	**P**	**06 25 00.2**	**-0.8**
2.1nm,1.0s							
PDAR	**Pinedale Array**	**85.17**	**334**	P	**P**	**06 25 05.9**	**+0.2**
0.5nm,0.9s,baz=132,slow=6.4,SNR=2.8							
HVU	**Hansel Valley**	**85.50**	**332**	*e*P	**P**	**06 25 07.2**	**-0.1**
1.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**86.06**	**71**	P	**P**	**06 25 10.2**	**-0.4**
1.9nm,1.0s,baz=247,slow=4.3,SNR=6.8							

*IDC **01** 06:16:04.7±0.6, 38°.03S×75°.19W, h0km, mb4.7/17, mb1 4.7/19, mb1mx4.6/30, mbtmp4.6/19, ML4.2/2, MS3.9/4, Ms1 3.9/4, ms1mx3.4/25, Error ellipse: s-maj=19.0km s-min=14.8km az=77.0*
*ISCJB **01** 06:16:09.5±0.3, 37°.77S±0°.06×74°.87W±0°.07, h33km, mb5.0/108, Error ellipse: s-maj=10.0km s-min=7.1km az=37.6*
*NEIC **01** 06:16:10.5±0.2, 37°.96S×74°.93W, h35km, mb5.0/89, Error ellipse: s-maj=7.1km s-min=5.2km az=39.0*
ISC 01 06:16:11.5±0.6, 37°.85S±0°.07×74°.85W±0°.09, h40km±6km, h40km:pP-P, n523, σ0§83/539, mb5.0/109, 181C-171D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.41**	**132**	Pn	**Pn**	**06 17 15.3**	**-0.7**
5.8nm,0.3s,baz=313,slow=12,SNR=12							
PLCA				Lg	Lg	06 18 12.1	
5.5nm,0.3s,baz=35,slow=20,SNR=6.2							
PLCA	**Paso Flores**	**4.41**	**132**	*e*Pn	**Pn**	**06 17 16.0**	**0.0**
PLCA				Lg	Lg	06 18 12.1	
PLCA				*e*Sn	Sn	06 18 12.9	+6.8
CFAA	**Coronel Fontan**	**8.27**	**43**	Pn	**Pn**	**06 18 09.5**	**+0.5**
0.5nm,0.3s,baz=222,slow=13,SNR=6.2							
TRQA	**Tornquist**	**10.17**	**95**	*e*Pn	**Pn**	**06 18 32.3**	**-2.6**
LVC	**Limon Verde**	**16.02**	**20**	*e*Pn	**Pn**	**06 19 55.3**	**+1.1**
20nm,0.8s							
USHA	**Ushuaia**	**17.54**	**168**	LR	LR	06 27 07.2	
comp=Z,399nm,19.6s,baz=327,slow=38							
CPUP	**Villa Florida**	**18.74**	**57**	P	**P**	**06 20 25.8**	**-1.1**
0.9nm,0.3s,baz=254,slow=11,SNR

baz=72,SNR=8.7
339A **Huntington** 71.24 342 ⇑P P 06 27 26.3 -0.1
baz=72
533A **Kerrville** 71.25 338 ⇓P P 06 27 26.1 -0.5
baz=72,SNR=9.2
LRAL **Lakeview Retre** 71.42 349 eP P 06 27 27.5 +0.1
18nm,1.0s
338A **Crockett** 71.45 342 ⇑P P 06 27 28.4 +0.8
baz=72
435B **Jarrell** 71.51 339 ⇑P P 06 27 28.2 +0.2
baz=72
337A **Centerville** 71.56 341 ⇑P P 06 27 28.8 +0.5
baz=72
532A **Rocksprings** 71.57 337 ⇑P P 06 27 28.1 -0.4
baz=72,SNR=14
434A **Burnet** 71.73 339 ⇓P P 06 27 28.9 -0.5
baz=72,SNR=14
531A **Rocksprings** 71.80 337 ⇓P P 06 27 29.9 0.0
baz=72,SNR=12
JCT **Junction City** 71.86 337 ⇓P P 06 27 29.7 -0.5
baz=72,SNR=6.6
JCT **Junction City** 71.86 337 eP P 06 27 29.8 -0.5
28nm,1.3s
336A **Riesel** 71.88 340 ⇑P P 06 27 29.8 -0.4
baz=72
433A **Art** 71.91 338 ⇓P P 06 27 29.8 -0.7
baz=72,SNR=12
335A **Moody** 71.93 340 ⇑P P 06 27 30.3 -0.2
baz=72
530A **J-C Ranch, Com** 72.04 336 ⇑P P 06 27 31.0 -0.3
baz=72,SNR=12
TXAR **Lajitas Array** 72.07 334 P P 06 27 31.2 -0.4
7.1nm,0.7s,baz=154,slow=8.7,SNR=68
334A **Lometa** 72.21 339 ⇑P P 06 27 31.8 -0.4
baz=73,SNR=14
432A **Menard** 72.23 338 ⇑P P 06 27 31.6 -0.8
baz=73,SNR=5.7
431A **Sonora** 72.30 337 ⇑P P 06 27 32.2 -0.6
baz=73,SNR=9.0
529A **Stev Forest Ra** 72.30 335 ⇑P P 06 27 32.3 -0.6
baz=73,SNR=9.2
333A **Richland Sprin** 72.41 338 ⇑P P 06 27 32.7 -0.8
baz=73,SNR=6.7
430A **Baggett Ranch,** 72.60 336 ⇑P P 06 27 34.1 -0.5
baz=73,SNR=11
WHTX **Lake Whitney,** 72.61 340 ⇓P P 06 27 33.8 -0.8
baz=73
WHTX **Lake Whitney,** 72.61 340 eP P 06 27 34.5 -0.1
26nm,1.1s
429A **Davenport Ranc** 72.66 336 ⇑P P 06 27 34.6 -0.4
baz=73,SNR=11
332A **Millersview** 72.69 338 ⇓P P 06 27 34.3 -0.8
baz=73,SNR=16
234A **Clairette** 72.81 339 ⇓P P 06 27 35.2 -0.6
baz=73,SNR=8.3
331A **San Angelo** 72.83 337 ⇓P P 06 27 35.2 -0.7
baz=73,SNR=14
KMSC **Kings Mountain** 72.87 354 ⇑P P 06 27 35.4 -0.7
baz=73
KMSC **Kings Mountain** 72.87 354 eP P 06 27 35.8 -0.2
14nm,0.7s
233A **Rising Star** 73.04 339 ⇑P P 06 27 36.3 -0.9
baz=74,SNR=7.0
232A **Coleman** 73.13 338 ⇓P P 06 27 36.8 -1.0
baz=74,SNR=8.9
330A **Mertzon** 73.15 337 ⇑P P 06 27 36.8 -1.1
baz=74
OXF **Oxford** 73.25 347 eP P 06 27 37.3 -1.0
40nm,1.0s
134A **White-Moore Ra** 73.33 340 ⇑P P 06 27 38.1 -0.8
baz=74
231A **Bronte** 73.38 338 ⇓P P 06 27 38.1 -1.1
baz=74,SNR=11
SWET **Sewanee** 73.42 351 eP P 06 27 39.2 -0.1
51nm,0.7s
329A **Wagon Wheel Ra** 73.48 336 ⇑P P 06 27 39.2 -0.7
baz=74,SNR=8.0
230A **Sterling City** 73.58 337 ⇑P P 06 27 39.7 -0.7
baz=74
133A **Hamilton Ranch** 73.60 339 ⇓P P 06 27 39.8 -0.6
baz=74,SNR=11
TKL **Tuckaleechee C** 73.61 352 eP P 06 27 40.0 -0.3
ABTX **Abilene, Hawle** 73.82 338 ⇓P P 06 27 41.0 -0.7
baz=74,SNR=7.0
ABTX **Abilene, Hawle** 73.82 338 eP P 06 27 41.4 -0.4
25nm,1.1s
Z35A **Perchaven, San** 73.82 341 ⇑P P 06 27 41.1 -0.6
baz=74,SNR=5.7
229A **Bryant Ranch,** 73.87 336 ⇑P P 06 27 41.4 -0.7
baz=74,SNR=7.8
Z34A **Collier Ranch,** 74.04 340 ⇑P P 06 27 42.7 -0.3
baz=74
131A **Roby** 74.09 338 ⇓P P 06 27 42.6 -0.8
baz=74,SNR=7.6
MIAR **Mount Ida** 74.10 344 eP P 06 27 42.8 -0.6
513nm,1.3s
MIAR epP pP 06 27 53.6 -1.7
130A **Snyder** 74.19 337 ⇑P P 06 27 43.0 -1.0
baz=75,SNR=5.7
Z33A **Whitaker Ranch** 74.19 339 ⇑P P 06 27 43.1 -0.8
baz=75,SNR=7.7
228A **UT Block 9, Go** 74.26 336 ⇓P P 06 27 44.0 -0.4
baz=75
Z32A **Haskell** 74.41 339 ⇓P P 06 27 44.5 -0.7
baz=75,SNR=13
129A **Stewart Farms,** 74.50 337 ⇑P P 06 27 45.0 -0.9
baz=75,SNR=6.3
Y34A **Reagan Ranch,** 74.55 340 ⇓P P 06 27 45.3 -0.6
baz=75
WVT **Waverly** 74.58 349 eP P 06 27 45.3 -0.8
25nm,1.1s
Z31A **Sharp Cattle R** 74.62 338 ⇑P P 06 27 45.8 -0.6
baz=75,SNR=8.9
128A **Castleberry Fa** 74.69 336 ⇓P P 06 27 46.1 -0.8
baz=75,SNR=8.5
Y33A **Hilltop Ranch,** 74.83 340 ⇓P P 06 27 47.1 -0.5
baz=75
VWCC **Virginia Weste** 74.87 356 eP P 06 27 47.5 -0.3
Z30A **Sanderson Ranc** 74.88 337 ⇓P P 06 27 47.1 -0.8
baz=75,SNR=8.9
Z29A **Hungry Hill Ra** 75.03 337 ⇑P P 06 27 47.9 -0.9
baz=75,SNR=13
Y32A **R-V Farms, Ver** 75.06 339 ⇓P P 06 27 48.3 -0.6
baz=76,SNR=6.9
X34A **Smith Ranch, M** 75.18 341 ⇓P P 06 27 49.6 0.0
baz=76
Y31A **Rekieta Farm,** 75.25 338 ⇓P P 06 27 49.6 -0.5
baz=76
X33A **Lawton** 75.30 340 ⇓P P 06 27 49.4 -0.9
baz=76
Y30A **Stafford Cattl** 75.36 338 ⇑P P 06 27 50.1 -0.7
baz=76
X32A **Elmer** 75.40 339 ⇓P P 06 27 50.3 -0.6
baz=76,SNR=6.3
Z27A **Tatum** 75.56 336 ⇓P P 06 27 51.4 -0.6
baz=76
Y29A **Porterfield Fa** 75.58 337 ⇑P P 06 27 51.3 -0.7
baz=76
PBMO **Poplar Bluff** 75.64 347 eP P 06 27 51.3 -0.8
23nm,0.8s
W34A **Bridge Creek,** 75.76 341 ⇑P P 06 27 52.2 -0.7
baz=76
W34A **Bridge Creek,** 75.76 341 eP P 06 27 52.3 -0.6
14nm,0.8s
Z26A **Caprock** 75.78 335 ⇑P P 06 27 52.6 -0.5
baz=76
X31A **McDonald Ranch** 75.80 339 ⇓P P 06 27 52.4 -0.8
baz=76,SNR=11
Y28A **McKinney Farm,** 75.80 337 ⇓P P 06 27 52.6 -0.7
baz=76
W33A **Caddo, Fort Co** 75.87 340 ⇑P P 06 27 53.7 +0.1
baz=76,SNR=7.3
X30A **Coker Ranch, T** 75.89 338 ⇑P P 06 27 53.6 -0.1
baz=76,SNR=6.8
TUL1 **Leonard** 75.91 343 ⇑P P 06 27 53.0 -0.8
baz=76,SNR=14
TUL1 **Leonard** 75.91 343 eP P 06 27 53.1 -0.6
61nm,1.3s
319A **Douglas** 76.00 330 ⇑P P 06 27 54.7 +0.2
baz=76,SNR=9.0
MSTX **Muleshoe** 76.03 336 ⇓P P 06 27 54.0 -0.5
baz=76,SNR=6.6
MSTX **Muleshoe** 76.03 336 eP P 06 27 53.9 -0.7
27nm,1.4s
Z25A **Roswell** 76.03 335 ⇑P P 06 27 54.0 -0.7
baz=76
W32A **Sentinel** 76.05 340 ⇓P P 06 27 54.3 -0.3
baz=76,SNR=16

Y27A **Causey** 76.07 336 ⇑P P 06 27 54.2 -0.6
baz=76
X29A **Tulia** 76.13 337 ⇑P P 06 27 54.6 -0.5
baz=76
V34A **Guthrie** 76.26 341 ⇓P P 06 27 54.9 -0.9
baz=77
Z24A **Sheeppen Canyo** 76.30 334 ⇓P P 06 27 55.5 -0.8
baz=77
W31A **Holland Ranch,** 76.31 339 ⇓P P 06 27 55.3 -0.8
baz=77
Y26A **Elida** 76.32 336 ⇓P P 06 27 55.7 -0.6
baz=77,SNR=5.6
SIUC **Southern Illin** 76.35 348 eP P 06 27 55.8 -0.4
20nm,0.9s
USIN **University of** 76.36 350 eP P 06 27 55.0 -1.2
35nm,0.8s
V33A **Lossen Ranch,** 76.45 341 ⇑P P 06 27 56.5 -0.4
baz=77,SNR=7.3
121A **Cookes Peak, D** 76.45 332 ⇑P P 06 27 57.2 0.0
baz=77,SNR=5.6
AMTX **Amarillo** 76.53 338 ⇑P P 06 27 56.9 -0.5
baz=77
AMTX **Amarillo** 76.53 338 eP P 06 27 57.1 -0.3
30nm,1.2s
V32A **Arapaho** 76.56 340 ⇑P P 06 27 57.3 -0.2
baz=77
Y25A **Mesa, Roswell** 76.61 335 ⇑P P 06 27 57.7 -0.3
baz=77
W29A **Amarillo** 76.74 338 ⇓P P 06 27 58.0 -0.6
baz=77,SNR=5.2
X27A **F and S Farms,** 76.75 336 ⇓P P 06 27 58.3 -0.4
baz=77
Z22A **Elephant Butte** 76.80 333 ⇓P P 06 27 59.1 +0.1
baz=77,SNR=5.2
V31A **Spring Creek L** 76.83 339 ⇓P P 06 27 59.3 +0.3
baz=77,SNR=5.7
U34A **Anderson Ranch** 76.84 341 ⇑P P 06 27 58.6 -0.4
baz=77
U34A **Anderson Ranch** 76.84 341 eP P 06 27 58.9 -0.1
23nm,1.1s
Y24A **Capitan** 76.87 334 ⇓P P 06 27 59.3 -0.1
baz=77,SNR=7.7
X26A **CR and CF Fran** 76.89 336 ⇑P P 06 27 58.8 -0.7
baz=77
U33A **Lingo Farm, Me** 76.98 341 ⇓P P 06 27 59.2 -0.6
baz=77
W28A **Vega** 77.04 337 ⇓P P 06 28 00.0 -0.2
baz=78
V30A **Spur Ranch, Mi** 77.06 339 ⇑P P 06 28 01.0 +0.7
baz=78
Y23A **Lovelace Mesa,** 77.09 334 ⇑P P 06 28 01.1 +0.4
baz=78
W27A **Bowe Ranch, En** 77.12 337 ⇓P P 06 28 00.4 -0.4
baz=78,SNR=11
X25A **Clemons Ranch** 77.15 335 ⇓P P 06 28 00.6 -0.4
baz=78
U32A **Winter Ranch,** 77.17 340 ⇑P P 06 28 00.9 0.0
baz=78
W26A **Owens Ranch, T** 77.37 336 ⇓P P 06 28 02.1 -0.1
baz=78
U31A **Nine Bar Ranch** 77.39 340 ⇑P P 06 28 02.7 +0.6
baz=78
BLO **Bloomington** 77.39 351 eP P 06 28 01.2 -0.8
24nm,0.8s
SLM **Saint Louis** 77.42 348 eP P 06 28 01.7 -0.4
47nm,0.8s
TUC **Tucson** 77.42 329 eP P 06 28 02.5 +0.1
14nm,1.1s
X24A **Lazy VL Ranch,** 77.45 335 ⇓P P 06 28 03.0 +0.2
baz=78
V28A **Channing** 77.50 337 ⇑P P 06 28 03.4 +0.5
baz=78
T33A **Patterson Ranc** 77.63 341 ⇑P P 06 28 03.5 +0.1
baz=78,SNR=7.8
V27A **Dan Oppiter Fa** 77.69 337 ⇓P P 06 28 03.9 -0.1
baz=78
W25A **X Bar L Ranch,** 77.72 336 ⇓P P 06 28 03.6 -0.5
baz=78,SNR=7.0
X23A **Hourglass Bar** 77.72 334 ⇑P P 06 28 04.3 +0.1
baz=78
U30A **WK&E Inc. Balk** 77.76 339 ⇓P P 06 28 04.7 +0.4
baz=78
LAZ **Ladron** 77.89 333 eP P 06 28 05.9 +0.7
15nm,1.6s
T32A **Huddler Ranch,** 77.90 341 ⇓P P 06 28 05.1 +0.1
baz=78
214A **Organ Pipe Nat** 77.95 328 ⇑P P 06 28 05.8 +0.5
baz=78,SNR=7.8
W24A **Lazy 6 Ranch,** 78.02 335 ⇑P P 06 28 05.8 -0.1
baz=78,SNR=10
T31A **Randall Ranch,** 78.03 340 ⇑P P 06 28 05.6 0.0
baz=78
V26A **Tequesquite Ra** 78.03 336 ⇓P P 06 28 05.4 -0.4
baz=78
ACSO **Alum Creek Sta** 78.06 354 eP P 06 28 05.2 -0.5
29nm,0.7s
LIC **Lamto** 78.13 72 eP P 06 28 08.1 +1.3
17nm,0.5s
ANMO **Albuquerque** 78.14 334 eP P 06 28 06.7 +0.2
15nm,1.1s
W23A **Werner Place,** 78.23 334 ⇓P P 06 28 07.4 +0.3
baz=79,SNR=9.7
U27A **Thompson Grove** 78.30 337 ⇓P P 06 28 06.7 -0.7
baz=79
V25A **Rancho No Teng** 78.33 336 ⇓P P 06 28 07.3 -0.3
baz=79,SNR=9.1
S32A **Newby Ranch, P** 78.39 341 ⇑P P 06 28 07.5 -0.1
baz=79
TIC **Toumodi** 78.41 72 eP P 06 28 09.4 +1.1
3.4nm,0.2s
KIC **Kosan Boka** 78.44 73 eP P 06 28 09.8 +1.3
22nm,0.8s
V24A **Rampart Ranch,** 78.45 335 ⇑P P 06 28 07.9 -0.4
baz=79
S31A **Mullinville** 78.46 340 ⇓P P 06 28 08.1 0.0
baz=79
T29A **Hugoton** 78.53 339 ⇓P P 06 28 08.6 +0.1
baz=79
DBIC **Dimbokro** 78.55 72 P P 06 28 09.9 +0.8
4.7nm,0.5s,baz=202,slow=5.4,SNR=12
SFIN **Lafayette** 78.66 350 ⇓P P 06 28 08.2 -0.8
baz=79
R33A **Olander Ranch,** 78.72 342 ⇑P P 06 28 09.3 -0.1
baz=79
T28A **Walsh** 78.74 338 ⇑P P 06 28 09.3 -0.3
baz=79,SNR=9.3
S30A **Montezuma** 78.75 340 ⇑P P 06 28 09.8 +0.1
baz=79
V23A **Ortiz Mt. (NFS** 78.77 334 ⇓P P 06 28 10.6 +0.5
baz=79
U25A **Circle Dot Ran** 78.78 336 ⇑P P 06 28 09.9 -0.2
baz=79,SNR=7.1
T27A **Campo** 78.86 338 ⇑P P 06 28 10.5 0.0
baz=79
S29A **Ulysses** 78.91 339 ⇑P P 06 28 10.3 -0.3
baz=79
R32A **Long Quarter,** 79.02 341 ⇓P P 06 28 10.9 -0.2
baz=80,SNR=6.5
X18A **Snowflake** 79.05 331 ⇑P P 06 28 11.8 +0.3
baz=79
U24A **Moreno Valley** 79.07 335 ⇓P P 06 28 12.5 +0.7
baz=80
R31A **Burdett** 79.10 340 ⇓P P 06 28 11.6 0.0
baz=80
S28A **Manter** 79.11 338 ⇑P P 06 28 11.4 -0.3
baz=80,SNR=7.1
KSU1 **Kansas State U** 79.15 343 ⇓P P 06 28 11.0 -0.7
baz=80,SNR=5.6
KSU1 **Kansas State U** 79.15 343 eP P 06 28 10.8 -0.9
17nm,0.9s
V22A **San Miguel Ran** 79.17 334 ⇑P P 06 28 12.9 +0.6
baz=80,SNR=23
Z14A **Wintersburg** 79.22 328 ⇑P P 06 28 12.7 +0.4
baz=80
T26A **Comanche Natio** 79.23 337 ⇓P P 06 28 12.5 0.0
baz=80,SNR=6.9
R30A **Dighton** 79.30 340 ⇓P P 06 28 12.8 +0.1
baz=80
U23A **El Rito** 79.30 335 ⇓P P 06 28 13.7 +0.7
baz=80,SNR=11
Q33A **Connelly Farm,** 79.34 342 ⇓P P 06 28 12.5 -0.3
baz=80
T25A **Trinidad** 79.46 336 ⇓P P 06 28 14.3 +0.5
baz=80,SNR=15
W18A **Petrified Fore** 79.49 332 ⇓P P 06 28 14.4 +0.4
baz=80
Q32A **Meitler Ranch,** 79.52 341 ⇓P P 06 28 13.6 -0.1
baz=80

X16A **Lo Mia Camp, P** 79.53 330 ⇑P P 06 28 14.7 +0.5
baz=80,SNR=14
U22A **Llaves** 79.57 334 ⇓P P 06 28 15.2 +0.8
baz=80,SNR=7.8
S26A **Kim** 79.61 337 ⇑P P 06 28 14.9 +0.5
baz=80
R29A **Marienthal** 79.67 339 ⇓P P 06 28 14.8 +0.1
baz=80
T24B **San Luis** 79.70 336 ⇓P P 06 28 15.7 +0.5
baz=80,SNR=5.9
Q31A **Ellis** 79.74 341 ⇑P P 06 28 15.0 0.0
baz=80,SNR=6.9
Y14A **Wickenburg** 79.75 329 ⇑P P 06 28 15.3 +0.1
baz=80,SNR=7.5
GLA **Glamis** 79.76 327 ⇓P P 06 28 15.6 +0.3
baz=80
R28A **Tribune** 79.78 339 ⇓P P 06 28 15.3 0.0
baz=80,SNR=12
T23A **Casias Ranch,** 79.89 335 ⇑P P 06 28 16.1 -0.1
baz=80,SNR=5.7
S25A **Robets Cordova** 79.94 337 ⇑P P 06 28 16.4 0.0
baz=80,SNR=11
R27A **Eads** 80.02 338 ⇑P P 06 28 16.3 -0.3
baz=80,SNR=14
Q29A **Oakley** 80.06 340 ⇑P P 06 28 16.4 -0.3
baz=80,SNR=5.6
P32A **Huiting Farm,** 80.12 342 ⇓P P 06 28 16.7 -0.3
baz=81,SNR=6.3
S24A **Houchin Ranch,** 80.17 336 ⇑P P 06 28 18.0 +0.3
baz=81,SNR=11
AAM **Ann Arbor** 80.17 353 eP P 06 28 16.8 -0.4
9.5nm,0.6s
P31A **Stockton** 80.22 341 ⇓P P 06 28 17.5 -0.1
baz=81
Y12C **Blythe** 80.22 327 ⇓P P 06 28 18.3 +0.7
baz=81,SNR=7.4
R26A **Arlington** 80.23 338 ⇑P P 06 28 17.8 0.0
baz=81,SNR=11
BOSA **Boshof** 80.27 119 P P 06 28 18.2 -0.3
6.4nm,1.0s,baz=185,slow=3.0,SNR=5.8
R25A **Fountain Ranch** 80.34 337 ⇓P P 06 28 18.6 +0.2
baz=81
SDCO **Great Sand Dun** 80.36 336 eP P 06 28 18.9 +0.2
6.3nm,1.1s
Q28A **Sharon Springs** 80.46 339 ⇑P P 06 28 19.2 +0.2
baz=81
WUAZ **Wupatki** 80.47 331 ⇑P P 06 28 19.6 +0.4
baz=81,SNR=7.4
WUAZ **Wupatki** 80.47 331 eP P 06 28 19.2 0.0
22nm,1.3s
P30A **Selden** 80.47 340 ⇑P P 06 28 19.4 +0.4
baz=81
PDMCI **Parker Dam,Lak** 80.53 328 ⇓P P 06 28 19.6 +0.3
baz=81
BC3 **Big Chuckawall** 80.54 327 ⇓P P 06 28 20.0 +0.4
baz=81
KSCO **Kaye Shedlock'** 80.64 338 ⇑P P 06 28 20.6 +0.6
baz=81
KSCO **Kaye Shedlock'** 80.64 338 eP P 06 28 20.4 +0.4
37nm,1.3s
O32A **Brockman Farm,** 80.65 342 ⇓P P 06 28 20.0 +0.2
baz=81
R24A **Sanders Place,** 80.68 336 ⇓P P 06 28 20.8 +0.5
baz=81,SNR=17
P29A **Atwood** 80.71 340 ⇑P P 06 28 20.4 +0.1
baz=81,SNR=6.5
S22A **4UR Ranch, Cre** 80.80 335 ⇓P P 06 28 21.3 +0.2
baz=81,SNR=6.3
O31A **Woolen Ranch,** 80.81 341 ⇓P P 06 28 20.9 +0.2
baz=81
Q26A **Hugo** 80.82 338 ⇓P P 06 28 21.2 +0.2
baz=81,SNR=9.4
IRM **Iron Mountain** 80.84 327 ⇓P P 06 28 21.3 +0.2
baz=81,SNR=5.1
R23A **Moffat** 80.87 336 ⇓P P 06 28 21.6 +0.2
baz=81
MVCO **Mesa Verde** 80.90 333 ⇓P P 06 28 21.6 0.0
baz=81,SNR=6.4
MVCO **Mesa Verde** 80.90 333 eP P 06 28 22.0 +0.4
15nm,1.2s
P28A **Saint Francis** 80.91 339 ⇑P P 06 28 21.8 +0.4
baz=81
PFO **Pinyon Flats O** 80.94 326 ⇓P P 06 28 22.2 +0.5
baz=81,SNR=6.6
PFO **Pinyon Flats O** 80.94 326 eP P 06 28 22.4 +0.6
O30A **MW Ranch, Wils** 81.02 341 ⇓P P 06 28 21.8 -0.1
baz=82,SNR=6.9
Q25A **Bedland, Calha** 81.03 337 ⇑P P 06 28 21.9 -0.3
baz=82,SNR=8.2
BELC **Belle Mtn. Jos** 81.08 326 ⇓P P 06 28 22.8 +0.4
baz=81
W13A **Hualapai Mount** 81.11 328 ⇓P P 06 28 22.6 -0.2
baz=82,SNR=7.5
N32A **Stulken Farm,** 81.13 342 ⇓P P 06 28 22.6 +0.2
baz=82
P27A **Ficken Ranch,** 81.13 339 ⇑P P 06 28 22.6 +0.1
baz=82
MURC **Murrieta** 81.27 325 ⇑P P 06 28 23.6 +0.2
baz=82
P26A **Davis Ranch, A** 81.36 338 ⇓P P 06 28 24.0 +0.2
baz=82,SNR=8.3
Q24A **Divide** 81.36 337 ⇓P P 06 28 24.3 +0.2
baz=82,SNR=5.6
P25A **Willow Gulch B** 81.56 337 ⇓P P 06 28 25.4 +0.5
baz=82,SNR=12
GMRC **Granite Mounta** 81.59 327 ⇓P P 06 28 25.7 +0.6
baz=82,SNR=5.5
U15A **North Rim** 81.62 330 ⇑P P 06 28 26.0 +0.5
baz=82,SNR=15
O27A **Beecher Island** 81.69 339 ⇑P P 06 28 26.2 +0.7
baz=82
BGNE **Belgrade** 81.70 343 ⇓P P 06 28 25.6 +0.2
baz=82
BGNE **Belgrade** 81.70 343 eP P 06 28 25.2 -0.3
47nm,1.0s
PV01 **Paradox Valley** 81.75 334 eP P 06 28 26.7 +0.7
2µm,1.6s
N29A **Votaw Ranch, W** 81.77 341 ⇓P P 06 28 26.1 +0.3
baz=82
P24A **Kohler Place,** 81.79 337 ⇑P P 06 28 26.4 +0.3
baz=82
M31A **Lambtecht Ranc** 81.84 342 ⇑P P 06 28 26.8 +0.6
baz=82
N28A **Pribbeno Ranch** 81.89 340 ⇑P P 06 28 26.6 +0.1
baz=82
HEC **Hector,Ludlow** 81.92 327 ⇑P P 06 28 27.3 +0.5
baz=82,SNR=6.3
P23A **Jefferson** 81.95 336 ⇑P P 06 28 28.0 +0.8
baz=82
O26A **Horse Wrangler** 81.98 338 ⇑P P 06 28 27.8 +0.8
baz=82
BFSC **Mount Baldy Ra** 82.01 325 ⇑P P 06 28 27.5 +0.1
baz=82
SMCO **Snowmass** 82.14 335 eP P 06 28 28.8 +0.5
21nm,1.1s
TUQ **Turquoise Moun** 82.26 327 ⇓P P 06 28 29.2 +0.5
baz=83,SNR=5.1
ISCO **Idaho Springs** 82.27 337 ⇑P P 06 28 28.9 +0.1
baz=83,SNR=6.8
ISCO **Idaho Springs** 82.27 337 eP P 06 28 29.2 +0.4
5.5nm,0.9s
N27A **Anderson Farm,** 82.28 339 ⇓P P 06 28 29.0 +0.5
baz=83,SNR=8.9
M29A **Burnside Ranch** 82.37 341 ⇓P P 06 28 29.1 +0.1
baz=83
O24A **Longmont** 82.40 337 ⇑P P 06 28 29.6 +0.3
baz=83
P22A **Eagle** 82.45 336 ⇑P P 06 28 30.0 +0.4
baz=83,SNR=8.2
N26A **Koester Ranch,** 82.49 339 ⇓P P 06 28 30.0 +0.3
baz=83,SNR=5.1
M28A **Bar X Bar Ranc** 82.51 340 ⇑P P 06 28 30.1 +0.4
baz=83
GSC **Goldstone, Bar** 82.53 327 ⇑P P 06 28 30.6 +0.6
baz=83
GSC **Goldstone, Bar** 82.53 327 eP P 06 28 30.8 +0.8
9.0nm,1.0s
L31A **Butterfield Fa** 82.59 342 ⇓P P 06 28 30.4 +0.2
baz=83,SNR=9.4
L30A **Spencer Herefo** 82.60 342 ⇑P P 06 28 30.6 +0.4
baz=83
EDW2 **Edwards Air Fo** 82.70 325 ⇑P P 06 28 31.1 +0.2
baz=83
LBTB **Lobatse** 82.72 116 eP P 06 28 32.1 +0.6
11nm,1.1s
N25A **Grover** 82.73 338 ⇓P P 06 28 31.1 +0.1
baz=83,SNR=7.8
O23A **Lake Granby, G** 82.74 337 ⇓P P 06 28 31.6 +0.3

baz=83,SNR=19
OSI Osito Audit: C 82.81 325 ⇑P P 06 28 32.2 +0.8
baz=83
SHPR Sheep Range 82.85 328 eP P 06 28 32.5 +0.7
O22A Kremmling 82.90 336 ⇓P P 06 28 32.4 +0.3
baz=83,SNR=17
L29A Maesberg Ranch 82.90 341 ⇓P P 06 28 32.4 +0.7
baz=83
N24A Carr 82.98 338 ⇓P P 06 28 33.1 +0.7
baz=83
CCUT Cedar City 83.02 330 eP P 06 28 33.5 +0.9
12nm,1.1s
LRMC Laurel Mtn Rad 83.06 326 ⇑P P 06 28 32.9 +0.1
baz=83,SNR=5.2
K30A Basset 83.25 342 ⇑P P 06 28 33.8 +0.3
baz=84,SNR=9.1
ARUT Antelope Range 83.26 330 eP P 06 28 34.7 +0.8
304nm,1.5s
M25A Palm-Egli Farm 83.30 338 ⇑P P 06 28 34.2 +0.3
baz=84,SNR=6.0
SRU San Rafael Swe 83.31 333 eP P 06 28 34.2 +0.1
6.4nm,0.8s
N23A Red Feather La 83.37 337 ⇓P P 06 28 35.4 +0.9
baz=84
MVU Marysvale 83.41 331 eP P 06 28 35.4 +0.7
9.0nm,1.2s
O20A White River Ci 83.43 335 ⇓P P 06 28 35.0 +0.3
baz=84,SNR=5.2
O20A White River Ci 83.43 335 eP P 06 28 35.0 +0.3
10.0nm,0.8s
N22A Wattenberg Ran 83.45 336 ⇑P P 06 28 35.4 +0.6
baz=84,SNR=11
FURC Furnace Creek, 83.54 327 ⇑P P 06 28 35.7 +0.6
baz=84,SNR=5.0
M24A Cheyenne 83.55 338 ⇓P P 06 28 35.6 +0.4
baz=84,SNR=8.0
ECSD EROS Data Cent 83.57 344 ⇓P P 06 28 35.0 -0.1
baz=84,SNR=26
ECSD EROS Data Cent 83.57 344 eP P 06 28 34.6 -0.5
32nm,0.9s
ISA Isabella, Lake 83.57 326 ⇓P P 06 28 36.1 +0.7
baz=84,SNR=14
ISA Isabella, Lake 83.57 326 eP P 06 28 36.2 +0.9
13nm,0.8s
L26A Underwood Farm 83.57 339 ⇑P P 06 28 36.1 +0.8
baz=84
PHWY Pilot Hill 83.59 337 eP P 06 28 35.5 -0.2
16nm,1.0s
TMUT Trail Mountain 83.73 332 eP P 06 28 35.8 -0.6
26nm,1.4s
K28A Ten Mile Ranch 83.74 341 ⇑P P 06 28 36.7 +0.7
baz=84
M23A Laramie 83.83 337 ⇑P P 06 28 37.4 +0.7
baz=84
J30A Dallas 83.84 342 ⇓P P 06 28 36.3 -0.1
baz=84
L25A Engebretsen Ra 83.93 339 ⇑P P 06 28 37.8 +0.6
baz=84
K27A Flueckinger Fa 83.96 340 ⇑P P 06 28 37.4 +0.2
baz=84,SNR=5.3
VES Vestal, Richgr 83.99 325 ⇓P P 06 28 37.8 +0.5
baz=84,SNR=6.4
M22A Cedar Creek Ra 84.04 337 ⇓P P 06 28 38.5 +0.6
baz=84
N20A Spence Gulch, 84.06 335 ⇑P P 06 28 38.1 +0.2
baz=84,SNR=7.6
L24A Wheatland 84.11 338 ⇓P P 06 28 38.0 -0.1
baz=84
J29A Okreek 84.12 342 ⇑P P 06 28 37.9 0.0
baz=85,SNR=10
GRAC Grapevine Rang 84.20 327 ⇓P P 06 28 39.6 +1.0
baz=85
SPMN Marine on St. 84.27 347 ⇓P P 06 28 37.8 -0.7
baz=85,SNR=7.1
SPMN Marine on St. 84.27 347 eP P 06 28 37.5 -1.0
18nm,0.9s
K25A Mack Ranch, Ha 84.33 339 ⇑P P 06 28 39.6 +0.5
baz=85
J28A Allard Ranch, 84.36 341 ⇓P P 06 28 39.4 +0.2
baz=85,SNR=7.0
I30A Oacoma 84.38 342 ⇑P P 06 28 38.7 -0.5
baz=85,SNR=9.9
J27A Elkhorn Farm, 84.41 340 ⇑P P 06 28 39.9 +0.4
baz=85,SNR=10
L23A Garrett 84.41 337 ⇑P P 06 28 39.3 -0.4
baz=85
RCTC Rector, Farmer 84.45 325 ⇑P P 06 28 39.7 0.0
baz=85
MPU Maple Canyon 84.51 332 eP P 06 28 40.6 +0.4
13nm,1.0s
L22A Ellis Ranch, M 84.56 337 ⇑P P 06 28 40.5 +0.1
baz=85
R11A Troy Canyon, C 84.60 329 ⇑P P 06 28 41.2 +0.6
baz=85,SNR=12
R11A Troy Canyon, C 84.60 329 eP P 06 28 41.1 +0.4
12nm,1.3s
TIN Tinemaha, Big 84.62 327 ⇓P P 06 28 41.6 +0.8
baz=85
NLU North Lily Min 84.62 332 eP P 06 28 41.4 +0.6
23nm,1.6s
I29A Vivian Onida 84.69 342 ⇓P P 06 28 40.4 -0.4
baz=85
DAU Daniels Canyon 84.73 333 eP P 06 28 41.8 +0.4
J26A Sides Ranch, S 84.75 340 ⇓P P 06 28 41.4 +0.2
baz=85,SNR=7.7
BRSD Miller 84.77 343 ⇓P P 06 28 40.6 -0.6
baz=85
BRSD Miller 84.77 343 eP P 06 28 40.4 -0.8
20nm,0.8s
I28A Midland 84.89 341 ⇓P P 06 28 41.7 -0.1
baz=85,SNR=13
JLU Jordanelle 84.96 333 eP P 06 28 42.5 0.0
6.4nm,0.8s
K23A Bowen Ranch, D 84.97 338 ⇑P P 06 28 42.2 -0.2
baz=85,SNR=8.0
J25A Sunshine Ranch 85.02 339 ⇑P P 06 28 42.6 0.0
baz=86,SNR=8.9
TPH Tonopah 85.05 328 eP P 06 28 43.6 +0.6
15nm,1.0s
DUG Dugway, Tooele 85.11 332 ⇑P P 06 28 43.2 +0.1
baz=86,SNR=14
DUG Dugway, Tooele 85.11 332 eP P 06 28 43.2 +0.1
24nm,1.3s
K22A Casper 85.15 337 ⇑P P 06 28 43.3 0.0
baz=86,SNR=10
K22A Casper 85.15 337 eP P 06 28 43.5 +0.2
16nm,0.8s
I27A Quinn 85.18 341 ⇑P P 06 28 43.0 -0.3
baz=86,SNR=6.7
J24A Dixon Ranch, L 85.21 339 ⇑P P 06 28 43.9 +0.4
baz=86
H29A Onida 85.24 342 ⇓P P 06 28 43.0 -0.5
baz=86,SNR=7.7
I26A New Underwood 85.36 340 ⇑P P 06 28 43.9 -0.3
baz=86
K21A Alcova 85.36 337 ⇑P P 06 28 44.3 -0.1
baz=86,SNR=17
MLAC Mammoth, Mammo 85.37 326 ⇑P P 06 28 45.1 +0.5
baz=86
TCUT Toone Canyon 85.40 333 eP P 06 28 44.5 -0.2
12nm,0.9s
G30A Faulkton 85.46 343 ⇑P P 06 28 44.1 -0.5
baz=86,SNR=8.7
H28A Mission Ridge 85.48 342 ⇑P P 06 28 44.4 -0.3
baz=86,SNR=15
I25A Rochford 85.59 340 ⇑P P 06 28 45.3 -0.2
baz=86,SNR=9.1
I24A Kuemmerle Ranc 85.69 339 ⇓P P 06 28 45.8 -0.1
baz=86
G29A Hoven 85.70 343 ⇓P P 06 28 45.1 -0.7
baz=86,SNR=6.2
H27A Howes 85.71 341 ⇓P P 06 28 45.4 -0.5
baz=86,SNR=12
RSSD Black Hills 85.76 339 eP P 06 28 45.9 -0.5
8.4nm,0.7s
NVAR Mina Array Bea 85.81 327 P P 06 28 46.5 -0.3
2.7nm,0.7s,baz=153,slow=6.1,SNR=21
J22A Midwest 85.83 337 ⇓P P 06 28 45.7 -1.0
baz=86,SNR=6.6
G28A Parade 85.83 342 ⇓P P 06 28 46.1 -0.4
baz=86,SNR=12
J21A Lysite 86.06 337 ⇑P P 06 28 47.6 -0.2
baz=86,SNR=7.1
F30A Leola 86.10 343 ⇓P P 06 28 47.6 -0.1
baz=86
H25A Fruitdale 86.11 340 ⇓P P 06 28 47.6 -0.3
baz=86,SNR=8.8
BW06 Boulder Array 86.22 335 eP P 06 28 48.1 -0.7
11nm,1.2s
PDAR Pinedale Array 86.22 335 P P 06 28 48.1 -0.6
8.2nm,1.0s,baz=145,slow=6.6,SNR=35
I22A 9 Mile Ranch, 86.26 338 ⇑P P 06 28 48.4 -0.4
baz=87
J20A Shoshoni 86.27 336 ⇑P P 06 28 49.4 +0.5
baz=87,SNR=33
F29A Eureka 86.28 343 ⇑P P 06 28 48.3 -0.4
baz=87,SNR=7.9
WAKR Walker 86.36 327 eP P 06 28 50.6 +1.1
G27A Dupree 86.37 341 ⇑P P 06 28 48.6 -0.5
baz=87,SNR=10
CMB Columbia Colle 86.39 326 eP P 06 28 49.7 +0.3
10nm,1.4s
I21A Big Trails, Te 86.44 337 ⇑P P 06 28 49.1 -0.5
baz=87,SNR=14
G26A Maurine 86.46 341 ⇑P P 06 28 49.2 -0.4
baz=87,SNR=14
HVU Hansel Valley 86.47 333 eP P 06 28 49.8 -0.1
15nm,0.9s
H24A Dirks Ranch, A 86.48 339 ⇑P P 06 28 49.1 -0.7
baz=87,SNR=5.7
J19A Crowheart 86.50 336 ⇓P P 06 28 49.8 -0.2
baz=87,SNR=32
ELK Elko 86.51 330 eP P 06 28 50.4 +0.2
10.0nm,1.1s
F28A McLaughlin 86.53 342 ⇓P P 06 28 49.5 -0.4
baz=87,SNR=12
G25A Newell 86.58 340 ⇓P P 06 28 50.0 -0.2
baz=87,SNR=15
E30A Jud 86.70 344 ⇓P P 06 28 50.4 -0.3
baz=87,SNR=7.5
AHID Auburn Hatcher 86.75 334 eP P 06 28 51.0 -0.3
5.7nm,0.8s
I20A Worland 86.82 337 ⇑P P 06 28 51.3 -0.2
baz=87,SNR=16
F27A Lemon 86.85 341 ⇑P P 06 28 51.0 -0.5
baz=87,SNR=11
E29A Napoleon 86.93 343 ⇓P P 06 28 51.4 -0.4
baz=87,SNR=8.4
F26A Lodgepole 87.00 341 ⇓P P 06 28 51.8 -0.5
baz=87,SNR=6.4
G23A Biddle 87.14 339 ⇓P P 06 28 52.3 -0.6
baz=88
I19A Meeteetse 87.17 336 ⇓P P 06 28 53.1 -0.2
baz=88,SNR=5.6
E28A Huff 87.18 342 ⇓P P 06 28 52.8 -0.3
baz=88,SNR=5.3
REDW Red Top Meadow 87.19 335 eP P 06 28 53.3 -0.1
8.7nm,0.9s
D30A Buchanan 87.24 344 ⇓P P 06 28 53.2 -0.1
baz=88,SNR=9.9
E27A Carson 87.26 342 ⇑P P 06 28 53.1 -0.4
baz=88,SNR=5.1
H20A Greybull 87.27 337 ⇑P P 06 28 53.0 -0.6
baz=88,SNR=12
F25A Bowman 87.27 340 ⇑P P 06 28 53.5 0.0
baz=88
LOHW Long Hollow 87.33 335 eP P 06 28 53.5 -0.6
6.9nm,0.8s
TPAW Teton Pass 87.33 335 eP P 06 28 54.2 0.0
12nm,0.8s
D29A Pettibone, Tap 87.39 343 ⇑P P 06 28 53.7 -0.3
baz=88,SNR=5.8
G22A Birney 87.41 338 ⇑P P 06 28 54.1 -0.2
baz=88
F24A Ekalaka 87.47 340 ⇑P P 06 28 53.9 -0.6
baz=88
FXWY Fox Creek 87.49 335 eP P 06 28 54.4 -0.5
4.4nm,0.8s
E26A Carlson Angus 87.52 341 ⇑P P 06 28 54.2 -0.5
baz=88,SNR=5.9
I17A Pilgrim Ck. 87.59 335 ⇑P P 06 28 55.7 +0.4
baz=88,SNR=14
F23A Volborg 87.62 339 ⇓P P 06 28 54.5 -0.8
baz=88
TORD Torodi Ar. Bea 87.63 71 P P 06 28 56.3 +0.4
1.8nm,0.7s,baz=237,slow=5.3,SNR=11
IMW Indian Meadow 87.69 335 eP P 06 28 55.5 -0.4
14nm,1.0s
D28A Regan 87.73 343 ⇓P P 06 28 55.7 0.0
baz=88
H19A Powell 87.74 336 ⇓P P 06 28 55.6 -0.3
baz=88,SNR=11
C30A Mose, Pekin 87.75 344 ⇑P P 06 28 55.8 +0.1
baz=88,SNR=18
FLWY Flagg Ranch 87.77 335 eP P 06 28 56.3 +0.1
20nm,0.8s
AGMN Agassiz Nation 87.79 346 ⇓P P 06 28 55.3 -0.5
baz=88,SNR=16
AGMN Agassiz Nation 87.79 346 eP P 06 28 55.4 -0.5
28nm,1.1s
E25A Miller Ranch, 87.79 341 ⇑P P 06 28 55.8 -0.2
baz=88
D27A Center 87.88 342 ⇑P P 06 28 56.2 -0.2
baz=88
G20A Bridger 87.99 337 ⇑P P 06 28 56.3 -0.8
baz=88,SNR=6.4
D26A Manning 88.03 342 ⇑P P 06 28 57.0 -0.1
baz=88,SNR=7.4
YFT Old Faithful 88.15 335 eP P 06 28 59.5 +1.5
23nm,1.5s
RLMT Red Lodge 88.23 336 eP P 06 28 58.3 0.0
15nm,1.1s
YMR Madison River 88.38 335 eP P 06 28 59.8 +0.7
20nm,0.8s
B30A Myrvik Farm, E 88.42 345 ⇓P P 06 28 58.8 -0.1
baz=89,SNR=33
C27A Sayler Ranch, 88.44 342 ⇑P P 06 28 58.8 -0.2
baz=89,SNR=7.5
HLID Hailey 88.62 332 ⇑P P 06 29 00.1 -0.1
baz=89,SNR=14
HLID Hailey 88.62 332 eP P 06 29 00.5 +0.3
7.1nm,0.8s
B29A Wagenman Farm, 88.66 344 ⇑P P 06 28 59.7 -0.3
baz=89,SNR=8.5
QLMT Earthquake Lak 88.68 335 eP P 06 29 01.3 +0.8
F19A Roth Farm, Mol 88.79 337 ⇑P P 06 29 00.3 -0.5
baz=89
B28A Dugan Ranch, T 88.87 343 ⇓P P 06 29 00.8 -0.2
baz=89,SNR=8.7
A30A Hoffart Farm, 88.88 345 ⇑P P 06 29 00.6 -0.4
baz=89,SNR=11
MFID Camas Ranch 89.02 331 eP P 06 29 02.2 +0.3
8.9nm,1.1s
A29A Manning Farm, 89.06 344 ⇓P P 06 29 01.4 -0.5
baz=90,SNR=19
E20A Meyer Farm, Mu 89.12 338 ⇓P P 06 29 02.3 0.0
baz=90
D22A Cohagen 89.14 339 ⇓P P 06 29 01.6 -0.7
baz=90
MCMT McKenzie Canyo 89.16 334 eP P 06 29 03.5 +0.7
5.8nm,1.1s
E19A Rath Farm, Rou 89.28 337 ⇑P P 06 29 02.5 -0.6
baz=90,SNR=6.3
WVOR Wild Horse Val 89.29 329 eP P 06 29 03.7 +0.4
66nm,2.8s
D21A La Casta Ranch 89.30 339 ⇑P P 06 29 02.5 -0.6
baz=90
WDC Whiskeytown Da 89.43 326 eP P 06 29 03.4 -0.4
73nm,2.3s
BOZ Bozeman (W) 89.47 335 eP P 06 29 03.9 -0.2
3.4nm,0.8s
MOD Modoc Plateau 89.54 328 eP P 06 29 04.6 +0.1
5.1nm,0.8s
D20A Manuel Ranch, 89.65 338 ⇓P P 06 29 04.6 -0.2
baz=90
ULM Lac du Bonnet 89.66 347 P P 06 29 04.2 -0.5
10nm,1.0s,baz=180,slow=5.1,SNR=11
ULM Lac du Bonnet 89.66 347 eP P 06 29 04.0 -0.6
DGMT Dagmar 89.82 341 ⇑P P 06 29 05.2 -0.3
baz=90
C21A Desert Coulee 90.02 339 ⇑P P 06 29 06.3 -0.2
baz=90
B23A Brockton 90.02 340 ⇑P P 06 29 05.8 -0.6
baz=90
M04C Macdoel 90.10 327 ⇓P P 06 29 07.4 +0.3
baz=90
B22A Reddig Ranch S 90.14 340 ⇑P P 06 29 07.0 0.0
baz=91
A24A Westby 90.19 341 ⇓P P 06 29 07.2 0.0
baz=91
K05A Summer Lake 90.47 328 eP P 06 29 09.6 +0.7
182nm,2.9s
A22A Carney Farms, 90.75 340 ⇑P P 06 29 09.1 -0.7
baz=91
B20A Solberg Farm, 90.83 339 ⇓P P 06 29 09.5 -0.7
baz=91
A21A Bergtoll Ranch 91.03 340 ⇓P P 06 29 10.2 -0.9
baz=92
J05D Fort Rock, OR 91.07 328 ⇓P P 06 29 11.9 +0.3
baz=91
CHMT Chamberlain Mo 91.12 335 eP P 06 29 11.8 0.0
1.1nm,0.8s
A20A Cobblestone Ra 91.20 339 ⇓P P 06 29 11.2 -0.7
baz=92
MSO Missoula 91.28 334 ⇑P P 06 29 13.1 +0.7
baz=92
MSO Missoula 91.28 334 eP P 06 29 12.9 +0.5
56nm,2.5s
A19A Klindworth Far 91.48 338 ⇓P P 06 29 12.5 -0.8
baz=92
SLMT Seeley Lake 91.49 335 eP P 06 29 13.1 -0.3
F10A Beach Ranch, E 91.72 332 eP P 06 29 14.6 +0.1
80nm,2.6s
I05D Terrebonne, OR 91.97 329 ⇓P P 06 29 16.5 +0.9
baz=92
JTMT Jette 92.19 335 eP P 06 29 16.4 -0.2
2.1nm,0.6s
YBMT Yellow Bay 92.20 335 eP P 06 29 16.8 +0.1
BLMT Blacktail Moun 92.45 335 eP P 06 29 18.0 +0.1
BSMT Bassoo Peak 92.45 334 eP P 06 29 17.9 -0.1
WALA Waterton Lakes 93.20 335 eP P 06 29 21.2 -0.1
NEW Newport 93.62 333 ⇓P P 06 29 22.7 -0.4
baz=94
NEW Newport 93.62 333 eP P 06 29 22.3 -0.8
5.7nm,1.0s
LON Longmire 94.13 330 eP P 06 29 25.0 -0.5
4.1nm,0.9s
EDM Edmonton 96.64 338 eP P 06 29 34.8 -2.0
YKA Yellowknife Ar 104.99 342 Pdiff Pdif 06 30 12.4 -1.3
0.6nm,0.9s,baz=144,slow=4.5,SNR=7.8
GERES GERESS Array B 116.46 48 PKP PKPdf 06 34 50.2 -0.3
0.7nm,0.7s,baz=270,slow=2.9,SNR=3.1
ILAR Eielson Array 116.58 333 PKP PKPdf 06 34 48.8 -1.3
0.5nm,0.8s,baz=174,slow=2.8,SNR=6.8
VYHS Vyhne 119.35 50 ePKP PKPdf 06 34 55.5 -0.5
BRTR Keskin Array B 125.63 64 PKP PKPdf 06 35 08.1 -0.4
1.8nm,0.8s,baz=172,slow=0.9,SNR=5.9
PETK Petropavlovsk- 141.05 310 PKP PKPdf 06 35 34.7 -2.0
1.4nm,0.6s,baz=108,slow=2.3,SNR=3.6
ITEG Tejag 142.15 83 eP PKPdf 06 35 38.8 -0.9
GEYT Alibeck 143.20 75 PKP PKPbc 06 35 38.5 +0.2
5.2nm,0.7s,baz=260,slow=5.3,SNR=4.5
IPAY Payeh 143.48 78 eP PKPab 06 35 35.8 -2.5
ISRO Mashad 143.80 78 eP PKPbc 06 35 39.9 -0.2
AKTO Aktyubinsk 144.50 54 PKP PKPbc 06 35 42.1 +0.4
8.0nm,0.9s,baz=153,slow=2.3,SNR=5.8
HYB Hyderabad 149.05 124 i PKP PKPbc 06 35 54.0 -1.8
YAK Yakutsk 151.44 336 ePKPbc PKPbc 06 35 59.0 -1.1
BRVK Borovoye 151.55 46 ePKPdf PKPdf 06 35 54.3 -0.2
BRVK ePKPdf PKiKP 06 36 01.0 -0.1
BRVK ePKPab PKPab 06 36 08.4 -0.9
BVAR Borovoye Array 151.62 46 PKPbc PKPbc 06 36 00.9 +0.1
5.7nm,0.6s,baz=286,slow=2.7,SNR=16
KKAR Karatay Array 153.26 68 ePKPdf PKPdf 06 35 57.6 +0.3
KKAR ePKPbc PKPbc 06 36 04.3 -0.5
KKAR ePKPab PKPab 06 36 17.1 +0.2
EKS2 Erkin-Say 155.66 69 ePKPdf PKPdf 06 36 01.3 +0.4
EKS2 ePKPbc PKPab 06 36 08.6 -19
EKS2 ePKPab PKPab 06 36 27.7 +0.4
AAK Ala-Archa 156.19 69 PKPab PKPab 06 36 30.3 +0.7
3.7nm,0.8s,baz=178,slow=4.4,SNR=4.5
AAK Ala-Archa 156.19 69 ePKPdf PKPdf 06 36 01.7 +0.1
AAK PKPab PKPab 06 36 30.3 +0.7
TKM2 Tokmak 2 156.99 68 ePKPdf PKPdf 06 36 02.5 -0.2
KSH Kashi 157.21 77 PKP PKPdf 06 36 02.5 -0.4
KSH sPKP 06 36 17.1
KSH PKS PKSdf 06 39 37.1 +0.3
KSH PP PP 06 40 13.9 +0.4
KSH SKS SKSdf 06 43 04.7 -1.1
KSH SKKS SKKSac 06 46 56.9 -2.2
KSH SS SS 07 00 00.4 -5.5
KSH PPMZ
110nm,5.8s
KSH LN
41nm,6.9s
KSH LE
44nm,5.7s
KSH LZ
68nm,6.5s
KURK Kurchatov 157.21 47 ePKPdf PKPdf 06 36 01.3 -1.0
KURK epPKPdf pPKPdf 06 36 13.0 -2.0
KURK ePKPab PKPab 06 36 32.1 -1.4
ZALV Zalesovo Beam 158.69 34 PKPab PKPab 06 36 40.2 +0.4
5.7nm,0.9s,baz=307,slow=5.2,SNR=11
MKAR Makanchi Array 160.94 55 PKP PKPdf 06 36 05.4 -1.5
2.1nm,1.1s,baz=105,slow=1.6,SNR=3.5
MKAR PKPab PKPab 06 36 50.2 +0.4
1.3nm,0.8s,baz=299,slow=4.2,SNR=3.7
CN2 Changchun 163.54 298 ePKP PKPdf 06 36 14.4 +4.8
CN2 epPKP pPKPdf 06 36 25.2 +2.9
WMQ Urumqi 165.51 60 ePKP PKPdf 06 36 11.7 +0.3
WMQ LN
37nm,19.0s
WMQ LZ
41nm,22.0s
KMI Kunming 167.15 170 PKP PKPdf 06 36 14.2 +0.7
NJ2 Nanjing 167.36 247 ePKP PKPdf 06 36 16.4 +3.3
GYA Guiyang 168.57 187 ePKP PKPdf 06 36 14.2 -0.1
GYA pPKP pPKPdf 06 36 26.8 -0.3
GYA PKPab PKPab 06 37 27.3 +3.4
GYA PKS PKSdf 06 39 46.0 -1.1
GYA PP PP 06 41 17.2 +5.1
GYA SKKS 06 47 59.0
GYA SS SS 07 02 04.1 +3.3
GYA PPMZ
120nm,8.3s
GYA LN
130nm,22.4s
GYA LE
120nm,21.5s
GYA LZ
130nm,24.6s
SONM Songino Array 169.98 355 PKPab PKPab 06 37 29.2 -0.4
1.3nm,0.8s,baz=27,slow=3.5,SNR=3.8
CD2 Chengdu 172.98 170 ePKP PKPdf 06 36 17.0 +0.6
CD2 PP PP 06 41 38.9 +4.9
CD2 SKKS 06 48 23.7
CD2 SS SS 07 02 47.5 +3.3
CD2 PPMZ
110nm,6.0s
HHC Hu-ho-hao-te 174.19 303 ePKP PKPdf 06 36 16.9 +0.2
HHC PKS PKSdf 06 39 47.7 -1.2
HHC PP PP 06 41 44.5 +3.3
HHC SKS SKSdf 06 43 14.8 -1.8
HHC PPMZ
130nm,5.8s
HHC LN
240nm,21.4s
HHC LE
270nm,21.4s
HHC LZ
150nm,20.6s
LZH Lanzhou 177.96 149 ePKP PKPdf 06 36 17.8 +0.1
LZH pPKP pPKPdf 06 36 28.1 -2.4
LZH sPKP 06 36 31.0

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*IDC **01** 06:18:18.5±0.6,36°.00S×72°.77W,h0km,mb4.4/13,*
mb1 4.6/13,mb1mx4.4/28,mbtmp4.4/13,ML3.2/1,MS2.8/1,
Ms1 2.8/1,ms1mx2.7/28,Error ellipse: s-maj=25.2km
s-min=15.9km az=76.0
*ISCJB **01** 06:18:22.5±0.3,35°.89S±0°.06×72°.55W±0°.07,h35km,*
mb4.4/27,Error ellipse: s-maj=10.5km s-min=6.2km
az=40.2
*NEIC **01** 06:18:24.0±0.3,35°.93S×72°.57W,h35km,mb4.5/15,Error*
ellipse: s-maj=8.9km s-min=6.0km az=72.0
ISC 01 06:18:24.1±0.5,35°.95S±0°.07×72°.63W±0°.10,h35km,n273,
σ0s50/277,mb4.5/27,124C-103D,Near coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.05**	**162**	Pn	**Pn**	**06 19 38.1**	**+0.6**
	6.6nm,0.3s,baz=334,slow=12,SNR=5.6						
PLCA				Lg	Lg	06 21 02.8	
	16nm,0.3s,baz=49,slow=20,SNR=4.9						
CFAA	**Coronel Fontan**	**5.67**	**41**	Pn	**Pn**	**06 19 45.6**	**-0.3**
	0.7nm,0.3s,baz=288,slow=20,SNR=3.9						
CFAA				Lg	Lg	06 21 08.7	
	1.5nm,0.3s,baz=297,slow=22,SNR=5.4						

CFAA LR LR 06 22 14.1
comp=Z,94nm,20.8s,baz=228,slow=41
TRQA **Tornquist** 8.78 107 ePn Pn 06 20 26.8 -1.7
67nm,1.1s
TRQA eSn Sn 06 22 07.7 +1.4
LVC **Limon Verde** 13.68 15 ePn Pn 06 21 34.5 -1.3
LPAZ **La Paz** 19.98 13 P Pn 06 22 55.7 -0.4
4.9nm,0.7s,baz=210,slow=8.1,SNR=4.4
LPAZ **La Paz** 19.98 13 eP P 06 22 53.6 -0.6
4.2nm,0.6s
SIV **San Ignacio** 22.39 30 P P 06 23 19.8 +0.2
3.8nm,0.5s,baz=240,slow=12,SNR=6.5
OTAV **Otavalo** 36.41 350 eP P 06 25 27.1 +1.2
2.2nm,0.5s
ROSC **El Rosal** 40.62 357 P P 06 26 03.3 +2.1
4.2nm,0.5s,baz=304,slow=6.3,SNR=5.8
SNAA **Sanae** 49.98 157 P P 06 27 14.5 +0.2
3.7nm,0.8s,baz=269,slow=7.2,SNR=15
APG **El Apazote** 53.41 338 P P 06 27 35.8 -5.0
3.1nm,0.8s,baz=138,slow=12,SNR=3.7
QSPA **South Pole Qui** 54.30 180 P P 06 27 46.2 -0.4
4.9nm,0.6s,baz=140,slow=5.0,SNR=19
QSPA **South Pole Qui** 54.30 180 eP P 06 27 46.9 +0.3
5.7nm,0.8s
TEIG **Tepich** 57.80 343 P P 06 28 11.6 -0.3
11nm,0.6s,baz=190,slow=12,SNR=11
034A **Hebbronville** 67.32 335 ⇓P P 06 29 16.1 +0.7
baz=68
834A **Tilden** 68.25 335 ⇓P P 06 29 22.6 +1.4
baz=69
833A **Chaparral WMA,** 68.72 335 ⇓P P 06 29 24.5 +0.3
baz=69
832A **Faith Ranch, C** 68.89 334 ⇑P P 06 29 24.9 -0.3
baz=69
636A **Smothers Creek** 69.02 337 ⇑P P 06 29 26.6 +0.6
baz=69
732A **Laxson Ranch,** 69.29 334 ⇑P P 06 29 28.1 +0.3
baz=70,SNR=5.4
536A **Bastrop** 69.58 338 ⇑P P 06 29 29.6 +0.2
baz=70
633A **Saathoff Ranch** 69.69 335 ⇓P P 06 29 30.2 0.0
baz=70
535A **Dale** 69.69 337 ⇓P P 06 29 30.1 -0.1
baz=70
632A **Uvalde** 69.94 335 ⇓P P 06 29 31.7 -0.1
baz=70
534A **Blanco** 69.98 336 ⇓P P 06 29 32.1 +0.1
baz=70
339A **Huntington** 70.02 340 ⇑P P 06 29 33.1 +0.9
baz=70
631A **Perdido Creek** 70.13 334 ⇑P P 06 29 32.5 -0.4
baz=70
533A **Kerrville** 70.20 336 ⇑P P 06 29 33.3 0.0
baz=70
338A **Crockett** 70.25 339 ⇑P P 06 29 34.3 +0.8
baz=71
532A **Rocksprings** 70.55 335 ⇑P P 06 29 35.7 +0.2
baz=71,SNR=10
434A **Burnet** 70.64 337 ⇓P P 06 29 36.0 +0.1
baz=71,SNR=6.0
336A **Riesel** 70.73 338 ⇑P P 06 29 36.8 +0.3
baz=71
531A **Rocksprings** 70.81 335 ⇑P P 06 29 37.4 +0.4
baz=71,SNR=5.9
335A **Moody** 70.81 338 ⇑P P 06 29 37.3 +0.3
baz=71
JCT **Junction City** 70.84 335 ⇑P P 06 29 37.2 0.0
baz=71
JCT **Junction City** 70.84 335 eP P 06 29 37.0 -0.2
6.4nm,1.1s
433A **Art** 70.85 336 ⇑P P 06 29 36.9 -0.4
baz=71,SNR=6.8
530A **J-C Ranch, Com** 71.07 334 ⇑P P 06 29 39.0 +0.3
baz=71
334A **Lometa** 71.11 337 ⇑P P 06 29 38.9 +0.1
baz=71
KMSC **Kings Mountain** 71.19 352 ⇑P P 06 29 38.8 -0.3
baz=72
432A **Menard** 71.20 336 ⇑P P 06 29 39.1 -0.3
baz=72
TXAR **Lajitas Array** 71.20 332 P P 06 29 39.6 +0.1
1.9nm,0.6s,baz=154,slow=8.8,SNR=20
431A **Sonora** 71.30 335 ⇑P P 06 29 39.8 -0.2
baz=72
333A **Richland Sprin** 71.34 336 ⇑P P 06 29 39.7 -0.5
baz=72
529A **Stev Forest Ra** 71.37 333 ⇑P P 06 29 40.3 -0.2
baz=72,SNR=6.6
WHTX **Lake Whitney,** 71.48 338 ⇑P P 06 29 41.0 0.0
baz=72
430A **Baggett Ranch,** 71.61 334 ⇓P P 06 29 42.0 +0.1
baz=72,SNR=6.6
332A **Millersview** 71.65 336 ⇑P P 06 29 41.2 -0.8
baz=72
234A **Clairette** 71.70 337 ⇓P P 06 29 42.4 0.0
baz=72,SNR=5.1
429A **Davenport Ranc** 71.70 334 ⇑P P 06 29 42.7 +0.3
baz=72
331A **San Angelo** 71.81 335 ⇑P P 06 29 43.1 0.0
baz=72,SNR=7.5
SWET **Sewanee** 71.88 349 eP P 06 29 43.1 -0.3
233A **Rising Star** 71.95 337 ⇑P P 06 29 43.7 -0.2
baz=72
232A **Coleman** 72.08 336 ⇓P P 06 29 44.4 -0.2
baz=72,SNR=5.7
330A **Mertzon** 72.16 335 ⇓P P 06 29 44.6 -0.6
baz=72
134A **White-Moore Ra** 72.21 338 ⇓P P 06 29 45.0 -0.4
baz=72
231A **Bronte** 72.34 336 ⇓P P 06 29 45.9 -0.4
baz=73,SNR=12
133A **Hamilton Ranch** 72.51 337 ⇑P P 06 29 46.9 -0.3
baz=73
329A **Wagon Wheel Ra** 72.51 334 ⇑P P 06 29 47.0 -0.4
baz=73,SNR=5.2
Z35A **Perchaven, San** 72.67 339 ⇑P P 06 29 48.2 +0.1
baz=73
ABTX **Abilene, Hawle** 72.75 336 ⇑P P 06 29 48.2 -0.5
baz=73
ABTX **Abilene, Hawle** 72.75 336 eP P 06 29 48.4 -0.3
7.2nm,0.6s
229A **Bryant Ranch,** 72.89 334 ⇓P P 06 29 49.2 -0.3
baz=73
Z34A **Collier Ranch,** 72.90 338 ⇑P P 06 29 49.2 -0.3
baz=73
131A **Roby** 73.05 336 ⇓P P 06 29 49.9 -0.5
baz=73,SNR=5.6
Z33A **Whitaker Ranch** 73.08 337 ⇓P P 06 29 50.4 -0.2
baz=73,SNR=6.9
WVT **Waverly** 73.09 347 eP P 06 29 49.8 -0.7
11nm,0.9s
130A **Snyder** 73.17 335 ⇓P P 06 29 50.5 -0.6
baz=74,SNR=5.5
228A **UT Block 9, Go** 73.30 334 ⇑P P 06 29 51.7 -0.3
baz=74
Z32A **Haskell** 73.33 337 ⇓P P 06 29 51.9 -0.1
baz=74,SNR=6.2
Y34A **Reagan Ranch,** 73.40 338 ⇓P P 06 29 52.3 -0.1
baz=74
Z31A **Sharp Cattle R** 73.56 336 ⇑P P 06 29 53.1 -0.3
baz=74,SNR=6.8
Y33A **Hilltop Ranch,** 73.71 338 ⇓P P 06 29 54.1 -0.2
baz=74
128A **Castleberry Fa** 73.72 334 ⇑P P 06 29 54.2 -0.3
baz=74,SNR=7.5
Z30A **Sanderson Ranc** 73.85 335 ⇓P P 06 29 55.0 -0.2
baz=74
Y32A **R-V Farms, Ver** 73.96 337 ⇑P P 06 29 55.4 -0.4
baz=74,SNR=5.3
X34A **Smith Ranch, M** 74.02 339 ⇓P P 06 29 55.6 -0.5
baz=74
Z29A **Hungry Hill Ra** 74.03 335 ⇓P P 06 29 55.8 -0.5
baz=74,SNR=7.4
X33A **Lawton** 74.17 338 ⇑P P 06 29 55.9 -1.0
baz=74
Y31A **Rekieta Farm,** 74.19 336 ⇑P P 06 29 57.2 +0.2
baz=74
Z28A **Tucker Farm, M** 74.29 334 ⇑P P 06 29 57.7 -0.1
baz=75
X32A **Elmer** 74.30 337 ⇓P P 06 29 57.6 -0.1
baz=75
Y30A **Stafford Cattl** 74.32 336 ⇑P P 06 29 57.8 -0.1
baz=75
Y29A **Porterfield Fa** 74.56 335 ⇑P P 06 29 59.3 -0.1
baz=75
W34A **Bridge Creek,** 74.59 339 ⇑P P 06 29 59.1 -0.3
baz=75
TUL1 **Leonard** 74.67 341 ⇑P P 06 29 59.0 -0.7
baz=75
TUL1 **Leonard** 74.67 341 eP P 06 29 59.4 -0.4
5.8nm,0.6s
X31A **McDonald Ranch** 74.71 337 ⇓P P 06 29 59.8 -0.3
baz=75
W33A **Caddo, Fort Co** 74.72 338 ⇑P P 06 30 00.7 +0.6
baz=75
Y28A **McKinney Farm,** 74.80 335 ⇓P P 06 30 00.4 -0.3
baz=75
X30A **Coker Ranch, T** 74.83 336 ⇑P P 06 30 01.0 +0.2
baz=75
Z26A **Caprock** 74.84 333 ⇓P P 06 30 00.9 -0.1
baz=75
W32A **Sentinel** 74.93 338 ⇑P P 06 30 00.9 -0.5
baz=75,SNR=5.2
MSTX **Muleshoe** 75.04 334 ⇑P P 06 30 01.8 -0.3
baz=75
MSTX **Muleshoe** 75.04 334 eP P 06 30 01.5 -0.6
3.8nm,0.7s
Y27A **Causey** 75.10 334 ⇑P P 06 30 02.0 -0.5
baz=75
X29A **Tulia** 75.10 335 ⇑P P 06 30 01.8 -0.6
baz=75
W31A **Holland Ranch,** 75.21 337 ⇓P P 06 30 02.7 -0.3
baz=76
319A **Douglas** 75.28 328 ⇑P P 06 30 03.9 +0.3
baz=76
V33A **Lossen Ranch,** 75.29 339 ⇑P P 06 30 03.1 -0.3
baz=76
Y26A **Elida** 75.37 334 ⇓P P 06 30 04.0 -0.1
baz=76
Z24A **Sheeppen Canyo** 75.41 332 ⇓P P 06 30 04.5 +0.1
baz=76
V32A **Arapaho** 75.42 338 ⇑P P 06 30 04.3 +0.1
baz=76
U34A **Anderson Ranch** 75.65 339 ⇓P P 06 30 05.7 +0.2
baz=76
121A **Cookes Peak, D** 75.66 330 ⇓P P 06 30 06.1 +0.3
baz=76
W29A **Amarillo** 75.70 336 ⇓P P 06 30 05.4 -0.4
baz=76
Z22A **Elephant Butte** 75.97 331 ⇓P P 06 30 07.1 -0.4
baz=76
Y24A **Capitan** 75.97 332 ⇓P P 06 30 07.3 -0.2
baz=76
U32A **Winter Ranch,** 76.02 338 ⇑P P 06 30 07.5 -0.1
baz=76
W27A **Bowe Ranch, En** 76.13 335 ⇓P P 06 30 08.3 0.0
baz=76
Y23A **Lovelace Mesa,** 76.21 332 ⇓P P 06 30 09.3 +0.4
baz=76
DBIC **Dimbokro** 76.27 71 P P 06 30 10.1 +0.6
4.0nm,0.8s,baz=202,slow=7.6,SNR=4.3
W26A **Owens Ranch, T** 76.40 334 ⇓P P 06 30 09.9 0.0
baz=77
ACSO **Alum Creek Sta** 76.40 352 eP P 06 30 09.1 -0.6
14nm,0.5s
T33A **Patterson Ranc** 76.45 339 ⇑P P 06 30 09.9 0.0
baz=77
U30A **WK&E Inc. Balk** 76.67 337 ⇓P P 06 30 11.4 +0.1
baz=77
V27A **Dan Oppiter Fa** 76.68 335 ⇑P P 06 30 11.4 -0.1
baz=77
W25A **X Bar L Ranch,** 76.76 334 ⇑P P 06 30 11.5 -0.5
baz=77
W24A **Lazy 6 Ranch,** 77.10 333 ⇑P P 06 30 13.8 -0.2
baz=77
S32A **Newby Ranch, P** 77.23 339 ⇑P P 06 30 14.3 -0.1
baz=78
ANMO **Albuquerque** 77.26 332 eP P 06 30 15.5 +0.6
0.7nm,0.8s
U27A **Thompson Grove** 77.28 335 ⇑P P 06 30 14.7 -0.1
baz=78
S31A **Mullinville** 77.31 338 ⇑P P 06 30 14.8 -0.1
baz=78
W23A **Werner Place,** 77.33 332 ⇑P P 06 30 15.3 0.0
baz=78
V25A **Rancho No Teng** 77.38 334 ⇑P P 06 30 15.4 -0.1
baz=78
T29A **Hugoton** 77.45 337 ⇑P P 06 30 15.1 -0.6
baz=78
S30A **Montezuma** 77.63 338 ⇓P P 06 30 16.6 0.0
baz=78
T28A **Walsh** 77.68 336 ⇓P P 06 30 17.1 +0.1
baz=78
U25A **Circle Dot Ran** 77.81 334 ⇓P P 06 30 17.8 -0.1
baz=78
S29A **Ulysses** 77.81 337 ⇑P P 06 30 18.0 +0.3
baz=78
R32A **Long Quarter,** 77.83 339 ⇓P P 06 30 17.7 0.0
baz=78
KSU1 **Kansas State U** 77.89 341 ⇓P P 06 30 17.8 -0.2
baz=78
R31A **Burdett** 77.95 339 ⇑P P 06 30 17.9 -0.5
baz=78
S28A **Manter** 78.03 337 ⇓P P 06 30 19.3 +0.3
baz=78
T26A **Comanche Natio** 78.22 335 ⇓P P 06 30 20.2 0.0
baz=79
V22A **San Miguel Ran** 78.29 332 ⇑P P 06 30 20.8 +0.2
baz=79
T25A **Trinidad** 78.47 335 ⇑P P 06 30 22.2 +0.7
baz=79
Q31A **Ellis** 78.57 339 ⇑P P 06 30 22.0 +0.1
baz=79
S26A **Kim** 78.58 335 ⇑P P 06 30 22.4 +0.4
baz=79
U22A **Llaves** 78.68 332 ⇑P P 06 30 22.7 0.0
baz=79
R28A **Tribune** 78.69 337 ⇓P P 06 30 22.6 0.0
baz=79
T24B **San Luis** 78.74 334 ⇑P P 06 30 23.3 +0.1
baz=79
X16A **Lo Mia Camp, P** 78.82 328 ⇓P P 06 30 23.4 -0.1
baz=79
P32A **Huiting Farm,** 78.92 340 ⇓P P 06 30 23.2 -0.5
baz=79
Q29A **Oakley** 78.94 338 ⇑P P 06 30 23.7 -0.2
baz=79
S25A **Robets Cordova** 78.95 335 ⇓P P 06 30 24.6 +0.4
baz=79
T23A **Casias Ranch,** 78.96 333 ⇓P P 06 30 24.4 0.0
baz=79
R27A **Eads** 78.96 336 ⇓P P 06 30 23.9 -0.2
baz=79
P31A **Stockton** 79.04 339 ⇑P P 06 30 24.4 0.0
baz=79
TSUM **Tsumeb** 79.15 106 P P 06 30 26.4 +0.6
0.9nm,0.4s,baz=220,slow=11,SNR=3.4
R26A **Arlington** 79.19 336 ⇓P P 06 30 25.8 +0.5
baz=80
S24A **Houchin Ranch,** 79.20 334 ⇑P P 06 30 26.8 +1.2
baz=80
P29A **Atwood** 79.58 338 ⇓P P 06 30 28.0 +0.7
baz=80
BOSA **Boshof** 79.60 118 P P 06 30 28.4 +0.3
7.8nm,0.7s,baz=236,slow=5.0,SNR=18
O31A **Woolen Ranch,** 79.61 340 ⇑P P 06 30 27.5 0.0
baz=80
R24A **Sanders Place,** 79.69 335 ⇑P P 06 30 29.1 +0.9
baz=80
O30A **MW Ranch, Wils** 79.85 339 ⇑P P 06 30 29.1 +0.3
baz=80
S22A **4UR Ranch, Cre** 79.88 333 ⇑P P 06 30 29.3 0.0
baz=80
IRM **Iron Mountain** 80.25 325 ⇓P P 06 30 32.0 +0.9
baz=81
Q24A **Divide** 80.36 335 ⇓P P 06 30 31.9 -0.1
baz=81
BGNE **Belgrade** 80.46 341 ⇓P P 06 30 32.0 0.0
baz=81
W13A **Hualapai Mount** 80.46 327 ⇑P P 06 30 33.0 +0.6
baz=81
P25A **Willow Gulch B** 80.52 336 ⇑P P 06 30 32.9 +0.2
baz=81
N29A **Votaw Ranch, W** 80.61 339 ⇓P P 06 30 32.9 0.0
baz=81
U15A **North Rim** 80.89 329 ⇑P P 06 30 35.5 +0.7
baz=81
P23A **Jefferson** 80.97 335 ⇑P P 06 30 36.0 +0.8
baz=81
GMRC **Granite Mounta** 81.00 325 ⇓P P 06 30 35.9 +0.6
baz=81
N27A **Anderson Farm,** 81.17 337 ⇑P P 06 30 36.4 +0.4
baz=82
M29A **Burnside Ranch** 81.20 339 ⇑P P 06 30 36.3 +0.3
baz=82
ISCO **Idaho Springs** 81.27 335 ⇓P P 06 30 36.8 +0.1
baz=82
HEC **Hector,Ludlow** 81.35 325 ⇓P P 06 30 37.5 +0.5
baz=82
L31A **Butterfield Fa** 81.36 341 ⇑P P 06 30 37.2 +0.3
baz=82
TUQ **Turquoise Moun** 81.67 326 ⇑P P 06 30 39.5 +0.7
baz=82
O23A **Lake Granby, G** 81.74 335 ⇑P P 06 30 39.5 +0.3
baz=82
O22A **Kremmling** 81.92 334 ⇑P P 06 30 40.5 +0.3
baz=82
GSC **Goldstone, Bar** 81.96 325 ⇑P P 06 30 40.9 +0.7
baz=82
K30A **Basset** 82.03 340 ⇑P P 06 30 41.3 +0.9
baz=82
ECSD **EROS Data Cent** 82.25 343 ⇓P P 06 30 41.1 -0.4
baz=83
ECSD **EROS Data Cent** 82.25 343 eP P 06 30 40.7 -0.7
CCUT **Cedar City** 82.30 328 eP P 06 30 43.3 +1.2
2.2nm,0.8s
N22A **Wattenberg Ran** 82.45 335 ⇓P P 06 30 43.3 +0.3
baz=83
SRU **San Rafael Swe** 82.47 331 eP P 06 30 43.2 +0.2
1.8nm,0.6s
M24A **Cheyenne** 82.50 336 ⇓P P 06 30 43.1 +0.1
baz=83
LRMC **Laurel Mtn Rad** 82.52 324 ⇑P P 06 30 43.7 +0.5
baz=83
K28A **Ten Mile Ranch** 82.56 339 ⇓P P 06 30 43.7 +0.5
baz=83
J30A **Dallas** 82.61 341 ⇑P P 06 30 43.1 -0.2
baz=83
SPMN **Marine on St.** 82.83 346 ⇓P P 06 30 43.6 -0.8
baz=83
J29A **Okreek** 82.91 340 ⇑P P 06 30 45.2 +0.3
baz=83
FURC **Furnace Creek,** 82.94 325 ⇑P P 06 30 45.8 +0.7
baz=83
I30A **Oacoma** 83.14 341 ⇑P P 06 30 45.1 -0.9
baz=84
J28A **Allard Ranch,** 83.18 339 ⇑P P 06 30 46.2 -0.1
baz=84
J27A **Elkhorn Farm,** 83.25 339 ⇓P P 06 30 47.2 +0.4
baz=84
L23A **Garrett** 83.37 336 ⇑P P 06 30 47.3 -0.3
baz=84
BRSD **Miller** 83.50 341 ⇑P P 06 30 47.6 -0.3
baz=84
I28A **Midland** 83.69 340 ⇑P P 06 30 49.0 +0.1
baz=84
J25A **Sunshine Ranch** 83.91 338 ⇓P P 06 30 50.4 +0.3
baz=84
K23A **Bowen Ranch, D** 83.92 336 ⇑P P 06 30 50.5 +0.2
baz=84
R11A **Troy Canyon, C** 83.92 327 ⇑P P 06 30 51.1 +0.7
baz=84
H29A **Onida** 84.01 341 ⇑P P 06 30 49.9 -0.6
baz=84
I27A **Quinn** 84.01 339 ⇓P P 06 30 50.6 0.0
baz=84
K22A **Casper** 84.12 336 ⇑P P 06 30 51.5 +0.2
baz=84
J24A **Dixon Ranch, L** 84.12 337 ⇓P P 06 30 51.9 +0.6
baz=84
G30A **Faulkton** 84.19 341 ⇓P P 06 30 51.3 -0.2
baz=84
DUG **Dugway, Tooele** 84.31 330 ⇑P P 06 30 52.8 +0.5
baz=85
DUG **Dugway, Tooele** 84.31 330 eP P 06 30 52.1 -0.3
1.2nm,0.5s
K21A **Alcova** 84.35 335 ⇓P P 06 30 52.4 -0.1
baz=85
TPH **Tonopah** 84.43 326 eP P 06 30 53.4 +0.4
3.6nm,1.1s
I25A **Rochford** 84.46 338 ⇓P P 06 30 53.3 +0.3
baz=85
H27A **Howes** 84.53 339 ⇓P P 06 30 53.2 0.0
baz=85
G28A **Parade** 84.61 340 ⇑P P 06 30 53.5 -0.1
baz=85
J22A **Midwest** 84.79 336 ⇓P P 06 30 53.9 -0.8
baz=85
G27A **Dupree** 85.17 340 ⇓P P 06 30 56.2 -0.2
baz=86
NVAR **Mina Array Bea** 85.21 326 P P 06 30 57.6 +0.6
1.7nm,0.6s,baz=153,slow=5.9,SNR=14
I22A **9 Mile Ranch,** 85.22 336 ⇑P P 06 30 56.3 -0.5
baz=86
J20A **Shoshoni** 85.28 335 ⇓P P 06 30 57.5 +0.4
baz=86
PDAR **Pinedale Array** 85.28 334 P P 06 30 56.8 -0.5
0.6nm,0.7s,baz=139,slow=5.9,SNR=5.3
G26A **Maurine** 85.28 339 ⇓P P 06 30 56.3 -0.7
baz=86
F28A **McLaughlin** 85.30 341 ⇑P P 06 30 56.8 -0.2
baz=86
TORD **Torodi Ar. Bea** 85.33 70 P P 06 30 57.5 -0.3
1.6nm,0.9s,baz=222,slow=4.8,SNR=5.4
H24A **Dirks Ranch, A** 85.37 338 ⇑P P 06 30 56.7 -0.8
baz=86
I21A **Big Trails, Te** 85.41 336 ⇓P P 06 30 57.1 -0.7
baz=86
G25A **Newell** 85.43 339 ⇑P P 06 30 57.6 -0.1
baz=86
J19A **Crowheart** 85.53 334 ⇑P P 06 30 58.2 -0.3
baz=86
HVU **Hansel Valley** 85.64 331 eP P 06 30 58.5 -0.5
1.8nm,0.5s
F27A **Lemmon** 85.65 340 ⇓P P 06 30 58.5 -0.2
baz=86
H22A **Clearmont** 85.80 337 ⇑P P 06 30 58.9 -0.7
baz=86
F26A **Lodgepole** 85.81 339 ⇓P P 06 30 59.6 0.0
baz=86
I20A **Worland** 85.82 335 ⇑P P 06 30 59.1 -0.7
baz=86
E28A **Huff** 85.94 341 ⇓P P 06 30 59.7 -0.5
baz=86
D30A **Buchanan** 85.94 342 ⇑P P 06 30 59.8 -0.3
baz=86
E27A **Carson** 86.04 340 ⇓P P 06 31 00.2 -0.5
baz=86
G23A **Biddle** 86.04 337 ⇓P P 06 31 00.4 -0.4
baz=86
H21A **Big Horn, Sher** 86.05 336 ⇓P P 06 30 59.7 -1.3
baz=86
F25A **Bowman** 86.11 339 ⇓P P 06 31 00.7 -0.3
baz=86
H20A **Greybull** 86.25 335 ⇑P P 06 31 00.8 -1.1
baz=87
E26A **Carlson Angus** 86.32 340 ⇓P P 06 31 02.1 0.0
baz=87
F24A **Ekalaka** 86.33 338 ⇓P P 06 31 01.7 -0.5
baz=87
G22A **Birney** 86.34 337 ⇓P P 06 31 01.5 -0.7
baz=87
AGMN **Agassiz Nation** 86.40 345 ⇑P P 06 31 01.6 -0.7
baz=87
C30A **Mose, Pekin** 86.43 343 ⇓P P 06 31 02.3 -0.2
baz=87
F23A **Volborg** 86.51 338 ⇓P P 06 31 02.4 -0.7
baz=87
I17A **Pilgrim Ck.** 86.65 334 ⇓P P 06 31 04.0 0.0
baz=87
H19A **Powell** 86.74 335 ⇓P P 06 31 04.0 -0.3
baz=87
D26A **Manning** 86.83 340 ⇑P P 06 31 04.3 -0.2
baz=87
G20A **Bridger** 86.96 336 ⇑P P 06 31 04.9 -0.5
baz=87
H18A **Shoshone NF, C** 86.98 335 ⇑P P 06 31 05.2 -0.4
baz=87
B30A **Myrvik Farm, E** 87.09 343 ⇑P P 06 31 06.0 +0.2
baz=87
D25A **Fairfield** 87.18 340 ⇑P P 06 31 06.5 +0.2
baz=88
C27A **Sayler Ranch,** 87.20 341 ⇓P P 06 31 06.4 +0.1
baz=88
B29A **Wagenman Farm,** 87.35 343 ⇑P P 06 31 06.6 -0.4
baz=88
C26A **Wahner Farm, P** 87.46 341 ⇓P P 06 31 07.3 -0.3
baz=88
A30A **Hoffart Farm,** 87.55 343 ⇑P P 06 31 07.4 -0.5
baz=88
B28A **Dugan Ranch, T** 87.59 342 ⇓P P 06 31 08.1 -0.1
baz=88
C25A **Freed Ranch, W** 87.68 340 ⇓P P 06 31 08.0 -0.6
baz=88
A29A **Manning Farm,** 87.75 343 ⇑P P 06 31 08.2 -0.7

baz=88
D23A Lindsay 87.75 338 ⇑P P 06 31 09.0 -0.1
baz=88
A28A Rude Farm, Bot 87.99 342 ⇓P P 06 31 09.6 -0.5
baz=88
E20A Meyer Farm, Mu 88.07 336 ⇓P P 06 31 10.5 -0.1
baz=88
E19A Rath Farm, Rou 88.25 336 ⇓P P 06 31 11.1 -0.4
baz=89
ULM Lac du Bonnet 88.25 345 P P 06 31 10.3 -0.9
3.6nm,0.6s,baz=152,slow=3.9,SNR=6.8
C23A Lambert 88.31 339 ⇓P P 06 31 11.6 -0.1
baz=89
A26A Wade Farm, Ken 88.43 341 ⇑P P 06 31 12.2 0.0
baz=89
DGMT Dagmar 88.63 340 ⇓P P 06 31 13.6 +0.5
baz=89
WRA Warramunga Arr 118.83 209 PKP PKPdf 06 37 07.4 -1.8
0.3nm,0.4s,baz=155,slow=1.6,SNR=3.1
PSI Prapat 146.11 165 PKPbc PKPdf 06 38 00.0 -0.3
3.7nm,0.5s,baz=236,slow=3.6,SNR=3.8
HYB Hyderabad 148.50 118 *i* PKP **PKPbc 06 38 06.5 -1.1**
BVAR Borovoye Array 149.02 45 PKPbc PKPbc 06 38 08.4 +0.5
1.0nm,0.6s,baz=222,slow=1.9,SNR=3.9
KKAR Karatay Array 150.86 64 *e*PKPdf **PKPdf 06 38 06.4 -0.6**
KKAR *e*PKPbc **PKPbc 06 38 12.1 -0.6**
KKAR *e*PKPab **PKPab 06 38 20.9 +0.8**
EKS2 Erkin-Say 153.28 65 *e*PKPdf **PKPdf 06 38 11.7 +0.9**
EKS2 *e*PKPbc **PKiKP 06 38 18.6 +0.2**
EKS2 *e*PKPab **PKPab 06 38 30.1 -0.3**
AAK Ala-Archa 153.81 65 *e*PKPbc **PKPbc 06 38 19.9 +0.4**
KURK Kurchatov 154.61 45 *e*PKPdf **PKPdf 06 38 12.2 0.0**
ZALV Zalesovo Beam 156.12 34 PKPab **PKPab 06 38 41.6 -0.3**
1.5nm,0.6s,baz=306,slow=3.5,SNR=4.2
MKAR Makanchi Array 158.37 52 PKPab **PKPab 06 38 51.7 -0.2**
0.6nm,0.6s,baz=283,slow=4.3,SNR=5.0

*ISCJB **01** 06:21:10.9±0.3,32°.74N±0°.02×116°.04W±0°.02,h9km±2km, Error ellipse: s-maj=2.7km s-min=2.6km az=161.8*
*NEIC **01** 06:21:11.7,32°.72N×116°.07W,h3km,ML3.5(PAS),After PAS.*
NEIC Felt [II] at Ocotillo. Also felt at El Centro, Hemet, Lakeside, Poway, San Diego and Temecula. Felt at Tijuana, Baja California.
*ECX **01** 06:21:12.1±0.6,32°.73N×116°.06W,h3km,MD3.5,ML3.6*
ISC 01 06:21:11.2±0.8,32°.72N±0°.02×116°.04W±0°.02,h11km±6km, n39,σ0°88/65,6C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMX	**La Rumorosa**	**0.12**	**196**	⇓*e*P	**Pg**	**06 21 14.4**	**0.0**
RMX				*e*S	**Sg**	**06 21 16.5**	**-0.2**
YUH	**Yuha Desert**	**0.12**	**126**	⇓*i*P	**Pg**	**06 21 14.3**	**0.0**
CRR	**Carrizo Plain**	**0.18**	**20**	⇓*i*P	**Pg**	**06 21 15.2**	**+0.1**
SGL	**Mount Signal**	**0.28**	**105**	⇑*i*P	**Pg**	**06 21 17.4**	**+0.6**
COK	**Cook Ranch**	**0.29**	**64**	⇑*i*P	**Pb**	**06 21 18.0**	**-0.4**
SWSC	**Sam W. Stewart**	**0.30**	**43**	P	**Pg**	**06 21 17.4**	**+0.1**
baz=0.3
SWSC				S	**Sg**	**06 21 22.1**	**+0.7**
baz=0.3
MONP	**Monument Peak,**	**0.36**	**298**	P	**Pg**	**06 21 18.2**	**-0.3**
baz=0.3
MONP				S	**Sg**	**06 21 23.3**	**-0.2**
baz=0.3
BAR	**Barrett**	**0.53**	**266**	⇑*i*P	**Pg**	**06 21 21.6**	**0.0**
BAR	**Barrett**	**0.53**	**266**	*e*Pg	**Pg**	**06 21 21.6**	**0.0**
BAR				*e*Sg	**Sg**	**06 21 28.8**	**0.0**
CBX	**Cerro Bola**	**0.66**	**233**	⇑*e*P	**Pg**	**06 21 24.2**	**+0.1**
CBX				*e*S	**Sg**	**06 21 33.2**	**+0.3**
CPBX	**Cerro Prieto**	**0.69**	**116**	*e*P	**Pb**	**06 21 25.0**	**-0.2**
CPBX				*e*S	**Sb**	**06 21 34.8**	**+0.1**
CPBX				⇑*e*		06 21 42.7	
comp=E,7μm,0.7s
CPBX				*e*		06 21 43.5	
comp=N,5μm,0.6s
EML	**El Monte Cty P**	**0.70**	**284**	⇑*i*P	**Pg**	**06 21 24.2**	**-0.5**
FRK	**Frink**	**0.76**	**26**	*e*P	**Pg**	**06 21 25.5**	**-0.4**
RDX	**Rancho Dawling**	**0.79**	**174**	⇓*e*P	**Pg**	**06 21 26.2**	**-0.3**
RDX				*e*S	**Sb**	**06 21 37.5**	**-0.4**
RDX				⇓*e*		06 21 41.4	
comp=E,2μm,0.5s
109C	**Camp Elliot, M**	**0.91**	**281**	P	**Pg**	**06 21 28.0**	**-0.8**
baz=0.9
109C				S	**Sg**	**06 21 39.6**	**-1.1**
baz=0.9
PFO	**Pinyon Flats O**	**0.95**	**339**	P	**Pg**	**06 21 29.2**	**-0.4**
baz=1.0
PFO	**Pinyon Flats O**	**0.95**	**339**	*e*Pg	**Pg**	**06 21 29.2**	**-0.4**
PFO				*e*Sg	**Sg**	**06 21 41.6**	**-0.5**
BC3	**Big Chuckawall**	**1.05**	**28**	P	**Pg**	**06 21 30.4**	**-1.1**
baz=1.1
BC3				S	**Sb**	**06 21 45.6**	**+0.2**
baz=1.1
GLA	**Glamis**	**1.07**	**72**	P	**Pg**	**06 21 30.8**	**-1.1**
baz=1.1
GLA				S	**Sg**	**06 21 44.1**	**-1.7**
baz=1.1
GLA	**Glamis**	**1.07**	**72**	*e*Pn	**Pg**	**06 21 30.8**	**-1.1**
GLA				*e*Sn	**Sg**	**06 21 44.5**	**-1.3**
PBX	**Punta Banda**	**1.13**	**211**	⇓*e*P	**Pg**	**06 21 32.7**	**-0.3**
PBX				*e*S	**Sg**	**06 21 47.4**	**-0.4**
ECNX	**Esteban Cantu**	**1.16**	**204**	*e*P	**Pg**	**06 21 32.6**	**-1.0**
ECNX				*e*S	**Sg**	**06 21 48.2**	**-0.5**
ZAX	**El Zacaton**	**1.22**	**189**	*e*P	**Pg**	**06 21 33.9**	**-0.7**
ZAX				*e*S	**Sg**	**06 21 49.8**	**-0.7**
BELC	**Belle Mtn. Jos**	**1.28**	**2**	P	**Pn**	**06 21 33.8**	**-1.3**
baz=1.3
MURC	**Murrieta**	**1.31**	**312**	Pg	**Pn**	**06 21 35.1**	**-0.3**
baz=1.3
MURC				Sb	**Sb**	**06 21 52.2**	**-0.4**
baz=1.3
ECBX	**El Chinero**	**1.50**	**146**	*e*P	**Pn**	**06 21 37.6**	**-0.4**
ECBX				*e*S	**Sn**	**06 21 58.4**	**+0.9**
BBRC	**Big Bear Solar**	**1.71**	**335**	Pb	**Pn**	**06 21 41.0**	**-0.1**
baz=1.7
SPX	**San Pedro Mart**	**1.74**	**163**	⇓*e*PN	**Pb**	**06 21 43.7**	**+0.3**
113A	**Mohawk Valley,**	**1.92**	**88**	P	**Pn**	**06 21 42.9**	**-0.8**
baz=1.9
BFSC	**Mount Baldy Ra**	**2.03**	**319**	Sb	**Sb**	**06 22 13.7**	**+0.2**
baz=2.0
GMRC	**Granite Mounta**	**2.08**	**9**	P	**Pn**	**06 21 45.3**	**-0.8**
baz=2.1
SCI	**San Clemente I**	**2.13**	**278**	S	**Sn**	**06 22 13.2**	**+0.2**
baz=2.1
MWC	**Mount Wilson**	**2.26**	**312**	*e*Pn	**Pb**	**06 21 50.8**	**-1.3**
MWC				*e*Sn	**Sn**	**06 22 17.4**	**+0.8**
PASC	**Pasadena Art C**	**2.31**	**310**	*e*Pn	**Pn**	**06 21 50.8**	**+1.7**
PASC				*e*Pg	**Pg**	**06 21 55.5**	**+0.1**
PASC				*e*Sn	**Sn**	**06 22 19.2**	**+1.8**
LDFC	**Landfair**	**2.48**	**18**	*e*Pn	**Pn**	**06 21 52.3**	**+0.7**
LDFC				*e*Sn	**Sn**	**06 22 23.7**	**+1.9**
LDFC				*e*Sg	**Sg**	**06 22 32.5**	**+1.6**
GSC	**Goldstone, Bar**	**2.65**	**346**	*e*Pn	**Pn**	**06 21 53.6**	**-0.3**
GSC				*e*Sg	**Sg**	**06 22 36.9**	**+0.4**
214A	**Organ Pipe Nat**	**2.84**	**105**	*e*Pn	**Pn**	**06 21 56.2**	**-0.2**
214A				*e*Sn	**Sn**	**06 22 33.3**	**+2.7**
ISA	**Isabella, Lake**	**3.56**	**326**	*e*Pn	**Pn**	**06 22 07.2**	**+0.7**
ISA				*e*Sg	**Sg**	**06 23 05.2**	**-0.5**
121A	**Cookes Peak, D**	**6.97**	**89**	*e*Pn	**Pn**	**06 22 55.4**	**+2.1**
comp=E,3.9nm,0.6s
121A				*e*Sn	**Sn**	**06 24 12.6**	**-0.1**

*IDC **01** 06:24:46.0±0.5,34°.17S×73°.51W,h0km,mb4.4/12, mb1 4.5/16,mb1mx4.4/27,mbtmp4.4/16,ML4.6/3,MS3.8/4, Ms1 3.8/4,ms1mx3.2/28,Error ellipse: s-maj=20.8km s-min=14.8km az=93.0*
*GUC **01** 06:24:47.6±0.7,34°.21S×73°.37W,h16km±20km,ML4.4*
*ISCJB **01** 06:24:49.9±0.2,34°.22S±0°.03×73°.38W±0°.03,h33km, mb4.7/45,MS3.7/3,Error ellipse: s-maj=4.9km s-min=3.6km az=6.6*
*MOS **01** 06:24:50.3±1.1,34°.20S×73°.29W,h33km,mb5.1/14,Error ellipse: s-maj=19.0km s-min=9.8km az=95.2*
*NEIC **01** 06:24:51.8±0.2,34°.20S×73°.32W,h35km,mb4.7/33,Error ellipse: s-maj=7.0km s-min=5.1km az=64.0*
ISC 01 06:24:52.3±0.8,34°.18S±0°.05×73°.32W±0°.08,h40km±7km, n418,σ0°74/439,mb4.7/45,MS3.5/3,149C-148D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.81**	**51**	*e*P	**Pn**	**06 25 18.9**	**-2.1**
IHA				*i* S1	**Sn**	**06 25 42.7**	**-0.1**
RCDM	**Rinconada Maip**	**2.20**	**72**	*e*P	**Pn**	**06 25 25.2**	**-1.2**
RCDM				*i* S	**Sn**	**06 25 53.3**	**+0.9**
RCDM				AML	AML	06 25 53.7	
comp=E,847nm,0.5s
SAN	**Santiago**	**2.33**	**72**	*e*P	**Pn**	**06 25 26.9**	**-1.2**
SAN				*i* S	**Sn**	**06 25 56.7**	**+1.1**
STL	**Santa Lucia**	**2.35**	**72**	*e*P	**Pn**	**06 25 27.2**	**-1.3**
STL				*i* S	**Sn**	**06 25 57.3**	**+1.2**
PEL	**Peldehue**	**2.43**	**65**	*e*P	**Pn**	**06 25 28.5**	**-1.1**
PEL				*e*S	**Sn**	**06 25 59.4**	**+1.4**
PEL				AML	AML	06 26 02.0	
comp=N,2μm,0.3s
CFAA	**Coronel Fontan**	**4.99**	**60**	Pn	**Pn**	**06 26 04.3**	**-0.4**
comp=N,1.1nm,0.3s,baz=233,slow=11,SNR=8.6
CFAA				Sn	**Sn**	**06 27 04.0**	**+2.8**
comp=N,0.9nm,0.3s,baz=307,slow=20,SNR=5.0
PLCA	**Paso Flores**	**6.90**	**162**	*e*P	**Pn**	**06 26 30.0**	**-1.0**
PLCA				*e*		06 27 48.6	
PLCA	**Paso Flores**	**6.90**	**162**	Pn	**Pn**	**06 26 29.8**	**-1.2**
comp=N,5.2nm,0.3s,baz=332,slow=12,SNR=13
PLCA				LR	LR	06 29 07.5	
comp=N,646nm,21.3s,baz=334,slow=38
PLCA	**Paso Flores**	**6.90**	**162**	*e*Pn	**Pn**	**06 26 30.0**	**-1.0**
PLCA				*e*Sn	**Sn**	**06 27 48.5**	**+0.4**
TRQA	**Tornquist**	**9.95**	**116**	*e*Pn	**Pn**	**06 27 13.7**	**+0.9**
TRQA				*e*Sn	Sn	06 29 14.8	+12
LVC	**Limon Verde**	**12.16**	**20**	Pn	Pn	06 27 39.1	-4.2
CPUP	**Villa Florida**	**15.86**	**65**	*e*P	**Pn**	**06 28 30.9**	**-1.9**
CPUP	**Villa Florida**	**15.86**	**65**	Pn	**Pn**	**06 28 32.5**	**-0.2**
comp=N,0.7nm,0.3s,baz=247,slow=13,SNR=4.1
CPUP	**Villa Florida**	**15.86**	**65**	*e*Pn	**Pn**	**06 28 30.9**	**-1.9**
LPAZ	**La Paz**	**18.42**	**16**	*e*P	**Pn**	**06 29 06.8**	**+1.5**
LPAZ				pmax	pmax		
comp=Z,17nm,1.3s
LPAZ	**La Paz**	**18.42**	**16**	P	**P**	**06 29 05.2**	**+0.3**
comp=Z,0.3nm,0.3s,baz=192,slow=8.8,SNR=11
LPAZ	**La Paz**	**18.42**	**16**	*e*Pn	**Pn**	**06 29 06.8**	**+1.5**
comp=Z,17nm,1.3s
USHA	**Ushuaia**	**20.93**	**172**	P	**P**	**06 29 31.6**	**+0.2**
comp=Z,12nm,0.8s,baz=332,slow=9.5,SNR=2.7
USHA				LR	LR	06 38 12.3	
comp=Z,697nm,18.4s,baz=0.5,slow=38
SIV	**San Ignacio**	**21.20**	**34**	P	**P**	**06 29 35.0**	**+0.3**
comp=Z,5.9nm,0.9s,baz=212,slow=12,SNR=6.7
NNA	**Nana**	**22.33**	**351**	*e*P	**P**	**06 29 46.9**	**+0.1**
NNA				pmax	pmax		
comp=Z,12nm,1.0s
NNA	**Nana**	**22.33**	**351**	LR	LR	06 36 35.9	
comp=Z,170nm,18.2s,baz=186,slow=32
NNA	**Nana**	**22.33**	**351**	*e*P	**P**	**06 29 46.9**	**+0.1**
comp=Z,12nm,1.0s
SAML	**Samuel**	**26.79**	**23**	*e*P	**P**	**06 30 28.6**	**-0.1**
comp=Z,6.5nm,1.4s
BDFB	**Brasilia**	**29.32**	**57**	P	**P**	**06 30 51.0**	**-0.5**
BDFB	**Brasilia**	**29.32**	**57**	P	**P**	**06 30 51.0**	**-0.5**
comp=Z,2.9nm,0.6s,baz=230,slow=7.9,SNR=3.8
OTAV	**Otavalo**	**34.58**	**351**	*e*P	**P**	**06 31 36.9**	**-1.1**
comp=Z,2.3nm,0.8s
ROSC	**El Rosal**	**38.84**	**358**	P	**P**	**06 32 15.4**	**+1.2**
comp=Z,5.6nm,0.7s,baz=232,slow=3.2,SNR=5.6
JTS	**JuntasAbangare**	**45.59**	**344**	*e*P	**P**	**06 33 09.1**	**+0.4**
JTS				pmax	pmax		
comp=Z,8.0nm,1.3s
VNA3	**Neumayer Olymp**	**49.59**	**158**	P	**P**	**06 33 39.9**	**+0.7**
VNA2	**Neumayer--Watz**	**50.26**	**157**	P	**P**	**06 33 45.3**	**+1.1**
SNAA	**Sanae**	**51.82**	**158**	P	**P**	**06 33 56.6**	**+0.7**
SNAA	**Sanae**	**51.82**	**158**	*e*P	**P**	**06 33 56.2**	**+0.2**
SNAA				pmax	pmax		
comp=Z,19nm,1.0s
SNAA	**Sanae**	**51.82**	**158**	P	**P**	**06 33 56.1**	**+0.1**
comp=Z,4.9nm,0.5s,baz=279,slow=8.3,SNR=50
SNAA				LR	LR	06 54 01.7	
comp=Z,38nm,19.2s,baz=324,slow=34
TEIG	**Tepich**	**55.95**	**343**	*e*P	**P**	**06 34 26.0**	**-0.5**
comp=Z,6.2nm,0.4s
QSPA	**South Pole Qui**	**56.05**	**180**	P	**P**	**06 34 26.9**	**-0.1**
comp=Z,10nm,0.9s,baz=147,slow=5.2,SNR=15
QSPA	**South Pole Qui**	**56.05**	**180**	*e*P	**P**	**06 34 27.2**	**+0.1**
SBA	**Scott Base**	**62.68**	**192**	*e*P	**P**	**06 35 12.6**	**+0.2**
SBA				pmax	pmax		
comp=Z,118nm,1.4s
SBA	**Scott Base**	**62.68**	**192**	*e*P	**P**	**06 35 12.6**	**+0.2**
comp=Z,118nm,1.4s
933A	**Laredo**	**66.20**	**335**	⇓P	**P**	**06 35 36.6**	**+0.7**
baz=66
833A	**Chaparral WMA,**	**66.89**	**335**	⇑P	**P**	**06 35 40.4**	**+0.1**
baz=67
832A	**Faith Ranch, C**	**67.06**	**335**	⇑P	**P**	**06 35 41.8**	**+0.3**
baz=67
636A	**Smothers Creek**	**67.18**	**338**	⇑P	**P**	**06 35 43.0**	**+0.8**
baz=68
732A	**Laxson Ranch,**	**67.46**	**335**	⇑P	**P**	**06 35 44.1**	**+0.1**
baz=68,SNR=5.2
535A	**Dale**	**67.85**	**337**	⇑P	**P**	**06 35 46.6**	**+0.2**
baz=68
340A	**Bronson**	**68.07**	**341**	⇓P	**P**	**06 35 47.1**	**-0.6**
baz=68
632A	**Uvalde**	**68.11**	**335**	⇓P	**P**	**06 35 47.8**	**-0.3**
baz=68
339A	**Huntington**	**68.17**	**340**	⇑P	**P**	**06 35 48.0**	**-0.4**
baz=68
631A	**Perdido Creek**	**68.30**	**335**	⇑P	**P**	**06 35 49.0**	**-0.3**
baz=69
533A	**Kerrville**	**68.37**	**336**	⇓P	**P**	**06 35 49.8**	**0.0**
baz=69
338A	**Crockett**	**68.41**	**340**	⇓P	**P**	**06 35 50.5**	**+0.6**
baz=69
337A	**Centerville**	**68.54**	**339**	⇑P	**P**	**06 35 51.0**	**+0.4**
baz=69
532A	**Rocksprings**	**68.72**	**335**	⇓P	**P**	**06 35 52.1**	**+0.2**
baz=69,SNR=7.6
434A	**Burnet**	**68.80**	**337**	⇑P	**P**	**06 35 52.1**	**-0.3**
baz=69,SNR=6.8
336A	**Riesel**	**68.89**	**339**	⇓P	**P**	**06 35 52.6**	**-0.3**
baz=69
335A	**Moody**	**68.97**	**338**	⇑P	**P**	**06 35 53.1**	**-0.3**
baz=69
531A	**Rocksprings**	**68.98**	**335**	⇓P	**P**	**06 35 53.8**	**+0.3**
baz=69
JCT	**Junction City**	**69.00**	**336**	*e*P	**P**	**06 35 53.5**	**-0.2**
JCT	**Junction City**	**69.00**	**336**	⇓P	**P**	**06 35 53.1**	**-0.6**
baz=69
JCT	**Junction City**	**69.00**	**336**	*e*P	**P**	**06 35 53.5**	**-0.2**
433A	**Art**	**69.02**	**336**	⇓P	**P**	**06 35 53.3**	**-0.4**
baz=69,SNR=8.5
530A	**J-C Ranch, Com**	**69.24**	**334**	⇓P	**P**	**06 35 55.2**	**+0.1**
baz=70,SNR=5.8
334A	**Lometa**	**69.27**	**337**	⇑P	**P**	**06 35 54.9**	**-0.4**
baz=70,SNR=6.6
432A	**Menard**	**69.36**	**336**	⇓P	**P**	**06 35 55.5**	**-0.4**
baz=70
KMSC	**Kings Mountain**	**69.37**	**353**	⇑P	**P**	**06 35 55.3**	**-0.5**
baz=70
TXAR	**Lajitas Array**	**69.39**	**332**	P	**P**	**06 35 55.9**	**-0.3**
comp=Z,2.1nm,0.7s,baz=154,slow=8.1,SNR=24
431A	**Sonora**	**69.47**	**335**	⇓P	**P**	**06 35 55.6**	**-0.9**
baz=70
333A	**Richland Sprin**	**69.51**	**337**	⇓P	**P**	**06 35 56.2**	**-0.5**
baz=70,SNR=6.1
529A	**Stev Forest Ra**	**69.54**	**333**	⇑P	**P**	**06 35 57.1**	**0.0**
baz=70,SNR=6.7
WHTX	**Lake Whitney,**	**69.64**	**338**	⇑P	**P**	**06 35 57.1**	**-0.4**
baz=70
430A	**Baggett Ranch,**	**69.78**	**335**	⇑P	**P**	**06 35 58.2**	**-0.3**
baz=70,SNR=5.2
332A	**Millersview**	**69.81**	**336**	⇑P	**P**	**06 35 58.4**	**-0.3**
baz=70
234A	**Clairette**	**69.86**	**338**	⇓P	**P**	**06 35 58.8**	**-0.1**
baz=70,SNR=5.8
429A	**Davenport Ranc**	**69.88**	**334**	⇑P	**P**	**06 35 59.3**	**+0.2**
baz=70
331A	**San Angelo**	**69.98**	**335**	⇑P	**P**	**06 35 59.5**	**-0.2**
baz=70,SNR=7.8
SWET	**Sewanee**	**70.04**	**349**	*e*P	**P**	**06 35 59.5**	**-0.5**
comp=Z,7.3nm,0.6s
233A	**Rising Star**	**70.12**	**337**	⇓P	**P**	**06 36 00.2**	**-0.3**
baz=70
232A	**Coleman**	**70.24**	**336**	⇓P	**P**	**06 36 01.1**	**-0.2**
baz=71
330A	**Mertzon**	**70.33**	**335**	⇓P	**P**	**06 36 01.3**	**-0.6**
baz=71
134A	**White-Moore Ra**	**70.37**	**338**	⇓P	**P**	**06 36 01.8**	**-0.2**
baz=71
231A	**Bronte**	**70.51**	**336**	⇓P	**P**	**06 36 02.5**	**-0.4**
baz=71,SNR=9.3
133A	**Hamilton Ranch**	**70.67**	**337**	⇓P	**P**	**06 36 03.7**	**-0.1**
baz=71
329A	**Wagon Wheel Ra**	**70.69**	**334**	⇓P	**P**	**06 36 03.7**	**-0.3**
baz=71
230A	**Sterling City**	**70.74**	**335**	⇓P	**P**	**06 36 03.8**	**-0.5**
baz=71
Z35A	**Perchaven, San**	**70.82**	**339**	⇑P	**P**	**06 36 04.4**	**-0.3**
baz=71
ABTX	**Abilene, Hawle**	**70.92**	**337**	⇓P	**P**	**06 36 04.9**	**-0.5**
baz=71
ABTX	**Abilene, Hawle**	**70.92**	**337**	*e*P	**P**	**06 36 04.9**	**-0.5**
comp=Z,12nm,0.9s
229A	**Bryant Ranch,**	**71.06**	**335**	⇑P	**P**	**06 36 06.2**	**-0.1**
baz=71
Z34A	**Collier Ranch,**	**71.06**	**338**	⇑P	**P**	**06 36 05.5**	**-0.7**
baz=71
131A	**Roby**	**71.21**	**336**	⇓P	**P**	**06 36 06.9**	**-0.3**
baz=72,SNR=5.7
Z33A	**Whitaker Ranch**	**71.25**	**338**	⇑P	**P**	**06 36 07.1**	**-0.2**
baz=72,SNR=5.8
WVT	**Waverly**	**71.25**	**348**	*e*P	**P**	**06 36 06.6**	**-0.6**
WVT				pmax	pmax		
comp=Z,22nm,1.0s
WVT	**Waverly**	**71.25**	**348**	*e*P	**P**	**06 36 06.6**	**-0.6**
comp=Z,22nm,1.0s
130A	**Snyder**	**71.34**	**336**	⇑P	**P**	**06 36 07.3**	**-0.6**
baz=72
228A	**UT Block 9, Go**	**71.48**	**334**	⇓P	**P**	**06 36 08.4**	**-0.4**
baz=72
Z32A	**Haskell**	**71.49**	**337**	⇓P	**P**	**06 36 08.6**	**-0.2**
baz=72,SNR=7.9
Y34A	**Reagan Ranch,**	**71.56**	**339**	⇓P	**P**	**06 36 08.8**	**-0.3**
baz=72
Z31A	**Sharp Cattle R**	**71.72**	**337**	⇓P	**P**	**06 36 10.1**	**-0.1**
baz=72,SNR=6.6
Y33A	**Hilltop Ranch,**	**71.87**	**338**	⇑P	**P**	**06 36 10.7**	**-0.3**
baz=72
128A	**Castleberry Fa**	**71.89**	**334**	⇑P	**P**	**06 36 11.0**	**-0.3**
baz=72,SNR=5.5
Z30A	**Sanderson Ranc**	**72.02**	**336**	⇑P	**P**	**06 36 11.3**	**-0.8**
baz=72,SNR=6.1
Y32A	**R-V Farms, Ver**	**72.12**	**337**	⇓P	**P**	**06 36 12.3**	**-0.3**
baz=72
X34A	**Smith Ranch, M**	**72.18**	**339**	⇓P	**P**	**06 36 12.7**	**-0.2**
baz=72
Z29A	**Hungry Hill Ra**	**72.19**	**335**	⇓P	**P**	**06 36 12.3**	**-0.8**
baz=72,SNR=5.0
127A	**Arkansas Junct**	**72.26**	**334**	⇑P	**P**	**06 36 13.5**	**-0.1**
baz=73
X33A	**Lawton**	**72.33**	**338**	⇑P	**P**	**06 36 13.0**	**-0.8**
baz=73
Y31A	**Rekieta Farm,**	**72.35**	**337**	⇓P	**P**	**06 36 13.5**	**-0.5**
baz=73
X32A	**Elmer**	**72.46**	**338**	⇓P	**P**	**06 36 14.0**	**-0.6**
baz=73
Z28A	**Tucker Farm, M**	**72.46**	**335**	⇑P	**P**	**06 36 14.3**	**-0.4**
baz=73
Y30A	**Stafford Cattl**	**72.48**	**336**	⇓P	**P**	**06 36 14.2**	**-0.6**
baz=73
Y29A	**Porterfield Fa**	**72.73**	**336**	⇓P	**P**	**06 36 16.0**	**-0.3**
baz=73,SNR=6.0
W34A	**Bridge Creek,**	**72.75**	**339**	⇑P	**P**	**06 36 16.0**	**-0.3**
baz=73
Z27A	**Tatum**	**72.78**	**334**	⇑P	**P**	**06 36 16.2**	**-0.5**
baz=73
TUL1	**Leonard**	**72.83**	**341**	⇑P	**P**	**06 36 16.4**	**-0.3**
baz=73
TUL1	**Leonard**	**72.83**	**341**	*e*P	**P**	**06 36 16.1**	**-0.6**
comp=Z,39nm,0.7s
X31A	**McDonald Ranch**	**72.87**	**337**	⇑P	**P**	**06 36 16.7**	**-0.3**
baz=73,SNR=6.5
W33A	**Caddo, Fort Co**	**72.88**	**339**	⇑P	**P**	**06 36 17.4**	**+0.3**
baz=73
Y28A	**McKinney Farm,**	**72.97**	**335**	⇑P	**P**	**06 36 17.6**	**-0.2**
baz=73
X30A	**Coker Ranch, T**	**72.99**	**336**	⇑P	**P**	**06 36 17.6**	**-0.2**
baz=73
Z26A	**Caprock**	**73.02**	**333**	⇑P	**P**	**06 36 18.0**	**-0.1**
baz=73
W32A	**Sentinel**	**73.09**	**338**	⇑P	**P**	**06 36 18.3**	**-0.1**
baz=73,SNR=7.9
MSTX	**Muleshoe**	**73.21**	**335**	⇓P	**P**	**06 36 18.8**	**-0.4**
baz=74,SNR=6.8
MSTX	**Muleshoe**	**73.21**	**335**	*e*P	**P**	**06 36 18.6**	**-0.6**
comp=Z,9.0nm,0.8s
X29A	**Tulia**	**73.27**	**336**	⇓P	**P**	**06 36 19.1**	**-0.4**
baz=74
Y27A	**Causey**	**73.27**	**334**	⇑P	**P**	**06 36 19.1**	**-0.5**
baz=74
Z25A	**Roswell**	**73.31**	**333**	⇓P	**P**	**06 36 19.6**	**-0.2**
baz=74
W31A	**Holland Ranch,**	**73.37**	**337**	⇑P	**P**	**06 36 19.7**	**-0.3**
baz=74
V33A	**Lossen Ranch,**	**73.45**	**339**	⇓P	**P**	**06 36 20.0**	**-0.4**
baz=74,SNR=5.2
319A	**Douglas**	**73.49**	**328**	⇓P	**P**	**06 36 21.4**	**+0.5**
baz=74
V32A	**Arapaho**	**73.58**	**338**	⇑P	**P**	**06 36 21.5**	**+0.3**
baz=74
Z24A	**Sheeppen Canyo**	**73.60**	**332**	⇓P	**P**	**06 36 21.7**	**+0.1**
baz=74,SNR=6.3
AMTX	**Amarillo**	**73.66**	**336**	⇓P	**P**	**06 36 21.8**	**0.0**
baz=74
U34A	**Anderson Ranch**	**73.80**	**340**	⇓P	**P**	**06 36 22.3**	**-0.2**
baz=74
121A	**Cookes Peak, D**	**73.86**	**330**	⇓P	**P**	**06 36 23.8**	**+0.7**
baz=74,SNR=5.3
121A	**Cookes Peak, D**	**73.86**	**330**	*e*P	**P**	**06 36 23.6**	**+0.5**
comp=Z,7.8nm,1.0s
W29A	**Amarillo**	**73.87**	**336**	⇑P	**P**	**06 36 23.0**	**0.0**
baz=74
Y25A	**Mesa, Roswell**	**73.87**	**333**	⇑P	**P**	**06 36 22.7**	**-0.3**
baz=74
V31A	**Spring Creek L**	**73.88**	**338**	⇑P	**P**	**06 36 23.6**	**+0.7**
baz=74
U33A	**Lingo Farm, Me**	**73.97**	**339**	⇓P	**P**	**06 36 22.9**	**-0.5**
baz=74
X26A	**CR and CF Fran**	**74.11**	**334**	⇓P	**P**	**06 36 24.3**	**-0.2**
baz=74
V30A	**Spur Ranch, Mi**	**74.14**	**337**	⇓P	**P**	**06 36 24.9**	**+0.4**
baz=74
Y24A	**Capitan**	**74.15**	**333**	⇑P	**P**	**06 36 24.8**	**0.0**
baz=74,SNR=6.7
Z22A	**Elephant Butte**	**74.16**	**331**	⇓P	**P**	**06 36 24.3**	**-0.5**
baz=74
U32A	**Winter Ranch,**	**74.18**	**339**	⇑P	**P**	**06 36 24.4**	**-0.3**
baz=74
W27A	**Bowe Ranch, En**	**74.30**	**335**	⇓P	**P**	**06 36 25.4**	**-0.2**
baz=75,SNR=6.6
Y23A	**Lovelace Mesa,**	**74.39**	**332**	⇑P	**P**	**06 36 26.3**	**+0.1**
baz=75
V29A	**Stinnett**	**74.51**	**337**	⇑P	**P**	**06 36 26.5**	**-0.2**
baz=75
W26A	**Owens Ranch, T**	**74.57**	**334**	⇓P	**P**	**06 36 27.3**	**+0.2**
baz=75
T33A	**Patterson Ranc**	**74.61**	**340**	⇑P	**P**	**06 36 27.5**	**+0.3**
baz=75
V28A	**Channing**	**74.63**	**336**	⇑P	**P**	**06 36 28.1**	**+0.6**
baz=75
U30A	**WK&E Inc. Balk**	**74.83**	**337**	⇑P	**P**	**06 36 29.2**	**+0.6**
baz=75
V27A	**Dan Oppiter Fa**	**74.85**	**335**	⇑P	**P**	**06 36 29.2**	**+0.5**
baz=75
W25A	**X Bar L Ranch,**	**74.94**	**334**	⇓P	**P**	**06 36 29.5**	**+0.2**
baz=75
TUC	**Tucson**	**74

baz=76
V25A Rancho No Teng 75.55 334 ⇓P P 06 36 33.0 +0.1
baz=76
214A Organ Pipe Nat 75.57 326 ⇑P P 06 36 33.0 +0.2
baz=76
V24A Rampart Ranch, 75.69 334 ⇑P P 06 36 33.8 +0.1
baz=76
U26A Atchley Ranch, 75.74 335 ⇑P P 06 36 34.0 +0.1
baz=76
T28A Walsh 75.84 337 ⇑P P 06 36 34.5 +0.1
baz=76,SNR=6.2
S29A Ulysses 75.98 338 ⇓P P 06 36 35.0 -0.1
baz=76
U25A Circle Dot Ran 75.98 335 ⇑P P 06 36 35.2 -0.1
baz=76
R32A Long Quarter, 75.99 340 ⇓P P 06 36 35.1 0.0
baz=76
T27A Campo 75.99 336 ⇓P P 06 36 35.5 +0.2
baz=76
KSU1 Kansas State U 76.04 342 ⇑P P 06 36 35.4 0.0
baz=76
R31A Burdett 76.10 339 ⇑P P 06 36 36.0 +0.2
baz=76
S28A Manter 76.20 337 ⇑P P 06 36 36.6 +0.3
baz=76,SNR=8.2
DBIC Dimbokro 76.24 72 P P 06 36 37.7 +0.6
comp=Z,5.1nm,0.6s,baz=216,slow=5.2,SNR=10.0
U24A Moreno Valley 76.30 334 ⇓P P 06 36 37.8 +0.5
baz=77
T26A Comanche Natio 76.39 336 ⇑P P 06 36 38.1 +0.5
baz=77
V22A San Miguel Ran 76.47 332 ⇑P P 06 36 39.1 +0.9
baz=77,SNR=10
Q32A Meitler Ranch, 76.47 340 ⇓P P 06 36 38.2 +0.4
baz=77
X18A Snowflake 76.49 330 ⇑P P 06 36 38.3 +0.1
baz=77
U23A El Rito 76.56 333 ⇓P P 06 36 39.6 +1.0
baz=77
T25A Trinidad 76.64 335 ⇑P P 06 36 39.7 +0.6
baz=77,SNR=7.8
113A Mohawk Valley, 76.69 326 ⇑P P 06 36 40.1 +1.0
baz=77
R29A Marienthal 76.72 338 ⇓P P 06 36 39.6 +0.3
baz=77
Q31A Ellis 76.73 339 ⇓P P 06 36 40.1 +0.8
baz=77
S26A Kim 76.75 336 ⇓P P 06 36 40.0 +0.5
baz=77,SNR=7.6
R28A Tribune 76.86 337 ⇑P P 06 36 40.2 +0.1
baz=77,SNR=5.9
U22A Llaves 76.86 333 ⇓P P 06 36 41.4 +1.1
baz=77
T24B San Luis 76.92 334 ⇓P P 06 36 41.5 +0.8
baz=77
X16A Lo Mia Camp, P 77.03 328 ⇓P P 06 36 42.0 +0.7
baz=77
P32A Huiting Farm, 77.07 340 ⇓P P 06 36 41.1 -0.1
baz=77
Q29A Oakley 77.10 338 ⇓P P 06 36 41.3 -0.1
baz=77
S25A Robets Cordova 77.12 335 ⇓P P 06 36 42.0 +0.3
baz=78
R27A Eads 77.12 337 ⇑P P 06 36 41.8 +0.1
baz=78,SNR=7.1
T23A Casias Ranch, 77.13 334 ⇓P P 06 36 42.2 +0.3
baz=78
P31A Stockton 77.20 340 ⇑P P 06 36 42.1 +0.2
baz=78
Y14A Wickenburg 77.32 327 ⇑P P 06 36 43.5 +0.8
baz=78
R26A Arlington 77.36 336 ⇑P P 06 36 43.5 +0.6
baz=78
S24A Houchin Ranch, 77.37 335 ⇓P P 06 36 44.2 +0.9
baz=78,SNR=8.5
R25A Fountain Ranch 77.50 335 ⇑P P 06 36 44.5 +0.7
baz=78
Q28A Sharon Springs 77.52 338 ⇓P P 06 36 44.6 +0.8
baz=78
KSCO Kaye Shedlock' 77.73 337 ⇑P P 06 36 45.7 +0.7
baz=78
P29A Atwood 77.74 339 ⇓P P 06 36 45.5 +0.6
baz=78,SNR=6.2
O31A Woolen Ranch, 77.77 340 ⇑P P 06 36 45.4 +0.4
baz=78
Y12C Blythe 77.86 326 ⇓P P 06 36 46.4 +0.7
baz=78
R24A Sanders Place, 77.86 335 ⇑P P 06 36 46.6 +0.8
baz=78,SNR=9.6
WUAZ Wupatki 77.93 329 ⇓P P 06 36 47.2 +0.9
baz=78
WUAZ Wupatki 77.93 329 eP P 06 36 47.2 +0.9
comp=Z,7.4nm,1.1s
Q26A Hugo 77.94 336 ⇑P P 06 36 46.8 +0.6
baz=78
P28A Saint Francis 77.96 338 ⇑P P 06 36 46.9 +0.7
baz=78
O30A MW Ranch, Wils 78.01 339 ⇑P P 06 36 46.9 +0.5
baz=78
N32A Stulken Farm, 78.05 341 ⇓P P 06 36 46.9 +0.2
baz=78
S22A 4UR Ranch, Cre 78.05 333 ⇓P P 06 36 47.6 +0.5
baz=78
R23A Moffat 78.08 334 ⇑P P 06 36 48.1 +0.9
baz=78
Q25A Bedland, Calha 78.18 336 ⇓P P 06 36 48.2 +0.6
baz=78
P27A Ficken Ranch, 78.21 337 ⇓P P 06 36 48.5 +0.9
baz=79
MVCO Mesa Verde 78.22 332 ⇑P P 06 36 48.4 +0.5
baz=79
IRM Iron Mountain 78.49 326 ⇓P P 06 36 50.4 +1.2
baz=79
Q24A Divide 78.53 335 ⇑P P 06 36 50.3 +0.6
baz=79,SNR=5.6
PFO Pinyon Flats O 78.66 324 ⇓P P 06 36 51.6 +1.3
baz=79
W13A Hualapai Mount 78.68 327 ⇓P P 06 36 51.2 +0.7
baz=79
P25A Willow Gulch B 78.69 336 ⇑P P 06 36 51.2 +0.8
baz=79,SNR=8.2
O27A Beecher Island 78.75 338 ⇑P P 06 36 51.5 +0.9
baz=79
N29A Votaw Ranch, W 78.76 339 ⇑P P 06 36 50.9 +0.3
baz=79
M31A Lambtecht Ranc 78.78 341 ⇓P P 06 36 51.1 +0.5
baz=79
N28A Pribbeno Ranch 78.92 339 ⇑P P 06 36 51.5 +0.1
baz=79
O26A Horse Wrangler 79.07 337 ⇓P P 06 36 53.5 +1.1
baz=79
U15A North Rim 79.10 329 ⇓P P 06 36 54.1 +1.3
baz=79
GMRC Granite Mounta 79.23 326 ⇑P P 06 36 54.4 +1.0
baz=80
N27A Anderson Farm, 79.33 338 ⇑P P 06 36 54.7 +0.9
baz=80
M29A Burnside Ranch 79.36 339 ⇑P P 06 36 54.7 +0.8
baz=80
SMCO Snowmass 79.37 334 eP P 06 36 55.3 +0.9
comp=Z,10.0nm,1.0s
ISCO Idaho Springs 79.44 335 ⇓P P 06 36 54.5 -0.1
baz=80
M28A Bar X Bar Ranc 79.51 339 ⇑P P 06 36 54.4 -0.3
baz=80
L31A Butterfield Fa 79.52 341 ⇑P P 06 36 54.8 +0.1
baz=80
N26A Koester Ranch, 79.57 337 ⇑P P 06 36 55.8 +0.8
baz=80
HEC Hector,Ludlow 79.59 325 ⇓P P 06 36 56.4 +1.1
baz=80
P22A Eagle 79.66 334 ⇓P P 06 36 56.6 +0.9
baz=80
BFSC Mount Baldy Ra 79.75 324 ⇑P P 06 36 57.3 +1.0
baz=80
L29A Maesberg Ranch 79.87 340 ⇑P P 06 36 58.0 +1.4
baz=80
TUQ Turquoise Moun 79.90 326 ⇑P P 06 36 57.6 +0.6
baz=80
O23A Lake Granby, G 79.91 335 ⇓P P 06 36 57.7 +0.5
baz=80,SNR=7.8
M27A Reverse DX Ran 79.94 338 ⇓P P 06 36 57.4 +0.3
baz=80
O22A Kremmling 80.09 335 ⇑P P 06 36 58.4 +0.3
baz=80
TSUM Tsumeb 80.18 106 eP P 06 36 59.5 +0.4
K30A Basset 80.19 341 ⇑P P 06 36 58.4 +0.1
baz=80
GSC Goldstone, Bar 80.20 325 ⇑P P 06 36 58.6 0.0
baz=80
ECSD EROS Data Cent 80.41 343 ⇑P P 06 36 59.2 -0.2
baz=81
ECSD EROS Data Cent 80.41 343 eP P 06 36 58.8 -0.6
comp=Z,5.7nm,0.8s
SHPR Sheep Range 80.43 327 eP P 06 37 00.4 +0.5
comp=Z,6.3nm,1.3s
EDW2 Edwards Air Fo 80.43 324 ⇓P P 06 37 00.2 +0.4
baz=81
CCUT Cedar City 80.50 329 eP P 06 37 01.7 +1.4
comp=Z,12nm,1.4s
N23A Red Feather La 80.53 336 ⇑P P 06 37 01.1 +0.7
baz=81
N22A Wattenberg Ran 80.62 335 ⇓P P 06 37 01.8 +0.8
baz=81
SRU San Rafael Swe 80.66 332 eP P 06 37 01.4 +0.3
SRU pmax pmax
comp=Z,8.0nm,1.3s
SRU San Rafael Swe 80.66 332 eP P 06 37 01.4 +0.3
comp=Z,7.9nm,1.3s
M24A Cheyenne 80.67 337 ⇑P P 06 37 01.6 +0.6
baz=81
O20A White River Ci 80.68 334 ⇓P P 06 37 01.7 +0.5
baz=81
K28A Ten Mile Ranch 80.72 339 ⇑P P 06 37 01.8 +0.6
baz=81
PHWY Pilot Hill 80.73 336 eP P 06 37 01.5 0.0
comp=Z,4.8nm,1.0s
BOSA Boshof 80.92 118 P P 06 37 03.4 +0.5
comp=Z,7.7nm,0.9s,baz=236,slow=6.2,SNR=9.6
K27A Flueckinger Fa 80.97 339 ⇓P P 06 37 02.8 +0.3
baz=81
J29A Okreek 81.06 340 ⇑P P 06 37 03.1 +0.1
baz=81,SNR=6.2
I30A Oacoma 81.29 341 ⇓P P 06 37 03.9 -0.2
baz=82
ISA Isabella, Lake 81.29 324 ⇑P P 06 37 04.9 +0.5
baz=82
N20A Spence Gulch, 81.30 334 ⇓P P 06 37 04.4 -0.1
baz=82
J28A Allard Ranch, 81.34 340 ⇑P P 06 37 04.6 +0.2
baz=82
J27A Elkhorn Farm, 81.40 339 ⇑P P 06 37 05.3 +0.4
baz=82
I29A Vivian Onida 81.63 341 ⇓P P 06 37 05.9 0.0
baz=82
L22A Ellis Ranch, M 81.71 336 ⇓P P 06 37 07.0 +0.4
baz=82
VES Vestal, Richgr 81.73 324 ⇓P P 06 37 07.5 +0.9
baz=82
J26A Sides Ranch, S 81.78 339 ⇑P P 06 37 07.7 +0.9
baz=82
I28A Midland 81.85 340 ⇑P P 06 37 07.6 +0.5
baz=82
J25A Sunshine Ranch 82.07 338 ⇓P P 06 37 08.9 +0.5
baz=82
K23A Bowen Ranch, D 82.08 337 ⇑P P 06 37 08.8 +0.3
baz=82
R11A Troy Canyon, C 82.14 328 ⇑P P 06 37 09.6 +0.6
baz=82
R11A Troy Canyon, C 82.14 328 eP P 06 37 09.8 +0.9
comp=Z,31nm,2.4s
H29A Onida 82.16 341 ⇑P P 06 37 08.5 -0.2
baz=82
I27A Quinn 82.16 340 ⇑P P 06 37 08.7 0.0
baz=82
K22A Casper 82.29 336 ⇑P P 06 37 09.9 +0.3
baz=83
JLU Jordanelle 82.30 332 eP P 06 37 09.9 +0.1
comp=Z,52nm,2.6s
G30A Faulkton 82.35 342 ⇓P P 06 37 10.2 +0.5
baz=83
I26A New Underwood 82.37 339 ⇑P P 06 37 10.1 +0.2
baz=83
H28A Mission Ridge 82.43 340 ⇑P P 06 37 10.1 0.0
baz=83
DUG Dugway, Tooele 82.50 331 eP P 06 37 11.4 +0.7
DUG pmax pmax
comp=Z,19nm,1.5s
DUG Dugway, Tooele 82.50 331 ⇓P P 06 37 10.8 +0.1
baz=83
DUG Dugway, Tooele 82.50 331 eP P 06 37 11.4 +0.7
comp=Z,19nm,1.5s
K21A Alcova 82.52 335 ⇓P P 06 37 10.6 -0.2
baz=83,SNR=8.4
I25A Rochford 82.62 338 ⇑P P 06 37 11.1 -0.2
baz=83
TPH Tonopah 82.65 327 eP P 06 37 12.4 +0.8
TPH pmax pmax
comp=Z,10.0nm,1.4s
TPH Tonopah 82.65 327 eP P 06 37 12.4 +0.8
comp=Z,10nm,1.4s
H27A Howes 82.69 340 ⇓P P 06 37 11.3 -0.1
baz=83
G28A Parade 82.77 341 ⇑P P 06 37 11.1 -0.7
baz=83
RSSD Black Hills 82.80 338 eP P 06 37 12.3 0.0
RSSD pmax pmax
comp=Z,12nm,1.7s
RSSD Black Hills 82.80 338 eP P 06 37 12.3 0.0
comp=Z,12nm,1.7s
J22A Midwest 82.95 336 ⇓P P 06 37 12.5 -0.5
baz=83
F30A Leola 82.97 342 ⇑P P 06 37 12.5 -0.4
baz=83
H25A Fruitdale 83.12 339 ⇑P P 06 37 13.8 +0.1
baz=84
F29A Eureka 83.18 342 ⇓P P 06 37 13.8 -0.1
baz=84
HWUT Hardware Ranch 83.21 332 eP P 06 37 14.2 -0.2
comp=Z,4.2nm,0.6s
G27A Dupree 83.33 340 ⇓P P 06 37 14.8 0.0
baz=84
I22A 9 Mile Ranch, 83.38 337 ⇑P P 06 37 15.1 -0.1
baz=84
NVAR Mina Array Bea 83.44 326 P P 06 37 14.9 -0.8
comp=Z,0.8nm,0.7s,baz=152,slow=6.9,SNR=7.8
G26A Maurine 83.44 340 ⇓P P 06 37 15.3 0.0
baz=84
J20A Shoshoni 83.44 335 ⇑P P 06 37 15.8 +0.2
baz=84
F28A McLaughlin 83.45 341 ⇑P P 06 37 15.6 +0.3
baz=84
PDAR Pinedale Array 83.45 334 P P 06 37 14.9 -0.8
comp=Z,1.7nm,1.0s,baz=143,slow=7.6,SNR=8.1
H24A Dirks Ranch, A 83.53 338 ⇑P P 06 37 16.0 +0.2
baz=84
I21A Big Trails, Te 83.58 336 ⇓P P 06 37 16.1 -0.2
baz=84
G25A Newell 83.59 339 ⇑P P 06 37 16.4 +0.2
baz=84
J19A Crowheart 83.71 335 ⇓P P 06 37 17.0 +0.1
baz=84
F27A Lemmon 83.81 340 ⇓P P 06 37 17.3 +0.1
baz=84
HVU Hansel Valley 83.83 331 eP P 06 37 17.5 -0.1
HVU pmax pmax
comp=Z,6.0nm,0.8s
HVU Hansel Valley 83.83 331 eP P 06 37 17.5 -0.1
comp=Z,6.1nm,0.8s
I20A Worland 83.98 336 ⇑P P 06 37 18.5 +0.3
baz=84
D30A Buchanan 84.09 343 ⇑P P 06 37 18.8 +0.2
baz=84
F25A Bowman 84.27 339 ⇓P P 06 37 19.4 -0.2
baz=85
I19A Meeteetse 84.36 335 ⇓P P 06 37 19.7 -0.6
baz=85
H20A Greybull 84.41 336 ⇑P P 06 37 19.9 -0.5
baz=85
F24A Ekalaka 84.49 339 ⇓P P 06 37 20.3 -0.4
baz=85
G22A Birney 84.50 337 ⇑P P 06 37 20.6 -0.2
baz=85
AGMN Agassiz Nation 84.55 345 ⇑P P 06 37 20.7 -0.2
baz=85
C30A Mose, Pekin 84.58 343 ⇑P P 06 37 21.0 -0.1
baz=85,SNR=5.1
F23A Volborg 84.67 338 ⇓P P 06 37 21.6 -0.1
baz=85
I17A Pilgrim Ck. 84.83 334 ⇑P P 06 37 22.6 0.0
baz=85
H19A Powell 84.91 335 ⇓P P 06 37 22.9 0.0
baz=85
D26A Manning 84.98 340 ⇓P P 06 37 23.0 -0.1
baz=85
G20A Bridger 85.13 336 ⇑P P 06 37 23.0 -1.0
baz=86
H18A Shoshone NF, C 85.15 335 ⇓P P 06 37 23.5 -0.8
baz=86
B30A Myrvik Farm, E 85.25 344 ⇓P P 06 37 23.9 -0.5
baz=86,SNR=7.8
TORD Torodi Ar. Bea 85.27 71 P P 06 37 25.8 +0.5
comp=Z,4.1nm,0.8s,baz=265,slow=4.9,SNR=21
D25A Fairfield 85.34 340 ⇓P P 06 37 25.0 +0.1
baz=86
C27A Sayler Ranch, 85.36 341 ⇓P P 06 37 25.1 +0.1
baz=86
B29A Wagenman Farm, 85.51 343 ⇓P P 06 37 25.7 0.0
baz=86
A30A Hoffart Farm, 85.70 344 ⇑P P 06 37 26.4 -0.2
baz=86
B28A Dugan Ranch, T 85.74 342 ⇓P P 06 37 27.0 +0.2
baz=86
C25A Freed Ranch, W 85.83 340 ⇓P P 06 37 27.6 +0.2
baz=86
A29A Manning Farm, 85.90 343 ⇓P P 06 37 27.5 -0.1
baz=86
D23A Lindsay 85.91 339 ⇑P P 06 37 27.6 -0.2
baz=86
E21A Keefer Ranch, 85.92 337 ⇓P P 06 37 27.8 0.0
baz=86
F19A Roth Farm, Mol 85.93 336 ⇓P P 06 37 28.6 +0.6
baz=86
HLID Hailey 85.98 331 ⇑P P 06 37 28.9 +0.5
baz=86
HLID Hailey 85.98 331 eP P 06 37 29.0 +0.6
comp=Z,3.9nm,1.1s
C24A Savage 86.00 339 ⇑P P 06 37 28.6 +0.4
baz=86
D22A Cohagen 86.19 338 ⇓P P 06 37 28.6 -0.5
baz=86
E20A Meyer Farm, Mu 86.23 337 ⇓P P 06 37 29.2 -0.2
baz=87
D21A La Casta Ranch 86.36 338 ⇓P P 06 37 29.4 -0.7
baz=87
ULM Lac du Bonnet 86.41 346 P P 06 37 29.4 -0.7
comp=Z,3.3nm,0.9s,baz=143,slow=4.7,SNR=4.2
E19A Rath Farm, Rou 86.41 336 ⇑P P 06 37 29.5 -0.8
baz=87
MFID Camas Ranch 86.43 330 eP P 06 37 30.9 +0.4
comp=Z,13nm,1.7s
C23A Lambert 86.47 339 ⇓P P 06 37 30.6 +0.1
baz=87
C22A Vida 86.63 339 ⇓P P 06 37 31.0 -0.3
baz=87
D20A Manuel Ranch, 86.75 337 ⇓P P 06 37 31.2 -0.7
baz=87
DGMT Dagmar 86.79 340 ⇑P P 06 37 31.9 -0.1
baz=87,SNR=5.9
DGMT Dagmar 86.79 340 eP P 06 37 32.2 +0.1
comp=Z,17nm,0.8s
DLMT Dillon 86.80 333 eP P 06 37 33.3 +1.0
comp=Z,8.2nm,1.4s
A25A Svangstu Ranch 86.91 341 ⇓P P 06 37 32.7 +0.1
baz=87
B23A Brockton 87.01 340 ⇓P P 06 37 33.1 0.0
baz=87
D19A Cripps Ranch, 87.06 337 ⇑P P 06 37 33.2 -0.2
baz=87
C21A Desert Coulee 87.07 338 ⇑P P 06 37 32.9 -0.5
baz=87
MOD Modoc Plateau 87.13 327 eP P 06 37 34.7 +0.6
comp=Z,5.4nm,0.8s
A24A Westby 87.14 340 ⇓P P 06 37 33.5 -0.3
baz=88
B22A Reddig Ranch S 87.16 339 ⇓P P 06 37 33.8 0.0
baz=88
N02D Trinity Center 87.52 325 ⇓P P 06 37 35.5 -0.3
baz=88
B21A Ellsworth Farm 87.58 338 ⇓P P 06 37 35.5 -0.4
baz=88
C19A Slack Wire Ran 87.61 337 ⇓P P 06 37 35.8 -0.3
baz=88
M04C Macdoel 87.74 326 ⇑P P 06 37 37.1 +0.1
baz=88
A22A Carney Farms, 87.75 339 ⇑P P 06 37 36.5 -0.2
baz=88
B20A Solberg Farm, 87.90 338 ⇑P P 06 37 37.7 +0.3
baz=88
M02C Callahan 87.92 325 ⇑P P 06 37 37.9 +0.2
baz=88
K05A Summer Lake 88.05 327 eP P 06 37 39.1 +0.7
comp=Z,52nm,1.9s
A21A Bergtoll Ranch 88.05 339 ⇑P P 06 37 38.2 +0.1
baz=88
A20A Cobblestone Ra 88.26 338 ⇓P P 06 37 38.9 -0.2
baz=89
K04D Chiloquin, OR 88.36 326 ⇓P P 06 37 39.6 -0.2
baz=89
MSO Missoula 88.54 333 ⇑P P 06 37 39.7 -0.9
baz=89
A19A Klindworth Far 88.56 338 ⇑P P 06 37 40.3 -0.2
baz=89
J05D Fort Rock, OR 88.65 327 ⇑P P 06 37 42.0 +0.7
baz=89
SLMT Seeley Lake 88.73 334 eP P 06 37 41.4 -0.1
I05D Terrebonne, OR 89.52 328 ⇑P P 06 37 45.8 +0.6
baz=90
ASAR Alice Springs 116.92 208 PKP PKPdf 06 43 31.8 -1.5
comp=Z,0.3nm,0.4s,baz=142,slow=1.7,SNR=3.7
WRA Warramunga Arr 120.08 210 PKP PKPdf 06 43 38.2 -1.1
comp=Z,0.9nm,0.6s,baz=160,slow=1.5,SNR=8.3
BRTR Keskin Array B 122.85 61 PKP PKPdf 06 43 44.0 -0.1
comp=Z,0.8nm,0.6s,baz=205,slow=4.7,SNR=6.0
KIEV Kiev 123.09 48 i PKIKP PKPdf 06 43 41.6 -2.4
AKASG Malin Array Be 123.10 48 PKP PKPdf 06 43 43.1 -0.9
comp=Z,0.2nm,0.3s,baz=260,slow=3.0,SNR=8.7
OBN Obninsk 128.30 44 ⇑ iPKIKP PKPdf 06 43 54.3 +0.5
OBN pmax pmax
comp=Z,7.0nm,1.2s
MOS Moscow 128.96 43 ePKIKP PKPdf 06 44 07.4 +12
KLMR Klimovskoe 130.18 36 ePKIKP PKPdf 06 43 56.7 -0.5
KLMR pmax pmax
comp=Z,22nm,1.6s
KIV Kislovodsk 130.49 59 ePKIKP PKPdf 06 43 57.5 -1.0
KIV pmax pmax
comp=Z,3.0nm,0.5s
ICHK Chekchek 136.62 77 eP Pdif 06 41 19.7 +3.3
SEY Seymchan 139.66 330 PKP PKPdf 06 44 15.0 +0.1
comp=Z,2.1nm,0.7s,baz=72,slow=6.1,SNR=6.5
ABKAR Akbulak array 142.63 52 ePKPdf PKPdf 06 44 16.4 -4.3
PSI Prapat 147.95 165 PKPbc PKPbc 06 44 33.2 -0.9
comp=Z,15nm,0.7s,baz=186,slow=2.9,SNR=14
BRVK Borovoye 148.06 43 ⇓ iPKP2 PKPbc 06 44 34.0 +0.9
BRVK Borovoye 148.06 43 ePKPdf PKPdf 06 44 29.8 0.0
BRVK ePKPbc PKPbc 06 44 34.0 +0.9
BVAR Borovoye Array 148.13 43 PKPbc PKPdf 06 44 30.9 +0.9
comp=Z,6.1nm,0.5s,baz=285,slow=2.9,SNR=19
HYB Hyderabad 149.81 116 i PKP PKPbc 06 44 37.0 -1.6
KKAR Karatay Array 150.56 62 ePKIKP PKPbc 06 44 39.9 +0.2
KKAR Karatay Array 150.56 62 ePKPdf PKPbc 06 44 39.9 +0.2
EKS2 Erkin-Say 153.00 62 ePKIKP PKPbc 06 44 46.4 +1.0
EKS2 Erkin-Say 153.00 62 ePKPbc PKPbc 06 44 46.4 +1.0
AAK Ala-Archa 153.53 62 ePKIKP PKPdf 06 44 39.9 +1.0
AAK e 06 44 47.3
AAK e 06 44 47.8
AAK Ala-Archa 153.53 62 PKPbc PKPbc 06 44 47.2 +0.6
comp=Z,3.4nm,0.8s,baz=162,slow=2.4,SNR=12
AAK Ala-Archa 153.53 62 ePKPdf PKPdf 06 44 39.9 +1.0
AAK ePKPbc PKPbc 06 44 47.3 +0.6
AAK ePKPbc PKPbc 06 44 47.8 +1.2
AAK ePKPab PKPab 06 44 59.9 +0.7
AAK ePKPab PKPab 06 45 00.4 +1.2
NVS Novosibirsk 153.65 31 ⇑ iPKIKP PKPdf 06 44 35.9 -2.5
KURK Kurchatov 153.73 43 ePKIKP PKPdf 06 44 38.6 0.0
KURK e 06 44 46.9
KURK Kurchatov 153.73 43 ePKPdf PKPdf 06 44 38.6 0.0
KURK ePKPbc PKiKP 06 44 46.9 +0.3
KURK ePKPab PKPab 06 45 00.4 +0.9
TKM2 Tokmak 2 154.29 61 ePKIKP PKPdf 06 44 39.9 -0.1
TKM2 e 06 44 48.3
TKM2 e 06 45 02.7
TKM2 Tokmak 2 154.29 61 ePKPdf PKPdf 06 44 39.9 -0.1
TKM2 ePKPbc PKiKP 06 44 48.3 0.0
TKM2 ePKPab PKPab 06 45 02.7 +0.2
KSH Kashi 154.93 69 PKPbc PKPdf 06 44 41.3 +0.4
KSH sPKP 06 44 55.5
KSH PKS PKSdf 06 48 15.7 +0.6
KSH PP PP 06 48 41.4 -0.3
KSH SKS SKSdf 06 51 44.6 +0.2
KSH SKKS SKKSac 06 55 26.0 -2.0
KSH SS SS 07 08 18.9 -3.3

KSH PPMZ
comp=Z,160nm,7.0s
KSH LN
comp=Z,35nm,4.3s
KSH LE
comp=Z,35nm,4.0s
KSH LZ
comp=Z,170nm,5.8s
ZALV Zalesovo Beam 154.94 31 PKPab **PKPab 06 45 05.5 +1.0**
comp=Z,3.1nm,0.6s,baz=311,slow=4.7,SNR=3.9
BOD Bodaibo 155.85 350 *e*PKIKP PKPdf 06 44 48.7 +7.4
BOD *e* 06 45 02.7
BOD pmax pmax
comp=Z,4.0nm,1.0s
MKAR Makanchi Array 157.68 48 PKP **PKPdf 06 44 44.0 -0.1**
comp=Z,0.4nm,0.7s,baz=175,slow=0.1,SNR=4.1
MKAR PKPab **PKPab 06 45 17.0 +0.3**
comp=Z,3.3nm,0.7s,baz=297,slow=3.9,SNR=22
CMAR Chiang Mai Arr 162.88 154 PKP **PKPdf 06 44 50.3 -0.4**
comp=Z,1.0nm,0.3s,baz=250,slow=2.4,SNR=5.1
NJ2 Nanjing 169.57 262 *e*PKP **PKPdf 06 44 58.1 +2.5**
KMI Kunming 170.34 158 PKP **PKPdf 06 44 57.0 +0.5**
HHC Hu-ho-hao-te 172.30 331 *e*PKP **PKPdf 06 44 57.1 +0.2**
HHC PP **PP 06 50 15.0 +3.0**
HHC SKS **SKSdf 06 51 55.2 -1.8**
HHC SS **SS 07 11 19.0 -0.2**
HHC PPMZ
comp=Z,120nm,5.5s
HHC LN
comp=Z,170nm,20.6s
HHC LE
comp=Z,340nm,21.0s
HHC LZ
comp=Z,88nm,21.8s
CD2 Chengdu 175.91 142 *e*PKP **PKPdf 06 44 58.7 +0.4**
LZH Lanzhou 177.00 50 *e*PKP **PKPdf 06 44 58.4 -0.2**
LZH pPKP **pPKPdf 06 45 08.2 -3.0**
LZH sPKP 06 45 12.5

IDC ***01*** *06:24:52.8±0.5, 32°.29N×105°.19E, h0km, mb4.4/23, mb1 4.5/27, mb1mx4.4/41, mbtmp4.4/27, ML3.5/3, MS3.5/7, Ms1 3.5/7, ms1mx3.2/40, Error ellipse: s-maj=14.6km s-min=11.6km az=50.0*
ISCJB ***01*** *06:24:53.7±0.2, 32°.31N±0°.02×105°.14E±0°.03, h15km, mb4.7/47, MS4.3/12, Error ellipse: s-maj=3.6km s-min=2.8km az=37.4*
BJI ***01*** *06:24:54.3, 32°.33N×105°.04E, h14km, mB4.7/23, mb4.6/28, ML4.6/27, Ms4.2/39, Ms7 4.1/30*
MOS ***01*** *06:24:55.9±0.7, 32°.28N×105°.21E, h33km, mb4.8/29, Error ellipse: s-maj=9.7km s-min=6.3km az=100.3*
NEIC ***01*** *06:24:58.5±0.6, 32°.30N×105°.17E, h38km±6km, mb5.0/18, MS5.0/6, Error ellipse: s-maj=4.7km s-min=4.4km az=216.0*
NEIC Felt at Chengdu.
ISC 01 06:24:55.4±0.3, 32°.26N±0°.03×105°.16E±0°.03, h15km, n175, σ1§27/189, mb4.7/47, MS4.3/12, 5C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.80**	**222**	Pn	**Pn**	**06 25 26.6**	**+0.7**
CD2				Pg	**Pb**	**06 25 29.2**	**+1.1**
CD2				Sn	**Sn**	**06 25 49.4**	**+0.9**
CD2				Sg	**Sg**	**06 25 53.1**	**-0.2**
CD2				SMN			
	12μm,0.7s						
CD2				SME			
	6μm,0.7s						
XAN	**Xi'an**	**3.62**	**60**	Pn	**Pn**	**06 25 51.8**	**+0.8**
XAN				Pg	**Pb**	**06 26 00.3**	**+1.2**
XAN				Sn	**Sn**	**06 26 30.8**	**-2.7**
XAN				Sg	**Sb**	**06 26 45.9**	**+3.0**
XAN				SMN			
	3μm,0.7s						
XAN				SME			
	1μm,0.7s						
XAN				LN			
	2μm,6.8s						
XAN				LE			
	750nm,7.2s						
LZH	**Lanzhou**	**3.97**	**344**	Pn	**Pn**	**06 25 57.5**	**+1.6**
LZH				Pg	**Pb**	**06 26 07.2**	**+2.0**
LZH				Sn	**Sn**	**06 26 43.2**	**+0.9**
LZH				Sg	**Sb**	**06 26 57.2**	**+4.1**
LZH				SMN			
	2μm,0.6s						
LZH				SME			
	4μm,0.6s						
LZH				LN			
	3μm,5.6s						
LZH				LE			
	7μm,5.3s						
LZH				LZ			
	4μm,6.8s						
ENH	**Enshi**	**4.20**	**117**	*e*Pn	**Pn**	**06 26 00.5**	**+1.5**
GYA	**Guiyang**	**5.92**	**167**	⇑*i*Pn	**Pn**	**06 26 23.5**	**+0.8**
GYA				Sn	**Sn**	**06 27 29.9**	**-0.5**
GYA				Sg	**Sg**	**06 28 00.9**	**-4.7**
GYA				SMN			
	430nm,0.7s						
GYA				SME			
	480nm,0.9s						
GYA				LN			
	730nm,4.1s						
GYA				LE			
	960nm,5.3s						
GYA				LZ			
	1μm,4.4s						
KMI	**Kunming**	**7.42**	**197**	Pn	**Pn**	**06 26 43.8**	**+0.5**
KMI				Sn	**Sn**	**06 28 06.3**	**-1.1**
KMI				SMN			
	52nm,1.6s						
KMI				SME			
	66nm,1.5s						
KMI				LN			
	590nm,8.7s						
KMI				LE			
	980nm,6.9s						
WHN	**Wuhan**	**8.04**	**100**	P	**Pn**	**06 26 52.0**	**+0.4**
WHN				S	**Sn**	**06 28 18.7**	**-3.5**
WHN				LN			
	5μm,4.4s						
WHN				LE			
	2μm,6.0s						
WHN				LZ			
	3μm,6.6s						
GTA	**Gaotai**	**8.35**	**330**	*e*P	**Pn**	**06 26 55.5**	**-0.5**
GTA				pP	pP	06 26 59.7	
GTA				sP		06 27 02.8	
GTA				S	**Sn**	**06 28 28.5**	**-1.6**
GTA				PMZ			
	5.0nm,1.0s						
GTA				PMZ			
	91nm,5.2s						
GTA				LN			
	1μm,7.4s						
GTA				LE			
	770nm,10.1s						
GTA				LZ			
	790nm,10.7s						
BTO	**Baotou**	**9.20**	**24**	*e*P	**Pn**	**06 27 06.6**	**-1.1**
HHC	**Hu-ho-hao-te**	**10.00**	**29**	*e*P	**Pn**	**06 27 20.1**	**+1.5**
HHC				S	**Sn**	**06 29 11.2**	**+0.7**
HHC				sS		06 29 22.2	
HHC				PMZ			
	45nm,1.5s						
HHC				PMZ			
	140nm,5.7s						
HHC				LN			
	1μm,8.2s						
HHC				LE			
	1μm,7.9s						
HHC				LZ			
	860nm,7.5s						
NJ2	**Nanjing**	**11.61**	**87**	*e*P	**Pn**	**06 27 43.2**	**+2.7**
NJ2				S	**Sn**	**06 29 53.2**	**+3.3**
NJ2				PMZ			
	40nm,1.1s						
GZH	**Guangzhou**	**11.66**	**140**	P	Pn	06 27 37.4	-3.8
GZH				S	Sn	06 29 37.9	-13
BJI	**Beijing**	**11.81**	**46**	P	Pn	06 27 49.7	+6.5
BJI				PMZ			
	10.0nm,0.6s						
BJI				LN			
	400nm,10.1s						
BJI				LE			
	410nm,8.4s						
LSA	**Lhasa**	**12.29**	**262**	*e*P	**Pn**	**06 27 52.8**	**+2.5**
LSA				*e*		06 30 14.4	
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LSA	**Lhasa**	**12.29**	**262**	*e*Pn	**Pn**	**06 27 52.8**	**+2.5**
	comp=Z,6.9nm,0.7s						
LSA				*e*Sn	Sn	06 30 14.4	+7.1
CRAI	**Chiangrai**	**12.72**	**201**	P	**P**	**06 28 05.4**	**-1.6**
	comp=Z,9.2nm,0.7s,comp=Z,3μm						
CMAI	**Chiengmai2**	**13.44**	**206**	P	P	06 28 12.2	-3.0
QIZ	**Qiongzhong**	**13.83**	**161**	P	**Pn**	**06 28 13.9**	**+3.0**
QIZ				S	**Sn**	**06 30 49.0**	**+4.7**
QIZ				LN			
	comp=Z,670nm,6.8s						
QIZ				LZ			
	comp=Z,790nm,9.1s						
CHTO	**Chiang Mai**	**14.51**	**204**	*e*P	**Pn**	**06 28 22.4**	**+2.1**
CHTO				*e*		06 31 03.1	
CHTO	**Chiang Mai**	**14.51**	**204**	P	P	06 28 33.6	+6.7
	comp=Z,34nm,1.2s						
CHTO	**Chiang Mai**	**14.51**	**204**	*e*Pn	**Pn**	**06 28 22.4**	**+2.1**
CHTO				*e*Sn	**Sn**	**06 31 03.1**	**+2.2**
CMMT	**Chiang Mai**	**14.51**	**204**	P	P	06 28 33.5	+6.6
	comp=Z,14nm,1.1s						
LAMP	**Lampang**	**14.55**	**201**	P	**P**	**06 28 29.0**	**+1.6**
	comp=Z,4.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.84**	**204**	Pn	**Pn**	**06 28 25.6**	**+0.8**
	baz=16,slow=11,SNR=10.0						
CMAR				LR	LR	06 34 51.1	
	comp=Z,224nm,20.7s,baz=54,slow=40						
UTTA	**Uttaradit**	**15.04**	**197**	P	**P**	**06 28 34.1**	**+1.4**
	comp=Z,4.0nm,0.8s						
LOEI	**Loei**	**15.10**	**194**	P	**P**	**06 28 33.5**	**0.0**
	comp=Z,8.3nm,1.0s						
MHMT	**Maesarieng**	**15.46**	**207**	P	P	06 28 43.3	+5.8
	comp=Z,9.6nm,0.8s						
SONM	**Songino Array**	**15.59**	**3**	Pn	**Pn**	**06 28 33.5**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=184,slow=14,SNR=14						
SONM				Lg	Lg	06 33 06.7	
	comp=Z,0.2nm,0.3s,baz=188,slow=29,SNR=3.7						
ULN	**Ulaanbaatar**	**15.66**	**5**	*c i*P	**Pn**	**06 28 35.5**	**0.0**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ULN	**Ulaanbaatar**	**15.66**	**5**	*e*Pn	**Pn**	**06 28 35.0**	**-0.6**
	comp=Z,7.4nm,0.9s						
ULN				*e*S	**S**	**06 31 39.5**	**-4.4**
TAPN	**Taplejung**	**15.91**	**257**	*e*P	**Pn**	**06 28 39.0**	**-0.1**
	comp=Z,71nm,1.0s						
PBKT	**Sadao Pong**	**16.07**	**195**	P	**P**	**06 28 45.5**	**+1.3**
	comp=Z,11nm,0.7s						
SSLB	**Suanglung**	**16.29**	**117**	*e*Pn	**Pn**	**06 28 44.4**	**+0.8**
	comp=Z,18nm,0.8s						
SSLB				*e*S	**S**	**06 31 55.0**	**-1.8**
ODAN	**Odare**	**16.37**	**255**	*e*P	**Pn**	**06 28 44.6**	**-0.3**
CHAI	**Chaiyaphum**	**16.54**	**191**	P	**P**	**06 28 49.7**	**+0.3**
RAMN	**Ramite**	**16.98**	**257**	*e*P	**Pn**	**06 28 51.8**	**-0.9**
	comp=Z,21nm,0.6s						
JIRN	**Jiri**	**17.06**	**259**	*e*P	**Pn**	**06 28 53.1**	**-0.7**
	comp=Z,30nm,0.7s						
GUN	**Gumba**	**17.24**	**260**	*e*P	**Pn**	**06 28 54.7**	**-1.3**
	comp=Z,77nm,0.9s						
PKI	**Pulchoki**	**17.74**	**260**	*e*P	**Pn**	**06 29 01.8**	**-0.5**
	comp=Z,44nm,0.7s						
DMN	**Daman**	**17.98**	**260**	*e*P	**Pn**	**06 29 03.4**	**-1.8**
GKN	**Gorkha**	**18.25**	**262**	*e*P	**Pn**	**06 29 07.6**	**-0.7**
	comp=Z,57nm,0.7s						
DANN	**Dangsing**	**18.88**	**264**	*e*P	**P**	**06 29 14.1**	**-1.4**
	comp=Z,50nm,0.8s						
KOLN	**Koldanda**	**19.19**	**262**	*e*P	**P**	**06 29 17.3**	**-1.6**
	comp=Z,52nm,0.8s						
KSAR	**Wonju Array Be**	**19.34**	**68**	P	**P**	**06 29 20.1**	**-0.1**
KSAR	**Wonju Array Be**	**19.34**	**68**	P	**P**	**06 29 20.1**	**-0.1**
KSRS	**Korea Array**	**19.37**	**68**	P	**P**	**06 29 20.1**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=254,slow=11,SNR=14						
KSRS				LR	LR	06 36 22.9	
	comp=Z,38nm,21.4s,baz=227,slow=36						
TLY	**Talaya**	**19.44**	**357**	*e*P	**Pn**	**06 29 23.8**	**+1.4**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.2s						
TLY				MLR	MLR		
	comp=Z,108nm,11.0s						
TLY	**Talaya**	**19.44**	**357**	P	**P**	**06 29 20.5**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=180,slow=7.1,SNR=3.6						
TLY				Lg	Lg	06 35 11.0	
	comp=Z,0.0nm,0.3s,baz=246,slow=18,SNR=3.3						
TLY				LR	LR	06 37 29.8	
	comp=Z,82nm,18.9s,baz=172,slow=39						
TLY	**Talaya**	**19.44**	**357**	*e*P	**P**	**06 29 20.3**	**-0.9**
	comp=Z,5.5nm,1.1s						
TLY				Lg	Lg	06 35 11.0	
PYUN	**Piuthan**	**19.60**	**264**	*e*P	**P**	**06 29 23.0**	**-0.4**
	comp=Z,111nm,0.8s						
CN2	**Changchun**	**19.65**	**48**	*e*P	**Pn**	**06 29 25.0**	**+0.1**
CN2				PMZ			
	comp=Z,20nm,1.0s						
HVS	**Khovu-Aksy**	**20.67**	**339**	*c i*P	**P**	**06 29 35.6**	**+1.0**
HVS				pmax	pmax		
	comp=Z,170nm,1.0s						
MDJ	**Mudanjiang**	**22.67**	**50**	P	**P**	**06 29 56.7**	**+0.6**
MDJ				pP	**pP**	**06 30 04.2**	**+3.8**
MDJ				sP	sP	06 30 09.0	+6.6
MDJ				S	**S**	**06 34 02.7**	**-1.1**
MDJ				ScP	**ScP**	**06 37 24.4**	**-1.1**
MDJ				PMZ			
	comp=Z,8.0nm,1.3s						
MDJ				PMZ			
	comp=Z,89nm,3.9s						
MDJ	**Mudanjiang**	**22.67**	**50**	*e*P	**P**	**06 29 58.4**	**+2.3**
	comp=Z,19nm,0.9s						
MDJ				*e*S	Sn	06 34 18.6	+0.6
MKAR	**Makanchi Array**	**22.73**	**316**	*e*P	**P**	**06 29 57.1**	**+0.3**
MKAR	**Makanchi Array**	**22.73**	**316**	P	**P**	**06 29 56.6**	**-0.2**
	comp=Z,17nm,0.7s,baz=115,slow=11,SNR=38						
MKAR				LR	LR	06 39 43.0	
	comp=Z,111nm,19.2s,baz=120,slow=39						
MKAR	**Makanchi Array**	**22.73**	**316**	*e*P	**P**	**06 29 57.0**	**+0.3**
VLA	**Vladivostok**	**23.67**	**55**	*e*P	**P**	**06 30 06.3**	**+0.1**
VLA				pmax	pmax		
	comp=Z,21nm,0.6s						
USRK	**Ussuriysk Ar.**	**24.10**	**53**	P	**P**	**06 30 10.0**	**-0.3**
	comp=Z,5.6nm,0.9s,baz=251,slow=9.0,SNR=9.0						
KSH	**Kashi**	**24.66**	**295**	*e*P	**P**	**06 30 18.7**	**+3.0**
KSH				sP	sP	06 30 31.4	+9.3
KSH				PP	PnPn	06 30 55.5	+8.2
KSH				S	**S**	**06 34 35.1**	**-1.7**
KSH				sS	sS	06 34 50.2	+5.9
KSH				SS	SnSn	06 35 33.2	+11
KSH				PMZ			
	comp=Z,21nm,1.1s						
KSH				PMZ			
	comp=Z,200nm,4.7s						
KSH				LN			
	comp=Z,130nm,5.4s						
KSH				LE			
	comp=Z,72nm,4.9s						
KSH				LZ			
	comp=Z,140nm,7.5s						
ZALV	**Zalesovo Beam**	**26.10**	**332**	P	**P**	**06 30 28.5**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ZALV	**Zalesovo Beam**	**26.10**	**332**	P	**P**	**06 30 28.5**	**+0.1**
	comp=Z,7.6nm,0.6s,baz=133,slow=10.0,SNR=15						
KURK	**Kurchatov**	**26.89**	**321**	P	**P**	**06 30 35.6**	**0.0**
	comp=Z,60nm,0.7s,SNR=5.7						
KURK	**Kurchatov**	**26.89**	**321**	*e*P	**P**	**06 30 35.5**	**0.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KURK	**Kurchatov**	**26.89**	**321**	*e*P	**P**	**06 30 35.5**	**0.0**
	comp=Z,6.3nm,0.7s						
MJAR	**Matsushiro Arr**	**27.52**	**72**	P	**P**	**06 30 40.6**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MJAR	**Matsushiro Arr**	**27.52**	**72**	P	**P**	**06 30 40.6**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=268,slow=9.9,SNR=4.7						
PSI	**Prapat**	**29.88**	**193**	P	**P**	**06 31 02.9**	**+0.3**
PSI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,133nm,18.4s						
PSI	**Prapat**	**29.88**	**193**	P	**P**	**06 31 02.9**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=31,slow=5.9,SNR=4.3						
PSI				LR	LR	06 44 51.7	
	comp=Z,133nm,18.4s,baz=199,slow=40						
YSS	**Yuzh-Sakhalins**	**32.13**	**52**	*e*P	**P**	**06 31 21.4**	**-0.7**
BVAR	**Borovoye Array**	**32.47**	**320**	P	**P**	**06 31 24.8**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BVAR	**Borovoye Array**	**32.47**	**320**	P	**P**	**06 31 24.8**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=127,slow=9.6,SNR=14						
BRVK	**Borovoye**	**32.54**	**320**	*e*P	**P**	**06 31 25.2**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,17nm,1.7s						
BRVK	**Borovoye**	**32.54**	**320**	*e*P	**P**	**06 31 26.0**	**+0.4**
	comp=Z,8.3nm,0.9s						
GEYT	**Alibeck**	**38.58**	**292**	P	**P**	**06 32 19.3**	**+1.5**
	comp=Z,2.8nm,0.3s,baz=82,slow=10,SNR=3.6						
AKTO	**Aktyubinsk**	**39.02**	**312**	P	**P**	**06 32 21.6**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKTO	**Aktyubinsk**	**39.02**	**312**	P	**P**	**06 32 21.6**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=108,slow=11,SNR=2.6						
ARU	**Arti**	**40.09**	**321**	*d i*P	**P**	**06 32 30.3**	**+0.3**
ARU						06 34 00.2	
ARU				S	**S**	**06 38 35.1**	**-0.4**
ARU				pmax	pmax		
	comp=Z,31nm,1.0s						
ARU	**Arti**	**40.09**	**321**	*e*P	**P**	**06 32 30.3**	**+0.3**
	comp=Z,29nm,1.0s						
TIXI	**Tiksi**	**41.45**	**11**	⇑*i*P	**P**	**06 32 39.8**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.4s						
PETK	**Petropavlovsk-**	**42.74**	**45**	P	**P**	**06 32 51.4**	**-0.4**
PETK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PETK				MLR	MLR		
	comp=Z,75nm,18.8s						
PETK	**Petropavlovsk-**	**42.74**	**45**	P	**P**	**06 32 51.4**	**-0.4**
	comp=Z,9.3nm,0.8s,baz=250,slow=5.8,SNR=16						
PETK				LR	LR	06 52 57.5	
	comp=Z,75nm,18.8s,baz=148,slow=40						
UOSS	**Wadi Hilu**	**43.30**	**273**	P	P	06 33 00.8	+4.1
	comp=Z,3μm,0.7s,SNR=35						
GNI	**Garni**	**48.57**	**297**	*e*P	**P**	**06 33 39.0**	**+0.7**
GNI				pmax	pmax		
	comp=Z,8.0nm,1.7s						
KBZ	**Khabaz**	**49.33**	**302**	P	**P**	**06 33 44.1**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KBZ				MLR	MLR		
	comp=Z,76nm,19.6s						
KBZ	**Khabaz**	**49.33**	**302**	P	**P**	**06 33 44.1**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=157,slow=8.4,SNR=6.9						
KBZ				LR	LR	06 58 33.1	
	comp=Z,76nm,19.6s,baz=244,slow=41						
BILL	**Bilibino**	**49.75**	**26**	*c i*P	**P**	**06 33 46.3**	**-0.5**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,124nm,18.0s						
BILL	**Bilibino**	**49.75**	**26**	*e*P	**P**	**06 33 46.6**	**-0.2**
	comp=Z,18nm,1.4s						
VSR	**Storozhevoye**	**50.97**	**312**	*e*P	**P**	**06 33 56.8**	**+0.6**
VSR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,8.0nm,0.6s						
VSR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
FX1	**Attu Island--F**	**52.06**	**45**	P	**P**	**06 34 04.5**	**+0.1**
FX1				pmax	pmax		
	comp=Z,23nm,0.8s						
FX1	**Attu Island--F**	**52.06**	**45**	P	**P**	**06 34 04.5**	**+0.1**
	comp=Z,23nm,0.8s,baz=307,slow=5.1,SNR=7.8						
OBN	**Obninsk**	**52.23**	**317**	*e*P	**P**	**06 34 05.4**	**-0.2**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,67nm,15.0s						
ARCES	**ARCESS Array B**	**56.58**	**336**	P	**P**	**06 34 36.4**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARCES	**ARCESS Array B**	**56.58**	**336**	P	**P**	**06 34 36.4**	**-0.6**
	comp=Z,6.5nm,0.9s,baz=84,slow=8.4,SNR=9.0						
BRTR	**Keskin Array B**	**56.96**	**299**	P	**P**	**06 34 39.8**	**-0.6**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**56.96**	**299**	P	**P**	**06 34 39.8**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=94,slow=8.6,SNR=8.6						
FINES	**FINESS Array B**	**57.12**	**326**	P	**P**	**06 34 40.3**	**-0.6**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FINES	**FINESS Array B**	**57.12**	**326**	P	**P**	**06 34 40.3**	**-0.6**
	comp=Z,5.4nm,0.7s,baz=94,slow=7.2,SNR=10						
VSU	**Vasula**	**57.23**	**322**	*e*P	**P**	**06 34 40.7**	**-1.1**
VSU				pmax	pmax		
	comp=Z,30nm,1.0s						
AKASG	**Malin Array Be**	**57.26**	**313**	P	**P**	**06 34 41.2**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**57.26**	**313**	P	**P**	**06 34 41.2**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=66,slow=7.8,SNR=13						
KIEV	**Kiev**	**57.27**	**313**	*e*P	**P**	**06 34 42.9**	**+0.7**
KIEV	**Kiev**	**57.27**	**313**	*e*P	**P**	**06 34 42.0**	**-0.2**
	comp=Z,4.9nm,1.1s						
GAMB	**Gambell**	**58.61**	**31**	*e*P	**P**	**06 34 51.1**	**-0.2**
	comp=Z,72nm,2.5s						
WRAB	**Tennant Creek**	**58.94**	**148**	*e*P	**P**	**06 34 54.3**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,54nm,1.0s						
WRAB	**Tennant Creek**	**58.94**	**148**	*e*P	**P**	**06 34 54.3**	**+0.1**
	comp=Z,44nm,1.3s						
WRA	**Warramunga Arr**	**58.95**	**148**	P	**P**	**06 34 54.3**	**0.0**
WRA				pmax	pmax		
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**58.95**	**148**	P	**P**	**06 34 54.3**	**0.0**
	comp=Z,7.6nm,0.6s,baz=340,slow=7.6,SNR=66						
TNA	**Tin City**	**59.87**	**29**	*e*P	**P**	**06 34 59.7**	**-0.4**
	comp=Z,45nm,2.5s						
ASAR	**Alice Springs**	**62.02**	**150**	P	**P**	**06 35 15.6**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ASAR	**Alice Springs**	**62.02**	**150**	P	**P**	**06 35 15.6**	**+0.4**
	comp=Z,5.7nm,0.8s,baz=335,slow=7.1,SNR=43						
NB2	**NORSAR Subarra**	**64.17**	**327**	P	**P**	**06 35 27.5**	**-1.6**
	comp=Z,5.0nm,0.9s,baz=72,slow=6.9						
NOA	**NORSAR Array B**	**64.17**	**327**	P	**P**	**06 35 27.6**	**-1.6**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NOA	**NORSAR Array B**	**64.17**	**327**	P	**P**	**06 35 27.6**	**-1.6**
	comp=Z,4.2nm,0.9s,baz=71,slow=6.6,SNR=7.2						
COLD	**Coldfoot**	**66.05**	**24**	*e*P	**P**	**06 35 41.3**	**+0.2**
	comp=Z,50nm,2.3s						
CHGN	**Chignik**	**67.16**	**37**	*e*P	**P**	**06 35 47.0**	**-1.4**
GERES	**GERESS Array B**	**67.39**	**314**	P	**P**	**06 35 49.5**	**-0.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**67.39**	**314**	P	**P**	**06 35 49.5**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=46,slow=7.1,SNR=3.6						
COLA	**College**	**68.00**	**26**	*e*P	**P**	**06 35 53.5**	**0.0**
COLA				pmax	pmax		
	comp=Z,11nm,0.8s						
COLA	**College**	**68.00**	**26**	*e*P	**P**	**06 35 53.5**	**0.0**
	comp=Z,11nm,0.8s						
ILAR	**Eielson Array**	**68.41**	**26**	P	**P**	**06 35 54.8**	**-1.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**68.41**	**26**	P	**P**	**06 35 54.8**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=289,slow=4.5,SNR=19						
KDAK	**Kodiak Island**	**69.38**	**34**	*i* P	**P**	**06 36 02.0**	**-0.3**
DAWY	**Dawson**	**71.52**	**25**	*e*P	**P**	**06 36 15.6**	**+0.2**
KMBO	**Kilima Mbogo**	**72.05**	**257**	P	**P**	**06 36 19.3**	**-0.2**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KMBO	**Kilima Mbogo**	**72.05**	**257**	P	**P**	**06 36 19.3**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=67,slow=4.2,SNR=3.2						
STKA	**Stephens Creek**	**72.50**	**148**	P	**P**	**06 36 21.3**	**-0.2**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
STKA	**Stephens Creek**	**72.50**	**148**	P	**P**	**06 36 21.2**	**-0.2**
	comp=Z,5.9nm,0.7s,baz=342,slow=6.0,SNR=6.2						
PGF	**Pioggiola**	**73.10**	**310**	*e*P	**P**	**06 36 24.7**	**-0.6**
PGF	**Piogg

LPG	La Plagne	73.12	313	eP	P	06 36 25.3	-0.2
	comp=Z,14nm,0.7s						
LPL	La Plagne	73.12	313	eP	P	06 36 25.2	-0.2
	comp=Z,9.9nm,0.5s						
LPL	La Plagne	73.12	313	eP	P	06 36 25.2	-0.2
LPL				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LPL	La Plagne	73.12	313	eP	P	06 36 25.2	-0.2
	comp=Z,9.9nm,0.5s						
MBDF	Montbardon	73.48	313	eP	P	06 36 27.2	-0.3
MBDF	Montbardon	73.48	313	eP	P	06 36 27.2	-0.3
MBDF	Montbardon	73.48	313	eP	P	06 36 27.2	-0.3
SBF	Sospel	73.48	312	eP	P	06 36 26.9	-0.5
SBF	Sospel	73.48	312	eP	P	06 36 26.9	-0.5
SBF	Sospel	73.48	312	eP	P	06 36 26.9	-0.5
ORIF	Oris-en-Rattie	73.94	313	eP	P	06 36 29.6	-0.5
	comp=Z,5.4nm,0.5s						
ORIF	Oris-en-Rattie	73.94	313	eP	P	06 36 29.6	-0.5
ORIF				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ORIF	Oris-en-Rattie	73.94	313	eP	P	06 36 29.6	-0.5
	comp=Z,5.4nm,0.5s						
SMF	Signal de Mont	74.31	315	eP	P	06 36 32.4	+0.2
SMF	Signal de Mont	74.31	315	eP	P	06 36 32.4	+0.2
SMF	Signal de Mont	74.31	315	eP	P	06 36 32.4	+0.2
YKA	Yellowknife Ar	80.33	18	P	P	06 37 05.3	-0.2
YKA						06 55 45.3	
YKA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
YKA	Yellowknife Ar	80.33	18	P	P	06 37 05.3	-0.2
	comp=Z,6.1nm,0.5s,baz=328,slow=5.1,SNR=265						
YKA				PKKPbc	PKKPbc	06 55 45.3	-2.9
	comp=Z,0.3nm,0.6s,baz=150,slow=2.0,SNR=8.7						
FCC	Fort Churchill	87.91	10	eP	P	06 37 43.7	-0.5
FCC	Fort Churchill	87.91	10	eP	P	06 37 43.6	-0.5
FFC	Flin Flon	90.27	15	eP	P	06 37 55.0	-0.4
	comp=Z,6.2nm,0.7s						
C09A	Chrisman Ranch	91.29	28	eP	P	06 37 59.4	-0.9
	comp=Z,12nm,1.3s						
E07A	Sunnyside	91.65	29	eP	P	06 38 03.2	+1.2
	comp=Z,6.0nm,0.9s						
MSO	Missoula	93.74	26	P	P	06 38 11.8	0.0
	baz=93						
TORD	Torodi Ar. Bea	94.14	288	P	P	06 38 09.5	-4.5
	comp=Z,1.1nm,0.6s,baz=47,slow=5.0,SNR=8.5						
EGMT	Eagleton	94.17	23	P	P	06 38 13.1	-0.5
	baz=94						
A21A	Bergtoll Ranch	94.20	21	P	P	06 38 13.5	-0.3
	baz=94						
C19A	Slack Wire Ran	94.65	22	P	P	06 38 15.8	-0.1
	baz=94						
D19A	Cripps Ranch,	95.21	23	P	P	06 38 18.3	-0.2
	baz=95						
B23A	Brockton	95.23	20	P	P	06 38 17.5	-1.0
	baz=95						
A26A	Wade Farm, Ken	95.64	18	P	P	06 38 19.4	-0.9
	baz=95						
C23A	Lambert	95.78	20	P	P	06 38 21.0	0.0
	baz=95						
A28A	Rude Farm, Bot	96.07	17	P	P	06 38 22.2	-0.1
	baz=96						
F19A	Roth Farm, Mol	96.34	23	P	P	06 38 22.9	-0.8
	baz=96						
B30A	Myrvik Farm, E	96.95	16	P	P	06 38 25.4	-0.8
	baz=97						
DBIC	Dimbokro	103.11	287	PFAKE		06 39 10.0	+16
DBIC				LR	LR		
	comp=Z,200nm,21.1s						
BRYW	Bryant College	106.13	357	PFAKE		06 43 30.0	
BRYW				LR	LR		
	comp=Z,2μm,19.9s						
KSU1	Kansas State U	106.18	17	PFAKE		06 43 30.0	
KSU1				LR	LR		
	comp=Z,300nm,18.0s						
ALLY	Alegheny Colle	106.30	4	PFAKE		06 43 30.0	
ALLY				LR	LR		
	comp=Z,700nm,21.2s						
YLE	Yale	106.77	359	PFAKE		06 43 30.0	
YLE				LR	LR		
	comp=Z,900nm,20.9s						
ANMO	Albuquerque	106.85	27	PFAKE		06 43 30.0	
ANMO				LR	LR		
	comp=Z,200nm,20.2s						
OTAV	Otavalo	147.50	7	ePKPdf	PKPdf	06 44 36.7	-0.9
OTAV				ePKPbc	PKPbc	06 44 39.1	-1.0
OTAV				ePKPab	PKPab	06 44 41.7	-0.4

*NNC **01** 06:27:32.0±2.4, 38°.42N×69°.57E, h0km±10km, mb4.3, mpv3.9, Error ellipse: s-maj=18.4km s-min=15.4km az=169.0*

ISC 01 06:27:32.2±3.2, 38°.3N±0°.2×69°.5E±0°.1, h12km, n14, σ1§56/17, 6C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.91	9	Pn	Pn	06 28 45.3	-0.6
	3.1nm,0.4s,baz=199,slow=16,SNR=160						
KK31				⇓Pg	Pb	06 28 58.5	+0.4
	24nm,0.8s,baz=196,slow=13,SNR=18						
KK31				⇑Sn	Sn	06 29 41.0	-1.5
	8.0nm,0.4s						
KK31				⇓Lg	Lg	06 30 03.4	
	36nm,0.7s,baz=193,slow=27,SNR=6.3						
AML	Almayashu	5.04	38	P	Pn	06 28 46.0	-2.0
	SNR=29						
EKS2	Erkin-Say	5.49	35	P	Pn	06 28 55.6	+1.7
	SNR=14						
UCH	Uchtor	5.53	42	P	Pn	06 28 58.5	+3.8
	SNR=7.5						
AAK	Ala-Archa	5.81	40	⇑Pn	Pn	06 28 57.4	-0.9
	6.2nm,0.3s						
AAK				⇑Pg	Pb	06 29 14.8	+1.3
	15nm,0.8s						
AAK				⇑Lg	Lg	06 30 30.9	
	38nm,0.8s						
AAK	Ala-Archa	5.81	40	P	Pn	06 29 00.5	+2.2
	SNR=25						
KZA	Kyzart	5.83	47	P	Pn	06 28 57.4	-1.5
	SNR=17						
KBK	Karagaybulak	6.05	42	P	Pn	06 29 01.6	-0.1
	SNR=7.5						
CHMS	Chumysh	6.20	38	P	Pn	06 29 05.5	+1.9
	SNR=7.6						
USP	Ospenovka	6.29	36	P	Pn	06 29 05.5	+0.7
	SNR=10						
TKM2	Tokmak 2	6.58	43	⇓Pn	Pn	06 29 06.5	-2.4
	6.6nm,0.4s						
TKM2				⇑Sn	Sn	06 30 24.1	0.0
	28nm,0.8s						
TKM2				⇓Lg	Lg	06 30 55.1	
	25nm,0.9s						
TKM2	Tokmak 2	6.58	43	P	Pn	06 29 06.9	-2.1
	SNR=22						
AB31	Akbulak array	12.97	331	⇓P	Pn	06 30 35.9	-0.4
	1.1nm,0.5s						
AKTO	Aktyubinsk	14.67	330	⇑P	Pn	06 31 00.1	+0.7
	3.9nm,0.6s						

*IDC **01** 06:33:17.1±1.1, 33°.41S×73°.34W, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/25, mbtmp4.0/7, MS2.1/1, Ms1 2.1/1, ms1mx2.1/25, Error ellipse: s-maj=37.7km s-min=24.2km az=96.0*

*GUC **01** 06:33:25.5±0.5, 34°.26S×71°.97W, h4km±42km, ML4.0*

ISC 01 06:33:23.7±2.3, 34°.0S±0°.1×72°.4W±0°.1, h15km±14km, n13, σ1§77/16, mb4.1/6, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	1.14	33	⇑iP	Pg	06 33 45.9	+0.2
IHA				iS	Sn	06 34 04.0	+3.5
RCDM	Rinconada Maip	1.41	70	eP	Pn	06 33 49.1	+0.3
RCDM				iS	Sn	06 34 06.5	-0.6
RCDM				AML	AML	06 34 11.8	
	comp=E,3μm,0.7s						
STL	Santa Lucia	1.56	70	⇑iP	Pn	06 33 51.0	+0.2
STL				iS	Sn	06 34 10.6	-0.1
FSR	Penalolen	1.63	72	eP	Pn	06 33 52.4	+0.5
FSR				iS	Sn	06 34 12.6	-0.1
PEL	Peldehue	1.65	60	eP	Pb	06 33 53.8	0.0
PEL				iS	Sb	06 34 15.7	+1.2
PEL				AML	AML	06 34 24.5	
	comp=E,7μm,0.5s						
CFAA	Coronel Fontan	4.23	57	LR	LR	06 35 44.8	
	comp=E,25nm,21.7s,baz=254,slow=32						
SIV	San Ignacio	20.62	32	P	P	06 37 58.4	-4.1
	comp=E,1.6nm,0.7s,baz=210,slow=10,SNR=2.7						
BDFB	Brasilia	28.57	56	P	P	06 39 18.3	-0.9
	comp=E,2.8nm,0.8s,baz=236,slow=7.3,SNR=3.8						
SNAA	Sanae	51.71	158	P	P	06 42 31.3	+1.5
	comp=E,1.5nm,0.9s,baz=294,slow=9.3,SNR=3.5						
QSPA	South Pole Qui	56.25	180	P	P	06 43 03.7	+0.6
	comp=E,3.0nm,0.9s,baz=138,slow=6.5,SNR=6.4						
TXAR	Lajitas Array	69.58	331	P	P	06 44 22.4	-10
	comp=E,0.5nm,0.7s,baz=153,slow=9.1,SNR=7.3						
BOSA	Boshof	80.34	118	P	P	06 45 35.5	+0.9
	comp=E,1.6nm,0.6s,baz=250,slow=5.6,SNR=5.4						
TORD	Torodi Ar. Bea	84.48	70	P	P	06 45 54.8	-1.4
	comp=E,2.0nm,0.7s,baz=225,slow=3.8,SNR=12						

*IDC **01** 06:36:52.1±1.2, 37°.13S×72°.44W, h0km, mb4.0/9, mb1 4.1/9, mb1mx4.0/18, mbtmp4.0/9, MS4.4/2, Ms1 4.4/2, ms1mx3.3/27, Error ellipse: s-maj=41.4km s-min=20.4km az=96.0*

*NEIC **01** 06:36:58.2±0.7, 36°.92S×72°.48W, h35km, mb4.2/7, Error ellipse: s-maj=22.7km s-min=10.9km az=84.0*

*ISCJB **01** 06:36:59.6±0.7, 37°.02S±0°.08×72°.5W±0°.2, h69km, mb3.9/13, Error ellipse: s-maj=24.1km s-min=11.1km az=171.3*

ISC 01 06:37:01.3±0.8, 37°.04S±0°.10×72°.4W±0°.2, h69km, n20, σ0§64/18, mb4.0/13, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.97	159	Pg	Pn	06 38 00.5	+0.7
	2.9nm,0.3s,baz=331,slow=11,SNR=7.7						
PLCA				Lg	Lg	06 38 59.8	
	7.7nm,0.3s,baz=65,slow=23,SNR=3.2						
LVC	Limon Verde	14.70	13	ePn	Pn	06 40 21.7	-4.0
LPAZ	La Paz	21.02	12	P	P	06 41 39.7	-0.3
	2.8nm,0.8s,baz=181,slow=7.1,SNR=6.6						
LPAZ	La Paz	21.02	12	eP	P	06 41 39.5	-0.5
	4.7nm,0.8s						
SIV	San Ignacio	23.26	29	P	P	06 42 01.8	-1.1
	2.3nm,0.5s,baz=220,slow=10,SNR=9.0						
BDFB	Brasilia	30.39	52	P	P	06 43 08.0	+0.9
	1.5nm,0.5s,baz=232,slow=6.0,SNR=4.6						
SNAA	Sanae	48.91	157	P	P	06 45 39.3	-0.6
	0.7nm,0.9s,baz=275,slow=11,SNR=4.7						
QSPA	South Pole Qui	53.20	180	P	P	06 46 11.4	-0.9
	0.8nm,0.5s,baz=330,slow=2.9,SNR=8.3						
QSPA				LR	LR	07 11 13.1	
	comp=Z,131nm,18.0s,baz=325,slow=39						
QSPA	South Pole Qui	53.20	180	eP	P	06 46 12.3	0.0
	0.7nm,0.4s						
TXAR	Lajitas Array	72.23	332	P	P	06 48 19.6	+0.5
	0.2nm,0.7s,baz=161,slow=8.4,SNR=3.4						
SWET	Sewanee	72.98	348	eP	P	06 48 23.0	-0.3
	2.4nm,0.5s						
WVT	Waverly	74.19	347	eP	P	06 48 30.5	+0.2
	3.1nm,1.0s						
DBIC	Dimbokro	76.47	71	P	P	06 48 44.0	+0.1
	2.7nm,0.5s,baz=208,slow=4.1,SNR=8.2						
DBIC	Dimbokro	76.47	71	eP	P	06 48 44.3	+0.3
	3.1nm,0.5s						
ACSO	Alum Creek Sta	77.50	352	eP	P	06 48 48.6	-0.5
	2.3nm,0.5s						
ANMO	Albuquerque	78.30	332	eP	P	06 48 54.9	+1.0
	0.9nm,1.0s						
BOSA	Boshof	78.95	117	P	P	06 48 57.6	-0.2
	2.0nm,0.8s,baz=214,slow=5.8,SNR=4.7						
TORD	Torodi Ar. Bea	85.55	70	P	P	06 49 31.8	-0.4
	0.9nm,0.8s,baz=252,slow=3.6,SNR=5.1						
YBH	Yreka Blue Hor	90.86	325	LR	LR	07 24 55.2	
	comp=Z,351nm,18.6s,baz=70,slow=32						
MKAR	Makanchi Array	158.90	55	PKPab	PKPab	06 57 27.4	0.0
	0.9nm,0.8s,baz=282,slow=3.6,SNR=7.5						

*IDC **01** 06:39:32.4±0.9, 35°.87S×73°.30W, h0km, mb4.1/10, mb1 4.2/12, mb1mx4.1/28, mbtmp4.1/12, ML4.1/2, MS4.2/7, Ms1 4.2/7, ms1mx3.9/23, Error ellipse: s-maj=29.1km s-min=17.4km az=92.0*

*ISCJB **01** 06:39:35.1±0.5, 35°.87S±0°.07×73°.1W±0°.1, h28km, mb4.1/14, MS4.1/6, Error ellipse: s-maj=14.2km s-min=9.5km az=165.9*

*NEIC **01** 06:39:38.1±0.4, 35°.80S×73°.17W, h35km, mb4.3/7, Error ellipse: s-maj=10.1km s-min=8.7km az=64.0*

ISC 01 06:39:36.7±0.6, 35°.86S±0°.09×73°.3W±0°.1, h28km, n35, σ0§67/26, mb4.2/14, MS4.2/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.30	157	Pn	Pn	06 40 52.4	-1.7
	2.4nm,0.3s,baz=330,slow=12,SNR=3.7						
CFAA	Coronel Fontan	5.95	46	Pn	Pn	06 41 02.2	-0.8
	1.8nm,0.3s,baz=223,slow=12,SNR=7.8						
TRQA	Tornquist	9.28	107	ePn	Pn	06 41 48.8	+0.2
	21nm,0.7s						
LVC	Limon Verde	13.73	17	ePn	Pn	06 42 48.1	-1.6
LVC				eSn	Sn	06 45 28.8	+7.3
USHA	Ushuaia	19.26	172	LR	LR	06 51 07.6	
	comp=Z,1μm,20.0s,baz=325,slow=36						
LPAZ	La Paz	20.02	14	P	Pn	06 44 09.3	-0.7
	5.2nm,0.8s,baz=180,slow=7.7,SNR=10						
LPAZ	La Paz	20.02	14	eP	Pn	06 44 09.5	-0.5
	13nm,1.0s						
SIV	San Ignacio	22.57	32	P	P	06 44 34.8	-0.1
	3.3nm,0.6s,baz=215,slow=12,SNR=8.2						
NNA	Nana	23.99	351	LR	LR	06 51 50.2	
	comp=Z,214nm,21.2s,baz=176,slow=31						
ATAH	Atahualpa	28.98	349	LR	LR	06 55 53.9	
	comp=Z,187nm,18.3s,baz=172,slow=34						
BDFB	Brasilia	30.21	55	P	P	06 45 44.9	-0.1
	3.9nm,0.9s,baz=212,slow=9.5,SNR=4.1						
RPN	Rapa Nui	31.84	276	LR	LR	06 54 50.6	
	comp=Z,334nm,18.5s,baz=77,slow=29						
OTAV	Otavalo	36.24	351	eP	P	06 46 39.0	+1.1
	0.7nm,0.5s						
SNAA	Sanae	50.25	157	P	P	06 48 30.2	+0.3
	2.8nm,0.9s,baz=285,slow=8.8,SNR=6.3						
QSPA	South Pole Qui	54.38	180	P	P	06 49 01.0	+0.3
	4.1nm,0.9s,baz=299,slow=1.6,SNR=14						
QSPA	South Pole Qui	54.38	180	eP	P	06 49 01.5	+0.8
	6.8nm,1.0s						
VNDA	Vanda	62.08	192	LR	LR	07 14 21.4	
	comp=Z,213nm,18.5s,baz=242,slow=34						
TXAR	Lajitas Array	70.89	332	P	P	06 50 50.7	-0.5
	0.4nm,0.5s,baz=155,slow=8.9,SNR=9.9						
TXAR				LR	LR	07 17 22.7	
	comp=Z,139nm,18.4s,baz=0.0,slow=32						
MAW	Mawson	71.68	164	LR	LR	07 22 47.4	
	comp=Z,271nm,18.4s,baz=234,slow=36						
SWET	Sewanee	71.70	349	eP	P	06 50 56.0	+0.2
	2.7nm,0.6s						
WVT	Waverly	72.90	348	eP	P	06 51 02.8	-0.2
	3.5nm,0.9s						
DBIC	Dimbokro	76.71	72	P	P	06 51 26.1	+0.6
	4.2nm,0.7s,baz=213,slow=5.8,SNR=6.0						
BOSA	Boshof	80.08	118	P	P	06 51 44.5	+0.3
	2.1nm,0.7s,baz=235,slow=5.0,SNR=4.8						
CCUT	Cedar City	81.97	329	eP	P	06 51 54.8	+0.8
	0.8nm,0.8s						
ECSD	EROS Data Cent	82.03	343	eP	P	06 51 53.6	-0.2
	3.3nm,0.8s						
TPH	Tonopah	84.08	327	eP	P	06 52 04.8	-0.1
NVAR	Mina Array Bea	84.86	326	P	P	06 52 09.3	+0.5
	0.6nm,0.7s,baz=146,slow=6.6,SNR=5.0						
TORD	Torodi Ar. Bea	85.77	71	P	P	06 52 14.0	+0.4
	0.8nm,0.9s,baz=238,slow=3.9,SNR=4.4						
H11S2	WAKE ISLAND Hyl	24.74	269	T	T	09 14 58.5	
	baz=126						
H11S1	WAKE ISLAND Hyl	24.75	269	T	T	09 14 59.6	
	baz=126						
H11S3	WAKE ISLAND Hyl	24.76	269	T	T	09 14 59.5	
	baz=126						
BRVK	Borovoye	149.24	45	ePKPdf	PKPdf	06 59 17.8	+0.1
BRVK				ePKPbc	PKPbc	06 59 22.0	0.0
BRVK				ePKPab	PKPab	06 59 27.0	+0.4
AAK	Ala-Archa	154.22	65	ePKPbc	PKPbc	06 59 33.9	-0.1
ZALV	Zalesovo Beam	156.32	33	PKPab	PKPab	06 59 56.1	-0.2
	1.6nm,0.5s,baz=306,slow=5.0,SNR=5.5						
MKAR	Makanchi Array	158.71	52	PKPab	PKPab	07 00 06.7	-0.3
	0.5nm,0.8s,baz=292,slow=3.7,SNR=3.7						

*IDC **01** 06:42:48.5±1.2, 35°.78S×73°.21W, h0km, mb4.1/5, mb1 4.2/9, mb1mx4.0/28, mbtmp4.1/9, ML3.7/4, Error ellipse: s-maj=42.4km s-min=18.3km az=95.0*

*ISCJB **01** 06:42:50.6±0.8, 35°.77S±0°.07×73°.1W±0°.2, h28km, mb4.2/5, Error ellipse: s-maj=26.2km s-min=10.5km az=4.7*

*NEIC **01** 06:42:53.3±0.7, 35°.73S×73°.17W, h35km, mb4.2/2, Error ellipse: s-maj=23.5km s-min=10.8km az=104.0*

ISC 01 06:42:52.3±0.9, 35°.76S±0°.08×73°.2W±0°.2, h28km, n12, σ0§49/12, mb4.2/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.38	158	Pn	Pn	06 44 11.0	+0.2
	1.0nm,0.3s,baz=338,slow=15,SNR=3.1						
PLCA				Lg	Lg	06 45 35.2	
	3.5nm,0.3s,baz=254,slow=19,SNR=2.9						
CFAA	Coronel Fontan	5.85	46	Pn	Pn	06 44 17.1	-0.1
	0.8nm,0.3s,baz=226,slow=9.4,SNR=7.4						
USHA	Ushuaia	19.36	172	P	Pn	06 47 16.4	-0.2
	0.2nm,0.3s,baz=337,slow=10,SNR=4.1						
LPAZ	La Paz	19.91	14	P	Pn	06 47 24.5	+0.4
	0.1nm,0.3s,baz=175,slow=7.9,SNR=5.4						
LPAZ	La Paz	19.91	14	eP	P	06 47 22.4	-0.1
	5.5nm,0.9s						
SIV	San Ignacio	22.47	32	P	P	06 47 48.8	-0.6
	6.1nm,0.9s,baz=225,slow=11,SNR=6.3						
SNAA	Sanae	50.33	157	P	P	06 51 46.3	+0.2
	3.5nm,0.9s,baz=283,slow=8.5,SNR=6.8						
QSPA	South Pole Qui	54.48	180	P	P	06 52 16.8	-0.3
	3.9nm,0.8s,baz=144,slow=6.1,SNR=6.2						
QSPA	South Pole Qui	54.48	180	eP	P	06 52 16.6	-0.5
	6.6nm,1.0s						
WVT	Waverly	72.81	348	eP	P	06 54 17.2	-0.8
NVAR	Mina Array Bea	84.80	326	P	P	06 55 24.9	+0.7
	0.6nm,0.9s,baz=148,slow=5.2,SNR=3.3						
TORD	Torodi Ar. Bea	85.70	71	P	P	06 55 29.2	+0.4
	1.6nm,1.0s,baz=240,slow=5.9,SNR=5.6						

JMA 01 06:47:38.2±0.3, 25°.99N×128°.53E, h39km±5km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.70	319	P	Pn	06 47 51.4	-0.2
JNTH				eS	Sn	06 48 01.1	-0.1
JJT2	Tamagusuku 2	0.72	282	P	Pn	06 47 52.0	+0.1
JJT2				S	Sn	06 48 02.3	+0.6
JOW	Kunigami	0.87	345	P	Pn	06 47 54.4	+0.4
JOW				eS	Sn	06 48 05.6	+0.1
JIH	Iheya	1.16	334	P	Pn	06 47 58.9	+1.0
JIH				eS	Sn	06 48 13.5	+1.0
JAGN	Aguni-jima	1.30	298	P	Pn	06 48 00.5	+0.7
JOKE	Okinoerabujima	1.37	2	P	Pn	06 48 01.6	+0.8
JOKE				eS	Sn	06 48 18.9	+1.2
JKE	Kume jima 2	1.60	282	P	Pn	06 48 04.0	0.0
JKE				eS	Sn	06 48 23.4	-0.1
JTK	Tokunoshima	1.83	12	P	Pn	06 48 08.0	+0.9
JTK				S	Sn	06 48 29.4	+0.4
JAMN	Amaminishikomi	2.32	14	P	Pn	06 48 14.7	+0.9
JMZ	Minamidaito 2	2.43	93	P	Pn	06 48 14.4	-1.0
JMZ				eS	Sn	06 48 40.7	-3.2
JAM	Amami Oshima	2.59	21	P	Pn	06 48 18.6	+1.0
JAM				eS	Sn	06 48 48.6	+0.7

GUC 01 06:48:21.0±0.5, 33°.63S×71°.64W, h3km±1km, ML3.6, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	Talagante	0.58	93	⇑iP	Pb	06 48 33.3	-0.6
TACH				iS	Sb	06 48 41.7	-0.9
IHA	Instituto Hidr	0.60	360	eP	Pg	06 48 33.2	+0.7
IHA				iS	Sb	06 48 42.5	-0.5
RCDM	Rinconada Maip	0.71	79	⇓iP	Pg	06 48 34.2	-0.4
RCDM				iS	Sg	06 48 45.0	+1.1
RCDM				AML	AML	06 48 48.4	
	comp=N,3μm,0.1s						
SAN	Santiago	0.83	78	⇑iP	Pg	06 48 37.6	+0.5
SAN				iS	Sb	06 48 49.8	0.0
ROCH	El Roble	0.84	39	⇑iP	Pg	06 48 37.7	+0.3
ROCH				iS	Sb	06 48 50.9	+0.5
ROCH				AML	AML	06 48 54.7	
	comp=N,5μm,0.5s						
STL	Santa Lucia	0.85	77	⇓iP	Pg	06 48 36.9	-0.6
STL				iS	Sb	06 48 49.7	-0.7
PEL	Peldehue	0.93	59	⇑iP	Pb	06 48 39.7	-0.2
PEL				iS	Sb	06 48 53.5	+0.7
PEL				AML	AML	06 48 59.4	
	comp=E,8μm,0.3s						
FSR	Penalolen	0.94	81	eP9	Pg	06 48 40.4	+1.2
FSR				iS	Sn	06 48 54.2	-1.0

*IDC **01** 06:51:37.4±1.4, 7°.42S×125°.04E, h0km, mb4.1/2, mb1 4.4/4, mb1mx3.8/29, mbtmp4.2/4, ML4.2/2, Error ellipse: s-maj=192.0km s-min=23.9km az=60.0*

*ISCJB **01** 06:51:50.6±0.8, 8°.47S±0°.08×123°.80E±0°.06, h150km, mb4.0/2, Error ellipse: s-maj=12.5km s-min=7.5km az=25.1*

*DJA **01** 06:51:50.5±0.8, 9°.S±10°.×12°.4E±°, h161km±8km, M4.3/5, mb4.9/1, MLv4.0/5*

ISC 01 06:51:51.2±1.1, 8°.5S±0°.1×123°.87E±0°.07, h150km, n16, σ2§05/19, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	1.30	163	P	Pn	06 52 19.5	+0.6
SOEI				S	Sn	06 52 41.9	+1.7
SOEI	Soe	1.30	163	P	Pn	06 52 19.6	+0.6
	baz=0.5,SNR=119						
MMRI	Maumere	1.62	265	P	Pn	06 52 20.5	-1.6
MMRI				S	Sn	06 52 43.2	-2.6
BATI	Baumata	1.70	187	P	Pn	06 52 22.8	-0.3
BATI				S	Sn	06 52 48.3	+0.8
BASI	Baing, Sumba	3.67	242	P	Pn	06 52 43.6	-3.6
WSI	Waingapu	3.71	252	P	Pn	06 52 43.2	-4.6
MTN	Manton Dam	8.34	122	P	Pn	06 53 50.0	+0.9
	baz=7.7,SNR=16						
MTN				S	Sn	06 55 17.7	-4.3
	baz=7.7,SNR=8.7						
KNRA	Kununurra	8.58	147	P	Pn	06 53 51.6	-0.8
	baz=7.8,SNR=51						
KDU	Kakadu	9.42	117	P	Pn	06 54 04.1	+0.5
	baz=8.8,SNR=20						
KDU				S	Sn	06 55 46.0	-2.2
	baz=8.8,SNR=4.9						
WRA	Warramunga Arr	15.23	139	Pn	Pn	06 55 17.9	-0.7
	1.1nm,0.3s,baz=319,slow=13,SNR=31						
WRA				Sn	Sn	06 57 57.6	-10
	1.3nm,0.3s,baz=316,slow=24,SNR=10						
WRKA	Warakurna	16.97	166	P	Pn	06 55 41.9	+2.0

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**0.12**	**325**	*i* P	Pn	06 53 21.3	-5.0
SLA				*i* S	**Sn**	**06 53 25.9**	**-4.7**
SLA				AML	AML	06 53 26.6	
	comp=Z,124μm,0.7s						
AZAP	**Zapla**	**0.68**	**29**	*i* P	**Pn**	**06 53 33.8**	**+0.6**
AZAP				*i* S	**Sn**	**06 53 46.7**	**+4.0**
AZAP				AML	AML	06 53 53.2	
	comp=Z,22μm,0.3s						
ASTB	**Santa Barbara**	**1.22**	**45**	*i* P	Pn	06 53 44.5	+3.9
ASTB				*i* S	Sn	06 54 04.2	+8.2
ALOL	**LOMAS DE OLMED**	**1.67**	**53**	*i* P	Pn	06 53 51.0	+4.5
ALOL				*i* P	Pn	06 53 51.0	+4.5
AHML	**Horco Molle**	**1.96**	**178**	*i* P	**Pn**	**06 53 51.2**	**+0.6**
AHML				*i* S	**Sn**	**06 54 17.5**	**+3.6**
AHML				AML	AML	06 54 21.0	
	comp=Z,2μm,0.5s						
YJA	**Yavi**	**2.63**	**358**	*i* P	Pn	06 54 04.8	+4.5
YJA				*i* S	Sn	06 54 40.6	+9.4
YJA				AML	AML	06 54 46.3	
	comp=Z,63nm,0.7s						
LVC	**Limon Verde**	**3.88**	**304**	*e*Pn	**Pn**	**06 54 18.9**	**+1.7**
CPUP	**Villa Florida**	**7.47**	**103**	Pn	**Pn**	**06 55 07.8**	**+1.5**
	comp=Z,8.4nm,0.3s,baz=263,slow=15,SNR=40						
CPUP				Lg	Lg	06 57 17.2	
	comp=Z,27nm,0.3s,baz=345,slow=20,SNR=3.1						
LPAZ	**La Paz**	**8.86**	**343**	Pn	**Pn**	**06 55 27.4**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=160,slow=11,SNR=28						
LPAZ				LR	LR	06 59 44.8	
	comp=Z,602nm,21.8s,baz=162,slow=44						
LPAZ	**La Paz**	**8.86**	**343**	*e*Pn	**Pn**	**06 55 26.2**	**+0.3**
	comp=Z,30nm,0.9s						
LPAZ				*e*Sn	**Sn**	**06 57 09.3**	**+4.4**
SIV	**San Ignacio**	**9.69**	**26**	Pn	**Pn**	**06 55 37.1**	**+0.3**
	comp=Z,5.7nm,0.3s,baz=220,slow=14,SNR=58						
SIV				Sn	**Sn**	**06 57 24.7**	**+0.2**
	comp=Z,8.0nm,0.3s,baz=307,slow=20,SNR=3.7						
TRQA	**Tornquist**	**13.52**	**168**	Pn	**Pn**	**06 56 29.1**	**0.0**
SAML	**Samuel**	**15.93**	**8**	*e*Pn	**Pn**	**06 56 58.6**	**-2.8**
	comp=Z,4.8nm,0.7s						
SAML				*e*Sn	**Sn**	**06 59 52.0**	**-5.0**
PLCA	**Paso Flores**	**16.43**	**194**	Pn	**Pn**	**06 57 07.5**	**-0.3**
NNA	**Nana**	**16.73**	**318**	LR	LR	07 03 35.5	
	comp=Z,159nm,19.9s,baz=135,slow=37						
BDFB	**Brasilia**	**18.70**	**64**	P	Pn	06 57 42.0	+6.0
	comp=Z,0.2nm,0.3s,baz=229,slow=14,SNR=6.8						
BDFB				LR	LR	07 05 24.6	
	comp=Z,482nm,18.4s,baz=228,slow=39						
ATAH	**Atahualpa**	**21.52**	**323**	P	**P**	**06 58 08.5**	**+2.1**
	comp=Z,8.3nm,0.8s,baz=132,slow=8.3,SNR=7.8						
RPN	**Rapa Nui**	**39.39**	**257**	LR	LR	07 13 35.7	
	comp=Z,97nm,20.4s,baz=98,slow=31						
FDF	**Fort de France**	**39.53**	**7**	*e*P	**P**	**07 00 48.3**	**+0.7**
	comp=Z,74nm,0.9s						
JTS	**JuntasAbangare**	**39.76**	**329**	*e*P	**P**	**07 00 50.3**	**+0.9**
	comp=Z,11nm,0.8s						
SABA	**Saba**	**42.24**	**3**	*e*P	**P**	**07 01 09.2**	**-0.5**
	comp=Z,83nm,0.9s						
ANWB	**Willy Bob**	**42.38**	**5**	*e*P	**P**	**07 01 10.1**	**-0.8**
	comp=Z,50nm,0.8s						
SMRT	**St. Maarten**	**42.67**	**3**	*e*P	**P**	**07 01 11.7**	**-1.6**
	comp=Z,40nm,0.9s						
SDDR	**Presa de Saban**	**43.91**	**352**	*e*P	**P**	**07 01 22.2**	**-1.1**
	comp=Z,2.4nm,0.2s						
APG	**El Apazote**	**46.51**	**326**	LR	LR	07 20 52.3	
	comp=Z,676nm,21.4s,slow=36						
TEIG	**Tepich**	**49.99**	**332**	*e*P	**P**	**07 02 09.9**	**-0.9**
	comp=Z,5.4nm,0.6s						
933A	**Laredo**	**61.50**	**326**	⇓P	**P**	**07 03 32.6**	**-0.6**
	baz=62						
KMSC	**Kings Mountain**	**61.51**	**345**	⇑P	**P**	**07 03 33.3**	**+0.1**
	baz=62						
KMSC	**Kings Mountain**	**61.51**	**345**	*e*P	**P**	**07 03 33.5**	**+0.4**
	comp=Z,285nm,3.0s						
834A	**Tilden**	**61.55**	**327**	⇑P	**P**	**07 03 34.1**	**+0.6**
	baz=62						
636A	**Smothers Creek**	**61.95**	**329**	⇓P	**P**	**07 03 36.6**	**+0.4**
	baz=62						
833A	**Chaparral WMA,**	**62.14**	**326**	⇑P	**P**	**07 03 37.7**	**+0.2**
	baz=62,SNR=8.8						
734A	**La Parita Cree**	**62.15**	**327**	⇓P	**P**	**07 03 37.8**	**+0.3**
	baz=62,SNR=5.1						
340A	**Bronson**	**62.20**	**333**	⇓P	**P**	**07 03 38.2**	**+0.4**
	baz=62,SNR=6.1						
635A	**Leesville**	**62.21**	**328**	⇑P	**P**	**07 03 37.9**	**-0.1**
	baz=63						
832A	**Faith Ranch, C**	**62.40**	**326**	⇓P	**P**	**07 03 39.1**	**-0.1**
	baz=63,SNR=6.5						
339A	**Huntington**	**62.41**	**332**	⇓P	**P**	**07 03 39.4**	**+0.2**
	baz=63						
535A	**Dale**	**62.65**	**329**	⇑P	**P**	**07 03 40.8**	**0.0**
	baz=63						
338A	**Crockett**	**62.75**	**331**	⇑P	**P**	**07 03 41.9**	**+0.4**
	baz=63						
732A	**Laxson Ranch,**	**62.76**	**326**	⇓P	**P**	**07 03 42.0**	**+0.4**
	baz=63						
SWET	**Sewanee**	**62.79**	**341**	*e*P	**P**	**07 03 42.3**	**+0.5**
	comp=Z,3.1nm,0.5s						
633A	**Saathoff Ranch**	**62.96**	**327**	⇓P	**P**	**07 03 42.4**	**-0.5**
	baz=63						
632A	**Uvalde**	**63.30**	**327**	⇓P	**P**	**07 03 44.7**	**-0.6**
	baz=64						
533A	**Kerrville**	**63.39**	**328**	⇓P	**P**	**07 03 46.2**	**+0.3**
	baz=64						
336A	**Riesel**	**63.46**	**330**	⇓P	**P**	**07 03 46.0**	**-0.3**
	baz=64						
631A	**Perdido Creek**	**63.62**	**326**	⇓P	**P**	**07 03 46.9**	**-0.4**
	baz=64,SNR=8.3						
335A	**Moody**	**63.64**	**330**	⇑P	**P**	**07 03 46.9**	**-0.5**
	baz=64						
434A	**Burnet**	**63.64**	**329**	⇓P	**P**	**07 03 46.9**	**-0.5**
	baz=64						
532A	**Rocksprings**	**63.87**	**327**	⇑P	**P**	**07 03 49.0**	**0.0**
	baz=64,SNR=6.4						
433A	**Art**	**63.98**	**328**	⇓P	**P**	**07 03 49.3**	**-0.4**
	baz=64,SNR=7.7						
334A	**Lometa**	**64.06**	**329**	⇑P	**P**	**07 03 49.2**	**-1.0**
	baz=64						
JCT	**Junction City**	**64.10**	**327**	⇑P	**P**	**07 03 50.3**	**-0.3**
	baz=64,SNR=5.8						
JCT	**Junction City**	**64.10**	**327**	*e*P	**P**	**07 03 50.4**	**-0.1**
	comp=Z,11nm,0.8s						
WVT	**Waverly**	**64.21**	**340**	*e*P	**P**	**07 03 49.9**	**-1.2**
531A	**Rocksprings**	**64.22**	**326**	⇑P	**P**	**07 03 51.4**	**+0.1**
	baz=65,SNR=8.9						
WHTX	**Lake Whitney,**	**64.25**	**330**	⇑P	**P**	**07 03 51.1**	**-0.3**
	baz=65						
333A	**Richland Sprin**	**64.40**	**328**	⇑P	**P**	**07 03 52.1**	**-0.4**
	baz=65,SNR=8.2						
432A	**Menard**	**64.42**	**327**	⇑P	**P**	**07 03 52.4**	**-0.3**
	baz=65,SNR=9.3						
234A	**Clairette**	**64.57**	**329**	⇓P	**P**	**07 03 53.4**	**-0.2**
	baz=65,SNR=12						
530A	**J-C Ranch, Com**	**64.60**	**326**	⇓P	**P**	**07 03 53.8**	**-0.1**
	baz=65,SNR=5.8						
431A	**Sonora**	**64.67**	**327**	⇓P	**P**	**07 03 53.7**	**-0.6**
	baz=65						
135A	**Vickery Place,**	**64.70**	**330**	⇓P	**P**	**07 03 53.9**	**-0.5**
	baz=65						
MIAR	**Mount Ida**	**64.80**	**335**	*e*P	**P**	**07 03 54.4**	**-0.6**
	comp=Z,8.4nm,1.2s						
332A	**Millersview**	**64.81**	**328**	⇓P	**P**	**07 03 54.8**	**-0.4**
	baz=65,SNR=9.9						
233A	**Rising Star**	**64.94**	**329**	⇓P	**P**	**07 03 55.6**	**-0.3**
	baz=65,SNR=7.6						
529A	**Stev Forest Ra**	**65.04**	**325**	⇑P	**P**	**07 03 56.8**	**+0.1**
	baz=65,SNR=14						
430A	**Baggett Ranch,**	**65.07**	**326**	⇑P	**P**	**07 03 56.5**	**-0.3**
	baz=65,SNR=7.6						
331A	**San Angelo**	**65.09**	**327**	⇓P	**P**	**07 03 56.5**	**-0.5**
	baz=65,SNR=8.2						
232A	**Coleman**	**65.18**	**328**	⇑P	**P**	**07 03 57.3**	**-0.2**
	baz=66,SNR=8.6						
TXAR	**Lajitas Array**	**65.18**	**323**	P	**P**	**07 03 56.8**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=153,slow=7.7,SNR=14						
429A	**Davenport Ranc**	**65.27**	**326**	⇓P	**P**	**07 03 58.0**	**-0.2**
	baz=66,SNR=11						
QSPA	**South Pole Qui**	**65.39**	**180**	P	**P**	**07 03 59.1**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=158,slow=2.0						
133A	**Hamilton Ranch**	**65.44**	**329**	⇑P	**P**	**07 03 58.8**	**-0.3**
	baz=66,SNR=5.2						
330A	**Mertzon**	**65.54**	**327**	⇓P	**P**	**07 03 59.1**	**-0.8**
	baz=66						
231A	**Bronte**	**65.55**	**328**	⇓P	**P**	**07 03 59.4**	**-0.6**
	baz=66						
Z34A	**Collier Ranch,**	**65.62**	**330**	⇓P	**P**	**07 04 00.1**	**-0.3**
	baz=66,SNR=8.1						
PBMO	**Poplar Bluff**	**65.65**	**338**	*e*P	**P**	**07 03 58.4**	**-2.0**
	comp=Z,20nm,1.2s						
ABTX	**Abilene, Hawle**	**65.79**	**329**	⇑P	**P**	**07 04 01.4**	**-0.1**
	baz=66						
ABTX	**Abilene, Hawle**	**65.79**	**329**	*e*P	**P**	**07 04 01.3**	**-0.2**
	comp=Z,18nm,1.3s						
230A	**Sterling City**	**65.90**	**327**	⇑P	**P**	**07 04 01.6**	**-0.6**
	baz=66						
Z33A	**Whitaker Ranch**	**65.93**	**330**	⇓P	**P**	**07 04 02.1**	**-0.2**
	baz=66,SNR=6.5						
329A	**Wagon Wheel Ra**	**66.01**	**326**	⇑P	**P**	**07 04 02.5**	**-0.4**
	baz=66,SNR=10.0						
Y34A	**Reagan Ranch,**	**66.04**	**331**	⇑P	**P**	**07 04 02.7**	**-0.3**
	baz=66,SNR=5.1						
131A	**Roby**	**66.19**	**328**	⇑P	**P**	**07 04 03.8**	**-0.2**
	baz=66,SNR=8.9						
Z32A	**Haskell**	**66.28**	**329**	⇓P	**P**	**07 04 04.1**	**-0.5**
	baz=67						
229A	**Bryant Ranch,**	**66.31**	**327**	⇓P	**P**	**07 04 04.9**	**+0.1**
	baz=67						
130A	**Snyder**	**66.40**	**328**	⇑P	**P**	**07 04 05.1**	**-0.3**
	baz=67,SNR=9.9						
Y33A	**Hilltop Ranch,**	**66.47**	**330**	⇑P	**P**	**07 04 05.3**	**-0.5**
	baz=67						
Z31A	**Sharp Cattle R**	**66.60**	**329**	⇓P	**P**	**07 04 06.4**	**-0.3**
	baz=67,SNR=9.3						
X34A	**Smith Ranch, M**	**66.62**	**331**	⇓P	**P**	**07 04 06.5**	**-0.3**
	baz=67						
DBIC	**Dimbokro**	**66.72**	**70**	P	**P**	**07 04 08.8**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=217,slow=6.5,SNR=3.2						
DBIC				LR	LR	07 33 21.4	
	comp=Z,119nm,18.2s,baz=207,slow=36						
228A	**UT Block 9, Go**	**66.82**	**326**	⇑P	**P**	**07 04 07.8**	**-0.4**
	baz=67						
Y32A	**R-V Farms, Ver**	**66.84**	**330**	⇑P	**P**	**07 04 07.9**	**-0.3**
	baz=67,SNR=5.8						
X33A	**Lawton**	**66.86**	**331**	⇓P	**P**	**07 04 07.8**	**-0.5**
	baz=67						
129A	**Stewart Farms,**	**66.87**	**327**	⇓P	**P**	**07 04 08.1**	**-0.4**
	baz=67,SNR=6.5						
TUL1	**Leonard**	**66.88**	**333**	⇓P	**P**	**07 04 07.6**	**-0.7**
	baz=67						
TUL1	**Leonard**	**66.88**	**333**	*e*P	**P**	**07 04 08.7**	**+0.4**
	comp=Z,3.2nm,0.5s						
Z30A	**Sanderson Ranc**	**67.04**	**328**	⇑P	**P**	**07 04 08.9**	**-0.6**
	baz=67,SNR=7.8						
X32A	**Elmer**	**67.11**	**330**	⇑P	**P**	**07 04 09.2**	**-0.7**
	baz=68						
128A	**Castleberry Fa**	**67.17**	**327**	⇑P	**P**	**07 04 09.5**	**-0.8**
	baz=68						
Y31A	**Rekieta Farm,**	**67.18**	**329**	⇓P	**P**	**07 04 10.1**	**-0.3**
	baz=68,SNR=5.8						
Z29A	**Hungry Hill Ra**	**67.30**	**327**	⇑P	**P**	**07 04 10.6**	**-0.6**
	baz=68						
W33A	**Caddo, Fort Co**	**67.36**	**331**	⇓P	**P**	**07 04 11.5**	**+0.1**
	baz=68,SNR=8.6						
V34A	**Guthrie**	**67.53**	**332**	⇓P	**P**	**07 04 11.5**	**-0.9**
	baz=68						
X31A	**McDonald Ranch**	**67.61**	**330**	⇓P	**P**	**07 04 12.7**	**-0.3**
	baz=68,SNR=11						
127A	**Arkansas Junct**	**67.66**	**326**	⇓P	**P**	**07 04 12.6**	**-0.9**
	baz=68						
Z28A	**Tucker Farm, M**	**67.66**	**327**	⇑P	**P**	**07 04 12.8**	**-0.7**
	baz=68,SNR=5.5						
W32A	**Sentinel**	**67.68**	**330**	⇑P	**P**	**07 04 13.0**	**-0.5**
	baz=68,SNR=7.3						
Y29A	**Porterfield Fa**	**67.77**	**328**	⇑P	**P**	**07 04 13.5**	**-0.7**
	baz=68,SNR=7.6						
V33A	**Lossen Ranch,**	**67.85**	**332**	⇑P	**P**	**07 04 14.0**	**-0.5**
	baz=68,SNR=5.5						
X30A	**Coker Ranch, T**	**67.87**	**329**	⇑P	**P**	**07 04 14.4**	**-0.3**
	baz=68						
U34A	**Anderson Ranch**	**68.05**	**332**	⇑P	**P**	**07 04 15.0**	**-0.7**
	baz=68						
W31A	**Holland Ranch,**	**68.05**	**330**	⇓P	**P**	**07 04 15.1**	**-0.8**
	baz=68						
Y28A	**McKinney Farm,**	**68.09**	**328**	⇑P	**P**	**07 04 15.3**	**-0.9**
	baz=68						
Z27A	**Tatum**	**68.09**	**326**	⇑P	**P**	**07 04 15.6**	**-0.6**
	baz=68,SNR=9.3						
X29A	**Tulia**	**68.26**	**328**	⇑P	**P**	**07 04 16.6**	**-0.6**
	baz=69						
U33A	**Lingo Farm, Me**	**68.29**	**332**	⇑P	**P**	**07 04 16.3**	**-0.9**
	baz=69						
MSTX	**Muleshoe**	**68.40**	**327**	⇓P	**P**	**07 04 17.8**	**-0.3**
	baz=69,SNR=12						
MSTX	**Muleshoe**	**68.40**	**327**	*e*P	**P**	**07 04 17.8**	**-0.3**
	comp=Z,22nm,0.9s						
Z26A	**Caprock**	**68.44**	**326**	⇓P	**P**	**07 04 18.5**	**0.0**
	baz=69						
V31A	**Spring Creek L**	**68.49**	**330**	⇑P	**P**	**07 04 18.5**	**-0.1**
	baz=69						
Y27A	**Causey**	**68.52**	**327**	⇑P	**P**	**07 04 18.3**	**-0.6**
	baz=69,SNR=7.3						
AMTX	**Amarillo**	**68.61**	**329**	⇑P	**P**	**07 04 19.2**	**-0.1**
	baz=69						
AMTX	**Amarillo**	**68.61**	**329**	*e*P	**P**	**07 04 19.0**	**-0.4**
	comp=Z,14nm,1.2s						
W29A	**Amarillo**	**68.79**	**329**	⇓P	**P**	**07 04 20.1**	**-0.4**
	baz=69						
Z25A	**Roswell**	**68.83**	**325**	⇑P	**P**	**07 04 20.4**	**-0.4**
	baz=69,SNR=6.9						
V30A	**Spur Ranch, Mi**	**68.87**	**330**	⇓P	**P**	**07 04 22.0**	**+1.0**
	baz=69						
W28A	**Vega**	**69.16**	**328**	⇑P	**P**	**07 04 22.7**	**-0.2**
	baz=70						
Z24A	**Sheeppen Canyo**	**69.21**	**325**	⇓P	**P**	**07 04 23.3**	**0.0**
	baz=70,SNR=11						
T32A	**Huddler Ranch,**	**69.27**	**332**	⇑P	**P**	**07 04 23.5**	**+0.2**
	baz=70						
Y25A	**Mesa, Roswell**	**69.32**	**326**	⇓P	**P**	**07 04 23.9**	**0.0**
	baz=70						
X26A	**CR and CF Fran**	**69.38**	**327**	⇓P	**P**	**07 04 24.0**	**-0.2**
	baz=70						
W27A	**Bowe Ranch, En**	**69.42**	**328**	⇓P	**P**	**07 04 24.9**	**+0.5**
	baz=70						
U30A	**WK&E Inc. Balk**	**69.48**	**330**	⇓P	**P**	**07 04 24.9**	**+0.1**
	baz=70						
T31A	**Randall Ranch,**	**69.52**	**331**	⇓P	**P**	**07 04 25.3**	**+0.4**
	baz=70						
V28A	**Channing**	**69.57**	**329**	⇑P	**P**	**07 04 25.9**	**+0.5**
	baz=70						
U29A	**Oasis Ranch, S**	**69.70**	**330**	⇑P	**P**	**07 04 25.8**	**-0.4**
	baz=70						
S32A	**Newby Ranch, P**	**69.71**	**332**	⇑P	**P**	**07 04 26.5**	**+0.4**
	baz=70						
W26A	**Owens Ranch, T**	**69.78**	**327**	⇓P	**P**	**07 04 26.9**	**+0.2**
	baz=70						
X25A	**Clemmons Ranch**	**69.78**	**326**	⇑P	**P**	**07 04 27.0**	**+0.2**
	baz=70						
V27A	**Dan Oppiter Fa**	**69.87**	**328**	⇑P	**P**	**07 04 27.2**	**0.0**
	baz=70						
319A	**Douglas**	**69.87**	**321**	⇑P	**P**	**07 04 27.7**	**+0.4**
	baz=70						
S31A	**Mullinville**	**69.88**	**332**	⇑P	**P**	**07 04 27.7**	**+0.6**
	baz=70						
121A	**Cookes Peak, D**	**69.89**	**323**	⇓P	**P**	**07 04 28.6**	**+1.1**
	baz=70,SNR=6.9						
KSU1	**Kansas State U**	**69.96**	**335**	⇑P	**P**	**07 04 26.9**	**-0.7**
	baz=70						
Z22A	**Elephant Butte**	**70.00**	**324**	⇑P	**P**	**07 04 29.2**	**+1.1**
	baz=70,SNR=23						
Y23A	**Lovelace Mesa,**	**70.03**	**325**	⇑P	**P**	**07 04 28.7**	**+0.4**
	baz=70						
U28A	**Mallet**	**70.08**	**329**	⇓P	**P**	**07 04 29.0**	**+0.5**
	baz=70						
R32A	**Long Quarter,**	**70.23**	**333**	⇓P	**P**	**07 04 29.6**	**+0.4**
	baz=71						
W25A	**X Bar L Ranch,**	**70.23**	**327**	⇑P	**P**	**07 04 29.4**	**-0.1**
	baz=71,SNR=6.4						
Q33A	**Connelly Farm,**	**70.36**	**334**	⇓P	**P**	**07 04 30.2**	**+0.2**
	baz=71						
V26A	**Tequesquite Ra**	**70.36**	**328**	⇑P	**P**	**07 04 30.3**	**0.0**
	baz=71,SNR=6.2						
U27A	**Thompson Grove**	**70.40**	**329**	⇑P	**P**	**07 04 30.5**	**0.0**
	baz=71						
R31A	**Burdett**	**70.46**	**332**	⇑P	**P**	**07 04 30.8**	**+0.2**
	baz=71						
S29A	**Ulysses**	**70.59**	**331**	⇓P	**P**	**07 04 32.1**	**+0.6**
	baz=71						
LPM	**Los Pinos Moun**	**70.63**	**325**	*e*P	**P**	**07 04 32.9**	**+0.9**
Q32A	**Meitler Ranch,**	**70.65**	**333**	⇑P	**P**	**07 04 31.3**	**-0.5**
	baz=71						
W24A	**Lazy 6 Ranch,**	**70.70**	**326**	⇓P	**P**	**07 04 32.1**	**-0.3**
	baz=71						
V25A	**Rancho No Teng**	**70.80**	**327**	⇓P	**P**	**07 04 33.0**	**0.0**
	baz=71,SNR=6.3						
U26A	**Atchley Ranch,**	**70.81**	**328**	⇑P	**P**	**07 04 33.2**	**+0.1**
	baz=71,SNR=10						
T27A	**Campo**	**70.87**	**329**	⇑P	**P**	**07 04 33.3**	**0.0**
	baz=71,SNR=5.1						
S28A	**Manter**	**70.92**	**330**	⇓P	**P**	**07 04 33.7**	**+0.2**
	baz=71,SNR=6.7						
Q31A	**Ellis**	**71.00**	**333**	⇑P	**P**	**07 04 34.6**	**+0.6**
	baz=71						
ANMO	**Albuquerque**	**71.03**	**325**	*e*P	**P**	**07 04 34.9**	**+0.5**
V24A	**Rampart Ranch,**	**71.03**	**327**	⇑P	**P**	**07 04 34.7**	**+0.3**
	baz=71,SNR=6.0						
W23A	**Werner Place,**	**71.04**	**326**	⇑P	**P**	**07 04 35.0**	**+0.5**
	baz=71,SNR=6.6						
U25A	**Circle Dot Ran**	**71.14**	**328**	⇑P	**P**	**07 04 35.4**	**+0.4**
	baz=72,SNR=9.3						
P32A	**Huiting Farm,**	**71.20**	**333**	⇓P	**P**	**07 04 35.5**	**+0.4**
	baz=72						
Q30A	**Quinter**	**71.33**	**332**	⇓P	**P**	**07 04 36.6**	**+0.6**
	baz=72						
T26A	**Comanche Natio**	**71.37**	**329**	⇓P	**P**	**07 04 36.9**	**+0.5**
	baz=72,SNR=8.2						
TUC	**Tucson**	**71.42**	**321**	*e*P	**P**	**07 04 37.9**	**+1.2**
	comp=Z,8.0nm,1.2s						
P31A	**Stockton**	**71.43**	**333**	⇓P	**P**	**07 04 36.9**	**+0.4**
	baz=72						
V23A	**Ortiz Mt. (NFS**	**71.51**	**326**	⇑P	**P**	**07 04 38.0**	**+0.7**
	baz=72,SNR=5.9						
U24A	**Moreno Valley**	**71.58**	**327**	⇓P	**P**	**07 04 38.7**	**+0.9**
	baz=72						
Q29A	**Oakley**	**71.58**	**331**	⇑P	**P**	**07 04 37.9**	**+0.3**
	baz=72						
O32A	**Brockman Farm,**	**71.61**	**334**	⇑P	**P**	**07 04 37.6**	**0.0**
	baz=72						
S26A	**Kim**	**71.67**	**329**	⇓P	**P**	**07 04 38.9**	**+0.7**
	baz=72,SNR=12						
T25A	**Trinidad**	**71.73**	**328**	⇓P	**P**	**07 04 39.3**	**+0.7**
	baz=72,SNR=5.6						
P30A	**Selden**	**71.81**	**332**	⇓P	**P**	**07 04 39.2**	**+0.4**
	baz=72						
R27A	**Eads**	**71.90**	**330**	⇑P	**P**	**07 04 39.5**	**+0.1**
	baz=72						
O31A	**Woolen Ranch,**	**71.94**	**333**	⇓P	**P**	**07 04 39.8**	**+0.2**
	baz=72						
U23A	**El Rito**	**71.97**	**326**	⇓P	**P**	**07 04 41.6**	**+1.5**
	baz=72						
V22A	**San Miguel Ran**	**72.01**	**326**	⇓P	**P**	**07 04 41.5**	**+1.2**
	baz=72,SNR=5.6						
T24B	**San Luis**	**72.14**	**327**	⇑P	**P**	**07 04 42.3**	**+1.1**
	baz=72,SNR=10						
S25A	**Robets Cordova**	**72.16**	**328**	⇑P	**P**	**07 04 41.9**	**+0.7**
	baz=72,SNR=12						
R26A	**Arlington**	**72.21**	**329**	⇓P	**P**	**07 04 41.8**	**+0.5**
	baz=73,SNR=8.5						
U22A	**Llaves**	**72.34**	**326**	⇑P	**P**	**07 04 43.5**	**+1.1**
	baz=73,SNR=5.4						
214A	**Organ Pipe Nat**	**72.36**	**319**	⇓P	**P**	**07 04 43.0**	**+0.7**
	baz=73						
KSCO	**Kaye Shedlock'**	**72.41**	**330**	⇓P	**P**	**07 04 43.7**	**+1.2**
	baz=73						
T23A	**Casias Ranch,**	**72.44**	**327**	⇓P	**P**	**07 04 43.7**	**+0.7**
	baz=73						
R25A	**Fountain Ranch**	**72.47**	**329**	⇓P	**P**	**07 04 43.2**	**+0.2**
	baz=73						
S24A	**Houchin Ranch,**	**72.52**	**328**	⇓P	**P**	**07 04 44.4**	**+1.0**
	baz=73,SNR=10						
BGNE	**Belgrade**	**72.54**	**335**	⇓P	**P**	**07 04 43.6**	**+0.4**
	baz=73						
BGNE	**Belgrade**	**72.54**	**335**	*e*P	**P**	**07 04 42.9**	**-0.2**
	comp=Z,21nm,0.9s						
X18A	**Snowflake**	**72.58**	**323**	⇓P	**P**	**07 04 44.5**	**+0.7**
	baz=73,SNR=6.1						
Q26A	**Hugo**	**72.74**	**330**	⇓P	**P**	**07 04 45.5**	**+0.9**
	baz=73,SNR=6.8						
P27A	**Ficken Ranch,**	**72.83**	**331**	⇑P	**P**	**07 04 45.5**	**+0.5**
	baz=73						
W18A	**Petrified Fore**	**72.90**	**323**	⇑P	**P**	**07 04 46.7**	**+1.0**
	baz=73						
R24A	**Sanders Place,**	**72.93**	**328**	⇓P	**P**	**07 04 46.4**	**+0.6**
	baz=73						
O28A	**Krutsinger Ran**	**72.95**	**332**	⇑P	**P**	**07 04 46.0**	**+0.3**
	baz=73						
P26A	**Davis Ranch, A**	**73.18**	**330**	⇓P	**P**	**07 04 48.0**	**+0.9**
	baz=74						
R23A	**Moffat**	**73.25**	**328**	⇓P	**P**	**07 04 48.4**	**+0.7**
	baz=74						
N28A	**Pribbeno Ranch**	**73.31**	**332**	⇓P	**P**	**07 04 48.6**	**+0.8**
	baz=74						
X16A	**Lo Mia Camp, P**	**73.33**	**322**	⇑P	**P**	**07 04 49.1**	**+0.9**
	baz=74,SNR=8.9						
S22A	**4UR Ranch, Cre**	**73.39**	**327**	⇓P	**P**	**07 04 49.2**	**+0.6**
	baz=74,SNR=5.3						
L31A	**Butterfield Fa**	**73.47**	**335**	⇓P	**

baz=76,SNR=7.0
N23A Red Feather La 75.44 329 ⇓P P 07 05 00.9 +0.5
baz=76
BRSD Miller 75.45 336 ⇓P P 07 05 00.0 0.0
baz=76
J28A Allard Ranch, 75.47 334 ⇓P P 07 05 00.8 +0.6
baz=76
TORD Torodi Ar. Bea 75.54 68 P P 07 05 01.5 +0.3
comp=Z,3.8nm,0.8s,baz=248,slow=5.5,SNR=12
TORD LR LR 07 37 00.1
comp=Z,91nm,19.5s,baz=240,slow=35
PHWY Pilot Hill 75.54 330 *e*P P 07 05 01.8 +0.8
comp=Z,7.5nm,1.1s
L25A Engebretsen Ra 75.56 331 ⇓P P 07 05 02.0 +1.2
baz=76
N22A Wattenberg Ran 75.60 329 ⇓P P 07 05 02.6 +1.3
baz=76,SNR=8.4
J27A Elkhorn Farm, 75.63 333 ⇑P P 07 05 02.3 +1.1
baz=76,SNR=8.2
M23A Laramie 75.79 330 ⇑P P 07 05 03.1 +0.8
baz=76
O20A White River Ci 75.94 328 ⇓P P 07 05 04.1 +0.9
baz=76,SNR=8.8
O20A White River Ci 75.94 328 *e*P P 07 05 04.1 +0.9
GMRC Granite Mounta 76.03 319 ⇑P P 07 05 04.9 +1.1
baz=76,SNR=9.3
H29A Onida 76.08 335 ⇓P P 07 05 03.6 -0.1
baz=76
G30A Faulkton 76.10 336 ⇓P P 07 05 04.0 +0.2
baz=76
J26A Sides Ranch, S 76.12 333 ⇑P P 07 05 05.0 +1.0
baz=76
M22A Cedar Creek Ra 76.14 329 ⇑P P 07 05 05.1 +0.8
baz=76
L23A Garrett 76.30 330 ⇑P P 07 05 05.5 +0.3
baz=77
SRU San Rafael Swe 76.30 325 *e*P P 07 05 06.1 +0.8
comp=Z,11nm,0.9s
I27A Quinn 76.33 334 ⇑P P 07 05 05.7 +0.6
baz=77
H28A Mission Ridge 76.43 335 ⇑P P 07 05 05.8 +0.2
baz=77
HEC Hector,Ludlow 76.46 319 ⇓P P 07 05 07.0 +0.9
baz=77
N20A Spence Gulch, 76.48 328 ⇑P P 07 05 07.3 +1.0
baz=77
L22A Ellis Ranch, M 76.56 330 ⇓P P 07 05 09.3 +2.6
baz=77
TUQ Turquoise Moun 76.64 320 ⇑P P 07 05 07.8 +0.6
baz=77
CCUT Cedar City 76.67 323 *e*P P 07 05 08.8 +1.4
comp=Z,18nm,1.1s
G28A Parade 76.72 335 ⇓P P 07 05 07.7 +0.4
baz=77
MVU Marysvale 76.74 324 *e*P P 07 05 09.2 +1.4
comp=Z,8.6nm,0.9s
K23A Bowen Ranch, D 76.77 331 ⇑P P 07 05 08.7 +0.9
baz=77,SNR=5.1
H27A Howes 76.81 334 ⇑P P 07 05 08.2 +0.4
baz=77
J24A Dixon Ranch, L 76.81 332 ⇓P P 07 05 09.1 +1.2
baz=77
BFSC Mount Baldy Ra 76.86 318 ⇑P P 07 05 10.8 +2.3
baz=77
ARUT Antelope Range 76.89 323 *e*P P 07 05 10.0 +1.5
comp=Z,276nm,1.3s
SHPR Sheep Range 76.94 321 *e*P P 07 05 09.5 +0.6
I25A Rochford 76.98 333 ⇓P P 07 05 10.0 +1.1
baz=77
GSC Goldstone, Bar 77.07 319 ⇓P P 07 05 10.4 +0.8
baz=77
GSC Goldstone, Bar 77.07 319 *e*P P 07 05 10.7 +1.2
comp=Z,7.0nm,1.1s
H26A Fairpoint 77.07 334 ⇓P P 07 05 09.9 +0.6
baz=77
K22A Casper 77.09 330 ⇓P P 07 05 10.3 +0.6
baz=77
K22A Casper 77.09 330 *e*P P 07 05 10.1 +0.5
comp=Z,31nm,1.6s
F28A McLaughlin 77.33 335 ⇓P P 07 05 10.6 -0.1
baz=78
G27A Dupree 77.37 335 ⇓P P 07 05 11.1 +0.1
baz=78
K21A Alcova 77.41 330 ⇓P P 07 05 12.4 +1.0
baz=78,SNR=14
MPU Maple Canyon 77.55 325 *e*P P 07 05 13.4 +1.1
comp=Z,11nm,1.0s
G26A Maurine 77.56 334 ⇑P P 07 05 11.9 -0.1
baz=78
DAU Daniels Canyon 77.65 326 *e*P P 07 05 14.2 +1.2
D30A Buchanan 77.66 337 ⇓P P 07 05 12.9 +0.4
baz=78
J22A Midwest 77.67 331 ⇑P P 07 05 13.2 +0.3
baz=78,SNR=6.4
LRMC Laurel Mtn Rad 77.72 319 ⇓P P 07 05 13.3 +0.1
baz=78
NLU North Lily Min 77.73 325 *e*P P 07 05 14.6 +1.2
comp=Z,9.0nm,1.3s
AGMN Agassiz Nation 77.74 340 ⇓P P 07 05 13.1 +0.2
baz=78
AGMN Agassiz Nation 77.74 340 *e*P P 07 05 12.5 -0.4
comp=Z,5.9nm,0.8s
G25A Newell 77.81 334 ⇓P P 07 05 14.2 +0.8
baz=78
F27A Lemmon 77.82 335 ⇑P P 07 05 13.8 +0.3
baz=78
JLU Jordanelle 77.89 326 *e*P P 07 05 15.3 +1.0
comp=Z,8.2nm,0.9s
FURC Furnace Creek, 77.90 320 ⇑P P 07 05 15.2 +1.2
baz=78
H24A Dirks Ranch, A 77.91 333 ⇓P P 07 05 14.1 0.0
baz=78
F26A Lodgepole 78.05 334 ⇓P P 07 05 14.9 +0.1
baz=78
I22A 9 Mile Ranch, 78.06 331 ⇓P P 07 05 15.3 +0.4
baz=78,SNR=5.9
J21A Lysite 78.06 330 ⇓P P 07 05 16.1 +1.0
baz=78
C30A Mose, Pekin 78.08 338 ⇑P P 07 05 15.2 +0.4
baz=78
DUG Dugway, Tooele 78.29 325 ⇑P P 07 05 17.4 +1.1
baz=79,SNR=6.6
DUG Dugway, Tooele 78.29 325 *e*P P 07 05 17.5 +1.1
comp=Z,9.6nm,1.1s
ISA Isabella, Lake 78.31 318 ⇑P P 07 05 17.8 +1.3
baz=79
ISA Isabella, Lake 78.31 318 *e*P P 07 05 17.6 +1.1
comp=Z,9.1nm,1.1s
G24A Alzada 78.33 333 ⇑P P 07 05 17.3 +0.9
baz=79
I21A Big Trails, Te 78.35 330 ⇓P P 07 05 16.8 +0.2
baz=79,SNR=11
J20A Shoshoni 78.35 330 ⇑P P 07 05 18.1 +1.5
baz=79
R11A Troy Canyon, C 78.47 322 ⇑P P 07 05 18.6 +1.2
baz=79,SNR=10
R11A Troy Canyon, C 78.47 322 *e*P P 07 05 18.8 +1.3
H22A Clearmont 78.56 331 ⇓P P 07 05 18.1 +0.5
baz=79
PDAR Pinedale Array 78.59 328 P P 07 05 17.6 -0.4
comp=Z,1.4nm,0.8s,baz=129,slow=7.4,SNR=12
G23A Biddle 78.63 332 ⇓P P 07 05 18.5 +0.5
baz=79
B30A Myrvik Farm, E 78.67 338 ⇑P P 07 05 18.1 +0.1
baz=79,SNR=5.4
J19A Crowheart 78.73 329 ⇑P P 07 05 19.3 +0.5
baz=79,SNR=9.4
F24A Ekalaka 78.76 333 ⇑P P 07 05 19.0 +0.3
baz=79
VES Vestal, Richgr 78.80 318 ⇑P P 07 05 19.5 +0.5
baz=79
I20A Worland 78.84 330 ⇑P P 07 05 19.7 +0.4
baz=79
E25A Miller Ranch, 78.88 334 ⇑P P 07 05 19.8 +0.5
baz=79
H21A Big Horn, Sher 78.88 331 ⇓P P 07 05 19.7 +0.2
baz=79
D26A Manning 78.94 335 ⇓P P 07 05 20.2 +0.6
baz=79
BGU Big Grassy Mou 78.94 325 *e*P P 07 05 20.8 +0.8
comp=Z,4.8nm,1.1s
G22A Birney 79.03 332 ⇓P P 07 05 21.1 +0.9
baz=79
B29A Wagenman Farm, 79.03 338 ⇑P P 07 05 20.4 +0.4
baz=79
F23A Volborg 79.05 333 ⇓P P 07 05 20.5 +0.2
baz=79,SNR=5.1
A30A Hoffart Farm, 79.09 339 ⇓P P 07 05 20.3 -0.1
baz=79
H20A Greybull 79.20 330 ⇑P P 07 05 21.3 +0.2
baz=80,SNR=6.2
TPH Tonopah 79.21 321 *e*P P 07 05 22.4 +0.9
comp=Z,8.6nm,1.2s
E24A Baker 79.28 334 ⇑P P 07 05 21.6 +0.1
baz=80
I19A Meeteetse 79.30 330 ⇓P P 07 05 22.0 +0.1
baz=80
AHID Auburn Hatcher 79.33 328 *e*P P 07 05 22.7 +0.6
comp=Z,20nm,1.1s
SCHQ Schefferville 79.33 359 LR LR 07 44 34.0
comp=Z,54nm,18.3s,baz=80,slow=39
B28A Dugan Ranch, T 79.37 337 ⇑P P 07 05 22.0 +0.2
baz=80
D25A Fairfield 79.38 335 ⇓P P 07 05 22.3 +0.3
baz=80
A29A Manning Farm, 79.38 338 ⇓P P 07 05 21.9 -0.1
baz=80,SNR=5.7
G21A Lodge Grass 79.42 331 ⇑P P 07 05 23.3 +0.9
baz=80
HVU Hansel Valley 79.43 326 *e*P P 07 05 23.2 +0.6
comp=Z,10nm,1.0s
F22A Rosebud 79.46 332 ⇑P P 07 05 22.8 +0.3
baz=80
ULM Lac du Bonnet 79.47 341 P P 07 05 21.9 -0.4
comp=Z,3.4nm,0.7s,baz=141,slow=6.5,SNR=8.0
REDW Red Top Meadow 79.66 328 *e*P P 07 05 24.7 +0.8
A28A Rude Farm, Bot 79.73 337 ⇓P P 07 05 24.2 +0.3
baz=80
LOHW Long Hollow 79.73 328 *e*P P 07 05 25.1 +0.8
comp=Z,38nm,1.8s
D24A Glendive 79.74 334 ⇓P P 07 05 24.8 +0.8
baz=80
H19A Powell 79.78 330 ⇑P P 07 05 24.8 +0.4
baz=80
TPAW Teton Pass 79.80 328 *e*P P 07 05 25.5 +0.8
comp=Z,10nm,1.1s
G20A Bridger 79.86 331 ⇓P P 07 05 24.9 0.0
baz=80,SNR=8.1
I17A Pilgrim Ck. 79.95 329 ⇑P P 07 05 26.7 +1.2
baz=80,SNR=10
FXWY Fox Creek 79.95 328 *e*P P 07 05 26.2 +0.7
comp=Z,15nm,1.8s
ELK Elko 79.97 324 *e*P P 07 05 26.3 +0.7
comp=Z,5.2nm,0.9s
NVAR Mina Array Bea 80.08 321 P P 07 05 26.3 +0.1
comp=Z,2.6nm,1.0s,baz=144,slow=6.3,SNR=16
H18A Shoshone NF, C 80.10 330 ⇓P P 07 05 26.5 +0.3
baz=80,SNR=8.5
IMW Indian Meadow 80.10 328 *e*P P 07 05 20.1 -6.2
comp=Z,11nm,1.0s
C24A Savage 80.12 334 ⇓P P 07 05 26.6 +0.5
baz=80
FLWY Flagg Ranch 80.13 329 *e*P P 07 05 27.6 +1.2
D23A Lindsay 80.14 334 ⇓P P 07 05 26.7 +0.5
baz=80
H17A Grant Village 80.31 329 ⇑P P 07 05 29.2 +1.8
baz=81
A26A Wade Farm, Ken 80.35 336 ⇓P P 07 05 28.2 +1.0
baz=81
E21A Keefer Ranch, 80.41 332 ⇓P P 07 05 28.1 +0.5
baz=81
D22A Cohagen 80.52 333 ⇑P P 07 05 28.9 +0.7
baz=81
C23A Lambert 80.64 334 ⇓P P 07 05 29.1 +0.3
baz=81
F19A Roth Farm, Mol 80.68 331 ⇓P P 07 05 29.6 +0.4
baz=81
YMR Madison River 80.70 329 *e*P P 07 05 31.0 +1.5
comp=Z,13nm,1.0s
A25A Svangstu Ranch 80.78 336 ⇓P P 07 05 30.5 +1.0
baz=81
WAKR Walker 80.79 320 *e*P P 07 05 30.8 +0.8
D21A La Casta Ranch 80.79 333 ⇓P P 07 05 30.6 +0.9
baz=81
DGMT Dagmar 80.80 335 ⇑P P 07 05 30.6 +1.0
baz=81
DGMT Dagmar 80.80 335 *e*P P 07 05 30.6 +1.0
comp=Z,13nm,1.0s
E20A Meyer Farm, Mu 80.83 332 ⇓P P 07 05 30.3 +0.4
baz=81,SNR=7.0
C22A Vida 80.88 334 ⇓P P 07 05 30.4 +0.3
baz=81
E19A Rath Farm, Rou 81.08 331 ⇑P P 07 05 31.6 +0.4
baz=81,SNR=8.6
A24A Westby 81.10 335 ⇓P P 07 05 32.2 +1.0
baz=81
B23A Brockton 81.10 335 ⇓P P 07 05 32.2 +1.0
baz=81
D20A Manuel Ranch, 81.29 332 ⇓P P 07 05 32.4 +0.1
baz=82,SNR=5.1
C21A Desert Coulee 81.43 333 ⇑P P 07 05 33.8 +0.7
baz=82
HLID Hailey 81.56 326 ⇑P P 07 05 35.1 +1.1
baz=82,SNR=20
HLID Hailey 81.56 326 *e*P P 07 05 34.9 +0.9
comp=Z,14nm,0.9s
D19A Cripps Ranch, 81.67 332 ⇑P P 07 05 34.8 +0.4
baz=82
MCMT McKenzie Canyo 81.71 328 *e*P P 07 05 36.1 +1.2
comp=Z,5.7nm,1.0s
C20A Veseth Ranch, 81.72 333 ⇑P P 07 05 34.8 +0.3
baz=82
B21A Ellsworth Farm 81.88 333 ⇑P P 07 05 36.1 +0.7
baz=82
A22A Carney Farms, 81.89 334 ⇓P P 07 05 36.1 +0.7
baz=82
DLMT Dillon 81.98 329 *e*P P 07 05 37.1 +1.0
MFID Camas Ranch 82.17 325 *e*P P 07 05 38.2 +1.0
comp=Z,48nm,2.5s
C19A Slack Wire Ran 82.18 332 ⇑P P 07 05 37.2 +0.2
baz=82
LRM Limekiln Ridge 82.26 329 *e*P P 07 05 38.5 +0.8
comp=Z,46nm,1.1s
A21A Bergtoll Ranch 82.29 334 ⇑P P 07 05 38.0 +0.5
baz=83
B20A Solberg Farm, 82.30 333 ⇑P P 07 05 37.6 0.0
baz=83
A20A Cobblestone Ra 82.61 333 ⇓P P 07 05 39.4 +0.2
baz=83,SNR=6.1
B19A Brinkman Farms 82.70 332 ⇓P P 07 05 40.3 +0.7
baz=83
EGMT Eagleton 82.71 332 ⇓P P 07 05 40.4 +0.6
baz=83
EGMT Eagleton 82.71 332 *e*P P 07 05 37.9 -1.9
comp=Z,9.0nm,1.1s
A19A Klindworth Far 82.98 333 ⇓P P 07 05 41.6 +0.4
baz=83
MOD Modoc Plateau 83.54 322 *e*P P 07 05 44.9 +0.6
comp=Z,11nm,1.3s
BMO Blue Mountains 83.94 326 *e*P P 07 05 46.5 +0.3
comp=Z,16nm,1.6s
SWMT Swartz Lake 84.22 329 *e*P P 07 05 48.2 +0.6
comp=Z,4.9nm,1.4s
M04C Macdoel 84.33 321 ⇑P P 07 05 48.5 +0.2
baz=85
K05A Summer Lake 84.41 322 *e*P P 07 05 49.7 +0.9
comp=Z,16nm,1.0s
I07A Izee 84.56 324 *e*P P 07 05 50.0 +0.6
comp=Z,8.9nm,1.4s
F10A Beach Ranch, E 84.68 327 *e*P P 07 05 50.3 +0.3
comp=Z,115nm,2.8s
YBH Yreka Blue Hor 84.79 321 P P 07 05 49.6 -1.1
comp=Z,1.9nm,1.0s,baz=106,slow=6.2,SNR=4.1
J05D Fort Rock, OR 84.97 323 ⇑P P 07 05 52.6 +1.1
baz=85
J04D Umpqua Nationa 85.42 322 ⇓P P 07 05 54.9 +1.0
baz=86
I05D Terrebonne, OR 85.72 323 ⇑P P 07 05 55.9 +0.7
baz=86
I04A Tendick Farm, 85.95 323 ⇑P P 07 05 57.0 +0.7
baz=86
HAWA Hanford 86.13 326 *e*P P 07 05 57.6 +0.6
comp=Z,23nm,1.5s
NEW Newport 86.23 328 ⇑P P 07 05 58.1 +0.5
baz=87
D08A Wollman Farm, 86.28 327 *e*P P 07 05 58.2 +0.5
comp=Z,10.0nm,1.2s
G05D Wamic, OR 86.30 324 ⇓P P 07 05 58.5 +0.5
baz=87
I03D Drain, OR 86.41 322 ⇓P P 07 05 59.2 +0.8
baz=87
C09A Chrisman Ranch 86.46 327 *e*P P 07 05 58.8 +0.1
comp=Z,9.9nm,0.8s
FCC Fort Churchill 86.60 346 *e*P P 07 05 59.4 +0.3
LTY Liberty 87.29 326 *e*P P 07 06 02.9 +0.1
comp=Z,34nm,2.0s
B08A Colville Reser 87.36 327 *e*P P 07 06 03.3 +0.2
comp=Z,60nm,2.5s
EDM Edmonton 88.13 333 *e*P P 07 06 05.8 -0.9
YKA Yellowknife Ar 95.39 339 P P 07 06 39.7 -0.3
comp=Z,1.1nm,0.9s,baz=131,slow=4.6,SNR=19
TUE Stuetta 97.86 42 *e*P Pdif 07 06 52.6 +0.7
comp=Z,219nm,0.5s
ASAR Alice Springs 128.28 203 PKP **PKPdf** 07 12 22.7 -0.6
comp=Z,1.4nm,0.7s,baz=141,slow=2.1,SNR=14
ARU Arti 129.00 36 PFAKE 07 12 30.0 +6.5
ARU LR LR
comp=Z,100nm,20.0s
ABKAR Akbulak array 131.30 45 *e*PKPdf **PKPdf** 07 12 26.1 -2.0
WRA Warramunga Arr 131.52 205 PKP **PKPdf** 07 12 29.5 0.0
comp=Z,1.2nm,0.8s,baz=156,slow=1.8,SNR=7.7
BRVK Borovoye 136.51 38 PFAKE 07 12 50.0 +12
BRVK LR LR
comp=Z,100nm,18.4s
ZALV Zalesovo Beam 143.42 29 PKP PKPbc 07 12 48.1 +0.7
comp=Z,1.5nm,0.6s,baz=304,slow=3.4,SNR=6.4
KSH Kashi 144.48 56 *e*PKP PKPbc 07 12 52.1 +0.7
MKAR Makanchi Array 146.22 41 PKPbc **PKPdf** 07 12 56.2 +0.8
comp=Z,3.6nm,0.9s,baz=298,slow=3.4,SNR=31
TOLI Toli-Toli 155.68 195 PFAKE 07 13 20.0 +9.1
TOLI LR LR
comp=Z,100nm,19.5s
SONM Songino Array 156.13 14 PKPab **PKPab** 07 13 38.1 -0.1
comp=Z,0.5nm,0.7s,baz=58,slow=3.7,SNR=3.7
CN2 Changchun 159.08 338 *e*PKP **PKPdf** 07 13 12.8 -1.4
CN2 *e*pPKP **pPKPdf** 07 13 23.7 -2.0
HHC Hu-ho-hao-te 163.82 8 *e*PKP **PKPdf** 07 13 19.1 -0.3
HHC PKS **PKSdf** 07 16 50.9 -1.5
HHC PP **PP** 07 18 00.2 +3.8
HHC SKKS 07 24 42.2
HHC SS **SS** 07 38 22.7 +0.8
HHC PPMZ
comp=Z,140nm,5.6s
HHC LN
comp=Z,310nm,21.0s
HHC LE
comp=Z,260nm,22.0s
HHC LZ
comp=Z,160nm,20.4s
LZH Lanzhou 165.47 37 *e*PKP **PKPdf** 07 13 19.0 -2.1
LZH pPKP **pPKPdf** 07 13 29.1 -3.5
LZH sPKP 07 13 33.5
CD2 Chengdu 168.68 55 *e*PKP **PKPdf** 07 13 23.2 -0.3
KMI Kunming 169.26 86 PKP **PKPdf** 07 13 24.6 +0.4
NJ2 Nanjing 171.87 333 *e*PKP **PKPdf** 07 13 25.7 +0.6
GYA Guiyang 172.68 75 *e*PKP **PKPdf** 07 13 23.9 -1.9
GYA pPKP **pPKPdf** 07 13 36.8 -0.5
GYA PKPab **PKPab** 07 14 51.2 -0.5
GYA PKS **PKSdf** 07 16 55.0 -3.3
GYA PP **PP** 07 18 42.5 -1.1
GYA SKKS 07 25 24.0
GYA SS SS 07 39 48.2 -6.2
GYA PPMZ
comp=Z,120nm,8.0s
GYA LN
comp=Z,130nm,22.6s
GYA LE
comp=Z,120nm,21.4s
GYA LZ
comp=Z,130nm,24.8s

GUC 01 06:53:32.4±0.5,32°.91S×72°.32W,h28km±11km,ML3.8,
3C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.58**	**101**	⇓*i*P	Pb	06 53 43.5	-0.5
IHA				*i* S	Sb	06 53 52.2	+0.2
ROCH	**El Roble**	**1.10**	**93**	⇑*i*P	Pn	06 53 52.4	+0.1
ROCH				*i* S	Sb	06 54 07.4	+0.1
ROCH				AML	AML	06 54 08.5	
comp=E,5μm,0.6s							
TACH	**Talagante**	**1.37**	**123**	⇑*i*P	Pn	06 53 56.1	+0.3
TACH				*i* S	Sb	06 54 14.2	-0.5
PEL	**Peldehue**	**1.39**	**100**	⇓*i*P	Pn	06 53 56.4	+0.3
PEL				*i* S	Sb	06 54 14.8	-0.5
PEL				AML	AML	06 54 16.9	
comp=E,7μm,0.3s							
RCDM	**Rinconada Maip**	**1.39**	**115**	⇓*i*P	Pn	06 53 56.3	+0.2
RCDM				*i* S	Sn	06 54 14.3	+0.7
RCDM				AML	AML	06 54 19.3	
comp=N,1μm,0.2s							
SAN	**Santiago**	**1.49**	**112**	*i* P	Pn	06 53 58.5	+1.0
SAN				*i* S	Sb	06 54 17.5	-0.6
SAN				AML	AML	06 54 25.0	
comp=N,2μm,0.6s							
CHCH	**Chadas Angostu**	**1.73**	**127**	⇑*i*P	Pn	06 54 01.5	+0.8
CHCH				*i* S	Sb	06 54 24.3	-0.6

*IDC **01** 06:57:20.6±15.0, 16°.33N×122°.04E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.4/37, mbtmp3.8/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/47, Error ellipse: s-maj=490.2km s-min=64.9km az=15.0*
*ISCJB **01** 06:57:31.8±1.2, 18°.05N±0°.05×122°.32E±0°.08, h24km±6km, mb3.6/3, MS3.7/2, Error ellipse: s-maj=13.5km s-min=7.7km az=7.0*
*MAN **01** 06:57:33, 17°.95N×122°.10E, h5km, mb4.5, ML3.3, MS3.2*

ISC 01 06:57:33.5±1.2,18°.00N±0°.04×122°.15E±0°.07,h28km±7km,
n19,σ1°.63/18,mb3.7/3,1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.26**	**338**	*e*P	**Pb**	**06 57 40.0**	**-0.3**
SGCP				*e*S	**Sb**	**06 57 44.7**	**-0.2**
CVP	**Callao Caves**	**0.43**	**227**	*i* P	**Pb**	**06 57 42.5**	**-0.2**
CVP				*e*S	**Sb**	**06 57 49.5**	**+0.5**
APYP	**Conner**	**0.87**	**261**	*e*P	**Pn**	**06 57 49.8**	**-0.1**
APYP				*e*S	**Sb**	**06 57 59.2**	**-2.2**
CAUP	**Cauayan**	**1.09**	**196**	*e*P	**Pb**	**06 57 54.1**	**+0.3**
CAUP				*e*S	**Sn**	**06 58 10.8**	**+3.7**
ABRA	**Dolores**	**1.41**	**256**	*e*P	**Pb**	**06 57 58.1**	**-1.1**
PIP	**Pasuquin**	**1.49**	**283**	⇓*i*P	**Pb**	**06 57 59.7**	**-0.8**
PIP				*e*S	**Sb**	**06 58 20.9**	**+1.9**
BCPH	**Baguio City Da**	**2.20**	**223**	⇑*i*P	**Pn**	**06 58 10.0**	**+1.7**
BCPH				*e*S	**Sb**	**06 58 38.7**	**-0.9**
BALP	**Baler**	**2.31**	**194**	*e*P	**Pb**	**06 58 12.0**	**-2.5**
BALP				*e*S	**Sn**	**06 58 36.1**	**-1.0**
WRA	**Warramunga Arr**	**39.56**	**162**	LR	LR	07 22 27.0	
comp=Z,58nm,18.4s,baz=230,slow=40							
H11S3	**WAKE ISLAND Hy 42.22**	**82**		T	T	07 50 23.9	
baz=276,slow=75,SNR=115							
H11S1	**WAKE ISLAND Hy 42.23**	**82**		T	T	07 50 25.8	
baz=276,slow=75,SNR=135							
H11S2	**WAKE ISLAND Hy 42.24**	**82**		T	T	07 50 29.1	
baz=276,slow=75,SNR=115							
H11N1	**WAKE ISLAND Hy 42.29**	**80**		T	T	07 50 29.2	
baz=275,slow=75,SNR=55							
H11N2	**WAKE ISLAND Hy 42.29**	**80**		T	T	07 50 29.5	
baz=275,slow=75,SNR=55							
H11N3	**WAKE ISLAND Hy 42.30**	**80**		T	T	07 50 30.5	
baz=275,slow=75,SNR=47							
MKAR	**Makanchi Array**	**43.52**	**320**	P	**P**	**07 05 35.6**	**+0.9**
0.7nm,0.5s,baz=116,slow=8.7,SNR=11							
DZM	**Mont Dzumac**	**58.86**	**131**	LR	LR	07 30 29.0	
comp=Z,79nm,18.1s,baz=4.5,slow=34							
FINES	**FINESS Array B**	**77.23**	**331**	P	**P**	**07 09 24.2**	**-0.6**
0.7nm,0.5s,baz=65,slow=6.6,SNR=7.6							
YKA	**Yellowknife Ar**	**88.29**	**23**	P	**P**	**07 10 21.2**	**-0.9**
0.1nm,0.5s,baz=306,slow=4.6,SNR=7.8							

*IDC **01** 07:01:32.0±1.1, 33°.80S×70°.75W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/28, mbtmp3.9/3, Error ellipse: s-maj=52.9km s-min=33.0km az=92.0*
*GUC **01** 07:01:33.5±0.4, 33°.27S×71°.97W, h15km±48km, ML3.9*
*NEIC **01** 07:01:37.3±0.4, 33°.75S×70°.49W, h35km, mb4.3/5, Error ellipse: s-maj=16.4km s-min=12.3km az=96.0*

ISC 01 07:01:30.4±2.6,33°.45±0°.1×72°.03W±0°.08,h5km±14km,n23,
σ0°.96/24,mb4.3/7,1C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.93**	**67**	*e*P	**Pb**	**07 01 49.4**	**+0.2**
ROCH				*i* S	**Sb**	**07 02 01.4**	**-0.5**
ROCH				AML	AML	07 02 04.6	
comp=E,6μm,0.5s							
RCDM	**Rinconada Maip**	**1.03**	**98**	*i* P	**Pb**	**07 01 51.0**	**+0.3**

RCDM				*i* S		**Sb**	**07 02 04.2**	**-0.3**
PEL	**Peldehue**	**1.14**	**80**	*e*P		**Pb**	**07 01 52.7**	**0.0**
PEL				*e*S		**Sb**	**07 02 07.3**	**-0.5**
PEL				AML		AML	07 02 16.2	
	comp=E,10μm,0.5s							
STL	**Santa Lucia**	**1.16**	**95**	*e*P9		**Pg**	**07 01 52.4**	**-0.3**
STL				*e*S		**Sb**	**07 02 07.5**	**-0.8**
FSR	**Penalolen**	**1.26**	**96**	‖ *i*P		**Pn**	**07 01 56.1**	**+1.4**
FSR				*i* S		**Sn**	**07 02 12.5**	**+0.4**
PLCA	**Paso Flores**	**7.46**	**171**	*e*Pn		Pn	07 03 16.8	-3.2
PLCA				*e*Sn		Sn	07 04 30.4	-15
CPUP	**Villa Florida**	**14.54**	**65**	*e*Pn		Pn	07 04 46.5	-10
OTAV	**Otavalo**	**33.95**	**348**	*e*P		P	07 08 19.9	+4.6
	comp=E,1.5nm,0.8s							
QSPA	**South Pole Qui**	**56.89**	**180**	P		**P**	**07 11 15.3**	**-0.7**
	comp=E,3.4nm,0.8s,baz=141,slow=3.2,SNR=10							
TXAR	**Lajitas Array**	**69.17**	**331**	P		P	07 12 46.5	+8.5
	comp=E,0.2nm,0.5s,baz=167,slow=8.3,SNR=4.3							
ECSD	**EROS Data Cent**	**79.93**	**342**	*e*P		P	07 13 47.2	+7.1
	comp=E,3.3nm,1.2s							
CCUT	**Cedar City**	**80.36**	**328**	*e*P		P	07 13 50.1	+7.2
DUG	**Dugway, Tooele**	**82.32**	**330**	*e*P		P	07 14 01.1	+8.1
	comp=E,2.7nm,1.2s							
TPH	**Tonopah**	**82.56**	**326**	*e*P		P	07 14 00.7	+6.2
HVU	**Hansel Valley**	**83.62**	**331**	*e*P		P	07 14 07.2	+7.4
	comp=E,3.9nm,1.1s							
TORD	**Torodi Ar. Bea**	**83.98**	**70**	P		**P**	**07 14 00.9**	**-1.2**
	comp=E,1.4nm,0.8s,baz=257,slow=4.4,SNR=8.7							
ABKAR	**Akbulak array**	**141.27**	**51**	*e*PKPdf		**PKPdf**	**07 21 01.1**	**-0.6**
BRVK	**Borovoye**	**146.72**	**42**	*e*PKPbc		**PKPdf**	**07 21 13.0**	**+1.8**
BVAR	**Borovoye Array**	**146.79**	**42**	PKPbc		**PKPdf**	**07 21 13.1**	**+1.8**
	comp=E,1.2nm,0.6s,baz=306,slow=5.1,SNR=6.4							
AAK	**Ala-Archa**	**152.18**	**61**	PKPbc		**PKPbc**	**07 21 27.1**	**0.0**
	comp=E,0.3nm,0.4s,baz=243,slow=4.5,SNR=4.9							
AAK	**Ala-Archa**	**152.18**	**61**	*e*PKPdf		**PKPdf**	**07 21 21.0**	**+0.5**
AAK				*e*PKPbc		**PKPbc**	**07 21 27.0**	**-0.1**
AAK				PKPbc		**PKPbc**	**07 21 27.1**	**0.0**
AAK				*e*PKPab		**PKPab**	**07 21 36.6**	**-0.3**
KURK	**Kurchatov**	**152.39**	**42**	*e*PKPdf		**PKPdf**	**07 21 22.5**	**+2.2**
KURK				*e*PKPbc		**PKPbc**	**07 21 26.6**	**-0.5**
KURK				*e*PKPab		**PKPab**	**07 21 36.8**	**-0.5**
MKAR	**Makanchi Array**	**156.32**	**48**	PKPab		**PKPab**	**07 21 53.6**	**-0.6**
	comp=E,1.1nm,0.6s,baz=293,slow=3.9,SNR=12							

*IDC **01** 07:05:24.7±1.6,36°.76S×73°.24W,h0km,mb3.6/4, mb1 4.0/6,mb1mx3.8/17,mbtmp3.6/6,ML4.8/1,MS2.6/1, Ms1 2.6/1,ms1mx2.5/26,Error ellipse: s-maj=47.5km s-min=31.9km az=78.0*

*ISCJB **01** 07:05:28.4±0.9,36°.73S±0°.08×72°.8W±0°.2,h35km,mb3.6/3, Error ellipse: s-maj=22.5km s-min=11.6km az=11.2*

*GUC **01** 07:06:06.0±0.7,33°.99S×71°.82W,h60km±40km,ML3.2*

ISC 01 07:05:29.9±1.5,36°.8S±0°.1×72°.9W±0°.3,h35km,n10, σ0°.99/9,mb3.7/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**3.67**	**28**	*i* P		**Pn**	**07 06 23.9**	**-0.4**
RCDM				*i* S		Sn	07 06 37.8	-29
RCDM				AML		AML	07 06 41.6	
	comp=N,645nm,0.1s							
STL	**Santa Lucia**	**3.79**	**29**	*i* P		**Pn**	**07 06 26.0**	**+0.2**
STL				*i* S		Sn	07 06 41.1	-28
PEL	**Peldehue**	**4.03**	**27**	*i* P		**Pn**	**07 06 28.4**	**-0.8**
PEL				*i* S		Sn	07 06 45.4	-30
PEL				AML		AML	07 06 53.2	
	comp=E,1μm,0.3s							
ROCH	**El Roble**	**4.08**	**22**	*i* P		**Pn**	**07 06 28.1**	**-1.9**
ROCH				*i* S		Sn	07 06 44.4	-32
ROCH				AML		AML	07 06 51.4	
	comp=E,763nm,0.6s							
PLCA	**Paso Flores**	**4.36**	**156**	Pn		**Pn**	**07 06 34.1**	**+0.5**
	comp=E,9.8nm,0.3s,baz=305,slow=14,SNR=20							
CFAA	**Coronel Fontan**	**6.41**	**38**	Pn		**Pn**	**07 07 02.4**	**+0.5**
	comp=E,0.2nm,0.3s,baz=215,slow=14,SNR=3.2							
CFAA				LR		LR	07 09 51.7	
	comp=E,44nm,19.2s,baz=230,slow=40							
LPAZ	**La Paz**	**20.82**	**13**	P		**P**	**07 10 10.0**	**+0.9**
	comp=E,2.4nm,0.8s,baz=203,slow=7.3,SNR=5.8							
TXAR	**Lajitas Array**	**71.83**	**332**	P		P	07 16 47.8	-1.3
	comp=E,0.5nm,0.6s,baz=153,slow=9.0,SNR=7.8							
NVAR	**Mina Array Bea**	**85.78**	**326**	P		**P**	**07 18 05.9**	**+0.3**
	comp=E,0.4nm,0.7s,baz=144,slow=7.8,SNR=3.0							
PDAR	**Pinedale Array**	**85.93**	**334**	P		**P**	**07 18 06.1**	**-0.2**
	comp=E,0.2nm,0.5s,baz=113,slow=6.9,SNR=2.5							

IDC 01 07:19:15.6±1.3,36°.23S×72°.17W,h0km,mb3.8/2, mb1 3.9/3,mb1mx3.6/17,mbtmp3.7/3,ML3.6/1,Error ellipse: s-maj=82.2km s-min=28.8km az=79.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.67**	**165**	Pn		Pn	07 20 26.0	-1.5
	0.6nm,0.3s,baz=328,slow=12,SNR=2.4							
QSPA	**South Pole Qui**	**54.01**	**180**	P		P	07 28 41.8	+0.4
	2.9nm,1.1s,baz=161,slow=2.7,SNR=6.8							
TXAR	**Lajitas Array**	**71.63**	**331**	P		P	07 30 38.9	-0.2
	0.2nm,0.5s,baz=161,slow=7.3,SNR=5.5							
MKAR	**Makanchi Array**	**158.25**	**53**	PKPab		PKPab	07 39 48.3	-0.2
	0.3nm,0.7s,baz=298,slow=2.6,SNR=3.9							

IDC 01 07:20:53.1±48.0,16°.35S×175°.57W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.7/42,mbtmp4.2/3,Error ellipse: s-maj=909.6km s-min=169.1km az=78.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.76**	**240**	P		P	07 28 44.8	+0.4
	1.0nm,0.4s,baz=97,slow=11,SNR=4.8							
WRA	**Warramunga Arr**	**47.60**	**258**	P		P	07 29 30.8	-0.4
	1.2nm,0.7s,baz=95,slow=7.3,SNR=13							
ASAR	**Alice Springs**	**47.84**	**253**	P		P	07 29 32.8	-0.3
	6.3nm,0.6s,baz=88,slow=8.3,SNR=96							

IDC 01 07:22:20.5±2.8,54°.12N×86°.49E,h0km,mb1 2.8/1, mb1mx2.7/44,mbtmp2.8/1,ML2.9/1,Error ellipse: s-maj=22.3km s-min=13.2km az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**261**	*i*			07 29 23.4	
	baz=83,slow=344,SNR=0.9							
ZALV	**Zalesovo Beam**	**1.00**	**261**	Pg		Pg	07 22 39.5	-0.2
	0.7nm,0.3s,baz=80,slow=16,SNR=8.1							
ZALV				Lg		Lg	07 22 53.2	
	1.0nm,0.3s,baz=75,slow=27,SNR=6.6							
ZALV				Rg		Rg	07 22 59.4	
	1.5nm,0.3s,baz=78,slow=29,SNR=7.1							
MKAR	**Makanchi Array**	**7.80**	**202**	Pn		Pn	07 24 16.4	+1.1
	0.2nm,0.3s,baz=25,slow=14,SNR=13							
MKAR				Lg		Lg	07 26 32.0	
	0.0nm,0.3s,baz=32,slow=31,SNR=2.7							

*IDC **01** 07:22:46.0±0.7,34°.71S×73°.76W,h0km,mb4.0/10, mb1 4.1/11,mb1mx4.0/35,mbtmp3.9/11,ML3.1/1,MS3.6/1, Ms1 3.5/1,ms1mx2.6/36,Error ellipse: s-maj=24.8km s-min=20.4km az=80.0*

*ISCJB **01** 07:22:49.6±0.6,34°.73S±0°.09×73°.71W±0°.09,h33km, mb4.1/18,Error ellipse: s-maj=14.3km s-min=9.6km az=152.1*

*NEIC **01** 07:22:51.4±0.4,34°.70S×73°.70W,h35km,mb4.3/9,Error ellipse: s-maj=13.2km s-min=11.5km az=183.0*

ISC 01 07:22:51.3±0.7,34°.7S±0°.1×73°.8W±0°.1,h35km,n25, σ0°.70/25,mb4.1/18,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.58**	**58**	Pn		**Pn**	**07 24 11.4**	**-0.5**
	0.6nm,0.3s,baz=234,slow=9.3,SNR=4.1							
CFAA				Sn		**Sn**	**07 25 15.6**	**+0.8**
	0.5nm,0.3s,baz=323,slow=20,SNR=4.7							
PLCA	**Paso Flores**	**6.53**	**158**	LR		LR	07 26 44.1	
	comp=Z,408nm,18.1s,baz=316,slow=36							
LPAZ	**La Paz**	**19.03**	**17**	P		**Pn**	**07 27 12.7**	**+0.7**
	0.1nm,0.3s,baz=200,slow=8.1,SNR=6.4							
SIV	**San Ignacio**	**21.85**	**35**	P		**P**	**07 27 40.9**	**-0.1**
	3.8nm,0.9s,baz=219,slow=8.3,SNR=6.2							
SNAA	**Sanae**	**51.47**	**158**	P		**P**	**07 31 53.2**	**+0.3**
	1.0nm,0.8s,baz=248,slow=11,SNR=3.7							
QSPA	**South Pole Qui**	**55.52**	**180**	P		**P**	**07 32 22.9**	**+0.1**
	2.4nm,1.1s,baz=138,slow=14,SNR=4.3							
QSPA	**South Pole Qui**	**55.52**	**180**	*e*P		**P**	**07 32 23.2**	**+0.5**
	2.0nm,0.9s							
JCT	**Junction City**	**69.33**	**336**	*e*P		**P**	**07 33 55.1**	**-0.1**
	1.7nm,0.5s							
TXAR	**Lajitas Array**	**69.68**	**332**	P		**P**	**07 33 58.0**	**+0.5**
	1.1nm,0.6s,baz=157,slow=8.8,SNR=16							
WVT	**Waverly**	**71.69**	**348**	*e*P		**P**	**07 34 09.0**	**-0.5**
	4.4nm,1.1s							
DBIC	**Dimbokro**	**76.76**	**72**	P		**P**	**07 34 40.1**	**+0.5**
	1.6nm,0.7s,baz=202,slow=5.4,SNR=3.5							
CCUT	**Cedar City**	**80.76**	**329**	*e*P		**P**	**07 35 03.2**	**+1.9**
	8.8nm,1.7s							
ECSD	**EROS Data Cent**	**80.80**	**343**	*e*P		**P**	**07 35 00.9**	**-0.2**
	2.1nm,0.7s							
BOSA	**Boshof**	**81.00**	**118**	P		**P**	**07 35 03.0**	**+0.1**
	1.8nm,0.8s,baz=174,slow=8.0,SNR=3.7							
DUG	**Dugway, Tooele**	**82.78**	**331**	*e*P		**P**	**07 35 11.5**	**-0.3**
	2.9nm,1.1s							
TPH	**Tonopah**	**82.89**	**327**	*e*P		**P**	**07 35 12.6**	**+0.2**
	1.3nm,0.9s							
NVAR	**Mina Array Bea**	**83.67**	**326**	P		**P**	**07 35 17.2**	**+0.8**
	0.7nm,0.7s,baz=156,slow=5.6,SNR=5.8							
PDAR	**Pinedale Array**	**83.77**	**334**	P		**P**	**07 35 16.4**	**-0.5**
	0.7nm,1.0s,baz=165,slow=3.7,SNR=3.9							
HVU	**Hansel Valley**	**84.12**	**332**	*e*P		**P**	**07 35 17.9**	**-0.7**
	3.1nm,0.7s							
TORD	**Torodi Ar. Bea**	**85.80**	**71**	P		**P**	**07 35 26.4**	**-1.0**
	0.7nm,0.9s,baz=254,slow=5.2,SNR=3.6							
MCMT	**McKenzie Canyo**	**86.75**	**333**	*e*P		**P**	**07 35 31.9**	**+0.2**
	0.3nm,0.5s							
YBH	**Yreka Blue Hor**	**88.33**	**326**	P		**P**	**07 35 39.0**	**-0.2**
	1.1nm,0.8s,baz=120,slow=8.1,SNR=4.7							
BRTR	**Keskin Array B**	**123.43**	**62**	PKP		**PKPdf**	**07 41 43.7**	**-1.1**
	0.4nm,0.7s,baz=180,slow=2.2,SNR=3.0							
BVAR	**Borovoye Array**	**148.78**	**43**	PKPbc		**PKPbc**	**07 42 35.0**	**+0.5**
	1.2nm,0.5s,baz=308,slow=3.7,SNR=6.7							
MKAR	**Makanchi Array**	**158.31**	**49**	PKPab		**PKPab**	**07 43 18.3**	**-0.6**
	0.4nm,0.7s,baz=304,slow=3.5,SNR=4.5							

*ISCJB **01** 07:23:05.8±0.4,30°.07N±0°.05×139°.4E±0°.1,h426km±6km, mb3.2/13,Error ellipse: s-maj=19.8km s-min=6.0km az=167.1*

*IDC **01** 07:23:05.6±1.0,29°.98N×139°.06E,h402km±13km, mb3.0/13,mb1 3.1/15,mb1mx3.0/51,mbtmp3.8/15,Error ellipse: s-maj=22.5km s-min=11.7km az=74.0*

*JMA **01** 07:23:06.2±0.3,30°.12N×139°.59E,h438km±5km,M3.5*

ISC 01 07:23:06.6±0.8,30°.10N±0°.07×139°.3E±0°.1,h418km±9km, n30,σ1°.67/41,mb3.3/13,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.04**	**8**	P		**P**	**07 24 13.2**	**+1.9**
JHJ2				*e*S		**S**	**07 25 05.2**	**+1.3**
CBIJ	**Chichi jima**	**3.92**	**139**	P		**P**	**07 24 18.9**	**-0.1**
CBIJ				*e*S		**S**	**07 25 15.5**	**-2.5**
JCJ	**Chichijima**	**3.92**	**139**	P		**P**	**07 24 18.6**	**-0.4**
	4.7nm,0.3s,baz=288,slow=19,SNR=2.9							
JCJ				S		**S**	**07 25 15.7**	**-2.2**
	75nm,0.3s,baz=106,slow=23,SNR=17							
BSO1	**Boso 1**	**4.76**	**17**	P		**P**	**07 24 28.5**	**+2.3**
BSO1				*e*S		**S**	**07 25 31.3**	**-0.1**
BSO3	**Boso 3**	**4.80**	**12**	P		**P**	**07 24 28.4**	**+1.5**
BSO3				*e*S		**S**	**07 25 32.7**	**+0.1**
JIE	**Ise**	**4.81**	**334**	P		**P**	**07 24 30.1**	**+2.8**
JKN2	**Miekihoku**	**4.86**	**329**	P		**P**	**07 24 30.3**	**+2.6**
HMMJ	**Hamamatsu 2**	**4.93**	**345**	P		**P**	**07 24 30.0**	**+1.6**
BSO4	**Boso 4**	**4.96**	**10**	P		**P**	**07 24 30.5**	**+1.9**
BSO4				*e*S		**S**	**07 25 35.5**	**-0.2**
JNY	**Yasuok**	**5.38**	**347**	P		**P**	**07 24 35.3**	**+2.2**
JHU	**Hanno**	**5.74**	**360**	P		**P**	**07 24 37.7**	**+1.0**
JHU				*e*S		**S**	**07 25 48.2**	**-2.4**
JRY	**Ryogami san**	**5.91**	**357**	P		**P**	**07 24 40.2**	**+1.6**
JRY				*e*S		**S**	**07 25 52.0**	**-2.0**
JYT	**Yasato**	**6.16**	**7**	P		**P**	**07 24 41.7**	**+0.5**
JYT				*e*S		**S**	**07 25 56.5**	**-2.3**
JAG	**Ashikaga**	**6.31**	**1**	P		**P**	**07 24 43.1**	**+0.3**
JAG				*e*S		**S**	**07 25 57.8**	**-4.0**
MJAR	**Matsushiro Arr**	**6.49**	**352**	P		**P**	**07 24 45.3**	**+0.6**
	1.1nm,0.3s,baz=189,slow=7.7,SNR=6.8							
JHO	**Hitachi**	**6.58**	**9**	P		**P**	**07 24 46.9**	**+0.6**
JHO				*e*S		**S**	**07 26 04.8**	**-2.4**
CMAR	**Chiang Mai Arr**	**38.38**	**262**	P		**P**	**07 29 48.8**	**-1.5**
	0.6nm,0.3s,baz=72,slow=6.1,SNR=4.7							
ZALV	**Zalesovo Beam**	**45.56**	**318**	P		**P**	**07 30 45.5**	**-1.4**
	0.3nm,0.3s,baz=123,slow=10,SNR=2.4							
MKAR	**Makanchi Array**	**46.62**	**308**	P		**P**	**07 30 54.5**	**-0.7**
	0.2nm,0.4s,baz=87,slow=11,SNR=5.4							
WRA	**Warramunga Arr**	**49.98**	**186**	P		**P**	**07 31 20.1**	**-0.6**
	0.5nm,0.4s,baz=4.9,slow=7.6,SNR=9.8							
ASAR	**Alice Springs**	**53.71**	**186**	P		**P**	**07 31 47.3**	**-0.5**
	0.5nm,0.6s,baz=3.0,slow=6.4,SNR=8.1							
BVAR	**Borovoye Array**	**54.12**	**316**	P		**P**	**07 31 50.6**	**+0.2**
	0.7nm,0.4s,baz=103,slow=7.4,SNR=4.3							
AKTO	**Aktyubinsk**	**62.12**	**314**	P		**P**	**07 32 45.1**	**0.0**
	0.9nm,0.6s,baz=66,slow=14,SNR=3.7							
ARCES	**ARCESS Array B**	**69.87**	**340**	P		**P**	**07 33 34.5**	**+1.1**
	3.0nm,1.0s,baz=74,slow=9.0,SNR=8.1							
YKA	**Yellowknife Ar**	**70.71**	**28**	P		**P**	**07 33 40.4**	**+1.9**
	0.1nm,0.4s,baz=294,slow=6.1,SNR=3.9							
FINES	**FINESS Array B**	**74.13**	**333**	P		**P**	**07 33 58.9**	**+0.4**
	1.6nm,0.9s,baz=91,slow=5.7,SNR=4.9							
AKASG	**Malin Array Be**	**78.70**	**322**	P		**P**	**07 34 23.9**	**0.0**
	0.2nm,0.3s,baz=56,slow=5.0,SNR=2.8							
NOA	**NORSAR Array B**	**79.88**	**337**	P		**P**	**07 34 30.7**	**+0.6**
	0.4nm,0.5s,baz=33,slow=5.2,SNR=2.5							
BRTR	**Keskin Array B**	**82.11**	**311**	P		**P**	**07 34 42.5**	**+0.1**
	0.6nm,0.7s,baz=114,slow=3.6,SNR=5.7							
QSPA	**South Pole Qui**	**119.86**	**180**	PKP		**PKPdf**	**07 41 07.0**	**-0.5**
	1.3nm,0.9s,baz=307,slow=4.3,SNR=3.6							

*IDC **01** 07:29:08.8±0.5,34°.58S×73°.92W,h0km,mb4.4/13, mb1 4.5/14,mb1mx4.4/31,mbtmp4.4/14,ML3.6/2,MS2.8/2, Ms1 2.8/2,ms1mx2.7/35,Error ellipse: s-maj=23.0km s-min=15.8km az=77.0*

*ISCJB **01** 07:29:12.8±0.4,34°.53S±0°.06×73°.63W±0°.07,h33km, mb4.6/35,MS3.3/1,Error ellipse: s-maj=8.9km s-min=7.8km az=138.8*

*NEIC **01** 07:29:14.4±0.4,34°.52S×73°.65W,h35km,mb4.7/21,Error ellipse: s-maj=13.3km s-min=9.0km az=62.0*

ISC 01 07:29:14.1±0.4,34°.53S±0°.07×73°.68W±0°.08,h35km,n72, σ1°.74/84,mb4.6/35,1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.42**	**59**	Pn		**Pn**	**07 30 32.5**	**0.0**
	0.5nm,0.3s,baz=211,slow=12,SNR=3.8							
CFAA				Sn		**Sn**	**07 31 36.0**	**+2.3**
	0.8nm,0.3s,baz=136,slow=21,SNR=6.6							
CFAA				LR		LR	07 32 49.6	
	comp=Z,25nm,21.4s,baz=207,slow=39							
PLCA	**Paso Flores**	**6.67**	**159**	Pn		**Pn**	**07 30 51.8**	**+2.2**
TRQA	**Tornquist**	**10.08**	**114**	*e*Pn		**Pn**	**07 31 36.7**	**+0.4**
TRQA				*e*Sn		**Sn**	**07 33 26.2**	**-1.9**
LVC	**Limon Verde**	**12.59**	**21**	*e*Pn		**Pn**	**07 32 09.0**	**-2.0**
LVC				*e*Sn		Sn	07 33 42.1	-48
LPAZ	**La Paz**	**18.84**	**17**	P		**Pn**	**07 33 32.3**	**-0.1**
	0.2nm,0.3s,baz=193,slow=7.3,SNR=8.9							
SIV	**San Ignacio**	**21.66**	**35**	P		**P**	**07 34 04.5**	**+2.7**
	7.0nm,0.8s,baz=239,slow=12,SNR=11							
NNA	**Nana**	**22.63**	**352**	P		**P**	**07 34 13.3**	**+1.2**
	7.6nm,0.7s,baz=215,slow=12,SNR=4.8							
NNA	**Nana**	**22.63**	**352**	*e*P		**P**	**07 34 14.0**	**+1.9**
ATAH	**Atahualpa**	**27.61**	**350**	LR		LR	07 43 46.3	
	comp=Z,76nm,18.4s,baz=212,slow=32							
OTAV	**Otavalo**	**34.88**	**352**	P		**P**	**07 36 00.7**	**-2.1**
ROSC	**El Rosal**	**39.18**	**359**	P		**P**	**07 36 41.9**	**+2.7**
	3.0nm,0.8s,baz=240,slow=8.1,SNR=4.7							
JTS	**JuntasAbangare**	**45.84**	**344**	P		**P**	**07 37 32.5**	**-0.4**
	12nm,1.1s,baz=302,slow=15,SNR=2.2							
JTS	**JuntasAbangare**	**45.84**	**344**	*e*P		**P**	**07 37 32.7**	**-0.2**
SNAA	**Sanae**	**51.61**	**158**	P		**P**	**07 38 17.3**	**+0.6**
	3.9nm,0.9s,baz=277,slow=8.7,SNR=6.6							
SNAA	**Sanae**	**51.61**	**158**	*e*P		**P**	**07 38 17.8**	**+1.1**
	17nm,1.2s							
JAKH	**Jacmel**	**52.49**	**1**	*e*P		**P**	**07 38 21.2**	**-2.4**
QSPA	**South Pole Qui**	**55.70**	**180**	P		**P**	**07 38 48.1**	**+1.3**
	8.0nm,1.1s,baz=154,slow=5.1,SNR=9.2							
H06S1	**SOCORRO T**	**63.74**	**320**	T		T	08 48 32.2	
	SNR=3.0							
SYO	**Syowa Base**	**65.87**	**159**	‖ *e*P		**P**	**07 39 54.6**	**-1.0**
JCT	**Junction City**	**69.20**	**336**	*e*P		**P**	**07 40 19.4**	**+2.3**
	14nm,1.3s							
TXAR	**Lajitas Array**	**69.55**	**332**	P		**P**	**07 40 19.5**	**0.0**
	1.7nm,0.8s,baz=152,slow=8.8,SNR=16							
SWET	**Sewanee**	**70.33**	**349**	*e*P		**P**	**07 40 24.2**	**+0.2**
	14nm,1.1s							
ABTX	**Abilene, Hawle**	**71.12**	**337**	*e*P		**P**	**07 40 29.1**	**+0.2**
	9.6nm,1.0s							
WVT	**Waverly**	**71.53**	**348**	*e*P		**P**	**07 40 30.7**	**-0.5**
	16nm,1.2s							
MNTX	**Cornudas Mount**	**72.32**	**332**	*e*P		**P**	**07 40 35.6**	**-0.6**
	5.1nm,1.3s							
TUL1	**Leonard**	**73.06**	**341**	*e*P		**P**	**07 40 40.1**	**-0.2**
	10nm,1.0s							
MSTX	**Muleshoe**	**73.40**	**335**	*e*P		**P**	**07 40 42.4**	**-0.2**
	6.1nm,0.9s							
AMTX	**Amarillo**	**73.86**	**336**	*e*P		**P**	**07 40 46.5**	**+1.2**
	12nm,1.2s							
TUC	**Tucson**	**75.09**	**328**	*e*P		**P**	**07 40 54.0**	**+1.5**
	6.6nm,1.3s							
ANMO	**Albuquerque**	**75.61**	**333**	*e*P		**P**	**07 40 56.7**	**+1.1**
	2.2nm,1.1s							
DBIC	**Dimbokro**	**76.64**	**72**	P		**P**	**07 41 02.8**	**+1.2**
	6.6nm,0.7s,baz=204,slow=7.5,SNR=8.9							
DBIC	**Dimbokro**	**76.64**	**72**	*e*P		**P**	**07 41 00.6**	**-1.1**
WUAZ	**Wupatki**	**78.08**	**329**	*e*P		**P**	**07 41 11.1**	**+1.7**
	7.6nm,1.2s							
SMCO	**Snowmass**	**79.55**	**334**	*e*P		**P**	**07 41 19.3**	**+1.6**
	5.9nm,1.1s							
CCUT	**Cedar City**	**80.65**	**329**	*e*P		**P**	**07 41 25.2**	**+1.8**
	5.9nm,1.1s							
ECSD	**EROS Data Cent**	**80.66**	**343**	*e*P		**P**	**07 41 22.9**	**-0.1**
	88nm,2.7s							
BOSA	**Boshof**	**81.02**	**118**	P		**P**	**07 41 27.1**	**+1.4**
	6.2nm,0.9s,baz=227,slow=4.9,SNR=7.9							
DUG	**Dugway, Tooele**	**82.66**	**331**	*e*P		**P**	**07 41 34.7**	**+0.8**
	6.6nm,1.4s							
NVAR	**Mina Array Bea**	**83.56**	**326**	P		**P**	**07 41 39.2**	**+0.6**
	0.7nm,0.8s,baz=154,slow=6.7,SNR=4.4							
PDAR	**Pinedale Array**	**83.64**	**334**	P		**P**	**07 41 39.0**	**+0.1**
	2.8nm,1.2s,baz=157,slow=2.5,SNR=7.0							
HVU	**Hansel Valley**	**83.99**	**332**	*e*P		**P**	**07 41 40.9**	**+0.2**
	7.2nm,1.0s							
TORD	**Torodi Ar. Bea**	**85.67**	**71**	P		**P**	**07 41 50.1**	**+0.5**
	3.8nm,1.0s,baz=248,slow=4.3,SNR=14							
HLID	**Hailey**	**86.14**	**332**	*e*P		**P**	**07 41 53.3**	**+1.8**
	34nm,2.6s							
MCMT	**McKenzie Canyo**	**86.62**	**333**	*e*P		**P**	**07 41 54.8**	**+1.0**
	1.8nm,1.0s							
ULM	**Lac du Bonnet**	**86.67**	**346**	P		**P**	**07 41 52.5**	**-1.2**
	2.7nm,0.9s,baz=174,slow=10,SNR=4.1							
DGMT	**Dagmar**	**87.01**	**340**	*e*P		**P**	**07 41 55.8**	**+0.4**
	12nm,0.9s							
MOD	**Modoc Plateau**	**87.26**	**327**	*e*P		**P**	**07 41 57.9**	**+1.0**
	7.0nm,1.1s							
K05A	**Summer Lake**	**88.18**	**327**	*e*P		**P**	**07 42 02.9**	**+1.4**
	140nm,2.6s							
YBH	**Yreka Blue Hor**	**88.23**	**326**	P		**P**	**07 42 01.5**	**-0.1**
	2.1nm,0.9s,baz=22,slow=5.4,SNR=5.8							
YKA	**Yellowknife Ar**	**102.13**	**342**	P		**Pdif**	**07 43 02.6**	**-1.8**
	0.2nm,0.9s,baz=140,slow=4.9,SNR=3.5							
RAGM	**Ragged Mountai**	**110.87**	**330**	*e*Pdif		**Pdif**	**07 43 36.5**	**-6.8**
BRTR	**Keskin Array B**	**123.28**	**62**	PKP		**PKPdf**	**07 48 07.7**	**+0.3**
	0.9nm,0.9s,baz=187,slow=3.2,SNR=4.2							
AKASG	**Malin Array Be**	**123.56

SNAA Sanae 51.99 158 P P 07 41 06.8 +0.5
1.9nm,0.9s,baz=320,slow=12,SNR=4.0
TEIG Tepich 55.79 343 P P 07 41 34.3 -0.1
4.4nm,0.7s,baz=202,slow=16,SNR=4.4
QSPA South Pole Qui 56.19 180 P P 07 41 36.0 -1.0
3.3nm,1.0s,baz=113,slow=4.4,SNR=3.9
QSPA South Pole Qui 56.19 180 *eP* **P 07 41 37.9 +0.9**
4.8nm,1.0s
TXAR Lajitas Array 69.21 332 P P 07 43 04.6 +0.5
0.5nm,0.5s,baz=156,slow=8.6,SNR=7.0
SWET Sewanee 69.89 349 *eP* **P 07 43 08.0 -0.1**
3.8nm,0.4s
WVT Waverly 71.09 348 *eP* **P 07 43 15.0 -0.3**
23nm,1.1s
MNTX Cornudas Mount 71.98 332 *eP* **P 07 43 20.6 -0.3**
2.6nm,1.3s
TUL1 Leonard 72.66 341 *eP* **P 07 43 23.9 -0.9**
12nm,1.2s
ACSO Alum Creek Sta 74.43 352 *eP* **P 07 43 35.1 0.0**
ANMO Albuquerque 75.27 332 *eP* **P 07 43 41.1 +0.8**
5.2nm,1.4s
DBIC Dimbokro 76.31 72 P P 07 43 46.9 +0.4
3.6nm,0.6s,baz=196,slow=6.7,SNR=6.6
ECSD EROS Data Cent 80.24 343 *eP* **P 07 44 07.4 -0.2**
3.0nm,0.7s
SRU San Rafael Swe 80.48 332 *eP* **P 07 44 10.1 +0.9**
1.1nm,0.5s
BOSA Boshof 81.09 118 P P 07 44 13.0 +0.1
3.1nm,1.0s,baz=226,slow=4.9,SNR=3.5
DUG Dugway, Tooele 82.33 331 *eP* **P 07 44 19.8 +0.9**
3.1nm,0.9s
TPH Tonopah 82.47 327 *eP* **P 07 44 19.7 -0.1**
NVAR Mina Array Bea 83.26 326 P P 07 44 24.1 +0.2
0.5nm,0.7s,baz=166,slow=4.3,SNR=4.2
PDAR Pinedale Array 83.28 334 P P 07 44 23.6 -0.3
1.0nm,1.0s,baz=133,slow=6.3,SNR=4.8
HVU Hansel Valley 83.66 332 *eP* **P 07 44 26.0 +0.3**
3.9nm,0.8s
TORD Torodi Ar. Bea 85.33 71 P P 07 44 34.5 -0.2
2.3nm,0.7s,baz=259,slow=4.1,SNR=13
MCMT McKenzie Canyo 86.27 333 *eP* **P 07 44 38.2 -0.7**
3.3nm,1.3s
YBH Yreka Blue Hor 87.93 325 P P 07 44 46.8 -0.1
3.3nm,1.1s,baz=34,slow=3.6,SNR=4.8
YKA Yellowknife Ar 101.73 342 P Pdif 07 45 49.9 +0.6
0.1nm,0.7s,baz=144,slow=4.3,SNR=4.0
WRA Warramunga Arr 120.14 210 PKP **PKPdf 07 50 48.0 -0.5**
0.4nm,0.6s,baz=167,slow=1.5,SNR=3.6
BRTR Keskin Array B 122.89 61 PKP **PKPdf 07 50 53.4 0.0**
0.3nm,0.6s,baz=180,slow=4.9,SNR=3.6
AKASG Malin Array Be 123.09 48 PKP **PKPdf 07 50 51.8 -1.3**
0.5nm,0.6s,baz=263,slow=3.1,SNR=3.5
BRVK Borovoye 148.04 42 *e*PKPbc **PKPbc 07 51 43.0 +0.9**
PSI Prapat 148.11 165 PKPbc **PKPbc 07 51 43.2 -0.4**
6.1nm,0.6s,baz=214,slow=5.3,SNR=5.7
BVAR Borovoye Array 148.11 42 PKPbc **PKPbc 07 51 43.0 +0.6**
1.5nm,0.8s,baz=295,slow=4.2,SNR=6.1
EKS2 Erkin-Say 153.04 62 *e*PKPdf **PKPdf 07 51 47.5 +0.2**
EKS2 *e*PKPbc **PKiKP 07 51 55.1 +0.4**
EKS2 *e*PKPab **PKPab 07 52 06.7 +0.5**
AAK Ala-Archa 153.56 62 PKPbc **PKPbc 07 51 56.6 +0.8**
1.3nm,0.6s,baz=181,slow=3.2,SNR=3.8
AAK Ala-Archa 153.56 62 *e*PKPdf **PKPdf 07 51 48.6 +0.5**
AAK PKPbc **PKPbc 07 51 56.6 +0.8**
AAK *e*PKPbc **PKPbc 07 51 56.8 +1.0**
AAK *e*PKPab **PKPab 07 52 08.6 +0.1**
ZALV Zalesovo Beam 154.88 31 PKPbc **PKPbc 07 51 58.0 +0.1**
0.7nm,0.3s,baz=295,slow=4.2,SNR=3.7
MKAR Makanchi Array 157.68 48 PKP **PKPdf 07 51 53.7 +0.5**
0.3nm,0.8s,baz=58,slow=3.6,SNR=2.2
MKAR PKPab **PKPab 07 52 25.8 +0.1**
0.5nm,0.6s,baz=325,slow=1.5,SNR=5.8

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*IDC **01** 07:37:30.7±0.8, 16°.30S×68°.68W, h175km±4km, mb3.7/5, mb1 3.8/7, mb1mx3.5/22, mbtmp4.2/7, MS3.5/1, Ms1 3.5/1, ms1mx2.7/42, Error ellipse: s-maj=25.3km s-min=21.1km az=4.0*
*ISCJB **01** 07:37:31.9±1.0, 16°.3S±0°.2×68°.6W±0°.1, h200km, mb3.7/5, Error ellipse: s-maj=34.3km s-min=18.5km az=10.8*
ISC 01 07:37:33.1±1.1, 16°.3S±0°.3×68°.4W±0°.1, h200km, n9, σ2.70/8, mb3.9/5, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**0.30**	**84**	P	Pn	07 37 56.3	-4.0
	20nm,0.3s,baz=284,slow=17,SNR=330						
LPAZ				S	**Sn**	**07 38 15.9**	**-5.4**
	1.9nm,0.3s,baz=234,slow=18,SNR=5.0						
SIV	**San Ignacio**	**7.09**	**88**	P	**Pn**	**07 39 14.4**	**-0.1**
	10nm,0.3s,baz=281,slow=11,SNR=85						
BDFB	**Brasilia**	**19.65**	**91**	P	**Pn**	**07 41 50.1**	**-0.8**
	1.4nm,0.3s,baz=262,slow=8.9,SNR=19						
ROSC	**El Rosal**	**21.83**	**344**	LR	LR	07 51 07.9	
	comp=Z,111nm,18.5s,baz=327,slow=38						
DBIC	**Dimbokro**	**66.92**	**75**	P	**P**	**07 48 06.6**	**+2.2**
	1.3nm,0.6s,baz=158,slow=17,SNR=3.5						
NVAR	**Mina Array Bea**	**71.74**	**321**	P	**P**	**07 48 33.3**	**-0.5**
	0.3nm,0.7s,baz=134,slow=6.4,SNR=3.0						
QSPA	**South Pole Qui**	**73.84**	**180**	P	**P**	**07 48 46.2**	**+0.6**
	5.5nm,0.7s,baz=134,slow=4.8,SNR=19						
TORD	**Torodi Ar. Bea**	**75.25**	**71**	P	**P**	**07 48 55.4**	**+1.0**
	0.9nm,0.4s,baz=256,slow=5.4,SNR=18						
YKA	**Yellowknife Ar**	**86.48**	**340**	P	**P**	**07 49 53.1**	**+0.4**
	1.2nm,0.6s,baz=133,slow=4.9,SNR=39						

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*IDC **01** 07:39:10.6±0.5, 36°.12S×72°.68W, h0km, mb4.5/13, mb1 4.6/14, mb1mx4.5/20, mbtmp4.5/14, ML4.0/1, MS3.8/4, Ms1 3.8/4, ms1mx3.4/37, Error ellipse: s-maj=25.1km s-min=15.0km az=77.0*
*ISCJB **01** 07:39:14.5±0.2, 36°.10S±0°.05×72°.59W±0°.06, h35km, mb4.8/51, Error ellipse: s-maj=8.6km s-min=5.1km az=137.9*
*NEIC **01** 07:39:16.2±0.2, 36°.13S×72°.67W, h35km, mb4.9/43, Error ellipse: s-maj=8.3km s-min=5.0km az=66.0*
NEIC Felt at Molina.
ISC 01 07:39:16.4±0.3, 36°.08S±0°.06×72°.63W±0°.08, h35km, n414, σ0.72/435, mb4.8/52, 144C-156D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.93**	**161**	Pn	**Pn**	**07 40 28.5**	**+0.6**
	2.7nm,0.3s,baz=327,slow=12,SNR=28						
PLCA				Lg	Lg	07 41 43.1	
	5.3nm,0.3s,baz=277,slow=16,SNR=3.4						
PLCA				LR	LR	07 42 30.6	
	comp=Z,1μm,18.1s,baz=308,slow=41						
PLCA	**Paso Flores**	**4.93**	**161**	*e*Pn	**Pn**	**07 40 28.0**	**+0.1**
PLCA				Lg	Lg	07 41 43.1	
PLCA				*e*Sn	Sn	07 41 44.2	+20
CFAA	**Coronel Fontan**	**5.76**	**41**	Pn	**Pn**	**07 40 42.0**	**+2.6**
	0.6nm,0.3s,baz=299,slow=1.7,SNR=9.7						
CFAA				Lg	Lg	07 42 05.8	
	2.3nm,0.3s,baz=97,slow=21,SNR=11						
CFAA				LR	LR	07 43 19.2	
	comp=Z,96nm,20.2s,baz=230,slow=43						
TRQA	**Tornquist**	**8.74**	**106**	Pn	**Pn**	**07 41 20.3**	**+0.1**
	100nm,1.4s						
TRQA				*e*Sn	**Sn**	**07 42 57.2**	**-0.2**
LVC	**Limon Verde**	**13.80**	**15**	*e*Pn	**Pn**	**07 42 28.8**	**-1.0**
CPUP	**Villa Florida**	**16.28**	**58**	Pn	**P**	**07 43 04.5**	**-0.5**
	0.5nm,0.3s,baz=211,slow=7.7,SNR=4.8						
CPUP				Lg	Lg	07 47 48.2	
	5.0nm,0.3s,baz=337,slow=14,SNR=4.7						
CPUP				LR	LR	07 49 59.3	
	comp=Z,778nm,19.8s,baz=221,slow=40						
USHA	**Ushuaia**	**18.98**	**173**	P	**P**	**07 43 34.2**	**-0.4**
	0.5nm,0.3s,baz=359,slow=6.8,SNR=3.7						
USHA				LR	LR	07 51 39.8	
	comp=Z,636nm,18.4s,baz=332,slow=40						
LPAZ	**La Paz**	**20.11**	**13**	P	Pn	07 43 50.1	+0.1
	6.6nm,0.8s,baz=193,slow=8.5,SNR=13						
LPAZ	**La Paz**	**20.11**	**13**	*e*P	**P**	**07 43 48.3**	**+0.5**
	16nm,0.8s						
SIV	**San Ignacio**	**22.50**	**30**	P	**P**	**07 44 14.2**	**+1.3**
	6.5nm,0.7s,baz=230,slow=14,SNR=11						
NNA	**Nana**	**24.28**	**350**	P	**P**	**07 44 30.1**	**-0.4**
	6.2nm,0.7s,baz=201,slow=9.1,SNR=4.2						
NNA	**Nana**	**24.28**	**350**	*e*P	**P**	**07 44 30.3**	**-0.2**
	4.6nm,0.5s						
SAML	**Samuel**	**28.34**	**20**	*e*P	**P**	**07 45 07.5**	**+0.4**
	4.6nm,1.4s						
BDFB	**Brasilia**	**29.93**	**54**	P	**P**	**07 45 19.4**	**-1.9**
	1.8nm,0.9s,baz=184,slow=16,SNR=2.6						
BDFB	**Brasilia**	**29.93**	**54**	*e*P	P	07 45 27.3	+6.0
BCIP	**Isla Barro Col**	**45.51**	**350**	*e*P	**P**	**07 47 30.0**	**-2.5**
	121nm,1.5s						
JTS	**JuntasAbangare**	**47.56**	**343**	*e*P	**P**	**07 47 49.3**	**+0.7**
	14nm,1.0s						
VNA3	**Neumayer Olymp**	**47.63**	**157**	P	**P**	**07 47 48.5**	**-0.1**
TRIS	**Tristan da Cun**	**47.72**	**110**	*e*P	**P**	**07 47 50.1**	**+0.4**
	254nm,0.2s						
VNA2	**Neumayer--Watz**	**48.30**	**156**	P	**P**	**07 47 53.7**	**0.0**
SNAA	**Sanae**	**49.86**	**157**	P	**P**	**07 48 05.4**	**-0.3**
SNAA	**Sanae**	**49.86**	**157**	P	**P**	**07 48 05.3**	**-0.3**
	4.3nm,0.8s,baz=284,slow=9.6,SNR=11						
SNAA	**Sanae**	**49.86**	**157**	*e*P	**P**	**07 48 05.2**	**-0.4**
	41nm,1.4s						
APG	**El Apazote**	**53.53**	**338**	P	P	07 48 30.0	-3.9
	7.9nm,0.9s,baz=166,slow=7.2,SNR=12						
QSPA	**South Pole Qui**	**54.16**	**180**	P	**P**	**07 48 37.5**	**-0.4**
	13nm,0.8s,baz=155,slow=1.9,SNR=37						
QSPA	**South Pole Qui**	**54.16**	**180**	*e*P	**P**	**07 48 37.6**	**-0.4**
	15nm,0.9s						
SDDR	**Presa de Saban**	**54.77**	**2**	*e*P	**P**	**07 48 44.9**	**+2.3**
	9.5nm,0.9s						
TEIG	**Tepich**	**57.92**	**343**	P	**P**	**07 49 04.9**	**-0.1**
	18nm,0.7s,baz=135,slow=4.4,SNR=12						
TEIG	**Tepich**	**57.92**	**343**	*e*P	**P**	**07 49 04.9**	**-0.1**
	16nm,0.6s						
SYO	**Syowa Base**	**64.12**	**158**	*e*P	**P**	**07 49 44.4**	**-2.1**
933A	**Laredo**	**68.15**	**335**	⇓P	**P**	**07 50 13.3**	**+0.4**
	baz=68						
834A	**Tilden**	**68.37**	**335**	⇓P	**P**	**07 50 14.9**	**+0.7**
	baz=69						
735A	**Kenedy**	**68.80**	**336**	⇓P	**P**	**07 50 17.1**	**+0.2**
	baz=69						
833A	**Chaparral WMA,**	**68.84**	**335**	⇓P	**P**	**07 50 17.0**	**-0.2**
	baz=69,SNR=8.8						
832A	**Faith Ranch, C**	**69.01**	**334**	⇑P	**P**	**07 50 18.0**	**-0.2**
	baz=69,SNR=6.9						
734A	**La Parita Cree**	**69.04**	**336**	⇑P	**P**	**07 50 18.7**	**+0.4**
	baz=69						
636A	**Smothers Creek**	**69.14**	**337**	⇓P	**P**	**07 50 19.6**	**+0.7**
	baz=70						
732A	**Laxson Ranch,**	**69.41**	**334**	⇓P	**P**	**07 50 20.6**	**-0.1**
	baz=70,SNR=12						
536A	**Bastrop**	**69.70**	**338**	⇓P	**P**	**07 50 23.0**	**+0.5**
	baz=70						
633A	**Seathoff Ranch**	**69.81**	**335**	⇑P	**P**	**07 50 23.4**	**+0.2**
	baz=70						
535A	**Dale**	**69.81**	**337**	⇑P	**P**	**07 50 23.0**	**-0.1**
	baz=70,SNR=5.6						
340A	**Bronson**	**70.04**	**341**	⇓P	**P**	**07 50 24.9**	**+0.4**
	baz=70						
632A	**Uvalde**	**70.06**	**335**	⇑P	**P**	**07 50 25.0**	**+0.3**
	baz=70,SNR=6.2						
534A	**Blanco**	**70.10**	**336**	⇑P	**P**	**07 50 24.8**	**-0.2**
	baz=70						
339A	**Huntington**	**70.14**	**340**	⇑P	**P**	**07 50 25.2**	**+0.1**
	baz=70						
631A	**Perdido Creek**	**70.25**	**334**	⇓P	**P**	**07 50 26.0**	**+0.2**
	baz=71						
533A	**Kerrville**	**70.33**	**336**	⇑P	**P**	**07 50 26.2**	**-0.2**
	baz=71,SNR=6.9						
338A	**Crockett**	**70.38**	**339**	⇑P	**P**	**07 50 27.3**	**+0.7**
	baz=71						
337A	**Centerville**	**70.50**	**339**	⇑P	**P**	**07 50 28.2**	**+0.8**
	baz=71						
435B	**Jarrell**	**70.52**	**337**	⇑P	**P**	**07 50 27.9**	**+0.4**
	baz=71						
532A	**Rocksprings**	**70.67**	**335**	⇓P	**P**	**07 50 28.9**	**+0.4**
	baz=71,SNR=15						
434A	**Burnet**	**70.76**	**337**	⇓P	**P**	**07 50 28.8**	**-0.1**
	baz=71,SNR=9.4						
336A	**Riesel**	**70.85**	**338**	⇑P	**P**	**07 50 29.8**	**+0.3**
	baz=71						
531A	**Rocksprings**	**70.92**	**335**	⇓P	**P**	**07 50 30.2**	**+0.1**
	baz=71,SNR=8.4						
335A	**Moody**	**70.93**	**338**	⇓P	**P**	**07 50 29.9**	**-0.1**
	baz=71						
JCT	**Junction City**	**70.96**	**335**	⇑P	**P**	**07 50 30.1**	**-0.1**
	baz=71,SNR=8.7						
JCT	**Junction City**	**70.96**	**335**	*e*P	**P**	**07 50 30.4**	**+0.2**
	26nm,1.2s						
433A	**Art**	**70.97**	**336**	⇑P	**P**	**07 50 30.0**	**-0.3**
	baz=71,SNR=11						
530A	**J-C Ranch, Com**	**71.19**	**334**	⇓P	**P**	**07 50 31.9**	**+0.3**
	baz=72,SNR=11						
334A	**Lometa**	**71.23**	**337**	⇓P	**P**	**07 50 31.9**	**+0.1**
	baz=72,SNR=11						
TXAR	**Lajitas Array**	**71.32**	**332**	P	**P**	**07 50 32.5**	**+0.1**
	3.5nm,0.7s,baz=150,slow=8.8,SNR=41						
432A	**Menard**	**71.32**	**336**	⇓P	**P**	**07 50 32.1**	**-0.3**
	baz=72						
KMSC	**Kings Mountain**	**71.32**	**352**	⇑P	**P**	**07 50 31.8**	**-0.4**
	baz=72						
431A	**Sonora**	**71.42**	**335**	⇓P	**P**	**07 50 32.9**	**-0.1**
	baz=72,SNR=7.0						
333A	**Richland Sprin**	**71.46**	**336**	⇓P	**P**	**07 50 33.0**	**-0.2**
	baz=72,SNR=9.1						
529A	**Stev Forest Ra**	**71.48**	**333**	⇓P	**P**	**07 50 33.5**	**+0.1**
	baz=72,SNR=11						
WHTX	**Lake Whitney,**	**71.60**	**338**	⇓P	**P**	**07 50 34.1**	**+0.1**
	baz=72						
WHTX	**Lake Whitney,**	**71.60**	**338**	*e*P	**P**	**07 50 34.2**	**+0.3**
430A	**Baggett Ranch,**	**71.73**	**334**	⇑P	**P**	**07 50 34.9**	**0.0**
	baz=72,SNR=11						
332A	**Millersview**	**71.77**	**336**	⇓P	**P**	**07 50 34.8**	**-0.3**
	baz=72,SNR=8.1						
429A	**Davenport Ranc**	**71.82**	**334**	⇓P	**P**	**07 50 35.5**	**+0.1**
	baz=72,SNR=9.5						
234A	**Clairette**	**71.82**	**337**	⇑P	**P**	**07 50 35.3**	**-0.1**
	baz=72,SNR=7.0						
331A	**San Angelo**	**71.93**	**335**	⇑P	**P**	**07 50 35.7**	**-0.3**
	baz=72,SNR=15						
SWET	**Sewanee**	**72.00**	**349**	*e*P	**P**	**07 50 36.5**	**+0.1**
	15nm,0.6s						
233A	**Rising Star**	**72.08**	**337**	⇓P	**P**	**07 50 36.5**	**-0.4**
	baz=72,SNR=7.4						
135A	**Vickery Place,**	**72.11**	**338**	⇑P	**P**	**07 50 36.3**	**-0.8**
	baz=72						
232A	**Coleman**	**72.20**	**336**	⇑P	**P**	**07 50 37.4**	**-0.3**
	baz=73,SNR=8.1						
330A	**Mertzon**	**72.28**	**335**	⇓P	**P**	**07 50 37.4**	**-0.7**
	baz=73						
231A	**Bronte**	**72.47**	**336**	⇑P	**P**	**07 50 38.8**	**-0.4**
	baz=73,SNR=15						
133A	**Hamilton Ranch**	**72.63**	**337**	⇑P	**P**	**07 50 39.8**	**-0.3**
	baz=73,SNR=8.1						
329A	**Wagon Wheel Ra**	**72.63**	**334**	⇑P	**P**	**07 50 40.2**	**-0.1**
	baz=73						
230A	**Sterling City**	**72.69**	**335**	⇓P	**P**	**07 50 40.0**	**-0.6**
	baz=73,SNR=5.0						
Z35A	**Perchaven, San**	**72.79**	**339**	⇑P	**P**	**07 50 41.1**	**0.0**
	baz=73,SNR=7.1						
ABTX	**Abilene, Hawle**	**72.88**	**336**	⇓P	**P**	**07 50 41.3**	**-0.3**
	baz=73,SNR=5.3						
ABTX	**Abilene, Hawle**	**72.88**	**336**	*e*P	**P**	**07 50 41.8**	**+0.2**
	30nm,1.3s						
MIAR	**Mount Ida**	**72.93**	**342**	*e*P	**P**	**07 50 41.6**	**-0.3**
	9.6nm,1.2s						
229A	**Bryant Ranch,**	**73.01**	**334**	⇑P	**P**	**07 50 42.3**	**-0.2**
	baz=73						
Z34A	**Collier Ranch,**	**73.02**	**338**	⇑P	**P**	**07 50 42.2**	**-0.3**
	baz=73						
131A	**Roby**	**73.17**	**336**	⇑P	**P**	**07 50 43.1**	**-0.3**
	baz=74,SNR=5.8						
Z33A	**Whitaker Ranch**	**73.21**	**337**	⇓P	**P**	**07 50 43.4**	**-0.2**
	baz=74,SNR=8.0						
WVT	**Waverly**	**73.22**	**347**	*e*P	**P**	**07 50 42.8**	**-0.7**
	21nm,1.0s						
130A	**Snyder**	**73.29**	**335**	⇓P	**P**	**07 50 43.6**	**-0.5**
	baz=74						
228A	**UT Block 9, Go**	**73.42**	**334**	⇑P	**P**	**07 50 44.7**	**-0.2**
	baz=74,SNR=6.1						
Z32A	**Haskell**	**73.45**	**337**	⇓P	**P**	**07 50 44.8**	**-0.2**
	baz=74,SNR=7.0						
Y34A	**Reagan Ranch,**	**73.52**	**338**	⇑P	**P**	**07 50 45.0**	**-0.4**
	baz=74						
129A	**Stewart Farms,**	**73.63**	**335**	⇓P	**P**	**07 50 45.3**	**-0.8**
	baz=74						
Z31A	**Sharp Cattle R**	**73.68**	**336**	⇑P	**P**	**07 50 46.1**	**-0.2**
	baz=74,SNR=8.4						
Y33A	**Hilltop Ranch,**	**73.83**	**338**	⇓P	**P**	**07 50 46.7**	**-0.5**
	baz=74,SNR=5.5						
128A	**Castleberry Fa**	**73.84**	**334**	⇑P	**P**	**07 50 47.2**	**-0.2**
	baz=74,SNR=7.0						
Z30A	**Sanderson Ranc**	**73.97**	**335**	⇓P	**P**	**07 50 47.4**	**-0.8**
	baz=74,SNR=5.1						
Y32A	**R-V Farms, Ver**	**74.08**	**337**	⇑P	**P**	**07 50 48.3**	**-0.4**
	baz=74						
MNTX	**Cornudas Mount**	**74.09**	**331**	*e*P	**P**	**07 50 47.9**	**-0.9**
	4.8nm,0.9s						
X34A	**Smith Ranch, M**	**74.14**	**339**	⇓P	**P**	**07 50 48.9**	**-0.1**
	baz=74						
Z29A	**Hungry Hill Ra**	**74.15**	**335**	⇑P	**P**	**07 50 48.6**	**-0.6**
	baz=74,SNR=8.6						
127A	**Arkansas Junct**	**74.20**	**333**	⇑P	**P**	**07 50 49.3**	**-0.3**
	baz=75						
X33A	**Lawton**	**74.29**	**338**	⇑P	**P**	**07 50 48.9**	**-1.0**
	baz=75						
Y31A	**Rekieta Farm,**	**74.31**	**336**	⇑P	**P**	**07 50 49.8**	**-0.2**
	baz=75						
Z28A	**Tucker Farm, M**	**74.41**	**334**	⇓P	**P**	**07 50 50.1**	**-0.6**
	baz=75						
X32A	**Elmer**	**74.42**	**337**	⇓P	**P**	**07 50 49.9**	**-0.8**
	baz=75						
Y30A	**Stafford Cattl**	**74.44**	**336**	⇑P	**P**	**07 50 50.2**	**-0.6**
	baz=75						
Y29A	**Porterfield Fa**	**74.68**	**335**	⇑P	**P**	**07 50 52.1**	**-0.2**
	baz=75,SNR=7.1						
W34A	**Bridge Creek,**	**74.72**	**339**	⇓P	**P**	**07 50 51.6**	**-0.7**
	baz=75						
TUL1	**Leonard**	**74.80**	**341**	⇓P	**P**	**07 50 52.2**	**-0.5**
	baz=75						
TUL1	**Leonard**	**74.80**	**341**	*e*P	**P**	**07 50 52.2**	**-0.5**
	27nm,1.3s						
X31A	**McDonald Ranch**	**74.83**	**337**	⇓P	**P**	**07 50 53.1**	**+0.1**
	baz=75,SNR=7.0						
W33A	**Caddo, Fort Co**	**74.84**	**338**	⇓P	**P**	**07 50 53.1**	**0.0**
	baz=75,SNR=5.0						
Y28A	**McKinney Farm,**	**74.92**	**335**	⇓P	**P**	**07 50 52.9**	**-0.8**
	baz=75						
X30A	**Coker Ranch, T**	**74.95**	**336**	⇓P	**P**	**07 50 53.5**	**-0.2**
	baz=75						
Z26A	**Caprock**	**74.96**	**333**	⇓P	**P**	**07 50 53.7**	**-0.3**
	baz=75,SNR=19						
W32A	**Sentinel**	**75.06**	**338**	⇓P	**P**	**07 50 54.2**	**-0.1**
	baz=75,SNR=11						
MSTX	**Muleshoe**	**75.16**	**334**	⇓P	**P**	**07 50 54.5**	**-0.6**
	baz=76						
MSTX	**Muleshoe**	**75.16**	**334**	*e*P	**P**	**07 50 55.0**	**-0.1**
	12nm,1.1s						
Y27A	**Causey**	**75.22**	**334**	⇑P	**P**	**07 50 54.6**	**-0.9**
	baz=76						
X29A	**Tulia**	**75.22**	**335**	⇑P	**P**	**07 50 55.1**	**-0.3**
	baz=76						
Z25A	**Roswell**	**75.24**	**333**	⇑P	**P**	**07 50 54.9**	**-0.7**
	baz=76						
W31A	**Holland Ranch,**	**75.33**	**337**	⇑P	**P**	**07 50 55.4**	**-0.6**
	baz=76						
319A	**Douglas**	**75.40**	**328**	⇑P	**P**	**07 50 56.2**	**-0.3**
	baz=76						
V33A	**Lossen Ranch,**	**75.41**	**339**	⇓P	**P**	**07 50 56.0**	**-0.3**
	baz=76,SNR=6.4						
X28A	**Dimmitt**	**75.46**	**335**	⇓P	**P**	**07 50 56.3**	**-0.4**
	baz=76						
Y26A	**Elida**	**75.49**	**334**	⇑P	**P**	**07 50 57.0**	**0.0**
	baz=76						
Z24A	**Sheeppen Canyo**	**75.53**	**332**	⇑P	**P**	**07 50 57.2**	**-0.2**
	baz=76,SNR=6.7						
V32A	**Arapaho**	**75.55**	**338**	⇑P	**P**	**07 50 56.7**	**-0.4**
	baz=76						
AMTX	**Amarillo**	**75.62**	**336**	⇓P	**P**	**07 50 57.1**	**-0.5**
	baz=76						
AMTX	**Amarillo**	**75.62**	**336**	*e*P	**P**	**07 50 56.9**	**-0.7**
	30nm,1.3s						
121A	**Cookes Peak, D**	**75.78**	**330**	⇑P	**P**	**07 50 58.7**	**-0.1**
	baz=76						
W29A	**Amarillo**	**75.82**	**336**	⇑P	**P**	**07 50 58.7**	**-0.2**
	baz=76						
V31A	**Spring Creek L**	**75.84**	**337**	⇓P	**P**	**07 50 59.2**	**+0.3**
	baz=76						
U33A	**Lingo Farm, Me**	**75.93**	**339**	⇑P	**P**	**07 50 59.2**	**-0.1**
	baz=76						
X26A	**CR and CF Fran**	**76.05**	**334**	⇓P	**P**	**07 51 00.2**	**0.0**
	baz=76						
Z22A	**Elephant Butte**	**76.08**	**331**	⇓P	**P**	**07 51 00.3**	**-0.1**
	baz=76						
Y24A	**Capitan**	**76.09**	**332**	⇓P	**P**	**07 51 00.5**	**0.0**
	baz=76,SNR=6.1						
W27A	**Bowe Ranch, En**	**76.25**	**335**	⇑P	**P**	**07 51 00.9**	**-0.3**
	baz=77,SNR=7.4						
DBIC	**Dimbokro**	**76.30**	**71**	P	**P**	**07 51 02.1**	**+0.1**
	5.0nm,0.8s,baz=200,slow=6.5,SNR=6.7						
DBIC	**Dimbokro**	**76.30**	**71**	*e*P	**P**	**07 51 02.0**	**+0.1**
	3.4nm,0.6s						
W26A	**Owens Ranch, T**	**76.52**	**334**	⇑P	**P**	**07 51 03.0**	**+0.1**
	baz=77						
T33A	**Patterson Ranc**	**76.58**	**339**	⇓P	**P**	**07 51 03.2**	**+0.3**
	baz=77						
V28A	**Channing**	**76.59**	**336**	⇓P	**P**	**07 51 03.5**	**+0.3**
	baz=77						
U30A	**WK&E Inc. Balk**	**76.79**	**337**	⇓P	**P**	**07 51 04.7**	**+0.4**
	baz=77						
V27A	**Dan Oppiter Fa**	**76.80**	**335**	⇓P	**P**	**07 51 04.7**	**+0.3**
	baz=77						
TUC	**Tucson**	**76.85**	**328**	*e*P	**P**	**07 51 04.6**	**-0.1**
	8.5nm,1.3s						
T32A	**Huddler Ranch,**	**76.86**	**339**	⇓P	**P**	**07 51 04.9**	**+0.3**
	baz=77						
W25A	**X Bar L Ranch,**	**76.88**	**334**	⇓P	**P**	**07 51 04.5**	**-0.4**
	baz=77						
T31A	**Randall Ranch,**	**77.01**	**338**	⇑P	**P**	**07 51 05.3**	**-0.1**
	baz=77						
U28A	**Mallet**	**77.16**	**336**	⇑P	**P**	**07 51 06.1**	**-0.3**
	baz=78						
LAZ	**Ladron**	**77.16**	**331**	*e*P	**P**	**07 51 07.7**	**+1.2**
	13nm,1.8s						
**V

S26A	Kim	78.70	335	⇓P	P	07 51 15.3 +0.3
	baz=79,SNR=6.4					
U22A	Llaves	78.79	332	⇑P	P	07 51 16.7 +1.1
	baz=79					
R28A	Tribune	78.82	337	⇑P	P	07 51 15.8 +0.3
	baz=79					
W18A	Petrified Fore	78.82	330	⇓P	P	07 51 16.4 +0.7
	baz=79					
W18A	Petrified Fore	78.82	330	eP	P	07 51 16.9 +1.1
	12nm,1.1s					
T24B	San Luis	78.86	334	⇓P	P	07 51 16.7 +0.7
	baz=79					
X16A	Lo Mia Camp, P	78.93	328	⇓P	P	07 51 16.9 +0.5
	baz=79					
P32A	Huiting Farm,	79.04	340	⇓P	P	07 51 17.1 +0.4
	baz=79					
Q29A	Oakley	79.06	338	⇑P	P	07 51 17.0 +0.2
	baz=79					
S25A	Robets Cordova	79.07	335	⇑P	P	07 51 17.1 +0.1
	baz=79					
T23A	Casias Ranch,	79.08	333	⇑P	P	07 51 17.0 -0.2
	baz=79					
R27A	Eads	79.08	336	⇑P	P	07 51 16.9 -0.1
	baz=80,SNR=5.6					
TSUM	Tsumeb	79.11	106	eP	P	07 51 17.6 -0.2
	6.1nm,1.3s					
P31A	Stockton	79.17	339	⇓P	P	07 51 17.4 0.0
	baz=80					
Y14A	Wickenburg	79.21	327	⇑P	P	07 51 17.7 0.0
	baz=80					
R26A	Arlington	79.31	336	⇓P	P	07 51 18.6 +0.3
	baz=80					
S24A	Houchin Ranch,	79.32	334	⇓P	P	07 51 19.0 +0.4
	baz=80,SNR=6.1					
P30A	Selden	79.44	339	⇑P	P	07 51 18.6 -0.2
	baz=80					
Q28A	Sharon Springs	79.48	337	⇓P	P	07 51 18.8 -0.3
	baz=80					
BOSA	Boshof	79.53	118	P	P	07 51 19.4 -0.6
	11nm,0.9s,baz=243,slow=4.4,SNR=15					
BOSA	Boshof	79.53	118	eP	P	07 51 20.1 +0.1
BOSA				epP	pP	07 51 31.1 +0.2
BOSA				esP	sP	07 51 34.6 -0.4
O32A	Brockman Farm,	79.55	340	⇑P	P	07 51 19.6 +0.2
	baz=80					
P29A	Atwood	79.70	338	⇑P	P	07 51 20.5 +0.2
	baz=80					
Y12C	Blythe	79.73	326	⇓P	P	07 51 20.7 +0.2
	baz=80					
O31A	Woolen Ranch,	79.74	340	⇓P	P	07 51 20.7 +0.3
	baz=80					
R24A	Sanders Place,	79.81	335	⇓P	P	07 51 21.8 +0.7
	baz=80,SNR=6.0					
WUAZ	Wupatki	79.84	329	⇑P	P	07 51 21.6 +0.3
	baz=80					
WUAZ	Wupatki	79.84	329	eP	P	07 51 22.5 +1.2
Q26A	Hugo	79.90	336	⇑P	P	07 51 21.4 -0.1
	baz=80					
O30A	MW Ranch, Wils	79.97	339	⇓P	P	07 51 22.1 +0.4
	baz=80					
S22A	4UR Ranch, Cre	80.00	333	⇑P	P	07 51 22.2 0.0
	baz=80					
R23A	Moffat	80.03	334	⇑P	P	07 51 22.4 +0.1
	baz=80					
BC3	Big Chuckawall	80.09	325	⇓P	P	07 51 22.8 +0.3
	baz=80					
Q25A	Bedland, Calha	80.13	335	⇓P	P	07 51 22.9 +0.1
	baz=80					
MVCO	Mesa Verde	80.15	332	⇓P	P	07 51 23.4 +0.4
	baz=80					
IRM	Iron Mountain	80.36	325	⇑P	P	07 51 24.4 +0.5
	baz=81					
P26A	Davis Ranch, A	80.42	336	⇑P	P	07 51 25.1 +0.8
	baz=81					
Q24A	Divide	80.48	335	⇓P	P	07 51 25.3 +0.4
	baz=81					
PFO	Pinyon Flats O	80.52	324	⇑P	P	07 51 25.1 +0.2
	baz=81					
W13A	Hualapai Mount	80.58	327	⇑P	P	07 51 25.6 +0.3
	baz=81					
BGNE	Belgrade	80.58	341	⇓P	P	07 51 24.9 0.0
	baz=81					
BELC	Belle Mtn. Jos	80.63	325	⇓P	P	07 51 26.1 +0.6
	baz=81					
P25A	Willow Gulch B	80.64	336	⇓P	P	07 51 26.0 +0.5
	baz=81,SNR=5.3					
O27A	Beecher Island	80.71	337	⇑P	P	07 51 26.0 +0.3
	baz=81					
N29A	Votaw Ranch, W	80.73	339	⇓P	P	07 51 26.1 +0.4
	baz=81					
M31A	Lambtecht Ranc	80.75	340	⇑P	P	07 51 26.3 +0.4
	baz=81					
MURC	Murrieta	80.87	324	⇓P	P	07 51 26.6 -0.1
	baz=81					
N28A	Pribbeno Ranch	80.88	338	⇓P	P	07 51 27.1 +0.5
	baz=81					
U15A	North Rim	81.01	329	⇓P	P	07 51 28.2 +0.5
	baz=81,SNR=6.1					
O26A	Horse Wrangler	81.03	337	⇓P	P	07 51 27.7 +0.2
	baz=81					
GMRC	Granite Mounta	81.11	325	⇓P	P	07 51 29.0 +0.9
	baz=81,SNR=5.4					
N27A	Anderson Farm,	81.29	337	⇑P	P	07 51 29.1 +0.3
	baz=82					
SMCO	Snowmass	81.31	334	eP	P	07 51 30.5 +1.1
	7.9nm,1.1s					
ISCO	Idaho Springs	81.39	335	⇑P	P	07 51 29.2 -0.4
	baz=82					
L31A	Butterfield Fa	81.48	341	⇓P	P	07 51 30.1 +0.3
	baz=82,SNR=5.3					
FMP	Fort Macarthur	81.49	323	⇓P	P	07 51 28.1 -1.7
	baz=82					
L30A	Spencer Herefo	81.52	340	⇑P	P	07 51 30.1 +0.2
	baz=82					
TUQ	Turquoise Moun	81.78	326	⇓P	P	07 51 32.1 +0.5
	baz=82,SNR=7.5					
O23A	Lake Granby, G	81.86	335	⇓P	P	07 51 32.4 +0.3
	baz=82					
O22A	Kremmling	82.04	334	⇑P	P	07 51 33.5 +0.4
	baz=82					
GSC	Goldstone, Bar	82.07	325	⇓P	P	07 51 33.6 +0.5
	baz=82					
K30A	Basset	82.16	340	⇑P	P	07 51 34.1 +0.8
	baz=83,SNR=7.8					
EDW2	Edwards Air Fo	82.29	324	⇓P	P	07 51 34.5 +0.3
	baz=83					
SHPR	Sheep Range	82.32	327	eP	P	07 51 35.7 +1.3
SHOC	Shoshone, Teco	82.32	326	⇑P	P	07 51 34.2 -0.1
	baz=83					
ECSD	EROS Data Cent	82.38	343	⇑P	P	07 51 34.1 -0.2
	baz=83,SNR=9.1					
ECSD	EROS Data Cent	82.38	343	eP	P	07 51 34.0 -0.4
	14nm,0.9s					
CCUT	Cedar City	82.41	328	eP	P	07 51 36.6 +1.6
	7.9nm,1.1s					
K29A	Lazy Trails An	82.43	340	⇑P	P	07 51 34.8 0.0
	baz=83					
N23A	Red Feather La	82.48	335	⇓P	P	07 51 35.1 -0.2
	baz=83					
N22A	Wattenberg Ran	82.57	335	⇓P	P	07 51 35.5 -0.3
	baz=83					
SRU	San Rafael Swe	82.59	331	eP	P	07 51 36.2 +0.4
	67nm,2.9s					
O20A	White River Ci	82.62	333	⇓P	P	07 51 35.9 -0.1
	baz=83					
M24A	Cheyenne	82.62	336	⇑P	P	07 51 36.3 +0.4
	baz=83					
LRMC	Laurel Mtn Rad	82.63	324	⇑P	P	07 51 35.6 -0.4
	baz=83					
PHWY	Pilot Hill	82.68	336	eP	P	07 51 36.7 +0.4
J30A	Dallas	82.73	341	⇓P	P	07 51 35.6 -0.7
	baz=83					
MVU	Marysvale	82.74	330	eP	P	07 51 37.8 +1.1
	4.6nm,1.0s					
J29A	Okreek	83.03	340	⇓P	P	07 51 37.7 -0.1
	baz=83,SNR=8.1					
FURC	Furnace Creek,	83.06	325	⇑P	P	07 51 37.5 -0.5
	baz=83					
ISA	Isabella, Lake	83.15	324	⇑P	P	07 51 39.1 +0.4
	baz=84					
ISA	Isabella, Lake	83.15	324	eP	P	07 51 40.0 +1.4
I30A	Oacoma	83.26	341	⇑P	P	07 51 38.5 -0.4
	baz=84,SNR=5.5					
J28A	Allard Ranch,	83.30	339	⇑P	P	07 51 39.2 0.0
	baz=84					
J27A	Elkhorn Farm,	83.37	339	⇑P	P	07 51 40.2 +0.6
	baz=84,SNR=6.0					
VES	Vestal, Richgr	83.59	324	⇑P	P	07 51 41.0 +0.3
	baz=84					
I29A	Vivian Onida	83.60	340	⇓P	P	07 51 40.2 -0.4
	baz=84					
BRSD	Miller	83.63	341	⇓P	P	07 51 40.3 -0.5
	baz=84					
BRSD	Miller	83.63	341	eP	P	07 51 40.7 -0.1
	12nm,0.8s					
J26A	Sides Ranch, S	83.74	338	⇓P	P	07 51 42.0 +0.4
	baz=84					
MPU	Maple Canyon	83.80	331	eP	P	07 51 42.8 +0.7
	9.0nm,1.2s					
I28A	Midland	83.81	340	⇑P	P	07 51 42.2 +0.4
	baz=84					
R11A	Troy Canyon, C	84.04	327	⇓P	P	07 51 44.0 +0.8
	baz=84,SNR=7.3					
R11A	Troy Canyon, C	84.04	327	eP	P	07 51 44.1 +0.8
K23A	Bowen Ranch, D	84.04	336	⇑P	P	07 51 43.2 0.0
	baz=84					
RCTC	Rector, Farmer	84.04	324	⇓P	P	07 51 43.1 0.0
	baz=84					
I27A	Quinn	84.13	339	⇑P	P	07 51 43.4 0.0
	baz=84					
H29A	Onida	84.13	341	⇑P	P	07 51 43.1 -0.3
	baz=84					
JLU	Jordanelle	84.23	331	eP	P	07 51 44.8 +0.5
	30nm,2.0s					
K22A	Casper	84.24	336	⇓P	P	07 51 44.2 0.0
	baz=85,SNR=5.7					
K22A	Casper	84.24	336	eP	P	07 51 44.1 -0.1
	12nm,1.1s					
J24A	Dixon Ranch, L	84.25	337	⇓P	P	07 51 43.7 -0.4
	baz=85					
G30A	Faulkton	84.32	341	⇓P	P	07 51 44.0 -0.3
	baz=85					
I26A	New Underwood	84.33	339	⇓P	P	07 51 44.1 -0.4
	baz=85					
H28A	Mission Ridge	84.40	340	⇑P	P	07 51 44.5 -0.2
	baz=85					
DUG	Dugway, Tooele	84.42	330	⇑P	P	07 51 45.3 +0.1
	baz=85,SNR=7.5					
DUG	Dugway, Tooele	84.42	330	eP	P	07 51 45.6 +0.4
	8.9nm,1.1s					
K21A	Alcova	84.47	335	⇑P	P	07 51 45.2 -0.2
	baz=85,SNR=5.9					
I25A	Rochford	84.58	338	⇓P	P	07 51 46.0 0.0
	baz=85,SNR=5.7					
H27A	Howes	84.65	339	⇑P	P	07 51 45.8 -0.2
	baz=85					
I24A	Kuemmerle Ranc	84.71	337	⇓P	P	07 51 46.1 -0.4
	baz=85					
G28A	Parade	84.74	340	⇓P	P	07 51 46.5 0.0
	baz=85					
RSSD	Black Hills	84.77	338	eP	P	07 51 46.3 -0.6
	5.5nm,0.9s					
J22A	Midwest	84.91	336	⇓P	P	07 51 46.9 -0.6
	baz=85					
MLAC	Mammoth, Mammo	84.92	325	⇓P	P	07 51 48.4 +0.6
	baz=85					
H25A	Fruitdale	85.09	338	⇑P	P	07 51 48.4 +0.1
	baz=86					
J21A	Lysite	85.17	335	⇓P	P	07 51 48.7 -0.2
	baz=86					
G27A	Dupree	85.30	340	⇓P	P	07 51 48.8 -0.5
	baz=86					
NVAR	Mina Array Bea	85.32	326	P	P	07 51 50.4 +0.6
	2.9nm,0.8s,baz=155,slow=6.0,SNR=22					
I22A	9 Mile Ranch,	85.34	336	⇑P	P	07 51 49.2 -0.4
	baz=86,SNR=5.6					
TORD	Torodi Ar. Bea	85.37	70	P	P	07 51 50.2 -0.1
	2.1nm,0.8s,baz=250,slow=4.6,SNR=11					
J20A	Shoshoni	85.39	335	⇓P	P	07 51 50.1 +0.1
	baz=86,SNR=7.2					
PDAR	Pinedale Array	85.40	334	P	P	07 51 49.4 -0.7
	1.5nm,1.0s,baz=143,slow=5.2,SNR=7.3					
G26A	Maurine	85.41	339	⇑P	P	07 51 50.0 +0.1
	baz=86					
F28A	McLaughlin	85.42	341	⇑P	P	07 51 49.9 +0.1
	baz=86					
H24A	Dirks Ranch, A	85.49	338	⇑P	P	07 51 50.0 -0.3
	baz=86					
I21A	Big Trails, Te	85.53	336	⇑P	P	07 51 50.2 -0.5
	baz=86,SNR=6.0					
G25A	Newell	85.56	339	⇑P	P	07 51 50.6 0.0
	baz=86,SNR=6.2					
J19A	Crowheart	85.66	334	⇑P	P	07 51 51.2 -0.1
	baz=86					
HVU	Hansel Valley	85.76	331	eP	P	07 51 51.6 -0.2
	4.5nm,0.8s					
F27A	Lemmon	85.78	340	⇓P	P	07 51 51.4 -0.2
	baz=86,SNR=5.1					
E29A	Napoleon	85.78	342	⇑P	P	07 51 51.5 -0.2
	baz=86					
ELK	Elko	85.88	329	eP	P	07 51 53.1 +0.6
I20A	Worland	85.94	335	⇑P	P	07 51 52.3 -0.3
	baz=86,SNR=5.4					
F26A	Lodgepole	85.94	339	⇑P	P	07 51 51.7 -0.8
	baz=86,SNR=5.3					
G24A	Alzada	85.97	338	⇑P	P	07 51 52.5 -0.2
	baz=86					
E28A	Huff	86.06	341	⇑P	P	07 51 52.6 -0.4
	baz=86					
D30A	Buchanan	86.07	342	⇓P	P	07 51 52.6 -0.4
	baz=86					
G23A	Biddle	86.16	337	⇓P	P	07 51 52.9 -0.7
	baz=86					
E27A	Carson	86.16	340	⇑P	P	07 51 53.2 -0.3
	baz=87					
H21A	Big Horn, Sher	86.17	336	⇓P	P	07 51 53.2 -0.6
	baz=86					
D29A	Pettibone, Tap	86.23	342	⇑P	P	07 51 54.2 +0.3
	baz=87					
F25A	Bowman	86.23	339	⇓P	P	07 51 53.8 -0.2
	baz=87					
I19A	Meeteetse	86.31	335	⇑P	P	07 51 54.5 -0.1
	baz=87					
H20A	Greybull	86.37	335	⇓P	P	07 51 54.0 -0.7
	baz=87,SNR=5.9					
REDW	Red Top Meadow	86.39	333	eP	P	07 51 55.4 +0.4
	11nm,1.4s					
E26A	Carlson Angus	86.45	340	⇑P	P	07 51 54.8 -0.1
	baz=87					
F24A	Ekalaka	86.45	338	⇑P	P	07 51 54.8 -0.2
	baz=87					
G22A	Birney	86.46	337	⇓P	P	07 51 54.5 -0.6
	baz=87					
AGMN	Agassiz Nation	86.52	345	⇑P	P	07 51 54.9 -0.3
	baz=87					
AGMN	Agassiz Nation	86.52	345	eP	P	07 51 55.0 -0.3
	46nm,2.2s					
TPAW	Teton Pass	86.53	333	eP	P	07 51 55.8 0.0
	7.6nm,1.2s					
C30A	Mose, Pekin	86.55	343	⇓P	P	07 51 55.6 +0.3
	baz=87					
F23A	Volborg	86.63	338	⇓P	P	07 51 55.9 +0.1
	baz=87					
FXWY	Fox Creek	86.69	333	eP	P	07 51 56.0 -0.4
	66nm,3.0s					
E25A	Miller Ranch,	86.74	339	⇓P	P	07 51 56.5 +0.1
	baz=87					
G21A	Lodge Grass	86.76	336	⇑P	P	07 51 56.4 -0.2
	baz=87					
H19A	Powell	86.86	335	⇑P	P	07 51 56.7 -0.5
	baz=87					
IMW	Indian Meadow	86.88	333	eP	P	07 51 57.6 +0.1
F22A	Rosebud	86.95	337	⇑P	P	07 51 56.9 -0.6
	baz=87					
D26A	Manning	86.95	340	⇓P	P	07 51 57.3 -0.1
	baz=87					
FLWY	Flagg Ranch	86.95	334	eP	P	07 51 58.0 +0.3
	16nm,1.4s					
E24A	Baker	87.06	339	⇑P	P	07 51 57.3 -0.7
	baz=87					
G20A	Bridger	87.08	336	⇑P	P	07 51 57.4 -0.8
	baz=88					
H18A	Shoshone NF, C	87.10	335	⇓P	P	07 51 57.6 -0.9
	baz=88,SNR=6.0					
B30A	Myrvik Farm, E	87.22	343	⇑P	P	07 51 58.2 -0.4
	baz=88,SNR=13					
D25A	Fairfield	87.31	340	⇓P	P	07 51 58.6 -0.5
	baz=88					
C27A	Sayler Ranch,	87.33	341	⇓P	P	07 51 59.0 -0.2
	baz=88					
B29A	Wagenman Farm,	87.48	343	⇑P	P	07 51 59.7 -0.1
	baz=88					
D24A	Glendive	87.56	339	⇓P	P	07 52 00.3 0.0
	baz=88					
C26A	Wahner Farm, P	87.59	341	⇑P	P	07 51 59.7 -0.7
	baz=88					
A30A	Hoffart Farm,	87.67	343	⇓P	P	07 52 00.4 -0.4
	baz=88					
B28A	Dugan Ranch, T	87.71	342	⇓P	P	07 52 00.6 -0.4
	baz=88					
LAO	LASA Array	87.75	338	eP	P	07 52 01.0 -0.3
	109nm,2.7s					
A29A	Manning Farm,	87.88	343	⇑P	P	07 52 01.0 -0.8
	baz=88,SNR=6.8					
D23A	Lindsay	87.88	338	⇓P	P	07 52 01.7 -0.2
	baz=88,SNR=6.3					
HLID	Hailey	87.91	331	⇓P	P	07 52 02.0 -0.3
	baz=88					
C24A	Savage	87.97	339	⇓P	P	07 52 02.5 +0.2
	baz=88					
A28A	Rude Farm, Bot	88.11	342	⇓P	P	07 52 02.5 -0.5
	baz=88					
D22A	Cohagen	88.15	338	⇑P	P	07 52 01.5 -1.7
	baz=88					
E20A	Meyer Farm, Mu	88.19	336	⇓P	P	07 52 01.4 -2.0
	baz=89					
E19A	Rath Farm, Rou	88.37	336	⇑P	P	07 52 03.8 -0.4
	baz=89					
ULM	Lac du Bonnet	88.38	345	P	P	07 52 03.4 -0.7
	5.8nm,0.8s,baz=199,slow=4.2,SNR=9.7					
ULM	Lac du Bonnet	88.38	345	eP	P	07 52 03.5 -0.6
C23A	Lambert	88.44	339	⇓P	P	07 52 03.9 -0.5
	baz=89					
A26A	Wade Farm, Ken	88.56	341	⇑P	P	07 52 04.8 -0.2
	baz=89					
C22A	Vida	88.59	338	⇑P	P	07 52 04.7 -0.6
	baz=89					
D20A	Manuel Ranch,	88.71	337	⇓P	P	07 52 05.3 -0.5
	baz=89					
DGMT	Dagmar	88.75	340	⇓P	P	07 52 05.4 -0.5
	baz=89					
DGMT	Dagmar	88.75	340	eP	P	07 52 06.1 +0.1
	14nm,1.1s					
MOD	Modoc Plateau	89.02	326	eP	P	07 52 08.3 +0.8
A22A	Carney Farms,	89.72	339	⇓P	P	07 52 10.3 -0.2
	baz=90					
B20A	Solberg Farm,	89.86	337	⇑P	P	07 52 11.0 -0.2
	baz=90					
A21A	Bergtoll Ranch	90.02	338	⇓P	P	07 52 11.3 -0.6
	baz=90					
B19A	Brinkman Farms	90.17	337	⇓P	P	07 52 12.3 -0.3
	baz=90					
A19A	Klindworth Far	90.52	337	⇓P	P	07 52 13.9 -0.4
	baz=91					
YKA	Yellowknife Ar	103.86	341	Pdiff	Pdif	07 53 13.8 -0.4
	0.6nm,1.1s,baz=251,slow=10,SNR=3.8					
ILAR	Eielson Array	115.82	333	PKP	PKPdf	07 57 53.3 -0.9
	0.3nm,0.9s,baz=248,slow=0.5,SNR=3.4					
VYHS	Vyhne	116.84	48	ePKP	PKPdf	07 57 59.7 +3.0
WRA	Warramunga Arr	118.72	209	PKP	PKPdf	07 57 59.3 -2.0
	0.5nm,0.5s,baz=160,slow=1.7,SNR=12					
KOLS	Kolonicke sedl	119.10	49	ePKP	PKPdf	07 58 05.0 +4.0
BRTR	Keskin Array B	123.24	62	PKP	PKPdf	07 58 09.1 -0.4
	1.2nm,0.8s,baz=202,slow=3.1,SNR=6.9					
AKASG	Malin Array Be	123.93	49	PKP	PKPdf	07 58 08.6 -1.6
	0.3nm,0.5s,baz=260,slow=1.6,SNR=4.4					
H11N3	WAKE ISLAND Hyl	125.70	269	T	T	10 16 20.7
	baz=124					
H11N1	WAKE ISLAND Hyl	125.72	269	T	T	10 16 17.7
	baz=124					
H11N2	WAKE ISLAND Hyl	125.72	269	T	T	10 16 20.1
	baz=124					
SEY	Seymchan	141.57	329	PKP	PKPdf	07 58 41.5 -1.3
	1.9nm,0.8s,baz=18,slow=3.2,SNR=8.7					
AKTO	Aktyubinsk	142.01	52	PKP	PKPdf	07 58 44.9 +0.8
	1.1nm,0.7s,baz=322,slow=6.8,SNR=3.5					
PSI	Prapat	145.98	165	PKPbc	PKPdf	07 58 51.7 -0.6
	18nm,0.8s,baz=202,slow=2.9,SNR=20					
HYB	Hyderabad	148.43	118	i PKP	PKPbc	07 58 58.0 -1.7
BVAR	Borovoye Array	149.10	45	PKPbc	PKPbc	07 59 00.6 +0.3
	2.9nm,0.7s,baz=294,slow=1.5,SNR=16					
KKAR	Karatay Array	150.91	65	ePKPdf	PKPdf	07 58 59.6 +0.3
KKAR				ePKPbc	PKPbc	07 59 04.9 -0.2
EKS2	Erkin-Say	153.33	65	ePKPdf	PKPdf	07 59 03.8 +0.7
EKS2				ePKPbc	PKPbc	07 59 10.5 -0.1
EKS2				ePKPab	PKPab	07 59 23.0 +0.2
AAK	Ala-Archa	153.86	65	PKPbc	PKPbc	07 59 12.3 +0.5
	4.0nm,0.8s,baz=234,slow=5.3,SNR=6.8					
AAK	Ala-Archa	153.86	65	ePKPdf	PKPdf	07 59 03.9 0.0
AAK				PKPbc	PKPbc	07 59 12.3 +0.5
AAK				ePKPbc	PKPbc	07 59 12.4 +0.6
AAK				ePKPab	PKPab	07 59 25.7 +0.6
TKM2	Tokmak 2	154.65	65	ePKPdf	PKPdf	07 59 05.0 0.0
TKM2				ePKPbc	PKPbc	07 59 13.5 -0.1
TKM2				ePKPab	PKPab	07 59 28.5 0.0
KURK	Kurchatov	154.70	46	ePKPdf	PKPdf	07 59 04.3 -0.2
KURK				ePKPbc	PKPbc	07 59 12.9 -0.2
KURK				ePKPab	PKPab	07 59 28.3 +0.1
KSH	Kashi	155.01	73	PKPbc	PKPdf	07 59 05.8 +0.2
KSH				sPKP		07 59 19.9
KSH				PKS	PKSdf	08 02 39.4 -0.3
KSH				PP	PP	08 03 07.9 +1.2
KSH				SKS	SKSdf	08 06 07.7 -1.8
KSH				SKKS	SKKSac	08 09 53.0 -0.5
KSH				SS	SS	08 22 46.5 -1.7
KSH				PPMZ		
	110nm,5.4s					
KSH				LN		
	40nm,4.7s					
KSH				LE		
	37nm,4.3s					
KSH				LZ		
	110nm,5.9s					
ZALV	Zalesovo Beam	156.22	34	PKP	PKPdf	07 59 05.3 -1.1
	1.8nm,0.8s,baz=282,slow=2.7,SNR=7.0					
ZALV				PKPab	PKPab	07 59 35.1 +0.6
	0.8nm,0.6s,baz=297,slow=6.3,SNR=3.9					
MKAR	Makanchi Array	158.45	52	PKP	PKPdf	07 59 09.2 -0.4
	1.8nm,0.8s,baz=272,slow=0.6,SNR=16					
MKAR				PKPab	PKPab	07 59 44.4 -0.1
	2.0nm,0.9s,baz=284,slow=4.2,SNR=9.1					
CMAR	Chiang Mai Arr	160.93	155	PKP	PKPdf	07 59 12.2 -1.1
	0.7nm,0.3s,baz=275,slow=3.2,SNR=4.5					
CN2	Changchun	164.16	305	ePKP	PKPdf	07 59 14.5 -1.2
SONM	Songino Array	168.23	3	PKPab	PKPab	08 00 26.7 -0.7
	0.8nm,0.9s,baz=326,slow=2.1,SNR=3.9					
KMI	Kunming	168.38	159	PKP	PKPdf	07 59 18.5 -1.4
NJ2	Nanjing	169.67	250	ePKP	PKPdf	07 59 22.5 +2.3
GYA	Guiyang	170.39	176	ePKP	PKPdf	07 59 20.2 -0.7
GYA				pPKP	pPKPdf	07 59 32.6 +0.2
GYA				PKPab	PKPab	08 00 40.7 +3.3
GYA				PKS	PKSdf	08 02 51.3 -2.3
GYA				PP	PP	08 04 30.8 +4.1
GYA				SKKS		08 11 12.0
GYA				SS	SS	08 25 26.7 +2.0
GYA				PPMZ		
	120nm,8.5s					
GYA				LN		
	130nm,22.4s					
GYA				LE		
	120nm,21.0s					
GYA				LZ		
	130nm,24.3s					
CD2	Chengdu	174.03	149	ePKP	PKPdf	07 59 23.0 +0.7
HHC	Hu-ho-hao-te	174.21	327	ePKP	PKPdf	07 59 22.9 +0.7
HHC				PP	PP	08 04 49.6 +3.6
HHC				SKKS		08 11 30.4
HHC				PPMZ		
	67nm,5.7s					
HHC				LN		
	200nm,22.0s					
HHC				LE		
	170nm,20.4s					
HHC				LZ		
	140nm,20.8s					
LZH	Lanzhou	177.14	89	ePKP	PKPdf	07 59 23.5 +0.4
LZH				pPKP	pPKPdf	07 59 33.8 -0.8
LZH				sPKP		07 59 38.0

IDC ***01*** *07:45:25.1±0.9,34°.31S×72°.67W,h0km,mb3.9/6,*
*mb1 4.1/8,mb1mx4.0/17,mbtmp3.9/8,ML3.9/2,

RCDM AML AML 07 46 19.4
comp=E,5μm,0.5s
STL Santa Lucia 1.56 36 *i* P **Pn 07 45 55.9 +0.2**
STL *i* S **Sg 07 46 17.7 -0.4**
FSR Penalolen 1.59 40 *e*S4 **Sg 07 46 19.3 +0.5**
PEL Peldehue 1.79 30 *i* P **Pn 07 45 58.4 -0.4**
PEL *i* S **Sb 07 46 23.0 -0.2**
PEL AML AML 07 46 32.4
comp=N,8μm,0.4s
ROCH El Roble 1.83 20 *i* P **Pn 07 45 59.1 -0.4**
ROCH *i* S **Sb 07 46 24.1 -0.6**
ROCH AML AML 07 46 29.3
comp=N,4μm,0.6s
ROCH AML AML 07 46 31.2
comp=E,3μm,0.6s
CFAA Coronel Fontan 4.27 45 Pn Pn 07 46 36.9 +4.1
comp=E,0.8nm,0.3s,baz=230,slow=5.9,SNR=7.4
CFAA Sn **Sb 07 47 32.0 -2.5**
comp=E,0.5nm,0.3s,baz=234,slow=16,SNR=3.1
PLCA Paso Flores 6.09 171 Pn Pn 07 47 03.2 +5.3
comp=E,1.2nm,0.3s,baz=331,slow=15,SNR=4.4
PLCA Sn **Sb 07 48 25.4 -1.6**
comp=E,1.0nm,0.3s,baz=345,slow=20,SNR=1.5
LPAZ La Paz 18.63 11 P **P 07 49 45.3 -0.8**
comp=E,0.3nm,0.3s,baz=193,slow=8.3,SNR=8.2
SIV San Ignacio 20.96 30 P **P 07 50 11.4 +0.4**
comp=E,4.2nm,0.7s,baz=218,slow=11,SNR=5.3
QSPA South Pole Qui 55.53 180 P **P 07 55 04.7 +1.8**
comp=E,2.0nm,0.9s,baz=254,slow=1.2,SNR=6.1
TXAR Lajitas Array 70.47 331 P P 07 56 35.5 -6.9
comp=E,0.2nm,0.6s,baz=148,slow=8.6,SNR=3.1
DBIC Dimbokro 75.18 71 P **P 07 57 13.4 +2.7**
comp=E,1.8nm,0.7s,baz=225,slow=1.4,SNR=3.3
TORD Torodi Ar. Bea 84.23 70 P **P 07 58 01.1 +1.3**
comp=E,1.4nm,0.8s,baz=238,slow=3.8,SNR=7.6
PDAR Pinedale Array 84.50 333 P **P 07 57 59.4 -1.4**
comp=E,0.3nm,0.7s,baz=164,slow=4.6,SNR=3.0
NVAR Mina Array Bea 84.60 325 P P 07 57 58.0 -3.5
comp=E,0.5nm,0.7s,baz=120,slow=6.3,SNR=4.7
WRA Warramunga Arr 120.26 209 PKP **PKPdf 08 04 19.7 0.0**
comp=E,0.6nm,1.0s,baz=175,slow=1.5,SNR=5.7
H11S2 WAKE ISLAND Hyl 26.00 268 T T 10 22 56.9
baz=118
H11S1 WAKE ISLAND Hyl 26.01 268 T T 10 22 57.9
baz=118
H11S3 WAKE ISLAND Hyl 26.01 268 T T 10 22 58.0
baz=118
H11N3 WAKE ISLAND Hyl 26.43 270 T T 10 23 27.8
baz=118
H11N1 WAKE ISLAND Hyl 26.44 270 T T 10 23 28.0
baz=118
H11N2 WAKE ISLAND Hyl 26.44 270 T T 10 23 28.8
baz=118
ZALV Zalesovo Beam 154.69 33 PKPbc **PKPbc 08 05 28.3 -0.1**
comp=E,0.4nm,0.4s,baz=304,slow=3.3,SNR=3.1
ZALV PKPab **PKPab 08 05 40.7 -2.6**
comp=E,0.5nm,0.4s,baz=321,slow=2.0,SNR=2.4
MKAR Makanchi Array 157.04 50 PKP **PKPdf 08 05 22.6 -0.7**
comp=E,0.3nm,0.8s,baz=46,slow=4.2,SNR=2.9
MKAR PKPab **PKPab 08 05 53.0 -0.7**
comp=E,0.3nm,0.5s,baz=284,slow=2.4,SNR=4.5

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*IDC **01** 07:49:04.0±0.4,34°.68S×73°.31W,h0km,mb5.0/29, mb1 5.1/31,mb1mx5.0/36,mbtmp5.0/31,ML4.8/2,MS4.6/18, Ms1 4.6/18,ms1mx4.4/34,Error ellipse: s-maj=16.3km s-min=10.6km az=63.0*
*GUC **01** 07:49:06.3±0.7,34°.46S×73°.35W,h21km±5km,ML5.5*
*ISCJB **01** 07:49:07.9±0.2,34°.62S±0°.03×73°.24W±0°.03,h33km, mb5.2/162,MS4.7/16,Error ellipse: s-maj=4.4km s-min=3.3km az=161.6*
*MOS **01** 07:49:08.3±1.1,34°.61S×73°.29W,h33km,mb5.4/42,Error ellipse: s-maj=13.6km s-min=7.8km az=99.5*
*BJI **01** 07:49:08.5,35°.30S×72°.90W,h35km,mB5.2/19,Ms5.4/16, Ms7 5.1/17*
*GCMT **01** 07:49:09.0±0.1,34°.73S×73°.53W,h12km,MW5.3/88, Moment Tensor Solution. s65,c101; s88,c154; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.94±.02; $M_{\theta\theta}$-0.35±.02; $M_{\phi\phi}$1.30±.02; $M_{r\theta}$0.08±.06; $M_{\theta\phi}$0.33±.02; $M_{\phi r}$-0.53±.05; Best double couple: $M_0$1.28300×10^{17} NP1:ϕ_s358.00000°,δ58.00000°, λ-107.00000°. NP2:ϕ_s208.00000°,δ35.00000°, λ-65.00000°. Principal axes: T 1.4690, Plg12.0000°, Azm100.0000°; N -0.3710, Plg14.0000°, Azm7.0000°; P -1.0970, Plg71.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 07:49:09.0±0.7,34°.71S×73°.12W,h33km±4km,mb5.3/134, ML5.5(GUC) Error ellipse: s-maj=5.3km s-min=3.9km az=58.0*
ISC 01 07:49:08.9±0.2,**34°.73S**±0°.04×**73°.23W**±0°.05,**h35**km, **h35**km:**pP-P,n862**,σ1§**07**/960,**mb5.2**/162,**MS4.7**/16, **217C-207D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
IHA	**Instituto Hidr**	**2.15**	**38**	*e*P	**Pn**	**07 49 39.9**	**-2.4**
IHA				*i* S1	**Sn**	**07 50 06.0**	**-1.8**
IHA	**Instituto Hidr**	**2.15**	**38**	*e*P	**Pn**	**07 49 39.9**	**-2.4**
IHA				*i* S	**Sn**	**07 50 06.0**	**-1.8**
RCDM	**Rinconada Maip**	**2.36**	**59**	⇑*i*P	**Pn**	**07 49 44.1**	**-1.1**
RCDM				*i* S	**Sn**	**07 50 12.9**	**-0.1**
RCDM				AML	AML	07 50 14.5	
	comp=N,14μm,0.6s						
RCDM	**Rinconada Maip**	**2.36**	**59**	⇑*i*P	**Pn**	**07 49 44.1**	**-1.1**
RCDM				*i* S	**Sn**	**07 50 12.9**	**-0.1**
ROCH	**El Roble**	**2.55**	**47**	*e*P	**Pn**	**07 49 46.5**	**-1.4**
ROCH				*i* S	**Sn**	**07 50 17.3**	**-0.6**
ROCH				AML	AML	07 50 22.4	
	comp=N,22μm,0.6s						
ROCH	**El Roble**	**2.55**	**47**	*e*P	**Pn**	**07 49 46.5**	**-1.4**
ROCH				*i* S	**Sn**	**07 50 17.3**	**-0.6**
FSR	**Penalolen**	**2.57**	**62**	*e*P	**Pn**	**07 49 47.7**	**-0.3**
FSR				*e*S	**Sn**	**07 50 19.1**	**+1.1**
FSR	**Penalolen**	**2.57**	**62**	*e*P	**Pn**	**07 49 47.7**	**-0.3**
FSR				*e*S	**Sn**	**07 50 19.1**	**+1.1**
PEL	**Peldehue**	**2.64**	**54**	⇓*i*P	**Pn**	**07 49 48.5**	**-0.6**
PEL				*i* S	**Sn**	**07 50 20.3**	**+0.4**
PEL	**Peldehue**	**2.64**	**54**	⇓*i*P	**Pn**	**07 49 48.5**	**-0.6**
PEL				*i* S	**Sn**	**07 50 20.3**	**+0.4**
PEL				AML	AML	07 50 22.9	
	comp=N,78μm,0.6s						
PEL	**Peldehue**	**2.64**	**54**	⇓*i*P	**Pn**	**07 49 48.5**	**-0.6**
PEL				*i* S	**Sn**	**07 50 20.3**	**+0.4**
CMCH	**Combarbala**	**4.01**	**28**	⇓*i*P	**Pn**	**07 50 05.3**	**-2.6**
CMCH				*i* S	**Sn**	**07 50 50.1**	**-3.7**
CMCH	**Combarbala**	**4.01**	**28**	⇓*i*P	**Pn**	**07 50 05.3**	**-2.6**
CMCH				*i* S	**Sn**	**07 50 50.1**	**-3.7**
CFAA	**Coronel Fontan**	**5.22**	**55**	Pn	**Pn**	**07 50 24.7**	**+0.2**
	comp=N,19nm,0.3s,baz=229,slow=12,SNR=84						
CFAA				Sn	**Sn**	**07 51 25.8**	**+2.3**
	comp=N,19nm,0.3s,baz=130,slow=20,SNR=14						
PLCA	**Paso Flores**	**6.35**	**161**	Pn	**Pn**	**07 50 38.4**	**-1.8**
	comp=N,5.4nm,0.3s,baz=334,slow=14,SNR=6.7						
PLCA				LR	LR	07 52 53.3	
	comp=N,2μm,18.3s,baz=346,slow=36						
TRQA	**Tornquist**	**9.65**	**113**	*e*Pn	Pn	07 51 20.2	-5.1
LVC	**Limon Verde**	**12.65**	**19**	*e*Pn	**Pn**	**07 52 05.6**	**-1.0**
LVC				*e*Sn	**Sn**	**07 54 25.2**	**-1.2**
CPUP	**Villa Florida**	**16.04**	**63**	Pn	**P**	**07 52 55.0**	**+0.1**
CPUP				LR	LR	07 59 31.3	
	comp=N,3μm,19.6s,baz=224,slow=39						
LPAZ	**La Paz**	**18.93**	**15**	*e*P	**Pn**	**07 53 29.1**	**+0.8**
LPAZ	**La Paz**	**18.93**	**15**	P	**Pn**	**07 53 29.5**	**+1.2**
	comp=N,1.9nm,0.3s,baz=187,slow=7.8,SNR=113						
LPAZ	**La Paz**	**18.93**	**15**	*e*Pn	**Pn**	**07 53 29.1**	**+0.8**
USHA	**Ushuaia**	**20.37**	**172**	P	Pn	07 53 44.5	0.0
	comp=N,61nm,0.8s,baz=344,slow=9.1,SNR=8.6						
USHA				LR	LR	08 02 12.1	
	comp=N,2μm,19.5s,baz=333,slow=39						
SIV	**San Ignacio**	**21.62**	**33**	P	**P**	**07 53 55.9**	**-0.1**
	comp=N,76nm,1.0s,baz=230,slow=13,SNR=22						
SIV				LR	LR	08 03 40.4	
	comp=N,2μm,18.2s,baz=221,slow=41						
NNA	**Nana**	**22.88**	**351**	P	**P**	**07 54 08.0**	**-1.5**
	comp=N,20nm,0.9s,baz=192,slow=9.6,SNR=11						
NNA				LR	LR	08 00 55.0	
	comp=N,1μm,19.6s,baz=179,slow=31						
SAML	**Samuel**	**27.27**	**22**	*e*P	**P**	**07 54 49.9**	**-0.1**
	comp=N,7.8nm,1.0s						
ATAH	**Atahualpa**	**27.88**	**349**	P	**P**	**07 54 57.5**	**+1.6**
	comp=N,7.0nm,0.8s,baz=190,slow=11,SNR=4.8						
ATAH				LR	LR	08 04 34.6	
	comp=N,648nm,18.2s,baz=186,slow=34						
BDFB	**Brasilia**	**29.56**	**56**	P	**P**	**07 55 10.1**	**-0.5**
	comp=N,16nm,0.8s,baz=221,slow=8.5,SNR=13						
BDFB				LR	LR	08 07 05.6	
	comp=N,2μm,18.1s,baz=223,slow=37						
PMSA	**Palmer Station**	**30.59**	**172**	LR	LR	08 07 45.7	
	comp=N,2μm,18.4s,baz=321,slow=37						
PAYG	**Puerto Ayora**	**37.44**	**331**	*e*P	**P**	**07 56 20.3**	**+1.3**
	comp=N,64nm,1.2s						
ROSC	**El Rosal**	**39.39**	**358**	P	**P**	**07 56 37.5**	**+1.7**
	comp=N,14nm,0.7s,baz=152,slow=2.4,SNR=15						
BCIP	**Isla Barro Col**	**44.11**	**351**	*e*P	**P**	**07 57 14.2**	**+0.4**
RCBR	**Riachuelo**	**44.86**	**59**	P	**P**	**07 57 20.7**	**+0.6**
	comp=N,11nm,1.0s,baz=205,slow=8.2,SNR=6.2						
RCBR	**Riachuelo**	**44.86**	**59**	P	**P**	**07 57 20.7**	**+0.6**
RCBR				*e*P	**P**	**07 57 20.9**	**+0.8**
JTS	**JuntasAbangare**	**46.14**	**344**	*i* P	**P**	**07 57 30.1**	**+0.1**
JTS	**JuntasAbangare**	**46.14**	**344**	P	**P**	**07 57 31.2**	**+1.2**
	comp=N,32nm,1.2s,baz=232,slow=7.5,SNR=4.1						
JTS	**JuntasAbangare**	**46.14**	**344**	*e*P	**P**	**07 57 31.6**	**+1.5**
	comp=N,27nm,1.1s						
VNA3	**Neumayer Olymp**	**49.06**	**157**	P	**P**	**07 57 54.3**	**+2.1**
VNA1	**Neumayer--Stat**	**49.39**	**157**	P	**P**	**07 57 57.6**	**+3.0**
VNA2	**Neumayer--Watz**	**49.72**	**157**	P	**P**	**07 57 59.4**	**+2.2**
FDF	**Fort de France**	**50.51**	**15**	*e*P	**P**	**07 58 03.1**	**-0.7**
FDF				pmax	pmax		
	comp=Z,33nm,0.7s						
FDF	**Fort de France**	**50.51**	**15**	*e*P	**P**	**07 58 03.1**	**-0.7**
	comp=Z,32nm,0.7s						
SNAA	**Sanae**	**51.28**	**158**	P	**P**	**07 58 10.9**	**+1.9**
SNAA	**Sanae**	**51.28**	**158**	*d* iP	**P**	**07 58 10.3**	**+1.3**
SNAA				pmax	pmax		
	comp=Z,178nm,1.4s						
SNAA	**Sanae**	**51.28**	**158**	P	**P**	**07 58 10.5**	**+1.5**
	comp=Z,27nm,0.9s,baz=281,slow=6.0,SNR=28						
APG	**El Apazote**	**52.10**	**339**	P	P	07 58 12.1	-3.8
	comp=Z,24nm,0.9s,baz=160,slow=8.1,SNR=26						
CRPR	**Cabo Rojo, PR**	**52.77**	**7**	*e*P	**P**	**07 58 20.0**	**-0.5**
	comp=Z,46nm,0.9s						
SABA	**Saba**	**52.92**	**12**	*e*P	**P**	**07 58 22.2**	**+0.5**
	comp=Z,112nm,1.0s						
PAPH	**Port-au-Prince**	**52.97**	**1**	*e*P	**P**	**07 58 20.2**	**-1.8**
SDDR	**Presa de Saban**	**53.45**	**2**	*e*P	**P**	**07 58 26.3**	**+0.7**
	comp=Z,89nm,1.8s						
RKT	**Rikitea**	**54.52**	**265**	*e*S	**S**	**08 06 10.0**	**-0.4**
	comp=Z,583nm,27.8s						
RKT				*e*LQ	LQ	08 12 09.0	
	comp=Z,428nm,32.0s						
RKT				*e*LR	LR	08 14 10.3	
	comp=Z,1μm,31.5s,baz=112						
RKT	**Rikitea**	**54.52**	**265**	*e*T	T	08 56 42.9	
	comp=Z,1.2nm,0.3s						
QSPA	**South Pole Qui**	**55.50**	**180**	P	**P**	**07 58 41.7**	**+1.5**
	comp=Z,63nm,1.0s,baz=142,slow=3.2,SNR=48						
NVL	**N'lazarevskaya**	**56.04**	**157**	*e*P	**P**	**07 58 45.6**	**+1.9**
NVL				pmax	pmax		
	comp=Z,110nm,1.8s						
TEIG	**Tepich**	**56.50**	**343**	P	**P**	**07 58 47.0**	**-0.5**
	comp=Z,52nm,0.6s,baz=157,slow=2.5,SNR=36						
TEIG	**Tepich**	**56.50**	**343**	*e*P	**P**	**07 58 47.1**	**-0.5**
	comp=Z,51nm,0.7s						
VNDA	**Vanda**	**63.19**	**192**	LR	LR	08 22 47.7	
	comp=Z,149nm,18.7s,baz=134,slow=32						
SYO	**Syowa Base**	**65.55**	**159**	⇑*e*P	**P**	**07 59 47.6**	**-0.8**
035A	**Encino**	**65.70**	**336**	⇑P	**P**	**07 59 50.6**	**+0.8**
	baz=66						
034A	**Hebbronville**	**66.02**	**335**	⇑P	**P**	**07 59 52.5**	**+0.6**
	baz=66						
TIGA	**Tifton**	**66.54**	**350**	⇑P	**P**	**07 59 54.6**	**-0.5**
	baz=67,SNR=9.8						
TIGA	**Tifton**	**66.54**	**350**	*e*P	**P**	**07 59 54.8**	**-0.3**
	comp=Z,60nm,0.8s						
TIGA				*e*pP	**pP**	**08 00 05.8**	**-0.1**
BRAL	**Brewton**	**66.68**	**347**	*e*P	**P**	**07 59 57.8**	**+1.8**
	comp=Z,57nm,0.9s						
933A	**Laredo**	**66.73**	**335**	⇑P	**P**	**07 59 56.9**	**+0.4**
	baz=67,SNR=6.3						
835A	**Beeville**	**66.86**	**336**	⇑P	**P**	**07 59 57.9**	**+0.6**
	baz=67						
834A	**Tilden**	**66.95**	**336**	⇑P	**P**	**07 59 59.0**	**+1.2**
	baz=67,SNR=6.7						
735A	**Kenedy**	**67.38**	**337**	⇓P	**P**	**08 00 01.4**	**+0.9**
	baz=68						
833A	**Chaparral WMA,**	**67.42**	**335**	⇑P	**P**	**08 00 01.5**	**+0.7**
	baz=68,SNR=15						
832A	**Faith Ranch, C**	**67.59**	**335**	⇓P	**P**	**08 00 02.2**	**+0.3**
	baz=68,SNR=15						
734A	**La Parita Cree**	**67.61**	**336**	⇑P	**P**	**08 00 02.4**	**+0.3**
	baz=68						
636A	**Smothers Creek**	**67.72**	**338**	⇑P	**P**	**08 00 03.5**	**+0.9**
	baz=68,SNR=9.6						
733A	**Divot King Ran**	**67.75**	**335**	⇓P	**P**	**08 00 03.4**	**+0.6**
	baz=68						
MEH	**Mehetia**	**67.78**	**263**	*e*T	T	09 13 15.9	
	comp=Z,20nm,0.2s						
635A	**Leesville**	**67.86**	**337**	⇓P	**P**	**08 00 03.6**	**+0.1**
	baz=68,SNR=5.8						
732A	**Laxson Ranch,**	**67.99**	**335**	⇑P	**P**	**08 00 04.9**	**+0.5**
	baz=68,SNR=28						
634A	**China Grove, S**	**68.04**	**336**	⇓P	**P**	**08 00 05.5**	**+0.8**
	baz=68						
537A	**Green Hill Far**	**68.05**	**339**	⇓P	**P**	**08 00 05.8**	**+1.1**
	baz=68						
536A	**Bastrop**	**68.27**	**338**	⇑P	**P**	**08 00 06.6**	**+0.5**
	baz=69,SNR=7.0						
LPIG	**La Paz**	**68.28**	**324**	P	**P**	**08 00 06.9**	**+0.6**
	comp=Z,17nm,0.9s,baz=207,slow=2.3,SNR=3.5						
633A	**Saathoff Ranch**	**68.39**	**336**	⇓P	**P**	**08 00 07.2**	**+0.3**
	baz=69,SNR=10						
535A	**Dale**	**68.39**	**337**	⇑P	**P**	**08 00 07.0**	**+0.1**
	baz=69,SNR=14						
438A	**Sam Houston St**	**68.42**	**339**	P	**P**	**08 00 08.0**	**+0.9**
	baz=69						
GOGA	**Godfrey**	**68.47**	**351**	*e*P	**P**	**08 00 06.8**	**-0.5**
GOGA				*e*PP	**pP**	**08 00 17.9**	**-0.2**
GOGA				pmax	pmax		
	comp=Z,24nm,0.9s						
GOGA	**Godfrey**	**68.47**	**351**	*e*P	**P**	**08 00 06.8**	**-0.5**
	comp=Z,24nm,0.9s						
GOGA				*e*pP	**pP**	**08 00 17.9**	**-0.2**
VBMS	**Vicksburg**	**68.55**	**344**	*e*P	**P**	**08 00 08.8**	**+1.0**
	comp=Z,58nm,0.8s						
340A	**Bronson**	**68.61**	**341**	⇑P	**P**	**08 00 08.2**	**-0.1**
	baz=69,SNR=8.1						
632A	**Uvalde**	**68.64**	**335**	⇓P	**P**	**08 00 08.7**	**+0.3**
	baz=69,SNR=16						
LRAL	**Lakeview Retre**	**68.64**	**348**	*e*P	**P**	**08 00 08.2**	**-0.2**
	comp=Z,14nm,0.9s						
534A	**Blanco**	**68.68**	**337**	⇓P	**P**	**08 00 08.7**	**0.0**
	baz=69						
339A	**Huntington**	**68.72**	**340**	⇓P	**P**	**08 00 09.5**	**+0.7**
	baz=69,SNR=5.9						
631A	**Perdido Creek**	**68.83**	**335**	⇑P	**P**	**08 00 10.0**	**+0.4**
	baz=69,SNR=7.5						
436A	**Wall Ranch, Ga**	**68.84**	**338**	⇑P	**P**	**08 00 09.5**	**-0.1**
	baz=69						
533A	**Kerrville**	**68.90**	**336**	⇑P	**P**	**08 00 10.5**	**+0.4**
	baz=69,SNR=17						
338A	**Crockett**	**68.95**	**340**	⇑P	**P**	**08 00 11.3**	**+1.0**
	baz=69,SNR=9.5						
337A	**Centerville**	**69.08**	**339**	⇑P	**P**	**08 00 12.0**	**+0.9**
	baz=69,SNR=7.9						
435B	**Jarrell**	**69.09**	**338**	⇓P	**P**	**08 00 11.3**	**+0.1**
	baz=69,SNR=5.6						
PPT2	**Papeete2**	**69.16**	**263**	*e*S	**S**	**08 09 16.3**	**+0.5**
	comp=Z,632nm,24.0s						
PPT2	**Papeete2**	**69.16**	**263**	*e*LR	LR	08 21 07.3	
	comp=Z,2μm,29.2s,baz=120						
PPT	**Papeete**	**69.17**	**263**	LR	LR	08 22 57.9	
	comp=Z,366nm,19.7s,baz=144,slow=29						
532A	**Rocksprings**	**69.25**	**335**	⇑P	**P**	**08 00 12.5**	**+0.2**
	baz=70,SNR=32						
434A	**Burnet**	**69.34**	**337**	⇓P	**P**	**08 00 12.8**	**0.0**
	baz=70,SNR=27						
239A	**Gary**	**69.34**	**341**	P	**P**	**08 00 13.0**	**+0.3**
	baz=70						
336A	**Riesel**	**69.43**	**339**	⇓P	**P**	**08 00 13.6**	**+0.4**
	baz=70,SNR=12						
531A	**Rocksprings**	**69.50**	**335**	⇑P	**P**	**08 00 14.3**	**+0.4**
	baz=70,SNR=16						
238A	**Jacksonville**	**69.50**	**340**	P	**P**	**08 00 14.5**	**+0.8**
	baz=70						
335A	**Moody**	**69.50**	**338**	⇓P	**P**	**08 00 14.2**	**+0.5**
	baz=70						
JCT	**Junction City**	**69.53**	**336**	*e*P	**P**	**08 00 14.2**	**+0.1**
JCT				*e*PP	**pP**	**08 00 25.2**	**+0.3**
JCT				pmax	pmax		
	comp=Z,35nm,0.9s						
JCT	**Junction City**	**69.53**	**336**	⇑P	**P**	**08 00 14.1**	**+0.1**
	baz=70,SNR=17						
JCT	**Junction City**	**69.53**	**336**	*e*P	**P**	**08 00 14.2**	**+0.1**
	comp=Z,35nm,0.9s						
JCT				*e*pP	**pP**	**08 00 25.2**	**+0.3**
433A	**Art**	**69.55**	**336**	⇑P	**P**	**08 00 14.1**	**0.0**
	baz=70,SNR=34						
237A	**Washetta, Mont**	**69.70**	**340**	P	**P**	**08 00 15.5**	**+0.6**
	baz=70						
CNNC	**Cliffs of the**	**69.75**	**356**	*e*P	**P**	**08 00 16.6**	**+1.5**
	comp=Z,54nm,1.0s						
530A	**J-C Ranch, Com**	**69.77**	**334**	⇓P	**P**	**08 00 15.9**	**+0.4**
	baz=70,SNR=39						
334A	**Lometa**	**69.81**	**337**	⇑P	**P**	**08 00 15.6**	**-0.1**
	baz=70,SNR=21						
432A	**Menard**	**69.89**	**336**	⇓P	**P**	**08 00 16.0**	**-0.3**
	baz=70,SNR=16						
TXAR	**Lajitas Array**	**69.90**	**332**	P	**P**	**08 00 16.6**	**+0.2**
	comp=Z,8.9nm,0.7s,baz=156,slow=8.8,SNR=106						
TXAR				LR	LR	08 26 05.0	
	comp=Z,186nm,18.3s,baz=0.0,slow=32						
TXAR				PKP2bc		08 28 21.9	
	comp=Z,0.7nm,1.0s,baz=328,slow=3.2,SNR=4.6						
KMSC	**Kings Mountain**	**69.93**	**353**	⇓P	**P**	**08 00 16.3**	**0.0**
	baz=70,SNR=7.5						
KMSC	**Kings Mountain**	**69.93**	**353**	*e*pP	pP	08 00 27.5	+0.3
431A	**Sonora**	**70.00**	**335**	⇑P	**P**	**08 00 16.7**	**-0.2**
	baz=70,SNR=10						
333A	**Richland Sprin**	**70.04**	**337**	⇓P	**P**	**08 00 17.0**	**-0.1**
	baz=70,SNR=20						
529A	**Stev Forest Ra**	**70.07**	**333**	⇓P	**P**	**08 00 17.6**	**+0.2**
	baz=70,SNR=24						
WHTX	**Lake Whitney,**	**70.17**	**338**	⇑P	**P**	**08 00 17.9**	**0.0**
	baz=70,SNR=17						
WHTX	**Lake Whitney,**	**70.17**	**338**	*e*P	**P**	**08 00 18.0**	**+0.2**
	comp=Z,57nm,0.9s						
WHTX				*e*pP	**pP**	**08 00 29.6**	**+0.9**
137A	**Heron Place, G**	**70.24**	**340**	P	**P**	**08 00 18.9**	**+0.7**
	baz=71						
430A	**Baggett Ranch,**	**70.31**	**335**	⇓P	**P**	**08 00 18.7**	**-0.1**
	baz=71,SNR=20						
332A	**Millersview**	**70.34**	**336**	⇑P	**P**	**08 00 18.7**	**-0.3**
	baz=71,SNR=20						
234A	**Clairette**	**70.40**	**338**	⇓P	**P**	**08 00 19.2**	**-0.1**
	baz=71,SNR=24						
429A	**Davenport Ranc**	**70.40**	**334**	⇓P	**P**	**08 00 19.3**	**-0.1**
	baz=71,SNR=14						
331A	**San Angelo**	**70.51**	**335**	⇑P	**P**	**08 00 19.9**	**-0.1**
	baz=71,SNR=31						
OXF	**Oxford**	**70.53**	**346**	*e*P	**P**	**08 00 19.4**	**-0.6**
OXF				*e*PP	**pP**	**08 00 32.4**	**+1.6**
OXF				pmax	pmax		
	comp=Z,53nm,0.9s						
OXF	**Oxford**	**70.53**	**346**	*e*P	**P**	**08 00 19.4**	**-0.6**
	comp=Z,53nm,0.9s						
OXF				*e*pP	**pP**	**08 00 32.4**	**+1.6**
SWET	**Sewanee**	**70.59**	**349**	*e*P	**P**	**08 00 19.9**	**-0.5**
	comp=Z,44nm,0.9s						
SWET				*e*pP	**pP**	**08 00 31.9**	**+0.6**
CPCT	**Cooper Cave**	**70.61**	**350**	*e*P	**P**	**08 00 22.7**	**+2.2**
CPCT				*e*pP	**pP**	**08 00 33.9**	**+2.5**
233A	**Rising Star**	**70.65**	**337**	⇓P	**P**	**08 00 20.6**	**-0.2**
	baz=71,SNR=20						
135A	**Vickery Place,**	**70.69**	**338**	⇑P	**P**	**08 00 20.7**	**-0.3**
	baz=71,SNR=6.2						
TKL	**Tuckaleechee C**	**70.72**	**351**	*e*P	**P**	**08 00 21.2**	**0.0**
TKL				*e*PP	**pP**	**08 00 32.1**	**+0.1**
TKL	**Tuckaleechee C**	**70.72**	**351**	P	**P**	**08 00 21.1**	**0.0**
	comp=Z,13nm,0.8s,baz=172,slow=7.7,SNR=12						
TKL	**Tuckaleechee C**	**70.72**	**351**	*e*P	**P**	**08 00 21.2**	**0.0**
TKL				*e*pP	**pP**	**08 00 32.1**	**+0.1**
232A	**Coleman**	**70.78**	**336**	⇓P	**P**	**08 00 21.3**	**-0.3**
	baz=71,SNR=22						
330A	**Mertzon**	**70.85**	**335**	⇑P	**P**	**08 00 21.7**	**-0.4**
	baz=71,SNR=16						
134A	**White-Moore Ra**	**70.91**	**338**	⇑P	**P**	**08 00 22.1**	**-0.2**
	baz=71,SNR=8.0						
231A	**Bronte**	**71.04**	**336**	⇓P	**P**	**08 00 22.8**	**-0.4**
	baz=71,SNR=28						
133A	**Hamilton Ranch**	**71.20**	**337**	⇑P	**P**	**08 00 24.0**	**-0.2**
	baz=72,SNR=15						
329A	**Wagon Wheel Ra**	**71.21**	**334**	⇑P	**P**	**08 00 24.2**	**-0.2**
	baz=72,SNR=17						
230A	**Sterling City**	**71.27**	**335**	⇓P	**P**	**08 00 24.3**	**-0.4**
	baz=72,SNR=14						
Z35A	**Perchaven, San**	**71.36**	**339**	⇓P	**P**	**08 00 25.0**	**0.0**
	baz=72,SNR=30						
UALR	**University of**	**71.42**	**343**	*e*P	**P**	**08 00 25.9**	**+0.5**
	comp=Z,14nm,0.9s						
ABTX	**Abilene, Hawle**	**71.45**	**337**	⇓P	**P**	**08 00 25.5**	**-0.2**
	baz=72,SNR=15						
ABTX	**Abilene, Hawle**	**71.45**	**337**	*e*P	**P**	**08 00 25.6**	**0.0**
	comp=Z,43nm,0.8s						
ABTX				*e*pP	**pP**	**08 00 37.3**	**+0.8**
MIAR	**Mount Ida**	**71.50**	**342**	*e*P	**P**	**08 00 25.8**	**-0.1**
MIAR				pmax	pmax		
	comp=Z,28nm,1.4s						
MIAR	**Mount Ida**	**71.50**	**342**	*e*P	**P**	**08 00 25.8**	**-0.1**
	comp=Z,28nm,1.4s					

baz=74,SNR=7.7
W34A Bridge Creek, 73.29 339 *e*P **P 08 00 36.5 -0.1**
comp=Z,29nm,0.9s
W34A *e*pP **pP 08 00 48.0 +0.5**
TUL1 Leonard 73.37 341 ⇑P **P 08 00 36.7 -0.2**
baz=74,SNR=20
TUL1 Leonard 73.37 341 *e*P **P 08 00 36.6 -0.4**
comp=Z,41nm,0.8s
TUL1 *e*pP **pP 08 00 48.0 +0.1**
X31A McDonald Ranch 73.41 337 ⇓P **P 08 00 37.3 0.0**
baz=74,SNR=22
W33A Caddo, Fort Co 73.42 339 ⇑P **P 08 00 37.9 +0.6**
baz=74,SNR=25
Y28A McKinney Farm, 73.50 335 ⇓P **P 08 00 37.9 0.0**
baz=74,SNR=9.6
X30A Coker Ranch, T 73.53 336 ⇑P **P 08 00 38.0 0.0**
baz=74
Z26A Caprock 73.54 333 ⇓P **P 08 00 38.1 -0.2**
baz=74,SNR=63
USIN University of 73.56 348 *e*P **P 08 00 38.0 -0.1**
comp=Z,55nm,1.2s
USIN *e*pP **pP 08 00 49.6 +0.6**
SIUC Southern Illin 73.60 347 *e*P **P 08 00 38.0 -0.3**
comp=Z,32nm,0.9s
SIUC *e*pP **pP 08 00 50.7 +1.6**
W32A Sentinel 73.63 338 ⇓P **P 08 00 38.6 0.0**
baz=74,SNR=50
MSTX Muleshoe 73.74 335 ⇓P **P 08 00 39.1 -0.3**
baz=74,SNR=32
MSTX Muleshoe 73.74 335 *e*P **P 08 00 39.2 -0.3**
comp=Z,39nm,0.8s
MSTX *e*pP **pP 08 00 50.9 +0.6**
V34A Guthrie 73.78 340 ⇓P **P 08 00 39.2 -0.2**
baz=74
Y27A Causey 73.80 334 ⇑P **P 08 00 39.5 -0.2**
baz=74,SNR=7.9
X29A Tulia 73.80 336 ⇑P **P 08 00 39.5 -0.2**
baz=74,SNR=16
Z25A Roswell 73.83 333 ⇓P **P 08 00 39.7 -0.2**
baz=74,SNR=7.8
W31A Holland Ranch, 73.91 337 ⇑P **P 08 00 40.1 -0.1**
baz=74,SNR=13
V33A Lossen Ranch, 73.99 339 ⇑P **P 08 00 40.5 -0.2**
baz=74,SNR=23
319A Douglas 74.00 328 ⇓P **P 08 00 41.8 +0.8**
baz=74,SNR=13
X28A Dimmitt 74.04 335 ⇓P **P 08 00 40.9 -0.2**
baz=74
Y26A Elida 74.07 334 ⇓P **P 08 00 41.5 +0.1**
baz=74
W30A Crocket Farms 74.10 337 ⇑P **P 08 00 41.2 -0.2**
baz=74
Z24A Sheeppen Canyo 74.11 332 ⇓P **P 08 00 42.1 +0.4**
baz=74,SNR=15
V32A Arapaho 74.12 338 ⇑P **P 08 00 41.8 +0.4**
baz=74,SNR=6.2
AMTX Amarillo 74.19 336 ⇑P **P 08 00 41.8 -0.1**
baz=74
AMTX Amarillo 74.19 336 *e*P **P 08 00 41.9 -0.1**
comp=Z,36nm,0.9s
AMTX *e*pP **pP 08 00 53.6 +0.7**
U34A Anderson Ranch 74.34 340 ⇓P **P 08 00 42.6 0.0**
baz=75,SNR=6.5
U34A Anderson Ranch 74.34 340 *e*P **P 08 00 42.7 0.0**
comp=Z,36nm,1.0s
U34A *e*pP **pP 08 00 54.3 +0.7**
121A Cookes Peak, D 74.37 330 ⇑P **P 08 00 44.3 +1.1**
baz=75,SNR=24
121A Cookes Peak, D 74.37 330 *e*P **P 08 00 44.2 +1.1**
comp=Z,23nm,0.9s
OLIL Olney 74.39 348 *e*P **P 08 00 42.0 -0.9**
comp=Z,32nm,1.4s
Y25A Mesa, Roswell 74.39 333 ⇑P **P 08 00 43.1 -0.1**
baz=75
W29A Amarillo 74.40 336 ⇓P **P 08 00 43.1 -0.1**
baz=75,SNR=7.9
V31A Spring Creek L 74.41 338 ⇑P **P 08 00 43.9 +0.7**
baz=75,SNR=6.7
MVL Millersville 74.42 358 *e*P **P 08 00 45.5 +2.5**
comp=Z,36nm,1.4s
X27A F and S Farms, 74.46 335 ⇓P **P 08 00 44.1 +0.5**
baz=75
U33A Lingo Farm, Me 74.50 339 ⇓P **P 08 00 43.9 +0.3**
baz=75,SNR=10
BLO Bloomington 74.56 349 *e*P **P 08 00 45.2 +1.3**
BLO *e**PP **pP 08 00 54.9 +0.1**
BLO pmax pmax
comp=Z,19nm,1.0s
BLO Bloomington 74.56 349 *e*P **P 08 00 45.2 +1.3**
comp=Z,19nm,1.0s
BLO *e*pP **pP 08 00 54.9 +0.1**
X26A CR and CF Fran 74.63 334 ⇑P **P 08 00 44.9 +0.3**
baz=75,SNR=20
V30A Spur Ranch, Mi 74.67 337 ⇑P **P 08 00 45.6 +0.9**
baz=75
Y24A Capitan 74.67 333 ⇓P **P 08 00 45.2 +0.2**
baz=75,SNR=16
Z22A Elephant Butte 74.67 331 ⇓P **P 08 00 45.5 +0.6**
baz=75
SLM Saint Louis 74.68 346 *e*P **P 08 00 44.6 0.0**
SLM *e**PP **PcP 08 00 57.3 -1.4**
SLM pmax pmax
comp=Z,44nm,0.7s
SLM Saint Louis 74.68 346 *e*P **P 08 00 44.6 0.0**
comp=Z,44nm,0.7s
SLM *e*pP **PcP 08 00 57.3 -1.4**
W28A Vega 74.71 336 ⇓P **P 08 00 45.4 +0.4**
baz=75
U32A Winter Ranch, 74.72 339 ⇑P **P 08 00 45.0 +0.1**
baz=75,SNR=6.2
W27A Bowe Ranch, En 74.83 335 ⇓P **P 08 00 45.9 +0.2**
baz=75,SNR=23
Y23A Lovelace Mesa, 74.91 332 ⇓P **P 08 00 47.0 +0.7**
baz=75
V29A Stinnett 75.04 337 P **P 08 00 47.6 +0.7**
baz=75
W26A Owens Ranch, T 75.10 334 ⇓P **P 08 00 47.6 +0.3**
baz=75,SNR=12
ACSO Alum Creek Sta 75.14 352 *e*P **P 08 00 46.5 -0.7**
comp=Z,114nm,1.6s
ACSO *e*pP **pP 08 00 57.8 -0.3**
T33A Patterson Ranc 75.15 340 ⇑P **P 08 00 47.6 +0.3**
baz=76,SNR=15
V28A Channing 75.16 336 ⇓P **P 08 00 47.6 0.0**
baz=76,SNR=18
SUR Sutherland 75.33 119 P **P 08 00 50.1 +1.0**
comp=Z,16nm,1.0s,baz=253,slow=7.3,SNR=5.4
U30A WK&E Inc. Balk 75.36 337 ⇑P **P 08 00 49.0 +0.3**
baz=76,SNR=13
V27A Dan Oppiter Fa 75.38 335 ⇑P **P 08 00 49.1 +0.3**
baz=76,SNR=5.0
T32A Huddler Ranch, 75.44 339 ⇑P **P 08 00 49.1 +0.1**
baz=76,SNR=6.5
TUC Tucson 75.45 328 *e*P **P 08 00 50.0 +0.7**
TUC *e**PP **PcP 08 01 01.5 -0.8**
TUC pmax pmax
comp=Z,11nm,1.0s
TUC Tucson 75.45 328 *e*P **P 08 00 50.0 +0.7**
comp=Z,10nm,1.0s
TUC *e*pP **PcP 08 01 01.5 -0.8**
W25A X Bar L Ranch, 75.46 334 ⇑P **P 08 00 49.5 +0.1**
baz=76,SNR=8.9
LPM Los Pinos Moun 75.47 332 *e*P **P 08 00 50.5 +1.0**
X23A Hourglass Bar 75.54 332 ⇓P **P 08 00 50.4 +0.4**
baz=76,SNR=12
S33A Kaszmaul Farm, 75.55 340 ⇓P **P 08 00 49.8 +0.1**
baz=76
T31A Randall Ranch, 75.58 338 ⇑P **P 08 00 49.8 -0.1**
baz=76
U28A Mallet 75.74 336 ⇑P **P 08 00 50.8 -0.1**
baz=76
V26A Tequesquite Ra 75.74 335 ⇑P **P 08 00 51.3 +0.3**
baz=76,SNR=8.7
LAZ Ladron 75.75 332 *e*P **P 08 00 52.1 +1.0**
comp=Z,7.4nm,1.1s
W24A Lazy 6 Ranch, 75.80 333 ⇑P **P 08 00 51.5 +0.1**
baz=76,SNR=11
S32A Newby Ranch, P 75.92 339 ⇑P **P 08 00 52.0 +0.2**
baz=76,SNR=7.9
LIC Lamto 75.94 72 *e*P **P 08 00 53.5 +1.1**
comp=Z,81nm,1.1s
ANMO Albuquerque 75.96 332 ⇓*i*P **P 08 00 52.7 +0.4**
ANMO pmax pmax
comp=Z,76nm,1.2s
ANMO Albuquerque 75.96 332 P **P 08 00 52.4 +0.1**
comp=Z,11nm,1.0s,baz=161,slow=7.5,SNR=31
ANMO Albuquerque 75.96 332 *e*P **P 08 00 52.8 +0.4**
comp=Z,18nm,1.1s
U27A Thompson Grove 75.97 336 ⇓P **P 08 00 52.6 +0.4**
baz=76,SNR=6.5
S31A Mullinville 76.01 339 ⇓P **P 08 00 52.7 +0.4**
baz=76,SNR=8.1
W23A Werner Place, 76.04 333 ⇑P **P 08 00 53.2 +0.4**
baz=76,SNR=13
214A Organ Pipe Nat 76.06 326 ⇓P **P 08 00 53.4 +0.7**
baz=76,SNR=10
214A Organ Pipe Nat 76.06 326 *e*P **P 08 00 53.7 +1.0**
comp=Z,16nm,1.0s
V25A Rancho No Teng 76.08 334 ⇓P **P 08 00 53.1 +0.1**
baz=76,SNR=19
T29A Hugoton 76.14 337 ⇓P **P 08 00 53.4 +0.2**
baz=76,SNR=8.8
TIC Toumodi 76.20 72 *e*P **P 08 00 55.0 +1.1**
comp=Z,11nm,0.2s
V24A Rampart Ranch, 76.21 334 ⇑P **P 08 00 53.7 -0.1**
baz=77,SNR=8.7
R33A Olander Ranch, 76.22 340 ⇓P **P 08 00 53.2 -0.3**
baz=77,SNR=7.1
KIC Kosan Boka 76.24 72 *e*P **P 08 00 55.5 +1.3**
comp=Z,70nm,0.9s
U26A Atchley Ranch, 76.27 335 ⇑P **P 08 00 54.1 +0.1**
baz=77,SNR=6.7
S30A Montezuma 76.33 338 ⇑P **P 08 00 54.4 +0.2**
baz=77,SNR=6.1
DBIC Dimbokro 76.34 72 *e*P **P 08 00 55.3 +0.5**
DBIC Dimbokro 76.34 72 P **P 08 00 56.3 +1.5**
comp=Z,25nm,0.8s,baz=205,slow=6.6,SNR=30
DBIC LR LR 08 32 18.8
comp=Z,461nm,19.1s,baz=216,slow=34
T28A Walsh 76.37 337 ⇑P **P 08 00 54.5 +0.1**
baz=77,SNR=31
U25A Circle Dot Ran 76.50 335 ⇑P **P 08 00 55.8 +0.5**
baz=77,SNR=13
S29A Ulysses 76.51 338 ⇑P **P 08 00 55.5 +0.3**
baz=77,SNR=14
T27A Campo 76.52 336 ⇓P **P 08 00 55.6 +0.3**
baz=77,SNR=19
R32A Long Quarter, 76.53 340 ⇑P **P 08 00 55.3 +0.1**
baz=77,SNR=14
V23A Ortiz Mt. (NFS 76.57 333 ⇓P **P 08 00 55.7 -0.1**
baz=77
KSU1 Kansas State U 76.59 341 ⇑P **P 08 00 54.8 -0.7**
baz=77,SNR=7.1
KSU1 Kansas State U 76.59 341 *e*P **P 08 00 54.8 -0.7**
comp=Z,18nm,0.8s
R31A Burdett 76.64 339 ⇑P **P 08 00 56.2 +0.3**
baz=77,SNR=11
ERPA Erie 76.73 355 *e*P **P 08 00 56.5 +0.3**
comp=Z,25nm,1.0s
ERPA *e*pP **PcP 08 01 08.8 +1.4**
S28A Manter 76.73 337 ⇓P **P 08 00 56.5 0.0**
baz=77,SNR=37
Q33A Connelly Farm, 76.82 341 ⇓P **P 08 00 57.2 +0.3**
baz=77,SNR=8.7
U24A Moreno Valley 76.82 334 ⇑P **P 08 00 58.4 +1.1**
baz=77,SNR=8.6
R30A Dighton 76.86 338 ⇓P **P 08 00 57.4 +0.2**
baz=77,SNR=6.7
T26A Comanche Natio 76.92 336 ⇓P **P 08 00 58.2 +0.5**
baz=77,SNR=14
V22A San Miguel Ran 76.99 332 ⇓P **P 08 00 59.4 +1.2**
baz=77,SNR=41
X18A Snowflake 77.00 330 ⇓P **P 08 00 58.7 +0.6**
baz=77
Q32A Meitler Ranch, 77.01 340 ⇑P **P 08 00 57.8 -0.1**
baz=77,SNR=15
U23A El Rito 77.09 333 ⇑P **P 08 00 59.9 +1.2**
baz=77,SNR=16
T25A Trinidad 77.17 335 ⇑P **P 08 01 00.1 +1.0**
baz=78,SNR=32
113A Mohawk Valley, 77.18 326 ⇓P **P 08 00 59.8 +0.8**
baz=78
P33A Williams Farm, 77.19 341 ⇑P **P 08 00 59.4 +0.4**
baz=78
R29A Marienthal 77.25 338 ⇑P **P 08 00 59.9 +0.5**
baz=78,SNR=7.3
Q31A Ellis 77.27 339 ⇓P **P 08 00 59.7 +0.3**
baz=78,SNR=10
S26A Kim 77.28 336 ⇓P **P 08 01 00.8 +1.2**
baz=78,SNR=29
Z14A Wintersburg 77.31 327 P **P 08 01 01.7 +2.0**
baz=78
U22A Llaves 77.38 333 ⇓P **P 08 01 01.7 +1.3**
baz=78,SNR=9.8
R28A Tribune 77.39 337 ⇓P **P 08 01 00.4 +0.2**
baz=78,SNR=22
W18A Petrified Fore 77.42 330 ⇓P **P 08 01 01.3 +0.8**
baz=78,SNR=9.2
W18A Petrified Fore 77.42 330 *e*P **P 08 01 01.4 +0.9**
comp=Z,27nm,1.2s
T24B San Luis 77.44 334 ⇓P **P 08 01 01.8 +1.0**
baz=78,SNR=14
Q30A Quinter 77.48 339 ⇑P **P 08 01 01.0 +0.4**
baz=78,SNR=5.1
X16A Lo Mia Camp, P 77.53 328 ⇓P **P 08 01 02.2 +1.0**
baz=78,SNR=18
P32A Huiting Farm, 77.61 340 ⇓P **P 08 01 01.7 +0.4**
baz=78,SNR=6.9
Q29A Oakley 77.63 338 ⇓P **P 08 01 01.6 +0.1**
baz=78,SNR=17
S25A Robets Cordova 77.64 335 ⇑P **P 08 01 02.4 +0.7**
baz=78,SNR=16
R27A Eads 77.66 337 ⇓P **P 08 01 01.9 +0.2**
baz=78,SNR=38
T23A Casias Ranch, 77.66 334 ⇑P **P 08 01 02.6 +0.7**
baz=78,SNR=9.2
P31A Stockton 77.74 340 ⇑P **P 08 01 02.3 +0.2**
baz=78,SNR=12
WIN Windhoek 77.76 109 *e*P **P 08 01 04.7 +1.8**
WIN AMB AMB 08 01 18.4
comp=Z,8.3nm,2.8s
WIN Windhoek 77.76 109 P **P 08 01 04.7 +1.8**
WIN pmax pmax
comp=Z,8.0nm,2.8s
WIN Windhoek 77.76 109 P **P 08 01 04.7 +1.8**
comp=Z,8.3nm,2.8s
UPI Upington 77.80 116 *e*P **P 08 01 03.7 +0.7**
UPI AMB AMB 08 01 25.6
comp=Z,39nm,1.8s
UPI Upington 77.80 116 P **P 08 01 03.7 +0.7**
comp=Z,39nm,1.8s
Y14A Wickenburg 77.82 327 ⇓P **P 08 01 03.3 +0.7**
baz=78,SNR=5.9
R26A Arlington 77.89 336 ⇑P **P 08 01 04.0 +1.0**
baz=78,SNR=15
S24A Houchin Ranch, 77.90 335 ⇓P **P 08 01 04.4 +1.1**
baz=78,SNR=26
GLA Glamis 77.91 325 *e*P **P 08 01 04.6 +1.5**
GLA pmax pmax
comp=Z,99nm,2.2s
GLA Glamis 77.91 325 ⇓P **P 08 01 03.3 +0.2**
baz=78
GLA Glamis 77.91 325 *e*P **P 08 01 04.6 +1.5**
comp=Z,99nm,2.2s
P30A Selden 78.01 339 ⇓P **P 08 01 03.8 +0.3**
baz=78,SNR=6.2
R25A Fountain Ranch 78.03 335 ⇓P **P 08 01 04.3 +0.5**
baz=78,SNR=8.4
Q28A Sharon Springs 78.05 338 ⇑P **P 08 01 04.5 +0.6**
baz=78,SNR=10
SDCO Great Sand Dun 78.09 334 *e*P **P 08 01 04.8 +0.4**
comp=Z,10.0nm,0.9s
O32A Brockman Farm, 78.12 341 ⇓P **P 08 01 03.9 -0.2**
baz=78,SNR=8.8
S23A Nye Farm, Mont 78.24 334 ⇓P **P 08 01 06.3 +1.2**
baz=79
KSCO Kaye Shedlock' 78.26 337 ⇓P **P 08 01 05.6 +0.5**
baz=79,SNR=6.7
KSCO Kaye Shedlock' 78.26 337 *e*P **P 08 01 05.7 +0.6**
comp=Z,22nm,0.8s
P29A Atwood 78.27 338 ⇑P **P 08 01 05.6 +0.6**
baz=79,SNR=27
SWSC Sam W. Stewart 78.28 324 ⇑P **P 08 01 04.9 -0.2**
baz=79
O31A Woolen Ranch, 78.31 340 ⇑P **P 08 01 05.3 +0.1**
baz=79,SNR=6.7
Y12C Blythe 78.35 326 ⇓P **P 08 01 06.2 +0.7**
baz=79,SNR=5.8
R24A Sanders Place, 78.39 335 ⇓P **P 08 01 06.9 +1.0**
baz=79,SNR=26
WUAZ Wupatki 78.44 329 ⇓P **P 08 01 07.1 +0.9**
baz=79,SNR=10
WUAZ Wupatki 78.44 329 *e*P **P 08 01 07.2 +1.0**
comp=Z,16nm,1.0s
SCIA State Center 78.44 345 *e*P **P 08 01 06.5 +0.6**
comp=Z,44nm,1.0s
SCIA *e*pP **pP 08 01 19.0 +2.2**
Q26A Hugo 78.47 336 ⇑P **P 08 01 07.0 +0.7**
baz=79,SNR=12
P28A Saint Francis 78.50 338 ⇑P **P 08 01 06.9 +0.6**
baz=79,SNR=13
MONP Monument Peak, 78.54 324 ⇑P **P 08 01 07.6 +0.8**
baz=79
O30A MW Ranch, Wils 78.55 339 ⇓P **P 08 01 06.8 +0.3**
baz=79,SNR=12
S22A 4UR Ranch, Cre 78.58 333 ⇓P **P 08 01 07.8 +0.7**
baz=79,SNR=14
N32A Stulken Farm, 78.59 341 ⇓P **P 08 01 07.1 +0.4**
baz=79
R23A Moffat 78.61 334 ⇓P **P 08 01 07.3 +0.1**
baz=79
PDMCI Parker Dam,Lak 78.63 326 ⇓P **P 08 01 07.6 +0.5**
baz=79
BC3 Big Chuckawall 78.71 325 ⇑P **P 08 01 08.3 +0.7**
baz=79,SNR=8.4
Q25A Bedland, Calha 78.71 336 ⇑P **P 08 01 08.1 +0.5**
baz=79,SNR=10
O29A 4D Ranch, Culb 78.71 339 ⇑P **P 08 01 07.8 +0.4**
baz=79
MVCO Mesa Verde 78.74 332 ⇑P **P 08 01 08.4 +0.5**
baz=79,SNR=6.9
MVCO Mesa Verde 78.74 332 *e*P **P 08 01 08.9 +1.0**
comp=Z,12nm,0.9s
P27A Ficken Ranch, 78.74 337 ⇑P **P 08 01 08.3 +0.7**
baz=79,SNR=5.8
JFWS Jewell Farm 78.83 347 *e*P **P 08 01 07.7 -0.2**
JFWS *e**PP **pP 08 01 20.5 +1.6**
JFWS pmax pmax
comp=Z,155nm,2.0s
JFWS Jewell Farm 78.83 347 *e*P **P 08 01 07.7 -0.2**
comp=Z,155nm,2.0s
JFWS *e*pP **pP 08 01 20.5 +1.6**
GRM Grahamstown 78.85 123 *e*P **P 08 01 09.7 +1.1**
GRM AMB AMB 08 01 34.5
comp=Z,61nm,4.8s
GRM Grahamstown 78.85 123 P **P 08 01 09.7 +1.1**
GRM pmax pmax
comp=Z,61nm,4.8s
GRM Grahamstown 78.85 123 P **P 08 01 09.7 +1.1**
comp=Z,61nm,4.8s
IRM Iron Mountain 78.98 326 ⇑P **P 08 01 09.9 +0.9**
baz=79,SNR=5.0
P26A Davis Ranch, A 78.99 337 ⇑P **P 08 01 10.2 +1.1**
baz=79,SNR=12
O28A Krutsinger Ran 79.01 338 ⇑P **P 08 01 10.4 +1.3**
baz=79
Q24A Divide 79.06 335 ⇓P **P 08 01 10.4 +0.7**
baz=79,SNR=17
PFO Pinyon Flats O 79.14 324 *e*P **P 08 01 11.6 +1.5**
PFO Pinyon Flats O 79.14 324 P **P 08 01 11.3 +1.3**
comp=Z,12nm,1.0s,baz=127,slow=3.6,SNR=14
PFO Pinyon Flats O 79.14 324 ⇑P **P 08 01 11.4 +1.3**
baz=80,SNR=6.6
PFO Pinyon Flats O 79.14 324 *e*P **P 08 01 11.6 +1.5**
BGNE Belgrade 79.16 341 ⇓P **P 08 01 10.1 +0.3**
baz=80,SNR=5.7
BGNE Belgrade 79.16 341 *e*P **P 08 01 09.9 +0.2**
comp=Z,83nm,1.4s
W13A Hualapai Mount 79.18 327 ⇓P **P 08 01 11.4 +1.1**
baz=80,SNR=8.2
P25A Willow Gulch B 79.22 336 ⇓P **P 08 01 11.4 +1.0**
baz=80,SNR=28
BELC Belle Mtn. Jos 79.25 325 P **P 08 01 11.4 +0.8**
baz=80
O27A Beecher Island 79.29 338 ⇑P **P 08 01 11.5 +0.9**
baz=80,SNR=11
N29A Votaw Ranch, W 79.30 339 ⇓P **P 08 01 11.0 +0.4**
baz=80,SNR=9.6
M31A Lambtecht Ranc 79.32 341 ⇑P **P 08 01 11.3 +0.6**
baz=80,SNR=6.5
N28A Pribbeno Ranch 79.45 338 ⇑P **P 08 01 11.8 +0.3**
baz=80,SNR=6.1
P24A Kohler Place, 79.47 336 ⇓P **P 08 01 12.9 +1.1**
baz=80
MURC Murrieta 79.50 324 ⇓P **P 08 01 12.6 +0.8**
baz=80
PV01 Paradox Valley 79.57 332 *e*P **P 08 01 13.5 +1.1**
comp=Z,923nm,1.0s
O26A Horse Wrangler 79.60 337 ⇑P **P 08 01 13.3 +0.9**
baz=80,SNR=16
U15A North Rim 79.61 329 ⇓P **P 08 01 14.0 +1.3**
baz=80,SNR=15
HVD Gariep Dam 79.65 120 *e*P **P 08 01 14.1 +0.9**
HVD AMB AMB 08 01 38.0
comp=Z,43nm,2.1s
HVD Gariep Dam 79.65 120 P **P 08 01 14.1 +0.9**
HVD pmax pmax
comp=Z,43nm,2.1s
HVD Gariep Dam 79.65 120 P **P 08 01 14.1 +0.9**
comp=Z,43nm,2.1s
P23A Jefferson 79.67 335 ⇑P **P 08 01 14.2 +1.1**
baz=80,SNR=8.6
GMRC Granite Mounta 79.73 326 ⇓P **P 08 01 14.3 +1.1**
baz=80,SNR=7.1
O25A Wiggins 79.75 336 ⇓P **P 08 01 14.2 +1.1**
baz=80
M30A Dale-Ortello V 79.75 340 ⇑P **P 08 01 13.8 +0.7**
baz=80
OGNE Ogallala 79.84 338 ⇑P **P 08 01 14.5 +0.9**
baz=80
N27A Anderson Farm, 79.87 338 ⇑P **P 08 01 14.4 +0.6**
baz=80,SNR=20
SMCO Snowmass 79.89 334 *e*P **P 08 01 15.7 +1.4**
comp=Z,25nm,1.1s
M29A Burnside Ranch 79.90 339 ⇓P **P 08 01 14.9 +1.1**
baz=80
PV04 Paradox Valley 79.93 332 *e*P **P 08 01 14.5 +0.3**
TSUM Tsumeb 79.96 106 P **P 08 01 15.9 +0.9**
comp=Z,15nm,1.2s,baz=243,slow=6.3,SNR=11
TSUM LR LR 08 31 37.4
comp=Z,802nm,21.8s,baz=169,slow=32
ISCO Idaho Springs 79.97 335 *e*P **P 08 01 15.5 +0.9**
ISCO pmax pmax
comp=Z,54nm,2.0s
ISCO Idaho Springs 79.97 335 ⇑P **P 08 01 15.3 +0.7**
baz=80,SNR=10.0
ISCO Idaho Springs 79.97 335 *e*P **P 08 01 15.5 +0.9**
comp=Z,54nm,2.0s
M28A Bar X Bar Ranc 80.05 339 ⇑P **P 08 01 15.9 +1.2**
baz=80
L31A Butterfield Fa 80.06 341 ⇑P **P 08 01 15.1 +0.4**
baz=80,SNR=12
O24A Longmont 80.07 336 ⇑P **P 08 01 15.7 +0.8**
baz=80
HEC Hector,Ludlow 80.08 325 ⇓P **P 08 01 16.3 +1.3**
baz=80,SNR=7.1
L30A Spencer Herefo 80.09 340 ⇑P **P 08 01 15.2 +0.3**
baz=80,SNR=9.2
N26A Koester Ranch, 80.10 337 ⇑P **P 08 01 16.1 +1.1**
baz=80,SNR=5.3
P22A Eagle 80.19 334 ⇓P **P 08 01 16.7 +1.0**
baz=80,SNR=9.5
BFSC Mount Baldy Ra 80.24 324 ⇑P **P 08 01 17.0 +1.0**
baz=81,SNR=5.5
N25A Grover 80.37 337 ⇑P **P 08 01 17.3 +0.8**
baz=81
TUQ Turquoise Moun 80.39 326 ⇓P **P 08 01 17.7 +0.9**
baz=81,SNR=6.3
O23A Lake Granby, G 80.44 335 ⇑P **P 08 01 17.9 +0.8**
baz=81,SNR=12
M27A Reverse DX Ran 80.48 338 ⇑P **P 08 01 17.6 +0.6**
baz=81,SNR=10
BOSA Boshof 80.60 118 *e*P **P 08 01 18.2 0.0**
BOSA AMB AMB 08 01 32.8
comp=Z,42nm,3.6s
BOSA Boshof 80.60 118 P **P 08 01 18.2 0.0**
BOSA pmax pmax
comp=Z,42nm,3.6s
BOSA Boshof 80.60 118 P **P 08 01 18.8 +0.5**
comp=Z,34nm,1.0s,baz=232,slow=5.2,SNR=30
BOSA LR LR 08 32 05.5
comp=Z,420nm,21.8s,baz=226,slow=32
BOSA Boshof 80.60 118 P **P 08 01 18.2 0.0**
comp=Z,42nm,3.6s
O22A Kremmling 80.61 335 ⇓P **P 08 01 18.7 +0.6**
baz=81,SNR=16
GSC Goldstone, Bar 80.69 325 *e*P **P 08 01 19.8 +1.5**
GSC pmax pmax
comp=Z,95nm,2.5s
GSC Goldstone, Bar 80.69 325 ⇓P **P 08 01 19.2 +0.8**
baz=81
GSC Goldstone, Bar 80.69 325 *e*P **P 08 01 19.8 +1.5**
comp=Z,95nm,2.5s

K30A **Basset** 80.73 341 ⇓P P 08 01 18.5 +0.2
baz=81,SNR=17
EDW2 **Edwards Air Fo** 80.92 324 ⇑P P 08 01 19.4 0.0
baz=81
M25A **Palm-Egli Farm** 80.92 337 ⇓P P 08 01 20.2 +0.7
baz=81
SHPR **Sheep Range** 80.93 327 eP P 08 01 20.7 +1.1
ECSD **EROS Data Cent** 80.95 343 ⇑P P 08 01 19.6 +0.1
baz=81,SNR=25
ECSD **EROS Data Cent** 80.95 343 eP P 08 01 19.1 -0.3
comp=Z,36nm,0.9s
L27A **T5 Ranch, Ells** 80.96 339 ⇑P P 08 01 20.7 +1.1
baz=81,SNR=5.8
K29A **Lazy Trails An** 81.01 340 ⇓P P 08 01 20.6 +0.8
baz=81,SNR=7.6
CCUT **Cedar City** 81.01 329 eP P 08 01 21.8 +1.6
comp=Z,21nm,1.0s
N23A **Red Feather La** 81.06 335 ⇑P P 08 01 21.1 +0.7
baz=81,SNR=12
N22A **Wattenberg Ran** 81.15 335 ⇓P P 08 01 21.9 +1.0
baz=82,SNR=15
SRU **San Rafael Swe** 81.18 332 eP P 08 01 21.1 +0.2
SRU e*PP pP 08 01 32.8 +0.8
SRU pmax pmax
comp=Z,12nm,0.8s
SRU **San Rafael Swe** 81.18 332 eP P 08 01 21.1 +0.2
comp=Z,12nm,0.8s
SRU epP pP 08 01 32.8 +0.8
M24A **Cheyenne** 81.20 337 ⇑P P 08 01 22.0 +1.0
baz=82,SNR=9.1
O20A **White River Ci** 81.20 334 ⇓P P 08 01 22.0 +1.0
baz=82,SNR=9.7
O20A **White River Ci** 81.20 334 eP P 08 01 21.8 +0.8
comp=Z,94nm,2.0s
ARUT **Antelope Range** 81.24 329 eP P 08 01 23.1 +1.8
ARUT pmax pmax
comp=Z,194nm,1.0s
ARUT **Antelope Range** 81.24 329 eP P 08 01 23.1 +1.8
comp=Z,194nm,1.0s
LRMC **Laurel Mtn Rad** 81.25 325 ⇑P P 08 01 22.6 +1.2
baz=82,SNR=5.4
PHWY **Pilot Hill** 81.26 336 eP P 08 01 22.1 +0.7
comp=Z,13nm,0.8s
K28A **Ten Mile Ranch** 81.26 339 ⇑P P 08 01 22.3 +1.1
baz=82,SNR=10
J30A **Dallas** 81.30 341 ⇓P P 08 01 21.8 +0.5
baz=82,SNR=7.5
MVU **Marysvale** 81.33 330 eP P 08 01 23.1 +1.2
comp=Z,6.7nm,0.8s
SWZ **Schweizer** 81.46 117 eP P 08 01 22.2 -0.7
SWZ AMB AMB 08 01 54.5
comp=Z,27nm,5.9s
SWZ **Schweizer** 81.46 117 P P 08 01 22.2 -0.7
comp=Z,27nm,5.9s
M23A **Laramie** 81.50 336 ⇓P P 08 01 23.1 +0.5
baz=82
K27A **Flueckinger Fa** 81.51 339 ⇓P P 08 01 23.4 +0.9
baz=82,SNR=9.9
SPMN **Marine on St.** 81.54 346 ⇑P P 08 01 22.1 -0.3
baz=82,SNR=7.8
SPMN **Marine on St.** 81.54 346 eP P 08 01 21.9 -0.6
comp=Z,18nm,0.9s
SPMN epP pP 08 01 34.5 +1.1
J29A **Okreek** 81.61 340 ⇓P P 08 01 23.3 +0.4
baz=82,SNR=30
TMUT **Trail Mountain** 81.61 331 eP P 08 01 24.4 +1.0
comp=Z,12nm,0.9s
FURC **Furnace Creek,** 81.67 326 ⇑P P 08 01 24.2 +0.9
baz=82
M22A **Cedar Creek Ra** 81.73 335 ⇑P P 08 01 24.7 +0.8
baz=82,SNR=6.7
L24A **Wheatland** 81.75 337 ⇓P P 08 01 24.5 +0.7
baz=82
ISA **Isabella, Lake** 81.78 324 eP P 08 01 25.4 +1.3
ISA pmax pmax
comp=Z,8.0nm,0.9s
ISA **Isabella, Lake** 81.78 324 ⇓P P 08 01 25.3 +1.3
baz=82,SNR=7.1
ISA **Isabella, Lake** 81.78 324 eP P 08 01 25.4 +1.3
comp=Z,7.9nm,0.9s
K26A **Motz Farm, Whi** 81.79 338 ⇓P P 08 01 24.8 +0.8
baz=82
N20A **Spence Gulch,** 81.82 334 ⇓P P 08 01 25.1 +0.8
baz=82,SNR=8.0
I30A **Oacoma** 81.83 341 ⇑P P 08 01 24.3 +0.2
baz=82,SNR=18
J28A **Allard Ranch,** 81.88 340 ⇓P P 08 01 25.1 +0.7
baz=82,SNR=12
K25A **Mack Ranch, Ha** 81.92 338 ⇑P P 08 01 24.8 +0.1
baz=82
J27A **Elkhorn Farm,** 81.94 339 ⇓P P 08 01 25.7 +0.9
baz=82,SNR=14
L23A **Garrett** 82.07 336 ⇓P P 08 01 25.9 +0.3
baz=82,SNR=7.0
I29A **Vivian Onida** 82.17 341 ⇑P P 08 01 26.1 +0.3
baz=82,SNR=8.1
RWWY **Rawlins** 82.20 335 eP P 08 01 18.0 -8.4
comp=Z,23nm,1.3s
BRSD **Miller** 82.20 342 ⇓P P 08 01 26.1 0.0
baz=83,SNR=6.5
BRSD **Miller** 82.20 342 eP P 08 01 26.0 0.0
comp=Z,32nm,0.9s
VES **Vestal, Richgr** 82.22 324 ⇑P P 08 01 26.6 +0.3
baz=82
L22A **Ellis Ranch, M** 82.24 336 ⇑P P 08 01 27.3 +0.8
baz=83,SNR=6.0
BKZ **Black Stump Fm** 82.25 227 eP P 08 01 24.6 -2.1
comp=Z,68nm,1.6s
J26A **Sides Ranch, S** 82.31 338 ⇑P P 08 01 27.5 +0.8
baz=83,SNR=12
RUDU **RUNDU** 82.36 106 eP P 08 01 28.8 +1.1
RUDU AMB AMB 08 01 53.2
comp=Z,46nm,1.5s
RUDU **RUNDU** 82.36 106 P P 08 01 28.8 +1.1
comp=Z,46nm,1.5s
I28A **Midland** 82.39 340 ⇑P P 08 01 27.6 +0.6
baz=83
MPU **Maple Canyon** 82.39 331 eP P 08 01 27.9 +0.6
comp=Z,18nm,0.9s
URZ **Urewera** 82.44 228 eP P 08 01 26.3 -1.3
comp=Z,14nm,0.9s
KSD **Kokstad** 82.46 122 eP P 08 01 31.8 +3.7
KSD AMB AMB 08 03 36.0
comp=Z,18nm,5.3s
KSD **Kokstad** 82.46 122 P P 08 01 31.8 +3.7
comp=Z,18nm,5.3s
SEK **Senekal** 82.47 119 eP P 08 01 27.9 -0.3
SEK AMB AMB 08 01 52.8
comp=Z,38nm,1.2s
SEK **Senekal** 82.47 119 P P 08 01 27.9 -0.3
comp=Z,38nm,1.2s
NLU **North Lily Min** 82.52 331 eP P 08 01 28.8 +0.8
comp=Z,79nm,2.1s
DAU **Daniels Canyon** 82.58 332 eP P 08 01 29.5 +1.0
DAU **Daniels Canyon** 82.58 332 eP P 08 01 29.5 +1.0
J25A **Sunshine Ranch** 82.61 338 ⇑P P 08 01 28.9 +0.6
baz=83,SNR=12
K23A **Bowen Ranch, D** 82.61 337 ⇓P P 08 01 28.9 +0.5
baz=83,SNR=10
R11A **Troy Canyon, C** 82.64 328 ⇓P P 08 01 29.9 +1.2
baz=83,SNR=17
R11A **Troy Canyon, C** 82.64 328 eP P 08 01 29.8 +1.1
comp=Z,12nm,1.1s
RCTC **Rector, Farmer** 82.67 324 ⇑P P 08 01 28.9 +0.3
baz=83
H29A **Onida** 82.70 341 ⇓P P 08 01 28.6 0.0
baz=83,SNR=14
I27A **Quinn** 82.70 339 ⇑P P 08 01 29.0 +0.3
baz=83,SNR=6.3
K22A **Casper** 82.82 336 ⇓P P 08 01 30.2 +0.7
baz=83,SNR=15
K22A **Casper** 82.82 336 eP P 08 01 30.0 +0.5
comp=Z,43nm,1.2s
J24A **Dixon Ranch, L** 82.82 337 ⇑P P 08 01 29.9 +0.6
baz=83,SNR=7.1
JLU **Jordanelle** 82.82 332 eP P 08 01 30.1 +0.5
comp=Z,11nm,0.7s
LBTB **Lobatse** 82.88 115 eP P 08 01 30.6 +0.3
LBTB AMB AMB 08 01 55.5
comp=Z,30nm,2.6s
LBTB **Lobatse** 82.88 115 eP P 08 01 27.6 -2.8
LBTB pmax pmax
comp=Z,24nm,0.7s
LBTB **Lobatse** 82.88 115 P P 08 01 31.9 +1.5
comp=Z,20nm,0.7s,baz=254,slow=5.5,SNR=23
LBTB **Lobatse** 82.88 115 eP P 08 01 27.6 -2.8
comp=Z,24nm,0.7s
LBTB P P 08 01 30.6 +0.3

G30A **Faulkton** 82.89 342 ⇑P P 08 01 29.3 -0.2
baz=83,SNR=8.2
I26A **New Underwood** 82.90 339 ⇑P P 08 01 29.9 +0.1
baz=83
H28A **Mission Ridge** 82.97 340 ⇑P P 08 01 30.1 +0.1
baz=83,SNR=14
CTU **Camp Tracy** 83.02 332 eP P 08 01 31.1 +0.6
comp=Z,8.9nm,0.8s
DUG **Dugway, Tooele** 83.02 331 eP P 08 01 31.3 +0.8
DUG pmax pmax
comp=Z,31nm,1.1s
DUG **Dugway, Tooele** 83.02 331 ⇑P P 08 01 31.5 +1.0
baz=83,SNR=28
DUG **Dugway, Tooele** 83.02 331 eP P 08 01 31.3 +0.8
comp=Z,31nm,1.1s
K21A **Alcova** 83.05 335 ⇑P P 08 01 31.1 +0.4
baz=83,SNR=23
PRYS **Parys** 83.09 118 eP P 08 01 31.1 -0.3
PRYS AMB AMB 08 01 37.4
comp=Z,16nm,4.6s
PRYS **Parys** 83.09 118 P P 08 01 31.1 -0.3
comp=Z,16nm,4.6s
TPH **Tonopah** 83.15 326 eP P 08 01 32.6 +1.3
TPH pmax pmax
comp=Z,21nm,1.2s
TPH **Tonopah** 83.15 326 eP P 08 01 32.5 +1.3
comp=Z,21nm,1.2s
G29A **Hoven** 83.15 341 ⇓P P 08 01 31.0 +0.1
baz=84,SNR=7.3
I25A **Rochford** 83.16 338 ⇑P P 08 01 31.7 +0.5
baz=84,SNR=16
H27A **Howes** 83.23 340 ⇑P P 08 01 31.4 +0.1
baz=84,SNR=13
TCUT **Toone Canyon** 83.25 332 eP P 08 01 32.4 +0.6
comp=Z,21nm,0.8s
I24A **Kuemmerle Ranc** 83.29 338 ⇓P P 08 01 32.2 +0.4
baz=84
G28A **Parade** 83.31 341 ⇓P P 08 01 32.1 +0.3
baz=84,SNR=11
RSSD **Black Hills** 83.34 338 eP P 08 01 31.7 -0.5
RSSD pmax pmax
comp=Z,15nm,0.9s
RSSD **Black Hills** 83.34 338 eP P 08 01 31.6 -0.5
comp=Z,15nm,0.9s
KSR **Koster** 83.37 117 eP P 08 01 28.4 -4.5
KSR AMB AMB 08 01 49.2
comp=Z,14nm,1.9s
KSR **Koster** 83.37 117 P P 08 01 28.4 -4.5
comp=Z,14nm,1.9s
J22A **Midwest** 83.48 336 ⇑P P 08 01 32.9 +0.1
baz=84,SNR=7.4
F30A **Leola** 83.52 342 ⇓P P 08 01 33.1 +0.3
baz=84,SNR=7.2
MLAC **Mammoth, Mammo** 83.53 325 ⇓P P 08 01 33.5 +0.1
baz=84
H25A **Fruitdale** 83.66 339 ⇑P P 08 01 34.0 +0.3
baz=84,SNR=8.6
F29A **Eureka** 83.72 342 ⇑P P 08 01 34.0 +0.2
baz=84,SNR=5.8
BGU **Big Grassy Mou** 83.72 331 eP P 08 01 34.5 +0.4
BGU epP pP 08 01 47.4 +2.1
J21A **Lysite** 83.75 336 ⇓P P 08 01 34.6 +0.4
baz=84,SNR=8.3
G27A **Dupree** 83.87 340 ⇓P P 08 01 34.7 0.0
baz=84,SNR=6.8
I22A **9 Mile Ranch,** 83.91 337 ⇑P P 08 01 35.3 +0.3
baz=84,SNR=10.0
EYMN **Ely** 83.92 348 eP P 08 01 34.3 -0.4
comp=Z,22nm,1.2s
NVAR **Mina Array Bea** 83.93 326 P P 08 01 36.5 +1.1
comp=Z,5.6nm,0.9s,baz=151,slow=5.3,SNR=33
NVAR PKKP PKKPbc 08 19 50.5 -1.1
comp=Z,0.7nm,0.7s,baz=336,slow=2.0,SNR=6.2
CRWM **Crown Mines** 83.96 118 eP P 08 01 34.4 -1.6
CRWM AMB AMB 08 01 51.2
comp=Z,19nm,1.4s
J20A **Shoshoni** 83.97 335 ⇓P P 08 01 35.9 +0.5
baz=84,SNR=31
BW06 **Boulder Array** 83.98 334 eP P 08 01 35.3 -0.2
comp=Z,20nm,1.4s
BW06 epP pP 08 01 48.2 +1.7
PDAR **Pinedale Array** 83.98 334 P P 08 01 34.9 -0.6
comp=Z,6.1nm,1.0s,baz=143,slow=5.2,SNR=26
G26A **Maurine** 83.98 340 ⇓P P 08 01 35.3 +0.1
baz=84,SNR=8.8
F28A **McLaughlin** 83.99 341 ⇓P P 08 01 35.4 +0.2
baz=84,SNR=15
OBSV **Observatory** 84.04 118 eP P 08 01 35.5 -0.9
OBSV AMB AMB 08 01 57.8
comp=Z,21nm,3.5s
H24A **Dirks Ranch, A** 84.06 338 ⇓P P 08 01 35.4 -0.4
baz=84,SNR=8.4
ERPM **east rand prop** 84.07 118 eP P 08 01 36.5 0.0
ERPM AMB AMB 08 02 03.1
comp=Z,18nm,1.9s
ERPM **east rand prop** 84.07 118 P P 08 01 36.5 0.0
comp=Z,18nm,1.9s
I21A **Big Trails, Te** 84.11 336 ⇑P P 08 01 35.8 -0.2
baz=84,SNR=11
E30A **Jud** 84.11 342 ⇓P P 08 01 36.1 +0.3
baz=84,SNR=7.1
G25A **Newell** 84.13 339 ⇑P P 08 01 35.9 0.0
baz=84,SNR=16
J19A **Crowheart** 84.23 335 ⇑P P 08 01 37.2 +0.4
baz=85,SNR=22
HVU **Hansel Valley** 84.35 331 eP P 08 01 37.7 +0.4
HVU e*PP pP 08 01 50.5 +2.1
HVU pmax pmax
comp=Z,28nm,0.8s
HVU **Hansel Valley** 84.35 331 eP P 08 01 37.7 +0.4
comp=Z,28nm,0.8s
HVU epP pP 08 01 50.5 +2.1
F27A **Lemmon** 84.35 340 ⇑P P 08 01 37.2 +0.1
baz=85,SNR=12
E29A **Napoleon** 84.36 342 ⇑P P 08 01 36.8 -0.2
baz=85,SNR=5.1
SLR **Silverton** 84.45 117 eP P 08 01 37.6 -0.8
SLR AMB AMB 08 01 47.5
comp=Z,28nm,6.5s
SLR **Silverton** 84.45 117 P P 08 01 37.6 -0.8
SLR pmax pmax
comp=Z,28nm,6.5s
SLR **Silverton** 84.45 117 P P 08 01 37.6 -0.8
comp=Z,28nm,6.5s
ELK **Elko** 84.48 329 eP P 08 01 38.9 +0.8
ELK pmax pmax
comp=Z,12nm,0.9s
ELK **Elko** 84.48 329 P P 08 01 38.4 +0.3
comp=Z,11nm,0.9s,baz=180,slow=1.9,SNR=41
ELK **Elko** 84.48 329 eP P 08 01 38.9 +0.8
comp=Z,12nm,0.9s
H22A **Clearmont** 84.49 337 ⇓P P 08 01 38.0 +0.1
baz=85,SNR=6.9
F26A **Lodgepole** 84.51 340 ⇓P P 08 01 37.7 -0.2
baz=85,SNR=7.2
I20A **Worland** 84.51 335 ⇑P P 08 01 38.1 0.0
baz=85,SNR=13
WAKR **Walker** 84.52 325 eP P 08 01 38.4 +0.1
G24A **Alzada** 84.55 338 ⇑P P 08 01 37.9 -0.2
baz=85
CMB **Columbia Colle** 84.59 324 eP P 08 01 39.6 +1.1
CMB pmax pmax
comp=Z,7.0nm,1.0s
CMB **Columbia Colle** 84.59 324 eP P 08 01 39.6 +1.1
comp=Z,7.2nm,1.0s
E28A **Huff** 84.64 341 ⇓P P 08 01 38.6 +0.1
baz=85,SNR=6.8
D30A **Buchanan** 84.64 343 ⇓P P 08 01 38.8 +0.3
baz=85,SNR=12
G23A **Biddle** 84.73 338 ⇓P P 08 01 38.8 -0.3
baz=85,SNR=6.6
E27A **Carson** 84.73 341 ⇑P P 08 01 39.1 +0.1
baz=85,SNR=5.3
H21A **Big Horn, Sher** 84.75 336 ⇑P P 08 01 39.3 0.0
baz=85,SNR=5.7
DRLN **Deer Lake** 84.78 10 eP P 08 01 39.9 +0.8
D29A **Pettibone, Tap** 84.80 342 ⇑P P 08 01 39.1 -0.2
baz=85
F25A **Bowman** 84.81 339 ⇓P P 08 01 39.3 -0.1
baz=85,SNR=7.4
I19A **Meeteetse** 84.89 335 ⇓P P 08 01 40.1 0.0
baz=85,SNR=6.1
H20A **Greybull** 84.94 336 ⇑P P 08 01 40.0 -0.2
baz=85,SNR=33
REDW **Red Top Meadow** 84.97 333 eP P 08 01 40.5 0.0
comp=Z,144nm,2.5s

E26A **Carlson Angus** 85.02 340 ⇓P P 08 01 40.2 -0.2
baz=85,SNR=5.6
F24A **Ekalaka** 85.02 339 ⇑P P 08 01 40.3 -0.3
baz=85,SNR=8.2
G22A **Birney** 85.03 337 ⇑P P 08 01 40.2 -0.4
baz=85
BMN **Battle Mountai** 85.07 328 eP P 08 01 42.2 +1.2
BMN pmax pmax
comp=Z,5.0nm,1.1s
BMN **Battle Mountai** 85.07 328 eP P 08 01 42.2 +1.2
comp=Z,5.0nm,1.1s
LOHW **Long Hollow** 85.09 334 eP P 08 01 41.4 +0.3
comp=Z,31nm,1.6s
AGMN **Agassiz Nation** 85.10 345 ⇓P P 08 01 40.7 -0.1
baz=86,SNR=12
AGMN **Agassiz Nation** 85.10 345 eP P 08 01 40.3 -0.4
comp=Z,64nm,1.6s
TPAW **Teton Pass** 85.11 333 eP P 08 01 41.1 -0.2
comp=Z,22nm,1.3s
C30A **Mose, Pekin** 85.13 343 ⇑P P 08 01 41.0 +0.1
baz=86,SNR=16
D28A **Regan** 85.17 342 ⇓P P 08 01 41.0 -0.1
baz=86
F23A **Volborg** 85.20 338 ⇓P P 08 01 41.0 -0.4
baz=86,SNR=10
FXWY **Fox Creek** 85.27 333 eP P 08 01 42.3 +0.3
comp=Z,15nm,1.5s
CRZF **Crozet Islands** 85.29 145 SS SS 08 16 50.0 -53
CRZF L L 08 25 00.0
CRZF R 08 29 00.0
E25A **Miller Ranch,** 85.31 340 ⇓P P 08 01 41.7 -0.2
baz=86,SNR=5.9
G21A **Lodge Grass** 85.33 337 ⇓P P 08 01 42.1 0.0
baz=86,SNR=7.4
D27A **Center** 85.35 341 ⇓P P 08 01 42.4 +0.3
baz=86
I17A **Pilgrim Ck.** 85.35 334 ⇑P P 08 01 43.2 +0.8
baz=86,SNR=13
TORD **Torodi Ar. Bea** 85.38 71 P P 08 01 43.8 +0.8
comp=Z,13nm,0.8s,baz=256,slow=3.8,SNR=53
TORD LR LR 08 38 40.8
comp=Z,642nm,18.8s,baz=225,slow=35
H19A **Powell** 85.44 335 ⇓P P 08 01 42.9 +0.2
baz=86,SNR=11
IMW **Indian Meadow** 85.46 334 eP P 08 01 43.1 +0.1
comp=Z,34nm,1.5s
F22A **Rosebud** 85.52 338 ⇑P P 08 01 43.1 +0.1
baz=86,SNR=11
D26A **Manning** 85.52 340 ⇑P P 08 01 43.4 +0.4
baz=86,SNR=9.9
FLWY **Flagg Ranch** 85.53 334 eP P 08 01 43.9 +0.6
comp=Z,18nm,1.0s
C28A **Hausauer Farms** 85.61 342 ⇑P P 08 01 43.5 +0.2
baz=86
E24A **Baker** 85.63 339 ⇓P P 08 01 43.9 +0.4
baz=86,SNR=5.8
G20A **Bridger** 85.66 336 ⇑P P 08 01 43.7 0.0
baz=86,SNR=24
H18A **Shoshone NF, C** 85.68 335 ⇑P P 08 01 44.3 +0.3
baz=86,SNR=43
H17A **Grant Village** 85.76 334 ⇑P P 08 01 44.6 +0.1
baz=86
H17A **Grant Village** 85.76 334 eP P 08 01 46.0 +1.5
comp=Z,23nm,1.8s
B30A **Myrvik Farm, E** 85.79 344 ⇑P P 08 01 44.3 +0.1
baz=86,SNR=30
F21A **Absaloka Mine,** 85.84 337 ⇓P P 08 01 44.5 -0.1
baz=86
E23A **Ismay** 85.87 338 ⇑P P 08 01 44.4 -0.3
baz=86,SNR=7.6
D25A **Fairfield** 85.88 340 ⇓P P 08 01 45.3 +0.6
baz=86,SNR=9.9
C27A **Sayler Ranch,** 85.90 341 ⇓P P 08 01 44.8 +0.1
baz=86
YFT **Old Faithful** 85.90 334 eP P 08 01 48.7 +3.5
comp=Z,30nm,1.3s
RLMT **Red Lodge** 85.93 335 eP P 08 01 45.4 +0.1
comp=Z,13nm,0.6s
E22A **Miles City** 86.01 338 ⇑P P 08 01 45.1 -0.3
baz=86,SNR=7.9
B29A **Wagenman Farm,** 86.05 343 ⇑P P 08 01 45.6 +0.1
baz=86,SNR=8.1
YMR **Madison River** 86.14 334 eP P 08 01 47.4 +1.1
comp=Z,36nm,1.1s
YMR epP pP 08 02 00.4 +3.1
D24A **Glendive** 86.14 339 ⇓P P 08 01 46.1 +0.1
baz=86,SNR=7.6
F20A **Billings** 86.15 336 ⇑P P 08 01 46.0 -0.1
baz=86,SNR=7.0
C26A **Wahner Farm, P** 86.16 341 ⇑P P 08 01 46.1 0.0
baz=86
A30A **Hoffart Farm,** 86.25 344 ⇓P P 08 01 46.4 0.0
baz=87,SNR=9.0
B28A **Dugan Ranch, T** 86.28 342 ⇓P P 08 01 47.2 +0.6
baz=87,SNR=13
LAO **LASA Array** 86.32 338 eP P 08 01 46.7 -0.2
comp=Z,47nm,1.3s
LAO epP pP 08 01 59.4 +1.4
C25A **Freed Ranch, W** 86.37 340 ⇓P P 08 01 47.4 +0.2
baz=87,SNR=7.3
QLMT **Earthquake Lak** 86.44 334 eP P 08 01 48.8 +1.0
D23A **Lindsay** 86.45 339 ⇑P P 08 01 48.2 +0.7
baz=87,SNR=44
A29A **Manning Farm,** 86.45 343 ⇑P P 08 01 47.4 -0.1
baz=87,SNR=12
E21A **Keefer Ranch,** 86.46 337 ⇓P P 08 01 47.9 +0.3
baz=87
F19A **Roth Farm, Mol** 86.46 336 ⇓P P 08 01 47.8 +0.1
baz=87,SNR=9.1
HLID **Hailey** 86.50 331 ⇑P P 08 01 48.7 +0.7
baz=87,SNR=20
HLID **Hailey** 86.50 331 eP P 08 01 48.7 +0.7
comp=Z,12nm,0.9s
C24A **Savage** 86.54 339 ⇑P P 08 01 48.6 +0.7
baz=87,SNR=19
A28A **Rude Farm, Bot** 86.69 343 ⇑P P 08 01 49.0 +0.4
baz=87
B26A **Jensen Ranch,** 86.70 341 ⇓P P 08 01 48.9 +0.2
baz=87
D22A **Cohagen** 86.72 338 ⇓P P 08 01 49.1 +0.3
baz=87,SNR=14
E20A **Meyer Farm, Mu** 86.76 337 ⇓P P 08 01 49.4 +0.3
baz=87,SNR=38
B25A **Knox Farm, Ray** 86.86 340 ⇓P P 08 01 50.2 +0.7
baz=87,SNR=17
D21A **La Casta Ranch** 86.90 338 ⇑P P 08 01 49.8 +0.1
baz=87,SNR=12
MFID **Camas Ranch** 86.94 330 eP P 08 01 51.0 +0.8
comp=Z,31nm,1.6s
E19A **Rath Farm, Rou** 86.94 336 ⇓P P 08 01 50.0 0.0
baz=87,SNR=26
ULM **Lac du Bonnet** 86.96 346 eP P 08 01 49.4 -0.4
ULM **Lac du Bonnet** 86.96 346 P P 08 01 48.9 -0.9
comp=Z,18nm,1.0s,baz=171,slow=3.8,SNR=18
ULM **Lac du Bonnet** 86.96 346 eP P 08 01 49.4 -0.4
MCMT **McKenzie Canyo** 86.97 333 eP P 08 01 51.1 +0.7
comp=Z,14nm,1.0s
MCMT epP pP 08 02 04.3 +2.9
A27A **Ledoux Ranch,** 86.97 342 P P 08 01 49.9 -0.1
baz=87
C23A **Lambert** 87.01 339 ⇑P P 08 01 50.2 0.0
baz=87,SNR=21
A26A **Wade Farm, Ken** 87.13 341 ⇓P P 08 01 50.9 +0.2
baz=88,SNR=7.7
C22A **Vida** 87.17 339 ⇑P P 08 01 51.1 +0.1
baz=88,SNR=11
BOZ **Bozeman (W)** 87.22 334 eP P 08 01 51.5 +0.1
BOZ pmax pmax
comp=Z,13nm,1.3s
BOZ **Bozeman (W)** 87.22 334 eP P 08 01 51.5 +0.1
comp=Z,13nm,1.3s
D20A **Manuel Ranch,** 87.28 337 ⇑P P 08 01 51.7 +0.1
baz=88,SNR=23
WVOR **Wild Horse Val** 87.32 328 eP P 08 01 52.6 +0.6
WVOR e*PP pP 08 02 05.0 +1.9
WVOR pmax pmax
comp=Z,13nm,1.1s
WVOR **Wild Horse Val** 87.32 328 eP P 08 01 52.6 +0.6
comp=Z,13nm,1.1s
WVOR epP pP 08 02 05.0 +1.9
DGMT **Dagmar** 87.33 340 ⇑P P 08 01 52.3 +0.5
baz=88,SNR=22
DGMT **Dagmar** 87.33 340 eP P 08 01 52.0 +0.3
comp=Z,69nm,0.8s
DGMT epP pP 08 02 05.1 +2.3
DLMT **Dillon** 87.33 333 eP P 08 01 52.5 +0.5
comp=Z,38nm,1.4s
A25A **Svangstu Ranch** 87.45 341 ⇓P P 08 01 52.7 +0.4

baz=88,SNR=6.5
LCCM Lewis and Clar 87.47 334 P **P 08 01 53.1 +0.5**
B23A Brockton 87.55 339 ⇓P **P 08 01 52.9 +0.1**
baz=88,SNR=9.3
D19A Cripps Ranch, 87.59 337 ⇓P **P 08 01 52.7 -0.4**
baz=88,SNR=7.4
C21A Desert Coulee 87.61 338 ⇑P **P 08 01 52.9 -0.2**
baz=88,SNR=14
WDC Whiskeytown Da 87.62 325 *e*P **P 08 01 53.1 -0.2**
WDC pmax pmax
comp=Z,12nm,0.8s
WDC Whiskeytown Da 87.62 325 *e*P **P 08 01 53.1 -0.2**
comp=Z,12nm,0.8s
MOD Modoc Plateau 87.63 327 *e*P **P 08 01 54.3 +0.8**
comp=Z,26nm,0.8s
LRM Limekiln Ridge 87.67 334 *e*P **P 08 01 54.0 +0.3**
LRM *e*pP **pP 08 02 07.2 +2.4**
A24A Westby 87.68 340 ⇑P **P 08 01 53.6 +0.1**
baz=88,SNR=8.7
B22A Reddig Ranch S 87.70 339 ⇓P **P 08 01 53.5 -0.1**
baz=88,SNR=23
MSNA Messina 87.73 116 *e*P **P 08 01 54.2 -0.3**
MSNA AMB AMB 08 02 55.9
comp=Z,26nm,4.8s
MSNA Messina 87.73 116 P **P 08 01 54.2 -0.3**
comp=Z,26nm,4.8s
C20A Veseth Ranch, 87.79 337 ⇑P **P 08 01 53.8 -0.2**
baz=88,SNR=5.0
KMRM Mail Ridge 87.91 324 *e*P **P 08 01 56.6 +1.8**
comp=Z,46nm,1.2s
A23A Redstone 87.96 340 ⇓P **P 08 01 54.5 -0.3**
baz=88
N02D Trinity Center 88.01 325 ⇑P **P 08 01 55.3 0.0**
baz=88
B21A Ellsworth Farm 88.12 338 ⇑P **P 08 01 55.5 -0.1**
baz=88,SNR=10
C19A Slack Wire Ran 88.15 337 ⇑P **P 08 01 55.6 -0.1**
baz=88,SNR=7.3
HRY Holter Researc 88.20 335 *e*P **P 08 01 56.8 +0.7**
M04C Macdoel 88.24 326 ⇓P **P 08 01 57.2 +0.8**
baz=89
A22A Carney Farms, 88.29 339 ⇓P **P 08 01 56.5 +0.2**
baz=89,SNR=16
M02C Callahan 88.41 325 ⇓P **P 08 01 57.4 +0.2**
baz=89
B20A Solberg Farm, 88.44 338 ⇓P **P 08 01 56.7 -0.4**
baz=89,SNR=13
K05A Summer Lake 88.55 327 *e*P **P 08 01 59.1 +1.1**
comp=Z,37nm,0.8s
A21A Bergtoll Ranch 88.59 339 ⇑P **P 08 01 57.3 -0.5**
baz=89,SNR=7.4
YBH Yreka Blue Hor 88.60 325 *e*P **P 08 01 58.2 +0.1**
YBH *e**PP **pP 08 02 11.0 +1.8**
YBH pmax pmax
comp=Z,11nm,0.8s
YBH Yreka Blue Hor 88.60 325 P **P 08 01 57.6 -0.4**
comp=Z,11nm,0.8s,baz=113,slow=4.8,SNR=31
YBH Yreka Blue Hor 88.60 325 *e*P **P 08 01 58.2 +0.1**
comp=Z,11nm,0.8s
YBH *e*pP **pP 08 02 11.0 +1.8**
EGMT Eagleton 88.63 336 ⇑P **P 08 01 57.6 -0.4**
baz=89
EGMT Eagleton 88.63 336 *e*P **P 08 01 58.5 +0.5**
comp=Z,38nm,1.8s
BMO Blue Mountains 88.73 330 *e*P **P 08 01 59.1 +0.5**
comp=Z,9.2nm,1.3s
BMO *e*pP **pP 08 02 10.9 +1.2**
B19A Brinkman Farms 88.74 337 ⇑P **P 08 01 58.1 -0.4**
baz=89,SNR=8.9
A20A Cobblestone Ra 88.80 338 ⇑P **P 08 01 58.6 -0.1**
baz=89,SNR=11
K04D Chiloquin, OR 88.86 326 ⇑P **P 08 01 59.1 -0.2**
baz=89
CHMT Chamberlain Mo 88.89 334 *e*P **P 08 01 60.0 +0.5**
I07A Izee 89.02 329 *e*P **P 08 02 01.2 +1.2**
comp=Z,68nm,1.9s
MSO Missoula 89.07 333 ⇑P **P 08 02 00.3 +0.2**
baz=89
MSO Missoula 89.07 333 *e*P **P 08 02 02.4 +2.3**
comp=Z,19nm,1.6s
A19A Klindworth Far 89.10 337 ⇓P **P 08 01 59.9 -0.3**
baz=89
J05D Fort Rock, OR 89.15 327 ⇑P **P 08 02 01.5 +0.8**
baz=90
SLMT Seeley Lake 89.25 334 *e*P **P 08 02 01.5 +0.4**
SLMT *e*pP **pP 08 02 14.3 +2.1**
L02D Cave Junction, 89.35 325 ⇑P **P 08 02 02.3 +0.8**
baz=90
SCHQ Schefferville 89.37 4 P **P 08 02 00.9 -0.3**
comp=Z,3.3nm,0.9s,baz=163,slow=14,SNR=3.4
PINOR Pine Mountain 89.40 328 *e*P **P 08 02 03.3 +1.7**
comp=Z,14nm,0.7s
PINOR *e*pP **pP 08 02 16.1 +3.4**
J04D Umpqua Nationa 89.50 327 ⇑P **P 08 02 02.6 +0.2**
baz=90
F10A Beach Ranch, E 89.62 331 *e*P **P 08 02 04.4 +1.7**
comp=Z,133nm,3.0s
SWMT Swartz Lake 89.66 334 *e*P **P 08 02 03.4 +0.5**
G08A Pilot Rock 89.77 330 *e*P **P 08 02 03.9 +0.4**
comp=Z,36nm,1.8s
YBMT Yellow Bay 89.96 334 *e*P **P 08 02 04.9 +0.6**
JTMT Jette 89.97 334 *e*P **P 08 02 04.9 +0.6**
JTMT *e*pP **pP 08 02 17.6 +2.1**
I05D Terrebonne, OR 90.03 328 ⇓P **P 08 02 05.0 +0.3**
baz=90
I04A Tendick Farm, 90.08 327 ⇑P **P 08 02 05.3 +0.4**
baz=90
BSMT Bassoo Peak 90.24 333 *e*P **P 08 02 06.5 +0.8**
BSMT *e*pP **pP 08 02 18.8 +1.9**
BSMT *e*sP **sP 08 02 22.5 +1.7**
I03D Drain, OR 90.43 326 ⇓P **P 08 02 07.0 +0.6**
baz=91
LSZ Lusaka 90.50 109 LR LR 08 38 40.1
comp=Z,902nm,20.5s,baz=321,slow=33
H04A Detroit Lake 90.67 327 *e*P **P 08 02 08.7 +1.1**
comp=Z,8.4nm,0.9s
HAWA Hanford 90.89 330 *e*P **P 08 02 10.1 +1.6**
comp=Z,87nm,2.4s
WALA Waterton Lakes 90.94 335 *e*P **P 08 02 09.2 +0.3**
E07A Sunnyside 91.16 330 *e*P **P 08 02 10.8 +1.0**
comp=Z,89nm,2.6s
D08A Wollman Farm, 91.18 331 *e*P **P 08 02 10.5 +0.7**
comp=Z,102nm,2.9s
OD2 Odessa Site #2 91.36 331 P **P 08 02 10.8 0.0**
NEW Newport 91.46 332 *e*P **P 08 02 11.3 +0.1**
NEW pmax pmax
comp=Z,36nm,1.9s
NEW Newport 91.46 332 P **P 08 02 10.9 -0.3**
comp=Z,2.7nm,0.9s,baz=153,slow=4.4,SNR=7.3
NEW Newport 91.46 332 ⇑P **P 08 02 11.9 +0.7**
baz=92
NEW Newport 91.46 332 *e*P **P 08 02 11.3 +0.1**
comp=Z,36nm,1.9s
C09A Chrisman Ranch 91.52 331 *e*P **P 08 02 12.6 +1.1**
comp=Z,16nm,1.3s
EBG Ellensburg 91.73 330 P **P 08 02 13.6 +1.1**
WTV Waterville 92.11 331 P **P 08 02 14.6 +0.4**
LON Longmire 92.13 329 *e*P **P 08 02 15.4 +1.1**
LON pmax pmax
comp=Z,5.0nm,1.1s
LON Longmire 92.13 329 *e*P **P 08 02 15.4 +1.1**
comp=Z,4.5nm,1.1s
B08A Colville Reser 92.39 331 *e*P **P 08 02 15.9 +0.4**
comp=Z,44nm,2.5s
TAM Tamanrasset 94.02 65 *e*P **P 08 02 25.3 +1.5**
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM Tamanrasset 94.02 65 *e*P **P 08 02 25.3 +1.5**
comp=Z,7.0nm,0.9s
EDM Edmonton 94.27 337 *e*P **P 08 02 22.3 -1.7**
EDM Edmonton 94.27 337 *e*P **P 08 02 22.3 -1.7**
FCC Fort Churchill 94.76 349 *e*P **P 08 02 26.1 +0.1**
FCC Fort Churchill 94.76 349 *e*P **P 08 02 26.1 +0.1**
ESDC Sonseca Array 97.79 47 P Pdif 08 02 41.7 +1.2
comp=Z,0.2nm,0.3s,baz=239,slow=4.3,SNR=4.1
ESDC LR LR 08 44 42.9
comp=Z,154nm,21.3s,baz=280,slow=34
YKA Yellowknife Ar 102.44 342 Pdiff **Pdif 08 02 59.4 -1.0**
comp=Z,1.1nm,0.9s,baz=143,slow=4.2,SNR=18
YKA PP **PP 08 07 12.8 -1.2**
comp=Z,0.6nm,1.1s,baz=145,slow=8.5,SNR=5.1
YKA PKKPbc **PKKPbc 08 19 01.3 -1.9**
comp=Z,0.2nm,0.6s,baz=342,slow=2.7,SNR=5.2
OPO Ambohidratompo102.47 123 Pdiff **Pdif 08 03 01.1 -0.9**
comp=Z,1.1nm,0.6s,baz=310,slow=8.9,SNR=2.0
GERES GERESS Array B 113.37 46 PKiKP **PKiKP 08 07 43.0 +0.3**
comp=Z,1.3nm,0.8s,baz=248,slow=0.5,SNR=4.4

ILAR Eielson Array 114.40 333 PKP PKPdf 08 07 44.2 +0.2
comp=Z,0.9nm,0.9s,baz=203,slow=0.5,SNR=7.1
ILAR PKKPbc **PKKPbc 08 18 24.6 -0.3**
comp=Z,0.5nm,0.6s,baz=312,slow=4.3,SNR=9.0
VYHS Vyhne 116.31 48 *e*PKIKP **PKPdf 08 07 48.9 +0.7**
VYHS Vyhne 116.31 48 *e*PKP **PKPdf 08 07 48.9 +0.7**
ASAR Alice Springs 116.47 208 PKP **PKPdf 08 07 48.9 -0.6**
comp=Z,2.1nm,0.7s,baz=131,slow=1.8,SNR=20
ASAR PKKPbc **PKKPbc 08 18 17.8 +0.9**
comp=Z,1.6nm,0.9s,baz=342,slow=2.9,SNR=10
NOA NORSAR Array B 117.17 33 PKKPbc PKKPbc 08 18 15.9 +0.8
comp=Z,1.0nm,0.7s,baz=70,slow=4.6,SNR=4.7
KOLS Kolonicke sedl 118.58 48 *e*PKIKP **PKPdf 08 07 54.0 +1.4**
KOLS Kolonicke sedl 118.58 48 *e*PKP **PKPdf 08 07 54.0 +1.4**
WRA Warramunga Arr 119.64 210 PKhKP PKPpre 08 07 50.6
comp=Z,2.1nm,0.5s,baz=155,slow=1.4,SNR=6.6
WRA PKP **PKPdf 08 07 55.1 -0.5**
comp=Z,4.5nm,0.7s,baz=170,slow=1.5,SNR=33
WRA PKKPbc **PKKPbc 08 18 06.0 +0.5**
comp=Z,2.9nm,1.1s,baz=337,slow=4.1,SNR=5.1
WRAB Tennant Creek 119.64 210 ⇑ *i*PKIKP **PKPdf 08 07 54.7 -0.9**
WRAB pmax pmax
comp=Z,61μm,2.5s
MLR Muntele Rosu 119.70 53 PKP **PKPdf 08 07 55.0 0.0**
comp=Z,0.7nm,0.7s,baz=259,slow=5.2,SNR=3.7
MMAI Mount Meron Ar 121.91 70 PKP **PKPdf 08 08 00.1 +0.5**
comp=Z,1.7nm,0.3s,baz=343,slow=3.0,SNR=4.9
BRTR Keskin Array B 123.05 62 PKP **PKPdf 08 08 00.8 -0.8**
comp=Z,5.0nm,0.8s,baz=190,slow=3.5,SNR=25
BRTR PP **PP 08 09 41.9 +0.1**
comp=Z,0.5nm,0.6s,baz=242,slow=6.1,SNR=2.5
KIEV Kiev 123.40 48 *e*PKIKP **PKPdf 08 08 01.8 +0.1**
KIEV Kiev 123.40 48 *e*PKPdf **PKPdf 08 08 01.8 +0.1**
AKASG Malin Array Be 123.41 48 PKhKP PKPpre 08 07 59.6
comp=Z,2.1nm,0.6s,baz=266,slow=2.6,SNR=8.7
AKASG PKP **PKiKP 08 08 02.3 +0.3**
comp=Z,3.1nm,0.7s,baz=267,slow=2.6,SNR=13
AKASG PP **PP 08 09 44.5 +0.8**
comp=Z,0.2nm,0.3s,baz=255,slow=5.2,SNR=3.2
SPITS Spitsbergen Ar 123.63 14 PKP **PKPdf 08 08 01.8 +0.4**
comp=Z,7.6nm,1.0s,baz=163,slow=5.6,SNR=8.1
FINES FINESS Array B 124.15 35 PKP **PKPdf 08 08 02.6 -0.2**
comp=Z,2.5nm,0.8s,baz=190,slow=5.8,SNR=6.1
KAF Kangasniemi 124.38 34 *e*PKIKP **PKPdf 08 08 02.3 -1.0**
KAF Kangasniemi 124.38 34 *e*p **PKPdf 08 08 02.3 -1.0**
ARCES ARCESS Array B 125.09 25 PKP **PKPdf 08 08 04.9 +0.4**
comp=Z,2.7nm,0.7s,baz=306,slow=4.2,SNR=10
RAYN Ar Rayn 126.05 85 *e*PKPdf **PKPdf 08 08 09.2 +1.4**
JOF Joensuu 126.79 34 *e*PKIKP **PKPdf 08 08 06.5 -1.3**
JOF Joensuu 126.79 34 *e*p **PKPdf 08 08 06.5 -1.3**
OBN Obninsk 128.64 44 *i*PKIKP **PKPdf 08 08 08.4 -3.2**
OBN pmax pmax
comp=Z,15nm,1.3s
MOS Moscow 129.31 43 *e*PKIKP **PKPdf 08 08 14.4 +1.5**
VSR Storozhevoye 129.66 49 *e*PKIKP **PKPdf 08 08 13.8 +0.1**
VSR pmax pmax
comp=N,2.0nm,0.9s
VSR pmax pmax
comp=E,8.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 130.57 36 *e*PKIKP **PKPdf 08 08 15.1 0.0**
KLMR pmax pmax
comp=Z,31nm,1.4s
KIV Kislovodsk 130.71 59 *i*PKIKP **PKPdf 08 08 16.0 -0.1**
KIV pmax pmax
comp=Z,19nm,1.1s
KBZ Khabaz 130.81 59 PKP **PKPdf 08 08 17.5 +1.4**
comp=Z,6.1nm,1.0s,baz=291,slow=3.5,SNR=9.0
GOF Gofitskoye 131.18 58 *e*PKIKP **PKPdf 08 08 19.0 +2.2**
GOF pmax pmax
comp=Z,36nm,1.0s
GNI Garni 131.32 64 PKP **PKPdf 08 08 18.4 +1.0**
comp=Z,2.9nm,0.4s,baz=135,slow=13,SNR=4.2
ZEI Tsey 131.32 61 *i*PKIKP **PKPdf 08 08 17.9 +0.5**
ZEI pmax pmax
comp=Z,8.0nm,1.3s
BILL Bilibino 133.06 334 ⇑ *i*PKIKP **PKPdf 08 08 20.5 +0.9**
BILL pmax pmax
comp=Z,13nm,1.2s
BILL Bilibino 133.06 334 *e*PKPdf **PKPdf 08 08 21.0 +1.3**
BILL *e*pPKPdf **pPKPdf 08 08 31.9 +0.8**
PRGR Permogore 133.48 35 PKIKP **PKPdf 08 08 20.2 -0.4**
PRGR pmax pmax
comp=Z,13nm,0.9s
IZEF Zefreh 135.19 76 *e*P **PKPdf 08 08 24.1 -1.0**
IDMV Damavand 135.73 72 *e*P **PKPdf 08 08 26.6 +0.6**
IANJ Anjilo 137.18 73 *e*P **PKPdf 08 08 29.9 +1.3**
IGLO Ghaloghah 137.38 72 *e*P **PKPdf 08 08 29.7 +0.7**
PETK Petropavlovsk- 139.95 313 PKhKP PKPpre 08 08 25.7
comp=Z,1.6nm,0.6s,baz=78,slow=11,SNR=6.5
PETK PKP **PKPdf 08 08 33.5 +0.6**
comp=Z,8.7nm,1.0s,baz=144,slow=2.8,SNR=6.1
SEY Seymchan 140.17 329 PKhKP PKPpre 08 08 25.0
comp=Z,3.9nm,0.7s,baz=118,slow=3.4,SNR=12
SEY PKP **PKPdf 08 08 31.5 -1.4**
comp=Z,12nm,0.9s,baz=107,slow=3.5,SNR=25
ARU Arti 140.94 41 *i*PKHKP PKPpre 08 08 29.5
ARU Arti 140.94 41 *e*PKPdf **PKPdf 08 08 31.0 -3.5**
GEYT Alibeck 141.02 71 PKhKP PKPpre 08 08 30.1
comp=Z,1.2nm,0.3s,baz=286,slow=5.5,SNR=4.9
TIXI Tiksi 141.23 349 *i*PKIKP **PKPdf 08 08 32.8 -1.8**
IAKL Akhelmad 141.26 73 *e*P PKPdf 08 08 28.8 -7.3
AKTO Aktyubinsk 141.56 51 PKhKP PKPpre 08 08 29.9
comp=Z,2.5nm,0.6s,baz=287,slow=2.1,SNR=6.9
AKTO PKP **PKPdf 08 08 35.1 -0.8**
comp=Z,2.5nm,0.7s,baz=300,slow=4.2,SNR=7.5
AB31 Akbulak array 142.91 52 *i*PKHKP PKPpre 08 08 34.5
AB31 pmax pmax
comp=Z,11nm,0.6s
ABKAR Akbulak array 142.91 52 *e*PKPdf **PKPdf 08 08 34.8 -3.5**
PALK Pallekele 143.63 133 *e*PKIKP PKPbc 08 08 38.8 +0.6
PALK Pallekele 143.63 133 PKhKP PKPpre 08 08 38.0
comp=Z,47nm,1.0s,baz=206,slow=4.4,SNR=10
PALK Pallekele 143.63 133 *e*PKPdf PKPbc 08 08 38.8 +0.7
GSI Gunungsitoli 145.65 164 *e*PKPdf **PKPab 08 08 46.2 +1.4**
BHJ Bhuj 145.76 99 *e*P **PKPdf 08 08 43.3 -0.7**
BHJ AMS AMS 08 19 19.9
comp=Z,80nm,5.5s
POO Poona 146.62 110 *e*P **PKPdf 08 08 44.5 -1.2**
POO ⇓ *i*P **PKPbc 08 08 46.0 -1.3**
comp=Z,179nm,1.5s
KSM Kuching 146.75 186 *e*PKPbc **PKPbc 08 08 47.4 -0.3**
PSI Prapat 147.40 165 PKPbc **PKPbc 08 08 49.8 0.0**
comp=Z,42nm,1.0s,baz=185,slow=5.7,SNR=4.9
MDRS Chennai 147.72 125 *e*P **PKPdf 08 08 46.0 -1.5**
BRVK Borovoye 148.41 43 ⇑ *i*PKIKP **PKPdf 08 08 49.0 +1.4**
BRVK pmax pmax
comp=Z,30nm,1.0s
BRVK Borovoye 148.41 43 *e*PKPbc **PKPbc 08 08 50.0 -1.2**
BRVK *e*PKPab **PKiKP 08 08 53.5 +0.8**
BVA0 Borovoye Array 148.49 43 *i*PKIKP **PKPdf 08 08 48.8 +1.1**
BVA0 pmax pmax
comp=Z,57nm,1.3s
VOSK Vostochnaya 148.93 44 PKP2 **PKPbc 08 08 52.5 0.0**
VOSK pmax pmax
comp=Z,100nm,2.1s
KBL Kabul 149.07 79 *e*PKP2 **PKPbc 08 08 53.9 +0.2**
KBL Kabul 149.07 79 *e*PKPbc **PKPbc 08 08 53.9 +0.2**
YAK Yakutsk 149.07 339 *i*PKP2 **PKPbc 08 08 51.7 -0.7**
YAK *e* 08 12 22.9
YAK *e*PPP PPP 08 15 46.6
YAK *e*SSS SSS 08 37 05.5
YAK pmax pmax
comp=Z,83nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=Z,102nm,3.2s
YAK pmax pmax
comp=N,126nm,6.5s
YAK pmax pmax
comp=E,195nm,5.5s
YAK Yakutsk 149.07 339 *e*PKPbc **PKPbc 08 08 51.8 -0.7**
YAK *e*PKPab **PKPab 08 08 57.0 +0.2**
IPM Ipoh 149.43 169 *e*PKPdf **PKPdf 08 08 51.7 +1.2**
IPM *e*PKPbc **PKPbc 08 08 55.2 +0.3**
HYB Hyderabad 149.50 117 *i*PKP **PKPdf 08 08 51.0 +0.6**
HYB *e* 08 08 54.0
HYB Hyderabad 149.50 117 *e*P **PKPdf 08 08 50.8 +0.4**
CMBY CAMPBELL BAY 149.98 154 *e*P **PKPdf 08 08 50.1 -1.2**
KKM Kota Kinabalu 150.15 199 *e*PKPdf **PKPdf 08 08 53.2 +1.5**
KKM *e*PKPbc **PKPbc 08 08 56.5 -0.3**
KKM *e*PKPab **PKPab 08 09 03.8 +1.1**
KULM Kulim 150.16 168 *e*PKPbc **PKPbc 08 08 55.8 -0.9**

YSS Yuzh-Sakhalins 150.43 305 *e*PKIKP **PKPbc 08 08 56.2 -0.1**
YSS Yuzh-Sakhalins 150.43 305 *e*PKPbc **PKPbc 08 08 56.2 -0.1**
ERM Erimo 150.73 295 *c i*PKIKP **PKPbc 08 09 00.4 +3.3**
ERM pmax pmax
comp=Z,59nm,1.2s
KK31 Karatay Array 150.76 62 *i*PKIKP **PKPbc 08 08 56.0 -1.3**
KK31 pmax pmax
comp=Z,11nm,0.8s
BHPL Bhopal 151.99 106 *e*P **PKPdf 08 08 54.0 -0.2**
BHPL AMS AMS 08 20 43.8
comp=Z,75nm,8.4s
VIS Vishakhapatnam 153.10 123 *e*P **PKPdf 08 08 55.0 -0.9**
AML Almayashu 153.18 64 P **PKPbc 08 09 03.9 +0.6**
SNR=9.4
EKS2 Erkin-Say 153.19 63 P **PKPdf 08 08 56.8 +1.3**
SNR=5.3
EKS2 Erkin-Say 153.19 63 *e*PKIKP **PKPdf 08 08 56.7 +1.2**
EKS2 *e* 08 09 03.9
EKS2 *e* 08 09 15.4
EKS2 Erkin-Say 153.19 63 *e*PKPdf **PKPdf 08 08 56.6 +1.2**
EKS2 *e*PKPbc **PKiKP 08 09 03.9 +0.8**
EKS2 *e*PKPab **PKPab 08 09 15.4 +0.6**
USP Ospenovka 153.64 61 P **PKPbc 08 09 05.2 +1.4**
SNR=7.2
AAK Ala-Archa 153.72 63 P **PKPbc 08 09 05.5 +1.3**
SNR=14
AAK Ala-Archa 153.72 63 *e*PKIKP **PKPdf 08 08 57.8 +1.5**
AAK *e* 08 09 05.2
AAK 08 09 05.7
AAK Ala-Archa 153.72 63 PKP **PKPdf 08 08 57.8 +1.5**
comp=Z,1.7nm,0.7s,baz=59,slow=1.9,SNR=5.8
AAK PKPbc **PKiKP 08 09 05.7 +1.5**
comp=Z,21nm,0.9s,baz=220,slow=3.6,SNR=37
AAK Ala-Archa 153.72 63 *e*PKPdf **PKPdf 08 08 57.8 +1.5**
AAK *e*PKPbc **PKiKP 08 09 05.2 +0.9**
AAK PKPbc **PKiKP 08 09 05.7 +1.5**
PBA Port Blair 153.72 148 *e*P PKPdf 08 08 55.6 -1.2
UCH Uchtor 153.77 64 P **PKPbc 08 09 06.2 +1.6**
SNR=8.9
NVS Novosibirsk 154.08 32 ⇓ *i*PKIKP **PKPdf 08 08 54.7 -1.4**
NVS *i* 08 09 17.5
NVS *e* 08 15 59.7
NVS pmax pmax
comp=Z,24nm,1.0s
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,4.0nm,0.9s
NVS pmax pmax
comp=Z,28nm,1.2s
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.3s
KURK Kurchatov 154.09 43 *e*PKIKP **PKPdf 08 08 57.0 +0.7**
KURK *e* 08 09 04.7
KURK Kurchatov 154.09 43 *e*PKPdf **PKPdf 08 08 57.0 +0.7**
KURK *e*PKPbc **PKiKP 08 09 04.7 +0.2**
KURK *e*PKPab **PKPab 08 09 19.9 +1.7**
NDI New Delhi 154.20 95 *ex* **PKPbc 08 09 07.0 +1.6**
KZA Kyzart 154.33 64 P **PKPbc 08 09 07.4 +1.6**
SNR=5.1
MJAR Matsushiro Arr 154.44 283 PKPbc **PKPbc 08 09 06.5 +0.8**
comp=E,2.1nm,0.7s,baz=58,slow=1.1,SNR=5.5
TKM2 Tokmak 2 154.48 62 P **PKPdf 08 08 58.5 +1.1**
SNR=6.2
TKM2 Tokmak 2 154.48 62 *e*PKIKP **PKPdf 08 08 58.4 +1.0**
TKM2 *e* 08 09 06.8
TKM2 Tokmak 2 154.48 62 *e*PKPdf **PKPdf 08 08 58.4 +1.0**
TKM2 *e*PKPbc **PKiKP 08 09 06.8 +0.9**
TKM2 *e*PKPab **PKPab 08 09 22.4 +2.0**
DHRM DHARAMSHALA 154.51 87 *e*P **PKPdf 08 08 55.4 -2.4**
SMLA Simla 154.93 90 *e*P **PKPdf 08 08 59.7 +1.6**
KSH Kashi 155.05 70 PKPbc **PKPdf 08 08 59.2 +1.0**
KSH sPKP 08 09 11.1
KSH PKS **PKSdf 08 12 30.6 -1.8**
KSH PP **PP 08 12 59.1 -0.4**
KSH SKS **SKSdf 08 15 59.0 -3.1**
KSH SKKS **SKKSac 08 19 43.5 -2.7**
KSH SS **SS 08 32 35.3 -5.8**
KSH PPMZ
comp=E,170nm,6.9s
KSH LN
comp=E,69nm,4.0s
KSH LE
comp=E,69nm,5.4s
KSH LZ
comp=E,290nm,15.3s
DGPR DIGLIPUR 155.15 146 *e*P **PKPdf 08 09 00.4 +1.5**
ZALV Zalesovo Beam 155.37 32 PKP **PKPdf 08 08 58.0 +0.1**
comp=E,14nm,1.0s,baz=280,slow=2.7,SNR=29
ZALV PKPab **PKPab 08 09 24.7 +1.2**
comp=E,26nm,0.8s,baz=316,slow=3.9,SNR=16
DDI Dehra Dun 155.43 92 *e*P **PKPdf 08 08 58.7 -0.2**
BOD Bodaibo 156.40 350 *e*PKIKP **PKPdf 08 08 57.9 -1.3**
BOD *e* 08 09 26.8
BOD pmax pmax
comp=Z,12nm,1.0s
MKAR Makanchi Array 157.99 49 PKP **PKPdf 08 09 01.8 +0.2**
comp=Z,2.7nm,0.8s,baz=282,slow=1.1,SNR=20
MKAR PKPab **PKPab 08 09 35.5 +0.4**
comp=Z,11nm,0.8s,baz=289,slow=3.8,SNR=18
MKAR PP **PP 08 13 16.6 +1.5**
comp=Z,2.4nm,1.0s,baz=275,slow=4.4,SNR=5.7
BOK Bokaro 158.81 115 *e*P **PKPdf 08 09 04.3 +1.0**
BOK AMS AMS 08 20 33.6
comp=Z,70nm,5.6s
KOLN Koldanda 159.03 103 *e*P **PKPdf 08 09 03.8 +0.1**
comp=Z,19nm,1.1s
DANN Dangsing 159.40 102 *e*P **PKPdf 08 09 04.7 +0.4**
comp=Z,40nm,0.9s
GKN Gorkha 159.96 103 *e*P **PKPdf 08 09 04.7 0.0**
PKI Pulchoki 160.39 106 *e*P **PKPdf 08 09 06.1 +0.7**
GUN Gumba 160.91 105 *e*P **PKPdf 08 09 06.2 +0.2**
RAMN Ramite 161.04 109 *e*P **PKPdf 08 09 06.2 +0.1**
comp=Z,70nm,1.5s
JIRN Jiri 161.05 106 *e*P **PKPdf 08 09 06.7 +0.5**
PBKT Sadao Pong 161.18 163 PKP **PKPdf 08 09 07.9 +1.8**
ODAN Odare 161.61 110 *e*P **PKPdf 08 09 06.4 -0.2**
comp=Z,22nm,0.8s
TAPN Taplejung 162.10 109 *e*P **PKPdf 08 09 07.3 +0.1**
CMAR Chiang Mai Arr 162.35 155 PKP **PKPdf 08 09 08.2 +0.9**
comp=Z,1.7nm,0.4s,baz=249,slow=2.4,SNR=24
CMAR PKPab **PKPab 08 09 55.4 +0.7**
comp=Z,1.8nm,0.4s,baz=225,slow=5.1,SNR=5.8
WMQ Urumqi 162.69 53 *e*PKP **PKPdf 08 09 04.6 -2.4**
WMQ LN
comp=Z,87nm,20.0s
WMQ LE
comp=Z,320nm,23.0s
WMQ LZ
comp=Z,290nm,20.0s
CN2 Changchun 162.97 308 *e*PKP **PKPdf 08 09 02.7 -4.4**
CN2 *ep*PKP **pPKPdf 08 09 13.6 -5.0**
ZAK Zakamensk 164.15 8 *e*PKIKP **PKPdf 08 09 11.5 +3.3**
ZAK *e* 08 10 02.2
ZAK pmax pmax
comp=Z,5.0nm,1.5s
SHL Shillong 164.22 121 *e*P **PKPdf 08 09 08.2 -0.9**
CRAI Chiangrai 164.48 157 PKP **PKPdf 08 09 10.4 +1.1**
ULN Ulaanbaatar 166.88 359 *e*PKIKP **PKPdf 08 09 10.9 +0.3**
ULN Ulaanbaatar 166.88 359 *e*PKPdf **PKPdf 08 09 10.9 +0.3**
SONM Songino Array 166.91 1 PKP **PKPdf 08 09 10.0 -0.6**
comp=Z,1.2nm,0.8s,baz=195,slow=4.5,SNR=4.9
SONM PKPab **PKPab 08 10 15.2 +1.1**
comp=Z,3.3nm,0.8s,baz=342,slow=4.6,SNR=9.9
SONM PP **PP 08 13 59.0 -2.5**
comp=Z,1.0nm,0.8s,baz=325,slow=1.8,SNR=3.0
NJ2 Nanjing 169.55 259 *e*PKP **PKPdf 08 09 12.6 -0.1**
KMI Kunming 169.81 159 PKP **PKPdf 08 09 11.2 -2.2**
GYA Guiyang 171.75 179 PKP **PKPdf 08 09 12.4 -1.8**
GYA pPKP **pPKPdf 08 09 23.8 -1.9**
GYA PKPab **PKPab 08 10 35.0 -1.0**
GYA PKS **PKSdf 08 12 42.6 -4.2**
GYA PP **PP 08 14 26.5 +0.6**
GYA SKKS 08 21 08.2
GYA SS **SS 08 35 27.4 -3.2**
GYA PPMZ
comp=Z,130nm,8.6s
GYA LN
comp=Z,150nm,22.8s
GYA LE
comp=Z,130nm,21.6s
GYA LZ

comp=Z,140nm,24.4s
GTA Gaotai 172.74 48 *e*PKP **PKPdf 08 09 15.1 +0.8**
GTA pPKP **pPKPdf 08 09 25.5 -0.3**
GTA sPKP 08 09 29.9
GTA PKPab **PKPab 08 10 41.8 +1.5**
HHC Hu-ho-hao-te 172.81 330 *e*PKP **PKPdf 08 09 12.6 -1.6**
HHC PKS **PKSdf 08 12 43.4 -3.1**
HHC PP **PP 08 14 35.0 +3.3**
HHC SKKS 08 21 16.7
HHC SS **SS 08 35 43.8 +2.0**
HHC PPMZ
comp=Z,140nm,5.4s
HHC LN
comp=Z,230nm,21.2s
HHC LE
comp=Z,270nm,21.6s
HHC LZ
comp=Z,220nm,22.0s
CD2 Chengdu 175.42 146 *e*PKP **PKPdf 08 09 13.8 -1.6**
CD2 sPKP 08 09 28.5
CD2 PKPab **PKPab 08 10 48.8 -3.4**
CD2 PP **PP 08 14 43.1 -1.3**
CD2 SKS **SKSdf 08 16 12.3 -3.5**
CD2 SKKS **SKKSac 08 21 24.0 -4.5**
CD2 SS **SS 08 36 01.5 -5.6**
CD2 PPMZ
comp=Z,170nm,8.2s
CD2 LN
comp=Z,310nm,21.4s
CD2 LZ
comp=Z,220nm,20.2s
LZH Lanzhou 177.25 60 *e*PKP **PKPdf 08 09 17.4 +1.7**
LZH pPKP **pPKPdf 08 09 27.5 +0.3**
LZH sPKP 08 09 32.0
LZH SKKS 08 21 36.0
LZH SS **SS 08 36 21.3 -4.9**
LZH PPMZ
comp=Z,200nm,8.1s
LZH LN
comp=Z,1μm,19.2s
LZH LE
comp=Z,2μm,19.9s
LZH LZ
comp=Z,2μm,20.2s
XAN Xi'an 178.09 249 PKP **PKPdf 08 09 16.8 +1.0**

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*IDC **01** 07:53:15.7±8.6, 37°.05N×71°.28E, h237km±52km, mb3.1/1, mb1 2.9/6, mb1mx2.7/30, mbtmp3.5/6, Error ellipse: s-maj=83.7km s-min=50.9km az=175.0*
*NNC **01** 07:53:18.4±3.7, 37°.24N×71°.18E, h223km±49km, mb2.4, mpv3.1, Error ellipse: s-maj=39.7km s-min=22.1km az=20.0*

ISC 01 07:53:18.2±2.2, 37°.2N±0°.2×71°.3E±0°.1, h250km, n12, σ0§80/15, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.89**	**355**	⇓P	**Pn**	**07 54 45.6**	**+0.7**
	0.5nm,0.3s,baz=178,slow=12,SNR=7.8						
KK31				⇑S	**S**	**07 55 52.9**	**-1.3**
	2.6nm,0.4s,baz=183,slow=17,SNR=9.4						
AAK	**Ala-Archa**	**5.93**	**24**	⇓P	**Pn**	**07 54 45.3**	**-0.4**
	1.4nm,0.6s						
AAK				⇑S	**S**	**07 55 55.8**	**+0.3**
	3.8nm,0.6s						
AAK	**Ala-Archa**	**5.93**	**24**	P	**Pn**	**07 54 45.2**	**-0.4**
	0.8nm,0.3s,baz=193,slow=2.1,SNR=8.5						
AAK				S	**S**	**07 55 56.4**	**+0.9**
	0.3nm,0.3s,baz=318,slow=22,SNR=4.7						
TKM2	**Tokmak 2**	**6.58**	**29**	⇑P	**Pn**	**07 54 52.7**	**-1.0**
	1.5nm,0.8s						
MK31	**Makanchi Array**	**12.57**	**37**	P	**P**	**07 56 11.7**	**+0.6**
	1.3nm,0.6s,baz=209,slow=9.4,SNR=7.4						
MKAR	**Makanchi Array**	**12.57**	**37**	P	**Pn**	**07 56 07.9**	**-0.9**
	0.0nm,0.3s,baz=215,slow=14,SNR=2.6						
AB31	**Akbulak array**	**14.55**	**329**	⇑P	**Pn**	**07 56 33.7**	**+0.9**
	0.7nm,0.5s,baz=138,slow=11,SNR=20						
BVAR	**Borovoye Array**	**15.80**	**358**	P	**P**	**07 56 46.7**	**+0.1**
	baz=164,slow=16,SNR=2.3						
AKTO	**Aktyubinsk**	**16.25**	**328**	⇑P	**Pn**	**07 56 52.3**	**-0.8**
	1.8nm,0.8s						
AKTO	**Aktyubinsk**	**16.25**	**328**	P	**P**	**07 56 51.6**	**0.0**
	0.3nm,0.3s,baz=133,slow=12,SNR=5.4						
ZALV	**Zalesovo Beam**	**19.16**	**25**	P	**P**	**07 57 23.6**	**+0.6**
	0.6nm,0.3s,baz=223,slow=12,SNR=6.0						
YKA	**Yellowknife Ar**	**80.50**	**3**	P	**P**	**08 05 01.8**	**-0.2**
	0.3nm,0.4s,baz=351,slow=5.4,SNR=13						

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*ISCJB **01** 07:59:49.9±0.5, 34°.35S±0°.08×73°.2W±0°.2, h33km, mb4.1/14, Error ellipse: s-maj=19.3km s-min=9.9km az=158.9*
*IDC **01** 07:59:50.9±0.8, 34°.30S×73°.40W, h26km±5km, mb3.8/9, mb1 4.0/11, mb1mx3.8/35, mbtmp4.0/11, ML3.9/2, Error ellipse: s-maj=27.6km s-min=15.2km az=80.0*
*NEIC **01** 07:59:52.0±0.4, 34°.33S×73°.28W, h35km, mb4.4/6, Error ellipse: s-maj=15.5km s-min=8.5km az=65.0*

ISC 01 07:59:51.7±0.6, 34°.31S±0°.08×73°.3W±0°.1, h35km, n27, σ1§23/25, mb4.1/14, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.77**	**162**	Pn	**Pn**	**08 01 28.1**	**-0.5**
	0.9nm,0.3s,baz=336,slow=12,SNR=4.2						
TRQA	**Tornquist**	**9.87**	**116**	*e*Pn	**Pn**	**08 02 10.2**	**-0.9**
LPAZ	**La Paz**	**18.53**	**16**	P	**Pn**	**08 04 06.3**	**+0.1**
	0.1nm,0.3s,baz=186,slow=8.0,SNR=6.4						
SIV	**San Ignacio**	**21.29**	**34**	P	**P**	**08 04 37.4**	**+2.1**
	2.4nm,0.7s,baz=214,slow=11,SNR=5.2						
SIV				pP	**pP**	**08 04 44.5**	**-0.1**
	4.9nm,0.9s,baz=235,slow=10,SNR=7.4						
SNAA	**Sanae**	**51.70**	**158**	P	**P**	**08 08 56.1**	**+1.2**
	1.0nm,0.8s,baz=275,slow=11,SNR=2.7						
QSPA	**South Pole Qui**	**55.93**	**180**	P	**P**	**08 09 26.1**	**+0.1**
	3.3nm,0.9s,baz=144,slow=3.8,SNR=6.6						
QSPA				pP	**pP**	**08 09 35.4**	**-1.1**
	2.0nm,0.8s,baz=152,slow=5.7,SNR=2.6						
QSPA	**South Pole Qui**	**55.93**	**180**	*e*P	**P**	**08 09 27.1**	**+1.0**
	2.0nm,0.7s						
QSPA				pP	**pP**	**08 09 35.5**	**-1.1**
TEIG	**Tepich**	**56.08**	**343**	P	**P**	**08 09 26.2**	**-1.1**
	5.4nm,0.6s,baz=207,slow=9.0,SNR=4.5						
JCT	**Junction City**	**69.13**	**336**	*e*P	**P**	**08 10 54.7**	**+0.4**
	1.6nm,0.3s						
TXAR	**Lajitas Array**	**69.50**	**332**	P	**P**	**08 10 56.2**	**-0.5**
	0.9nm,0.8s,baz=153,slow=8.6,SNR=9.9						
TXAR				pP	**pP**	**08 11 05.3**	**-2.2**
	0.5nm,0.6s,baz=157,slow=6.8,SNR=5.8						
WVT	**Waverly**	**71.38**	**348**	*e*P	**P**	**08 11 07.8**	**-0.1**
	5.7nm,0.9s						
ACSO	**Alum Creek Sta**	**74.71**	**352**	*e*P	**P**	**08 11 27.6**	**+0.1**
	3.6nm,0.6s						
ANMO	**Albuquerque**	**75.56**	**332**	*e*P	**P**	**08 11 33.8**	**+1.0**
	1.6nm,1.0s						
BOSA	**Boshof**	**80.84**	**118**	P	**P**	**08 12 03.6**	**+1.3**
	2.2nm,0.8s,baz=217,slow=6.3,SNR=4.0						
DUG	**Dugway, Tooele**	**82.62**	**331**	*e*P	**P**	**08 12 11.7**	**+0.4**
	1.8nm,0.9s						
NVAR	**Mina Array Bea**	**83.55**	**326**	P	**P**	**08 12 17.3**	**+1.1**
	0.2nm,0.6s,baz=146,slow=8.2,SNR=4.0						
PDAR	**Pinedale Array**	**83.58**	**334**	P	**P**	**08 12 17.3**	**+1.1**
	0.4nm,0.8s,baz=180,slow=1.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**85.29**	**71**	P	**P**	**08 12 25.0**	**-0.3**
	1.0nm,0.8s,baz=259,slow=4.1,SNR=6.4						
TORD				pP	**pP**	**08 12 33.1**	**-3.2**
	0.8nm,0.7s,baz=249,slow=3.4,SNR=3.2						
H11S2	**WAKE ISLAND Hyl**	**24.73**	**270**	T	T	10 36 03.6	
	baz=122						
H11S1	**WAKE ISLAND Hyl**	**24.75**	**270**	T	T	10 36 01.4	
	baz=122						
H11S3	**WAKE ISLAND Hyl**	**24.75**	**270**	T	T	10 36 01.9	
	baz=122						
H11N3	**WAKE ISLAND Hyl**	**25.16**	**271**	T	T	10 36 28.4	
	baz=121,slow=76,SNR=7.5						
H11N1	**WAKE ISLAND Hyl**	**25.17**	**271**	T	T	10 36 31.2	
	baz=121,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hyl**	**25.17**	**271**	T	T	10 36 29.9	
	baz=121,slow=76,SNR=6.0						
ABKAR	**Akbulak array**	**142.68**	**52**	*e*PKPdf	**PKPdf**	**08 19 21.4**	**+0.8**
ZALV	**Zalesovo Beam**	**155.03**	**31**	PKPbc	PKPdf	08 19 48.8	+8.6
	1.0nm,0.7s,baz=270,slow=3.0,SNR=4.7						
MKAR	**Makanchi Array**	**157.74**	**49**	PKPab	**PKPab**	**08 20 17.0**	**+0.2**
	0.2nm,0.7s,baz=270,slow=2.9,SNR=3.0						

GUC 01 08:09:34.9±0.3, 33°.10S×72°.28W, h15km±999km, ML3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.07**	**84**	*i* P	Pb	08 09 53.5	-2.0
ROCH				*i* S4	Sb	08 10 05.2	-4.3
ROCH				AML	AML	08 10 09.0	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**1.34**	**92**	*i* P	Pn	08 09 57.5	-1.6
PEL				*i* S	Sn	08 10 14.6	-2.1
PEL				AML	AML	08 10 19.1	
	comp=E,3μm,0.4s						
STL	**Santa Lucia**	**1.41**	**104**	*i* P	Pn	08 09 58.6	-1.6
STL				*i* S	Sn	08 10 16.6	-1.9
FSR	**Penalolen**	**1.51**	**105**	*e*P9	Pn	08 09 59.4	-2.1
FSR				*e*S4	Sn	08 10 20.5	-0.6
CMCH	**Combarbala**	**2.20**	**30**	*e*P9	Pn	08 10 09.6	-1.5
CMCH				*e*S4	Sn	08 10 35.0	-3.1

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*IDC **01** 08:27:25.9±0.8, 33°.31S×72°.19W, h0km, mb4.0/6, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, ML4.0/3, MS4.0/1, Ms1 4.0/1, ms1mx3.2/29, Error ellipse: s-maj=30.2km s-min=19.3km az=93.0*
*ISCJB **01** 08:27:26.6±1.5, 33°.34S±0°.05×72°.51W±0°.06, h18km±10km, mb4.0/13, MS3.9/1, Error ellipse: s-maj=9.0km s-min=7.7km az=27.6*
*GUC **01** 08:27:27.1±0.4, 33°.30S×72°.47W, h47km±6km, ML4.3*
*NEIC **01** 08:27:31.3±0.4, 33°.29S×72°.18W, h35km, mb4.2/8, Error ellipse: s-maj=15.4km s-min=8.3km az=75.0*

ISC 01 08:27:28.5±1.2, 33°.34S±0°.06×72°.33W±0°.05, h18km±4km, n36, σ1§25/45, mb4.1/13, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.66**	**62**	⇑*e*P	**Pg**	**08 27 42.0**	**+0.5**
ROCH	**El Roble**	**1.17**	**72**	*e*P	**Pn**	**08 27 50.3**	**+0.2**
ROCH				*e*S	**Sg**	**08 28 08.1**	**+1.6**
ROCH				AML	AML	08 28 26.2	
	comp=N,16μm,0.8s						
TACH	**Talagante**	**1.21**	**105**	*e*P9	**Pn**	**08 27 50.1**	**-0.3**
TACH				*e*S	**Sn**	**08 28 07.8**	**+1.5**
PEL	**Peldehue**	**1.39**	**82**	⇓*e*P	**Pn**	**08 27 53.5**	**+0.5**
PEL				*e*S	**Sg**	**08 28 13.6**	**0.0**
PEL				AML	AML	08 28 21.1	
	comp=E,5μm,0.7s						
SAN	**Santiago**	**1.40**	**95**	*e*P	**Pn**	**08 27 53.5**	**+0.4**
SAN				*e*S	**Sb**	**08 28 13.7**	**+2.1**
STL	**Santa Lucia**	**1.42**	**94**	*e*P1	**Pg**	**08 27 54.1**	**-1.7**
FSR	**Penalolen**	**1.52**	**96**	*e*P	**Pn**	**08 27 55.3**	**+0.6**
FSR				*e*S	**Sb**	**08 28 16.6**	**+1.7**
CMCH	**Combarbala**	**2.44**	**28**	*e*P9	**Pn**	**08 28 06.3**	**-1.1**
CMCH				*e*S	**Sn**	**08 28 36.4**	**-0.4**
CFAA	**Coronel Fontan**	**3.87**	**65**	Pg	**Pb**	**08 28 34.2**	**-1.9**
	comp=E,0.4nm,0.3s,baz=240,slow=13,SNR=6.1						
CFAA				Lg	Lg	08 29 30.7	
	comp=E,0.6nm,0.3s,baz=89,slow=7.2,SNR=7.2						
PLCA	**Paso Flores**	**7.51**	**170**	Pn	**Pn**	**08 29 17.4**	**+0.3**
	comp=E,1.4nm,0.3s,baz=330,slow=10,SNR=8.2						
TRQA	**Tornquist**	**9.64**	**122**	*e*Pn	**Pn**	**08 29 47.3**	**+1.0**
	comp=E,21nm,1.0s						
TRQA				*e*Sn	**Sn**	**08 31 29.6**	**-4.6**
LVC	**Limon Verde**	**11.11**	**17**	*e*Pn	**Pn**	**08 30 06.0**	**-0.7**
LVC				*e*Sn	**Sn**	**08 32 09.1**	**-1.4**
CPUP	**Villa Florida**	**14.77**	**66**	Pn	**P**	**08 31 03.5**	**+1.2**
	comp=E,0.1nm,0.3s,baz=232,slow=15,SNR=3.3						
LPAZ	**La Paz**	**17.40**	**14**	P	**Pn**	**08 31 31.1**	**+0.2**
	comp=E,0.1nm,0.3s,baz=198,slow=9.0,SNR=5.7						
SIV	**San Ignacio**	**20.05**	**33**	P	**P**	**08 31 59.7**	**-1.0**
	comp=E,0.3nm,0.3s,baz=225,slow=8.7,SNR=15						
SAML	**Samuel**	**25.70**	**21**	*e*P	**P**	**08 32 57.5**	**-0.1**
	comp=E,5.4nm,0.9s						
OTAV	**Otavalo**	**33.89**	**349**	*e*P	**P**	**08 34 09.4**	**-1.4**
	comp=E,2.8nm,1.1s						
ROSC	**El Rosal**	**38.03**	**357**	LR	LR	08 48 45.3	
	comp=E,190nm,19.1s,baz=24,slow=34						
SNAA	**Sanae**	**52.29**	**158**	P	**P**	**08 36 38.7**	**+0.3**
	comp=E,1.6nm,0.9s,baz=284,slow=10,SNR=4.1						
QSPA	**South Pole Qui**	**56.89**	**180**	P	**P**	**08 37 12.5**	**+0.5**
	comp=E,2.5nm,1.0s,baz=143,slow=1.5,SNR=6.5						
QSPA	**South Pole Qui**	**56.89**	**180**	*e*P	**P**	**08 37 12.6**	**+0.5**
	comp=E,3.8nm,1.0s						
JCT	**Junction City**	**68.59**	**335**	*e*P	**P**	**08 38 31.3**	**+1.2**
	comp=E,2.3nm,0.9s						
TXAR	**Lajitas Array**	**69.04**	**331**	P	**P**	**08 38 33.8**	**+0.7**
	comp=E,0.4nm,0.8s,baz=141,slow=8.1,SNR=4.0						
WVT	**Waverly**	**70.61**	**347**	*e*P	**P**	**08 38 42.1**	**-0.4**
	comp=E,17nm,1.6s						
TUL1	**Leonard**	**72.31**	**340**	*e*P	**P**	**08 38 55.2**	**+2.5**
	comp=E,1.9nm,0.6s						
ANMO	**Albuquerque**	**75.09**	**332**	*e*P	**P**	**08 39 10.4**	**+1.1**
	comp=E,1.2nm,1.1s						
ECSD	**EROS Data Cent**	**79.85**	**342**	*e*P	**P**	**08 39 35.1**	**-0.4**
	comp=E,1.0nm,0.8s						
BOSA	**Boshof**	**80.59**	**118**	P	**P**	**08 39 40.4**	**+0.1**
	comp=E,1.3nm,0.6s,baz=255,slow=4.8,SNR=3.0						
NVAR	**Mina Array Bea**	**83.20**	**325**	P	**P**	**08 39 54.5**	**+0.8**
	comp=E,0.4nm,0.7s,baz=124,slow=4.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**84.22**	**70**	P	**P**	**08 39 59.3**	**+0.1**
	comp=E,3.2nm,0.9s,baz=260,slow=4.2,SNR=16						
TARA	**Tarawa**	**111.30**	**257**	*e*Pdif	**Pdif**	**08 42 03.9**	**+0.7**
BRVK	**Borovoye**	**146.89**	**42**	*e*PKPbc	**PKPbc**	**08 47 09.8**	**+0.6**
AAK	**Ala-Archa**	**152.40**	**61**	PKPbc	**PKPbc**	**08 47 23.7**	**+0.3**
	comp=E,0.4nm,0.3s,baz=101,slow=7.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**153.79**	**31**	PKP	**PKPdf**	**08 47 17.3**	**-0.7**
	comp=E,0.4nm,0.4s,baz=34,slow=3.9,SNR=3.6						
ZALV				PKPbc	**PKPbc**	**08 47 25.9**	**0.0**
	comp=E,2.7nm,0.9s,baz=318,slow=2.0,SNR=6.8						
ZALV				PKPab	**PKPab**	**08 47 37.9**	**-1.0**
	comp=E,1.1nm,0.6s,baz=318,slow=2.0,SNR=4.9						
MKAR	**Makanchi Array**	**156.51**	**48**	PKPab	**PKPab**	**08 47 50.5**	**-0.3**
	comp=E,0.8nm,0.9s,baz=312,slow=4.0,SNR=5.3						
SONM	**Songino Array**	**165.49**	**3**	PKPab	**PKPab**	**08 48 30.5**	**+0.6**
	comp=E,0.3nm,0.5s,baz=316,slow=4.0,SNR=3.2						

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*ISCJB **01** 08:40:26.2±1.0, 10°.04S±0°.09×33°.8E±0°.1, h10km, mb4.0/3, Error ellipse: s-maj=19.5km s-min=9.6km az=33.0*
*IDC **01** 08:40:26.2±2.0, 10°.05S×33°.78E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/39, mbtmp3.9/4, Error ellipse: s-maj=115.5km s-min=28.6km az=113.0*
*NEIC **01** 08:40:27.9±0.9, 10°.04S×33°.81E, h10km, mb4.0/4, Error ellipse: s-maj=18.4km s-min=11.3km az=137.0*

ISC 01 08:40:28.0±1.2, 10°.2S±0°.1×33°.8E±0°.2, h10km, n15, σ2§07/22, mb4.0/3, Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**12.60**	**196**	P	**Pn**	**08 43 29.4**	**+1.8**
MSNA				S	**Sn**	**08 45 45.9**	**-2.2**
MOPA	**Mopani**	**13.44**	**189**	P	**Pn**	**08 43 40.0**	**+1.1**
MOPA				S	**Sn**	**08 46 08.2**	**-0.3**
ABPO	**Ambohimpanom**	**15.70**	**125**	*e*Pn	**Pn**	**08 44 09.7**	**+0.2**
SLR	**Silverton**	**16.31**	**198**	P	Pn	08 44 12.1	-5.2
SLR				S	**S**	**08 47 30.8**	**-0.5**
LBTB	**Lobatse**	**16.66**	**207**	*e*Pn	**P**	**08 44 23.5**	**-0.7**
	10nm,0.7s						
LBTB				S	**Sn**	**08 47 23.6**	**-3.3**
PRYS	**Parys**	**17.71**	**199**	P	**P**	**08 44 38.2**	**+2.4**
PRYS				S	**Sn**	**08 47 52.6**	**+0.1**
TSUM	**Tsumeb**	**18.02**	**238**	*e*P	**Pn**	**08 44 39.4**	**+0.6**
	5.7nm,0.5s						
SWZ	**Schweizer**	**18.68**	**204**	P	**Pn**	**08 44 49.1**	**+2.2**
SWZ				S	**S**	**08 48 24.0**	**+4.5**
SEK	**Senekal**	**18.93**	**197**	P	**P**	**08 44 45.0**	**-4.4**
SEK				S	**Sn**	**08 48 22.8**	**+0.6**
BOSA	**Boshof**	**19.99**	**202**	P	**Pn**	**08 45 03.0**	**+0.4**
	1.7nm,0.5s,baz=21,slow=12,SNR=6.9						
BOSA				Lg	Lg	08 50 49.6	
	4.7nm,0.8s,baz=112,slow=19,SNR=2.9						
BOSA	**Boshof**	**19.99**	**202**	*e*P	**Pn**	**08 45 03.1**	**+0.4**
	2.0nm,0.4s						
BOSA				S	**S**	**08 48 43.1**	**-2.8**
BOSA				Lg	Lg	08 50 49.6	
MKAR	**Makanchi Array**	**71.33**	**33**	P	**P**	**08 51 47.1**	**-0.8**
	1.0nm,0.8s,baz=227,slow=4.9,SNR=12						
QSPA	**South Pole Qui**	**79.90**	**180**	P		**08 52 37.0**	**+0.1**
	1.3nm,0.8s,baz=255,slow=2.2,SNR=8.0						
QSPA	**South Pole Qui**	**79.90**	**180**	*e*P	**P**	**08 52 36.6**	**-0.4**
	2.4nm,1.0s						
ASAR	**Alice Springs**	**95.09**	**115**	P	**P**	**08 53 52.5**	**+0.5**
	0.4nm,0.5s,baz=262,slow=4.4,SNR=6.8						

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*IDC **01** 08:40:37.1±1.6, 11°.48S×166°.40E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/38, mbtmp4.0/7, ML3.5/1, Error ellipse: s-maj=46.6km s-min=24.3km az=122.0*
*ISCJB **01** 08:40:42.7±1.2, 11°.84S±0°.08×166°.5E±0°.2, h59km, mb4.0/7, Error ellipse: s-maj=27.5km s-min=11.5km az=173.5*

ISC 01 08:40:44.4±1.3, 11°.8S±0°.1×166°.5E±0°.2, h59km, n8, σ1§32/9, mb3.8/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.27**	**180**	Pn	**Pn**	**08 43 10.8**	**+1.7**
	0.3nm,0.3s,baz=2.4,slow=13,SNR=9.9						
DZM				Sn	**Sn**	**08 45 00.8**	**-2.0**
	0.2nm,0.3s,baz=75,slow=20,SNR=3.4						
CTA	**Charters Tower**	**21.17**	**244**	P	**P**	**08 45 25.8**	**+0.8**
	3.1nm,0.7s,baz=75,slow=14,SNR=5.4						
STKA	**Stephens Creek**	**30.48**	**225**	P	**P**	**08 46 52.4**	**+0.5**
	4.3nm,0.7s,baz=46,slow=9.1,SNR=8.1						
WRA	**Warramunga Arr**	**31.97**	**251**	P	**P**	**08 47 04.5**	**-0.7**
	0.9nm,0.6s,baz=84,slow=9.3,SNR=6.4						
ASAR	**Alice Springs**	**33.17**	**245**	P	**P**	**08 47 14.4**	**-1.2**
	1.0nm,0.7s,baz=73,slow=9.2,SNR=8.7						
CMAR	**Chiang Mai Arr**	**73.09**	**293**	P	**P**	**08 52 09.4**	**+0.4**
	1.5nm,0.4s,baz=120,slow=4.2,SNR=8.8						
ILAR	**Eielson Array**	**83.93**	**18**	P	**P**	**08 53 07.3**	**-0.4**
	0.3nm,0.6s,baz=258,slow=4.4,SNR=9.9						
MKAR	**Makanchi Array**	**94.56**	**317**	P	**P**	**08 53 58.3**	**-0.4**
	0.8nm,0.7s,baz=85,slow=6.8,SNR=5.7						

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*IDC **01** 08:43:31.7±0.8, 5°.39N×82°.49W, h0km, mb4.2/13, mb1 4.5/16, mb1mx4.4/35, mbtmp4.4/16, ML4.5/3, MS4.3/8, Ms1 4.3/8, ms1mx3.8/38, Error ellipse: s-maj=35.5km s-min=13.2km az=57.0*
*ISCJB **01** 08:43:32.9±0.2, 5°.38N±0°.03×82°.51W±0°.03, h15km, mb4.7/78, MS4.2/5, Error ellipse: s-maj=5.1km s-min=3.3km az=150.3*
*GCMT **01** 08:43:33.5±0.3, 5°.26N×82°.60W, h20km±1km, MW5.0/84, Moment Tensor Solution. s39,c50; s84,c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.36±.15; $M_{\theta\theta}$0.24±.12; $M_{\phi\phi}$0.11±.15; $M_{r\theta}$-0.20±.23; $M_{\theta\phi}$4.11±.14; $M_{\phi r}$0.08±.25; Best double couple: $M_{\phi\phi}$4.11700×10^{16} NP1:ϕ_s90.00000°, δ88.00000°, λ-3.00000°. NP2: ϕ_s180.00000°, δ87.00000°, λ-178.00000°. Principal axes: T 4.2910, Plg1.0000°, Azm135.0000°; N -0.3490, Plg87.0000°, Azm244.0000°; P -3.9430, Plg3.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 08:43:33.5±0.3, 5°.30N×82°.51W, h10km, mb4.8/66 Error ellipse: s-maj=7.1km s-min=5.1km az=44.0*
*CASC **01** 08:43:34.2±3.5, 5°.58N×82°.59W, h0km±34km, MD4.4, mb4.8(NEIC)*

ISC 01 08:43:33.7±0.4, 5°.32N±0°.04×82°.71W±0°.05, h15km, n484, σ1§57/472, mb4.8/78, MS4.2/6, 161C-170D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**3.34**	**352**	⇓*e*P	**Pn**	**08 44 23.0**	**-2.6**
ACR				*e*S	**Sn**	**08 45 04.8**	**-0.2**
BRU2	**Volcan**	**3.45**	**0**	⇑*i*P	**Pn**	**08 44 25.2**	**-1.9**
BRU2				*e*S	**Sn**	**08 45 06.9**	**-1.0**
BRU	**Baru**	**3.47**	**2**	*e*P	**Pn**	**08 44 24.8**	**-2.8**
CNI	**Changuinola**	**4.07**	**3**	*e*P	**Pn**	**08 44 35.5**	**0.0**
CNI				*e*S	**Sn**	**08 45 24.9**	**+1.9**
QCR	**Quepos**	**4.33**	**341**	⇓*i*P	**Pn**	**08 44 37.4**	**-1.6**
QCR				*e*S	**Sn**	**08 45 28.1**	**-1.1**
BUS	**Buena Vista**	**4.33**	**346**	⇑*e*P	**Pn**	**08 44 38.0**	**-1.6**
BUS				*e*S	**Sn**	**08 45 27.7**	**-2.4**
ZANG	**Zanguenga, Cho**	**4.58**	**38**	*e*P	**Pn**	**08 44 43.0**	**+0.5**
BCIP	**Isla Barro Col**	**4.76**	**37**	*e*Pn	**Pn**	**08 44 44.2**	**-0.9**
BCIP				*e*Sn	**Sn**	**08 45 41.0**	**+0.9**
SJS	**Escuela Geolog**	**4.78**	**344**	⇑*i*P	**Pn**	**08 44 45.0**	**-0.4**
UPA	**Univ. de Panam**	**4.81**	**41**	*e*P	**Pn**	**08 44 44.7**	**-1.0**
CGA2	**Cerro Gallo 2**	**4.98**	**340**	⇓*e*P	**Pn**	**08 44 47.3**	**-0.9**
CGA2				*e*S	**Sn**	**08 45 45.1**	**-0.4**
JCR	**Jicaral**	**5.09**	**332**	*e*P	**Pn**	**08 44 47.7**	**-1.9**
JTS	**JuntasAbangare**	**5.42**	**336**	*e*P	**Pn**	**08 44 52.6**	**-1.4**
JTS	**JuntasAbangare**	**5.42**	**336**	Pn	**Pn**	**08 44 52.9**	**-1.2**
	49nm,0.3s,baz=71,slow=7.0,SNR=348						
JTS				Sn	**Sn**	**08 45 56.8**	**+0.7**
	50nm,0.3s,baz=59,slow=21,SNR=12						
JTS	**JuntasAbangare**	**5.42**	**336**	*e*Pn	**Pn**	**08 44 52.9**	**-1.2**
JTS				Sn	**Sn**	**08 45 56.8**	**+0.7**
JTS				*e*Sn	**Sn**	**08 45 57.9**	**+1.7**
OTAV	**Otavalo**	**6.60**	**140**	*e*Pn	Pn	08 45 07.8	-2.9
OTAV				*e*Sn	**Sn**	**08 46 23.0**	**-3.0**
ROSC	**El Rosal**	**8.36**	**93**	Pn	**Pn**	**08 45 37.2**	**+2.4**
	24nm,0.3s,baz=91,slow=9.1,SNR=26						
ROSC				Sn	**Sn**	**08 47 13.8**	**+4.6**
	baz=75,slow=20,SNR=2.1						
ROSC	**El Rosal**	**8.36**	**93**	*e*Pn	**Pn**	**08 45 36.9**	**+2.0**
ROSC				Sn	**Sn**	**08 47 13.8**	**+4.6**
CNCH	**Conchagua**	**9.38**	**328**	*e*P	Pn	08 45 51.5	+2.8
PAYG	**Puerto Ayora**	**9.63**	**232**	*e*Pn	**Pn**	**08 45 54.2**	**+2.3**
	231nm,1.4s						
PAYG				*e*Sn	**

	baz=28				
636A	Smothers Creek baz=28	27.59 332	⇑P	P	08 49 22.3 +1.7
537A	Green Hill Far baz=28	27.77 334	⇑P	P	08 49 23.7 +1.6
LRAL	Lakeview Retre 23nm,0.8s	27.86 352	eP	P	08 49 23.5 +0.6
340A	Bronson baz=28	28.00 339	⇓P	P	08 49 25.5 +1.3
536A	Bastrop baz=28	28.10 333	⇓P	P	08 49 26.1 +1.0
339A	Huntington baz=28	28.17 338	⇓P	P	08 49 26.5 +0.8
535A	Dale baz=29	28.30 332	⇓P	P	08 49 27.7 +0.8
732A	Laxson Ranch, baz=29	28.46 327	⇓P	P	08 49 29.2 +1.0
436A	Wall Ranch, Ga baz=29	28.58 334	⇑P	P	08 49 30.6 +1.3
633A	Saathoff Ranch baz=29	28.61 329	⇓P	P	08 49 31.3 +1.6
534A	Blanco baz=29	28.73 331	⇓P	P	08 49 31.4 +0.7
435B	Jarrell baz=29	28.94 333	⇑P	P	08 49 33.6 +1.1
336A	Riesel baz=29	29.13 335	⇑P	P	08 49 34.8 +0.6
434A	Burnet baz=30	29.28 332	⇓P	P	08 49 36.0 +0.4
335A	Moody baz=30	29.29 334	⇑P	P	08 49 36.3 +0.6
631A	Perdido Creek baz=30	29.32 327	⇓P	P	08 49 37.1 +1.1
532A	Rocksprings baz=30	29.53 329	⇓P	P	08 49 38.9 +1.0
433A	Art baz=30,SNR=5.8	29.62 331	⇓P	P	08 49 39.5 +0.8
334A	Lometa baz=30	29.70 332	⇓P	P	08 49 40.4 +1.1
OXF	Oxford 14nm,0.9s	29.70 349	eP	P	08 49 39.3 +0.1
JCT	Junction City baz=30	29.76 329	⇑P	P	08 49 41.3 +1.4
531A	Rocksprings baz=30	29.89 328	⇓P	P	08 49 43.1 +2.0
WHTX	Lake Whitney, baz=30	29.91 334	⇓P	P	08 49 42.0 +0.8
SIV	San Ignacio 4.3nm,0.8s,baz=314,slow=10,SNR=8.2	30.12 135	P	P	08 49 42.0 -1.2
TKL	Tuckaleechee C comp=Z,181nm,18.4s,baz=184,slow=39	30.21 358	LR	LR	09 03 03.8
234A	Clairette baz=30	30.22 333	⇓P	P	08 49 44.3 +0.3
530A	J-C Ranch, Com baz=31,SNR=6.0	30.31 327	⇑P	P	08 49 46.4 +1.6
431A	Sonora baz=31,SNR=5.7	30.33 328	⇓P	P	08 49 46.4 +1.4
135A	Vickery Place, baz=31	30.38 335	⇓P	P	08 49 46.4 +1.1
332A	Millersview baz=31	30.46 330	⇑P	P	08 49 47.2 +1.2
233A	Rising Star baz=31	30.58 332	⇑P	P	08 49 48.9 +1.8
H06E1	SOCORRO T-PHAS SNR=74	30.60 298	T	T	09 21 58.5
H06S1	SOCORRO T	30.61 298	T	T	09 21 59.5
UALR	University of 11nm,0.9s	30.64 344	eP	P	08 49 47.6 +0.1
134A	White-Moore Ra baz=31	30.68 334	⇓P	P	08 49 48.9 +1.0
331A	San Angelo baz=31	30.74 329	⇑P	P	08 49 49.7 +1.1
430A	Baggett Ranch, baz=31	30.75 328	⇑P	P	08 49 50.2 +1.5
529A	Stev Forest Ra baz=31	30.78 326	⇓P	P	08 49 50.1 +1.1
232A	Coleman baz=31	30.83 331	⇓P	P	08 49 50.0 +0.7
LVC	Limon Verde 16nm,0.7s	30.87 155	eP	P	08 49 50.4 +0.4
429A	Davenport Ranc baz=31,SNR=11	30.98 327	⇑P	P	08 49 51.9 +1.2
Z35A	Perchaven, San baz=31	30.98 336	⇓P	P	08 49 51.6 +1.0
WVT	Waverly 18nm,0.7s	31.02 352	eP	P	08 49 50.5 -0.4
TXAR	Lajitas Array 0.4nm,0.7s,baz=135,slow=9.0,SNR=5.1	31.04 323	P	P	08 49 52.6 +1.3
TXAR	comp=Z,209nm,19.4s,baz=0.0,slow=37		LR	LR	09 02 38.0
133A	Hamilton Ranch baz=31	31.08 333	⇑P	P	08 49 52.1 +0.6
231A	Bronte baz=32	31.19 330	⇑P	P	08 49 52.9 +0.4
Z34A	Collier Ranch, baz=32,SNR=5.2	31.29 335	⇑P	P	08 49 53.8 +0.4
230A	Sterling City baz=32	31.55 329	⇑P	P	08 49 56.3 +0.5
Z33A	Whitaker Ranch baz=32	31.59 334	⇑P	P	08 49 56.5 +0.6
329A	Wagon Wheel Ra baz=32	31.69 328	⇓P	P	08 49 57.9 +0.9
Y34A	Reagan Ranch, baz=32	31.74 336	⇓P	P	08 49 57.8 +0.6
131A	Roby baz=32	31.83 331	⇑P	P	08 49 59.0 +0.9
Z32A	Haskell baz=32	31.92 333	⇓P	P	08 49 59.8 +0.8
229A	Bryant Ranch, baz=32	31.98 328	⇓P	P	08 50 00.2 +0.7
Y33A	Hilltop Ranch, baz=32	32.14 335	⇑P	P	08 50 01.4 +0.6
Z31A	Sharp Cattle R baz=32	32.24 332	⇑P	P	08 50 02.3 +0.5
X34A	Smith Ranch, M baz=33,SNR=7.0	32.33 336	⇓P	P	08 50 03.1 +0.7
Y32A	R-V Farms, Ver baz=33	32.49 334	⇑P	P	08 50 04.7 +0.8
228A	UT Block 9, Go baz=33	32.51 328	⇑P	P	08 50 04.8 +0.6
129A	Stewart Farms, baz=33	32.53 329	⇓P	P	08 50 05.1 +0.7
X33A	Lawton baz=33	32.55 335	⇓P	P	08 50 04.6 +0.2
Z30A	Sanderson Ranc baz=33	32.69 331	⇓P	P	08 50 06.2 +0.5
TUL1	Leonard baz=33	32.74 340	⇓P	P	08 50 06.0 -0.1
X32A	Elmer baz=33	32.78 334	⇑P	P	08 50 07.1 +0.7
SIUC	Southern Illin 31nm,0.8s	32.79 350	eP	P	08 50 06.4 0.0
USIN	University of 42nm,0.8s	32.81 353	eP	P	08 50 06.5 -0.1
Y31A	Rekieta Farm, baz=33	32.83 332	⇑P	P	08 50 07.7 +0.8
W34A	Bridge Creek, baz=33	32.86 337	⇑P	P	08 50 07.3 +0.2
W34A	Bridge Creek, 20nm,1.1s	32.86 337	eP	P	08 50 07.9 +0.8
WCI	Wyandotte Cave 16nm,0.9s	32.92 355	eP	P	08 50 07.5 -0.1
Z29A	Hungry Hill Ra baz=33	32.95 330	⇑P	P	08 50 08.7 +0.7
Y30A	Stafford Cattl baz=33	33.06 332	⇓P	P	08 50 09.9 +1.0
W33A	Caddo, Fort Co baz=33	33.06 336	⇓P	P	08 50 09.4 +0.5
X31A	McDonald Ranch baz=34	33.26 333	⇓P	P	08 50 11.3 +0.6
127A	Arkansas Junct baz=34	33.35 327	⇓P	P	08 50 12.3 +0.8
W32A	Sentinel baz=34,SNR=5.2	33.36 335	⇓P	P	08 50 11.7 +0.1
X30A	Coker Ranch, T baz=34,SNR=6.0	33.51 332	⇑P	P	08 50 14.0 +1.1
V32A	Arapaho baz=34	33.79 336	⇓P	P	08 50 15.6 +0.4
U34A	Anderson Ranch baz=34	33.83 338	⇓P	P	08 50 15.6 0.0
SLM	Saint Louis 39nm,0.9s	33.86 349	eP	P	08 50 15.7 0.0
BLO	Bloomington 19nm,0.8s	33.88 355	eP	P	08 50 15.2 -0.6
MSTX	Muleshoe baz=34	34.05 329	⇓P	P	08 50 18.5 +0.9
Z26A	Caprock baz=34	34.14 327	⇑P	P	08 50 19.8 +1.3
V31A	Spring Creek L baz=34	34.17 335	⇑P	P	08 50 19.1 +0.5
Y27A	Causey baz=34	34.18 329	⇑P	P	08 50 19.7 +0.9
X28A	Dimmitt baz=34	34.20 331	⇓P	P	08 50 19.6 +0.6
AMTX	Amarillo baz=34	34.25 332	⇓P	P	08 50 20.0 +0.7
U32A	Winter Ranch, baz=35	34.34 336	⇓P	P	08 50 20.8 +0.7
W29A	Amarillo baz=35	34.43 332	⇓P	P	08 50 21.8 +0.9
Z25A	Roswell baz=35,SNR=7.6	34.55 326	⇓P	P	08 50 23.7 +1.7
T33A	Patterson Ranc baz=35	34.66 338	⇓P	P	08 50 23.0 +0.3
Z24A	Sheeppen Canyo baz=35	34.95 326	⇓P	P	08 50 27.4 +1.9
Y25A	Mesa, Roswell baz=35	35.02 327	⇑P	P	08 50 27.9 +1.8
W27A	Bowe Ranch, En baz=35	35.06 330	⇓P	P	08 50 28.0 +1.6
SFIN	Lafayette 16nm,0.9s	35.13 354	eP	P	08 50 26.2 -0.5
U30A	WK&E Inc. Balk baz=35,SNR=5.6	35.15 334	⇓P	P	08 50 28.0 +0.9
T31A	Randall Ranch, baz=36	35.23 336	⇑P	P	08 50 28.0 +0.2
Y24A	Capitan baz=36,SNR=9.2	35.43 326	⇑P	P	08 50 31.3 +1.6
T30A	Plains baz=36	35.54 335	⇑P	P	08 50 31.1 +0.7
S31A	Mullinville baz=36	35.61 337	⇓P	P	08 50 31.7 +0.7
R33A	Olander Ranch, baz=36,SNR=7.0	35.65 339	⇑P	P	08 50 31.8 +0.5
Y23A	Lovace Mesa, baz=36	35.78 326	⇓P	P	08 50 34.9 +2.2
121A	Cookes Peak, D baz=36,SNR=6.4	35.79 322	⇑P	P	08 50 35.4 +2.6
121A	Cookes Peak, D 22nm,1.3s	35.79 322	eP	P	08 50 36.0 +3.2
Z22A	Elephant Butte baz=36	35.81 324	⇑P	P	08 50 34.9 +2.0
W25A	X Bar L Ranch, baz=36	35.89 329	⇓P	P	08 50 35.4 +1.8
T29A	Hugoton baz=36	35.96 334	⇓P	P	08 50 35.1 +1.1
V26A	Tequesquite Ra baz=36	36.00 330	⇑P	P	08 50 36.2 +1.7
R32A	Long Quarter, baz=36,SNR=7.1	36.02 338	⇓P	P	08 50 35.1 +0.6
S30A	Montezuma baz=36	36.02 336	⇑P	P	08 50 35.4 +0.9
U27A	Thmpson Grove baz=36	36.04 332	⇓P	P	08 50 35.7 +0.8
R31A	Burdett baz=36	36.21 337	⇑P	P	08 50 37.2 +1.1
Q33A	Connelly Farm, baz=36	36.22 340	⇑P	P	08 50 36.8 +0.6
S29A	Ulysses baz=36	36.27 335	⇑P	P	08 50 37.6 +0.9
T28A	Walsh baz=37	36.29 333	⇑P	P	08 50 37.9 +1.0
X23A	Hourglass Bar baz=37	36.33 326	⇓P	P	08 50 39.7 +2.3
W24A	Lazy 6 Ranch, baz=37	36.38 328	⇑P	P	08 50 39.7 +1.8
V25A	Rancho No Teng baz=37,SNR=11	36.45 329	⇑P	P	08 50 40.3 +1.9
U26A	Atchley Ranch, baz=37,SNR=5.3	36.46 331	⇑P	P	08 50 39.7 +1.2
Q32A	Meitler Ranch, baz=37	36.47 339	⇓P	P	08 50 39.0 +0.7
R30A	Dighton baz=37	36.50 336	⇓P	P	08 50 39.6 +1.1
T27A	Campo baz=37	36.51 333	⇓P	P	08 50 39.8 +1.0
S28A	Manter baz=37	36.58 334	⇑P	P	08 50 40.5 +1.1
V24A	Rampart Ranch, baz=37,SNR=6.4	36.70 329	⇓P	P	08 50 42.3 +1.7
LAZ	Ladron 3.4nm,1.1s	36.73 325	eP	P	08 50 43.2 +2.3
W23A	Werner Place, baz=37,SNR=8.8	36.74 327	⇑P	P	08 50 43.1 +2.2
ANMO	Albuquerque 9.6nm,1.1s	36.75 326	eP	P	08 50 43.0 +2.0
Q31A	Ellis baz=37,SNR=6.6	36.78 338	⇑P	P	08 50 41.8 +0.8
P32A	Huiting Farm, baz=37,SNR=5.7	37.04 339	⇓P	P	08 50 43.5 +0.3
Q30A	Quinter baz=37	37.07 337	⇓P	P	08 50 44.5 +1.0
R28A	Tribune baz=37,SNR=14	37.17 335	⇑P	P	08 50 45.5 +1.1
V23A	Ortiz Mt. (NFS baz=38	37.20 328	⇓P	P	08 50 47.2 +2.4
P31A	Stockton baz=38,SNR=6.5	37.23 338	⇑P	P	08 50 45.5 +0.7
U24A	Moreno Valley baz=38	37.23 329	⇓P	P	08 50 46.8 +1.6
Q29A	Oakley baz=38,SNR=11	37.30 336	⇑P	P	08 50 46.6 +1.1
T25A	Trinidad baz=38	37.37 331	⇓P	P	08 50 48.6 +2.3
O32A	Brockman Farm, baz=38	37.50 340	⇑P	P	08 50 47.8 +0.7
TUC	Tucson 85nm,2.8s	37.54 319	eP	P	08 50 50.0 +2.5
R27A	Eads baz=38	37.56 334	⇓P	P	08 50 48.8 +1.1
P30A	Selden baz=38,SNR=12	37.57 338	⇓P	P	08 50 49.2 +1.4
U23A	El Rito baz=38,SNR=18	37.64 328	⇑P	P	08 50 51.4 +2.8
V22A	San Miguel Ran baz=38	37.72 327	⇑P	P	08 50 51.4 +2.1
O31A	Woolen Ranch, baz=38	37.77 339	⇓P	P	08 50 50.0 +0.7
Q28A	Sharon Springs baz=38,SNR=6.5	37.79 335	⇓P	P	08 50 51.2 +1.6
T24B	San Luis baz=38	37.79 330	⇑P	P	08 50 52.3 +2.3
S25A	Robets Cordova baz=38	37.80 331	⇑P	P	08 50 51.7 +1.9
R26A	Arlington baz=38	37.86 333	⇓P	P	08 50 53.1 +2.8
P29A	Atwood baz=38	37.89 337	⇓P	P	08 50 52.2 +1.8
U22A	Llaves baz=38,SNR=14	38.03 328	⇓P	P	08 50 54.4 +2.5
O30A	MW Ranch, Wils baz=38,SNR=7.1	38.06 338	⇓P	P	08 50 52.8 +1.0
KSCO	Kaye Shedlock' baz=38	38.08 335	⇓P	P	08 50 53.3 +1.2
KSCO	Kaye Shedlock'	38.08 335	eP	P	08 50 53.5 +1.3
T23A	Casias Ranch, baz=38,SNR=15	38.10 329	⇑P	P	08 50 55.1 +2.6
R25A	Fountain Ranch baz=38	38.12 332	⇓P	P	08 50 54.6 +2.2
S24A	Houchin Ranch, baz=38,SNR=5.7	38.16 331	⇓P	P	08 50 55.5 +2.5
P28A	Saint Francis baz=38	38.19 336	⇓P	P	08 50 54.7 +1.7
O29A	4D Ranch, Culb baz=39	38.29 337	⇑P	P	08 50 55.5 +1.8
SDCO	Great Sand Dun 8.5nm,0.9s	38.38 330	eP	P	08 50 57.0 +2.1
Q26A	Hugo baz=39,SNR=6.4	38.40 334	⇑P	P	08 50 56.2 +1.4
X18A	Snowflake baz=39,SNR=5.1	38.47 323	⇑P	P	08 50 57.9 +2.3
P27A	Ficken Ranch, baz=39,SNR=5.9	38.52 335	⇓P	P	08 50 57.4 +1.6
R24A	Sanders Place, baz=39	38.58 331	⇑P	P	08 50 58.4 +2.0
S23A	Nye Farm, Mont baz=39	38.60 330	⇓P	P	08 50 59.1 +2.4
214A	Organ Pipe Nat baz=39,SNR=7.3	38.67 317	⇓P	P	08 50 59.6 +2.5
214A	Organ Pipe Nat 5.1nm,0.7s	38.67 317	eP	P	08 50 59.3 +2.3
M31A	Lambtecht Ranc baz=39,SNR=5.5	38.71 340	⇓P	P	08 50 57.7 +0.5
Q25A	Bedland, Calha baz=39,SNR=5.1	38.72 333	⇓P	P	08 50 59.8 +2.2
W18A	Petrified Fore	38.75 323	⇑P	P	08 51 00.4 +2.5
	baz=39				
P26A	Davis Ranch, A baz=39	38.85 334	⇓P	P	08 51 00.9 +2.3
R23A	Moffat baz=39	38.89 330	⇑P	P	08 51 01.6 +2.5
O27A	Beecher Island baz=39	39.01 336	⇑P	P	08 51 02.0 +2.1
S22A	4UR Ranch, Cre baz=39,SNR=8.5	39.05 329	⇓P	P	08 51 02.8 +2.3
N28A	Pribbeno Ranch baz=39,SNR=12	39.06 337	⇓P	P	08 51 01.9 +1.6
P25A	Willow Gulch B baz=39,SNR=5.5	39.17 333	⇑P	P	08 51 03.7 +2.3
Q24A	Divide baz=39	39.18 332	⇓P	P	08 51 03.5 +1.9
X16A	Lo Mia Camp, P baz=40	39.32 321	⇓P	P	08 51 05.3 +2.6
M29A	Burnside Ranch baz=40,SNR=13	39.40 339	⇑P	P	08 51 04.0 +1.0
O26A	Horse Wrangler baz=40	39.40 335	⇓P	P	08 51 04.3 +1.1
L31A	Butterfield Fa baz=40,SNR=9.1	39.41 341	⇑P	P	08 51 03.8 +0.7
OGNE	Ogallala baz=40,SNR=8.3	39.47 337	⇑P	P	08 51 05.4 +1.7
OGNE	Ogallala 30nm,0.8s	39.47 337	eP	P	08 51 05.3 +1.6
MVCO	Mesa Verde baz=40,SNR=8.3	39.53 327	⇓P	P	08 51 06.6 +2.1
MVCO	Mesa Verde	39.53 327	eP	P	08 51 06.5 +2.1
N27A	Anderson Farm, baz=40	39.55 336	⇓P	P	08 51 05.8 +1.3
M28A	Bar X Bar Ranc baz=40	39.61 338	⇓P	P	08 51 06.3 +1.5
O25A	Wiggins baz=40	39.64 334	⇑P	P	08 51 06.5 +1.2
113A	Mohawk Valley, baz=40,SNR=6.2	39.80 317	⇑P	P	08 51 08.9 +2.5
P23A	Jefferson baz=40,SNR=6.9	39.83 332	⇑P	P	08 51 09.1 +2.0
N26A	Koester Ranch, baz=40	39.85 335	⇓P	P	08 51 08.7 +1.8
L29A	Maesberg Ranch baz=40,SNR=6.3	39.86 339	⇓P	P	08 51 07.8 +0.9
WUAZ	Wupatki baz=40,SNR=7.4	40.00 322	⇑P	P	08 51 10.7 +2.4
WUAZ	Wupatki 8.6nm,0.9s	40.00 322	eP	P	08 51 11.1 +2.8
Y14A	Wickenburg baz=40	40.01 319	⇓P	P	08 51 10.6 +2.3
ISCO	Idaho Springs baz=40,SNR=6.6	40.06 332	⇑P	P	08 51 11.0 +2.1
ISCO	Idaho Springs 19nm,1.5s	40.06 332	eP	P	08 51 11.0 +2.1
K30A	Basset baz=40,SNR=9.9	40.11 341	⇑P	P	08 51 09.7 +0.8
ECSD	EROS Data Cent baz=40	40.17 344	⇑P	P	08 51 08.5 -1.0
ECSD	EROS Data Cent 79nm,2.5s	40.17 344	eP	P	08 51 09.4 0.0
SMCO	Snowmass 8.2nm,0.8s	40.22 330	eP	P	08 51 12.9 +2.5
PV01	Paradox Valley 325nm,0.9s	40.25 328	eP	P	08 51 12.9 +2.4
K29A	Lazy Trails An baz=41	40.42 340	⇓P	P	08 51 12.2 +0.6
P22A	Eagle baz=41,SNR=6.4	40.44 331	⇑P	P	08 51 14.1 +2.1
PV04	Paradox Valley	40.62 328	eP	P	08 51 15.8 +2.4
J30A	Dallas baz=41,SNR=12	40.65 341	⇑P	P	08 51 13.6 +0.2
SPMN	Marine on St. baz=41,SNR=5.8	40.71 349	⇓P	P	08 51 12.6 -1.2
SPMN	Marine on St. 16nm,0.8s	40.71 349	eP	P	08 51 12.2 -1.6
K28A	Ten Mile Ranch baz=41	40.75 339	⇓P	P	08 51 15.4 +1.1
O22A	Kremmling baz=41	40.78 332	⇑P	P	08 51 15.9 +1.0
L26A	Underwood Farm baz=41	40.81 337	⇑P	P	08 51 15.7 +0.8
Y12C	Blythe baz=41	40.89 318	⇑P	P	08 51 17.6 +2.1
PDMCI	Parker Dam,Lak baz=41	40.97 319	⇑P	P	08 51 18.2 +2.1
J29A	Okreek baz=41,SNR=12	41.00 340	⇑P	P	08 51 16.7 +0.4
K27A	Flueckinger Fa baz=41	41.06 338	⇓P	P	08 51 17.2 +0.3
N23A	Red Feather La baz=41	41.09 333	⇓P	P	08 51 18.8 +1.5
I30A	Oacoma baz=41,SNR=8.8	41.16 342	⇓P	P	08 51 17.2 -0.3
U15A	North Rim baz=41,SNR=5.5	41.16 323	⇑P	P	08 51 20.3 +2.2
W13A	Hualapai Mount baz=42	41.30 320	⇑P	P	08 51 21.4 +2.3
J28A	Allard Ranch, baz=42,SNR=5.8	41.32 339	⇓P	P	08 51 19.7 +0.7
J27A	Elkhorn Farm, baz=42,SNR=11	41.45 339	⇑P	P	08 51 21.2 +1.2
BC3	Big Chuckawall baz=42,SNR=5.2	41.46 317	⇓P	P	08 51 22.6 +2.3
BRSD	Miller baz=42	41.49 342	⇓P	P	08 51 19.8 -0.5
BRSD	Miller 19nm,0.9s	41.49 342	eP	P	08 51 19.8 -0.5
I29A	Vivian Onida baz=42,SNR=8.1	41.54 341	⇑P	P	08 51 20.7 0.0
IRM	Iron Mountain baz=42	41.55 318	⇓P	P	08 51 23.1 +2.1
O20A	White River Ci baz=42	41.58 330	⇓P	P	08 51 23.5 +2.1
O20A	White River Ci 138nm,2.7s	41.58 330	eP	P	08 51 23.7 +2.4
K25A	Mack Ranch, Ha baz=42	41.61 336	⇑P	P	08 51 23.3 +1.9
I28A	Midland baz=42,SNR=5.9	41.81 340	⇓P	P	08 51 23.5 +0.6
J26A	Sides Ranch, S baz=42,SNR=7.1	41.90 338	⇓P	P	08 51 25.0 +1.3
L23A	Garrett baz=42	41.96 334	⇓P	P	08 51 26.3 +1.9
SRU	San Rafael Swe 9.3nm,0.8s	42.01 327	eP	P	08 51 26.9 +2.1
BELC	Belle Mtn. Jos baz=42,SNR=6.2	42.03 317	⇑P	P	08 51 26.9 +1.8
H29A	Onida baz=42	42.05 341	⇓P	P	08 51 24.7 -0.1
PFO	Pinyon Flats O baz=42	42.12 316	⇑P	P	08 51 28.0 +2.2
N20A	Spence Gulch, baz=42	42.13 331	⇓P	P	08 51 27.6 +1.7
G30A	Faulkton baz=42	42.17 343	⇓P	P	08 51 25.4 -0.5
I27A	Quinn baz=42,SNR=7.1	42.17 339	⇓P	P	08 51 26.9 +1.0
L22A	Ellis Ranch, M baz=42	42.22 334	⇑P	P	08 51 28.7 +2.1
J25A	Sunshine Ranch baz=42	42.24 337	⇑P	P	08 51 28.5 +1.9
GMRC	Granite Mounta baz=42	42.26 318	⇓P	P	08 51 29.0 +2.1
H28A	Mission Ridge baz=43	42.35 341	⇓P	P	08 51 28.1 +0.8
I26A	New Underwood baz=43,SNR=6.9	42.43 338	⇑P	P	08 51 29.4 +1.3
K23A	Bowen Ranch, D baz=43	42.45 335	⇓P	P	08 51 29.5 +1.2
MVU	Marysvale 43nm,2.5s	42.52 325	eP	P	08 51 31.6 +2.5
J24A	Dixon Ranch, L baz=43	42.53 336	⇓P	P	08 51 31.4 +2.5
CCUT	Cedar City 33nm,2.3s	42.55 323	eP	P	08 51 32.2 +2.9
G28A	Parade baz=43	42.67 341	⇓P	P	08 51 30.0 0.0
H27A	Howes baz=43,SNR=24	42.68 340	⇑P	P	08 51 30.8 +0.9
HEC	Hector,Ludlow baz=43,SNR=6.7	42.74 318	⇓P	P	08 51 33.0 +2.3
I25A	Rochford baz=43,SNR=16	42.75 338	⇑P	P	08 51 32.8 +2.0
ARUT	Antelope Range 102nm,0.7s	42.75 323	eP	P	08 51 33.4 +2.5
K22A	Casper baz=43	42.76 334	⇑P	P	08 51 32.1 +1.3
K22A	Casper	42.76 334	eP	P	08 51 32.8 +1.9

35nm,1.6s
F30A Leola 42.78 343 ⇓P P 08 51 30.4 -0.4
baz=43
BBRC Big Bear Solar 42.81 317 ⇑P P 08 51 33.9 +2.5
baz=43
TUQ Turquoise Moun 42.82 319 ⇓P P 08 51 33.6 +2.1
baz=43,SNR=7.0
H26A Fairpoint 42.91 339 ⇑P P 08 51 32.7 +0.8
baz=43,SNR=6.7
RSSD Black Hills 42.95 337 *eP* **P 08 51 34.5 +2.1**
6.9nm,0.7s
J23A Dilts Ranch, B 42.96 335 ⇑P P 08 51 34.0 +1.6
baz=43
I24A Kuemmerle Ranc 42.96 337 ⇑P P 08 51 33.7 +1.2
baz=43
SHPR Sheep Range 42.98 321 *eP* **P 08 51 35.3 +2.6**
F29A Eureka 43.01 342 ⇓P P 08 51 32.6 -0.1
baz=43
K21A Alcova 43.06 333 ⇑P P 08 51 34.2 +0.8
baz=43
H25A Fruitdale 43.21 338 ⇑P P 08 51 35.9 +1.6
baz=44,SNR=15
MPU Maple Canyon 43.25 327 *eP* **P 08 51 36.9 +1.9**
5.7nm,0.8s
G27A Dupree 43.28 340 ⇑P P 08 51 35.2 +0.3
baz=44
F28A McLaughlin 43.33 342 ⇑P P 08 51 35.7 +0.5
baz=44
GSC Goldstone, Bar 43.33 318 ⇓P P 08 51 37.4 +1.9
baz=44
GSC Goldstone, Bar 43.33 318 *eP* **P 08 51 38.1 +2.6**
10nm,1.3s
SHOC Shoshone, Teco 43.33 319 ⇑P P 08 51 37.8 +2.3
baz=44,SNR=5.5
J22A Midwest 43.35 335 ⇑P P 08 51 37.1 +1.4
baz=44,SNR=8.4
E30A Jud 43.35 344 ⇓P P 08 51 34.9 -0.5
baz=44
G26A Maurine 43.43 340 ⇓P P 08 51 36.3 +0.2
baz=44
JLU Jordanelle 43.58 328 *eP* **P 08 51 39.6 +2.0**
79nm,2.6s
E29A Napoleon 43.62 343 ⇑P P 08 51 37.7 +0.1
baz=44
G25A Newell 43.64 339 ⇓P P 08 51 38.7 +0.9
baz=44,SNR=5.2
H24A Dirks Ranch, A 43.68 337 ⇑P P 08 51 39.2 +1.0
baz=44,SNR=7.5
J21A Lysite 43.72 334 ⇓P P 08 51 40.5 +1.9
baz=44,SNR=5.6
F27A Lemmon 43.74 340 ⇑P P 08 51 39.1 +0.5
baz=44
I22A 9 Mile Ranch, 43.74 335 ⇓P P 08 51 40.5 +1.7
baz=44
D30A Buchanan 43.87 344 ⇓P P 08 51 39.0 -0.5
baz=44,SNR=5.8
EDW2 Edwards Air Fo 43.89 317 ⇑P P 08 51 42.0 +2.0
baz=44
E28A Huff 43.94 342 ⇑P P 08 51 40.7 +0.5
baz=44
F26A Lodgepole 43.94 340 ⇓P P 08 51 40.9 +0.7
baz=44
J20A Shoshoni 44.01 333 ⇓P P 08 51 42.7 +1.8
baz=44,SNR=7.2
LRMC Laurel Mtn Rad 44.02 318 ⇓P P 08 51 43.1 +2.0
baz=44
DUG Dugway, Tooele 44.02 326 ⇓P P 08 51 42.7 +1.6
baz=44
I21A Big Trails, Te 44.02 334 ⇓P P 08 51 42.3 +1.3
baz=44,SNR=5.6
FURC Furnace Creek, 44.05 319 ⇑P P 08 51 43.0 +1.9
baz=44,SNR=6.5
E27A Carson 44.09 341 ⇑P P 08 51 41.9 +0.6
baz=44,SNR=9.5
G24A Alzada 44.12 338 ⇓P P 08 51 42.8 +1.1
baz=44,SNR=11
PDAR Pinedale Array 44.23 332 P **P 08 51 44.0 +1.1**
2.3nm,0.8s,baz=127,slow=11,SNR=20
PDAR LR LR 09 12 35.4
comp=Z,200nm,18.8s,baz=145,slow=39
AGMN Agassiz Nation 44.27 347 ⇑P P 08 51 42.4 -0.4
baz=44
AGMN Agassiz Nation 44.27 347 *eP* **P 08 51 42.0 -0.7**
5.7nm,0.8s
F25A Bowman 44.28 339 ⇑P P 08 51 43.6 +0.6
baz=44
C30A Mose, Pekin 44.34 345 ⇓P P 08 51 43.2 -0.1
baz=45
J19A Crowheart 44.38 332 ⇑P P 08 51 44.9 +1.0
baz=45,SNR=5.8
G23A Biddle 44.38 337 ⇑P P 08 51 44.7 +0.9
baz=45
R11A Troy Canyon, C 44.40 322 ⇑P P 08 51 45.7 +1.5
baz=45,SNR=7.0
R11A Troy Canyon, C 44.40 322 *eP* **P 08 51 46.3 +2.1**
37nm,2.3s
E26A Carlson Angus 44.42 341 ⇑P P 08 51 44.8 +0.8
baz=45
I20A Worland 44.50 334 ⇑P P 08 51 46.5 +1.7
baz=45
F24A Ekalaka 44.57 338 ⇓P P 08 51 46.0 +0.8
baz=45,SNR=8.0
H21A Big Horn, Sher 44.58 335 ⇑P P 08 51 46.6 +1.2
baz=45
ARVC Arvin 44.60 317 ⇓P P 08 51 47.5 +1.9
baz=45
BGU Big Grassy Mou 44.65 327 *eP* **P 08 51 48.0 +1.9**
3.6nm,1.1s
ISA Isabella, Lake 44.65 317 ⇓P P 08 51 48.1 +2.0
baz=45
G22A Birney 44.75 336 ⇑P P 08 51 47.4 +0.6
baz=45
E25A Miller Ranch, 44.76 340 ⇓P P 08 51 47.3 +0.6
baz=45,SNR=5.2
F23A Volborg 44.82 337 ⇓P P 08 51 48.3 +1.0
baz=45,SNR=13
H20A Greybull 44.87 334 ⇓P P 08 51 48.0 +0.2
baz=45,SNR=8.0
D26A Manning 44.90 341 ⇑P P 08 51 48.2 +0.3
baz=45
B30A Myrvik Farm, E 44.99 345 ⇑P P 08 51 48.0 -0.5
baz=45
HVU Hansel Valley 45.12 328 *eP* **P 08 51 51.8 +2.0**
4.3nm,0.7s
E24A Baker 45.13 339 ⇑P P 08 51 50.6 +0.9
baz=45
G21A Lodge Grass 45.13 336 ⇑P P 08 51 50.5 +0.7
baz=45
VES Vestal, Richgr 45.16 317 ⇓P P 08 51 52.0 +1.9
baz=45
F22A Rosebud 45.20 337 ⇑P P 08 51 51.1 +0.8
baz=46,SNR=15
C27A Sayler Ranch, 45.21 342 ⇓P P 08 51 50.7 +0.5
baz=46
TPH Tonopah 45.24 321 *eP* **P 08 51 53.2 +2.2**
6.7nm,1.0s
B29A Wagenman Farm, 45.27 344 ⇓P P 08 51 50.8 +0.1
baz=46,SNR=5.5
REDW Red Top Meadow 45.30 331 *eP* **P 08 51 52.9 +1.6**
13nm,1.1s
LOHW Long Hollow 45.37 331 *eP* **P 08 51 53.2 +1.4**
65nm,2.8s
E23A Ismay 45.44 338 ⇑P P 08 51 53.6 +1.4
baz=46
A30A Hoffart Farm, 45.44 346 ⇓P P 08 51 52.0 0.0
baz=46
H19A Powell 45.44 334 ⇑P P 08 51 53.1 +0.8
baz=46
TPAW Teton Pass 45.45 331 *eP* **P 08 51 53.9 +1.3**
112nm,2.7s
C26A Wahner Farm, P 45.49 342 ⇑P P 08 51 52.7 +0.2
baz=46,SNR=5.3
B28A Dugan Ranch, T 45.54 344 ⇑P P 08 51 53.3 +0.5
baz=46
G20A Bridger 45.55 335 ⇓P P 08 51 53.6 +0.4
baz=46,SNR=8.5
F21A Absaloka Mine, 45.58 336 ⇓P P 08 51 54.5 +1.1
baz=46
I17A Pilgrim Ck. 45.59 332 ⇓P P 08 51 55.2 +1.6
baz=46,SNR=5.7
FXWY Fox Creek 45.59 331 *eP* **P 08 51 54.9 +1.2**
2.7nm,0.8s
D24A Glendive 45.61 339 ⇑P P 08 51 54.9 +1.4
baz=46,SNR=7.7
E22A Miles City 45.63 338 ⇑P P 08 51 54.6 +0.9
baz=46,SNR=20
A29A Manning Farm, 45.66 345 ⇓P P 08 51 53.8 0.0
baz=46

IMW Indian Meadow 45.74 331 *eP* **P 08 51 56.2 +1.3**
42nm,2.5s
H18A Shoshone NF, C 45.75 333 ⇓P P 08 51 55.9 +1.1
baz=46
ELK Elko 45.75 325 *eP* **P 08 51 56.5 +1.6**
4.4nm,0.9s
C25A Freed Ranch, W 45.77 341 ⇓P P 08 51 55.3 +0.6
baz=46,SNR=6.5
FLWY Flagg Ranch 45.77 332 *eP* **P 08 51 56.8 +1.8**
21nm,1.4s
LAO LASA Array 45.94 338 *eP* **P 08 51 57.3 +1.1**
207nm,2.6s
D23A Lindsay 45.97 339 ⇓P P 08 51 57.8 +1.4
baz=46,SNR=20
F20A Billings 45.98 335 ⇓P P 08 51 57.6 +1.1
baz=46
C24A Savage 46.00 340 ⇓P P 08 51 57.6 +1.1
baz=46,SNR=8.9
MLAC Mammoth, Mammo 46.01 319 ⇑P P 08 51 59.1 +2.1
baz=46
ULM Lac du Bonnet 46.13 348 P **P 08 51 56.2 -1.2**
6.1nm,0.7s,baz=157,slow=7.0,SNR=14
NVAR Mina Array Bea 46.14 321 P **P 08 51 60.0 +2.0**
7.7nm,0.7s,baz=131,slow=7.2,SNR=70
E21A Keefer Ranch, 46.15 337 ⇑P P 08 51 59.0 +1.2
baz=46
B25A Knox Farm, Ray 46.22 341 ⇓P P 08 51 59.7 +1.4
baz=46
D22A Cohagen 46.31 338 ⇑P P 08 52 00.6 +1.5
baz=47,SNR=12
YMR Madison River 46.34 332 *eP* **P 08 52 01.2 +1.7**
21nm,1.5s
F19A Roth Farm, Mol 46.36 335 ⇓P P 08 52 00.5 +1.0
baz=47
A26A Wade Farm, Ken 46.43 342 ⇑P P 08 52 00.6 +0.8
baz=47
C23A Lambert 46.50 339 ⇑P P 08 52 01.7 +1.2
baz=47,SNR=14
E20A Meyer Farm, Mu 46.54 336 ⇑P P 08 52 02.3 +1.4
baz=47,SNR=16
D21A La Casta Ranch 46.55 337 ⇑P P 08 52 02.0 +1.1
baz=47
QLMT Earthquake Lak 46.68 332 *eP* P 08 52 05.3 +3.2
BMN Battle Mountai 46.70 324 *eP* **P 08 52 04.2 +1.8**
7.2nm,0.9s
C22A Vida 46.70 339 ⇑P P 08 52 03.5 +1.4
baz=47,SNR=12
DGMT Dagmar 46.73 340 ⇓P P 08 52 03.7 +1.4
baz=47
DGMT Dagmar 46.73 340 *eP* **P 08 52 03.6 +1.3**
33nm,1.0s
E19A Rath Farm, Rou 46.78 335 ⇓P P 08 52 03.9 +1.1
baz=47,SNR=8.5
WAKR Walker 46.90 320 *eP* **P 08 52 06.3 +2.4**
B23A Brockton 47.00 340 ⇓P P 08 52 05.9 +1.5
baz=47,SNR=12
D20A Manuel Ranch, 47.02 336 ⇑P P 08 52 06.0 +1.4
baz=47,SNR=10
A24A Westby 47.06 341 ⇑P P 08 52 06.2 +1.3
baz=47,SNR=7.7
B22A Reddig Ranch S 47.21 339 ⇑P P 08 52 07.3 +1.3
baz=48,SNR=7.8
C21A Desert Coulee 47.22 338 ⇓P P 08 52 07.5 +1.4
baz=48,SNR=22
HLID Hailey 47.23 329 ⇑P P 08 52 07.8 +1.3
baz=48,SNR=8.1
MCMT McKenzie Canyo 47.35 331 *eP* **P 08 52 09.2 +1.7**
2.9nm,1.2s
D19A Cripps Ranch, 47.38 336 ⇑P P 08 52 08.9 +1.5
baz=48,SNR=10
A23A Redstone 47.39 340 ⇓P P 08 52 08.8 +1.4
baz=48,SNR=5.0
BOZ Bozeman (W) 47.39 333 *eP* **P 08 52 08.9 +1.3**
150nm,2.9s
C20A Veseth Ranch, 47.48 337 ⇓P P 08 52 09.4 +1.3
baz=48,SNR=6.4
A22A Carney Farms, 47.77 339 ⇓P P 08 52 11.9 +1.5
baz=48,SNR=17
MFID Camas Ranch 47.87 328 *eP* **P 08 52 12.9 +1.6**
30nm,2.1s
C19A Slack Wire Ran 47.91 336 ⇑P P 08 52 12.9 +1.4
baz=48,SNR=10
B20A Solberg Farm, 48.08 338 ⇓P P 08 52 14.3 +1.5
baz=48,SNR=9.5
A21A Bergtoll Ranch 48.13 339 ⇓P P 08 52 14.9 +1.8
baz=48,SNR=21
HRY Holter Researc 48.29 333 *eP* **P 08 52 16.0 +1.4**
2.0nm,0.6s
A20A Cobblestone Ra 48.40 338 ⇑P P 08 52 16.8 +1.5
baz=49,SNR=12
EGMT Eagleton 48.42 336 ⇑P P 08 52 16.5 +1.0
baz=49,SNR=5.1
EGMT Eagleton 48.42 336 *eP* **P 08 52 16.7 +1.2**
25nm,1.6s
B19A Brinkman Farms 48.45 337 ⇓P P 08 52 16.9 +1.2
baz=49
A19A Klindworth Far 48.75 337 ⇓P P 08 52 19.4 +1.3
baz=49,SNR=5.3
WVOR Wild Horse Val 48.79 325 *eP* **P 08 52 19.2 +0.7**
13nm,1.1s
MSO Missoula 49.34 332 ⇑P P 08 52 23.5 +0.9
baz=50
KIPM Iron Peak 50.24 319 *eP* **P 08 52 31.2 +1.6**
M04C Macdoel 50.30 322 ⇑P P 08 52 31.6 +1.6
baz=50
J05D Fort Rock, OR 50.82 324 ⇑P P 08 52 35.2 +1.2
baz=51
WALA Waterton Lakes 50.98 334 *eP* **P 08 52 36.0 +1.0**
0.1nm,0.8s
SCHQ Schefferville 51.00 12 P **P 08 52 34.0 -0.9**
3.2nm,0.8s,baz=228,slow=9.3,SNR=3.7
E09A Wood Farm, Sta 51.18 329 *eP* **P 08 52 37.4 +1.0**
6.8nm,0.9s
J04D Umpqua Nationa 51.31 324 ⇑P P 08 52 38.9 +1.3
baz=52
I04A Tendick Farm, 51.81 324 ⇑P P 08 52 41.8 +0.6
baz=52
EDM Edmonton 53.93 338 *eP* **P 08 52 56.7 0.0**
YKA Yellowknife Ar 61.70 344 P **P 08 53 51.2 +0.1**
2.7nm,0.8s,baz=140,slow=6.5,SNR=53
SUMG Summit 72.38 13 *i P* **P 08 54 58.8 -0.5**
9.6nm,0.9s
SUMG Summit 72.38 13 *eP* **P 08 54 59.1 -0.2**
13nm,0.9s
ILAR Eielson Array 74.39 336 P **P 08 55 11.0 +0.2**
2.6nm,0.8s,baz=113,slow=4.7,SNR=34
ILAR LR LR 09 30 57.1
comp=Z,189nm,19.3s,baz=134,slow=38
DBIC Dimbokro 77.36 84 P **P 08 55 28.3 -0.4**
3.4nm,0.8s,baz=236,slow=5.3,SNR=3.9
ESDC Sonseca Array 77.96 51 P **P 08 55 31.9 +0.2**
0.4nm,0.4s,baz=286,slow=5.8,SNR=4.8
DAG Danmarks Havn 79.05 12 *i P* **P 08 55 35.7 -1.2**
1.5nm,0.9s
TORD Torodi Ar. Bea 83.37 77 P **P 08 56 00.5 -0.7**
1.6nm,0.6s,baz=284,slow=6.0,SNR=11
NB2 NORSAR Subarra 87.29 29 P P 08 56 10.2 -10
comp=Z,2.4nm,0.9s,baz=273,slow=5.1
NOA NORSAR Array B 87.29 29 P **P 08 56 20.2 +0.4**
comp=Z,0.5nm,0.8s,baz=311,slow=6.0,SNR=2.3
CLL Collm 89.45 39 *eP* **P 08 56 30.0 -0.2**
CLL Lm MLR 09 53 00.0
comp=Z,500nm,20.7s
H11N3 WAKE ISLAND Hyl 107.21 292 T T 10 57 51.0
baz=79,slow=75,SNR=15
H11N2 WAKE ISLAND Hyl 107.22 292 T T 10 57 54.1
baz=79,slow=75,SNR=11
H11N1 WAKE ISLAND Hyl 107.22 292 T T 10 57 52.4
baz=79,slow=75,SNR=12
H11S2 WAKE ISLAND Hyl 107.65 291 T T 10 58 21.9
baz=77
H11S1 WAKE ISLAND Hyl 107.65 291 T T 10 58 22.5
baz=77
H11S3 WAKE ISLAND Hyl 107.67 291 T T 10 58 23.3
baz=77
BVAR Borovoye Array 117.58 18 PKP **PKPdf 09 02 20.1 +0.9**
comp=Z,0.3nm,0.5s,baz=248,slow=1.6,SNR=1.5
SONM Songino Array 126.47 352 PKP **PKPdf 09 02 36.0 -0.6**
comp=Z,0.6nm,0.8s,baz=180,slow=0.4,SNR=3.4
WMQ Urumqi 130.32 9 *e*PKP **PKPdf 09 02 44.6 +0.6**
WMQ LN
comp=Z,87nm,20.0s
WMQ LE
comp=Z,54nm,20.0s
WMQ LZ
comp=Z,62nm,24.0s
KSH Kashi 131.24 22 *e*PKP **PKPdf 09 02 46.9 +0.9**
KSH sPKP 09 03 00.4

KSH PP **PP 09 05 05.4 +2.9**
KSH PKS **PKSdf 09 06 22.5 -0.1**
KSH SKS **SKSdf 09 09 53.5 -3.9**
KSH SKKS **SKKSac 09 11 55.3 -4.7**
KSH SS **SS 09 22 35.5 +1.8**
KSH PPMZ
comp=Z,74nm,6.1s
KSH LN
comp=Z,41nm,6.2s
KSH LE
comp=Z,29nm,4.6s
KSH LZ
comp=Z,120nm,6.4s
HHC Hu-ho-hao-te 132.22 345 *e*PKP **PKPdf 09 02 47.4 -0.4**
HHC PP PP 09 05 17.1 +8.5
HHC SKS **SKSdf 09 09 53.5 -5.5**
HHC SKKS **SKKSac 09 11 59.9 -6.0**
HHC SS **SS 09 22 44.8 -0.6**
HHC PPMZ
comp=Z,170nm,5.6s
HHC LN
comp=Z,280nm,20.2s
HHC LE
comp=Z,270nm,21.0s
HHC LZ
comp=Z,250nm,22.0s
NJ2 Nanjing 137.54 332 *e*PKP **PKPdf 09 02 58.2 +0.4**
LZH Lanzhou 138.35 352 *e*PKP **PKPdf 09 02 59.1 -0.3**
LZH sPKP 09 03 14.5
ASAR Alice Springs 140.32 239 PKhKP PKPpre 09 02 55.3
comp=Z,0.4nm,0.8s,baz=113,slow=3.5,SNR=2.8
ASAR PKP **PKPdf 09 03 04.3 +1.2**
comp=Z,0.6nm,0.9s,baz=110,slow=1.9,SNR=4.1
WRA Warramunga Arr 141.16 245 PKhKP PKPpre 09 03 00.5
comp=Z,1.0nm,0.8s,baz=105,slow=2.8,SNR=4.9
WRA PKP **PKPdf 09 03 04.8 +0.1**
comp=Z,1.0nm,0.8s,baz=112,slow=1.8,SNR=6.0
CD2 Chengdu 143.45 351 *e*PKP **PKPdf 09 03 07.8 -0.8**
H01W1 Cape Leeuwin H 146.70 206 T T 11 47 59.9
baz=158,slow=74
H01W2 Cape Leeuwin H 146.70 206 T T 11 47 59.3
baz=158,slow=74
H01W3 Cape Leeuwin H 146.71 206 T T 11 48 01.3
baz=158
KMI Kunming 149.28 350 PKPbc **PKPdf 09 03 18.7 -0.1**
CMAR Chiang Mai Arr 156.32 356 PKPab **PKPab 09 03 56.2 -0.6**
comp=Z,1.0nm,0.3s,baz=326,slow=3.5,SNR=5.0

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*IDC **01** 08:46:54.0±0.6, 35°.45S×73°.10W, h27km±3km, mb4.4/15, mb1 4.5/17, mb1mx4.3/34, mbtmp4.5/17, ML4.3/2, MS4.7/21, Ms1 4.6/21, ms1mx4.6/27, Error ellipse: s-maj=18.9km s-min=13.4km az=65.0*
*ISCJB **01** 08:46:56.6±0.3, 35°.60S±0°.04×72°.09W±0°.07, h33km, mb4.7/54, MS4.7/18, Error ellipse: s-maj=8.4km s-min=5.6km az=171.9*
*GCMT **01** 08:46:56.7±0.2, 35°.51S×73°.46W, h15km±1km, MW5.3/91, Moment Tensor Solution. s53,c72; s91,c129; Duration: 1!0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.56±.03; $M_{\theta\theta}$0.03±.01; $M_{\phi\phi}$-0.58±.02; $M_{r\theta}$-0.27±.06; $M_{\phi\phi}$-0.26±.01; $M_{\phi r}$-0.91±.09; Best double couple: $M_0$1.13500×10^{17} NP1:ϕ_s197.00000°, δ73.00000°, λ87.00000°. NP2: ϕ_s26.00000°, δ17.00000°, λ98.00000°. Principal axes: T 1.0750, Plg62.0000°, Azm103.0000°; N 0.1200, Plg2.0000°, Azm197.0000°; P -1.1940, Plg28.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 08:46:56.7±0.4, 35°.68S×72°.29W, h35km, mb4.9/43 Error ellipse: s-maj=14.4km s-min=10.9km az=66.0*
ISC 01 08:46:55.6±0.7, 35°.49S±0°.05×72°.34W±0°.07, h30km±4km, h29km:pP-P, n131, σ1$67/103, mb4.8/55, MS4.7/18, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.17**	**43**	Pn	Pn	08 48 15.2	+4.1
	2.5nm,0.3s,baz=201,slow=12,SNR=30						
CFAA				Sn	**Sb**	**08 49 22.2**	**-4.8**
	3.2nm,0.3s,baz=214,slow=15,SNR=3.2						
CFAA				Lg	Lg	08 49 47.8	
	3.0nm,0.3s,baz=13,slow=22,SNR=5.2						
PLCA	**Paso Flores**	**5.42**	**165**	Pn	**Pn**	**08 48 15.6**	**+1.1**
	3.8nm,0.3s,baz=334,slow=11,SNR=13						
PLCA				Lg	Lg	08 49 47.4	
	22nm,0.3s,baz=259,slow=20,SNR=6.0						
PLCA				LR	LR	08 49 54.7	
	comp=Z,2μm,18.9s,baz=336,slow=32						
PLCA	**Paso Flores**	**5.42**	**165**	*e*Pn	**Pn**	**08 48 13.1**	**-1.4**
	193nm,0.8s						
PLCA				*e*Sn	**Sn**	**08 49 14.7**	**-1.2**
PLCA				Lg	Lg	08 49 47.4	
TRQA	**Tornquist**	**8.70**	**110**	*e*Pn	**Pn**	**08 48 58.3**	**-1.1**
CPUP	**Villa Florida**	**15.77**	**59**	Pn	**Pn**	**08 50 35.5**	**-0.2**
	0.5nm,0.3s,baz=228,slow=12,SNR=5.8						
CPUP				LR	LR	08 57 01.9	
	comp=Z,2μm,21.6s,baz=221,slow=37						
CPUP	**Villa Florida**	**15.77**	**59**	*e*Pn	**Pn**	**08 50 36.0**	**+0.4**
CPUP				*e*Sn	**Sn**	**08 53 29.9**	**+0.4**
LPAZ	**La Paz**	**19.49**	**12**	P	**Pn**	**08 51 23.0**	**+0.7**
	0.8nm,0.3s,baz=173,slow=7.7,SNR=12						
USHA	**Ushuaia**	**19.53**	**173**	P	**Pn**	**08 51 22.6**	**+0.7**
	0.7nm,0.3s,baz=331,slow=5.5,SNR=14						
USHA				LR	LR	08 59 37.0	
	comp=Z,3μm,18.4s,baz=328,slow=39						
SIV	**San Ignacio**	**21.88**	**30**	P	**P**	**08 51 47.7**	**+1.6**
	15nm,0.8s,baz=242,slow=14,SNR=14						
NNA	**Nana**	**23.75**	**349**	LR	LR	08 59 22.6	
	comp=Z,898nm,18.6s,baz=176,slow=32						
NNA	**Nana**	**23.75**	**349**	*e*P	**P**	**08 52 08.3**	**+2.8**
	2.4nm,0.3s						
SAML	**Samuel**	**27.71**	**20**	*e*P	**P**	**08 52 40.0**	**-1.4**
ATAH	**Atahualpa**	**28.76**	**347**	LR	LR	09 02 06.2	
	comp=Z,712nm,18.1s,baz=185,slow=32						
BDFB	**Brasilia**	**29.39**	**54**	P	**P**	**08 52 58.8**	**+2.3**
	13nm,0.8s,baz=213,slow=8.1,SNR=18						
BDFB				LR	LR	09 06 35.0	
	comp=Z,4μm,18.2s,baz=230,slow=40						
PMSA	**Palmer Station**	**29.74**	**173**	LR	LR	09 05 09.3	
	comp=Z,3μm,18.2s,baz=328,slow=37						
RPN	**Rapa Nui**	**32.54**	**274**	LR	LR	09 02 37.2	
	comp=Z,1μm,18.5s,baz=86,slow=30						
OTAV	**Otavalo**	**36.00**	**350**	*e*P	**P**	**08 53 54.1**	**-0.4**
	0.8nm,0.5s						
RCBR	**Riachuelo**	**44.65**	**57**	LR	LR	09 13 06.1	
	comp=Z,1μm,18.7s,baz=208,slow=35						
RCBR	**Riachuelo**	**44.65**	**57**	*e*P	**P**	**08 55 05.7**	**-0.1**
	6.1nm,1.1s						
VNA3	**Neumayer Olymp**	**48.08**	**157**	P	**P**	**08 55 34.4**	**+2.3**
VNA1	**Neumayer--Stat**	**48.41**	**156**	P	**P**	**08 55 37.1**	**+2.6**
GRGR	**Grenville**	**48.43**	**14**	*e*P	**P**	**08 55 36.3**	**+1.1**
	78nm,0.8s						
VNA2	**Neumayer--Watz**	**48.74**	**157**	P	**P**	**08 55 39.3**	**+2.2**
SNAA	**Sanae**	**50.31**	**157**	P	**P**	**08 55 50.9**	**+1.8**
SNAA	**Sanae**	**50.31**	**157**	P	**P**	**08 55 50.0**	**+0.9**
	13nm,0.9s,baz=272,slow=8.6,SNR=31						
SNAA				LR	LR	09 17 11.6	
	comp=Z,311nm,19.1s,baz=288,slow=36						
SNAA	**Sanae**	**50.31**	**157**	*e*P	**P**	**08 55 49.6**	**+0.5**
	25nm,0.8s						
APG	**El Apazote**	**53.08**	**338**	LR	LR	09 14 44.5	
	comp=Z,344nm,18.4s,baz=137,slow=32						
CELP	**Cerrillos**	**53.55**	**7**	*e*P	**P**	**08 56 11.6**	**-2.1**
SDDR	**Presa de Saban**	**54.18**	**1**	*e*P	**P**	**08 56 20.0**	**+1.6**
QSPA	**South Pole Qui**	**54.75**	**180**	P	**P**	**08 56 21.0**	**-1.2**
	10nm,0.8s,baz=135,slow=5.4,SNR=37						
QSPA				LR	LR	09 18 14.8	
	comp=Z,581nm,19.4s,baz=163,slow=34						
QSPA	**South Pole Qui**	**54.75**	**180**	*e*P	**P**	**08 56 22.1**	**-0.1**
	8.8nm,0.8s						
RKT	**Rikitea**	**55.18**	**265**	*e*S	S	09 04 01.6	-5.5
	477nm,27.0s						
RKT				*e*LR	LR	09 12 18.7	
	616nm,33.5s						
TEIG	**Tepich**	**57.44**	**342**	P	P	08 56 38.7	-2.9
	12nm,0.8s,baz=144,slow=7.0,SNR=4.3						
TEIG				LR	LR	09 16 41.4	
	comp=Z,194nm,19.3s,baz=136,slow=31						
TEIG	**Tepich**	**57.44**	**342**	*e*P	**P**	**08 56 43.9**	**+2.3**
	10nm,0.7s						
VNDA	**Vanda**	**62.59**	**191**	LR	LR	09 22 28.6	
	comp=Z,460nm,18.1s,baz=122,slow=34						
SYO	**Syowa Base**	**64.58**	**158**	*e*P	**P**	**08 57 28.8**	**-0.7**
MEH	**Mehetia**	**68.41**	**263**	*e*T	T	10 11 29.7	

12nm,0.2s
GOGA Godfrey 69.33 350 *e*P **P 08 57 58.6 -1.5**
0.9nm,0.4s
PPT2 Papeete2 69.78 262 *e*S **S 09 07 08.2 -2.9**
481nm,23.2s
PPT2 Papeete2 69.78 262 *e*LR LR 09 18 57.9
1µm,26.0s,baz=120
JCT Junction City 70.52 335 *e*P **P 08 58 09.5 +1.9**
9.0nm,1.0s
TXAR Lajitas Array 70.91 331 P P 08 58 06.1 -3.9
0.8nm,0.6s,baz=154,slow=6.3,SNR=16
TXAR pP pP 08 58 15.2 -4.2
1.3nm,0.5s,baz=159,slow=8.8,SNR=13
TXAR LR LR 09 24 36.0
comp=Z,410nm,18.1s,baz=0.0,slow=32
WHTX Lake Whitney, 71.15 338 P **P 08 58 11.6 +0.4**
11nm,0.9s
SWET Sewanee 71.48 348 *e*P P 08 58 16.8 +3.5
17nm,0.9s
TKL Tuckaleechee C 71.58 350 P P 08 58 10.8 -3.0
2.8nm,0.8s,baz=133,slow=6.8,SNR=3.5
MAW Mawson 71.83 163 LR LR 09 31 04.1
comp=Z,1µm,18.2s,baz=232,slow=37
ABTX Abilene, Hawle 72.43 336 *e*P **P 08 58 18.6 -0.4**
88nm,2.4s
WVT Waverly 72.70 347 *e*P P 08 58 24.1 +3.6
15nm,0.9s
TUL1 Leonard 74.32 340 *e*P P 08 58 34.2 +4.2
9.6nm,0.9s
SUR Sutherland 74.33 119 LR LR 09 27 15.3
comp=Z,477nm,20.6s,baz=218,slow=32
MSTX Muleshoe 74.73 334 *e*P **P 08 58 35.6 +2.9**
7.3nm,0.8s
121A Cookes Peak, D 75.39 330 *e*P **P 08 58 35.4 -1.2**
5.1nm,0.9s
DBIC Dimbokro 75.89 71 P **P 08 58 41.6 +2.0**
18nm,0.7s,baz=208,slow=6.4,SNR=24
DBIC Dimbokro 75.89 71 *e*P **P 08 58 40.8 +1.2**
32nm,1.0s
DBIC *e*pP **pP 08 58 50.4 +1.4**
ACSO Alum Creek Sta 75.99 352 *e*P P 08 58 45.1 +5.6
16nm,0.8s
TUC Tucson 76.48 327 *e*P P 08 58 48.0 +5.3
25nm,2.2s
ANMO Albuquerque 76.97 332 P P 08 58 42.3 -3.2
0.9nm,0.7s,baz=151,slow=13,SNR=2.8
ANMO Albuquerque 76.97 332 *e*P **P 08 58 47.0 +1.5**
6.4nm,1.3s
BOSA Boshof 79.60 118 P **P 08 59 02.8 +2.4**
16nm,0.8s,baz=218,slow=3.6,SNR=27
BOSA LR LR 09 31 43.1
comp=Z,281nm,18.7s,baz=217,slow=34
PFO Pinyon Flats O 80.18 324 P P 08 58 59.6 -3.5
1.9nm,0.9s,baz=76,slow=4.2,SNR=2.3
SMCO Snowmass 80.89 333 *e*P P 08 59 12.0 +4.8
11nm,1.1s
ECSD EROS Data Cent 81.89 342 *e*P **P 08 59 09.7 -2.1**
14nm,0.9s
LBTB Lobatse 81.91 115 *e*P **P 08 59 14.8 +2.0**
20nm,1.0s
CCUT Cedar City 82.03 328 *e*P P 08 59 17.1 +4.0
4.1nm,0.9s
SRU San Rafael Swe 82.19 331 *e*P P 08 59 18.7 +4.9
3.9nm,0.8s
TMUT Trail Mountain 82.62 331 *e*P P 08 59 22.3 +6.1
ISA Isabella, Lake 82.82 324 *e*P P 08 59 22.8 +5.8
62nm,2.8s
MPU Maple Canyon 83.40 331 *e*P P 08 59 25.5 +5.5
7.0nm,1.0s
R11A Troy Canyon, C 83.67 327 *e*P P 08 59 27.0 +5.6
3.6nm,1.1s
JLU Jordanelle 83.83 331 *e*P P 08 59 26.6 +4.3
48nm,2.5s
DUG Dugway, Tooele 84.03 330 *e*P P 08 59 28.9 +5.7
11nm,1.3s
TPH Tonopah 84.18 326 *e*P **P 08 59 25.6 +1.5**
5.5nm,1.0s
TORD Torodi Ar. Bea 84.95 70 P **P 08 59 29.9 +1.7**
7.7nm,0.9s,baz=249,slow=4.4,SNR=34
TORD pP **pP 08 59 38.7 +0.9**
7.5nm,0.9s,baz=233,slow=5.0,SNR=9.8
TORD LR LR 09 35 54.5
comp=Z,505nm,19.3s,baz=230,slow=34
NVAR Mina Array Bea 84.97 325 P P 08 59 25.5 -2.5
0.7nm,0.8s,baz=142,slow=5.8,SNR=5.5
NVAR pP **PcP 08 59 33.4 +2.1**
1.5nm,0.7s,baz=139,slow=5.1,SNR=10
PDAR Pinedale Array 84.98 333 P **P 08 59 26.4 -1.7**
0.3nm,0.8s,baz=160,slow=2.9,SNR=2.1
PDAR LR LR 09 33 44.1
comp=Z,328nm,18.7s,baz=156,slow=33
HVU Hansel Valley 85.36 331 *e*P P 08 59 34.6 +4.7
5.9nm,0.9s
ELK Elko 85.50 329 pP P 08 59 36.3 +5.6
2.2nm,0.8s,baz=122,slow=1.5,SNR=6.5
WAKR Walker 85.55 325 *e*P **P 08 59 33.8 +2.9**
TPAW Teton Pass 86.12 333 *e*P P 08 59 38.5 +4.7
7.4nm,1.3s
IMW Indian Meadow 86.46 333 *e*P P 08 59 41.1 +5.7
17nm,1.8s
FLWY Flagg Ranch 86.53 333 *e*P P 08 59 41.1 +5.4
19nm,1.5s
H17A Grant Village 86.76 334 *e*P **P 08 59 38.4 +1.6**
0.7nm,0.3s
YMR Madison River 87.14 334 *e*P P 08 59 44.7 +6.1
7.7nm,1.0s
LAO LASA Array 87.30 337 *e*P P 08 59 44.4 +5.3
HLID Hailey 87.51 331 *e*P P 08 59 46.0 +5.6
25nm,2.0s
ULM Lac du Bonnet 87.87 345 P **P 08 59 40.6 -1.1**
2.8nm,0.8s,baz=169,slow=2.7,SNR=4.1
ULM Lac du Bonnet 87.87 345 *e*P P 08 59 46.0 +4.3
MCMT McKenzie Canyo 87.97 332 *e*P **P 08 59 43.6 +0.9**
2.6nm,1.0s
DGMT Dagmar 88.29 339 *e*P **P 08 59 46.0 +2.3**
26nm,1.1s
MOD Modoc Plateau 88.66 326 *e*P **P 08 59 44.8 -1.1**
7.6nm,0.8s
K05A Summer Lake 89.58 326 *e*P P 08 59 56.0 +5.8
18nm,1.1s
YBH Yreka Blue Hor 89.64 325 P **P 08 59 48.9 -1.5**
0.7nm,0.7s,baz=119,slow=14,SNR=2.4
I07A Izee 90.05 328 *e*P P 08 59 58.8 +6.5
5.8nm,1.0s
ESDC Sonseca Array 97.78 46 LR LR 09 43 57.4
comp=Z,482nm,18.8s,baz=240,slow=35
GERES GERESS Array B 113.37 46 PKiKP **PKiKP 09 05 29.5 -0.7**
1.6nm,0.9s,baz=191,slow=1.0,SNR=2.7
ILAR Eielson Array 115.41 333 PKP **PKPdf 09 05 32.1 -1.3**
0.4nm,1.0s,baz=90,slow=0.9,SNR=3.0
ASAR Alice Springs 116.13 207 PKP **PKPdf 09 05 33.6 -2.7**
0.5nm,0.8s,baz=116,slow=3.2,SNR=4.1
ASAR PKKPbc **PKKPbc 09 16 04.6 -0.9**
0.5nm,0.7s,baz=341,slow=2.9,SNR=5.4
VYHS Vyhne 116.28 48 *e*PKP **PKPdf 09 05 35.8 +0.2**
VYHS *e* 09 05 46.2
HFS Hagfors 118.17 34 PKP **PKPdf 09 05 37.1 -1.8**
2.6nm,0.8s,baz=231,slow=13,SNR=3.7
WRA Warramunga Arr 119.34 209 PKP **PKPdf 09 05 39.1 -3.5**
1.0nm,0.7s,baz=159,slow=1.8,SNR=12
MLR Muntele Rosu 119.57 53 PKP **PKPdf 09 05 40.3 -2.0**
0.3nm,0.4s,baz=188,slow=7.1,SNR=3.1
BRTR Keskin Array B 122.76 62 PKP **PKPdf 09 05 48.8 +0.2**
1.3nm,0.7s,baz=180,slow=3.1,SNR=9.7
KIEV Kiev 123.36 48 *e*PKPdf **PKPdf 09 05 48.4 -0.8**
AKASG Malin Array Be 123.37 48 PKP **PKPdf 09 05 47.7 -1.5**
1.7nm,0.7s,baz=264,slow=2.8,SNR=12
AKASG pPKP **pPKPdf 09 05 57.9 -1.2**
2.4nm,0.8s,baz=262,slow=2.7,SNR=5.1
SPITS Spitsbergen Ar 124.18 14 PKP **PKPdf 09 05 48.9 -1.2**
3.6nm,0.8s,baz=161,slow=14,SNR=3.8
SPITS pPKP **pPKPdf 09 05 58.0 -1.9**
0.7nm,0.4s,baz=172,slow=1.7,SNR=0.9
FINES FINESS Array B 124.35 35 PKP **PKPdf 09 05 49.0 -1.7**
1.2nm,0.7s,baz=198,slow=1.2,SNR=5.1
FINES pPKP **pPKPdf 09 06 00.1 -0.5**
2.2nm,0.9s,baz=96,slow=3.8,SNR=2.9
ARCES ARCESS Array B 125.47 25 PKP **PKPdf 09 05 50.9 -1.8**
1.3nm,0.6s,baz=251,slow=3.7,SNR=7.3
H11S2 WAKE ISLAND Hyl 25.49 268 T T 11 23 31.9
baz=126,slow=74
H11S1 WAKE ISLAND Hyl 25.50 268 T T 11 23 08.9
baz=126,slow=74
H11S3 WAKE ISLAND Hyl 25.51 268 T T 11 23 18.9
baz=126
H11N3 WAKE ISLAND Hyl 25.94 270 T T 11 23 39.4
baz=117
H11N1 WAKE ISLAND Hyl 25.95 270 T T 11 23 33.8
baz=117
H11N2 WAKE ISLAND Hyl 25.96 270 T T 11 23 49.6
baz=117
GEYT Alibeck 140.58 71 PKhKP PKPpre 09 06 15.9
1.2nm,0.3s,baz=205,slow=9.4,SNR=3.4
PETK Petropavlovsk- 141.00 313 PKP **PKPdf 09 06 21.7 -0.6**
2.5nm,1.0s,baz=142,slow=4.9,SNR=3.9
AKTO Aktyubinsk 141.47 51 PKP **PKPdf 09 06 20.6 -2.6**
1.8nm,0.7s,baz=344,slow=6.2,SNR=6.1
ABKAR Abkulak array 142.78 53 *e*PKPdf **PKPdf 09 06 22.1 -3.5**
POO Poona 145.68 111 ⇓*i*P **PKPbc 09 06 32.0 0.0**
30nm,1.0s
BRVK Borovoye 148.46 44 *e*PKPbc **PKPbc 09 06 39.6 +0.9**
HYB Hyderabad 148.50 117 *i* PKP **PKPbc 09 06 39.5 -0.4**
BVAR Borovoye Array 148.53 44 PKP **PKPdf 09 06 34.5 -0.7**
1.0nm,0.4s,baz=297,slow=1.3,SNR=8.7
BVAR PKPbc **PKPbc 09 06 39.5 +0.6**
11nm,0.6s,baz=285,slow=3.0,SNR=41
KKAR Karatay Array 150.45 64 *e*PKPdf **PKPdf 09 06 39.7 +1.0**
KKAR *e*PKPbc **PKPbc 09 06 44.4 +0.4**
EKS2 Erkin-Say 152.87 64 *e*PKPdf **PKPdf 09 06 43.3 +0.8**
EKS2 *e*PKPbc **PKiKP 09 06 50.7 +0.8**
EKS2 *e*PKPab **PKPab 09 07 01.8 +0.9**
AAK Ala-Archa 153.40 64 PKPbc **PKPbc 09 06 52.0 +1.0**
3.5nm,0.8s,baz=204,slow=2.0,SNR=9.0
AAK Ala-Archa 153.40 64 *e*PKPdf **PKPdf 09 06 44.9 +1.6**
AAK *e*PKPbc **PKPbc 09 06 51.9 +1.0**
AAK *e*PKPab **PKPab 09 07 04.8 +1.5**
KURK Kurchatov 154.12 45 *e*PKPdf **PKPdf 09 06 45.1 +1.3**
KURK *e*PKPbc **PKPbc 09 06 52.1 +0.2**
KURK *e*PKPab **PKPab 09 07 07.8 +2.1**
TKM2 Tokmak 2 154.18 64 *e*PKPdf **PKPdf 09 06 44.8 +0.3**
TKM2 *e*PKPbc **PKiKP 09 06 53.5 +0.8**
TKM2 *e*PKPab **PKPab 09 07 08.5 +1.9**
KSH Kashi 154.61 71 PKPbc **PKPbc 09 06 50.2 -3.4**
KSH sPKP 09 06 59.9
KSH PKS **PKSdf 09 10 19.9 +0.6**
KSH PP **PP 09 10 43.1 -1.4**
KSH SKS **SKSdf 09 13 48.2 -1.5**
MKAR Makanchi Array 157.91 52 PKP **PKPdf 09 06 48.5 -0.5**
1.2nm,0.8s,baz=277,slow=1.9,SNR=9.0
MKAR PKPab **PKPab 09 07 23.2 +1.0**
3.0nm,0.7s,baz=293,slow=3.0,SNR=11
CMAR Chiang Mai Arr 161.36 153 PKPab **PKPab 09 07 36.8 -0.9**
1.3nm,0.3s,baz=294,slow=1.4,SNR=4.1
SONM Songino Array 167.63 4 PKPab **PKPab 09 08 02.8 -1.9**
1.1nm,0.8s,baz=346,slow=3.8,SNR=6.1

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*IDC **01** 08:48:39.5±2.7, 17°.74S×178°.33W, h479km±29km, mb3.6/12, mb1 3.7/12, mb1mx3.4/48, mbtmp4.4/12, Error ellipse: s-maj=17.1km s-min=14.0km az=166.0*
*ISCJB **01** 08:48:40.2±0.6, 17°.7S±0°.1×178°.3W±0°.1, h500km, mb3.9/11, Error ellipse: s-maj=17.5km s-min=10.7km az=150.4*
ISC 01 08:48:41.8±0.8, 17°.7S±0°.2×178°.4W±0°.2, h500km, n35, σ1§09/28, mb3.8/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.87**	**251**		P	**P**		**08 51 50.7**	**-0.1**
	0.3nm,0.3s,baz=90,slow=20,SNR=3.5								
URZ	**Urewera**	**20.82**	**190**		P	P		08 52 45.2	-2.6
	8.0nm,0.6s,baz=9.2,slow=5.4,SNR=5.8								
PPT	**Papeete**	**27.48**	**94**		P	P		08 53 45.2	-2.2
	25nm,0.7s,baz=265,slow=18,SNR=3.5								
EIDS	**Eidsvold**	**29.32**	**250**		P	**P**		**08 54 03.1**	**-0.3**
	baz=30,SNR=4.3								
ARMA	**Armidale**	**30.02**	**240**		P	**P**		**08 54 10.5**	**+1.0**
	baz=31,SNR=24								
MGCD	**Mangrove Creek**	**31.39**	**235**		P	**P**		**08 54 22.4**	**+1.3**
	baz=33,SNR=12								
RMQ	**Roma**	**31.56**	**248**		P	**P**		**08 54 23.4**	**+0.7**
	baz=33,SNR=6.7								
CNB	**Canberra Magne**	**33.52**	**232**		P	**P**		**08 54 40.3**	**+0.9**
	baz=35,SNR=20								
CMSA	**Cobar Meteorol**	**35.23**	**240**		P	**P**		**08 54 54.0**	**+0.3**
	baz=36,SNR=18								
QLP	**Quilpie**	**35.59**	**249**		P	**P**		**08 54 56.7**	**0.0**
	baz=37,SNR=4.2								
TOO	**Toolangi**	**37.27**	**231**		P	**P**		**08 55 11.4**	**+0.8**
	baz=39,SNR=16								
STKA	**Stephens Creek**	**38.70**	**241**		P	**P**		**08 55 23.0**	**+0.6**
	7.6nm,0.5s,baz=94,slow=10,SNR=26								
STKA	**Stephens Creek**	**38.70**	**241**		P	**P**		**08 55 22.9**	**+0.6**
	baz=40,SNR=16								
HTT	**Hallett**	**41.23**	**239**		P	**P**		**08 55 43.1**	**+0.4**
	baz=42,SNR=6.3								
BBOO	**Buckleboo**	**43.48**	**241**		P	**P**		**08 56 00.4**	**0.0**
	baz=45,SNR=15								
WRA	**Warramunga Arr**	**44.65**	**259**		P	P		08 56 08.4	-1.3
	1.6nm,0.5s,baz=96,slow=7.5,SNR=22								
WRA					PcP	**PcP**		**08 57 41.0**	**-0.8**
	1.4nm,0.7s,baz=91,slow=3.6,SNR=5.5								
ASAR	**Alice Springs**	**44.83**	**254**		P	P		08 56 10.4	-0.6
	17nm,0.6s,baz=88,slow=8.2,SNR=210								
ASAR					PcP	**PcP**		**08 57 41.4**	**-1.0**
	1.9nm,0.5s,baz=103,slow=4.0,SNR=7.4								
WRKA	**Warakurna**	**49.89**	**252**		P	P		08 56 48.7	-0.5
	baz=51,SNR=83								
FORT	**Forrest**	**50.07**	**244**		P	P		08 56 49.6	-0.7
	baz=51,SNR=10								
KNRA	**Kununurra**	**50.49**	**264**		P	P		08 56 53.2	-0.5
	baz=51,SNR=3.3								
QSPA	**South Pole Qui**	**72.32**	**180**		P	**P**		**08 59 16.6**	**+0.4**
	9.2nm,0.7s,baz=196,slow=0.8,SNR=12								
PETK	**Petropavlovsk-**	**73.50**	**345**		P	**P**		**08 59 23.5**	**+0.6**
	3.3nm,1.0s,baz=160,slow=14,SNR=3.2								
SEY	**Seymchan**	**83.60**	**347**		P	P		09 00 15.3	-1.3
	0.4nm,0.3s,baz=126,slow=4.7,SNR=3.6								
ILAR	**Eielson Array**	**85.72**	**13**		P	P		09 00 25.1	-1.8
	0.3nm,0.4s,baz=226,slow=5.6,SNR=13								
TXAR	**Lajitas Array**	**85.91**	**58**		P	**P**		**09 00 29.6**	**+0.7**
	0.3nm,0.7s,baz=243,slow=6.0,SNR=2.1								
CMAR	**Chiang Mai Arr**	**88.81**	**290**		P	**P**		**09 00 43.0**	**+0.4**
	1.0nm,0.3s,baz=121,slow=3.1,SNR=7.2								
SNAA	**Sanae**	**90.77**	**179**		P	P		09 00 50.0	-0.8
	0.5nm,0.7s,baz=197,slow=11,SNR=6.4								
MKAR	**Makanchi Array**	**109.00**	**314**		PKiKP	**PKiKP**		**09 06 12.5**	**-1.8**
	0.4nm,0.5s,baz=164,slow=0.6,SNR=6.3								
BVAR	**Borovoye Array**	**116.70**	**321**		PKP	**PKPdf**		**09 06 27.2**	**-1.5**
	0.7nm,0.3s,baz=132,slow=2.1,SNR=6.1								
AKASG	**Malin Array Be**	**140.40**	**332**		PKP	**PKPdf**		**09 07 12.2**	**-1.3**
	0.4nm,0.4s,baz=44,slow=3.5,SNR=3.3								
BRTR	**Keskin Array B**	**144.65**	**315**		PKP	**PKPdf**		**09 07 21.1**	**-0.6**
	3.3nm,0.8s,baz=134,slow=5.3,SNR=15								
ASF	**Jabal al Asfar**	**145.07**	**301**		PKPbc	**PKPdf**		**09 07 22.7**	**+0.2**
	2.7nm,0.8s,baz=47,slow=9.4,SNR=3.6								
MMAI	**Mount Meron Ar**	**146.04**	**303**		PKPbc	**PKPdf**		**09 07 25.9**	**+1.8**
	5.0nm,0.4s,baz=74,slow=7.0,SNR=7.8								
GERES	**GERESS Array B**	**147.44**	**345**		PKPbc	**PKPdf**		**09 07 28.6**	**+2.7**
	1.0nm,0.5s,baz=29,slow=3.0,SNR=4.9								
TORD	**Torodi Ar. Bea**	**175.44**	**181**		PKP	**PKPdf**		**09 07 53.3**	**-1.6**
	1.1nm,0.8s,baz=298,slow=0.7,SNR=5.6								
TORD					PKPab	**PKPab**		**09 09 34.4**	**-0.8**
	0.2nm,0.5s,baz=185,slow=3.9,SNR=2.4								

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*IDC **01** 08:51:05.6±2.3, 54°.10N×86°.47E, h0km, mb1 3.3/2, mb1mx3.0/51, mbtmp3.3/2, ML3.3/2, Error ellipse: s-maj=20.0km s-min=10.5km az=67.0*
*NNC **01** 08:51:47.2±2.2, 51°.36N×85°.20E, h19km±10km, mb3.3, mpv2.9, Error ellipse: s-maj=15.2km s-min=8.3km az=51.0*
ISC 01 08:51:09.0±3.7, 54°.1N±0°.2×86°.1E±0°.2, h10km, n7, σ0§98/8, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.78**	**259**	*i*				08 57 40.0	
	baz=80,slow=345,SNR=1.4								
ZALV	**Zalesovo Beam**	**0.78**	**259**		Pg	**Pg**		**08 51 22.7**	**-1.4**
	3.7nm,0.3s,baz=78,slow=16,SNR=50								
ZALV					Lg	Lg		08 51 38.5	
	6.5nm,0.3s,baz=79,slow=30,SNR=22								
ZALV					Rg	Rg		08 51 42.4	
	7.2nm,0.4s,baz=74,slow=32,SNR=10								
KURK	**Kurchatov**	**5.71**	**237**	⇑	Pn	**Pb**		**08 52 49.9**	**+1.3**
	0.7nm,0.5s								
KURK				⇑	Sn	**Sn**		**08 53 39.7**	**+0.5**
	0.9nm,1.0s								
KURK				⇓	Lg	Lg		08 54 01.0	
	1.4nm,0.8s								
KURBB	**Kurchatov Arra**	**5.81**	**236**	⇓	Pn	**Pb**		**08 52 51.0**	**+0.6**
	4.9nm,0.5s								
KURBB				⇑	Lg	Lg		08 54 01.6	
MK31	**Makanchi Array**	**7.71**	**200**	⇓	Pn	**Pn**		**08 53 01.1**	**-0.3**
	0.2nm,0.3s,baz=26,slow=13,SNR=46								
MK31				⇑	Sn	Sn		08 53 57.7	-31
	0.5nm,0.6s,baz=89,slow=7.0,SNR=4.6								
MK31				⇓	Lg	Lg		08 54 26.3	
	0.7nm,0.7s,baz=26,slow=26,SNR=3.6								
MKAR	**Makanchi Array**	**7.71**	**200**		Pn	**Pn**		**08 53 01.2**	**-0.2**
	1.0nm,0.3s,baz=24,slow=14,SNR=56								
MKAR					Sn	**Sn**		**08 54 28.4**	**-0.4**
	0.1nm,0.3s,baz=25,slow=28,SNR=6.5								
MKAR					Lg	Lg		08 55 11.1	
	0.0nm,0.3s,baz=21,slow=32,SNR=3.9								
BVAR	**Borovoye Array**	**9.43**	**270**		Pn	**Pn**		**08 53 25.3**	**+0.5**
	0.2nm,0.3s,baz=89,slow=15,SNR=3.1								

GUC 01 08:54:59.6±0.3, 34°.15S×72°.07W, h35km±1km, ML4.1, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.18**	**18**	*e*	P	Pn		08 55 20.2	+0.7
IHA				*e*	S	Sn		08 55 36.0	+1.7
STL	**Santa Lucia**	**1.39**	**60**	*e*	P9	Pn		08 55 21.9	-0.6
STL				*e*	S	Sn		08 55 40.2	+0.6
FSR	**Penalolen**	**1.45**	**63**	*e*	P	Pn		08 55 24.8	+1.4
FSR				*e*	S	Sn		08 55 43.8	+2.5
ROCH	**El Roble**	**1.47**	**37**	*e*	P	Pn		08 55 25.4	+1.5
ROCH				*e*	S	Sn		08 55 45.0	+2.9
ROCH					AML	AML		08 55 55.3	
	comp=N,4µm,0.5s								
PEL	**Peldehue**	**1.53**	**49**	*e*	P	Pn		08 55 25.9	+1.4
PEL				*e*	S	Sn		08 55 46.0	+2.8
PEL					AML	AML		08 55 53.0	
	comp=N,6µm,0.4s								

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*IDC **01** 08:55:38.9±1.1, 37°.55S×74°.02W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/40, mbtmp3.8/6, ML4.1/1, Error ellipse: s-maj=36.2km s-min=17.8km az=73.0*
*ISCJB **01** 08:55:42.4±1.1, 37°.6S±0°.1×74°.1W±0°.3, h33km, mb3.7/5, Error ellipse: s-maj=33.9km s-min=15.1km az=168.3*
ISC 01 08:55:44.2±1.2, 37°.6S±0°.1×74°.0W±0°.3, h35km, n9, σ0§65/9, mb3.8/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.14**	**141**		P	**Pn**		**08 56 45.5**	**+0.5**
	2.3nm,0.3s,baz=317,slow=14,SNR=7.8								
PLCA					Lg	Lg		08 57 51.7	
	4.4nm,0.3s,baz=248,slow=9.3,SNR=7.7								
LPAZ	**La Paz**	**21.80**	**15**		P	**P**		**09 00 35.0**	**+1.1**
	3.3nm,0.8s,baz=182,slow=8.3,SNR=6.8								
SIV	**San Ignacio**	**24.31**	**31**		P	**P**		**09 00 58.5**	**-0.1**
	2.0nm,0.8s,baz=236,slow=8.6,SNR=3.0								
QSPA	**South Pole Qui**	**52.69**	**180**		P	**P**		**09 04 54.9**	**-0.1**
	2.5nm,0.8s,baz=156,slow=10.0,SNR=12								
TXAR	**Lajitas Array**	**72.12**	**333**		P	**P**		**09 07 05.3**	**+0.1**
	0.1nm,0.5s,baz=168,slow=6.5,SNR=2.0								
TORD	**Torodi Ar. Bea**	**86.86**	**71**		P	**P**		**09 08 24.7**	**-0.8**
	0.3nm,0.5s,baz=222,slow=5.2,SNR=4.9								
BVAR	**Borovoye Array**	**150.90**	**46**		PKPbc	**PKPbc**		**09 15 32.5**	**0.0**
	0.7nm,0.5s,baz=269,slow=5.9,SNR=4.5								
ZALV	**Zalesovo Beam**	**158.04**	**35**		PKPab	**PKPab**		**09 16 10.1**	**-0.1**
	0.7nm,0.4s,baz=308,slow=4.9,SNR=5.0								
MKAR	**Makanchi Array**	**160.18**	**55**		PKPab	**PKPab**		**09 16 19.3**	**-0.5**
	0.2nm,0.6s,baz=270,slow=2.7,SNR=3.6								

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*IDC **01** 08:57:16.8±2.5, 14°.68N×91°.16W, h211km±10km, mb3.1/3, mb1 3.3/5, mb1mx3.1/23, mbtmp3.6/5, Error ellipse: s-maj=56.7km s-min=33.7km az=169.0*
*ISCJB **01** 08:57:18.8±1.1, 15°.3N±0°.1×91°.90W±0°.07, h207km±6km, mb3.2/3, Error ellipse: s-maj=18.7km s-min=11.6km az=175.3*
*NEIC **01** 08:57:20.3, 15°.29N×91°.88W, h211km, MD4.2(MEX), After MEX.*
*MEX **01** 08:57:20.3±0.7, 15°.29N×91°.88W, h211km±8km, MD4.2*
ISC 01 08:57:20.0±1.2, 15°.28N±0°.10×91°.88W±0°.07, h201km±7km, n16, σ1§24/24, mb3.3/3, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.53**	**226**	*i*	P	**Pn**		**08 57 46.6**	**-0.8**
THIG				*i*	S	**Sn**		**08 58 08.8**	**+0.3**
THIG		**0.53**	**226**	*i*	P	**Pn**		**08 57 46.6**	**-0.8**
THIG				*i*	S	**Sn**		**08 58 08.8**	**+0.3**
CCIG	**Comitan**	**1.03**	**346**	*i*	P	**Pn**		**08 57 50.5**	**+0.2**
CCIG				*i*	S	**Sn**		**08 58 13.2**	**-0.8**
CCIG	**Comitan**	**1.03**	**346**	*i*	P	**Pn**		**08 57 50.5**	**+0.2**
CCIG				*i*	S	**Sn**		**08 58 13.2**	**-0.8**
PCIG		**1.36**	**288**	*e*	P	**Pn**		**08 57 52.9**	**+0.2**
PCIG				*e*	S	**Sn**		**08 58 17.5**	**-0.4**
PCIG		**1.36**	**288**	*e*	P	**Pn**		**08 57 52.9**	**+0.2**
PCIG				*e*	S	**Sn**		**08 58 17.5**	**-0.4**
APG	**El Apazote**	**1.39**	**101**		P	Pn		08 57 46.5	-6.6
	28nm,0.3s,baz=339,slow=8.6,SNR=1066								
APG					S			08 58 10.3	
	15nm,0.3s,baz=109,slow=14,SNR=25								
CMIG	**Matias Romero**	**3.41**	**302**	*e*	P	**Pn**		**08 58 14.6**	**0.0**
CMIG				*i*	S	**Sn**		**08 58 55.9**	**-1.4**
CMIG	**Matias Romero**	**3.41**	**302**	*e*	P	**Pn**		**08 58 14.6**	**0.0**
CMIG				*i*	S	**Sn**		**08 58 55.9**	**-1.4**
HUIG	**Huatulco**	**4.11**	**277**	*e*	P	**Pn**		**08 58 22.9**	**-0.3**
HUIG				*i*	S	**Sn**		**08 59 11.0**	**-1.8**
HUIG	**Huatulco**	**4.11**	**277**	*e*	P	**Pn**		**08 58 22.9**	**-0.3**
HUIG				*i*	S	**Sn**		**08 59 11.0**	**-1.8**
TEIG	**Tepich**	**6.00**	**34**		P	**Pn**		**08 58 46.2**	**-1.0**
	3.5nm,0.3s,baz=255,slow=8.8,SNR=14								
TXAR	**Lajitas Array**	**17.72**	**324**		P	**Pn**		**09 01 18.4**	**+3.6**
	0.1nm,0.3s,baz=133,slow=10,SNR=3.4								
NVAR	**Mina Array Bea**	**32.77**	**320**		P	P		09 03 38.6	+4.3
	0.5nm,0.6s,baz=126,slow=9.1,SNR=4.0								
SCHQ	**Schefferville**	**43.99**	**21**		P	**P**		**09 05 05.9**	**-1.4**
	2.0nm,0.8s,baz=243,slow=9.0,SNR=2.8								
YKA	**Yellowknife Ar**	**49.82**	**346**		P	**P**		**09 05 52.8**	**+0.7**
	0.3nm,0.6s,baz=147,slow=7.4,SNR=7.8								

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*IDC **01** 08:58:27.7±0.4, 37°.87S×74°.71W, h0km, mb4.9/27, mb1 4.9/31, mb1mx4.9/42, mbtmp4.8/31, ML4.3/4, MS4.4/2, Ms1 4.4/2, ms1mx3.5/27, Error ellipse: s-maj=14.5km s-min=11.8km az=79.0*
*ISCJB **01** 08:58:29.1±2.9, 37°.72S±0°.04×74°.49W±0°.06, h15km±17km, mb5.2/112, MS4.2/1, Error ellipse: s-maj=8.4km s-min=6.6km az=161.4*
*MOS **01** 08:58:32.1±0.9, 37°.73S×74°.56W, h33km, mb5.5/26, Error ellipse: s-maj=24.5km s-min=9.2km az=110.9*
*GCMT **01** 08:58:33.1±0.3, 37°.91S×74°.96W, h19km±1km, MW5.

LVC Limon Verde 15.92 19 *e*Pn **Pn 09 02 13.8 -0.7**
39nm,1.0s
LVC *e*Sn **Sn 09 05 16.0 +5.8**
USHA Ushuaia 17.52 168 P **Pn 09 02 34.5 +0.4**
0.3nm,0.3s,baz=331,slow=12,SNR=4.2
CPUP Villa Florida 18.52 57 P **Pn 09 02 47.7 +1.1**
1.1nm,0.3s,baz=221,slow=11,SNR=5.9
LPAZ La Paz 22.19 17 P **P 09 03 28.3 +1.5**
34nm,0.8s,baz=173,slow=5.3,SNR=38
SIV San Ignacio 24.79 32 P **P 09 03 52.6 +0.9**
9.1nm,0.8s,baz=225,slow=9.6,SNR=13
NNA Nana 25.81 355 P **P 09 04 00.2 -0.8**
6.8nm,0.5s,baz=192,slow=12,SNR=4.5
SAML Samuel 30.53 23 *e*P **P 09 04 43.0 0.0**
13nm,1.2s
ATAH Atahualpa 30.75 353 P **P 09 04 46.8 +1.3**
15nm,1.0s,baz=152,slow=5.6,SNR=8.7
RPN Rapa Nui 31.06 280 LR LR 09 13 21.0
comp=Z,595nm,22.0s,baz=100,slow=29
BDFB Brasilia 32.20 54 P **P 09 04 58.1 +0.2**
5.9nm,0.8s,baz=190,slow=7.5,SNR=4.9
OTAV Otavalo 38.05 354 *e*P **P 09 05 48.4 -0.2**
OTAV *e*pP **pP 09 05 59.0 +1.3**
ROSC El Rosal 42.46 0 P **P 09 06 26.5 +1.4**
15nm,0.7s,baz=114,slow=5.5,SNR=11
VNA3 Neumayer Olymp 46.64 156 P **P 09 06 58.7 +1.2**
BCIP Isla Barro Col 47.01 353 *e*P **P 09 07 01.3 +0.4**
30nm,0.8s
BCIP *e*pP **pP 09 07 09.4 -0.6**
VNA2 Neumayer--Watz 47.33 156 P **P 09 07 03.9 +1.0**
RCBR Riachuelo 47.40 58 P **P 09 07 05.4 +1.3**
7.0nm,0.9s,baz=180,slow=7.1,SNR=2.8
JTS JuntasAbangare 48.84 346⇓*i*P **P 09 07 14.8 -0.3**
JTS pmax pmax
comp=Z,67nm,1.4s
JTS JuntasAbangare 48.84 346 P **P 09 07 15.8 +0.7**
comp=Z,19nm,0.9s,baz=223,slow=0.7,SNR=7.3
JTS JuntasAbangare 48.84 346 *e*P **P 09 07 15.8 +0.7**
comp=Z,22nm,0.9s
SNAA Sanae 48.86 156 P **P 09 07 15.7 +1.0**
SNAA Sanae 48.86 156⇓*i*P **P 09 07 14.5 -0.2**
SNAA pmax pmax
comp=Z,41nm,1.5s
SNAA Sanae 48.86 156 P **P 09 07 15.6 +0.8**
comp=Z,5.6nm,0.8s,baz=274,slow=6.5,SNR=18
QSPA South Pole Qui 52.42 180 P **P 09 07 42.3 +0.5**
comp=Z,19nm,0.9s,baz=146,slow=1.6,SNR=38
NVL N'lazarevskaya 53.65 156 *e*P **P 09 07 52.0 +1.5**
NVL pmax pmax
comp=Z,19nm,0.9s
APG El Apazote 54.63 341 P P 09 07 54.7 -3.9
comp=Z,16nm,0.9s,baz=165,slow=8.8,SNR=20
CRPR Cabo Rojo, PR 55.97 9 *e*P **P 09 08 06.6 -1.2**
comp=Z,39nm,1.2s
CRPR *e*pP **pP 09 08 15.3 -1.9**
CELP Cerrillos 56.10 9 *e*P **P 09 08 08.4 -0.4**
CELP *e*pP **pP 09 08 16.5 -1.6**
LRS Lares 56.28 9 *e*P **P 09 08 08.8 -1.3**
SDDR Presa de Saban 56.59 4 *e*P **P 09 08 12.0 -0.3**
comp=Z,2.8nm,0.5s
TEIG Tepich 59.17 345 P **P 09 08 30.0 -0.4**
comp=Z,25nm,0.6s,baz=136,slow=2.4,SNR=17
SYO Syowa Base 63.07 158⇓*e*P **P 09 08 55.0 -1.2**
PPT Papeete 67.77 265 P **P 09 09 27.1 -0.4**
comp=Z,30nm,0.9s,baz=172,slow=2.2,SNR=3.1
035A Encino 68.11 337⇓P **P 09 09 30.0 +0.7**
baz=68
034A Hebbronville 68.41 337⇑P **P 09 09 31.9 +0.8**
baz=69
934A Benavides 68.86 337⇑P **P 09 09 35.0 +1.1**
baz=69
933A Laredo 69.10 337⇑P **P 09 09 36.0 +0.6**
baz=70,SNR=12
834A Tilden 69.36 337⇓P **P 09 09 37.9 +0.9**
baz=70,SNR=12
TIGA Tifton 69.42 352⇓P **P 09 09 36.6 -0.7**
baz=70
TIGA Tifton 69.42 352 *e*P **P 09 09 36.4 -0.9**
comp=Z,31nm,0.9s
BRAL Brewton 69.47 349 *e*P **P 09 09 39.1 +1.5**
comp=Z,114nm,1.4s
833A Chaparral WMA, 69.80 337⇓P **P 09 09 40.2 +0.4**
baz=70,SNR=6.9
735A Kenedy 69.82 338⇑P **P 09 09 40.3 +0.4**
baz=70
832A Faith Ranch, C 69.95 336⇓P **P 09 09 40.7 0.0**
baz=70,SNR=13
734A La Parita Cree 70.03 338⇑P **P 09 09 41.3 +0.2**
baz=70,SNR=6.8
733A Divot King Ran 70.14 337⇓P **P 09 09 41.8 0.0**
baz=70,SNR=7.7
LPIG La Paz 70.17 325 P **P 09 09 42.3 +0.2**
comp=Z,26nm,0.9s,baz=91,slow=2.2,SNR=4.5
636A Smothers Creek 70.19 339⇑P **P 09 09 43.1 +1.0**
baz=71,SNR=8.4
635A Leesville 70.31 339⇓P **P 09 09 42.6 -0.2**
baz=71
732A Laxson Ranch, 70.36 336⇓P **P 09 09 43.2 +0.1**
baz=71,SNR=28
634A China Grove, S 70.47 338⇓P **P 09 09 43.6 -0.2**
baz=71
537A Green Hill Far 70.55 340⇑P **P 09 09 45.1 +0.8**
baz=71
536A Bastrop 70.76 339⇓P **P 09 09 45.9 +0.3**
baz=71,SNR=7.4
633A Saathoff Ranch 70.79 337⇑P **P 09 09 45.9 +0.1**
baz=71,SNR=10
535A Dale 70.85 339⇓P **P 09 09 46.0 -0.1**
baz=71,SNR=7.2
632A Uvalde 71.03 337⇓P **P 09 09 47.4 +0.1**
baz=71,SNR=17
534A Blanco 71.11 338⇑P **P 09 09 47.4 -0.4**
baz=72,SNR=6.9
631A Perdido Creek 71.19 336⇓P **P 09 09 48.0 -0.2**
baz=72,SNR=18
340A Bronson 71.21 343⇓P **P 09 09 48.7 +0.4**
baz=72,SNR=19
VBMS Vicksburg 71.26 346 *e*P **P 09 09 49.5 +0.9**
comp=Z,74nm,1.0s
339A Huntington 71.29 342⇓P **P 09 09 49.1 +0.4**
baz=72,SNR=5.9
533A Kerrville 71.32 338⇓P **P 09 09 49.1 0.0**
baz=72,SNR=19
436A Wall Ranch, Ga 71.34 340⇑P **P 09 09 49.5 +0.5**
baz=72
GOGA Godfrey 71.36 352 *e*P **P 09 09 48.6 -0.5**
GOGA pmax pmax
comp=Z,31nm,1.4s
GOGA Godfrey 71.36 352 *e*P **P 09 09 48.6 -0.5**
comp=Z,31nm,1.4s
LRAL Lakeview Retre 71.44 349 *e*P **P 09 09 49.5 -0.2**
comp=Z,21nm,0.9s
338A Crockett 71.50 341⇑P **P 09 09 50.8 +0.7**
baz=72,SNR=12
435B Jarrell 71.57 339⇑P **P 09 09 50.7 +0.3**
baz=72
337A Centerville 71.61 341⇑P **P 09 09 51.8 +1.1**
baz=72,SNR=16
532A Rocksprings 71.64 337⇑P **P 09 09 51.2 +0.3**
baz=72,SNR=40
434A Burnet 71.79 339⇑P **P 09 09 51.8 -0.1**
baz=72,SNR=33
531A Rocksprings 71.87 336⇑P **P 09 09 52.8 +0.4**
baz=72,SNR=24
239A Gary 71.93 342 P **P 09 09 52.9 +0.4**
baz=72
336A Riesel 71.93 340⇓P **P 09 09 52.8 +0.2**
baz=72,SNR=19
JCT Junction City 71.94 337 *e*P **P 09 09 52.8 +0.1**
JCT pmax pmax
comp=Z,44nm,0.9s
JCT Junction City 71.94 337⇑P **P 09 09 52.7 +0.1**
baz=72,SNR=27
JCT Junction City 71.94 337 *e*P **P 09 09 52.8 +0.1**
comp=Z,44nm,0.9s
433A Art 71.98 338⇑P **P 09 09 52.7 -0.3**
baz=72,SNR=25
335A Moody 71.99 340⇑P **P 09 09 53.1 +0.1**
baz=72,SNR=8.8
530A J-C Ranch, Com 72.11 336⇓P **P 09 09 54.2 +0.3**
baz=72,SNR=32
TXAR Lajitas Array 72.16 333 P **P 09 09 54.3 +0.2**
comp=Z,14nm,0.7s,baz=153,slow=8.8,SNR=94
237A Washetta, Mont 72.24 341 P **P 09 09 54.8 +0.4**
baz=73
334A Lometa 72.27 339⇓P **P 09 09 54.7 0.0**
baz=73,SNR=41
432A Menard 72.30 337⇑P **P 09 09 54.7 -0.3**
baz=73,SNR=10
431A Sonora 72.37 337⇓P **P 09 09 55.2 -0.2**
baz=73,SNR=22
529A Stev Forest Ra 72.38 335⇓P **P 09 09 55.4 0.0**
baz=73,SNR=15
333A Richland Sprin 72.48 338⇓P **P 09 09 55.5 -0.4**
baz=73,SNR=19
430A Baggett Ranch, 72.67 336⇑P **P 09 09 57.2 0.0**
baz=73,SNR=25
WHTX Lake Whitney, 72.67 340⇑P **P 09 09 56.9 -0.1**
baz=73,SNR=14
WHTX Lake Whitney, 72.67 340 *e*P **P 09 09 56.9 -0.1**
comp=Z,64nm,0.9s
138A Matatall Enter 72.69 342 P **P 09 09 57.6 +0.5**
baz=73
429A Davenport Ranc 72.73 336⇑P **P 09 09 57.7 +0.1**
baz=73,SNR=40
332A Millersview 72.76 338⇑P **P 09 09 57.4 -0.2**
baz=73,SNR=32
137A Heron Place, G 72.80 341 P **P 09 09 58.3 +0.5**
baz=73
KMSC Kings Mountain 72.87 354⇓P **P 09 09 57.6 -0.5**
baz=73,SNR=5.8
KMSC Kings Mountain 72.87 354 *e*P **P 09 09 58.0 -0.2**
comp=Z,17nm,0.8s
KMSC *e*pP **pP 09 10 06.0 -1.8**
234A Clairette 72.87 339⇓P **P 09 09 58.2 -0.1**
baz=73,SNR=26
331A San Angelo 72.90 337⇓P **P 09 09 58.2 -0.3**
baz=73,SNR=46
233A Rising Star 73.10 339⇑P **P 09 09 59.5 -0.2**
baz=74,SNR=24
135A Vickery Place, 73.19 340⇑P **P 09 09 59.8 -0.3**
baz=74,SNR=8.3
232A Coleman 73.20 338⇑P **P 09 10 00.0 -0.2**
baz=74,SNR=24
330A Mertzon 73.22 336⇓P **P 09 09 60.0 -0.5**
baz=74,SNR=11
OXF Oxford 73.28 347 *e*P **P 09 09 59.7 -0.9**
OXF *e**PP **pP 09 10 08.7 -1.5**
OXF pmax pmax
comp=Z,69nm,1.2s
OXF Oxford 73.28 347 *e*P **P 09 09 59.7 -0.9**
comp=Z,69nm,1.2s
OXF *e*pP **pP 09 10 08.7 -1.5**
134A White-Moore Ra 73.39 339⇓P **P 09 10 01.0 -0.3**
baz=74,SNR=8.2
SWET Sewanee 73.44 350 *e*P **P 09 10 01.4 -0.2**
comp=Z,72nm,0.8s
SWET *e*pP **pP 09 10 09.8 -1.4**
231A Bronte 73.45 337⇓P **P 09 10 01.2 -0.5**
baz=74,SNR=22
CPCT Cooper Cave 73.49 352 *e*P **P 09 10 03.6 +1.8**
CPCT *e*pP **pP 09 10 12.2 +0.8**
329A Wagon Wheel Ra 73.56 336⇑P **P 09 10 02.4 0.0**
baz=74,SNR=22
TKL Tuckaleechee C 73.61 352 P **P 09 10 02.0 -0.5**
comp=Z,9.5nm,0.7s,baz=156,slow=8.3,SNR=11
230A Sterling City 73.65 337⇓P **P 09 10 02.4 -0.5**
baz=74,SNR=16
133A Hamilton Ranch 73.66 339⇑P **P 09 10 02.7 -0.2**
baz=74,SNR=24
Z35A Perchaven, San 73.88 340⇓P **P 09 10 03.9 -0.2**
baz=74,SNR=16
ABTX Abilene, Hawle 73.89 338⇓P **P 09 10 04.1 -0.2**
baz=74,SNR=24
ABTX Abilene, Hawle 73.89 338 *e*P **P 09 10 04.2 -0.1**
comp=Z,58nm,1.0s
ABTX *e*pP **pP 09 10 12.2 -1.6**
229A Bryant Ranch, 73.95 336⇓P **P 09 10 04.5 -0.2**
baz=74,SNR=19
Z34A Collier Ranch, 74.10 340⇓P **P 09 10 05.1 -0.3**
baz=74,SNR=15
UALR University of 74.10 345 *e*P **P 09 10 05.2 -0.2**
comp=Z,15nm,0.8s
131A Roby 74.16 338⇓P **P 09 10 05.7 -0.1**
baz=74,SNR=10
Z33A Whitaker Ranch 74.25 339⇓P **P 09 10 06.1 -0.2**
baz=75,SNR=7.9
130A Snyder 74.26 337⇑P **P 09 10 06.1 -0.4**
baz=75,SNR=6.4
228A UT Block 9, Go 74.34 336⇑P **P 09 10 06.6 -0.3**
baz=75,SNR=13
TZTN Tazewell 74.47 352 *e*P **P 09 10 07.2 -0.3**
comp=Z,16nm,0.8s
Z32A Haskell 74.48 339⇓P **P 09 10 07.6 -0.1**
baz=75,SNR=16
129A Stewart Farms, 74.58 336⇑P **P 09 10 08.0 -0.4**
baz=75,SNR=13
WVT Waverly 74.61 349 *e*P **P 09 10 07.6 -0.7**
WVT pmax pmax
comp=Z,30nm,1.1s
WVT Waverly 74.61 349 *e*P **P 09 10 07.6 -0.7**
comp=Z,30nm,1.1s
Y34A Reagan Ranch, 74.61 340⇓P **P 09 10 08.0 -0.3**
baz=75,SNR=13
Z31A Sharp Cattle R 74.69 338⇑P **P 09 10 08.7 -0.1**
baz=75,SNR=18
128A Castleberry Fa 74.77 336⇑P **P 09 10 09.3 -0.1**
baz=75,SNR=25
VWCC Virginia Weste 74.87 356 *e*P **P 09 10 09.6 -0.2**
Y33A Hilltop Ranch, 74.89 339⇑P **P 09 10 09.8 -0.3**
baz=75,SNR=15
MNTX Cornudas Mount 74.91 333 *e*P **P 09 10 09.0 -1.2**
comp=Z,12nm,1.0s
MNTX *e*pP **pP 09 10 17.7 -2.2**
Z30A Sanderson Ranc 74.95 337⇓P **P 09 10 09.9 -0.6**
baz=75,SNR=18
127A Arkansas Junct 75.10 335⇑P **P 09 10 11.1 -0.3**
baz=76
Z29A Hungry Hill Ra 75.11 337⇑P **P 09 10 10.9 -0.5**
baz=76,SNR=32
Y32A R-V Farms, Ver 75.12 339⇓P **P 09 10 11.1 -0.2**
baz=76,SNR=12
JSRW J. Sargeant Re 75.21 357 *e*P **P 09 10 11.9 +0.2**
X34A Smith Ranch, M 75.24 340⇑P **P 09 10 11.9 -0.1**
baz=76,SNR=14
Y31A Rekieta Farm, 75.32 338⇓P **P 09 10 12.2 -0.3**
baz=76,SNR=14
Z28A Tucker Farm, M 75.35 336⇑P **P 09 10 12.2 -0.6**
baz=76,SNR=6.3
X33A Lawton 75.36 340⇓P **P 09 10 11.9 -0.8**
baz=76,SNR=7.1
Y30A Stafford Cattl 75.43 338⇑P **P 09 10 12.8 -0.5**
baz=76,SNR=6.1
PARMO Parma 75.44 347 *e*P **P 09 10 13.1 0.0**
X32A Elmer 75.47 339⇓P **P 09 10 12.9 -0.4**
baz=76,SNR=7.1
Z27A Tatum 75.64 336⇑P **P 09 10 14.2 -0.3**
baz=76
Y29A Porterfield Fa 75.65 337⇑P **P 09 10 14.2 -0.3**
baz=76,SNR=14
PBMO Poplar Bluff 75.67 347 *e*P **P 09 10 13.9 -0.5**
comp=Z,26nm,0.8s
W34A Bridge Creek, 75.82 341⇑P **P 09 10 15.1 -0.3**
baz=76,SNR=7.3
W34A Bridge Creek, 75.82 341 *e*P **P 09 10 15.5 +0.1**
comp=Z,65nm,1.2s
W34A *e*pP **pP 09 10 23.5 -1.5**
Z26A Caprock 75.86 335⇓P **P 09 10 15.4 -0.3**
baz=76,SNR=10
X31A McDonald Ranch 75.86 339⇓P **P 09 10 15.4 -0.2**
baz=76,SNR=18
Y28A McKinney Farm, 75.88 337⇓P **P 09 10 15.3 -0.5**
baz=76,SNR=7.5
W33A Caddo, Fort Co 75.93 340⇓P **P 09 10 16.3 +0.3**
baz=76,SNR=22
X30A Coker Ranch, T 75.95 338⇑P **P 09 10 15.7 -0.5**
baz=76,SNR=23
TUL1 Leonard 75.96 342⇓P **P 09 10 15.8 -0.4**
baz=76,SNR=31
TUL1 Leonard 75.96 342 *e*P **P 09 10 15.7 -0.4**
comp=Z,79nm,0.8s
TUL1 *e*pP **pP 09 10 23.9 -1.8**
319A Douglas 76.10 330⇓P **P 09 10 18.0 +0.8**
baz=76,SNR=11
MSTX Muleshoe 76.10 336⇑P **P 09 10 16.7 -0.4**
baz=76,SNR=9.8
MSTX Muleshoe 76.10 336 *e*P **P 09 10 17.1 0.0**
comp=Z,72nm,1.4s
MSTX *e*pP **pP 09 10 25.3 -1.5**
Z25A Roswell 76.11 334⇑P **P 09 10 16.8 -0.4**
baz=76,SNR=8.2
W32A Sentinel 76.11 339⇓P **P 09 10 16.9 -0.1**
baz=76,SNR=36
Y27A Causey 76.15 336⇓P **P 09 10 16.8 -0.6**
baz=76
X29A Tulia 76.20 337⇓P **P 09 10 17.4 -0.2**
baz=77,SNR=10.0
V34A Guthrie 76.32 341⇑P **P 09 10 17.7 -0.5**
baz=77,SNR=15
W31A Holland Ranch, 76.37 339⇑P **P 09 10 18.1 -0.4**
baz=77,SNR=15
SIUC Southern Illin 76.38 348 *e*P **P 09 10 18.6 +0.2**
comp=Z,54nm,1.4s
Z24A Sheeppen Canyo 76.38 334⇑P **P 09 10 18.9 0.0**
baz=77,SNR=7.5
Y26A Elida 76.40 335⇓P **P 09 10 18.5 -0.3**
baz=77
X28A Dimmitt 76.42 337⇑P **P 09 10 18.6 -0.3**
baz=77
V33A Lossen Ranch, 76.51 340⇑P **P 09 10 19.1 -0.2**
baz=77,SNR=18
121A Cookes Peak, D 76.55 332⇓P **P 09 10 20.2 +0.5**
baz=77,SNR=5.9
121A Cookes Peak, D 76.55 332 *e*P **P 09 10 20.8 +1.0**
comp=Z,23nm,1.1s
121A *e*pP **pP 09 10 29.2 -0.2**
W30A Crocket Farms 76.55 338⇑P **P 09 10 19.4 -0.2**
baz=77
AMTX Amarillo 76.60 337⇓P **P 09 10 19.9 +0.1**
baz=77
V32A Arapaho 76.62 340⇓P **P 09 10 20.2 +0.3**
baz=77,SNR=9.4
Y25A Mesa, Roswell 76.69 335⇑P **P 09 10 20.1 -0.3**
baz=77,SNR=5.8
W29A Amarillo 76.81 337⇓P **P 09 10 21.1 0.0**
baz=77,SNR=26
X27A F and S Farms, 76.83 336⇑P **P 09 10 20.8 -0.4**
baz=77,SNR=5.8
Z22A Elephant Butte 76.89 333⇓P **P 09 10 22.4 +0.8**
baz=77,SNR=9.5
V31A Spring Creek L 76.89 339⇓P **P 09 10 22.3 +0.8**
baz=77,SNR=12
U34A Anderson Ranch 76.89 341⇑P **P 09 10 21.3 -0.2**
baz=77,SNR=10
U34A Anderson Ranch 76.89 341 *e*P **P 09 10 21.2 -0.2**
comp=Z,44nm,0.9s
U34A *e*pP **pP 09 10 29.3 -1.7**
Y24A Capitan 76.95 334⇑P **P 09 10 22.2 +0.2**
baz=77,SNR=11
X26A CR and CF Fran 76.97 336⇑P **P 09 10 22.2 +0.2**
baz=77,SNR=11
U33A Lingo Farm, Me 77.04 341⇑P **P 09 10 21.9 -0.3**
baz=77,SNR=11
W28A Vega 77.11 337⇑P **P 09 10 22.7 0.0**
baz=78
V30A Spur Ranch, Mi 77.12 338⇓P **P 09 10 23.4 +0.6**
baz=78,SNR=5.6
Y23A Lovelace Mesa, 77.17 334⇑P **P 09 10 23.9 +0.7**
baz=78
W27A Bowe Ranch, En 77.20 336⇓P **P 09 10 23.4 +0.1**
baz=78,SNR=23
U32A Winter Ranch, 77.23 340⇑P **P 09 10 23.4 +0.1**
baz=78,SNR=11
X25A Clemmons Ranch 77.23 335⇑P **P 09 10 23.1 -0.4**
baz=78,SNR=5.1
BLO Bloomington 77.41 350 *e*P **P 09 10 23.5 -0.7**
BLO pmax pmax
comp=Z,24nm,0.9s
BLO Bloomington 77.41 350 *e*P **P 09 10 23.5 -0.7**
comp=Z,24nm,0.9s
SLM Saint Louis 77.45 347 *e*P **P 09 10 24.2 -0.2**
SLM pmax pmax
comp=Z,73nm,1.0s
SLM Saint Louis 77.45 347 *e*P **P 09 10 24.2 -0.2**
comp=Z,73nm,1.0s
W26A Owens Ranch, T 77.45 336⇑P **P 09 10 24.9 +0.2**
baz=78,SNR=11
U31A Nine Bar Ranch 77.45 339⇑P **P 09 10 24.9 +0.3**
baz=78
V29A Stinnett 77.47 338⇓P **P 09 10 24.7 -0.1**
baz=78
TUC Tucson 77.52 329 *e*P **P 09 10 26.0 +0.9**
TUC *e**PP **pP 09 10 34.6 -0.2**
TUC pmax pmax
comp=Z,31nm,1.5s
TUC Tucson 77.52 329 *e*P **P 09 10 26.0 +0.9**
comp=Z,31nm,1.5s
TUC *e*pP **pP 09 10 34.6 -0.2**
X24A Lazy VL Ranch, 77.53 334 P **P 09 10 25.8 +0.5**
baz=78
V28A Channing 77.57 337⇑P **P 09 10 25.7 +0.3**
baz=78,SNR=10.0
T33A Patterson Ranc 77.69 341⇑P **P 09 10 26.2 +0.3**
baz=78,SNR=11
LPM Los Pinos Moun 77.72 333 *e*P **P 09 10 27.0 +0.7**
V27A Dan Oppiter Fa 77.77 337⇓P **P 09 10 26.7 +0.3**
baz=78,SNR=7.6
W25A X Bar L Ranch, 77.79 335⇑P **P 09 10 26.7 0.0**
baz=78,SNR=11
X23A Hourglass Bar 77.80 334⇓P **P 09 10 27.4 +0.6**
baz=78
U30A WK&E Inc. Balk 77.83 339⇓P **P 09 10 26.9 +0.2**
baz=78,SNR=13
U29A Oasis Ranch, S 77.94 338⇑P **P 09 10 27.3 0.0**
baz=78
T32A Huddler Ranch, 77.96 340⇓P **P 09 10 27.5 +0.2**
baz=78,SNR=6.8
LAZ Ladron 77.98 333 *e*P **P 09 10 29.0 +1.2**
comp=Z,34nm,1.6s
LAZ *e*pP **PcP 09 10 37.4 0.0**
214A Organ Pipe Nat 78.06 327⇓P **P 09 10 28.9 +0.8**
baz=78,SNR=7.8
214A Organ Pipe Nat 78.06 327 *e*P **P 09 10 29.4 +1.3**
comp=Z,34nm,1.4s
ACSO Alum Creek Sta 78.06 353 *e*P **P 09 10 27.6 -0.2**
comp=Z,45nm,1.0s
T31A Randall Ranch, 78.08 340⇓P **P 09 10 28.3 +0.2**
baz=78,SNR=5.6
V26A Tequesquite Ra 78.10 336⇓P **P 09 10 28.2 -0.1**
baz=78,SNR=7.3
W24A Lazy 6 Ranch, 78.11 335⇓P **P 09 10 28.8 +0.3**
baz=78,SNR=13
S33A Kaszmaul Farm, 78.11 341⇓P **P 09 10 28.2 0.0**
baz=78
U28A Mallet 78.15 337⇑P **P 09 10 29.8 +1.3**
baz=78
ANMO Albuquerque 78.23 334*d i*P **P 09 10 29.8 +0.6**
ANMO pmax pmax
comp=Z,178nm,1.3s
ANMO Albuquerque 78.23 334 P **P 09 10 29.8 +0.6**
comp=Z,22nm,0.9s,baz=163,slow=7.3,SNR=29
ANMO Albuquerque 78.23 334 *e*P **P 09 10 29.7 +0.6**
comp=Z,32nm,1.0s
ANMO *e*pP **PcP 09 10 38.4 0.0**
T30A Plains 78.28 339⇑P **P 09 10 29.4 +0.2**
baz=79
W23A Werner Place, 78.31 334⇓P **P 09 10 30.3 +0.7**
baz=79,SNR=12
DBIC Dimbokro 78.32 72 P **P 09 10 31.2 +1.3**
comp=Z,21nm,0.7s,baz=200,slow=5.7,SNR=31
DBIC Dimbokro 78.32 72 *e*pP pP 09 10 39.4 -0.1
U27A Thompson Grove 78.38 337⇓P **P 09 10 30.0 +0.2**
baz=79,SNR=7.5
V25A Rancho No Teng 78.41 335⇑P **P 09 10 30.4 +0.2**
baz=79,SNR=15
S32A Newby Ranch, P 78.45 340⇑P **P 09 10 30.3 +0.2**
baz=79,SNR=12
S31A Mullinville 78.52 340⇑P **P 09 10 30.6 +0.1**
baz=79,SNR=5.3
V24A Rampart Ranch, 78.53 335⇑P **P 09 10 31.2 +0.3**
baz=79,SNR=9.9
T29A Hugoton 78.60 338⇑P **P 09 10 31.0 0.0**
baz=79,SNR=8.7
U26A Atchley Ranch, 78.64 336⇓P **P 09 10 31.2 -0.1**
baz=79,SNR=5.6
R33A Olander Ranch, 78.78 341⇓P **P 09 10 31.6 -0.3**
baz=79
T28A Walsh 78.81 338⇓P **P 09 10 32.2 +0.1**
baz=79,SNR=23
S30A Montezuma 78.81 339⇓P **P 09 10 32.6 +0.4**
baz=79,SNR=8.4
V23A Ortiz Mt. (NFS 78.86 334⇓P **P 09 10 33.1 +0.5**
baz=79
U25A Circle Dot Ran 78.86 336 P **P 09 10 33.0 +0.4**
baz=79
T27A Campo 78.93 337⇓P **P 09 10 33.1 +0.2**
baz=79,SNR=11
S29A Ulysses 78.98 339⇑P **P 09 10 33.3 +0.2**
baz=79,SNR=6.9
R32A Long Quarter, 79.07 341⇓P **P 09 10 33.6 +0.2**
baz=80,SNR=13
X18A Snowflake 79.14 331⇓P **P 09 10 34.5 +0.3**
baz=80

U24A	Moreno Valley	79.15	335	⇑P	P	09 10 35.4 +1.1
	baz=80,SNR=5.7					
R31A	Burdett	79.16	340	⇑P	P	09 10 34.1 +0.1
	baz=80,SNR=9.5					
113A	Mohawk Valley,	79.17	327	⇓P	P	09 10 34.6 +0.5
	baz=80					
S28A	Manter	79.18	338	⇑P	P	09 10 34.3 +0.2
	baz=80,SNR=12					
KSU1	Kansas State U	79.19	343	⇓P	P	09 10 33.7 -0.4
	baz=80,SNR=5.5					
KSU1	Kansas State U	79.19	343	eP	P	09 10 34.0 -0.1
	comp=Z,26nm,0.9s					
KSU1				epP	PcP	09 10 41.9 -0.5
V22A	San Miguel Ran	79.26	334	⇑P	P	09 10 36.0 +1.2
	baz=80,SNR=13					
T26A	Comanche Natio	79.31	337	⇑P	P	09 10 35.5 +0.5
	baz=80,SNR=14					
Z14A	Wintersburg	79.33	328	⇑P	P	09 10 35.7 +0.7
	baz=80					
R30A	Dighton	79.36	340	⇑P	P	09 10 35.1 0.0
	baz=80,SNR=6.9					
U23A	El Rito	79.39	334	⇑P	P	09 10 36.6 +1.1
	baz=80,SNR=6.9					
Q33A	Connelly Farm,	79.39	342	⇑P	P	09 10 35.2 0.0
	baz=80,SNR=8.0					
T25A	Trinidad	79.53	336	⇓P	P	09 10 37.2 +0.9
	baz=80,SNR=26					
Q32A	Meitler Ranch,	79.57	341	⇓P	P	09 10 36.2 +0.1
	baz=80,SNR=11					
W18A	Petrified Fore	79.58	331	⇑P	P	09 10 37.4 +0.8
	baz=80,SNR=5.6					
W18A	Petrified Fore	79.58	331	eP	P	09 10 37.1 +0.6
	comp=Z,38nm,1.1s					
W18A				epP	pP	09 10 45.9 -0.3
URZ	Urewera	79.61	229	P	P	09 10 36.0 -0.7
	comp=Z,6.1nm,0.9s,baz=79,slow=5.2,SNR=4.1					
X16A	Lo Mia Camp, P	79.63	330	⇓P	P	09 10 37.9 +1.1
	baz=80,SNR=8.8					
U22A	Llaves	79.66	334	⇓P	P	09 10 38.2 +1.3
	baz=80,SNR=5.0					
S26A	Kim	79.68	337	P	P	09 10 37.6 +0.7
	baz=80					
R29A	Marienthal	79.73	339	⇑P	P	09 10 37.4 +0.3
	baz=80,SNR=5.5					
P33A	Williams Farm,	79.77	342	⇑P	P	09 10 37.0 -0.2
	baz=80					
T24B	San Luis	79.78	335	⇓P	P	09 10 38.7 +1.0
	baz=80,SNR=9.5					
Q31A	Ellis	79.80	341	⇑P	P	09 10 37.8 +0.4
	baz=80,SNR=12					
R28A	Tribune	79.85	339	⇑P	P	09 10 38.0 +0.2
	baz=80,SNR=17					
Y14A	Wickenburg	79.85	328	⇑P	P	09 10 38.6 +0.7
	baz=80,SNR=7.6					
GLA	Glamis	79.87	327	⇓P	P	09 10 38.5 +0.6
	baz=80					
T23A	Casias Ranch,	79.97	335	⇓P	P	09 10 39.5 +0.8
	baz=80,SNR=7.0					
Q30A	Quinter	79.99	340	⇓P	P	09 10 38.9 +0.4
	baz=80,SNR=20					
S25A	Robets Cordova	80.02	336	⇓P	P	09 10 39.5 +0.7
	baz=80,SNR=13					
BOSA	Boshof	80.08	118	eP	P	09 10 40.2 +0.6
BOSA				e*PP	PcP	09 10 47.8 +0.9
BOSA				pmax	pmax	
	comp=Z,13nm,0.9s					
BOSA	Boshof	80.08	118	P	P	09 10 40.4 +0.8
	comp=Z,8.8nm,0.8s,baz=222,slow=5.7,SNR=17					
BOSA	Boshof	80.08	118	eP	P	09 10 40.1 +0.6
	comp=Z,13nm,0.9s					
BOSA				epP	PcP	09 10 47.8 +0.9
R27A	Eads	80.09	338	⇑P	P	09 10 39.4 +0.2
	baz=80,SNR=21					
Q29A	Oakley	80.12	339	⇑P	P	09 10 39.3 +0.1
	baz=80,SNR=6.1					
P32A	Huiting Farm,	80.18	341	⇓P	P	09 10 39.4 0.0
	baz=81,SNR=8.7					
SWSC	Sam W. Stewart	80.20	326	⇓P	P	09 10 39.8 +0.1
	baz=81					
S24A	Houchin Ranch,	80.25	336	⇓P	P	09 10 41.2 +0.9
	baz=81,SNR=18					
P31A	Stockton	80.28	341	⇑P	P	09 10 40.2 +0.2
	baz=81,SNR=7.3					
R26A	Arlington	80.30	337	⇓P	P	09 10 40.6 +0.3
	baz=81,SNR=26					
Y12C	Blythe	80.33	327	⇑P	P	09 10 41.6 +1.2
	baz=81,SNR=6.8					
R25A	Fountain Ranch	80.42	337	⇓P	P	09 10 41.5 +0.6
	baz=81					
MONP	Monument Peak,	80.44	325	⇓P	P	09 10 41.9 +0.6
	baz=81					
SDCO	Great Sand Dun	80.44	336	eP	P	09 10 41.6 +0.3
	comp=Z,7.0nm,0.9s					
Q28A	Sharon Springs	80.52	339	⇑P	P	09 10 41.7 +0.3
	baz=81					
P30A	Selden	80.53	340	⇑P	P	09 10 41.7 +0.3
	baz=81,SNR=7.2					
WUAZ	Wupatki	80.56	330	⇑P	P	09 10 42.9 +1.1
	baz=81,SNR=5.3					
S23A	Nye Farm, Mont	80.57	335	⇑P	P	09 10 42.8 +0.9
	baz=81					
PDMCI	Parker Dam,Lak	80.64	328	⇓P	P	09 10 43.0 +1.0
	baz=81					
BC3	Big Chuckawall	80.66	326	⇑P	P	09 10 43.1 +0.9
	baz=81,SNR=6.3					
O32A	Brockman Farm,	80.70	342	⇑P	P	09 10 42.2 0.0
	baz=81,SNR=8.5					
KSCO	Kaye Shedlock'	80.71	338	⇓P	P	09 10 43.0 +0.5
	baz=81					
KSCO	Kaye Shedlock'	80.71	338	eP	P	09 10 43.3 +0.9
	comp=Z,112nm,1.5s					
KSCO				epP	pP	09 10 51.3 -0.8
109C	Camp Elliot, M	80.75	325	⇓P	P	09 10 43.4 +0.8
	baz=81					
R24A	Sanders Place,	80.75	336	⇑P	P	09 10 43.7 +0.9
	baz=81,SNR=21					
P29A	Atwood	80.77	340	⇓P	P	09 10 43.2 +0.5
	baz=81,SNR=10					
O31A	Woolen Ranch,	80.86	341	⇓P	P	09 10 43.2 +0.1
	baz=81					
S22A	4UR Ranch, Cre	80.88	335	⇑P	P	09 10 44.4 +0.8
	baz=81,SNR=13					
Q26A	Hugo	80.89	338	⇑P	P	09 10 44.1 +0.6
	baz=81,SNR=14					
R23A	Moffat	80.95	336	⇑P	P	09 10 44.8 +0.8
	baz=81					
IRM	Iron Mountain	80.95	327	⇓P	P	09 10 44.6 +0.8
	baz=81					
P28A	Saint Francis	80.97	339	⇑P	P	09 10 44.4 +0.5
	baz=81,SNR=8.5					
MVCO	Mesa Verde	80.98	333	P	P	09 10 44.9 +0.8
	baz=81					
PFO	Pinyon Flats O	81.06	326	P	P	09 10 46.9 +2.4
	comp=Z,156nm,1.0s,SNR=5.8					
PFO	Pinyon Flats O	81.06	326	eP	P	09 10 45.1 +0.6
PFO				e*PP	pP	09 10 54.3 +0.1
PFO	Pinyon Flats O	81.06	326	P	P	09 10 46.0 +1.5
	comp=Z,18nm,0.8s,baz=134,slow=4.3,SNR=4.5					
PFO	Pinyon Flats O	81.06	326	⇑P	P	09 10 45.6 +1.1
	baz=81,SNR=8.6					
PFO	Pinyon Flats O	81.06	326	eP	P	09 10 45.1 +0.6
PFO				epP	pP	09 10 54.3 +0.1
O30A	MW Ranch, Wils	81.08	340	⇓P	P	09 10 44.4 +0.1
	baz=82,SNR=10					
Q25A	Bedland, Calha	81.11	337	⇑P	P	09 10 45.0 +0.3
	baz=82,SNR=12					
N32A	Stulken Farm,	81.18	342	⇓P	P	09 10 44.7 -0.1
	baz=82					
BELC	Belle Mtn. Jos	81.19	326	⇓P	P	09 10 45.8 +0.6
	baz=82					
P27A	Ficken Ranch,	81.20	338	⇑P	P	09 10 45.6 +0.6
	baz=82					
W13A	Hualapai Mount	81.22	328	⇑P	P	09 10 46.5 +1.1
	baz=82,SNR=6.5					
O29A	4D Ranch, Culb	81.22	340	⇓P	P	09 10 45.3 +0.2
	baz=82					
MURC	Murrieta	81.39	325	⇑P	P	09 10 47.1 +1.0
	baz=82,SNR=7.8					
P26A	Davis Ranch, A	81.43	338	⇓P	P	09 10 46.9 +0.6
	baz=82,SNR=11					
Q24A	Divide	81.44	336	⇓P	P	09 10 47.1 +0.5
	baz=82,SNR=13					
O28A	Krutsinger Ran	81.50	339	⇑P	P	09 10 47.3 +0.8
	baz=82					
JFWS	Jewell Farm	81.62	348	eP	P	09 10 46.9 -0.1
JFWS				pmax	pmax	
	comp=Z,50nm,1.3s					
JFWS	Jewell Farm	81.62	348	eP	P	09 10 46.9 -0.1
	comp=Z,50nm,1.3s					
P25A	Willow Gulch B	81.63	337	⇓P	P	09 10 48.3 +0.9
	baz=82,SNR=16					
GMRC	Granite Mounta	81.70	327	⇑P	P	09 10 49.3 +1.5
	baz=82					
U15A	North Rim	81.72	330	⇓P	P	09 10 49.3 +1.2
	baz=82,SNR=8.1					
BGNE	Belgrade	81.75	342	⇑P	P	09 10 47.8 0.0
	baz=82,SNR=6.4					
BGNE	Belgrade	81.75	342	eP	P	09 10 48.2 +0.4
	comp=Z,44nm,1.0s					
BGNE				epP	pP	09 10 56.1 -1.4
O27A	Beecher Island	81.75	339	⇓P	P	09 10 48.6 +0.6
	baz=82,SNR=11					
CIS	Catalina Islan	81.78	324	⇑P	P	09 10 49.3 +1.2
	baz=82					
BBRC	Big Bear Solar	81.82	326	⇓P	P	09 10 49.7 +1.1
	baz=82					
N29A	Votaw Ranch, W	81.83	340	⇓P	P	09 10 48.7 +0.4
	baz=82,SNR=5.7					
P24A	Kohler Place,	81.86	337	⇓P	P	09 10 49.3 +0.7
	baz=82					
M31A	Lambtecht Ranc	81.89	342	⇑P	P	09 10 48.9 +0.3
	baz=82,SNR=7.1					
N28A	Pribbeno Ranch	81.95	340	⇑P	P	09 10 49.2 +0.3
	baz=82,SNR=5.4					
P23A	Jefferson	82.03	336	⇑P	P	09 10 50.4 +0.6
	baz=82					
HEC	Hector,Ludlow	82.03	326	P	P	09 10 50.9 +1.4
	baz=82					
O26A	Horse Wrangler	82.05	338	⇓P	P	09 10 50.3 +0.8
	baz=82,SNR=19					
BFSC	Mount Baldy Ra	82.13	325	⇑P	P	09 10 50.9 +0.8
	baz=82,SNR=7.7					
O25A	Wiggins	82.17	338	⇑P	P	09 10 51.2 +1.0
	baz=82,SNR=11					
SMCO	Snowmass	82.22	335	eP	P	09 10 51.7 +0.9
	comp=Z,34nm,1.1s					
MWC	Mount Wilson	82.30	325	eP	P	09 10 52.0 +0.9
MWC				pmax	pmax	
	comp=Z,15nm,0.8s					
MWC	Mount Wilson	82.30	325	eP	P	09 10 52.0 +0.9
	comp=Z,15nm,0.8s					
M30A	Dale-Ortello V	82.30	341	⇓P	P	09 10 51.0 +0.3
	baz=83					
OGNE	Ogallala	82.33	339	⇓P	P	09 10 51.6 +0.6
	baz=83					
N27A	Anderson Farm,	82.34	339	⇓P	P	09 10 51.6 +0.6
	baz=83,SNR=12					
ISCO	Idaho Springs	82.34	336	eP	P	09 10 51.8 +0.5
ISCO				pmax	pmax	
	comp=Z,21nm,1.3s					
ISCO	Idaho Springs	82.34	336	⇑P	P	09 10 51.7 +0.4
	baz=83,SNR=12					
ISCO	Idaho Springs	82.34	336	eP	P	09 10 51.8 +0.5
	comp=Z,21nm,1.3s					
TUQ	Turquoise Moun	82.37	327	⇑P	P	09 10 52.5 +1.2
	baz=83,SNR=6.1					
RRX	Edison Barstow	82.37	326	⇑P	P	09 10 52.3 +1.1
	baz=83					
M29A	Burnside Ranch	82.43	340	⇓P	P	09 10 52.0 +0.6
	baz=83,SNR=5.2					
DECC	Green Verdugo	82.44	325	⇑P	P	09 10 52.8 +1.2
	baz=83					
O24A	Longmont	82.47	337	⇓P	P	09 10 52.3 +0.5
	baz=83					
LBTB	Lobatse	82.52	116	eP	P	09 10 52.8 +0.3
LBTB				e*PP	pP	09 11 01.1 -1.2
LBTB				e*SP	sP	09 11 07.8 +2.0
LBTB				pmax	pmax	
	comp=Z,18nm,0.8s					
LBTB	Lobatse	82.52	116	eP	P	09 10 52.8 +0.3
	comp=Z,18nm,0.8s					
LBTB				epP	pP	09 11 01.1 -1.2
LBTB				esP	sP	09 11 07.8 +2.0
P22A	Eagle	82.53	335	⇓P	P	09 10 53.0 +0.8
	baz=83,SNR=9.0					
N26A	Koester Ranch,	82.56	338	⇑P	P	09 10 52.6 +0.4
	baz=83					
M28A	Bar X Bar Ranc	82.56	340	⇑P	P	09 10 53.0 +0.8
	baz=83					
GSC	Goldstone, Bar	82.64	326	eP	P	09 10 53.8 +1.1
GSC				e*PP	pP	09 11 02.1 -0.3
GSC				pmax	pmax	
	comp=Z,109nm,2.1s					
GSC	Goldstone, Bar	82.64	326	⇑P	P	09 10 53.7 +1.0
	baz=83,SNR=6.0					
GSC	Goldstone, Bar	82.64	326	eP	P	09 10 53.8 +1.1
	comp=Z,109nm,2.1s					
GSC				epP	pP	09 11 02.1 -0.3
L31A	Butterfield Fa	82.64	342	⇓P	P	09 10 52.9 +0.4
	baz=83,SNR=22					
L30A	Spencer Herefo	82.65	341	⇑P	P	09 10 53.0 +0.5
	baz=83,SNR=11					
N25A	Grover	82.80	338	⇓P	P	09 10 54.1 +0.7
	baz=83,SNR=7.3					
O23A	Lake Granby, G	82.81	336	⇓P	P	09 10 54.5 +0.8
	baz=83,SNR=21					
EDW2	Edwards Air Fo	82.81	325	⇓P	P	09 10 54.1 +0.5
	baz=83,SNR=6.2					
OSI	Osito Audit: C	82.93	325	⇑P	P	09 10 55.1 +0.9
	baz=83					
L29A	Maesberg Ranch	82.95	341	⇓P	P	09 10 54.5 +0.4
	baz=83,SNR=11					
SHPR	Sheep Range	82.95	328	eP	P	09 10 55.6 +1.2
SHPR				epP	pP	09 11 04.3 +0.2
O22A	Kremmling	82.97	336	⇑P	P	09 10 55.0 +0.4
	baz=83,SNR=18					
N24A	Carr	83.05	337	⇓P	P	09 10 55.5 +0.7
	baz=83,SNR=7.6					
CCUT	Cedar City	83.12	330	eP	P	09 10 56.1 +0.8
CCUT				epP	pP	09 11 05.2 +0.1
LRMC	Laurel Mtn Rad	83.18	326	⇓P	P	09 10 56.6 +1.1
	baz=84,SNR=7.3					
K30A	Basset	83.31	342	⇑P	P	09 10 56.2 +0.3
	baz=84,SNR=18					
M25A	Palm-Egli Farm	83.36	338	⇑P	P	09 10 56.7 +0.3
	baz=84					
SRU	San Rafael Swe	83.40	333	eP	P	09 10 57.0 +0.3
SRU				pmax	pmax	
	comp=Z,20nm,0.9s					
SRU	San Rafael Swe	83.40	333	eP	P	09 10 57.0 +0.3
	comp=Z,20nm,0.9s					
N23A	Red Feather La	83.44	337	⇓P	P	09 10 57.6 +0.7
	baz=84,SNR=11					
L27A	T5 Ranch, Ells	83.46	340	⇓P	P	09 10 57.1 +0.3
	baz=84					
MVU	Marysvale	83.50	331	eP	P	09 10 58.4 +1.1
	comp=Z,25nm,1.3s					
MVU				epP	pP	09 11 06.9 -0.1
O20A	White River Ci	83.51	335	⇓P	P	09 10 58.0 +0.8
	baz=84					
O20A	White River Ci	83.51	335	eP	P	09 10 58.1 +0.8
	comp=Z,20nm,1.0s					
N22A	Wattenberg Ran	83.52	336	⇓P	P	09 10 58.2 +0.8
	baz=84,SNR=10					
K29A	Lazy Trails An	83.56	341	⇓P	P	09 10 57.3 0.0
	baz=84					
ECSD	EROS Data Cent	83.61	344	⇓P	P	09 10 57.3 -0.1
	baz=84,SNR=22					
ECSD	EROS Data Cent	83.61	344	eP	P	09 10 57.3 -0.1
	comp=Z,62nm,1.1s					
M24A	Cheyenne	83.62	338	⇑P	P	09 10 58.4 +0.7
	baz=84,SNR=9.6					
L26A	Underwood Farm	83.63	339	⇓P	P	09 10 58.7 +1.0
	baz=84					
PHWY	Pilot Hill	83.66	337	eP	P	09 10 58.4 +0.3
	comp=Z,22nm,1.1s					
ISA	Isabella, Lake	83.69	325	eP	P	09 10 59.2 +1.1
ISA				e*PP	pP	09 11 07.9 +0.1
ISA				pmax	pmax	
	comp=Z,22nm,0.8s					
ISA	Isabella, Lake	83.69	325	⇓P	P	09 10 59.4 +1.3
	baz=84,SNR=10.0					
ISA	Isabella, Lake	83.69	325	eP	P	09 10 59.2 +1.1
	comp=Z,22nm,0.8s					
ISA				epP	pP	09 11 07.9 +0.1
K28A	Ten Mile Ranch	83.79	340	⇓P	P	09 10 59.3 +0.8
	baz=84,SNR=6.8					
TMUT	Trail Mountain	83.82	332	eP	P	09 10 60.0 +1.0
	comp=Z,30nm,1.1s					
J30A	Dallas	83.89	342	⇓P	P	09 10 58.7 -0.1
	baz=84,SNR=6.2					
M23A	Laramie	83.90	337	⇓P	P	09 10 59.3 +0.1
	baz=84,SNR=6.3					
L25A	Engebretsen Ra	84.00	338	⇑P	P	09 11 00.1 +0.6
	baz=84					
K27A	Flueckinger Fa	84.02	340	⇑P	P	09 11 00.1 +0.5
	baz=84,SNR=7.7					
SMMC	Simmler	84.09	324	⇑P	P	09 11 01.5 +1.4
	baz=84					
VES	Vestal, Richgr	84.11	325	⇑P	P	09 11 01.0 +0.9
	baz=84,SNR=6.2					
M22A	Cedar Creek Ra	84.11	336	⇓P	P	09 11 01.3 +1.0
	baz=84					
N20A	Spence Gulch,	84.14	335	⇓P	P	09 11 00.7 +0.2
	baz=84,SNR=6.1					
J29A	Okreek	84.17	341	⇓P	P	09 11 00.2 -0.1
	baz=85,SNR=16					
L24A	Wheatland	84.18	338	⇑P	P	09 11 00.7 +0.2
	baz=85					
K26A	Motz Farm, Whi	84.28	339	⇑P	P	09 11 01.5 +0.6
	baz=85					
SPMN	Marine on St.	84.30	347	⇑P	P	09 10 60.0 -0.8
	baz=85,SNR=7.0					
SPMN	Marine on St.	84.30	347	eP	P	09 11 00.0 -0.8
	comp=Z,26nm,1.0s					
K25A	Mack Ranch, Ha	84.39	339	⇓P	P	09 11 01.9 +0.4
	baz=85					
J28A	Allard Ranch,	84.42	341	⇓P	P	09 11 01.8 +0.2
	baz=85,SNR=12					
I30A	Oacoma	84.43	342	⇑P	P	09 11 01.1 -0.5
	baz=85,SNR=8.7					
J27A	Elkhorn Farm,	84.47	340	⇓P	P	09 11 02.5 +0.6
	baz=85,SNR=14					
L23A	Garrett	84.48	337	⇓P	P	09 11 02.3 +0.1
	baz=85,SNR=5.8					
RCTC	Rector, Farmer	84.57	325	⇓P	P	09 11 03.1 +0.7
	baz=85					
MPU	Maple Canyon	84.60	332	eP	P	09 11 03.0 +0.2
	comp=Z,30nm,1.0s					
MPU				epP	pP	09 11 12.0 -0.5
L22A	Ellis Ranch, M	84.63	337	⇑P	P	09 11 03.3 +0.4
	baz=85					
R11A	Troy Canyon, C	84.70	329	⇑P	P	09 11 04.4 +1.1
	baz=85,SNR=8.0					
NLU	North Lily Min	84.71	332	eP	P	09 11 04.0 +0.6
	comp=Z,32nm,1.4s					
I29A	Vivian Onida	84.74	342	⇓P	P	09 11 03.1 -0.1
	baz=85					
J26A	Sides Ranch, S	84.81	340	⇓P	P	09 11 04.0 +0.4
	baz=85					
BRSD	Miller	84.81	343	⇑P	P	09 11 03.3 -0.2
	baz=85					
BRSD	Miller	84.81	343	eP	P	09 11 03.4 -0.1
	comp=Z,35nm,1.1s					
DAU	Daniels Canyon	84.81	333	eP	P	09 11 05.0 +1.0
DAU				e*PP	pP	09 11 13.4 -0.3
DAU	Daniels Canyon	84.81	333	eP	P	09 11 05.0 +1.0
DAU				epP	pP	09 11 13.4 -0.3
I28A	Midland	84.94	341	⇓P	P	09 11 04.2 0.0
	baz=85,SNR=15					
K23A	Bowen Ranch, D	85.04	338	⇑P	P	09 11 04.9 +0.1
	baz=85,SNR=6.1					
JLU	Jordanelle	85.05	333	eP	P	09 11 05.9 +0.8
	comp=Z,17nm,0.9s					
J25A	Sunshine Ranch	85.09	339	⇓P	P	09 11 05.3 +0.3
	baz=86,SNR=9.5					
TPH	Tonopah	85.16	328	eP	P	09 11 05.9 +0.3
TPH				e*PP	pP	09 11 15.1 -0.3
TPH				pmax	pmax	
	comp=Z,32nm,1.1s					
TPH	Tonopah	85.16	328	eP	P	09 11 05.9 +0.3
	comp=Z,32nm,1.1s					
TPH				epP	pP	09 11 15.1 -0.3
DUG	Dugway, Tooele	85.20	332	eP	P	09 11 06.7 +1.0
DUG				e*PP	pP	09 11 15.7 +0.2
DUG				pmax	pmax	
	comp=Z,33nm,1.1s					
DUG	Dugway, Tooele	85.20	332	⇑P	P	09 11 06.5 +0.8
	baz=86,SNR=11					
DUG	Dugway, Tooele	85.20	332	eP	P	09 11 06.7 +1.0
	comp=Z,33nm,1.1s					
DUG				epP	pP	09 11 15.7 +0.2
K22A	Casper	85.22	337	⇓P	P	09 11 06.0 +0.3
	baz=86,SNR=12					
I27A	Quinn	85.24	340	⇓P	P	09 11 05.5 -0.1
	baz=86,SNR=7.1					
CTU	Camp Tracy	85.24	333	epP	pP	09 11 14.6 -1.1
	comp=Z,6.9nm,1.0s					
J24A	Dixon Ranch, L	85.28	338	⇑P	P	09 11 06.4 +0.4
	baz=86					
H29A	Onida	85.29	342	⇑P	P	09 11 05.5 -0.4
	baz=86,SNR=9.7					
I26A	New Underwood	85.42	340	⇓P	P	09 11 06.5 -0.1
	baz=86					
K21A	Alcova	85.43	336	⇑P	P	09 11 06.9 0.0
	baz=86,SNR=11					
MLAC	Mammoth, Mammo	85.48	326	P	P	09 11 08.3 +1.0
	baz=86					
TCUT	Toone Canyon	85.49	333	eP	P	09 11 07.9 +0.7
	comp=Z,46nm,1.2s					
G30A	Faulkton	85.50	343	⇑P	P	09 11 06.5 -0.5
	baz=86,SNR=5.3					
H28A	Mission Ridge	85.53	341	⇑P	P	09 11 06.9 -0.2
	baz=86,SNR=12					
I25A	Rochford	85.65	339	⇓P	P	09 11 07.5 -0.4
	baz=86,SNR=9.6					
G29A	Hoven	85.75	342	⇑P	P	09 11 07.5 -0.6
	baz=86					
I24A	Kuemmerle Ranc	85.75	339	⇓P	P	09 11 07.9 -0.4
	baz=86					
H27A	Howes	85.77	341	⇓P	P	09 11 07.9 -0.4
	baz=86,SNR=9.5					
RSSD	Black Hills	85.83	339	eP	P	09 11 08.9 0.0
RSSD				pmax	pmax	
	comp=Z,11nm,1.0s					
RSSD	Black Hills	85.83	339	eP	P	09 11 08.8 0.0
	comp=Z,11nm,1.0s					
G28A	Parade	85.88	342	⇑P	P	09 11 08.6 -0.2
	baz=86,SNR=12					
J22A	Midwest	85.90	337	⇑P	P	09 11 08.2 -0.9
	baz=86					
NVAR	Mina Array Bea	85.92	327	P	P	09 11 10.3 +0.9
	comp=Z,5.2nm,0.8s,baz=157,slow=6.4,SNR=6.4					
H26A	Fairpoint	85.94	340	⇑P	P	09 11 08.8 -0.3
	baz=86					
HWUT	Hardware Ranch	85.97	333	eP	P	09 11 09.8 +0.2
HWUT				epP	pP	09 11 18.4 -1.0
J21A	Lysite	86.14	337	⇑P	P	09 11 10.6 +0.2
	baz=86					
F30A	Leola	86.14	343	⇑P	P	09 11 10.1 0.0
	baz=86					
H25A	Fruitdale	86.17	340	⇓P	P	09 11 10.2 -0.1
	baz=86,SNR=12					
BW06	Boulder Array	86.30	335	eP	P	09 11 11.2 -0.1
	comp=Z,26nm,1.4s					
BW06				epP	pP	09 11 19.4 -1.6
PDAR	Pinedale Array	86.30	335	P	P	09 11 11.2 0.0
	comp=Z,5.5nm,0.8s,baz=156,slow=5.5,SNR=27					
F29A	Eureka	86.33	343	⇓P	P	09 11 10.8 -0.2
	baz=87,SNR=5.8					
I22A	9 Mile Ranch,	86.33	337	⇓P	P	09 11 10.7 -0.5
	baz=87,SNR=5.9					
J20A	Shoshoni	86.34	336	⇓P	P	09 11 11.8 +0.5
	baz=87,SNR=24					
G27A	Dupree	86.42	341	⇓P	P	09 11 11.0 -0.5
	baz=87,SNR=9.8					
WAKR	Walker	86.47	326	eP	P	09 11 13.2 +1.1
WAKR				epP	pP	09 11 22.3 +0.4
I21A	Big Trails, Te	86.51	337	⇑P	P	09 11 12.0 -0.1
	baz=87					
G26A	Maurine	86.52	341	⇑P	P	09 11 11.5 -0.5
	baz=87,SNR=9.9					
H24A	Dirks Ranch, A	86.55	339	⇑P	P	09 11 11.8 -0.4
	baz=87					
HVU

baz=87,SNR=5.3
F27A Lemmon 86.91 341 ⇑P P 09 11 13.5 -0.3
baz=87,SNR=13
E29A Napoleon 86.98 343 ⇓P P 09 11 13.9 -0.3
baz=87,SNR=7.8
G24A Alzada 87.04 339 ⇑P P 09 11 14.2 -0.4
baz=87
F26A Lodgepole 87.05 341 ⇓P P 09 11 14.2 -0.4
baz=87,SNR=7.0
H21A Big Horn, Sher 87.17 337 ⇑P P 09 11 14.8 -0.5
baz=88
G23A Biddle 87.20 339 ⇑P P 09 11 14.6 -0.8
baz=88
E28A Huff 87.23 342 ⇓P P 09 11 15.2 -0.2
baz=88,SNR=8.7
I19A Meeteetse 87.25 336 ⇓P P 09 11 15.6 -0.2
baz=88,SNR=6.1
REDW Red Top Meadow 87.27 334 *eP* **P 09 11 15.9 0.0**
comp=Z,15nm,1.1s
D30A Buchanan 87.29 344 ⇑P P 09 11 16.0 +0.4
baz=88
E27A Carson 87.31 342 ⇑P P 09 11 15.5 -0.3
baz=88,SNR=5.8
F25A Bowman 87.33 340 ⇓P P 09 11 15.8 -0.2
baz=88
H20A Greybull 87.34 337 ⇑P P 09 11 15.4 -0.7
baz=88,SNR=9.5
TORD Torodi Ar. Bea 87.40 71 P **P 09 11 17.1 +0.1**
comp=Z,5.1nm,0.9s,baz=224,slow=4.6,SNR=20
LOHW Long Hollow 87.41 335 *eP* **P 09 11 16.9 +0.3**
comp=Z,18nm,1.4s
TPAW Teton Pass 87.42 334 *eP* **P 09 11 14.9 -1.8**
comp=Z,16nm,1.0s
D29A Pettibone, Tap 87.43 343 ⇑P P 09 11 16.1 -0.2
baz=88,SNR=6.2
G22A Birney 87.48 338 ⇑P P 09 11 16.5 -0.2
baz=88
F24A Ekalaka 87.53 340 ⇓P P 09 11 16.1 -0.8
baz=88
E26A Carlson Angus 87.58 341 ⇑P P 09 11 16.6 -0.5
baz=88,SNR=6.3
I17A Pilgrim Ck. 87.67 335 ⇓P P 09 11 18.2 +0.3
baz=88
F23A Volborg 87.68 339 ⇓P P 09 11 17.1 -0.6
baz=88
G21A Lodge Grass 87.76 338 ⇓P P 09 11 18.0 -0.1
baz=88
IMW Indian Meadow 87.77 335 *eP* **P 09 11 18.9 +0.4**
comp=Z,18nm,1.1s
D28A Regan 87.78 343 ⇑P P 09 11 17.7 -0.3
baz=88
C30A Mose, Pekin 87.79 344 ⇑P P 09 11 18.0 0.0
baz=88,SNR=16
H19A Powell 87.81 336 ⇑P P 09 11 18.4 0.0
baz=88,SNR=6.0
AGMN Agassiz Nation 87.82 346 ⇓P P 09 11 17.8 -0.3
baz=88,SNR=14
AGMN Agassiz Nation 87.82 346 *eP* **P 09 11 17.5 -0.6**
comp=Z,17nm,0.8s
E25A Miller Ranch, 87.85 341 ⇓P P 09 11 17.9 -0.6
baz=88
FLWY Flagg Ranch 87.85 335 *eP* **P 09 11 18.8 +0.1**
D27A Center 87.93 342 ⇓P P 09 11 18.9 +0.1
baz=88
H18A Shoshone NF, C 88.04 336 ⇑P P 09 11 19.3 -0.3
baz=88,SNR=14
G20A Bridger 88.06 337 ⇑P P 09 11 19.6 +0.1
baz=88
D26A Manning 88.09 341 ⇓P P 09 11 19.6 +0.1
baz=88
H17A Grant Village 88.09 335 ⇓P P 09 11 20.5 +0.7
baz=88
H17A Grant Village 88.09 335 *eP* **P 09 11 21.5 +1.6**
comp=Z,17nm,1.6s
YFT Old Faithful 88.23 335 *eP* **P 09 11 21.9 +1.4**
comp=Z,26nm,1.4s
C28A Hausauer Farms 88.23 343 ⇓P P 09 11 20.4 +0.3
baz=89
E23A Ismay 88.36 339 ⇓P P 09 11 20.5 -0.4
baz=89
D25A Fairfield 88.43 341 ⇑P P 09 11 20.2 -0.9
baz=89
YMR Madison River 88.46 335 *eP* **P 09 11 22.2 +0.7**
comp=Z,23nm,1.0s
B30A Myrvik Farm, E 88.47 344 ⇑P P 09 11 21.1 -0.1
baz=89,SNR=26
C27A Sayler Ranch, 88.49 342 ⇑P P 09 11 21.1 -0.3
baz=89
F20A Billings 88.56 337 ⇓P P 09 11 21.4 -0.5
baz=89
D24A Glendive 88.66 340 ⇓P P 09 11 21.7 -0.6
baz=89
B29A Wagenman Farm, 88.70 344 ⇓P P 09 11 22.1 -0.2
baz=89,SNR=6.5
HLID Hailey 88.71 332 ⇑P P 09 11 23.5 +0.8
baz=89,SNR=6.2
HLID Hailey 88.71 332 *eP* **P 09 11 23.1 +0.4**
comp=Z,31nm,1.5s
HLID *epP* **pP 09 11 32.1 -0.4**
HLID *esP* **sP 09 11 39.6 +3.6**
C26A Wahner Farm, P 88.74 342 ⇓P P 09 11 22.1 -0.5
baz=89
QLMT Earthquake Lak 88.76 335 *eP* **P 09 11 24.0 +1.1**
F19A Roth Farm, Mol 88.86 337 ⇓P P 09 11 22.8 -0.5
baz=89
B28A Dugan Ranch, T 88.91 343 ⇑P P 09 11 23.1 -0.2
baz=89,SNR=8.2
A30A Hoffart Farm, 88.92 345 ⇓P P 09 11 23.0 -0.4
baz=89,SNR=12
D23A Lindsay 88.95 340 ⇑P P 09 11 22.7 -1.0
baz=89
C24A Savage 89.07 340 ⇓P P 09 11 24.2 +0.1
baz=90
A29A Manning Farm, 89.11 344 ⇑P P 09 11 23.8 -0.4
baz=90,SNR=12
MFID Camas Ranch 89.11 331 *eP* **P 09 11 25.2 +0.7**
comp=Z,10nm,1.3s
MFID *epP* **pP 09 11 33.9 -0.4**
E20A Meyer Farm, Mu 89.19 338 ⇓P P 09 11 24.0 -0.8
baz=90
D22A Cohagen 89.20 339 ⇑P P 09 11 23.8 -1.0
baz=90
MCMT McKenzie Canyo 89.25 334 *eP* **P 09 11 25.3 0.0**
comp=Z,11nm,1.4s
MCMT *epP* **pP 09 11 34.8 -0.3**
B26A Jensen Ranch, 89.29 342 ⇓P P 09 11 24.8 -0.3
baz=90
A28A Rude Farm, Bot 89.33 343 ⇓P P 09 11 25.2 -0.1
baz=90
E19A Rath Farm, Rou 89.35 337 ⇓P P 09 11 25.1 -0.4
baz=90,SNR=6.3
WVOR Wild Horse Val 89.40 329 *eP* **P 09 11 26.7 +0.8**
WVOR *e*PP* **pP 09 11 35.5 -0.2**
WVOR pmax pmax
comp=Z,21nm,1.5s
WVOR Wild Horse Val 89.40 329 *eP* **P 09 11 26.7 +0.8**
comp=Z,21nm,1.5s
WVOR *epP* **pP 09 11 35.5 -0.2**
C23A Lambert 89.52 340 ⇓P P 09 11 25.7 -0.5
baz=90
BOZ Bozeman (W) 89.55 335 *eP* **P 09 11 26.8 +0.2**
BOZ pmax pmax
comp=Z,35nm,2.0s
BOZ Bozeman (W) 89.55 335 *eP* **P 09 11 26.8 +0.2**
comp=Z,34nm,2.0s
DLMT Dillon 89.62 334 *eP* **P 09 11 28.0 +1.1**
comp=Z,25nm,1.5s
ULM Lac du Bonnet 89.69 346 *eP* **P 09 11 26.5 -0.4**
ULM Lac du Bonnet 89.69 346 P **P 09 11 26.3 -0.6**
comp=Z,6.7nm,0.8s,baz=170,slow=3.6,SNR=12
ULM Lac du Bonnet 89.69 346 *eP* **P 09 11 26.5 -0.4**
D20A Manuel Ranch, 89.72 338 ⇑P P 09 11 26.6 -0.6
baz=90
A26A Wade Farm, Ken 89.73 342 ⇓P P 09 11 26.7 -0.5
baz=90
KMRM Mail Ridge 89.79 325 *eP* **P 09 11 29.6 +1.9**
comp=Z,68nm,1.4s
DGMT Dagmar 89.87 341 ⇑P P 09 11 27.3 -0.5
baz=90
LRM Limekiln Ridge 89.98 335 *eP* **P 09 11 28.9 +0.2**
LRM *epP* **pP 09 11 38.1 -0.4**
D19A Cripps Ranch, 90.01 337 ⇑P P 09 11 27.8 -0.8
baz=90
B22A Reddig Ranch S 90.20 340 ⇓P P 09 11 28.9 -0.6
baz=91
A24A Westby 90.24 341 ⇓P P 09 11 29.0 -0.5
baz=91
C20A Veseth Ranch, 90.24 338 ⇓P P 09 11 29.0 -0.6
baz=91
KHMM Horse Mountain 90.32 325 *eP* **P 09 11 32.1 +1.8**
comp=Z,39nm,1.3s
M02C Callahan 90.34 326 ⇑P P 09 11 29.6 -0.7
baz=91
YBH Yreka Blue Hor 90.55 326 P **P 09 11 31.0 -0.2**
comp=Z,2.8nm,1.0s,baz=169,slow=5.2,SNR=2.8
C19A Slack Wire Ran 90.57 338 ⇓P P 09 11 30.8 -0.4
baz=91
B21A Ellsworth Farm 90.60 339 ⇓P P 09 11 30.9 -0.3
baz=91
A22A Carney Farms, 90.81 340 ⇓P P 09 11 31.7 -0.6
baz=91
A21A Bergtoll Ranch 91.09 339 ⇓P P 09 11 32.4 -1.2
baz=92
CHMT Chamberlain Mo 91.20 335 *eP* **P 09 11 35.0 +0.7**
A19A Klindworth Far 91.55 338 ⇓P P 09 11 35.1 -0.6
baz=92
F10A Beach Ranch, E 91.81 332 *eP* **P 09 11 37.9 +0.8**
comp=Z,145nm,2.6s
JTMT Jette 92.27 334 *eP* **P 09 11 39.3 +0.1**
JTMT *epP* **pP 09 11 48.7 -0.2**
YBMT Yellow Bay 92.28 335 *eP* **P 09 11 39.7 +0.5**
comp=Z,6.3nm,1.4s
YBMT *epP* **pP 09 11 48.6 -0.4**
BSMT Bassoo Peak 92.53 334 *eP* **P 09 11 40.9 +0.4**
comp=Z,3.5nm,1.1s
HAWA Hanford 93.04 331 *eP* **P 09 11 44.0 +1.4**
comp=Z,31nm,1.8s
WALA Waterton Lakes 93.28 335 *eP* **P 09 11 44.1 +0.3**
D08A Wollman Farm, 93.36 331 *eP* **P 09 11 44.6 +0.5**
comp=Z,32nm,2.0s
NEW Newport 93.71 333 *eP* **P 09 11 45.3 -0.4**
NEW pmax pmax
comp=Z,21nm,1.8s
NEW Newport 93.71 333 P **P 09 11 45.1 -0.5**
comp=Z,0.8nm,0.3s,baz=64,slow=2.8,SNR=4.5
NEW Newport 93.71 333 ⇓P P 09 11 45.0 -0.7
baz=94
NEW Newport 93.71 333 *eP* **P 09 11 45.3 -0.4**
comp=Z,21nm,1.8s
C09A Chrisman Ranch 93.74 332 *eP* **P 09 11 46.9 +1.1**
comp=Z,11nm,1.4s
YKA Yellowknife Ar 105.04 342 Pdiff **Pdif 09 12 35.1 -0.9**
comp=Z,0.3nm,0.8s,baz=142,slow=4.0,SNR=6.6
YKA PKiKP **PKiKP 09 16 50.0 -0.5**
comp=Z,0.3nm,0.8s,baz=162,slow=2.0,SNR=6.7
ESK Eskdalemuir 110.87 35 *e*PKIKP **PKiKP 09 17 02.0 +0.4**
ESK Eskdalemuir 110.87 35 *e*PKPdf **PKiKP 09 17 02.0 +0.4**
ASAR Alice Springs 113.24 208 PKiKP **PKiKP 09 17 05.9 -1.5**
comp=Z,0.4nm,0.6s,baz=126,slow=1.7,SNR=4.8
GERES GERESS Array B 116.26 47 PKP **PKPdf 09 17 12.3 -0.1**
comp=Z,0.9nm,0.7s,baz=282,slow=1.9,SNR=2.3
WRA Warramunga Arr 116.44 211 PKP **PKPdf 09 17 12.6 -1.0**
comp=Z,1.1nm,0.6s,baz=169,slow=1.4,SNR=9.1
ILAR Eielson Array 116.67 333 PKP **PKPdf 09 17 12.1 -0.4**
comp=Z,1.6nm,0.8s,baz=162,slow=2.7,SNR=19
VYHS Vyhne 119.15 49 *e*PKIKP **PKPdf 09 17 18.2 +0.4**
VYHS Vyhne 119.15 49 *e*PKP **PKPdf 09 17 18.2 +0.4**
STHS Stebnicka Huta 120.98 49 *e*PKIKP **PKPdf 09 17 24.8 +3.5**
STHS Stebnicka Huta 120.98 49 *e* **PKPdf 09 17 24.8 +3.5**
TNA Tin City 125.08 330 *e*PKPdf **PKPdf 09 17 28.8 +0.2**
BRTR Keskin Array B 125.41 64 PKP **PKPdf 09 17 30.4 +0.1**
comp=Z,2.1nm,0.7s,baz=189,slow=3.7,SNR=13
AKASG Malin Array Be 126.24 50 PKP **PKPdf 09 17 30.5 -0.8**
comp=Z,1.0nm,0.6s,baz=265,slow=2.7,SNR=8.6
RAYN Ar Rayn 127.33 88 *e*PKPdf **PKPdf 09 17 35.0 +0.7**
KBZ Khabaz 133.26 62 PKP **PKPdf 09 17 45.1 +0.3**
comp=Z,1.3nm,0.7s,baz=113,slow=7.7,SNR=4.6
BILL Bilibino 135.32 332 *i* PKIKP **PKPdf 09 17 49.2 +1.2**
BILL pmax pmax
comp=Z,14nm,1.9s
PETK Petropavlovsk- 141.22 310 PKP **PKPdf 09 17 58.5 -0.7**
comp=Z,4.9nm,1.0s,baz=190,slow=4.5,SNR=3.9
SEY Seymchan 142.22 327 PKhKP PKPpre 09 17 55.1
baz=65,slow=19
SEY PKP **PKPdf 09 18 01.5 +0.8**
comp=Z,7.2nm,0.9s,baz=91,slow=3.6
GEYT Alibeck 142.96 75 PKhKP PKPpre 09 17 59.8
comp=Z,7.8nm,0.8s,baz=222,slow=2.0,SNR=10
ARU Arti 143.94 44 *i* PKIKP PKPbc 09 18 02.5 +0.6
ARU 09 21 26.8
ARU Arti 143.94 44 *e*PKPdf PKPbc 09 18 02.5 +0.6
TIXI Tiksi 144.04 348 *e*PKPdf **PKPab 09 18 00.4 -0.8**
AKTO Aktyubinsk 144.30 54 PKIKP **PKPab 09 18 02.8 0.0**
AKTO pmax pmax
comp=Z,35nm,1.3s
AKTO Aktyubinsk 144.30 54 PKP PKPbc 09 18 03.5 +0.3
comp=Z,14nm,0.8s,baz=254,slow=2.2,SNR=34
SVE Sverdlovsk 144.98 42 *e*PKIKP **PKPdf 09 18 06.1 +0.4**
SVE pmax pmax
comp=Z,33nm,1.4s
AB31 Akbulak array 145.58 56 *i* PKP2 **PKPbc 09 18 07.3 0.0**
AB31 pmax pmax
comp=Z,24nm,0.8s
POO Poona 146.39 116 ⇑*i*P **PKPdf 09 18 10.0 +0.6**
comp=Z,30nm,1.0s
IPM Ipoh 146.57 172 *e*PKPdf **PKPdf 09 18 10.2 +0.3**
KKM Kota Kinabalu 146.88 200 *e*PKPbc **PKPbc 09 18 11.7 -0.6**
KULM Kulim 147.32 171 *e*PKPdf **PKPdf 09 18 10.7 -0.5**
KULM *e*PKPbc **PKPbc 09 18 13.1 -0.3**
KULM *e*PKPab **PKPab 09 18 15.4 +0.1**
HYB Hyderabad 148.86 123 *i* PKP **PKPbc 09 18 16.5 -1.0**
KBL Kabul 150.55 85 *e*PKIKP **PKPdf 09 18 15.2 -0.8**
KBL *e* 09 18 21.7
KBL Kabul 150.55 85 *e*PKPdf **PKPdf 09 18 15.2 -0.8**
KBL *e*PKPbc **PKPbc 09 18 21.7 +0.3**
YSS Yuzh-Sakhalins 151.21 300 *e*PKIKP **PKPbc 09 18 21.2 -1.0**
YSS *e* 09 18 30.0
BRVK Borovoye 151.36 46 *e*PKIKP **PKPdf 09 18 15.9 -0.4**
BRVK *e* 09 18 22.8
BRVK *e* 09 18 31.0
BRVK Borovoye 151.36 46 *e*PKPdf **PKPdf 09 18 15.9 -0.4**
BRVK *e*PKPbc **PKiKP 09 18 22.8 -0.1**
BRVK *e*PKPab **PKPab 09 18 31.0 +0.4**
BVA0 Borovoye Array 151.43 47 *i* PKIKP **PKPbc 09 18 22.6 0.0**
BVA0 pmax pmax
comp=Z,15nm,0.9s
YAK Yakutsk 151.52 336 *e*PKIKP **PKPbc 09 18 21.4 -1.0**
YAK *e* 09 18 30.2
YAK pmax pmax
comp=Z,64nm,0.6s
YAK Yakutsk 151.52 336 *e*PKPbc **PKPbc 09 18 22.1 -0.3**
YAK *e*PKPab **PKPab 09 18 30.5 -0.5**
VOSK Vostochnaya 151.86 47 PKIKP **PKPbc 09 18 23.7 +0.1**
VOSK pmax pmax
comp=Z,15nm,0.7s
KKAR Karatay Array 153.03 68 *e*PKIKP **PKPbc 09 18 26.4 -0.1**
KKAR Karatay Array 153.03 68 *e*PKPbc **PKPbc 09 18 26.4 -0.1**
MJAR Matsushiro Arr 153.94 277 PKPab **PKPab 09 18 40.1 -2.0**
comp=Z,2.7nm,0.8s,baz=152,slow=3.8,SNR=6.0
EKS2 Erkin-Say 155.43 69 *e*PKIKP **PKPdf 09 18 23.2 +0.5**
EKS2 09 18 31.9
EKS2 Erkin-Say 155.43 69 *e*PKPdf **PKPdf 09 18 23.2 +0.5**
EKS2 *e*PKPbc PKPbc 09 18 31.9
EKS2 *e*PKPab **PKPab 09 18 49.2 +0.7**
AAK Ala-Archa 155.96 69 *e*PKIKP **PKPdf 09 18 24.1 +0.6**
AAK *e* 09 18 32.6
AAK Ala-Archa 155.96 69 PKP **PKPdf 09 18 23.6 +0.2**
comp=Z,2.9nm,0.9s,baz=241,slow=3.6,SNR=7.3
AAK PKPab **PKPab 09 18 51.3 +0.6**
comp=Z,9.4nm,0.7s,baz=240,slow=4.0,SNR=17
AAK Ala-Archa 155.96 69 *e*PKPdf **PKPdf 09 18 24.1 +0.6**
AAK *e*PKPbc PKPbc 09 18 32.6
AAK *e*PKPab **PKPab 09 18 51.5 +0.7**
TKM2 Tokmak 2 156.76 68 *e*PKIKP **PKPdf 09 18 24.8 +0.2**
TKM2 Tokmak 2 156.76 68 *e*PKPdf **PKPdf 09 18 24.8 +0.2**
TKM2 *e*PKPab **PKPab 09 18 54.5 +0.3**
KSH Kashi 156.97 77 PKP **PKPdf 09 18 25.2 +0.4**
KSH sPKP 09 18 38.7
KSH PKS **PKSdf 09 21 58.3 -0.4**
KSH PP **PP 09 22 32.4 -1.9**
KSH SKS **SKSdf 09 25 27.1 -1.6**
KSH SKKS **SKKSac 09 29 19.0 -2.0**
KSH SS **SS 09 42 22.7 -3.6**
KSH PPMZ
comp=Z,110nm,4.8s
KSH LN
comp=Z,110nm,8.8s
KSH LE
comp=Z,140nm,11.8s
KSH LZ
comp=Z,140nm,6.9s
KURK Kurchatov 157.02 47 *e*PKIKP **PKPdf 09 18 24.4 +0.1**
KURK Kurchatov 157.02 47 *e*PKPdf **PKPdf 09 18 24.4 +0.1**
KURK *e*PKPab **PKPab 09 18 55.4 +0.6**
NVS Novosibirsk 157.25 34 *e*PKIKP **PKPdf 09 18 20.4 -4.1**
JOW Kunigami 157.87 247 PKPab **PKPab 09 18 58.2 -1.0**
comp=Z,5.3nm,0.3s,baz=137,slow=20,SNR=6.8
KLR Kul'dur 157.90 309 *e*PKP2 PKPab 09 19 06.1 +7.4
ZALV Zalesovo Beam 158.53 35 PKP PKPdf 09 18 24.9 -1.2
comp=Z,1.5nm,0.7s,baz=279,slow=2.9,SNR=6.2
ZALV PKPab **PKPab 09 18 59.9 -1.3**
comp=Z,2.2nm,0.7s,baz=297,slow=6.5,SNR=5.4
KOLN Koldanda 159.12 112 *eP* **PKPdf 09 18 27.5 -0.4**
DANN Dangsing 159.56 111 *eP* **PKPdf 09 18 28.1 -0.4**
comp=Z,9.2nm,0.8s
CMAR Chiang Mai Arr 159.88 162 PKP **PKPdf 09 18 29.0 +0.2**
comp=Z,0.5nm,0.3s,baz=242,slow=2.2,SNR=5.5
GKN Gorkha 160.01 113 *eP* **PKPdf 09 18 27.9 -1.0**
MKAR Makanchi Array 160.72 55 PKP **PKPdf 09 18 28.8 -0.1**
comp=Z,1.8nm,1.1s,baz=318,slow=1.6,SNR=10
MKAR PKPab **PKPab 09 19 11.2 +0.1**
comp=Z,3.1nm,0.8s,baz=285,slow=3.8,SNR=16
RAMN Ramite 160.78 119 *eP* **PKPdf 09 18 29.7 -0.2**
comp=Z,18nm,1.0s
QIZ Qiongzhong 160.88 193 PKP **PKPdf 09 18 29.9 0.0**
QIZ PP **PP 09 22 56.7 +2.8**
QIZ SS SS 09 43 04.4 -0.5
QIZ LN
comp=Z,290nm,18.4s
QIZ LZ
comp=Z,370nm,16.9s
JIRN Jiri 160.92 116 *eP* **PKPdf 09 18 29.8 -0.4**
ODAN Odare 161.26 120 *eP* **PKPdf 09 18 30.6 +0.2**
TAPN Taplejung 161.79 120 *eP* **PKPdf 09 18 31.8 +0.8**
KSRS Korea Array 162.20 276 PKPab **PKPab 09 19 17.6 -0.1**
comp=Z,3.4nm,0.8s,baz=115,slow=4.9,SNR=5.4
KSAR Wonju Array Be 162.23 276 PKP2 **PKPab 09 19 17.7 -0.2**
KSAR Wonju Array Be 162.23 276 PKPab **PKPab 09 19 17.6 -0.2**
CN2 Changchun 163.74 298 *e*PKP **PKPdf 09 18 26.9 -5.1**
WMQ Urumqi 165.29 60 *e*PKP **PKPdf 09 18 33.0 -0.4**
WMQ LN
comp=Z,200nm,19.0s
WMQ LE
comp=Z,160nm,22.0s
WMQ LZ
comp=Z,130nm,20.0s
KMI Kunming 167.13 169 PKP **PKPdf 09 18 35.9 +0.2**
KMI LZ
comp=Z,120nm,21.8s
NJ2 Nanjing 167.59 246 *e*PKP **PKPdf 09 18 36.2 +0.7**
GYA Guiyang 168.62 186 PKP **PKPdf 09 18 36.4 -0.1**
GYA pPKP **pPKPdf 09 18 48.0 +1.3**
GYA PKPab **PKPab 09 19 49.2 +3.0**
GYA PKS **PKSdf 09 22 07.9 -1.4**
GYA PP **PP 09 23 39.5 +5.1**
GYA SKKS 09 30 21.4
GYA SS **SS 09 44 26.6 +2.4**
GYA PPMZ
comp=Z,130nm,8.5s
GYA LN
comp=Z,150nm,22.2s
GYA LE
comp=Z,130nm,21.5s
GYA LZ
comp=Z,140nm,24.8s
SONM Songino Array 169.97 356 PKP **PKPdf 09 18 34.4 -2.3**
comp=Z,1.4nm,1.2s,baz=197,slow=4.5,SNR=5.4
SONM PKPab **PKPab 09 19 52.4 +0.6**
comp=Z,2.5nm,0.8s,baz=346,slow=4.5,SNR=13
CD2 Chengdu 172.96 168 *e*PKP **PKPdf 09 18 39.0 +0.4**
CD2 sPKP 09 18 53.2
CD2 PKPab **PKPab 09 20 08.1 +2.8**
CD2 PP PP 09 24 03.6 +7.5
CD2 SKKS 09 30 43.0
CD2 SS **SS 09 45 08.4 +1.4**
CD2 PPMZ
comp=Z,260nm,11.2s
HHC Hu-ho-hao-te 174.38 304 *e*PKP **PKPdf 09 18 38.9 0.0**
HHC PKS **PKSdf 09 22 09.7 -1.4**
HHC PP **PP 09 24 07.0 +2.8**
HHC SKKS 09 30 47.9
HHC SS **SS 09 45 21.0 -1.9**
HHC PPMZ
comp=Z,160nm,5.6s
HHC LN
comp=Z,400nm,21.2s
HHC LE
comp=Z,270nm,20.8s
HHC LZ
comp=Z,410nm,21.2s
GTA Gaotai 175.31 69 *e*PKP **PKPdf 09 18 39.4 +0.1**
GTA pPKP **pPKPdf 09 18 50.1 +0.7**
GTA sPKP 09 18 54.1
LZH Lanzhou 177.84 143 *e*PKP **PKPdf 09 18 39.3 -0.6**
LZH pPKP **pPKPdf 09 18 50.1 +0.1**
LZH sPKP 09 18 54.2

IDC 01 09:01:47.2±2.9, 35°.34S×72°.32W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/38, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=83.7km s-min=41.6km az=179.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.05**	**44**	Pn	Pn	09 03 04.4	+0.2
	0.4nm,0.3s,baz=222,slow=15,SNR=4.7						
TXAR	**Lajitas Array**	**70.79**	**331**	P	P	09 13 05.4	-0.1
	0.6nm,0.5s,baz=154,slow=8.5,SNR=9.6						
NVAR	**Mina Array Bea**	**84.85**	**325**	P	P	09 14 24.0	+0.2
	0.3nm,0.7s,baz=167,slow=4.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**84.88**	**70**	P	P	09 14 24.1	-0.1
	0.4nm,0.7s,baz=243,slow=9.5,SNR=4.2						

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*IDC **01** 09:02:19.3±0.6, 34°.40S×73°.73W, h0km, mb4.5/16, mb1 4.6/18, mb1mx4.5/40, mbtmp4.5/18, ML4.0/2, Error ellipse: s-maj=22.0km s-min=16.7km az=61.0*

*ISCJB **01** 09:02:23.0±0.5, 34°.42S±0°.09×73°.63W±0°.08, h33km, mb4.7/39, Error ellipse: s-maj=12.8km s-min=8.8km az=164.6*

*NEIC **01** 09:02:24.9±0.3, 34°.44S×73°.61W, h35km, mb4.8/26, Error ellipse: s-maj=9.8km s-min=8.0km az=45.0*

ISC 01 09:02:24.7±0.6, 34°.4S±0°.1×73°.7W±0°.1, h35km, n62, σ0§80/62, mb4.6/40, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.39**	**60**	Pn	**Pn**	**09 03 41.0**	**-1.6**
	1.3nm,0.3s,baz=231,slow=11,SNR=6.1						
CFAA				Sn	**Sn**	**09 04 44.5**	**+1.1**
	3.2nm,0.3s,baz=122,slow=17,SNR=7.9						
LPAZ	**La Paz**	**18.75**	**17**	P	**P**	**09 06 40.3**	**-0.9**
	0.5nm,0.3s,baz=188,slow=7.8,SNR=9.5						
LPAZ	**La Paz**	**18.75**	**17**	*eP*	**Pn**	**09 06 43.5**	**+1.6**
	19nm,1.0s						
SIV	**San Ignacio**	**21.59**	**35**	P	**P**	**09 07 11.2**	**-0.3**
	11nm,0.7s,baz=227,slow=9.0,SNR=11						
APG	**El Apazote**	**51.68**	**339**	P	P	09 11 24.8	-3.7
	6.6nm,0.8s,baz=124,slow=3.6,SNR=8.5						
SNAA	**Sanae**	**51.71**	**158**	P	**P**	**09 11 27.9**	**-0.1**
	3.2nm,0.9s,baz=264,slow=7.8,SNR=5.9						
QSPA	**South Pole Qui**	**55.81**	**180**	P	**P**	**09 11 58.5**	**+0.4**
	7.3nm,1.0s,baz=133,slow=6.0,SNR=6.7						
QSPA	**South Pole Qui**	**55.81**	**180**	*eP*	**P**	**09 11 57.9**	**-0.3**
TEIG	**Tepich**	**56.09**	**343**	P	**P**	**09 11 60.0**	**-0.4**
	15nm,0.7s,baz=90,slow=22,SNR=10						
JCT	**Junction City**	**69.10**	**336**	*eP*	**P**	**09 13 27.6**	**+0.5**
	19nm,1.1s						
TXAR	**Lajitas Array**	**69.45**	**332**	P	**P**	**09 13 29.7**	**+0.3**
	2.4nm,0.6s,baz=158,slow=8.4,SNR=20						
WHTX	**Lake Whitney,**	**69.75**	**339**	*eP*	**P**	**09 13 31.2**	**+0.2**
	15nm,1.0s						
SWET	**Sewanee**	**70.22**	**349**	*eP*	**P**	**09 13 33.8**	**-0.2**
TKL	**Tuckaleechee C**	**70.36**	**351**	P	**P**	**09 13 33.3**	**-1.4**
	4.9nm,0.8s,baz=168,slow=6.4,SNR=4.1						
ABTX	**Abilene, Hawle**	**71.02**	**337**	*eP*	**P**	**09 13 39.2**	**+0.4**
	30nm,1.4s						
WVT	**Waverly**	**71.42**	**348**	*eP*	**P**	**09 13 40.8**	**-0.4**
	18nm,1.0s						
MNTX	**Cornudas Mount**	**72.22**	**332**	*eP*	**P**	**09 13 45.3**	**-0.8**
	4.6nm,1.2s						
TUL1	**Leonard**	**72.95**	**341**	*eP*	**P**	**09 13 50.2**	**-0.2**
	15nm,0.9s						
MSTX	**Muleshoe**	**73.30**	**335**	*eP*	**P**	**09 13 52.6**	**+0.1**
	12nm,0.9s						

TUC	Tucson	74.99 328	eP	P	09 14 03.5	+1.1
	4.3nm,1.0s					
ANMO	Albuquerque	75.51 333	P	P	09 14 04.8	-0.7
	2.8nm,0.9s,baz=164,slow=7.6,SNR=5.0					
ANMO	Albuquerque	75.51 333	eP	P	09 14 06.5	+1.0
	4.6nm,1.0s					
DBIC	Dimbokro	76.62 72	P	P	09 14 12.7	+0.6
	12nm,0.7s,baz=202,slow=6.5,SNR=12					
DBIC	Dimbokro	76.62 72	eP	P	09 14 13.1	+1.0
	12nm,0.8s					
WUAZ	Wupatki	77.98 329	eP	P	09 14 20.4	+1.0
PFO	Pinyon Flats O	78.67 325	P	P	09 14 24.3	+1.1
	4.3nm,0.9s,baz=91,slow=3.1,SNR=5.0					
SMCO	Snowmass	79.45 334	eP	P	09 14 29.0	+1.3
	7.5nm,1.0s					
CCUT	Cedar City	80.55 329	eP	P	09 14 35.3	+1.8
	6.1nm,1.0s					
ECSD	EROS Data Cent	80.55 343	eP	P	09 14 33.1	0.0
	135nm,2.8s					
SRU	San Rafael Swe	80.72 332	eP	P	09 14 35.4	+1.0
	4.3nm,0.9s					
BOSA	Boshof	81.09 118	P	P	09 14 36.5	-0.2
	4.8nm,0.9s,baz=225,slow=5.2,SNR=5.0					
ISA	Isabella, Lake	81.30 325	eP	P	09 14 37.8	+0.5
	4.3nm,1.1s					
MPU	Maple Canyon	81.94 332	eP	P	09 14 40.8	+0.1
	74nm,2.7s					
R11A	Troy Canyon, C	82.17 328	eP	P	09 14 43.4	+1.4
	65nm,3.0s					
JLU	Jordanelle	82.37 332	eP	P	09 14 44.0	+0.9
	3.9nm,0.9s					
DUG	Dugway, Tooele	82.56 331	eP	P	09 14 45.1	+1.1
	7.8nm,1.1s					
NVAR	Mina Array Bea	83.46 326	P	P	09 14 49.4	+0.7
	1.0nm,0.7s,baz=163,slow=6.8,SNR=5.5					
PDAR	Pinedale Array	83.53 334	P	P	09 14 49.0	0.0
	1.6nm,1.0s,baz=152,slow=6.7,SNR=4.7					
HVU	Hansel Valley	83.89 332	eP	P	09 14 51.1	+0.3
	7.2nm,0.9s					
ELK	Elko	84.02 330	P	P	09 14 51.5	0.0
	2.4nm,0.9s,baz=171,slow=3.2,SNR=6.2					
AGMN	Agassiz Nation	84.71 345	eP	P	09 14 54.3	-0.2
	36nm,2.1s					
IMW	Indian Meadow	85.02 334	eP	P	09 14 57.5	+0.9
	69nm,2.8s					
TORD	Torodi Ar. Bea	85.65 71	P	P	09 15 00.0	-0.1
	4.8nm,0.9s,baz=262,slow=3.7,SNR=5.0					
LAO	LASA Array	85.89 338	eP	P	09 15 00.6	0.0
	66nm,2.1s					
QLMT	Earthquake Lak	86.00 334	eP	P	09 15 08.2	+6.9
MCMT	McKenzie Canyo	86.52 333	eP	P	09 15 03.7	-0.2
	4.2nm,1.3s					
ULM	Lac du Bonnet	86.56 346	P	P	09 15 03.1	-0.6
	3.4nm,0.9s,baz=206,slow=5.8,SNR=3.6					
MOD	Modoc Plateau	87.16 327	eP	P	09 15 08.2	+1.1
	7.6nm,0.9s					
YBH	Yreka Blue Hor	88.13 326	P	P	09 15 11.6	0.0
	3.2nm,0.9s,baz=78,slow=3.9,SNR=9.2					
YKA	Yellowknife Ar	102.03 342	P	Pdif	09 16 12.6	-1.8
	0.2nm,0.9s,baz=129,slow=4.9,SNR=4.7					
BRTR	Keskin Array B	123.25 62	PKP	PKPdf	09 21 17.6	-0.2
	1.0nm,0.8s,baz=189,slow=3.3,SNR=5.3					
AKASG	Malin Array Be	123.50 48	PKP	PKPdf	09 21 17.2	-0.5
	0.3nm,0.4s,baz=260,slow=3.1,SNR=6.1					
GNI	Garni	131.55 64	PKP	PKPdf	09 21 34.5	+0.9
	14nm,0.4s,baz=16,slow=7.8,SNR=4.5					
SEY	Seymchan	139.70 329	PKP	PKPdf	09 21 48.5	+0.6
	1.1nm,0.7s,baz=62,slow=5.9,SNR=3.7					
BRVK	Borovoye	148.46 43	ePKPdf	PKPbc	09 22 07.8	+0.7
BVAR	Borovoye Array	148.53 43	PKP	PKPdf	09 22 03.8	+0.2
	5.1nm,0.5s,baz=325,slow=2.3,SNR=9.9					
BVAR			PKPbc	PKPbc	09 22 07.4	+0.1
	7.4nm,0.7s,baz=298,slow=3.1,SNR=24					
KULM	Kulim	150.54 169	ePKPdf	PKPbc	09 22 12.8	-0.5
AAK	Ala-Archa	153.93 62	PKPbc	PKPbc	09 22 20.3	-0.1
	2.4nm,0.7s,baz=210,slow=2.1,SNR=8.1					
AAK	Ala-Archa	153.93 62	ePKPdf	PKPbc	09 22 21.1	+0.7
ZALV	Zalesovo Beam	155.32 31	PKPbc	PKPdf	09 22 22.8	+9.1
	4.5nm,0.7s,baz=306,slow=3.1,SNR=12					
ZALV			PKPab	PKPab	09 22 39.1	+0.1
	0.9nm,0.3s,baz=305,slow=5.1,SNR=5.3					
MKAR	Makanchi Array	158.08 48	PKPab	PKPab	09 22 51.8	+0.6
	1.7nm,0.7s,baz=308,slow=3.7,SNR=9.3					
SONM	Songino Array	166.61 360	PKPab	PKPab	09 23 27.6	-0.9
	0.8nm,0.8s,baz=0.0,slow=4.4,SNR=4.9					

IDC 01 09:04:13.8±2.6, 34°66S×74°11W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/35, mbtmp4.1/4, Error ellipse: s-maj=96.2km s-min=31.6km az=48.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	27.67	351	P	P	09 10 03.1	-0.9
	82nm,1.0s,baz=100,slow=12,SNR=6.4						
TXAR	Lajitas Array	69.50	333	P	P	09 15 24.9	+0.7
	0.8nm,0.8s,baz=157,slow=5.9,SNR=3.4						
DBIC	Dimbokro	77.02	72	P	P	09 16 09.0	+0.2
	2.0nm,0.7s,baz=207,slow=9.0,SNR=3.5						
BOSA	Boshof	81.28	119	P	P	09 16 31.6	-0.7
	2.2nm,0.6s,baz=220,slow=1.7,SNR=4.8						
TORD	Torodi Ar. Bea	86.05	71	P	P	09 16 57.5	+0.8
	0.6nm,0.7s,baz=251,slow=3.0,SNR=4.2						

IDC 01 09:05:44.1±2.7, 53°54N×87°82E, h0km, mb1 3.5/2, mb1mx3.1/48, mbtmp3.5/2, ML3.5/2, Error ellipse: s-maj=24.5km s-min=13.2km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.83	284	*i*		09 17 20.0	
	baz=100,slow=346,SNR=3.4						
ZALV	Zalesovo Beam	1.83	284	Pn	Pn	09 06 15.0	-1.7
	11nm,0.3s,baz=102,slow=15,SNR=83						
ZALV				Lg	Lg	09 06 41.3	
	20nm,0.3s,baz=106,slow=28,SNR=14						
MKAR	Makanchi Array	7.63	210	Pn	Pn	09 07 36.9	+0.5
	0.7nm,0.3s,baz=26,slow=13,SNR=22						
MKAR				Sn	Sn	09 09 04.1	+0.6
	0.4nm,0.3s,baz=28,slow=26,SNR=9.7						
MKAR				Lg	Lg	09 09 46.6	
	0.3nm,0.3s,baz=23,slow=30,SNR=8.9						
BVAR	Borovoye Array	10.45	274	Pn	Pn	09 08 15.1	0.0
	0.3nm,0.3s,baz=90,slow=14,SNR=6.1						
BVAR				Sn	Sn	09 10 07.7	-5.1
	0.6nm,0.3s,baz=72,slow=27,SNR=6.7						

*ISCJB **01** 09:06:03.4±0.2, 36°.04N±0°.02×117°.86W±0°.02, h10km, mb3.5/3, Error ellipse: s-maj=2.7km s-min=2.3km az=175.8*
*NEIC **01** 09:06:03.1, 36°.07N×117°.88W, h1km, ML3.8(PAS), After PAS.*
NEIC Felt at Lake Isabella.
*IDC **01** 09:06:03.1±1.1, 36°.01N×117°.91W, h0km, mb3.5/3, mb1 3.7/8, mb1mx3.6/55, mbtmp3.4/8, ML3.3/5, Error ellipse: s-maj=20.6km s-min=6.9km az=74.0*
ISC 01 09:06:03.9±0.7, 36°.05N±0°.02×117°.86W±0°.02, h10km, n72, σ1§22/81, mb3.4/3, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	Laurel Mtn Rad	0.58	166	P	Pg	09 06 14.6	-0.7
	baz=0.6						
LRMC				S	Sg	09 06 23.1	+0.1
	baz=0.6						
ISA	Isabella, Lake	0.63	233	P	Pg	09 06 15.0	-1.2
	baz=0.6						
ISA				S	Sg	09 06 23.8	-0.7
	baz=0.6						
ISA	Isabella, Lake	0.63	233	ePg	Pg	09 06 14.8	-1.3
ISA				eSg	Sg	09 06 23.6	-0.8
FURC	Furnace Creek,	0.91	62	P	Pg	09 06 20.7	-0.8
	baz=0.9						
VES	Vestal, Richgr	1.02	259	P	Pg	09 06 22.2	-1.2
	baz=1.0						
VES				S	Sb	09 06 35.9	-1.1
	baz=1.0						
GRAC	Grapevine Rang	1.03	22	P	Pg	09 06 22.5	-1.2
	baz=1.0						
TIN	Tinemaha, Big	1.05	344	P	Pg	09 06 22.8	-1.3
	baz=1.0						
TIN				S	Sb	09 06 37.0	-1.1
	baz=1.0						
GSC	Goldstone, Bar	1.13	131	P	Pb	09 06 24.6	-1.1
	baz=1.2						
GSC	Goldstone, Bar	1.13	131	ePg	Pb	09 06 24.4	-1.2
GSC				eSg	Sb	09 06 40.5	0.0
RCTC	Rector, Farmer	1.15	284	P	Pb	09 06 24.1	-1.7
	baz=1.1						
RCTC				S	Sb	09 06 39.1	-1.7
	baz=1.1						
EDW2	Edwards Air Fo	1.17	185	P	Pb	09 06 25.0	-1.3
	baz=1.2						
EDW2				S	Sb	09 06 40.7	-0.8
	baz=1.2						
ARVC	Arvin	1.21	221	Pg	Pn	09 06 26.0	-0.9
	baz=1.2						
SHOC	Shoshone, Teco	1.29	96	Pb	Pn	09 06 27.1	-0.9
	baz=1.3						
RRX	Edison Barstow	1.36	149	Pg	Pb	09 06 29.5	0.0
	baz=1.4						
MTUM	Tungsten Hills	1.42	337	ePn	Pb	09 06 29.3	-1.3
OSI	Osito Audit: C	1.59	207	Pg	Pb	09 06 33.5	0.0
	baz=1.6						
OSI	Osito Audit: C	1.59	207	ePn	Pb	09 06 32.8	-0.7
TUQ	Turquoise Moun	1.69	111	P	Pn	09 06 32.7	-0.9
	baz=1.7						
HEC	Hector,Ludlow	1.74	134	P	Pn	09 06 33.6	-0.7
	baz=1.8						
MLAC	Mammoth, Mammo	1.76	334	Pb	Pb	09 06 35.1	-1.4
	baz=1.7						
MLAC				Sb	Sg	09 06 58.9	-1.8
	baz=1.7						
BFSC	Mount Baldy Ra	1.81	175	Pb	Pn	09 06 35.9	+0.6
	baz=1.8						
BFSC				Sb	Sg	09 07 01.3	-0.8
	baz=1.8						
MWC	Mount Wilson	1.83	185	ePn	Pn	09 06 35.8	+0.3
MWC				eSn	Sb	09 07 01.1	+0.6
DECC	Green Verdugo	1.83	192	Pb	Pb	09 06 36.6	-1.0
	baz=1.9						
DECC				Sb	Sb	09 07 00.6	0.0
	baz=1.9						
PASC	Pasadena Art C	1.89	188	ePn	Pn	09 06 36.8	+0.6
PASC				eSn	Sb	09 07 01.6	-0.6
SMMC	Simmler	1.89	248	Pb	Pb	09 06 37.0	-1.6
	baz=1.9						
SMMC				Sb	Sb	09 07 02.3	0.0
	baz=1.9						
BBRC	Big Bear Solar	1.94	156	Sb	Sg	09 07 05.6	-0.7
	baz=2.0						
TPH	Tonopah	2.09	14	ePn	Pn	09 06 38.9	-0.3
TPH				eSn	Sb	09 07 07.6	-0.4
GMRC	Granite Mounta	2.20	125	P	Pn	09 06 39.1	-1.4
	baz=2.2						
SBC	Santa Barbara	2.21	224	Pb	Pb	09 06 42.9	-1.0
	baz=2.2						
SHPR	Sheep Range	2.23	77	ePn	Pn	09 06 41.1	0.0
NVAR	Mina Array Bea	2.41	352	Pn	Pn	09 06 43.7	+0.2
	3.0nm,0.3s,baz=176,slow=15,SNR=99						
NVAR				Pg	Pg	09 06 49.4	-0.7
	22nm,0.3s,baz=177,slow=20,SNR=86						
NVAR				Lg	Lg	09 07 19.4	
	14nm,0.3s,baz=8.3,slow=32,SNR=5.7						
LDFC	Landfair	2.44	113	ePn	Pn	09 06 42.4	-1.5
BELC	Belle Mtn. Jos	2.55	143	P	Pn	09 06 44.9	-0.5
	baz=2.6						
PFO	Pinyon Flats O	2.69	154	Pn	Pn	09 06 47.1	-0.4
	2.3nm,0.3s,baz=338,slow=15,SNR=41						
PFO				Lg	Lg	09 07 29.3	
	21nm,0.3s,baz=253,slow=20,SNR=8.4						
PFO	Pinyon Flats O	2.69	154	P	Pn	09 06 47.0	-0.4
	baz=2.7						
PFO	Pinyon Flats O	2.69	154	ePn	Pn	09 06 47.5	+0.1
PFO				Lg	Lg	09 07 29.3	
WAKR	Walker	2.76	333	ePn	Pb	09 06 52.0	-1.4
CMB	Columbia Colle	2.83	315	ePn	Pn	09 06 50.4	+1.1
IRM	Iron Mountain	2.91	130	P	Pn	09 06 49.2	-1.1
	baz=2.9						
SAO	San Andreas Ge	2.98	285	ePn	Pn	09 06 51.8	+0.5
BAR	Barrett	3.50	163	ePn	Pn	09 06 58.9	+0.5
Y12C	Blythe	3.57	129	P	Pn	09 06 58.2	-1.1
	baz=3.6						
GLA	Glamis	3.90	139	ePn	Pn	09 07 04.0	+0.1
CCUT	Cedar City	3.91	66	ePn	Pn	09 07 06.6	+2.4
SAC	San Andreas	3.97	294	ePn	Pn	09 07 05.9	+1.2
OHCM	Honcut	4.36	320	ePn	Pb	09 07 17.1	-3.6
BMN	Battle Mountai	4.41	6	ePn	Pn	09 07 12.1	+1.1
ELK	Elko	5.12	23	Pn	Pn	09 07 21.8	+0.9
	0.9nm,0.3s,baz=183,slow=11,SNR=19						
ELK				Pg	Pg	09 07 39.0	-3.0
	2.9nm,0.3s,baz=182,slow=11,SNR=30						
ELK				Lg	Lg	09 08 45.2	
	3.6nm,0.3s,baz=2.4,slow=5.6,SNR=6.8						
WUAZ	Wupatki	5.30	94	ePn	Pn	09 07 25.8	+2.5
214A	Organ Pipe Nat	5.85	133	ePn	Pn	09 07 30.9	+0.2
	13nm,0.9s						
BGU	Big Grassy Mou	6.17	36	ePn	Pn	09 07 36.1	+0.9
TMUT	Trail Mountain	6.19	56	ePn	Pn	09 07 41.9	+6.2
SRU	San Rafael Swe	6.58	60	ePn	Pn	09 07 46.0	+5.2
CTU	Camp Tracy	6.67	44	ePg	Pg	09 08 16.1	+4.4
CTU				eSg	Sg	09 09 36.5	-1.6
W18A	Petrified Fore	6.68	96	ePg	Pg	09 08 06.3	-5.6
DAU	Daniels Canyon	6.78	48	ePg	Pg	09 08 14.3	+0.5
JLU	Jordanelle	6.79	46	ePn	Pn	09 07 48.8	+5.0
JLU				ePg	Pg	09 08 12.2	-1.6
YBH	Yreka Blue Hor	6.82	328	Lg	Lg	09 09 36.6	
	0.3nm,0.3s,baz=138,slow=16,SNR=3.6						
TUC	Tucson	6.95	120	eSg	Sg	09 09 45.7	-1.2
HVU	Hansel Valley	6.96	33	ePn	Pn	09 07 50.5	+4.4
HVU				ePg	Pg	09 08 15.8	-1.4
HVU				eSg	Sg	09 09 44.7	-2.6
K05A	Summer Lake	7.07	342	ePg	Pg	09 08 20.9	+1.6
PV04	Paradox Valley	7.52	69	ePn	Pn	09 08 01.5	+7.8
MFID	Camas Ranch	7.52	11	ePg	Pg	09 08 27.1	-0.8
MFID				eSg	Sg	09 10 07.0	+1.7
MVCO	Mesa Verde	7.62	78	ePb	Pb	09 08 17.7	+1.5
PDAR	Pinedale Array	9.29	41	Pn	Pn	09 08 22.2	+4.2
	0.0nm,0.3s,baz=202,slow=7.4,SNR=5.9						
ANMO	Albuquerque	9.36	93	Pg	Pn	09 08 55.5	+36
	0.1nm,0.3s,baz=292,slow=10,SNR=6.7						
LOHW	Long Hollow	9.39	34	ePn	Pn	09 08 26.9	+7.4
WALA	Waterton Lakes	13.32	11	ePn	Pn	09 09 14.0	+0.9
TXAR	Lajitas Array	13.69	115	Pn	Pn	09 09 21.9	+3.7
	0.0nm,0.3s,baz=287,slow=12,SNR=3.4						
ULM	Lac du Bonnet	21.31	41	P	P	09 10 53.5	+2.8
	1.7nm,0.9s,baz=231,slow=12,SNR=3.7						
YKA	Yellowknife Ar	26.55	3	P	P	09 11 43.0	+1.4
	0.8nm,0.9s,baz=182,slow=9.3,SNR=15						
ILAR	Eielson Array	33.59	338	P	P	09 12 45.7	+1.8
	1.0nm,0.8s,baz=157,slow=7.8,SNR=8.8						

*IDC **01** 09:06:15.9±1.5, 14°.59S×75°.77W, h38km±6km, mb3.8/2, mb1 4.1/5, mb1mx3.6/41, mbtmp4.1/5, ML3.9/3, MS4.2/2, Ms1 4.2/2, ms1mx3.4/25, Error ellipse: s-maj=56.5km s-min=21.9km az=44.0*
*ISCJB **01** 09:06:17.2±0.8, 14°.3S±0°.1×75°.6W±0°.1, h53km, mb3.9/2, MS4.1/2, Error ellipse: s-maj=22.2km s-min=6.1km az=139.2*
*NEIC **01** 09:06:18.9±1.0, 14°.27S×75°.64W, h56km±9km, MG4.5(ARE), Error ellipse: s-maj=24.9km s-min=7.6km az=56.0*
NEIC Felt [III] at Ica and [II] at Palpa.
ISC 01 09:06:18.2±0.8, 14°.3S±0°.1×75°.5W±0°.1, h53km, n18, σ1§91/20, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.63	330	Pn	Pn	09 06 58.1	-0.1
	17nm,0.3s,baz=145,slow=13,SNR=59						
NNA				Sn	Sn	09 07 32.2	+3.2
	77nm,0.3s,baz=266,slow=8.1,SNR=6.2						
ARE	Arequipa	4.44	120	eP	Pn	09 07 24.0	+0.7
ARE				eS	Sn	09 08 15.0	+1.1
LPAZ	La Paz	7.39	107	Pn	Pn	09 08 06.2	+2.1
	3.5nm,0.3s,baz=289,slow=11,SNR=40						
LPAZ	La Paz	7.39	107	ePn	Pn	09 08 08.2	+4.0
ATAH	Atahualpa	7.65	338	Pn	Pn	09 08 09.6	+2.1
	0.3nm,0.3s,baz=179,slow=11,SNR=3.1						
ATAH				Sn	Sn	09 09 41.3	+8.2
	0.2nm,0.3s,baz=49,slow=18,SNR=4.2						
LVC	Limon Verde	10.38	144	Pn	Pn	09 08 46.4	+1.7
OTAV	Otavalo	14.72	348	Pn	Pn	09 09 43.0	-0.9
	8.9nm,0.9s						
BCIP	Isla Barro Col	23.70	349	P	P	09 11 24.8	-0.6
PLCA	Paso Flores	26.70	172	eP	P	09 11 53.7	+1.2
APG	El Apazote	32.65	332	LR	LR	09 24 16.6	
	comp=Z,324nm,18.7s,baz=114,slow=33						
TXAR	Lajitas Array	51.19	328	LR	LR	09 35 18.5	
	comp=Z,245nm,19.8s,baz=0.0,slow=34						
MFID	Camas Ranch	68.24	329	eP	P	09 17 13.7	+0.2
TORD	Torodi Ar. Bea	81.16	74	P	P	09 18 29.5	+0.7
	4.7nm,0.8s,baz=249,slow=4.6,SNR=22						
TORD				pP	pP	09 18 41.2	-2.7
	5.2nm,1.0s,baz=260,slow=4.9,SNR=7.9						
YKA	Yellowknife Ar	82.41	343	P	P	09 18 34.0	-0.2
	0.2nm,0.5s,baz=144,slow=5.7,SNR=7.1						
YKA				pP	pP	09 18 46.0	-3.5
	0.7nm,1.0s,baz=136,slow=4.9,SNR=3.9						
WRA	Warramunga Arr	135.06	222	PKP	PKPdf	09 25 31.8	-0.7
	0.6nm,1.0s,baz=145,slow=2.1,SNR=5.4						
ZALV	Zalesovo Beam	137.51	17	PKP	PKPdf	09 25 36.8	+0.8
	0.3nm,0.3s,baz=2.5,slow=3.3,SNR=2.5						
ZALV				pPKP	pPKPdf	09 25 48.1	-3.8
	1.4nm,0.9s,baz=270,slow=3.7,SNR=3.0						
ULN	Ulaanbaatar	146.46	357	ePKPdf	PKPab	09 25 54.2	-0.4
SONM	Songino Array	146.52	358	PKPbc	PKPbc	09 25 53.4	-0.4
	1.0nm,0.8s,baz=354,slow=1.4,SNR=5.5						
SONM				pPKPbc	pPKPbc	09 26 05.9	-3.7
	4.7nm,1.1s,baz=354,slow=1.5,SNR=11						

*IDC **01** 09:10:51.4±1.6, 35°.37S×72°.78W, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.7/29, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=46.7km s-min=35.2km az=54.0*
*ISCJB **01** 09:10:52.5±1.6, 35°.3S±0°.2×72°.7W±0°.3, h17km, mb3.8/3, Error ellipse: s-maj=33.0km s-min=26.6km az=13.4*
ISC 01 09:10:53.7±1.6, 35°.3S±0°.2×72°.7W±0°.2, h17km, n6, σ1§02/6, mb4.1/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.23	46	Pn	Pn	09 12 10.7	-0.5
	0.6nm,0.3s,baz=233,slow=12,SNR=10						
CFAA				Lg	Lg	09 13 25.2	
	0.5nm,0.3s,baz=342,slow=20,SNR=3.6						
LPAZ	La Paz	19.38	13	P	Pn	09 15 21.5	+1.0
	0.2nm,0.3s,baz=192,slow=6.0,SNR=4.0						
TXAR	Lajitas Array	70.64	332	P	P	09 22 08.0	-0.4
	0.2nm,0.5s,baz=163,slow=7.6,SNR=3.7						
BOSA	Boshof	79.92	118	P	P	09 23 02.2	+0.1
	2.3nm,0.8s,baz=239,slow=12,SNR=4.1						
TORD	Torodi Ar. Bea	85.14	70	P	P	09 23 30.1	+0.8
	0.6nm,0.5s,baz=248,slow=3.9,SNR=11						
BVAR	Borovoye Array	148.59	44	PKPbc	PKPab	09 30 41.7	-1.0
	0.7nm,0.7s,baz=318,slow=4.1,SNR=4.0						

IDC 01 09:12:36.6±1.3, 34°51S×73°63W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/28, mbtmp4.0/4, Error ellipse: s-maj=50.8km s-min=36.5km az=89.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	55.73	180	P	P	09 22 14.6	-0.2
	4.1nm,1.0s,baz=153,slow=4.6,SNR=5.3						
TXAR	Lajitas Array	69.55	332	P	P	09 23 47.0	-0.3
	0.3nm,0.6s,baz=153,slow=8.4,SNR=3.7						
DBIC	Dimbokro	76.59	72	P	P	09 24 29.0	-0.2
	2.8nm,0.8s,baz=225,slow=8.6,SNR=4.2						
TORD	Torodi Ar. Bea	85.62	71	P	P	09 25 17.1	-0.3
	0.7nm,0.7s,baz=231,slow=1.9,SNR=4.3						
BVAR	Borovoye Array	148.55	43	PKPbc	PKPbc	09 32 25.2	+0.4
	1.1nm,0.5s,baz=300,slow=2.4,SNR=6.3						

*IDC **01** 09:13:20.0±1.6, 34°.84S×72°.43W, h0km, mb4.0/5, mb1 4.0/8, mb1mx3.9/31, mbtmp3.9/8, ML3.7/3, Error ellipse: s-maj=39.0km s-min=32.3km az=68.0*
*ISCJB **01** 09:13:20.7±1.4, 34°.8S±0°.2×72°.3W±0°.2, h10km, mb4.0/5, Error ellipse: s-maj=26.4km s-min=23.2km az=29.5*
ISC 01 09:13:22.2±1.5, 34°.8S±0°.2×72°.3W±0°.2, h10km, n8, σ1§15/8, mb4.2/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.64	48	Pn	Pn	09 14 31.2	-1.1
	0.6nm,0.3s,baz=223,slow=5.8,SNR=4.5						
CPUP	Villa Florida	15.38	61	Pn	Pn	09 16 59.1	-0.2
	0.3nm,0.3s,baz=231,slow=6.5,SNR=2.2						
LPAZ	La Paz	18.77	13	P	P	09 17 43.1	+0.9
	0.1nm,0.3s,baz=208,slow=7.8,SNR=3.5						
SIV	San Ignacio	21.23	31	P	P	09 18 09.9	+1.5
	3.9nm,0.8s,baz=196,slow=16,SNR=3.7						
TXAR	Lajitas Array	70.29	331	P	P	09 24 35.0	-0.8
	0.5nm,0.6s,baz=157,slow=7.7,SNR=5.3						
DBIC	Dimbokro	75.63	71	P	P	09 25 08.9	+1.1
	2.0nm,0.7s,baz=194,slow=4.2,SNR=3.9						
BOSA	Boshof	79.92	118	P	P	09 25 31.3	-0.4
	2.0nm,0.7s,baz=180,slow=6.1,SNR=3.4						
TORD	Torodi Ar. Bea	84.67	70	P	P	09 25 56.6	+0.1
	1.0nm,0.6s,baz=242,slow=4.9,SNR=13						

*ISCJB **01** 09:16:31.5±1.0, 31°.57N±0°.06×142°.4E±0°.2, h49km, mb3.7/2, MS4.1/1, Error ellipse: s-maj=19.8km s-min=7.5km az=164.2*
*IDC **01** 09:16:31.4±4.3, 31°.47N×142°.36E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.4/45, mbtmp3.7/4, ML4.0/2, MS4.1/1, Ms1 4.1/1, ms1mx2.7/39, Error ellipse: s-maj=148.9km s-min=25.0km az=71.0*
*JMA **01** 09:16:33.8±0.3, 31°.71N×142°.36E, h87km, M3.6*
ISC 01 09:16:32.6±1.7, 31°.52N±0°.07×142°.4E±0°.2, h49km, n11, σ0§99/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.71	307	P	Pn	09 17 14.3	+0.6
JHJ2				eS	Sn	09 17 44.5	-0.8
BSO1	Boso 1	3.35	339	P	Pn	09 17 22.2	+

ROCH AML AML 09 17 36.5
comp=N,9μm,0.5s
PEL Peldehue 1.63 51⇑ *iP* **Pn 09 17 06.7 +0.1**
PEL *i* S **Sb 09 17 27.7 -0.8**
PEL AML AML 09 17 33.5
comp=N,28μm,0.6s
CFAA Coronel Fontan 4.20 53 Pn **Pn 09 17 43.8 +1.8**
comp=N,0.7nm,0.3s,baz=227,slow=14,SNR=7.8
CFAA Lg Lg 09 18 41.4
comp=N,4.0nm,0.3s,baz=356,slow=14,SNR=5.2
PLCA Paso Flores 6.67 169 Pn **Pn 09 18 15.6 -0.2**
comp=N,0.8nm,0.3s,baz=308,slow=12,SNR=5.5
TRQA Tornquist 9.12 118 *e*Pn **Pn 09 18 50.0 +0.5**
LVC Limon Verde 11.88 15 *e*Pn **Pn 09 19 27.9 +0.3**
CPUP Villa Florida 15.03 63 Pn **Pn 09 20 11.6 +1.4**
comp=N,0.3nm,0.3s,baz=210,slow=9.0,SNR=3.9
LPAZ La Paz 18.19 13 P **Pn 09 20 50.7 -0.3**
comp=N,0.2nm,0.3s,baz=191,slow=7.0,SNR=17
SIV San Ignacio 20.69 32 P **P 09 21 18.6 +0.5**
comp=N,3.4nm,0.7s,baz=213,slow=12,SNR=8.1
NNA Nana 22.50 348 P **P 09 21 36.3 -1.2**
SAML Samuel 26.44 20 *e*P **P 09 22 16.0 +1.3**
comp=N,2.6nm,0.6s
BDFB Brasilia 28.54 56 P **P 09 22 35.1 +1.4**
comp=N,2.2nm,0.6s,baz=190,slow=11,SNR=2.4
OTAV Otavalo 34.74 349 *e*P **P 09 23 27.9 -0.6**
PAYG Puerto Ayora 37.40 329 P **P 09 23 50.9 +0.2**
BCIP Isla Barro Col 43.72 349 P **P 09 24 40.5 -2.4**
RCBR Riachuelo 43.84 58 P **P 09 24 43.7 -0.4**
JTS JuntasAbangare 45.86 342 P **P 09 25 00.0 -0.1**
SNAA Sanae 51.46 158 P **P 09 25 42.6 0.0**
comp=N,1.6nm,0.8s,baz=291,slow=7.8,SNR=4.5
APG El Apazote 51.92 337 P P 09 25 42.6 -4.2
comp=N,2.3nm,0.8s,baz=57,slow=22,SNR=4.4
SDDR Presa de Saban 52.88 1 *e*P **P 09 25 52.8 -0.8**
QSPA South Pole Qui 56.05 180 P **P 09 26 16.8 +0.5**
comp=N,3.8nm,1.0s,baz=172,slow=0.9,SNR=6.9
QSPA South Pole Qui 56.05 180 *e*P **P 09 26 16.1 -0.3**
comp=N,3.4nm,0.8s
TEIG Tepich 56.23 342 *e*P **P 09 26 17.9 -0.1**
comp=N,6.5nm,0.6s
TXAR Lajitas Array 69.83 331 P **P 09 27 48.8 +0.5**
comp=N,0.6nm,0.6s,baz=154,slow=8.3,SNR=8.8
SWET Sewanee 70.23 348 P **P 09 27 50.2 -0.3**
comp=N,4.1nm,0.8s
WVT Waverly 71.46 347 *e*P **P 09 27 57.2 -0.7**
comp=N,14nm,0.8s
DBIC Dimbokro 75.35 71 P **P 09 28 24.1 +2.7**
comp=N,3.5nm,0.8s,baz=256,slow=3.7,SNR=3.8
ANMO Albuquerque 75.88 332 *e*P **P 09 28 24.4 +0.2**
comp=N,1.6nm,1.0s
TSUM Tsumeb 79.28 106 *e*P **P 09 28 42.2 -1.4**
PDAR Pinedale Array 83.87 333 P **P 09 29 08.3 +1.0**
comp=N,0.7nm,0.7s,baz=151,slow=3.4,SNR=6.0
NVAR Mina Array Bea 83.96 325 P **P 09 29 09.2 +1.3**
comp=N,1.0nm,0.8s,baz=155,slow=6.2,SNR=8.4
TORD Torodi Ar. Bea 84.39 70 P **P 09 29 09.8 -0.5**
comp=N,1.0nm,0.8s,baz=249,slow=4.7,SNR=5.7
SEY Seymchan 140.13 330 PKP **PKPdf 09 36 04.7 -0.6**
comp=N,0.6nm,0.4s,baz=54,slow=4.2,SNR=5.0
BVAR Borovoye Array 147.50 43 PKP **PKPdf 09 36 17.6 -1.0**
comp=N,1.2nm,0.7s,baz=256,slow=4.3,SNR=4.0
BVAR PKPbc **PKPbc 09 36 21.2 +0.1**
comp=N,1.2nm,0.7s,baz=260,slow=4.4,SNR=6.5
AAK Ala-Archa 152.70 62 PKPbc **PKPbc 09 36 33.8 -0.5**
comp=N,0.4nm,0.4s,baz=289,slow=7.0,SNR=4.3
ZALV Zalesovo Beam 154.45 32 PKPbc **PKPbc 09 36 37.0 -0.5**
comp=N,2.1nm,0.7s,baz=316,slow=3.4,SNR=8.3
ZALV PKPab **PKPab 09 36 51.0 -0.9**
comp=N,2.0nm,0.8s,baz=290,slow=4.3,SNR=5.6
MKAR Makanchi Array 156.98 49 PKPab **PKPab 09 37 02.3 -0.8**
comp=N,0.8nm,0.9s,baz=316,slow=3.3,SNR=4.0
JNU Nakatsue 160.77 273 *e*PKPdf **PKPdf 09 36 38.5 +0.7**

*THE **01** 09:21:29.9, 35°.14N×23°.73E, h16km±2km, ML3.0/1, Error ellipse: s-maj=4.3km s-min=1.1km az=332.0*
*ISCJB **01** 09:21:30.6±1.7, 35°.05N±0°.10×23°.83E±0°.06, h21km±10km, Error ellipse: s-maj=17.6km s-min=5.7km az=22.5*
*CSEM **01** 09:21:30.0±0.4, 35°.01N×23°.85E, h12km, MD3.6, Error ellipse: s-maj=11.7km s-min=4.1km az=24.0*
*ATH **01** 09:21:32.0, 35°.22N×23°.98E, h32km±3km, MD3.6/13*
ISC 01 09:21:30.4±2.3, 35°.10N±0°.07×23°.88E±0°.05, h6km±15km, n34, σ0s73/46, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.40**	**40**	P	**Pb**	**09 21 39.3**	**-0.6**
VAM				S	**Sb**	**09 21 46.2**	**-0.1**
VAM	**Vamos**	**0.40**	**40**	*e*PB	**Pb**	**09 21 39.3**	**-0.6**
VAM	**Vamos**	**0.40**	**40**	P	**Pb**	**09 21 39.3**	**-0.6**
VAM				S	**Sb**	**09 21 46.2**	**-0.1**
SIVA	**Sivas**	**0.77**	**96**	P	**Pb**	**09 21 45.8**	**-0.3**
SIVA				S	**Sn**	**09 21 59.6**	**+0.1**
SIVA	**Sivas**	**0.77**	**96**	*e*PN	**Pb**	**09 21 46.0**	**-0.1**
SIVA				*e*SN	**Sb**	**09 21 57.4**	**+0.7**
SIVA	**Sivas**	**0.77**	**96**	P	**Pb**	**09 21 45.8**	**-0.3**
SIVA				*e*Sn	**Sb**	**09 21 57.4**	**+0.7**
SIVA				S	**Sn**	**09 21 59.6**	**+0.1**
ANKY	**Antikythira Is**	**0.90**	**328**	*e*PN	**Pn**	**09 21 49.3**	**-0.2**
ANKY	**Antikythira Is**	**0.90**	**328**	*e*Pn	**Pn**	**09 21 49.3**	**-0.2**
LAST	**Lasithi**	**1.31**	**87**	P	**Pn**	**09 21 54.8**	**-0.4**
LAST				S	**Sg**	**09 22 13.1**	**+0.6**
LAST	**Lasithi**	**1.31**	**87**	*e*PN	**Pn**	**09 21 55.1**	**-0.1**
LAST	**Lasithi**	**1.31**	**87**	P	**Pn**	**09 21 55.1**	**-0.1**
LAST	**Lasithi**	**1.31**	**87**	*e*Pn	**Pn**	**09 21 55.1**	**-0.1**
LAST				S	**Sg**	**09 22 13.1**	**+0.6**
KYTH	**Kithira**	**1.37**	**330**	*e*PN	**Pb**	**09 21 55.7**	**-0.6**
KYTH	**Kithira**	**1.37**	**330**	*e*Pn	**Pb**	**09 21 55.7**	**-0.6**
ZKR	**Zakros**	**1.92**	**89**	P	**Pn**	**09 22 02.8**	**-0.7**
ZKR				S	**Sn**	**09 22 28.2**	**+0.3**
ZKR	**Zakros**	**1.92**	**89**	*e*PN	**Pn**	**09 22 01.6**	**-1.9**
ZKR	**Zakros**	**1.92**	**89**	*e*Pn	**Pn**	**09 22 01.6**	**-1.9**
ZKR	**Zakros**	**1.92**	**89**	P	**Pn**	**09 22 02.8**	**-0.7**
ZKR				S	**Sn**	**09 22 28.2**	**+0.3**
APE	**Apeiranthos**	**2.38**	**34**	*e*PN	**Pn**	**09 22 09.6**	**-0.3**
APE	**Apeiranthos**	**2.38**	**34**	*e*Pn	**Pn**	**09 22 09.6**	**-0.3**
DID	**Didima**	**2.46**	**348**	*e*PN	**Pn**	**09 22 11.3**	**+0.3**
DID	**Didima**	**2.46**	**348**	*e*Pn	**Pn**	**09 22 11.3**	**+0.3**
ITM	**Ithomi**	**2.61**	**323**	*e*PN	**Pn**	**09 22 12.0**	**-1.1**
ITM	**Ithomi**	**2.61**	**323**	*e*Pn	**Pn**	**09 22 12.0**	**-1.1**
KARP	**Karpathos**	**2.72**	**80**	P	**Pn**	**09 22 13.6**	**-1.0**
KARP				S	**Sn**	**09 22 48.3**	**+0.5**
KARP	**Karpathos**	**2.72**	**80**	*e*PN	**Pn**	**09 22 14.9**	**+0.3**
KARP	**Karpathos**	**2.72**	**80**	P	**Pn**	**09 22 13.6**	**-1.0**
KARP	**Karpathos**	**2.72**	**80**	*e*Pn	**Pn**	**09 22 14.9**	**+0.3**
KARP				S	**Sn**	**09 22 48.3**	**+0.5**
GUR	**Goura**	**3.09**	**337**	*e*PN	**Pn**	**09 22 20.8**	**+1.0**
GUR	**Goura**	**3.09**	**337**	*e*Pn	**Pn**	**09 22 20.8**	**+1.0**
LKR	**Lokris**	**3.62**	**349**	*e*PN	**Pn**	**09 22 26.1**	**-0.8**
LKR	**Lokris**	**3.62**	**349**	*e*Pn	**Pn**	**09 22 26.1**	**-0.8**
PDO	**Prodromos**	**4.11**	**329**	*e*PN	**Pn**	**09 22 34.5**	**+0.8**
PDO	**Prodromos**	**4.11**	**329**	*e*Pn	**Pn**	**09 22 34.5**	**+0.8**

*IDC **01** 09:22:49.3±0.6, 35°.52S×72°.90W, h0km, mb4.3/11, mb1 4.4/16, mb1mx4.3/28, mbtmp4.3/16, ML4.0/5, MS4.5/14, Ms1 4.5/14, ms1mx4.3/23, Error ellipse: s-maj=21.2km s-min=14.0km az=100.0*
*ISCJB **01** 09:22:57.4±0.4, 35°.81S±0°.06×71°.87W±0°.10, h35km, mb4.6/30, MS4.5/12, Error ellipse: s-maj=11.7km s-min=7.7km az=166.3*
*NEIC **01** 09:22:59.0±0.4, 35°.81S×71°.96W, h35km, mb4.9/22, Error ellipse: s-maj=12.9km s-min=9.2km az=71.0*
*BJI **01** 09:23:00.1, 35°.60S×71°.80W, h35km, mB5.2/3, Ms5.3/3, Ms7 5.1/3*
ISC 01 09:22:58.3±0.4, 35°.77S±0°.07×71°.97W±0°.10, h35km, n77, σ2s03/71, mb4.8/30, MS4.6/12, 1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.08**	**168**	Pn	**Pn**	**09 24 13.8**	**+1.9**
2.9nm,0.3s,baz=305,slow=9.5,SNR=7.6
PLCA LR LR 09 25 54.2
comp=Z,924nm,18.6s,baz=332,slow=34
PLCA Paso Flores 5.08 168 *e*Pn **Pn 09 24 11.6 -0.4**
CFAA Coronel Fontan 5.19 38 Pn **Pn 09 24 14.6 +1.0**
1.0nm,0.3s,baz=261,slow=16,SNR=11
CFAA Lg Lg 09 25 45.8
2.8nm,0.3s,baz=191,slow=18,SNR=3.9
CFAA LR LR 09 25 55.1
comp=Z,100nm,20.6s,baz=234,slow=34

TRQA Tornquist 8.32 109 Pn **Pn 09 24 57.0 +0.5**
LVC Limon Verde 13.38 12 *e*Pn **Pn 09 26 05.9 -0.1**
CPUP Villa Florida 15.67 57 Pn **Pn 09 26 38.2 +1.8**
0.3nm,0.3s,baz=78,slow=19,SNR=1.9
CPUP LR LR 09 33 00.7
comp=Z,1μm,21.9s,baz=221,slow=38
USHA Ushuaia 19.22 174 P **P 09 27 18.9 -0.1**
0.1nm,0.3s,baz=304,slow=18,SNR=2.1
LPAZ La Paz 19.71 11 P P 09 27 20.8 -4.5
0.2nm,0.3s,baz=168,slow=8.2,SNR=17
LPAZ La Paz 19.71 11 *e*P **P 09 27 23.3 -2.1**
21nm,0.9s
SIV San Ignacio 21.97 29 P **P 09 27 46.4 -2.9**
17nm,0.9s,baz=243,slow=10,SNR=20
SIV LR LR 09 38 18.4
comp=Z,4μm,18.5s,baz=229,slow=42
NNA Nana 24.09 348 LR LR 09 34 38.7
comp=Z,692nm,21.0s,baz=173,slow=30
SAML Samuel 27.88 19 *e*P P 09 28 40.4 -4.4
6.0nm,0.9s
ATAH Atahualpa 29.11 347 LR LR 09 37 56.4
comp=Z,464nm,19.5s,baz=177,slow=32
BDFB Brasilia 29.32 53 P **P 09 28 56.6 -1.2**
8.0nm,1.0s,baz=241,slow=11,SNR=7.5
BDFB LR LR 09 42 34.4
comp=Z,2μm,18.9s,baz=225,slow=40
BDFB Brasilia 29.32 53 *e*P **P 09 28 58.4 +0.6**
PMSA Palmer Station 29.43 173 LR LR 09 41 09.3
comp=Z,2μm,18.4s,baz=324,slow=37
OTAV Otavalo 36.33 349 *e*P **P 09 30 00.0 +0.6**
233nm,2.0s
VNA2 Neumayer--Watz 48.36 157 P **P 09 31 38.2 +2.1**
SNAA Sanae 49.93 157 P **P 09 31 49.8 +1.6**
SNAA Sanae 49.93 157 P **P 09 31 48.5 +0.3**
4.9nm,0.9s,baz=282,slow=8.4,SNR=27
SNAA Sanae 49.93 157 *e*P **P 09 31 49.0 +0.8**
26nm,1.0s
APG El Apazote 53.45 338 P P 09 32 04.4 -11
1.0nm,0.5s,baz=199,slow=13,SNR=3.6
APG LR LR 09 49 13.3
comp=Z,317nm,20.0s,slow=30
QSPA South Pole Qui 54.47 180 P **P 09 32 21.1 -1.0**
5.8nm,0.9s,baz=133,slow=3.7,SNR=12
RKT Rikitea 55.45 265 *e*LR LR 09 48 07.0
269nm,26.8s
SYO Syowa Base 64.20 158⇓ *e*P **P 09 33 28.2 -0.8**
MEH Mehetia 68.67 263 *e*T T 10 47 21.5
11nm,0.2s
PPT2 Papeete2 70.04 262 *e*S **S 09 43 11.0 -4.5**
259nm,23.0s
PPT2 Papeete2 70.04 262 *e*LR LR 09 54 59.2
657nm,25.8s
PPT Papeete 70.06 262 LR LR 09 56 41.4
comp=Z,164nm,21.0s,baz=171,slow=29
JCT Junction City 70.91 335 *e*P **P 09 34 14.7 +2.9**
7.3nm,1.0s
TXAR Lajitas Array 71.31 331 P P 09 34 06.8 -7.5
0.3nm,0.5s,baz=157,slow=8.8,SNR=7.6
TXAR LR LR 10 00 26.5
comp=Z,356nm,18.1s,baz=0.0,slow=32
MAW Mawson 71.47 163 LR LR 10 07 03.7
comp=Z,681nm,18.5s,baz=232,slow=37
ABTX Abilene, Hawle 72.81 336 *e*P **P 09 34 25.6 +2.4**
7.3nm,0.8s
WVT Waverly 73.05 347 *e*P **P 09 34 24.2 -0.2**
16nm,1.0s
MSTX Muleshoe 75.12 334 *e*P P 09 34 40.6 +3.8
9.9nm,1.2s
AMTX Amarillo 75.56 335 *e*P **P 09 34 42.5 +3.2**
52nm,2.0s
DBIC Dimbokro 75.70 71 P **P 09 34 40.6 +0.2**
9.4nm,0.8s,baz=204,slow=7.7,SNR=11
DBIC LR LR 10 06 20.3
comp=Z,219nm,19.6s,baz=210,slow=34
DBIC Dimbokro 75.70 71 *e*P **P 09 34 42.0 +1.5**
10nm,0.8s
ANMO Albuquerque 77.36 332 *e*P **P 09 34 49.9 +0.3**
71nm,2.8s
BOSA Boshof 79.20 117 P **P 09 35 00.2 +0.2**
7.1nm,0.8s,baz=227,slow=3.6,SNR=14
BOSA LR LR 10 06 25.7
comp=Z,221nm,19.6s,baz=205,slow=33
BOSA Boshof 79.20 117 *e*P **P 09 35 01.3 +1.2**
31nm,1.6s
SMCO Snowmass 81.28 333 *e*P **P 09 35 12.0 +0.9**
72nm,2.8s
LBTB Lobatse 81.51 115 *e*P **P 09 35 14.6 +2.1**
12nm,1.0s
ECSD EROS Data Cent 82.25 342 *e*P P 09 35 10.2 -5.4
13nm,1.0s
CCUT Cedar City 82.43 328 *e*P **P 09 35 18.6 +1.5**
85nm,2.9s
SRU San Rafael Swe 82.58 331 *e*P **P 09 35 20.2 +2.5**
27nm,2.0s
DUG Dugway, Tooele 84.43 330 *e*P **P 09 35 28.3 +1.2**
9.2nm,1.3s
TPH Tonopah 84.58 326 *e*P **P 09 35 29.6 +1.6**
6.3nm,1.3s
TORD Torodi Ar. Bea 84.77 70 P **P 09 35 28.6 -0.6**
4.4nm,0.9s,baz=252,slow=4.4,SNR=20
TORD LR LR 10 11 43.4
comp=Z,338nm,19.6s,baz=225,slow=34
PDAR Pinedale Array 85.37 333 P P 09 35 25.2 -6.6
0.4nm,0.8s,baz=172,slow=7.0,SNR=2.8
NVAR Mina Array Bea 85.37 325 P P 09 35 25.6 -6.4
0.4nm,0.8s,baz=109,slow=11,SNR=2.6
HVU Hansel Valley 85.75 331 *e*P **P 09 35 33.9 +0.2**
76nm,2.6s
ULM Lac du Bonnet 88.22 345 P P 09 35 40.6 -4.6
2.8nm,1.0s,baz=195,slow=2.5,SNR=3.3
MCMT McKenzie Canyo 88.36 332 *e*P **P 09 35 45.3 -1.1**
1.7nm,1.0s
MOD Modoc Plateau 89.06 326 *e*P **P 09 35 49.0 -0.7**
5.1nm,1.0s
VYHS Vyhne 116.24 48 *e*PKP **PKPdf 09 41 34.3 -3.1**
WRA Warramunga Arr 119.24 209 PKP PKPdf 09 41 39.0 -5.2
0.4nm,0.7s,baz=151,slow=1.7,SNR=6.2
BRTR Keskin Array B 122.63 62 PKP **PKPdf 09 41 47.2 -3.0**
0.5nm,0.6s,baz=178,slow=5.7,SNR=4.4
AKASG Malin Array Be 123.34 48 PKP **PKPdf 09 41 47.2 -3.7**
0.4nm,0.4s,baz=261,slow=3.1,SNR=5.5
KBZ Khabaz 130.45 60 PKP **PKPdf 09 42 03.6 -1.1**
1.5nm,0.9s,baz=263,slow=4.1,SNR=3.8
PSI Prapat 146.12 164 PKPbc **PKPdf 09 42 31.1 -3.4**
4.7nm,0.8s,baz=23,slow=0.6,SNR=5.1
HYB Hyderabad 148.11 117 *i* PKP **PKPdf 09 42 38.5 +1.0**
BRVK Borovoye 148.44 45 *e*PKPdf **PKPdf 09 42 38.2 +1.2**
BVAR Borovoye Array 148.52 45 PKPbc **PKPdf 09 42 38.2 +1.1**
6.3nm,0.8s,baz=290,slow=4.0,SNR=20
KKAR Karatay Array 150.30 64 *e*PKPdf **PKPdf 09 42 42.1 +1.8**
EKS2 Erkin-Say 152.72 65 *e*PKPdf **PKPdf 09 42 47.2 +3.1**
AAK Ala-Archa 153.25 65 PKPbc **PKPbc 09 42 50.1 -2.4**
2.3nm,0.8s,baz=112,slow=0.2,SNR=6.8
AAK Ala-Archa 153.25 65 *e*PKPbc **PKPbc 09 42 51.0 -1.5**
KSH Kashi 154.42 72 PKPbc **PKPdf 09 42 48.1 +1.4**
KSH sPKP 09 43 01.9
KSH PKS **PKSdf 09 46 21.3 +0.4**
KSH PP **PP 09 46 45.2 -0.1**
KSH SKS **SKSdf 09 49 50.7 0.0**
KSH SKKS **SKKSac 09 53 31.2 -1.0**
KSH SS **SS 10 06 20.8 -2.8**
KSH PPMZ
190nm,5.1s
KSH LN
63nm,6.3s
KSH LE
30nm,5.1s
KSH LZ
120nm,8.9s
ZALV Zalesovo Beam 155.67 34 PKP **PKPdf 09 42 44.1 -3.6**
1.5nm,0.8s,baz=274,slow=2.4,SNR=5.9
ZALV PKPab **PKPab 09 43 12.0 -2.1**
3.8nm,0.8s,baz=293,slow=5.1,SNR=7.6
MKAR Makanchi Array 157.84 52 PKP **PKPdf 09 42 48.3 -2.5**
0.6nm,0.8s,baz=270,slow=1.9,SNR=4.1
MKAR PKPab **PKPab 09 43 22.6 -1.2**
2.3nm,0.9s,baz=281,slow=4.0,SNR=7.8
SONM Songino Array 167.89 5 PKPab **PKPab 09 44 03.9 -3.9**
0.7nm,0.7s,baz=352,slow=2.9,SNR=3.6
KMI Kunming 168.45 155 PKP **PKPdf 09 43 01.4 -0.5**
NJ2 Nanjing 170.27 251 *e*PKP **PKPdf 09 43 06.4 +4.0**
CD2 Chengdu 173.98 142 *e*PKP **PKPdf 09 43 06.1 +1.8**
HHC Hu-ho-hao-te 174.22 332 *e*PKP **PKPdf 09 43 05.9 +1.8**
HHC PP **PP 09 48 33.0 +5.2**
HHC SKS **SKSdf 09 50 03.8 -0.7**
HHC SKKS **SKKSac 09 55 13.9 +2.0**
HHC SS **SS 10 09 46.0 +1.3**

HHC PPMZ
95nm,5.8s
HHC LN
280nm,21.0s
HHC LE
320nm,20.6s
HHC LZ
190nm,21.2s
LZH Lanzhou 176.59 84 *e*PKP **PKPdf 09 43 06.5 +1.5**
LZH pPKP **pPKPdf 09 43 16.8 +0.3**
LZH sPKP 09 43 20.4

*IDC **01** 09:26:49.3±1.2, 34°.29S×70°.13W, h44km±8km, mb3.3/2, mb1 3.5/3, mb1mx3.3/25, mbtmp3.4/3, Error ellipse: s-maj=39.9km s-min=35.3km az=163.0*
ISC 01 09:26:48.5±1.2, 34°.4S±0°.2×70°.2W±0°.3, h35km, n6, σ1s58/9, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.25**	**30**	P	**Pn**	**09 27 37.9**	**+0.7**
baz=203,slow=13,SNR=3.2
TXAR Lajitas Array 70.88 329 P **P 09 38 01.1 -0.9**
0.2nm,0.5s,baz=149,slow=9.5,SNR=4.7
TXAR pP **pP 09 38 13.8 +0.9**
0.3nm,0.5s,baz=155,slow=8.2,SNR=3.8
TORD Torodi Ar. Bea 82.91 69 P **P 09 39 09.2 -0.8**
0.5nm,0.7s,baz=250,slow=4.3,SNR=3.1
TORD pP **pP 09 39 22.5 +1.5**
0.9nm,1.0s,baz=290,slow=5.4,SNR=1.6
WRA Warramunga Arr 121.11 207 PKP **PKPdf 09 45 39.0 +0.9**
0.5nm,0.5s,baz=156,slow=1.7,SNR=7.5
WRA pPKP **pPKPdf 09 45 51.4 +1.8**
0.3nm,0.4s,baz=164,slow=1.6,SNR=1.8
BVAR Borovoye Array 146.53 44 PKPbc **PKPdf 09 46 23.6 -0.5**
0.6nm,0.6s,baz=284,slow=5.8,SNR=3.3
MKAR Makanchi Array 155.86 51 PKPab **PKPab 09 47 03.2 -2.4**
0.6nm,0.6s,baz=278,slow=2.7,SNR=7.9

*IDC **01** 09:26:48.6±2.1, 34°.50S×72°.14W, h0km, mb4.2/3, mb1 4.3/5, mb1mx3.9/27, mbtmp4.2/5, ML4.4/2, Error ellipse: s-maj=97.0km s-min=26.1km az=94.0*
*ISCJB **01** 09:26:49.9±2.0, 34°.6S±0°.1×72°.3W±0°.8, h16km, mb4.2/3, Error ellipse: s-maj=92.0km s-min=16.1km az=1.3*
ISC 01 09:26:51.1±2.0, 34°.5S±0°.1×72°.2W±0°.7, h16km, n6, σ1s41/6, mb4.2/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.34**	**168**	Pn	**Pn**	**09 28 24.1**	**+0.2**
2.0nm,0.3s,baz=348,slow=16,SNR=16
LPAZ La Paz 18.52 12 P **Pn 09 31 08.7 +1.0**
0.4nm,0.3s,baz=192,slow=9.4,SNR=10.0
SNAA Sanae 51.16 158 P **P 09 35 52.5 -0.5**
1.5nm,0.8s,baz=277,slow=9.8,SNR=3.8
QSPA South Pole Qui 55.72 180 P **P 09 36 27.1 +0.5**
6.2nm,0.9s,baz=139,slow=6.7,SNR=9.0
BOSA Boshof 79.96 118 P **P 09 39 00.2 +0.4**
1.2nm,0.4s,baz=249,slow=5.6,SNR=4.2
ZALV Zalesovo Beam 154.74 33 PKPab **PKPab 09 47 03.8 -2.1**
0.6nm,0.5s,baz=318,slow=4.1,SNR=3.5

*ISCJB **01** 09:48:17.4±0.3, 8°.21S±0°.05×73°.97W±0°.05, h158km, mb4.4/41, Error ellipse: s-maj=7.0km s-min=5.9km az=39.7*
*IDC **01** 09:48:19.7±0.7, 8°.32S×74°.13W, h170km±7km, mb3.9/11, mb1 4.0/15, mb1mx3.8/34, mbtmp4.3/15, Error ellipse: s-maj=14.1km s-min=8.9km az=32.0*
*NEIC **01** 09:48:19.4±0.6, 8°.25S×74°.01W, h161km±6km, mb4.6/30, Error ellipse: s-maj=9.0km s-min=5.3km az=220.0*
NEIC Felt [II] at Pucallpa.
*BJI **01** 09:48:21.1, 8°.10S×74°.00W, h146km, mB5.4/3*
ISC 01 09:48:19.4±0.4, 8°.20S±0°.05×74°.06W±0°.06, h158km, n369, σ0s81/377, mb4.6/41, 157C-141D, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.42**	**284**	P	**Pn**	**09 49 25.6**	**-0.2**
46nm,0.3s,baz=88,slow=4.9,SNR=181
ATAH S **Sn 09 50 16.1 -1.4**
49nm,0.3s,baz=86,slow=21,SNR=18
NNA Nana 4.65 216 P **Pn 09 49 28.7 +0.2**
6.6nm,0.3s,baz=16,slow=9.8,SNR=25
NNA S **Sn 09 50 20.4 -1.9**
18nm,0.3s,baz=350,slow=19,SNR=4.8
NNA Nana 4.65 216 *e*Pn **Pn 09 49 28.3 -0.2**
NNA S **Sn 09 50 20.4 -1.9**
OTAV Otavalo 9.46 332 *e*Pn **Pn 09 50 32.9 +0.3**
10.0nm,0.5s
LPAZ La Paz 9.91 145 P **Pn 09 50 39.1 +0.4**
0.5nm,0.3s,baz=342,slow=19,SNR=9.6
LPAZ S **Sn 09 52 29.4 +0.6**
0.9nm,0.3s,baz=170,slow=9.9,SNR=5.1
LPAZ La Paz 9.91 145 *e*Pn **Pn 09 50 38.5 -0.1**
LPAZ S **Sn 09 52 29.4 +0.6**
SAML Samuel 10.78 95⇑ *i*Pn **Pn 09 50 48.2 -1.5**
ROSC El Rosal 12.97 359 *e*Pn **P 09 51 21.4 -1.6**
SIV San Ignacio 14.87 123 P **P 09 51 43.4 -0.3**
1.0nm,0.3s,baz=302,slow=13,SNR=11
LVC Limon Verde 15.16 162 *e*Pn **P 09 51 49.5 +2.4**
18nm,1.4s
CPUP Villa Florida 24.04 141 P **P 09 53 17.5 -2.4**
1.1nm,0.2s,baz=109,slow=4.5,SNR=5.5
BDFB Brasilia 26.52 109 P **P 09 53 41.4 -1.2**
3.7nm,0.5s,baz=252,slow=13,SNR=7.0
BDFB pP **pP 09 54 17.6 +2.2**
2.8nm,0.5s,baz=248,slow=11,SNR=2.8
CRPR Cabo Rojo, PR 26.93 15 *e*P **P 09 53 45.4 -0.7**
LRS Lares 27.27 15 *e*P **P 09 53 48.0 -1.2**
AOPR Arecibo Observ 27.35 15 *e*P **P 09 53 50.2 +0.3**
26nm,0.7s
CBYP Canovanas 27.52 17 *e*P **P 09 53 50.5 -1.0**
11nm,0.7s
APG El Apazote 28.21 325 P P 09 53 53.1 -4.7
0.9nm,0.5s,baz=128,slow=12,SNR=4.0
035Z Hargill 41.60 327 ⇓P **P 09 55 54.0 +2.1**
baz=42
035A Encino 42.00 327 ⇓P **P 09 55 57.6 +2.4**
baz=42
034A Hebbronville 42.41 327 ⇓P **P 09 56 00.6 +2.0**
baz=43
934A Benavides 42.75 327 ⇑P **P 09 56 03.3 +2.1**
baz=43
835A Beeville 42.93 329 ⇑P **P 09 56 04.9 +2.2**
baz=43
933A Laredo 43.17 326 ⇑P **P 09 56 06.2 +1.6**
baz=43
834A Tilden 43.18 328 ⇑P **P 09 56 06.5 +1.8**
baz=43
735A Kenedy 43.38 329 ⇓P **P 09 56 08.2 +1.9**
baz=44
636A Smothers Creek 43.52 330 ⇑P **P 09 56 09.2 +1.8**
baz=44
KMSC Kings Mountain 43.65 351 ⇓P **P 09 56 09.0 +0.7**
baz=44
537A Green Hill Far 43.66 332 ⇑P **P 09 56 10.3 +1.8**
baz=44
734A La Parita Cree 43.76 328 ⇑P **P 09 56 10.6 +1.2**
baz=44
833A Chaparral WMA, 43.79 327 ⇑P **P 09 56 10.9 +1.3**
baz=44
635A Leesville 43.80 330 ⇑P **P 09 56 10.7 +1.1**
baz=44
536A Bastrop 44.02 331 ⇓P **P 09 56 12.7 +1.4**
baz=44
733A Divot King Ran 44.05 327 ⇓P **P 09 56 13.0 +1.4**
baz=44
832A Faith Ranch, C 44.07 326 ⇓P **P 09 56 12.9 +1.0**
baz=44
338A Crockett 44.28 334 ⇑P **P 09 56 14.8 +1.3**
baz=44,SNR=6.3
732A Laxson Ranch, 44.42 327 ⇑P **P 09 56 15.6 +1.0**
baz=45
436A Wall Ranch, Ga 44.46 332 ⇓P **P 09 56 16.4 +1.5**
baz=45
633A Saathoff Ranch 44.57 328 ⇑P **P 09 56 16.9 +1.1**
baz=45
534A Blanco 44.67 329 ⇓P **P 09 56 17.1 +0.5**
baz=45,SNR=5.7
435B Jarrell 44.85 331 ⇑P **P 09 56 19.2 +1.3**
baz=45

632A	Uvalde baz=45,SNR=11	44.93 328	⇓P	P	09 56 20.1 +1.4
533A	Kerrville baz=45	44.99 329	⇑P	P	09 56 20.0 +0.8
336A	Riesel baz=45	45.00 332	⇓P	P	09 56 20.1 +0.9
335A	Moody baz=45	45.19 331	⇓P	P	09 56 21.6 +1.0
434A	Burnet baz=46,SNR=5.1	45.21 330	⇓P	P	09 56 22.0 +1.1
631A	Perdido Creek baz=46,SNR=17	45.28 327	⇑P	P	09 56 22.1 +0.7
532A	Rocksprings baz=46	45.49 328	⇓P	P	09 56 24.2 +1.1
VWCC	Virginia Weste	45.55 353	eP	P	09 56 23.8 +0.4
433A	Art baz=46,SNR=6.4	45.57 329	⇓P	P	09 56 24.2 +0.5
334A	Lometa baz=46	45.62 331	⇓P	P	09 56 24.7 +0.6
JCT	Junction City baz=46	45.71 328	⇓P	P	09 56 25.6 +0.7
WHTX	Lake Whitney, baz=46	45.79 332	⇓P	P	09 56 26.4 +1.1
WHTX	Lake Whitney, 10nm,0.6s	45.79 332	eP	P	09 56 26.4 +1.1
531A	Rocksprings baz=46	45.85 327	⇓P	P	09 56 26.9 +0.9
333A	Richland Sprin baz=46,SNR=5.1	45.98 330	⇑P	P	09 56 27.1 +0.2
432A	Menard baz=46	46.02 329	⇓P	P	09 56 27.9 +0.6
234A	Clairette baz=46,SNR=8.1	46.12 331	⇑P	P	09 56 28.4 +0.4
135A	Vickery Place, baz=46	46.24 332	⇑P	P	09 56 29.6 +0.7
530A	J-C Ranch, Com baz=46	46.27 327	⇑P	P	09 56 30.0 +0.8
431A	Sonora baz=46,SNR=6.0	46.30 328	⇓P	P	09 56 29.9 +0.5
332A	Millersview baz=47,SNR=6.8	46.41 329	⇑P	P	09 56 30.9 +0.7
233A	Rising Star baz=47,SNR=7.2	46.50 331	⇓P	P	09 56 31.5 +0.5
134A	White-Moore Ra baz=47,SNR=8.6	46.57 332	⇓P	P	09 56 32.1 +0.7
331A	San Angelo baz=47,SNR=10	46.70 329	⇑P	P	09 56 33.0 +0.5
430A	Baggett Ranch, baz=47,SNR=8.4	46.71 327	⇓P	P	09 56 33.3 +0.6
529A	Stev Forest Ra baz=47	46.74 326	⇑P	P	09 56 33.6 +0.7
232A	Coleman baz=47,SNR=11	46.76 330	⇑P	P	09 56 33.4 +0.4
Z35A	Perchaven, San baz=47	46.82 333	⇓P	P	09 56 34.2 +0.8
429A	Davenport Ranc baz=47,SNR=7.5	46.94 327	⇑P	P	09 56 34.9 +0.5
TXAR	Lajitas Array 2.8nm,0.5s,baz=151,slow=8.7,SNR=63	46.97 324 P		P	09 56 35.3 +0.6
133A	Hamilton Ranch baz=47	46.99 331	⇑P	P	09 56 35.4 +0.6
231A	Bronte baz=47	47.14 329	⇑P	P	09 56 36.3 +0.3
Z34A	Collier Ranch, baz=47	47.16 333	⇓P	P	09 56 36.6 +0.6
330A	Mertzon baz=47	47.16 328	⇓P	P	09 56 36.6 +0.4
ABTX	Abilene, Hawle baz=48,SNR=6.2	47.36 330	⇓P	P	09 56 38.1 +0.6
ABTX	Abilene, Hawle 14nm,0.8s	47.36 330	eP	P	09 56 38.5 +0.9
Z33A	Whitaker Ranch baz=48,SNR=7.6	47.48 332	⇑P	P	09 56 39.3 +0.8
230A	Sterling City baz=48	47.51 328	⇓P	P	09 56 39.4 +0.5
Y34A	Reagan Ranch, baz=48,SNR=7.7	47.58 333	⇑P	P	09 56 39.7 +0.5
329A	Wagon Wheel Ra baz=48	47.66 327	⇓P	P	09 56 40.4 +0.5
131A	Roby baz=48	47.77 330	⇓P	P	09 56 41.5 +0.8
Z32A	Haskell baz=48	47.83 331	⇑P	P	09 56 41.9 +0.6
229A	Bryant Ranch, baz=48	47.94 328	⇓P	P	09 56 42.7 +0.5
130A	Snyder baz=48	48.00 329	⇓P	P	09 56 43.2 +0.6
Y33A	Hilltop Ranch, baz=48	48.01 332	⇓P	P	09 56 43.5 +1.0
X34A	Smith Ranch, M baz=48	48.15 333	⇓P	P	09 56 44.5 +0.9
Z31A	Sharp Cattle R baz=48,SNR=6.5	48.17 330	⇓P	P	09 56 44.4 +0.6
Y32A	R-V Farms, Ver baz=49,SNR=9.0	48.39 332	⇑P	P	09 56 46.2 +0.7
X33A	Lawton baz=49	48.40 333	⇓P	P	09 56 45.7 +0.2
TUL1	Leonard baz=49	48.41 336	⇓P	P	09 56 45.5 -0.1
228A	UT Block 9, Go baz=49	48.47 327	⇓P	P	09 56 46.5 +0.3
129A	Stewart Farms, baz=49	48.49 328	⇑P	P	09 56 46.8 +0.5
Z30A	Sanderson Ranc baz=49,SNR=18	48.63 329	⇓P	P	09 56 48.0 +0.6
X32A	Elmer baz=49	48.66 332	⇑P	P	09 56 48.4 +0.9
Y31A	Rekieta Farm, baz=49,SNR=7.9	48.74 331	⇓P	P	09 56 49.1 +0.9
128A	Castleberry Fa baz=49,SNR=5.3	48.80 328	⇑P	P	09 56 48.9 +0.1
W33A	Caddo, Fort Co baz=49,SNR=5.2	48.90 333	⇓P	P	09 56 50.0 +0.6
Z29A	Hungry Hill Ra baz=49	48.90 329	⇑P	P	09 56 50.0 +0.5
Y30A	Stafford Cattl baz=49	48.99 330	⇓P	P	09 56 50.7 +0.6
V34A	Guthrie baz=49,SNR=5.7	49.06 335	⇓P	P	09 56 50.4 -0.1
V34A	Guthrie 12nm,0.6s	49.06 335	eP	P	09 56 50.5 0.0
X31A	McDonald Ranch baz=49,SNR=14	49.16 332	⇑P	P	09 56 51.6 +0.2
W32A	Sentinel baz=50,SNR=9.8	49.22 333	⇓P	P	09 56 52.2 +0.4
Z28A	Tucker Farm, M baz=50	49.27 328	⇑P	P	09 56 52.5 +0.2
127A	Arkansas Junct baz=50	49.31 327	⇓P	P	09 56 53.0 +0.3
Y29A	Porterfield Fa baz=50	49.36 329	⇑P	P	09 56 53.4 +0.5
V33A	Lossen Ranch, baz=50	49.38 334	⇑P	P	09 56 53.2 +0.2
X30A	Coker Ranch, T baz=50,SNR=9.1	49.43 331	⇓P	P	09 56 53.8 +0.3
U34A	Anderson Ranch baz=50	49.58 335	⇓P	P	09 56 54.9 +0.4
W31A	Holland Ranch, baz=50	49.59 332	⇑P	P	09 56 54.7 +0.1
V32A	Arapaho baz=50	49.63 333	⇑P	P	09 56 55.1 +0.2
Y28A	McKinney Farm, baz=50	49.69 329	⇑P	P	09 56 55.4 0.0
Z27A	Tatum baz=50	49.73 328	⇑P	P	09 56 55.8 0.0
SFIN	Lafayette baz=50	49.81 347	⇓P	P	09 56 54.5 -1.6
U33A	Lingo Farm, Me baz=50	49.82 335	⇑P	P	09 56 56.0 -0.3
X29A	Tulia baz=50,SNR=7.0	49.84 330	⇑P	P	09 56 56.6 0.0
MSTX	Muleshoe baz=50	50.01 329	⇓P	P	09 56 57.9 0.0
MSTX	Muleshoe 6.8nm,0.9s	50.01 329	eP	P	09 56 58.2 +0.3
V31A	Spring Creek L baz=50	50.03 333	⇑P	P	09 56 58.3 +0.3
Z26A	Caprock baz=50	50.10 327	⇑P	P	09 56 58.8 +0.1
Y27A	Causey baz=50,SNR=5.5	50.14 328	⇑P	P	09 56 59.1 +0.2
X28A	Dimmitt baz=50	50.15 330	⇑P	P	09 56 58.8 -0.1
U32A	Winter Ranch, baz=50	50.16 334	⇑P	P	09 56 59.1 +0.2
W29A	Amarillo baz=51	50.35 330	⇑P	P	09 57 00.3 -0.2
Z25A	Roswell baz=51,SNR=8.3	50.51 326	⇓P	P	09 57 02.0 +0.3
X27A	F and S Farms, baz=51	50.70 329	⇑P	P	09 57 03.5 +0.4
Z24A	Sheeppen Canyo baz=51,SNR=7.7	50.91 326	⇓P	P	09 57 05.0 +0.2
X26A	CR and CF Fran baz=51	51.00 328	⇑P	P	09 57 05.8 +0.5
W27A	Bowe Ranch, En baz=51,SNR=6.4	51.01 329	⇑P	P	09 57 06.4 +1.0
V28A	Channing baz=51	51.14 330	⇑P	P	09 57 06.8 +0.4
S32A	Newby Ranch, P baz=52	51.24 335	⇑P	P	09 57 07.7 +0.7
W26A	Owens Ranch, T baz=52	51.39 329	⇑P	P	09 57 08.9 +0.7
Y24A	Capitan baz=52	51.39 326	⇑P	P	09 57 09.3 +0.9
S31A	Mullinville baz=52	51.41 334	⇓P	P	09 57 09.0 +0.7
V27A	Dan Oppiter Fa baz=52	51.44 330	⇑P	P	09 57 08.9 +0.3
KSU1	Kansas State U baz=52	51.51 338	⇑P	P	09 57 08.6 -0.4
KSU1	Kansas State U	51.51 338	eP	P	09 57 08.5 -0.4
U28A	Mallet baz=52	51.64 331	⇑P	P	09 57 10.6 +0.6
121A	Cookes Peak, D baz=52	51.71 323	⇓P	P	09 57 11.3 +0.6
Y23A	Lovelace Mesa, baz=52	51.74 326	⇑P	P	09 57 11.3 +0.4
Z22A	Elephant Butte baz=52	51.75 325	⇓P	P	09 57 11.5 +0.5
R32A	Long Quarter, baz=52	51.76 335	⇑P	P	09 57 11.4 +0.6
319A	Douglas baz=52	51.81 321	⇓P	P	09 57 11.7 +0.3
T29A	Hugoton baz=52,SNR=6.1	51.83 332	⇓P	P	09 57 12.0 +0.5
W25A	X Bar L Ranch, baz=52	51.85 328	⇑P	P	09 57 12.0 +0.3
Q33A	Connelly Farm, baz=52	51.90 336	⇑P	P	09 57 12.1 +0.3
V26A	Tequesquite Ra baz=52,SNR=8.4	51.95 329	⇑P	P	09 57 12.7 +0.3
U27A	Thompson Grove baz=52	51.97 330	⇑P	P	09 57 12.7 +0.2
R31A	Burdett baz=52	51.99 335	⇑P	P	09 57 12.8 +0.2
S29A	Ulysses baz=52	52.13 333	⇑P	P	09 57 14.3 +0.6
Q32A	Meitler Ranch, baz=52	52.18 336	⇑P	P	09 57 13.9 0.0
T28A	Walsh baz=52	52.18 332	⇑P	P	09 57 14.1 0.0
R30A	Dipton baz=53	52.31 334	⇑P	P	09 57 15.4 +0.5
W24A	Lazy 6 Ranch, baz=53	52.34 327	⇑P	P	09 57 15.8 +0.4
U26A	Atchley Ranch, baz=53	52.40 330	⇓P	P	09 57 16.1 +0.4
V25A	Rancho No Teng baz=53,SNR=6.2	52.41 329	⇑P	P	09 57 16.3 +0.4
T27A	Campo baz=53,SNR=8.1	52.43 331	⇓P	P	09 57 16.1 +0.2
S28A	Mantet baz=53,SNR=6.5	52.46 332	⇓P	P	09 57 16.3 +0.1
Q31A	Ellis baz=53	52.53 335	⇓P	P	09 57 16.8 +0.3
V24A	Rampart Ranch, baz=53,SNR=7.8	52.66 328	⇑P	P	09 57 18.1 +0.3
W23A	Werner Place, baz=53	52.70 327	⇑P	P	09 57 18.5 +0.4
ANMO	Albuquerque	52.71 326	eP	P	09 57 18.6 +0.5
R29A	Marienthal baz=53	52.80 333	⇓P	P	09 57 19.3 +0.7
Q30A	Quinter baz=53	52.86 334	⇓P	P	09 57 19.6 +0.7
T26A	Comanche Natio baz=53	52.94 330	⇓P	P	09 57 20.2 +0.5
P31A	Stockton baz=53	52.97 336	⇑P	P	09 57 20.0 +0.3
R28A	Tribune baz=53	53.03 333	⇓P	P	09 57 20.5 +0.2
Q29A	Oakley baz=53	53.12 334	⇓P	P	09 57 21.1 +0.3
O32A	Brockman Farm, baz=53,SNR=5.7	53.16 337	⇓P	P	09 57 20.8 -0.2
V23A	Ortiz Mt. (NFS baz=53	53.16 327	⇑P	P	09 57 22.2 +0.8
U24A	Moreno Valley baz=53	53.19 329	⇑P	P	09 57 22.0 +0.3
T25A	Trinidad baz=54	53.31 330	⇑P	P	09 57 23.4 +0.9
P30A	Selden baz=54	53.34 335	⇑P	P	09 57 22.8 +0.3
R27A	Eads baz=54	53.44 332	⇑P	P	09 57 23.7 +0.4
O31A	Woolen Ranch, baz=54	53.48 336	⇓P	P	09 57 23.8 +0.3
U23A	El Rito baz=54	53.61 328	⇓P	P	09 57 25.4 +0.8
Q28A	Sharon Springs baz=54	53.63 333	⇓P	P	09 57 25.0 +0.4
V22A	San Miguel Ran baz=54,SNR=8.2	53.68 327	⇑P	P	09 57 26.1 +0.9
P29A	Atwood baz=54	53.69 334	⇓P	P	09 57 25.5 +0.5
S25A	Robets Cordova baz=54,SNR=5.1	53.73 330	⇑P	P	09 57 26.0 +0.4
T24B	San Luis baz=54,SNR=5.1	53.74 329	⇑P	P	09 57 26.5 +0.8
R26A	Arlington baz=54,SNR=5.4	53.76 331	⇓P	P	09 57 25.9 +0.3
O30A	MW Ranch, Wils baz=54	53.80 335	⇑P	P	09 57 26.0 +0.3
KSCO	Kaye Shedlock' baz=54	53.95 333	⇓P	P	09 57 27.7 +0.7
U22A	Llaves baz=54	53.99 327	⇓P	P	09 57 28.5 +1.0
P28A	Saint Francis baz=54	54.02 334	⇓P	P	09 57 28.0 +0.6
R25A	Fountain Ranch baz=54	54.04 331	⇓P	P	09 57 28.0 +0.3
T23A	Casias Ranch, baz=54,SNR=5.8	54.06 328	⇑P	P	09 57 28.6 +0.6
O29A	4D Ranch, Culb baz=54	54.06 335	⇑P	P	09 57 28.1 +0.4
BGNE	Belgrade baz=54	54.10 338	⇓P	P	09 57 27.9 0.0
BGNE	Belgrade 22nm,0.9s	54.10 338	eP	P	09 57 27.6 -0.3
S24A	Houchin Ranch, baz=54	54.10 330	⇓P	P	09 57 29.1 +0.8
Q26A	Hugo baz=55	54.29 332	⇓P	P	09 57 30.1 +0.6
M31A	Lambtecht Ranc baz=55	54.36 337	⇓P	P	09 57 30.0 +0.2
P27A	Ficken Ranch, baz=55	54.37 333	⇑P	P	09 57 30.4 +0.4
X18A	Snowflake baz=55	54.40 323	⇓P	P	09 57 31.0 +0.6
214A	Organ Pipe Nat baz=55	54.44 319	⇓P	P	09 57 31.3 +0.8
O28A	Krutsinger Ran baz=55	54.48 334	⇑P	P	09 57 31.4 +0.6
R24A	Sanders Place, baz=55	54.51 330	⇓P	P	09 57 31.6 +0.5
S23A	Nye Farm, Mont baz=55	54.55 329	⇑P	P	09 57 31.4 -0.1
N29A	Votaw Ranch, W baz=55	54.57 335	⇓P	P	09 57 31.6 +0.3
W18A	Petrified Fore 19nm,0.8s	54.69 324	eP	P	09 57 37.1 +4.7
P26A	Davis Ranch, A baz=55	54.72 332	⇓P	P	09 57 32.9 +0.3
R23A	Moffat baz=55	54.84 330	⇑P	P	09 57 34.2 +0.6
N28A	Pribbeno Ranch baz=55	54.84 335	⇑P	P	09 57 33.7 +0.3
S22A	4UR Ranch, Cre baz=55,SNR=5.0	55.01 328	⇑P	P	09 57 35.4 +0.5
L31A	Butterfield Fa baz=55,SNR=7.0	55.02 338	⇑P	P	09 57 34.3 -0.2
P25A	Willow Gulch B baz=55,SNR=5.6	55.06 332	⇓P	P	09 57 35.6 +0.5
Q24A	Divide baz=55	55.10 331	⇓P	P	09 57 35.8 +0.3
L30A	Spencer Herefo baz=55	55.16 337	⇑P	P	09 57 35.9 +0.3
X16A	Lo Mia Camp, P baz=55	55.21 322	⇓P	P	09 57 36.7 +0.5
M28A	Bar X Bar Ranc baz=56	55.36 335	⇓P	P	09 57 37.8 +0.7
MVCO	Mesa Verde baz=56	55.50 327	⇓P	P	09 57 38.5 +0.2
O25A	Wiggins baz=56	55.52 332	⇑P	P	09 57 38.7 +0.5
ECSD	EROS Data Cent baz=56	55.59 340	⇓P	P	09 57 37.8 -0.8
K30A	Basset baz=56	55.74 337	⇑P	P	09 57 39.4 -0.3
P23A	Jefferson baz=56	55.76 330	⇓P	P	09 57 41.1 +0.9
SPMN	Marine on St. baz=56	55.79 344	⇓P	P	09 57 38.6 -1.3
M27A	Reverse DX Ran baz=56	55.90 335	⇑P	P	09 57 41.5 +0.6
WUAZ	Wupatki baz=56	55.92 323	⇑P	P	09 57 42.6 +1.3
WUAZ	Wupatki 6.2nm,1.0s	55.92 323	eP	P	09 57 42.4 +1.1
ISCO	Idaho Springs baz=56	55.98 331	⇓P	P	09 57 42.0 +0.2
K29A	Lazy Trails An baz=56	56.09 337	⇓P	P	09 57 43.1 +1.0
SMCO	Snowmass	56.17 329	eP	P	09 57 44.1 +0.9
PV01	Paradox Valley	56.21 327	eP	P	09 57 44.0 +0.6
J30A	Dallas baz=56,SNR=6.8	56.25 338	⇓P	P	09 57 42.8 -0.5
P22A	Eagle baz=57,SNR=5.8	56.38 330	⇓P	P	09 57 45.2 +0.7
O23A	Lake Granby, G baz=57,SNR=9.1	56.44 331	⇑P	P	09 57 45.9 +0.9
K28A	Ten Mile Ranch baz=57,SNR=8.1	56.46 336	⇓P	P	09 57 45.2 +0.4
J29A	Okreek baz=57,SNR=5.1	56.64 337	⇓P	P	09 57 45.8 -0.2
O22A	Kremmling baz=57	56.71 331	⇓P	P	09 57 46.5 -0.5
I30A	Oacoma baz=57	56.74 338	⇑P	P	09 57 46.0 -0.7
K27A	Flueckinger Fa baz=57	56.81 335	⇑P	P	09 57 47.8 +0.5
M24A	Cheyenne baz=57	56.92 333	⇓P	P	09 57 48.7 +0.4
J28A	Allard Ranch, baz=57	57.01 337	⇓P	P	09 57 48.8 +0.1
U15A	North Rim baz=57	57.09 324	⇑P	P	09 57 50.1 +0.5
W13A	Hualapai Mount baz=57	57.16 321	⇑P	P	09 57 50.6 +0.5
J27A	Elkhorn Farm, baz=57	57.17 336	⇑P	P	09 57 50.1 +0.2
M23A	Laramie baz=58	57.34 332	⇑P	P	09 57 51.2 0.0
IRM	Iron Mountain baz=58,SNR=5.3	57.35 320	⇑P	P	09 57 52.2 +1.0
I28A	Midland baz=58	57.47 337	⇑P	P	09 57 51.1 -0.7
O20A	White River Ci baz=58	57.53 329	⇓P	P	09 57 52.9 +0.4
J26A	Sides Ranch, S baz=58	57.66 335	⇓P	P	09 57 53.8 +0.6
G30A	Faulkton baz=58	57.69 339	⇑P	P	09 57 53.0 -0.3
L23A	Garrett baz=58	57.84 333	⇑P	P	09 57 54.7 0.0
109C	Camp Elliot, M baz=58	57.85 317	⇓P	P	09 57 53.0 -1.6
I27A	Quinn baz=58	57.87 336	⇓P	P	09 57 54.6 -0.1
SRU	San Rafael Swe 3.8nm,0.7s	57.97 327	eP	P	09 57 56.2 +0.6
N20A	Spence Gulch, baz=58	58.07 330	⇑P	P	09 57 55.3 -1.0
GMRC	Granite Mounta baz=58	58.07 320	⇑P	P	09 57 56.3 0.0
I26A	New Underwood baz=58	58.16 336	⇑P	P	09 57 57.3 +0.6
F30A	Leola baz=58	58.26 340	⇑P	P	09 57 57.0 -0.3
G28A	Parade baz=59	58.28 338	⇓P	P	09 57 57.1 -0.3
I25A	Rochford baz=59,SNR=6.0	58.51 335	⇓P	P	09 58 00.2 +0.9
TUQ	Turquoise Moun baz=59	58.65 320	⇓P	P	09 58 01.0 +0.6
E30A	Jud baz=59	58.80 340	⇑P	P	09 58 00.7 -0.3
F28A	McLaughlin baz=59	58.90 338	⇑P	P	09 58 01.4 -0.3
K21A	Alcova baz=59	58.96 332	⇑P	P	09 58 02.8 +0.4
G26A	Maurine baz=59	59.11 337	⇓P	P	09 58 02.8 -0.4
GSC	Goldstone, Bar baz=59	59.13 320	⇑P	P	09 58 04.3 +0.7
J22A	Midwest baz=60	59.21 333	⇓P	P	09 58 03.9 -0.2
D30A	Buchanan baz=60,SNR=5.1	59.28 341	⇑P	P	09 58 04.1 -0.2
DAU	Daniels Canyon	59.30 328	eP	P	09 58 05.9 +0.9
F27A	Lemmon baz=60	59.37 338	⇑P	P	09 58 04.3 -0.7
H24A	Dirks Ranch, A baz=60	59.44 335	⇑P	P	09 58 05.1 -0.4
AGMN	Agassiz Nation baz=60	59.45 343	⇑P	P	09 58 04.5 -0.9
AGMN	Agassiz Nation 4.6nm,0.6s	59.45 343	eP	P	09 58 04.3 -1.2
E28A	Huff baz=60	59.48 339	⇓P	P	09 58 06.4 +0.7
JLU	Jordanelle 28nm,2.0s	59.54 328	eP	P	09 58 07.3 +0.8
I22A	9 Mile Ranch, baz=60,SNR=6.5	59.59 333	⇑P	P	09 58 06.9 +0.2
J21A	Lysite baz=60	59.60 332	⇓P	P	09 58 07.6 +0.8
F26A	Lodgepole baz=60	59.60 337	⇑P	P	09 58 06.2 -0.4
C30A	Mose, Pekin baz=60	59.71 341	⇑P	P	09 58 06.3 -1.0
TCUT	Toone Canyon 18nm,0.6s	59.89 328	eP	P	09 58 09.0 +0.1
I21A	Big Trails, Te baz=60	59.89 333	⇑P	P	09 58 08.5 -0.2
FURC	Furnace Creek, baz=60	59.89 321	⇑P	P	09 58 09.5 +0.9
J20A	Shoshoni baz=60,SNR=5.1	59.90 332	⇑P	P	09 58 09.3 +0.5
DUG	Dugway, Tooele baz=60,SNR=13	59.98 326	⇑P	P	09 58 10.3 +0.8
DUG	Dugway, Tooele 9.0nm,0.8s	59.98 326	eP	P	09 58 10.3 +0.8
E26A	Carlson Angus baz=60	60.04 338	⇓P	P	09 58 10.6 +1.0
PDAR	Pinedale Array 1.3nm,0.6s,baz=125,slow=7.7,SNR=11	60.16 330 P		P	09 58 10.4 -0.3
PDAR	0.5nm,0.5s,baz=117,slow=8.0,SNR=2.4	pP		pP	09 58 50.9 +3.1
G23A	Biddle baz=60	60.16 335	⇑P	P	09 58 09.4 -1.1
J19A	Crowheart baz=61	60.29 331	⇓P	P	09 58 11.3 -0.3
F24A	Ekalaka baz=61	60.29 336	⇑P	P	09 58 11.3 -0.1
R11A	Troy Canyon, C baz=61	60.32 323	⇓P	P	09 58 12.8 +0.9
R11A	Troy Canyon, C	60.32 323	eP	P	09 58 12.7 +0.9
B30A	Myrvik Farm, E baz=61	60.33 342	⇓P	P	09 58 10.8 -0.6
I20A	Worland baz=61,SNR=5.8	60.38 332	⇑P	P	09 58 12.2 +0.2
E25A	Miller Ranch, baz=61	60.42 337	⇑P	P	09 58 12.5 +0.3
G22A	Birney baz=61	60.56 334	⇓P	P	09 58 12.7 -0.5
F23A	Volborg baz=61	60.59 335	⇓P	P	09 58 12.9 -0.4
B29A	Wagenman Farm, baz=61	60.66 341	⇑P	P	09 58 14.1 +0.4
H20A	Greybull baz=61,SNR=5.1	60.73 333	⇑P	P	09 58 14.3 -0.1
A30A	Hoffart Farm, baz=61	60.75 342	⇓P	P	09 58 14.0 -0.3
E24A	Baker	60.83 337	⇓P	P	09 58 14.2 -0.7

baz=61
AHID Auburn Hatcher 60.92 329 *e*P **P 09 58 15.6 -0.2**
4.8nm,1.0s
D25A Fairfield 60.93 338 ⇑P **P 09 58 15.3 -0.4**
baz=61
B28A Dugan Ranch, T 60.98 340 ⇓P **P 09 58 15.6 -0.3**
baz=61
A29A Manning Farm, 61.03 341 ⇓P **P 09 58 15.6 -0.6**
baz=61
ULM Lac du Bonnet 61.23 344 P **P 09 58 16.3 -1.1**
5.4nm,0.6s,baz=157,slow=6.8,SNR=9.8
LOHW Long Hollow 61.30 330 *e*P **P 09 58 18.7 +0.3**
19nm,1.9s
H19A Powell 61.33 332 ⇓P **P 09 58 17.9 -0.5**
baz=62
TPAW Teton Pass 61.38 330 *e*P **P 09 58 19.2 +0.3**
G20A Bridger 61.40 333 ⇑P **P 09 58 18.4 -0.5**
baz=62
I17A Pilgrim Ck. 61.51 331 ⇓P **P 09 58 20.4 +0.6**
baz=62,SNR=5.4
FXWY Fox Creek 61.52 330 *e*P **P 09 58 20.1 +0.2**
19nm,2.1s
C24A Savage 61.67 337 ⇑P **P 09 58 19.5 -1.0**
baz=62
IMW Indian Meadow 61.67 330 *e*P **P 09 58 21.1 +0.1**
FLWY Flagg Ranch 61.69 331 *e*P **P 09 58 21.6 +0.6**
7.2nm,0.8s
H17A Grant Village 61.87 331 ⇑P **P 09 58 23.2 +1.0**
baz=62
H17A Grant Village 61.87 331 *e*P **P 09 58 23.4 +1.2**
LKWY Lake 61.91 331 *e*P **P 09 58 22.4 -0.1**
3.5nm,1.0s
NVAR Mina Array Bea 62.01 322 P **P 09 58 23.8 +0.6**
1.3nm,0.8s,baz=125,slow=7.8,SNR=9.9
D22A Cohagen 62.05 336 ⇑P **P 09 58 23.9 +0.7**
baz=62,SNR=5.9
C23A Lambert 62.19 337 ⇑P **P 09 58 24.7 +0.7**
baz=62
F19A Roth Farm, Mol 62.21 333 ⇑P **P 09 58 24.5 +0.2**
baz=62
YMR Madison River 62.26 331 *e*P **P 09 58 26.1 +1.3**
7.7nm,0.7s
D21A La Casta Ranch 62.32 335 ⇑P **P 09 58 25.9 +1.0**
baz=63
A25A Svangstu Ranch 62.35 339 ⇓P **P 09 58 26.1 +1.1**
baz=63
E20A Meyer Farm, Mu 62.36 334 ⇑P **P 09 58 25.6 +0.3**
baz=63,SNR=6.1
C22A Vida 62.41 336 ⇓P **P 09 58 25.5 0.0**
baz=63
E19A Rath Farm, Rou 62.61 334 ⇓P **P 09 58 26.8 -0.1**
baz=63
B23A Brockton 62.65 337 ⇓P **P 09 58 27.9 +0.8**
baz=63,SNR=7.6
A24A Westby 62.66 338 ⇑P **P 09 58 28.2 +1.1**
baz=63
D20A Manuel Ranch, 62.82 335 ⇓P **P 09 58 28.6 +0.3**
baz=63
C21A Desert Coulee 62.97 336 ⇑P **P 09 58 29.5 +0.3**
baz=63,SNR=8.2
SCHQ Schefferville 63.09 5 P **P 09 58 29.5 -0.3**
5.7nm,0.7s,baz=191,slow=5.1,SNR=13
HLID Hailey 63.19 328 ⇓P **P 09 58 30.6 -0.3**
baz=63
HLID Hailey 63.19 328 *e*P **P 09 58 31.4 +0.5**
35nm,2.5s
D19A Cripps Ranch, 63.20 334 ⇑P **P 09 58 30.7 -0.1**
baz=64
MCMT McKenzie Canyo 63.29 330 *e*P **P 09 58 31.6 0.0**
3.8nm,1.3s
BOZ Bozeman (W) 63.30 331 *e*P **P 09 58 31.6 +0.1**
3.1nm,0.6s
B21A Ellsworth Farm 63.41 336 ⇑P **P 09 58 33.1 +1.0**
baz=64
A22A Carney Farms, 63.44 337 ⇓P **P 09 58 32.6 +0.3**
baz=64
C19A Slack Wire Ran 63.71 334 ⇓P **P 09 58 34.4 +0.3**
baz=64
A21A Bergtoll Ranch 63.83 337 ⇓P **P 09 58 35.2 +0.4**
baz=64
MFID Camas Ranch 63.84 327 *e*P **P 09 58 35.8 +0.7**
10nm,0.8s
A20A Cobblestone Ra 64.14 336 ⇑P **P 09 58 36.9 0.0**
baz=64
B19A Brinkman Farms 64.23 335 ⇑P **P 09 58 37.8 +0.4**
baz=64,SNR=6.1
EGMT Eagleton 64.24 334 ⇓P **P 09 58 37.5 -0.1**
baz=64
A19A Klindworth Far 64.51 335 ⇑P **P 09 58 39.6 +0.3**
baz=65
MSO Missoula 65.26 331 ⇑P **P 09 58 45.0 +0.7**
baz=66,SNR=7.6
MSO Missoula 65.26 331 *e*P **P 09 58 44.7 +0.5**
8.9nm,1.1s
M04C Macdoel 66.21 323 ⇑P **P 09 58 51.2 +0.7**
baz=66
I07A Izee 66.28 326 *e*P **P 09 58 51.6 +0.8**
5.8nm,0.7s
F10A Beach Ranch, E 66.30 329 *e*P **P 09 58 52.0 +1.2**
7.6nm,1.1s
M02C Callahan 66.59 322 ⇑P **P 09 58 53.6 +0.8**
baz=67
J05D Fort Rock, OR 66.76 324 ⇓P **P 09 58 53.3 -0.6**
baz=67
J04D Umpqua Nationa 67.24 324 ⇑P **P 09 58 58.0 +1.0**
baz=68
I05D Terrebonne, OR 67.47 325 ⇑P **P 09 59 5.5 +1.2**
baz=68
L02D Cave Junction, 67.49 322 ⇓P **P 09 58 58.2 -0.2**
baz=68
I04A Tendick Farm, 67.75 324 ⇓P **P 09 58 59.9 -0.2**
baz=68
NEW Newport 67.80 330 ⇓P **P 09 59 00.2 -0.1**
baz=68
G05D Wamic, OR 68.01 326 ⇑P **P 09 59 02.9 +1.2**
baz=68
EDM Edmonton 69.67 336 *e*P **P 09 59 11.1 -0.6**
DBIC Dimbokro 70.56 80 P **P 09 59 17.9 0.0**
4.0nm,0.3s,baz=244,slow=4.2,SNR=16
YKA Yellowknife Ar 77.07 342 P **P 09 59 54.1 -0.6**
1.5nm,0.5s,baz=142,slow=6.0,SNR=60
TORD Torodi Ar. Bea 78.16 75 P **P 10 00 00.3 -1.5**
2.4nm,0.6s,baz=256,slow=4.3,SNR=21
TORD pP **pP 10 00 42.5 +1.8**
0.9nm,0.7s,baz=279,slow=5.4,SNR=2.9
SUMG Summit 83.84 10 *i* P **P 10 00 31.4 +0.2**
15nm,0.7s
SUMG Summit 83.84 10 *e*P **P 10 00 31.2 0.0**
15nm,0.8s
ILAR Eielson Array 90.16 336 P **P 10 01 00.9 -0.5**
0.8nm,0.8s,baz=150,slow=2.9,SNR=8.8
DAG Danmarks Havn 90.49 11 *i* P **P 10 01 02.2 -0.4**
2.0nm,0.9s
ZALV Zalesovo Beam 131.31 16 PKP **PKPdf 10 07 11.8 -0.9**
0.8nm,0.6s,baz=298,slow=3.2,SNR=5.5
MKAR Makanchi Array 136.55 24 PKP **PKPdf 10 07 22.5 -0.3**
0.4nm,0.8s,baz=341,slow=1.5,SNR=5.1
KSH Kashi 138.87 36 *e*PKP **PKPdf 10 07 29.2 +1.7**
KSH PP **PP 10 10 21.3 +0.9**
KSH PKS **PKSdf 10 11 05.3 +1.6**
KSH SS SS 10 28 28.8 +5.6
KSH PPMZ
67nm,4.7s
KSH LN
31nm,6.0s
KSH LE
33nm,3.8s
KSH LZ
130nm,5.2s
HHC Hu-ho-hao-te 147.10 352 *e*PKPbc **PKPab 10 07 45.7 -0.4**
HHC PP PP 10 11 15.6 +6.6
HHC SS SS 10 30 04.4 +7.9
HHC PPMZ
180nm,5.7s
HHC LN
260nm,21.0s
HHC LE
310nm,21.0s
HHC LZ
200nm,20.0s
LZH Lanzhou 152.18 4 *e*PKPbc **PKPdf 10 07 52.1 +1.9**
NJ2 Nanjing 153.40 335 *e*PKPbc **PKPbc 10 07 56.4 -3.1**
KMI Kunming 162.90 10 PKP **PKPdf 10 08 04.4 +0.6**

ISCJB ***01*** *09:49:09.2±0.6,35°.95S±0°.07×72°.9W±0°.1,h28km, mb4.3/11,MS3.6/1,Error ellipse: s-maj=14.4km s-min=10.4km az=173.1*
NEIC ***01*** *09:49:12.0±0.5,35°.94S×72°.90W,h35km,mb4.7/3,Error ellipse: s-maj=12.2km s-min=8.9km az=85.0*
IDC ***01*** *09:49:11.8±0.8,36°.01S×72°.63W,h30km±5km,mb4.1/9, mb1 4.3/10,mb1mx4.1/28,mbtmp4.3/10,ML4.5/1,MS3.7/1, Ms1 3.7/1,ms1mx3.1/24,Error ellipse: s-maj=26.7km s-min=16.3km az=73.0*
ISC 01 09:49:11.1±0.6,35°.96S±0°.09×72°.9W±0°.1,h28km,n24, σ1§07/26,mb4.3/11,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.11**	**160**	Pn	**Pn**	**09 50 25.9**	**+0.1**
	4.3nm,0.3s,baz=334,slow=14,SNR=13						
PLCA				Lg	Lg	09 51 41.7	
	4.1nm,0.3s,baz=80,slow=17,SNR=4.5						
CFAA	**Coronel Fontan**	**5.82**	**43**	Pn	**Pn**	**09 50 35.6**	**0.0**
	0.2nm,0.3s,baz=231,slow=14,SNR=4.3						
TRQA	**Tornquist**	**8.97**	**107**	*e*Pn	**Pn**	**09 51 21.0**	**+2.2**
	31nm,1.0s						
LVC	**Limon Verde**	**13.74**	**16**	Pn	Pn	09 52 19.3	-5.1
CPUP	**Villa Florida**	**16.40**	**59**	Pn	**Pn**	**09 52 59.0**	**-0.3**
LPAZ	**La Paz**	**20.05**	**13**	P	**P**	**09 53 42.1**	**-0.6**
SIV	**San Ignacio**	**22.51**	**31**	P	**P**	**09 54 08.9**	**+0.2**
	4.4nm,0.6s,baz=234,slow=15,SNR=4.2						
RPN	**Rapa Nui**	**32.13**	**276**	LR	LR	10 04 29.2	
	comp=Z,112nm,18.9s,baz=130,slow=28						
SNAA	**Sanae**	**50.05**	**157**	P	**P**	**09 58 02.7**	**-0.1**
	2.0nm,0.9s,baz=305,slow=6.1,SNR=4.4						
QSPA	**South Pole Qui**	**54.28**	**180**	P	**P**	**09 58 34.2**	**-0.3**
	5.0nm,0.9s,baz=172,slow=2.0,SNR=12						
QSPA	**South Pole Qui**	**54.28**	**180**	*e*P	**P**	**09 58 34.6**	**+0.1**
	3.7nm,0.8s						
TXAR	**Lajitas Array**	**71.11**	**332**	P	**P**	**10 00 28.4**	**+1.4**
	1.6nm,0.6s,baz=151,slow=8.4,SNR=17						
TXAR				pP	**pP**	**10 00 37.6**	**+1.7**
	0.8nm,0.7s,baz=142,slow=10,SNR=5.1						
ABTX	**Abilene, Hawle**	**72.68**	**337**	*e*P	**P**	**10 00 36.3**	**+0.1**
	8.4nm,0.9s						
DBIC	**Dimbokro**	**76.47**	**71**	P	**P**	**10 00 58.1**	**-0.5**
	2.8nm,0.8s,baz=204,slow=6.5,SNR=3.7						
BOSA	**Boshof**	**79.78**	**118**	P	**P**	**10 01 16.3**	**-0.8**
	5.1nm,0.8s,baz=218,slow=2.6,SNR=9.1						
BOSA				pP	**PcP**	**10 01 24.9**	**+0.2**
	6.1nm,1.0s,baz=199,slow=3.8,SNR=5.2						
DUG	**Dugway, Tooele**	**84.22**	**330**	*e*P	**P**	**10 01 38.1**	**-1.8**
	9.6nm,1.6s						
NVAR	**Mina Array Bea**	**85.10**	**326**	P	**P**	**10 01 45.7**	**+1.3**
	1.1nm,0.7s,baz=152,slow=6.0,SNR=8.9						
NVAR				pP	**pP**	**10 01 56.2**	**+2.7**
	0.8nm,0.8s,baz=162,slow=6.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**85.53**	**70**	P	**P**	**10 01 45.5**	**-1.4**
	1.2nm,0.8s,baz=241,slow=3.8,SNR=5.3						
ULM	**Lac du Bonnet**	**88.21**	**345**	P	**P**	**10 01 58.4**	**-0.6**
	3.2nm,0.8s,baz=180,slow=4.2,SNR=5.7						
PSI	**Prapat**	**146.15**	**165**	PKPbc	**PKPdf**	**10 08 48.4**	**0.0**
	11nm,0.9s,baz=204,slow=21,SNR=4.2						
BVAR	**Borovoye Array**	**149.17**	**45**	PKPbc	**PKPbc**	**10 08 56.5**	**+0.2**
	0.7nm,0.6s,baz=298,slow=3.2,SNR=5.2						
AAK	**Ala-Archa**	**154.00**	**65**	PKPbc	**PKPbc**	**10 09 07.5**	**-0.5**
	1.3nm,0.7s,baz=326,slow=2.4,SNR=5.6						
AAK	**Ala-Archa**	**154.00**	**65**	*e*PKPdf	**PKPdf**	**10 08 59.9**	**0.0**
AAK				PKPbc	**PKPbc**	**10 09 07.5**	**-0.5**
ZALV	**Zalesovo Beam**	**156.25**	**34**	PKPbc	PKPdf	10 09 10.2	+7.8
	0.4nm,0.4s,baz=310,slow=6.8,SNR=2.7						
ZALV				PKPab	**PKPab**	**10 09 30.9**	**+0.5**
	0.8nm,0.5s,baz=305,slow=5.2,SNR=4.2						

IDC 01 09:51:47.1±2.2,6°.69S×129°.46E,h0km,mb3.5/1, mb1 3.8/3,mb1mx3.5/29,mbtmp3.6/3,ML3.7/2,Error ellipse: s-maj=147.4km s-min=31.1km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.34**	**165**	P	Pn	09 53 27.5	+5.7
	baz=3.9,SNR=13						
MTN				S	Sn	09 54 31.2	-3.9
	baz=3.9,SNR=8.0						
KDU	**Kakadu**	**6.66**	**154**	P	Pn	09 53 31.5	+5.2
	baz=4.4,SNR=41						
KDU				S	Sn	09 54 38.7	-4.3
	baz=4.4,SNR=9.4						
KNRA	**Kununurra**	**8.96**	**184**	P	Pn	09 54 02.3	+4.4
	baz=6.6,SNR=6.1						
WRA	**Warramunga Arr**	**14.00**	**161**	Pn	Pn	09 55 06.1	-0.9
	0.4nm,0.3s,baz=343,slow=13,SNR=12						
WRA				Sn	Sn	09 57 28.4	-15
	0.8nm,0.3s,baz=329,slow=22,SNR=8.5						
ASAR	**Alice Springs**	**17.42**	**166**	P	Pn	09 55 52.2	+0.5
	0.3nm,0.3s,baz=346,slow=11,SNR=12						
ASAR				S	Sn	09 58 53.6	-13
	0.2nm,0.3s,baz=316,slow=16,SNR=6.7						
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	10 02 46.2	0.0
	0.2nm,0.4s,baz=114,slow=8.9,SNR=8.2						

ISCJB ***01*** *09:55:41.3±1.2,34°.7S±0°.1×72°.1W±0°.2,h16km,mb4.3/4, Error ellipse: s-maj=25.1km s-min=14.4km az=137.6*
IDC ***01*** *09:55:41.6±1.7,34°.71S×71°.89W,h0km,mb4.2/2, mb1 4.1/3,mb1mx3.7/32,mbtmp4.0/3,ML3.3/2,Error ellipse: s-maj=76.9km s-min=28.2km az=133.0*
NEIC ***01*** *09:55:46.5±0.7,34°.63S×71°.96W,h35km,mb4.6/2,Error ellipse: s-maj=16.8km s-min=10.1km az=48.0*
ISC 01 09:55:43.5±1.3,34°.7S±0°.1×72°.0W±0°.2,h16km,n13, σ0§61/13,mb4.4/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.42**	**47**	Pn	**Pn**	**09 56 50.6**	**+0.7**
	0.3nm,0.3s,baz=227,slow=5.7,SNR=6.9						
CFAA				Lg	Lg	09 57 59.9	
	1.1nm,0.3s,baz=46,slow=13,SNR=6.5						
TRQA	**Tornquist**	**8.79**	**115**	*e*Pn	**Pn**	**09 57 50.5**	**+0.6**
LPAZ	**La Paz**	**18.64**	**12**	P	**P**	**10 00 01.4**	**+0.1**
	0.1nm,0.3s,baz=242,slow=15,SNR=3.6						
SAML	**Samuel**	**26.86**	**20**	P	**P**	**10 01 23.3**	**-0.2**
BDFB	**Brasilia**	**26.72**	**55**	P	**P**	**10 01 39.1**	**-1.2**
	2.6nm,0.6s,baz=180,slow=12,SNR=3.6						
BCIP	**Isla Barro Col**	**44.22**	**349**	*e*P	**P**	**10 03 51.9**	**-0.2**
JTS	**JuntasAbangare**	**46.36**	**342**	P	**P**	**10 04 09.3**	**+0.3**
SDDR	**Presa de Saban**	**53.36**	**1**	*e*P	**P**	**10 05 02.6**	**+0.4**
MIAR	**Mount Ida**	**71.75**	**341**	*e*P	**P**	**10 07 04.6**	**-0.2**
	13nm,1.8s						
TSUM	**Tsumeb**	**79.03**	**106**	*e*P	**P**	**10 07 46.8**	**-0.6**
	8.0nm,1.5s						
TORD	**Torodi Ar. Bea**	**84.44**	**70**	P	**P**	**10 08 16.0**	**+0.3**
	0.8nm,0.7s,baz=245,slow=4.1,SNR=5.3						
BVAR	**Borovoye Array**	**147.77**	**44**	PKPbc	**PKPbc**	**10 15 27.8**	**+0.8**
	0.7nm,0.5s,baz=270,slow=5.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**154.79**	**33**	PKPbc	**PKPbc**	**10 15 43.3**	**0.0**
	1.1nm,0.7s,baz=343,slow=4.5,SNR=4.4						

IDC ***01*** *09:57:23.1±2.0,38°.46S×73°.72W,h0km,mb4.1/5, mb1 4.1/6,mb1mx3.9/32,mbtmp4.0/6,ML3.5/1,Error ellipse: s-maj=86.7km s-min=17.5km az=49.0*
ISCJB ***01*** *09:57:24.3±2.0,38°.5S±0°.4×73°.8W±0°.6,h18km,mb4.0/5, Error ellipse: s-maj=84.7km s-min=24.2km az=140.0*
ISC 01 09:57:26.1±2.1,38°.5S±0°.4×73°.7W±0°.5,h18km,n8,σ0§68/9, mb4.3/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.28**	**134**	Pn	**Pn**	**09 58 17.6**	**+0.9**
	1.1nm,0.3s,baz=291,slow=11,SNR=3.1						
PLCA				Pg	**Pb**	**09 58 23.1**	**-0.8**
	9.1nm,0.3s,baz=312,slow=15,SNR=18						
PLCA				Lg	Lg	09 59 10.7	
	14nm,0.3s,baz=49,slow=15,SNR=8.2						
TXAR	**Lajitas Array**	**73.07**	**333**	P	**P**	**10 08 55.0**	**-0.2**
	0.1nm,0.5s,baz=143,slow=6.2,SNR=2.4						
DBIC	**Dimbokro**	**77.87**	**71**	P	**P**	**10 09 23.6**	**+0.7**
	2.7nm,0.7s,baz=195,slow=5.4,SNR=4.4						
BOSA	**Boshof**	**79.14**	**118**	P	**P**	**10 09 29.9**	**-0.1**
	2.9nm,0.9s,baz=207,slow=2.3,SNR=3.9						
LBTB	**Lobatse**	**81.60**	**115**	P	**P**	**10 09 43.2**	**-0.1**
	1.5nm,0.5s,baz=243,slow=4.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**86.96**	**71**	P	**P**	**10 10 10.1**	**-0.3**
	0.8nm,0.7s,baz=241,slow=4.3,SNR=5.1						
BVAR	**Borovoye Array**	**151.38**	**48**	PKPbc	**PKPbc**	**10 17 18.5**	**+0.4**
	0.8nm,0.6s,baz=294,slow=4.7,SNR=4.4						
MKAR	**Makanchi Array**	**160.53**	**57**	PKPab	**PKPab**	**10 18 05.1**	**-0.7**
	0.2nm,0.5s,baz=293,slow=3.6,SNR=3.7						

NIED ***01*** *10:02:00,25°.90N×128°.80E,h8km,Mw4.4 Best double couple: M0:4.56000×10¹⁵ NP1:φ0=60.00000°,δ38.00000°, λ-47.00000°. NP2:φ0=190.00000°,δ63.00000°, λ-118.00000°.*
ISCJB ***01*** *10:02:05.3±0.7,25°.90N±0°.03×128°.65E±0°.03,h16km±4km, mb4.5/60,MS4.2/6,Error ellipse: s-maj=5.0km s-min=3.3km az=136.5*
MOS ***01*** *10:02:08.0±1.2,26°.00N×128°.75E,h33km,mb4.7/40,Error ellipse: s-maj=10.6km s-min=5.8km az=106.2*
JMA ***01*** *10:02:08.1±0.3,26°.00N×128°.66E,h37km,M4.3*
JMA Felt I J1.
BJI ***01*** *10:02:09.2,25°.90N×128°.50E,h35km,mB4.7/31,mb4.5/42, Ms4.3/36,Ms7 4.0/35*
NEIC ***01*** *10:02:09.6±0.4,25°.88N×128°.51E,h35km,mb4.8/17, MW4.4(NIED),Error ellipse: s-maj=9.0km s-min=5.9km az=137.0*
NEIC Felt [II] at Chatan, Okinawa. Also felt at Ginowan and Okinawa. Recorded [1 JMA] on Okinawa.
IDC ***01*** *10:02:10.3±0.6,25°.99N×128°.67E,h37km±4km,mb4.1/25, mb1 4.3/29,mb1mx4.2/43,mbtmp4.3/29,ML4.0/4,MS4.0/4, Ms1 4.0/4,ms1mx3.3/41,Error ellipse: s-maj=16.2km s-min=10.3km az=76.0*
BKK ***01*** *10:02:45.0±2.5,28°.N±15°.×12°.4E±3°.6,h10km,M4.4/11, mB5.1/3,mb4.4/11,Mw(mB)4.4/3*
ISC 01 10:02:09.8±0.4,25°.99N±0°.04×128°.65E±0°.03,h32km±2km, h32km:pP-P,n214,σ1§91/248,mb4.5/60,MS4.4/7,20C-11D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.77**	**313**	P	**Pn**	**10 02 22.5**	**-1.9**
JNTH				*e*S	**Sn**	**10 02 32.6**	**-2.3**
JJT2	**Tamagusuku 2**	**0.82**	**280**	P	**Pn**	**10 02 23.5**	**-1.7**
JJT2				*e*S	**Sn**	**10 02 35.4**	**-0.9**
JOW	**Kunigami**	**0.90**	**338**	P	**Pn**	**10 02 24.8**	**-1.4**
JOW				S	**Sn**	**10 02 36.1**	**-2.1**
JOW	**Kunigami**	**0.90**	**338**	Pn	**Pn**	**10 02 24.9**	**-1.4**
	157nm,0.3s,baz=142,slow=17,SNR=215						
JOW				Sn	**Sn**	**10 02 36.0**	**-2.1**
	188nm,0.3s,baz=198,slow=20,SNR=27						
JIH	**Iheya**	**1.21**	**330**	P	**Pn**	**10 02 29.5**	**-0.9**
JIH				S	**Sn**	**10 02 44.8**	**-0.9**
JOKE	**Okinoerabujima**	**1.37**	**357**	P	**Pn**	**10 02 31.6**	**-1.1**
JOKE				*e*S	**Sn**	**10 02 48.2**	**-1.5**
JAGN	**Aguni-jima**	**1.40**	**295**	P	**Pn**	**10 02 32.0**	**-1.1**
JAGN				S	**Sn**	**10 02 50.3**	**-0.1**
JKE	**Kume jima 2**	**1.71**	**282**	P	**Pn**	**10 02 35.5**	**-1.8**
JKE				S	**Sn**	**10 02 55.4**	**-2.7**
JTK	**Tokunoshima**	**1.81**	**8**	P	**Pn**	**10 02 37.3**	**-1.4**
JTK				S	**Sn**	**10 02 58.3**	**-2.2**
JAMN	**Amaminishikomi**	**2.29**	**12**	P	**Pn**	**10 02 44.0**	**-1.3**
JMZ	**Minamidaito 2**	**2.32**	**94**	P	Pn	10 02 42.0	-3.8
JMZ				S	Sn	10 03 06.5	-6.7
JAM	**Amami Oshima**	**2.56**	**19**	P	**Pn**	**10 02 47.1**	**-1.9**
JAM				S	**Sn**	**10 03 16.9**	**-2.1**
JOGS	**Gusukube**	**3.18**	**248**	P	**Pn**	**10 02 55.7**	**-1.9**
JOGS				S	**Sn**	**10 03 30.8**	**-3.6**
JMJ	**Miyako jima 2**	**3.25**	**250**	P	**Pn**	**10 02 56.5**	**-2.1**
JMJ				*e*S	**Sn**	**10 03 33.6**	**-2.7**
JIKM	**Ikemajima**	**3.26**	**252**	P	**Pn**	**10 02 56.4**	**-2.2**
JIKM				S	**Sn**	**10 03 32.1**	**-4.2**
JIRB	**Irabujima**	**3.35**	**251**	P	**Pn**	**10 02 57.5**	**-2.5**
JIRB				S	**Sn**	**10 03 35.0**	**-3.7**
JTJ	**Tarama**	**3.82**	**250**	P	**Pn**	**10 03 03.4**	**-3.0**
JTJ				S	**Sn**	**10 03 45.8**	**-4.4**
JISG	**Ishigakijimahi**	**4.17**	**251**	P	Pn	10 03 07.4	-3.8
JISG				S	**Sn**	**10 03 55.3**	**-3.6**
JIJ	**Ishigaki jima**	**4.39**	**249**	P	Pn	10 03 10.7	-3.6
JIJ				S	Sn	10 03 58.0	-6.4
JKRS	**Kuro-shima**	**4.56**	**248**	P	**Pn**	**10 03 14.7**	**-1.8**
IRIF	**Iriomote-Funau**	**4.75**	**251**	P	Pn	10 03 16.0	-3.2
IRIF				S	**Sn**	**10 04 07.9**	**-5.4**
YOJ	**Yonaguni jima**	**5.33**	**255**	*e*P	Pn	10 03 23.5	-3.6
YOJ				pmax	pmax		
	comp=Z,33nm,0.5s						
YOJ	**Yonaguni jima**	**5.33**	**255**	P	Pn	10 03 23.9	-3.3
YOJ	**Yonaguni jima**	**5.33**	**255**	*e*Pn	Pn	10 03 23.5	-3.6
	comp=Z,33nm,0.5s						
JYNG	**Yonagunijimaku**	**5.39**	**255**	P	Pn	10 03 24.5	-3.5
TATO	**Taipei**	**6.55**	**263**	*e*Pn	**Pn**	**10 03 41.5**	**-2.4**
NACB	**Ninganchiao**	**6.65**	**256**	*e*Pn	Pn	10 03 41.3	-4.0
	comp=Z,118nm,0.3s						
YHNB	**Yeheng**	**6.71**	**260**	*e*Pn	**Pn**	**10 03 44.8**	**-1.4**
	comp=Z,76nm,0.6s						
YULB	**Yu-li**	**7.17**	**250**	*e*Pn	Pn	10 03 46.5	-6.0
	comp=Z,30nm,0.3s						
SSLB	**Suanglung**	**7.33**	**254**	*e*P	Pn	10 03 50.2	-4.5
	comp=Z,56nm,0.4s						
JNU	**Nakatsue**	**7.36**	**15**	Pn	**Pn**	**10 03 55.3**	**+0.2**
	comp=Z,10.0nm,0.3s,baz=196,slow=11,SNR=83						
JNU	**Nakatsue**	**7.36**	**15**	*e*Pn	**Pn**	**10 03 55.5**	**+0.4**
TWG	**Pinlang**	**7.59**	**247**	*e*Pn	Pn	10 03 52.3	-6.0
	comp=Z,230nm,0.3s						
TPUB	**Ta-pu**	**7.77**	**252**	*e*Pn	Pn	10 03 56.9	-3.9
	comp=Z,67nm,0.3s						
NJ2	**Nanjing**	**10.48**	**307**	*e*P	**Pn**	**10 04 38.8**	**+1.0**
NJ2				PMZ			
	comp=Z,60nm,1.1s						
KSAR	**Wonju Array Be**	**11.43**	**357**	P	**Pn**	**10 04 51.5**	**+0.6**
KSAR	**Wonju Array Be**	**11.43**	**357**	Pn	**Pn**	**10 04 51.5**	**+0.6**
KSRS	**Korea Array**	**11.44**	**357**	Pn	**Pn**	**10 04 51.5**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=180,slow=14,SNR=4.9						
MAJO	**Matsushiro**	**13.31**	**36**	*e*P	**Pn**	**10 05 14.8**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,26nm,0.7s						
MAJO	**Matsushiro**	**13.31**	**36**	*e*Pn	**Pn**	**10 05 16.6**	**+0.1**
MAT	**Matsushiro**	**13.31**	**36**	P	**Pn**	**10 05 16.0**	**-0.5**
MAT				S	**Sn**	**10 07 42.4**	**-0.9**
MJAR	**Matsushiro Arr**	**13.31**	**36**	P	**Pn**	**10 05 15.5**	**-1.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**13.31**	**36**	Pn	**Pn**	**10 05 15.5**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=248,slow=14,SNR=7.4						
WHN	**Wuhan**	**13.39**	**293**	P	**P**	**10 05 27.5**	**+0.8**
WHN				S	**S**	**10 08 09.9**	**+1.3**
BJT	**Baijiatuau**	**17.45**	**326**	*e*P	**Pn**	**10 06 10.2**	**-0.5**
BJT				pmax	pmax		
	comp=Z,23nm,0.5s						
BJT	**Baijiatuau**	**17.45**	**326**	*e*Pn	**Pn**	**10 06 10.2**	**-0.5**
	comp=Z,23nm,0.5s						
BJI	**Beijing**	**17.46**	**326**	P	**Pn**	**10 06 11.1**	**+0.3**
BJI				S	**Sn**	**10 09 24.6**	**+0.5**
BJI				PMZ			
	comp=Z,16nm,0.5s						
BJI				LN			
	comp=Z,660nm,13.1s						
BJI				LE			
	comp=Z,410nm,11.5s						
CN2	**Changchun**	**17.96**	**352**	*e*P	**Pn**	**10 06 15.9**	**-1.0**
CN2				*e*pP	**pP**	**10 06 24.0**	**-1.7**
CN2				*e*S	**Sn**	**10 09 30.7**	**-5.5**
CN2				PMZ			
	comp=Z,10.0nm,0.9s						
CN2				LN			
	comp=Z,200nm,13.0s						
CN2				LE			
	comp=Z,500nm,13.0s						
CN2				LZ			
	comp=Z,400nm,15.0s						
USRK	**Ussuriysk Ar.**	**18.37**	**8**	P	**P**	**10 06 21.4**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=185,slow=9.9,SNR=17						
MDJ	**Mudanjiang**	**18.60**	**2**	P	**

QIZ			LZ				
	comp=Z,370nm,17.0s						
XAN	**Xi'an**	**18.85 300**	P	**P**	**10 06 27.3 0.0**		
XAN			PMZ				
	comp=Z,3.0nm,0.7s						
XAN			PMZ				
	comp=Z,10.0nm,3.3s						
GYA	**Guiyang**	**19.73 276**	P	**Pn**	**10 06 40.0 +1.4**		
GYA			pP	**pP**	**10 06 48.7 +3.1**		
GYA			PP	**PnPn**	**10 06 58.5 +5.8**		
GYA			S	**S**	**10 10 13.4 -4.5**		
GYA			SS	**SnSn**	**10 10 40.6 +6.7**		
GYA			PMZ				
	comp=Z,10.0nm,0.8s						
GYA			PMZ				
	comp=Z,90nm,4.8s						
GYA			LN				
	comp=Z,520nm,15.6s						
GYA			LE				
	comp=Z,470nm,16.0s						
GYA			LZ				
	comp=Z,490nm,15.4s						
HHC	**Hu-ho-hao-te**	**20.51 320**	*e*P	Pn	10 06 46.7 -1.0		
HHC			PP	**PnPn**	**10 07 07.3 +4.0**		
HHC			S	**S**	**10 10 27.5 -5.7**		
HHC			SS	**SnSn**	**10 10 57.2 +4.3**		
HHC			PcS	**PcS**	**10 14 35.6 +1.7**		
HHC			PMZ				
	comp=Z,21nm,1.1s						
HHC			PMZ				
	comp=Z,110nm,5.3s						
HHC			LN				
	comp=Z,870nm,12.0s						
HHC			LE				
	comp=Z,560nm,12.2s						
HHC			LZ				
	comp=Z,870nm,11.2s						
CD2	**Chengdu**	**22.41 288**	*e*P	**P**	**10 07 03.3 -2.5**		
CD2			PP	**PnPn**	**10 07 33.8 +4.5**		
CD2			S	S	10 11 02.3 -7.9		
CD2			sS	Sn	10 11 17.8 -5.9		
CD2			SS	**SnSn**	**10 11 43.4 +4.0**		
CD2			PMZ				
	comp=Z,20nm,1.2s						
CD2			PMZ				
	comp=Z,70nm,4.2s						
CD2			LN				
	comp=Z,570nm,14.3s						
CD2			LE				
	comp=Z,610nm,13.1s						
CD2			LZ				
	comp=Z,540nm,13.1s						
KLR	**Kul'dur**	**23.32 5**	*e*P	**P**	**10 07 11.3 -3.7**		
KLR			pmax	pmax			
	comp=Z,50nm,1.6s						
KLR			MLR	MLR			
	comp=Z,800nm,13.0s						
KMI	**Kunming**	**23.38 274**	P	**P**	**10 07 16.4 +0.3**		
KMI			pP	**pP**	**10 07 25.5 +0.5**		
KMI			sP	**sP**	**10 07 28.4 -0.6**		
KMI			PP	**PnPn**	**10 07 48.7 +5.9**		
KMI			S	S	10 11 19.3 -8.0		
KMI			sS	**sS**	**10 11 39.1 -3.5**		
KMI			SS	**SnSn**	**10 12 10.4 +6.8**		
KMI			PMZ				
	comp=Z,16nm,0.9s						
KMI			PMZ				
	comp=Z,89nm,3.1s						
KMI			LN				
	comp=Z,390nm,16.5s						
KMI			LE				
	comp=Z,330nm,10.7s						
KMI			LZ				
	comp=Z,230nm,10.7s						
LZH	**Lanzhou**	**23.46 301**	⇑P	**P**	**10 07 15.6 -1.1**		
LZH			pP	**pP**	**10 07 25.8 +0.2**		
LZH			sP	**sP**	**10 07 29.8 +0.2**		
LZH			PMZ				
	comp=Z,130nm,1.8s						
LZH			PMZ				
	comp=Z,160nm,4.0s						
LZH			LN				
	comp=Z,1μm,17.9s						
LZH			LE				
	comp=Z,770nm,17.3s						
LZH			LZ				
	comp=Z,350nm,15.3s						
YSS	**Yuzh-Sakhalins**	**23.73 25**	⇑*i*P	**P**	**10 07 19.0 +0.1**		
YSS			*e*		10 07 31.0		
YSS			pmax	pmax			
	comp=Z,100nm,1.2s						
YSS			pmax	pmax			
	comp=N,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**23.73 25**	*e*P	**P**	**10 07 19.4 +0.6**		
	comp=N,152nm,1.5s						
UBPT	**Khong Chiam**	**24.13 248**	P	P	10 07 33.8 +11		
	comp=N,19nm,1.3s						
CRAI	**Chiangrai**	**26.60 263**	P	**P**	**10 07 47.1 +1.7**		
	comp=N,8.3nm,1.1s						
LOEI	**Loei**	**26.76 257**	P	**P**	**10 07 44.6 -2.2**		
UTTA	**Uttaradit**	**27.29 258**	P	**P**	**10 07 55.7 +4.1**		
	comp=N,2.6nm,1.0s						
GTA	**Gaotai**	**27.58 306**	*e*P	**P**	**10 07 52.8 -1.3**		
GTA			pP	**pP**	**10 08 02.2 -1.2**		
GTA			sP	**sP**	**10 08 06.7 -0.7**		
GTA			S	**S**	**10 12 30.3 -3.3**		
GTA			sS	**sS**	**10 12 45.8 -3.2**		
GTA			SS	**SnSn**	**10 13 46.8 +1.0**		
GTA			PMZ				
	comp=N,20nm,0.9s						
GTA			PMZ				
	comp=N,140nm,5.0s						
GTA			LN				
	comp=N,160nm,13.1s						
GTA			LE				
	comp=N,250nm,14.7s						
GTA			LZ				
	comp=N,280nm,15.4s						
ULN	**Ulaanbaatar**	**27.66 328**	⇑*i*P	**P**	**10 07 56.4 +1.6**		
ULN	**Ulaanbaatar**	**27.66 328**	*e*P	**P**	**10 07 56.4 +1.6**		
	comp=N,14nm,1.4s						
LAMP	**Lampang**	**27.82 260**	P	**P**	**10 07 57.1 +0.7**		
	comp=N,6.9nm,0.8s,comp=N,66nm						
CMAI	**Chiengmai2**	**27.88 264**	P	P	10 08 03.6 +6.5		
	comp=N,4.5nm,0.9s,comp=N,750nm						
SONM	**Songino Array**	**27.96 327**	P	**P**	**10 07 58.2 +0.8**		
SONM			pmax	pmax			
	comp=Z,4.0nm,0.5s						
SONM	**Songino Array**	**27.96 327**	P	**P**	**10 07 58.2 +0.8**		
	comp=Z,3.7nm,0.5s,baz=143,slow=11,SNR=33						
CHTO	**Chiang Mai**	**28.34 262**	P	P	10 08 10.8 +10		
	comp=Z,30nm,1.4s						
CMAR	**Chiang Mai Arr**	**28.46 261**	P	**P**	**10 08 00.7 -1.4**		
CMAR			pmax	pmax			
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**28.46 261**	P	**P**	**10 08 00.7 -1.4**		
	comp=Z,1.7nm,0.5s,baz=63,slow=8.0,SNR=5.9						
SURT	**Suratani**	**33.01 245**	P	P	10 08 57.1 +15		
	comp=Z,7.5nm,1.1s						
PETK	**Petropavlovsk-**	**34.70 31**	P	**P**	**10 08 56.2 -0.3**		
PETK			pmax	pmax			
	comp=Z,5.0nm,0.8s						
PETK	**Petropavlovsk-**	**34.70 31**	P	**P**	**10 08 56.2 -0.3**		
	comp=Z,4.2nm,0.7s,baz=202,slow=7.7,SNR=6.5						
PET	**Petropavlovsk**	**35.10 32**	*e*P	**P**	**10 08 59.6 -0.3**		
PET			pmax	pmax			
	comp=Z,13nm,0.6s						
PET	**Petropavlovsk**	**35.10 32**	*e*P	**P**	**10 09 00.1 +0.2**		
	comp=Z,30nm,1.2s						
YAK	**Yakutsk**	**36.04 1**	*e*P	P	10 08 57.9 -10		
YAK			pmax	pmax			
	comp=Z,50nm,1.0s						
YAK			pmax	pmax			
	comp=N,22nm,1.1s						
YAK	**Yakutsk**	**36.04 1**	*e*P	**P**	**10 09 07.8 0.0**		
	comp=N,52nm,0.7s						
TAPN	**Taplejung**	**36.50 281**	*e*P	**P**	**10 09 12.6 0.0**		
ODAN	**Odare**	**36.84 281**	*e*P	**P**	**10 09 15.0 -0.5**		
	comp=N,72nm,0.6s						
RAMN	**Ramite**	**37.53 281**	*e*P	**P**	**10 09 21.2 -0.2**		
	comp=N,22nm,0.6s						
WMQ	**Urumqi**	**37.56 309**	P	**P**	**10 09 21.4 +0.2**		
WMQ			sP	**sP**	**10 09 34.8 +0.3**		
WMQ			PP	**PnPn**	**10 10 49.4 +1.2**		
WMQ			S	**S**	**10 15 06.8 -1.6**		
WMQ			sS	**ScP**	**10 15 22.3 -1.4**		
WMQ			SS	**SnSn**	**10 17 39.8 -8.2**		
WMQ			PMZ				
	comp=N,8.0nm,1.0s						
WMQ			PMZ				
	comp=N,67nm,4.5s						
WMQ			LN				
	comp=N,210nm,20.0s						
WMQ			LE				
	comp=N,140nm,21.0s						
WMQ			LZ				
	comp=N,200nm,22.0s						
JIRN	**Jiri**	**37.80 282**	*e*P	**P**	**10 09 23.6 -0.1**		
	comp=N,8.6nm,0.3s						
GUN	**Gumba**	**38.04 283**	*e*P	**P**	**10 09 25.7 0.0**		
PKI	**Pulchoki**	**38.49 282**	*e*P	**P**	**10 09 29.1 -0.5**		
	comp=N,24nm,0.3s						
PKIN	**Phulchoki**	**38.50 282**	*e*P	**P**	**10 09 29.9 +0.3**		
KKN	**Kakani**	**38.58 283**	*e*P	**P**	**10 09 30.0 -0.1**		
	comp=N,25nm,0.3s						
DMN	**Daman**	**38.76 282**	*e*P	**P**	**10 09 31.4 -0.3**		
	comp=N,19nm,0.5s						
GKN	**Gorkha**	**39.11 283**	*e*P	**P**	**10 09 34.1 -0.5**		
	comp=N,29nm,0.4s						
PMG	**Port Moresby**	**39.52 151**	*ce*P	P	10 09 48.1 +10		
PMG			pmax	pmax			
	comp=Z,4.0nm,1.0s						
DANN	**Dangsing**	**39.84 284**	*e*P	**P**	**10 09 40.5 -0.2**		
	comp=Z,58nm,0.5s						
KOLN	**Koldanda**	**40.05 283**	*e*P	**P**	**10 09 42.3 -0.2**		
	comp=Z,56nm,0.8s						
SEY	**Seymchan**	**40.14 17**	P	**P**	**10 09 41.3 -1.1**		
SEY			pmax	pmax			
	comp=Z,3.0nm,0.6s						
SEY	**Seymchan**	**40.14 17**	P	**P**	**10 09 41.3 -1.1**		
	comp=Z,2.7nm,0.6s,baz=325,slow=22,SNR=11						
MK31	**Makanchi Array**	**41.97 312**	*e*P	**P**	**10 09 57.6 -0.2**		
MK31			pmax	pmax			
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**41.97 312**	P	**P**	**10 09 57.0 -0.8**		
MKAR			pmax	pmax			
	comp=Z,4.0nm,0.5s						
MKAR			pmax	pmax			
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**41.97 312**	P	**P**	**10 09 57.0 -0.8**		
	comp=Z,4.1nm,0.5s,baz=98,slow=11,SNR=39						
MKAR			pScP		10 15 55.9		
	comp=Z,1.1nm,0.9s,baz=93,slow=4.2,SNR=7.1						
FX1	**Attu Island--F**	**42.64 39**	LR	LR	10 27 33.4		
	comp=Z,84nm,20.0s,baz=84,slow=36						
ZALV	**Zalesovo Beam**	**42.66 323**	P	**P**	**10 10 03.0 -0.2**		
ZALV			pmax	pmax			
	comp=Z,1.0nm,0.4s						
ZALV			pmax	pmax			
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**42.66 323**	P	**P**	**10 10 03.0 -0.2**		
	comp=Z,1.3nm,0.4s,baz=114,slow=9.5,SNR=7.8						
ZALV			pScP		10 15 58.4		
	comp=Z,2.3nm,0.7s,baz=96,slow=1.5,SNR=8.9						
KURK	**Kurchatov**	**45.25 317**	*e*P	**P**	**10 10 23.8 -0.3**		
KURK	**Kurchatov**	**45.25 317**	*e*P	**P**	**10 10 23.8 -0.3**		
TIXI	**Tiksi**	**45.69 0**	⇑*e*P	**P**	**10 10 25.7 -1.5**		
TIXI			pmax	pmax			
	comp=Z,12nm,2.5s						
KSH	**Kashi**	**45.71 301**	P	P	10 10 31.1 +3.1		
KSH			sP	sP	10 10 45.0 +3.5		
KSH			PP	**PP**	**10 12 19.0 +3.7**		
KSH			S	**S**	**10 17 10.1 +0.9**		
KSH			SS	**ScS**	**10 20 26.7 +4.7**		
KSH			PMZ				
	comp=Z,3.0nm,0.9s						
KSH			PMZ				
	comp=Z,97nm,7.2s						
KSH			LN				
	comp=Z,120nm,5.5s						
KSH			LE				
	comp=Z,70nm,5.3s						
KSH			LZ				
	comp=Z,130nm,8.3s						
WRAB	**Tennant Creek**	**45.98 173**	*ce*P	P	10 10 40.5 +10		
WRAB			pmax	pmax			
	comp=Z,71nm,1.0s						
WRAB	**Tennant Creek**	**45.98 173**	*e*P	**P**	**10 10 28.7 -1.4**		
	comp=Z,8.1nm,0.8s						
WRA	**Warramunga Arr**	**45.99 173**	P	**P**	**10 10 29.2 -1.0**		
WRA			*PP	**pP**	**10 10 40.7 +0.9**		
WRA			pmax	pmax			
	comp=Z,7.0nm,0.6s						
WRA			pmax	pmax			
	comp=Z,22nm,0.8s						
WRA	**Warramunga Arr**	**45.99 173**	P	**P**	**10 10 29.1 -1.0**		
	comp=Z,6.9nm,0.6s,baz=353,slow=8.4,SNR=44						
WRA			pP	**pP**	**10 10 40.7 +0.9**		
	comp=Z,22nm,0.8s,baz=351,slow=8.5,SNR=26						
WB2	**Warramunga Arr**	**45.99 173**	*e*P	**P**	**10 10 28.9 -1.3**		
TKM2	**Tokmak 2**	**46.12 305**	*e*P	**P**	**10 10 31.9 +0.5**		
TKM2			pmax	pmax			
	comp=Z,6.0nm,0.9s						
TKM2	**Tokmak 2**	**46.12 305**	*e*P	**P**	**10 10 31.9 +0.5**		
	comp=Z,6.3nm,0.9s						
AAK	**Ala-Archa**	**46.92 305**	*ce*P	**P**	**10 10 37.3 -0.3**		
AAK			pmax	pmax			
	comp=Z,17nm,2.5s						
AAK	**Ala-Archa**	**46.92 305**	P	**P**	**10 10 37.2 -0.3**		
	comp=Z,1.0nm,0.5s,baz=171,slow=5.4,SNR=4.3						
BILL	**Bilibino**	**47.78 18**	⇑*i*P	**P**	**10 10 44.0 +0.4**		
BILL			*e*		10 12 30.0		
BILL			pmax	pmax			
	comp=Z,15nm,1.4s						
BILL	**Bilibino**	**47.78 18**	*e*P	**P**	**10 10 43.5 -0.1**		
	comp=Z,7.8nm,0.9s						
AS31	**Alice Springs**	**49.63 174**	*e*P	**P**	**10 10 57.4 -0.9**		
ASAR	**Alice Springs**	**49.63 174**	P	**P**	**10 10 57.8 -0.6**		
ASAR			*PP	**pP**	**10 11 09.5 +1.5**		
ASAR			pmax	pmax			
	comp=Z,4.0nm,0.8s						
ASAR			pmax	pmax			
	comp=Z,10.0nm,0.8s						
ASAR	**Alice Springs**	**49.63 174**	P	**P**	**10 10 57.8 -0.6**		
	comp=Z,4.0nm,0.8s,baz=6.7,slow=12,SNR=50						
ASAR			pP	**pP**	**10 11 09.5 +1.5**		
	comp=Z,10.0nm,0.8s,baz=0.3,slow=7.9,SNR=21						
KK31	**Karatay Array**	**49.86 306**	*i*P	**P**	**10 11 00.8 +0.8**		
KK31			pmax	pmax			
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**49.86 306**	*e*P	**P**	**10 11 01.5 +1.5**		
KKAR	**Karatay Array**	**49.86 306**	*e*P	**P**	**10 11 01.5 +1.5**		
VOSK	**Vostochnaya**	**50.30 318**	P	P	10 11 11.0 +7.8		
VOSK			pmax	pmax			
	comp=Z,3.0nm,0.6s						
BVA0	**Borovoye Array**	**50.70 318**	P	**P**	**10 11 06.3 +0.1**		
BVA0			pmax	pmax			
	comp=Z,5.0nm,0.7s						
BVAR	**Borovoye Array**	**50.70 318**	P	**P**	**10 11 06.8 +0.6**		
BVAR			pmax	pmax			
	comp=Z,2.0nm,0.3s						
BVAR	**Borovoye Array**	**50.70 318**	P	**P**	**10 11 06.8 +0.6**		
	comp=Z,1.6nm,0.3s,baz=98,slow=7.9,SNR=11						
BRVK	**Borovoye**	**50.77 318**	*ce*P	**P**	**10 11 06.9 +0.2**		
BRVK			pmax	pmax			
	comp=Z,7.0nm,1.0s						
KBL	**Kabul**	**51.55 295**	*e*P	**P**	**10 11 14.4 +1.3**		
KBL			pmax	pmax			
	comp=Z,10.0nm,0.8s						
KBL	**Kabul**	**51.55 295**	*e*P	**P**	**10 11 14.4 +1.3**		
	comp=Z,10nm,0.8s						
TNA	**Tin City**	**55.68 27**	*e*P	**P**	**10 11 43.4 +0.9**		
	comp=Z,10nm,1.0s						
ABKAR	**Akbulak array**	**57.08 313**	*e*P	**P**	**10 11 53.1 +0.2**		
ARU	**Arti**	**57.81 322**	*d i*P	**P**	**10 11 59.2 +1.3**		
ARU					10 14 01.8		
ARU			S	**S**	**10 19 54.2 -0.7**		
ARU			pmax	pmax			
	comp=Z,5.0nm,1.2s						
AKTO	**Aktyubinsk**	**58.27 315**	P	P	10 12 04.3 +3.1		
AKTO			pmax	pmax			
	comp=Z,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**58.27 315**	P	**P**	**10 12 01.4 +0.2**		
	comp=Z,0.9nm,0.5s,baz=89,slow=12,SNR=4.7						
STKA	**Stephens Creek**	**58.86 167**	P	**P**	**10 12 04.6 -0.8**		
STKA			*PP	**pP**	**10 12 16.5 +1.3**		
STKA			pmax	pmax			
	comp=Z,3.0nm,0.6s						
STKA			pmax	pmax			
	comp=Z,4.0nm,0.7s						
STKA	**Stephens Creek**	**58.86 167**	P	**P**	**10 12 04.6 -0.8**		
	comp=Z,2.9nm,0.6s,baz=353,slow=7.7,SNR=7.4						
STKA			pP	**pP**	**10 12 16.5 +1.3**		
	comp=Z,4.3nm,0.7s,baz=339,slow=7.9,SNR=3.8						
GEYT	**Alibeck**	**59.74 300**	P	**P**	**10 12 12.3 +0.7**		
	comp=Z,4.4nm,0.5s,baz=52,slow=4.1,SNR=9.6						
MCK	**McKinley**	**63.69 29**	*e*P	**P**	**10 12 38.3 +0.5**		
MCK			pmax	pmax			
	comp=Z,8.0nm,0.7s						
MCK	**McKinley**	**63.69 29**	*e*P	**P**	**10 12 38.3 +0.5**		
	comp=Z,7.6nm,0.7s						
ILAR	**Eielson Array**	**64.47 28**	P	**P**	**10 12 42.1 -0.8**		
ILAR			pmax	pmax			
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**64.47 28**	P	**P**	**10 12 42.0 -0.8**		
	comp=Z,1.0nm,0.6s,baz=264,slow=4.5,SNR=26						
APA	**Apatity**	**68.23 336**	*e*P	**P**	**10 13 07.0 +0.1**		
APA			MLR	MLR			
	comp=Z,200nm,19.0s						
ZEI	**Tsey**	**69.17 308**	*e*P	**P**	**10 13 12.2 -1.3**		
ZEI			pmax	pmax			
	comp=Z,7.0nm,1.0s						
KBZ	**Khabaz**	**69.60 310**	P	**P**	**10 13 16.1 +0.3**		
KBZ			pmax	pmax			
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**69.60 310**	P	**P**	**10 13 16.1 +0.3**		
	comp=Z,4.0nm,1.0s,baz=75,slow=4.2,SNR=7.5						
KIV	**Kislovodsk**	**69.68 310**	*e*P	**P**	**10 13 17.8 +1.3**		
KIV			pmax	pmax			
	comp=Z,11nm,1.1s						
ARCES	**ARCESS Array B**	**70.36 339**	P	**P**	**10 13 19.5 -0.6**		
ARCES			pmax	pmax			
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**70.36 339**	P	**P**	**10 13 19.4 -0.6**		
	comp=Z,2.4nm,0.8s,baz=68,slow=7.3,SNR=5.6						
JOF	**Joensuu**	**70.43 331**	*e*P	**P**	**10 13 19.0 -1.6**		
JOF	**Joensuu**	**70.43 331**	*e*p	**P**	**10 13 19.0 -1.6**		
KAF	**Kangasniemi**	**72.89 331**	*e*P	**P**	**10 13 34.4 -1.0**		
KAF	**Kangasniemi**	**72.89 331**	*e*p	**P**	**10 13 34.4 -1.0**		
FINES	**FINESS Array B**	**73.25 331**	P	**P**	**10 13 37.4 -0.1**		
FINES			*PP	**pP**	**10 13 47.6 -0.1**		
FINES			pmax	pmax			
	comp=Z,2.0nm,0.4s						
FINES			pmax	pmax			
	comp=Z,5.0nm,0.7s						
FINES	**FINESS Array B**	**73.25 331**	P	**P**	**10 13 37.4 -0.1**		
	comp=Z,2.4nm,0.4s,baz=75,slow=5.4,SNR=39						
FINES			pP	**pP**	**10 13 47.5 -0.1**		
	comp=Z,5.2nm,0.7s,baz=89,slow=7.0,SNR=5.6						
RAYN	**Ar Rayn**	**74.24 289**	*e*P	**P**	**10 13 45.5 +1.3**		
	comp=Z,5.2nm,0.9s						
MALT	**Malatya**	**74.55 305**	⇑P	**P**	**10 13 46.1 +0.3**		
MALT	**Malatya**	**74.55 305**	⇑*i*P	**P**	**10 13 46.1 +0.3**		
DAG	**Danmarks Havn**	**75.54 353**	*i* P	**P**	**10 13 50.1 -0.5**		
DAG			pmax	pmax			
	comp=Z,1.0nm,0.9s						
DAG	**Danmarks Havn**	**75.54 353**	*i* P	**P**	**10 13 50.1 -0.5**		
	comp=Z,1.7nm,0.9s						
RES	**Resolute Bay**	**75.71 11**	*e*P	**P**	**10 13 51.3 -0.3**		
RES			pmax	pmax			
	comp=Z,7.0nm,0.9s						
RES	**Resolute Bay**	**75.71 11**	*e*P	**P**	**10 13 51.3 -0.3**		
	comp=Z,6.8nm,0.9s						
AKASG	**Malin Array Be**	**75.96 320**	P	**P**	**10 13 52.9 -0.5**		
AKASG			pmax	pmax			
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**75.96 320**	P	**P**	**10 13 52.9 -0.5**		
	comp=Z,1.4nm,0.4s,baz=58,slow=6.5,SNR=9.8						
KIEV	**Kiev**	**75.97 320**	*e*P	**P**	**10 13 53.2 -0.3**		
KIEV			pmax	pmax			
	comp=Z,6.0nm,0.6s						
KIEV	**Kiev**	**75.97 320**	*e*P	**P**	**10 13 53.2 -0.3**		
	comp=Z,6.0nm,0.6s						
BRTR	**Keskin Array B**	**77.48 308**	P	**P**	**10 14 02.8 +0.3**		
BRTR			pmax	pmax			
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**77.48 308**	P	**P**	**10 14 02.8 +0.3**		
	comp=Z,1.9nm,0.6s,baz=64,slow=4.2,SNR=11						
YKA	**Yellowknife Ar**	**78.58 25**	P	**P**	**10 14 08.1 +0.2**		
	comp=Z,1.5nm,0.6s,baz=301,slow=5.5,SNR=34						
CFR	**Carcaliu**	**78.93 315**	⇓P	**P**	**10 14 10.3 +0.1**		
CFR	**Carcaliu**	**78.93 315**	⇓*i*P	**P**	**10 14 10.3 +0.1**		
TESR	**Tescani**	**79.28 317**	⇑*i*P	**P**	**10 14 11.4 -0.7**		
VRI	**Vrincioaia**	**79.52 316**	⇓P	P	10 14 17.9 +4.5		
VRI	**Vrincioaia**	**79.52 316**	⇓*i*P	P	10 14 17.9 +4.5		
PLOR	**Plostina**	**79.58 316**	⇓P	P	10 14 17.7 +3.9		
PLOR	**Plostina**	**79.58 316**	⇓*i*P	P	10 14 17.7 +3.9		
BURAR	**Bucovina Array**	**79.66 318**	⇑P	**P**	**10 14 14.7 +0.4**		
BURAR	**Bucovina Array**	**79.66 318**	⇑*i*P	**P**	**10 14 14.7 +0.4**		
NB2	**NORSAR Subarra**	**79.69 334**	P	**P**	**10 14 13.0 -1.1**		
	comp=Z,1.6nm,0.6s,baz=52,slow=5.6						
NOA	**NORSAR Array B**	**79.69 334**	P	**P**	**10 14 13.6 -0.5**		
NOA			pmax	pmax			
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**79.69 334**	P	**P**	**10 14 13.6 -0.5**		
	comp=Z,1.4nm,0.5s,baz=52,slow=5.6,SNR=9.7						
MLR	**Muntele Rosu**	**80.18 316**	⇑P	pP	10 14 27.5 +0.2		
MLR	**Muntele Rosu**	**80.18 316**	⇑*i*P	pP	10 14 27.5 +0.2		
KWP	**Kalwaria Pacla**	**80.19 321**	⇑P	**P**	**10 14 18.3 +1.3**		
KWP	**Kalwaria Pacla**	**80.19 321**	⇑*i*P	**P**	**10 14 18.3 +1.3**		
VOIR		**80.76 316**	⇓P	**P**	**10 14 22.8 +2.6**		
VOIR		**80.76 316**	⇓*i*P	**P**	**10 14 22.8 +2.6**		
KOLS	**Kolonicke sedl**	**80.78 320**	*e*P	**P**	**10 14 20.7 +0.6**		
KOLS	**Kolonicke sedl**	**80.78 320**	*e*P	**P**	**10 14 20.6 +0.5**		
KOLS			*e*		10 17 16.0		
ARR	**Arges**	**81.06 316**	⇑*i*P	P	10 14 26.2 +4.4		
CRVS	**Cervenica-Dubn**	**81.26 320**	*e*P	**P**	**10 14 24.7 +2.0**		
CRVS	**Cervenica-Dubn**	**81.26 320**	*e*P	**P**	**10 14 24.7 +2.0**		
SUMG	**Summit**	**81.30 356**	*i* P	**P**	**10 14 23.7 +0.7**		
SUMG			*i*		10 14 37.0		
SUMG			pmax	pmax			
	comp=Z,4.0nm,0.8s						
SUMG	**Summit**	**81.30 356**	*i* P	**P**	**10 14 23.7 +0.7**		
	comp=Z,3.6nm,0.8s						
SUMG			*i*		10 14 37.0		
SUMG	**Summit**	**81.30 356**	*e*P	**P**	**10 14 23.6 +0.6**		
VYHS	**Vyhne**	**82.96 321**	*e*P	**P**	**10 14 32.6 +0.9**		
VYHS	**Vyhne**	**82.96 321**	*e*P	**P**	**10 14 32.6 +0.9**		
MMB	**Musomiste**	**83.43 313**	⇓P	**P**	**10 14 31.5 -2.8**		
MMB	**Musomiste**	**83.43 313**	⇓*i*P	**P**	**10 14 31.5 -2.8**		
VRAC	**Vranov**	**83.78 322**	LR	LR	10 55 07.2		
	comp=Z,132nm,19.6s,baz=67,slow=38						
CLL	**Collm**	**84.56 325**	*ep*P	**pP**	**10 14 50.0 0.0**		
	comp=Z,10.0nm,1.0s						
CLL			Lm	MLR	10 29 00.0		
	comp=Z,300nm,20.1s						
GERES	**GERESS Array B**	**85.62 323**	P	**P**	**10 14 45.3 +0.1**		
GERES			pmax	pmax			
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**85.62 323**	P	**P**	**10 14 45.3 +0.1**		
	comp=Z,0.9nm,0.6s,baz=72,slow=14,SNR=4.2						
MOD	**Modoc Plateau**	**87.21 44**	*e*P	**P**	**10 14 54.3 +1.1**		
	comp=Z,6.6nm,1.0s						
FFC	**Flin Flon**	**88.63 27**	*e*P	**P**	**10 15 00.1 +0.5**		
FFC			pmax	pmax			
	comp=Z,108nm,2.8s						
FFC	**Flin Flon**	**88.

*ISCJB **01** 10:08:28.2±0.5, 34°.92S×0°.06×72°.8W±0°.1, h33km, mb4.2/12, Error ellipse: s-maj=14.1km s-min=8.6km az=164.6*
*NEIC **01** 10:08:29.9±0.3, 34°.93S×72°.88W, h35km, mb4.5/5, Error ellipse: s-maj=9.8km s-min=6.1km az=76.0*
ISC 01 10:08:30.0±0.6, 34°.93S±0°.07×72.9W±0°.1, h35km, n33, σ0°69/35, mb4.2/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.11**	**51**	Pn	**Pn**	**10 09 44.5**	**+0.4**
	0.7nm,0.3s,baz=180,slow=1.9,SNR=18						
CFAA				Lg	Lg	10 11 00.6	
	2.1nm,0.3s,baz=130,slow=21,SNR=4.6						
PLCA	**Paso Flores**	**6.08**	**163**	Pn	**Pn**	**10 09 57.1**	**-0.3**
	4.9nm,0.3s,baz=332,slow=13,SNR=15						
PLCA				Lg	Lg	10 11 29.4	
	1.7nm,0.3s,baz=94,slow=22,SNR=4.3						
PLCA	**Paso Flores**	**6.08**	**163**	*e*Pn	**Pn**	**10 09 58.0**	**+0.5**
PLCA				Lg	Lg	10 11 29.4	
TRQA	**Tornquist**	**9.32**	**113**	*e*Pn	**Pn**	**10 10 42.0**	**+0.3**
	14nm,0.9s						
LVC	**Limon Verde**	**12.76**	**17**	*e*Pn	**Pn**	**10 11 28.9**	**-0.2**
LPAZ	**La Paz**	**19.05**	**14**	P	**Pn**	**10 12 50.6**	**-0.2**
	0.5nm,0.3s,baz=185,slow=6.6,SNR=22						
LPAZ	**La Paz**	**19.05**	**14**	*e*P	**P**	**10 12 49.6**	**-0.3**
	4.5nm,0.6s						
SIV	**San Ignacio**	**21.63**	**32**	P	**P**	**10 13 16.5**	**-0.8**
	9.5nm,1.0s,baz=225,slow=12,SNR=13						
NNA	**Nana**	**23.12**	**350**	P	**P**	**10 13 33.5**	**+0.4**
SAML	**Samuel**	**27.34**	**21**	*e*P	**P**	**10 14 11.1**	**-0.7**
OTAV	**Otavalo**	**35.37**	**350**	*e*P	**P**	**10 15 22.9**	**0.0**
SNAA	**Sanae**	**50.99**	**157**	P	**P**	**10 17 28.8**	**+0.9**
	2.0nm,0.9s,baz=188,slow=17,SNR=3.7						
SNAA	**Sanae**	**50.99**	**157**	P	**P**	**10 17 27.4**	**-0.5**
QSPA	**South Pole Qui**	**55.31**	**180**	P	**P**	**10 17 59.8**	**0.0**
	0.6nm,0.5s,baz=78,slow=9.3,SNR=4.9						
QSPA	**South Pole Qui**	**55.31**	**180**	*e*P	**P**	**10 17 59.1**	**-0.8**
TEIG	**Tepich**	**56.77**	**343**	*e*P	**P**	**10 18 10.8**	**+0.3**
TXAR	**Lajitas Array**	**70.21**	**332**	P	**P**	**10 19 40.4**	**+1.0**
	1.3nm,0.6s,baz=154,slow=8.2,SNR=18						
MIAR	**Mount Ida**	**71.78**	**342**	*e*P	**P**	**10 19 48.3**	**-0.3**
WVT	**Waverly**	**72.06**	**347**	*e*P	**P**	**10 19 49.9**	**-0.3**
	8.6nm,0.8s						
ANMO	**Albuquerque**	**76.27**	**332**	*e*P	**P**	**10 20 16.2**	**+1.1**
	7.7nm,1.5s						
TSUM	**Tsumeb**	**79.63**	**106**	*e*P	**P**	**10 20 34.3**	**+0.1**
BOSA	**Boshof**	**80.25**	**118**	P	**P**	**10 20 38.6**	**+1.1**
	3.7nm,0.9s,baz=256,slow=4.4,SNR=5.3						
ECSD	**EROS Data Cent**	**81.22**	**343**	*e*P	**P**	**10 20 41.9**	**-0.1**
	7.4nm,0.8s						
NVAR	**Mina Array Bea**	**84.25**	**326**	P	**P**	**10 20 58.8**	**+0.7**
	0.9nm,0.8s,baz=153,slow=6.2,SNR=7.2						
PDAR	**Pinedale Array**	**84.28**	**334**	P	**P**	**10 20 57.4**	**-0.8**
	0.6nm,0.8s,baz=132,slow=4.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**85.18**	**70**	P	**P**	**10 21 02.8**	**-0.2**
	0.9nm,0.7s,baz=247,slow=5.5,SNR=8.1						
MCMT	**McKenzie Canyo**	**87.27**	**333**	*e*P	**P**	**10 21 13.5**	**+0.6**
	2.0nm,1.4s						
WRA	**Warramunga Arr**	**119.61**	**210**	PKP	**PKPdf**	**10 27 15.0**	**-1.6**
	0.7nm,0.7s,baz=156,slow=1.6,SNR=7.1						
BRTR	**Keskin Array B**	**122.89**	**62**	PKP	**PKPdf**	**10 27 22.1**	**-0.4**
	0.7nm,0.7s,baz=112,slow=1.3,SNR=5.6						
AKASG	**Malin Array Be**	**123.33**	**48**	PKP	**PKPdf**	**10 27 21.3**	**-1.4**
	0.1nm,0.3s,baz=281,slow=2.3,SNR=4.1						
BVAR	**Borovoye Array**	**148.43**	**44**	PKP	**PKPdf**	**10 28 09.2**	**+0.5**
	0.8nm,0.5s,baz=124,slow=0.5,SNR=4.4						
BVAR				PKPbc	**PKPbc**	**10 28 12.7**	**+0.5**
	0.7nm,0.4s,baz=298,slow=3.2,SNR=6.0						
ZALV	**Zalesovo Beam**	**155.38**	**33**	PKP	**PKPdf**	**10 28 18.1**	**-0.9**
	1.4nm,0.9s,baz=259,slow=1.5,SNR=4.2						
ZALV				PKPab	**PKPab**	**10 28 45.1**	**+0.6**
	1.3nm,0.6s,baz=305,slow=5.2,SNR=5.1						
MKAR	**Makanchi Array**	**157.90**	**50**	PKPab	**PKPab**	**10 28 55.1**	**-0.6**
	0.3nm,0.7s,baz=282,slow=2.8,SNR=5.1						

*ISK **01** 10:12:00.0, 37°.26N×28°.17E, h5km, MD2.8*
*DDA **01** 10:12:03.0, 37°.29N×28°.09E, h7km, MD2.8*
CSEM 01 10:12:01.8±0.3, 37°.24N×28°.16E, h8km, MD2.8, Error ellipse: s-maj=8.8km s-min=6.8km az=3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.15**	**137**	*e*PG	Pg	10 12 03.9	-1.2
YER				*e*SG	Sg	10 12 06.1	-1.1
YER	**Yerkesik**	**0.15**	**137**	*e*Pg	Pg	10 12 03.9	-1.1
YER				*e*Sg	Sg	10 12 06.1	-1.1
DALY	**Dalyan (Mu¨la**	**0.58**	**137**	*e*PG	Pg	10 12 12.6	-0.4
DALY				*e*SG	Sg	10 12 22.2	-0.4
DALY	**Dalyan (Mu¨la**	**0.58**	**137**	*e*Pg	Pg	10 12 12.6	-0.4
DALY				*e*Sg	Sg	10 12 22.2	-0.4
BDRM	**Kayabasi**	**0.60**	**253**	*i* P	Pg	10 12 13.5	+0.1
BDRM				*i* S	Sg	10 12 22.9	-0.3
BDRM	**Kayabasi**	**0.60**	**253**	*i* P	Pg	10 12 13.5	+0.2
BDRM				*i* S	Sg	10 12 22.9	-0.3
BODT	**Bodrum**	**0.70**	**255**	*e*PG	Pg	10 12 14.8	-0.5
BODT				*e*SG	Sg	10 12 26.1	0.0
BODT	**Bodrum**	**0.70**	**255**	*e*Pg	Pg	10 12 14.8	-0.6
BODT				*e*Sg	Sg	10 12 26.1	0.0
GOLH	**Golhisar**	**1.12**	**90**	*i* P	Pn	10 12 25.5	+1.6
GOLH	**Golhisar**	**1.12**	**90**	*i* P	Pn	10 12 25.5	+1.6
GOLH				*i* S	Sn	10 12 42.2	+2.5
MANT	**Manisa**	**1.29**	**14**	*i* P	Pn	10 12 25.2	-1.2
MANT				*i* S	Sn	10 12 44.6	+0.6
MANT	**Manisa**	**1.29**	**14**	*i* P	Pn	10 12 25.2	-1.2
MANT				*i* S	Sn	10 12 44.6	+0.5
KULA	**Kula-Manisa**	**1.33**	**17**	*e*PN	Pn	10 12 26.4	-0.5
KULA	**Kula-Manisa**	**1.33**	**17**	*e*Pn	Pn	10 12 26.4	-0.4
ELL	**Elmali**	**1.49**	**109**	*e*PN	Pn	10 12 29.0	0.0
ELL	**Elmali**	**1.49**	**109**	*e*Pn	Pn	10 12 29.0	0.0
AKAS	**Kas**	**1.54**	**130**	*i* P	Pg	10 12 33.2	+1.7
AKAS	**Kas**	**1.54**	**130**	*i* P	Pg	10 12 33.2	+1.7

*IDC **01** 10:17:17.9±0.7, 37°.03S×73°.08W, h27km±4km, mb4.1/11, mb1 4.2/14, mb1mx4.1/28, mbtmp4.2/14, ML4.5/3, MS3.9/9, Ms1 3.9/9, ms1mx3.7/22, Error ellipse: s-maj=22.1km s-min=15.5km az=84.0*
*ISCJB **01** 10:17:23.7±0.4, 37°.12S±0°.07×71°.3W±0°.1, h33km, mb4.7/35, MS3.8/6, Error ellipse: s-maj=13.9km s-min=10.1km az=167.2*
*NEIC **01** 10:17:25.4±0.5, 37°.07S×71°.37W, h35km, mb4.8/28, Error ellipse: s-maj=13.9km s-min=10.5km az=85.0*
ISC 01 10:17:26.2±0.5, 36°.93S±0°.09×71°.4W±0°.1, h35km, n69, σ2°09/63, mb4.8/35, MS3.9/6, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.86**	**170**	Pn	**Pn**	**10 18 20.3**	**-2.9**
	6.4nm,0.3s,baz=323,slow=12,SNR=6.4						
PLCA				Lg	Lg	10 19 29.8	
	36nm,0.3s,baz=246,slow=22,SNR=6.1						
PLCA				LR	LR	10 20 10.3	
	comp=Z,1μm,18.7s,baz=316,slow=41						
CFAA	**Coronel Fontan**	**5.92**	**27**	Pn	**Pn**	**10 18 54.3**	**+2.9**
	1.2nm,0.3s,baz=194,slow=8.3,SNR=16						
CFAA				Lg	Lg	10 20 49.4	
	1.7nm,0.3s,baz=295,slow=18,SNR=4.7						
CFAA				LR	LR	10 21 32.7	
	comp=Z,30nm,18.2s,baz=220,slow=38						
LVC	**Limon Verde**	**14.43**	**9**	*e*Pn	**Pn**	**10 20 46.2**	**-1.9**
CPUP	**Villa Florida**	**15.96**	**53**	Pn	P	10 21 15.6	+4.3
	1.3nm,0.3s,baz=226,slow=12,SNR=8.3						
CPUP				LR	LR	10 28 13.8	
	comp=Z,297nm,19.8s,baz=214,slow=38						
CPUP	**Villa Florida**	**15.96**	**53**	*e*Pn	**P**	**10 21 09.5**	**-1.8**
	0.5nm,0.5s						
USHA	**Ushuaia**	**18.02**	**174**	LR	LR	10 28 50.4	
	comp=Z,431nm,20.4s,baz=322,slow=38						
LPAZ	**La Paz**	**20.76**	**9**	P	**P**	**10 22 01.7**	**-3.1**
	5.0nm,0.7s,baz=149,slow=6.1,SNR=11						
LPAZ	**La Paz**	**20.76**	**9**	*e*P	**P**	**10 22 02.0**	**-2.7**
	16nm,0.8s						
SIV	**San Ignacio**	**22.78**	**26**	P	**P**	**10 22 25.9**	**+0.1**
	8.2nm,0.7s,baz=229,slow=12,SNR=20						
SIV				LR	LR	10 33 30.6	
	comp=Z,264nm,18.3s,baz=222,slow=41						
NNA	**Nana**	**25.31**	**347**	LR	LR	10 30 58.4	
	comp=Z,134nm,18.1s,baz=165,slow=33						
PMSA	**Palmer Station**	**28.23**	**173**	LR	LR	10 33 44.1	
	comp=Z,300nm,18.0s,baz=338,slow=35						
SAML	**Samuel**	**28.83**	**17**	*e*P	**P**	**10 23 21.6**	**+0.3**
	4.3nm,1.0s						
BDFB	**Brasilia**	**29.67**	**51**	P	P	10 23 32.5	+3.6
	4.1nm,0.6s,baz=236,slow=14,SNR=5.8						
BDFB				LR	LR	10 36 46.3	
	comp=Z,197nm,18.1s,baz=223,slow=38						
BDFB	**Brasilia**	**29.67**	**51**	*e*P	**P**	**10 23 29.9**	**+1.1**
OTAV	**Otavalo**	**37.55**	**348**	*e*P	**P**	**10 24 35.6**	**-2.1**
	28nm,1.4s						
SNAA	**Sanae**	**48.69**	**157**	P	P	10 26 02.5	-4.2
	2.0nm,0.8s,baz=263,slow=5.1,SNR=5.7						
QSPA	**South Pole Qui**	**53.32**	**180**	P	P	10 26 33.8	-7.8
	7.1nm,0.9s,baz=237,slow=0.6,SNR=28						
QSPA	**South Pole Qui**	**53.32**	**180**	*e*P	P	10 26 34.2	-7.4
	8.5nm,1.0s						
CELP	**Cerrillos**	**54.89**	**6**	*e*P	**P**	**10 26 54.1**	**+0.7**
RKT	**Rikitea**	**55.81**	**265**	*e*T	T	11 24 50.8	
	1.6nm,0.3s						
SYO	**Syowa Base**	**62.96**	**158⇑**	*e*P	P	10 27 42.5	-6.3
MEH	**Mehetia**	**68.99**	**263**	*e*T	T	11 41 17.2	
	25nm,0.2s						
TIAR	**Tiarei**	**70.19**	**263**	*e*T	T	11 42 46.2	
	5.1nm,0.3s						
JCT	**Junction City**	**72.14**	**334**	*e*P	**P**	**10 28 47.0**	**-0.2**
	11nm,0.9s						
TXAR	**Lajitas Array**	**72.54**	**331**	P	P	10 28 39.1	-11
	1.2nm,0.6s,baz=155,slow=8.7,SNR=13						
TXAR				pP	pP	10 28 48.1	-12
	3.2nm,0.8s,baz=128,slow=8.1,SNR=14						
TXAR				LR	LR	10 54 33.2	
	comp=Z,86nm,21.0s,baz=0.0,slow=31						
SWET	**Sewanee**	**73.04**	**348**	P	**P**	**10 28 52.0**	**-0.4**
	18nm,0.7s						
ABTX	**Abilene, Hawle**	**74.05**	**335**	*e*P	**P**	**10 28 58.0**	**-0.4**
	13nm,1.3s						
DBIC	**Dimbokro**	**75.65**	**70**	P	**P**	**10 29 07.8**	**-0.2**
	3.5nm,0.7s,baz=199,slow=4.6,SNR=4.6						
DBIC	**Dimbokro**	**75.65**	**70**	*e*P	**P**	**10 29 08.9**	**+0.8**
	16nm,0.9s						
V34A	**Guthrie**	**76.35**	**338**	*e*P	**P**	**10 29 13.3**	**+1.8**
	15nm,1.1s						
AMTX	**Amarillo**	**76.80**	**335**	*e*P	**P**	**10 29 15.1**	**+0.9**
	9.1nm,0.8s						
TUC	**Tucson**	**78.10**	**327**	*e*P	**P**	**10 29 22.5**	**+1.0**
	40nm,2.5s						
BOSA	**Boshof**	**78.27**	**117**	P	**P**	**10 29 20.6**	**-2.3**
	3.1nm,0.9s,baz=259,slow=4.3,SNR=4.4						
BOSA	**Boshof**	**78.27**	**117**	P	**P**	**10 29 20.6**	**-2.3**
	4.1nm,0.6s						
LAZ	**Ladron**	**78.38**	**330**	*e*P	**P**	**10 29 23.3**	**+0.1**
	3.2nm,1.1s						
ANMO	**Albuquerque**	**78.59**	**331**	*e*P	**P**	**10 29 23.8**	**-0.6**
	9.6nm,1.2s						
W18A	**Petrified Fore**	**80.06**	**329**	*e*P	**P**	**10 29 33.0**	**+0.7**
	9.1nm,1.0s						
LBTB	**Lobatse**	**80.62**	**114**	*e*P	**P**	**10 29 33.8**	**-1.9**
	5.5nm,0.6s						
WUAZ	**Wupatki**	**81.08**	**328**	*e*P	**P**	**10 29 38.0**	**+0.2**
	42nm,2.3s						
MVCO	**Mesa Verde**	**81.37**	**331**	*e*P	**P**	**10 29 39.7**	**+0.4**
	64nm,2.6s						
PV01	**Paradox Valley**	**82.20**	**331**	*e*P	**P**	**10 29 42.4**	**-1.3**
	403nm,0.9s						
CCUT	**Cedar City**	**83.65**	**328**	*e*P	**P**	**10 29 52.1**	**+0.9**
	6.4nm,1.0s						
TMUT	**Trail Mountain**	**84.24**	**330**	*e*P	**P**	**10 29 54.8**	**+0.5**
	181nm,2.8s						
TORD	**Torodi Ar. Bea**	**84.73**	**69**	P	**P**	**10 29 56.1**	**-0.8**
	0.8nm,0.8s,baz=219,slow=5.5,SNR=4.4						
TORD				pP	**pP**	**10 30 04.0**	**-4.1**
	1.6nm,0.6s,baz=233,slow=4.9,SNR=8.7						
TORD				LR	LR	11 07 04.1	
	comp=Z,50nm,19.2s,baz=290,slow=35						
BRSD	**Miller**	**84.75**	**341**	*e*P	**P**	**10 29 56.9**	**+0.5**
	190nm,2.5s						
MPU	**Maple Canyon**	**85.03**	**330**	*e*P	**P**	**10 29 58.1**	**0.0**
	8.1nm,1.1s						
JLU	**Jordanelle**	**85.45**	**331**	*e*P	**P**	**10 29 59.8**	**-0.5**
	49nm,2.2s						
CTU	**Camp Tracy**	**85.65**	**330**	*e*P	**P**	**10 30 02.7**	**+1.5**
DUG	**Dugway, Tooele**	**85.66**	**329**	*e*P	**P**	**10 30 01.7**	**+0.6**
	6.8nm,1.3s						
TPH	**Tonopah**	**85.79**	**325**	*e*P	**P**	**10 30 02.3**	**+0.3**
	17nm,1.8s						
RSSD	**Black Hills**	**85.93**	**337**	*e*P	**P**	**10 30 02.0**	**-0.5**
	5.0nm,0.8s						
NVAR	**Mina Array Bea**	**86.58**	**325**	P	P	10 29 54.4	-11
	0.8nm,0.8s,baz=152,slow=6.4,SNR=6.2						
PDAR	**Pinedale Array**	**86.60**	**333**	P	P	10 29 55.5	-10
	0.9nm,0.8s,baz=169,slow=4.6,SNR=6.8						
PDAR				pP	**PcP**	**10 30 05.2**	**-3.0**
	1.1nm,0.7s,baz=195,slow=3.1,SNR=6.9						
HVU	**Hansel Valley**	**86.98**	**330**	*e*P	**P**	**10 30 07.9**	**+0.2**
	4.5nm,0.8s						
HLID	**Hailey**	**89.13**	**330**	*e*P	**P**	**10 30 17.6**	**-0.3**
	36nm,2.5s						
VYHS	**Vyhne**	**116.67**	**48**	*e*	**PKPdf**	**10 36 10.0**	**+3.8**
BRTR	**Keskin Array B**	**122.76**	**62**	PKP	**PKPdf**	**10 36 13.4**	**-5.0**
	0.4nm,0.7s,baz=170,slow=4.2,SNR=3.2						
PSI	**Prapat**	**144.89**	**163**	PKPbc	PKPab	10 36 52.9	-6.5
	4.9nm,0.8s,baz=237,slow=12,SNR=4.0						
BVAR	**Borovoye Array**	**148.99**	**46**	PKPbc	**PKPdf**	**10 37 05.3**	**-0.5**
	1.0nm,0.6s,baz=343,slow=1.5,SNR=4.9						
BVAR				pPKPbc	**PKPab**	**10 37 14.4**	**+0.3**
	1.3nm,0.5s,baz=336,slow=3.3,SNR=4.9						
KSH	**Kashi**	**154.31**	**74**	PKPbc	**PKPbc**	**10 37 20.1**	**-2.6**
KSH				sPKP		10 37 33.2	
KSH				PKS	**PKSdf**	**10 40 51.0**	**+2.3**
KSH				PP	PP	10 41 18.9	+6.2
KSH				SKS	**SKSdf**	**10 44 20.2**	**+1.7**
KSH				SKKS	**SKKSac**	**10 48 01.7**	**+2.2**
KSH				SS	**SS**	**11 00 52.0**	**+1.6**
KSH				PPMZ			
	130nm,6.4s						
KSH				LZ			
	170nm,4.5s						
ZALV	**Zalesovo Beam**	**156.34**	**36**	PKP	PKPdf	10 37 10.3	-6.2
	1.8nm,1.0s,baz=250,slow=4.3,SNR=4.2						
ZALV				PKPab	PKPab	10 37 39.0	-5.9
	2.6nm,1.0s,baz=299,slow=1.5,SNR=2.9						
MKAR	**Makanchi Array**	**158.15**	**55**	PKP	PKPdf	10 37 12.9	-6.2
	0.8nm,1.0s,baz=259,slow=2.9,SNR=3.8						
MKAR				PKPab	**PKPab**	**10 37 53.0**	**-0.1**
	0.6nm,0.8s,baz=282,slow=2.0,SNR=2.3						
MKAR				pPKPab	pPKPab	10 38 00.4	-3.9
	1.5nm,0.7s,baz=281,slow=3.6,SNR=4.9						
KMI	**Kunming**	**167.21**	**155**	PKP	**PKPdf**	**10 37 32.9**	**+4.0**
SONM	**Songino Array**	**168.98**	**8**	PKPab	PKPab	10 38 34.2	-6.3
	0.5nm,0.8s,baz=352,slow=4.1,SNR=2.8						
GYA	**Guiyang**	**169.44**	**170**	*e*PKP	**PKPdf**	**10 37 33.2**	**+3.0**
GYA				pPKP	**pPKPdf**	**10 37 44.0**	**+2.3**
GYA				PKPab	PKPab	10 38 50.6	+7.6
GYA				PKS	**PKSdf**	**10 41 03.8**	**+0.9**
GYA				PP	PP	10 42 41.0	+9.2
GYA				SKKS		10 49 23.2	
GYA				SS	SS	11 03 35.5	+10
GYA				PPMZ			
	120nm,8.2s						
GYA				LN			
	120nm,22.4s						
GYA				LE			
	110nm,21.6s						
GYA				LZ			
	120nm,24.4s						
NJ2	**Nanjing**	**170.24**	**243**	*e*PKP	**PKPdf**	**10 37 34.6**	**+4.3**
CD2	**Chengdu**	**172.78**	**145**	*e*PKP	**PKPdf**	**10 37 35.0**	**+3.3**
HHC	**Hu-ho-hao-te**	**175.45**	**330**	*e*PKP	**PKPdf**	**10 37 35.0**	**+2.6**
HHC				PP	**PP**	**10 43 05.0**	**+3.2**
HHC				SKKS		10 49 45.7	
HHC				SS	**SS**	**11 04 21.0**	**-3.5**
HHC				PPMZ			
	160nm,5.5s						
HHC				LN			
	160nm,20.2s						
HHC				LE			
	200nm,20.6s						
HHC				LZ			
	190nm,21.0s						
LZH	**Lanzhou**	**176.08**	**101**	*e*PKP	**PKPdf**	**10 37 35.6**	**+2.8**
LZH				pPKP	**pPKPdf**	**10 37 45.8**	**+1.5**
LZH				sPKP		10 37 50.0	

ISC 01 10:30:54.1±5.6, 35°.9S±0°.3×179°.5W±0°.1, h154km, n25, σ3°15/7, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.43**	**225**	*e*PN	Pn	10 31 30.4	-4.2
MXZ				*e*SN	**Sn**	**10 32 06.7**	**+0.8**
WMGZ	**Waiomatatini S**	**2.56**	**220**	*e*PN	Pn	10 31 33.5	-2.6
PUZ	**Puketiti**	**2.83**	**218**	*e*PN	Pn	10 31 36.4	-3.2
HAZ	**Te Kaha**	**2.87**	**228**	*e*PN	Pn	10 31 36.3	-3.7
HAZ				*e*SN	**Sn**	**10 32 18.6**	**+3.1**
TWGZ	**Tauwhareparae**	**3.05**	**220**	PN	Pn	10 31 39.1	-3.3
CNGZ	**Carnagh Statio**	**3.18**	**214**	PN	Pn	10 31 42.8	-1.1
MWZ	**Matawai**	**3.41**	**223**	*e*PN	Pn	10 31 44.1	-2.8
MWZ				SN	**Sn**	**10 32 31.3**	**+3.4**
RIGZ	**Rimuhau**	**3.57**	**217**	PN	Pn	10 31 46.9	-2.0
URZ	**Urewera**	**3.60**	**228**	PN	Pn	10 31 46.0	-3.3
URZ				SN	Sn	10 32 35.2	+3.0
OPRZ	**Ohinepanea**	**3.72**	**237**	PN	Pn	10 31 47.1	-3.7
SNGZ	**Shannon Statio**	**3.84**	**220**	*e*PN	Pn	10 31 50.9	-1.5
KNZ	**Kokohu**	**3.86**	**215**	*e*PN	Pn	10 31 50.1	-2.5
MHGZ	**Mahia Peninsul**	**3.87**	**211**	PN	Pn	10 31 51.0	-1.7
KUZ	**Kuaotunu**	**3.95**	**256**	PN	Pn	10 31 48.2	-5.6
NMHZ	**Naumai**	**4.35**	**221**	PN	Pn	10 31 56.9	-2.2
MKAZ	**Moumakai**	**4.46**	**252**	PN	Pn	10 31 56.0	-4.5
BKZ	**Black Stump Fm**	**4.57**	**223**	PN	Pn	10 31 59.6	-2.4
MCHZ	**McNeill Hill**	**4.67**	**219**	PN	**Pn**	**10 32 02.0**	**-1.1**
KAHZ	**Kahuranaki**	**4.85**	**215**	*e*PN	Pn	10 32 02.2	-3.4
BHHZ	**Black Hill Sta**	**5.04**	**223**	PN	Pn	10 32 06.2	-1.9
PXZ	**Pawanui**	**5.05**	**213**	*e*PN	Pn	10 32 05.0	-3.2
TSZ	**Takapari Road**	**5.50**	**219**	*e*PN	Pn	10 32 10.8	-3.5
MRZ	**Mangatainoka R**	**6.15**	**217**	*e*PN	Pn	10 32 19.7	-3.1
MRZ				*e*SN	**Sn**	**10 33 32.7**	**+0.5**
CTZ	**Chatham Island**	**8.16**	**165**	*e*PN	Pn	10 32 51.3	+1.7
CTZ				*e*SN	**Sn**	**10 34 22.0**	**+1.5**
MQZ	**McQueen's Vall**	**9.88**	**215**	*e*PN	Pn	10 33 09.9	-2.3
MQZ				*e*SN	**Sn**	**10 34 57.8**	**-3.8**

*IDC **01** 10:31:14.0±1.1, 51°.64N×75°.33E, h0km, mb1 2.7/3, mb1mx2.6/48, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=36.9km s-min=8.5km az=34.0*
*ISCJB **01** 10:31:16.3±0.6, 51°.6N±0°.1×75°.8E±0°.1, h10km, Error ellipse: s-maj=17.8km s-min=4.9km az=31.8*
*NNC **01** 10:31:16.9±1.1, 51°.35N×75°.45E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=54.4km s-min=6.1km az=24.0*
ISC 01 10:31:15.0±0.9, 51°.7N±0°.1×75°.54E±0°.09, h10km, n10, σ1°63/17, 7C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.17**	**119**	⇓Pn	**Pn**	**10 31 52.6**	**+1.4**
	3.3nm,0.6s						
KURBB				⇑Sn	**Sb**	**10 32 22.4**	**+1.1**
	25nm,0.8s						
KURK	**Kurchatov**	**2.17**	**116**	⇑Pn	**Pn**	**10 31 51.5**	**+0.3**
	0.9nm,0.5s						
KURK				⇓Sn	**Sb**	**10 32 20.2**	**-1.2**
	5.2nm,0.6s						
VOSK	**Vostochnaya**	**2.99**	**292**	⇓Pn	**Pn**	**10 32 05.2**	**+2.8**
	3.0nm,1.0s						
VOSK				⇑Sn	**Sb**	**10 32 45.7**	**+0.9**
	31nm,1.2s						
BVA0	**Borovoye Array**	**3.42**	**295**	Pn	**Pb**	**10 32 13.3**	**-2.4**
	0.1nm,0.6s,baz=112,slow=17,SNR=6.2						
BVA0				⇓Sn	**Sb**	**10 32 59.0**	**+1.6**
	0.8nm,0.8s,baz=116,slow=28,SNR=9.3						
BVAR	**Borovoye Array**	**3.42**	**295**	Pn	**Pn**	**10 32 06.6**	**-1.8**
	0.2nm,0.3s,baz=114,slow=14,SNR=3.0						
BVAR				Pg	**Pb**	**10 32 13.5**	**-2.2**
	0.4nm,0.3s,baz=112,slow=18,SNR=7.5						
BVAR				Lg	Lg	10 32 59.2	
	0.8nm,0.3s,baz=113,slow=26,SNR=12						
BRVK	**Borovoye**	**3.50**	**295**	⇑Pn	Pb	10 32 13.7	-3.2
	5.6nm,0.9s						
BRVK				⇑Sn	**Sb**	**10 33 00.2**	**+0.8**
	8.3nm,0.7s						
I46RU	**ZALESOVO INFRA**	**6.06**	**65**	*i*		11 08 48.3	
	baz=247,slow=338,SNR=1.0						
ZALV	**Zalesovo Beam**	**6.06**	**65**	Pn	**Pn**	**10 32 46.2**	**+1.6**
	0.3nm,0.3s,baz=255,slow=13,SNR=5.5						
MK31	**Makanchi Array**	**6.60**	**135**	⇑Pn	**Pn**	**10 32 50.8**	**-1.3**
	0.4nm,0.6s						
MK31				⇑Sn	**Sn**	**10 34 08.3**	**+0.9**
	0.6nm,0.6s,baz=201,slow=10,SNR=5.8		

BVAR	Borovoye Array	67.33	327	P	P	10 42 55.8	-2.0
	3.2nm,0.9s,baz=123,slow=5.5,SNR=9.9						
AKTO	Aktyubinsk	73.67	322	P	P	10 43 34.3	-2.2
	1.0nm,0.5s,baz=90,slow=9.1,SNR=2.8						
BRTR	Keskin Array B	90.04	310	P	P	10 45 01.6	-1.4
	0.6nm,0.6s,baz=140,slow=6.5,SNR=3.9						
ARCES	ARCESS Array B	90.44	340	P	P	10 45 03.1	-0.8
	2.7nm,0.9s,baz=85,slow=5.3,SNR=6.2						
NOA	NORSAR Array B	98.79	334	LR	LR	11 33 57.9	
	comp=Z,26nm,18.2s,baz=90,slow=38						

*ISCJB **01** 10:32:32.0±0.5, 4°.01N±0°.08×122°.8E±0°.1, h604km, mb4.0/14, Error ellipse: s-maj=15.7km s-min=6.9km az=147.6*
*IDC **01** 10:32:33.5±1.5, 3°.99N×122°.68E, h600km±19km, mb3.4/14, mb1 3.5/14, mb1mx3.2/49, mbtmp4.4/14, Error ellipse: s-maj=33.3km s-min=8.4km az=65.0*
*KLM **01** 10:32:36.0, 4°.14N×122°.63E, h545km, mb4.3*
ISC 01 10:32:33.7±0.6, 4°.0N±0°.1×122°.7E±0°.1, h604km, n35, σ0s99/35, mb4.0/14, 1C-4D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDKM	Sandakan	5.75	286	⇓P	P	10 34 10.8	-2.3
KDM	Kudat	6.54	296	⇓P	P	10 34 18.2	-1.6
KKM	Kota Kinabalu	6.80	287	P	P	10 34 20.7	-1.5
	baz=10,SNR=17						
KKM	Kota Kinabalu	6.80	287	⇑P	P	10 34 20.6	-1.6
BTM	Bintulu	9.68	265	⇓P	P	10 34 49.4	-0.1
SBUM	Sibu	10.62	262	⇓P	P	10 34 59.3	+0.5
BATI	Baumata	14.18	176	P	P	10 35 30.4	-3.9
	5.7nm,0.3s,baz=260,slow=18,SNR=4.5						
KNRA	Kununurra	20.48	163	P	P	10 36 29.4	-2.2
	baz=19,SNR=3.5						
FITZ	Fitzroy Crossi	22.19	173	P	P	10 36 54.2	+7.3
	baz=22,SNR=6.9						
WRA	Warramunga Arr	26.42	155	P	P	10 37 23.1	-1.2
	32nm,0.7s,baz=344,slow=10,SNR=110						
WRA				ScP	ScP	10 43 13.6	+1.1
	0.6nm,0.7s,baz=340,slow=2.9,SNR=5.9						
CMAR	Chiang Mai Arr	27.33	303	P	P	10 37 33.0	+0.7
	3.4nm,0.3s,baz=122,slow=7.4,SNR=6.6						
QIS	Mount Isa	29.52	147	P	P	10 37 50.6	-0.7
	baz=28,SNR=3.5						
ASAR	Alice Springs	29.61	159	P	P	10 37 52.2	+0.2
	1.6nm,0.5s,baz=340,slow=7.4,SNR=40						
ASAR				S	S	10 42 06.0	-0.5
	1.1nm,0.8s,baz=354,slow=22,SNR=5.2						
ASAR				ScP	ScP	10 43 23.9	+1.4
	0.9nm,0.8s,baz=343,slow=2.1,SNR=5.2						
STKA	Stephens Creek	39.97	155	P	P	10 39 18.6	+0.9
	11nm,0.6s,baz=334,slow=8.3,SNR=9.6						
STKA	Stephens Creek	39.97	155	P	P	10 39 22.0	+4.3
	baz=38,SNR=10						
HTT	Hallett	40.29	159	P	P	10 39 21.6	+1.3
	baz=39,SNR=3.1						
ODAN	Odare	40.69	308	eP	P	10 39 24.4	+0.7
USRK	Ussuriysk Ar.	40.82	10	P	P	10 39 25.2	+1.0
	2.7nm,1.0s,baz=199,slow=6.7,SNR=4.8						
RAMN	Ramite	41.35	307	eP	P	10 39 29.6	+0.6
	24nm,0.9s						
JIRN	Jiri	42.00	308	eP	P	10 39 34.8	+0.5
GUN	Gumba	42.36	308	eP	P	10 39 37.5	+0.5
DMN	Daman	42.84	307	eP	P	10 39 40.5	-0.1
GKN	Gorkha	43.38	307	eP	P	10 39 44.9	+0.2
KOLN	Koldanda	44.11	307	eP	P	10 39 51.0	+0.6
DANN	Dangsing	44.23	307	eP	P	10 39 51.6	+0.2
	43nm,0.7s						
SONM	Songino Array	45.84	345	P	P	10 40 03.6	+0.4
	2.7nm,0.8s,baz=157,slow=9.1,SNR=18						
TLY	Talaya	50.08	345	P	P	10 40 34.7	+0.3
	1.9nm,0.5s,baz=231,slow=14,SNR=3.5						
MKAR	Makanchi Array	55.08	327	P	P	10 41 10.5	+0.5
	4.4nm,0.5s,baz=124,slow=7.7,SNR=94						
ZALV	Zalesovo Beam	58.56	335	P	P	10 41 33.0	-0.5
	1.5nm,0.6s,baz=111,slow=6.5,SNR=8.5						
BVAR	Borovoye Array	64.92	328	P	P	10 42 15.0	+0.1
	1.4nm,0.7s,baz=138,slow=9.1,SNR=9.1						
GEYT	Alibeck	67.61	309	P	P	10 42 32.2	+0.4
	1.6nm,0.3s,baz=222,slow=4.9,SNR=5.4						
AKTO	Aktyubinsk	70.96	322	P	P	10 42 51.5	+0.1
	4.1nm,0.7s,baz=105,slow=9.1,SNR=16						
BRTR	Keskin Array B	86.75	309	P	P	10 44 14.7	-0.6
	0.5nm,0.8s,baz=123,slow=5.3,SNR=3.2						
FINES	FINESS Array B	89.67	331	P	P	10 44 26.9	-1.2
	1.3nm,0.6s,baz=72,slow=6.2,SNR=5.0						
TORD	Torodi Ar. Bea	119.03	287	PKP	PKPdf	10 50 15.6	-0.2
	0.5nm,0.6s,baz=14,slow=1.8,SNR=3.2						

*IDC **01** 10:34:14.6±2.8, 34°.20S×72°.22W, h0km, mb3.9/1, mb1 3.7/3, mb1mx3.5/27, mbtmp3.6/3, ML3.3/2, MS2.1/1, Ms1 2.1/1, ms1mx2.0/28, Error ellipse: s-maj=84.0km s-min=57.3km az=118.0*
*GUC **01** 10:34:19.9±0.7, 33°.93S×72°.11W, h25km±9km, ML4.0*
ISC 01 10:34:18.6±1.6, 34°.01S±0°.10×72°.13W±0°.09, h19km, n10, σ0s59/14, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.60	85	⇓iP	Pn	10 34 32.3	+0.2
LNV				i S1	Sn	10 34 41.2	-0.1
TACH	Talagante	1.05	70	⇓iP	Pg	10 34 38.9	-0.2
TACH				i S	Sg	10 34 53.1	+0.2
IHA	Instituto Hidr	1.06	23	⇑iP	Pb	10 34 38.3	-0.1
IHA				i S1	Sn	10 34 52.4	-0.4
CHCH	Chadas Angostu	1.23	87	⇑iP	Pg	10 34 42.0	-0.4
SAN	Santiago	1.34	66	⇓iP	Pb	10 34 43.5	+0.3
PEL	Peldehue	1.48	55	⇓iP	Pb	10 34 45.9	+0.3
PEL				i S	Sg	10 35 05.7	-0.9
PEL				AML	AML	10 35 12.7	
	comp=N,4μm,0.7s						
CFAA	Coronel Fontan	4.06	55	Pn	Pn	10 35 21.1	+1.4
	comp=N,0.3nm,0.3s,baz=97,slow=6.7,SNR=3.5						
CFAA				Lg	Lg	10 36 21.7	
	comp=N,1.7nm,0.3s,baz=135,slow=20,SNR=5.6						
CFAA				LR	LR	10 36 59.2	
	comp=N,20nm,19.4s,baz=260,slow=39						
LPAZ	La Paz	18.01	13	P	P	10 38 29.3	+0.3
	comp=N,0.2nm,0.3s,baz=189,slow=8.6,SNR=4.8						
TORD	Torodi Ar. Bea	84.28	70	P	P	10 46 48.8	-0.7
	comp=N,0.8nm,0.7s,baz=251,slow=5.1,SNR=4.3						
ZALV	Zalesovo Beam	154.28	32	PKPbc	PKPbc	10 54 16.9	0.0
	comp=N,0.8nm,0.5s,baz=298,slow=3.1,SNR=4.1						

*JSN **01** 10:37:26.9±0.7, 19°.44N×72°.07W, h50km±999km, MD5.3*
*IDC **01** 10:37:33.0±0.8, 18°.32N×72°.77W, h0km, mb3.9/12, mb1 4.1/16, mb1mx3.9/46, mbtmp4.0/16, ML3.7/3, MS3.5/8, Ms1 3.5/8, ms1mx3.2/42, Error ellipse: s-maj=23.3km s-min=16.8km az=33.0*
*ISCJB **01** 10:37:33.6±0.3, 18°.42N±0°.04×72°.83W±0°.03, h6km, mb3.9/17, MS3.6/6, Error ellipse: s-maj=5.8km s-min=3.5km az=179.9*
*NEIC **01** 10:37:35.5±0.3, 18°.39N×72°.84W, h10km, mb4.0/5, Error ellipse: s-maj=7.7km s-min=4.8km az=193.0*
NEIC Felt [IV] at Grand Goave and [III] at Petionville and Port-au-Prince. Also felt at Croix des Bouquets, Delmas and Petit Goave.
ISC 01 10:37:34.4±0.4, 18°.38N±0°.06×72°.83W±0°.04, h6km, n63, σ1s50/62, mb4.0/17, MS3.6/6, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAKH	Jacmel	0.33	115	ePg	Pb	10 37 42.1	-0.6
PAPH	Port-au-Prince	0.53	74	ePg	Pg	10 37 44.1	-0.5
SDDR	Presa de Saban	1.58	67	ePn	Pn	10 38 01.8	-1.3
SDDR				eSn	Sb	10 38 23.7	-0.8
GTBY	Guantanamo Bay	2.65	306	ePn	Pn	10 38 16.2	-1.5
GTBY				eSn	Sn	10 38 53.0	+2.9
SMN1	Samana, DR	3.47	76	ePn	Pn	10 38 31.1	+2.1
GRTK	Grand Turk	3.50	27	ePn	Pn	10 38 28.7	-0.8
GRTK				eSn	Sn	10 39 10.0	-1.3
YHJ	Yallahs	3.51	263	eP	Pn	10 38 31.1	+1.4
GWJ	Greenwich	3.71	266	eP	Pn	10 38 33.1	+0.6
HOJ	Hope	3.74	265	iP	Pn	10 38 34.4	+1.6
STH	Stony Hill	3.79	266	iP	Pn	10 38 34.0	+0.5
STH				i S	Sb	10 39 24.6	-3.4
PCJ	Portland Cotta	4.16	262	iP	Pn	10 38 40.2	+1.6
PCDR	Punta Cana, DR	4.23	87	ePn	Pn	10 38 42.1	+2.6
MTDJ	Mount Denham	4.47	269	ePn	Pn	10 38 44.0	+1.1
CRPR	Cabo Rojo, PR	5.45	93	ePn	Pn	10 38 56.4	+0.1
	29nm,0.5s						
LSP	Las Mesas	5.46	91	ePn	Pn	10 38 59.0	+2.5
LRS	Lares	5.69	90	ePn	Pn	10 39 00.3	+0.7
AOPR	Arecibo Observ	5.77	89	ePn	Pn	10 39 02.3	+1.6
OBIP	Obispado Ponce	5.93	92	ePn	Pn	10 39 03.1	+0.3
CELP	Cerrillos	5.95	92	ePn	Pn	10 39 03.7	+0.5
CBYP	Canovanas	6.63	90	ePn	Pn	10 39 13.3	+0.8
STVI	Saint Thomas	7.48	89	ePn	Pn	10 39 25.9	+1.7
SMRT	St. Maarten	9.28	90	ePn	Pn	10 39 52.1	+3.2
BCIP	Isla Barro Col	11.40	218	ePn	Pn	10 40 18.5	+0.5
ROSC	El Rosal	13.52	186	Pn	Pn	10 40 47.6	+0.3
	baz=101,slow=19,SNR=2.2						
JTS	JuntasAbangare	14.22	237	Pn	P	10 41 01.9	-2.2
	0.6nm,0.3s,baz=336,slow=20,SNR=3.7						
JTS				LR	LR	10 46 51.8	
	comp=Z,65nm,19.2s,baz=74,slow=39						
TEIG	Tepich	14.70	280	Pn	Pn	10 41 04.0	+1.0
	0.8nm,0.3s,baz=75,slow=4.5,SNR=5.9						
TIGA	Tifton	16.24	325	ePn	Pn	10 41 23.9	+0.6
APG	El Apazote	17.22	261	P	P	10 41 37.4	-0.2
	0.2nm,0.3s,baz=111,slow=14,SNR=3.6						
OTAV	Otavalo	18.85	198	eP	Pn	10 41 59.0	+2.6
	8.9nm,0.9s						
JSRW	J. Sargeant Re	19.75	348	eP	P	10 42 05.4	+0.5
TKL	Tuckaleechee C	19.75	333	P	P	10 42 05.6	+0.5
	0.2nm,0.3s,baz=152,slow=11,SNR=5.2						
TKL				LR	LR	10 49 19.2	
	comp=Z,95nm,20.4s,baz=180,slow=36						
VWCC	Virginia Weste	19.82	343	eP	Pn	10 42 07.6	+0.2
TZTN	Tazewell	20.41	335	ePn	Pn	10 42 17.2	+2.8
	19nm,1.0s						
WVT	Waverly	22.09	326	eP	P	10 42 32.8	+2.4
	5.8nm,0.7s						
ATAH	Atahualpa	25.94	193	LR	LR	10 54 09.5	
	comp=Z,92nm,20.0s,baz=348,slow=38						
SAML	Samuel	28.78	160	eP	P	10 43 32.5	-0.7
	2.4nm,0.8s						
TXAR	Lajitas Array	30.15	297	P	P	10 43 46.0	+0.5
	0.9nm,0.9s,baz=122,slow=8.6,SNR=5.6						
SCHQ	Schefferville	36.68	6	P	P	10 44 42.1	+0.2
	4.1nm,0.9s,baz=220,slow=8.3,SNR=4.4						
SCHQ				LR	LR	10 59 57.9	
	comp=Z,101nm,18.2s,baz=324,slow=37						
ULM	Lac du Bonnet	36.75	335	P	P	10 44 42.9	+0.4
	3.9nm,1.0s,baz=124,slow=7.3,SNR=4.1						
PDAR	Pinedale Array	39.42	316	P	P	10 45 05.6	+0.1
	0.4nm,0.6s,baz=118,slow=5.2,SNR=3.7						
BDFB	Brasilia	41.72	143	P	P	10 45 24.2	-0.4
	2.5nm,0.5s,baz=303,slow=9.1,SNR=5.1						
MCMT	McKenzie Canyo	42.46	317	eP	P	10 45 31.4	+0.8
	1.1nm,0.8s						
TPH	Tonopah	43.28	306	eP	P	10 45 38.0	+0.7
NVAR	Mina Array Bea	44.19	307	P	P	10 45 44.6	0.0
	0.3nm,0.7s,baz=116,slow=4.1,SNR=3.1						
YKA	Yellowknife Ar	52.67	337	P	P	10 46 48.9	-0.4
	1.7nm,0.9s,baz=123,slow=7.5,SNR=15						
SUMG	Summit	57.66	12	iP	P	10 47 27.5	+1.8
	5.9nm,0.9s						
ESDC	Sonseca Array	62.39	54	P	P	10 47 58.5	+0.1
	0.1nm,0.3s,baz=270,slow=7.7,SNR=2.6						
DAG	Danmarks Havn	64.34	12	iP	P	10 48 12.1	+1.5
	2.6nm,0.9s						
ILAR	Eielson Array	66.74	333	P	P	10 48 25.6	-0.7
	0.6nm,1.0s,baz=117,slow=6.2,SNR=6.2						
NOA	NORSAR Array B	71.23	31	LR	LR	11 16 22.3	
	comp=Z,19nm,18.8s,baz=70,slow=33						
TORD	Torodi Ar. Bea	71.48	82	P	P	10 48 54.2	-2.4
	0.8nm,1.0s,baz=288,slow=3.2,SNR=2.9						
GERES	GERESS Array B	74.15	43	LR	LR	11 16 37.4	
	comp=Z,33nm,21.2s,baz=304,slow=32						
ARCES	ARCESS Array B	75.82	21	P	P	10 49 21.8	+0.6
	1.7nm,0.8s,baz=320,slow=4.0,SNR=2.7						
VRAC	Vranov	75.93	42	LR	LR	11 19 34.4	
	comp=Z,59nm,20.0s,baz=348,slow=33						
FINES	FINESS Array B	78.22	29	LR	LR	11 22 40.4	
	comp=Z,26nm,19.3s,baz=91,slow=35						
BRTR	Keskin Array B	90.47	48	P	P	10 50 38.0	+0.4
	0.5nm,0.4s,baz=166,slow=2.5,SNR=3.6						
KSH	Kashi	115.45	26	ePKP	PKPdf	10 56 15.2	-2.6
HHC	Hu-ho-hao-te	120.94	356	ePKP	PKPdf	10 56 30.9	+2.6
HHC				PP	PP	10 58 02.2	+6.5
HHC				SKS	SKSdf	11 03 41.7	+0.5
HHC				SKKS	SKKSac	11 04 54.6	-3.1
HHC	Hu-ho-hao-te	120.94	356	SS	SS	11 14 29.8	+2.7
LZH	Lanzhou	125.74	3	ePKP	PKPdf	10 56 35.0	-2.8
LZH				pPKP	PKiKP	10 56 38.8	+0.7
LZH				sPKP		10 56 40.2	
NJ2	Nanjing	128.62	347	eP	PKPdf	10 56 44.5	+1.4
WRA	Warramunga Arr	154.29	262	PKPbc	PKPbc	10 57 35.4	-1.1
	1.0nm,0.7s,baz=89,slow=2.8,SNR=6.2						
ASAR	Alice Springs	154.51	253	PKPbc	PKPbc	10 57 35.4	-1.6
	0.4nm,0.7s,baz=98,slow=2.7,SNR=4.1						

*IDC **01** 10:38:18.4±1.4, 35°.04S×72°.73W, h0km, mb3.9/4, mb1 4.1/8, mb1mx3.9/29, mbtmp3.9/8, ML3.9/4, MS3.6/2, Ms1 3.6/2, ms1mx3.1/25, Error ellipse: s-maj=37.2km s-min=19.4km az=82.0*
*ISCJB **01** 10:38:19.5±0.8, 34°.99S±0°.08×72°.8W±0°.2, h18km, mb3.9/5, MS4.0/1, Error ellipse: s-maj=18.3km s-min=11.6km az=177.5*
*NEIC **01** 10:38:23.8±0.7, 35°.00S×72°.66W, h35km, mb4.1/1, Error ellipse: s-maj=15.8km s-min=10.1km az=88.0*
ISC 01 10:38:21.5±0.9, 35°.01S±0°.10×72°.8W±0°.2, h18km, n16, σ0s96/15, mb4.1/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.08	49	Pn	Pn	10 39 37.8	+1.1
	0.6nm,0.3s,baz=222,slow=14,SNR=4.4						
CFAA				Lg	Lg	10 40 51.0	
	0.3nm,0.3s,baz=250,slow=17,SNR=3.4						
PLCA	Paso Flores	5.97	164	Pn	Pn	10 39 49.4	+0.4
	0.8nm,0.3s,baz=314,slow=10,SNR=4.4						
PLCA				Lg	Lg	10 41 26.1	
	1.0nm,0.3s,baz=34,slow=3.1,SNR=4.3						
PLCA				LR	LR	10 42 07.9	
	comp=Z,300nm,19.2s,baz=308,slow=39						
LVC	Limon Verde	12.80	16	ePn	Pn	10 41 22.8	-0.1
CPUP	Villa Florida	15.82	61	Pn	Pn	10 42 01.9	-1.4
	0.4nm,0.3s,baz=317,slow=4.1,SNR=3.3						
LPAZ	La Paz	19.10	14	P	Pn	10 42 45.2	+0.5
	0.2nm,0.3s,baz=191,slow=3.8,SNR=14						
LPAZ	La Paz	19.10	14	P	Pn	10 42 45.2	+0.5
LPAZ				eP	P	10 42 45.7	+1.8
SIV	San Ignacio	21.64	32	P	P	10 43 09.1	-1.8
	5.7nm,0.8s,baz=281,slow=2.4,SNR=16						
BCIP	Isla Barro Col	44.44	350	eP	P	10 46 31.6	+0.2
PPT2	Papeete2	69.52	262	eLR	LR	10 49 13.6	
	132nm,25.0s						
TXAR	Lajitas Array	70.33	332	P	P	10 49 34.1	0.0
	0.3nm,0.8s,baz=131,slow=9.7,SNR=2.6						
MIAR	Mount Ida	71.89	342	eP	P	10 49 42.4	-0.9
WVT	Waverly	72.16	347	eP	P	10 49 44.6	-0.2
TSUM	Tsumeb	79.50	106	eP	P	10 50 27.8	+0.3
	2.3nm,1.0s						
BOSA	Boshof	80.12	118	P	P	10 50 30.4	-0.4
	1.9nm,0.7s,baz=236,slow=7.1,SNR=3.4						
URZ	Urewera	82.55	228	LR	LR	11 18 24.0	
	comp=Z,60nm,20.7s,baz=214,slow=29						
TORD	Torodi Ar. Bea	85.10	70	P	P	10 50 56.4	-0.2
	0.9nm,0.8s,baz=266,slow=4.0,SNR=4.4						

*IDC **01** 10:48:29.7±0.7, 34°.38S×73°.56W, h0km, mb4.1/9, mb1 4.2/12, mb1mx4.1/27, mbtmp4.1/12, ML3.7/3, MS3.7/2, Ms1 3.7/2, ms1mx3.0/28, Error ellipse: s-maj=27.8km s-min=18.1km az=85.0*
*ISCJB **01** 10:48:32.9±0.5, 34°.37S±0°.06×73°.4W±0°.1, h33km, mb4.2/14, MS3.8/2, Error ellipse: s-maj=14.0km s-min=8.8km az=164.0*
*NEIC **01** 10:48:35.0±0.3, 34°.35S×73°.43W, h35km, mb4.4/5, Error ellipse: s-maj=9.5km s-min=6.0km az=75.0*
ISC 01 10:48:34.9±0.6, 34°.37S±0°.08×73°.5W±0°.1, h35km, n31, σ0s67/32, mb4.2/14, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.19	59	Pn	Pn	10 49 49.2	-0.8
	0.4nm,0.3s,baz=231,slow=12,SNR=12						
PLCA	Paso Flores	6.76	161	Pn	Pn	10 50 10.3	-1.4
	1.0nm,0.3s,baz=318,slow=11,SNR=4.9						
PLCA	Paso Flores	6.76	161	ePn	Pn	10 50 10.5	-1.2
TRQA	Tornquist	9.99	115	ePn	Pn	10 50 55.5	-0.4
	12nm,0.8s						
LVC	Limon Verde	12.38	20	ePn	Pn	10 51 28.3	-0.5
LPAZ	La Paz	18.63	16	P	P	10 52 50.2	0.0
	0.1nm,0.3s,baz=186,slow=10,SNR=13						
LPAZ	La Paz	18.63	16	P	P	10 52 50.2	0.0
LPAZ				ePn	Pn	10 52 50.4	-0.3
SIV	San Ignacio	21.43	34	P	P	10 53 20.4	+0.4
	8.3nm,1.1s,baz=232,slow=12,SNR=9.7						
NNA	Nana	22.49	351	eP	P	10 53 30.8	-0.6
SAML	Samuel	27.01	23	eP	P	10 54 11.5	-2.1
	4.8nm,1.7s						
OTAV	Otavalo	34.74	351	eP	P	10 55 22.7	+0.4
	9.9nm,1.3s						
JTS	JuntasAbangare	45.73	344	LR	LR	11 12 41.1	
	comp=Z,50nm,18.1s,baz=118,slow=32						
SNAA	Sanae	51.70	158	P	P	10 57 38.2	+0.1
	1.3nm,0.7s,baz=284,slow=7.8,SNR=5.7						
SNAA	Sanae	51.70	158	eP	P	10 57 38.3	+0.2
QSPA	South Pole Qui	55.87	180	P	P	10 58 08.7	0.0
	3.0nm,0.9s,baz=137,slow=2.2,SNR=11						
TEIG	Tepich	56.09	343	eP	P	10 58 10.3	-0.2
TXAR	Lajitas Array	69.49	332	P	P	10 59 39.9	+0.1
	1.5nm,0.7s,baz=154,slow=7.9,SNR=12						
WVT	Waverly	71.41	348	eP	P	10 59 50.7	-0.5
	8.5nm,1.0s						
ANMO	Albuquerque	75.55	332	eP	P	11 00 16.0	+0.1
	3.1nm,1.1s						
SUR	Sutherland	75.69	119	LR	LR	11 31 47.8	
	comp=Z,75nm,19.0s,baz=196,slow=34						
DBIC	Dimbokro	76.42	72	P	P	11 00 21.9	+0.7
	4.0nm,1.0s,baz=190,slow=4.6,SNR=3.6						
TSUM	Tsumeb	80.25	107	eP	P	11 00 42.6	+0.1
BOSA	Boshof	80.95	118	P	P	11 00 47.1	+1.0
	3.0nm,0.9s,baz=102,slow=1.7,SNR=3.1						
NVAR	Mina Array Bea	83.52	326	P	P	11 00 59.3	+0.1
	0.5nm,0.8s,baz=116,slow=6.8,SNR=4.3						
PDAR	Pinedale Array	83.56	334	P	P	11 00 59.5	+0.2
	1.3nm,1.1s,baz=132,slow=4.2,SNR=5.0						
TORD	Torodi Ar. Bea	85.45	71	P	P	11 01 09.5	+0.2
	1.5nm,0.8s,baz=259,slow=4.1,SNR=8.4						
MCMT	McKenzie Canyo	86.55	333	eP	P	11 01 14.8	+0.6
	3.5nm,1.3s						
SEY	Seymchan	139.75	329	PKP	PKPdf	11 07 58.4	+0.2
	0.5nm,0.3s,baz=78,slow=6.3,SNR=4.8						
BVAR	Borovoye Array	148.36	43	PKPbc	PKPbc	11 08 17.9	+0.9
	0.5nm,0.4s,baz=264,slow=2.8,SNR=5.9						
ZALV	Zalesovo Beam	155.16	31	PKP	PKPdf	11 08 23.5	-0.1
	0.5nm,0.6s,baz=336,slow=3.3,SNR=4.7						
ZALV				PKPab	PKPab	11 08 48.6	+0.1
	0.4nm,0.4s,baz=297,slow=6.5,SNR=4.9						
MKAR	Makanchi Array	157.90	49	PKP	PKPdf	11 08 27.9	+0.4
	0.8nm,1.1s,baz=46,slow=3.5,SNR=4.6						
MKAR				PKPab	PKPab	11 09 00.7	0.0
	0.6nm,0.7s,baz=306,slow=2.9,SNR=5.6						

*IDC **01** 10:51:49.3±0.6, 35°.03S×72°.89W, h0km, mb4.3/11, mb1 4.4/14, mb1mx4.3/27, mbtmp4.3/14, ML4.5/3, MS4.0/6, Ms1 3.9/6, ms1mx3.5/27, Error ellipse: s-maj=24.7km s-min=16.7km az=86.0*
*ISCJB **01** 10:51:52.8±0.4, 35°.02S±0°.06×72°.8W±0°.1, h33km, mb4.5/21, MS4.0/5, Error ellipse: s-maj=12.5km s-min=8.3km az=155.1*
*NEIC **01** 10:51:55.6±1.1, 35°.03S×72°.85W, h42km±10km, mb4.9/11, Error ellipse: s-maj=12.3km s-min=6.8km az=76.0*
ISC 01 10:51:54.5±0.5, 35°.04S±0°.07×73°.0W±0°.1, h35km, n54, σ0s89/57, mb4.6/21, MS4.0/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.99	162	Pn	Pn	10 53 20.2	-0.6
	3.0nm,0.3s,baz=336,slow=10,SNR=13						
PLCA	Paso Flores	5.99	162	ePn	Pn	10 53 20.4	-0.3
TRQA	Tornquist	9.34	112	ePn	Pn	10 54 08.0	+1.5
LVC	Limon Verde	12.88	17	ePn	Pn	10 54 55.9	+0.6
CPUP	Villa Florida	15.99	61	Pn	Pn	10 55 37.0	+0.3
	0.4nm,0.3s,baz=228,slow=9.8,SNR=3.8						
CPUP				LR	LR	11 01 19.0	
	comp=Z,201nm,20.8s,baz=218,slow=36						
LPAZ	La Paz	19.17	14	P	Pn	10 56 16.4	-0.3
	0.7nm,0.3s,baz=187,slow=6.5,SNR=22						
LPAZ	La Paz	19.17	14	eP	Pn	10 56 17.2	+0.5
SIV	San Ignacio	21.76	32	P	P	10 56 41.8	-1.3
	12nm,0.6s,baz=228,slow=9.8,SNR=24						
SIV				LR	LR	11 06 37.8	
	comp=Z,553nm,18.8s,baz=246,slow=41						
SAML	Samuel	27.47	21	eP	P	10 57 36.5	-0.9
	14nm,1.4s						
BDFB	Brasilia	29.55	55	P	P	10 57 55.0	-1.0
	2.7nm,0.6s,baz=204,slow=7.7,SNR=4.1						
BDFB				LR	LR	11 10 32.9	
	comp=Z,167nm,20.4s,baz=216,slow=38						
PMSA	Palmer Station	30.25	172	LR	L

AAK *e*PKPbc **PKiKP** **11 11 49.8 +0.1**
AAK PKPbc **PKPbc** **11 11 50.7 +1.1**
ZALV Zalesovo Beam 155.51 33 PKP **PKPdf** **11 11 43.9 +0.1**
1.2nm,0.7s,baz=267,slow=3.0,SNR=6.1
ZALV PKPab **PKPab** **11 12 09.2 -0.4**
1.3nm,0.5s,baz=291,slow=5.2,SNR=4.6
MKAR Makanchi Array 158.02 50 PKP **PKPdf** **11 11 47.6 +0.4**
0.3nm,0.6s,baz=210,slow=1.4,SNR=4.1
MKAR PKPab **PKPab** **11 12 20.4 -0.4**
0.3nm,0.4s,baz=274,slow=2.7,SNR=9.0
SONM Songino Array 167.21 2 PKPab **PKPab** **11 13 01.3 +0.3**
0.6nm,0.7s,baz=331,slow=4.2,SNR=5.9

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*ISCJB **01** 10:58:24.7±0.6,36°.88S±0°.07×73°.6W±0°.2,h14km, mb4.0/10,Error ellipse: s-maj=19.0km s-min=9.8km az=167.8*
*IDC **01** 10:58:24.4±1.0,36°.96S×73°.68W,h0km,mb3.9/7, mb1 4.0/9,mb1mx3.9/25,mbtmp3.8/9,ML3.7/2,MS3.4/1, Ms1 3.4/1,ms1mx2.6/27,Error ellipse: s-maj=34.1km s-min=16.0km az=79.0*
*NEIC **01** 10:58:29.5±0.5,36°.90S×73°.57W,h35km,mb4.4/3,Error ellipse: s-maj=15.6km s-min=8.1km az=78.0*
ISC 01 10:58:26.4±0.7,36°.90S±0°.09×73°.6W±0°.2,h14km,n24, σ0§66/24,mb4.0/10,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.52**	**149**	Pn	**Pn**		**10 59 34.5**	**0.0**
	2.6nm,0.3s,baz=326,slow=13,SNR=6.2							
PLCA				Lg	Lg		11 00 46.3	
	23nm,0.3s,baz=7.3,slow=12,SNR=4.8							
PLCA				LR	LR		11 01 32.2	
	comp=Z,425nm,18.3s,baz=308,slow=42							
CFAA	**Coronel Fontan**	**6.92**	**42**	Pn	**Pn**		**11 00 06.7**	**-0.8**
	0.2nm,0.3s,baz=206,slow=13,SNR=4.4							
CFAA				Lg	Lg		11 01 43.0	
	0.1nm,0.3s,baz=294,slow=23,SNR=8.6							
LPAZ	**La Paz**	**21.10**	**15**	P	**P**		**11 03 11.6**	**+0.3**
	1.8nm,0.6s,baz=224,slow=4.2,SNR=5.9							
LPAZ	**La Paz**	**21.10**	**15**	*e*P	**P**		**11 03 11.7**	**+0.4**
SIV	**San Ignacio**	**23.62**	**31**	P	**P**		**11 03 36.7**	**-0.5**
	1.7nm,0.7s,baz=232,slow=14,SNR=4.0							
NNA	**Nana**	**24.98**	**353**	*e*P	**P**		**11 03 49.5**	**-0.2**
	29nm,1.7s							
SAML	**Samuel**	**29.40**	**21**	*e*P	**P**		**11 04 28.9**	**-0.5**
	4.5nm,1.5s							
OTAV	**Otavalo**	**37.22**	**352**	*e*P	**P**		**11 05 37.9**	**-0.2**
	10nm,1.7s							
RCBR	**Riachuelo**	**46.29**	**57**	P	**P**		**11 06 51.3**	**-0.5**
JTS	**JuntasAbangare**	**48.13**	**345**	P	**P**		**11 07 06.2**	**+0.1**
SNAA	**Sanae**	**49.41**	**157**	P	**P**		**11 07 15.1**	**-0.3**
	2.2nm,1.1s,baz=303,slow=18,SNR=3.1							
QSPA	**South Pole Qui**	**53.34**	**180**	P	**P**		**11 07 43.9**	**-1.1**
	0.8nm,0.5s,baz=313,slow=2.7,SNR=11							
QSPA	**South Pole Qui**	**53.34**	**180**	*e*P	**P**		**11 07 44.1**	**-0.9**
SDDR	**Presa de Saban**	**55.62**	**3**	*e*P	**P**		**11 08 02.1**	**+0.1**
TEIG	**Tepich**	**58.48**	**344**	*e*P	**P**		**11 08 20.9**	**-1.1**
TXAR	**Lajitas Array**	**71.67**	**333**	P	**P**		**11 09 48.3**	**+0.5**
	0.6nm,0.7s,baz=154,slow=9.6,SNR=6.4							
MIAR	**Mount Ida**	**73.47**	**343**	*e*P	**P**		**11 09 58.8**	**+0.6**
DBIC	**Dimbokro**	**77.33**	**72**	P	**P**		**11 10 20.9**	**0.0**
TSUM	**Tsumeb**	**79.66**	**106**	*e*P	**P**		**11 10 34.5**	**+0.5**
BOSA	**Boshof**	**79.86**	**118**	P	**P**		**11 10 35.7**	**+0.7**
	2.5nm,0.9s,baz=183,slow=18,SNR=2.4							
TORD	**Torodi Ar. Bea**	**86.41**	**71**	P	**P**		**11 11 09.9**	**+1.2**
	0.3nm,0.7s,baz=207,slow=2.9,SNR=2.5							
ABKAR	**Akbulak array**	**144.46**	**55**	*e*PKPdf	**PKPab**		**11 18 00.1**	**0.0**
MKAR	**Makanchi Array**	**159.59**	**54**	PKPab	**PKPab**		**11 19 03.9**	**+1.1**
	0.3nm,0.8s,baz=302,slow=2.7,SNR=3.0							
SONM	**Songino Array**	**169.07**	**360**	PKPab	**PKPab**		**11 19 44.8**	**+0.4**
	0.3nm,0.7s,baz=346,slow=4.2,SNR=2.8							

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*IDC **01** 11:07:41.3±0.8,36°.98S×73°.76W,h0km,mb4.3/11, mb1 4.5/13,mb1mx4.4/30,mbtmp4.3/13,ML4.3/2,MS4.0/4, Ms1 4.0/4,ms1mx3.5/23,Error ellipse: s-maj=26.3km s-min=17.4km az=88.0*
*ISCJB **01** 11:07:45.1±0.5,36°.94S±0°.07×73°.7W±0°.1,h33km, mb4.3/13,MS3.8/3,Error ellipse: s-maj=13.1km s-min=8.8km az=157.6*
*NEIC **01** 11:07:46.9±0.4,36°.94S×73°.76W,h35km,mb4.8/5,Error ellipse: s-maj=11.7km s-min=8.2km az=71.0*
ISC 01 11:07:46.8±0.6,36°.94S±0°.08×73°.7W±0°.1,h35km,n38, σ0§98/38,mb4.4/15,MS3.8/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.54**	**148**	Pn	**Pn**		**11 08 52.3**	**-0.7**
	2.3nm,0.3s,baz=293,slow=17,SNR=2.1							
PLCA				Lg	Lg		11 10 04.1	
	9.6nm,0.3s,baz=171,slow=9.8,SNR=3.6							
PLCA	**Paso Flores**	**4.54**	**148**	*e*Pn	**Pn**		**11 08 53.6**	**+0.5**
PLCA				Lg	Lg		11 10 04.1	
CFAA	**Coronel Fontan**	**7.00**	**42**	Pn	**Pn**		**11 09 25.1**	**-1.8**
	0.2nm,0.3s,baz=236,slow=11,SNR=3.8							
CFAA				Lg	Lg		11 11 12.9	
	0.4nm,0.3s,baz=296,slow=20,SNR=6.5							
TRQA	**Tornquist**	**9.41**	**100**	*e*Pn	**Pn**		**11 10 01.3**	**+1.3**
LVC	**Limon Verde**	**14.87**	**18**	*e*Pn	**Pn**		**11 11 16.7**	**+1.9**
CPUP	**Villa Florida**	**17.50**	**57**	Pn	**Pn**		**11 11 47.5**	**-0.6**
	0.5nm,0.3s,baz=210,slow=6.6,SNR=4.1							
CPUP				LR	LR		11 19 35.8	
	comp=Z,585nm,19.4s,baz=220,slow=41							
LPAZ	**La Paz**	**21.16**	**15**	P	**P**		**11 12 29.6**	**-0.1**
	14nm,1.0s,baz=183,slow=8.7,SNR=14							
LPAZ	**La Paz**	**21.16**	**15**	*e*P	**P**		**11 12 31.9**	**+2.2**
SIV	**San Ignacio**	**23.70**	**32**	P	**P**		**11 12 55.7**	**+0.1**
	11nm,0.9s,baz=221,slow=9.7,SNR=14							
SIV				LR	LR		11 24 07.7	
	comp=Z,428nm,19.2s,baz=238,slow=42							
NNA	**Nana**	**25.00**	**353**	P	**P**		**11 13 06.1**	**-1.4**
SAML	**Samuel**	**29.46**	**22**	*e*P	**P**		**11 13 47.9**	**+0.4**
	11nm,1.3s							
BDFB	**Brasilia**	**31.16**	**54**	P	**P**		**11 14 01.8**	**-0.9**
	2.3nm,0.5s,baz=211,slow=11,SNR=4.9							
BDFB				LR	LR		11 26 50.5	
	comp=Z,207nm,18.2s,baz=222,slow=37							
BDFB	**Brasilia**	**31.16**	**54**	*e*P	**P**		**11 14 02.8**	**+0.1**
RPN	**Rapa Nui**	**31.56**	**278**	LR	LR		11 23 09.2	
	comp=Z,168nm,20.1s,baz=108,slow=29							
OTAV	**Otavalo**	**37.24**	**352**	P	**P**		**11 14 54.8**	**-0.9**
JTS	**JuntasAbangare**	**48.14**	**345**	P	**P**		**11 16 23.0**	**-0.5**
SNAA	**Sanae**	**49.42**	**157**	P	**P**		**11 16 32.0**	**-0.9**
	4.6nm,1.1s,baz=256,slow=2.7,SNR=6.2							
SNAA	**Sanae**	**49.42**	**157**	*e*P	**P**		**11 16 31.9**	**-0.9**
	16nm,1.4s							
QSPA	**South Pole Qui**	**53.30**	**180**	P	**P**		**11 17 01.4**	**-0.6**
	5.4nm,0.9s,baz=150,slow=6.0,SNR=8.0							
QSPA	**South Pole Qui**	**53.30**	**180**	*e*P	**P**		**11 17 02.8**	**+0.7**
TXAR	**Lajitas Array**	**71.66**	**333**	P	**P**		**11 19 05.8**	**+0.9**
	1.9nm,1.0s,baz=155,slow=6.9,SNR=8.3							
CPCT	**Cooper Cave**	**72.71**	**351**	*e*P	**P**		**11 19 10.6**	**-0.4**
WVT	**Waverly**	**73.87**	**348**	*e*P	**P**		**11 19 17.2**	**-0.5**
DBIC	**Dimbokro**	**77.43**	**72**	P	**P**		**11 19 38.8**	**+0.1**
	9.2nm,0.9s,baz=210,slow=5.7,SNR=5.9							
DBIC	**Dimbokro**	**77.43**	**72**	*e*P	**P**		**11 19 40.0**	**+1.3**
ANMO	**Albuquerque**	**77.72**	**333**	*e*P	**P**		**11 19 41.5**	**+1.4**
	74nm,3.0s							
TSUM	**Tsumeb**	**79.74**	**106**	*e*P	**P**		**11 19 52.6**	**+0.9**
	2.5nm,0.8s							
BOSA	**Boshof**	**79.93**	**118**	P	**P**		**11 19 52.5**	**-0.1**
	8.5nm,1.1s,baz=265,slow=4.1,SNR=6.9							
SMCO	**Snowmass**	**81.69**	**335**	*e*P	**P**		**11 20 04.0**	**+2.2**
LBTB	**Lobatse**	**82.32**	**115**	*e*P	**P**		**11 20 05.6**	**+0.3**
ECSD	**EROS Data Cent**	**82.94**	**344**	*e*P	**P**		**11 20 08.2**	**+0.5**
	174nm,3.0s							
NVAR	**Mina Array Bea**	**85.53**	**326**	P	**P**		**11 20 20.6**	**-0.6**
	0.4nm,0.7s,baz=142,slow=7.5,SNR=3.8							
PDAR	**Pinedale Array**	**85.78**	**334**	P	**P**		**11 20 22.1**	**-0.3**
	1.2nm,1.1s,baz=134,slow=6.4,SNR=5.2							
TORD	**Torodi Ar. Bea**	**86.50**	**71**	P	**P**		**11 20 26.4**	**0.0**
	4.0nm,1.1s,baz=227,slow=3.7,SNR=11							
ABKAR	**Akbulak array**	**144.55**	**55**	*e*PKPdf	PKPbc		11 27 18.0	+0.3
HYB	**Hyderabad**	**148.79**	**121**	*i* PKP	**PKPbc**		**11 27 30.5**	**-0.5**
ZALV	**Zalesovo Beam**	**157.44**	**34**	PKP	**PKPdf**		**11 27 38.1**	**-0.3**
	1.1nm,0.7s,baz=284,slow=1.2,SNR=6.4							
ZALV				PKPab	**PKPab**		**11 28 10.8**	**+0.5**
	4.7nm,1.2s,baz=312,slow=5.6,SNR=5.6							
MKAR	**Makanchi Array**	**159.68**	**54**	PKP	**PKPdf**		**11 27 40.6**	**-0.9**
	0.6nm,0.8s,baz=330,slow=2.0,SNR=4.3							
MKAR				PKPab	**PKPab**		**11 28 20.6**	**+0.3**
	1.3nm,0.8s,baz=288,slow=3.8,SNR=8.9							

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*ISCJB **01** 11:15:29.5±0.3,19°.76S±0°.06×178°.03W±0°.06,h600km, mb4.5/45,Error ellipse: s-maj=10.0km s-min=5.5km az=140.7*
*BJI **01** 11:15:29.4,19°.13S×177°.80W,h583km,mB5.0/12, mb4.8/20*
*NEIC **01** 11:15:30.1±0.9,19°.83S×177°.99W,h597km±10km, mb4.7/28,Error ellipse: s-maj=11.1km s-min=9.0km az=136.0*
*IDC **01** 11:15:30.6±2.0,19°.76S×178°.04W,h599km±24km, mb3.8/14,mb1 4.0/16,mb1mx3.8/31,mbtmp4.7/16,Error ellipse: s-maj=15.2km s-min=10.9km az=146.0*
*MOS **01** 11:15:30.9±1.9,18°.93S×178°.46W,h571km,mb4.9/9, Error ellipse: s-maj=14.5km s-min=13.1km az=31.7*
ISC 01 11:15:29.7±0.5,19°.78S±0°.09×177°.87W±0°.07,h600km, n192,σ1§48/187,mb4.6/45,21C-26D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.37**	**297**	*e*P	**P**		**11 16 57.5**	**-0.4**
MSVF	**Nonsavu**	**4.37**	**297**	*e*P	**P**		**11 16 57.5**	**-0.4**
NIUE	**Niue**	**7.53**	**86**	P	**P**		**11 17 23.9**	**-0.7**
	baz=7.4,SNR=6.9							
DZM	**Mont Dzumac**	**14.83**	**258**	P	**P**		**11 18 34.9**	**-1.6**
	3.8nm,0.3s,baz=114,slow=21,SNR=43							
DZM	**Mont Dzumac**	**14.83**	**258**	*e*P	**P**		**11 18 37.3**	**+0.8**
OUZ	**Omahuta**	**17.13**	**204**	*e*P	**P**		**11 19 00.5**	**+3.3**
	143nm,1.0s							
URZ	**Urewera**	**18.93**	**192**	P	**P**		**11 19 12.3**	**-1.2**
	7.4nm,0.3s,baz=261,slow=2.8,SNR=50							
URZ	**Urewera**	**18.93**	**192**	*e*P	**P**		**11 19 12.5**	**-1.0**
BKZ	**Black Stump Fm**	**19.93**	**193**	*e*P	**P**		**11 19 21.7**	**-1.0**
	66nm,1.8s							
KHZ	**Kahutara**	**23.71**	**196**	*e*P	**P**		**11 19 55.4**	**-0.9**
EIDS	**Eidsvold**	**29.16**	**253**	P	**P**		**11 20 44.3**	**0.0**
	baz=29,SNR=5.9							
RMQ	**Roma**	**31.34**	**251**	P	**P**		**11 21 03.9**	**+0.9**
	baz=32,SNR=10							
CNB	**Canberra Magne**	**32.73**	**235**	P	P		11 21 16.0	+1.3
	baz=33,SNR=7.5							
CTAO	**Charters Tower**	**33.69**	**263**	*e*P	**P**		**11 21 22.7**	**-0.2**
CTAO				pmax	pmax			
	comp=Z,43nm,0.5s							
CTAO	**Charters Tower**	**33.69**	**263**	*e*P	**P**		**11 21 22.7**	**-0.2**
	comp=Z,43nm,0.5s							
CMSA	**Cobar Meteorol**	**34.71**	**243**	P	**P**		**11 21 31.9**	**+0.7**
	baz=35,SNR=13							
PMG	**Port Moresby**	**35.30**	**282**	*ce*P	**P**		**11 21 36.5**	**+0.2**
PMG				pmax	pmax			
	comp=Z,60nm,1.2s							
PMG	**Port Moresby**	**35.30**	**282**	P	**P**		**11 21 36.6**	**+0.3**
	baz=35,SNR=10							
PMG	**Port Moresby**	**35.30**	**282**	*e*P	**P**		**11 21 35.8**	**-0.6**
	comp=Z,36nm,0.8s							
QLP	**Quilpie**	**35.39**	**252**	P	**P**		**11 21 37.2**	**+0.3**
	baz=36,SNR=14							
TOO	**Toolangi**	**36.42**	**233**	P	**P**		**11 21 46.4**	**+1.1**
	baz=37,SNR=16							
COEN	**Coen**	**37.66**	**273**	P	**P**		**11 21 56.1**	**+0.4**
	baz=38,SNR=39							
COEN	**Coen**	**37.66**	**273**	*e*P	**P**		**11 21 54.1**	**-1.5**
	comp=Z,165nm,0.6s							
STKA	**Stephens Creek**	**38.21**	**243**	*e*P	**P**		**11 22 00.9**	**+1.0**
STKA	**Stephens Creek**	**38.21**	**243**	P	**P**		**11 22 00.2**	**+0.3**
	comp=Z,7.7nm,0.7s,baz=89,slow=8.5,SNR=17							
STKA	**Stephens Creek**	**38.21**	**243**	P	**P**		**11 22 00.8**	**+1.0**
	baz=38,SNR=14							
ARPS	**Mount Arapiles**	**38.99**	**236**	P	**P**		**11 22 06.7**	**+0.7**
	baz=39,SNR=8.2							
QIS	**Mount Isa**	**39.84**	**261**	P	**P**		**11 22 12.7**	**-0.4**
	baz=40,SNR=3.4							
HTT	**Hallett**	**40.67**	**241**	P	**P**		**11 22 20.3**	**+0.8**
	baz=41,SNR=16							
BBOO	**Buckleboo**	**42.98**	**243**	P	**P**		**11 22 38.1**	**+0.5**
	baz=43,SNR=38							
AS31	**Alice Springs**	**44.80**	**256**	*e*P	**P**		**11 22 51.8**	**0.0**
ASAR	**Alice Springs**	**44.80**	**256**	P	**P**		**11 22 52.0**	**+0.1**
	comp=Z,30nm,0.8s,baz=87,slow=8.1,SNR=372							
ASAR				PcP	**PcP**		**11 24 21.1**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=111,slow=4.1,SNR=6.8							
ASAR				S	**S**		**11 28 45.8**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=91,slow=16,SNR=12							
WRAB	**Tennant Creek**	**44.81**	**261**	*d i*P	**P**		**11 22 51.2**	**-0.7**
WRAB				pmax	pmax			
	comp=Z,80nm,1.3s							
WRAB	**Tennant Creek**	**44.81**	**261**	*e*P	**P**		**11 22 51.6**	**-0.4**
	comp=Z,12nm,0.6s							
WRA	**Warramunga Arr**	**44.82**	**261**	P	**P**		**11 22 51.3**	**-0.7**
	comp=Z,12nm,0.3s,baz=97,slow=8.1,SNR=70							
WRA				PcP	**PcP**		**11 24 21.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=86,slow=3.9,SNR=4.6							
WRA				S	**S**		**11 28 44.7**	**-2.4**
	comp=Z,1.5nm,0.8s,baz=94,slow=14,SNR=7.4							
KDU	**Kakadu**	**48.06**	**271**	P	**P**		**11 23 15.9**	**-0.4**
	baz=48,SNR=12							
MTN	**Manton Dam**	**49.28**	**270**	P	**P**		**11 23 24.9**	**-0.5**
	baz=49,SNR=17							
FORT	**Forrest**	**49.69**	**246**	P	**P**		**11 23 28.1**	**-0.1**
	baz=50,SNR=12							
WRKA	**Warakurna**	**49.78**	**254**	P	**P**		**11 23 29.1**	**+0.1**
	baz=50,SNR=111							
WRKA				S	**S**		**11 29 55.6**	**+0.4**
	baz=50,SNR=3.5							
KNRA	**Kununurra**	**50.83**	**266**	P	**P**		**11 23 36.5**	**-0.1**
	baz=51,SNR=7.6							
FAKI	**Fak Fak**	**51.46**	**282**	P	**P**		**11 23 41.2**	**0.0**
	baz=52,SNR=4.0							
FITZ	**Fitzroy Crossi**	**53.24**	**262**	P	**P**		**11 23 54.1**	**+0.2**
	baz=53,SNR=12							
FITZ	**Fitzroy Crossi**	**53.24**	**262**	*e*P	**P**		**11 23 54.1**	**+0.2**
	comp=Z,9.6nm,0.6s							
SOEI	**Soe**	**56.60**	**271**	P	P		11 24 19.1	+1.7
	baz=57,SNR=5.5							
SOEI	**Soe**	**56.60**	**271**	*e*P	P		11 24 19.2	+1.7
	comp=Z,74nm,0.8s							
MEEK	**Meekatharra**	**58.27**	**250**	P	**P**		**11 24 28.1**	**-0.4**
	baz=58,SNR=21							
KLBR	**Kellerberrin**	**58.47**	**245**	P	**P**		**11 24 29.9**	**+0.1**
	baz=59,SNR=8.1							
BLDU	**Balliduu**	**59.46**	**246**	P	**P**		**11 24 36.5**	**+0.1**
	baz=60,SNR=22							
MORW	**Morawa**	**60.21**	**247**	P	**P**		**11 24 41.4**	**0.0**
	baz=60,SNR=8.3							
GIRL	**Giralia**	**62.86**	**254**	P	P		11 25 00.1	+1.4
	baz=63,SNR=4.0							
KKM	**Kota Kinabalu**	**69.69**	**285**	*e*P	**P**		**11 25 41.3**	**+0.2**
	comp=Z,25nm,0.8s							
MJAR	**Matsushiro Arr**	**69.70**	**323**	P	**P**		**11 25 40.5**	**0.0**
	comp=Z,9.1nm,0.5s,baz=157,slow=6.3,SNR=40							
MAJO	**Matsushiro**	**69.70**	**323**	*e*P	**P**		**11 25 40.3**	**-0.3**
MAJO				pmax	pmax			
	comp=Z,17nm,0.6s							
MAJO	**Matsushiro**	**69.70**	**323**	*e*P	**P**		**11 25 40.3**	**-0.3**
	comp=Z,17nm,0.6s							
MAT	**Matsushiro**	**69.70**	**323**	P	**P**		**11 25 40.3**	**-0.2**
UGM	**Wanagama**	**70.10**	**269**	P	**P**		**11 25 43.7**	**+0.3**
	baz=70,SNR=7.3							
QSPA	**South Pole Qui**	**70.29**	**180**	P	P		11 25 45.8	+2.1
	comp=Z,13nm,0.7s,baz=329,slow=0.5,SNR=64							
QSPA	**South Pole Qui**	**70.29**	**180**	*e*P	P		11 25 45.9	+2.2
SBUM	**Sibu**	**72.00**	**279**	*e*P	P		11 25 55.9	+1.4
	comp=Z,6.6nm,0.7s							
ASAJ	**Asahikawa**	**73.15**	**331**	*e*P	P		11 26 02.4	+2.0
	comp=Z,10nm,0.9s							
SSLB	**Suanglung**	**73.68**	**303**	*e*P	**P**		**11 26 02.8**	**-1.1**
	comp=Z,19nm,0.5s							
TPUB	**Ta-pu**	**73.69**	**303**	*e*P	**P**		**11 26 02.5**	**-1.4**
	comp=Z,33nm,0.7s							
PET	**Petropavlovsk**	**75.30**	**346**	*e*P	**P**		**11 26 11.9**	**-0.3**
YSS	**Yuzh-Sakhalins**	**75.31**	**333**	⇑*i*P	P		11 26 13.6	+1.2
YSS				pmax	pmax			
	comp=Z,40nm,1.0s							
YSS	**Yuzh-Sakhalins**	**75.31**	**333**	*e*P	P		11 26 13.9	+1.5
	comp=Z,22nm,0.7s							
PETK	**Petropavlovsk-**	**75.61**	**345**	P	**P**		**11 26 14.1**	**+0.2**
	comp=Z,12nm,0.8s,baz=131,slow=8.1,SNR=13							
KSRS	**Korea Array**	**76.43**	**318**	P	**P**		**11 26 18.9**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=134,slow=6.7,SNR=6.1							
KSAR	**Wonju Array Be**	**76.44**	**318**	P	**P**		**11 26 18.9**	**0.0**
KSAR	**Wonju Array Be**	**76.44**	**318**	P	**P**		**11 26 18.9**	**0.0**
CHGN	**Chignik**	**77.55**	**11**	*e*P	P		11 26 20.5	-3.9
USRK	**Ussurysk Ar.**	**78.44**	**326**	P	P		11 26 31.2	+1.7
	comp=Z,11nm,0.8s,baz=134,slow=3.5,SNR=27							
NJ2	**Nanjing**	**79.51**	**310**	*e*P	**P**		**11 26 35.4**	**0.0**
NJ2				PMZ				
	comp=Z,60nm,1.0s							
MDJ	**Mudanjiang**	**80.00**	**325**	*e*P	**P**		**11 26 38.8**	**+1.1**
	comp=Z,9.1nm,0.8s							
CN2	**Changchun**	**81.80**	**322**	*e*P	**P**		**11 26 45.6**	**-1.4**
CN2				*es*P	**sP**		**11 29 53.4**	**-0.7**
CN2				*e*S	**S**		**11 36 09.5**	**-2.1**
KLR	**Kul'dur**	**81.97**	**329**	*e*P	**P**		**11 26 45.0**	**-2.7**
TUC	**Tucson**	**82.44**	**52**	*e*P	P		11 26 53.8	+3.2
TUC				pmax	pmax			
	comp=Z,4.0nm,1.0s							
TUC	**Tucson**	**82.44**	**52**	*e*P	P		11 26 53.8	+3.2
	comp=Z,4.3nm,1.0s							
I07A	**Izee**	**82.95**	**38**	*e*P	P		11 26 55.2	+2.2
	comp=Z,81nm,2.8s							
IPM	**Ipoh**	**83.16**	**277**	*e*P	**P**		**11 26 55.5**	**+1.0**
	comp=Z,22nm,0.7s							
CCUT	**Cedar City**	**83.22**	**46**	*e*P	P		11 26 56.5	+1.9
	comp=Z,77nm,2.9s							
GAMB	**Gambell**	**83.42**	**3**	*e*P	**P**		**11 26 55.8**	**+1.2**
	comp=Z,10.0nm,0.7s							
F10A	**Beach Ranch, E**	**85.36**	**38**	*e*P	**P**		**11 27 06.1**	**+1.4**
	comp=Z,93nm,2.5s							
TNA	**Tin City**	**85.41**	**4**	*e*P	**P**		**11 27 04.8**	**+0.6**
	comp=Z,3.6nm,0.8s							
BJI	**Beijing**	**85.46**	**315**	P	**P**		**11 27 06.2**	**+1.1**
BJI				PMZ				
	comp=Z,10.0nm,0.7s							
SEY	**Seymchan**	**85.70**	**347**	*i* P	**P**		**11 27 04.9**	**-0.8**
HLID	**Hailey**	**85.70**	**41**	*e*P	P		11 27 08.7	+2.2
	comp=Z,2.9nm,0.9s							
TRF	**Thorofare Moun**	**85.72**	**12**	*e*P	**P**		**11 27 06.1**	**0.0**
	comp=Z,136nm,2.2s							
SRU	**San Rafael Swe**	**85.94**	**46**	*e*P	P		11 27 10.4	+2.7
SRU				pmax	pmax			
	comp=Z,4.0nm,0.7s							
SRU	**San Rafael Swe**	**85.94**	**46**	*e*P	P		11 27 10.4	+2.7
	comp=Z,4.4nm,0.7s							
MCK	**McKinley**	**86.25**	**12**	*e*P	P		11 27 03.6	-4.7
MCK				pmax	pmax			
	comp=Z,11nm,0.8s							
MCK	**McKinley**	**86.25**	**12**	*e*P	P		11 27 03.6	-4.7
	comp=Z,11nm,0.8s							
GYA	**Guiyang**	**86.40**	**300**	*e*P	**P**		**11 27 11.0**	**+0.9**
GYA				pP	**pP**		**11 29 20.2**	**+1.6**
GYA				sP	**sP**		**11 30 17.6**	**-1.0**
GYA				PP	**PP**		**11 30 45.8**	**+2.6**
GYA				S	**S**		**11 36 57.0**	**-0.1**
GYA				PMZ				
	comp=Z,10.0nm,0.8s							
TXAR	**Lajitas Array**	**86.57**	**57**	P	P		11 27 13.5	+2.7
	comp=Z,0.6nm,0.6s,baz=226,slow=7.1,SNR=7.4							
ANMO	**Albuquerque**	**86.86**	**51**	⇓*e*P	**P**		**11 27 13.3**	**+1.1**
ANMO				pmax	pmax			
	comp=Z,3.0nm,0.9s							
COLA	**College**	**87.48**	**12**	⇑*i*P	**P**		**11 27 14.3**	**+0.3**
COLA				pmax	pmax			
	comp=Z,59nm,0.8s							
COLA	**College**	**87.48**	**12**	*e*P	**P**		**11 27 13.6**	**-0.5**
ILAR	**Eielson Array**	**87.59**	**13**	P	**P**		**11 27 14.3**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=215,slow=5.4,SNR=61							
XAN	**Xi'an**	**87.79**	**307**	P	**P**		**11 27 17.5**	**+1.2**
XAN				PMZ				
	comp=Z,5.0nm,0.9s							
XAN				PMZ				
	comp=Z,37nm,5.4s							
BILL	**Bilibino**	**88.33**	**354**	⇑*e*P	**P**		**11 27 18.9**	**+0.9**
BILL				pmax	pmax			
	comp=Z,11nm,1.9s							
PDAR	**Pinedale Array**	**88.36**	**43**	P	**P**		**11 27 20.3**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=199,slow=2.7,SNR=13							
DAWY	**Dawson**	**88.74**	**16**	*e*P	**P**		**11 27 20.8**	**+0.8**
HHC	**Hu-ho-hao-te**	**88.94**	**314**	*e*P	**P**		**11 27 22.7**	**+1.1**
HHC				PP	PP		11 31 06.1	+3.2
HHC				S	**S**		**11 37 19.3**	**-0.6**

VRI	Vrincioaia	147.03 328	⇓	*i*P	PKPab	11 34 06.6	-3.1
KSP	Ksiaz	147.04 343	*e*	PKIKP	PKPab	11 34 07.0	-2.5
CRVS	Cervenica-Dubn	147.04 336	*e*	PKIKP	PKPab	11 34 06.5	-3.1
CRVS	Cervenica-Dubn	147.04 336	*e*	PKP	PKPab	11 34 06.5	-3.1
PLOR	Plostina	147.08 328	⇓	PKP2	PKPab	11 34 10.4	+0.5
PLOR	Plostina	147.08 328	⇓	*i*P	PKPab	11 34 10.4	+0.5
CLL	Collm	147.39 347	⇓	*i*PKIKP	PKPab	11 34 07.5	-3.4
CLL				pmax	pmax		
	comp=Z,27nm,0.9s						
CLL	Collm	147.39 347	⇓	*i*PKPbc	PKPab	11 34 07.5	-3.4
	comp=Z,27nm,0.9s						
UPC	Upice	147.42 343	*e*	PKIKP	PKPab	11 34 07.7	-3.4
UPC	Upice	147.42 343	⇑	*e*PKP	PKPab	11 34 07.7	-3.4
DPC	Dobruska-Polom	147.47 343	*e*	PKIKP	PKPab	11 34 07.8	-3.6
DPC			*e*			11 34 12.6	
DPC	Dobruska-Polom	147.47 343	⇑	*e*PKP	PKPab	11 34 07.8	-3.6
DPC			*e*	PKPAB	PKiKP	11 34 12.6	+3.9
MLR	Muntele Rosu	147.68 328	⇓	PKIKP	PKPbc	11 34 08.3	+0.3
MLR	Muntele Rosu	147.68 328	⇓	*i*P	PKPbc	11 34 08.3	+0.3
VOIR		148.16 329	⇓	PKIKP	PKPab	11 34 10.0	-4.4
VOIR		148.16 329	⇓	*i*P	PKPab	11 34 10.0	-4.4
PRA	Prague	148.22 345	⇑	PKP	PKPab	11 34 10.0	-4.4
DRGR		148.23 333	⇓	PKP2	PKPab	11 34 10.8	-3.8
DRGR		148.23 333	⇓	*i*P	PKPab	11 34 10.8	-3.8
PRU	Pruhonice	148.27 345	*e*	PKIKP	PKPbc	11 34 09.5	+0.4
PRU			*e*			11 34 15.4	
PRU	Pruhonice	148.27 345	⇑	*e*PKP	PKPbc	11 34 09.5	+0.4
PRU			*e*	PKPAB	PKPab	11 34 15.4	+0.8
VYHS	Vyhne	148.34 339	*e*	PKIKP	PKPbc	11 34 09.8	+0.4
VYHS			*e*			11 34 15.8	
VYHS	Vyhne	148.34 339	*e*	PKP	PKPbc	11 34 09.8	+0.4
VYHS			*e*			11 34 15.8	
ARR	Arges	148.42 329	⇑	*i*P	PKPab	11 34 11.5	-3.9
MEM	Membach	149.08 355		PKPbc	PKPbc	11 34 12.1	+1.1
GZR	Gura Zlata	149.27 331	⇓	PKHKP	PKPbc	11 34 12.0	+0.2
GZR	Gura Zlata	149.27 331	⇓	*i*P	PKPbc	11 34 12.0	+0.2
GZR	Gura Zlata	149.27 331	⇓	*i*P	PKPbc	11 34 12.0	+0.2
SNF	Seneffe	149.29 357		PKPbc	PKPbc	11 34 12.6	+1.0
KHC	Kasperske Hory	149.30 345	*e*	PKHKP	PKPbc	11 34 12.1	+0.4
KHC			*e*			11 34 19.9	
KHC	Kasperske Hory	149.30 345	⇑	*e*PKP	PKPbc	11 34 12.1	+0.4
KHC			*e*	PKPAB	PKPab	11 34 19.9	+1.0
GERES	GERESS Array B	149.54 345		PKHKP	PKPbc	11 34 13.0	+0.6
GERES	GERESS Array B	149.54 345		PKPbc	PKPbc	11 34 12.9	+0.6
	comp=Z,6.2nm,0.6s,baz=358,slow=4.1,SNR=11						
DOU	Dourbes	149.69 357		PKPbc	PKPbc	11 34 13.7	+1.1
CONA	Conrad Observa	149.79 341	⇓	*e*PKiKP	PKiKP	11 34 13.8	+0.2
	comp=Z,10nm,0.7s						
WLF	Walferdange	150.01 355		PKPbc	PKPbc	11 34 15.5	+2.1
SOKA	Soboth	151.16 341	⇓	*e*PKPbc	PKPbc	11 34 15.9	-0.2
	comp=Z,4.5nm,0.8s						
KBA	Koelnbreinsper	151.27 344	⇓	*e*PKPbc	PKPbc	11 34 16.1	-0.4
	comp=Z,4.2nm,0.6s						
DOBS	Dobrina	151.50 340		*i*PKPbc	PKPbc	11 34 17.0	+0.1
WTTA	Wattenberg	151.51 346	⇓	*i*PKPbc	PKPbc	11 34 17.4	+0.3
	comp=Z,8.6nm,0.6s						
MMB	Musomiste	151.55 325	⇑	PKIKP	PKPbc	11 34 17.5	+0.3
MMB	Musomiste	151.55 325	⇑	*i*P	PKPbc	11 34 17.5	+0.3
MYKA	Terra Mystica	151.60 343	⇓	*i*PKPbc	PKPbc	11 34 16.8	-0.3
	comp=Z,3.2nm,0.4s						
VNDS	Vrh nad Dolski	151.78 341		*i*PKPbc	PKPbc	11 34 17.8	+0.3
ABTA	Abfaltersbach	151.79 345	⇓	*i*PKPbc	PKPbc	11 34 17.4	-0.2
	comp=Z,8.2nm,0.6s						
CRNS	Crni Vrh	151.93 342		*i*PKPbc	PKPbc	11 34 17.9	0.0
ESDC	Sonseca Array	159.49 14		PKPab	PKPab	11 35 03.0	+0.2
	comp=Z,0.2nm,0.2s,baz=314,slow=3.7,SNR=4.9						
DBIC	Dimbokro	165.31 152		PKPab	PKPab	11 35 27.7	-1.3
	comp=Z,3.6nm,0.9s,baz=274,slow=8.5,SNR=3.3						

*IDC **01** 11:16:22.6±2.2, 38°.64S×73°.98W, h0km, mb3.9/5, mb1 3.9/8, mb1mx3.8/29, mbtmp3.8/8, ML3.9/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/25, Error ellipse: s-maj=48.4km s-min=20.1km az=65.0*
*ISCJB **01** 11:16:26.0±0.9, 38°.52S±0°.09×73°.9W±0°.1, h33km, mb4.1/8, Error ellipse: s-maj=17.9km s-min=10.9km az=154.8*
*NEIC **01** 11:16:27.7±0.6, 38°.55S×73°.93W, h35km, mb4.5/2, Error ellipse: s-maj=13.2km s-min=8.7km az=68.0*
ISC 01 11:16:27.3±0.9, 38°.6S±0°.1×74°.0W±0°.1, h35km, n21, σ0s86/19, mb4.2/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.43	130	Pn	Pn	11 17 18.2	-0.1
	2.8nm,0.3s,baz=312,slow=9.8,SNR=31						
PLCA				Lg	Lg	11 18 09.2	
	27nm,0.3s,baz=17,slow=8.7,SNR=5.6						
PLCA				LR	LR	11 18 29.2	
	comp=Z,98nm,20.2s,baz=266,slow=38						
CFAA	Coronel Fontan	8.41	36	Pn	Pn	11 18 25.6	-1.1
	0.1nm,0.3s,baz=218,slow=14,SNR=2.6						
TRQA	Tornquist	9.47	91	*e*Pn	Pn	11 18 40.9	-0.3
	10nm,0.6s						
LVC	Limon Verde	16.50	17	*e*Pn	Pn	11 20 15.4	-0.9
CPUP	Villa Florida	18.60	54	P	P	11 20 40.0	-1.5
	0.4nm,0.3s,baz=200,slow=14,SNR=3.1						
LPAZ	La Paz	22.80	15	P	P	11 21 28.6	+1.0
	0.3nm,0.3s,baz=180,slow=10,SNR=1.9						
NNA	Nana	26.60	354	*e*P	P	11 22 02.9	+0.4
	34nm,1.9s						
BDFB	Brasilia	32.31	52	P	P	11 22 54.8	+1.6
	0.8nm,0.3s,baz=189,slow=13,SNR=1.8						
OTAV	Otavalo	38.84	353	*e*P	P	11 23 49.4	-0.3
	10nm,1.8s						
BCIP	Isla Barro Col	47.81	352	*e*P	P	11 25 01.0	-0.4
SNAA	Sanae	48.00	156	*e*P	P	11 25 01.6	-0.8
	13nm,1.5s						
DBIC	Dimbokro	78.14	72	P	P	11 28 23.6	+0.5
	2.8nm,0.6s,baz=190,slow=3.6,SNR=7.8						
ANMO	Albuquerque	79.09	333	P	P	11 28 28.2	+0.1
BOSA	Boshof	79.34	118	P	P	11 28 30.4	+0.5
	1.1nm,0.7s,baz=180,slow=1.0,SNR=3.0						
TORD	Torodi Ar. Bea	87.23	71	P	P	11 29 10.3	-0.1
	0.5nm,0.6s,baz=234,slow=5.5,SNR=5.7						
H11S2	WAKE ISLAND Hyd	24.03	267	T	T	13 51 42.8	
	baz=126,slow=75,SNR=17						
H11S1	WAKE ISLAND Hyd	24.05	267	T	T	13 51 42.6	
	baz=126,slow=75,SNR=15						
H11S3	WAKE ISLAND Hyd	24.05	267	T	T	13 51 45.7	
	baz=126,slow=75,SNR=15						
ABKAR	Abkulak array	145.64	57	*e*PKPdf	PKPab	11 36 02.3	+0.3
MAJO	Matsushiro	154.45	276	*e*PKPdf	PKPdf	11 36 13.6	+0.7
MAJO				*e*PKPbc	PKPbc	11 36 22.8	-1.2
MKAR	Makanchi Array	160.79	57	PKPab	PKPab	11 37 06.1	+0.5
	0.2nm,0.6s,baz=279,slow=3.4,SNR=3.0						

KRSC 01 11:27:19.9±0.7, 52°.83N×159°.87E, h51km±7km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.28	20	*e*P	Pn	11 27 30.5	+1.5
SPN				*e*S	Sn	11 27 36.6	+1.1
NLC	Nalytchevo	0.46	318	*e*P	Pn	11 27 31.7	+0.9
NLC				*e*S	Sn	11 27 39.5	+0.9
UGLR	Uglovaya	0.73	301	*i*P	Pn	11 27 35.6	+1.3
UGLR				*e*S	Sn	11 27 45.9	+1.1
SDLR	Sedlovina	0.74	307	*i*P	Pn	11 27 35.5	+1.1
SDLR				*e*S	Sn	11 27 45.5	+0.5
PET	Petropavlovsk	0.76	285	*e*P	Pn	11 27 35.3	+0.8
PET				*e*S	Sn	11 27 45.3	+0.3
SMAR	Somma	0.77	304	*i*P	Pn	11 27 35.8	+0.8
AVH	Avacha	0.81	303	*i*P	Pn	11 27 36.6	+1.4
AVH				*e*S	Sn	11 27 47.4	+1.0
KRER	Koryakskii	0.82	306	*i*P	Pn	11 27 36.9	+1.3
KRER				*e*S	Sn	11 27 48.6	+1.5
KOK	Koryaka	0.87	302	*i*P	Pn	11 27 37.4	+1.3
KOK				*e*S	Sn	11 27 49.5	+1.5
KRX	Arik	0.90	306	*i*P	Pn	11 27 37.7	+1.1
KRX				*e*S	Sn	11 27 49.2	+0.4
RUS	Russkaya	0.92	245	*i*P	Pn	11 27 37.3	+0.8
RUS				*e*S	Sn	11 27 49.1	+0.4
MTVR	Mutnovka	1.08	252	*e*P	Pn	11 27 40.1	+1.1
MTVR				*e*S	Sn	11 27 53.9	+0.8
KII	Karymskiy	1.23	349	*e*P	Pn	11 27 42.9	+2.0
KII				*e*S	Sn	11 27 58.0	+1.4
ASAK	Asacha	1.28	250	*e*P	Pn	11 27 43.5	+1.9
ASAK				*e*S	Sn	11 27 59.6	+1.9
GNL	Ganaly	1.44	308	*e*P	Pn	11 27 46.0	+2.2
GNL				*e*S	Sn	11 28 03.6	+1.8
APC	Apacha	1.64	274	*e*P	Pn	11 27 48.9	+2.5
APC				*e*S	Sn	11 28 08.8	+2.5
MIPR	Malaya Ipel'ka	1.98	255	*e*P	Pn	11 27 54.0	+3.0
MKZ	Mys Kozlova	2.05	32	*e*P	Pn	11 27 53.7	+1.7
MKZ				*e*S	Sn	11 28 16.8	+0.5
KZV	Kizimen	2.30	6	*e*P	Pn	11 27 57.7	+2.1
PAU	Pauzhetka	2.33	235	*e*P	Pn	11 27 59.3	+3.6
PAU				*e*S	Sn	11 28 26.4	+3.4
TUMR	Tumrok	2.46	4	*e*P	Pn	11 28 01.1	+3.3
SKR	Severo-Kuril's	3.17	229	*e*P	Pn	11 28 10.6	+3.3
SKR				*e*S	Sn	11 28 46.2	+2.4
BKI	Bering	4.32	54	*e*P	Pn	11 28 26.6	+3.7

*ISK **01** 11:31:57.8, 39°.74N×33°.04E, h10km, MD2.8*
*ISCJB **01** 11:31:59.7±0.6, 39°.81N±0°.06×32°.96E±0°.06, h19km±6km, Error ellipse: s-maj=10.8km s-min=6.1km az=36.3*
*CSEM **01** 11:31:59.1±0.2, 39°.79N×32°.96E, h20km, MD2.8, Error ellipse: s-maj=9.0km s-min=5.4km az=20.0*
*DDA **01** 11:32:00.0, 39°.87N×33°.09E, h7km, MD2.7*
ISC 01 11:31:59.7±0.9, 39°.82N±0°.04×33°.01E±0°.04, h15km±8km, n18, σ1s18/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	Ankara	0.17	285	*e*PG	Pg	11 32 03.0	-0.9
ANTO				*e*SG	Sg	11 32 07.0	+0.1
ANTO	Ankara	0.17	285	*e*Pg	Pg	11 32 03.1	-0.9
ANTO				*e*Sg	Sg	11 32 07.0	+0.1
LOD	Lodumlu	0.20	289	*e*PG	Pg	11 32 03.6	-0.8
LOD				*e*SG	Sg	11 32 07.8	+0.2
LOD	Lodumlu	0.20	289	*e*Pg	Pg	11 32 03.6	-0.8
LOD				*e*Sg	Sg	11 32 07.8	+0.2
BBAL	Bala	0.29	163	*i*P	Pg	11 32 06.0	0.0
BBAL				*i*S	Sg	11 32 12.6	+2.4
BBAL	Bala	0.29	163	*i*P	Pg	11 32 06.0	0.0
BBAL				*i*S	Sg	11 32 12.6	+2.4
CDAG	Cicekdag	1.07	100	*i*P	Pg	11 32 19.0	-1.4
CDAG				*i*S	Sn	11 32 34.3	-0.6
CDAG	Cicekdag	1.07	100	*i*P	Pg	11 32 19.0	-1.4
CDAG				*i*S	Sn	11 32 34.3	-0.6
SVRH	Sivrihisar-ESK	1.21	252	*e*PN	Pn	11 32 21.3	-0.9
SVRH	Sivrihisar-ESK	1.21	252	*e*Pn	Pn	11 32 21.3	-0.9
BCAM	Yenicaga	1.23	324	*i*P	Pn	11 32 22.7	+0.2
BCAM				*i*S	Sg	11 32 41.6	+2.2
BCAM	Yenicaga	1.23	324	*i*P	Pn	11 32 22.7	+0.2
BCAM				*i*S	Sg	11 32 41.6	+2.2
CORM	Corum	1.29	74	*e*PN	Pn	11 32 22.7	-0.7
CORM	Corum	1.29	74	*e*Pn	Pn	11 32 22.7	-0.7
ILGA	Ilgaz	1.34	23	*i*P	Pn	11 32 24.1	0.0
ILGA				*i*S	Sb	11 32 42.9	+1.1
ILGA	Ilgaz	1.34	23	*i*P	Pn	11 32 24.1	0.0
ILGA				*i*S	Sb	11 32 43.0	+1.1
YOZ	Yozgat	1.79	95	*e*PN	Pn	11 32 29.1	-1.1
YOZ	Yozgat	1.79	95	*e*Pn	Pn	11 32 29.1	-1.1

*IDC **01** 11:31:54.9±1.2, 37°.12S×75°.06W, h0km, mb4.0/6, mb1 4.2/10, mb1mx4.1/29, mbtmp4.0/10, ML4.0/4, Error ellipse: s-maj=32.6km s-min=22.5km az=74.0*
*ISCJB **01** 11:31:58.9±0.6, 37°.09S±0°.06×74°.8W±0°.1, h33km, mb4.2/13, Error ellipse: s-maj=13.5km s-min=9.0km az=169.3*
*NEIC **01** 11:32:00.8±0.5, 37°.08S×74°.86W, h35km, mb4.5/7, Error ellipse: s-maj=11.5km s-min=7.7km az=80.0*
ISC 01 11:32:00.8±0.7, 37°.08S±0°.08×74°.8W±0°.1, h35km, n23, σ0s90/23, mb4.3/13, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.95	139	Pn	Pn	11 33 13.0	+0.2
	3.3nm,0.3s,baz=309,slow=9.4,SNR=17						
PLCA	Paso Flores	4.95	139	*e*Pn	Pn	11 33 12.7	0.0
CFAA	Coronel Fontan	7.72	47	Pn	Pn	11 33 49.2	-1.5
	0.3nm,0.3s,baz=18,slow=3.4,SNR=9.3						
TRQA	Tornquist	10.26	99	*e*Pn	Pn	11 34 25.9	+0.3
	12nm,0.6s						
LVC	Limon Verde	15.30	21	*e*Pn	Pn	11 35 33.8	-0.6
USHA	Ushuaia	18.29	168	P	Pn	11 36 11.7	+0.1
	0.3nm,0.3s,baz=16,slow=3.8,SNR=4.3						
CPUP	Villa Florida	18.32	59	P	Pn	11 36 12.5	+0.3
	0.2nm,0.3s,baz=200,slow=15,SNR=2.4						
LPAZ	La Paz	21.55	18	P	P	11 36 49.4	+1.6
	5.2nm,1.0s,baz=190,slow=7.1,SNR=11						
SIV	San Ignacio	24.29	34	P	P	11 37 16.2	+1.1
	1.7nm,0.8s,baz=253,slow=12,SNR=4.1						
SAML	Samuel	29.93	24	*e*P	P	11 38 05.7	0.0
	6.1nm,1.4s						
OTAV	Otavalo	37.28	354	*e*P	P	11 39 11.0	+1.0
	2.5nm,0.6s						
RCBR	Riachuelo	47.20	58	P	P	11 40 30.9	+0.5
SNAA	Sanae	49.63	157	*e*P	P	11 40 48.4	-0.1
	16nm,1.1s						
QSPA	South Pole Qui	53.16	180	*e*P	P	11 41 15.4	+0.4
	7.8nm,1.1s						
TXAR	Lajitas Array	71.39	334	P	P	11 43 17.9	+0.6
	0.8nm,0.9s,baz=142,slow=6.3,SNR=5.9						
MIAR	Mount Ida	73.36	344	*e*P	P	11 43 28.4	-0.4
	7.7nm,1.2s						
ANMO	Albuquerque	77.46	334	*e*P	P	11 43 51.8	-0.8
	7.2nm,1.5s						
ECSD	EROS Data Cent	82.83	344	*e*P	P	11 44 21.0	-0.1
	4.8nm,1.2s						
LBTB	Lobatse	83.05	116	P	P	11 44 23.2	+0.1
	4.8nm,0.5s,baz=304,slow=22,SNR=8.8						
K22A	Casper	84.44	337	*e*P	P	11 44 29.7	0.0
PDAR	Pinedale Array	85.53	335	P	P	11 44 32.8	-2.4
	0.6nm,1.0s,baz=149,slow=6.0,SNR=3.0						
TORD	Torodi Ar. Bea	87.38	72	P	P	11 44 43.5	-1.1
	0.3nm,0.8s,baz=226,slow=4.4,SNR=4.0						
ABKAR	Abkulak array	145.35	55	*e*PKPbc	PKPab	11 51 34.8	+0.2

*CSEM **01** 11:34:11.8±0.2, 41°.39N×44°.13E, h2km, MD3.1, Error ellipse: s-maj=7.3km s-min=3.2km az=133.0*
*TIF **01** 11:34:11.0, 41°.43N×44°.07E, h5km±3km*
*DDA **01** 11:34:13.9, 41°.36N×43°.89E, h7km, MD3.1*
ISC 01 11:34:11.7±1.1, 41°.42N±0°.04×44°.07E±0°.04, h3km±14km, n21, σ0s39/40, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZR	Kazreti	0.26	97	P	Pg	11 34 16.9	+0.1
KZR				S	Sg	11 34 20.5	+0.3
KZR	Kazreti	0.26	97	P	Pg	11 34 16.9	+0.1
KZR				S	Sg	11 34 20.5	+0.3
SEAG	Tbilisi Sea	0.65	57	P	Pg	11 34 23.1	-1.1
SEAG				S	Sg	11 34 32.8	+0.1
SEAG	Tbilisi Sea	0.65	57	P	Pg	11 34 23.1	-1.1
SEAG				S	Sg	11 34 32.8	+0.1
EAK	Akyaka	0.81	206	*i*P	Pg	11 34 27.1	-0.1
EAK				*i*S	Sg	11 34 38.1	+0.4
EAK	Akyaka	0.81	206	*i*P	Pg	11 34 27.1	-0.1
EAK				*i*S	Sg	11 34 38.1	+0.4
DUS	Dusheti	0.82	35	P	Pg	11 34 28.0	+0.5
DUS				S	Sb	11 34 40.5	+0.3
DUS	Dusheti	0.82	35	P	Pg	11 34 28.0	+0.5
DUS				S	Sb	11 34 40.5	+0.3
GUDG	Gudauri	1.09	16	P	Pg	11 34 32.2	-0.5
GUDG				S	Sg	11 34 47.4	+0.6
GUDG	Gudauri	1.09	16	P	Pg	11 34 32.2	-0.5
GUDG				S	Sg	11 34 47.4	+0.6
DIGO	Kars	1.13	208	*i*P	Pg	11 34 33.3	-0.1
DIGO				*i*S	Sg	11 34 48.1	0.0
DIGO	Kars	1.13	208	*i*P	Pg	11 34 33.3	-0.1
DIGO				*i*S	Sg	11 34 48.1	0.0
ARTV	Artvin	1.63	263	*i*P	Pb	11 34 42.2	-0.3
ARTV				*i*S	Sn	11 35 03.2	+0.2
ARTV	Artvin	1.63	263	*i*P	Pb	11 34 42.2	-0.3
ARTV				*i*S	Sn	11 35 03.2	+0.2
DAGI	Agillar	1.66	259	*i*P	Pb	11 34 42.5	-0.4
DAGI				*i*S	Sb	11 35 04.1	-0.2
DBOC	Borcka	1.81	269	*i*P	Pb	11 34 45.4	-0.1
DBOC	Borcka	1.81	269	*i*P	Pb	11 34 45.4	-0.1
DDEM	Demirkent	1.83	254	*i*P	Pb	11 34 45.8	0.0
DDEM				*i*S	Sb	11 35 09.2	+0.1
DDEM	Demirkent	1.83	254	*i*P	Pb	11 34 45.9	0.0
DDEM				*i*S	Sb	11 35 09.2	+0.1
DBAD	Bademkaya	1.83	258	*i*P	Pb	11 34 45.6	-0.4
DBAD				*i*S	Sb	11 35 09.4	0.0
DBAD	Bademkaya	1.83	258	*i*P	Pb	11 34 45.6	-0.4
DBAD				*i*S	Sb	11 35 09.4	0.0

*IDC **01** 11:37:42.4±0.7, 35°.57S×72°.77W, h0km, mb4.2/10, mb1 4.2/14, mb1mx4.1/32, mbtmp4.1/14, ML3.9/4, MS4.1/14, Ms1 4.1/14, ms1mx3.9/28, Error ellipse: s-maj=25.4km s-min=16.3km az=90.0*
*ISCJB **01** 11:37:43.2±0.6, 35°.51S±0°.06×72°.9W±0°.1, h17km, mb4.2/12, MS4.2/11, Error ellipse: s-maj=13.9km s-min=8.8km az=171.9*
*GUC **01** 11:37:44.6±0.4, 35°.29S×73°.90W, h20km, ML5.2*
*NEIC **01** 11:37:47.6±0.5, 35°.50S×72°.90W, h35km, mb4.6/4, Error ellipse: s-maj=12.4km s-min=8.4km az=83.0*
ISC 01 11:37:44.8±0.6, 35°.56S±0°.07×72°.95W±0°.09, h17km, n45, σ1s11/37, mb4.3/12, MS4.3/11, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	2.04	39	⇓ *i*P	Pg	11 38 24.3	+0.3
LNV				*i*S1	Sg	11 38 55.1	+4.5
CHCH	Chadas Angostu	2.50	50	⇑ *i*P	Pg	11 38 32.4	-0.3
CHCH				*i*S1	Sg	11 39 08.3	+3.3
TACH	Talagante	2.53	42	*e*P1	Pg	11 38 31.7	-1.6
TACH				*i*S1	Sg	11 39 06.7	+0.7
SAN	Santiago	2.83	43	*e*P1	Pg	11 38 35.3	-3.7
PEL	Peldehue	3.06	39	AML	AML	11 39 30.7	
	comp=E,4μm,1.0s						
PEL				AML	AML	11 39 42.2	
	comp=N,4μm,0.7s						
PLCA	Paso Flores	5.50	161	Pn	Pn	11 39 06.5	+0.5
	comp=N,1.3nm,0.3s,baz=329,slow=17,SNR=3.9						
PLCA				Lg	Lg	11 40 42.4	
	comp=N,1.4nm,0.3s,baz=272,slow=23,SNR=4.5						
PLCA				LR	LR	11 40 47.7	
	comp=N,410nm,18.4s,baz=334,slow=34						
PLCA	Paso Flores	5.50	161	*e*Pn	Pn	11 39 06.9	+0.9
PLCA				Lg	Lg	11 40 42.4	
CFAA	Coronel Fontan	5.57	46	Pn	Pn	11 39 06.0	-1.0
	comp=N,0.7nm,0.3s,baz=231,slow=12,SNR=15						
CFAA				Lg	Lg	11 40 37.4	
	comp=N,0.6nm,0.3s,baz=301,slow=21,SNR=6.4						
TRQA	Tornquist	9.15	109	*e*Pn	Pn	11 39 59.4	+3.4
	comp=N,20nm,0.6s						
LVC	Limon Verde	13.38	16	*e*Pn	Pn	11 40 55.2	+1.1
	comp=N,19nm,1.2s						
CPUP	Villa Florida	16.24	60	Pn	Pn	11 41 32.2	+0.1
	comp=N,0.3nm,0.3s,baz=174,slow=9.2,SNR=1.9						
CPUP				LR	LR	11 47 30.9	
	comp=N,370nm,20.5s,baz=222,slow=36						
USHA	Ushuaia	19.52	172	LR	LR	11 49 45.4	
	comp=N,922nm,19.1s,baz=324,slow=37						
LPAZ	La Paz	19.67	14	P	Pn	11 42 14.5	-0.6
	comp=N,0.1nm,0.3s,baz=180,slow=6.5,SNR=9.6						
LPAZ	La Paz	19.67	14	*e*P	P	11 42 14.2	+0.5
	comp=N,45nm,1.4s						
SIV	San Ignacio	22.20	32	P	P	11 42 40.1	-0.2
	comp=N,22nm,1.1s,baz=231,slow=12,SNR=13						
SIV				LR	LR	11 53 11.0	
	comp=N,2μm,18.1s,baz=227,slow=42						
NNA	Nana	23.73	351	LR	LR	11 50 12.9	
	comp=N,202nm,18.8s,baz=175,slow=32						
SAML	Samuel	27.95	21	*e*P	P	11 43 33.2	-1.2
	comp=N,8.9nm,1.3s						
ATAH	Atahualpa	28.73	349	LR	LR	11 52 48.1	
	comp=N,131nm,19.6s,baz=187,slow=32						
PMSA	Palmer Station	29.74	172	LR	LR	11 55 53.0	
	comp=N,674nm,19.6s,baz=326,slow=37						
BDFB	Brasilia	29.84	55	P	P	11 43 50.5	-0.8
	comp=N,1.3nm,0.4s,baz=228,slow=14,SNR=3.7						
RPN	Rapa Nui	32.05	275	LR	LR	11 53 17.7	
	comp=N,420nm,20.3s,baz=84,slow=29						
OTAV	Otavalo	35.98	351	*e*P	P	11 44 45.1	-0.3
BCIP	Isla Barro Col	44.96	350	P	P	11 45 58.4	-0.6
SNAA	Sanae	50.43	157	P	P	11 46 40.8	-0.2
	comp=N,1.9nm,0.8s,baz=280,slow=5.9,SNR=9.7						
SNAA	Sanae	50.43	157	*e*P	P	11 46 42.2	+1.2
APG	El Apazote	52.96	339	P	P	11 47 02.7	+2.1
	comp=N,3.9nm,0.9s,baz=157,slow=7.7,SNR=3.6						
QSPA	South Pole Qui	54.68	180	P	P	11 47 13.9	+1.3
	comp=N,1.6nm,0.7s,baz=160,slow=1.5,SNR=9.8						
QSPA	South Pole Qui	54.68	180	*e*P	P	11 47 13.6	+0.9
	comp=N,7.4nm,1.0s						
PPT	Papeete	69.29	263	LR	LR	12 13 38.9	
	comp=N,179nm,18.3s,baz=186,slow=31						
TXAR	Lajitas Array	70.74	332	P	P	11 48 59.0	-1

YKA	**Yellowknife Ar**	**94.24**	**340**	P		**P**		**11 57 15.4**	**+0.4**
	0.5nm,0.5s,baz=132,slow=4.5,SNR=22								
BBOO	**Buckleboo**	**119.29**	**202**	⇓P		**Pdif**		**11 59 09.4**	**+1.7**
	baz=34,SNR=5.8								
WRA	**Warramunga Arr**	**131.55**	**207**	PKP		**PKPdf**		**12 03 08.9**	**0.0**
	0.6nm,0.5s,baz=157,slow=1.9,SNR=7.1								

NNC 01 11:45:02.5±2.9, 38°.09N×76°.58E, h0km, mb3.6, mpv3.2, 4C-2D, Error ellipse: s-maj=23.6km s-min=23.0km az=78.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.81**	**341**	Pn	Pn	11 46 17.1	+0.7
AAK				⇑Pg	Pb	11 46 30.6	+2.6
	3.3nm,0.5s						
AAK				⇓Lg	Lg	11 47 35.4	
	12nm,0.8s						
TKM2	**Tokmak 2**	**4.89**	**351**	Pn	Pn	11 46 16.6	-0.9
TKM2				⇑Pg	Pb	11 46 30.8	+1.5
	3.0nm,0.6s						
TKM2				⇓Lg	Lg	11 47 36.9	
	7.1nm,0.7s						
KK31	**Karatay Array**	**6.82**	**319**	⇑Pn	Pn	11 46 44.3	+0.5
	0.2nm,0.3s,baz=138,slow=13,SNR=4.5						
KK31				⇑Sn	Sn	11 48 03.5	+1.4
	0.6nm,0.5s,baz=137,slow=24						

*IDC **01** 11:48:39.8±0.6, 33°.94S×72°.19W, h0km, mb4.2/11, mb1 4.4/15, mb1mx4.3/30, mbtmp4.2/15, ML4.3/4, MS4.0/4, Ms1 3.9/4, ms1mx3.5/24, Error ellipse: s-maj=19.7km s-min=15.6km az=105.0*
*ISCJB **01** 11:48:40.9±0.5, 33°.95S±0°.06×72°.35W±0°.07, h19km, mb4.3/15, MS4.0/2, Error ellipse: s-maj=8.6km s-min=7.8km az=136.5*
*GUC **01** 11:48:40.1±0.6, 34°.04S×72°.47W, h30km±4km, ML5.0*
*NEIC **01** 11:48:45.2±0.3, 33°.92S×72°.21W, h35km, mb4.6/6, Error ellipse: s-maj=7.5km s-min=5.3km az=74.0*
ISC 01 11:48:42.8±0.5, 33°.93S±0°.06×72°.23W±0°.07, h19km, n49, σ0.9 71/55, mb4.4/15, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.03**	**29**	*e*P1	**Pb**	**11 49 01.8**	**-0.2**
IHA				*i* S1	**Sg**	**11 49 17.6**	**+1.3**
TACH	**Talagante**	**1.11**	**76**	⇑*i P*	**Pn**	**11 49 03.0**	**-0.5**
SAN	**Santiago**	**1.39**	**71**	⇑*i P*	**Pb**	**11 49 07.7**	**-0.5**
PEL	**Peldehue**	**1.51**	**59**	⇑*i P*	**Pb**	**11 49 10.0**	**-0.3**
PEL				*i* S	**Sg**	**11 49 32.1**	**+0.5**
PEL				AML	AML	11 49 38.2	
	comp=N,28μm,0.4s						
CMCH	**Combarbala**	**2.94**	**21**	*i* P1	**Pn**	**11 49 28.3**	**-0.3**
CFAA	**Coronel Fontan**	**4.08**	**57**	Pn	**Pn**	**11 49 45.0**	**+0.6**
	comp=N,2.1nm,0.3s,baz=62,slow=3.5,SNR=38						
CFAA				LR	LR	11 50 43.8	
	comp=N,39nm,21.1s,baz=226,slow=30						
CFAA				Lg	Lg	11 50 50.1	
	comp=N,7.0nm,0.3s,baz=2.6,slow=11,SNR=3.9						
PLCA	**Paso Flores**	**6.92**	**169**	Pn	**Pn**	**11 50 24.5**	**+1.1**
	comp=N,1.9nm,0.3s,baz=53,slow=16,SNR=4.6						
PLCA				LR	LR	11 53 13.1	
	comp=N,875nm,18.2s,baz=352,slow=40						
TRQA	**Tornquist**	**9.27**	**119**	*e*Pn	**Pn**	**11 50 57.6**	**+2.1**
	comp=N,12nm,0.6s						
LVC	**Limon Verde**	**11.64**	**15**	*e*Pn	**Pn**	**11 51 29.6**	**+1.3**
CPUP	**Villa Florida**	**14.94**	**64**	Pn	**Pn**	**11 52 13.6**	**+0.6**
	comp=N,1.0nm,0.3s,baz=220,slow=10,SNR=7.2						
CPUP				LR	LR	11 58 48.7	
	comp=N,324nm,19.4s,baz=221,slow=41						
LPAZ	**La Paz**	**17.95**	**13**	P	**P**	**11 52 52.9**	**+0.4**
	comp=N,0.4nm,0.3s,baz=182,slow=7.8,SNR=33						
SIV	**San Ignacio**	**20.50**	**32**	P	**P**	**11 53 19.5**	**-0.3**
	comp=N,10nm,0.8s,baz=223,slow=12,SNR=18						
SIV				LR	LR	12 02 49.9	
	comp=N,336nm,19.4s,baz=234,slow=42						
NNA	**Nana**	**22.24**	**348**	P	**P**	**11 53 38.5**	**-0.1**
	comp=N,4.5nm,0.4s,baz=217,slow=12,SNR=5.0						
NNA	**Nana**	**22.24**	**348**	*e*P	**P**	**11 53 39.0**	**+0.3**
SAML	**Samuel**	**26.22**	**21**	*e*P	**P**	**11 54 16.6**	**0.0**
	comp=N,11nm,0.9s						
BDFB	**Brasilia**	**28.43**	**56**	P	**P**	**11 54 35.5**	**-1.0**
	comp=N,5.3nm,0.6s,baz=233,slow=3.6,SNR=7.5						
OTAV	**Otavalo**	**34.48**	**349**	*e*P	**P**	**11 55 30.2**	**0.0**
BCIP	**Isla Barro Col**	**43.46**	**349**	P	**P**	**11 56 44.9**	**+0.1**
RCBR	**Riachuelo**	**43.74**	**58**	LR	LR	12 16 22.0	
	comp=N,323nm,19.6s,baz=212,slow=38						
JTS	**JuntasAbangare**	**45.61**	**342**	P	**P**	**11 57 02.0**	**+0.1**
SNAA	**Sanae**	**51.71**	**158**	P	**P**	**11 57 48.7**	**+0.3**
	comp=N,1.1nm,0.9s,baz=306,slow=8.7,SNR=3.4						
SNAA	**Sanae**	**51.71**	**158**	*e*P	**P**	**11 57 48.1**	**-0.3**
CELP	**Cerrillos**	**51.99**	**7**	*e*P	**P**	**11 57 50.5**	**-0.4**
TEIG	**Tepich**	**55.98**	**342**	*e*P	**P**	**11 58 20.0**	**-0.1**
QSPA	**South Pole Qui**	**56.31**	**180**	P	**P**	**11 58 22.7**	**+0.6**
	comp=N,4.8nm,1.0s,baz=156,slow=5.6,SNR=5.6						
QSPA	**South Pole Qui**	**56.31**	**180**	*e*P	**P**	**11 58 21.9**	**-0.2**
	comp=N,8.2nm,1.1s						
JCT	**Junction City**	**69.15**	**335**	*e*P	**P**	**11 59 47.7**	**-0.2**
	comp=N,7.7nm,0.8s						
TXAR	**Lajitas Array**	**69.59**	**331**	P	**P**	**11 59 51.4**	**+0.6**
	comp=N,1.4nm,0.7s,baz=150,slow=8.4,SNR=14						
MIAR	**Mount Ida**	**71.00**	**341**	*e*P	**P**	**11 59 59.3**	**+0.2**
WVT	**Waverly**	**71.20**	**347**	*e*P	**P**	**11 59 60.0**	**-0.3**
	comp=N,17nm,0.8s						
MNTX	**Cornudas Mount**	**72.37**	**331**	*e*P	**P**	**12 00 06.7**	**-0.7**
	comp=N,5.9nm,1.6s						
MSTX	**Muleshoe**	**73.37**	**334**	*e*P	**P**	**12 00 13.3**	**-0.2**
	comp=N,6.0nm,1.1s						
DBIC	**Dimbokro**	**75.31**	**71**	P	**P**	**12 00 24.7**	**-0.4**
	comp=N,5.1nm,0.7s,baz=213,slow=6.0,SNR=6.0						
ANMO	**Albuquerque**	**75.64**	**332**	*e*P	**P**	**12 00 28.1**	**+1.3**
TSUM	**Tsumeb**	**79.39**	**106**	*e*P	**P**	**12 00 47.8**	**-0.3**
BOSA	**Boshof**	**80.25**	**118**	P	**P**	**12 00 52.2**	**-0.5**
	comp=N,1.3nm,0.6s,baz=226,slow=5.2,SNR=5.4						
PDAR	**Pinedale Array**	**83.63**	**333**	P	**P**	**12 01 09.7**	**-0.4**
	comp=N,0.6nm,0.9s,baz=145,slow=5.4,SNR=3.8						
NVAR	**Mina Array Bea**	**83.73**	**325**	P	**P**	**12 01 11.9**	**+1.2**
	comp=N,0.6nm,0.7s,baz=147,slow=5.0,SNR=6.1						
TORD	**Torodi Ar. Bea**	**84.34**	**70**	P	**P**	**12 01 13.3**	**-0.7**
	comp=N,6.1nm,0.7s,baz=261,slow=4.2,SNR=44						
WRA	**Warramunga Arr**	**120.75**	**209**	PKP	**PKPdf**	**12 07 33.0**	**-1.1**
	comp=N,1.0nm,1.1s,baz=166,slow=1.6,SNR=4.2						
BRTR	**Keskin Array B**	**121.94**	**61**	PKP	**PKPdf**	**12 07 34.4**	**-1.6**
	comp=N,1.2nm,0.8s,baz=254,slow=0.9,SNR=4.7						
ARCES	**ARCESS Array B**	**124.02**	**25**	PKP	**PKPdf**	**12 07 38.8**	**0.0**
	comp=N,2.0nm,0.8s,baz=246,slow=4.4,SNR=2.8						
KKAR	**Karatay Array**	**149.65**	**61**	*e*PKPdf	**PKPdf**	**12 08 27.2**	**+0.8**
KKAR				*e*PKPbc	**PKPbc**	**12 08 30.7**	**-0.3**
AAK	**Ala-Archa**	**152.61**	**62**	*e*PKPbc	**PKPbc**	**12 08 38.1**	**0.0**
KURK	**Kurchatov**	**152.94**	**43**	*e*PKPdf	**PKPdf**	**12 08 32.5**	**+1.5**
KURK				*e*PKPbc	**PKPbc**	**12 08 37.4**	**-1.0**
KSH	**Kashi**	**153.99**	**68**	*e*PKP	**PKPbc**	**12 08 41.1**	**-0.1**
KSH				sPKP		12 08 56.6	
KSH				PP	PP	12 12 38.2	+8.4
ZALV	**Zalesovo Beam**	**154.25**	**32**	PKP	**PKPdf**	**12 08 32.4**	**-0.5**
	comp=N,0.9nm,0.7s,baz=18,slow=2.3,SNR=4.1						
ZALV				PKPbc	**PKiKP**	**12 08 41.4**	**+0.2**
	comp=N,5.7nm,0.6s,baz=292,slow=3.0,SNR=21						
ZALV				PKPab	**PKPab**	**12 08 55.0**	**-0.1**
	comp=N,4.8nm,0.9s,baz=298,slow=3.2,SNR=6.0						
MKAR	**Makanchi Array**	**156.84**	**49**	PKP	**PKPdf**	**12 08 37.0**	**+0.4**
	comp=N,0.5nm,0.8s,baz=173,slow=1.2,SNR=3.7						
MKAR				PKPab	**PKPab**	**12 09 06.5**	**0.0**
	comp=N,1.4nm,0.6s,baz=283,slow=2.9,SNR=10						
SONM	**Songino Array**	**166.07**	**4**	PKPab	**PKPab**	**12 09 46.5**	**-0.2**
	comp=N,1.0nm,0.9s,baz=327,slow=3.1,SNR=8.8						

*BJI **01** 11:52:26.6, 4°.06S×118°.81E, h37km, mB5.0/31, mb5.0/51, Ms4.5/25, Ms7 4.2/25*
*IDC **01** 11:52:27.5±0.5, 3°.43S×118°.57E, h0km, mb4.5/18, mb1 4.6/18, mb1mx4.5/37, mbtmp4.5/18, MS3.8/17, Ms1 3.8/17, ms1mx3.6/33, Error ellipse: s-maj=26.4km s-min=12.3km az=64.0*
*KLM **01** 11:52:30.9, 3°.63S×118°.75E, h37km, mb4.9, ML5.2, MS5.5*
*MOS **01** 11:52:30.5±1.1, 3°.39S×118°.60E, h33km, mb5.0/17, Error ellipse: s-maj=17.3km s-min=6.8km az=119.2*
*ISCJB **01** 11:52:31.4±0.2, 3°.46S±0°.02×118°.49E±0°.02, h33km, mb4.8/46, MS3.7/17, Error ellipse: s-maj=3.3km s-min=2.6km az=146.4*
*DJA **01** 11:52:32.1±0.1, 3°.5±2°×11°.9E±°, h10km, M5.2/49, mB5.6/27, mb5.1/49, MLv5.4/33, Mw(mB)5.1/27*
*NEIC **01** 11:52:33.5±0.6, 3°.45S×118°.53E, h43km±6km, mb4.9/21, Error ellipse: s-maj=8.7km s-min=4.7km az=57.0*
NEIC Felt [III] at Majene, Makassar and Mamuju.
ISC 01 11:52:33.3±0.3, 3°.46S±0°.04×118°.52E±0°.05, h35km, n212, σ1.9 65/235, mb4.8/46, MS3.8/17, 22C-14D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPSI	**Sidrap Palu**	**1.34**	**112**	P	**Pn**	**11 52 53.1**	**-2.5**
SPSI				S	**Sn**	**11 53 13.4**	**+1.2**
TTSI	**Tana Toraja**	**1.36**	**72**	P	**Pn**	**11 52 55.0**	**-0.8**
TTSI				S	**Sn**	**11 53 14.5**	**+1.8**
BNSI	**Bone**	**1.84**	**121**	P	**Pn**	**11 53 02.9**	**+0.5**
BNSI				S	**Sn**	**11 53 27.2**	**+2.8**
KAPI	**Kappang**	**1.97**	**141**	*e*Pn	**Pn**	**11 53 02.5**	**-1.7**
BKSI	**Bulukumba**	**2.44**	**139**	P	**Pn**	**11 53 11.1**	**+0.4**
BKSI				S	**Sn**	**11 53 42.1**	**+2.7**
BKB	**Balikpapan**	**2.72**	**323**	P	**Pn**	**11 53 16.8**	**+2.2**
SGKI	**Sangatta, Kali**	**3.05**	**343**	P	Pn	11 53 32.3	+13
BSSI	**Bau Bau, Buton**	**3.31**	**144**	P	**Pn**	**11 53 23.2**	**+0.6**
BBKI	**Banjar Baru**	**3.67**	**270**	P	**Pn**	**11 53 29.1**	**+1.4**
MPSI	**Mapaga**	**4.02**	**20**	P	**Pn**	**11 53 30.9**	**-1.5**
MPSI				S	**Sn**	**11 54 20.5**	**+2.2**
APSI	**Ampana**	**4.03**	**51**	P	**Pn**	**11 53 33.0**	**+0.5**
MTKI	**Muara Teweh, K**	**4.40**	**305**	P	**Pn**	**11 53 37.7**	**0.0**
LUWI	**Luwuk**	**4.88**	**61**	P	**Pn**	**11 53 43.7**	**-0.6**
LUWI	**Luwuk**	**4.88**	**61**	P	**Pn**	**11 53 43.9**	**-0.4**
	baz=4.9,SNR=8.7						
LUWI	**Luwuk**	**4.88**	**61**	*e*Pn	**Pn**	**11 53 44.0**	**-0.4**
MRSI	**Marisa**	**5.20**	**41**	P	**Pn**	**11 53 48.4**	**-0.2**
	269nm,0.9s,3μm1.6nm						
SRBI	**Singaraja**	**5.65**	**215**	P	**Pn**	**11 53 53.3**	**-1.5**
	1μm,0.4s,26μm6.6nm						
KMMI	**Kalianget**	**5.77**	**232**	P	**Pn**	**11 53 56.8**	**+0.4**
	611nm,0.8s,8μm3.8nm						
ABJI	**Asem Bagus**	**6.06**	**225**	P	**Pn**	**11 53 59.9**	**-0.6**
	110nm,0.9s,2μm1.1nm						
DNP	**Denpasar**	**6.14**	**212**	P	**Pn**	**11 54 01.4**	**-0.1**
	855nm,0.4s,4.3nm						
WBSI	**Waikabubak, Su**	**6.20**	**172**	P	**Pn**	**11 54 01.7**	**-0.7**
	539nm,0.6s,8μm2.4nm						
IGBI	**Denpasar**	**6.29**	**212**	P	**Pn**	**11 54 03.1**	**-0.5**
	493nm,0.4s,8μm2.5nm						
MMRI	**Maumere**	**6.33**	**144**	*e*Pn	**Pn**	**11 54 03.7**	**-0.5**
	61nm,0.7s						
WSI	**Waingapu**	**6.41**	**164**	P	**Pn**	**11 54 05.7**	**+0.4**
	770nm,0.7s,11μm5.4nm						
WSI	**Waingapu**	**6.41**	**164**	P	**Pn**	**11 54 06.3**	**+1.0**
	baz=6.5,SNR=3.6						
BLJI	**Banyuglugur**	**6.49**	**229**	P	**Pn**	**11 54 08.2**	**+1.8**
	100nm,0.6s,3μm0.9nm						
JAGI	**Jajag, Banyuwa**	**6.60**	**221**	P	**Pn**	**11 54 06.8**	**-1.2**
	519nm,0.8s,4μm1.6nm						
JAGI	**Jajag, Banyuwa**	**6.60**	**221**	*e*Pn	**Pn**	**11 54 06.7**	**-1.2**
	440nm,0.8s						
KMSI	**Cibinong**	**6.77**	**54**	P	**Pn**	**11 54 11.8**	**+1.5**
	462nm,1.0s,6μm2.3nm						
PBKI	**Pangkalan Bun**	**6.88**	**276**	P	Pn	11 54 15.5	+3.7
	405nm,0.9s,8μm7.1nm						
GMJI	**Gumukmas**	**6.95**	**226**	P	**Pn**	**11 54 12.9**	**+0.2**
	74nm,1.0s,1μm0.4nm						
BASI	**Baing, Sumba**	**7.01**	**163**	P	**Pn**	**11 54 13.9**	**+0.3**
	414nm,0.8s,4μm1.5nm						
SANI	**Sanana**	**7.59**	**80**	P	Pn	11 54 25.7	+4.2
	38nm,0.8s,0.2nm						
STKI	**Sintang**	**7.86**	**296**	P	**Pn**	**11 54 26.0**	**+0.7**
	120nm,0.7s,1.7nm						
PWJI	**Pagerwojo**	**8.07**	**236**	P	Pn	11 54 33.0	+4.9
	43nm,0.7s						
BATI	**Baumata**	**8.42**	**143**	Pn	**Pn**	**11 54 35.4**	**+2.4**
	1.6nm,0.3s,baz=34,slow=3.6,SNR=2.3						
BATI				LR	LR	11 58 02.0	
	comp=Z,2μm,19.3s,baz=322,slow=40						
SOEI	**Soe**	**8.46**	**138**	P	**Pn**	**11 54 36.0**	**+2.4**
	135nm,1.2s,2μm						
SOEI	**Soe**	**8.46**	**138**	*e*Pn	**Pn**	**11 54 35.0**	**+1.4**
	154nm,1.0s						
BTM	**Bintulu**	**8.56**	**321**	⇑P	**Pn**	**11 54 35.3**	**+0.4**
MYLDM	**Lahad Datu**	**8.59**	**360**	⇓P	**Pn**	**11 54 37.3**	**+2.1**
MYLDM	**Lahad Datu**	**8.59**	**360**	*e*Pn	**Pn**	**11 54 36.7**	**+1.5**
SBUM	**Sibu**	**8.61**	**313**	⇑P	**Pn**	**11 54 35.0**	**-0.5**
SBUM	**Sibu**	**8.61**	**313**	*e*Pn	**Pn**	**11 54 34.6**	**-0.9**
UGM	**Wanagama**	**9.10**	**241**	⇓P	**Pn**	**11 54 43.7**	**+1.4**
	baz=9.1,SNR=3.1						
SDKM	**Sandakan**	**9.14**	**352**	⇑P	**Pn**	**11 54 44.0**	**+1.1**
LBMI	**Lauha**	**9.40**	**73**	P	**Pn**	**11 54 49.3**	**+2.9**
	125nm,0.8s,1μm						
KSM	**Kuching**	**9.56**	**301**	⇑P	**Pn**	**11 54 49.0**	**+0.5**
KSM	**Kuching**	**9.56**	**301**	*e*Pn	**Pn**	**11 54 48.4**	**-0.2**
KKM	**Kota Kinabalu**	**9.72**	**346**	P	**Pn**	**11 54 51.5**	**+0.7**
	baz=9.8,SNR=15						
KKM	**Kota Kinabalu**	**9.72**	**346**	⇓P	**Pn**	**11 54 51.9**	**+1.0**
KKM	**Kota Kinabalu**	**9.72**	**346**	*e*Pn	**Pn**	**11 54 50.9**	**0.0**
KDM	**Kudat**	**10.45**	**351**	⇑P	**Pn**	**11 55 03.7**	**+3.0**
CNJI	**Cibinong**	**11.96**	**251**	P	Pn	11 55 25.7	+4.2
	141nm,1.2s,1μm						
CGJI	**Cibinong**	**13.15**	**256**	P	Pn	11 55 41.2	+3.4
	61nm,1.1s						
KASI	**Kota Agung**	**14.13**	**261**	P	P	11 55 54.6	-3.6
	50nm,1.1s						
MDSI	**Maura Dua**	**14.34**	**265**	P	**Pn**	**11 55 56.3**	**+2.3**
	35nm,0.9s						
LHSI	**Lahat**	**14.97**	**268**	P	P	11 56 13.4	+5.8
MYKOM	**Kota Tinggi**	**15.56**	**289**	*e*P	**P**	**11 56 15.9**	**+1.7**
	18nm,0.8s						
KNRA	**Kununurra**	**15.78**	**141**	⇑P	**Pn**	**11 56 13.8**	**+0.8**
	baz=16,SNR=3.5						
FITZ	**Fitzroy Crossi**	**16.13**	**155**	⇑P	**Pn**	**11 56 18.5**	**+0.9**
	baz=16,SNR=18						
FITZ	**Fitzroy Crossi**	**16.13**	**155**	*e*P	**P**	**11 56 20.9**	**+0.4**
	114nm,1.2s						
MASI	**Maura Aman, Be**	**16.26**	**271**	P	**P**	**11 56 21.8**	**-0.1**
	239nm,1.0s						
MBWA	**Marble Bar**	**17.63**	**176**	*e*Pn	**P**	**11 56 36.8**	**-0.3**
	27nm,0.8s						
PDSI	**Padang**	**18.22**	**278**	P	**Pn**	**11 56 46.1**	**+2.4**
	35nm,1.1s,2μm						
IPM	**Ipoh**	**19.18**	**294**	⇓P	**Pn**	**11 56 55.8**	**+0.5**
IPM	**Ipoh**	**19.18**	**294**	*e*Pn	**Pn**	**11 56 55.5**	**+0.2**
	27nm,0.6s						
MNSI	**Mandailing Nat**	**19.40**	**282**	P	**Pn**	**11 56 58.6**	**+0.7**
	49nm,0.8s						
GIRL	**Giralia**	**19.51**	**192**	⇓P	**Pn**	**11 56 59.4**	**+0.3**
	baz=20,SNR=3.2						
KULM	**Kulim**	**19.86**	**296**	*e*P	**P**	**11 57 01.8**	**+0.2**
PSI	**Prapat**	**20.55**	**287**	P	**P**	**11 57 09.6**	**+0.4**
	59nm,0.9s,baz=99,slow=7.4,SNR=27						
PSI	**Prapat**	**20.55**	**287**	⇓P	**P**	**11 57 10.0**	**+0.7**
	baz=20,SNR=22						
GSI	**Gunungsitoli**	**21.46**	**282**	P	**P**	**11 57 21.1**	**+2.1**
	69nm,1.5s						
GSI	**Gunungsitoli**	**21.46**	**282**	*e*P	**P**	**11 57 21.8**	**+2.8**
	334nm,2.0s						
GENI	**Genyem**	**21.64**	**88**	P	**P**	**11 57 22.8**	**+2.0**
	110nm,1.2s,2μm						
KCSI	**Kotacane, Aceh**	**21.87**	**288**	P	**P**	**11 57 25.0**	**+1.7**
	40nm,1.0s						
WB9	**Warramunga Arr**	**22.43**	**138**	⇑P	**P**	**11 57 28.3**	**-1.0**
	baz=22						
WRA	**Warramunga Arr**	**22.50**	**138**	P	**P**	**11 57 28.9**	**-1.2**
	14nm,0.7s,baz=314,slow=11,SNR=49						
WRA				PcP	**PcP**	**12 01 23.6**	**+0.1**
	1.2nm,1.0s,baz=319,slow=2.1,SNR=5.3						
WRA				LR	LR	12 07 09.9	
	comp=Z,272nm,20.4s,baz=230,slow=39						
WRAB	**Tennant Creek**	**22.50**	**138**	*c e*P	**P**	**11 57 28.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,63nm,0.8s						
WRAB	**Tennant Creek**	**22.50**	**138**	*e*P	**P**	**11 57 28.6**	**-1.5**
	comp=Z,57nm,1.0s						
WB2	**Warramunga Arr**	**22.51**	**138**	*e*P	**P**	**11 57 29.1**	**-1.1**
WR5	**Warramunga Arr**	**22.57**	**138**	⇑P	**P**	**11 57 30.0**	**-0.8**
	baz=23						
MEEK	**Meekatharra**	**23.04**	**180**	⇓P	**P**	**11 57 34.9**	**-0.8**
	baz=23,SNR=40						
WRKA	**Warakurna**	**23.42**	**157**	⇓P	**P**	**11 57 39.1**	**-0.4**
	baz=24,SNR=47						
QIZ	**Qiongzhong**	**23.93**	**339**	P	**P**	**11 57 45.6**	**+1.3**
QIZ				S	**S**	**12 02 00.5**	**+1.9**
QIZ				PMZ			
	comp=Z,110nm,7.3s						
QIZ				LN			
	comp=Z,240nm,26.0s						
QIZ				LZ			
	comp=Z,340nm,21.9s						
AS31	**Alice Springs**	**24.99**	**145**	*e*P	**P**	**11 57 55.1**	**+1.1**
ASAR	**Alice Springs**	**24.99**	**145**	P	**P**	**11 57 54.5**	**+0.5**
	comp=Z,17nm,0.8s,baz=324,slow=8.1,SNR=84						
ASAR				PcP	**PcP**	**12 01 28.2**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=327,slow=2.0,SNR=5.0						
ASAR				LR	LR	12 08 45.7	
	comp=Z,469nm,18.9s,baz=330,slow=39						
AS11	**Alice Springs**	**24.99**	**145**	⇓P	**P**	**11 57 55.4**	**+1.4**
	baz=25						
AS05	**Alice Springs**	**25.00**	**145**	⇑P	**P**	**11 57 55.4**	**+1.3**
	baz=25						
MORW	**Morawa**	**25.57**	**185**	⇓P	**P**	**11 57 58.6**	**-0.6**
	baz=26,SNR=6.7						
COEN	**Coen**	**26.47**	**115**	⇓P	**P**	**11 58 07.7**	**+0.2**
	baz=26,SNR=4.4						
SSLB	**Suanglung**	**27.19**	**5**	*e*P	**P**	**11 58 11.5**	**-2.3**
FORT	**Forrest**	**28.62**	**163**	*e*P	**P**	**11 58 26.3**	**-0.2**
	comp=Z,100nm,0.7s						
PMG	**Port Moresby**	**29.05**	**103**	*c i*P	**P**	**11 58 29.9**	**-0.7**
PMG				pmax	pmax		
	comp=Z,22nm,1.4s						
PMG	**Port Moresby**	**29.05**	**103**	LR	LR	12 10 54.2	
	comp=Z,65nm,21.2s,baz=258,slow=38						
PMG	**Port Moresby**	**29.05**	**103**	⇑P	**P**	**11 58 29.8**	**-0.7**
	baz=29						
PMG	**Port Moresby**	**29.05**	**103**	*e*P	**P**	**11 58 29.8**	**-0.7**
	comp=Z,30nm,1.3s						
CMAR	**Chiang Mai Arr**	**29.09**	**319**	P	**P**	**11 58 31.1**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=145,slow=6.6,SNR=15						
CMAR				LR	LR	12 11 56.2	
	comp=Z,249nm,19.2s,baz=152,slow=40						
NWAO	**Narrogin (SRO)**	**29.34**	**182**	P	**P**	**11 58 32.1**	**-0.7**
	comp=Z,14nm,0.7s,baz=357,slow=7.2,SNR=7.9						
NWAO				LR	LR	12 10 02.2	
	comp=Z,153nm,21.2s,baz=5.0,slow=36						
RKGY	**Rocky Gully**	**31.02**	**182**	⇑P	**P**	**11 58 48.3**	**+0.5**
	baz=31						
GYA	**Guiyang**	**31.88**	**340**	⇓*i P*	**P**	**11 58 56.2**	**+0.6**
GYA				pP	**pP**	**11 59 06.4**	**+0.8**
GYA				PP	**PnPn**	**12 00 04.2**	**+3.2**
GYA				S	**S**	**12 04 05.0**	**+0.7**
GYA				sS	**sS**	**12 04 23.6**	**+2.6**
GYA				SS	**SnSn**	**12 06 01.8**	**+7.5**
GYA				PMZ			
	comp=Z,30nm,0.8s						
GYA				PMZ			
	comp=Z,90nm,5.0s						
GYA				LN			
	comp=Z,460nm,17.6s						
GYA				LE			
	comp=Z,380nm,18.2s						
GYA				LZ			
	comp=Z,490nm,17.4s						
KMI	**Kunming**	**32.28**	**333**	P	**P**	**11 59 01.6**	**+2.4**
KMI				pP	**pP**	**11 59 11.4**	**+2.1**
KMI				sP	**sP**	**11 59 15.4**	**+1.8**
KMI				PP	**PP**	**12 00 11.1**	**-1.5**
KMI				S	**S**	**12 04 09.7**	**-1.1**
KMI				sS	**sS**	**12 04 31.1**	**+3.6**
KMI				SS	**SnSn**	**12 06 10.1**	**+5.8**
KMI				PMZ			
	comp=Z,20nm,1.1s						
KMI				PMZ			
	comp=Z,110nm,3.9s						
KMI				LN			
	comp=Z,300nm,12.5s						
KMI				LE			
	comp=Z,340nm,13.5s						
KMI				LZ			
	comp=Z,240nm,13.5s						
BBOO	**Buckleboo**	**33.50**	**153**	*e*P	P	11 59 15.1	+5.6
	comp=Z,404nm,0.8s						
ENH	**Enshi**	**34.64**	**346**	*e*P	**P**	**11 59 18.4**	**-1.0**
	comp=Z,15nm,0.9s						
NJ2	**Nanjing**	**35.32**	**0**	*e*P	**P**	**11 59 23.3**	**-1.9**
NJ2				PMZ			
	comp=Z,20nm,1.2s						
STKA	**Stephens Creek**	**35.63**	**145**	P	**P**	**11 59 28.0**	**0.0**
	comp=Z,3.1nm,0.7s,baz=316,slow=7.0,SNR=5.4						
STKA				LR	LR	12 15 33.0	
	comp=Z,268nm,19.1s,baz=346,slow=39	

HHC SS **SS** **12 10 31.3 -4.9**
HHC PMZ
comp=Z,28nm,1.3s
HHC PMZ
comp=Z,150nm,5.9s
HHC LN
comp=Z,290nm,17.5s
HHC LE
comp=Z,250nm,17.7s
HHC LZ
comp=Z,180nm,17.9s
HYB Hyderabad 44.56 299 *i* P **P 12 00 42.5 +0.2**
comp=Z,70nm,1.0s
HYB *e* 12 00 48.5
KKN Kakani 44.62 316 *e*P **P 12 00 43.4 +0.6**
comp=Z,33nm,0.9s
DMN Daman 44.62 316 *e*P **P 12 00 43.3 +0.4**
comp=Z,46nm,0.9s
GKN Gorkha 45.19 316 *e*P **P 12 00 47.7 +0.4**
comp=Z,31nm,0.7s
KOLN Koldanda 45.78 315 *e*P **P 12 00 52.3 +0.3**
comp=Z,52nm,0.7s
GTA Gaotai 46.01 340 *e*P **P 12 00 54.5 +0.9**
GTA pP **pP** **12 00 59.8 -4.2**
GTA sP **sP** **12 01 03.5 -4.6**
GTA PMZ
comp=Z,10.0nm,1.1s
DANN Dangsing 46.02 316 *e*P **P 12 00 54.1 +0.1**
comp=Z,84nm,0.6s
CN2 Changchun 47.46 7 *e*P P 12 01 10.6 +5.9
CN2 *es*P sP 12 01 28.4 +9.2
MDJ Mudanjiang 48.88 10 P **P 12 01 16.6 +1.0**
MDJ PMZ
comp=Z,24nm,2.3s
ULN Ulaanbaatar 52.09 350*d i*P **P 12 01 40.1 0.0**
ULN pmax pmax
comp=Z,51nm,1.1s
ULN Ulaanbaatar 52.09 350 *e*P **P 12 01 39.5 -0.6**
comp=Z,34nm,0.8s
SONM Songino Array 52.18 350 P **P 12 01 40.7 +0.1**
comp=Z,22nm,0.7s,baz=168,slow=8.4,SNR=184
WMQ Urumqi 54.62 333 P **P 12 01 59.4 +0.8**
WMQ sP **sP** **12 02 13.5 +0.2**
WMQ PP **PP** **12 04 03.3 +2.0**
WMQ S **S** **12 09 35.0 -1.0**
WMQ sS **sS** **12 09 52.1 -1.3**
WMQ SS **SS** **12 13 18.1 -1.3**
WMQ PMZ
comp=Z,38nm,1.1s
WMQ PMZ
comp=Z,96nm,4.0s
WMQ LN
comp=Z,78nm,22.0s
WMQ LE
comp=Z,110nm,21.0s
WMQ LZ
comp=Z,63nm,20.0s
ZAK Zakamensk 55.22 348 *e*P **P 12 01 59.7 -3.1**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
TLY Talaya 56.38 349 *e*P **P 12 02 11.7 +0.7**
TLY pmax pmax
comp=Z,17nm,0.9s
TLY MLR MLR
comp=Z,65nm,15.0s
TLY Talaya 56.38 349 P **P 12 02 11.8 +0.7**
comp=Z,6.3nm,0.5s,baz=196,slow=6.5,SNR=13
TLY Talaya 56.38 349 *e*P **P 12 02 11.9 +0.8**
comp=Z,17nm,0.9s
MOY Mondy 56.92 347 *e*P **P 12 02 15.4 +0.4**
MOY pmax pmax
comp=Z,26nm,1.5s
KSH Kashi 57.94 322 P **P 12 02 22.7 +0.3**
KSH sP **sP** **12 02 35.7 -1.5**
KSH PP **PP** **12 04 32.2 +1.0**
KSH S **S** **12 10 16.6 -3.8**
KSH SS **SS** **12 14 16.3 +4.3**
KSH PMZ
comp=Z,33nm,0.7s
KSH PMZ
comp=Z,100nm,4.0s
KSH LN
comp=Z,130nm,6.1s
KSH LE
comp=Z,85nm,6.7s
KSH LZ
comp=Z,160nm,5.3s
HVS Khovu-Aksy 58.38 342*c i*P **P 12 02 25.5 +0.2**
HVS pmax pmax
comp=Z,92nm,1.0s
MKAR Makanchi Array 59.36 332 P **P 12 02 32.6 +0.6**
comp=Z,13nm,0.6s,baz=138,slow=7.9,SNR=60
MKAR LR LR 12 30 48.1
comp=Z,67nm,20.1s,baz=138,slow=39
MKAR Makanchi Array 59.36 332 ⇑P **P 12 02 32.7 +0.6**
baz=60
KBL Kabul 59.90 314 *e*P **P 12 02 35.3 -1.0**
KBL pmax pmax
comp=Z,93nm,1.0s
KBL Kabul 59.90 314 P **P 12 02 35.5 -0.7**
baz=60,SNR=9.7
KBL Kabul 59.90 314 *e*P **P 12 02 35.3 -1.0**
comp=Z,93nm,1.0s
KZA Kyzart 59.93 324 P **P 12 02 37.4 +0.8**
SNR=20
KZA Kyzart 59.93 324 *i*P **P 12 02 37.4 +0.8**
TKM2 Tokmak 2 60.25 325 P **P 12 02 38.5 0.0**
SNR=11
TKM2 Tokmak 2 60.25 325 *i*P **P 12 02 38.5 0.0**
TKM2 Tokmak 2 60.25 325 *e*P **P 12 02 38.7 +0.2**
UCH Uchtor 60.46 324 P **P 12 02 41.1 +0.8**
SNR=7.2
UCH Uchtor 60.46 324 *i*P **P 12 02 41.0 +0.8**
KBK Karagaybulak 60.46 324 P **P 12 02 41.1 +1.2**
SNR=9.1
KBK Karagaybulak 60.46 324 *i*P **P 12 02 41.1 +1.2**
AAK Ala-Archa 60.71 324 P **P 12 02 42.1 +0.5**
SNR=12
AAK Ala-Archa 60.71 324*d i*P **P 12 02 42.1 +0.5**
AAK pmax pmax
comp=Z,83nm,2.5s
AAK Ala-Archa 60.71 324 *e*P **P 12 02 42.0 +0.4**
comp=Z,12nm,0.9s
AML Almayashu 60.89 323 P **P 12 02 43.5 +0.4**
SNR=22
AML Almayashu 60.89 323 *i*P **P 12 02 43.5 +0.4**
USP Ospenovka 61.10 325 P **P 12 02 44.0 0.0**
SNR=5.3
USP Ospenovka 61.10 325 *i*P **P 12 02 44.0 0.0**
EKS2 Erkin-Say 61.15 324 *e*P **P 12 02 45.4 +0.9**
EKS2 pmax pmax
comp=Z,13nm,1.1s
EKS2 Erkin-Say 61.15 324 *e*P **P 12 02 45.4 +0.9**
comp=Z,13nm,1.1s
KKAR Karatay Array 63.37 322 *e*P **P 12 02 58.1 -1.1**
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 63.37 322 *e*P **P 12 02 58.1 -1.1**
comp=Z,3.6nm,0.7s
ZALV Zalesovo Beam 63.74 339 P **P 12 03 00.0 -1.4**
comp=Z,11nm,0.8s,baz=139,slow=4.5,SNR=35
ZALV LR LR 12 33 01.5
comp=Z,67nm,20.6s,baz=96,slow=38
KURK Kurchatov 63.86 333 *e*P **P 12 03 01.7 -0.6**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 63.86 333 *e*P **P 12 03 01.7 -0.6**
comp=Z,8.5nm,1.0s
NVS Novosibirsk 65.02 338 *i*P **P 12 03 07.4 -2.3**
PETK Petropavlovsk- 65.25 25 LR LR 12 31 58.4
comp=Z,20nm,19.1s,baz=183,slow=36
YAK Yakutsk 65.87 6 *i*P **P 12 03 13.4 -1.7**
IMYA Miami 67.25 312 *e*P **P 12 03 24.1 -0.7**
ISRO Mashad 67.71 312 *e*P **P 12 03 27.1 -0.4**
IPAY Payeh 68.12 312 *e*P **P 12 03 29.5 -0.8**
IAKL Akhelmad 68.35 312 *e*P **P 12 03 29.4 -2.4**
IKRD Kardeh 68.60 312 *e*P P 12 03 28.6 -4.7
BRVK Borovoye 69.30 331 ⇑*i*P **P 12 03 35.3 -1.7**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
GEYT Alibeck 69.32 313 P **P 12 03 36.8 -0.7**
comp=Z,8.0nm,0.8s,baz=134,slow=4.3,SNR=12
GEYT LR LR 12 40 15.5
comp=Z,66nm,18.1s,baz=155,slow=41
IANJ Anjilo 71.65 309 *e*P **P 12 03 50.3 -1.7**
ABKAR Akbulak array 72.80 324 P **P 12 03 57.1 -1.2**
baz=73
ABKAR Akbulak array 72.80 324 *e*P **P 12 03 56.8 -1.5**
comp=Z,2.4nm,0.6s
TIXI Tiksi 75.28 3⇑*i*P **P 12 04 09.2 -3.1**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 75.28 3 *e*P P 12 04 09.0 -3.2
comp=Z,4.5nm,0.8s
ARU Arti 76.84 330*c i*P **P 12 04 19.6 -1.9**
ARU 12 07 08.6
ARU S **S** **12 14 03.3 -3.2**
ARU pmax pmax
comp=Z,9.0nm,1.7s
ARU Arti 76.84 330 *e*P **P 12 04 19.2 -2.3**
comp=Z,9.3nm,1.1s
BILL Bilibino 78.65 16 *e*P P 12 04 34.7 +3.4
BILL pmax pmax
comp=Z,6.0nm,1.7s
ZEI Tsey 81.12 314 *e*P **P 12 04 43.9 -1.7**
ZEI pmax pmax
comp=Z,9.0nm,1.3s
KBZ Khabaz 82.05 315 P **P 12 04 48.9 -1.2**
comp=Z,1.8nm,0.8s,baz=115,slow=6.5,SNR=6.5
VRHR Novokhopersk 84.48 322 *e*P P 12 05 06.2 +3.7
VRHR pmax pmax
comp=N,6.0nm,0.8s
VRHR pmax pmax
comp=E,7.0nm,0.8s
VRHR pmax pmax
comp=Z,8.0nm,0.8s
VORD Divnogorie 85.90 321 *e*P **P 12 05 07.0 -2.6**
VORD pmax pmax
comp=N,8.0nm,0.9s
VORD pmax pmax
comp=Z,4.0nm,0.9s
VORD pmax pmax
comp=E,3.0nm,0.8s
VSR Storozhevoye 86.02 322 *e*P **P 12 05 08.8 -1.4**
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR pmax pmax
comp=Z,5.0nm,0.8s
QSPA South Pole Qui 86.50 180 P **P 12 05 11.3 -1.1**
comp=Z,1.8nm,1.1s,baz=192,slow=2.0,SNR=3.6
BRTR Keskin Array B 88.25 310 P **P 12 05 19.6 -1.9**
comp=Z,1.6nm,0.8s,baz=123,slow=6.5,SNR=5.6
BRTR PP **PP** **12 08 46.8 -2.4**
comp=Z,1.0nm,0.9s,baz=102,slow=4.0,SNR=3.6
BRTR LR LR 12 53 52.7
comp=Z,34nm,18.7s,baz=251,slow=42
AKASG Malin Array Be 92.21 320 P **P 12 05 38.1 -1.4**
comp=Z,0.3nm,0.3s,baz=79,slow=5.0,SNR=5.1
AKASG LR LR 12 51 47.0
comp=Z,50nm,20.4s,baz=275,slow=39
FINES FINESS Array B 94.19 331 LR LR 12 51 16.7
comp=Z,128nm,18.2s,baz=270,slow=38
ILAR Eielson Array 95.08 25 P **P 12 05 49.8 -2.6**
comp=Z,0.4nm,0.8s,baz=283,slow=4.2,SNR=5.0
KOLS Kolonicke sedl 96.70 319 *e*P **P 12 05 58.1 -2.1**
KOLS Kolonicke sedl 96.70 319 *e*P **P 12 05 58.1 -2.1**
NVAR Mina Array Bea 117.78 48 PKP **PKPdf** **12 11 16.1 -0.6**
comp=Z,0.5nm,0.9s,baz=232,slow=5.6,SNR=3.4
LAO LASA Array 122.11 35 *e*PKPdf **PKPdf** **12 11 24.6 0.0**
ULM Lac du Bonnet 125.08 26 PKP **PKPdf** **12 11 28.3 -1.8**
comp=Z,9.9nm,0.8s,baz=340,slow=8.0,SNR=4.9
CPUP Villa Florida 150.11 187 PKPbc **PKPbc** **12 12 21.6 +0.4**
comp=Z,1.8nm,0.7s,baz=82,slow=1.8,SNR=4.6

MEX 01 11:55:11.2±0.6, 15°.66N×92°.90W, h148km±5km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.31**	**279**	*i* P	Pn	11 55 30.5	-1.1
PCIG				*i* S	Sn	11 55 44.9	-2.1
CCIG	**Comitan**	**0.96**	**50**	*i* P	Pn	11 55 34.3	-1.5
CCIG				*i* S	Sn	11 55 52.3	-2.2
CMIG	**Matias Romero**	**2.38**	**307**	*i* P	Pn	11 55 49.8	-0.9
CMIG				*i* S	Sn	11 56 19.1	-2.1
HUIG	**Huatulco**	**3.09**	**273**	*e*P	Pn	11 55 58.0	-1.6
HUIG				*i* S	Sn	11 56 34.7	-2.4

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*IDC **01** 11:58:18.5±1.3, 34°.92S×73°.04W, h0km, mb3.9/5, mb1 3.9/7, mb1mx3.8/27, mbtmp3.8/7, ML3.5/2, MS4.1/1, Ms1 4.1/1, ms1mx3.0/26, Error ellipse: s-maj=39.3km s-min=24.0km az=85.0*
*ISCJB **01** 11:58:22.1±1.2, 34°.9S±0°.1×72°.9W±0°.3, h33km, mb3.8/5, MS4.1/1, Error ellipse: s-maj=30.2km s-min=18.2km az=9.7*
ISC 01 11:58:24.0±1.3, 34°.9S±0°.1×72°.9W±0°.2, h35km, n8, σ0§50/7, mb4.1/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.10**	**52**	Pn	**Pn**	**11 59 38.0**	**-0.1**
0.7nm,0.3s,baz=225,slow=12,SNR=8.3							
LPAZ	**La Paz**	**18.99**	**14**	P	**Pn**	**12 02 44.8**	**+0.6**
0.1nm,0.3s,baz=180,slow=7.1,SNR=3.8							
SIV	**San Ignacio**	**21.60**	**32**	P	**P**	**12 03 10.3**	**-0.6**
1.9nm,0.8s,baz=216,slow=9.3,SNR=3.6							
SNAA	**Sanae**	**51.07**	**158**	P	**P**	**12 07 22.5**	**-0.1**
0.7nm,0.3s,baz=300,slow=16,SNR=9.0							
TEIG	**Tepich**	**56.69**	**343**	LR	LR	12 29 24.1	
comp=Z,152nm,18.1s,baz=6.0,slow=33							
TXAR	**Lajitas Array**	**70.13**	**332**	P	**P**	**12 09 32.7**	**-0.2**
0.2nm,0.5s,baz=146,slow=9.7,SNR=3.3							
BOSA	**Boshof**	**80.33**	**118**	P	**P**	**12 10 32.0**	**+0.1**
2.6nm,0.8s,baz=225,slow=5.2,SNR=4.8							
TORD	**Torodi Ar. Bea**	**85.20**	**70**	P	**P**	**12 10 57.5**	**+0.3**
0.8nm,0.6s,baz=288,slow=5.7,SNR=10.0							

IDC 01 12:05:19.6±4.3, 38°.23S×73°.23W, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=92.2km s-min=19.0km az=69.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.25**	**141**	Pn	Pn	12 06 13.6	+1.6
1.7nm,0.3s,baz=317,slow=14,SNR=5.9							
PLCA				Lg	Lg	12 07 01.3	
3.4nm,0.3s,baz=216,slow=22,SNR=5.2							
CFAA	**Coronel Fontan**	**7.78**	**33**	Pn	Pn	12 07 15.2	+1.0
0.3nm,0.3s,baz=221,slow=14,SNR=6.5							
LPAZ	**La Paz**	**22.31**	**13**	P	P	12 10 18.2	-1.4
2.0nm,0.7s,baz=195,slow=6.6,SNR=9.0							
SIV	**San Ignacio**	**24.61**	**29**	P	P	12 10 42.2	+0.5
1.6nm,0.8s,baz=228,slow=12,SNR=3.1							
TORD	**Torodi Ar. Bea**	**86.54**	**70**	P	P	12 18 04.9	0.0
0.4nm,0.7s,baz=219,slow=3.7,SNR=3.0							

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*IDC **01** 12:09:49.1±0.6, 36°.26S×73°.21W, h0km, mb4.3/12, mb1 4.4/16, mb1mx4.3/32, mbtmp4.3/16, ML4.0/4, MS3.7/3, Ms1 3.7/3, ms1mx3.4/31, Error ellipse: s-maj=21.9km s-min=13.0km az=85.0*
*ISCJB **01** 12:09:51.6±0.5, 36°.22S±0°.05×73°.16W±0°.09, h28km, mb4.5/18, MS4.4/1, Error ellipse: s-maj=10.9km s-min=7.2km az=8.1*
*NEIC **01** 12:09:54.1±0.3, 36°.22S×73°.17W, h35km, mb4.7/6, Error ellipse: s-maj=9.3km s-min=6.0km az=86.0*
ISC 01 12:09:53.3±0.5, 36°.24S±0°.07×73°.20W±0°.09, h28km, n52, σ1§19/47, mb4.6/18, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.94**	**156**	Pn	**Pn**	**12 11 06.7**	**+0.9**
2.0nm,0.3s,baz=328,slow=12,SNR=5.0							
PLCA				Lg	Lg	12 12 23.8	
3.2nm,0.3s,baz=252,slow=20,SNR=2.1							
CFAA	**Coronel Fontan**	**6.19**	**43**	Pn	**Pn**	**12 11 24.0**	**+1.1**
0.5nm,0.3s,baz=229,slow=12,SNR=3.7							
CFAA				Sn	**Sn**	**12 12 34.6**	**+1.8**
1.1nm,0.3s,baz=216,slow=18,SNR=2.8							
CFAA				LR	LR	12 13 51.7	
comp=Z,84nm,18.6s,baz=230,slow=39							
TRQA	**Tornquist**	**9.14**	**105**	*e*Pn	**Pn**	**12 12 03.2**	**-0.1**
42nm,1.0s							
LVC	**Limon Verde**	**14.08**	**16**	*e*Pn	**Pn**	**12 13 10.0**	**-1.2**
CPUP	**Villa Florida**	**16.76**	**58**	Pn	**Pn**	**12 13 44.3**	**-1.7**
0.4nm,0.3s,baz=201,slow=8.0,SNR=2.3							
CPUP				LR	LR	12 20 16.1	
comp=Z,390nm,20.3s,baz=218,slow=37							
CPUP	**Villa Florida**	**16.76**	**58**	*e*Pn	**Pn**	**12 13 44.8**	**-1.2**
USHA	**Ushuaia**	**18.88**	**171**	P	**Pn**	**12 14 11.9**	**0.0**
0.3nm,0.3s,baz=338,slow=16,SNR=2.9							
LPAZ	**La Paz**	**20.38**	**14**	P	**P**	**12 14 29.4**	**+0.9**
2.4nm,0.6s,baz=188,slow=6.2,SNR=6.9							
LPAZ	**La Paz**	**20.38**	**14**	P	**P**	**12 14 29.4**	**+0.9**
LPAZ				*e*Pn	Pn	12 14 30.6	-0.1
SIV	**San Ignacio**	**22.88**	**31**	P	**P**	**12 14 53.6**	**-1.1**
12nm,0.9s,baz=228,slow=15,SNR=28							
SAML	**Samuel**	**28.66**	**21**	*e*P	**P**	**12 15 46.9**	**-0.8**
BDFB	**Brasilia**	**30.40**	**54**	P	**P**	**12 16 02.8**	**-0.5**
2.2nm,0.5s,baz=173,slow=5.0,SNR=3.1							
OTAV	**Otavalo**	**36.62**	**351**	*e*P	**P**	**12 16 58.6**	**+0.8**
RCBR	**Riachuelo**	**45.64**	**57**	LR	LR	12 39 07.1	
comp=Z,447nm,18.7s,baz=199,slow=38							
SNAA	**Sanae**	**49.89**	**157**	P	**P**	**12 18 44.3**	**+0.5**
6.5nm,0.9s,baz=285,slow=6.1,SNR=14							
SNAA	**Sanae**	**49.89**	**157**	*e*P	**P**	**12 18 44.0**	**+0.2**
23nm,1.0s							
APG	**El Apazote**	**53.52**	**339**	P	**P**	**12 19 12.2**	**+0.5**
2.3nm,0.8s,baz=288,slow=13,SNR=2.8							
QSPA	**South Pole Qui**	**54.00**	**180**	P	**P**	**12 19 14.9**	**+0.3**
7.8nm,0.9s,baz=148,slow=3.9,SNR=18							
QSPA	**South Pole Qui**	**54.00**	**180**	*e*P	**P**	**12 19 14.5**	**-0.1**
7.9nm,0.9s							
CELP	**Cerrillos**	**54.38**	**8**	*e*P	**P**	**12 19 16.7**	**-0.9**
TXAR	**Lajitas Array**	**71.24**	**332**	P	**P**	**12 21 10.4**	**+0.5**
0.3nm,0.6s,baz=156,slow=8.9,SNR=3.8							
MIAR	**Mount Ida**	**72.94**	**343**	P	**P**	**12 21 19.4**	**-0.5**
WVT	**Waverly**	**73.28**	**348**	*e*P	**P**	**12 21 21.2**	**-0.6**
8.4nm,0.9s							
LIC	**Lamto**	**76.38**	**72**	*e*P	**P**	**12 21 40.7**	**+0.4**
29nm,0.9s							
TIC	**Toumodi**	**76.65**	**71**	*e*P	**P**	**12 21 42.4**	**+0.5**
7.6nm,0.2s							
KIC	**Kosan Boka**	**76.69**	**72**	*e*P	**P**	**12 21 42.7**	**+0.6**
34nm,0.9s							
DBIC	**Dimbokro**	**76.79**	**71**	P	**P**	**12 21 43.2**	**+0.6**
11nm,0.8s,baz=209,slow=6.0,SNR=14							
DBIC	**Dimbokro**	**76.79**	**71**	*e*P	**P**	**12 21 42.9**	**+0.3**
6.4nm,0.8s							
ANMO	**Albuquerque**	**77.31**	**332**	*e*P	P	12 21 53.3	+8.0
6.7nm,1.5s							
TSUM	**Tsumeb**	**79.51**	**106**	*e*P	**P**	**12 21 57.8**	**-0.1**
3.6nm,0.9s							
BOSA	**Boshof**	**79.87**	**118**	P	**P**	**12 22 00.3**	**+0.6**
12nm,0.9s,baz=234,slow=5.2,SNR=14							
LBTB	**Lobatse**	**82.22**	**115**	*e*P	**P**	**12 22 11.3**	**-0.9**
NVAR	**Mina Array Bea**	**85.19**	**326**	P	**P**	**12 22 28.5**	**+1.4**
0.4nm,0.5s,baz=151,slow=6.4,SNR=4.0							
PDAR	**Pinedale Array**	**85.34**	**334**	P	P	12 22 31.5	+3.7
0.6nm,0.9s,baz=167,slow=4.4,SNR=2.8							
TORD	**Torodi Ar. Bea**	**85.86**	**71**	P	**P**	**12 22 30.8**	**+0.1**
3.3nm,0.8s,baz=250,slow=4.0,SNR=19							
ULM	**Lac du Bonnet**	**88.42**	**346**	P	**P**	**12 22 41.9**	**-0.3**
1.9nm,0.7s,baz=92,slow=1.5,SNR=4.9							
YKA	**Yellowknife Ar**	**103.87**	**342**	Pdiff	**Pdif**	**12 23 57.8**	**+5.7**
0.1nm,0.7s,baz=140,slow=4.4,SNR=2.8							
ASAR	**Alice Springs**	**115.14**	**207**	PKP	**PKPdf**	**12 28 30.6**	**-1.7**
0.3nm,0.8s,baz=131,slow=3.8,SNR=2.9							
WRA	**Warramunga Arr**	**118.35**	**210**	PKP	**PKPdf**	**12 28 37.4**	**-1.1**
0.6nm,0.8s,baz=162,slow=1.6,SNR=5.4							
H11S2	**WAKE ISLAND Hyl**	**24.77**	**268**	T	T	14 45 58.1	
baz=109							
H11S1	**WAKE ISLAND Hyl**	**24.78**	**268**	T	T	14 45 53.3	
baz=109							
H11S3	**WAKE ISLAND Hyl**	**24.78**	**268**	T	T	14 45 58.8	
baz=109							
H11N3	**WAKE ISLAND Hyl**	**25.24**	**270**	T	T	14 46 26.1	
baz=108							
H11N1	**WAKE ISLAND Hyl**	**25.25**	**270**	T	T	14 46 26.9	
baz=108							
H11N2	**WAKE ISLAND Hyl**	**25.25**	**270**	T	T	14 46 27.2	
baz=108							
HYB	**Hyderabad**	**148.76**	**119**	*i* PKP	**PKPbc**	**12 29 38.0**	**-0.5**
YAK	**Yakutsk**	**150.48**	**338**	*e*PKPbc	**PKPbc**	**12 29 40.2**	**-1.1**
KKAR	**Karatay Array**	**151.40**	**65**	*e*PKPdf	**PKPbc**	**12 29 43.9**	**-0.3**
AAK	**Ala-Archa**	**154.35**	**66**	*e*PKPbc	**PKPbc**	**12 29 50.9**	**+0.1**
ZALV	**Zalesovo Beam**	**156.62**	**34**	PKP	**PKPdf**	**12 29 44.2**	**-0.8**
1.7nm,0.8s,baz=282,slow=1.3,SNR=11							
ZALV				PKPab	**PKPab**	**12 30 15.1**	**+0.9**
1.0nm,0.8s,baz=305,slow=5.1,SNR=3.8							
MKAR	**Makanchi Array**	**158.92**	**52**	PKP	**PKPdf**	**12 29 48.1**	**-0.1**
1.0nm,0.8s,baz=17,slow=0.5,SNR=11							
MKAR				PKPab	**PKPab**	**12 30 24.4**	**-0.1**
0.7nm,0.8s,baz=294,slow=3.7,SNR=6.5							
SONM	**Songino Array**	**168.41**	**1**	PKP	**PKPdf**	**12 29 56.2**	**-0.8**
0.5nm,1.1s,baz=42,slow=0.3,SNR=3.0							
SONM				PKPab	**PKPab**	**12 31 06.6**	**+0.5**
1.0nm,0.8s,baz=337,slow=2.9,SNR=9.7							

IDC 01 12:12:00.9±2.9, 39°.58S×76°.40W, h0km, mb4.4/2, mb1 4.3/4, mb1mx3.8/31, mbtmp4.3/4, ML4.0/2, Error ellipse: s-maj=73.1km s-min=44.7km az=33.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.63**	**106**	Pn	Pn	12 13 12.6	+0.4
2.7nm,0.3s,baz=305,slow=10.0,SNR=1.8							
PLCA				Sn	Sn	12 14 07.7	+1.0
8.8nm,0.3s,baz=222,slow=22,SNR=3.2							
CFAA	**Coronel Fontan**	**10.36**	**42**	Pn	Pn	12 14 30.8	0.0
0.5nm,0.3s,baz=243,slow=13,SNR=11							
DBIC	**Dimbokro**	**80.22**	**73**	P	P	12 24 12.9	-0.7
4.8nm,0.8s,baz=197,slow=6.9,SNR=5.1							
TORD	**Torodi Ar. Bea**	**89.32**	**72**	P	P	12 24 59.3	0.0
1.0nm,0.7s,baz=218,slow=4.3,SNR=5.5							
MKAR	**Makanchi Array**	**162.90**	**58**	PKPab	PKPab	12 32 54.2	+0.3
0.4nm,0.7s,baz=277,slow=3.3,SNR=4.5							

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*IDC **01** 12:13:31.4±2.3, 32°.72S×71°.70W, h0km, mb3.8/3, mb1 4.2/4, mb1mx4.0/15, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=82.4km s-min=46.4km az=26.0*
ISC 01 12:13:36.0±1.7, 32°.6S±0°.3×71°.6W±0°.3, h25km, n6, σ0§63/6, mb3.7/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**16.53**	**12**	Pn	**Pn**	**12 17 26.7**	**-0.1**
0.1nm,0.3s,baz=185,slow=7.4,SNR=3.1							
TXAR	**Lajitas Array**	**68.68**	**330**	P	**P**	**12 24 37.5**	**+0.1**
0.4nm,0.7s,baz=138,slow=9.6,SNR=3.0							
NVAR	**Mina Array Bea**	**82.93**	**325**	P	**P**	**12 25 58.9**	**+0.2**
0.6nm,0.9s,baz=157,slow=5.6,SNR=3.5							
TORD	**Torodi Ar. Bea**	**83.40**	**70**	P	**P**	**12 26 01.8**	**+0.3**
1.5nm,0.8s,baz=249,slow=4.2,SNR=5.4							
ZALV	**Zalesovo Beam**	**152.84**	**31**	PKPbc	**PKPbc**	**12 33 29.2**	**-1.0**
0.9nm,0.6s,baz=298,slow=3.8,SNR=4.2							
MKAR	**Makanchi Array**	**155.56**	**47**	PKPab	**PKPab**	**12 33 53.4**	**+0.2**
0.9nm,0.8s,baz=293,slow=3.9,SNR=6.1							

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*IDC **01** 12:14:22.7±0.7, 35°.34S×72°.58W, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.4/28, mbtmp4.4/13, ML4.3/1, Error ellipse: s-maj=32.1km s-min=17.2km az=77.0*
*ISCJB **01** 12:14:23.4±0.4, 35°.18S±0°.09×72°.3W±0°.1, h10km, mb4.5/17, Error ellipse: s-maj=15.5km s-min=9.5km az=140.3*
*NEIC **01** 12:14:28.2±0.3, 35°.30S×72°.43W, h35km, mb4.9/6, Error ellipse: s-maj=12.5km s-min=7.8km az=58.0*
ISC 01 12:14:26.0±0.6, 35°.3S±0°.1×72°.5W±0°.1, h20km, n319, σ0§67/318, mb4.6/17, 131C-142D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRQA	**Tornquist**	**8.90**	**111**	*e*Pn	**Pn**	**12 16 33.6**	**+0.2**
LPAZ	**La Paz**	**19.33**	**13**	P	**Pn**	**12 18 52.3**	**+0.5**
0.5nm,0.3s,baz=184,slow=9.6,SNR=6.7							
LPAZ	**La Paz**	**19.33**	**13**	P	**Pn**	**12 18 52.3**	**+0.5**
4.2nm,0.8s							
SIV	**San Ignacio**	**21.79**	**31**	P	**P**	**12 19 16.5**	**-0.2**
11nm,0.9s,baz=215,slow=7.0,SNR=11							
NNA	**Nana**	**23.54**	**349**	P	**P**	**12 19 34.2**	**-0.8**
7.9nm,0.8s,baz=207,slow=11,SNR=3.8							
SAML	**Samuel**	**27.58**	**20**	P	**P**	**12 20 11.3**	**-0.6**
OTAV	**Otavalo**	**35.78**	**350**	P	**P**	**12 21 23.3**	**-1.1**
ROSC	**El Rosal**	**39.98**	**357**	P	**P**	**12 22 01.3**	**+1.6**
6.9nm,0.4s,baz=96,slow=13,SNR=4.7							
JTS	**JuntasAbangare**	**46.84**	**343**	*e*P	**P**	**12 22 53.5**	**-1.1**

SNAA Sanae 50.54 157 P P 12 23 22.1 -0.5
1.5nm,0.8s,baz=308,slow=7.0,SNR=3.8
APG El Apazote 52.84 338 P P 12 23 36.8 -3.7
4.0nm,0.8s,baz=114,slow=11,SNR=5.8
QSPA South Pole Qui 54.94 180 P P 12 23 56.0 +0.7
5.4nm,0.8s,baz=142,slow=2.2,SNR=6.6
QSPA South Pole Qui 54.94 180 eP P 12 23 55.4 +0.1
4.7nm,0.9s
TEIG Tepich 57.21 342 P P 12 24 11.1 -0.6
13nm,0.7s,baz=20,slow=2.1,SNR=6.0
TEIG Tepich 57.21 342 eP P 12 24 11.0 -0.7
933A Laredo 67.48 334 ⇓P P 12 25 21.7 +1.2
baz=68
834A Tilden 67.70 335 ⇑P P 12 25 23.3 +1.5
baz=68
833A Chaparral WMA, 68.18 335 ⇑P P 12 25 25.4 +0.6
baz=68
832A Faith Ranch, C 68.35 334 ⇓P P 12 25 26.3 +0.4
baz=69
636A Smothers Creek 68.46 337 ⇓P P 12 25 27.7 +1.1
baz=69
732A Laxson Ranch, 68.75 334 ⇑P P 12 25 28.9 +0.5
baz=69,SNR=9.7
633A Saathoff Ranch 69.14 335 ⇓P P 12 25 31.7 +0.9
baz=70
632A Uvalde 69.39 335 ⇓P P 12 25 33.1 +0.7
baz=70
631A Perdido Creek 69.59 334 ⇓P P 12 25 33.9 +0.3
baz=70
533A Kerrville 69.65 336 ⇑P P 12 25 34.8 +0.9
baz=70
435B Jarrell 69.83 337 ⇓P P 12 25 35.4 +0.4
baz=70
532A Rocksprings 70.00 335 ⇑P P 12 25 36.7 +0.5
baz=70,SNR=8.2
434A Burnet 70.08 337 ⇓P P 12 25 36.8 +0.2
baz=70,SNR=5.4
336A Riesel 70.16 338 ⇓P P 12 25 37.5 +0.5
baz=70
335A Moody 70.25 337 ⇑P P 12 25 38.1 +0.5
baz=71
531A Rocksprings 70.26 334 ⇑P P 12 25 38.5 +0.7
baz=71,SNR=6.1
JCT Junction City 70.29 335 ⇓P P 12 25 38.3 +0.4
baz=71,SNR=6.8
433A Art 70.30 336 ⇑P P 12 25 38.2 +0.2
baz=71,SNR=9.8
530A J-C Ranch, Com 70.53 334 ⇓P P 12 25 40.3 +0.9
baz=71,SNR=5.5
334A Lometa 70.55 337 ⇓P P 12 25 39.7 +0.3
baz=71,SNR=5.4
432A Menard 70.65 335 ⇓P P 12 25 40.2 +0.1
baz=71
TXAR Lajitas Array 70.68 331 P P 12 25 40.8 +0.4
2.9nm,0.6s,baz=161,slow=9.4,SNR=23
431A Sonora 70.75 335 ⇑P P 12 25 41.6 +0.8
baz=71
333A Richland Sprin 70.79 336 ⇑P P 12 25 40.9 0.0
baz=71,SNR=5.5
529A Stev Forest Ra 70.83 333 ⇓P P 12 25 41.8 +0.6
baz=71,SNR=7.0
WHTX Lake Whitney, 70.92 338 ⇑P P 12 25 41.9 +0.3
baz=71
WHTX Lake Whitney, 70.92 338 eP P 12 25 41.8 +0.1
430A Baggett Ranch, 71.07 334 ⇑P P 12 25 43.1 +0.4
baz=71
332A Millersview 71.09 336 ⇓P P 12 25 43.0 +0.3
baz=71
234A Clairette 71.14 337 ⇑P P 12 25 43.2 +0.2
baz=72
429A Davenport Ranc 71.16 333 ⇓P P 12 25 43.8 +0.5
baz=72
331A San Angelo 71.26 335 ⇓P P 12 25 44.1 +0.3
baz=72,SNR=5.6
233A Rising Star 71.40 337 ⇓P P 12 25 44.5 -0.1
baz=72
135A Vickery Place, 71.43 338 ⇑P P 12 25 44.8 +0.1
baz=72
232A Coleman 71.53 336 ⇑P P 12 25 45.5 +0.1
baz=72,SNR=5.4
330A Mertzon 71.61 334 ⇑P P 12 25 45.9 0.0
baz=72
231A Bronte 71.80 335 ⇑P P 12 25 46.9 -0.1
baz=72,SNR=7.5
133A Hamilton Ranch 71.95 337 ⇓P P 12 25 47.9 +0.1
baz=72
329A Wagon Wheel Ra 71.97 334 ⇑P P 12 25 48.5 +0.4
baz=72
Z35A Perchaven, San 72.10 338 ⇓P P 12 25 48.9 +0.2
baz=72
ABTX Abilene, Hawle 72.20 336 ⇑P P 12 25 49.8 +0.4
baz=73
ABTX Abilene, Hawle 72.20 336 eP P 12 25 49.8 +0.4
11nm,0.8s
229A Bryant Ranch, 72.35 334 ⇑P P 12 25 50.6 +0.3
baz=73
WVT Waverly 72.48 347 eP P 12 25 50.4 -0.5
17nm,1.1s
Z33A Whitaker Ranch 72.52 337 ⇑P P 12 25 51.4 +0.1
baz=73
130A Snyder 72.62 335 ⇓P P 12 25 52.0 +0.1
baz=73
228A UT Block 9, Go 72.76 334 ⇓P P 12 25 53.3 +0.4
baz=73
Z32A Haskell 72.77 337 ⇓P P 12 25 53.1 +0.4
baz=73
Y34A Reagan Ranch, 72.83 338 ⇑P P 12 25 53.3 +0.3
baz=73
129A Stewart Farms, 72.97 334 ⇓P P 12 25 54.4 +0.4
baz=73
Z31A Sharp Cattle R 73.00 336 ⇑P P 12 25 54.2 0.0
baz=73,SNR=5.3
Y33A Hilltop Ranch, 73.15 338 ⇓P P 12 25 54.9 -0.1
baz=74
128A Castleberry Fa 73.18 334 ⇑P P 12 25 55.4 +0.1
baz=74,SNR=6.9
Z30A Sanderson Ranc 73.30 335 ⇑P P 12 25 55.9 -0.1
baz=74
Y32A R-V Farms, Ver 73.40 337 ⇑P P 12 25 56.1 -0.4
baz=74
X34A Smith Ranch, M 73.45 338 ⇓P P 12 25 56.4 -0.4
baz=74
Z29A Hungry Hill Ra 73.48 335 ⇑P P 12 25 56.8 -0.3
baz=74,SNR=5.7
Y31A Rekieta Farm, 73.63 336 ⇓P P 12 25 58.1 +0.3
baz=74
X32A Elmer 73.74 337 ⇑P P 12 25 58.3 -0.2
baz=74
Z28A Tucker Farm, M 73.75 334 ⇑P P 12 25 58.6 0.0
baz=74
Y29A Porterfield Fa 74.01 335 ⇓P P 12 26 00.2 +0.1
baz=74
Z27A Tatum 74.07 334 ⇓P P 12 26 00.7 +0.1
baz=74
TUL1 Leonard 74.09 341 ⇑P P 12 26 00.2 -0.3
baz=74
X31A McDonald Ranch 74.15 337 ⇓P P 12 26 00.9 0.0
baz=74
W33A Caddo, Fort Co 74.16 338 ⇓P P 12 26 01.3 +0.4
baz=74
Y28A McKinney Farm, 74.26 335 ⇓P P 12 26 01.7 +0.1
baz=75
Z26A Caprock 74.31 333 ⇓P P 12 26 02.2 +0.2
baz=75,SNR=18
W32A Sentinel 74.37 337 ⇑P P 12 26 02.2 +0.1
baz=75,SNR=6.3
MSTX Muleshoe 74.50 334 ⇑P P 12 26 03.1 +0.2
baz=75,SNR=5.7
MSTX Muleshoe 74.50 334 eP P 12 26 03.2 +0.2
X29A Tulia 74.55 335 ⇑P P 12 26 03.2 -0.1
baz=75
Y27A Causey 74.56 334 ⇑P P 12 26 03.4 0.0
baz=75
Z25A Roswell 74.59 332 ⇓P P 12 26 04.0 +0.4
baz=75
W31A Holland Ranch, 74.65 337 ⇑P P 12 26 03.7 0.0
baz=75
V33A Lossen Ranch, 74.72 339 ⇓P P 12 26 04.2 0.0
baz=75
319A Douglas 74.78 328 ⇓P P 12 26 05.8 +1.0
baz=75
Y26A Elida 74.83 333 ⇓P P 12 26 05.5 +0.5
baz=75
Z24A Sheppen Canyo 74.89 332 ⇓P P 12 26 06.0 +0.6
baz=75,SNR=8.6
AMTX Amarillo 74.95 335 ⇑P P 12 26 06.0 +0.5
baz=75
AMTX Amarillo 74.95 335 eP P 12 26 06.1 +0.5
24nm,1.3s
121A Cookes Peak, D 75.15 330 ⇑P P 12 26 08.2 +1.3
baz=76,SNR=5.8
W29A Amarillo 75.15 336 ⇑P P 12 26 07.3 +0.5
baz=76
Y25A Mesa, Roswell 75.16 333 ⇑P P 12 26 07.0 +0.1
baz=76
X27A F and S Farms, 75.22 334 ⇑P P 12 26 07.6 +0.3
baz=76
U33A Lingo Farm, Me 75.24 339 ⇑P P 12 26 07.0 -0.1
baz=76
X26A CR and CF Fran 75.39 334 ⇓P P 12 26 08.7 +0.5
baz=76,SNR=5.4
Y24A Capitan 75.44 332 ⇓P P 12 26 09.5 +0.9
baz=76
Z22A Elephant Butte 75.45 331 ⇓P P 12 26 10.0 +1.4
baz=76
U32A Winter Ranch, 75.45 338 ⇓P P 12 26 08.7 +0.3
baz=76
W27A Bowe Ranch, En 75.59 335 ⇑P P 12 26 09.6 +0.3
baz=76,SNR=8.1
X25A Clemmons Ranch 75.68 333 ⇑P P 12 26 10.1 +0.2
baz=76
Y23A Lovelace Mesa, 75.68 332 ⇑P P 12 26 10.7 +0.7
baz=76
ACSO Alum Creek Sta 75.78 352 eP P 12 26 09.9 -0.2
11nm,0.7s
T33A Patterson Ranc 75.88 339 ⇓P P 12 26 11.0 +0.2
baz=76
U30A WK&E Inc. Balk 76.11 337 ⇑P P 12 26 12.8 +0.6
baz=76
V27A Dan Oppiter Fa 76.13 335 ⇓P P 12 26 13.0 +0.6
baz=76
T32A Huddler Ranch, 76.17 339 ⇓P P 12 26 13.0 +0.5
baz=76
W25A X Bar L Ranch, 76.23 334 ⇑P P 12 26 13.4 +0.4
baz=77
TUC Tucson 76.24 327 eP P 12 26 14.2 +1.2
T31A Randall Ranch, 76.32 338 ⇑P P 12 26 13.6 +0.3
baz=77
U28A Mallet 76.49 336 ⇓P P 12 26 14.5 +0.1
baz=77
V26A Tequesquite Ra 76.50 334 ⇑P P 12 26 15.1 +0.6
baz=77
W24A Lazy 6 Ranch, 76.57 333 ⇓P P 12 26 15.6 +0.6
baz=77,SNR=5.6
S32A Newby Ranch, P 76.66 339 ⇑P P 12 26 15.7 +0.5
baz=77
U27A Thompson Grove 76.73 335 ⇑P P 12 26 16.6 +0.8
baz=77
ANMO Albuquerque 76.73 332 eP P 12 26 15.7 -0.3
W23A Werner Place, 76.81 332 ⇑P P 12 26 17.6 +1.3
baz=77
V25A Rancho No Teng 76.84 334 ⇓P P 12 26 16.8 +0.3
baz=77,SNR=5.7
214A Organ Pipe Nat 76.86 326 ⇓P P 12 26 17.7 +1.3
baz=77
T29A Hugoton 76.89 337 ⇓P P 12 26 17.2 +0.6
baz=77
R33A Olander Ranch, 76.94 340 ⇓P P 12 26 17.1 +0.3
baz=77
V24A Rampart Ranch, 76.98 333 ⇑P P 12 26 17.9 +0.6
baz=77
T28A Walsh 77.12 336 ⇓P P 12 26 18.3 +0.4
baz=78,SNR=7.7
S29A Ulysses 77.25 337 ⇓P P 12 26 19.2 +0.6
baz=78
T27A Campo 77.27 336 ⇑P P 12 26 19.2 +0.4
baz=78,SNR=5.0
V23A Ortiz Mt. (NFS 77.33 332 ⇓P P 12 26 20.1 +0.8
baz=78
R31A Burdett 77.38 339 ⇓P P 12 26 19.5 +0.3
baz=78
S28A Manter 77.48 336 ⇑P P 12 26 20.4 +0.5
baz=78,SNR=6.6
Q33A Connelly Farm, 77.55 340 ⇓P P 12 26 20.1 -0.1
baz=78
T26A Comanche Natio 77.67 335 ⇑P P 12 26 22.0 +0.9
baz=78
Q32A Meitler Ranch, 77.74 340 ⇑P P 12 26 21.5 +0.2
baz=78
V22A San Miguel Ran 77.76 332 ⇓P P 12 26 23.1 +1.4
baz=78,SNR=9.6
U23A El Rito 77.85 333 ⇓P P 12 26 23.5 +1.3
baz=78
S27A Las Animas 77.89 336 ⇓P P 12 26 23.0 +0.7
baz=78
T25A Trinidad 77.93 334 ⇑P P 12 26 23.8 +1.3
baz=78,SNR=5.8
113A Mohawk Valley, 77.98 325 ⇓P P 12 26 24.4 +1.7
baz=78
R29A Marenthal 78.00 337 ⇑P P 12 26 23.3 +0.6
baz=78
Q31A Ellis 78.00 339 ⇑P P 12 26 23.2 +0.5
baz=78
R28A Tribune 78.14 337 ⇓P P 12 26 24.2 +0.6
baz=78
U22A Llaves 78.15 332 ⇓P P 12 26 24.9 +1.0
baz=78
W18A Petrified Fore 78.19 330 ⇑P P 12 26 25.3 +1.2
baz=78
T24B San Luis 78.20 334 ⇓P P 12 26 25.1 +0.8
baz=79
Q30A Quinter 78.22 338 ⇑P P 12 26 24.5 +0.5
baz=79,SNR=6.6
X16A Lo Mia Camp, P 78.32 328 ⇑P P 12 26 26.1 +1.3
baz=79,SNR=7.2
P32A Huiting Farm, 78.34 340 ⇑P P 12 26 24.8 +0.2
baz=79
Q29A Oakley 78.37 338 ⇑P P 12 26 25.3 +0.4
baz=79
S25A Robets Cordova 78.40 335 ⇑P P 12 26 26.2 +1.0
baz=79
R27A Eads 78.41 336 ⇑P P 12 26 25.5 +0.4
baz=79
T23A Casias Ranch, 78.42 333 ⇑P P 12 26 26.3 +0.9
baz=79
P31A Stockton 78.47 339 ⇓P P 12 26 25.8 +0.5
baz=79
Y14A Wickenburg 78.61 327 ⇑P P 12 26 27.2 +1.0
baz=79
R26A Arlington 78.64 336 ⇓P P 12 26 26.7 +0.3
baz=79
S24A Houchin Ranch, 78.66 334 ⇓P P 12 26 27.4 +0.7
baz=79
P30A Selden 78.75 338 ⇓P P 12 26 26.9 0.0
baz=79
R25A Fountain Ranch 78.78 335 ⇑P P 12 26 27.9 +0.7
baz=79
Q28A Sharon Springs 78.80 337 ⇑P P 12 26 28.0 +0.8
baz=79
P29A Atwood 79.01 338 ⇑P P 12 26 29.0 +0.7
baz=79,SNR=5.7
Y12C Blythe 79.14 325 ⇓P P 12 26 30.8 +1.7
baz=80
R24A Sanders Place, 79.15 334 ⇓P P 12 26 30.4 +1.1
baz=80,SNR=6.4
WUAZ Wupatki 79.22 329 ⇑P P 12 26 31.2 +1.5
baz=80
WUAZ Wupatki 79.22 329 eP P 12 26 31.2 +1.5
P28A Saint Francis 79.24 337 ⇑P P 12 26 30.4 +0.8
baz=80
S22A 4UR Ranch, Cre 79.34 333 ⇓P P 12 26 31.4 +0.9
baz=80
R23A Moffat 79.37 334 ⇑P P 12 26 31.4 +0.8
baz=80
Q25A Bedland, Calha 79.46 335 ⇓P P 12 26 31.6 +0.6
baz=80
BC3 Big Chuckawall 79.50 325 ⇓P P 12 26 33.1 +1.9
baz=80
MVCO Mesa Verde 79.51 332 ⇑P P 12 26 32.2 +0.9
baz=80
MVCO Mesa Verde 79.51 332 eP P 12 26 32.3 +1.0
O28A Krutsinger Ran 79.75 338 ⇓P P 12 26 32.9 +0.6
baz=80
Q24A Divide 79.82 335 ⇓P P 12 26 33.9 +0.9
baz=80
BOSA Boshof 79.82 118 P P 12 26 33.6 +0.3
1.7nm,0.6s,baz=251,slow=3.3,SNR=3.8
BGNE Belgrade 79.88 341 ⇓P P 12 26 33.5 +0.5
baz=80
PFO Pinyon Flats O 79.94 324 ⇓P P 12 26 35.5 +1.9
baz=80
P25A Willow Gulch B 79.97 336 ⇑P P 12 26 34.7 +1.0
baz=80
W13A Hualapai Mount 79.97 327 ⇑P P 12 26 35.3 +1.4
baz=80
O27A Beecher Island 80.03 337 ⇓P P 12 26 34.7 +0.8
baz=80
N29A Votaw Ranch, W 80.04 339 ⇓P P 12 26 34.1 +0.3
baz=80
M31A Lambtecht Ranc 80.05 340 ⇑P P 12 26 33.8 -0.1
baz=80
N28A Pribbeno Ranch 80.19 338 ⇓P P 12 26 35.3 +0.5
baz=81
O26A Horse Wrangler 80.35 337 ⇑P P 12 26 36.6 +1.0
baz=81
U15A North Rim 80.39 328 ⇑P P 12 26 37.6 +1.4
baz=81,SNR=6.4
GMRC Granite Mounta 80.52 325 ⇑P P 12 26 38.3 +1.6
baz=81
N27A Anderson Farm, 80.61 337 ⇓P P 12 26 37.7 +0.7
baz=81
M29A Burnside Ranch 80.63 339 ⇓P P 12 26 37.6 +0.5
baz=81
SMCO Snowmass 80.66 334 eP P 12 26 38.9 +1.3
ISCO Idaho Springs 80.72 335 ⇓P P 12 26 38.5 +0.6
baz=81
L31A Butterfield Fa 80.78 340 ⇑P P 12 26 38.4 +0.6
baz=81
HEC Hector,Ludlow 80.88 325 ⇓P P 12 26 40.2 +1.6
baz=81
P22A Eagle 80.95 334 ⇑P P 12 26 39.7 +0.7
baz=81
TUQ Turquoise Moun 81.19 325 ⇓P P 12 26 42.0 +1.8
baz=82
O23A Lake Granby, G 81.20 335 ⇓P P 12 26 41.4 +1.0
baz=82
O22A Kremmling 81.37 334 ⇓P P 12 26 41.8 +0.4
baz=82
N24A Carr 81.39 336 ⇓P P 12 26 41.8 +0.5
baz=82
K30A Basset 81.46 340 ⇓P P 12 26 41.9 +0.5
baz=82
GSC Goldstone, Bar 81.49 325 ⇑P P 12 26 43.4 +1.6
baz=82
ECSD EROS Data Cent 81.66 343 ⇑P P 12 26 42.3 -0.2
baz=82,SNR=8.2
ECSD EROS Data Cent 81.66 343 eP P 12 26 42.1 -0.3
EDW2 Edwards Air Fo 81.71 324 ⇓P P 12 26 44.0 +1.0
baz=82
K29A Lazy Trails An 81.73 340 ⇑P P 12 26 43.4 +0.5
baz=82
CCUT Cedar City 81.80 328 eP P 12 26 45.4 +1.8
N23A Red Feather La 81.81 335 ⇓P P 12 26 44.3 +0.7
baz=82
N22A Wattenberg Ran 81.91 335 ⇑P P 12 26 45.0 +0.8
baz=82
M24A Cheyenne 81.95 336 ⇑P P 12 26 44.7 +0.5
baz=82
SRU San Rafael Swe 81.95 331 eP P 12 26 44.9 +0.6
K28A Ten Mile Ranch 81.99 339 ⇓P P 12 26 44.7 +0.4
baz=82
J30A Dallas 82.03 340 ⇓P P 12 26 44.8 +0.5
baz=82
J29A Okreek 82.33 340 ⇑P P 12 26 46.1 +0.1
baz=83
FURC Furnace Creek, 82.47 325 ⇓P P 12 26 48.1 +1.4
baz=83
ISA Isabella, Lake 82.58 324 ⇓P P 12 26 48.8 +1.3
baz=83
N20A Spence Gulch, 82.58 333 ⇓P P 12 26 48.1 +0.5
baz=83
J28A Allard Ranch, 82.61 339 ⇑P P 12 26 47.7 +0.3
baz=83
J27A Elkhorn Farm, 82.68 339 ⇑P P 12 26 48.6 +0.8
baz=83
BRSD Miller 82.92 341 ⇓P P 12 26 48.9 -0.1
baz=83
VES Vestal, Richgr 83.02 324 ⇓P P 12 26 50.9 +1.2
baz=83
J26A Sides Ranch, S 83.05 338 ⇓P P 12 26 50.0 +0.2
baz=83
I28A Midland 83.12 340 ⇑P P 12 26 50.2 +0.2
baz=84
J25A Sunshine Ranch 83.35 338 ⇑P P 12 26 51.8 +0.5
baz=84,SNR=5.6
K23A Bowen Ranch, D 83.36 336 ⇓P P 12 26 51.6 +0.1
baz=84
H29A Onida 83.43 340 ⇓P P 12 26 51.6 0.0
baz=84
R11A Troy Canyon, C 83.43 327 ⇓P P 12 26 53.3 +1.3
baz=84
K22A Casper 83.57 335 ⇑P P 12 26 52.9 +0.3
baz=84
TIN Tinemaha, Big 83.58 325 ⇑P P 12 26 53.9 +1.2
baz=84
H28A Mission Ridge 83.70 340 ⇓P P 12 26 53.5 +0.5
baz=84
DUG Dugway, Tooele 83.79 330 ⇓P P 12 26 54.7 +1.0
baz=84
DUG Dugway, Tooele 83.79 330 eP P 12 26 54.8 +1.0
K21A Alcova 83.81 335 ⇑P P 12 26 54.1 +0.3
baz=84,SNR=6.1
G29A Hoven 83.87 341 ⇑P P 12 26 53.9 0.0
baz=84
I25A Rochford 83.89 338 ⇑P P 12 26 54.2 0.0
baz=84
TPH Tonopah 83.94 326 eP P 12 26 55.9 +1.3
H27A Howes 83.96 339 ⇑P P 12 26 54.4 +0.1
baz=84
I24A Kuemmerle Ranc 84.03 337 ⇓P P 12 26 54.9 +0.1
baz=84
G28A Parade 84.03 340 ⇓P P 12 26 54.9 +0.1
baz=84
J22A Midwest 84.23 336 ⇓P P 12 26 55.7 -0.2
baz=85
MLAC Mammoth, Mammo 84.33 325 ⇑P P 12 26 57.6 +0.9
baz=85
J21A Lysite 84.50 335 ⇑P P 12 26 57.8 +0.4
baz=85
G27A Dupree 84.60 340 ⇓P P 12 26 57.5 -0.1
baz=85
I22A 9 Mile Ranch, 84.66 336 ⇑P P 12 26 57.9 -0.2
baz=85
G26A Maurine 84.71 339 ⇓P P 12 26 57.9 -0.3
baz=85
F28A McLaughlin 84.72 341 ⇑P P 12 26 58.0 -0.1
baz=85
NVAR Mina Array Bea 84.72 326 P P 12 26 59.4 +0.7
1.9nm,0.8s,baz=150,slow=6.0,SNR=10
J20A Shoshoni 84.73 335 ⇓P P 12 26 59.2 +0.8
baz=85,SNR=5.6
PDAR Pinedale Array 84.74 334 P P 12 26 58.0 -0.7
1.3nm,1.0s,baz=144,slow=6.0,SNR=5.1
H24A Dirks Ranch, A 84.81 338 ⇑P P 12 26 58.0 -0.8
baz=85
I21A Big Trails, Te 84.86 336 ⇓P P 12 26 59.7 +0.6
baz=85
G25A Newell 84.86 339 ⇑P P 12 26 59.3 +0.3
baz=85
J19A Crowheart 84.99 334 ⇓P P 12 26 60.0 +0.1
baz=85,SNR=5.2
TORD Torodi Ar. Bea 85.02 70 P P 12 27 00.1 -0.3
1.3nm,0.8s,baz=269,slow=4.1,SNR=7.2
F27A Lemmon 85.08 340 ⇓P P 12 26 59.9 -0.1
baz=85
F26A Lodgepole 85.24 339 ⇑P P 12 27 00.6 -0.2
baz=86
H22A Clearmont 85.24 336 ⇓P P 12 27 01.1 +0.2
baz=86
I20A Worland 85.27 335 ⇓P P 12 27 01.0 -0.1
baz=86,SNR=5.4
G24A Alzada 85.29 338 ⇑P P 12 27 01.8 +0.7
baz=86
D30A Buchanan 85.35 342 ⇓P P 12 27 01.6 +0.3
baz=86
E28A Huff 85.36 341 ⇑P P 12 27 01.7 +0.4
baz=86
G23A Biddle 85.47 337 ⇓P P 12 27 02.0 -0.1
baz=86
H21A Big Horn, Sher 85.50 336 ⇑P P 12 27 02.3 +0.1
baz=86
F25A Bowman 85.54 339 ⇓P P 12 27 02.5 +0.2
baz=86
I19A Meeteetse 85.65 335 ⇓P P 12 27 03.3 +0.2
baz=86
H20A Greybull 85.70 335 ⇑P P 12 27 03.1 -0.1
baz=86,SNR=9.3
F24A Ekalaka 85.76 338 ⇓P P 12 27 03.4 0.0
baz=86
AGMN Agassiz Nation 85.80 345 ⇑P P 12 27 03.3 -0.2
baz=86
C30A Mose, Pekin 85.84 343 ⇑P P 12 27 03.5 -0.2
baz=86
F23A Volborg 85.94 338 ⇑P P 12 27 04.3 -0.1

baz=86
E25A Miller Ranch, 86.04 339 ⇓P P 12 27 05.1 +0.3
baz=86
G21A Lodge Grass 86.08 336 ⇑P P 12 27 05.3 +0.2
baz=86
I17A Pilgrim Ck. 86.11 333 ⇓P P 12 27 05.7 +0.3
baz=86
H19A Powell 86.20 335 ⇑P P 12 27 05.7 0.0
baz=87
D26A Manning 86.25 340 ⇓P P 12 27 05.7 -0.1
baz=87
F22A Rosebud 86.27 337 ⇑P P 12 27 05.9 0.0
baz=87
C28A Hausauer Farms 86.33 342 ⇑P P 12 27 06.1 0.0
baz=87
E24A Baker 86.36 339 ⇓P P 12 27 06.9 +0.5
baz=87
G20A Bridger 86.41 336 ⇓P P 12 27 06.1 -0.6
baz=87,SNR=6.7
H18A Shoshone NF, C 86.44 334 ⇑P P 12 27 06.8 -0.2
baz=87,SNR=9.0
B30A Myrvik Farm, E 86.50 343 ⇓P P 12 27 07.2 +0.3
baz=87
C27A Sayler Ranch, 86.62 341 ⇓P P 12 27 08.1 +0.5
baz=87
D24A Glendive 86.87 339 ⇑P P 12 27 08.8 0.0
baz=87,SNR=6.4
A30A Hoffart Farm, 86.95 343 ⇑P P 12 27 09.0 -0.1
baz=87
B28A Dugan Ranch, T 87.00 342 ⇓P P 12 27 09.7 +0.4
baz=87
LAO LASA Array 87.06 338 *e*P P 12 27 09.7 -0.1
A29A Manning Farm, 87.16 343 ⇑P P 12 27 10.3 +0.2
baz=88
D23A Lindsay 87.19 338 ⇓P P 12 27 10.5 +0.1
baz=88,SNR=8.9
E21A Keefer Ranch, 87.20 337 ⇑P P 12 27 10.9 +0.4
baz=88
HLID Hailey 87.27 331 *e*P P 12 27 11.7 +0.6
baz=88
HLID Hailey 87.27 331 *e*P P 12 27 11.8 +0.8
C24A Savage 87.27 339 ⇑P P 12 27 11.2 +0.4
baz=88
A28A Rude Farm, Bot 87.40 342 ⇓P P 12 27 11.5 +0.2
baz=88
D22A Cohagen 87.46 338 ⇓P P 12 27 11.9 +0.2
baz=89
E20A Meyer Farm, Mu 87.51 336 ⇓P P 12 27 11.9 -0.1
baz=88,SNR=5.3
B25A Knox Farm, Ray 87.58 340 ⇑P P 12 27 12.7 +0.4
baz=88
ULM Lac du Bonnet 87.65 345 P P 12 27 11.8 -0.7
4.9nm,0.8s,baz=149,slow=4.1,SNR=7.9
E19A Rath Farm, Rou 87.69 336 ⇑P P 12 27 12.8 -0.1
baz=88
C23A Lambert 87.74 339 ⇓P P 12 27 12.9 -0.1
baz=88,SNR=5.2
A26A Wade Farm, Ken 87.85 341 ⇓P P 12 27 13.6 +0.2
baz=88
C22A Vida 87.90 338 ⇓P P 12 27 13.9 +0.1
baz=88
D20A Manuel Ranch, 88.03 337 ⇑P P 12 27 14.7 +0.3
baz=88
DGMT Dagmar 88.06 340 ⇑P P 12 27 14.7 +0.2
baz=88,SNR=6.3
DGMT Dagmar 88.06 340 *e*P P 12 27 14.9 +0.4
B23A Brockton 88.28 339 ⇑P P 12 27 15.8 +0.3
baz=89
D19A Cripps Ranch, 88.34 336 ⇓P P 12 27 15.8 -0.1
baz=89
C21A Desert Coulee 88.35 338 ⇓P P 12 27 15.8 -0.1
baz=89
A24A Westby 88.41 340 ⇑P P 12 27 16.1 0.0
baz=89
B22A Reddig Ranch S 88.43 338 ⇑P P 12 27 16.7 +0.4
baz=89
A22A Carney Farms, 89.03 339 ⇓P P 12 27 19.5 +0.4
baz=89
A21A Bergtoll Ranch 89.33 338 ⇑P P 12 27 20.1 -0.4
baz=90
B19A Brinkman Farms 89.49 337 ⇓P P 12 27 21.3 0.0
baz=90
A20A Cobblestone Ra 89.54 338 ⇓P P 12 27 21.4 -0.1
baz=90
K04D Chiloquin, OR 89.65 326 ⇓P P 12 27 22.8 +0.6
baz=90
J05D Fort Rock, OR 89.94 327 ⇓P P 12 27 24.7 +1.1
baz=90
YKA Yellowknife Ar 103.16 341 Pdiff Pdif 12 28 22.0 -1.0
0.3nm,0.8s,baz=144,slow=4.3,SNR=4.4
WRA Warramunga Arr 119.44 209 PKP PKPdf 12 33 12.9 -1.7
0.4nm,0.6s,baz=170,slow=1.7,SNR=3.7
ARCES ARCESS Array B 125.36 25 PKP PKPdf 12 33 23.8 -0.5
2.4nm,0.9s,baz=250,slow=1.8,SNR=3.7
ZALV Zalesovo Beam 155.53 33 PKPab PKPab 12 34 43.8 +0.4
1.3nm,0.6s,baz=310,slow=5.3,SNR=4.3
MKAR Makanchi Array 157.90 51 PKPab PKPab 12 34 54.0 +0.1
0.3nm,0.6s,baz=298,slow=3.7,SNR=3.2
SONM Songino Array 167.45 3 PKPab PKPab 12 35 36.0 +0.3
1.3nm,0.8s,baz=336,slow=3.9,SNR=10

IDC ***01*** *12:20:12.7±0.4, 34°.58S×73°.82W, h0km, mb4.9/21, mb1 5.0/25, mb1mx4.9/31, mbtmp4.9/25, ML4.6/3, MS4.5/10, Ms1 4.5/10, ms1mx4.2/23, Error ellipse: s-maj=16.5km s-min=12.4km az=69.0*

ISCJB ***01*** *12:20:16.4±0.2, 34°.50S±0°.04×73°.71W±0°.05, h33km, mb5.1/46, MS4.5/9, Error ellipse: s-maj=7.0km s-min=5.5km az=44.6*

MOS ***01*** *12:20:17.2±1.2, 34°.55S×73°.73W, h33km, mb5.5/12, Error ellipse: s-maj=18.1km s-min=10.1km az=93.9*

GCMT ***01*** *12:20:18.1±0.2, 34°.57S×74°.01W, h12km, MW5.1/100, Moment Tensor Solution. s42,c54; s100,c142; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.24±.12; $M_{\theta\theta}$=2.27±.10; $M_{\phi\phi}$=2.97±.13; $M_{r\theta}$=0.61±.45; $M_{\theta\phi}$=2.74±.10; $M_{\phi r}$=0.62±.42; Best double couple: M_0=5.38200×10^{16} NP1:ϕ_s=222.00000°, δ=50.00000°, λ=-89.00000°. NP2: ϕ_s=41.00000°, δ=40.00000°, λ=-91.00000°. Principal axes: T 5.4530, Plg5.0000°, Azm311.0000°; N -0.1420, Plg0.0000°, Azm41.0000°; P -5.3110, Plg85.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***01*** *12:20:18.1±0.2, 34°.54S×73°.74W, h35km, mb5.0/19 Error ellipse: s-maj=7.2km s-min=5.2km az=73.0*

ISC 01 12:20:18.1±0.3, 34°.51S±0°.06×73°.77W±0°.08, h35km, n519, $\sigma^0$87/546, mb5.0/46, MS4.6/9, 187C-186D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.47**	**60**	Pn	**Pn**	12 21 36.6	**-0.6**
	1.0nm,0.3s,baz=229,slow=12,SNR=22						
CFAA				Sn	**Sn**	12 22 40.0	**+1.1**
	4.7nm,0.3s,baz=4.2,slow=10,SNR=9.2						
PLCA	**Paso Flores**	**6.72**	**159**	Pn	**Pn**	12 21 53.5	**-0.8**
	2.3nm,0.3s,baz=329,slow=13,SNR=6.5						
PLCA				Sn	Sn	12 23 18.4	+8.7
	4.5nm,0.3s,baz=228,slow=16,SNR=3.8						
PLCA				LR	LR	12 24 28.1	
	comp=Z,5μm,22.0s,baz=332,slow=38						
CPUP	**Villa Florida**	**16.34**	**65**	Pn	**P**	12 24 06.4	**-1.0**
	0.6nm,0.3s,baz=218,slow=11,SNR=5.5						
LPAZ	**La Paz**	**18.84**	**17**	P	**Pn**	12 24 36.3	**0.0**
	1.0nm,0.3s,baz=188,slow=8.0,SNR=46						
USHA	**Ushuaia**	**20.66**	**171**	P	**P**	12 24 54.2	**-0.4**
	10nm,0.8s,baz=346,slow=9.8,SNR=3.1						
SIV	**San Ignacio**	**21.68**	**35**	P	**P**	12 25 05.6	**-0.4**
	37nm,0.8s,baz=217,slow=6.0,SNR=24						
NNA	**Nana**	**22.59**	**352**	P	**P**	12 25 16.1	**+0.4**
	16nm,0.8s,baz=186,slow=10.0,SNR=7.4						
ATAH	**Atahualpa**	**27.57**	**350**	P	**P**	12 26 04.1	**+1.7**
	5.5nm,0.7s,baz=140,slow=16,SNR=2.5						
BDFB	**Brasilia**	**29.81**	**57**	P	**P**	12 26 21.1	**-1.0**
	7.1nm,0.9s,baz=253,slow=7.0,SNR=5.6						
RPN	**Rapa Nui**	**31.30**	**274**	LR	LR	12 35 28.3	
	comp=Z,1μm,20.9s,baz=92,slow=29						
ROSC	**El Rosal**	**39.16**	**359**	P	**P**	12 27 43.4	**+0.3**
	8.5nm,0.7s,baz=136,slow=5.2,SNR=5.8						
ROSC				LR	LR	12 43 38.0	
	comp=Z,472nm,18.0s,baz=209,slow=36						
RCBR	**Riachuelo**	**45.13**	**60**	P	**P**	12 28 31.4	**0.0**
	7.1nm,0.6s,baz=214,slow=12,SNR=8.4						
JTS	**JuntasAbangare**	**45.80**	**345**	*i* P	**P**	12 28 38.6	**+2.0**
JTS				pmax	pmax		
	comp=Z,43nm,1.8s						
VNA3	**Neumayer Olymp**	**49.44**	**157**	P	**P**	12 29 04.9	**+0.7**
VNA1	**Neumayer--Stat**	**49.77**	**157**	P	**P**	12 29 08.4	**+1.7**
VNA2	**Neumayer--Watz**	**50.10**	**157**	P	**P**	12 29 09.9	**+0.6**
SNAA	**Sanae**	**51.66**	**158**	P	**P**	12 29 21.5	**+0.4**
SNAA	**Sanae**	**51.66**	**158**	*ce*P	**P**	12 29 20.6	**-0.4**
SNAA				pmax	pmax		
	comp=Z,83nm,1.2s						
SNAA	**Sanae**	**51.66**	**158**	P	**P**	12 29 21.2	**+0.2**
	comp=Z,14nm,0.9s,baz=276,slow=6.9,SNR=32						
APG	**El Apazote**	**51.73**	**339**	P	P	12 29 18.6	-3.8
	comp=Z,5.6nm,0.6s,baz=135,slow=4.3,SNR=12						
APG				LR	LR	12 45 59.0	
	comp=Z,496nm,20.9s,baz=205,slow=30						
CELP	**Cerrillos**	**52.74**	**9**	*e*P	**P**	12 29 29.2	**-0.3**
LRS	**Lares**	**52.92**	**8**	*e*P	**P**	12 29 29.8	**-1.1**
CBYP	**Canovanas**	**53.02**	**9**	*e*P	**P**	12 29 29.8	**-1.9**
	comp=Z,35nm,1.3s						
RKT	**Rikitea**	**54.10**	**265**	*e*LQ	LQ	12 43 19.5	
	comp=Z,352nm,30.0s						
RKT				*e*LR	LR	12 45 09.0	
	comp=Z,461nm,25.8s,baz=116						
TEIG	**Tepich**	**56.15**	**344**	P	**P**	12 29 53.7	**-0.6**
	comp=Z,28nm,0.7s,baz=145,slow=4.8,SNR=6.1						
NVL	**N'lazarevskaya**	**56.42**	**157**	*e*P	**P**	12 29 56.9	**+1.2**
NVL				pmax	pmax		
	comp=Z,31nm,0.8s						
SYO	**Syowa Base**	**65.92**	**159**	⇓*e*P	**P**	12 30 59.0	**-1.0**
SYO	**Syowa Base**	**65.92**	**159**	⇑*i*X	**P**	12 31 02.4	**+2.4**
TIGA	**Tifton**	**66.25**	**351**	⇓P	**P**	12 31 02.3	**-0.1**
	baz=67						
933A	**Laredo**	**66.34**	**335**	⇑P	**P**	12 31 03.5	**+0.3**
	baz=67						
834A	**Tilden**	**66.56**	**336**	⇓P	**P**	12 31 05.5	**+1.0**
	baz=67,SNR=5.2						
735A	**Kenedy**	**66.99**	**337**	⇑P	**P**	12 31 07.4	**+0.1**
	baz=67						
833A	**Chaparral WMA,**	**67.03**	**336**	⇑P	**P**	12 31 08.4	**+0.8**
	baz=67,SNR=13						
832A	**Faith Ranch, C**	**67.19**	**335**	⇑P	**P**	12 31 09.2	**+0.6**
	baz=68,SNR=13						
734A	**La Parita Cree**	**67.23**	**336**	⇓P	**P**	12 31 09.5	**+0.7**
	baz=68						
636A	**Smothers Creek**	**67.34**	**338**	⇑P	**P**	12 31 10.5	**+1.0**
	baz=68,SNR=5.6						
733A	**Divot King Ran**	**67.36**	**336**	⇓P	**P**	12 31 10.2	**+0.6**
	baz=68						
635A	**Leesville**	**67.48**	**337**	⇑P	**P**	12 31 10.9	**+0.5**
	baz=68						
732A	**Laxson Ranch,**	**67.60**	**335**	⇑P	**P**	12 31 12.0	**+0.8**
	baz=68,SNR=18						
537A	**Green Hill Far**	**67.67**	**339**	⇑P	**P**	12 31 12.5	**+0.9**
	baz=68						
LPIG	**La Paz**	**67.83**	**324**	LR	LR	12 54 11.2	
	comp=Z,344nm,20.7s,baz=164,slow=30						
536A	**Bastrop**	**67.90**	**338**	⇑P	**P**	12 31 14.0	**+1.0**
	baz=68,SNR=9.1						
633A	**Saathoff Ranch**	**68.00**	**336**	⇑P	**P**	12 31 14.5	**+0.8**
	baz=68,SNR=5.0						
535A	**Dale**	**68.01**	**338**	⇑P	**P**	12 31 14.5	**+0.8**
	baz=68						
632A	**Uvalde**	**68.25**	**336**	⇓P	**P**	12 31 16.1	**+0.8**
	baz=69,SNR=12						
534A	**Blanco**	**68.30**	**337**	⇓P	**P**	12 31 15.5	**0.0**
	baz=69						
339A	**Huntington**	**68.36**	**341**	⇑P	**P**	12 31 16.3	**+0.5**
	baz=69						
631A	**Perdido Creek**	**68.43**	**335**	⇑P	**P**	12 31 17.5	**+1.1**
	baz=69						
533A	**Kerrville**	**68.52**	**337**	⇑P	**P**	12 31 17.6	**+0.7**
	baz=69,SNR=11						
338A	**Crockett**	**68.58**	**340**	⇑P	**P**	12 31 18.5	**+1.2**
	baz=69						
337A	**Centerville**	**68.71**	**340**	⇓P	**P**	12 31 19.4	**+1.3**
	baz=69						
435B	**Jarrell**	**68.72**	**338**	⇓P	**P**	12 31 19.1	**+1.0**
	baz=69						
PPT2	**Papeete2**	**68.75**	**263**	*e*LR	LR	12 52 02.5	
	comp=Z,727nm,27.5s						
532A	**Rocksprings**	**68.86**	**336**	⇓P	**P**	12 31 19.9	**+0.8**
	baz=69,SNR=28						
434A	**Burnet**	**68.96**	**338**	⇑P	**P**	12 31 20.0	**+0.4**
	baz=69,SNR=17						
336A	**Riesel**	**69.06**	**339**	⇓P	**P**	12 31 20.6	**+0.4**
	baz=69						
531A	**Rocksprings**	**69.11**	**335**	⇓P	**P**	12 31 20.9	**+0.3**
	baz=70,SNR=15						
335A	**Moody**	**69.13**	**338**	⇓P	**P**	12 31 21.2	**+0.5**
	baz=70						
JCT	**Junction City**	**69.15**	**336**	⇓P	**P**	12 31 21.4	**+0.6**
	baz=70,SNR=14						
433A	**Art**	**69.17**	**337**	⇓P	**P**	12 31 21.2	**+0.2**
	baz=70,SNR=30						
530A	**J-C Ranch, Com**	**69.37**	**335**	⇑P	**P**	12 31 23.1	**+0.8**
	baz=70,SNR=19						
334A	**Lometa**	**69.43**	**338**	⇓P	**P**	12 31 23.3	**+0.8**
	baz=70,SNR=18						
TXAR	**Lajitas Array**	**69.50**	**332**	P	**P**	12 31 23.5	**+0.4**
	comp=Z,13nm,0.9s,baz=154,slow=8.6,SNR=42						
TXAR				LR	LR	12 57 12.1	
	comp=Z,484nm,18.3s,baz=0.0,slow=32						
432A	**Menard**	**69.51**	**336**	⇑P	**P**	12 31 23.4	**+0.3**
	baz=70,SNR=6.3						
431A	**Sonora**	**69.61**	**335**	⇓P	**P**	12 31 23.6	**-0.1**
	baz=70						
KMSC	**Kings Mountain**	**69.65**	**353**	⇓P	**P**	12 31 23.6	**-0.2**
	baz=70						
333A	**Richland Sprin**	**69.66**	**337**	⇑P	**P**	12 31 24.0	**0.0**
	baz=70,SNR=17						
529A	**Stev Forest Ra**	**69.67**	**334**	⇓P	**P**	12 31 24.2	**+0.1**
	baz=70,SNR=27						
WHTX	**Lake Whitney,**	**69.80**	**339**	⇑P	**P**	12 31 25.1	**+0.3**
	baz=70						
430A	**Baggett Ranch,**	**69.92**	**335**	⇑P	**P**	12 31 25.9	**+0.3**
	baz=70,SNR=20						
332A	**Millersview**	**69.96**	**337**	⇑P	**P**	12 31 25.7	**-0.2**
	baz=70,SNR=14						
429A	**Davenport Ranc**	**70.00**	**334**	⇓P	**P**	12 31 26.4	**+0.3**
	baz=70,SNR=15						
234A	**Clairette**	**70.02**	**338**	⇑P	**P**	12 31 26.2	**0.0**
	baz=70,SNR=14						
331A	**San Angelo**	**70.12**	**336**	⇑P	**P**	12 31 27.0	**+0.2**
	baz=70,SNR=14						
OXF	**Oxford**	**70.21**	**346**	*e*P	**P**	12 31 26.6	**-0.6**
OXF				pmax	pmax		
	comp=Z,52nm,1.1s						
OXF	**Oxford**	**70.21**	**346**	*e*P	**P**	12 31 26.6	**-0.6**
	comp=Z,52nm,1.1s						
233A	**Rising Star**	**70.27**	**337**	⇓P	**P**	12 31 27.6	**-0.1**
	baz=71,SNR=13						
SWET	**Sewanee**	**70.29**	**349**	*e*P	**P**	12 31 27.3	**-0.5**
	comp=Z,40nm,1.0s						
135A	**Vickery Place,**	**70.32**	**339**	⇓P	**P**	12 31 27.5	**-0.4**
	baz=71						
232A	**Coleman**	**70.39**	**337**	⇑P	**P**	12 31 28.6	**+0.1**
	baz=71,SNR=14						
330A	**Mertzon**	**70.46**	**335**	⇓P	**P**	12 31 28.6	**-0.3**
	baz=71,SNR=12						
231A	**Bronte**	**70.66**	**336**	⇓P	**P**	12 31 29.8	**-0.3**
	baz=71,SNR=12						
329A	**Wagon Wheel Ra**	**70.82**	**335**	⇓P	**P**	12 31 31.5	**+0.4**
	baz=71,SNR=15						
133A	**Hamilton Ranch**	**70.82**	**338**	⇓P	**P**	12 31 31.1	**0.0**
	baz=71,SNR=14						
Z35A	**Perchaven, San**	**70.99**	**339**	⇓P	**P**	12 31 32.5	**+0.4**
	baz=71,SNR=11						
ABTX	**Abilene, Hawle**	**71.07**	**337**	⇓P	**P**	12 31 32.7	**+0.1**
	baz=71,SNR=12						
229A	**Bryant Ranch,**	**71.19**	**335**	⇓P	**P**	12 31 33.4	**0.0**
	baz=72,SNR=6.9						
Z34A	**Collier Ranch,**	**71.23**	**339**	⇑P	**P**	12 31 33.2	**-0.3**
	baz=72						
131A	**Roby**	**71.36**	**336**	⇓P	**P**	12 31 34.2	**-0.2**
	baz=72						
Z33A	**Whitaker Ranch**	**71.41**	**338**	⇑P	**P**	12 31 34.7	**+0.2**
	baz=72,SNR=11						
130A	**Snyder**	**71.48**	**336**	⇑P	**P**	12 31 34.5	**-0.5**
	baz=72						
228A	**UT Block 9, Go**	**71.61**	**334**	⇑P	**P**	12 31 35.8	**-0.1**
	baz=72,SNR=13						
VWCC	**Virginia Weste**	**71.62**	**355**	*e*P	**P**	12 31 35.5	**-0.3**
Z32A	**Haskell**	**71.65**	**337**	⇑P	**P**	12 31 36.1	**0.0**
	baz=72,SNR=13						
Y34A	**Reagan Ranch,**	**71.72**	**339**	⇓P	**P**	12 31 36.5	**+0.1**
	baz=72,SNR=13						
129A	**Stewart Farms,**	**71.82**	**335**	⇑P	**P**	12 31 37.3	**+0.2**
	baz=72						
Z31A	**Sharp Cattle R**	**71.87**	**337**	⇑P	**P**	12 31 37.3	**-0.1**
	baz=72,SNR=12						
JSRW	**J. Sargeant Re**	**71.94**	**357**	*e*P	**P**	12 31 37.6	**0.0**
128A	**Castleberry Fa**	**72.02**	**335**	⇑P	**P**	12 31 38.2	**-0.2**
	baz=72,SNR=13						
Y33A	**Hilltop Ranch,**	**72.03**	**338**	⇑P	**P**	12 31 38.2	**-0.1**
	baz=72,SNR=8.8						
Z30A	**Sanderson Ranc**	**72.16**	**336**	⇓P	**P**	12 31 39.0	**-0.2**
	baz=72,SNR=14						
MNTX	**Cornudas Mount**	**72.27**	**332**	*e*P	**P**	12 31 39.2	**-0.6**
	comp=Z,14nm,1.1s						
Y32A	**R-V Farms, Ver**	**72.28**	**338**	⇑P	**P**	12 31 39.6	**-0.2**
	baz=73						
Z29A	**Hungry Hill Ra**	**72.33**	**336**	⇓P	**P**	12 31 39.9	**-0.3**
	baz=73,SNR=18						
X34A	**Smith Ranch, M**	**72.35**	**339**	⇓P	**P**	12 31 40.3	**+0.1**
	baz=73						
127A	**Arkansas Junct**	**72.38**	**334**	⇑P	**P**	12 31 40.4	**-0.2**
	baz=73						
X33A	**Lawton**	**72.49**	**339**	⇓P	**P**	12 31 40.7	**-0.3**
	baz=73						
Y31A	**Rekieta Farm,**	**72.50**	**337**	⇓P	**P**	12 31 41.2	**0.0**
	baz=73,SNR=8.7						
Z28A	**Tucker Farm, M**	**72.59**	**335**	⇑P	**P**	12 31 41.2	**-0.6**
	baz=73						
X32A	**Elmer**	**72.62**	**338**	⇑P	**P**	12 31 41.6	**-0.2**
	baz=73						
Y30A	**Stafford Cattl**	**72.63**	**337**	⇑P	**P**	12 31 41.9	**-0.1**
	baz=73						
Y29A	**Porterfield Fa**	**72.87**	**336**	⇓P	**P**	12 31 43.6	**+0.2**
	baz=73,SNR=14						
Z27A	**Tatum**	**72.91**	**334**	⇓P	**P**	12 31 43.8	**+0.1**
	baz=73,SNR=9.3						
W34A	**Bridge Creek,**	**72.92**	**340**	⇓P	**P**	12 31 43.6	**-0.1**
	baz=73						
TUL1	**Leonard**	**73.01**	**341**	⇑P	**P**	12 31 44.2	**+0.1**
	baz=73,SNR=12						
X31A	**McDonald Ranch**	**73.03**	**338**	⇑P	**P**	12 31 44.4	**+0.1**
	baz=73,SNR=11						
W33A	**Caddo, Fort Co**	**73.05**	**339**	⇑P	**P**	12 31 45.0	**+0.7**
	baz=73,SNR=15						
MAW	**Mawson**	**73.09**	**164**	P	**P**	12 31 44.5	**+0.2**
	comp=Z,29nm,0.9s,baz=246,slow=15,SNR=3.1						
MAW				LR	LR	13 06 13.1	
	comp=Z,424nm,18.0s,baz=240,slow=38						
Y28A	**McKinney Farm,**	**73.11**	**336**	⇑P	**P**	12 31 44.9	**0.0**
	baz=74						
Z26A	**Caprock**	**73.14**	**334**	⇓P	**P**	12 31 45.4	**+0.3**
	baz=74,SNR=41						
W32A	**Sentinel**	**73.25**	**338**	⇓P	**P**	12 31 46.0	**+0.4**
	baz=74,SNR=36						
MSTX	**Muleshoe**	**73.35**	**335**	⇑P	**P**	12 31 46.4	**+0.1**
	baz=74,SNR=26						
Y27A	**Causey**	**73.41**	**335**	⇓P	**P**	12 31 46.5	**-0.2**
	baz=74,SNR=5.1						
V34A	**Guthrie**	**73.41**	**340**	⇑P	**P**	12 31 45.9	**-0.5**
	baz=74						
X29A	**Tulia**	**73.41**	**336**	⇓P	**P**	12 31 46.3	**-0.3**
	baz=74						
Z25A	**Roswell**	**73.42**	**333**	⇓P	**P**	12 31 46.3	**-0.4**
	baz=74						
W31A	**Holland Ranch,**	**73.53**	**338**	⇑P	**P**	12 31 47.1	**-0.1**
	baz=74						
319A	**Douglas**	**73.57**	**329**	⇓P	**P**	12 31 48.3	**+0.6**
	baz=74,SNR=19						
V33A	**Lossen Ranch,**	**73.62**	**339**	⇑P	**P**	12 31 48.0	**+0.3**
	baz=74,SNR=14						
X28A	**Dimmitt**	**73.65**	**336**	⇓P	**P**	12 31 47.8	**-0.2**
	baz=74						
Y26A	**Elida**	**73.67**	**334**	⇑P	**P**	12 31 48.2	**-0.1**
	baz=74						
Z24A	**Sheeppen Canyo**	**73.71**	**333**	⇓P	**P**	12 31 49.1	**+0.6**
	baz=74,SNR=16						
V32A	**Arapaho**	**73.75**	**339**	⇓P	**P**	12 31 48.8	**+0.3**
	baz=74						
AMTX	**Amarillo**	**73.81**	**336**	⇓P	**P**	12 31 48.8	**-0.1**
	baz=74						
121A	**Cookes Peak, D**	**73.95**	**331**	⇑P	**P**	12 31 50.5	**+0.6**
	baz=74,SNR=18						
121A	**Cookes Peak, D**	**73.95**	**331**	*e*P	**P**	12 31 50.9	**+0.9**
	comp=Z,24nm,1.0s						
U34A	**Anderson Ranch**	**73.98**	**340**	⇓P	**P**	12 31 49.5	**-0.3**
	baz=74						
Y25A	**Mesa, Roswell**	**73.99**	**334**	⇑P	**P**	12 31 49.9	**-0.2**
	baz=74,SNR=5.8						
W29A	**Amarillo**	**74.01**	**337**	⇑P	**P**	12 31 50.7	**+0.5**
	baz=74,SNR=5.6						
V31A	**Spring Creek L**	**74.04**	**338**	⇑P	**P**	12 31 50.8	**+0.6**
	baz=74,SNR=6.2						
X26A	**CR and CF Fran**	**74.23**	**335**	⇑P	**P**	12 31 51.8	**+0.3**
	baz=75,SNR=6.1						
Z22A	**Elephant Butte**	**74.26**	**332**	⇓P	**P**	12 31 52.4	**+0.7**
	baz=75,SNR=16						
Y24A	**Capitan**	**74.27**	**333**	⇑P	**P**	12 31 52.2	**+0.5**
	baz=75,SNR=19						
V30A	**Spur Ranch, Mi**	**74.29**	**338**	⇓P	**P**	12 31 51.7	**-0.1**
	baz=75						
W28A	**Vega**	**74.32**	**336**	⇑P	**P**	12 31 52.0	**0.0**
	baz=75						
U32A	**Winter Ranch,**	**74.35**	**339**	⇑P	**P**	12 31 52.1	**+0.2**
	baz=75,SNR=8.8						
W27A	**Bowe Ranch, En**	**74.44**	**335**	⇓P	**P**	12 31 53.0	**+0.4**
	baz=75,SNR=12						
Y23A	**Lovelace Mesa,**	**74.51**	**333**	⇑P	**P**	12 31 53.5	**+0.3**
	baz=75,SNR=13						
X25A	**Clemmons Ranch**	**74.52**	**334**	⇑P	**P**	12 31 53.7	**+0.5**
	baz=75						
V29A	**Stinnett**	**74.66**	**337**	⇓P	**P**	12 31 54.5	**+0.7**
	baz=75						
W26A	**Owens Ranch, T**	**74.70**	**335**	⇑P	**P**	12 31 54.7	**+0.5**
	baz=75						
V28A	**Channing**	**74.78**	**336**	⇓P	**P**	12 31 55.2	**+0.6**
	baz=75						
T33A	**Patterson Ranc**	**74.78**	**340**	⇓P	**P**	12 31 55.0	**+0.6**
	baz=75,SNR=13						
U30A	**WK&E Inc. Balk**	**74.99**	**338**	⇓P	**P**	12 31 56.6	**+0.8**
	baz=75,SNR=7.4						
V27A	**Dan Oppiter Fa**	**74.99**	**336**	⇑P	**P**	12 31 56.4	**+0.6**
	baz=75						
W25A	**X Bar L Ranch,**	**75.07**	**334**	⇓P	**P**	12 31 56.7	**+0.4**
	baz=75,SNR=12						
T32A	**Huddler Ranch,**	**75.07**	**339**	⇓P	**P**	12 31 56.7	**+0.5**
	baz=76						
T31A	**Randall Ranch,**	**75.21**	**339**	⇓P	**P**	12 31 57.1	**+0.2**
	baz=76						
LAZ	**Ladron**	**75.34**	**332**	*e*P	**P**	12 31 58.9	**+0.9**
	comp=Z,12nm,1.3s						
V26A	**Tequesquite Ra**	**75.35**	**335**	⇑P	**P**	12 31 58.0	**+0.1**
	baz=76,SNR=8.3						
U28A	**

baz=76,SNR=7.7
V23A Ortiz Mt. (NFS 76.17 333 ⇓P P 12 32 03.9 +1.2
baz=76,SNR=6.2
KSU1 Kansas State U 76.23 342 ⇓P P 12 32 02.5 -0.3
baz=77
R31A Burdett 76.27 339 ⇓P P 12 32 02.9 -0.1
baz=77,SNR=7.7
LIC Lamto 76.29 72 eP P 12 32 04.1 +0.4
comp=Z,74nm,0.7s
S28A Manter 76.35 337 ⇑P P 12 32 04.5 +0.9
baz=77,SNR=23
U24A Moreno Valley 76.43 334 ⇑P P 12 32 04.7 +0.5
baz=77
Q33A Connelly Farm, 76.46 341 ⇓P P 12 32 04.7 +0.7
baz=77
R30A Dighton 76.49 339 ⇓P P 12 32 04.9 +0.6
baz=77,SNR=5.6
T26A Comanche Natio 76.53 336 ⇓P P 12 32 05.7 +1.0
baz=77,SNR=7.3
TIC Toumodi 76.56 72 eP P 12 32 05.6 +0.4
comp=Z,44nm,0.8s
X18A Snowflake 76.58 330 ⇓P P 12 32 06.0 +1.0
baz=77,SNR=5.8
V22A San Miguel Ran 76.59 333 ⇓P P 12 32 07.0 +1.9
baz=77,SNR=32
KIC Kosan Boka 76.60 73 eP P 12 32 06.0 +0.6
comp=Z,82nm,0.7s
Q32A Meitler Ranch, 76.65 340 ⇓P P 12 32 05.7 +0.6
baz=77,SNR=10
U23A El Rito 76.69 334 ⇑P P 12 32 07.1 +1.4
baz=77,SNR=11
DBIC Dimbokro 76.70 72 P P 12 32 06.6 +0.7
comp=Z,36nm,0.7s,baz=206,slow=5.5,SNR=44
113A Mohawk Valley, 76.75 326 ⇑P P 12 32 06.3 +0.6
baz=77
T25A Trinidad 76.78 335 ⇓P P 12 32 07.3 +1.2
baz=77,SNR=14
P33A Williams Farm, 76.83 341 ⇑P P 12 32 06.5 +0.3
baz=77
R29A Marienthal 76.88 338 ⇑P P 12 32 07.3 +0.8
baz=77,SNR=11
Q31A Ellis 76.90 340 ⇑P P 12 32 07.7 +1.1
baz=77,SNR=12
U22A Llaves 76.97 333 ⇓P P 12 32 08.1 +0.8
baz=77,SNR=11
W18A Petrified Fore 77.00 330 ⇓P P 12 32 08.4 +1.0
baz=77,SNR=6.6
R28A Tribune 77.01 338 ⇓P P 12 32 08.2 +0.9
baz=77,SNR=16
T24B San Luis 77.05 335 ⇑P P 12 32 08.5 +0.7
baz=77,SNR=14
X16A Lo Mia Camp, P 77.11 329 ⇓P P 12 32 08.6 +0.6
baz=78,SNR=23
Q30A Quinter 77.11 339 ⇑P P 12 32 08.1 +0.4
baz=78,SNR=16
P32A Huiting Farm, 77.25 341 ⇓P P 12 32 08.8 +0.3
baz=78,SNR=5.3
S25A Robets Cordova 77.25 335 ⇓P P 12 32 09.1 +0.4
baz=78,SNR=9.9
T23A Casias Ranch, 77.26 334 ⇓P P 12 32 09.4 +0.5
baz=78,SNR=11
Q29A Oakley 77.26 339 ⇑P P 12 32 08.6 0.0
baz=78,SNR=9.2
R27A Eads 77.28 337 ⇑P P 12 32 08.8 0.0
baz=78,SNR=22
P31A Stockton 77.38 340 ⇑P P 12 32 09.9 +0.7
baz=78,SNR=10
Y14A Wickenburg 77.39 327 ⇓P P 12 32 09.7 +0.3
baz=78,SNR=7.1
R26A Arlington 77.50 336 ⇑P P 12 32 10.8 +0.7
baz=78,SNR=19
S24A Houchin Ranch, 77.51 335 ⇓P P 12 32 11.3 +1.0
baz=78,SNR=23
R25A Fountain Ranch 77.64 336 ⇓P P 12 32 11.7 +0.8
baz=78
P30A Selden 77.65 339 ⇑P P 12 32 11.7 +1.0
baz=78
Q28A Sharon Springs 77.68 338 ⇓P P 12 32 11.8 +0.8
baz=78,SNR=12
SDCO Great Sand Dun 77.70 335 eP P 12 32 11.8 +0.4
comp=Z,10nm,1.0s
O32A Brockman Farm, 77.76 341 ⇓P P 12 32 11.4 +0.1
baz=78
S23A Nye Farm, Mont 77.84 334 ⇑P P 12 32 13.0 +0.9
baz=78
KSCO Kaye Shedlock' 77.88 337 ⇓P P 12 32 13.4 +1.2
baz=78
KSCO Kaye Shedlock' 77.88 337 eP P 12 32 13.3 +1.1
comp=Z,40nm,1.1s
P29A Atwood 77.90 339 ⇑P P 12 32 12.8 +0.6
baz=78,SNR=19
Y12C Blythe 77.92 326 ⇓P P 12 32 13.3 +1.1
baz=78,SNR=7.5
O31A Woolen Ranch, 77.95 340 ⇓P P 12 32 12.8 +0.4
baz=78,SNR=5.7
R24A Sanders Place, 78.00 335 ⇓P P 12 32 13.9 +1.0
baz=78,SNR=25
WUAZ Wupatki 78.02 329 ⇑P P 12 32 14.6 +1.5
baz=78,SNR=19
Q26A Hugo 78.09 337 ⇑P P 12 32 14.2 +0.8
baz=78
MONP Monument Peak, 78.10 324 ⇓P P 12 32 14.5 +0.9
baz=78
P28A Saint Francis 78.12 338 ⇓P P 12 32 14.5 +1.0
baz=78
S22A 4UR Ranch, Cre 78.18 334 ⇑P P 12 32 14.5 +0.5
baz=79
O30A MW Ranch, Wils 78.18 340 ⇑P P 12 32 14.3 +0.6
baz=79,SNR=13
PDMCI Parker Dam,Lak 78.20 327 ⇑P P 12 32 14.6 +0.7
baz=79
R23A Moffat 78.21 335 ⇑P P 12 32 15.0 +0.7
baz=79
BC3 Big Chuckawall 78.27 325 ⇓P P 12 32 15.3 +0.9
baz=79
Q25A Bedland, Calha 78.32 336 ⇑P P 12 32 15.6 +0.9
baz=79,SNR=11
MVCO Mesa Verde 78.33 332 ⇑P P 12 32 15.3 +0.5
baz=79,SNR=14
O29A 4D Ranch, Culb 78.34 339 ⇓P P 12 32 15.2 +0.6
baz=79
P27A Ficken Ranch, 78.36 338 ⇑P P 12 32 15.4 +0.6
baz=79
IRM Iron Mountain 78.54 326 ⇓P P 12 32 16.7 +0.8
baz=79,SNR=5.7
P26A Davis Ranch, A 78.61 337 ⇑P P 12 32 17.0 +0.8
baz=79
O28A Krutsinger Ran 78.64 338 ⇓P P 12 32 16.9 +0.7
baz=79,SNR=10
Q24A Divide 78.67 336 ⇓P P 12 32 17.5 +0.7
baz=79,SNR=12
PFO Pinyon Flats O 78.70 325 P P 12 32 18.0 +1.2
comp=Z,119nm,1.0s,SNR=7.2
PFO Pinyon Flats O 78.70 325 P P 12 32 18.4 +1.6
comp=Z,20nm,1.0s,baz=141,slow=4.8,SNR=14
PFO Pinyon Flats O 78.70 325 ⇓P P 12 32 18.0 +1.2
baz=79,SNR=8.8
W13A Hualapai Mount 78.75 327 ⇓P P 12 32 18.0 +0.8
baz=79,SNR=8.3
BGNE Belgrade 78.80 342 ⇓P P 12 32 17.6 +0.6
baz=79
BELC Belle Mtn. Jos 78.81 325 ⇓P P 12 32 18.2 +0.8
baz=79
P25A Willow Gulch B 78.83 336 ⇓P P 12 32 18.3 +0.8
baz=79,SNR=17
O27A Beecher Island 78.91 338 ⇓P P 12 32 18.7 +0.9
baz=79,SNR=20
N29A Votaw Ranch, W 78.93 340 ⇓P P 12 32 18.9 +1.1
baz=79
M31A Lambtecht Ranc 78.96 341 ⇓P P 12 32 18.8 +0.9
baz=79
MURC Murrieta 79.05 324 ⇑P P 12 32 19.7 +1.0
baz=79
N28A Pribbeno Ranch 79.08 339 ⇓P P 12 32 19.2 +0.6
baz=80
P24A Kohler Place, 79.08 336 ⇓P P 12 32 19.4 +0.5
baz=80
PV01 Paradox Valley 79.17 333 eP P 12 32 20.1 +0.7
comp=Z,1μm,1.0s
U15A North Rim 79.18 329 ⇓P P 12 32 20.8 +1.2
baz=80,SNR=20
P23A Jefferson 79.28 335 ⇓P P 12 32 21.3 +1.2
baz=80
GMRC Granite Mounta 79.29 326 ⇑P P 12 32 21.3 +1.2
baz=80
O25A Wiggins 79.36 337 ⇑P P 12 32 21.4 +1.1
baz=80,SNR=5.1
BBRC Big Bear Solar 79.46 325 ⇑P P 12 32 22.8 +1.7
baz=80
N27A Anderson Farm, 79.49 338 ⇑P P 12 32 21.8 +0.9
baz=80,SNR=10
M29A Burnside Ranch 79.53 340 ⇓P P 12 32 22.3 +1.2
baz=80
ISCO Idaho Springs 79.58 336 ⇓P P 12 32 22.4 +0.7
baz=80
HEC Hector,Ludlow 79.64 326 ⇑P P 12 32 23.2 +1.3
baz=80,SNR=6.6
M28A Bar X Bar Ranc 79.68 339 ⇑P P 12 32 23.0 +1.1
baz=80
L31A Butterfield Fa 79.70 341 ⇓P P 12 32 23.0 +1.0
baz=80,SNR=11
N26A Koester Ranch, 79.72 338 ⇑P P 12 32 23.2 +1.0
baz=80
L30A Spencer Herefo 79.73 341 ⇓P P 12 32 21.9 -0.2
baz=80
BFSC Mount Baldy Ra 79.79 324 ⇑P P 12 32 23.7 +0.9
baz=80,SNR=6.8
P22A Eagle 79.79 335 ⇓P P 12 32 23.7 +0.9
baz=80
TUQ Turquoise Moun 79.95 326 ⇓P P 12 32 24.8 +1.2
baz=80,SNR=5.5
N25A Grover 79.98 337 ⇓P P 12 32 24.9 +1.2
baz=80
L29A Maesberg Ranch 80.04 340 ⇓P P 12 32 25.2 +1.3
baz=80
O23A Lake Granby, G 80.05 336 ⇓P P 12 32 25.4 +1.2
baz=80,SNR=16
O22A Kremmling 80.22 335 ⇑P P 12 32 26.1 +0.9
baz=81,SNR=18
GSC Goldstone, Bar 80.25 326 ⇓P P 12 32 26.2 +1.0
baz=81
N24A Carr 80.26 337 ⇓P P 12 32 26.2 +1.0
baz=81
K30A Basset 80.37 341 ⇑P P 12 32 27.0 +1.4
baz=81
TSUM Tsumeb 80.45 107 eP P 12 32 27.5 +0.7
comp=Z,18nm,1.2s
EDW2 Edwards Air Fo 80.47 324 ⇓P P 12 32 27.0 +0.6
baz=81
M25A Palm-Egli Farm 80.54 337 ⇓P P 12 32 27.7 +1.0
baz=81
ECSD EROS Data Cent 80.61 343 ⇓P P 12 32 26.7 -0.1
baz=81,SNR=24
K29A Lazy Trails An 80.64 341 ⇓P P 12 32 27.8 +0.7
baz=81
N23A Red Feather La 80.67 336 ⇓P P 12 32 27.6 +0.1
baz=81
N22A Wattenberg Ran 80.76 335 ⇓P P 12 32 29.0 +1.0
baz=81,SNR=9.4
O20A White River Ci 80.80 334 ⇓P P 12 32 28.3 +0.2
baz=81
LRMC Laurel Mtn Rad 80.81 325 ⇑P P 12 32 28.4 +0.2
baz=81
M24A Cheyenne 80.81 337 ⇑P P 12 32 29.0 +0.9
baz=81,SNR=9.3
ARUT Antelope Range 80.82 329 eP P 12 32 29.9 +1.6
ARUT pmax pmax
comp=Z,356nm,1.2s
ARUT Antelope Range 80.82 329 eP P 12 32 29.9 +1.6
comp=Z,356nm,1.2s
K28A Ten Mile Ranch 80.89 340 ⇑P P 12 32 29.4 +0.9
baz=81,SNR=13
J30A Dallas 80.94 341 ⇓P P 12 32 28.6 0.0
baz=81,SNR=5.3
BOSA Boshof 81.10 118 P P 12 32 30.5 +0.4
comp=Z,21nm,0.9s,baz=226,slow=4.8,SNR=26
BOSA LR LR 13 03 22.4
comp=Z,317nm,21.3s,baz=224,slow=32
K27A Flueckinger Fa 81.14 339 ⇑P P 12 32 29.8 0.0
baz=82
L25A Engebretsen Ra 81.16 338 ⇑P P 12 32 30.5 +0.6
baz=82
SPMN Marine on St. 81.22 347 ⇓P P 12 32 29.4 -0.5
baz=82
J29A Okreek 81.25 341 ⇑P P 12 32 30.6 +0.4
baz=82,SNR=24
ISA Isabella, Lake 81.34 325 ⇓P P 12 32 31.9 +1.0
baz=82,SNR=7.4
M22A Cedar Creek Ra 81.34 336 ⇓P P 12 32 31.3 +0.3
baz=82
N20A Spence Gulch, 81.42 334 ⇑P P 12 32 31.1 -0.4
baz=82,SNR=5.9
I30A Oacoma 81.48 342 ⇑P P 12 32 31.2 -0.2
baz=82
J28A Allard Ranch, 81.51 340 ⇓P P 12 32 31.6 0.0
baz=82,SNR=9.3
J27A Elkhorn Farm, 81.58 340 ⇑P P 12 32 33.1 +1.0
baz=82
L23A Garrett 81.68 337 ⇑P P 12 32 32.7 -0.1
baz=82
VES Vestal, Richgr 81.77 324 ⇑P P 12 32 33.8 +0.7
baz=82
SMMC Simmler 81.80 323 ⇑P P 12 32 33.7 +0.4
baz=82
I29A Vivian Onida 81.81 341 ⇓P P 12 32 33.4 +0.3
baz=82
BRSD Miller 81.85 342 ⇑P P 12 32 33.8 +0.4
baz=82
L22A Ellis Ranch, M 81.85 336 ⇑P P 12 32 34.2 +0.6
baz=82
J26A Sides Ranch, S 81.94 339 ⇓P P 12 32 34.5 +0.5
baz=82,SNR=11
I28A Midland 82.03 340 ⇓P P 12 32 35.0 +0.7
baz=82,SNR=9.8
R11A Troy Canyon, C 82.21 328 ⇓P P 12 32 36.4 +0.8
baz=83,SNR=15
RCTC Rector, Farmer 82.22 324 ⇑P P 12 32 35.6 +0.1
baz=83
K23A Bowen Ranch, D 82.23 337 ⇑P P 12 32 36.1 +0.5
baz=83,SNR=6.7
I27A Quinn 82.34 340 ⇑P P 12 32 36.4 +0.4
baz=83
H29A Onida 82.35 341 ⇑P P 12 32 35.9 -0.1
baz=83,SNR=6.5
TIN Tinemaha, Big 82.35 326 ⇓P P 12 32 36.8 +0.6
baz=83
K22A Casper 82.43 336 ⇑P P 12 32 36.9 +0.2
baz=83,SNR=11
J24A Dixon Ranch, L 82.44 338 ⇓P P 12 32 36.6 0.0
baz=83
I26A New Underwood 82.53 339 ⇓P P 12 32 37.3 +0.3
baz=83
G30A Faulkton 82.54 342 ⇑P P 12 32 37.0 0.0
baz=83,SNR=5.7
DUG Dugway, Tooele 82.60 331 ⇑P P 12 32 38.0 +0.4
baz=83,SNR=20
H28A Mission Ridge 82.61 341 ⇑P P 12 32 37.5 +0.1
baz=83
K21A Alcova 82.66 336 ⇑P P 12 32 37.7 -0.2
baz=83,SNR=14
I25A Rochford 82.78 339 ⇓P P 12 32 38.3 -0.1
baz=83,SNR=12
G29A Hoven 82.80 342 ⇑P P 12 32 37.8 -0.5
baz=83
TCUT Toone Canyon 82.84 332 eP P 12 32 39.4 +0.5
comp=Z,34nm,1.2s
H27A Howes 82.86 340 ⇓P P 12 32 38.5 -0.2
baz=83,SNR=13
G28A Parade 82.95 341 ⇑P P 12 32 39.1 0.0
baz=83
H26A Fairpoint 83.05 340 ⇑P P 12 32 39.3 -0.3
baz=83
J22A Midwest 83.10 337 ⇑P P 12 32 39.7 -0.4
baz=84,SNR=5.1
F30A Leola 83.17 343 ⇑P P 12 32 40.1 -0.1
baz=84
H25A Fruitdale 83.29 339 ⇓P P 12 32 40.8 -0.1
baz=84,SNR=9.6
J21A Lysite 83.36 336 ⇓P P 12 32 41.0 -0.4
baz=84
F29A Eureka 83.37 342 ⇓P P 12 32 41.2 0.0
baz=84
NVAR Mina Array Bea 83.50 326 P P 12 32 43.3 +0.9
comp=Z,3.6nm,0.8s,baz=155,slow=5.8,SNR=22
NVAR PKKPbc PKKPbc 12 51 00.1 -1.8
comp=Z,0.5nm,0.6s,baz=276,slow=1.7,SNR=5.3
G27A Dupree 83.51 340 ⇓P P 12 32 41.9 -0.1
baz=84
I22A 9 Mile Ranch, 83.53 337 ⇓P P 12 32 42.0 -0.2
baz=84
J20A Shoshoni 83.58 336 ⇑P P 12 32 42.4 -0.1
baz=84,SNR=14
PDAR Pinedale Array 83.58 334 P P 12 32 42.8 +0.1
comp=Z,6.8nm,1.1s,baz=156,slow=4.4,SNR=20
PDAR PKKPbc PKKPbc 12 50 59.8 -2.2
comp=Z,0.5nm,0.5s,baz=113,slow=1.3,SNR=6.5
G26A Maurine 83.62 340 ⇑P P 12 32 42.5 -0.1
baz=84,SNR=10
F28A McLaughlin 83.64 341 ⇑P P 12 32 42.6 0.0
baz=84,SNR=9.3
H24A Dirks Ranch, A 83.69 338 ⇓P P 12 32 42.2 -0.8
baz=84
I21A Big Trails, Te 83.72 336 ⇑P P 12 32 43.0 -0.3
baz=84,SNR=10
G25A Newell 83.76 339 ⇑P P 12 32 43.6 +0.3
baz=84,SNR=17
E30A Jud 83.76 343 ⇑P P 12 32 43.1 -0.1
baz=84
J19A Crowheart 83.84 335 ⇑P P 12 32 44.1 +0.2
baz=84,SNR=17
F27A Lemmon 83.99 341 ⇑P P 12 32 44.4 -0.1
baz=84,SNR=5.2
E29A Napoleon 84.01 342 ⇑P P 12 32 44.2 -0.3
baz=84
I20A Worland 84.12 336 ⇓P P 12 32 44.9 -0.4
baz=84,SNR=9.6
F26A Lodgepole 84.15 340 ⇓P P 12 32 45.4 +0.2
baz=84,SNR=5.5
G24A Alzada 84.18 339 ⇓P P 12 32 44.8 -0.7
baz=85
E28A Huff 84.28 342 ⇑P P 12 32 45.6 -0.3
baz=85
D30A Buchanan 84.30 343 ⇑P P 12 32 46.3 +0.4
baz=85,SNR=16
G23A Biddle 84.36 338 ⇑P P 12 32 45.8 -0.5
baz=85
H21A Big Horn, Sher 84.36 337 ⇑P P 12 32 45.9 -0.6
baz=85
E27A Carson 84.38 341 ⇓P P 12 32 45.8 -0.6
baz=85
F25A Bowman 84.44 340 ⇓P P 12 32 46.3 -0.5
baz=85
D29A Pettibone, Tap 84.45 343 ⇓P P 12 32 46.6 -0.1
baz=85
I19A Meeteetse 84.50 335 ⇑P P 12 32 46.8 -0.5
baz=85
H20A Greybull 84.56 336 ⇓P P 12 32 47.3 -0.1
baz=85,SNR=20
F24A Ekalaka 84.65 339 ⇑P P 12 32 47.1 -0.8
baz=85
G22A Birney 84.65 338 ⇑P P 12 32 47.5 -0.5
baz=85
E26A Carlson Angus 84.66 341 ⇑P P 12 32 47.5 -0.3
baz=85
AGMN Agassiz Nation 84.77 345 ⇓P P 12 32 47.8 -0.5
baz=85
AGMN Agassiz Nation 84.77 345 eP P 12 32 48.0 -0.2
comp=Z,15nm,0.9s
C30A Mose, Pekin 84.79 344 ⇑P P 12 32 48.5 +0.1
baz=85,SNR=16
F23A Volborg 84.83 338 ⇓P P 12 32 48.5 -0.3
baz=85,SNR=5.6
E25A Miller Ranch, 84.95 340 ⇓P P 12 32 49.4 +0.1
baz=85
I17A Pilgrim Ck. 84.95 334 ⇑P P 12 32 49.6 -0.1
baz=85
H19A Powell 85.05 336 ⇑P P 12 32 49.7 -0.3
baz=85
F22A Rosebud 85.14 338 ⇓P P 12 32 49.9 -0.4
baz=86,SNR=12
D26A Manning 85.16 341 ⇑P P 12 32 50.1 -0.2
baz=86
C28A Hausauer Farms 85.26 342 ⇑P P 12 32 50.9 +0.1
baz=86
E24A Baker 85.26 339 ⇑P P 12 32 50.6 -0.3
baz=86
G20A Bridger 85.28 336 ⇑P P 12 32 50.8 -0.3
baz=86,SNR=18
H18A Shoshone NF, C 85.29 335 ⇑P P 12 32 51.1 -0.2
baz=86,SNR=19
B30A Myrvik Farm, E 85.45 344 ⇓P P 12 32 51.6 -0.1
baz=86,SNR=15
F21A Absaloka Mine, 85.46 337 ⇓P P 12 32 51.4 -0.4
baz=86
E23A Ismay 85.50 339 ⇑P P 12 32 51.8 -0.2
baz=86
D25A Fairfield 85.52 340 ⇑P P 12 32 51.6 -0.5
baz=86
E22A Miles City 85.64 338 ⇑P P 12 32 52.5 -0.3
baz=86
B29A Wagenman Farm, 85.71 343 ⇑P P 12 32 52.7 -0.3
baz=86
TORD Torodi Ar. Bea 85.73 71 P P 12 32 54.1 +0.2
comp=Z,15nm,0.9s,baz=261,slow=3.9,SNR=64
TORD LR LR 13 10 24.0
comp=Z,219nm,18.3s,baz=230,slow=35
D24A Glendive 85.77 340 ⇓P P 12 32 53.8 +0.4
baz=86,SNR=13
C26A Wahner Farm, P 85.80 341 ⇑P P 12 32 53.3 -0.2
baz=86
A30A Hoffart Farm, 85.91 344 ⇑P P 12 32 53.6 -0.4
baz=86
B28A Dugan Ranch, T 85.94 343 ⇑P P 12 32 53.7 -0.4
baz=86
F19A Roth Farm, Mol 86.08 336 ⇓P P 12 32 54.7 -0.3
baz=86
D23A Lindsay 86.08 339 ⇓P P 12 32 55.1 +0.2
baz=86,SNR=29
E21A Keefer Ranch, 86.08 338 ⇑P P 12 32 55.5 +0.6
baz=86,SNR=5.2
HLID Hailey 86.09 332 ⇑P P 12 32 56.0 +0.8
baz=86,SNR=16
A29A Manning Farm, 86.11 343 ⇓P P 12 32 54.7 -0.3
baz=86,SNR=12
C24A Savage 86.17 340 ⇑P P 12 32 55.2 -0.1
baz=87,SNR=28
A28A Rude Farm, Bot 86.34 343 ⇑P P 12 32 56.3 +0.2
baz=87
D22A Cohagen 86.35 338 ⇓P P 12 32 55.7 -0.5
baz=87,SNR=10
E20A Meyer Farm, Mu 86.38 337 ⇓P P 12 32 56.4 -0.1
baz=87,SNR=23
B25A Knox Farm, Ray 86.50 341 ⇓P P 12 32 56.6 -0.4
baz=87
E19A Rath Farm, Rou 86.56 337 ⇑P P 12 32 57.0 -0.4
baz=87,SNR=16
MCMT McKenzie Canyo 86.56 333 eP P 12 32 58.5 +0.9
comp=Z,16nm,1.2s
ULM Lac du Bonnet 86.63 346 P P 12 32 57.0 -0.4
comp=Z,14nm,1.0s,baz=182,slow=4.7,SNR=9.9
ULM LR LR 13 10 59.8
comp=Z,82nm,18.5s,baz=173,slow=35
C23A Lambert 86.64 339 ⇑P P 12 32 57.5 -0.1
baz=87,SNR=16
A26A Wade Farm, Ken 86.78 342 ⇑P P 12 32 57.8 -0.5
baz=87
C22A Vida 86.79 339 ⇑P P 12 32 58.2 -0.1
baz=87
D20A Manuel Ranch, 86.90 337 ⇓P P 12 32 58.6 -0.3
baz=87,SNR=19
DGMT Dagmar 86.96 340 ⇑P P 12 32 59.1 -0.1
baz=87,SNR=18
A25A Svangstu Ranch 87.09 341 ⇑P P 12 32 59.8 0.0
baz=88
B23A Brockton 87.18 340 ⇑P P 12 33 00.2 0.0
baz=88,SNR=5.5
D19A Cripps Ranch, 87.21 337 ⇓P P 12 32 59.7 -0.7
baz=88,SNR=8.1
C21A Desert Coulee 87.23 338 ⇓P P 12 32 59.7 -0.8
baz=88,SNR=16
A24A Westby 87.32 341 ⇓P P 12 33 00.4 -0.5
baz=88,SNR=5.7
B22A Reddig Ranch S 87.33 339 ⇑P P 12 33 00.5 -0.4
baz=88
C20A Veseth Ranch, 87.41 338 ⇑P P 12 33 00.9 -0.5
baz=88
A23A Redstone 87.60 340 ⇓P P 12 33 02.0 -0.3
baz=88
B21A Ellsworth Farm 87.74 339 ⇓P P 12 33 03.3 +0.3
baz=88
C19A Slack Wire Ran 87.76 337 ⇑P P 12 33 02.9 -0.3
baz=88
HRY Holter Researc 87.81 335 eP P 12 33 03.5 +0.1
comp=Z,4.2nm,0.9s
A22A Carney Farms, 87.92 339 ⇑P P 12 33 03.4 -0.5
baz=88,SNR=8.3
YBH Yreka Blue Hor 88.17 326 P P 12 33 05.1 -0.1
comp=Z,8.8nm,0.9s,baz=110,slow=4.2,SNR=8.1
A21A Bergtoll Ranch 88.22 339 ⇓P P 12 33 04.6 -0.6
baz=89
EGMT Eagleton 88.25 337 ⇓P P 12 33 04.8 -0.7
baz=89
B19A Brinkman Farms 88.36 337 ⇓P P 12 33 05.6 -0.4
baz=89
A20A Cobblestone Ra 88.42 338 ⇓P P 12 33 05.3 -0.9
baz=89

CHMT	**Chamberlain Mo**	**88.49**	**334**	*e*P	**P**	**12 33 07.4**	**+0.6**
	comp=Z,7.5nm,1.4s						
A19A	**Klindworth Far**	**88.72**	**338**	⇑P	**P**	**12 33 07.2**	**-0.4**
	baz=89						
PINOR	**Pine Mountain**	**88.97**	**328**	*e*P	**P**	**12 33 10.2**	**+1.4**
	comp=Z,19nm,0.9s						
SCHQ	**Schefferville**	**89.18**	**4**	P	**P**	**12 33 09.4**	**-0.2**
	comp=Z,1.1nm,1.2s,baz=190,slow=5.1,SNR=4.3						
BLMT	**Blacktail Moun**	**89.82**	**334**	*e*P	**P**	**12 33 12.8**	**-0.2**
	comp=Z,5.5nm,0.8s						
BSMT	**Bassoo Peak**	**89.84**	**334**	*e*P	**P**	**12 33 13.4**	**+0.4**
	comp=Z,4.3nm,1.1s						
TAM	**Tamanrasset**	**94.34**	**65**	*e*P	**P**	**12 33 34.6**	**+0.2**
TAM				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TAM	**Tamanrasset**	**94.34**	**65**	*e*P	**P**	**12 33 34.6**	**+0.2**
	comp=Z,7.5nm,1.1s						
YKA	**Yellowknife Ar**	**102.09**	**342**	P	**Pdif**	**12 34 07.1**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=143,slow=4.3,SNR=13						
GERES	**GERESS Array B**	**113.53**	**46**	PKiKP	**PKiKP**	**12 38 51.9**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=199,slow=2.8,SNR=4.3						
ILAR	**Eielson Array**	**114.00**	**333**	PKP	PKPdf	12 38 52.2	-0.3
	comp=Z,0.3nm,0.9s,baz=163,slow=3.5,SNR=3.0						
ASAR	**Alice Springs**	**116.45**	**208**	PKP	**PKPdf**	**12 38 57.0**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=116,slow=2.2,SNR=2.9						
VYHS	**Vyhne**	**116.49**	**48**	*e*PKIKP	**PKPdf**	**12 38 58.0**	**+0.2**
VYHS	**Vyhne**	**116.49**	**48**	*e*PKP	**PKPdf**	**12 38 58.0**	**+0.2**
WRA	**Warramunga Arr**	**119.61**	**211**	PKP	**PKPdf**	**12 39 03.4**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=157,slow=1.7,SNR=6.7						
TNA	**Tin City**	**122.53**	**331**	*e*PKPdf	**PKPdf**	**12 39 08.8**	**0.0**
ANTO	**Ankara**	**122.77**	**61**	*e*PKIKP	**PKPdf**	**12 39 10.7**	**+0.5**
ANTO	**Ankara**	**122.77**	**61**	*e*PKPdf	**PKPdf**	**12 39 10.7**	**+0.5**
BRTR	**Keskin Array B**	**123.33**	**62**	PKIKP	**PKPdf**	**12 39 11.0**	**-0.4**
BRTR	**Keskin Array B**	**123.33**	**62**	PKP	**PKPdf**	**12 39 11.0**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=204,slow=2.7,SNR=13						
BRTR	**Keskin Array B**	**123.33**	**62**	PKP	**PKPdf**	**12 39 11.0**	**-0.4**
KIEV	**Kiev**	**123.58**	**48**	*e*PKIKP	**PKPdf**	**12 39 10.6**	**-0.7**
KIEV	**Kiev**	**123.58**	**48**	*e*PKPdf	**PKPdf**	**12 39 10.6**	**-0.7**
AKASG	**Malin Array Be**	**123.59**	**48**	PKP	**PKPdf**	**12 39 10.1**	**-1.2**
	comp=Z,3.4nm,0.7s,baz=266,slow=2.9,SNR=12						
FINES	**FINESS Array B**	**124.22**	**35**	PKP	**PKPdf**	**12 39 10.7**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=178,slow=5.3,SNR=4.1						
ARCES	**ARCESS Array B**	**125.08**	**25**	*e*PKP	**PKPdf**	**12 39 13.3**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=270,slow=3.6,SNR=7.1						
RAYN	**Ar Rayn**	**126.47**	**85**	*e*PKPdf	**PKPdf**	**12 39 18.2**	**+0.4**
OBN	**Obninsk**	**128.79**	**44**	*i* PKIKP	**PKPdf**	**12 39 22.7**	**+1.6**
OBN				pmax	pmax		
	comp=Z,44nm,1.9s						
KLMR	**Klimovskoe**	**130.66**	**36**	*e*PKIKP	**PKPdf**	**12 39 23.9**	**-0.6**
KLMR				pmax	pmax		
	comp=Z,34nm,1.3s						
KIV	**Kislovodsk**	**130.98**	**59**	*i* PKIKP	**PKPdf**	**12 39 26.7**	**+0.9**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
KBZ	**Khabaz**	**131.08**	**59**	PKP	**PKPdf**	**12 39 26.4**	**+0.6**
	comp=Z,4.1nm,1.0s,baz=249,slow=4.3,SNR=7.9						
ZEI	**Tsey**	**131.61**	**61**	*i* PKIKP	**PKPdf**	**12 39 26.3**	**-0.9**
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BILL	**Bilibino**	**132.66**	**334**	*e*PKIKP	**PKPdf**	**12 39 28.4**	**+0.3**
BILL	**Bilibino**	**132.66**	**334**	*e*PKPdf	**PKPdf**	**12 39 28.4**	**+0.3**
PRGR	**Permogore**	**133.56**	**35**	*e*PKIKP	**PKPdf**	**12 39 29.6**	**-0.3**
PRGR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
PETK	**Petropavlovsk-**	**139.47**	**313**	PKhKP	PKPpre	12 39 29.1	
	comp=Z,1.7nm,0.8s,baz=66,slow=1.7,SNR=2.8						
PETK				PKP	**PKiKP**	**12 39 42.5**	**-1.1**
	comp=Z,9.0nm,1.0s,baz=72,slow=9.5,SNR=5.3						
SEY	**Seymchan**	**139.75**	**329**	PKhKP	PKPpre	12 39 35.3	
	comp=Z,1.7nm,0.6s,baz=99,slow=5.5,SNR=4.9						
ARU	**Arti**	**141.06**	**41**	*i* PKHKP	PKPpre	12 39 38.7	
GEYT	**Alibeck**	**141.37**	**71**	PKhKP	PKPpre	12 39 39.5	
	comp=Z,1.8nm,0.4s,baz=233,slow=14,SNR=3.0						
AB31	**Akbulak array**	**143.12**	**52**	*i* PKIKP	PKPbc	12 39 44.8	-0.1
AB31				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PALK	**Pallekele**	**144.12**	**133**	*e*PKIKP	PKPbc	12 39 48.9	+0.1
PALK	**Pallekele**	**144.12**	**133**	*e*PKPdf	PKPbc	12 39 48.9	0.0
KSM	**Kuching**	**146.91**	**187**	*e*PKPdf	**PKPdf**	**12 39 56.4**	**+0.8**
POO	**Poona**	**147.12**	**111**	⇑*i*P	**PKPdf**	**12 39 56.0**	**+0.2**
	comp=Z,114nm,1.2s						
BRVK	**Borovoye**	**148.56**	**43***c*	*i* PKIKP	**PKPdf**	**12 39 58.4**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,24nm,0.6s						
BRVK	**Borovoye**	**148.56**	**43**	*e*PKPdf	**PKPdf**	**12 39 57.8**	**+0.8**
BRVK				*e*PKPbc	**PKPbc**	**12 40 01.3**	**+0.6**
BRVK				*e*PKPab	**PKPab**	**12 40 04.1**	**-0.2**
BVA0	**Borovoye Array**	**148.63**	**43**	PKP2	**PKPbc**	**12 40 00.9**	**0.0**
BVA0				pmax	pmax		
	comp=Z,22nm,0.5s						
YAK	**Yakutsk**	**148.71**	**339**	*e*PKP2	**PKPbc**	**12 39 59.9**	**-0.9**
YAK				pmax	pmax		
	comp=Z,55nm,0.9s						
YAK	**Yakutsk**	**148.71**	**339**	*e*PKPbc	**PKPbc**	**12 40 00.4**	**-0.4**
VOSK	**Vostochnaya**	**149.07**	**43**	PKP2	**PKPbc**	**12 40 02.5**	**+0.5**
VOSK				pmax	pmax		
	comp=Z,49nm,0.6s						
KBL	**Kabul**	**149.47**	**79**	*e*PKP2	**PKPbc**	**12 40 04.0**	**+0.1**
KBL	**Kabul**	**149.47**	**79**	*e*PKPbc	**PKPbc**	**12 40 04.0**	**+0.1**
IPM	**Ipoh**	**149.73**	**170**	*e*PKPdf	**PKPdf**	**12 39 59.7**	**-0.5**
IPM				*e*PKPbc	**PKPbc**	**12 40 03.6**	**-1.3**
YSS	**Yuzh-Sakhalins**	**149.93**	**306**	⇑*i*PKP2	**PKPbc**	**12 40 04.3**	**0.0**
YSS	**Yuzh-Sakhalins**	**149.93**	**306**	*e*PKPbc	**PKPbc**	**12 40 03.9**	**-0.4**
HYB	**Hyderabad**	**150.00**	**118**	*i* PKP	**PKPbc**	**12 40 04.5**	**-0.9**
ERM	**Erimo**	**150.23**	**296***c*	*i* PKIKP	**PKPab**	**12 40 09.4**	**-2.0**
ERM				pmax	pmax		
	comp=Z,90nm,2.5s						
KULM	**Kulim**	**150.47**	**169**	*e*PKPbc	**PKPbc**	**12 40 06.0**	**-0.7**
ASAJ	**Asahikawa**	**150.48**	**300**	PKPbc	**PKPbc**	**12 40 04.9**	**-0.8**
	comp=Z,34nm,0.9s,baz=244,slow=7.1,SNR=13						
ASAJ	**Asahikawa**	**150.48**	**300**	*e*PKPbc	**PKPbc**	**12 40 05.7**	**-0.1**
KKAR	**Karatay Array**	**151.05**	**62**	*e*PKIKP	**PKPdf**	**12 40 02.1**	**+0.8**
KKAR				*e*		12 40 07.1	
KKAR	**Karatay Array**	**151.05**	**62**	*e*PKPdf	**PKPdf**	**12 40 02.1**	**+0.8**
KKAR				*e*PKPbc	**PKPbc**	**12 40 07.1**	**-0.1**
EKS2	**Erkin-Say**	**153.48**	**62**	*e*PKIKP	**PKPdf**	**12 40 06.0**	**+0.9**
EKS2				*e*		12 40 12.6	
EKS2	**Erkin-Say**	**153.48**	**62**	*e*PKPdf	**PKPdf**	**12 40 06.0**	**+0.9**
EKS2				*e*PKPbc	**PKPbc**	**12 40 12.6**	**-0.1**
MJAR	**Matsushiro Arr**	**153.96**	**284**	PKPbc	**PKPbc**	**12 40 12.8**	**-1.1**
	comp=Z,2.4nm,0.9s,baz=138,slow=4.7,SNR=4.1						
AAK	**Ala-Archa**	**154.01**	**62***c*	*i* PKIKP	**PKPdf**	**12 40 07.5**	**+1.6**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AAK	**Ala-Archa**	**154.01**	**62**	PKPbc	**PKPbc**	**12 40 14.9**	**+1.0**
	comp=Z,10nm,0.8s,baz=169,slow=1.5,SNR=16						
AAK				PKPab	**PKPab**	**12 40 28.4**	**+0.8**
	comp=Z,7.4nm,0.7s,baz=259,slow=3.5,SNR=7.2						
AAK	**Ala-Archa**	**154.01**	**62**	*e*PKPdf	**PKPdf**	**12 40 06.6**	**+0.6**
AAK				*e*PKPbc	**PKiKP**	**12 40 14.6**	**+0.6**
AAK				PKPbc	**PKPbc**	**12 40 14.9**	**+1.0**
AAK				PKPab	**PKPab**	**12 40 28.4**	**+0.8**
NVS	**Novosibirsk**	**154.12**	**31**	⇑*i*PKIKP	**PKPdf**	**12 40 05.0**	**-0.4**
NVS				*i*		12 40 27.5	
NVS				pmax	pmax		
	comp=Z,22nm,1.0s						
NVS				pmax	pmax		
	comp=N,4.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
KURK	**Kurchatov**	**154.23**	**43**	*e*PKIKP	**PKPdf**	**12 40 06.1**	**+0.4**
KURK				*e*		12 40 14.1	
KURK	**Kurchatov**	**154.23**	**43**	*e*PKPdf	**PKPdf**	**12 40 06.1**	**+0.4**
KURK				*e*PKPbc	**PKiKP**	**12 40 14.1**	**+0.1**
TKM2	**Tokmak 2**	**154.77**	**61**	*e*PKIKP	**PKPdf**	**12 40 07.3**	**+0.3**
TKM2				*e*		12 40 15.2	
TKM2	**Tokmak 2**	**154.77**	**61**	*e*PKPdf	**PKPdf**	**12 40 07.3**	**+0.3**
TKM2				*e*PKPbc	**PKPbc**	**12 40 15.2**	**-0.4**
KSH	**Kashi**	**155.39**	**69**	PKPbc	**PKPdf**	**12 40 08.3**	**+0.4**
KSH				PKS	**PKSdf**	**12 43 42.1**	**+0.1**
KSH				PP	**PP**	**12 44 09.0**	**-1.6**
KSH				SKS	**SKSdf**	**12 47 10.6**	**-1.1**
KSH				PPMZ			
	comp=E,190nm,4.3s						
KSH				LN			
	comp=E,53nm,4.9s						
KSH				LE			
	comp=E,29nm,4.7s						
KSH				LZ			
	comp=E,140nm,5.8s						
ZALV	**Zalesovo Beam**	**155.41**	**31**	PKP	**PKPdf**	**12 40 07.1**	**-0.1**
	comp=E,6.2nm,0.9s,baz=270,slow=1.5,SNR=18						
ZALV				PKPbc	PKPbc	12 40 16.4	
	comp=E,9.8nm,0.6s,baz=299,slow=3.1,SNR=29						
ZALV				PKPab	**PKPab**	**12 40 34.1**	**+1.3**
	comp=E,6.8nm,0.9s,baz=306,slow=5.1,SNR=6.0						
BOD	**Bodaibo**	**156.10**	**350**	*e*PKIKP	**PKPdf**	**12 40 06.5**	**-1.5**
BOD				*e*		12 40 34.2	
BOD				pmax	pmax		
	comp=Z,16nm,1.0s						
KLR	**Kul'dur**	**156.12**	**316**	*e*PKIKP	**PKPdf**	**12 40 11.0**	**+2.7**
USRK	**Ussuriysk Ar.**	**157.93**	**304**	PKPab	**PKPab**	**12 40 44.0**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=27,slow=4.7,SNR=5.1						
MKAR	**Makanchi Array**	**158.18**	**49**	PKP	**PKPdf**	**12 40 10.8**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=308,slow=2.3,SNR=10						
MKAR				PKPab	**PKPab**	**12 40 45.2**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=288,slow=4.0,SNR=16						
MKAR				PP	**PP**	**12 44 23.3**	**-2.0**
	comp=Z,0.8nm,0.8s,baz=281,slow=5.9,SNR=4.7						
CN2	**Changchun**	**162.48**	**308**	*e*PKP	**PKPdf**	**12 40 11.8**	**-4.1**
CN2				*e*pPKP	**pPKPdf**	**12 40 22.6**	**-4.8**
TLY	**Talaya**	**162.73**	**5**	*e*PKP2	**PKPab**	**12 41 05.8**	**+1.1**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**162.75**	**156**	PKP	**PKPdf**	**12 40 16.8**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=234,slow=2.0,SNR=6.1						
WMQ	**Urumqi**	**162.91**	**52**	PKP	**PKPdf**	**12 40 16.4**	**0.0**
WMQ				PKPab	**PKPab**	**12 41 07.1**	**+1.2**
WMQ				PKS	**PKSdf**	**12 43 48.5**	**-0.9**
WMQ				PP	**PP**	**12 44 53.2**	**+2.3**
WMQ				SKS	**SKSdf**	**12 47 16.0**	**-2.4**
WMQ				SKKS	**SKKSac**	**12 51 36.2**	**+0.1**
WMQ				SS	**SS**	**13 05 14.7**	**+2.0**
WMQ				PPMZ			
	comp=Z,100nm,4.0s						
WMQ				LN			
	comp=Z,100nm,22.0s						
WMQ				LE			
	comp=Z,140nm,22.0s						
WMQ				LZ			
	comp=Z,140nm,23.0s						
ZAK	**Zakamensk**	**163.99**	**7**	*e*PKP2	**PKPab**	**12 41 07.2**	**-3.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
SONM	**Songino Array**	**166.69**	**360**	PKP	**PKPdf**	**12 40 19.6**	**0.0**
	comp=Z,0.6nm,0.8s,baz=129,slow=0.9,SNR=5.0						
SONM				PKPab	**PKPab**	**12 41 23.1**	**+0.8**
	comp=Z,2.9nm,0.9s,baz=339,slow=3.6,SNR=10						
SONM				PP	**PP**	**12 45 07.7**	**-1.9**
	comp=Z,0.8nm,1.0s,baz=357,slow=7.2,SNR=3.1						
NJ2	**Nanjing**	**169.15**	**260**	*e*PKP	**PKPdf**	**12 40 22.6**	**+1.0**
KMI	**Kunming**	**170.17**	**161**	PKP	**PKPdf**	**12 40 25.0**	**+2.2**
GYA	**Guiyang**	**171.97**	**183**	PKP	**PKPdf**	**12 40 23.0**	**-0.5**
GYA				PKPab	**PKPab**	**12 41 48.0**	**+1.8**
GYA				PKS	**PKSdf**	**12 43 53.2**	**-2.9**
GYA				PP	**PP**	**12 45 40.6**	**+4.4**
GYA				SKKS		12 52 21.9	
GYA				SS	**SS**	**13 06 43.0**	**+1.1**
GYA				PPMZ			
	comp=Z,140nm,8.6s						
GYA				LN			
	comp=Z,130nm,22.2s						
GYA				LE			
	comp=Z,120nm,21.5s						
GYA				LZ			
	comp=Z,140nm,24.8s						
HHC	**Hu-ho-hao-te**	**172.39**	**328**	*e*PKP	**PKPdf**	**12 40 23.3**	**0.0**
HHC				PP	**PP**	**12 45 42.6**	**+3.8**
HHC				SKS	**SKSdf**	**12 47 21.3**	**-2.6**
HHC				SKKS	**SKKSac**	**12 52 24.5**	**+1.4**
HHC				SS	**SS**	**13 06 48.1**	**+1.1**
HHC				PPMZ			
	comp=Z,48nm,5.8s						
HHC				LN			
	comp=Z,150nm,20.6s						
HHC				LE			
	comp=Z,510nm,20.0s						
HHC				LZ			
	comp=Z,150nm,20.0s						
GTA	**Gaotai**	**172.91**	**45**	*e*PKP	**PKPdf**	**12 40 24.3**	**+0.7**
GTA				PKPab	**PKPab**	**12 41 50.9**	**+0.7**
CD2	**Chengdu**	**175.85**	**149**	*e*PKP	**PKPdf**	**12 40 25.1**	**+0.4**
CD2				PP	**PP**	**12 45 59.6**	**+4.1**
CD2				PPMZ			
	comp=Z,120nm,11.2s						
LZH	**Lanzhou**	**177.49**	**50**	*e*PKP	**PKPdf**	**12 40 24.6**	**-0.4**
LZH				LN			
	comp=Z,600nm,19.3s						
LZH				LE			
	comp=Z,280nm,18.2s						
LZH				LZ			
	comp=Z,240nm,20.3s						

IGIL ***01*** *12:24:03.8, 41°.46N×15°.98W, h2km, ML3.0*
MDD ***01*** *12:24:06.1±1.9, 41°.41N×15°.61W, h0km, mb4.5/16, Error ellipse: s-maj=17.1km s-min=14.2km az=82.0, PRXIMO*
INMG ***01*** *12:24:07.8±1.8, 41°.46N×16°.06W, h10km, ML3.2, Error ellipse: s-maj=7.1km s-min=5.1km az=80.0*
CSEM ***01*** *12:24:10.7±0.3, 41°.31N×15°.15W, h10km, ML3.9/30, Error ellipse: s-maj=5.7km s-min=4.5km az=76.0*

ISC 01 12:24:08.1±3.3, 41°34N±0°.06×15°3W±0°.2, h10km, n95, σ1§13/174, 4C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**4.99**	**69**	Pn	**Pn**	**12 25 22.6**	**-0.4**
	1.1nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sn**	**12 26 19.1**	**-1.6**
	12nm,0.6s,SNR=7.3						
EMAZ	**Mazaricos**	**4.99**	**69**	Pn	**Pn**	**12 25 22.6**	**-0.4**
	1.1nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sn**	**12 26 19.1**	**-1.6**
	12nm,0.6s,SNR=7.3						
PMAFR	**Mafra**	**5.21**	**115**	*i* Pn	**Pn**	**12 25 27.1**	**+1.1**
PMAFR				*e*Sn	**Sn**	**12 26 26.8**	**+0.6**
PMAFR				A	A	12 26 32.7	
	38nm,0.2s						
PMAFR	**Mafra**	**5.21**	**115**	⇑Pn	**Pn**	**12 25 27.1**	**+1.1**
	8.7nm,0.1s,SNR=18						
PMAFR				Sn	**Sn**	**12 26 26.4**	**+0.2**
	5.2nm,0.4s,SNR=7.9						
PMAFR	**Mafra**	**5.21**	**115**	Pn	**Pn**	**12 25 27.1**	**+1.1**
	8.7nm,0.1s,SNR=18						
PMAFR				Sn	**Sn**	**12 26 26.4**	**+0.2**
	5.2nm,0.4s,SNR=7.9						
STS	**Santiago**	**5.27**	**71**	⇑Pn	**Pn**	**12 25 27.5**	**+0.6**
	4.4nm,0.2s,SNR=18						
STS				Sn	**Sn**	**12 26 25.2**	**-2.4**
	0.6nm,0.4s,SNR=7.9						
STS	**Santiago**	**5.27**	**71**	Pn	**Pn**	**12 25 27.5**	**+0.6**
	4.4nm,0.2s,SNR=18						
PCAS	**Casmilo, Conde**	**5.35**	**102**	*e*Pn	**Pn**	**12 25 29.4**	**+1.4**
PCAS				*e*Sn	**Sn**	**12 26 30.5**	**+0.9**
PCAS				A	A	12 26 33.2	
	14nm,0.2s						
PCAS	**Casmilo, Conde**	**5.35**	**102**	*e*Pn	**Pn**	**12 25 29.4**	**+1.4**
PCAS				*e*Sn	**Sn**	**12 26 30.5**	**+0.9**
	14nm,0.2s						
ELOB	**Lobios**	**5.47**	**82**	Pn	**Pn**	**12 25 30.4**	**+0.7**
	12nm,0.3s,SNR=23						
ELOB				Sn	**Sn**	**12 26 32.9**	**+0.1**
	6.4nm,0.3s,SNR=38						
ELOB	**Lobios**	**5.47**	**82**	Pn	**Pn**	**12 25 30.4**	**+0.7**
	12nm,0.3s,SNR=23						
ELOB				Sn	**Sn**	**12 26 32.9**	**+0.1**
	6.4nm,0.3s,SNR=38						
PCAB	**Cabril**	**5.49**	**84**	*e*Pn	**Pn**	**12 25 30.7**	**+0.7**
PCAB				*e*Sn	**Sn**	**12 26 33.5**	**+0.3**
PCAB				A	A	12 26 38.2	
	38nm,0.3s						
PCAB	**Cabril**	**5.49**	**84**	Pn	**Pn**	**12 25 30.7**	**+0.7**
PCAB				Sn	**Sn**	**12 26 33.5**	**+0.3**
	19nm,0.3s						
PCAB	**Cabril**	**5.49**	**84**	Pn	**Pn**	**12 25 30.7**	**+0.7**
PCAB				*e*Sn	**Sn**	**12 26 33.5**	**+0.3**
	38nm,0.3s						
PTOM	**Tomar**	**5.55**	**106**	*e*Pn	**Pn**	**12 25 32.0**	**+1.3**
PTOM				*e*Sn	**Sn**	**12 26 34.7**	**+0.2**
PTOM				A	A	12 26 38.2	
	34nm,0.2s						
PTOM	**Tomar**	**5.55**	**106**	Pn	**Pn**	**12 25 32.0**	**+1.3**
PTOM				Sn	**Sn**	**12 26 34.7**	**+0.2**
	17nm,0.2s						
PTOM	**Tomar**	**5.55**	**106**	Pn	**Pn**	**12 25 32.0**	**+1.3**
PTOM				*e*Sn	**Sn**	**12 26 34.7**	**+0.2**
	34nm,0.2s						
PVIS	**Viseu**	**5.66**	**94**	*e*Pn	**Pn**	**12 25 33.5**	**+1.3**
PVIS				*e*Sn	**Sn**	**12 26 37.5**	**+0.3**
PVIS				A	A	12 26 41.9	
	28nm,0.3s						
PVIS	**Viseu**	**5.66**	**94**	Pn	**Pn**	**12 25 33.5**	**+1.3**
PVIS				Sn	**Sn**	**12 26 37.5**	**+0.3**
	14nm,0.3s						
PVIS	**Viseu**	**5.66**	**94**	Pn	**Pn**	**12 25 33.5**	**+1.3**
PVIS				*e*Sn	**Sn**	**12 26 37.5**	**+0.3**
	28nm,0.3s						
POLO	**Lamas de Olo**	**5.67**	**87**	*e*Pn	**Pn**	**12 25 33.4**	**+1.0**
POLO				*e*Sn	**Sn**	**12 26 37.6**	**0.0**
POLO				A	A	12 26 42.0	
	4.6nm,0.3s						
POLO	**Lamas de Olo**	**5.67**	**87**	*e*Pn	**Pn**	**12 25 33.4**	**+1.0**
POLO				*e*Sn	**Sn**	**12 26 37.6**	**0.0**
	4.6nm,0.3s						
PVRL	**Vila Real**	**5.73**	**88**	*e*Pn	**Pn**	**12 25 34.4**	**+1.1**
PVRL				*e*Sn	**Sn**	**12 26 39.9**	**+0.8**
PVRL				A	A	12 26 43.5	
	23nm,0.1s						
PVRL	**Vila Real**	**5.73**	**88**	Pn	**Pn**	**12 25 34.4**	**+1.1**
PVRL				Sn	**Sn**	**12 26 39.9**	**+0.8**
	11nm,0.1s						
PVRL	**Vila Real**	**5.73**	**88**	Pn	**Pn**	**12 25 34.4**	**+1.1**
PVRL				*e*Sn	**Sn**	**12 26 39.9**	**+0.8**
	23nm,0.1s						
MTE	**Manteigas**	**5.97**	**97**	*e*Sn	**Sn**	**12 26 45.8**	**+0.7**
MTE	**Manteigas**	**5.97**	**97**	Sn	**Sn**	**12 26 45.8**	**+0.7**
MTE	**Manteigas**	**5.97**	**97**	Sn	**Sn**	**12 26 45.8**	**+0.7**
PNCL	**Nicolau / Gran**	**6.15**	**119**	*e*Pn	**Pn**	**12 25 39.7**	**+0.7**
PNCL				*e*Sn	**Sn**	**12 26 49.2**	**-0.2**
PNCL				A	A	12 26 53.5	
	7.2nm,0.2s						
PNCL	**Nicolau / Gran**	**6.15**	**119**	*e*Pn	**Pn**	**12 25 39.7**	**+0.7**
PNCL				*e*Sn	**Sn**	**12 26 49.2**	**-0.2**
	7.2nm,0.2s						
PCBR	**Castelo Branco**	**6.16**	**102**	*e*Pn	**Pn**	**12 25 40.0**	**+0.9**
PCBR				*e*Sn	**Sn**	**12 26 49.2**	**-0.4**
PCBR				A	A	12 26 54.2	
	7.0nm,0.3s						
PCBR	**Castelo Branco**	**6.16**	**102**	Pn	**Pn**	**12 25 40.0**	**+0.9**
PCBR				Sn	**Sn**	**12 26 49.2**	**-0.4**
	3.5nm,0.3s						
PCBR	**Castelo Branco**	**6.16**	**102**	Pn	**Pn**	**12 25 40.0**	**+0.9**
PCBR				*e*Sn	**Sn**	**12 26 49.2**	**-0.4**
	7.0nm,0.3s						
MVO	**Moncorvo**	**6.26**	**89**	*e*Pn	**Pn**	**12 25 41.1**	**+0.7**
MVO				*e*Sn	**Sn**	**12 26 51.0**	**-1.1**
MVO				A	A	12 26 59.6	
	18nm,0.4s						
MVO	**Moncorvo**	**6.26**	**89**	Pn	**Pn**	**12 25 41.2**	**+0.7**
	14nm,0.3s,SNR=5.7						
MVO				Sn	**Sn**	**12 26 50.3**	**-1.8**
	8.4nm,0.3s,SNR=9.4						
MVO	**Moncorvo**	**6.26**	**89**	Pn	**Pn**	**12 25 41.2**	**+0.7**
	14nm,0.3s,SNR=5.7						
MVO				*e*Sn	**Sn**	**12 26 51.0**	**-1.1**
	18nm,0.4s						
EVO	**Evora**	**6.28**	**114**	*e*Pn	**Pn**	**12 25 42.0**	**+1.2**
EVO				*e*Sn	**Sn**	**12 26 51.7**	**-0.9**
EVO				A	A	12 26 58.0	
	16nm,0.1s						
EVO	**Evora**	**6.28**	**114**	Pn	**Pn**	**12 25 42.0**	**+1.2**
EVO				Sn	**Sn**	**12 26 51.7**	**-0.9**
	16nm,0.1s						
EVO	**Evora**	**6.28**	**114**	Pn	**Pn**	**12 25 42.0**	**+1.2**
EVO				*e*Sn	**Sn**	**12 26 51.7**	**-0.9**
	16nm,0.1s						
PMRV	**Marv??o**	**6.35**	**105**	*e*Pn	**Pn**	**12 25 42.7**	**+0.9**
PMRV				*e*Sn	**Sn**	**12 26 53.7**	**-0.7**
PMRV				A	A	12 26 58.7	
	10nm,0.3s						
PMRV	**Marv??o**	**6.35**	**105**	Pn	**Pn**	**12 25 42.7**	**+0.9**
PMRV				Sn	**Sn**	**12 26 53.7**	**-0.7**
	10nm,0.3s						
PMRV	**Marv??o**	**6.35**	**105**	Pn	**Pn**	**12 25 42.7**	**+0.9**
PMRV				*e*Sn	**Sn**	**12 26 53.7**	**-0.7**
	10nm,0.3s						
PTEO	**Sao Teotonio**	**6.36**	**124**	*e*Pn	**Pn**	**12

comp=N,5.5nm,0.2s
PVAQ Vaqueiros 7.08 121 Pn **Pn 12 25 52.4 +0.6**
PVAQ Sn **Sn 12 27 11.9 -0.5**
comp=N,5.5nm,0.2s
PVAQ Vaqueiros 7.08 121 Pn **Pn 12 25 52.4 +0.6**
PVAQ *e*Sn **Sn 12 27 11.9 -0.5**
comp=N,5.5nm,0.2s
PBAR Barrancos 7.12 114 *e*Pn **Pn 12 25 53.8 +1.5**
PBAR *e*Sn **Sn 12 27 12.4 -0.9**
PBAR A A 12 27 16.0
comp=N,9.6nm,0.2s
PBAR Barrancos 7.12 114 Pn **Pn 12 25 53.8 +1.5**
PBAR Sn **Sn 12 27 12.4 -0.9**
comp=N,9.6nm,0.2s
PBAR Barrancos 7.12 114 Pn **Pn 12 25 53.8 +1.5**
PBAR *e*Sn **Sn 12 27 12.4 -0.9**
comp=N,9.6nm,0.2s
EPLA Plasencia 7.14 97 Pn **Pn 12 25 54.2 +1.6**
comp=N,4.4nm,0.3s,SNR=7.8
EPLA Sn **Sn 12 27 12.4 -1.4**
comp=N,12nm,0.6s
EPLA Plasencia 7.14 97 Pn **Pn 12 25 54.2 +1.6**
comp=N,4.4nm,0.3s,SNR=7.8
EPLA Sn **Sn 12 27 12.4 -1.4**
comp=N,12nm,0.6s
EGRO El Granado 7.16 120 Pn **Pn 12 25 53.4 +0.6**
comp=N,5.7nm,0.5s,SNR=17
EGRO Sn **Sn 12 27 13.6 -0.7**
comp=N,11nm,0.7s,SNR=4.6
EGRO El Granado 7.16 120 Pn **Pn 12 25 53.4 +0.6**
comp=N,5.7nm,0.5s,SNR=17
EGRO Sn **Sn 12 27 13.6 -0.7**
comp=N,11nm,0.7s,SNR=4.6
EMIN Mina Concepcio 7.58 115 Pn **Pn 12 25 59.7 +1.1**
comp=N,1.6nm,0.3s,SNR=18
EMIN Sn **Sn 12 27 23.8 -0.7**
comp=N,2.4nm,0.4s,SNR=7.9
EMIN Mina Concepcio 7.58 115 Pn **Pn 12 25 59.7 +1.1**
comp=N,1.6nm,0.3s,SNR=18
EMIN Sn **Sn 12 27 23.8 -0.7**
comp=N,2.4nm,0.4s,SNR=7.9
EARI Arriondas 7.75 72 Pn **Pn 12 26 02.3 +1.4**
comp=N,9.3nm,0.8s,SNR=11
EARI Arriondas 7.75 72 Pn **Pn 12 26 02.3 +1.4**
comp=N,9.3nm,0.8s,SNR=11
ECAB El Cabril 8.30 110 Pn **Pn 12 26 09.7 +1.1**
comp=N,2.9nm,0.9s,SNR=7.6
ECAB Sn **Sn 12 27 39.7 -2.7**
comp=N,18nm,0.8s,SNR=7.9
ECAB El Cabril 8.30 110 Pn **Pn 12 26 09.7 +1.1**
comp=N,2.9nm,0.9s,SNR=7.6
ECAB Sn **Sn 12 27 39.7 -2.7**
comp=N,18nm,0.8s,SNR=7.9
GUD Guadarrama 8.48 91 Pn **Pn 12 26 12.3 +1.2**
comp=N,1.8nm,0.3s,SNR=8.5
GUD Sn **Sn 12 27 42.3 -4.6**
comp=N,16nm,0.5s,SNR=6.7
GUD Guadarrama 8.48 91 Pn **Pn 12 26 12.3 +1.2**
comp=N,1.8nm,0.3s,SNR=8.5
ELAN Lanestosa 9.02 74 Pn **Pn 12 26 20.5 +2.2**
comp=N,3.2nm,0.3s,SNR=16
ELAN Lanestosa 9.02 74 Pn **Pn 12 26 20.5 +2.2**
comp=N,3.2nm,0.3s,SNR=16
EBAN Banos Encina 9.44 106 Pn **Pn 12 26 24.6 +0.5**
comp=N,0.8nm,0.1s,SNR=7.9
EBAN Sn **Sn 12 28 08.3 -1.9**
comp=N,12nm,0.7s,SNR=7.9
EBAN Banos Encina 9.44 106 Pn **Pn 12 26 24.6 +0.5**
comp=N,0.8nm,0.1s,SNR=7.9
EBAN Sn **Sn 12 28 08.3 -1.9**
comp=N,12nm,0.7s,SNR=7.9
ETOR Torete 10.04 89 Pn **Pn 12 26 33.2 +0.9**
comp=N,3.0nm,0.1s,SNR=7.9
ETOR Torete 10.04 89 Pn **Pn 12 26 33.2 +0.9**
comp=N,3.0nm,0.1s,SNR=7.9
EQES Quesada 10.10 106 Pn **Pn 12 26 34.0 +0.7**
comp=N,0.7nm,0.1s,SNR=7.9
EQES Sn **Sn 12 28 24.0 -2.6**
comp=N,2.9nm,0.6s,SNR=7.9
EQES Quesada 10.10 106 Pn **Pn 12 26 34.0 +0.7**
comp=N,0.7nm,0.1s,SNR=7.9
EQES Sn **Sn 12 28 24.0 -2.6**
comp=N,2.9nm,0.6s,SNR=7.9
IELO Elcoad 10.58 77 Pn **Pn 12 26 41.7 +1.9**
comp=N,0.4nm,0.1s,SNR=7.9
IELO Elcoad 10.58 77 Pn **Pn 12 26 41.7 +1.9**
comp=N,0.4nm,0.1s,SNR=7.9

*NEIC **01** 12:24:21.1, 17°.95N×101°.59W, h47km, MD4.0(MEX), After MEX.*
MEX 01 12:24:21.1±0.7, 17°.95N×101°.59W, h47km±10km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.36**	**161**	*e*P	Pn	12 24 28.6	-1.9
ZIIG				*i* S	Sn	12 24 35.8	-1.4
ZIIG	**Zihuatanejo**	**0.36**	**161**	*e*P	Pn	12 24 28.6	-1.9
ZIIG				*i* S	Sn	12 24 35.8	-1.4
ARIG	**Puente Sto Nin**	**1.23**	**74**	*e*P	Pn	12 24 40.0	-1.9
ARIG				*i* S	Sn	12 24 54.9	-2.5
CAIG	**El Cayaco**	**1.55**	**125**	*e*P	Pn	12 24 44.4	-1.9
CAIG				*i* S	Sn	12 25 03.7	-1.4
CAIG	**El Cayaco**	**1.55**	**125**	*e*P	Pn	12 24 44.4	-1.9
CAIG				*i* S	Sn	12 25 03.7	-1.4
MMIG	**Aquila**	**1.70**	**282**	*e*P	Pn	12 24 47.0	-1.3
MMIG				*i* S	Sn	12 25 07.2	-1.8
MMIG	**Aquila**	**1.70**	**282**	*e*P	Pn	12 24 47.0	-1.3
MMIG				*i* S	Sn	12 25 07.2	-1.8
MOIG	**Morelia**	**1.76**	**12**	*e*P	Pn	12 24 47.6	-1.9
MOIG				*i* S	Sn	12 25 09.1	-1.9
MOIG	**Morelia**	**1.76**	**12**	*e*P	Pn	12 24 47.6	-1.9
MOIG				*i* S	Sn	12 25 09.1	-1.9
TLIG	**Tlapa**	**2.91**	**97**	*i* P	Pn	12 25 03.6	-1.5
TLIG				*i* S	Sn	12 25 36.5	-2.4

*IDC **01** 12:27:10.0±0.4, 34°.34S×71°.95W, h0km, mb5.0/21, mb1 5.1/24, mb1mx5.0/30, mbtmp5.0/24, ML4.9/3, MS4.2/1, Ms1 4.3/1, ms1mx3.5/22, Error ellipse: s-maj=16.0km s-min=11.8km az=73.0*
*MOS **01** 12:27:14.3±1.0, 34°.24S×71°.94W, h33km, mb5.4/36, Error ellipse: s-maj=16.0km s-min=7.6km az=102.0*
*ISCJB **01** 12:27:16.0±1.2, 34°.18S±0°.05×71°.78W±0°.08, h49km±9km, mb5.2/134, MS5.2/1, Error ellipse: s-maj=12.0km s-min=6.8km az=151.7*
*NEIC **01** 12:27:15.6±0.1, 34°.28S×71°.92W, h35km, mb5.2/116, Error ellipse: s-maj=5.3km s-min=3.8km az=63.0*
NEIC Felt [II] at Santiago. Also felt at Rancagua.
*GUC **01** 12:27:15.5±0.4, 34°.14S×72°.18W, h41km±3km, ML5.4*
ISC 01 12:27:14.5±0.5, 34°.30S±0°.05×71°.96W±0°.06, h30km±3km, h29km:pP-P, n770, σ0°87/812, mb5.3/136, 227C-201D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.29**	**12**	⇑*i*P	Pn	12 27 36.9	+0.3
IHA				*i* S1	Sn	12 27 52.6	-0.3
STL	**Santa Lucia**	**1.40**	**52**	*e*P9	Pb	12 27 39.0	-1.0
STL				*i* S1	Sb	12 27 58.2	+0.7
FSR	**Penalolen**	**1.45**	**56**	*e*P1	Pb	12 27 41.5	+0.6
FSR				*i* S1	Sb	12 28 01.2	+2.3
PEL	**Peldehue**	**1.57**	**43**	⇑*i*P	Pb	12 27 42.2	-0.7
PEL				*i* S1	Sb	12 28 02.8	+0.4
PEL				AML	AML	12 28 11.9	
	comp=N,107μm,0.6s						
FCH	**Farellones**	**1.69**	**56**	AML	AML	12 28 23.1	
	comp=N,38μm,0.4s						
CMCH	**Combarbala**	**3.22**	**15**	⇓*i*P	Pn	12 28 03.3	+0.2
CFAA	**Coronel Fontan**	**4.12**	**50**	Pn	Pn	12 28 17.5	+1.9
	comp=N,3.9nm,0.3s,baz=230,slow=12,SNR=36						
CFAA				Lg	Lg	12 29 17.2	
	comp=N,17nm,0.3s,baz=16,slow=22,SNR=6.0						
LSCH	**La Serena**	**4.42**	**8**	*e*P1	Pn	12 28 19.3	-0.2
PLCA	**Paso Flores**	**6.52**	**171**	*e*P	Pn	12 28 49.5	+1.0
PLCA	**Paso Flores**	**6.52**	**171**	Pn	Pn	12 28 48.8	+0.3
	comp=N,6.1nm,0.3s,baz=337,slow=11,SNR=30						
PLCA				Lg	Lg	12 30 31.1	
	comp=N,1.0nm,0.3s,baz=72,slow=20,SNR=1.7						
PLCA	**Paso Flores**	**6.52**	**171**	*e*Pn	Pn	12 28 49.5	+1.0
PLCA				Lg	Lg	12 30 31.1	
TRQA	**Tornquist**	**8.90**	**118**	*e*Pn	Pn	12 29 24.0	+2.9
LVC	**Limon Verde**	**11.95**	**14**	*e*Pn	Pn	12 29 58.0	-5.1
CPUP	**Villa Florida**	**14.91**	**62**	*e*P	Pn	12 30 42.7	-0.6
CPUP	**Villa Florida**	**14.91**	**62**	Pn	Pn	12 30 43.0	-0.2
	comp=N,1.0nm,0.3s,baz=208,slow=12,SNR=7.1						
CPUP				LR	LR	12 37 27.3	
	comp=N,1μm,19.7s,baz=224,slow=41						
CPUP	**Villa Florida**	**14.91**	**62**	*e*Pn	Pn	12 30 42.7	-0.6
LPAZ	**La Paz**	**18.26**	**12**	*e*P	P	12 31 27.0	+0.6
LPAZ				pmax	pmax		
	comp=Z,42nm,0.8s						
LPAZ	**La Paz**	**18.26**	**12**	P	P	12 31 27.2	+0.8
	comp=Z,1.9nm,0.3s,baz=190,slow=7.7,SNR=55						
LPAZ	**La Paz**	**18.26**	**12**	*e*Pn	P	12 31 27.0	+0.6
	comp=Z,42nm,0.8s						
USHA	**Ushuaia**	**20.68**	**174**	P	P	12 31 51.3	-0.6
	comp=Z,36nm,0.8s,baz=27,slow=4.3,SNR=8.5						
SIV	**San Ignacio**	**20.70**	**31**	P	P	12 31 52.2	-0.2
	comp=Z,26nm,0.8s,baz=232,slow=10,SNR=22						
NNA	**Nana**	**22.65**	**348**	*e*P	P	12 32 15.3	+1.9
NNA	**Nana**	**22.65**	**348**	P	P	12 32 13.9	+0.5
	comp=Z,51nm,0.8s,baz=194,slow=11,SNR=28						
NNA	**Nana**	**22.65**	**348**	*e*P	P	12 32 14.4	+1.0
SAML	**Samuel**	**26.49**	**20**	*e*P	P	12 32 49.1	-0.2
	comp=Z,6.3nm,0.8s						
ATAH	**Atahualpa**	**27.67**	**346**	P	P	12 33 01.7	+1.3
	comp=Z,12nm,0.9s,baz=196,slow=7.2,SNR=6.0						
BDFB	**Brasilia**	**28.45**	**55**	*e*P	P	12 33 06.8	-0.3
BDFB	**Brasilia**	**28.45**	**55**	P	P	12 33 06.7	-0.4
	comp=Z,13nm,0.7s,baz=251,slow=7.7,SNR=16						
OTAV	**Otavalo**	**34.89**	**349**	*e*P	P	12 34 05.4	+1.4
	comp=Z,70nm,1.5s						
ROSC	**El Rosal**	**39.01**	**356**	P	P	12 34 42.9	+4.1
	comp=Z,14nm,0.6s,baz=96,slow=17,SNR=6.8						
RCBR	**Riachuelo**	**43.75**	**58**	P	P	12 35 17.6	+0.1
	comp=Z,6.7nm,0.6s,baz=218,slow=12,SNR=8.5						
JTS	**JuntasAbangare**	**46.02**	**342**	*c i*P	P	12 35 36.8	+1.3
JTS				pmax	pmax		
	comp=Z,38nm,1.1s						
JTS	**JuntasAbangare**	**46.02**	**342**	P	P	12 35 36.5	+1.0
	comp=Z,11nm,0.8s,baz=172,slow=9.1,SNR=5.5						
JTS	**JuntasAbangare**	**46.02**	**342**	*e*P	P	12 35 37.1	+1.7
JTS				*e*pP	pP	12 35 43.9	-0.6
GRGR	**Grenville**	**47.20**	**14**	*e*P	P	12 35 44.8	+0.1
	comp=Z,124nm,0.7s						
VNA3	**Neumayer Olymp**	**49.06**	**158**	P	P	12 35 59.4	+0.9
VNA1	**Neumayer--Stat**	**49.38**	**157**	P	P	12 36 02.3	+1.5
VNA2	**Neumayer--Watz**	**49.72**	**157**	P	P	12 36 04.4	+0.9
SNAA	**Sanae**	**51.29**	**158**	P	P	12 36 16.1	+0.7
SNAA	**Sanae**	**51.29**	**158**	*c e*P	P	12 36 15.1	-0.3
SNAA				pmax	pmax		
	comp=Z,117nm,1.5s						
SNAA	**Sanae**	**51.29**	**158**	P	P	12 36 15.4	0.0
	comp=Z,19nm,0.8s,baz=278,slow=7.7,SNR=60						
SNAA	**Sanae**	**51.29**	**158**	*e*P	P	12 36 16.1	+0.7
APG	**El Apazote**	**52.09**	**337**	P	P	12 36 18.7	-3.5
	comp=Z,16nm,0.7s,baz=139,slow=4.6,SNR=27						
ICMP	**Isla Caja de M**	**52.15**	**7**	P	P	12 36 21.6	-0.7
CRPR	**Cabo Rojo, PR**	**52.22**	**6**	*e*P	P	12 36 21.9	-0.9
	comp=Z,50nm,1.0s						
SABA	**Saba**	**52.29**	**11**	*e*P	P	12 36 23.2	-0.2
	comp=Z,91nm,0.8s						
OBIP	**Obispado Ponce**	**52.30**	**6**	*e*P	P	12 36 23.0	-0.4
	comp=Z,49nm,0.9s						
CELP	**Cerrillos**	**52.33**	**6**	*e*P	P	12 36 23.1	-0.5
LRS	**Lares**	**52.52**	**6**	*e*P	P	12 36 24.1	-1.0
ANWB	**Willy Bob**	**52.58**	**12**	*e*P	P	12 36 24.1	-1.3
	comp=Z,108nm,0.6s						
RKT	**Rikitea**	**55.60**	**264**	*e*T	T	13 36 37.5	
	comp=Z,1.8nm,0.2s						
QSPA	**South Pole Qui**	**55.94**	**180**	P	P	12 36 49.6	-0.1
	comp=Z,46nm,0.8s,baz=152,slow=1.9,SNR=126						
QSPA	**South Pole Qui**	**55.94**	**180**	*e*P	P	12 36 50.4	+0.7
NVL	**N'lazarevskaya**	**56.02**	**157**	*e*P	P	12 36 51.3	+1.3
NVL				pmax	pmax		
	comp=Z,39nm,0.8s						
TEIG	**Tepich**	**56.40**	**342**	P	P	12 36 53.3	+0.1
	comp=Z,52nm,0.8s,baz=163,slow=3.8,SNR=19						
TEIG	**Tepich**	**56.40**	**342**	*e*P	P	12 36 53.4	+0.2
SYO	**Syowa Base**	**65.57**	**158**	⇓*i*P	P	12 37 53.2	-1.7
035A	**Encino**	**65.75**	**334**	⇓P	P	12 37 57.7	+1.2
	baz=66						
034A	**Hebbronville**	**66.07**	**334**	⇓P	P	12 38 00.0	+1.4
	baz=66						
TIGA	**Tifton**	**66.30**	**349**	⇓P	P	12 37 59.8	-0.2
	baz=67						
934A	**Benavides**	**66.50**	**334**	⇓P	P	12 38 02.8	+1.4
	baz=67						
933A	**Laredo**	**66.79**	**334**	⇓P	P	12 38 04.5	+1.3
	baz=67,SNR=5.7						
835A	**Beeville**	**66.89**	**335**	⇑P	P	12 38 05.5	+1.7
	baz=67						
834A	**Tilden**	**66.99**	**335**	⇓P	P	12 38 06.0	+1.6
	baz=67,SNR=7.8						
TBI	**Tubuai**	**67.31**	**257**	*e*T	T	13 51 11.3	
	comp=Z,4.9nm,0.3s						
735A	**Kenedy**	**67.40**	**336**	⇓P	P	12 38 08.3	+1.2
	baz=68						
833A	**Chaparral WMA,**	**67.47**	**334**	⇑P	P	12 38 08.5	+0.9
	baz=68,SNR=9.7						
734A	**La Parita Cree**	**67.65**	**335**	⇑P	P	12 38 09.8	+1.2
	baz=68						
832A	**Faith Ranch, C**	**67.65**	**333**	⇑P	P	12 38 09.2	+0.5
	baz=68,SNR=12						
636A	**Smothers Creek**	**67.72**	**336**	⇓P	P	12 38 10.3	+1.2
	baz=68,SNR=8.6						
HKT	**Hockley**	**67.76**	**338**	*e*P	P	12 38 10.3	+1.1
HKT				pmax	pmax		
	comp=Z,58nm,1.7s						
HKT	**Hockley**	**67.76**	**338**	*e*P	P	12 38 10.3	+1.1
	comp=Z,58nm,1.7s						
733A	**Divot King Ran**	**67.80**	**334**	⇓P	P	12 38 10.0	+0.4
	baz=68						
537A	**Green Hill Far**	**68.03**	**337**	⇑P	P	12 38 11.8	+0.8
	baz=68						
732A	**Laxson Ranch,**	**68.05**	**334**	⇓P	P	12 38 11.9	+0.7
	baz=68,SNR=16						
GOGA	**Godfrey**	**68.21**	**350**	*e*P	P	12 38 11.9	-0.2
GOGA				pmax	pmax		
	comp=Z,18nm,0.8s						
GOGA	**Godfrey**	**68.21**	**350**	*e*P	P	12 38 11.9	-0.2
	comp=Z,18nm,0.8s						
536A	**Bastrop**	**68.27**	**337**	⇓P	P	12 38 13.1	+0.6
	baz=69						
535A	**Dale**	**68.40**	**336**	⇓P	P	12 38 13.9	+0.6
	baz=69						
VBMS	**Vicksburg**	**68.43**	**343**	*e*P	P	12 38 14.4	+1.0
	comp=Z,47nm,0.7s						
633A	**Saathoff Ranch**	**68.43**	**335**	⇑P	P	12 38 13.9	+0.3
	baz=69,SNR=7.1						
LRAL	**Lakeview Retre**	**68.45**	**346**	*e*P	P	12 38 12.9	-0.7
	comp=Z,12nm,0.9s						
339A	**Huntington**	**68.67**	**339**	⇑P	P	12 38 16.0	+1.0
	baz=69						
632A	**Uvalde**	**68.69**	**334**	⇓P	P	12 38 15.6	+0.4
	baz=69,SNR=17						
436A	**Wall Ranch, Ga**	**68.83**	**337**	⇓P	P	12 38 16.9	+0.9
	baz=69						
MEH	**Mehetia**	**68.87**	**262**	*e*T	T	13 53 12.6	
	comp=Z,25nm,0.2s						
631A	**Perdido Creek**	**68.89**	**333**	⇓P	P	12 38 16.5	0.0
	baz=69,SNR=8.1						
533A	**Kerrville**	**68.94**	**335**	⇑P	P	12 38 17.0	+0.3
	baz=69,SNR=13						
337A	**Centerville**	**69.05**	**338**	⇑P	P	12 38 18.2	+0.9
	baz=69,SNR=6.3						
435B	**Jarrell**	**69.10**	**337**	⇓P	P	12 38 18.4	+0.7
	baz=69						
532A	**Rocksprings**	**69.30**	**334**	⇑P	P	12 38 19.5	+0.5
	baz=70,SNR=23						
434A	**Burnet**	**69.35**	**336**	⇑P	P	12 38 19.6	+0.3
	baz=70,SNR=13						
336A	**Riesel**	**69.41**	**337**	⇑P	P	12 38 20.0	+0.4
	baz=70,SNR=8.0						
335A	**Moody**	**69.50**	**337**	⇑P	P	12 38 20.4	+0.3
	baz=70,SNR=7.9						
531A	**Rocksprings**	**69.56**	**334**	⇓P	P	12 38 21.0	+0.4
	baz=70,SNR=9.8						
433A	**Art**	**69.58**	**335**	⇑P	P	12 38 21.1	+0.4
	baz=70,SNR=21						
JCT	**Junction City**	**69.58**	**335**	*e*P	P	12 38 21.1	+0.4
JCT				pmax	pmax		
	comp=Z,31nm,0.9s						
JCT	**Junction City**	**69.58**	**335**	⇑P	P	12 38 21.1	+0.4
	baz=70,SNR=12						
JCT	**Junction City**	**69.58**	**335**	*e*P	P	12 38 21.1	+0.4
	comp=Z,31nm,0.9s						
KMSC	**Kings Mountain**	**69.63**	**352**	⇑P	P	12 38 20.7	-0.2
	baz=70						
KMSC	**Kings Mountain**	**69.63**	**352**	*e*P	P	12 38 20.9	0.0
	comp=Z,16nm,0.8s						
334A	**Lometa**	**69.82**	**336**	⇑P	P	12 38 22.7	+0.6
	baz=70,SNR=10.0						
530A	**J-C Ranch, Com**	**69.84**	**333**	⇓P	P	12 38 23.2	+0.9
	baz=70,SNR=17						
432A	**Menard**	**69.94**	**335**	⇑P	P	12 38 23.2	+0.3
	baz=70,SNR=7.0						
TXAR	**Lajitas Array**	**70.02**	**331**	P	P	12 38 24.1	+0.5
	comp=Z,3.7nm,0.5s,baz=155,slow=8.5,SNR=56						
431A	**Sonora**	**70.05**	**334**	⇓P	P	12 38 23.9	+0.3
	baz=70,SNR=7.5						
333A	**Richland Sprin**	**70.06**	**336**	⇓P	P	12 38 24.0	+0.3
	baz=70,SNR=16						
TIAR	**Tiarei**	**70.08**	**262**	*e*T	T	13 54 43.6	
	comp=Z,4.8nm,0.3s						
529A	**Stev Forest Ra**	**70.16**	**332**	⇓P	P	12 38 24.8	+0.5
	baz=70,SNR=21						
WHTX	**Lake Whitney,**	**70.17**	**337**	⇑P	P	12 38 24.4	+0.1
	baz=70,SNR=5.4						
WHTX	**Lake Whitney,**	**70.17**	**337**	*e*P	P	12 38 24.9	+0.7
	comp=Z,33nm,0.9s						
PAE	**Paea**	**70.22**	**262**	*e*T	T	13 54 54.2	
	comp=Z,1.2nm,0.3s						
PPT2	**Papeete2**	**70.25**	**262**	*e*S	SKiKP	12 48 12.0	+3.5
	comp=Z,113nm,24.2s						
PPT2	**Papeete2**	**70.25**	**262**	*e*LR	LR	13 00 33.7	
	comp=Z,418nm,26.5s						
PPT	**Papeete**	**70.26**	**262**	P	P	12 38 26.5	+1.2
	comp=Z,30nm,0.7s,baz=91,slow=22,SNR=5.0						
CPCT	**Cooper Cave**	**70.37**	**349**	*e*P	P	12 38 26.4	+1.0
OXF	**Oxford**	**70.37**	**345**	*e*P	P	12 38 25.1	-0.3
OXF				pmax	pmax		
	comp=Z,88nm,0.9s						
OXF	**Oxford**	**70.37**	**345**	*e*P	P	12 38 25.1	-0.3
	comp=Z,88nm,0.9s						
430A	**Baggett Ranch,**	**70.38**	**333**	⇓P	P	12 38 26.0	+0.4
	baz=71,SNR=17						
SWET	**Sewanee**	**70.38**	**348**	*e*P	P	12 38 25.1	-0.4
	comp=Z,51nm,0.7s						
332A	**Millersview**	**70.38**	**335**	⇑P	P	12 38 25.7	+0.1
	baz=71,SNR=12						
234A	**Clairette**	**70.40**	**337**	⇓P	P	12 38 26.2	+0.5
	baz=71						
TKL	**Tuckaleechee C**	**70.46**	**350**	*e*P	P	12 38 25.5	-0.5
TKL	**Tuckaleechee C**	**70.46**	**350**	*e*P	P	12 38 25.5	-0.5
429A	**Davenport Ranc**	**70.48**	**333**	⇑P	P	12 38 26.7	+0.5
	baz=71,SNR=12						
331A	**San Angelo**	**70.55**	**334**	⇑P	P	12 38 26.8	+0.2
	baz=71,SNR=14						
233A	**Rising Star**	**70.67**	**336**	⇓P	P	12 38 27.3	0.0
	baz=71,SNR=12						
135A	**Vickery Place,**	**70.67**	**337**	⇓P	P	12 38 27.2	-0.1
	baz=71						
232A	**Coleman**	**70.81**	**335**	⇑P	P	12 38 28.5	+0.3
	baz=71,SNR=15						
134A	**White-Moore Ra**	**70.91**	**337**	⇓P	P	12 38 28.7	0.0
	baz=71						
330A	**Mertzon**	**70.91**	**334**	⇑P	P	12 38 28.8	-0.1
	baz=71,SNR=10						
231A	**Bronte**	**71.08**	**335**	⇓P	P	12 38 29.9	+0.1
	baz=71,SNR=12						
133A	**Hamilton Ranch**	**71.21**	**336**	⇑P	P	12 38 30.7	+0.1
	baz=72,SNR=11						
329A	**Wagon Wheel Ra**	**71.28**	**333**	⇑P	P	12 38 31.1	0.0
	baz=72,SNR=11						
TZTN	**Tazewell**	**71.30**	**350**	*e*P	P	12 38 30.9	-0.2
	comp=Z,323nm,3.0s						
UALR	**University of**	**71.31**	**342**	*e*P	P	12 38 31.0	-0.1
	comp=Z,17nm,1.0s						
230A	**Sterling City**	**71.32**	**334**	⇓P	P	12 38 31.3	-0.1
	baz=72						
Z35A	**Perchaven, San**	**71.34**	**338**	⇓P	P	12 38 31.4	0.0
	baz=72,SNR=8.2						
ABTX	**Abilene, Hawle**	**71.47**	**336**	⇑P	P	12 38 32.2	0.0
	baz=72,SNR=10						
ABTX	**Abilene, Hawle**	**71.47**	**336**	*e*P	P	12 38 32.3	0.0
	comp=Z,30nm,0.8s						
Z34A	**Collier Ranch,**	**71.59**	**337**	⇑P	P	12 38 33.1	+0.3
	baz=72						
WVT	**Waverly**	**71.61**	**347**	*e*P	P	12 38 32.6	-0.3
WVT				pmax	pmax		
	comp=Z,111nm,0.8s						
WVT	**Waverly**	**71.61**	**347**	*e*P	P	12 38 32.6	-0.3
	comp=Z,111nm,0.8s						
229A	**Bryant Ranch,**	**71.65**	**334**	⇓P	P	12 38 33.4	0.0
	baz=72,SNR=5.2						
131A	**Roby**	**71.78**	**335**	⇑P	P	12 38 34.1	+0.1
	baz=72						
Z33A	**Whitaker Ranch**	**71.78**	**337**	⇑P	P	12 38 34.3	+0.3
	baz=72,SNR=7.8						
JSRW	**J. Sargeant Re**	**71.84**	**355**	*e*P	P	12 38 35.1	+0.9
130A	**Snyder**	**71.91**	**334**	⇓P	P	12 38 34.8	-0.1
	baz=72						
Z32A	**Haskell**	**72.04**	**336**	⇑P	P	12 38 36.0	+0.4
	baz=72,SNR=9.3						
228A	**UT Block 9, Go**	**72.08**	**333**	⇓P	P	12 38 36.2	+0.2
	baz=72,SNR=10						
Y34A	**Reagan Ranch,**	**72.08**	**338**	⇑P	P	12 38 35.6	-0.2
	baz=72,SNR=6.8						
129A	**Stewart Farms,**	**72.27**	**334**	⇓P	P	12 38 36.9	-0.1
	baz=73						
Z31A	**Sharp Cattle R**	**72.28**	**335**	⇑P	P	12 38 37.4	+0.3
	baz=73,SNR=18						
Y33A	**Hilltop Ranch,**	**72.40**	**337**	⇑P	P	12 38 38.0	+0.3
	baz=73,SNR=9.0						
128A	**Castleberry Fa**	**72.49**	**333**	⇓P	P	12 38 38.5	+0.1
	baz=73,SNR=11						
PARMO	**Parma**	**72.52**	**345**	*e*P	P	12 38 38.6	+0.3
Z30A	**Sanderson Ranc**	**72.59**	**335**	⇓P	P	12 38 38.7	-0.2
	baz=73,SNR=9.7						
Y32A	**R-V Farms, Ver**	**72.67**	**336**	⇑P	P	12 38 39.6	+0.3
	baz=73,SNR=12						
X34A	**Smith Ranch, M**	**72.70**	**338**	⇑P	P	12 38 39.7	+0.3
	baz=73,SNR=7.2						
Z29A	**Hungry Hill Ra**	**72.78**	**334**	⇓P	P	12 38 39.9	-0.1
	baz=73,SNR=15						
PBMO	**Poplar Bluff**	**72.78**	**345**	*e

baz=74,SNR=5.9
Y27A Causey 73.87 333 ⇑P P 12 38 46.1 -0.4
baz=74,SNR=5.3
W31A Holland Ranch, 73.91 336 ⇓P P 12 38 46.6 0.0
baz=74,SNR=6.0
Z25A Roswell 73.92 332 ⇑P P 12 38 47.4 +0.5
baz=74,SNR=7.6
V33A Lossen Ranch, 73.96 338 ⇑P P 12 38 47.2 +0.3
baz=74,SNR=12
X28A Dimmitt 74.08 334 ⇑P P 12 38 48.1 +0.4
baz=74
V32A Arapaho 74.11 337 ⇓P P 12 38 48.5 +0.8
baz=74
Y26A Elida 74.15 333 ⇑P P 12 38 48.9 +0.7
baz=74
319A Douglas 74.18 327 ⇓P P 12 38 49.5 +1.1
baz=74,SNR=19
OLIL Olney 74.19 347 eP P 12 38 47.5 -0.6
comp=Z,36nm,1.2s
Z24A Sheeppen Canyo 74.22 331 ⇓P P 12 38 49.3 +0.6
baz=74,SNR=14
AMTX Amarillo 74.23 335 ⇓P P 12 38 48.9 +0.3
baz=75
AMTX Amarillo 74.23 335 eP P 12 38 48.7 +0.1
comp=Z,43nm,1.2s
U34A Anderson Ranch 74.30 339 ⇑P P 12 38 49.4 +0.6
baz=75
U34A Anderson Ranch 74.30 339 eP P 12 38 49.2 +0.3
comp=Z,46nm,1.1s
V31A Spring Creek L 74.42 337 ⇑P P 12 38 50.4 +0.8
baz=75
W29A Amarillo 74.43 335 ⇑P P 12 38 50.0 +0.3
baz=75,SNR=7.0
Y25A Mesa, Roswell 74.48 332 ⇑P P 12 38 50.6 +0.4
baz=75
SLM Saint Louis 74.52 345 eP P 12 38 50.1 0.0
SLM pmax pmax
comp=Z,54nm,1.0s
SLM Saint Louis 74.52 345 eP P 12 38 50.1 0.0
comp=Z,54nm,1.0s
121A Cookes Peak, D 74.52 329 ⇑P P 12 38 51.1 +0.7
baz=75,SNR=25
121A Cookes Peak, D 74.52 329 eP P 12 38 51.4 +0.9
comp=Z,28nm,0.9s
X27A F and S Farms, 74.53 334 ⇓P P 12 38 50.6 +0.2
baz=75
SUR Sutherland 74.63 119 P P 12 38 53.6 +2.2
comp=Z,231nm,0.8s,SNR=8.4
SUR Sutherland 74.63 119 eP P 12 38 52.6 +1.2
comp=Z,29nm,0.9s
V30A Spur Ranch, Mi 74.69 336 ⇓P P 12 38 52.1 +0.9
baz=75
U32A Winter Ranch, 74.70 338 ⇑P P 12 38 51.5 +0.3
baz=75,SNR=14
X26A CR and CF Fran 74.70 333 ⇓P P 12 38 51.7 +0.3
baz=75,SNR=11
W28A Vega 74.75 335 ⇓P P 12 38 52.3 +0.6
baz=75
Y24A Capitan 74.77 332 ⇓P P 12 38 52.2 +0.3
baz=75,SNR=16
Z22A Elephant Butte 74.80 330 ⇓P P 12 38 53.0 +1.0
baz=75,SNR=14
ACSO Alum Creek Sta 74.85 351 eP P 12 38 51.7 -0.2
ACSO comp=Z,52nm,0.6s epP pP 12 38 59.3 -2.1
W27A Bowe Ranch, En 74.89 334 ⇓P P 12 38 52.8 +0.3
baz=75,SNR=15
X25A Clemmons Ranch 75.00 332 ⇑P P 12 38 53.2 0.0
baz=75,SNR=5.3
Y23A Lovelace Mesa, 75.03 331 ⇓P P 12 38 54.3 +0.9
baz=75,SNR=12
T33A Patterson Ranc 75.11 339 ⇑P P 12 38 54.1 +0.6
baz=76,SNR=14
W26A Owens Ranch, T 75.17 333 ⇓P P 12 38 54.5 +0.4
baz=76,SNR=8.5
V28A Channing 75.20 335 ⇑P P 12 38 55.0 +0.7
baz=76,SNR=5.6
DBIC Dimbokro 75.22 71 eP P 12 38 55.3 +0.6
DBIC pmax pmax
comp=Z,28nm,0.8s
DBIC Dimbokro 75.22 71 P P 12 38 55.2 +0.6
comp=Z,23nm,0.7s,baz=208,slow=5.3,SNR=32
DBIC Dimbokro 75.22 71 eP P 12 38 55.3 +0.6
comp=Z,28nm,0.8s
U30A WK&E Inc. Balk 75.37 336 ⇓P P 12 38 55.7 +0.6
baz=76,SNR=5.4
T32A Huddler Ranch, 75.41 338 ⇑P P 12 38 55.6 +0.3
baz=76,SNR=5.5
V27A Dan Oppiter Fa 75.42 334 ⇑P P 12 38 56.1 +0.6
baz=76,SNR=9.5
S33A Kaszmaul Farm, 75.51 339 ⇓P P 12 38 56.3 +0.4
baz=76
W25A X Bar L Ranch, 75.54 333 ⇑P P 12 38 56.3 0.0
baz=76,SNR=8.8
T31A Randall Ranch, 75.57 337 ⇓P P 12 38 56.5 +0.3
baz=76
LPM Los Pinos Moun 75.59 331 eP P 12 38 57.5 +1.0
X23A Hourglass Bar 75.65 331 ⇑P P 12 38 57.6 +0.7
baz=76
TUC Tucson 75.65 327 eP P 12 38 57.6 +0.7
TUC pmax pmax
comp=Z,18nm,1.2s
TUC Tucson 75.65 327 eP P 12 38 57.6 +0.7
comp=Z,18nm,1.2s
U28A Mallet 75.77 335 ⇓P P 12 38 57.6 +0.1
baz=76,SNR=6.1
V26A Tequesquite Ra 75.80 334 ⇑P P 12 38 57.8 +0.1
baz=76,SNR=6.4
LAZ Ladron 75.87 331 eP P 12 38 59.1 +0.9
comp=Z,11nm,1.1s
W24A Lazy 6 Ranch, 75.89 332 ⇑P P 12 38 58.5 +0.2
baz=76,SNR=14
S32A Newby Ranch, P 75.89 338 ⇓P P 12 38 58.3 +0.3
baz=76,SNR=6.7
S31A Mullinville 75.99 338 ⇓P P 12 38 59.1 +0.5
baz=76,SNR=5.5
U27A Thompson Grove 76.02 335 ⇓P P 12 38 59.3 +0.3
baz=76,SNR=9.0
ANMO Albuquerque 76.07 331 ceP P 12 39 00.5 +1.2
ANMO pmax pmax
comp=Z,88nm,1.2s
ANMO Albuquerque 76.07 331 P P 12 39 00.2 +0.8
comp=Z,13nm,0.9s,baz=167,slow=7.7,SNR=42
ANMO Albuquerque 76.07 331 eP P 12 39 00.2 +0.8
comp=Z,16nm,0.9s
W23A Werner Place, 76.14 332 ⇓P P 12 39 00.8 +1.1
baz=76,SNR=7.5
V25A Rancho No Teng 76.15 333 ⇓P P 12 39 00.4 +0.6
baz=76,SNR=12
T29A Hugoton 76.15 336 ⇓P P 12 39 00.5 +0.9
baz=76,SNR=5.3
R33A Olander Ranch, 76.17 339 ⇑P P 12 38 59.6 +0.1
baz=76
214A Organ Pipe Nat 76.30 325 ⇓P P 12 39 01.4 +0.9
baz=77,SNR=14
214A Organ Pipe Nat 76.30 325 eP P 12 39 00.9 +0.4
comp=Z,27nm,1.3s
V24A Rampart Ranch, 76.30 333 ⇑P P 12 39 01.2 +0.5
baz=77,SNR=7.7
S30A Montezuma 76.32 337 ⇓P P 12 39 00.9 +0.3
baz=77,SNR=6.1
U26A Atchley Ranch, 76.32 334 ⇓P P 12 39 00.9 +0.1
baz=77,SNR=8.3
T28A Walsh 76.40 336 ⇑P P 12 39 01.3 +0.3
baz=77,SNR=24
R32A Long Quarter, 76.49 339 ⇓P P 12 39 01.8 +0.4
baz=77,SNR=10.0
KSU1 Kansas State U 76.52 341 ⇓P P 12 39 01.4 -0.2
baz=77
KSU1 Kansas State U 76.52 341 eP P 12 39 01.5 0.0
S29A Ulysses 76.52 337 ⇑P P 12 39 02.3 +0.7
baz=77,SNR=11
T27A Campo 76.56 335 ⇓P P 12 39 02.3 +0.4
baz=77,SNR=19
R31A Burdett 76.62 338 ⇓P P 12 39 02.5 +0.4
baz=77,SNR=7.2
V23A Ortiz Mt. (NFS 76.66 332 ⇓P P 12 39 03.3 +0.6
baz=77
S28A Manter 76.75 336 ⇑P P 12 39 03.4 +0.4
baz=77,SNR=26
Q33A Connelly Farm, 76.77 340 ⇓P P 12 39 02.8 -0.2
baz=77,SNR=5.3
R30A Dighton 76.85 337 ⇓P P 12 39 04.0 +0.5
baz=77,SNR=5.1
U24A Moreno Valley 76.90 333 ⇓P P 12 39 05.0 +0.9
baz=77
T26A Comanche Natio 76.96 335 ⇑P P 12 39 04.8 +0.5
baz=77,SNR=15
Q32A Meitler Ranch, 76.97 339 ⇓P P 12 39 04.3 +0.2
baz=77,SNR=13
V22A San Miguel Ran 77.09 332 ⇑P P 12 39 06.6 +1.4
baz=77,SNR=39
P33A Williams Farm, 77.13 340 ⇓P P 12 39 05.2 +0.2
baz=78
X18A Snowflake 77.16 329 ⇑P P 12 39 06.4 +0.9
baz=78,SNR=16
S27A Las Animas 77.17 335 ⇑P P 12 39 06.2 +0.7
baz=78
U23A El Rito 77.18 332 ⇓P P 12 39 06.7 +1.1
baz=78,SNR=11
T25A Trinidad 77.23 334 ⇑P P 12 39 07.2 +1.3
baz=78,SNR=26
Q31A Ellis 77.23 338 ⇑P P 12 39 06.1 +0.5
baz=78,SNR=12
R29A Marienthal 77.25 337 ⇓P P 12 39 06.1 +0.3
baz=78,SNR=7.9
R28A Tribune 77.40 336 ⇑P P 12 39 07.0 +0.4
baz=78,SNR=20
113A Mohawk Valley, 77.42 325 ⇑P P 12 39 07.8 +1.1
baz=78
Q30A Quinter 77.47 338 ⇓P P 12 39 07.2 +0.2
baz=78,SNR=7.5
U22A Llaves 77.48 332 ⇑P P 12 39 08.5 +1.2
baz=78,SNR=8.7
T24B San Luis 77.52 333 ⇑P P 12 39 08.7 +1.1
baz=78,SNR=16
Z14A Wintersburg 77.52 326 ⇑P P 12 39 08.0 +0.7
baz=78
P32A Huiting Farm, 77.57 339 ⇑P P 12 39 07.5 +0.1
baz=78,SNR=7.5
W18A Petrified Fore 77.57 329 ⇑P P 12 39 08.7 +0.9
baz=78,SNR=10
W18A Petrified Fore 77.57 329 eP P 12 39 09.1 +1.3
comp=Z,41nm,1.2s
Q29A Oakley 77.63 337 ⇑P P 12 39 08.2 +0.3
baz=78,SNR=12
R27A Eads 77.68 336 ⇑P P 12 39 08.7 +0.5
baz=78,SNR=26
S25A Robets Cordova 77.70 334 ⇑P P 12 39 09.4 +1.0
baz=78,SNR=13
P31A Stockton 77.70 339 ⇑P P 12 39 08.8 +0.5
baz=78,SNR=12
X16A Lo Mia Camp, P 77.72 327 ⇓P P 12 39 10.0 +1.4
baz=78,SNR=29
T23A Casias Ranch, 77.74 333 ⇑P P 12 39 09.8 +1.0
baz=78,SNR=6.3
R26A Arlington 77.92 335 ⇑P P 12 39 10.4 +0.9
baz=78,SNR=14
MDV Middlebury 77.93 359 eP P 12 39 09.6 +0.3
S24A Houchin Ranch, 77.96 334 ⇓P P 12 39 11.4 +1.4
baz=78,SNR=28
P30A Selden 77.99 338 ⇑P P 12 39 10.3 +0.5
baz=78,SNR=5.4
Y14A Wickenburg 78.03 326 ⇑P P 12 39 11.2 +1.0
baz=78,SNR=9.7
Q28A Sharon Springs 78.06 337 ⇓P P 12 39 11.0 +0.7
baz=78,SNR=14
O32A Brockman Farm, 78.06 340 ⇓P P 12 39 10.4 +0.2
baz=78,SNR=7.4
R25A Fountain Ranch 78.08 334 ⇓P P 12 39 11.0 +0.6
baz=78,SNR=7.0
GLA Glamis 78.16 324 ⇓P P 12 39 12.0 +1.1
baz=78
SDCO Great Sand Dun 78.16 333 eP P 12 39 11.5 +0.3
comp=Z,7.2nm,0.8s
P29A Atwood 78.26 338 ⇑P P 12 39 12.1 +0.7
baz=79,SNR=12
O31A Woolen Ranch, 78.27 339 ⇑P P 12 39 11.8 +0.4
baz=79,SNR=8.6
KSCO Kaye Shedlock' 78.28 336 ⇑P P 12 39 12.7 +1.1
baz=79
SCIA State Center 78.30 344 eP P 12 39 11.7 +0.3
comp=Z,35nm,0.9s
S23A Nye Farm, Mont 78.31 333 ⇓P P 12 39 12.8 +0.9
baz=79,SNR=7.0
R24A Sanders Place, 78.45 334 ⇓P P 12 39 13.8 +1.2
baz=79,SNR=31
P28A Saint Francis 78.50 337 ⇑P P 12 39 13.5 +0.8
baz=79,SNR=16
Q26A Hugo 78.50 335 ⇑P P 12 39 13.6 +0.8
baz=79,SNR=5.8
O30A MW Ranch, Wils 78.52 338 ⇑P P 12 39 13.3 +0.6
baz=79,SNR=8.0
N32A Stulken Farm, 78.53 340 ⇓P P 12 39 13.3 +0.5
baz=79
Y12C Blythe 78.58 325 ⇓P P 12 39 14.6 +1.5
baz=79,SNR=10
WUAZ Wupatki 78.61 328 ⇑P P 12 39 14.6 +1.1
baz=79,SNR=23
WUAZ Wupatki 78.61 328 eP P 12 39 14.7 +1.2
comp=Z,29nm,1.0s
JFWS Jewell Farm 78.64 346 eP P 12 39 13.1 -0.2
JFWS pmax pmax
comp=Z,79nm,1.4s
JFWS Jewell Farm 78.64 346 eP P 12 39 13.1 -0.2
comp=Z,79nm,1.4s
S22A 4UR Ranch, Cre 78.66 332 ⇑P P 12 39 14.5 +0.6
baz=79,SNR=10
R23A Moffat 78.68 333 ⇓P P 12 39 14.7 +0.7
baz=79,SNR=10
O29A 4D Ranch, Culb 78.69 338 ⇓P P 12 39 14.2 +0.5
baz=79,SNR=5.3
Q25A Bedland, Calha 78.75 335 ⇓P P 12 39 14.7 +0.5
baz=79,SNR=11
P27A Ficken Ranch, 78.75 336 ⇓P P 12 39 14.9 +0.8
baz=79
BAR Barrett 78.77 323 eP P 12 39 15.8 +1.5
comp=Z,13nm,0.9s
N31A Bailey Ranch, 78.78 339 ⇓P P 12 39 15.0 +0.9
baz=79
MONP Monument Peak, 78.81 323 ⇑P P 12 39 15.9 +1.1
baz=79
MVCO Mesa Verde 78.85 331 ⇓P P 12 39 15.5 +0.6
baz=79,SNR=13
MVCO Mesa Verde 78.85 331 eP P 12 39 15.7 +0.8
comp=Z,23nm,1.1s
PDMCI Parker Dam,Lak 78.86 325 ⇓P P 12 39 16.0 +1.4
baz=79
BC3 Big Chuckawall 78.95 324 ⇑P P 12 39 16.3 +0.9
baz=79,SNR=10
O28A Krutsinger Ran 79.00 337 ⇓P P 12 39 16.3 +0.8
baz=79,SNR=11
P26A Davis Ranch, A 79.01 336 ⇓P P 12 39 16.2 +0.6
baz=79,SNR=8.3
TSUM Tsumeb 79.07 106 eP P 12 39 17.3 +0.7
comp=Z,30nm,1.4s
BGNE Belgrade 79.09 340 ⇓P P 12 39 16.2 +0.4
baz=79,SNR=7.2
BGNE Belgrade 79.09 340 eP P 12 39 16.1 +0.3
comp=Z,56nm,0.9s
Q24A Divide 79.11 334 ⇓P P 12 39 17.1 +0.7
baz=79,SNR=11
IRM Iron Mountain 79.22 325 ⇑P P 12 39 17.6 +0.9
baz=80,SNR=8.0
P25A Willow Gulch B 79.25 335 ⇑P P 12 39 18.2 +1.3
baz=80,SNR=24
M31A Lambtecht Ranc 79.27 340 ⇓P P 12 39 17.6 +0.8
baz=80,SNR=14
N29A Votaw Ranch, W 79.27 338 ⇓P P 12 39 17.6 +0.7
baz=80
O27A Beecher Island 79.29 337 ⇓P P 12 39 18.3 +1.3
baz=80,SNR=15
W13A Hualapai Mount 79.39 326 ⇓P P 12 39 19.3 +1.4
baz=80,SNR=9.6
PFO Pinyon Flats O 79.41 323 P P 12 39 19.9 +2.0
comp=Z,148nm,0.9s,SNR=6.6
PFO Pinyon Flats O 79.41 323 eP P 12 39 19.8 +2.0
PFO Pinyon Flats O 79.41 323 P P 12 39 19.0 +1.2
comp=Z,20nm,0.9s,baz=127,slow=4.4,SNR=20
PFO Pinyon Flats O 79.41 323 ⇓P P 12 39 19.5 +1.6
baz=80,SNR=11
PFO Pinyon Flats O 79.41 323 eP P 12 39 19.8 +2.0
N28A Pribbeno Ranch 79.44 338 ⇑P P 12 39 18.4 +0.6
baz=80,SNR=7.3
NEE2 Needles Airpor 79.46 325 ⇑P P 12 39 19.1 +1.1
baz=80
BELC Belle Mtn. Jos 79.50 324 ⇑P P 12 39 19.4 +1.0
baz=80,SNR=8.5
O26A Horse Wrangler 79.61 336 ⇑P P 12 39 19.7 +0.8
baz=80,SNR=7.8
PV01 Paradox Valley 79.68 331 eP P 12 39 20.0 +0.6
comp=Z,1μm,1.0s
M30A Dale-Ortello V 79.70 339 ⇓P P 12 39 19.5 +0.2
baz=80
P23A Jefferson 79.72 334 ⇑P P 12 39 20.5 +0.8
baz=80
MURC Murrieta 79.77 323 ⇑P P 12 39 20.8 +1.1
baz=80,SNR=7.1
O25A Wiggins 79.77 335 ⇑P P 12 39 20.9 +1.2
baz=80,SNR=12
U15A North Rim 79.78 328 ⇑P P 12 39 21.2 +1.1
baz=80,SNR=20
OGNE Ogallala 79.83 337 ⇑P P 12 39 20.6 +0.7
baz=80
M29A Burnside Ranch 79.86 338 ⇓P P 12 39 20.9 +0.8
baz=80
N27A Anderson Farm, 79.87 337 ⇑P P 12 39 21.2 +1.0
baz=80,SNR=6.6
BOSA Boshof 79.88 118 P P 12 39 21.4 +0.6
comp=Z,36nm,0.8s,baz=228,slow=6.2,SNR=51
GMRC Granite Mounta 79.97 325 ⇓P P 12 39 22.0 +1.1
baz=80,SNR=20
SMCO Snowmass 79.97 333 eP P 12 39 22.3 +1.1
comp=Z,25nm,0.9s
L31A Butterfield Fa 80.00 340 ⇑P P 12 39 21.3 +0.5
baz=80,SNR=18
ISCO Idaho Springs 80.02 334 eP P 12 39 20.8 -0.5
ISCO pmax pmax
comp=Z,12nm,1.0s
ISCO Idaho Springs 80.02 334 ⇑P P 12 39 22.0 +0.7
baz=80,SNR=9.4
ISCO Idaho Springs 80.02 334 eP P 12 39 20.8 -0.5
comp=Z,12nm,1.0s
M28A Bar X Bar Ranc 80.03 338 ⇓P P 12 39 21.8 +0.8
baz=80
PV04 Paradox Valley 80.03 331 eP P 12 39 22.4 +1.2
L30A Spencer Herefo 80.04 339 ⇑P P 12 39 22.0 +1.0
baz=80
N26A Koester Ranch, 80.11 336 ⇓P P 12 39 22.4 +0.9
baz=80,SNR=12
O24A Longmont 80.11 335 ⇑P P 12 39 22.4 +0.8
baz=80
BBRC Big Bear Solar 80.16 324 ⇓P P 12 39 23.6 +1.5
baz=80,SNR=6.1
CIS Catalina Islan 80.22 322 ⇑P P 12 39 23.1 +1.0
baz=80
P22A Eagle 80.26 333 ⇑P P 12 39 23.4 +0.9
baz=81,SNR=9.1
HEC Hector,Ludlow 80.33 324 ⇑P P 12 39 24.2 +1.4
baz=81,SNR=18
L29A Maesberg Ranch 80.37 339 ⇑P P 12 39 23.6 +0.8
baz=81
N25A Grover 80.39 336 ⇑P P 12 39 24.1 +1.1
baz=81
M27A Reverse DX Ran 80.47 337 ⇑P P 12 39 24.1 +0.7
baz=81
O23A Lake Granby, G 80.49 334 ⇓P P 12 39 24.8 +1.0
baz=81,SNR=24
BFSC Mount Baldy Ra 80.51 323 ⇑P P 12 39 24.7 +0.8
baz=81,SNR=12
TUQ Turquoise Moun 80.62 325 ⇑P P 12 39 25.7 +1.2
baz=81,SNR=17
M26A McRoberts Ranc 80.66 337 ⇓P P 12 39 25.6 +1.1
baz=81
N24A Carr 80.67 335 ⇓P P 12 39 25.2 +0.7
baz=81,SNR=5.4
K30A Basset 80.67 340 ⇓P P 12 39 25.5 +1.1
baz=81,SNR=6.6
O22A Kremmling 80.67 334 ⇑P P 12 39 25.4 +0.6
baz=81,SNR=20
MWC Mount Wilson 80.69 323 eP P 12 39 26.5 +1.6
MWC pmax pmax
comp=Z,18nm,0.9s
MWC Mount Wilson 80.69 323 eP P 12 39 26.4 +1.6
comp=Z,18nm,0.9s
RRX Edison Barstow 80.69 324 ⇓P P 12 39 26.1 +1.5
baz=81
PASC Pasadena Art C 80.72 323 eP P 12 39 25.7 +0.9
comp=Z,18nm,1.0s
ECSD EROS Data Cent 80.85 342 ⇓P P 12 39 25.6 +0.3
baz=81,SNR=36
ECSD EROS Data Cent 80.85 342 eP P 12 39 25.3 +0.1
comp=Z,50nm,0.8s
M25A Palm-Egli Farm 80.93 336 ⇓P P 12 39 26.8 +0.8
baz=81,SNR=5.8
GSC Goldstone, Bar 80.94 324 eP P 12 39 27.4 +1.3
GSC pmax pmax
comp=Z,12nm,0.8s
GSC Goldstone, Bar 80.94 324 ⇑P P 12 39 27.3 +1.3
baz=81,SNR=9.4
GSC Goldstone, Bar 80.94 324 eP P 12 39 27.4 +1.3
comp=Z,12nm,0.8s
K29A Lazy Trails An 80.96 339 ⇓P P 12 39 26.5 +0.6
baz=81,SNR=16
N23A Red Feather La 81.10 335 ⇑P P 12 39 27.7 +0.6
baz=81,SNR=8.0
SHPR Sheep Range 81.14 326 eP P 12 39 28.5 +1.3
L26A Underwood Farm 81.15 337 ⇓P P 12 39 27.9 +0.9
baz=82
SHOC Shoshone, Teco 81.17 325 ⇑P P 12 39 28.3 +1.1
baz=82
EDW2 Edwards Air Fo 81.18 323 ⇓P P 12 39 28.3 +0.9
baz=82,SNR=10.0
CCUT Cedar City 81.19 328 eP P 12 39 29.1 +1.6
comp=Z,26nm,1.0s
N22A Wattenberg Ran 81.20 334 ⇓P P 12 39 28.7 +1.1
baz=82,SNR=16
M24A Cheyenne 81.22 336 ⇑P P 12 39 28.5 +1.0
baz=82,SNR=8.8
K28A Ten Mile Ranch 81.23 339 ⇑P P 12 39 29.0 +1.6
baz=82,SNR=27
J30A Dallas 81.24 340 ⇑P P 12 39 27.9 +0.5
baz=82,SNR=11
O20A White River Ci 81.28 333 ⇑P P 12 39 28.1 +0.2
baz=82,SNR=5.7
O20A White River Ci 81.28 333 eP P 12 39 28.7 +0.8
comp=Z,14nm,0.9s
O20A epP pP 12 39 36.6 -0.8
PHWY Pilot Hill 81.29 335 eP P 12 39 28.7 +0.6
comp=Z,13nm,0.8s
SRU San Rafael Swe 81.30 331 eP P 12 39 28.6 +0.6
SRU pmax pmax
comp=Z,16nm,0.8s
SRU San Rafael Swe 81.30 331 eP P 12 39 28.6 +0.6
comp=Z,16nm,0.8s
SPMN Marine on St. 81.38 345 ⇑P P 12 39 27.1 -0.9
baz=82,SNR=7.5
SPMN Marine on St. 81.38 345 eP P 12 39 27.2 -0.7
comp=Z,26nm,0.8s
ARUT Antelope Range 81.42 328 eP P 12 39 30.1 +1.5
ARUT pmax pmax
comp=Z,264nm,1.0s
ARUT Antelope Range 81.42 328 eP P 12 39 30.1 +1.5
comp=Z,264nm,1.0s
K27A Flueckinger Fa 81.49 338 ⇑P P 12 39 30.1 +1.3
baz=82,SNR=8.5
LRMC Laurel Mtn Rad 81.51 324 ⇓P P 12 39 30.3 +1.2
baz=82,SNR=14
M23A Laramie 81.53 335 ⇓P P 12 39 29.4 +0.2
baz=82
L25A Engebretsen Ra 81.55 337 ⇑P P 12 39 30.1 +1.0
baz=82,SNR=6.2
J29A Okreek 81.55 340 ⇓P P 12 39 29.7 +0.6
baz=82,SNR=37
I30A Oacoma 81.77 340 ⇑P P 12 39 30.2 0.0
baz=82,SNR=38
L24A Wheatland 81.77 336 ⇑P P 12 39 30.9 +0.6
baz=82,SNR=6.1
K26A Motz Farm, Whi 81.78 337 ⇑P P 12 39 31.2 +0.9
baz=82
M22A Cedar Creek Ra 81.78 334 ⇑P P 12 39 31.5 +0.9
baz=82,SNR=5.7
ARVC Arvin 81.80 323 ⇓P P 12 39 31.4 +0.9
baz=82
J28A Allard Ranch, 81.84 339 ⇑P P 12 39 31.3 +0.7
baz=82,SNR=18
N20A Spence Gulch, 81.90 333 ⇑P P 12 39 31.7 +0.5
baz=82,SNR=9.6
FURC Furnace Creek, 81.91 325 ⇓P P 12 39 32.2 +1.2
baz=82,SNR=8.2
J27A Elkhorn Farm, 81.91 338 ⇑P P 12 39 32.4 +1.4
baz=82
K25A Mack Ranch, Ha 81.92 337 ⇓P P 12 39 32.0 +0.8
baz=82
ISA Isabella, Lake 82.04 323 eP P 12 39 33.3 +1.4
ISA pmax pmax
comp=Z,16nm,0.8s
ISA Isabella, Lake 82.04 323 ⇓P P 12 39 33.3 +1.4
baz=82,SNR=18
ISA Isabella, Lake 82.04 323 eP P 12 39 33.3 +1.4
comp=Z,16nm,0.8s
L23A Garrett 82.10 335 ⇑P P 12 39 32.3 +0.1
baz=82,SNR=6.1
I29A Vivian Onida 82.11 340 ⇑P P 12 39 32.0 0.0

baz=82,SNR=7.9
BRSD **Miller** 82.12 341 ⇓P P 12 39 31.8 -0.2
baz=82,SNR=11
BRSD **Miller** 82.12 341 eP P 12 39 31.9 -0.1
comp=Z,58nm,0.8s
LBTB **Lobatse** 82.12 115 eP P 12 39 33.3 +0.5
LBTB pmax pmax
comp=Z,41nm,1.0s
LBTB **Lobatse** 82.12 115 eP P 12 39 33.3 +0.5
comp=Z,41nm,1.0s
L22A **Ellis Ranch, M** 82.28 335 ⇓P P 12 39 33.9 +0.8
baz=83,SNR=7.5
J26A **Sides Ranch, S** 82.30 338 ⇓P P 12 39 34.1 +1.0
baz=83,SNR=14
K24A **Anderson Ranch** 82.34 336 ⇑P P 12 39 34.2 +0.9
baz=83
I28A **Midland** 82.34 339 ⇑P P 12 39 33.7 +0.5
baz=83,SNR=23
VES **Vestal, Richgr** 82.49 323 ⇓P P 12 39 35.2 +1.1
baz=83,SNR=12
MPU **Maple Canyon** 82.52 330 eP P 12 39 35.4 +1.0
comp=Z,20nm,1.0s
SMMC **Simmler** 82.53 322 ⇓P P 12 39 35.8 +1.4
baz=83
GRAC **Grapevine Rang** 82.58 325 ⇓P P 12 39 35.9 +1.3
baz=83
J25A **Sunshine Ranch** 82.60 337 ⇓P P 12 39 35.5 +0.9
baz=83,SNR=9.0
K23A **Bowen Ranch, D** 82.64 336 ⇑P P 12 39 35.6 +0.7
baz=83,SNR=10
H29A **Onida** 82.64 340 ⇑P P 12 39 34.8 +0.1
baz=83,SNR=21
NLU **North Lily Min** 82.65 330 eP P 12 39 35.8 +0.7
comp=Z,23nm,1.5s
NLU epP pP 12 39 45.3 +0.7
I27A **Quinn** 82.67 339 ⇑P P 12 39 35.1 +0.2
baz=83,SNR=8.2
DAU **Daniels Canyon** 82.70 331 eP P 12 39 36.6 +1.1
DAU **Daniels Canyon** 82.70 331 eP P 12 39 36.6 +1.1
G30A **Faulkton** 82.81 341 ⇑P P 12 39 35.6 0.0
baz=83,SNR=11
J24A **Dixon Ranch, L** 82.83 337 ⇑P P 12 39 36.9 +1.1
baz=83,SNR=12
R11A **Troy Canyon, C** 82.84 327 ⇑P P 12 39 37.5 +1.5
baz=83,SNR=35
R11A **Troy Canyon, C** 82.84 327 eP P 12 39 37.3 +1.2
comp=Z,20nm,1.0s
K22A **Casper** 82.86 335 ⇑P P 12 39 36.7 +0.6
baz=83,SNR=10
K22A **Casper** 82.86 335 eP P 12 39 36.6 +0.5
comp=Z,25nm,0.9s
I26A **New Underwood** 82.88 338 ⇓P P 12 39 36.6 +0.5
baz=83,SNR=6.6
H28A **Mission Ridge** 82.92 340 ⇑P P 12 39 36.5 +0.4
baz=83,SNR=30
RCTC **Rector, Farmer** 82.93 323 ⇓P P 12 39 36.8 +0.4
baz=83
JLU **Jordanelle** 82.94 331 eP P 12 39 37.6 +0.9
comp=Z,14nm,0.8s
TIN **Tinemaha, Big** 83.03 324 ⇑P P 12 39 38.1 +1.1
baz=83
G29A **Hoven** 83.08 340 ⇑P P 12 39 37.1 +0.1
baz=83,SNR=12
K21A **Alcova** 83.10 335 ⇑P P 12 39 37.9 +0.6
baz=83,SNR=30
CTU **Camp Tracy** 83.14 331 eP P 12 39 38.2 +0.6
comp=Z,8.4nm,0.8s
I25A **Rochford** 83.14 338 ⇓P P 12 39 38.2 +0.6
baz=84,SNR=17
DUG **Dugway, Tooele** 83.16 330 ⇓P P 12 39 38.5 +0.8
baz=84,SNR=20
H27A **Howes** 83.19 339 ⇓P P 12 39 37.7 +0.1
baz=84,SNR=25
G28A **Parade** 83.25 340 ⇑P P 12 39 38.4 +0.5
baz=84,SNR=26
I24A **Kuemmerle Ranc** 83.29 337 ⇓P P 12 39 38.8 +0.6
baz=84,SNR=8.3
RSSD **Black Hills** 83.33 337 eP P 12 39 38.1 -0.5
RSSD pmax pmax
comp=Z,14nm,0.8s
RSSD **Black Hills** 83.33 337 eP P 12 39 38.0 -0.5
comp=Z,14nm,0.8s
TCUT **Toone Canyon** 83.36 331 eP P 12 39 37.2 -1.6
comp=Z,11nm,0.6s
TPH **Tonopah** 83.37 326 eP P 12 39 39.8 +0.9
TPH pmax pmax
comp=Z,24nm,1.0s
TPH **Tonopah** 83.37 326 eP P 12 39 39.8 +0.9
comp=Z,24nm,1.0s
H26A **Fairpoint** 83.38 338 ⇑P P 12 39 39.3 +0.7
baz=84
F30A **Leola** 83.43 341 ⇓P P 12 39 39.0 +0.3
baz=84,SNR=6.3
J22A **Midwest** 83.51 335 ⇓P P 12 39 38.9 -0.5
baz=84,SNR=9.7
H25A **Fruitdale** 83.64 338 ⇓P P 12 39 40.1 +0.2
baz=84,SNR=15
F29A **Eureka** 83.64 341 ⇓P P 12 39 39.9 0.0
baz=84,SNR=8.4
EYMN **Ely** 83.72 347 eP P 12 39 40.0 -0.2
comp=Z,30nm,0.9s
MLAC **Mammoth, Mammo** 83.78 324 ⇑P P 12 39 42.4 +1.3
baz=84,SNR=10
J21A **Lysite** 83.79 335 ⇓P P 12 39 41.2 +0.3
baz=84,SNR=7.4
G27A **Dupree** 83.82 339 ⇓P P 12 39 40.9 +0.1
baz=84
BGU **Big Grassy Mou** 83.86 330 eP P 12 39 41.0 -0.3
comp=Z,19nm,1.8s
F28A **McLaughlin** 83.93 340 ⇑P P 12 39 41.9 +0.6
baz=84,SNR=25
I22A **9 Mile Ranch,** 83.94 336 ⇓P P 12 39 41.6 0.0
baz=84,SNR=14
G26A **Maurine** 83.94 339 ⇓P P 12 39 41.4 -0.1
baz=84,SNR=16
E30A **Jud** 84.02 342 ⇓P P 12 39 41.8 0.0
baz=84,SNR=10.0
J20A **Shoshoni** 84.02 334 ⇓P P 12 39 42.9 +0.9
baz=84,SNR=28
BW06 **Boulder Array** 84.05 333 eP P 12 39 41.3 -1.0
comp=Z,8.2nm,0.9s
PDAR **Pinedale Array** 84.05 333 P P 12 39 42.0 -0.3
comp=Z,6.2nm,0.7s,baz=136,slow=6.4,SNR=50
PDAR PKKPbc **PKKPbc** 12 57 55.9 -2.2
comp=Z,0.6nm,0.6s,baz=0.0,slow=0.9,SNR=6.0
H24A **Dirks Ranch, A** 84.06 337 ⇑P P 12 39 41.9 -0.1
baz=84,SNR=13
G25A **Newell** 84.10 338 ⇑P P 12 39 42.7 +0.4
baz=84,SNR=33
I21A **Big Trails, Te** 84.14 335 ⇑P P 12 39 42.4 -0.3
baz=84,SNR=14
NVAR **Mina Array Bea** 84.16 325 P P 12 39 43.9 +0.9
comp=Z,8.2nm,0.8s,baz=154,slow=6.1,SNR=46
NVAR PKKPbc **PKKPbc** 12 57 57.1 -0.4
comp=Z,0.1nm,0.4s,baz=355,slow=2.1,SNR=4.7
TORD **Torodi Ar. Bea** 84.25 70 P P 12 39 43.8 +0.2
comp=Z,18nm,0.9s,baz=259,slow=4.2,SNR=89
E29A **Napoleon** 84.27 341 ⇓P P 12 39 43.0 0.0
baz=85,SNR=11
J19A **Crowheart** 84.30 334 ⇑P P 12 39 43.6 +0.2
baz=85,SNR=19
F27A **Lemmon** 84.30 339 ⇓P P 12 39 43.4 +0.2
baz=85,SNR=30
F26A **Lodgepole** 84.47 339 ⇓P P 12 39 44.3 +0.2
baz=85,SNR=15
HVU **Hansel Valley** 84.47 331 eP P 12 39 44.5 +0.2
HVU pmax pmax
comp=Z,25nm,0.7s
HVU **Hansel Valley** 84.47 331 eP P 12 39 44.5 +0.2
comp=Z,25nm,0.7s
H22A **Clearmont** 84.51 336 ⇓P P 12 39 44.5 +0.1
baz=85
G24A **Alzada** 84.53 338 ⇓P P 12 39 44.5 0.0
baz=85,SNR=7.3
D30A **Buchanan** 84.54 342 ⇑P P 12 39 44.5 +0.1
baz=85,SNR=26
I20A **Worland** 84.56 335 ⇑P P 12 39 44.8 +0.1
baz=85,SNR=16
E28A **Huff** 84.56 341 ⇑P P 12 39 44.9 +0.4
baz=85,SNR=16
AHID **Auburn Hatcher** 84.64 332 eP P 12 39 45.1 -0.1
comp=Z,5.2nm,0.6s
ELK **Elko** 84.65 328 eP P 12 39 45.9 +0.5
ELK pmax pmax
comp=Z,13nm,0.9s
ELK **Elko** 84.65 328 eP P 12 39 45.9 +0.5
comp=Z,13nm,0.9s
E27A **Carson** 84.67 340 ⇑P P 12 39 44.9 -0.2
baz=85
D29A **Pettibone, Tap** 84.71 341 ⇓P P 12 39 45.0 -0.3
baz=85,SNR=7.3
G23A **Biddle** 84.73 337 ⇓P P 12 39 45.2 -0.3
baz=85,SNR=7.9
WAKR **Walker** 84.76 325 eP P 12 39 47.5 +1.6
F25A **Bowman** 84.77 339 ⇓P P 12 39 45.5 -0.1
baz=85,SNR=9.4
H21A **Big Horn, Sher** 84.77 336 ⇓P P 12 39 45.3 -0.5
baz=85,SNR=8.9
CMB **Columbia Colle** 84.85 324 eP P 12 39 47.1 +0.9
CMB pmax pmax
comp=Z,13nm,1.3s
CMB **Columbia Colle** 84.85 324 eP P 12 39 47.1 +0.9
comp=Z,13nm,1.3s
I19A **Meeteetse** 84.94 334 ⇓P P 12 39 46.9 +0.2
baz=85,SNR=8.2
AGMN **Agassiz Nation** 84.96 344 ⇓P P 12 39 46.5 0.0
baz=85
AGMN **Agassiz Nation** 84.96 344 eP P 12 39 46.0 -0.4
comp=Z,22nm,0.6s
E26A **Carlson Angus** 84.97 339 ⇑P P 12 39 46.5 -0.1
baz=85,SNR=11
H20A **Greybull** 84.98 335 ⇑P P 12 39 46.7 -0.1
baz=85,SNR=25
F24A **Ekalaka** 85.00 338 ⇑P P 12 39 46.7 -0.1
baz=85,SNR=10
C30A **Mose, Pekin** 85.02 342 ⇑P P 12 39 46.9 +0.1
baz=85,SNR=27
G22A **Birney** 85.04 336 ⇑P P 12 39 47.0 -0.1
baz=85
REDW **Red Top Meadow** 85.05 333 eP P 12 39 47.4 +0.1
comp=Z,8.3nm,0.7s
D28A **Regan** 85.10 341 ⇑P P 12 39 47.4 +0.2
baz=85
LOHW **Long Hollow** 85.17 333 eP P 12 39 48.0 +0.1
comp=Z,9.9nm,0.8s
F23A **Volborg** 85.20 337 ⇑P P 12 39 47.8 0.0
baz=86,SNR=19
TPAW **Teton Pass** 85.20 333 eP P 12 39 48.3 +0.2
comp=Z,16nm,0.9s
E25A **Miller Ranch,** 85.28 339 ⇑P P 12 39 48.4 +0.3
baz=86,SNR=9.0
D27A **Center** 85.28 340 ⇓P P 12 39 48.3 +0.2
baz=86,SNR=5.7
FXWY **Fox Creek** 85.35 333 eP P 12 39 49.0 +0.2
comp=Z,7.4nm,0.8s
G21A **Lodge Grass** 85.35 336 ⇓P P 12 39 48.6 -0.1
baz=86,SNR=11
I17A **Pilgrim Ck.** 85.42 333 ⇑P P 12 39 49.8 +0.6
baz=86,SNR=19
D26A **Manning** 85.47 340 ⇑P P 12 39 49.4 +0.3
baz=86,SNR=8.3
H19A **Powell** 85.49 334 ⇓P P 12 39 49.6 +0.2
baz=86,SNR=19
F22A **Rosebud** 85.53 337 ⇓P P 12 39 49.4 0.0
baz=86,SNR=17
C28A **Hausauer Farms** 85.53 341 ⇑P P 12 39 49.4 +0.1
baz=86
IMW **Indian Meadow** 85.54 333 eP P 12 39 50.1 +0.3
comp=Z,24nm,1.2s
E24A **Baker** 85.60 338 ⇑P P 12 39 50.3 +0.5
baz=86,SNR=8.0
FLWY **Flagg Ranch** 85.61 333 eP P 12 39 50.6 +0.5
comp=Z,32nm,0.6s
B30A **Myrvik Farm, E** 85.68 343 ⇑P P 12 39 50.4 +0.4
baz=86,SNR=58
G20A **Bridger** 85.69 335 ⇑P P 12 39 50.2 -0.1
baz=86,SNR=33
H18A **Shoshone NF, C** 85.74 334 ⇓P P 12 39 51.0 +0.2
baz=86,SNR=87
C27A **Sayler Ranch,** 85.83 340 ⇑P P 12 39 51.4 +0.6
baz=86,SNR=8.0
H17A **Grant Village** 85.83 333 ⇑P P 12 39 52.3 +1.0
baz=86,SNR=6.4
H17A **Grant Village** 85.83 333 eP P 12 39 52.2 +1.0
comp=Z,7.4nm,0.6s
D25A **Fairfield** 85.84 339 ⇑P P 12 39 51.4 +0.5
baz=86,SNR=9.3
F21A **Absaloka Mine,** 85.85 336 ⇓P P 12 39 51.3 +0.2
baz=86
E23A **Ismay** 85.86 338 ⇓P P 12 39 50.8 -0.2
baz=86,SNR=8.8
B29A **Wagenman Farm,** 85.95 342 ⇓P P 12 39 51.4 0.0
baz=86,SNR=11
YFT **Old Faithful** 85.98 333 eP P 12 39 53.1 +1.2
comp=Z,12nm,0.6s
RLMT **Red Lodge** 85.98 335 eP P 12 39 51.9 0.0
comp=Z,24nm,0.7s
E22A **Miles City** 86.01 337 ⇓P P 12 39 51.5 -0.2
baz=86,SNR=16
C26A **Wahner Farm, P** 86.10 340 ⇑P P 12 39 52.2 +0.1
baz=86,SNR=5.7
D24A **Glendive** 86.11 339 ⇓P P 12 39 52.6 +0.4
baz=86,SNR=21
A30A **Hoffart Farm,** 86.13 343 ⇓P P 12 39 52.0 -0.3
baz=86,SNR=19
F20A **Billings** 86.18 336 ⇑P P 12 39 52.4 -0.3
baz=86,SNR=5.7
B28A **Dugan Ranch, T** 86.19 341 ⇓P P 12 39 52.8 +0.2
baz=86,SNR=13
YMR **Madison River** 86.21 333 eP P 12 39 54.0 +1.0
comp=Z,42nm,0.8s
LAO **LASA Array** 86.32 337 eP P 12 39 53.3 -0.1
comp=Z,33nm,0.9s
C25A **Freed Ranch, W** 86.33 339 ⇓P P 12 39 53.5 +0.2
baz=87
A29A **Manning Farm,** 86.34 342 ⇑P P 12 39 53.0 -0.3
baz=87,SNR=17
OHCM **Honcut** 86.41 324 eP P 12 39 54.8 +1.0
D23A **Lindsay** 86.43 338 ⇑P P 12 39 54.5 +0.6
baz=87,SNR=66
E21A **Keefer Ranch,** 86.47 337 ⇓P P 12 39 54.3 +0.2
baz=87,SNR=20
F19A **Roth Farm, Mol** 86.50 335 ⇓P P 12 39 54.2 -0.1
baz=87,SNR=11
C24A **Savage** 86.51 339 ⇑P P 12 39 54.8 +0.7
baz=87,SNR=16
QLMT **Earthquake Lak** 86.52 333 eP P 12 39 55.8 +1.3
A28A **Rude Farm, Bot** 86.59 342 ⇑P P 12 39 54.8 +0.2
baz=87,SNR=5.9
HLID **Hailey** 86.62 331 ⇑P P 12 39 55.8 +0.8
baz=87,SNR=20
HLID **Hailey** 86.62 331 eP P 12 39 55.8 +0.8
comp=Z,18nm,1.0s
D22A **Cohagen** 86.71 337 ⇑P P 12 39 55.5 +0.2
baz=87,SNR=21
E20A **Meyer Farm, Mu** 86.78 336 ⇓P P 12 39 56.1 +0.4
baz=87,SNR=41
ULM **Lac du Bonnet** 86.80 345 P P 12 39 55.0 -0.5
comp=Z,18nm,0.9s,baz=159,slow=4.8,SNR=24
B25A **Knox Farm, Ray** 86.80 340 ⇑P P 12 39 56.3 +0.7
baz=87,SNR=6.9
E19A **Rath Farm, Rou** 86.97 335 ⇑P P 12 39 56.5 -0.1
baz=87,SNR=35
C23A **Lambert** 86.98 338 ⇑P P 12 39 56.9 +0.4
baz=87,SNR=34
A26A **Wade Farm, Ken** 87.06 341 ⇑P P 12 39 57.1 +0.3
baz=87,SNR=11
MCMT **McKenzie Canyo** 87.06 332 eP P 12 39 58.1 +0.8
comp=Z,15nm,1.0s
MFID **Camas Ranch** 87.09 330 eP P 12 39 57.8 +0.6
comp=Z,9.5nm,0.8s
C22A **Vida** 87.15 338 ⇑P P 12 39 57.2 -0.1
baz=88,SNR=14
DGMT **Dagmar** 87.28 339 ⇑P P 12 39 58.5 +0.6
baz=88,SNR=34
DGMT **Dagmar** 87.28 339 eP P 12 39 58.5 +0.6
comp=Z,85nm,0.7s
BOZ **Bozeman (W)** 87.29 333 eP P 12 39 58.1 -0.1
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ **Bozeman (W)** 87.29 333 eP P 12 39 58.1 -0.1
comp=Z,7.3nm,0.8s
D20A **Manuel Ranch,** 87.30 336 ⇑P P 12 39 58.0 -0.1
baz=88,SNR=32
A25A **Svangstu Ranch** 87.39 340 ⇓P P 12 39 58.9 +0.4
baz=88,SNR=11
DLMT **Dillon** 87.41 333 eP P 12 39 59.8 +1.0
comp=Z,22nm,1.2s
B23A **Brockton** 87.51 339 ⇓P P 12 39 59.3 +0.2
baz=88,SNR=14
C21A **Desert Coulee** 87.60 337 ⇑P P 12 39 59.6 +0.1
baz=88,SNR=30
D19A **Cripps Ranch,** 87.61 336 ⇑P P 12 39 59.5 -0.1
baz=88,SNR=12
A24A **Westby** 87.63 340 ⇑P P 12 39 60.0 +0.4
baz=88,SNR=9.5
B22A **Reddig Ranch S** 87.67 338 ⇓P P 12 40 00.2 +0.3
baz=88,SNR=41
LRM **Limekiln Ridge** 87.74 333 eP P 12 40 01.1 +0.6
C20A **Veseth Ranch,** 87.80 337 ⇓P P 12 40 00.3 -0.2
baz=88,SNR=10
MOD **Modoc Plateau** 87.84 326 eP P 12 40 01.8 +0.9
comp=Z,15nm,0.8s
WDC **Whiskeytown Da** 87.88 324 eP P 12 40 00.8 -0.2
WDC pmax pmax
comp=Z,19nm,0.8s
WDC **Whiskeytown Da** 87.88 324 eP P 12 40 00.8 -0.2
comp=Z,19nm,0.8s
A23A **Redstone** 87.92 339 ⇑P P 12 40 00.7 -0.3
baz=88,SNR=6.5
B21A **Ellsworth Farm** 88.11 337 ⇓P P 12 40 02.0 +0.1
baz=88
C19A **Slack Wire Ran** 88.17 336 ⇑P P 12 40 02.0 -0.2
baz=88,SNR=9.3
N02D **Trinity Center** 88.26 324 ⇑P P 12 40 02.9 0.0
baz=89
A22A **Carney Farms,** 88.26 338 ⇓P P 12 40 02.8 +0.2
baz=89,SNR=31
HRY **Holter Researc** 88.27 334 eP P 12 40 03.5 +0.7
B20A **Solberg Farm,** 88.44 337 ⇑P P 12 40 03.5 +0.1
baz=89
M04C **Macdoel** 88.47 325 ⇓P P 12 40 04.5 +0.6
baz=89
A21A **Bergtoll Ranch** 88.57 338 ⇓P P 12 40 04.1 0.0
baz=89,SNR=12
EGMT **Eagleton** 88.66 336 ⇑P P 12 40 04.1 -0.5
baz=89,SNR=6.1
EGMT **Eagleton** 88.66 336 eP P 12 40 04.4 -0.1
comp=Z,13nm,1.0s
M02C **Callahan** 88.66 324 ⇑P P 12 40 05.3 +0.5
baz=89
B19A **Brinkman Farms** 88.76 336 ⇑P P 12 40 04.5 -0.4
baz=89,SNR=6.1
K05A **Summer Lake** 88.76 326 eP P 12 40 06.6 +1.3
comp=Z,29nm,0.9s
A20A **Cobblestone Ra** 88.79 337 ⇑P P 12 40 04.7 -0.4
baz=89,SNR=22
YBH **Yreka Blue Hor** 88.85 325 eP P 12 40 05.6 0.0
YBH pmax pmax
comp=Z,10.0nm,0.9s
YBH **Yreka Blue Hor** 88.85 325 eP P 12 40 05.6 0.0
comp=Z,9.9nm,0.9s
BMO **Blue Mountains** 88.87 330 eP P 12 40 05.8 +0.1
comp=Z,4.8nm,0.9s
SCHQ **Schefferville** 88.88 3 P P 12 40 04.8 -0.5
comp=Z,4.7nm,0.7s,baz=215,slow=7.9,SNR=7.9
SCHQ **Schefferville** 88.88 3 eP P 12 40 05.1 -0.2
CHMT **Chamberlain Mo** 88.96 333 eP P 12 40 06.8 +0.6
A19A **Klindworth Far** 89.10 337 ⇓P P 12 40 06.4 -0.2
baz=89,SNR=12
MSO **Missoula** 89.15 333 ⇓P P 12 40 07.7 +0.8
baz=90
I07A **Izee** 89.20 328 eP P 12 40 08.3 +1.0
comp=Z,20nm,1.4s
I07A epP pP 12 40 16.0 -0.8
SLMT **Seeley Lake** 89.33 333 eP P 12 40 08.4 +0.6
J05D **Fort Rock, OR** 89.35 326 ⇑P P 12 40 09.2 +1.1
baz=90
L02D **Cave Junction,** 89.60 324 ⇑P P 12 40 10.2 +1.1
baz=90
J04D **Umpqua Nationa** 89.72 326 ⇓P P 12 40 10.5 +0.7
baz=90
F10A **Beach Ranch, E** 89.75 330 eP P 12 40 10.1 +0.3
comp=Z,253nm,3.0s
G08A **Pilot Rock** 89.92 329 eP P 12 40 11.5 +0.9
comp=Z,38nm,1.9s
YBMT **Yellow Bay** 90.04 333 eP P 12 40 11.4 +0.3
JTMT **Jette** 90.04 333 eP P 12 40 11.8 +0.6
I05D **Terrebonne, OR** 90.22 327 ⇑P P 12 40 12.6 +0.6
baz=90
I04A **Tendick Farm,** 90.29 326 ⇑P P 12 40 12.3 0.0
baz=91
BLMT **Blacktail Moun** 90.29 333 eP P 12 40 13.0 +0.6
BSMT **Bassoo Peak** 90.32 333 eP P 12 40 12.9 +0.4
H04A **Detroit Lake** 90.87 327 eP P 12 40 15.4 +0.5
comp=Z,75nm,2.3s
WALA **Waterton Lakes** 91.00 334 eP P 12 40 15.8 +0.3
WALA epP pP 12 40 24.6 -0.6
HAWA **Hanford** 91.04 329 eP P 12 40 16.7 +1.0
comp=Z,12nm,1.0s
HAWA epP pP 12 40 25.2 -0.1
E07A **Sunnyside** 91.31 329 eP P 12 40 17.9 +1.0
comp=Z,7.7nm,1.0s
E07A epP pP 12 40 26.2 -0.3
D08A **Wollman Farm,** 91.32 330 eP P 12 40 17.5 +0.6
comp=Z,10nm,0.9s
NEW **Newport** 91.56 332 eP P 12 40 17.7 -0.4
NEW pmax pmax
comp=Z,73nm,2.7s
NEW **Newport** 91.56 332 ⇑P P 12 40 17.4 -0.7
baz=92
NEW **Newport** 91.56 332 eP P 12 40 17.7 -0.4
comp=Z,73nm,2.7s
C09A **Chrisman Ranch** 91.64 331 eP P 12 40 18.9 +0.5
comp=Z,11nm,0.8s
LON **Longmire** 92.30 328 eP P 12 40 21.7 +0.2
LON pmax pmax
comp=Z,4.0nm,0.8s
LON **Longmire** 92.30 328 eP P 12 40 21.7 +0.2
comp=Z,4.1nm,0.8s
B08A **Colville Reser** 92.52 331 eP P 12 40 23.0 +0.5
comp=Z,18nm,1.8s
B08A epP pP 12 40 31.5 -0.6
D05A **Enumclaw** 92.72 328 eP P 12 40 23.8 +0.4
comp=Z,17nm,1.0s
EDM **Edmonton** 94.28 337 eP P 12 40 29.3 -1.2
EDM **Edmonton** 94.28 337 eP P 12 40 29.2 -1.2
FCC **Fort Churchill** 94.53 349 eP P 12 40 31.4 0.0
FCC **Fort Churchill** 94.53 349 eP P 12 40 31.4 0.0
YKA **Yellowknife Ar** 102.36 341 P Pdif 12 41 05.8 -0.7
comp=Z,1.5nm,0.6s,baz=141,slow=4.4,SNR=38
YKA PKiKP **PKiKP** 12 45 27.5 -0.5
comp=Z,0.2nm,0.6s,baz=147,slow=2.1,SNR=4.3
YKA PKKPbc **PKKPbc** 12 57 07.0 -2.8
comp=Z,0.2nm,0.6s,baz=325,slow=3.2,SNR=5.5
ILAR **Eielson Array** 114.49 333 PKP PKPdf 12 45 50.0 -0.6
comp=Z,1.4nm,0.7s,baz=152,slow=2.2,SNR=18
VYHS **Vyhne** 115.25 47 ePKIKP **PKPdf** 12 45 52.6 0.0
VYHS **Vyhne** 115.25 47 ePKP **PKPdf** 12 45 52.6 0.0
NOA **NORSAR Array B** 116.24 33 PKKPbc PKKPbc 12 56 25.4 +0.5
comp=Z,0.8nm,0.7s,baz=69,slow=4.6,SNR=3.5
ASAR **Alice Springs** 117.33 207 PKP **PKPdf** 12 45 56.2 -1.4
comp=Z,1.6nm,0.7s,baz=139,slow=1.7,SNR=16
ASAR PKKPbc **PKKPbc** 12 56 20.1 -0.2
comp=Z,0.9nm,0.6s,baz=336,slow=3.2,SNR=19
WRA **Warramunga Arr** 120.53 209 PKP **PKPdf** 12 46 02.6 -1.2
comp=Z,3.8nm,0.6s,baz=164,slow=1.6,SNR=40
WRA PKKPbc **PKKPbc** 12 56 08.9 +0.3
comp=Z,0.6nm,0.8s,baz=341,slow=4.2,SNR=4.8
BRTR **Keskin Array B** 121.92 61 PKP **PKPdf** 12 46 05.9 0.0
comp=Z,2.7nm,0.7s,baz=193,slow=2.2,SNR=13
AKASG **Malin Array Be** 122.35 48 PKIKP **PKPdf** 12 46 05.0 -1.2
AKASG **Malin Array Be** 122.35 48 PKP **PKPdf** 12 46 05.0 -1.2
comp=Z,2.4nm,0.7s,baz=268,slow=2.4,SNR=13
TNA **Tin City** 123.08 330 ePKPdf **PKPdf** 12 46 06.9 -0.2
FINES **FINESS Array B** 123.20 35 PKP **PKPdf** 12 46 06.4 -1.1
comp=Z,2.1nm,0.8s,baz=336,slow=4.2,SNR=5.9
KAF **Kangasniemi** 123.44 34 ePKIKP **PKPdf** 12 46 06.3 -1.6
KAF **Kangasniemi** 123.44 34 ep **PKPdf** 12 46 06.3 -1.6
ARCES **ARCESS Array B** 124.26 25 PKP **PKPdf** 12 46 09.1 -0.2
comp=Z,2.5nm,0.7s,baz=251,slow=3.0,SNR=11
H11S2 **WAKE ISLAND Hyl** 125.83 269 T T 15 04 41.2
baz=120,slow=76,SNR=19
H11S1 **WAKE ISLAND Hyl** 125.84 269 T T 15 04 38.8
baz=120,slow=76,SNR=31
H11S3 **WAKE ISLAND Hyl** 125.84 269 T T 15 04 36.6
baz=120,slow=76,SNR=17
JOF **Joensuu** 125.85 33 ePKIKP **PKPdf** 12 46 11.2 -1.3
JOF **Joensuu** 125.85 33 ep **PKPdf** 12 46 11.2 -1.3
ANN **Anapa** 126.13 56 *i* PKIKP **PKPdf** 12 46 15.2 +1.6
ANN pmax pmax
comp=Z,45nm,1.0s
H11N3 **WAKE ISLAND Hyl** 126.25 270 T T 15 05 11.8
baz=115,slow=78,SNR=6.6
H11N1 **WAKE ISLAND Hyl** 126.26 270 T T 15 05 08.8
baz=115,slow=78,SNR=15
H11N2 **WAKE ISLAND Hyl** 126.27 270 T T 15 05 13.1
baz=115,slow=78,SNR=13
OBN **Obninsk** 127.61 43 ⇓ *i* PKIKP **PKPdf** 12 46 16.1 0.0
OBN pmax pmax
comp=Z,26nm,1.7s
VSR **Storozhevoye** 128.59 49 ePKIKP **PKPdf** 12 46 16.9 -1.2

VSR					pmax	pmax		
	comp=N,6.0nm,1.3s							
VSR					pmax	pmax		
	comp=E,2.0nm,1.3s							
VSR					pmax	pmax		
	comp=Z,10.0nm,1.3s							
VORD	**Divnogorie**	**128.63**	**49**	*e*PKIKP	**PKPdf**	**12 46 16.9**	**-1.3**	
VORD					pmax	pmax		
	comp=Z,5.0nm,0.7s							
VORD					pmax	pmax		
	comp=N,7.0nm,0.6s							
VORD					pmax	pmax		
	comp=E,10.0nm,0.6s							
KIV	**Kislovodsk**	**129.59**	**58**	*e*PKIKP	**PKPdf**	**12 46 21.8**	**+1.4**	
KIV					pmax	pmax		
	comp=Z,6.0nm,0.8s							
KLMR	**Klimovskoe**	**129.61**	**36**	*e*PKIKP	**PKPdf**	**12 46 17.8**	**-1.9**	
KLMR					pmax	pmax		
	comp=Z,39nm,1.5s							
KBZ	**Khabaz**	**129.69**	**59**	PKP	**PKPdf**	**12 46 20.6**	**+0.2**	
	comp=Z,4.1nm,1.0s,baz=110,slow=5.1,SNR=7.6							
VRHR	**Novokhopersk**	**130.11**	**49**	*e*PKIKP	**PKPdf**	**12 46 21.3**	**+0.3**	
VRHR					pmax	pmax		
	comp=N,10.0nm,0.9s							
VRHR					pmax	pmax		
	comp=E,20nm,0.9s							
VRHR					pmax	pmax		
	comp=Z,7.0nm,0.9s							
ZEI	**Tsey**	**130.20**	**60**	*i* PKIKP	**PKPdf**	**12 46 21.3**	**-0.4**	
ZEI					pmax	pmax		
	comp=Z,8.0nm,1.5s							
PRGR	**Permogore**	**132.53**	**35**	*e*PKIKP	**PKPdf**	**12 46 24.6**	**-0.6**	
PRGR					pmax	pmax		
	comp=Z,9.0nm,0.6s							
BILL	**Biiibino**	**133.13**	**334⇓**	*i*PKIKP	**PKPdf**	**12 46 26.6**	**+0.4**	
BILL					pmax	pmax		
	comp=Z,12nm,1.3s							
GEYT	**Alibeck**	**139.89**	**70**	PKhKP	PKPpre	12 46 34.6		
	comp=Z,2.7nm,0.5s,baz=256,slow=12,SNR=3.6							
ARU	**Arti**	**139.93**	**41**	*i* PKIKP	**PKPdf**	**12 46 40.5**	**+1.4**	
ARU						12 49 34.1		
ARU	**Arti**	**139.93**	**41**	*e*PKPdf	**PKPdf**	**12 46 39.1**	**-0.1**	
SEY	**Seymchan**	**140.32**	**330**	PKP	**PKPdf**	**12 46 38.3**	**-1.4**	
	comp=Z,11nm,0.7s,baz=133,slow=4.1,SNR=8.5							
PETK	**Petropavlovsk-**	**140.41**	**314**	PKhKP	PKPpre	12 46 31.6		
	comp=Z,2.5nm,0.7s,baz=100,slow=6.0,SNR=7.3							
PETK				PKP	**PKPdf**	**12 46 40.7**	**+0.5**	
	comp=Z,3.4nm,0.8s,baz=128,slow=2.8,SNR=6.3							
ABKAR	**Akbulak array**	**141.82**	**52**	*e*PKPdf	PKPdf	12 46 36.6	-6.1	
POO	**Poona**	**145.79**	**109⇑**	*i* P	**PKPdf**	**12 46 50.0**	**-0.7**	
	comp=Z,179nm,1.5s							
BRVK	**Borovoye**	**147.38**	**43**	*e*PKIKP	**PKPdf**	**12 46 53.2**	**+0.9**	
BRVK				*e*		12 46 55.4		
BRVK	**Borovoye**	**147.38**	**43**	*e*PKPdf	**PKPdf**	**12 46 53.2**	**+0.9**	
BRVK				*e*PKPbc	**PKPbc**	**12 46 55.4**	**+0.6**	
BVAR	**Borovoye Array**	**147.45**	**43**	PKPbc	**PKPbc**	**12 46 55.9**	**+0.8**	
	comp=Z,19nm,0.7s,baz=281,slow=3.5,SNR=77							
KBL	**Kabul**	**147.97**	**78**	*e*PKIKP	**PKPdf**	**12 46 55.3**	**+1.1**	
KBL	**Kabul**	**147.97**	**78**	*e*PKPdf	**PKPdf**	**12 46 55.3**	**+1.1**	
HYB	**Hyderabad**	**148.75**	**115**	*i* PKP	**PKPbc**	**12 46 58.5**	**-1.0**	
YAK	**Yakutsk**	**149.03**	**340**	*e*PKIKP	**PKPdf**	**12 46 54.0**	**-0.7**	
YAK					pmax	pmax		
	comp=Z,46nm,0.9s							
YAK	**Yakutsk**	**149.03**	**340**	*e*PKPbc	**PKPbc**	**12 46 58.5**	**-0.3**	
YAK				*e*PKPab	**PKPab**	**12 47 02.7**	**-0.3**	
YUK	**Yuzh-Kuril'sk**	**149.34**	**300**	PKP2	**PKPab**	**12 47 05.1**	**+0.2**	
YUK				*e*		12 53 58.7		
YUK				MLR	MLR			
	comp=Z,388nm,22.0s							
IPM	**Ipoh**	**149.63**	**166**	*e*PKPdf	**PKPdf**	**12 46 57.8**	**+0.5**	
IPM				*e*PKPbc	**PKPbc**	**12 47 01.1**	**-0.8**	
KKAR	**Karatay Array**	**149.63**	**62**	*e*PKPdf	**PKPdf**	**12 46 56.3**	**-0.1**	
KKAR				*e*PKPbc	**PKPbc**	**12 47 00.8**	**-0.2**	
KULM	**Kulim**	**150.34**	**165**	*e*PKPbc	**PKPbc**	**12 47 02.5**	**-1.0**	
YSS	**Yuzh-Sakhalins**	**151.02**	**306⇑**	*i*PKIKP	**PKPbc**	**12 47 03.5**	**-0.6**	
YSS				*e*		12 47 12.4		
YSS				pmax	pmax			
	comp=Z,60nm,1.0s							
YSS	**Yuzh-Sakhalins**	**151.02**	**306**	*e*PKPbc	**PKPbc**	**12 47 03.7**	**-0.4**	
ERM	**Erimo**	**151.48**	**296***c*	*i*PKIKP	**PKPbc**	**12 47 07.1**	**+1.8**	
ERM				pmax	pmax			
	comp=Z,32nm,1.0s							
ASAJ	**Asahikawa**	**151.66**	**301**	PKPbc	**PKPbc**	**12 47 05.4**	**-0.3**	
	comp=Z,26nm,0.9s,baz=243,slow=4.9,SNR=12							
AML	**Almayashu**	**152.05**	**64**	P	**PKPbc**	**12 47 08.1**	**+0.9**	
	SNR=9.8							
EKS2	**Erkin-Say**	**152.06**	**62**	P	**PKPbc**	**12 47 07.8**	**+0.9**	
	SNR=12							
EKS2	**Erkin-Say**	**152.06**	**62**	*e*PKIKP	**PKPdf**	**12 47 01.3**	**+1.0**	
EKS2				*e*		12 47 07.0		
EKS2	**Erkin-Say**	**152.06**	**62**	*e*PKPdf	**PKPdf**	**12 47 01.2**	**+1.0**	
EKS2				*e*PKPbc	**PKiKP**	**12 47 07.0**	**-0.2**	
USP	**Ospenovka**	**152.51**	**61**	P	**PKPbc**	**12 47 08.3**	**+0.6**	
	SNR=8.5							
AAK	**Ala-Archa**	**152.59**	**62**	P	**PKPbc**	**12 47 08.9**	**+0.8**	
	SNR=14							
AAK	**Ala-Archa**	**152.59**	**62**	*e*PKIKP	**PKPdf**	**12 47 01.6**	**+0.5**	
AAK				*e*		12 47 08.7		
AAK						12 47 08.9		
AAK	**Ala-Archa**	**152.59**	**62**	PKP	**PKPdf**	**12 47 01.7**	**+0.5**	
	comp=Z,17nm,0.9s,baz=106,slow=6.6,SNR=4.1							
AAK				PKPbc	**PKPbc**	**12 47 08.9**	**+0.8**	
	comp=Z,17nm,0.9s,baz=204,slow=2.3,SNR=41							
AAK	**Ala-Archa**	**152.59**	**62**	*e*PKPdf	**PKPdf**	**12 47 01.6**	**+0.5**	
AAK				*e*PKPbc	**PKiKP**	**12 47 08.7**	**+0.3**	
AAK				PKPbc	**PKPbc**	**12 47 08.9**	**+0.8**	
UCH	**Uchtor**	**152.65**	**63**	P	**PKPbc**	**12 47 09.5**	**+0.9**	
	SNR=12							
FRU	**Bishkek**	**152.66**	**62**	*i* PKIKP	**PKPbc**	**12 47 08.6**	**+0.5**	
FRU				pmax	pmax			
	comp=Z,50nm,1.8s							
KBK	**Karagaybulak**	**152.92**	**62**	P	**PKPbc**	**12 47 09.6**	**+0.8**	
	SNR=5.0							
KURK	**Kurchatov**	**153.05**	**44**	*e*PKIKP	**PKPdf**	**12 47 00.8**	**-0.4**	
KURK				*e*		12 47 08.2		
KURK	**Kurchatov**	**153.05**	**44**	*e*PKPdf	**PKPdf**	**12 47 00.8**	**-0.4**	
KURK				*e*PKPbc	**PKPbc**	**12 47 08.2**	**-0.4**	
NVS	**Novosibirsk**	**153.16**	**33⇓**	*i*PKIKP	**PKPdf**	**12 47 00.9**	**-0.4**	
NVS				*i*		12 47 16.7		
NVS				pmax	pmax			
	comp=Z,47nm,1.0s							
NVS				pmax	pmax			
	comp=N,2.0nm,0.6s							
NVS				pmax	pmax			
	comp=E,6.0nm,0.7s							
KZA	**Kyzart**	**153.21**	**63**	P	**PKPbc**	**12 47 10.7**	**+0.9**	
	SNR=6.0							
TKM2	**Tokmak 2**	**153.36**	**61**	P	**PKPbc**	**12 47 10.2**	**+0.3**	
	SNR=5.9							
TKM2	**Tokmak 2**	**153.36**	**61**	*e*PKIKP	**PKPdf**	**12 47 02.3**	**0.0**	
TKM2				*e*		12 47 09.7		
TKM2	**Tokmak 2**	**153.36**	**61**	*e*PKPdf	**PKPdf**	**12 47 02.3**	**0.0**	
TKM2				*e*PKPbc	**PKPbc**	**12 47 09.7**	**-0.2**	
KSH	**Kashi**	**153.92**	**69**	PKPbc	**PKPdf**	**12 47 03.6**	**+0.5**	
KSH				sPKP		12 47 18.2		
KSH				PKS	**PKSdf**	**12 50 37.5**	**+0.1**	
KSH				PP	**PP**	**12 50 57.9**	**-1.6**	
KSH				SKS	**SKSdf**	**12 54 05.6**	**-2.3**	
KSH				SKKS	**SKKSac**	**12 57 45.2**	**-2.0**	
KSH				SS	**SS**	**13 10 31.7**	**-4.0**	
KSH				PPMZ				
	comp=E,200nm,5.3s							
KSH				LN				
	comp=E,39nm,4.8s							
KSH				LE				
	comp=E,28nm,4.1s							
KSH				LZ				
	comp=E,95nm,5.9s							
ZALV	**Zalesovo Beam**	**154.44**	**33**	PKP	**PKPdf**	**12 47 02.9**	**-0.3**	
	comp=E,3.5nm,0.7s,baz=277,slow=2.4,SNR=18							
ZALV				PKPbc	**PKPbc**	**12 47 11.3**	**-0.2**	
	comp=E,20nm,0.7s,baz=288,slow=0.5,SNR=15							
MJAR	**Matsushiro Arr**	**155.35**	**284**	PKPab	**PKPab**	**12 47 30.1**	**-0.4**	
	comp=E,1.9nm,0.6s,baz=107,slow=2.9,SNR=5.9							
BOD	**Bodaibo**	**156.13**	**352**	*e*PKIKP	**PKPdf**	**12 47 03.6**	**-1.7**	
BOD				*e*		12 47 32.4		
BOD				pmax	pmax			
	comp=Z,19nm,1.1s							
MKAR	**Makanchi Array**	**156.91**	**50**	PKP	**PKPdf**	**12 47 06.7**	**0.0**	
	comp=Z,1.9nm,0.9s,baz=299,slow=1.2,SNR=13							
MKAR				PKPab	**PKPab**	**12 47 37.0**	**+0.2**	
	comp=Z,8.7nm,0.7s,baz=282,slow=3.0,SNR=27							
KOLN	**Koldanda**	**158.10**	**101**	*e*P	**PKPdf**	**12 47 08.6**	**-0.5**	
	comp=Z,13nm,0.9s							
DANN	**Dangsing**	**158.46**	**99**	*e*P	**PKPdf**	**12 47 09.4**	**-0.2**	
	comp=Z,41nm,0.8s							
GKN	**Gorkha**	**159.04**	**101**	*e*P	**PKPdf**	**12 47 10.0**	**-0.1**	
USRK	**Ussuriysk Ar.**	**159.04**	**305**	PKPab	**PKPab**	**12 47 46.8**	**+0.7**	
	comp=Z,4.5nm,0.8s,baz=62,slow=10,SNR=6.3							
DMN	**Daman**	**159.26**	**103**	*e*P	**PKPdf**	**12 47 10.0**	**-0.5**	
KKN	**Kakani**	**159.47**	**102**	*e*P	**PKPdf**	**12 47 10.2**	**-0.5**	
PKI	**Pulchoki**	**159.49**	**103**	*e*P	**PKPdf**	**12 47 10.1**	**-0.8**	
GUN	**Gumba**	**160.01**	**103**	*e*P	**PKPdf**	**12 47 11.1**	**-0.4**	
RAMN	**Ramite**	**160.17**	**106**	*e*P	**PKPdf**	**12 47 11.6**	**0.0**	
	comp=Z,18nm,0.8s							
MDJ	**Mudanjiang**	**160.48**	**308**	PKP	**PKPdf**	**12 47 08.6**	**-2.4**	
ODAN	**Odare**	**160.76**	**107**	*e*P	**PKPdf**	**12 47 12.2**	**0.0**	
	comp=Z,13nm,0.6s							
TAPN	**Taplejung**	**161.24**	**106**	*e*P	**PKPdf**	**12 47 12.4**	**-0.4**	
WMQ	**Urumqi**	**161.60**	**53**	PKP	**PKPdf**	**12 47 12.1**	**-0.2**	
WMQ				PKPab	**PKPab**	**12 47 58.1**	**+0.7**	
WMQ				PKS	**PKSdf**	**12 50 44.1**	**-1.4**	
WMQ				PP	**PP**	**12 51 43.7**	**+2.5**	
WMQ				SKS	**SKSdf**	**12 54 11.0**	**-4.1**	
WMQ				SKKS	**SKKSac**	**12 58 26.7**	**-0.5**	
WMQ				SS	**SS**	**13 11 54.5**	**-2.3**	
WMQ				PPMZ				
	comp=Z,85nm,5.4s							
WMQ				LN				
	comp=Z,89nm,21.0s							
WMQ				LE				
	comp=Z,85nm,22.0s							
WMQ				LZ				
	comp=Z,110nm,21.0s							
CMAR	**Chiang Mai Arr**	**162.26**	**151**	PKP	**PKPdf**	**12 47 13.7**	**+0.1**	
	comp=Z,1.7nm,0.6s,baz=243,slow=2.7,SNR=14							
CMAR				PKPab	**PKPab**	**12 48 00.0**	**-0.6**	
	comp=Z,1.0nm,0.8s,baz=231,slow=4.0,SNR=5.0							
CN2	**Changchun**	**163.50**	**310**	*e*PKP	**PKPdf**	**12 47 10.9**	**-3.2**	
CN2				*ep*PKP	**pPKPdf**	**12 47 21.7**	**-2.3**	
ZAK	**Zakamensk**	**163.55**	**11**	*e*PKP2	**PKPab**	**12 48 05.1**	**-0.5**	
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
KSRS	**Korea Array**	**163.58**	**287**	PKP	**PKPdf**	**12 47 13.7**	**-0.7**	
	comp=Z,2.2nm,0.8s,baz=117,slow=1.2,SNR=4.1							
KSRS				PKPab	**PKPab**	**12 48 07.1**	**+0.9**	
	comp=Z,3.9nm,0.8s,baz=91,slow=3.9,SNR=8.6							
KSAR	**Wonju Array Be**	**163.61**	**287**	PKIKP	**PKPdf**	**12 47 13.7**	**-0.7**	
KSAR						12 48 07.1		
KSAR	**Wonju Array Be**	**163.61**	**287**	PKP	**PKPdf**	**12 47 13.7**	**-0.7**	
KSAR				PKPab	**PKPab**	**12 48 07.1**	**+0.8**	
QIZ	**Qiongzhong**	**164.71**	**186**	PKP	**PKPdf**	**12 47 16.2**	**+0.3**	
QIZ				PP	**PP**	**12 51 58.7**	**+2.3**	
QIZ				SS	SS	13 12 26.6	-0.1	
QIZ				LZ				
	comp=Z,190nm,24.9s							
SONM	**Songino Array**	**166.42**	**5**	PKP	**PKPdf**	**12 47 16.1**	**-0.6**	
	comp=Z,1.1nm,0.9s,baz=199,slow=0.6,SNR=5.6							
SONM				PKPab	**PKPab**	**12 48 19.0**	**+0.7**	
	comp=Z,3.6nm,0.9s,baz=339,slow=3.8,SNR=16							
ULN	**Ulaanbaatar**	**166.42**	**3**	*e*PKIKP	**PKPdf**	**12 47 16.0**	**-0.7**	
ULN	**Ulaanbaatar**	**166.42**	**3**	*e*PKPdf	**PKPdf**	**12 47 16.0**	**-0.7**	
KMI	**Kunming**	**169.77**	**152**	PKP	**PKPdf**	**12 47 17.6**	**-2.2**	
KMI				LZ				
	comp=Z,120nm,22.8s							
NJ2	**Nanjing**	**170.66**	**259**	*e*PKP	**PKPdf**	**12 47 20.9**	**+1.1**	
GTA	**Gaotai**	**171.67**	**50**	*e*PKP	**PKPdf**	**12 47 20.6**	**+0.4**	
GTA				pPKP	**pPKPdf**	**12 47 29.4**	**-0.7**	
GTA				sPKP		12 47 33.4		
GTA				PKPab	**PKPab**	**12 48 42.6**	**+0.6**	
GYA	**Guiyang**	**172.10**	**171**	PKP	**PKPdf**	**12 47 20.5**	**-0.3**	
GYA				pPKP	**pPKPdf**	**12 47 32.0**	**+1.3**	
GYA				PKPab	**PKPab**	**12 48 46.8**	**+2.8**	
GYA				PKS	**PKSdf**	**12 50 51.4**	**-1.9**	
GYA				PP	**PP**	**12 52 38.2**	**+4.1**	
GYA				SKKS		12 59 19.7		
GYA				SS	**SS**	**13 13 42.5**	**+1.5**	
GYA				PPMZ				
	comp=Z,140nm,8.4s							
GYA				LN				
	comp=Z,130nm,22.6s							
GYA				LE				
	comp=Z,120nm,21.8s							
GYA				LZ				
	comp=Z,140nm,24.5s							
HHC	**Hu-ho-hao-te**	**172.88**	**338**	*e*PKP	**PKPdf**	**12 47 20.5**	**-0.2**	
HHC				PKS	**PKSdf**	**12 50 51.3**	**-1.7**	
HHC				PP	**PP**	**12 52 41.6**	**+3.4**	
HHC				SKKS		12 59 23.5		
HHC				SS	**SS**	**13 13 49.1**	**0.0**	
HHC				PPMZ				
	comp=Z,180nm,5.7s							
HHC				LN				
	comp=Z,240nm,21.0s							
HHC				LE				
	comp=Z,270nm,20.6s							
HHC				LZ				
	comp=Z,210nm,20.0s							
CD2	**Chengdu**	**175.06**	**132**	*e*PKP	**PKPdf**	**12 47 22.0**	**+0.3**	
CD2				sPKP		12 47 37.2		
CD2				PP	**PP**	**12 52 53.5**	**+4.0**	
CD2				SKS	**SKSdf**	**12 54 19.8**	**-2.9**	
CD2				SKKS	**SKKSac**	**12 59 34.2**	**+0.2**	
CD2				SS	**SS**	**13 14 10.2**	**-1.1**	
CD2				PPMZ				
	comp=Z,180nm,11.8s							
CD2				LE				
	comp=Z,830nm,15.5s							
CD2				LZ				
	comp=Z,280nm,17.8s							
LZH	**Lanzhou**	**176.13**	**61**	*e*PKP	**PKPdf**	**12 47 21.6**	**-0.4**	
LZH				pPKP	**pPKPdf**	**12 47 32.0**	**+0.1**	
LZH				sPKP		12 47 36.5		
LZH				LN				
	comp=Z,300nm,18.7s							
LZH				LE				
	comp=Z,310nm,19.2s							
LZH				LZ				
	comp=Z,210nm,20.0s							
XAN	**Xi'an**	**179.22**	**251**	PKP	**PKPdf**	**12 47 21.9**	**-0.4**	

*IDC **01** 12:30:32.5±0.7, 37.°14S×74.°77W, h0km, mb4.3/12, mb1 4.5/14, mb1mx4.4/27, mbtmp4.3/14, ML3.7/2, Error ellipse: s-maj=28.9km s-min=16.3km az=73.0*
*ISCJB **01** 12:30:35.9±0.5, 37.°08S±0.°06×74.°62W±0.°09, h33km, mb4.4/16, Error ellipse: s-maj=10.9km s-min=9.2km az=10.4*
*NEIC **01** 12:30:37.5±0.3, 37.°14S×74.°76W, h35km, mb4.6/3, Error ellipse: s-maj=11.2km s-min=6.7km az=69.0*

ISC 01 12:30:37.7±0.5, 37.°05S±0.°07×74.°83W±0.°10, h35km, n41, σ1°04/44, mb4.3/16, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.97**	**139**	Pn	**Pn**	**12 31 48.2**	**-1.6**
	1.0nm,0.3s,baz=301,slow=7.7,SNR=1.6						
PLCA				Sn	**Sn**	**12 32 50.3**	**+4.2**
	5.1nm,0.3s,baz=222,slow=24,SNR=3.8						
CFAA	**Coronel Fontan**	**7.69**	**47**	Pn	**Pn**	**12 32 27.0**	**-0.3**
	0.4nm,0.3s,baz=220,slow=8.3,SNR=4.5						
CFAA				Sn	**Sn**	**12 33 52.7**	**-0.6**
	0.4nm,0.3s,baz=102,slow=14,SNR=2.9						
LPAZ	**La Paz**	**21.51**	**18**	P	**P**	**12 35 26.3**	**+2.0**
	12nm,0.9s,baz=140,slow=4.6,SNR=6.5						
NNA	**Nana**	**25.02**	**355**	P	**P**	**12 35 59.1**	**+0.6**
	3.0nm,0.3s,baz=216,slow=5.8,SNR=2.8						
NNA	**Nana**	**25.02**	**355**	P	**P**	**12 35 58.7**	**+0.1**
SAML	**Samuel**	**29.90**	**24**	*e*P	**P**	**12 36 42.0**	**-0.3**
OTAV	**Otavalo**	**37.25**	**354**	P	**P**	**12 37 47.3**	**+0.6**
	8.3nm,1.1s						
PAYG	**Puerto Ayora**	**38.91**	**335**	*e*P	**P**	**12 38 00.5**	**+0.3**
BCIP	**Isla Barro Col**	**46.21**	**353**	P	**P**	**12 38 58.3**	**-1.0**
JTS	**JuntasAbangare**	**48.04**	**347**	P	**P**	**12 39 14.9**	**+1.2**
	2.5nm,0.4s,baz=299,slow=19,SNR=2.8						
SNAA	**Sanae**	**49.66**	**157**	P	**P**	**12 39 25.0**	**-0.6**
	3.3nm,0.9s,baz=285,slow=5.2,SNR=4.0						
QSPA	**South Pole Qui**	**53.19**	**180**	P	**P**	**12 39 52.6**	**+0.5**
	6.2nm,1.0s,baz=161,slow=6.2,SNR=4.3						
QSPA	**South Pole Qui**	**53.19**	**180**	*e*P	**P**	**12 39 50.5**	**-1.6**
APG	**El Apazote**	**53.83**	**341**	P	P	12 39 54.3	-3.1
	6.7nm,0.9s,baz=208,slow=12,SNR=3.7						
TXAR	**Lajitas Array**	**71.36**	**334**	P	**P**	**12 41 54.9**	**+0.9**
	1.9nm,0.8s,baz=141,slow=8.1,SNR=6.6						
SWET	**Sewanee**	**72.64**	**350**	*e*P	**P**	**12 42 01.7**	**+0.2**
	31nm,1.0s						
WVT	**Waverly**	**73.80**	**349**	*e*P	**P**	**12 42 07.9**	**-0.4**
TUC	**Tucson**	**76.74**	**329**	*e*P	**P**	**12 42 26.5**	**+1.1**
	2.0nm,1.0s						
ANMO	**Albuquerque**	**77.44**	**334**	*e*P	**P**	**12 42 30.2**	**+0.8**
DBIC	**Dimbokro**	**78.29**	**72**	P	**P**	**12 42 34.0**	**-0.4**
	2.9nm,0.8s,baz=232,slow=8.7,SNR=2.5						
BOSA	**Boshof**	**80.64**	**119**	P	**P**	**12 42 47.4**	**+0.2**
	3.2nm,0.8s,baz=248,slow=7.2,SNR=4.5						
ECSD	**EROS Data Cent**	**82.80**	**344**	*e*P	**P**	**12 42 57.4**	**-0.5**
DUG	**Dugway, Tooele**	**84.41**	**332**	*e*P	**P**	**12 43 06.7**	**+0.2**
NVAR	**Mina Array Bea**	**85.14**	**327**	P	**P**	**12 43 11.9**	**+1.6**
	1.0nm,0.8s,baz=150,slow=6.1,SNR=4.1						
PDAR	**Pinedale Array**	**85.51**	**335**	P	**P**	**12 43 12.4**	**+0.4**
	1.3nm,0.9s,baz=150,slow=6.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**87.36**	**71**	P	**P**	**12 43 19.9**	**-1.5**
	1.6nm,1.0s,baz=240,slow=4.1,SNR=3.3						
YMR	**Madison River**	**87.67**	**335**	*e*P	**P**	**12 43 22.9**	**+0.4**
ULM	**Lac du Bonnet**	**88.89**	**347**	P	**P**	**12 43 27.4**	**-0.4**
	4.0nm,0.8s,baz=179,slow=7.6,SNR=4.6						
CHGN	**Chignik**	**116.63**	**322**	*e*PKPdf	**PKPdf**	**12 49 18.0**	**+0.8**
WRA	**Warramunga Arr**	**116.99**	**211**	PKP	**PKPdf**	**12 49 17.9**	**-1.4**
	0.3nm,0.5s,baz=177,slow=1.8,SNR=4.7						
BRTR	**Keskin Array B**	**125.26**	**64**	PKP	**PKPdf**	**12 49 34.8**	**+0.2**
	1.1nm,0.9s,baz=182,slow=3.7,SNR=4.4						
AKASG	**Malin Array Be**	**125.91**	**50**	PKP	**PKPdf**	**12 49 35.1**	**-0.2**
	0.1nm,0.2s,baz=243,slow=1.0,SNR=3.5						
AKTO	**Aktyubinsk**	**144.01**	**53**	PKP	PKPbc	12 50 07.5	+0.6
	2.8nm,0.8s,baz=252,slow=3.1,SNR=7.1						
ABKAR	**Akbulak array**	**145.33**	**55**	*e*PKPbc	**PKPab**	**12 50 11.3**	**0.0**
HYB	**Hyderabad**	**149.47**	**123**	*i* PKP	**PKPbc**	**12 50 23.5**	**-0.1**
YAK	**Yakutsk**	**150.72**	**336**	*e*PKPdf	**PKPdf**	**12 50 19.0**	**-0.7**
YAK				*e*PKPbc	**PKPbc**	**12 50 25.0**	**-0.3**
BRVK	**Borovoye**	**150.98**	**45**	*e*PKPdf	**PKPdf**	**12 50 20.2**	**-0.1**
BRVK				*e*PKPbc	**PKiKP**	**12 50 26.8**	**+0.1**
BVAR	**Borovoye Array**	**151.05**	**45**	PKP	**PKPdf**	**12 50 20.8**	**+0.3**
	0.5nm,0.6s,baz=349,slow=2.9,SNR=2.9						
BVAR				PKPbc	**PKiKP**	**12 50 27.3**	**+0.4**
	4.2nm,0.8s,baz=298,slow=3.2,SNR=9.0						
ZALV	**Zalesovo Beam**	**158.02**	**33**	PKPab	**PKPab**	**12 51 04.4**	**+0.8**
	2.5nm,0.8s,baz=308,slow=5.5,SNR=3.6						
MKAR	**Makanchi Array**	**160.45**	**53**	PKPab	**PKPab**	**12 51 14.9**	**+0.4**
	1.7nm,0.9s,baz=277,slow=4.8,SNR=5.4						
SONM	**Songino Array**	**169.18**	**356**	PKPab	**PKPab**	**12 51 53.3**	**+0.4**
	1.5nm,0.9s,baz=347,slow=3.5,SNR=8.2						

SJA 01 12:40:04.1±0.6, 24.°91S×65.°64W, h4km±1km, ML3.5, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**0.22**	**33**	*i* P	Pg	12 40 10.2	+1.6
SLA				*i* S	Sg	12 40 15.2	+3.5
SLA				AML	AML	12 40 16.7	
	comp=Z,412nm,0.2s						
AZAP	**Zapla**	**0.85**	**38**	*i* P	Pb	12 40 22.4	+0.5
AZAP				*i* S	Sn	12 40 35.6	-0.9
AZAP				AML	AML	12 40 42.3	
	comp=Z,78nm,0.3s						
ASTB	**Santa Barbara**	**1.42**	**48**	*i* P	Pg	12 40 33.2	+1.7
ASTB				*i* P	Pg	12 40 33.2	+1.7
ASTB				*i* S	Sn	12 40 54.2	+4.0
ALOL	**LOMAS DE OLMED**	**1.87**	**55**	*i* P	Pg	12 40 40.0	0.0
ALOL				*i* S	Sg	12 41 06.2	+2.0
AHML	**Horco Molle**	**1.89**	**172**	*i* P	Pg	12 40 41.0	+0.6
AHML				*i* S	Sg	12 41 09.3	+4.2

IDC 01 12:41:58.3±2.1, 56.°59S×141.°01W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/29, mbtmp3.7/2, MS4.1/4, Ms1 4.0/4, ms1mx3.6/23, Error ellipse: s-maj=408.3km s-min=46.8km az=177.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**33.56**	**180**	LR	LR	13 00 34.9	
	comp=Z,271nm,18.1s,baz=114,slow=33						
PPT	**Papeete**	**39.49**	**347**	LR	LR	13 02 08.5	
	comp=Z,399nm,18.3s,baz=180,slow=31						
STKA	**Stephens Creek**	**57.28**	**261**	LR	LR	13 11 55.9	

PPLA	Purkeypile	2.58	3	P	Pn	12 47 15.9	+0.6
GLI	Glacier Island	2.71	76	P	Pn	12 47 14.9	-2.0
JPK	Jack Peak	2.98	73	P	Pn	12 47 19.0	-1.5
TT01	Tatalina	3.09	328	P	Pn	12 47 21.6	-0.3
CAST	Castle Rocks	3.11	3	P	Pn	12 47 22.5	+0.4
VLZ	Valdez	3.13	72	P	Pn	12 47 21.2	-1.1
OHAK	Old Harbor	3.14	188	P	Pn	12 47 22.1	-0.5
TRF	Thorofare Moun	3.30	17	P	Pn	12 47 24.7	-0.1
KTH	Kantishna Hill	3.32	12	P	Pn	12 47 25.0	0.0
EYAK	Cordova Ski Ar	3.34	83	P	Pn	12 47 23.8	-1.4
PLK4	Peulik 4	3.37	218	P	Pn	12 47 26.7	+1.1
DIV	Divide	3.39	73	P	Pn	12 47 24.8	-1.2
KLU	Klutina	3.41	67	P	Pn	12 47 25.3	-0.9
RND	Reindeer	3.54	27	P	Pn	12 47 28.0	+0.1
SGAM	Sherman Glacie	3.61	84	P	Pn	12 47 27.2	-1.6
DHY	Denali Highway	3.68	39	P	Pn	12 47 30.1	+0.2
MCK	McKinley	3.80	24	P	Pn	12 47 31.8	+0.4
PS11	TAPS Pump St11	3.82	60	P	Pn	12 47 31.7	0.0
GOAT	Goat Mountain	3.85	83	P	Pn	12 47 30.4	-1.7
SII	Sitkinak Islan	3.88	194	P	Pn	12 47 31.9	-0.6
BMRM	Bremner River	3.93	77	*e*Pn	Pn	12 47 33.2	0.0
BMRM				*e*Sn	Sn	12 48 16.1	-2.2
HARP	HAARP	4.10	56	P	Pn	12 47 35.3	-0.1
PAX	Paxson	4.27	49	P	Pn	12 47 37.9	+0.1
PS10	TAPS Pump St10	4.44	43	P	Pn	12 47 41.2	+1.2
WRH	Wood River Hil	4.63	24	P	Pn	12 47 42.0	-0.6
DDM	Donnelly Dome	4.66	39	P	Pn	12 47 44.6	+1.5
MLY	Manley	4.79	9	P	Pn	12 47 44.8	0.0
HDA	Harding Lake	4.83	30	P	Pn	12 47 45.4	+0.1
CCB	Clear Creek Bu	4.85	25	P	Pn	12 47 45.1	-0.4
GCSA	Galena City Sc	4.88	337	P	Pn	12 47 46.5	+0.6
MENT	Mentasta	4.93	54	*e*Pn	Pn	12 47 46.0	-0.7
PS08	TAPS Pump Stn8	4.98	29	P	Pn	12 47 47.6	+0.3
COLA	College	5.04	23	P	Pn	12 47 48.0	-0.1
MDM	Murphy Dome	5.04	21	P	Pn	12 47 48.5	+0.2
IL1	Eielson Array	5.16	28	P	Pn	12 47 49.5	-0.2
ILAR	Eielson Array	5.16	28	P	Pn	12 47 49.0	-0.7
	4.3nm,0.3s,baz=212,slow=13,SNR=184						
ILAR				S	Sn	12 48 43.7	-4.1
	4.4nm,0.3s,baz=190,slow=24,SNR=6.3						
ILB	Eielson Array	5.16	28	P	Pn	12 47 49.5	-0.2
DOT	Dot Lake	5.18	46	P	Pn	12 47 50.3	+0.3
SCRK	Sand Creek	5.41	44	P	Pn	12 47 52.6	-0.6
PS06	TAPS Pump Stn6	5.69	11	P	Pn	12 47 57.8	+0.9
IM3	Indian Mountai	5.71	355	P	Pn	12 47 57.1	0.0
BCA3	Beaver Creek A	5.78	57	P	Pn	12 47 58.0	-0.3
EGAK	Eagle	6.87	45	P	Pn	12 48 12.6	-0.4
COLD	Coldfoot	7.00	7	P	Pn	12 48 14.8	+0.2
DAWY	Dawson	7.17	53	*e*Pn	Pn	12 48 17.0	-0.1
BM3	Burnt Mountain	7.92	23	P	Pn	12 48 25.9	-1.2
YKA	Yellowknife Ar	18.08	67	P	P	12 50 39.2	+1.0
	0.4nm,0.3s,baz=285,slow=12,SNR=38						
YKA				ScP	ScP	12 58 33.2	+0.2
	0.0nm,0.3s,baz=300,slow=2.3,SNR=4.5						
NEW	Newport	23.58	105	P	P	12 51 39.7	+3.4
	1.0nm,0.8s,baz=238,slow=13,SNR=1.8						
PETK	Petropavlovsk-	27.68	277	P	P	12 52 14.2	+1.1
	1.1nm,0.9s,baz=73,slow=14,SNR=3.2						
ELK	Elko	30.12	114	LR	LR	13 04 27.9	
	comp=Z,75nm,20.3s,baz=180,slow=35						
SPITS	Spitsbergen Ar	41.57	3	P	P	12 54 10.8	-1.2
	5.5nm,0.9s,baz=21,slow=5.2,SNR=10						
SCHQ	Schefferville	43.17	57	P	P	12 54 25.6	+0.4
	1.6nm,0.6s,baz=307,slow=10,SNR=3.1						
ARCES	ARCESS Array B	50.42	1	P	P	12 55 20.3	-1.1
	1.7nm,0.8s,baz=350,slow=9.1,SNR=4.1						
SONM	Songino Array	54.81	306	P	P	12 55 55.4	+1.2
	1.2nm,0.8s,baz=48,slow=7.1,SNR=8.5						
ZALV	Zalesovo Beam	57.26	324	P	P	12 56 10.7	-0.7
	0.9nm,0.5s,baz=27,slow=7.1,SNR=5.8						
FINES	FINESS Array B	58.55	1	P	P	12 56 19.0	-1.3
	1.1nm,0.6s,baz=63,slow=6.7,SNR=3.6						
MKAR	Makanchi Array	64.34	321	P	P	12 56 59.0	-0.5
	0.2nm,0.6s,baz=29,slow=5.0,SNR=4.8						
GERES	GERESS Array B	70.61	10	LR	LR	13 31 41.5	
	comp=Z,57nm,19.0s,baz=263,slow=38						

*IDC **01** 12:48:15.9±0.6, 38°.33S×73°.65W, h0km, mb4.4/13, mb1 4.4/17, mb1mx4.3/32, mbtmp4.3/17, ML4.1/4, MS3.9/8, Ms1 3.9/8, ms1mx3.7/22, Error ellipse: s-maj=19.7km s-min=12.8km az=62.0*

*ISCJB **01** 12:48:17.9±0.4, 38°.30S±0°.06×73°.55W±0°.08, h18km, mb4.6/29, MS4.0/6, Error ellipse: s-maj=9.6km s-min=8.1km az=3.9*

*NEIC **01** 12:48:21.5±0.3, 38°.38S×73°.67W, h35km, mb4.8/20, Error ellipse: s-maj=10.4km s-min=7.7km az=66.0*

ISC 01 12:48:18.9±0.4, 38°.34S±0°.06×73°.66W±0°.08, h18km, n66, σ1§36/69, mb4.7/29, MS4.0/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.39	136	Pn	Pn	12 49 10.4	-0.6
	5.7nm,0.3s,baz=301,slow=14,SNR=4.0						
PLCA				Pg	Pb	12 49 17.1	-1.4
	46nm,0.3s,baz=309,slow=15,SNR=30						
PLCA				Lg	Lg	12 50 04.2	
	30nm,0.3s,baz=81,slow=14,SNR=3.0						
PLCA	Paso Flores	3.39	136	*e*Pn	Pn	12 49 13.0	+2.0
PLCA				Lg	Lg	12 50 04.2	
CFAA	Coronel Fontan	8.06	35	Pn	Pn	12 50 13.8	-1.3
	0.5nm,0.3s,baz=76,slow=4.2,SNR=7.3						
CFAA				Sn	Sn	12 51 44.7	-1.1
	0.3nm,0.3s,baz=186,slow=9.2,SNR=3.7						
CFAA				LR	LR	12 54 06.6	
	comp=Z,108nm,18.4s,baz=218,slow=44						
TRQA	Tornquist	9.20	92	*e*Pn	Pn	12 50 32.7	+2.0
LVC	Limon Verde	16.20	16	*e*Pn	P	12 52 09.2	+0.2
	11nm,1.1s						
USHA	Ushuaia	16.87	170	Pn	Pn	12 52 14.0	+0.1
	0.3nm,0.3s,baz=292,slow=9.8,SNR=3.9						
USHA				LR	LR	12 59 48.2	
	comp=Z,722nm,18.6s,baz=330,slow=41						
CPUP	Villa Florida	18.24	54	P	Pn	12 52 30.8	-0.3
	0.6nm,0.3s,baz=214,slow=12,SNR=3.9						
CPUP	Villa Florida	18.24	54	*e*P	P	12 52 33.5	+2.3
	0.9nm,0.9s						
LPAZ	La Paz	22.50	14	P	P	12 53 18.3	+0.1
	6.6nm,1.1s,baz=142,slow=7.0,SNR=5.2						
LPAZ	La Paz	22.50	14	*e*P	P	12 53 19.6	+1.3
	12nm,1.0s						
SIV	San Ignacio	24.87	30	P	P	12 53 39.3	-1.3
	2.3nm,1.0s,baz=223,slow=14,SNR=2.7						
SIV				LR	LR	13 05 35.9	
	comp=Z,408nm,18.0s,baz=228,slow=42						
RPN	Rapa Nui	31.84	280	LR	LR	13 04 08.8	
	comp=Z,233nm,20.2s,baz=166,slow=30						
BDFB	Brasilia	31.95	52	LR	LR	13 08 29.7	
	comp=Z,266nm,19.8s,baz=206,slow=38						
OTAV	Otavalo	38.64	352	*e*P	P	12 55 44.2	+2.3
	13nm,1.3s						
SNAA	Sanae	48.10	156	P	P	12 56 57.0	-0.2
	2.7nm,1.0s,baz=304,slow=14,SNR=5.5						
SNAA	Sanae	48.10	156	*e*P	P	12 56 57.1	-0.1
	25nm,1.4s						
QSPA	South Pole Qui	51.90	180	P	P	12 57 26.5	+0.3
	6.5nm,0.9s,baz=145,slow=4.3,SNR=10						
QSPA				LR	LR	13 17 39.8	
	comp=Z,95nm,19.0s,baz=141,slow=34						
QSPA	South Pole Qui	51.90	180	*e*P	P	12 57 26.9	+0.7
	13nm,1.1s						
APG	El Apazote	55.35	340	P	P	12 57 48.0	-4.1
	2.9nm,0.8s,baz=189,slow=13,SNR=3.7						
VNDA	Vanda	59.59	192	LR	LR	13 21 57.2	
	comp=Z,102nm,18.1s,baz=266,slow=34						
PPT	Papeete	68.42	264	P	P	12 59 19.8	-0.1
	20nm,0.7s,baz=56,slow=6.1,SNR=2.9						
MAW	Mawson	69.39	164	LR	LR	13 30 00.1	
	comp=Z,121nm,19.1s,baz=305,slow=36						
JCT	Junction City	72.69	337	*e*P	P	12 59 46.0	+0.4
	11nm,1.0s						
TXAR	Lajitas Array	72.93	333	P	P	12 59 47.5	+0.4
	1.8nm,0.7s,baz=154,slow=8.6,SNR=15						
SWET	Sewanee	74.07	350	*e*P	P	12 59 53.4	-0.3
	18nm,1.1s						
WVT	Waverly	75.25	348	*e*P	P	12 59 60.0	-0.4
	23nm,0.9s						
DBIC	Dimbokro	77.81	71	P	P	13 00 15.9	+0.5
	7.3nm,0.8s,baz=211,slow=5.7,SNR=6.2						
ANMO	Albuquerque	79.00	333	*e*P	P	13 00 22.3	+0.5
	6.0nm,1.0s						
BOSA	Boshof	79.21	118	P	P	13 00 23.2	0.0
	6.6nm,0.8s,baz=247,slow=5.2,SNR=11						
BOSA	Boshof	79.21	118	*e*P	P	13 00 23.1	-0.1
	9.1nm,1.0s						
LBTB	Lobatse	81.66	115	*e*P	P	13 00 37.1	+0.7
	9.6nm,1.0s						
SMCO	Snowmass	82.99	335	*e*P	P	13 00 44.4	+1.2
	114nm,2.9s						
CCUT	Cedar City	83.92	329	*e*P	P	13 00 47.7	-0.1
	4.7nm,1.1s						
SRU	San Rafael Swe	84.19	332	*e*P	P	13 00 49.0	-0.1
	5.3nm,1.0s						
ECSD	EROS Data Cent	84.30	343	*e*P	P	13 00 49.4	+0.1
	9.2nm,0.9s						
R11A	Troy Canyon, C	85.51	328	*e*P	P	13 00 57.1	+1.4
	15nm,1.9s						
TPH	Tonopah	85.97	327	*e*P	P	13 00 59.3	+1.2
	5.4nm,1.0s						
DUG	Dugway, Tooele	85.99	331	*e*P	P	13 00 59.5	+1.5
NVAR	Mina Array Bea	86.73	326	P	P	13 01 02.3	+0.5
	0.8nm,0.8s,baz=163,slow=5.7,SNR=7.4						
TORD	Torodi Ar. Bea	86.90	71	P	P	13 01 02.9	-0.1
	1.7nm,0.9s,baz=224,slow=4.8,SNR=6.9						
PDAR	Pinedale Array	87.07	334	P	P	13 01 03.2	-0.2
	1.8nm,0.9s,baz=142,slow=5.6,SNR=11						
HVU	Hansel Valley	87.35	332	*e*P	P	13 01 05.1	+0.4
	6.8nm,1.1s						
ELK	Elko	87.41	330	P	P	13 01 04.5	-0.6
	2.5nm,0.8s,baz=195,slow=1.7,SNR=10						
TPAW	Teton Pass	88.19	334	*e*P	P	13 01 09.0	+0.2
	24nm,1.9s						
IMW	Indian Meadow	88.54	334	*e*P	P	13 01 10.9	+0.4
	9.6nm,1.3s						
ULM	Lac du Bonnet	90.36	346	P	P	13 01 17.1	-1.3
	0.9nm,0.6s,baz=200,slow=5.6,SNR=3.4						
WALA	Waterton Lakes	94.05	335	*e*P	P	13 01 36.2	+0.6
GERES	GERESS Array B	116.10	47	PKP	PKPdf	13 06 59.2	-1.3
	0.8nm,0.7s,baz=187,slow=6.5,SNR=3.4						
H11S2	WAKE ISLAND Hyl	24.31	267	T	T	15 23 32.8	
	baz=130						
H11S1	WAKE ISLAND Hyl	24.33	267	T	T	15 23 33.9	
	baz=130						
H11S3	WAKE ISLAND Hyl	24.33	267	T	T	15 23 35.7	
	baz=130						
BRTR	Keskin Array B	125.00	64	PKP	PKPdf	13 07 16.3	-1.6
	0.2nm,0.3s,baz=191,slow=3.8,SNR=3.2						
AKASG	Malin Array Be	126.03	50	PKP	PKPdf	13 07 18.4	-0.9
	0.2nm,0.4s,baz=260,slow=2.8,SNR=2.8						
ARU	Arti	143.83	44	*e*PKPdf	PKPbc	13 07 50.4	+0.4
TIXI	Tiksi	144.69	348	*e*PKPdf	PKPab	13 07 51.2	-0.9
ABKAR	Abkulak array	145.29	56	*e*PKPbc	PKPdf	13 07 55.1	+0.1
BRVK	Borovoye	151.19	48	*e*PKPbc	PKPbc	13 08 10.9	+0.5
KSH	Kashi	156.40	78	*e*PKP	PKPdf	13 08 12.9	+0.4
KSH				sPKP		13 08 26.5	
KSH				PKS	PKSdf	13 11 45.8	-0.7
KSH				PP	PP	13 12 19.2	-0.3
KSH				SKS	SKSdf	13 15 14.9	-3.0
KSH				PPMZ			
	84nm,5.1s						
KSH				LN			
	27nm,5.0s						
KSH				LE			
	23nm,4.3s						
KSH				LZ			
	160nm,5.9s						
ZALV	Zalesovo Beam	158.55	36	PKP	PKPdf	13 08 13.3	-1.3
	0.3nm,0.3s,baz=318,slow=2.0,SNR=5.1						
ZALV				PKPab	PKPab	13 08 49.8	+0.1
	2.1nm,0.8s,baz=335,slow=6.4,SNR=7.5						
MKAR	Makanchi Array	160.43	57	PKP	PKPdf	13 08 16.5	-0.6
	1.0nm,1.1s,baz=305,slow=3.0,SNR=6.2						
MKAR				PKPab	PKPab	13 08 58.3	+0.1
	0.6nm,0.7s,baz=290,slow=1.3,SNR=5.1						
KMI	Kunming	166.47	166	PKP	PKPdf	13 08 23.8	+0.1
NJ2	Nanjing	168.00	242	*e*PKP	PKPdf	13 08 27.3	+3.1
SONM	Songino Array	170.51	360	PKPab	PKPab	13 09 43.4	+0.8
	1.4nm,1.0s,baz=8.5,slow=2.9,SNR=9.7						
CD2	Chengdu	172.29	163	*e*PKP	PKPdf	13 08 27.1	+0.3
HHC	Hu-ho-hao-te	175.25	303	*e*PKP	PKPdf	13 08 28.2	+0.6
HHC				PKS	PKSdf	13 11 59.0	-0.8
HHC				PP	PP	13 13 59.5	+2.7
HHC				SKS	SKSdf	13 15 26.0	-3.8
HHC				SS	SS	13 35 17.0	-3.9
HHC				PPMZ			
	51nm,5.8s						
HHC				LN			
	170nm,20.2s						
HHC				LE			
	510nm,20.2s						
HHC				LZ			
	170nm,20.6s						
LZH	Lanzhou	176.99	138	*e*PKP	PKPdf	13 08 28.5	+0.3
LZH				pPKP	pPKPdf	13 08 38.6	+4.1
LZH				sPKP		13 08 42.0	

SKHL 01 12:56:59.0±0.8, 45°.20N×150°.05E, h84km±11km, mb4.9/1, msh5.3/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.54	272	*e*P	Pn	12 57 24.2	-0.8
KUR				AMB	AMB	12 57 25.1	
	84nm,0.1s						
KUR				*e*S	Sn	12 57 43.7	-0.9
KUR				A	A	12 57 47.5	
	105nm,0.1s						
SHO	Shikotan	2.66	241	*e*P	Pn	12 57 40.5	+0.7
SHO				*e*S	Sn	12 58 11.0	-0.1
SHO				A	A	12 58 22.7	
	843nm,0.7s						
MYR	Moyori	5.70	242	*e*P	Pn	12 58 22.1	+1.1
MYR				*e*S	Sn	12 59 24.8	-0.2

*IDC **01** 13:09:24.0±0.7, 36°.49S×73°.25W, h0km, mb4.1/9, mb1 4.3/12, mb1mx4.2/27, mbtmp4.1/12, ML3.8/3, MS3.8/4, Ms1 3.8/4, ms1mx3.4/25, Error ellipse: s-maj=24.4km s-min=13.6km az=88.0*

*ISCJB **01** 13:09:26.7±0.6, 36°.53S±0°.07×73°.3W±0°.1, h27km, mb4.2/10, MS3.9/2, Error ellipse: s-maj=15.1km s-min=9.5km az=170.5*

*NEIC **01** 13:09:29.1±0.4, 36°.51S×73°.34W, h35km, mb4.5/5, Error ellipse: s-maj=12.4km s-min=8.0km az=81.0*

ISC 01 13:09:28.0±0.6, 36°.52S±0°.09×73°.4W±0°.1, h27km, n35, σ1§14/32, mb4.3/10, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.75	153	Pn	Pn	13 10 38.1	+0.2
	1.5nm,0.3s,baz=320,slow=9.5,SNR=8.5						
PLCA				Lg	Lg	13 11 53.8	
	6.0nm,0.3s,baz=72,slow=20,SNR=3.2						
PLCA				LR	LR	13 12 47.3	
	comp=Z,590nm,18.1s,baz=288,slow=43						
CFAA	Coronel Fontan	6.49	42	Pn	Pn	13 11 01.6	-0.1
	0.4nm,0.3s,baz=199,slow=15,SNR=2.5						
CFAA				Lg	Lg	13 12 46.0	
	1.2nm,0.3s,baz=252,slow=13,SNR=5.1						
CFAA				LR	LR	13 13 17.5	
	comp=Z,20nm,20.7s,baz=237,slow=36						
TRQA	Tornquist	9.20	103	*e*Pn	Pn	13 11 40.5	+1.6
	12nm,0.8s						
CPUP	Villa Florida	17.02	58	LR	LR	13 20 33.0	
	comp=Z,324nm,18.2s,baz=218,slow=40						
USHA	Ushuaia	18.63	171	P	P	13 13 43.3	0.0
	0.4nm,0.3s,baz=264,slow=10,SNR=2.5						
LPAZ	La Paz	20.68	14	P	P	13 14 06.9	+0.4
	1.3nm,0.7s,baz=168,slow=6.4,SNR=5.2						
LPAZ	La Paz	20.68	14	*e*P	P	13 14 07.6	+1.0
	12nm,1.4s						
SIV	San Ignacio	23.18	31	P	P	13 14 31.0	-1.6
	2.6nm,0.8s,baz=234,slow=14,SNR=7.7						
ROSC	El Rosal	41.17	359	LR	LR	13 33 41.4	
	comp=Z,121nm,18.9s,baz=196,slow=35						
RCBR	Riachuelo	45.90	57	LR	LR	13 38 15.2	
	comp=Z,191nm,18.5s,baz=188,slow=38						
SNAA	Sanae	49.68	157	P	P	13 18 16.8	-0.3
	2.9nm,1.0s,baz=312,slow=10,SNR=6.4						
SNAA	Sanae	49.68	157	P	P	13 18 17.1	-0.1
	10nm,1.1s						
QSPA	South Pole Qui	53.73	180	P	P	13 18 48.3	+0.9
	7.9nm,0.8s,baz=152,slow=2.6,SNR=21						
QSPA	South Pole Qui	53.73	180	*e*P	P	13 18 48.0	+0.5
	10nm,1.0s						
SYO	Syowa Base	63.93	158	*e*P	P	13 19 54.4	-3.6
TXAR	Lajitas Array	71.43	332	P	P	13 20 46.6	+0.7
	1.1nm,0.7s,baz=149,slow=6.3,SNR=8.1						
DBIC	Dimbokro	77.00	72	P	P	13 21 19.2	+0.5
	2.5nm,0.7s,baz=186,slow=5.6,SNR=6.0						
ANMO	Albuquerque	77.49	333	*e*P	P	13 21 21.8	+0.6
	4.7nm,1.4s						
TSUM	Tsumeb	79.56	106	*e*P	P	13 21 33.0	-0.1
NVAR	Mina Array Bea	85.35	326	P	P	13 22 03.2	+0.4
	1.1nm,0.8s,baz=153,slow=5.3,SNR=7.0						
PDAR	Pinedale Array	85.53	334	P	P	13 22 04.2	+0.7
	1.5nm,0.9s,baz=142,slow=5.1,SNR=8.7						
TORD	Torodi Ar. Bea	86.07	71	P	P	13 22 06.8	+0.2
	1.5nm,0.7s,baz=248,slow=3.8,SNR=8.9						
MCMT	McKenzie Canyo	88.50	333	*e*P	P	13 22 18.5	+0.5
	2.9nm,1.2s						
BRTR	Keskin Array B	123.97	63	PKP	PKPdf	13 28 22.0	-1.7
	0.5nm,0.5s,baz=204,slow=6.0,SNR=3.1						
H11S2	WAKE ISLAND Hyl	24.63	268	T	T	15 45 38.0	
	baz=106						
H11S1	WAKE ISLAND Hyl	24.64	268	T	T	15 45 39.4	
	baz=106						
H11S3	WAKE ISLAND Hyl	24.65	268	T	T	15 45 48.0	
	baz=106						
ABKAR	Abkulak array	144.06	54	*e*PKP	PKPbc	13 28 58.7	+0.1
PSI	Prapat	145.70	166	PKPbc	PKPdf	13 29 04.2	-0.5
	8.6nm,0.7s,baz=214,slow=4.9,SNR=6.7						
HYB	Hyderabad	148.74	120	*i* PKP	PKPbc	13 29 12.5	-0.8
ZALV	Zalesovo Beam	156.92	34	PKP	PKPdf	13 29 19.4	-0.8
	1.2nm,0.7s,baz=277,slow=2.5,SNR=5.6						
ZALV				PKPab	PKPab	13 29 49.1	-1.3
	0.8nm,0.5s,baz=303,slow=6.5,SNR=5.2						
MKAR	Makanchi Array	159.19	53	PKP	PKPdf	13 29 22.8	-0.5
	0.6nm,0.8s,baz=292,slow=1.3,SNR=4.1						
MKAR				PKPab	PKPab	13 30 00.3	-0.2
	0.6nm,0.7s,baz=286,slow=4.4,SNR=5.0						
SONM	Songino Array	168.69	1	PKPab	PKPab	13 30 42.0	-0.1
	0.4nm,0.8s,baz=342,slow=3.8,SNR=4.3						
HHC	Hu-ho-hao-te	174.21	320	*e*PKP	PKPdf	13 29 34.9	-0.1
HHC				PP	PP	13 35 02.0	+3.0
HHC				SKS	SKSdf	13 36 32.8	-3.5
LZH	Lanzhou	177.70	100	*e*PKP	PKPdf	13 29 35.5	-0.6
LZH				pPKP	pPKPdf	13 29 45.8	+0.7
LZH				sPKP		13 29 49.9	
LZH				PKP	PKPab	13 31 17.2	-5.7

*ISCJB **01** 13:17:08.6±1.1, 35°.52S±0°.08×72°.7W±0°.2, h17km, mb4.1/4, Error ellipse: s-maj=26.4km s-min=11.0km az=8.1*

*IDC **01** 13:17:09.7±1.4, 35°.61S×72°.06W, h0km, mb4.0/4, mb1 4.0/7, mb1mx3.9/29, mbtmp4.0/7, ML3.8/4, Error ellipse: s-maj=45.1km s-min=14.2km az=100.0*

*NEIC **01** 13:17:12.9±1.2, 35°.55S×72°.82W, h35km, mb4.1/2, Error ellipse: s-maj=30.0km s-min=13.2km az=93.0*

ISC 01 13:17:10.3±1.1, 35°.53S±0°.09×72°.8W±0°.2, h17km, n12, σ1§68/12, mb4.1/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.45	45	Pn	Pn	13 18 28.3	-2.4
	0.4nm,0.3s,baz=114,slow=23,SNR=6.6						
CFAA				Lg	Lg	13 19 50.8	
	0.6nm,0.3s,baz=306,slow=21,SNR=3.2						
PLCA	Paso Flores	5.49	162	Pn	Pn	13 18 31.2	-0.1
	2.5nm,0.3s,baz=335,slow=12,SNR=12						
PLCA				Lg	Lg	13 19 58.7	
	1.0nm,0.3s,baz=263,slow=18,SNR=3.0						
TRQA	Tornquist	9.03	109	*e*P	Pn	13 19 21.9	+2.1
USHA	Ushuaia	19.54	172	P	Pn	13 21 38.5	+0.4
	0.1nm,0.3s,baz=18,slow=20,SNR=2.2						
LPAZ	La Paz	19.61	13	P	Pn	13 21 40.7	+0.9
	0.1nm,0.3s,baz=199,slow=10,SNR=3.1						
LPAZ	La Paz	19.61	13	*e*P	Pn	13 21 40.9	+1.1
	2.7nm,0.8s						
SIV	San Ignacio	22.09	31	P	P	13 22 04.6	-0.1
	4.8nm,0.9s,baz=221,slow=10,SNR=4.6						
SNAA	Sanae	50.41	157	P	P	13 26 06.2	-0.2
	2.0nm,0.9s,baz=296,slow=8.6,SNR=6.5						
SNAA	Sanae	50.41	157	*e*P	P	13 26 06.0	-0.4
	6.7nm,1.0s						
QSPA	South Pole Qui	54.71	180	P	P	13 26 38.1	-0.3
	3.2nm,0.9s,baz=265,slow=1.4,SNR=9.6						
TORD	Torodi Ar. Bea	85.30	70	P	P	13 29 45.0	-1.5
	0.5nm,0.8s,baz=226,slow=5.2,SNR=3.6						
SONM	Songino Array	167.69	3	PKPab	PKPab	13 38 24.8	+3.2
	0.5nm,1.0s,baz=79,slow=3.1,SNR=3.0						

*IDC **01** 13:17:17.5±0.7, 4°.30N×128°.42E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/36, mbtmp4.0/9, MS3.7/1, Ms1 3.7/1, ms1mx2.8/31, Error ellipse: s-maj=37.6km s-min=15.6km az=69.0*

*NEIC **01** 13:17:18.9±0.4, 4°.22N×128°.29E, h10km, mb4.3/5, Error ellipse: s-maj=12.9km s-min=6.5km az=74.0*

*ISCJB **01** 13:17:21.8±0.5, 4°.28N±0°.07×128°.5E±0°.1, h46km, mb4.1/15, MS3.6/1, Error ellipse: s-maj=16.2km s-min=8.1km az=155.6*

ISC 01 13:17:23.6±0.8, 4°.3N±0°.1×128°.5E±0°.2, h46km, n29, σ0§73/26, mb4.1/14, 1C, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	3.66	198	*e*P

PUZ SN **S** **13 33 27.3 -0.1**
MWZ Matawai 13.50 191 *e*PN **P** **13 31 08.0 -1.1**
MWZ *e*SN **S** **13 33 35.2 +0.4**
URZ Urewera 13.50 192 P **P** **13 31 09.2 0.0**
4.4nm,0.3s,baz=328,slow=1.7,SNR=35
URZ S **S** **13 33 37.1 +2.3**
3.5nm,0.3s,baz=72,slow=22,SNR=18
URZ Urewera 13.50 192 *e*PN **P** **13 31 07.7 -1.5**
URZ SN **S** **13 33 34.4 -0.4**
TSZ Takapari Road 15.47 194 *e*PN **P** **13 31 29.7 -0.9**
STKA Stephens Creek 34.93 250 P **P** **13 34 29.9 +0.6**
1.2nm,0.5s,baz=103,slow=3.7,SNR=3.3
ASAR Alice Springs 42.52 262 P **P** **13 35 31.1 -0.5**
0.4nm,0.4s,baz=95,slow=8.1,SNR=24
ASAR PcP **PcP** **13 37 16.9 +1.1**
0.5nm,1.0s,baz=116,slow=4.2,SNR=3.2
WRA Warramunga Arr 43.01 267 P **P** **13 35 34.6 -1.0**
0.6nm,0.3s,baz=103,slow=8.0,SNR=27
WRA PcP **PcP** **13 37 18.3 +0.8**
0.8nm,1.1s,baz=94,slow=3.3,SNR=2.9

*ISCJB **01** 13:29:41.6±0.8,25°.94N±0°.06×128°.67E±0°.05,h27km, mb3.3/3, Error ellipse: s-maj=9.0km s-min=5.4km az=21.8*
*JMA **01** 13:29:41.6±0.2,25°.92N×128°.64E,h22km,M2.9*
*IDC **01** 13:29:43.6±4.0,26°.22N×128°.18E,h0km,mb3.5/3, mb1 3.5/4,mb1mx3.3/33,mbtmp3.5/4,ML3.1/1,Error ellipse: s-maj=81.3km s-min=22.0km az=121.0*
ISC 01 13:29:42.6±1.1,25°.94N±0°.07×128°.65E±0°.06,h27km,n11, σ1§67/18,mb3.4/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.80**	**316**	P	**Pb**	**13 29 56.7**	**-1.3**
JNTH				*e*S	**Sn**	**13 30 07.5**	**-1.8**
JJT2	**Tamagusuku 2**	**0.83**	**284**	P	**Pb**	**13 29 57.1**	**-1.4**
JJT2				*e*S	**Sb**	**13 30 08.1**	**-1.2**
JOW	**Kunigami**	**0.95**	**340**	P	**Pb**	**13 29 59.5**	**-1.0**
JOW				*e*S	**Sn**	**13 30 12.3**	**-0.6**
JOW	**Kunigami**	**0.95**	**340**	Pn	**Pb**	**13 29 59.8**	**-0.8**
	baz=190,slow=6.8						
JOW				Sn	**Sb**	**13 30 10.6**	**-2.1**
	baz=126,slow=19						
JIH	**Iheya**	**1.25**	**331**	P	**Pb**	**13 30 04.3**	**-1.3**
JIH				*e*S	**Sb**	**13 30 19.7**	**-1.6**
JTK	**Tokunoshima**	**1.86**	**8**	P	**Pn**	**13 30 13.2**	**+0.4**
JTK				*e*S	**Sn**	**13 30 34.6**	**-0.8**
JMZ	**Minamidaito 2**	**2.32**	**92**	P	**Pn**	**13 30 18.6**	**-0.5**
JMZ				*e*S	**Sn**	**13 30 44.6**	**-2.2**
JNU	**Nakatsue**	**7.42**	**15**	Pn	**Pn**	**13 31 31.3**	**+2.1**
	0.3nm,0.3s,baz=191,slow=18,SNR=5.5						
SONM	**Songino Array**	**28.00**	**327**	P	**P**	**13 35 34.1**	**+2.7**
	0.4nm,0.5s,baz=137,slow=11,SNR=8.0						
MKAR	**Makanchi Array**	**42.01**	**312**	P	**P**	**13 37 31.3**	**-0.3**
	0.3nm,0.7s,baz=98,slow=10,SNR=3.4						
BRTR	**Keskin Array B**	**77.51**	**308**	P	**P**	**13 41 38.5**	**+2.3**
	0.5nm,0.7s,baz=32,slow=8.5,SNR=3.5						

*ISCJB **01** 13:30:33.6±0.8,25°.91N±0°.05×128°.65E±0°.04,h27km, mb3.3/3,Error ellipse: s-maj=8.0km s-min=5.2km az=15.3*
*JMA **01** 13:30:34.5±0.3,25°.91N×128°.61E,h34km,M3.3*
*IDC **01** 13:30:34.4±3.6,26°.10N×128°.31E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.3/30,mbtmp3.6/4,ML3.2/1,Error ellipse: s-maj=75.2km s-min=26.3km az=110.0*
ISC 01 13:30:34.6±1.1,25°.90N±0°.07×128°.60E±0°.04,h27km,n14, σ1§46/22,mb3.4/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.80**	**287**	P	**Pn**	**13 30 49.7**	**-0.4**
JJT2				*e*S	**Sn**	**13 31 00.7**	**-0.5**
JNTH	**Nagotoyohara**	**0.80**	**320**	P	**Pb**	**13 30 49.3**	**-0.7**
JNTH				*e*S	**Sn**	**13 31 00.0**	**-1.2**
JOW	**Kunigami**	**0.97**	**342**	P	**Pb**	**13 30 52.3**	**-0.5**
JOW				*e*S	**Sn**	**13 31 04.4**	**-1.0**
JOW	**Kunigami**	**0.97**	**342**	Pn	**Pb**	**13 30 52.6**	**-0.2**
	baz=170,slow=12						
JOW				Sn	**Sb**	**13 31 03.3**	**-1.9**
	baz=120,slow=20						
JIH	**Iheya**	**1.26**	**333**	P	**Pb**	**13 30 56.9**	**-0.8**
JIH				*e*S	**Sb**	**13 31 12.2**	**-1.4**
JAGN	**Aguni-jima**	**1.40**	**300**	P	**Pn**	**13 30 58.3**	**0.0**
JOKE	**Okinoerabujima**	**1.45**	**359**	P	**Pb**	**13 30 59.5**	**-1.5**
JKE	**Kume jima 2**	**1.69**	**285**	P	**Pn**	**13 31 01.7**	**-0.6**
JKE				*e*S	**Sn**	**13 31 21.0**	**-2.0**
JTK	**Tokunoshima**	**1.90**	**9**	P	**Pn**	**13 31 05.5**	**+0.3**
JTK				*e*S	**Sn**	**13 31 27.0**	**-1.3**
JMZ	**Minamidaito 2**	**2.36**	**91**	P	**Pn**	**13 31 11.1**	**-0.5**
JMZ				*e*S	**Sn**	**13 31 37.1**	**-2.6**
JNU	**Nakatsue**	**7.46**	**15**	Pn	**Pn**	**13 32 23.7**	**+2.0**
	0.4nm,0.3s,baz=190,slow=18,SNR=5.9						
SONM	**Songino Array**	**28.01**	**327**	P	**P**	**13 36 26.4**	**+3.1**
	0.4nm,0.5s,baz=141,slow=9.9,SNR=8.5						
MKAR	**Makanchi Array**	**42.00**	**312**	P	**P**	**13 38 24.0**	**+0.5**
	0.3nm,0.7s,baz=96,slow=7.7,SNR=5.2						
AKASG	**Malin Array Be**	**76.00**	**320**	P	**P**	**13 42 20.5**	**+1.3**
	0.4nm,0.5s,baz=61,slow=6.3,SNR=2.3						

*IDC **01** 13:40:13.3±2.3,34°.94S×73°.56W,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.8/26,mbtmp3.8/4,ML3.8/1,Error ellipse: s-maj=54.8km s-min=46.7km az=15.0*
*ISCJB **01** 13:40:17.5±1.2,34°.8S±0°.1×73°.4W±0°.2,h33km,mb3.9/4, Error ellipse: s-maj=26.6km s-min=17.7km az=161.1*
*NEIC **01** 13:40:19.5±0.9,34°.80S×73°.48W,h35km,mb4.3/1,Error ellipse: s-maj=22.3km s-min=15.1km az=72.0*
ISC 01 13:40:19.5±1.2,34°.8S±0°.1×73°.5W±0°.2,h35km,n8,σ0§56/7, mb3.9/4,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRQA	**Tornquist**	**9.83**	**113**	P	**Pn**	**13 42 38.3**	**0.0**
LPAZ	**La Paz**	**19.02**	**16**	P	**Pn**	**13 44 40.7**	**+0.7**
	0.1nm,0.3s,baz=198,slow=9.0,SNR=5.2						
SIV	**San Ignacio**	**21.77**	**34**	P	**P**	**13 45 07.6**	**-0.6**
	2.6nm,0.9s,baz=223,slow=14,SNR=3.6						
QSPA	**South Pole Qui**	**55.47**	**180**	*e*P	**P**	**13 49 50.6**	**+0.1**
	3.2nm,1.1s						
TXAR	**Lajitas Array**	**69.84**	**332**	P	**P**	**13 51 26.4**	**-0.2**
	0.7nm,0.6s,baz=158,slow=8.0,SNR=8.3						
TORD	**Torodi Ar. Bea**	**85.59**	**71**	P	**P**	**13 52 54.8**	**+0.2**
	0.5nm,0.8s,baz=248,slow=4.7,SNR=2.6						
ZALV	**Zalesovo Beam**	**155.51**	**32**	PKPbc	PKPdf	14 00 16.6	+7.9
	0.4nm,0.4s,baz=338,slow=1.6,SNR=3.7						
MKAR	**Makanchi Array**	**158.17**	**49**	PKPab	**PKPab**	**14 00 45.9**	**-0.5**
	0.3nm,0.8s,baz=306,slow=4.2,SNR=3.4						

*IDC **01** 13:41:58.5±1.0,37°.42S×73°.68W,h0km,mb3.9/7, mb1 4.0/9,mb1mx3.9/19,mbtmp3.8/9,ML3.4/2,MS3.6/5, Ms1 3.6/5,ms1mx3.3/24,Error ellipse: s-maj=32.3km s-min=16.6km az=73.0*
*ISCJB **01** 13:42:00.6±0.9,37°.41S±0°.10×73°.6W±0°.2,h23km,mb3.9/8, MS3.8/3,Error ellipse: s-maj=18.2km s-min=13.6km az=169.8*
*NEIC **01** 13:42:03.0±4.0,37°.46S×73°.68W,h32km±27km,mb4.1/2, Error ellipse: s-maj=21.5km s-min=9.4km az=87.0*
ISC 01 13:42:01.9±0.9,37°.44S±0°.08×73°.7W±0°.1,h23km,n20, σ0§73/18,mb3.9/8,MS3.8/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.10**	**144**	Pn	**Pn**	**13 43 04.5**	**+1.3**
	1.1nm,0.3s,baz=321,slow=10.0,SNR=3.3						
PLCA				Pg	**Pb**	**13 43 13.2**	**-0.2**
	3.6nm,0.3s,baz=320,slow=9.3,SNR=8.5						
PLCA				Lg	Lg	13 44 09.2	
	3.2nm,0.3s,baz=345,slow=13,SNR=4.3						
PLCA	**Paso Flores**	**4.10**	**144**	*e*P	**Pn**	**13 43 02.7**	**-0.5**
PLCA				Pg	**Pb**	**13 43 13.2**	**-0.2**
PLCA				Lg	Lg	13 44 09.2	
CFAA	**Coronel Fontan**	**7.36**	**39**	Pn	**Pn**	**13 43 47.5**	**-0.5**
	0.1nm,0.3s,baz=309,slow=14,SNR=1.6						
CFAA				LR	LR	13 46 43.3	
	comp=Z,44nm,19.0s,baz=222,slow=39						
TRQA	**Tornquist**	**9.30**	**97**	P	**Pn**	**13 44 15.7**	**+1.1**
CPUP	**Villa Florida**	**17.75**	**56**	LR	LR	13 53 55.2	
	comp=Z,251nm,18.4s,baz=218,slow=40						
LPAZ	**La Paz**	**21.64**	**15**	P	**P**	**13 46 51.9**	**+0.6**
	3.6nm,1.2s,baz=219,slow=8.6,SNR=3.7						
SIV	**San Ignacio**	**24.11**	**31**	P	**P**	**13 47 15.8**	**-0.2**
	3.9nm,0.8s,baz=221,slow=9.5,SNR=9.8						
SAML	**Samuel**	**29.92**	**21**	*e*P	**P**	**13 48 07.2**	**-1.0**
	3.6nm,1.2s						
BDFB	**Brasilia**	**31.43**	**53**	LR	LR	14 02 22.9	
	comp=Z,197nm,18.7s,baz=222,slow=39						
RCBR	**Riachuelo**	**46.62**	**57**	LR	LR	14 11 13.6	
	comp=Z,200nm,19.8s,baz=214,slow=38						
QSPA	**South Pole Qui**	**52.80**	**180**	P	**P**	**13 51 15.6**	**+0.4**
	1.7nm,1.0s,baz=133,slow=4.4,SNR=3.7						
QSPA	**South Pole Qui**	**52.80**	**180**	*e*P	**P**	**13 51 14.6**	**-0.6**
	2.5nm,1.0s						
TXAR	**Lajitas Array**	**72.12**	**333**	P	**P**	**13 53 25.0**	**+0.5**
	0.4nm,0.7s,baz=134,slow=6.5,SNR=2.8						
DBIC	**Dimbokro**	**77.56**	**72**	P	**P**	**13 53 56.5**	**+0.3**
	2.9nm,0.7s,baz=206,slow=2.4,SNR=3.6						
DBIC				LR	LR	14 27 46.1	
	comp=Z,27nm,18.3s,baz=198,slow=35						
NVAR	**Mina Array Bea**	**85.97**	**326**	P	**P**	**13 54 41.1**	**+0.9**
	0.2nm,0.5s,baz=169,slow=5.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**86.64**	**71**	P	**P**	**13 54 43.5**	**-0.3**
	0.6nm,0.8s,baz=226,slow=4.8,SNR=3.6						
ABKAR	**Abkulak array**	**144.81**	**55**	*e*PKPdf	PKPbc	14 01 35.6	+0.1
PSI	**Prapat**	**144.87**	**167**	PKP	PKPbc	14 01 36.6	-0.2
	5.1nm,0.7s,baz=128,slow=6.8,SNR=4.8						
ZALV	**Zalesovo Beam**	**157.83**	**35**	PKP	**PKPdf**	**14 01 55.2**	**-0.7**
	0.4nm,0.3s,baz=249,slow=5.7,SNR=4.4						
ZALV				PKPab	**PKPab**	**14 02 28.0**	**-0.8**
	0.8nm,0.6s,baz=297,slow=6.3,SNR=4.6						
MKAR	**Makanchi Array**	**159.95**	**55**	PKPab	**PKPab**	**14 02 37.9**	**-0.5**
	0.4nm,0.7s,baz=329,slow=1.4,SNR=4.3						

*IDC **01** 13:44:18.7±1.3,36°.68S×73°.43W,h0km,mb3.8/3, mb1 4.1/4,mb1mx3.8/26,mbtmp3.9/4,ML4.4/1,MS3.5/1, Ms1 3.6/1,ms1mx3.0/22,Error ellipse: s-maj=54.7km s-min=28.6km az=79.0*
*ISCJB **01** 13:44:21.2±1.2,36°.7S±0°.2×73°.5W±0°.2,h27km,mb3.8/3, MS3.3/1,Error ellipse: s-maj=27.4km s-min=18.9km az=143.6*
*NEIC **01** 13:44:24.0±0.9,36°.74S×73°.51W,h35km,mb4.3/1,Error ellipse: s-maj=22.8km s-min=15.5km az=58.0*
ISC 01 13:44:22.9±1.2,36°.7S±0°.1×73°.6W±0°.2,h27km,n8,σ0§69/7, mb3.7/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.63**	**150**	Pn	**Pn**	**13 45 31.0**	**-0.1**
	4.4nm,0.3s,baz=312,slow=15,SNR=6.1						
PLCA				Sn	Sn	13 46 17.6	-6.5
	5.3nm,0.3s,baz=53,slow=7.2,SNR=3.2						
TRQA	**Tornquist**	**9.31**	**102**	P	**Pn**	**13 46 35.8**	**+0.4**
LPAZ	**La Paz**	**20.94**	**15**	LR	LR	13 57 09.8	
	comp=Z,132nm,19.0s,baz=213,slow=37						
QSPA	**South Pole Qui**	**53.50**	**180**	P	**P**	**13 53 40.8**	**+0.1**
	3.0nm,0.8s,baz=148,slow=2.4,SNR=8.4						
QSPA	**South Pole Qui**	**53.50**	**180**	*e*P	**P**	**13 53 41.2**	**+0.5**
	2.5nm,0.8s						
TXAR	**Lajitas Array**	**71.55**	**333**	P	**P**	**13 55 41.9**	**+0.4**
	0.4nm,0.6s,baz=163,slow=9.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**86.30**	**71**	P	**P**	**13 57 02.2**	**-0.4**
	0.4nm,0.7s,baz=222,slow=1.9,SNR=2.3						
MKAR	**Makanchi Array**	**159.45**	**53**	PKPab	**PKPab**	**14 04 55.5**	**-1.0**
	0.4nm,0.8s,baz=290,slow=3.1,SNR=3.9						

IDC 01 13:48:54.8±2.1,0°.39N×126°.72E,h0km,mb3.0/3, mb1 3.3/3,mb1mx3.1/24,mbtmp3.1/3,Error ellipse: s-maj=195.5km s-min=25.6km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.54**	**160**	P	P	13 53 46.9	+1.0
	0.5nm,0.7s,baz=340,slow=9.7,SNR=3.4						
ASAR	**Alice Springs**	**24.91**	**164**	P	P	13 54 18.9	-0.9
	0.6nm,1.1s,baz=350,slow=8.4,SNR=5.6						
MKAR	**Makanchi Array**	**60.29**	**326**	P	P	13 59 05.4	0.0
	0.1nm,0.3s,baz=130,slow=6.5,SNR=4.0						

*CSEM **01** 13:51:51.0±1.1,49°.89N×18°.27E,h2km,Error ellipse: s-maj=29.9km s-min=10.8km az=19.0*
PRU 01 13:51:46.3,49°.87N×18°.62E,h0km,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.31**	**264**	*e*PG	Pg	13 51 52.1	-0.1
OKC				*e*SG	Sg	13 51 56.0	-0.2
	comp=Z,7.7nm,0.4s						
OKC	**Ostrava-Krasne**	**0.31**	**264**	Pg	Pg	13 51 52.1	-0.1
OKC				Sg	Sg	13 51 56.0	-0.2
	7.7nm,0.4s						
MORC	**Moravsky Berou**	**0.70**	**263**	*e*Pg	Pg	13 52 00.3	+0.4
MORC				*e*Sg	Sg	13 52 09.9	+0.8
DPC	**Dobruska-Polom**	**1.56**	**289**	*e*SG	Sn	13 52 35.1	-1.2
DPC	**Dobruska-Polom**	**1.56**	**289**	Sg	Sn	13 52 35.1	-1.2

TRN 01 13:54:56.1,14°.91N×61°.44W,h188km,MD3.9,M3.5(FDF), 7C-3D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDF	**Fort de France**	**0.32**	**122**	↓*i*P	Pn	13 55 22.1	+0.8
FDF				*e*S	Sn	13 55 41.5	+0.8
BBL	**Barber's Block**	**0.62**	**357**	↓*i*P	Pn	13 55 23.3	+0.9
TBG	**Guadaloupe-3**	**0.96**	**348**	*e*P	Pn	13 55 25.2	+0.8
PHG	**Guadaloupe-2**	**1.12**	**350**	↑*i*P	Pn	13 55 26.9	+1.2
SLB	**Belfond**	**1.14**	**160**	↑*i*P	Pn	13 55 27.7	+1.9
SLB				*e*S	Sn	13 55 49.8	+1.1
ECG	**Echelle**	**1.15**	**349**	↑*i*P	Pn	13 55 27.1	+1.1
TAG	**Tarade**	**1.15**	**349**	*e*P	Pn	13 55 27.2	+1.3
FNG	**Fond-Bernard**	**1.17**	**348**	*e*P	Pn	13 55 27.1	+1.1
MLG	**Mont-d'or**	**1.18**	**347**	*e*P	Pn	13 55 27.3	+1.2
SSG	**Sans Toucher**	**1.20**	**349**	↑*i*P	Pn	13 55 27.4	+1.1
LZG	**Guadaloupe-1**	**1.27**	**345**	↑*i*P	Pn	13 55 27.9	+1.2
MCLT	**Moule a Chique**	**1.28**	**158**	*e*P	Pn	13 55 27.8	+1.0
MCLT	**Moule a Chique**	**1.28**	**158**	*e*P	Pn	13 55 28.1	+1.3
MCLT				*e*S	Sn	13 55 50.4	-0.3
DEG	**La Desirade**	**1.45**	**14**	↑*i*P	Pn	13 55 28.8	+0.5
SEG	**Port Louis**	**1.49**	**357**	↑*i*P	Pn	13 55 29.6	+1.0
SVV	**Soufriere Volc**	**1.59**	**172**	*e*P	Pn	13 55 30.3	+0.7
SVV				*e*S	Sn	13 55 55.8	0.0
BHS	**Barnard House**	**1.63**	**169**	*e*S	Sn	13 55 55.9	-0.4
SVB	**Belmont**	**1.63**	**174**	↓*i*P	Pn	13 55 31.5	+1.5
SVB	**Belmont**	**1.63**	**174**	*e*P	Pn	13 55 31.5	+1.5
SVB				*e*S	Sn	13 55 56.3	-0.2
FCV	**Fort Charlotte**	**1.75**	**174**	*e*P	Pn	13 55 33.1	+1.9
FCV				*e*S	Sn	13 55 58.9	+0.4
SMRT	**St. Maarten**	**3.50**	**334**	*e*P	Pn	13 55 51.6	+0.4
TOSP	**Speyside**	**3.69**	**166**	*e*P	Pn	13 55 54.3	+0.6
TOSP				*e*S	Sn	13 56 35.9	-2.8

*IDC **01** 14:06:11.4±1.2,36°.92S×73°.63W,h0km,mb3.7/5, mb1 4.0/6,mb1mx3.9/18,mbtmp3.7/6,ML3.3/2,MS3.1/3, Ms1 3.2/3,ms1mx3.0/26,Error ellipse: s-maj=36.0km s-min=18.3km az=76.0*
*ISCJB **01** 14:06:12.4±0.9,36°.87S±0°.09×73°.6W±0°.2,h14km,mb3.7/5, Error ellipse: s-maj=25.0km s-min=13.4km az=179.9*
ISC 01 14:06:13.9±1.0,36°.9S±0°.1×73°.6W±0°.2,h14km,n9,σ0§94/8, mb3.7/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.55**	**149**	Pn	**Pn**	**14 07 23.1**	**+0.7**
	0.9nm,0.3s,baz=326,slow=14,SNR=3.1						
PLCA				Lg	Lg	14 08 33.0	
	2.4nm,0.3s,baz=259,slow=16,SNR=6.3						
PLCA				LR	LR	14 09 20.9	
	comp=Z,521nm,19.9s,baz=263,slow=42						
CFAA	**Coronel Fontan**	**6.88**	**42**	Pn	**Pn**	**14 07 54.1**	**-0.3**
	0.1nm,0.3s,baz=203,slow=15,SNR=3.4						
CFAA				LR	LR	14 11 05.6	
	comp=Z,22nm,19.0s,baz=228,slow=42						
CPUP	**Villa Florida**	**17.38**	**57**	LR	LR	14 17 33.1	
	comp=Z,231nm,19.7s,baz=213,slow=39						
LPAZ	**La Paz**	**21.06**	**15**	P	**P**	**14 10 59.0**	**+0.7**
	1.1nm,0.6s,baz=187,slow=10,SNR=4.7						
SIV	**San Ignacio**	**23.58**	**31**	P	**P**	**14 11 24.6**	**+0.4**
	1.7nm,0.7s,baz=210,slow=7.6,SNR=3.0						
QSPA	**South Pole Qui**	**53.38**	**180**	P	**P**	**14 15 31.9**	**-0.8**
	2.2nm,1.0s,baz=134,slow=7.9,SNR=3.6						
TXAR	**Lajitas Array**	**71.64**	**333**	P	**P**	**14 17 34.5**	**-0.5**
	0.6nm,0.6s,baz=158,slow=10,SNR=5.6						
NVAR	**Mina Array Bea**	**85.52**	**326**	P	**P**	**14 18 52.6**	**+1.1**
	0.3nm,0.6s,baz=145,slow=6.4,SNR=3.4						
MKAR	**Makanchi Array**	**159.56**	**53**	PKPab	**PKPab**	**14 26 49.0**	**-1.1**
	0.4nm,0.8s,baz=316,slow=3.3,SNR=3.8						

*IDC **01** 14:08:23.6±3.4,36°.04N×71°.15E,h75km±29km,mb3.5/10, mb1 3.7/15,mb1mx3.5/32,mbtmp3.9/15,Error ellipse: s-maj=24.9km s-min=17.4km az=166.0*
*ISCJB **01** 14:08:24.2±0.4,36°.12N±0°.03×71°.18E±0°.06,h102km, mb3.6/9,Error ellipse: s-maj=7.1km s-min=3.4km az=151.1*
*NNC **01** 14:08:32.6±5.0,36°.78N×70°.51E,h84km±84km,mb3.9, mpv4.2,Error ellipse: s-maj=49.8km s-min=31.4km az=151.0*
ISC 01 14:08:24.7±0.6,36°.07N±0°.06×71°.09E±0°.06,h102km,n49, σ1§45/46,mb3.5/9,5C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.35**	**130**	*e*P	Pn	14 09 45.0	+2.6
DLH				*e*S	**Sn**	**14 10 45.0**	**+2.1**
DHRM	**DHARAMSHALA**	**5.76**	**130**	*e*P	Pn	14 09 50.5	+2.6
DHRM				*e*S	**Sn**	**14 10 53.1**	**+0.3**
DHRM				AML	AML	14 10 56.4	
	comp=E,792nm,0.4s						
DHRM				AML	AML	14 10 56.8	
	comp=N,616nm,0.4s						
AML	**Almayashu**	**6.38**	**18**	P	**Pn**	**14 09 57.0**	**+0.6**
	SNR=76						
BHK	**Bhakra**	**6.42**	**135**	*e*S	**Sn**	**14 11 11.0**	**+2.4**
SDNR	**Sundarnagar**	**6.69**	**131**	*e*P	Pn	14 10 03.5	+3.1
SDNR				*e*S	**Sn**	**14 11 12.0**	**-3.1**
UCH	**Uchtor**	**6.70**	**22**	P	**Pn**	**14 10 01.6**	**+0.8**
	SNR=13						
KZA	**Kyzart**	**6.81**	**27**	P	**Pn**	**14 10 03.1**	**+0.8**
	SNR=10						
EKS2	**Erkin-Say**	**6.90**	**17**	P	**Pn**	**14 10 04.2**	**+0.9**
	SNR=37						
KK31	**Karatay Array**	**7.04**	**357**	⇑P	**Pn**	**14 10 05.0**	**0.0**
	comp=N,10nm,0.3s,baz=176,slow=12,SNR=533						
AAK	**Ala-Archa**	**7.06**	**21**	⇑P	**Pn**	**14 10 06.5**	**+1.0**
	comp=N,6.6nm,0.3s						
AAK				⇑S	**Sn**	**14 11 22.8**	**-1.5**
	comp=N,14nm,0.6s						
AAK	**Ala-Archa**	**7.06**	**21**	P	**Pn**	**14 10 06.7**	**+1.1**
	SNR=35						
AAK	**Ala-Archa**	**7.06**	**21**	P	**Pn**	**14 10 06.2**	**+0.7**
	comp=N,7.8nm,0.3s,baz=191,slow=5.2,SNR=110						
AAK				S	**Sn**	**14 11 23.1**	**-1.1**
	comp=N,1.9nm,0.3s,baz=322,slow=23,SNR=10						
SMLA	**Simla**	**7.07**	**132**	*e*P	Pn	14 10 07.6	+2.1
SMLA				*e*S	**Sn**	**14 11 23.8**	**-0.5**
SMLA				AML	AML	14 11 26.7	
	comp=E,137nm,0.4s						
SMLA				AML	AML	14 11 26.8	
	comp=N,178nm,0.7s						
KBK	**Karagaybulak**	**7.22**	**23**	P	Pn	14 10 10.0	+2.3
	SNR=5.6						
CHMS	**Chumysh**	**7.47**	**21**	P	**Pn**	**14 10 11.6**	**+0.7**
	SNR=23						
USP	**Ospenovka**	**7.65**	**19**	P	**Pn**	**14 10 14.1**	**+0.8**
	SNR=25						
TKM2	**Tokmak 2**	**7.67**	**26**	⇓P	**Pn**	**14 10 14.3**	**+0.5**
	comp=N,4.2nm,0.6s						
TKM2				⇓S	**Sn**	**14 11 37.5**	**-1.7**
	comp=N,5.2nm,0.8s						
TKM2	**Tokmak 2**	**7.67**	**26**	P	**Pn**	**14 10 14.6**	**+0.7**
	SNR=11						
GEYT	**Alibeck**	**10.54**	**284**	P	**Pn**	**14 10 52.5**	**-0.3**
	comp=N,0.7nm,0.3s,baz=107,slow=7.9,SNR=5.6						
GEYT				S	**Sn**	**14 12 44.6**	**-4.2**
	comp=N,2.6nm,0.3s,baz=96,slow=21,SNR=5.4						
DANN	**Dangsing**	**13.19**	**122**	*e*P	**Pn**	**14 11 27.1**	**-1.2**
DANN				*e*S	Sn	14 13 37.6	-16
KOLN	**Koldanda**	**13.46**	**124**	*e*P	**Pn**	**14 11 30.7**	**-1.0**
MK31	**Makanchi Array**	**13.60**	**35**	⇑P	**P**	**14 11 39.7**	**+1.1**
	comp=N,0.1nm,0.3s,baz=0.0,slow=0.1,SNR=2.7						
MKAR	**Makanchi Array**	**13.60**	**35**	P	**Pn**	**14 11 33.3**	**+0.1**
	comp=N,0.1nm,0.3s,baz=222,slow=14,SNR=6.7						
GKN	**Gorkha**	**14.02**	**121**	*e*P	**Pn**	**14 11 37.7**	**-1.2**
	comp=N,16nm,0.4s						
DMN	**Daman**	**14.58**	**121**	*e*P	**Pn**	**14 11 45.3**	**-1.0**
KKN	**Kakani**	**14.59**	**120**	*e*P	**Pn**	**14 11 45.6**	**-0.8**
PKIN	**Phulchoki**	**14.81**	**121**	*e*P	**Pn**	**14 11 47.4**	**-1.7**
PKI	**Pulchoki**	**14.82**	**121**	*e*P	**Pn**	**14 11 48.2**	**-1.1**
GUN	**Gumba**	**14.94**	**119**	*e*P	**Pn**	**14 11 49.2**	**-1.7**
JIRN	**Jiri**	**15.31**	**119**	*e*P	**Pn**	**14 11 54.7**	**-0.9**
AB31	**Akbulak array**	**15.49**	**332**	P	**Pn**	**14 11 55.5**	**-1.9**
	comp=N,3.1nm,0.2s,baz=144,slow=12,SNR=176						
AB31				S	Sn	14 14 33.5	-15
	comp=N,2.8nm,0.5s,baz=152,slow=22,SNR=13						
RAMN	**Ramite**	**16.03**	**120**	*e*P	**Pn**	**14 12 03.4**	**-1.1**
TAPN

comp=E,222nm,0.4s
PAU Pauzhetka 3.77 26 PN **Pn 14 12 51.5 +0.1**
PAU S **Sn 14 13 35.2 +0.8**
PAU Pauzhetka 3.77 26 P **Pn 14 12 51.5 +0.1**
PAU S **Sn 14 13 35.2 +0.8**
PAU Pauzhetka 3.77 26 *e*P **Pn 14 12 52.5 +1.1**
PAU AMB AMB 14 13 01.2
comp=E,446nm,0.8s
PAU *e*S **Sn 14 13 35.3 +0.8**
MIPR Malaya Ipel'ka 4.49 21 P **Pn 14 13 01.8 +0.6**
ASAK Asacha 4.91 28 P **Pn 14 13 07.8 +0.9**
MTVR Mutnovka 5.08 29 P **Pn 14 13 09.1 -0.3**
MTVR S **Sn 14 14 05.8 -0.9**
RUS Russkaya 5.15 31 P **Pn 14 13 08.7 -1.5**
RUS S **Sn 14 14 04.2 -4.0**
APC Apacha 5.18 21 P **Pn 14 13 11.3 +0.7**
PETK Petropavlovsk- 5.49 23 PN **Pn 14 13 16.6 +1.8**
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK Petropavlovsk- 5.49 23 P **Pn 14 13 16.6 +1.8**
comp=Z,0.8nm,0.3s,baz=179,slow=12,SNR=28
PET Petropavlovsk 5.69 29 *e*PN Pn 14 13 21.4 +3.8
PET pmax pmax
comp=Z,6.0nm,0.4s
PET Petropavlovsk 5.69 29 P **Pn 14 13 16.6 -1.0**
PET S **Sn 14 14 20.1 -1.4**
PET Petropavlovsk 5.69 29 *e*P **Pn 14 13 18.9 +1.3**
PET AMB AMB 14 13 21.1
comp=Z,616nm,1.0s
PET *e*S **Sn 14 14 19.7 -1.8**
PET A A 14 14 39.1
comp=Z,333nm,0.8s
UGLR Uglovaya 5.90 29 P **Pn 14 13 22.3 +1.7**
KOK Koryaka 5.92 27 P **Pn 14 13 21.4 +0.7**
AVH Avacha 5.92 28 P **Pn 14 13 22.5 +1.7**
KRER Koryakskii 5.96 28 P **Pn 14 13 22.7 +1.2**
KRX Arik 5.98 27 P **Pn 14 13 22.8 +1.2**
SDLR Sedlovina 5.98 29 P **Pn 14 13 21.9 +0.2**
GNL Ganaly 6.08 22 P **Pn 14 13 24.3 +1.3**
SHO Shikotan 6.62 233 *e*P **Pn 14 13 31.0 +0.7**
YSS Yuzh-Sakhalins 7.78 266⇓*i*PN **Pn 14 13 47.9 +1.7**
YSS pmax pmax
comp=Z,30nm,0.6s
YSS Yuzh-Sakhalins 7.78 266 *e*P **Pn 14 13 47.4 +1.2**
YSS AMB AMB 14 13 48.5
comp=Z,342nm,0.7s
YSS *e*S **Sn 14 15 08.5 -4.2**
YSS A A 14 15 10.4
comp=Z,106nm,0.6s
MKZ Mys Kozlova 8.01 34 PN **Pn 14 13 49.1 -0.1**
MKZ Mys Kozlova 8.01 34 P **Pn 14 13 49.1 -0.1**
TUMR Tumrok 8.09 25 P **Pn 14 13 50.1 -0.3**
ASAJ Asahikawa 8.95 248 PN **Pn 14 14 05.3 +3.1**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 8.95 248 P **Pn 14 14 05.3 +3.1**
comp=Z,1.0nm,0.3s,baz=64,slow=13,SNR=14
KBTR Krutoberegovo 9.69 30 PN **Pn 14 14 13.0 +0.8**
KBTR Krutoberegovo 9.69 30 P **Pn 14 14 13.0 +0.8**
ERM Erimo 9.87 236 *i*PN **Pn 14 14 14.9 +0.2**
ERM Erimo 9.87 236 *e*P **Pn 14 14 14.9 +0.2**
FX1 Attu Island--F 13.01 61 PN **Pn 14 14 56.9 -0.6**
FX1 pmax pmax
comp=Z,2.0nm,0.3s
FX1 MLR MLR
comp=Z,53nm,19.4s
FX1 Attu Island--F 13.01 61 P **Pn 14 14 56.9 -0.6**
comp=Z,1.7nm,0.3s,baz=304,slow=2.8,SNR=9.4
FX1 LR LR 14 20 33.3
comp=Z,53nm,19.4s,baz=70,slow=39
SEY Seymchan 14.88 357 P **Pn 14 15 24.1 +2.0**
comp=Z,0.1nm,0.3s,baz=181,slow=16,SNR=3.7
USRK Ussuriysk Ar. 15.81 264 P **Pn 14 15 35.1 +0.9**
comp=Z,0.3nm,0.3s,baz=51,slow=15,SNR=5.4
H11S1 WAKE ISLAND Hy 31.27 157 T T 14 51 07.5
baz=344,slow=76,SNR=213
H11S3 WAKE ISLAND Hy 31.28 157 T T 14 51 08.0
baz=344,slow=76,SNR=182
H11S2 WAKE ISLAND Hy 31.29 157 T T 14 51 07.5
baz=344,slow=76,SNR=136
ILAR Eielson Array 35.05 40 P **P 14 18 41.2 -0.8**
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR Eielson Array 35.05 40 P **P 14 18 41.2 -0.8**
comp=Z,1.0nm,1.0s,baz=263,slow=7.7,SNR=6.3
ILAR Eielson Array 35.05 40 *e*P **P 14 18 44.4 +2.4**
YKA Yellowknife Ar 49.42 38 P **P 14 20 39.0 +0.5**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 49.42 38 P **P 14 20 39.0 +0.5**
comp=Z,0.5nm,0.7s,baz=299,slow=7.5,SNR=7.1
CMAR Chiang Mai Arr 53.36 256 *e*P **P 14 21 08.1 -0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
CMAR Chiang Mai Arr 53.36 256 P **P 14 21 07.3 -1.4**
comp=Z,0.7nm,0.5s,baz=46,slow=6.4,SNR=5.1
CMAR Chiang Mai Arr 53.36 256 *e*P **P 14 21 08.1 -0.5**
NVAR Mina Array Bea 61.20 64 P **P 14 22 04.9 +0.9**
comp=Z,0.3nm,0.6s,baz=294,slow=6.8,SNR=3.3
WRA Warramunga Arr 70.03 200 *e*P **P 14 23 00.2 -0.4**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 70.03 200 P **P 14 22 59.6 -1.0**
comp=Z,0.8nm,0.6s,baz=15,slow=6.6,SNR=4.8
WRA Warramunga Arr 70.03 200 *e*P **P 14 23 00.2 -0.4**
ASAR Alice Springs 73.73 199 P **P 14 23 22.7 0.0**
comp=Z,0.3nm,0.5s,baz=14,slow=5.5,SNR=9.3
TXAR Lajitas Array 76.23 61 P **P 14 23 37.9 +0.5**
comp=Z,0.3nm,0.5s,baz=316,slow=5.0,SNR=2.6
TORD Torodi Ar. Bea 114.25 330 PKP PKPdf 14 30 26.6 -1.6
comp=Z,0.4nm,0.9s,baz=284,slow=0.5,SNR=2.7

IDC 01 14:12:13.0±1.8, 2°.80S×147°.31E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/18, mbtmp4.0/4, MS3.5/5, Ms1 3.5/5, ms1mx3.1/30, Error ellipse: s-maj=162.8km s-min=24.0km az=116.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.56**	**181**	LR	LR	14 16 20.0	
comp=Z,351nm,21.0s,baz=36,slow=38							
WRA	**Warramunga Arr**	**21.23**	**216**	P	P	14 17 00.9	+0.2
2.0nm,0.6s,baz=41,slow=10,SNR=18							
WRA				pP		14 17 54.5	
2.3nm,0.6s,baz=42,slow=10,SNR=3.7							
ASAR	**Alice Springs**	**24.46**	**211**	P	P	14 17 33.7	-0.2
2.0nm,0.5s,baz=38,slow=7.1,SNR=54							
ASAR				pP		14 18 27.3	
2.0nm,0.5s,baz=38,slow=7.2,SNR=5.3							
ASAR				LR	LR	14 27 44.1	
comp=Z,186nm,18.3s,baz=14,slow=38							
H11S3	**WAKE ISLAND Hy 28.50**		**41**	T	T	14 47 45.9	
baz=222,slow=76,SNR=157							
H11S2	**WAKE ISLAND Hy 28.51**		**41**	T	T	14 47 43.0	
baz=222,slow=76,SNR=93							
H11S1	**WAKE ISLAND Hy 28.52**		**41**	T	T	14 47 44.3	
baz=222,slow=76,SNR=197							
STKA	**Stephens Creek**	**29.42**	**190**	LR	LR	14 30 11.3	
comp=Z,170nm,18.3s,baz=23,slow=37							
H11N1	**WAKE ISLAND Hy 29.51**		**40**	T	T	14 49 00.1	
baz=221,slow=76,SNR=83							
H11N3	**WAKE ISLAND Hy 29.52**		**40**	T	T	14 49 01.3	
baz=221,slow=76,SNR=91							
H11N2	**WAKE ISLAND Hy 29.53**		**40**	T	T	14 49 02.6	
baz=221,slow=76,SNR=82							
MJAR	**Matsushiro Arr**	**40.05**	**349**	LR	LR	14 34 42.0	
comp=Z,22nm,21.4s,baz=265,slow=34							
PETK	**Petropavlovsk-**	**56.39**	**8**	P	P	14 21 55.9	-0.1
2.0nm,0.8s,baz=175,slow=8.5,SNR=4.5							
PETK				LR	LR	14 44 02.5	
comp=Z,44nm,19.9s,baz=204,slow=34							
YKA	**Yellowknife Ar**	**96.22**	**28**	P	P	14 25 42.9	0.0
0.5nm,0.8s,baz=271,slow=4.4,SNR=7.7							

IDC 01 14:25:34.9±3.0, 36°.17S×73°.27W, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.6/27, mbtmp3.6/5, ML3.7/2, MS2.5/2, Ms1 2.5/2, ms1mx2.5/21, Error ellipse: s-maj=65.6km s-min=20.5km az=86.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.03**	**156**	Pn	Pn	14 26 52.4	+0.6
1.0nm,0.3s,baz=334,slow=13,SNR=6.0							
PLCA				Lg	Lg	14 28 15.4	
1.6nm,0.3s,baz=67,slow=2.5,SNR=3.2							
PLCA				LR	LR	14 28 31.8	
comp=Z,80nm,19.5s,baz=230,slow=35							
CFAA	**Coronel Fontan**	**6.18**	**44**	Pn	Pn	14 27 09.1	+1.5
0.7nm,0.3s,baz=206,slow=14,SNR=16							
CFAA				Sn	Sn	14 28 19.0	0.0
0.1nm,0.3s,baz=239,slow=18,SNR=2.5							
CFAA				LR	LR	14 29 57.8	
comp=Z,26nm,19.0s,baz=232,slow=42							
LPAZ	**La Paz**	**20.32**	**14**	P	Pn	14 30 14.7	-0.7
1.2nm,0.5s,baz=180,slow=8.3,SNR=5.4							
SIV	**San Ignacio**	**22.84**	**32**	P	P	14 30 39.0	-0.8
1.7nm,0.6s,baz=226,slow=13,SNR=6.0							
TORD	**Torodi Ar. Bea**	**85.89**	**71**	P	P	14 38 16.3	-0.7
0.7nm,1.1s,baz=217,slow=0.6,SNR=4.0							

*IDC **01** 14:36:25.3±0.4, 34°.48S×73°.72W, h0km, mb5.1/20, mb1 5.2/23, mb1mx5.1/27, mbtmp5.1/23, ML4.7/3, MS4.5/21, Ms1 4.5/21, ms1mx4.4/29, Error ellipse: s-maj=15.6km s-min=11.4km az=85.0*
*ISCJB **01** 14:36:29.1±0.1, 34°.34S±0°.04×73°.47W±0°.05, h33km, mb5.3/143, MS4.5/21, Error ellipse: s-maj=7.3km s-min=3.8km az=147.6*
*MOS **01** 14:36:29.7±1.0, 34°.33S×73°.67W, h33km, mb5.6/42, Error ellipse: s-maj=17.8km s-min=7.7km az=105.7*
*GCMT **01** 14:36:30.0±0.2, 34°.53S×73°.96W, h12km, MW5.2/104, Moment Tensor Solution. s50,c64; s104,c155; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-7.55±.14; $M_{\theta\theta}$3.76±.12; $M_{\phi\phi}$3.79±.16; $M_{r\theta}$1.00±.44; $M_{\theta\phi}$2.99±.12; $M_{\phi r}$1.19±.48; Best double couple: $M_0$7.32400×10^{16} NP1:ϕ_s224.00000°, δ51.00000°, λ-91.00000°. NP2: ϕ_s46.00000°, δ39.00000°, λ-89.00000°. Principal axes: T 6.9310, Plg6.0000°, Azm315.0000°; N 0.7870, Plg1.0000°, Azm225.0000°; P -7.7180, Plg84.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 14:36:30.0±1.6, 34°.39S×73°.50W, h31km±10km, mb5.3/126 Error ellipse: s-maj=6.3km s-min=3.3km az=60.0*
ISC 01 14:36:30.4±0.2, 34°.42S±0°.05×73°.56W±0°.06, h35km, n826, σ0=94/870, mb5.3/143, MS4.6/22, 220C-213D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.28**	**59**	Pn	**Pn**	**14 37 47.6**	**+0.7**
1.3nm,0.3s,baz=229,slow=11,SNR=58							
CFAA				Sn	**Sn**	**14 38 50.5**	**+4.0**
1.3nm,0.3s,baz=328,slow=24,SNR=7.4							
PLCA	**Paso Flores**	**6.74**	**160**	*e*P	**Pn**	**14 38 06.2**	**-0.8**
PLCA						14 39 24.6	
PLCA	**Paso Flores**	**6.74**	**160**	Pn	**Pn**	**14 38 06.6**	**-0.4**
5.3nm,0.3s,baz=331,slow=13,SNR=19							
PLCA				Sn	**Sn**	**14 39 24.6**	**+2.0**
baz=315,slow=18,SNR=1.3							
PLCA	**Paso Flores**	**6.74**	**160**	*e*Pn	**Pn**	**14 38 06.2**	**-0.8**
PLCA				Sn	**Sn**	**14 39 24.6**	**+2.0**
TRQA	**Tornquist**	**10.04**	**115**	*e*Pn	**Pn**	**14 38 53.4**	**+1.3**
LVC	**Limon Verde**	**12.45**	**20**	*e*Pn	**Pn**	**14 39 23.0**	**-2.4**
CPUP	**Villa Florida**	**16.15**	**64**	*e*P	**Pn**	**14 40 11.3**	**-3.4**
CPUP				pmax	pmax		
comp=Z,3.0nm,0.9s							
CPUP	**Villa Florida**	**16.15**	**64**	Pn	**Pn**	**14 40 15.2**	**+0.5**
comp=Z,0.5nm,0.3s,baz=227,slow=14,SNR=16							
CPUP				LR	LR	14 47 27.6	
comp=Z,839nm,21.2s,baz=225,slow=41							
CPUP	**Villa Florida**	**16.15**	**64**	*e*P	**Pn**	**14 40 11.3**	**-3.4**
comp=Z,2.9nm,0.9s							
LPAZ	**La Paz**	**18.70**	**16**	*e*P	**Pn**	**14 40 48.3**	**+1.2**
LPAZ				pmax	pmax		
comp=Z,73nm,1.3s							
LPAZ	**La Paz**	**18.70**	**16**	P	**Pn**	**14 40 48.4**	**+1.4**
comp=Z,0.9nm,0.3s,baz=184,slow=8.7,SNR=40							
LPAZ	**La Paz**	**18.70**	**16**	*e*P	**Pn**	**14 40 48.3**	**+1.2**
comp=Z,73nm,1.3s							
USHA	**Ushuaia**	**20.73**	**172**	P	**P**	**14 41 07.8**	**+0.1**
comp=Z,58nm,1.1s,baz=329,slow=8.0,SNR=7.2							
USHA				LR	LR	14 49 24.3	
comp=Z,3μm,18.4s,baz=330,slow=38							
SIV	**San Ignacio**	**21.51**	**35**	P	**P**	**14 41 16.8**	**+0.3**
comp=Z,37nm,0.8s,baz=233,slow=13,SNR=49							
SIV				PcP	**PcP**	**14 45 18.9**	**+0.6**
comp=Z,8.0nm,0.8s,baz=228,slow=4.1,SNR=6.4							
SIV				LR	LR	14 50 48.3	
comp=Z,908nm,18.3s,baz=218,slow=40							
NNA	**Nana**	**22.53**	**352**	*e*P	**P**	**14 41 26.2**	**-1.2**
NNA				pmax	pmax		
comp=Z,33nm,0.8s							
NNA	**Nana**	**22.53**	**352**	P	**P**	**14 41 27.1**	**-0.2**
comp=Z,33nm,0.8s,baz=186,slow=9.7,SNR=17							
NNA	**Nana**	**22.53**	**352**	*e*P	**P**	**14 41 26.2**	**-1.2**
comp=Z,33nm,0.8s							
SAML	**Samuel**	**27.08**	**23**	*e*P	**P**	**14 42 09.6**	**-0.3**
comp=Z,22nm,1.5s							
ATAH	**Atahualpa**	**27.51**	**350**	P	**P**	**14 42 14.6**	**+0.4**
comp=Z,6.8nm,0.8s,baz=180,slow=7.4,SNR=5.3							
ATAH				PcP	**PcP**	**14 45 33.7**	**+1.7**
comp=Z,12nm,0.9s,baz=155,slow=2.3,SNR=4.3							
BDFB	**Brasilia**	**29.62**	**57**	LR	LR	14 54 30.7	
comp=Z,1μm,18.2s,baz=216,slow=36							
OTAV	**Otavalo**	**34.78**	**351**	*e*P	**P**	**14 43 17.2**	**-1.0**
comp=Z,139nm,2.4s							
ROSC	**El Rosal**	**39.07**	**359**	P	**P**	**14 43 56.6**	**+2.0**
comp=Z,17nm,0.6s,baz=151,slow=5.6,SNR=7.5							
ROSC				LR	LR	14 59 39.5	
comp=Z,790nm,18.2s,baz=205,slow=36							
RCBR	**Riachuelo**	**44.94**	**59**	P	**P**	**14 44 43.5**	**+1.3**
comp=Z,27nm,1.1s,baz=219,slow=7.5,SNR=8.5							
RCBR	**Riachuelo**	**44.94**	**59**	*e*P	**P**	**14 44 42.2**	**0.0**
comp=Z,79nm,1.4s							
JTS	**JuntasAbangare**	**45.76**	**344**⇑	*e*P	**P**	**14 44 47.7**	**-0.9**
JTS				pmax	pmax		
comp=Z,62nm,1.8s							
JTS	**JuntasAbangare**	**45.76**	**344**	P	**P**	**14 44 49.1**	**+0.6**
comp=Z,2.6nm,0.4s,baz=180,slow=4.6,SNR=4.2							
VNA3	**Neumayer Olymp**	**49.45**	**158**	P	**P**	**14 45 17.6**	**+0.9**
VNA1	**Neumayer--Stat**	**49.79**	**157**	P	**P**	**14 45 20.3**	**+1.2**
VNA2	**Neumayer--Watz**	**50.12**	**157**	P	**P**	**14 45 23.0**	**+1.3**
SNAA	**Sanae**	**51.68**	**158**	P	**P**	**14 45 34.4**	**+0.8**
SNAA	**Sanae**	**51.68**	**158**	*d*iP	**P**	**14 45 33.8**	**+0.3**
SNAA				pmax	pmax		
comp=Z,179nm,1.2s							
SNAA	**Sanae**	**51.68**	**158**	P	**P**	**14 45 34.0**	**+0.4**
comp=Z,34nm,0.9s,baz=280,slow=7.1,SNR=70							
SNAA				PcP	**PcP**	**14 46 46.8**	**+0.1**
comp=Z,4.8nm,0.9s,baz=244,slow=4.7,SNR=2.3							
SNAA				LR	LR	15 05 15.6	
comp=Z,221nm,21.6s,baz=288,slow=34							
SNAA	**Sanae**	**51.68**	**158**	*e*P	**P**	**14 45 33.2**	**-0.4**
comp=Z,163nm,1.1s							
SNAA				PcP	**PcP**	**14 46 46.8**	**+0.1**
APG	**El Apazote**	**51.71**	**339**	P	P	14 45 30.6	-3.9
comp=Z,7.7nm,0.7s,baz=162,slow=6.9,SNR=12							
APG				LR	LR	15 02 10.3	
comp=Z,751nm,21.3s,slow=30							
OBIP	**Obispado Ponce**	**52.59**	**8**	*e*P	**P**	**14 45 39.9**	**-0.8**
comp=Z,25nm,0.8s							
CELP	**Cerrillos**	**52.62**	**8**	*e*P	**P**	**14 45 40.2**	**-0.7**
SMRT	**St. Maarten**	**53.12**	**13**	*e*P	**P**	**14 45 43.3**	**-1.4**
comp=Z,33nm,1.0s							
SDDR	**Presa de Saban**	**53.15**	**3**	*e*P	**P**	**14 45 43.2**	**-1.6**
comp=Z,15nm,0.8s							
RKT	**Rikitea**	**54.28**	**265**	*e*S	**S**	**14 53 34.1**	**+5.4**
comp=Z,171nm,30.2s							
RKT				*e*LR	LR	15 01 21.2	
comp=Z,523nm,29.2s,baz=119							
QSPA	**South Pole Qui**	**55.82**	**180**	P	**P**	**14 46 04.2**	**+0.2**
comp=Z,94nm,1.0s,baz=144,slow=2.7,SNR=114							
QSPA				PcP	**PcP**	**14 47 03.0**	**+0.4**
comp=Z,20nm,0.9s,baz=168,slow=4.8,SNR=3.6							
QSPA				LR	LR	15 10 21.6	
comp=Z,125nm,19.9s,baz=134,slow=36							
QSPA	**South Pole Qui**	**55.82**	**180**	*e*P	**P**	**14 46 03.4**	**-0.6**
comp=Z,122nm,1.1s							
QSPA				PcP	**PcP**	**14 47 03.0**	**+0.4**
TEIG	**Tepich**	**56.12**	**343**	*e*P	**P**	**14 46 05.3**	**-1.0**
NVL	**N'lazarevskaya**	**56.44**	**157**	*e*P	**P**	**14 46 09.3**	**+1.2**
NVL				pmax	pmax		
comp=Z,87nm,1.0s							
NVL				MLR	MLR		
comp=Z,645nm,20.0s							
VNDA	**Vanda**	**63.44**	**192**	LR	LR	15 10 09.7	
comp=Z,106nm,20.8s,baz=130,slow=32							
035A	**Encino**	**65.30**	**336**	⇓P	**P**	**14 47 09.9**	**+1.1**
baz=66							
034A	**Hebbronville**	**65.62**	**335**	⇓P	**P**	**14 47 11.9**	**+1.0**
baz=66							
SYO	**Syowa Base**	**65.94**	**159**⇑	*e*P	**P**	**14 47 11.0**	**-1.5**
SYO	**Syowa Base**	**65.94**	**159**⇑	*e*sP	sP	14 47 25.2	-2.1
SYO	**Syowa Base**	**65.94**	**159**⇑	*e*PcP	**PcP**	**14 47 40.5**	**-2.5**
TIGA	**Tifton**	**66.18**	**351**	*e*P	**P**	**14 47 13.8**	**-0.6**
comp=Z,55nm,0.8s							
933A	**Laredo**	**66.32**	**335**	⇑P	**P**	**14 47 15.9**	**+0.5**
baz=67							
835A	**Beeville**	**66.46**	**337**	⇑P	**P**	**14 47 17.5**	**+1.3**
baz=67							
834A	**Tilden**	**66.55**	**336**	⇑P	**P**	**14 47 18.1**	**+1.3**
baz=67							
735A	**Kenedy**	**66.98**	**337**	⇓P	**P**	**14 47 20.4**	**+0.9**
baz=67							
833A	**Chaparral WMA,**	**67.02**	**335**	⇑P	**P**	**14 47 20.2**	**+0.4**
baz=67,SNR=18							
832A	**Faith Ranch, C**	**67.18**	**335**	⇑P	**P**	**14 47 20.9**	**+0.1**
baz=68,SNR=12							
734A	**La Parita Cree**	**67.22**	**336**	⇑P	**P**	**14 47 21.2**	**+0.2**
baz=68							
636A	**Smothers Creek**	**67.32**	**338**	⇑P	**P**	**14 47 22.8**	**+1.1**
baz=68,SNR=7.5							
733A	**Divot King Ran**	**67.34**	**336**	⇑P	**P**	**14 47 22.0**	**+0.1**
baz=68							
635A	**Leesville**	**67.46**	**337**	⇓P	**P**	**14 47 23.4**	**+0.9**
baz=68							
732A	**Laxson Ranch,**	**67.59**	**335**	⇑P	**P**	**14 47 23.6**	**+0.2**
baz=68							
537A	**Green Hill Far**	**67.65**	**339**	⇑P	**P**	**14 47 24.7**	**+0.9**
baz=68							
536A	**Bastrop**	**67.88**	**338**	⇑P	**P**	**14 47 25.5**	**+0.3**
baz=68,SNR=5.3							
633A	**Saathoff Ranch**	**67.98**	**336**	⇓P	**P**	**14 47 26.1**	**+0.1**
baz=68							
535A	**Dale**	**67.99**	**338**	⇓P	**P**	**14 47 26.1**	**+0.2**
baz=68,SNR=5.6							
GOGA	**Godfrey**	**68.11**	**351**	*e*P	**P**	**14 47 25.6**	**-1.0**
GOGA				pmax	pmax		
comp=Z,28nm,0.8s							
GOGA	**Godfrey**	**68.11**	**351**	*e*P	**P**	**14 47 25.6**	**-1.0**
comp=Z,28nm,0.8s							
340A	**Bronson**	**68.23**	**341**	⇓P	**P**	**14 47 27.6**	**+0.3**
baz=68							
632A	**Uvalde**	**68.24**	**335**	⇑P	**P**	**14 47 27.9**	**+0.4**
baz=68,SNR=11							
LRAL	**Lakeview Retre**	**68.27**	**348**	*e*P	**P**	**14 47 27.3**	**-0.3**
comp=Z,9.4nm,0.8s							
534A	**Blanco**	**68.28**	**337**	⇓P	**P**	**14 47 28.1**	**+0.4**
baz=69							
339A	**Huntington**	**68.33**	**341**	⇓P	**P**	**14 47 28.7**	**+0.7**
baz=69							
631A	**Perdido Creek**	**68.42**	**335**	⇑P	**P**	**14 47 28.4**	**-0.3**
baz=69,SNR=6.4							
533A	**Kerrville**	**68.50**	**336**	⇓P	**P**	**14 47 29.4**	**+0.2**
baz=69,SNR=7.8							
338A	**Crockett**	**68.56**	**340**	⇓P	**P**	**14 47 31.0**	**+1.6**
baz=69							
337A	**Centerville**	**68.68**	**340**	⇓P	**P**	**14 47 31.3**	**+1.1**
baz=69,SNR=8.4							
435B	**Jarrell**	**68.69**	**338**	⇓P	**P**	**14 47 30.7**	**+0.4**
baz=69							
NATX	**Nacogdoches**	**68.76**	**341**	*e*P	**P**	**14 47 31.2**	**+0.5**
comp=Z,86nm,0.9s							
532A	**Rocksprings**	**68.85**	**336**	⇑P	**P**	**14 47 31.7**	**+0.3**
baz=69,SNR=23							
PPT2	**Papeete2**	**68.93**	**263**	*e*S	S	14 56 42.2	+7.6
comp=Z,177nm,23.5s							
PPT2	**Papeete2**	**68.93**	**263**	*e*LR	LR	15 08 17.9	
comp=Z,853nm,28.8s							
PPT	**Papeete**	**68.94**	**263**	LR	LR	15 10 23.9	
comp=Z,243nm,18.9s,baz=174,slow=30							
434A	**Burnet**	**68.94**	**337**	⇓P	**P**	**14 47 31.9**	**+0.1**
baz=69,SNR=14							
336A	**Riesel**	**69.03**	**339**	⇓P	**P**	**14 47 32.5**	**+0.1**
baz=69,SNR=9.5							
531A	**Rocksprings**	**69.10**	**335**	⇑P	**P**	**14 47 33.3**	**+0.4**
baz=69,SNR=13							
335A	**Moody**	**69.11**	**338**	⇓P	**P**	**14 47 33.0**	**+0.1**
baz=69,SNR=7.9							
JCT	**Junction City**	**69.13**	**336**	*e*P	**P**	**14 47 32.9**	**-0.2**
JCT				pmax	pmax		
comp=Z,44nm,1.0s							
JCT	**Junction City**	**69.13**	**336**	⇑P	**P**	**14 47 33.0**	**-0.2**
baz=69,SNR=17							
JCT	**Junction City**	**69.13**	**336**	*e*P	**P**	**14 47 32.9**	**-0.2**
comp=Z,44nm,1.0s							
433A	**Art**	**69.15**	**337**	⇑P	**P**	**14 47 33.0**	**-0.1**
baz=70,SNR=26							
530A	**J-C Ranch, Com**	**69.36**	**334**	⇑P	**P**	**14 47 34.9**	**+0.3**
baz=70,SNR=30							
334A	**Lometa**	**69.41**	**338**	⇑P	**P**	**14 47 34.8**	**0.0**
baz=70,SNR=18							
432A	**Menard**	**69.49**	**336**	⇓P	**P**	**14 47 35.0**	**-0.3**
baz=70,SNR=8.4							
TXAR	**Lajitas Array**	**69.50**	**332**	P	**P**	**14 47 35.6**	**+0.2**
comp=Z,11nm,0.8s,baz=152,slow=8.3,SNR=51							
TXAR				LR	LR	15 13 23.0	
comp=Z,750nm,18.1s,baz=0.0,slow=32							
KMSC	**Kings Mountain**	**69.58**	**353**	⇓P	**P**	**14 47 35.2**	**-0.5**
baz=70,SNR=8.7							
KMSC	**Kings Mountain**	**69.58**	**353**	*e*P	**P**	**14 47 35.5**	**-0.2**
comp=Z,47nm,0.9s							
431A	**Sonora**	**69.59**	**335**	⇓P	**P**	**14 47 35.8**	**-0.2**
baz=70,SNR=7.0							
333A	**Richland Sprin**	**69.64**	**337**	⇓P	**P**	**14 47 35.9**	**-0.3**
baz=70,SNR=13							
529A	**Stev Forest Ra**	**69.66**	**334**	⇑P	**P**	**14 47 36.3**	**-0.1**
baz=70,SNR=25							
138A	**Matatall Enter**	**69.72**	**341**	P	**P**	**14 47 37.3**	**+0.7**
baz=70							
WHTX	**Lake Whitney,**	**69.78**	**338**	⇓P	**P**	**14 47 37.1**	**+0.1**
baz=70,SNR=6.4							
WHTX	**Lake Whitney,**	**69.78**	**338**	*e*P	**P**	**14 47 36.7**	**-0.3**
comp=Z,51nm,0.9s							
137A	**Heron Place, G**	**69.85**	**340**	P	**P**	**14 47 37.9**	**+0.5**
baz=70							
430A	**Baggett Ranch,**	**69.91**	**335**	⇓P	**P**	**14 47 37.9**	**0.0**
baz=70,SNR=12							
332A	**Millersview**	**69.94**	**336**	⇑P	**P**	**14 47 37.8**	**-0.2**
baz=70,SNR=12							
429A	**Davenport Ranc**	**70.00**	**334**	⇑P	**P**	**14 47 38.5**

229A Bryant Ranch, 71.18 335 ⇓P P 14 47 45.7 0.0
baz=72
Z34A Collier Ranch, 71.20 339 ⇓P P 14 47 45.5 -0.2
baz=72,SNR=7.0
TZTN Tazewell 71.21 352 eP P 14 47 44.9 -0.8
comp=Z,72nm,1.5s
131A Roby 71.34 336 ⇓P P 14 47 46.4 -0.1
baz=72,SNR=11
Z33A Whitaker Ranch 71.38 338 ⇑P P 14 47 46.5 -0.3
baz=72,SNR=11
WVT Waverly 71.44 348 eP P 14 47 46.5 -0.5
WVT pmax pmax
comp=Z,89nm,1.0s
WVT Waverly 71.44 348 eP P 14 47 46.5 -0.5
comp=Z,89nm,1.0s
130A Snyder 71.46 336 ⇓P P 14 47 46.9 -0.5
baz=72,SNR=6.5
228A UT Block 9, Go 71.60 334 ⇓P P 14 47 48.0 -0.2
baz=72,SNR=12
Z32A Haskell 71.63 337 ⇓P P 14 47 48.2 0.0
baz=72,SNR=15
Y34A Reagan Ranch, 71.70 339 ⇓P P 14 47 48.4 -0.3
baz=72,SNR=12
129A Stewart Farms, 71.81 335 ⇑P P 14 47 49.0 -0.4
baz=72,SNR=8.5
Z31A Sharp Cattle R 71.85 337 ⇓P P 14 47 49.5 -0.1
baz=72,SNR=15
JSRW J. Sargeant Re 71.86 356 eP P 14 47 49.9 +0.5
Y33A Hilltop Ranch, 72.01 338 ⇑P P 14 47 50.3 -0.2
baz=72,SNR=10
128A Castleberry Fa 72.01 335 ⇑P P 14 47 50.5 -0.2
baz=72,SNR=18
Z30A Sanderson Ranc 72.15 336 ⇑P P 14 47 51.0 -0.5
baz=72,SNR=14
Y32A R-V Farms, Ver 72.26 338 ⇑P P 14 47 51.8 -0.3
baz=73,SNR=7.6
Z29A Hungry Hill Ra 72.32 335 ⇑P P 14 47 51.9 -0.6
baz=73,SNR=18
X34A Smith Ranch, M 72.32 339 ⇓P P 14 47 52.3 0.0
baz=73,SNR=11
127A Arkansas Junct 72.38 334 ⇓P P 14 47 52.7 -0.2
baz=73
X33A Lawton 72.47 339 ⇓P P 14 47 53.0 -0.3
baz=73
Y31A Rekieta Farm, 72.48 337 ⇓P P 14 47 53.2 -0.2
baz=73,SNR=11
PBMO Poplar Bluff 72.56 346 eP P 14 47 53.2 -0.4
comp=Z,32nm,1.0s
Z28A Tucker Farm, M 72.58 335 ⇑P P 14 47 53.6 -0.4
baz=73,SNR=7.0
X32A Elmer 72.60 338 ⇓P P 14 47 53.8 -0.3
baz=73
Y30A Stafford Cattl 72.61 336 ⇓P P 14 47 53.7 -0.5
baz=73
Y29A Porterfield Fa 72.86 336 ⇓P P 14 47 55.3 -0.4
baz=73,SNR=15
W34A Bridge Creek, 72.90 339 ⇓P P 14 47 55.5 -0.3
baz=73
Z27A Tatum 72.90 334 ⇑P P 14 47 55.6 -0.4
baz=73,SNR=11
BBTS Babate 72.91 58 P P 14 47 58.2 +2.0
comp=Z,89nm,1.0s,baz=218,slow=4.3,SNR=11
BBTS LR LR 15 20 39.8
comp=Z,361nm,18.1s,baz=224,slow=36
TUL1 Leonard 72.98 341 ⇑P P 14 47 55.8 -0.4
baz=73,SNR=8.8
TUL1 Leonard 72.98 341 eP P 14 47 56.2 0.0
comp=Z,52nm,0.8s
X31A McDonald Ranch 73.01 337 ⇑P P 14 47 56.3 -0.2
baz=73,SNR=12
W33A Caddo, Fort Co 73.02 339 ⇓P P 14 47 57.0 +0.4
baz=73,SNR=12
Y28A McKinney Farm, 73.10 335 ⇓P P 14 47 56.8 -0.3
baz=73,SNR=6.3
X30A Coker Ranch, T 73.13 337 ⇓P P 14 47 57.2 0.0
baz=74
MAW Mawson 73.13 164 LR LR 15 18 21.3
comp=Z,891nm,21.8s,baz=234,slow=34
Z26A Caprock 73.14 334 ⇑P P 14 47 57.4 0.0
baz=74
SIUC Southern Illin 73.23 347 eP P 14 47 57.3 -0.4
comp=Z,45nm,1.0s
W32A Sentinel 73.23 338 ⇓P P 14 47 57.9 +0.1
baz=74,SNR=29
MSTX Muleshoe 73.33 335 ⇓P P 14 47 58.3 -0.3
baz=74,SNR=12
MSTX Muleshoe 73.33 335 eP P 14 47 58.6 +0.1
comp=Z,42nm,0.9s
V34A Guthrie 73.38 340 ⇓P P 14 47 58.3 -0.3
baz=74,SNR=6.6
V34A Guthrie 73.38 340 eP P 14 47 58.7 0.0
comp=Z,48nm,1.0s
Y27A Causey 73.39 335 ⇓P P 14 47 58.3 -0.6
baz=74
X29A Tulia 73.40 336 ⇓P P 14 47 58.7 -0.2
baz=74,SNR=8.8
Z25A Roswell 73.42 333 ⇓P P 14 47 59.0 0.0
baz=74,SNR=7.0
W31A Holland Ranch, 73.51 338 ⇓P P 14 47 59.1 -0.4
baz=74,SNR=8.7
319A Douglas 73.58 329 ⇑P P 14 48 00.7 +0.6
baz=74,SNR=11
V33A Lossen Ranch, 73.59 339 ⇑P P 14 47 59.8 -0.1
baz=74,SNR=13
X28A Dimmitt 73.63 336 P P 14 48 00.2 -0.1
baz=74
Y26A Elida 73.67 334 ⇑P P 14 48 00.5 0.0
baz=74,SNR=8.4
Z24A Sheeppen Canyo 73.71 333 ⇑P P 14 48 01.0 +0.2
baz=74,SNR=22
V32A Arapaho 73.72 339 ⇓P P 14 48 01.3 +0.6
baz=74
AMTX Amarillo 73.79 336 ⇑P P 14 48 01.7 +0.5
baz=74
AMTX Amarillo 73.79 336 eP P 14 48 00.5 -0.7
comp=Z,63nm,1.2s
U34A Anderson Ranch 73.95 340 ⇑P P 14 48 02.0 +0.1
baz=74
121A Cookes Peak, D 73.96 330 ⇓P P 14 48 03.1 +0.8
baz=74,SNR=23
Y25A Mesa, Roswell 73.98 333 ⇓P P 14 48 02.2 -0.2
baz=74,SNR=8.2
W29A Amarillo 74.00 336 ⇑P P 14 48 02.4 +0.1
baz=74,SNR=15
V31A Spring Creek L 74.02 338 ⇑P P 14 48 02.8 +0.4
baz=74,SNR=5.1
X27A F and S Farms, 74.06 335 ⇓P P 14 48 03.2 +0.4
baz=74
MVL Millersville 74.09 358 eP P 14 48 02.4 -0.2
comp=Z,427nm,3.0s
U33A Lingo Farm, Me 74.11 340 ⇑P P 14 48 03.1 +0.2
baz=74
X26A CR and CF Fran 74.23 334 ⇓P P 14 48 04.0 +0.2
baz=74,SNR=8.2
Z22A Elephant Butte 74.26 331 ⇑P P 14 48 04.9 +0.9
baz=75,SNR=21
Y24A Capitan 74.26 333 ⇑P P 14 48 04.4 +0.3
baz=75,SNR=9.4
V30A Spur Ranch, Mi 74.27 337 ⇑P P 14 48 05.1 +1.1
baz=75
W28A Vega 74.31 336 ⇑P P 14 48 04.7 +0.5
baz=75
SLM Saint Louis 74.31 347 eP P 14 48 03.7 -0.3
SLM pmax pmax
comp=Z,38nm,0.6s
SLM Saint Louis 74.31 347 eP P 14 48 03.7 -0.3
comp=Z,38nm,0.6s
U32A Winter Ranch, 74.32 339 ⇑P P 14 48 04.3 +0.2
baz=75,SNR=6.2
W27A Bowe Ranch, En 74.43 335 ⇑P P 14 48 05.0 +0.1
baz=75,SNR=15
Y23A Lovelace Mesa, 74.50 332 ⇑P P 14 48 06.0 +0.5
baz=75,SNR=11
X25A Clemmons Ranch 74.51 334 ⇓P P 14 48 05.4 -0.1
baz=75,SNR=5.7
KOMG Komaggas 74.63 116 P P 14 48 06.5 +0.2
comp=Z,39nm,1.4s
V29A Stinnett 74.64 337 ⇑P P 14 48 06.8 +0.7
baz=75
W26A Owens Ranch, T 74.69 335 ⇓P P 14 48 06.8 +0.3
baz=75,SNR=13
T33A Patterson Ranc 74.75 340 ⇑P P 14 48 06.9 +0.2
baz=75
V28A Channing 74.76 336 ⇑P P 14 48 07.3 +0.5
baz=75
ACSO Alum Creek Sta 74.79 353 eP P 14 48 06.2 -0.6
comp=Z,84nm,1.3s
X24A Lazy VL Ranch, 74.83 333 P P 14 48 07.8 +0.4
baz=75
U30A WK&E Inc. Balk 74.97 338 ⇓P P 14 48 08.3 +0.3
baz=75,SNR=7.8
V27A Dan Oppiter Fa 74.98 336 ⇓P P 14 48 08.4 +0.3
baz=75,SNR=6.1
TUC Tucson 75.04 328 eP P 14 48 08.9 +0.4
TUC pmax pmax
comp=Z,21nm,1.1s
TUC Tucson 75.04 328 eP P 14 48 08.9 +0.4
comp=Z,21nm,1.1s
T32A Huddler Ranch, 75.04 339 ⇑P P 14 48 08.6 +0.3
baz=75,SNR=5.1
W25A X Bar L Ranch, 75.06 334 ⇓P P 14 48 08.4 -0.2
baz=75,SNR=9.9
LPM Los Pinos Moun 75.06 332 eP P 14 48 09.1 +0.4
U29A Oasis Ranch, S 75.09 337 ⇓P P 14 48 08.6 0.0
baz=75
X23A Hourglass Bar 75.13 333 ⇓P P 14 48 09.9 +0.7
baz=75
S33A Kaszmaul Farm, 75.16 340 ⇓P P 14 48 09.6 +0.7
baz=76
T31A Randall Ranch, 75.19 339 ⇑P P 14 48 09.3 +0.1
baz=76,SNR=5.6
U28A Mallet 75.34 336 ⇓P P 14 48 10.0 -0.1
baz=76,SNR=6.4
LAZ Ladron 75.34 332 eP P 14 48 11.4 +1.1
comp=Z,23nm,1.5s
V26A Tequesquite Ra 75.34 335 ⇓P P 14 48 10.0 -0.2
baz=76,SNR=10
W24A Lazy 6 Ranch, 75.40 333 ⇓P P 14 48 11.0 +0.3
baz=76,SNR=11
S32A Newby Ranch, P 75.53 339 ⇓P P 14 48 11.0 -0.1
baz=76
ANMO Albuquerque 75.56 333 ⇑iP P 14 48 11.5 0.0
ANMO pmax pmax
comp=Z,92nm,1.1s
ANMO Albuquerque 75.56 333 LR LR 15 16 41.3
comp=Z,796nm,19.4s,baz=158,slow=32
ANMO Albuquerque 75.56 333 eP P 14 48 11.6 +0.1
comp=Z,19nm,1.0s
U27A Thompson Grove 75.57 336 ⇓P P 14 48 11.8 +0.2
baz=76,SNR=5.3
S31A Mullinville 75.61 339 ⇑P P 14 48 12.2 +0.6
baz=76
W23A Werner Place, 75.63 333 ⇑P P 14 48 12.9 +0.9
baz=76,SNR=5.6
214A Organ Pipe Nat 75.65 326 ⇓P P 14 48 12.7 +0.7
baz=76,SNR=7.8
214A Organ Pipe Nat 75.65 326 eP P 14 48 12.8 +0.9
comp=Z,74nm,1.8s
V25A Rancho No Teng 75.67 334 ⇓P P 14 48 12.3 +0.1
baz=76,SNR=18
SUR Sutherland 75.73 119 P P 14 48 14.4 +1.5
comp=Z,303nm,1.0s,SNR=5.1
SUR Sutherland 75.73 119 eP P 14 48 14.8 +2.0
comp=Z,32nm,0.9s
T29A Hugoton 75.74 337 ⇓P P 14 48 12.4 0.0
baz=76
V24A Rampart Ranch, 75.81 334 ⇑P P 14 48 13.1 +0.1
baz=76,SNR=7.5
R33A Olander Ranch, 75.83 340 ⇓P P 14 48 12.3 -0.5
baz=76
U26A Atchley Ranch, 75.86 335 ⇑P P 14 48 13.1 -0.1
baz=76,SNR=7.9
S30A Montezuma 75.93 338 ⇓P P 14 48 13.7 +0.3
baz=76,SNR=9.0
T28A Walsh 75.97 337 ⇓P P 14 48 13.7 0.0
baz=76,SNR=32
U25A Circle Dot Ran 76.10 335 ⇑P P 14 48 14.8 +0.2
baz=76
LIC Lamto 76.10 72 eP P 14 48 15.8 +0.9
comp=Z,258nm,1.0s
S29A Ulysses 76.11 338 ⇓P P 14 48 15.0 +0.4
baz=76,SNR=13
T27A Campo 76.12 336 ⇓P P 14 48 14.9 +0.3
baz=76,SNR=24
R32A Long Quarter, 76.14 340 ⇓P P 14 48 14.9 +0.3
baz=76
V23A Ortiz Mt. (NFS 76.16 333 ⇑P P 14 48 15.7 +0.7
baz=76
KSU1 Kansas State U 76.20 342 ⇓P P 14 48 14.7 -0.2
baz=76
KSU1 Kansas State U 76.20 342 P P 14 48 14.0 -0.8
comp=Z,24nm,0.7s
R31A Burdett 76.25 339 ⇓P P 14 48 15.2 0.0
baz=77,SNR=7.0
S28A Manter 76.33 337 ⇑P P 14 48 15.9 +0.1
baz=77,SNR=27
TIC Toumodi 76.36 72 eP P 14 48 17.2 +0.8
comp=Z,46nm,0.2s
KIC Kosan Boka 76.41 72 eP P 14 48 17.7 +1.0
comp=Z,260nm,0.9s
Q33A Connelly Farm, 76.43 341 ⇑P P 14 48 16.1 0.0
baz=77,SNR=5.4
R30A Dighton 76.47 339 ⇓P P 14 48 16.7 +0.2
baz=77,SNR=7.4
DBIC Dimbokro 76.51 72 eP P 14 48 18.3 +1.1
DBIC pmax pmax
comp=Z,99nm,0.8s
DBIC Dimbokro 76.51 72 P P 14 48 18.3 +1.1
comp=Z,94nm,0.8s,baz=208,slow=6.4,SNR=101
DBIC Dimbokro 76.51 72 eP P 14 48 18.3 +1.1
comp=Z,99nm,0.8s
T26A Comanche Natio 76.52 336 ⇑P P 14 48 17.5 +0.5
baz=77,SNR=15
V22A San Miguel Ran 76.58 333 ⇓P P 14 48 18.6 +1.2
baz=77,SNR=30
X18A Snowflake 76.58 330 ⇑P P 14 48 18.4 +1.1
baz=77,SNR=6.5
Q32A Meitler Ranch, 76.62 340 ⇑P P 14 48 17.4 +0.1
baz=77,SNR=11
U23A El Rito 76.68 333 ⇓P P 14 48 19.0 +1.0
baz=77
S27A Las Animas 76.74 336 ⇓P P 14 48 18.4 +0.2
baz=77,SNR=13
T25A Trinidad 76.77 335 ⇑P P 14 48 19.2 +0.8
baz=77,SNR=36
113A Mohawk Valley, 76.77 326 ⇓P P 14 48 18.9 +0.7
baz=77
P33A Williams Farm, 76.80 341 ⇑P P 14 48 18.5 +0.2
baz=77
R29A Marienthal 76.86 338 ⇓P P 14 48 18.8 +0.1
baz=77,SNR=5.6
Q31A Ellis 76.87 340 ⇑P P 14 48 19.1 +0.3
baz=77,SNR=9.1
S26A Kim 76.88 336 ⇑P P 14 48 19.5 +0.6
baz=77
Z14A Wintersburg 76.89 327 ⇓P P 14 48 19.7 +0.7
baz=77
U22A Llaves 76.97 333 ⇓P P 14 48 20.8 +1.2
baz=77,SNR=12
R28A Tribune 76.99 338 ⇓P P 14 48 19.7 +0.2
baz=77,SNR=19
W18A Petrified Fore 77.00 330 ⇓P P 14 48 20.5 +0.8
baz=77,SNR=8.1
W18A Petrified Fore 77.00 330 eP P 14 48 20.3 +0.5
comp=Z,54nm,1.3s
T24B San Luis 77.04 334 ⇓P P 14 48 20.9 +0.9
baz=77,SNR=18
Q30A Quinter 77.09 339 ⇑P P 14 48 20.3 +0.3
baz=77,SNR=22
X16A Lo Mia Camp, P 77.12 329 ⇑P P 14 48 21.3 +0.9
baz=77,SNR=16
P32A Huiting Farm, 77.22 340 ⇓P P 14 48 21.0 +0.4
baz=78
Q29A Oakley 77.24 338 ⇓P P 14 48 21.0 +0.1
baz=78,SNR=13
S25A Robets Cordova 77.24 335 ⇓P P 14 48 21.7 +0.6
baz=78,SNR=14
T23A Casias Ranch, 77.25 334 ⇑P P 14 48 21.9 +0.7
baz=78
R27A Eads 77.26 337 ⇓P P 14 48 21.1 +0.1
baz=78,SNR=28
P31A Stockton 77.35 340 ⇓P P 14 48 21.5 +0.1
baz=78,SNR=6.9
Y14A Wickenburg 77.40 327 ⇑P P 14 48 22.2 +0.4
baz=78,SNR=8.4
R26A Arlington 77.48 336 ⇑P P 14 48 22.7 +0.5
baz=78,SNR=14
S24A Houchin Ranch, 77.50 335 ⇓P P 14 48 23.5 +0.9
baz=78,SNR=23
GLA Glamis 77.50 325 eP P 14 48 23.7 +1.3
GLA Glamis 77.50 325 ⇑P P 14 48 23.2 +0.8
baz=78
GLA Glamis 77.50 325 eP P 14 48 23.7 +1.3
P30A Selden 77.62 339 ⇓P P 14 48 23.2 +0.3
baz=78,SNR=6.5
R25A Fountain Ranch 77.63 336 ⇓P P 14 48 23.5 +0.4
baz=78,SNR=8.3
Q28A Sharon Springs 77.66 338 ⇓P P 14 48 23.9 +0.7
baz=78,SNR=8.2
SDCO Great Sand Dun 77.69 335 eP P 14 48 23.4 -0.2
comp=Z,8.2nm,0.8s
O32A Brockman Farm, 77.73 341 ⇑P P 14 48 23.1 -0.4
baz=78
S23A Nye Farm, Mont 77.83 334 ⇓P P 14 48 25.3 +0.8
baz=78
KSCO Kaye Shedlock' 77.86 337 ⇑P P 14 48 24.9 +0.5
baz=78
KSCO Kaye Shedlock' 77.86 337 eP P 14 48 24.6 +0.3
comp=Z,32nm,0.9s
P29A Atwood 77.88 339 ⇓P P 14 48 25.0 +0.6
baz=78,SNR=5.3
O31A Woolen Ranch, 77.92 340 ⇓P P 14 48 24.8 +0.2
baz=78,SNR=5.1
Y12C Blythe 77.94 326 ⇑P P 14 48 25.8 +1.1
baz=78,SNR=5.9
R24A Sanders Place, 77.99 335 ⇓P P 14 48 26.2 +1.0
baz=78,SNR=14
WUAZ Wupatki 78.03 329 ⇓P P 14 48 26.6 +1.1
baz=78,SNR=15
WUAZ Wupatki 78.03 329 eP P 14 48 26.2 +0.8
comp=Z,28nm,1.0s
MDV Middlebury 78.05 0 eP P 14 48 25.4 +0.3
SCIA State Center 78.07 345 eP P 14 48 25.4 +0.1
comp=Z,51nm,1.1s
Q26A Hugo 78.07 337 ⇓P P 14 48 26.3 +0.7
baz=78
P28A Saint Francis 78.10 338 ⇑P P 14 48 26.2 +0.6
baz=78
WIN Windhoek 78.12 109 P P 14 48 27.5 +1.0
WIN pmax pmax
comp=Z,11nm,1.3s
WIN Windhoek 78.12 109 P P 14 48 27.5 +1.0
comp=Z,10nm,1.3s
MONP Monument Peak, 78.12 324 ⇑P P 14 48 27.2 +1.2
baz=78
O30A MW Ranch, Wils 78.15 340 ⇑P P 14 48 26.1 +0.3
baz=78,SNR=8.5
S22A 4UR Ranch, Cre 78.17 334 ⇑P P 14 48 27.1 +0.8
baz=78,SNR=10
UPI Upington 78.19 116 P P 14 48 27.3 +0.7
comp=Z,73nm,3.2s
R23A Moffat 78.20 335 ⇑P P 14 48 27.1 +0.6
baz=78,SNR=11
BC3 Big Chuckawall 78.29 325 ⇓P P 14 48 27.9 +1.0
baz=79,SNR=12
Q25A Bedland, Calha 78.31 336 ⇓P P 14 48 27.3 +0.4
baz=79,SNR=10
O29A 4D Ranch, Culb 78.32 339 ⇓P P 14 48 27.2 +0.4
baz=79
MVCO Mesa Verde 78.33 332 ⇑P P 14 48 27.8 +0.6
baz=79,SNR=11
MVCO Mesa Verde 78.33 332 eP P 14 48 27.8 +0.6
comp=Z,24nm,1.0s
N31A Bailey Ranch, 78.44 341 ⇑P P 14 48 27.6 +0.2
baz=79
JFWS Jewell Farm 78.46 348 eP P 14 48 27.3 -0.1
JFWS pmax pmax
comp=Z,42nm,1.1s
JFWS Jewell Farm 78.46 348 eP P 14 48 27.3 -0.1
comp=Z,42nm,1.1s
IRM Iron Mountain 78.56 326 ⇓P P 14 48 29.1 +0.8
baz=79,SNR=10
P26A Davis Ranch, A 78.59 337 ⇑P P 14 48 29.1 +0.6
baz=79,SNR=12
O28A Krutsinger Ran 78.61 338 ⇑P P 14 48 29.0 +0.6
baz=79,SNR=5.2
Q24A Divide 78.66 335 ⇑P P 14 48 29.6 +0.6
baz=79,SNR=12
PFO Pinyon Flats O 78.73 325 P P 14 48 30.0 +0.7
comp=Z,134nm,0.9s,SNR=6.2
PFO Pinyon Flats O 78.73 325 eP P 14 48 30.6 +1.3
PFO Pinyon Flats O 78.73 325 ⇑P P 14 48 30.4 +1.1
baz=79,SNR=10
PFO Pinyon Flats O 78.73 325 eP P 14 48 30.6 +1.3
W13A Hualapai Mount 78.77 327 ⇓P P 14 48 30.2 +0.6
baz=79,SNR=5.2
BGNE Belgrade 78.77 341 ⇓P P 14 48 29.4 +0.2
baz=79
P25A Willow Gulch B 78.82 336 ⇑P P 14 48 30.7 +1.0
baz=79,SNR=7.7
NEE2 Needles Airpor 78.82 327 ⇑P P 14 48 30.1 +0.4
baz=79
BELC Belle Mtn. Jos 78.83 325 ⇓P P 14 48 30.9 +1.0
baz=79,SNR=6.2
O27A Beecher Island 78.89 338 ⇑P P 14 48 31.3 +1.2
baz=79
N29A Votaw Ranch, W 78.91 339 ⇓P P 14 48 30.5 +0.5
baz=79,SNR=6.0
M31A Lambtecht Ranc 78.93 341 ⇓P P 14 48 30.5 +0.4
baz=79,SNR=7.5
N28A Pribbeno Ranch 79.06 339 ⇓P P 14 48 31.7 +0.8
baz=79
MURC Murrieta 79.08 324 ⇑P P 14 48 32.0 +0.9
baz=79,SNR=6.0
PV01 Paradox Valley 79.16 333 eP P 14 48 32.5 +0.8
comp=Z,1μm,1.0s
U15A North Rim 79.19 329 ⇑P P 14 48 33.0 +1.0
baz=80,SNR=23
O26A Horse Wrangler 79.20 337 ⇑P P 14 48 32.6 +0.8
baz=80,SNR=13
GRM Grahamstown 79.25 123 P P 14 48 32.4 +0.1
GRM pmax pmax
comp=Z,54nm,7.1s
GRM Grahamstown 79.25 123 P P 14 48 32.4 +0.1
comp=Z,54nm,7.1s
P23A Jefferson 79.26 335 ⇑P P 14 48 33.6 +1.2
baz=80
GMRC Granite Mounta 79.31 326 ⇓P P 14 48 33.6 +1.1
baz=80,SNR=13
O25A Wiggins 79.34 337 ⇓P P 14 48 33.6 +1.1
baz=80,SNR=5.7
M30A Dale-Ortello V 79.36 340 ⇓P P 14 48 33.5 +1.0
baz=80
N27A Anderson Farm, 79.47 338 ⇓P P 14 48 33.8 +0.6
baz=80,SNR=7.3
SMCO Snowmass 79.49 334 eP P 14 48 34.7 +1.0
comp=Z,29nm,1.0s
M29A Burnside Ranch 79.50 340 ⇑P P 14 48 34.4 +1.2
baz=80
PV04 Paradox Valley 79.52 332 eP P 14 48 34.2 +0.6
ISCO Idaho Springs 79.57 335 eP P 14 48 34.4 +0.5
ISCO pmax pmax
comp=Z,98nm,2.3s
ISCO Idaho Springs 79.57 335 ⇓P P 14 48 34.4 +0.5
baz=80,SNR=9.9
ISCO Idaho Springs 79.57 335 eP P 14 48 34.4 +0.5
comp=Z,98nm,2.3s
M28A Bar X Bar Ranc 79.66 339 ⇑P P 14 48 35.3 +1.1
baz=80
HEC Hector,Ludlow 79.67 325 ⇑P P 14 48 35.4 +1.1
baz=80,SNR=12
L31A Butterfield Fa 79.67 341 ⇓P P 14 48 34.6 +0.5
baz=80,SNR=5.6
L30A Spencer Herefo 79.70 340 ⇑P P 14 48 34.9 +0.6
baz=80
N26A Koester Ranch, 79.70 338 ⇓P P 14 48 35.1 +0.6
baz=80
P22A Eagle 79.78 335 ⇑P P 14 48 35.8 +0.7
baz=80,SNR=8.1
BFSC Mount Baldy Ra 79.82 324 ⇓P P 14 48 35.9 +0.7
baz=80,SNR=6.9
N25A Grover 79.97 337 ⇓P P 14 48 36.8 +0.9
baz=80
TUQ Turquoise Moun 79.97 326 ⇑P P 14 48 37.0 +0.9
baz=80,SNR=15
MWC Mount Wilson 80.00 324 eP P 14 48 37.2 +0.9
MWC pmax pmax
comp=Z,19nm,1.0s
MWC Mount Wilson 80.00 324 eP P 14 48 37.2 +0.9
comp=Z,19nm,1.0s
L29A Maesberg Ranch 80.02 340 ⇓P P 14 48 36.6 +0.6
baz=80,SNR=7.3
O23A Lake Granby, G 80.04 335 ⇓P P 14 48 37.2 +0.7
baz=80,SNR=31
HVD Garlep Dam 80.05 120 P P 14 48 37.6 +0.7
HVD pmax pmax
comp=Z,82nm,1.2s
HVD Garlep Dam 80.05 120 P P 14 48 37.5 +0.7
comp=Z,82nm,1.2s
O22A Kremmling 80.21 335 ⇓P P 14 48 38.0 +0.6
baz=80,SNR=18
N24A Carr 80.24 336 ⇑P P 14 48 38.2 +0.8
baz=81
GSC Goldstone, Bar 80.28 325 eP P 14 48 39.0 +1.4

GSC pmax pmax
comp=Z,9.0nm,0.8s
GSC Goldstone, Bar 80.28 325 ⇑P **P 14 48 38.6 +1.0**
baz=81,SNR=6.3
GSC Goldstone, Bar 80.28 325 eP **P 14 48 39.0 +1.4**
comp=Z,9.3nm,0.8s
TSUM Tsumeb 80.31 107 eP **P 14 48 38.9 +0.5**
comp=Z,37nm,1.2s
K30A Basset 80.34 341 ⇓P **P 14 48 38.8 +1.1**
baz=81
EDW2 Edwards Air Fo 80.50 324 ⇓P **P 14 48 39.3 +0.5**
baz=81,SNR=6.3
SHPR Sheep Range 80.51 327 eP **P 14 48 39.5 +0.6**
M25A Palm-Egli Farm 80.52 337 ⇓P **P 14 48 39.7 +0.9**
baz=81
ECSD EROS Data Cent 80.57 343 ⇑P **P 14 48 38.8 -0.1**
baz=81,SNR=23
ECSD EROS Data Cent 80.57 343 eP **P 14 48 38.0 -0.9**
comp=Z,84nm,1.4s
CCUT Cedar City 80.60 329 eP **P 14 48 41.2 +1.8**
comp=Z,28nm,1.1s
N23A Red Feather La 80.66 336 ⇑P **P 14 48 40.3 +0.6**
baz=81,SNR=10
N22A Wattenberg Ran 80.75 335 ⇑P **P 14 48 41.2 +0.9**
baz=81,SNR=15
L26A Underwood Farm 80.76 338 ⇓P **P 14 48 41.5 +1.4**
baz=81
SRU San Rafael Swe 80.77 332 eP **P 14 48 40.9 +0.6**
SRU pmax pmax
comp=Z,15nm,0.9s
SRU San Rafael Swe 80.77 332 eP **P 14 48 40.9 +0.6**
comp=Z,15nm,0.9s
O20A White River Ci 80.79 334 ⇑P **P 14 48 40.7 +0.3**
baz=81,SNR=7.1
O20A White River Ci 80.79 334 eP **P 14 48 41.1 +0.6**
comp=Z,20nm,0.9s
M24A Cheyenne 80.80 337 ⇑P **P 14 48 41.4 +1.0**
baz=81,SNR=9.8
ARUT Antelope Range 80.83 329 eP **P 14 48 42.0 +1.3**
ARUT pmax pmax
comp=Z,255nm,1.1s
ARUT Antelope Range 80.83 329 eP **P 14 48 42.0 +1.3**
comp=Z,255nm,1.1s
LRMC Laurel Mtn Rad 80.84 325 ⇓P **P 14 48 41.7 +1.0**
baz=81,SNR=7.5
PHWY Pilot Hill 80.86 336 eP **P 14 48 41.1 +0.2**
comp=Z,32nm,1.2s
K28A Ten Mile Ranch 80.87 340 ⇓P **P 14 48 41.9 +1.3**
baz=81
BOSA Boshof 80.99 118 P **P 14 48 42.4 +0.5**
BOSA pmax pmax
comp=Z,61nm,1.1s
BOSA Boshof 80.99 118 P **P 14 48 42.4 +0.5**
comp=Z,58nm,0.9s,baz=228,slow=5.1,SNR=58
BOSA PKPPKP **P'P'df 15 15 25.8 -1.3**
comp=Z,2.2nm,0.8s,baz=333,slow=4.4,SNR=3.1
BOSA LR LR 15 19 23.8
comp=Z,420nm,21.4s,baz=231,slow=32
BOSA Boshof 80.99 118 P **P 14 48 42.4 +0.5**
comp=Z,61nm,1.1s
BOSA P'P' 15 15 25.8
M23A Laramie 81.09 336 ⇓P **P 14 48 42.1 0.0**
baz=81,SNR=5.4
ARVC Arvin 81.10 324 ⇑P **P 14 48 42.9 +0.9**
baz=81
K27A Flueckinger Fa 81.11 339 ⇑P **P 14 48 43.2 +1.3**
baz=81
L25A Engebretsen Ra 81.14 338 ⇓P **P 14 48 43.5 +1.3**
baz=82
SPMN Marine on St. 81.17 346 ⇑P **P 14 48 41.7 -0.3**
baz=82
SPMN Marine on St. 81.17 346 eP **P 14 48 41.1 -0.9**
TMUT Trail Mountain 81.20 331 eP **P 14 48 43.7 +0.9**
comp=Z,210nm,2.7s
J29A Okreek 81.22 341 ⇑P **P 14 48 42.8 +0.4**
baz=82,SNR=7.4
FURC Furnace Creek, 81.25 326 ⇓P **P 14 48 44.0 +1.3**
baz=82
M22A Cedar Creek Ra 81.33 335 ⇑P **P 14 48 44.0 +0.6**
baz=82,SNR=8.6
L24A Wheatland 81.35 337 ⇓P **P 14 48 44.1 +0.9**
baz=82
ISA Isabella, Lake 81.36 324 eP **P 14 48 44.5 +1.1**
ISA pmax pmax
comp=Z,11nm,0.9s
ISA Isabella, Lake 81.36 324 ⇓P **P 14 48 44.7 +1.3**
baz=82,SNR=10
ISA Isabella, Lake 81.36 324 eP **P 14 48 44.5 +1.1**
comp=Z,11nm,0.9s
K26A Motz Farm, Whi 81.39 338 ⇑P **P 14 48 44.7 +1.2**
baz=82
N20A Spence Gulch, 81.42 334 ⇑P **P 14 48 44.1 +0.3**
baz=82,SNR=10
DAC Darwin (Calif) 81.44 325 eP **P 14 48 44.6 +0.6**
DAC pmax pmax
comp=Z,15nm,0.9s
DAC Darwin (Calif) 81.44 325 eP **P 14 48 44.5 +0.6**
comp=Z,15nm,0.9s
I30A Oacoma 81.44 341 ⇑P **P 14 48 43.6 +0.1**
baz=82
BFZ Birch Farm 81.47 226 eP **P 14 48 45.3 +1.2**
comp=Z,57nm,1.0s
J28A Allard Ranch, 81.48 340 ⇑P **P 14 48 44.2 +0.3**
baz=82,SNR=8.6
K25A Mack Ranch, Ha 81.53 338 ⇑P **P 14 48 44.6 +0.4**
baz=82
J27A Elkhorn Farm, 81.55 339 ⇓P **P 14 48 44.9 +0.7**
baz=82,SNR=9.1
L23A Garrett 81.67 336 ⇑P **P 14 48 45.0 0.0**
baz=82,SNR=5.8
I29A Vivian Onida 81.78 341 ⇑P **P 14 48 46.0 +0.6**
baz=82
VES Vestal, Richgr 81.80 324 ⇓P **P 14 48 46.4 +0.8**
baz=82,SNR=5.5
BRSD Miller 81.82 342 ⇓P **P 14 48 45.4 -0.1**
baz=82
L22A Ellis Ranch, M 81.84 336 ⇑P **P 14 48 46.7 +0.7**
baz=82,SNR=6.7
SWZ Schweizer 81.85 117 P **P 14 48 45.8 -0.7**
comp=Z,52nm,1.6s
J26A Sides Ranch, S 81.92 339 ⇑P **P 14 48 46.7 +0.6**
baz=82,SNR=10
K24A Anderson Ranch 81.92 337 ⇑P **P 14 48 46.9 +0.6**
baz=82
MPU Maple Canyon 81.98 331 eP **P 14 48 47.3 +0.6**
comp=Z,25nm,1.0s
I28A Midland 82.00 340 ⇓P **P 14 48 46.8 +0.3**
baz=82,SNR=7.5
NLU North Lily Min 82.11 331 eP **P 14 48 48.2 +0.8**
comp=Z,117nm,2.3s
DAU Daniels Canyon 82.17 332 eP **P 14 48 48.5 +0.6**
DAU Daniels Canyon 82.17 332 eP **P 14 48 48.5 +0.6**
J25A Sunshine Ranch 82.21 338 ⇑P **P 14 48 48.2 +0.5**
baz=82,SNR=8.0
K23A Bowen Ranch, D 82.21 337 ⇓P **P 14 48 48.1 +0.3**
baz=82,SNR=10.0
R11A Troy Canyon, C 82.23 328 ⇓P **P 14 48 49.0 +1.0**
baz=82,SNR=17
R11A Troy Canyon, C 82.23 328 eP **P 14 48 48.6 +0.6**
comp=Z,19nm,1.3s
BKZ Black Stump Fm 82.26 228 eP **P 14 48 49.8 +1.5**
comp=Z,134nm,1.8s
I27A Quinn 82.31 340 ⇑P **P 14 48 48.6 +0.4**
baz=83
H29A Onida 82.31 341 ⇓P **P 14 48 47.9 -0.3**
baz=83,SNR=11
TIN Tinemaha, Big 82.37 325 ⇑P **P 14 48 50.0 +1.3**
baz=83
JLU Jordanelle 82.41 332 eP **P 14 48 49.2 +0.2**
comp=Z,16nm,0.9s
K22A Casper 82.42 336 ⇓P **P 14 48 49.3 +0.4**
baz=83,SNR=11
K22A Casper 82.42 336 eP **P 14 48 49.1 +0.2**
comp=Z,39nm,1.1s
J24A Dixon Ranch, L 82.42 338 ⇓P **P 14 48 49.3 +0.5**
baz=83
URZ Urewera 82.44 229 P **P 14 48 49.7 +0.5**
comp=Z,16nm,0.8s,baz=99,slow=4.0,SNR=6.9
URZ Urewera 82.44 229 eP **P 14 48 49.6 +0.4**
comp=Z,22nm,0.9s
RPZ Rata Peaks 82.50 221 eP **P 14 48 50.2 +0.7**
comp=Z,79nm,1.0s
G30A Faulkton 82.50 342 ⇓P **P 14 48 49.6 +0.5**
baz=83
I26A New Underwood 82.51 339 ⇑P **P 14 48 49.6 +0.4**
baz=83
H28A Mission Ridge 82.58 341 ⇓P **P 14 48 49.5 0.0**
baz=83,SNR=6.7

DUG Dugway, Tooele 82.61 331 eP **P 14 48 50.3 +0.4**
DUG pmax pmax
comp=Z,34nm,1.1s
DUG Dugway, Tooele 82.61 331 ⇓P **P 14 48 50.5 +0.6**
baz=83,SNR=23
DUG Dugway, Tooele 82.61 331 eP **P 14 48 50.3 +0.4**
comp=Z,34nm,1.1s
CTU Camp Tracy 82.61 332 eP **P 14 48 50.1 +0.2**
comp=Z,8.7nm,0.8s
K21A Alcova 82.65 336 ⇑P **P 14 48 50.6 +0.4**
baz=83,SNR=16
RUDU RUNDU 82.71 107 P **P 14 48 52.5 +1.4**
comp=Z,109nm,1.3s
TPH Tonopah 82.73 327 eP **P 14 48 51.6 +0.9**
TPH pmax pmax
comp=Z,30nm,1.3s
TPH Tonopah 82.73 327 eP **P 14 48 51.6 +0.9**
comp=Z,30nm,1.3s
I25A Rochford 82.76 339 ⇓P **P 14 48 51.0 +0.3**
baz=83,SNR=15
G29A Hoven 82.76 342 ⇓P **P 14 48 50.8 +0.3**
baz=83
H27A Howes 82.83 340 ⇑P **P 14 48 50.8 -0.1**
baz=83,SNR=8.4
TCUT Toone Canyon 82.84 332 eP **P 14 48 51.5 +0.2**
comp=Z,13nm,0.8s
KSD Kokstad 82.86 122 P **P 14 48 51.1 -0.7**
comp=Z,19nm,2.8s
SEK Senekal 82.87 119 P **P 14 48 51.9 0.0**
comp=Z,70nm,1.3s
I24A Kuemmerle Ranc 82.89 338 ⇑P **P 14 48 51.6 +0.3**
baz=83
G28A Parade 82.92 341 ⇓P **P 14 48 51.9 +0.6**
baz=83
RSSD Black Hills 82.94 338 eP **P 14 48 51.5 -0.2**
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD Black Hills 82.94 338 eP **P 14 48 51.5 -0.2**
comp=Z,13nm,0.9s
J22A Midwest 83.08 336 ⇑P **P 14 48 51.8 -0.6**
baz=83,SNR=8.7
MLAC Mammoth, Mammo 83.12 325 ⇑P **P 14 48 54.0 +1.2**
baz=83
F30A Leola 83.13 342 ⇑P **P 14 48 52.8 +0.5**
baz=84
H25A Fruitdale 83.27 339 ⇓P **P 14 48 53.2 +0.1**
baz=84
LBTB Lobatse 83.27 116 eP **P 14 48 54.3 +0.4**
LBTB pmax pmax
comp=Z,72nm,1.1s
LBTB Lobatse 83.27 116 eP **P 14 48 54.3 +0.4**
comp=Z,72nm,1.1s
BGU Big Grassy Mou 83.31 331 eP **P 14 48 54.0 +0.4**
comp=Z,16nm,1.6s
F29A Eureka 83.33 342 ⇑P **P 14 48 53.3 -0.1**
baz=84,SNR=6.0
J21A Lysite 83.35 336 ⇓P **P 14 48 53.5 -0.3**
baz=84
SPUT South Promonto 83.41 332 eP **P 14 48 54.3 +0.2**
comp=Z,132nm,1.8s
G27A Dupree 83.48 340 ⇑P **P 14 48 53.9 -0.3**
baz=84,SNR=6.4
PRYS Parys 83.48 118 P **P 14 48 54.0 -1.0**
comp=Z,23nm,3.6s
I22A 9 Mile Ranch, 83.51 337 ⇑P **P 14 48 54.3 -0.2**
baz=84,SNR=8.7
NVAR Mina Array Bea 83.52 326 P **P 14 48 55.7 +1.0**
comp=Z,4.0nm,0.8s,baz=157,slow=6.6,SNR=26
NVAR PKKPbc **PKKPbc 15 07 14.2 0.0**
comp=Z,1.1nm,0.6s,baz=319,slow=1.5,SNR=9.9
EYMN Ely 83.55 348 eP **P 14 48 53.6 -0.8**
comp=Z,27nm,1.1s
J20A Shoshoni 83.57 335 ⇑P **P 14 48 55.2 +0.4**
baz=84,SNR=22
PDAR Piedade Array 83.58 334 P **P 14 48 54.8 -0.2**
comp=Z,5.4nm,1.0s,baz=161,slow=4.5,SNR=25
PDAR PKKPbc **PKKPbc 15 07 12.3 -2.0**
comp=Z,1.3nm,0.6s,baz=343,slow=0.9,SNR=11
PDAR LR LR 15 22 03.9
comp=Z,516nm,18.8s,baz=155,slow=33
G26A Maurine 83.59 340 ⇑P **P 14 48 54.5 -0.3**
baz=84,SNR=7.2
H24A Dirks Ranch, A 83.67 338 ⇑P **P 14 48 54.8 -0.5**
baz=84,SNR=6.0
I21A Big Trails, Te 83.71 336 ⇓P **P 14 48 55.2 -0.3**
baz=84,SNR=11
E30A Jud 83.73 343 ⇑P **P 14 48 55.2 -0.2**
baz=84,SNR=6.1
G25A Newell 83.73 339 ⇓P **P 14 48 55.5 0.0**
baz=84,SNR=12
J19A Crowheart 83.83 335 ⇓P **P 14 48 56.3 +0.1**
baz=84,SNR=18
HVU Hansel Valley 83.94 332 eP **P 14 48 56.6 -0.2**
HVU pmax pmax
comp=Z,38nm,1.0s
HVU Hansel Valley 83.94 332 eP **P 14 48 56.5 -0.2**
comp=Z,38nm,1.0s
F27A Lemmon 83.96 340 ⇓P **P 14 48 56.7 +0.1**
baz=84
E29A Napoleon 83.97 342 ⇓P **P 14 48 56.8 +0.2**
baz=84
ELK Elko 84.07 329 eP **P 14 48 58.2 +0.7**
ELK pmax pmax
comp=Z,14nm,1.0s
ELK Elko 84.07 329 LR LR 15 23 27.6
comp=Z,231nm,20.0s,baz=180,slow=34
ELK Elko 84.07 329 eP **P 14 48 58.2 +0.7**
comp=Z,14nm,1.0s
H22A Clearmont 84.09 337 ⇓P **P 14 48 57.6 +0.1**
baz=84
WAKR Walker 84.10 326 eP **P 14 48 58.8 +1.1**
I20A Worland 84.11 336 ⇓P **P 14 48 57.8 +0.3**
baz=84,SNR=9.5
F26A Lodgepole 84.12 340 ⇓P **P 14 48 57.6 +0.1**
baz=84
G24A Alzada 84.15 339 ⇓P **P 14 48 57.6 -0.1**
baz=84
CMB Columbia Colle 84.18 325 eP **P 14 48 58.8 +0.9**
CMB pmax pmax
comp=Z,12nm,1.3s
CMB Columbia Colle 84.18 325 eP **P 14 48 58.8 +0.9**
comp=Z,12nm,1.3s
E28A Huff 84.25 342 ⇓P **P 14 48 58.2 +0.2**
baz=85
D30A Buchanan 84.26 343 ⇑P **P 14 48 58.3 +0.2**
baz=85
G23A Biddle 84.33 338 ⇑P **P 14 48 58.1 -0.6**
baz=85
H21A Big Horn, Sher 84.35 337 ⇑P **P 14 48 58.6 -0.2**
baz=85
F25A Bowman 84.41 340 ⇓P **P 14 48 58.9 -0.1**
baz=85
D29A Pettibone, Tap 84.42 342 ⇓P **P 14 48 58.7 -0.2**
baz=85,SNR=5.2
I19A Meeteetse 84.48 335 ⇑P **P 14 48 59.5 -0.1**
baz=85,SNR=7.0
H20A Greybull 84.54 336 ⇑P **P 14 48 59.3 -0.4**
baz=85,SNR=10.0
REDW Red Top Meadow 84.56 334 eP **P 14 48 59.9 -0.1**
comp=Z,48nm,1.6s
E26A Carlson Angus 84.63 340 ⇓P **P 14 48 59.8 -0.2**
baz=85
F24A Ekalaka 84.63 339 ⇑P **P 14 48 59.8 -0.3**
baz=85
G22A Birney 84.63 337 ⇑P **P 14 48 59.8 -0.3**
baz=85
LOHW Long Hollow 84.69 334 eP **P 14 49 00.9 +0.3**
comp=Z,33nm,1.6s
TPAW Teton Pass 84.71 334 eP **P 14 49 01.2 +0.4**
comp=Z,19nm,1.1s
AGMN Agassiz Nation 84.72 345 ⇑P **P 14 48 60.0 -0.4**
baz=85,SNR=12
AGMN Agassiz Nation 84.72 345 eP **P 14 48 59.6 -0.7**
comp=Z,22nm,0.9s
C30A Mose, Pekin 84.75 343 ⇓P **P 14 49 00.5 0.0**
baz=85,SNR=23
D28A Regan 84.79 342 ⇓P **P 14 49 01.2 +0.4**
baz=85
F23A Volborg 84.81 338 ⇑P **P 14 49 00.4 -0.6**
baz=85,SNR=11
SLR Silverton 84.84 118 P **P 14 49 00.9 -1.0**
SLR pmax pmax
comp=Z,25nm,1.0s
SLR Silverton 84.84 118 P **P 14 49 00.9 -1.0**
comp=Z,24nm,1.0s
FXWY Fox Creek 84.86 334 eP **P 14 49 01.8 +0.3**
comp=Z,12nm,1.4s
G21A Lodge Grass 84.93 337 ⇑P **P 14 49 01.8 +0.1**

baz=85
I17A Pilgrim Ck. 84.94 334 ⇑P **P 14 49 02.3 +0.4**
baz=85,SNR=9.6
H19A Powell 85.04 335 ⇑P **P 14 49 02.0 -0.3**
baz=85,SNR=5.2
IMW Indian Meadow 85.06 334 eP **P 14 49 02.2 -0.4**
comp=Z,31nm,1.4s
F22A Rosebud 85.12 338 ⇑P **P 14 49 02.2 -0.4**
baz=86,SNR=5.9
FLWY Flagg Ranch 85.13 334 eP **P 14 49 03.4 +0.6**
comp=Z,141nm,2.1s
D26A Manning 85.13 341 ⇓P **P 14 49 02.6 +0.1**
baz=86,SNR=8.1
E24A Baker 85.24 339 ⇑P **P 14 49 03.1 0.0**
baz=86,SNR=6.5
G20A Bridger 85.26 336 ⇑P **P 14 49 02.8 -0.5**
baz=86,SNR=18
H18A Shoshone NF, C 85.28 335 ⇓P **P 14 49 03.4 -0.2**
baz=86,SNR=23
B30A Myrvik Farm, E 85.41 344 ⇑P **P 14 49 03.7 -0.1**
baz=86,SNR=24
F21A Absaloka Mine, 85.44 337 ⇑P **P 14 49 04.1 0.0**
baz=86
YFT Old Faithful 85.50 334 eP **P 14 49 06.4 +1.8**
comp=Z,93nm,2.1s
C27A Sayler Ranch, 85.51 341 ⇓P **P 14 49 04.7 +0.3**
baz=86
TORD Torodi Ar. Bea 85.54 71 P **P 14 49 05.8 +0.6**
comp=Z,44nm,1.0s,baz=257,slow=4.4,SNR=172
TORD ScS **ScS 14 59 49.6 +5.1**
comp=Z,1.1nm,0.7s,baz=165,slow=3.4,SNR=5.8
TORD LR LR 15 26 35.3
comp=Z,246nm,18.4s,baz=215,slow=35
E22A Miles City 85.62 338 ⇓P **P 14 49 04.6 -0.4**
baz=86
B29A Wagenman Farm, 85.67 343 ⇑P **P 14 49 05.1 0.0**
baz=86
OHCM Honcut 85.73 325 eP **P 14 49 06.2 +0.6**
YMR Madison River 85.73 334 eP **P 14 49 05.9 +0.1**
comp=Z,44nm,1.2s
D24A Glendive 85.74 339 ⇓P **P 14 49 05.9 +0.3**
baz=86,SNR=12
F20A Billings 85.75 337 ⇑P **P 14 49 05.2 -0.5**
baz=86
C26A Wahner Farm, P 85.77 341 ⇑P **P 14 49 05.7 0.0**
baz=86
A30A Hoffart Farm, 85.87 344 ⇑P **P 14 49 05.6 -0.5**
baz=86,SNR=8.8
B28A Dugan Ranch, T 85.90 342 ⇓P **P 14 49 06.2 -0.1**
baz=86,SNR=5.1
LAO LASA Array 85.93 338 eP **P 14 49 06.3 -0.2**
comp=Z,32nm,1.1s
C25A Freed Ranch, W 85.98 340 ⇑P **P 14 49 07.1 +0.4**
baz=86
QLMT Earthquake Lak 86.04 334 P **P 14 49 07.2 -0.1**
D23A Lindsay 86.05 339 ⇓P **P 14 49 07.3 +0.2**
baz=86,SNR=20
E21A Keefer Ranch, 86.06 338 ⇓P **P 14 49 07.1 -0.1**
baz=86
F19A Roth Farm, Mol 86.06 336 ⇑P **P 14 49 06.8 -0.4**
baz=86,SNR=7.6
A29A Manning Farm, 86.07 343 ⇑P **P 14 49 06.7 -0.4**
baz=86,SNR=12
HLID Hailey 86.09 332 ⇓P **P 14 49 08.3 +0.8**
baz=86,SNR=16
HLID Hailey 86.09 332 eP **P 14 49 08.1 +0.6**
comp=Z,20nm,1.2s
C24A Savage 86.15 340 ⇑P **P 14 49 07.6 0.0**
baz=86,SNR=12
GCMT Greycliff 86.25 336 eP **P 14 49 07.8 -0.5**
comp=Z,13nm,1.4s
A28A Rude Farm, Bot 86.31 343 ⇓P **P 14 49 08.4 +0.1**
baz=87
B26A Jensen Ranch, 86.31 341 ⇑P **P 14 49 08.6 +0.3**
baz=87
D22A Cohagen 86.33 338 ⇑P **P 14 49 08.3 -0.2**
baz=87,SNR=7.8
E20A Meyer Farm, Mu 86.36 337 ⇓P **P 14 49 08.5 -0.2**
baz=87,SNR=18
B25A Knox Farm, Ray 86.47 341 ⇓P **P 14 49 09.3 +0.2**
baz=87,SNR=6.8
D21A La Casta Ranch 86.50 338 ⇓P **P 14 49 09.5 +0.2**
baz=87
MFID Camas Ranch 86.53 331 eP **P 14 49 10.3 +0.6**
comp=Z,15nm,1.2s
E19A Rath Farm, Rou 86.54 336 ⇑P **P 14 49 09.3 -0.3**
baz=87,SNR=18
MCMT McKenzie Canyo 86.56 333 eP **P 14 49 10.5 +0.6**
comp=Z,29nm,1.4s
ULM Lac du Bonnet 86.58 346 eP **P 14 49 09.2 -0.4**
ULM Lac du Bonnet 86.58 346 P **P 14 49 08.7 -0.8**
comp=Z,18nm,0.9s,baz=161,slow=3.4,SNR=17
ULM LR LR 15 26 01.5
comp=Z,124nm,18.9s,baz=199,slow=34
ULM Lac du Bonnet 86.58 346 eP **P 14 49 09.2 -0.4**
A27A Ledoux Ranch, 86.59 342 ⇓P **P 14 49 09.6 0.0**
baz=87
C23A Lambert 86.61 339 ⇑P **P 14 49 09.7 -0.2**
baz=87,SNR=19
A26A Wade Farm, Ken 86.74 342 ⇑P **P 14 49 10.3 -0.2**
baz=87,SNR=6.4
C22A Vida 86.77 339 ⇓P **P 14 49 10.2 -0.5**
baz=87,SNR=9.0
BOZ Bozeman (W) 86.81 334 eP **P 14 49 11.0 0.0**
BOZ pmax pmax
comp=Z,13nm,1.3s
BOZ Bozeman (W) 86.81 334 eP **P 14 49 11.0 0.0**
comp=Z,13nm,1.3s
D20A Manuel Ranch, 86.89 337 ⇓P **P 14 49 10.9 -0.3**
baz=87,SNR=16
DLMT Dillon 86.92 334 eP **P 14 49 12.4 +0.8**
DGMT Dagmar 86.94 340 ⇑P **P 14 49 11.5 +0.1**
baz=87,SNR=22
DGMT Dagmar 86.94 340 eP **P 14 49 11.1 -0.3**
comp=Z,84nm,0.9s
A25A Svangstu Ranch 87.06 341 ⇓P **P 14 49 12.0 0.0**
baz=87,SNR=6.3
B23A Brockton 87.16 340 ⇑P **P 14 49 12.3 -0.1**
baz=88,SNR=8.4
D19A Cripps Ranch, 87.19 337 ⇑P **P 14 49 12.5 -0.2**
baz=88
WDC Whiskeytown Da 87.21 325 eP **P 14 49 12.2 -0.7**
WDC Whiskeytown Da 87.21 325 eP **P 14 49 12.2 -0.7**
C21A Desert Coulee 87.21 338 ⇑P **P 14 49 12.1 -0.7**
baz=88,SNR=10
MOD Modoc Plateau 87.22 327 eP **P 14 49 13.7 +0.6**
comp=Z,33nm,0.9s
LRM Limekiln Ridge 87.26 334 eP **P 14 49 13.7 +0.4**
A24A Westby 87.29 340 ⇑P **P 14 49 13.1 0.0**
baz=88,SNR=9.6
B22A Reddig Ranch S 87.30 339 ⇓P **P 14 49 12.9 -0.3**
baz=88,SNR=12
C20A Veseth Ranch, 87.39 338 ⇑P **P 14 49 13.2 -0.4**
baz=88
KMRM Mail Ridge 87.49 324 eP **P 14 49 16.6 +2.3**
comp=Z,35nm,1.1s
A23A Redstone 87.57 340 ⇑P **P 14 49 14.8 +0.3**
baz=88
N02D Trinity Center 87.59 325 ⇑P **P 14 49 15.1 +0.3**
baz=88
B21A Ellsworth Farm 87.72 338 ⇓P **P 14 49 14.5 -0.7**
baz=88,SNR=6.6
C19A Slack Wire Ran 87.75 337 ⇑P **P 14 49 15.0 -0.3**
baz=88
HRY Holter Researc 87.80 335 eP **P 14 49 15.7 0.0**
comp=Z,3.1nm,0.8s
M04C Macdoel 87.82 326 ⇑P **P 14 49 16.7 +0.7**
baz=88
A22A Carney Farms, 87.90 339 ⇓P **P 14 49 15.6 -0.4**
baz=88,SNR=12
M02C Callahan 87.99 325 ⇑P **P 14 49 17.1 +0.5**
baz=88
B20A Solberg Farm, 88.04 338 ⇑P **P 14 49 16.0 -0.8**
baz=88,SNR=8.6
MSNA Messina 88.11 116 P **P 14 49 18.2 +0.3**
comp=Z,35nm,2.8s
K05A Summer Lake 88.14 327 eP **P 14 49 18.7 +1.2**
comp=Z,49nm,0.9s
YBH Yreka Blue Hor 88.19 325 eP **P 14 49 17.5 -0.2**
YBH pmax pmax
comp=Z,10.0nm,0.8s
YBH Yreka Blue Hor 88.19 325 eP **P 14 49 17.5 -0.2**
comp=Z,10nm,0.8s
A21A Bergtoll Ranch 88.20 339 ⇓P **P 14 49 16.6 -0.8**
baz=88,SNR=8.2
EGMT Eagleton 88.23 337 ⇑P **P 14 49 17.2 -0.5**
baz=89
BMO Blue Mountains 88.32 331 eP **P 14 49 18.4 +0.2**

comp=Z,9.4nm,1.1s
B19A **Brinkman Farms** 88.35 337 ⇓P P 14 49 17.7 -0.4
baz=89,SNR=5.2
A20A **Cobblestone Ra** 88.40 338 ⇑P P 14 49 17.9 -0.5
baz=89,SNR=11
MOPA **Mopani** 88.43 117 P P 14 49 19.8 +0.4
comp=Z,26nm,2.8s
K04D **Chiloquin, OR** 88.44 327 ⇓P P 14 49 19.7 +0.9
baz=89
I07A **Izee** 88.61 329 *e*P P 14 49 20.2 +0.6
comp=Z,147nm,2.4s
A19A **Klindworth Far** 88.70 338 ⇓P P 14 49 19.2 -0.6
baz=89,SNR=6.8
J05D **Fort Rock, OR** 88.73 327 ⇓P P 14 49 21.4 +1.1
baz=89
SLMT **Seeley Lake** 88.85 334 *e*P P 14 49 20.8 +0.1
comp=Z,6.7nm,1.2s
L02D **Cave Junction,** 88.94 325 ⇓P P 14 49 22.6 +1.6
baz=89
PINOR **Pine Mountain** 88.99 328 *e*P P 14 49 22.4 +1.2
comp=Z,13nm,0.7s
SCHQ **Schefferville** 89.08 4 P P 14 49 21.4 0.0
comp=Z,11nm,0.9s,baz=186,slow=3.8,SNR=7.7
SCHQ LR LR 15 28 47.1
comp=Z,132nm,20.1s,baz=222,slow=35
J04D **Umpqua Nationa** 89.09 327 ⇑P P 14 49 22.8 +0.8
baz=89
F10A **Beach Ranch, E** 89.21 331 *e*P P 14 49 22.6 +0.2
comp=Z,193nm,2.8s
SWMT **Swartz Lake** 89.26 334 *e*P P 14 49 22.5 -0.1
comp=Z,6.1nm,1.2s
G08A **Pilot Rock** 89.35 330 *e*P P 14 49 23.9 +0.8
comp=Z,77nm,2.1s
JTMT **Jette** 89.56 334 *e*P P 14 49 24.1 +0.1
YBMT **Yellow Bay** 89.56 334 *e*P P 14 49 24.4 +0.4
I05D **Terrebonne, OR** 89.61 328 ⇓P P 14 49 25.2 +1.0
baz=90
I04A **Tendick Farm,** 89.66 327 ⇓P P 14 49 24.8 +0.4
baz=90
BLMT **Blacktail Moun** 89.81 334 *e*P P 14 49 25.6 +0.4
BSMT **Bassoo Peak** 89.83 334 *e*P P 14 49 25.4 0.0
comp=Z,3.1nm,0.9s
G06A **Carlson Farm,** 90.02 329 *e*P P 14 49 27.4 +1.2
comp=Z,53nm,1.8s
BROR **Big Rock Looko** 90.05 327 P P 14 49 26.7 +0.5
WALA **Waterton Lakes** 90.53 335 *e*P P 14 49 28.7 +0.2
D08A **Wollman Farm,** 90.77 331 *e*P P 14 49 30.0 +0.5
comp=Z,6.3nm,0.8s
OD2 **Odessa Site #2** 90.95 331 P P 14 49 30.8 +0.4
NEW **Newport** 91.05 333 *e*P P 14 49 30.5 -0.3
NEW pmax pmax
comp=Z,36nm,2.1s
NEW **Newport** 91.05 333 *e*P P 14 49 30.4 -0.3
comp=Z,36nm,2.1s
WTV **Waterville** 91.70 331 P P 14 49 34.1 +0.3
LON **Longmire** 91.72 329 *e*P P 14 49 34.0 0.0
LON pmax pmax
comp=Z,39nm,2.3s
LON **Longmire** 91.72 329 *e*P P 14 49 34.0 0.0
comp=Z,39nm,2.3s
ETW **Entiat** 91.78 330 P P 14 49 34.7 +0.3
TAM **Tamanrasset** 94.14 65 *e*P P 14 49 47.1 +1.2
TAM pmax pmax
comp=Z,16nm,1.0s
TAM **Tamanrasset** 94.14 65 *e*P P 14 49 47.0 +1.2
comp=Z,16nm,1.0s
ESDC **Sonseca Array** 97.78 47 P Pdif 14 50 02.4 +0.4
comp=Z,3.7nm,0.9s,baz=232,slow=3.7,SNR=7.4
ESDC LR LR 15 33 25.6
comp=Z,111nm,19.3s,baz=290,slow=35
DZM **Mont Dzumac** 99.97 235 *e*LR LR 15 22 54.5
comp=Z,230nm,29.2s
YKA **Yellowknife Ar** 102.05 342 P Pdif 14 50 19.5 -0.8
comp=Z,1.1nm,0.8s,baz=142,slow=4.3,SNR=19
GERES **GERESS Array B** 113.35 46 PKiKP PKiKP 14 55 04.3 +0.1
comp=Z,3.0nm,0.7s,baz=204,slow=2.3,SNR=11
KHC **Kasperske Hory** 113.40 46 *e*PKIKP PKiKP 14 55 04.6 +0.4
KHC **Kasperske Hory** 113.40 46 *e*PKP PKiKP 14 55 04.6 +0.4
ILAR **Eielson Array** 114.00 333 PKP PKiKP 14 55 04.3 -0.4
comp=Z,1.1nm,1.0s,baz=246,slow=0.7,SNR=8.7
ILAR PP PP 14 56 03.6 +3.8
comp=Z,0.7nm,0.9s,baz=109,slow=4.2,SNR=4.9
ILAR PKKPbc PKKPbc 15 05 45.6 -2.3
comp=Z,0.7nm,0.9s,baz=256,slow=4.3,SNR=5.8
ILAR PKKPab PKKPab 15 05 51.9 +1.2
comp=Z,0.4nm,0.8s,baz=256,slow=3.9,SNR=4.3
CLL **Collm** 114.01 43 *e*PKiKP PKiKP 14 55 06.0 +0.8
CLL Lm MLR 15 42 00.0
comp=Z,100nm,21.9s
BRG **Berggiesshubel** 114.36 44 *e*PKIKP PKPdf 14 55 06.3 +0.4
BRG pmax pmax
comp=Z,5.0nm,0.9s
PVCC **Panska Ves** 114.58 45 *e*PKIKP PKPdf 14 55 07.2 +0.9
PVCC **Panska Ves** 114.58 45 *e*PKP PKPdf 14 55 07.2 +0.9
PKSM **Moragy** 115.27 50 ⇓PKIKP PKPdf 14 55 08.2 +0.4
PKSM **Moragy** 115.27 50 ⇓*i*P PKPdf 14 55 08.2 +0.4
UPC **Upice** 115.41 45 *e*PKIKP PKPdf 14 55 09.2 +1.3
UPC **Upice** 115.41 45 *e*PKP PKPdf 14 55 09.2 +1.3
DPC **Dobruska-Polom** 115.53 45 *e*PKIKP PKPdf 14 55 08.7 +0.5
DPC **Dobruska-Polom** 115.53 45 *e*PKP PKPdf 14 55 08.7 +0.5
KRLC **Kraliky** 115.69 46 *e*PKIKP PKPdf 14 55 09.4 +0.8
KRLC **Kraliky** 115.69 46 *e*PKP PKPdf 14 55 09.4 +0.8
MORC **Moravsky Berou** 116.02 46 ⇑PKIKP PKPdf 14 55 10.0 +0.8
MORC **Moravsky Berou** 116.02 46 ⇑*i*P PKPdf 14 55 10.0 +0.8
VYHS **Vyhne** 116.30 48 *e*PKIKP PKPdf 14 55 10.3 +0.6
VYHS **Vyhne** 116.30 48 *e*PKP PKPdf 14 55 10.3 +0.6
OKC **Ostrava-Krasne** 116.41 46 *e*PKIKP PKPdf 14 55 10.2 +0.3
OKC **Ostrava-Krasne** 116.41 46 *e*PKP PKPdf 14 55 10.2 +0.3
ASAR **Alice Springs** 116.61 208 PKP PKPdf 14 55 10.2 -1.1
comp=Z,0.4nm,0.6s,baz=133,slow=1.8,SNR=8.3
ASAR PP PP 14 56 20.6 +2.9
comp=Z,0.9nm,1.0s,baz=162,slow=6.8,SNR=4.6
ASAR PKKPbc PKKPbc 15 05 38.8 +0.8
comp=Z,1.3nm,0.8s,baz=338,slow=3.2,SNR=12
BZS **Buzias** 116.95 52 ⇓PKIKP PKPdf 14 55 11.6 +0.6
BZS **Buzias** 116.95 52 ⇓*i*P PKPdf 14 55 11.6 +0.6
NB2 **NORSAR Subarra** 117.06 33 PKPdf PKPdf 14 55 10.7 -0.1
comp=Z,1.3nm,0.7s,baz=238,slow=1.9
NOA **NORSAR Array B** 117.06 33 PKP PKPdf 14 55 10.8 -0.1
comp=Z,2.5nm,0.9s,baz=252,slow=2.0,SNR=3.5
NOA PKKPbc PKKPab 15 05 39.1 +1.6
comp=Z,1.6nm,0.8s,baz=60,slow=1.4,SNR=3.7
GZR **Gura Zlata** 117.62 52 ⇓PKIKP PKPdf 14 55 12.7 +0.3
GZR **Gura Zlata** 117.62 52 ⇓*i*P PKPdf 14 55 12.7 +0.3
DRGR 118.09 51 ⇑PKIKP PKPdf 14 55 13.9 +0.6
DRGR 118.09 51 ⇑*i*P PKPdf 14 55 13.9 +0.6
KOLS **Kolonicke sedl** 118.58 48 *e*PKIKP PKPdf 14 55 14.3 +0.2
KOLS **Kolonicke sedl** 118.58 48 *e*PKP PKPdf 14 55 14.3 +0.2
MLR **Muntele Rosu** 119.73 53 ⇑PKIKP PKPdf 14 55 16.5 -0.1
MLR **Muntele Rosu** 119.73 53 ⇑*i*P PKPdf 14 55 16.5 -0.1
WRA **Warramunga Arr** 119.77 210 PKP PKPdf 14 55 16.5 -0.9
comp=Z,1.5nm,0.8s,baz=161,slow=1.7,SNR=8.2
WRA PKKPbc PKKPbc 15 05 27.2 +0.6
comp=Z,1.1nm,0.8s,baz=342,slow=3.8,SNR=5.8
PRD **Provadia** 119.92 56 ⇓PKIKP PKPdf 14 55 17.3 +0.5
BURAR **Bucovina Array** 119.98 51 ⇑PKIKP PKPdf 14 55 17.5 +0.5
BURAR **Bucovina Array** 119.98 51 ⇑*i*P PKPdf 14 55 17.5 +0.5
VRI **Vrincioaia** 120.38 53 ⇑PKIKP PKPdf 14 55 17.1 -0.6
VRI **Vrincioaia** 120.38 53 ⇑*i*P PKPdf 14 55 17.1 -0.6
TESR **Tescani** 120.54 52 ⇑*i*P PKPdf 14 55 17.8 -0.2
SUW **Suwalki** 120.76 43 PKIKP PKPdf 14 55 17.1 -1.0
SUW **Suwalki** 120.76 43 PKPdf PKPdf 14 55 17.1 -1.0
CFR **Carcaliu** 121.08 54 ⇑PKIKP PKPdf 14 55 19.3 +0.3
CFR **Carcaliu** 121.08 54 ⇑*i*P PKPdf 14 55 19.3 +0.3
TNA **Tin City** 122.53 331 *e*PKPdf PKPdf 14 55 21.0 -0.2
NACGM **Naroch** 123.03 43 *e* PKPdf 14 55 20.0 -2.4
BRTR **Keskin Array B** 123.14 62 PKP PKPdf 14 55 23.6 +0.3
comp=Z,6.8nm,0.8s,baz=186,slow=3.5,SNR=38
BRTR PP PP 14 57 03.8 -0.2
comp=Z,0.9nm,0.7s,baz=226,slow=6.7,SNR=3.7
KIEV **Kiev** 123.39 48 *e*PKIKP PKPdf 14 55 22.6 -0.7
KIEV **Kiev** 123.39 48 *e*PKPdf PKPdf 14 55 22.6 -0.7
AKASG **Malin Array Be** 123.41 48 PKP PKPdf 14 55 22.7 -0.6
comp=Z,10.0nm,0.8s,baz=265,slow=2.6,SNR=33
AKASG PP PP 14 57 02.4 -2.9
comp=Z,0.2nm,0.3s,baz=246,slow=7.0,SNR=4.1
FINES **FINESS Array B** 124.05 35 PKP PKPdf 14 55 24.1 -0.1
comp=Z,7.4nm,0.9s,baz=207,slow=0.9,SNR=14
KAF **Kangasniemi** 124.28 34 *e*PKIKP PKPdf 14 55 23.3 -1.3
KAF **Kangasniemi** 124.28 34 *e*p PKPdf 14 55 23.3 -1.3
ARCES **ARCESS Array B** 124.92 25 PKP PKPdf 14 55 25.7 0.0
comp=Z,5.7nm,0.7s,baz=279,slow=3.2,SNR=20
MALT **Malatya** 126.22 65 ⇑PKIKP PKPdf 14 55 30.5 +1.2
MALT **Malatya** 126.22 65 ⇑*i*P PKPdf 14 55 30.5 +1.2
RAYN **Ar Rayn** 126.29 85 *e*PKPdf PKPdf 14 55 30.0 +0.3

JOF **Joensuu** 126.68 33 *e*PKIKP PKPdf 14 55 27.7 -1.5
JOF **Joensuu** 126.68 33 *e*p PKPdf 14 55 27.7 -1.5
LVZ **Lovozero** 128.21 27*c* *i*PKIKP PKPdf 14 55 33.3 +1.2
LVZ pmax pmax
comp=Z,63nm,1.7s
OBN **Obninsk** 128.61 44 ⇑*i*PKIKP PKPdf 14 55 33.8 +0.7
OBN pmax pmax
comp=Z,34nm,1.5s
MOS **Moscow** 129.27 43 *e*PKIKP PKPdf 14 55 32.1 -2.2
VSR **Storozhevoye** 129.67 49 *e*PKIKP PKPdf 14 55 34.4 -0.8
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,1.0nm,0.7s
KLMR **Klimovskoe** 130.49 36 *e*PKIKP PKPdf 14 55 35.6 -0.9
KLMR pmax pmax
comp=Z,73nm,1.4s
KIV **Kislovodsk** 130.78 59 *i*PKIKP PKPdf 14 55 37.8 0.0
KIV pmax pmax
comp=Z,25nm,1.1s
KIV **Kislovodsk** 130.78 59 PKPdf PKPdf 14 55 37.8 0.0
KBZ **Khabaz** 130.89 59 PKP PKPdf 14 55 38.2 +0.5
comp=Z,6.1nm,1.0s,baz=251,slow=1.4,SNR=11
VRHR **Novokhopersk** 131.19 49 *e*PKIKP PKPdf 14 55 33.3 -4.8
VRHR pmax pmax
comp=N,7.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
GOF **Gofitskoye** 131.25 57 *e*PKIKP PKPdf 14 55 37.8 -0.7
GOF pmax pmax
comp=Z,53nm,1.3s
ZEI **Tsey** 131.41 61 *i*PKIKP PKPdf 14 55 36.9 -2.2
ZEI pmax pmax
comp=Z,14nm,1.4s
GNI **Garni** 131.44 64*c* *i*PKIKP PKPdf 14 55 40.5 +1.3
GNI pmax pmax
comp=Z,24nm,1.2s
BILL **Bilibino** 132.65 334 ⇓*i*PKIKP PKPdf 14 55 41.3 +0.9
BILL pmax pmax
comp=Z,19nm,1.5s
PRGR **Permogore** 133.38 35 *e*PKIKP PKPdf 14 55 42.0 +0.1
PRGR pmax pmax
comp=Z,28nm,0.8s
PETK **Petropavlovsk-** 139.53 314 PKP PKPdf 14 55 54.6 +1.0
comp=Z,4.5nm,0.8s,baz=98,slow=6.1,SNR=5.6
TIXI **Tiksi** 140.87 349*c* *i*PKIKP PKPdf 14 55 56.7 +1.2
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI **Tiksi** 140.87 349 *e*PKPpre PKPpre 14 55 46.8
TIXI *e*PKPdf PKPdf 14 55 55.4 -0.1
ARU **Arti** 140.88 41 *i*PKHKP PKPpre 14 55 51.0
ARU **Arti** 140.88 41 *e*PKPpre PKPpre 14 55 49.7
ARU *e*PKPdf PKPdf 14 55 57.0 +1.0
GEYT **Alibeck** 141.18 70 PKhKP PKPpre 14 55 51.9
comp=Z,5.0nm,0.8s,baz=259,slow=3.8,SNR=9.4
AKTO **Aktyubinsk** 141.57 50 PKhKP PKPpre 14 55 51.4
baz=261,slow=4.3
AB31 **Akbulak array** 142.93 52 PKHKP PKPpre 14 55 56.0
AB31 pmax pmax
comp=Z,13nm,0.7s
ABKAR **Akbulak array** 142.93 52 *e*PKPpre PKPpre 14 55 56.1
PALK **Pallekele** 144.05 133 PKP PKPbc 14 56 01.0 +0.1
comp=Z,76nm,0.9s,baz=209,slow=5.0,SNR=12
PALK **Pallekele** 144.05 133 *e*PKP PKPbc 14 56 00.9 -0.1
BKNI **Bangkinang** 145.71 170 *e*PKP PKPdf 14 56 04.3 -1.5
GSI **Gunungsitoli** 146.03 164 *e*PKP PKPbc 14 56 06.9 -0.3
POO **Poona** 146.99 110 ⇑*i*P PKPdf 14 56 07.0 -0.9
comp=Z,286nm,1.5s
KSM **Kuching** 147.03 187 *e*PKPbc PKPbc 14 56 09.9 -0.2
BRVK **Borovoye** 148.37 43 *i*PKIKP PKPdf 14 56 09.2 +0.1
BRVK **Borovoye** 148.37 43 *e*PKPdf PKPdf 14 56 09.1 +0.1
BRVK *e*PKPbc PKiKP 14 56 13.8 -0.4
BVA0 **Borovoye Array** 148.44 43 *i*PKIKP PKPdf 14 56 09.9 +0.7
BVA0 pmax pmax
comp=Z,124nm,1.3s
BVAR **Borovoye Array** 148.44 43 PKP PKPdf 14 56 10.3 +1.2
comp=Z,43nm,0.8s,baz=284,slow=2.6,SNR=50
BVAR PKPbc PKiKP 14 56 13.6 -0.7
comp=Z,43nm,0.8s,baz=300,slow=2.7,SNR=83
YAK **Yakutsk** 148.68 339 *i*PKP2 PKPbc 14 56 11.9 -1.1
YAK *e* 14 59 41.4
YAK *e*PPP PPP 15 03 06.5
YAK *e* 15 12 26.9
YAK *e*SSS SSS 15 24 23.3
YAK pmax pmax
comp=Z,98nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,141nm,4.1s
YAK pmax pmax
comp=N,119nm,4.5s
YAK pmax pmax
comp=E,55nm,3.8s
YAK **Yakutsk** 148.68 339 *e*PKPdf PKPdf 14 56 08.5 -0.7
YAK *e*PKPbc PKPbc 14 56 12.8 -0.2
VOSK **Vostochnaya** 148.89 43 PKIKP PKPdf 14 56 10.0 +0.1
VOSK pmax pmax
comp=Z,100nm,0.7s
KBL **Kabul** 149.29 79 *e*PKPdf PKPdf 14 56 11.3 -0.1
IPM **Ipoh** 149.79 169 *e*PKPdf PKPdf 14 56 12.0 -0.6
IPM *e*PKPbc PKPbc 14 56 16.6 -0.7
HYB **Hyderabad** 149.88 117 *i*PKP PKPdf 14 56 12.0 -0.6
YSS **Yuzh-Sakhalins** 150.02 306 ⇓*e*PKHKP PKPbc 14 56 16.0 -0.8
YSS pmax pmax
comp=Z,60nm,1.0s
YSS **Yuzh-Sakhalins** 150.02 306 *e*PKPbc PKPbc 14 56 16.1 -0.7
KULM **Kulim** 150.53 168 *e*PKPbc PKPbc 14 56 18.4 -0.7
ASAJ **Asahikawa** 150.58 300 PKPbc PKPbc 14 56 17.9 -0.4
comp=Z,36nm,0.9s,baz=274,slow=8.8,SNR=18
ASAJ **Asahikawa** 150.58 300 *e*PKPbc PKPbc 14 56 18.1 -0.2
KK31 **Karatay Array** 150.85 62 *i*PKIKP PKPdf 14 56 13.1 -0.3
KK31 pmax pmax
comp=Z,37nm,1.1s
KKAR **Karatay Array** 150.85 62 *e*PKIKP PKPdf 14 56 13.0 -0.4
KKAR *e* 14 56 19.1
KKAR **Karatay Array** 150.85 62 *e*PKPdf PKPdf 14 56 12.9 -0.4
KKAR *e*PKPbc PKPbc 14 56 19.1 +0.1
AML **Almayashu** 153.29 64 P PKPdf 14 56 18.7 +1.2
SNR=6.5
EKS2 **Erkin-Say** 153.29 62 P PKPdf 14 56 17.9 +0.7
SNR=6.1
EKS2 **Erkin-Say** 153.29 62 *e*PKIKP PKPdf 14 56 17.1 -0.1
EKS2 *e* 14 56 25.1
EKS2 **Erkin-Say** 153.29 62 *e*PKPdf PKPdf 14 56 17.1 -0.1
EKS2 *e*PKPbc PKiKP 14 56 25.1 +0.2
USP **Ospenovka** 153.73 61 P PKPdf 14 56 18.2 +0.6
SNR=11
AAK **Ala-Archa** 153.82 62 P PKPdf 14 56 15.0 -2.9
SNR=6.1
AAK **Ala-Archa** 153.82 62*c* *i*PKIKP PKPdf 14 56 19.0 +1.0
AAK pmax pmax
comp=Z,16nm,1.0s
AAK **Ala-Archa** 153.82 62 PKP PKPdf 14 56 18.8 +0.8
comp=Z,4.8nm,0.9s,baz=319,slow=1.3,SNR=16
AAK PKPbc PKiKP 14 56 27.2 +1.3
comp=Z,23nm,0.9s,baz=213,slow=2.2,SNR=42
AAK PKPab PKPab 14 56 40.3 +1.3
comp=Z,21nm,0.9s,baz=219,slow=3.7,SNR=10.0
AAK **Ala-Archa** 153.82 62 *e*PKPdf PKPdf 14 56 17.7 -0.3
AAK *e*PKPbc PKiKP 14 56 26.5 +0.6
AAK PKPab PKPab 14 56 40.3 +1.3
FRU **Bishkek** 153.88 62 *e*PKIKP PKPbc 14 56 27.0 +1.1
FRU pmax pmax
comp=Z,27nm,1.2s
UCH **Uchtor** 153.88 63 P PKPdf 14 56 19.9 +1.5
SNR=8.0
CHMS **Chumysh** 153.95 61 P PKPbc 14 56 27.1 +1.1
SNR=6.9
NVS **Novosibirsk** 153.96 31 ⇓*i*PKIKP PKPdf 14 56 16.6 -0.9
NVS *i* 14 56 39.7
NVS *i* 15 00 12.0
NVS pmax pmax
comp=Z,45nm,1.0s
NVS pmax pmax
comp=N,5.0nm,1.5s
NVS pmax pmax
comp=E,12nm,1.4s
KURK **Kurchatov** 154.04 43 *e*PKIKP PKPdf 14 56 18.0 +0.2
KURK *e* 14 56 26.2
KURK **Kurchatov** 154.04 43 *e*PKPdf PKPdf 14 56 18.0 +0.2

KURK *e*PKPbc PKiKP 14 56 26.2 +0.3
MJAR **Matsushiro Arr** 154.10 284 PKPbc PKPbc 14 56 26.0 -0.5
comp=E,2.5nm,0.8s,baz=170,slow=1.5,SNR=5.4
MJAR PKPab PKPab 14 56 40.3 0.0
comp=E,2.4nm,0.8s,baz=153,slow=4.4,SNR=4.1
KZA **Kyzart** 154.44 63 P PKPdf 14 56 20.3 +1.1
SNR=5.7
NDI **New Delhi** 154.50 95 *e*P PKPdf 14 56 20.5 +1.4
TKM2 **Tokmak 2** 154.58 61 P PKPdf 14 56 19.4 +0.2
SNR=14
TKM2 **Tokmak 2** 154.58 61 *e*PKIKP PKPdf 14 56 19.3 +0.2
TKM2 *e* 14 56 28.0
TKM2 **Tokmak 2** 154.58 61 *e*PKPdf PKPdf 14 56 19.2 +0.2
TKM2 *e*PKPbc PKiKP 14 56 28.0 +0.4
KSH **Kashi** 155.20 69 PKPbc PKPdf 14 56 20.1 +0.2
KSH sPKP 14 56 33.4
KSH PKS PKSdf 14 59 53.1 -1.0
KSH PP PP 15 00 19.3 -2.5
KSH SKS SKSdf 15 03 22.0 -1.8
KSH SKKS SKKSac 15 07 07.0 -1.6
KSH SS SS 15 20 00.0 -4.3
KSH PPMZ
comp=E,290nm,4.5s
KSH LN
comp=E,59nm,5.0s
KSH LE
comp=E,68nm,5.2s
KSH LZ
comp=E,110nm,5.7s
ZALV **Zalesovo Beam** 155.25 31 PKP PKPdf 14 56 19.2 -0.2
comp=E,14nm,0.9s,baz=280,slow=2.7,SNR=50
ZALV PKPbc PKPbc 14 56 28.6
comp=E,34nm,0.8s,baz=277,slow=3.4,SNR=42
ZALV PKPab PKPab 14 56 45.8 +1.4
comp=E,16nm,0.9s,baz=298,slow=6.4,SNR=10
BOD **Bodaibo** 156.04 350 *e*PKIKP PKPdf 14 56 17.4 -2.9
BOD *e* 14 56 28.5
BOD *e* 14 56 46.5
BOD pmax pmax
comp=Z,27nm,1.0s
KLR **Kul'dur** 156.18 316 *e*PKIKP PKPdf 14 56 15.2 -5.5
KLR pmax pmax
comp=Z,63nm,2.0s
MKAR **Makanchi Array** 157.99 49 PKP PKPdf 14 56 23.1 -0.1
comp=Z,4.5nm,0.9s,baz=26,slow=2.0,SNR=29
MKAR PKPab PKPab 14 56 57.5 +0.9
comp=Z,15nm,0.7s,baz=257,slow=4.4,SNR=26
MKAR PP PP 15 00 37.4 +0.8
comp=Z,3.4nm,1.0s,baz=288,slow=5.0,SNR=5.8
USRK **Ussuriysk Ar.** 158.02 304 PKPab PKPab 14 56 56.6 -0.2
comp=Z,1.8nm,0.7s,baz=69,slow=6.3,SNR=4.5
KOLN **Koldanda** 159.37 103 *e*P PKPdf 14 56 25.4 -0.3
comp=Z,48nm,1.1s
DANN **Dangsing** 159.74 101 *e*P PKPdf 14 56 26.0 -0.2
comp=Z,99nm,0.9s
GKN **Gorkha** 160.31 103 *e*P PKPdf 14 56 26.1 -0.6
comp=Z,50nm,1.1s
DMN **Daman** 160.52 105 *e*P PKPdf 14 56 26.8 -0.2
KKN **Kakani** 160.73 104 *e*P PKPdf 14 56 26.9 -0.3
comp=Z,31nm,1.0s
PKIN **Phulchoki** 160.73 105 *e*P PKPdf 14 56 26.5 -0.8
PKI **Pulchoki** 160.74 105 *e*P PKPdf 14 56 26.9 -0.5
comp=Z,52nm,1.2s
GUN **Gumba** 161.26 105 *e*P PKPdf 14 56 27.4 -0.5
JIRN **Jiri** 161.40 106 *e*P PKPdf 14 56 27.3 -0.8
RAMN **Ramite** 161.40 108 *e*P PKPdf 14 56 27.9 -0.1
comp=Z,65nm,1.1s
ODAN **Odare** 161.98 110 *e*P PKPdf 14 56 28.4 -0.2
comp=Z,39nm,0.9s
MOY **Mondy** 162.31 11 *e*PKP2 PKPab 14 57 16.1 +0.8
KSRS **Korea Array** 162.34 286 PKPab PKPab 14 57 16.8 +0.9
comp=Z,4.1nm,0.8s,baz=87,slow=4.4,SNR=7.4
KSAR **Wonju Array Be** 162.37 286 PKP2 PKPab 14 57 16.8 +0.8
KSAR **Wonju Array Be** 162.37 286 PKPab PKPab 14 57 16.8 +0.8
TAPN **Taplejung** 162.46 109 *e*P PKPdf 14 56 28.7 -0.4
comp=Z,24nm,1.1s
CN2 **Changchun** 162.56 308 *e*PKP PKPdf 14 56 24.3 -4.0
CN2 *ep*PKP pPKPdf 14 56 36.1 -3.7
TLY **Talaya** 162.63 6 *e*PKP2 PKPab 14 57 17.6 +1.1
TLY pmax pmax
comp=Z,10.0nm,1.0s
WMQ **Urumqi** 162.72 52 PKP PKPdf 14 56 28.0 -0.6
WMQ PKPab PKPab 14 57 18.8 +1.4
WMQ PKS PKSdf 15 00 00.1 -1.5
WMQ PP PP 15 01 03.6 +1.3
WMQ SKS SKSdf 15 03 27.6 -2.9
WMQ SKKS SKKSac 15 07 46.5 -1.0
WMQ SS SS 15 21 19.7 -3.3
WMQ PPMZ
comp=Z,210nm,5.0s
WMQ LN
comp=Z,83nm,25.0s
WMQ LE
comp=Z,90nm,25.0s
WMQ LZ
comp=Z,210nm,25.0s
CMAR **Chiang Mai Arr** 162.76 155 PKP PKPdf 14 56 29.3 0.0
comp=Z,3.7nm,1.1s,baz=257,slow=2.4,SNR=4.1
CMAR PKPab PKPab 14 57 17.7 -0.2
comp=Z,3.8nm,0.9s,baz=220,slow=5.0,SNR=11
CHTO **Chiang Mai** 163.09 155 *e*PKIKP PKPdf 14 56 29.4 -0.2
CHTO **Chiang Mai** 163.09 155 *e*PKPdf PKPdf 14 56 29.4 -0.2
ZAK **Zakamensk** 163.88 7 *e*PKP2 PKPab 14 57 20.8 -1.4
ZAK pmax pmax
comp=Z,9.0nm,1.1s
LSA **Lhasa** 166.21 106 *e*PKIKP PKPdf 14 56 33.1 +0.5
LSA *e* 14 57 35.0
LSA **Lhasa** 166.21 106 *e*PKPdf PKPdf 14 56 33.1 +0.5
LSA *e*PKPab PKPab 14 57 35.0 +1.3
ULN **Ulaanbaatar** 166.56 358 *e*PKIKP PKPdf 14 56 31.0 -0.9
ULN **Ulaanbaatar** 166.56 358 *e*PKPdf PKPdf 14 56 31.0 -0.9
SONM **Songino Array** 166.59 0 PKP PKPdf 14 56 31.5 -0.4
comp=Z,1.7nm,0.8s,baz=184,slow=1.1,SNR=9.6
SONM PKPab PKPab 14 57 35.0 +0.8
comp=Z,7.1nm,0.9s,baz=336,slow=2.9,SNR=20
SONM PP PP 15 01 21.0 -0.5
comp=Z,0.4nm,0.6s,baz=359,slow=3.8,SNR=4.6
NJ2 **Nanjing** 169.34 261 *e*PKP PKPdf 14 56 31.9 -2.2
KMI **Kunming** 170.20 160 PKP PKPdf 14 56 36.0 +0.9
HHC **Hu-ho-hao-te** 172.40 329 *e*PKP PKPdf 14 56 35.3 -0.3
HHC PKS PKSdf 15 00 06.2 -1.7
HHC PP PP 15 01 54.6 +3.4
HHC SKS SKSdf 15 03 33.3 -2.9
HHC SKKS SKKSac 15 08 35.6 +0.2
HHC SS SS 15 23 00.1 +0.7
HHC PPMZ
comp=Z,82nm,5.5s
HHC LN
comp=Z,110nm,20.6s
HHC LE
comp=Z,190nm,20.2s
HHC LZ
comp=Z,180nm,21.0s
GTA **Gaotai** 172.72 45 *e*PKP PKPdf 14 56 36.1 +0.3
GTA pPKP pPKPdf 14 56 46.7 -0.6
GTA sPKP 14 56 50.7
GTA PKPab PKPab 14 58 03.3 +1.5
CD2 **Chengdu** 175.84 146 *e*PKP PKPdf 14 56 37.6 +0.6
CD2 sPKP 14 56 50.8
CD2 PKPab PKPab 14 58 18.8 +3.2
CD2 PP PP 15 02 09.5 +1.6
CD2 SKS SKSdf 15 03 32.8 -4.6
CD2 SKKS SKKSac 15 08 48.8 -3.2
CD2 SS SS 15 23 28.1 -4.4
CD2 PPMZ
comp=Z,180nm,7.1s
CD2 LE
comp=Z,660nm,21.4s
CD2 LZ
comp=Z,310nm,26.2s
LZH **Lanzhou** 177.30 51 *e*PKP PKPdf 14 56 36.6 -0.7
LZH pPKP pPKPdf 14 56 47.2 -1.6
LZH sPKP 14 56 52.1
XAN **Xi'an** 177.91 260 PKP PKPdf 14 56 36.4 -0.9

*IDC **01** 14:38:54.2±2.0,33°.21S×178°.96W,h0km,mb4.1/3,*
mb1 4.3/4,mb1mx4.0/19,mbtmp4.1/4,ML3.9/1,Error
ellipse: s-maj=50.4km s-min=31.8km az=127.0
*ISCJB **01** 14:38:56.7±1.4,33°.45S±0°.06×178°.7W±0°.2,h41km,*
mb4.1/4,Error ellipse: s-maj=23.2km s-min=8.1km az=1.0
*NEIC **01** 14:39:06.2±5.1,33°.91S×179°.14W,h101km±40km,mb4.4/1,*
Error ellipse: s-maj=59.2km s-min=29.5km az=213.0

ISC 01 14:38:57.9±1.5, 33°.50S±0°.09×178°.5W±0°.1, h41km, n43, σ1§71/43, mb4.1/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.80**	**211**	*e*PN	**Pn**	**14 40 09.6**	**+2.0**
WMGZ	**Waiomatatini S**	**4.97**	**209**	PN	**Pn**	**14 40 12.8**	**+2.9**
HAZ	**Te Kaha**	**5.19**	**214**	PN	**Pn**	**14 40 14.6**	**+1.6**
PUZ	**Puketiti**	**5.25**	**209**	*e*PN	**Pn**	**14 40 15.3**	**+1.5**
TWGZ	**Tauwhareparae**	**5.45**	**210**	PN	**Pn**	**14 40 18.9**	**+2.3**
CNGZ	**Carnagh Statio**	**5.63**	**207**	*e*PN	**Pn**	**14 40 20.6**	**+1.7**
KUZ	**Kuaotunu**	**5.71**	**234**	PN	**Pn**	**14 40 23.2**	**+3.2**
MWZ	**Matawai**	**5.78**	**212**	*e*PN	**Pn**	**14 40 21.4**	**+0.3**
MWZ				SN	**Sn**	**14 41 25.7**	**-0.4**
URZ	**Urewera**	**5.92**	**215**	Pn	**Pn**	**14 40 23.9**	**+1.0**
	3.0nm,0.3s,baz=279,slow=5.9,SNR=26						
URZ				Sn	**Sn**	**14 41 31.9**	**+2.5**
	22nm,0.3s,baz=152,slow=16,SNR=8.9						
URZ	**Urewera**	**5.92**	**215**	PN	**Pn**	**14 40 23.0**	**+0.1**
URZ				SN	**Sn**	**14 41 27.0**	**-2.4**
URZ	**Urewera**	**5.92**	**215**	*e*P	**Pn**	**14 40 25.4**	**+2.5**
	30nm,0.3s						
URZ				Sn	**Sn**	**14 41 31.9**	**+2.5**
RIGZ	**Rimuhau**	**5.99**	**209**	*e*PN	**Pn**	**14 40 26.2**	**+2.2**
RIGZ				SN	**Sn**	**14 41 29.9**	**-1.5**
PRGZ	**Paritu Road**	**6.13**	**207**	PN	**Pn**	**14 40 27.7**	**+1.7**
SNGZ	**Shannon Statio**	**6.23**	**211**	PN	**Pn**	**14 40 28.8**	**+1.5**
MKAZ	**Moumakai**	**6.28**	**233**	PN	Pn	14 40 31.7	+3.8
KNZ	**Kokohu**	**6.30**	**208**	*e*PN	**Pn**	**14 40 28.5**	**+0.4**
WCZ	**Waipu Caves**	**6.34**	**245**	PN	**Pn**	**14 40 30.0**	**+1.2**
RAHZ	**Arahi**	**6.46**	**212**	*e*PN	**Pn**	**14 40 31.7**	**+1.3**
OUZ	**Omahuta**	**6.72**	**253**	*e*PN	**Pn**	**14 40 34.0**	**0.0**
OUZ	**Omahuta**	**6.72**	**253**	*e*P	**Pn**	**14 40 33.6**	**-0.5**
	107nm,0.7s						
BKZ	**Black Stump Fm**	**6.93**	**214**	PN	**Pn**	**14 40 37.3**	**+0.4**
MCHZ	**McNeill Hill**	**7.06**	**212**	PN	**Pn**	**14 40 40.0**	**+1.3**
KAHZ	**Kahuranaki**	**7.28**	**209**	PN	**Pn**	**14 40 40.7**	**-1.0**
KRHZ	**Kereru**	**7.37**	**212**	PN	**Pn**	**14 40 42.8**	**-0.1**
BHHZ	**Black Hill Sta**	**7.38**	**214**	PN	**Pn**	**14 40 43.8**	**+0.6**
PXZ	**Pawanui**	**7.49**	**208**	PN	**Pn**	**14 40 42.6**	**-1.8**
PRHZ	**Porangahau**	**7.78**	**208**	PN	**Pn**	**14 40 47.7**	**-0.8**
MRZ	**Mangatainoka R**	**8.55**	**212**	*e*PN	**Pn**	**14 40 57.2**	**-1.9**
OGWZ	**Otaki Gorge**	**8.86**	**213**	PN	**Pn**	**14 41 01.2**	**-2.1**
TCW	**Tory Channel**	**9.58**	**215**	*e*PN	Pn	14 41 09.7	-3.5
TUWZ	**Tuamarina**	**9.91**	**215**	PN	Pn	14 41 14.1	-3.5
NNZ	**Nelson**	**10.03**	**218**	*e*PN	Pn	14 41 15.6	-3.6
THZ	**Tophouse**	**10.67**	**217**	*e*PN	Pn	14 41 24.5	-3.7
KHZ	**Kahutara**	**10.87**	**213**	*e*P	**Pn**	**14 41 28.2**	**-2.6**
CTA	**Charters Tower**	**33.97**	**284**	P	**P**	**14 45 38.0**	**+0.3**
	3.4nm,0.8s,baz=119,slow=10,SNR=3.7						
AS31	**Alice Springs**	**42.58**	**271**	*e*P	**P**	**14 46 48.4**	**-1.6**
ASAR	**Alice Springs**	**42.58**	**271**	P	**P**	**14 46 48.9**	**-1.2**
	1.2nm,0.6s,baz=109,slow=7.3,SNR=36						
WB2	**Warramunga Arr**	**43.84**	**276**	*e*P	**P**	**14 46 58.9**	**-1.3**
WRAB	**Tennant Creek**	**43.84**	**276**	*e*P	**P**	**14 46 58.7**	**-1.5**
	6.2nm,1.0s						
WRA	**Warramunga Arr**	**43.85**	**276**	P	**P**	**14 46 58.5**	**-1.8**
	2.0nm,0.8s,baz=114,slow=8.3,SNR=19						
FINES	**FINESS Array B**	**147.87**	**338**	PKPbc	**PKPbc**	**14 58 38.1**	**+0.5**
	1.8nm,0.5s,baz=61,slow=2.7,SNR=12						
NB2	**NORSAR Subarra151.73**	**350**		PKP	**PKPbc**	**14 58 48.5**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B151.73**	**350**		PKPbc	**PKPbc**	**14 58 49.4**	**+2.2**
	comp=Z,0.7nm,0.6s,baz=17,slow=4.1,SNR=3.8						

*IDC **01** 14:40:07.2±28.0, 33°.84S×179°.35E, h366km±236km, mb3.8/5, mb1 3.9/5, mb1mx3.4/32, mbtmp4.6/5, MS3.8/4, Ms1 3.8/4, ms1mx3.3/29, Error ellipse: s-maj=184.0km s-min=50.7km az=121.0*

ISC 01 14:40:03.3±2.3, 34°.1S±0°.5×179°.7E±0°.3, h350km, n10, σ0§77/10, mb4.0/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.64**	**206**	LR	LR	14 43 09.7	
	comp=Z,576nm,18.5s,baz=48,slow=38						
DZM	**Mont Dzumac**	**16.74**	**312**	LR	LR	14 49 15.1	
	comp=Z,334nm,19.1s,baz=134,slow=34						
STKA	**Stephens Creek**	**31.92**	**263**	P	**P**	**14 45 57.4**	**-0.2**
	2.0nm,0.7s,baz=98,slow=9.6,SNR=4.2						
CTA	**Charters Tower**	**32.73**	**287**	P	**P**	**14 46 05.2**	**+0.5**
	4.1nm,0.5s,baz=110,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**41.14**	**272**	P	**P**	**14 47 14.3**	**-0.5**
	7.6nm,0.7s,baz=114,slow=8.1,SNR=27						
ASAR				PcP	**PcP**	**14 49 07.2**	**+0.6**
	1.2nm,0.6s,baz=126,slow=3.4,SNR=5.9						
ASAR				LR	LR	15 03 43.8	
	comp=Z,111nm,19.9s,baz=120,slow=35						
WRA	**Warramunga Arr**	**42.47**	**277**	P	**P**	**14 47 25.1**	**-0.4**
	4.2nm,0.5s,baz=118,slow=7.6,SNR=20						
WRA				PcP	**PcP**	**14 49 12.1**	**+1.1**
	0.8nm,0.6s,baz=112,slow=3.1,SNR=4.4						
WRA				LR	LR	15 06 12.8	
	comp=Z,132nm,18.2s,baz=150,slow=37						
PETK	**Petropavlovsk-**	**88.95**	**347**	P	**P**	**14 52 18.7**	**+0.4**
	6.2nm,0.7s,baz=116,slow=8.2,SNR=16						
JOF	**Joensuu**	**145.06**	**335**	*e*p	**PKPdf**	**14 58 57.8**	**-0.6**
FINES	**FINESS Array B**	**147.86**	**336**	PKPbc	**PKPbc**	**14 59 07.0**	**+0.4**
	3.8nm,0.8s,baz=64,slow=4.4,SNR=6.3						
NB2	**NORSAR Subarra152.05**	**348**		PKP	**PKPab**	**14 59 26.7**	**-1.1**
	comp=Z,2.6nm,1.0s,baz=17,slow=2.6						

*TAP **01** 14:43:20.6, 23°.89N×121°.67E, h47km, ML3.9, B*
*JMA **01** 14:43:20.5, 23°.88N×121°.64E, h42km±1km, M3.4*
*ISCJB **01** 14:43:21.2±0.2, 23°.88N±0°.02×121°.71E±0°.02, h46km±4km, Error ellipse: s-maj=3.3km s-min=2.0km az=145.5*

ISC 01 14:43:21.9±1.2, 23°.89N±0°.02×121°.69E±0°.02, h41km±5km, n74, σ0§90/125, 13C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.12**	**320**	*e*P	**Pn**	**14 43 28.4**	**-0.4**
	baz=322						
HWA				*e*S	**Sn**	**14 43 34.9**	**+1.5**
	baz=322						
ESF	**Shoufeng Towns**	**0.17**	**264**	*e*P	**Pn**	**14 43 28.9**	**-0.1**
	baz=277						
ESF				*e*S	**Sn**	**14 43 34.3**	**+0.3**
	baz=277						
TWD	**Chiawan**	**0.21**	**336**	⇓*i*P	**Pn**	**14 43 28.8**	**-0.5**
	baz=331						
TWD				*i* S	**Sn**	**14 43 34.9**	**+0.4**
	baz=331						
TEGC	**Jichi Village**	**0.22**	**217**	*e*P	**Pn**	**14 43 30.3**	**+0.8**
	baz=221						
TEGC				*e*S	**Sn**	**14 43 37.0**	**+2.3**
	baz=221						
ESL	**Shilin**	**0.24**	**252**	⇑*i*P	**Pn**	**14 43 28.7**	**-1.0**
	baz=259						
ESL				*e*S	**Sn**	**14 43 33.9**	**-1.2**
	baz=259						
WHF	**Hehuan Shan**	**0.46**	**304**	⇑*i*P	**Pn**	**14 43 31.4**	**-1.3**
	baz=301						
WHF				S	**Sn**	**14 43 38.7**	**-1.4**
	baz=301						
EHY	**Hungye**	**0.51**	**221**	P	**Pn**	**14 43 31.3**	**-1.5**
	baz=219						
EHY				*e*S	**Sn**	**14 43 38.6**	**-1.9**
	baz=219						
ENA	**Nanau**	**0.54**	**5**	⇑P	**Pn**	**14 43 32.3**	**-0.9**
	baz=11						
ENA				*e*S	**Sn**	**14 43 41.4**	**+0.2**
	baz=11						
TWT	**Tachien**	**0.59**	**308**	⇑*i*P	**Pn**	**14 43 33.5**	**-0.6**
	baz=307						
TWT				S	**Sn**	**14 43 42.1**	**-0.7**
	baz=307						
NNS	**Nan Shan**	**0.62**	**332**	⇑*i*P	**Pn**	**14 43 33.3**	**-1.1**
	baz=333						
NNS				*e*S	**Sn**	**14 43 42.3**	**-1.0**
	baz=333						
TWF1	**Yuli**	**0.64**	**214**	*e*P	**Pn**	**14 43 33.1**	**-1.5**
	baz=221						
SMLT	**Sun Moon Lake**	**0.72**	**270**	⇑*i*P	**Pn**	**14 43 34.9**	**-0.8**
	baz=270						
SMLT				*e*S	**Sn**	**14 43 45.2**	**-0.5**
	baz=270						
TWC	**Suao**	**0.73**	**12**	*e*P	**Pn**	**14 43 35.4**	**-0.5**
	baz=23						
TWC				*e*S	**Sn**	**14 43 46.7**	**+0.9**
	baz=23						
ENTT	**Nioudou**	**0.76**	**352**	⇑*i*P	**Pn**	**14 43 35.2**	**-1.0**
	baz=352						
TYC	**Yuchr**	**0.76**	**271**	*e*P	**Pn**	**14 43 35.3**	**-0.9**
	baz=274						
TYC				*e*S	**Sn**	**14 43 45.6**	**-0.8**
	baz=274						
YUS	**Yu-Shan**	**0.78**	**240**	P	**Pn**	**14 43 36.4**	**-0.6**
	baz=235						
YUS				S	**Sn**	**14 43 46.8**	**-1.0**
	baz=235						
NSK	**Sanguang**	**0.84**	**339**	⇑*i*P	**Pn**	**14 43 36.5**	**-0.9**
	baz=338						
NSK				S	**Sn**	**14 43 47.1**	**-1.4**
	baz=338						
CHKT	**Chengkung**	**0.84**	**201**	*e*P	**Pn**	**14 43 36.2**	**-1.1**
	baz=187						
CHKT				*e*S	**Sn**	**14 43 49.0**	**+0.6**
	baz=187						
ILA	**Ilan**	**0.87**	**4**	*e*P	**Pn**	**14 43 37.4**	**-0.3**
	baz=355						
ALS	**Alishan**	**0.89**	**245**	⇑*e*P	**Pn**	**14 43 38.1**	**-0.2**
	baz=239						
ALS				*e*S	**Sn**	**14 43 49.7**	**-0.5**
	baz=239						
WNT	**Mingjian**	**0.92**	**270**	P	**Pn**	**14 43 38.5**	**+0.2**
	baz=270						
WNT				S	**Sn**	**14 43 51.0**	**+0.6**
	baz=270						
ELDTW	**Lidau**	**0.93**	**222**	*e*P	**Pn**	**14 43 37.3**	**-1.3**
	baz=219						
ELDTW				*e*S	**Sn**	**14 43 49.7**	**-1.1**
	baz=219						
TWQ1	**Liyutan**	**0.95**	**299**	⇑*i*P	**Pn**	**14 43 38.8**	**0.0**
	baz=298						
TWQ1				S	**Sn**	**14 43 51.9**	**+0.6**
	baz=298						
TCU	**Taichung**	**0.96**	**286**	⇑*i*P	**Pn**	**14 43 39.2**	**+0.3**
	baz=286						
TCU				*e*S	**Sn**	**14 43 51.8**	**+0.4**
	baz=286						
NSTT	**Nanjuang**	**0.97**	**320**	⇑*i*P	**Pn**	**14 43 39.3**	**+0.2**
	baz=306						
NSTT				S	**Sn**	**14 43 51.5**	**-0.1**
	baz=306						
CHN5	**Tsauling**	**0.97**	**253**	*e*P	**Pn**	**14 43 39.3**	**+0.2**
	baz=254						
CHN5				S	**Sn**	**14 43 52.6**	**+0.9**
	baz=254						
EGS		**0.98**	**13**	*e*P	**Pn**	**14 43 39.7**	**+0.5**
	baz=24						
EGS				*e*S	**Sn**	**14 43 53.6**	**+1.8**
	baz=24						
NSY	**Sanyi**	**0.99**	**302**	*e*P	**Pn**	**14 43 39.6**	**+0.1**
	baz=301						
NSY				*e*S	**Sn**	**14 43 53.1**	**+0.8**
	baz=301						
WGK	**Gukeng**	**1.05**	**259**	*e*P	**Pn**	**14 43 40.4**	**+0.2**
	baz=260						
WGK				*e*S	**Sn**	**14 43 54.6**	**+1.0**
	baz=260						
TWA	**Mucha**	**1.09**	**355**	*e*P	**Pn**	**14 43 40.3**	**-0.5**
	baz=355						
STYT	**Tauyuan**	**1.12**	**230**	P	**Pn**	**14 43 41.2**	**+0.1**
	baz=231						
STYT				*i* S	**Sn**	**14 43 55.6**	**+0.2**
	baz=231						
CHN4	**Tsaushan**	**1.14**	**242**	⇓*e*P	**Pn**	**14 43 41.9**	**+0.5**
	baz=235						
CHN4				S	**Sn**	**14 43 57.0**	**+1.3**
	baz=235						
TWB1	**Santiao Chiao**	**1.15**	**14**	*e*P	**Pn**	**14 43 41.8**	**+0.3**
	baz=28						
TWB1				*e*S	**Sn**	**14 43 56.9**	**+0.9**
	baz=28						
TAP1	**Taipei**	**1.15**	**353**	*e*P	**Pn**	**14 43 41.7**	**+0.1**
	baz=351						
CHN2	**Minshiung**	**1.17**	**252**	*e*P	**Pn**	**14 43 41.3**	**-0.5**
	baz=254						
CHN2				*e*S	**Sn**	**14 43 58.1**	**+1.6**
	baz=254						
NCU	**National Centr**	**1.17**	**337**	*e*P	**Pn**	**14 43 41.9**	**+0.1**
	baz=334						
NCU				*e*S	**Sn**	**14 43 57.6**	**+1.0**
	baz=334						
WTP	**Ta-pu**	**1.17**	**237**	⇑P	**Pn**	**14 43 42.4**	**+0.4**
	baz=239						
WTP				S	**Sn**	**14 43 57.6**	**+0.8**
	baz=239						
NWF	**Wu-fen Shan**	**1.18**	**4**	*e*P	**Pn**	**14 43 40.6**	**-1.4**
	baz=353						
TWG	**Pinlang**	**1.20**	**208**	*e*P	**Pn**	**14 43 40.2**	**-2.1**
	baz=196						
CHY	**Chiayi**	**1.22**	**252**	*e*P	**Pn**	**14 43 41.9**	**-0.6**
	baz=253						
CHY				*e*S	**Sn**	**14 43 59.1**	**+1.3**
	baz=253						
TWS1	**Kuangyinshan**	**1.23**	**349**	*e*P	**Pn**	**14 43 42.6**	**0.0**
	baz=348						
TWK	**Hsinying**	**1.26**	**241**	*e*P	**Pn**	**14 43 43.1**	**-0.1**
	baz=242						
TWK				*e*S	**Sn**	**14 44 00.1**	**+1.2**
	baz=242						
CHN1	**Nanshi**	**1.27**	**237**	*e*P	**Pn**	**14 43 43.5**	**+0.2**
	baz=239						
CHN1				*e*S	**Sn**	**14 44 00.5**	**+1.3**
	baz=239						
JYNG	**Yonagunijimaku**	**1.28**	**64**	P	**Pn**	**14 43 43.0**	**-0.3**
JYNG				S	**Sn**	**14 43 59.0**	**-0.2**
WTCT	**Ta-ch'eng**	**1.29**	**269**	*e*P	**Pn**	**14 43 42.8**	**-0.6**
	baz=270						
WTCT				*e*S	**Sn**	**14 44 01.2**	**+1.7**
	baz=270						
SGST	**Jiashian**	**1.29**	**232**	*e*P	**Pn**	**14 43 44.1**	**+0.6**
	baz=233						
SGST				*e*S	**Sn**	**14 44 00.8**	**+1.2**
	baz=233						
YOJ	**Yonaguni jima**	**1.34**	**65**	P	**Pn**	**14 43 43.9**	**-0.2**
YOJ				S	**Sn**	**14 44 00.6**	**-0.1**
YOJ	**Yonaguni jima**	**1.34**	**65**	⇓P	**Pn**	**14 43 43.9**	**-0.2**
	baz=68						
YOJ				*e*S	**Sn**	**14 44 00.3**	**-0.4**
	baz=68						
WSF	**Szhu**	**1.36**	**260**	*e*P	**Pn**	**14 43 44.3**	**-0.2**
	baz=261						
WSF				*e*S	**Sn**	**14 44 02.7**	**+1.4**
	baz=261						
TWY	**Chenhua**	**1.38**	**357**	*e*P	**Pn**	**14 43 44.9**	**+0.1**
	baz=345						
ECL	**Taimali**	**1.45**	**208**	*e*P	**Pn**	**14 43 43.5**	**-2.1**
	baz=198						
CHN3	**Shinhua**	**1.46**	**237**	*e*P	**Pn**	**14 43 47.2**	**+1.4**
	baz=249						
SSD	**Sandimen**	**1.50**	**221**	*e*P	**Pn**	**14 43 46.6**	**+0.3**
	baz=223						
SSD				*e*S	**Sn**	**14 44 06.1**	**+1.5**
	baz=223						
SCLT	**Jiali**	**1.54**	**243**	*e*P	**Pn**	**14 43 46.3**	**-0.7**
	baz=245						
SCLT				*e*S	**Sn**	**14 44 07.2**	**+1.4**
	baz=245						
TWM1	**Shoushan**	**1.57**	**228**	*e*P	**Pn**	**14 43 48.1**	**+0.8**
	baz=228						
SGLT	**Jiouru**	**1.60**	**224**	*e*P	**Pn**	**14 43 48.5**	**+0.8**
	baz=224						
EAST	**Anshuo**	**1.69**	**207**	*e*P	**Pn**	**14 43 49.1**	**+0.2**
	baz=197						
TAW	**Tawu**	**1.69**	**206**	*e*P	**Pn**	**14 43 48.1**	**-0.8**
	baz=196						
SCZT	**Fangliau**	**1.80**	**213**	*e*P	**Pn**	**14 43 50.9**	**+0.4**
	baz=214						
IRIF	**Iriomote-Funau**	**1.92**	**76**	P	**Pn**	**14 43 52.1**	**0.0**
IRIF				*e*S	**Sn**	**14 44 15.1**	**+0.1**
HATJ	**Hateruma jima**	**1.94**	**85**	P	**Pn**	**14 43 52.7**	**+0.2**
HATJ				S	**Sn**	**14 44 16.0**	**+0.3**
TWP	**Hsiaoliuchiu**	**1.96**	**219**	*e*P	Pn	14 43 56.0	+3.4
	baz=220						
WDGT	**Dungji**	**1.96**	**252**	P	**Pn**	**14 43 51.6**	**-1.1**
	baz=254						
WDGT				S	**Sn**	**14 44 15.0**	**-1.1**
	baz=254						
PNG	**Penghu**	**1.98**	**261**	*e*P	**Pn**	**14 43 52.0**	**-1.0**
	baz=263						
PNG				*e*S	**Sn**	**14 44 15.7**	**-0.8**
	baz=263						
HEN	**Hengchun**	**2.07**	**205**	*e*P	**Pn**	**14 43 53.9**	**-0.2**
	baz=197						
TWK1	**Hengchun**	**2.10**	**203**	*e*P	**Pn**	**14 43 55.2**	**+0.6**
	baz=192						
TSEB	**Hengchuen, Pin**	**2.11**	**200**	*e*P	**Pn**	**14 43 53.8**	**-1.0**
	baz=191						
JKRS	**Kuro-shima**	**2.15**	**80**	P	**Pn**	**14 43 55.7**	**+0.4**
JKRS				S	**Sn**	**14 44 21.6**	**+0.8**
JIJ	**Ishigaki jima**	**2.29**	**78**	P	**Pn**	**14 43 56.9**	**-0.3**
JIJ				*e*S	**Sn**	**14 44 23.0**	**-1.3**
JISG	**Ishigakijimahi**	**2.49**	**73**	P	**Pn**	**14 43 59.5**	**-0.5**
JTJ	**Tarama**	**2.85**	**74**	P	**Pn**	**14 44 04.8**	**-0.1**
JTJ				*e*S	**Sn**	**14 44 37.1**	**-0.9**
KNM	**Kinmen**	**3.02**	**281**	*e*P	**Pn**	**14 44 07.1**	**-0.1**
	baz=279						
JIRB	**Irabujima**	**3.31**	**73**	P	**Pn**	**14 44 10.9**	**-0.4**
JIRB				*e*S	**Sn**	**14 44 49.3**	**-0.1**
JOGS	**Gusukube**	**3.50**	**75**	P	**Pn**	**14 44 14.1**	**+0.2**
JOGS				*e*S	**Sn**	**14 44 54.8**	**+0.7**

NEIC 01 14:51:33.5±4.6, 18°.51N×72°.35W, h10km, ML3.5, Error ellipse: s-maj=52.9km s-min=20.0km az=57.0, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.11**	**65**	*e*P	Pb	14 51 54.8	-0.1
SDDR				*e*S	Sg	14 52 08.1	-1.3
SMN1	**Samana, DR**	**2.99**	**76**	*e*Pn	Pn	14 52 20.8	-0.2
SMN1				*e*Sg	Sb	14 53 05.2	+1.7
GRTK	**Grand Turk**	**3.20**	**21**	*e*Pn	Pn	14 52 23.8	0.0
CRPR	**Cabo Rojo, PR**	**5.00**	**95**	Pn	Pn	14 52 47.8	-0.8
CBYP	**Canovanas**	**6.17**	**91**	Pn	Pn	14 53 05.8	+1.0

*ISCJB **01** 14:57:10.6±1.0, 34°.65S±0°.09×72°.6W±0°.2, h10km, mb3.8/4, MS3.4/1, Error ellipse: s-maj=28.6km s-min=12.8km az=8.9*
*IDC **01** 14:57:10.6±1.0, 34°.64S×72°.57W, h0km, mb3.8/4, mb1 3.9/7, mb1mx3.8/34, mbtmp3.7/7, ML3.6/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/26, Error ellipse: s-maj=40.6km s-min=21.6km az=102.0*

ISC 01 14:57:12.3±1.0, 34°.6S±0°.1×72°.6W±0°.2, h10km, n10, σ1§17/8, mb4.0/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.76**	**52**	Pn	**Pn**	**14 58 25.0**	**+0.9**
	0.7nm,0.3s,baz=239,slow=5.1,SNR=14						
PLCA	**Paso Flores**	**6.31**	**166**	Pn	**Pn**	**14 58 45.4**	**0.0**
	1.0nm,0.3s,baz=340,slow=12,SNR=3.1						
LPAZ	**La Paz**	**18.71**	**14**	P	**Pn**	**15 01 31.4**	**-0.6**
	0.1nm,0.3s,baz=210,slow=16,SNR=1.7						
USHA	**Ushuaia**	**20.41**	**173**	LR	LR	15 08 47.4	
	comp=Z,162nm,20.2s,baz=54,slow=34						
SIV	**San Ignacio**	**21.26**	**32**	P	**P**	**15 01 57.2**	**-1.7**
	1.9nm,0.9s,baz=228,slow=14,SNR=2.6						
QSPA	**South Pole Qui**	**55.60**	**180**	P	**P**	**15 06 48.0**	**+0.1**
	2.1nm,1.0s,baz=129,slow=6.5,SNR=6.2						
TXAR	**Lajitas Array**	**70.05**	**331**	P	**P**	**15 08 25.7**	**+1.2**
	1.0nm,0.7s,baz=144,slow=11,SNR=5.2						
TORD	**Torodi Ar. Bea**	**84.88**	**70**	P	**P**	**15 09 47.9**	**+0.2**
	0.8nm,0.9s,baz=274,slow=3.4,SNR=4.8						
WRA	**Warramunga Arr**	**119.97**	**209**	PKP	**PKPdf**	**15 16 02.5**	**-1.2**
	0.3nm,0.6s,baz=160,slow=1.5,SNR=5.2						
ZALV	**Zalesovo Beam**	**155.02**	**32**	PKPbc		15 17 11.8	
	0.2nm,0.3s,baz=270,slow=4.4,SNR=3.8						

*IDC **01** 14:57:46.9±0.9, 34°.57S×73°.06W, h0km, mb4.1/6, mb1 4.4/7, mb1mx4.1/32, mbtmp4.2/7, ML4.7/1, MS2.9/2, Ms1 3.0/2, ms1mx2.8/26, Error ellipse: s-maj=44.0km s-min=22.8km az=67.0*
*ISCJB **01** 14:57:50.3±0.8, 34°.6S±0°.1×73°.1W±0°.3, h33km, mb4.1/7, Error ellipse: s-maj=42.0km s-min=15.4km az=160.1*

ISC 01 14:57:52.2±0.9, 34°.6S±0°.2×73°.1W±0°.3, h35km, n17, σ0§56/9, mb4.2/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.03**	**55**	LR	LR	15 01 06.4	
	comp=Z,34nm,19.8s,baz=238,slow=40						
PLCA	**Paso Flores**	**6.44**	**163**	Pn	**Pn**	**14 59 24.7**	**+0.1**
	3.7nm,0.3s,baz=338,slow=14,SNR=6.8						
PLCA				LR	LR	15 01 44.3	
	comp=Z,436nm,22.0s,baz=77,slow=37						
QSPA	**South Pole Qui**	**55.63**	**180**	P	**P**	**15 07 24.5**	**0.0**
	3.8nm,0.8s,baz=155,slow=3.8,SNR=8.7						
TXAR	**Lajitas Array**	**69.85**	**332**	P	**P**	**15 08 59.6**	**+0.2**
	1.0nm,0.5s,baz=153,slow=8.6,SNR=6.4						
DBIC	**Dimbokro**	**76.18**	**72**	P	P	15 09 30.7	-6.4
	3.3nm,1.0s,baz=230,slow=1.8,SNR=3.2						
BOSA	**Boshof**	**80.54**	**118**	P	**P**	**15 10 01.0**	**-0.3**
	2.1nm,0.5s,baz=246,slow=4.5,SNR=7.3						
NVAR	**Mina Array Bea**	**83.90**	**326**	P	**P**	**15 10 18.3**	**-0.2**
	0.6nm,0.7s,baz=155,slow=5.8,SNR=3.8						
PDAR	**Pinedale Array**	**83.92**	**334**	P	**P**	**15 10 18.2**	**-0.4**
	0.6nm,0.8s,baz=126,slow=9.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**85.21**	**71**	P	**P**	**15 10 25.1**	**-0.4**
	1.1nm,0.6s,baz=226,slow=3.0,SNR=8.4						
YKA	**Yellowknife Ar**	**102.36**	**342**	P	**Pdif**	**15 11 43.5**	**0.0**
	0.1nm,0.5s,baz=143,slow=3.6,SNR=2.6						
H11S2	**WAKE ISLAND Hyl**	**24.91**	**269**	T	T	17 34 48.1	
	baz=122						
H11S1	**WAKE ISLAND Hyl**	**24.92**	**269**	T	T	17 34 39.9	
	baz=122,slow=74						
H11S3	**WAKE ISLAND Hyl**	**24.93**	**269**	T	T	17 34 41.2	
	baz=122,slow=74						
H11N3	**WAKE ISLAND Hyl**	**25.34**	**271**	T	T	17 35 11.4	
	baz=121,slow=75,SNR=3.0						
H11N1	**WAKE ISLAND Hyl**	**25.35**	**271**	T	T	17 35 09.2	
	baz=121,slow=75,SNR=5.0						
H11N2	**WAKE ISLAND Hyl**	**25.36**	**271**	T	T	17 35 12.9

*HLW **01** 15:07:00.6, 35.°71N×31.°39E, h26km±11km, Md4.0, Ml4.3*
*NIC **01** 15:07:00.1, 36.°03N×31.°83E, h15km, mb4.2, ML4.0*
ISC 01 15:06:56.4±0.8, **36.°10N**±0.°03×**31.°33E**±0.°02, **h56**km±10km, **n169**, σ1°**24**/217, **mb3.8**/7, **6C-2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.81**	**80**	*i* P	**Pn**	**15 07 11.9**	**0.0**
GAZI				*i* S	**Sn**	**15 07 22.6**	**-0.6**
GAZI	**Gazipasa**	**0.81**	**80**	*i* P	**Pn**	**15 07 11.9**	**0.0**
GAZI				*i* S	**Sn**	**15 07 22.6**	**-0.6**
ANTB	**Antalya**	**0.97**	**326**	*e*PG	**Pn**	**15 07 12.8**	**-1.1**
ANTB				*e*SG	**Sn**	**15 07 26.6**	**-0.1**
ANTB	**Antalya**	**0.97**	**326**	*e*Pg	**Pn**	**15 07 12.8**	**-1.1**
ANTB				*e*Sg	**Sn**	**15 07 26.6**	**-0.1**
ELL	**Elmali**	**1.32**	**300**	*e*PN	**Pn**	**15 07 18.4**	**-0.2**
ELL				*e*SN	**Sn**	**15 07 36.9**	**+1.7**
ELL	**Elmali**	**1.32**	**300**	*e*Pn	**Pn**	**15 07 18.4**	**-0.2**
ELL				*e*Sn	**Sn**	**15 07 36.9**	**+1.7**
AKMC	**Akamas**	**1.34**	**142**	⇑P	**Pn**	**15 07 19.5**	**+0.6**
	baz=337						
AKMC	**Akamas**	**1.34**	**142**	⇑P	**Pn**	**15 07 19.5**	**+0.6**
ERMK	**Ermenek**	**1.39**	**66**	*i* P	**Pn**	**15 07 20.9**	**+1.2**
ERMK	**Ermenek**	**1.39**	**66**	*i* P	**Pn**	**15 07 20.9**	**+1.2**
ERMK				*i* S	**Sn**	**15 07 41.0**	**+3.8**
ALFC	**Alevga**	**1.40**	**132**	⇓P	**Pn**	**15 07 19.7**	**+0.1**
	baz=324						
ALFC				S	**Sn**	**15 07 34.9**	**-2.1**
ALFC	**Alevga**	**1.40**	**132**	⇓P	**Pn**	**15 07 19.7**	**+0.1**
ALFC				S	**Sn**	**15 07 34.9**	**-2.1**
AKAS	**Kas**	**1.40**	**276**	*i* P	**Pn**	**15 07 20.1**	**+0.3**
AKAS				*i* S	**Sn**	**15 07 38.2**	**+0.9**
AKAS	**Kas**	**1.40**	**276**	*i* P	**Pn**	**15 07 20.1**	**+0.3**
AKAS				*i* S	**Sn**	**15 07 38.2**	**+0.9**
PPCY	**Paphos**	**1.47**	**145**	P	**Pn**	**15 07 22.3**	**+1.8**
	baz=339						
PPCY	**Paphos**	**1.47**	**145**	P	**Pn**	**15 07 22.3**	**+1.8**
BCK	**Bucak**	**1.49**	**337**	*e*PN	**Pn**	**15 07 20.7**	**-0.2**
BCK	**Bucak**	**1.49**	**337**	*e*Pn	**Pn**	**15 07 20.7**	**-0.2**
AKDN	**Akdeniz- K¨–br**	**1.55**	**120**	*e*PN	**Pn**	**15 07 21.3**	**-0.4**
AKDN	**Akdeniz- K¨–br**	**1.55**	**120**	*e*Pn	**Pn**	**15 07 21.3**	**-0.4**
LEF	**Lefka**	**1.60**	**127**	*e*PN	**Pn**	**15 07 22.0**	**-0.4**
LEF	**Lefka**	**1.60**	**127**	*e*Pn	**Pn**	**15 07 22.0**	**-0.4**
MAMC	**Mammari**	**1.79**	**120**	⇑P	**Pn**	**15 07 25.0**	**0.0**
	baz=307						
MAMC	**Mammari**	**1.79**	**120**	⇑P	**Pn**	**15 07 25.0**	**0.0**
GLHS	**Glhisar (BURDU**	**1.81**	**306**	*e*PN	**Pn**	**15 07 26.4**	**+1.0**
GLHS	**Glhisar (BURDU**	**1.81**	**306**	*e*Pn	**Pn**	**15 07 26.4**	**+1.0**
GOLH	**Golhisar**	**1.82**	**309**	*i* P	**Pn**	**15 07 28.1**	**+2.6**
GOLH	**Golhisar**	**1.82**	**309**	*i* P	**Pn**	**15 07 28.1**	**+2.6**
GOLH				*i* S	**Sn**	**15 07 50.8**	**+3.3**
ISP	**Isparta**	**1.84**	**340**	P	**Pn**	**15 07 26.4**	**+0.7**
ISP				S	**Sn**	**15 07 48.5**	**+0.5**
ISP	**Isparta**	**1.84**	**340**	*e*PN	**Pn**	**15 07 26.4**	**+0.7**
ISP	**Isparta**	**1.84**	**340**	P	**Pn**	**15 07 26.4**	**+0.7**
ISP				S	**Sn**	**15 07 48.5**	**+0.5**
SZAC	**Souni-Zanaja**	**1.84**	**136**	P	**Pn**	**15 07 28.3**	**+2.6**
	baz=326						
SZAC	**Souni-Zanaja**	**1.84**	**136**	P	**Pn**	**15 07 28.3**	**+2.6**
CSS	**Prodhromos**	**1.99**	**124**	⇑P	**Pn**	**15 07 27.2**	**-0.4**
	baz=311						
CSS				S	**Sn**	**15 07 52.1**	**+0.7**
CSS	**Prodhromos**	**1.99**	**124**	⇑P	**Pn**	**15 07 27.2**	**-0.4**
CSS				S	**Sn**	**15 07 52.1**	**+0.7**
KONT	**Konya--Tatoy**	**2.02**	**24**	*e*PN	**Pn**	**15 07 28.3**	**+0.2**
KONT	**Konya--Tatoy**	**2.02**	**24**	*e*Pn	**Pn**	**15 07 28.3**	**+0.2**
LADK	**Ladik-KONYA**	**2.26**	**21**	*e*PN	**Pn**	**15 07 32.0**	**+0.6**
LADK	**Ladik-KONYA**	**2.26**	**21**	*e*Pn	**Pn**	**15 07 32.1**	**+0.6**
DALY	**Dalyan (Mu¨la**	**2.27**	**289**	*e*PN	**Pn**	**15 07 32.5**	**+1.0**
DALY	**Dalyan (Mu¨la**	**2.27**	**289**	*e*Pn	**Pn**	**15 07 32.5**	**+1.0**
KIZK	**Mersin**	**2.31**	**80**	*i* P	**Pn**	**15 07 33.9**	**+1.9**
KIZK	**Mersin**	**2.31**	**80**	*i* P	**Pn**	**15 07 33.9**	**+1.9**
KIZK				*i* S	**Sn**	**15 08 02.7**	**+3.5**
EREN	**Erenkoy**	**2.38**	**103**	*e*PN	**Pn**	**15 07 33.0**	**0.0**
EREN	**Erenkoy**	**2.38**	**103**	*e*Pn	**Pn**	**15 07 33.0**	**0.0**
KDHN	**Kadinhani**	**2.50**	**14**	*i* P	**Pn**	**15 07 35.2**	**+0.4**
KDHN	**Kadinhani**	**2.50**	**14**	*i* P	**Pn**	**15 07 35.2**	**+0.4**
SHUT	**Suhut-Afyon**	**2.53**	**346**	*e*PN	**Pn**	**15 07 35.9**	**+0.8**
SHUT	**Suhut-Afyon**	**2.53**	**346**	*e*Pn	**Pn**	**15 07 35.9**	**+0.8**
KHL	**Karahalli**	**2.65**	**328**	*e*PN	**Pn**	**15 07 38.2**	**+1.5**
KHL	**Karahalli**	**2.65**	**328**	*e*Pn	**Pn**	**15 07 38.3**	**+1.5**
YER	**Yerkesik**	**2.66**	**294**	*e*PN	**Pn**	**15 07 37.8**	**+0.9**
YER	**Yerkesik**	**2.66**	**294**	*e*Pn	**Pn**	**15 07 37.8**	**+0.9**
MERS	**Mersin**	**2.69**	**72**	*e*PN	**Pn**	**15 07 37.9**	**+0.7**
MERS	**Mersin**	**2.69**	**72**	*e*Pn	**Pn**	**15 07 37.9**	**+0.7**
KHAL	**Karahalli**	**2.70**	**328**	*i* P	**Pn**	**15 07 38.9**	**+1.4**
KHAL				*i* S	**Sn**	**15 08 10.2**	**+1.1**
KHAL	**Karahalli**	**2.70**	**328**	*i* P	**Pn**	**15 07 38.9**	**+1.4**
KHAL				*i* S	**Sn**	**15 08 10.2**	**+1.1**
SULT	**Sultanhani-AKS**	**2.73**	**39**	*e*PN	**Pn**	**15 07 39.2**	**+1.3**
SULT	**Sultanhani-AKS**	**2.73**	**39**	*e*Pn	**Pn**	**15 07 39.2**	**+1.3**
KIZT	**Kizilcal**	**2.81**	**9**	*e*PN	**Pn**	**15 07 40.0**	**+1.0**
KIZT	**Kizilcal**	**2.81**	**9**	*e*Pn	**Pn**	**15 07 40.0**	**+1.0**
ALT	**Altintas**	**3.11**	**342**	P	**Pn**	**15 07 44.2**	**+1.1**
ALT	**Altintas**	**3.11**	**342**	*e*PN	**Pn**	**15 07 44.4**	**+1.3**
ALT	**Altintas**	**3.11**	**342**	P	**Pn**	**15 07 44.2**	**+1.1**
KARA	**Karaisali**	**3.21**	**68**	*e*PN	**Pn**	**15 07 45.2**	**+0.8**
KARA	**Karaisali**	**3.21**	**68**	*e*Pn	**Pn**	**15 07 45.2**	**+0.8**
KULA	**Kula-Manisa**	**3.22**	**319**	P	**Pn**	**15 07 45.0**	**+0.5**
KULA				S	**Sn**	**15 08 21.3**	**-0.3**
KULA	**Kula-Manisa**	**3.22**	**319**	*e*PN	**Pn**	**15 07 45.2**	**+0.7**
KULA	**Kula-Manisa**	**3.22**	**319**	*e*Pn	**Pn**	**15 07 45.2**	**+0.7**
KULA				S	**Sn**	**15 08 21.3**	**-0.3**
BDRM	**Kayabasi**	**3.27**	**288**	*i* P	**Pn**	**15 07 46.1**	**+0.9**
BDRM				*i* S	**Sn**	**15 08 22.0**	**-0.9**
BDRM	**Kayabasi**	**3.27**	**288**	*i* P	**Pn**	**15 07 46.1**	**+0.9**
BDRM				*i* S	**Sn**	**15 08 22.0**	**-0.9**
NIG	**Nigde**	**3.31**	**52**	*e*PN	**Pn**	**15 07 46.5**	**+0.6**
NIG	**Nigde**	**3.31**	**52**	*e*Pn	**Pn**	**15 07 46.5**	**+0.6**
GDZ	**Gediz**	**3.33**	**334**	*i* P	**Pn**	**15 07 47.0**	**+0.9**
GDZ				*i* S	**Sn**	**15 08 24.1**	**-0.4**
GDZ	**Gediz**	**3.33**	**334**	*i* P	**Pn**	**15 07 47.0**	**+0.9**
GDZ				*i* S	**Sn**	**15 08 24.1**	**-0.4**
SVRH	**Sivrihisar-ESK**	**3.35**	**3**	*e*PN	**Pn**	**15 07 46.9**	**+0.6**
SVRH	**Sivrihisar-ESK**	**3.35**	**3**	*e*Pn	**Pn**	**15 07 46.9**	**+0.6**
BODT	**Bodrum**	**3.37**	**288**	*e*PN	**Pn**	**15 07 47.2**	**+0.6**
BODT	**Bodrum**	**3.37**	**288**	*e*Pn	**Pn**	**15 07 47.2**	**+0.6**
NIS1	**Nisyros Isl.**	**3.39**	**280**	P	**Pn**	**15 07 46.8**	**0.0**
NIS1	**Nisyros Isl.**	**3.39**	**280**	P	**Pn**	**15 07 46.8**	**0.0**
KARP	**Karpathos**	**3.43**	**262**	P	**Pn**	**15 07 48.0**	**+0.6**
KARP				S	**Sn**	**15 08 26.6**	**-0.2**
KARP	**Karpathos**	**3.43**	**262**	P	**Pn**	**15 07 48.0**	**+0.6**
KARP				S	**Sn**	**15 08 26.6**	**-0.2**
SEYT	**Eskypehyr**	**3.44**	**354**	*i* S	**Sn**	**15 08 24.3**	**-2.9**
AFSR	**Af¨ar-Bala (A**	**3.62**	**22**	*e*PN	**Pn**	**15 07 51.4**	**+1.4**
AFSR	**Af¨ar-Bala (A**	**3.62**	**22**	*e*Pn	**Pn**	**15 07 51.4**	**+1.4**
TVSB	**Tavsanli**	**3.66**	**337**	*e*PN	**Pn**	**15 07 51.6**	**+1.0**
TVSB	**Tavsanli**	**3.66**	**337**	*e*Pn	**Pn**	**15 07 51.6**	**+1.0**
CEYT	**Ceyhan**	**3.67**	**74**	*e*PN	**Pn**	**15 07 51.1**	**+0.4**
CEYT	**Ceyhan**	**3.67**	**74**	*e*Pn	**Pn**	**15 07 51.1**	**+0.4**
BBAL	**Bala**	**3.72**	**22**	*i* P	**Pn**	**15 07 52.4**	**+0.9**
BBAL	**Bala**	**3.72**	**22**	*i* P	**Pn**	**15 07 52.4**	**+0.9**
ARNB	**Al Arnab**	**3.77**	**92**	*i* P	**Pn**	**15 07 53.8**	**+1.6**
ARNB				*e*S	**Sn**	**15 08 35.0**	**-0.4**
ARNB				AML	AML	15 08 41.4	
	comp=N,96nm,0.5s						
ARNB				AML	AML	15 08 44.0	
	comp=E,182nm,0.4s						
ARNB	**Al Arnab**	**3.77**	**92**	*i* P	**Pn**	**15 07 53.8**	**+1.6**
ARNB				*e*S	**Sn**	**15 08 35.0**	**-0.4**
ARNB				AML	AML	15 08 41.4	
	comp=N,96nm,0.5s						
ARNB				AML	AML	15 08 44.0	
	comp=E,182nm,0.4s						
BORA	**Eskisehir**	**3.84**	**350**	*i* P	**Pn**	**15 07 53.6**	**+0.5**
BORA	**Eskisehir**	**3.84**	**350**	*i* P	**Pn**	**15 07 53.6**	**+0.5**
BORA				*i* S	**Sn**	**15 08 34.9**	**-2.1**
KOZT	**Kozan**	**3.87**	**68**	*e*PN	**Pn**	**15 07 54.4**	**+1.1**
KOZT	**Kozan**	**3.87**	**68**	*e*Pn	**Pn**	**15 07 54.4**	**+1.1**
AKHS	**Akhisar**	**3.94**	**316**	*i* P	**Pn**	**15 07 57.1**	**+2.8**
AKHS				*i* S	**Sn**	**15 08 40.1**	**+0.8**
AKHS	**Akhisar**	**3.94**	**316**	*i* P	**Pn**	**15 07 57.1**	**+2.8**
AKHS				*i* S	**Sn**	**15 08 40.1**	**+0.8**
AKS	**Akhisar**	**3.94**	**316**	*e*PN	**Pn**	**15 07 55.8**	**+1.4**
AKS	**Akhisar**	**3.94**	**316**	*e*Pn	**Pn**	**15 07 55.8**	**+1.4**
ANTO	**Ankara**	**3.94**	**17**	*e*PN	**Pn**	**15 07 54.8**	**+0.4**
ANTO	**Ankara**	**3.94**	**17**	*e*Pn	**Pn**	**15 07 54.8**	**+0.4**
SMG	**Samos**	**3.94**	**295**	P	**Pn**	**15 07 53.7**	**-0.7**
SMG				S	**Sn**	**15 08 37.5**	**-1.9**
SMG	**Samos**	**3.94**	**295**	P	**Pn**	**15 07 53.7**	**-0.7**
SMG				S	**Sn**	**15 08 37.5**	**-1.9**
BRTR	**Keskin Array B**	**4.06**	**26**	P	**Pn**	**15 07 57.0**	**+0.9**
	comp=E,3.2nm,0.3s,baz=191,slow=16,SNR=121						
BRTR				S	**Sn**	**15 08 42.4**	**-0.1**
	comp=E,8.3nm,0.3s,baz=190,slow=21,SNR=5.4						
BLCB	**Balcova**	**4.11**	**305**	*e*PN	**Pn**	**15 07 57.4**	**+0.7**
BLCB	**Balcova**	**4.11**	**305**	*e*Pn	**Pn**	**15 07 57.4**	**+0.7**
BTCH	**Batrach**	**4.16**	**89**	*i* P	**Pn**	**15 07 58.8**	**+1.4**
BTCH				*e*S	**Sn**	**15 08 44.7**	**-0.1**
BTCH				AML	AML	15 08 50.2	
	comp=E,240nm,0.4s						
BTCH				AML	AML	15 08 50.5	
	comp=N,215nm,0.4s						
BTCH				AML	AML	15 08 54.4	
	comp=Z,128nm,0.4s						
BTCH	**Batrach**	**4.16**	**89**	*i* P	**Pn**	**15 07 58.8**	**+1.4**
BTCH				*e*S	**Sn**	**15 08 44.7**	**-0.1**
BTCH				AML	AML	15 08 50.2	
	comp=E,240nm,0.4s						
BTCH				AML	AML	15 08 50.5	
	comp=N,215nm,0.4s						
BTCH				AML	AML	15 08 54.4	
	comp=Z,128nm,0.4s						
HWQ	**Hawqa**	**4.20**	**114**	*e*P	**Pn**	**15 08 00.4**	**+2.4**
HWQ	**Hawqa**	**4.20**	**114**	*e*P	**Pn**	**15 08 00.4**	**+2.4**
ZKR	**Zakros**	**4.28**	**258**	P	**Pn**	**15 07 59.4**	**+0.4**
ZKR				S	**Sn**	**15 08 46.2**	**-1.4**
ZKR	**Zakros**	**4.28**	**258**	P	**Pn**	**15 07 59.4**	**+0.4**
ZKR				S	**Sn**	**15 08 46.2**	**-1.4**
BALB	**Balikesir**	**4.47**	**323**	*e*PN	**Pn**	**15 08 03.4**	**+1.9**
BALB	**Balikesir**	**4.47**	**323**	*e*Pn	**Pn**	**15 08 03.4**	**+1.9**
RCY	**Rachaya**	**4.53**	**124**	*e*P	**Pn**	**15 08 04.8**	**+2.3**
RCY	**Rachaya**	**4.53**	**124**	*e*P	**Pn**	**15 08 04.8**	**+2.3**
MMAI	**Mount Meron Ar**	**4.55**	**131**	P	**Pn**	**15 08 03.9**	**+1.0**
	comp=Z,8.6nm,0.3s,baz=310,slow=13,SNR=19						
MMAI				S	**Sn**	**15 08 56.6**	**+2.1**
	comp=Z,28nm,0.3s,baz=303,slow=22,SNR=11						
KMRS	**Kahramanmaras**	**4.69**	**71**	*e*PN	**Pn**	**15 08 05.7**	**+1.1**
KMRS	**Kahramanmaras**	**4.69**	**71**	*e*Pn	**Pn**	**15 08 05.7**	**+1.1**
MARH	**Ras Al Marh**	**4.71**	**115**	*i* P	Pn	15 08 08.4	+3.3
MARH				*e*S	**Sn**	**15 08 59.2**	**+0.6**
MARH	**Ras Al Marh**	**4.71**	**115**	*i* P	Pn	15 08 08.4	+3.3
MARH				*e*S	**Sn**	**15 08 59.2**	**+0.6**
NPS	**Neapolis**	**4.72**	**262**	P	**Pn**	**15 08 05.2**	**+0.1**
NPS	**Neapolis**	**4.72**	**262**	P	**Pn**	**15 08 05.2**	**+0.1**
SANT	**Santorini**	**4.75**	**275**	P	**Pn**	**15 08 05.3**	**-0.2**
SANT				S	**Sn**	**15 08 58.1**	**-1.2**
SANT	**Santorini**	**4.75**	**275**	P	**Pn**	**15 08 05.3**	**-0.2**
SANT				S	**Sn**	**15 08 58.1**	**-1.2**
APE	**Apeiranthos**	**4.76**	**283**	P	**Pn**	**15 08 05.7**	**0.0**
APE	**Apeiranthos**	**4.76**	**283**	*e*PN	**Pn**	**15 08 07.3**	**+1.6**
APE	**Apeiranthos**	**4.76**	**283**	P	**Pn**	**15 08 05.7**	**0.0**
APE	**Apeiranthos**	**4.76**	**283**	*e*Pn	**Pn**	**15 08 07.3**	**+1.6**
LAST	**Lasithi**	**4.85**	**261**	P	**Pn**	**15 08 07.6**	**+0.7**
LAST				S	**Sn**	**15 09 00.6**	**-1.3**
LAST	**Lasithi**	**4.85**	**261**	P	**Pn**	**15 08 07.6**	**+0.7**
LAST				S	**Sn**	**15 09 00.6**	**-1.3**
IDI	**Anoyia**	**5.30**	**263**	P	**Pn**	**15 08 13.1**	**0.0**
	comp=Z,8.4nm,0.3s,baz=89,slow=16,SNR=62						
IDI				S	**Sn**	**15 09 12.4**	**-0.5**
	comp=Z,7.6nm,0.3s,baz=295,slow=17,SNR=4.5						
SIVA	**Sivas**	**5.42**	**260**	P	**Pn**	**15 08 14.7**	**+0.1**
SIVA				S	**Sn**	**15 09 15.3**	**-0.4**
SIVA	**Sivas**	**5.42**	**260**	P	**Pn**	**15 08 14.7**	**+0.1**
SIVA				S	**Sn**	**15 09 15.3**	**-0.4**
HBRG	**Burj al 'Arab**	**5.64**	**193**	P	**Pn**	**15 08 18.6**	**+0.9**
	baz=195						
HBRG	**Burj al 'Arab**	**5.64**	**193**	P	**Pn**	**15 08 18.6**	**+0.9**
ASF	**Jabal al Asfar**	**6.05**	**129**	P	**Pn**	**15 08 26.3**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=270,slow=15,SNR=2.3						
ASF				S	Sn	15 09 40.8	+9.4
	comp=Z,1.6nm,0.3s,baz=262,slow=22,SNR=8.0						
MALT	**Malatya**	**6.08**	**67**	*e*PN	**Pn**	**15 08 26.1**	**+2.3**
MALT	**Malatya**	**6.08**	**67**	*e*Pn	**Pn**	**15 08 26.1**	**+2.3**
HHAG	**Hagoal**	**6.16**	**174**	P	**Pn**	**15 08 25.5**	**+0.7**
	baz=173						
HHAG	**Hagoal**	**6.16**	**174**	P	**Pn**	**15 08 25.5**	**+0.7**
KOT	**Kottamia**	**6.17**	**176**	P	**Pn**	**15 08 25.4**	**+0.5**
	baz=176						
KOT	**Kottamia**	**6.17**	**176**	P	**Pn**	**15 08 25.4**	**+0.5**
HMYD	**Mayadein**	**6.30**	**184**	P	**Pn**	**15 08 27.8**	**+1.1**
	baz=185						
HMYD	**Mayadein**	**6.30**	**184**	P	**Pn**	**15 08 27.8**	**+1.1**
SUZ		**6.36**	**168**	P	**Pn**	**15 08 28.2**	**+0.6**
	baz=167						
SUZ		**6.36**	**168**	P	**Pn**	**15 08 28.2**	**+0.6**
GLL	**Jalalah**	**6.51**	**177**	P	**Pn**	**15 08 30.1**	**+0.5**
	baz=177						
GLL	**Jalalah**	**6.51**	**177**	P	**Pn**	**15 08 30.1**	**+0.5**
HNKL	**Nakhl**	**6.54**	**159**	P	**Pn**	**15 08 31.0**	**+1.0**
	baz=158						
HNKL	**Nakhl**	**6.54**	**159**	P	**Pn**	**15 08 31.0**	**+1.0**
KYTH	**Kithira**	**6.71**	**274**	P	**Pn**	**15 08 32.5**	**+0.2**
KYTH	**Kithira**	**6.71**	**274**	P	**Pn**	**15 08 32.5**	**+0.2**
VLI	**Veliai**	**6.79**	**278**	P	**Pn**	**15 08 33.7**	**+0.2**
VLI	**Veliai**	**6.79**	**278**	P	**Pn**	**15 08 33.7**	**+0.2**
EIL	**Elat**	**7.09**	**154**	P	**Pn**	**15 08 38.1**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=334,slow=14,SNR=7.8						
EIL				S	**Sn**	**15 09 54.9**	**-1.9**
	comp=Z,2.3nm,0.3s,baz=40,slow=9.9,SNR=5.0						
AKASG	**Malin Array Be**	**14.68**	**355**	P	**Pn**	**15 10 21.0**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=178,slow=9.9,SNR=9.9						
KEST	**Kesra**	**17.81**	**275**	P	**P**	**15 11 03.9**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=90,slow=17,SNR=5.7						
GERES	**GERESS Array B**	**18.15**	**320**	P	**Pn**	**15 11 04.9**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=117,slow=7.8,SNR=2.3						
FINES	**FINESS Array B**	**25.59**	**354**	P	**P**	**15 12 18.1**	**-1.8**
	comp=Z,1.3nm,0.4s,baz=158,slow=11,SNR=14						
HFS	**Hagfors**	**26.61**	**340**	P	**P**	**15 12 28.3**	**-1.0**
	comp=Z,3.3nm,0.9s,baz=122,slow=9.7,SNR=4.0						
NOA	**NORSAR Array B**	**28.05**	**339**	P	**P**	**15 12 39.4**	**-2.8**
	comp=Z,0.4nm,0.6s,baz=144,slow=10,SNR=2.7						
ARCES	**ARCESS Array B**	**33.65**	**356**	P	**P**	**15 13 29.6**	**-1.8**
	comp=Z,6.8nm,1.1s,baz=174,slow=8.9,SNR=10.0						
TORD	**Torodi Ar. Bea**	**35.08**	**237**	P	**P**	**15 13 44.6**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=25,slow=9.3,SNR=5.8						
MKAR	**Makanchi Array**	**39.05**	**58**	P	**P**	**15 14 17.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=268,slow=11,SNR=6.2						
ZALV	**Zalesovo Beam**	**40.72**	**47**	P	**P**	**15 14 30.0**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=256,slow=6.9,SNR=4.7						

*IDC **01** 15:07:50.9±0.9, 32.°86S×71.°89W, h0km, mb4.1/7, mb1 4.2/10, mb1mx4.0/34, mbtmp4.1/10, ML4.0/3, MS3.0/2, Ms1 3.0/2, ms1mx2.8/26, Error ellipse: s-maj=29.3km s-min=26.0km az=72.0*
*ISCJB **01** 15:07:51.2±0.6, 32.°93S±0.°07×72.°22W±0.°07, h15km, mb4.0/10, Error ellipse: s-maj=10.9km s-min=7.5km az=27.3*
*GUC **01** 15:07:53.7±0.5, 32.°94S×72.°04W, h22km±4km, ML4.0*
*NEIC **01** 15:07:55.9±0.5, 32.°90S×72.°07W, h35km, mb4.4/3, Error ellipse: s-maj=11.8km s-min=9.1km az=95.0*
ISC 01 15:07:52.8±0.7, **32.°91S**±0.°08×**72.°11W**±0.°07, **h15**km, **n30**, σ1°**12**/32, **mb4.3**/10, **3C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.41**	**107**	⇓*i*P	**Pb**	**15 08 01.6**	**-0.1**
IHA				*i* S1	**Sg**	**15 08 07.5**	**+0.9**
PEL	**Peldehue**	**1.22**	**101**	⇑*i*P	**Pn**	**15 08 15.1**	**-0.2**
PEL				*i* S	**Sn**	**15 08 31.6**	**+0.1**
PEL				AML	AML	15 08 33.9	
	comp=N,12μm,0.5s						
TACH	**Talagante**	**1.23**	**127**	*e*P1	**Pn**	**15 08 15.0**	**-0.4**
SAN	**Santiago**	**1.33**	**114**	⇑*i*P	**Pb**	**15 08 17.3**	**-0.1**
SAN				*i* S1	**Sn**	**15 08 34.7**	**+0.4**
PCH	**Pirque**	**1.51**	**118**	*e*P1	**Pn**	**15 08 20.2**	**+0.8**
FCH	**Farellones**	**1.58**	**106**	⇑*i*P	**Pn**	**15 08 20.3**	**-0.2**
FCH				*i* S4	**Sn**	**15 08 38.3**	**-2.6**
FCH				AML	AML	15 08 42.6	
	comp=E,2μm,0.7s						
CFAA	**Coronel Fontan**	**3.53**	**69**	Pn	**Pn**	**15 08 49.3**	**+2.2**
	comp=E,1.5nm,0.3s,baz=274,slow=12,SNR=7.9						
CFAA				Lg	Lg	15 09 36.6	
	comp=E,2.1nm,0.3s,baz=283,slow=22,SNR=4.7						
CFAA				LR	LR	15 10 23.2	
	comp=E,84nm,18.2s,baz=215,slow=46						
PLCA	**Paso Flores**	**7.91**	**171**	Pn	**Pn**	**15 09 47.8**	**+0.5**
	comp=E,0.6nm,0.3s,baz=262,slow=14,SNR=4.4						
TRQA	**Tornquist**	**9.72**	**125**	*e*P	**Pn**	**15 10 13.0**	**+0.9**
CPUP	**Villa Florida**	**14.42**	**67**	Pn	**Pn**	**15 11 18.4**	**+2.0**
	comp=E,0.6nm,0.3s,baz=224,slow=10,SNR=5.3						
CPUP				LR	LR	15 16 34.4	
	comp=E,131nm,20.0s,baz=184,slow=37						
LPAZ	**La Paz**	**16.94**	**13**	Pn	**Pn**	**15 11 50.0**	**+0.1**
	comp=E,0.3nm,0.3s,baz=191,slow=8.5,SNR=23						
LPAZ	**La Paz**	**16.94**	**13**	*e*P	**Pn**	**15 11 50.1**	**+0.2**
SIV	**San Ignacio**	**19.59**	**33**	P	**P**	**15 12 19.5**	**-0.9**
	comp=E,0.2nm,0.3s,baz=212,slow=9.1,SNR=3.3						
SAML	**Samuel**	**25.23**	**21**	*e*P	**P**	**15 13 17.9**	**-0.3**
	comp=E,4.5nm,0.9s						
BDFB	**Brasilia**	**27.78**	**58**	P	**P**	**15 13 40.2**	**-1.2**
	comp=E,3.0nm,0.5s,baz=229,slow=4.8,SNR=5.0						
SNAA	**Sanae**	**52.62**	**158**	*e*P	P	15 17 01.1	-4.5
	comp=E,7.0nm,0.9s						
QSPA	**South Pole Qui**	**57.32**	**180**	*e*P	**P**	**15 17 40.4**	**+0.5**
	comp=E,3.4nm,1.0s						
DBIC	**Dimbokro**	**74.89**	**72**	P	**P**	**15 19 32.5**	**-0.8**
	comp=E,3.5nm,0.7s,baz=239,slow=5.9,SNR=4.5						
BOSA	**Boshof**	**80.63**	**118**	P	**P**	**15 20 05.2**	**-0.1**
	comp=E,2.2nm,0.7s,baz=239,slow=3.6,SNR=4.9						
PDAR	**Pinedale Array**	**82.77**	**333**	P	**P**	**15 20 16.4**	**+0.2**
	comp=E,0.4nm,0.9s,baz=148,slow=5.2,SNR=2.8						
NVAR	**Mina Array Bea**	**82.96**	**325**	P	**P**	**15 20 18.6**	**+1.4**
	comp=E,0.1nm,0.4s,baz=164,slow=5.5,SNR=4.9						
ELK	**Elko**	**83.41**	**328**	P	**P**	**15 20 20.2**	**+0.6**
	comp=E,0.3nm,0.3s,baz=181,slow=4.7,SNR=5.6						
TORD	**Torodi Ar. Bea**	**83.89**	**70**	P	**P**	**15 20 21.8**	**-0.5**
	comp=E,1.8nm,0.8s,baz=256,slow=4.1,SNR=6.8						
TORD				PP	**PP**	**15 23 33.3**	**-2.9**
	comp=E,0.6nm,0.7s,baz=261,slow=4.4,SNR=4.6						
ASAR	**Alice Springs**	**118.51**	**207**	PKP	**PKPdf**	**15 26 41.9**	**+1.4**
	comp=E,0.2nm,0.8s,baz=138,slow=1.5,SNR=3.0						
H11S2	**WAKE ISLAND Hyl**	**25

2.0nm,0.8s,baz=30,slow=6.7,SNR=6.2
JCJ Chichijima 47.13 236 LR LR 15 49 57.6
comp=Z,76nm,20.6s,baz=123,slow=37
FINES FINESS Array B 51.98 347 P **P** **15 29 48.1 +0.3**
1.2nm,0.6s,baz=24,slow=3.8,SNR=5.8
MKAR Makanchi Array 53.15 303 P **P** **15 29 54.6 -2.1**
0.3nm,0.6s,baz=34,slow=5.3,SNR=4.3
NB2 NORSAR Subarra 53.24 356 P **P** **15 29 58.6 +1.4**
comp=Z,2.4nm,0.8s,baz=3.2,slow=7.4
NOA NORSAR Array B 53.24 356 P **P** **15 29 56.2 -1.0**
comp=Z,3.2nm,1.0s,baz=2.7,slow=7.2,SNR=4.9
AKASG Malin Array Be 62.23 343 P **P** **15 30 58.6 -1.8**
comp=Z,1.5nm,0.6s,baz=11,slow=6.4,SNR=4.9
KBZ Khabaz 66.85 331 P **P** **15 31 32.5 +1.8**
comp=Z,1.3nm,0.8s,baz=359,slow=5.0,SNR=5.6
GEYT Alibeck 68.72 317 P **P** **15 31 44.0 +1.3**
comp=Z,1.5nm,0.6s,baz=348,slow=3.5,SNR=5.0
CMAR Chiang Mai Arr 71.80 274 P **P** **15 32 01.7 -0.1**
comp=Z,0.9nm,0.8s,baz=6.4,slow=6.8,SNR=8.5
BRTR Keskin Array B 72.38 337 P **P** **15 32 05.7 +0.5**
comp=Z,1.1nm,0.7s,baz=11,slow=2.9,SNR=8.1

*IDC **01** 15:21:51.2±1.6, 35°.05S×70°.57W, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.9/16, mbtmp3.8/4, ML3.5/2, MS2.1/1, Ms1 2.1/1, ms1mx2.1/27, Error ellipse: s-maj=69.4km s-min=33.7km az=89.0*

ISC 01 15:21:52.8±1.1, 35°.00S±0°.1×70°.2W±0°.3, h7km, n7, σ1§62/7, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.75**	**27**	Pn	**Pb**	**15 22 58.2**	**-1.1**
	0.3nm,0.3s,baz=216,slow=13,SNR=11						
CFAA				LR	LR	15 24 35.8	
	comp=Z,24nm,19.3s,baz=208,slow=42						
PLCA	**Paso Flores**	**5.76**	**182**	Pn	**Pn**	**15 23 18.7**	**0.0**
	0.3nm,0.3s,baz=344,slow=13,SNR=2.9						
LPAZ	**La Paz**	**18.70**	**6**	P	**Pn**	**15 26 15.0**	**+2.3**
	0.1nm,0.3s,baz=180,slow=9.1,SNR=13						
TORD	**Torodi Ar. Bea**	**83.15**	**69**	P	**P**	**15 34 20.3**	**+0.5**
	0.6nm,0.8s,baz=245,slow=3.7,SNR=3.1						
PDAR	**Pinedale Array**	**85.31**	**332**	P	**P**	**15 34 29.4**	**-1.0**
	0.7nm,0.9s,baz=101,slow=4.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**154.20**	**35**	PKPbc	**PKPbc**	**15 41 51.8**	**-1.2**
	0.3nm,0.3s,baz=338,slow=1.6,SNR=3.9						
MKAR	**Makanchi Array**	**156.23**	**52**	PKPab	**PKPab**	**15 42 17.0**	**+1.3**
	0.3nm,0.9s,baz=270,slow=5.2,SNR=2.7						

*IDC **01** 15:26:53.6±0.8, 34°.25S×73°.70W, h0km, mb4.0/7, mb1 4.2/9, mb1mx4.0/30, mbtmp4.0/9, ML4.1/2, Error ellipse: s-maj=26.3km s-min=21.6km az=97.0*
*ISCJB **01** 15:26:56.7±0.7, 34°.32S±0°.08×73°.60W±0°.10, h33km, mb4.0/7, Error ellipse: s-maj=12.6km s-min=10.2km az=38.2*
*NEIC **01** 15:26:56.3±4.4, 34°.25S×73°.70W, h17km±26km, mb4.5/1, Error ellipse: s-maj=16.3km s-min=8.6km az=94.0*

ISC 01 15:26:58.8±0.8, 34°.27S±0°.10×73°.7W±0°.1, h35km, n17, σ0§61/17, mb4.2/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.29**	**61**	Pn	**Pn**	**15 28 14.7**	**-0.6**
	0.3nm,0.3s,baz=240,slow=12,SNR=6.3						
CFAA				Sn	**Sn**	**15 29 15.6**	**+0.6**
	0.4nm,0.3s,baz=335,slow=15,SNR=7.3						
PLCA	**Paso Flores**	**6.92**	**160**	Pn	**Pn**	**15 28 36.7**	**-1.0**
	0.9nm,0.3s,baz=348,slow=12,SNR=4.1						
TRQA	**Tornquist**	**10.18**	**115**	*e*P	**Pn**	**15 29 22.6**	**+0.2**
	2.7nm,0.6s						
LPAZ	**La Paz**	**18.58**	**17**	P	**Pn**	**15 31 14.0**	**0.0**
	0.2nm,0.3s,baz=185,slow=6.6,SNR=14						
SIV	**San Ignacio**	**21.44**	**35**	P	**P**	**15 31 43.1**	**-0.9**
	4.6nm,0.9s,baz=232,slow=12,SNR=9.7						
QSPA	**South Pole Qui**	**55.97**	**180**	P	**P**	**15 36 33.7**	**+0.3**
	2.9nm,1.0s,baz=157,slow=6.0,SNR=6.0						
QSPA	**South Pole Qui**	**55.97**	**180**	*e*P	**P**	**15 36 34.1**	**+0.7**
	5.3nm,1.1s						
TXAR	**Lajitas Array**	**69.32**	**332**	P	**P**	**15 38 02.5**	**-0.2**
	1.4nm,0.6s,baz=153,slow=8.4,SNR=8.1						
DBIC	**Dimbokro**	**76.55**	**72**	P	**P**	**15 38 45.3**	**-0.5**
	2.4nm,0.7s,baz=194,slow=7.5,SNR=3.6						
NVAR	**Mina Array Bea**	**83.34**	**326**	P	**P**	**15 39 22.5**	**+0.3**
	0.5nm,0.6s,baz=157,slow=6.6,SNR=5.4						
PDAR	**Pinedale Array**	**83.40**	**334**	P	**P**	**15 39 22.2**	**-0.2**
	1.0nm,1.1s,baz=172,slow=4.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**85.58**	**71**	P	**P**	**15 39 34.2**	**+0.4**
	1.4nm,0.7s,baz=267,slow=3.4,SNR=8.1						
BVAR	**Borovoye Array**	**148.40**	**43**	PKPbc	**PKPbc**	**15 46 41.6**	**+0.6**
	0.9nm,0.5s,baz=292,slow=4.5,SNR=7.4						
AAK	**Ala-Archa**	**153.83**	**62**	PKPbc	**PKPbc**	**15 46 55.3**	**+1.0**
	0.9nm,0.9s,baz=279,slow=6.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**155.16**	**31**	PKPbc	PKPdf	15 46 56.4	+8.8
	0.2nm,0.3s,baz=285,slow=2.9,SNR=4.4						
MKAR	**Makanchi Array**	**157.96**	**48**	PKPab	**PKPab**	**15 47 25.0**	**+0.2**
	1.2nm,0.7s,baz=306,slow=4.2,SNR=13						
SONM	**Songino Array**	**166.44**	**360**	PKPab	**PKPab**	**15 48 02.3**	**+0.4**
	0.5nm,0.8s,baz=48,slow=2.1,SNR=2.6						

*IDC **01** 15:30:52.8±0.6, 35°.38S×73°.10W, h0km, mb4.2/11, mb1 4.4/14, mb1mx4.2/29, mbtmp4.2/14, ML3.9/3, MS4.2/2, Ms1 4.2/2, ms1mx3.3/27, Error ellipse: s-maj=23.1km s-min=14.1km az=89.0*
*ISCJB **01** 15:30:53.8±0.5, 35°.42S±0°.04×73°.13W±0°.09, h17km, mb4.5/16, MS4.2/2, Error ellipse: s-maj=11.2km s-min=6.0km az=7.0*
*NEIC **01** 15:30:57.6±2.8, 35°.41S×73°.13W, h33km±19km, mb4.6/4, Error ellipse: s-maj=14.6km s-min=6.2km az=96.0*

ISC 01 15:30:55.2±0.5, 35°.40S±0°.06×73°.22W±0°.10, h17km, n51, σ0§75/52, mb4.5/16, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.62**	**49**	Pn	**Pn**	**15 32 18.2**	**+0.2**
	1.3nm,0.3s,baz=221,slow=14,SNR=13						
CFAA				Sn	**Sn**	**15 33 23.3**	**+1.0**
	0.9nm,0.3s,baz=219,slow=14,SNR=3.1						
PLCA	**Paso Flores**	**5.73**	**159**	Pn	**Pn**	**15 32 18.7**	**-0.8**
	1.4nm,0.3s,baz=320,slow=13,SNR=3.0						
PLCA				Sn	**Sn**	**15 33 25.9**	**+1.0**
	5.7nm,0.3s,baz=285,slow=2.8,SNR=4.3						
PLCA	**Paso Flores**	**5.73**	**159**	*e*P	**Pn**	**15 32 18.5**	**-1.0**
	244nm,0.9s						
PLCA				Sn	**Sn**	**15 33 25.9**	**+1.0**
TRQA	**Tornquist**	**9.41**	**110**	*e*P	**Pn**	**15 33 10.2**	**+0.2**
	27nm,0.6s						
CPUP	**Villa Florida**	**16.35**	**61**	Pn	**P**	**15 34 45.6**	**-1.1**
	0.5nm,0.3s,baz=218,slow=11,SNR=4.5						
EFI	**East Falkland**	**19.57**	**151**	P	**P**	**15 35 21.3**	**-0.7**
	44nm,0.8s						
LPAZ	**La Paz**	**19.57**	**15**	P	**Pn**	**15 35 25.2**	**+0.9**
	0.5nm,0.3s,baz=170,slow=7.1,SNR=14						
LPAZ	**La Paz**	**19.57**	**15**	*e*P	**P**	**15 35 22.9**	**0.0**
	38nm,1.3s						
USHA	**Ushuaia**	**19.71**	**172**	P	**Pn**	**15 35 25.3**	**+0.2**
	0.3nm,0.3s,baz=323,slow=7.3,SNR=4.8						
SIV	**San Ignacio**	**22.17**	**32**	P	**P**	**15 35 49.8**	**-0.7**
	5.2nm,0.5s,baz=211,slow=9.0,SNR=19						
SAML	**Samuel**	**27.88**	**22**	*e*P	**P**	**15 36 43.6**	**-0.6**
	6.0nm,1.2s						
BDFB	**Brasilia**	**29.93**	**55**	P	**P**	**15 37 01.2**	**-1.3**
	2.2nm,0.4s,baz=260,slow=6.5,SNR=5.1						
PMSA	**Palmer Station**	**29.93**	**172**	P	**P**	**15 37 03.0**	**+1.1**
	36nm,0.5s,baz=18,slow=11,SNR=4.9						
RPN	**Rapa Nui**	**31.82**	**275**	LR	LR	15 46 35.0	
	comp=Z,260nm,19.4s,baz=137,slow=30						
RCBR	**Riachuelo**	**45.21**	**58**	LR	LR	16 01 08.9	
	comp=Z,491nm,18.0s,baz=173,slow=40						
VNA3	**Neumayer Olymp**	**48.44**	**157**	P	**P**	**15 39 36.6**	**+0.4**
VNA2	**Neumayer--Watz**	**49.11**	**157**	P	**P**	**15 39 41.7**	**+0.4**
SNAA	**Sanae**	**50.67**	**157**	P	**P**	**15 39 53.4**	**+0.2**
SNAA	**Sanae**	**50.67**	**157**	P	**P**	**15 39 53.4**	**+0.2**
	3.2nm,0.6s,baz=278,slow=8.0,SNR=32						
SNAA	**Sanae**	**50.67**	**157**	*e*P	**P**	**15 39 53.2**	**0.0**
	17nm,0.9s						
QSPA	**South Pole Qui**	**54.84**	**180**	P	**P**	**15 40 24.9**	**+0.6**
	4.7nm,1.0s,baz=166,slow=1.6,SNR=12						
QSPA	**South Pole Qui**	**54.84**	**180**	*e*P	**P**	**15 40 24.2**	**0.0**
TXAR	**Lajitas Array**	**70.49**	**332**	P	**P**	**15 42 10.2**	**+1.3**
	0.4nm,0.4s,baz=153,slow=9.1,SNR=3.4						
LIC	**Lamto**	**76.14**	**72**	*e*P	**P**	**15 42 42.1**	**-0.4**
	41nm,1.1s						
TIC	**Toumodi**	**76.40**	**72**	*e*P	**P**	**15 42 43.6**	**-0.4**
	14nm,0.2s						
KIC	**Kosan Boka**	**76.44**	**72**	*e*P	**P**	**15 42 44.0**	**-0.2**
	13nm,0.6s						
DBIC	**Dimbokro**	**76.55**	**72**	P	**P**	**15 42 45.0**	**+0.1**
	4.6nm,0.6s,baz=201,slow=4.9,SNR=7.1						
BOSA	**Boshof**	**80.28**	**118**	P	**P**	**15 43 05.1**	**-0.4**
	4.3nm,0.7s,baz=234,slow=4.6,SNR=11						
NVAR	**Mina Array Bea**	**84.48**	**326**	P	**P**	**15 43 27.2**	**+0.1**
	0.3nm,0.6s,baz=129,slow=7.2,SNR=2.8						
PDAR	**Pinedale Array**	**84.58**	**334**	P	**P**	**15 43 28.8**	**+1.3**
	0.2nm,0.5s,baz=126,slow=4.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**85.60**	**71**	P	**P**	**15 43 32.6**	**-0.4**
	2.6nm,0.9s,baz=261,slow=4.6,SNR=10						
TORD				PP	**PP**	**15 46 54.3**	**+2.3**
	0.6nm,0.7s,baz=261,slow=5.0,SNR=4.6						
ULM	**Lac du Bonnet**	**87.60**	**346**	P	**P**	**15 43 42.1**	**+0.2**
	3.1nm,0.9s,baz=207,slow=2.4,SNR=3.4						
ASAR	**Alice Springs**	**115.88**	**208**	PKKPbc	PKKPbc	16 00 08.1	+0.2
	0.4nm,0.8s,baz=342,slow=3.3,SNR=7.2						
ASAR				PKKPab	**PKKPab**	**16 00 16.1**	**-0.2**
	0.2nm,0.5s,baz=333,slow=3.3,SNR=6.1						
ASAR				PKKP	**PKKPdf**	**16 00 31.8**	**-0.1**
	0.3nm,0.8s,baz=345,slow=3.8,SNR=3.7						
WRA	**Warramunga Arr**	**119.07**	**210**	PKP	**PKPdf**	**15 49 42.4**	**-1.2**
	0.3nm,0.4s,baz=153,slow=1.5,SNR=5.7						
AKASG	**Malin Array Be**	**123.85**	**49**	PKP	**PKPdf**	**15 49 50.5**	**-1.2**
	0.2nm,0.4s,baz=265,slow=2.6,SNR=4.2						
FINES	**FINESS Array B**	**124.69**	**35**	PKP	**PKPdf**	**15 49 52.9**	**0.0**
	2.1nm,0.9s,baz=134,slow=4.0,SNR=3.2						
H11S2	**WAKE ISLAND Hyl**	**24.77**	**269**	T	T	18 07 27.5	
	baz=118,slow=74,SNR=5.9						
H11S1	**WAKE ISLAND Hyl**	**24.78**	**269**	T	T	18 07 37.8	
	baz=118,slow=74,SNR=4.3						
H11S3	**WAKE ISLAND Hyl**	**24.79**	**269**	T	T	18 07 27.0	
	baz=118,slow=74,SNR=3.5						
ARCES	**ARCESS Array B**	**125.69**	**25**	PKP	**PKPdf**	**15 49 54.5**	**-0.1**
	0.9nm,0.6s,baz=251,slow=2.8,SNR=4.5						
ABKAR	**Akbulak array**	**143.31**	**53**	*e*PKPpre	PKPpre	15 50 24.2	
BRVK	**Borovoye**	**148.89**	**44**	*e*PKPbc	**PKPbc**	**15 50 41.8**	**+0.4**
BVAR	**Borovoye Array**	**148.96**	**44**	PKPbc	**PKPbc**	**15 50 42.0**	**+0.5**
	3.9nm,0.5s,baz=304,slow=3.0,SNR=32						
HYB	**Hyderabad**	**149.18**	**118**	*i* PKP	**PKPbc**	**15 50 42.0**	**-1.2**
YAK	**Yakutsk**	**149.70**	**339**	*e*PKPbc	**PKPbc**	**15 50 42.4**	**-0.6**
KKAR	**Karatay Array**	**151.05**	**64**	*e*PKPbc	**PKPbc**	**15 50 46.5**	**-0.5**
AAK	**Ala-Archa**	**154.01**	**64**	PKPbc	**PKPbc**	**15 50 54.3**	**+0.5**
	1.3nm,0.7s,baz=270,slow=2.4,SNR=7.0						
AAK	**Ala-Archa**	**154.01**	**64**	*e*PKPbc	**PKPbc**	**15 50 54.1**	**+0.3**
ZALV	**Zalesovo Beam**	**155.93**	**33**	PKP	**PKPdf**	**15 50 47.3**	**-0.5**
	1.7nm,0.9s,baz=325,slow=2.3,SNR=6.3						
ZALV				PKPab	**PKPab**	**15 51 15.0**	**+0.2**
	2.9nm,0.6s,baz=308,slow=4.4,SNR=9.5						
MKAR	**Makanchi Array**	**158.41**	**51**	PKP	**PKPdf**	**15 50 51.2**	**0.0**
	0.4nm,0.8s,baz=247,slow=0.6,SNR=4.3						
MKAR				PKPab	**PKPab**	**15 51 25.5**	**-0.4**
	0.8nm,0.6s,baz=273,slow=3.9,SNR=8.0						
SONM	**Songino Array**	**167.57**	**1**	PKPab	**PKPab**	**15 52 06.3**	**+0.3**
	0.2nm,0.4s,baz=332,slow=3.2,SNR=4.5						

IDC 01 15:31:25.2±1.4, 34°.40S×70°.91W, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.3/15, mbtmp4.4/4, Error ellipse: s-maj=67.7km s-min=32.8km az=39.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**52.54**	**336**	P	P	15 40 40.7	0.0
	5.4nm,1.0s,baz=74,slow=10,SNR=3.8						
RKT	**Rikitea**	**56.46**	**263**	*e*LR	LR	15 56 09.7	
	268nm,26.5s						
TXAR	**Lajitas Array**	**70.55**	**330**	P	P	15 42 41.9	-0.2
	2.1nm,0.8s,baz=160,slow=9.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**83.47**	**69**	P	P	15 43 55.8	+0.7
	2.1nm,0.7s,baz=230,slow=4.7,SNR=5.6						
PDAR	**Pinedale Array**	**84.55**	**332**	P	P	15 44 00.8	+0.6
	4.1nm,1.2s,baz=158,slow=4.8,SNR=8.1						
DZM	**Mont Dzumac**	**101.75**	**233**	*e*LR	LR	16 16 46.2	
	141nm,23.2s						
BRTR	**Keskin Array B**	**121.21**	**61**	PKP	PKPdf	15 50 18.4	-1.7
	1.4nm,0.7s,baz=196,slow=2.6,SNR=9.5						
BVAR	**Borovoye Array**	**146.93**	**44**	PKPbc	PKPab	15 51 10.4	-0.1
	4.9nm,0.7s,baz=279,slow=5.5,SNR=9.5						
PSI	**Prapat**	**147.16**	**161**	PKPbc	PKPbc	15 51 10.4	-0.7
	11nm,0.9s,baz=256,slow=6.3,SNR=4.8						
AAK	**Ala-Archa**	**151.86**	**63**	PKPbc	PKPbc	15 51 20.9	-1.1
	2.9nm,0.8s,baz=141,slow=5.9,SNR=7.0						
AAK				PKPab	PKPab	15 51 30.9	-0.3
	3.6nm,0.7s,baz=192,slow=4.6,SNR=5.1						
ZALV	**Zalesovo Beam**	**154.05**	**34**	PKPab	PKPab	15 51 36.9	-2.8
	1.5nm,0.6s,baz=318,slow=3.9,SNR=2.7						
MKAR	**Makanchi Array**	**156.31**	**50**	PKPab	PKPab	15 51 50.2	+0.5
	1.2nm,0.8s,baz=272,slow=3.9,SNR=4.7						

*ISCJB **01** 15:40:19.7±1.6, 38°.3S±0°.1×73°.4W±0°.4, h25km, mb3.9/6, Error ellipse: s-maj=40.6km s-min=14.7km az=3.5*
*IDC **01** 15:40:25.0±3.8, 38°.42S×73°.06W, h44km±27km, mb3.8/6, mb1 3.8/8, mb1mx3.7/18, mbtmp3.9/8, ML3.5/2, Error ellipse: s-maj=61.1km s-min=19.6km az=93.0*

ISC 01 15:40:22.1±1.5, 38°.4S±0°.1×73°.3W±0°.3, h25km, n11, σ1§04/12, mb4.0/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.15**	**139**	P	**Pn**	**15 41 11.1**	**+0.9**
	2.1nm,0.3s,baz=277,slow=6.2,SNR=7.6						
CFAA	**Coronel Fontan**	**7.91**	**33**	P	**Pn**	**15 42 15.1**	**-0.5**
	0.2nm,0.3s,baz=207,slow=15,SNR=5.9						
LPAZ	**La Paz**	**22.46**	**13**	P	**P**	**15 45 22.4**	**+2.4**
	1.3nm,0.6s,baz=203,slow=7.7,SNR=6.2						
SIV	**San Ignacio**	**24.75**	**29**	P	**P**	**15 45 41.6**	**-0.1**
	3.0nm,0.9s,baz=206,slow=8.6,SNR=5.4						
QSPA	**South Pole Qui**	**51.87**	**180**	P	**P**	**15 49 27.8**	**-0.2**
	2.0nm,0.8s,baz=185,slow=1.2,SNR=8.2						
DBIC	**Dimbokro**	**77.53**	**71**	P	**P**	**15 52 16.0**	**0.0**
	1.8nm,0.6s,baz=228,slow=5.5,SNR=3.3						
BOSA	**Boshof**	**78.92**	**118**	P	**P**	**15 52 23.6**	**-0.1**
	1.2nm,0.6s,baz=232,slow=12,SNR=4.3						
TORD	**Torodi Ar. Bea**	**86.62**	**70**	P	**P**	**15 53 02.6**	**-1.0**
	0.7nm,0.7s,baz=236,slow=4.0,SNR=5.2						
BVAR	**Borovoye Array**	**151.06**	**48**	PKPbc	**PKPbc**	**16 00 12.0**	**-0.2**
	1.2nm,0.6s,baz=289,slow=4.5,SNR=10						
BVAR				PKPab	**PKPab**	**16 00 20.7**	**+0.8**
	0.7nm,0.7s,baz=14,slow=1.3,SNR=3.6						
AAK	**Ala-Archa**	**155.21**	**70**	PKPab	**PKPab**	**16 00 37.5**	**-0.5**
	0.7nm,0.6s,baz=10,slow=2.9,SNR=4.3						
MKAR	**Makanchi Array**	**160.19**	**57**	PKPab	**PKPab**	**16 00 58.2**	**-1.0**
	0.4nm,0.7s,baz=284,slow=2.7,SNR=5.2						

*GUC **01** 15:42:56.6±0.3, 36°.04S×72°.17W, h16km±5km, ML5.0*
*ISCJB **01** 15:42:59.3±1.0, 36°.01S±0°.04×72°.05W±0°.10, h62km±9km, mb4.7/30, Error ellipse: s-maj=13.5km s-min=6.5km az=173.7*
*IDC **01** 15:42:59.5±0.5, 35°.94S×72°.08W, h50km±4km, mb4.3/12, mb1 4.4/16, mb1mx4.3/27, mbtmp4.5/16, MS2.9/2, Ms1 3.0/2, ms1mx2.9/24, Error ellipse: s-maj=18.5km s-min=13.3km az=81.0*
*NEIC **01** 15:42:59.4±0.2, 35°.90S×72°.12W, mb4.8/21, Error ellipse: s-maj=9.2km s-min=6.0km az=75.0*

ISC 01 15:42:59.5±0.4, 35°.94S±0°.05×72°.20W±0°.08, h53km±3km, h53km: pP-P, n185, σ1§21/226, mb4.7/30, 52C-61D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**2.08**	**18**	*e*P	**Pn**	**15 43 32.2**	**+0.3**
CHCH	**Chadas Angostu**	**2.37**	**33**	*e*P	**Pn**	**15 43 36.2**	**+0.3**
ANTU	**Antumapu**	**2.69**	**29**	*e*P	**Pn**	**15 43 40.9**	**+0.6**
ANTU				*e*S	**Sn**	**15 44 14.4**	**+2.7**
ANTU				AML	AML	15 44 30.8	
	comp=N,11μm,0.7s						
RCDM	**Rinconada Maip**	**2.70**	**26**	*e*P	**Pn**	**15 43 40.8**	**+0.4**
RCDM				*e*S	**Sn**	**15 44 14.4**	**+2.5**
RCDM				AML	AML	15 44 22.2	
	comp=E,4μm,0.5s						
STL	**Santa Lucia**	**2.81**	**28**	*e*P	**Pn**	**15 43 42.4**	**+0.5**
STL				*e*S	**Sn**	**15 44 17.1**	**+2.6**
STL				AML	AML	15 44 35.3	
	comp=E,739nm,0.7s						
FCH	**Farellones**	**3.04**	**32**	*e*S	**Sn**	**15 44 23.9**	**+3.2**
FCH				AML	AML	15 44 34.4	
	comp=N,5μm,0.4s						
PEL	**Peldehue**	**3.05**	**25**	*e*P	**Pn**	**15 43 45.8**	**+0.5**
PEL				*e*S	**Sn**	**15 44 23.3**	**+2.7**
PEL				AML	AML	15 44 39.4	
	comp=N,8μm,0.3s						
PLCA	**Paso Flores**	**4.96**	**165**	P	**Pn**	**15 44 12.7**	**+1.3**
	comp=N,11nm,0.3s,baz=339,slow=14,SNR=9.3						
PLCA	**Paso Flores**	**4.96**	**165**	*e*P	**Pn**	**15 44 12.3**	**+0.8**
CFAA	**Coronel Fontan**	**5.44**	**38**	P	**Pn**	**15 44 18.4**	**+0.5**
	comp=N,1.9nm,0.3s,baz=218,slow=14,SNR=28						
CFAA				LR	LR	15 46 04.4	
	comp=N,21nm,20.4s,baz=232,slow=34						
TRQA	**Tornquist**	**8.45**	**108**	*e*P	**Pn**	**15 44 59.8**	**+0.7**
	comp=N,81nm,1.1s						
LVC	**Limon Verde**	**13.58**	**13**	*e*P	**Pn**	**15 46 09.7**	**+0.1**
	comp=N,11nm,0.5s						
LVC				*e*S	Sn	15 48 47.1	+8.0
CPUP	**Villa Florida**	**15.91**	**57**	P	**Pn**	**15 46 40.0**	**+0.1**
	comp=N,1.0nm,0.3s,baz=224,slow=15,SNR=6.9						
CPUP				LR	LR	15 53 20.2	
	comp=N,328nm,21.9s,baz=209,slow=39						
CPUP	**Villa Florida**	**15.91**	**57**	*e*P	**Pn**	**15 46 38.0**	**-1.9**
	comp=N,0.3nm,0.6s						
EFI	**East Falkland**	**18.70**	**152**	P	**P**	**15 47 11.7**	**-1.5**
USHA	**Ushuaia**	**19.07**	**173**	P	**Pn**	**15 47 20.5**	**+2.0**
	comp=N,0.5nm,0.3s,baz=324,slow=13,SNR=3.2						
LPAZ	**La Paz**	**19.90**	**12**	P	**Pn**	**15 47 29.1**	**-0.1**
	comp=N,0.9nm,0.3s,baz=185,slow=8.0,SNR=28						
LPAZ	**La Paz**	**19.90**	**12**	*e*P	**Pn**	**15 47 28.8**	**-0.4**
	comp=N,131nm,0.6s						
SIV	**San Ignacio**	**22.21**	**29**	P	**P**	**15 47 50.3**	**-1.2**
	comp=N,27nm,0.6s,baz=210,slow=9.7						
NNA	**Nana**	**24.21**	**349**	P	**P**	**15 48 12.0**	**+0.8**
	comp=N,4.3nm,0.4s,baz=196,slow=7.0,SNR=3.6						
SAML	**Samuel**	**28.09**	**19**	*e*P	**P**	**15 48 44.0**	**-2.2**
	comp=N,2.6nm,0.8s						
BDFB	**Brasilia**	**29.57**	**53**	P	**P**	**15 48 58.3**	**-1.1**
	comp=N,3.7nm,0.5s,baz=227,slow=9.3,SNR=6.5						
SNAA	**Sanae**	**49.85**	**157**	P	**P**	**15 51 46.6**	**-0.2**
	comp=N,3.4nm,0.9s,baz=277,slow=4.9,SNR=14						
SNAA	**Sanae**	**49.85**	**157**	*e*P	**P**	**15 51 46.8**	**-0.1**
	comp=N,42nm,1.5s						
CELP	**Cerrillos**	**53.98**	**7**	*e*P	**P**	**15 52 17.2**	**-0.9**
CELP				*e*pP	**pP**	**15 52 31.2**	**-1.2**
QSPA	**South Pole Qui**	**54.30**	**180**	P	**P**	**15 52 20.9**	**+0.8**
	comp=N,7.3nm,0.7s,baz=156,slow=5.4,SNR=38						
QSPA	**South Pole Qui**	**54.30**	**180**	*e*P	**P**	**15 52 20.8**	**+0.6**
	comp=N,8.0nm,0.8s						
QSPA				*e*pP	**pP**	**15 52 35.4**	**+0.9**
934A	**Benavides**	**67.90**	**335**	⇓P	**P**	**15 53 54.2**	**+1.9**
	baz=68						
833A	**Chaparral WMA,**	**68.86**	**334**	⇓P	**P**	**15 53 59.9**	**+1.5**
	baz=69						
632A	**Uvalde**	**70.08**	**335**	⇓P	**P**	**15 54 07.4**	**+1.5**
	baz=70						
631A	**Perdido Creek**	**70.28**	**334**	⇑P	**P**	**15 54 08.3**	**+1.2**
	baz=71						
532A	**Rocksprings**	**70.69**	**335**	⇑P	**P**	**15 54 10.8**	**+1.2**
	baz=71,SNR=5.9						
434A	**Burnet**	**70.77**	**336**	⇑P	**P**	**15 54 11.2**	**+1.1**
	baz=71						
336A	**Riesel**	**70.85**	**338**	⇑P	**P**	**15 54 11.6**	**+1.1**
	baz=71						
531A	**Rocksprings**	**70.95**	**334**	⇓P	**P**	**15 54 12.5**	**+1.3**
	baz=71						
JCT	**Junction City**	**70.98**	**335**	⇓P	**P**	**15 54 12.3**	**+1.0**
	baz=71						
JCT	**Junction City**	**70.98**	**335**	*e*P	**P**	**15 54 12.0**	**+0.6**
	comp=N,24nm,1.3s						
JCT				*e*pP	**pP**	**15 54 26.0**	**-0.3**
433A	**Art**	**70.99**	**336**	⇑P	**P**	**15 54 12.3**	**+0.9**
	baz=71						
530A	**J-C Ranch, Com**	**71.22**	**334**	⇑P	**P**	**15 54 14.1**	**+1.3**
	baz=72						
334A	**Lometa**	**71.24**	**

DBIC pP **pP** **15 54 55.9 0.0**
comp=N,5.6nm,0.6s,baz=215,slow=3.8,SNR=4.2
X26A CR and CF Fran 76.08 334 ⇓P **P** **15 54 42.5 +1.2**
baz=76
Z22A Elephant Butte 76.13 331 ⇓P **P** **15 54 42.8 +1.0**
baz=76
W27A Bowe Ranch, En 76.27 334 ⇓P **P** **15 54 43.5 +1.0**
baz=77,SNR=5.8
Y23A Lovelace Mesa, 76.37 332 ⇓P **P** **15 54 44.4 +1.3**
baz=77
W26A Owens Ranch, T 76.55 334 ⇑P **P** **15 54 45.1 +1.1**
baz=77
W25A X Bar L Ranch, 76.91 333 ⇓P **P** **15 54 47.1 +1.0**
baz=77
LPM Los Pinos Moun 76.93 331 *e*P **P** **15 54 45.8 -0.5**
comp=N,5.2nm,0.9s
LPM *e*pP **pP** **15 55 01.3 0.0**
W24A Lazy 6 Ranch, 77.25 333 ⇓P **P** **15 54 49.2 +1.1**
baz=78
ANMO Albuquerque 77.42 332 P **P** **15 54 49.3 +0.4**
ANMO *e*pP **pP** **15 55 04.4 +0.3**
V25A Rancho No Teng 77.52 334 ⇓P **P** **15 54 50.6 +1.1**
baz=78,SNR=5.5
T28A Walsh 77.81 336 ⇓P **P** **15 54 51.8 +0.8**
baz=78,SNR=5.1
U25A Circle Dot Ran 77.95 334 ⇓P **P** **15 54 53.2 +1.3**
baz=78
T27A Campo 77.96 335 ⇓P **P** **15 54 53.8 +1.9**
baz=78
R31A Burdett 78.07 338 ⇓P **P** **15 54 53.8 +1.4**
baz=78
S28A Manter 78.17 336 ⇓P **P** **15 54 54.4 +1.4**
baz=78,SNR=6.7
T26A Comanche Natio 78.36 335 ⇓P **P** **15 54 55.3 +1.2**
baz=79
V22A San Miguel Ran 78.44 332 ⇑P **P** **15 54 56.5 +1.8**
baz=79,SNR=7.2
T25A Trinidad 78.61 334 ⇓P **P** **15 54 57.6 +2.0**
baz=79,SNR=5.9
S26A Kim 78.72 335 ⇓P **P** **15 54 57.6 +1.5**
baz=79
R28A Tribune 78.82 337 ⇑P **P** **15 54 57.7 +1.2**
baz=79,SNR=5.2
T24B San Luis 78.89 334 ⇑P **P** **15 54 58.8 +1.6**
baz=79
Q30A Quinter 78.91 338 ⇓P **P** **15 54 58.5 +1.5**
baz=79,SNR=5.6
X16A Lo Mia Camp, P 79.00 328 ⇓P **P** **15 54 59.0 +1.3**
baz=79
Q29A Oakley 79.06 338 ⇑P **P** **15 54 59.0 +1.2**
baz=79
R27A Eads 79.09 336 ⇑P **P** **15 54 59.0 +0.9**
baz=79,SNR=6.3
BOSA Boshof 79.29 117 P **P** **15 54 59.3 -0.4**
comp=N,21nm,0.8s,baz=228,slow=3.9,SNR=33
R26A Arlington 79.33 335 ⇓P **P** **15 55 01.0 +1.6**
baz=80
S24A Houchin Ranch, 79.35 334 ⇑P **P** **15 55 01.3 +1.6**
baz=80,SNR=5.9
P29A Atwood 79.70 338 ⇑P **P** **15 55 02.4 +1.1**
baz=80,SNR=5.0
R24A Sanders Place, 79.84 334 ⇓P **P** **15 55 03.7 +1.5**
baz=80,SNR=5.0
P28A Saint Francis 79.93 337 ⇑P **P** **15 55 04.3 +1.8**
baz=80
S22A 4UR Ranch, Cre 80.03 333 ⇓P **P** **15 55 05.0 +1.6**
baz=80
BC3 Big Chuckawall 80.17 325 ⇓P **P** **15 55 05.8 +1.8**
baz=80
P26A Davis Ranch, A 80.43 336 ⇑P **P** **15 55 07.0 +1.6**
baz=81
Q24A Divide 80.50 335 ⇑P **P** **15 55 06.8 +0.8**
baz=81,SNR=6.1
PFO Pinyon Flats O 80.61 324 ⇑P **P** **15 55 08.0 +1.6**
baz=81
U15A North Rim 81.07 328 ⇓P **P** **15 55 10.8 +1.8**
baz=81
GMRC Granite Mounta 81.19 325 ⇓P **P** **15 55 11.3 +1.8**
baz=82
ISCO Idaho Springs 81.41 335 ⇓P **P** **15 55 13.1 +2.3**
baz=82
LBTB Lobatse 81.61 115 *e*P **P** **15 55 11.3 -0.8**
LBTB pP **pP** **15 55 26.5 -0.8**
TUQ Turquoise Moun 81.86 325 ⇑P **P** **15 55 15.4 +2.4**
baz=82
O23A Lake Granby, G 81.88 335 ⇑P **P** **15 55 14.2 +1.0**
baz=82
ECSD EROS Data Cent 82.35 342 ⇓P **P** **15 55 15.4 +0.2**
baz=83,SNR=6.6
ECSD EROS Data Cent 82.35 342 *e*P **P** **15 55 15.1 -0.1**
comp=N,16nm,0.8s
ECSD *e*pP **pP** **15 55 29.6 -0.8**
ARUT Antelope Range 82.71 328 *e*P **P** **15 55 18.5 +1.1**
comp=N,40nm,0.7s
ARUT *e*pP **pP** **15 55 32.9 +0.3**
J29A Okreek 83.02 340 ⇓P **P** **15 55 20.0 +1.3**
baz=83
ISA Isabella, Lake 83.25 324 ⇑P **P** **15 55 21.0 +0.8**
baz=84
ISA Isabella, Lake 83.25 324 *e*P **P** **15 55 19.2 -0.9**
comp=N,8.9nm,1.0s
ISA *e*pP **pP** **15 55 36.0 +0.6**
J27A Elkhorn Farm, 83.36 339 ⇑P **P** **15 55 21.7 +1.2**
baz=84
I28A Midland 83.81 339 ⇓P **P** **15 55 23.8 +1.1**
baz=84
R11A Troy Canyon, C 84.11 327 ⇑P **P** **15 55 26.2 +1.6**
baz=84
H29A Onida 84.11 340 ⇑P **P** **15 55 25.3 +1.0**
baz=84
JLU Jordanelle 84.28 331 *e*P **P** **15 55 26.5 +1.0**
comp=N,4.6nm,0.7s
JLU *e*pP **pP** **15 55 40.4 -0.4**
DUG Dugway, Tooele 84.48 330 ⇑P **P** **15 55 27.4 +1.0**
baz=85
DUG Dugway, Tooele 84.48 330 *e*P **P** **15 55 27.4 +1.0**
comp=N,3.1nm,0.8s
DUG *e*pP **pP** **15 55 41.8 +0.1**
K21A Alcova 84.49 335 ⇓P **P** **15 55 26.5 0.0**
baz=85,SNR=5.6
I25A Rochford 84.58 338 ⇓P **P** **15 55 28.2 +1.3**
baz=85
G28A Parade 84.72 340 ⇓P **P** **15 55 27.9 +0.5**
baz=85
RSSD Black Hills 84.77 338 *e*P **P** **15 55 25.4 -2.4**
comp=N,5.2nm,0.8s
RSSD *e*pP **pP** **15 55 42.1 -1.0**
J22A Midwest 84.92 336 ⇓P **P** **15 55 29.2 +0.6**
baz=85
TORD Torodi Ar. Bea 85.00 70 P **P** **15 55 28.9 -0.5**
comp=N,3.6nm,0.8s,baz=244,slow=5.8,SNR=24
TORD pP **pP** **15 55 43.0 -1.7**
comp=N,4.0nm,1.0s,baz=236,slow=4.6,SNR=8.1
I22A 9 Mile Ranch, 85.35 336 ⇓P **P** **15 55 30.6 -0.1**
baz=86
NVAR Mina Array Bea 85.40 325 P **P** **15 55 32.4 +1.2**
comp=N,1.3nm,0.8s,baz=158,slow=6.0,SNR=8.3
NVAR pP **pP** **15 55 47.0 +0.5**
comp=N,3.5nm,0.8s,baz=157,slow=6.2,SNR=17
G26A Maurine 85.40 339 ⇓P **P** **15 55 31.2 +0.4**
baz=86
J20A Shoshoni 85.42 335 ⇑P **P** **15 55 32.2 +1.2**
baz=86,SNR=6.0
PDAR Pinedale Array 85.43 333 P **P** **15 55 31.5 +0.2**
comp=N,1.0nm,0.9s,baz=149,slow=5.9,SNR=3.6
PDAR pP **pP** **15 55 45.4 -1.1**
comp=N,1.2nm,0.8s,baz=116,slow=3.4,SNR=5.1
H24A Dirks Ranch, A 85.49 338 ⇑P **P** **15 55 31.6 +0.3**
baz=86
I21A Big Trails, Te 85.55 335 ⇑P **P** **15 55 31.7 0.0**
baz=86
J19A Crowheart 85.68 334 ⇓P **P** **15 55 32.7 +0.3**
baz=86,SNR=5.2
HVU Hansel Valley 85.80 331 *e*P **P** **15 55 33.3 +0.3**
comp=N,8.1nm,0.8s
HVU *e*pP **pP** **15 55 47.4 -0.9**
I20A Worland 85.96 335 ⇑P **P** **15 55 34.6 +0.9**
baz=86,SNR=6.2
F25A Bowman 86.23 339 ⇑P **P** **15 55 35.7 +0.8**
baz=87
C30A Mose, Pekin 86.52 343 ⇓P **P** **15 55 36.9 +0.7**
baz=87
I17A Pilgrim Ck. 86.80 333 ⇑P **P** **15 55 38.7 +0.7**
baz=87
G20A Bridger 87.10 335 ⇑P **P** **15 55 39.4 +0.2**
baz=87
H18A Shoshone NF, C 87.13 334 ⇑P **P** **15 55 40.0 +0.5**
baz=88,SNR=6.0
C26A Wahner Farm, P 87.57 340 ⇓P **P** **15 55 42.7 +1.4**
baz=88
YMR Madison River 87.58 333 P **P** **15 55 42.1 +0.3**
comp=N,14nm,1.4s
YMR *e*pP **pP** **15 55 56.8 -0.3**
D23A Lindsay 87.87 338 ⇑P **P** **15 55 44.2 +1.4**
baz=88
HLID Hailey 87.96 331 ⇑P **P** **15 55 44.4 +0.9**
baz=88
D22A Cohagen 88.15 338 ⇓P **P** **15 55 45.4 +1.3**
baz=88
E20A Meyer Farm, Mu 88.20 336 ⇑P **P** **15 55 45.3 +0.9**
baz=88
ULM Lac du Bonnet 88.33 345 P **P** **15 55 44.5 -0.3**
comp=N,2.3nm,0.7s,baz=163,slow=4.8,SNR=4.0
ULM pP **pP** **15 55 59.0 -1.1**
comp=N,8.4nm,0.8s,baz=174,slow=4.1,SNR=10
MCMT McKenzie Canyo 88.42 332 *e*P **P** **15 55 46.1 +0.4**
comp=N,1.0nm,0.6s
MCMT *e*pP **pP** **15 56 01.2 +0.2**
ASAR Alice Springs 115.78 207 pPKP pPKiKP 16 01 50.2 -2.2
comp=N,0.6nm,0.7s,baz=160,slow=1.8,SNR=3.5
WRA Warramunga Arr 119.01 209 PKP **PKPdf** **16 01 41.8 -0.9**
comp=N,0.3nm,0.3s,baz=158,slow=1.7,SNR=9.4
WRA pPKP **pPKPdf** **16 01 56.7 -1.9**
comp=N,1.1nm,0.6s,baz=161,slow=1.6,SNR=5.7
AKASG Malin Array Be 123.58 48 PKP **PKPdf** **16 01 49.6 -0.7**
comp=N,0.1nm,0.3s,baz=265,slow=2.8,SNR=5.7
FINES FINESS Array B 124.65 35 PKP **PKPdf** **16 01 52.2 +0.1**
comp=N,1.2nm,0.8s,baz=194,slow=4.1,SNR=3.0
ARCES ARCESS Array B 125.82 25 PKP **PKPdf** **16 01 54.1 -0.1**
comp=N,3.6nm,1.0s,baz=245,slow=2.6,SNR=6.1
ABKAR Abkulak array 142.96 54 *e*PKPpre PKPpre 16 02 22.4
PSI Prapat 146.02 164 PKPbc **PKPbc** **16 02 33.7 -0.4**
comp=N,11nm,0.8s,baz=158,slow=4.5,SNR=12
BRVK Borovoye 148.69 45 *e*PKPbc **PKPbc** **16 02 40.7 +0.6**
BRVK *e*pPKP **pPKPdf** **16 02 55.5 +3.3**
BVAR Borovoye Array 148.76 45 PKPbc **PKPbc** **16 02 40.8 +0.5**
comp=N,2.0nm,0.4s,baz=288,slow=2.2,SNR=21
BVAR pPKPbc **pPKPbc** **16 02 56.4 +0.2**
comp=N,2.8nm,0.6s,baz=295,slow=3.2,SNR=8.8
YAK Yakutsk 150.50 339 *e*PKPbc **PKPbc** **16 02 43.7 -0.6**
YAK *e*pPKP **pPKPdf** **16 02 58.7 +3.9**
KKAR Karatay Array 150.54 64 *e*PKPbc **PKPbc** **16 02 44.4 -0.6**
EKS2 Erkin-Say 152.96 65 *e*PKPbc **PKPbc** **16 02 50.9 +0.2**
EKS2 *e*pPKP **PKPab** **16 03 05.6 +3.5**
AAK Ala-Archa 153.49 65 PKPbc **PKPbc** **16 02 52.6 +0.7**
comp=N,4.7nm,0.8s,baz=193,slow=3.4,SNR=21
AAK PKPab **PKPab** **16 03 04.4 -0.1**
comp=N,5.2nm,0.8s,baz=148,slow=0.1,SNR=7.5
ZALV Zalesovo Beam 155.91 34 PKP **PKPdf** **16 02 47.1 +0.2**
comp=N,0.7nm,0.7s,baz=320,slow=3.9,SNR=4.8
ZALV PKPbc PKPbc 16 02 56.5
comp=N,0.9nm,0.4s,baz=298,slow=3.2,SNR=5.4
ZALV PKPab **PKPab** **16 03 13.7 -0.4**
comp=N,1.7nm,0.5s,baz=291,slow=4.1,SNR=7.6
ZALV pPKPab **pPKPab** **16 03 28.6 -1.1**
comp=N,2.2nm,0.5s,baz=311,slow=4.8,SNR=4.9
MKAR Makanchi Array 158.09 52 PKP **PKPdf** **16 02 49.3 -0.7**
comp=N,0.7nm,0.8s,baz=270,slow=0.6,SNR=7.3
MKAR pPKP **pPKPdf** **16 03 07.2 +1.2**
comp=N,0.6nm,0.6s,baz=297,slow=2.9,SNR=5.1
MKAR PKPab **PKPab** **16 03 23.5 -0.4**
comp=N,1.9nm,0.8s,baz=291,slow=3.4,SNR=12
MKAR pPKPab **pPKPab** **16 03 39.0 -0.4**
comp=N,0.7nm,0.6s,baz=298,slow=2.8,SNR=3.3
CMAR Chiang Mai Arr 160.91 153 PKP **PKPdf** **16 02 54.3 +0.2**
comp=N,0.7nm,0.9s,baz=239,slow=1.4,SNR=4.5
SONM Songino Array 168.06 5 PKPab **PKPab** **16 04 08.2 +0.7**
comp=N,0.9nm,0.8s,baz=331,slow=3.0,SNR=7.3
SONM pPKPab **pPKPab** **16 04 22.9 -0.1**
comp=N,2.0nm,1.1s,baz=339,slow=2.0,SNR=7.0

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*ISCJB **01** 15:46:55.2±1.0, 34°.65S±0°.1×73°.1W±0°.2, h33km, mb3.9/2, Error ellipse: s-maj=26.7km s-min=10.8km az=35.3*
*IDC **01** 15:46:57.1±1.3, 34°.64S×72°.99W, h29km±5km, mb3.7/2, Error ellipse: s-maj=48.6km s-min=17.9km az=108.0*
ISC 01 15:46:56.4±1.1, 34°.65S±0°.1×73°.3W±0°.2, h35km, n11, σ0.98/15, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.16**	**57**	Pn	**Pn**	**15 48 10.8**	**-0.4**
baz=226,slow=14							
CFAA				Sn	**Sn**	**15 49 09.7**	**+0.2**
0.3nm,0.3s,baz=306,slow=23,SNR=1.8							
LPAZ	**La Paz**	**18.77**	**16**	P	**Pn**	**15 51 14.2**	**+0.4**
baz=214,slow=3.6							
SIV	**San Ignacio**	**21.50**	**34**	P	**P**	**15 51 43.3**	**+1.0**
baz=225,slow=14							
SNAA	**Sanae**	**51.46**	**158**	P	**P**	**15 55 58.3**	**+0.5**
0.8nm,0.6s,baz=288,slow=8.5,SNR=5.7							
QSPA	**South Pole Qui**	**55.68**	**180**	P	**P**	**15 56 29.3**	**+0.4**
baz=161,slow=3.6							
QSPA				pP	**pP**	**15 56 39.2**	**-0.3**
2.7nm,1.0s,baz=160,slow=6.0,SNR=4.1							
DBIC	**Dimbokro**	**76.33**	**72**	P	**P**	**15 58 42.4**	**+0.3**
baz=225,slow=5.7							
BOSA	**Boshof**	**80.72**	**118**	P	**P**	**15 59 06.2**	**-0.2**
baz=225,slow=2.9							
TORD	**Torodi Ar. Bea**	**85.37**	**71**	P	**P**	**15 59 30.1**	**-0.2**
0.7nm,0.7s,baz=234,slow=3.4,SNR=4.3							
TORD				pP	**pP**	**15 59 40.0**	**-1.4**
0.8nm,1.0s,baz=263,slow=5.7,SNR=2.4							
BVAR	**Borovoye Array**	**148.39**	**43**	PKPbc	**PKPab**	**16 06 41.4**	**-0.4**
baz=296,slow=3.3							
BVAR				pPKPbc	**pPKPbc**	**16 06 48.6**	**-1.4**
0.2nm,0.4s,baz=306,slow=3.4,SNR=1.9							
ZALV	**Zalesovo Beam**	**155.24**	**32**	PKPab	**PKPab**	**16 07 09.3**	**-1.1**
baz=284,slow=5.8							
MKAR	**Makanchi Array**	**157.91**	**49**	PKPbc	PKPdf	16 07 02.5	+13
baz=232,slow=2.6							
MKAR				PKPab	**PKPab**	**16 07 24.3**	**+2.1**
0.7nm,0.9s,baz=291,slow=3.8,SNR=3.8							

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*IDC **01** 15:52:13.9±1.4, 26°.21N×129°.22E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/52, mbtmp3.5/4, Error ellipse: s-maj=41.4km s-min=18.2km az=64.0*
*JMA **01** 15:52:18.3±0.3, 25°.93N×128°.57E, h36km, M3.1*
ISC 01 15:52:16.4±2.1, 25°.82N±0°.04×128°.59E±0°.04, h26km±17km, n23, σ1.22/38, mb3.6/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.82**	**293**	P	**Pn**	**15 52 32.6**	**+0.4**
JJT2				S	**Sb**	**15 52 43.8**	**+1.1**
JNTH	**Nagotoyohara**	**0.86**	**324**	P	**Pn**	**15 52 32.3**	**-0.5**
JNTH				*e*S	**Sb**	**15 52 42.4**	**-1.5**
JOW	**Kunigami**	**1.04**	**344**	P	**Pn**	**15 52 35.5**	**+0.1**
JOW				S	**Sn**	**15 52 47.3**	**-1.8**
JOW	**Kunigami**	**1.04**	**344**	Pn	**Pn**	**15 52 35.5**	**+0.1**
5.7nm,0.3s,baz=121,slow=26,SNR=92							
JOW				Sn	**Sn**	**15 52 47.8**	**-1.4**
baz=112,slow=19							
JIH	**Iheya**	**1.33**	**335**	P	**Pn**	**15 52 39.9**	**+0.6**
JIH				S	**Sn**	**15 52 55.3**	**-0.8**
JAGN	**Aguni-jima**	**1.43**	**303**	P	**Pn**	**15 52 41.4**	**+0.8**
JAGN				S	**Sn**	**15 52 59.2**	**+0.6**
JOKE	**Okinoerabujima**	**1.53**	**359**	P	**Pn**	**15 52 42.6**	**+0.5**
JOKE				S	**Sn**	**15 53 00.1**	**-1.1**
JKE	**Kume jima 2**	**1.70**	**288**	P	**Pn**	**15 52 44.7**	**+0.4**
JKE				S	**Sn**	**15 53 04.2**	**-1.0**
JTK	**Tokunoshima**	**1.98**	**9**	P	**Pn**	**15 52 49.0**	**+0.7**
JTK				*e*S	**Sn**	**15 53 11.0**	**-1.3**
JMZ	**Minamidaito 2**	**2.37**	**89**	P	**Pn**	**15 52 54.1**	**+0.5**
JMZ				S	**Sn**	**15 53 20.1**	**-1.7**
JAMN	**Amaminishikomi**	**2.47**	**12**	P	**Pn**	**15 52 55.8**	**+0.9**
JAMN				S	**Sn**	**15 53 23.4**	**-0.8**
JAM	**Amami Oshima**	**2.73**	**19**	P	**Pn**	**15 52 58.9**	**+0.3**
JAM				*e*S	**Sn**	**15 53 29.7**	**-1.1**
JOGS	**Gusukube**	**3.07**	**251**	P	**Pn**	**15 53 04.7**	**+1.5**
JOGS				*e*S	**Sn**	**15 53 39.1**	**+0.1**
JIKM	**Ikemajima**	**3.15**	**254**	P	**Pn**	**15 53 05.6**	**+1.3**
JIKM				*e*S	**Sn**	**15 53 41.3**	**+0.2**
JIRB	**Irabujima**	**3.25**	**253**	P	**Pn**	**15 53 06.6**	**+1.0**
JIRB				*e*S	**Sn**	**15 53 42.3**	**-1.1**
JTJ	**Tarama**	**3.71**	**252**	P	**Pn**	**15 53 12.4**	**+0.4**
JTJ				*e*S	**Sn**	**15 53 52.8**	**-2.1**
JISG	**Ishigakijimahi**	**4.07**	**253**	P	**Pn**	**15 53 16.9**	**0.0**
JISG				*e*S	**Sn**	**15 54 01.3**	**-2.3**
JIJ	**Ishigaki jima**	**4.28**	**251**	P	**Pn**	**15 53 18.8**	**-1.1**
JIJ				*e*S	**Sn**	**15 54 06.1**	**-3.0**
IRIF	**Iriomote-Funau**	**4.65**	**252**	P	**Pn**	**15 53 24.1**	**-0.8**
SONM	**Songino Array**	**28.07**	**327**	P	P	15 58 09.1	+3.3
0.5nm,0.5s,baz=143,slow=11,SNR=4.5							
MKAR	**Makanchi Array**	**42.05**	**312**	P	**P**	**16 00 07.3**	**+1.5**
0.2nm,0.6s,baz=105,slow=9.8,SNR=6.6							
WRA	**Warramunga Arr**	**45.83**	**172**	P	P	16 00 39.2	+2.9
0.7nm,0.6s,baz=355,slow=8.6,SNR=5.9							
ASAR	**Alice Springs**	**49.47**	**174**	P	P	16 01 09.2	+4.6
0.4nm,0.6s,baz=1.4,slow=14,SNR=9.7							

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*IDC **01** 15:52:33.6±0.6, 36°.78S×73°.60W, h0km, mb4.6/14, mb1 4.7/16, mb1mx4.5/33, mbtmp4.5/16, ML4.2/3, MS4.5/12, Ms1 4.5/12, ms1mx4.2/24, Error ellipse: s-maj=21.0km s-min=12.8km az=78.0*
*ISCJB **01** 15:52:34.2±0.4, 36°.77S±0°.05×73°.61W±0°.09, h14km, mb4.8/24, MS4.5/10, Error ellipse: s-maj=9.9km s-min=7.6km az=4.0*
*GCMT **01** 15:52:38.9±0.3, 36°.83S×73°.91W, h27km, MW5.1/70, Moment Tensor Solution. s44,c56; s70,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.05±.19; $M_{\theta\theta}$-0.05±.12; $M_{\phi\phi}$-4.00±.14; $M_{r\theta}$0.43±.21; $M_{\theta\phi}$-0.35±.11; $M_{\phi r}$-3.18±.23; Best double couple: $M_0$5.16000×10^{16} NP1:ϕ_s177.00000°, δ64.00000°, λ83.00000°. NP2: ϕ_s13.00000°, δ27.00000°, λ104.00000°. Principal axes: T 5.2070, Plg70.0000°, Azm73.0000°; N -0.0930, Plg6.0000°, Azm180.0000°; P -5.1120, Plg19.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 15:52:38.9±1.2, 36°.76S×73°.55W, h36km±9km, mb4.9/10 Error ellipse: s-maj=12.9km s-min=6.4km az=77.0*
NEIC Felt at Santiago.
ISC 01 15:52:35.6±0.4, 36°.78S±0°.06×73°.62W±0°.08, h14km, n82, σ1.66/89, mb4.8/24, MS4.6/10, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.62**	**150**	Pn	**Pn**	**15 53 46.4**	**+1.4**
4.1nm,0.3s,baz=320,slow=10,SNR=15							
PLCA				Lg	Lg	15 54 59.9	
21nm,0.3s,baz=227,slow=11,SNR=4.8							
PLCA	**Paso Flores**	**4.62**	**150**	*e*P	**Pn**	**15 53 46.1**	**+1.1**
PLCA				Lg	Lg	15 54 59.9	
CFAA	**Coronel Fontan**	**6.82**	**42**	Pn	**Pn**	**15 54 14.2**	**-1.0**
0.7nm,0.3s,baz=218,slow=13,SNR=13							
CFAA				Sn	**Sn**	**15 55 34.6**	**+1.8**
0.8nm,0.3s,baz=196,slow=16,SNR=2.4							
CFAA				Lg	Lg	15 56 14.1	
0.3nm,0.3s,baz=297,slow=21,SNR=7.6							
CFAA				LR	LR	15 56 54.9	
comp=Z,418nm,21.0s,baz=226,slow=38							
TRQA	**Tornquist**	**9.35**	**101**	*e*P	**Pn**	**15 54 51.5**	**+1.6**
73nm,1.2s							
LVC	**Limon Verde**	**14.70**	**17**	*e*P	**Pn**	**15 56 03.8**	**+0.4**
15nm,0.8s							
CPUP	**Villa Florida**	**17.33**	**58**	P	**Pn**	**15 56 37.5**	**+0.4**
0.3nm,0.3s,baz=222,slow=11,SNR=8.7							
CPUP				LR	LR	16 03 53.7	
comp=Z,4μm,18.2s,baz=220,slow=39							
CPUP	**Villa Florida**	**17.33**	**58**	*e*P	**Pn**	**15 56 37.8**	**+0.6**
LPAZ	**La Paz**	**20.99**	**15**	P	**P**	**15 57 20.6**	**+1.5**
12nm,0.9s,baz=183,slow=7.9,SNR=33							
LPAZ	**La Paz**	**20.99**	**15**	*e*P	**P**	**15 57 20.6**	**+1.5**
51nm,1.2s							
SIV	**San Ignacio**	**23.52**	**32**	P	**P**	**15 57 45.3**	**0.0**
13nm,1.0s,baz=216,slow=11,SNR=19							
SIV				LR	LR	16 08 43.5	
comp=Z,2μm,19.5s,baz=208,slow=41							
NNA	**Nana**	**24.86**	**352**	P	**P**	**15 57 56.2**	**-1.6**
3.1nm,0.3s,baz=207,slow=9.0,SNR=3.1							
SAML	**Samuel**	**29.28**	**21**	*e*P	**P**	**15 58 36.8**	**-0.7**
8.6nm,1.0s							
BDFB	**Brasilia**	**30.99**	**54**	LR	LR	16 12 35.8	
comp=Z,3μm,18.0s,baz=222,slow=39							
RPN	**Rapa Nui**	**31.64**	**277**	LR	LR	16 08 09.1	
comp=Z,906nm,19.9s,baz=92,slow=30							
RCBR	**Riachuelo**	**46.21**	**57**	P	**P**	**16 01 01.9**	**+1.5**
7.2nm,0.8s,baz=214,slow=10,SNR=3.8							
SNAA	**Sanae**	**49.52**	**157**	P	**P**	**16 01 26.2**	**+0.9**
4.8nm,1.0s,baz=266,slow=5.9,SNR=7.4							
SNAA	**Sanae**	**49.52**	**157**	*e*P	**P**	**16 01 25.6**	**+0.2**
20nm,1.4s							
QSPA	**South Pole Qui**	**53.46**	**180**	P	**P**	**16 01 55.9**	**+0.8**
11nm,0.8s,baz=151,slow=6.9,SNR=58							
QSPA	**South Pole Qui**	**53.46**	**180**	*e*P	**P**	**16 01 56.1**	**+1.1**
RKT	**Rikitea**	**54.05**	**266**	*e*LR	LR	16 17 45.5	
553nm,29.2s							
RKT	**Rikitea**	**54.05**	**266**	*e*T	T	17 00 04.5	
2.7nm,0.3s							
CELP	**Cerrillos**	**54.96**	**8**	*e*P	**P**	**16 02 05.8**	**-0.4**
TEIG	**Tepich**	**58.37**	**344**	P	**P**	**16 02 31.2**	**+0.8**
14nm,0.9s,baz=147,slow=13,SNR=4.8							
VNDA	**Vanda**	**61.12**	**192**	LR	LR	16 25 51.4	
comp=Z,183nm,19.8s,baz=130,slow=33							
SYO	**Syowa Base**	**63.76**	**158**	*e*P	**P**	**16 03 05.2**	**-1.3**
MEH	**Mehetia**	**67.24**	**264**	*e*T	T	17 16 33.4	
32nm,0.2s							
TIAR	**Tiarei**	**68.43**	**264**	*e*T	T	17 18 02.8	
5.6nm,0.2s							
PPT2	**Papeete2**	**68.60**	**264**	*e*LR	LR	16 02 48.0	
217nm,24.5s							
PPT2	**Papeete2**	**68.60**	**264**	*e*S	**S**	**16 12 38.3**	**-2.6**
258nm,23.0s							
PPT2	**Papeete2**	**68.60**	**264**	*e*LR	LR	16 24 23.6	
661nm,24.8s							
PPT	**Papeete**	**68.61**	**264**	LR	LR	16 27 14.3	
comp=Z,491nm,18.4s,baz=171,slow=30							
MAW	**Mawson**	**70.88**	**164**	LR	LR	16 34 53.3	
comp=Z,391nm,20.2s,baz=234,slow=36							
JCT	**Junction City**	**71.27**	**336**	P	**P**	**16 03 55.0**	**+0.6**
18nm,1.3s							
TXAR	**Lajitas Array**	**71.56**	**333**	P	**P**	**16 03 57.5**	**+1.2**
3.7nm,0.9s,baz=146,slow=9.1,SNR=14							
SWET	**Sewanee**	**72.54**	**349**	*e*P	**P**	**16 04 01.9**	**-0.1**
36nm,1.0s							
WVT	**Waverly**	**73.73**	**348**	*e*P	**P**	**16 04 08.6**	**-0.3**
24nm,1.2s							
RAR	**Rarotonga**	**74.65**	**255**	LR	LR	16 29 03.5	
comp=Z,62nm,18.8s,baz=269,slow=29							
LIC	**Lamto**	**76.87**	**72**	*e*P	**P**	**16 04 27.2**	**-0.3**
62nm,1.3s							
TIC	**Toumodi**	**77.14**	**72**	*e*P	**P**	**16 04 29.0**	**-0.1**
20nm,0.2s							
KIC	**Kosan Boka**	**77.18**	**72**	*e*P	**P**	**16 04 29.2**	**-0.1**
40nm,0.9s							
DBIC	**Dimbokro**	**77.29**	**72**	P	**P**	**16 04 30.1**	**+0.3**
10nm,0.9s,baz=211,slow=6.6,SNR=12							
DBIC				LR	LR	16 35 59.5	
comp=Z,263nm,18.1s,baz=226,slow=34							
TSUM	**Tsumeb**	**79.69**	**106**	*e*P	**P**	**16 04 42.6**	**-0.7**
5.1nm,1.0s							
BOSA	**Boshof**	**79.91**	**118**	P	**P**	**16 04 44.4**	**0.0**
7.3nm,1.0s,baz=228,slow=6.8,SNR=6.9							
BOSA				LR	LR	16 39 10.1	
comp=Z,172nm,18.0s,baz=220,slow=35							
BOSA	**Boshof**	**79.91**	**118**	*e*P	**P**	**16 04 44.0**	**-0.4**
LBTB	**Lobatse**	**82.30**	**115**	*e*P	**P**	**16 04 56.6**	**-0.5**
10nm,0.8s							
ECSD	**EROS Data Cent**	**82.82**	**343**	*e*P	**P**	**16 04 59.2**	**+0.2**
17nm,1.0s							
RSSD	**Black Hills**	**85.12**	**339**	*e*P	**P**	**16 05 11.4**	**+0.4**
4.4nm,0.8s							
NVAR	**Mina Array Bea**	**85.45**	**326**	P	**P**	**16 05 14.0**	**+1.1**
1.1nm,0.7s,baz=155,slow=6.2,SNR=8.9							
PDAR	**Pinedale Array**	**85.68**	**334**	P	**P**	**16 05 14.3**	**+0.4**
4.2nm,1.1s,baz=155,slow=4.6,SNR=13							
TORD	**Torodi Ar. Bea**	**86.36**	**71**	P	**P**	**16 05 17.1**	**-0.5**

AKASG PP PP 16 13 19.0 -5.2
0.1nm,0.2s,baz=248,slow=7.5,SNR=4.3
GEYT Alibeck 141.96 73 PKhKP PKPpre 16 12 01.9
4.2nm,1.2s,baz=289,slow=4.4,SNR=4.7
ABKAR **Abkulak array 144.38 55** *e*PKPpre 16 12 08.8
KSM Kuching 144.68 187 *e*PKP **PKPab 16 12 11.2 +0.1**
POO Poona 146.15 114 *e*P **PKPdf 16 12 14.0 -0.9**
HYB Hyderabad 148.78 121 *i* PKP **PKPbc 16 12 21.5 -1.6**
BRVK Borovoye 150.10 46 *e*PKPdf **PKPdf 16 12 19.8 -0.4**
BRVK *e*PKPbc **PKPbc 16 12 25.5 +0.3**
BVAR Borovoye Array 150.17 46 PKPbc **PKPbc 16 12 25.8 +0.3**
5.8nm,0.8s,baz=291,slow=3.1,SNR=39
KKAR Karatay Array 151.94 66 *e*PKPbc **PKPbc 16 12 29.6 -0.4**
EKS2 Erkin-Say 154.35 67 *e*PKPdf **PKPdf 16 12 26.8 -0.2**
EKS2 *e*PKPbc **PKPbc 16 12 35.5 +0.2**
AAK Ala-Archa 154.88 67 *e*PKPdf **PKPdf 16 12 28.3 +0.5**
AAK *e*PKPbc **PKPbc 16 12 36.4 -0.1**
KSH Kashi 155.99 74 PKP **PKPdf 16 12 29.1 -0.3**
KSH sPKP 16 12 43.0
KSH PKS **PKSdf 16 16 02.2 -1.2**
KSH PP **PP 16 16 32.4 -2.1**
KSH SKS **SKSdf 16 19 30.6 -4.7**
KSH SKKS **SKKSac 16 23 20.5 -2.9**
KSH SS **SS 16 36 19.1 -4.0**
KSH PPMZ
63nm,3.8s
KSH LN
42nm,5.5s
KSH LE
40nm,6.2s
KSH LZ
130nm,5.4s
ZALV Zalesovo Beam 157.25 34 PKP **PKPdf 16 12 29.7 -0.7**
4.0nm,0.9s,baz=281,slow=2.4,SNR=19
ZALV PKPab **PKPab 16 13 02.0 +0.6**
4.2nm,0.8s,baz=299,slow=6.1,SNR=10
MKAR Makanchi Array 159.51 53 PKP **PKPdf 16 12 33.3 -0.1**
1.8nm,1.0s,baz=341,slow=2.6,SNR=11
MKAR PKPab **PKPab 16 13 11.2 -0.3**
3.1nm,0.9s,baz=289,slow=3.7,SNR=18
MKAR PP **PP 16 16 53.1 -0.2**
1.2nm,0.9s,baz=290,slow=5.0,SNR=7.5
CMAR Chiang Mai Arr 160.61 158 PKP **PKPdf 16 12 35.7 +0.3**
0.2nm,0.3s,baz=193,slow=3.7,SNR=3.8
CMAR PKPab **PKPab 16 13 15.9 -0.9**
0.3nm,0.5s,baz=205,slow=4.0,SNR=4.4
CN2 Changchun 163.87 302 *e*PKP **PKPdf 16 12 35.4 -2.5**
CN2 *e*pPKP **pPKPdf 16 12 46.3 +3.5**
TLY Talaya 164.98 7 PKPab **PKPab 16 13 35.2 0.0**
0.3nm,0.3s,baz=315,slow=3.4,SNR=3.5
KMI Kunming 167.97 164 PKP **PKPdf 16 12 43.4 +1.3**
NJ2 Nanjing 168.67 249 *e*PKP **PKPdf 16 12 43.1 +1.0**
SONM Songino Array 168.96 360 PKPab **PKPab 16 13 54.0 +1.0**
0.9nm,0.8s,baz=336,slow=4.3,SNR=7.0
GYA Guiyang 169.71 181 *e*PKP **PKPdf 16 12 42.0 -1.1**
GYA pPKP **pPKPdf 16 12 52.8 +4.9**
GYA PKPab **PKPab 16 13 58.5 +1.7**
GYA PKS **PKSdf 16 16 13.4 -2.3**
GYA PP **PP 16 17 49.2 +3.6**
GYA SKKS 16 24 31.6
GYA PPMZ
120nm,8.2s
GYA LN
120nm,22.2s
GYA LE
110nm,21.5s
GYA LZ
120nm,24.3s
CD2 Chengdu 173.75 159 *e*PKP **PKPdf 16 12 44.0 -0.8**
GTA Gaotai 174.19 61 *e*PKP **PKPdf 16 12 45.1 +0.3**
HHC Hu-ho-hao-te 174.27 317 *e*PKP **PKPdf 16 12 44.9 +0.2**
HHC PP **PP 16 18 12.5 +3.5**
HHC SKS **SKSdf 16 19 42.8 -4.6**
HHC SKKS **SKKSac 16 24 53.4 -1.7**
HHC PPMZ
29nm,5.1s
HHC LN
220nm,20.4s
HHC LE
260nm,20.4s
HHC LZ
120nm,20.6s
LZH Lanzhou 177.84 108 *e*PKP **PKPdf 16 12 44.6 -1.2**
LZH pPKP **pPKPdf 16 12 55.2 +4.6**
LZH sPKP 16 12 58.9

NIED ***01*** *15:54:00,25°.90N×128°.60E,h17km,Mw3.7 Best double couple: M0 3.53000×10¹⁴ NP1:φs 104.00000°,δ69.00000°, λ-10.00000°. NP2:φs 198.00000°,δ80.00000°, λ-159.00000°.*
IDC ***01*** *15:54:45.6±1.5,25°.97N×128°.41E,h0km,mb3.7/8, mb1 3.7/9,mb1mx3.6/51,mbtmp3.7/9,ML3.4/1,MS2.6/1, Ms1 2.6/1,ms1mx2.5/33,Error ellipse: s-maj=50.3km s-min=21.9km az=85.0*
JMA ***01*** *15:54:47.7±0.3,25°.94N×128°.59E,h38km,M3.7*
ISC 01 15:54:45.4±1.7,25°.91N±0°.04×128°.53E±0°.04,h8km±10km, n32,σ1§69/53,mb3.7/8,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.74**	**288**	P	**Pn**	**15 55 02.5**	**+0.3**
JJT2				S	**Sn**	**15 55 12.8**	**-0.8**
JNTH	**Nagotoyohara**	**0.76**	**323**	P	**Pn**	**15 55 01.8**	**-0.7**
JNTH				S	**Sn**	**15 55 13.1**	**-1.0**
JOW	**Kunigami**	**0.94**	**346**	P	**Pn**	**15 55 04.9**	**-0.2**
JOW				S	**Sn**	**15 55 16.5**	**-2.3**
JOW	**Kunigami**	**0.94**	**346**	Pn	**Pn**	**15 55 04.9**	**-0.2**
27nm,0.3s,baz=147,slow=14,SNR=56							
JOW				Sn	**Sn**	**15 55 16.3**	**-2.5**
19nm,0.3s,baz=120,slow=18,SNR=16							
JIH	**Iheya**	**1.23**	**336**	P	**Pg**	**15 55 09.3**	**+0.3**
JIH				S	**Sg**	**15 55 24.4**	**-0.5**
JAGN	**Aguni-jima**	**1.34**	**301**	P	**Pg**	**15 55 11.1**	**0.0**
JAGN				S	**Sb**	**15 55 27.4**	**-0.7**
JOKE	**Okinoerabujima**	**1.44**	**1**	P	**Pb**	**15 55 12.1**	**-0.5**
JOKE				S	**Sn**	**15 55 29.0**	**-2.1**
JKE	**Kume jima 2**	**1.62**	**285**	P	**Pb**	**15 55 14.6**	**-1.0**
JKE				*e*S	**Sn**	**15 55 33.2**	**-2.2**
JTK	**Tokunoshima**	**1.90**	**11**	P	**Pn**	**15 55 18.5**	**+0.2**
JTK				S	**Sn**	**15 55 39.3**	**-3.2**
JAMN	**Amaminishikomi**	**2.39**	**14**	P	**Pn**	**15 55 25.1**	**+0.1**
JAMN				*e*S	**Sn**	**15 55 52.4**	**-2.1**
JMZ	**Minamidaito 2**	**2.43**	**92**	P	**Pn**	**15 55 24.7**	**-0.7**
JMZ				S	**Sn**	**15 55 51.0**	**-4.4**
JAM	**Amami Oshima**	**2.67**	**21**	P	**Pn**	**15 55 29.0**	**+0.2**
JAM				S	**Sn**	**15 55 58.8**	**-2.5**
JZK	**Kikaishima**	**2.72**	**28**	P	**Pn**	**15 55 30.7**	**+1.3**
JZK				*e*S	**Sn**	**15 56 01.2**	**-1.3**
JOGS	**Gusukube**	**3.05**	**249**	P	**Pn**	**15 55 34.8**	**+0.8**
JOGS				*e*S	**Sn**	**15 56 10.1**	**-0.6**
JMJ	**Miyako jima 2**	**3.12**	**250**	P	**Pn**	**15 55 35.4**	**+0.4**
JIKM	**Ikemajima**	**3.13**	**252**	P	**Pn**	**15 55 35.6**	**+0.5**
JIKM				S	**Sn**	**15 56 12.4**	**-0.2**
JIRB	**Irabujima**	**3.22**	**251**	P	**Pn**	**15 55 36.5**	**+0.1**
JTJ	**Tarama**	**3.69**	**251**	P	**Pn**	**15 55 42.7**	**-0.1**
JTJ				S	**Sn**	**15 56 23.6**	**-2.9**
JISG	**Ishigakijimahi**	**4.04**	**252**	P	**Pn**	**15 55 47.0**	**-0.6**
JISG				*e*S	**Sn**	**15 56 32.3**	**-2.9**
JIJ	**Ishigaki jima**	**4.26**	**250**	P	**Pn**	**15 55 49.7**	**-1.0**
JIJ				*e*S	**Sn**	**15 56 37.5**	**-3.2**
JKRS	**Kuro-shima**	**4.42**	**249**	P	**Pn**	**15 55 52.6**	**-0.3**
JKRS				*e*S	**Sn**	**15 56 42.9**	**-1.8**
IRIF	**Iriomote-Funau**	**4.62**	**251**	P	**Pn**	**15 55 55.0**	**-0.7**
IRIF				*e*S	**Sn**	**15 56 45.5**	**-4.1**
YOJ	**Yonaguni jima**	**5.20**	**255**	P	**Pn**	**15 56 02.7**	**-0.9**
JNU	**Nakatsue**	**7.47**	**15**	Pn	**Pn**	**15 56 36.6**	**+1.8**
0.6nm,0.3s,baz=202,slow=12,SNR=14							
JNU				Sn	**Sn**	**15 57 57.3**	**-2.5**
0.3nm,0.3s,baz=180,slow=20,SNR=2.6							
JNU				LR	LR	15 59 00.2	
comp=Z,47nm,20.4s,baz=100,slow=34							
SONM	**Songino Array**	**27.96**	**327**	P	**P**	**16 00 38.7**	**+2.1**
0.6nm,0.5s,baz=140,slow=10,SNR=7.4							
MKAR	**Makanchi Array**	**41.95**	**312**	P	**P**	**16 02 36.3**	**-0.4**
0.3nm,0.4s,baz=95,slow=10,SNR=11							
ASAR	**Alice Springs**	**49.56**	**174**	P	**P**	**16 03 39.1**	**+2.0**
0.3nm,0.7s,baz=3.2,slow=14,SNR=4.2							
BVAR	**Borovoye Array**	**50.69**	**318**	P	**P**	**16 03 46.2**	**+0.8**
0.3nm,0.3s,baz=105,slow=8.4,SNR=3.9							
FINES	**FINESS Array B**	**73.27**	**331**	P	**P**	**16 06 16.8**	**-0.3**
3.5nm,1.2s,baz=67,slow=6.4,SNR=3.8							
AKASG	**Malin Array Be**	**75.95**	**320**	P	**P**	**16 06 33.5**	**+0.6**
0.5nm,0.4s,baz=63,slow=6.1,SNR=3.7							
BRTR	**Keskin Array B**	**77.44**	**308**	P	**P**	**16 06 42.9**	**+1.2**
0.3nm,0.5s,baz=69,slow=7.9,SNR=3.2							
NOA	**NORSAR Array B**	**79.72**	**334**	P	**P**	**16 06 53.7**	**0.0**
1.0nm,0.9s,baz=51,slow=6.1,SNR=3.3							

WEL 01 16:02:41.3±0.4,38°.59S×175°.85E,h152km±3km,ML3.5/17, 10C-5D,Error ellipse: s-maj=2.1km s-min=1.7km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	**Karewarewa**	**0.54**	**198**	PN	Pn	16 03 03.2	0.0
COVZ	**Chateau Observ**	**0.66**	**201**	⇑PN	Pn	16 03 03.9	0.0
WPVZ	**Whakapapa**	**0.66**	**201**	PN	Pn	16 03 04.0	+0.1
BKZ	**Black Stump Fm**	**0.77**	**139**	⇑PN	Pn	16 03 04.6	+0.1
BKZ				SN	Sn	16 03 21.7	-0.6
WNVZ	**Wahianoa**	**0.77**	**195**	PN	Pn	16 03 04.7	0.0
HIZ	**Hauiti**	**0.78**	**275**	⇓PN	Pn	16 03 04.3	-0.3
MOVZ	**Moawhango**	**0.82**	**185**	PN	Pn	16 03 04.7	-0.2
MTVZ	**Mangateitei**	**0.85**	**200**	⇓PN	Pn	16 03 05.2	+0.1
BHHZ	**Black Hill Sta**	**0.92**	**170**	⇑PN	Pn	16 03 05.5	-0.2
VRZ	**Vera Road**	**1.01**	**237**	PN	Pn	16 03 06.2	-0.2
RAHZ	**Arahi**	**1.02**	**109**	PN	Pn	16 03 07.3	+0.9
URZ	**Urewera**	**1.04**	**72**	⇓PN	Pn	16 03 06.1	-0.5
MCHZ	**McNeill Hill**	**1.08**	**143**	PN	Pn	16 03 07.9	+0.9
MWZ	**Matawai**	**1.34**	**80**	PN	Pn	16 03 09.2	-0.2
PNHZ	**Pukenui**	**1.35**	**169**	PN	Pn	16 03 09.4	-0.1
LREZ	**Lake Rotokare**	**1.43**	**232**	⇓PN	Pn	16 03 10.3	+0.1
CKHZ	**Cape Kidnapper**	**1.44**	**139**	PN	Pn	16 03 10.8	+0.5
KAHZ	**Kahuranaki**	**1.45**	**147**	PN	Pn	16 03 10.9	+0.4
TSZ	**Takapari Road**	**1.47**	**177**	⇑PN	Pn	16 03 10.5	-0.3
TSZ				SN	Sn	16 03 32.5	-1.0
KNZ	**Kokohu**	**1.49**	**108**	PN	Pn	16 03 11.1	+0.2
RIGZ	**Rimuhau**	**1.50**	**95**	PN	Pn	16 03 11.2	+0.1
WPHZ	**Waipukurau**	**1.55**	**163**	PN	Pn	16 03 11.3	-0.2
WPHZ				SN	Sn	16 03 33.2	-1.5
PXZ	**Pawanui**	**1.64**	**152**	⇑PN	Pn	16 03 12.4	-0.1
MHGZ	**Mahia Peninsul**	**1.70**	**110**	PN	Pn	16 03 13.6	+0.4
DVHZ	**Dannevirke**	**1.73**	**172**	⇑PN	Pn	16 03 12.8	-0.7
HAZ	**Te Kaha**	**1.73**	**62**	PN	Pn	16 03 12.4	-1.2
PRHZ	**Porangahau**	**1.79**	**160**	⇑PN	Pn	16 03 13.8	-0.3
POWZ	**Post Office Ro**	**1.81**	**182**	PN	Pn	16 03 13.4	-0.9
PUZ	**Puketiti**	**1.96**	**76**	PN	Pn	16 03 15.2	-0.9
PUZ				*e*SN	Sn	16 03 41.1	-1.7
PRWZ	**Pori Road**	**1.97**	**177**	PN	Pn	16 03 15.5	-0.7
MRZ	**Mangatainoka R**	**2.08**	**186**	⇑PN	Pn	16 03 16.2	-1.4
MRZ				AML	AML	16 03 45.0	
MRZ				AML	AML	16 03 45.0	
BFZ	**Birch Farm**	**2.12**	**172**	PN	Pn	16 03 16.8	-1.1
WMGZ	**Waiomatatini S**	**2.16**	**70**	PN	Pn	16 03 17.7	-0.8
TIWZ	**Tintock**	**2.19**	**179**	PN	Pn	16 03 17.6	-1.2
OGWZ	**Otaki Gorge**	**2.29**	**193**	⇑PN	Pn	16 03 18.5	-1.5
HOWZ	**Holdsworth Sta**	**2.32**	**186**	PN	Pn	16 03 18.6	-1.8
KIW	**Kapiti Island**	**2.39**	**197**	PN	Pn	16 03 19.3	-1.9
TMWZ	**Te Maipa**	**2.52**	**179**	⇓PN	Pn	16 03 21.0	-1.7
MTW	**Mount Morrison**	**2.58**	**186**	PN	Pn	16 03 21.3	-2.2
CAW	**Cannon Point**	**2.59**	**193**	PN	Pn	16 03 21.5	-2.1
PAWZ	**Paruwai Farm**	**2.81**	**187**	PN	Pn	16 03 24.0	-2.3
TRWZ	**Traveller**	**2.81**	**182**	PN	Pn	16 03 24.2	-2.2
MSWZ	**Moikau Station**	**2.86**	**189**	⇑PN	Pn	16 03 24.5	-2.5
TCW	**Tory Channel**	**2.89**	**204**	PN	Pn	16 03 24.8	-2.5
PLWZ	**Palliser**	**3.02**	**189**	PN	Pn	16 03 26.2	-2.8
TUWZ	**Tuamarina**	**3.20**	**207**	*e*PN	Pn	16 03 28.4	-2.8
NNZ	**Nelson**	**3.24**	**215**	*e*PN	Pn	16 03 28.8	-3.0
NNZ				*e*SN	Sn	16 04 07.1	-3.8
QRZ	**Quartz Range**	**3.40**	**228**	PN	Pn	16 03 30.3	-3.5
THZ	**Tophouse**	**3.89**	**214**	PN	Pn	16 03 36.7	-3.5
KHZ	**Kahutara**	**4.21**	**204**	PN	Pn	16 03 41.1	-3.2
LTZ	**Lake Taylor**	**5.00**	**212**	PN	Pn	16 03 50.6	-4.2
OXZ	**Oxford**	**5.54**	**210**	PN	Pn	16 03 57.7	-5.0
MQZ	**McQueen's Vall**	**5.66**	**204**	PN	Pn	16 03 58.1	-5.2
RPZ	**Rata Peaks**	**6.27**	**214**	PN	Pn	16 04 07.1	-4.5

IDC 01 16:05:31.7±3.8,37°.16S×70°.77W,h34km±32km,mb3.7/4, mb1 3.8/5,mb1mx3.6/16,mbtmp3.8/5,ML2.8/1,Error ellipse: s-maj=52.8km s-min=25.8km az=82.0,Southern Argentina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.57**	**177**	Pg	Pb	16 06 36.9	+2.7
1.4nm,0.3s,baz=329,slow=9.9,SNR=6.8							
PLCA				Lg	Lg	16 07 38.4	
0.9nm,0.3s,baz=84,slow=23,SNR=1.8							
CFAA	**Coronel Fontan**	**5.92**	**21**	Pn	Pn	16 06 58.4	+1.3
0.2nm,0.3s,baz=236,slow=15,SNR=2.8							
CFAA				Sn	Sn	16 08 09.3	+5.5
0.1nm,0.3s,baz=112,slow=21,SNR=1.4							
LPAZ	**La Paz**	**20.92**	**7**	P		16 10 10.7	-1.4
1.0nm,0.7s,baz=205,slow=6.4,SNR=3.9							
TXAR	**Lajitas Array**	**72.99**	**330**	P	P	16 16 58.6	+0.7
0.4nm,0.6s,baz=119,slow=7.3,SNR=3.1							
DBIC	**Dimbokro**	**75.26**	**70**	P	P	16 17 12.1	+0.7
1.6nm,0.5s,baz=219,slow=6.5,SNR=3.3							
BOSA	**Boshof**	**77.71**	**117**	P	P	16 17 25.3	0.0
1.9nm,0.8s,baz=240,slow=8.1,SNR=2.2							
ZALV	**Zalesovo Beam**	**156.23**	**37**	PKPab	PKPab	16 25 48.6	-1.5
0.2nm,0.3s,baz=352,slow=5.8,SNR=2.0							

ISCJB ***01*** *16:05:36.3±0.3,18°.95N±0°.05×81°.37W±0°.04,h10km, mb4.3/29,MS3.7/2,Error ellipse: s-maj=7.6km s-min=3.9km az=31.5*
IDC ***01*** *16:05:36.1±0.5,18°.90N×81°.54W,h0km,mb4.1/17, mb1 4.4/19,mb1mx4.2/38,mbtmp4.2/19,ML4.7/3,MS3.6/4, Ms1 3.6/4,ms1mx3.2/36,Error ellipse: s-maj=18.4km s-min=12.7km az=65.0*
NEIC ***01*** *16:05:37.1±2.5,18°.86N×81°.52W,h6km±17km,mb4.6/18, Error ellipse: s-maj=8.1km s-min=5.6km az=216.0*
NEIC Felt [III] at West Bay and [II] at Bodden Town and George Town. Also felt at East End.
JSN ***01*** *16:05:39.1±1.5,19°.11N×81°.53W,h50km±999km,MD4.9*
ISC 01 16:05:37.7±0.4,18°.96N±0°.06×81°.40W±0°.06,h10km,n74, σ1§50/83,mb4.3/29,1D,North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBJ	**Montego Bay**	**3.40**	**99**	*i* S	**Sn**	**16 07 08.7**	**-2.6**
MTDJ	**Mount Denham**	**3.74**	**101**	*e*Pn	**Pn**	**16 06 35.1**	**-0.5**
MTDJ				*e*Sn	**Sn**	**16 07 15.0**	**-4.8**
PCJ	**Portland Cotta**	**4.21**	**106**	*e*P	**Pn**	**16 06 41.7**	**-0.3**
STH	**Stony Hill**	**4.44**	**101**	*e*P	**Pn**	**16 06 45.2**	**-0.1**
STH				⇓*i*S	**Sn**	**16 07 35.2**	**-1.9**
HOJ	**Hope**	**4.52**	**101**	*e*P	**Pn**	**16 06 45.4**	**-0.8**
GWJ	**Greenwich**	**4.52**	**101**	*e*P	**Pn**	**16 06 46.4**	**0.0**
YHJ	**Yallahs**	**4.78**	**102**	*e*P	**Pn**	**16 06 50.3**	**+0.4**
GTBY	**Guantanamo Bay**	**6.01**	**80**	*e*Pn	**Pn**	**16 07 08.1**	**+1.3**
59nm,0.5s							
GTBY				*e*Sn	**Sn**	**16 08 12.2**	**-3.6**
TEIG	**Tepich**	**6.60**	**282**	**Pn**	**Pn**	**16 07 12.5**	**-2.4**
49nm,0.3s,baz=235,slow=3.1,SNR=100							
TEIG				Sn	Sn	16 08 20.9	-9.4
52nm,0.3s,baz=42,slow=21,SNR=13							
TEIG				LR	LR	16 09 19.5	
comp=Z,348nm,21.6s,baz=114,slow=34							
TEIG	**Tepich**	**6.60**	**282**	*e*Pn	**Pn**	**16 07 12.1**	**-2.9**
121nm,0.3s							
TEIG				Sn	Sn	16 08 20.9	-9.4
TEIG				*e*Sn	Sn	16 08 21.4	-8.9
JAKH	**Jacmel**	**8.45**	**93**	*e*Pn	**Pn**	**16 07 41.7**	**+1.3**
JTS	**JuntasAbangare**	**9.28**	**202**	Pn	**Pn**	**16 07 51.6**	**-0.2**
3.8nm,0.3s,baz=64,slow=17,SNR=13							
JTS	**JuntasAbangare**	**9.28**	**202**	*e*Pn	**Pn**	**16 07 51.7**	**-0.1**
10nm,0.4s							
APG	**El Apazote**	**9.52**	**247**	Pn	Pn	16 07 49.6	-5.6
2.4nm,0.3s,baz=86,slow=12,SNR=24							
APG				Sn	Sn	16 09 30.0	-13
1.1nm,0.3s,baz=253,slow=20,SNR=1.7							
APG				LR	LR	16 11 26.6	
comp=Z,296nm,20.0s,baz=204,slow=37							
SDDR	**Presa de Saban**	**9.57**	**88**	*e*Pn	**Pn**	**16 07 57.9**	**+2.2**
26nm,0.5s							
GRTK	**Grand Turk**	**9.97**	**74**	*e*Pn	**Pn**	**16 08 02.2**	**+1.1**
SMN1	**Samana, DR**	**11.47**	**87**	*e*Pn	**Pn**	**16 08 24.3**	**+2.6**
TIGA	**Tifton**	**12.58**	**351**	*e*P	**Pn**	**16 08 37.3**	**+0.5**
60nm,0.8s							
CELP	**Cerrillos**	**14.09**	**91**	P	**Pn**	**16 08 56.6**	**-0.9**
GOGA	**Godfrey**	**14.51**	**353**	*e*P	**Pn**	**16 09 01.9**	**-1.3**
20nm,0.9s							
CBYP	**Canovanas**	**14.75**	**90**	*e*P	**Pn**	**16 09 09.6**	**+3.0**
TKL	**Tuckaleechee C**	**16.76**	**353**	Pn	**P**	**16 09 34.0**	**-0.9**
1.5nm,0.3s,baz=172,slow=14,SNR=19							
TKL	**Tuckaleechee C**	**16.76**	**353**	*e*P	**P**	**16 09 34.4**	**-0.6**
OXF	**Oxford**	**17.05**	**337**	*e*P	**P**	**16 09 38.7**	**+0.6**
84nm,1.2s							
OTAV	**Otavalo**	**18.83**	**171**	*e*P	**Pn**	**16 10 00.8**	**+2.0**
14nm,1.1s							
MIAR	**Mount Ida**	**18.92**	**328**	*e*P	**Pn**	**16 10 00.1**	**+0.7**
45nm,1.2s							
WHTX	**Lake Whitney,**	**19.42**	**315**	P	**Pn**	**16 10 06.6**	**+1.2**
46nm,1.1s							
SIUC	**Southern Illin**	**19.89**	**342**	*e*P	**Pn**	**16 10 10.7**	**-0.3**
18nm,0.6s							
JCT	**Junction City**	**20.24**	**308**	P	**P**	**16 10 13.4**	**+0.2**
7.8nm,0.7s							
OLIL	**Olney**	**20.54**	**345**	P	Pn	16 10 17.9	-0.7
51nm,0.8s							
TUL1	**Leonard**	**21.12**	**326**	*e*P	**P**	**16 10 24.2**	**+1.5**
TXAR	**Lajitas Array**	**22.75**	**301**	P	**P**	**16 10 40.8**	**+0.4**
2.2nm,0.9s,baz=96,slow=12,SNR=5.5							
AMTX	**Amarillo**	**23.98**	**315**	*e*P	**P**	**16 10 52.8**	**+0.2**
22nm,1.0s							
MSTX	**Muleshoe**	**24.20**	**312**	*e*P	**P**	**16 10 55.2**	**+0.5**
16nm,1.0s							
SCIA	**State Center**	**24.98**	**339**	*e*P	**P**	**16 11 02.1**	**+0.5**
43nm,1.0s							
JFWS	**Jewell Farm**	**25.02**	**345**	*e*P	**P**	**16 11 02.6**	**+0.6**
17nm,0.6s							
ATAH	**Atahualpa**	**26.10**	**173**	P	**P**	**16 11 13.2**	**+0.8**
5.5nm,0.8s,baz=354,slow=10,SNR=1.8							
AGMN	**Agassiz Nation**	**31.53**	**341**	P	**P**	**16 11 59.2**	**-0.8**
12nm,0.9s							
SAML	**Samuel**	**33.05**	**146**	*e*P	**P**	**16 12 13.0**	**-0.6**
86nm,2.3s							
ULM	**Lac du Bonnet**	**33.28**	**343**	P	**P**	**16 12 14.6**	**-0.8**
4.3nm,1.1s,baz=100,slow=3.8,SNR=3.0							
ULM				LR	LR	16 26 06.4	
comp=Z,141nm,18.3s,baz=152,slow=37							
PDAR	**Pinedale Array**	**33.59**	**321**	P	**P**	**16 12 19.7**	**+1.2**
1.7nm,1.0s,baz=117,slow=8.6,SNR=4.7							
PDAR				PcP	**PcP**	**16 14 58.5**	**-0.4**
0.8nm,0.8s,baz=94,slow=5.4,SNR=4.0							
MCMT	**McKenzie Canyo**	**36.73**	**322**	*e*P	**P**	**16 12 47.1**	**+1.6**
2.1nm,1.0s							
EGMT	**Eagleton**	**37.01**	**328**	*e*P	**P**	**16 12 47.3**	**-0.3**
12nm,1.2s							
LPAZ	**La Paz**	**37.38**	**159**	P	**P**	**16 12 51.1**	**-0.6**
1.0nm,0.7s,baz=306,slow=4.4,SNR=4.0							
NVAR	**Mina Array Bea**	**37.41**	**309**	P	**P**	**16 12 48.7**	**-2.6**
0.8nm,0.7s,baz=99,slow=8.7,SNR=6.6							
NVAR				PcP	**PcP**	**16 15 10.9**	**+0.8**
1.1nm,0.8s,baz=150,slow=3.3,SNR=5.3							
SCHQ	**Schefferville**	**37.49**	**14**	P	**P**	**16 12 53.5**	**+2.0**
4.9nm,0.7s,baz=217,slow=7.5,SNR=7.2							
SCHQ				LR	LR	16 28 06.0	
comp=Z,137nm,19.8s,baz=219,slow=36							
WVOR	**Wild Horse Val**	**39.20**	**315**	*e*P	**P**	**16 13 06.9**	**+0.7**
6.7nm,0.9s							
SIV	**San Ignacio**	**40.08**	**149**	P	**P**	**16 13 12.7**	**-1.0**
8.1nm,0.8s,baz=337,slow=8.4,SNR=16							
LVC	**Limon Verde**	**43.09**	**163**	*e*P	**P**	**16 13 38.5**	**0.0**
8.4nm,1.1s							
BDFB	**Brasilia**	**47.56**	**134**	P	**P**	**16 14 14.9**	**+0.9**
10.0nm,0.9s,baz=311,slow=8.2,SNR=7.5							
YKA	**Yellowknife Ar**	**49.17**	**340**	P	**P**	**16 14 24.9**	**-0.7**
2.0nm,0.9s,baz=132,slow=8.2,SNR=17							
YKA				PcP	**PcP**	**16 15 48.5**	**-0.3**
0.8nm,0.8s,baz=134,slow=3.6,SNR=8.1							
SUMG	**Summit**	**58.89**	**14**	*i* P	**P**	**16 15 37.3**	**+0.3**
SUMG	**Summit**	**58.89**	**14**	*e*P	**P**	**16 15 37.4**	**+0.5**
14nm,1.3s							
ILAR	**Eielson Array**	**62.60**	**334**	P	**P**	**16 16 01.9**	**0.0**
0.9nm,0.7s,baz=111,slow=4.4,SNR=21							
TRF	**Thorofare Moun**	**63.78**	**332**	*e*P	**P**	**16 16 10.5**	**+0.5**
DAG	**Danmarks Havn**	**65.53**	**13**	*i* P	**P**	**16 16 20.4**	**-0.6**
2.2nm,0.8s							
EKA	**Eskdalemuir Ar**	**67.96**	**37**	P	**P**	**16 16 36.8**	**0.0**
1.3nm,0.4s,baz=267,slow=5.8,SNR=9.3							
ESDC	**Sonseca Array**	**68.64**	**54**	P	**P**	**16 16 43.3**	**+1.9**
0.4nm,0.2s,baz=282,slow=5.2,SNR=7.0							
NB2	**NORSAR Subarra**	**74.86**	**30**	P	**P**	**16 17 19.6**	**+1.1**
comp=Z,3.6nm,0.9s,baz=264,slow=6.2							
NOA	**NORSAR Array B**	**74.86**	**30**	P	**P**	**16 17 19.5**	**+1.0**
comp=Z,2.3nm,0.9s,baz=284,slow=5.6,SNR=5.5							
ARCES	**ARCESS Array B**	**78.14**	**20**	P	**P**	**16 17 37.2**	**+0.4**
comp=Z,1.2nm,0.5s,baz=288,slow=4.6,SNR=30							
TORD	**Torodi Ar. Bea**	**79.41**	**80**	P	**P**	**16 17 44.9**	**+0.1**
comp=Z,1.8nm,0.9s,baz=298,slow=3.9,SNR=9.5							
FINES

82nm,0.5s
YUK eS Sn 16 11 43.3 +3.0
YUK A A 16 11 44.3
88nm,0.5s
YUK A A 16 11 44.3
73nm,0.5s
NEM2 Nemuro 2 3.68 238 P Pn 16 11 06.7 +1.3
NEM2 eS Sn 16 11 48.0 -1.7
JRA Rausu 3.79 249 P Pn 16 11 08.9 +2.2
JNK Nakash 4.21 246 P Pn 16 11 14.4 +2.3
JAK Akkeshi 4.52 240 P Pn 16 11 17.6 +1.5
JAK eS Sn 16 12 07.6 -1.4
JMP Maruseppu 4.95 256 P Pn 16 11 24.2 +2.5
JAR Ashorobuto 4.95 247 P Pn 16 11 24.7 +3.0
JOB Onbets 5.10 243 P Pn 16 11 25.9 +2.2
YSS Yuzh-Sakhalins 5.28 290 erx rx 16 12 36.0
JCH Churui 5.55 242 P Pn 16 11 31.4 +1.9
JCH eS Sn 16 12 31.2 -1.9
JEM Erimo 6.01 238 P Pn 16 11 38.3 +2.7
JNBK Urakawa-nobuka 6.11 242 P Pn 16 11 37.8 +0.9
SKR Severo-Kuril's 6.68 36 eP Pn 16 11 44.0 -0.2
JNB Noboribetsu 7.12 249 P Pn 16 11 51.4 +1.3
JNB eS Sn 16 13 08.3 -1.9
JKB Kayabe 7.40 245 P Pn 16 11 54.5 +0.6
JKB eS Sn 16 13 11.9 -5.2
JSH Shimam 7.70 253 P Pn 16 12 00.0 +2.2
JYM2 Yakumo 2 7.72 248 P Pn 16 11 59.6 +1.5
JOSM Okushiri--Mats 8.32 250 P Pn 16 12 07.0 +1.0
OFUJ Ofunato 8.84 227 P Pn 16 12 15.0 +2.1
JRG Rokugo 9.17 232 P Pn 16 12 19.2 +1.9
JIO Ouri 9.48 226 P Pn 16 12 22.4 +1.1

*IDC **01** 16:12:39.8±1.3, 35°.69S×72°.57W, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.8/24, mbtmp3.8/5, ML3.5/3, Error ellipse: s-maj=37.1km s-min=20.0km az=95.0*
*GUC **01** 16:13:08.9±0.5, 34°.33S×72°.03W, h37km±3km, ML4.1*
ISC 01 16:12:40.5±1.1, 35°.54S±0°.06×72°.7W±0°.1, h10km, n19, σ2s52/18, mb3.8/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**2.57**	**38**	*eP*	**Pg**	**16 13 31.7**	**+1.9**
RCDM				*eS*	**Sn**	**16 13 49.1**	**-4.4**
RCDM				AML	AML	16 13 53.0	
	comp=E,3μm,0.4s						
IHA	**Instituto Hidr**	**2.66**	**19**	*eP*	**Pg**	**16 13 32.4**	**+1.1**
IHA				*eS*	Sn	16 13 49.8	-5.8
STL	**Santa Lucia**	**2.70**	**40**	*eP*	**Pg**	**16 13 34.2**	**+2.0**
STL				*eS*	**Sn**	**16 13 53.4**	**-3.3**
PEL	**Peldehue**	**2.91**	**35**	*eP*	**Pg**	**16 13 37.2**	**+0.9**
PEL				*eS*	**Sn**	**16 13 58.4**	**-3.6**
PEL				AML	AML	16 14 01.9	
	comp=N,5μm,1.9s						
FCH	**Farellones**	**2.97**	**43**	*eP*	**Pg**	**16 13 39.2**	**+1.8**
FCH				AML	AML	16 14 24.9	
	comp=E,4μm,0.4s						
CFAA	**Coronel Fontan**	**5.41**	**45**	Pn	**Pn**	**16 14 01.1**	**-0.1**
	comp=E,0.7nm,0.3s,baz=232,slow=17,SNR=11						
CFAA				Pg	Pb	16 14 18.6	+3.5
	comp=E,1.8nm,0.3s,baz=214,slow=18,SNR=11						
CFAA				Sn	**Sn**	**16 15 07.7**	**+4.1**
	comp=E,1.3nm,0.3s,baz=8.3,slow=16,SNR=2.8						
PLCA	**Paso Flores**	**5.45**	**163**	Pg	**Pb**	**16 14 15.1**	**-0.7**
	comp=E,1.1nm,0.3s,baz=345,slow=16,SNR=3.8						
PLCA				Sn	**Sn**	**16 15 03.1**	**-1.5**
	comp=E,0.6nm,0.3s,baz=306,slow=16,SNR=2.8						
USHA	**Ushuaia**	**19.52**	**173**	P	**P**	**16 17 05.7**	**-2.0**
	comp=E,0.3nm,0.3s,baz=359,slow=8.0,SNR=3.3						
LPAZ	**La Paz**	**19.60**	**13**	P	**P**	**16 17 10.3**	**+0.8**
	comp=E,0.1nm,0.3s,baz=188,slow=9.1,SNR=3.7						
SIV	**San Ignacio**	**22.07**	**31**	P	**P**	**16 17 34.1**	**-1.5**
	comp=E,3.2nm,0.9s,baz=221,slow=9.6,SNR=4.8						
TXAR	**Lajitas Array**	**70.82**	**332**	P	**P**	**16 23 59.2**	**+1.8**
	comp=E,0.7nm,0.6s,baz=153,slow=7.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**85.24**	**70**	P	**P**	**16 25 19.2**	**+1.5**
	comp=E,0.3nm,0.9s,baz=248,slow=7.6,SNR=2.7						
H11S2	**WAKE ISLAND Hyl**	**25.20**	**268**	T	T	18 50 32.0	
	baz=119,slow=76,SNR=8.0						
H11S1	**WAKE ISLAND Hyl**	**25.21**	**268**	T	T	18 50 30.4	
	baz=119,slow=76,SNR=9.1						
H11S3	**WAKE ISLAND Hyl**	**25.22**	**268**	T	T	18 50 32.7	
	baz=119,slow=76,SNR=6.3						
H11N3	**WAKE ISLAND Hyl**	**25.65**	**270**	T	T	18 51 01.5	
	baz=115,slow=79,SNR=4.8						
H11N1	**WAKE ISLAND Hyl**	**25.66**	**270**	T	T	18 51 01.3	
	baz=115,slow=79,SNR=12						
H11N2	**WAKE ISLAND Hyl**	**25.67**	**270**	T	T	18 51 06.3	
	baz=115,slow=79,SNR=5.0						
BVAR	**Borovoye Array**	**148.76**	**44**	PKPbc	**PKPab**	**16 32 28.9**	**-2.4**
	comp=E,0.2nm,0.6s,baz=307,slow=5.2,SNR=2.6						

*IDC **01** 16:17:55.3±1.1, 38°.32S×73°.68W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/24, mbtmp4.1/4, Error ellipse: s-maj=42.2km s-min=18.1km az=55.0*
*ISCJB **01** 16:17:56.9±1.1, 38°.3S±0°.2×73°.5W±0°.2, h18km, mb4.0/5, Error ellipse: s-maj=25.2km s-min=20.2km az=34.2*
*NEIC **01** 16:18:00.5±0.7, 38°.48S×73°.58W, h35km, mb4.4/1, Error ellipse: s-maj=21.6km s-min=14.3km az=56.0*
ISC 01 16:17:58.1±0.8, 38°.4S±0°.1×73°.7W±0°.2, h18km, n18, σ1s29/18, mb4.0/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.38**	**135**	Pg	**Pb**	**16 18 58.3**	**+0.9**
	16nm,0.3s,baz=314,slow=11,SNR=18						
PLCA				Lg	Lg	16 19 43.8	
	14nm,0.3s,baz=27,slow=18,SNR=6.4						
PLCA	**Paso Flores**	**3.38**	**135**	*e*Pn	**Pn**	**16 18 49.6**	**-0.3**
PLCA				Lg	Lg	16 19 43.8	
CFAA	**Coronel Fontan**	**8.09**	**35**	Lg	Lg	16 22 12.2	
	baz=182,slow=4.7,SNR=3.0						
TRQA	**Tornquist**	**9.21**	**92**	*e*P	**Pn**	**16 20 09.0**	**-1.0**
LPAZ	**La Paz**	**22.54**	**14**	P	**P**	**16 23 00.7**	**+3.0**
	2.9nm,0.9s,baz=170,slow=14,SNR=5.3						
QSPA	**South Pole Qui**	**51.87**	**180**	P	**P**	**16 27 06.0**	**+0.9**
	2.7nm,1.0s,baz=233,slow=13,SNR=4.1						
QSPA	**South Pole Qui**	**51.87**	**180**	*e*P	**P**	**16 27 05.7**	**+0.6**
	4.8nm,1.1s						
TXAR	**Lajitas Array**	**72.96**	**333**	P	**P**	**16 29 26.7**	**+0.3**
	0.8nm,0.5s,baz=156,slow=9.6,SNR=5.2						
DBIC	**Dimbokro**	**77.83**	**71**	P	**P**	**16 29 55.2**	**+0.5**
	4.1nm,0.7s,baz=191,slow=6.4,SNR=6.2						
TORD	**Torodi Ar. Bea**	**86.92**	**71**	P	**P**	**16 30 41.7**	**-0.4**
	0.6nm,0.8s,baz=241,slow=3.8,SNR=3.7						
BRTR	**Keskin Array B**	**125.03**	**64**	PKP	**PKPdf**	**16 36 55.1**	**-2.0**
	0.2nm,0.5s,baz=182,slow=4.2,SNR=2.4						
TIXI	**Tiksi**	**144.72**	**348**	*e*PKP	**PKPab**	**16 37 29.5**	**-1.8**
ABKAR	**Akbulak array**	**145.32**	**56**	*e*PKP	**PKPbc**	**16 37 33.7**	**-0.3**
BRVK	**Borovoye**	**151.23**	**48**	*e*PKPbc	**PKPbc**	**16 37 50.0**	**+0.4**
BVAR	**Borovoye Array**	**151.30**	**48**	PKPbc	**PKPbc**	**16 37 50.2**	**+0.3**
	1.7nm,0.6s,baz=288,slow=3.0,SNR=20						
ZALV	**Zalesovo Beam**	**158.58**	**36**	PKP	**PKPdf**	**16 37 51.6**	**-2.1**
	0.5nm,0.6s,baz=281,slow=0.7,SNR=3.9						
ZALV				PKPab	**PKPab**	**16 38 29.4**	**+0.5**
	0.2nm,0.2s,baz=282,slow=10.0,SNR=3.3						
MKAR	**Makanchi Array**	**160.46**	**57**	PKPab	**PKPab**	**16 38 37.2**	**-0.3**
	0.2nm,0.3s,baz=274,slow=3.0,SNR=4.2						
SONM	**Songino Array**	**170.54**	**360**	PKPab	**PKPab**	**16 39 22.1**	**+0.3**
	0.3nm,0.8s,baz=347,slow=4.6,SNR=3.2						

*ISCJB **01** 16:21:28.1±0.6, 37°.90S±0°.05×73°.4W±0°.1, h22km, mb4.2/14, MS4.0/11, Error ellipse: s-maj=12.4km s-min=7.5km az=8.7*
*IDC **01** 16:21:29.4±0.5, 37°.97S×73°.48W, h21km±2km, mb4.1/10, mb1 4.3/13, mb1mx4.2/28, mbtmp4.2/13, ML4.4/3, MS4.0/14, Ms1 4.0/14, ms1mx3.8/31, Error ellipse: s-maj=20.3km s-min=12.0km az=82.0*
*NEIC **01** 16:21:29.4±0.3, 37°.94S×73°.54W, mb4.5/6, Error ellipse: s-maj=10.8km s-min=6.7km az=81.0*
ISC 01 16:21:29.3±0.5, 37°.96S±0°.06×73°.54W±0°.10, h22km, n47, σ0s75/48, mb4.3/14, MS4.0/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.62**	**141**	Pn	**Pn**	**16 22 24.4**	**+0.3**
	8.6nm,0.3s,baz=320,slow=9.7,SNR=9.0						
PLCA				Pg	**Pb**	**16 22 32.6**	**+0.1**
	57nm,0.3s,baz=319,slow=15,SNR=30						
PLCA				Lg	Lg	16 23 18.6	
	32nm,0.3s,baz=51,slow=23,SNR=6.1						
PLCA				LR	LR	16 24 10.9	
	comp=Z,3μm,19.6s,baz=310,slow=45						
PLCA	**Paso Flores**	**3.62**	**141**	*e*P	**Pn**	**16 22 23.8**	**-0.2**
PLCA				Pg	**Pb**	**16 22 32.6**	**+0.1**
PLCA				Lg	Lg	16 23 18.6	
CFAA	**Coronel Fontan**	**7.69**	**36**	Pn	**Pn**	**16 23 19.2**	**-0.8**
	0.1nm,0.3s,baz=206,slow=15,SNR=3.8						
CFAA				Sn	**Sn**	**16 24 45.6**	**-0.8**
	0.3nm,0.3s,baz=52,slow=17,SNR=1.7						
CFAA				Lg	Lg	16 25 28.5	
	baz=155,slow=14,SNR=3.5						
CFAA				LR	LR	16 27 03.3	
	comp=Z,53nm,20.5s,baz=228,slow=44						
TRQA	**Tornquist**	**9.13**	**94**	*e*P	**Pn**	**16 23 41.8**	**+2.1**
	74nm,1.1s						
USHA	**Ushuaia**	**17.24**	**170**	Pn	**P**	**16 25 30.0**	**+0.2**
	1.1nm,0.3s,baz=319,slow=7.4,SNR=7.3						
USHA				LR	LR	16 32 29.7	
	comp=Z,315nm,18.3s,baz=333,slow=38						
EFI	**East Falkland**	**17.52**	**146**	*e*P	**Pn**	**16 25 32.0**	**+0.1**
	39nm,0.6s						
CPUP	**Villa Florida**	**17.94**	**54**	Pn	**Pn**	**16 25 35.9**	**-1.4**
	0.4nm,0.3s,baz=188,slow=15,SNR=3.8						
CPUP				Lg	Lg	16 31 05.1	
	0.2nm,0.3s,baz=231,slow=16,SNR=1.3						
CPUP				LR	LR	16 33 18.4	
	comp=Z,414nm,19.1s,baz=210,slow=40						
LPAZ	**La Paz**	**22.10**	**14**	P	**P**	**16 26 24.9**	**+1.1**
	4.5nm,0.8s,baz=171,slow=9.2,SNR=9.8						
LPAZ	**La Paz**	**22.10**	**14**	*e*P	**P**	**16 26 24.1**	**+0.3**
	12nm,1.1s						
SIV	**San Ignacio**	**24.49**	**30**	P	**P**	**16 26 47.4**	**+0.4**
	2.1nm,0.9s,baz=224,slow=6.1,SNR=4.1						
SIV				pP	**pP**	**16 26 54.0**	**+0.4**
	3.9nm,0.8s,baz=225,slow=11,SNR=6.7						
SIV				LR	LR	16 37 44.1	
	comp=Z,200nm,21.3s,baz=224,slow=40						
NNA	**Nana**	**26.03**	**353**	LR	LR	16 34 59.6	
	comp=Z,287nm,19.3s,baz=181,slow=31						
PMSA	**Palmer Station**	**27.44**	**171**	LR	LR	16 36 20.3	
	comp=Z,243nm,22.0s,baz=305,slow=32						
SAML	**Samuel**	**30.35**	**21**	*e*P	**P**	**16 27 38.5**	**-1.0**
	1.2nm,0.8s						
BDFB	**Brasilia**	**31.64**	**52**	P	P	16 27 54.5	+3.5
	1.6nm,0.4s,baz=204,slow=18,SNR=2.4						
BDFB				LR	LR	16 40 07.6	
	comp=Z,172nm,18.3s,baz=226,slow=35						
RPN	**Rapa Nui**	**31.87**	**279**	LR	LR	16 37 07.3	
	comp=Z,301nm,18.7s,baz=82,slow=29						
OTAV	**Otavalo**	**38.27**	**352**	*e*P	**P**	**16 28 50.4**	**+1.9**
	12nm,1.1s						
SNAA	**Sanae**	**48.42**	**156**	P	**P**	**16 30 09.2**	**-0.2**
	4.7nm,0.9s,baz=276,slow=7.1,SNR=12						
SNAA				pP	**pP**	**16 30 16.2**	**0.0**
	3.3nm,0.8s,baz=278,slow=7.3,SNR=6.9						
JTS	**JuntasAbangare**	**49.17**	**345**	LR	LR	16 47 29.9	
	comp=Z,74nm,18.6s,baz=140,slow=32						
QSPA	**South Pole Qui**	**52.29**	**180**	P	**P**	**16 30 38.8**	**0.0**
	5.7nm,1.0s,baz=129,slow=6.3,SNR=25						
QSPA				pP	**pP**	**16 30 45.8**	**+0.1**
	4.7nm,0.8s,baz=175,slow=5.6,SNR=8.6						
RKT	**Rikitea**	**54.05**	**267**	*e*LR	LR	16 46 37.8	
	289nm,27.0s						
RKT	**Rikitea**	**54.05**	**267**	*e*T	T	17 28 37.7	
	1.3nm,0.2s						
MEH	**Mehetia**	**67.19**	**265**	*e*T	T	17 45 02.5	
	11nm,0.2s						
TIAR	**Tiarei**	**68.37**	**264**	*e*T	T	17 46 31.2	
	3.3nm,0.2s						
PPT2	**Papeete2**	**68.54**	**264**	*e*LR	LR	16 53 25.7	
	109nm,24.0s						
MAW	**Mawson**	**69.74**	**164**	LR	LR	17 02 44.3	
	comp=Z,241nm,19.0s,baz=238,slow=36						
LPIG	**La Paz**	**70.73**	**325**	LR	LR	16 57 38.6	
	comp=Z,204nm,18.1s,baz=204,slow=31						
TXAR	**Lajitas Array**	**72.63**	**333**	P	**P**	**16 32 55.4**	**+0.4**
	2.6nm,0.9s,baz=148,slow=7.4,SNR=7.7						
TXAR				pP	**pP**	**16 33 01.7**	**-0.5**
	1.2nm,0.7s,baz=151,slow=8.6,SNR=3.7						
TXAR				LR	LR	16 59 44.5	
	comp=Z,147nm,18.6s,baz=0.0,slow=32						
AMTX	**Amarillo**	**77.03**	**337**	*e*P	**P**	**16 33 20.3**	**-0.2**
	18nm,1.2s						
DBIC	**Dimbokro**	**77.60**	**71**	P	**P**	**16 33 24.3**	**+0.3**
	3.9nm,0.6s,baz=193,slow=6.9,SNR=8.0						
DBIC				pP	**pP**	**16 33 30.8**	**-0.4**
	8.5nm,0.9s,baz=206,slow=6.1,SNR=6.1						
BOSA	**Boshof**	**79.31**	**118**	P	**P**	**16 33 33.1**	**-0.4**
	5.9nm,1.0s,baz=235,slow=8.2,SNR=5.7						
BOSA				pP	**pP**	**16 33 39.9**	**-0.8**
	4.2nm,0.8s,baz=246,slow=4.9,SNR=3.8						
URZ	**Urewera**	**80.12**	**229**	LR	LR	17 01 10.5	
	comp=Z,130nm,20.6s,baz=77,slow=30						
RAO	**Raoul Island**	**82.75**	**239**	LR	LR	17 00 57.9	
	comp=Z,132nm,21.9s,baz=104,slow=29						
NVAR	**Mina Array Bea**	**86.46**	**326**	P	**P**	**16 34 10.8**	**+0.6**
	0.7nm,0.9s,baz=161,slow=6.3,SNR=3.6						
NVAR				pP	**pP**	**16 34 17.5**	**0.0**
	0.8nm,0.8s,baz=163,slow=5.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**86.69**	**71**	P	**P**	**16 34 11.6**	**0.0**
	1.0nm,0.5s,baz=216,slow=5.1,SNR=10.0						
TORD				pP	**pP**	**16 34 18.0**	**-0.8**
	3.3nm,0.8s,baz=239,slow=4.0,SNR=16						
PDAR	**Pinedale Array**	**86.76**	**334**	P	**P**	**16 34 11.3**	**-0.3**
	0.8nm,0.8s,baz=160,slow=4.7,SNR=5.0						
PDAR				pP	**pP**	**16 34 19.7**	**+0.8**
	0.6nm,0.9s,baz=142,slow=5.1,SNR=3.0						
GERES	**GERESS Array B**	**115.77**	**47**	PKP	**PKPdf**	**16 40 10.0**	**+0.5**
	0.3nm,0.7s,baz=261,slow=5.9,SNR=2.2						
WRA	**Warramunga Arr**	**116.72**	**210**	PKP	**PKPdf**	**16 40 11.7**	**-0.6**
	0.5nm,0.8s,baz=162,slow=1.8,SNR=3.8						
BRTR	**Keskin Array B**	**124.75**	**64**	PKP	**PKPdf**	**16 40 27.8**	**+0.7**
	0.3nm,0.6s,baz=197,slow=4.5,SNR=2.4						
BRTR				pPKP	**pPKPdf**	**16 40 35.2**	**+0.6**
	0.6nm,0.7s,baz=190,slow=3.5,SNR=3.3						
SEY	**Seymchan**	**142.77**	**327**	PKhKP	PKPpre	16 40 55.2	
	0.2nm,0.3s,baz=76,slow=8.3,SNR=2.8						
ABKAR	**Akbulak array**	**145.00**	**56**	*e*PKP	PKPbc	16 41 03.3	-0.2
BRVK	**Borovoye**	**150.86**	**47**	*e*PKPbc	**PKPbc**	**16 41 19.6**	**+0.2**
BVAR	**Borovoye Array**	**150.93**	**47**	PKPbc	**PKPbc**	**16 41 20.1**	**+0.6**
	1.7nm,0.7s,baz=274,slow=4.9,SNR=14						
KKAR	**Karatay Array**	**152.34**	**68**	*e*PKPbc	**PKPbc**	**16 41 23.4**	**+0.3**
ZALV	**Zalesovo Beam**	**158.18**	**36**	PKP	**PKPdf**	**16 41 23.6**	**-0.2**
	0.3nm,0.5s,baz=282,slow=6.9,SNR=3.1						
ZALV				pPKP	**pPKPdf**	**16 41 31.5**	**+0.2**
	0.8nm,0.8s,baz=225,slow=5.7,SNR=2.7						
ZALV				pPKPab	**pPKPab**	**16 42 06.0**	**+0.9**
	1.3nm,0.8s,baz=292,slow=4.0,SNR=3.3						
CMAR	**Chiang Mai Arr**	**159.49**	**159**	PKPab	**PKPab**	**16 42 03.6**	**-0.7**
	0.2nm,0.2s,baz=144,slow=3.4,SNR=3.0						
CMAR				pPKPab	**pPKPab**	**16 42 10.7**	**-1.0**
	0.4nm,0.4s,baz=231,slow=4.1,SNR=2.0						
MKAR	**Makanchi Array**	**160.14**	**56**	PKPab	**PKPab**	**16 42 08.2**	**+1.5**
	0.5nm,0.8s,baz=270,slow=3.4,SNR=4.6						
MKAR				pPKPab	**pPKPab**	**16 42 13.8**	**-0.1**
	1.4nm,0.8s,baz=291,slow=4.1,SNR=9.3						
SONM	**Songino Array**	**170.12**	**0**	PKPab	**PKPab**	**16 42 49.5**	**-1.0**
	0.4nm,0.9s,baz=0.0,slow=2.9,SNR=3.2						

IDC 01 16:29:11.7±1.6, 36°.52S×72°.70W, h33km±7km, mb3.4/3, mb1 3.4/4, mb1mx3.3/24, mbtmp3.5/4, ML2.6/1, Error ellipse: s-maj=56.4km s-min=17.6km az=87.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.54**	**159**	Pn	Pn	16 30 21.9	+3.6
	1.5nm,0.3s,baz=327,slow=12,SNR=6.2						
PLCA				Pg	Pb	16 30 34.5	+3.8
	2.1nm,0.3s,baz=323,slow=14,SNR=5.7						
PLCA				Lg	Lg	16 31 38.1	
	3.5nm,0.3s,baz=319,slow=9.3,SNR=4.4						
CFAA	**Coronel Fontan**	**6.14**	**38**	Pn	Pn	16 30 42.1	+1.9
	0.1nm,0.3s,baz=214,slow=12,SNR=4.3						
CFAA				Lg	Lg	16 32 17.5	
	0.3nm,0.3s,baz=122,slow=21,SNR=6.5						
LPAZ	**La Paz**	**20.55**	**13**	P	P	16 33 49.0	+0.6
	0.5nm,0.6s,baz=217,slow=5.1,SNR=2.6						
LPAZ				pP	pP	16 33 57.5	+0.5
	0.9nm,0.5s,baz=217,slow=5.1,SNR=2.7						
QSPA	**South Pole Qui**	**53.73**	**180**	P	P	16 38 30.6	+0.1
	1.3nm,0.8s,baz=190,slow=8.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**85.58**	**70**	P	P	16 41 45.9	-1.1
	0.4nm,0.6s,baz=242,slow=3.1,SNR=3.0						
TORD				pP	pP	16 41 57.3	-0.1
	1.4nm,1.1s,baz=243,slow=3.5,SNR=5.1						
BVAR	**Borovoye Array**	**149.46**	**46**	PKPbc	PKPbc	16 48 57.7	+0.8
	0.2nm,0.5s,baz=258,slow=4.3,SNR=2.8						
BVAR				pPKPbc	pPKPbc	16 49 06.7	-0.9
	0.2nm,0.5s,baz=14,slow=1.8,SNR=2.1						
MKAR	**Makanchi Array**	**158.76**	**53**	PKPab	PKPab	16 49 39.8	-1.8
	0.1nm,0.3s,baz=318,slow=1.9,SNR=3.9						

*ISCJB **01** 16:37:14.9±0.6, 36°.22S±0°.07×73°.4W±0°.1, h10km, mb4.2/10, Error ellipse: s-maj=14.6km s-min=9.8km az=4.5*
*IDC **01** 16:37:14.9±0.8, 36°.25S×73°.34W, h0km, mb4.1/8, mb1 4.1/11, mb1mx4.1/27, mbtmp4.0/11, ML4.0/3, MS3.0/2, Ms1 3.0/2, ms1mx2.8/28, Error ellipse: s-maj=25.0km s-min=15.9km az=84.0*
*NEIC **01** 16:37:17.3±4.5, 36°.21S×73°.46W, h16km±27km, mb4.1/3, Error ellipse: s-maj=17.4km s-min=8.5km az=88.0*
ISC 01 16:37:16.3±0.7, 36°.21S±0°.07×73°.5W±0°.1, h10km, n24, σ0s98/27, mb4.2/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.07**	**154**	Pn	**Pn**	**16 38 32.3**	**-0.2**
	1.3nm,0.3s,baz=326,slow=15,SNR=3.9						
PLCA				Pg	**Pb**	**16 38 45.8**	**+0.6**
	3.7nm,0.3s,baz=319,slow=12,SNR=6.3						
PLCA				Lg	Lg	16 39 52.7	
	5.4nm,0.3s,baz=53,slow=23,SNR=3.5						
PLCA				LR	LR	16 39 55.0	
	comp=Z,79nm,20.9s,baz=260,slow=32						
PLCA	**Paso Flores**	**5.07**	**154**	*e*P	**Pn**	**16 38 32.2**	**-0.3**
	36nm,0.8s						
PLCA				Pg	**Pb**	**16 38 45.8**	**+0.6**
PLCA				Lg	Lg	16 39 52.7	
CFAA	**Coronel Fontan**	**6.33**	**45**	Pn	**Pn**	**16 38 51.0**	**+1.2**
	0.8nm,0.3s,baz=220,slow=13,SNR=3.7						
CFAA				Lg	Lg	16 40 25.5	
	0.3nm,0.3s,baz=114,slow=21,SNR=4.3						
TRQA	**Tornquist**	**9.37**	**105**	*e*P	**Pn**	**16 39 32.3**	**+0.9**
	19nm,0.9s						
LVC	**Limon Verde**	**14.12**	**18**	P	**Pn**	**16 40 35.4**	**-1.3**
CPUP	**Villa Florida**	**16.94**	**59**	Pn	**Pn**	**16 41 13.9**	**+0.5**
	0.3nm,0.3s,baz=190,slow=16,SNR=2.8						
CPUP				LR	LR	16 47 19.5	
	comp=Z,104nm,21.0s,baz=223,slow=36						
LPAZ	**La Paz**	**20.40**	**15**	P	**P**	**16 41 55.3**	**+1.2**
	2.3nm,0.7s,baz=179,slow=5.7,SNR=6.7						
LPAZ	**La Paz**	**20.40**	**15**	P	**P**	**16 41 54.6**	**+0.4**
	3.7nm,0.8s						
SIV	**San Ignacio**	**22.97**	**32**	P	**P**	**16 42 19.0**	**-2.1**
	6.5nm,0.9s,baz=227,slow=14,SNR=15						
SAML	**Samuel**	**28.71**	**22**	*e*P	**P**	**16 43 14.5**	**+0.7**
	3.2nm,1.2s						
SNAA	**Sanae**	**50.01**	**157**	*e*P	**P**	**16 46 09.9**	**-0.5**
	7.6nm,0.9s						
QSPA	**South Pole Qui**	**54.03**	**180**	P	**P**	**16 46 40.4**	**-0.2**
	1.9nm,0.9s,baz=205,slow=2.3,SNR=5.1						
RAR	**Rarotonga**	**74.91**	**255**	P	**P**	**16 48 58.5**	**+0.9**
	24nm,0.9s,baz=0.0,slow=6.0,SNR=3.3						
DBIC	**Dimbokro**	**77.00**	**72**	P	**P**	**16 49 09.9**	**+0.2**
	3.3nm,0.7s,baz=208,slow=4.9,SNR=4.7						
BOSA	**Boshof**	**80.09**	**118**	P	**P**	**16 49 26.9**	**+0.1**
	1.8nm,0.8s,baz=276,slow=7.5,SNR=4.0						
NVAR	**Mina Array Bea**	**85.04**	**326**	P	**P**	**16 49 53.4**	**+1.2**
	0.1nm,0.3s,baz=145,slow=6.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**86.07**	**71**	P	**P**	**16 49 56.9**	**-0.7**
	1.2nm,0.8s,baz=246,slow=4.2,SNR=6.3						
ULM	**Lac du Bonnet**	**88.33**	**346**	P	**P**	**16 50 07.8**	**+0.1**
	1.7nm,0.6s,baz=164,slow=15,SNR=3.7						
ABKAR	**Akbulak array**	**143.96**	**54**	*e*PKPpre	PKPpre	16 56 49.0	
BRVK	**Borovoye**	**149.62**	**45**	*e*PKPbc	**PKPbc**	**16 57 05.6**	**+0.1**
KKAR	**Karatay Array**	**151.60**	**65**	*e*PKPbc	**PKPbc**	**16 57 09.7**	**-0.9**
ZALV	**Zalesovo Beam**	**156.72**	**34**	PKP	**PKPdf**	**16 57 10.6**	**-0.5**
	0.5nm,0.5s,baz=237,slow=5.1,SNR=4.4						
ZALV				PKPab	**PKPab**	**16 57 40.8**	**+0.3**
	0.8nm,0.5s,baz=318,slow=6.0,SNR=6.1						
MKAR	**Makanchi Array**	**159.08**	**52**	PKP	**PKPdf**	**16 57 13.5**	**-0.9**
	0.5nm,0.8s,baz=343,slow=2.5,SNR=4.7						
MKAR				PKPab	**PKPab**	**16 57 48.8**	**-2.4**
	0.5nm,0.9s,baz=259,slow=1.2,SNR=4.4						
SONM	**Songino Array**	**168.38**	**0**	PKPab	**PKPab**	**16 58 32.8

*IDC **01** 16:47:38.3±0.7, 32°.97S×71°.87W, h29km±4km, mb4.0/10, mb1 4.1/13, mb1mx4.0/33, mbtmp4.1/13, ML4.1/3, MS3.6/1, Ms1 3.6/1, ms1mx3.1/27, Error ellipse: s-maj=23.2km s-min=15.9km az=73.0*

ISC 01 16:47:36.0±0.5, 33°.08S±0°.06×72°.10W±0°.06, h15km, n36, σ1§58/49, mb4.3/12, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.39**	**82**	*eP*	**Pg**	**16 47 44.2**	**+0.3**
LNV	**Longovilo**	**1.05**	**147**	*eP*	**Pb**	**16 47 56.1**	**+0.2**
RCDM	**Rinconada Maip**	**1.16**	**111**	*eP*	**Pn**	**16 47 57.6**	**-0.1**
RCDM				*eS*	**Sn**	**16 48 14.3**	**+1.0**
PEL	**Peldehue**	**1.19**	**93**	*eP*	**Pn**	**16 47 58.2**	**0.0**
PEL				*eS*	**Sg**	**16 48 15.3**	**+0.8**
PEL				AML	AML	16 48 17.1	
	comp=E,13μm,0.6s						
STL	**Santa Lucia**	**1.27**	**107**	*eP*	**Pn**	**16 47 59.4**	**+0.1**
STL				*eS*	**Sg**	**16 48 17.9**	**+0.7**
ANTU	**Antumapu**	**1.32**	**112**	*eP*	**Pn**	**16 48 00.3**	**+0.3**
ANTU				*eS*	**Sg**	**16 48 19.4**	**+0.7**
ANTU				AML	AML	16 48 25.5	
	comp=E,5μm,0.4s						
CFAA	**Coronel Fontan**	**3.58**	**67**	Pn	**Pn**	**16 48 33.4**	**+2.3**
	comp=E,1.7nm,0.3s,baz=250,slow=13,SNR=16						
CFAA				LR	LR	16 49 24.6	
	comp=E,39nm,20.2s,baz=301,slow=32						
CFAA				Lg	Lg	16 49 27.1	
	comp=E,11nm,0.3s,baz=321,slow=17,SNR=10						
PLCA	**Paso Flores**	**7.74**	**171**	Lg	Lg	16 51 42.5	
	comp=E,0.9nm,0.3s,baz=97,slow=21,SNR=2.5						
TRQA	**Tornquist**	**9.62**	**124**	*eP*	**Pn**	**16 49 55.1**	**+1.2**
CPUP	**Villa Florida**	**14.48**	**66**	Pn	**Pn**	**16 50 59.6**	**-0.8**
	comp=E,0.4nm,0.3s,baz=219,slow=14,SNR=1.8						
CPUP				Sn	**Sn**	**16 53 41.4**	**+0.6**
	comp=E,0.3nm,0.3s,baz=180,slow=19,SNR=2.9						
CPUP				Lg	Lg	16 54 50.1	
	comp=E,0.6nm,0.3s,baz=91,slow=13,SNR=3.7						
CPUP				LR	LR	16 56 36.0	
	comp=E,286nm,21.4s,baz=228,slow=38						
LPAZ	**La Paz**	**17.10**	**13**	Pn	**Pn**	**16 51 33.6**	**-1.6**
	comp=E,0.2nm,0.3s,baz=194,slow=8.3,SNR=6.5						
LPAZ				Sn	**Sn**	**16 54 46.3**	**+0.9**
	comp=E,0.1nm,0.3s,baz=200,slow=10,SNR=3.7						
LPAZ	**La Paz**	**17.10**	**13**	*eP*	**Pn**	**16 51 33.6**	**-1.6**
	comp=E,15nm,1.1s						
LPAZ				Sn	**Sn**	**16 54 46.3**	**+0.9**
SIV	**San Ignacio**	**19.72**	**33**	P	**P**	**16 52 03.5**	**-1.7**
	comp=E,0.2nm,0.3s,baz=208,slow=15,SNR=6.0						
SAML	**Samuel**	**25.39**	**21**	*eP*	**P**	**16 53 00.5**	**-2.3**
	comp=E,26nm,1.4s						
BDFB	**Brasilia**	**27.87**	**57**	P	**P**	**16 53 23.0**	**-2.4**
	comp=E,4.5nm,0.7s,baz=211,slow=6.7,SNR=6.6						
SNAA	**Sanae**	**52.45**	**158**	P	**P**	**16 56 46.7**	**-1.0**
	comp=E,1.6nm,1.1s,baz=243,slow=16,SNR=3.4						
QSPA	**South Pole Qui**	**57.16**	**180**	P	**P**	**16 57 22.9**	**+1.0**
	comp=E,3.6nm,0.9s,baz=139,slow=1.7,SNR=6.5						
QSPA				pP	pP	16 57 33.2	+6.4
	comp=E,5.9nm,0.9s,baz=147,slow=2.4,SNR=6.1						
QSPA	**South Pole Qui**	**57.16**	**180**	*eP*	**P**	**16 57 22.5**	**+0.6**
	comp=E,8.6nm,1.0s						
QSPA				pP	pP	16 57 33.2	+6.4
TXAR	**Lajitas Array**	**68.91**	**331**	P	**P**	**16 58 40.3**	**-0.1**
	comp=E,0.9nm,0.7s,baz=151,slow=11,SNR=3.0						
TXAR				pP	**pP**	**16 58 49.1**	**+3.9**
	comp=E,1.2nm,0.7s,baz=148,slow=7.4,SNR=3.8						
DBIC	**Dimbokro**	**74.93**	**72**	P	**P**	**16 59 15.7**	**-1.1**
	comp=E,4.5nm,1.0s,baz=187,slow=8.0,SNR=3.3						
TSUM	**Tsumeb**	**79.51**	**106**	*eP*	**P**	**16 59 42.2**	**-0.4**
	comp=E,4.9nm,1.3s						
BOSA	**Boshof**	**80.54**	**118**	P	**P**	**16 59 47.7**	**-0.4**
	comp=E,5.2nm,1.0s,baz=205,slow=6.7,SNR=4.3						
BOSA				pP	**PcP**	**16 59 56.5**	**+1.5**
	comp=E,3.6nm,1.0s,baz=322,slow=1.2,SNR=2.7						
PDAR	**Pinedale Array**	**82.92**	**333**	P	**P**	**17 00 01.3**	**+1.1**
	comp=E,0.8nm,1.1s,baz=171,slow=6.4,SNR=2.4						
PDAR				pP	**pP**	**17 00 09.9**	**+4.7**
	comp=E,0.6nm,1.0s,baz=142,slow=4.6,SNR=2.6						
NVAR	**Mina Array Bea**	**83.10**	**325**	P	**P**	**17 00 01.5**	**+0.3**
	comp=E,0.4nm,0.6s,baz=171,slow=6.1,SNR=3.9						
NVAR				pP	**pP**	**17 00 10.6**	**+4.3**
	comp=E,0.8nm,0.7s,baz=171,slow=5.8,SNR=5.0						
ELK	**Elko**	**83.55**	**328**	LR	LR	17 32 31.1	
	comp=E,1μm,21.3s,baz=179,slow=32						
TORD	**Torodi Ar. Bea**	**83.94**	**70**	P	**P**	**17 00 04.9**	**-0.9**
	comp=E,5.1nm,0.9s,baz=254,slow=4.7,SNR=16						
ULM	**Lac du Bonnet**	**85.60**	**345**	P	**P**	**17 00 11.9**	**-1.4**
	comp=E,1.1nm,0.5s,baz=225,slow=1.8,SNR=3.3						
YKA	**Yellowknife Ar**	**101.17**	**341**	P	**Pdif**	**17 01 23.3**	**-1.7**
	comp=E,0.1nm,0.6s,baz=144,slow=4.9,SNR=2.9						
GEYT	**Alibeck**	**139.57**	**69**	PKP	**PKPdf**	**17 07 03.0**	**-0.1**
	comp=E,0.6nm,0.4s,baz=256,slow=5.8,SNR=2.9						
BRVK	**Borovoye**	**146.56**	**42**	*e*PKPdf	**PKPdf**	**17 07 14.2**	**-0.6**
KKAR	**Karatay Array**	**149.14**	**60**	*e*PKPbc	**PKPbc**	**17 07 22.6**	**-1.0**
EKS2	**Erkin-Say**	**151.58**	**60**	*e*PKPbc	**PKPbc**	**17 07 29.4**	**-0.2**
AAK	**Ala-Archa**	**152.10**	**60**	*e*PKPbc	**PKPbc**	**17 07 30.5**	**-0.4**
ZALV	**Zalesovo Beam**	**153.47**	**31**	PKP	**PKPdf**	**17 07 24.6**	**-1.0**
	comp=E,0.5nm,0.6s,baz=45,slow=0.6,SNR=3.3						
ZALV				PKPbc	**PKPbc**	**17 07 32.4**	**-0.8**
	comp=E,2.4nm,0.8s,baz=316,slow=4.1,SNR=12						
ZALV				PKPab	**PKPab**	**17 07 45.7**	**+0.1**
	comp=E,1.3nm,0.6s,baz=308,slow=3.6,SNR=3.9						
MKAR	**Makanchi Array**	**156.19**	**47**	PKPab	**PKPab**	**17 07 56.6**	**-0.9**
	comp=E,1.9nm,0.8s,baz=294,slow=3.9,SNR=15						
MKAR				pPKPab	**pPKPab**	**17 08 05.6**	**+3.0**
	comp=E,2.1nm,0.9s,baz=288,slow=3.8,SNR=4.6						
SONM	**Songino Array**	**165.22**	**4**	PKP	**PKPdf**	**17 07 38.1**	**-1.4**
	comp=E,0.3nm,0.7s,baz=116,slow=3.4,SNR=3.4						
SONM				PKPab	**PKPab**	**17 08 36.8**	**0.0**
	comp=E,0.4nm,0.8s,baz=16,slow=3.4,SNR=4.3						

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*MOS **01** 16:56:48.8±0.9, 36°.25S×72°.28W, h33km, mb5.5/7, Error ellipse: s-maj=20.7km s-min=11.7km az=89.9*

*NEIC **01** 16:56:49.7±0.3, 36°.30S×72°.47W, h35km, mb5.1/10, Error ellipse: s-maj=10.9km s-min=7.5km az=88.0*

NEIC Felt at Santiago.

*GCMT **01** 16:56:49.7±0.3, 36°.40S×72°.70W, h68km±2km, MW5.0/60, Moment Tensor Solution. s33,c39; s60,c76; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.50±.17; $M_{\theta\theta}$0.27±.16; $M_{\phi\phi}$-2.77±.16; $M_{r\theta}$0.31±.09; $M_{\theta\phi}$-1.39±.16; $M_{\phi r}$-1.80±.12; Best double couple: $M_0$3.47800×10^{16} NP1:ϕ_s182.00000°, δ62.00000°, λ68.00000°. NP2: ϕ_s43.00000°, δ35.00000°, λ125.00000°. Principal axes: T 3.2400, Plg66.0000°, Azm53.0000°; N 0.4720, Plg19.0000°, Azm193.0000°; P -3.7170, Plg15.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **01** 16:56:51.1±1.4, 36°.30S±0°.04×72°.21W±0°.09, h56km±12km, mb4.9/22, MS4.0/13 Error ellipse: s-maj=12.2km s-min=6.9km az=171.7*

*IDC **01** 16:56:51.1±0.5, 36°.26S×72°.35W, h46km±4km, mb4.5/13, mb1 4.6/17, mb1mx4.5/23, mbtmp4.7/17, MS4.0/16, Ms1 4.0/16, ms1mx3.9/30, Error ellipse: s-maj=16.2km s-min=9.3km az=92.0*

ISC 01 16:56:50.9±0.5, 36°.23S±0°.05×72°.42W±0°.08, h46km±3km, h46km:pP-P, n236, σ1§41/273, mb5.0/22, MS4.1/13, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.73**	**163**	*eP*	**Pn**	**16 57 59.9**	**+0.1**
PLCA				S	**Sn**	**16 58 56.8**	**+3.4**
PLCA	**Paso Flores**	**4.73**	**163**	P	**Pn**	**16 58 00.4**	**+0.6**
	21nm,0.3s,baz=330,slow=11,SNR=29						
PLCA				S	**Sn**	**16 58 56.8**	**+3.4**
	3.6nm,0.3s,baz=253,slow=16,SNR=1.5						
PLCA	**Paso Flores**	**4.73**	**163**	*eP*	**Pn**	**16 57 59.9**	**+0.1**
PLCA				S	**Sn**	**16 58 56.8**	**+3.4**
CFAA	**Coronel Fontan**	**5.78**	**38**	P	**Pn**	**16 58 15.4**	**+1.3**
	4.0nm,0.3s,baz=212,slow=13,SNR=83						
CFAA				S	**Sn**	**16 59 21.4**	**+2.3**
	8.1nm,0.3s,baz=80,slow=15,SNR=6.6						
CFAA				LR	LR	17 00 37.2	
	comp=Z,216nm,20.9s,baz=226,slow=39						
TRQA	**Tornquist**	**8.54**	**105**	*eP*	**Pn**	**16 58 53.0**	**+1.0**
	253nm,1.1s						
LVC	**Limon Verde**	**13.91**	**14**	*eP*	**Pn**	**17 00 03.3**	**-2.3**
	22nm,0.7s						
CPUP	**Villa Florida**	**16.22**	**57**	*eP*	**Pn**	**17 00 35.8**	**+0.2**
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CPUP	**Villa Florida**	**16.22**	**57**	P	**Pn**	**17 00 35.9**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=197,slow=11,SNR=13						
CPUP				LR	LR	17 07 31.8	
	comp=Z,1μm,18.8s,baz=216,slow=40						
CPUP	**Villa Florida**	**16.22**	**57**	*eP*	**Pn**	**17 00 35.8**	**+0.2**
	comp=Z,0.9nm,0.6s						
USHA	**Ushuaia**	**18.81**	**173**	P	**Pn**	**17 01 07.0**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=346,slow=11,SNR=6.2						
USHA				LR	LR	17 09 00.3	
	comp=Z,628nm,18.1s,baz=343,slow=39						
LPAZ	**La Paz**	**20.22**	**12**	*eP*	**P**	**17 01 24.6**	**+1.8**
LPAZ				pmax	pmax		
	comp=Z,66nm,0.6s						
LPAZ	**La Paz**	**20.22**	**12**	P	Pn	17 01 25.1	-0.1
	comp=Z,11nm,0.8s,baz=167,slow=5.3,SNR=22						
LPAZ	**La Paz**	**20.22**	**12**	*eP*	**P**	**17 01 24.6**	**+1.8**
	comp=Z,66nm,0.6s						
SIV	**San Ignacio**	**22.55**	**30**	P	**P**	**17 01 47.4**	**+0.2**
	comp=Z,52nm,0.8s,baz=213,slow=9.1,SNR=49						
SIV				pP	**pP**	**17 01 56.5**	**-1.7**
	comp=Z,27nm,0.7s,baz=206,slow=8.0,SNR=10						
SIV				LR	LR	17 12 03.9	
	comp=Z,270nm,19.6s,baz=218,slow=40						
NNA	**Nana**	**24.46**	**350**	P	**P**	**17 02 04.5**	**-1.2**
NNA	**Nana**	**24.46**	**350**	P	**P**	**17 02 06.0**	**+0.4**
	comp=Z,3.1nm,0.3s,baz=213,slow=18,SNR=2.3						
NNA				LR	LR	17 09 30.6	
	comp=Z,168nm,21.9s,baz=168,slow=31						
NNA	**Nana**	**24.46**	**350**	P	**P**	**17 02 04.5**	**-1.2**
SAML	**Samuel**	**28.43**	**19**	*eP*	**P**	**17 02 41.8**	**+0.4**
	comp=Z,35nm,1.2s						
PMSA	**Palmer Station**	**29.02**	**173**	LR	LR	17 13 40.0	
	comp=Z,575nm,19.9s,baz=330,slow=35						
ATAH	**Atahualpa**	**29.47**	**348**	LR	LR	17 13 33.6	
	comp=Z,174nm,18.1s,baz=185,slow=34						
BDFB	**Brasilia**	**29.88**	**53**	P	**P**	**17 02 53.5**	**-0.9**
	comp=Z,13nm,0.8s,baz=240,slow=5.9,SNR=12						
BDFB				LR	LR	17 16 26.3	
	comp=Z,728nm,18.6s,baz=222,slow=39						
OTAV	**Otavalo**	**36.71**	**350**	*eP*	**P**	**17 03 57.1**	**+2.9**
	comp=Z,7.6nm,1.0s						
VNA3	**Neumayer Olymp**	**47.43**	**157**	P	**P**	**17 05 20.3**	**-0.1**
VNA2	**Neumayer--Watz**	**48.09**	**156**	P	**P**	**17 05 25.2**	**-0.3**
SNAA	**Sanae**	**49.65**	**157**	P	**P**	**17 05 37.2**	**-0.3**
SNAA	**Sanae**	**49.65**	**157**	*eP*	**P**	**17 05 36.9**	**-0.7**
SNAA				pmax	pmax		
	comp=Z,39nm,1.1s						
SNAA	**Sanae**	**49.65**	**157**	P	**P**	**17 05 36.9**	**-0.7**
	comp=Z,9.8nm,1.0s,baz=290,slow=6.8,SNR=21						
SNAA	**Sanae**	**49.65**	**157**	*eP*	**P**	**17 05 36.9**	**-0.7**
	comp=Z,39nm,1.1s						
QSPA	**South Pole Qui**	**54.01**	**180**	P	**P**	**17 06 10.1**	**-0.1**
	comp=Z,9.9nm,0.9s,baz=316,slow=0.6,SNR=37						
QSPA				pP	**pP**	**17 06 22.4**	**-0.7**
	comp=Z,25nm,1.0s,baz=255,slow=1.3,SNR=7.9						
QSPA				LR	LR	17 28 47.8	
	comp=Z,62nm,19.2s,baz=264,slow=36						
QSPA	**South Pole Qui**	**54.01**	**180**	*eP*	**P**	**17 06 10.1**	**-0.1**
	comp=Z,24nm,0.8s						
QSPA				pP	**pP**	**17 06 22.4**	**-0.7**
NVL	**N'lazarevskaya**	**54.41**	**156**	*eP*	**P**	**17 06 13.1**	**+0.3**
NVL				pmax	pmax		
	comp=Z,22nm,0.8s						
RKT	**Rikitea**	**55.05**	**265**	*e*LR	LR	17 22 20.5	
	comp=Z,376nm,29.5s,baz=119						
VNDA	**Vanda**	**61.86**	**192**	LR	LR	17 31 21.1	
	comp=Z,85nm,19.4s,baz=147,slow=34						
SYO	**Syowa Base**	**63.92**	**158**	*eP*	**P**	**17 07 16.0**	**-2.5**
833A	**Chaparral WMA,**	**69.05**	**335**	P	**P**	**17 07 53.5**	**+1.7**
	baz=69						
832A	**Faith Ranch, C**	**69.22**	**334**	P	**P**	**17 07 54.2**	**+1.4**
	baz=70						
732A	**Laxson Ranch,**	**69.62**	**334**	P	**P**	**17 07 57.0**	**+1.7**
	baz=70						
PPT2	**Papeete2**	**69.62**	**263**	*e*LR	LR	17 29 06.1	
	comp=Z,583nm,27.0s						
PPT	**Papeete**	**69.64**	**263**	LR	LR	17 28 32.4	
	comp=Z,41nm,21.3s,baz=169,slow=27						
533A	**Kerrville**	**70.53**	**336**	P	**P**	**17 08 02.8**	**+1.8**
	baz=71						
532A	**Rocksprings**	**70.88**	**335**	P	**P**	**17 08 04.8**	**+1.7**
	baz=71						
434A	**Burnet**	**70.97**	**337**	P	**P**	**17 08 04.9**	**+1.3**
	baz=71						
336A	**Riesel**	**71.06**	**338**	P	**P**	**17 08 05.9**	**+1.9**
	baz=71						
MAW	**Mawson**	**71.14**	**163**	LR	LR	17 41 07.4	
	comp=Z,266nm,18.1s,baz=232,slow=37						
JCT	**Junction City**	**71.17**	**335**	P	**P**	**17 08 06.3**	**+1.5**
	baz=72						
433A	**Art**	**71.18**	**336**	P	**P**	**17 08 06.0**	**+1.1**
	baz=72						
530A	**J-C Ranch, Com**	**71.40**	**334**	P	**P**	**17 08 07.4**	**+1.3**
	baz=72						
334A	**Lometa**	**71.44**	**337**	P	**P**	**17 08 07.7**	**+1.4**
	baz=72						
TXAR	**Lajitas Array**	**71.53**	**331**	P	**P**	**17 08 08.0**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=128,slow=5.8,SNR=5.5						
TXAR				pP	**pP**	**17 08 21.0**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=154,slow=8.5,SNR=5.7						
TXAR				LR	LR	17 34 03.8	
	comp=Z,150nm,21.0s,baz=0.0,slow=31						
431A	**Sonora**	**71.63**	**335**	P	**P**	**17 08 08.6**	**+1.0**
	baz=72						
333A	**Richland Sprin**	**71.67**	**336**	P	**P**	**17 08 09.1**	**+1.3**
	baz=72						
529A	**Stev Forest Ra**	**71.70**	**333**	P	**P**	**17 08 09.4**	**+1.4**
	baz=72						
430A	**Baggett Ranch,**	**71.94**	**334**	P	**P**	**17 08 10.7**	**+1.3**
	baz=72						
429A	**Davenport Ranc**	**72.03**	**334**	P	**P**	**17 08 11.7**	**+1.7**
	baz=72						
331A	**San Angelo**	**72.14**	**335**	P	**P**	**17 08 11.6**	**+1.0**
	baz=72						
233A	**Rising Star**	**72.28**	**337**	P	**P**	**17 08 12.6**	**+1.2**
	baz=73						
232A	**Coleman**	**72.41**	**336**	P	**P**	**17 08 13.5**	**+1.3**
	baz=73						
231A	**Bronte**	**72.67**	**335**	P	**P**	**17 08 14.6**	**+0.9**
	baz=73						
133A	**Hamilton Ranch**	**72.83**	**337**	P	**P**	**17 08 16.1**	**+1.4**
	baz=73						
329A	**Wagon Wheel Ra**	**72.84**	**334**	P	**P**	**17 08 16.1**	**+1.2**
	baz=73						
ABTX	**Abilene, Hawle**	**73.08**	**336**	P	**P**	**17 08 17.4**	**+1.2**
	baz=74						
130A	**Snyder**	**73.50**	**335**	P	**P**	**17 08 19.5**	**+0.9**
	baz=74						
Z32A	**Haskell**	**73.66**	**337**	P	**P**	**17 08 20.9**	**+1.4**
	baz=74						
Y34A	**Reagan Ranch,**	**73.72**	**338**	P	**P**	**17 08 20.8**	**+0.9**
	baz=74						
Z31A	**Sharp Cattle R**	**73.88**	**336**	P	**P**	**17 08 22.1**	**+1.3**
	baz=74						
SUR	**Sutherland**	**74.04**	**119**	P	**P**	**17 08 22.9**	**+0.6**
	comp=Z,295nm,0.9s,SNR=7.3						
SUR	**Sutherland**	**74.04**	**119**	*eP*	**P**	**17 08 22.6**	**+0.3**
	comp=Z,44nm,0.9s						
128A	**Castleberry Fa**	**74.05**	**334**	P	**P**	**17 08 22.8**	**+0.9**
	baz=74						
Z29A	**Hungry Hill Ra**	**74.35**	**335**	P	**P**	**17 08 24.5**	**+0.9**
	baz=75						
X31A	**McDonald Ranch**	**75.03**	**337**	P	**P**	**17 08 28.9**	**+1.4**
	baz=75						
Y28A	**McKinney Farm,**	**75.13**	**335**	P	**P**	**17 08 29.9**	**+1.7**
	baz=76						
X30A	**Coker Ranch, T**	**75.16**	**336**	P	**P**	**17 08 30.1**	**+1.9**
	baz=76						
Z26A	**Caprock**	**75.17**	**333**	P	**P**	**17 08 29.9**	**+1.4**
	baz=76						
W32A	**Sentinel**	**75.26**	**338**	P	**P**	**17 08 30.5**	**+1.7**
	baz=76						
MSTX	**Muleshoe**	**75.37**	**334**	P	**P**	**17 08 31.0**	**+1.4**
	baz=76						
V33A	**Lossen Ranch,**	**75.61**	**339**	P	**P**	**17 08 32.7**	**+1.9**
	baz=76						
Z24A	**Sheeppen Canyo**	**75.74**	**332**	P	**P**	**17 08 33.6**	**+1.8**
	baz=76						
LIC	**Lamto**	**75.78**	**71**	*eP*	**P**	**17 08 32.2**	**-0.1**
	comp=Z,117nm,1.2s						
AMTX	**Amarillo**	**75.82**	**336**	P	**P**	**17 08 33.5**	**+1.4**
	baz=76						
U34A	**Anderson Ranch**	**75.97**	**339**	P	**P**	**17 08 34.5**	**+1.7**
	baz=76						
TIC	**Toumodi**	**76.05**	**71**	*eP*	**P**	**17 08 33.8**	**0.0**
	comp=Z,49nm,0.8s						
KIC	**Kosan Boka**	**76.09**	**71**	*eP*	**P**	**17 08 34.1**	**+0.1**
	comp=Z,117nm,1.0s						
DBIC	**Dimbokro**	**76.19**	**71**	*eP*	**P**	**17 08 34.5**	**-0.1**
DBIC				pmax	pmax		
	comp=Z,84nm,1.4s						
DBIC	**Dimbokro**	**76.19**	**71**	P	**P**	**17 08 34.5**	**-0.1**
	comp=Z,27nm,0.9s,baz=210,slow=6.8,SNR=25						
DBIC				LR	LR	17 38 08.4	
	comp=Z,137nm,21.5s,baz=206,slow=32						
DBIC	**Dimbokro**	**76.19**	**71**	*eP*	**P**	**17 08 34.5**	**-0.1**
	comp=Z,84nm,1.4s						
W27A	**Bowe Ranch, En**	**76.46**	**335**	P	**P**	**17 08 37.4**	**+1.6**
	baz=77						
W26A	**Owens Ranch, T**	**76.73**	**334**	P	**P**	**17 08 39.2**	**+1.9**
	baz=77						
U30A	**WK&E Inc. Balk**	**76.99**	**337**	P	**P**	**17 08 40.5**	**+1.8**
	baz=77						
T32A	**Huddler Ranch,**	**77.06**	**339**	P	**P**	**17 08 40.7**	**+1.7**
	baz=78						
W25A	**X Bar L Ranch,**	**77.09**	**334**	P	**P**	**17 08 40.9**	**+1.6**
	baz=78						
U28A	**Mallet**	**77.37**	**336**	P	**P**	**17 08 42.3**	**+1.5**
	baz=78						
W24A	**Lazy 6 Ranch,**	**77.43**	**333**	P	**P**	**17 08 43.0**	**+1.6**
	baz=78						
U27A	**Thompson Grove**	**77.61**	**335**	P	**P**	**17 08 43.9**	**+1.7**
	baz=78						
S31A	**Mullinville**	**77.64**	**338**	P	**P**	**17 08 44.0**	**+1.8**
	baz=78						
V25A	**Rancho No Teng**	**77.70**	**334**	P	**P**	**17 08 44.6**	**+1.8**
	baz=78						
S30A	**Montezuma**	**77.96**	**338**	P	**P**	**17 08 45.6**	**+1.6**
	baz=78						
U25A	**Circle Dot Ran**	**78.13**	**334**	P	**P**	**17 08 46.5**	**+1.3**
	baz=78						
S28A	**Manter**	**78.36**	**336**	P	**P**	**17 08 47.8**	**+1.5**
	baz=79						
Q33A	**Connelly Farm,**	**78.44**	**340**	P	**P**	**17 08 47.8**	**+1.1**
	baz=79						
T26A	**Comanche Natio**	**78.55**	**335**	P	**P**	**17 08 48.6**	**+1.2**
	baz=79						
Q32A	**Meitler Ranch,**	**78.64**	**340**	P	**P**	**17 08 49.3**	**+1.6**
	baz=79						
T25A	**Trinidad**	**78.80**	**334**	P	**P**	**17 08 50.6**	**+1.7**
	baz=79						
P33A	**Williams Farm,**	**78.82**	**340**	P	**P**	**17 08 50.3**	**+1.6**
	baz=79						
S26A	**Kim**	**78.91**	**335**	P	**P**	**17 08 51.4**	**+2.0**
	baz=79						
R28A	**Tribune**	**79.02**	**337**	P	**P**	**17 08 51.6**	**+1.7**
	baz=79						
Q30A	**Quinter**	**79.11**	**338**	P	**P**	**17 08 51.9**	**+1.5**
	baz=80						
Q29A	**Oakley**	**79.26**	**338**	P	**P**	**17 08 52.6**	**+1.4**
	baz=80						
R27A	**Eads**	**79.29**	**336**	P	**P**	**17 08 52.6**	**+1.2**
	baz=80						
BOSA	**Boshof**	**79.32**	**118**	*eP*	**P**	**17 08 51.4**	**-0.7**
BOSA	**Boshof**	**79.32**	**118**	P	**P**	**17 08 51.1**	**-0.9**
	comp=Z,37nm,0.9s,baz=236,slow=5.5,SNR=43						
BOSA				LR	LR	17 39 10.9	
	comp=Z,106nm,21.5s,baz=224,slow=32						
BOSA	**Boshof**	**79.32**	**118**	*eP*	**P**	**17 08 51.4**	**-0.7**
R26A	**Arlington**	**79.52**	**336**	P	**P**	**17 08 54.2**	**+1.5**
	baz=80						
S24A	**Houchin Ranch,**	**79.53**	**334**	P	**P**	**17 08 55.0**	**+2.0**
	baz=80						
R24A	**Sanders Place,**	**80.02**	**334**	P	**P**	**17 08 57.9**	**+2.4**
	baz=80						
WUAZ	**Wupatki**	**80.06**	**329**	P	**P**	**17 08 57.9**	**+2.1**
	baz=80						
S22A	**4UR Ranch, Cre**	**80.21**	**333**	P	**P**	**17 08 58.0**	**+1.4**
	baz=81						
R23A	**Moffat**	**80.24**	**334**	P	**P**	**17 08 58.7**	**+1.9**
	baz=81						
BC3	**Big Chuckawall**	**80.31**	**325**	P	**P**	**17 08 59.3**	**+2.3**
	baz=81						
P26A	**Davis Ranch, A**	**80.62**	**336**	P	**P**	**17 09 00.7**	**+2.0**
	baz=81						
Q24A	**Divide**	**80.69**	**335**	P	**P**	**17 09 00.7**	**+1.5**
	baz=81						
P25A	**Willow Gulch B**	**80.85**	**336**	P	**P**	**17 09 01.7**	**+1.8**
	baz=81						
N29A	**Votaw Ranch, W**	**80.93**	**339**	P	**P**	**17 09 01.6**	**+1.4**
	baz=81						
O26A	**Horse Wrangler**	**81.23**	**337**	P	**P**	**17 09 03.7**	**+1.9**
	baz=82						
GMRC	**Granite Mounta**	**81.33**	**325**	P	**P**	**17 09 05.0**	**+2.5**
	baz=82						
N27A	**Anderson Farm,**	**81.50**	**337**	P	**P**	**17 09 05.3**	**+2.0**
	baz=82						
LBTB	**Lobatse**	**81.66**	**115**	*eP*	**P**	**17 09 03.3**	**-1.4**
LBTB				pmax	pmax		
	comp=Z,52nm,1.3s						
LBTB	**Lobatse**	**81.66**	**115**	*eP*	**P**	**17 09 03.2**	**-1.4**
	comp=Z,52nm,1.3s						
HEC	**Hector,Ludlow**	**81.68**	**325**

D26A	Manning	87.15	340	P	P	17 09 32.8	+1.2
	baz=88						
H18A	Shoshone NF, C	87.31	334	P	P	17 09 33.6	+0.9
	baz=88						
B30A	Myrvik Farm, E	87.41	343	P	P	17 09 33.7	+0.9
	baz=88						
D25A	Fairfield	87.51	339	P	P	17 09 34.8	+1.5
	baz=88						
C27A	Sayler Ranch,	87.52	341	P	P	17 09 34.9	+1.5
	baz=88						
B29A	Wagenman Farm,	87.67	342	P	P	17 09 35.4	+1.3
	baz=88						
D24A	Glendive	87.77	339	P	P	17 09 35.8	+1.2
	baz=88						
C26A	Wahner Farm, P	87.79	340	P	P	17 09 36.0	+1.3
	baz=88						
B28A	Dugan Ranch, T	87.91	342	P	P	17 09 36.4	+1.2
	baz=88						
A29A	Manning Farm,	88.07	343	P	P	17 09 36.8	+0.9
	baz=88						
ULM	Lac du Bonnet	88.56	345	P	P	17 09 38.4	+0.2
	comp=Z,4.3nm,0.7s,baz=137,slow=7.6,SNR=6.8						
ULM				pP	pP	17 09 52.1	+0.2
	comp=Z,3.2nm,0.6s,baz=157,slow=1.3,SNR=4.7						
MCMT	McKenzie Canyo	88.59	333	P	P	17 09 40.6	+1.8
	comp=Z,0.9nm,0.8s						
A26A	Wade Farm, Ken	88.75	341	P	P	17 09 40.6	+1.4
	baz=89						
DZM	Mont Dzumac	99.67	234	eLR	LR	17 43 01.8	
	comp=Z,301nm,24.9s						
GERES	GERESS Array B	113.93	46	PKiKP	PKiKP	17 15 24.2	-0.1
	comp=Z,0.6nm,0.7s,baz=222,slow=3.2,SNR=5.0						
ASAR	Alice Springs	115.44	207	PKP	PKPdf	17 15 26.9	-1.2
	comp=Z,0.2nm,0.5s,baz=140,slow=1.7,SNR=6.3						
ASAR				PKKPbc	PKKPbc	17 26 01.6	+0.7
	comp=Z,0.8nm,0.9s,baz=337,slow=2.9,SNR=8.4						
ASAR				PKKPab	PKKPab	17 26 07.7	-2.3
	comp=Z,0.6nm,0.9s,baz=335,slow=3.4,SNR=5.3						
ASAR				PKKP	PKKPdf	17 26 15.7	-8.6
	comp=Z,0.3nm,0.6s,baz=349,slow=3.9,SNR=5.8						
ILAR	Eielson Array	116.03	333	PKP	PKPdf	17 15 27.7	0.0
	comp=Z,0.4nm,0.8s,baz=145,slow=2.7,SNR=4.3						
VYHS	Vyhne	116.82	48	ePKIKP	PKPdf	17 15 29.7	-0.1
VYHS	Vyhne	116.82	48	ePKP	PKPdf	17 15 29.7	-0.1
WB2	Warramunga Arr	118.66	209	ePKPdf	PKPdf	17 15 34.0	-0.4
WRA	Warramunga Arr	118.67	209	PKP	PKPdf	17 15 33.7	-0.7
	comp=Z,0.6nm,0.6s,baz=160,slow=1.5,SNR=18						
WRA				pPKP	pPKPdf	17 15 47.5	-1.0
	comp=Z,0.7nm,0.7s,baz=162,slow=1.7,SNR=2.2						
WRAB	Tennant Creek	118.67	209	ePKIKP	PKPdf	17 15 33.7	-0.7
WRAB	Tennant Creek	118.67	209	ePKPdf	PKPdf	17 15 33.7	-0.7
BRTR	Keskin Array B	123.17	62	PKP	PKPdf	17 15 42.1	-0.4
	comp=Z,1.8nm,1.0s,baz=200,slow=3.9,SNR=8.4						
AKASG	Malin Array Be	123.91	49	PKP	PKPdf	17 15 41.9	-1.4
	comp=Z,0.7nm,0.5s,baz=262,slow=2.8,SNR=9.9						
AKASG				PP	PP	17 17 24.3	-3.6
	comp=Z,0.2nm,0.4s,baz=258,slow=7.1,SNR=6.2						
ARCES	ARCESS Array B	126.16	26	PKP	PKPdf	17 15 47.3	+0.2
	comp=Z,1.3nm,0.6s,baz=238,slow=1.1,SNR=6.8						
OBN	Obninsk	129.25	45	ePKIKP	PKPdf	17 15 53.8	+0.5
OBN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KBZ	Khabaz	130.99	60	PKP	PKPdf	17 15 56.5	-0.6
	comp=Z,1.2nm,0.9s,baz=194,slow=6.8,SNR=5.3						
KLMR	Klimovskoe	131.37	37	ePKIKP	PKPdf	17 15 56.3	-0.9
KLMR				pmax	pmax		
	comp=Z,25nm,1.5s						
ZEI	Tsey	131.47	62	iPKIKP	PKPdf	17 15 58.1	-0.2
ZEI				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GEYT	Alibeck	140.87	72	PKhKP	PKPpre	17 16 12.0	
	comp=Z,1.0nm,0.8s,baz=318,slow=4.1,SNR=2.4						
SEY	Seymchan	141.78	329	PKhKP	PKPpre	17 16 10.9	
	comp=Z,0.8nm,0.7s,baz=194,slow=12,SNR=3.6						
SEY				PKP	PKPdf	17 16 18.0	+1.6
	comp=Z,3.6nm,0.9s,baz=66,slow=1.7,SNR=9.5						
TIXI	Tiksi	142.82	349	ePKHKP	PKPpre	17 16 13.1	
TIXI	Tiksi	142.82	349	ePKPpre	PKPpre	17 16 13.1	
ABKAR	Akbulak array	143.27	54	ePKPpre	PKPpre	17 16 15.3	
KSM	Kuching	145.33	185	ePKP	PKPbc	17 16 23.4	-0.7
HYB	Hyderabad	148.22	118	iPKP	PKPbc	17 16 31.0	-1.3
BRVK	Borovoye	149.02	45	ePKIKP	PKPdf	17 16 30.2	+1.0
BRVK				e		17 16 33.6	
BRVK	Borovoye	149.02	45	ePKPdf	PKPdf	17 16 30.2	+1.0
BRVK				ePKPbc	PKPbc	17 16 33.6	+0.3
BVAR	Borovoye Array	149.09	45	PKP	PKPdf	17 16 30.0	+0.7
				PKPbc	PKPbc	17 16 34.1	+0.6
	comp=Z,2.5nm,0.5s,baz=307,slow=3.0,SNR=18						
YAK	Yakutsk	150.70	339	iPKIKP	PKPdf	17 16 29.9	-1.6
YAK				eSSS	SSS	17 45 17.7	
YAK				pmax	pmax		
	comp=Z,34nm,1.0s						
YAK				pmax	pmax		
	comp=Z,98nm,4.8s						
YAK				pmax	pmax		
	comp=N,100nm,5.4s						
YAK				pmax	pmax		
	comp=E,72nm,3.3s						
YAK	Yakutsk	150.70	339	ePKPbc	PKPbc	17 16 36.8	-0.2
KKAR	Karatay Array	150.83	65	PKIKP	PKPdf	17 16 32.4	0.0
KKAR				e		17 16 37.6	
KKAR	Karatay Array	150.83	65	PKPdf	PKPdf	17 16 32.4	0.0
KKAR				ePKPbc	PKPbc	17 16 37.6	-0.5
EKS2	Erkin-Say	153.24	66	ePKIKP	PKPdf	17 16 36.1	-0.1
EKS2				e		17 16 44.0	
EKS2	Erkin-Say	153.24	66	ePKPdf	PKPdf	17 16 36.1	-0.1
EKS2				ePKPbc	PKiKP	17 16 44.0	+0.2
AAK	Ala-Archa	153.77	66	ePKIKP	PKPdf	17 16 37.2	+0.2
AAK				e		17 16 45.2	
AAK	Ala-Archa	153.77	66	ePKPdf	PKPdf	17 16 37.2	+0.2
AAK				ePKPbc	PKiKP	17 16 45.2	+0.2
TKM2	Tokmak 2	154.56	65	ePKIKP	PKPdf	17 16 38.5	+0.4
TKM2				e		17 16 46.8	
TKM2	Tokmak 2	154.56	65	ePKPdf	PKPdf	17 16 38.5	+0.4
TKM2				ePKPbc	PKiKP	17 16 46.8	+0.1
KSH	Kashi	154.90	73	PKPbc	PKPdf	17 16 38.5	-0.1
KSH				sPKP		17 16 51.6	
KSH				PKS	PKSdf	17 20 12.9	+0.1
KSH				PP	PP	17 20 37.4	-2.0
KSH				SKS	SKSdf	17 23 41.5	+0.1
KSH				SKKS	SKKSac	17 27 26.6	+1.6
KSH				SS	SS	17 40 18.9	-0.4
KSH				PPMZ			
	comp=E,89nm,5.8s						
KSH				LN			
	comp=E,46nm,4.4s						
KSH				LE			
	comp=E,71nm,6.3s						
KSH				LZ			
	comp=E,99nm,5.3s						
NVS	Novosibirsk	154.97	34	iPKIKP	PKPdf	17 16 36.9	-1.1
NVS				i		17 17 02.6	
NVS				pmax	pmax		
	comp=Z,11nm,1.2s						
NVS				pmax	pmax		
	comp=N,12nm,1.4s						
ZALV	Zalesovo Beam	156.25	35	PKP	PKPdf	17 16 39.3	-0.4
	comp=N,5.2nm,1.0s,baz=280,slow=2.7,SNR=25						
ZALV				PKPbc	PKPbc	17 16 49.5	
	comp=N,1.2nm,0.5s,baz=298,slow=3.2,SNR=4.8						
ZALV				PKPab	PKPab	17 17 08.4	+0.5
	comp=N,2.9nm,0.8s,baz=289,slow=6.0,SNR=8.1						
KOLN	Koldanda	158.03	106	ePP	PKPdf	17 16 42.9	-0.2
	comp=N,9.3nm,1.1s						
MKAR	Makanchi Array	158.41	53	PKP	PKPdf	17 16 42.9	+0.2
	comp=N,3.4nm,1.0s,baz=318,slow=1.6,SNR=20						
MKAR				PKPab	PKPab	17 17 17.2	-0.3
	comp=N,3.9nm,0.9s,baz=285,slow=4.1,SNR=15						
MKAR				PP	PP	17 20 56.8	-1.4
	comp=N,1.2nm,1.0s,baz=294,slow=3.9,SNR=5.4						
DANN	Dangsing	158.42	105	eP	PKPdf	17 16 43.7	0.0
	comp=N,18nm,1.1s						
GKN	Gorkha	158.94	106	eP	PKPdf	17 16 42.9	-1.3
	comp=N,20nm,1.5s						
DMN	Daman	159.11	108	eP	PKPdf	17 16 44.1	-0.4
PKI	Pulchoki	159.33	108	eP	PKPdf	17 16 43.7	-1.1
KKN	Kakani	159.34	108	eP	PKPdf	17 16 43.0	-1.7
GUN	Gumba	159.86	108	eP	PKPdf	17 16 45.0	-0.5
	comp=N,7.1nm,1.0s						
RAMN	Ramite	159.91	112	eP	PKPdf	17 16 45.2	-0.2
JIRN	Jiri	159.97	109	eP	PKPdf	17 16 43.9	-1.7
ODAN	Odare	160.45	113	eP	PKPdf	17 16 45.7	-0.3
CMAR	Chiang Mai Arr	160.72	154	PKP	PKPdf	17 16 45.8	-0.4
	comp=N,0.9nm,0.7s,baz=229,slow=2.3,SNR=9.0						
CMAR				PKPab	PKPab	17 17 26.9	-1.2
	comp=N,1.1nm,0.8s,baz=217,slow=4.3,SNR=8.1						
WMQ	Urumqi	163.01	57	PKP	PKPdf	17 16 46.4	-1.5
WMQ				PKPab	PKPab	17 17 38.4	+0.6
WMQ				PKS	PKSdf	17 20 18.6	-2.3
WMQ				PP	PP	17 21 24.5	+1.4
WMQ				SKS	SKSdf	17 23 45.7	-3.0
WMQ				SKKS	SKKSac	17 28 06.9	-0.1
WMQ				SS	SS	17 41 43.5	-1.0
WMQ				PPMZ			
	comp=N,100nm,5.0s						
WMQ				LN			
	comp=N,75nm,20.0s						
WMQ				LE			
	comp=N,28nm,22.0s						
WMQ				LZ			
	comp=N,70nm,21.0s						
TLY	Talaya	164.30	9	ePKP2	PKPab	17 17 44.5	+1.5
TLY				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CN2	Changchun	164.38	304	ePKP	PKPdf	17 16 42.4	-6.6
CN2				epPKP	pPKPdf	17 16 53.3	-10
ZAK	Zakamensk	165.51	11	ePKP2	PKPab	17 17 44.5	-4.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
KMI	Kunming	168.18	158	PKP	PKPdf	17 16 52.6	-0.3
SONM	Songino Array	168.37	4	PKP	PKPdf	17 16 51.8	-0.4
	comp=Z,0.4nm,0.9s,baz=132,slow=2.1,SNR=3.6						
SONM				PKPab	PKPab	17 18 02.3	+1.1
	comp=Z,1.3nm,0.9s,baz=328,slow=4.9,SNR=8.5						
SONM				pPKPab	pPKPab	17 18 17.5	+2.5
	comp=Z,1.5nm,0.9s,baz=341,slow=4.0,SNR=7.0						
SONM				PP	PP	17 21 51.6	+1.8
	comp=Z,0.1nm,0.4s,baz=234,slow=21,SNR=3.9						
NJ2	Nanjing	169.77	249	ePKP	PKPdf	17 16 53.8	+0.4
GYA	Guiyang	170.23	175	PKP	PKPdf	17 16 53.0	-1.0
GYA				pPKP	pPKPdf	17 17 05.8	-2.5
GYA				PKPab	PKPab	17 18 11.6	+1.7
GYA				PKS	PKSdf	17 20 24.5	-2.1
GYA				PP	PP	17 22 02.0	+2.9
GYA				SKKS		17 28 44.2	
GYA				SS	SS	17 42 56.4	+1.0
GYA				PPMZ			
	comp=Z,140nm,8.6s						
GYA				LN			
	comp=Z,130nm,21.4s						
GYA				LE			
	comp=Z,120nm,22.6s						
GYA				LZ			
	comp=Z,140nm,21.0s						
CD2	Chengdu	173.81	148	ePKP	PKPdf	17 16 54.9	-0.5
CD2				sPKP		17 17 09.5	
CD2				PKPab	PKPab	17 18 25.0	-0.7
CD2				PP	PP	17 22 20.5	+3.3
CD2				SKKS		17 29 02.5	
CD2				SS	SS	17 43 32.3	+1.1
CD2				PPMZ			
	comp=Z,100nm,10.7s						
CD2				LN			
	comp=Z,150nm,16.6s						
CD2				LZ			
	comp=Z,170nm,13.1s						
HHC	Hu-ho-hao-te	174.43	327	ePKP	PKPdf	17 16 57.0	+1.6
HHC				PKS	PKSdf	17 20 27.8	+0.2
HHC				SKS	SKSdf	17 23 54.9	+0.2
HHC				PPMZ			
	comp=Z,87nm,5.8s						
HHC				LN			
	comp=Z,140nm,20.0s						
HHC				LE			
	comp=Z,170nm,20.2s						
HHC				LZ			
	comp=Z,140nm,20.6s						
LZH	Lanzhou	176.97	92	ePKP	PKPdf	17 16 55.6	-0.7
LZH				pPKP	pPKPdf	17 17 06.2	-4.3
LZH				sPKP		17 17 10.0	

*ISCJB **01** 16:57:15.6±1.6, 34°.70S±0°.09×178°.9W±0°.2, h58km±15km, mb4.1/5, MS3.1/1, Error ellipse: s-maj=25.7km s-min=13.4km az=22.1*
*IDC **01** 16:57:17.3±6.7, 34°.62S×179°.02W, h48km±63km, mb3.9/4, mb1 4.1/5, mb1mx3.7/38, mbtmp4.2/5, ML4.2/1, MS3.2/1, Ms1 3.1/1, ms1mx2.8/38, Error ellipse: s-maj=57.3km s-min=46.5km az=167.0*
*NEIC **01** 16:57:19.2±3.0, 34°.79S×179°.08W, h70km±21km, mb4.2/1, Error ellipse: s-maj=31.5km s-min=23.7km az=69.0*
ISC 01 16:57:16.9±3.7, 34°.7S±0°.1×178°.8W±0°.2, h54km±31km, n25, σ0s83/30, mb4.1/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.67	218	PN	Pn	16 58 11.0	-0.1
MXZ				SN	Sn	16 58 53.1	+0.1
WMGZ	Waiomatatini S	3.81	215	ePN	Pn	16 58 14.3	+1.2
WMGZ				eSN	Sn	16 58 57.3	+0.6
HAZ	Te Kaha	4.08	221	ePN	Pn	16 58 17.4	+0.6
PUZ	Puketiti	4.09	214	PN	Pn	16 58 16.5	-0.5
TWGZ	Tauwhareparae	4.30	216	ePN	Pn	16 58 20.1	+0.1
CNGZ	Carnagh Statio	4.45	211	ePN	Pn	16 58 21.8	-0.1
MWZ	Matawai	4.65	218	ePN	Pn	16 58 24.2	-0.4
MWZ				SN	Sn	16 59 17.4	0.0
URZ	Urewera	4.81	221	P	Pn	16 58 26.5	-0.4
	11nm,0.3s,baz=273,slow=3.5,SNR=81						
URZ				S	Sn	16 59 22.0	+0.7
	2.5nm,0.3s,baz=146,slow=20,SNR=1.7						
URZ	Urewera	4.81	221	PN	Pn	16 58 26.6	-0.2
URZ				SN	Sn	16 59 21.6	+0.3
RIGZ	Rimuhau	4.83	213	ePN	Pn	16 58 27.5	+0.4
SNGZ	Shannon Statio	5.09	216	ePN	Pn	16 58 31.0	+0.3
KNZ	Kokohu	5.13	212	ePN	Pn	16 58 30.2	-1.0
RAHZ	Arahi	5.32	217	ePN	Pn	16 58 34.5	+0.7
OUZ	Omahuta	6.23	263	eP	Pn	16 58 46.1	-0.1
	34nm,0.7s						
BFZ	Birch Farm	7.12	212	ePN	Pn	16 58 56.7	-1.7
DZM	Mont Dzumac	18.03	310	eP	P	17 01 22.9	-0.8
STKA	Stephens Creek	33.05	264	LR	LR	17 15 45.4	
	comp=Z,40nm,20.1s,baz=192,slow=34						
CTA	Charters Tower	34.05	286	P	P	17 03 57.4	+1.3
	1.3nm,0.5s,baz=132,slow=14,SNR=3.5						
AS31	Alice Springs	42.36	272	eP	P	17 05 04.9	-1.1
ASAR	Alice Springs	42.36	272	P	P	17 05 05.0	-1.0
	2.0nm,0.7s,baz=114,slow=8.0,SNR=53						
ASAR				PcP	PcP	17 06 58.4	-0.2
	0.5nm,0.7s,baz=123,slow=3.9,SNR=4.9						
WB2	Warramunga Arr	43.73	277	eP	P	17 05 15.7	-1.3
WRAB	Tennant Creek	43.73	277	eP	P	17 05 16.1	-1.0
	2.2nm,0.6s						
WRA	Warramunga Arr	43.73	277	P	P	17 05 15.7	-1.4
	0.9nm,0.5s,baz=117,slow=7.6,SNR=30						
PETK	Petropavlovsk-	89.81	346	P	P	17 10 09.8	+0.8
	3.8nm,0.9s,baz=149,slow=9.9,SNR=3.6						
FINES	FINESS Array B	148.88	337	PKPbc	PKPbc	17 16 58.2	+0.5
	1.6nm,0.8s,baz=20,slow=4.4,SNR=4.7						

IDC 01 17:04:45.9±2.5, 34°.96S×71°.05W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/30, mbtmp3.9/3, ML4.3/1, Error ellipse: s-maj=72.6km s-min=18.2km az=106.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.09	36	Pg	Pb	17 06 00.2	+1.4
	0.2nm,0.3s,baz=208,slow=11,SNR=5.7						
CFAA				Lg	Lg	17 06 55.8	
	0.3nm,0.3s,baz=260,slow=12,SNR=2.4						
PLCA	Paso Flores	5.78	176	Pn	Pn	17 06 14.6	+1.7
	1.8nm,0.3s,baz=349,slow=14,SNR=9.0						
PLCA				Lg	Lg	17 07 48.7	
	0.3nm,0.3s,baz=285,slow=18,SNR=2.2						
LPAZ	La Paz	18.78	9	P	Pn	17 09 15.0	+7.3
	0.1nm,0.3s,baz=172,slow=9.8,SNR=3.7						
BOSA	Boshof	78.90	117	P	P	17 16 50.6	-0.9
	1.4nm,0.7s,baz=230,slow=5.4,SNR=2.7						
TORD	Torodi Ar. Bea	83.77	69	P	P	17 17 18.8	+1.5
	0.3nm,0.8s,baz=251,slow=4.4,SNR=3.0						
H11N3	WAKE ISLAND Hyl	27.00	269	T	T	19 42 22.6	
	baz=114,SNR=2.3						
H11N1	WAKE ISLAND Hyl	27.02	269	T	T	19 42 25.8	
	baz=114,slow=74,SNR=4.2						
H11N2	WAKE ISLAND Hyl	27.02	269	T	T	19 42 17.7	
	baz=114,slow=74,SNR=8.8						
BVAR	Borovoye Array	147.41	44	PKPbc	PKPdf	17 24 29.6	+1.0
	0.1nm,0.4s,baz=250,slow=7.1,SNR=2.3						

*IDC **01** 17:08:16.9±0.9, 35°.92S×73°.22W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/26, mbtmp3.9/7, ML3.3/2, Error ellipse: s-maj=31.8km s-min=18.3km az=88.0*
*ISCJB **01** 17:08:20.6±0.7, 36°.00S±0°.05×73°.3W±0°.1, h33km, mb4.0/7, Error ellipse: s-maj=13.5km s-min=7.8km az=0.2*
*NEIC **01** 17:08:22.2±0.8, 36°.05S×73°.42W, h35km, mb4.5/1, Error ellipse: s-maj=22.6km s-min=13.0km az=75.0*
ISC 01 17:08:21.7±0.8, 35°.99S±0°.08×73°.5W±0°.1, h35km, n13, σ1s56/13, mb3.9/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.28	155	Pn	Pn	17 09 37.2	-0.9
	0.5nm,0.3s,baz=316,slow=10,SNR=4.5						
PLCA				Pg		17 09 52.5	
	2.0nm,0.3s,baz=320,slow=9.2,SNR=7.7						
PLCA				Sn	Sn	17 10 39.1	+1.4
	0.8nm,0.3s,baz=352,slow=19,SNR=3.2						
PLCA				Lg	Lg	17 10 54.9	
	1.0nm,0.3s,baz=49,slow=14,SNR=3.4						
CFAA	Coronel Fontan	6.19	47	Pn	Pn	17 09 45.2	-5.4
	0.2nm,0.3s,baz=208,slow=14,SNR=3.4						
CFAA				Sn	Sn	17 10 59.9	-0.4
	0.4nm,0.3s,baz=263,slow=9.0,SNR=3.2						
CFAA				Lg	Lg	17 11 17.1	
	0.2nm,0.3s,baz=114,slow=16,SNR=1.8						
TRQA	Tornquist	9.45	106	eP	Pn	17 10 36.4	+1.1
	11nm,0.9s						
LPAZ	La Paz	20.20	15	P	Pn	17 12 55.9	-0.4
	2.4nm,0.7s,baz=204,slow=5.0,SNR=6.6						
SIV	San Ignacio	22.79	32	P	P	17 13 19.9	-1.5
	2.4nm,0.7s,baz=221,slow=11,SNR=6.8						
SNAA	Sanae	50.22	157	P	P	17 17 11.9	-1.8
	5.8nm,1.1s						
QSPA	South Pole Qui	54.25	180	P	P	17 17 44.4	+0.6
	2.4nm,1.2s,baz=132,slow=12,SNR=3.5						
NVAR	Mina Array Bea	84.84	326	P	P	17 20 54.9	+2.2
	0.4nm,0.6s,baz=134,slow=3.9,SNR=3.1						
PDAR	Pinedale Array	85.00	334	P	P	17 20 55.2	+1.8
	0.1nm,0.4s,baz=108,slow=5.8,SNR=3.5						
TORD	Torodi Ar. Bea	86.01	71	P	P	17 20 58.4	-0.3
	0.9nm,1.1s,baz=276,slow=3.7,SNR=2.7						
ULM	Lac du Bonnet	88.11	346	P	P	17 21 08.2	+0.2
	2.8nm,0.9s,baz=152,slow=6.9,SNR=3.3						
BVAR	Borovoye Array	149.55	45	PKPbc	PKPbc	17 28 07.4	+0.7
	0.4nm,0.6s,baz=306,slow=3.5,SNR=5.8						
SONM	Songino Array	168.16	0	PKPab	PKPab	17 29 30.0	-2.4
	0.4nm,0.9s,baz=90,slow=4.3,SNR=3.2						

IDC 01 17:15:22.4±2.8, 35°.50S×73°.10W, h0km, mb3.4/1, mb1 3.3/4, mb1mx3.3/23, mbtmp3.2/4, ML3.3/3, Error ellipse: s-maj=78.4km s-min=22.6km az=84.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.60	160	Pn	Pn	17 16 48.5	+1.5
	0.2nm,0.3s,baz=312,slow=12,SNR=2.1						
PLCA				Lg	Lg	17 18 20.4	
	0.4nm,0.3s,baz=311,slow=9.7,SNR=3.0						
CFAA	Coronel Fontan	5.62	48	Pn	Pn	17 16 47.3	0.0
	0.3nm,0.3s,baz=223,slow=16,SNR=7.6						
LPAZ	La Paz	19.64	14	P	Pn	17 19 55.1	+0.2
	0.1nm,0.3s,baz=194,slow=8.3,SNR=2.0						
TORD	Torodi Ar. Bea	85.54	71	P	P	17 28 02.1	-0.6
	0.3nm,0.9s,baz=216,slow=4.6,SNR=2.8						
BVAR	Borovoye Array	148.97	44	PKPbc	PKPbc	17 35 10.5	-1.2
	0.3nm,0.5s,baz=287,slow=2.4,SNR=3.8						

*IDC **01** 17:22:55.8±0.6, 34°.31S×71°.98W, h0km, mb4.1/11, mb1 4.2/14, mb1mx4.1/36, mbtmp4.0/14, ML4.2/3, Error ellipse: s-maj=18.5km s-min=15.0km az=118.0*
*GUC **01** 17:22:55.8±0.3, 34°.35S×72°.13W, h37km±1km, ML4.2*
*NEIC **01** 17:22:58.7±3.7, 34°.33S×71°.98W, h20km±22km, mb4.1/3, Error ellipse: s-maj=13.3km s-min=7.0km az=90.0*
ISC 01 17:23:00.2±2.3, 34°.26S±0°.06×71°.99W±0°.08, h30km±16km, n31, σ1s25/41, mb4.0/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	Rinconada Maip	1.25	53	eP	Pn	17 23 19.2	-2.4
RCDM				eS	Sn	17 23 36.6	-0.9
RCDM				AML	AML	17 23 42.2	
	comp=N,5μm,0.2s						
IHA	Instituto Hidr	1.26	13	eP	Pn	17 23 18.9	-2.9
IHA				eS	Sn	17 23 36.7	-1.1
ANTU	Antumapu	1.32	59	eP	Pn	17 23 20.5	-2.1
ANTU				eS	Sn	17 23 39.2	-0.1
ANTU				AML	AML	17 23 45.6	
	comp=N,8μm,0.4s						
STL	Santa Lucia	1.39	54	eP9	Pn	17 23 20.8	-2.8
STL				eS	Sn	17 23 40.5	-0.5
STL				AML	AML	17 23 45.3	
	comp=E,1μm,0.1s						
FSR	Penalolen	1.44	58	eP	Pn	17 23 22.3	-2.1
FSR				eS	Sn	17 23 42.4	0.0
PEL	Peldehue	1.56	45	eP	Pn	17 23 23.8	-2.1
PEL				eS	Sn	17 23 45.2	+0.1
PEL				AML	AML	17 23 51.5	
	comp=N,15μm,0.4s						
FCH	Farellones	1.69	57	eP1	Pn	17 23 26.1	-1.9
FCH				eS	Sn	17 23 49.4	+0.6
FCH				AML	AML	17 23 55.5	
	comp=N,4μm,0.1s						
CFAA	Coronel Fontan	4.12	51	Pn	Pn	17 24 01.5	+0.3
	comp=N,0.4nm,0.3s,baz=219,slow=13,SNR=18						
CFAA				Pg	Pb	17 24 12.9	+0.9
	comp=N,1.2nm,0.3s,baz=222,slow=16,SNR=20						
CFAA				Lg	Lg	17 25 08.1	
	comp=N,2.6nm,0.3s,baz=311,slow=12,SNR=13						
PLCA	Paso

MKAR Makanchi Array 156.90 49 PKPab **PKPab 17 43 22.3 -0.1**
comp=N,0.3nm,0.6s,baz=289,slow=4.3,SNR=3.7
SONM Songino Array 166.38 5 PKPab **PKPab 17 44 04.9 +1.1**
comp=N,0.3nm,0.8s,baz=338,slow=3.1,SNR=3.6

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*IDC **01** 17:23:29.2±0.5, 34°.84S×73°.93W, h0km, mb4.4/14, mb1 4.5/18, mb1mx4.4/36, mbtmp4.4/18, ML4.2/4, Error ellipse: s-maj=20.4km s-min=15.5km az=72.0*
*ISCJB **01** 17:23:32.6±0.2, 34°.84S±0°.05×73°.85W±0°.06, h33km, mb4.8/51, Error ellipse: s-maj=7.9km s-min=6.0km az=41.2*
*NEIC **01** 17:23:34.8±0.2, 34°.83S×73°.83W, h35km, mb4.9/39, Error ellipse: s-maj=8.1km s-min=5.3km az=51.0*
NEIC Felt at Santiago.
ISC 01 17:23:34.4±0.4, 34°.81S±0°.07×73°.88W±0°.08, h35km, n367, σ0995/377, mb4.9/52, 132C-127D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.71**	**58**	Pn	**Pn**	**17 24 54.6**	**-2.1**
	1.6nm,0.3s,baz=196,slow=8.0,SNR=4.8						
CFAA				Sn	**Sn**	**17 26 02.6**	**+1.6**
	0.9nm,0.3s,baz=330,slow=21,SNR=1.9						
PLCA	**Paso Flores**	**6.48**	**157**	Pn	**Pn**	**17 25 05.8**	**-1.5**
	1.9nm,0.3s,baz=332,slow=12,SNR=7.8						
PLCA	**Paso Flores**	**6.48**	**157**	*e*P	**Pn**	**17 25 06.4**	**-0.9**
TRQA	**Tornquist**	**10.12**	**112**	*e*Pn	**Pn**	**17 25 58.8**	**+1.6**
CPUP	**Villa Florida**	**16.56**	**64**	Pn	**P**	**17 27 24.9**	**-1.2**
	0.4nm,0.3s,baz=219,slow=10,SNR=4.2						
CPUP	**Villa Florida**	**16.56**	**64**	Pn	**Pn**	**17 27 24.8**	**+0.9**
LPAZ	**La Paz**	**19.15**	**17**	P	**Pn**	**17 27 57.2**	**+0.8**
	0.3nm,0.3s,baz=194,slow=8.3,SNR=4.5						
LPAZ	**La Paz**	**19.15**	**17**	P	**Pn**	**17 27 57.5**	**+1.1**
EFI	**East Falkland**	**20.35**	**151**	*e*P	**P**	**17 28 06.3**	**-1.1**
SIV	**San Ignacio**	**21.98**	**35**	P	**P**	**17 28 25.5**	**0.0**
	8.7nm,0.7s,baz=215,slow=8.1,SNR=12						
SAML	**Samuel**	**27.55**	**23**	*e*P	**P**	**17 29 16.0**	**-2.0**
OTAV	**Otavalo**	**35.12**	**352**	*e*P	**P**	**17 30 27.5**	**+2.4**
	15nm,1.4s						
SNAA	**Sanae**	**51.42**	**157**	P	**P**	**17 32 35.8**	**+0.3**
	3.9nm,0.8s,baz=291,slow=6.1,SNR=8.9						
SNAA	**Sanae**	**51.42**	**157**	*e*P	**P**	**17 32 36.0**	**+0.5**
	9.1nm,0.8s						
APG	**El Apazote**	**51.98**	**340**	P	P	17 32 36.5	-4.0
	4.9nm,0.8s,baz=154,slow=7.6,SNR=5.2						
CPD	**Cerro la Pandu**	**53.10**	**9**	*e*P	P	17 32 44.6	-3.8
	146nm,0.6s						
CPD				*e*ScP	**ScP**	**17 37 53.7**	**+2.4**
QSPA	**South Pole Qui**	**55.43**	**180**	P	**P**	**17 33 05.2**	**+0.1**
	6.4nm,0.9s,baz=127,slow=4.8,SNR=8.3						
QSPA	**South Pole Qui**	**55.43**	**180**	*e*P	**P**	**17 33 05.8**	**+0.7**
	178nm,2.8s						
SYO	**Syowa Base**	**65.67**	**159**	⇑*e*X	P	17 34 08.7	-6.0
834A	**Tilden**	**66.80**	**336**	⇑P	**P**	**17 34 23.3**	**+1.0**
	baz=67						
833A	**Chaparral WMA,**	**67.26**	**336**	⇑P	**P**	**17 34 25.7**	**+0.4**
	baz=68						
832A	**Faith Ranch, C**	**67.42**	**335**	⇑P	**P**	**17 34 26.8**	**+0.5**
	baz=68						
636A	**Smothers Creek**	**67.58**	**338**	⇑P	**P**	**17 34 28.1**	**+0.8**
	baz=68						
632A	**Uvalde**	**68.48**	**336**	⇑P	**P**	**17 34 33.4**	**+0.4**
	baz=69						
533A	**Kerrville**	**68.75**	**337**	⇑P	**P**	**17 34 35.1**	**+0.4**
	baz=69						
337A	**Centerville**	**68.96**	**340**	⇓P	**P**	**17 34 37.1**	**+1.3**
	baz=69						
532A	**Rocksprings**	**69.09**	**336**	⇑P	**P**	**17 34 36.8**	**0.0**
	baz=69,SNR=6.0						
434A	**Burnet**	**69.20**	**338**	⇓P	**P**	**17 34 37.3**	**-0.1**
	baz=70						
336A	**Riesel**	**69.30**	**339**	⇑P	**P**	**17 34 38.4**	**+0.4**
	baz=70						
531A	**Rocksprings**	**69.34**	**335**	⇑P	**P**	**17 34 38.3**	**0.0**
	baz=70						
JCT	**Junction City**	**69.38**	**336**	⇑P	**P**	**17 34 38.6**	**0.0**
	baz=70						
JCT	**Junction City**	**69.38**	**336**	*e*P	**P**	**17 34 39.2**	**+0.6**
	14nm,1.0s						
433A	**Art**	**69.40**	**337**	⇑P	**P**	**17 34 38.6**	**-0.1**
	baz=70						
530A	**J-C Ranch, Com**	**69.60**	**335**	⇑P	**P**	**17 34 40.5**	**+0.6**
	baz=70						
334A	**Lometa**	**69.67**	**338**	⇑P	**P**	**17 34 40.8**	**+0.5**
	baz=70						
TXAR	**Lajitas Array**	**69.72**	**332**	P	**P**	**17 34 41.1**	**+0.4**
	3.0nm,0.7s,baz=152,slow=8.7,SNR=10						
TX31	**Lajitas Ar. Si**	**69.72**	**332**	*e*P	**P**	**17 34 40.9**	**+0.1**
432A	**Menard**	**69.75**	**336**	⇑P	**P**	**17 34 40.9**	**+0.1**
	baz=70						
431A	**Sonora**	**69.84**	**336**	⇑P	**P**	**17 34 41.3**	**-0.2**
	baz=70						
529A	**Stev Forest Ra**	**69.90**	**334**	⇓P	**P**	**17 34 42.1**	**+0.3**
	baz=70						
333A	**Richland Sprin**	**69.90**	**337**	⇑P	**P**	**17 34 41.7**	**-0.1**
	baz=70						
KMSC	**Kings Mountain**	**69.94**	**354**	⇑P	**P**	**17 34 41.8**	**-0.1**
	baz=70						
WHTX	**Lake Whitney,**	**70.05**	**339**	⇓P	**P**	**17 34 42.6**	**0.0**
	baz=70						
430A	**Baggett Ranch,**	**70.15**	**335**	⇓P	**P**	**17 34 43.3**	**-0.1**
	baz=70						
332A	**Millersview**	**70.19**	**337**	⇓P	**P**	**17 34 43.7**	**+0.2**
	baz=71						
429A	**Davenport Ranc**	**70.23**	**335**	⇑P	**P**	**17 34 43.8**	**-0.1**
	baz=71						
234A	**Clairette**	**70.26**	**338**	⇑P	**P**	**17 34 44.2**	**+0.2**
	baz=71						
331A	**San Angelo**	**70.35**	**336**	⇑P	**P**	**17 34 44.4**	**-0.1**
	baz=71						
233A	**Rising Star**	**70.51**	**338**	⇑P	**P**	**17 34 45.9**	**+0.4**
	baz=71						
232A	**Coleman**	**70.63**	**337**	⇑P	**P**	**17 34 46.6**	**+0.4**
	baz=71						
231A	**Bronte**	**70.89**	**336**	⇓P	**P**	**17 34 47.8**	**0.0**
	baz=71						
329A	**Wagon Wheel Ra**	**71.05**	**335**	⇑P	**P**	**17 34 48.7**	**-0.1**
	baz=71						
133A	**Hamilton Ranch**	**71.06**	**338**	⇑P	**P**	**17 34 49.3**	**+0.5**
	baz=71						
Z35A	**Perchaven, San**	**71.24**	**339**	⇑P	**P**	**17 34 50.5**	**+0.7**
	baz=72						
ABTX	**Abilene, Hawle**	**71.31**	**337**	⇑P	**P**	**17 34 50.5**	**+0.2**
	baz=72						
229A	**Bryant Ranch,**	**71.42**	**335**	⇑P	**P**	**17 34 51.2**	**+0.1**
	baz=72						
Z34A	**Collier Ranch,**	**71.47**	**339**	⇓P	**P**	**17 34 51.0**	**-0.2**
	baz=72						
131A	**Roby**	**71.59**	**337**	⇑P	**P**	**17 34 52.2**	**+0.2**
	baz=72						
Z33A	**Whitaker Ranch**	**71.65**	**338**	⇑P	**P**	**17 34 52.8**	**+0.5**
	baz=72						
WVT	**Waverly**	**71.76**	**348**	*e*P	**P**	**17 34 52.4**	**-0.5**
	28nm,1.2s						
228A	**UT Block 9, Go**	**71.83**	**335**	⇓P	**P**	**17 34 53.7**	**+0.2**
	baz=72						
Z32A	**Haskell**	**71.89**	**338**	⇓P	**P**	**17 34 54.4**	**+0.6**
	baz=72						
Y34A	**Reagan Ranch,**	**71.97**	**339**	⇓P	**P**	**17 34 54.2**	**-0.1**
	baz=72						
Z31A	**Sharp Cattle R**	**72.11**	**337**	⇓P	**P**	**17 34 55.1**	**0.0**
	baz=72						
128A	**Castleberry Fa**	**72.25**	**335**	⇑P	**P**	**17 34 55.9**	**-0.2**
	baz=73						
Y33A	**Hilltop Ranch,**	**72.28**	**339**	⇑P	**P**	**17 34 56.1**	**0.0**
	baz=73						
Z30A	**Sanderson Ranc**	**72.40**	**336**	⇓P	**P**	**17 34 57.0**	**+0.2**
	baz=73						
MNTX	**Cornudas Mount**	**72.49**	**332**	*e*P	**P**	**17 34 56.6**	**-0.7**
	3.5nm,0.9s						
Y32A	**R-V Farms, Ver**	**72.52**	**338**	⇓P	**P**	**17 34 57.3**	**-0.2**
	baz=73						
Z29A	**Hungry Hill Ra**	**72.57**	**336**	⇓P	**P**	**17 34 57.3**	**-0.6**
	baz=73						
X34A	**Smith Ranch, M**	**72.59**	**339**	⇑P	**P**	**17 34 58.0**	**+0.1**
	baz=73						
Y31A	**Rekieta Farm,**	**72.74**	**337**	⇑P	**P**	**17 34 58.8**	**0.0**
	baz=73						
Z28A	**Tucker Farm, M**	**72.83**	**335**	⇓P	**P**	**17 34 59.4**	**-0.1**
	baz=73						
Y29A	**Porterfield Fa**	**73.11**	**336**	⇑P	**P**	**17 35 01.2**	**+0.1**
	baz=74						
Z27A	**Tatum**	**73.14**	**335**	⇓P	**P**	**17 35 01.2**	**-0.1**
	baz=74						
TUL1	**Leonard**	**73.27**	**342**	⇓P	**P**	**17 35 02.1**	**+0.3**
	baz=74						
TUL1	**Leonard**	**73.27**	**342**	*e*P	**P**	**17 35 01.9**	**0.0**
	22nm,1.0s						
X31A	**McDonald Ranch**	**73.27**	**338**	⇑P	**P**	**17 35 02.1**	**+0.1**
	baz=74						
W33A	**Caddo, Fort Co**	**73.29**	**339**	⇑P	**P**	**17 35 02.4**	**+0.3**
	baz=74						
Y28A	**McKinney Farm,**	**73.34**	**336**	⇑P	**P**	**17 35 03.0**	**+0.5**
	baz=74						
Z26A	**Caprock**	**73.37**	**334**	⇓P	**P**	**17 35 02.7**	**0.0**
	baz=74						
W32A	**Sentinel**	**73.50**	**339**	⇓P	**P**	**17 35 03.5**	**+0.1**
	baz=74						
MSTX	**Muleshoe**	**73.58**	**335**	*e*P	**P**	**17 35 04.1**	**+0.2**
	13nm,1.0s						
Y27A	**Causey**	**73.64**	**335**	⇑P	**P**	**17 35 04.2**	**-0.1**
	baz=74						
X29A	**Tulia**	**73.65**	**336**	⇑P	**P**	**17 35 04.0**	**-0.3**
	baz=74						
V34A	**Guthrie**	**73.66**	**340**	⇓P	**P**	**17 35 04.4**	**+0.2**
	baz=74						
V33A	**Lossen Ranch,**	**73.86**	**340**	⇓P	**P**	**17 35 05.4**	**-0.1**
	baz=74						
Y26A	**Elida**	**73.90**	**334**	⇓P	**P**	**17 35 06.1**	**+0.3**
	baz=74						
Z24A	**Sheeppen Canyo**	**73.93**	**333**	⇑P	**P**	**17 35 06.6**	**+0.5**
	baz=74						
AMTX	**Amarillo**	**74.04**	**337**	⇓P	**P**	**17 35 07.0**	**+0.4**
	baz=74						
121A	**Cookes Peak, D**	**74.17**	**331**	⇓P	**P**	**17 35 08.1**	**+0.6**
	baz=74						
Y25A	**Mesa, Roswell**	**74.22**	**334**	⇓P	**P**	**17 35 07.9**	**+0.2**
	baz=75						
U34A	**Anderson Ranch**	**74.23**	**340**	⇑P	**P**	**17 35 08.0**	**+0.5**
	baz=75						
W29A	**Amarillo**	**74.25**	**337**	⇑P	**P**	**17 35 07.9**	**+0.1**
	baz=75						
X26A	**CR and CF Fran**	**74.47**	**335**	⇓P	**P**	**17 35 09.0**	**-0.1**
	baz=75,SNR=5.3						
Y24A	**Capitan**	**74.49**	**333**	⇑P	**P**	**17 35 10.0**	**+0.6**
	baz=75						
U32A	**Winter Ranch,**	**74.59**	**339**	⇓P	**P**	**17 35 10.1**	**+0.4**
	baz=75						
W27A	**Bowe Ranch, En**	**74.67**	**336**	⇓P	**P**	**17 35 10.8**	**+0.6**
	baz=75						
X25A	**Clemmons Ranch**	**74.75**	**334**	⇑P	**P**	**17 35 11.1**	**+0.4**
	baz=75						
W26A	**Owens Ranch, T**	**74.94**	**335**	⇑P	**P**	**17 35 12.7**	**+0.9**
	baz=75						
T33A	**Patterson Ranc**	**75.03**	**340**	⇓P	**P**	**17 35 13.0**	**+0.8**
	baz=75						
ACSO	**Alum Creek Sta**	**75.14**	**353**	*e*P	**P**	**17 35 11.3**	**-1.4**
	36nm,0.8s						
W25A	**X Bar L. Ranch,**	**75.30**	**334**	⇑P	**P**	**17 35 14.2**	**+0.3**
	baz=76						
T32A	**Huddler Ranch,**	**75.31**	**340**	⇓P	**P**	**17 35 14.6**	**+0.8**
	baz=76						
X23A	**Hourglass Bar**	**75.36**	**333**	⇑P	**P**	**17 35 14.7**	**+0.4**
	baz=76						
V26A	**Tequesquite Ra**	**75.58**	**335**	⇑P	**P**	**17 35 16.0**	**+0.4**
	baz=76						
W24A	**Lazy 6 Ranch,**	**75.63**	**334**	⇓P	**P**	**17 35 16.4**	**+0.5**
	baz=76						
ANMO	**Albuquerque**	**75.78**	**333**	P	**P**	**17 35 17.4**	**+0.7**
	0.9nm,0.3s,baz=132,slow=12,SNR=4.8						
ANMO	**Albuquerque**	**75.78**	**333**	*e*P	**P**	**17 35 17.8**	**+1.0**
	11nm,1.4s						
S32A	**Newby Ranch, P**	**75.80**	**340**	⇓P	**P**	**17 35 17.6**	**+0.9**
	baz=76						
214A	**Organ Pipe Nat**	**75.83**	**327**	⇓P	**P**	**17 35 17.8**	**+0.9**
	baz=76						
S31A	**Munville**	**75.89**	**339**	⇓P	**P**	**17 35 17.6**	**+0.5**
	baz=76						
V25A	**Rancho No Teng**	**75.91**	**335**	⇓P	**P**	**17 35 16.9**	**-0.5**
	baz=76,SNR=5.5						
V24A	**Rampart Ranch,**	**76.04**	**334**	⇑P	**P**	**17 35 18.4**	**+0.1**
	baz=76						
U26A	**Atchley Ranch,**	**76.11**	**336**	⇑P	**P**	**17 35 18.7**	**+0.1**
	baz=76						
S30A	**Montezuma**	**76.20**	**339**	⇑P	**P**	**17 35 19.3**	**+0.4**
	baz=77						
U25A	**Circle Dot Ran**	**76.34**	**335**	⇑P	**P**	**17 35 20.0**	**+0.1**
	baz=77						
T27A	**Campo**	**76.37**	**337**	⇓P	**P**	**17 35 20.4**	**+0.4**
	baz=77						
S29A	**Ulysses**	**76.38**	**338**	⇑P	**P**	**17 35 20.6**	**+0.7**
	baz=77						
S28A	**Manter**	**76.59**	**337**	⇓P	**P**	**17 35 21.6**	**+0.4**
	baz=77						
Q33A	**Connelly Farm,**	**76.71**	**341**	⇑P	**P**	**17 35 22.2**	**+0.5**
	baz=77						
R30A	**Dighton**	**76.73**	**339**	⇑P	**P**	**17 35 22.4**	**+0.5**
	baz=77						
ERPA	**Erie**	**76.76**	**355**	*e*P	**P**	**17 35 21.9**	**0.0**
T26A	**Comanche Natio**	**76.76**	**336**	⇑P	**P**	**17 35 22.8**	**+0.5**
	baz=77						
V22A	**San Miguel Ran**	**76.81**	**333**	⇓P	**P**	**17 35 23.2**	**+0.6**
	baz=77						
DBIC	**Dimbokro**	**76.88**	**72**	P	**P**	**17 35 23.9**	**+0.7**
	2.4nm,0.6s,baz=177,slow=6.8,SNR=4.4						
Q32A	**Meitler Ranch,**	**76.90**	**340**	⇓P	**P**	**17 35 23.4**	**+0.6**
	baz=77						
U23A	**El Rito**	**76.91**	**334**	⇓P	**P**	**17 35 23.5**	**+0.3**
	baz=77						
T25A	**Trinidad**	**77.01**	**335**	⇑P	**P**	**17 35 24.4**	**+0.7**
	baz=77,SNR=5.7						
R29A	**Marienthal**	**77.12**	**338**	⇓P	**P**	**17 35 24.7**	**+0.6**
	baz=78						
S26A	**Kim**	**77.13**	**336**	⇓P	**P**	**17 35 24.7**	**+0.5**
	baz=78,SNR=6.7						
Q31A	**Ellis**	**77.15**	**340**	⇓P	**P**	**17 35 24.7**	**+0.4**
	baz=78						
R28A	**Tribune**	**77.25**	**338**	⇑P	**P**	**17 35 25.2**	**+0.3**
	baz=78						
X16A	**Lo Mia Camp, P**	**77.32**	**329**	⇑P	**P**	**17 35 25.2**	**-0.2**
	baz=78						
Q30A	**Quinter**	**77.36**	**339**	⇓P	**P**	**17 35 25.8**	**+0.4**
	baz=78						
S25A	**Robets Cordova**	**77.49**	**336**	⇓P	**P**	**17 35 26.1**	**-0.2**
	baz=78						
P32A	**Huiting Farm,**	**77.50**	**341**	⇓P	**P**	**17 35 26.8**	**+0.6**
	baz=78						
Q29A	**Oakley**	**77.50**	**339**	⇑P	**P**	**17 35 26.1**	**-0.1**
	baz=78						
R27A	**Eads**	**77.51**	**337**	⇑P	**P**	**17 35 26.3**	**-0.1**
	baz=78						
P31A	**Stockton**	**77.62**	**340**	⇓P	**P**	**17 35 27.6**	**+0.7**
	baz=78						
S24A	**Houchin Ranch,**	**77.74**	**335**	⇓P	**P**	**17 35 28.5**	**+0.6**
	baz=78,SNR=6.0						
R26A	**Arlington**	**77.74**	**337**	⇑P	**P**	**17 35 28.3**	**+0.6**
	baz=78						
R25A	**Fountain Ranch**	**77.88**	**336**	⇓P	**P**	**17 35 29.0**	**+0.6**
	baz=78						
P30A	**Selden**	**77.89**	**339**	⇓P	**P**	**17 35 29.2**	**+0.8**
	baz=78						
Y12C	**Blythe**	**78.11**	**326**	⇑P	**P**	**17 35 30.3**	**+0.7**
	baz=78						
P29A	**Atwood**	**78.15**	**339**	⇑P	**P**	**17 35 30.9**	**+1.1**
	baz=78						
WUAZ	**Wupatki**	**78.23**	**330**	⇑P	**P**	**17 35 31.2**	**+0.7**
	baz=79						
R24A	**Sanders Place,**	**78.23**	**335**	⇑P	**P**	**17 35 30.7**	**+0.2**
	baz=79,SNR=6.1						
Q26A	**Hugo**	**78.33**	**337**	⇓P	**P**	**17 35 31.8**	**+0.8**
	baz=79						
P28A	**Saint Francis**	**78.37**	**338**	⇑P	**P**	**17 35 32.0**	**+1.0**
	baz=79						
S22A	**4UR Ranch, Cre**	**78.41**	**334**	⇑P	**P**	**17 35 32.1**	**+0.6**
	baz=79						
R23A	**Moffat**	**78.44**	**335**	⇓P	**P**	**17 35 31.9**	**+0.1**
	baz=79						
BC3	**Big Chuckawall**	**78.46**	**326**	⇑P	**P**	**17 35 32.5**	**+0.8**
	baz=79						
N32A	**Stulken Farm,**	**78.49**	**341**	⇓P	**P**	**17 35 32.4**	**+0.8**
	baz=79						
MVCO	**Mesa Verde**	**78.55**	**332**	⇑P	**P**	**17 35 32.7**	**0.4**
	baz=79						
MVCO	**Mesa Verde**	**78.55**	**332**	*e*P	**P**	**17 35 33.4**	**+1.0**
	15nm,1.4s						
Q25A	**Bedland, Calha**	**78.56**	**336**	⇓P	**P**	**17 35 32.9**	**+0.6**
	baz=79						
O29A	**4D Ranch, Culb**	**78.59**	**339**	⇑P	**P**	**17 35 32.6**	**+0.4**
	baz=79						
IRM	**Iron Mountain**	**78.74**	**326**	⇑P	**P**	**17 35 33.5**	**+0.4**
	baz=79						
P26A	**Davis Ranch, A**	**78.85**	**337**	⇑P	**P**	**17 35 34.5**	**+0.7**
	baz=79						
O28A	**Krutsinger Ran**	**78.88**	**339**	⇓P	**P**	**17 35 34.8**	**+1.0**
	baz=79						
PFO	**Pinyon Flats O**	**78.89**	**325**	P	**P**	**17 35 35.6**	**+1.4**
	2.5nm,0.7s,baz=102,slow=2.9,SNR=5.0						
PFO	**Pinyon Flats O**	**78.89**	**325**	⇓P	**P**	**17 35 34.5**	**+0.4**
	baz=79						
Q24A	**Divide**	**78.90**	**336**	⇓P	**P**	**17 35 34.9**	**+0.6**
	baz=79						
P25A	**Willow Gulch B**	**79.07**	**337**	⇓P	**P**	**17 35 35.7**	**+0.7**
	baz=79						
O27A	**Beecher Island**	**79.15**	**338**	⇑P	**P**	**17 35 36.6**	**+1.2**
	baz=80						
N29A	**Votaw Ranch, W**	**79.18**	**340**	⇓P	**P**	**17 35 36.5**	**+1.0**
	baz=80						
M31A	**Lambtecht Ranc**	**79.21**	**341**	⇓P	**P**	**17 35 36.8**	**+1.2**
	baz=80						
U15A	**North Rim**	**79.39**	**329**	⇑P	**P**	**17 35 37.6**	**+0.6**
	baz=80						
O26A	**Horse Wrangler**	**79.46**	**338**	⇑P	**P**	**17 35 38.2**	**+1.1**
	baz=80						
GMRC	**Granite Mounta**	**79.49**	**326**	⇓P	**P**	**17 35 38.0**	**+0.7**
	baz=80						
P23A	**Jefferson**	**79.51**	**335**	⇑P	**P**	**17 35 38.6**	**+0.9**
	baz=80						
O25A	**Wiggins**	**79.60**	**337**	⇓P	**P**	**17 35 39.1**	**+1.2**
	baz=80						
SMCO	**Snowmass**	**79.73**	**334**	*e*P	**P**	**17 35 40.0**	**+1.1**
	23nm,1.4s						
N27A	**Anderson Farm,**	**79.73**	**338**	⇓P	**P**	**17 35 39.5**	**+0.9**
	baz=80						
M29A	**Burnside Ranch**	**79.78**	**340**	⇑P	**P**	**17 35 40.0**	**+1.3**
	baz=80						
ISCO	**Idaho Springs**	**79.81**	**336**	⇑P	**P**	**17 35 40.1**	**+0.9**
	baz=80						
HEC	**Hector,Ludlow**	**79.84**	**326**	⇑P	**P**	**17 35 39.9**	**+0.7**
	baz=80						
L31A	**Butterfield Fa**	**79.95**	**341**	⇑P	**P**	**17 35 40.6**	**+1.0**
	baz=80						
N26A	**Koester Ranch,**	**79.97**	**338**	⇓P	**P**	**17 35 41.1**	**+1.3**
	baz=80						
L30A	**Spencer Herefo**	**79.98**	**341**	⇓P	**P**	**17 35 40.6**	**+0.8**
	baz=80						
BFSC	**Mount Baldy Ra**	**79.98**	**324**	⇓P	**P**	**17 35 40.8**	**+0.7**
	baz=80						
P22A	**Eagle**	**80.02**	**335**	⇑P	**P**	**17 35 41.1**	**+0.8**
	baz=80						
KNB	**Kanab**	**80.12**	**329**	*e*P	**P**	**17 35 42.7**	**+1.9**
	39nm,1.9s						
TUQ	**Turquoise Moun**	**80.15**	**326**	⇑P	**P**	**17 35 41.7**	**+0.8**
	baz=80						
O23A	**Lake Granby, G**	**80.28**	**336**	⇓P	**P**	**17 35 41.8**	**0.0**
	baz=81,SNR=5.4						
L29A	**Maesberg Ranch**	**80.29**	**340**	⇑P	**P**	**17 35 42.0**	**+0.5**
	baz=81						
GSC	**Goldstone, Bar**	**80.45**	**326**	⇓P	**P**	**17 35 42.5**	**0.0**
	baz=81						
O22A	**Kremmling**	**80.45**	**335**	⇑P	**P**	**17 35 42.9**	**+0.2**
	baz=81,SNR=5.3						
N24A	**Carr**	**80.49**	**337**	⇑P	**P**	**17 35 43.0**	**+0.3**
	baz=81						
K30A	**Basset**	**80.62**	**341**	⇓P	**P**	**17 35 44.0**	**+0.8**
	baz=81						
EDW2	**Edwards Air Fo**	**80.66**	**325**	⇓P	**P**	**17 35 43.9**	**+0.3**
	baz=81						
M25A	**Palm-Egli Farm**	**80.78**	**337**	⇑P	**P**	**17 35 44.9**	**+0.7**
	baz=81						
CCUT	**Cedar City**	**80.80**	**329**	*e*P	**P**	**17 35 46.2**	**+1.7**
	8.4nm,1.2s						
ECSD	**EROS Data Cent**	**80.87**	**344**	⇓P	**P**	**17 35 44.6**	**+0.2**
	baz=81						
ECSD	**EROS Data Cent**	**80.87**	**344**	*e*P	**P**	**17 35 43.9**	**-0.6**
	18nm,0.9s						
K29A	**Lazy Trails An**	**80.90**	**341**	⇓P	**P**	**17 35 45.6**	**+0.9**
	baz=81						
N23A	**Red Feather La**	**80.91**	**336**	⇑P	**P**	**17 35 45.6**	**+0.5**
	baz=81						
SRU	**San Rafael Swe**	**80.99**	**332**	*e*P	**P**	**17 35 46.1**	**+0.7**
	17nm,1.7s						
N22A	**Wattenberg Ran**	**81.00**	**336**	⇑P	**P**	**17 35 46.0**	**+0.5**
	baz=81						
BOSA	**Boshof**	**81.04**	**119**	P	**P**	**17 35 46.5**	**+0.4**
	5.8nm,0.8s,baz=270,slow=4.6,SNR=7.9						
PHWY	**Pilot Hill**	**81.11**	**336**	*e*P	**P**	**17 35 46.9**	**+0.7**
	11nm,1.3s						
M23A	**Laramie**	**81.34**	**336**	⇓P	**P**	**17 35 47.7**	**+0.3**
	baz=82						
L25A	**Engebretsen Ra**	**81.40**	**338**	⇑P	**P**	**17 35 48.2**	**+0.8**
	baz=82						
SPMN	**Marine on St.**	**81.48**	**347**	⇑P	**P**	**17 35 47.7**	**0.0**
	baz=82						
J29A	**Okreek**	**81.50**	**341**	⇓P	**P**	**17 35 47.9**	**+0.1**
	baz=82						
ISA	**Isabella, Lake**	**81.53**	**325**	⇓P	**P**	**17 35 48.6**	**+0.4**
	baz=82						
M22A	**Cedar Creek Ra**	**81.58**	**336**	⇑P	**P**	**17 35 48.8**	**+0.2**
	baz=82						
N20A	**Spence Gulch,**	**81.65**	**334**	⇑P	**P**	**17 35 49.1**	**+0.2**
	baz=82						
I30A	**Oacoma**	**81.73**	**342**	⇑P	**P**	**17 35 49.3**	**+0.3**
	baz=82						
J28A	**Allard Ranch,**	**81.76**	**340**	⇓P	**P**	**17 35 49.5**	**+0.3**
	baz=82						
K25A	**Mack Ranch, Ha**	**81.79**	**338**	⇑P	**P**	**17 35 49.8**	**+0.3**
	baz=82						
J27A	**Elkhorn Farm,**	**81.82**	**340**	⇓P	**P**	**17 35 50.6**	**+1.0**
	baz=82						
L23A	**Garrett**	**81.92**	**337**	⇑P	**P**	**17 35 50.5**	**+0.2**
	baz=82						
VES

PDAR	Pinedale Array	83.81	334	P	P	17 36 00.0	-0.1
	4.5nm,1.2s,baz=163,slow=5.4,SNR=8.9						
J20A	Shoshoni	83.82	336	⇓P	P	17 36 00.2	+0.2
	baz=84,SNR=6.5						
G26A	Maurine	83.86	340	⇑P	P	17 36 00.0	-0.1
	baz=84						
F28A	McLaughlin	83.89	341	⇓P	P	17 36 00.3	+0.1
	baz=84						
H24A	Dirks Ranch, A	83.94	339	⇓P	P	17 36 00.2	-0.3
	baz=84						
I21A	Big Trails, Te	83.96	336	⇓P	P	17 36 00.2	-0.6
	baz=84,SNR=5.3						
G25A	Newell	84.01	339	⇓P	P	17 36 01.1	+0.2
	baz=84						
E30A	Jud	84.02	343	⇓P	P	17 36 01.5	+0.6
	baz=84						
J19A	Crowheart	84.07	335	⇑P	P	17 36 01.1	-0.3
	baz=84,SNR=5.4						
HVU	Hansel Valley	84.16	332	*e*P	P	17 36 02.2	+0.3
	13nm,1.0s						
ELK	Elko	84.27	330	P	P	17 36 03.0	+0.4
	2.5nm,1.0s,baz=216,slow=1.6,SNR=5.2						
H22A	Clearmont	84.35	337	⇓P	P	17 36 02.8	+0.1
	baz=85						
I20A	Worland	84.36	336	⇑P	P	17 36 02.8	+0.1
	baz=85						
D30A	Buchanan	84.55	343	⇓P	P	17 36 03.9	+0.4
	baz=85						
G23A	Biddle	84.60	338	⇓P	P	17 36 03.9	+0.1
	baz=85						
F25A	Bowman	84.69	340	⇓P	P	17 36 04.3	0.0
	baz=85						
D29A	Pettibone, Tap	84.71	343	⇓P	P	17 36 04.4	+0.1
	baz=85						
I19A	Meeteetse	84.73	335	⇓P	P	17 36 04.5	-0.2
	baz=85						
H20A	Greybull	84.79	336	⇓P	P	17 36 04.7	-0.2
	baz=85						
G22A	Birney	84.89	338	⇑P	P	17 36 05.3	-0.1
	baz=85						
F24A	Ekalaka	84.90	339	⇑P	P	17 36 05.6	+0.2
	baz=85						
E26A	Carlson Angus	84.91	341	⇑P	P	17 36 05.1	-0.2
	baz=85						
LOHW	Long Hollow	84.92	334	*e*P	P	17 36 06.6	+0.9
	11nm,1.4s						
TPAW	Teton Pass	84.94	334	*e*P	P	17 36 06.4	+0.5
	4.7nm,0.8s						
AGMN	Agassiz Nation	85.04	345	⇓P	P	17 36 06.1	+0.2
	baz=85						
AGMN	Agassiz Nation	85.04	345	*e*P	P	17 36 06.0	+0.2
	10nm,0.8s						
C30A	Mose, Pekin	85.05	344	⇓P	P	17 36 06.1	+0.1
	baz=85						
F23A	Volborg	85.07	338	⇓P	P	17 36 06.2	-0.1
	baz=85						
FXWY	Fox Creek	85.10	334	*e*P	P	17 36 06.9	+0.2
	3.7nm,1.1s						
I17A	Pilgrim Ck.	85.18	334	⇑P	P	17 36 07.4	+0.4
	baz=86						
G21A	Lodge Grass	85.19	337	⇓P	P	17 36 06.6	-0.3
	baz=86						
H19A	Powell	85.28	336	⇑P	P	17 36 06.8	-0.6
	baz=86						
IMW	Indian Meadow	85.29	334	*e*P	P	17 36 08.2	+0.6
	6.9nm,1.2s						
FLWY	Flagg Ranch	85.37	334	*e*P	P	17 36 08.7	+0.8
	14nm,1.3s						
F22A	Rosebud	85.39	338	⇓P	P	17 36 07.3	-0.4
	baz=86						
D26A	Manning	85.42	341	⇑P	P	17 36 08.0	+0.2
	baz=86						
E24A	Baker	85.51	339	⇓P	P	17 36 08.5	+0.1
	baz=86						
G20A	Bridger	85.51	336	⇓P	P	17 36 08.1	-0.4
	baz=86,SNR=7.6						
H18A	Shoshone NF, C	85.52	335	⇑P	P	17 36 08.7	0.0
	baz=86						
B30A	Myrvik Farm, E	85.72	344	⇓P	P	17 36 09.3	0.0
	baz=86						
D25A	Fairfield	85.77	340	⇓P	P	17 36 09.6	0.0
	baz=86						
RLMT	Red Lodge	85.78	336	*e*P	P	17 36 10.3	+0.4
	88nm,2.6s						
C27A	Sayler Ranch,	85.80	342	⇓P	P	17 36 09.9	+0.2
	baz=86						
TOA0	Torodi Ar. Sit	85.92	71	*e*P	P	17 36 11.8	+0.8
TORD	Torodi Ar. Bea	85.92	71	P	P	17 36 11.6	+0.6
	3.0nm,0.9s,baz=246,slow=5.2,SNR=9.2						
YMR	Madison River	85.97	334	*e*P	P	17 36 12.7	+1.8
D24A	Glendive	86.02	340	⇓P	P	17 36 11.4	+0.5
	baz=86						
C26A	Wahner Farm, P	86.06	341	⇑P	P	17 36 11.2	+0.2
	baz=86						
A30A	Hoffart Farm,	86.17	344	⇓P	P	17 36 11.5	0.0
	baz=87						
LAO	LASA Array	86.19	338	*e*P	P	17 36 11.9	+0.2
	208nm,2.9s						
B28A	Dugan Ranch, T	86.19	343	⇑P	P	17 36 11.9	+0.2
	baz=87						
HLID	Hailey	86.31	332	⇑P	P	17 36 12.9	+0.3
	baz=87						
HLID	Hailey	86.31	332	*e*P	P	17 36 13.7	+1.1
	6.1nm,1.1s						
F19A	Roth Farm, Mol	86.31	336	⇓P	P	17 36 12.0	-0.4
	baz=87						
E21A	Keefer Ranch,	86.32	338	⇓P	P	17 36 12.2	-0.2
	baz=87						
A29A	Manning Farm,	86.37	344	⇑P	P	17 36 12.5	0.0
	baz=87						
C24A	Savage	86.42	340	⇑P	P	17 36 12.7	-0.1
	baz=87						
D22A	Cohagen	86.59	339	⇑P	P	17 36 13.3	-0.4
	baz=87						
A28A	Rude Farm, Bot	86.60	343	⇓P	P	17 36 13.5	-0.2
	baz=87						
E20A	Meyer Farm, Mu	86.62	337	⇑P	P	17 36 14.0	+0.1
	baz=87,SNR=8.5						
D21A	La Casta Ranch	86.77	338	⇓P	P	17 36 14.5	-0.1
	baz=87						
MCMT	McKenzie Canyo	86.79	333	*e*P	P	17 36 16.2	+1.2
E19A	Rath Farm, Rou	86.80	337	⇑P	P	17 36 14.2	-0.5
	baz=87,SNR=6.1						
C23A	Lambert	86.89	339	⇑P	P	17 36 15.0	-0.1
	baz=87						
ULM	Lac du Bonnet	86.90	346	P	P	17 36 14.2	-0.8
	8.2nm,0.9s,baz=169,slow=5.3,SNR=12						
A26A	Wade Farm, Ken	87.03	342	⇓P	P	17 36 15.1	-0.7
	baz=87						
D20A	Manuel Ranch,	87.14	337	⇑P	P	17 36 15.8	-0.6
	baz=88,SNR=7.2						
DLMT	Dillon	87.15	334	*e*P	P	17 36 18.1	+1.5
	17nm,1.4s						
DGMT	Dagmar	87.21	340	⇓P	P	17 36 16.8	+0.1
	baz=88						
DGMT	Dagmar	87.21	340	*e*P	P	17 36 17.2	+0.5
	30nm,0.6s						
A25A	Svangstu Ranch	87.35	341	⇑P	P	17 36 17.8	+0.5
	baz=88						
B23A	Brockton	87.43	340	⇑P	P	17 36 18.2	+0.5
	baz=88						
D19A	Cripps Ranch,	87.45	337	⇓P	P	17 36 17.4	-0.5
	baz=88						
B22A	Reddig Ranch S	87.57	339	⇑P	P	17 36 18.2	-0.2
	baz=88						
A24A	Westby	87.57	341	⇑P	P	17 36 18.6	+0.2
	baz=88						
M04C	Macdoel	88.00	326	⇑P	P	17 36 20.2	-0.6
	baz=88						
A22A	Carney Farms,	88.17	340	⇑P	P	17 36 21.4	+0.2
	baz=88						
B20A	Solberg Farm,	88.30	338	⇓P	P	17 36 21.3	-0.6
	baz=89						
K05A	Summer Lake	88.32	327	*e*P	P	17 36 23.7	+1.4
	20nm,1.1s						
YBH	Yreka Blue Hor	88.36	326	P	P	17 36 22.4	0.0
	2.9nm,1.0s,baz=45,slow=1.4,SNR=3.4						
A21A	Bergtoll Ranch	88.47	339	⇑P	P	17 36 22.2	-0.5
	baz=89						
BMO	Blue Mountains	88.53	331	*e*P	P	17 36 23.7	+0.6
	36nm,2.5s						
B19A	Brinkman Farms	88.61	338	⇓P	P	17 36 22.8	-0.5
	baz=89						
A20A	Cobblestone Ra	88.67	338	⇑P	P	17 36 23.4	-0.2
	baz=89						
I07A	Izee	88.81	329	*e*P	P	17 36 25.1	+0.6
	98nm,2.6s						
J05D	Fort Rock, OR	88.92	328	⇑P	P	17 36 24.6	-0.4
	baz=89						
A19A	Klindworth Far	88.96	338	⇓P	P	17 36 25.1	+0.1
	baz=89						
OD2	Odessa Site #2	91.17	331	*e*P	P	17 36 35.9	+0.6
YKA	Yellowknife Ar	102.34	342	P	Pdif	17 37 24.6	-0.9
	0.4nm,0.8s,baz=140,slow=4.0,SNR=6.6						
ILAR	Eielson Array	114.22	333	PKP			
	0.5nm,0.9s,baz=194,slow=4.0,SNR=5.3				PKPdf	17 42 08.7	-0.4
VYHS	Vyhne	116.76	48	*e*PKP	PKPdf	17 42 17.5	+2.9
BR231	Keskin MP Arra	122.97	62	*e*PKPdf	PKPdf	17 42 28.3	+1.4
BRTR	Keskin Array B	123.56	62	PKP	PKPdf	17 42 28.2	+0.1
	1.6nm,0.8s,baz=178,slow=1.8,SNR=12						
AKASG	Malin Array Be	123.86	48	PKP	PKPdf	17 42 26.9	-1.2
	0.9nm,0.7s,baz=263,slow=2.2,SNR=5.4						
PETK	Petropavlovsk-	139.61	313	PKP	PKPdf	17 42 58.4	+0.7
	5.7nm,0.9s,baz=146,slow=11,SNR=5.0						
GEYT	Alibeck	141.56	71	PKhKP			
	0.7nm,0.3s,baz=258,slow=2.8,SNR=3.4				PKPpre	17 42 57.1	
AKTO	Aktyubinsk	142.03	51	PKhKP			
	1.0nm,0.7s,baz=257,slow=7.4,SNR=4.8				PKPpre	17 42 57.7	
ABKAR	Akbulak array	143.38	52	*e*PKPpre	PKPpre	17 43 01.9	
PSI	Prapat	147.46	167	PKPbc	PKPbc	17 43 14.7	-0.7
	14nm,0.8s,baz=135,slow=2.9,SNR=12						
BRVK	Borovoye	148.84	43	*e*PKPbc	PKPbc	17 43 18.7	+1.0
YAK	Yakutsk	148.95	339	*e*PKPbc	PKPbc	17 43 17.5	-0.2
HYB	Hyderabad	149.94	118	*i* PKP	PKPbc	17 43 20.5	-1.0
YSS	Yuzh-Sakhalins	150.03	305	*e*PKPbc	PKPbc	17 43 20.7	-0.1
KKAR	Karatay Array	151.27	63	*e*PKPbc	PKPbc	17 43 23.9	0.0
MJAR	Matsushiro Arr	153.93	283	PKPbc	PKPbc	17 43 30.6	+0.6
	1.8nm,0.8s,baz=147,slow=1.8,SNR=3.5						
KSH	Kashi	155.58	70	*e*PKP	PKPdf	17 43 23.1	-1.3
KSH				sPKP		17 43 37.4	
KSH				PKS	PKSdf	17 46 55.9	-2.6
KSH				PP	PP	17 47 28.8	+0.9
KSH				SKS	SKSdf	17 50 23.3	-4.9
KSH				SKKS	SKKSac	17 54 11.7	-2.9
KSH				SS	SS	18 07 09.1	-3.3
KSH				PPMZ			
	53nm,4.2s						
KSH				LN			
	28nm,3.7s						
KSH				LE			
	25nm,5.0s						
KSH				LZ			
	160nm,7.2s						
ZAA0	Zalesovo Array	155.72	31	*e*PKPab	PKPab	17 43 51.4	+1.0
ZALV	Zalesovo Beam	155.72	31	PKP	PKPdf	17 43 23.8	-0.1
	0.8nm,0.7s,baz=288,slow=0.9,SNR=3.9						
ZALV				PKPbc	PKPab	17 43 33.4	-17
	1.3nm,0.7s,baz=285,slow=2.9,SNR=4.2						
ZALV				PKPab	PKPab	17 43 51.4	+0.9
	2.5nm,0.9s,baz=306,slow=5.0,SNR=6.0						
MKAR	Makanchi Array	158.44	49	PKPab	PKPab	17 44 03.0	+0.5
	2.2nm,0.6s,baz=297,slow=4.2,SNR=19						
MK01	Makanchi Array	158.46	49	*e*PKPdf	PKPdf	17 43 26.9	-0.8
MK01				*e*PKPab	PKPab	17 44 03.1	+0.5
CMAR	Chiang Mai Arr	162.51	157	PKP	PKPdf	17 43 33.0	+0.1
	0.6nm,0.8s,baz=232,slow=3.1,SNR=5.4						
CN2	Changchun	162.58	307	*e*PKP	PKPdf	17 43 24.1	-8.1
CN2				*ep*PKP	pPKPdf	17 43 35.0	-8.7
WMQ	Urumqi	163.17	52	*e*PKP	PKPdf	17 43 33.1	+0.2
WMQ				LZ			
	38nm,25.0s						
LSA	Lhasa	166.35	108	*e*PKPab	PKPab	17 44 40.0	+1.7
SONA1	Songino Array	166.97	359	*e*PKPab	PKPab	17 44 40.7	+0.9
SONM	Songino Array	166.98	359	PKP	PKPdf	17 43 35.5	-0.6
	0.5nm,0.9s,baz=0.0,slow=0.1,SNR=5.7						
SONM				PKPab	PKPab	17 44 40.8	+0.9
	1.6nm,0.8s,baz=337,slow=5.1,SNR=12						
NJ2	Nanjing	169.01	259	*e*PKP	PKPdf	17 43 41.2	+3.4
KMI	Kunming	169.91	162	PKP	PKPdf	17 43 41.2	+2.3
GYA	Guiyang	171.66	183	PKP	PKPdf	17 43 40.0	+0.3
GYA				pPKP	pPKPdf	17 43 46.9	-4.3
GYA				PKPab	PKPab	17 45 03.4	+2.3
GYA				PKS	PKSdf	17 47 11.2	-1.0
GYA				PP	PP	17 48 55.6	+4.6
GYA				SKKS		17 55 38.0	
GYA				SS	SS	18 09 57.6	+2.4
GYA				PPMZ			
	120nm,8.4s						
GYA				LN			
	130nm,21.8s						
GYA				LE			
	110nm,22.5s						
GYA				LZ			
	120nm,21.2s						
HHC	Hu-ho-hao-te	172.59	326	*e*PKP	PKPdf	17 43 37.3	-2.3
HHC				PKS	PKSdf	17 47 08.1	-3.8
HHC				PP	PP	17 48 57.0	+0.9
HHC				SKKS		17 55 38.9	
HHC				SS	SS	18 10 03.0	-2.3
HHC				PPMZ			
	100nm,5.6s						
HHC				LN			
	180nm,20.0s						
HHC				LE			
	130nm,20.2s						
HHC				LZ			
	120nm,20.4s						
CD2	Chengdu	175.64	152	*e*PKP	PKPdf	17 43 40.6	-0.3
LZH	Lanzhou	177.75	55	*e*PKP	PKPdf	17 43 38.6	-2.7
LZH				pPKP	pPKPdf	17 43 48.5	-4.3
LZH				sPKP		17 43 52.0	

*IDC **01** 17:24:41.0±25.0, 32°.42S×179°.81E, h307km±227km, mb3.5/3, mb1 3.6/3, mb1mx3.3/17, mbtmp4.2/3, Error ellipse: s-maj=124.3km s-min=25.6km az=56.0*

ISC 01 17:24:03.0±1.9, 31°.25S±0°.2×178°.9W±0°.4, h10km, n18, σ2°.03/11, mb4.2/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	6.94	198	PN	Pn	17 25 46.7	+2.0
HAZ	Te Kaha	7.06	202	PN	Pn	17 25 48.7	+2.3
HAZ				SN	Sn	17 26 54.6	-12
PUZ	Puketiti	7.22	198	PN	Pn	17 25 49.4	+0.9
PUZ				SN	Sn	17 26 56.6	-14
MWZ	Matawai	7.67	202	PN	Pn	17 25 55.2	+0.3
MWZ				SN	Sn	17 27 06.0	-16
URZ	Urewera	7.75	204	PN	Pn	17 25 57.0	+1.2
KNZ	Kokohu	8.26	199	*e*PN	Pn	17 26 01.7	-1.1
TSZ	Takapari Road	9.75	204	*e*SN	Sn	17 27 51.9	-21
BFZ	Birch Farm	10.22	201	*e*SN	Sn	17 28 00.5	-24
MRZ	Mangatainoka R	10.42	204	*e*PN	Pn	17 26 32.6	+0.1
MRZ				*e*SN	Sn	17 28 04.2	-25
NNZ	Nelson	11.76	210	*e*SN	Sn	17 28 36.1	-26
THZ	Tophouse	12.41	210	*e*PN	Pn	17 26 55.0	-4.7
THZ				*e*SN	Sn	17 28 51.9	-26
MQZ	McQueen's Vall	14.14	206	*e*SN	Sn	17 29 28.1	-32
STKA	Stephens Creek	33.58	258	P	P	17 30 42.0	-1.3
	1.7nm,0.9s,baz=121,slow=12,SNR=3.0						
ASAR	Alice Springs	42.34	268	P	P	17 31 56.1	-1.2
	2.0nm,0.4s,baz=107,slow=7.6,SNR=79						
QSPA	South Pole Qui	58.87	180	P	P	17 33 59.9	-1.9
	3.6nm,0.7s,baz=63,slow=9.0,SNR=7.5						
FINES	FINESS Array B	145.67	339	PKPbc	PKPab	17 43 44.2	+2.7
	1.3nm,0.4s,baz=66,slow=3.5,SNR=13						
BRTR	Keskin Array B	152.33	297	PKPbc			
	0.4nm,0.5s,baz=160,slow=3.6,SNR=3.8				PKPbc	17 43 59.9	+0.6
TORD	Torodi Ar. Bea	161.98	182	PKPab	PKPab	17 44 47.7	-3.3
	0.4nm,0.5s,baz=191,slow=3.2,SNR=5.8						

*IDC **01** 17:25:16.6±0.5, 34°.88S×74°.13W, h0km, mb4.4/15, mb1 4.5/18, mb1mx4.4/35, mbtmp4.3/18, ML4.1/3, MS3.6/4, Ms1 3.6/4, ms1mx3.3/21, Error ellipse: s-maj=23.8km s-min=16.0km az=72.0*

*ISCJB **01** 17:25:20.0±0.5, 34°.89S±0°.07×73°.87W±0°.08, h33km, mb4.5/21, MS3.6/4, Error ellipse: s-maj=10.7km s-min=8.8km az=39.8*

*NEIC **01** 17:25:22.1±1.6, 34°.93S×73°.76W, h42km±14km, mb4.8/6, Error ellipse: s-maj=20.5km s-min=9.0km az=82.0*

ISC 01 17:25:21.8±0.5, 34°.88S±0°.08×74°.0W±0°.1, h35km, n48, σ1°.03/44, mb4.5/21, MS3.6/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.80	57	Pn	Pn	17 26 44.4	-1.1
	1.0nm,0.3s,baz=238,slow=12,SNR=1.9						
CFAA				Sn	Sn	17 27 50.2	-0.6
	0.8nm,0.3s,baz=339,slow=21,SNR=3.9						
PLCA	Paso Flores	6.43	156	Pn	Pn	17 26 54.2	+0.1
	1.9nm,0.3s,baz=322,slow=15,SNR=3.0						
TRQA	Tornquist	10.16	112	*e*P	Pn	17 27 40.1	-5.0
	49nm,1.1s						
LVC	Limon Verde	13.00	21	*e*P	Pn	17 28 25.2	+0.9
LPAZ	La Paz	19.24	17	P	Pn	17 29 45.4	+0.5
	0.2nm,0.3s,baz=170,slow=7.9,SNR=4.2						
LPAZ	La Paz	19.24	17	*e*P	Pn	17 29 44.7	-0.2
SIV	San Ignacio	22.08	35	P	P	17 30 13.7	-0.2
	12nm,1.1s,baz=235,slow=12,SNR=6.5						
SIV				LR	LR	17 39 54.7	
	comp=Z,92nm,20.2s,baz=246,slow=40						
BDFB	Brasilia	30.15	57	LR	LR	17 44 51.1	
	comp=Z,121nm,20.4s,baz=215,slow=39						
PCRV	Puerto La Cruz	45.67	13	LR	LR	17 51 23.9	
	comp=Z,99nm,21.5s,baz=188,slow=34						
SNAA	Sanae	51.38	157	P	P	17 34 23.3	+0.6
	2.1nm,0.8s,baz=249,slow=5.4,SNR=3.9						
SNAA	Sanae	51.38	157	*e*P	P	17 34 20.8	-1.8
	20nm,1.4s						
APG	El Apazote	52.03	340	P	P	17 34 23.5	-4.7
	6.7nm,1.0s,baz=101,slow=5.4,SNR=6.0						
QSPA	South Pole Qui	55.35	180	P	P	17 34 51.8	-0.2
	3.9nm,1.0s,baz=160,slow=6.3,SNR=3.9						
LPIG	La Paz	68.04	324	LR	LR	17 59 52.9	
	comp=Z,64nm,18.6s,baz=168,slow=31						
TXAR	Lajitas Array	69.75	333	P	P	17 36 28.5	+0.1
	1.7nm,0.6s,baz=157,slow=8.7,SNR=8.4						
WVT	Waverly	71.82	348	*e*P	P	17 36 40.0	-0.7
	21nm,1.5s						
MNTX	Cornudas Mount	72.52	332	*e*P	P	17 36 43.6	-1.4
MSTX	Muleshoe	73.62	335	*e*P	P	17 36 51.2	-0.3
	3.6nm,0.8s						
ANMO	Albuquerque	75.82	333	P	P	17 37 05.3	+0.9
	1.4nm,0.7s,baz=146,slow=6.2,SNR=3.7						
DBIC	Dimbokro	76.97	72	P	P	17 37 13.7	+2.6
	4.2nm,0.9s,baz=192,slow=9.2,SNR=3.7						
PFO	Pinyon Flats O	78.92	325	P	P	17 37 22.9	+1.2
	3.6nm,0.8s,baz=161,slow=5.3,SNR=4.3						
BOSA	Boshof	81.06	119	P	P	17 37 35.0	+1.3
	7.7nm,0.9s,baz=263,slow=6.6,SNR=7.5						
DAU	Daniels Canyon	82.43	332	*e*P	P	17 37 41.3	+0.7
	15nm,1.6s						
NVAR	Mina Array Bea	83.72	326	P	P	17 37 48.1	+0.9
	0.9nm,0.7s,baz=164,slow=5.5,SNR=5.2						
PDAR	Pinedale Array	83.85	334	P	P	17 37 47.4	-0.3
	2.2nm,1.1s,baz=134,slow=6.4,SNR=6.1						
ELK	Elko	84.30	330	P	P	17 37 50.2	+0.1
	1.1nm,0.7s,baz=90,slow=9.7,SNR=4.3						
TORD	Torodi Ar. Bea	86.00	71	P	P	17 37 59.2	+0.3
	4.7nm,1.0s,baz=246,slow=4.6,SNR=11						
MCMT	McKenzie Canyo	86.83	333	*e*P	P	17 38 03.5	+0.9
	6.1nm,1.4s						
ULM	Lac du Bonnet	86.95	346	P	P	17 38 02.2	-0.5
	6.3nm,0.8s,baz=167,slow=3.3,SNR=8.2						
DGMT	Dagmar	87.26	340	*e*P	P	17 38 04.3	0.0
	17nm,0.9s						
YBH	Yreka Blue Hor	88.38	326	P	P	17 38 08.2	-1.7
	3.0nm,1.0s,baz=200,slow=3.7,SNR=3.8						
SCHQ	Schefferville	89.56	4	P	P	17 38 13.5	-1.5
	4.6nm,0.9s,baz=179,slow=2.2,SNR=3.5						
YKA	Yellowknife Ar	102.39	342	P	Pdif	17 39 11.2	-1.9
	0.4nm,0.8s,baz=137,slow=4.2,SNR=5.3						
WRA	Warramunga Arr	119.20	211	PKP	PKPdf	17 44 07.4	-0.3
	0.6nm,0.7s,baz=164,slow=1.7,SNR=3.6						
BRTR	Keskin Array B	123.65	62	PKP	PKPdf	17 44 15.9	+0.2
	1.0nm,0.8s,baz=210,slow=1.7,SNR=6.2						
H11N3	WAKE ISLAND Hyl	24.61	271	T	T	20 00 47.4	
	baz=115,slow=78,SNR=8.2						
H11N1	WAKE ISLAND Hyl	24.62	271	T	T	20 00 50.6	
	baz=115,slow=78,SNR=64						
H11N2	WAKE ISLAND Hyl	24.62	271	T	T	20 00 52.0	
	baz=115,slow=78,SNR=11						
GEYT	Alibeck	141.64	71	PKP	PKPdf	17 44 50.1	+0.7
	5.6nm,0.7s,baz=180,slow=11,SNR=6.5						
YAK	Yakutsk	149.00	338	*e*PKPbc	PKPbc	17 45 04.7	-0.5
HYB	Hyderabad	149.96	118	*i* PKP	PKPbc	17 45 08.0	-1.0
KKAR	Karatay Array	151.36	63	*e*PKPbc	PKPbc	17 45 13.8	+2.2
AAK	Ala-Archa	154.32	63	*e*PKPdf	PKPdf	17 45 08.4	-1.6
AAK				*e*PKPbc	PKPbc	17 45 17.5	-0.8
ZALV	Zalesovo Beam	155.81	31	PKP	PKPdf	17 45 11.4	0.0
	0.7nm,0.7s,baz=251,slow=2.6,SNR=4.0						
ZALV				PKPbc	PKPab	17 45 21.2	-17
	1.6nm,0.9s,baz=278,slow=4.3,SNR=3.8						
ZALV				PKPab	PKPab	17 45 39.0	+0.7
	3.5nm,0.9s,baz=310,slow=5.6,SNR=7.5						
MKAR	Makanchi Array	158.54	49	PKP	PKPdf	17 45 14.8	-0.4
	0.4nm,0.8s,baz=0.0,slow=2.4,SNR=3.5						
MKAR				PKPab	PKPab	17 45 50.4	+0.1
	1.9nm,0.6s,baz=290,slow=4.9,SNR=12						
CMAR	Chiang Mai Arr	162.47	157	PKP	PKPdf	17 45 21.2	+0.9
	0.4nm,0.8s,baz=225,slow=3.7,SNR=3.6						
SONM	Songino Array	167.06	359	PKP	PKPdf	17 45 24.1	+0.5
	0.4nm,0.9s,baz=347,slow=2.6,SNR=2.2						
SONM				PKPab	PKPab	17 46 28.3	+0.7
	1.1nm,0.8s,baz=339,slow=4.9,SNR=7.4						

*IDC **01** 17:28:34.1±1.5, 10°.62S×124°.51E, h0km, mb3.7/5, mb1 4.1/7, mb1mx3.7/33, mbtmp3.9/7, ML4.2/2, MS3.8/1, Ms1 3.8/1, ms1mx2.8/24, Error ellipse: s-maj=51.7km s-min=20.4km az=30.0*

*ISCJB **01** 17:28:36.8±0.3, 11°.10S±0°.03×124°.04E±0°.04, h33km, mb3.8/6, MS3.9/1, Error ellipse: s-maj=6.4km s-min=3.3km az=148.8*

*NEIC **01** 17:28:38.9±0.6, 10°.95S×124°.20E, h39km±8km, mb4.4/1, Error ellipse: s-maj=13.8km s-min=5.4km az=60.0*

*DJA **01** 17:28:39.5±0.9, 11°.5S°×12°.4E±°, h17km±10km, M4.5/6, mb4.5/5, mB5.2/3, MLv4.5/6, Mw(mB)4.7/3*

*AUST **01** 17:28:40.9±7.2, 11°.05S×124°.05E, h0km, Error ellipse: s-

baz=10,SNR=5.6
JAGI S Sn 17 32 47.1 -8.0
baz=10,SNR=4.1
MBWA Marble Bar 10.89 202 *e*Pn **Pn 17 31 14.0 +2.0**
WRA Warramunga Arr 13.21 133 Pn **Pn 17 31 43.9 +0.1**
1.0nm,0.3s,baz=306,slow=14,SNR=33
WRA Sn **Sn 17 34 05.8 -3.8**
2.2nm,0.3s,baz=301,slow=26,SNR=8.6
WRAB Tennant Creek 13.21 133 *e*Pn **Pn 17 31 43.8 0.0**
7.9nm,0.6s
WB2 Warramunga Arr 13.22 133 *e*Pn **Pn 17 31 44.2 +0.3**
WRKA Warakurna 14.45 165 P **Pn 17 32 01.9 +1.2**
baz=15,SNR=26
WRKA S **Sn 17 34 37.5 -2.3**
baz=15,SNR=5.0
AS31 Alice Springs 15.61 145 *e*P **Pn 17 32 16.8 +0.6**
ASAR Alice Springs 15.61 145 Pn **Pn 17 32 17.5 +1.4**
1.9nm,0.3s,baz=319,slow=12,SNR=107
ASAR Sn **Sn 17 35 03.7 -4.4**
0.7nm,0.3s,baz=322,slow=23,SNR=8.6
MEEK Meekatharra 16.34 198 P **P 17 32 29.2 +1.2**
baz=16,SNR=5.5
MEEK S **Sn 17 35 23.1 -2.7**
baz=16,SNR=4.8
CISI Cisompet, Garu 16.47 281 P **P 17 32 32.2 +2.6**
baz=16,SNR=3.3
QIS Mount Isa 17.61 124 P P 17 32 48.7 +6.6
baz=18,SNR=5.5
PATS Pohnpei 38.38 64 P P 17 35 52.6 -4.3
baz=38,SNR=4.9
CMAR Chiang Mai Arr 38.45 319 P **P 17 35 56.4 -0.8**
1.0nm,0.9s,baz=140,slow=6.3,SNR=9.3
LSA Lhasa 51.50 323 *e*P **P 17 37 41.2 -0.3**
2.1nm,0.5s
TAPN Taplejung 52.01 318 *e*P **P 17 37 43.8 -1.4**
6.3nm,0.6s
RAMN Ramite 52.49 317 *e*P **P 17 37 47.3 -1.3**
GUN Gumba 53.60 317 *e*P **P 17 37 55.4 -1.5**
8.8nm,0.8s
PKI Pulchoki 53.69 316 *e*P **P 17 37 55.9 -1.7**
GKN Gorkha 54.49 316 *e*P **P 17 38 01.6 -1.7**
2.8nm,0.5s
KOLN Koldanda 55.06 315 *e*P **P 17 38 05.8 -1.6**
6.9nm,0.8s
DANN Dangsing 55.31 316 *e*P **P 17 38 07.8 -1.5**
13nm,0.6s
SONM Songino Array 60.72 346 P **P 17 38 45.6 -1.0**
0.4nm,0.6s,baz=167,slow=7.6,SNR=5.5
MKAR Makanchi Array 68.66 331 P **P 17 39 37.9 -0.5**
0.5nm,0.6s,baz=138,slow=6.9,SNR=12
ZALV Zalesovo Beam 72.83 337 P **P 17 40 03.3 -0.3**
0.3nm,0.3s,baz=132,slow=6.0,SNR=3.2
GEYT Alibeck 78.53 313 LR LR 18 20 08.1
comp=Z,58nm,19.8s,baz=195,slow=39
AKTO Aktyubinsk 83.82 324 P **P 17 41 04.4 +0.1**
0.7nm,0.7s,baz=86,slow=8.1,SNR=3.7
MPR Mayaguez 166.99 56 PFAKE 17 48 50.0 +8.5
MPR LR LR
comp=Z,1μm,19.1s
SMRT St. Maarten 170.16 44 PFAKE 17 48 50.0 +6.3
SMRT LR LR
comp=Z,200nm,19.5s
SEUS St. Eustatius 170.60 46 PFAKE 17 48 50.0 +6.1
SEUS LR LR
comp=Z,300nm,20.3s

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*IDC **01** 17:32:26.6±1.6, 34°.83S×73°.97W, h0km, mb3.8/3, mb1 3.8/6, mb1mx3.7/32, mbtmp3.6/6, ML3.6/3, MS3.0/2, Ms1 3.0/2, ms1mx2.8/26, Error ellipse: s-maj=34.2km s-min=31.6km az=102.0*
*ISCJB **01** 17:32:29.6±0.9, 34°.89S±0°.08×73°.8W±0°.1, h33km, mb4.0/4, MS3.3/1, Error ellipse: s-maj=15.7km s-min=10.5km az=27.0*
*NEIC **01** 17:32:31.6±0.8, 34°.87S×73°.92W, h35km, mb4.4/1, Error ellipse: s-maj=16.8km s-min=10.5km az=87.0*
ISC 01 17:32:31.2±1.0, 34°.93S±0°.08×73°.9W±0°.1, h35km, n10, σ1ϟ45/11, mb3.9/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.77**	**56**	Pn	**Pn**	**17 33 53.5**	**-0.8**
CFAA	0.4nm,0.3s,baz=231,slow=14,SNR=5.1			Sn	**Sn**	**17 34 59.2**	**-0.1**
PLCA	**Paso Flores**	**6.36**	**157**	Pn	**Pn**	**17 34 04.0**	**+1.5**
PLCA	0.6nm,0.3s,baz=328,slow=18,SNR=8.8			Sn	**Sn**	**17 35 10.8**	**-3.0**
PLCA	0.6nm,0.3s,baz=44,slow=2.8,SNR=2.8			LR	LR	17 36 00.1	
TRQA	comp=Z,80nm,18.9s,baz=333,slow=33 **Tornquist**	**10.06**	**111**	*e*P	**Pn**	**17 34 55.0**	**+1.7**
LPAZ	**La Paz**	**19.27**	**17**	P	**Pn**	**17 36 54.1**	**-0.5**
SIV	0.1nm,0.3s,baz=244,slow=4.9,SNR=3.6 **San Ignacio**	**22.08**	**35**	P	**P**	**17 37 23.2**	**-0.1**
JTS	3.6nm,0.9s,baz=235,slow=9.7,SNR=5.9 **JuntasAbangare**	**46.19**	**345**	LR	LR	17 54 49.0	
QSPA	comp=Z,36nm,21.9s,baz=168,slow=29 **South Pole Qui**	**55.30**	**180**	*e*P	**P**	**17 42 01.1**	**+0.1**
TXAR	5.5nm,1.2s **Lajitas Array**	**69.84**	**332**	P	**P**	**17 43 38.0**	**-0.4**
TORD	0.7nm,0.6s,baz=153,slow=10,SNR=3.2 **Torodi Ar. Bea**	**85.94**	**71**	P	**P**	**17 45 09.2**	**+1.1**
MKAR	0.7nm,0.9s,baz=234,slow=4.7,SNR=3.7 **Makanchi Array**	**158.52**	**49**	PKPab	**PKPab**	**17 53 00.2**	**+0.6**
	0.6nm,0.7s,baz=296,slow=3.9,SNR=8.2						

IDC 01 17:35:43.6±24.0, 20°.59S×176°.55W, h439km±201km, mb2.8/3, mb1 3.1/3, mb1mx2.8/42, mbtmp3.6/3, Error ellipse: s-maj=281.2km s-min=50.3km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.82**	**257**	P	P	17 43 25.1	+0.1
ASAR	0.4nm,0.5s,baz=88,slow=7.6,SNR=13			PcP	PcP	17 44 54.4	+0.7
WRA	0.4nm,0.7s,baz=110,slow=4.0,SNR=5.6 **Warramunga Arr**	**45.94**	**262**	P	P	17 43 25.1	-0.7
ILAR	0.3nm,0.5s,baz=97,slow=8.2,SNR=2.7 **Eielson Array**	**88.10**	**12**	P	P	17 47 46.4	+0.6
AKASG	1.1nm,1.1s,baz=229,slow=4.9,SNR=4.8 **Malin Array Be**	**143.74**	**332**	PKP	PKPab	17 54 24.8	-1.2
BRTR	0.1nm,0.3s,baz=43,slow=3.8,SNR=5.9 **Keskin Array B**	**147.90**	**313**	PKPbc	PKPbc	17 54 38.7	0.0
GERES	0.4nm,0.4s,baz=129,slow=2.0,SNR=3.3 **GERESS Array B**	**150.63**	**346**	PKPbc	PKPbc	17 54 44.0	-1.0
	0.7nm,0.8s,baz=72,slow=1.7,SNR=5.0						

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*IDC **01** 17:39:16.9±1.0, 32°.67S×72°.67W, h0km, mb4.1/5, mb1 4.0/7, mb1mx3.9/33, mbtmp4.0/7, ML4.0/2, Error ellipse: s-maj=31.5km s-min=21.2km az=133.0*
*ISCJB **01** 17:39:19.3±0.9, 32°.96S±0°.07×72°.32W±0°.08, h15km, mb4.0/5, Error ellipse: s-maj=10.1km s-min=8.6km az=35.4*
*GUC **01** 17:39:21.0±0.5, 33°.08S×72°.15W, h10km±8km, ML3.7*
ISC 01 17:39:20.1±0.9, 32°.99S±0°.07×72°.28W±0°.07, h15km, n22, σ1ϟ77/26, mb4.2/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.54**	**94**	*e*P	**Pg**	**17 39 30.2**	**-0.5**
LNV	**Longovilo**	**1.21**	**143**	*e*P	**Pn**	**17 39 41.7**	**-0.7**
RCDM	**Rinconada Maip**	**1.33**	**112**	*e*P	**Pn**	**17 39 43.8**	**-0.4**
RCDM				*e*S1	**Sn**	**17 40 01.1**	**-0.6**
RCDM				AML	AML	17 40 07.0	
	comp=N,2μm,0.9s						
ANTU	**Antumapu**	**1.50**	**113**	*e*P	**Pn**	**17 39 46.9**	**+0.5**
ANTU				*e*S	**Sb**	**17 40 06.1**	**-0.3**
ANTU				AML	AML	17 40 13.3	
	comp=N,3μm,0.6s						
FSR	**Penalolen**	**1.55**	**109**	*e*P	**Pn**	**17 39 47.6**	**+0.4**
FSR				*e*S	**Sb**	**17 40 07.8**	**-0.2**
CHCH	**Chadas Angostu**	**1.65**	**125**	*e*P	**Pn**	**17 39 48.9**	**+0.2**
FCH	**Farellones**	**1.70**	**102**	*e*P9	Pn	17 39 46.0	-3.6
FCH				*e*S	**Sn**	**17 40 08.9**	**-2.4**
FCH				AML	AML	17 40 15.3	
	comp=E,2μm,0.1s						
CFAA	**Coronel Fontan**	**3.69**	**69**	Pn	**Pn**	**17 40 19.2**	**+2.5**
CFAA	comp=E,1.8nm,0.3s,baz=206,slow=8.9,SNR=22			Pg	**Pg**	**17 40 29.4**	**-1.5**
CFAA	comp=E,1.5nm,0.3s,baz=235,slow=12,SNR=5.2			Sn	**Sb**	**17 41 07.3**	**-2.4**
	comp=E,4.7nm,0.3s,baz=316,slow=19,SNR=7.2						
PLCA	**Paso Flores**	**7.85**	**170**	Lg	Lg	17 43 37.1	
	comp=E,2.0nm,0.3s,baz=280,slow=15,SNR=3.5						
CPUP	**Villa Florida**	**14.59**	**67**	Pn	**Pn**	**17 42 48.0**	**+2.0**
	comp=E,0.5nm,0.3s,baz=226,slow=9.4,SNR=3.2						
CPUP				Sn	**Sn**	**17 45 30.7**	**+3.2**
	comp=E,0.3nm,0.3s,baz=210,slow=14,SNR=4.6						
LPAZ	**La Paz**	**17.05**	**14**	Pn	**Pn**	**17 43 17.8**	**-0.8**
	comp=E,0.1nm,0.3s,baz=181,slow=7.1,SNR=8.6						
BDFB	**Brasilia**	**27.95**	**58**	P	**P**	**17 45 08.8**	**-1.4**
	comp=E,2.1nm,0.5s,baz=170,slow=9.0,SNR=3.7						
SNAA	**Sanae**	**52.59**	**158**	P	**P**	**17 48 34.4**	**+1.6**
	comp=E,1.0nm,0.9s,baz=276,slow=10,SNR=3.0						
QSPA	**South Pole Qui**	**57.24**	**180**	P	**P**	**17 49 09.3**	**+2.7**
	comp=E,2.9nm,1.2s,baz=139,slow=3.3,SNR=3.9						
BOSA	**Boshof**	**80.72**	**118**	P	**P**	**17 51 33.6**	**+0.5**
	comp=E,1.7nm,0.7s,baz=284,slow=4.2,SNR=3.3						
TORD	**Torodi Ar. Bea**	**84.06**	**70**	P	**P**	**17 51 50.4**	**-0.1**
	comp=E,1.7nm,0.9s,baz=263,slow=4.6,SNR=7.2						
H11S2	**WAKE ISLAND Hyl**	**25.58**	**270**	T	T	20 17 26.0	
	baz=118,slow=75,SNR=5.7						
H11S1	**WAKE ISLAND Hyl**	**25.59**	**270**	T	T	20 17 24.0	
	baz=118,slow=75,SNR=10						
H11S3	**WAKE ISLAND Hyl**	**25.59**	**270**	T	T	20 17 26.3	
	baz=118,slow=75,SNR=7.5						
ZALV	**Zalesovo Beam**	**153.48**	**31**	PKPbc	**PKPbc**	**17 59 17.0**	**-0.4**
	comp=E,0.5nm,0.7s,baz=328,slow=2.3,SNR=6.6						
ZALV				PKPab	**PKPab**	**17 59 30.3**	**+0.6**
	comp=E,0.7nm,0.7s,baz=312,slow=5.1,SNR=4.2						
MKAR	**Makanchi Array**	**156.24**	**47**	PKP	**PKPdf**	**17 59 10.6**	**-3.3**
	comp=E,0.3nm,1.0s,baz=357,slow=2.9,SNR=2.1						
MKAR				PKPab	**PKPab**	**17 59 42.2**	**+0.3**
	comp=E,0.7nm,0.7s,baz=288,slow=3.9,SNR=9.6						
SONM	**Songino Array**	**165.14**	**3**	PKPab	**PKPab**	**18 00 17.1**	**-3.5**
	comp=E,0.2nm,0.7s,baz=96,slow=2.9,SNR=2.3						

IDC 01 17:39:29.4±1.8, 36°.68S×73°.53W, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.6/34, mbtmp3.7/4, ML4.3/2, Error ellipse: s-maj=48.9km s-min=19.6km az=82.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.67**	**151**	Pn	Pn	17 40 42.9	+1.6
PLCA	1.4nm,0.3s,baz=324,slow=8.5,SNR=5.0			Pg	Pb	17 40 53.8	+1.5
PLCA	1.4nm,0.3s,baz=327,slow=15,SNR=4.0			Lg	Lg	17 41 55.6	
CPUP	1.4nm,0.3s,baz=273,slow=13,SNR=3.2 **Villa Florida**	**17.22**	**58**	Pn	P	17 43 33.5	+0.5
LPAZ	0.9nm,0.3s,baz=216,slow=14,SNR=3.2 **La Paz**	**20.87**	**15**	P	P	17 44 12.9	-1.0
QSPA	1.9nm,0.9s,baz=162,slow=12,SNR=2.3 **South Pole Qui**	**53.56**	**180**	P	P	17 48 52.1	+0.2
MKAR	0.7nm,0.7s,baz=142,slow=3.4,SNR=4.6 **Makanchi Array**	**159.40**	**53**	PKPab	PKPab	18 00 06.5	-0.7
	0.3nm,0.9s,baz=256,slow=4.0,SNR=2.4						

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*IDC **01** 17:43:04.1±0.8, 33°.95S×71°.85W, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/34, mbtmp4.0/8, ML4.2/1, Error ellipse: s-maj=27.6km s-min=18.7km az=129.0*
*ISCJB **01** 17:43:05.9±0.8, 34°.05S±0°.09×72°.12W±0°.07, h19km, mb4.0/6, Error ellipse: s-maj=14.6km s-min=6.9km az=155.6*
*GUC **01** 17:43:07.6±0.5, 34°.02S×72°.06W, h26km±999km, ML3.9*
ISC 01 17:43:06.8±0.8, 33°.97S±0°.08×72°.14W±0°.06, h19km, n21, σ1ϟ02/26, mb4.1/6, 5C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**1.03**	**24⇑**	*i*P	**Pn**	**17 43 26.2**	**0.0**
IHA				*i*S1	**Sg**	**17 43 40.1**	**-0.2**
TACH	**Talagante**	**1.05**	**73⇑**	*i*P	**Pb**	**17 43 25.4**	**-1.0**
RCDM	**Rinconada Maip**	**1.21**	**67⇑**	*i*P	**Pn**	**17 43 27.7**	**-1.0**
RCDM				*i*S	**Sb**	**17 43 43.3**	**-1.0**
RCDM				AML	AML	17 43 48.2	
	comp=E,2μm,0.6s						
ANTU	**Antumapu**	**1.31**	**73⇑**	*i*P	**Pn**	**17 43 29.9**	**-0.3**
ANTU				*i*S	**Sb**	**17 43 46.7**	**-0.7**
ANTU				AML	AML	17 43 50.9	
	comp=N,4μm,0.3s						
SAN	**Santiago**	**1.33**	**68**	*e*P	**Pn**	**17 43 30.2**	**-0.2**
SAN				*i*S1	**Sn**	**17 43 47.3**	**-0.4**
PEL	**Peldehue**	**1.47**	**56⇑**	*i*P	**Pb**	**17 43 32.6**	**-0.9**
PEL				*i*S	**Sb**	**17 43 51.5**	**-0.2**
PEL				AML	AML	17 43 59.0	
	comp=N,6μm,0.6s						
FCH	**Farellones**	**1.67**	**68⇓**	*i*P	**Pg**	**17 43 40.7**	**+1.7**
FCH				*i*S	**Sg**	**17 44 02.8**	**+2.0**
FCH				AML	AML	17 44 08.6	
	comp=N,3μm,0.3s						
CFAA	**Coronel Fontan**	**4.04**	**55**	Pn	**Pn**	**17 44 08.4**	**+0.7**
	comp=N,0.1nm,0.3s,baz=234,slow=13,SNR=4.0						
CFAA				Pg	Pb	17 44 13.1	-4.3
	comp=N,1.2nm,0.3s,baz=221,slow=12,SNR=13						
CFAA				Lg	Lg	17 45 04.7	
	comp=N,2.3nm,0.3s,baz=352,slow=11,SNR=7.4						
PLCA	**Paso Flores**	**6.87**	**170**	Lg	Lg	17 46 37.6	
	comp=N,0.2nm,0.3s,baz=78,slow=23,SNR=3.6						
LPAZ	**La Paz**	**17.97**	**13**	P	**P**	**17 47 17.2**	**+0.5**
	comp=N,0.3nm,0.3s,baz=183,slow=8.7,SNR=10						
SIV	**San Ignacio**	**20.49**	**32**	P	**P**	**17 47 42.2**	**-1.5**
	comp=N,2.2nm,0.7s,baz=253,slow=7.9,SNR=5.5						
QSPA	**South Pole Qui**	**56.27**	**180**	P	**P**	**17 52 46.5**	**+0.7**
	comp=N,1.6nm,0.8s,baz=272,slow=0.8,SNR=6.5						
BOSA	**Boshof**	**80.16**	**118**	P	**P**	**17 55 16.3**	**+0.1**
	comp=N,1.4nm,0.6s,baz=164,slow=7.4,SNR=3.7						
PDAR	**Pinedale Array**	**83.70**	**333**	P	**P**	**17 55 35.6**	**+1.3**
	comp=N,0.3nm,0.7s,baz=118,slow=7.5,SNR=2.5						
NVAR	**Mina Array Bea**	**83.81**	**325**	P	**P**	**17 55 36.6**	**+1.6**
	comp=N,0.5nm,0.6s,baz=184,slow=6.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**84.28**	**70**	P	**P**	**17 55 37.4**	**-0.3**
	comp=N,1.5nm,0.7s,baz=260,slow=4.4,SNR=8.5						
ULM	**Lac du Bonnet**	**86.44**	**345**	P	**P**	**17 55 47.2**	**-0.5**
	comp=N,1.4nm,0.6s,baz=214,slow=3.6,SNR=3.0						
WRA	**Warramunga Arr**	**120.75**	**209**	PKP	**PKPdf**	**18 01 56.4**	**-1.8**
	comp=N,0.3nm,0.7s,baz=150,slow=1.6,SNR=4.8						
BVAR	**Borovoye Array**	**147.31**	**43**	PKPbc	**PKPbc**	**18 02 49.0**	**+0.4**
	comp=N,0.9nm,0.5s,baz=316,slow=4.0,SNR=5.9						
ZALV	**Zalesovo Beam**	**154.24**	**32**	PKPbc	**PKPbc**	**18 03 05.0**	**-0.1**
	comp=N,2.2nm,0.7s,baz=287,slow=2.6,SNR=11						
MKAR	**Makanchi Array**	**156.80**	**49**	PKPab	**PKPab**	**18 03 29.3**	**-1.0**
	comp=N,0.4nm,0.6s,baz=301,slow=3.4,SNR=6.6						

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*ISCJB **01** 17:47:01.3±0.8, 32°.98S±0°.08×72°.1W±0°.1, h15km, mb4.0/7, Error ellipse: s-maj=17.2km s-min=10.8km az=176.1*
*NEIC **01** 17:47:05.6±0.6, 32°.96S×72°.15W, h35km, mb4.2/2, Error ellipse: s-maj=14.0km s-min=10.3km az=89.0*
*IDC **01** 17:47:05.4±0.9, 33°.00S×71°.99W, h30km±5km, mb3.9/6, mb1 4.1/10, mb1mx3.9/33, mbtmp4.0/10, ML4.1/4, Error ellipse: s-maj=26.2km s-min=20.2km az=75.0*
ISC 01 17:47:03.4±0.7, 32°.98S±0°.10×72°.1W±0°.1, h15km, n22, σ1ϟ84/20, mb4.1/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**3.54**	**68**	Pn	Pn	17 48 00.4	+2.5
CFAA	3.4nm,0.3s,baz=262,slow=5.6,SNR=30			Lg	Lg	17 48 47.7	
PLCA	1.9nm,0.3s,baz=260,slow=13,SNR=3.7 **Paso Flores**	**7.84**	**171**	Pn	**Pn**	**17 48 57.1**	**+0.2**
TRQA	0.7nm,0.3s,baz=328,slow=8.7,SNR=3.2 **Tornquist**	**9.67**	**124**	*e*P	**Pn**	**17 49 23.2**	**+1.1**
CPUP	11nm,1.0s **Villa Florida**	**14.44**	**67**	Pn	**Pn**	**17 50 28.1**	**+0.8**
LPAZ	0.7nm,0.3s,baz=224,slow=13,SNR=3.4 **La Paz**	**17.00**	**13**	Pn	**Pn**	**17 51 00.2**	**-1.2**
SIV	0.2nm,0.3s,baz=183,slow=7.6,SNR=18 **San Ignacio**	**19.64**	**33**	P	**P**	**17 51 29.8**	**-1.9**
SAML	0.2nm,0.3s,baz=233,slow=13,SNR=3.7 **Samuel**	**25.29**	**21**	*e*P	**P**	**17 52 28.0**	**-1.4**
BDFB	4.5nm,0.9s **Brasilia**	**27.81**	**57**	P	**P**	**17 52 51.7**	**-0.6**
SNAA	3.1nm,0.6s,baz=262,slow=6.8,SNR=4.0 **Sanae**	**52.55**	**158**	P	**P**	**17 56 15.4**	**-0.5**
SNAA	0.6nm,0.7s,baz=274,slow=7.7,SNR=6.3 **Sanae**	**52.55**	**158**	P	**P**	**17 56 15.3**	**-0.5**
TXAR	2.5nm,0.8s **Lajitas Array**	**68.82**	**331**	P	**P**	**17 58 07.4**	**+0.1**
TXAR	0.8nm,0.6s,baz=151,slow=8.5,SNR=4.7			pP	**pP**	**17 58 17.0**	**+4.9**
	0.8nm,0.7s,baz=142,slow=6.3,SNR=4.2						
BOSA	**Boshof**	**80.58**	**118**	P	**P**	**17 59 15.6**	**-0.2**
	4.4nm,0.9s,baz=204,slow=4.4,SNR=5.6						
NVAR	**Mina Array Bea**	**83.02**	**325**	P	**P**	**17 59 29.1**	**+0.8**
	0.6nm,0.7s,baz=134,slow=6.9,SNR=4.0						
NVAR				pP	pP	17 59 38.7	+5.4
	0.5nm,0.5s,baz=159,slow=5.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**83.91**	**70**	P	**P**	**17 59 32.2**	**-0.9**
	2.5nm,0.9s,baz=268,slow=4.6,SNR=12						
TORD				pP	**pP**	**17 59 41.5**	**+3.4**
	1.0nm,0.7s,baz=255,slow=4.0,SNR=4.8						
WRA	**Warramunga Arr**	**121.63**	**209**	PKP	**PKPdf**	**18 05 54.1**	**-3.1**
	0.4nm,1.0s,baz=150,slow=1.7,SNR=4.9						
H11S2	**WAKE ISLAND Hyl**	**25.73**	**270**	T	T	20 25 10.6	
	baz=118,slow=75,SNR=7.5						
H11S1	**WAKE ISLAND Hyl**	**25.75**	**270**	T	T	20 25 10.2	
	baz=118,slow=75,SNR=8.9						
H11S3	**WAKE ISLAND Hyl**	**25.75**	**270**	T	T	20 25 12.2	
	baz=118,slow=75,SNR=7.5						
BVAR	**Borovoye Array**	**146.56**	**42**	PKPbc	**PKPbc**	**18 06 43.7**	**-0.1**
	1.5nm,0.4s,baz=265,slow=2.7,SNR=10						
ZALV	**Zalesovo Beam**	**153.38**	**31**	PKPbc	**PKPbc**	**18 06 59.7**	**-0.8**
	2.1nm,0.7s,baz=290,slow=4.3,SNR=11						
MKAR	**Makanchi Array**	**156.12**	**47**	PKPab	**PKPab**	**18 07 23.9**	**-0.8**
	2.1nm,0.8s,baz=289,slow=4.1,SNR=20						
SONM	**Songino Array**	**165.12**	**4**	PKPab	**PKPab**	**18 08 03.5**	**-0.3**
	0.3nm,0.7s,baz=351,slow=6.3,SNR=3.0						

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*IDC **01** 17:58:25.0±1.3, 34°.73S×73°.54W, h0km, mb3.8/4, mb1 4.0/6, mb1mx4.0/16, mbtmp3.8/6, ML3.5/2, MS2.5/2, Ms1 2.6/2, ms1mx2.5/18, Error ellipse: s-maj=38.2km s-min=33.4km az=178.0*
*ISCJB **01** 17:58:29.4±1.2, 34°.6S±0°.2×73°.6W±0°.1, h33km, mb3.8/4, Error ellipse: s-maj=27.1km s-min=13.4km az=154.0*
ISC 01 17:58:30.3±1.0, 34°.7S±0°.2×73°.6W±0°.2, h35km, n10, σ0ϟ83/10, mb3.9/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.48**	**57**	Pn	Pn	17 59 45.9	-3.7
CFAA	0.5nm,0.3s,baz=223,slow=12,SNR=10			Sn	**Sn**	**18 00 51.6**	**+0.3**
CFAA	0.3nm,0.3s,baz=37,slow=24,SNR=1.8			LR	LR	18 02 06.7	
CPUP	comp=Z,15nm,21.5s,baz=188,slow=41 **Villa Florida**	**16.33**	**64**	LR	LR	18 09 44.6	
LPAZ	comp=Z,53nm,19.1s,baz=194,slow=42 **La Paz**	**18.99**	**16**	P	**Pn**	**18 02 50.4**	**-0.1**
TXAR	0.2nm,0.3s,baz=176,slow=8.5,SNR=7.9 **Lajitas Array**	**69.72**	**332**	P	**P**	**18 09 37.0**	**+0.2**
BOSA	0.7nm,0.6s,baz=144,slow=6.7,SNR=3.4 **Boshof**	**80.91**	**118**	P	**P**	**18 10 42.4**	**+1.1**
NVAR	1.3nm,0.6s,baz=174,slow=9.2,SNR=2.5 **Mina Array Bea**	**83.72**	**326**	P	**P**	**18 10 56.5**	**+0.8**
TORD	0.3nm,0.7s,baz=167,slow=5.3,SNR=2.4 **Torodi Ar. Bea**	**85.69**	**71**	P	**P**	**18 11 05.6**	**-0.3**
BRTR	0.4nm,0.6s,baz=207,slow=6.1,SNR=2.6 **Keskin Array B**	**123.33**	**62**	PKP	**PKPdf**	**18 17 22.5**	**-1.1**
BVAR	0.3nm,0.7s,baz=169,slow=2.9,SNR=2.8 **Borovoye Array**	**148.69**	**43**	PKPbc	**PKPbc**	**18 18 12.2**	**-1.1**
MKAR	0.7nm,0.6s,baz=293,slow=4.4,SNR=4.2 **Makanchi Array**	**158.22**	**49**	PKP	**PKPdf**	**18 18 22.9**	**-0.5**
MKAR	0.3nm,0.8s,baz=227,slow=2.9,SNR=3.1			PKPab	**PKPab**	**18 18 57.3**	**-0.2**
	0.3nm,0.7s,baz=301,slow=3.6,SNR=3.9						

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*IDC **01** 18:06:18.4±10.0, 37°.09S×74°.43W, h0km, mb3.7/1, mb1 3.6/2, mb1mx3.5/15, mbtmp3.5/2, ML3.4/1, Error ellipse: s-maj=338.6km s-min=36.3km az=65.0*
*GUC **01** 18:06:42.0±0.3, 33°.94S×71°.41W, h21km±4km, ML3.6*
ISC 01 18:06:40.1±1.8, 34°.1S±0°.1×71°.46W±0°.10, h35km, n9, σ0ϟ52/13, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCDM	**Rinconada Maip**	**0.84**	**40**	*e*P	**Pn**	**18 06 55.6**	**+0.1**
RCDM				*e*S	**Sn**	**18 07 05.7**	**-0.9**
ANTU	**Antumapu**	**0.89**	**51**	*e*P	**Pn**	**18 06 56.7**	**+0.5**
ANTU				*e*S	**Sn**	**18 07 07.8**	**0.0**
ANTU				AML	AML	18 07 08.5	
	comp=N,5μm,0.1s						
STL	**Santa Lucia**	**0.97**	**44**	*e*P9	**Pn**	**18 06 57.3**	**0.0**
STL				*e*S	**Sn**	**18 07 09.6**	**-0.3**
IHA	**Instituto Hidr**	**1.12**	**352**	*e*P	**Pn**	**18 06 59.6**	**+0.3**
IHA				*e*S	**Sn**	**18 07 13.0**	**-0.3**
PEL	**Peldehue**	**1.18**	**33⇑**	*e*P	**Pn**	**18 07 01.0**	**+0.8**
PEL				*e*S	**Sn**	**18 07 15.4**	**+0.4**
PEL				AML	AML	18 07 20.3	
	comp=E,3μm,0.2s						
PLCA	**Paso Flores**	**6.63**	**174**	Pn	x	18 07 31.4	
PLCA	comp=E,0.4nm,0.3s,baz=298,slow=11,SNR=2.8			Sn	x	18 08 26.8	
	comp=E,0.8nm,0.3s,baz=48,slow=7.0,SNR=1.7						
TORD	**Torodi Ar. Bea**	**83.80**	**70**	P	**P**	**18 19 06.3**	**+0.1**
	comp=E,0.4nm,0.8s,baz=239,slow=3.2,SNR=2.5						
ZALV	**Zalesovo Beam**	**154.08**	**33**	PKPab	**PKPab**	**18 26 48.5**	**-0.6**
	comp=E,0.3nm,0.4s,baz=323,slow=4.5,SNR=4.3						
MKAR	**Makanchi Array**	**156.48**	**50**	PKPab	**PKPab**	**18 26 59.7**	**-0.1**
	comp=E,0.1nm,0.6s,baz=256,slow=0.6,SNR=2.8						

IDC 01 18:16:51.9±2.2, 39°.14S×74°.48W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.9/19, mbtmp3.8/4, MS3.6/1, Ms1 3.6/1, ms1mx2.9/21, Error ellipse: s-maj=68.9km s-min=18.7km az=37.0, Off coast of central Chile

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

LTK				S	Sg	18 27 05.6	+0.7
LTK	**Loutraki**	**0.27**	**110**	P	Pg	18 27 01.2	-0.1
LTK				S	Sg	18 27 05.6	+0.7
GUR	**Goura**	**0.30**	**234**	P	Pg	18 27 01.8	-0.2
GUR				S	Sg	18 27 05.9	-0.1
GUR	**Goura**	**0.30**	**234**	*e*PG	Pg	18 27 01.8	-0.2
GUR				*e*SG	Sg	18 27 05.8	-0.2
GUR	**Goura**	**0.30**	**234**	P	Pg	18 27 01.8	-0.2
GUR				*e*Sg	Sg	18 27 05.8	-0.2
DSF	**Desfina**	**0.31**	**342**	P	Pg	18 27 01.8	-0.5
DSF				S	Sg	18 27 06.8	+0.4
DSF	**Desfina**	**0.31**	**342**	*e*PG	Pg	18 27 01.9	-0.3
DSF				*e*SG	Sg	18 27 06.5	+0.1
DSF	**Desfina**	**0.31**	**342**	*e*Pg	Pg	18 27 01.9	-0.3
DSF				*e*Sg	Sg	18 27 06.5	+0.1
KLV	**Kalavryta, Ach**	**0.40**	**260**	P	Pg	18 27 03.3	-0.5
KLV				S	Sg	18 27 09.3	+0.2
KLV	**Kalavryta, Ach**	**0.40**	**260**	*e*PB	Pg	18 27 03.5	-0.3
KLV				*e*SB	Sg	18 27 09.3	+0.2
KLV	**Kalavryta, Ach**	**0.40**	**260**	*e*Pb	Pg	18 27 03.5	-0.3
KLV				S	Sg	18 27 09.3	+0.2
KALE	**Kalithea**	**0.49**	**305**	P	Pg	18 27 05.2	-0.3
KALE				S	Sg	18 27 12.6	+0.7
KALE	**Kalithea**	**0.49**	**305**	*e*PB	Pg	18 27 05.3	-0.3
KALE	**Kalithea**	**0.49**	**305**	P	Pg	18 27 05.2	-0.3
KALE				S	Sg	18 27 12.6	+0.7
LAKA	**Lakka**	**0.54**	**284**	P	Pg	18 27 06.2	-0.4
LAKA	**Lakka**	**0.54**	**284**	*e*PB	Pg	18 27 06.4	-0.2
LAKA	**Lakka**	**0.54**	**284**	P	Pg	18 27 06.2	-0.4
LKR	**Lokris**	**0.60**	**27**	P	Pg	18 27 06.8	-0.9
LKR				S	Sg	18 27 16.6	+1.0
LKR	**Lokris**	**0.60**	**27**	P	Pg	18 27 06.8	-0.9
LKR				S	Sg	18 27 16.6	+1.0
AXAR	**Agios Charalam**	**0.65**	**1**	P	Pg	18 27 07.9	-0.7
AXAR				S	Sg	18 27 17.5	+0.3
AXAR	**Agios Charalam**	**0.65**	**1**	*e*PB	Pg	18 27 07.9	-0.7
AXAR	**Agios Charalam**	**0.65**	**1**	P	Pg	18 27 07.9	-0.7
AXAR				S	Sg	18 27 17.5	+0.3
EFP	**Efpalio**	**0.66**	**298**	P	Pg	18 27 08.1	-0.7
EFP	**Efpalio**	**0.66**	**298**	*e*PB	Pg	18 27 09.1	+0.3
EFP	**Efpalio**	**0.66**	**298**	P	Pg	18 27 08.1	-0.7
EFP	**Efpalio**	**0.66**	**298**	*e*Pb	Pg	18 27 09.1	+0.3
DRO	**Drossia**	**0.76**	**258**	P	Pg	18 27 10.1	-0.5
DRO	**Drossia**	**0.76**	**258**	*e*PB	Pg	18 27 10.1	-0.5
DRO	**Drossia**	**0.76**	**258**	P	Pg	18 27 10.1	-0.5
DID	**Didima**	**0.76**	**142**	P	Pg	18 27 10.2	-0.5
DID				S	Sb	18 27 22.5	+0.3
DID	**Didima**	**0.76**	**142**	P	Pg	18 27 10.2	-0.5
DID				S	Sb	18 27 22.5	+0.3
VLX	**Vlachokerasia**	**0.77**	**196**	P	Pg	18 27 10.4	-0.5
VLX	**Vlachokerasia**	**0.77**	**196**	P	Pg	18 27 10.4	-0.5
ATH	**Athens Observa**	**0.85**	**99**	*e*PG	Pg	18 27 12.6	+0.1
ATH				*e*SB	Sb	18 27 25.4	+0.6
ATH	**Athens Observa**	**0.85**	**99**	*e*Pg	Pg	18 27 12.6	+0.1
ATH				*e*Sb	Sb	18 27 25.4	+0.6
SMIA	**Simia**	**0.88**	**30**	P	Pg	18 27 11.9	-1.1
SMIA				S	Sb	18 27 26.2	+0.5
SMIA	**Simia**	**0.88**	**30**	P	Pg	18 27 11.9	-1.1
SMIA				S	Sb	18 27 26.2	+0.5
RLS	**Riolos of Patr**	**0.93**	**267**	*e*PB	Pg	18 27 13.8	-0.2
RLS	**Riolos of Patr**	**0.93**	**267**	*e*Pb	Pg	18 27 13.8	-0.2
AGG	**Agios Georgios**	**0.94**	**345**	P	Pg	18 27 13.4	-0.8
AGG	**Agios Georgios**	**0.94**	**345**	*e*PG	Pg	18 27 13.6	-0.6
AGG	**Agios Georgios**	**0.94**	**345**	*e*Pg	Pg	18 27 13.6	-0.6
AMT	**Artemida-Makis**	**0.94**	**232**	P	Pg	18 27 13.2	-1.0
AMT				S	Sb	18 27 27.2	-0.2
AMT	**Artemida-Makis**	**0.94**	**232**	*e*PG	Pg	18 27 13.6	-0.6
AMT	**Artemida-Makis**	**0.94**	**232**	P	Pg	18 27 13.2	-1.0
AMT	**Artemida-Makis**	**0.94**	**232**	*e*Pg	Pg	18 27 13.6	-0.6
AMT				S	Sb	18 27 27.2	-0.2
MRKA	**Markates**	**0.95**	**51**	P	Pg	18 27 13.5	-0.7
MRKA	**Markates**	**0.95**	**51**	P	Pg	18 27 13.5	-0.7
MAKR	**Makrakomi, Fth**	**0.99**	**336**	P	Pg	18 27 14.5	-0.5
MAKR	**Makrakomi, Fth**	**0.99**	**336**	*e*PN	Pg	18 27 15.0	0.0
MAKR	**Makrakomi, Fth**	**0.99**	**336**	P	Pg	18 27 14.5	-0.5
MAKR	**Makrakomi, Fth**	**0.99**	**336**	*e*Pn	Pg	18 27 15.0	0.0
EVR	**Evrytania**	**1.04**	**321**	P	Pg	18 27 15.7	-0.3
EVR				S	Sb	18 27 30.1	-0.1
EVR	**Evrytania**	**1.04**	**321**	*e*PN	Pg	18 27 16.0	0.0
EVR	**Evrytania**	**1.04**	**321**	P	Pg	18 27 15.7	-0.3
EVR	**Evrytania**	**1.04**	**321**	*e*Pn	Pg	18 27 16.0	0.0
EVR				S	Sb	18 27 30.1	-0.1
ITM	**Ithomi**	**1.09**	**212**	P	Pg	18 27 16.4	-0.6
ITM				S	Sn	18 27 33.0	-0.1
ITM	**Ithomi**	**1.09**	**212**	P	Pg	18 27 16.4	-0.6
ITM				S	Sn	18 27 33.0	-0.1
SKIA	**Skiathos**	**1.23**	**31**	P	Pb	18 27 19.1	-0.5
SKIA				S	Sn	18 27 37.1	+0.6
SKIA	**Skiathos**	**1.23**	**31**	P	Pb	18 27 19.1	-0.5
SKIA				S	Sn	18 27 37.1	+0.6
PDO	**Prodromos**	**1.25**	**293**	*e*PB	Pg	18 27 20.1	+0.1
PDO	**Prodromos**	**1.25**	**293**	*e*Pb	Pg	18 27 20.1	+0.1
NEO	**Neokhori**	**1.27**	**20**	P	Pn	18 27 19.6	-0.6
NEO				S	Sn	18 27 38.8	+1.2
NEO	**Neokhori**	**1.27**	**20**	P	Pn	18 27 19.6	-0.6
XOR	**Xorichti**	**1.32**	**19**	P	Pn	18 27 20.2	-0.7
XOR				S	Sn	18 27 39.5	+0.8
XOR	**Xorichti**	**1.32**	**19**	P	Pn	18 27 20.2	-0.7
XOR				S	Sn	18 27 39.5	+0.8
VLI	**Veliai**	**1.41**	**171**	P	Pn	18 27 21.8	-0.3
VLI				S	Sg	18 27 42.0	+0.6
VLI	**Veliai**	**1.41**	**171**	P	Pn	18 27 21.8	-0.3
VLI				S	Sg	18 27 42.0	+0.6
AOS	**Alonnisos**	**1.43**	**42**	P	Pn	18 27 21.2	-1.1
AOS				S	Sn	18 27 41.2	-0.2
AOS	**Alonnisos**	**1.43**	**42**	P	Pn	18 27 21.2	-1.1
AOS				S	Sn	18 27 41.2	-0.2
THL	**Klokotos Trika**	**1.53**	**341**	P	Pn	18 27 23.8	+0.1
THL	**Klokotos Trika**	**1.53**	**341**	*e*PG	Pn	18 27 23.9	+0.2
THL	**Klokotos Trika**	**1.53**	**341**	P	Pn	18 27 23.8	+0.1
VLS	**Valsamata**	**1.62**	**273**	*e*PB	Pb	18 27 26.6	+0.3
VLS	**Valsamata**	**1.62**	**273**	*e*Pb	Pb	18 27 26.6	+0.3
LKD2	**Lefkada island**	**1.70**	**294**	*e*PB	Pb	18 27 28.0	+0.3
LKD2	**Lefkada island**	**1.70**	**294**	*e*Pb	Pb	18 27 28.0	+0.3

ISCJB ***01*** *18:30:53.3±0.5, 34.°61S±0.°07×71.°6W±0.°1, h10km, mb4.3/14, Error ellipse: s-maj=17.5km s-min=9.4km az=162.1*
IDC ***01*** *18:30:53.1±0.6, 34.°58S×71.°69W, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.2/33, mbtmp4.2/16, ML4.1/2, Error ellipse: s-maj=28.1km s-min=14.8km az=78.0*
NEIC ***01*** *18:30:55.5±4.7, 34.°71S×71.°79W, h17km±29km, mb4.8/3, Error ellipse: s-maj=17.9km s-min=8.8km az=86.0*
ISC 01 18:30:54.7±0.6, 34.°63S±0.°07×71.°8W±0.°1, h10km, n34, σ1º08/30, mb4.4/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.24**	**46**	Pn	**Pn**	**18 32 02.0**	**+2.6**
	0.5nm,0.3s,baz=216,slow=13,SNR=18						
CFAA				Lg	Lg	18 32 56.8	
	0.8nm,0.3s,baz=297,slow=12,SNR=6.4						
PLCA	**Paso Flores**	**6.17**	**171**	Pn	**Pn**	**18 32 28.2**	**+2.4**
	1.8nm,0.3s,baz=341,slow=12,SNR=9.3						
PLCA				Lg	Lg	18 34 03.4	
	0.3nm,0.3s,baz=255,slow=23,SNR=2.2						
PLCA	**Paso Flores**	**6.17**	**171**	*e*P	Pn	18 32 22.5	-3.4
	149nm,0.6s						
PLCA				Lg	Lg	18 34 03.4	
TRQA	**Tornquist**	**8.62**	**116**	*e*P	**Pn**	**18 32 58.9**	**-0.7**
	13nm,0.8s						
CPUP	**Villa Florida**	**14.95**	**60**	Lg	Lg	18 38 43.5	
	0.3nm,0.3s,baz=332,slow=9.6,SNR=2.8						
LPAZ	**La Paz**	**18.56**	**11**	P	**P**	**18 35 12.0**	**-0.4**
	0.1nm,0.3s,baz=185,slow=6.5,SNR=7.8						
USHA	**Ushuaia**	**20.33**	**174**	P	**P**	**18 35 31.4**	**+0.6**
	7.3nm,0.7s,baz=319,slow=9.3,SNR=3.7						
SIV	**San Ignacio**	**20.91**	**30**	P	**P**	**18 35 36.8**	**-0.7**
	2.6nm,0.7s,baz=227,slow=16,SNR=5.4						
NNA	**Nana**	**23.01**	**347**	P	**P**	**18 36 01.2**	**+1.3**
	2.9nm,0.3s,baz=185,slow=8.9,SNR=3.9						
NNA	**Nana**	**23.01**	**347**	*e*P	**P**	**18 36 01.2**	**+1.3**
	18nm,0.9s						
SNAA	**Sanae**	**50.92**	**158**	P	**P**	**18 39 56.6**	**+0.8**
	0.8nm,0.8s,baz=293,slow=7.7,SNR=3.4						
QSPA	**South Pole Qui**	**55.60**	**180**	P	**P**	**18 40 31.0**	**+0.6**
	2.7nm,0.9s,baz=114,slow=0.9,SNR=7.8						
TXAR	**Lajitas Array**	**70.39**	**331**	P	**P**	**18 42 07.8**	**-1.2**
	0.7nm,0.5s,baz=164,slow=10,SNR=4.4						
WVT	**Waverly**	**71.97**	**346**	*e*P	**P**	**18 42 17.9**	**-0.4**
	12nm,0.8s						
DBIC	**Dimbokro**	**75.19**	**71**	P	**P**	**18 42 36.9**	**-0.9**
	3.1nm,0.8s,baz=204,slow=6.0,SNR=4.5						
ANMO	**Albuquerque**	**76.44**	**331**	P	**P**	**18 42 45.7**	**+1.0**
	0.9nm,0.4s,baz=336,slow=20,SNR=3.5						
BOSA	**Boshof**	**79.59**	**117**	P	**P**	**18 43 01.6**	**-0.9**
	3.5nm,0.8s,baz=182,slow=8.6,SNR=4.7						
DUG	**Dugway, Tooele**	**83.52**	**330**	*e*P	**P**	**18 43 23.3**	**+0.5**
	12nm,1.5s						
TORD	**Torodi Ar. Bea**	**84.23**	**70**	P	**P**	**18 43 26.5**	**-0.3**
	3.0nm,0.8s,baz=246,slow=4.2,SNR=16						
PDAR	**Pinedale Array**	**84.42**	**333**	P	**P**	**18 43 27.3**	**-0.1**
	1.3nm,0.9s,baz=142,slow=5.6,SNR=6.8						
NVAR	**Mina Array Bea**	**84.52**	**325**	P	**P**	**18 43 28.8**	**+0.8**
	1.2nm,0.7s,baz=145,slow=5.9,SNR=6.8						
ELK	**Elko**	**85.01**	**328**	P	**P**	**18 43 30.8**	**+0.4**
	1.8nm,0.8s,baz=155,slow=4.6,SNR=8.1						
ULM	**Lac du Bonnet**	**87.16**	**345**	P	**P**	**18 43 39.7**	**-0.8**
	2.6nm,0.7s,baz=164,slow=9.4,SNR=4.8						
YKA	**Yellowknife Ar**	**102.72**	**341**	P	**Pdif**	**18 44 49.5**	**-1.9**
	0.1nm,0.5s,baz=146,slow=5.1,SNR=4.1						
WRA	**Warramunga Arr**	**120.31**	**209**	PKP	**PKPdf**	**18 49 45.5**	**-1.2**
	0.3nm,0.5s,baz=158,slow=1.6,SNR=11						
H11S2	**WAKE ISLAND Hyl**	**25.96**	**269**	T	T	21 08 15.5	
	baz=119,slow=75,SNR=4.9						
H11S1	**WAKE ISLAND Hyl**	**25.98**	**269**	T	T	21 08 14.5	
	baz=119,slow=75,SNR=9.6						
H11S3	**WAKE ISLAND Hyl**	**25.98**	**269**	T	T	21 08 15.4	
	baz=119,slow=75,SNR=4.6						
H11N3	**WAKE ISLAND Hyl**	**26.39**	**270**	T	T	21 08 46.9	
	baz=122						
H11N1	**WAKE ISLAND Hyl**	**26.41**	**270**	T	T	21 08 48.0	
	baz=122						
H11N2	**WAKE ISLAND Hyl**	**26.41**	**270**	T	T	21 08 48.7	
	baz=122						
ZALV	**Zalesovo Beam**	**154.65**	**33**	PKP	**PKPdf**	**18 50 46.6**	**-0.2**
	0.3nm,0.3s,baz=298,slow=3.2,SNR=3.8						
ZALV				PKPbc	**PKPbc**	**18 50 55.1**	**-0.2**
	1.9nm,0.9s,baz=345,slow=4.6,SNR=6.3						
ZALV				PKPab	**PKPab**	**18 51 09.9**	**-0.2**
	0.6nm,0.5s,baz=328,slow=5.3,SNR=3.8						
MKAR	**Makanchi Array**	**157.02**	**50**	PKP	**PKPdf**	**18 50 49.2**	**-1.0**
	0.3nm,0.8s,baz=267,slow=2.6,SNR=2.7						
MKAR				PKPbc	PKPbc	18 51 02.5	
	0.3nm,0.8s,baz=270,slow=4.3,SNR=3.1						
MKAR				PKPab	**PKPab**	**18 51 20.3**	**-0.3**
	0.6nm,0.9s,baz=308,slow=2.8,SNR=4.4						
SONM	**Songino Array**	**166.74**	**5**	PKP	**PKPdf**	**18 50 59.4**	**-0.9**
	0.3nm,0.8s,baz=180,slow=0.6,SNR=3.0						
SONM				PKPab	**PKPab**	**18 52 02.6**	**-0.5**
	0.4nm,0.8s,baz=352,slow=4.4,SNR=4.2						

IDC 01 18:30:57.4±2.3, 6.°79S×130.°21E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.4/33, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=144.4km s-min=32.1km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.68**	**163**	Pn	Pn	18 34 12.0	-0.8
	0.4nm,0.3s,baz=346,slow=13,SNR=23						
WRA				Sn	Sn	18 36 37.8	-7.8
	0.4nm,0.3s,baz=350,slow=24,SNR=9.4						
ASAR	**Alice Springs**	**17.15**	**168**	Pn	Pn	18 34 59.4	+0.6
	0.2nm,0.3s,baz=354,slow=8.8,SNR=26						
ASAR				Sn	Sn	18 38 03.8	-6.4
	0.1nm,0.3s,baz=358,slow=26,SNR=5.3						
MKAR	**Makanchi Array**	**68.17**	**327**	P	P	18 41 59.5	0.0
	0.2nm,0.4s,baz=122,slow=6.9,SNR=6.3						

ISC 01 18:31:02.9±1.4, 6.°44S±0.°08×131.°0E±0.°2, h62km, n6, σ1º56/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.72**	**20**	P	**Pn**	**18 31 57.2**	**-0.8**
	baz=3.8,SNR=17						
MTN	**Manton Dam**	**6.37**	**179**	P	**Pn**	**18 32 36.1**	**+1.9**
	baz=6.4,SNR=32						
MTN				S	**S**	**18 33 44.5**	**-1.1**
	baz=6.4,SNR=7.2						
KDU	**Kakadu**	**6.38**	**167**	P	**Pn**	**18 32 35.0**	**+0.6**
	baz=6.4,SNR=37						
KDU				S	**Sn**	**18 33 44.5**	**-1.5**
	baz=6.4,SNR=4.4						
KNRA	**Kununurra**	**9.44**	**193**	P	**Pn**	**18 33 17.1**	**+1.0**
	baz=9.5,SNR=9.8						
KNRA				S	**S**	**18 34 59.5**	**-1.3**
	baz=9.5,SNR=4.2						
FITZ	**Fitzroy Crossi**	**12.71**	**204**	P	**Pn**	**18 34 00.5**	**-0.4**
	baz=13,SNR=12						
WRKA	**Warakurna**	**18.67**	**188**	P	**P**	**18 35 18.1**	**+2.0**
	baz=19,SNR=7.7						

SKHL 01 18:32:18.8±0.6, 55.°52N×137.°68E, h10km, mb3.6/2, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKL	**Nikolayevsk**	**2.95**	**142**	*e*Pg	Pb	18 33 13.0	+1.5
NKL				*e*Sg	Sg	18 33 52.5	-1.1
NKL				A	A	18 33 59.6	
	50nm,0.8s						
NKL				A	A	18 33 59.6	
	30nm,0.8s						
EKMR	**Ekimchan**	**3.70**	**230**	*e*Pn	Pn	18 33 15.5	-0.6
EKMR				*e*Pg	Pb	18 33 25.5	+1.2
EKMR				AMB	AMB	18 33 30.0	
	5.0nm,0.3s						
EKMR				*e*Sg	Sb	18 34 12.5	+3.3
EKMR				A	A	18 34 19.0	
	31nm,0.4s						
EKMR				A	A	18 34 19.0	
	15nm,0.4s						
EKMR				A	A	18 34 19.0	
	11nm,0.4s						
GRNR	**Gornyy**	**4.82**	**190**	*e*rx	rx	18 34 13.5	
GRNR				*e*Sg	Sg	18 34 51.9	-1.6
GRNR				A	A	18 34 54.9	
	19nm,0.4s						
OKHT	**Okhotsk**	**4.88**	**36**	*e*Sg	Sg	18 34 50.9	-4.4
BMKR	**Bomnak**	**5.14**	**265**	*e*Pg	Pb	18 33 52.8	+4.1
BMKR				*e*Sg	Sg	18 35 00.5	-3.2
BMKR				A	A	18 35 05.4	
	14nm,0.5s						
KROS	**Kirovskiy**	**6.26**	**264**	*e*Pg	Pb	18 34 12.5	+4.6
KROS				AMB	AMB	18 34 17.0	
	2.0nm,0.3s						
KROS				*e*Sn	Sn	18 35 03.0	+0.2
KROS				*e*Sg	Sg	18 35 35.6	-4.2
KROS				A	A	18 35 38.0	
	7.0nm,0.6s						
ZEA	**Zeya**	**6.32**	**258**	*e*Sg	Sg	18 35 35.4	-6.0
KLR	**Kul'dur**	**7.27**	**212**	*e*Sg	Sg	18 36 07.0	-5.0

IDC 01 18:32:33.1±1.4, 32.°56S×72.°30W, h0km, mb3.8/2, mb1 3.8/2, mb1mx3.6/29, mbtmp3.8/2, MS2.0/1, Ms1 2.0/1, ms1mx2.0/26, Error ellipse: s-maj=47.5km s-min=22.5km az=152.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.57**	**76**	Pg	Pg	18 33 40.0	-1.7
	0.9nm,0.3s,baz=250,slow=13,SNR=2.1						
CFAA				Lg	Lg	18 34 24.6	
	1.0nm,0.3s,baz=101,slow=11,SNR=3.7						
CFAA				LR	LR	18 34 53.1	
	comp=Z,19nm,19.5s,baz=224,slow=39						
QSPA	**South Pole Qui**	**57.67**	**180**	P	P	18 42 24.8	-0.3
	0.9nm,0.7s,baz=147,slow=7.0,SNR=6.4						
TORD	**Torodi Ar. Bea**	**83.92**	**70**	P	P	18 45 05.8	+0.5
	0.6nm,0.9s,baz=251,slow=4.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**153.11**	**31**	PKPab	PKPab	18 52 41.3	-2.4
	0.3nm,0.5s,baz=336,slow=3.2,SNR=2.2						
MKAR	**Makanchi Array**	**155.96**	**46**	PKPab	PKPab	18 52 57.5	+1.4
	0.2nm,0.5s,baz=276,slow=2.7,SNR=5.6						

ISCJB ***01*** *18:35:24.4±0.4, 0.°52N±0.°04×122.°35E±0.°04, h114km, mb3.8/8, Error ellipse: s-maj=6.1km s-min=5.0km az=29.9*
IDC ***01*** *18:35:24.1±0.8, 0.°50N×122.°41E, h100km±6km, mb3.6/7, mb1 3.7/7, mb1mx3.5/24, mbtmp4.0/7, Error ellipse: s-maj=58.2km s-min=13.6km az=65.0*
DJA ***01*** *18:35:26.4±0.3, 1.°N±3.°×12.°2E±.°, h77km±5km, M4.4/12, mB5.0/5, mb4.5/12, MLv4.4/11, Mw(mB)4.4/5*
KLM ***01*** *18:35:40.5, 0.°90N×121.°40E, h57km, mb4.2, ML4.5, MS6.1*
ISC 01 18:35:24.9±0.5, 0.°59N±0.°05×122.°33E±0.°06, h114km, n45, σ1º41/49, mb3.7/8, 3C-3D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.41**	**255**	P	**Pn**	**18 35 40.6**	**-1.0**
MRSI				S	**Sn**	**18 35 51.4**	**-2.8**
APSI	**Ampana**	**1.64**	**205**	P	**Pn**	**18 35 53.6**	**0.0**
KMSI	**Cibinong**	**1.65**	**90**	P	**Pn**	**18 35 54.4**	**+0.7**
KMSI				S	**Sn**	**18 36 16.4**	**+0.8**
LUWI	**Luwuk**	**1.68**	**165**	P	**Pn**	**18 35 54.2**	**+0.1**
LUWI				S	**Sn**	**18 36 16.1**	**-0.2**
LUWI	**Luwuk**	**1.68**	**165**	P	**Pn**	**18 35 54.2**	**+0.1**
	baz=1.3,SNR=14						
LUWI				S	Sn	18 36 03.5	-13
	baz=1.3,SNR=4.9						
MPSI	**Mapaga**	**2.45**	**264**	P	**Pn**	**18 36 03.8**	**0.0**
TTSI	**Tana Toraja**	**4.40**	**215**	P	**Pn**	**18 36 30.3**	**+0.6**
SANI	**Sanana**	**4.50**	**126**	P	**Pn**	**18 36 29.2**	**-1.8**
TNTI	**Ternate**	**5.04**	**88**	P	**Pn**	**18 36 38.5**	**+0.2**
	53nm,0.7s,0.3nm						
SPSI	**Sidrap Palu**	**5.20**	**210**	P	**Pn**	**18 36 41.3**	**+0.8**
	42nm,0.6s,0.2nm						
LBMI	**Labuha**	**5.31**	**103**	P	**Pn**	**18 36 41.1**	**-0.9**
	67nm,1.0s,1μm0.7nm						
BNSI	**Bone**	**5.43**	**204**	P	**Pn**	**18 36 45.1**	**+1.5**
	60nm,0.7s,0.2nm						
BKB	**Balikpapan**	**5.74**	**251**	P	**Pn**	**18 36 47.3**	**-0.5**
	130nm,0.8s,2μm						
MYLDM	**Lahad Datu**	**5.96**	**320**	⇑P	Pn	18 36 55.4	+4.7
NLAI	**Namlea**	**6.09**	**129**	P	**Pn**	**18 36 53.5**	**+0.9**
	34nm,0.5s,2μm						
BKSI	**Bulukumba**	**6.27**	**201**	P	**Pn**	**18 36 55.6**	**+0.6**
	14nm,0.7s						
CTBH	**Cotabato--PC H**	**6.86**	**16**	⇓*i*P	**Pn**	**18 37 03.5**	**+0.6**
SDKM	**Sandakan**	**7.18**	**314**	⇓P	**Pn**	**18 37 10.5**	**+3.2**
KKM	**Kota Kinabalu**	**8.17**	**312**	P	Pn	18 37 25.1	+4.3
	baz=8.4,SNR=11						
KKM	**Kota Kinabalu**	**8.17**	**312**	⇓P	Pn	18 37 24.9	+4.1
KDM	**Kudat**	**8.34**	**319**	⇑P	Pn	18 37 27.8	+4.7
BBKI	**Banjar Baru**	**8.50**	**242**	P	**Pn**	**18 37 26.5**	**+1.3**
	17nm,1.6s,688nm						
SBUM	**Sibu**	**10.28**	**280**	⇑P	**Pn**	**18 37 51.9**	**+2.6**
MTN	**Manton Dam**	**15.95**	**147**	P	**P**	**18 39 04.5**	**+0.3**
	baz=16,SNR=6.8						
KDU	**Kakadu**	**16.59**	**143**	S	**Sn**	**18 42 12.4**	**-2.8**
	baz=16,SNR=6.5						
KNRA	**Kununurra**	**17.36**	**159**	P	**Pn**	**18 39 20.7**	**+0.4**
	baz=17,SNR=14						
FITZ	**Fitzroy Crossi**	**18.85**	**170**	P	**P**	**18 39 36.5**	**+0.3**
	baz=18,SNR=32						
MNAI	**Manna**	**19.98**	**256**	P	P	18 39 42.1	-6.3
	baz=20,SNR=5.0						
WRA	**Warramunga Arr**	**23.55**	**151**	P	**P**	**18 40 24.4**	**-0.8**
	1.1nm,0.3s,baz=330,slow=12,SNR=34						
WRA				PcP	**PcP**	**18 44 07.2**	**-0.4**
	0.6nm,1.0s,baz=330,slow=2.0,SNR=6.4						
WRKA	**Warakurna**	**26.12**	**168**	P	**P**	**18 40 48.3**	**-0.1**
	baz=26,SNR=16						
WRKA				S	S	18 44 41.6	-30
	baz=26,SNR=6.4						
ASAR	**Alice Springs**	**26.60**	**156**	P	**P**	**18 40 52.7**	**0.0**
	0.8nm,0.6s,baz=343,slow=13,SNR=16						
ASAR				PcP	**PcP**	**18 44 14.3**	**0.0**
	0.6nm,0.3s,baz=345,slow=2.0,SNR=17						
QIS	**Mount Isa**	**26.97**	**142**	P	**P**	**18 40 56.7**	**+0.6**
	baz=27,SNR=3.3						
MEEK	**Meekatharra**	**27.30**	**187**	P	**P**	**18 40 58.3**	**-0.7**
	baz=27,SNR=17						
MORW	**Morawa**	**30.10**	**191**	P	**P**	**18 41 23.4**	**-0.3**
	baz=30,SNR=9.9						
BLDU	**Ballidu**	**31.49**	**189**	P	**P**	**18 41 35.1**	**-0.8**
	baz=31,SNR=19						
KLBR	**Kellerberrin**	**32.30**	**187**	P	**P**	**18 41 42.5**	**-0.5**
	baz=32,SNR=16						
NWAO	**Narrogin (SRO)**	**33.68**	**188**	P	**P**	**18 41 54.7**	**-0.4**
	12nm,0.9s,baz=358,slow=5.7,SNR=4.9						
STKA	**Stephens Creek**	**37.08**	**152**	P	**P**	**18 42 24.2**	**0.0**
	1.5nm,0.4s,baz=323,slow=7.7,SNR=6.8						
**ST

ZALV Zalesovo Beam 155.75 34 PKPbc PKPdf 18 55 47.9 +6.5
0.3nm,0.4s,baz=285,slow=5.5,SNR=2.8
ZALV pPKPbc pPKPbc 18 55 57.1 -0.5
0.2nm,0.4s,baz=319,slow=6.3,SNR=3.4
ZALV PKPab **PKPab 18 56 06.8 -1.2**
0.8nm,0.6s,baz=325,slow=4.2,SNR=5.3
ZALV pPKPab pPKPab 18 56 15.4 +0.7
0.9nm,0.7s,baz=294,slow=8.0,SNR=3.1
MKAR Makanchi Array 158.06 52 PKPab **PKPab 18 56 16.3 -2.0**
0.4nm,0.8s,baz=299,slow=2.5,SNR=4.6

MEX 01 18:36:36.2±0.8, 17°28N×94°40W, h187km±18km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCIG		**1.93**	**144**	*i*	P	Pn	18 37 12.2	-0.9
PCIG				*i*	S	Sn	18 37 39.4	-2.3
HUIG	**Huatulco**	**2.23**	**228**	*i*	P	Pn	18 37 14.3	-2.0
HUIG				*i*	S	Sn	18 37 46.0	-1.4
CCIG	**Comitan**	**2.38**	**114**	*i*	P	Pn	18 37 17.4	-0.8
CCIG				*i*	S	Sn	18 37 48.5	-2.4
TPIG	**Tehuac#an**	**3.04**	**292**	*eP*		Pn	18 37 25.1	-0.9
TPIG				*i*	S	Sn	18 38 02.7	-2.1
ARIG	**Puente Sto Nin**	**5.76**	**281**	*i*	P	Pn	18 38 00.8	+0.6
ARIG				*i*	S	Sn	18 39 05.0	-1.4

MAN 01 18:39:34, 18°60N×120°92E, h30km, mb4.2, ML3.0, MS2.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.39**	**226**	⇓*i*	P	Pn	18 39 43.9	+0.2
PIP				*e*	S	Sn	18 39 51.3	+1.1
APYP	**Conner**	**0.80**	**157**	*eP*		Pn	18 39 49.0	-0.2
APYP				*e*	S	Sb	18 39 59.7	-0.1
ABRA	**Dolores**	**0.97**	**192**	*eP*		Pb	18 39 52.1	-0.1
ABRA				*e*	S	Sn	18 40 04.4	+0.1
SGCP	**Mt. Cagua**	**1.13**	**108**	*eP*		Pn	18 39 54.3	+0.5
CAUP	**Cauayan**	**1.86**	**152**	*eP*		Pb	18 40 07.7	+0.4

IDC 01 18:40:09.5±2.1, 39°35S×75°31W, h27km±6km, mb3.7/4, mb1 3.9/4, mb1mx3.6/25, mbtmp3.9/4, MS3.2/2, Ms1 3.2/2, ms1mx3.0/24, Error ellipse: s-maj=68.6km s-min=20.1km az=31.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.90**	**112**	Pg		Pb	18 41 21.1	+3.4
PLCA	1.4nm,0.3s,baz=285,slow=14,SNR=5.2			Lg		Lg	18 42 13.6	
PLCA	1.8nm,0.3s,baz=278,slow=15,SNR=3.5			LR		LR	18 42 37.7	
LPAZ	**La Paz**	**23.82**	**17**	P		P	18 45 20.8	-0.3
NNA	**Nana**	**27.29**	**357**	LR		LR	18 54 48.5	
DBIC	**Dimbokro**	**79.35**	**72**	P		P	18 52 13.1	-0.1
DBIC	1.2nm,0.7s,baz=218,slow=12,SNR=2.4			pP		pP	18 52 22.4	+0.7
PDAR	**Pinedale Array**	**87.44**	**335**	P		P	18 52 53.2	-1.1
PDAR	0.6nm,1.0s,baz=168,slow=4.6,SNR=2.9			pP		pP	18 53 03.3	+0.2
TORD	**Torodi Ar. Bea**	**88.44**	**72**	P		P	18 52 59.5	0.0
TORD	1.0nm,1.1s,baz=238,slow=5.5,SNR=3.3			pP		pP	18 53 07.4	-0.8
ZALV	**Zalesovo Beam**	**160.12**	**36**	PKPab		PKPab	19 00 45.0	-0.7
SONM	**Songino Array**	**171.43**	**352**	PKPab		PKPab	19 01 36.9	+1.2
SONM	0.2nm,0.8s,baz=90,slow=2.9,SNR=2.7			pPKPab		pPKPab	19 01 44.6	+0.1
	0.2nm,0.8s,baz=64,slow=3.4,SNR=2.0							

GUC 01 18:41:52.4±0.5, 33°59S×71°81W, h14km±5km, ML3.0, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.49**	**138**	⇑*iP*		Pb	18 42 02.8	-0.1
IHA	**Instituto Hidr**	**0.58**	**14**	*eP*		Pg	18 42 03.9	+0.1
IHA				*i*	S1	Sn	18 42 13.4	-2.2
TACH	**Talagante**	**0.73**	**95**	⇑*iP*		Pb	18 42 07.1	+0.1
TACH				*i*	S1	Sb	18 42 18.1	+1.2
RCDM	**Rinconada Maip**	**0.84**	**83**	*eP*		Pb	18 42 09.0	0.0
RCDM				*i*	S	Sn	18 42 21.4	-0.9
RCDM				AML		AML	18 42 29.6	
	comp=E,869nm,0.3s							
ANTU	**Antumapu**	**0.98**	**89**	*eP*		Pg	18 42 11.6	+0.1
ANTU				*i*	S	Sn	18 42 26.0	+0.3
ANTU				AML		AML	18 42 33.5	
	comp=E,623nm,0.4s							
CHCH	**Chadas Angostu**	**1.02**	**110**	⇑*iP*		Pb	18 42 11.8	-0.2
CHCH				*i*	S1	Sn	18 42 27.0	+0.3
PEL	**Peldehue**	**1.04**	**65**	⇑*iP*		Pn	18 42 12.7	0.0
PEL				*i*	S4	Sn	18 42 28.8	+1.6
PEL				AML		AML	18 42 32.6	
	comp=E,1μm,0.3s							

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*IDC **01** 18:42:16.7±0.8, 33°91S×72°41W, h26km±4km, mb3.8/5, mb1 4.1/6, mb1mx3.8/26, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=38.2km s-min=18.9km az=96.0*
*NEIC **01** 18:42:17.5±0.7, 33°92S×72°82W, h35km, mb4.3/2, Error ellipse: s-maj=20.3km s-min=13.4km az=117.0*
ISC 01 18:42:16.0±0.7, 33°8S±0°1×72°3W±0°1, h17km, n17, σ1§45/21, mb4.0/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.06**	**58**	Pn		**Pb**	**18 43 25.5**	**-1.6**
	2.9nm,0.3s,baz=227,slow=10,SNR=14							
CFAA				Lg		Lg	18 44 21.4	
	4.3nm,0.3s,baz=62,slow=13,SNR=7.0							
PLCA	**Paso Flores**	**7.03**	**169**	Pn		Pn	18 44 03.6	+5.3
	1.0nm,0.3s,baz=315,slow=8.6,SNR=2.1							
PLCA				Lg		Lg	18 45 50.2	
	baz=30,slow=10,SNR=1.6							
TRQA	**Tornquist**	**9.36**	**120**	*e*Pn		**Pn**	**18 44 30.9**	**+0.8**
	33nm,1.3s							
CPUP	**Villa Florida**	**14.93**	**64**	Pn		**P**	**18 45 52.0**	**+0.2**
	0.4nm,0.3s,baz=207,slow=7.6,SNR=3.9							
LPAZ	**La Paz**	**17.86**	**13**	P		**P**	**18 46 26.6**	**+1.7**
	0.2nm,0.3s,baz=187,slow=7.4,SNR=8.3							
SIV	**San Ignacio**	**20.43**	**32**	P		**P**	**18 46 53.5**	**+1.0**
	2.8nm,0.8s,baz=219,slow=12,SNR=5.4							
SAML	**Samuel**	**26.13**	**21**	*eP*		**P**	**18 47 49.5**	**+0.2**
	3.1nm,0.8s							
SNAA	**Sanae**	**51.83**	**158**	P		**P**	**18 51 21.8**	**-0.9**
	0.7nm,0.6s,baz=280,slow=8.3,SNR=8.5							
QSPA	**South Pole Qui**	**56.41**	**180**	P		**P**	**18 51 55.3**	**-1.1**
	0.7nm,0.4s,baz=137,slow=4.5,SNR=8.8							
QSPA				pP		**pP**	**18 52 03.6**	**+1.8**
	2.5nm,1.0s,baz=161,slow=2.7,SNR=3.4							
TXAR	**Lajitas Array**	**69.48**	**331**	P		**P**	**18 53 23.1**	**-0.5**
	0.9nm,0.7s,baz=113,slow=8.9,SNR=2.9							
WVT	**Waverly**	**71.09**	**347**	*eP*		**P**	**18 53 32.8**	**-0.3**
	4.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**84.34**	**70**	P		**P**	**18 54 47.2**	**-0.2**
	2.1nm,0.7s,baz=264,slow=4.4,SNR=12							
TORD				pP		**pP**	**18 54 55.6**	**+2.5**
	1.0nm,0.8s,baz=269,slow=5.8,SNR=4.5							
WRA	**Warramunga Arr**	**120.82**	**209**	PKP		**PKPdf**	**19 01 05.8**	**-2.0**
	0.5nm,0.6s,baz=157,slow=1.6,SNR=6.2							
WRA				pPKP		**pPKPdf**	**19 01 14.7**	**+1.0**
	0.7nm,1.0s,baz=159,slow=1.7,SNR=2.5							
BRTR	**Keskin Array B**	**121.92**	**61**	PKP		**PKPdf**	**19 01 09.1**	**-0.3**
	0.4nm,0.7s,baz=132,slow=2.1,SNR=3.1							
BRTR				pPKP		**pPKPdf**	**19 01 17.5**	**+2.2**
	0.4nm,0.5s,baz=279,slow=2.2,SNR=2.7							
AKASG	**Malin Array Be**	**122.22**	**47**	PKP		**PKPdf**	**19 01 08.2**	**-1.2**
	0.1nm,0.3s,baz=262,slow=2.2,SNR=4.4							
ZALV	**Zalesovo Beam**	**154.18**	**32**	PKPbc		**PKPbc**	**19 02 14.1**	**-0.3**
	2.2nm,0.6s,baz=299,slow=3.3,SNR=13							
ZALV				pPKPbc		**pPKPbc**	**19 02 22.9**	**+2.6**
	2.4nm,0.6s,baz=288,slow=3.0,SNR=9.2							
MKAR	**Makanchi Array**	**156.80**	**48**	PKPbc		PKPdf	19 02 19.1	+9.0
	0.3nm,0.7s,baz=288,slow=1.7,SNR=3.8							
MKAR				PKPab		**PKPab**	**19 02 39.3**	**-0.5**
	0.6nm,0.6s,baz=276,slow=2.1,SNR=9.0							

GUC 01 19:01:44.0±0.4, 33°77S×72°04W, h36km±6km, ML3.9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.55**	**110**	*eP*		Pn	19 01 54.9	-0.6
LNV				*e*	S	Sn	19 02 03.4	0.0
IHA	**Instituto Hidr**	**0.81**	**24**	*eP*		Pn	19 01 58.9	-0.1
IHA				*e*	S	Sn	19 02 10.3	+0.5
TACH	**Talagante**	**0.93**	**83**	*eP*		Pn	19 02 00.6	+0.1
TACH				*e*	S	Sn	19 02 13.4	+0.7
RCDM	**Rinconada Maip**	**1.07**	**75**	*eP*		Pn	19 02 02.8	+0.4
RCDM				*e*	S	Sn	19 02 17.1	+1.1
ANTU	**Antumapu**	**1.19**	**81**	*eP*		Pn	19 02 05.2	+1.0
ANTU				*e*	S	Sn	19 02 21.0	+1.9
PEL	**Peldehue**	**1.29**	**61**	*eP*		Pn	19 02 06.9	+1.3
PEL				*e*	S	Sn	19 02 24.1	+2.3
PEL				AML		AML	19 02 31.9	
	comp=N,4μm,0.5s							

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*ISCJB **01** 19:03:37.0±1.3, 35°6S±0°1×72°5W±0°4, h20km, mb3.8/3, Error ellipse: s-maj=50.5km s-min=15.4km az=170.9*
*IDC **01** 19:03:39.9±1.6, 35°68S×72°37W, h27km±6km, mb3.7/3, mb1 4.0/5, mb1mx3.7/23, mbtmp3.9/5, ML4.3/2, MS3.0/2, Ms1 3.0/2, ms1mx2.8/20, Error ellipse: s-maj=62.0km s-min=26.5km az=71.0*
ISC 01 19:03:39.3±1.3, 35°6S±0°1×72°5W±0°4, h20km, n7, σ1§51/9, mb3.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.32**	**164**	Pn		**Pn**	**19 04 58.4**	**+0.7**
	5.8nm,0.3s,baz=337,slow=14,SNR=23							
PLCA				Lg		Lg	19 06 23.0	
	1.4nm,0.3s,baz=77,slow=13,SNR=3.0							
PLCA				LR		LR	19 06 59.5	
	comp=Z,118nm,20.1s,baz=282,slow=38							
CPUP	**Villa Florida**	**15.92**	**59**	LR		LR	19 13 51.4	
	comp=Z,69nm,19.9s,baz=198,slow=38							
LPAZ	**La Paz**	**19.64**	**12**	P		**P**	**19 08 07.5**	**+0.1**
	0.1nm,0.3s,baz=166,slow=7.3,SNR=5.8							
TXAR	**Lajitas Array**	**70.98**	**331**	P		**P**	**19 14 55.0**	**-0.5**
	0.4nm,0.5s,baz=153,slow=10,SNR=2.4							
BOSA	**Boshof**	**79.62**	**118**	P		**P**	**19 15 42.9**	**-2.7**
	1.8nm,0.9s,baz=243,slow=6.8,SNR=2.7							
BOSA				pP		**PcP**	**19 15 53.6**	**+0.1**
	0.9nm,0.5s,baz=231,slow=3.0,SNR=1.3							
TORD	**Torodi Ar. Bea**	**85.08**	**70**	P		**P**	**19 16 14.2**	**+0.2**
	0.9nm,1.1s,baz=276,slow=5.7,SNR=3.6							
TORD				pP		**pP**	**19 16 22.6**	**+1.9**
	0.4nm,0.8s,baz=236,slow=4.9,SNR=2.0							
BVAR	**Borovoye Array**	**148.68**	**45**	PKPbc		**PKPbc**	**19 23 25.7**	**+1.2**
	0.2nm,0.7s,baz=328,slow=5.1,SNR=1.8							
BVAR				pPKPbc		**pPKPbc**	**19 23 31.8**	**+0.5**
	0.2nm,0.5s,baz=261,slow=2.8,SNR=2.7							

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*CSEM **01** 19:04:58.2±1.2, 80°12N×31°60E, h10km, ML2.4, Error ellipse: s-maj=27.7km s-min=11.7km az=38.0*
*BER **01** 19:05:01.8±4.0, 80°14N×31°90E, h22km±23km, ML2.3, ML2.4(NAO)*
ISC 01 19:04:58.5±3.7, 80°0N±0°2×31°6E±0°2, h10km, n18, σ1§75/29, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**3.42**	**245**	Pn		**Pn**	**19 05 51.9**	**0.0**
	baz=61,slow=11							
SPA0				Sn		**Sn**	**19 06 33.2**	**+0.8**
	baz=45,slow=28							
SPA0				Lg		Lg	19 06 50.5	
	baz=60,slow=28							
SPA0	**Spitsbergen Ar**	**3.42**	**245**	Pn		**Pn**	**19 05 51.9**	**0.0**
	baz=61,slow=11							
SPA0				Sn		**Sn**	**19 06 33.2**	**+0.8**
	baz=45,slow=28							
SPA0				Lg		Lg	19 06 50.5	
	baz=60,slow=28							
SPA0	**Spitsbergen Ar**	**3.42**	**245**	Pn		**Pn**	**19 05 51.8**	**0.0**
	SNR=108							
SPA0				Sn		**Sn**	**19 06 33.2**	**+0.8**
SPA0				Lg		Lg	19 06 50.5	
	SNR=90							
KBS	**Kingsbay**	**3.76**	**263**	Pn		**Pn**	**19 05 56.1**	**-0.3**
KBS				Pg		**Pg**	**19 06 10.0**	**-0.4**
KBS				Lg		Lg	19 06 58.7	
KBS	**Kingsbay**	**3.76**	**263**	Pn		**Pn**	**19 05 56.1**	**-0.3**
KBS				Pg		**Pg**	**19 06 10.0**	**-0.4**
KBS				Lg		Lg	19 06 58.7	
KBS				IAML			19 07 04.9	
	comp=Z,13nm,0.4s							
KBS	**Kingsbay**	**3.76**	**263**	Pn		**Pn**	**19 05 56.1**	**-0.3**
KBS	**Kingsbay**	**3.76**	**263**	Pg		**Pg**	**19 06 10.0**	**-0.4**
KBS				Lg		Lg	19 06 58.7	
	SNR=90							
HOPEN	**Hopen**	**3.76**	**204**	Pn		**Pn**	**19 05 58.8**	**+2.3**
HOPEN				Sn		**Sn**	**19 06 42.5**	**+1.8**
HOPEN				Lg		Lg	19 07 01.8	
HOPEN	**Hopen**	**3.76**	**204**	Pn		**Pn**	**19 05 58.8**	**+2.3**
HOPEN				Sn		**Sn**	**19 06 42.5**	**+1.8**
HOPEN				Lg		Lg	19 07 01.8	
HOPEN				IAML			19 07 14.0	
	comp=Z,19nm,0.6s							
HOPEN	**Hopen**	**3.76**	**204**	Pn		**Pn**	**19 05 58.8**	**+2.3**
	SNR=55							
HOPEN				Sn		**Sn**	**19 06 42.5**	**+1.8**
	SNR=55							
HOPEN				Lg		Lg	19 07 01.8	
	SNR=50							
HSP	**Hornsund**	**4.39**	**235**	Pn		**Pn**	**19 06 06.3**	**+1.3**
HSP				Sn		**Sn**	**19 06 58.9**	**+2.8**
HSP				Lg		Lg	19 07 21.2	
HSP	**Hornsund**	**4.39**	**235**	Pn		**Pn**	**19 06 06.3**	**+1.3**
HSP				Lg		Lg	19 07 21.2	
HSPB	**Hornsund (broa**	**4.39**	**235**	*eP*		**Pn**	**19 06 06.9**	**+1.8**
HSPB	**Hornsund (broa**	**4.39**	**235**	*eP*		**Pn**	**19 06 06.9**	**+1.8**
	SNR=53							
KEV	**Kevo**	**10.37**	**189**	*eP*		**Pn**	**19 07 28.9**	**+1.9**
ARA0	**ARCESS Array S**	**10.64**	**192**	Pn		**Pn**	**19 07 30.5**	**-0.3**
	baz=9.5,slow=10							
ARA0				Sn		**Sn**	**19 09 25.9**	**-3.9**
	baz=18,slow=22							
ARA0	**ARCESS Array S**	**10.64**	**192**	P		**Pn**	**19 07 30.5**	**-0.3**
	baz=9.5,slow=10							
ARA0				Sn		**Sn**	**19 09 25.9**	**-3.9**
	baz=18,slow=22							
ARA0	**ARCESS Array S**	**10.64**	**192**	Pn		**Pn**	**19 07 30.5**	**-0.3**
	SNR=0.9							

IDC 01 19:13:32.3±1.6, 34°59S×73°88W, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.7/22, mbtmp3.7/4, ML3.6/2, MS2.6/1, Ms1 2.6/1, ms1mx2.4/21, Error ellipse: s-maj=62.8km s-min=31.8km az=67.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.68**	**158**	Pn		Pn	19 15 12.5	+0.7
	0.2nm,0.3s,baz=331,slow=14,SNR=3.6							
PLCA				Sn		Sn	19 16 35.4	+6.6
	0.7nm,0.3s,baz=332,slow=7.9,SNR=3.4							
PLCA				LR		LR	19 17 40.8	
	comp=Z,52nm,21.4s,baz=341,slow=37							
LPAZ	**La Paz**	**18.94**	**17**	P		Pn	19 17 56.6	+0.4
	0.1nm,0.3s,baz=185,slow=9.1,SNR=3.6							
TXAR	**Lajitas Array**	**69.52**	**332**	P		P	19 24 42.7	-0.2
	0.5nm,0.5s,baz=152,slow=10,SNR=3.4							
TORD	**Torodi Ar. Bea**	**85.84**	**71**	P		P	19 26 13.4	-0.8
	0.5nm,0.8s,baz=267,slow=3.4,SNR=3.5							
BVAR	**Borovoye Array**	**148.75**	**43**	PKPbc		PKPbc	19 33 21.0	-0.1
	1.2nm,0.4s,baz=292,slow=2.7,SNR=8.1							

MAN 01 19:14:21, 5°07N×127°09E, h62km, mb5.1, ML4.0, MS4.1, Philippine Islands region

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*BJI **01** 19:28:10.3, 42°36N×87°77E, h6km, mb3.6/3, ML3.7/11, Ms3.5/3, Ms7 3.4/2*
*NNC **01** 19:28:11.8±1.7, 42°45N×87°65E, h19km±10km, mb4.0, mpv3.9, Error ellipse: s-maj=12.5km s-min=8.9km az=96.0*
*IDC **01** 19:28:11.8±0.5, 42°49N×87°83E, h30km±3km, mb3.5/15, mb1 3.7/18, mb1mx3.6/38, mbtmp3.7/18, ML3.4/3, MS2.6/5, Ms1 2.6/5, ms1mx2.4/34, Error ellipse: s-maj=18.3km s-min=10.7km az=41.0*
ISC 01 19:28:11.9±0.5, 42°45N±0°05×87°75E±0°05, h30km±3km, h29km; pP-P, n41, σ1§01/57, mb3.6/15, 11C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.38**	**358**	⇓*iPg*		**Pb**	**19 28 36.5**	**-0.5**
WMQ				Sg		**Sb**	**19 28 54.7**	**+0.5**
WMQ				SMN				
	1μm,0.4s							
WMQ				SME				
	2μm,0.5s							
MK31	**Makanchi Array**	**5.83**	**320**	⇑Pn		**Pn**	**19 29 38.1**	**+1.8**
	2.4nm,0.3s,baz=135,slow=15,SNR=222							
MK31				⇓Sn		**Sn**	**19 30 43.8**	**+1.5**
	7.5nm,0.5s							
MK31				⇑Lg		Lg	19 31 15.8	
	22nm,0.6s,baz=123,slow=24,SNR=6.9							
MKAR	**Makanchi Array**	**5.83**	**320**	Pn		**Pn**	**19 29 37.7**	**+1.3**
	4.4nm,0.3s,baz=133,slow=14,SNR=189							
MKAR				Sn		**Sn**	**19 30 40.6**	**-1.7**
	1.7nm,0.3s,baz=120,slow=17,SNR=1.7							
MKAR				Lg		Lg	19 31 10.6	
	7.1nm,0.3s,baz=138,slow=29,SNR=7.3							
MKAR				LR		LR	19 32 10.8	
	comp=Z,39nm,20.8s,baz=190,slow=41							
TKM2	**Tokmak 2**	**8.96**	**277**	⇓Pn		**Pn**	**19 30 19.5**	**0.0**
	4.0nm,0.6s							
TKM2				⇑Sn		**Sn**	**19 31 59.9**	**+0.4**
	6.4nm,0.7s							
TKM2				⇑Lg		Lg	19 32 54.2	
	7.7nm,0.6s							
KSH	**Kashi**	**9.37**	**256**	P		Pn	19 30 30.3	+5.3
KSH				LN				
	87nm,5.5s							
KSH				LE				
	89nm,7.2s							
KSH				LZ				
	57nm,6.2s							
AAK	**Ala-Archa**	**9.79**	**276**	⇓Pn		**Pn**	**19 30 31.5**	**+0.8**
	2.7nm,0.7s							
AAK				⇑Lg		Lg	19 33 19.5	
	7.2nm,1.1s							
AAK	**Ala-Archa**	**9.79**	**276**	Pn		**Pn**	**19 30 31.4**	**+0.7**
	0.5nm,0.3s,baz=92,slow=6.4,SNR=10							
AAK				Lg		Lg	19 33 20.0	
	baz=190,slow=14,SNR=1.8							
AAK				LR		LR	19 35 05.1	
	comp=Z,11nm,20.4s,baz=5.5,slow=42							
KURBB	**Kurchatov Arra**	**10.35**	**325**	⇑Pn		**Pn**	**19 30 38.6**	**+0.5**
	4.2nm,0.7s							
KURBB				⇓Sn		**Sn**	**19 32 33.9**	**+1.0**
	9.7nm,0.6s							
KURBB				⇓Lg		Lg	19 33 39.7	
	39nm,0.8s							
KURK	**Kurchatov**	**10.38**	**326**	⇑Pn		**Pn**	**19 30 37.6**	**-1.0**
	1.7nm,0.9s							
KURK				⇑Sn		**Sn**	**19 32 35.5**	**+1.7**
	3.0nm,0.6s							
KURK				⇓Lg		Lg	19 33 39.6	
	8.0nm,0.7s							
ZALV	**Zalesovo Beam**	**11.67**	**351**	Pn		**Pn**	**19 30 55.5**	**-0.8**
	0.2nm,0.3s,baz=174,slow=15,SNR=4.7							
ZALV				Sn		Sn	19 32 59.5	-5.9
	0.6nm,0.3s,baz=175,slow=18,SNR=5.6							
ZALV				LR		LR	19 35 02.7	
	comp=Z,12nm,20.1s,baz=66,slow=35							
KK31	**Karatay Array**	**12.68**	**279**	⇑P		**Pn**	**19 31 10.0**	**-0.2**
	0.5nm,0.6s,baz=72,slow=13,SNR=7.5							
TLY	**Talaya**	**14.21**	**44**	Lg		Lg	19 35 35.5	
	0.0nm,0.3s,baz=8.1,slow=14,SNR=2.0							
SONM	**Songino Array**	**14.21**	**61**	Pn		**Pn**	**19 31 33.3**	**+2.2**
	0.0nm,0.3s,baz=264,slow=12,SNR=2.5							
SONM				Lg		Lg	19 35 36.7	
	0.1nm,0.3s,baz=246,slow=32,SNR=5.5							
SONM				LR		LR	19 37 34.2	
	comp=Z,52nm,21.7s,baz=273,slow=40							
DANN	**Dangsing**	**14.43**	**194**	*eP*		**P**	**19 31 42.8**	**+1.9**
	3.5nm,0.5s							
GUN	**Gumba**	**14.58**	**187**	*eP*		**P**	**19 31 42.7**	**+0.1**
	3.8nm,0.4s							
GKN	**Gorkha**	**14.63**	**191**	*eP*		**P**	**19 31 43.4**	**+0.4**
	5.7nm,0.5s							
KKN	**Kakani**	**14.76**	**189**	*eP*		**P**	**19 31 43.7**	**-0.8**
	5.5nm,0.5s							
VOSK	**Vostochnaya**	**15.25**	**318**	⇑P		**Pn**	**19 31 44.2**	**-0.7**
	5.0nm,0.8s							
BVA0	**Borovoye Array**	**15.71**	**318**	⇑P		**Pn**	**19 31 50.8**	**-0.1**
	2.6nm,0.5s,baz=139,slow=14,SNR=89							
BVAR	**Borovoye Array**	**15.71**	**318**	Pn		**Pn**	**19 31 50.4**	**-0.5**
	2.1nm,0.3s,baz=130,slow=9.9,SNR=31							
BVAR				Sn		Sn	19 34 37.1	-7.0
	0.1nm,0.3s,baz=242,slow=40,SNR=1.8							
BRVK	**Borovoye**	**15.79**	**318**	⇓P		**Pn**	**19 31 51.5**	**-0.4**
	7.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**17.86**	**87**	*eP*		**P**	**19 32 19.8**	**+1.1**
HHC				sP		**sP**	**19 32 29.2**	**-1.1**
HHC				PP		PnPn	19 32 37.1	+8.0
HHC				S		**Sn**	**19 35 36.8**	**+0.4**
AB31	**Akbulak array**	**20.45**	**299**	P		**P**	**19 32 46.8**	**0.0**
	0.4nm,0.3s,baz=95,slow=11,SNR=11							
AKTO	**Aktyubinsk**	**21.88**	**302**	P		**P**	**19 33 02.5**	**+0.3**
	2.4nm,0.6s,baz=88,slow=9.5,SNR=12							
GEYT	**Alibeck**	**23.02**	**269**	P		**P**	**19 33 15.9**	**+1.5**
	1.3nm,0.7s,baz=67,slow=11,SNR=4.9							
CMAR	**Chiang Mai Arr**	**25.74**	**155**	P		**P**	**19 33 40.9**	**+1.1**
	0.6nm,0.8s,baz=324,slow=10.0,SNR=5.6							
CMAR				pP		**pP**	**19 33 48.5**	**+0.1**
	1.4nm,1.0s,baz=336,slow=7.4,SNR=6.6							
KSRS	**Korea Array**	**30.99**	**86**	P		**P**	**19 34 24.3**	**-2.3**
	1.5nm,0.7s,baz=292,slow=9.0,SNR=5.0							
JOF	**Joensuu**	**38.26**	**322**	*ep*		**P**	**19 35 27.4**	**-1.6**
ASAJ	**Asahikawa**	**39.34**	**68**	LR		LR	19 53 47.6	
	comp=Z,40nm,20.8s,baz=115,slow=39							
AKASG	**Malin Array Be**	**40.12**	**303**	P		**P**	**19 35 44.5**	**-0.2**
	0.4nm

ellipse: s-maj=32.5km s-min=8.2km az=152.0
*ISCJB **01** 19:30:46.2±0.1, 43°.76N±0°.01×105°.30W±0°.02, h0km, mb3.9/4, Error ellipse: s-maj=1.9km s-min=1.8km az=149.3*
*NEIC **01** 19:30:46.6±0.3, 43°.81N×105°.23W, h0km, ML3.3, Error ellipse: s-maj=5.3km s-min=4.2km az=135.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.

ISC 01 19:30:46.2±0.6, 43°.76N±0°.02×105°.27W±0°.02, h0km, n142, σ1º05/160, mb3.8/4, 44C-54D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G** baz=0.2,SNR=389	**0.24**	**326**	⇓P	**Pg**	**19 30 52.2**	**+1.4**
I23A	baz=0.2			⇑S	**Sg**	**19 30 55.3**	**+1.3**
J23A	**Dilts Ranch, B** baz=0.5,SNR=124	**0.41**	**210**	P	**Pg**	**19 30 55.0**	**+1.0**
J23A	baz=0.5			⇓S	**Sg**	**19 31 00.3**	**+0.9**
I24A	**Kuemmerle Ranc** baz=0.4,SNR=231	**0.48**	**78**	P	**Pg**	**19 30 56.1**	**+0.8**
I24A	baz=0.4			⇓S	**Sg**	**19 31 03.3**	**+1.7**
J24A	**Dixon Ranch, L** baz=0.6,SNR=141	**0.62**	**134**	P	**Pg**	**19 30 58.7**	**+0.7**
J24A	baz=0.6			⇓S	**Sg**	**19 31 06.5**	**+0.5**
H23A	**Clabaugh Cattl** baz=0.8,SNR=21	**0.81**	**353**	⇓P	**Pg**	**19 31 02.0**	**+0.3**
I22A	**9 Mile Ranch,** baz=0.9,SNR=607	**0.89**	**279**	P	**Pg**	**19 31 03.7**	**+0.5**
I22A	baz=0.9			⇑Sb	**Sb**	**19 31 17.3**	**+0.3**
J22A	**Midwest** baz=1.0,SNR=137	**0.94**	**249**	P	**Pg**	**19 31 04.2**	**-0.1**
RSSD	**Black Hills**	**0.96**	**68**	*e*Pg	**Pg**	**19 31 04.3**	**-0.4**
K23A	**Bowen Ranch, D** baz=1.1,SNR=8.7	**1.04**	**195**	⇑P	**Pg**	**19 31 06.3**	**+0.2**
K24A	**Anderson Ranch** baz=1.1,SNR=6.9	**1.09**	**162**	⇓P	**Pb**	**19 31 07.5**	**-0.5**
H24A	**Dirks Ranch, A** baz=1.1,SNR=135	**1.11**	**27**	P	**Pg**	**19 31 07.2**	**-0.3**
J25A	**Sunshine Ranch** baz=1.1,SNR=180	**1.13**	**109**	P	**Pg**	**19 31 07.8**	**-0.1**
H22A	**Clearmont** baz=1.1,SNR=78	**1.14**	**317**	⇑P	**Pg**	**19 31 08.4**	**+0.3**
I25A	**Rochford** baz=1.1,SNR=142	**1.14**	**76**	P	**Pg**	**19 31 08.0**	**-0.1**
I25A	baz=1.1			⇑S	**Sb**	**19 31 24.4**	**0.0**
K22A	**Casper** baz=1.5,SNR=188	**1.44**	**220**	P	**Pn**	**19 31 13.1**	**-0.6**
K22A	baz=1.5			⇓S	**Sn**	**19 31 33.4**	**0.0**
K22A	**Casper**	**1.44**	**220**	*e*Pg	**Pn**	**19 31 13.0**	**-0.6**
G23A	**Biddle** baz=1.4,SNR=368	**1.44**	**357**	P	**Pn**	**19 31 13.3**	**-0.4**
I21A	**Big Trails, Te** baz=1.5,SNR=141	**1.46**	**273**	P	**Pn**	**19 31 12.9**	**-1.2**
I21A	baz=1.5			⇑S	**Sg**	**19 31 32.6**	**-0.6**
H25A	**Fruitdale** baz=1.4,SNR=68	**1.48**	**54**	⇓P	**Pn**	**19 31 14.1**	**-0.1**
H25A	baz=1.4			⇓S	**Sn**	**19 31 35.8**	**+1.5**
K25A	**Mack Ranch, Ha** baz=1.6,SNR=28	**1.54**	**138**	⇓P	**Pg**	**19 31 15.6**	**-0.1**
K25A	baz=1.6			⇓S	**Sn**	**19 31 36.9**	**+1.1**
H21A	**Big Horn, Sher** baz=1.5,SNR=38	**1.54**	**305**	⇓P	**Pn**	**19 31 15.3**	**+0.2**
H21A	baz=1.5			⇓S	**Sg**	**19 31 36.6**	**+0.9**
G22A	**Birney** baz=1.6,SNR=187	**1.63**	**334**	P	**Pb**	**19 31 17.0**	**-0.2**
J21A	**Lysite** baz=1.7,SNR=102	**1.63**	**256**	P	**Pn**	**19 31 16.1**	**-0.3**
J26A	**Sides Ranch, S** baz=1.6,SNR=91	**1.66**	**105**	P	**Pb**	**19 31 17.1**	**-0.6**
J26A	baz=1.6			⇑S	**Sg**	**19 31 41.2**	**+1.7**
L23A	**Garrett** baz=1.7,SNR=378	**1.68**	**191**	⇓P	**Pn**	**19 31 17.0**	**0.0**
L23A	baz=1.7			⇓S	**Sg**	**19 31 40.0**	**0.0**
G24A	**Alzada** baz=1.6	**1.68**	**21**	P	**Pn**	**19 31 17.6**	**+0.6**
L24A	**Wheatland** baz=1.8,SNR=16	**1.73**	**172**	⇓P	**Pb**	**19 31 18.1**	**-0.9**
L24A	baz=1.8			⇑Sb	**Sg**	**19 31 43.2**	**+1.3**
I26A	**New Underwood** baz=1.7,SNR=33	**1.77**	**80**	⇑P	**Pb**	**19 31 19.1**	**-0.4**
K21A	**Alcova** baz=1.9	**1.83**	**233**	⇑P	**Pn**	**19 31 19.7**	**+0.5**
K21A	baz=1.9			⇓S	**Sb**	**19 31 44.0**	**-0.3**
K26A	**Motz Farm, Whi** baz=1.9,SNR=28	**1.86**	**124**	⇑P	**Pb**	**19 31 20.2**	**-0.9**
K26A	baz=1.9			⇑S	**Sb**	**19 31 44.7**	**-0.3**
L25A	**Engebretsen Ra** baz=1.9,SNR=113	**1.87**	**149**	⇑Pb	**Pb**	**19 31 21.0**	**-0.3**
L25A	baz=1.9			⇓Sb	**Sg**	**19 31 47.3**	**+1.1**
L22A	**Ellis Ranch, M** baz=2.0,SNR=92	**1.93**	**207**	⇓P	**Pn**	**19 31 21.2**	**+0.8**
L22A	baz=2.0			⇓Sb	**Sg**	**19 31 48.3**	**+0.2**
G25A	**Newell** baz=1.9,SNR=19	**1.95**	**42**	⇓P	**Pb**	**19 31 22.1**	**-0.6**
G25A	baz=1.9			⇓Sb	**Sg**	**19 31 49.6**	**+0.7**
F23A	**Volborg** baz=1.9,SNR=92	**1.96**	**357**	P	**Pn**	**19 31 21.5**	**+0.6**
G21A	**Lodge Grass** baz=2.0,SNR=66	**2.02**	**317**	⇑P	**Pn**	**19 31 22.3**	**+0.7**
I20A	**Worland** baz=2.1,SNR=161	**2.08**	**276**	⇓P	**Pn**	**19 31 23.4**	**+1.0**
J20A	**Shoshoni** baz=2.1,SNR=89	**2.08**	**260**	⇓Pb	**Pb**	**19 31 24.9**	**0.0**
H20A	**Greybull** baz=2.1,SNR=42	**2.09**	**291**	⇓P	**Pn**	**19 31 23.0**	**+0.3**
F22A	**Rosebud** baz=2.1,SNR=27	**2.14**	**341**	⇓P	**Pn**	**19 31 23.2**	**0.0**
F24A	**Ekalaka** baz=2.1,SNR=32	**2.17**	**15**	⇑P	**Pn**	**19 31 24.8**	**+1.2**
M23A	**Laramie** baz=2.4,SNR=8.9	**2.31**	**188**	⇓P	**Pn**	**19 31 26.4**	**+0.6**
M24A	**Cheyenne** baz=2.4,SNR=58	**2.31**	**172**	⇑P	**Pb**	**19 31 27.5**	**-1.4**
I27A	**Quinn** baz=2.3,SNR=63	**2.35**	**81**	⇑P	**Pb**	**19 31 28.0**	**-1.4**
L26A	**Underwood Farm** baz=2.4,SNR=7.6	**2.36**	**136**	⇑P	**Pb**	**19 31 28.4**	**-1.2**
J27A	**Elkhorn Farm,** baz=2.4,SNR=73	**2.43**	**101**	⇓P	**Pb**	**19 31 29.1**	**-1.7**
F21A	**Absaloka Mine,** baz=2.4	**2.45**	**328**	⇑P	**Pn**	**19 31 27.9**	**+0.4**
G26A	**Maurine** baz=2.4,SNR=36	**2.45**	**50**	⇓P	**Pn**	**19 31 29.2**	**+1.7**
K27A	**Flueckinger Fa** baz=2.4,SNR=33	**2.46**	**114**	⇓P	**Pb**	**19 31 29.3**	**-2.0**
H27A	**Howes** baz=2.4	**2.46**	**68**	⇑P	**Pn**	**19 31 29.2**	**+1.6**
H27A	baz=2.4			⇓Sb	**Sg**	**19 32 05.5**	**+0.3**
M25A	**Palm-Egli Farm** baz=2.5,SNR=10	**2.49**	**158**	⇑P	**Pn**	**19 31 29.7**	**+1.6**
F25A	**Bowman** baz=2.5,SNR=19	**2.52**	**30**	⇑P	**Pn**	**19 31 30.1**	**+1.6**
M22A	**Cedar Creek Ra** baz=2.6,SNR=83	**2.55**	**203**	⇑P	**Pn**	**19 31 30.9**	**+1.9**
G20A	**Bridger** baz=2.6,SNR=134	**2.56**	**306**	P	**Pn**	**19 31 29.2**	**+0.1**
I19A	**Meeteetse** baz=2.7,SNR=15	**2.71**	**277**	⇑P	**Pn**	**19 31 32.5**	**+1.4**
E22A	**Miles City** baz=2.7,SNR=17	**2.72**	**350**	⇓P	**Pn**	**19 31 31.2**	**0.0**
E23A	**Ismay** baz=2.7	**2.74**	**360**	⇓P	**Pn**	**19 31 32.2**	**+0.7**
L27A	**T5 Ranch, Ells** baz=2.7	**2.74**	**127**	⇓Pb	**Pb**	**19 31 36.9**	**+0.8**
J19A	**Crowheart** baz=2.8,SNR=32	**2.79**	**261**	⇑P	**Pn**	**19 31 34.3**	**+1.9**
H19A	**Powell** baz=2.8,SNR=21	**2.82**	**290**	⇓P	**Pn**	**19 31 33.5**	**+0.8**
E24A	**Baker** baz=2.8,SNR=9.5	**2.88**	**13**	⇓P	**Pn**	**19 31 34.3**	**+0.9**
G27A	**Dupree** baz=2.8,SNR=10	**2.88**	**55**	⇑P	**Pn**	**19 31 34.4**	**+0.9**
F20A	**Billings** baz=2.9,SNR=24	**2.89**	**316**	⇓P	**Pn**	**19 31 33.6**	**0.0**
N23A	**Red Feather La** baz=3.0,SNR=36	**2.91**	**190**	⇓P	**Pn**	**19 31 35.4**	**+1.4**
LAO	**LASA Array**	**3.00**	**347**	*e*Pn	**Pn**	**19 31 35.0**	**-0.2**
RLMT	**Red Lodge**	**3.17**	**297**	*e*Pn	**Pn**	**19 31 37.9**	**+0.4**
BW06	**Boulder Array**	**3.28**	**254**	*e*Pn	**Pn**	**19 31 40.2**	**+1.1**
PDAR	**Pinedale Array** 2.0nm,0.3s,baz=69,slow=16,SNR=44	**3.28**	**254**	Pn	**Pn**	**19 31 40.5**	**+1.4**
PDAR	4.9nm,0.3s,baz=72,slow=20,SNR=45			Pg	**Pb**	**19 31 46.6**	**+1.2**
PDAR	2.1nm,0.3s,baz=56,slow=0.5,SNR=4.3			Sn	**Sn**	**19 32 16.5**	**-2.5**
PDAR	7.7nm,0.3s,baz=61,slow=17,SNR=8.8			Lg	Lg	19 32 24.9	
H18A	**Shoshone NF, C** baz=3.3,SNR=28	**3.29**	**288**	⇓P	**Pn**	**19 31 39.4**	**+0.2**
F19A	**Roth Farm, Mol** baz=3.3,SNR=69	**3.35**	**310**	P	**Pn**	**19 31 40.7**	**+0.8**
D23A	**Lindsay** baz=3.4,SNR=16	**3.41**	**1**	⇓P	**Pn**	**19 31 42.0**	**+1.3**
D24A	**Glendive** baz=3.4,SNR=20	**3.42**	**11**	⇑P	**Pn**	**19 31 42.3**	**+1.5**
D22A	**Cohagen** baz=3.4,SNR=9.3	**3.45**	**350**	⇑P	**Pn**	**19 31 41.5**	**+0.3**
O23A	**Lake Granby, G** baz=3.6,SNR=11	**3.58**	**188**	⇓P	**Pn**	**19 31 45.2**	**+2.0**
D25A	**Fairfield** baz=3.6,SNR=11	**3.66**	**21**	⇑P	**Pn**	**19 31 45.8**	**+1.7**
OGNE	**Ogallala** baz=3.7,SNR=6.8	**3.70**	**138**	⇓P	**Pn**	**19 31 46.0**	**+1.4**
OGNE	**Ogallala**	**3.70**	**138**	*e*Pn	**Pn**	**19 31 46.1**	**+1.5**
O22A	**Kremmling** baz=3.8,SNR=12	**3.72**	**195**	⇑P	**Pn**	**19 31 46.5**	**+1.3**
GCMT	**Greycliff**	**3.73**	**305**	*e*Pn	Pn	19 31 41.6	-3.6
O26A	**Horse Wrangler** baz=3.8,SNR=8.1	**3.81**	**157**	⇓P	**Pn**	**19 31 46.7**	**+0.5**
C24A	**Savage** baz=3.8,SNR=14	**3.82**	**9**	⇑P	**Pn**	**19 31 47.8**	**+1.5**
H17A	**Grant Village**	**3.87**	**281**	*e*Pn	**Pn**	**19 31 49.6**	**+2.3**
D20A	**Manuel Ranch,** baz=3.9,SNR=11	**3.89**	**330**	⇓P	**Pn**	**19 31 47.1**	**-0.2**
ISCO	**Idaho Springs** baz=4.0,SNR=6.4	**3.96**	**184**	⇓P	**Pn**	**19 31 50.0**	**+1.4**
ISCO	**Idaho Springs**	**3.96**	**184**	*e*Pn	**Pn**	**19 31 51.0**	**+2.4**
YNR	**Norris Junctio**	**4.00**	**286**	Pn	**Pn**	**19 31 49.7**	**+0.7**
C22A	**Vida** baz=4.0,SNR=18	**4.01**	**354**	⇑P	**Pn**	**19 31 50.3**	**+1.4**
C23A	**Lambert** baz=4.0,SNR=68	**4.04**	**1**	⇓P	**Pn**	**19 31 50.7**	**+1.3**
YFT	**Old Faithful**	**4.07**	**282**	Pn	**Pn**	**19 31 51.1**	**+1.2**
O27A	**Beecher Island** baz=4.2,SNR=8.5	**4.13**	**149**	⇑P	**Pn**	**19 31 51.5**	**+0.8**
N28A	**Pribbeno Ranch** baz=4.1,SNR=7.0	**4.14**	**137**	⇑P	**Pn**	**19 31 51.6**	**+0.9**
YMR	**Madison River**	**4.19**	**284**	Pn	**Pn**	**19 31 52.4**	**+0.8**
O20A	**White River Ci**	**4.25**	**212**	*e*Pn	**Pn**	**19 31 53.0**	**+0.7**
E28A	**Huff** baz=4.2,SNR=7.6	**4.29**	**47**	P	**Pn**	**19 31 53.6**	**+0.9**
P25A	**Willow Gulch B** baz=4.4,SNR=11	**4.32**	**169**	⇑P	**Pn**	**19 31 54.2**	**+0.8**
AHID	**Auburn Hatcher**	**4.37**	**259**	*e*Pn	**Pn**	**19 31 53.4**	**-0.7**
P26A	**Davis Ranch, A** baz=4.5,SNR=32	**4.44**	**160**	⇓P	**Pn**	**19 31 56.1**	**+1.2**
O28A	**Krutsinger Ran** baz=4.5,SNR=10	**4.47**	**143**	P	**Pn**	**19 31 56.1**	**+0.8**
P27A	**Ficken Ranch,** baz=4.7,SNR=28	**4.66**	**153**	⇑P	**Pn**	**19 31 58.6**	**+0.7**
B23A	**Brockton** baz=4.7,SNR=18	**4.71**	**2**	⇓P	**Pn**	**19 31 59.8**	**+1.3**
B25A	**Knox Farm, Ray** baz=4.7,SNR=12	**4.75**	**17**	⇑P	**Pn**	**19 32 00.5**	**+1.5**
DGMT	**Damar** baz=4.7,SNR=6.3	**4.77**	**9**	⇓P	**Pn**	**19 32 00.7**	**+1.4**
DGMT	**Dagmar**	**4.77**	**9**	*e*Pn	**Pn**	**19 31 58.5**	**-0.8**
C19A	**Slack Wire Ran** baz=4.7,SNR=18	**4.77**	**328**	⇑P	**Pn**	**19 31 60.0**	**+0.6**
Q25A	**Bedland, Calha** baz=5.0,SNR=11	**4.90**	**171**	⇑P	**Pn**	**19 32 02.0**	**+0.7**
BOZ	**Bozeman (W)**	**4.91**	**295**	*e*Pn	**Pn**	**19 32 01.5**	**+0.1**
P28A	**Saint Francis** baz=5.0,SNR=5.7	**4.94**	**147**	⇑P	**Pn**	**19 32 02.1**	**+0.3**
Q26A	**Hugo** baz=5.1,SNR=5.7	**5.01**	**164**	⇑P	**Pn**	**19 32 03.3**	**+0.5**
A23A	**Redstone** baz=5.2,SNR=6.8	**5.21**	**3**	⇑P	**Pn**	**19 32 06.7**	**+1.4**
A24A	**Westby** baz=5.2,SNR=11	**5.24**	**9**	⇓P	**Pn**	**19 32 07.2**	**+1.4**
TCUT	**Toone Canyon** 31nm,0.6s	**5.25**	**242**	*e*Pn	**Pn**	**19 32 06.3**	**+0.2**
EGMT	**Eagleton** 23nm,0.8s	**5.29**	**325**	*e*Pn	**Pn**	**19 32 06.0**	**-0.5**
Q28A	**Sharon Springs** baz=5.4,SNR=5.5	**5.36**	**150**	⇑P	**Pn**	**19 32 07.8**	**+0.3**
HRY	**Holter Researc** 14nm,0.5s	**5.49**	**305**	*e*Pn	Pn	19 32 05.2	-4.1
LRM	**Limekiln Ridge** 30nm,0.6s	**5.51**	**294**	*e*Pn	**Pn**	**19 32 10.6**	**+0.9**
MCMT	**McKenzie Canyo** 1.4nm,0.4s	**5.54**	**284**	*e*Pn	**Pn**	**19 32 12.3**	**+2.2**
DAU	**Daniels Canyon** 0.6nm,0.5s	**5.57**	**235**	*e*Pn	**Pn**	**19 32 12.5**	**+1.9**
JLU	**Jordanelle** 7.1nm,0.6s	**5.57**	**238**	*e*Pn	**Pn**	**19 32 09.1**	**-1.5**
R26A	**Arlington** baz=5.7,SNR=17	**5.63**	**165**	P	**Pn**	**19 32 11.9**	**+0.7**
R27A	**Eads** baz=5.8,SNR=9.4	**5.78**	**160**	⇓P	**Pn**	**19 32 14.3**	**+1.0**
SPUT	**South Promonto** 6.8nm,0.8s	**5.84**	**248**	*e*Pn	**Pn**	**19 32 15.8**	**+1.6**
HVU	**Hansel Valley** 7.5nm,0.7s	**5.87**	**253**	*e*Pn	**Pn**	**19 32 16.3**	**+1.8**
R28A	**Tribune** baz=6.0,SNR=19	**6.01**	**153**	⇑P	**Pn**	**19 32 16.4**	**-0.1**
PV04	**Paradox Valley**	**6.02**	**208**	*e*Pn	**Pn**	**19 32 18.6**	**+1.9**
SRU	**San Rafael Swe** 12nm,0.7s	**6.09**	**222**	*e*Pn	**Pn**	**19 32 17.7**	**0.0**
S25A	**Robets Cordova** baz=6.2,SNR=7.9	**6.13**	**174**	⇓P	**Pn**	**19 32 18.4**	**+0.2**
PV01	**Paraxox Valley** 518nm,0.3s	**6.15**	**205**	*e*Pn	**Pn**	**19 32 20.8**	**+2.3**
ECSD	**EROS Data Cent** 7.0nm,0.6s	**6.27**	**87**	*e*Pn	**Pn**	**19 32 19.8**	**-0.1**
S26A	**Kim** baz=6.3,SNR=11	**6.28**	**167**	⇓P	**Pn**	**19 32 20.6**	**+0.4**
TMUT	**Trail Mountain** 202nm,0.7s	**6.30**	**227**	*e*Pn	**Pn**	**19 32 22.2**	**+1.5**
CHMT	**Chamberlain Mo** 2.9nm,0.8s	**6.45**	**302**	*e*Pn	**Pn**	**19 32 22.7**	**+0.2**
DUG	**Dugway, Tooele** 5.8nm,0.8s	**6.65**	**240**	*e*Pn	**Pn**	**19 32 25.9**	**+0.6**
YBMT	**Yellow Bay** 3.6nm,0.4s	**7.36**	**307**	*e*Pn	**Pn**	**19 32 35.5**	**+0.6**
U28A	**Mallet** baz=7.8,SNR=6.6	**7.73**	**161**	⇓P	**Pn**	**19 32 40.3**	**+0.2**
ELK	**Elko** 0.1nm,0.3s,baz=278,slow=21,SNR=1.7	**7.98**	**251**	Lg	Lg	19 34 52.9	
ANMO	**Albuquerque** 0.2nm,0.3s,baz=35,slow=17,SNR=2.6	**8.85**	**186**	Pn	Pn	19 32 48.5	-7.1
ULM	**Lac du Bonnet** 0.8nm,0.3s,baz=236,slow=11,SNR=7.6	**9.12**	**41**	Pn	**Pn**	**19 32 58.4**	**-0.7**
ULM	0.2nm,0.3s,baz=140,slow=18,SNR=2.1			Lg	Lg	19 35 25.9	
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=56,slow=12,SNR=4.7	**11.18**	**246**	Pn	**Pn**	**19 33 28.4**	**+1.0**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=158,slow=12,SNR=5.2	**15.55**	**347**	P	**P**	**19 35 14.8**	**-0.2**
ARCES	**ARCESS Array B** 4.8nm,1.0s,baz=350,slow=6.3,SNR=4.3	**61.40**	**18**	P	**P**	**19 41 02.1**	**-1.4**
ZALV	**Zalesovo Beam** 0.5nm,0.6s,baz=27,slow=6.8,SNR=3.2	**82.28**	**354**	P	**P**	**19 43 08.7**	**-0.5**
SONM	**Songino Array** 0.2nm,0.7s,baz=58,slow=3.6,SNR=2.8	**84.62**	**339**	P	**P**	**19 43 21.8**	**+0.2**
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=15,slow=4.6,SNR=5.5	**89.58**	**355**	P	**P**	**19 43 44.6**	**-0.9**

*ISCJB **01** 19:44:02.7±1.2, 36°.8N±0°.1×71°.02E±0°.09, h200km, mb3.0/3, Error ellipse: s-maj=16.0km s-min=7.4km az=153.6*
*IDC **01** 19:44:03.2±1.9, 36°.70N×70°.90E, h221km±8km, mb2.8/3, mb1 2.9/6, mb1mx2.7/40, mbtmp3.5/6, Error ellipse: s-maj=46.6km s-min=15.9km az=159.0*
*NNC **01** 19:44:06.3±3.6, 37°.20N×71°.10E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=33.9km s-min=26.1km az=132.0*

ISC 01 19:44:02.9±1.3, 36°.8N±0°.1×70°.93E±0°.09, h200km, n15, σ1º70/20, mb3.1/3, 5C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=125	**5.73**	**21**	P	**Pn**	**19 45 28.0**	**+1.1**
UCH	**Uchtor** SNR=7.6	**6.08**	**26**	P	**Pn**	**19 45 32.8**	**+1.3**
KZA	**Kyzart** SNR=5.0	**6.23**	**31**	P	**Pn**	**19 45 33.7**	**+0.2**
EKS2	**Erkin-Say** SNR=8.7	**6.24**	**20**	P	**Pn**	**19 45 35.1**	**+1.8**
KK31	**Karatay Array** 1.2nm,0.2s,baz=183,slow=13,SNR=126	**6.29**	**357**	⇑P	**Pn**	**19 45 36.1**	**+2.2**
KK31	7.5nm,0.6s,baz=175,slow=22,SNR=12			⇑S	**Sn**	**19 46 44.0**	**-2.0**
AAK	**Ala-Archa** 3.8nm,0.5s	**6.43**	**24**	⇓P	**Pn**	**19 45 36.9**	**+1.1**
AAK	12nm,0.7s			⇑S	**Sn**	**19 46 48.7**	**-0.7**
AAK	**Ala-Archa** SNR=7.9	**6.43**	**24**	P	**Pn**	**19 45 37.3**	**+1.5**
TKM2	**Tokmak 2** 5.0nm,0.5s	**7.08**	**29**	⇑P	**Pn**	**19 45 45.1**	**+0.8**
TKM2	9.6nm,0.8s			⇑S	**Sn**	**19 47 03.1**	**-1.6**
TKM2	**Tokmak 2** SNR=6.5	**7.08**	**29**	P	**Pn**	**19 45 45.5**	**+1.3**
GEYT	**Alibeck** 0.1nm,0.3s,baz=109,slow=17,SNR=2.8	**10.26**	**280**	P	**Pn**	**19 46 26.7**	**+1.2**
GEYT	0.2nm,0.3s,baz=182,slow=40,SNR=2.0			S	**Sn**	**19 48 20.6**	**+0.6**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=213,slow=11,SNR=11	**13.07**	**37**	P	**Pn**	**19 47 02.0**	**+0.8**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=215,slow=11,SNR=12	**19.66**	**25**	P	**P**	**19 48 15.9**	**-0.4**
ZALV	baz=209,slow=17,SNR=1.1			pP	pP	19 48 54.8	+5.4
ZALV	0.1nm,0.3s,baz=218,slow=9.1,SNR=1.9			sP	sP	19 49 21.9	+7.0
SONM	**Songino Array** 0.3nm,0.8s,baz=247,slow=9.4,SNR=4.6	**28.21**	**56**	P	**P**	**19 49 36.2**	**-0.8**
SONM	0.2nm,0.8s,baz=230,slow=8.9,SNR=2.2			pP	**pP**	**19 50 21.3**	**+3.8**
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=53,slow=6.0,SNR=7.3	**65.67**	**268**	P	**P**	**19 54 23.4**	**-2.6**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=347,slow=5.1,SNR=4.5	**80.94**	**3**	P	**P**	**19 55 53.7**	**-0.7**

*IDC **01** 19:44:02.1±2.1, 34°.80S×72°.75W, h0km, mb3.6/2, mb1 3.5/5, mb1mx3.5/18, mbtmp3.4/5, ML3.4/3, MS3.5/1, Ms1 3.5/1, ms1mx2.5/27, Error ellipse: s-maj=58.4km s-min=21.7km az=93.0*
*ISCJB **01** 19:44:05.6±2.0, 34°.8S±0°.1×72°.6W±0°.4, h33km, mb3.5/2, MS3.4/1, Error ellipse: s-maj=48.7km s-min=14.3km az=6.2*

ISC 01 19:44:07.3±1.7, 34°.8S±0°.1×72°.7W±0°.3, h35km, n7, σ0º22/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan** 0.2nm,0.3s,baz=227,slow=10,SNR=6.4	**4.87**	**51**	Pn	**Pn**	**19 45 18.0**	**-0.1**
CFAA	0.3nm,0.3s,baz=69,slow=13,SNR=4.4			Lg	Lg	19 46 30.4	
PLCA	**Paso Flores** 0.4nm,0.3s,baz=348,slow=13,SNR=4.0	**6.20**	**165**	Pn	**Pn**	**19 45 36.3**	**-0.1**
PLCA	0.3nm,0.3s,baz=273,slow=14,SNR=3.1			Lg	Lg	19 47 17.6	
LPAZ	**La Paz** 0.1nm,0.3s,baz=199,slow=9.3,SNR=4.2	**18.84**	**14**	P	**Pn**	**19 48 25.4**	**-0.2**
SIV	**San Ignacio** 1.3nm,0.7s,baz=227,slow=10,SNR=3.2	**21.39**	**32**	P	**P**	**19 48 52.0**	**0.0**
RPN	**Rapa Nui** comp=Z,88nm,21.3s,baz=161,slow=29	**32.22**	**273**	LR	LR	19 59 36.2	
TORD	**Torodi Ar. Bea** 0.5nm,0.7s,baz=240,slow=4.7,SNR=6.3	**84.96**	**70**	P	**P**	**19 56 39.5**	**+0.3**
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=175,slow=1.5,SNR=3.0	**119.85**	**210**	PKP	**PKPdf**	**20 02 54.4**	**-0.1**

*IDC **01** 19:46:03.1±1.0, 4°.65N×128°.02E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.7/42, mbtmp3.9/11, Error ellipse: s-maj=68.5km s-min=15.6km az=66.0*
*ISCJB **01** 19:46:13.7±0.8, 4°.6N±0°.1×127°.8E±0°.2, h100km, mb3.8/11, Error ellipse: s-maj=34.9km s-min=10.9km az=148.4*

ISC 01 19:46:15.3±1.0, 4°.5N±0°.2×127°.8E±0°.3, h100km, n26, σ0º76/22, mb3.8/11, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.88**	**327**	*e*P	**Pn**	19 46 54.5	-5.0
MATI				*e*S	Sn	19 47 19.6	-14
GSPH	**General Santos**	**3.27**	**299**	⇑P	Pn	19 46 56.3	-8.5
BUKP	**Musuan**	**4.33**	**321**	*e*P	Pn	19 47 15.3	-3.7
PAGZ	**Pagadian**	**5.53**	**307**	*e*P	Pn	19 47 30.6	-4.6
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=334,slow=11,SNR=8.0	**25.13**	**165**	P	**P**	**19 51 30.1**	**-1.1**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=348,slow=7.1,SNR=5.5	**28.62**	**168**	P	**P**	**19 52 01.4**	**-1.2**
CMAR	**Chiang Mai Arr** 0.7nm,0.7s,baz=111,slow=6.8,SNR=7.4	**31.45**	**298**	P	**P**	**19 52 27.4**	**-0.1**
STKA	**Stephens Creek** 1.5nm,0.7s,baz=337,slow=9.9,SNR=2.7	**38.49**	**161**	P	**P**	**19 53 29.2**	**+1.4**
TAPN	**Taplejung** 9.2nm,0.5s	**44.45**	**305**	*e*P	**P**	**19 54 16.9**	**-0.2**
ODAN	**Odare** 10nm,0.7s	**44.52**	**304**	*e*P	**P**	**19 54 17.2**	**-0.4**
RAMN	**Ramite** 9.3nm,0.7s	**45.21**	**304**	*e*P	**P**	**19 54 23.1**	**+0.1**
JIRN	**Jiri** 14nm,0.6s	**45.82**	**305**	*e*P	**P**	**19 54 27.8**	**-0.2**
GUN	**Gumba** 19nm,0.7s	**46.17**	**305**	*e*P	**P**	**19 54 30.4**	**-0.3**
PKI	**Pulchoki**	**46.43**	**304**	*e*P	**P**	**19 54 32.2**	**-0.5**
KKN	**Kakani**	**46.61**	**304**	*e*P	**P**	**19 54 33.4**	**-0.6**
DMN	**Daman**	**46.69**	**304**	*e*P	**P**	**19 54 34.2**	**-0.5**
SONM	**Songino Array** 0.6nm,0.7s,baz=151,slow=7.3,SNR=6.1	**46.92**	**340**	P	**P**	**19 54 35.9**	**-0.1**
GKN	**Gorkha** 4.0nm,0.6s	**47.22**	**304**	*e*P	**P**	**19 54 38.0**	**-0.7**
KOLN	**Koldanda** 12nm,0.6s	**47.99**	**304**	*e*P	**P**	**19 54 44.1**	**-0.6**
DANN	**Dangsing** 21nm,0.6s	**48.07**	**305**	*e*P	**P**	**19 54 44.6**	**-0.8**
MKAR	**Makanchi Array** 2.7nm,0.5s,baz=117,slow=7.4,SNR=44	**57.55**	**324**	P	**P**	**19 55 55.0**	**+0.4**
ZALV	**Zalesovo Beam** 0.9nm,0.3s,baz=122,slow=6

H08N1 Diego Carcia H 5.01 147 Pn **Pn 19 52 39.5 +0.4**
baz=311,slow=15,SNR=18
H08N1 T T 19 57 53.8
baz=325,slow=75,SNR=1754
H08S3 Diego Garcia H 6.90 143 Pn **Pn 19 53 04.6 -0.6**
SNR=3.0
H08S3 T T 20 00 26.3
baz=311,slow=76,SNR=10
H08S1 Diego Carcia H 6.91 143 Pn **Pn 19 53 03.6 -1.7**
H08S1 T T 20 00 24.0
baz=311,slow=76,SNR=16
H08S2 Diego Garcia H 6.92 143 Pn **Pn 19 53 04.8 -0.7**
H08S2 T T 20 00 23.9
baz=311,slow=76,SNR=12
PALK Pallekele 15.53 53 Pn **Pn 19 55 02.7 -0.7**
1.1nm,0.3s,baz=239,slow=10,SNR=5.6
PALK LR LR 19 59 35.7
comp=Z,216nm,19.2s,baz=226,slow=32
CMAR Chiang Mai Arr 36.47 55 P **P 19 58 31.7 +2.0**
0.3nm,0.7s,baz=235,slow=8.7,SNR=3.5
CMAR LR LR 20 12 21.2
comp=Z,14nm,19.7s,baz=235,slow=34
GEYT Alibeck 40.94 348 LR LR 20 16 20.0
comp=Z,36nm,18.0s,baz=295,slow=37
MKAR Makanchi Array 50.25 13 P **P 20 00 18.9 -1.7**
0.2nm,0.7s,baz=198,slow=8.9,SNR=3.3
MKAR LR LR 20 20 19.2
comp=Z,39nm,18.1s,baz=0.5,slow=34
KBZ Khabaz 51.00 336 P **P 20 00 26.4 +0.2**
1.5nm,0.9s,baz=108,slow=6.4,SNR=3.0
ZALV Zalesovo Beam 57.55 12 P **P 20 01 13.7 -0.1**
0.4nm,0.6s,baz=224,slow=11,SNR=2.8
SONM Songino Array 59.84 29 P **P 20 01 29.8 -0.2**
0.9nm,1.1s,baz=207,slow=4.2,SNR=4.1
SONM LR LR 20 27 09.5
comp=Z,50nm,18.3s,baz=321,slow=36
WRA Warramunga Arr 66.81 111 P **P 20 02 16.4 -0.3**
0.5nm,0.7s,baz=288,slow=5.8,SNR=3.1
ASAR Alice Springs 66.88 115 P **P 20 02 17.5 +0.4**
0.3nm,0.7s,baz=289,slow=5.8,SNR=3.6

IDC 01 19:56:18.9±1.1, 55.74S×26.76W, h0km, mb3.6/2, mb1 3.6/2, mb1mx3.4/28, mbtmp3.6/2, Error ellipse: s-maj=66.3km s-min=31.7km az=96.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**34.51**	**180**	P	P	20 03 08.6	+0.1
	1.1nm,0.9s,baz=255,slow=1.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**72.67**	**29**	P	P	20 07 48.5	+0.3
	0.4nm,0.9s,baz=197,slow=4.5,SNR=2.6						
ILAR	**Eielson Array**	**150.09**	**312**	PKPbc	PKPbc	20 16 08.5	-1.5
	0.4nm,0.9s,baz=83,slow=2.3,SNR=3.4						
ILAR				PKPab	PKPab	20 16 16.6	+0.6
	0.5nm,0.8s,baz=114,slow=2.2,SNR=4.6						
SONM	**Songino Array**	**150.47**	**86**	PKPbc	PKPbc	20 16 10.9	-0.6
	0.2nm,0.5s,baz=214,slow=3.3,SNR=4.2						

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*IDC **01** 19:58:15.9±1.6, 34.23S×71.51W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/31, mbtmp3.8/3, ML3.8/1, MS2.8/4, Ms1 2.8/4, ms1mx2.7/22, Error ellipse: s-maj=67.9km s-min=25.5km az=132.0*
*ISCJB **01** 19:58:18.3±1.2, 34.31S±0.06×71.9W±0.1, h48km, mb4.0/1, MS3.4/1, Error ellipse: s-maj=16.9km s-min=6.8km az=23.9*
*GUC **01** 19:58:18.7±0.4, 34.07S×71.93W, h31km±6km, ML4.2*
ISC 01 19:58:21.0±1.3, 34.27S±0.09×71.8W±0.2, h48km, n15, σ1s10/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**0.94**	**50**	*eP*	**Pn**	**19 58 36.2**	**-1.6**
RCDM	**Rinconada Maip**	**1.13**	**47**	*eP*	**Pn**	**19 58 39.0**	**-1.5**
RCDM				*eS*	**Sn**	**19 58 54.6**	**-0.3**
ANTU	**Antumapu**	**1.19**	**55**	*eP*	**Pn**	**19 58 40.5**	**-0.8**
ANTU				*eS*	**Sn**	**19 58 57.2**	**+0.8**
SAN	**Santiago**	**1.25**	**50**	*eP*	**Pn**	**19 58 41.2**	**-0.8**
SAN				*eS*	**Sn**	**19 58 58.3**	**+0.6**
STL	**Santa Lucia**	**1.27**	**50**	*e*P9		19 58 40.4	
STL				*eS*	**Sn**	**19 58 57.7**	**-0.6**
PEL	**Peldehue**	**1.45**	**40**	*eP*	**Pn**	**19 58 43.9**	**-1.0**
PEL				*eS*	**Sn**	**19 59 02.7**	**-0.1**
PEL				AML	AML	19 59 10.3	
	comp=N,7μm,0.5s						
CFAA	**Coronel Fontan**	**4.00**	**49**	Pg	Pn	19 59 23.4	+3.6
	comp=N,0.8nm,0.3s,baz=220,slow=17,SNR=12						
CFAA				Lg	Lg	20 00 16.3	
	comp=N,2.2nm,0.3s,baz=339,slow=5.5,SNR=6.5						
CFAA				LR	LR	20 00 55.8	
	comp=N,17nm,18.0s,baz=229,slow=42						
PLCA	**Paso Flores**	**6.53**	**172**	Sn	**Sn**	**20 01 06.8**	**-0.9**
	comp=N,1.1nm,0.3s,baz=311,slow=14,SNR=3.5						
PLCA				LR	LR	20 02 26.2	
	comp=N,63nm,19.0s,baz=301,slow=38						
CPUP	**Villa Florida**	**14.78**	**62**	LR	LR	20 08 22.3	
	comp=N,68nm,20.2s,baz=201,slow=42						
LPAZ	**La Paz**	**18.20**	**11**	P	**P**	**20 02 28.8**	**-1.9**
	comp=N,0.1nm,0.3s,baz=205,slow=8.2,SNR=5.9						
SIV	**San Ignacio**	**20.60**	**31**	P	**P**	**20 02 56.9**	**+0.7**
	comp=N,1.0nm,0.6s,baz=227,slow=12,SNR=2.9						
BDFB	**Brasilia**	**28.32**	**55**	LR	LR	20 16 30.6	
	comp=N,90nm,19.0s,baz=214,slow=39						
TORD	**Torodi Ar. Bea**	**84.11**	**70**	P	**P**	**20 10 48.2**	**+1.1**
	comp=N,0.8nm,0.6s,baz=256,slow=4.1,SNR=13						
ZALV	**Zalesovo Beam**	**154.34**	**33**	PKPbc	**PKPbc**	**20 18 16.5**	**+1.1**
	comp=N,0.7nm,0.6s,baz=264,slow=1.4,SNR=5.1						
ZALV				PKPab	**PKPab**	**20 18 30.6**	**+1.0**
	comp=N,0.6nm,0.5s,baz=289,slow=4.4,SNR=3.4						
MKAR	**Makanchi Array**	**156.78**	**50**	PKPab	**PKPab**	**20 18 40.6**	**+0.2**
	comp=N,0.3nm,0.6s,baz=295,slow=2.8,SNR=4.2						

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*IDC **01** 20:07:01.4±1.9, 62.51S×148.87E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.9/13, mbtmp3.7/3, ML5.2/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/21, Error ellipse: s-maj=106.0km s-min=23.5km az=84.0*
*NEIC **01** 20:07:02.4±0.9, 62.51S×149.06E, h10km, mb4.3/3, Error ellipse: s-maj=68.8km s-min=11.9km az=77.0*
ISC 01 20:07:02.6±1.2, 62.5S±0.2×149.1E±0.5, h10km, n19, σ1s20/12, mb4.0/5, MS3.4/3, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.62**	**170**	Pn	**Pn**	**20 10 40.8**	**-1.7**
	9.0nm,0.3s,baz=336,slow=13,SNR=58						
VNDA				Sn	Sn	20 13 23.6	-12
	2.2nm,0.3s,baz=184,slow=9.7,SNR=4.5						
SBA	**Scott Base**	**16.39**	**167**	*eP*	**Pn**	**20 10 51.2**	**-1.1**
	13nm,0.5s						
QSPA	**South Pole Qui**	**27.58**	**180**	LR	LR	20 24 45.1	
	comp=Z,108nm,20.4s,baz=3.0,slow=39						
QSPA	**South Pole Qui**	**27.58**	**180**	*eP*	**P**	**20 12 51.1**	**+1.5**
	14nm,1.0s						
STKA	**Stephens Creek**	**31.02**	**347**	LR	LR	20 22 55.1	
	comp=Z,56nm,20.0s,baz=204,slow=31						
H01W1	**Cape Leeuwin H**	**35.22**	**305**	T	T	20 50 38.4	
	baz=152						
H01W2	**Cape Leeuwin H**	**35.22**	**305**	T	T	20 50 34.8	
	baz=152,slow=74						
H01W3	**Cape Leeuwin H**	**35.23**	**305**	T	T	20 50 39.1	
	baz=152,slow=74						
ASAR	**Alice Springs**	**40.17**	**338**	P	**P**	**20 14 39.0**	**+0.2**
	2.6nm,0.8s,baz=164,slow=9.0,SNR=7.8						
WRA	**Warramunga Arr**	**43.74**	**340**	P	**P**	**20 15 07.4**	**-0.5**
	1.8nm,0.7s,baz=167,slow=7.1,SNR=9.6						
WRA				PcP	**PcP**	**20 16 55.1**	**+0.4**
	1.2nm,0.7s,baz=172,slow=3.2,SNR=7.5						
WRAB	**Tennant Creek**	**43.75**	**340**	P	**P**	**20 15 06.0**	**-2.0**
	4.8nm,0.9s						
SNAA	**Sanae**	**44.71**	**192**	P	**P**	**20 15 15.7**	**+0.5**
	0.7nm,0.7s,baz=143,slow=10,SNR=7.3						
SUR	**Sutherland**	**76.79**	**223**	LR	LR	20 51 17.2	
	comp=Z,40nm,18.2s,baz=226,slow=35						
H08S2	**Diego Garcia H**	**77.09**	**278**	T	T	21 43 07.4	
	baz=153,slow=76,SNR=5.2						
H08S1	**Diego Garcia H**	**77.10**	**278**	T	T	21 43 09.2	
	baz=153,slow=76,SNR=2.7						
H08S3	**Diego Garcia H**	**77.11**	**278**	T	T	21 43 03.7	
	baz=153,slow=76,SNR=3.2						
YKA	**Yellowknife Ar**	**143.90**	**52**	PKP	**PKPdf**	**20 26 37.8**	**+1.4**
	0.4nm,0.7s,baz=231,slow=3.0,SNR=12						
AKASG	**Malin Array Be**	**146.18**	**278**	PKPbc	**PKPdf**	**20 26 40.9**	**+0.2**
	0.2nm,0.3s,baz=108,slow=2.6,SNR=3.4						
GERES	**GERESS Array B**	**152.06**	**262**	PKPbc	**PKPbc**	**20 26 56.5**	**-0.4**
	0.5nm,0.5s,baz=101,slow=5.1,SNR=3.5						
GERES				PKPab	**PKPab**	**20 27 06.3**	**-0.3**
	0.9nm,0.6s,baz=146,slow=2.6,SNR=6.8						

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*IDC **01** 20:15:32.9±1.4, 33.93S×73.20W, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.7/31, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=35.6km s-min=23.2km az=95.0*
*ISCJB **01** 20:15:35.6±1.0, 34.00S±0.09×73.2W±0.1, h33km, mb3.8/3, Error ellipse: s-maj=17.7km s-min=11.3km az=32.3*
ISC 01 20:15:37.7±1.1, 34.0S±0.1×73.2W±0.1, h35km, n7, σ0s79/8, mb3.8/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.79**	**62**	Pn	**Pn**	**20 16 46.7**	**-0.8**
	0.2nm,0.3s,baz=235,slow=12,SNR=3.3						
CFAA				Sn	**Sn**	**20 17 42.8**	**+1.0**
	0.2nm,0.3s,baz=225,slow=19,SNR=3.1						
PLCA	**Paso Flores**	**7.07**	**163**	Pn	**Pn**	**20 17 18.3**	**-0.5**
	0.5nm,0.3s,baz=351,slow=16,SNR=3.3						
LPAZ	**La Paz**	**18.18**	**16**	P	**Pn**	**20 19 48.3**	**+0.2**
	0.1nm,0.3s,baz=185,slow=11,SNR=4.2						
SIV	**San Ignacio**	**20.97**	**34**	P	**P**	**20 20 17.4**	**-0.6**
	0.8nm,0.4s,baz=226,slow=11,SNR=3.7						
SNAA	**Sanae**	**51.98**	**158**	P	**P**	**20 24 44.0**	**+1.0**
	0.7nm,0.6s,baz=293,slow=11,SNR=7.8						
TXAR	**Lajitas Array**	**69.24**	**332**	P	**P**	**20 26 41.3**	**+0.1**
	0.4nm,0.5s,baz=162,slow=9.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**85.10**	**71**	P	**P**	**20 28 10.4**	**0.0**
	0.8nm,0.8s,baz=238,slow=4.6,SNR=5.2						

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*IDC **01** 20:26:59.4±1.5, 19.90S×177.24W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/36, mbtmp4.1/3, Error ellipse: s-maj=62.3km s-min=36.4km az=162.0*
ISC 01 20:27:04.7±1.5, 19.9S±0.4×177.3W±0.3, h35km, n7, σ0s81/7, mb4.1/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.64**	**244**	P	**P**	**20 34 24.0**	**-0.9**
	1.4nm,0.7s,baz=90,slow=6.1,SNR=2.7						
ASAR	**Alice Springs**	**45.30**	**256**	P	**P**	**20 35 19.9**	**+0.5**
	3.2nm,0.9s,baz=90,slow=7.9,SNR=2.4						
WRA	**Warramunga Arr**	**45.35**	**261**	P	**P**	**20 35 20.8**	**+1.0**
	2.2nm,0.9s,baz=98,slow=8.2,SNR=8.8						
ARCES	**ARCESS Array B**	**128.49**	**350**	PKP	**PKPdf**	**20 46 06.9**	**-0.2**
	3.3nm,1.0s,baz=48,slow=1.3,SNR=3.6						
AKASG	**Malin Array Be**	**142.84**	**332**	PKhKP	PKPpre	20 46 29.9	
	1.0nm,0.4s,baz=44,slow=4.8,SNR=6.5						
AKASG				PKP	**PKPdf**	**20 46 34.3**	**0.0**
	0.7nm,0.5s,baz=44,slow=4.4,SNR=3.4						
BRTR	**Keskin Array B**	**146.95**	**313**	PKPbc	**PKPbc**	**20 46 43.5**	**-0.5**
	0.5nm,0.6s,baz=142,slow=6.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**173.18**	**172**	PKPab	**PKPab**	**20 48 39.0**	**+0.5**
	0.3nm,0.7s,baz=176,slow=3.0,SNR=2.7						

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*IDC **01** 20:27:03.5±1.0, 34.17S×72.29W, h0km, mb4.0/6, mb1 4.1/9, mb1mx3.9/29, mbtmp3.9/9, ML3.8/3, MS3.2/2, Ms1 3.2/2, ms1mx2.9/27, Error ellipse: s-maj=30.8km s-min=22.8km az=100.0*
*ISCJB **01** 20:27:05.4±1.8, 34.14S±0.08×72.40W±0.08, h24km±12km, mb4.0/6, MS3.2/1, Error ellipse: s-maj=14.7km s-min=9.6km az=151.9*
*GUC **01** 20:27:07.0±0.4, 34.04S×72.35W, h35km±16km, ML4.1*
*NEIC **01** 20:27:09.3±0.7, 34.06S×72.26W, h35km, mb4.1/3, Error ellipse: s-maj=15.7km s-min=12.4km az=90.0*
ISC 01 20:27:06.6±1.8, 34.07S±0.08×72.31W±0.07, h18km±9km, n23, σ0s88/29, mb4.1/6, 1C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.76**	**82**	↓*i*P	**Pg**	**20 27 21.4**	**-0.1**
LNV				*i* S1	**Sn**	**20 27 32.5**	**-1.0**
IHA	**Instituto Hidr**	**1.18**	**29**	↑*i*P	**Pn**	**20 27 27.5**	**-0.7**
IHA				*i* S1	**Sn**	**20 27 43.2**	**-0.8**
RCDM	**Rinconada Maip**	**1.38**	**66**	↓*i*P	**Pn**	**20 27 31.0**	**-0.1**
RCDM				*i* S	**Sn**	**20 27 48.9**	**0.0**
RCDM				AML	AML	20 27 53.7	
	comp=E,3μm,0.7s						
CHCH	**Chadas Angostu**	**1.39**	**85**	↓*i*P	**Pn**	**20 27 31.5**	**+0.3**
ANTU	**Antumapu**	**1.48**	**71**	*eP*	**Pn**	**20 27 33.0**	**+0.5**
ANTU				*i* S	**Sb**	**20 27 53.0**	**+0.7**
ANTU				AML	AML	20 28 00.9	
	comp=E,6μm,0.5s						
STL	**Santa Lucia**	**1.53**	**66**	↓*i*P	**Pn**	**20 27 32.9**	**-0.3**
STL				*i* S	**Sn**	**20 27 53.2**	**+0.6**
PEL	**Peldehue**	**1.64**	**56**	↓*i*P	**Pn**	**20 27 35.4**	**+0.7**
PEL				*i* S	**Sb**	**20 27 56.8**	**0.0**
CFAA	**Coronel Fontan**	**4.22**	**56**	Pn	**Pn**	**20 28 11.6**	**+1.5**
	comp=E,1.3nm,0.3s,baz=230,slow=13,SNR=19						
CFAA				Lg	Lg	20 29 13.4	
	comp=E,3.5nm,0.3s,baz=72,slow=12,SNR=6.2						
CFAA				LR	LR	20 29 32.1	
	comp=E,8.1nm,18.9s,baz=228,slow=35						
TRQA	**Tornquist**	**9.26**	**118**	*eP*	**Pn**	**20 29 20.1**	**+0.8**
	comp=E,23nm,1.2s						
CPUP	**Villa Florida**	**15.07**	**63**	Pn	**Pn**	**20 30 38.9**	**+0.2**
	comp=E,0.1nm,0.3s,baz=248,slow=19,SNR=2.5						
CPUP				LR	LR	20 35 58.6	
	comp=E,66nm,20.1s,baz=218,slow=36						
LPAZ	**La Paz**	**18.10**	**13**	P	**Pn**	**20 31 18.1**	**+0.3**
	comp=E,0.3nm,0.3s,baz=192,slow=6.9,SNR=12						
LPAZ	**La Paz**	**18.10**	**13**	*eP*	**P**	**20 31 18.4**	**+0.2**
	comp=E,6.1nm,0.7s						
SIV	**San Ignacio**	**20.65**	**32**	P	**P**	**20 31 44.6**	**-0.9**
	comp=E,4.8nm,0.7s,baz=224,slow=9.9,SNR=13						
SIV				LR	LR	20 41 29.1	
	comp=E,105nm,20.5s,baz=201,slow=42						
SAML	**Samuel**	**26.38**	**21**	*eP*	**P**	**20 32 43.9**	**+1.9**
	comp=E,3.3nm,0.8s						
BDFB	**Brasilia**	**28.56**	**56**	P	**P**	**20 33 00.4**	**-1.3**
	comp=E,1.2nm,0.3s,baz=219,slow=10,SNR=3.6						
SNAA	**Sanae**	**51.61**	**158**	P	**P**	**20 36 10.4**	**-1.2**
	comp=E,0.7nm,0.9s,baz=264,slow=10,SNR=3.1						
SNAA	**Sanae**	**51.61**	**158**	P	**P**	**20 36 12.7**	**+1.1**
	comp=E,4.7nm,0.8s						
SNAA				*e*		20 36 18.6	
TXAR	**Lajitas Array**	**69.68**	**331**	P	**P**	**20 38 16.4**	**+1.0**
	comp=E,0.2nm,0.4s,baz=153,slow=6.1,SNR=2.3						
BOSA	**Boshof**	**80.24**	**118**	P	**P**	**20 39 16.9**	**+0.2**
	comp=E,1.5nm,0.6s,baz=274,slow=2.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**84.45**	**70**	P	**P**	**20 39 38.1**	**-0.5**
	comp=E,1.3nm,0.7s,baz=254,slow=4.7,SNR=14						
WRA	**Warramunga Arr**	**120.59**	**209**	PKP	**PKPdf**	**20 45 56.3**	**-1.6**
	comp=E,0.4nm,0.8s,baz=158,slow=1.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**154.41**	**32**	PKPbc	**PKPbc**	**20 47 05.6**	**+0.2**
	comp=E,1.6nm,0.7s,baz=301,slow=2.8,SNR=9.1						
MKAR	**Makanchi Array**	**156.98**	**49**	PKPab	**PKPab**	**20 47 30.8**	**-0.2**
	comp=E,0.5nm,0.6s,baz=296,slow=2.7,SNR=7.7						

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*JMA **01** 20:27:36.4±0.1, 34.11N×137.26E, h384km, M3.1*
*ISCJB **01** 20:27:39.8±0.6, 34.2N±0.1×137.3E±0.1, h350km, mb2.6/1, Error ellipse: s-maj=18.2km s-min=9.4km az=43.6*
*IDC **01** 20:27:40.0±2.5, 33.92N×137.29E, h320km±108km, mb2.7/1, mb1 2.9/3, mb1mx2.5/36, mbtmp3.2/3, Error ellipse: s-maj=152.4km s-min=37.1km az=14.0*
ISC 01 20:27:40.1±1.1, 34.3N±0.1×137.2E±0.1, h350km, n14, σ0s96/17, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.40**	**289**	P	**Pn**	**20 28 24.5**	**+0.4**
TTO4	**TONANKAI O.B.S**	**0.40**	**129**	P	**Pn**	**20 28 24.5**	**+0.6**
TTO2	**TONANKAI O.B.S**	**0.54**	**192**	P	**Pn**	**20 28 24.8**	**+0.7**
TTO1	**TONANKAI O.B.S**	**0.71**	**206**	P	**Pn**	**20 28 25.1**	**+0.5**
JWY	**Kouya**	**1.30**	**269**	P	**Pn**	**20 28 27.6**	**+0.3**
JWZ	**Kozaga**	**1.41**	**239**	P	**Pn**	**20 28 27.2**	**-0.6**
JWT	**Wachi**	**1.77**	**306**	P	**Pn**	**20 28 30.6**	**+0.8**
JOD2	**Odawara 2**	**1.88**	**57**	P	**Pn**	**20 28 30.9**	**+0.4**
JRY	**Ryogami san**	**2.26**	**39**	P	**Pn**	**20 28 34.3**	**+1.1**
JRY				S	**S**	**20 29 17.3**	**+1.3**
JAI	**Aioi**	**2.30**	**259**	P	**Pn**	**20 28 33.7**	**+0.1**
MJAR	**Matsushiro Arr**	**2.43**	**20**	P	**Pn**	**20 28 35.4**	**+0.8**
	1.0nm,0.3s,baz=192,slow=9.5,SNR=12						
MJAR				S	**S**	**20 29 18.3**	**0.0**
	baz=196,slow=16,SNR=2.8						
JAG	**Ashikaga**	**2.86**	**40**	P	**Pn**	**20 28 37.5**	**-0.6**
JAG				*e*S	**S**	**20 29 22.3**	**-2.5**
KSRS	**Korea Array**	**8.15**	**296**	P	**P**	**20 29 38.5**	**-0.3**
	0.2nm,0.3s,baz=111,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**53.97**	**183**	P	**P**	**20 36 29.2**	**+0.1**
	0.1nm,0.3s,baz=360,slow=7.5,SNR=2.7						

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*IDC **01** 20:33:35.3±1.5, 37.34S×72.60W, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.8/28, mbtmp3.7/7, ML3.0/2, Error ellipse: s-maj=48.1km s-min=27.4km az=85.0*
*ISCJB **01** 20:33:40.1±1.3, 37.30S±0.10×72.3W±0.3, h35km, mb3.8/5, Error ellipse: s-maj=38.2km s-min=14.0km az=178.6*
ISC 01 20:33:41.0±2.7, 37.3S±0.1×72.5W±0.5, h35km, n11, σ0s50/9, mb3.6/5, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.72**	**157**	Pn	**Pn**	**20 34 36.0**	**+0.1**
	0.4nm,0.3s,baz=0.4,slow=18,SNR=1.6						
CFAA	**Coronel Fontan**	**6.68**	**33**	Pn	**Pn**	**20 35 16.9**	**+0.1**
	0.2nm,0.3s,baz=210,slow=16,SNR=2.6						
LPAZ	**La Paz**	**21.30**	**12**	P	**P**	**20 38 25.8**	**+0.5**
	2.1nm,0.8s,baz=189,slow=4.5,SNR=5.3						
SIV	**San Ignacio**	**23.52**	**28**	P	**P**	**20 38 47.3**	**-0.7**
	1.1nm,0.5s,baz=240,slow=14,SNR=4.7						
DBIC	**Dimbokro**	**76.58**	**71**	P	**P**	**20 45 28.8**	**+0.7**
	3.4nm,0.9s,baz=208,slow=8.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**85.67**	**70**	P	**P**	**20 46 16.1**	**-0.3**
	0.3nm,0.7s,baz=246,slow=3.7,SNR=4.1						
PDAR	**Pinedale Array**	**86.57**	**334**	P	P	20 46 20.6	+0.1
	0.9nm,1.0s,baz=188,slow=1.8,SNR=3.5						
GERES	**GERESS Array B**	**114.71**	**47**	PKP	PKPdf	20 52 16.2	-1.1
	0.2nm,0.6s,baz=9.8,slow=12,SNR=2.3						
AAK	**Ala-Archa**	**154.23**	**68**	PKPab	**PKPab**	**20 53 51.3**	**0.0**
	0.7nm,0.4s,baz=27,slow=22,SNR=5.4						
ZALV	**Zalesovo Beam**	**157.16**	**36**	PKPab	**PKPab**	**20 54 02.8**	**-0.4**
	0.6nm,0.6s,baz=309,slow=7.3,SNR=3.4						
MKAR	**Makanchi Array**	**159.08**	**55**	PKPab	**PKPab**	**20 54 11.7**	**-0.2**
	0.8nm,0.7s,baz=269,slow=3.4,SNR=9.7						

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*IDC **01** 20:37:30.3±0.7, 35.96S×73.02W, h0km, mb4.2/11, mb1 4.3/15, mb1mx4.2/32, mbtmp4.1/15, ML3.9/4, MS3.4/5, Ms1 3.4/5, ms1mx3.2/27, Error ellipse: s-maj=25.4km s-min=13.8km az=81.0*
*ISCJB **01** 20:37:32.9±0.5, 35.95S±0.06×73.1W±0.1, h28km, mb4.3/11, MS3.4/2, Error ellipse: s-maj=13.9km s-min=8.3km az=175.8*
*NEIC **01** 20:37:35.4±0.5, 35.93S×73.18W, h35km, mb4.5/2, Error ellipse: s-maj=13.3km s-min=8.3km az=86.0*
ISC 01 20:37:34.4±0.6, 35.94S±0.08×73.2W±0.1, h28km, n41, σ0s76/40, mb4.2/11, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.21**	**158**	Pn	**Pn**	**20 38 49.8**	**-0.7**
	2.0nm,0.3s,baz=323,slow=9.9,SNR=6.8						
PLCA				Lg	Lg	20 40 13.4	
	4.0nm,0.3s,baz=265,slow=21,SNR=4.8						
PLCA				LR	LR	20 41 05.5	
	comp=Z,469nm,18.2s,baz=296,slow=42						
PLCA	**Paso Flores**	**5.21**	**158**	*e*Pn	**Pn**	**20 38 50.8**	**+0.3**
	4.1nm,0.5s						
PLCA				Lg	Lg	20 40 13.4	
CFAA	**Coronel Fontan**	**5.95**	**45**	Pn	**Pn**	**20 39 00.2**	**-0.4**
	0.6nm,0.3s,baz=226,slow=10,SNR=4.3						
CFAA				LR	LR	20 41 38.7	
	comp=Z,51nm,21.4s,baz=232,slow=42						
TRQA	**Tornquist**	**9.19**	**107**	*e*Pn	**Pn**	**20 39 47.5**	**+2.5**
	58nm,1.3s						
LVC	**Limon Verde**	**13.78**	**17**	*e*Pn	**Pn**	**20 40 49.6**	**+1.5**
	14nm,1.0s						
CPUP	**Villa Florida**	**16.57**	**59**	Pn	**Pn**	**20 41 25.0**	**+0.2**
	0.2nm,0.3s,baz=225,slow=16,SNR=1.8						
USHA	**Ushuaia**	**19.18**	**172**	P	**Pn**	**20 41 56.9**	**+0.3**
	0.3nm,0.3s,baz=346,slow=8.9,SNR=4.1						
USHA				LR	LR	20 50 03.7	
	comp=Z,253nm,20.4s,baz=321,slow=39						
LPAZ	**La Paz**	**20.07**	**14**	P	Pn	20 42 07.8	-0.5
	3.7nm,0.6s,baz=201,slow=8.6,SNR=9.8						
LPAZ	**La Paz**	**20.07**	**14**	*eP*	Pn	20 42 08.3	-0.1
	9.0nm,0.9s						
SIV	**San Ignacio**	**22.60**	**32**	P	**P**	**20 42 33.1**	**+0.2**
	6.2nm,0.8s,baz=224,slow=14,SNR=16						
SIV				LR	LR	20 53 08.9	
	comp=Z,252nm,18.1s,baz=228,slow=42						
NNA	**Nana**	**24.08**	**351**	LR	LR	20 50 41.5	
	comp=Z,66nm,18.5s,baz=169,slow=33						
NNA	**Nana**	**24.08**	**351**	*eP*	**P**	**20 42 47.0**	**-0.6**
SAML	**Samuel**	**28.36**	**21**	*eP*	**P**	**20 43 26.2**	**+0.1**
SNAA	**Sanae**	**50.15**	**157**	P	**P**	**20 46 27.3**	**+0.4**
	2.4nm,0.8s,baz=295,slow=6.5,SNR=7.2						
SNAA	**Sanae**	**50.15**	**157**	*eP*	**P**	**20 46 27.5**	**+0.6**
QSPA	**South Pole Qui**	**54.30**	**180**	P	**P**	**20 46 58.0**	**+0.1**
	3.4nm,0.8s,baz=186,slow=0.8,SNR=11						
TXAR	**Lajitas Array**	**70.99**	**332**	P	**P**	**20 48 50.7**	**+1.2**
	1.0nm,0.6s,baz=156,slow=9.6,SNR=8.9						
WVT	**Waverly**

*IDC **01** 20:46:11.3±2.5, 27°.55N×140°.47E, h146km±25km, mb3.4/7, mb1 3.6/7, mb1mx3.2/25, mbtmp3.8/7, MS3.2/1, Ms1 3.2/1, ms1mx2.2/26, Error ellipse: s-maj=42.3km s-min=17.3km az=97.0*
*JMA **01** 20:46:14.3±0.2, 27°.62N×140°.90E, h159km, M4.1*
ISC 01 20:46:12.1±0.9, 27°.70N±0°.09×140°.6E±0°.1, h150km, n16, σ1§72/18, mb3.4/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.51	113	P	Pn	20 46 42.4	+0.6
CBIJ				eS	Sn	20 47 03.2	-1.3
JCJ	Chichijima	1.51	113	P	Pn	20 46 41.6	-0.2
JCJ	26nm,0.3s,baz=270,slow=20,SNR=21			S	Sn	20 47 04.6	+0.1
JHHJ	Haha-jima-NKT	1.75	127	P	Pn	20 46 44.7	+0.3
JHHJ	141nm,0.3s,baz=1.8,slow=23,SNR=23			S	Sn	20 47 08.7	-0.4
JHCJ	Hachijojimakas	5.40	353	P	Pn	20 47 35.6	+4.8
JRY	Ryogami san	8.42	350	P	Pn	20 48 11.1	+0.1
JAG	Ashikaga	8.75	354	P	Pn	20 48 16.1	+0.6
JAG				S	Sn	20 49 49.8	-2.9
JHO	Hitachi	8.88	360	S	Sn	20 49 52.6	-3.2
MJAR	Matsushiro Arr	9.05	349	P	Pn	20 48 22.6	+3.1
SEY	0.4nm,0.3s,baz=151,slow=9.0,SNR=4.8 Seymchan	36.07	9	P	P	20 53 00.1	+1.2
TLY	0.5nm,0.5s,baz=197,slow=19,SNR=5.3 Talaya	36.59	321	LR	LR	21 08 42.4	
WRA	comp=Z,30nm,18.8s,baz=346,slow=37 Warramunga Arr	47.75	188	P	P	20 54 32.2	-1.9
ASAR	0.6nm,0.4s,baz=6.6,slow=7.8,SNR=16 Alice Springs	51.48	188	P	P	20 55 01.1	-1.2
YKA	0.3nm,0.8s,baz=8.5,slow=6.9,SNR=2.3 Yellowknife Ar	72.27	28	P	P	20 57 21.0	+0.4
ARCES	0.3nm,0.5s,baz=297,slow=6.1,SNR=5.6 ARCESS Array B	72.51	340	P	P	20 57 23.8	+1.7
FINES	5.2nm,1.1s,baz=65,slow=9.1,SNR=2.7 FINESS Array B	76.79	333	P	P	20 57 45.4	-1.4
NVAR	0.3nm,0.3s,baz=76,slow=5.9,SNR=7.5 Mina Array Bea	81.23	51	P	P	20 58 12.9	+1.2
	0.5nm,0.7s,baz=309,slow=5.7,SNR=3.1						

IDC 01 20:53:17.1±72.0, 17°.45S×177°.56W, h520km±380km, mb3.4/3, mb1 3.5/4, mb1mx2.9/39, mbtmp4.3/4, Error ellipse: s-maj=807.6km s-min=115.8km az=73.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.74	250	P	P	20 56 34.3	-0.6
STKA	0.4nm,0.3s,baz=78,slow=17,SNR=5.6 Stephens Creek	39.55	241	P	P	21 00 03.3	+0.1
WRA	2.2nm,0.5s,baz=89,slow=9.6,SNR=7.7 Warramunga Arr	45.51	259	P	P	21 00 49.6	-0.5
ASAR	1.1nm,0.6s,baz=97,slow=7.0,SNR=28 Alice Springs	45.69	254	P	P	21 00 51.5	0.0
	11nm,0.6s,baz=89,slow=8.1,SNR=216						

*IDC **01** 21:04:29.5±1.2, 25°.93N×128°.50E, h0km, mb3.8/11, mb1 3.8/12, mb1mx3.8/26, mbtmp3.8/12, ML3.4/1, MS3.6/3, Ms1 3.6/3, ms1mx2.8/38, Error ellipse: s-maj=48.0km s-min=17.5km az=77.0*
*JMA **01** 21:04:32.0±0.2, 25°.92N×128°.63E, h36km, M3.4*
ISC 01 21:04:30.3±1.8, 25°.87N±0°.04×128°.58E±0°.04, h9km±10km, n48, σ1§73/63, mb3.7/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.79	290	P	Pn	21 04 47.3	-0.4
JJT2				eS	Sn	21 04 58.8	-0.9
JNTH	Nagotoyohara	0.82	322	P	Pb	21 04 46.8	+0.2
JNTH				eS	Sb	21 04 57.7	-0.1
JOW	Kunigami	0.99	344	P	Pb	21 04 49.7	0.0
JOW				eS	Sg	21 05 01.4	-1.0
JOW	Kunigami	0.99	344	Pn	Pg	21 04 49.2	-0.2
JOW	9.9nm,0.3s,baz=164,slow=28,SNR=102			Sn	Sg	21 05 01.8	-0.6
JIH	Iheya	1.28	335	P	Pn	21 04 53.9	-0.5
JIH	25nm,0.3s,baz=112,slow=19,SNR=30			eS	Sb	21 05 09.7	-1.5
JAGN	Aguni-jima	1.40	301	P	Pn	21 04 56.0	0.0
JOKE	Okinoerabujima	1.48	360	P	Pn	21 04 56.7	-0.5
JOKE				eS	Sn	21 05 14.6	-2.1
JKE	Kume jima 2	1.68	286	P	Pn	21 04 59.2	-0.6
JKE				eS	Sn	21 05 18.7	-2.7
JTK	Tokunoshima	1.93	10	P	Pn	21 05 03.1	-0.3
JTK				eS	Sn	21 05 25.5	-2.3
JMZ	Minamidaito 2	2.38	91	P	Pn	21 05 08.6	-0.9
JMZ				eS	Sn	21 05 34.5	-4.3
JAMN	Amaminishikomi	2.42	13	P	Pn	21 05 10.3	+0.3
JAM	Amami Oshima	2.69	20	P	Pn	21 05 14.0	+0.3
JAM				eS	Sn	21 05 44.4	-2.0
JOGS	Gusukube	3.08	250	P	Pn	21 05 19.5	+0.4
JOGS				eS	Sn	21 05 54.6	-1.5
JIKM	Ikemajima	3.16	253	P	Pn	21 05 20.6	+0.4
JIKM				eS	Sn	21 05 55.5	-2.5
JIRB	Irabujima	3.25	252	P	Pn	21 05 21.4	-0.1
JIRB				eS	Sn	21 05 57.9	-2.5
JTJ	Tarama	3.72	252	P	Pn	21 05 27.3	-0.6
JTJ				eS	Sn	21 06 07.9	-4.0
JISG	Ishigakijimahi	4.07	253	P	Pn	21 05 31.6	-1.2
JISG				eS	Sn	21 06 17.6	-3.0
JIJ	Ishigaki jima	4.29	250	P	Pn	21 05 35.2	-0.6
JIJ				eS	Sn	21 06 21.7	-4.4
JKRS	Kuro-shima	4.45	250	P	Pn	21 05 38.4	+0.4
IRIF	Iriomote-Funau	4.66	252	P	Pn	21 05 40.5	-0.3
IRIF				eS	Sn	21 06 30.0	-5.0
JYAK	Yakushimahirau	4.67	21	eS	Sn	21 06 31.1	-4.3
JKC	Kuchinoerabu	4.79	17	P	Pn	21 05 43.3	+0.7
JNU	Nakatsue	7.50	15	Pn	Pn	21 06 21.1	+1.2
	0.6nm,0.3s,baz=199,slow=7.7,SNR=9.7						
KSRS	Korea Array	11.56	357	LR	LR	21 11 58.8	
	comp=Z,60nm,19.1s,baz=158,slow=39						
SONM	Songino Array	28.02	327	P	P	21 10 23.5	+1.7
	1.3nm,0.5s,baz=142,slow=11,SNR=35						
CMAR	Chiang Mai Arr	28.38	261	P	P	21 10 28.0	+2.9
	0.2nm,0.3s,baz=59,slow=7.5,SNR=3.2						
ODAN	Odare	36.80	281	eP	P	21 11 39.4	+0.4
	14nm,0.7s						
RAMN	Ramite	37.49	281	eP	P	21 11 45.9	+1.1
JIRN	Jiri	37.76	282	eP	P	21 11 48.2	+1.0
GUN	Gumba	38.00	283	eP	P	21 11 50.4	+1.1
PKI	Pulchoki	38.46	282	eP	P	21 11 53.3	+0.2
PKIN	Phulchoki	38.47	282	eP	P	21 11 54.0	+0.9
	3.9nm,0.6s						
KKN	Kakani	38.54	283	eP	P	21 11 54.1	+0.4
	4.4nm,0.4s						
DMN	Daman	38.72	283	eP	P	21 11 56.2	+1.0
GKN	Gorkha	39.08	283	eP	P	21 11 58.6	+0.5
	10nm,0.8s						
DANN	Dangsing	39.80	284	eP	P	21 12 05.3	+1.0
	21nm,0.6s						
KOLN	Koldanda	40.02	283	eP	P	21 12 06.3	+0.3
MKAR	Makanchi Array	42.01	312	P	P	21 12 21.3	-0.6
	0.5nm,0.5s,baz=90,slow=10,SNR=19						
ZALV	Zalesovo Beam	42.72	323	P	P	21 12 26.2	-1.4
	0.5nm,0.5s,baz=104,slow=9.0,SNR=3.8						
WRA	Warramunga Arr	45.88	172	P	P	21 12 54.2	+1.0
	0.7nm,0.7s,baz=353,slow=8.4,SNR=4.7						
ASAR	Alice Springs	49.52	174	P	P	21 13 22.6	+1.2
	0.4nm,0.7s,baz=6.0,slow=9.7,SNR=3.6						
BVAR	Borovoye Array	50.75	318	P	P	21 13 31.1	+0.5
	0.3nm,0.4s,baz=96,slow=9.1,SNR=8.0						
GEYT	Alibeck	59.74	300	P	P	21 14 36.2	+0.5
	0.6nm,0.5s,baz=76,slow=6.1,SNR=3.2						
FINES	FINESS Array B	73.33	331	P	P	21 16 02.1	0.0
	1.2nm,0.9s,baz=96,slow=4.2,SNR=7.6						
AKASG	Malin Array Be	76.01	320	P	P	21 16 17.6	-0.3
	1.0nm,0.5s,baz=58,slow=6.7,SNR=6.4						
BRTR	Keskin Array B	77.50	308	P	P	21 16 26.9	+0.3
	0.7nm,0.8s,baz=134,slow=5.3,SNR=4.6						
BRTR				LR	LR	21 53 18.6	
	comp=Z,113nm,20.4s,baz=234,slow=38						
NOA	NORSAR Array B	79.77	334	P	P	21 16 38.4	-0.3
	0.8nm,0.9s,baz=54,slow=7.7,SNR=2.9						
GERES	GERESS Array B	85.67	323	LR	LR	22 00 04.8	
	comp=Z,54nm,19.0s,baz=137,slow=39						

*IDC **01** 21:06:49.0±2.1, 36°.57S×72°.74W, h0km, mb3.8/4, mb1 3.8/6, mb1mx3.7/18, mbtmp3.7/6, ML3.3/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/20, Error ellipse: s-maj=59.0km s-min=19.4km az=86.0*
*ISCJB **01** 21:06:54.7±1.5, 36°.60S±0°.10×72°.6W±0°.3, h58km, mb3.9/3, MS3.3/1, Error ellipse: s-maj=35.1km s-min=11.0km az=14.4*
ISC 01 21:06:56.5±1.7, 36°.6S±0°.1×72°.6W±0°.3, h58km, n11, σ1§27/10, mb3.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.41	160	Pn	Pn	21 08 00.2	-0.7
	0.4nm,0.3s,baz=311,slow=9.6,SNR=3.5						
PLCA				Lg	Lg	21 09 11.4	
	4.1nm,0.3s,baz=262,slow=21,SNR=5.7						
CFAA	Coronel Fontan	6.15	37	Pn	Pn	21 08 22.7	-2.0
	0.4nm,0.3s,baz=210,slow=12,SNR=12						
CFAA				Sn	Sn	21 09 35.2	+1.5
	0.5nm,0.3s,baz=217,slow=15,SNR=2.7						
CFAA				Lg	Lg	21 09 49.2	
	0.2nm,0.3s,baz=292,slow=17,SNR=4.8						
CPUP	Villa Florida	16.53	56	LR	LR	21 18 06.2	
	comp=Z,139nm,18.2s,baz=212,slow=41						
LPAZ	La Paz	20.62	12	P	P	21 11 30.9	-0.9
	2.0nm,0.6s,baz=189,slow=7.9,SNR=7.7						
SIV	San Ignacio	22.94	29	P	P	21 11 55.3	-0.6
	3.7nm,0.8s,baz=232,slow=9.9,SNR=7.2						
BDFB	Brasilia	30.21	53	LR	LR	21 26 49.0	
	comp=Z,67nm,18.1s,baz=216,slow=40						
DBIC	Dimbokro	76.43	71	P	P	21 18 40.9	+0.7
	1.6nm,0.7s,baz=183,slow=6.1,SNR=4.2						
TORD	Torodi Ar. Bea	85.50	70	P	P	21 19 29.2	+0.8
	0.3nm,0.7s,baz=270,slow=5.7,SNR=6.7						
BVAR	Borovoye Array	149.44	46	PKPbc	PKPbc	21 26 39.4	+0.9
	0.8nm,0.5s,baz=304,slow=3.2,SNR=8.5						
ZALV	Zalesovo Beam	156.63	35	PKPab	PKPab	21 27 13.9	+0.2
	0.5nm,0.5s,baz=309,slow=0.9,SNR=3.1						
MKAR	Makanchi Array	158.73	54	PKPab	PKPab	21 27 24.3	+1.1
	0.3nm,0.8s,baz=292,slow=4.9,SNR=3.3						

*IDC **01** 21:12:47.3±2.3, 34°.74S×73°.35W, h0km, mb3.9/4, mb1 3.9/5, mb1mx3.7/27, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=104.3km s-min=23.1km az=101.0*
*ISCJB **01** 21:12:49.7±2.2, 34°.7S±0°.2×73°.6W±0°.8, h33km, mb3.9/4, Error ellipse: s-maj=96.4km s-min=17.6km az=9.9*
ISC 01 21:12:51.9±2.2, 34°.7S±0°.2×73°.5W±0°.7, h35km, n7, σ0§55/7, mb3.9/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	18.92	16	P	Pn	21 17 10.7	-0.5
	0.1nm,0.3s,baz=207,slow=8.2,SNR=2.2						
SIV	San Ignacio	21.69	34	P	P	21 17 40.1	+0.3
	1.7nm,0.6s,baz=226,slow=11,SNR=4.8						
SNAA	Sanae	51.44	158	P	P	21 21 52.8	-0.4
	1.2nm,0.9s,baz=254,slow=7.4,SNR=4.3						
QSPA	South Pole Qui	55.58	180	P	P	21 22 23.8	+0.1
	3.5nm,0.9s,baz=143,slow=5.0,SNR=6.4						
TORD	Torodi Ar. Bea	85.59	71	P	P	21 25 27.2	+0.2
	0.8nm,1.1s,baz=225,slow=4.9,SNR=2.8						
BVAR	Borovoye Array	148.60	43	PKPbc	PKPbc	21 32 35.3	+0.7
	0.5nm,0.6s,baz=298,slow=3.2,SNR=4.8						
MKAR	Makanchi Array	158.12	49	PKPab	PKPab	21 33 18.3	-0.3
	0.3nm,0.8s,baz=291,slow=3.8,SNR=4.0						

*IDC **01** 21:13:26.5±1.3, 34°.05N×25°.35E, h0km, mb3.4/4, mb1 3.6/8, mb1mx3.3/48, mbtmp3.4/8, ML3.4/4, MS3.3/1, Ms1 3.3/1, ms1mx2.2/33, Error ellipse: s-maj=26.1km s-min=22.8km az=145.0*
*ISCJB **01** 21:13:27.6±1.1, 34°.0N±0°.1×25°.3E±0°.2, h17km, mb3.2/4, MS3.3/1, Error ellipse: s-maj=19.0km s-min=16.9km az=42.5*
ISC 01 21:13:29.5±1.2, 34°.2N±0°.1×25°.2E±0°.2, h17km, n10, σ0§47/8, mb3.4/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	Anoyia	1.13	346	Pn	Pg	21 13 51.3	-0.1
	6.7nm,0.3s,baz=168,slow=14,SNR=65						
IDI				LR	LR	21 14 31.9	
	comp=Z,56nm,20.0s,baz=262,slow=51						
MMAI	Mount Meron Ar	8.58	95	Pn	Pn	21 15 28.5	-4.5
	0.4nm,0.3s,baz=289,slow=14,SNR=3.2						
KBZ	Khabaz	16.70	50	Pn	P	21 17 24.9	+0.1
	0.0nm,0.3s,baz=234,slow=17,SNR=2.0						
AKASG	Malin Array Be	16.76	9	Pn	P	21 17 25.0	-0.4
	0.3nm,0.3s,baz=200,slow=11,SNR=3.3						
GERES	GERESS Array B	16.96	333	P	P	21 17 28.6	+0.8
	0.1nm,0.3s,baz=147,slow=12,SNR=7.0						
TORD	Torodi Ar. Bea	29.91	231	P	P	21 19 36.6	-0.1
	0.2nm,0.6s,baz=39,slow=8.9,SNR=4.2						
MKAR	Makanchi Array	44.27	56	P	P	21 21 38.5	+0.4
	0.4nm,0.6s,baz=263,slow=8.7,SNR=9.1						
ZALV	Zalesovo Beam	45.64	45	P	P	21 21 48.9	0.0
	0.2nm,0.4s,baz=260,slow=8.6,SNR=2.8						
KSRS	Korea Array	78.83	52	LR	LR	22 02 46.9	
	comp=Z,15nm,19.0s,baz=185,slow=38						
ILAR	Eielson Array	81.17	57	P	P	21 25 43.4	-0.4
	0.3nm,1.0s,baz=10,slow=5.5,SNR=3.3						

*BJI **01** 21:15:11.9, 13°.97N×93°.22E, h40km, mB4.5/12, mb4.2/21, Ms4.2/4, Ms7 3.9/5*
*MOS **01** 21:15:11.9±0.8, 14°.10N×93°.08E, h33km, mb5.0/24, Error ellipse: s-maj=9.0km s-min=5.0km az=120.0*
*ISCJB **01** 21:15:12.4±0.2, 14°.25N±0°.02×93°.06E±0°.04, h32km, mb4.5/72, MS3.5/9, Error ellipse: s-maj=5.6km s-min=3.4km az=168.8*
*IDC **01** 21:15:13.7±0.6, 14°.10N×93°.08E, h32km±4km, mb4.2/31, mb1 4.3/34, mb1mx4.1/55, mbtmp4.4/34, ML4.0/3, MS3.5/12, Ms1 3.6/12, ms1mx3.3/42, Error ellipse: s-maj=14.7km s-min=9.7km az=51.0*
*NEIC **01** 21:15:14.4±0.7, 14°.09N×93°.05E, h40km±6km, mb4.7/19, Error ellipse: s-maj=6.3km s-min=5.5km az=85.0*
*BKK **01** 21:15:19.6±0.7, 15°.N±5°.×9°.3E±°, h10km, M4.2/16, mB4.6/6, mb4.5/16, MLv4.4/10, Mw(mB)3.8/6*
*DJA **01** 21:15:22.8±0.9, 14°.N±4°.×9°.4E±°, h123km±12km, M4.7/10, mB5.6/4, mb4.6/10, MLv4.5/4, Mw(mB)5.1/4*
ISC 01 21:15:13.8±0.3, 14°.18N±0°.04×93°.13E±0°.05, h32km, h32km:pP-P, n249, σ1§08/247, mb4.6/72, MS3.4/9, 19C-19D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	1.02	191	eP	Pb	21 15 33.1	+0.2
DGPR				eS	Sb	21 15 46.8	+0.8
PBA	Port Blair	2.54	189	eP	Pn	21 15 53.8	+0.9
PBA				eS	Sn	21 16 24.3	+1.6
MHMT	Maesarieng	6.09	49	P	Pb	21 16 51.9	-7.3
	28nm,0.8s,454nm0.2nm						
CMAR	Chiang Mai Arr	7.02	52	Pn	Pn	21 16 56.5	+2.1
	0.3nm,0.3s,baz=243,slow=15,SNR=10						
CMAR				Sn	Sn	21 18 13.7	+0.6
	1.5nm,0.3s,baz=122,slow=21,SNR=6.7						
CMAR				LR	LR	21 20 25.9	
	comp=Z,257nm,19.3s,baz=225,slow=44						
CMBY	CAMPBELL BAY	7.17	174	eP	Pn	21 16 58.6	+2.0
CMBY				eS	Sn	21 18 13.9	-3.0
CHTO	Chiang Mai	7.23	50	eP	Pn	21 16 59.2	+1.8
CHTO				e		21 18 14.4	
CHTO	Chiang Mai	7.23	50	P	Pn	21 17 05.3	+7.9
	52nm,0.8s,1μm0.4nm						
CHTO	Chiang Mai	7.23	50	ePn	Pn	21 16 59.1	+1.8
CHTO				eSn	Sn	21 18 14.4	-4.1
CMMT	Chiang Mai	7.24	50	P	Pn	21 17 05.2	+7.8
	26nm,0.6s,391nm0.1nm						
LAMP	Lampang	7.59	54	P	Pn	21 17 13.2	+11
	11nm,0.8s,91nm0.0nm						
SURT	Suratani	7.60	132	P	Pb	21 17 21.7	-3.2
	6.1nm,0.9s,0.0nm						
PBKT	Sadao Pong	7.93	72	P	Pn	21 17 13.1	+6.2
	16nm,0.8s,0.1nm						
LOEI	Loei	8.50	66	P	Pb	21 17 29.8	-10
	29nm,1.4s,0.1nm						
CRAI	Chiangrai	9.17	48	P	Pn	21 17 36.0	+12
	203nm,0.7s						
VIS	Vishakhapatnam	10.06	292	i P	Pn	21 17 34.9	-1.3
VIS				i S	Sn	21 19 15.5	-13
VIS				i S	Sn	21 19 16.2	-12
NONG	Nongkai	10.37	67	P	Pn	21 17 57.7	+17
	56nm,1.3s						
SHL	Shillong	11.39	354	eP	Pn	21 17 56.0	+1.5
SHL				AMB	AMB	21 18 01.9	
	comp=Z,13nm,2.1s						
KCSI	Kotacane, Aceh	11.54	156	P	Pn	21 18 01.0	+4.5
	comp=Z,23nm,0.9s						
BOK	Bokaro	11.76	325	eP	Pn	21 17 58.5	-0.9
BOK				AMB	AMB	21 18 03.6	
	comp=Z,20nm,0.7s						
PSI	Prapat	12.67	153	Pn	Pn	21 18 13.6	+1.5
	comp=Z,0.6nm,0.3s,baz=329,slow=12,SNR=15						
PSI				LR	LR	21 23 27.8	
	comp=Z,293nm,18.4s,baz=333,slow=39						
ODAN	Odare	13.71	338	eP	Pn	21 18 23.9	-2.4
PALK	Pallekele	14.00	242	Pn	Pn	21 18 27.5	-2.7
	comp=Z,2.7nm,0.3s,baz=55,slow=12,SNR=15						
PALK				Sn	Sn	21 20 49.9	-15
	comp=Z,12nm,0.3s,baz=330,slow=15,SNR=16						
PALK				LR	LR	21 23 39.8	
	comp=Z,233nm,18.4s,baz=54,slow=36						
TAPN	Taplejung	14.04	340	eP	Pn	21 18 27.0	-3.9
	comp=Z,5.1nm,0.3s						
RAMN	Ramite	14.09	335	eP	Pn	21 18 30.3	-1.2
	comp=Z,7.8nm,0.3s						
HYB	Hyderabad	14.39	285	i P	P	21 18 53.0	+11
HYB	Hyderabad	14.39	285	eP	Pn	21 18 33.8	-1.6
MNSI	Mandailing Nat	14.75	154	P	P	21 18 48.2	+2.2
JIRN	Jiri	14.89	335	eP	Pn	21 18 40.3	-2.2
PKI	Pulchoki	15.14	333	eP	Pn	21 18 44.8	-1.0
	comp=Z,43nm,0.6s						
PKIN	Phulchoki	15.15	333	eP	Pn	21 18 45.2	-0.7
	comp=Z,36nm,0.6s						
GUN	Gumba	15.24	335	eP	Pn	21 18 43.7	-3.4
DMN	Daman	15.31	332	eP	Pn	21 18 46.5	-1.4
	comp=Z,20nm,0.4s						
KKN	Kakani	15.39	333	eP	Pn	21 18 46.7	-2.2
	comp=Z,4.8nm,0.3s						
LSA	Lhasa	15.55	354	P	Pn	21 18 52.7	+1.4
LSA	Lhasa	15.55	354	eP	Pn	21 18 51.6	+0.3
LSA				e		21 21 40.6	
LSA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LSA	Lhasa	15.55	354	ePn	Pn	21 18 51.6	+0.3
	comp=Z,7.9nm,0.5s						
LSA				eSn	Sn	21 21 40.6	-2.3
GKN	Gorkha	15.86	331	eP	Pn	21 18 53.6	-1.4
	comp=Z,31nm,0.3s						
KOLN	Koldanda	16.17	328	eP	Pn	21 18 58.5	-0.5
	comp=Z,35nm,0.6s						
MYKOM	Kota Tinggi	16.24	138	ePn	P	21 19 04.3	+1.7
	comp=Z,8.8nm,0.6s						
DANN	Dangsing	16.57	330	eP	Pn	21 19 02.3	-1.8
	comp=Z,25nm,0.5s						
PDSI	Padang	16.66	154	P	Pn	21 19 04.1	-1.0
	comp=Z,12nm,0.6s						
QIZ	Qiongzhong	16.73	71	P	Pn	21 19 02.0	-3.9
QIZ				S	Sn	21 22 05.6	-5.2
QIZ				PMZ			
	comp=Z,16nm,2.6s						
QIZ				LZ			
	comp=Z,210nm,16.6s						
RGRI	Rengat	17.07	147	P	Pn	21 19 10.4	+0.1
	comp=Z,687nm,0.4s,comp=Z,151μm						
BHPL	Bhopal	17.38	304	eP	Pn	21 19 13.7	-0.3
BHPL				AMB	AMB	21 19 17.2	
	comp=Z,13nm,0.5s						
POO	Poona	19.00	286	eP	P	21 19 33.0	0.0
DDI	Dehra Dun	21.24	322	eP	P	21 19 58.8	+1.5
DDI				AMB	AMB	21 19 59.5	
	comp=Z,20nm,1.9s						
SMLA	Simla	22.35	322	eP	P	21 20 09.6	+0.5
DHRM	DHARAMSHALA	23.66	322	eP	P	21 20 22.9	0.0
DHRM				AMB	AMB	21 20 23.8	
	comp=Z,24nm,0.2s						
XAN	Xi'an	24.40	33	P	P	21 20 29.5	0.0
XAN				PMZ			
	comp=Z,2.0nm,0.6s						
XAN				PMZ			
	comp=Z,19nm,8.4s						
GTA	Gaotai	25.81	12	eP	P	21 20 43.9	+1.6
GTA				pP	pP	21 20 52.0	+0.5
GTA				sP	sP	21 20 55.6	+0.2
GTA				PMZ			
	comp=Z,5.0nm,1.2s						
H08S3	Diego Garcia H	29.82	225	T	T	21 52 25.2	
	baz=42,slow=75,SNR=12						
H08S2	Diego Garcia H	29.83	225	T	T	21 52 32.0	
	baz=42,slow=75,SNR=17						
H08S1	Diego Carcia H	29.84	225	T	T	21 52 27.3	
	baz=42,slow=75,SNR=11						
TKM2	Tokmak 2	32.38	336	eP	P	21 21 42.3	+1.6
TKM2				pmax	pmax		
	comp=Z,17nm,2.0s						
TKM2	Tokmak 2	32.38	336	eP	P	21 21 42.3	+1.6
	comp=Z,17nm,2.0s						
AAK	Ala-Archa	32.59	334	↑iP	P	21 21 43.7	+1.1
AAK				pmax	pmax		
	comp=Z,20nm,1.6s						
AAK	Ala-Archa	32.59	334	P	P	21 21 43.4	+0.8
	comp=Z,2.9nm,0.9s,baz=149,slow=7.2,SNR=11						
AAK				LR	LR	21 36 38.3	
	comp=Z,109nm,20.4s,baz=118,slow=39						
AAK	Ala-Archa	32.59	334	eP	P	21 21 44.4	+1.8
	comp=Z,5.9nm,1.1s						
EKS2	Erkin-Say	32.92	333	eP	P	21 21 47.4	+1.9
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.7s						
EKS2	Erkin-Say	32.92	333	eP	P	21 21 47.4	+1.9
	comp=Z,3.2nm,0.7s						
MKAR	Makanchi Array	33.76	347	P	P	21 21 52.9	+0.3
	comp=Z,3.4nm,0.5s,baz=281,slow=5.8,SNR=5.0						
MKAR				pP	pP	21 22 02.7	+0.8
	comp=Z,2.0nm,0.5s,baz=154,slow=8.6,SNR=7.7						
MKAR				PcP	PcP	21 24 32.0	+0.5
	comp=Z,0.6nm,0.8s,baz=163,slow=3.1,SNR=4.0						
MKAR				LR	LR	21 40 01.1	
	comp=Z,52nm,18.7s,baz=174,slow=44						
KKAR	Karatay Array	34.77	330	eP	P	21 22 02.0	+0.7
KKAR	Karatay Array	34.77	330	eP	P	21 22 02.0	+0.7

BOD pmax pmax
comp=Z,3.0nm,0.9s
SVE Sverdlovsk 49.22 337 *e*P **P 21 23 59.4 +0.4**
SVE pmax pmax
comp=Z,20nm,0.9s
GNI Garni 49.45 311 ⇓*i*P **P 21 24 02.4 +1.1**
GNI pmax pmax
comp=Z,32nm,1.5s
GNI Garni 49.45 311 P **P 21 24 02.1 +0.8**
comp=Z,4.1nm,0.5s,baz=53,slow=1.8,SNR=11
GNI LR LR 21 48 31.2
comp=Z,45nm,18.6s,baz=99,slow=40
GNI Garni 49.45 311 ⇑*i*P **P 21 24 03.5 +2.2**
SNR=7.3
GNI Garni 49.45 311 *e*P **P 21 24 00.6 -0.7**
comp=Z,32nm,1.3s
ARU Arti 49.75 336*c i*P **P 21 24 02.4 -0.6**
ARU 21 25 55.8
ARU S **S 21 31 10.8 +0.8**
ARU pmax pmax
comp=Z,15nm,1.7s
ARU Arti 49.75 336 *e*P **P 21 24 03.2 +0.2**
comp=Z,5.8nm,0.7s
ZEI Tsey 50.87 314 *e*P **P 21 24 11.0 -1.0**
ZEI pmax pmax
comp=Z,6.0nm,0.7s
KBZ Khabaz 51.87 315 P **P 21 24 18.8 -0.4**
comp=Z,2.1nm,0.7s,baz=118,slow=7.6,SNR=11
KIV Kislovodsk 52.09 315 *e*P **P 21 24 22.0 +1.0**
KIV pmax pmax
comp=Z,16nm,0.8s
KIV Kislovodsk 52.09 315 ⇓*i*P **P 21 24 22.0 +1.0**
SNR=9.9
KIV Kislovodsk 52.09 315 *e*P **P 21 24 22.0 +1.0**
comp=Z,16nm,0.8s
YSS Yuzh-Sakhalins 52.57 41 *e*P **P 21 24 25.8 +1.4**
WRA Warramunga Arr 52.85 129 P **P 21 24 26.0 -0.9**
comp=Z,1.3nm,0.8s,baz=307,slow=9.5,SNR=32
WRA pP **pP 21 24 36.0 -0.6**
comp=Z,1.9nm,0.8s,baz=305,slow=9.6,SNR=7.1
WRA PcP **PcP 21 25 35.5 -0.4**
comp=Z,1.7nm,0.6s,baz=324,slow=3.1,SNR=10
WRAB Tennant Creek 52.85 129 *i* P **P 21 24 26.5 -0.3**
ASF Jabal al Asfar 54.11 300 P **P 21 24 35.9 -0.2**
comp=Z,1.2nm,0.4s,baz=31,slow=7.6,SNR=4.1
YAK Yakutsk 54.41 20 *e*P **P 21 24 37.4 -0.2**
ASAR Alice Springs 54.81 133 P **P 21 24 40.8 -0.4**
comp=Z,1.2nm,0.6s,baz=309,slow=6.8,SNR=19
ASAR pP **pP 21 24 50.0 -0.8**
comp=Z,2.3nm,0.6s,baz=310,slow=6.9,SNR=11
ASAR PcP **PcP 21 25 43.3 0.0**
comp=Z,1.2nm,0.8s,baz=298,slow=3.2,SNR=6.0
OPO Ambohidratompo 55.76 236 P **P 21 24 48.4 +0.2**
comp=Z,2.3nm,0.7s,baz=49,slow=9.3,SNR=4.1
ANN Anapa 55.94 315 *e*P P 21 24 43.0 -5.9
ANN *e*S S 21 32 27.2 -7.5
ANN pmax pmax
comp=Z,61nm,0.9s
BRTR Keskin Array B 57.67 308 P **P 21 25 01.0 -0.6**
comp=Z,6.5nm,0.7s,baz=121,slow=8.0,SNR=46
TIXI Tiksi 61.30 12*e*e**P 21 25 25.0 -0.8**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 61.30 12 *e*P **P 21 25 25.3 -0.4**
comp=Z,8.8nm,1.2s
TIRR Tirgusor 62.19 313 ⇓P **P 21 25 32.3 0.0**
TIRR Tirgusor 62.19 313 ⇓*i*P **P 21 25 32.3 0.0**
CFR Carcaliu 62.48 314 ⇓P **P 21 25 34.3 +0.1**
CFR Carcaliu 62.48 314 ⇓*i*P **P 21 25 34.3 +0.1**
AKASG Malin Array Be 62.66 320 P **P 21 25 34.2 -1.1**
comp=Z,1.5nm,0.5s,baz=82,slow=6.1,SNR=11
PRD Provadia 62.77 311 ⇑P P 21 25 49.4 +13
JMB Yambol 63.29 311 ⇑P P 21 25 35.3 -4.4
JMB Yambol 63.29 311 ⇑*i*P P 21 25 35.3 -4.4
VRI Vrincioaia 63.55 314 ⇓P **P 21 25 42.4 +1.1**
VRI Vrincioaia 63.55 314 ⇓*i*P **P 21 25 42.4 +1.1**
PLOR Plostina 63.60 314 ⇓P **P 21 25 42.7 +1.0**
PLOR Plostina 63.60 314 ⇓*i*P **P 21 25 42.7 +1.0**
TESR Tescani 63.68 315 ⇓*i*P **P 21 25 40.5 -1.7**
MLR Muntele Rosu 64.05 314 ⇑P **P 21 25 45.5 +0.7**
MLR Muntele Rosu 64.05 314 ⇑*i*P **P 21 25 45.5 +0.7**
MLR Muntele Rosu 64.05 314 P **P 21 25 44.9 +0.1**
comp=Z,1.6nm,0.8s,baz=360,slow=1.4,SNR=11
IDI Anoyia 64.27 302 P **P 21 25 45.0 -1.3**
comp=Z,5.4nm,0.7s,baz=94,slow=6.6,SNR=7.2
VOIR 64.67 314 ⇑P **P 21 25 49.7 +0.9**
VOIR 64.67 314 ⇑*i*P **P 21 25 49.7 +0.9**
JOF Joensuu 64.78 334 *e*P **P 21 25 48.4 -0.6**
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 64.78 334 *ep* **P 21 25 48.4 -0.6**
comp=Z,5.9nm,0.6s
BURAR Bucovina Array 64.78 316 ⇓P **P 21 25 49.9 +0.4**
BURAR Bucovina Array 64.78 316 ⇓*i*P **P 21 25 49.8 +0.3**
STKA Stephens Creek 65.22 135 P **P 21 25 51.4 -1.0**
comp=Z,2.8nm,0.8s,baz=309,slow=10,SNR=5.0
DRGR 66.41 315 ⇓P **P 21 26 00.2 +0.2**
DRGR 66.41 315 ⇓*i*P **P 21 26 00.2 +0.2**
TRPA Tarpa 66.63 317 ⇑*i*P **P 21 26 01.2 -0.1**
KWP Kalwaria Pacla 66.65 318 ⇓P **P 21 26 01.1 -0.3**
KWP Kalwaria Pacla 66.65 318 ⇓*i*P **P 21 26 01.1 -0.3**
FINES FINESS Array B 66.72 331 P **P 21 26 01.4 -0.2**
comp=Z,4.6nm,0.7s,baz=109,slow=6.9,SNR=26
KOLS Kolonicke sedl 66.87 317 *e*P **P 21 26 03.3 +0.4**
KOLS Kolonicke sedl 66.87 317 *e*P **P 21 26 03.3 +0.4**
CRVS Cervenica-Dubn 67.40 317 *e*P **P 21 26 06.4 +0.2**
CRVS pmax pmax
comp=Z,8.0nm,1.1s
CRVS Cervenica-Dubn 67.40 317 *e*P **P 21 26 06.4 +0.2**
STHS Stebnicka Huta 67.58 318 *e*P **P 21 26 07.7 +0.3**
STHS pmax pmax
comp=Z,2.0nm,0.6s
STHS Stebnicka Huta 67.58 318 *e*P **P 21 26 07.7 +0.3**
ARCES ARCESS Array B 69.04 340 P **P 21 26 16.2 +0.2**
comp=Z,2.4nm,0.6s,baz=86,slow=5.7,SNR=16
VYHS Vyhne 69.12 317 *e*P **P 21 26 16.9 -0.1**
VYHS pmax pmax
comp=Z,3.0nm,1.3s
VYHS Vyhne 69.12 317 *e*P **P 21 26 16.9 -0.1**
MORC Moravsky Berou 70.01 318 ⇓P **P 21 26 22.8 +0.3**
MORC Moravsky Berou 70.01 318 ⇓*i*P **P 21 26 22.8 +0.3**
MORC Moravsky Berou 70.01 318 *e*P **P 21 26 21.7 -0.8**
comp=Z,6.0nm,1.0s
LSZ Lusaka 70.56 248 *e*P **P 21 26 27.7 +1.2**
LSZ pmax pmax
comp=Z,7.0nm,0.8s
LSZ Lusaka 70.56 248 *e*P **P 21 26 27.7 +1.2**
comp=Z,7.1nm,0.8s
DPC Dobruska-Polom 70.81 319 *e*P **P 21 26 27.5 +0.1**
DPC *e* 21 26 43.8
DPC Dobruska-Polom 70.81 319 *e*P **P 21 26 27.5 +0.1**
DPC *e*sP **sP 21 26 43.8 +2.7**
PVCC Panska Ves 71.93 319 *e*P **P 21 26 34.8 +0.7**
PVCC Panska Ves 71.93 319 *e*P **P 21 26 34.8 +0.7**
PRU Pruhonice 71.95 318 *e*P **P 21 26 34.7 +0.5**
PRU Pruhonice 71.95 318 *e*P **P 21 26 34.7 +0.5**
OBKA Obir 72.02 315⇑*e*P **P 21 26 35.2 +0.4**
comp=Z,6.0nm,1.1s
BRG Berggiesshubel 72.32 319 *e*P **P 21 26 36.4 0.0**
comp=Z,5.4nm,1.0s
BRG Berggiesshubel 72.32 319 *e*P **P 21 26 36.4 0.0**
BRG pmax pmax
comp=Z,5.0nm,1.0s
GEC2 GERESS Array S 72.52 317 *e*P **P 21 26 37.8 0.0**
GEC2 GERESS Array S 72.52 317 *e*P **P 21 26 37.8 0.0**
GERES GERESS Array B 72.52 317 P **P 21 26 37.8 0.0**
comp=Z,3.1nm,0.5s,baz=85,slow=6.1,SNR=33
GERES pP **pP 21 26 48.3 +0.5**
comp=Z,0.7nm,0.5s,baz=84,slow=6.4,SNR=4.6
HFS Hagfors 72.56 329 P **P 21 26 37.3 -0.3**
comp=Z,4.6nm,0.7s,baz=117,slow=5.6,SNR=10.0
HFS pP **pP 21 26 48.1 +0.5**
comp=Z,1.3nm,0.5s,baz=91,slow=5.9,SNR=2.0
KHC Kasperske Hory 72.60 317 *e*P **P 21 26 37.7 -0.4**
KHC Kasperske Hory 72.60 317 *e*P **P 21 26 37.7 -0.4**
ABTA Abfaltersbach 73.41 315⇑*i*P **P 21 26 43.3 +0.2**
comp=Z,3.6nm,1.3s
NB2 NORSAR Subarra 73.80 330 P **P 21 26 44.1 -0.9**
comp=Z,1.6nm,0.6s,baz=90,slow=6.2
NOA NORSAR Array B 73.80 330 P **P 21 26 44.4 -0.6**
comp=Z,2.0nm,0.6s,baz=90,slow=5.8,SNR=8.6
WTTA Wattenberg 73.98 316⇑*i*P **P 21 26 45.8 -0.7**
comp=Z,3.7nm,0.4s
RETA Reutte 74.56 316⇑*i*P **P 21 26 49.3 -0.5**
comp=Z,4.6nm,0.5s

DAVA Damuels 75.17 316⇑*i*P **P 21 26 53.3 -0.1**
comp=Z,3.4nm,0.5s
DAVOX Davos/Dischmat 75.21 315 P **P 21 26 53.0 -0.7**
DAVOX Davos/Dischmat 75.21 315 P **P 21 26 53.0 -0.7**
comp=Z,1.9nm,0.5s,baz=72,slow=2.0,SNR=6.0
CDF Champ du Feu 76.80 317 *e*P **P 21 27 01.9 -0.7**
CDF Champ du Feu 76.80 317 *e*P **P 21 27 01.9 -0.7**
CDF Champ du Feu 76.80 317 *e*P **P 21 27 01.9 -0.7**
HINF Hinteralfeld 77.16 316 *e*P **P 21 27 04.3 -0.2**
HINF Hinteralfeld 77.16 316 *e*P **P 21 27 04.3 -0.2**
HINF Hinteralfeld 77.16 316 *e*P **P 21 27 04.3 -0.2**
HAU Haudompre 77.47 317 *e*P **P 21 27 06.1 -0.2**
HAU *e*R
comp=Z,44nm,17.2s
HAU Haudompre 77.47 317 *e*P **P 21 27 06.1 -0.2**
HAU Haudompre 77.47 317 *e*P **P 21 27 06.1 -0.2**
LPG La Plagne 77.52 314 *e*P **P 21 27 06.7 -0.2**
comp=Z,14nm,0.7s
LPG La Plagne 77.52 314 *e*P **P 21 27 06.7 -0.2**
LPG pmax pmax
comp=Z,14nm,0.7s
LPG La Plagne 77.52 314 *e*P **P 21 27 06.7 -0.2**
comp=Z,14nm,0.7s
LPL La Plagne 77.53 314 *e*P **P 21 27 06.7 -0.2**
comp=Z,26nm,0.7s
LPL La Plagne 77.53 314 *e*P **P 21 27 06.7 -0.2**
LPL pmax pmax
comp=Z,26nm,0.7s
LPL La Plagne 77.53 314 *e*P **P 21 27 06.7 -0.2**
comp=Z,26nm,0.7s
MBDF Montbardon 77.60 313 *e*P **P 21 27 06.0 -1.2**
comp=Z,8.8nm,0.9s
MBDF Montbardon 77.60 313 *e*P **P 21 27 06.0 -1.2**
MBDF pmax pmax
comp=Z,9.0nm,0.9s
MBDF Montbardon 77.60 313 *e*P **P 21 27 06.0 -1.2**
comp=Z,8.8nm,0.9s
CABF La Chapelle 77.83 315 *e*P **P 21 27 08.0 -0.4**
comp=Z,11nm,0.9s
CABF La Chapelle 77.83 315 *e*P **P 21 27 08.0 -0.4**
CABF pmax pmax
comp=Z,11nm,0.9s
CABF La Chapelle 77.83 315 *e*P **P 21 27 08.0 -0.4**
comp=Z,11nm,0.9s
FRF La Foret Royal 77.85 312 *e*P **P 21 27 08.0 -0.5**
comp=Z,22nm,0.9s
FRF La Foret Royal 77.85 312 *e*P **P 21 27 08.0 -0.5**
FRF pmax pmax
comp=Z,22nm,0.9s
FRF La Foret Royal 77.85 312 *e*P **P 21 27 08.0 -0.5**
comp=Z,22nm,0.9s
LMR La Mourre 77.98 312 *e*P **P 21 27 08.4 -0.8**
LMR La Mourre 77.98 312 *e*P **P 21 27 08.4 -0.8**
LMR La Mourre 77.98 312 *e*P **P 21 27 08.4 -0.8**
BOSA Boshof 78.16 236 P **P 21 27 10.6 +0.1**
comp=Z,6.6nm,0.6s,baz=81,slow=4.0,SNR=23
ORIF Oris-en-Rattie 78.21 314 *e*P **P 21 27 09.5 -1.0**
comp=Z,3.1nm,0.6s
ORIF *e*R
comp=Z,84nm,19.8s
ORIF Oris-en-Rattie 78.21 314 *e*P **P 21 27 09.5 -1.0**
ORIF pmax pmax
comp=Z,3.0nm,0.6s
ORIF Oris-en-Rattie 78.21 314 *e*P **P 21 27 09.5 -1.0**
comp=Z,3.1nm,0.6s
SFTF Sexfontaines 78.31 317 *e*P **P 21 27 10.0 -0.9**
SFTF Sexfontaines 78.31 317 *e*P **P 21 27 10.0 -0.9**
SMRF Simiane la Rot 78.56 313 *e*P **P 21 27 11.8 -0.6**
comp=Z,17nm,1.0s
SMRF Simiane la Rot 78.56 313 *e*P **P 21 27 11.8 -0.6**
comp=Z,17nm,1.0s
BAIF Baives 78.58 319 *e*P **P 21 27 11.9 -0.5**
comp=Z,9.6nm,0.9s
BAIF Baives 78.58 319 *e*P **P 21 27 11.9 -0.5**
BAIF pmax pmax
comp=Z,10.0nm,0.9s
BAIF Baives 78.58 319 *e*P **P 21 27 11.9 -0.5**
comp=Z,9.6nm,0.9s
LOR Lormes 79.24 316 *e*P **P 21 27 15.1 -1.0**
comp=Z,8.2nm,0.8s
LOR *e*R
comp=Z,77nm,20.2s
LOR Lormes 79.24 316 *e*P **P 21 27 15.1 -1.0**
LOR pmax pmax
comp=Z,8.0nm,0.8s
LOR Lormes 79.24 316 *e*P **P 21 27 15.1 -1.0**
comp=Z,8.2nm,0.8s
SMF Signal de Mont 79.35 315 *e*P **P 21 27 15.8 -0.9**
comp=Z,11nm,0.8s
SMF Signal de Mont 79.35 315 *e*P **P 21 27 15.8 -0.9**
SMF pmax pmax
comp=Z,11nm,0.8s
SMF Signal de Mont 79.35 315 *e*P **P 21 27 15.8 -0.9**
comp=Z,11nm,0.8s
SSF Saint Saulge 79.51 316 *e*P **P 21 27 16.8 -0.7**
SSF Saint Saulge 79.51 316 *e*P **P 21 27 16.8 -0.7**
SSF Saint Saulge 79.51 316 *e*P **P 21 27 16.8 -0.7**
AVF Avril sur Loir 79.66 316 *e*P **P 21 27 17.5 -0.8**
comp=Z,7.7nm,0.8s
AVF Avril sur Loir 79.66 316 *e*P **P 21 27 17.5 -0.8**
AVF pmax pmax
comp=Z,8.0nm,0.8s
AVF Avril sur Loir 79.66 316 *e*P **P 21 27 17.5 -0.8**
comp=Z,7.7nm,0.8s
BGF Bois d'Agland 80.04 316 *e*P **P 21 27 19.1 -1.3**
comp=Z,18nm,1.1s
BGF Bois d'Agland 80.04 316 *e*P **P 21 27 19.1 -1.3**
BGF pmax pmax
comp=Z,18nm,1.1s
BGF Bois d'Agland 80.04 316 *e*P **P 21 27 19.1 -1.3**
comp=Z,18nm,1.1s
TCF Toulx Ste Croi 80.53 315 *e*P **P 21 27 22.7 -0.4**
comp=Z,44nm,1.4s
TCF Toulx Ste Croi 80.53 315 *e*P **P 21 27 22.7 -0.4**
TCF pmax pmax
comp=Z,44nm,1.4s
TCF Toulx Ste Croi 80.53 315 *e*P **P 21 27 22.7 -0.4**
comp=Z,44nm,1.4s
CAF Calviac 80.88 314 *e*P **P 21 27 23.9 -1.1**
CAF Calviac 80.88 314 *e*P **P 21 27 23.9 -1.1**
CAF Calviac 80.88 314 *e*P **P 21 27 23.9 -1.1**
LDF La Druitiere 81.63 318 *e*P **P 21 27 28.2 -0.6**
LDF La Druitiere 81.63 318 *e*P **P 21 27 28.2 -0.6**
LDF La Druitiere 81.63 318 *e*P **P 21 27 28.2 -0.6**
LFF La Frestale 81.80 314 *e*P **P 21 27 28.9 -0.9**
comp=Z,34nm,1.1s
LFF La Frestale 81.80 314 *e*P **P 21 27 28.9 -0.9**
LFF pmax pmax
comp=Z,34nm,1.1s
LFF La Frestale 81.80 314 *e*P **P 21 27 28.9 -0.9**
comp=Z,34nm,1.1s
EKA Eskdalemuir Ar 82.00 325 P **P 21 27 30.0 -0.7**
comp=Z,2.9nm,0.8s,baz=73,slow=7.2,SNR=5.4
GRR Gorron 82.15 318 *e*P **P 21 27 31.0 -0.6**
GRR Gorron 82.15 318 *e*P **P 21 27 31.0 -0.6**
GRR Gorron 82.15 318 *e*P **P 21 27 31.0 -0.6**
ESDC Sonseca Array 86.42 310 P **P 21 27 52.3 -1.3**
comp=Z,1.4nm,0.7s,baz=68,slow=4.1,SNR=7.3
TORD Torodi Ar. Bea 88.20 283 P **P 21 28 02.6 +0.1**
comp=Z,5.0nm,0.8s,baz=87,slow=4.3,SNR=32
ILAR Eielson Array 89.30 22 P **P 21 28 06.2 -0.5**
comp=Z,1.7nm,0.8s,baz=292,slow=4.1,SNR=16
ILAR LR LR 22 13 43.2
comp=Z,160nm,18.7s,baz=162,slow=39
DBIC Dimbokro 96.07 278 P **P 21 28 39.3 +0.4**
comp=Z,1.1nm,0.5s,baz=135,slow=4.3,SNR=4.0
YKA Yellowknife Ar 100.54 13 P **Pdif 21 28 58.6 +0.5**
comp=Z,0.2nm,0.6s,baz=332,slow=3.8,SNR=3.4
PDAR Pinedale Array 119.62 19 PKP **PKPdf 21 33 59.8 -1.3**
comp=Z,0.8nm,0.7s,baz=29,slow=3.4,SNR=5.1
NVAR Mina Array Bea 119.95 28 PKP **PKPdf 21 34 02.6 +0.7**
comp=Z,0.8nm,0.6s,baz=296,slow=2.1,SNR=5.9
TXAR Lajitas Array 133.80 20 PKP **PKPdf 21 34 28.6 +0.2**
comp=Z,0.6nm,0.6s,baz=151,slow=2.9,SNR=3.9
CPUP Villa Florida 149.84 242 PKPbc **PKPbc 21 34 59.6 -1.8**
comp=Z,0.8nm,0.4s,baz=172,slow=12,SNR=3.5

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*IDC **01** 21:17:28.4±3.5, 30.87N×57.04E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.2/45, mbtmp3.3/5, ML3.1/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/32, Error ellipse: s-maj=71.4km s-min=30.1km az=139.0*
*ISCJB **01** 21:17:31.0±0.5, 31.15N±0.05×56.93E±0.04, h10km, mb3.6/4, Error ellipse: s-maj=7.0km s-min=4.9km az=175.2*

*THR **01** 21:17:31.9±0.6, 31.12N×56.93E, h29km±7km, ML3.6*
*CSEM **01** 21:17:31.0±0.2, 31.17N×56.94E, h2km, ML3.6, Error ellipse: s-maj=6.5km s-min=4.8km az=168.0*
*TEH **01** 21:17:32.3, 31.25N×56.94E, h4km, ML4.0*

ISC 01 21:17:32.0±0.7, 31.12N±0.05×56.92E±0.03, h10km, n34, σ1$01/40, mb3.4/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.14**	**187**	*e*Pg	**Pb**	**21 17 53.3**	**-0.8**
KRBR				AML	AML	21 18 11.4	
	comp=N,1μm,0.5s						
KRBR				AML	AML	21 18 13.2	
	comp=E,1μm,0.2s						
KRBR	**Kerman**	**1.14**	**187**	*e*Pg	**Pb**	**21 17 53.3**	**-0.8**
	comp=E,1μm,0.2s						
IBAF	**Bafgh**	**1.25**	**292**	*e*Pg	**Pn**	**21 17 53.8**	**-1.9**
IBAF				*e*Sg	**Sb**	**21 18 10.5**	**-1.5**
IBAF	**Bafgh**	**1.25**	**292**	*e*Pg	**Pn**	**21 17 53.8**	**-1.9**
IBAF				*e*Sg	**Sb**	**21 18 10.5**	**-1.5**
IMEH	**Mehriz**	**2.00**	**278**	*e*Sn	**Sn**	**21 18 32.3**	**+1.1**
IMEH				*e*Pn	**Pn**	**21 18 06.5**	**+0.5**
IMEH				*e*		21 18 35.7	
	comp=Z,21μm,0.2s						
IKOO	**Kooshah**	**2.20**	**53**	*e*Sg	**Sb**	**21 18 38.9**	**-0.6**
IKOO				*e*Pn	**Pn**	**21 18 07.8**	**-1.0**
IKOO				*e*		21 18 42.4	
	comp=Z,16μm,0.1s						
ITEG	**Tejag**	**2.36**	**41**	*e*		21 18 51.7	
	comp=Z,10μm,0.2s						
ITEG				*e*Pn	**Pn**	**21 18 09.6**	**-1.4**
ICHK	**Chekchek**	**2.42**	**298**	*e*Pn	**Pn**	**21 18 12.3**	**+0.4**
ICHK				*e*Sg	**Sb**	**21 18 46.2**	**+0.4**
ICHK				*e*		21 18 52.4	
	comp=Z,9μm,0.2s						
ICHK	**Chekchek**	**2.42**	**298**	*e*Pn	**Pn**	**21 18 12.3**	**+0.4**
ICHK				*e*Sg	**Sb**	**21 18 46.2**	**+0.4**
TABS	**Tabas**	**2.53**	**4**	*e*Pn	**Pn**	**21 18 13.0**	**-0.2**
TABS				AML	AML	21 19 04.5	
	comp=N,531nm,0.6s						
TABS	**Tabas**	**2.53**	**4**	*e*Pn	**Pn**	**21 18 13.0**	**-0.2**
	comp=N,531nm,0.6s						
IDAH	**Dahanechah**	**2.98**	**56**	*e*Pn	**Pn**	**21 18 19.5**	**-0.1**
IDAH				*e*		21 19 14.2	
	comp=Z,2μm,0.2s						
IDAH	**Dahanechah**	**2.98**	**56**	*e*Pn	**Pn**	**21 18 19.5**	**-0.1**
IPAR	**Pars**	**3.58**	**250**	*e*Pn	**Pn**	**21 18 29.5**	**+1.6**
IPAR				*e*		21 19 35.5	
	comp=Z,2μm,0.5s						
IPAR	**Pars**	**3.58**	**250**	*e*Pn	**Pn**	**21 18 29.5**	**+1.6**
ZHSF	**Zahedan**	**3.65**	**113**	*e*Pn	**Pn**	**21 18 28.9**	**+0.2**
ZHSF	**Zahedan**	**3.65**	**113**	*e*Pn	**Pn**	**21 18 29.0**	**+0.2**
ISRV	**Sarvestan**	**3.72**	**243**	*e*Pn	**Pn**	**21 18 31.3**	**+1.4**
ISRV				*e*		21 19 50.5	
	comp=Z,2μm,0.6s						
ISRV	**Sarvestan**	**3.72**	**243**	*e*Pn	**Pn**	**21 18 31.3**	**+1.4**
BNDS	**Bandar-Abbas**	**3.76**	**190**	*e*Pn	**Pn**	**21 18 30.3**	**0.0**
BNDS	**Bandar-Abbas**	**3.76**	**190**	*e*Pn	**Pn**	**21 18 30.3**	**0.0**
SHRT	**Shahrakht**	**3.80**	**48**	*e*Pn	**Pn**	**21 18 30.8**	**0.0**
SHRT				AML	AML	21 19 34.6	
	comp=N,96nm,0.6s						
SHRT				AML	AML	21 19 35.1	
	comp=E,66nm,0.6s						
SHRT	**Shahrakht**	**3.80**	**48**	*e*Pn	**Pn**	**21 18 30.8**	**0.0**
	comp=E,66nm,0.6s						
NASN	**Na'in**	**3.88**	**297**	*e*Pn	**Pn**	**21 18 32.4**	**+0.4**
NASN				AML	AML	21 19 38.4	
	comp=N,102nm,0.6s						
NASN				AML	AML	21 19 39.3	
	comp=E,71nm,0.5s						
NASN	**Na'in**	**3.88**	**297**	*e*Pn	**Pn**	**21 18 32.4**	**+0.4**
	comp=E,71nm,0.5s						
IZEF	**Zefreh**	**4.29**	**296**	*e*Pn	**Pn**	**21 18 37.5**	**0.0**
IZEF				*e*		21 20 00.0	
	comp=Z,950nm,0.3s						
IZEF	**Zefreh**	**4.29**	**296**	*e*Pn	**Pn**	**21 18 37.5**	**0.0**
GEYT	**Alibeck**	**6.87**	**8**	Pn	**Pn**	**21 19 13.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=186,slow=13,SNR=12						
EIL	**Elat**	**19.01**	**271**	LR	LR	21 30 39.0	
	comp=Z,32nm,22.0s,baz=137,slow=41						
BRTR	**Keskin Array B**	**20.78**	**301**	P	**P**	**21 22 13.5**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=118,slow=13,SNR=6.9						
BVAR	**Borovoye Array**	**23.98**	**20**	P	**P**	**21 22 46.4**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=213,slow=8.2,SNR=2.8						
GERES	**GERESS Array B**	**36.97**	**311**	P	**P**	**21 24 41.4**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=99,slow=6.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**53.65**	**263**	P	**P**	**21 26 52.6**	**-1.5**
	comp=Z,0.6nm,1.0s,baz=59,slow=6.8,SNR=6.9						
CN2	**Changchun**	**54.41**	**56**	*e*P	**P**	**21 27 00.2**	**+1.0**
CN2				*ep*P	**PP**	**21 29 03.5**	**+2.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						

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*IDC **01** 21:19:31.3±1.4, 34.17S×72.46W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/21, mbtmp3.7/4, ML3.1/2, MS3.5/5, Ms1 3.4/5, ms1mx3.1/26, Error ellipse: s-maj=44.6km s-min=24.8km az=151.0*

ISC 01 21:19:33.6±1.5, 34.2S±0.3×72.5W±0.2, h17km, n13, σ1$28/9, MS3.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.38**	**56**	Pn	**Pn**	**21 20 40.4**	**+0.9**
	0.2nm,0.3s,baz=232,slow=14,SNR=6.6						
CFAA				Lg	Lg	21 21 51.4	
	1.2nm,0.3s,baz=313,slow=14,SNR=12						
CFAA				LR	LR	21 22 18.1	
	comp=Z,7.8nm,21.8s,baz=337,slow=38						
PLCA	**Paso Flores**	**6.75**	**167**	LR	LR	21 23 21.0	
	comp=Z,77nm,20.6s,baz=353,slow=34						
LPAZ	**La Paz**	**18.21**	**13**	P	**Pn**	**21 23 45.8**	**-0.5**
	0.1nm,0.3s,baz=169,slow=5.2,SNR=3.2						
SIV	**San Ignacio**	**20.80**	**32**	P	**P**	**21 24 13.9**	**-0.3**
	1.2nm,0.8s,baz=224,slow=16,SNR=5.2						
SIV				LR	LR	21 34 02.8	
	comp=Z,115nm,18.5s,baz=210,slow=42						
BDFB	**Brasilia**	**28.73**	**56**	LR	LR	21 39 06.8	
	comp=Z,82nm,20.1s,baz=226,slow=41						
RCBR	**Riachuelo**	**44.04**	**59**	LR	LR	21 46 53.1	
	comp=Z,115nm,20.5s,baz=216,slow=37						
PCRV	**Puerto La Cruz**	**44.71**	**11**	LR	LR	21 47 11.3	
	comp=Z,107nm,18.6s,baz=187,slow=37						
TXAR	**Lajitas Array**	**69.69**	**331**	P	**P**	**21 30 43.2**	**+0.8**
	0.4nm,0.5s,baz=165,slow=8.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**84.61**	**70**	P	**P**	**21 32 06.2**	**-0.3**
	1.0nm,0.9s,baz=277,slow=2.6,SNR=5.5						
BVAR	**Borovoye Array**	**147.64**	**43**	PKPbc	**PKPab**	**21 39 18.0**	**-0.9**
	0.7nm,0.6s,baz=276,slow=4.6,SNR=6.3						
AAK	**Ala-Archa**	**152.91**	**62**	PKPbc	**PKPbc**	**21 39 31.3**	**+1.4**
	0.8nm,0.6s,baz=270,slow=1.0,SNR=5.3						
ZALV	**Zalesovo Beam**	**154.55**	**32**	PKPbc	**PKPbc**	**21 39 33.4**	**+0.5**
	0.5nm,0.5s,baz=300,slow=1.2,SNR=4.3						
MKAR	**Makanchi Array**	**157.14**	**49**	PKPab	**PKPab**	**21 39 56.7**	**-2.2**
	0.2nm,0.6s,baz=291,slow=3.8,SNR=3.6						

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*CSEM **01** 21:22:39.8, 37.56N×20.88E, h10km, ML2.0/1*

THE 01 21:22:39.8, 37.56N×20.88E, h10km±1km, ML2.0/1, Error ellipse: s-maj=1.5km s-min=0.6km az=224.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.56**	**353**	P	Pg	21 22 50.6	-0.1
KFL				S	Sg	21 22 58.7	+0.6
KFL	**Anninata**	**0.56**	**353**	P	Pg	21 22 50.6	-0.1
KFL				S	Sg	21 22 58.7	+0.6
VLS	**Valsamata**	**0.66**	**340**	P	Pg	21 22 52.1	-0.6
VLS				S	Sb	21 23 02.6	-0.1
VLS	**Valsamata**	**0.66**	**340**	P	Pg	21 22 52.1	-0.6
VLS				S	Sb	21 23 02.6	-0.1
AMT	**Artemida-Makis**	**0.66**	**92**	P	Pg	21 22 52.4	-0.3
AMT				S	Sb	21 23 02.6	-0.2
AMT	**Artemida-Makis**	**0.66**	**92**	P	Pg	21 22 52.4	-0.3
AMT				S	Sb	21 23 02.6	-0.2
RLS	**Riolos of Patr**	**0.68**	**43**	P	Pg	21 22 52.3	-0.8
RLS				S	Sg	21 23 02.5	+0.4
RLS	**Riolos of Patr**	**0.68**	**43**	P	Pg	21 22 52.3	-0.8
RLS				S	Sg	21 23 02.5	+0.4
DRO	**Drossia**	**0.77**	**59**	P	Pg	21 22 54.1	-0.6
DRO				S	Sg	21 23 05.3	+0.5

ITM	**Ithomi**	**0.92**	**114**	P	Pg	21 22 56.9	-0.6
ITM				S	Sb	21 23 10.6	+0.5
PDO	**Prodromos**	**1.07**	**13**	P	Pb	21 22 59.0	-1.4
PDO				S	Sn	21 23 15.4	-0.3
PDO	**Prodromos**	**1.07**	**13**	P	Pb	21 22 59.0	-1.4
PDO				S	Sn	21 23 15.4	-0.3
KLV	**Kalavryta, Ach**	**1.12**	**64**	P	Pb	21 23 00.2	-1.1
KLV				S	Sn	21 23 17.3	+0.2
KLV	**Kalavryta, Ach**	**1.12**	**64**	P	Pb	21 23 00.2	-1.1
KLV				S	Sn	21 23 17.3	+0.2

IDC 01 21:25:59.6±486.0, 46°76N×63°49E, h0km, Error ellipse: s-maj=224.0km s-min=149.3km az=2.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.14**	**317**	*i*		21 55 00.0	
	baz=127,slow=317,SNR=5.3						
I46RU	**ZALESOVO INFRA**	**15.36**	**54**	*i*		23 00 00.0	
	baz=247,slow=337,SNR=3.4						

*ISCJB **01** 21:36:53.9±0.7, 33°89S±0°07×72°7W±0°1, h17km, mb4.3/9, MS3.5/4, Error ellipse: s-maj=15.7km s-min=9.5km az=2.1*
*IDC **01** 21:36:53.5±0.9, 33°91S×72°63W, h0km, mb4.1/7, mb1 4.1/11, mb1mx4.0/20, mbtmp4.0/11, ML4.0/4, MS3.6/6, Ms1 3.6/6, ms1mx3.3/26, Error ellipse: s-maj=27.3km s-min=17.1km az=111.0*
*NEIC **01** 21:36:58.4±0.6, 33°89S×72°61W, h35km, mb4.3/4, Error ellipse: s-maj=16.4km s-min=9.5km az=85.0*
ISC 01 21:36:55.9±0.7, 33°88S±0°08×72°6W±0°1, h17km, n27, σ1°28/24, mb4.2/9, MS3.5/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.33**	**60**	Pn	**Pn**	**21 38 02.7**	**+1.8**
	0.9nm,0.3s,baz=262,slow=10,SNR=8.8						
CFAA				Lg	Lg	21 39 11.4	
	2.5nm,0.3s,baz=118,slow=13,SNR=4.3						
PLCA	**Paso Flores**	**7.04**	**167**	Pn	**Pn**	**21 38 38.0**	**-0.2**
	1.5nm,0.3s,baz=334,slow=11,SNR=3.7						
PLCA				Lg	Lg	21 40 30.9	
	3.1nm,0.3s,baz=309,slow=15,SNR=3.7						
PLCA				LR	LR	21 41 35.1	
	comp=Z,694nm,18.1s,baz=22,slow=40						
PLCA	**Paso Flores**	**7.04**	**167**	*e*Pn	**Pn**	**21 38 37.6**	**-0.6**
PLCA				Lg	Lg	21 40 30.9	
TRQA	**Tornquist**	**9.57**	**119**	*e*Pn	**Pn**	**21 39 13.3**	**+0.4**
	6.7nm,0.6s						
TRQA				*e*Sn	**Sn**	**21 40 58.0**	**-2.1**
LVC	**Limon Verde**	**11.68**	**17**	*e*Pn	**Pn**	**21 39 40.9**	**-1.2**
CPUP	**Villa Florida**	**15.20**	**64**	Pn	**Pn**	**21 40 30.6**	**+0.8**
	0.3nm,0.3s,baz=261,slow=13,SNR=2.5						
CPUP				LR	LR	21 46 44.9	
	comp=Z,117nm,20.3s,baz=227,slow=39						
LPAZ	**La Paz**	**17.97**	**14**	P	**Pn**	**21 41 05.2**	**-0.4**
	0.1nm,0.3s,baz=186,slow=5.8,SNR=4.4						
LPAZ	**La Paz**	**17.97**	**14**	*e*Pn	**Pn**	**21 41 01.1**	**-4.6**
	4.4nm,0.8s						
SIV	**San Ignacio**	**20.62**	**33**	P	**P**	**21 41 35.3**	**+0.7**
	2.6nm,0.9s,baz=218,slow=12,SNR=5.6						
NNA	**Nana**	**22.13**	**349**	LR	LR	21 48 59.7	
	comp=Z,98nm,18.3s,baz=160,slow=33						
SAML	**Samuel**	**26.28**	**21**	*e*P	**P**	**21 42 30.2**	**-0.3**
	2.3nm,0.8s						
ATAH	**Atahualpa**	**27.14**	**347**	LR	LR	21 51 03.2	
	comp=Z,72nm,20.3s,baz=221,slow=31						
PMSA	**Palmer Station**	**31.37**	**173**	LR	LR	21 55 42.3	
	comp=Z,202nm,19.0s,baz=3.5,slow=36						
RPN	**Rapa Nui**	**32.23**	**272**	LR	LR	21 53 24.0	
	comp=Z,133nm,19.3s,baz=87,slow=31						
SNAA	**Sanae**	**51.88**	**158**	P	**P**	**21 46 02.7**	**-0.3**
	2.0nm,0.6s,baz=284,slow=8.3,SNR=14						
SNAA	**Sanae**	**51.88**	**158**	*e*P	**P**	**21 46 03.3**	**+0.3**
	6.4nm,0.8s						
QSPA	**South Pole Qui**	**56.36**	**180**	P	**P**	**21 46 36.3**	**+0.5**
	0.9nm,0.4s,baz=127,slow=5.1,SNR=3.1						
TXAR	**Lajitas Array**	**69.39**	**331**	P	**P**	**21 48 03.7**	**+0.8**
	1.1nm,0.7s,baz=161,slow=8.9,SNR=5.3						
WVT	**Waverly**	**71.08**	**347**	*e*P	**P**	**21 48 12.4**	**-0.6**
	4.9nm,0.5s						
MAW	**Mawson**	**73.43**	**164**	P	**P**	**21 48 27.1**	**+0.4**
	27nm,0.9s,baz=135,slow=11,SNR=3.2						
DBIC	**Dimbokro**	**75.59**	**72**	P	**P**	**21 48 40.7**	**+0.6**
	2.3nm,0.9s,baz=130,slow=17,SNR=2.8						
BOSA	**Boshof**	**80.55**	**118**	P	**P**	**21 49 08.0**	**+0.3**
	2.3nm,0.8s,baz=47,slow=19,SNR=3.7						
TORD	**Torodi Ar. Bea**	**84.61**	**70**	P	**P**	**21 49 29.0**	**+0.2**
	1.7nm,0.8s,baz=286,slow=6.9,SNR=12						
BVAR	**Borovoye Array**	**147.51**	**43**	PKPbc	**PKPbc**	**21 56 39.2**	**+0.6**
	1.4nm,0.7s,baz=262,slow=4.5,SNR=8.5						
AAK	**Ala-Archa**	**152.87**	**61**	*e*PKPbc	**PKPbc**	**21 56 51.6**	**-0.5**
ZALV	**Zalesovo Beam**	**154.37**	**32**	PKPbc	**PKPbc**	**21 56 55.0**	**+0.2**
	0.5nm,0.4s,baz=304,slow=3.2,SNR=4.2						
MKAR	**Makanchi Array**	**157.04**	**48**	PKPab	**PKPab**	**21 57 20.4**	**-0.3**
	0.5nm,0.7s,baz=304,slow=0.4,SNR=3.8						

*ISCJB **01** 21:43:25.5±1.6, 22°15N±0°09×143°1E±0°5, h250km, mb3.5/8, Error ellipse: s-maj=58.3km s-min=12.6km az=177.5*
*IDC **01** 21:43:26.1±2.3, 22°20N×143°23E, h245km±18km, mb3.2/9, mb1 3.3/10, mb1mx3.1/32, mbtmp3.9/10, Error ellipse: s-maj=55.1km s-min=17.5km az=80.0*
ISC 01 21:43:26.6±1.9, 22°2N±0°1×143°2E±0°5, h250km, n10, σ0°78/12, mb3.5/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.96**	**349**	P	**Pn**	**21 44 42.3**	**+0.5**
	4.7nm,0.3s,baz=270,slow=20,SNR=3.5						
JCJ				S	**S**	**21 45 40.6**	**-1.2**
	4.3nm,0.3s,baz=301,slow=19,SNR=4.4						
KSRS	**Korea Array**	**20.13**	**322**	P	**P**	**21 47 43.5**	**+1.5**
	1.4nm,0.6s,baz=145,slow=7.8,SNR=5.5						
SONM	**Songino Array**	**38.97**	**320**	P	**P**	**21 50 28.4**	**-0.5**
	0.4nm,0.4s,baz=133,slow=7.3,SNR=9.8						
WRA	**Warramunga Arr**	**42.78**	**192**	P	**P**	**21 50 59.7**	**-0.4**
	0.3nm,0.5s,baz=15,slow=9.0,SNR=8.9						
ZALV	**Zalesovo Beam**	**53.84**	**321**	P	**P**	**21 52 23.2**	**-0.6**
	0.5nm,0.3s,baz=108,slow=9.5,SNR=5.5						
MKAR	**Makanchi Array**	**54.38**	**312**	P	**P**	**21 52 27.6**	**-0.3**
	0.3nm,0.5s,baz=89,slow=10,SNR=5.9						
MKAR				PcP	**PcP**	**21 53 28.5**	**+0.2**
	0.1nm,0.5s,baz=76,slow=5.5,SNR=2.6						
BVAR	**Borovoye Array**	**62.31**	**319**	P	**P**	**21 53 22.6**	**+0.2**
	1.0nm,0.4s,baz=91,slow=6.3,SNR=17						
ARCES	**ARCESS Array B**	**78.45**	**341**	P	**P**	**21 55 00.2**	**+0.6**
	1.5nm,0.7s,baz=74,slow=9.5,SNR=4.9						
KBZ	**Khabaz**	**82.04**	**314**	P	**P**	**21 55 19.0**	**-0.1**
	0.7nm,0.7s,baz=331,slow=3.9,SNR=3.5						
FINES	**FINESS Array B**	**82.74**	**334**	P	**P**	**21 55 22.2**	**0.0**
	0.9nm,0.3s,baz=72,slow=4.2,SNR=20						

*MOS **01** 21:50:59.0±1.2, 33°98S×71°44W, h33km, mb5.3/32, Error ellipse: s-maj=14.0km s-min=7.8km az=98.0*
*IDC **01** 21:51:00.9±0.4, 34°12S×71°57W, h44km±3km, mb4.4/13, mb1 4.4/16, mb1mx4.3/26, mbtmp4.6/16, MS3.9/14, Ms1 3.9/14, ms1mx3.8/21, Error ellipse: s-maj=12.9km s-min=11.0km az=116.0*
*NEIC **01** 21:51:01.0, 33°90S×71°42W, h45km, mb5.0/72, After GUC.*
NEIC Felt [IV] at Valparaiso and [III] at Quillota, Rancagua, San Antonio, Santiago and Villa Alemana. Also felt at Quilpue.
*GUC **01** 21:51:01.8±0.8, 33°90S×71°42W, h45km±5km, ML4.8*
*ISCJB **01** 21:51:02.7±0.5, 33°89S±0°03×71°23W±0°06, h67km±4km, mb4.8/85, Error ellipse: s-maj=9.1km s-min=5.1km az=157.9*
ISC 01 21:51:01.3±0.4, 33°95S±0°04×71°41W±0°06, h44km±2km, h43km: pP-P, n504, σ1°01/537, mb5.0/84, MS4.0/11, 11C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**0.68**	**48**	*e*P4	**Pn**	**21 51 16.1**	**+1.6**
RCDM				*i* S	**Sn**	**21 51 25.2**	**+1.1**
RCDM				AML	AML	21 51 25.6	
	comp=N,105μm,0.2s						
RCDM	**Rinconada Maip**	**0.68**	**48**	P	**Pn**	**21 51 16.1**	**+1.6**
RCDM				*i* S	**Sn**	**21 51 25.2**	**+1.1**
ANTU	**Antumapu**	**0.75**	**60**	*e*P	**Pn**	**21 51 16.2**	**+0.7**
ANTU				*i* S	**Sn**	**21 51 27.1**	**+1.3**
ANTU				AML	AML	21 51 31.9	
	comp=E,47μm,1.1s						
ANTU	**Antumapu**	**0.75**	**60**	*e*P	**Pn**	**21 51 16.2**	**+0.7**
ANTU				*i* S	**Sn**	**21 51 27.1**	**+1.3**
IHA	**Instituto Hidr**	**0.94**	**348**	⇑*i*P	**Pn**	**21 51 18.5**	**+0.4**
IHA	**Instituto Hidr**	**0.94**	**348**	⇑*i*P	**Pn**	**21 51 18.5**	**+0.4**
PEL	**Peldehue**	**1.00**	**37**	⇑*i*P	**Pn**	**21 51 20.0**	**+1.0**
PEL				*i* S	**Sn**	**21 51 33.7**	**+1.7**
PEL	**Peldehue**	**1.00**	**37**	⇑*i*P	**Pn**	**21 51 20.0**	**+1.0**
PEL				*i* S	**Sn**	**21 51 33.7**	**+1.7**
PEL				AML	AML	21 51 43.6	
	comp=N,44μm,0.3s						
PEL	**Peldehue**	**1.00**	**37**	⇑*i*P	**Pn**	**21 51 20.0**	**+1.0**
PEL				*i* S	**Sn**	**21 51 33.7**	**+1.7**
CMCH	**Combarbala**	**2.79**	**7**	*e*P	**Pn**	**21 51 43.6**	**+0.1**
CMCH	**Combarbala**	**2.79**	**7**	*e*P	**Pn**	**21 51 43.6**	**+0.1**
CFAA	**Coronel Fontan**	**3.55**	**50**	P	**Pn**	**21 51 56.4**	**+2.5**
	comp=N,6.2nm,0.3s,baz=233,slow=9.9,SNR=83						
CFAA				S	Sn	21 52 43.3	+8.7
	comp=N,19nm,0.3s,baz=104,slow=15,SNR=6.1						
CFAA				LR	LR	21 53 35.3	
	comp=N,278nm,20.7s,baz=234,slow=41						
PLCA	**Paso Flores**	**6.80**	**175**	*e*P	**Pn**	**21 52 41.1**	**+2.5**
PLCA				*e*		21 54 01.4	
PLCA	**Paso Flores**	**6.80**	**175**	P	**Pn**	**21 52 39.8**	**+1.2**
	comp=N,5.0nm,0.3s,baz=342,slow=12,SNR=31						
PLCA				LR	LR	21 55 21.0	
	comp=N,983nm,19.2s,baz=320,slow=39						
PLCA	**Paso Flores**	**6.80**	**175**	*e*Pn	**Pn**	**21 52 41.1**	**+2.5**
PLCA				*e*Sn	Sn	21 54 01.4	+6.6
TRQA	**Tornquist**	**8.67**	**121**	*e*Pn	**Pn**	**21 53 06.2**	**+2.1**
LVC	**Limon Verde**	**11.51**	**12**	*e*Pn	Pn	21 53 37.9	-5.4
LVC				*e*Sn	**Sn**	**21 55 48.9**	**-1.6**
CPUP	**Villa Florida**	**14.34**	**62**	P	**Pn**	**21 54 22.0**	**+0.4**
CPUP				pmax	pmax		
	comp=Z,153nm,0.9s						
CPUP	**Villa Florida**	**14.34**	**62**	P	**Pn**	**21 54 22.0**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=213,slow=13,SNR=6.4						
CPUP				LR	LR	22 00 21.5	
	comp=Z,872nm,21.0s,baz=226,slow=38						
CPUP	**Villa Florida**	**14.34**	**62**	P	**Pn**	**21 54 22.0**	**+0.4**
	comp=Z,152nm,0.9s						
LPAZ	**La Paz**	**17.83**	**10**	*e*P	**P**	**21 55 07.7**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,44nm,0.8s						
LPAZ	**La Paz**	**17.83**	**10**	P	**P**	**21 55 07.3**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=184,slow=8.7,SNR=20						
LPAZ	**La Paz**	**17.83**	**10**	*e*P	**P**	**21 55 07.7**	**+0.6**
	comp=Z,44nm,0.8s						
SIV	**San Ignacio**	**20.16**	**30**	P	**P**	**21 55 31.1**	**-0.9**
	comp=Z,11nm,0.6s,baz=221,slow=10.0,SNR=32						
SIV				LR	LR	22 04 36.0	
	comp=Z,401nm,21.2s,baz=212,slow=40						
EFI	**East Falkland**	**20.18**	**155**	P	**P**	**21 55 32.1**	**+0.2**
	comp=Z,676nm,0.7s,SNR=8.1						
EFI	**East Falkland**	**20.18**	**155**	*e*P	**P**	**21 55 32.5**	**+0.6**
EFI				pmax	pmax		
	comp=Z,2μm,2.9s						
EFI	**East Falkland**	**20.18**	**155**	*e*P	**P**	**21 55 32.5**	**+0.6**
	comp=Z,2μm,2.9s						
USHA	**Ushuaia**	**20.98**	**175**	P	**P**	**21 55 38.4**	**-2.1**
	comp=Z,10nm,0.8s,baz=304,slow=7.3,SNR=9.6						
USHA				LR	LR	22 03 30.7	
	comp=Z,475nm,20.9s,baz=336,slow=36						
NNA	**Nana**	**22.42**	**346**	*e*P	**P**	**21 55 58.3**	**+2.0**
NNA	**Nana**	**22.42**	**346**	P	**P**	**21 55 57.1**	**+0.8**
	comp=Z,4.3nm,0.4s,baz=192,slow=15,SNR=2.5						
NNA				LR	LR	22 02 48.6	
	comp=Z,150nm,18.8s,baz=166,slow=31						
NNA	**Nana**	**22.42**	**346**	*e*P	**P**	**21 55 54.1**	**-2.2**
SAML	**Samuel**	**26.01**	**19**	*e*P	**P**	**21 56 29.5**	**-0.7**
	comp=Z,25nm,0.8s						
BDFB	**Brasilia**	**27.87**	**55**	*e*P	**P**	**21 56 46.4**	**-0.7**
BDFB	**Brasilia**	**27.87**	**55**	P	**P**	**21 56 45.9**	**-1.2**
	comp=Z,18nm,0.9s,baz=216,slow=7.1,SNR=16						
BDFB				LR	LR	22 09 09.8	
	comp=Z,693nm,18.4s,baz=222,slow=39						
BDFB	**Brasilia**	**27.87**	**55**	*e*P	**P**	**21 56 46.4**	**-0.7**
ROSC	**El Rosal**	**38.70**	**355**	P	**P**	**21 58 23.1**	**+1.7**
	comp=Z,4.2nm,0.3s,baz=277,slow=22,SNR=5.1						
ROSC				pP	**pP**	**21 58 36.0**	**+2.5**
	comp=Z,11nm,0.5s,baz=88,slow=4.7,SNR=2.7						
SDV	**Santo Domingo**	**42.61**	**1**	*e*P	**P**	**21 58 53.0**	**-0.5**
	comp=Z,12nm,1.0s						
RCBR	**Riachuelo**	**43.17**	**58**	P	**P**	**21 58 58.5**	**+0.6**
	comp=Z,8.1nm,0.9s,baz=219,slow=14,SNR=2.5						
RCBR				pP	**pP**	**21 59 10.5**	**+0.4**
	comp=Z,3.9nm,0.5s,baz=220,slow=12,SNR=2.0						
VNA3	**Neumayer Olymp**	**49.21**	**158**	P	**P**	**21 59 45.8**	**+1.1**
VNA2	**Neumayer--Watz**	**49.85**	**157**	P	**P**	**21 59 50.3**	**+0.7**
SNAA	**Sanae**	**51.43**	**158**	P	**P**	**22 00 02.4**	**+0.8**
SNAA	**Sanae**	**51.43**	**158**	*ce*P	**P**	**22 00 01.0**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,38nm,1.0s						
SNAA	**Sanae**	**51.43**	**158**	P	**P**	**22 00 01.7**	**+0.2**
	comp=Z,10nm,0.9s,baz=282,slow=6.4,SNR=23						
SNAA	**Sanae**	**51.43**	**158**	*e*P	**P**	**22 00 01.2**	**-0.4**
	comp=Z,30nm,0.9s						
CRPR	**Cabo Rojo, PR**	**51.83**	**5**	*e*P	**P**	**22 00 03.5**	**-1.4**
	comp=Z,24nm,0.6s						
SABA	**Saba**	**51.87**	**10**	*e*P	**P**	**22 00 05.0**	**-0.3**
	comp=Z,71nm,0.7s						
OBIP	**Obispado Ponce**	**51.90**	**6**	*e*P	**P**	**22 00 04.0**	**-1.5**
	comp=Z,40nm,1.0s						
CELP	**Cerrillos**	**51.94**	**6**	*e*P	**P**	**22 00 04.7**	**-1.1**
SDDR	**Presa de Saban**	**52.64**	**0**	*e*P	**P**	**22 00 09.3**	**-1.7**
	comp=Z,27nm,1.3s						
RKT	**Rikitea**	**56.10**	**263**	*e*LR	LR	22 17 02.0	
	comp=Z,425nm,34.0s						
NVL	**N'lazarevskaya**	**56.16**	**157**	*e*P	**P**	**22 00 34.9**	**-1.1**
NVL				pmax	pmax		
	comp=Z,20nm,0.9s						
TEIG	**Tepich**	**56.22**	**341**	*e*P	**P**	**22 00 37.1**	**+0.1**
	comp=Z,41nm,0.9s						
QSPA	**South Pole Qui**	**56.29**	**180**	P	**P**	**22 00 36.9**	**-0.3**
	comp=Z,9.7nm,0.9s,baz=144,slow=2.3,SNR=20						
QSPA	**South Pole Qui**	**56.29**	**180**	*e*P	**P**	**22 00 38.2**	**+1.1**
	comp=Z,40nm,0.9s						
H06S1	**SOCORRO T**	**64.54**	**318**	T	T	23 11 20.1	
	SNR=11						
SYO	**Syowa Base**	**65.72**	**158**	⇓*e*P	**P**	**22 01 39.0**	**-1.8**
833A	**Chaparral WMA,**	**67.37**	**333**	P	**P**	**22 01 52.6**	**+0.8**
	baz=68						
636A	**Smothers Creek**	**67.59**	**336**	P	**P**	**22 01 54.3**	**+1.1**
	baz=68						
633A	**Saathoff Ranch**	**68.32**	**334**	P	**P**	**22 01 57.7**	**-0.2**
	baz=69						
632A	**Uvalde**	**68.58**	**334**	P	**P**	**22 02 00.2**	**+0.7**
	baz=69						
533A	**Kerrville**	**68.82**	**334**	P	**P**	**22 02 01.9**	**+0.9**
	baz=69						
337A	**Centerville**	**68.90**	**338**	P	**P**	**22 02 02.6**	**+1.2**
	baz=69						
532A	**Rocksprings**	**69.19**	**334**	P	**P**	**22 02 03.9**	**+0.6**
	baz=69						
434A	**Burnet**	**69.23**	**335**	P	**P**	**22 02 04.1**	**+0.6**
	baz=70						
336A	**Riesel**	**69.28**	**337**	P	**P**	**22 02 04.5**	**+0.8**
	baz=70						
MEH	**Mehetia**	**69.38**	**262**	*e*T	T	23 17 02.6	
	comp=Z,33nm,0.2s						
531A	**Rocksprings**	**69.46**	**333**	P	**P**	**22 02 05.7**	**+0.7**
	baz=70						
433A	**Art**	**69.46**	**335**	P	**P**	**22 02 05.2**	**+0.3**
	baz=70						
JCT	**Junction City**	**69.47**	**334**	*e*P	**P**	**22 02 04.1**	**-0.9**
JCT				pmax	pmax		
	comp=Z,97nm,2.0s						
JCT	**Junction City**	**69.47**	**334**	P	**P**	**22 02 05.5**	**+0.5**
	baz=70						
JCT	**Junction City**	**69.47**	**334**	*e*P	**P**	**22 02 04.1**	**-0.9**
	comp=Z,97nm,2.0s						
334A	**Lometa**	**69.69**	**336**	P	**P**	**22 02 06.4**	**+0.1**
	baz=70						
530A	**J-C Ranch, Com**	**69.75**	**333**	P	**P**	**22 02 07.6**	**+0.9**
	baz=70						
432A	**Menard**	**69.82**	**334**	P	**P**	**22 02 07.6**	**+0.4**
	baz=70						
333A	**Richland Sprin**	**69.94**	**335**	P	**P**	**22 02 08.0**	**+0.1**
	baz=70						
431A	**Sonora**	**69.95**	**333**	P	**P**	**22 02 08.9**	**+0.9**
	baz=70						
TXAR	**Lajitas Array**	**69.95**	**330**	P	**P**	**22 02 08.5**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=152,slow=8.3,SNR=12						
TXAR				pP	**pP**	**22 02 21.2**	**+0.3**
	comp=Z,3.9nm,0.5s,baz=155,slow=8.7,SNR=15						
TXAR				sP	**sP**	**22 02 26.8**	**+0.8**
	comp=Z,6.0nm,0.5s,baz=154,slow=8.1,SNR=13						
TXAR				LR	LR	22 28 26.7	
	comp=Z,86nm,18.1s,baz=0.0,slow=32						
WHTX	**Lake Whitney,**	**70.03**	**337**	P	**P**	**22 02 09.4**	**+1.0**
	baz=70						
529A	**Stev Forest Ra**	**70.07**	**332**	P	**P**	**22 02 09.5**	**+0.7**
	baz=70						
OXF	**Oxford**	**70.17**	**344**	*e*P	**P**	**22 02 08.0**	**-1.1**
OXF				pmax	pmax		
	comp=Z,40nm,1.0s						
OXF	**Oxford**	**70.17**	**344**	*e*P	**P**	**22 02 08.0**	**-1.1**
	comp=Z,40nm,1.0s						
234A	**Clairette**	**70.27**	**336**	P	**P**	**22 02 10.0**	**+0.2**
	baz=70						
430A	**Baggett Ranch,**	**70.28**	**333**	P	**P**	**22 02 10.3**	**+0.3**
	baz=70						
429A	**Davenport Ranc**	**70.38**	**332**	P	**P**	**22 02 11.4**	**+0.8**
	baz=71						
331A	**San Angelo**	**70.44**	**334**	P	**P**	**22 02 11.6**	**+0.6**
	baz=71						
233A	**Rising Star**	**70.54**	**335**	P	**P**	**22 02 11.7**	**+0.2**
	baz=71						
TIAR	**Tiarei**	**70.59**	**262**	*e*T	T	23 18 33.4	
	comp=Z,3.6nm,0.3s						
PPT2	**Papeete2**	**70.76**	**261**	*e*LR	LR	22 23 50.0	
	comp=Z,334nm,28.8s						
PPT	**Papeete**	**70.77**	**261**	LR	LR	22 26 49.9	
	comp=Z,98nm,18.2s,baz=180,slow=30						
330A	**Mertzon**	**70.81**	**333**	P	**P**	**22 02 13.4**	**+0.1**
	baz=71						
231A	**Bronte**	**70.97**	**334**	P	**P**	**22 02 14.3**	**+0.1**
	baz=71						
133A	**Hamilton Ranch**	**71.09**	**336**	P	**P**	**22 02 15.2**	**+0.4**
	baz=71						
329A	**Wagon Wheel Ra**	**71.19**	**333**	P	**P**	**22 02 16.3**	**+0.8**
	baz=71						
230A	**Sterling City**	**71.22**	**334**	P	**P**	**22 02 16.1**	**+0.4**
	baz=72						
MIAR	**Mount Ida**	**71.24**	**341**	*e*P	**P**	**22 02 15.8**	**+0.1**
MIAR				pmax	pmax		
	comp=Z,13nm,1.1s						
MIAR	**Mount Ida**	**71.24**	**341**	*e*P	**P**	**22 02 15.8**	**+0.1**
	comp=Z,13nm,1.1s						
ABTX	**Abilene, Hawle**	**71.35**	**335**	P	**P**	**22 02 16.6**	**+0.1**
	baz=72						
ABTX	**Abilene, Hawle**	**71.35**	**335**	*e*P	**P**	**22 02 17.1**	**+0.6**
	comp=Z,13nm,0.8s						
WVT	**Waverly**	**71.39**	**346**	*e*P	**P**	**22 02 16.2**	**-0.3**
WVT				pmax	pmax		
	comp=Z,41nm,0.7s						
WVT	**Waverly**	**71.39**	**346**	*e*P	**P**	**22 02 16.2**	**-0.3**
	comp=Z,41nm,0.7s						
JSRW	**J. Sargeant Re**	**71.53**	**355**	*e*P	**P**	**22 02 18.0**	**+0.7**
Z33A	**Whitaker Ranch**	**71.66**	**336**	P	**P**	**22 02 18.4**	**+0.2**
	baz=72						
130A	**Snyder**	**71.80**	**334**	P	**P**	**22 02 19.6**	**+0.4**
	baz=72						
Z32A	**Haskell**	**71.92**	**336**	P	**P**	**22 02 20.2**	**+0.4**
	baz=72						
228A	**UT Block 9, Go**	**71.98**	**332**	P	**P**	**22 02 20.4**	**+0.1**
	baz=72						
Z31A	**Sharp Cattle R**	**72.16**	**335**	P	**P**	**22 02 21.6**	**+0.3**
	baz=72						
129A	**Stewart Farms,**	**72.17**	**333**	P	**P**	**22 02 21.4**	**0.0**
	baz=72						
Y33A	**Hilltop Ranch,**	**72.27**	**336**	P	**P**	**22 02 21.9**	**0.0**
	baz=72						
Z30A	**Sanderson Ranc**	**72.48**	**334**	P	**P**	**22 02 23.0**	**-0.2**
	baz=73						
X34A	**Smith Ranch, M**	**72.55**	**337**	P	**P**	**22 02 23.5**	**-0.1**
	baz=73						
PBMO	**Poplar Bluff**	**72.57**	**344**	*e*P	**P**	**22 02 22.8**	**-0.7**
	comp=Z,22nm,0.4s						
Z29A	**Hungry Hill Ra**	**72.67**	**334**	P	**P**	**22 02 24.2**	**-0.2**
	baz=73						
Y31A	**Rekieta Farm,**	**72.78**	**335**	P	**P**	**22 02 25.4**	**+0.4**
	baz=73						
X32A	**Elmer**	**72.86**	**336**	P	**P**	**22 02 25.4**	**0.0**
	baz=73						
MAW	**Mawson**	**73.08**	**163**	LR	LR	22 33 58.6	
	comp=Z,136nm,21.8s,baz=240,slow=35						
Y29A	**Porterfield Fa**	**73.19**	**334**	P	**P**	**22 02 27.9**	**+0.4**
	baz=74						
W33A	**Caddo, Fort Co**	**73.26**	**337**	P	**P**	**22 02 28.1**	**+0.3**
	baz=74						
X31A	**McDonald Ranch**	**73.29**	**336**	P	**P**	**22 02 28.2**	**+0.2**
	baz=74						
W32A	**Sentinel**	**73.49**	**336**	P	**P**	**22 02 29.7**	**+0.5**
	baz=74						
Z26A	**Caprock**	**73.54**	**332**	P	**P**	**22 02 30.0**	**+0.4**
	baz=74						
MSTX	**Muleshoe**	**73.70**	**333**	P	**P**	**22 02 30.7**	**+0.2**
	baz=74						
MSTX	**Muleshoe**	**73.70**	**333**	*e*P	**P**	**22 02 30.9**	**+0.4**
	comp=Z,9.5nm,0.8s						
W31A	**Holland Ranch,**	**73.78**	**336**	P	**P**	**22 02 30.9**	**0.0**
	baz=74					

ANMO Albuquerque 75.99 331 *cP* **P 22 02 44.2 +0.4**
ANMO pmax pmax
comp=Z,17nm,0.8s
ANMO Albuquerque 75.99 331 *eP* **P 22 02 45.0 +1.2**
comp=Z,5.1nm,0.9s
V25A Rancho No Teng 76.05 333 P **P 22 02 44.6 +0.5**
baz=76
V24A Rampart Ranch, 76.20 332 P **P 22 02 45.9 +0.8**
baz=76
U26A Atchley Ranch, 76.22 334 P **P 22 02 45.8 +0.7**
baz=76
T28A Walsh 76.28 335 P **P 22 02 45.6 +0.3**
baz=77
214A Organ Pipe Nat 76.28 325 P **P 22 02 46.4 +1.1**
baz=76
T27A Campo 76.44 335 P **P 22 02 46.6 +0.4**
baz=77
U25A Circle Dot Ran 76.47 333 P **P 22 02 47.3 +0.8**
baz=77
WIN Windhoek 76.58 108 *eP* **P 22 02 47.4 -0.2**
WIN AMB AMB 22 02 54.5
comp=Z,5.8nm,5.3s
WIN Windhoek 76.58 108 P **P 22 02 47.4 -0.2**
WIN pmax pmax
comp=Z,6.0nm,5.3s
WIN Windhoek 76.58 108 P **P 22 02 47.4 -0.2**
comp=Z,5.8nm,5.3s
S28A Manter 76.62 336 P **P 22 02 47.6 +0.4**
baz=77
UPI Upington 76.78 115 *eP* **P 22 02 48.5 0.0**
UPI AMB AMB 22 03 05.9
comp=Z,25nm,2.1s
UPI Upington 76.78 115 P **P 22 02 48.5 0.0**
comp=Z,25nm,2.1s
Q32A Meitler Ranch, 76.82 339 P **P 22 02 48.6 +0.4**
baz=77
V22A San Miguel Ran 77.02 331 P **P 22 02 51.2 +1.5**
baz=77
S27A Las Animas 77.06 335 P **P 22 02 50.3 +0.6**
baz=77
U23A El Rito 77.09 332 P **P 22 02 51.7 +1.6**
baz=77
R29A Marienthal 77.12 336 P **P 22 02 50.7 +0.7**
baz=77
T25A Trinidad 77.12 333 P **P 22 02 51.3 +1.1**
baz=77
S26A Kim 77.21 334 P **P 22 02 51.5 +0.9**
baz=78
R28A Tribune 77.27 336 P **P 22 02 51.3 +0.5**
baz=78
Q30A Quinter 77.32 337 P **P 22 02 52.0 +0.9**
baz=78
Q29A Oakley 77.49 337 P **P 22 02 52.6 +0.5**
baz=78
P31A Stockton 77.55 338 P **P 22 02 52.5 +0.2**
baz=78
R27A Eads 77.56 335 P **P 22 02 53.0 +0.5**
baz=78
S25A Robets Cordova 77.59 334 P **P 22 02 53.7 +1.0**
baz=78
MDV Middlebury 77.60 359 *eP* **P 22 02 50.2 -2.2**
X16A Lo Mia Camp, P 77.68 327 P **P 22 02 54.3 +1.0**
baz=78
R26A Arlington 77.80 335 P **P 22 02 54.5 +0.7**
baz=78
P30A Selden 77.85 338 P **P 22 02 54.9 +0.9**
baz=78
S24A Houchin Ranch, 77.86 333 P **P 22 02 55.6 +1.2**
baz=78
R25A Fountain Ranch 77.97 334 P **P 22 02 55.9 +1.1**
baz=78
SDCO Great Sand Dun 78.06 333 *eP* **P 22 02 54.0 -1.5**
comp=Z,3.9nm,0.6s
P29A Atwood 78.12 337 P **P 22 02 56.4 +0.9**
baz=78
KSCO Kaye Shedlock' 78.15 336 P **P 22 02 56.9 +1.1**
baz=78
R24A Sanders Place, 78.34 334 P **P 22 02 58.1 +1.1**
baz=79
Q26A Hugo 78.38 335 P **P 22 02 58.2 +1.1**
baz=79
SWSC Sam W. Stewart 78.54 323 P **P 22 02 58.6 +0.7**
baz=79
WUAZ Wupatki 78.57 328 P **P 22 02 59.8 +1.6**
baz=79
WUAZ Wupatki 78.57 328 *eP* **P 22 02 56.7 -1.5**
comp=Z,7.5nm,0.8s
S22A 4UR Ranch, Cre 78.57 332 P **P 22 02 59.2 +0.9**
baz=79
R23A Moffat 78.58 333 P **P 22 02 58.8 +0.4**
baz=79
TSUM Tsumeb 78.72 106 *eP* **P 22 02 59.8 +0.3**
comp=Z,21nm,1.0s
HVD Gariep Dam 78.73 119 *eP* **P 22 03 00.0 +0.6**
HVD AMB AMB 22 03 00.6
comp=Z,39nm,1.0s
HVD Gariep Dam 78.73 119 P **P 22 03 00.0 +0.6**
HVD pmax pmax
comp=Z,39nm,1.0s
HVD Gariep Dam 78.73 119 P **P 22 03 00.0 +0.6**
comp=Z,39nm,1.0s
MVCO Mesa Verde 78.78 331 P **P 22 03 00.6 +1.1**
baz=79
MVCO Mesa Verde 78.78 331 *eP* **P 22 03 00.5 +1.1**
O28A Krutsinger Ran 78.87 337 P **P 22 03 00.4 +0.7**
baz=79
P26A Davis Ranch, A 78.89 335 P **P 22 03 00.5 +0.6**
baz=79
BC3 Big Chuckawall 78.95 324 P **P 22 03 01.4 +1.2**
baz=79
M31A Lambtecht Ranc 79.11 339 P **P 22 03 01.5 +0.7**
baz=79
P25A Willow Gulch B 79.14 335 P **P 22 03 02.4 +1.2**
baz=79
IRM Iron Mountain 79.21 324 P **P 22 03 02.8 +1.2**
baz=79
W13A Hualapai Mount 79.37 326 P **P 22 03 04.1 +1.4**
baz=80
PFO Pinyon Flats O 79.41 323 *eP* **P 22 03 03.4 +0.6**
PFO Pinyon Flats O 79.41 323 P **P 22 03 04.6 +1.8**
baz=80
PFO Pinyon Flats O 79.41 323 *eP* **P 22 03 03.4 +0.6**
O26A Horse Wrangler 79.49 336 P **P 22 03 04.8 +1.7**
baz=80
BELC Belle Mtn. Jos 79.49 324 P **P 22 03 04.3 +1.0**
baz=80
PV01 Paradox Valley 79.60 331 *eP* **P 22 03 03.2 -0.7**
comp=Z,529nm,1.1s
BOSA Boshof 79.63 117 *eP* **P 22 03 04.3 0.0**
BOSA AMB AMB 22 03 05.5
comp=Z,31nm,1.1s
BOSA Boshof 79.63 117 *eP* **P 22 03 03.9 -0.4**
BOSA pmax pmax
comp=Z,35nm,1.0s
BOSA Boshof 79.63 117 P **P 22 03 04.3 0.0**
comp=Z,29nm,0.9s,baz=242,slow=5.2,SNR=30
BOSA LR LR 22 35 18.3
comp=Z,45nm,19.1s,baz=196,slow=33
BOSA Boshof 79.63 117 *eP* **P 22 03 03.9 -0.4**
comp=Z,35nm,1.0s
M29A Burnside Ranch 79.72 338 P **P 22 03 06.3 +2.1**
baz=80
N27A Anderson Farm, 79.73 336 P **P 22 03 05.4 +1.0**
baz=80
U15A North Rim 79.74 328 P **P 22 03 06.2 +1.5**
baz=80
L31A Butterfield Fa 79.83 340 P **P 22 03 05.7 +1.0**
baz=80
SMCO Snowmass 79.88 333 *eP* **P 22 03 07.1 +1.5**
comp=Z,10nm,0.9s
GMRC Granite Mounta 79.95 324 P **P 22 03 07.0 +1.3**
baz=80
HEC Hector,Ludlow 80.32 324 P **P 22 03 09.2 +1.5**
baz=81
O23A Lake Granby, G 80.38 334 P **P 22 03 09.5 +1.3**
baz=81
SWZ Schweizer 80.46 116 *eP* **P 22 03 07.8 -1.1**
SWZ AMB AMB 22 03 09.0
comp=Z,28nm,1.1s
SWZ Schweizer 80.46 116 P **P 22 03 07.8 -1.1**
comp=Z,28nm,1.1s
O22A Kremmling 80.57 333 P **P 22 03 10.1 +0.9**
baz=81
TUQ Turquoise Moun 80.61 325 P **P 22 03 10.7 +1.4**
baz=81
ECSD EROS Data Cent 80.66 342 P **P 22 03 08.9 -0.3**
baz=81
ECSD EROS Data Cent 80.66 342 *eP* **P 22 03 08.9 -0.3**
comp=Z,17nm,0.9s
MWC Mount Wilson 80.70 322 *eP* **P 22 03 11.2 +1.4**
MWC pmax pmax
comp=Z,16nm,0.6s
MWC Mount Wilson 80.70 322 *eP* **P 22 03 11.2 +1.4**
comp=Z,16nm,0.6s
K29A Lazy Trails An 80.80 339 P **P 22 03 10.8 +0.7**
baz=81
GSC Goldstone, Bar 80.93 324 *eP* **P 22 03 12.2 +1.2**
GSC pmax pmax
comp=Z,27nm,1.6s
GSC Goldstone, Bar 80.93 324 P **P 22 03 12.3 +1.4**
baz=81
GSC Goldstone, Bar 80.93 324 *eP* **P 22 03 12.2 +1.2**
comp=Z,27nm,1.6s
N23A Red Feather La 80.99 334 P **P 22 03 12.2 +0.9**
baz=81
N22A Wattenberg Ran 81.10 334 P **P 22 03 12.6 +0.7**
baz=81
M24A Cheyenne 81.10 335 P **P 22 03 13.0 +1.2**
baz=81
SHPR Sheep Range 81.11 326 *eP* **P 22 03 12.1 +0.1**
CCUT Cedar City 81.14 327 *eP* **P 22 03 14.2 +2.0**
comp=Z,12nm,1.1s
EDW2 Edwards Air Fo 81.19 323 P **P 22 03 13.4 +1.1**
baz=81
SRU San Rafael Swe 81.23 330 *eP* **P 22 03 13.5 +0.9**
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael Swe 81.23 330 *eP* **P 22 03 13.5 +0.9**
comp=Z,7.9nm,0.9s
K27A Flueckinger Fa 81.34 338 P **P 22 03 13.8 +0.8**
baz=82
OSI Osito Audit: C 81.35 322 *eP* **P 22 03 12.2 -1.0**
comp=Z,21nm,0.3s
J29A Okreek 81.39 339 P **P 22 03 13.4 +0.3**
baz=82
M23A Laramie 81.42 335 P **P 22 03 14.5 +0.9**
baz=82
SEK Senekal 81.53 118 *eP* **P 22 03 14.5 -0.1**
SEK AMB AMB 22 03 15.8
comp=Z,36nm,2.7s
SEK Senekal 81.53 118 P **P 22 03 14.5 -0.1**
comp=Z,36nm,2.7s
J28A Allard Ranch, 81.68 339 P **P 22 03 15.2 +0.5**
baz=82
J27A Elkhorn Farm, 81.77 338 P **P 22 03 16.1 +0.9**
baz=82
K25A Mack Ranch, Ha 81.79 336 P **P 22 03 15.6 +0.2**
baz=82
LBTB Lobatse 81.85 115 *eP* **P 22 03 16.1 -0.2**
LBTB AMB AMB 22 03 17.2
comp=Z,27nm,1.4s
LBTB Lobatse 81.85 115 *eP* **P 22 03 16.3 0.0**
LBTB pmax pmax
comp=Z,25nm,1.0s
LBTB Lobatse 81.85 115 *eP* **P 22 03 16.3 0.0**
comp=Z,25nm,1.0s
ISA Isabella, Lake 82.05 323 *eP* **P 22 03 18.6 +1.8**
ISA pmax pmax
comp=Z,6.0nm,0.7s
ISA Isabella, Lake 82.05 323 P **P 22 03 18.2 +1.4**
baz=82
ISA Isabella, Lake 82.05 323 *eP* **P 22 03 18.6 +1.8**
comp=Z,5.8nm,0.7s
DAC Darwin (Calif) 82.09 324 *eP* **P 22 03 18.1 +0.9**
DAC pmax pmax
comp=Z,8.0nm,0.8s
DAC Darwin (Calif) 82.09 324 *eP* **P 22 03 18.1 +0.9**
comp=Z,7.9nm,0.8s
PRYS Parys 82.11 117 *eP* **P 22 03 16.9 -0.8**
PRYS AMB AMB 22 03 26.5
comp=Z,9.8nm,3.2s
PRYS Parys 82.11 117 P **P 22 03 16.9 -0.8**
comp=Z,9.8nm,3.2s
I28A Midland 82.19 339 P **P 22 03 17.7 +0.4**
baz=82
H29A Onida 82.48 340 P **P 22 03 18.4 -0.3**
baz=83
I27A Quinn 82.52 338 P **P 22 03 19.2 +0.2**
baz=83
K22A Casper 82.74 335 P **P 22 03 21.0 +0.6**
baz=83
H28A Mission Ridge 82.76 339 P **P 22 03 20.1 -0.1**
baz=83
R11A Troy Canyon, C 82.81 326 P **P 22 03 22.4 +1.5**
baz=83
R11A Troy Canyon, C 82.81 326 *eP* **P 22 03 20.4 -0.4**
comp=Z,16nm,1.3s
K21A Alcova 82.99 334 P **P 22 03 22.1 +0.4**
baz=83
I25A Rochford 83.00 337 P **P 22 03 22.2 +0.5**
baz=83
H27A Howes 83.04 338 P **P 22 03 21.8 +0.1**
baz=83
OBSV Observatory 83.05 117 AMB AMB 22 03 20.1
comp=Z,19nm,6.5s
OBSV *eP* **P 22 03 21.8 -0.8**
ERPM east rand prop 83.09 117 *eP* **P 22 03 21.9 -0.9**
ERPM AMB AMB 22 03 43.1
comp=Z,26nm,92.1s
ERPM east rand prop 83.09 117 P **P 22 03 21.9 -0.9**
G28A Parade 83.09 339 P **P 22 03 22.4 +0.5**
baz=83
DUG Dugway, Tooele 83.10 329 *eP* **P 22 03 23.4 +1.1**
DUG pmax pmax
comp=Z,28nm,1.6s
DUG Dugway, Tooele 83.10 329 P **P 22 03 23.4 +1.1**
baz=83
DUG Dugway, Tooele 83.10 329 *eP* **P 22 03 23.4 +1.1**
comp=Z,28nm,1.6s
RSSD Black Hills 83.19 337 *eP* **P 22 03 22.6 -0.1**
RSSD pmax pmax
comp=Z,11nm,1.2s
RSSD Black Hills 83.19 337 *eP* **P 22 03 22.6 -0.1**
comp=Z,11nm,1.2s
F30A Leola 83.25 341 P **P 22 03 23.4 +0.7**
baz=84
TPH Tonopah 83.35 325 *eP* **P 22 03 25.2 +1.5**
TPH pmax pmax
comp=Z,12nm,1.0s
TPH Tonopah 83.35 325 *eP* **P 22 03 25.2 +1.5**
comp=Z,12nm,1.0s
J22A Midwest 83.39 335 P **P 22 03 23.5 -0.2**
baz=84
SLR Silverton 83.46 117 *eP* **P 22 03 23.7 -1.0**
SLR AMB AMB 22 03 25.3
comp=Z,19nm,1.1s
SLR Silverton 83.46 117 P **P 22 03 23.7 -1.0**
SLR pmax pmax
comp=Z,19nm,1.1s
SLR Silverton 83.46 117 P **P 22 03 23.7 -1.0**
comp=Z,19nm,1.1s
F29A Eureka 83.47 340 P **P 22 03 24.1 +0.2**
baz=84
EYMN Ely 83.49 347 *eP* **P 22 03 22.5 -1.4**
G27A Dupree 83.67 339 P **P 22 03 25.0 +0.1**
baz=84
TORD Torodi Ar. Bea 83.70 70 P **P 22 03 25.2 -0.5**
comp=Z,15nm,0.9s,baz=247,slow=4.3,SNR=62
TORD pP **pP 22 03 38.7 -0.2**
comp=Z,3.7nm,0.6s,baz=203,slow=5.1,SNR=6.6
TORD LR LR 22 39 51.7
comp=Z,83nm,18.4s,baz=250,slow=35
F28A McLaughlin 83.76 340 P **P 22 03 25.8 +0.4**
baz=84
G26A Maurine 83.79 338 P **P 22 03 25.5 -0.1**
baz=84
BGU Big Grassy Mou 83.80 330 *eP* **P 22 03 25.4 -0.4**
comp=Z,3.4nm,1.2s
BGU *e* 22 03 37.5
I22A 9 Mile Ranch, 83.81 335 P **P 22 03 25.6 -0.2**
baz=84
E30A Jud 83.84 341 P **P 22 03 25.4 -0.3**
baz=84
J20A Shoshoni 83.91 334 P **P 22 03 27.1 +0.8**
baz=84
H24A Dirks Ranch, A 83.92 337 P **P 22 03 26.1 -0.2**
baz=84
G25A Newell 83.95 338 P **P 22 03 26.6 +0.2**
baz=84
PDAR Pinedale Array 83.96 333 P **P 22 03 27.3 +0.6**
comp=Z,1.4nm,0.8s,baz=162,slow=4.9,SNR=11
PDAR pP **pP 22 03 39.3 -0.6**
comp=Z,2.9nm,0.6s,baz=141,slow=6.8,SNR=12
I21A Big Trails, Te 84.03 335 P **P 22 03 27.3 +0.3**
baz=84
E29A Napoleon 84.10 341 P **P 22 03 27.1 0.0**
baz=84
F27A Lemmon 84.14 339 P **P 22 03 27.6 +0.3**
baz=84
NVAR Mina Array Bea 84.14 325 P **P 22 03 28.8 +1.1**
comp=Z,1.9nm,0.8s,baz=154,slow=5.8,SNR=8.6
NVAR pP **pP 22 03 41.5 +0.5**
comp=Z,4.4nm,0.6s,baz=146,slow=5.7,SNR=16
F26A Lodgepole 84.31 339 P **P 22 03 28.8 +0.6**
baz=85
D30A Buchanan 84.36 342 P **P 22 03 28.7 +0.4**
baz=85
E28A Huff 84.39 340 P **P 22 03 28.9 +0.3**
baz=85
HVU Hansel Valley 84.40 330 *eP* **P 22 03 29.3 +0.4**
HVU pmax pmax
comp=Z,11nm,0.8s
HVU Hansel Valley 84.40 330 *eP* **P 22 03 29.3 +0.4**
comp=Z,11nm,0.8s
I20A Worland 84.45 334 P **P 22 03 29.4 +0.3**
baz=85
ELK Elko 84.60 328 *eP* **P 22 03 30.5 +0.5**
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 84.60 328 *eP* **P 22 03 30.5 +0.5**
comp=Z,7.1nm,0.9s
AGMN Agassiz Nation 84.75 344 P **P 22 03 30.1 -0.2**
baz=85
AGMN Agassiz Nation 84.75 344 *eP* **P 22 03 29.6 -0.7**
comp=Z,8.4nm,0.6s
C30A Mose, Pekin 84.83 342 P **P 22 03 30.8 0.0**
baz=85
I19A Meeteetse 84.84 334 P **P 22 03 31.5 +0.4**
baz=85
CMB Columbia Colle 84.85 323 *eP* P 22 03 27.7 -3.4
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 84.85 323 *eP* P 22 03 27.7 -3.4
comp=Z,6.2nm,1.0s
F24A Ekalaka 84.86 338 P **P 22 03 31.5 +0.5**
baz=85
F23A Volborg 85.06 337 P **P 22 03 31.9 -0.1**
baz=85
LOHW Long Hollow 85.08 333 *eP* **P 22 03 32.8 +0.4**
comp=Z,6.6nm,0.6s
TPAW Teton Pass 85.11 332 *eP* **P 22 03 33.5 +0.9**
comp=Z,8.1nm,1.0s
FXWY Fox Creek 85.26 332 *eP* **P 22 03 33.7 +0.4**
comp=Z,3.3nm,0.8s
I17A Pilgrim Ck. 85.33 333 P **P 22 03 34.3 +0.7**
baz=86
H19A Powell 85.38 334 P **P 22 03 33.8 +0.1**
baz=86
F22A Rosebud 85.39 336 P **P 22 03 33.7 0.0**
baz=86
IMW Indian Meadow 85.45 333 *eP* **P 22 03 34.8 +0.5**
comp=Z,6.2nm,0.7s
B30A Myrvik Farm, E 85.49 342 P **P 22 03 33.9 -0.1**
baz=86
FLWY Flagg Ranch 85.51 333 *eP* **P 22 03 35.2 +0.7**
comp=Z,11nm,0.8s
G20A Bridger 85.58 335 P **P 22 03 34.4 -0.3**
baz=86
H18A Shoshone NF, C 85.63 334 P **P 22 03 35.1 0.0**
baz=86
C27A Sayler Ranch, 85.66 340 P **P 22 03 35.4 +0.6**
baz=86
B29A Wagenman Farm, 85.77 342 P **P 22 03 35.5 +0.2**
baz=86
RLMT Red Lodge 85.87 334 *eP* **P 22 03 36.1 -0.1**
comp=Z,10nm,0.6s
RLMT *e* 22 03 48.5
E22A Miles City 85.87 337 P **P 22 03 36.2 +0.2**
baz=86
A30A Hoffart Farm, 85.94 343 P **P 22 03 36.4 +0.2**
baz=86
YMR Madison River 86.11 333 *eP* **P 22 03 38.7 +1.2**
comp=Z,23nm,0.9s
A29A Manning Farm, 86.16 342 P **P 22 03 37.2 -0.1**
baz=86
LAO LASA Array 86.18 337 *eP* **P 22 03 37.9 +0.3**
comp=Z,15nm,1.0s
D23A Lindsay 86.28 338 P **P 22 03 38.5 +0.5**
baz=87
E21A Keefer Ranch, 86.33 336 P **P 22 03 38.8 +0.5**
baz=87
C24A Savage 86.36 338 P **P 22 03 38.8 +0.5**
baz=87
F19A Roth Farm, Mol 86.38 335 P **P 22 03 38.3 -0.3**
baz=87
QLMT Earthquake Lak 86.42 333 *eP* **P 22 03 39.5 +0.5**
HLID Hailey 86.55 330 P **P 22 03 40.8 +1.1**
baz=87
HLID Hailey 86.55 330 *eP* **P 22 03 40.9 +1.3**
comp=Z,20nm,1.3s
D22A Cohagen 86.57 337 P **P 22 03 39.9 +0.5**
baz=87
ULM Lac du Bonnet 86.59 345 P **P 22 03 38.7 -0.6**
comp=Z,4.8nm,0.7s,baz=176,slow=5.3,SNR=9.3
ULM pP **pP 22 03 51.3 -1.3**
comp=Z,5.7nm,0.8s,baz=215,slow=1.6,SNR=6.0
E20A Meyer Farm, Mu 86.66 336 P **P 22 03 40.2 +0.3**
baz=87
D21A La Casta Ranch 86.77 337 P **P 22 03 40.6 +0.2**
baz=87
C23A Lambert 86.83 338 P **P 22 03 41.0 +0.4**
baz=87
E19A Rath Farm, Rou 86.85 335 P **P 22 03 41.0 +0.1**
baz=87
A26A Wade Farm, Ken 86.89 340 P **P 22 03 41.2 +0.3**
baz=87
MCMT McKenzie Canyo 86.97 332 *eP* **P 22 03 41.2 -0.5**
comp=Z,3.5nm,0.8s
C22A Vida 87.00 338 P **P 22 03 42.0 +0.5**
baz=87
DGMT Dagmar 87.13 339 P **P 22 03 42.6 +0.5**
baz=87
DGMT Dagmar 87.13 339 *eP* **P 22 03 42.8 +0.8**
comp=Z,84nm,1.4s
D20A Manuel Ranch, 87.17 336 P **P 22 03 42.3 0.0**
baz=87
BOZ Bozeman (W) 87.19 333 *eP* **P 22 03 42.5 -0.1**
BOZ pmax pmax
comp=Z,55nm,2.6s
BOZ Bozeman (W) 87.19 333 *eP* **P 22 03 42.5 -0.1**
comp=Z,55nm,2.6s
DLMT Dillon 87.32 332 *eP* **P 22 03 44.7 +1.5**
comp=Z,22nm,1.4s
C21A Desert Coulee 87.47 337 P **P 22 03 43.6 -0.2**
baz=88
WVOR Wild Horse Val 87.47 327 *eP* **P 22 03 44.2 +0.2**
WVOR pmax pmax
comp=Z,12nm,1.2s
WVOR Wild Horse Val 87.47 327 *eP* **P 22 03 44.2 +0.2**
comp=Z,12nm,1.2s
B22A Reddig Ranch S 87.53 338 P **P 22 03 44.4 +0.3**
baz=88
LRM Limekiln Ridge 87.65 333 *eP* **P 22 03 44.4 -0.6**
C20A Veseth Ranch, 87.67 336 P **P 22 03 44.7 0.0**
baz=88
WDC Whiskeytown Da 87.88 324 *eP* **P 22 03 46.0 +0.2**
WDC pmax pmax
comp=Z,10.0nm,0.6s
WDC Whiskeytown Da 87.88 324 *eP* **P 22 03 46.0 +0.2**
comp=Z,10nm,0.6s
B21A Ellsworth Farm 87.97 337 P **P 22 03 46.2 +0.1**
baz=88
C19A Slack Wire Ran 88.04 336 P **P 22 03 46.9 +0.3**
baz=88
A22A Carney Farms, 88.11 338 P **P 22 03 47.0 +0.1**
baz=88
A21A Bergtoll Ranch 88.43 337 P **P 22 03 48.2 -0.1**
baz=89
SCHQ Schefferville 88.51 3 LR LR 22 43 11.5
comp=Z,56nm,20.6s,baz=19,slow=35
A20A Cobblestone Ra 88.66 337 P **P 22 03 49.3 -0.1**
baz=89
K05A Summer Lake 88.73 326 *eP* **P 22 03 50.9 +0.8**
comp=Z,46nm,1.4s
CHMT Chamberlain Mo 88.87 333 *eP* **P 22 03 48.4 -2.3**
comp=Z,1.4nm,0.8s
A19A Klindworth Far 88.97 336 P **P 22 03 51.0 +0.1**
baz=89
I07A Izee 89.16 328 *eP* **P 22 03 53.3 +1.4**
comp=Z,13nm,1.4s
LSZ Lusaka 89.32 108 *eP* **P 22 03 55.7 +2.2**
LSZ pmax pmax
comp=Z,6.0nm,1.0s

LSZ Lusaka 89.32 108 *eP* **P 22 03 55.7 +2.2**
comp=Z,6.4nm,1.0s
F10A Beach Ranch, E 89.68 330 *eP* P 22 04 00.0 +5.7
comp=Z,6.9nm,1.0s
JTMT Jette 89.95 333 *eP* **P 22 03 54.5 -1.1**
comp=Z,2.6nm,0.6s
TAM Tamanrasset 92.33 64 *eP* **P 22 04 06.3 -1.0**
TAM pmax pmax
comp=Z,2.0nm,0.9s
TAM Tamanrasset 92.33 64 *eP* **P 22 04 06.3 -1.0**
comp=Z,1.7nm,0.9s
EDM Edmonton 94.15 336 *eP* **P 22 04 13.9 -0.9**
EDM Edmonton 94.15 336 *eP* **P 22 04 13.8 -0.9**
FCC Fort Churchill 94.29 348 *eP* **P 22 04 13.8 -1.3**
FCC Fort Churchill 94.29 348 *eP* **P 22 04 13.8 -1.3**
DZM Mont Dzumac 101.69 233 *e*LR LR 22 38 19.7
comp=Z,182nm,28.1s
YKA Yellowknife Ar 102.18 341 P **Pdif 22 04 50.0 -0.6**
comp=Z,0.4nm,0.7s,baz=139,slow=4.3,SNR=10.0
YKA pP 22 05 02.8
comp=Z,0.5nm,0.5s,baz=144,slow=4.7,SNR=8.8
GERES GERESS Array B 111.75 45 PKiKP **PKiKP 22 09 30.4 -0.5**
comp=Z,0.4nm,0.7s,baz=153,slow=0.6,SNR=4.9
GERES pPKiKP **pPKiKP 22 09 44.0 -0.6**
comp=Z,0.5nm,0.6s,baz=225,slow=1.5,SNR=3.6
ILAR Eielson Array 114.39 333 PKiKP PKPdf 22 09 34.9 -0.4
comp=Z,0.4nm,0.5s,baz=102,slow=1.6,SNR=4.7
ILAR pPKiKP pPKiKP 22 09 48.2 -0.7
comp=Z,0.8nm,0.7s,baz=146,slow=2.1,SNR=5.1
VYHS Vyhne 114.67 47 *e*PKIKP PKPdf 22 09 31.6 -4.7
VYHS Vyhne 114.67 47 *e* PKPdf 22 09 31.6 -4.7
VYHS Vyhne 114.67 47 *e*PKP PKPdf 22 09 49.8 +13
KOLS Kolonicke sedl 116.94 48 *e*PKIKP **PKPdf 22 09 40.8 +0.1**
KOLS Kolonicke sedl 116.94 48 *e*PKP **PKPdf 22 09 40.8 +0.1**
ASAR Alice Springs 117.85 206 PKP **PKPdf 22 09 42.0 -1.4**
comp=Z,0.9nm,0.8s,baz=146,slow=2.2,SNR=7.3
ASAR pPKP **pPKPdf 22 09 55.6 -1.5**
comp=Z,1.1nm,0.8s,baz=132,slow=1.6,SNR=6.3
WRA Warramunga Arr 121.06 208 PKP **PKPdf 22 09 48.5 -1.1**
comp=Z,1.8nm,0.7s,baz=159,slow=1.7,SNR=19
WRA pPKP **pPKPdf 22 10 02.2 -1.1**
comp=Z,2.6nm,0.6s,baz=171,slow=1.6,SNR=9.9
BRTR Keskin Array B 121.35 61 PKP **PKPdf 22 09 48.1 -1.5**
comp=Z,1.1nm,0.8s,baz=236,slow=1.3,SNR=7.4
BRTR pPKP **pPKPdf 22 10 02.8 -0.6**
comp=Z,1.9nm,0.8s,baz=183,slow=2.4,SNR=8.6
AKASG Malin Array Be 121.77 47 PKP **PKPdf 22 09 48.6 -1.3**
comp=Z,2.2nm,0.8s,baz=262,slow=3.0,SNR=8.9
AKASG pPKP **pPKPdf 22 10 02.2 -1.3**
comp=Z,1.6nm,0.5s,baz=260,slow=2.6,SNR=3.7
FINES FINESS Array B 122.65 34 PKP **PKPdf 22 09 50.0 -1.3**
comp=Z,2.2nm,1.1s,baz=49,slow=8.8,SNR=3.8
FINES pPKP **pPKPdf 22 10 04.4 -0.5**
comp=Z,1.6nm,0.6s,baz=116,slow=0.3,SNR=4.0
ARCES ARCESS Array B 123.75 25 PKP **PKPdf 22 09 52.2 -0.9**
comp=Z,1.5nm,0.7s,baz=238,slow=4.2,SNR=11
JOF Joensuu 125.31 33 *e*PKIKP **PKPdf 22 09 55.2 -1.1**
JOF Joensuu 125.31 33 *ep* **PKPdf 22 09 55.2 -1.1**
OBN Obninsk 127.04 43*c i*PKIKP **PKPdf 22 09 59.2 -0.6**
OBN *i* 22 10 13.2
OBN pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 129.02 58 *e*PKIKP **PKPdf 22 10 03.8 -0.3**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KLMR Klimovskoe 129.05 36 *e*PKIKP **PKPdf 22 10 02.0 -1.5**
KLMR pmax pmax
comp=Z,18nm,1.5s
KBZ Khabaz 129.12 58 PKP **PKPdf 22 10 04.0 -0.1**
comp=Z,1.4nm,0.9s,baz=121,slow=6.7,SNR=5.5
ZEI Tsey 129.63 60 *i* PKIKP PKPdf 22 10 17.7 +12
ZEI pmax pmax
comp=Z,3.0nm,1.3s
PRGR Permogore 131.98 35 *e*PKIKP PKPdf 22 10 21.8 +13
PRGR pmax pmax
comp=Z,4.0nm,0.5s
BILL Bilibino 133.02 334 *i* PKIKP **PKPdf 22 10 11.6 +0.8**
BILL *i* 22 10 25.2
BILL pmax pmax
comp=Z,6.0nm,1.4s
GEYT Alibeck 139.34 69 PKP **PKPdf 22 10 21.9 -1.6**
comp=Z,0.7nm,0.5s,baz=253,slow=4.5,SNR=4.3
GEYT pPKP **pPKPdf 22 10 37.0 -0.2**
comp=Z,1.5nm,0.6s,baz=267,slow=5.2,SNR=4.7
ARU Arti 139.36 41 *i* PKIKP **PKPdf 22 10 22.7 -0.2**
ARU Arti 139.36 41 *e*PKPdf **PKPdf 22 10 23.2 +0.3**
SEY Seymchan 140.25 330 PKP **PKPdf 22 10 24.4 +0.1**
comp=Z,3.6nm,0.8s,baz=109,slow=1.1,SNR=11
SEY pPKP **pPKPdf 22 10 38.2 +0.2**
comp=Z,7.3nm,0.6s,baz=108,slow=4.0,SNR=12
TIXI Tiksi 140.74 350 *e*PKIKP **PKPdf 22 10 26.7 +1.7**
TIXI Tiksi 140.74 350 *e*PKPdf **PKPdf 22 10 26.7 +1.7**
ABKAR Akbulak array 141.24 52 *e*PKPpre PKPpre 22 10 19.1
POO Poona 145.45 108 *e*P **PKPdf 22 10 33.3 -1.7**
POO Poona 145.45 108 ⇓*i*P **PKPdf 22 10 34.0 -1.0**
comp=Z,50nm,1.0s
GSI Gunungsitoli 145.92 160 *e*PKPdf **PKPdf 22 10 36.1 +0.2**
BRVK Borovoye 146.81 43*c i*PKP2 **PKPbc 22 10 37.6 -0.4**
BRVK pmax pmax
comp=Z,22nm,1.7s
BRVK Borovoye 146.81 43 *e*PKPdf **PKPbc 22 10 38.0 -0.1**
MDRS Chennai 146.90 122 *eP* **PKPdf 22 10 36.6 -0.9**
KBL Kabul 147.44 78 *e*PKIKP **PKPdf 22 10 38.5 +0.4**
KBL Kabul 147.44 78 *e*PKPdf **PKPdf 22 10 38.5 +0.4**
HYB Hyderabad 148.47 114 *i* PKP **PKPbc 22 10 43.5 -0.1**
HYB Hyderabad 148.47 114 *eP* **PKPdf 22 10 39.0 -1.0**
YAK Yakutsk 148.86 341 *e*PKIKP **PKPdf 22 10 38.5 -0.7**
YAK pmax pmax
comp=Z,34nm,0.9s
YAK Yakutsk 148.86 341 *e*PKPdf **PKPbc 22 10 42.8 -0.4**
YAK *e*PKPab PKPab 22 10 56.2 +9.0
KKAR Karatay Array 149.06 61 *e*PKP2 **PKPbc 22 10 43.9 -0.5**
KKAR Karatay Array 149.06 61 *e*PKPdf **PKPbc 22 10 43.9 -0.5**
LHMI Lhok Sumawe 149.44 157 *e*PKPdf **PKPbc 22 10 46.2 +0.1**
IPM Ipoh 149.84 165 *e*PKPdf **PKPbc 22 10 46.8 -0.4**
IPM *e*PKPab PKPab 22 11 00.7 +8.1
CMBY CAMPBELL BAY 149.96 150 *eP* **PKPdf 22 10 41.0 -1.5**
KULM Kulim 150.54 164 *e*PKPdf **PKPbc 22 10 48.0 -0.8**
KULM *e*PKPab PKPab 22 11 02.0 +6.5
BHPL Bhopal 150.73 103 *eP* **PKPdf 22 10 41.7 -1.8**
YSS Yuzh-Sakhalins 151.18 307 *e*PKIKP **PKPbc 22 10 47.3 -2.0**
YSS *e* 22 11 02.0
YSS Yuzh-Sakhalins 151.18 307 *e*PKPdf **PKPdf 22 10 42.4 -1.0**
AML Almayashu 151.48 63 P **PKPbc 22 10 51.2 +0.5**
SNR=7.0
EKS2 Erkin-Say 151.49 62 P **PKPbc 22 10 51.1 +0.8**
SNR=6.9
EKS2 Erkin-Say 151.49 62 *e*PKIKP **PKPdf 22 10 45.7 +1.5**
EKS2 Erkin-Say 151.49 62 *e*PKPdf **PKPdf 22 10 45.7 +1.5**
ASAJ Asahikawa 151.88 301 PKPbc **PKPbc 22 10 51.1 0.0**
comp=Z,8.2nm,0.9s,baz=206,slow=14,SNR=4.6
ASAJ pPKPbc **pPKPbc 22 11 03.7 -1.0**
comp=Z,22nm,0.9s,baz=318,slow=7.7,SNR=5.9
ASAJ Asahikawa 151.88 301 PKPbc **PKPbc 22 10 51.1 0.0**
ASAJ pPKPbc **pPKPbc 22 11 03.7 -1.0**
ASAJ *e*PKPab **PKPab 22 11 04.4 +4.1**
USP Ospenovka 151.94 61 P **PKPbc 22 10 51.8 +0.5**
SNR=7.0
AAK Ala-Archa 152.02 62 P **PKPbc 22 10 52.2 +0.5**
SNR=11
AAK Ala-Archa 152.02 62*c i*PKP2 PKPab 22 11 06.7 +5.5
AAK pmax pmax
comp=Z,15nm,0.7s
AAK Ala-Archa 152.02 62 *e*PKPdf **PKPdf 22 10 45.9 +0.8**
UCH Uchtor 152.08 63 P **PKPbc 22 10 52.7 +0.6**
SNR=8.8
CHMS Chumysh 152.16 61 P **PKPbc 22 10 51.9 +0.1**
SNR=5.6
KURK Kurchatov 152.48 43 *e*PKIKP **PKPdf 22 10 45.3 +0.1**
KURK *e* 22 10 59.8
KURK Kurchatov 152.48 43 *e*PKPdf **PKPdf 22 10 45.3 +0.1**
KURK *e*PKPab **PKPab 22 10 59.8 -2.8**
NVS Novosibirsk 152.62 33 ⇑*i*PKIKP **PKPbc 22 10 51.8 -0.5**
NVS *i* 22 11 05.5
NVS pmax pmax
comp=Z,23nm,0.8s
NVS pmax pmax
comp=E,3.0nm,0.7s
TKM2 Tokmak 2 152.79 61 P **PKPbc 22 10 53.7 +0.3**
SNR=5.0
TKM2 Tokmak 2 152.79 61 *e*PKIKP **PKPdf 22 10 46.6 +0.4**
TKM2 Tokmak 2 152.79 61 *e*PKPdf **PKPdf 22 10 46.6 +0.4**
DHRM DHARAMSHALA 152.95 85 *eP* **PKPdf 22 10 45.6 -1.3**
KSH Kashi 153.36 68 PKPbc **PKPdf 22 10 47.3 +0.2**
KSH sPKP 22 11 05.5
KSH PKS **PKSdf 22 14 22.2 +0.7**
KSH PP **PP 22 14 39.5 -1.8**
KSH SKS **SKSdf 22 17 51.3 +0.7**
KSH SKKS **SKKSac 22 21 27.9 +0.4**
KSH SS **SS 22 34 10.1 -3.2**
KSH PPMZ
comp=E,81nm,5.1s
KSH LN
comp=E,34nm,5.7s
KSH LE
comp=E,40nm,4.4s
KSH LZ
comp=E,100nm,5.0s
SMLA Simla 153.41 87 *eP* **PKPdf 22 10 46.2 -1.0**
ZALV Zalesovo Beam 153.90 33 PKP **PKPdf 22 10 46.7 -0.4**
comp=E,2.8nm,0.9s,baz=276,slow=2.8,SNR=14
ZALV PKPbc **PKPbc 22 10 55.1 -0.1**
comp=E,13nm,0.8s,baz=300,slow=3.3,SNR=47
ZALV PKPab **PKPab 22 11 08.3 -0.2**
comp=E,5.4nm,0.5s,baz=316,slow=2.8,SNR=15
DDI Dehra Dun 153.94 90 *eP* **PKPdf 22 10 45.5 -2.6**
BOD Bodaibo 155.85 353 *e*PKIKP PKPdf 22 10 57.7 +8.0
BOD *e* 22 11 14.2
BOD pmax pmax
comp=Z,5.0nm,0.9s
BOD pmax pmax
comp=Z,6.0nm,1.0s
MKAR Makanchi Array 156.33 49 PKP **PKPdf 22 10 50.8 0.0**
comp=Z,1.8nm,0.9s,baz=285,slow=1.9,SNR=15
MKAR PKPab **PKPab 22 11 18.9 -0.4**
comp=Z,3.6nm,0.8s,baz=269,slow=2.9,SNR=8.8
KOLN Koldanda 157.71 99 *eP* **PKPdf 22 10 52.7 -0.7**
comp=Z,19nm,1.0s
BOK Bokaro 157.73 111 *eP* **PKPdf 22 10 52.2 -1.1**
DANN Dangsing 158.05 98 *eP* **PKPdf 22 10 53.7 -0.2**
GKN Gorkha 158.64 100 *eP* **PKPdf 22 10 53.7 -0.7**
comp=Z,25nm,1.1s
DMN Daman 158.88 101 *eP* **PKPdf 22 10 54.3 -0.6**
comp=Z,18nm,1.2s
KKN Kakani 159.09 101 *eP* **PKPdf 22 10 54.5 -0.6**
comp=Z,10nm,0.9s
PKIN Phulchoki 159.10 101 *eP* **PKPdf 22 10 54.0 -1.1**
PKI Pulchoki 159.11 101 *eP* **PKPdf 22 10 54.4 -0.8**
comp=Z,17nm,1.0s
USRK Ussuriysk Ar. 159.22 306 PKPab **PKPab 22 11 32.2 +0.5**
comp=Z,0.6nm,0.6s,baz=116,slow=3.4,SNR=3.8
USRK pPKPab **pPKPab 22 11 44.3 -0.8**
comp=Z,1.5nm,0.6s,baz=76,slow=3.7,SNR=7.0
GUN Gumba 159.62 101 *eP* **PKPdf 22 10 55.3 -0.5**
comp=Z,28nm,1.2s
JIRN Jiri 159.78 102 *eP* **PKPdf 22 10 54.6 -1.5**
comp=Z,21nm,1.1s
RAMN Ramite 159.82 104 *eP* **PKPdf 22 10 55.8 -0.2**
comp=Z,38nm,1.1s
ODAN Odare 160.41 105 *eP* **PKPdf 22 10 56.4 -0.2**
comp=Z,23nm,0.9s
TAPN Taplejung 160.88 105 *eP* **PKPdf 22 10 57.1 -0.1**
comp=Z,14nm,1.4s
WMQ Urumqi 161.02 53 *e*PKP **PKPdf 22 10 56.3 -0.2**
WMQ LN
comp=Z,25nm,21.0s
WMQ LE
comp=Z,43nm,23.0s
WMQ LZ
comp=Z,46nm,20.0s
CMAR Chiang Mai Arr 162.32 148 PKP **PKPdf 22 10 57.8 -0.7**
comp=Z,1.4nm,0.9s,baz=259,slow=3.1,SNR=7.8
CMAR pPKP **pPKPdf 22 11 12.3 0.0**
comp=Z,2.7nm,0.9s,baz=248,slow=2.4,SNR=8.0
CMAR PKPab **PKPab 22 11 46.4 +0.5**
comp=Z,0.4nm,0.4s,baz=242,slow=1.9,SNR=2.6
CMAR pPKPab **pPKPab 22 11 58.3 -0.8**
comp=Z,1.4nm,0.9s,baz=224,slow=6.0,SNR=2.8
ZAK Zakamensk 163.12 12 *e*PKP2 **PKPab 22 11 46.1 -2.5**
ZAK pmax pmax
comp=Z,2.0nm,1.0s
SHL Shillong 163.27 116 *eP* **PKPdf 22 10 57.2 -2.3**
CN2 Changchun 163.63 312 *e*PKP **PKPdf 22 10 59.3 +0.3**
LSA Lhasa 164.58 101 *e*PKIKP **PKPdf 22 11 00.0 -1.0**
LSA Lhasa 164.58 101 *e*PKPdf **PKPdf 22 10 60.0 -1.0**
SONM Songino Array 166.03 6 PKP **PKPdf 22 11 00.8 -0.4**
comp=Z,0.4nm,0.7s,baz=164,slow=1.7,SNR=6.1
SONM pPKP **pPKPdf 22 11 13.5 -1.5**
comp=Z,0.8nm,0.7s,baz=160,slow=1.9,SNR=6.0
SONM PKPab **PKPab 22 12 01.4 -0.1**
comp=Z,1.4nm,0.9s,baz=319,slow=3.8,SNR=6.8
ULN Ulaanbaatar 166.05 4 *e*PKP2 **PKPab 22 12 01.8 +0.2**
ULN Ulaanbaatar 166.05 4 *e*PKPab **PKPab 22 12 01.8 +0.2**
KMI Kunming 169.84 148 PKP **PKPdf 22 11 07.9 +3.3**
GTA Gaotai 171.09 50 *e*PKP **PKPdf 22 11 05.4 +0.6**
GTA pPKP **pPKPdf 22 11 18.8 +0.2**
GTA sPKP 22 11 23.6
GTA PKPab **PKPab 22 12 24.6 +0.3**
NJ2 Nanjing 171.18 260 *e*PKP **PKPdf 22 11 08.2 +3.4**
GYA Guiyang 172.35 167 PKP **PKPdf 22 11 06.0 +0.3**
GYA pPKP **pPKPdf 22 11 21.4 +1.9**
GYA PKPab **PKPab 22 12 33.8 +3.8**
GYA PKS **PKSdf 22 14 37.2 -1.0**
GYA PP PP 22 16 25.6 +5.3
GYA SKKS 22 23 04.3
GYA SS **SS 22 37 29.5 +2.4**
GYA PPMZ
comp=Z,120nm,8.0s
GYA LN
comp=Z,130nm,21.4s
GYA LE
comp=Z,110nm,22.2s
GYA LZ
comp=Z,120nm,21.6s
HHC Hu-ho-hao-te 172.72 342 *e*PKP **PKPdf 22 11 07.3 +1.9**
HHC PP **PP 22 16 27.0 +4.8**
HHC SKS **SKSdf 22 18 05.3 +0.2**
HHC SKKS **SKKSac 22 23 08.9 +3.2**
HHC SS **SS 22 37 33.0 +2.1**
HHC PPMZ
comp=Z,73nm,5.5s
HHC LN
comp=Z,180nm,20.0s
HHC LE
comp=Z,190nm,20.8s
HHC LZ
comp=Z,110nm,20.0s
CD2 Chengdu 174.91 125 *e*PKP **PKPdf 22 11 06.6 +0.1**
LZH Lanzhou 175.56 60 *e*PKP **PKPdf 22 11 08.5 +1.9**
LZH pPKP **pPKPdf 22 11 21.0 +0.6**
LZH sPKP 22 11 25.8

*ISCJB **01** 22:17:28.0±0.6, 34°.74S±0°.07×72°.6W±0°.1, h10km, mb4.2/9, MS3.2/1, Error ellipse: s-maj=16.3km s-min=9.9km az=173.4*
*IDC **01** 22:17:28.4±0.9, 34°.72S×72°.73W, h0km, mb3.8/6, mb1 4.1/8, mb1mx4.0/24, mbtmp3.8/8, ML4.9/1, MS2.9/4, Ms1 2.9/4, ms1mx2.8/30, Error ellipse: s-maj=33.3km s-min=19.9km az=91.0*
*NEIC **01** 22:17:33.1±0.5, 34°.76S×72°.61W, h35km, mb4.3/5, Error ellipse: s-maj=14.1km s-min=8.7km az=85.0*
ISC 01 22:17:29.7±0.7, 34°.75S±0°.08×72°.7W±0°.1, h10km, n22, σ1§03/20, mb4.1/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.91**	**52**	Pn	**Pn**	**22 18 44.1**	**+0.6**
0.5nm,0.3s,baz=215,slow=10,SNR=9.2							
CFAA				Lg	Lg	22 19 52.4	
1.4nm,0.3s,baz=318,slow=21,SNR=6.8							
CFAA				LR	LR	22 20 30.4	
comp=Z,14nm,21.1s,baz=231,slow=37							
PLCA	**Paso Flores**	**6.22**	**164**	Pn	**Pn**	**22 19 03.1**	**+1.4**
5.8nm,0.3s,baz=337,slow=12,SNR=16							
PLCA				Lg	Lg	22 20 38.5	
1.7nm,0.3s,baz=262,slow=15,SNR=2.4							
PLCA				LR	LR	22 21 36.6	
comp=Z,213nm,20.6s,baz=34,slow=40							
PLCA	**Paso Flores**	**6.22**	**164**	*eP*	**Pn**	**22 19 00.8**	**-0.9**
16nm,0.4s							
PLCA				Lg	Lg	22 20 38.5	
TRQA	**Tornquist**	**9.28**	**114**	*e*Pn	**Pn**	**22 19 42.8**	**-0.8**
LVC	**Limon Verde**	**12.55**	**17**	*e*Pn	**Pn**	**22 20 27.4**	**-1.1**
CPUP	**Villa Florida**	**15.69**	**62**	LR	LR	22 27 15.0	
comp=Z,48nm,18.7s,baz=216,slow=37							
LPAZ	**La Paz**	**18.84**	**14**	P	**Pn**	**22 21 53.0**	**+2.1**
0.3nm,0.3s,baz=191,slow=9.7,SNR=7.4							
LPAZ	**La Paz**	**18.84**	**14**	*eP*	**P**	**22 21 49.8**	**-0.7**
4.7nm,0.9s							
USHA	**Ushuaia**	**20.31**	**173**	P	Pn	22 22 10.8	+3.2
10nm,0.9s,baz=352,slow=15,SNR=3.9							
SIV	**San Ignacio**	**21.41**	**32**	P	**P**	**22 22 17.4**	**-0.5**
2.9nm,0.7s,baz=220,slow=11,SNR=8.3							
SIV				LR	LR	22 32 08.5	
comp=Z,85nm,18.2s,baz=204,slow=41							
SNAA	**Sanae**	**51.12**	**158**	P	**P**	**22 26 32.0**	**-0.2**
0.5nm,0.8s,baz=292,slow=11,SNR=3.8							
SNAA	**Sanae**	**51.12**	**158**	*eP*	**P**	**22 26 32.2**	**0.0**
4.1nm,1.0s							
QSPA	**South Pole Qui**	**55.49**	**180**	P	**P**	**22 27 06.0**	**+1.4**
2.9nm,1.0s,baz=169,slow=3.2,SNR=3.9							
QSPA	**South Pole Qui**	**55.49**	**180**	*eP*	**P**	**22 27 04.0**	**-0.6**
3.2nm,0.9s							
KMSC	**Kings Mountain**	**69.99**	**353**	*eP*	**P**	**22 28 41.4**	**+0.1**
26nm,0.4s							
TXAR	**Lajitas Array**	**70.11**	**331**	P	**P**	**22 28 44.1**	**+1.9**
0.8nm,0.5s,baz=162,slow=8.4,SNR=5.5							
WVT	**Waverly**	**71.90**	**347**	*eP*	**P**	**22 28 52.1**	**-0.7**
4.9nm,0.6s							
ANMO	**Albuquerque**	**76.16**	**332**	*eP*	**P**	**22 29 18.3**	**+0.2**
1.6nm,0.8s							
NVAR	**Mina Array Bea**	**84.17**	**326**	P	**P**	**22 30 00.5**	**-0.7**
0.6nm,0.8s,baz=140,slow=7.1,SNR=3.6							
TORD	**Torodi Ar. Bea**	**85.01**	**70**	P	**P**	**22 30 06.0**	**+0.3**
0.4nm,0.6s,baz=222,slow=1.9,SNR=3.9							
WRA	**Warramunga Arr**	**119.83**	**210**	PKP	**PKPdf**	**22 36 19.8**	**-1.0**
0.3nm,0.7s,baz=158,slow=1.7,SNR=6.7							
MKAR	**Makanchi Array**	**157.69**	**50**	PKPab	**PKPab**	**22 37 58.2**	**-0.3**
0.1nm,0.4s,baz=303,slow=2.7,SNR=4.0							

*IDC **01** 22:26:14.9±1.7, 26°.03N×128°.88E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/30, mbtmp3.3/3, Error ellipse: s-maj=47.4km s-min=21.6km az=68.0*
*JMA **01** 22:26:17.0±0.3, 25°.91N×128°.72E, h35km, M2.8*
ISC 01 22:26:16.3±1.7, 25°.97N±0°.06×128°.73E±0°.05, h12km±10km, n14, σ1§34/20, mb3.2/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.84**	**311**	P	**Pg**	**22 26 33.0**	**+0.5**
JJT2	**Tamagusuku 2**	**0.90**	**281**	P	**Pg**	**22 26 33.5**	**-0.1**
JOW	**Kunigami**	**0.95**	**335**	P	**Pg**	**22 26 35.2**	**+0.5**
JOW	**Kunigami**	**0.95**	**335**	Pn	**Pg**	**22 26 35.0**	**+0.2**
11nm,0.3s,baz=145,slow=25,SNR=245							
JOW				Sn	**Sg**	**22 26 46.0**	**-1.2**
4.7nm,0.3s,baz=131,slow=19,SNR=12							
JIH	**Iheya**	**1.27**	**327**	P	**Pn**	**22 26 39.9**	**+0.1**
JIH				*e*S	**Sb**	**22 26 55.3**	**-1.0**
JOKE	**Okinoerabujima**	**1.40**	**354**	P	**Pn**	**22 26 41.8**	**+0.2**
JOKE				S	**Sn**	**22 26 58.0**	**-2.0**
JAGN	**Aguni-jima**	**1.47**	**295**	P	**Pn**	**22 26 42.7**	**+0.1**
JAGN				S	**Sn**	**22 27 00.4**	**-1.5**
JKE	**Kume jima 2**	**1.78**	**282**	P	**Pn**	**22 26 46.4**	**-0.5**
JKE				*e*S	**Sn**	**22 27 07.3**	**-2.2**
JTK	**Tokunoshima**	**1.82**	**6**	P	**Pn**	**22 26 47.7**	**+0.2**
JMZ	**Minamidaito 2**	**2.25**	**93**	P	**Pn**	**22 26 53.0**	**-0.3**
JMZ				*e*S	**Sn**	**22 27 18.1**	**-2.9**
JAMN	**Amaminishikomi**	**2.30**	**10**	P	**Pn**	**22 26 54.5**	**+0.4**
SONM	**Songino Array**	**28.02**	**327**	P	**P**	**22 32 09.4**	**+2.1**
0.2nm,0.4s,baz=135,slow=8.7,SNR=5.3							
MKAR	**Makanchi Array**	**42.04**	**312**	P	**P**	**22 34 08.6**	**+0.8**
0.1nm,0.6s,baz=101,slow=10.0,SNR=3.1							
WRA	**Warramunga Arr**	**45.96**	**173**	P	**P**	**22 34 39.9**	**+0.5**
0.6nm,1.0s,baz=354,slow=8.6,SNR=3.1							

*IDC **01** 22:35:13.7±1.0, 34°.71S×72°.27W, h0km, mb3.9/8, mb1 4.1/11, mb1mx4.0/38, mbtmp4.0/11, ML4.3/2, MS2.5/1, Ms1 2.5/1, ms1mx2.5/22, Error ellipse: s-maj=37.8km s-min=16.5km az=90.0*
*ISCJB **01** 22:35:16.4±0.6, 34°.79S±0°.07×72°.1W±0°.1, h35km, mb4.0/10, Error ellipse: s-maj=17.6km s-min=9.3km az=176.6*
*NEIC **01** 22:35:17.8±0.6, 34°.80S×72°.14W, h35km, mb4.4/6, Error ellipse: s-maj=16.0km s-min=9.1km az=86.0*
ISC 01 22:35:18.6±0.7, 34°.75S±0°.07×72°.1W±0°.1, h35km, n21, σ1§26/20, mb4.2/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.48**	**47**	Pn	**Pn**	**22 36 25.9**	**+1.8**
0.7nm,0.3s,baz=214,slow=14,SNR=8.1							
CFAA				Lg	Lg	22 37 32.0	
1.2nm,0.3s,baz=315,slow=20,SNR=4.2							
CFAA				LR	LR	22 38 13.8	
comp=Z,60nm,21.4s,baz=236,slow=39							
PLCA	**Paso Flores**	**6.10**	**169**	Pn	**Pn**	**22 36 46.8**	**+0.6**
2.5nm,0.3s,baz=331,slow=7.2,SNR=3.5							
PLCA				Lg	Lg	22 38 22.2	
1.6nm,0.3s,baz=255,slow=22,SNR=7.6							
PLCA	**Paso Flores**	**6.10**	**169**	*e*Pn	Pn	22 36 35.1	-11
42nm,1.0s							
PLCA				Lg	Lg	22 38 22.2	
TRQA	**Tornquist**	**8.78**	**115**	*e*Pn	**Pn**	**22 37 21.6**	**-1.4**
24nm,1.5s							
LVC	**Limon Verde**	**12.40**	**14**	*e*Pn	**Pn**	**22 38 11.1**	**-1.8**
LPAZ	**La Paz**	**18.72**	**12**	P	**Pn**	**22 39 35.6**	**+0.2**
0.3nm,0.3s,baz=185,slow=11,SNR=16							
LPAZ	**La Paz**	**18.72**	**12**	*eP*	**P**	**22 39 35.0**	**+0.2**
8.5nm,0.8s							
USHA	**Ushuaia**	**20.24**	**174**	P	**P**	**22 39 50.1**	**-0.5**
6.6nm,0.7s,baz=326,slow=15,SNR=2.6							
SIV	**San Ignacio**	**21.12**	**31**	P	**P**	**22 39 60.0**	**-0.5**
2.3nm,0.6s,baz=228,slow=13,SNR=9.3							
NNA	**Nana**	**23.07**	**348**	P	**P**	**22 40 20.5**	**-0.6**
13nm,0.9s,baz=191,slow=9.9,SNR=4.8							
SAML	**Samuel**	**26.94**	**20**	*eP*	**P**	**22 40 57.3**	**+0.6**
1.2nm,0.8s							
SNAA	**Sanae**	**50.91**	**158**	P	**P**	**22 44 17.3**	**+1.4**
0.7nm,0.7s,baz=288,slow=13,SNR=2.7							
SNAA	**Sanae**	**50.91**	**158**	*eP**	**P**	**22 44 14.6**	**-1.3**
12nm,1.4s							
QSPA	**South Pole Qui**	**55.49**	**180**	P	**P**	**22 44 50.5**	**+0.7**
1.6nm,0.9s,baz=122,slow=2.0,SNR=5.3							
QSPA	**South Pole Qui**	**55.49**	**180**	*eP*	**P**	**22 44 47.3**	**-2.5**
22nm,1.8s							
WVT	**Waverly**	**72.03**	**347**	*eP*	**P**	**22 46 37.4**	**-1.3**
5.4nm,0.6s							
ANMO	**Albuquerque**	**76.42**	**331**	*eP*	**P**	**22 47 03.9**	**-0.7**
1.7nm,0.8s							
BOSA	**Boshof**	**79.75**	**118**	P	**P**	**22 47 25.4**	**+2.0**
2.2nm,0.7s,baz=299,slow=1.4,SNR=5.5							
PDAR	**Pinedale Array**	**84.42**	**333**	P	**P**	**22 47 47.5**	**+0.1**
0.5nm,0.8s,baz=130,slow=3.6,SNR=3.5							
TORD	**Torodi Ar. Bea**	**84.48**	**70**	P	**P**	**22 47 48.3**	**+0.2**
0.7nm,1.0s,baz=274,slow=5.0,SNR=3.2							
ZALV	**Zalesovo Beam**	**154.86**	**33**	PKPbc	**PKPbc**	**22 55 16.2**	**+0.6**
0.3nm,0.3s,baz=208,slow=2.8,SNR=2.3							

*IDC **01** 22:37:49.9±1.4, 35°.22S×72°.80W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/36, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=49.5km s-min=34.0km az=128.0*
*ISCJB **01** 22:37:53.5±2.2, 35°.1S±0°.3×72°.7W±0°.3, h33km, mb3.7/3, Error ellipse: s-maj=43.6km s-min=29.1km az=157.4*
ISC 01 22:37:55.6±1.5, 35°.1S±0°.2×72°.8W±0°.2, h35km, n8, σ0§86/8, mb3.7/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.13**	**49**	Pn	**Pn**	**22 39 10.2**	**+0.1**
0.2nm,0.3s,baz=241,slow=13,SNR=2.5							
CFAA				Lg	Lg	22 40 24.4	
0.3nm,0.3s,baz=98,slow=15,SNR=2.5							
LPAZ	**La Paz**	**19.18**	**14**	P	**Pn**	**22 42 18.1**	**+0.1

mb1 4.2/11, mb1mx4.0/35, mbtmp4.1/11, ML4.0/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/10, Error ellipse: s-maj=29.1km s-min=18.3km az=90.0
ISCJB ***01*** *22:39:10.2±0.8, 36°.05S×72°.8W±0°.2, h28km, mb4.0/9, MS3.6/1, Error ellipse: s-maj=20.1km s-min=11.8km az=170.3*
NEIC ***01*** *22:39:12.2±0.6, 36°.05S×72°.81W, h35km, mb4.2/2, Error ellipse: s-maj=17.3km s-min=13.6km az=75.0*
ISC 01 22:39:11.6±0.8, 36°.15±0°.1×72°.8W±0°.1, h28km, n17, σ0s79/16, mb4.2/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.99**	**160**	Pn	**Pn**	**22 40 25.2**	**+0.6**
	1.2nm,0.3s,baz=329,slow=11,SNR=5.1						
PLCA				Lg	Lg	22 41 44.0	
	4.6nm,0.3s,baz=252,slow=18,SNR=7.3						
TRQA	**Tornquist**	**8.90**	**106**	*e*Pn	**Pn**	**22 41 17.5**	**-0.9**
LPAZ	**La Paz**	**20.15**	**13**	P	Pn	22 43 45.5	-0.8
	3.2nm,0.8s,baz=214,slow=3.6,SNR=4.2						
LPAZ	**La Paz**	**20.15**	**13**	*e*Pn	**P**	**22 43 43.9**	**-0.4**
	7.0nm,0.9s						
SIV	**San Ignacio**	**22.59**	**31**	P	**P**	**22 44 09.9**	**-0.1**
	13nm,0.9s,baz=226,slow=15,SNR=19						
SIV				LR	LR	22 54 37.8	
	comp=Z,201nm,18.9s,baz=219,slow=41						
BDFB	**Brasilia**	**30.07**	**54**	P	**P**	**22 45 20.5**	**+1.8**
	3.1nm,0.7s,baz=210,slow=14,SNR=2.5						
SNAA	**Sanae**	**49.92**	**157**	P	**P**	**22 48 02.4**	**-0.1**
	0.8nm,1.0s,baz=305,slow=12,SNR=3.4						
QSPA	**South Pole Qui**	**54.16**	**180**	P	**P**	**22 48 34.4**	**+0.3**
	1.1nm,0.9s,baz=110,slow=6.5,SNR=3.2						
QSPA	**South Pole Qui**	**54.16**	**180**	*e*P	**P**	**22 48 34.0**	**-0.2**
	2.9nm,0.8s						
TXAR	**Lajitas Array**	**71.23**	**332**	P	**P**	**22 50 28.8**	**+0.6**
	0.6nm,0.6s,baz=140,slow=7.1,SNR=3.1						
DBIC	**Dimbokro**	**76.47**	**71**	P	**P**	**22 50 59.6**	**+0.5**
	2.1nm,0.5s,baz=209,slow=6.2,SNR=7.7						
BOSA	**Boshof**	**79.69**	**118**	P	**P**	**22 51 16.9**	**-0.2**
	4.5nm,1.0s,baz=285,slow=6.5,SNR=4.1						
NVAR	**Mina Array Bea**	**85.22**	**326**	P	**P**	**22 51 45.0**	**-0.6**
	0.2nm,0.4s,baz=172,slow=2.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**85.53**	**70**	P	**P**	**22 51 47.2**	**-0.1**
	1.4nm,0.8s,baz=251,slow=4.1,SNR=6.8						
WRA	**Warramunga Arr**	**118.63**	**209**	PKP	**PKPdf**	**22 57 56.0**	**-1.5**
	0.4nm,0.9s,baz=147,slow=1.6,SNR=3.0						
PSI	**Prapat**	**146.03**	**165**	PKPbc	**PKPbc**	**22 58 48.2**	**-0.5**
	1.6nm,0.4s,baz=129,slow=18,SNR=3.8						
MKAR	**Makanchi Array**	**158.59**	**52**	PKPab	**PKPab**	**22 59 41.1**	**-0.3**
	0.3nm,0.7s,baz=298,slow=2.3,SNR=4.1						

IDC ***01*** *22:40:12.1±0.5, 34°.81S×74°.05W, h0km, mb4.5/16, mb1 4.6/18, mb1mx4.4/34, mbtmp4.5/18, ML3.6/2, MS3.8/2, Ms1 3.8/2, ms1mx3.6/6, Error ellipse: s-maj=21.8km s-min=14.8km az=80.0*
ISCJB ***01*** *22:40:17.5±0.5, 34°.60S±0°.09×73°.83W±0°.07, h33km, mb4.8/49, MS3.7/1, Error ellipse: s-maj=12.4km s-min=8.4km az=179.1*
NEIC ***01*** *22:40:18.0±0.3, 34°.83S×73°.81W, h35km, mb4.9/34, Error ellipse: s-maj=10.6km s-min=8.0km az=69.0*
NEIC Felt at Santiago and Valparaiso.
GCMT ***01*** *22:40:18.0±0.3, 34°.90S×74°.27W, h18km±1km, MW5.0/75, Moment Tensor Solution. s20,c21; s75,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.70±.26; $M_{\theta\theta}$1.17±.14; $M_{\phi\phi}$2.53±.19; $M_{r\theta}$0.42±.41; $M_{\theta\phi}$1.24±.10; $M_{r\phi}$0.90±.45; Best double couple: $M_0$3.62100×10^{16} NP1:φ=209.00000°, δ53.00000°, λ-92.00000°. NP2: φ=32.00000°, δ37.00000°, λ-88.00000°. Principal axes: T 3.4020, Plg8.0000°, Azm300.0000°; N 0.4380, Plg1.0000°, Azm210.0000°; P -3.8400, Plg82.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 22:40:18.3±0.4, 34°.73S±0°.07×73°.89W±0°.08, h35km, n104, σ1s60/115, mb4.8/49, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.67**	**58**	Pn	**Pn**	**22 41 40.0**	**-0.1**
	2.0nm,0.3s,baz=224,slow=10.0,SNR=5.9						
CFAA				Sn	**Sn**	**22 42 46.7**	**+2.7**
	1.6nm,0.3s,baz=312,slow=20,SNR=9.9						
LVC	**Limon Verde**	**12.84**	**21**	*e*Pn	Pn	22 43 14.5	-4.0
CPUP	**Villa Florida**	**16.53**	**64**	LR	LR	22 49 53.9	
	comp=Z,324nm,21.4s,baz=226,slow=35						
CPUP	**Villa Florida**	**16.53**	**64**	Pn	**Pn**	**22 44 04.0**	**-3.3**
LPAZ	**La Paz**	**19.08**	**17**	P	**P**	**22 44 37.4**	**-1.1**
	0.1nm,0.3s,baz=203,slow=5.5,SNR=1.8						
LPAZ	**La Paz**	**19.08**	**17**	*e*P	**Pn**	**22 44 39.8**	**+0.3**
	8.5nm,0.9s						
USHA	**Ushuaia**	**20.46**	**171**	P	**P**	**22 44 49.9**	**-2.6**
	9.3nm,0.7s,baz=335,slow=10.0,SNR=2.9						
USHA				LR	LR	22 52 31.8	
	comp=Z,338nm,21.3s,baz=328,slow=36						
SIV	**San Ignacio**	**21.92**	**35**	P	**P**	**22 45 08.1**	**-0.5**
	8.0nm,0.7s,baz=233,slow=9.9,SNR=7.0						
SAML	**Samuel**	**27.48**	**23**	*e*P	**P**	**22 46 01.5**	**+0.3**
	4.5nm,1.1s						
BDFB	**Brasilia**	**30.01**	**57**	P	**P**	**22 46 24.2**	**+0.3**
	3.9nm,0.6s,baz=244,slow=1.6,SNR=4.7						
OTAV	**Otavalo**	**35.05**	**352**	*e*P	**P**	**22 47 08.7**	**+0.4**
	2.8nm,0.6s						
SDV	**Santo Domingo**	**43.49**	**5**	*e*P	**P**	**22 48 17.8**	**-0.7**
	8.0nm,0.9s						
JTS	**JuntasAbangare**	**45.99**	**345**	*e*P	**P**	**22 48 36.9**	**-1.3**
SNAA	**Sanae**	**51.49**	**158**	P	**P**	**22 49 18.5**	**-1.4**
	5.0nm,0.8s,baz=277,slow=7.8,SNR=15						
SNAA	**Sanae**	**51.49**	**158**	*e*P	**P**	**22 49 17.3**	**-2.7**
	15nm,0.8s						
CELP	**Cerrillos**	**52.97**	**9**	*e*P	**P**	**22 49 30.2**	**-1.1**
QSPA	**South Pole Qui**	**55.51**	**180**	P	**P**	**22 49 48.0**	**-1.6**
	5.2nm,0.8s,baz=155,slow=5.2,SNR=7.5						
QSPA	**South Pole Qui**	**55.51**	**180**	*e*P	P	22 49 45.5	-4.0
	60nm,1.9s						
TEIG	**Tepich**	**56.34**	**344**	P	**P**	**22 49 53.3**	**-2.4**
	10.0nm,0.6s,baz=100,slow=11,SNR=4.0						
TEIG	**Tepich**	**56.34**	**344**	*e*P	**P**	**22 49 54.4**	**-1.3**
SYO	**Syowa Base**	**65.75**	**159**	||*e*P	P	22 51 03.4	+4.4
PPT2	**Papeete2**	**68.62**	**263**	*e*S	**S**	**23 00 15.5**	**-3.3**
	48nm,23.2s						
JCT	**Junction City**	**69.31**	**336**	*e*P	**P**	**22 51 22.1**	**0.0**
	10nm,1.0s						
TXAR	**Lajitas Array**	**69.65**	**332**	P	**P**	**22 51 24.3**	**+0.1**
	3.6nm,0.7s,baz=153,slow=8.6,SNR=14						
TKL	**Tuckaleechee C**	**70.63**	**351**	P	**P**	**22 51 29.2**	**-0.8**
	3.1nm,0.9s,baz=130,slow=7.9,SNR=4.4						
WVT	**Waverly**	**71.69**	**348**	*e*P	**P**	**22 51 35.9**	**-0.4**
	24nm,1.1s						
PBMO	**Poplar Bluff**	**72.79**	**346**	*e*P	**P**	**22 51 43.6**	**+0.7**
	14nm,1.0s						
TUL1	**Leonard**	**73.19**	**342**	*e*P	**P**	**22 51 45.7**	**+0.4**
	15nm,0.8s						
MSTX	**Muleshoe**	**73.51**	**335**	*e*P	**P**	**22 51 47.1**	**-0.3**
	8.1nm,0.9s						
ANMO	**Albuquerque**	**75.71**	**333**	*e*P	**P**	**22 52 00.2**	**-0.1**
	2.4nm,0.9s						
LIC	**Lamto**	**76.45**	**73**	*e*P	**P**	**22 52 05.4**	**+0.7**
	49nm,1.6s						
TIC	**Toumodi**	**76.72**	**72**	*e*P	**P**	**22 52 06.9**	**+0.7**
	2.9nm,0.2s						
KIC	**Kosan Boka**	**76.76**	**73**	*e*P	**P**	**22 52 07.3**	**+0.8**
	10nm,0.7s						
DBIC	**Dimbokro**	**76.86**	**72**	P	**P**	**22 52 07.7**	**+0.7**
	3.5nm,0.6s,baz=268,slow=10,SNR=5.7						
WUAZ	**Wupatki**	**78.16**	**330**	*e*P	**P**	**22 52 14.9**	**+0.9**
	7.2nm,1.1s						
PV01	**Paradox Valley**	**79.32**	**333**	*e*P	**P**	**22 52 20.5**	**+0.1**
	525nm,1.2s						
SMCO	**Snowmass**	**79.66**	**334**	*e*P	**P**	**22 52 24.6**	**+2.2**
TSUM	**Tsumeb**	**80.48**	**107**	*e*P	**P**	**22 52 29.0**	**+1.8**
CCUT	**Cedar City**	**80.73**	**329**	*e*P	**P**	**22 52 29.8**	**+1.8**
	13nm,1.4s						
ECSD	**EROS Data Cent**	**80.79**	**344**	*e*P	**P**	**22 52 27.8**	**-0.2**
	20nm,1.1s						
PHWY	**Pilot Hill**	**81.04**	**336**	*e*P	**P**	**22 52 30.6**	**+1.0**
BOSA	**Boshof**	**81.08**	**119**	P	**P**	**22 52 29.6**	**-0.6**
	10nm,0.9s,baz=218,slow=5.8,SNR=8.2						
BOSA	**Boshof**	**81.08**	**119**	*e*P	**P**	**22 52 29.9**	**-0.2**
	13nm,1.0s						
R11A	**Troy Canyon, C**	**82.35**	**328**	*e*P	**P**	**22 52 38.2**	**+1.7**
K22A	**Casper**	**82.60**	**336**	*e*P	**P**	**22 52 39.2**	**+1.5**
	18nm,1.1s						
DUG	**Dugway, Tooele**	**82.75**	**331**	*e*P	**P**	**22 52 39.5**	**+1.0**
	12nm,1.3s						
RSSD	**Black Hills**	**83.14**	**339**	*e*P	**P**	**22 52 40.5**	**0.0**
	5.1nm,0.9s						
LBTB	**Lobatse**	**83.38**	**116**	*e*P	**P**	**22 52 42.5**	**+0.2**
	8.6nm,0.8s						
BGU	**Big Grassy Mou**	**83.46**	**331**	*e*P	**P**	**22 52 41.9**	**-0.3**
	6.4nm,1.6s						
HWUT	**Hardware Ranch**	**83.47**	**333**	*e*P	**P**	**22 52 42.0**	**-0.2**
	19nm,1.3s						
NVAR	**Mina Array Bea**	**83.63**	**326**	P	**P**	**22 52 43.6**	**+0.4**
	1.2nm,0.7s,baz=160,slow=5.9,SNR=5.7						
PDAR	**Pinedale Array**	**83.74**	**334**	P	**P**	**22 52 42.7**	**-1.0**
	2.8nm,1.1s,baz=144,slow=5.5,SNR=8.2						
HVU	**Hansel Valley**	**84.08**	**332**	*e*P	**P**	**22 52 45.3**	**0.0**
	18nm,1.2s						
ELK	**Elko**	**84.20**	**330**	P	**P**	**22 52 44.9**	**-1.2**
	0.9nm,0.6s,baz=221,slow=2.3,SNR=4.3						
TPAW	**Teton Pass**	**84.87**	**334**	*e*P	**P**	**22 52 50.3**	**+0.9**
AGMN	**Agassiz Nation**	**84.96**	**345**	*e*P	**P**	**22 52 49.1**	**-0.3**
	9.9nm,0.8s						
IMW	**Indian Meadow**	**85.22**	**334**	*e*P	**P**	**22 52 52.4**	**+1.3**
	8.0nm,1.3s						
FLWY	**Flagg Ranch**	**85.30**	**334**	*e*P	**P**	**22 52 53.1**	**+1.6**
TORD	**Torodi Ar. Bea**	**85.90**	**71**	P	**P**	**22 52 54.7**	**-0.1**
	3.9nm,0.8s,baz=258,slow=3.4,SNR=13						
YMR	**Madison River**	**85.90**	**334**	*e*P	**P**	**22 52 56.3**	**+1.9**
	18nm,1.1s						
LAO	**LASA Array**	**86.12**	**338**	*e*P	**P**	**22 52 55.0**	**-0.3**
	8.6nm,1.0s						
HLID	**Hailey**	**86.24**	**332**	*e*P	**P**	**22 52 56.8**	**+0.7**
	7.0nm,1.3s						
MFID	**Camas Ranch**	**86.67**	**331**	*e*P	**P**	**22 52 59.9**	**+1.7**
	12nm,1.6s						
MCMT	**McKenzie Canyo**	**86.72**	**333**	*e*P	**P**	**22 52 58.5**	**-0.1**
	5.2nm,1.1s						
ULM	**Lac du Bonnet**	**86.82**	**346**	P	**P**	**22 52 57.7**	**-0.9**
	7.0nm,0.8s,baz=189,slow=2.3,SNR=12						
ULM	**Lac du Bonnet**	**86.82**	**346**	*e*P	**P**	**22 52 57.9**	**-0.6**
DLMT	**Dillon**	**87.08**	**334**	*e*P	**P**	**22 53 02.0**	**+1.9**
	19nm,1.4s						
DGMT	**Dagmar**	**87.14**	**340**	*e*P	**P**	**22 53 00.8**	**+0.6**
	22nm,0.8s						
MOD	**Modoc Plateau**	**87.33**	**327**	*e*P	**P**	**22 53 02.9**	**+1.5**
	6.7nm,0.8s						
K05A	**Summer Lake**	**88.25**	**327**	*e*P	**P**	**22 53 07.3**	**+1.4**
	21nm,1.1s						
SCHQ	**Schefferville**	**89.41**	**4**	P	**P**	**22 53 10.6**	**-0.2**
	2.6nm,0.7s,baz=198,slow=6.4,SNR=3.1						
YKA	**Yellowknife Ar**	**102.27**	**342**	P	**Pdif**	**22 54 07.8**	**-1.2**
	0.3nm,0.6s,baz=143,slow=4.4,SNR=5.9						
ILAR	**Eielson Array**	**114.15**	**333**	PKiKP	PKPdf	22 58 52.2	-0.7
	0.4nm,0.7s,baz=179,slow=1.3,SNR=3.5						
VYHS	**Vyhne**	**116.71**	**48**	*e*PKP	**PKPdf**	**22 58 58.0**	**-0.4**
WRA	**Warramunga Arr**	**119.37**	**211**	PKP	**PKPdf**	**22 59 02.8**	**-1.7**
	0.5nm,0.6s,baz=161,slow=1.8,SNR=9.9						
BRTR	**Keskin Array B**	**123.53**	**62**	PKP	**PKPdf**	**22 59 11.7**	**-0.2**
	1.6nm,0.7s,baz=188,slow=2.7,SNR=11						
AKASG	**Malin Array Be**	**123.81**	**48**	PKP	**PKPdf**	**22 59 10.4**	**-1.5**
	0.3nm,0.4s,baz=260,slow=2.5,SNR=4.3						
SEY	**Seymchan**	**139.89**	**329**	PKhKP	PKPpre	22 59 34.8	
	0.7nm,0.3s,baz=72,slow=6.5,SNR=3.1						
GEYT	**Alibeck**	**141.54**	**71**	PKhKP	PKPpre	22 59 40.0	
	2.1nm,0.9s,baz=261,slow=7.4,SNR=5.6						
ABKAR	**Akbulak array**	**143.34**	**52**	*e*PKPdf	PKPbc	22 59 45.4	-0.2
GSI	**Gunungsitoli**	**145.80**	**165**	*e*PKPdf	**PKPdf**	**22 59 53.7**	**-0.1**
PSI	**Prapat**	**147.53**	**167**	PKPbc	**PKPdf**	**22 59 57.8**	**+0.9**
	14nm,0.7s,baz=29,slow=2.5,SNR=12						
BRVK	**Borovoye**	**148.79**	**43**	*e*PKPdf	**PKPdf**	**22 59 59.1**	**+1.6**
YAK	**Yakutsk**	**148.88**	**339**	*e*PKPdf	**PKPdf**	**22 59 58.9**	**+1.5**
IPM	**Ipoh**	**149.53**	**170**	*e*PKPdf	**PKPbc**	**23 00 02.7**	**-1.8**
KBL	**Kabul**	**149.61**	**80**	*e*PKPdf	**PKPdf**	**23 00 00.7**	**+1.0**
HYB	**Hyderabad**	**149.98**	**118**	*i* PKP	**PKPbc**	**23 00 04.0**	**-1.5**
KULM	**Kulim**	**150.27**	**169**	*e*PKPdf	**PKPdf**	**23 00 03.4**	**+2.3**
ASAJ	**Asahikawa**	**150.50**	**300**	PKPbc	**PKPbc**	**23 00 05.5**	**-0.4**
	12nm,0.8s,baz=287,slow=6.6,SNR=6.7						
KKAR	**Karatay Array**	**151.24**	**62**	*e*PKPbc	**PKPbc**	**23 00 08.0**	**+0.2**
AAK	**Ala-Archa**	**154.20**	**63**	*e*PKPbc	**PKPbc**	**23 00 15.2**	**+0.6**
TKM2	**Tokmak 2**	**154.96**	**62**	*e*PKPbc	**PKPbc**	**23 00 16.0**	**-0.2**
KSH	**Kashi**	**155.56**	**70**	PKPbc	**PKPdf**	**23 00 09.1**	**+0.9**
KSH				sPKP		23 00 22.6	
KSH				PKS	**PKSdf**	**23 03 42.6**	**+0.2**
KSH				PP	**PP**	**23 04 09.9**	**-1.8**
KSH				SKS	**SKSdf**	**23 07 11.8**	**-0.2**
KSH				SKKS	**SKKSac**	**23 10 57.2**	**-1.1**
KSH				SS	**SS**	**23 23 52.6**	**-3.4**
KSH				PPMZ			
	78nm,6.0s						
KSH				LN			
	31nm,4.0s						
KSH				LE			
	24nm,4.3s						
KSH				LZ			
	98nm,6.0s						
ZALV	**Zalesovo Beam**	**155.65**	**31**	PKP	**PKPdf**	**23 00 06.5**	**-1.2**
	1.4nm,0.9s,baz=354,slow=1.5,SNR=5.0						
ZALV				PKPab	**PKPab**	**23 00 34.5**	**+0.4**
	1.8nm,0.7s,baz=301,slow=3.1,SNR=4.1						
MKAR	**Makanchi Array**	**158.40**	**49**	PKPab	**PKPab**	**23 00 46.9**	**+0.6**
	3.7nm,0.7s,baz=287,slow=3.2,SNR=17						
MKAR				PP	**PP**	**23 04 30.5**	**+3.8**
	0.8nm,1.0s,baz=282,slow=3.4,SNR=3.9						
CMAR	**Chiang Mai Arr**	**162.58**	**157**	PKP	**PKPdf**	**23 00 16.8**	**-0.1**
	0.6nm,0.6s,baz=222,slow=1.2,SNR=4.8						
SONM	**Songino Array**	**166.91**	**359**	PKP	**PKPdf**	**23 00 19.4**	**-0.6**
	0.7nm,0.8s,baz=205,slow=0.2,SNR=6.5						
SONM				PKPab	**PKPab**	**23 01 23.5**	**+0.1**
	1.9nm,1.0s,baz=349,slow=3.3,SNR=9.2						
SONM				PP	**PP**	**23 05 09.5**	**-1.4**
	0.7nm,0.9s,baz=38,slow=2.6,SNR=4.2						
NJ2	**Nanjing**	**169.02**	**259**	*e*PKP	**PKPdf**	**23 00 23.2**	**+1.5**
KMI	**Kunming**	**169.99**	**162**	PKP	**PKPdf**	**23 00 22.1**	**-0.7**
GYA	**Guiyang**	**171.74**	**183**	*e*PKP	**PKPdf**	**23 00 24.4**	**+0.8**
GYA				pPKP	**pPKPdf**	**23 00 40.6**	**+5.5**
GYA				PKPab	**PKPab**	**23 01 49.8**	**+4.5**
GYA				PKS	**PKSdf**	**23 03 55.0**	**-1.1**
GYA				PP	PP	23 05 41.2	+5.9
GYA				SKKS		23 12 23.7	
GYA				SS	**SS**	**23 26 45.5**	**+5.6**
GYA				PPMZ			
	120nm,8.1s						
GYA				LN			
	130nm,21.6s						
GYA				LE			
	110nm,22.8s						
GYA				LZ			
	120nm,21.4s						
HHC	**Hu-ho-hao-te**	**172.52**	**326**	*e*PKP	**PKPdf**	**23 00 25.2**	**+1.7**
HHC				PP	**PP**	**23 05 44.0**	**+4.3**
HHC				SKS	**SKSdf**	**23 07 23.2**	**-0.9**
HHC				SKKS	**SKKSac**	**23 12 25.9**	**+2.0**
HHC				SS	**SS**	**23 26 49.0**	**+0.5**
HHC				PPMZ			
	140nm,5.5s						
HHC				LN			
	140nm,20.6s						
HHC				LE			
	190nm,20.2s						
HHC				LZ			
	85nm,20.8s						
GTA	**Gaotai**	**173.13**	**45**	*e*PKP	**PKPdf**	**23 00 24.4**	**+0.6**
CD2	**Chengdu**	**175.71**	**152**	*e*PKP	**PKPdf**	**23 00 26.5**	**+1.7**
LZH	**Lanzhou**	**177.71**	**53**	*e*PKP	**PKPdf**	**23 00 26.6**	**+1.4**
LZH				pPKP	**pPKPdf**	**23 00 36.8**	**+0.1**
LZH				sPKP		23 00 40.5	

IDC ***01*** *22:47:17.8±2.2, 35°.23S×73°.98W, h0km, mb4.1/3, mb1 3.9/5, mb1mx3.7/29, mbtmp3.9/5, ML3.7/2, Error ellipse: s-maj=70.5km s-min=26.0km az=117.0*
ISCJB ***01*** *22:47:21.6±1.9, 35°.3S±0°.2×73°.8W±0°.3, h33km, mb4.1/3, Error ellipse: s-maj=38.8km s-min=11.5km az=32.0*
ISC 01 22:47:23.2±1.8, 35°.3S±0°.2×73°.9W±0°.2, h35km, n6, σ0s58/7, mb4.2/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**6.00**	**54**	Pn	**Pn**	**22 48 49.0**	**-0.6**
	0.2nm,0.3s,baz=239,slow=12,SNR=4.8						
CFAA				Sn	**Sn**	**22 49 57.9**	**+0.8**
	0.2nm,0.3s,baz=299,slow=24,SNR=7.2						
PLCA	**Paso Flores**	**6.03**	**155**	Pn	**Pn**	**22 48 49.8**	**-0.2**
	1.0nm,0.3s,baz=320,slow=12,SNR=5.1						
QSPA	**South Pole Qui**	**54.93**	**180**	P	**P**	**22 56 50.8**	**+0.4**
	2.2nm,0.8s,baz=142,slow=5.5,SNR=7.1						
DBIC	**Dimbokro**	**77.05**	**72**	P	**P**	**22 59 12.6**	**-0.4**
	3.5nm,0.8s,baz=225,slow=7.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**86.09**	**71**	P	**P**	**23 00 01.1**	**+0.3**
	0.6nm,0.8s,baz=234,slow=4.0,SNR=5.1						
MKAR	**Makanchi Array**	**158.78**	**50**	PKPab	**PKPab**	**23 07 52.8**	**0.0**
	0.4nm,0.7s,baz=302,slow=3.8,SNR=5.5						

IDC ***01*** *23:03:43.9±1.8, 37°.80S×74°.04W, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.6/20, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=53.7km s-min=32.4km az=74.0*
ISCJB ***01*** *23:03:48.3±1.3, 37°.73S±0°.09×73°.7W±0°.2, h33km, mb3.6/3, Error ellipse: s-maj=23.7km s-min=12.4km az=14.7*
ISC 01 23:03:49.5±1.3, 37°.8S±0°.1×73°.9W±0°.2, h35km, n7, σ0s99/8, mb3.5/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.93**	**140**	Pn	**Pn**	**23 04 47.4**	**+0.1**
	0.9nm,0.3s,baz=310,slow=9.1,SNR=6.3						
PLCA				Lg	Lg	23 05 50.5	
	1.2nm,0.3s,baz=90,slow=16,SNR=1.6						
CFAA	**Coronel Fontan**	**7.69**	**39**	Pn	**Pn**	**23 05 37.6**	**-1.4**
	0.2nm,0.3s,baz=212,slow=11,SNR=7.0						
CFAA				Sn	**Sn**	**23 07 05.7**	**+0.8**
	0.1nm,0.3s,baz=189,slow=13,SNR=1.9						
LPAZ	**La Paz**	**21.98**	**15**	P	**P**	**23 08 42.3**	**+1.2**
	1.2nm,0.7s,baz=180,slow=8.1,SNR=2.9						
PDAR	**Pinedale Array**	**86.48**	**335**	P	**P**	**23 16 27.9**	**-0.5**
	0.2nm,0.6s,baz=112,slow=4.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**86.86**	**71**	P	**P**	**23 16 30.7**	**0.0**
	0.4nm,0.5s,baz=221,slow=4.4,SNR=11						
BVAR	**Borovoye Array**	**150.99**	**47**	PKPbc	**PKPbc**	**23 23 38.3**	**+0.4**
	0.9nm,0.7s,baz=287,slow=3.4,SNR=9.9						
ZALV	**Zalesovo Beam**	**158.17**	**35**	PKPab	**PKPab**	**23 24 16.5**	**+0.5**
	0.7nm,0.6s,baz=332,slow=5.7,SNR=4.5						

ISCJB ***01*** *23:06:40.9±0.4, 50°.37N±0°.03×18°.73E±0°.02, h0km, Error ellipse: s-maj=4.7km s-min=2.1km az=12.6*
CSEM ***01*** *23:06:41.9±0.3, 50°.37N×18°.75E, h2km, ML3.0/8, Error ellipse: s-maj=8.0km s-min=3.5km az=10.0*
VIE ***01*** *23:06:41.0±1.5, 49°.57N×19°.18E, h0km, mb2.0/3, ML2.5/4, Error ellipse: s-maj=9.4km s-min=8.8km az=93.0 51 km NE of Zilina Suspected Mining induced.*
IPEC ***01*** *23:06:42.0±0.2, 50°.36N×18°.84E, h0km, ML2.2/3, Error ellipse: s-maj=2.3km s-min=1.1km az=167.0*
IDC ***01*** *23:06:42.1±1.2, 50°.17N×19°.03E, h0km, mb1 3.7/2, mb1mx3.0/38, mbtmp3.6/2, ML2.7/3, Error ellipse: s-maj=25.3km s-min=9.4km az=145.0*
SIGU ***01*** *23:06:42.3±0.8, 50°.24N±0°.06×18°.85E±0°.03, h2km, mb2.8/10*
PRU ***01*** *23:06:43.2, 50°.35N×18°.74E, h0km*
ISC 01 23:06:42.4±0.7, 50°.32N±0°.03×18°.76E±0°.01, h0km, n54, σ1s22/97, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.15**	**101**	*e*Pg	**Pg**	**23 06 45.2**	**-0.1**
CHZP				*e*Sg	**Sg**	**23 06 47.2**	**0.0**
RAC	**Raciborz**	**0.43**	**237**	*e*Pg	**Pb**	**23 06 53.0**	**0.0**
RAC				*e*Sg	**Sb**	**23 07 00.5**	**+0.5**
OKC	**Ostrava-Krasne**	**0.62**	**220**	*e*PG	**Pg**	**23 06 54.6**	**+0.2**
OKC				*e*SG	**Sg**	**23 07 03.6**	**+1.2**
	comp=Z,33nm,0.4s						
OKC	**Ostrava-Krasne**	**0.62**	**220**	Pg	**Pg**	**23 06 54.6**	**+0.2**
OKC				Sg	**Sg**	**23 07 03.6**	**+1.2**
	33nm,0.4s						
OJC	**Ojcow**	**0.67**	**98**	*e*Pg	**Pg**	**23 06 54.5**	**-0.8**
OJC				*e*Sg	**Sg**	**23 07 03.4**	**-0.6**
OJC	**Ojcow**	**0.67**	**98**	*e*Pg	**Pg**	**23 06 54.5**	**-0.8**
OJC				*e*Sg	**Sg**	**23 07 03.4**	**-0.6**
MORC	**Moravsky Berou**	**0.95**	**236**	*e*Pg	**Pb**	**23 07 01.6**	**-0.3**
MORC				*e*Sg	**Sg**	**23 07 14.0**	**+0.9**
	28nm,0.2s						
KRLC	**Kraliky**	**1.30**	**260**	*e*PG	**Pg**	**23 07 06.2**	**-1.1**
KRLC				*e*SG	**Sb**	**23 07 25.0**	**+0.1**
KRLC	**Kraliky**	**1.30

KHC eSN Sn 23 08 21.0 -0.9
KHC eSG Sg 23 08 34.7 -2.3
comp=Z,8.3nm,0.5s
KHC Kasperske Hory 3.57 253 Pn Pn 23 07 38.9 -0.1
KHC Sn Sn 23 08 21.0 -0.9
MEZ Mezhgor'ye 3.59 118 ePn Pg 23 07 51.0 -0.2
MEZ eSn Sg 23 08 39.2 +1.5
GERES GERESS Array B 3.61 248 Pn Pn 23 07 40.6 +0.9
0.1nm,0.3s,baz=63,slow=15,SNR=4.6
GERES Pg Pg 23 07 49.9 -1.7
0.6nm,0.3s,baz=63,slow=17,SNR=17
GERES Lg Lg 23 08 35.1
2.1nm,0.3s,baz=67,slow=31,SNR=19
CLL Collm 3.78 287 eSg Sg 23 08 45.0 +1.1
comp=Z,13nm,0.8s
MOA Molln 3.85 232 ⇓iPn Pn 23 07 40.2 -2.7
comp=Z,0.2nm,0.1s
MOA ⇓eSg Sb 23 08 42.4 +4.0
comp=Z,1.5nm,0.2s
MOA Molln 3.85 232 Pn Pn 23 07 40.2 -2.7
comp=Z,0.2nm,0.1s
MOA Sg Sb 23 08 42.4 +4.0
comp=Z,1.5nm,0.2s
HORU Horodok 5.09 100 ePn Pg 23 08 20.0 +0.1
HORU eSn Sg 23 09 30.6 +4.8
KMPD K-Podol'skiy 5.32 106 ePn Pg 23 08 22.7 -1.6
KMPD eSn Sg 23 09 35.7 +2.4
AKASG Malin Array Be 6.69 83 Pg Pb 23 08 34.4 -5.1
comp=Z,0.2nm,0.3s,baz=273,slow=14,SNR=3.4
AKASG Lg Lg 23 10 08.0
comp=Z,0.4nm,0.3s,baz=267,slow=29,SNR=4.0
DAVOX Davos/Dischmat 6.88 242 Lg Lg 23 10 21.9
comp=Z,0.1nm,0.3s,baz=322,slow=19,SNR=3.1
FINES FINESS Array B 11.87 17 Pn Pn 23 09 28.3 -4.5
comp=Z,0.1nm,0.3s,baz=198,slow=15,SNR=8.0
FINES Sn Sn 23 11 32.4 -13
comp=Z,0.1nm,0.3s,baz=192,slow=24,SNR=3.2
ARCES ARCESS Array B 19.55 7 Pn P 23 11 08.6 -2.7
comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=3.9

IDC 01 23:14:50.5±1.5,37°.76S×72°.95W,h0km,mb3.8/2, mb1 3.9/3,mb1mx3.7/19,mbtmp3.6/3,ML3.2/1,Error ellipse: s-maj=70.8km s-min=24.5km az=59.0,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.50**	**149**	Pn	Pn	23 15 46.8	+0.4
	0.5nm,0.3s,baz=325,slow=15,SNR=5.8						
PLCA				Pg	Pb	23 15 54.5	+0.9
	1.7nm,0.3s,baz=324,slow=15,SNR=12						
PLCA				Lg	Lg	23 16 35.8	
	1.9nm,0.3s,baz=240,slow=16,SNR=4.0						
TXAR	**Lajitas Array**	**72.68**	**332**	P	P	23 26 20.4	+0.3
	0.5nm,0.5s,baz=147,slow=12,SNR=3.2						
TORD	**Torodi Ar. Bea**	**86.18**	**70**	P	P	23 27 33.8	-0.2
	0.4nm,0.6s,baz=220,slow=4.3,SNR=7.1						
BVAR	**Borovoye Array**	**150.46**	**47**	PKPbc	PKPbc	23 34 42.7	-0.6
	0.3nm,0.6s,baz=281,slow=4.1,SNR=2.9						

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*NEIC **01** 23:26:29.0,32°.22N×47°.94E,h9km,mb3.8/5,ML4.2(THR), MN4.1(TEH),After TEH.*
*TEH **01** 23:26:29.0,32°.22N×47°.94E,h9km,ML4.1*
*IDC **01** 23:26:30.2±0.8,32°.59N×48°.34E,h0km,mb3.9/16, mb1 3.9/23,mb1mx3.8/45,mbtmp3.8/23,ML3.7/7,Error ellipse: s-maj=20.9km s-min=13.3km az=161.0*
*ISCJB **01** 23:26:31.2±0.2,32°.38N±0°.03×48°.24E±0°.03,h17km, mb4.0/26,Error ellipse: s-maj=3.6km s-min=3.1km az=9.3*
*THR **01** 23:26:33.2±1.4,32°.55N×48°.34E,h15km±6km,ML3.9*
*CSEM **01** 23:26:33.1±0.2,32°.52N×48°.29E,h15km,ML3.9,Error ellipse: s-maj=5.4km s-min=4.6km az=13.0*
*SGS **01** 23:26:33.9,32°.72N×48°.76E,h29km*
*ISN **01** 23:26:38.7±2.5,33°.18N×48°.18E,h0km±7km,ML4.2*
*OMAN **01** 23:26:40.4±0.1,32°.13N×48°.53E,h113km±59km,Error ellipse: s-maj=79.6km s-min=9.7km az=41.0*
ISC 01 23:26:32.8±0.4,32°.47N±0°.03×48°.31E±0°.03,h17km,n190, σ1§49/192,mb4.0/26,13C-12D,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.55**	**130**	ePg	Pb	23 26 44.7	+0.8
SHGR	**Shooshtar-Gavs**	**0.55**	**130**	ePg	Pb	23 26 44.7	+0.8
SHGR	**Shooshtar-Gavs**	**0.55**	**130**	ePg	Pb	23 26 44.7	+0.8
IKFM	**Kafar-mosalman**	**1.13**	**340**	ePg	Pn	23 26 52.2	-1.6
IKFM				eSg	Sn	23 27 09.7	+0.9
IKFM				e		23 27 13.5	
	comp=Z,99nm,0.3s						
IKFM	**Kafar-mosalman**	**1.13**	**340**	ePg	Pn	23 26 52.2	-1.6
IKFM				eSg	Sn	23 27 09.7	+0.9
IKOM	**Komasi**	**1.83**	**339**	eSg	Sg	23 27 31.0	-0.8
IKOM				ePn	Pb	23 27 05.7	-0.2
IKOM				e		23 27 37.5	
	comp=Z,26μm,0.2s						
KHMZ	**Khomeyn**	**1.88**	**47**	ePg	Pn	23 27 05.5	+1.2
KHMZ				eSg	Sb	23 27 30.7	+0.7
KHMZ				AML	AML	23 27 32.3	
	comp=E,1μm,0.7s						
KHMZ	**Khomeyn**	**1.88**	**47**	ePg	Pn	23 27 05.5	+1.2
KHMZ				eSg	Sb	23 27 30.7	+0.7
	comp=E,1μm,0.7s						
IPIR	**Pirpir**	**2.19**	**84**	e		23 27 43.9	
	comp=Z,7μm,0.3s						
IPIR				ePn	Pn	23 27 09.8	+1.1
NSR	**Nassriya**	**2.35**	**232**	ePN	Pg	23 27 22.7	+4.8
NSR				eSN	Sg	23 27 54.2	+5.9
NSR	**Nassriya**	**2.35**	**232**	ePn	Pg	23 27 22.7	+4.8
	SNR=39						
NSR				eSn	Sg	23 27 54.2	+5.9
	SNR=39						
IGHG	**Ghaleghazi**	**2.36**	**322**	ePn	Pb	23 27 16.3	+1.3
IGHG				e		23 27 58.2	
	comp=Z,12μm,0.3s						
IGHG	**Ghaleghazi**	**2.36**	**322**	ePn	Pb	23 27 16.3	+1.3
IGHG	**Ghaleghazi**	**2.36**	**322**	Pn	Pb	23 27 16.3	+1.3
ASAO	**Ashtian**	**2.52**	**34**	ePn	Pn	23 27 15.3	+2.1
ASAO	**Ashtian**	**2.52**	**34**	ePn	Pn	23 27 15.3	+2.1
ASAO	**Ashtian**	**2.52**	**34**	ePn	Pn	23 27 15.3	+2.1
SNGE	**Sanandaj**	**2.74**	**343**	ePn	Pn	23 27 17.9	+1.7
SNGE	**Sanandaj**	**2.74**	**343**	ePn	Pn	23 27 17.9	+1.7
SNGE	**Sanandaj**	**2.74**	**343**	ePn	Pn	23 27 17.9	+1.7
IKLH	**Kolahrood**	**2.88**	**72**	ePn	Pn	23 27 20.4	+2.2
IKLH				e		23 28 14.7	
	comp=Z,3μm,0.2s						
IKLH	**Kolahrood**	**2.88**	**72**	Pn	Pn	23 27 20.3	+2.2
IKLH	**Kolahrood**	**2.88**	**72**	Pn	Pn	23 27 20.3	+2.2
IGAR	**Gharneh**	**3.16**	**90**	ePn	Pn	23 27 23.7	+1.8
IGAR				e		23 28 11.4	
	comp=E,244nm,0.2s						
GHVR	**GHOM**	**3.20**	**50**	ePn	Pn	23 27 24.4	+2.0
GHVR				AML	AML	23 28 19.6	
	comp=N,278nm,0.5s						
GHVR	**GHOM**	**3.20**	**50**	ePn	Pn	23 27 24.4	+2.0
	comp=N,278nm,0.5s						
GHVR	**GHOM**	**3.20**	**50**	ePn	Pn	23 27 24.4	+2.0
IZEF	**Zefreh**	**3.42**	**82**	ePn	Pn	23 27 27.0	+1.5
IZEF				e		23 27 29.2	
	comp=Z,2μm,0.2s						
IZEF	**Zefreh**	**3.42**	**82**	ePn	Pn	23 27 27.0	+1.5
IZEF	**Zefreh**	**3.42**	**82**	Pn	Pn	23 27 27.0	+1.5
IMHD	**Mahdasht**	**3.76**	**31**	ePn	Pn	23 27 32.2	+2.1
IMHD				e		23 27 50.5	
	comp=Z,2μm,0.3s						
IMHD	**Mahdasht**	**3.76**	**31**	ePn	Pn	23 27 32.2	+2.1
IMHD	**Mahdasht**	**3.76**	**31**	Pn	Pn	23 27 32.2	+2.1
IVRN	**Varamin**	**3.80**	**48**	ePn	Pn	23 27 32.6	+1.9
IVRN				e		23 28 39.8	
	comp=Z,2μm,0.3s						
IVRN	**Varamin**	**3.80**	**48**	ePn	Pn	23 27 32.6	+1.9
IVRN	**Varamin**	**3.80**	**48**	Pn	Pn	23 27 32.6	+1.9
NASN	**Na'in**	**3.81**	**84**	ePn	Pn	23 27 32.7	+1.7
NASN				Sn	Sn	23 28 17.5	+1.9
NASN	**Na'in**	**3.81**	**84**	ePn	Pn	23 27 32.7	+1.7
NASN				Sn	Sn	23 28 17.5	+1.9
NASN	**Na'in**	**3.81**	**84**	ePn	Pn	23 27 32.7	+1.7
NASN				Sn	Sn	23 28 17.5	+1.9
CHTH	**Charan**	**4.15**	**33**	ePn	Pn	23 27 36.7	+1.1
CHTH	**Charan**	**4.15**	**33**	ePn	Pn	23 27 36.7	+1.1
CHTH	**Charan**	**4.15**	**33**	ePn	Pn	23 27 36.7	+1.1
ZNJK	**Zanjan**	**4.21**	**4**	ePn	Pn	23 27 38.5	+2.2
ZNJK	**Zanjan**	**4.21**	**4**	ePn	Pn	23 27 38.5	+2.2
ZNJK	**Zanjan**	**4.21**	**4**	ePn	Pn	23 27 38.5	+2.2
IGZV	**Ghazvin**	**4.22**	**21**	ePn	Pn	23 27 37.7	+1.2
IGZV				e		23 27 54.6	
	comp=Z,1μm,0.3s						
IGZV	**Ghazvin**	**4.22**	**21**	ePn	Pn	23 27 37.7	+1.2
IGZV	**Ghazvin**	**4.22**	**21**	Pn	Pn	23 27 37.7	+1.2
KFJS		**4.28**	**184**	P	Pn	23 27 41.0	+3.9
KFJS				S	Sn	23 28 30.0	+3.4
KFJS		**4.28**	**184**	P	Pn	23 27 40.6	+3.6
IDMV	**Damavand**	**4.38**	**44**	ePn	Pn	23 27 40.0	+1.2
IDMV				e		23 28 58.7	
	comp=Z,1μm,0.4s						
IDMV	**Damavand**	**4.38**	**44**	ePn	Pn	23 27 40.0	+1.2
IDMV	**Damavand**	**4.38**	**44**	Pn	Pn	23 27 40.0	+1.2
DAMV	**Damavand**	**4.38**	**43**	ePn	Pn	23 27 39.9	+1.1
DAMV	**Damavand**	**4.38**	**43**	ePn	Pn	23 27 39.8	+1.1
DAMV	**Damavand**	**4.38**	**43**	ePn	Pn	23 27 39.9	+1.1
IKRK	**Kirkuk**	**4.41**	**313**	ePN	Pn	23 27 39.7	+0.7
IKRK				ePG	Pg	23 28 04.2	+7.0
IKRK				eSN	Sn	23 28 23.8	-6.2
IKRK				eSG	Sg	23 29 04.2	+10
IKRK	**Kirkuk**	**4.41**	**313**	ePn	Pn	23 27 39.7	+0.7
	SNR=39						
IFIR	**Firoozkooh**	**4.86**	**48**	ePn	Pn	23 27 47.0	+1.5
IFIR				e		23 27 48.8	
	comp=Z,665nm,0.1s						
IFIR	**Firoozkooh**	**4.86**	**48**	Pn	Pn	23 27 46.9	+1.5
IFIR	**Firoozkooh**	**4.86**	**48**	Pn	Pn	23 27 46.9	+1.5
ICHK	**Chekchek**	**5.16**	**91**	ePn	Pn	23 27 50.2	+0.6
ICHK				e		23 29 26.8	
	comp=Z,496nm,0.3s						
ICHK	**Chekchek**	**5.16**	**91**	ePn	Pn	23 27 50.2	+0.6
ICHK	**Chekchek**	**5.16**	**91**	Pn	Pn	23 27 50.1	+0.6
ASYS		**6.02**	**216**	P	Pn	23 28 03.0	+1.8
ASYS		**6.02**	**216**	P	Pn	23 28 02.9	+1.8
BOQSS		**6.64**	**172**	P	Pn	23 28 12.0	+2.4
BOQSS		**6.64**	**172**	P	Pn	23 28 11.9	+2.4
RTB	**Rutbah**	**6.77**	**277**	ePn	Pn	23 28 20.0	+8.7
	SNR=39						
RTB				eSn	Sn	23 29 30.9	+2.9
	SNR=39						
HILS	**Ha'il**	**7.59**	**230**	P	Pn	23 28 24.0	+1.2
HILS	**Ha'il**	**7.59**	**230**	P	Pn	23 28 24.0	+1.2
SLWS		**7.91**	**164**	P	Pn	23 28 29.0	+2.0
SLWS				S	Sn	23 29 55.0	-1.1
SLWS		**7.91**	**164**	P	Pn	23 28 29.2	+2.2
ARSS	**Ar Rass**	**7.92**	**215**	P	Pn	23 28 29.0	+1.8
GNI	**Garni**	**8.19**	**340**	Pn	Pn	23 28 35.5	+4.5
	comp=Z,0.2nm,0.3s,baz=198,slow=16,SNR=2.1						
GNI				Lg	Lg	23 30 50.5	
	comp=Z,0.1nm,0.3s,baz=195,slow=20,SNR=1.7						
GNI	**Garni**	**8.19**	**340**	ePn	Pn	23 28 28.6	-2.4
	comp=Z,14nm,1.1s						
GNI				Lg	Lg	23 30 50.5	
GNI	**Garni**	**8.19**	**340**	ePn	Pn	23 28 28.6	-2.4
	comp=Z,14nm,1.1s						
GNI				Lg	Lg	23 30 50.5	
BTHS		**8.68**	**164**	P	Pn	23 28 28.0	-10
BTHS		**8.68**	**164**	P	Pn	23 28 27.8	-10
RAYN	**Ar Rayn**	**9.25**	**196**	ePn	Pn	23 28 46.1	+0.7
	comp=Z,43nm,0.8s						
RAYN				eSn	Sn	23 30 17.5	-12
RAYN	**Ar Rayn**	**9.25**	**196**	ePn	Pn	23 28 46.1	+0.7
	comp=Z,43nm,0.8s						
RAYN				eSn	Sn	23 30 17.5	-12
BANOM	**Banah**	**9.55**	**131**	⇑P	Pn	23 28 49.8	+0.3
BANOM	**Banah**	**9.55**	**131**	P	Pn	23 28 49.8	+0.3
ASF	**Jabal al Asfar**	**9.66**	**271**	Pn	Pn	23 28 50.6	-0.5
	comp=Z,0.8nm,0.3s,baz=37,slow=6.4,SNR=9.0						
ASF				Sn	Sn	23 30 35.5	-3.8
	comp=Z,0.3nm,0.3s,baz=152,slow=17,SNR=2.8						
ASF				Lg	Lg	23 31 45.7	
	baz=96,slow=19,SNR=2.7						
GEYT	**Alibeck**	**9.70**	**53**	Pn	Pn	23 28 52.0	+0.4
	comp=Z,0.3nm,0.3s,baz=247,slow=9.5,SNR=5.6						
GEYT				Lg	Lg	23 31 28.2	
	comp=Z,0.1nm,0.3s,baz=231,slow=18,SNR=2.2						
AFFS	**'Afif**	**9.71**	**210**	P	Pn	23 28 47.0	-4.8
AFFS	**'Afif**	**9.71**	**210**	P	Pn	23 28 47.4	-4.4
ASHO	**Ashiyiah**	**10.31**	**137**	⇓P	Pn	23 29 00.6	+0.6
ASHO				⇑S	Sn	23 30 51.2	-4.1
ASHO	**Ashiyiah**	**10.31**	**137**	P	Pn	23 29 00.6	+0.6
MMAI	**Mount Meron Ar**	**10.88**	**276**	Pn	Pn	23 29 08.2	+0.3
	comp=Z,0.2nm,0.3s,baz=82,slow=15,SNR=3.7						
ARQ	**Araqi**	**11.63**	**139**	⇑P	Pn	23 29 19.0	+0.9
ARQ	**Araqi**	**11.63**	**139**	P	Pn	23 29 19.0	+0.9
EIL	**Elat**	**11.79**	**260**	Pn	Pn	23 29 20.1	0.0
	comp=Z,0.5nm,0.3s,baz=74,slow=7.4,SNR=3.9						
EIL				Lg	Lg	23 33 01.1	
	comp=Z,0.3nm,0.3s,baz=196,slow=12,SNR=4.2						
HOQ	**Hoqain**	**11.89**	**136**	⇑S	Sn	23 31 29.0	-4.9
KBZ	**Khabaz**	**12.02**	**341**	Pn	Pn	23 29 28.6	+5.3
	comp=Z,0.0nm,0.3s,baz=184,slow=14,SNR=3.9						
BRTR	**Keskin Array B**	**13.89**	**306**	Pn	Pn	23 29 50.8	+1.8
	comp=Z,0.1nm,0.3s,baz=99,slow=8,9,SNR=4.1						
ABTO	**Aybut**	**15.71**	**162**	⇑P	Pn	23 30 11.0	-2.3
RBK	**Rabkut**	**15.82**	**159**	⇓P	Pn	23 30 13.1	-1.7
KBL	**Kabul**	**17.42**	**78**	ePn	Pn	23 30 36.3	+1.1
	comp=Z,4.5nm,1.0s						
KBL	**Kabul**	**17.42**	**78**	ePn	Pn	23 30 36.3	+1.1
	comp=Z,4.5nm,1.0s						
ABKAR	**Akbulak array**	**18.90**	**24**	eP	P	23 30 52.4	0.0
	comp=Z,1.8nm,0.5s						
ABKAR	**Akbulak array**	**18.90**	**24**	eP	P	23 30 52.4	0.0
	comp=Z,1.8nm,0.5s						
AKTO	**Aktyubinsk**	**19.34**	**19**	P	P	23 30 56.6	-0.6
	comp=Z,0.8nm,0.3s,baz=194,slow=5.5,SNR=15						
PRD	**Provadia**	**19.64**	**309**	eP	Pn	23 31 02.0	+0.1
IDI	**Anoyia**	**19.64**	**285**	P	Pn	23 31 02.4	+0.3
	comp=Z,1.4nm,0.3s,baz=98,slow=15,SNR=11						
CFR	**Carcaliu**	**20.14**	**315**	⇓iP	P	23 31 06.4	+0.5
CFR	**Carcaliu**	**20.14**	**315**	⇓iP	P	23 31 06.4	+0.5
KDZ	**Kurdzhali**	**20.39**	**303**	⇓iP	Pn	23 31 10.6	-0.3
KDZ	**Kurdzhali**	**20.39**	**303**	⇓iP	Pn	23 31 10.6	-0.3
KKAR	**Karatay Array**	**20.45**	**52**	eP	P	23 31 11.0	+1.6
	comp=Z,3.6nm,0.8s						
KKAR	**Karatay Array**	**20.45**	**52**	eP	P	23 31 11.0	+1.6
	comp=Z,3.6nm,0.8s						
SZH	**Strazhica**	**20.64**	**308**	eP	P	23 31 12.0	+0.6
VRI	**Vrincioaia**	**21.34**	**315**	⇑iP	P	23 31 19.9	+0.9
VRI	**Vrincioaia**	**21.34**	**315**	⇑iP	P	23 31 19.9	+0.9
PLOR	**Plostina**	**21.38**	**315**	⇑iP	P	23 31 20.8	+1.4
PLOR	**Plostina**	**21.38**	**315**	⇑iP	P	23 31 20.8	+1.4
PGB	**Panagyurishte**	**21.57**	**305**	eP	P	23 31 23.0	+1.5
MMB	**Musomiste**	**21.58**	**302**	⇓iP	P	23 31 23.5	+1.9
MMB	**Musomiste**	**21.58**	**302**	⇓iP	P	23 31 23.5	+1.9
MLR	**Muntele Rosu**	**21.63**	**313**	P	P	23 31 25.0	+2.8
	comp=Z,1.6nm,0.9s,baz=174,slow=9.2,SNR=5.9						
MLR	**Muntele Rosu**	**21.63**	**313**	P	P	23 31 25.0	+2.8
TESR	**Tescani**	**21.73**	**316**	⇓iP	P	23 31 23.5	+0.4
TESR	**Tescani**	**21.73**	**316**	⇓iP	P	23 31 23.5	+0.4
KKB	**Krupnik**	**22.12**	**302**	eP	P	23 31 28.0	+0.6
MPEP	**Malo Peshtene**	**22.15**	**306**	eP	P	23 31 29.4	+1.8
VOIR		**22.15**	**312**	⇓iP	P	23 31 29.3	+1.5
VOIR		**22.15**	**312**	⇓iP	P	23 31 29.3	+1.5
LOT	**Lotru**	**22.96**	**311**	⇑iP	P	23 31 36.4	0.0
LOT	**Lotru**	**22.96**	**311**	⇑iP	P	23 31 36.4	0.0
AAK	**Ala-Archa**	**23.02**	**56**	P	P	23 31 38.8	+1.7
	comp=Z,0.4nm,0.3s,baz=284,slow=4.2,SNR=3.4						
AKASG	**Malin Array Be**	**23.03**	**328**	P	P	23 31 35.4	-1.5
	comp=Z,0.5nm,0.5s,baz=131,slow=9.1,SNR=6.6						
TKM2	**Tokmak 2**	**23.89**	**56**	eP	P	23 31 46.0	+0.3
	comp=Z,3.5nm,0.8s						
TKM2	**Tokmak 2**	**23.89**	**56**	eP	P	23 31 46.0	+0.3
	comp=Z,3.5nm,0.8s						
OBN	**Obninsk**	**24.11**	**343**	P	P	23 31 46.5	-0.8
	comp=Z,7.3nm,0.4s,baz=314,slow=21,SNR=3.6						
DRGR		**24.22**	**314**	⇑iP	P	23 31 49.7	+1.1
DRGR		**24.22**	**314**	⇑iP	P	23 31 49.7	+1.1
ARU	**Arti**	**25.00**	**14**	eP	P	23 31 54.7	-0.7
	comp=Z,7.1nm,1.0s						
ARU	**Arti**	**25.00**	**14**	eP	P	23 31 54.7	-0.7
	comp=Z,7.1nm,1.0s						
BVAR	**Borovoye Array**	**25.98**	**31**	P	P	23 32 03.9	-0.6
	comp=Z,1.0nm,0.5s,baz=228,slow=7.4,SNR=15						
BVAR				PcP	PcP	23 35 32.0	-0.4
	comp=Z,0.4nm,0.6s,baz=204,slow=3.2,SNR=3.3						
MKAR	**Makanchi Array**	**29.57**	**51**	P	P	23 32 36.9	+0.3
	comp=Z,1.9nm,0.7s,baz=247,slow=8.5,SNR=38						
MKAR				PcP	PcP	23 35 40.5	-0.7
	comp=Z,0.2nm,0.4s,baz=264,slow=3.9,SNR=4.0						
GERES	**GERESS Array B**	**30.61**	**313**	P	P	23 32 45.5	-0.4
	comp=Z,0.4nm,0.5s,baz=108,slow=8.8,SNR=6.1						
JOF	**Joensuu**	**32.33**	**346**	ep	P	23 32 59.9	-0.8
JOF	**Joensuu**	**32.33**	**346**	eP	P	23 32 59.9	-0.8
FINES	**FINESS Array B**	**32.38**	**340**	P	P	23 33 00.6	-0.6
	comp=Z,1.4nm,0.4s,baz=148,slow=11,SNR=30						
KAF	**Kangasniemi**	**32.86**	**341**	ep	P	23 33 04.3	-1.1
KAF	**Kangasniemi**	**32.86**	**341**	eP	P	23 33 04.3	-1.1
ZALV	**Zalesovo Beam**	**33.64**	**39**	P	P	23 33 11.6	-0.7
	comp=Z,1.7nm,0.4s,baz=243,slow=8.2,SNR=17						
MBDF	**Montbardon**	**34.34**	**303**	eP	P	23 33 18.2	-0.5
	comp=Z,7.5nm,0.8s						
MBDF	**Montbardon**	**34.34**	**303**	eP	P	23 33 18.2	-0.5
	comp=Z,7.5nm,0.8s						
MBDF	**Montbardon**	**34.34**	**303**	eP	P	23 33 18.2	-0.5
	comp=Z,7.5nm,0.8s						
LPG	**La Plagne**	**34.45**	**304**	eP	P	23 33 19.2	-0.6
	comp=Z,12nm,0.8s						
LPG	**La Plagne**	**34.45**	**304**	eP	P	23 33 19.2	-0.6
	comp=Z,12nm,0.8s						
LPG	**La Plagne**	**34.45**	**304**	eP	P	23 33 19.2	-0.6
	comp=Z,12nm,0.8s						
LPL	**La Plagne**	**34.46**	**304**	eP	P	23 33 18.7	-1.1
	comp=Z,10.0nm,0.7s						
LPL	**La Plagne**	**34.46**	**304**	eP	P	23 33 18.7	-1.1
	comp=Z,10.0nm,0.7s						
LPL	**La Plagne**	**34.46**	**304**	eP	P	23 33 18.7	-1.1
	comp=Z,10.0nm,0.7s						
ORIF	**Oris-en-Rattie**	**34.99**	**303**	eP	P	23 33 23.1	-1.2
	comp=Z,10nm,0.9s						
ORIF	**Oris-en-Rattie**	**34.99**	**303**	eP	P	23 33 23.1	-1.2
	comp=Z,10nm,0.9s						
ORIF	**Oris-en-Rattie**	**34.99**	**303**	eP	P	23 33 23.1	-1.2
	comp=Z,10nm,0.9s						
CABF	**La Chapelle**	**35.06**	**306**	eP	P	23 33 23.6	-1.2
	comp=Z,23nm,1.1s						
CABF	**La Chapelle**	**35.06**	**306**	eP	P	23 33 23.6	-1.2
	comp=Z,23nm,1.0s						
CABF	**La Chapelle**	**35.06**	**306**	eP	P	23 33 23.6	-1.2
	comp=Z,23nm,1.0s						
SMF	**Signal de Mont**	**36.60**	**306**	eP	P	23 33 37.0	-0.9
	comp=Z,12nm,0.7s						
SMF	**Signal de Mont**	**36.60**	**306**	eP	P	23 33 37.0	-0.9
	comp=Z,12nm,0.7s						
SMF	**Signal de Mont**	**36.60**	**306**	eP	P	23 33 37.0	-0.9
	comp=Z,12nm,0.7s						
NB2	**NORSAR Subarra**	**37.36**	**331**	P	P	23 33 42.9	-1.3
	comp=Z,0.5nm,0.5s,baz=124,slow=8.6						
NB2	**NORSAR Subarra**	**37.36**	**331**	P	P	23 33 42.9	-1.3
	comp=Z,0.5nm,0.5s,SNR=4.1						
NOA	**NORSAR Array B**	**37.36**	**331**	P	P	23 33 42.5	-1.7
	comp=Z,0.5nm,0.5s,baz=125,slow=8.0,SNR=4.2						
ARCES	**ARCESS Array B**	**39.27**	**348**	P	P	23 33 59.6	-0.6
	comp=Z,2.1nm,0.6s,baz=158,slow=7.6,SNR=16						
LDF	**La Druitiere**	**39.48**	**309**	eP	P	23 34 00.5	-1.6
LDF	**La Druitiere**	**39.48**	**309**	eP	P	23 34 00.5	-1.6
LDF	**La Druitiere**	**39.48**	**309**	eP	P	23 34 00.5	-1.6
FLN	**La Foliniere**	**39.73**	**309**	eP	P	23 34 02.8	-1.5
FLN	**La Foliniere**	**39.73**	**309**	eP	P	23 34 02.8	-1.5
FLN	**La Foliniere**	**39.73**	**309**	eP	P	23 34 02.8	-1.5
GRR	**Gorron**	**39.95**	**308**	eP	P	23 34 04.7	-1.3
GRR	**Gorron**	**39.95**	**308**	eP	P	23 34 04.7	-1.3
GRR	**Gorron**	**39.95**	**308**	eP	P	23 34 04.7	-1.3
SGMF	**Saint Gilles**	**41.07**	**308**	eP	P	23 34 14.1	-1.2
SGMF	**Saint Gilles**	**41.07**	**308**	eP	P	23 34 14.1	-1.2
SGMF	**Saint Gilles**	**41.07**	**308**	eP	P	23 34 14.1	-1.2
ESDC	**Sonseca Array**	**42.36**	**295**	P	P	23 34 26.4	+0.3
	comp=Z,0.3nm,0.5s,baz=75,slow=9.8,SNR=4.3						
SONM	**Songino Array**	**45.90**	**53**	P	P	23 34 53.8	-0.7
	comp=Z,0.2nm,0.4s,baz=281,slow=8.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**46.66**	**257**	P	P	23 35 01.1	+0.5
	comp=Z,0.6nm,0.6s,baz=72,slow=7.0,SNR=12						
KSAR	**Wonju Array Be**	**63.57**	**61**	P	P	23 37 01.2	-1.3
KSAR	**Wonju Array Be**	**63.57**	**61**	P	P	23 37 01.2	-1.3
KSRS	**Korea Array**	**63.59**	**61**	P	P	23 37 01.2	-1.4
	comp=Z,1.4nm,0.6s,baz=277,slow=6.0,SNR=4.4						
BOSA	**Boshof**	**64.57**	**202**	P	P	23 37 10.6	+1.4
	comp=Z,2.2nm,0.8s,baz=10,slow=11,SNR=4.8						
ILAR	**E

17nm,0.3s
535A **Dale** 69.12 336 ⇓P P 23 38 01.6 +0.9
baz=70
340A **Bronson** 69.28 340 ⇓P P 23 38 03.4 +1.7
baz=70
632A **Uvalde** 69.41 334 ⇓P P 23 38 03.3 +0.8
baz=70
631A **Perdido Creek** 69.61 333 ⇓P P 23 38 04.3 +0.5
baz=70
338A **Crockett** 69.63 339 ⇓P P 23 38 04.7 +0.8
baz=70
533A **Kerrville** 69.65 335 ⇑P P 23 38 04.7 +0.7
baz=70
337A **Centerville** 69.77 338 ⇑P P 23 38 05.9 +1.2
baz=70
435B **Jarrell** 69.82 336 ⇓P P 23 38 06.1 +1.1
baz=70
532A **Rocksprings** 70.01 334 ⇓P P 23 38 06.8 +0.5
baz=70,SNR=6.4
434A **Burnet** 70.07 336 ⇓P P 23 38 06.6 0.0
baz=70
336A **Riesel** 70.14 337 ⇓P P 23 38 08.0 +1.1
baz=70
TIAR **Tiarei** 70.16 262 *e*T T 00 53 52.4
3.6nm,0.3s
335A **Moody** 70.22 337 ⇑P P 23 38 07.8 +0.3
baz=71
531A **Rocksprings** 70.28 334 ⇓P P 23 38 08.5 +0.6
baz=71
JCT **Junction City** 70.29 334 ⇑P P 23 38 08.0 0.0
baz=71
JCT **Junction City** 70.29 334 *e*P P 23 38 08.3 +0.3
50nm,1.6s
433A **Art** 70.30 335 ⇑P P 23 38 08.2 +0.2
baz=71,SNR=7.7
PPT2 **Papeete2** 70.33 262 *e*S S 23 47 17.7 -1.1
70nm,26.2s
PPT2 **Papeete2** 70.33 262 *e*LR LR 23 59 29.5
354nm,27.8s
KMSC **Kings Mountain** 70.36 352 ⇑P P 23 38 07.9 -0.3
baz=71
334A **Lometa** 70.54 336 ⇑P P 23 38 09.4 0.0
baz=71
530A **J-C Ranch, Com** 70.55 333 ⇑P P 23 38 10.1 +0.5
baz=71
432A **Menard** 70.65 335 ⇓P P 23 38 10.2 0.0
baz=71
TXAR **Lajitas Array** 70.73 331 P P 23 38 10.9 +0.1
1.8nm,0.6s,baz=138,slow=7.7,SNR=8.9
431A **Sonora** 70.77 334 ⇓P P 23 38 11.1 +0.2
baz=71
333A **Richland Sprin** 70.78 335 ⇓P P 23 38 11.4 +0.5
baz=71
529A **Stev Forest Ra** 70.86 332 ⇓P P 23 38 12.1 +0.6
baz=71
430A **Baggett Ranch,** 71.09 333 ⇑P P 23 38 13.0 +0.1
baz=71,SNR=6.4
332A **Millersview** 71.09 335 ⇑P P 23 38 12.6 -0.2
baz=72
SWET **Sewanee** 71.11 348 *e*P P 23 38 12.5 -0.3
24nm,0.7s
234A **Clairette** 71.12 336 ⇑P P 23 38 13.1 +0.1
baz=72
429A **Davenport Ranc** 71.19 333 ⇑P P 23 38 13.4 -0.1
baz=72
TKL **Tuckaleechee C** 71.19 350 *e*P P 23 38 12.7 -0.6
331A **San Angelo** 71.27 334 ⇓P P 23 38 13.6 -0.3
baz=72,SNR=5.9
233A **Rising Star** 71.39 336 ⇓P P 23 38 14.6 0.0
baz=72
135A **Vickery Place,** 71.40 337 ⇑P P 23 38 14.6 0.0
baz=72
232A **Coleman** 71.52 335 ⇓P P 23 38 15.5 +0.1
baz=72
330A **Mertzon** 71.63 334 ⇑P P 23 38 16.1 0.0
baz=72
231A **Bronte** 71.80 335 ⇑P P 23 38 16.9 -0.2
baz=72
133A **Hamilton Ranch** 71.93 336 ⇓P P 23 38 17.7 -0.1
baz=72
329A **Wagon Wheel Ra** 72.00 333 ⇑P P 23 38 18.3 0.0
baz=72
230A **Sterling City** 72.04 334 ⇓P P 23 38 18.8 +0.2
baz=72
Z35A **Perchaven, San** 72.06 338 ⇓P P 23 38 18.9 +0.3
baz=72
MAW **Mawson** 72.15 163 P P 23 38 17.7 -1.1
19nm,0.7s,baz=207,slow=6.8,SNR=3.5
ABTX **Abilene, Hawle** 72.19 335 ⇓P P 23 38 19.7 +0.3
baz=73
ABTX **Abilene, Hawle** 72.19 335 *e*P P 23 38 19.7 +0.3
12nm,0.9s
Z34A **Collier Ranch,** 72.31 337 ⇓P P 23 38 20.5 +0.4
baz=73
WVT **Waverly** 72.34 346 *e*P P 23 38 18.8 -1.3
41nm,0.8s
229A **Bryant Ranch,** 72.36 333 ⇑P P 23 38 20.7 +0.2
baz=73
131A **Roby** 72.49 335 ⇑P P 23 38 21.2 -0.1
baz=73
Z33A **Whitaker Ranch** 72.50 336 ⇑P P 23 38 21.1 -0.1
baz=73,SNR=5.4
130A **Snyder** 72.63 334 ⇓P P 23 38 21.8 -0.2
baz=73
Z32A **Haskell** 72.76 336 ⇑P P 23 38 22.5 -0.3
baz=73,SNR=5.7
228A **UT Block 9, Go** 72.79 333 ⇓P P 23 38 22.9 -0.2
baz=73
Y34A **Reagan Ranch,** 72.80 338 ⇑P P 23 38 23.2 +0.2
baz=73
129A **Stewart Farms,** 72.98 334 ⇓P P 23 38 24.1 0.0
baz=73
Z31A **Sharp Cattle R** 73.00 335 ⇓P P 23 38 24.1 0.0
baz=73
Y33A **Hilltop Ranch,** 73.12 337 ⇑P P 23 38 25.0 +0.2
baz=74
128A **Castleberry Fa** 73.20 333 ⇓P P 23 38 25.5 +0.1
baz=74
Z30A **Sanderson Ranc** 73.31 335 ⇓P P 23 38 26.0 -0.1
baz=74
X34A **Smith Ranch, M** 73.42 338 ⇓P P 23 38 25.9 -0.7
baz=74
Z29A **Hungry Hill Ra** 73.49 334 ⇓P P 23 38 26.5 -0.6
baz=74,SNR=5.2
Y31A **Rekieta Farm,** 73.62 336 ⇓P P 23 38 28.1 +0.2
baz=74
X32A **Elmer** 73.72 337 ⇑P P 23 38 28.3 -0.1
baz=74
Z28A **Tucker Farm, M** 73.76 334 ⇑P P 23 38 28.5 -0.3
baz=74
Y29A **Porterfield Fa** 74.02 334 ⇓P P 23 38 30.1 -0.1
baz=74,SNR=6.0
TUL1 **Leonard** 74.03 340 ⇑P P 23 38 30.1 -0.1
baz=74
TUL1 **Leonard** 74.03 340 *e*P P 23 38 29.4 -0.7
20nm,0.9s
Z27A **Tatum** 74.09 333 ⇑P P 23 38 30.4 -0.3
baz=74
W33A **Caddo, Fort Co** 74.13 337 ⇓P P 23 38 30.9 +0.2
baz=74
X31A **McDonald Ranch** 74.14 336 ⇓P P 23 38 30.8 0.0
baz=74
Z26A **Caprock** 74.34 332 ⇑P P 23 38 32.5 +0.3
baz=75
W32A **Sentinel** 74.35 337 ⇓P P 23 38 32.2 +0.1
baz=75,SNR=5.1
MSTX **Muleshoe** 74.51 334 ⇑P P 23 38 33.2 0.0
baz=75
MSTX **Muleshoe** 74.51 334 *e*P P 23 38 33.2 0.0
38nm,1.6s
X29A **Tulia** 74.56 335 ⇓P P 23 38 33.6 +0.2
baz=75
W31A **Holland Ranch,** 74.63 336 ⇓P P 23 38 33.7 0.0
baz=75
V33A **Lossen Ranch,** 74.69 338 ⇓P P 23 38 34.2 +0.2
baz=75
Y26A **Elida** 74.86 333 ⇑P P 23 38 35.6 +0.4
baz=75
LIC **Lamto** 74.86 71 *e*P P 23 38 35.3 -0.2
68nm,1.3s
319A **Douglas** 74.88 327 ⇑P P 23 38 35.8 +0.5
baz=75
Z24A **Sheppen Canyo** 74.93 331 ⇓P P 23 38 36.0 +0.2
baz=75,SNR=7.5
AMTX **Amarillo** 74.95 335 ⇑P P 23 38 36.4 +0.8
baz=75
U34A **Anderson Ranch** 75.03 339 ⇑P P 23 38 35.8 -0.1
baz=75

TIC **Toumodi** 75.13 71 *e*P P 23 38 36.9 -0.2
5.8nm,0.2s
W29A **Amarillo** 75.15 335 ⇓P P 23 38 37.2 +0.4
baz=76
KIC **Kosan Boka** 75.17 71 *e*P P 23 38 37.3 0.0
88nm,0.9s
121A **Cookes Peak, D** 75.22 329 ⇑P P 23 38 38.1 +0.7
baz=76,SNR=8.1
DBIC **Dimbokro** 75.27 71 P P 23 38 37.9 0.0
24nm,0.8s,baz=203,slow=6.0,SNR=31
DBIC **Dimbokro** 75.27 71 *e*P P 23 38 38.1 +0.2
26nm,0.8s
X26A **CR and CF Fran** 75.42 333 ⇑P P 23 38 38.7 +0.3
baz=76,SNR=6.1
U32A **Winter Ranch,** 75.42 338 ⇑P P 23 38 38.9 +0.7
baz=76
W28A **Vega** 75.47 335 ⇓P P 23 38 39.0 +0.3
baz=76
Y24A **Capitan** 75.48 332 ⇑P P 23 38 39.1 +0.3
baz=76
Z22A **Elephant Butte** 75.51 330 ⇓P P 23 38 39.4 +0.4
baz=76
ACSO **Alum Creek Sta** 75.58 351 *e*P P 23 38 38.6 -0.5
30nm,0.8s
W27A **Bowe Ranch, En** 75.60 334 ⇑P P 23 38 39.6 +0.2
baz=76,SNR=9.7
X25A **Clemmons Ranch** 75.71 332 ⇓P P 23 38 39.9 -0.3
baz=76
Y23A **Lovelace Mesa,** 75.73 331 ⇑P P 23 38 40.8 +0.5
baz=76
T33A **Patterson Ranc** 75.84 338 ⇑P P 23 38 41.6 +1.0
baz=76
W26A **Owens Ranch, T** 75.88 333 ⇑P P 23 38 41.6 +0.5
baz=76
V28A **Channing** 75.92 335 ⇓P P 23 38 41.2 0.0
baz=76
X24A **Lazy VL Ranch,** 76.04 332 ⇓P P 23 38 42.5 +0.4
baz=76,SNR=8.2
U30A **WK&E Inc. Balk** 76.09 336 ⇑P P 23 38 42.8 +0.7
baz=76
T32A **Huddler Ranch,** 76.14 338 ⇓P P 23 38 43.1 +0.8
baz=76
W25A **X Bar L Ranch,** 76.25 333 ⇓P P 23 38 43.3 +0.1
baz=77
LPM **Los Pinos Moun** 76.29 331 *e*P P 23 38 43.4 -0.1
4.3nm,0.8s
TUC **Tucson** 76.34 327 *e*P P 23 38 43.1 -0.5
7.0nm,1.4s
X23A **Hourglass Bar** 76.35 331 ⇑P P 23 38 44.3 +0.5
baz=77
V26A **Tequesquite Ra** 76.52 334 ⇑P P 23 38 44.8 +0.2
baz=77
LAZ **Ladron** 76.58 331 *e*P P 23 38 45.3 +0.2
4.5nm,1.2s
W24A **Lazy 6 Ranch,** 76.60 332 ⇓P P 23 38 45.4 +0.2
baz=77,SNR=6.7
S31A **Mullinville** 76.71 338 ⇑P P 23 38 45.7 +0.1
baz=77
U27A **Thompson Grove** 76.73 335 ⇓P P 23 38 46.3 +0.4
baz=77
ANMO **Albuquerque** 76.78 331 *e*P P 23 38 46.6 +0.4
79nm,2.8s
W23A **Werner Place,** 76.85 332 ⇓P P 23 38 47.2 +0.6
baz=77
V25A **Rancho No Teng** 76.86 333 ⇓P P 23 38 46.9 +0.2
baz=77,SNR=8.1
T29A **Hugoton** 76.87 336 ⇓P P 23 38 46.9 +0.3
baz=77
214A **Organ Pipe Nat** 76.98 325 ⇑P P 23 38 47.7 +0.5
baz=77
V24A **Rampart Ranch,** 77.01 333 ⇓P P 23 38 47.7 +0.1
baz=77
U26A **Atchley Ranch,** 77.03 334 ⇑P P 23 38 47.9 +0.2
baz=77
S30A **Montezuma** 77.04 337 ⇓P P 23 38 48.1 +0.6
baz=77
T28A **Walsh** 77.12 336 ⇑P P 23 38 48.0 0.0
baz=78
S29A **Ulysses** 77.24 336 ⇑P P 23 38 49.0 +0.4
baz=78
T27A **Campo** 77.27 335 ⇓P P 23 38 49.1 +0.2
baz=78,SNR=6.3
U25A **Circle Dot Ran** 77.28 333 ⇑P P 23 38 49.5 +0.5
baz=78,SNR=6.6
R31A **Burdett** 77.34 338 ⇓P P 23 38 49.6 +0.5
baz=78
V23A **Ortiz Mt. (NFS** 77.37 332 ⇓P P 23 38 50.1 +0.5
baz=78
S28A **Manter** 77.47 336 ⇑P P 23 38 50.3 +0.4
baz=78
T26A **Comanche Natio** 77.68 334 ⇓P P 23 38 51.5 +0.2
baz=78
Q32A **Meitler Ranch,** 77.70 339 ⇓P P 23 38 51.4 +0.3
baz=78
V22A **San Miguel Ran** 77.80 331 ⇑P P 23 38 52.6 +0.6
baz=78
X18A **Snowflake** 77.86 329 ⇓P P 23 38 52.7 +0.4
baz=78
S27A **Las Animas** 77.89 335 ⇑P P 23 38 52.5 +0.2
baz=78
T25A **Trinidad** 77.94 334 ⇓P P 23 38 53.5 +0.8
baz=78,SNR=10
Q31A **Ellis** 77.96 338 ⇑P P 23 38 53.1 +0.5
baz=78
R29A **Marienthal** 77.97 337 ⇓P P 23 38 53.1 +0.4
baz=78
S26A **Kim** 78.04 335 ⇑P P 23 38 53.8 +0.7
baz=78,SNR=8.6
113A **Mohawk Valley,** 78.10 325 ⇑P P 23 38 53.8 +0.4
baz=78
R28A **Tribune** 78.12 336 ⇑P P 23 38 54.2 +0.7
baz=78
Q30A **Quinter** 78.19 338 ⇑P P 23 38 54.5 +0.6
baz=79
T24B **San Luis** 78.23 333 ⇓P P 23 38 55.1 +0.7
baz=79
W18A **Petrified Fore** 78.27 329 ⇑P P 23 38 55.5 +0.9
baz=79
Q29A **Oakley** 78.35 337 ⇓P P 23 38 55.1 +0.3
baz=79
R27A **Eads** 78.40 336 ⇑P P 23 38 55.5 +0.4
baz=79
X16A **Lo Mia Camp, P** 78.41 327 ⇑P P 23 38 56.2 +0.9
baz=79
S25A **Robets Cordova** 78.41 334 ⇓P P 23 38 55.9 +0.6
baz=79
P31A **Stockton** 78.43 339 ⇑P P 23 38 55.5 +0.4
baz=79
T23A **Casias Ranch,** 78.45 333 ⇑P P 23 38 56.0 +0.4
baz=79
R26A **Arlington** 78.64 335 ⇓P P 23 38 57.1 +0.7
baz=79
S24A **Houchin Ranch,** 78.68 333 ⇑P P 23 38 57.4 +0.6
baz=79,SNR=9.9
TSUM **Tsumeb** 78.71 105 *e*P P 23 38 57.9 +0.5
7.5nm,0.9s
Q28A **Sharon Springs** 78.78 337 ⇓P P 23 38 57.7 +0.5
baz=79
R25A **Fountain Ranch** 78.79 334 ⇑P P 23 38 57.3 0.0
baz=79
P29A **Atwood** 78.98 337 ⇓P P 23 38 58.8 +0.6
baz=79
KSCO **Kaye Shedlock'** 79.00 336 ⇑P P 23 38 59.3 +1.0
baz=79
P28A **Saint Francis** 79.22 337 ⇑P P 23 39 00.3 +0.8
baz=80
Q26A **Hugo** 79.22 335 ⇓P P 23 39 00.7 +1.0
baz=80
WUAZ **Wupatki** 79.31 328 ⇓P P 23 39 01.1 +0.9
baz=80
WUAZ **Wupatki** 79.31 328 *e*P P 23 39 01.4 +1.1
8.6nm,1.1s
S22A **4UR Ranch, Cre** 79.37 332 ⇓P P 23 39 01.1 +0.4
baz=80
R23A **Moffat** 79.39 333 ⇓P P 23 39 01.4 +0.7
baz=80
BOSA **Boshof** 79.39 117 P P 23 39 00.4 -0.6
23nm,0.8s,baz=249,slow=3.5,SNR=30
BOSA **Boshof** 79.39 117 *e*P P 23 39 00.5 -0.6
17nm,0.7s
MVCO **Mesa Verde** 79.56 331 ⇓P P 23 39 02.3 +0.7
baz=80
MVCO **Mesa Verde** 79.56 331 *e*P P 23 39 00.7 -1.0
15nm,1.4s
BC3 **Big Chuckawall** 79.63 324 ⇓P P 23 39 02.7 +0.7
baz=80
P26A **Davis Ranch, A** 79.73 336 ⇑P P 23 39 03.2 +0.8
baz=80

BGNE **Belgrade** 79.82 340 ⇓P P 23 39 03.4 +0.7
baz=80
Q24A **Divide** 79.83 334 ⇑P P 23 39 03.8 +0.7
baz=80,SNR=5.2
IRM **Iron Mountain** 79.90 325 ⇑P P 23 39 03.4 +0.1
baz=80
P25A **Willow Gulch B** 79.97 335 ⇓P P 23 39 04.2 +0.5
baz=80
M31A **Lambtecht Ranc** 79.99 340 ⇑P P 23 39 04.2 +0.5
baz=80
N29A **Votaw Ranch, W** 80.00 338 ⇑P P 23 39 04.2 +0.5
baz=80
PFO **Pinyon Flats O** 80.08 323 P P 23 39 04.7 +0.3
4.7nm,0.8s,baz=106,slow=3.6,SNR=6.8
PFO **Pinyon Flats O** 80.08 323 ⇓P P 23 39 05.4 +0.9
baz=80
PFO **Pinyon Flats O** 80.08 323 *e*P P 23 39 03.9 -0.5
W13A **Hualapai Mount** 80.08 326 ⇑P P 23 39 05.0 +0.5
baz=80
MURC **Murrieta** 80.44 323 ⇓P P 23 39 07.5 +1.3
baz=81
U15A **North Rim** 80.48 328 ⇓P P 23 39 07.3 +0.6
baz=81
SCI **San Clemente I** 80.62 322 ⇑P P 23 39 07.3 +0.2
baz=81
GMRC **Granite Mounta** 80.65 325 ⇑P P 23 39 08.3 +0.8
baz=81
SMCO **Snowmass** 80.68 333 *e*P P 23 39 08.9 +1.0
6.7nm,0.9s
ISCO **Idaho Springs** 80.73 334 ⇓P P 23 39 08.7 +0.7
baz=81
ISCO **Idaho Springs** 80.73 334 *e*P P 23 39 08.4 +0.5
29nm,2.0s
P22A **Eagle** 80.97 333 ⇑P P 23 39 09.8 +0.6
baz=81
HEC **Hector,Ludlow** 81.01 324 ⇓P P 23 39 10.7 +1.4
baz=81
BFSC **Mount Baldy Ra** 81.18 323 ⇑P P 23 39 11.2 +0.9
baz=82
O23A **Lake Granby, G** 81.21 334 ⇓P P 23 39 10.9 +0.4
baz=82,SNR=7.2
TUQ **Turquoise Moun** 81.31 325 ⇑P P 23 39 12.0 +1.1
baz=82
RRX **Edison Barstow** 81.37 324 ⇓P P 23 39 12.2 +1.0
baz=82
O22A **Kremmling** 81.39 334 ⇓P P 23 39 12.0 +0.5
baz=82
ECSD **EROS Data Cent** 81.58 342 ⇓P P 23 39 11.9 -0.1
baz=82
ECSD **EROS Data Cent** 81.58 342 *e*P P 23 39 11.6 -0.4
89nm,1.9s
LBTB **Lobatse** 81.66 115 *e*P P 23 39 12.7 -0.5
22nm,0.9s
SHPR **Sheep Range** 81.83 326 *e*P P 23 39 13.4 -0.3
EDW2 **Edwards Air Fo** 81.86 323 ⇑P P 23 39 14.1 +0.4
baz=82
CCUT **Cedar City** 81.88 328 *e*P P 23 39 15.6 +1.5
6.1nm,0.9s
J30A **Dallas** 81.97 340 ⇓P P 23 39 14.1 +0.1
baz=82
SRU **San Rafael Swe** 82.00 331 *e*P P 23 39 14.9 +0.3
26nm,1.9s
PHWY **Pilot Hill** 82.01 335 *e*P P 23 39 15.1 +0.4
16nm,1.6s
SPMN **Marine on St.** 82.10 345 ⇑P P 23 39 13.9 -0.8
baz=82
ARUT **Antelope Range** 82.11 328 *e*P P 23 39 15.0 -0.2
99nm,1.0s
LRMC **Laurel Mtn Rad** 82.19 324 ⇑P P 23 39 16.3 +0.8
baz=82
J29A **Okreek** 82.28 339 ⇓P P 23 39 16.1 +0.4
baz=83
J28A **Allard Ranch,** 82.56 339 ⇓P P 23 39 17.6 +0.4
baz=83
N20A **Spence Gulch,** 82.61 333 ⇓P P 23 39 17.7 0.0
baz=83
ISA **Isabella, Lake** 82.72 323 ⇓P P 23 39 19.5 +1.2
baz=83
DAC **Darwin (Calif)** 82.78 324 *e*P P 23 39 19.8 +1.1
23nm,1.8s
L23A **Garrett** 82.81 335 ⇑P P 23 39 18.8 0.0
baz=83
BRSD **Miller** 82.85 341 ⇓P P 23 39 18.9 +0.2
baz=83
L22A **Ellis Ranch, M** 83.00 335 ⇓P P 23 39 20.5 +0.8
baz=83
J26A **Sides Ranch, S** 83.02 338 ⇑P P 23 39 20.8 +1.2
baz=83
K24A **Anderson Ranch** 83.06 336 ⇓P P 23 39 20.6 +0.6
baz=83
I28A **Midland** 83.07 339 ⇓P P 23 39 20.4 +0.6
baz=84
J25A **Sunshine Ranch** 83.32 337 ⇑P P 23 39 21.5 +0.2
baz=84
K23A **Bowen Ranch, D** 83.36 336 ⇓P P 23 39 21.9 +0.4
baz=84
H29A **Onida** 83.37 340 ⇓P P 23 39 21.5 +0.2
baz=84
I27A **Quinn** 83.39 339 ⇓P P 23 39 22.0 +0.5
baz=84
R11A **Troy Canyon, C** 83.53 327 ⇑P P 23 39 23.2 +0.7
baz=84
R11A **Troy Canyon, C** 83.53 327 *e*P P 23 39 23.4 +0.9
8.6nm,1.4s
K22A **Casper** 83.57 335 ⇓P P 23 39 22.8 +0.2
baz=84
H28A **Mission Ridge** 83.64 339 ⇓P P 23 39 22.5 -0.2
baz=84
JLU **Jordanelle** 83.65 331 *e*P P 23 39 23.3 +0.1
4.9nm,0.8s
G29A **Hoven** 83.81 340 ⇓P P 23 39 24.1 +0.5
baz=84
K21A **Alcova** 83.81 334 ⇑P P 23 39 23.9 0.0
baz=84,SNR=8.6
DUG **Dugway, Tooele** 83.86 330 ⇑P P 23 39 24.3 +0.2
baz=84
I25A **Rochford** 83.87 337 ⇓P P 23 39 24.6 +0.5
baz=84
H27A **Howes** 83.91 339 ⇑P P 23 39 23.5 -0.7
baz=84
G28A **Parade** 83.98 340 ⇑P P 23 39 24.3 -0.1
baz=84
J22A **Midwest** 84.23 335 ⇓P P 23 39 25.5 -0.4
baz=85
TORD **Torodi Ar. Bea** 84.33 70 P P 23 39 26.6 -0.3
25nm,0.9s,baz=278,slow=4.9,SNR=138
F29A **Eureka** 84.37 341 ⇑P P 23 39 27.0 +0.5
baz=85
HWUT **Hardware Ranch** 84.55 331 *e*P P 23 39 26.9 -0.8
7.2nm,0.9s
I22A **9 Mile Ranch,** 84.65 336 ⇓P P 23 39 27.8 -0.2
baz=85
J20A **Shoshoni** 84.74 334 ⇓P P 23 39 29.2 +0.7
baz=85,SNR=13
PDAR **Pinedale Array** 84.77 333 P P 23 39 28.0 -0.8
1.5nm,0.7s,baz=151,slow=5.3,SNR=12
G25A **Newell** 84.83 338 ⇑P P 23 39 28.7 -0.1
baz=85
NVAR **Mina Array Bea** 84.84 325 P P 23 39 29.6 +0.3
1.8nm,0.7s,baz=151,slow=6.0,SNR=12
I21A **Big Trails, Te** 84.86 335 ⇑P P 23 39 29.2 +0.1
baz=85
E29A **Napoleon** 85.00 341 ⇓P P 23 39 30.2 +0.6
baz=85
HVU **Hansel Valley** 85.17 330 *e*P P 23 39 30.5 -0.3
6.4nm,0.8s
H22A **Clearmont** 85.23 336 ⇑P P 23 39 31.2 +0.3
baz=86
G24A **Alzada** 85.25 338 ⇑P P 23 39 31.2 +0.2
baz=86
I20A **Worland** 85.27 335 ⇑P P 23 39 31.0 -0.1
baz=86
ELK **Elko** 85.34 328 P P 23 39 31.6 -0.2
2.2nm,0.8s,baz=172,slow=3.7,SNR=8.5
ELK **Elko** 85.34 328 *e*P P 23 39 31.8 0.0
I19A **Meeteetse** 85.66 334 ⇓P P 23 39 33.3 +0.1
baz=86
AGMN **Agassiz Nation** 85.69 344 ⇓P P 23 39 33.2 +0.2
baz=86
AGMN **Agassiz Nation** 85.69 344 *e*P P 23 39 32.5 -0.4
80nm,2.4s
H20A **Greybull** 85.70 335 ⇓P P 23 39 33.2 0.0
baz=86
F24A **Ekalaka** 85.73 338 ⇓P P 23 39 32.9 -0.4
baz=86
C30A **Mose, Pekin** 85.75 342 ⇑P P 23 39 33.6 +0.3
baz=86
G22A **Birney** 85.76 336 ⇓P P 23 39 32.9 -0.6

	baz=86					
F23A	Volborg	85.92	337	⇓P	P	23 39 34.0 -0.3
	baz=86					
G21A	Lodge Grass	86.07	336	⇓P	P	23 39 34.8 -0.2
	baz=86					
I17A	Pilgrim Ck.	86.14	333	⇑P	P	23 39 35.5 -0.1
	baz=86					
D26A	Manning	86.19	340	⇑P	P	23 39 35.9 +0.3
	baz=87					
H19A	Powell	86.20	334	⇓P	P	23 39 35.8 +0.1
	baz=87					
F22A	Rosebud	86.25	337	⇑P	P	23 39 35.8 0.0
	baz=87					
IMW	Indian Meadow	86.25	333	eP	P	23 39 36.1 -0.1
	17nm,1.6s					
FLWY	Flagg Ranch	86.32	333	eP	P	23 39 36.5 0.0
	7.2nm,0.8s					
E24A	Baker	86.33	338	⇓P	P	23 39 36.6 +0.4
	baz=87					
B30A	Myrvik Farm, E	86.41	343	⇑P	P	23 39 36.9 +0.4
	baz=87					
G20A	Bridger	86.41	335	⇓P	P	23 39 36.0 -0.8
	baz=87,SNR=8.0					
H18A	Shoshone NF, C	86.45	334	⇑P	P	23 39 36.5 -0.6
	baz=87,SNR=13					
H17A	Grant Village	86.54	333	⇑P	P	23 39 38.2 +0.6
	baz=87					
C27A	Sayler Ranch,	86.56	340	⇓P	P	23 39 38.5 +1.2
	baz=87					
B29A	Wagenman Farm,	86.68	342	⇑P	P	23 39 38.6 +0.8
	baz=87					
C26A	Wahner Farm, P	86.82	340	⇓P	P	23 39 39.7 +1.1
	baz=87					
YMR	Madison River	86.92	333	eP	P	23 39 40.3 +0.9
	8.9nm,0.8s					
B28A	Dugan Ranch, T	86.92	341	⇑P	P	23 39 39.5 +0.5
	baz=87					
A29A	Manning Farm,	87.07	342	⇓P	P	23 39 40.1 +0.4
	baz=88					
D23A	Lindsay	87.15	338	⇑P	P	23 39 40.7 +0.5
	baz=88					
F19A	Roth Farm, Mol	87.22	335	⇑P	P	23 39 41.0 +0.3
	baz=88					
C24A	Savage	87.23	339	⇓P	P	23 39 41.1 +0.5
	baz=88					
A28A	Rude Farm, Bot	87.32	342	⇑P	P	23 39 41.7 +0.7
	baz=88					
HLID	Hailey	87.33	330	⇓P	P	23 39 41.6 +0.2
	baz=88					
HLID	Hailey	87.33	330	eP	P	23 39 41.7 +0.4
	4.2nm,1.0s					
E20A	Meyer Farm, Mu	87.50	336	⇑P	P	23 39 41.5 -0.5
	baz=88,SNR=6.6					
ULM	Lac du Bonnet	87.53	345	P	P	23 39 40.5 -1.3
	7.5nm,0.9s,baz=173,slow=3.6,SNR=12					
ULM	Lac du Bonnet	87.53	345	eP	P	23 39 40.8 -1.0
D21A	La Casta Ranch	87.62	337	⇑P	P	23 39 42.6 0.0
	baz=88					
E19A	Rath Farm, Rou	87.69	335	⇓P	P	23 39 42.5 -0.4
	baz=88,SNR=5.1					
C23A	Lambert	87.70	338	⇓P	P	23 39 43.0 +0.1
	baz=88					
MCMT	McKenzie Canyo	87.77	332	eP	P	23 39 42.9 -0.6
	3.1nm,1.2s					
A26A	Wade Farm, Ken	87.78	341	⇑P	P	23 39 43.2 +0.1
	baz=88					
C22A	Vida	87.87	338	⇑P	P	23 39 43.6 0.0
	baz=88					
DGMT	Dagmar	88.01	339	⇑P	P	23 39 44.5 +0.3
	baz=88					
DGMT	Dagmar	88.01	339	eP	P	23 39 44.6 +0.3
	21nm,0.7s					
D20A	Manuel Ranch,	88.02	336	⇑P	P	23 39 43.9 -0.5
	baz=88,SNR=5.1					
A25A	Svangstu Ranch	88.12	340	⇑P	P	23 39 45.1 +0.3
	baz=88					
B23A	Brockton	88.24	339	⇑P	P	23 39 45.4 0.0
	baz=89					
C21A	Desert Coulee	88.32	337	⇓P	P	23 39 46.1 +0.3
	baz=89					
A24A	Westby	88.36	339	⇑P	P	23 39 46.2 +0.3
	baz=89					
B22A	Reddig Ranch S	88.40	338	⇑P	P	23 39 46.4 +0.2
	baz=89					
C20A	Veseth Ranch,	88.52	336	⇑P	P	23 39 47.0 +0.3
	baz=89					
MOD	Modoc Plateau	88.53	326	eP	P	23 39 47.8 +0.7
	4.9nm,0.8s					
C19A	Slack Wire Ran	88.88	336	⇓P	P	23 39 48.6 +0.1
	baz=89					
N02D	Trinity Center	88.94	324	⇓P	P	23 39 48.8 -0.1
	baz=89					
A22A	Carney Farms,	88.99	338	⇑P	P	23 39 49.2 +0.3
	baz=89					
M04C	Macdoel	89.15	325	⇑P	P	23 39 50.2 +0.2
	baz=90					
B20A	Solberg Farm,	89.16	337	⇑P	P	23 39 49.5 -0.2
	baz=90					
LSZ	Lusaka	89.26	108	eP	P	23 39 52.6 +1.4
	6.0nm,0.9s					
A21A	Bergtoll Ranch	89.30	338	⇑P	P	23 39 49.9 -0.4
	baz=90					
EGMT	Eagleton	89.37	336	⇓P	P	23 39 50.0 -0.8
	baz=90					
J05D	Fort Rock, OR	90.04	326	⇑P	P	23 39 54.9 +0.7
	baz=90					
TAM	Tamanrasset	93.04	64	eP	P	23 40 08.5 0.0
	6.3nm,1.0s					
ESDC	Sonseca Array	97.10	46	P	P	23 40 26.0 -0.5
	0.6nm,0.7s,baz=201,slow=4.8,SNR=3.6					
YKA	Yellowknife Ar	103.08	341	Pdiff	Pdif	23 40 51.7 -0.9
	0.4nm,0.7s,baz=139,slow=4.5,SNR=9.1					
ILAR	Eielson Array	115.20	333	PKP	PKPdf	23 45 33.8 -1.0
	0.6nm,0.9s,baz=204,slow=2.0,SNR=5.0					
ASAR	Alice Springs	116.78	206	PKP	PKPdf	23 45 36.8 -2.6
	0.4nm,0.5s,baz=128,slow=1.4,SNR=6.5					
WRA	Warramunga Arr	120.00	209	PKP	PKPdf	23 45 43.7 -1.9
	0.9nm,0.4s,baz=162,slow=1.6,SNR=13					
BRTR	Keskin Array B	122.10	61	PKP	PKPdf	23 45 48.2 -0.9
	1.9nm,0.8s,baz=201,slow=4.0,SNR=14					
AKASG	Malin Array Be	122.69	48	PKP	PKPdf	23 45 47.1 -2.5
	0.2nm,0.2s,baz=263,slow=2.4,SNR=4.7					
ARCES	ARCESS Array B	124.82	25	PKP	PKPdf	23 45 52.0 -1.2
	2.2nm,0.9s,baz=242,slow=2.6,SNR=3.7					
H11S2	WAKE ISLAND Hy	125.99	268	T	T	02 04 36.6
	baz=126,slow=78,SNR=8.0					
H11S1	WAKE ISLAND Hy	126.00	268	T	T	02 04 28.3
	baz=126,slow=78,SNR=8.2					
H11S3	WAKE ISLAND Hy	126.01	268	T	T	02 04 37.9
	baz=126,slow=78,SNR=7.3					
KIV	Kislovodsk	129.81	59	ePKPdf	PKPdf	23 46 02.6 -1.0
KBZ	Khabaz	129.90	59	PKP	PKPdf	23 46 02.8 -0.8
	2.1nm,1.0s,baz=240,slow=5.8,SNR=5.0					
GEYT	Alibeck	139.96	71	PKhKP	PKPpre	23 46 15.6
	1.4nm,0.8s,baz=301,slow=3.1,SNR=4.3					
GEYT				PKP	PKPdf	23 46 22.6 -0.1
	2.1nm,0.5s,baz=276,slow=4.3,SNR=6.3					
GSI	Gunungsitoli	145.02	161	ePKPdf	PKPdf	23 46 31.8 -0.6
KSM	Kuching	146.59	184	ePKPdf	PKPdf	23 46 35.4 +0.3
BRVK	Borovoye	147.77	44	ePKPdf	PKPdf	23 46 35.4 -0.3
KBL	Kabul	147.93	79	ePKPdf	PKPdf	23 46 36.4 -0.5
HYB	Hyderabad	148.28	116	i PKP	PKPdf	23 46 39.0 +1.2
	50nm,1.0s					
IPM	Ipoh	148.90	166	ePKPdf	PKPdf	23 46 39.4 +0.5
KULM	Kulim	149.61	165	ePKPdf	PKPdf	23 46 40.4 +0.4
KKAR	Karatay Array	149.80	63	ePKPbc	PKPbc	23 46 43.7 -0.5
AML	Almayashu	152.19	65	P	PKPbc	23 46 50.7 +0.3
	SNR=16					
EKS2	Erkin-Say	152.22	64	P	PKPbc	23 46 50.4 +0.3
	SNR=20					
EKS2	Erkin-Say	152.22	64	ePKPdf	PKPdf	23 46 43.2 -0.1
EKS2				ePKPbc	PKPbc	23 46 50.0 0.0
USP	Ospenovka	152.69	62	P	PKPbc	23 46 50.9 -0.1
	SNR=11					
AAK	Ala-Archa	152.75	64	P	PKPbc	23 46 51.7 +0.4
	SNR=22					
AAK	Ala-Archa	152.75	64	ePKPbc	PKPbc	23 46 50.6 -0.7
UCH	Uchtor	152.79	64	P	PKPbc	23 46 52.2 +0.4
	SNR=16					
CHMS	Chumysh	152.90	63	P	PKPbc	23 46 51.5 0.0
	SNR=6.0					
KBK	Karagaybulak	153.08	63	P	PKPbc	23 46 52.0 -0.1
	SNR=7.5					
KZA	Kyzart	153.35	65	P	PKPbc	23 46 53.4 +0.4
	SNR=7.0					
KURK	Kurchatov	153.43	45	ePKPdf	PKPdf	23 46 44.0 -0.6
TKM2	Tokmak 2	153.53	63	P	PKPbc	23 46 52.8 -0.3
	SNR=7.6					
TKM2	Tokmak 2	153.53	63	ePKPbc	PKPbc	23 46 52.7 -0.4
KSH	Kashi	153.99	70	PKPbc	PKPdf	23 46 45.8 -0.2
KSH				sPKP		23 47 03.5
KSH				PKS	PKSdf	23 50 19.5 -0.8
KSH				SKS	SKSdf	23 53 49.6 -0.6
KSH				SKKS	SKKSac	23 57 30.2 +0.4
KSH				SS	SS	00 10 17.5 -1.4
KSH				PPMZ		
	110nm,6.0s					
KSH				LZ		
	84nm,4.6s					
ZALV	Zalesovo Beam	154.93	34	PKP	PKPdf	23 46 45.0 -1.7
	1.4nm,0.7s,baz=264,slow=3.0,SNR=7.8					
MKAR	Makanchi Array	157.22	51	PKP	PKPdf	23 46 48.8 -1.2
	0.9nm,0.9s,baz=294,slow=1.2,SNR=6.1					
MKAR				PKPab	PKPab	23 47 20.2 -0.8
	6.1nm,0.9s,baz=288,slow=3.7,SNR=14					
MKAR				PP	PP	23 51 00.5 +0.3
	0.9nm,0.9s,baz=294,slow=4.6,SNR=3.9					
KOLN	Koldanda	157.78	102	eP	PKPdf	23 46 50.6 -0.9
DANN	Dangsing	158.15	101	eP	PKPdf	23 46 51.3 -0.7
GKN	Gorkha	158.71	103	eP	PKPdf	23 46 51.2 -1.4
DMN	Daman	158.92	104	eP	PKPdf	23 46 51.9 -1.0
	3.0nm,0.3s					
KKN	Kakani	159.14	104	eP	PKPdf	23 46 52.2 -0.9
PKI	Pulchoki	159.14	105	eP	PKPdf	23 46 51.8 -1.5
GUN	Gumba	159.67	104	eP	PKPdf	23 46 52.4 -1.5
RAMN	Ramite	159.80	107	eP	PKPdf	23 46 52.4 -1.6
JIRN	Jiri	159.80	105	eP	PKPdf	23 46 52.3 -1.8
ODAN	Odare	160.37	109	eP	PKPdf	23 46 53.0 -1.6
TAPN	Taplejung	160.86	108	eP	PKPdf	23 46 53.3 -1.9
CMAR	Chiang Mai Arr	161.56	151	PKP	PKPdf	23 46 54.6 -1.2
	0.8nm,0.8s,baz=259,slow=2.1,SNR=5.6					
CMAR				PKPab	PKPab	23 47 38.7 -1.7
	0.5nm,0.3s,baz=222,slow=6.3,SNR=5.0					
SONM	Songino Array	167.10	6	PKPab	PKPab	23 48 03.9 -0.3
	2.0nm,0.9s,baz=341,slow=4.1,SNR=16					
KMI	Kunming	169.06	153	PKP	PKPdf	23 47 02.4 +0.2
NJ2	Nanjing	170.68	255	ePKP	PKPdf	23 47 04.0 +1.4
GYA	Guiyang	171.37	170	ePKP	PKPdf	23 47 03.0 -0.3
GYA				pPKP	pPKPdf	23 47 17.4 +2.6
GYA				PKPab	PKPab	23 48 26.8 +3.2
GYA				PKS	PKSdf	23 50 34.2 -1.7
GYA				PP	PP	23 52 17.4 +4.0
GYA				SKKS		23 58 57.5
GYA				SS	SS	00 13 16.7 +0.5
GYA				PPMZ		
	120nm,8.4s					
GYA				LN		
	130nm,21.2s					
GYA				LE		
	110nm,22.4s					
GYA				LZ		
	120nm,21.7s					
GTA	Gaotai	171.96	54	ePKP	PKPdf	23 47 02.7 -0.5
HHC	Hu-ho-hao-te	173.61	337	ePKP	PKPdf	23 47 04.7 +0.9
HHC				PP	PP	23 52 29.0 +4.4
HHC				SKS	SKSdf	23 54 02.6 -1.7
HHC				SKKS	SKKSac	23 59 10.3 +1.5
HHC				SS	SS	00 13 39.4 +0.9
HHC				PPMZ		
	58nm,5.7s					
HHC				LN		
	180nm,20.2s					
HHC				LE		
	190nm,21.0s					
HHC				LZ		
	110nm,20.4s					
LZH	Lanzhou	176.24	72	ePKP	PKPdf	23 47 05.6 +0.8
LZH				pPKP	pPKPdf	23 47 15.8 -0.5
LZH				sPKP		23 47 20.1

IDC 01 23:27:05.5±0.8, 34°98S×71°82W, h0km, mb4.6/9, mb1 4.7/9, mb1mx4.4/30, mbtmp4.6/9, Error ellipse: s-maj=30.2km s-min=25.1km az=70.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	San Ignacio	21.22	30	P	P	23 31 53.0	-0.1
	16nm,0.7s,baz=220,slow=12,SNR=9.1						
QSPA	South Pole Qui	55.26	180	P	P	23 36 40.4	+0.1
	20nm,1.1s,baz=323,slow=3.7,SNR=6.7						
TXAR	Lajitas Array	70.68	331	P	P	23 38 23.4	+0.3
	3.8nm,0.5s,baz=156,slow=9.0,SNR=20						
DBIC	Dimbokro	75.32	71	P	P	23 38 51.0	+0.1
	7.7nm,0.6s,baz=186,slow=5.3,SNR=11						
TORD	Torodi Ar. Bea	84.37	70	P	P	23 39 38.9	-1.1
	4.5nm,0.7s,baz=271,slow=3.7,SNR=9.3						
PDAR	Pinedale Array	84.72	333	P	P	23 39 41.1	-0.3
	1.8nm,0.8s,baz=140,slow=4.7,SNR=7.7						
NVAR	Mina Array Bea	84.79	325	P	P	23 39 41.4	-0.5
	1.3nm,0.7s,baz=139,slow=6.5,SNR=5.7						
ELK	Elko	85.29	328	P	P	23 39 44.8	+0.4
	1.6nm,0.8s,baz=153,slow=4.4,SNR=4.6						
HLID	Hailey	87.28	330	epP	P	23 39 54.9	+0.9
ULM	Lac du Bonnet	87.49	345	P	P	23 39 54.0	-0.5
	2.4nm,0.8s,baz=162,slow=2.8,SNR=2.9						
DGMT	Dagmar	87.97	339	epP	P	23 39 57.7	+0.8
MOD	Modoc Plateau	88.48	326	epP	P	23 40 00.6	+0.9
WRA	Warramunga Arr	119.99	209	PKP	PKPdf	23 45 57.7	-0.9
	0.8nm,0.5s,baz=167,slow=1.5,SNR=8.5						
BRTR	Keskin Array B	122.14	61	PKP	PKPdf	23 46 01.8	-0.4
	1.4nm,0.7s,baz=203,slow=3.4,SNR=8.2						
FINES	FINESS Array B	123.69	35	PKP	PKPdf	23 46 05.4	+1.2
	0.5nm,0.7s,baz=274,slow=3.6,SNR=3.3						
MKAR	Makanchi Array	157.25	51	PKPab	PKPab	23 47 35.4	+1.3
	1.2nm,0.7s,baz=299,slow=5.0,SNR=3.6						

*IDC **01** 23:30:29.1±1.9, 25°92N×128°59E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.4/43, mbtmp3.7/6, Error ellipse: s-maj=101.0km s-min=21.2km az=74.0*
*ISCJB **01** 23:30:31.1±0.6, 25°91N±0°05×128°66E±0°04, h27km, mb3.5/6, Error ellipse: s-maj=6.9km s-min=4.9km az=17.9*
*JMA **01** 23:30:31.7±0.3, 25°91N×128°64E, h34km, M3.1*
ISC 01 23:30:32.4±0.8, 25°92N±0°06×128°62E±0°04, h27km, n17, σ1°19/26, mb3.6/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.80	318	P	Pb	23 30 46.5	-1.3
JNTH				eS	Sb	23 30 57.9	-0.4
JJT2	Tamagusuku 2	0.81	286	P	Pb	23 30 47.2	-0.8
JJT2				S	Sb	23 30 58.3	-0.3
JOW	Kunigami	0.96	341	P	Pn	23 30 49.5	-0.7
JOW	Kunigami	0.96	341	Pn	Pn	23 30 49.6	-0.5
	4.8nm,0.3s,baz=170,slow=14,SNR=25						
JOW				Sn	Sb	23 31 00.8	-2.0
	9.0nm,0.3s,baz=139,slow=19,SNR=24						
JIH	Iheya	1.26	332	P	Pn	23 30 54.0	-0.2
JIH				S	Sn	23 31 09.4	-0.8
JAGN	Aguni-jima	1.41	299	P	Pn	23 30 55.6	-0.6
JAGN				S	Sn	23 31 14.0	+0.1
JOKE	Okinoerabujima	1.44	358	P	Pn	23 30 56.6	-0.1
JOKE				S	Sn	23 31 14.0	-0.7
JKE	Kume jima 2	1.70	284	P	Pn	23 30 59.4	-0.9
JKE				S	Sn	23 31 18.5	-2.6
JTK	Tokunoshima	1.88	9	P	Pn	23 31 03.0	+0.2
JTK				S	Sn	23 31 25.0	-0.7
JMZ	Minamidaito 2	2.34	92	P	Pn	23 31 08.3	-0.9
JMZ				S	Sn	23 31 34.2	-2.9
JAMN	Amaminishikomi	2.37	12	P	Pn	23 31 10.2	+0.7
SONM	Songino Array	28.00	327	P	P	23 36 22.8	+1.6
	0.6nm,0.5s,baz=142,slow=10,SNR=8.6						
MKAR	Makanchi Array	42.00	312	P	P	23 38 21.2	-0.1
	0.5nm,0.7s,baz=101,slow=9.8,SNR=6.6						
WRA	Warramunga Arr	45.92	173	P	P	23 38 53.8	+0.8
	0.5nm,0.8s,baz=356,slow=8.7,SNR=3.7						
FINES	FINESS Array B	73.31	331	P	P	23 42 01.9	+0.7
	1.2nm,0.9s,baz=134,slow=8.0,SNR=3.1						
AKASG	Malin Array Be	76.00	320	P	P	23 42 17.7	+0.7
	0.2nm,0.3s,baz=54,slow=6.3,SNR=3.7						
BRTR	Keskin Array B	77.50	308	P	P	23 42 27.2	+1.3
	1.0nm,1.0s,baz=72,slow=4.7,SNR=4.9						

IDC 01 23:36:08.2±9.6, 5°70S×154°02E, h218km±66km, mb3.2/3, mb1 3.4/4, mb1mx3.1/33, mbtmp3.8/4, Error ellipse: s-maj=104.1km s-min=27.3km az=101.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.74	241	P	Pn	23 37 58.2	+0.1
	4.3nm,0.3s,baz=30,slow=14,SNR=5.6						
PMG				S	S	23 39 26.4	+0.5
	1.2nm,0.3s,baz=142,slow=19,SNR=2.3						
WRA	Warramunga Arr	23.81	232	P	P	23 41 02.0	+0.5
	1.1nm,0.4s,baz=57,slow=9.8,SNR=32						
WRA				pP	pP	23 41 34.5	-7.2
	0.4nm,0.3s,baz=59,slow=10,SNR=14						
ASAR	Alice Springs	26.35	225	P	P	23 41 23.6	-0.7
	0.3nm,0.4s,baz=55,slow=8.8,SNR=6.6						
SONM	Songino Array	67.73	327	P	P	23 46 42.3	0.0
	0.4nm,0.4s,baz=134,slow=5.1,SNR=11						

IDC 01 23:37:56.2±1.6, 36°36S×72°09W, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.6/21, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=45.1km s-min=31.3km az=90.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.53	165	Pn	Pn	23 39 04.8	-1.4
	0.8nm,0.3s,baz=317,slow=14,SNR=3.3						
PLCA				Sn	Sn	23 40 05.8	+6.0
	1.6nm,0.3s,baz=47,slow=20,SNR=4.6						
CFAA	Coronel Fontan	5.72	35	Pn	Pn	23 39 23.1	+0.6
	0.3nm,0.3s,baz=212,slow=9.5,SNR=6.9						
CFAA				Sn	Sn	23 40 33.7	+4.9
	0.2nm,0.3s,baz=347,slow=18,SNR=2.1						
SIV	San Ignacio	22.53	29	P	P	23 42 56.3	-1.5
	1.2nm,0.6s,baz=231,slow=13,SNR=3.3						
TXAR	Lajitas Array	71.77	331	P	P	23 49 20.6	+0.1
	0.5nm,0.6s,baz=160,slow=8.2,SNR=3.0						
TORD	Torodi Ar. Bea	85.06	70	P	P	23 50 35.1	+0.9
	0.3nm,0.8s,baz=214,slow=7.0,SNR=2.5						

*IDC **02** 00:06:30.1±0.6, 15°22S×173°45W, h0km, mb4.3/13, mb1 4.5/13, mb1mx4.4/23, mbtmp4.3/13, MS3.8/7, Ms1 3.8/7, ms1mx3.5/40, Error ellipse: s-maj=26.0km s-min=18.3km az=126.0*
*ISCJB **02** 00:06:33.6±0.3, 15°2S±0°1×173°58W±0°07, h35km, mb4.6/38, MS3.9/6, Error ellipse: s-maj=15.7km s-min=8.2km az=153.4*
*SZGRF **02** 00:06:33.0, 16°10S×172°18W, h33km, Samoa Islands region*
*NEIC **02** 00:06:35.5±2.9, 15°27S×173°53W, h39km±25km, mb4.7/28, Error ellipse: s-maj=12.3km s-min=6.7km az=147.0*
ISC 02 00:06:35.2±0.5, 15°2S±0°1×173°5W±0°2, h35km, n262, σ0°59/235, mb4.6/39, MS3.8/6, 79C-80D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.12	52	ePn	Pn	00 06 58.8	-9.4
AFI				eS	Sn	00 07 17.7	-16
MSVF	Nonsavu	8.49	252	ePn	Pn	00 08 42.9	+7.1
RAO	Raoul Island	14.54	196	LR	LR	00 14 27.9	
	comp=Z,272nm,21.6s,baz=3.0,slow=33						
DZM	Mont Dzumac	20.18	247	P	Pn	00 11 13.7	+4.6
	18nm,1.2s,baz=79,slow=16,SNR=6.3						
DZM	Mont Dzumac	20.18	247	eP	P	00 11 06.7	-0.3
	42nm,1.5s						
PAE	Paea	23.05	99	eT	T	00 34 46.5	
	5.9nm,0.2s						
PPT	Papeete	23.05	99	LR	LR	00 19 23.3	
	comp=Z,183nm,18.5s,baz=206,slow=34						
PPT2	Papeete2	23.05	99	eLR	LR	00 17 02.1	
	788nm,27.0s						
PPT2	Papeete2	23.05	99	eT	T	00 34 47.3	
	8.3nm,0.3s						
TIAR	Tiarei	23.27	99	eT	T	00 35 02.8	
	4.1nm,0.3s						
TBI	Tubuai	24.04	113	eT	T	00 36 10.4	
	27nm,0.3s						
URZ	Urewera	24.39	198	P	P	00 11 50.9	+0.7
	3.7nm,0.4s,baz=240,slow=3.8,SNR=3.8						
URZ				LR	LR	00 20 20.1	
	comp=Z,443nm,19.3s,baz=23,slow=34						
URZ	Urewera	24.39	198	eP	P	00 11 49.3	-1.0
	8.9nm,0.8s						
MEH	Mehetia	24.50	100	eT	T	00 36 35.5	
	14nm,0.3s						
PMOR	Pomariorio Ree	24.70	93	eT	T	00 36 46.8	
	5.2nm,0.3s						
VAH	Vaihoa	24.95	93	eT	T	00 37 05.2	
	9.7nm,0.2s						
RKT	Rikitea	37.12	108	eLQ	LQ	00 22 05.1	
	230nm,29.2s						
RKT				eLR	LR	00 23 34.3	
	615nm,32.0s						
RKT	Rikitea	37.12	108	eT	T	00 52 20.5	
	5.1nm,0.3s						
H11S2	WAKE ISLAND Hy	38.78	329	T	T	00 54 56.3	
	baz=148,slow=76,SNR=40						
H11S3	WAKE ISLAND Hy	38.79	329	T	T	00 55 02.8	
	baz=148,slow=76,SNR=41						
H11S1	WAKE ISLAND Hy	38.80	329	T	T	00 54 59.4	
	baz=148,slow=76,SNR=35						
H11N3	WAKE ISLAND Hy	39.73	330	T	T	00 56 05.7	
	baz=149,slow=76,SNR=17						
H11N1	WAKE ISLAND Hy	39.73	330	T	T	00 56 01.1	
	baz=149,slow=76,SNR=27						
H11N2	WAKE ISLAND Hy	39.74	330	T	T	00 56 06.3	
	baz=149,slow=76,SNR=16						
WRAB	Tennant Creek	49.79	257	eP	P	00 15 24.4	-0.5
WRA	Warramunga Arr	49.80	257	P	P	00 15 24.1	-0.9
	3.4nm,0.8s,baz=90,slow=7.7,SNR=18						
AS31	Alice Springs	50.08	252	eP	P	00 15 25.9	-1.3
ASAR	Alice Springs	50.08	252	P	P	00 15 26.1	-1.1
	17nm,0.8s,baz=84,slow=8.6,SNR=114						
MJAR	Matsushiro Arr	68.76	320	P	P	00 17 36.5	+0.8
	1.2nm,0.4s,baz=157,slow=5.5,SNR=5.3						
MJAR				LR	LR	00 41 40.4	
	comp=Z,79nm,21.9s,baz=190,slow=31						
PETK	Petropavlovsk-	72.45	342	P	P	00 17 57.6	-0.3
	6.2nm,0.8s,baz=93,slow=10,SNR=5.1						
IRM	Iron Mountain	74.09	47	⇓P	P	00 18 08.3	+0.3
	baz=74						
NVAR	Mina Array Bea	74.26	42	P	P	00 18 08.7	-0.5
	2.2nm,0.9s,baz=228,slow=8.6,SNR=8.2						
QSPA	South Pole Qui	74.81	180	P	P	00 18 13.0	+1.2
	4.6nm,0.8s,baz=66,slow=1.0,SNR=12						
QSPA	South Pole Qui	74.81	180	eP	P	00 18 12.6	+0.7
	3.2nm,0.6s						
KSRS	Korea Array	75.98	316	P	P	00 18 20.3	+1.5
	0.5nm,0.3s,baz=81,slow=23,SNR=2.1						
R11A	Troy Canyon, C	76.00	43	⇓P	P

PV04	Paradox Valley	80.56	46	eP	P	00 18 45.3	+0.9
TXAR	Lajitas Array	80.59	56	P	P	00 18 45.9	+1.2
	0.4nm,0.6s,baz=174,slow=14,SNR=3.8						
PV01	Paradox Valley	80.67	46	eP	P	00 18 45.2	+0.2
	508nm,1.1s						
ANMO	Albuquerque	80.76	50	eP	P	00 18 50.2	+4.6
	4.0nm,1.2s						
Y24A	Capitan	81.09	51	⇑P	P	00 18 48.0	+0.7
	baz=81						
MCMT	McKenzie Canyo	81.18	39	eP	P	00 18 47.3	-0.3
	2.3nm,1.0s						
V23A	Ortiz Mt. (NFS	81.31	49	⇑P	P	00 18 49.1	+0.6
	baz=82						
Z25A	Roswell	81.36	52	⇑P	P	00 18 49.6	+0.9
	baz=82						
MSO	Missoula	81.60	37	⇑P	P	00 18 49.6	0.0
	baz=82						
Y25A	Mesa, Roswell	81.65	52	⇓P	P	00 18 50.5	+0.3
	baz=82						
W24A	Lazy 6 Ranch,	81.65	50	⇓P	P	00 18 50.5	+0.2
	baz=82						
REDW	Red Top Meadow	81.67	41	eP	P	00 18 50.1	-0.1
	80nm,2.5s						
TPAW	Teton Pass	81.67	41	eP	P	00 18 50.4	+0.1
	12nm,1.3s						
FXWY	Fox Creek	81.69	41	eP	P	00 18 50.3	0.0
	72nm,2.8s						
S22A	4UR Ranch, Cre	81.72	47	⇓P	P	00 18 50.8	0.0
	baz=82,SNR=5.4						
IMW	Indian Meadow	81.88	40	eP	P	00 18 51.5	+0.1
	6.2nm,1.1s						
X25A	Clemmons Ranch	81.92	51	⇑P	P	00 18 51.9	+0.2
	baz=82						
Z26A	Caprock	81.92	52	⇓P	P	00 18 52.2	+0.5
	baz=82						
LOHW	Long Hollow	81.95	41	eP	P	00 18 51.0	-0.6
	66nm,3.0s						
V24A	Rampart Ranch,	81.97	50	⇓P	P	00 18 52.1	+0.1
	baz=82						
I17A	Pilgrim Ck.	82.12	41	⇑P	P	00 18 53.0	+0.5
	baz=82						
PDAR	Pinedale Array	82.20	42	P	P	00 18 52.8	-0.3
	1.4nm,0.9s,baz=209,slow=2.8,SNR=7.7						
SMCO	Snowmass	82.26	46	eP	P	00 18 53.9	+0.3
	81nm,2.6s						
Y26A	Elida	82.31	52	⇓P	P	00 18 53.8	+0.1
	baz=82						
SEY	Seymchan	82.34	345	P	P	00 18 53.0	0.0
	1.0nm,0.2s,baz=140,slow=4.9,SNR=6.7						
BOZ	Bozeman (W)	82.34	39	eP	P	00 18 53.6	0.0
	13nm,1.4s						
H17A	Grant Village	82.36	40	⇓P	P	00 18 54.4	+0.5
	baz=83						
W25A	X Bar L Ranch,	82.36	50	⇑P	P	00 18 53.7	-0.2
	baz=82						
T24B	San Luis	82.46	48	⇑P	P	00 18 54.8	+0.2
	baz=83						
V25A	Rancho No Teng	82.50	50	⇓P	P	00 18 55.2	+0.4
	baz=83						
429A	Davenport Ranc	82.51	56	⇓P	P	00 18 55.4	+0.7
	baz=83						
Z27A	Tatum	82.53	53	⇑P	P	00 18 55.5	+0.7
	baz=83						
228A	UT BIock 9, Go	82.54	54	⇓P	P	00 18 54.6	-0.2
	baz=83						
X26A	CR and CF Fran	82.57	51	⇑P	P	00 18 54.8	-0.2
	baz=83						
R23A	Moffat	82.63	47	⇓P	P	00 18 55.5	0.0
	baz=83						
J19A	Crowheart	82.77	42	⇓P	P	00 18 56.0	0.0
	baz=83						
HRY	Holter Researc	82.77	38	eP	P	00 18 55.6	-0.2
329A	Wagon Wheel Ra	82.77	55	⇓P	P	00 18 56.6	+0.5
	baz=83						
Y27A	Causey	82.79	52	⇓P	P	00 18 56.4	+0.2
	baz=83						
128A	Castleberry Fa	82.82	54	⇑P	P	00 18 56.6	+0.3
	baz=83						
W26A	Owens Ranch, T	82.83	51	⇑P	P	00 18 56.6	+0.2
	baz=83						
S24A	Houchin Ranch,	82.83	48	⇓P	P	00 18 56.8	+0.3
	baz=83,SNR=5.7						
U25A	Circle Dot Ran	82.89	49	⇓P	P	00 18 56.8	0.0
	baz=83						
O22A	Kremmling	82.99	45	⇓P	P	00 18 57.2	-0.1
	baz=83,SNR=7.8						
H18A	Shoshone NF, C	83.06	40	⇑P	P	00 18 57.4	-0.1
	baz=83						
V26A	Tequesquite Ra	83.10	50	⇑P	P	00 18 57.6	-0.2
	baz=83						
631A	Perdido Creek	83.11	57	⇓P	P	00 18 58.0	+0.2
	baz=83						
MSTX	Muleshoe	83.12	52	⇑P	P	00 18 58.4	+0.5
	baz=83						
MSTX	Muleshoe	83.12	52	eP	P	00 18 58.6	+0.7
	72nm,2.0s						
P23A	Jefferson	83.14	46	⇓P	P	00 18 58.5	+0.4
	baz=83						
X27A	F and S Farms,	83.15	51	⇑P	P	00 18 57.9	-0.2
	baz=83						
Z28A	Tucker Farm, M	83.15	53	⇓P	P	00 18 58.1	0.0
	baz=83						
R24A	Sanders Place,	83.16	48	⇓P	P	00 18 58.3	+0.2
	baz=83						
I19A	Meeteetse	83.17	41	⇑P	P	00 18 58.5	+0.5
	baz=83						
T25A	Trinidad	83.20	49	⇓P	P	00 18 58.1	-0.2
	baz=83						
N22A	Wattenberg Ran	83.34	45	⇑P	P	00 18 59.0	0.0
	baz=84,SNR=6.5						
W27A	Bowe Ranch, En	83.34	51	⇓P	P	00 18 58.8	-0.2
	baz=84,SNR=5.2						
U26A	Atchley Ranch,	83.38	50	⇓P	P	00 18 59.0	-0.3
	baz=84,SNR=5.3						
330A	Mertzon	83.38	55	⇑P	P	00 18 59.4	+0.2
	baz=84						
S25A	Robets Cordova	83.40	48	⇑P	P	00 18 58.8	-0.5
	baz=84,SNR=5.3						
J20A	Shoshoni	83.43	42	⇓P	P	00 18 59.3	0.0
	baz=84,SNR=6.2						
Q24A	Divide	83.44	47	⇓P	P	00 18 59.3	-0.4
	baz=84,SNR=5.9						
O23A	Lake Granby, G	83.45	45	⇓P	P	00 18 59.4	-0.2
	baz=84						
ISCO	Idaho Springs	83.48	46	⇓P	P	00 18 59.5	-0.4
	baz=84						
ISCO	Idaho Springs	83.48	46	eP	P	00 19 00.1	+0.3
	53nm,2.6s						
H19A	Powell	83.48	40	⇑P	P	00 18 59.4	-0.2
	baz=84,SNR=5.4						
M22A	Cedar Creek Ra	83.52	44	⇑P	P	00 18 59.4	-0.6
	baz=84,SNR=5.4						
K21A	Alcova	83.64	43	⇓P	P	00 18 59.7	-0.8
	baz=84,SNR=6.4						
Z29A	Hungry Hill Ra	83.67	53	⇑P	P	00 19 00.1	-0.5
	baz=84						
I20A	Worland	83.68	41	⇑P	P	00 19 00.1	-0.4
	baz=84,SNR=7.5						
R25A	Fountain Ranch	83.71	48	⇓P	P	00 19 00.1	-0.8
	baz=84,SNR=6.2						
N23A	Red Feather La	83.73	45	⇓P	P	00 19 01.2	+0.2
	baz=84						
V27A	Dan Oppiter Fa	83.79	51	⇑P	P	00 19 00.9	-0.4
	baz=84						
034A	Hebbronville	83.83	60	⇓P	P	00 19 02.6	+1.1
	baz=84						
J21A	Lysite	83.84	42	⇑P	P	00 19 01.0	-0.4
	baz=84,SNR=15						
L22A	Ellis Ranch, M	83.91	44	⇓P	P	00 19 01.4	-0.5
	baz=84,SNR=5.8						
Y29A	Porterfield Fa	83.92	53	⇑P	P	00 19 02.2	+0.2
	baz=84						
130A	Snyder	83.99	54	⇑P	P	00 19 02.3	0.0
	baz=84						
COLD	Coldfoot	84.00	9	eP	P	00 19 01.1	-0.4
	4.6nm,0.9s						
W28A	Vega	84.06	51	⇑P	P	00 19 02.5	-0.1
	baz=84						
U27A	Thompson Grove	84.06	50	⇓P	P	00 19 02.0	-0.7
	baz=84						
F19A	Roth Farm, Mol	84.08	39	⇓P	P	00 19 02.2	-0.3
	baz=84						
S26A	Kim	84.08	49	⇑P	P	00 19 02.5	-0.2
	baz=84						
K22A	Casper	84.12	43	⇓P	P	00 19 02.4	-0.5
	baz=84						
Z30A	Sanderson Ranc	84.12	53	⇑P	P	00 19 02.9	-0.1
	baz=84						
X29A	Tulia	84.13	52	⇓P	P	00 19 03.0	0.0
	baz=84						
M23A	Laramie	84.13	44	⇓P	P	00 19 02.8	-0.2
	baz=84						
I21A	Big Trails, Te	84.15	42	⇓P	P	00 19 02.2	-0.8
	baz=84,SNR=12						
G20A	Bridger	84.22	40	⇓P	P	00 19 03.1	-0.2
	baz=84						
PHWY	Pilot Hill	84.24	45	eP	P	00 19 03.4	-0.2
	13nm,1.4s						
231A	Bronte	84.25	55	⇓P	P	00 19 03.6	0.0
	baz=84						
633A	Saathoff Ranch	84.27	58	⇓P	P	00 19 04.2	+0.4
	baz=84						
834A	Tilden	84.31	59	⇓P	P	00 19 03.8	-0.1
	baz=84						
AMTX	Amarillo	84.31	52	⇑P	P	00 19 03.8	-0.1
	baz=84						
BILL	Bilibino	84.34	352	eP	P	00 19 02.8	-0.3
P25A	Willow Gulch B	84.36	47	⇓P	P	00 19 04.2	0.0
	baz=85,SNR=5.8						
R26A	Arlington	84.37	48	⇓P	P	00 19 03.8	-0.4
	baz=85,SNR=7.3						
T27A	Campo	84.40	49	⇓P	P	00 19 04.0	-0.4
	baz=85						
N24A	Carr	84.43	45	⇓P	P	00 19 04.2	-0.3
	baz=85						
W29A	Amarillo	84.43	52	⇓P	P	00 19 04.2	-0.3
	baz=85						
L23A	Garrett	84.43	44	⇓P	P	00 19 04.0	-0.6
	baz=85,SNR=8.4						
E19A	Rath Farm, Rou	84.47	39	⇓P	P	00 19 03.9	-0.5
	baz=85						
131A	Roby	84.47	54	⇓P	P	00 19 04.5	-0.2
	baz=85						
J22A	Midwest	84.50	42	⇓P	P	00 19 04.1	-0.6
	baz=85,SNR=8.8						
Y30A	Stafford Cattl	84.53	53	⇓P	P	00 19 04.9	-0.1
	baz=85						
F20A	Billings	84.54	40	⇑P	P	00 19 04.5	-0.3
	baz=85						
Q26A	Hugo	84.58	47	⇓P	P	00 19 05.2	-0.1
	baz=85						
533A	Kerrville	84.60	57	⇑P	P	00 19 05.5	+0.1
	baz=85						
EGMT	Eagleton	84.65	37	⇓P	P	00 19 04.9	-0.4
	baz=85						
H21A	Big Horn, Sher	84.69	41	⇓P	P	00 19 05.4	-0.3
	baz=85						
I22A	9 Mile Ranch,	84.71	42	⇑P	P	00 19 05.1	-0.7
	baz=85,SNR=5.8						
M24A	Cheyenne	84.74	45	⇑P	P	00 19 05.7	-0.4
	baz=85						
D19A	Cripps Ranch,	84.75	38	⇑P	P	00 19 05.5	-0.3
	baz=85						
K23A	Bowen Ranch, D	84.76	43	⇓P	P	00 19 05.8	-0.3
	baz=85						
232A	Coleman	84.77	55	⇑P	P	00 19 06.0	-0.2
	baz=85						
V29A	Stinnett	84.82	51	⇑P	P	00 19 06.2	-0.2
	baz=85						
E20A	Meyer Farm, Mu	84.88	39	⇑P	P	00 19 06.3	-0.2
	baz=85						
Z31A	Sharp Cattle R	84.90	54	⇑P	P	00 19 06.5	-0.4
	baz=85						
C19A	Slack Wire Ran	84.92	38	⇑P	P	00 19 06.7	0.0
	baz=85,SNR=7.0						
P26A	Davis Ranch, A	84.96	47	⇓P	P	00 19 07.3	+0.1
	baz=85						
N25A	Grover	84.97	45	⇓P	P	00 19 06.8	-0.4
	baz=85						
ABTX	Abilene, Hawle	85.04	54	⇓P	P	00 19 07.8	+0.3
	baz=85						
ABTX	Abilene, Hawle	85.04	54	eP	P	00 19 07.7	+0.1
	28nm,1.0s						
534A	Blanco	85.04	57	⇑P	P	00 19 07.9	+0.3
	baz=85						
Y31A	Rekieta Farm,	85.05	53	⇓P	P	00 19 07.7	+0.1
	baz=85						
333A	Richland Sprin	85.09	56	⇑P	P	00 19 08.0	+0.2
	baz=85						
936A	North Padre Is	85.10	60	⇑P	P	00 19 07.6	-0.3
	baz=85						
H22A	Clearmont	85.11	41	⇓P	P	00 19 07.2	-0.6
	baz=85						
D20A	Manuel Ranch,	85.16	39	⇑P	P	00 19 07.6	-0.3
	baz=85,SNR=5.7						
F21A	Absaloka Mine,	85.19	40	⇑P	P	00 19 08.5	+0.5
	baz=85						
O26A	Horse Wrangler	85.27	46	⇑P	P	00 19 08.6	-0.1
	baz=86						
K24A	Anderson Ranch	85.29	44	⇑P	P	00 19 08.1	-0.6
	baz=86						
233A	Rising Star	85.40	55	⇑P	P	00 19 09.4	0.0
	baz=86						
Z32A	Haskell	85.41	54	⇓P	P	00 19 09.6	+0.2
	baz=86						
434A	Burnet	85.48	57	⇑P	P	00 19 09.8	0.0
	baz=86						
P27A	Ficken Ranch,	85.50	47	⇓P	P	00 19 09.8	0.0
	baz=86						
C20A	Veseth Ranch,	85.53	38	⇑P	P	00 19 09.8	+0.1
	baz=86						
N26A	Koester Ranch,	85.57	46	⇑P	P	00 19 10.3	+0.1
	baz=86						
133A	Hamilton Ranch	85.60	55	⇑P	P	00 19 10.4	+0.1
	baz=86						
J24A	Dixon Ranch, L	85.65	43	⇑P	P	00 19 10.3	-0.2
	baz=86						
A19A	Klindworth Far	85.68	37	⇓P	P	00 19 10.2	-0.3
	baz=86						
334A	Lometa	85.69	56	⇑P	P	00 19 10.9	+0.1
	baz=86						
Y32A	R-V Farms, Ver	85.70	53	⇑P	P	00 19 10.7	-0.1
	baz=86						
U30A	WK&E Inc. Balk	85.72	51	⇑P	P	00 19 11.1	+0.2
	baz=86						
W31A	Holland Ranch,	85.75	52	⇓P	P	00 19 10.2	-0.9
	baz=86						
D21A	La Casta Ranch	85.84	39	⇓P	P	00 19 10.9	-0.3
	baz=86						
Z33A	Whitaker Ranch	85.96	54	⇓P	P	00 19 12.0	-0.1
	baz=86						
X32A	Elmer	85.97	53	⇑P	P	00 19 11.6	-0.5
	baz=86						
636A	Smothers Creek	86.01	58	⇓P	P	00 19 12.2	-0.2
	baz=86						
A20A	Cobblestone Ra	86.13	37	⇑P	P	00 19 12.1	-0.6
	baz=86						
F23A	Volborg	86.21	41	⇓P	P	00 19 12.9	-0.3
	baz=86						
134A	White-Moore Ra	86.25	55	⇓P	P	00 19 13.8	+0.2
	baz=86						
W32A	Sentinel	86.25	52	⇓P	P	00 19 13.1	-0.5
	baz=86						
H24A	Dirks Ranch, A	86.33	42	⇑P	P	00 19 13.0	-0.8
	baz=86,SNR=6.6						
Y33A	Hilltop Ranch,	86.33	53	⇑P	P	00 19 13.4	-0.5
	baz=86						
RSSD	Black Hills	86.40	43	eP	P	00 19 13.6	-0.7
	65nm,2.6s						
I25A	Rochford	86.55	43	⇓P	P	00 19 14.4	-0.6
	baz=87						
A21A	Bergtoll Ranch	86.77	37	⇑P	P	00 19 15.5	-0.3
	baz=87						
C23A	Lambert	87.27	39	⇑P	P	00 19 17.9	-0.3
	baz=88						
337A	Centerville	87.58	57	⇓P	P	00 19 19.9	-0.2
	baz=88						
B23A	Brockton	87.67	38	⇑P	P	00 19 19.6	-0.6
	baz=88						
YKA	Yellowknife Ar	89.98	23	P	P	00 19 30.0	-0.6
	2.0nm,0.9s,baz=239,slow=4.3,SNR=28						
CMAR	Chiang Mai Arr	92.48	288	LR	LR	00 56 36.6	
	comp=Z,23nm,21.4s,baz=142,slow=32						
ULM	Lac du Bonnet	93.86	39	LR	LR	00 56 23.9	
	comp=Z,125nm,18.2s,baz=262,slow=32						
SONM	Songino Array	94.67	318	LR	LR	00 56 23.2	
	comp=Z,33nm,22.0s,baz=76,slow=32						
MKAR	Makanchi Array	110.65	315	PKiKP	PKiKP	00 25 06.7	+2.4
	0.3nm,0.7s,baz=90,slow=0.6,SNR=3.3						
ARCES	ARCESS Array B	124.44	352	PKP	PKPdf	00 25 30.3	+0.3
	5.1nm,0.9s,baz=0.0,slow=0.5,SNR=6.2						
FINES	FINESS Array B	131.77	348	PKP	PKPdf	00 25 43.9	-0.3
	1.4nm,0.9s,baz=113,slow=3.6,SNR=3.2						
AKASG	Malin Array Be	140.16	337	PKP	PKPdf	00 26 00.0	-0.1
	0.4nm,0.4s,baz=22,slow=1.5,SNR=7.5						
CLL	Collm	143.64	353	e(PKPdf)	PKPab	00 26 04.0	+1.0
DPC	Dobruska-Polom	144.09	349	ePKP	PKPdf	00 26 07.2	0.0
DPC				ex	x	00 26 14.4	
OKC	Ostrava-Krasne	144.21	347	ePKP	PKPbc	00 26 07.0	+1.4
TANN	Tannenbergstha	144.58	353	ePKPbc	PKPdf	00 26 08.2	+0.1
PRU	Pruhonice	144.73	351	ePKP	PKPab	00 26 07.3	+0.2
TNS	Taunus Mts	145.07	358	ePKPbc	PKPbc	00 26 08.6	+0.2
TREC	Trest	145.25	350	ePKP	PKPbc	00 26 08.3	-0.6
ROTZ	Rotzenmuhle	145.25	354	ePKPbc	PKPab	00 26 09.8	+0.8
GRF	Grafenberg Arr	145.42	355	ePKPbc	PKPbc	00 26 09.8	+0.3
KMBO	Kilima Mbogo	145.53	245	PKPbc	PKPdf	00 26 11.4	+0.3
	0.8nm,0.7s,baz=338,slow=2.5,SNR=4.4						
PSZ	Piszkesteto	145.58	344	ePKPdf	PKPdf	00 26 09.9	0.0
WLF	Walferdange	145.66	0	ePKPbc	PKPbc	00 26 11.0	+0.8
KHC	Kasperske Hory	145.71	352	ePKP	PKPbc	00 26 11.0	+0.6
KHC				epPKP	pPKPdf	00 26 18.8	-2.7
KHC	Kasperske Hory	145.71	352	ePKPdf	PKPdf	00 26 09.4	-0.7
WET	Wettzell	145.78	353	ePKPbc	PKPdf	00 26 11.1	+0.9
GEC2	GERESS Array S	145.97	352	ePKPbc	PKPdf	00 26 11.5	+0.9
GERES	GERESS Array B	145.97	352	PKPbc	PKPdf	00 26 11.6	+1.0
	3.6nm,1.1s,baz=29,slow=3.0,SNR=18						
BRTR	Keskin Array B	145.98	321	PKPbc	PKPbc	00 26 12.2	+0.5
	3.5nm,0.8s,baz=103,slow=2.6,SNR=22						
STU	Stuttgart	146.49	357	ePKPbc	PKPbc	00 26 13.1	+0.4
CONA	Conrad Observa	146.50	349⇑	ePKiKP	PKPbc	00 26 13.9	+1.0
	18nm,1.3s,SNR=6.1						
MOA	Molln	146.85	350⇑	iPKPab	PKPbc	00 26 14.5	+0.7
	7.0nm,1.0s						
FUR	Furstenfeldbru	146.93	354	ePKPbc	PKPbc	00 26 15.4	+1.3
BFO	Black Forest	146.97	358	ePKPbc	PKPbc	00 26 14.7	+0.5
BFO	Black Forest	146.97	358	ePKPdf	PKPdf	00 26 12.2	0.0
RJOB	Jochberg	147.18	352	ePKPbc	PKPbc	00 26 15.1	+0.3
ARSA	Arzberg	147.21	349⇑	ePKPab	PKPbc	00 26 14.8	-0.1
	9.0nm,1.1s						
RETA	Reutte	147.65	355⇑	ePKPab	PKPbc	00 26 16.6	+0.4
	13nm,1.3s						
KBA	Koelnbreinsper	147.75	351⇑	iPKPab	PKPbc	00 26 16.5	-0.1
	8.6nm,1.4s						
WTTA	Wattenberg	147.78	353⇑	iPKPab	PKPbc	00 26 17.1	+0.4
	13nm,1.4s						
SOKA	Soboth	147.85	349⇑	ePKPab	PKPbc	00 26 16.7	-0.1
	11nm,1.0s,SNR=6.0						
DAVA	Damuels	147.92	356⇑	ePKPbc	PKPbc	00 26 16.7	-0.3
	13nm,1.2s						
OBKA	Obir	148.10	349⇑	iPKiKP	PKPbc	00 26 17.4	-0.1
	5.7nm,1.0s						
FETA	Feichten	148.12	355⇑	ePKiKP	PKPbc	00 26 18.2	+0.7
	9.1nm,1.1s						
MYKA	Terra Mystica	148.14	351⇑	iPKPbc	PKPbc	00 26 17.1	-0.4
	8.0nm,1.1s						
ABTA	Abfaltersbach	148.19	352⇑	iPKiKP	PKPbc	00 26 17.5	-0.1
	9.4nm,1.0s						
CRNS	Crni Vrh	148.57	350	i P	PKPbc	00 26 18.0	-0.6
ESDC	Sonseca Array	153.98	19	PKPab	PKPab	00 26 43.4	-1.3
	1.1nm,0.8s,baz=295,slow=4.4,SNR=6.1						
TORD	Torodi Ar. Bea	174.89	113	PKP	PKPdf	00 26 40.5	-1.8
	1.6nm,1.2s,baz=273,slow=2.7,SNR=3.9						

IDC 02 00:08:04.8±3.9, 37°.34S×74°.44W, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.5/16, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=80.1km s-min=21.0km az=69.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.54	139	Pn	Pn	00 09 15.6	+0.7
	0.4nm,0.3s,baz=311,slow=14,SNR=4.0						
PLCA				Pg	Pg	00 09 29.1	-2.9
	2.3nm,0.3s,baz=314,slow=10,SNR=7.6						
PLCA				Lg	Lg	00 10 28.5	
	1.5nm,0.3s,baz=258,slow=22,SNR=5.2						
CFAA	Coronel Fontan	7.68	44	Pn	Pn	00 09 57.3	-0.6
	0.1nm,0.3s,baz=210,slow=13,SNR=4.3						
LPAZ	La Paz	21.70	17	P	P	00 12 59.1	+1.0
	1.4nm,0.7s,baz=186,slow=13,SNR=3.9						
TORD	Torodi Ar. Bea	87.16	71	P	P	00 20 52.3	-0.8
	0.4nm,1.0s,baz=218,slow=4.0,SNR=3.7						

*IDC **02** 00:10:46.2±0.8, 37°.98S×73°.85W, h0km, mb4.3/11, mb1 4.4/14, mb1mx4.3/19, mbtmp4.2/14, ML3.9/3, MS3.7/1, Ms1 3.7/1, ms1mx2.8/23, Error ellipse: s-maj=24.3km s-min=17.3km az=76.0*

*ISCJB **02** 00:10:47.4±0.5, 37°.94S±0°.06×73°.8W±0°.1, h18km, mb4.4/21, Error ellipse: s-maj=12.5km s-min=7.3km az=151.5*

*NEIC **02** 00:10:51.2±0.3, 37°.94S×73°.73W, h35km, mb4.4/11, Error ellipse: s-maj=8.3km s-min=6.4km az=73.0*

ISC 02 00:10:48.7±0.6, 37°.98S±0°.07×73°.8W±0°.1, h18km, n41, σ0=72/40, mb4.4/21, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.73	138	Pn	Pn	00 11 45.8	+0.2
	1.5nm,0.3s,baz=305,slow=13,SNR=2.0						
PLCA				Pg	Pb	00 11 52.7	-1.5
	7.9nm,0.3s,baz=288,slow=13,SNR=8.4						
PLCA				Lg	Lg	00 12 49.5	
	15nm,0.3s,baz=225,slow=20,SNR=3.0						
PLCA	Paso Flores	3.73	138	ePn	Pn	00 11 45.3	-0.2
PLCA				eSn	Sn	00 12 29.4	+0.4
PLCA				Lg	Lg	00 12 49.5	
CFAA	Coronel Fontan	7.84	37	Pn	Pn	00 12 40.6	-1.3
	0.8nm,0.3s,baz=204,slow=7.3,SNR=15						
CFAA				Lg	Lg	00 14 58.4	
	0.1nm,0.3s,baz=270,slow=18,SNR=3.4						
TRQA	Tornquist	9.34	94	ePn	Pn	00 13 03.0	+0.6
	8.1nm,0.6s						
LVC	Limon Verde	15.89	17	ePn	Pn	00 14 31.3	-0.4
	3.6nm,0.6s						
USHA	Ushuaia	17.25	169	LR	LR	00 21 26.6	
	comp=Z,250nm,19.2s,baz=330,slow=37						
CPUP	Villa Florida	18.12	55	P	P	00 15 00.3	+0.5
	0.4nm,0.3s,baz=218,slow=11,SNR=6.6						
CPUP	Villa Florida	18.12	55	eP	Pn	00 14 59.4	-0.1
	0.2nm,0.6s						
LPAZ	La Paz	22.18	15	P	P	00 15 46.5	+1.9
	5.0nm,0.6s,baz=196,slow=6.0,SNR=14						
LPAZ	La Paz	22.18	15	eP	P	00 15 44.2	-0.4
	11nm,1.0s						
SIV	San Ignacio	24.62	31	P	P	00 16 08.2	0.0
	4.2nm,1.0s,baz=233,slow=13,SNR=7.5						
SAML	Samuel	30.45	21	eP	P	00 16 59.5	-0.9
	1.8nm,0.8s						
BDFB	Brasilia	31.83

H11S2 WAKE ISLAND Hyt 24.21 267 T T 02 45 59.1
baz=126,slow=75,SNR=7.8
H11S1 WAKE ISLAND Hyt 24.23 267 T T 02 46 04.1
baz=126,slow=75,SNR=4.5
H11S3 WAKE ISLAND Hyt 24.23 267 T T 02 46 00.5
baz=126,slow=75,SNR=6.6
BRTR Keskin Array B 124.95 64 PKP **PKPdf 00 29 47.9 +0.2**
0.6nm,0.7s,baz=202,slow=4.2,SNR=4.1
AKTO Aktyubinsk 143.91 54 PKP PKPbc 00 30 20.4 +0.2
1.9nm,0.5s,baz=274,slow=2.8,SNR=8.8
ABKAR Abkulak array 145.19 56 *e*PKPbc **PKPbc 00 30 24.2 -0.1**
ZALV Zalesovo Beam 158.32 36 PKP **PKPdf 00 30 44.0 -0.1**
0.3nm,0.5s,baz=259,slow=2.4,SNR=3.5
ZALV PKPab **PKPab 00 31 19.2 +0.7**
1.9nm,0.5s,baz=307,slow=4.9,SNR=11
MKAR Makanchi Array 160.33 56 PKP **PKPdf 00 30 47.5 +0.8**
0.2nm,0.7s,baz=291,slow=3.8,SNR=3.7
MKAR PKPab **PKPab 00 31 27.8 +0.2**
0.9nm,0.7s,baz=289,slow=4.2,SNR=11

IDC 02 00:11:42.4±2.1, 1°45N×126°92E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/32, mbtmp3.6/3, Error ellipse: s-maj=179.4km s-min=24.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.47**	**161**	P	P	00 16 43.8	+0.4
	1.1nm,0.4s,baz=340,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.87**	**165**	P	P	00 17 15.6	-0.5
	0.3nm,0.6s,baz=354,slow=7.3,SNR=2.3						
MKAR	**Makanchi Array**	**59.54**	**326**	P	P	00 21 47.8	0.0
	0.5nm,0.4s,baz=120,slow=7.7,SNR=21						

*ISCJB **02** 00:16:34.7±2.1, 35°10S±0°05×72°97W±0°07, h2km±13km, mb4.2/10, MS4.0/4, Error ellipse: s-maj=12.0km s-min=6.7km az=40.3*
*GUC **02** 00:16:36.5±0.4, 35°39S×72°36W, h8km±7km, ML4.7*
*NEIC **02** 00:16:41.5±2.8, 35°05S×72°73W, h35km±19km, mb4.6/4, Error ellipse: s-maj=14.9km s-min=6.6km az=89.0*
*IDC **02** 00:16:42.2±3.7, 35°02S×72°68W, h38km±30km, mb3.8/9, mb1 4.0/12, mb1mx3.9/20, mbtmp4.0/12, ML4.1/3, MS3.8/6, Ms1 3.8/6, ms1mx3.5/25, Error ellipse: s-maj=32.9km s-min=16.8km az=88.0*

ISC 02 00:16:39.1±2.1, 35°05S±0°06×72°72W±0°07, h18km±11km, n43, σ0s89/43, mb4.2/10, MS4.0/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.54**	**45**	*e*P	**Pn**	**00 17 05.6**	**0.0**
LNV				*e*S	**Sg**	**00 17 27.6**	**-1.1**
RCDM	**Rinconada Maip**	**2.22**	**46**	*e*P	**Pn**	**00 17 16.3**	**+1.2**
RCDM				*e*S	**Sb**	**00 17 46.0**	**+0.1**
RCDM				AML	AML	00 17 51.5	
	comp=E,3μm,0.3s						
ANTU	**Antumapu**	**2.27**	**50**	*e*P9	**Pn**	**00 17 17.0**	**+1.2**
ANTU				*e*S	**Sb**	**00 17 47.7**	**+0.2**
PEL	**Peldehue**	**2.54**	**42**	*e*P	**Pn**	**00 17 21.5**	**+2.0**
PEL				*e*S	**Sb**	**00 17 55.4**	**+0.2**
PEL				AML	AML	00 18 03.0	
	comp=E,7μm,0.8s						
FCH	**Farellones**	**2.65**	**50**	*e*P	**Pn**	**00 17 22.4**	**+1.2**
FCH				*e*S	**Sb**	**00 17 57.5**	**-1.0**
FCH				AML	AML	00 18 05.9	
	comp=E,3μm,0.3s						
CFAA	**Coronel Fontan**	**5.09**	**49**	Pn	**Pn**	**00 17 55.1**	**+0.6**
	comp=E,1.3nm,0.3s,baz=204,slow=15,SNR=20						
CFAA				LR	LR	00 20 13.2	
	comp=E,68nm,21.0s,baz=239,slow=42						
PLCA	**Paso Flores**	**5.92**	**164**	Pn	**Pn**	**00 18 06.7**	**+0.7**
	comp=E,4.4nm,0.3s,baz=351,slow=10,SNR=6.4						
PLCA				LR	LR	00 20 37.7	
	comp=E,149nm,21.5s,baz=212,slow=40						
PLCA	**Paso Flores**	**5.92**	**164**	*e*Pn	**Pn**	**00 18 06.2**	**+0.2**
	comp=E,58nm,0.8s						
TRQA	**Tornquist**	**9.15**	**112**	*e*Pn	**Pn**	**00 18 50.9**	**+0.7**
	comp=E,15nm,0.7s						
TRQA				*e*Sn	**Sn**	**00 20 32.4**	**-0.3**
LVC	**Limon Verde**	**12.83**	**16**	*e*Pn	**Pn**	**00 19 42.3**	**+1.4**
CPUP	**Villa Florida**	**15.82**	**61**	Pn	**P**	**00 20 24.4**	**-0.3**
CPUP				LR	LR	00 26 58.1	
	comp=E,516nm,19.2s,baz=216,slow=39						
CPUP	**Villa Florida**	**15.82**	**61**	*e*Pn	**Pn**	**00 20 22.0**	**+1.0**
	comp=E,0.3nm,0.5s						
LPAZ	**La Paz**	**19.13**	**14**	P	**Pn**	**00 21 03.0**	**+0.2**
	comp=E,0.1nm,0.3s,baz=181,slow=11,SNR=3.7						
LPAZ	**La Paz**	**19.13**	**14**	*e*P	**P**	**00 21 02.0**	**+0.1**
	comp=E,7.8nm,0.9s						
USHA	**Ushuaia**	**20.00**	**173**	P	Pn	00 21 12.5	+0.3
	comp=E,7.9nm,0.9s,baz=47,slow=8.5,SNR=2.7						
SIV	**San Ignacio**	**21.66**	**32**	P	**P**	**00 21 29.5**	**+0.8**
	comp=E,10nm,0.9s,baz=239,slow=8.2,SNR=15						
SAML	**Samuel**	**27.41**	**21**	*e*P	**P**	**00 22 23.6**	**-0.1**
BDFB	**Brasilia**	**29.39**	**55**	LR	LR	00 35 37.7	
	comp=E,314nm,18.1s,baz=184,slow=39						
RPN	**Rapa Nui**	**32.20**	**274**	LR	LR	00 32 20.3	
	comp=E,265nm,19.9s,slow=29						
OTAV	**Otavalo**	**35.51**	**350**	*e*P	**P**	**00 23 35.5**	**0.0**
SNAA	**Sanae**	**50.83**	**157**	P	**P**	**00 25 38.7**	**+0.5**
	comp=E,0.9nm,0.8s,baz=183,slow=22,SNR=2.2						
SNAA	**Sanae**	**50.83**	**157**	*e*P	**P**	**00 25 37.5**	**-0.6**
	comp=E,9.3nm,1.1s						
QSPA	**South Pole Qui**	**55.19**	**180**	P	**P**	**00 26 11.3**	**+0.8**
	comp=E,0.6nm,0.5s,baz=98,slow=8.4,SNR=2.1						
QSPA	**South Pole Qui**	**55.19**	**180**	*e*P	**P**	**00 26 10.8**	**+0.4**
	comp=E,4.6nm,0.9s						
PPT	**Papeete**	**69.54**	**263**	LR	LR	00 50 18.2	
	comp=E,89nm,18.1s,baz=196,slow=29						
TXAR	**Lajitas Array**	**70.38**	**332**	P	**P**	**00 27 51.1**	**-0.9**
	comp=E,0.7nm,0.6s,baz=142,slow=6.3,SNR=3.7						
WVT	**Waverly**	**72.20**	**347**	*e*P	**P**	**00 28 02.1**	**-0.6**
	comp=E,8.4nm,0.8s						
BBTS	**Babate**	**72.66**	**57**	LR	LR	00 58 06.5	
	comp=E,71nm,19.0s,slow=34						
DBIC	**Dimbokro**	**76.05**	**71**	P	P	00 28 32.7	+7.0
	comp=E,5.8nm,0.7s,baz=215,slow=5.2,SNR=10						
DBIC	**Dimbokro**	**76.05**	**71**	P	**P**	**00 28 25.7**	**0.0**
ANMO	**Albuquerque**	**76.44**	**332**	*e*P	**P**	**00 28 27.2**	**-0.5**
BOSA	**Boshof**	**80.08**	**118**	P	**P**	**00 28 48.1**	**0.0**
	comp=E,4.5nm,0.8s,baz=230,slow=6.2,SNR=6.7						
BOSA	**Boshof**	**80.08**	**118**	*i* P	**P**	**00 28 47.6**	**-0.5**
BOSA				*i*		00 28 47.9	
NVAR	**Mina Array Bea**	**84.43**	**326**	P	**P**	**00 29 09.2**	**-1.4**
	comp=E,0.5nm,0.6s,baz=104,slow=6.3,SNR=4.0						
PDAR	**Pinedale Array**	**84.45**	**334**	P	**P**	**00 29 12.2**	**+1.6**
	comp=E,1.3nm,1.2s,baz=143,slow=6.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**85.09**	**70**	P	**P**	**00 29 14.1**	**-0.1**
	comp=E,0.4nm,0.8s,baz=234,slow=2.9,SNR=3.9						
H11N3	**WAKE ISLAND Hyt**	**25.63**	**270**	T	T	02 53 52.7	
	baz=116,slow=78,SNR=5.6						
H11N1	**WAKE ISLAND Hyt**	**25.64**	**270**	T	T	02 54 03.0	
	baz=116,slow=78,SNR=6.0						
H11N2	**WAKE ISLAND Hyt**	**25.65**	**270**	T	T	02 53 46.6	
	baz=116,slow=78,SNR=14						
AAK	**Ala-Archa**	**153.49**	**64**	PKPbc	**PKPbc**	**00 36 35.7**	**-0.7**
	comp=E,0.5nm,0.5s,baz=252,slow=3.5,SNR=2.6						
AAK				PKPab	**PKPab**	**00 36 48.3**	**-0.5**
	comp=E,1.0nm,0.7s,baz=245,slow=5.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**155.41**	**33**	PKP	**PKPdf**	**00 36 31.3**	**+0.5**
	comp=E,0.5nm,0.7s,baz=251,slow=4.1,SNR=2.1						
ZALV				PKPab	**PKPab**	**00 36 54.1**	**-2.2**
	comp=E,1.2nm,0.9s,baz=343,slow=4.6,SNR=4.1						
MKAR	**Makanchi Array**	**157.87**	**50**	PKP	**PKPdf**	**00 36 34.2**	**-0.1**
	comp=E,0.1nm,0.4s,baz=50,slow=2.3,SNR=2.9						
MKAR				PKPab	**PKPab**	**00 37 07.1**	**-0.2**
	comp=E,0.2nm,0.6s,baz=308,slow=4.7,SNR=2.6						
SONM	**Songino Array**	**167.21**	**3**	PKPab	**PKPab**	**00 37 49.3**	**+1.2**
	comp=E,0.2nm,0.7s,baz=318,slow=1.9,SNR=2.1						

GUC 02 00:19:50.5±0.4, 35°02S×73°50W, h8km±10km, ML4.6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**2.03**	**59**	*e*P	Pn	00 20 26.0	+1.0
TACH	**Talagante**	**2.52**	**58**	*e*P	Pn	00 20 33.7	+1.8
RCDM	**Rinconada Maip**	**2.71**	**56**	*e*P9	Pn	00 20 32.7	-1.7
RCDM				*e*S	Sn	00 21 07.5	+0.1
RCDM				AML	AML	00 21 10.8	
	comp=N,1μm,0.4s						
ANTU	**Antumapu**	**2.78**	**59**	*e*P9	Pn	00 20 36.0	+0.5
ANTU				*e*S	Sn	00 21 11.7	+2.4
SAN	**Santiago**	**2.83**	**57**	*e*P	Pn	00 20 38.0	+2.0
SAN				*e*S	Sb	00 21 14.3	-1.8
PEL	**Peldehue**	**2.99**	**52**	*e*P	Pn	00 20 40.4	+2.0
PEL				*e*S	Sb	00 21 18.1	-2.9
PEL				AML	AML	00 21 28.4	
	comp=E,3μm,0.4s						
FCH	**Farellones**	**3.15**	**59**	*e*P	Pn	00 20 43.3	+2.3
FCH				*e*S	Sb	00 21 22.9	-3.3

JMA 02 00:22:15.7±0.1, 37°71N×141°83E, h39km±2km, M3.5, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.83**	**246**	⇓P	Pn	00 22 31.0	0.0
JFK				S	Sn	00 22 41.9	-0.2
JIO	**Ouri**	**0.83**	**333**	⇓P	Pn	00 22 31.0	0.0
JIO				S	Sn	00 22 41.6	-0.5
JMM	**Marumori**	**0.84**	**281**	⇓P	Pn	00 22 31.3	+0.3
JMM				*e*S	Sn	00 22 42.3	+0.2
ONAJ	**Iwakimizuishiy**	**1.02**	**234**	⇓P	Pn	00 22 33.6	0.0
ONAJ				S	Sn	00 22 46.1	-0.7
JOU	**Okura**	**1.13**	**306**	P	Pn	00 22 35.8	+0.8
JOU				S	Sn	00 22 50.5	+1.1
JFT	**Otama**	**1.20**	**261**	P	Pn	00 22 37.2	+1.2
JFT				S	Sn	00 22 52.5	+1.4
JMK	**Ichinoseki**	**1.33**	**339**	⇓P	Pn	00 22 38.3	+0.6
JMK				S	Sn	00 22 54.5	+0.3
JYS	**Shiratake**	**1.48**	**291**	P	Pn	00 22 41.1	+1.2
JYS				S	Sn	00 23 00.7	+2.6
JYK	**Kaneyama**	**1.67**	**317**	P	Pn	00 22 43.1	+0.7
JYK				S	Sn	00 23 03.3	+0.6
JFY	**Yanaizu**	**1.72**	**260**	S	Sn	00 23 06.0	+2.2
JOM	**Ohasama**	**1.81**	**347**	P	Pn	00 22 45.3	+0.9
JOM				S	Sn	00 23 07.1	+1.0

*IDC **02** 00:35:07.1±3.5, 5°99S×150°69E, h28km±24km, mb4.1/12, mb1 4.3/14, mb1mx4.2/22, mbtmp4.3/14, ML3.5/2, MS3.6/12, Ms1 3.6/12, ms1mx3.5/28, Error ellipse: s-maj=20.1km s-min=11.7km az=115.0*
*ISCJB **02** 00:35:08.2±0.4, 6°02S±0°06×150°52E±0°08, h48km, mb4.2/17, MS3.6/10, Error ellipse: s-maj=11.9km s-min=6.3km az=29.1*
*NEIC **02** 00:35:08.8±1.7, 6°03S×150°66E, h44km±15km, mb4.7/5, Error ellipse: s-maj=12.0km s-min=10.7km az=210.0*

ISC 02 00:35:09.4±0.5, 6°00S±0°07×150°57E±0°09, h48km, n54, σ1s32/50, mb4.3/18, MS3.6/10, 3C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.40**	**41**	P	**Pn**	**00 35 48.6**	**+2.4**
	baz=2.5,SNR=22						
PMG	**Port Moresby**	**4.79**	**225**	Pn	**Pn**	**00 36 19.5**	**+0.5**
	11nm,0.3s,baz=20,slow=12,SNR=25						
PMG				Sn	**Sn**	**00 37 12.1**	**-1.1**
	9.4nm,0.3s,baz=354,slow=12,SNR=4.5						
PMG				LR	LR	00 37 37.2	
	comp=Z,232nm,19.8s,baz=7.5,slow=31						
PMG	**Port Moresby**	**4.79**	**225**	P	**Pn**	**00 36 20.5**	**+1.5**
	baz=4.7,SNR=5.1						
PMG	**Port Moresby**	**4.79**	**225**	*e*Pn	**Pn**	**00 36 19.0**	**0.0**
PMG				*e*Sn	**Sn**	**00 37 14.2**	**+1.0**
HNR	**Honiara**	**9.89**	**111**	LR	LR	00 40 37.9	
	comp=Z,347nm,20.9s,baz=304,slow=34						
COEN	**Coen**	**10.75**	**222**	P	**Pn**	**00 37 41.5**	**+0.7**
	baz=11,SNR=5.9						
CTA	**Charters Tower**	**14.62**	**196**	Pn	**Pn**	**00 38 33.2**	**-0.2**
	0.2nm,0.3s,baz=24,slow=18,SNR=3.9						
CTAO	**Charters Tower**	**14.62**	**196**	*e*Pn	**Pn**	**00 38 32.0**	**-1.5**
	65nm,1.6s						
QIS	**Mount Isa**	**17.96**	**215**	P	**P**	**00 39 17.5**	**+1.6**
	baz=18,SNR=6.8						
KDU	**Kakadu**	**19.05**	**248**	P	P	00 39 20.3	-7.5
	baz=19,SNR=3.2						
MTN	**Manton Dam**	**20.34**	**249**	P	**P**	**00 39 42.4**	**+0.5**
	baz=20,SNR=3.7						
RMQ	**Roma**	**20.45**	**185**	P	**P**	**00 39 44.1**	**+1.1**
	baz=21,SNR=42						
WRAB	**Tennant Creek**	**20.99**	**227**	*e*P	**P**	**00 39 49.1**	**+0.2**
	47nm,0.9s						
WB2	**Warramunga Arr**	**20.99**	**227**	*e*P	**P**	**00 39 48.9**	**-0.1**
WRA	**Warramunga Arr**	**21.00**	**227**	P	**P**	**00 39 49.0**	**-0.1**
	13nm,0.8s,baz=50,slow=10,SNR=55						
WRA				S	**S**	**00 43 43.9**	**+3.4**
	4.0nm,1.0s,baz=45,slow=17,SNR=5.2						
WRA				LR	LR	00 49 03.1	
	comp=Z,198nm,18.6s,baz=50,slow=40						
QLP	**Quilpie**	**21.34**	**196**	P	**P**	**00 39 53.0**	**+0.4**
	baz=21,SNR=14						
DZM	**Mont Dzumac**	**22.15**	**138**	P	**P**	**00 40 01.1**	**-0.3**
	7.9nm,0.8s,baz=326,slow=12,SNR=10						
DZM				LR	LR	00 47 42.3	
	comp=Z,538nm,18.4s,baz=222,slow=34						
DZM	**Mont Dzumac**	**22.15**	**138**	*e*P	**P**	**00 40 00.7**	**-0.8**
	20nm,0.9s						
KNRA	**Kununurra**	**23.46**	**244**	P	**P**	**00 40 15.4**	**+0.6**
	baz=23,SNR=9.2						
ASAR	**Alice Springs**	**23.79**	**221**	P	**P**	**00 40 18.4**	**+0.5**
	5.1nm,0.9s,baz=53,slow=8.8,SNR=27						
ASAR				S	**S**	**00 44 34.5**	**+4.2**
	2.8nm,1.1s,baz=47,slow=19,SNR=5.2						
ASAR				LR	LR	00 49 41.4	
	comp=Z,171nm,20.4s,baz=70,slow=37						
CMSA	**Cobar Meteorol**	**25.81**	**190**	P	**P**	**00 40 37.3**	**+1.1**
	baz=26,SNR=5.6						
SOEI	**Soe**	**26.32**	**260**	S	S	00 45 02.0	-9.0
	baz=26,SNR=3.6						
BATI	**Baumata**	**26.96**	**259**	P	**P**	**00 40 48.3**	**+1.5**
	10nm,0.4s,baz=127,slow=6.8,SNR=3.9						
STKA	**Stephens Creek**	**27.08**	**197**	P	**P**	**00 40 47.2**	**-0.4**
	7.2nm,0.7s,baz=26,slow=12,SNR=11						
STKA				LR	LR	00 51 38.0	
	comp=Z,221nm,20.5s,baz=24,slow=36						
STKA	**Stephens Creek**	**27.08**	**197**	P	**P**	**00 40 47.8**	**+0.2**
	baz=27,SNR=11						
FITZ	**Fitzroy Crossi**	**27.14**	**242**	P	**P**	**00 40 48.4**	**+0.1**
	baz=27,SNR=16						
FITZ	**Fitzroy Crossi**	**27.14**	**242**	*e*P	**P**	**00 40 48.2**	**-0.1**
	16nm,0.9s						
FITZ				*e*PcP	**PcP**	**00 44 07.9**	**-0.4**
WRKA	**Warakurna**	**28.53**	**226**	P	**P**	**00 41 00.6**	**-0.1**
	baz=28,SNR=9.9						
JAGI	**Jajag, Banyuwa**	**36.20**	**264**	P	**P**	**00 42 06.2**	**-1.8**
	baz=36,SNR=3.3						
MEEK	**Meekatharra**	**36.72**	**232**	P	**P**	**00 42 12.5**	**+0.2**
	baz=37,SNR=6.8						
JOW	**Kunigami**	**39.14**	**328**	LR	LR	00 55 22.0	
	comp=Z,14nm,20.6s,baz=158,slow=31						
KLBR	**Kellerberrin**	**39.88**	**226**	P	P	00 42 46.2	+7.5
	baz=40,SNR=5.4						
JNU	**Nakatsue**	**43.17**	**336**	LR	LR	00 58 51.1	
	comp=Z,124nm,22.0s,slow=33						
MJAR	**Matsushiro Arr**	**43.88**	**346**	LR	LR	01 00 53.6	
	comp=Z,75nm,19.5s,baz=180,slow=35						
KSRS	**Korea Array**	**48.12**	**336**	P	**P**	**00 43 46.0**	**+1.4**
	4.6nm,0.8s,baz=156,slow=8.7,SNR=12						
KSRS				LR	LR	01 02 01.8	
	comp=Z,115nm,21.5s,baz=156,slow=34						
KSAR	**Wonju Array Be**	**48.12**	**336**	P	**P**	**00 43 46.0**	**+1.3**
USRK	**Ussuriysk Ar.**	**52.70**	**343**	P	**P**	**00 44 20.8**	**+1.6**
	2.6nm,0.8s,baz=191,slow=8.8,SNR=6.9						
USRK				LR	LR	01 03 31.2	
	comp=Z,60nm,21.8s,baz=159,slow=32						
PETK	**Petropavlovsk-**	**59.19**	**5**	LR	LR	01 06 47.4	
	comp=Z,49nm,19.5s,baz=172,slow=32						
SONM	**Songino Array**	**66.18**	**329**	P	**P**	**00 45 52.8**	**+0.6**
	0.7nm,0.7s,baz=146,slow=3.8,SNR=6.4						
MK31	**Makanchi Array**	**79.78**	**320**	⇑Pn	**P**	**00 47 10.6**	**-2.1**
	0.1nm,0.3s,baz=188,slow=16,SNR=6.8						
MK31				⇑Lg	Lg	00 47 50.8	
	0.3nm,0.2s,baz=193,slow=29,SNR=12						
ZALV	**Zalesovo Beam**	**80.93**	**327**	P	**P**	**00 47 17.1**	**-1.4**
	1.2nm,0.7s,baz=102,slow=5.4,SNR=8.0						
TKM2	**Tokmak 2**	**83.17**	**314**	⇓Pn	P	00 47 44.7	+14
	1.2nm,0.8s						
TKM2				⇓Lg	Lg	00 48 53.0	
	0.5nm,0.3s						
QSPA	**South Pole Qui**	**83.97**	**180**	*e*P	**P**	**00 47 34.7**	**+0.3**
	7.6nm,0.9s						
ILAR	**Eielson Array**	**84.10**	**22**	P	**P**	**00 47 31.9**	**-3.0**
	0.8nm,0.8s,baz=245,slow=5.1,SNR=6.6						
BVAR	**Borovoye Array**	**88.87**	**323**	P	**P**	**00 47 58.9**	**+0.4**
	0.3nm,0.6s,baz=116,slow=6.6,SNR=2.5						
SYO	**Syowa Base**	**91.80**	**200⇑**	*e*P	P	00 48 28.6	+17
NVAR	**Mina Array Bea**	**94.56**	**52**	P	**P**	**00 48 24.9**	**-0.6**
	1.9nm,0.8s,baz=250,slow=7.1,SNR=11						
ABKAR	**Abkulak array**	**94.91**	**319**	*e*P	**P**	**00 48 26.9**	**+0.3**
	2.2nm,0.7s						
YKA	**Yellowknife Ar**	**97.52**	**28**	P	**P**	**00 48 37.7**	**-0.3**
	0.2nm,0.8s,baz=272,slow=4.9,SNR=4.4						
IDI	**Anoyia**	**122.30**	**308**	PKP	**PKPdf**	**00 54 00.0**	**+0.2**
	7.4nm,1.0s,baz=31,slow=23,SNR=2.3						
GERES	**GERESS Array B**	**123.88**	**327**	PKP	**PKPdf**	**00 54 01.8**	**-0.6**
	0.8nm,0.6s,baz=34,slow=0.5,SNR=10						
TORD	**Torodi Ar. Bea**	**148.53**	**285**	PKPbc	**PKPbc**	**00 54 52.0**	**-0.1**
	12nm,0.7s,baz=66,slow=2.5,SNR=71						
BDFB	**Brasilia**	**151.69**	**140**	PKPbc	**PKPbc**	**00 54 59.9**	**+0.1**
	6.2nm,0.6s,baz=208,slow=4.2,SNR=12						
BDFB				PKPab	**PKPab**	**00 55 08.0**	**-0.6**
	6.0nm,0.8s,baz=138,slow=5.9,SNR=3.0						
DBIC	**Dimbokro**	**155.57**	**273**	PKPbc	PKPdf	00 55 07.1	+8.1
	2.3nm,0.7s,baz=336,slow=6.5,SNR=3.7						
DBIC				PKPab	**PKPab**	**00 55 23.5**	**-1.6**
	4.1nm,1.0s,baz=45,slow=1.4,SNR=3.9						

*IDC **02** 00:40:05.3±3.0, 34°86S×73°80W, h0km, mb3.9/3, mb1 4.2/5, mb1mx4.0/17, mbtmp3.9/5, ML3.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/23, Error ellipse: s-maj=74.9km s-min=31.1km az=162.0*

ISC 02 00:40:10.5±2.6, 34°8S±0°4×73°8W±0°2, h35km, n7, σ0s99/7, mb3.9/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.65**	**57**	Pn	**Pn**	**00 41 31.1**	**-0.9**
	0.8nm,0.3s,baz=227,slow=9.8,SNR=14						
CFAA				Sn	**Sn**	**00 42 37.0**	**+1.3**
	1.6nm,0.3s,baz=164,slow=21,SNR=9.2						
LPAZ	**La Paz**	**19.15**	**17**	P	**Pn**	**00 44 32.4**	**-0.1**
	0.1nm,0.3s,baz=188,slow=5.1,SNR=7.3						
SIV	**San Ignacio**	**21.95**	**34**	P	**P**	**00 45 00.4**	**-0.9**
	3.5nm,0.7s,baz=225,slow=11,SNR=8.5						
NNA	**Nana**	**22.91**	**352**	LR	LR	00 51 37.2	
	comp=Z,43nm,21.1s,baz=183,slow=30						
TXAR	**Lajitas Array**	**69.78**	**332**	P	**P**	**00 51 17.2**	**0.0**
	1.0nm,0.5s,baz=155,slow=9.5,SNR=8.4						
PDAR	**Pinedale Array**	**83.87**	**334**	P	**P**	**00 52 37.1**	**+0.6**
	0.6nm,0.9s,baz=166,slow=4.6,SNR=3.9						
MKAR	**Makanchi Array**	**158.39**	**49**	PKPab	**PKPab**	**01 00 38.9**	**+0.5**
	0.3nm,0.6s,baz=292,slow=3.8,SNR=5.9						

*NIC **02** 00:43:12.7, 38°64N×28°20E, h71km, mb4.5, ML4.1*
*BJI **02** 00:43:12.0, 39°10N×29°00E, h10km, mB4.8/3, mb4.5/6, Ms4.5/1, Ms7 4.2/1*
*ISCJB **02** 00:43:13.6±0.4, 39°17N±0°01×29°04E±0°01, h6km±3km, mb4.1/27, MS3.2/4, Error ellipse: s-maj=2.3km s-min=1.9km az=176.7*
*IDC **02** 00:43:14.0±0.9, 39°11N×29°12E, h0km, mb3.9/12, mb1 4.0/18, mb1mx3.9/34, mbtmp3.9/18, ML3.7/6, MS3.3/9, Ms1 3.3/9, ms1mx3.0/40, Error ellipse: s-maj=16.3km s-min=13.4km az=33.0*
*ISK **02** 00:43:13.8, 39°16N×29°02E, h8km, ML4.4*
*NEIC **02** 00:43:13.9, 39°16N×29°01E, h10km, mb4.3/19, ML4.4(ISK), After ISK.*
*DDA **02** 00:43:13.7, 39°06N×29°12E, h24km, ML4.2*
*MOS **02** 00:43:14.4±1.6, 39°16N×29°21E, h10km, mb4.3/25, Error ellipse: s-maj=5.0km s-min=3.7km az=96.9*
*CSEM **02** 00:43:14.2±0.1, 39°16N×29°06E, h2km, mb4.1/20, Error ellipse: s-maj=2.6km s-min=2.3km az=15.0*
*THE **02** 00:43:15.2, 39°14N×29°11E, h6km±1km, MLA.1/3, Error ellipse: s-maj=1.6km s-min=0.5km az=106.0*

ISC 02 00:43:14.4±1.0, 39°13N±0°01×29°07E±0°01, h3km±7km, n617, σ1s48/638, mb4.2/27, MS3.2/4, 26C-28D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.32**	**98**	*i* P	**Pg**	**00 43 20.8**	**+0.1**
GDZ				*i* S	**Sg**	**00 43 25.5**	**+0.6**
GDZ	**Gediz**	**0.32**	**98**	*i* P	**Pg**	**00 43 20.8**	**+0.1**
GDZ				*i* S	**Sg**	**00 43 25.5**	**+0.6**
TVSB	**Tavsanli**	**0.44**	**44**	PG	**Pg**	**00 43 22.8**	**-0.1**
TVSB	**Tavsanli**	**0.44**	**44**	*i* Pg	**Pg**	**00 43 22.8**	**-0.1**
KULA	**Kula-Manisa**	**0.70**	**207**	P	**Pb**	**00 43 29.0**	**-0.3**
KULA				S	**Sb**	**00 43 39.6**	**+0.3**
KULA	**Kula-Manisa**	**0.70**	**207**	PG	**Pg**	**00 43 27.2**	**-0.6**
KULA	**Kula-Manisa**	**0.70**	**207**	Pg	**Pg**	**00 43 27.4**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**207**	P	**Pb**	**00 43 29.0**	**-0.3**
KULA				S	**Sb**	**00 43 39.6**	**+0.3**
KULA	**Kula-Manisa**	**0.70**	**207**	Pg	**Pg**	**00 43 27.4**	**-0.4**
KULA				S	**Sb**	**00 43 39.6**	**+0.3**
MANT	**Manisa**	**0.76**	**212**	*i* P	**Pg**	**00 43 28.3**

EDC	Edincik	1.53	323	P	Pn	00 43 41.6	-1.1
EDC	Edincik	1.53	323	ePn	Pn	00 43 41.6	-1.1
EDC	Edincik	1.53	323	Pn	Pn	00 43 41.6	-1.1
GULT	Gulveren	1.71	40	ePN	Pn	00 43 45.0	-0.2
GULT	Gulveren	1.71	40	ePn	Pn	00 43 45.0	-0.2
GULT	Gulveren	1.71	40	Pn	Pn	00 43 45.0	-0.2
ISP	Isparta	1.74	139	P	Pn	00 43 44.2	-1.4
ISP				S	Sn	00 44 06.2	-2.1
ISP	Isparta	1.74	139	ePN	Pn	00 43 45.5	-0.1
ISP	Isparta	1.74	139	eP	Pn	00 43 44.2	-1.4
ISP				e		00 44 06.8	
ISP	Isparta	1.74	139	⇑iP	Pn	00 43 43.9	-1.7
ISP	Isparta	1.74	139	S	Sg	00 44 14.4	+4.2
ISP	Isparta	1.74	139	P	Pn	00 43 44.2	-1.4
ISP	Isparta	1.74	139	ePn	Pn	00 43 45.5	-0.1
ISP				eS	Sn	00 44 06.8	-1.5
ISP	Isparta	1.74	139	ePn	Pn	00 43 44.2	-1.4
ISP				eSn	Sn	00 44 06.8	-1.5
HRT	Hereke	1.75	15	ePN	Pn	00 43 44.9	-0.8
HRT	Hereke	1.75	15	ePn	Pn	00 43 44.9	-0.8
BLCB	Balcova	1.75	245	ePN	Pn	00 43 44.6	-1.1
BLCB	Balcova	1.75	245	ePn	Pn	00 43 44.6	-1.1
BLCB	Balcova	1.75	245	Pn	Pn	00 43 44.6	-1.1
SPNC	Sapanca-Adapaz	1.82	31	ePN	Pn	00 43 46.9	+0.2
SPNC	Sapanca-Adapaz	1.82	31	Pn	Pn	00 43 46.8	+0.2
SPNC	Sapanca-Adapaz	1.82	31	Pn	Pn	00 43 46.9	+0.2
MRMT	Marmara Adasi	1.85	323	ePN	Pn	00 43 46.2	-1.0
MRMT	Marmara Adasi	1.85	323	ePn	Pn	00 43 46.2	-1.0
MRMT	Marmara Adasi	1.85	323	Pn	Pn	00 43 46.2	-1.0
AYVA	Ayvalik	1.86	276	iP	Pb	00 43 48.6	-0.4
AYVA	Ayvalik	1.86	276	iP	Pb	00 43 48.6	-0.4
KRBG	Karabiga-Canak	1.86	313	ePN	Pn	00 43 46.1	-1.0
KRBG	Karabiga-Canak	1.86	313	ePn	Pn	00 43 46.1	-1.0
KRBG	Karabiga-Canak	1.86	313	Pn	Pn	00 43 46.1	-1.0
ISK	Istanbul-Kandi	1.93	360	P	Pn	00 43 46.9	-1.3
ISK	Istanbul-Kandi	1.93	360	ePN	Pn	00 43 47.8	-0.4
ISK	Istanbul-Kandi	1.93	360	P	Pn	00 43 47.8	-0.4
ISK	Istanbul-Kandi	1.93	360	P	Pn	00 43 46.9	-1.3
ISK	Istanbul-Kandi	1.93	360	ePn	Pn	00 43 47.8	-0.4
ISK	Istanbul-Kandi	1.93	360	Pn	Pn	00 43 47.8	-0.4
SVRH	Sivrihisar-ESK	1.93	80	ePN	Pn	00 43 48.6	+0.4
SVRH	Sivrihisar-ESK	1.93	80	ePn	Pn	00 43 48.6	+0.4
SVRH	Sivrihisar-ESK	1.93	80	Pn	Pn	00 43 48.6	+0.4
GOLH	Golhisar	1.93	168	iP	Pn	00 43 47.3	-1.0
GOLH	Golhisar	1.93	168	iP	Pn	00 43 47.3	-1.0
GOLH				iS	Sg	00 44 21.2	+4.7
GLHS	Glhisar (BURDU	2.00	170	ePN	Pn	00 43 50.0	+0.8
GLHS	Glhisar (BURDU	2.00	170	ePn	Pn	00 43 50.0	+0.8
GLHS	Glhisar (BURDU	2.00	170	Pn	Pn	00 43 50.0	+0.8
BCK	Bucak	2.05	144	ePN	Pn	00 43 49.9	0.0
BCK	Bucak	2.05	144	P	Pn	00 43 49.9	0.0
BCK	Bucak	2.05	144	ePn	Pn	00 43 49.9	0.0
BCK	Bucak	2.05	144	Pn	Pn	00 43 49.9	0.0
BGKT	Bogazkoy	2.06	354	ePN	Pn	00 43 48.3	-1.6
BGKT	Bogazkoy	2.06	354	ePn	Pn	00 43 48.3	-1.6
BGKT	Bogazkoy	2.06	354	Pn	Pn	00 43 48.3	-1.6
SILT	Sile	2.06	12	ePN	Pn	00 43 49.2	-0.8
SILT	Sile	2.06	12	ePn	Pn	00 43 49.2	-0.8
SILT	Sile	2.06	12	Pn	Pn	00 43 49.2	-0.8
BTAS	Taskesti	2.06	45	iP	Pn	00 43 48.7	-1.4
BTAS	Taskesti	2.06	45	iP	Pn	00 43 48.7	-1.4
BTAS				iS	Sg	00 44 22.4	+1.6
ELBA	Catalca	2.07	346	iP	Pn	00 43 48.7	-1.4
ELBA	Catalca	2.07	346	iP	Pn	00 43 48.7	-1.4
YER	Yerkesik	2.09	198	ePN	Pn	00 43 50.0	-0.4
YER	Yerkesik	2.09	198	P	Pn	00 43 50.0	-0.4
YER	Yerkesik	2.09	198	ePn	Pn	00 43 50.0	-0.4
YER	Yerkesik	2.09	198	Pn	Pn	00 43 50.0	-0.4
MDUB	Mudurnu	2.11	50	ePN	Pn	00 43 51.0	+0.2
MDUB	Mudurnu	2.11	50	ePn	Pn	00 43 51.0	+0.2
MDUB	Mudurnu	2.11	50	Pn	Pn	00 43 51.0	+0.2
KLYT	Kilyos	2.12	359	ePN	Pn	00 43 49.5	-1.2
KLYT	Kilyos	2.12	359	ePn	Pn	00 43 49.5	-1.2
KLYT	Kilyos	2.12	359	Pn	Pn	00 43 49.5	-1.2
SART	Tekirdag	2.13	317	iP	Pn	00 43 49.8	-1.2
SART	Tekirdag	2.13	317	iP	Pn	00 43 49.8	-1.2
SART				iS	Sg	00 44 22.4	-0.4
RKY	Sarkoy-Tekirda	2.13	317	ePN	Pn	00 43 50.0	-0.9
RKY	Sarkoy-Tekirda	2.13	317	ePn	Pn	00 43 50.0	-0.9
RKY	Sarkoy-Tekirda	2.13	317	Pn	Pn	00 43 50.0	-0.9
CTKS	Kestanelik-??a	2.14	349	ePN	Pn	00 43 50.3	-0.8
CTKS	Kestanelik-??a	2.14	349	ePn	Pn	00 43 50.3	-0.8
CTKS	Kestanelik-??a	2.14	349	Pn	Pn	00 43 50.3	-0.8
PRK	Paraskevi	2.18	274	P	Pn	00 43 50.8	-0.8
PRK				S	Sn	00 44 19.0	0.0
PRK	Paraskevi	2.18	274	P	Pn	00 43 50.8	-0.8
PRK				S	Sn	00 44 19.0	0.0
PRK	Paraskevi	2.18	274	eP	Pn	00 43 50.8	-0.8
PRK	Paraskevi	2.18	274	P	Pn	00 43 50.8	-0.8
PRK				S	Sn	00 44 19.0	0.0
PRK	Paraskevi	2.18	274	P	Pn	00 43 50.8	-0.8
PRK				S	Sn	00 44 19.0	0.0
SLVT	Silivri	2.19	343	ePN	Pn	00 43 51.4	-0.4
SLVT	Silivri	2.19	343	ePn	Pn	00 43 51.4	-0.4
SLVT	Silivri	2.19	343	Pn	Pn	00 43 51.4	-0.4
KIZT	Kizilcal	2.20	96	ePN	Pn	00 43 52.0	-0.1
KIZT	Kizilcal	2.20	96	ePn	Pn	00 43 52.0	-0.1
KIZT	Kizilcal	2.20	96	Pn	Pn	00 43 52.0	-0.1
EZN	Ezine	2.23	289	ePN	Pn	00 43 51.4	-0.9
EZN	Ezine	2.23	289	P	Pn	00 43 51.4	-0.9
EZN	Ezine	2.23	289	ePn	Pn	00 43 51.4	-0.9
EZN	Ezine	2.23	289	Pn	Pn	00 43 51.4	-0.9
CRLT	Corlu	2.24	333	ePN	Pn	00 43 51.0	-1.5
CRLT	Corlu	2.24	333	ePn	Pn	00 43 51.0	-1.5
CRLT	Corlu	2.24	333	Pn	Pn	00 43 51.0	-1.5
SMG	Samos	2.26	232	P	Pn	00 43 52.1	-0.6
SMG	Samos	2.26	232	eP	Pb	00 43 55.6	-0.3
SMG	Samos	2.26	232	P	Pn	00 43 52.1	-0.6
SMG	Samos	2.26	232	P	Pn	00 43 52.1	-0.6
DALY	Dalyan (Mu¨la	2.34	188	ePN	Pn	00 43 53.5	-0.2
DALY	Dalyan (Mu¨la	2.34	188	ePn	Pn	00 43 53.5	-0.2
KORT	Korkueli	2.36	154	iP	Pn	00 43 53.8	-0.4
KORT	Korkueli	2.36	154	iP	Pn	00 43 53.8	-0.4
KORT				iS	Sb	00 44 28.5	+1.4
GELI	Tayfur-Gelibol	2.37	303	ePN	Pn	00 43 53.7	-0.5
GELI	Tayfur-Gelibol	2.37	303	ePn	Pn	00 43 53.7	-0.5
GELI	Tayfur-Gelibol	2.37	303	Pn	Pn	00 43 53.7	-0.5
CTYL	Yal??k??y-??at	2.41	346	ePN	Pn	00 43 53.7	-1.1
CTYL	Yal??k??y-??at	2.41	346	ePn	Pn	00 43 53.7	-1.1
CTYL	Yal??k??y-??at	2.41	346	Pn	Pn	00 43 53.7	-1.1
BDRM	Kayabasi	2.43	212	iP	Pn	00 43 54.3	-0.8
BDRM	Kayabasi	2.43	212	iP	Pn	00 43 54.3	-0.8
KDHN	Kadinhani	2.46	103	iP	Pn	00 43 54.8	-0.7
KDHN	Kadinhani	2.46	103	iP	Pn	00 43 54.8	-0.7
KDHN				iS	Sg	00 44 34.5	+1.2
ELL	Elmali	2.47	164	ePN	Pn	00 43 56.0	+0.2
ELL	Elmali	2.47	164	P	Pn	00 43 56.0	+0.2
ELL	Elmali	2.47	164	ePn	Pn	00 43 56.0	+0.2
ELL	Elmali	2.47	164	Pn	Pn	00 43 56.0	+0.2
CHOS	Chios island	2.47	253	P	Pn	00 43 55.0	-0.7
CHOS				S	Sn	00 44 26.0	-0.5
CHOS	Chios island	2.47	253	eP	Pn	00 43 55.0	-0.7
CHOS	Chios island	2.47	253	P	Pn	00 43 55.0	-0.7
CHOS				S	Sn	00 44 26.0	-0.5
CHOS	Chios island	2.47	253	P	Pn	00 43 55.0	-0.7
CHOS				S	Sn	00 44 26.0	-0.5
BODT	Bodrum	2.49	214	ePN	Pn	00 43 55.9	0.0
BODT	Bodrum	2.49	214	ePn	Pn	00 43 55.9	0.0
BODT	Bodrum	2.49	214	Pn	Pn	00 43 55.9	0.0
SIGR	SIGRI	2.50	273	P	Pn	00 43 55.3	-0.7
SIGR				S	Sn	00 44 26.2	-0.8
SIGR	SIGRI	2.50	273	eP	Pg	00 44 01.5	-0.8
SIGR	SIGRI	2.50	273	P	Pn	00 43 55.3	-0.7
SIGR				S	Sn	00 44 26.2	-0.8
SIGR	SIGRI	2.50	273	P	Pn	00 43 55.3	-0.7
SIGR				S	Sn	00 44 26.2	-0.8
ANTB	Antalya	2.56	150	ePN	Pn	00 43 57.8	+1.0
ANTB	Antalya	2.56	150	ePn	Pn	00 43 57.8	+1.0
LADK	Ladik-KONYA	2.74	109	ePN	Pn	00 43 59.5	0.0
LADK	Ladik-KONYA	2.74	109	ePn	Pn	00 43 59.5	0.0
LADK	Ladik-KONYA	2.74	109	Pn	Pn	00 43 59.5	0.0
ENEZ	Enez	2.75	306	ePN	Pn	00 43 58.7	-0.8
ENEZ	Enez	2.75	306	ePn	Pn	00 43 58.7	-0.8
PHSR	Pinarhisar	2.76	335	ePN	Pn	00 43 59.1	-0.5
PHSR	Pinarhisar	2.76	335	ePn	Pn	00 43 59.1	-0.5
KDZE	Karadeniz Ereo	2.83	39	ePN	Pn	00 44 01.0	+0.4
KDZE	Karadeniz Ereo	2.83	39	ePn	Pn	00 44 01.0	+0.4
KONT	Konya--Tatoy	2.84	114	ePN	Pn	00 44 00.9	+0.2
KONT	Konya--Tatoy	2.84	114	ePn	Pn	00 44 00.9	+0.2
KONT	Konya--Tatoy	2.84	114	Pn	Pn	00 44 00.9	+0.2
BCAM	Yenicaga	2.85	53	iP	Pb	00 44 04.5	-1.5
BCAM				iS	Sg	00 44 45.8	-0.1
ALN	Alexandroupoli	2.92	308	P	Pn	00 44 00.9	-0.8
ALN	Alexandroupoli	2.92	308	P	Pn	00 44 00.9	-0.8
ALN	Alexandroupoli	2.92	308	eP	Pn	00 44 01.0	-0.8
ALN	Alexandroupoli	2.92	308	P	Pn	00 44 00.9	-0.8
ALN	Alexandroupoli	2.92	308	P	Pn	00 44 00.9	-0.8
NIS1	Nisyros Isl.	2.94	211	P	Pb	00 44 06.5	-0.9
NIS1	Nisyros Isl.	2.94	211	eP	Pg	00 44 09.4	-1.3
NIS1	Nisyros Isl.	2.94	211	P	Pb	00 44 06.5	-0.9
NIS1	Nisyros Isl.	2.94	211	P	Pb	00 44 06.5	-0.9
LOD	Lodumlu	2.96	74	ePN	Pn	00 44 03.3	+0.9
LOD	Lodumlu	2.96	74	ePn	Pn	00 44 03.3	+0.9
LOD	Lodumlu	2.96	74	Pn	Pn	00 44 03.3	+0.9
ANTO	Ankara	2.97	75	ePN	Pn	00 44 03.6	+1.0
ANTO	Ankara	2.97	75	eP	Pn	00 44 02.8	+0.2
ANTO				eS	Sb	00 44 43.2	-1.7
ANTO	Ankara	2.97	75	⇓iP	Pn	00 44 02.2	-0.4
ANTO	Ankara	2.97	75	S	Sg	00 44 52.1	+2.2
ANTO	Ankara	2.97	75	eP	Pn	00 44 02.8	+0.2
ANTO	Ankara	2.97	75	ePn	Pn	00 44 02.8	+0.2
ANTO				ePg	Pg	00 44 10.9	-0.5
ANTO				eS	Sb	00 44 43.1	-1.7
ARG	Arkhangelos	3.01	195	P	Pn	00 44 03.0	0.0
ARG	Arkhangelos	3.01	195	P	Pn	00 44 03.0	0.0
ARG	Arkhangelos	3.01	195	eP	Pn	00 44 03.0	0.0
ARG	Arkhangelos	3.01	195	P	Pn	00 44 03.0	0.0
ARG	Arkhangelos	3.01	195	P	Pn	00 44 03.0	0.0
SMTH	Samothraki Isl	3.04	297	P	Pn	00 44 03.0	-0.4
SMTH	Samothraki Isl	3.04	297	eP	Pn	00 44 02.8	-0.6
SMTH	Samothraki Isl	3.04	297	P	Pn	00 44 03.0	-0.4
SMTH	Samothraki Isl	3.04	297	P	Pn	00 44 03.0	-0.4
LIA	Limnos Island	3.10	285	P	Pn	00 44 04.1	-0.2
LIA	Limnos Island	3.10	285	eP	Pn	00 44 04.9	+0.6
LIA	Limnos Island	3.10	285	P	Pn	00 44 04.1	-0.2
LIA	Limnos Island	3.10	285	P	Pn	00 44 04.1	-0.2
AFSR	Af¨ar-Bala (A	3.12	83	ePN	Pn	00 44 05.7	+1.1
AFSR	Af¨ar-Bala (A	3.12	83	ePn	Pn	00 44 05.7	+1.1
BBAL	Bala	3.17	81	iP	Pn	00 44 05.3	0.0
BBAL	Bala	3.17	81	iP	Pn	00 44 05.3	0.0
EDRB	Edirne	3.24	328	P	Pn	00 44 05.4	-0.8
EDRB	Edirne	3.24	328	ePN	Pn	00 44 05.5	-0.7
EDRB	Edirne	3.24	328	P	Pn	00 44 05.4	-0.8
EDRB	Edirne	3.24	328	Pn	Pn	00 44 05.5	-0.7
APE	Apeiranthos	3.47	235	ePN	Pn	00 44 09.5	+0.1
APE	Apeiranthos	3.47	235	eP	Pn	00 44 08.7	-0.7
APE	Apeiranthos	3.47	235	eP	Pn	00 44 08.2	-1.2
APE	Apeiranthos	3.47	235	⇑iP	Pn	00 44 08.0	-1.4
APE	Apeiranthos	3.47	235	eP	Pn	00 44 08.7	-0.7
APE	Apeiranthos	3.47	235	ePn	Pn	00 44 09.5	+0.1
APE	Apeiranthos	3.47	235	Pn	Pn	00 44 09.5	+0.1
SAFT	Safranbolu	3.48	52	ePN	Pn	00 44 10.1	+0.6
SAFT	Safranbolu	3.48	52	ePn	Pn	00 44 10.1	+0.6
SAFT	Safranbolu	3.48	52	Pn	Pn	00 44 10.1	+0.6
BRTR	Keskin Array B	3.59	79	Pn	Pn	00 44 11.2	+0.1
	4.3nm,0.3s,baz=187,slow=29,SNR=105						
BRTR				Pg	Pg	00 44 21.7	-1.5
	8.3nm,0.3s,baz=259,slow=17,SNR=56						
BRTR				Lg	Lg	00 45 13.6	
	16nm,0.3s,baz=266,slow=25,SNR=3.9						
SULT	Sultanhani-AKS	3.60	104	ePN	Pn	00 44 12.2	+0.9
SULT	Sultanhani-AKS	3.60	104	ePn	Pn	00 44 12.2	+0.9
SULT	Sultanhani-AKS	3.60	104	Pn	Pn	00 44 12.2	+0.9
KDZ	Kurdzhali	3.75	313	⇓iP	Pn	00 44 13.2	-0.1
KDZ	Kurdzhali	3.75	313	S	Sb	00 45 10.1	+2.8
KDZ	Kurdzhali	3.75	313	⇓iP	Pn	00 44 13.2	-0.1
CANT	Cankiri	3.80	66	ePN	Pn	00 44 15.2	+1.3
CANT	Cankiri	3.80	66	Pn	Pn	00 44 15.2	+1.3
JMB	Yambol	3.83	331	P	Pn	00 44 14.4	+0.2
JMB	Yambol	3.83	331	P	Pn	00 44 14.4	+0.2
JMB	Yambol	3.83	331	⇑iP	Pn	00 44 14.9	+0.7
JMB	Yambol	3.83	331	P	Pn	00 44 14.4	+0.2
JMB	Yambol	3.83	331	P	Pn	00 44 14.4	+0.2
KARP	Karpathos	3.89	204	eP	Pn	00 44 14.7	-0.5
KAVA	Kavala	3.96	299	P	Pn	00 44 16.0	-0.1
KAVA	Kavala	3.96	299	eP	Pn	00 44 15.5	-0.6
KAVA	Kavala	3.96	299	P	Pn	00 44 16.0	-0.1
KAVA	Kavala	3.96	299	P	Pn	00 44 16.0	-0.1
AOS	Olonnisos	4.04	272	eP	Pg	00 44 36.8	+5.1
OUR	Ouranopolis	4.10	289	eP	Pn	00 44 17.1	-0.9
CDAG	Cicekdag	4.14	82	iP	Pn	00 44 18.6	0.0
CDAG	Cicekdag	4.14	82	iP	Pn	00 44 18.6	0.0
PTL	Penteli	4.22	257	eP	Pn	00 44 19.6	-0.1
PAIG	Paliouri	4.24	282	eP	Pn	00 44 19.4	-0.6
MRKA	Markates	4.30	266	eP	Pn	00 44 20.0	-0.7
SKIA	Skiathos	4.36	272	eP	Pn	00 44 21.2	-0.3
CORM	Corum	4.42	75	ePN	Pn	00 44 24.2	+1.7
CORM	Corum	4.42	75	ePn	Pn	00 44 24.2	+1.7
CORM	Corum	4.42	75	Pn	Pn	00 44 24.2	+1.7
PLD	Plovdiv	4.46	313	P	Pn	00 44 22.4	-0.5
PLD	Plovdiv	4.46	313	P	Pn	00 44 22.4	-0.5
PLD	Plovdiv	4.46	313	P	Pn	00 44 22.4	-0.5
PLD	Plovdiv	4.46	313	P	Pn	00 44 22.4	-0.5
NIG	Nigde	4.46	102	ePN	Pn	00 44 24.2	+1.0
NIG	Nigde	4.46	102	ePn	Pn	00 44 24.2	+1.0
NIG	Nigde	4.46	102	Pn	Pn	00 44 24.2	+1.0
PLG	Polygyros	4.51	288	eP	Pn	00 44 23.4	-0.3
NEO	Neokhori	4.54	274	eP	Pn	00 44 23.9	-0.2
NVR	Nevrokopi	4.56	301	P	Pn	00 44 24.1	-0.3
NVR	Nevrokopi	4.56	301	eP	Pn	00 44 24.0	-0.3
NVR	Nevrokopi	4.56	301	P	Pn	00 44 24.1	-0.3
NVR	Nevrokopi	4.56	301	P	Pn	00 44 24.1	-0.3
XOR	Xorichti	4.57	275	eP	Pn	00 44 24.4	-0.1
PSN	Preselentsi	4.59	352	⇓iP	Pn	00 44 23.6	-1.2
PSN	Preselentsi	4.59	352	⇓iP	Pn	00 44 23.6	-1.2
SRS	Serrai	4.64	297	P	Pn	00 44 24.8	-0.7
SRS	Serrai	4.64	297	P	Pn	00 44 24.8	-0.7
SRS	Serrai	4.64	297	eP	Pn	00 44 24.9	-0.6
SRS	Serrai	4.64	297	P	Pn	00 44 24.8	-0.7
SRS	Serrai	4.64	297	P	Pn	00 44 24.8	-0.7
MANR	Mangalia	4.69	356	⇑iP	Pn	00 44 25.9	-0.2
MANR	Mangalia	4.69	356	⇑iP	Pn	00 44 25.9	-0.2
BZK	Bozkurt	4.70	52	ePN	Pn	00 44 27.9	+1.7
BZK	Bozkurt	4.70	52	ePn	Pn	00 44 27.9	+1.7
BZK	Bozkurt	4.70	52	Pn	Pn	00 44 27.9	+1.7
SOH	Sokhos	4.70	293	eP	Pn	00 44 25.3	-1.0
NPS	Neapolis	4.75	217	P	Pn	00 44 28.5	+1.6
NPS	Neapolis	4.75	217	P	Pn	00 44 28.5	+1.6
NPS	Neapolis	4.75	217	eP	Pn	00 44 28.2	+1.3
NPS	Neapolis	4.75	217	P	Pn	00 44 28.5	+1.6
NPS	Neapolis	4.75	217	P	Pn	00 44 28.5	+1.6
MMB	Musomiste	4.76	303	⇓iP	Pn	00 44 26.8	-0.3
MMB	Musomiste	4.76	303	⇓iP	Pn	00 44 26.8	-0.3
HORT	Hortiatis	4.82	290	eP	Pn	00 44 26.8	-1.2
AKMC	Akamas	4.86	147	P	Pn	00 44 25.3	-3.1
	baz=318						
AKMC	Akamas	4.86	147	P	Pn	00 44 25.3	-3.1
ALFC	Alevga	4.87	144	P	Pn	00 44 25.5	-3.1
	baz=315						
ALFC				S	Sn	00 45 22.9	-2.6
ALFC	Alevga	4.87	144	P	Pn	00 44 25.5	-3.1
ALFC				S	Sn	00 45 22.9	-2.6
YOZ	Yozgat	4.87	82	ePN	Pn	00 44 29.7	+1.0
YOZ	Yozgat	4.87	82	ePn	Pn	00 44 29.7	+1.0
YOZ	Yozgat	4.87	82	Pn	Pn	00 44 29.7	+1.0
EFOR	EFORIE	4.95	356	⇓iP	Pn	00 44 29.3	-0.4
EFOR	EFORIE	4.95	356	⇓iP	Pn	00 44 29.3	-0.4
LEF	Lefka	5.04	142	Pn	Pn	00 44 28.0	-2.9
LEF	Lefka	5.04	142	Pn	Pn	00 44 28.0	-2.9
KARA	Karaisali	5.07	110	ePN	Pn	00 44 33.7	+2.3
KARA	Karaisali	5.07	110	ePn	Pn	00 44 33.7	+2.3
IDI	Anoyia	5.09	222	Pn	Pn	00 44 32.8	+1.2
	1.3nm,0.3s,baz=46,slow=14,SNR=12						
IDI				LR	LR	00 46 24.5	
	comp=Z,294nm,18.6s,baz=63,slow=37						
KNT	Kendrikon	5.14	295	P	Pn	00 44 32.5	+0.1
KNT	Kendrikon	5.14	295	P	Pn	00 44 32.5	+0.1
KNT	Kendrikon	5.14	295	eP	Pn	00 44 32.6	+0.1
KNT	Kendrikon	5.14	295	P	Pn	00 44 32.5	+0.1
KNT	Kendrikon	5.14	295	P	Pn	00 44 32.5	+0.1
MAMC	Mammari	5.16	139	⇑P	Pn	00 44 31.3	-1.3
	baz=312						
MAMC	Mammari	5.16	139	⇑P	Pn	00 44 31.3	-1.3
DSF	Desfina	5.16	264	eP	Pn	00 44 32.7	0.0
LIT	Litokhoron	5.17	283	eP	Pn	00 44 33.1	+0.3
AGG	Agios Georgios	5.25	271	eP	Pn	00 44 34.2	+0.4
BNN	Bunyan	5.29	91	ePN	Pn	00 44 36.5	+2.1
BNN	Bunyan	5.29	91	ePn	Pn	00 44 36.5	+2.1
BNN	Bunyan	5.29	91	Pn	Pn	00 44 36.5	+2.1
SZAC	Souni-Zanaja	5.33	144	P	Pn	00 44 35.0	+0.1
	baz=317						
SZAC	Souni-Zanaja	5.33	144	P	Pn	00 44 35.0	+0.1
TIRR	Tirgusor	5.34	355	eP	Pn	00 44 34.6	-0.5
TIRR				e		00 45 35.8	
TIRR				pmax	pmax		
	comp=Z,95nm,0.3s						
TIRR	Tirgusor	5.34	355	⇑iP	Pn	00 44 34.3	-0.7
TIRR	Tirgusor	5.34	355	ePn	Pn	00 44 34.5	-0.5
	comp=Z,95nm,0.3s						
TIRR				eS	Sn	00 45 35.8	-1.3
TIRR	Tirgusor	5.34	355	ePn	Pn	00 44 34.5	-0.5
	comp=Z,95nm,0.3s						
TIRR				eSn	Sn	00 45 35.8	-1.3
DIKM	Dikmen	5.35	60	ePN	Pn	00 44 37.0	+1.8
DIKM	Dikmen	5.35	60	ePn	Pn	00 44 37.0	+1.8
VAM	Vamos	5.38	228	eP	Pn	00 44 32.9	-2.7
CSS	Prodhromos	5.38	139	⇓P	Pn	00 44 33.4	-2.2
	baz=313						
CSS	Prodhromos	5.38	139	⇓P	Pn	00 44 33.4	-2.2
MAKR	Makrakomi, Fth	5.40	271	eP	Pn	00 44 37.6	+1.7
GUR	Goura	5.41	259	eP	Pn	00 44 36.4	+0.3
VAY	Valandovo	5.43	296	iPn	Pn	00 44 37.1	+0.8
VAY				iPn	Sg	00 46 20.9	+12
VAY				eLg	Lg	00 46 23.7	
	comp=N,126nm,1.3s						
VAY				eLg	Lg	00 46 26.8	
	comp=E,107nm,1.2s						
VAY	Valandovo	5.43	296	iPn	Pn	00 44 37.1	+0.8
VAY				eLg	Lg	00 46 26.8	
	comp=E,107nm,1.2s						
THL	Klokotos Trika	5.49	277	eP	Pn	00 44 37.4	+0.4
KLV	Kalavryta, Ach	5.53	261	eP	Pn	00 44 37.0	-0.7
KOZT	Kozan	5.56	105	ePN	Pn	00 44 40.3	+2.1
KOZT	Kozan	5.56	105	ePn	Pn	00 44 40.3	+2.1
HARR	Harsova	5.62	352	⇑iP	Pn	00 44 38.0	-0.8
LAKA	Lakka	5.62	263	eP	Pn	00 44 39.8	+0.9
EVR	Evrytania	5.66	270	eP	Pn	00 44 41.0	+1.5
KVT	Kavak	5.69	68	ePN	Pn	00 44 42.0	+2.1
KVT	Kavak	5.69	68	P	Pn	00 44 42.0	+2.1
KVT	Kavak	5.69	68	ePn

comp=Z,0.9nm,0.3s,baz=196,slow=12,SNR=2.7
STHS Stebnicka Huta 11.70 334 *eP* **Pn 00 46 02.9 +0.6**
STHS Stebnicka Huta 11.70 334 *eP* **Pn 00 46 02.9 +0.6**
STHS Stebnicka Huta 11.70 334 *ePN* **Pn 00 46 02.9 +0.6**
ZEI Tsey 11.79 67 *eP* **Pn 00 46 01.0 -2.7**
ZEI pmax pmax
comp=Z,15nm,1.9s
ZEI Tsey 11.79 67 *eP* **Pn 00 46 01.0 -2.7**
comp=Z,15nm,1.9s
VYHS Vyhne 11.91 325 *eP* **Pn 00 46 04.0 -1.1**
VYHS Vyhne 11.91 325 *eP* **Pn 00 46 04.0 -1.1**
VYHS Vyhne 11.91 325 *ePN* **Pn 00 46 04.0 -1.1**
GNI Garni 12.13 80‖ *eP* **Pn 00 46 08.6 +0.4**
GNI pmax pmax
comp=Z,4.0nm,1.3s
GNI Garni 12.13 80 Pn Pn 00 46 16.0 +7.8
comp=Z,0.1nm,0.3s,baz=305,slow=5.6,SNR=5.1
GNI LR LR 00 50 50.7
comp=Z,78nm,19.8s,baz=274,slow=38
GNI Garni 12.13 80 *ePn* Pn 00 46 04.0 -4.2
comp=Z,18nm,1.5s
GNI Garni 12.13 80 *eP* **Pn 00 46 08.6 +0.4**
comp=Z,4.0nm,1.3s
GNI Garni 12.13 80 *ePn* Pn 00 46 04.0 -4.2
comp=Z,18nm,1.5s
OKC Ostrava-Krasne 13.22 328 AMS AMS 00 52 30.0
comp=Z,700nm,12.6s
VRAC Vranov 13.53 323 LR LR 00 52 06.1
comp=Z,67nm,21.5s,baz=133,slow=39
VORD Divnogorie 13.85 28 *eP* **Pn 00 46 32.5 +1.1**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,7.0nm,0.9s
VORD Divnogorie 13.85 28 *eP* **Pn 00 46 32.5 +1.1**
VSR Storozhevoye 14.01 27 *eP* **Pn 00 46 32.2 -1.5**
VSR pmax pmax
comp=N,9.0nm,0.7s
VSR pmax pmax
comp=E,7.0nm,0.7s
VSR pmax pmax
comp=Z,7.0nm,0.7s
VSR Storozhevoye 14.01 27 *eP* **Pn 00 46 32.2 -1.5**
TREC Trest 14.05 321 AMS AMS 00 52 50.0
comp=Z,300nm,8.0s
DPC Dobruska-Polom 14.39 325 AMS AMS 00 53 30.0
GERES GERESS Array B 14.69 316 Pn **P 00 46 47.5 -2.1**
comp=Z,0.1nm,0.3s,baz=228,slow=36,SNR=2.7
GERES LR LR 00 52 50.2
comp=Z,102nm,20.2s,baz=118,slow=39
VRHR Novokhopersk 14.86 32 *eP* **P 00 46 48.6 -2.7**
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR Novokhopersk 14.86 32 *eP* **P 00 46 48.6 -2.7**
KHC Kasperske Hory 14.93 317 *eP* Pn 00 46 42.8 -3.5
KHC MLR MLR
comp=Z,300nm,9.3s
KHC Kasperske Hory 14.93 317 *eP* Pn 00 46 42.8 -3.5
KHC *ex* x 00 46 47.8
KHC *ex* x 00 46 57.5
KHC AMS AMS 00 53 10.0
comp=Z,300nm,9.3s
PRU Pruhonice 14.97 321 AMS AMS 00 53 40.0
comp=Z,300nm,7.7s
PGF Pioggiola 15.57 289 *eP* **Pn 00 46 54.4 -0.5**
comp=Z,50nm,1.1s
PGF Pioggiola 15.57 289 *eP* **Pn 00 46 54.4 -0.5**
PGF pmax pmax
comp=Z,50nm,1.1s
PGF Pioggiola 15.57 289 *eP* **Pn 00 46 54.4 -0.5**
comp=Z,50nm,1.1s
PGF Pioggiola 15.57 289 *eP* **Pn 00 46 54.4 -0.5**
comp=Z,50nm,1.1s
NACGM Naroch 15.85 355 *e* **P 00 47 04.0 +1.8**
DAVOX Davos/Dischmat 15.97 305 LR LR 00 53 41.7
comp=Z,119nm,21.7s,baz=124,slow=39
CLL Collm 16.58 322 *eP* P 00 47 21.0 +11
CLL MLR MLR
comp=Z,200nm,16.1s
OBN Obninsk 16.76 15*c iP* **Pn 00 47 08.9 -1.1**
OBN pmax pmax
comp=Z,25nm,1.7s
OBN MLR MLR
comp=Z,109nm,16.0s
SBF Sospel 16.87 293 *eP* **P 00 47 12.9 -0.8**
SBF Sospel 16.87 293 *eP* **P 00 47 12.9 -0.8**
SBF Sospel 16.87 293 *eP* **P 00 47 12.9 -0.8**
SBF Sospel 16.87 293 *eP* **P 00 47 12.9 -0.8**
FRF La Foret Royal 17.39 292 *eP* **P 00 47 20.2 +0.7**
comp=Z,27nm,1.2s
FRF La Foret Royal 17.39 292 *eP* **P 00 47 20.2 +0.7**
FRF pmax pmax
comp=Z,27nm,1.2s
FRF La Foret Royal 17.39 292 *eP* **P 00 47 20.2 +0.7**
comp=Z,27nm,1.2s
FRF La Foret Royal 17.39 292 *eP* **P 00 47 20.2 +0.7**
comp=Z,27nm,1.2s
LMR La Mourre 17.47 291 *eP* **P 00 47 21.1 +0.9**
comp=Z,97nm,1.5s
LMR La Mourre 17.47 291 *eP* **P 00 47 21.1 +0.9**
LMR pmax pmax
comp=Z,97nm,1.5s
LMR La Mourre 17.47 291 *eP* **P 00 47 21.1 +0.9**
comp=Z,97nm,1.5s
LMR La Mourre 17.47 291 *eP* **P 00 47 21.1 +0.9**
comp=Z,97nm,1.5s
MBDF Montbardon 17.49 296 *eP* **P 00 47 22.4 +1.8**
comp=Z,12nm,0.8s
MBDF Montbardon 17.49 296 *eP* **P 00 47 22.4 +1.8**
MBDF pmax pmax
comp=Z,13nm,0.8s
MBDF Montbardon 17.49 296 *eP* **P 00 47 22.4 +1.8**
comp=Z,12nm,0.8s
MBDF Montbardon 17.49 296 *eP* **P 00 47 22.4 +1.8**
comp=Z,12nm,0.8s
MOS Moscow 17.57 16 *eP* **P 00 47 23.8 +2.6**
MOS pmax pmax
comp=Z,32nm,1.0s
LPG La Plagne 17.66 298 *eP* **P 00 47 24.0 +1.3**
comp=Z,24nm,1.2s
LPG La Plagne 17.66 298 *eP* **P 00 47 24.0 +1.3**
LPG pmax pmax
comp=Z,24nm,1.3s
LPG La Plagne 17.66 298 *eP* **P 00 47 24.0 +1.3**
comp=Z,24nm,1.3s
LPG La Plagne 17.66 298 *eP* **P 00 47 24.0 +1.3**
comp=Z,24nm,1.3s
LPL La Plagne 17.68 298 *eP* **P 00 47 24.2 +1.4**
comp=Z,37nm,1.6s
LPL La Plagne 17.68 298 *eP* **P 00 47 24.2 +1.4**
LPL pmax pmax
comp=Z,37nm,1.6s
LPL La Plagne 17.68 298 *eP* **P 00 47 24.2 +1.4**
comp=Z,37nm,1.6s
LPL La Plagne 17.68 298 *eP* **P 00 47 24.2 +1.4**
comp=Z,37nm,1.6s
ORIF Oris-en-Rattie 18.15 296 *eP* **P 00 47 32.0 +4.2**
comp=Z,29nm,1.3s
ORIF Oris-en-Rattie 18.15 296 *eP* **P 00 47 32.0 +4.2**
ORIF pmax pmax
comp=Z,29nm,1.3s
ORIF Oris-en-Rattie 18.15 296 *eP* **P 00 47 32.0 +4.2**
comp=Z,29nm,1.3s
ORIF Oris-en-Rattie 18.15 296 *eP* **P 00 47 32.0 +4.2**
comp=Z,29nm,1.3s
CDF Champ du Feu 18.22 308 *eP* **P 00 47 33.1 +4.5**
comp=Z,24nm,1.3s
CDF Champ du Feu 18.22 308 *eP* **P 00 47 33.1 +4.5**
CDF pmax pmax
comp=Z,24nm,1.3s
CDF Champ du Feu 18.22 308 *eP* **P 00 47 33.1 +4.5**
comp=Z,24nm,1.3s
HAU Haudompre 18.65 306 *eP* **Pn 00 47 37.7 +4.2**
comp=Z,23nm,1.2s
HAU Haudompre 18.65 306 *eP* **Pn 00 47 37.7 +4.2**
HAU pmax pmax
comp=Z,23nm,1.3s
HAU Haudompre 18.65 306 *eP* **Pn 00 47 37.7 +4.2**
comp=Z,23nm,1.3s
HAU Haudompre 18.65 306 *eP* **Pn 00 47 37.7 +4.2**
comp=Z,23nm,1.3s
VSU Vasula 19.40 356 *eP* **P 00 47 38.4 -3.0**
VSU pmax pmax
comp=Z,27nm,1.0s
VSU Vasula 19.40 356 *eP* **P 00 47 38.4 -3.0**
comp=Z,27nm,1.0s
LASF Ste Croix 19.46 293 *eP* Pn 00 47 48.7 +5.4
comp=Z,87nm,1.7s
LASF Ste Croix 19.46 293 *eP* Pn 00 47 48.7 +5.4
comp=Z,87nm,1.7s
LASF Ste Croix 19.46 293 *eP* Pn 00 47 48.7 +5.4
comp=Z,87nm,1.7s
SMF Signal de Mont 19.90 300 *eP* **Pn 00 47 52.5 +4.0**
comp=Z,72nm,1.7s
SMF Signal de Mont 19.90 300 *eP* **Pn 00 47 52.5 +4.0**
SMF pmax pmax
comp=Z,72nm,1.7s
SMF Signal de Mont 19.90 300 *eP* **Pn 00 47 52.5 +4.0**
comp=Z,72nm,1.7s
SMF Signal de Mont 19.90 300 *eP* **Pn 00 47 52.5 +4.0**
comp=Z,72nm,1.7s
LOR Lormes 20.03 302 *eP* Pn 00 47 54.4 +4.2
comp=Z,29nm,1.2s
LOR Lormes 20.03 302 *eP* Pn 00 47 54.4 +4.2
LOR pmax pmax
comp=Z,29nm,1.2s
LOR Lormes 20.03 302 *eP* Pn 00 47 54.4 +4.2
comp=Z,29nm,1.2s
SSF Saint Saulge 20.22 301 *eP* Pn 00 47 57.2 +4.9
SSF Saint Saulge 20.22 301 *eP* Pn 00 47 57.2 +4.9
SSF Saint Saulge 20.22 301 *eP* Pn 00 47 57.2 +4.9
SSF Saint Saulge 20.22 301 *eP* Pn 00 47 57.2 +4.9
AVF Avril sur Loir 20.26 301 *eP* Pn 00 47 55.0 +2.3
comp=Z,30nm,1.4s
AVF Avril sur Loir 20.26 301 *eP* Pn 00 47 55.0 +2.3
AVF pmax pmax
comp=Z,30nm,1.4s
AVF Avril sur Loir 20.26 301 *eP* Pn 00 47 55.0 +2.3
comp=Z,30nm,1.4s
AVF Avril sur Loir 20.26 301 *eP* Pn 00 47 55.0 +2.3
comp=Z,30nm,1.4s
RAYN Ar Rayn 20.91 133 *eP* **P 00 47 57.7 -0.4**
comp=Z,18nm,1.1s
RAYN Ar Rayn 20.91 133 *eP* **P 00 47 57.7 -0.4**
comp=Z,18nm,1.1s
RJF Les Rejaudoux 21.26 296 *eP* **P 00 48 04.3 +2.6**
comp=Z,17nm,1.2s
RJF Les Rejaudoux 21.26 296 *eP* **P 00 48 04.3 +2.6**
RJF pmax pmax
comp=Z,17nm,1.2s
RJF Les Rejaudoux 21.26 296 *eP* **P 00 48 04.3 +2.6**
comp=Z,17nm,1.2s
RJF Les Rejaudoux 21.26 296 *eP* **P 00 48 04.3 +2.6**
comp=Z,17nm,1.2s
FINES FINESS Array B 22.41 356 P **P 00 48 15.9 +2.0**
FINES pmax pmax
comp=Z,6.0nm,0.9s
FINES MLR MLR
comp=Z,93nm,20.7s
FINES FINESS Array B 22.41 356 P **P 00 48 15.9 +2.0**
comp=Z,6.2nm,0.9s,baz=156,slow=15,SNR=7.9
FINES LR LR 00 57 34.8
comp=Z,92nm,20.7s,baz=91,slow=38
MFF Saint Martin d 22.59 299 *eP* **P 00 48 18.5 +2.6**
MFF Saint Martin d 22.59 299 *eP* **P 00 48 18.5 +2.6**
MFF Saint Martin d 22.59 299 *eP* **P 00 48 18.5 +2.6**
MFF Saint Martin d 22.59 299 *eP* **P 00 48 18.5 +2.6**
KLMR Klimovskoe 22.70 13 *eP* **P 00 48 17.4 +0.4**
KLMR pmax pmax
comp=Z,31nm,1.3s
KLMR Klimovskoe 22.70 13 *eP* **P 00 48 17.4 +0.4**
comp=Z,31nm,1.3s
GEYT Alibeck 22.72 84 P **P 00 48 18.6 +1.1**
comp=Z,16nm,1.2s,baz=280,slow=12,SNR=19
LDF La Druitiere 22.95 304 *eP* **P 00 48 23.3 +3.5**
LDF La Druitiere 22.95 304 *eP* **P 00 48 23.3 +3.5**
LDF La Druitiere 22.95 304 *eP* **P 00 48 23.3 +3.5**
KAF Kangasniemi 23.07 357 *eP* **P 00 48 23.3 +2.5**
KAF pmax pmax
comp=Z,6.0nm,0.8s
KAF Kangasniemi 23.07 357 *ep* **P 00 48 23.3 +2.5**
comp=Z,6.0nm,0.8s
HFS Hagfors 23.14 340 P **P 00 48 22.9 +1.3**
HFS pmax pmax
comp=Z,3.0nm,0.9s
HFS MLR MLR
comp=Z,74nm,19.3s
HFS Hagfors 23.14 340 P **P 00 48 22.9 +1.3**
comp=Z,2.9nm,0.8s,baz=167,slow=14,SNR=2.7
HFS LR LR 00 57 09.8
comp=Z,74nm,19.3s,baz=145,slow=36
FLN La Foliniere 23.22 304 *eP* **P 00 48 27.3 +4.7**
FLN La Foliniere 23.22 304 *eP* **P 00 48 27.3 +4.7**
FLN La Foliniere 23.22 304 *eP* **P 00 48 27.3 +4.7**
AKTK Aktyubinsk 23.30 52 P **P 00 48 23.6 +0.3**
comp=Z,6.0nm,1.0s
AKTO Aktyubinsk 23.30 52 P **P 00 48 23.6 +0.3**
comp=Z,6.2nm,0.9s,baz=248,slow=9.5,SNR=16
AKTO LR LR 01 01 29.6
comp=Z,58nm,18.1s,baz=263,slow=47
GRR Gorron 23.39 303 *eP* **P 00 48 26.3 +2.1**
GRR Gorron 23.39 303 *eP* **P 00 48 26.3 +2.1**
GRR Gorron 23.39 303 *eP* **P 00 48 26.3 +2.1**
GRR Gorron 23.39 303 *eP* **P 00 48 26.3 +2.1**
JOF Joensuu 23.86 3 *eP* **P 00 48 28.1 -0.6**
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 23.86 3 *ep* **P 00 48 28.1 -0.6**
comp=Z,2.2nm,0.7s
JOF Joensuu 23.86 3 *eP* **P 00 48 28.1 -0.6**
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 24.58 339 P **P 00 48 35.1 -0.3**
comp=Z,5.7nm,1.0s,baz=145,slow=9.3
NB2 NORSAR Subarra 24.58 339 P **P 00 48 35.1 -0.3**
comp=Z,5.7nm,1.0s,SNR=4.5
NOA NORSAR Array B 24.58 339 P **P 00 48 37.2 +1.7**
NOA pmax pmax
comp=Z,3.0nm,1.1s
NOA NORSAR Array B 24.58 339 P **P 00 48 37.2 +1.7**
comp=Z,3.2nm,1.1s,baz=145,slow=8.1,SNR=5.6
PRGR Permogore 24.73 19 *eP* **P 00 48 37.5 +0.8**
PRGR pmax pmax
comp=Z,21nm,1.4s
PRGR Permogore 24.73 19 *eP* **P 00 48 37.5 +0.8**
comp=Z,21nm,1.4s
TMCR Tamitsa 25.62 9 *eP* **P 00 48 48.7 +3.9**
TMCR *e* 00 49 27.7
TMCR pmax pmax
comp=Z,20nm,1.0s
ARU Arti 26.01 39*d iP* **P 00 48 50.0 +1.6**
ARU 00 49 28.1
ARU S **S 00 53 25.3 +5.7**
ARU SS **SnSn 00 54 21.8 +5.7**
ARU pmax pmax
comp=Z,23nm,1.7s
ARU Arti 26.01 39 *eP* **P 00 48 47.1 -1.3**
comp=Z,9.4nm,0.9s
ARU Arti 26.01 39 *eP* **P 00 48 47.1 -1.3**
comp=Z,9.4nm,0.9s
ARCES ARCESS Array B 30.52 358 LR LR 01 02 16.7
comp=Z,112nm,18.7s,baz=182,slow=37
KKAR Karatay Array 31.24 69 *eP* **P 00 49 33.1 -2.1**
KKAR pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 31.24 69 *eP* **P 00 49 33.1 -2.1**
comp=Z,2.5nm,0.9s
KKAR Karatay Array 31.24 69 *eP* **P 00 49 33.1 -2.1**
comp=Z,2.5nm,0.9s
BRVK Borovoye 31.32 50*cePP* **P 00 49 34.4 -1.3**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
BRVK Borovoye 31.32 50 *eP* **P 00 49 34.4 -1.3**
comp=Z,5.0nm,1.3s
AAK Ala-Archa 34.21 69 *eP* **P 00 50 00.8 -0.5**
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 34.21 69 *eP* **P 00 50 00.8 -0.5**
comp=Z,4.7nm,0.9s
AAK Ala-Archa 34.21 69 *eP* **P 00 50 00.8 -0.5**
comp=Z,4.7nm,0.9s
TORD Torodi Ar. Bea 35.43 231 P **P 00 50 11.0 -0.9**
comp=Z,0.8nm,0.8s,baz=35,slow=9.3,SNR=5.9
TORD Torodi Ar. Bea 35.43 231 P **P 00 50 11.0 -0.9**
KURK Kurchatov 36.29 55 *eP* **P 00 50 18.9 -0.1**
KURK pmax pmax
comp=Z,4.0nm,1.4s
KURK Kurchatov 36.29 55 *eP* **P 00 50 18.9 -0.1**
comp=Z,3.8nm,1.4s
KURK Kurchatov 36.29 55 *eP* **P 00 50 18.9 -0.1**
comp=Z,3.9nm,1.4s
MKAR Makanchi Array 39.04 61 P **P 00 50 42.0 -0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 39.04 61 P **P 00 50 42.0 -0.4**
comp=Z,0.7nm,0.5s,baz=275,slow=6.0,SNR=9.4
MKAR Makanchi Array 39.04 61 P **P 00 50 42.0 -0.4**
comp=Z,1.0nm,0.5s
NVS Novosibirsk 39.09 48 *eP* **P 00 50 44.6 +2.0**
NVS Novosibirsk 39.09 48 *eP* **P 00 50 44.6 +2.0**
ZALV Zalesovo Beam 40.02 49 P **P 00 50 50.1 -0.3**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 40.02 49 P **P 00 50 50.1 -0.3**
comp=Z,0.9nm,0.5s,baz=267,slow=8.5,SNR=9.5
TLY Talaya 51.63 50 *eP* **P 00 52 21.2 -0.9**
TLY pmax pmax
comp=Z,5.0nm,1.3s
TLY Talaya 51.63 50 *eP* **P 00 52 21.2 -0.9**
comp=Z,5.0nm,1.3s
ZAK Zakamensk 51.80 52 *eP* P 00 52 15.5 -8.0
ZAK pmax pmax
comp=Z,3.0nm,1.6s
SONM Songino Array 54.59 54 P **P 00 52 43.6 -0.5**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 54.59 54 P **P 00 52 43.6 -0.5**
comp=Z,0.8nm,0.7s,baz=282,slow=7.4,SNR=9.9
ULN Ulaanbaatar 54.99 54*cePP* **P 00 52 45.1 -1.9**
ULN pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 54.99 54 *eP* **P 00 52 45.1 -1.9**
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 63.14 87 P **P 00 53 42.4 -1.4**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 63.14 87 P **P 00 53 42.4 -1.4**
comp=Z,0.6nm,0.3s,baz=301,slow=7.3,SNR=3.6
KSAR Wonju Array Be 73.40 55 P **P 00 54 47.3 -0.6**
KSAR Wonju Array Be 73.40 55 P **P 00 54 47.2 -0.6**
KSAR Wonju Array Be 73.40 55 P **P 00 54 47.2 -0.6**
KSRS Korea Array 73.42 55 P **P 00 54 47.3 -0.7**
KSRS pmax pmax
comp=Z,4.0nm,1.0s
KSRS Korea Array 73.42 55 P **P 00 54 47.2 -0.7**
comp=Z,3.8nm,0.9s,baz=302,slow=4.8,SNR=7.5
YKA Yellowknife Ar 74.59 343 P **P 00 54 55.4 +1.0**
comp=Z,0.3nm,0.9s,baz=23,slow=5.6,SNR=5.8

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*CSEM **02** 00:47:01.1,39.°10N×29.°06E,h5km,MD3.1*
ISK 02 00:47:01.1,39.°10N×29.°06E,h5km,MD3.1,ML3.1,
Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.47**	**42**	*ePG*	Pg	00 47 10.5	+0.3
TVSB	**Tavsanli**	**0.47**	**42**	*ePg*	Pg	00 47 10.5	+0.2
KULA	**Kula-Manisa**	**0.67**	**208**	*ePG*	Pb	00 47 15.2	-0.2
KULA				*eSG*	Sb	00 47 24.5	-0.5
KULA	**Kula-Manisa**	**0.67**	**208**	*ePg*	Pb	00 47 15.2	-0.1
KULA				*eSg*	Sb	00 47 24.5	-0.5
ALT	**Altintas**	**0.82**	**93**	*ePG*	Pb	00 47 18.6	+0.6
ALT				*eSG*	Sb	00 47 30.7	+1.3
ALT	**Altintas**	**0.82**	**93**	*ePg*	Pb	00 47 18.6	+0.6
ALT				*eSg*	Sb	00 47 30.7	+1.2
KHL	**Karahalli**	**0.86**	**155**	*ePG*	Pb	00 47 18.7	0.0
KHL	**Karahalli**	**0.86**	**155**	*ePg*	Pb	00 47 18.7	0.0
ORLT	**Orhaneli**	**0.95**	**352**	*ePG*	Pb	00 47 20.2	+0.1
ORLT	**Orhaneli**	**0.95**	**352**	*ePg*	Pb	00 47 20.2	+0.1
AKS	**Akhisar**	**1.00**	**257**	*ePG*	Pn	00 47 21.4	-0.4
AKS	**Akhisar**	**1.00**	**257**	*ePg*	Pn	00 47 21.4	-0.4
BALB	**Balikesir**	**1.06**	**301**	*ePG*	Pn	00 47 22.7	+0.1
BALB	**Balikesir**	**1.06**	**301**	*ePg*	Pn	00 47 22.7	+0.1
CAVI	**Cavuskoy**	**1.25**	**29**	*ePN*	Pn	00 47 25.9	+0.6
CAVI	**Cavuskoy**	**1.25**	**29**	*ePn*	Pn	00 47 25.9	+0.6
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*ePN*	Pb	00 47 26.2	+0.7
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*ePn*	Pb	00 47 26.2	+0.7
IZI	**Iznik**	**1.27**	**14**	*ePN*	Pb	00 47 26.5	+0.8
IZI	**Iznik**	**1.27**	**14**	*ePn*	Pb	00 47 26.5	+0.8
KCTX	**Karacabey (Bur**	**1.28**	**335**	*ePN*	Pb	00 47 26.4	+0.6
KCTX	**Karacabey (Bur**	**1.28**	**335**	*ePn*	Pb	00 47 26.4	+0.6
SHUT	**Suhut-Afyon**	**1.29**	**115**	*ePN*	Pb	00 47 26.6	+0.5
SHUT	**Suhut-Afyon**	**1.29**	**115**	*ePn*	Pb	00 47 26.6	+0.6
GEMT	**Gemlik**	**1.33**	**4**	*ePN*	Pg	00 47 27.8	+1.0
GEMT	**Gemlik**	**1.33**	**4**	*ePn*	Pg	00 47 27.8	+1.1
ADVT	**Abdulvahap**	**1.43**	**21**	*ePN*	Pg	00 47 29.2	+0.7
ADVT	**Abdulvahap**	**1.43**	**21**	*ePn*	Pg	00 47 29.2	+0.7
ARMT	**Armutlu**	**1.47**	**354**	*ePN*	Pg	00 47 29.9	+0.6
ARMT	**Armutlu**	**1.47**	**354**	*ePn*	Pg	00 47 29.9	+0.6
GPA	**Golpazari**	**1.53**	**39**	*ePN*	Pb	00 47 29.8	-0.2
GPA	**Golpazari**	**1.53**	**39**	*ePn*	Pb	00 47 29.8	-0.2
EDC	**Edincik**	**1.55**	**324**	*ePN*	Pb	00 47 30.4	+0.1
EDC	**Edincik**	**1.55**	**324**	*ePn*	Pb	00 47 30.4	+0.1
ISP	**Isparta**	**1.72**	**138**	*ePN*	Pb	00 47 33.8	+0.4
ISP	**Isparta**	**1.72**	**138**	*ePn*	Pg	00 47 33.8	-0.4
BLCB	**Balcova**	**1.73**	**246**	*ePN*	Pg	00 47 34.3	0.0
BLCB	**Balcova**	**1.73**	**246**	*ePn*	Pg	00 47 34.3	0.0
GULT	**Gulveren**	**1.74**	**40**	*ePN*	Pb	00 47 33.8	+0.1
GULT	**Gulveren**	**1.74**	**40**	*ePn*	Pb	00 47 33.8	+0.2
HRT	**Hereke**	**1.78**	**15**	*ePN*	Pb	00 47 34.1	-0.2
HRT	**Hereke**	**1.78**	**15**	*ePn*	Pb	00 47 34.1	-0.2
SPNC	**Sapanca-Adapaz**	**1.85**	**31**	*ePN*	Pb	00 47 35.5	0.0
SPNC	**Sapanca-Adapaz**	**1.85**	**31**	*ePn*	Pb	00 47 35.5	+0.1
KRBG	**Karabiga-Canak**	**1.87**	**314**	*ePN*	Pb	00 47 36.0	+0.3
KRBG	**Karabiga-Canak**	**1.87**	**314**	*ePn*	Pb	00 47 36.0	+0.2
MRMT	**Marmara Adasi**	**1.87**	**324**	*ePN*	Pb	00 47 36.0	+0.1
MRMT	**Marmara Adasi**	**1.87**	**324**	*ePn*	Pb	00 47 36.0	+0.1
SVRH	**Sivrihisar-ESK**	**1.94**	**79**	*ePN*	Pn	00 47 36.0	+1.1
SVRH	**Sivrihisar-ESK**	**1.94**	**79**	*ePn*	Pn	00 47 36.0	+1.1
ISK	**Istanbul-Kandi**	**1.96**	**0**	*ePN*	Pb	00 47 37.1	-0.1
ISK	**Istanbul-Kandi**	**1.96**	**0**	*ePn*	Pb	00 47 37.2	-0.1
YER	**Yerkesik**	**2.06**	**198**	*ePN*	Pb	00 47 38.9	-0.2
YER	**Yerkesik**	**2.06**	**198**	*ePn*	Pb	00 47 38.9	-0.2
BGKT	**Bogazkoy**	**2.09**	**354**	*ePN*	Pb	00 47 39.4	0.0
BGKT	**Bogazkoy**	**2.09**	**354**	*ePn*	Pb	00 47 39.4	0.0
SILT	**Sile**	**2.10**	**12**	*ePN*	Pb	00 47 38.9	-0.7
SILT	**Sile**	**2.10**	**12**	*ePn*	Pb	00 47 38.9	-0.7
RKY	**Sarkoy-Tekirda**	**2.14**	**318**	*ePN*	Pb	00 47 39.5	-1.0
RKY	**Sarkoy-Tekirda**	**2.14**	**318**	*ePn*	Pb	00 47 39.5	-1.0
KLYT	**Kilyos**	**2.15**	**360**	*ePN*	Pb	00 47 40.0	-0.5
KLYT	**Kilyos**	**2.15**	**360**	*ePn*	Pb	00 47 40.0	-0.4
CTKS	**Kestanelik-??a**	**2.17**	**349**	*ePN*	Pb	00 47 40.5	-0.3
CTKS	**Kestanelik-??a**	**2.17**	**349**	*ePn*	Pb	00 47 40.6	-0.3
SLVT	**Silivri**	**2.22**	**343**	*ePN*	Pb	00 47 40.5	-1.2
SLVT	**Silivri**	**2.22**	**343**	*ePn*	Pb	00 47 40.6	-1.1
CRLT	**Corlu**	**2.26**	**334**	*ePN*	Pb	00 47 41.1	-1.3
CRLT	**Corlu**	**2.26**	**334**	*ePn*	Pb	00 47 41.1	-1.4
GELI	**Tayfur-Gelibol**	**2.38**	**304**	*ePN*	Pb	00 47 43.4	-1.0
GELI	**Tayfur-Gelibol**	**2.38**	**304**	*ePn*	Pb	00 47 43.4	-1.0
CTYL	**Yal??k??y-??at**	**2.44**	**346**	*ePN*	Pb	00 47 44.0	-1.5
CTYL	**Yal??k??y-??at**	**2.44**	**346**	*ePn*	Pb	00 47 44.0	-1.5

GUC 02 00:48:46.5±0.4,34.°82S×72.°35W,h23km±5km,ML4.0,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.16**	**42**	*eP*	Pn	00 49 06.8	-0.5
CHCH	**Chadas Angostu**	**1.66**	**58**	*eP*	Pn	00 49 14.8	+0.6
RCDM	**Rinconada Maip**	**1.84**	**44**	*eP*	Pn	00 49 17.6	+0.9
RCDM				*eS*	Sb	00 49 41.2	-1.0
RCDM				AML	AML	00 49 49.6	
	comp=E,1μm,0.4s						
ANTU	**Antumapu**	**1.89**	**49**	*eP*	Pn	00 49 18.8	+1.4
ANTU				*eS*	Sb	00 49 43.2	-0.4
ANTU				AML	AML	00 49 48.6	
	comp=E,2μm,0.4s						
PEL	**Peldehue**	**2.17**	**40**	*eP*	Pn	00 49 23.1	+1.8
PEL				*eS*	Sb	00 49 50.9	-0.7
PEL				AML	AML	00 49 57.6	
	comp=N,3μm,0.5s						

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*ISCJB **02** 00:53:41.0±0.8,47.°7N±0.°1×152.°7E±0.°1,h128km,*
mb3.9/25, Error ellipse: s-maj=20.6km s-min=9.3km
az=145.2
*IDC **02** 00:53:43.1±3.1,47.°67N×152.°70E,h134km±27km,*

mb3.6/22, mb1 3.8/23, mb1mx3.7/32, mbtmp4.0/23, MS3.4/1, Ms1 3.4/1, ms1mx2.5/33, Error ellipse: s-maj=21.1km s-min=14.1km az=143.0

ISC 02 00:53:42.5±0.9, 47.6°N±0.1×152.7°E±0.1, h128km, n44, σ0.87/38, mb4.0/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.35**	**28**	P	**Pn**	**00 55 14.7**	**+1.1**
	0.3nm,0.3s,baz=191,slow=15,SNR=1.8						
USRK	**Ussuriysk Ar.**	**14.83**	**264**	P	**Pn**	**00 57 06.3**	**+0.6**
	0.3nm,0.3s,baz=78,slow=13,SNR=2.7						
SEY	**Seymchan**	**15.35**	**359**	P	**P**	**00 57 14.8**	**+1.0**
	0.4nm,0.3s,baz=166,slow=9.8,SNR=7.6						
KSRS	**Korea Array**	**20.83**	**250**	P	**P**	**00 58 14.1**	**+0.3**
	2.8nm,0.7s,baz=59,slow=9.7,SNR=9.6						
H11N2	**WAKE ISLAND Hy 30.11**	**153**		T	T	01 31 28.8	
	baz=341,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy 30.13**	**153**		T	T	01 31 35.0	
	baz=341,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy 30.13**	**153**		T	T	01 31 25.8	
	baz=341,slow=76,SNR=11						
SONM	**Songino Array**	**30.81**	**288**	P	**P**	**00 59 45.1**	**-0.9**
	0.1nm,0.4s,baz=306,slow=50,SNR=2.5						
H11S1	**WAKE ISLAND Hy 31.20**	**154**		T	T	01 32 52.2	
	baz=342,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy 31.21**	**154**		T	T	01 32 54.8	
	baz=342,slow=76,SNR=50						
H11S2	**WAKE ISLAND Hy 31.22**	**154**		T	T	01 32 55.7	
	baz=342,slow=76,SNR=31						
ILAR	**Eielson Array**	**36.04**	**39**	P	**P**	**01 00 31.2**	**+0.2**
	0.4nm,0.6s,baz=265,slow=6.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**41.90**	**305**	P	**P**	**01 01 18.8**	**-1.0**
	2.0nm,0.5s,baz=64,slow=6.0,SNR=14						
ZALV				LR	LR	01 21 27.2	
	comp=Z,46nm,20.4s,baz=70,slow=40						
MKAR	**Makanchi Array**	**46.31**	**296**	P	**P**	**01 01 54.4**	**-0.8**
	1.1nm,0.7s,baz=68,slow=7.7,SNR=9.6						
YKA	**Yellowknife Ar**	**50.39**	**37**	P	**P**	**01 02 26.5**	**+0.4**
	0.2nm,0.5s,baz=299,slow=7.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**52.33**	**255**	P	**P**	**01 02 42.2**	**+1.1**
	0.9nm,0.6s,baz=32,slow=8.6,SNR=4.3						
JIRN	**Jiri**	**54.62**	**274**	*e*P	**P**	**01 02 58.8**	**+0.6**
	16nm,0.6s						
GUN	**Gumba**	**54.67**	**274**	*e*P	**P**	**01 02 58.9**	**+0.3**
	9.5nm,0.5s						
RAMN	**Ramite**	**54.80**	**273**	*e*P	**P**	**01 02 59.7**	**+0.3**
	25nm,0.6s						
KKN	**Kakani**	**55.15**	**274**	*e*P	**P**	**01 03 02.9**	**+1.0**
	8.4nm,0.5s						
DMN	**Daman**	**55.39**	**274**	*e*P	**P**	**01 03 04.4**	**+0.8**
	14nm,0.5s						
GKN	**Gorkha**	**55.45**	**275**	*e*P	**P**	**01 03 04.5**	**+0.6**
	16nm,0.6s						
DANN	**Dangsing**	**55.81**	**276**	*e*P	**P**	**01 03 07.5**	**+0.8**
	14nm,0.7s						
KOLN	**Koldanda**	**56.30**	**276**	*e*P	**P**	**01 03 10.6**	**+0.6**
	14nm,0.8s						
KEV	**Kevo**	**56.44**	**340**	*e*p	**P**	**01 03 08.4**	**-1.7**
	0.4nm,0.3s						
ARCES	**ARCESS Array B**	**56.95**	**340**	P	**P**	**01 03 12.1**	**-1.7**
	1.6nm,0.7s,baz=25,slow=7.2,SNR=9.9						
AKTO	**Aktyubinsk**	**57.95**	**311**	P	**P**	**01 03 20.4**	**-0.8**
	0.5nm,0.5s,baz=58,slow=12,SNR=3.4						
SUMG	**Summit**	**59.85**	**4**	*i* P	**P**	**01 03 34.4**	**+0.1**
	5.8nm,0.9s						
JOF	**Joensuu**	**60.44**	**333**	*e*p	**P**	**01 03 36.4**	**-1.6**
	1.2nm,0.5s						
NVAR	**Mina Array Bea**	**62.26**	**63**	P	**P**	**01 03 49.9**	**-1.0**
	0.3nm,0.7s,baz=330,slow=3.3,SNR=2.0						
KAF	**Kangasniemi**	**62.55**	**335**	*e*p	**P**	**01 03 50.6**	**-1.5**
	0.5nm,0.3s						
FINES	**FINESS Array B**	**63.14**	**334**	P	**P**	**01 03 55.2**	**-0.8**
	1.9nm,0.4s,baz=41,slow=6.8,SNR=44						
GEYT	**Alibeck**	**65.94**	**300**	P	**P**	**01 04 15.5**	**+0.8**
	0.8nm,0.4s,baz=251,slow=2.7,SNR=4.3						
NB2	**NORSAR Subarra**	**67.32**	**341**	P	**P**	**01 04 22.7**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**67.32**	**341**	P	**P**	**01 04 22.8**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=27,slow=6.4,SNR=16						
HFS	**Hagfors**	**67.55**	**339**	P	**P**	**01 04 24.0**	**-0.5**
	comp=Z,4.1nm,0.4s,baz=52,slow=5.8,SNR=38						
KBZ	**Khabaz**	**70.07**	**313**	P	**P**	**01 04 40.6**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=61,slow=3.1,SNR=12						
AKASG	**Malin Array Be**	**70.68**	**326**	P	**P**	**01 04 43.0**	**-1.0**
	comp=Z,1.6nm,0.3s,baz=36,slow=6.0,SNR=7.9						
ASAR	**Alice Springs**	**72.95**	**198**	P	**P**	**01 04 57.3**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=9.8,slow=5.7,SNR=7.8						
MLR	**Muntele Rosu**	**76.20**	**325**	P	**P**	**01 05 17.5**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=344,slow=2.9,SNR=5.1						
VRAC	**Vranov**	**76.26**	**332**	P	**P**	**01 05 17.3**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=145,slow=1.7,SNR=5.7						
GERES	**GERESS Array B**	**77.56**	**334**	P	**P**	**01 05 24.0**	**0.0**
	comp=Z,0.6nm,0.7s,baz=23,slow=7.2,SNR=6.5						
BRTR	**Keskin Array B**	**77.58**	**316**	P	**P**	**01 05 24.5**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=67,slow=5.5,SNR=3.7						
MMAI	**Mount Meron Ar**	**82.04**	**311**	P	**P**	**01 05 48.7**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=47,slow=7.3,SNR=6.1						

*ISCJB **02** 00:59:42.8±0.4, 39.15°N±0.01×29.06°E±0.02, h4km±4km, mb3.6/6, Error ellipse: s-maj=2.5km s-min=2.2km az=166.5*

*CSEM **02** 00:59:43.7±0.1, 39.14°N×29.07°E, h2km, ML3.6, Error ellipse: s-maj=2.0km s-min=1.8km az=31.0*

*ISK **02** 00:59:43.1, 39.14°N×29.10°E, h7km, ML4.3*

*THE **02** 00:59:43.8, 39.12°N×29.13°E, h0km, ML3.7/3, Error ellipse: s-maj=0.9km s-min=0.6km az=357.0*

*DDA **02** 00:59:43.1, 39.16°N×29.08°E, h4km, MD3.7, ML3.6*

*IDC **02** 00:59:46.9±2.4, 39.07°N×29.17°E, h31km±20km, mb3.3/6, mb1 3.5/13, mb1mx3.4/32, mbtmp3.5/13, ML3.4/7, MS2.2/1, Ms1 2.2/1, ms1mx2.0/27, Error ellipse: s-maj=16.9km s-min=13.5km az=22.0*

ISC 02 00:59:44.3±1.0, 39.15°N±0.02×29.10°E±0.02, h9km±7km, n296, σ0.95/320, mb3.6/6, 29C-18D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.30**	**101**	*i* P	**Pg**	**00 59 50.1**	**-0.3**
GDZ				*i* S	**Sg**	**00 59 54.8**	**+0.3**
GDZ	**Gediz**	**0.30**	**101**	*i* P	**Pg**	**00 59 50.1**	**-0.3**
GDZ				*i* S	**Sg**	**00 59 54.8**	**+0.3**
TVSB	**Tavsanli**	**0.41**	**43**	PG	**Pg**	**00 59 52.2**	**-0.3**
TVSB				*e*SG	**Sg**	**00 59 57.8**	**-0.1**
TVSB	**Tavsanli**	**0.41**	**43**	*i* Pg	**Pg**	**00 59 52.2**	**-0.3**
KULA	**Kula-Manisa**	**0.72**	**209**	P	**Pg**	**00 59 57.3**	**-0.9**
KULA				S	**Sg**	**01 00 06.4**	**-1.1**
KULA	**Kula-Manisa**	**0.72**	**209**	*e*PG	**Pg**	**00 59 57.0**	**-1.2**
KULA	**Kula-Manisa**	**0.72**	**209**	*e*Pg	**Pg**	**00 59 57.0**	**-1.2**
KULA	**Kula-Manisa**	**0.72**	**209**	P	**Pg**	**00 59 57.3**	**-0.9**
ALT	**Altintas**	**0.79**	**96**	P	**Pg**	**00 59 58.9**	**-0.7**
ALT				S	**Sb**	**01 00 11.1**	**-0.1**
ALT	**Altintas**	**0.79**	**96**	*e*PG	**Pg**	**00 59 58.8**	**-0.7**
ALT				*e*SG	**Sg**	**01 00 10.3**	**+0.3**
ALT	**Altintas**	**0.79**	**96**	P	**Pg**	**00 59 58.9**	**-0.7**
ALT				S	**Sb**	**01 00 11.1**	**-0.1**
KHL	**Karahalli**	**0.89**	**158**	*e*PG	**Pg**	**01 00 00.4**	**-1.0**
KHL				*e*SG	**Sg**	**01 00 12.2**	**-0.7**
KHL	**Karahalli**	**0.89**	**158**	*e*Pg	**Pg**	**01 00 00.4**	**-1.0**
ORLT	**Orhaneli**	**0.91**	**350**	*e*PG	**Pg**	**01 00 01.3**	**-0.6**
ORLT	**Orhaneli**	**0.91**	**350**	*e*Pg	**Pg**	**01 00 01.3**	**-0.6**
ULDT	**Uludag**	**0.99**	**2**	*i* P	**Pg**	**01 00 02.7**	**-0.8**
ULDT	**Uludag**	**0.99**	**2**	*i* P	**Pg**	**01 00 02.7**	**-0.8**
AKHS	**Akhisar**	**1.04**	**255**	*i* P	**Pg**	**01 00 03.4**	**-0.8**
AKHS				*i* S	**Sg**	**01 00 17.2**	**-0.5**
AKHS	**Akhisar**	**1.04**	**255**	*i* P	**Pg**	**01 00 03.4**	**-0.8**
AKHS				*i* S	**Sg**	**01 00 17.2**	**-0.5**
AKS	**Akhisar**	**1.04**	**255**	*e*PG	**Pg**	**01 00 03.2**	**-1.0**
AKS	**Akhisar**	**1.04**	**255**	*e*Pg	**Pg**	**01 00 03.2**	**-1.0**
BALB	**Balikesir**	**1.06**	**298**	*e*PG	**Pg**	**01 00 04.1**	**-0.7**
BALB	**Balikesir**	**1.06**	**298**	*e*Pg	**Pg**	**01 00 04.1**	**-0.7**
CAVI	**Cavuskoy**	**1.20**	**28**	*e*PN	**Pg**	**01 00 06.6**	**-0.8**
CAVI	**Cavuskoy**	**1.20**	**28**	*e*Pn	**Pg**	**01 00 06.6**	**-0.8**
IZI	**Iznik**	**1.22**	**14**	*e*PN	**Pg**	**01 00 07.4**	**-0.4**
IZI	**Iznik**	**1.22**	**14**	*e*Pn	**Pg**	**01 00 07.4**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.23**	**352**	*e*PN	**Pg**	**01 00 07.1**	**-0.9**
MDNY	**Mudanya-Bursa**	**1.23**	**352**	*e*Pn	**Pg**	**01 00 07.1**	**-0.9**
KCTX	**Karacabey (Bur**	**1.26**	**333**	*e*PN	**Pg**	**01 00 07.7**	**-0.7**
KCTX	**Karacabey (Bur**	**1.26**	**333**	*e*Pn	**Pg**	**01 00 07.7**	**-0.7**
BORA	**Eskisehir**	**1.28**	**55**	*i* P	**Pn**	**01 00 07.7**	**-0.7**
BORA				*i* S	**Sb**	**01 00 25.7**	**+0.5**
BORA	**Eskisehir**	**1.28**	**55**	*i* P	**Pn**	**01 00 07.7**	**-0.7**
BORA				*i* S	**Sb**	**01 00 25.7**	**+0.5**
SHUT	**Suhut-Afyon**	**1.28**	**117**	*e*PN	**Pn**	**01 00 08.3**	**-0.2**
SHUT	**Suhut-Afyon**	**1.28**	**117**	*e*Pn	**Pn**	**01 00 08.3**	**-0.2**
GEMT	**Gemlik**	**1.29**	**3**	*e*PN	**Pn**	**01 00 08.2**	**-0.3**
GEMT	**Gemlik**	**1.29**	**3**	*e*Pn	**Pn**	**01 00 08.2**	**-0.3**
GEMT	**Gemlik**	**1.29**	**3**	*e*PN	**Pn**	**01 00 08.2**	**-0.3**
ADVT	**Abdulvahap**	**1.38**	**21**	*e*PN	**Pn**	**01 00 10.1**	**+0.4**
ADVT	**Abdulvahap**	**1.38**	**21**	*e*Pn	**Pn**	**01 00 10.1**	**+0.4**
ARMT	**Armutlu**	**1.43**	**353**	*e*PN	**Pn**	**01 00 10.1**	**-0.4**
ARMT	**Armutlu**	**1.43**	**353**	*e*Pn	**Pn**	**01 00 10.1**	**-0.4**
GPA	**Golpazari**	**1.47**	**39**	*e*PN	**Pn**	**01 00 11.2**	**+0.1**
GPA	**Golpazari**	**1.47**	**39**	*e*Pn	**Pn**	**01 00 11.2**	**+0.1**
EDC	**Edincik**	**1.53**	**322**	*e*PN	**Pn**	**01 00 11.5**	**-0.3**
EDC	**Edincik**	**1.53**	**322**	*e*Pn	**Pn**	**01 00 11.5**	**-0.3**
GULT	**Gulveren**	**1.69**	**40**	*e*PN	**Pn**	**01 00 14.5**	**+0.4**
GULT	**Gulveren**	**1.69**	**40**	*e*Pn	**Pn**	**01 00 14.5**	**+0.4**
HRT	**Hereke**	**1.73**	**14**	*e*PN	**Pn**	**01 00 14.0**	**-0.6**
HRT	**Hereke**	**1.73**	**14**	*e*Pn	**Pn**	**01 00 14.0**	**-0.6**
ISP	**Isparta**	**1.73**	**139**	P	**Pn**	**01 00 13.0**	**-1.7**
ISP				S	**Sn**	**01 00 35.9**	**-1.0**
ISP	**Isparta**	**1.73**	**139**	*e*PN	**Pn**	**01 00 13.8**	**-0.9**
ISP	**Isparta**	**1.73**	**139**	‖ *i*P	**Pn**	**01 00 13.6**	**-1.1**
ISP	**Isparta**	**1.73**	**139**	S	**Sg**	**01 00 39.8**	**-0.2**
ISP	**Isparta**	**1.73**	**139**	P	**Pn**	**01 00 13.0**	**-1.7**
ISP	**Isparta**	**1.73**	**139**	*e*Pn	**Pn**	**01 00 13.8**	**-0.9**
BLCB	**Balcova**	**1.78**	**245**	*e*PN	**Pn**	**01 00 15.0**	**-0.2**
BLCB	**Balcova**	**1.78**	**245**	*e*Pn	**Pn**	**01 00 15.0**	**-0.2**
SPNC	**Sapanca-Adapaz**	**1.80**	**31**	*e*PN	**Pn**	**01 00 15.5**	**0.0**
SPNC	**Sapanca-Adapaz**	**1.80**	**31**	*e*Pn	**Pn**	**01 00 15.5**	**0.0**
MRMT	**Marmara Adasi**	**1.86**	**322**	*e*PN	**Pn**	**01 00 16.2**	**-0.2**
MRMT	**Marmara Adasi**	**1.86**	**322**	*e*Pn	**Pn**	**01 00 16.2**	**-0.2**
KRBG	**Karabiga-Canak**	**1.86**	**312**	*e*PN	**Pn**	**01 00 16.9**	**+0.5**
KRBG	**Karabiga-Canak**	**1.86**	**312**	*e*Pn	**Pn**	**01 00 16.9**	**+0.5**
AYVA	**Ayvalik**	**1.88**	**276**	*i* P	**Pn**	**01 00 15.8**	**-0.8**
AYVA				*i* S	**Sb**	**01 00 42.5**	**+0.2**
AYVA	**Ayvalik**	**1.88**	**276**	*i* P	**Pn**	**01 00 15.8**	**-0.8**
AYVA				*i* S	**Sb**	**01 00 42.5**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.91**	**80**	*e*PN	**Pn**	**01 00 16.3**	**-0.8**
SVRH	**Sivrihisar-ESK**	**1.91**	**80**	*e*Pn	**Pn**	**01 00 16.3**	**-0.8**
ISK	**Istanbul-Kandi**	**1.92**	**359**	P	**Pn**	**01 00 16.3**	**-0.8**
ISK				S	**Sb**	**01 00 42.9**	**-0.6**
ISK	**Istanbul-Kandi**	**1.92**	**359**	*e*PN	**Pn**	**01 00 16.4**	**-0.7**
ISK	**Istanbul-Kandi**	**1.92**	**359**	*e*Pn	**Pn**	**01 00 16.4**	**-0.7**
ISK				S	**Sb**	**01 00 42.9**	**-0.6**
GOLH	**Golhisar**	**1.94**	**169**	*i* P	**Pn**	**01 00 17.6**	**0.0**
GOLH	**Golhisar**	**1.94**	**169**	*i* P	**Pn**	**01 00 17.6**	**0.0**
GOLH				*i* S	**Sg**	**01 00 50.9**	**+4.2**
GLHS	**Glhisar (BURDU**	**2.01**	**171**	*e*PN	**Pn**	**01 00 17.6**	**-1.0**
GLHS	**Glhisar (BURDU**	**2.01**	**171**	*e*Pn	**Pn**	**01 00 17.6**	**-1.0**
BTAS	**Taskesti**	**2.04**	**45**	*i* P	**Pb**	**01 00 20.8**	**-0.8**
BTAS	**Taskesti**	**2.04**	**45**	*i* P	**Pb**	**01 00 20.8**	**-0.8**
BTAS				*i* S	**Sg**	**01 00 53.2**	**+3.3**
BGKT	**Bogazkoy**	**2.05**	**353**	*e*PN	**Pn**	**01 00 18.1**	**-0.8**
BGKT	**Bogazkoy**	**2.05**	**353**	*e*Pn	**Pn**	**01 00 18.1**	**-0.8**
SILT	**Sile**	**2.05**	**12**	*e*PN	**Pn**	**01 00 18.9**	**0.0**
SILT	**Sile**	**2.05**	**12**	*e*Pn	**Pn**	**01 00 18.9**	**0.0**
BCK	**Bucak**	**2.05**	**145**	*e*PN	**Pn**	**01 00 18.9**	**-0.1**
BCK	**Bucak**	**2.05**	**145**	*e*Pn	**Pn**	**01 00 18.9**	**-0.1**
MDUB	**Mudurnu**	**2.09**	**50**	*e*PN	**Pn**	**01 00 19.6**	**0.0**
MDUB	**Mudurnu**	**2.09**	**50**	*e*Pn	**Pn**	**01 00 19.6**	**0.0**
KLYT	**Kilyos**	**2.10**	**359**	*e*PN	**Pn**	**01 00 19.3**	**-0.4**
KLYT	**Kilyos**	**2.10**	**359**	*e*Pn	**Pn**	**01 00 19.3**	**-0.4**
YER	**Yerkesik**	**2.11**	**198**	*e*PN	**Pn**	**01 00 20.2**	**+0.4**
YER	**Yerkesik**	**2.11**	**198**	*e*Pn	**Pn**	**01 00 20.2**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.13**	**317**	*e*PN	**Pn**	**01 00 20.2**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.13**	**317**	*e*Pn	**Pn**	**01 00 20.2**	**0.0**
CTKS	**Kestanelik-??a**	**2.14**	**348**	*e*PN	**Pn**	**01 00 20.4**	**+0.2**
CTKS	**Kestanelik-??a**	**2.14**	**348**	*e*Pn	**Pn**	**01 00 20.4**	**+0.2**
HENT	**Hendek**	**2.17**	**39**	*i* P	**Pn**	**01 00 21.4**	**+0.7**
HENT	**Hendek**	**2.17**	**39**	*i* P	**Pn**	**01 00 21.4**	**+0.7**
KIZT	**Kizilcal**	**2.18**	**96**	*e*PN	**Pn**	**01 00 20.2**	**-0.7**
KIZT	**Kizilcal**	**2.18**	**96**	*e*Pn	**Pn**	**01 00 20.2**	**-0.7**
SLVT	**Silivri**	**2.19**	**342**	*e*PN	**Pn**	**01 00 20.9**	**0.0**
SLVT	**Silivri**	**2.19**	**342**	*e*Pn	**Pn**	**01 00 20.9**	**0.0**
PRK	**Paraskevi**	**2.20**	**273**	P	**Pn**	**01 00 20.7**	**-0.3**
PRK				S	**Sb**	**01 00 50.2**	**-1.4**
PRK	**Paraskevi**	**2.20**	**273**	P	**Pn**	**01 00 20.7**	**-0.3**
PRK				S	**Sb**	**01 00 50.2**	**-1.4**
CRLT	**Corlu**	**2.24**	**333**	*e*PN	**Pn**	**01 00 20.9**	**-0.7**
CRLT	**Corlu**	**2.24**	**333**	*e*Pn	**Pn**	**01 00 20.9**	**-0.7**
EZN	**Ezine**	**2.25**	**288**	*e*PN	**Pn**	**01 00 22.2**	**+0.5**
EZN	**Ezine**	**2.25**	**288**	*e*Pn	**Pn**	**01 00 22.2**	**+0.5**
SMG	**Samos**	**2.28**	**232**	P	**Pn**	**01 00 21.9**	**-0.3**
SMG				S	**Sn**	**01 00 51.4**	**+0.9**
SMG	**Samos**	**2.28**	**232**	*e*P	**Pb**	**01 00 25.5**	**-0.2**
SMG	**Samos**	**2.28**	**232**	P	**Pn**	**01 00 21.9**	**-0.3**
SMG				S	**Sn**	**01 00 51.4**	**+0.9**
DALY	**Dalyan (Mu¨la**	**2.35**	**189**	*e*PN	**Pn**	**01 00 23.5**	**+0.4**
DALY	**Dalyan (Mu¨la**	**2.35**	**189**	*e*Pn	**Pn**	**01 00 23.5**	**+0.4**
KORT	**Korkueli**	**2.36**	**155**	*i* P	**Pn**	**01 00 23.6**	**+0.2**
KORT	**Korkueli**	**2.36**	**155**	*i* P	**Pn**	**01 00 23.6**	**+0.2**
KORT				*i* S	**Sg**	**01 01 02.0**	**+1.9**
GELI	**Tayfur-Gelibol**	**2.38**	**303**	*e*PN	**Pn**	**01 00 24.2**	**+0.7**
GELI	**Tayfur-Gelibol**	**2.38**	**303**	*e*Pn	**Pn**	**01 00 24.2**	**+0.7**
CTYL	**Yal??k??y-??at**	**2.41**	**345**	*e*PN	**Pn**	**01 00 24.8**	**+1.0**
CTYL	**Yal??k??y-??at**	**2.41**	**345**	*e*Pn	**Pn**	**01 00 24.8**	**+1.0**
ELL	**Elmali**	**2.48**	**165**	*e*PN	**Pn**	**01 00 24.8**	**-0.2**
ELL	**Elmali**	**2.48**	**165**	*e*Pn	**Pn**	**01 00 24.8**	**-0.2**
CHOS	**Chios island**	**2.50**	**253**	P	**Pn**	**01 00 24.4**	**-0.8**
CHOS				S	**Sn**	**01 00 56.4**	**+0.6**
CHOS	**Chios island**	**2.50**	**253**	*e*P	**Pn**	**01 00 24.4**	**-0.8**
CHOS	**Chios island**	**2.50**	**253**	P	**Pn**	**01 00 24.4**	**-0.8**
CHOS				S	**Sn**	**01 00 56.4**	**+0.6**
BODT	**Bodrum**	**2.51**	**215**	*e*PN	**Pn**	**01 00 25.5**	**+0.1**
BODT	**Bodrum**	**2.51**	**215**	*e*Pn	**Pn**	**01 00 25.5**	**+0.1**
SIGR	**SIGRI**	**2.52**	**272**	P	**Pn**	**01 00 25.4**	**0.0**
SIGR	**SIGRI**	**2.52**	**272**	*e*P	**Pg**	**01 00 31.4**	**-1.2**
SIGR	**SIGRI**	**2.52**	**272**	P	**Pn**	**01 00 25.4**	**0.0**
ANTB	**Antalya**	**2.56**	**151**	*e*PN	**Pn**	**01 00 26.8**	**+0.9**
ANTB	**Antalya**	**2.56**	**151**	*e*Pn	**Pn**	**01 00 26.8**	**+0.9**
LADK	**Ladik-KONYA**	**2.73**	**109**	*e*PN	**Pn**	**01 00 28.8**	**+0.4**
LADK	**Ladik-KONYA**	**2.73**	**109**	*e*Pn	**Pn**	**01 00 28.8**	**+0.4**
PHSR	**Pinarhisar**	**2.76**	**335**	*e*PN	**Pn**	**01 00 29.4**	**+0.8**
PHSR	**Pinarhisar**	**2.76**	**335**	*e*Pn	**Pn**	**01 00 29.5**	**+0.8**
ENEZ	**Enez**	**2.77**	**306**	*e*PN	**Pn**	**01 00 29.4**	**+0.6**
ENEZ	**Enez**	**2.77**	**306**	*e*Pn	**Pn**	**01 00 29.4**	**+0.6**
KDZE	**Karadeniz Ereo**	**2.81**	**39**	*e*PN	**Pn**	**01 00 30.1**	**+0.6**
KDZE	**Karadeniz Ereo**	**2.81**	**39**	*e*Pn	**Pn**	**01 00 30.1**	**+0.6**
BCAM	**Yenicaga**	**2.82**	**53**	*i* P	**Pb**	**01 00 33.9**	**-1.1**
BCAM				*i* S	**Sg**	**01 01 12.9**	**-2.2**
KONT	**Konya--Tatoy**	**2.83**	**114**	*e*PN	**Pn**	**01 00 30.1**	**+0.5**
KONT	**Konya--Tatoy**	**2.83**	**114**	*e*Pn	**Pn**	**01 00 30.2**	**+0.5**
ALN	**Alexandroupoli**	**2.92**	**308**	P	**Pn**	**01 00 30.8**	**-0.2**
ALN	**Alexandroupoli**	**2.92**	**308**	*e*P	**Pn**	**01 00 30.8**	**-0.2**
ALN	**Alexandroupoli**	**2.92**	**308**	P	**Pn**	**01 00 30.8**	**-0.2**
LOD	**Lodumlu**	**2.93**	**74**	*e*PN	**Pn**	**01 00 31.4**	**+0.3**
LOD	**Lodumlu**	**2.93**	**74**	*e*Pn	**Pn**	**01 00 31.4**	**+0.3**
ANTO	**Ankara**	**2.95**	**75**	*e*PN	**Pn**	**01 00 31.6**	**+0.2**
ANTO	**Ankara**	**2.95**	**75**	‖ *i*P	**Pn**	**01 00 31.8**	**+0.4**
ANTO	**Ankara**	**2.95**	**75**	S	**Sg**	**01 01 21.2**	**+2.2**
ANTO	**Ankara**	**2.95**	**75**	‖ *i*P	**Pn**	**01 00 31.8**	**+0.4**
NIS1	**Nisyros Isl.**	**2.96**	**211**	*e*P	**Pb**	**01 00 38.8**	**+1.6**
ARG	**Arkhangelos**	**3.02**	**195**	P	**Pn**	**01 00 32.3**	**-0.1**
ARG	**Arkhangelos**	**3.02**	**195**	*e*P	**Pn**	**01 00 32.7**	**+0.3**
ARG	**Arkhangelos**	**3.02**	**195**	P	**Pn**	**01 00 32.3**	**-0.1**
SMTH	**Samothraki Isl**	**3.05**	**297**	P	**Pn**	**01 00 32.7**	**0.0**
SMTH	**Samothraki Isl**	**3.05**	**297**	*e*P	**Pb**	**01 00 40.4**	**+1.6**
SMTH	**Samothraki Isl**	**3.05**	**297**	P	**Pn**	**01 00 32.7**	**0.0**
AFSR	**Af´ar-Bala (A**	**3.10**	**83**	*e*PN	**Pn**	**01 00 34.1**	**+0.6**
AFSR	**Af´ar-Bala (A**	**3.10**	**83**	*e*Pn	**Pn**	**01 00 34.1**	**+0.6**
LIA	**Limnos Island**	**3.12**	**285**	*e*P	**Pn**	**01 00 34.1**	**+0.4**
EDRB	**Edirne**	**3.24**	**327**	P	**Pn**	**01 00 34.9**	**-0.4**
EDRB	**Edirne**	**3.24**	**327**	*e*PN	**Pn**	**01 00 35.5**	**+0.2**
EDRB	**Edirne**	**3.24**	**327**	P	**Pn**	**01 00 34.9**	**-0.4**
EDRB	**Edirne**	**3.24**	**327**	*e*Pn	**Pn**	**01 00 35.5**	**+0.2**
SAFT	**Safranbolu**	**3.45**	**52**	*e*PN	**Pn**	**01 00 39.3**	**+1.0**
SAFT	**Safranbolu**	**3.45**	**52**	*e*Pn	**Pn**	**01 00 39.3**	**+1.0**
APE	**Apeiranthos**	**3.50**	**235**	*e*PN	**Pn**	**01 00 40.0**	**+1.1**
APE	**Apeiranthos**	**3.50**	**235**	*e*P	**Pn**	**01 00 37.8**	**-1.1**
APE	**Apeiranthos**	**3.50**	**235**	‖ *i*P	**Pn**	**01 00 40.1**	**+1.1**
APE	**Apeiranthos**	**3.50**	**235**	S	**Sg**	**01 01 39.5**	**+2.9**
APE	**Apeiranthos**	**3.50**	**235**	*e*Pn	**Pn**	**01 00 40.0**	**+1.1**
BRTR	**Keskin Array B**	**3.56**	**79**	Pn	**Pn**	**01 00 40.2**	**+0.3**
	3.3nm,0.3s,baz=253,slow=14,SNR=103						
BRTR				Pg	**Pg**	**01 00 52.0**	**-0.6**
	3.9nm,0.3s,baz=258,slow=16,SNR=17						
BRTR				Lg	Lg	01 01 41.0	
	4.6nm,0.3s,baz=267,slow=21,SNR=8.5						
SULT	**Sultanhani-AKS**	**3.58**	**104**	*e*PN	**Pn**	**01 00 40.6**	**+0.5**
SULT	**Sultanhani-AKS**	**3.58**	**104**	*e*Pn	**Pn**	**01 00 40.6**	**+0.5**
KDZ	**Kurdzhali**	**3.76**	**313**	‖ *i*P	**Pn**	**01 00 43.2**	**+0.7**
KDZ	**Kurdzhali**	**3.76**	**313**	‖ *i*P	**Pn**	**01 00 43.2**	**+0.7**
CANT	**Cankiri**	**3.77**	**66**	*e*PN	**Pn**	**01 00 43.9**	**+1.2**
JMB	**Yambol**	**3.83**	**331**	P	**Pn**	**01 00 44.0**	**+0.6**
JMB	**Yambol**	**3.83**	**331**	‖ *i*P	**Pn**	**01 00 44.7**	**+1.3**
JMB	**Yambol**	**3.83**	**331**	P	**Pn**	**01 00 44.0**	**+0.6**
KARP	**Karpathos**	**3.91**	**204**	*e*P	**Pn**	**01 00 42.9**	**-1.7**
KAVA	**Kavala**	**3.97**	**299**	P	**Pn**	**01 00 45.5**	**+0.1**
KAVA	**Kavala**	**3.97**	**299**	*e*P	**Pn**	**01 00 45.4**	**+0.1**
KAVA	**Kavala**	**3.97**	**299**	P	**Pn**	**01 00 45.5**	**+0.1**
SANT	**Santorini**	**4.00**	**227**	*e*P	**Pn**	**01 00 44.6**	**-1.2**
OUR	**Ouranopolis**	**4.12**	**288**	*e*P	**Pn**	**01 00 46.2**	**-1.2**
PAIG	**Paliouri**	**4.26**	**282**	*e*P	**Pn**	**01 00 48.3**	**-1.1**
CORM	**Corum**	**4.39**	**75**	*e*PN	**Pn**	**01 00 53.1**	**+1.9**
CORM	**Corum**	**4.39**	**75**	*e*Pn	**Pn**	**01 00 53.2**	**+1.9**
PLD	**Plovdiv**	**4.46**	**313**	P	**Pn**	**01 00 52.4**	**+0.3**
PLD	**Pl

*IDC **02** 01:03:31.6±0.5, 37.°59S×73.°63W, h0km, mb4.6/15, mb1 4.7/19, mb1mx4.6/31, mbtmp4.6/19, ML4.3/4, MS4.0/4, Ms1 4.0/4, ms1mx3.6/27, Error ellipse: s-maj=19.6km s-min=11.8km az=79.0*
*ISCJB **02** 01:03:34.1±0.3, 37.°55S±0.°05×73.°50W±0.°08, h23km, mb4.8/48, MS4.0/2, Error ellipse: s-maj=9.6km s-min=6.4km az=152.8*
*NEIC **02** 01:03:37.3±2.5, 37.°57S×73.°50W, h36km±4km, mb4.9/38, Error ellipse: s-maj=14.0km s-min=8.3km az=215.0*
ISC 02 01:03:35.0±0.4, 37.°60S±0.°06×73.°54W±0.°08, h23km, n123, σ1§25/138, mb4.8/48, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.90**	**144**	Pn	**Pn**	**01 04 35.4**	**+1.9**
	4.3nm,0.3s,baz=321,slow=11,SNR=27						
PLCA				Lg	Lg	01 05 37.7	
	23nm,0.3s,baz=360,slow=1.5,SNR=2.6						
PLCA	**Paso Flores**	**3.90**	**144**	*e*Pn	**Pn**	**01 04 35.5**	**+1.9**
PLCA				*e*Sn	**Sn**	**01 05 15.7**	**-2.9**
CFAA	**Coronel Fontan**	**7.40**	**38**	Pn	**Pn**	**01 05 21.7**	**+0.1**
	1.5nm,0.3s,baz=212,slow=13,SNR=12						
CFAA				Sn	Sn	01 06 54.2	+9.3
	0.5nm,0.3s,baz=207,slow=17,SNR=2.2						
CFAA				Lg	Lg	01 07 31.5	
	0.3nm,0.3s,baz=142,slow=19,SNR=6.2						
CFAA				LR	LR	01 07 55.7	
	comp=Z,44nm,18.6s,baz=224,slow=36						
TRQA	**Tornquist**	**9.16**	**96**	*e*Pn	**Pn**	**01 05 48.9**	**+3.2**
LVC	**Limon Verde**	**15.46**	**16**	*e*Pn	**Pn**	**01 07 13.3**	**+1.5**
	12nm,0.8s						
USHA	**Ushuaia**	**17.59**	**170**	P	**P**	**01 07 40.0**	**+0.7**
	0.4nm,0.3s,baz=334,slow=7.4,SNR=12						
USHA				LR	LR	01 15 19.7	
	comp=Z,586nm,18.2s,baz=328,slow=40						
CPUP	**Villa Florida**	**17.73**	**55**	P	**P**	**01 07 41.3**	**+0.3**
	0.9nm,0.3s,baz=207,slow=12,SNR=6.7						
CPUP				LR	LR	01 14 55.1	
	comp=Z,374nm,18.8s,baz=220,slow=38						
CPUP	**Villa Florida**	**17.73**	**55**	*e*Pn	**Pn**	**01 07 39.8**	**-0.5**
LPAZ	**La Paz**	**21.76**	**14**	P	**P**	**01 08 27.1**	**+1.5**
	12nm,0.7s,baz=168,slow=7.9,SNR=26						
LPAZ	**La Paz**	**21.76**	**14**	*e*P	**P**	**01 08 27.0**	**+1.4**
	19nm,0.8s						
SIV	**San Ignacio**	**24.18**	**30**	P	**P**	**01 08 50.1**	**+0.5**
	13nm,0.8s,baz=210,slow=8.4,SNR=34						
NNA	**Nana**	**25.67**	**353**	P	**P**	**01 09 03.4**	**+0.2**
	2.6nm,0.3s,baz=205,slow=11,SNR=3.9						
SAML	**Samuel**	**30.02**	**21**	*e*P	**P**	**01 09 42.0**	**-0.1**
	19nm,1.5s						
ATAH	**Atahualpa**	**30.64**	**351**	P	**P**	**01 09 49.9**	**+1.9**
	4.4nm,0.6s,baz=117,slow=6.0,SNR=4.5						
BDFB	**Brasilia**	**31.42**	**53**	P	**P**	**01 09 53.9**	**-0.8**
	4.2nm,0.7s,baz=211,slow=9.8,SNR=6.2						
BDFB	**Brasilia**	**31.42**	**53**	*e*P	**P**	**01 09 53.0**	**-1.6**
OTAV	**Otavalo**	**37.92**	**352**	*e*P	**P**	**01 10 52.6**	**+1.5**
	22nm,1.5s						
SDV	**Santo Domingo**	**46.32**	**4**	*e*P	**P**	**01 11 58.9**	**-0.4**
	7.0nm,0.8s						
VNA3	**Neumayer Olymp**	**46.53**	**156**	P	**P**	**01 12 01.3**	**+1.2**
VNA2	**Neumayer--Watz**	**47.21**	**156**	P	**P**	**01 12 06.6**	**+1.2**
PCRV	**Puerto La Cruz**	**48.25**	**12**	LR	LR	01 32 00.4	
	comp=Z,132nm,20.7s,baz=171,slow=35						
SNAA	**Sanae**	**48.75**	**157**	P	**P**	**01 12 18.7**	**+1.2**
SNAA	**Sanae**	**48.75**	**157**	P	**P**	**01 12 18.4**	**+0.9**
	5.3nm,0.8s,baz=281,slow=5.8,SNR=14						
SNAA	**Sanae**	**48.75**	**157**	*e*P	**P**	**01 12 18.1**	**+0.6**
	30nm,1.1s						
QSPA	**South Pole Qui**	**52.65**	**180**	P	**P**	**01 12 48.2**	**+1.2**
	12nm,1.0s,baz=126,slow=3.7,SNR=18						
RKT	**Rikitea**	**54.07**	**267**	*e*LR	LR	01 28 24.3	
	401nm,32.8s						
RKT	**Rikitea**	**54.07**	**267**	*e*T	T	02 10 58.7	
	2.4nm,0.2s						
APG	**El Apazote**	**54.69**	**340**	LR	LR	01 30 42.6	
	comp=Z,174nm,19.4s,baz=183,slow=30						
TEIG	**Tepich**	**59.16**	**344**	P	**P**	**01 13 33.4**	**-0.5**
	17nm,0.8s,baz=223,slow=19,SNR=4.8						
TEIG	**Tepich**	**59.16**	**344**	*e*P	**P**	**01 13 32.3**	**-1.6**
	41nm,1.1s						
SYO	**Syowa Base**	**62.98**	**158⇑**	*e*P	**P**	**01 13 58.2**	**-1.1**
MEH	**Mehetia**	**67.22**	**265**	*e*T	T	02 27 24.7	
	26nm,0.3s						
TIAR	**Tiarei**	**68.41**	**264**	*e*T	T	02 28 53.8	
	4.6nm,0.3s						
PAE	**Paea**	**68.54**	**264**	*e*T	T	02 29 03.2	
	0.9nm,0.2s						
PPT2	**Papeete2**	**68.58**	**264**	*e*S	**S**	**01 23 37.3**	**-0.4**
	80nm,24.2s						
PPT2	**Papeete2**	**68.58**	**264**	*e*LR	LR	01 35 27.2	
	141nm,26.5s						
JCT	**Junction City**	**72.04**	**336**	*e*P	**P**	**01 14 56.9**	**-0.1**
	8.7nm,0.8s						
LTX	**Lajitas**	**72.32**	**333**	*e*P	**P**	**01 14 59.4**	**+0.6**
TXAR	**Lajitas Array**	**72.32**	**333**	P	**P**	**01 14 59.4**	**+0.6**
	3.0nm,0.9s,baz=148,slow=7.4,SNR=8.7						
TX31	**Lajitas Ar. Si**	**72.32**	**333**	*e*P	**P**	**01 14 58.1**	**-0.7**
WVT	**Waverly**	**74.54**	**348**	*e*P	**P**	**01 15 10.6**	**-0.9**
	8.6nm,1.0s						
AMTX	**Amarillo**	**76.71**	**337**	*e*P	**P**	**01 15 24.2**	**0.0**
	14nm,1.0s						
LIC	**Lamto**	**77.06**	**72**	*e*P	**P**	**01 15 27.2**	**+0.7**
	88nm,1.1s						
TIC	**Toumodi**	**77.34**	**71**	*e*P	**P**	**01 15 28.7**	**+0.6**
	34nm,0.9s						
KIC	**Kosan Boka**	**77.37**	**72**	*e*P	**P**	**01 15 29.2**	**+0.9**
	67nm,0.9s						
DBIC	**Dimbokro**	**77.48**	**71**	P	**P**	**01 15 29.9**	**+1.0**
	18nm,0.7s,baz=203,slow=5.0,SNR=36						
DBIC	**Dimbokro**	**77.48**	**71**	*e*P	**P**	**01 15 29.9**	**+1.0**
	20nm,0.8s						
ANMO	**Albuquerque**	**78.39**	**333**	*e*P	**P**	**01 15 33.0**	**-0.7**
	7.2nm,1.1s						
TSUM	**Tsumeb**	**79.40**	**106**	*e*P	**P**	**01 15 41.0**	**+1.3**
	19nm,1.7s						
BOSA	**Boshof**	**79.47**	**118**	P	**P**	**01 15 40.4**	**+0.5**
	6.6nm,0.8s,baz=234,slow=5.7,SNR=9.7						
SDCO	**Great Sand Dun**	**80.57**	**335**	*e*P	**P**	**01 15 45.2**	**-0.3**
	56nm,2.6s						
WUAZ	**Wupatki**	**80.77**	**330**	*e*P	**P**	**01 15 47.3**	**+0.7**
	81nm,2.9s						
EML	**El Monte Cty P**	**80.91**	**324**	*e*P	**P**	**01 15 49.3**	**+2.1**
MVCO	**Mesa Verde**	**81.15**	**332**	*e*P	**P**	**01 15 49.5**	**+0.8**
	15nm,1.4s						
LBTB	**Lobatse**	**81.89**	**115**	*e*P	**P**	**01 15 53.5**	**+0.6**
	13nm,0.8s						
SMCO	**Snowmass**	**82.36**	**334**	*e*P	**P**	**01 15 56.2**	**+1.0**
	9.8nm,1.2s						
PV10	**Paradox Valley**	**82.38**	**333**	*e*P	**P**	**01 15 55.4**	**+0.3**
KNB	**Kanab**	**82.65**	**329**	*e*P	**P**	**01 15 57.9**	**+1.4**
	7.1nm,1.0s						
CCAC	**Calif City Air**	**83.33**	**325**	*e*P	P	01 16 04.2	+4.3
CCUT	**Cedar City**	**83.33**	**329**	*e*P	**P**	**01 16 01.4**	**+1.3**
	31nm,2.0s						
ECSD	**EROS Data Cent**	**83.62**	**343**	*e*P	**P**	**01 16 00.5**	**-0.6**
	134nm,2.5s						
TMUT	**Trail Mountain**	**83.99**	**332**	*e*P	**P**	**01 16 04.0**	**+0.5**
	128nm,2.9s						
R11A	**Troy Canyon, C**	**84.93**	**328**	*e*P	**P**	**01 16 09.2**	**+1.1**
	4.2nm,1.0s						
K22A	**Casper**	**85.33**	**336**	*e*P	**P**	**01 16 10.5**	**+0.6**
	13nm,1.1s						
DUG	**Dugway, Tooele**	**85.39**	**331**	*e*P	**P**	**01 16 11.7**	**+1.3**
	12nm,1.4s						
TPH	**Tonopah**	**85.40**	**327**	*e*P	**P**	**01 16 11.3**	**+0.8**
	6.1nm,0.9s						
RSSD	**Black Hills**	**85.90**	**339**	*e*P	**P**	**01 16 11.8**	**-1.0**
	4.5nm,0.9s						
NV01	**Mina Array Sit**	**86.17**	**326**	*e*P	**P**	**01 16 14.7**	**+0.4**
NVAR	**Mina Array Bea**	**86.17**	**326**	P	**P**	**01 16 15.6**	**+1.3**
	1.6nm,0.8s,baz=151,slow=6.5,SNR=8.4						
SPUT	**South Promonto**	**86.21**	**332**	*e*P	**P**	**01 16 15.3**	**+0.9**
	9.7nm,1.2s						
BW06	**Boulder Array**	**86.44**	**334**	*e*P	**P**	**01 16 15.7**	**+0.1**
PD31	**Pinedale Array**	**86.44**	**334**	*e*P	**P**	**01 16 15.6**	**0.0**
PDAR	**Pinedale Array**	**86.44**	**334**	P	**P**	**01 16 15.6**	**0.0**
	4.1nm,1.1s,baz=158,slow=5.3,SNR=14						
TOA0	**Torodi Ar. Sit**	**86.56**	**71**	*e*P	**P**	**01 16 16.4**	**-0.1**
TOA0				*e*PKiKP	**PKiKP**	**01 21 21.5**	**-1.9**
TORD	**Torodi Ar. Bea**	**86.56**	**71**	P	**P**	**01 16 16.8**	**+0.2**
	3.4nm,0.6s,baz=216,slow=5.0,SNR=28						
TORD				PKiKP	**PKiKP**	**01 21 21.5**	**-1.9**
	0.7nm,0.8s,baz=279,slow=2.8,SNR=3.6						
HVU	**Hansel Valley**	**86.74**	**332**	*e*P	**P**	**01 16 16.6**	**-0.4**
	5.8nm,1.0s						
ELK	**Elko**	**86.81**	**330**	*e*P	**P**	**01 16 17.7**	**+0.2**
	5.3nm,1.0s						
REDW	**Red Top Meadow**	**87.42**	**334**	*e*P	**P**	**01 16 20.7**	**+0.4**
	41nm,2.0s						
TPAW	**Teton Pass**	**87.56**	**334**	*e*P	**P**	**01 16 21.5**	**+0.4**
	4.3nm,0.8s						
AGMN	**Agassiz Nation**	**87.80**	**345**	*e*P	**P**	**01 16 21.4**	**-0.3**
	18nm,1.3s						
IMW	**Indian Meadow**	**87.91**	**334**	*e*P	**P**	**01 16 23.0**	**+0.3**
	4.9nm,1.0s						
HLID	**Hailey**	**88.89**	**332**	*e*P	**P**	**01 16 28.1**	**+0.9**
	51nm,2.8s						
MCMT	**McKenzie Canyo**	**89.40**	**333**	*e*P	**P**	**01 16 30.6**	**+0.9**
ULM	**Lac du Bonnet**	**89.66**	**346**	P	**P**	**01 16 30.3**	**-0.2**
	4.5nm,1.0s,baz=128,slow=3.8,SNR=5.4						
ULM	**Lac du Bonnet**	**89.66**	**346**	*e*P	**P**	**01 16 30.0**	**-0.4**
	174nm,3.0s						
PIER	**Pier 30 Seattl**	**95.33**	**329**	*e*P	P	01 17 01.1	+4.4
GEC2	**GERESS Array S**	**115.52**	**47**	*e*PKPdf	**PKPdf**	**01 22 14.3**	**-0.3**
GERES	**GERESS Array B**	**115.52**	**47**	PKP	**PKPdf**	**01 22 14.3**	**-0.3**
	0.9nm,0.7s,baz=211,slow=1.6,SNR=9.6						
WRA	**Warramunga Arr**	**117.04**	**210**	PKP	**PKPdf**	**01 22 17.6**	**-0.8**
	0.5nm,0.9s,baz=158,slow=1.8,SNR=4.1						
BR231	**Keskin MP Arra**	**124.02**	**63**	*e*PKPdf	**PKPdf**	**01 22 32.0**	**+0.8**
BRTR	**Keskin Array B**	**124.58**	**64**	PKP	**PKPdf**	**01 22 32.6**	**+0.3**
	2.5nm,0.7s,baz=191,slow=3.2,SNR=20						
BR101	**Keskin Array S**	**124.58**	**64**	*e*PKPdf	**PKPdf**	**01 22 32.6**	**+0.3**
AKASG	**Malin Array Be**	**125.48**	**50**	PKP	**PKPdf**	**01 22 32.1**	**-1.4**
	0.9nm,0.6s,baz=258,slow=2.7,SNR=9.4						
AKBB	**Malin Array Si**	**125.48**	**50**	*e*PKPdf	**PKPdf**	**01 22 32.1**	**-1.4**
KBZ	**Khabaz**	**132.44**	**62**	PKP	**PKPdf**	**01 22 47.9**	**+0.9**
	1.4nm,0.9s,baz=169,slow=6.1,SNR=3.3						
GEYT	**Alibeck**	**142.12**	**74**	PKhKP	PKPpre	01 23 01.2	
	2.1nm,0.8s,baz=230,slow=6.9,SNR=7.4						
ABKAR	**Akbulak array**	**144.79**	**56**	*e*PKPdf	**PKPdf**	**01 23 09.1**	**-0.2**
KULM	**Kulim**	**147.41**	**169**	*e*PKPbc	**PKPbc**	**01 23 16.9**	**-0.5**
HYB	**Hyderabad**	**148.31**	**122**	*i* PKP	**PKPbc**	**01 23 18.5**	**-1.2**
EKS2	**Erkin-Say**	**154.60**	**68**	*e*PKPdf	**PKPdf**	**01 23 26.2**	**+1.0**
EKS2				*e*PKPab	**PKPab**	**01 23 48.8**	**+0.3**
TKM2	**Tokmak 2**	**155.93**	**68**	*e*PKPdf	**PKPdf**	**01 23 27.7**	**+0.5**
TKM2				*e*PKPab	**PKPab**	**01 23 54.5**	**+0.1**
KSH	**Kashi**	**156.13**	**76**	PKP	**PKPdf**	**01 23 27.2**	**-0.2**
KSH				sPKP		01 23 41.0	
KSH				PKS	**PKSdf**	**01 27 00.9**	**-0.6**
KSH				PP	**PP**	**01 27 31.8**	**-1.5**
KSH				SKS	**SKSdf**	**01 30 29.1**	**-3.2**
KSH				SKKS	**SKKSac**	**01 34 18.1**	**-2.9**
KSH				SS	**SS**	**01 47 17.6**	**-4.1**
KSH				PPMZ			
	110nm,5.3s						
KSH				LN			
	74nm,6.7s						
KSH				LE			
	43nm,4.8s						
KURK	**Kurchatov**	**156.27**	**48**	*e*PKPab	**PKPab**	**01 23 54.8**	**-0.4**
ZAA1	**Zalesovo Array**	**157.88**	**35**	*e*PKPdf	**PKPdf**	**01 23 28.4**	**-0.6**
ZAA1				*e*PKPab	**PKPab**	**01 24 02.7**	**+0.6**
ZAA0	**Zalesovo Array**	**157.88**	**35**	*e*PKPdf	**PKPdf**	**01 23 28.3**	**-0.7**
ZAA0				*e*PKPab	**PKPab**	**01 24 02.9**	**+0.9**
ZALV	**Zalesovo Beam**	**157.88**	**35**	PKP	**PKPdf**	**01 23 28.4**	**-0.6**
	4.7nm,1.1s,baz=318,slow=2.0,SNR=15						
ZALV				PKPab	**PKPab**	**01 24 02.7**	**+0.6**
	5.9nm,0.8s,baz=254,slow=2.9,SNR=5.9						
CM31	**Chiang Mai Arr**	**159.83**	**159**	*e*PKPdf	**PKPdf**	**01 23 33.0**	**+0.5**
CM31				*e*PKPab	**PKPab**	**01 24 11.3**	**0.0**
CMAR	**Chiang Mai Arr**	**159.83**	**159**	PKP	**PKPdf**	**01 23 33.0**	**+0.5**
	1.1nm,0.3s,baz=90,slow=3.1,SNR=6.4						
CMAR				PKPab	**PKPab**	**01 24 11.3**	**0.0**
	0.8nm,0.4s,baz=210,slow=4.2,SNR=5.4						
MK32	**Makanchi Array**	**159.94**	**55**	*e*PKPdf	**PKPdf**	**01 23 31.6**	**-0.1**
MK32				*e*PKPab	**PKPab**	**01 24 11.4**	**+0.1**
MKAR	**Makanchi Array**	**159.94**	**55**	PKP	**PKPdf**	**01 23 31.6**	**-0.1**
	1.8nm,1.0s,baz=300,slow=2.7,SNR=12						
MKAR				PKPab	**PKPab**	**01 24 11.4**	**+0.1**
	2.7nm,0.8s,baz=285,slow=4.1,SNR=14						
MKAR				PP	**PP**	**01 27 56.9**	**+3.3**
	0.6nm,0.8s,baz=316,slow=3.3,SNR=3.8						
MKAR	**Makanchi Array**	**159.94**	**55**	*e*PKPdf	**PKPdf**	**01 23 31.3**	**-0.4**
MKAR				*e*PKPab	**PKPab**	**01 24 11.3**	**0.0**
MK01	**Makanchi Array**	**159.95**	**55**	*e*PKPdf	**PKPdf**	**01 23 31.5**	**-0.3**
MK01				*e*PKPab	**PKPab**	**01 24 11.6**	**+0.2**
CN2	**Changchun**	**164.34**	**299**	*e*PKP	**PKPdf**	**01 23 36.8**	**+0.6**
LSA	**Lhasa**	**165.02**	**117**	*e*PKPdf	**PKPdf**	**01 23 38.6**	**+0.7**
LSA				*e*PKPab	**PKPab**	**01 24 34.8**	**+0.1**
KMI	**Kunming**	**167.17**	**165**	PKP	**PKPdf**	**01 23 37.3**	**-2.1**
SONA1	**Songino Array**	**169.75**	**0**	*e*PKPab	**PKPab**	**01 24 55.3**	**+0.8**
SONA0	**Songino Array**	**169.77**	**0**	*e*PKPab	**PKPab**	**01 24 54.2**	**-0.2**
SONM	**Songino Array**	**169.77**	**0**	PKPab	**PKPab**	**01 24 54.2**	**-0.2**
	0.9nm,0.8s,baz=347,slow=5.2,SNR=8.5						
BJI	**Beijing**	**172.03**	**291**	PKP	**PKPdf**	**01 23 37.7**	**-3.8**
CD2	**Chengdu**	**172.97**	**161**	*e*PKP	**PKPdf**	**01 23 42.3**	**0.0**
GTA	**Gaotai**	**174.48**	**69**	*e*PKP	**PKPdf**	**01 23 43.3**	**+0.6**
GTA				pPKP	**pPKPdf**	**01 23 53.9**	**+3.4**
GTA				sPKP		01 23 58.0	
HHC	**Hu-ho-hao-te**	**174.88**	**311**	*e*PKP	**PKPdf**	**01 23 41.8**	**-1.0**
HHC				pPKP	**pPKPdf**	**01 23 52.2**	**+1.6**
HHC				sPKP		01 23 55.9	
HHC				PP	**PP**	**01 29 12.8**	**+2.7**
HHC				SKKS		01 35 52.5	
HHC				SS	**SS**	**01 50 28.3**	**-3.4**
HHC				PPMZ			
	100nm,8.6s						
HHC				LN			
	270nm,16.0s						
HHC				LE			
	360nm,16.0s						
HHC				LZ			
	270nm,18.5s						
LZH	**Lanzhou**	**177.41**	**125**	*e*PKP	**PKPdf**	**01 23 42.6**	**-1.0**
LZH				pPKP	**pPKPdf**	**01 23 51.4**	**0.0**
LZH				sPKP		01 23 55.2	
LZH				PKPab	PKPab	01 25 29.8	+0.8

*KRSC **02** 01:07:28.0±2.4, 50.°73N×160.°33E, h99km±40km, ML3.8*
ISC 02 01:07:27.3±2.3, 50.°6N±0.°1×160.°54E±0.°07, h35km, n20, σ1§62/37, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.27**	**327**	P	**Pn**	**01 08 02.3**	**0.0**
RUS				S	**Sn**	**01 08 26.2**	**-2.8**
MTVR	**Mutnovka**	**2.43**	**324**	P	**Pn**	**01 08 05.0**	**+0.4**
MTVR				S	**Sn**	**01 08 30.6**	**-2.6**
ASAK	**Asacha**	**2.47**	**319**	P	**Pn**	**01 08 05.8**	**+0.7**
ASAK				S	**Sn**	**01 08 32.0**	**-2.0**
PAU	**Pauzhetka**	**2.53**	**293**	P	**Pn**	**01 08 06.3**	**+0.5**
PAU				S	**Sn**	**01 08 33.2**	**-2.2**
NLC	**Nalytchevo**	**2.72**	**345**	S	**Sn**	**01 08 39.1**	**-1.1**
PET	**Petropavlovsk**	**2.74**	**335**	P	**Pn**	**01 08 09.5**	**+0.8**
PET				S	**Sn**	**01 08 38.4**	**-2.1**
SKR	**Severo-Kuril's**	**2.82**	**274**	P	**Pn**	**01 08 11.3**	**+1.4**
SKR				S	**Sn**	**01 08 40.9**	**-1.7**
UGLR	**Uglovaya**	**2.86**	**339**	P	**Pn**	**01 08 11.9**	**+1.3**
UGLR				S	**Sn**	**01 08 44.3**	**+0.5**
SDLR	**Sedlovina**	**2.92**	**340**	P	**Pn**	**01 08 12.1**	**+0.8**
SDLR				S	**Sn**	**01 08 44.4**	**-0.7**
MIPR	**Malaya Ipel'ka**	**2.93**	**308**	P	**Pn**	**01 08 12.8**	**+1.4**
MIPR				S	**Sn**	**01 08 44.3**	**-1.0**
AVH	**Avacha**	**2.94**	**338**	P	**Pn**	**01 08 13.3**	**+1.8**
AVH				S	**Sn**	**01 08 46.3**	**+0.7**
KRER	**Koryakskii**	**2.97**	**339**	P	**Pn**	**01 08 13.6**	**+1.5**
KRER				S	**Sn**	**01 08 47.3**	**+0.7**
KOK	**Koryaka**	**2.99**	**337**	P	**Pn**	**01 08 13.1**	**+0.9**
KOK				S	**Sn**	**01 08 47.3**	**+0.5**
KRX	**Arik**	**3.04**	**338**	P	**Pn**	**01 08 14.2**	**+1.1**
KRX				S	**Sn**	**01 08 47.9**	**-0.4**
APC	**Apacha**	**3.17**	**320**	P	**Pn**	**01 08 16.4**	**+1.7**
APC				S	**Sn**	**01 08 51.7**	**+0.5**
GNL	**Ganaly**	**3.53**	**334**	P	**Pn**	**01 08 21.1**	**+1.4**
GNL				S	**Sn**	**01 08 59.3**	**-1.0**
MKZ	**Mys Kozlova**	**4.07**	**10**	P	**Pn**	**01 08 27.8**	**+0.8**
MKZ				S	**Sn**	**01 09 10.5**	**-2.9**
TUMR	**Tumrok**	**4.74**	**357**	P	**Pn**	**01 08 39.0**	**+2.6**
BKI	**Bering**	**5.70**	**33**	S	**Sn**	**01 09 50.6**	**-2.9**
KBTR	**Krutoberegovo**	**5.83**	**13**	P	**Pn**	**01 08 53.1**	**+2.0**
KBTR				S	**Sn**	**01 09 54.6**	**-2.0**

*IDC **02** 01:12:28.9±0.7, 36.°12S×73.°52W, h0km, mb4.2/12, mb1 4.3/16, mb1mx4.2/32, mbtmp4.2/16, ML4.3/4, MS4.3/9, Ms1 4.2/9, ms1mx3.9/24, Error ellipse: s-maj=20.3km s-min=13.4km az=91.0*
*ISCJB **02** 01:12:32.0±0.5, 36.°17S±0.°05×73.°46W±0.°10, h33km, mb4.3/14, MS4.2/7, Error ellipse: s-maj=11.6km s-min=7.1km az=12.7*
*NEIC **02** 01:12:34.0±0.5, 36.°14S×73.°47W, h35km, mb4.9/7, Error ellipse: s-maj=13.5km s-min=8.2km az=87.0*
ISC 02 01:12:33.8±0.6, 36.°07S±0.°07×73.°54W±0.°09, h35km, n41, σ1§28/32, mb4.2/14, MS4.2/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.21**	**154**	Pn	**Pn**	**01 13 48.9**	**-0.5**
	4.3nm,0.3s,baz=332,slow=11,SNR=20						
PLCA				Lg	Lg	01 15 10.6	
	4.0nm,0.3s,baz=25,slow=4.9,SNR=3.5						
PLCA	**Paso Flores**	**5.21**	**154**	*e*Pn	**Pn**	**01 13 48.9**	**-0.5**
	295nm,1.4s						
PLCA				Lg	Lg	01 15 10.6	
CFAA	**Coronel Fontan**	**6.26**	**46**	Pn	**Pn**	**01 14 02.9**	**-0.8**
	2.1nm,0.3s,baz=214,slow=5.6,SNR=36						
CFAA				Sn	**Sn**	**01 15 16.8**	**+2.6**
	4.3nm,0.3s,baz=275,slow=22,SNR=11						
CFAA				Lg	Lg	01 15 44.2	
	0.8nm,0.3s,baz=274,slow=16,SNR=3.1						
TRQA	**Tornquist**	**9.45**	**106**	*e*Pn	**Pn**	**01 14 48.5**	**+1.1**
LVC	**Limon Verde**	**14.00**	**18**	*e*Pn	P	01 15 53.7	-3.7
CPUP	**Villa Florida**	**16.91**	**59**	Pn	**Pn**	**01 16 27.3**	**-0.4**
	1.1nm,0.3s,baz=212,slow=9.7,SNR=6.1						
CPUP				LR	LR	01 23 36.1	
	comp=Z,1μm,18.4s,baz=222,slow=39						
CPUP	**Villa Florida**	**16.91**	**59**	*e*Pn	**Pn**	**01 16 25.4**	**-2.2**
USHA	**Ushuaia**	**19.09**	**171**	P	**P**	**01 16 52.4**	**-0.8**
	0.2nm,0.3s,baz=344,slow=9.3,SNR=2.3						
USHA				LR	LR	01 24 05.2	
	comp=Z,1μm,21.9s,baz=326,slow=37						
EFI	**East Falkland**	**19.11**	**150**	*e*P	**P**	**01 16 51.7**	**-1.7**
	103nm,1.3s						
LPAZ	**La Paz**	**20.28**	**15**	P	Pn	01 17 09.2	-0.2
	4.8nm,0.6s,baz=187,slow=8.0,SNR=14						
LPAZ	**La Paz**	**20.28**	**15**	*e*P	Pn	01 17 08.8	-0.6
	4.3nm,0.6s						
SIV	**San Ignacio**	**22.88**	**32**	P	**P**	**01 17 34.5**	**+0.2**
	3.6nm,0.4s,baz=235,slow=11,SNR=18						
SIV				S	**S**	**01 21 37.3**	**-4.5**
	1.0nm,0.5s,baz=229,slow=7.8,SNR=2.4						
SIV				LR	LR	01 28 28.3	
	comp=Z,1μm,18.4s,baz=223,slow=42						
NNA	**Nana**	**24.16**	**352**	LR	LR	01 25 05.4	
	comp=Z,296nm,19.3s,baz=176,slow=31						
SAML	**Samuel**	**28.60**	**22**	*e*P	**P**	**01 18 26.9**	**+0.1**
	1.2nm,0.6s						
ATAH	**Atahualpa**	**29.14**	**350**	LR	LR	01 28 26.8	
	comp=Z,196nm,18.9s,baz=178,slow=33						
PMSA	**Palmer Station**	**29.30**	**172**	LR	LR	01 30 30.2	
	comp=Z,578nm,19.0s,baz=320,slow=37						
BDFB	**Brasilia**	**30.52**	**55**	P	**P**	**01 18 44.7**	**+0.7**
	2.5nm,0.7s,baz=261,slow=7.5,SNR=3.3						
BDFB				LR	LR	01 32 15.3	
	comp=Z,622nm,21.5s,baz=223,slow=39						
SNAA	**Sanae**	**50.15**	**157**	P	**P**	**01 21 25.5**	**+0.1**
	5.3nm,1.1s,baz=245,slow=7.8,SNR=7.5						
SNAA	**Sanae**	**50.15**	**157**	*e*P	**P**	**01 21 25.3**	**0.0**
	42nm,1.5s						
RKT	**Rikitea**	**54.16**	**266**	*e*LR	LR	01 37 35.1	
	238nm,30.8s						
RKT	**Rikitea**	**54.16**	**266**	*e*T	T	02 19 58.5	
	1.5nm,0.2s						
QSPA	**South Pole Qui**	**54.17**	**180**	P	**P**	**01 21 54.8**	**-0.6**
	7.0nm,1.0s,baz=174,slow=3.9,SNR=8.1						
QSPA	**South Pole Qui**

TORD Torodi Ar. Bea 86.06 71 P **P 01 29 27.7 +1.4**
1.5nm,0.8s,baz=226,slow=4.1,SNR=6.7
ULM Lac du Bonnet 88.84 346 P **P 01 29 37.7 -1.1**
1.8nm,0.8s,baz=182,slow=11,SNR=3.5
BRTR Keskin Array B 123.98 63 PKP **PKPdf 01 35 44.0 +0.5**
0.7nm,0.8s,baz=79,slow=1.9,SNR=4.6
AKASG Malin Array Be 124.73 49 PKP **PKPdf 01 35 44.0 -0.3**
0.1nm,0.3s,baz=248,slow=2.0,SNR=4.1
ABKAR Akbulak array 144.10 55 *e*PKPdf PKPbc 01 36 19.7 +1.2
ZALV Zalesovo Beam 157.02 34 PKP **PKPdf 01 36 37.5 -2.6**
1.3nm,0.8s,baz=273,slow=2.7,SNR=5.2
ZALV PKPab **PKPab 01 37 12.3 +1.7**
2.2nm,0.8s,baz=299,slow=6.1,SNR=7.3
MKAR Makanchi Array 159.23 53 PKPab **PKPab 01 37 21.8 +1.3**
1.4nm,0.8s,baz=281,slow=4.2,SNR=10
SONM Songino Array 168.86 1 PKPab **PKPab 01 38 02.4 -0.3**
0.3nm,0.8s,baz=25,slow=3.8,SNR=3.4

CASC 02 01:36:20.1±2.4, 9°.93N×83°.81W, h1km±6km, MD3.9, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URSC	**Urasca**	**0.10**	**163**	*e*P	Pg	01 36 23.0	+0.6
URSC				*e*S	Sg	01 36 24.8	+0.9
SJS	**Escuela Geolog**	**0.24**	**272**	*e*P	Pg	01 36 25.6	+0.6
SJS				*e*S	Sg	01 36 28.4	+0.1
BUS	**Buena Vista**	**0.38**	**173**	⇓*i*P	Pb	01 36 29.7	-0.5
BUS				*e*S	Sb	01 36 36.2	-0.8
QCR	**Quepos**	**0.61**	**215**	⇑*i*P	Pb	01 36 33.7	+0.1
QCR				*e*S	Sb	01 36 43.2	+0.4
CGA2	**Cerro Gallo 2**	**0.65**	**277**	*e*P	Pg	01 36 33.3	+0.4
CGA2				⇓*i*P	Pb	01 36 33.4	-1.1
CGA2				*e*S	Sb	01 36 44.6	+0.4
AMAS	**Alto Masis**	**1.35**	**300**	*i*P	Pg	01 36 45.1	-1.0
ACR	**Cerro Adams**	**1.42**	**154**	⇓*i*P	Pn	01 36 46.7	-0.4
ACR				*e*S	Sg	01 37 05.1	-0.8
CUI	**Cuipilapa**	**1.52**	**299**	*i*P	Pn	01 36 48.5	0.0
CUI				*i*S	Sg	01 37 10.4	+1.4
HORNC	**Hornillas**	**1.56**	**300**	*i*P	Pn	01 36 48.5	-0.6
MESS	**Mesas**	**1.58**	**301**	*i*P	Pn	01 36 49.4	0.0
LIM1	**Limonal**	**1.61**	**298**	*i*P	Pn	01 36 49.5	-0.3
GPS1	**Guardaparques**	**1.73**	**299**	*i*P	Pb	01 36 52.3	-0.6
GB1A	**Borinquen Arrt**	**1.80**	**300**	*i*P	Pb	01 36 53.2	-0.7
LAPC	**Finca la Perla**	**1.80**	**298**	*i*P	Pn	01 36 53.2	+0.8
GBS3	**Finca Las Im¯¡**	**1.83**	**298**	*i*P	Pn	01 36 53.4	+0.7

ISCJB ***02*** *01:40:35.4±0.9, 34°.60S±0°.06×72°.6W±0°.2, h10km, mb3.8/5, MS3.8/1, Error ellipse: s-maj=25.6km s-min=8.3km az=2.3*
IDC ***02*** *01:40:35.2±1.1, 34°.56S×72°.52W, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.9/27, mbtmp3.9/8, ML4.2/2, MS3.8/1, Ms1 3.8/1, ms1mx3.3/20, Error ellipse: s-maj=31.6km s-min=16.1km az=107.0*
ISC 02 01:40:36.8±1.0, 34°.56S±0°.08×72°.7W±0°.2, h10km, n11, σ0§98/11, mb3.9/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.74**	**53**	Pn	**Pn**	**01 41 48.4**	**+0.1**
	0.4nm,0.3s,baz=228,slow=9.2,SNR=7.7						
CFAA				Lg	Lg	01 42 59.7	
	0.5nm,0.3s,baz=222,slow=1.7,SNR=5.6						
PLCA	**Paso Flores**	**6.39**	**165**	Pn	**Pn**	**01 42 10.5**	**-0.5**
	2.0nm,0.3s,baz=338,slow=11,SNR=17						
PLCA				Sn	**Sn**	**01 43 25.0**	**+1.0**
	3.8nm,0.3s,baz=53,slow=22,SNR=3.3						
LPAZ	**La Paz**	**18.64**	**14**	P	**Pn**	**01 44 56.6**	**+1.0**
	0.1nm,0.3s,baz=184,slow=7.2,SNR=11						
USHA	**Ushuaia**	**20.48**	**173**	P	**P**	**01 45 15.4**	**+0.9**
	5.5nm,0.9s,baz=68,slow=5.4,SNR=2.8						
SIV	**San Ignacio**	**21.22**	**32**	P	**P**	**01 45 23.1**	**+0.2**
	2.1nm,0.8s,baz=215,slow=8.5,SNR=4.5						
RPN	**Rapa Nui**	**32.21**	**273**	LR	LR	01 56 39.1	
	comp=Z,192nm,21.4s,baz=100,slow=30						
SNAA	**Sanae**	**51.26**	**158**	P	**P**	**01 49 40.1**	**-0.3**
	1.2nm,0.8s,baz=301,slow=10,SNR=5.1						
QSPA	**South Pole Qui**	**55.68**	**180**	P	**P**	**01 50 13.1**	**+0.2**
	0.8nm,0.6s,baz=162,slow=7.3,SNR=4.0						
NVAR	**Mina Array Bea**	**84.05**	**326**	P	**P**	**01 53 08.3**	**+0.6**
	0.6nm,0.7s,baz=124,slow=8.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**84.89**	**70**	P	**P**	**01 53 11.1**	**-1.0**
	0.6nm,0.7s,baz=250,slow=4.0,SNR=5.1						
WRA	**Warramunga Arr**	**120.02**	**210**	PKP	**PKPdf**	**01 59 26.5**	**-1.7**
	0.5nm,0.7s,baz=163,slow=1.5,SNR=4.9						

IDC ***02*** *01:47:37.4±0.7, 24°.55S×175°.72W, h0km, mb4.4/15, mb1 4.6/17, mb1mx4.4/36, mbtmp4.4/17, ML3.7/2, MS3.4/2, Ms1 3.4/2, ms1mx3.0/36, Error ellipse: s-maj=26.4km s-min=17.7km az=148.0*
ISCJB ***02*** *01:47:39.8±0.4, 24°.64S±0°.09×175°.73W±0°.08, h27km, mb4.5/28, MS3.2/1, Error ellipse: s-maj=14.0km s-min=9.6km az=152.7*
NEIC ***02*** *01:47:43.7±1.6, 24°.64S×175°.73W, h47km±14km, mb4.7/14, Error ellipse: s-maj=12.4km s-min=9.5km az=138.0*
ISC 02 01:47:40.6±0.6, 24°.77S±0°.09×175°.6W±0°.1, h27km, n42, σ1§35/40, mb4.6/27, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.15**	**319**	*e*Pn	**Pn**	**01 49 51.5**	**+0.5**
	39nm,0.8s						
URZ	**Urewera**	**14.79**	**203**	Pn	**Pn**	**01 51 10.4**	**+2.4**
	0.5nm,0.3s,baz=237,slow=5.5,SNR=3.3						
URZ				Sn	**Sn**	**01 53 48.8**	**-2.2**
	0.4nm,0.3s,baz=351,slow=20,SNR=3.2						
DZM	**Mont Dzumac**	**16.67**	**276**	*e*P	**P**	**01 51 38.5**	**+3.8**
	41nm,1.1s						
DZM				*e*LR	LR	01 55 44.4	
	253nm,25.2s						
DZM	**Mont Dzumac**	**16.67**	**276**	Pn	**P**	**01 51 33.5**	**-1.2**
	0.2nm,0.3s,baz=21,slow=11,SNR=3.3						
DZM				LR	LR	01 56 49.8	
	comp=Z,152nm,21.0s,baz=31,slow=33						
DZM	**Mont Dzumac**	**16.67**	**276**	*e*Pn	**P**	**01 51 33.8**	**-0.9**
	24nm,1.1s						
PPT	**Papeete**	**25.30**	**79**	LR	LR	02 02 27.9	
	comp=Z,77nm,18.4s,baz=191,slow=35						
CTA	**Charters Tower**	**35.46**	**270**	P	**P**	**01 54 34.8**	**-0.2**
	3.6nm,0.5s,baz=109,slow=11,SNR=4.2						
STKA	**Stephens Creek**	**38.12**	**249**	P	**P**	**01 54 57.3**	**-0.2**
	1.9nm,0.8s,baz=129,slow=23,SNR=2.4						
PMG	**Port Moresby**	**38.55**	**287**	*e*P	**P**	**01 54 59.9**	**-1.4**
	25nm,0.8s						
ASAR	**Alice Springs**	**45.82**	**260**	P	**P**	**01 56 00.8**	**+0.2**
	5.7nm,0.9s,baz=98,slow=7.7,SNR=29						
WRAB	**Tennant Creek**	**46.31**	**266**	*e*P	**P**	**01 56 03.2**	**-1.2**
	4.0nm,0.6s						
WRA	**Warramunga Arr**	**46.32**	**266**	P	**P**	**01 56 03.1**	**-1.4**
	5.0nm,0.6s,baz=103,slow=8.2,SNR=23						
QSPA	**South Pole Qui**	**65.32**	**180**	P	P	01 58 23.5	+3.4
	4.2nm,0.7s,baz=58,slow=1.9,SNR=10						
MJAR	**Matsushiro Arr**	**74.93**	**323**	P	**P**	**01 59 18.3**	**-0.9**
	2.1nm,0.7s,baz=153,slow=6.8,SNR=5.1						
ISA	**Isabella, Lake**	**80.82**	**44**	*e*P	**P**	**01 59 52.9**	**+0.9**
	3.5nm,1.1s						
CMB	**Columbia Colle**	**81.17**	**41**	*e*P	**P**	**01 59 54.2**	**+0.4**
	6.2nm,1.1s						
KSRS	**Korea Array**	**81.52**	**318**	P	**P**	**01 59 57.1**	**+1.5**
	0.8nm,0.5s,baz=165,slow=5.9,SNR=5.6						
KSAR	**Wonju Array Be**	**81.53**	**318**	P	**P**	**01 59 57.1**	**+1.4**
WAKR	**Walker**	**82.04**	**41**	*e*P	**P**	**01 59 59.2**	**+0.6**
	6.0nm,0.9s						
NVAR	**Mina Array Bea**	**82.68**	**42**	P	**P**	**02 00 02.5**	**+0.5**
	5.2nm,0.8s,baz=222,slow=9.0,SNR=29						
TPH	**Tonopah**	**83.11**	**43**	*e*P	**P**	**02 00 04.2**	**0.0**
	21nm,1.7s						
USRK	**Ussuriysk Ar.**	**83.71**	**325**	P	**P**	**02 00 08.8**	**+1.9**
	6.0nm,0.8s,baz=114,slow=2.7,SNR=15						
MOD	**Modoc Plateau**	**83.76**	**38**	*e*P	**P**	**02 00 07.5**	**+0.1**
	4.2nm,0.8s						
TXAR	**Lajitas Array**	**87.56**	**56**	P	**P**	**02 00 27.0**	**+0.5**
	1.8nm,1.1s,baz=240,slow=2.5,SNR=4.6						
GAMB	**Gambell**	**88.31**	**2**	*e*P	**P**	**02 00 29.2**	**+0.2**
	3.5nm,0.8s						
ANMO	**Albuquerque**	**88.40**	**50**	*e*P	**P**	**02 00 30.9**	**+0.4**
	3.8nm,1.1s						
TRF	**Thorofare Moun**	**90.18**	**11**	*e*P	**P**	**02 00 37.4**	**-0.7**
	7.5nm,1.0s						
TNA	**Tin City**	**90.24**	**3**	*e*P	**P**	**02 00 37.4**	**-0.7**
	3.1nm,0.8s						
PDAR	**Pinedale Array**	**90.60**	**42**	P	**P**	**02 00 40.6**	**-0.1**
	0.8nm,0.9s,baz=204,slow=3.3,SNR=6.2						
CHMT	**Chamberlain Mo**	**90.83**	**37**	*e*P	**P**	**02 00 41.6**	**0.0**
SEY	**Seymchan**	**91.02**	**346**	P	**P**	**02 00 41.0**	**-0.8**
	2.1nm,0.8s,baz=134,slow=6.4,SNR=6.9						
ILAR	**Eielson Array**	**92.00**	**12**	P	**P**	**02 00 45.6**	**-0.8**
	1.1nm,1.0s,baz=216,slow=6.9,SNR=5.7						
XAN	**Xi'an**	**92.44**	**306**	P	P	02 00 51.8	+2.6
XAN				pP	pP	02 00 56.8	-1.2
CMAR	**Chiang Mai Arr**	**93.57**	**289**	P	**P**	**02 00 56.5**	**+1.8**
	3.4nm,0.7s,baz=125,slow=3.4,SNR=18						
CHTO	**Chiang Mai**	**93.72**	**289**	*e*P	**P**	**02 00 56.6**	**+1.3**
	6.7nm,0.6s						
RSSD	**Black Hills**	**94.73**	**43**	*e*P	**P**	**02 00 58.9**	**-0.9**
	3.9nm,1.1s						
YKA	**Yellowknife Ar**	**99.48**	**24**	P	**Pdif**	**02 01 19.9**	**-0.5**
	0.3nm,0.8s,baz=233,slow=4.4,SNR=6.1						
NACGM	**Naroch**	**145.65**	**337**	*e*	**PKPdf**	**02 07 13.0**	**-3.1**
AKASG	**Malin Array Be**	**147.79**	**330**	PKPbc	**PKPbc**	**02 07 22.4**	**-0.3**
	2.4nm,0.6s,baz=41,slow=4.0,SNR=7.6						
KIS	**Kishinev**	**150.48**	**325**	*e*	**PKPdf**	**02 07 22.0**	**-2.3**
KIS				LRM	MLR	02 19 48.0	
	500nm,12.0s						
BRTR	**Keskin Array B**	**151.26**	**308**	PKPbc	**PKPbc**	**02 07 32.6**	**+0.7**
	2.9nm,0.9s,baz=95,slow=2.6,SNR=0.4						
CLL	**Collm**	**152.69**	**348**	*i* PKPbc	**PKPbc**	**02 07 34.9**	**+0.4**
	comp=Z,7.0nm,1.0s						

BJI ***02*** *01:55:34.8, 42°.61N×75°.49E, h10km, mB4.8/34, mb4.5/42, ML5.4/7, Ms5.0/44, Ms7 4.8/42*
LDG ***02*** *01:55:34.3±0.1, 42°.21N×75°.65E, h10km, Mb4.8/28, Ms4.2/9*
ISCJB ***02*** *01:55:35.7±0.3, 42°.42N±0°.01×75°.68E±0°.01, h9km±2km, mb4.7/149, MS4.5/43, Error ellipse: s-maj=2.4km s-min=1.8km az=174.9*
IDC ***02*** *01:55:35.6±0.4, 42°.39N×75°.65E, h0km, mb4.5/34, mb1 4.7/38, mb1mx4.6/46, mbtmp4.6/38, ML4.6/4, MS4.5/24, Ms1 4.5/24, ms1mx4.3/44, Error ellipse: s-maj=10.0km s-min=6.3km az=179.0*
KNET ***02*** *01:55:35.6±0.2, 42°.43N×75°.64E, h0km, ml5.1, Error ellipse: s-maj=3.1km s-min=1.1km az=25.0*
MOS ***02*** *01:55:36.7±0.9, 42°.44N×75°.69E, h17km, mb4.9/60, MS4.4/31, Error ellipse: s-maj=5.3km s-min=3.7km az=132.6*
MOS Felt (VI) at Cholpon, Akzhol; (V) at Kochkorka, Kara-Say, (IV-V) at Sary-Bulak, Zhumgal, Kyzart; (III-IV) at Tokmak, Kemin, Bishkek; (IV) at Kant; (III) at Karabalta; (II-III) at Almaty.
KRNET ***02*** *01:55:36.2±0.1, 42°.42N×75°.66E, h16km, mb5.8*
NNC ***02*** *01:55:37.0±0.6, 42°.52N×75°.56E, h9km±4km, mb5.3, mpv5.3, Error ellipse: s-maj=6.9km s-min=2.1km az=159.0*
GCMT ***02*** *01:55:39.5±0.2, 42°.54N×75°.74E, h26km±1km, MW5.1/83, Moment Tensor Solution. s34,c46; s83,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.11±.14; $M_{\theta\theta}$-1.65±.11; $M_{\phi\phi}$2.76±.11; $M_{r\theta}$3.35±.32; $M_{\theta\phi}$-2.27±.09; $M_{\phi r}$-1.75±.22; Best double couple: $M_0$5.00700×10^{16} NP1:ϕ299.00000°, δ82.00000°, λ-128.00000°. NP2: ϕ199.00000°, δ38.00000°, λ-13.00000°. Principal axes: T 5.2360, Plg27.0000°, Azm58.0000°; N -0.4590, Plg37.0000°, Azm305.0000°; P -4.7770, Plg41.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *01:55:39.5±2.6, 42°.47N×75°.63E, h21km±4km, mb5.1/51 Error ellipse: s-maj=10.3km s-min=8.8km az=181.0*
NEIC Felt [II] at Bishkek. Also felt at Tokmak. Felt [II] at Almaty, Kazakhstan.
SZGRF ***02*** *01:56:31.7, 45°.95N×68°.69E, h33km, mb4.5, Central Kazakhstan*
ISC 02 01:55:38.3±0.3, 42°.44N±0°.02×75°.61E±0°.02, h15km±1km, h14km:pP-P, n644, σ1§56/741, mb4.8/150, MS4.6/43, 67C-46D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOOM	**Boomskoye usch**	**0.25**	**77**	*i*P	**Pg**	**01 55 42.0**	**-1.9**
	baz=74						
BOOM				*e*S	**Sg**	**01 55 45.8**	**-1.9**
	baz=74						
KZA	**Kyzart**	**0.45**	**217**	P	**Pg**	**01 55 45.6**	**-1.9**
	18μm,0.3s						
KZA	**Kyzart**	**0.45**	**217**	*i*PG	**Pg**	**01 55 45.5**	**-1.9**
KZA	**Kyzart**	**0.45**	**217**	⇑*i*P	**Pg**	**01 55 45.6**	**-1.9**
	baz=221						
KZA				⇑*i*S	**Sg**	**01 55 52.1**	**-1.5**
	baz=221						
TKM2	**Tokmak 2**	**0.48**	**359**	⇓P	**Pg**	**01 55 46.2**	**-1.9**
TKM2				⇑S	**Sg**	**01 55 53.0**	**-1.7**
TKM2	**Tokmak 2**	**0.48**	**359**	⇑P	**Pg**	**01 55 45.8**	**-2.2**
	9μm,0.2s						
TKM2				⇑S	**Sg**	**01 55 53.0**	**-1.7**
	88μm,0.2s						
TKM2	**Tokmak 2**	**0.48**	**359**	*e*PG	**Pg**	**01 55 46.7**	**-1.4**
TKM2				*e*		01 55 53.0	
TKM2	**Tokmak 2**	**0.48**	**359**	⇓*i*P	**Pg**	**01 55 46.1**	**-1.9**
	baz=355						
TKM2				⇓*i*S	**Sg**	**01 55 52.9**	**-1.7**
	baz=355						
TKM2	**Tokmak 2**	**0.48**	**359**	*e*Pg	**Pg**	**01 55 46.7**	**-1.4**
TKM2				*e*Sg	**Sg**	**01 55 53.0**	**-1.7**
ULHL	**Ulahol**	**0.51**	**112**	P	Pg	01 55 45.4	-3.0
	6μm,0.1s,SNR=1481						
ULHL				⇑S	**Sg**	**01 55 52.1**	**-3.1**
	47μm,0.2s						
ULHL	**Ulahol**	**0.51**	**112**	*i*PG	Pg	01 55 44.7	-3.7
ULHL	**Ulahol**	**0.51**	**112**	⇓*i*P	Pg	01 55 45.5	-3.0
	baz=112						
ULHL				⇓*i*S	**Sg**	**01 55 52.1**	**-3.1**
	baz=112						
KBK	**Karagaybulak**	**0.54**	**294**	P	**Pg**	**01 55 47.6**	**-1.4**
	6μm,0.1s						
KBK				⇑S	**Sg**	**01 55 55.6**	**-0.6**
	155μm,0.3s						
KBK	**Karagaybulak**	**0.54**	**294**	*i*PG	**Pg**	**01 55 47.5**	**-1.5**
KBK	**Karagaybulak**	**0.54**	**294**	⇓*i*P	**Pg**	**01 55 47.7**	**-1.4**
	baz=294						
KBK				⇓*i*S	**Sg**	**01 55 55.0**	**-1.2**
	baz=294						
FRU	**Bishkek**	**0.83**	**299**	⇓*i*PG	**Pb**	**01 55 53.5**	**-1.1**
FRU				*e*S	**Sb**	**01 56 05.8**	**+0.2**
FRU				pmax	pmax		
	comp=Z,10μm,0.7s						
FRU				smax	smax		
	comp=N,55μm,1.1s						
FRU	**Bishkek**	**0.83**	**299**	⇓*i*P	**Pb**	**01 55 53.5**	**-1.1**
	baz=298						
FRU				⇓*e*S	**Sb**	**01 56 05.8**	**+0.2**
	baz=298						
UCH	**Uchtor**	**0.84**	**256**	P	**Pb**	**01 55 52.4**	**-2.5**
	comp=N,6μm,0.3s,SNR=6537						
UCH				⇓S	**Sb**	**01 56 04.5**	**-1.7**
	comp=N,12μm,0.2s						
UCH	**Uchtor**	**0.84**	**256**	*i*PG	**Pb**	**01 55 52.4**	**-2.5**
UCH	**Uchtor**	**0.84**	**256**	⇑*i*P	**Pb**	**01 55 52.4**	**-2.5**
	baz=257						
UCH				⇑*i*S	**Sb**	**01 56 04.1**	**-2.1**
	baz=257						
CHMS	**Chumysh**	**0.85**	**312**	P	**Pb**	**01 55 52.6**	**-2.2**
	comp=N,3μm,0.3s,SNR=1971						
CHMS				⇑S	**Sb**	**01 56 04.6**	**-1.4**
	comp=N,12μm,0.2s						
CHMS	**Chumysh**	**0.85**	**312**	*i*PG	**Pb**	**01 55 52.6**	**-2.2**
CHMS	**Chumysh**	**0.85**	**312**	⇓*i*P	**Pb**	**01 55 52.7**	**-2.2**
	baz=311						
CHMS				⇓*i*S	**Sb**	**01 56 04.3**	**-1.7**
	baz=311						
AAK	**Ala-Archa**	**0.85**	**284**	⇑P	**Pb**	**01 55 52.8**	**-2.1**
	comp=N,8μm,0.8s						
AAK				⇑S	**Sb**	**01 56 04.4**	**-1.8**
	comp=N,69μm,0.6s						
AAK	**Ala-Archa**	**0.85**	**284**	P	**Pb**	**01 55 52.9**	**-2.0**
	comp=N,7μm,0.2s,SNR=8642						
AAK				⇓S	**Sb**	**01 56 04.4**	**-1.8**
	comp=N,50μm,0.3s						
AAK	**Ala-Archa**	**0.85**	**284**	*e*PG	**Pb**	**01 55 52.9**	**-2.0**
AAK				*e*		01 56 04.8	
AAK	**Ala-Archa**	**0.85**	**284**	Pb	**Pb**	**01 55 53.0**	**-2.0**
AAK	**Ala-Archa**	**0.85**	**284**	Pg	**Pb**	**01 55 52.8**	**-2.0**
	comp=N,3μm,0.3s,baz=114,slow=8.2,SNR=7406						
AAK				Lg	Lg	01 56 05.4	
	comp=N,9μm,0.3s,baz=267,slow=20,SNR=101						
AAK	**Ala-Archa**	**0.85**	**284**	⇑*i*P	**Pb**	**01 55 52.9**	**-2.0**
	baz=284						
AAK				⇑*i*S	**Sb**	**01 56 04.6**	**-1.6**
	baz=284						
AAK	**Ala-Archa**	**0.85**	**284**	*e*Pg	**Pb**	**01 55 52.9**	**-2.0**
AAK				*e*Sg	**Sb**	**01 56 04.8**	**-1.3**
NRN	**Naryn**	**1.04**	**164**	⇓*i*P	**Pb**	**01 55 56.3**	**-2.0**
	baz=166						
NRN				⇓*e*S	**Sb**	**01 56 10.6**	**-1.3**
	baz=166						
ARLS	**Aral**	**1.12**	**239**	*i*P	**Pn**	**01 55 57.1**	**-2.5**
	baz=241						
ARLS				*e*S	**Sb**	**01 56 12.3**	**-1.6**
	baz=241						
USP	**Ospenovka**	**1.17**	**316**	P	**Pn**	**01 55 58.2**	**-2.0**
	comp=N,5μm,0.3s,SNR=2735						
USP				⇑S	**Sb**	**01 56 14.8**	**-0.4**
	comp=N,9μm,0.2s						
USP	**Ospenovka**	**1.17**	**316**	*i*PG	**Pn**	**01 55 58.1**	**-2.0**
USP	**Ospenovka**	**1.17**	**316**	⇓*i*P	**Pn**	**01 55 58.2**	**-2.0**
	baz=315						
USP				⇓*i*S	**Sb**	**01 56 14.6**	**-0.6**
	baz=315						
KNDC	**Almaty**	**1.27**	**51**	⇓P	**Pn**	**01 56 00.1**	**-1.5**
KNDC				⇑S	**Sb**	**01 56 17.0**	**-1.1**
AAA	**Alma-Ata**	**1.29**	**49**	*e*PG	**Pn**	**01 55 59.6**	**-2.3**
AAA				*e*S	**Sb**	**01 56 16.1**	**-2.7**
AAA				pmax	pmax		
	comp=Z,27μm,0.5s						
AAA				smax	smax		
	comp=E,39μm,0.8s						
EKS	**Erkin-Say**	**1.37**	**280**	*i*P	**Pn**	**01 56 02.7**	**-0.3**
	baz=281						
EKS				*e*S	**Sn**	**01 56 21.2**	**+0.3**
	baz=281						
EKS2	**Erkin-Say**	**1.37**	**280**	⇑P	**Pn**	**01 56 02.5**	**-0.6**
	comp=E,5μm,0.3s						
EKS2	**Erkin-Say**	**1.37**	**280**	*e*PG	**Pn**	**01 56 02.8**	**-0.3**
EKS2				*e*		01 56 20.0	
EKS2	**Erkin-Say**	**1.37**	**280**	⇑*i*P	**Pn**	**01 56 02.6**	**-0.5**
	baz=280						
EKS2				⇑*i*S	**Sn**	**01 56 21.1**	**0.0**
	baz=280						
EKS2	**Erkin-Say**	**1.37**	**280**	*e*Pn	**Pn**	**01 56 02.8**	**-0.3**
EKS2				*e*Sn	**Sn**	**01 56 19.9**	**-1.2**
AML	**Almayashu**	**1.45**	**259**	P	**Pn**	**01 56 03.7**	**-0.8**
	comp=E,4μm,0.3s,SNR=4112						
AML	**Almayashu**	**1.45**	**259**	*i*PG	**Pn**	**01 56 03.7**	**-0.8**
AML	**Almayashu**	**1.45**	**259**	⇑*i*P	**Pn**	**01 56 03.8**	**-0.7**
	baz=259						
AML				⇑*i*S	**Sn**	**01 56 23.5**	**0.0**
	baz=259						
ARK	**Arkit**	**2.79**	**258**	*i*P	**Pn**	**01 56 25.2**	**+2.7**
	baz=258						
ARK				*e*S	**Sb**	**01 57 00.2**	**-1.7**
	baz=258						
OHH	**Osh**	**2.85**	**229**	*i*P	**Pn**	**01 56 26.2**	**+2.7**
	baz=230						
OHH				*e*S	**Sb**	**01 57 02.3**	**-1.5**
	baz=230						
SFK	**Sufi-Kurgan**	**2.90**	**214**	*i*P	**Pn**	**01 56 24.0**	**-0.1**
	baz=215						
SFK				*e*S	**Sn**	**01 56 57.0**	**-1.8**
	baz=215						
KSH	**Kashi**	**2.93**	**174**	Pn	**Pb**	**01 56 32.2**	**+1.9**
KSH				Sn	**Sg**	**01 57 17.2**	**+4.7**
KSH				SMN			
	comp=E,17μm,0.9s						
KSH				SME			
	comp=E,18μm,0.7s						
TRKS	**Terek-Say**	**3.45**	**256**	*i*P	**Pn**	**01 56 33.4**	**+1.7**
	baz=255						
KK31	**Karatay Array**	**3.81**	**282**	⇑Pn	**Pn**	**01 56 37.7**	**+1.2**
	comp=E,22nm,0.5s,baz=93,slow=13						
KK31				⇑Pg	**Pb**	**01 56 47.0**	**+1.7**
	comp=E,3μm,0.7s						
KK31				⇑Lg	Lg	01 57 35.1	
	comp=E,3μm,0.5s,baz=101,slow=29,SNR=16						
KK31	**Karatay Array**	**3.81**	**282**	*e*PN	**Pn**	**01 56 37.7**	**+1.2**
KK31						01 56 47.0	
KK31				*e*		01 57 35.0	
KK31				pmax	pmax		
	comp=Z,23nm,0.3s						
KK31				pmax	pmax		
	comp=Z,963nm,0.3s						
KK31				pmax	pmax		
	comp=N,4μm,0.5s						
KKAR	**Karatay Array**	**3.81**	**282**	*e*PN	**Pn**	**01 56 38.3**	**+1.7**
KKAR				*e*		01 56 48.7	
KKAR	**Karatay Array**	**3.81**	**282**	*e*Pn	**Pn**	**01 56 38.3**	**+1.7**
KKAR				*e*Pg	**Pg**	**01 56 48.7**	**-2.6**
MK01	**Makanchi Array**	**6.45**	**45**	*e*Pn	**Pn**	**01 57 14.2**	**+1.5**
MK01				*e*Sn	**Sn**	**01 58 27.8**	**+1.8**
MK31	**Makanchi Array**	**6.46**	**45**	⇑Pn	**Pn**	**01 57 14.0**	**+1.1**
	comp=N,670nm,0.5s,baz=222,slow=11						
MK31				⇓Sn	**Sn**	**01 58 26.8**	**+0.5**
	comp=N,169nm,0.5s,baz=225,slow=24,SNR=5.9						
MK31				⇑Lg	Lg	01 58 55.6	
	comp=N,228nm,0.6s,baz=235,slow=28,SNR=6.4						
MK31	**Makanchi Array**	**6.46**	**45**	*e*PN	**Pn**	**01 57 13.7**	**+0.8**
MK31						01 58 26.4	
MK31						01 58 55.0	
MK31				pmax	pmax		
	comp=Z,401nm,0.3s						
MK31				smax	smax		
	comp=N,173nm,0.4s						
MK31				pmax	pmax		
	comp=N,523nm,0.6s						
MK32	**Makanchi

VOSK	**Vostochnaya**	**10.76 345**	*e*P	**Pn**	**01 58 10.5**	**-1.2**
VOSK	**Vostochnaya**	**10.76 345**	*e*Pn	**Pn**	**01 58 10.5**	**-1.2**
SDNR	**Sundarnagar**	**10.97 174**	*e*P	**Pn**	**01 58 14.0**	**-0.8**
SDNR			*e*x	x	02 00 14.5	
BHK	**Bhakra**	**11.02 176**	*e*P	**Pn**	**01 58 16.6**	**+1.2**
BHK			*e*x	x	02 00 27.4	
BVA0	**Borovoye Array**	**11.16 343**	Pn	**Pn**	**01 58 15.3**	**-2.0**
	comp=N,19nm,0.7s,baz=148,slow=13,SNR=177					
BVA0			⇑Sn	**Sn**	**02 00 22.8**	**+1.1**
	comp=N,61nm,0.6s,baz=130,slow=25,SNR=4.1					
BVA0			⇑Lg	Lg	02 01 27.6	
	comp=N,759nm,0.8s,baz=140,slow=28,SNR=5.3					
BVA0	**Borovoye Array**	**11.16 343**	*i* P	**Pn**	**01 58 15.2**	**-2.0**
BVA0			pmax	pmax		
	comp=Z,19nm,0.7s					
BVAR	**Borovoye Array**	**11.16 343**	Pn	**Pn**	**01 58 15.3**	**-2.0**
	comp=Z,8.6nm,0.3s,baz=144,slow=13,SNR=76					
BVAR			Lg	Lg	02 01 29.2	
	comp=Z,59nm,0.3s,baz=152,slow=26,SNR=6.2					
BVAR			LR	LR	02 02 51.2	
	comp=Z,4μm,20.1s,baz=164,slow=39					
BRVK	**Borovoye**	**11.21 343**	Pn	**Pn**	**01 58 16.4**	**-1.6**
	comp=Z,289nm,0.6s,SNR=30					
BRVK	**Borovoye**	**11.21 343**	⇑Pn	**Pn**	**01 58 16.3**	**-1.6**
	comp=Z,45nm,0.7s					
BRVK			⇓Sn	**Sn**	**02 00 21.7**	**-1.3**
	comp=Z,300nm,0.9s					
BRVK			⇑Lg	Lg	02 01 26.7	
	comp=Z,2μm,0.9s					
BRVK	**Borovoye**	**11.21 343**	*c*eP	**Pn**	**01 58 16.3**	**-1.6**
BRVK			pmax	pmax		
	comp=Z,21nm,0.9s					
BRVK	**Borovoye**	**11.21 343**	Pn	**Pn**	**01 58 16.7**	**-1.3**
	SNR=12					
BRVK	**Borovoye**	**11.21 343**	*e*Pn	**Pn**	**01 58 16.4**	**-1.6**
BRVK			*e*Sn	Sn	02 00 15.3	-7.6
SMLA	**Simla**	**11.35 173**	*i* P	**Pn**	**01 58 19.7**	**-0.3**
AB31	**Akbulak array**	**12.86 307**	⇑Pn	**Pn**	**01 58 38.2**	**-2.3**
	comp=Z,20nm,0.6s					
AB31			⇑Sn	**Sn**	**02 00 59.4**	**-4.0**
	comp=Z,32nm,0.7s					
AB31			⇑Lg	Lg	02 02 21.1	
	comp=Z,78nm,0.7s					
AB31	**Akbulak array**	**12.86 307**	P	**Pn**	**01 58 38.2**	**-2.3**
AB31					02 00 57.6	
AB31			pmax	pmax		
	comp=Z,48nm,0.8s					
AB31			smax	smax		
	comp=N,51nm,0.7s					
ABKAR	**Akbulak array**	**12.86 307**	*e*Pn	**Pn**	**01 58 38.8**	**-1.8**
ABKAR			*e*Sn	Sn	02 00 51.0	-12
ZAA0	**Zalesovo Array**	**13.04 25**	*e*Pn	**Pn**	**01 58 41.5**	**-1.4**
ZAA0			*e*Sn	Sn	02 00 52.1	-16
ZALV	**Zalesovo Beam**	**13.04 25**	P	**Pn**	**01 58 41.6**	**-1.3**
ZALV					02 01 07.9	
ZALV			pmax	pmax		
	comp=Z,8.0nm,0.3s					
ZALV			smax	smax		
	comp=N,8.0nm,0.3s					
ZALV			MLR	MLR		
	comp=Z,3μm,19.8s					
ZALV	**Zalesovo Beam**	**13.04 25**	Pn	**Pn**	**01 58 41.6**	**-1.3**
	comp=Z,8.0nm,0.3s,baz=214,slow=12,SNR=96					
ZALV			Sn	**Sn**	**02 01 07.9**	**+0.3**
	comp=Z,7.6nm,0.3s,baz=225,slow=23,SNR=5.7					
ZALV			Lg	Lg	02 02 32.2	
	comp=Z,2.4nm,0.3s,baz=222,slow=22,SNR=3.1					
ZALV			LR	LR	02 04 02.0	
	comp=Z,3μm,19.8s,baz=223,slow=39					
ZAA1	**Zalesovo Array**	**13.04 25**	*e*Pn	**Pn**	**01 58 41.6**	**-1.4**
ZAA1			*e*Sn	**Sn**	**02 01 07.9**	**+0.2**
ZAA1			*e*PcP	PcP	02 04 02.0	-13
NVS	**Novosibirsk**	**13.39 19**	*e*P	**Pn**	**01 58 45.5**	**-2.1**
IMYA	**Miami**	**13.44 248**	*e*P	**Pn**	**01 58 45.8**	**-2.9**
LGTI	**Lohaghat**	**13.49 162**	*e*P	**Pn**	**01 58 47.1**	**-2.0**
NDI	**New Delhi**	**13.78 174**	*e*P	**Pn**	**01 58 50.5**	**-2.7**
ISRO	**Mashad**	**13.90 249**	*e*P	**Pn**	**01 58 51.9**	**-2.9**
IMOG	**Moghan**	**14.09 249**	*e*P	Pn	01 58 54.5	-3.2
ABKT	**Ailbek**	**14.11 257**	Pn	**Pn**	**01 58 55.4**	**-2.2**
	comp=Z,316nm,0.5s,SNR=16					
GEYT	**Alibeck**	**14.11 257**	Pn	**Pn**	**01 58 55.4**	**-2.3**
	comp=Z,1.7nm,0.3s,baz=79,slow=9.2,SNR=44					
GEYT			LR	LR	02 05 01.1	
	comp=Z,2μm,21.7s,baz=75,slow=40					
IPAY	**Payeh**	**14.15 251**	*e*P	**Pn**	**01 58 55.8**	**-2.7**
IAKL	**Akhelmad**	**14.25 251**	*e*P	**Pn**	**01 58 57.4**	**-2.4**
AKTO	**Aktyubinsk**	**14.51 309**	⇑Pn	**Pn**	**01 59 00.5**	**-2.5**
	comp=Z,27nm,0.7s					
AKTO			⇑Sn	**Sn**	**02 01 41.0**	**-2.5**
	comp=Z,25nm,0.6s					
AKTO			⇓Lg	Lg	02 03 16.3	
	comp=Z,112nm,0.8s					
AKTO	**Aktyubinsk**	**14.51 309**	P	**Pn**	**01 59 00.7**	**-2.3**
AKTO			pmax	pmax		
	comp=Z,3.0nm,0.3s					
AKTO			MLR	MLR		
	comp=Z,2μm,19.1s					
AKTO	**Aktyubinsk**	**14.51 309**	Pn	**Pn**	**01 59 00.7**	**-2.3**
	comp=Z,3.3nm,0.3s,baz=112,slow=11,SNR=56					
AKTO			LR	LR	02 04 52.0	
	comp=Z,2μm,19.1s,baz=124,slow=38					
ISFR	**Sfrayin**	**14.57 254**	*e*P	Pn	01 59 00.9	-3.3
ISHV	**Shirvan**	**14.57 256**	*e*P	Pn	01 59 00.9	-3.2
HVS	**Khovu-Aksy**	**15.11 49**	*c i*P	**Pn**	**01 59 10.5**	**-0.7**
HVS			pmax	pmax		
	comp=Z,1μm,2.1s					
PYUN	**Piuthan**	**15.51 155**	*e*P	**Pn**	**01 59 12.5**	**-4.2**
	comp=Z,55nm,0.5s					
DANN	**Dangsing**	**15.53 152**	*e*P	**Pn**	**01 59 13.4**	**-3.7**
	comp=Z,93nm,0.6s					
IDAH	**Dahanechah**	**15.77 237**	*e*P	Pn	01 59 14.7	-5.5
AJM	**Ajmer**	**15.94 183**	*e*P9	Pn	01 59 16.8	-5.3
AJM			AMb	AMB	01 59 21.5	
	comp=Z,93nm,1.7s					
AJM			*e*S	Sn	02 02 09.1	-9.5
AJM			AML	AML	02 04 27.2	
	comp=E,12nm,0.3s					
AJM			AML	AML	02 04 30.2	
	comp=N,6.9nm,0.5s					
KOLN	**Koldanda**	**16.01 153**	*e*P	**Pn**	**01 59 19.4**	**-3.8**
	comp=N,282nm,1.3s					
GKN	**Gorkha**	**16.16 150**	*e*P	**Pn**	**01 59 21.5**	**-3.6**
	comp=N,47nm,0.5s					
ITEG	**Tejag**	**16.37 240**	*e*P	**Pn**	**01 59 28.8**	**+1.0**
KKN	**Kakani**	**16.60 149**	*e*P	**Pn**	**01 59 27.1**	**-3.6**
	comp=N,47nm,0.5s					
DMN	**Daman**	**16.69 149**	*e*P	**Pn**	**01 59 28.4**	**-3.6**
GUN	**Gumba**	**16.73 147**	*e*P	**Pn**	**01 59 28.7**	**-3.8**
	comp=N,98nm,0.9s					
PKIN	**Phulchoki**	**16.83 149**	*e*P	**Pn**	**01 59 30.2**	**-3.5**
	comp=N,48nm,0.6s					
PKI	**Pulchoki**	**16.84 149**	*e*P	**Pn**	**01 59 30.2**	**-3.7**
	comp=N,57nm,0.6s					
JIRN	**Jiri**	**17.08 146**	*e*P	**Pn**	**01 59 33.6**	**-3.3**
	comp=N,84nm,0.6s					
SVE	**Sverdlovsk**	**17.30 331**	⇑*i*P	**Pn**	**01 59 36.3**	**-2.9**
SVE			*e*S	**Sn**	**02 02 54.5**	**+3.2**
SVE			pmax	pmax		
	comp=Z,60nm,1.5s					
SVE			MLR	MLR		
	comp=Z,2μm,10.0s					
ARU	**Arti**	**17.79 328**	Pn	**Pn**	**01 59 42.9**	**-2.3**
	comp=Z,352nm,0.6s,SNR=20					
ARU	**Arti**	**17.79 328**	*c i*P	**Pn**	**01 59 42.8**	**-2.4**
ARU			S	**Sn**	**02 03 01.6**	**-1.4**
ARU			pmax	pmax		
	comp=Z,42nm,0.7s					
ARU	**Arti**	**17.79 328**	*e*Pn	**Pn**	**01 59 42.4**	**-2.8**
	comp=Z,40nm,0.6s					
IGLO	**Ghaloghah**	**17.81 258**	*e*P	**P**	**01 59 48.2**	**+1.6**
LSA	**Lhasa**	**17.83 130**	P	**P**	**01 59 47.2**	**+0.1**
LSA	**Lhasa**	**17.83 130**	*e*P	**P**	**01 59 47.6**	**+0.5**
LSA			pmax	pmax		
	comp=Z,13nm,1.0s					
LSA	**Lhasa**	**17.83 130**	*e*P	**P**	**01 59 47.6**	**+0.5**
	comp=Z,13nm,1.0s					
RAMN	**Ramite**	**17.87 146**	*e*P	**Pn**	**01 59 42.8**	**-3.9**
	comp=Z,332nm,1.3s					
TAPN	**Taplejung**	**18.00 143**	*e*P	**Pn**	**01 59 45.4**	**-2.9**
	comp=Z,217nm,1.6s					
IANJ	**Anjilo**	**18.23 255**	*e*P	**Pn**	**01 59 49.5**	**-1.5**
ODAN	**Odare**	**18.28 144**	*e*P	**Pn**	**01 59 48.5**	**-3.2**
	comp=Z,48nm,0.7s					
GTA	**Gaotai**	**18.52 91**	*e*P	**Pn**	**01 59 53.9**	**-0.6**
GTA			pP	**pP**	**01 59 58.0**	**-0.5**
GTA			sP	**sP**	**02 00 01.0**	**+0.6**
GTA			S	**S**	**02 03 25.5**	**+0.3**
GTA			sS	**sS**	**02 03 32.2**	**+0.3**
GTA			PMZ			
	comp=Z,11nm,1.1s					
GTA			PMZ			
	comp=Z,320nm,4.5s					
GTA			LN			
	comp=Z,2μm,11.6s					
GTA			LE			
	comp=Z,3μm,12.6s					
GTA			LZ			
	comp=Z,4μm,11.9s					
ILAS	**Lasjerd**	**18.95 256**	*e*P	**Pn**	**02 00 00.9**	**+1.1**
IFIR	**Firoozkooh**	**18.98 257**	*e*P	**Pn**	**02 00 00.7**	**+0.6**
IPRN	**Peran**	**19.01 259**	*e*P	**Pn**	**02 00 00.4**	**0.0**
IBAF	**Bafgh**	**19.27 242**	*e*P	**Pn**	**02 00 04.1**	**+0.4**
MOY	**Mondy**	**19.52 53**	*e*P	**Pn**	**02 00 06.8**	**+0.4**
MOY			pmax	pmax		
	comp=Z,117nm,3.9s					
IDMV	**Damavand**	**19.53 257**	*e*P	**P**	**02 00 05.8**	**+0.3**
ICHK	**Chekchek**	**19.64 246**	*e*P	**P**	**02 00 07.0**	**+0.3**
IVRN	**Varamin**	**20.02 256**	*e*P	**P**	**02 00 10.6**	**0.0**
IMHD	**Mahdasht**	**20.47 259**	*e*P	Pn	02 00 16.7	-1.0
IGZV	**Ghazvin**	**20.49 261**	*e*P	Pn	02 00 17.9	-0.3
ZAK	**Zakamensk**	**20.58 58**	*e*P	**P**	**02 00 16.6**	**0.0**
ZAK			pmax	pmax		
	comp=Z,45nm,1.4s					
MAK	**Makhachkala**	**20.63 281**	*e*P	**P**	**02 00 16.3**	**-0.8**
MAK			*e*		02 00 34.9	
MAK			*e*S	**S**	**02 04 08.2**	**+1.1**
MAK			*e*SSS	SSS	02 04 42.4	
MAK			pmax	pmax		
	comp=Z,102nm,6.2s					
MAK			MLR	MLR		
	comp=Z,2μm,11.0s					
IZEF	**Zefreh**	**20.69 250**	*e*P	Pn	02 00 19.4	-1.2
SOKR	**Solikamsk**	**20.73 332**	*d i*P	Pn	02 00 19.5	-0.9
SOKR			pmax	pmax		
	comp=Z,30nm,1.4s					
SOKR			MLR	MLR		
	comp=Z,2μm,17.0s					
IKLH	**Kolahrood**	**20.98 252**	*e*P	**P**	**02 00 22.4**	**+1.1**
TLY	**Talaya**	**21.11 54**	Pn	**P**	**02 00 23.7**	**+1.5**
	comp=Z,152nm,0.8s,SNR=7.8					
TLY	**Talaya**	**21.11 54**	*c i*P	**P**	**02 00 20.8**	**-1.4**
TLY			*e*S	Sn	02 04 26.1	+2.9
TLY			pmax	pmax		
	comp=Z,26nm,1.0s					
TLY			MLR	MLR		
	comp=Z,2μm,12.0s					
TLY	**Talaya**	**21.11 54**	P	**P**	**02 00 23.3**	**+1.1**
	SNR=13					
TLY	**Talaya**	**21.11 54**	P	**P**	**02 00 23.4**	**+1.2**
	comp=Z,13nm,0.7s,baz=236,slow=7.5,SNR=15					
TLY			LR	LR	02 09 21.6	
	comp=Z,480nm,19.4s,baz=258,slow=39					
TLY	**Talaya**	**21.11 54**	*e*P	**P**	**02 00 22.8**	**+0.5**
	comp=Z,19nm,0.8s					
NGP	**Nagpur**	**21.42 171**	*e*P	**P**	**02 00 26.9**	**+1.1**
NGP			*e*x	x	02 00 28.9	
	comp=Z,124nm,1.4s					
NGP			*e*x	x	02 04 26.9	
SHL	**Shillong**	**21.50 136**	*e*P	**P**	**02 00 26.0**	**-0.8**
SHL			*e*x	x	02 04 19.0	
IRK	**Irkutsk**	**21.63 53**	*e*P	**P**	**02 00 27.7**	**-0.1**
IRK			pmax	pmax		
	comp=Z,89nm,1.8s					
IPIR	**Pirpir**	**21.81 252**	*e*P	**P**	**02 00 30.7**	**+0.4**
SONA0	**Songino Array**	**22.29 65**	*e*P	**P**	**02 00 35.4**	**+0.3**
SONM	**Songino Array**	**22.29 65**	P	**P**	**02 00 35.4**	**+0.3**
SONM			pmax	pmax		
	comp=Z,3.0nm,0.7s					
SONM			MLR	MLR		
	comp=Z,3μm,18.6s					
SONM	**Songino Array**	**22.29 65**	P	**P**	**02 00 35.4**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=268,slow=9.9,SNR=23					
SONM			LR	LR	02 09 46.8	
	comp=Z,3μm,18.6s,baz=269,slow=38					
SONA1	**Songino Array**	**22.30 65**	*e*P	**P**	**02 00 34.8**	**-0.4**
ISRV	**Sarvestan**	**22.32 242**	*e*P	**P**	**02 00 35.1**	**-0.7**
DGRG	**David-gareji**	**22.46 278**	P	P	02 00 44.2	+7.3
DGRG			S	Sn	02 04 52.7	-3.1
LZH	**Lanzhou**	**22.70 97**	*e*P	**P**	**02 00 40.5**	**+0.9**
LZH			pP	**pP**	**02 00 43.4**	**-0.4**
LZH			sP	**sP**	**02 00 45.7**	**-0.1**
LZH			S	**S**	**02 04 43.3**	**-4.3**
LZH			SS	**SnSn**	**02 05 21.4**	**+4.0**
LZH			PMZ			
	comp=Z,33nm,1.1s					
LZH			PMZ			
	comp=Z,100nm,4.2s					
LZH			LN			
	comp=Z,3μm,11.2s					
LZH			LE			
	comp=Z,3μm,12.5s					
LZH			LZ			
	comp=Z,4μm,14.0s					
ULN	**Ulaanbaatar**	**22.73 65**	⇓*i*P	**P**	**02 00 39.8**	**0.0**
ULN			pmax	pmax		
	comp=Z,35nm,1.7s					
ULN			MLR	MLR		
	comp=Z,2μm,19.0s					
ULN	**Ulaanbaatar**	**22.73 65**	P	**P**	**02 00 40.2**	**+0.4**
	SNR=20					
ULN	**Ulaanbaatar**	**22.73 65**	*e*P	**P**	**02 00 38.9**	**-0.9**
	comp=Z,47nm,1.1s					
DUS	**Dusheti**	**22.82 280**	P	P	02 00 46.3	+5.6
TBLG	**Delisi**	**22.87 279**	P	P	02 00 47.1	+6.0
TBLG			S	Sn	02 04 58.7	-6.8
IAZR	**Azarshahr**	**23.11 268**	*e*P	**P**	**02 00 45.2**	**+1.2**
GNI	**Garni**	**23.25 275**	*e*P	**P**	**02 00 46.4**	**+1.2**
GNI	**Garni**	**23.25 275**	*d i*P	**P**	**02 00 47.3**	**+2.1**
GNI			pmax	pmax		
	comp=Z,72nm,1.7s					
GNI			MLR	MLR		
	comp=Z,437nm,16.0s					
GNI	**Garni**	**23.25 275**	P	**P**	**02 00 47.7**	**+2.5**
	SNR=48					
GNI	**Garni**	**23.25 275**	P	**P**	**02 00 46.9**	**+1.7**
	comp=Z,17nm,0.7s,baz=9.6,slow=2.4,SNR=23					
GNI	**Garni**	**23.25 275**	*e*P	**P**	**02 00 47.3**	**+2.1**
	comp=Z,236nm,1.2s					
ZEI	**Tsey**	**23.27 282**	*e*P	**P**	**02 00 46.3**	**+0.8**
ZEI			pmax	pmax		
	comp=Z,14nm,0.8s					
NCK	**Nalchik**	**23.38 284**	*i* P	**P**	**02 00 46.8**	**+0.4**
GOF	**Gofitskoye**	**23.59 288**	*e*P	**P**	**02 00 49.7**	**+1.3**
GOF			*e*S	Sn	02 05 58.6	+36
GOF			pmax	pmax		
	comp=Z,70nm,0.8s					
GOF			smax	smax		
	comp=E,70nm,1.1s					
ONI	**Oni**	**23.63 281**	P	P	02 00 55.2	+6.2
ONI			S	Sn	02 05 14.5	-9.4
KBZ	**Khabaz**	**23.85 284**	P	**P**	**02 00 51.6**	**+0.7**
KBZ			pmax	pmax		
	comp=Z,6.0nm,0.8s					
KBZ			MLR	MLR		
	comp=Z,461nm,18.1s					
KBZ	**Khabaz**	**23.85 284**	P	**P**	**02 00 51.5**	**+0.7**
	comp=Z,6.0nm,0.8s,baz=87,slow=7.0,SNR=20					
KBZ			LR	LR	02 11 10.8	
	comp=Z,461nm,18.1s,baz=79,slow=39					
POO	**Poona**	**23.88 184**	⇑*i*P	**P**	**02 00 52.0**	**+0.6**
	comp=Z,107nm,1.5s					
KIV	**Kislovodsk**	**23.97 285**	P	**P**	**02 00 53.1**	**+1.0**
	comp=Z,266nm,0.9s,SNR=6.5					
KIV	**Kislovodsk**	**23.97 285**	*e*P	**P**	**02 00 52.5**	**+0.4**
KIV			*e*S	**S**	**02 05 08.6**	**+0.3**
KIV			pmax	pmax		
	comp=Z,41nm,1.0s					
KIV			MLR	MLR		
	comp=Z,303nm,15.0s					
KIV	**Kislovodsk**	**23.97 285**	P	P	02 01 00.3	+8.2
	SNR=14					
KIV	**Kislovodsk**	**23.97 285**	*e*P	**P**	**02 00 53.0**	**+0.8**
	comp=Z,56nm,0.7s					
SMDO	**Samad**	**24.23 223**	P	**P**	**02 00 56.8**	**+2.0**
	SNR=5.9					
VRHR	**Novokhopersk**	**24.65 302**	*e*P	**P**	**02 00 58.7**	**+0.5**
VRHR			pmax	pmax		
	comp=N,1.0nm,0.4s					
VRHR			pmax	pmax		
	comp=E,4.0nm,0.4s					
VRHR			pmax	pmax		
	comp=Z,10.0nm,0.4s					
VRHR			MLR	MLR		
	comp=N,350nm,18.0s					
VRHR			MLR	MLR		
	comp=E,970nm,18.0s					
VRHR			MLR	MLR		
	comp=Z,2μm,18.0s					
HKR	**Hakkari**	**24.80 269**	*e*P	**P**	**02 01 01.4**	**+1.4**
HYB	**Hyderabad**	**25.06 173**	*i* P	**P**	**02 01 01.0**	**-1.2**
CD2	**Chengdu**	**25.22 108**	P	**P**	**02 01 04.4**	**+0.8**
CD2			pP	**pP**	**02 01 11.3**	**+3.2**
CD2			sP	sP	02 01 15.5	+5.5
CD2			PP	PnPn	02 01 47.6	+10
CD2			S	**S**	**02 05 28.2**	**-0.4**
CD2			sS	**sS**	**02 05 37.2**	**+1.2**
CD2			SS	**SnSn**	**02 06 24.7**	**+5.6**
CD2			PMZ			
	comp=Z,10.0nm,1.1s					
CD2			PMZ			
	comp=Z,100nm,4.8s					
CD2			LN			
	comp=Z,2μm,23.8s					
CD2			LE			
	comp=Z,1μm,19.0s					
CD2			LZ			
	comp=Z,2μm,11.8s					
SIRT	**Sirnak**	**25.80 270**	*e*P	P	02 01 13.8	+4.9
EZM	**Erzurum**	**25.80 276**	*e*P	**P**	**02 01 11.1**	**+2.0**
VORD	**Divnogorie**	**26.10 302**	*e*P	**P**	**02 01 10.9**	**-0.4**
VORD			pmax	pmax		
	comp=N,8.0nm,0.6s					
VORD			pmax	pmax		
	comp=E,10.0nm,0.6s					
VORD			pmax	pmax		
	comp=Z,9.0nm,0.6s					
VORD			MLR	MLR		
	comp=N,430nm,16.0s					
VORD			MLR	MLR		
	comp=E,1μm,16.0s					
VORD			MLR	MLR		
	comp=Z,2μm,16.0s					
SOC	**Sochi**	**26.15 285**	*e*P	**P**	**02 01 08.9**	**-3.0**
SOC			*e*		02 04 35.3	
SOC			*e*S	**S**	**02 05 38.7**	**-4.2**
SOC			*e*SSS	SSS	02 06 49.9	
SOC			MLR	MLR		
	comp=Z,499nm,13.0s					
VSR	**Storozhevoye**	**26.20 302**	*e*P	**P**	**02 01 11.6**	**-0.7**
VSR			pmax	pmax		
	comp=N,3.0nm,0.7s					
VSR			pmax	pmax		
	comp=E,7.0nm,0.7s					
VSR			pmax	pmax		
	comp=Z,7.0nm,0.7s					
VSR			MLR	MLR		
	comp=N,2μm,19.0s					
VSR			MLR	MLR		
	comp=E,1μm,19.0s					
VSR			MLR	MLR		
	comp=Z,2μm,19.0s					
VOR	**Voronezh**	**26.24 303**	P	**P**	**02 01 11.0**	**-1.5**
PRGR	**Permogore**	**26.25 327**	⇓*i*P	**P**	**02 01 13.1**	**+0.6**
PRGR			pmax	pmax		
	comp=Z,20nm,0.9s					
SVAN	**Silvan-Diyarba**	**26.48 272**	*e*P	**P**	**02 01 16.4**	**+1.4**
BAYT	**Ayd¨-ntepe-Bay**	**26.56 278**	*e*P	**P**	**02 01 18.1**	**+2.2**
BNGB	**Bing˘¶l**	**26.59 274**	*e*P	**P**	**02 01 16.4**	**+0.4**
HHC	**Hu-ho-hao-te**	**26.79 81**	*e*P	**P**	**02 01 19.6**	**+1.7**
HHC			sP	**sP**	**02 01 26.6**	**+2.4**
HHC			PP	**PnPn**	**02 02 04.6**	**+5.4**
HHC			S	**S**	**02 05 57.4**	**+4.0**
HHC			sS	**sS**	**02 06 00.0**	**-0.9**
HHC			SS	**SnSn**	**02 07 05.5**	**+8.1**
HHC			PMZ			
	comp=Z,22nm,0.7s					
HHC			PMZ			
	comp=Z,320nm,6.5s					
HHC			LN			
	comp=Z,3μm,12.9s					
HHC			LE			
	comp=Z,3μm,10.8s					
HHC			LZ			
	comp=Z,4μm,12.3s					
ERZN	**Erzincan**	**27.11 276**	*e*P	**P**	**02 01 22.7**	**+2.0**
ANN	**Anapa**	**27.57 288**	*e*P	P	02 01 29.6	+5.0
ANN			*e*		02 02 17.9	
ANN			*e*SS	SS	02 07 37.8	-24
ANN			pmax	pmax		
	comp=Z,85nm,0.9s					
ANN			MLR	MLR		
	comp=N,825nm,16.0s					
ANN			MLR	MLR		
	comp=E,628nm,16.0s					
ANN			MLR	MLR		
	comp=Z,652nm,16.0s					
MOS	**Moscow**	**27.82 312**	*e*P	P	02 01 21.2	-5.5
MOS			pmax	pmax		
	comp=Z,39nm,1.3s					
MOS			MLR	MLR		
	comp=Z,600nm,16.0s					
ILIC	**ilic-Erzincan**	**28.00 276**	*e*P	P	02 01 34.2	+5.6
KMI	**Kunming**	**28.23 119**	P	**P**	**02 01 31.8**	**+0.9**
KMI			pP	**pP**	**02 01 37.8**	**+2.3**
KMI			sP	**sP**	**02 01 40.4**	**+3.1**
KMI			PP	**PnPn**	**02 02 24.4**	**+5.3**
KMI			S	**S**	**02 06 18.1**	**+1.7**
KMI			sS	sS	02 06 29.3	+5.4
KMI			SS	SnSn	02 07 44.1	+11
KMI			PMZ			
	comp=Z,7.0nm,0.8s					
KMI			PMZ			
	comp=Z,63nm,5.5s					
KMI			LN			
	comp=Z,610nm,20.8s					
KMI			LE			
	comp=Z,780nm,23.2s					
KMI			LZ			
	comp=Z,740nm,15.1s					
OBN	**Obninsk**	**28.29 310**	⇓*i*P	**P**	**02 01 30.8**	**-0.1**
OBN			*i*		02 02 18.0	
OBN			*i* S	S	02 06 09.4	-6.9
OBN			pmax	pmax		
	comp=Z,24nm,1.9s					
OBN			MLR	MLR		
	comp=Z,604nm,18.0s					
OBN	**Obninsk**	**28.29 310**	P	**P**	**02 01 31.2**	**+0.3**
	comp=Z,6.2nm,0.6s,baz=136,slow=23,SNR=4.3					
OBN			LR	LR	02 13 16.3	
	comp=Z,688nm,19.0s,baz=94,slow=37					
KLMR	**Klimovskoe**	**28.47 323**	*e*P	**P**	**02 01 32.3**	**-0.2**
KLMR			pmax	pmax		
	comp=Z,44nm,1.5s					
KLMR			MLR	MLR		
	comp=Z,2μm,12.0s					
BOD	**Bodaibo**	**28.55 44**	⇑*i*P	**P**	**02 01 32.7**	**-0.5**
SVSK	**Karacayir**	**29.01 278**	*e*P	**P**	**02 01 39.4**	**+1.9**
DIKM	**Dikmen**	**29.78 282**	*e*P	**P**	**02 01 45.0**	**+0.6**
SIM	**Simferopol'**	**29.88 289**	*e*P	**P**	**02 01 46.3**	**+1.1**
SIM			*e**PP	**pP**	**02 01 51.0**	**+1.3**
SIM			*e*S	S	02 06 49.0	+7.4
SIM			*e*SS	**SnSn**	**02 08 12.0**	**-0.3**
SIM			pmax	pmax		
	comp=Z,9.0nm,0.7s					
SIM			MLR	MLR		
	comp=Z,400nm,16.0s					
GYA	**Guiyang**	**29.95 112**	P	**P**	**02 01 47.8**	**+1.7**
GYA			PP	**PnPn**	**02 02 45.4**	**+2.9**
GYA			PcP	**PcP**	**02 04 51.6**	**+3.1**
GYA			S	**S**	**02 06 42.0**	**-1.3**
GYA			SS	**SnSn**	**02 08 21.4**	**+6.6**
GYA			ScP	**ScP**	**02 08 30.6**	**+0.6**
GYA			ScS	**ScS**	**02 12 25.2**	**-0.3**
GYA			PMZ			
	comp=Z,20nm,0.8s					
GYA			PMZ			
	comp=Z,120nm,4.6s					
GYA			LN			
	comp=Z,2μm,15.8s					
GYA			LE			
	comp

BJI PMZ
comp=Z,8.0nm,0.4s
BJI LN
comp=Z,1μm,14.8s
BJI LE
comp=Z,1μm,12.2s
BJI LZ
comp=Z,670nm,23.8s
CRAI Chiangrai 30.42 129 P P 02 01 49.9 -0.3
comp=Z,68nm,1.0s
TMCR Tamitsa 30.53 328 eP P 02 01 51.5 +0.9
TMCR e 02 02 52.2
TMCR pmax pmax
comp=Z,26nm,0.8s
CORM Corum 30.66 280 eP P 02 01 53.8 +1.5
CM31 Chiang Mai Arr 31.04 133 eP P 02 01 54.9 -0.8
CMAR Chiang Mai Arr 31.04 133 P P 02 01 54.9 -0.8
comp=Z,0.6nm,0.3s,baz=311,slow=9.2,SNR=3.4
CMAR LR LR 02 15 18.8
comp=Z,157nm,18.0s,baz=337,slow=38
RAYN Ar Rayn 31.28 242 P P 02 01 58.6 +0.8
comp=Z,406nm,1.0s,SNR=35
RAYN Ar Rayn 31.28 242 eP P 02 01 58.8 +1.0
comp=Z,55nm,0.8s
NIG Nigde 31.36 276 eP P 02 02 00.7 +2.1
BR101 Keskin Array S 31.52 279 eP P 02 02 00.3 +0.4
BRTR Keskin Array B 31.52 279 P P 02 02 00.3 +0.4
BRTR pmax pmax
comp=Z,21nm,0.6s
BRTR Keskin Array B 31.52 279 P P 02 02 00.3 +0.4
comp=Z,21nm,0.6s,baz=91,slow=8.8,SNR=3.6
SAFT Safranbolu 31.75 283 eP P 02 02 02.2 +0.4
MERS Mersin 31.89 274 eP P 02 02 05.1 +2.0
AFSR Af´ar-Bala (A 32.03 279 eP P 02 02 04.8 +0.5
ANTO Ankara 32.09 280 eP P 02 02 06.4 +1.6
ANTO Ankara 32.09 280 eP P 02 02 04.9 0.0
ANTO pmax pmax
comp=Z,14nm,0.7s
ANTO Ankara 32.09 280⇓ iP P 02 02 05.4 +0.5
ANTO Ankara 32.09 280 eP P 02 02 04.8 0.0
comp=Z,14nm,0.7s
LOD Lodumlu 32.11 280 eP P 02 02 06.4 +1.4
AKASG Malin Array Be 32.48 301 P P 02 02 08.2 +0.2
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG MLR MLR
comp=Z,528nm,18.6s
AKASG Malin Array Be 32.48 301 P P 02 02 08.2 +0.2
comp=Z,2.6nm,0.6s,baz=77,slow=8.4,SNR=20
AKASG LR LR 02 18 04.1
comp=Z,528nm,18.6s,baz=95,slow=42
AKBB Malin Array Si 32.48 301 eP P 02 02 08.2 +0.2
AKBB Malin Array Si 32.48 301 eP P 02 02 08.2 +0.2
KIEV Kiev 32.49 301 iP P 02 02 07.3 -0.8
KIEV Kiev 32.49 301 eP P 02 02 07.2 -0.9
comp=Z,9.1nm,0.8s
UTTA Uttaradit 32.51 132 P P 02 02 09.7 +1.2
comp=Z,2.6nm,1.3s,comp=Z,127nm
JOF Joensuu 32.83 324 eP P 02 02 11.7 +0.7
JOF pmax pmax
comp=Z,29nm,0.5s
JOF Joensuu 32.83 324 ep P 02 02 11.7 +0.7
comp=Z,29nm,0.5s
LADK Ladik-KONYA 32.98 277 eP P 02 02 13.7 +1.1
WHN Wuhan 33.06 98 P P 02 02 15.4 +2.1
WHN S S 02 07 27.0 -4.5
WHN LN
comp=Z,1μm,12.4s
WHN LE
comp=Z,4μm,14.6s
WHN LZ
comp=Z,4μm,13.2s
KONT Konya--Tatoy 33.07 277 eP P 02 02 14.8 +1.4
LOEI Loei 33.09 131 P P 02 02 14.6 +0.9
comp=Z,9.7nm,1.3s,comp=Z,918nm
KIZT Kizilcal 33.09 279 eP P 02 02 13.9 +0.3
SVRH Sivrihisar-ESK 33.16 280 eP P 02 02 15.1 +0.8
LVZ Lovozero 33.50 333 P P 02 02 17.0 +0.2
comp=Z,305nm,0.9s,SNR=5.1
LVZ Lovozero 33.50 333 d iP P 02 02 17.5 +0.7
LVZ pmax pmax
comp=Z,46nm,0.8s
LVZ MLR MLR
comp=Z,2μm,19.0s
LVZ Lovozero 33.50 333 eP P 02 02 17.1 +0.2
comp=Z,46nm,0.9s
GULT Gulveren 33.57 282 eP P 02 02 18.2 +0.5
PBKT Sadao Pong 33.69 132 P P 02 02 19.4 +0.6
comp=Z,17nm,1.3s
APA Apatity 33.77 332 i P P 02 02 19.8 +0.7
APA i 02 03 35.8
APA i S S 02 07 40.0 -1.9
APA MLR MLR
comp=Z,2μm,10.0s
LEF Lefka 33.81 272 eP P 02 02 20.2 +0.4
TIRR Tirgusor 33.96 290⇓ iP P 02 02 22.0 +1.0
SILT Silte 33.97 284 eP P 02 02 20.6 -0.5
CFR Carcaliu 33.99 291⇓ iP P 02 02 22.0 +0.8
PSN Preselentsi 34.31 289⇓ iP P 02 02 26.0 +2.0
ALT Altintas 34.32 280 eP P 02 02 24.5 +0.2
KLYT Kilyos 34.38 284 eP P 02 02 25.3 +0.6
BGKT Bogazkoy 34.59 284 eP P 02 02 27.7 +1.2
TVSB Tavsanli 34.66 281 eP P 02 02 25.2 -2.0
ARMT Armutlu 34.72 283 eP P 02 02 27.7 0.0
TESR Tescani 34.73 294⇑ iP P 02 02 28.5 +0.9
CTKS Kestanelik-??a 34.77 284 eP P 02 02 28.8 +0.8
VRI Vrincioaia 34.80 293⇑ iP P 02 02 30.1 +1.8
PLOR Plostina 34.86 293⇓ iP P 02 02 30.7 +1.8
FIA0 FINESS Array S 34.87 320 eP P 02 02 29.1 +0.4
FIA0 FINESS Array S 34.87 320 eP P 02 02 29.1 +0.4
FINES FINESS Array B 34.87 320 P P 02 02 29.1 +0.4
comp=Z,13nm,0.6s,baz=111,slow=9.6,SNR=86
FINES LR LR 02 17 05.4
comp=Z,763nm,18.6s,baz=90,slow=37
KAF Kangasniemi 34.88 321 eP P 02 02 28.6 -0.2
KAF pmax pmax
comp=Z,6.0nm,0.5s
KAF Kangasniemi 34.88 321 ep P 02 02 28.6 -0.2
comp=Z,5.5nm,0.5s
ISR Istrita 35.10 292⇓ iP P 02 02 32.0 +1.1
ELL Elmali 35.34 276 eP P 02 02 34.2 +1.0
CRLT Corlu 35.35 284 eP P 02 02 34.0 +1.0
BURAR Bucovina Array 35.48 296⇑ iP P 02 02 35.2 +1.0
BUR04 Bucovina Ar. S 35.48 296 eP P 02 02 34.8 +0.6
KULA Kula-Manisa 35.57 280 eP P 02 02 36.0 +0.8
NJ2 Nanjing 35.61 92 eP P 02 02 37.0 +1.6
NJ2 PMZ
comp=Z,8.0nm,0.9s
MRMT Marmara Adasi 35.62 284 eP P 02 02 36.0 +0.5
JMB Yambol 35.77 287⇓ iP P 02 02 37.8 +1.2
JMB Yambol 35.77 287 eP P 02 02 38.9 +2.3
EDRB Edirne 35.84 286 eP P 02 02 38.4 +1.1
LVV L'vov 35.89 300 eP P 02 02 38.3 +0.7
KRBG Karabiga-Canak 35.91 283 eP P 02 02 38.5 +0.7
CN2 Changchun 35.96 70 eP P 02 02 38.3 0.0
CN2 eS S 02 08 13.5 -2.6
CN2 LN
comp=Z,2μm,20.0s
CN2 LE
comp=Z,1μm,20.0s
CN2 LZ
comp=Z,2μm,20.0s
PVL Pavlikeni 36.43 289 i P P 02 02 45.0 +2.7
KWP Kalwaria Pacla 36.76 300 eP P 02 02 46.4 +1.3
KWP Kalwaria Pacla 36.76 300 eP P 02 02 46.3 +1.2
KWP Kalwaria Pacla 36.76 300⇓ iP P 02 02 46.6 +1.5
EZN Ezine 36.80 283 eP P 02 02 46.2 +0.8
KEV Kevo 36.81 334 eP P 02 02 44.5 -0.7
KEV pmax pmax
comp=Z,10.0nm,0.6s
KEV Kevo 36.81 334 ep P 02 02 44.5 -0.7
comp=Z,10nm,0.6s
LOT Lotru 36.92 293⇑ iP P 02 02 47.1 +0.5
YAK Yakutsk 37.09 39 eP P 02 02 45.4 -2.3
YAK e*PP pP 02 02 54.5 +2.3
YAK ePPP PPP 02 04 19.5
YAK e 02 05 01.5
YAK eS S 02 08 30.8 -2.1
YAK pmax pmax
comp=Z,23nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=Z,12nm,0.5s
YAK smax smax
comp=E,126nm,12.4s
YAK smax smax
comp=N,77nm,13.7s
YAK MLR MLR
comp=E,932nm,12.0s
YAK MLR MLR
comp=Z,1μm,11.0s
YAK MLR MLR
comp=N,199nm,10.0s
TRPA Tarpa 37.15 298⇑ iP P 02 02 49.6 +1.3
KOLS Kolonicke sedl 37.17 299 eP P 02 02 49.3 +0.8
KOLS pmax pmax
comp=Z,36nm,2.6s
KOLS Kolonicke sedl 37.17 299 eP P 02 02 49.3 +0.8
KOLS ePP PnPn 02 04 14.1 +0.6
UZH Uzhgorod 37.21 298 eP P 02 02 51.7 +2.9
UZH e 02 03 03.5
UZH eS S 02 08 39.9 +4.9
UZH MLR MLR
comp=N,520nm,12.0s
UZH MLR MLR
comp=E,570nm,12.0s
UZH MLR MLR
comp=Z,440nm,12.0s
ARA0 ARCESS Array S 37.22 334 eP P 02 02 49.0 +0.3
ARCES ARCESS Array B 37.22 334 P P 02 02 49.0 +0.3
ARCES pmax pmax
comp=Z,22nm,0.6s
ARCES MLR MLR
comp=Z,862nm,20.3s
ARCES ARCESS Array B 37.22 334 P P 02 02 49.0 +0.3
comp=Z,22nm,0.6s,baz=101,slow=9.6,SNR=178
ARCES LR LR 02 18 43.5
comp=Z,862nm,20.3s,baz=118,slow=37
ARE0 ARCESS Array S 37.22 334 eP P 02 02 49.2 +0.5
UBPT Khong Chiam 37.28 128 P P 02 02 48.8 -0.9
comp=Z,18nm,1.2s,comp=Z,938nm
RZN Rozhen 37.33 287 i P P 02 02 51.6 +1.4
PGB Panagyurishte 37.45 288 i P P 02 02 52.0 +1.0
MPEP Malo Peshtene 37.50 290 i P P 02 02 53.1 +1.7
GZR Gura Zlata 37.61 293⇑ iP P 02 02 53.3 +0.9
STHS Stebnicka Huta 37.74 300 eP P 02 02 53.6 +0.2
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 37.74 300 eP P 02 02 53.6 +0.2
KTK1 Kautokeino 37.82 332 eP P 02 02 54.7 +0.9
MMB Musomiste 38.06 287⇓ iP P 02 02 57.1 +0.9
NIE Niedzica 38.34 300 eP P 02 02 59.6 +1.2
NIE Niedzica 38.34 300 eP P 02 02 59.6 +1.2
BZS Buzias 38.34 294⇑ iP P 02 02 59.8 +1.3
APE Apeiranthos 38.42 279 eP P 02 03 00.4 +1.2
APE Apeiranthos 38.42 279⇑ eP P 02 02 59.9 +0.6
KKB Krupnik 38.43 287 i P P 02 03 00.0 +0.7
OJC Ojcow 38.52 301 eP P 02 03 00.2 +0.3
OJC pmax pmax
comp=Z,12nm,0.8s
OJC Ojcow 38.52 301 eP P 02 03 00.3 +0.3
OJC Ojcow 38.52 301 eP P 02 03 00.2 +0.3
comp=Z,12nm,0.8s
MDJ Mudanjiang 38.60 68 P P 02 03 01.1 +0.4
MDJ pP pP 02 03 04.2 -1.1
MDJ sP sP 02 03 05.5 -1.6
MDJ PP PP 02 04 28.8 -0.1
MDJ S S 02 08 56.2 -0.1
MDJ PMZ
comp=Z,7.0nm,1.3s
MDJ PMZ
comp=Z,100nm,5.6s
MDJ LN
comp=Z,450nm,20.5s
MDJ LE
comp=Z,560nm,15.1s
MDJ LZ
comp=Z,770nm,17.3s
KLR Kul'dur 38.91 60 eP P 02 03 00.0 -3.2
PSZ Piszkesteto 38.93 298 eP P 02 03 04.3 +0.8
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 38.93 298 eP P 02 03 04.3 +0.8
comp=Z,6.6nm,0.9s
TIXI Tiksi 38.93 24 ceP P 02 03 02.9 -0.1
TIXI pmax pmax
comp=Z,28nm,1.0s
TIXI MLR MLR
comp=Z,2μm,14.0s
TIXI Tiksi 38.93 24 eP P 02 03 02.3 -0.7
comp=Z,26nm,1.0s
VAY Valandovo 38.97 287 i P P 02 03 04.4 +0.6
comp=Z,57nm,1.6s
TRO Tromso 39.46 333 eP P 02 03 08.8 +1.3
TRO eSS SS 02 12 03.8 +1.3
VYHS Vyhne 39.48 299 eP P 02 03 08.9 +0.9
VYHS pmax pmax
comp=Z,9.0nm,1.8s
VYHS Vyhne 39.48 299 eP P 02 03 08.9 +0.9
VYHS ePP PnPn 02 04 44.2 +2.8
SKO Skopje 39.55 288 i P P 02 03 08.6 -0.1
comp=Z,9.5nm,0.7s
OKC Ostrava-Krasne 39.63 301 eP P 02 03 13.4 +4.2
OKC e 02 03 16.7
OKC e 02 04 50.2
OKC eS S 02 09 18.7 +7.1
OKC MLR MLR
comp=Z,600nm,14.6s
OKC Ostrava-Krasne 39.63 301 eP P 02 03 13.4 +4.2
OKC epP pP 02 03 16.7 +2.9
OKC ePP PnPn 02 04 50.2 +7.0
OKC eS S 02 09 18.7 +7.1
OKC AMS AMS 02 22 30.0
comp=Z,600nm,14.6s
IDI Anoyia 39.64 277 P P 02 03 09.8 +0.3
comp=Z,12nm,0.6s,baz=88,slow=20,SNR=14
KS01 Wonju Array Si 39.86 79 eP P 02 03 11.5 +0.2
KS15 Wonju Array Si 39.87 79 eP P 02 03 12.0 +0.7
KSRS Korea Array 39.89 79 P P 02 03 12.0 +0.5
comp=Z,0.9nm,0.4s,baz=296,slow=6.3,SNR=5.5
KSRS LR LR 02 20 35.5
comp=Z,387nm,18.4s,baz=290,slow=38
MORC Moravsky Berou 40.03 301 eP P 02 03 13.4 +0.8
MORC pmax pmax
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 40.03 301⇓ iP P 02 03 14.0 +1.4
MORC Moravsky Berou 40.03 301 eP P 02 03 13.4 +0.8
comp=Z,6.0nm,0.8s
USRK Ussuriysk Ar. 40.37 68 P P 02 03 16.2 +0.8
comp=Z,4.4nm,0.8s,baz=298,slow=7.8,SNR=7.8
USRK LR LR 02 21 07.9
comp=Z,1μm,18.2s,baz=280,slow=38
SMOL Smolenice 40.39 299 eP P 02 03 17.1 +1.6
SMOL Smolenice 40.39 299 eP P 02 03 17.1 +1.6
KRLC Kraliky 40.45 302 eP P 02 03 17.0 +1.0
KRLC Kraliky 40.45 302 eP P 02 03 17.0 +1.0
STEI Steigen 40.47 330 eP P 02 03 16.6 +0.8
STEI IAmb IAmb 02 03 22.3
comp=Z,27nm,0.9s
MOR8 Moi Rana 40.59 327 eP P 02 03 16.2 -0.8
DPC Dobruska-Polom 40.67 302 eP P 02 03 18.8 +0.9
DPC e 02 03 21.3
DPC e 02 03 23.2
DPC e 02 05 01.8
DPC eSS SS 02 12 27.9 +0.4
DPC Dobruska-Polom 40.67 302 eP P 02 03 18.8 +0.9
DPC ex x 02 03 21.3
DPC epP pP 02 03 23.2 +0.7
DPC ePP PnPn 02 05 01.8 +6.3
DPC eSS SS 02 12 27.9 +0.4
DPC AMS AMS 02 21 00.0
DPC Dobruska-Polom 40.67 302 eP P 02 03 18.6 +0.6
comp=Z,44nm,0.6s
UPC Upice 40.83 303 eP P 02 03 20.1 +0.9
UPC e 02 03 23.9
UPC e 02 05 02.6
UPC Upice 40.83 303 eP P 02 03 20.1 +0.9
UPC epP pP 02 03 23.9 +0.1
UPC ePP PnPn 02 05 02.6 +5.2
LOF Lofoten 41.13 330 eP P 02 03 20.6 -0.7
KONS Konsvik 41.15 327 eP P 02 03 22.5 +1.0
KONS IAmb IAmb 02 03 27.1
comp=Z,30nm,0.6s
STOK Stokkvaagen 41.18 327 eP P 02 03 22.9 +1.1
STOK IAmb IAmb 02 03 28.6
comp=N,5.5nm,0.9s
TREC Trest 41.44 301 eP P 02 03 26.5 +2.3
TREC e 02 03 29.7
TREC eS S 02 09 44.8 +6.1
TREC MLR MLR
comp=Z,800nm,15.0s
TREC Trest 41.44 301 eP P 02 03 26.5 +2.3
TREC epP pP 02 03 29.7 +0.8
TREC eS S 02 09 44.8 +6.1
TREC eSS SnSn 02 12 47.9 -4.2
TREC AMS AMS 02 23 40.0
comp=Z,800nm,15.0s
CONA Conrad Observa 41.55 299⇑ iP P 02 03 26.8 +1.6
comp=Z,9.0nm,0.8s
PVCC Panska Ves 41.73 303 eP P 02 03 27.2 +0.7
PVCC e 02 03 31.2
PVCC MLR MLR
comp=Z,700nm,13.1s
PVCC Panska Ves 41.73 303 eP P 02 03 27.2 +0.7
PVCC epP pP 02 03 31.2 +0.1
PVCC AMS AMS 02 21 30.0
comp=Z,700nm,13.1s
PRU Pruhonice 41.87 302 eP P 02 03 28.3 +0.6
PRU e 02 03 32.5
PRU e 02 05 13.5
PRU eS S 02 09 48.2 +3.2
PRU MLR MLR
comp=Z,600nm,15.0s
PRU Pruhonice 41.87 302 eP P 02 03 28.3 +0.6
PRU epP pP 02 03 32.5 +0.2
PRU ePP PnPn 02 05 13.5 +4.0
PRU eS S 02 09 48.2 +3.2
PRU eSS SS 02 12 55.6 +4.5
PRU AMS AMS 02 23 30.0
comp=Z,600nm,15.0s
NC602 NORSAR Array S 41.88 319 eP P 02 03 27.4 -0.2
PRA Prague 41.92 302 P P 02 03 29.0 +0.9
PRA PP PnPn 02 05 14.0 +4.0
ARSA Arzberg 41.96 298⇑ iP P 02 03 29.5 +1.0
comp=Z,4.8nm,0.7s
NB2 NORSAR Subarra 42.01 319 P P 02 03 28.6 -0.2
comp=Z,12nm,0.7s,baz=87,slow=8.6
NB2 NORSAR Subarra 42.01 319 P P 02 03 28.6 -0.2
baz=87,slow=8.6
NB200 NORSAR Array S 42.01 319 eP P 02 03 28.4 -0.3
NOA NORSAR Array B 42.01 319 P P 02 03 28.4 -0.3
comp=Z,11nm,0.7s,baz=88,slow=8.2,SNR=36
NOA LR LR 02 21 35.6
comp=Z,494nm,19.9s,baz=125,slow=37
BRG Berggiesshubel 42.03 304 eP P 02 03 29.7 +0.6
comp=Z,4.6nm,0.7s
BRG ePP PP 02 05 08.0 +1.8
comp=Z,7.2nm,1.3s
BRG ePCP PcP 02 05 26.0 +2.3
comp=Z,12nm,1.4s
BRG S S 02 09 47.0 -0.4
BRG SS SS 02 12 54.0 -0.3
comp=N,969nm,13.6s
comp=E,398nm,14.1s
comp=Z,981nm,18.1s
BRG Berggiesshubel 42.03 304 eP P 02 03 29.7 +0.6
BRG e 02 05 08.0
BRG e 02 05 26.0
BRG S S 02 09 47.0 -0.4
BRG SS SS 02 12 54.0 -0.3
BRG pmax pmax
comp=Z,5.0nm,0.7s
BRG MLR MLR
comp=N,969nm,13.6s
BRG MLR MLR
comp=E,398nm,14.1s
BRG MLR MLR
comp=Z,981nm,18.1s
BRG Berggiesshubel 42.03 304 eP P 02 03 29.6 +0.6
comp=Z,5.0nm,1.0s
GOLS Golise 42.25 296 i P P 02 03 31.6 +0.7
GOLS Golise 42.25 296 i Pn P 02 03 31.6 +0.7
HSPB Hornsund (broa 42.40 343 eP P 02 03 32.4 +0.8
HSPB eSS SS 02 13 05.1 +4.3
SOKA Soboth 42.44 297⇑ iP P 02 03 33.6 +1.0
comp=Z,9.9nm,1.5s,SNR=7.8
CLL Collm 42.51 304⇓ iP P 02 03 33.4 +0.5
CLL i 02 03 36.9
CLL e 02 03 40.0
CLL eS S 02 09 54.0 -0.4
CLL pmax pmax
comp=Z,9.0nm,0.6s
CLL Collm 42.51 304 eP P 02 03 33.2 +0.3
comp=Z,10.0nm,0.6s
CLL Collm 42.51 304⇓ iP P 02 03 33.4 +0.5
comp=Z,9.0nm,0.6s
CLL i 02 03 36.9
CLL epP pP 02 03 40.0 +2.5
CLL ePP PP 02 05 16.0 +4.7
CLL eS S 02 09 54.0 -0.4
CLL eSS SS 02 13 03.0 -0.6
CLL Collm 42.51 304 eP P 02 03 33.2 +0.3
comp=Z,10.0nm,0.6s
MOA Molln 42.61 299⇑ iP P 02 03 34.9 +1.1
comp=Z,4.0nm,0.8s
SPA0 Spitsbergen Ar 42.62 345 eP P 02 03 34.9 +1.5
SPA0 Spitsbergen Ar 42.62 345 eP P 02 03 34.7 +1.2
SPITS Spitsbergen Ar 42.62 345 P P 02 03 34.7 +1.2
SPITS pmax pmax
comp=Z,13nm,0.8s
SPITS Spitsbergen Ar 42.62 345 P P 02 03 34.7 +1.2
comp=Z,13nm,0.8s,baz=106,slow=12,SNR=13
GEC2 GERESS Array S 42.69 301 eP P 02 03 35.3 +0.8
GEC2 GERESS Array S 42.69 301 eP P 02 03 35.4 +0.9
comp=Z,4.0nm,0.8s
GEC2 GERESS Array S 42.69 301 eP P 02 03 35.3 +0.8
GERES GERESS Array B 42.69 301 P P 02 03 35.6 +1.1
comp=Z,3.1nm,0.6s,baz=61,slow=8.5,SNR=30
GERES LR LR 02 25 13.1
comp=Z,568nm,18.2s,baz=78,slow=42
KHC Kasperske Hory 42.70 301 eP P 02 03 35.1 +0.6
KHC e 02 03 39.5
KHC e 02 05 24.5
KHC eS S 02 10 00.4 +3.1
KHC MLR MLR
comp=Z,700nm,13.8s
KHC Kasperske Hory 42.70 301 eP P 02 03 35.1 +0.6
KHC epP pP 02 03 39.5 +0.4
KHC ePP PcP 02 05 24.5 -1.5
KHC eS S 02 10 00.4 +3.1
KHC AMS AMS 02 24 20.0
comp=Z,700nm,13.8s
KHC Kasperske Hory 42.70 301 eP P 02 03 35.2 +0.6
comp=Z,3.7nm,0.8s
OBKA Obir 42.81 297⇑ iP P 02 03 36.8 +1.2
comp=Z,0.4nm,0.4s,SNR=6.6
KONO Kongsberg 42.95 317 eSS SS 02 13 11.9 0.0
TANN Tannenbergstha 43.06 303 eP P 02 03 38.5 +1.1
comp=Z,5.0nm,0.9s
WET Wettzell 43.13 301 eP P 02 03 39.0 +1.0
comp=Z,6.0nm,1.2s
ROTZ Rotzenmuhle 43.39 302 eP P 02 03 40.9 +0.9
comp=Z,6.0nm,1.1s
KBA Koelnbreinsper 43.43 298⇑ iP P 02 03 40.7 +0.1
comp=Z,5.4nm,0.8s
MOX Moxa 43.52 304 eP P 02 03 42.0 +0.9
comp=Z,8.0nm,1.3s
KBS Kingsbay 43.69 345 eP P 02 03 43.1 +1.0
GRF Grafenberg Arr 44.02 303 eP P 02 03 46.6 +1.4
comp=Z,13nm,0.7s
GRFO Grafenberg 44.02 303 eP P 02 03 46.1 +1.0
GRFO pmax pmax
comp=Z,12nm,0.8s
GRFO Grafenberg 44.02 303 eP P 02 03 46.1 +1.0
comp=Z,12nm,0.8s
ABTA Abfaltersbach 44.07 298⇑ iP P 02 03 45.6 0.0
comp=Z,5.9nm,1.3s
SNART Snartemo 44.37 315 eP P 02 03 48.6 +0.9
FUR Furstenfeldbru 44.43 300 eP P 02 03 50.0 +1.5
comp=Z,30nm,1.1s
WTTA Wattenberg 44.48 299⇑ eP P 02 03 49.7 +0.6
comp=Z,7.4nm,0.8s
PSI Prapat 44.63 146 P P 02 03 48.5 -1.9
PSI pmax pmax
comp=Z,5.0nm,0.7s
PSI Prapat 44.63 146 P P 02 03 48.5 -1.9
comp=Z,4.8nm,0.7s,baz=301,slow=12,SNR=4.9
RETA Reutte 44.97 300⇑ eP P 02 03 53.3 +0.4
comp=Z,12nm,0.8s
AQU L'Aquila 45.00 292 eP P 02 03 54.6 +1.5

AQU pmax pmax
comp=Z,44nm,1.3s
AQU L'Aquila 45.00 292 *eP* **P 02 03 54.6 +1.5**
comp=Z,44nm,1.3s
FETA Feichten 45.15 299⇑ *eP* **P 02 03 54.8 +0.5**
comp=Z,7.3nm,1.1s
FUORN Ofenpass-Fuorn 45.58 299 *eP* **P 02 03 58.5 +0.6**
comp=Z,100nm,2.3s
DAVA Damuels 45.60 300⇑ *eP* **P 02 03 58.9 +0.9**
comp=Z,18nm,0.8s
TUE Stuetta 46.22 299 *eP* **P 02 04 02.9 0.0**
comp=Z,8.8nm,0.9s
VLC Villacollemand 46.37 295 *eP* **P 02 04 03.6 -0.3**
comp=Z,22nm,0.7s
CDF Champ du Feu 46.89 302 *eP* **P 02 04 08.1 +0.1**
CDF Champ du Feu 46.89 302 *eP* **P 02 04 08.1 +0.1**
CDF Champ du Feu 46.89 302 *eP* **P 02 04 08.1 +0.1**
HINF Hinteralfeld 47.36 301 *eP* **P 02 04 11.8 +0.2**
comp=Z,15nm,0.8s
HINF Hinteralfeld 47.36 301 *eP* **P 02 04 11.8 +0.2**
HINF Hinteralfeld 47.36 301 *eP* **P 02 04 11.8 +0.2**
BCLA Clavier 47.44 305 AP pP 02 04 18.9 +2.1
SEY Seymchan 47.52 37 P **P 02 04 12.0 -0.6**
SEY pmax pmax
comp=Z,2.0nm,0.6s
SEY Seymchan 47.52 37 P **P 02 04 12.0 -0.6**
comp=Z,2.0nm,0.6s,baz=291,slow=4.8,SNR=6.4
SENIN Lac Senin/Sane 47.59 299 *eP* **P 02 04 14.5 +0.9**
HAU Haudompre 47.61 302 *eP* **P 02 04 13.0 -0.5**
comp=Z,11nm,0.6s
HAU *eR*
comp=Z,676nm,18.2s
HAU Haudompre 47.61 302 *eP* **P 02 04 13.0 -0.5**
HAU Haudompre 47.61 302 *eP* **P 02 04 13.0 -0.5**
MAJO Matsushiro 47.70 75 *eP* **P 02 04 14.3 -0.1**
MAJO pmax pmax
comp=Z,222nm,2.5s
MAJO Matsushiro 47.70 75 *eP* **P 02 04 14.2 -0.1**
comp=Z,222nm,2.5s
MJAR Matsushiro Arr 47.71 75 P **P 02 04 14.3 -0.1**
MJAR pmax pmax
comp=Z,3.0nm,0.7s
MJAR MLR MLR
comp=Z,178nm,19.4s
MJAR Matsushiro Arr 47.71 75 P **P 02 04 14.2 -0.1**
comp=Z,2.7nm,0.7s,baz=291,slow=8.2,SNR=5.2
MJAR LR LR 02 26 28.9
comp=Z,178nm,19.4s,baz=310,slow=39
GIVF Givet 47.84 305 *eP* **P 02 04 15.7 +0.5**
GIVF Givet 47.84 305 *eP* **P 02 04 15.7 +0.5**
GIVF Givet 47.84 305 *eP* **P 02 04 15.7 +0.5**
PGF Pioggiola 47.92 294 *eP* **P 02 04 16.1 0.0**
PGF Pioggiola 47.92 294 *eP* **P 02 04 16.1 0.0**
PGF Pioggiola 47.92 294 *eP* **P 02 04 16.1 0.0**
DOU Dourbes 47.98 305 P **P 02 04 16.6 +0.3**
BAIF Baives 48.23 305 *eP* **P 02 04 18.9 +0.7**
comp=Z,15nm,0.9s
BAIF Baives 48.23 305 *eP* **P 02 04 18.9 +0.7**
BAIF Baives 48.23 305 *eP* **P 02 04 18.9 +0.7**
LPG La Plagne 48.26 298 *eP* **P 02 04 19.5 +0.6**
comp=Z,13nm,0.7s
LPG La Plagne 48.26 298 *eP* **P 02 04 19.5 +0.6**
LPG La Plagne 48.26 298 *eP* **P 02 04 19.5 +0.6**
LPL La Plagne 48.27 298 *eP* **P 02 04 19.4 +0.5**
comp=Z,15nm,0.7s
LPL La Plagne 48.27 298 *eP* **P 02 04 19.4 +0.5**
LPL La Plagne 48.27 298 *eP* **P 02 04 19.4 +0.5**
SFTF Sexfontaines 48.36 302 *eP* **P 02 04 19.8 +0.5**
SFTF Sexfontaines 48.36 302 *eP* **P 02 04 19.8 +0.5**
SBF Sospel 48.45 296 *eP* **P 02 04 20.3 +0.2**
SBF Sospel 48.45 296 *eP* **P 02 04 20.3 +0.2**
SBF Sospel 48.45 296 *eP* **P 02 04 20.3 +0.2**
BNI Bardonecchia 48.48 298 *eP* **P 02 04 21.1 +0.6**
BNI pmax pmax
comp=Z,72nm,1.8s
BNI Bardonecchia 48.48 298 *eP* **P 02 04 21.1 +0.6**
comp=Z,72nm,1.8s
MBDF Montbardon 48.55 298 *eP* **P 02 04 21.3 +0.3**
comp=Z,21nm,0.7s
MBDF Montbardon 48.55 298 *eP* **P 02 04 21.3 +0.3**
MBDF Montbardon 48.55 298 *eP* **P 02 04 21.3 +0.3**
FRF La Foret Royal 49.09 296 *eP* **P 02 04 25.3 +0.3**
FRF La Foret Royal 49.09 296 *eP* **P 02 04 25.3 +0.3**
FRF La Foret Royal 49.09 296 *eP* **P 02 04 25.3 +0.3**
SMRF Simiane la Rot 49.63 297 *eP* **P 02 04 29.5 +0.3**
comp=Z,13nm,0.8s
SMRF Simiane la Rot 49.63 297 *eP* **P 02 04 29.5 +0.3**
SMF Signal de Mont 49.70 301 *eP* **P 02 04 29.3 -0.3**
comp=Z,13nm,0.7s
SMF Signal de Mont 49.70 301 *eP* **P 02 04 29.3 -0.3**
SMF Signal de Mont 49.70 301 *eP* **P 02 04 29.3 -0.3**
SSF Saint Saulge 49.75 302 *eP* **P 02 04 29.8 -0.1**
comp=Z,5.8nm,0.7s
SSF Saint Saulge 49.75 302 *eP* **P 02 04 29.8 -0.1**
SSF Saint Saulge 49.75 302 *eP* **P 02 04 29.8 -0.1**
YUK Yuzh-Kuril'sk 49.75 63 *d iP* P 02 04 21.7 -8.3
YUK MLR MLR
comp=E,736nm,21.0s
YUK MLR MLR
comp=Z,610nm,21.0s
VIVF Saint-Julien-I 49.87 298 *eP* **P 02 04 31.1 +0.2**
comp=Z,18nm,0.6s
VIVF Saint-Julien-I 49.87 298 *eP* **P 02 04 31.1 +0.2**
VIVF Saint-Julien-I 49.87 298 *eP* **P 02 04 31.1 +0.2**
AVF Avril sur Loir 49.95 301 *eP* **P 02 04 31.3 -0.1**
comp=Z,24nm,0.7s
AVF Avril sur Loir 49.95 301 *eP* **P 02 04 31.3 -0.1**
AVF Avril sur Loir 49.95 301 *eP* **P 02 04 31.3 -0.1**
DAG Danmarks Havn 50.09 343 *i P* **P 02 04 32.0 -0.1**
DAG pmax pmax
comp=Z,7.0nm,0.7s
DAG Danmarks Havn 50.09 343 *i P* **P 02 04 32.0 -0.1**
comp=Z,11nm,0.7s
BGF Bois d'Agland 50.36 301 *eP* **P 02 04 34.3 -0.3**
comp=Z,9.9nm,0.6s
BGF Bois d'Agland 50.36 301 *eP* **P 02 04 34.3 -0.3**
BGF Bois d'Agland 50.36 301 *eP* **P 02 04 34.3 -0.3**
KEST Kesra 50.70 286 P **P 02 04 39.2 +1.7**
comp=Z,0.9nm,0.8s,baz=261,slow=8.7,SNR=3.2
KEST Kesra 50.70 286 *eP* **P 02 04 39.0 +1.6**
LASF Ste Croix 50.72 298 *eP* **P 02 04 37.9 +0.5**
comp=Z,7.9nm,0.6s
LASF Ste Croix 50.72 298 *eP* **P 02 04 37.9 +0.5**
LDF La Druitiere 51.40 305 *eP* **P 02 04 41.8 -0.6**
comp=Z,12nm,0.7s
LDF La Druitiere 51.40 305 *eP* **P 02 04 41.8 -0.6**
LDF La Druitiere 51.40 305 *eP* **P 02 04 41.8 -0.6**
CAF Calviac 51.53 300 *eP* **P 02 04 43.8 +0.4**
CAF Calviac 51.53 300 *eP* **P 02 04 43.8 +0.4**
CAF Calviac 51.53 300 *eP* **P 02 04 43.8 +0.4**
FLN La Foliniere 51.55 305 *eP* **P 02 04 43.4 -0.1**
FLN *eR*
comp=Z,664nm,17.5s
FLN La Foliniere 51.55 305 *eP* **P 02 04 43.4 -0.1**
FLN La Foliniere 51.55 305 *eP* **P 02 04 43.4 -0.1**
BILL Bilibino 51.70 29 *eP* **P 02 04 45.0 +0.6**
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL Bilibino 51.70 29 *eP* **P 02 04 45.0 +0.6**
comp=Z,9.7nm,1.0s
RJF Les Rejaudoux 51.72 300 *eP* **P 02 04 45.3 +0.5**
comp=Z,13nm,0.7s
RJF *eR*
comp=Z,294nm,21.2s
RJF Les Rejaudoux 51.72 300 *eP* **P 02 04 45.3 +0.5**
RJF Les Rejaudoux 51.72 300 *eP* **P 02 04 45.3 +0.5**
GRR Gorron 51.93 305 *eP* **P 02 04 45.9 -0.4**
comp=Z,9.1nm,0.5s
GRR Gorron 51.93 305 *eP* **P 02 04 45.9 -0.4**
GRR Gorron 51.93 305 *eP* **P 02 04 45.9 -0.4**
MTLF Montolieu 52.11 298 *eP* **P 02 04 47.9 +0.1**
comp=Z,8.9nm,0.8s
MTLF Montolieu 52.11 298 *eP* **P 02 04 47.9 +0.1**
MTLF Montolieu 52.11 298 *eP* **P 02 04 47.9 +0.1**
MFF Saint Martin d 52.23 302 *eP* **P 02 04 48.5 -0.1**
comp=Z,14nm,0.7s
MFF Saint Martin d 52.23 302 *eP* **P 02 04 48.5 -0.1**
MFF Saint Martin d 52.23 302 *eP* **P 02 04 48.5 -0.1**
LFF La Frestale 52.37 300 *eP* **P 02 04 50.1 +0.4**
LFF La Frestale 52.37 300 *eP* **P 02 04 50.1 +0.4**
LFF La Frestale 52.37 300 *eP* **P 02 04 50.1 +0.4**
SGMF Saint Gilles 53.02 305 *eP* **P 02 04 54.0 -0.4**
comp=Z,24nm,0.7s
SGMF Saint Gilles 53.02 305 *eP* **P 02 04 54.0 -0.4**
SGMF Saint Gilles 53.02 305 *eP* **P 02 04 54.0 -0.4**
PETK Petropavlovsk- 53.29 48 LR LR 02 28 48.0
comp=Z,761nm,18.4s,baz=291,slow=37
ROSF Rostrenen 53.42 305 *eP* **P 02 04 57.2 -0.1**
comp=Z,25nm,0.7s
ROSF Rostrenen 53.42 305 *eP* **P 02 04 57.2 -0.1**
ROSF Rostrenen 53.42 305 *eP* **P 02 04 57.2 -0.1**
EPF Esparros 53.48 298 *eP* **P 02 04 57.9 0.0**
comp=Z,9.1nm,0.9s
EPF Esparros 53.48 298 *eP* **P 02 04 57.9 0.0**
EPF Esparros 53.48 298 *eP* **P 02 04 57.9 0.0**
QUIF Quistinic 53.53 305 *eP* **P 02 04 58.2 0.0**
comp=Z,14nm,0.6s
QUIF Quistinic 53.53 305 *eP* **P 02 04 58.2 0.0**
QUIF Quistinic 53.53 305 *eP* **P 02 04 58.2 0.0**
ETSF Etsaut 54.12 298 *eP* **P 02 05 03.1 +0.4**
comp=Z,7.2nm,0.6s
ETSF Etsaut 54.12 298 *eP* **P 02 05 03.1 +0.4**
ETSF Etsaut 54.12 298 *eP* **P 02 05 03.1 +0.4**
SJPF Ste Jean 54.46 299 *eP* **P 02 05 05.4 +0.3**
SJPF Ste Jean 54.46 299 *eP* **P 02 05 05.4 +0.3**
SJPF Ste Jean 54.46 299 *eP* **P 02 05 05.4 +0.3**
KMBO Kilima Mbogo 55.44 229 *eP* **P 02 05 12.4 -0.3**
KMBO pmax pmax
comp=Z,12nm,1.1s
KMBO Kilima Mbogo 55.44 229 P **P 02 05 13.4 +0.7**
SNR=5.7
KMBO Kilima Mbogo 55.44 229 P **P 02 05 13.2 +0.5**
comp=Z,4.2nm,0.8s,baz=24,slow=11,SNR=12
KMBO LR LR 02 32 18.8
comp=Z,510nm,19.6s,baz=52,slow=40
KMBO Kilima Mbogo 55.44 229 *eP* **P 02 05 12.4 -0.3**
comp=Z,12nm,1.1s
SUMG Summit 56.62 341 *eP* **P 02 05 21.0 +0.4**
SUMG pmax pmax
comp=Z,42nm,1.4s
SUMG Summit 56.62 341 *i P* **P 02 05 21.1 +0.4**
comp=Z,8.0nm,0.8s
SUMG Summit 56.62 341 *eP* **P 02 05 21.0 +0.4**
comp=Z,42nm,1.4s
ESDC Sonseca Array 57.93 296 P **P 02 05 29.9 -0.1**
comp=Z,1.5nm,0.7s,baz=56,slow=6.8,SNR=12
ESDC LR LR 02 32 24.8
comp=Z,120nm,19.1s,baz=310,slow=38
KULLO Kullorsuaq 59.13 347 *i P* **P 02 05 37.4 -0.3**
KULLO pmax pmax
comp=Z,10.0nm,0.7s
KULLO Kullorsuaq 59.13 347 *i P* **P 02 05 37.4 -0.3**
comp=Z,10nm,0.7s
FX1 Attu Island--F 61.59 43 LR LR 02 34 05.6
comp=Z,375nm,18.1s,baz=293,slow=38
TNA Tin City 61.70 25 *eP* **P 02 05 56.0 +0.6**
comp=Z,9.5nm,1.1s
RES Resolute Bay 62.99 357 *eP* **P 02 06 04.2 +0.3**
RES pmax pmax
comp=Z,10.0nm,1.3s
RES Resolute Bay 62.99 357 *eP* **P 02 06 04.2 +0.3**
comp=Z,9.7nm,1.3s
SFJD Kangerlussuaq 63.50 339 *i P* **P 02 06 06.9 -0.4**
SFJD pmax pmax
comp=Z,8.0nm,0.8s
SFJD Kangerlussuaq 63.50 339 *i P* **P 02 06 06.9 -0.4**
comp=Z,7.5nm,0.7s
COLD Coldfoot 65.27 18 *eP* **P 02 06 19.1 +0.2**
comp=Z,9.6nm,0.8s
COLA College 67.76 18 *eP* **P 02 06 34.8 -0.1**
COLA pmax pmax
comp=Z,16nm,0.9s
COLA College 67.76 18 *eP* **P 02 06 34.8 -0.1**
comp=Z,16nm,0.9s
IL1 Eielson Array 68.07 18 *eP* **P 02 06 36.0 -0.9**
ILAR Eielson Array 68.07 18 P **P 02 06 35.5 -1.4**
comp=Z,6.0nm,0.8s,baz=322,slow=4.9,SNR=64
ILAR LR LR 02 40 32.1
comp=Z,367nm,19.2s,baz=317,slow=40
ILB Eielson Array 68.07 18 *eP* **P 02 06 35.5 -1.4**
KTH Kantishna Hill 68.09 21 *eP* **P 02 06 36.6 -0.5**
comp=Z,105nm,2.4s
TOA0 Torodi Ar. Sit 69.41 269 *eP* **P 02 06 45.2 -0.8**
TORD Torodi Ar. Bea 69.41 269 P **P 02 06 45.4 -0.5**
comp=Z,21nm,0.7s,baz=50,slow=5.6,SNR=215
DOT Dot Lake 69.67 18 *eP* **P 02 06 46.5 -0.5**
comp=Z,78nm,2.4s
PAX Paxson 69.94 19 *eP* **P 02 06 47.9 -0.7**
PAX pmax pmax
comp=Z,8.0nm,0.9s
PAX Paxson 69.94 19 *eP* **P 02 06 47.9 -0.7**
comp=Z,8.3nm,0.9s
LSZ Lusaka 72.10 228 *eP* **P 02 07 01.8 -0.5**
LSZ pmax pmax
comp=Z,9.0nm,0.6s
LSZ Lusaka 72.10 228 *eP* **P 02 07 01.8 -0.5**
comp=Z,8.7nm,0.6s
HYT Haines Junctio 73.61 16 *eP* **P 02 07 10.7 0.0**
YKA Yellowknife Ar 75.10 5 P **P 02 07 18.3 -0.9**
YKA pmax pmax
comp=Z,8.0nm,0.7s
YKA Yellowknife Ar 75.10 5 P **P 02 07 18.3 -0.9**
comp=Z,8.2nm,0.7s,baz=349,slow=5.9,SNR=128
YKB5 Yellowknife Ar 75.10 5 *eP* **P 02 07 18.2 -1.0**
SCHQ Schefferville 77.95 339 P **P 02 07 34.5 -1.0**
comp=Z,3.4nm,0.7s,baz=343,slow=7.9,SNR=5.2
SCHQ Schefferville 77.95 339 *eP* **P 02 07 34.7 -0.8**
comp=Z,181nm,2.5s
DBIC Dimbokro 78.50 269 P **P 02 07 38.7 -0.5**
DBIC pmax pmax
comp=Z,10.0nm,0.7s
DBIC Dimbokro 78.50 269 P **P 02 07 38.7 -0.5**
comp=Z,9.6nm,0.7s,baz=30,slow=6.7,SNR=20
DBIC Dimbokro 78.50 269 *eP* **P 02 07 37.9 -1.2**
comp=Z,12nm,0.8s
KIC Kosan Boka 78.62 268 *eP* **P 02 07 39.1 -0.8**
comp=Z,29nm,0.6s
TIC Toumodi 78.64 269 *eP* **P 02 07 39.1 -0.9**
comp=Z,13nm,0.6s
LIC Lamto 78.92 268 *eP* **P 02 07 40.1 -1.4**
comp=Z,48nm,1.2s
LIC Lamto 78.92 268 *eP* **P 02 07 40.7 -0.8**
comp=Z,55nm,1.2s
LIC Lamto 78.92 268 *eP* **P 02 07 40.1 -1.4**
TSUM Tsumeb 81.33 234 *eP* **P 02 07 55.0 +0.5**
comp=Z,18nm,1.2s
LBTB Lobatse 81.44 225 *eP* **P 02 07 55.0 +0.2**
LBTB pmax pmax
comp=Z,24nm,0.8s
LBTB Lobatse 81.44 225 *eP* **P 02 07 55.0 +0.2**
comp=Z,24nm,0.8s
WRA Warramunga Arr 82.32 126 P **P 02 07 58.3 -1.2**
WRA 02 11 09.5
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 82.32 126 P **P 02 07 58.2 -1.2**
comp=Z,2.1nm,0.7s,baz=318,slow=5.4,SNR=29
WRA PP **PP 02 11 09.5 +0.9**
comp=Z,0.4nm,0.4s,baz=336,slow=12,SNR=8.2
FFC Flin Flon 83.19 359 *eP* **P 02 08 03.2 -0.4**
FFC pmax pmax
comp=Z,117nm,2.6s
FFC Flin Flon 83.19 359 *eP* **P 02 08 03.2 -0.4**
comp=Z,117nm,2.6s
EDM Edmonton 84.41 5 *eP* **P 02 08 09.3 -0.6**
EDM Edmonton 84.41 5 *eP* **P 02 08 09.3 -0.6**
BOSA Boshof 84.55 223 P **P 02 08 10.1 -0.8**
BOSA pmax pmax
comp=Z,2.0nm,0.6s
BOSA Boshof 84.55 223 P **P 02 08 10.1 -0.8**
comp=Z,2.3nm,0.6s,baz=29,slow=3.7,SNR=7.4
AS12 Alice Springs 84.93 128 *eP* **P 02 08 11.2 -1.6**
ASAR Alice Springs 84.93 128 P **P 02 08 11.2 -1.6**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 84.93 128 P **P 02 08 11.2 -1.6**
comp=Z,1.2nm,0.7s,baz=325,slow=5.5,SNR=12
ULM Lac du Bonnet 87.39 355 P **P 02 08 23.4 -1.3**
ULM pmax pmax
comp=Z,2.0nm,0.7s
ULM Lac du Bonnet 87.39 355 P **P 02 08 23.4 -1.3**
comp=Z,2.0nm,0.7s,baz=191,slow=10.0,SNR=2.9
WALA Waterton Lakes 88.50 6 *eP* **P 02 08 29.6 -0.6**
comp=Z,72nm,2.3s
A30A Hoffart Farm, 88.85 356 P **P 02 08 30.8 -0.9**
baz=88
A21A Bergtoll Ranch 88.93 2 P **P 02 08 31.1 -1.0**
baz=88
NEW Newport 88.99 8 P **P 02 08 31.5 -0.9**
NEW pmax pmax
comp=Z,2.0nm,0.7s
NEW Newport 88.99 8 P **P 02 08 31.5 -0.9**
comp=Z,2.1nm,0.7s,baz=5.5,slow=4.7,SNR=5.0
NEW Newport 88.99 8 P **P 02 08 31.6 -0.9**
baz=89
NEW Newport 88.99 8 *eP* **P 02 08 32.1 -0.3**
comp=Z,47nm,2.3s
A20A Cobblestone Ra 89.01 2 P **P 02 08 32.1 -0.4**
baz=89
A24A Westby 89.02 360 P **P 02 08 32.3 -0.2**
baz=89
C09A Chrisman Ranch 89.31 9 *eP* **P 02 08 33.8 -0.1**
comp=Z,9.0nm,1.0s
B23A Brockton 89.48 0 P **P 02 08 34.2 -0.5**
baz=89
BSMT Bassoo Peak 89.63 7 *eP* **P 02 08 35.5 -0.1**
EGMT Eagleton 89.80 4 P **P 02 08 35.7 -0.6**
baz=89
C22A Vida 90.19 1 P **P 02 08 37.9 -0.1**
baz=90
SLMT Seeley Lake 90.34 6 *eP* **P 02 08 38.3 -0.6**
E09A Wood Farm, Sta 90.59 9 *eP* **P 02 08 39.4 -0.5**
comp=Z,5.2nm,0.8s
CHMT Chamberlain Mo 90.69 6 *eP* **P 02 08 39.7 -0.9**
D19A Cripps Ranch, 90.69 3 P **P 02 08 40.1 -0.4**
baz=90
D22A Cohagen 90.78 1 P **P 02 08 40.5 -0.3**
baz=90
D21A La Casta Ranch 90.85 2 P **P 02 08 40.7 -0.5**
baz=90
HRY Holter Researc 90.99 5 *eP* **P 02 08 41.5 -0.4**
E20A Meyer Farm, Mu 91.38 3 P **P 02 08 42.7 -0.9**
baz=91
F19A Roth Farm, Mol 92.00 3 P **P 02 08 46.3 -0.3**
baz=92
H19A Powell 93.18 3 P **P 02 08 51.6 -0.5**
baz=93
RSSD Black Hills 93.83 360 *eP* **P 02 08 54.1 -1.1**
RSSD pmax pmax
comp=Z,4.0nm,0.7s
RSSD Black Hills 93.83 360 *eP* **P 02 08 54.1 -1.1**
comp=Z,4.1nm,0.7s
IMW Indian Meadow 93.85 5 *eP* **P 02 08 55.3 -0.1**
comp=Z,57nm,2.5s
MFID Camas Ranch 93.92 8 *eP* **P 02 08 55.0 -0.5**
comp=Z,14nm,1.4s
I20A Worland 93.93 3 P **P 02 08 55.0 -0.5**
baz=94
I21A Big Trails, Te 94.10 2 P **P 02 08 55.5 -0.8**
baz=94
J29A Okreek 94.46 357 P **P 02 08 57.3 -0.6**
baz=94
J22A Midwest 94.52 2 P **P 02 08 56.8 -1.4**
baz=94
J19A Crowheart 94.58 3 P **P 02 08 58.9 +0.3**
baz=94
BW06 Boulder Array 95.05 4 *eP* **P 02 09 00.0 -0.8**
PD31 Pinedale Array 95.05 4 *eP* **P 02 09 00.2 -0.6**
PDAR Pinedale Array 95.05 4 P **P 02 09 00.2 -0.6**
comp=Z,2.3nm,0.7s,baz=42,slow=2.8,SNR=11
PDAR LR LR 02 58 07.1
comp=Z,700nm,18.1s,baz=158,slow=39
K21A Alcova 95.28 2 P **P 02 09 01.2 -0.6**
baz=95
HVU Hansel Valley 95.83 6 *eP* **P 02 09 03.6 -0.6**
HVU pmax pmax
comp=Z,5.0nm,0.9s
HVU Hansel Valley 95.83 6 *eP* **P 02 09 03.6 -0.6**
comp=Z,4.7nm,0.9s
HWUT Hardware Ranch 96.09 5 *eP* **P 02 09 05.7 +0.1**
comp=Z,6.5nm,0.8s
NV01 Mina Array Sit 98.52 11 *eP* Pdif 02 09 16.3 -0.3
NVAR Mina Array Bea 98.52 11 P Pdif 02 09 17.3 +0.7
comp=Z,0.5nm,0.8s,baz=358,slow=4.4,SNR=3.2
QSPA South Pole Qui 132.22 180 PKP **PKPdf 02 14 49.7 -0.8**
comp=Z,3.1nm,0.7s,baz=168,slow=1.9,SNR=8.0

IDC ***02*** *02:00:16.3±1.4, 34°.20S×72°.26W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/26, mbtmp4.0/7, ML3.1/2, Error ellipse: s-maj=44.9km s-min=16.9km az=115.0*
ISCJB ***02*** *02:00:17.3±1.3, 34°.3S±0°.1×72°.2W±0°.3, h17km, mb4.0/4, Error ellipse: s-maj=41.0km s-min=12.4km az=16.5*
ISC 02 02:00:19.0±1.4, 34°.2S±0°.2×72°.3W±0°.3, h17km, n10, σ0s84/10, mb4.0/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.26**	**54**	Pn	**Pn**	**02 01 24.3**	**+1.1**
	0.1nm,0.3s,baz=235,slow=13,SNR=4.5						
CFAA				Lg	Lg	02 02 31.8	
	1.0nm,0.3s,baz=311,slow=22,SNR=7.3						
LPAZ	**La Paz**	**18.23**	**13**	P	**P**	**02 04 32.6**	**+0.6**
	0.1nm,0.3s,baz=181,slow=4.9,SNR=7.4						
SIV	**San Ignacio**	**20.75**	**32**	P	**P**	**02 04 58.3**	**-0.7**
	3.9nm,0.8s,baz=237,slow=5.0,SNR=9.1						
USHA	**Ushuaia**	**20.79**	**174**	P	**P**	**02 04 58.5**	**-0.6**
	5.7nm,0.9s,baz=354,slow=1.9,SNR=3.1						
BDFB	**Brasilia**	**28.60**	**56**	P	**P**	**02 06 13.4**	**-1.2**
	2.0nm,0.7s,baz=206,slow=10,SNR=3.2						
SNAA	**Sanae**	**51.46**	**158**	P	**P**	**02 09 23.1**	**+0.1**
	1.3nm,1.1s,baz=233,slow=6.1,SNR=3.4						
QSPA	**South Pole Qui**	**56.02**	**180**	P	**P**	**02 09 57.4**	**+0.8**
	1.2nm,0.6s,baz=132,slow=5.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**84.45**	**70**	P	**P**	**02 12 51.0**	**0.0**
	1.0nm,0.8s,baz=255,slow=5.1,SNR=5.0						
ZALV	**Zalesovo Beam**	**154.50**	**32**	PKPbc	**PKPbc**	**02 20 17.5**	**-0.6**
	0.4nm,0.3s,baz=316,slow=4.1,SNR=5.6						
MKAR	**Makanchi Array**	**157.04**	**49**	PKPab	**PKPab**	**02 20 43.9**	**+0.1**
	0.5nm,0.9s,baz=312,slow=3.0,SNR=4.1						

IDC ***02*** *02:00:47.9±0.9, 37°.39S×73°.54W, h0km, mb4.3/8, mb1 4.3/10, mb1mx4.2/27, mbtmp4.2/10, ML4.3/2, MS3.4/3, Ms1 3.4/3, ms1mx3.2/29, Error ellipse: s-maj=32.0km s-min=16.2km az=79.0*
ISCJB ***02*** *02:00:49.7±0.8, 37°.45S±0°.06×73°.6W±0°.1, h23km, mb4.2/10, MS3.8/1, Error ellipse: s-maj=15.7km s-min=8.1km az=7.6*
NEIC ***02*** *02:00:52.7±0.6, 37°.47S×73°.72W, h35km, mb4.3/5, Error ellipse: s-maj=14.5km s-min=8.5km az=101.0*
ISC 02 02:00:51.2±0.8, 37°.46S±0°.08×73°.7W±0°.1, h23km, n27, σ1s10/26, mb4.2/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.09**	**144**	Pn	**Pn**	**02 01 52.8**	**+0.3**
	3.5nm,0.3s,baz=319,slow=11,SNR=8.9						
PLCA				Lg	Lg	02 02 58.0	
	9.0nm,0.3s,baz=48,slow=17,SNR=5.7						
PLCA				LR	LR	02 03 44.5	
	comp=Z,733nm,21.2s,baz=254,slow=43						
CFAA	**Coronel Fontan**	**7.38**	**39**	Sn	**Sn**	**02 04 02.8**	**+2.1**
	0.2nm,0.3s,baz=6.6,slow=2.4,SNR=1.8						
CFAA				Lg	Lg	02 04 42.9	
	0.1nm,0.3s,baz=133,slow=21,SNR=3.1						
CFAA				LR	LR	02 05 40.7	
	comp=Z,97nm,18.1s,baz=217,slow=40						
TRQA	**Tornquist**	**9.31**	**97**	*e*Pn	**Pn**	**02 03 03.9**	**-0.1**
	16nm,0.8s						
LVC	**Limon Verde**	**15.37**	**17**	*e*Pn	**Pn**	**02 04 26.1**	**-0.8**
	9.0nm,0.8s						
USHA	**Ushuaia**	**17.75**	**170**	S	Sn	02 07 56.6	-17
	0.2nm,0.3s,baz=278,slow=14,SNR=3.2						
CPUP	**Villa Florida**	**17.77**	**56**	P	**Pn**	**02 04 55.0**	**-2.1**
	0.5nm,0.3s,baz=197,slow=9.6,SNR=2.9						
EFI	**East Falkland**	**18.01**	**147**	*e*P	**Pn**	**02 04 59.8**	**0.0**
	20nm,0.5s						
LPAZ	**La Paz**	**21.66**	**15**	P	**P**	**02 05 41.1**	**+0.2**
	3.8nm,0.6s,baz=174,slow=10,SNR=7.1						
LPAZ	**La Paz**	**21.66**	**15**	*e*P	**P**	**02 05 41.5**	**+0.7**
	6.8nm,0.8s						
SIV	**San Ignacio**	**24.13**	**31**	P	**P**	**02 06 04.6**	**-1.0**
	11nm,0.8s,baz=220,slow=9.0,SNR=15						
SAML	**Samuel**	**29.94**	**21**	*e*P	**P**	**02 06 56.7**	**-1.0**
	2.4nm,0.7s						
BDFB	**Brasilia**	**31.45**	**53**	P	**P**	**02 07 13.4**	**+2.2**
	2.0nm,0.7s,baz=200,slow=8.9,SNR=3.0						
SNAA	**Sanae**	**48.93**	**157**	P	**P**	**02 09 35.5**	**+0.4**
	1.5nm,0.9s,baz=277,slow=8.8,SNR=3.5						
QSPA	**South Pole Qui**	**52.78**	**180**	P	**P**	**02 10 05.0**	**+0.7**
	5.4nm,0.9s,baz=175,slow=3.3,SNR=6.0						
APG	**El Apazote**	**54.51**	**340**	LR	LR	02 28 54.5	
	comp=Z,80nm,18.0s,baz=176,slow=31						
H06S1	**SOCORRO T**	**65.99**	**321**	T	T	03 23 42.2	
	SNR=13						

TXAR Lajitas Array 72.13 333 P **P 02 12 14.6 +0.7**
1.0nm,0.7s,baz=150,slow=10,SNR=4.0
DBIC Dimbokro 77.57 72 P **P 02 12 44.0 -1.7**
5.9nm,0.9s,baz=240,slow=6.9,SNR=4.9
DBIC Dimbokro 77.57 72 *e*P **P 02 12 45.1 -0.5**
6.5nm,0.9s
BOSA Boshof 79.66 118 P **P 02 12 58.4 +1.1**
4.5nm,0.9s,baz=238,slow=1.8,SNR=4.4
TORD Torodi Ar. Bea 86.65 71 P **P 02 13 32.3 -1.0**
1.0nm,0.7s,baz=210,slow=4.6,SNR=5.8
BRTR Keskin Array B 124.65 63 PKP **PKPdf 02 19 48.6 -0.2**
0.7nm,0.7s,baz=171,slow=2.8,SNR=4.7
ABKAR Akbulak array 144.83 55 *e*PKPdf **PKPab 02 20 24.4 -0.3**
PSI Prapat 144.85 167 PKP **PKPab 02 20 24.9 -1.1**
6.2nm,0.4s,baz=145,slow=1.2,SNR=9.3
ZALV Zalesovo Beam 157.86 35 PKP **PKPdf 02 20 44.5 -0.8**
1.2nm,0.7s,baz=329,slow=2.6,SNR=4.3
ZALV PKPab **PKPab 02 21 18.1 -0.1**
1.8nm,0.6s,baz=304,slow=5.2,SNR=5.4
MKAR Makanchi Array 159.97 55 PKP **PKPdf 02 20 48.4 +0.4**
0.4nm,0.7s,baz=296,slow=2.5,SNR=4.0
MKAR PKPab **PKPab 02 21 26.4 -1.3**
0.2nm,0.4s,baz=56,slow=43,SNR=5.9
SONM Songino Array 169.63 360 PKPab **PKPab 02 22 11.1 +0.9**
0.2nm,0.7s,baz=346,slow=3.1,SNR=3.6

CSEM ***02*** *02:07:18.0, 45°.85N×15°.47E, h0km, ML0.8*
LJU 02 02:07:18.0, 45°.85N×15°.47E, h5km, ML0.8, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CRES	**Cresnjev**	**0.03**	**202**	⇓*i*Pg		Pg	02 07 19.2	+0.1
CRES				*i* Sg		Sg	02 07 20.2	+0.2
comp=Z,35nm,0.1s								
CRES	**Cresnjev**	**0.03**	**202**	⇓*i*Pg		Pg	02 07 19.2	+0.1
CRES				*i* Sg		Sg	02 07 20.2	+0.2
comp=Z,35nm,0.1s								
GCIS	**Gornji Cirnik**	**0.11**	**83**	*i* Pg		Pg	02 07 20.3	0.0
GCIS				*i* Sg		Sg	02 07 22.0	+0.1
comp=Z,18nm,0.1s								
GCIS	**Gornji Cirnik**	**0.11**	**83**	*i* Pg		Pg	02 07 20.3	0.0
GCIS				*i* Sg		Sg	02 07 22.0	+0.1
comp=Z,18nm,0.1s								
CESS	**Cesta pri Krsk**	**0.12**	**357**	*i* Pg		Pg	02 07 20.3	-0.3
CESS				*i* Sg		Sg	02 07 22.2	0.0
comp=Z,34nm,0.1s								
CESS	**Cesta pri Krsk**	**0.12**	**357**	*i* Pg		Pg	02 07 20.3	-0.3
CESS				*i* Sg		Sg	02 07 22.2	-0.1
comp=Z,34nm,0.1s								
LEGS	**Legarje**	**0.14**	**311**	*i* Pg		Pg	02 07 21.0	+0.1
LEGS				*i* Sg		Sg	02 07 23.4	+0.4
LEGS	**Legarje**	**0.14**	**311**	*i* Pg		Pg	02 07 21.0	0.0
LEGS				*i* Sg		Sg	02 07 23.4	+0.4
GOLS	**Golise**	**0.19**	**34**	*i* Pg		Pg	02 07 22.0	+0.1
GOLS				*i* Sg		Sg	02 07 25.1	+0.7
comp=Z,7.0nm,0.1s								
GOLS	**Golise**	**0.19**	**34**	*i* Pg		Pg	02 07 22.0	+0.2
GOLS				*i* Sg		Sg	02 07 25.1	+0.7
comp=Z,7.0nm,0.1s								
DOBS	**Dobrina**	**0.30**	**359**	*i* Pg		Pg	02 07 23.9	0.0
DOBS				*i* Sg		Sg	02 07 28.2	+0.4
comp=Z,4.0nm,0.1s								
DOBS	**Dobrina**	**0.30**	**359**	*i* Pg		Pg	02 07 23.9	+0.1
DOBS				*i* Sg		Sg	02 07 28.2	+0.4
comp=Z,4.0nm,0.1s								
BOJS	**Bojanci**	**0.38**	**204**	*i* Pg		Pg	02 07 25.6	+0.2
BOJS	**Bojanci**	**0.38**	**204**	*i* Pg		Pg	02 07 25.6	+0.2
PDKS	**Podkum**	**0.39**	**302**	*i* Pg		Pg	02 07 25.9	+0.3
PDKS				*i* Sg		Sg	02 07 31.2	+0.3
PDKS	**Podkum**	**0.39**	**302**	*i* Pg		Pg	02 07 25.9	+0.2
PDKS				*i* Sg		Sg	02 07 31.2	+0.3

KNET ***02*** *02:08:44.8±0.3, 42°.44N×75°.63E, h0km, ml2.3, Error ellipse: s-maj=2.5km s-min=1.9km az=32.0*
ISCJB ***02*** *02:08:45.2±0.5, 42°.43N±0°.03×75°.60E±0°.03, h2km±5km, Error ellipse: s-maj=4.7km s-min=3.2km az=13.2*
KRNET ***02*** *02:08:45.1±0.1, 42°.42N×75°.62E, h10km, mb3.0*
NNC ***02*** *02:08:45.2±0.4, 42°.44N×75°.57E, h0km, mb3.5, mpv2.6, Error ellipse: s-maj=2.4km s-min=0.8km az=140.0*
ISC 02 02:08:45.4±0.9, 42°.43N±0°.03×75°.62E±0°.02, h12km±10km, n27, σ0s56/49, 31C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BOOM	**Boomskoye usch**	**0.25**	**75**	*e*P		**Pg**	**02 08 51.0**	**+0.2**
BOOM				*e*S		**Sg**	**02 08 55.0**	**+0.6**
baz=76								
KZA	**Kyzart**	**0.44**	**218**	⇑P		**Pg**	**02 08 54.1**	**-0.2**
KZA				⇓S		**Sb**	**02 09 01.3**	**-0.8**
20nm,0.2s,SNR=43								
KZA	**Kyzart**	**0.44**	**218**	⇑*i*P		**Pg**	**02 08 54.1**	**-0.2**
KZA				⇑*i*S		**Sg**	**02 09 00.7**	**+0.4**
baz=219								
TKM2	**Tokmak 2**	**0.49**	**358**	⇑P		**Pg**	**02 08 54.8**	**-0.3**
TKM2				⇑S		**Sg**	**02 09 01.7**	**-0.1**
3.4nm,0.2s								
TKM2	**Tokmak 2**	**0.49**	**358**	⇓P		**Pg**	**02 08 55.0**	**-0.3**
TKM2				⇑S		**Sg**	**02 09 01.6**	**-0.2**
40nm,0.2s								
TKM2	**Tokmak 2**	**0.49**	**358**	⇑*i*P		**Pg**	**02 08 54.9**	**-0.3**
TKM2				⇑*i*S		**Sg**	**02 09 01.5**	**-0.3**
17nm,0.2s,SNR=18								
TKM2	**Tokmak 2**	**0.49**	**358**	⇑*i*P		**Pg**	**02 08 54.9**	**-0.3**
TKM2				⇑*i*S		**Sg**	**02 09 01.5**	**-0.3**
156nm,0.1s								
ULHL	**Ulahol**	**0.50**	**111**	⇑P		**Pg**	**02 08 54.4**	**-0.9**
ULHL				⇑S		**Sg**	**02 09 01.2**	**-0.8**
8.9nm,0.1s,SNR=19								
ULHL	**Ulahol**	**0.50**	**111**	⇑*i*P		**Pg**	**02 08 54.4**	**-0.9**
ULHL				⇑*i*S		**Sg**	**02 09 01.0**	**-0.9**
126nm,0.1s								
KBK	**Karagaybulak**	**0.54**	**295**	⇑P		**Pg**	**02 08 56.4**	**+0.2**
KBK				⇑S		**Sb**	**02 09 04.2**	**-0.7**
15nm,0.1s,SNR=23								
KBK	**Karagaybulak**	**0.54**	**295**	⇓*i*P		**Pg**	**02 08 56.3**	**+0.2**
KBK				⇓*i*S		**Sg**	**02 09 03.9**	**+0.5**
130nm,0.2s								
UCH	**Uchtor**	**0.84**	**257**	P		**Pg**	**02 09 01.1**	**-0.7**
UCH				⇑*i*P		**Pg**	**02 09 01.0**	**-0.7**
SNR=18								
UCH	**Uchtor**	**0.84**	**257**	⇑*i*P		**Pg**	**02 09 01.0**	**-0.7**
UCH				⇑*i*S		**Sg**	**02 09 12.4**	**-0.5**
baz=257								
AAK	**Ala-Archa**	**0.85**	**284**	⇑P		**Pg**	**02 09 01.4**	**-0.6**
AAK				⇑S		**Sg**	**02 09 12.8**	**-0.4**
1.2nm,0.2s								
AAK	**Ala-Archa**	**0.85**	**284**	⇑P		**Pg**	**02 09 01.5**	**-0.5**
AAK				⇓S		**Sg**	**02 09 12.8**	**-0.4**
7.8nm,0.1s,SNR=28								
AAK	**Ala-Archa**	**0.85**	**284**	⇑*i*P		**Pg**	**02 09 01.4**	**-0.6**
AAK				⇑*i*S		**Sg**	**02 09 12.7**	**-0.4**
10nm,0.2s								
CHMS	**Chumysh**	**0.85**	**312**	⇓P		**Pg**	**02 09 01.4**	**-0.7**
CHMS				⇓S		**Sg**	**02 09 12.9**	**-0.3**
2.8nm,0.1s,SNR=11								
CHMS	**Chumysh**	**0.85**	**312**	⇓*i*P		**Pg**	**02 09 01.3**	**-0.7**
CHMS				⇓*i*S		**Sg**	**02 09 12.8**	**-0.3**
24nm,0.1s								
NRN	**Naryn**	**1.03**	**164**	*i* P		**Pg**	**02 09 05.0**	**-0.4**
NRN				⇓*i*S		**Sb**	**02 09 19.5**	**+0.4**
baz=165								
USP	**Ospenovka**	**1.17**	**316**	⇑P		**Pb**	**02 09 07.3**	**-0.4**
USP				⇑*i*P		**Pb**	**02 09 07.3**	**-0.4**
4.0nm,0.2s,SNR=11								
USP	**Ospenovka**	**1.17**	**316**	⇑*i*P		**Pg**	**02 09 23.2**	**-0.1**
USP				⇑*i*S		**Sg**	**02 09 23.2**	**-0.1**
baz=316								
EKS	**Erkin-Say**	**1.37**	**281**	*i* P		**Pg**	**02 09 11.6**	**-0.2**
EKS				*e*S		**Sg**	**02 09 30.0**	**+0.3**
baz=281								
EKS2	**Erkin-Say**	**1.38**	**280**	P		**Pb**	**02 09 11.6**	**+0.4**
5.3nm,0.1s,SNR=24								
EKS2	**Erkin-Say**	**1.38**	**280**	⇑*i*P		**Pb**	**02 09 11.6**	**+0.4**
baz=281								
EKS2				⇑*i*S		**Sg**	**02 09 30.2**	**+0.3**
baz=281								
AML	**Almayashu**	**1.46**	**259**	⇑P		**Pn**	**02 09 12.3**	**+0.3**
4.3nm,0.1s,SNR=19								
AML	**Almayashu**	**1.46**	**259**	⇑*i*P		**Pn**	**02 09 12.2**	**+0.3**
baz=259								
AML				⇑*i*S		**Sb**	**02 09 31.4**	**+0.1**
baz=259								
ANVS	**Anan'yevo**	**1.56**	**76**	⇓*i*P		**Pn**	**02 09 13.5**	**+0.4**
baz=76								
ANVS				⇓*e*S		**Sg**	**02 09 36.5**	**+1.0**
baz=76								
KK31	**Karatay Array**	**3.82**	**282**	⇑Pg		**Pb**	**02 09 54.2**	**+1.4**
5.6nm,0.9s,baz=95,slow=14,SNR=4.5								
KK31				⇑Lg		Lg	02 10 44.5	
2.3nm,0.5s,baz=98,slow=31,SNR=6.5								

IDC ***02*** *02:09:32.0±0.4, 39°.74S×71°.29W, h0km, mb4.8/16, mb1 4.9/18, mb1mx4.8/28, mbtmp4.8/18, ML4.0/2, MS4.6/14, Ms1 4.6/14, ms1mx4.5/22, Error ellipse: s-maj=18.2km s-min=8.7km az=71.0*
ISCJB ***02*** *02:09:35.2±0.1, 39°.69S±0°.04×71°.27W±0°.05, h33km, mb5.2/76, MS4.5/12, Error ellipse: s-maj=7.1km s-min=3.7km az=139.5*
NEIC ***02*** *02:09:35.5±1.6, 39°.76S×71°.37W, h25km±11km, mb5.3/47, Error ellipse: s-maj=7.7km s-min=4.4km az=65.0*
NEIC Felt [IV] at Cutral Co and Neuquen and [III] at San Carlos de Bariloche.
GCMT ***02*** *02:09:35.5±0.2, 39°.86S×71°.47W, h16km±1km, MW5.1/77, Moment Tensor Solution. s41,c53; s77,c118; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.05±.16; Mθθ-1.52±.15; Mφφ1.47±.17; Mrθ-3.20±.57; Mφφ5.28±.14; Mφr1.53±.49; Best double couple: M0 6.38300×10^16 NP1:φs80.00000°, δ79.00000°, λ-25.00000°. NP2: φs176.00000°, δ65.00000°, λ-168.00000°. Principal axes: T 5.5760, Plg9.0000°, Azm130.0000°; N 1.6110, Plg62.0000°, Azm238.0000°; P -7.1910, Plg26.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***02*** *02:09:36.1±1.1, 39°.62S×71°.38W, h33km, mb5.4/20 Error ellipse: s-maj=19.3km s-min=11.0km az=95.5*
ISC 02 02:09:37.3±0.3, 39°.72S±0°.06×71°.31W±0°.07, h35km, n689, σ0s87/727, mb5.2/76, MS4.7/12, 228C-193D, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**1.17**	**150**	*e*P		Pn	02 09 53.6	-3.7
PLCA				*e*			02 10 09.4	
PLCA	**Paso Flores**	**1.17**	**150**	Pg		Pn	02 09 53.3	-4.0
1μm,0.3s,baz=335,slow=12,SNR=538								
PLCA				Lg		Lg	02 10 09.7	
3μm,0.3s,baz=56,slow=23,SNR=27								
PLCA	**Paso Flores**	**1.17**	**150**	*e*Pn		Pn	02 09 53.6	-3.7
PLCA				*e*Sn		**Sn**	**02 10 09.4**	**-2.7**
TRQA	**Tornquist**	**7.46**	**80**	*e*Pn		**Pn**	**02 11 23.1**	**-0.6**
TRQA				*e*Sn		**Sn**	**02 12 47.9**	**+0.7**
CFAA	**Coronel Fontan**	**8.47**	**18**	Pn		**Pn**	**02 11 38.2**	**+0.6**
1.8nm,0.3s,baz=205,slow=12,SNR=55								
CFAA				Lg		Lg	02 14 02.9	
0.3nm,0.3s,baz=303,slow=20,SNR=3.3								
CFAA				LR		LR	02 14 44.5	
comp=Z,539nm,18.5s,baz=238,slow=37								
USHA	**Ushuaia**	**15.24**	**174**	Pn		**Pn**	**02 13 09.9**	**+0.1**
0.6nm,0.3s,baz=328,slow=11,SNR=11								
USHA				LR		LR	02 19 52.1	
comp=Z,3μm,19.9s,baz=339,slow=41								
CPUP	**Villa Florida**	**17.74**	**45**	*e*P		**P**	**02 13 42.5**	**+0.5**
CPUP	**Villa Florida**	**17.74**	**45**	P		**P**	**02 13 43.2**	**+1.2**
0.6nm,0.3s,baz=195,slow=9.9,SNR=5.1								
CPUP				LR		LR	02 21 04.1	
comp=Z,5μm,18.5s,baz=206,slow=39								
CPUP	**Villa Florida**	**17.74**	**45**	*e*Pn		**P**	**02 13 42.5**	**+0.5**
LPAZ	**La Paz**	**23.51**	**8**	P		**P**	**02 14 44.1**	**-0.7**
16nm,0.6s,baz=178,slow=7.5,SNR=44								
LPAZ				PcP		**PcP**	**02 18 30.5**	**+0.6**
2.8nm,0.8s,baz=54,slow=1.1,SNR=3.9								
LPAZ				LR		LR	02 24 59.3	
comp=Z,2μm,19.3s,baz=144,slow=39								
SIV	**San Ignacio**	**25.27**	**24**	P		**P**	**02 14 59.7**	**-0.7**
51nm,0.9s,baz=220,slow=10,SNR=48								
SIV				LR		LR	02 26 04.2	
comp=Z,3μm,20.0s,baz=213,slow=39								
PMSA	**Palmer Station**	**25.45**	**173**	LR		LR	02 25 16.2	
comp=Z,2μm,18.2s,baz=336,slow=37								
NNA	**Nana**	**28.05**	**348**	*e*P		**P**	**02 15 23.9**	**-1.6**
NNA				pmax		pmax		
comp=Z,72nm,1.6s								
NNA	**Nana**	**28.05**	**348**	P		**P**	**02 15 24.7**	**-0.7**
comp=Z,10nm,0.7s,baz=196,slow=9.7,SNR=4.8								
NNA	**Nana**	**28.05**	**348**	*e*P		**P**	**02 15 23.9**	**-1.6**
comp=Z,72nm,1.6s								
BDFB	**Brasilia**	**31.45**	**47**	*e*P		**P**	**02 15 55.1**	**-0.6**
BDFB	**Brasilia**	**31.45**	**47**	P		**P**	**02 15 54.8**	**-0.9**
comp=Z,2.1nm,0.5s,baz=183,slow=11,SNR=3.8								
BDFB				PcP		**PcP**	**02 18 49.7**	**+1.3**
comp=Z,3.6nm,0.7s,baz=150,slow=5.5,SNR=4.3								
BDFB				LR		LR	02 30 24.1	
comp=Z,2μm,18.6s,baz=208,slow=40								
BDFB	**Brasilia**	**31.45**	**47**	*e*P		**P**	**02 15 55.1**	**-0.6**
ATAH	**Atahualpa**	**33.06**	**347**	P		**P**	**02 16 11.6**	**+1.5**
comp=Z,14nm,0.9s,baz=171,slow=8.3,SNR=17								
ATAH				LR		LR	02 27 40.1	
comp=Z,452nm,19.5s,baz=187,slow=33								
RPN	**Rapa Nui**	**33.88**	**280**	LR		LR	02 26 35.6	
comp=Z,506nm,18.2s,baz=123,slow=30								
OTAV	**Otavalo**	**40.30**	**349**	*e*P		**P**	**02 17 12.4**	**+0.7**
comp=Z,70nm,1.5s								
VNA3	**Neumayer Olymp**	**43.88**	**156**	P		**P**	**02 17 40.1**	**+0.1**
VNA1	**Neumayer--Stat**	**44.23**	**155**	P		**P**	**02 17 43.9**	**+1.3**
VNA2	**Neumayer--Watz**	**44.55**	**155**	P		**P**	**02 17 45.0**	**-0.3**
SNAA	**Sanae**	**46.11**	**156**	P		**P**	**02 17 57.2**	**-0.5**
SNAA	**Sanae**	**46.11**	**156**	⇓*i*P		**P**	**02 17 56.9**	**-0.7**
SNAA	**Sanae**	**46.11**	**156**	*ce*P		**P**	**02 17 57.0**	**-0.7**
SNAA				pmax		pmax		
comp=Z,78nm,1.2s								
SNAA	**Sanae**	**46.11**	**156**	P		**P**	**02 17 57.4**	**-0.3**
comp=Z,14nm,0.8s,baz=291,slow=7.8,SNR=41								
SNAA				LR		LR	02 35 14.9	
comp=Z,28nm,21.7s,baz=287,slow=34								
SNAA	**Sanae**	**46.11**	**156**	*e*P		**P**	**02 17 57.5**	**-0.1**
comp=Z,59nm,1.0s								
RCBR	**Riachuelo**	**46.40**	**53**	P		**P**	**02 18 01.7**	**+1.1**
comp=Z,6.3nm,1.0s,baz=199,slow=5.9,SNR=4.1								
QSPA	**South Pole Qui**	**50.53**	**180**	P		**P**	**02 18 32.2**	**+0.3**
comp=Z,12nm,0.7s,baz=173,slow=2.1,SNR=22								
NVL	**N'lazarevskaya**	**50.88**	**155**	*e*P		**P**	**02 18 35.3**	**+1.1**
NVL				pmax		pmax		
comp=Z,63nm,1.4s								
JTS	**JuntasAbangare**	**51.34**	**343**	*d*iP		**P**	**02 18 39.2**	**+0.8**
JTS				pmax		pmax		
comp=Z,70nm,1.6s								
JTS	**JuntasAbangare**	**51.34**	**343**	P		**P**	**02 18 39.0**	**+0.7**
comp=Z,16nm,1.1s,baz=175,slow=5.5,SNR=7.4								
JTS	**JuntasAbangare**	**51.34**	**343**	*e*P		**P**	**02 18 38.6**	**+0.2**
comp=Z,28nm,1.1s								
RKT	**Rikitea**	**55.70**	**267**	*e*LQ		LQ	02 33 09.3	
comp=Z,733nm,30.0s								
RKT				*e*LR		LR	02 35 29.9	
comp=Z,295nm,28.0s								
VNDA	**Vanda**	**58.62**	**192**	LR		LR	02 42 57.1	
comp=Z,229nm,18.1s,baz=140,slow=34								
SYO	**Syowa Base**	**60.36**	**157**	⇓*e*P		**P**	**02 19 40.0**	**-2.3**
SYO	**Syowa Base**	**60.36**	**157**	⇓*e*sP		sP	02 19 49.8	-7.3
MAW	**Mawson**	**67.55**	**163**	LR		LR	02 51 27.4	
comp=Z,552nm,18.6s,baz=230,slow=37								
PPT2	**Papeete2**	**70.08**	**263**	*e*LR		LR	02 42 09.2	
comp=Z,154nm,23.8s								
035A	**Encino**	**70.86**	**335**	⇑P		**P**	**02 20 49.7**	**-0.7**
baz=71								
034A	**Hebbronville**	**71.17**	**334**	⇑P		**P**	**02 20 52.8**	**+0.4**
baz=72								
TIGA	**Tifton**	**71.71**	**349**	⇓P		**P**	**02 20 54.2**	**-1.3**
baz=72								
933A	**Laredo**	**71.88**	**334**	⇑P		**P**	**02 20 57.0**	**+0.4**
baz=72								
835A	**Beeville**	**72.03**	**336**	⇑P		**P**	**02 20 57.5**	**0.0**
baz=72								
834A	**Tilden**	**72.11**	**335**	⇓P		**P**	**02 20 58.1**	**+0.1**
baz=72								
735A	**Kenedy**	**72.55**	**336**	⇑P		**P**	**02 21 00.9**	**+0.4**
baz=73								
833A	**Chaparral WMA,**	**72.57**	**334**	⇑P		**P**	**02 21 00.5**	**-0.2**
baz=73,SNR=8.9								
832A	**Faith Ranch, C**	**72.73**	**334**	⇓P		**P**	**02 21 01.4**	**-0.4**
baz=73,SNR=9.1								
734A	**La Parita Cree**	**72.78**	**335**	⇑P		**P**	**02 21 01.8**	**-0.1**
baz=73								
636A	**Smothers Creek**	**72.89**	**337**	⇓P		**P**	**02 21 02.7**	**0.0**
baz=73								
733A	**Divot King Ran**	**72.90**	**334**	⇑P		**P**	**02 21 02.2**	**-0.5**
baz=73								
HKT	**Hockley**	**72.97**	**338**	*e*P		**P**	**02 21 03.1**	**+0.1**
HKT				pmax		pmax		
comp=Z,28nm,1.3s								
HKT	**Hockley**	**72.97**	**338**	*e*P		**P**	**02 21 03.1**	**+0.1**
comp=Z,28nm,1.3s								
732A	**Laxson Ranch,**	**73.14**	**334**	⇓P		**P**	**02 21 03.7**	**-0.5**
baz=74,SNR=16								
537A	**Green Hill Far**	**73.23**	**338**	⇑P		**P**	**02 21 04.8**	**+0.1**
baz=74,SNR=6.0								
536A	**Bastrop**	**73.45**	**337**	⇓P		**P**	**02 21 05.5**	**-0.4**
baz=74								
633A	**Saathoff Ranch**	**73.55**	**335**	⇓P		**P**	**02 21 05.8**	**-0.8**
baz=74								
535A	**Dale**	**73.56**	**336**	⇓P		**P**	**02 21 06.3**	**-0.3**
baz=74								
632A	**Uvalde**	**73.79**	**334**	⇑P		**P**	**02 21 07.7**	**-0.3**
baz=74,SNR=16								
LRAL	**Lakeview Retre**	**73.83**	**346**	*e*P		**P**	**02 21 06.8**	**-1.3**
comp=Z,33nm,0.9s								
534A	**Blanco**	**73.85**	**336**	⇓P		**P**	**02 21 07.7**	**-0.6**
baz=74								
339A	**Huntington**	**73.91**	**339**	⇑P		**P**	**02 21 08.2**	**-0.4**
baz=74								
631A	**Perdido Creek**	**73.97**	**334**	⇓P		**P**	**02 21 08.0**	**-1.0**
baz=74,SNR=6.1								
436A	**Wall Ranch, Ga**	**74.02**	**337**	⇓P		**P**	**02 21 08.6**	**-0.6**
baz=74								
533A	**Kerrville**	**74.07**	**335**	⇑P		**P**	**02 21 09.0**	**-0.6**
baz=74,SNR=17								
338A	**Crockett**	**74.14**	**339**	⇓P		**P**	**02 21 10.0**	**0.0**
baz=74,SNR=8.3								
337A	**Centerville**	**74.27**	**338**	⇓P		**P**	**02 21 10.9**	**+0.2**
baz=75,SNR=11								
435B	**Jarrell**	**74.27**	**337**	⇓P		**P**	**02 21 10.0**	**-0.7**
baz=75								
532A	**Rocksprings**	**74.40**	**335**	⇑P		**P**	**02 21 11.1**	**-0.5**
baz=75,SNR=18								
434A	**Burnet**	**74.51**	**336**	⇓P		**P**	**02 21 11.6**	**-0.6**
baz=75,SNR=22								
336A	**Riesel**	**74.61**	**338**	⇓P		**P**	**02 21 12.1**	**-0.6**
baz=75,SNR=15								
531A	**Rocksprings**	**74.65**	**334**	⇓P		**P**	**02 21 12.7**	**-0.3**
baz=75,SNR=11								
335A	**Moody**	**74.69**	**337**	⇑P		**P**	**02 21 12.5**	**-0.7**
baz=75,SNR=7.9								
JCT	**Junction City**	**74.69**	**335**	*e*P		**P**	**02 21 13.1**	**-0.1**
JCT				pmax		pmax		
comp=Z,57nm,1.1s								
JCT	**Junction City**	**74.69**	**335**	⇑P		**P**	**02 21 12.6**	**-0.6**
baz=75,SNR=21								
JCT	**Junction City**	**74.69**	**335**	*e*P		**P**	**02 21 13.1**	**-0.1**
comp=Z,57nm,1.1s								
433A	**Art**	**74.72**	**335**	⇑P		**P**	**02 21 12.3**	**-1.0**
baz=75,SNR=13								
WIN	**Windhoek**	**74.77**	**107**	*e*P		**P**	**02 21 14.9**	**+0.6**
WIN				AMB		AMB	02 21 15.7	
comp=Z,5.0nm,1.1s								
CNNC	**Cliffs of the**	**74.83**	**354**	*e*P		**P**	**02 21 13.6**	**-0.2**
comp=Z,32nm,1.0s								
530A	**J-C Ranch, Com**	**74.91**	**333**	⇑P		**P**	**02 21 14.1**	**-0.5**
baz=75,SNR=18								
GRM	**Grahamstown**	**74.93**	**121**	*e*P		**P**	**02 21 14.2**	**-0.7**
GRM				AMB		AMB	02 21 15.7	
comp=Z,67nm,1.3s								
334A	**Lometa**	**74.98**	**336**	⇑P		**P**	**02 21 13.9**	**-1.0**
baz=75,SNR=28								
LTX	**Lajitas**	**75.01**	**331**	*e*P		**P**	**02 21 15.0**	**-0.1**
LTX	**Lajitas**	**75.01**	**331**	*e*P		**P**	**02 21 15.0**	**-0.1**
TX31	**Lajitas Ar. Si**	**75.01**	**331**	*e*P		**P**	**02 21 15.0**	**-0.1**
TXAR	**Lajitas Array**	**75.01**	**331**	P		**P**	**02 21 15.0**	**-0.1**
comp=Z,6.3nm,0.9s,baz=148,slow=7.3,SNR=28								
TXAR				LR		LR	02 49 28.6	
comp=Z,665nm,18.6s,baz=0.0,slow=32								
432A	**Menard**	**75.06**	**335**	⇓P		**P**	**02 21 14.3**	**-1.0**
baz=75,SNR=9.8								
KMSC	**Kings Mountain**	**75.06**	**352**	⇓P		**P**	**02 21 13.8**	**-1.4**
baz=76								
431A	**Sonora**	**75.15**	**334**	⇓P		**P**	**02 21 15.1**	**-0.8**
baz=76,SNR=9.4								
529A	**Stev Forest Ra**	**75.20**	**333**	⇓P		**P**	**02 21 15.4**	**-0.8**
baz=76,SNR=16								
333A	**Richland Sprin**	**75.21**	**336**	⇑P		**P**	**02 21 15.1**	**-1.1**
baz=76,SNR=13								
WHTX	**Lake Whitney,**	**75.36**	**337**	⇓P		**P**	**02 21 15.6**	**-1.4**
baz=76								
WHTX	**Lake Whitney,**	**75.36**	**337**	*e*P		**P**	**02 21 16.9**	**-0.1**
comp=Z,50nm,1.0s								
430A	**Baggett Ranch,**	**75.46**	**334**	⇑P		**P**	**02 21 16.8**	**-0.8**
baz=76,SNR=18								
332A	**Millersview**	**75.51**	**335**

baz=77
131A **Roby** 76.91 335 ⇓P P 02 21 24.9 -0.9
baz=77,SNR=20
BOSA **Boshof** 76.96 116 ⇓iP P 02 21 26.4 -0.1
BOSA AMB AMB 02 21 27.5
comp=Z,46nm,1.0s
BOSA **Boshof** 76.96 116 eP P 02 21 26.5 -0.1
BOSA pmax pmax
comp=Z,49nm,0.9s
BOSA **Boshof** 76.96 116 P P 02 21 26.7 +0.1
comp=Z,39nm,0.9s,baz=222,slow=5.6,SNR=42
BOSA LR LR 02 52 29.5
comp=Z,354nm,19.1s,baz=214,slow=34
BOSA **Boshof** 76.96 116 eP P 02 21 26.4 -0.1
comp=Z,49nm,0.9s
Z33A **Whitaker Ranch** 76.96 337 ⇑P P 02 21 25.4 -0.7
baz=77,SNR=15
130A **Snyder** 77.02 335 ⇓P P 02 21 25.5 -1.0
baz=77,SNR=12
228A **UT Block 9, Go** 77.14 333 ⇓P P 02 21 26.3 -0.9
baz=78,SNR=9.7
TSUM **Tsumeb** 77.17 104 eP P 02 21 28.1 +0.2
comp=Z,26nm,1.4s
Z32A **Haskell** 77.20 336 ⇑P P 02 21 26.6 -0.9
baz=78,SNR=19
CWPT **Cottonwood Poi** 77.22 345 eP P 02 21 26.2 -1.3
Y34A **Reagan Ranch,** 77.28 338 ⇑P P 02 21 26.9 -1.0
baz=78,SNR=13
129A **Stewart Farms,** 77.36 334 ⇓P P 02 21 27.5 -0.9
baz=78,SNR=5.8
Z31A **Sharp Cattle R** 77.42 336 ⇓P P 02 21 27.8 -0.9
baz=78,SNR=17
128A **Castleberry Fa** 77.56 333 ⇓P P 02 21 28.8 -0.8
baz=78,SNR=7.7
Y33A **Hilltop Ranch,** 77.59 337 ⇓P P 02 21 28.7 -0.9
baz=78,SNR=10.0
Z30A **Sanderson Ranc** 77.71 335 ⇓P P 02 21 29.3 -1.0
baz=78,SNR=13
MNTX **Cornudas Mount** 77.77 331 eP P 02 21 29.3 -1.4
comp=Z,7.5nm,0.9s
Y32A **R-V Farms, Ver** 77.83 336 ⇑P P 02 21 30.2 -0.7
baz=78,SNR=11
Z29A **Hungry Hill Ra** 77.88 334 ⇑P P 02 21 30.3 -1.0
baz=78,SNR=18
SWZ **Schweizer** 77.89 115 eP P 02 21 30.4 -1.5
SWZ AMB AMB 02 21 32.4
comp=Z,44nm,1.3s
X34A **Smith Ranch, M** 77.91 338 ⇓P P 02 21 30.7 -0.6
baz=78,SNR=7.3
127A **Arkansas Junct** 77.91 333 ⇑P P 02 21 30.5 -1.0
baz=78
X33A **Lawton** 78.05 337 ⇓P P 02 21 30.9 -1.2
baz=78
Y31A **Rekieta Farm,** 78.05 336 ⇓P P 02 21 31.7 -0.5
baz=78,SNR=13
PBMO **Poplar Bluff** 78.13 344 eP P 02 21 31.5 -1.0
comp=Z,38nm,0.9s
Z28A **Tucker Farm, M** 78.13 334 ⇓P P 02 21 31.4 -1.3
baz=78
X32A **Elmer** 78.17 337 ⇓P P 02 21 32.1 -0.7
baz=78,SNR=10
Y30A **Stafford Cattl** 78.18 335 ⇑P P 02 21 31.9 -1.0
baz=78
Y29A **Porterfield Fa** 78.42 335 ⇓P P 02 21 33.6 -0.7
baz=79,SNR=5.9
Z27A **Tatum** 78.44 333 ⇑P P 02 21 33.7 -0.8
baz=79,SNR=6.2
W34A **Bridge Creek,** 78.48 338 ⇓P P 02 21 33.7 -0.8
baz=79,SNR=6.3
W34A **Bridge Creek,** 78.48 338 eP P 02 21 33.8 -0.8
comp=Z,29nm,0.9s
TUL1 **Leonard** 78.57 340 ⇓P P 02 21 33.9 -1.1
baz=79,SNR=12
TUL1 **Leonard** 78.57 340 eP P 02 21 33.8 -1.1
comp=Z,56nm,1.0s
X31A **McDonald Ranch** 78.58 336 ⇑P P 02 21 34.3 -0.8
baz=79,SNR=23
W33A **Caddo, Fort Co** 78.61 338 ⇓P P 02 21 35.0 -0.2
baz=79,SNR=12
Y28A **McKinney Farm,** 78.65 334 ⇓P P 02 21 34.7 -0.9
baz=79,SNR=9.7
Z26A **Caprock** 78.67 333 ⇑P P 02 21 34.7 -1.0
baz=79
X30A **Coker Ranch, T** 78.69 335 ⇑P P 02 21 34.9 -0.8
baz=79,SNR=14
SEK **Senekal** 78.77 117 eP P 02 21 36.6 -0.2
SEK AMB AMB 02 21 37.7
comp=Z,50nm,1.1s
SIUC **Southern Illin** 78.79 346 eP P 02 21 35.2 -0.9
comp=Z,21nm,0.9s
W32A **Sentinel** 78.81 337 ⇑P P 02 21 35.8 -0.5
baz=79,SNR=21
MSTX **Muleshoe** 78.88 334 ⇓P P 02 21 36.2 -0.7
baz=79,SNR=7.2
MSTX **Muleshoe** 78.88 334 eP P 02 21 36.3 -0.6
comp=Z,30nm,1.0s
Y27A **Causey** 78.94 333 ⇑P P 02 21 35.7 -1.5
baz=79
Z25A **Roswell** 78.94 332 ⇓P P 02 21 36.3 -0.9
baz=79,SNR=7.1
X29A **Tulia** 78.96 335 ⇑P P 02 21 36.4 -0.9
baz=79,SNR=11
V34A **Guthrie** 78.97 339 ⇑P P 02 21 36.2 -1.0
baz=79
V34A **Guthrie** 78.97 339 eP P 02 21 36.9 -0.3
comp=Z,40nm,0.9s
319A **Douglas** 79.03 328 ⇓P P 02 21 38.0 +0.2
baz=79,SNR=12
W31A **Holland Ranch,** 79.08 336 ⇑P P 02 21 37.2 -0.7
baz=79,SNR=5.6
V33A **Lossen Ranch,** 79.18 338 ⇑P P 02 21 37.6 -0.8
baz=80,SNR=9.3
X28A **Dimmitt** 79.19 334 ⇓P P 02 21 37.8 -0.8
baz=80
Y26A **Elida** 79.21 333 ⇑P P 02 21 37.9 -0.8
baz=80,SNR=7.1
Z24A **Sheeppen Canyo** 79.23 331 ⇓P P 02 21 38.5 -0.4
baz=80,SNR=16
W30A **Crocket Farms** 79.28 336 ⇓P P 02 21 37.9 -1.0
baz=80
V32A **Arapaho** 79.30 337 ⇑P P 02 21 38.6 -0.4
baz=80,SNR=6.5
AMTX **Amarillo** 79.36 335 ⇓P P 02 21 38.2 -1.2
baz=80
AMTX **Amarillo** 79.36 335 eP P 02 21 39.1 -0.3
comp=Z,43nm,1.0s
LBTB **Lobatse** 79.43 114 ⇓iP P 02 21 40.3 0.0
LBTB AMB AMB 02 21 41.2
comp=Z,90nm,1.1s
LBTB **Lobatse** 79.43 114 eP P 02 21 40.0 -0.3
LBTB pmax pmax
comp=Z,83nm,0.9s
LBTB **Lobatse** 79.43 114 eP P 02 21 40.0 -0.3
comp=Z,83nm,0.9s
121A **Cookes Peak, D** 79.44 329 ⇑P P 02 21 40.0 0.0
baz=80,SNR=7.4
PRYS **Parys** 79.46 116 eP P 02 21 39.2 -1.3
PRYS AMB AMB 02 21 50.3
comp=Z,16nm,4.0s
Y25A **Mesa, Roswell** 79.51 332 ⇓P P 02 21 39.5 -0.8
baz=80,SNR=5.5
U34A **Anderson Ranch** 79.54 339 ⇑P P 02 21 39.2 -1.1
baz=80
U34A **Anderson Ranch** 79.54 339 eP P 02 21 39.5 -0.8
comp=Z,71nm,1.6s
RUDU **RUNDU** 79.55 105 eP P 02 21 41.5 +0.4
RUDU AMB AMB 02 21 42.9
comp=Z,48nm,1.1s
W29A **Amarillo** 79.56 335 ⇓P P 02 21 39.7 -0.9
baz=80,SNR=11
V31A **Spring Creek L** 79.59 337 ⇑P P 02 21 40.7 +0.1
baz=80,SNR=10
X27A **F and S Farms,** 79.61 334 ⇑P P 02 21 39.9 -1.0
baz=80,SNR=5.0
U33A **Lingo Farm, Me** 79.70 338 ⇑P P 02 21 40.1 -1.0
baz=80
Z22A **Elephant Butte** 79.76 330 ⇑P P 02 21 41.7 0.0
baz=80,SNR=9.2
X26A **CR and CF Fran** 79.77 333 ⇓P P 02 21 41.4 -0.3
baz=80,SNR=9.1
Y24A **Capitan** 79.79 332 ⇑P P 02 21 41.6 -0.3
baz=80,SNR=13
KSR **Koster** 79.82 115 eP P 02 21 42.4 -0.1
KSR AMB AMB 02 21 43.3
comp=Z,24nm,1.2s
WDLM **Western Deep L** 79.82 116 eP P 02 21 42.4 -0.2
WDLM AMB AMB 02 21 43.3
comp=Z,22nm,1.0s

V30A **Spur Ranch, Mi** 79.84 336 ⇑P P 02 21 41.8 -0.2
baz=80,SNR=10
W28A **Vega** 79.87 335 ⇓P P 02 21 41.7 -0.5
baz=80
U32A **Winter Ranch,** 79.90 338 ⇑P P 02 21 41.8 -0.5
baz=80,SNR=7.2
W27A **Bowe Ranch, En** 79.98 334 ⇑P P 02 21 42.3 -0.5
baz=80,SNR=11
Y23A **Lovelace Mesa,** 80.02 331 ⇑P P 02 21 43.3 +0.1
baz=80,SNR=11
X25A **Clemmons Ranch** 80.05 333 ⇑P P 02 21 42.6 -0.6
baz=80
U31A **Nine Bar Ranch** 80.15 337 ⇓P P 02 21 43.4 -0.3
baz=80
V29A **Stinnett** 80.21 336 ⇓P P 02 21 43.9 -0.1
baz=81
W26A **Owens Ranch, T** 80.24 333 ⇓P P 02 21 44.0 -0.3
baz=81,SNR=5.6
V28A **Channing** 80.33 335 ⇑P P 02 21 44.5 -0.2
baz=81
T33A **Patterson Ranc** 80.34 338 ⇑P P 02 21 44.3 -0.3
baz=81,SNR=5.9
CRWM **Crown Mines** 80.35 116 eP P 02 21 44.9 -0.6
CRWM AMB AMB 02 21 46.0
comp=Z,48nm,1.2s
X24A **Lazy VL Ranch,** 80.36 332 ⇑P P 02 21 45.0 0.0
baz=81,SNR=9.6
OBSV **Observatory** 80.43 116 eP P 02 21 45.5 -0.4
OBSV AMB AMB 02 21 46.5
comp=Z,41nm,1.1s
BNM **Barren Site** 80.43 331 eP P 02 21 46.1 +0.7
ERPM **east rand prop** 80.44 116 eP P 02 21 45.9 0.0
ERPM AMB AMB 02 21 47.7
comp=Z,43nm,1.7s
TUC **Tucson** 80.47 327 eP P 02 21 45.7 +0.2
TUC pmax pmax
comp=Z,17nm,1.2s
TUC **Tucson** 80.47 327 eP P 02 21 45.7 +0.2
comp=Z,17nm,1.2s
ODNJ **Ogdensburg** 80.48 357 eP P 02 21 45.7 +0.5
comp=Z,267nm,2.2s
V27A **Dan Oppiter Fa** 80.53 334 ⇑P P 02 21 45.4 -0.4
baz=81,SNR=8.1
U30A **WK&E Inc. Balk** 80.54 336 ⇑P P 02 21 45.4 -0.4
baz=81,SNR=6.4
LENM **Lemitar** 80.57 331 eP P 02 21 46.8 +0.7
LPM **Los Pinos Moun** 80.57 331 eP P 02 21 46.6 +0.5
W25A **X Bar L Ranch,** 80.60 333 ⇓P P 02 21 45.7 -0.5
baz=81,SNR=9.1
T32A **Huddler Ranch,** 80.63 338 ⇓P P 02 21 45.8 -0.4
baz=81,SNR=5.5
X23A **Hourglass Bar** 80.65 331 ⇑P P 02 21 46.4 -0.2
baz=81
U29A **Oasis Ranch, S** 80.66 336 ⇓P P 02 21 46.3 -0.1
baz=81
S33A **Kaszmaul Farm,** 80.75 339 ⇑P P 02 21 46.6 -0.2
baz=81
T31A **Randall Ranch,** 80.77 337 ⇑P P 02 21 46.5 -0.5
baz=81
SLR **Silverton** 80.86 116 eP P 02 21 47.3 -0.8
SLR AMB AMB 02 21 48.6
comp=Z,54nm,1.1s
V26A **Tequesquite Ra** 80.89 334 ⇓P P 02 21 46.8 -1.0
baz=81,SNR=7.1
U28A **Mallet** 80.90 335 ⇑P P 02 21 47.3 -0.4
baz=81,SNR=6.7
W24A **Lazy 6 Ranch,** 80.93 332 ⇓P P 02 21 47.8 -0.2
baz=81,SNR=16
SFIN **Lafayette** 81.01 348 ⇑P P 02 21 46.7 -1.4
baz=81
214A **Organ Pipe Nat** 81.04 325 ⇓P P 02 21 48.7 +0.2
baz=81,SNR=12
ANMO **Albuquerque** 81.07 331 ceP P 02 21 47.8 -1.0
ANMO pmax pmax
comp=Z,136nm,1.6s
ANMO **Albuquerque** 81.07 331 eP P 02 21 49.3 +0.5
comp=Z,18nm,0.9s
S32A **Newby Ranch, P** 81.11 338 ⇑P P 02 21 48.2 -0.6
baz=82
U27A **Thompson Grove** 81.13 335 ⇓P P 02 21 48.2 -0.8
baz=82
W23A **Werner Place,** 81.15 332 ⇑P P 02 21 49.3 0.0
baz=82,SNR=16
S31A **Mullinville** 81.20 338 ⇓P P 02 21 48.5 -0.7
baz=82
V25A **Rancho No Teng** 81.21 333 ⇓P P 02 21 49.0 -0.6
baz=82,SNR=16
T29A **Hugoton** 81.32 336 ⇓P P 02 21 49.1 -0.8
baz=82
V24A **Rampart Ranch,** 81.34 333 ⇑P P 02 21 50.0 -0.3
baz=82,SNR=7.7
R33A **Olander Ranch,** 81.41 339 ⇑P P 02 21 49.8 -0.5
baz=82,SNR=5.7
U26A **Atchley Ranch,** 81.42 334 ⇓P P 02 21 49.9 -0.7
baz=82,SNR=11
S30A **Montezuma** 81.51 337 ⇓P P 02 21 50.4 -0.5
baz=82,SNR=11
T28A **Walsh** 81.54 336 ⇑P P 02 21 50.5 -0.6
baz=82,SNR=23
U25A **Circle Dot Ran** 81.65 334 ⇑P P 02 21 51.4 -0.4
baz=82,SNR=18
T27A **Campo** 81.68 335 ⇑P P 02 21 51.5 -0.4
baz=82,SNR=6.6
V23A **Ortiz Mt. (NFS** 81.69 332 ⇑P P 02 21 52.1 0.0
baz=82,SNR=5.1
S29A **Ulysses** 81.69 336 ⇓P P 02 21 51.4 -0.5
baz=82,SNR=5.3
R32A **Long Quarter,** 81.72 339 ⇑P P 02 21 51.5 -0.5
baz=82,SNR=8.5
KSU1 **Kansas State U** 81.79 340 ⇑P P 02 21 51.0 -1.2
baz=82,SNR=5.3
KSU1 **Kansas State U** 81.79 340 eP P 02 21 51.1 -1.2
comp=Z,27nm,1.0s
R31A **Burdett** 81.83 338 ⇓P P 02 21 51.9 -0.7
baz=82,SNR=8.3
S28A **Manter** 81.90 336 ⇑P P 02 21 52.3 -0.8
baz=82,SNR=11
U24A **Moreno Valley** 81.96 333 ⇑P P 02 21 53.7 +0.1
baz=82
Q33A **Connelly Farm,** 82.02 339 ⇓P P 02 21 52.9 -0.6
baz=82,SNR=7.4
R30A **Dighton** 82.05 337 ⇓P P 02 21 53.4 -0.3
baz=82,SNR=6.0
X18A **Snowflake** 82.05 329 ⇓P P 02 21 54.0 0.0
baz=82,SNR=17
T26A **Comanche Natio** 82.07 334 ⇑P P 02 21 54.0 -0.1
baz=82,SNR=17
V22A **San Miguel Ran** 82.10 332 ⇑P P 02 21 55.0 +0.7
baz=82,SNR=13
113A **Mohawk Valley,** 82.15 325 ⇑P P 02 21 54.4 +0.1
baz=82,SNR=6.7
Q32A **Meitler Ranch,** 82.21 339 ⇓P P 02 21 54.2 -0.3
baz=83,SNR=8.6
U23A **El Rito** 82.21 332 ⇑P P 02 21 55.1 +0.3
baz=83,SNR=18
MMNY **Mt. Morris Dam** 82.29 355 eP P 02 21 55.1 +0.3
comp=Z,139nm,1.3s
Z14A **Wintersburg** 82.30 326 ⇑P P 02 21 54.9 -0.2
baz=83
S27A **Las Animas** 82.31 335 ⇓P P 02 21 54.6 -0.6
baz=83,SNR=6.6
T25A **Trinidad** 82.31 334 ⇑P P 02 21 55.1 -0.2
baz=83,SNR=22
P33A **Williams Farm,** 82.39 340 ⇓P P 02 21 54.6 -0.8
baz=83
R29A **Marienthal** 82.44 337 ⇓P P 02 21 55.1 -0.7
baz=83,SNR=16
S26A **Kim** 82.44 335 ⇑P P 02 21 55.4 -0.5
baz=83,SNR=19
Q31A **Ellis** 82.46 338 ⇓P P 02 21 55.1 -0.7
baz=83,SNR=6.5
W18A **Petrified Fore** 82.48 329 ⇑P P 02 21 56.0 -0.2
baz=83,SNR=7.5
W18A **Petrified Fore** 82.48 329 eP P 02 21 56.7 +0.5
comp=Z,27nm,0.9s
U22A **Llaves** 82.49 332 ⇑P P 02 21 56.4 0.0
baz=83,SNR=11
X16A **Lo Mia Camp, P** 82.56 327 ⇑P P 02 21 56.3 -0.4
baz=83
R28A **Tribune** 82.57 336 ⇑P P 02 21 56.1 -0.4
baz=83,SNR=16
T24B **San Luis** 82.58 333 ⇑P P 02 21 56.2 -0.6
baz=83,SNR=8.9
Q30A **Quinter** 82.67 338 ⇓P P 02 21 56.5 -0.4
baz=83,SNR=14
T23A **Casias Ranch,** 82.79 333 ⇑P P 02 21 57.5 -0.3
baz=83
S25A **Robets Cordova** 82.80 334 ⇑P P 02 21 57.4 -0.4

baz=83,SNR=17
P32A **Huiting Farm,** 82.81 339 ⇑P P 02 21 56.9 -0.7
baz=83,SNR=9.6
Y14A **Wickenburg** 82.81 326 ⇑P P 02 21 57.8 0.0
baz=83,SNR=13
Q29A **Oakley** 82.82 337 ⇑P P 02 21 56.8 -0.9
baz=83,SNR=7.0
R27A **Eads** 82.83 336 ⇑P P 02 21 57.4 -0.4
baz=83,SNR=15
GLA **Glamis** 82.86 324 ⇓P P 02 21 58.0 -0.1
baz=83,SNR=7.3
P31A **Stockton** 82.93 338 ⇑P P 02 21 57.8 -0.5
baz=83,SNR=6.6
S24A **Houchin Ranch,** 83.04 334 ⇑P P 02 21 59.2 0.0
baz=83,SNR=16
R26A **Arlington** 83.05 335 ⇓P P 02 21 58.7 -0.3
baz=83,SNR=22
R25A **Fountain Ranch** 83.19 334 ⇓P P 02 21 59.3 -0.5
baz=84
P30A **Selden** 83.20 338 ⇓P P 02 21 59.4 -0.3
baz=84,SNR=6.6
SWSC **Sam W. Stewart** 83.21 324 ⇑P P 02 21 60.0 +0.2
baz=84
Q28A **Sharon Springs** 83.23 337 ⇑P P 02 21 59.9 0.0
baz=84,SNR=8.1
SDCO **Great Sand Dun** 83.24 333 eP P 02 21 60.0 -0.2
comp=Z,10nm,1.1s
Y12C **Blythe** 83.31 325 ⇓P P 02 22 00.9 +0.6
baz=84,SNR=8.7
O32A **Brockman Farm,** 83.32 340 ⇑P P 02 21 59.7 -0.6
baz=84,SNR=6.2
S23A **Nye Farm, Mont** 83.38 333 ⇑P P 02 22 00.8 -0.1
baz=84
BAR **Barrett** 83.39 323 eP P 02 22 00.8 0.0
comp=Z,16nm,1.1s
KSCO **Kaye Shedlock'** 83.43 336 ⇑P P 02 22 00.9 -0.1
baz=84,SNR=5.8
KSCO **Kaye Shedlock'** 83.43 336 eP P 02 22 00.8 -0.2
comp=Z,94nm,1.6s
MONP **Monument Peak,** 83.45 323 ⇓P P 02 22 01.5 +0.1
baz=84
P29A **Atwood** 83.46 337 ⇑P P 02 22 00.8 -0.2
baz=84,SNR=7.9
WUAZ **Wupatki** 83.48 328 ⇓P P 02 22 01.6 +0.2
baz=84
O31A **Woolen Ranch,** 83.50 339 ⇑P P 02 22 01.0 -0.2
baz=84
R24A **Sanders Place,** 83.54 334 ⇓P P 02 22 01.9 +0.2
baz=84,SNR=18
PDMCI **Parker Dam,Lak** 83.61 326 ⇑P P 02 22 02.0 +0.2
baz=84
Q26A **Hugo** 83.64 335 ⇓P P 02 22 02.4 +0.3
baz=84,SNR=13
BC3 **Big Chuckawall** 83.65 324 ⇑P P 02 22 02.0 -0.2
baz=84,SNR=6.3
EML **El Monte Cty P** 83.65 323 eP P 02 21 59.6 -2.5
P28A **Saint Francis** 83.68 337 ⇑P P 02 22 02.2 0.0
baz=84,SNR=5.5
S22A **4UR Ranch, Cre** 83.70 332 ⇓P P 02 22 02.6 0.0
baz=84,SNR=17
O30A **MW Ranch, Wils** 83.74 338 ⇑P P 02 22 01.9 -0.5
baz=84,SNR=8.0
R23A **Moffat** 83.75 333 ⇑P P 02 22 02.8 0.0
baz=84
N32A **Stulken Farm,** 83.79 340 ⇑P P 02 22 02.7 0.0
baz=84
MVCO **Mesa Verde** 83.84 331 ⇑P P 02 22 03.2 0.0
baz=84,SNR=15
MVCO **Mesa Verde** 83.84 331 eP P 02 22 03.6 +0.4
comp=Z,20nm,1.0s
Q25A **Bedland, Calha** 83.87 335 ⇑P P 02 22 02.9 -0.5
baz=84,SNR=7.5
O29A **4D Ranch, Culb** 83.90 338 ⇑P P 02 22 03.4 +0.2
baz=84
P27A **Ficken Ranch,** 83.92 336 ⇑P P 02 22 03.5 0.0
baz=84
IRM **Iron Mountain** 83.94 325 ⇓P P 02 22 03.7 +0.2
baz=84,SNR=8.7
PFO **Pinyon Flats O** 84.07 324 P P 02 22 05.9 +1.5
comp=Z,109nm,0.9s,SNR=7.2
PFO **Pinyon Flats O** 84.07 324 ⇑P P 02 22 04.7 +0.4
baz=84,SNR=9.8
P26A **Davis Ranch, A** 84.16 336 ⇑P P 02 22 04.7 0.0
baz=84,SNR=7.7
W13A **Hualapai Mount** 84.18 326 ⇓P P 02 22 05.2 +0.2
baz=84,SNR=6.0
BELC **Belle Mtn. Jos** 84.19 324 ⇓P P 02 22 05.2 +0.2
baz=84,SNR=6.4
O28A **Krutsinger Ran** 84.19 337 ⇓P P 02 22 05.0 +0.2
baz=85,SNR=8.8
Q24A **Divide** 84.21 334 ⇑P P 02 22 05.2 0.0
baz=85,SNR=5.2
MSNA **Messina** 84.25 114 eP P 02 22 05.6 0.0
MSNA AMB AMB 02 22 07.2
comp=Z,23nm,1.2s
BGNE **Belgrade** 84.36 340 ⇑P P 02 22 05.4 -0.1
baz=85
P25A **Willow Gulch B** 84.38 335 ⇓P P 02 22 05.9 +0.1
baz=85,SNR=13
MURC **Murrieta** 84.40 323 ⇑P P 02 22 06.2 +0.2
baz=85
O27A **Beecher Island** 84.47 337 ⇓P P 02 22 06.0 -0.2
baz=85
N29A **Votaw Ranch, W** 84.49 338 ⇓P P 02 22 06.2 -0.1
baz=85,SNR=5.7
M31A **Lambtecht Ranc** 84.52 339 ⇑P P 02 22 06.3 0.0
baz=85,SNR=11
N28A **Pribbeno Ranch** 84.64 337 ⇑P P 02 22 07.0 0.0
baz=85,SNR=5.3
U15A **North Rim** 84.65 328 ⇑P P 02 22 07.4 0.0
baz=85
GMRC **Granite Mounta** 84.69 325 ⇓P P 02 22 07.8 +0.3
baz=85,SNR=7.9
P23A **Jefferson** 84.81 334 ⇑P P 02 22 08.8 +0.5
baz=85
PV05 **Paradox Valley** 84.83 331 eP P 02 22 08.3 0.0
OGNE **Ogallala** 85.02 337 ⇓P P 02 22 09.3 +0.3
baz=85
HEC **Hector,Ludlow** 85.03 324 ⇓P P 02 22 09.7 +0.6
baz=85
N27A **Anderson Farm,** 85.05 337 ⇑P P 02 22 09.3 +0.2
baz=85,SNR=9.4
M29A **Burnside Ranch** 85.09 338 ⇓P P 02 22 09.5 +0.2
baz=86,SNR=5.8
ISCO **Idaho Springs** 85.12 334 eP P 02 22 10.1 +0.3
ISCO pmax pmax
comp=Z,19nm,1.4s
ISCO **Idaho Springs** 85.12 334 ⇑P P 02 22 09.5 -0.3
baz=86,SNR=10
ISCO **Idaho Springs** 85.12 334 eP P 02 22 10.1 +0.3
comp=Z,19nm,1.4s
BFSC **Mount Baldy Ra** 85.15 323 ⇓P P 02 22 10.0 +0.2
baz=86,SNR=6.1
PV09 **Paradox Valley** 85.21 331 eP P 02 22 10.2 0.0
M28A **Bar X Bar Ranc** 85.24 338 ⇑P P 02 22 10.0 0.0
baz=86
L31A **Butterfield Fa** 85.26 340 ⇓P P 02 22 10.2 +0.2
baz=86,SNR=13
N26A **Koester Ranch,** 85.28 336 ⇓P P 02 22 10.2 -0.1
baz=86,SNR=8.0
L30A **Spencer Herefo** 85.28 339 ⇑P P 02 22 10.5 +0.3
baz=86,SNR=12
P22A **Eagle** 85.33 333 ⇑P P 02 22 10.7 0.0
baz=86
TUQ **Turquoise Moun** 85.35 325 ⇓P P 02 22 11.2 +0.4
baz=86,SNR=15
LRRC **Littlerock Res** 85.55 323 ePKiKP PKiKP 02 27 21.1 -0.6
O23A **Lake Granby, G** 85.59 334 ⇑P P 02 22 12.2 +0.1
baz=86,SNR=13
L29A **Maesberg Ranch** 85.60 339 ⇓P P 02 22 11.9 +0.1
baz=86,SNR=11
GSC **Goldstone, Bar** 85.64 324 ⇑P P 02 22 12.2 +0.1
baz=86,SNR=7.1
TOA0 **Torodi Ar. Sit** 85.66 69 eP P 02 22 12.3 -0.3
TORD **Torodi Ar. Bea** 85.66 69 P P 02 22 12.3 -0.3
comp=Z,12nm,1.1s,baz=225,slow=3.4,SNR=30
O22A **Kremmling** 85.76 334 ⇑P P 02 22 12.8 -0.2
baz=86,SNR=11
N24A **Carr** 85.80 335 ⇑P P 02 22 13.1 +0.2
baz=86
EDW2 **Edwards Air Fo** 85.83 323 ⇓P P 02 22 13.0 0.0
baz=86,SNR=6.5
K30A **Basset** 85.93 339 ⇓P P 02 22 13.7 +0.3
baz=86,SNR=15
M25A **Palm-Egli Farm** 86.09 336 ⇓P P 02 22 14.3 0.0
baz=86,SNR=6.5
L27A **T5 Ranch, Ells** 86.15 337 ⇑P P 02 22 14.4 -0.2
baz=86

ECSD	EROS Data Cent	86.16 342	⇑P		P	02 22 14.0	-0.4
	baz=86,SNR=25						
LRMC	Laurel Mtn Rad	86.18 324	⇓P		P	02 22 14.9	0.0
	baz=86,SNR=12						
K29A	Lazy Trails An	86.20 339	⇓P		P	02 22 14.5	-0.2
	baz=87						
N23A	Red Feather La	86.21 334	⇑P		P	02 22 15.1	0.0
	baz=87,SNR=6.5						
N22A	Wattenberg Ran	86.30 334	⇑P		P	02 22 15.9	+0.3
	baz=87,SNR=5.3						
O20A	White River Ci	86.33 333	⇓P		P	02 22 15.1	-0.5
	baz=87,SNR=5.1						
O20A	White River Ci	86.33 333	eP		P	02 22 15.5	-0.1
	comp=Z,149nm,2.4s						
L26A	Underwood Farm	86.34 337	⇑P		P	02 22 14.9	-0.6
	baz=87						
M24A	Cheyenne	86.36 335	⇓P		P	02 22 15.5	-0.2
	baz=87,SNR=6.4						
PHWY	Pilot Hill	86.42 335	eP		P	02 22 15.9	-0.3
	comp=Z,82nm,2.0s						
K28A	Ten Mile Ranch	86.45 338	⇓P		P	02 22 16.1	+0.1
	baz=87,SNR=10						
J30A	Dallas	86.50 340	⇓P		P	02 22 15.7	-0.5
	baz=87,SNR=5.6						
FURC	Furnace Creek,	86.63 325	⇓P		P	02 22 17.7	+0.8
	baz=87,SNR=6.0						
M23A	Laramie	86.66 335	⇑P		P	02 22 16.6	-0.6
	baz=87						
K27A	Flueckinger Fa	86.69 338	⇑P		P	02 22 17.2	-0.1
	baz=87,SNR=8.6						
ISA	Isabella, Lake	86.70 323	⇑P		P	02 22 17.5	+0.2
	baz=87,SNR=5.9						
L25A	Engebretsen Ra	86.72 336	⇓P		P	02 22 17.1	-0.2
	baz=87,SNR=5.5						
SPMN	Marine on St.	86.74 345	⇓P		P	02 22 15.9	-1.3
	baz=87						
J29A	Okreek	86.80 339	⇑P		P	02 22 16.9	-0.8
	baz=87,SNR=21						
N20A	Spence Gulch,	86.95 333	⇑P		P	02 22 18.2	-0.5
	baz=87,SNR=6.0						
K26A	Motz Farm, Whi	86.97 337	⇑P		P	02 22 18.2	-0.3
	baz=87						
I30A	Oacoma	87.03 340	⇑P		P	02 22 18.1	-0.6
	baz=87,SNR=24						
J28A	Allard Ranch,	87.07 339	⇑P		P	02 22 18.4	-0.6
	baz=87,SNR=14						
K25A	Mack Ranch, Ha	87.10 337	⇓P		P	02 22 19.6	+0.3
	baz=88						
VES	Vestal, Richgr	87.13 323	⇑P		P	02 22 19.1	-0.2
	baz=87,SNR=6.8						
J27A	Elkhorn Farm,	87.13 338	⇑P		P	02 22 19.4	+0.1
	baz=88,SNR=14						
L23A	Garrett	87.23 335	⇑P		P	02 22 18.7	-1.2
	baz=88						
GRAC	Grapevine Rang	87.30 325	⇓P		P	02 22 20.4	+0.2
	baz=88						
I29A	Vivian Onida	87.37 340	⇑P		P	02 22 19.7	-0.7
	baz=88,SNR=9.3						
L22A	Ellis Ranch, M	87.39 335	⇑P		P	02 22 20.5	-0.3
	baz=88						
BRSD	Miller	87.41 341	⇓P		P	02 22 19.8	-0.7
	baz=88						
LSZ	Lusaka	87.49 108	eP		P	02 22 22.1	+0.2
LSZ			pmax		pmax		
	comp=Z,13nm,1.1s						
LSZ	Lusaka	87.49 108	eP		P	02 22 22.1	+0.2
	comp=Z,13nm,1.1s						
J26A	Sides Ranch, S	87.50 337	⇑P		P	02 22 20.6	-0.4
	baz=88,SNR=5.3						
I28A	Midland	87.58 339	⇑P		P	02 22 21.3	-0.1
	baz=88,SNR=25						
R11A	Troy Canyon, C	87.65 327	⇓P		P	02 22 22.4	+0.3
	baz=88						
R11A	Troy Canyon, C	87.65 327	eP		P	02 22 22.3	+0.3
	comp=Z,14nm,1.0s						
DAU	Daniels Canyon	87.68 331	eP		P	02 22 22.4	+0.1
DAU	Daniels Canyon	87.68 331	eP		P	02 22 22.4	+0.1
K23A	Bowen Ranch, D	87.78 335	⇑P		P	02 22 22.1	-0.5
	baz=88						
J25A	Sunshine Ranch	87.79 337	⇓P		P	02 22 22.0	-0.5
	baz=88						
I27A	Quinn	87.90 338	⇑P		P	02 22 22.4	-0.5
	baz=88,SNR=7.0						
H29A	Onida	87.90 340	⇑P		P	02 22 22.5	-0.4
	baz=88,SNR=9.1						
K22A	Casper	87.98 335	⇑P		P	02 22 23.2	-0.3
	baz=88,SNR=7.9						
J24A	Dixon Ranch, L	88.00 336	⇓P		P	02 22 23.6	+0.1
	baz=88						
DUG	Dugway, Tooele	88.09 329	⇓P		P	02 22 24.3	+0.2
	baz=88						
G30A	Faulkton	88.09 341	⇑P		P	02 22 23.4	-0.4
	baz=88						
I26A	New Underwood	88.09 338	⇓P		P	02 22 23.3	-0.5
	baz=88						
H28A	Mission Ridge	88.17 339	⇑P		P	02 22 24.2	0.0
	baz=88,SNR=22						
K21A	Alcova	88.20 334	⇓P		P	02 22 24.2	-0.4
	baz=89,SNR=5.5						
I25A	Rochford	88.34 337	⇓P		P	02 22 25.0	-0.2
	baz=89,SNR=9.0						
G29A	Hoven	88.35 340	⇑P		P	02 22 24.5	-0.6
	baz=89						
H27A	Howes	88.42 339	⇑P		P	02 22 24.8	-0.6
	baz=89,SNR=12						
MLAC	Mammoth, Mammo	88.48 324	⇑P		P	02 22 26.2	+0.2
	baz=89						
G28A	Parade	88.51 340	⇓P		P	02 22 25.7	-0.1
	baz=89,SNR=13						
RSSD	Black Hills	88.52 337	eP		P	02 22 25.2	-0.9
RSSD			pmax		pmax		
	comp=Z,13nm,1.0s						
RSSD	Black Hills	88.52 337	eP		P	02 22 25.2	-0.9
	comp=Z,13nm,1.0s						
J22A	Midwest	88.65 335	⇑P		P	02 22 25.4	-1.2
	baz=89						
H25A	Fruitdale	88.85 338	⇑P		P	02 22 27.1	-0.3
	baz=89,SNR=12						
NV01	Mina Array Sit	88.90 325	eP		P	02 22 28.2	+0.2
NVAR	Mina Array Bea	88.90 325	P		P	02 22 28.3	+0.3
	comp=Z,2.6nm,0.8s,baz=146,slow=6.4,SNR=15						
J21A	Lysite	88.90 335	⇑P		P	02 22 27.2	-0.7
	baz=89						
F29A	Eureka	88.92 340	⇓P		P	02 22 27.3	-0.4
	baz=89,SNR=6.3						
G27A	Dupree	89.07 339	⇓P		P	02 22 27.8	-0.6
	baz=89,SNR=9.0						
I22A	9 Mile Ranch,	89.08 335	⇓P		P	02 22 27.8	-0.8
	baz=89						
BW06	Boulder Array	89.11 333	eP		P	02 22 28.0	-0.9
PD31	Pinedale Array	89.11 333	eP		P	02 22 28.9	-0.1
PDAR	Pinedale Array	89.11 333	P		P	02 22 28.9	-0.1
	comp=Z,5.4nm,1.0s,baz=145,slow=5.4,SNR=26						
J20A	Shoshoni	89.12 334	⇑P		P	02 22 28.6	-0.3
	baz=90,SNR=13						
G26A	Maurine	89.17 338	⇓P		P	02 22 28.2	-0.7
	baz=90,SNR=16						
F28A	McLaughlin	89.19 340	⇓P		P	02 22 28.5	-0.4
	baz=90						
H24A	Dirks Ranch, A	89.25 337	⇓P		P	02 22 28.5	-0.8
	baz=90						
I21A	Big Trails, Te	89.27 335	⇓P		P	02 22 28.6	-1.0
	baz=90,SNR=7.0						
E30A	Jud	89.32 341	⇓P		P	02 22 29.1	-0.4
	baz=90						
G25A	Newell	89.32 338	⇑P		P	02 22 29.2	-0.4
	baz=90,SNR=7.4						
J19A	Crowheart	89.38 333	⇓P		P	02 22 29.5	-0.6
	baz=90,SNR=16						
HVU	Hansel Valley	89.44 330	eP		P	02 22 29.0	-1.4
HVU			pmax		pmax		
	comp=Z,31nm,1.5s						
HVU	Hansel Valley	89.44 330	eP		P	02 22 29.0	-1.4
	comp=Z,31nm,1.5s						
CMB	Columbia Colle	89.52 323	eP		P	02 22 29.7	-1.0
CMB			pmax		pmax		
	comp=Z,10.0nm,1.4s						
CMB	Columbia Colle	89.52 323	eP		P	02 22 29.7	-1.0
	comp=Z,10nm,1.4s						
ELK	Elko	89.53 328	eP		P	02 22 30.6	-0.3
ELK			pmax		pmax		
	comp=Z,10.0nm,1.1s						
ELK	Elko	89.53 328	eP		P	02 22 30.6	-0.3
	comp=Z,9.6nm,1.1s						
F27A	Lemmon	89.54 339	⇑P		P	02 22 29.8	-0.8
	baz=90,SNR=6.1						
E29A	Napoleon	89.56 341	⇑P		P	02 22 30.3	-0.3
	baz=90,SNR=6.1						
I20A	Worland	89.67 334	⇑P		P	02 22 30.7	-0.7
	baz=90,SNR=5.8						
F26A	Lodgepole	89.70 339	⇓P		P	02 22 30.5	-0.9
	baz=90,SNR=5.5						
G24A	Alzada	89.73 337	⇑P		P	02 22 30.8	-0.8
	baz=90,SNR=5.3						
E28A	Huff	89.84 340	⇓P		P	02 22 31.7	-0.2
	baz=90,SNR=5.5						
D30A	Buchanan	89.84 342	⇓P		P	02 22 31.8	-0.1
	baz=90,SNR=10.0						
G23A	Biddle	89.91 337	⇑P		P	02 22 31.2	-1.2
	baz=90						
H21A	Big Horn, Sher	89.92 335	⇓P		P	02 22 31.2	-1.3
	baz=90						
F25A	Bowman	90.00 338	⇓P		P	02 22 31.9	-0.9
	baz=90						
D29A	Pettibone, Tap	90.01 341	⇑P		P	02 22 32.0	-0.8
	baz=90						
I19A	Meeteetse	90.04 334	⇓P		P	02 22 32.4	-0.8
	baz=90,SNR=6.7						
H20A	Greybull	90.10 335	⇓P		P	02 22 32.3	-1.0
	baz=90,SNR=6.2						
G22A	Birney	90.21 336	⇑P		P	02 22 32.6	-1.2
	baz=91						
F24A	Ekalaka	90.21 338	⇑P		P	02 22 32.5	-1.3
	baz=91						
E26A	Carlson Angus	90.22 339	⇓P		P	02 22 33.0	-0.7
	baz=91,SNR=7.5						
AGMN	Agassiz Nation	90.30 344	⇑P		P	02 22 33.0	-1.0
	baz=91,SNR=6.4						
C30A	Mose, Pekin	90.33 342	⇓P		P	02 22 33.8	-0.4
	baz=91						
D28A	Regan	90.38 341	⇓P		P	02 22 34.0	-0.4
	baz=91						
F23A	Volborg	90.39 337	⇑P		P	02 22 33.0	-1.6
	baz=91,SNR=5.9						
I17A	Pilgrim Ck.	90.48 333	⇑P		P	02 22 35.1	-0.2
	baz=91,SNR=8.0						
G21A	Lodge Grass	90.50 336	⇑P		P	02 22 34.0	-1.2
	baz=91						
E25A	Miller Ranch,	90.50 338	⇓P		P	02 22 34.6	-0.5
	baz=91						
D27A	Center	90.55 340	⇓P		P	02 22 34.9	-0.3
	baz=91						
H19A	Powell	90.59 334	⇓P		P	02 22 35.3	-0.4
	baz=91						
F22A	Rosebud	90.70 336	⇑P		P	02 22 34.8	-1.3
	baz=91						
D26A	Manning	90.72 339	⇑P		P	02 22 35.6	-0.5
	baz=91,SNR=8.8						
E24A	Baker	90.82 338	⇑P		P	02 22 36.0	-0.5
	baz=91						
G20A	Bridger	90.82 335	⇑P		P	02 22 35.6	-1.2
	baz=91						
H18A	Shoshone NF, C	90.83 334	⇓P		P	02 22 36.0	-0.9
	baz=91,SNR=12						
B30A	Myrvik Farm, E	91.00 342	⇑P		P	02 22 36.6	-0.7
	baz=91						
D25A	Fairfield	91.08 339	⇓P		P	02 22 37.2	-0.5
	baz=92						
C27A	Sayler Ranch,	91.10 340	⇓P		P	02 22 37.1	-0.7
	baz=92,SNR=6.8						
B29A	Wagenman Farm,	91.26 342	⇑P		P	02 22 38.0	-0.5
	baz=92						
D24A	Glendive	91.33 338	⇑P		P	02 22 38.5	-0.4
	baz=92,SNR=6.4						
C26A	Wahner Farm, P	91.36 340	⇓P		P	02 22 38.3	-0.7
	baz=92						
A30A	Hoffart Farm,	91.45 343	⇓P		P	02 22 38.4	-1.0
	baz=92						
B28A	Dugan Ranch, T	91.49 341	⇑P		P	02 22 38.6	-1.0
	baz=92,SNR=5.1						
HLID	Hailey	91.59 330	⇓P		P	02 22 40.7	+0.3
	baz=92						
HLID	Hailey	91.59 330	eP		P	02 22 40.8	+0.4
	comp=Z,13nm,1.1s						
F19A	Roth Farm, Mol	91.62 335	⇑P		P	02 22 39.6	-0.8
	baz=92,SNR=5.5						
E21A	Keefer Ranch,	91.63 336	⇑P		P	02 22 39.8	-0.6
	baz=92						
D23A	Lindsay	91.64 338	⇓P		P	02 22 40.0	-0.3
	baz=92,SNR=6.8						
A29A	Manning Farm,	91.65 342	⇓P		P	02 22 39.6	-0.7
	baz=92,SNR=6.5						
C24A	Savage	91.73 338	⇑P		P	02 22 40.6	-0.1
	baz=92						
A28A	Rude Farm, Bot	91.89 341	⇑P		P	02 22 40.4	-1.0
	baz=92						
D22A	Cohagen	91.91 337	⇓P		P	02 22 41.0	-0.5
	baz=92						
E20A	Meyer Farm, Mu	91.93 336	⇓P		P	02 22 41.2	-0.6
	baz=92,SNR=7.7						
B25A	Knox Farm, Ray	92.06 339	⇓P		P	02 22 41.6	-0.6
	baz=92						
D21A	La Casta Ranch	92.08 336	⇑P		P	02 22 41.1	-1.3
	baz=92						
E19A	Rath Farm, Rou	92.11 335	⇑P		P	02 22 41.6	-1.0
	baz=92,SNR=12						
ULM	Lac du Bonnet	92.16 345	P		P	02 22 42.3	-0.3
	comp=Z,3.5nm,0.8s,baz=254,slow=0.9,SNR=7.9						
C23A	Lambert	92.20 338	⇑P		P	02 22 42.1	-0.9
	baz=93,SNR=6.2						
A26A	Wade Farm, Ken	92.33 340	⇑P		P	02 22 42.7	-0.8
	baz=93						
C22A	Vida	92.35 337	⇑P		P	02 22 42.9	-0.8
	baz=93						
D20A	Manuel Ranch,	92.46 336	⇑P		P	02 22 43.1	-1.1
	baz=93,SNR=9.5						
DGMT	Dagmar	92.52 339	⇓P		P	02 22 43.7	-0.7
	baz=93,SNR=5.6						
B23A	Brockton	92.74 338	⇑P		P	02 22 44.7	-0.7
	baz=93						
D19A	Cripps Ranch,	92.76 335	⇑P		P	02 22 44.7	-0.9
	baz=93						
C21A	Desert Coulee	92.79 337	⇑P		P	02 22 44.5	-1.1
	baz=93						
A24A	Westby	92.88 339	⇑P		P	02 22 44.8	-1.2
	baz=93						
B22A	Reddig Ranch S	92.88 338	⇑P		P	02 22 45.1	-1.0
	baz=93						
C20A	Veseth Ranch,	92.97 336	⇑P		P	02 22 44.9	-1.6
	baz=93						
M04C	Macdoel	93.20 325	⇑P		P	02 22 47.6	-0.2
	baz=94						
C19A	Slack Wire Ran	93.31 336	⇑P		P	02 22 47.1	-1.0
	baz=94						
A22A	Carney Farms,	93.48 338	⇑P		P	02 22 47.9	-0.9
	baz=94,SNR=5.6						
A21A	Bergtoll Ranch	93.78 337	⇑P		P	02 22 48.6	-1.6
	baz=94						
EGMT	Eagleton	93.80 335	⇓P		P	02 22 49.2	-1.1
	baz=94						
BMO	Blue Mountains	93.80 329	eP		P	02 22 48.8	-1.7
	comp=Z,19nm,1.8s						
B19A	Brinkman Farms	93.92 336	⇑P		P	02 22 49.8	-1.1
	baz=94						
A20A	Cobblestone Ra	93.98 337	⇓P		P	02 22 49.8	-1.3
	baz=94,SNR=7.4						
J05D	Fort Rock, OR	94.14 326	⇑P		P	02 22 52.0	-0.2
	baz=94						
MSO	Missoula	94.19 332	⇑P		P	02 22 52.3	+0.1
	baz=94						
A19A	Klindworth Far	94.27 336	⇓P		P	02 22 51.4	-1.1
	baz=95						
JTMT	Jette	95.09 332	eP		P	02 22 55.9	-0.5
BLMT	Blacktail Moun	95.35 333	eP		P	02 22 57.7	0.0
HAWA	Hanford	95.95 329	eP		P	02 23 00.2	+0.1
	comp=Z,42nm,2.0s						
NEW	Newport	96.56 331	⇓P		P	02 23 01.9	-1.0
	baz=97						
ALCT	Alcott Element	97.98 328	eP		P	02 23 08.6	-0.6
ESDC	Sonseca Array	100.11 46	P		Pdif	02 23 18.2	-0.9
	comp=Z,0.2nm,0.4s,baz=357,slow=14,SNR=4.0						
YKA	Yellowknife Ar	107.64 340	PKiKP		PKiKP	02 27 59.0	-0.5
	comp=Z,0.4nm,0.8s,baz=140,slow=2.0,SNR=7.4						
YKA			PP		PP	02 28 19.1	-1.9
	comp=Z,0.6nm,1.0s,baz=134,slow=7.7,SNR=6.8						
AS12	Alice Springs	112.69 205	ePKiKP		PKiKP	02 28 10.0	-0.5
AS12			ePKPKPbc		PKKPbc	02 38 59.5	+1.8
AS12			ePKPKPab		PKKPab	02 39 09.2	-0.7
ASAR	Alice Springs	112.69 205	PKiKP		PKiKP	02 28 10.0	-0.5
	comp=Z,0.9nm,0.8s,baz=140,slow=2.2,SNR=7.0						
ASAR			PKKPbc		PKKPbc	02 38 59.5	+1.8
	comp=Z,0.9nm,1.1s,baz=188,slow=25,SNR=4.5						
ASAR			PKKPab		PKKPab	02 39 09.2	-0.7
	comp=Z,0.7nm,0.9s,baz=339,slow=3.1,SNR=4.5						
GEC2	GERESS Array S	115.69 47	ePKiKP		PKPdf	02 28 15.4	0.0
GEC2	GERESS Array S	115.69 47	ePKPdf		PKPdf	02 28 15.4	0.0
GERES	GERESS Array B	115.69 47	PKP		PKPdf	02 28 15.4	0.0
	comp=Z,2.2nm,0.7s,baz=209,slow=1.4,SNR=24						
KHC	Kasperske Hory	115.77 47	ePKiKP		PKPdf	02 28 15.6	+0.1
KHC	Kasperske Hory	115.77 47	ePKP		PKPdf	02 28 15.6	+0.1
WRA	Warramunga Arr	116.00 207	PKP		PKPdf	02 28 16.1	-0.8
	comp=Z,1.3nm,0.7s,baz=166,slow=1.4,SNR=11						
TREC	Trest	116.93 47	ePKiKP		PKPdf	02 28 18.0	+0.3
TREC	Trest	116.93 47	ePKP		PKPdf	02 28 18.0	+0.3
PVCC	Panska Ves	117.04 46	ePKiKP		PKPdf	02 28 18.2	+0.4
PVCC	Panska Ves	117.04 46	ePKP		PKPdf	02 28 18.2	+0.4
PKSM	Moragy	117.23 51	⇑PKiKP		PKPdf	02 28 15.8	-2.5
PKSM	Moragy	117.23 51	⇑iP		PKPdf	02 28 15.8	-2.5
UPC	Upice	117.83 46	ePKiKP		PKPdf	02 28 19.9	+0.6
UPC	Upice	117.83 46	ePKP		PKPdf	02 28 19.9	+0.6
DPC	Dobruska-Polom	117.92 46	ePKiKP		PKPdf	02 28 19.6	0.0
DPC	Dobruska-Polom	117.92 46	ePKP		PKPdf	02 28 20.2	+0.6
DPC	Dobruska-Polom	117.92 46	ePKPdf		PKPdf	02 28 19.6	0.0
MORC	Moravsky Berou	118.33 47	⇓PKiKP		PKPdf	02 28 18.3	-2.1
MORC	Moravsky Berou	118.33 47	⇓iP		PKPdf	02 28 18.3	-2.1
VYHS	Vyhne	118.46 49	ePKiKP		PKPdf	02 28 20.8	+0.2
VYHS	Vyhne	118.46 49	ePKP		PKPdf	02 28 20.8	+0.2
OKC	Ostrava-Krasne	118.71 48	ePKiKP		PKPdf	02 28 20.5	-0.5
OKC	Ostrava-Krasne	118.71 48	ePKP		PKPdf	02 28 20.5	-0.5
BZS	Buzias	118.75 53	⇓PKiKP		PKPdf	02 28 18.2	-3.0
BZS	Buzias	118.75 53	⇓iP		PKPdf	02 28 18.2	-3.0
IL1	Eielson Array	119.52 332	ePKPdf		PKPdf	02 28 21.9	-0.2
ILAR	Eielson Array	119.52 332	PKP		PKPdf	02 28 22.1	-0.1
	comp=Z,2.4nm,0.8s,baz=178,slow=1.6,SNR=27						
ILB	Eielson Array	119.52 332	ePKPdf		PKPdf	02 28 22.1	-0.1
OJC	Ojcow	119.83 48	ePKiKP		PKPdf	02 28 23.3	+0.1
OJC	Ojcow	119.83 48	ePKPdf		PKPdf	02 28 23.3	+0.1
DRGR		119.97 52	⇑PKiKP		PKPdf	02 28 23.5	-0.2
DRGR		119.97 52	⇑iP		PKPdf	02 28 23.5	-0.2
NB2	NORSAR Subarra	120.47 34	PKPdf		PKPdf	02 28 23.8	-0.3
	comp=Z,4.6nm,1.0s,baz=248,slow=1.9						
NB2	NORSAR Subarra	120.47 34	PKPdf		PKPdf	02 28 23.8	-0.3
	baz=248,slow=1.9						
NB200	NORSAR Array S	120.47 34	ePKPdf		PKPdf	02 28 24.3	+0.2
NOA	NORSAR Array B	120.47 34	PKP		PKPdf	02 28 24.3	+0.2
	comp=Z,2.6nm,0.8s,baz=244,slow=2.0,SNR=13						
NOA			PKKP		PKKPdf	02 39 06.3	+1.7
	comp=Z,1.4nm,0.9s,baz=276,slow=5.1,SNR=3.8						
TRPA	Tarpa	120.48 51	⇑iP		PKPdf	02 28 23.1	-1.4
KOLS	Kolonicke sedl	120.68 50	ePKiKP		PKPdf	02 28 24.8	-0.1
KOLS	Kolonicke sedl	120.68 50	ePKP		PKPdf	02 28 24.8	-0.1
DOPR	Dopca	121.26 54	⇓iP		PKPdf	02 28 22.6	-3.5
PRD	Provadia	121.30 58	⇓PKiKP		PKPdf	02 28 25.0	-1.2
BUR04	Bucovina Ar. S	121.87 52	ePKPdf		PKPdf	02 28 27.4	0.0
BURAR	Bucovina Array	121.87 52	⇑PKiKP		PKPdf	02 28 24.5	-2.8
BURAR	Bucovina Array	121.87 52	⇑iP		PKPdf	02 28 24.5	-2.8
COLD	Coldfoot	121.90 333	ePKPdf		PKPdf	02 28 27.0	+0.4
PLOR	Plostina	122.00 55	⇓PKiKP		PKPdf	02 28 34.8	+7.3
PLOR	Plostina	122.00 55	⇓iP		PKPdf	02 28 34.8	+7.3
VRI	Vrincioaia	122.05 55	⇓PKiKP		PKPdf	02 28 25.5	-2.1
VRI	Vrincioaia	122.05 55	⇓iP		PKPdf	02 28 25.5	-2.1
TESR	Tescani	122.28 54	⇑iP		PKPdf	02 28 26.3	-1.7
TIRR	Tirgusor	122.52 57	⇓PKiKP		PKPdf	02 28 25.6	-2.9
TIRR	Tirgusor	122.52 57	⇓iP		PKPdf	02 28 25.6	-2.9
CFR	Carcaliu	122.65 56	⇑PKiKP		PKPdf	02 28 28.1	-0.6
CFR	Carcaliu	122.65 56	⇑iP		PKPdf	02 28 28.1	-0.6
SUW	Suwalki	123.33 45	ePKiKP		PKPdf	02 28 29.5	-0.2
SUW	Suwalki	123.33 45	ePKPdf		PKPdf	02 28 29.5	-0.2
BR231	Keskin MP Arra	123.41 63	ePKPdf		PKPdf	02 28 30.9	+0.3
BR101	Keskin Array S	123.96 64	ePKPdf		PKPdf	02 28 31.8	+0.1
BRTR	Keskin Array B	123.96 64	PKP		PKPdf	02 28 31.8	+0.1
	comp=Z,2.7nm,0.8s,baz=193,slow=3.1,SNR=22						
AK11	Malin Array Si	125.47 50	ePKPdf		PKPdf	02 28 32.9	-1.1
KIEV	Kiev	125.50 50	ePKiKP		PKPdf	02 28 33.4	-0.6
KIEV	Kiev	125.50 50	ePKPdf		PKPdf	02 28 33.4	-0.6
AKASG	Malin Array Be	125.51 50	PKP		PKPdf	02 28 33.4	-0.7
	comp=Z,3.0nm,0.7s,baz=260,slow=2.7,SNR=25						
AKBB	Malin Array Si	125.51 50	ePKiKP		PKPdf	02 28 33.4	-0.7
AKBB	Malin Array Si	125.51 50	ePKPdf		PKPdf	02 28 33.4	-0.7
NACGM	Naroch	125.61 45	e		PKPdf	02 28 30.0	-4.1
MALT	Malatya	126.72 67	⇓PKiKP		PKPdf	02 28 36.1	-0.8
MALT	Malatya	126.72 67	⇓iP		PKPdf	02 28 36.1	-0.8
FIA0	FINESS Array S	127.29 37	ePKiKP		PKPdf	02 28 37.1	0.0
FIA0	FINESS Array S	127.29 37	ePKPdf		PKPdf	02 28 37.1	0.0
FINES	FINESS Array B	127.29 37	PKP		PKPdf	02 28 37.1	0.0
	comp=Z,2.5nm,0.8s,baz=182,slow=13,SNR=6.5						
TNA	Tin City	128.00 328	ePKPdf		PKPdf	02 28 38.6	+0.2
ARA0	ARCESS Array S	128.90 27	ePKPdf		PKPdf	02 28 40.2	+0.2
ARCES	ARCESS Array B	128.90 27	PKP		PKPdf	02 28 40.2	+0.2
	comp=Z,3.3nm,0.8s,baz=240,slow=3.4,SNR=5.6						
GAMB	Gambell	129.20 326	ePKPdf		PKPdf	02 28 41.7	+1.1
OBN	Obninsk	131.07 46	c iPKIKP		PKPdf	02 28 45.1	+0.6
OBN			pmax		pmax		
	comp=Z,39nm,1.7s						
OBN	Obninsk	131.07 46	ePKPdf		PKPdf	02 28 44.2	-0.3
KIV	Kislovodsk	131.82 62	ePKIKP		PKPdf	02 28 46.2	-0.2
KIV	Kislovodsk	131.82 62	ePKPdf		PKPdf	02 28 46.2	-0.2
KBZ	Khabaz	131.89 63	ePKIKP		PKPdf	02 28 46.0	-0.4
KBZ	Khabaz	131.89 63	PKP		PKPdf	02 28 46.

comp=Z,1μm,16.7s
TKM2 Tokmak 2 155.03 72 *e*PKIKP **PKPdf 02 29 26.4 0.0**
TKM2 Tokmak 2 155.03 72 *e*PKPdf **PKPdf 02 29 26.4 0.0**
KURK Kurchatov 156.30 52 *e*PKIKP **PKPdf 02 29 27.6 +0.1**
KURK Kurchatov 156.30 52 *e*PKPdf **PKPdf 02 29 27.6 +0.1**
MJAR Matsushiro Arr 156.61 272 PKPab **PKPab 02 29 58.2 +0.4**
comp=Z,4.4nm,0.7s,baz=138,slow=3.8,SNR=5.9
MAJO Matsushiro 156.61 272 *e*PKP2 **PKPab 02 29 58.2 +0.4**
MAJO Matsushiro 156.61 272 *e*PKPab **PKPab 02 29 58.2 +0.4**
CM01 Chiang Mai Arr 157.17 156 *e*PKPdf **PKPdf 02 29 29.5 -0.2**
CM31 Chiang Mai Arr 157.20 156 *e*PKPdf **PKPdf 02 29 30.4 +0.7**
CM31 *e*PKPab **PKPab 02 30 02.3 +1.9**
CM31 *e*PP **PP 02 33 39.3 +0.9**
CMAR Chiang Mai Arr 157.20 156 PKP **PKPdf 02 29 30.4 +0.7**
comp=Z,2.4nm,0.3s,baz=241,slow=2.3,SNR=8.5
CMAR PKPab **PKPab 02 30 02.3 +1.9**
comp=Z,0.7nm,0.3s,baz=219,slow=3.7,SNR=4.8
CMAR PP **PP 02 33 39.3 +0.9**
comp=Z,1.1nm,0.3s,baz=233,slow=47,SNR=2.5
NVS Novosibirsk 157.22 40⇑*i*PKIKP **PKPdf 02 29 27.4 -1.2**
NVS *i* 02 33 42.9
NVS pmax pmax
comp=Z,38nm,1.8s
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,13nm,1.5s
ZAA1 Zalesovo Array 158.48 41 *e*PKPdf **PKPdf 02 29 29.9 -0.3**
ZAA1 *e*PKPab **PKPab 02 30 05.2 +0.1**
ZAA0 Zalesovo Array 158.48 41 *e*PKPdf **PKPdf 02 29 29.3 -0.9**
ZAA0 *e*PKPab **PKPab 02 30 05.3 +0.1**
ZALV Zalesovo Beam 158.48 41 PKP **PKPdf 02 29 29.9 -0.3**
comp=E,4.4nm,0.8s,baz=262,slow=2.5,SNR=22
ZALV PKPab **PKPab 02 30 05.2 +0.1**
comp=E,4.0nm,0.7s,baz=296,slow=4.4,SNR=8.3
MK32 Makanchi Array 159.57 61 *e*PKPdf **PKPdf 02 29 32.0 +0.2**
MK32 *e*PKPab **PKPab 02 30 09.9 -0.3**
MK32 *e*PP **PP 02 33 51.2 -1.2**
MKAR Makanchi Array 159.57 61 *e*PKIKP **PKPdf 02 29 31.7 -0.1**
MKAR *e* 02 30 10.0
MKAR Makanchi Array 159.57 61 PKP **PKPdf 02 29 32.0 +0.2**
comp=E,2.8nm,0.9s,baz=300,slow=2.4,SNR=21
MKAR PKPab **PKPab 02 30 09.9 -0.3**
comp=E,4.4nm,0.9s,baz=275,slow=3.5,SNR=12
MKAR PP **PP 02 33 51.2 -1.2**
comp=E,2.6nm,1.0s,baz=290,slow=4.9,SNR=11
MKAR Makanchi Array 159.57 61 *e*PKPdf **PKPdf 02 29 31.7 -0.1**
MKAR *e*PKPab **PKPab 02 30 10.0 -0.3**
MK01 Makanchi Array 159.59 61 *e*PKPdf **PKPdf 02 29 31.6 -0.2**
MK01 *e*PKPab **PKPab 02 30 10.1 -0.3**
BOD Bodaibo 161.56 351 *e*PKIKP **PKPdf 02 29 31.3 -2.2**
BOD *e* 02 30 16.5
BOD pmax pmax
comp=Z,14nm,1.1s
WMQ Urumqi 163.82 69 PKP **PKPdf 02 29 36.9 +0.6**
WMQ LN
comp=Z,460nm,20.0s
WMQ LE
comp=Z,540nm,20.0s
WMQ LZ
comp=Z,500nm,18.0s
KMI Kunming 164.61 159 PKP **PKPdf 02 29 37.1 -0.7**
KSRS Korea Array 164.79 268 PKP **PKPdf 02 29 37.2 -0.1**
comp=Z,1.4nm,0.7s,baz=222,slow=0.6,SNR=5.1
KSRS PKPab **PKPab 02 30 33.7 +0.3**
comp=Z,0.6nm,0.4s,baz=212,slow=35,SNR=3.3
KS15 Wonju Array Si 164.81 267 *e*PKPdf **PKPdf 02 29 37.2 -0.1**
KS15 *e*PKPab **PKPab 02 30 33.7 +0.2**
KS01 Wonju Array Si 164.81 268 *e*PKPdf **PKPdf 02 29 35.8 -1.6**
KS01 *e* 02 29 36.2
KS01 *e*PKPab **PKPab 02 30 33.5 0.0**
GYA Guiyang 166.67 172 PKP **PKPdf 02 29 38.9 -0.4**
GYA PKPab **PKPab 02 30 42.5 +0.7**
GYA PKS **PKSdf 02 33 10.4 -1.8**
GYA PP **PP 02 34 31.9 +3.1**
GYA SKKS 02 41 15.0
GYA SS **SS 02 55 09.7 +1.2**
GYA PPMZ
comp=Z,140nm,8.4s
GYA LN
comp=Z,130nm,21.8s
GYA LE
comp=Z,120nm,22.5s
GYA LZ
comp=Z,140nm,21.4s
MOY Mondy 166.91 22 *e*PKP2 **PKPab 02 30 42.7 +0.4**
MOY pmax pmax
comp=Z,15nm,1.8s
TLY Talaya 167.53 15 *e*PKIKP **PKPdf 02 29 39.0 0.0**
TLY pmax pmax
comp=Z,4.0nm,1.2s
ZAK Zakamensk 168.68 18 *e*PKIKP **PKPdf 02 29 36.7 -3.3**
ZAK pmax pmax
comp=Z,2.0nm,1.7s
ZAK pmax pmax
comp=Z,4.0nm,1.7s
NJ2 Nanjing 168.76 230 *e*PKP **PKPdf 02 29 42.0 +1.5**
CD2 Chengdu 170.34 154 *e*PKP **PKPdf 02 29 42.3 +0.8**
CD2 PKPab **PKPab 02 30 59.0 +1.1**
CD2 PP **PP 02 34 51.6 +4.0**
CD2 SKS **SKSdf 02 36 41.1 -1.3**
CD2 SKKS **SKKSac 02 41 34.8 +2.5**
CD2 PPMZ
comp=Z,100nm,11.2s
CD2 LE
comp=Z,1μm,20.2s
SONA1 Songino Array 171.71 11 *e*PKPdf **PKPdf 02 29 41.1 -0.7**
SONA1 *e*PKPab **PKPab 02 31 03.3 -0.4**
SONA0 Songino Array 171.72 11 *e*PKPdf **PKPdf 02 29 41.1 -0.7**
SONA0 *e*PKPab **PKPab 02 31 04.4 +0.7**
SONA0 *e*PP **PP 02 34 55.7 +1.4**
SONM Songino Array 171.72 11 PKP **PKPdf 02 29 41.1 -0.7**
comp=Z,2.5nm,1.1s,baz=216,slow=0.8,SNR=15
SONM PKPab **PKPab 02 31 04.4 +0.7**
comp=Z,1.9nm,0.9s,baz=322,slow=3.6,SNR=9.2
SONM PP **PP 02 34 55.7 +1.4**
comp=Z,1.5nm,1.1s,baz=342,slow=3.8,SNR=8.8
ULN Ulaanbaatar 171.77 8 *e*PKIKP **PKPdf 02 29 40.8 -1.1**
ULN *e* 02 31 03.7
ULN Ulaanbaatar 171.77 8 *e*PKPdf **PKPdf 02 29 40.8 -1.1**
ULN *e*PKPab **PKPab 02 31 03.7 -0.3**
GTA Gaotai 173.14 90 *e*PKP **PKPdf 02 29 43.4 +0.7**
GTA pPKP **pPKPdf 02 29 52.9 -1.3**
BJI Beijing 174.23 276 PKP **PKPdf 02 29 44.2 +1.3**
XAN Xi'an 174.33 182 PKP **PKPdf 02 29 42.9 -0.3**
LZH Lanzhou 174.73 132 *e*PKP **PKPdf 02 29 40.3 -3.1**
LZH pPKP pPKPdf 02 29 45.8 -9.1
LZH sPKP 02 29 48.0
LZH PKPab **PKPab 02 31 21.1 +3.6**
HHC Hu-ho-hao-te 177.53 298 *e*PKP **PKPdf 02 29 41.5 -2.3**
HHC sPKP 02 29 53.5
HHC PP **PP 02 35 23.9 +0.4**
HHC SS SS 02 56 55.2 -1.7
HHC PPMZ
comp=Z,190nm,8.6s
HHC LN
comp=Z,720nm,17.3s
HHC LE
comp=Z,560nm,17.3s
HHC LZ
comp=Z,510nm,16.0s

KNET ***02*** *02:19:56.9±0.3, 42°.43N×75°.64E, h0km, ml2.2, Error ellipse: s-maj=2.3km s-min=1.8km az=26.0*
ISCJB ***02*** *02:19:57.3±0.6, 42°.42N±0°.03×75°.64E±0°.03, h6km±5km, Error ellipse: s-maj=4.3km s-min=3.4km az=3.1*
NNC ***02*** *02:19:57.4±0.7, 42°.44N×75°.60E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=4.6km s-min=1.9km az=142.0*
KRNET ***02*** *02:19:57.2±0.1, 42°.41N×75°.65E, h14km, mb3.3*
ISC 02 02:19:57.4±1.0, 42°.42N±0°.02×75°.64E±0°.02, h11km±10km, n28, σ0s58/52, 33C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.45**	**220**	⇑P	**Pg**	**02 20 06.6**	**+0.2**
	37nm,0.1s,SNR=254						
KZA				⇑S	**Sg**	**02 20 13.4**	**+1.1**
	52nm,0.1s						
KZA	**Kyzart**	**0.45**	**220**	⇑*i*P	**Pg**	**02 20 06.5**	**+0.2**
	baz=222						
KZA				⇑*i*S	**Sg**	**02 20 13.3**	**+1.0**
	baz=222						
ULHL	**Ulahol**	**0.48**	**111**	⇓P	**Pg**	**02 20 06.5**	**-0.4**
	75nm,0.2s,SNR=6.9						
ULHL				⇓S	**Sg**	**02 20 13.3**	**0.0**
	85nm,0.1s						
ULHL	**Ulahol**	**0.48**	**111**	⇑*i*P	**Pg**	**02 20 06.4**	**-0.4**
	baz=111						
ULHL				⇑*i*S	**Sg**	**02 20 12.9**	**-0.4**
	baz=111						
TKM2	**Tokmak 2**	**0.50**	**356**	⇓P	**Pg**	**02 20 07.0**	**-0.2**
	14nm,0.2s						
TKM2				⇓S	**Sg**	**02 20 13.7**	**-0.1**
	123nm,0.3s						
TKM2	**Tokmak 2**	**0.50**	**356**	⇑P	**Pg**	**02 20 07.1**	**-0.1**
	102nm,0.2s,SNR=64						
TKM2				⇑S	**Sg**	**02 20 13.9**	**0.0**
	208nm,0.1s						
TKM2	**Tokmak 2**	**0.50**	**356**	⇑*i*P	**Pg**	**02 20 07.1**	**-0.1**
	baz=355						
TKM2				⇑*i*S	**Sg**	**02 20 13.9**	**0.0**
	baz=355						
KBK	**Karagaybulak**	**0.56**	**295**	⇓P	**Pg**	**02 20 08.7**	**+0.3**
	99nm,0.2s,SNR=280						
KBK				⇑S	**Sg**	**02 20 16.8**	**+0.9**
	172nm,0.2s						
KBK	**Karagaybulak**	**0.56**	**295**	⇑*i*P	**Pg**	**02 20 08.6**	**+0.3**
	baz=295						
KBK				⇑*i*S	**Sg**	**02 20 16.4**	**+0.6**
	baz=295						
UCH	**Uchtor**	**0.86**	**257**	⇑P	**Pg**	**02 20 13.6**	**-0.4**
	10nm,0.2s,SNR=12						
UCH				⇑S	**Sg**	**02 20 24.9**	**-0.3**
	35nm,0.2s						
UCH	**Uchtor**	**0.86**	**257**	⇑*i*P	**Pg**	**02 20 13.6**	**-0.4**
	baz=258						
UCH				⇑*i*S	**Sg**	**02 20 25.0**	**-0.3**
	baz=258						
CHMS	**Chumysh**	**0.87**	**312**	⇓P	**Pg**	**02 20 13.7**	**-0.5**
	6.5nm,0.1s,SNR=6.1						
CHMS				⇑S	**Sg**	**02 20 25.4**	**-0.2**
	54nm,0.2s						
CHMS	**Chumysh**	**0.87**	**312**	⇑*i*P	**Pg**	**02 20 13.6**	**-0.6**
	baz=312						
CHMS				⇑*i*S	**Sg**	**02 20 25.3**	**-0.2**
	baz=312						
AAK	**Ala-Archa**	**0.87**	**284**	⇑P	**Pg**	**02 20 13.8**	**-0.4**
	15nm,0.4s						
AAK				⇓S	**Sg**	**02 20 25.4**	**-0.2**
	18nm,0.2s						
AAK	**Ala-Archa**	**0.87**	**284**	⇓P	**Pg**	**02 20 13.9**	**-0.3**
	32nm,0.1s,SNR=148						
AAK				⇓S	**Sg**	**02 20 25.2**	**-0.4**
	55nm,0.2s						
AAK	**Ala-Archa**	**0.87**	**284**	⇑*i*P	**Pg**	**02 20 13.9**	**-0.3**
	baz=285						
AAK				⇑*i*S	**Sg**	**02 20 25.4**	**-0.2**
	baz=285						
NRN	**Naryn**	**1.02**	**165**	*e*P	**Pg**	**02 20 16.1**	**-1.0**
	baz=166						
NRN				*e*S	**Sg**	**02 20 29.7**	**-0.8**
	baz=166						
ARLS	**Aral**	**1.13**	**241**	*i* P	**Pg**	**02 20 17.9**	**-1.2**
	baz=241						
ARLS				*i* S	**Sg**	**02 20 33.3**	**-0.5**
	baz=241						
USP	**Ospenovka**	**1.19**	**316**	⇑P	**Pb**	**02 20 19.3**	**-0.7**
	8.0nm,0.1s,SNR=7.2						
USP	**Ospenovka**	**1.19**	**316**	⇑*i*P	**Pb**	**02 20 19.2**	**-0.7**
	baz=316						
USP				⇑*i*S	**Sb**	**02 20 35.0**	**-0.4**
	baz=316						
KNDC	**Almaty**	**1.26**	**50**	⇑P	**Pn**	**02 20 21.2**	**+0.2**
KNDC				⇓S	**Sb**	**02 20 38.2**	**+0.8**
EKS	**Erkin-Say**	**1.39**	**281**	*i* P	**Pb**	**02 20 23.6**	**+0.2**
	baz=281						
EKS				*e*S	**Sg**	**02 20 42.1**	**-0.1**
	baz=281						
EKS2	**Erkin-Say**	**1.40**	**280**	⇓P	**Pb**	**02 20 23.7**	**+0.2**
	15nm,0.2s,SNR=84						
EKS2	**Erkin-Say**	**1.40**	**280**	⇑*i*P	**Pb**	**02 20 23.9**	**+0.4**
	baz=281						
EKS2				⇑*i*S	**Sg**	**02 20 42.4**	**+0.1**
	baz=281						
AML	**Almayashu**	**1.47**	**259**	⇑P	**Pn**	**02 20 24.9**	**+0.6**
	11nm,0.2s,SNR=31						
AML	**Almayashu**	**1.47**	**259**	⇑*i*P	**Pn**	**02 20 24.8**	**+0.6**
	baz=260						
AML				⇑*i*S	**Sn**	**02 20 43.7**	**+0.1**
	baz=260						
ANVS	**Anan'yevo**	**1.54**	**76**	⇓*i*P	**Pb**	**02 20 26.0**	**0.0**
	baz=75						
ANVS				⇓*e*S	**Sb**	**02 20 46.8**	**+1.2**
	baz=75						
KK31	**Karatay Array**	**3.84**	**282**	⇓Pg	**Pg**	**02 21 09.1**	**-1.7**
	2.0nm,0.3s,baz=99,slow=16,SNR=49						
KK31				⇑Lg	Lg	02 21 58.7	
	2.3nm,0.4s,baz=94,slow=28,SNR=5.9						

IDC ***02*** *02:20:55.7±0.6, 35°.28S×74°.06W, h0km, mb4.2/10, mb1 4.4/14, mb1mx4.2/30, mbtmp4.2/14, ML4.2/4, MS3.7/1, Ms1 3.7/1, ms1mx3.0/25, Error ellipse: s-maj=24.8km s-min=15.6km az=88.0*
ISCJB ***02*** *02:20:59.4±0.6, 35°.30S±0°.06×73°.9W±0°.1, h33km, mb4.3/11, Error ellipse: s-maj=15.4km s-min=8.7km az=1.0*
NEIC ***02*** *02:21:00.8±0.3, 35°.27S×73°.99W, h35km, mb4.7/5, Error ellipse: s-maj=11.4km s-min=6.7km az=94.0*
ISC 02 02:21:01.1±0.6, 35°.26S±0°.08×74°.0W±0°.1, h35km, n32, σ0s65/33, mb4.5/11, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**6.01**	**54**	Pn	**Pn**	**02 22 27.3**	**-0.3**
	0.4nm,0.3s,baz=218,slow=12,SNR=4.5						
PLCA	**Paso Flores**	**6.09**	**155**	Pn	**Pn**	**02 22 27.9**	**-0.8**
	2.7nm,0.3s,baz=327,slow=13,SNR=6.9						
PLCA				LR	LR	02 24 51.4	
	comp=Z,630nm,19.1s,baz=7.5,slow=39						
LVC	**Limon Verde**	**13.35**	**21**	*e*Pn	**Pn**	**02 24 07.7**	**-0.6**
CPUP	**Villa Florida**	**16.82**	**63**	Pn	**Pn**	**02 24 54.3**	**+0.5**
	0.3nm,0.3s,baz=223,slow=8.6,SNR=3.6						
LPAZ	**La Paz**	**19.60**	**17**	P	**Pn**	**02 25 28.4**	**-0.1**
	0.2nm,0.3s,baz=166,slow=5.7,SNR=6.7						
LPAZ	**La Paz**	**19.60**	**17**	*e*P	**Pn**	**02 25 28.0**	**-0.4**
	5.1nm,0.8s						
USHA	**Ushuaia**	**19.95**	**171**	P	**P**	**02 25 30.3**	**+0.4**
	0.2nm,0.3s,baz=359,slow=8.1,SNR=6.6						
EFI	**East Falkland**	**19.99**	**150**	*e*P	**P**	**02 25 30.9**	**+0.5**
	48nm,0.5s						
SIV	**San Ignacio**	**22.39**	**34**	P	**P**	**02 25 56.8**	**+0.3**
	2.4nm,0.8s,baz=191,slow=7.3,SNR=4.1						
SNAA	**Sanae**	**51.03**	**157**	P	**P**	**02 29 59.5**	**+0.2**
	2.0nm,0.9s,baz=254,slow=7.1,SNR=6.0						
SNAA	**Sanae**	**51.03**	**157**	*e*P	**P**	**02 29 59.6**	**+0.2**
	8.8nm,1.1s						
QSPA	**South Pole Qui**	**54.98**	**180**	P	**P**	**02 30 29.0**	**+0.5**
	10nm,0.9s,baz=130,slow=2.0,SNR=16						
QSPA	**South Pole Qui**	**54.98**	**180**	*e*P	**P**	**02 30 28.7**	**+0.1**
	14nm,1.0s						
TXAR	**Lajitas Array**	**70.08**	**333**	P	**P**	**02 32 10.2**	**+0.5**
	0.8nm,0.6s,baz=147,slow=7.5,SNR=4.3						
DBIC	**Dimbokro**	**77.08**	**72**	P	**P**	**02 32 51.5**	**+0.5**
	3.6nm,0.6s,baz=202,slow=4.6,SNR=8.2						
BOSA	**Boshof**	**80.88**	**118**	P	**P**	**02 33 12.3**	**+0.4**
	7.9nm,0.9s,baz=242,slow=5.0,SNR=9.0						
HWUT	**Hardware Ranch**	**83.91**	**333**	*e*P	**P**	**02 33 27.4**	**+0.1**
	5.8nm,1.0s						
NVAR	**Mina Array Bea**	**84.03**	**327**	P	**P**	**02 33 29.0**	**+1.0**
	1.1nm,0.7s,baz=161,slow=5.9,SNR=6.6						
PDAR	**Pinedale Array**	**84.19**	**334**	P	**P**	**02 33 29.3**	**+0.6**
	0.6nm,0.8s,baz=165,slow=6.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**86.12**	**71**	P	**P**	**02 33 38.8**	**0.0**
	2.5nm,0.8s,baz=261,slow=4.4,SNR=14						
ULM	**Lac du Bonnet**	**87.31**	**346**	P	**P**	**02 33 43.1**	**-0.6**
	2.2nm,0.8s,baz=166,slow=8.4,SNR=5.3						
GERES	**GERESS Array B**	**114.17**	**46**	PKP	PKPdf	02 39 34.9	-1.5
	0.3nm,0.7s,baz=248,slow=2.2,SNR=3.8						
WRA	**Warramunga Arr**	**118.89**	**211**	PKP	**PKPdf**	**02 39 45.0**	**-1.4**
	0.3nm,0.3s,baz=178,slow=1.4,SNR=10						
BRTR	**Keskin Array B**	**123.83**	**62**	PKP	**PKPdf**	**02 39 55.8**	**+0.5**
	0.6nm,0.7s,baz=160,slow=3.9,SNR=5.3						
AKASG	**Malin Array Be**	**124.21**	**48**	PKP	**PKPdf**	**02 39 54.3**	**-1.1**
	0.1nm,0.3s,baz=255,slow=2.7,SNR=4.5						
ABKAR	**Akbulak array**	**143.71**	**53**	*e*PKPdf	PKPbc	02 40 29.5	+0.1
PSI	**Prapat**	**147.04**	**167**	PKPbc	**PKPdf**	**02 40 39.8**	**+0.9**
	9.9nm,0.8s,baz=170,slow=1.8,SNR=12						
IPM	**Ipoh**	**149.03**	**170**	*e*PKPbc	**PKPbc**	**02 40 44.7**	**-1.3**
KULM	**Kulim**	**149.77**	**169**	*e*PKPbc	**PKPbc**	**02 40 47.3**	**-0.6**
ZALV	**Zalesovo Beam**	**156.13**	**32**	PKP	**PKPdf**	**02 40 51.2**	**+0.1**
	0.8nm,0.8s,baz=264,slow=1.5,SNR=5.4						
ZALV				PKPab	**PKPab**	**02 41 19.8**	**+0.9**
	2.8nm,0.9s,baz=308,slow=5.5,SNR=5.9						
MKAR	**Makanchi Array**	**158.78**	**50**	PKP	**PKPdf**	**02 40 54.7**	**-0.1**
	1.2nm,0.9s,baz=259,slow=1.2,SNR=6.5						
MKAR				PKPab	**PKPab**	**02 41 31.1**	**+0.4**
	1.1nm,0.7s,baz=303,slow=4.4,SNR=9.1						
SONM	**Songino Array**	**167.43**	**359**	PKP	**PKPdf**	**02 41 02.7**	**-0.4**
	0.4nm,0.9s,baz=318,slow=2.0,SNR=3.0						
SONM				PKPab	**PKPab**	**02 42 07.8**	**-0.7**
	0.8nm,1.1s,baz=132,slow=4.2,SNR=4.7						

ISCJB ***02*** *02:31:56.0±0.8, 43°.75N±0°.07×147°.28E±0°.08, h63km±5km, mb3.9/12, Error ellipse: s-maj=14.5km s-min=5.1km az=140.6*
JMA ***02*** *02:31:56.7±0.2, 43°.61N×147°.25E, h35km, M4.2*
MOS ***02*** *02:31:57.2±1.3, 44°.00N×147°.13E, h66km, mb4.4/5, Error ellipse: s-maj=19.7km s-min=11.3km az=70.9*
SKHL ***02*** *02:31:57.3±0.1, 43°.80N×147°.24E, h71km±5km, mb4.8/3*
IDC ***02*** *02:32:06.1±6.3, 44°.66N×147°.03E, h96km±29km, mb3.5/9, mb1 3.6/11, mb1mx3.4/31, mbtmp3.8/11, Error ellipse: s-maj=128.5km s-min=18.8km az=164.0*
ISC 02 02:31:57.3±1.0, 43°.78N±0°.08×147°.29E±0°.07, h58km±7km, n54, σ1s00/57, mb3.8/12, 1C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.34**	**286**	*e*P	**Pn**	**02 32 07.3**	**-0.2**
SHO				AMB	AMB	02 32 07.8	
	320nm,0.4s						
SHO				*e*S	**Sn**	**02 32 14.9**	**0.0**
SHO				A	A	02 32 15.1	
	9μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.06**	**285**	*d i*PN	**Pn**	**02 32 15.4**	**-0.7**
YUK				*i* S	**Sn**	**02 32 29.0**	**-1.0**
YUK				pmax	pmax		
	comp=N,122nm,0.2s						
YUK				pmax	pmax		
	comp=E,483nm,0.2s						
YUK				pmax	pmax		
	comp=Z,956nm,0.2s						
YUK				smax	smax		
	comp=E,3.0nm,0.3s						
YUK				smax	smax		
	comp=N,7.0nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.06**	**285**	*e*P	**Pn**	**02 32 15.4**	**-0.7**
YUK				AMB	AMB	02 32 17.9	
	comp=N,956nm,0.2s						
YUK				*e*S	**Sn**	**02 32 29.0**	**-1.0**
YUK				A	A	02 32 30.6	
	comp=N,3μm,0.3s						
YUK				A	A	02 32 30.6	
	comp=N,7μm,0.3s						
NEM2	**Nemuro 2**	**1.20**	**251**	P	**Pn**	**02 32 16.6**	**-1.2**
NEM2				*e*S	**Sn**	**02 32 31.0**	**-2.1**
KUR	**Kuril'sk**	**1.52**	**16**	⇓*i*PN	**Pn**	**02 32 21.6**	**-0.5**
KUR				*i* S	**Sn**	**02 32 39.8**	**-1.0**
KUR				pmax	pmax		
	comp=Z,173nm,0.4s						
KUR				pmax	pmax		
	comp=E,112nm,0.2s						
KUR				pmax	pmax		
	comp=N,127nm,0.2s						
KUR				pmax	pmax		
	comp=Z,92nm,0.1s						
KUR				smax	smax		
	comp=E,678nm,0.2s						
KUR				smax	smax		
	comp=N,836nm,0.3s						
KUR				pmax	pmax		
	comp=N,823nm,0.4s						
KUR	**Kuril'sk**	**1.52**	**16**	*e*P	**Pn**	**02 32 21.6**	**-0.5**
KUR				AMB	AMB	02 32 24.6	
	comp=N,172nm,0.4s						
KUR				*e*S	**Sn**	**02 32 39.8**	**-1.0**
KUR				A	A	02 32 41.7	
	comp=N,677nm,0.2s						
KUR				A	A	02 32 41.7	
	comp=N,835nm,0.2s						
JRA	**Rausu**	**1.58**	**277**	P	**Pn**	**02 32 23.0**	**+0.1**
JRA				*e*S	**Sn**	**02 32 42.5**	**+0.3**
JNK	**Nakash**	**1.87**	**265**	P	**Pn**	**02 32 26.7**	**-0.3**
JNK				*e*S	**Sn**	**02 32 49.3**	**-0.2**
JAK	**Akkeshi**	**2.04**	**249**	P	**Pn**	**02 32 28.3**	**-1.0**
JAK				*e*S	**Sn**	**02 32 51.8**	**-1.8**
JTKR	**Abashiri--Toko**	**2.45**	**276**	P	**Pn**	**02 32 35.6**	**+0.7**
JAR	**Ashorobuto**	**2.60**	**261**	P	**Pn**	**02 32 37.3**	**+0.4**
JAR				*e*S	**Sn**	**02 33 07.5**	**+0.1**
JOB	**Onbets**	**2.67**	**252**	P	**Pn**	**02 32 37.8**	**0.0**
JOB				*e*S	**Sn**	**02 33 07.7**	**-1.2**
JMP	**Maruseppu**	**2.85**	**276**	P	**Pn**	**02 32 41.3**	**+1.0**
JCH	**Churui**	**3.10**	**249**	P	**Pn**	**02 32 43.5**	**-0.2**
JCH				*e*S	**Sn**	**02 33 18.1**	**-1.3**
JKK2	**Kamakawa 2**	**3.29**	**273**	P	**Pn**	**02 32 47.2**	**+0.9**
JEM	**Erimo**	**3.51**	**241**	*e*S	**Sn**	**02 33 28.5**	**-1.0**
ERM	**Erimo**	**3.51**	**241**	*de*PN	**Pn**	**02 32 51.3**	**+2.0**
ERM	**Erimo**	**3.51**	**241**	*e*P	**Pn**	**02 32 51.3**	**+2.0**
JSE	**Soyaes**	**3.58**	**291**	P	**Pn**	**02 32 51.3**	**+1.1**
JNBK	**Urakawa-nobuka**	**3.65**	**247**	P	**Pn**	**02 32 51.2**	**0.0**
JNBK				*e*S	**Sn**	**02 33 31.9**	**-1.0**
MAJO	**Matsushiro**	**10.02**	**227**	⇓*e*PN	**Pn**	**02 34 20.6**	**+2.1**
MAJO	**Matsushiro**	**10.02**	**227**	*e*P	**Pn**	**02 34 20.6**	**+2.1**
USRK	**Ussuriysk Ar.**	**11.04**	**278**	P	Pn	02 34 37.0	+4.7
	comp=N,0.2nm,0.3s,baz=92,slow=14,SNR=3.3						
PETK	**Petropavlovsk-**	**11.61**	**33**	PN	**Pn**	**02 34 40.1**	**+0.1**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**11.61**	**33**	P	**Pn**	**02 34 40.1**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=200,slow=17,SNR=5.1						
SONM	**Songino Array**	**28.55**	**293**	P	**P**	**02 37 48.8**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=84,slow=8.0,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**29.05**	**139**	T	T	03 08 41.1	
	baz=330,slow=76,SNR=266						
H11N1	**WAKE ISLAND Hy**	**29.07**	**139**	T	T	03 08 42.2	
	baz=330,slow=76,SNR=225						
H11N3	**WAKE ISLAND Hy**	**29.07**	**139**	T	T	03 08 42.6	
	baz=330,slow=76,SNR=244						
TIXI	**Tiksi**	**29.36**	**348**	⇑*e*P	P	02 37 50.6	-3.7
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.0s						
H11S1	**WAKE ISLAND Hy**	**30.02**	**141**	T	T	03 09 43.9	
	baz=331,slow=76,SNR=528						
H11S3	**WAKE ISLAND Hy**	**30.03**	**141**	T	T	03 09 50.8	
	baz=331,slow=76,SNR=414						
H11S2	**WAKE ISLAND Hy**	**30.04**	**141**	T	T	03 09 46.5	
	baz=331,slow=76,SNR=363						
COLA	**College**	**40.99**	**36**	⇓*e*P	**P**	**02 39 34.9**	**+0.8**
COLA				pmax	pmax		
	comp=Z,31nm,1.5s						
COLA	**College**	**40.99**	**36**	*e*P	**P**	**02 39 34.9**	**+0.8**
ILAR	**Eielson Array**	**41.41**	**36**	P	**P**	**02 39 37.8**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**41.41**	**36**	P	**P**	**02 39 37.8**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=270,slow=8.6,SNR=12						
ILAR	**Eielson Array**

comp=Z,2.0nm,0.6s
AKASG **Malin Array Be** 71.62 324 P P 02 43 11.5 -0.8
comp=Z,1.1nm,0.5s,baz=38,slow=6.2,SNR=8.6
GERES **GERESS Array B** 79.19 331 P P 02 43 55.4 -0.5
comp=Z,0.2nm,0.4s,baz=37,slow=5.0,SNR=3.2
H06E1 **SOCORRO T-PHASE** 85.39 69 T T 04 19 34.8
SNR=14
H06S1 **SOCORRO T** 85.40 69 T T 04 18 40.5
SNR=21

*DJA **02** 02:42:17.8±1.1, 1°N±5°×9°5E±°, h30km, M4.7/5, mB5.4/1, mb4.7/5, MLv4.7/4, Mw(mB)4.8/1*
*IDC **02** 02:42:36.0±1.1, 0°75N×97°30E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.6/40, mbtmp3.6/9, ML3.9/2, Error ellipse: s-maj=38.2km s-min=18.0km az=58.0*
*ISCJB **02** 02:42:37.9±0.9, 0°73N±0°08×97°4E±0°1, h27km, mb3.6/7, Error ellipse: s-maj=19.4km s-min=9.1km az=151.6*
ISC 02 02:42:40.0±1.1, 0°74N±0°08×97°4E±0°1, h27km, n14, σ1°35/16, mb3.6/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**2.17**	**89**	P	**Pn**	**02 43 14.1**	**-0.3**
PSI	**Prapat**	**2.54**	**36**	Pn	**Pn**	**02 43 19.1**	**-0.6**
	3.7nm,0.3s,baz=303,slow=9.0,SNR=10						
KCSI	**Kotacane, Aceh**	**2.79**	**7**	P	**Pn**	**02 43 22.0**	**-0.9**
KCSI				S	**Sb**	**02 44 04.0**	**+1.1**
BKNI	**Bangkinang**	**3.65**	**96**	P	**Pb**	**02 43 44.8**	**+0.9**
	350nm,0.9s,3μm2.2nm						
BKNI				S	Sb	02 44 54.1	+26
	350nm,0.9s,3μm2.2nm						
MNAI	**Manna**	**7.51**	**133**	P	**Pn**	**02 44 27.9**	**0.0**
	142nm,2.0s						
MNAI				S	**Sn**	**02 45 49.0**	**-3.2**
	142nm,2.0s						
MDSI	**Maura Dua**	**8.53**	**128**	P	**Pn**	**02 44 42.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**17.67**	**5**	P	**Pn**	**02 46 43.2**	**-1.2**
	0.6nm,0.3s,baz=193,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**41.62**	**122**	P	**P**	**02 50 25.2**	**-1.1**
	0.8nm,0.6s,baz=302,slow=8.9,SNR=5.2						
ASAR	**Alice Springs**	**42.95**	**127**	P	**P**	**02 50 37.5**	**+0.4**
	0.2nm,0.4s,baz=296,slow=7.2,SNR=3.7						
SONM	**Songino Array**	**47.55**	**8**	P	**P**	**02 51 13.3**	**0.0**
	0.2nm,0.5s,baz=201,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**47.73**	**346**	P	**P**	**02 51 14.9**	**+0.2**
	0.6nm,0.5s,baz=163,slow=8.0,SNR=4.8						
STKA	**Stephens Creek**	**52.90**	**132**	P	**P**	**02 51 56.5**	**+2.5**
	0.7nm,0.5s,baz=318,slow=12,SNR=2.7						
ZALV	**Zalesovo Beam**	**54.04**	**351**	P	**P**	**02 52 02.0**	**0.0**
	1.1nm,0.5s,baz=176,slow=8.3,SNR=6.1						
BRTR	**Keskin Array B**	**69.57**	**312**	P	**P**	**02 53 46.5**	**-0.6**
	0.2nm,0.6s,baz=123,slow=7.1,SNR=2.7						

*IDC **02** 02:42:42.9±0.9, 0°76N×97°27E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.8/40, mbtmp3.9/13, ML4.2/2, Error ellipse: s-maj=27.6km s-min=16.6km az=51.0*
*ISCJB **02** 02:42:45.2±0.7, 0°79N±0°08×97°30E±0°09, h27km, mb3.9/12, Error ellipse: s-maj=13.7km s-min=10.8km az=30.5*
ISC 02 02:42:47.1±0.9, 0°8N±0°1×97°3E±0°1, h27km, n20, σ0°69/14, mb3.9/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.54**	**39**	Pn	**Pn**	**02 43 27.1**	**+0.4**
	13nm,0.3s,baz=215,slow=7.4,SNR=34						
PSI				Sn	**Sn**	**02 43 56.6**	**-0.2**
	7.9nm,0.3s,baz=61,slow=6.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	**17.61**	**5**	P	**Pn**	**02 46 50.7**	**-0.1**
	0.8nm,0.3s,baz=206,slow=12,SNR=4.2						
H08S2	**Diego Garcia H**	**26.16**	**251**	T	T	03 15 23.1	
	baz=72,slow=75,SNR=1165						
H08S3	**Diego Garcia H**	**26.16**	**251**	T	T	03 15 13.7	
	baz=72,slow=75,SNR=758						
H08S1	**Diego Carcia H**	**26.18**	**251**	T	T	03 15 14.8	
	baz=72,slow=75,SNR=907						
BATI	**Baumata**	**28.39**	**113**	P	P	02 48 44.3	+4.7
	17nm,0.3s,baz=147,slow=3.0,SNR=8.1						
H01W3	**Cape Leeuwin H**	**38.83**	**158**	T	T	03 31 20.1	
	baz=332,slow=76,SNR=24						
H01W2	**Cape Leeuwin H**	**38.84**	**158**	T	T	03 31 21.1	
	baz=332,slow=76,SNR=26						
H01W1	**Cape Leeuwin H**	**38.84**	**158**	T	T	03 31 21.3	
	baz=332,slow=76,SNR=10						
WRA	**Warramunga Arr**	**41.71**	**122**	P	**P**	**02 50 34.7**	**+0.6**
	1.1nm,0.7s,baz=302,slow=8.9,SNR=6.8						
ASAR	**Alice Springs**	**43.05**	**127**	P	**P**	**02 50 43.8**	**-1.2**
	0.3nm,0.4s,baz=298,slow=7.7,SNR=7.3						
SONM	**Songino Array**	**47.50**	**8**	P	**P**	**02 51 19.6**	**-0.4**
	1.0nm,0.7s,baz=188,slow=10,SNR=8.4						
MKAR	**Makanchi Array**	**47.66**	**346**	P	**P**	**02 51 21.2**	**+0.1**
	2.1nm,0.5s,baz=161,slow=8.8,SNR=15						
STKA	**Stephens Creek**	**52.99**	**132**	P	**P**	**02 52 02.1**	**+0.4**
	1.6nm,0.5s,baz=339,slow=7.0,SNR=5.4						
ZALV	**Zalesovo Beam**	**53.97**	**351**	P	**P**	**02 52 08.1**	**-0.4**
	2.1nm,0.4s,baz=161,slow=7.0,SNR=6.1						
KBZ	**Khabaz**	**64.46**	**319**	P	**P**	**02 53 22.0**	**+0.7**
	0.7nm,0.6s,baz=216,slow=3.6,SNR=3.6						
BRTR	**Keskin Array B**	**69.48**	**312**	P	**P**	**02 53 52.9**	**-0.7**
	0.5nm,0.8s,baz=151,slow=2.8,SNR=3.9						
AKASG	**Malin Array Be**	**75.65**	**322**	P	**P**	**02 54 29.3**	**-0.6**
	0.2nm,0.4s,baz=86,slow=5.1,SNR=4.3						
FINES	**FINESS Array B**	**80.41**	**333**	P	**P**	**02 54 55.9**	**-0.1**
	0.3nm,0.4s,baz=62,slow=6.5,SNR=3.3						
GERES	**GERESS Array B**	**85.20**	**319**	P	**P**	**02 55 22.5**	**+1.2**
	0.7nm,0.8s,baz=104,slow=4.3,SNR=4.8						

*IDC **02** 02:48:00.2±0.9, 34°53S×72°07W, h0km, mb3.8/6, mb1 4.0/9, mb1mx3.9/27, mbtmp3.8/9, ML3.6/3, Error ellipse: s-maj=35.6km s-min=21.8km az=74.0*
*ISCJB **02** 02:48:01.1±2.2, 34°49S±0°05×71°92W±0°07, h13km±15km, mb3.8/6, Error ellipse: s-maj=12.0km s-min=6.2km az=36.3*
*GUC **02** 02:48:02.7±0.4, 34°42S×71°87W, h16km±12km, ML3.9*
ISC 02 02:48:02.6±2.7, 34°43S±0°06×71°83W±0°09, h15km±16km, n19, σ0°92/26, mb3.8/6, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.59**	**36**	⇑iP	**Pb**	**02 48 14.6**	**0.0**
LNV				*i* S	**Sb**	**02 48 23.0**	**+0.2**
CHCH	**Chadas Angostu**	**1.10**	**63**	*e*P	**Pb**	**02 48 23.2**	**-0.1**
CHCH				*e*S	**Sg**	**02 48 38.4**	**+0.2**
RCDM	**Rinconada Maip**	**1.27**	**42**	⇑iP	**Pn**	**02 48 25.3**	**-0.5**
RCDM				*i* S	**Sb**	**02 48 42.6**	**+0.2**
RCDM				IAML		02 48 50.0	
	comp=E,3μm,0.6s						
ANTU	**Antumapu**	**1.32**	**49**	⇑iP	**Pn**	**02 48 26.2**	**-0.3**
ANTU				*i* S	**Sn**	**02 48 44.5**	**+0.7**
ANTU				IAML		02 48 48.5	
	comp=N,3μm,0.5s						
STL	**Santa Lucia**	**1.40**	**45**	*e*P	**Pn**	**02 48 27.6**	**-0.1**
STL				*e*S	**Sn**	**02 48 46.6**	**+0.7**
IHA	**Instituto Hidr**	**1.41**	**7**	*i* P	**Pn**	**02 48 27.3**	**-0.5**
IHA				*i* S	**Sn**	**02 48 46.2**	**+0.1**
PEL	**Peldehue**	**1.60**	**37**	⇓iP	**Pn**	**02 48 30.7**	**+0.3**
PEL				*i* S	**Sb**	**02 48 52.4**	**+0.4**
PEL				IAML		02 48 59.2	
	comp=E,4μm,1.1s						
CFAA	**Coronel Fontan**	**4.13**	**48**	Pn	Pn	02 49 09.3	+4.1
	comp=E,0.3nm,0.3s,baz=225,slow=12,SNR=3.6						
CFAA				Sn	**Sb**	**02 50 03.0**	**-1.7**
	comp=E,0.9nm,0.3s,baz=356,slow=7.3,SNR=5.3						
PLCA	**Paso Flores**	**6.37**	**171**	Pn	**Pn**	**02 49 35.9**	**-0.1**
	comp=E,0.7nm,0.3s,baz=325,slow=11,SNR=3.1						
PLCA				Sn	Sb	02 51 01.0	-8.2
	comp=E,0.4nm,0.3s,baz=234,slow=20,SNR=1.6						
LPAZ	**La Paz**	**18.37**	**11**	P	**Pn**	**02 52 18.8**	**+1.3**
	comp=E,0.1nm,0.3s,baz=196,slow=7.4,SNR=3.8						
SIV	**San Ignacio**	**20.76**	**30**	P	**P**	**02 52 41.0**	**-1.9**
	comp=E,1.1nm,0.6s,baz=219,slow=6.5,SNR=2.8						
SNAA	**Sanae**	**51.12**	**158**	P	**P**	**02 57 05.2**	**+0.8**
	comp=E,1.0nm,1.0s,baz=287,slow=15,SNR=2.4						
TXAR	**Lajitas Array**	**70.19**	**331**	P	**P**	**02 59 15.4**	**+0.6**
	comp=E,0.4nm,0.5s,baz=151,slow=8.0,SNR=4.1						
BOSA	**Boshof**	**79.72**	**118**	P	**P**	**03 00 10.1**	**-0.1**
	comp=E,4.3nm,1.0s,baz=173,slow=8.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**84.20**	**70**	P	**P**	**03 00 34.3**	**+0.7**
	comp=E,0.9nm,0.8s,baz=272,slow=5.4,SNR=7.2						
PDAR	**Pinedale Array**	**84.23**	**333**	P	**P**	**03 00 33.5**	**0.0**
	comp=E,0.3nm,0.7s,baz=149,slow=3.1,SNR=3.3						
NVAR	**Mina Array Bea**	**84.34**	**325**	P	**P**	**03 00 34.9**	**+0.8**
	comp=E,0.5nm,0.7s,baz=157,slow=7.2,SNR=3.7						
WRA	**Warramunga Arr**	**120.47**	**209**	PKP	**PKPdf**	**03 06 52.9**	**-1.2**
	comp=E,0.2nm,0.3s,baz=155,slow=1.7,SNR=4.7						
SONM	**Songino Array**	**166.54**	**5**	PKP	**PKPdf**	**03 08 05.0**	**-2.2**
	comp=E,0.4nm,0.7s,baz=111,slow=4.1,SNR=2.8						

*ISCJB **02** 02:49:01.3±0.5, 42°43N±0°03×75°64E±0°03, h1km±5km, Error ellipse: s-maj=4.4km s-min=3.2km az=4.3*
*NNC **02** 02:49:01.4±0.5, 42°43N×75°61E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=3.2km s-min=1.7km az=152.0*
*KRNET **02** 02:49:01.6±0.1, 42°42N×75°66E, h15km, mb3.4*
*KNET **02** 02:49:02.1±0.6, 42°46N×75°51E, h0km, ml2.4, Error ellipse: s-maj=4.7km s-min=1.8km az=126.0*
ISC 02 02:49:01.9±1.0, 42°43N±0°02×75°62E±0°02, h10km±9km, n27, σ0°78/45, 24C-19D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOOM	**Boomskoye usch**	**0.24**	**75**	⇓*i*P	**Pg**	**02 49 07.0**	**0.0**
	baz=74						
BOOM				⇓*e*S	**Sg**	**02 49 10.8**	**+0.4**
	baz=74						
KZA	**Kyzart**	**0.45**	**219**	⇑P	**Pg**	**02 49 10.8**	**0.0**
	161nm,0.2s,SNR=164						
KZA				⇑S	**Sg**	**02 49 17.7**	**+0.9**
	122nm,0.1s						
KZA	**Kyzart**	**0.45**	**219**	⇓*i*P	**Pg**	**02 49 10.8**	**0.0**
	baz=222						
KZA				⇓*i*S	**Sg**	**02 49 17.6**	**+0.9**
	baz=222						
TKM2	**Tokmak 2**	**0.49**	**358**	⇑P	**Pg**	**02 49 11.2**	**-0.3**
	15nm,0.3s						
TKM2				⇑S	**Sg**	**02 49 17.9**	**-0.2**
	328nm,0.3s						
TKM2	**Tokmak 2**	**0.49**	**358**	⇓P	**Pg**	**02 49 11.3**	**-0.3**
	39nm,0.1s,SNR=40						
TKM2				⇓S	**Sg**	**02 49 18.1**	**-0.1**
	1μm,0.1s						
TKM2	**Tokmak 2**	**0.49**	**358**	⇓*i*P	**Pg**	**02 49 11.3**	**-0.3**
	baz=355						
TKM2				⇓*i*S	**Sg**	**02 49 17.9**	**-0.2**
	baz=355						
ULHL	**Ulahol**	**0.49**	**112**	⇑*i*P	**Pg**	**02 49 10.6**	**-1.0**
	baz=112						
ULHL				⇑*i*S	**Sg**	**02 49 17.2**	**-0.9**
	baz=112						
KBK	**Karagaybulak**	**0.55**	**295**	⇓*i*P	**Pg**	**02 49 12.9**	**+0.2**
	baz=294						
KBK				⇓*i*S	**Sg**	**02 49 20.8**	**+0.9**
	baz=294						
UCH	**Uchtor**	**0.85**	**257**	⇑P	**Pg**	**02 49 17.7**	**-0.6**
	9.6nm,0.1s,SNR=19						
UCH				⇓S	**Sg**	**02 49 28.3**	**-1.1**
	75nm,0.3s						
UCH	**Uchtor**	**0.85**	**257**	⇑*i*P	**Pg**	**02 49 17.7**	**-0.6**
	baz=257						
UCH				⇑*i*S	**Sg**	**02 49 29.5**	**+0.1**
	baz=257						
CHMS	**Chumysh**	**0.86**	**312**	⇓P	**Pg**	**02 49 17.9**	**-0.6**
	14nm,0.1s,SNR=48						
CHMS	**Chumysh**	**0.86**	**312**	⇑*i*P	**Pg**	**02 49 17.9**	**-0.6**
	baz=311						
CHMS				⇑*i*S	**Sg**	**02 49 29.7**	**0.0**
	baz=311						
AAK	**Ala-Archa**	**0.86**	**284**	⇓P	**Pg**	**02 49 18.2**	**-0.4**
	5.2nm,0.2s						
AAK				⇑S	**Sg**	**02 49 29.5**	**-0.3**
	29nm,0.2s						
AAK	**Ala-Archa**	**0.86**	**284**	P	**Pg**	**02 49 18.1**	**-0.4**
	26nm,0.1s,SNR=113						
AAK				⇓S	**Sg**	**02 49 29.5**	**-0.3**
	162nm,0.3s						
AAK	**Ala-Archa**	**0.86**	**284**	⇑*i*P	**Pg**	**02 49 18.1**	**-0.4**
	baz=284						
AAK				⇑*i*S	**Sg**	**02 49 29.5**	**-0.3**
	baz=284						
NRN	**Naryn**	**1.03**	**164**	*i* P	**Pg**	**02 49 21.0**	**-0.8**
	baz=166						
NRN				*e*S	**Sg**	**02 49 35.0**	**-0.3**
	baz=166						
ARLS	**Aral**	**1.12**	**240**	⇓*i*P	**Pg**	**02 49 22.3**	**-1.2**
	baz=241						
USP	**Ospenovka**	**1.18**	**316**	⇓P	**Pg**	**02 49 23.4**	**-1.2**
	17nm,0.1s,SNR=76						
USP	**Ospenovka**	**1.18**	**316**	⇑*i*P	**Pg**	**02 49 23.4**	**-1.2**
	baz=315						
USP				⇑*i*S	**Sg**	**02 49 39.7**	**-0.2**
	baz=315						
KNDC	**Almaty**	**1.26**	**51**	⇑P	**Pn**	**02 49 25.2**	**-0.5**
	29nm,0.3s						
KNDC				⇓S	**Sb**	**02 49 42.3**	**+0.1**
EKS	**Erkin-Say**	**1.38**	**281**	*i* P	**Pb**	**02 49 28.2**	**+0.3**
	baz=281						
EKS				*e*S	**Sg**	**02 49 47.5**	**+1.2**
	baz=281						
EKS2	**Erkin-Say**	**1.39**	**280**	⇑*i*P	**Pb**	**02 49 28.2**	**+0.2**
	baz=280						
EKS2				⇑*i*S	**Sg**	**02 49 47.3**	**+0.8**
	baz=280						
AML	**Almayashu**	**1.46**	**259**	⇑*i*P	**Pn**	**02 49 28.9**	**+0.1**
	baz=259						
AML				⇑*i*S	**Sn**	**02 49 48.7**	**+0.5**
	baz=259						
KK31	**Karatay Array**	**3.82**	**282**	⇓Pg	**Pg**	**02 50 12.7**	**-2.5**
	3.5nm,0.4s,baz=93,slow=16,SNR=44						
KK31				⇑Lg	Lg	02 51 00.9	
	6.5nm,0.5s,baz=97,slow=30,SNR=12						
MK31	**Makanchi Array**	**6.46**	**45**	Pn	**Pn**	**02 50 38.8**	**+1.8**
	2.1nm,0.4s,baz=221,slow=13,SNR=68						
MK31				⇑Lg	Lg	02 52 28.8	
	2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**8.44**	**13**	⇑Lg	Lg	02 53 27.8	
	7.8nm,0.7s						
KURK	**Kurchatov**	**8.54**	**13**	⇓Lg	Lg	02 53 29.0	
	2.6nm,0.7s						

*CSEM **02** 02:50:02.8, 38°43N×21°93E, h8km, MD2.6*
ATH 02 02:50:02.8, 38°43N×21°93E, h8km, MD2.6/6, 2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.02**	**261**	⇓iPG	Pg	02 50 04.3	0.0
EFP				*e*SG	Sg	02 50 05.6	+0.3
EFP	**Efpalio**	**0.02**	**261**	⇓iPg	Pg	02 50 04.3	0.0
EFP				*e*Sg	Sg	02 50 05.6	+0.3
KALE	**Kalithea**	**0.17**	**103**	*e*PG	Pg	02 50 06.3	-0.1
KALE				*e*SG	Sg	02 50 09.3	+0.4
KALE	**Kalithea**	**0.17**	**103**	*e*Pg	Pg	02 50 06.3	-0.1
KALE				*e*Sg	Sg	02 50 09.3	+0.4
LAKA	**Lakka**	**0.19**	**169**	*e*PG	Pg	02 50 06.7	-0.1
LAKA	**Lakka**	**0.19**	**169**	*e*Pg	Pg	02 50 06.7	-0.1
KLV	**Kalavryta, Ach**	**0.42**	**156**	*e*PG	Pg	02 50 10.7	-0.5
KLV				*e*SB	Sg	02 50 16.7	-0.1
KLV	**Kalavryta, Ach**	**0.42**	**156**	*e*Pg	Pg	02 50 10.7	-0.5
KLV				*e*Sb	Sg	02 50 16.7	-0.1
DSF	**Desfina**	**0.47**	**92**	*e*PB	Pg	02 50 11.8	-0.2
DSF				*e*SB	Sg	02 50 18.6	+0.3
DSF	**Desfina**	**0.47**	**92**	*e*Pb	Pg	02 50 11.8	-0.2
DSF				*e*Sb	Sg	02 50 18.6	+0.3
DRO	**Drossia**	**0.51**	**200**	*e*PB	Pg	02 50 12.7	0.0
DRO	**Drossia**	**0.51**	**200**	*e*Pb	Pg	02 50 12.7	0.0

*MAN **02** 02:51:19, 18°40N×122°57E, h19km, MS6.1*
MAN INTENSITY V - STA ANA CAGAYAN; INTENSITY IV-VIGAN ILOCOS SUR; DIVILACAN ISABELA; INTENSITY III - TUGUEGARAO CITY & PENABLANCA CAGAYAN.
*ISCJB **02** 02:51:21.9±0.5, 18°23N±0°01×122°46E±0°02, h31km±3km, mb5.6/322, MS5.5/254, Error ellipse: s-maj=2.7km s-min=2.1km az=174.8*
*NEIC **02** 02:51:21.3±0.1, 18°18N×122°40E, h17km, mb5.7/142, ME6.2, MS5.6/203, MW5.7, MWr5.7, Error ellipse: s-maj=3.7km s-min=2.9km az=95.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^17^Nm; M_{rr}0.21; $M_{\theta\theta}$4.35; $M_{\phi\phi}$-4.56; $M_{r\theta}$-0.41; $M_{\theta\phi}$-1.52; $M_{\phi r}$1.69; Best double couple: $M_0$5.00000×10^17^ NP1:ϕ_s235.00000°, δ72.00000°, λ-175.00000°. NP2:ϕ_s144.00000°, δ85.00000°, λ-18.00000°. Principal axes: T 4.7100, Plg9.0000°, Azm190.0000°; N 0.5700, Plg71.0000°, Azm309.0000°; P -5.2800, Plg16.0000°, Azm98.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [V PIVS] at Aparri and Santa Ana; [IV PIVS] at Divilacan and Vigan; [III PIVS] at Batac, Laoag, Palanan, Pasuquin, Penablanca and Tuguegarao; [II PIVS] at Magsaysay and Santa. Also felt at Baguio, Cabanatuan, Enrile and Manila.
*GCMT **02** 02:51:21.3±0.1, 18°31N×122°48E, h19km, MW5.8/113, Moment Tensor Solution. s109,c235; s113,c317; Duration: 1#9 Moment tensor: Scale 10^17^Nm; M_{rr}0.83±.05; $M_{\theta\theta}$3.75±.04; $M_{\phi\phi}$-4.58±.05; $M_{r\theta}$-1.06±.10; $M_{\theta\phi}$-2.29±.04; $M_{\phi r}$3.85±.17; Best double couple: $M_0$6.13900×10^17^ NP1:ϕ_s333.00000°, δ88.00000°, λ40.00000°. NP2:ϕ_s241.00000°, δ50.00000°, λ177.00000°. Principal axes: T 5.4630, Plg29.0000°, Azm205.0000°; N 1.3550, Plg50.0000°, Azm336.0000°; P -6.8140, Plg25.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BKK **02** 02:51:22.0±0.3, 18°N±3°×12°3E±°, h10km, M5.9/53, mb5.8/53, mB6.2/48, MLv6.5/1, Mw(mB)5.8/48, Mwp6.1/6*
*MOS **02** 02:51:22.5±1.0, 18°33N×122°39E, h33km, mb5.8/79, MS5.5/69, Error ellipse: s-maj=7.2km s-min=4.1km az=118.0*
*BJI **02** 02:51:23.6, 18°45N×122°48E, h29km, mB5.7/60, mb5.2/73, Ms5.8/96, Ms7 5.7/87*
*IDC **02** 02:51:23.1±1.5, 18°17N×122°41E, h27km±9km, mb5.1/38, mb1 5.2/40, mb1mx5.2/43, mbtmp5.2/40, ML4.7/2, MS5.3/29, Ms1 5.3/29, ms1mx5.2/38, Error ellipse: s-maj=11.1km s-min=8.4km az=77.0*
*KLM **02** 02:51:26.0, 18°34N×122°24E, h32km, mb5.7, ML5.8, MS6.4*
*SZGRF **02** 02:51:26.9, 19°03N×122°22E, h33km, mb5.4, MS5.7, Philippine Islands region*
*NEIC **02** 02:51:32.2±0.0, 18°08N×123°08E, h10km, Moment Tensor Solution. s147 Moment tensor: Scale 10^17^Nm; M_{rr}0.68; $M_{\theta\theta}$3.42; $M_{\phi\phi}$-4.10; $M_{r\theta}$-2.87; $M_{\theta\phi}$-1.54; $M_{\phi r}$-1.70; Best double couple: $M_0$5.30000×10^17^ NP1:ϕ_s328.00000°, δ50.00000°, λ7.00000°. NP2:ϕ_s234.00000°, δ84.00000°, λ140.00000°. Principal axes: T 5.2500, Plg31.0000°, Azm183.0000°; N 0.0800, Plg49.0000°, Azm47.0000°; P -5.3300, Plg22.0000°, Azm287.0000°;*
*DJA **02** 02:51:34.0±1.0, 18°N±6°×12°2E±°, h111km±9km, M5.8/111, mb5.7/111, mB6.2/94, Mw(mB)5.8/94, Mwp6.0/11*
ISC 02 02:51:23.6±0.3, 18°27N±0°02×122°49E±0°03, h33km±1km, h33km:pP-P, n1283, σ1°43/1344, mb5.6/323, MS5.6/257, 74C-60D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.42**	**267**	*e*P	**Pb**	**02 51 30.2**	**-2.7**
SGCP				*e*S	**Sb**	**02 51 37.0**	**-2.4**
CVP	**Callao Caves**	**0.85**	**229**	⇑*i*P	**Pn**	**02 51 37.2**	**-2.0**
CVP				*i* S	**Sn**	**02 51 47.4**	**-3.1**
APYP	**Conner**	**1.25**	**251**	*e*P	**Pn**	**02 51 43.8**	**-0.9**
APYP				*e*S	**Sn**	**02 52 00.3**	**-0.2**
CAUP	**Cauayan**	**1.46**	**206**	*e*P	**Pn**	**02 51 48.5**	**+0.9**
CAUP				*e*S	**Sb**	**02 52 09.8**	**+1.4**
PIP	**Pasuquin**	**1.78**	**272**	⇑*i*P	**Pn**	**02 51 51.7**	**-0.3**
PIP				*i* S	**Sb**	**02 52 16.7**	**-0.8**
ABRA	**Dolores**	**1.80**	**250**	*e*P	**Pn**	**02 51 52.5**	**+0.2**
ABRA				*e*S	**Sn**	**02 52 15.3**	**+1.3**
SIPP	**Brgy, Tapao**	**1.96**	**260**	⇓*e*P	**Pn**	**02 51 54.1**	**-0.5**
SIPP				*e*S	**Sn**	**02 52 19.1**	**+1.1**
SZP	**Santa**	**2.06**	**250**	*e*Pn	**Pn**	**02 51 56.9**	**+0.9**
SZP				*e*Sn	**Sn**	**02 52 20.2**	**-0.3**
BCPH	**Baguio City Da**	**2.62**	**224**	⇑*i*P	**Pn**	**02 52 04.9**	**+1.2**
BCPH				*i* S	**Sn**	**02 52 37.7**	**+3.2**
BALP	**Baler**	**2.66**	**199**	*e*P	**Pn**	**02 52 04.5**	**+0.3**
BALP				*e*S	**Sb**	**02 52 41.2**	**-1.5**
PCPH	**Palayan**	**3.00**	**207**	⇓*i*P	**Pn**	**02 52 07.8**	**-1.0**
PCPH				*e*S	**Sn**	**02 52 47.8**	**+4.1**
BOLP	**Bolinao**	**3.10**	**233**	*e*P	**Pn**	**02 52 11.8**	**+1.7**
BOLP				*e*S	**Sn**	**02 52 49.9**	**+3.9**
GQP	**Guinayangan**	**4.34**	**181**	⇑*e*P	**Pn**	**02 52 27.5**	**+0.3**
GQP				*e*S	**Sn**	**02 53 16.0**	**-0.7**
TGY	**Tagaytay City**	**4.40**	**200**	Pn	**Pn**	**02 52 29.4**	**+1.2**
	501nm,0.3s,baz=336,slow=3.3,SNR=94						
TGY				Sn	**Sn**	**02 53 19.7**	**+1.3**
	271nm,0.3s,baz=240,slow=16,SNR=3.2						
TGY	**Tagaytay City**	**4.40**	**200**	⇑*i*P	**Pn**	**02 52 31.1**	**+2.9**
TGY				*i* S	Sn	02 53 00.8	-18
TWG	**Pinlang**	**4.72**	**344**	*e*Pn	**Pn**	**02 52 31.3**	**-1.2**
TWG				*e*Sn	Sn	02 53 18.0	-8.1
PVCP	**Virac**	**4.91**	**161**	⇑*e*P	**Pn**	**02 52 35.0**	**-0.2**
PVCP				*e*S	**Sn**	**02 53 26.6**	**-4.3**
AUQP	**San Andres**	**4.92**	**178**	*e*P	**Pn**	**02 52 37.2**	**+2.0**
LUBP	**Lubang**	**5.00**	**206**	*e*P	**Pn**	**02 52 36.4**	**+0.1**
YULB	**Yu-li**	**5.22**	**348**	*e*Pn	**Pn**	**02 52 38.3**	**-1.0**
YULB				*e*Sn	**Sn**	**02 53 35.7**	**-2.7**
TPUB	**Ta-pu**	**5.30**	**341**	*e*Pn	**Pn**	**02 52 40.7**	**+0.2**
TPUB				*e*Sn	Sn	02 53 26.7	-14
SSLB	**Suanglung**	**5.68**	**346**	*e*Pn	**Pn**	**02 52 46.0**	**+0.4**
SSLB				*e*Sn	**Sn**	**02 53 51.8**	**+2.1**
NACB	**Ninganchiao**	**5.94**	**352**	*e*Pn	**Pn**	**02 52 49.1**	**-0.1**
NACB				*e*Sn	**Sn**	**02 53 50.6**	**-5.5**
YOJ	**Yonaguni jima**	**6.18**	**4**	*e*P	**Pn**	**02 52 51.8**	**-0.7**
YOJ

SSE LZ
15μm,18.0s
SDKM Sandakan 13.57 203 ⇓P Pn 02 54 36.3 +2.4
MYLDM Lahad Datu 13.58 197 ⇑P P 02 54 38.6 -4.0
MYLDM Lahad Datu 13.58 197 *e*Pn **Pn 02 54 37.1 +3.1**
KKM Kota Kinabalu 13.61 208 P **Pn 02 54 35.5 +1.1**
baz=13,SNR=69
KKM Kota Kinabalu 13.61 208 ⇓P Pn 02 54 36.6 +2.2
KKM Kota Kinabalu 13.61 208 *e*Pn **Pn 02 54 34.4 0.0**
NJ2 Nanjing 14.11 347 *e*P **Pn 02 54 42.8 +1.6**
NJ2 S **Sn 02 57 16.3 -0.3**
NJ2 PMZ
17nm,0.7s
NJ2 LN
20μm,17.3s
NJ2 LE
33μm,15.4s
NJ2 LZ
19μm,14.4s
WHN Wuhan 14.29 330 P **Pn 02 54 44.1 +0.6**
WHN S Sn 02 57 14.5 -6.4
WHN LN
53μm,15.4s
WHN LE
75μm,18.4s
WHN LZ
41μm,19.4s
SGSI Sangihe 14.79 168 P **P 02 54 53.5 -2.6**
993nm,1.6s
DLV T Lat 14.91 247 *e*Pn **Pn 02 54 54.8 +2.5**
I39PW PALAU INFRASON15.86 131 *i* 04 24 50.0
baz=314,slow=302,SNR=0.6
PALU Palau 15.94 131 P **Pn 02 55 04.7 -0.8**
baz=16,SNR=20
UBPT Khong Chiam 16.57 262 P **P 02 55 15.8 0.0**
408nm,1.3s,6μm
JNU Nakatsue 16.60 25 Pn **P 02 55 15.3 -0.8**
1.7nm,0.3s,baz=190,slow=7.6,SNR=46
JNU LR LR 03 02 06.2
comp=Z,6μm,18.6s,baz=212,slow=38
JNU Nakatsue 16.60 25 *e*Pn **Pn 02 55 13.7 -0.1**
388nm,1.0s
GYA Guiyang 16.74 302⇑ *i*P **P 02 55 17.1 -0.7**
GYA pP **pP 02 55 24.6 -1.8**
GYA PP PP 02 55 32.2
GYA S **Sn 02 58 19.7 -1.2**
GYA sS sS 02 58 33.0 -12
GYA SS **SnSn 02 58 42.4 +8.1**
GYA PMZ
100nm,1.0s
GYA PMZ
3μm,12.5s
GYA LN
14μm,19.9s
GYA LE
21μm,15.9s
GYA LZ
27μm,15.9s
ENH Enshi 16.81 318 *e*Pn **P 02 55 19.8 +1.3**
368nm,1.7s
TOLI Toli-Toli 17.12 186 *e*Pn **Pn 02 55 20.4 -0.1**
640nm,1.2s
BTM Bintulu 17.58 213 ⇑P Pn 02 55 26.1 -0.2
KMSI Cibinong 17.64 175 P **P 02 55 30.0 +2.3**
4μm,1.3s,35μm
MRSI Marisa 17.69 182 P **P 02 55 28.2 0.0**
870nm,1.5s,13μm
SLVN Son La 17.75 283 *e*Pn **P 02 55 29.9 +0.9**
181nm,1.3s
MPSI Mapaga 18.00 188 P **P 02 55 31.9 +0.3**
341nm,1.6s,8μm
TNTI Ternate 18.04 164 P **Pn 02 55 31.7 -0.1**
2μm,1.3s,23μm
TNTI Ternate 18.04 164 *e*Pn **Pn 02 55 30.9 -0.8**
4μm,1.4s
TIA Tai'an 18.49 346 ⇑P Pn 02 55 37.4 +0.2
TIA PMZ
60nm,0.8s
TIA PMZ
2μm,6.1s
TIA LN
7μm,15.1s
TIA LE
28μm,13.2s
TIA LZ
17μm,13.1s
SBUM Sibu 18.67 214 *e*P **P 02 55 38.1 -0.9**
371nm,0.9s
KSBON Boeun 18.76 13 ⇑P Pn 02 55 42.9 +2.4
SNR=7.7
APSI Ampana 19.08 183 P **Pn 02 55 44.4 0.0**
3μm,1.3s,24μm37μm
LUWI Luwuk 19.19 179 P **Pn 02 55 45.5 -0.3**
2μm,1.4s,29μm
LUWI Luwuk 19.19 179 *e*P **P 02 55 44.8 +0.1**
4μm,1.3s
SGKI Sangatta, Kali 19.29 195 P P 02 55 39.3 -6.5
KSSWO Suwon 19.33 11 ⇓P Pn 02 55 49.3 +2.0
SNR=9.5
KSULJ Uljin 19.35 17 ⇓P Pn 02 55 47.2 -0.3
SNR=6.2
LBMI Labuha 19.42 165 P **Pn 02 55 48.0 -0.6**
1μm,1.2s,11μm36μm
INCN Inchon 19.49 10 P **Pn 02 55 51.8 +2.6**
SNR=14
INCN Inchon 19.49 10 *e*P **Pn 02 55 49.3 +0.1**
580nm,1.5s
KSYOW Yeongwol 19.55 14 ⇓P Pn 02 55 50.5 +0.5
SNR=5.7
KMI Kunming 19.57 294 P **Pn 02 55 52.3 +1.8**
KMI pP **pP 02 55 58.7 +1.0**
KMI sP **sP 02 56 04.4 +2.5**
KMI PP PnPn 02 56 13.3 +9.0
KMI PMZ
47nm,1.5s
KMI PMZ
7μm,8.3s
KMI LN
20μm,14.2s
KMI LE
29μm,14.2s
KMI LZ
34μm,13.8s
KSTBA Taebaek 19.62 16 P **Pn 02 55 51.9 +1.0**
SNR=11
KS15 Wonju Array Si 19.68 13 *e*P **Pn 02 55 51.7 +0.2**
KS15 *e*PcP **PcP 03 00 10.0 +1.8**
KS15 *e*ScP **ScP 03 03 42.1 +0.1**
KSRS Korea Array 19.70 13 P **Pn 02 55 51.7 0.0**
2.7nm,0.3s,baz=193,slow=11,SNR=146
KSRS PcP **PcP 03 00 10.0 +1.8**
0.2nm,0.3s,baz=196,slow=2.2,SNR=7.4
KSRS ScP **ScP 03 03 42.1 +0.1**
0.1nm,0.3s,baz=196,slow=2.5,SNR=5.3
KSRS LR LR 03 04 42.4
comp=Z,15μm,18.0s,baz=204,slow=40
XAN Xi'an 19.84 325 P **Pn 02 55 53.5 0.0**
XAN pP **pP 02 56 00.5 0.0**
XAN sP **sP 02 56 04.5 -0.2**
XAN PMZ
54nm,0.8s
XAN PMZ
520nm,9.4s
XAN LN
15μm,22.4s
XAN LE
7μm,20.7s
XAN LZ
4μm,15.5s
KSCHC Chuncheon 19.99 12 P Pn 02 56 02.8 +7.7
SNR=5.8
CBIJ Chichi jima 20.16 61 *e*P Pn 02 55 56.4 -0.9
4μm,1.8s
JCJ Chichijima 20.16 61 P Pn 02 55 57.0 -0.4
871nm,1.3s,baz=66,slow=4.5,SNR=19
JCJ LR LR 03 02 20.2
comp=Z,7μm,20.1s,baz=242,slow=32
CBI Chichi jima 20.16 61 *e*P Pn 02 55 57.0 -0.3
BKB Balikpapan 20.17 196 P **P 02 55 56.4 +1.0**
689nm,1.3s,11μm
CHBT CHBT 20.18 257 P Pn 02 55 56.7 -0.8
589nm,1.4s,9μm
KSCWO Cheorwon 20.23 12 ⇑P Pn 02 55 57.2 -0.8
SNR=10
KSIJA INJE 20.25 13 ⇓P Pn 02 55 57.8 -0.4
SNR=14
KSJMJ Jumunjin 20.30 14 ⇓P Pn 02 55 58.6 -0.1
SNR=15
SANI Sanana 20.48 170 P **P 02 55 55.6 -3.2**
1μm,1.1s,12μm
MTKI Muara Teweh, K 20.50 202 P **P 02 55 58.5 -0.5**
384nm,1.0s,7μm
KSM Kuching 20.53 217 P **P 02 55 58.8 -0.6**
baz=20,SNR=310
KSM Kuching 20.53 217 *e*P **P 02 55 58.2 -1.1**
1μm,1.1s
KSM LR LR
comp=Z,15μm,20.0s
SEHB SEOHWA 20.55 13 P Pn 02 56 04.7 +2.9
SNR=6.0
DL2 Dalian 20.58 358 P **P 02 56 00.1 +0.5**
DL2 S **S 02 59 49.3 +1.3**
DL2 PMZ
comp=Z,170nm,1.4s
DL2 PMZ
comp=Z,1μm,10.3s
DL2 LE
comp=Z,9μm,17.6s
DL2 LZ
comp=Z,10μm,12.7s
PBKT Sadao Pong 20.60 269 P Pn 02 56 01.4 -1.1
comp=Z,542nm,1.4s,comp=Z,18μm
KSSKC Sokcho 20.63 14 ⇓P Pn 02 56 01.8 -0.8
SNR=14
UTTA Uttaradit 20.87 272 P **P 02 56 04.0 +1.0**
comp=Z,30nm,1.3s,comp=Z,416nm
SWI Sorong 20.88 155 P Pn 02 56 05.0 -0.7
comp=Z,398nm,1.3s,comp=Z,6μm
SWI Sorong 20.88 155 P Pn 02 56 06.6 +0.9
baz=21,SNR=3.7
STKI Sintang 21.08 212 P **P 02 56 04.7 -0.6**
comp=Z,317nm,1.4s
CD2 Chengdu 21.14 310⇑ *i*P **P 02 56 07.7 +1.8**
CD2 pP **pP 02 56 18.4 +3.8**
CD2 S **S 03 00 00.4 +1.0**
CD2 PMZ
comp=Z,340nm,1.0s
CD2 PMZ
comp=Z,4μm,8.3s
CD2 LN
comp=Z,25μm,20.2s
CD2 LE
comp=Z,20μm,15.5s
CD2 LZ
comp=Z,21μm,12.5s
TIY Taiyuan 21.28 338 *e*P **P 02 56 06.7 -0.7**
TIY pP **pP 02 56 15.7 -0.4**
TIY sP **sP 02 56 20.4 +0.1**
TIY PP **PnPn 02 56 34.2 +6.6**
TIY LN
comp=Z,17μm,13.5s
TIY LE
comp=Z,8μm,9.2s
TIY LZ
comp=Z,2μm,10.1s
TTSI Tana Toraja 21.34 187 P **P 02 56 09.1 +1.1**
comp=Z,671nm,1.4s,comp=Z,7μm
PATY Pattaya 21.49 259 P **P 02 56 11.8 +2.2**
comp=Z,59nm,0.9s,comp=Z,984nm
LAMP Lampang 21.69 274 P **P 02 56 13.4 +1.6**
comp=Z,27nm,1.6s,comp=Z,361nm
NLAI Namlea 21.85 168 P **P 02 56 13.8 +0.3**
comp=Z,440nm,1.0s,comp=Z,5μmcomp=Z,8μm
GUMO Guam 22.01 99 *e*P **P 02 56 16.9 +1.7**
GUMO pmax pmax
comp=Z,4μm,1.1s
GUMO MLR MLR
comp=Z,8μm,18.0s
GUMO Guam 22.01 99 *e*P **P 02 56 16.9 +1.7**
comp=Z,4μm,1.1s
GUMO LR LR
comp=Z,8μm,18.0s
CMAI Chiengmai2 22.21 278 P **P 02 56 19.0 +1.4**
comp=Z,540nm,1.2s,comp=Z,6μm
SPSI Sidrap Palu 22.25 187 P **P 02 56 17.1 -0.7**
comp=Z,258nm,1.5s,comp=Z,4μm
CHTO Chiang Mai 22.33 275 *e*P **P 02 56 19.4 +0.7**
CHTO pmax pmax
comp=Z,571nm,1.4s
CHTO MLR MLR
comp=Z,10μm,18.0s
CHTO Chiang Mai 22.33 275 P **P 02 56 20.0 +1.3**
SNR=195
CHTO Chiang Mai 22.33 275 P **P 02 56 19.3 +0.6**
comp=Z,2μm,1.6s,comp=Z,28μm
CHTO Chiang Mai 22.33 275 *e*P **P 02 56 19.4 +0.7**
comp=Z,571nm,1.4s
CHTO LR LR
comp=Z,10μm,18.0s
CM01 Chiang Mai Arr 22.34 274 *e*P **P 02 56 18.8 0.0**
CM01 *e*ScP **ScP 03 03 48.9 0.0**
CM31 Chiang Mai Arr 22.35 274 *e*P **P 02 56 20.2 +1.3**
CM31 *e*PcP **PcP 03 00 15.0 +1.3**
CM31 *e*ScP **ScP 03 03 49.7 +0.8**
CMAR Chiang Mai Arr 22.35 274 P **P 02 56 20.2 +1.3**
comp=Z,96nm,1.0s,baz=76,slow=8.6,SNR=301
CMAR PcP **PcP 03 00 15.0 +1.3**
comp=Z,8.4nm,0.6s,baz=56,slow=0.8,SNR=11
CMAR ScP **ScP 03 03 49.7 +0.8**
comp=Z,5.4nm,0.8s,baz=103,slow=1.5,SNR=11
CMAR LR LR 03 05 24.1
comp=Z,8μm,18.7s,baz=93,slow=38
BJT Baijiatuau 22.35 347 *e*P **P 02 56 17.8 -0.9**
BJT pmax pmax
comp=Z,98nm,0.8s
BJT MLR MLR
comp=Z,7μm,19.0s
BJT Baijiatuau 22.35 347 *e*P **P 02 56 17.8 -0.9**
comp=Z,98nm,0.8s
BJT LR LR
comp=Z,7μm,19.0s
BJI Beijing 22.37 347 P **P 02 56 17.5 -1.4**
BJI S **S 03 00 24.1 +1.3**
BJI PMZ
comp=Z,35nm,1.1s
BJI PMZ
comp=Z,910nm,6.5s
BJI LN
comp=Z,4μm,21.1s
BJI LE
comp=Z,14μm,20.1s
BJI LZ
comp=Z,4μm,29.1s
BNSI Bone 22.65 186 P **P 02 56 21.9 -0.1**
comp=Z,587nm,1.5s,comp=Z,9μm
SRDT SRDT 22.76 264 P **P 02 56 23.6 +0.3**
comp=Z,1μm,1.1s,comp=Z,18μm
BBKI Banjar Baru 22.87 200 P **P 02 56 22.5 -1.9**
comp=Z,554nm,1.7s,comp=Z,10μm
MAJO Matsushiro 22.88 34⇑ *i*P **P 02 56 24.8 +0.4**
MAJO pmax pmax
comp=Z,3μm,2.0s
MAJO MLR MLR
comp=Z,41μm,16.0s
MAJO Matsushiro 22.88 34 *e*P **P 02 56 24.4 +0.1**
comp=Z,1μm,2.0s
MAJO *e*PcP **PcP 03 00 16.5 +2.0**
MAJO *e*ScP **ScP 03 03 50.4 +0.4**
MAJO LR LR
comp=Z,10μm,19.0s
MAT Matsushiro 22.88 34 P **P 02 56 24.5 +0.1**
MAT S **S 03 00 34.3 +2.4**
MJAR Matsushiro Arr 22.88 34 P **P 02 56 24.8 +0.4**
comp=Z,41nm,0.8s,baz=211,slow=8.8,SNR=66
MJAR PcP **PcP 03 00 16.5 +2.0**
comp=Z,1.3nm,0.6s,baz=169,slow=3.1,SNR=2.8
MJAR ScP **ScP 03 03 50.4 +0.4**
comp=Z,7.6nm,1.0s,baz=200,slow=3.8,SNR=7.9
MJAR LR LR 03 06 10.9
comp=Z,6μm,19.0s,baz=225,slow=39
FAKI Fak Fak 23.14 154 P **P 02 56 27.4 +0.2**
comp=Z,987nm,1.4s,comp=Z,11μm
FAKI Fak Fak 23.14 154 P **P 02 56 27.6 +0.4**
baz=23,SNR=25
FAKI Fak Fak 23.14 154 *e*P **P 02 56 26.5 -0.7**
comp=Z,2μm,1.4s
KHLT Khaolaem Dam 23.16 265 P **P 02 56 27.9 +0.4**
comp=Z,139nm,1.1s,comp=Z,2μm
KAPI Kappang 23.29 187 P **P 02 56 28.2 -0.4**
comp=Z,4μm,1.7s,SNR=87
KAPI Kappang 23.29 187 P **P 02 56 27.6 -1.0**
SNR=130
KAPI Kappang 23.29 187 *e*P **P 02 56 28.1 -0.6**
comp=Z,3μm,1.7s
KAPI LR LR
comp=Z,9μm,20.0s
MHMT Maesarieng 23.32 274 P **P 02 56 29.8 +0.8**
comp=Z,84nm,1.2s,comp=Z,2μm
SNY Shenyang 23.50 2 ⇑P P 02 56 29.4 -1.1
SNY S **S 03 00 43.7 +1.7**
SNY PMZ
comp=Z,50nm,1.9s
SNY PMZ
comp=Z,2μm,7.2s
SNY LN
comp=Z,9μm,19.1s
SNY LE
comp=Z,25μm,18.1s
SNY LZ
comp=Z,9μm,19.6s
BAKI Biak 23.53 144 P P 02 56 36.0 +5.0
comp=Z,619nm,1.2s,comp=Z,8μm
BKSI Bulukumba 23.56 186 P **P 02 56 29.9 -1.3**
comp=Z,227nm,1.2s,comp=Z,3μm
BBSI Bau Bau 23.61 180 P **P 02 56 32.2 +0.5**
comp=Z,391nm,1.1s,comp=Z,5μm
BNDI Bandanaira 23.80 161 P **P 02 56 33.4 -0.1**
comp=Z,2μm,1.4s,comp=Z,31μm
SRPI Serui, Papua 24.16 145 P **P 02 56 39.4 +2.5**
comp=Z,599nm,1.1s,comp=Z,12μm
LZH Lanzhou 24.22 321 *e*P **P 02 56 39.4 +1.9**
LZH pP **pP 02 56 49.4 +2.4**
LZH sP **sP 02 56 53.2 +2.2**
LZH S **S 03 00 54.0 0.0**
LZH sS **sS 03 01 08.0 -1.5**
LZH PMZ
comp=Z,860nm,1.7s
LZH PMZ
comp=Z,3μm,7.2s
LZH LN
comp=Z,13μm,13.7s
LZH LE
comp=Z,13μm,16.2s
LZH LZ
comp=Z,17μm,15.4s
BSSI Bau Bau, Buton 24.34 185 P **P 02 56 37.4 -1.1**
comp=Z,395nm,1.7s,comp=Z,5μm
HHC Hu-ho-hao-te 24.39 340 *e*P **P 02 56 39.9 +1.0**
HHC sP **sP 02 56 52.2 -0.2**
HHC PP **PnPn 02 57 15.7 +5.6**
HHC sS **sS 03 01 11.2 -0.8**
HHC PMZ
comp=Z,140nm,1.8s
HHC PMZ
comp=Z,4μm,5.3s
HHC LN
comp=Z,14μm,18.5s
HHC LE
comp=Z,31μm,17.3s
HHC LZ
comp=Z,16μm,17.3s
KMPI Kaimana, Papua 24.43 152 P **P 02 56 41.9 +2.5**
comp=Z,729nm,1.3s,comp=Z,9μm
MYKOM Kota Tinggi 24.55 230 *e*P **P 02 56 39.6 -0.9**
comp=Z,1μm,1.6s
MYKOM LR LR
comp=Z,17μm,20.0s
TPRI Tanjung Pinang 24.67 228 P **P 02 56 41.0 -0.6**
comp=Z,322nm,1.6s
BTO Baotou 24.71 337 *e*P **P 02 56 42.3 +0.4**
BTO S **S 03 01 05.5 +3.7**
BTO PMZ
comp=Z,35nm,1.9s
BTO LN
comp=Z,4μm,20.2s
BTO LE
comp=Z,8μm,19.6s
SURT Suratani 24.79 251 P **P 02 56 42.7 0.0**
comp=Z,114nm,1.3s,comp=Z,2μm
KULM Kulim 24.93 242 *e*P **P 02 56 43.7 -0.3**
comp=Z,720nm,1.5s
KULM LR LR
comp=Z,14μm,20.0s
IPM Ipoh 25.07 239 *e*P **P 02 56 44.1 -1.1**
comp=Z,324nm,1.1s
IPM LR LR
comp=Z,14μm,18.0s
TPI Tanjungpandan 25.50 216 P **P 02 56 48.9 -0.2**
comp=Z,643nm,1.1s,comp=Z,8μmcomp=Z,13μm
CN2 Changchun 25.58 5 *e*P **P 02 56 51.8 +2.3**
CN2 *e*pP **pP 02 57 00.4 +1.4**
CN2 *e*sP **sP 02 57 03.4 +0.4**
CN2 *e*S **S 03 01 16.1 +0.8**
CN2 PMZ
comp=Z,60nm,1.2s
CN2 PMZ
comp=Z,200nm,6.0s
CN2 LN
comp=Z,17μm,16.0s
CN2 LE
comp=Z,13μm,16.0s
CN2 LZ
comp=Z,16μm,16.0s
PKDT Phuket 25.66 249 P **P 02 56 50.8 +0.3**
comp=Z,396nm,0.9s,comp=Z,10μm
SMPI Sarmi 25.70 140 P **P 02 56 53.8 +2.9**
comp=Z,178nm,1.2s
VLA Vladivostok 26.02 16⇓ *i*P **P 02 56 54.8 +1.2**
VLA *e*S **S 03 01 22.8 +0.6**
VLA pmax pmax
comp=Z,146nm,1.4s
KMMI Kalianget 26.53 199 P **P 02 56 58.9 +0.5**
comp=Z,203nm,2.0s,comp=Z,4μm
MMRI Maumere 26.73 181 P **P 02 56 59.6 -0.6**
comp=Z,957nm,1.1s,comp=Z,12μmcomp=Z,8μm
MMRI Maumere 26.73 181 *e*P **P 02 56 59.3 -0.9**
comp=Z,3μm,1.7s
GRJI Gresik 26.90 202 P **P 02 57 05.4 +3.6**
comp=Z,83nm,1.1s,comp=Z,2μm
MDJ Mudanjiang 26.94 11 P **P 02 57 03.6 +1.8**
MDJ pP **pP 02 57 09.7 -1.6**
MDJ sP **sP 02 57 12.6 -2.7**
MDJ PcP **PcP 03 00 26.4 +3.1**
MDJ S **S 03 01 40.6 +3.9**
MDJ ScP **ScP 03 04 02.6 +1.4**
MDJ ScS **ScS 03 07 54.1 +2.1**
MDJ PMZ
comp=Z,37nm,1.2s
MDJ PMZ
comp=Z,1μm,10.4s
MDJ LN
comp=Z,12μm,14.9s
MDJ LE
comp=Z,14μm,16.1s
MDJ LZ
comp=Z,14μm,17.8s
MDJ Mudanjiang 26.94 11 *e*P **P 02 57 03.2 +1.4**
comp=Z,74nm,1.0s
MDJ *e*ScP **ScP 03 04 00.8 -0.3**
MDJ LR LR
comp=Z,15μm,19.0s
TBJI Tambak Boyo 27.05 204 P **P 02 57 02.5 -0.6**
comp=Z,178nm,0.9s,comp=Z,4μm
USRK Ussuriysk Ar. 27.06 15 P **P 02 57 04.2 +1.2**
comp=Z,40nm,0.8s,baz=200,slow=8.3,SNR=80
USRK ScP **ScP 03 04 01.2 -0.4**
comp=Z,14nm,1.1s,baz=222,slow=2.6,SNR=10
USRK LR LR 03 08 06.9
comp=Z,7μm,19.5s,baz=187,slow=37
GENI Genyem 27.07 138 P **P 02 57 07.7 +4.4**
comp=Z,234nm,1.4s,comp=Z,5μm
SRBI Singaraja 27.15 196 P **P 02 57 04.9 +0.9**
comp=Z,96nm,1.3s,comp=Z,2μm
BLJI Banyuglugur 27.30 200 P **P 02 57 05.3 0.0**
comp=Z,220nm,0.8s,comp=Z,2μm
PMBI Palembang 27.35 221 P **P 02 57 09.2 +3.3**
comp=Z,481nm,0.9s,comp=Z,29μmcomp=Z,15μm
PMBI Palembang 27.35 221 PFAKE 02 57 20.0 +14
PMBI LR LR
comp=Z,8μm,20.0s
SAUI Saumlaki 27.50 161 P **P 02 57 06.9 -0.2**
comp=Z,1μm,1.1s,comp=Z,10μm
SAUI Saumlaki 27.50 161 PFAKE 02 57 20.0 +13
SAUI LR LR
comp=Z,5μm,19.0s
BKNI Bangkinang 27.61 232 P **P 02 57 08.6 +0.5**
comp=Z,318nm,1.4s,comp=Z,5μm
BKNI Bangkinang 27.61 232 *e*P **P 02 57 07.4 -0.8**
comp=Z,521nm,1.3s
BKNI LR LR
comp=Z,20μm,19.0s

TSI	Tuntungan	27.64 241	P	P	02 57 13.3	+4.8
	comp=Z,265nm,1.4s,comp=Z,5μm					
NGJI	Ngawi	27.70 204	P	P	02 57 09.3	+0.4
	comp=Z,150nm,0.8s					
DNP	Denpasar	27.72 196	P	P	02 57 09.4	+0.3
	comp=Z,514nm,1.1s					
PSI	Prapat	27.74 239	P	P	02 57 09.0	-0.5
	comp=Z,108nm,1.1s,baz=31,slow=5.2,SNR=86					
PSI			PcP	PcP	03 00 26.4	+0.5
	comp=Z,21nm,0.9s,baz=147,slow=2.8,SNR=5.5					
PSI			ScP	ScP	03 04 04.8	+0.5
	comp=Z,25nm,1.1s,baz=240,slow=1.9,SNR=9.9					
PSI			LR	LR	03 08 22.3	
	comp=Z,10μm,18.1s,baz=56,slow=37					
PSI	Prapat	27.74 239	P	P	02 57 09.3	-0.2
	baz=28,SNR=82					
JAGI	Jajag, Banyuwa	27.81 198	P	P	02 57 09.3	-0.7
	comp=Z,97nm,1.4s,comp=Z,2μm					
JAGI	Jajag, Banyuwa	27.81 198	*e*P	P	02 57 07.9	-2.1
	comp=Z,209nm,1.4s					
JAGI			LR	LR		
	comp=Z,3μm,21.0s					
GMJI	Gumukmas	27.84 199	P	P	02 57 16.2	+6.0
WSI	Waingapu	27.84 185	P	P	02 57 08.0	-2.2
	baz=28,SNR=6.1					
IGBI	Denpasar	27.87 196	P	P	02 57 13.5	+3.0
	comp=Z,199nm,1.5s					
SOEI	Soe	27.90 176	P	P	02 57 08.9	-1.9
	comp=Z,190nm,1.5s,comp=Z,5μm					
SOEI	Soe	27.90 176	P	P	02 57 10.7	-0.2
	baz=28,SNR=8.0					
SOEI	Soe	27.90 176	*e*P	P	02 57 08.3	-2.6
	comp=Z,424nm,1.1s					
SOEI			LR	LR		
	comp=Z,7μm,19.0s					
WBSI	Waikabubak, Su	27.90 187	P	P	02 57 09.5	-1.3
	comp=Z,244nm,0.9s,comp=Z,5μm					
LHMI	Lhok Sumawe	28.11 246	P	P	02 57 13.8	+1.1
	comp=Z,356nm,1.3s,comp=Z,5μm					
LHMI	Lhok Sumawe	28.11 246	*e*P	P	02 57 13.0	+0.3
	comp=Z,481nm,1.3s					
SDSI	Sungai Dareh	28.16 230	P	P	02 57 15.8	+2.7
	comp=Z,100nm,0.8s,comp=Z,8μm					
PWJI	Pagerwojo	28.17 203	P	P	02 57 11.4	-1.7
	comp=Z,80nm,1.3s,comp=Z,1μm					
KCSI	Kotacane, Aceh	28.29 242	P	P	02 57 12.6	-1.7
	comp=Z,162nm,1.2s,comp=Z,3μm					
BATI	Baumata	28.32 178	P	P	02 57 12.6	-1.9
	comp=Z,286nm,1.0s,comp=Z,2μm					
BATI	Baumata	28.32 178	P	P	02 57 12.4	-2.0
	comp=Z,434nm,0.9s,baz=163,slow=0.7,SNR=37					
WOJI	Wonogiri, Jawa	28.34 205	P	P	02 57 13.9	-0.7
	comp=Z,126nm,1.6s,comp=Z,3μm					
BASI	Baing, Sumba	28.37 184	P	P	02 57 13.7	-1.2
	comp=Z,719nm,1.4s,comp=Z,8μm					
MNSI	Mandailing Nat	28.42 235	P	P	02 57 14.8	-0.6
	comp=Z,174nm,1.1s,comp=Z,12μm					
UGM	Wanagama	28.57 205	PFAKE		02 57 30.0	+13
UGM			LR	LR		
	comp=Z,7μm,20.0s					
KPJI	Karang Pucung	28.74 209	P	P	02 57 18.1	-0.1
	comp=Z,174nm,1.6s,comp=Z,4μm					
GTA	Gaotai	28.81 322	*e*P	P	02 57 19.8	+1.0
GTA			pP	pP	02 57 29.0	+0.7
GTA			sP	sP	02 57 33.8	+1.5
GTA			PcP	PcP	03 00 29.5	+1.4
GTA			S	S	03 02 06.7	+0.1
GTA			sS	sS	03 02 22.1	-0.2
GTA			SS	SnSn	03 03 35.0	+5.4
GTA			ScP	ScP	03 04 07.5	+0.3
GTA			PcS	PcS	03 04 10.3	-0.5
GTA			ScS	ScS	03 07 59.5	-1.4
GTA			PMZ			
	comp=Z,600nm,5.7s					
GTA			LN			
	comp=Z,9μm,21.6s					
GTA			LE			
	comp=Z,7μm,16.1s					
GTA			LZ			
	comp=Z,9μm,16.2s					
KLI	Kotabumi	28.82 219	P	P	02 57 18.9	-0.1
	comp=Z,208nm,1.4s,comp=Z,8μm					
LHSI	Lahat	28.84 222	P	P	02 57 19.6	+0.5
	comp=Z,187nm,1.7s,comp=Z,4μm					
PDSI	Padang	28.86 231	P	P	02 57 19.5	+0.2
	comp=Z,202nm,1.3s					
LEM	Lembang	28.93 212	P	P	02 57 20.5	+0.4
	comp=Z,117nm,1.2s,comp=Z,3μm					
MDSI	Maura Dua	28.93 220	P	P	02 57 19.0	-1.0
	comp=Z,324nm,1.3s,comp=Z,4μm					
CBJI	Citeko	28.98 214	P	P	02 57 23.8	+3.4
	comp=Z,315nm,1.0s,comp=Z,15μm					
BLSI	Bandar Lampung	29.00 218	P	P	02 57 21.0	+0.5
	comp=Z,198nm,0.6s					
SBJI	Serang	29.12 215	P	P	02 57 23.1	+1.5
	comp=Z,275nm,1.6s					
MASI	Maura Aman, Be	29.17 225	P	P	02 57 22.7	+0.6
	comp=Z,510nm,1.7s,comp=Z,7μm					
LWLI	Liwa	29.42 220	P	P	02 57 24.0	-0.4
	comp=Z,631nm,0.9s,comp=Z,8μm					
CISI	Cisompet, Garu	29.46 211	P	P	02 57 23.7	-1.0
	comp=Z,155nm,1.4s,comp=Z,9μm					
CISI	Cisompet, Garu	29.46 211	PFAKE		02 57 40.0	+15
CISI			LR	LR		
	comp=Z,8μm,19.0s					
ERM	Erimo	29.51 32	*e*P	P	02 57 25.8	+1.0
ERM			pmax	pmax		
	comp=Z,69nm,0.8s					
ERM	Erimo	29.51 32	*e*P	P	02 57 25.8	+1.0
	comp=Z,69nm,0.8s					
KASI	Kota Agung	29.56 219	P	P	02 57 24.3	-1.2
	comp=Z,399nm,1.2s,comp=Z,4μm					
CNJI	Cibinong	29.59 212	P	P	02 57 24.7	-1.1
	comp=Z,141nm,1.1s,comp=Z,2μm					
MNAI	Manna	29.61 222	P	P	02 57 26.3	+0.4
	comp=Z,444nm,1.2s,comp=Z,6μm					
MNAI	Manna	29.61 222	P	P	02 57 26.4	+0.4
	baz=29,SNR=4.6					
MNAI	Manna	29.61 222	*e*P	P	02 57 24.5	-1.4
	comp=Z,3μm,2.4s					
MNAI			LR	LR		
	comp=Z,10μm,19.0s					
GSI	Gunungsitoli	29.70 238	*e*P	P	02 57 24.4	-2.5
	comp=Z,1μm,2.1s					
CGJI	Cibinong	29.77 215	P	P	02 57 25.2	-2.1
	comp=Z,92nm,1.1s,comp=Z,2μmcomp=Z,12μm					
SNSI	Sinabang, Aceh	30.10 241	P	P	02 57 29.4	-1.0
	comp=Z,468nm,1.3s,comp=Z,9μm					
LSA	Lhasa	30.72 298	P	P	02 57 37.7	+1.5
LSA			S	S	03 02 38.2	+0.8
LSA			LN			
	comp=Z,8μm,17.9s					
LSA			LE			
	comp=Z,5μm,14.7s					
LSA			LZ			
	comp=Z,6μm,16.8s					
LSA	Lhasa	30.72 298	*e*P	P	02 57 37.7	+1.5
LSA			pmax	pmax		
	comp=Z,47nm,0.8s					
LSA			MLR	MLR		
	comp=Z,6μm,19.0s					
LSA	Lhasa	30.72 298	*e*P	P	02 57 37.6	+1.5
	comp=Z,48nm,0.8s					
LSA			LR	LR		
	comp=Z,6μm,19.0s					
ASAJ	Asahikawa	30.82 29	P	P	02 57 37.6	+1.3
	comp=Z,25nm,0.5s,baz=249,slow=14,SNR=6.0					
ASAJ			ScP	ScP	03 04 13.8	+0.4
	comp=Z,12nm,1.0s,baz=272,slow=15,SNR=5.1					
ASAJ			LR	LR	03 09 51.5	
	comp=Z,6μm,20.9s,baz=248,slow=36					
ASAJ	Asahikawa	30.82 29	*e*P	P	02 57 37.2	+0.8
	comp=Z,64nm,0.7s					
ASAJ			LR	LR		
	comp=Z,6μm,20.1s					
HIA	Hailar	31.00 357	PFAKE		02 57 50.0	+12
HIA			LR	LR		
	comp=Z,9μm,19.0s					
KLR	Kul'dur	31.78 12	*e*P	P	02 57 42.3	-2.5
KLR			*e*S	S	03 02 56.5	+3.8
KLR			pmax	pmax		
	comp=Z,220nm,2.0s					
KLR			pmax	pmax		
	comp=N,900nm,10.0s					
KLR			pmax	pmax		
	comp=Z,2μm,10.0s					
MTN	Manton Dam	32.07 164	P	P	02 57 45.5	-2.1
	baz=32,SNR=9.2					
ULN	Ulaanbaatar	32.10 340	*c i*P	P	02 57 48.5	+0.7
ULN			pmax	pmax		
	comp=Z,61nm,1.8s					
ULN			MLR	MLR		
	comp=Z,10μm,20.0s					
ULN	Ulaanbaatar	32.10 340	P	P	02 57 48.8	+1.0
	SNR=40					
ULN	Ulaanbaatar	32.10 340	*e*P	P	02 57 47.9	+0.1
	comp=Z,56nm,1.0s					
ULN			*e*PcP	PcP	03 00 37.8	+1.2
ULN			*e*ScP	ScP	03 04 17.2	-0.7
ULN			LR	LR		
	comp=Z,10μm,22.0s					
SONA0	Songino Array	32.29 340	*e*P	P	02 57 50.2	+0.7
SONA0			*e*PcP	PcP	03 00 38.2	+1.1
SONA0			*e*ScP	ScP	03 04 18.7	+0.2
SONA0			*e*ScS	ScS	03 08 05.0	-13
SONA0			*e*		03 11 52.3	
SONM	Songino Array	32.29 340	P	P	02 57 50.2	+0.7
	comp=Z,12nm,0.7s,baz=157,slow=10,SNR=101					
SONM			PcP	PcP	03 00 38.2	+1.1
	comp=Z,9.6nm,1.2s,baz=147,slow=3.2,SNR=4.1					
SONM			ScP	ScP	03 04 18.7	+0.2
	comp=Z,9.5nm,1.1s,baz=158,slow=3.7,SNR=10.0					
SONM			LR	LR	03 11 52.3	
	comp=Z,13μm,21.6s,baz=150,slow=38					
KDU	Kakadu	32.30 162	P	P	02 57 47.9	-1.7
	baz=32,SNR=3.4					
SONA1	Songino Array	32.30 340	*e*P	P	02 57 49.1	-0.4
SONA1			*e*PcP	PcP	03 00 37.9	+0.7
SONA1			*e*ScP	ScP	03 04 17.7	-0.8
YUK	Yuzh-Kuril'sk	32.34 32	*d i*P	P	02 57 44.6	-5.1
YUK			*i*		02 59 01.2	
YUK			*i* S	S	03 02 54.8	-6.6
YUK			pmax	pmax		
	comp=Z,721nm,1.5s					
YUK			pmax	pmax		
	comp=N,148nm,0.8s					
YUK			pmax	pmax		
	comp=E,317nm,1.5s					
YUK			MLR	MLR		
	comp=N,4μm,19.0s					
YUK			MLR	MLR		
	comp=E,2μm,19.0s					
XMIS	Christmas Isla	33.05 211	P	P	02 57 54.2	-2.1
	baz=33,SNR=3.9					
XMIS	Christmas Isla	33.05 211	*e*P	P	02 57 52.8	-3.5
	comp=E,516nm,1.3s					
XMIS			LR	LR		
	comp=Z,9μm,21.9s					
YSS	Yuzh-Sakhalins	33.11 26	‖ *e*P	P	02 57 56.0	-0.4
YSS			*e*PPP	PPP	02 59 26.0	
YSS			*e*S	S	03 03 06.0	-7.4
YSS			*e*SSS	SSS	03 05 14.0	
YSS			pmax	pmax		
	comp=N,500nm,5.0s					
YSS			pmax	pmax		
	comp=E,500nm,5.0s					
YSS			pmax	pmax		
	comp=Z,600nm,5.0s					
YSS			MLR	MLR		
	comp=N,5μm,16.0s					
YSS			MLR	MLR		
	comp=Z,5μm,16.0s					
YSS			MLR	MLR		
	comp=E,3μm,18.0s					
YSS	Yuzh-Sakhalins	33.11 26	*e*P	P	02 57 58.1	+1.7
	comp=E,181nm,1.1s					
YSS			LR	LR		
	comp=Z,2μm,20.0s					
TAPN	Taplejung	33.22 292	*e*P	P	02 57 58.8	+0.8
	comp=Z,334nm,1.3s					
ODAN	Odare	33.43 291	*e*P	P	02 58 00.4	+0.6
	comp=Z,340nm,1.2s					
RAMN	Ramite	34.15 291	*e*P	P	02 58 06.8	+0.8
	comp=Z,294nm,0.9s					
KUR	Kuril'sk	34.20 33	*c i*P	P	02 58 05.1	-0.8
KUR			*i* S	S	03 03 31.2	+0.9
KUR			pmax	pmax		
	comp=N,180nm,1.3s					
KUR			pmax	pmax		
	comp=E,136nm,1.3s					
KUR			pmax	pmax		
	comp=Z,699nm,1.3s					
KUR			pmax	pmax		
	comp=Z,920nm,1.4s					
KUR			MLR	MLR		
	comp=N,3μm,21.0s					
KUR			MLR	MLR		
	comp=E,3μm,21.0s					
KUR			MLR	MLR		
	comp=Z,1μm,21.0s					
KNRA	Kununurra	34.29 169	P	P	02 58 05.1	-1.9
	baz=34,SNR=15					
CIT	Chita	34.41 350	*e*	P	02 58 07.3	-0.5
CIT			*e*	pP	02 58 15.0	-2.3
CIT			*e*		02 59 21.2	
CIT			pmax	pmax		
	comp=Z,61nm,1.5s					
JIRN	Jiri	34.60 292	*e*P	P	02 58 10.7	+0.6
	comp=Z,499nm,1.4s					
GUN	Gumba	34.91 293	*e*P	P	02 58 13.4	+0.7
	comp=Z,281nm,0.8s					
PKI	Pulchoki	35.27 292	*e*P	P	02 58 15.9	0.0
	comp=Z,298nm,1.5s					
PKIN	Phulchoki	35.29 292	*e*P	P	02 58 16.5	+0.6
	comp=Z,133nm,1.2s					
KKN	Kakani	35.41 292	*e*P	P	02 58 17.1	+0.1
	comp=Z,158nm,0.9s					
ZAK	Zakamensk	35.53 339	*e*P	P	02 58 16.6	-0.9
ZAK			*e*		03 00 46.7	
ZAK			pmax	pmax		
	comp=Z,25nm,1.1s					
DMN	Daman	35.55 292	*e*P	P	02 58 18.3	+0.2
	comp=Z,324nm,1.3s					
GKN	Gorkha	36.01 293	*e*P	P	02 58 21.9	-0.1
	comp=Z,352nm,1.4s					
FITZ	Fitzroy Crossi	36.27 175	P	P	02 58 21.6	-2.4
	baz=36,SNR=17					
FITZ	Fitzroy Crossi	36.27 175	*e*P	P	02 58 21.5	-2.4
TLY	Talaya	36.51 340	P	P	02 58 26.2	+0.4
	comp=Z,357nm,0.8s,SNR=40					
TLY	Talaya	36.51 340	*c i*P	P	02 58 26.1	+0.3
TLY			*e*		02 59 53.1	
TLY			*e*S	S	03 04 06.8	+1.0
TLY			*e*SS	SnSn	03 06 25.6	-11
TLY			pmax	pmax		
	comp=Z,51nm,0.9s					
TLY			MLR	MLR		
	comp=Z,5μm,12.0s					
TLY	Talaya	36.51 340	P	P	02 58 26.5	+0.7
	SNR=54					
TLY	Talaya	36.51 340	P	P	02 58 27.0	+1.1
	comp=Z,36nm,0.7s,baz=165,slow=6.6,SNR=59					
TLY			ScP	ScP	03 04 34.4	+1.1
	comp=Z,3.4nm,0.7s,baz=180,slow=5.8,SNR=4.4					
TLY	Talaya	36.51 340	*e*P	P	02 58 26.6	+0.8
	comp=Z,44nm,0.8s					
TLY			*e*ScP	ScP	03 04 34.0	+0.6
TLY			LR	LR		
	comp=Z,8μm,20.0s					
PATS	Pohnpei	36.69 103	P	P	02 58 30.6	+2.9
	baz=37,SNR=7.6					
PMG	Port Moresby	36.73 136	*d i*P	P	02 58 27.8	-0.2
PMG			pmax	pmax		
	comp=Z,78nm,1.7s					
PMG	Port Moresby	36.73 136	LR	LR	03 15 01.4	
	comp=Z,2μm,18.1s,baz=325,slow=39					
PMG	Port Moresby	36.73 136	*e*P	P	02 58 27.6	-0.4
	comp=Z,70nm,1.0s					
IRK	Irkutsk	36.80 341	*e*P	P	02 58 27.4	-0.9
IRK			*e*		02 59 59.3	
IRK			*e*		03 04 07.1	
IRK			pmax	pmax		
	comp=Z,162nm,2.1s					
DANN	Dangsing	36.82 293	*e*P	P	02 58 29.1	0.0
	comp=Z,462nm,1.4s					
KOLN	Koldanda	36.89 292	*e*P	P	02 58 29.7	+0.1
	comp=Z,429nm,1.5s					
MOY	Mondy	37.40 338	*e*P	P	02 58 34.4	+0.9
MOY			pmax	pmax		
	comp=Z,160nm,2.3s					
COEN	Coen	37.97 146	P	P	02 58 37.9	-0.6
	baz=38,SNR=14					
COEN	Coen	37.97 146	*e*P	P	02 58 37.7	-0.7
	comp=Z,915nm,1.2s					
COEN			LR	LR		
	comp=Z,23μm,20.2s					
CLNS	Chul'man	38.55 2	*e*P	P	02 58 40.1	-2.9
CLNS			*e**PP	pP	02 58 51.0	-1.6
CLNS			*e*		03 00 12.9	
CLNS			*e*		03 00 31.2	
CLNS			*e*S	S	03 04 36.0	-0.6
CLNS			*e*SS	SnSn	03 07 20.6	-4.7
CLNS			pmax	pmax		
	comp=Z,45nm,2.2s					
CLNS			pmax	pmax		
	comp=N,18nm,1.0s					
CLNS			pmax	pmax		
	comp=E,11nm,1.0s					
CLNS			pmax	pmax		
	comp=N,45nm,2.2s					
CLNS			pmax	pmax		
	comp=Z,45nm,1.7s					
CLNS			pmax	pmax		
	comp=E,26nm,1.2s					
CLNS			smax	smax		
	comp=E,818nm,14.5s					
CLNS			smax	smax		
	comp=N,889nm,13.0s					
CLNS			MLR	MLR		
	comp=Z,6μm,15.0s					
CLNS			MLR	MLR		
	comp=N,5μm,15.0s					
CLNS			MLR	MLR		
	comp=E,3μm,13.0s					
WMQ	Urumqi	38.76 319	P	P	02 58 46.3	+1.3
WMQ			sP	sP	02 58 57.6	-1.0
WMQ			PP	PnPn	03 00 20.5	+4.1
WMQ			S	S	03 04 39.4	-0.8
WMQ			ScP	ScP	03 04 42.2	+0.2
WMQ			PcS	PcS	03 04 45.0	-0.5
WMQ			SS	SnSn	03 07 24.3	-6.5
WMQ			ScS	ScS	03 08 51.5	-1.2
WMQ			PMZ			
	comp=E,66nm,1.6s					
WMQ			PMZ			
	comp=E,520nm,5.0s					
WMQ			LN			
	comp=E,6μm,13.0s					
WMQ			LE			
	comp=E,9μm,14.5s					
WMQ			LZ			
	comp=E,5μm,20.0s					
MBWA	Marble Bar	39.28 184	P	P	02 58 47.4	-1.9
	SNR=26					
MBWA	Marble Bar	39.28 184	*e*P	P	02 58 47.0	-2.4
	comp=E,479nm,1.0s					
MBWA			LR	LR		
	comp=Z,3μm,21.0s					
COCO	West Island	39.46 222	*e*P	P	02 58 49.7	-1.3
COCO			pmax	pmax		
	comp=Z,535nm,1.2s					
COCO			MLR	MLR		
	comp=Z,4μm,19.0s					
COCO	West Island	39.46 222	*e*P	P	02 58 49.7	-1.3
	comp=Z,535nm,1.2s					
COCO			LR	LR		
	comp=Z,4μm,19.0s					
WRAB	Tennant Creek	39.71 162	P	P	02 58 51.5	-1.5
	comp=Z,843nm,1.4s,SNR=29					
WRAB	Tennant Creek	39.71 162	*c i*P	P	02 58 51.1	-1.9
WRAB			pmax	pmax		
	comp=Z,882nm,1.7s					
WRAB	Tennant Creek	39.71 162	*e*P	P	02 58 51.2	-1.8
	comp=Z,384nm,1.4s					
WRAB			LR	LR		
	comp=Z,4μm,20.0s					
WRA	Warramunga Arr	39.71 162	P	P	02 58 51.0	-2.0
	comp=Z,94nm,1.1s,baz=342,slow=9.3,SNR=108					
HVS	Khovu-Aksy	39.95 332	*d i*P	P	02 58 56.4	+1.6
HVS			pmax	pmax		
	comp=Z,402nm,1.5s					
BOD	Bodaibo	39.99 353	⇑ *i*P	P	02 58 54.7	-0.2
BOD			pmax	pmax		
	comp=Z,43nm,1.5s					
NGP	Nagpur	40.91 281	*e*P	P	02 59 03.0	0.0
NGP			*e*x	x	03 05 24.6	
GIRL	Giralia	41.45 192	P	P	02 59 06.1	-1.2
	baz=41,SNR=6.0					
WAKE	Wake Island	41.74 81	*e*P	P	02 59 11.3	+1.4
	comp=Z,1μm,1.3s					
HYB	Hyderabad	41.76 276	*i* P	P	02 59 09.0	-1.1
	comp=Z,120nm,1.0s					
H11S3	WAKE ISLAND Hy	41.86 82	T	T	03 43 51.1	
	baz=276,slow=75,SNR=2669					
H11S1	WAKE ISLAND Hy	41.87 82	T	T	03 43 52.0	
	baz=276,slow=75,SNR=2811					
H11S2	WAKE ISLAND Hy	41.88 82	T	T	03 43 52.5	
	baz=276,slow=75,SNR=3027					
H11N1	WAKE ISLAND Hy	41.92 81	T	T	03 43 57.7	
	baz=276,slow=74,SNR=832					
H11N2	WAKE ISLAND Hy	41.92 81	T	T	03 43 58.0	
	baz=276,slow=74,SNR=982					
H11N3	WAKE ISLAND Hy	41.94 81	T	T	03 43 58.9	
	baz=276,slow=74,SNR=603					
SKR	Severo-Kuril's	41.95 32	*e*P	P	02 59 07.0	-4.2
SKR			*e*		03 00 49.0	
SKR			*e*		03 01 05.0	
SKR			*e*PPP	PPP	03 01 23.0	
SKR			*e*S	S	03 05 25.0	-2.4
SKR			*e*SSS	SSS	03 09 20.0	
SKR			pmax	pmax		
	comp=Z,220nm,1.0s					
SKR			smax	smax		
	comp=N,3μm,16.0s					
SKR			smax	smax		
	comp=E,3μm,16.0s					
SKR			MLR	MLR		
	comp=N,5μm,18.0s					
SKR			MLR	MLR		
	comp=E,3μm,18.0s					
SKR			MLR	MLR		
	comp=Z,6μm,18.0s					
QIS	Mount Isa	42.08 156	P	P	02 59 11.7	-0.9
	baz=42,SNR=21					
PALK	Pallekele	42.09 260	P	P	02 59 13.9	+1.0
	comp=Z,189nm,1.7s,SNR=5.7					
PALK	Pallekele	42.09 260	*e*P	P	02 59 13.3	+0.4
PALK			pmax	pmax		
	comp=Z,614nm,2.8s					
PALK			MLR	MLR		
	comp=Z,5μm,18.0s					
PALK	Pallekele	42.09 260	P	P	02 59 14.1	+1.2
	SNR=5.8					
PALK	Pallekele	42.09 260	P	P	02 59 13.6	+0.7
	comp=Z,53nm,1.1s,baz=66,slow=7.3,SNR=7.6					
PALK			PcP	PcP	03 01 08.2	+0.8
	comp=Z,19nm,0.9s,baz=264,slow=2.7,SNR=3.9					
PALK	Pallekele	42.09 260	‖ *i*P	P	02 59 13.4	+0.5
	SNR=7.5					
PALK	Pallekele	42.09 260	*e*P	P	02 59 13.3	+0.4
	comp=Z,614nm,2.8s					
PALK			LR	LR		
	comp=Z,5μm,18.0s					
NDI	New Delhi	42.58 293	*e*x	P	02 59 16.0	-0.7
NDI			*e*x	S	03 05 40.0	+2.6
SDNR	Sundarnagar	43.05 297	*e*x	P	02 59 20.5	0.0
AS12	Alice Springs	43.14 165	*e*P	P	02 59 19.6	-1.6
AS12			*e*ScP	ScP	03 05 00.0	+0.5
ASAR	Alice Springs	43.14 165	P	P	02 59 19.6	-1.6
	comp=Z,33nm,0.9s,baz=341,slow=7.1,SNR=156					
ASAR			ScP	ScP	03 05 00.0	+0.5
	comp=Z,4.3nm,1.1s,baz=349,slow=3.3,SNR=4.1					
ASAR			LR	LR	03 19 15.5	
	comp=Z,1μm,19.0s,baz=344,slow=39					
AS01	Alice Springs	43.15 165	*e*P	P	02 59 19.7	-1.5
AS01			*e*ScP	ScP	03 05 00.6	+1.1
WRKA	Warakurna	43.41 172	P	P	02 59 21.4	-1.9
	baz=43,SNR=41					
MK01	Makanchi Array	43.51 320	*e*P	P	02 59 24.6	+0.6
BHK	Bhakra	43.51 297	*e*x	P	02 59 25.0	+0.8
MK31	Makanchi Array	43.53 320	P	P	02 59 24.5	+0.4
MK31			pmax	pmax		
	comp=Z,65nm,0.9s					
MK32	Makanchi Array	43.53 320	*e*P	P	02 59 24.8	+0.7
MK32			*e*PP	PcP	03 01 12.7	+1.1
MKAR	Makanchi Array	43.53 320	*e*P	P	02 59 24.7	+0.6
MKAR	Makanchi Array	43.53 320	P	P	02 59 24.8	+0.7
	comp=Z,33nm,0.7s,baz=111,slow=7.5,SNR=215					
MKAR			PcP	PcP	03 01 12.7	+1.1

comp=Z,20nm,0.9s,baz=89,slow=5.5,SNR=4.5
MKAR LR LR 03 17 10.9
comp=Z,4μm,19.8s,baz=118,slow=36
MKAR Makanchi Array 43.53 320 *e*P **P 02 59 24.7 +0.6**
YAK Yakutsk 44.01 5 *e*P **P 02 59 27.0 -0.7**
YAK *e**PP **pP 02 59 38.6 +1.2**
YAK *e* 03 01 05.7
YAK *e* 03 01 13.5
YAK *e*S **S 03 05 54.7 -2.6**
YAK *e* 03 09 21.0
YAK *e*SSS SSS 03 10 08.1
YAK pmax pmax
comp=Z,83nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=N,37nm,1.1s
YAK pmax pmax
comp=E,16nm,1.0s
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,16nm,1.0s
YAK smax smax
comp=E,858nm,15.9s
YAK smax smax
comp=N,2μm,18.1s
YAK MLR MLR
comp=E,3μm,15.0s
YAK MLR MLR
comp=N,4μm,15.0s
YAK Yakutsk 44.01 5 *e*P **P 02 59 27.2 -0.4**
YAK LR LR
comp=Z,5μm,18.0s
PEA0 Petropavlovsk- 44.22 30 *e*P **P 02 59 30.7 +1.1**
PETK Petropavlovsk- 44.22 30 P **P 02 59 30.8 +1.2**
comp=Z,45nm,0.9s,baz=198,slow=4.2,SNR=29
PETK LR LR 03 16 36.3
comp=Z,2μm,21.4s,baz=228,slow=34
PEA2 Petropavlovsk- 44.22 30 *e*P **P 02 59 30.8 +1.2**
PET Petropavlovsk 44.63 30 *e*P **P 02 59 34.1 +1.4**
PET *e*S **S 03 06 05.9 -0.7**
PET *e*SS **ScS 03 09 32.2 +4.3**
PET pmax pmax
comp=Z,117nm,1.2s
PET pmax pmax
comp=Z,500nm,12.9s
PET MLR MLR
comp=Z,4μm,19.0s
PET Petropavlovsk 44.63 30 *e*P **P 02 59 33.6 +0.9**
comp=Z,126nm,1.1s
PET LR LR
comp=Z,4μm,20.0s
CTA Charters Tower 44.68 147 P **P 02 59 34.1 +0.5**
comp=Z,155nm,1.1s,baz=327,slow=10,SNR=43
CTAO Charters Tower 44.68 147 *e*P **P 02 59 34.2 +0.6**
CTAO pmax pmax
comp=Z,265nm,1.2s
CTAO MLR MLR
comp=Z,3μm,19.0s
CTAO Charters Tower 44.68 147 *e*P **P 02 59 34.2 +0.6**
comp=Z,265nm,1.2s
CTAO *e*ScP **ScP 03 05 03.9 -1.9**
CTAO LR LR
comp=Z,3μm,19.0s
MEEK Meekatharra 44.80 185 P **P 02 59 31.9 -2.5**
baz=45,SNR=122
KSH Kashi 45.31 308 P **P 02 59 41.1 +2.5**
KSH sP **sP 02 59 54.6 +2.3**
KSH PP **PP 03 01 28.0 +3.1**
KSH S **S 03 06 18.4 +1.2**
KSH sS **sS 03 06 35.3 +2.0**
KSH ScS **ScS 03 09 30.1 -3.1**
KSH SS **SS 03 09 34.4 -6.3**
KSH PMZ
comp=Z,61nm,1.5s
KSH PMZ
comp=Z,410nm,5.4s
KSH LN
comp=Z,4μm,15.2s
KSH LE
comp=Z,6μm,16.8s
KSH LZ
comp=Z,3μm,18.4s
AAA Alma-Ata 45.66 313 *e*P P 02 59 31.3 -10
AAA pmax pmax
comp=Z,7μm,23.5s
AAA MLR MLR
comp=Z,9μm,19.0s
ZAA0 Zalesovo Array 45.90 330 *e*P **P 02 59 42.5 -0.4**
ZAA0 *e*PcP **PcP 03 01 19.7 +0.2**
ZAA0 *e*ScP **ScP 03 05 09.8 -0.5**
ZALV Zalesovo Beam 45.90 330 P **P 02 59 42.4 -0.4**
comp=Z,7.8nm,0.6s,baz=120,slow=8.2,SNR=33
ZALV PcP **PcP 03 01 19.8 +0.3**
comp=Z,8.6nm,0.6s,baz=89,slow=4.3,SNR=4.0
ZALV LR LR 03 20 27.4
comp=Z,6μm,19.2s,baz=126,slow=38
ZAA1 Zalesovo Array 45.90 330 *e*P **P 02 59 42.4 -0.4**
ZAA1 *e*PcP **PcP 03 01 19.9 +0.3**
HNR Honiara 46.09 124 LR LR 03 17 30.3
comp=Z,4μm,19.9s,baz=304,slow=34
HNR Honiara 46.09 124 PFAKE 03 00 00.0 +15
HNR LR LR
comp=Z,4μm,20.0s
TKM2 Tokmak 2 46.50 312 *e*P **P 02 59 49.3 +1.3**
TKM2 *e* 03 01 23.0
TKM2 pmax pmax
comp=Z,77nm,1.5s
TKM2 MLR MLR
comp=Z,8μm,19.0s
TKM2 Tokmak 2 46.50 312 *e*P **P 02 59 49.3 +1.3**
comp=Z,77nm,1.5s
TKM2 *e*PcP **PcP 03 01 23.0 +0.8**
TKM2 LR LR
comp=Z,8μm,19.0s
FRU Bishkek 47.16 312 *e*P **P 02 59 54.0 +1.0**
FRU pmax pmax
comp=Z,120nm,2.0s
NVS Novosibirsk 47.17 330⇑ *i*P **P 02 59 51.8 -1.0**
NVS pmax pmax
comp=Z,62nm,1.4s
NVS pmax pmax
comp=N,27nm,1.2s
NVS pmax pmax
comp=E,26nm,1.2s
AAK Ala-Archa 47.19 312 P **P 02 59 54.8 +1.3**
comp=E,102nm,0.7s,SNR=5.8
AAK Ala-Archa 47.19 312*c i*P **P 02 59 55.1 +1.7**
AAK pmax pmax
comp=Z,48nm,2.5s
AAK Ala-Archa 47.19 312 P **P 02 59 54.4 +1.0**
comp=Z,3.0nm,0.5s,baz=96,slow=7.3,SNR=4.6
AAK Ala-Archa 47.19 312 *e*P **P 02 59 54.7 +1.3**
comp=Z,20nm,0.8s
AAK *e*ScP **ScP 03 05 17.2 +0.9**
AAK LR LR
comp=Z,7μm,18.0s
KURK Kurchatov 47.47 323 *e*P **P 02 59 55.1 -0.1**
KURK pmax pmax
comp=Z,46nm,1.0s
KURK MLR MLR
comp=Z,2μm,20.0s
KURK Kurchatov 47.47 323 P **P 02 59 55.8 +0.6**
SNR=44
KURK Kurchatov 47.47 323 *e*P **P 02 59 55.1 -0.1**
comp=Z,46nm,1.0s
KURK LR LR
comp=Z,2μm,20.0s
MORW Morawa 47.47 188 P **P 02 59 53.0 -2.3**
baz=47,SNR=50
EKS2 Erkin-Say 47.71 311 *e*P **P 02 59 58.8 +1.4**
EKS2 pmax pmax
comp=Z,42nm,1.3s
EKS2 MLR MLR
comp=Z,7μm,20.0s
EKS2 Erkin-Say 47.71 311 *e*P **P 02 59 58.8 +1.4**
comp=Z,42nm,1.3s
EKS2 *e*ScP **ScP 03 05 18.9 +0.5**
EKS2 LR LR
comp=Z,7μm,20.0s
BLDU Ballidu 48.92 187 P **P 03 00 03.9 -2.6**
baz=49,SNR=24
FORT Forrest 49.06 174 P **P 03 00 06.2 -1.4**
baz=49,SNR=12
FORT Forrest 49.06 174 *e*P **P 03 00 05.9 -1.7**
comp=Z,247nm,1.1s
FORT *e*PcP **PcP 03 01 31.6 +0.6**
FORT LR LR
comp=Z,2μm,20.4s
SEY Seymchan 49.16 18 *e*P **P 03 00 10.0 +1.9**
SEY Seymchan 49.16 18 P **P 03 00 10.0 +1.9**
comp=Z,17nm,0.7s,baz=234,slow=5.9,SNR=30
SEY LR LR 03 21 01.2
comp=Z,4μm,20.6s,baz=181,slow=36
QLP Quilpie 49.33 154 P **P 03 00 09.5 -0.3**
baz=49,SNR=3.9
KLBR Kellerberrin 49.78 185 P **P 03 00 10.8 -2.3**
baz=50,SNR=24
KBL Kabul 49.98 300 *e*P **P 03 00 15.4 +0.3**
KBL pmax pmax
comp=Z,64nm,1.1s
KBL MLR MLR
comp=Z,6μm,19.2s
KBL Kabul 49.98 300 *e*P **P 03 00 15.4 +0.3**
comp=Z,64nm,1.1s
KBL LR LR
comp=Z,6μm,19.2s
KK31 Karatay Array 50.15 311 *i*P **P 03 00 16.6 +0.7**
KKAR Karatay Array 50.15 311 *e*P **P 03 00 16.3 +0.4**
KKAR *e* 03 01 35.9
KKAR Karatay Array 50.15 311 *e*P **P 03 00 16.3 +0.4**
KKAR *e*PcP **PcP 03 01 35.9 +0.9**
KKAR *e*ScP **ScP 03 05 28.9 +0.3**
NWAO Narrogin (SRO) 51.15 186 P **P 03 00 21.5 -1.9**
comp=Z,100nm,0.9s,baz=9.9,slow=7.5,SNR=22
RMQ Roma 51.28 149 P **P 03 00 24.8 +0.2**
baz=51,SNR=19
EIDS Eidsvold 51.53 146 P **P 03 00 26.2 -0.3**
baz=52,SNR=8.1
EIDS Eidsvold 51.53 146 *e*P **P 03 00 25.1 -1.3**
comp=Z,36nm,1.0s
EIDS LR LR
comp=Z,2μm,20.7s
FX1 Attu Island--F 52.21 36 *e*P **P 03 00 30.9 -0.3**
FX1 Attu Island--F 52.21 36 P **P 03 00 33.2 +2.1**
comp=Z,32nm,0.7s,baz=24,slow=15,SNR=5.1
FX1 Attu Island--F 52.21 36 *e*P **P 03 00 30.9 -0.3**
TARA Tarawa 52.23 103 PFAKE 03 00 40.0 +8.0
TARA LR LR
comp=Z,2μm,20.0s
BBOO Buckleboo 52.42 166 P **P 03 00 31.8 -1.1**
baz=52,SNR=30
BBOO Buckleboo 52.42 166 *e*P **P 03 00 31.5 -1.5**
comp=Z,2μm,1.1s
VOSK Vostochnaya 52.63 323 *e*P **P 03 00 33.7 -0.6**
VOSK pmax pmax
comp=Z,26nm,0.8s
VOSK MLR MLR
comp=Z,4μm,18.8s
VOSK Vostochnaya 52.63 323 *e*P **P 03 00 33.7 -0.6**
comp=Z,26nm,0.8s
VOSK LR LR
comp=Z,4μm,18.8s
RKGY Rocky Gully 52.84 186 P **P 03 00 34.9 -1.1**
baz=53,SNR=6.3
BVAR Borovoye Array 53.07 323 P **P 03 00 37.9 +0.3**
comp=Z,6.0nm,0.5s
BVAR PcP **PcP 03 01 46.4 +0.7**
comp=Z,33nm,0.7s,baz=111,slow=4.5,SNR=13
BVAR ScP **ScP 03 05 41.2 +0.2**
comp=Z,5.3nm,0.8s,baz=191,slow=1.5,SNR=6.6
STKA Stephens Creek 53.12 160 *e*P **P 03 00 37.1 -1.0**
STKA *e* 03 02 36.1
STKA pmax pmax
comp=Z,13nm,1.0s
STKA MLR MLR
comp=Z,500nm,19.8s
STKA Stephens Creek 53.12 160 P **P 03 00 37.0 -1.2**
comp=Z,33nm,0.9s,baz=344,slow=7.2,SNR=24
STKA LR LR 03 25 08.5
comp=Z,2μm,21.8s,baz=336,slow=38
STKA Stephens Creek 53.12 160 P **P 03 00 37.1 -1.0**
baz=53,SNR=24
STKA Stephens Creek 53.12 160 *e*P **P 03 00 37.1 -1.0**
comp=Z,13nm,1.0s
STKA *e*PP **PP 03 02 36.1 -2.3**
STKA LR LR
comp=Z,500nm,19.8s
BRVK Borovoye 53.14 323 P **P 03 00 38.3 +0.2**
comp=Z,255nm,1.0s,SNR=12
BRVK Borovoye 53.14 323⇑ *i*P **P 03 00 38.4 +0.3**
BRVK pmax pmax
comp=Z,65nm,1.7s
BRVK Borovoye 53.14 323 P **P 03 00 38.8 +0.8**
SNR=19
BRVK Borovoye 53.14 323 *e*P **P 03 00 38.7 +0.7**
comp=Z,52nm,1.0s
BRVK *e*ScP **ScP 03 05 41.3 0.0**
BRVK LR LR
comp=Z,4μm,20.0s
TIXI Tiksi 53.51 3*d i*P **P 03 00 39.9 -0.6**
TIXI pmax pmax
comp=Z,117nm,1.7s
TIXI Tiksi 53.51 3 PFAKE 03 00 50.0 +10
TIXI LR LR
comp=Z,6μm,19.0s
HTT Hallett 53.75 163 P **P 03 00 42.4 -0.3**
baz=54,SNR=5.6
CMSA Cobar Meteorol 54.30 156 P **P 03 00 46.9 +0.1**
baz=54,SNR=9.4
DGAR Diego Garcia 55.57 247 *e*P **P 03 00 54.9 -1.4**
DGAR pmax pmax
comp=Z,493nm,1.4s
DGAR MLR MLR
comp=Z,2μm,20.0s
DGAR Diego Garcia 55.57 247 *e*P **P 03 00 54.9 -1.4**
comp=Z,493nm,1.4s
DGAR LR LR
comp=Z,2μm,20.0s
H08S2 Diego Garcia H 55.65 247 P **P 03 00 55.6 -1.0**
baz=18,slow=9.7,SNR=14
H08S3 Diego Garcia H 55.65 247 P **P 03 00 55.3 -1.2**
baz=18,slow=9.7,SNR=8.0
H08S1 Diego Garcia H 55.66 247 P **P 03 00 55.0 -1.7**
baz=18,slow=9.7,SNR=8.2
BILL Bilibino 56.86 18 PFAKE 03 01 20.0 +15
BILL LR LR
comp=Z,4μm,19.0s
IMYA Miami 57.36 302 *e*P **P 03 01 09.9 +0.9**
IDAH Dahanechah 57.59 298 *e*P **P 03 01 09.2 -1.6**
ARPS Mount Arapiles 57.71 162 P **P 03 01 10.6 -0.5**
baz=58,SNR=10
ISRO Mashad 57.87 302 *e*P **P 03 01 13.2 +0.6**
IMOG Moghan 57.97 302 *e*P **P 03 01 13.6 +0.1**
IPAY Payeh 58.25 302 *e*P **P 03 01 15.5 +0.2**
IAKL Akhelmad 58.44 302 *e*P **P 03 01 17.2 +0.5**
AB31 Akbulak array 58.51 317 *i*P **P 03 01 16.3 -0.3**
AB31 pmax pmax
comp=Z,25nm,0.8s
ABKAR Akbulak array 58.51 317 *e*P **P 03 01 16.5 -0.1**
ITEG Tejag 58.53 298 *e*P **P 03 01 18.2 +0.9**
IKRD Kardeh 58.64 302 *e*P P 03 01 13.4 -4.7
DZM Mont Dzumac 58.79 131 *e*P **P 03 01 20.2 +1.2**
comp=Z,109nm,1.3s
DZM *e*S **S 03 09 22.3 -0.2**
comp=Z,5μm,29.4s
DZM *e*LQ LQ 03 16 05.5
comp=Z,6μm,26.8s
DZM *e*LR LR 03 18 38.3
comp=Z,6μm,22.9s
DZM Mont Dzumac 58.79 131 P **P 03 01 20.4 +1.4**
comp=Z,32nm,1.1s,baz=37,slow=15,SNR=14
ABKT Ailbek 58.95 304 P **P 03 01 21.1 +1.1**
comp=Z,243nm,1.1s,SNR=15
GEYT Alibeck 58.95 304 P **P 03 01 21.2 +1.2**
comp=Z,48nm,1.2s,baz=98,slow=3.0,SNR=38
GEYT LR LR 03 29 09.5
comp=Z,3μm,18.6s,baz=60,slow=38
CNB Canberra Magne 59.08 154 P **P 03 01 20.9 +0.2**
baz=59,SNR=6.5
WBK Wadi Bani Khal 59.30 286 P **P 03 01 22.6 0.0**
SNR=16
SVE Sverdlovsk 59.56 326⇑ *i*P **P 03 01 24.2 +0.5**
SVE *e*S **S 03 09 33.7 +2.4**
SVE pmax pmax
comp=Z,79nm,0.9s
SVE MLR MLR
comp=Z,3μm,19.0s
TOO Toolangi 59.62 159 P **P 03 01 24.4 +0.1**
baz=60,SNR=6.8
SMDO Samad 60.07 287 P **P 03 01 28.7 +0.7**
SNR=9.2
JMDO Jabal Madar 60.12 286 P **P 03 01 28.3 0.0**
SNR=12
ARU Arti 60.59 325 P **P 03 01 30.0 -0.8**
comp=Z,257nm,1.0s,SNR=14
ARU Arti 60.59 325*c i*P **P 03 01 30.0 -0.8**
ARU 03 02 12.3
ARU 03 03 42.5
ARU S **S 03 09 45.2 +0.6**
ARU 03 11 15.8
ARU pmax pmax
comp=Z,70nm,1.7s
ARU MLR MLR
comp=Z,5μm,17.0s
ARU Arti 60.59 325 *e*P **P 03 01 29.8 -1.0**
comp=Z,163nm,1.8s
ARU LR LR
comp=Z,5μm,18.0s
HOQ Hoqain 60.66 287 P **P 03 01 33.0 +1.0**
SNR=5.9
BANOM Banah 61.26 290 P **P 03 01 38.0 +2.0**
SNR=5.2
BANOM Banah 61.26 290⇑ *i*P **P 03 01 36.9 +1.0**
SNR=12
IBAF Bafgh 61.30 296 *e*P **P 03 01 36.3 0.0**
ARQ Araqi 61.42 287 P **P 03 01 38.0 +1.0**
SNR=8.8
UOSS Wadi Hilu 61.47 289 P **P 03 01 39.5 +2.1**
comp=Z,222nm,1.4s,SNR=5.0
ASHO Ashiyiah 61.64 289 P **P 03 01 40.0 +1.4**
SNR=8.4
ASHO Ashiyiah 61.64 289⇓ *i*P **P 03 01 39.1 +0.6**
SNR=14
NAZ Nazwa, Dubai 61.95 289⇑ *i*P **P 03 01 40.7 +0.1**
SNR=10
FAQ Al Faqa, Dubai 62.05 289⇓ *i*P **P 03 01 41.4 +0.1**
SNR=6.0
IMEH Mehriz 62.13 296 *e*P **P 03 01 40.4 -1.6**
SOKR Solikamsk 62.15 328⇑ *i*P **P 03 01 41.5 +0.2**
SOKR S **S 03 10 01.8 -2.4**
SOKR pmax pmax
comp=Z,10.0nm,0.8s
SOKR MLR MLR
comp=Z,7μm,20.0s
ICHK Chekchek 62.23 297 *e*P **P 03 01 41.2 -1.4**
ASUD Al Ashush, Dub 62.30 289⇓ *i*P **P 03 01 43.8 +0.9**
SNR=5.5
IGLO Ghaloghah 62.41 302 *e*P **P 03 01 44.5 +0.7**
GAMB Gambell 63.12 27 *e*P **P 03 01 48.9 +1.2**
comp=Z,39nm,1.1s
GAMB LR LR
comp=Z,2μm,20.3s
ILAS Lasjerd 63.18 301 *e*P **P 03 01 48.3 -0.7**
IFIR Firoozkooh 63.33 301 *e*P **P 03 01 50.5 +0.5**
IZEF Zefreh 63.91 298 *e*P **P 03 01 52.4 -1.5**
IDMV Damavand 63.92 301 *e*P **P 03 01 53.3 -0.6**
IVRN Varamin 64.22 301 *e*P **P 03 01 55.6 0.0**
IKLH Kolahrood 64.50 299 *e*P **P 03 01 57.4 -0.3**
RBK Rabkut 64.62 281 P **P 03 01 59.1 +0.6**
SNR=21
IMHD Mahdasht 65.02 301 *e*P **P 03 02 01.1 +0.2**
TNA Tin City 65.09 25 *e*P **P 03 02 02.0 +1.5**
comp=Z,36nm,1.0s
TNA LR LR
comp=Z,2μm,20.6s
IPIR Pirpir 65.14 298 *e*P **P 03 02 01.2 -0.8**
MSVF Nonsavu 65.30 120 *e*P **P 03 02 05.0 +2.2**
MSVF pmax pmax
comp=Z,99nm,1.0s
MSVF Nonsavu 65.30 120 *e*P **P 03 02 05.0 +2.2**
comp=Z,99nm,1.0s
IGZV Ghazvin 65.32 302 *e*P **P 03 02 02.6 -0.3**
ABTO Aybut 65.50 281 P **P 03 02 03.7 -0.5**
SNR=20
MAK Makhachkala 66.90 310 *e*P **P 03 02 12.4 -0.3**
MAK *e* 03 02 41.2
MAK *e* 03 04 36.8
MAK *e*S **S 03 11 01.1 -2.4**
MAK *e* 03 12 07.4
MAK *e*SS **SS 03 15 23.3 +1.4**
MAK pmax pmax
comp=Z,234nm,7.8s
MAK MLR MLR
comp=Z,4μm,15.0s
PRGR Permogore 67.86 330 *e*P **P 03 02 16.6 -1.8**
PRGR *e* 03 02 42.8
PRGR pmax pmax
comp=Z,31nm,0.9s
DGRG David-gareji 68.61 308 P **P 03 02 24.7 +1.2**
DGRG S S 03 11 38.2 +14
TBLG Delisi 69.05 308 P **P 03 02 26.7 +0.4**
TBLG S **S 03 11 31.3 +2.0**
GUDG Gudauri 69.17 309 P P 03 02 34.7 +7.4
GNI Garni 69.23 307 *e*P **P 03 02 29.3 +1.7**
GNI Garni 69.23 307*c i*P **P 03 02 28.8 +1.3**
GNI pmax pmax
comp=Z,108nm,1.7s
GNI Garni 69.23 307 P **P 03 02 29.6 +2.0**
SNR=22
GNI Garni 69.23 307⇓ *i*P **P 03 02 27.3 -0.2**
SNR=14
GNI Garni 69.23 307 *e*P **P 03 02 28.9 +1.3**
comp=Z,53nm,1.0s
ZEI Tsey 69.56 310 *e*P **P 03 02 27.2 -2.4**
ZEI *e*S **S 03 11 33.6 -2.0**
ZEI pmax pmax
comp=Z,71nm,1.4s
ZEI MLR MLR
comp=Z,3μm,18.0s
NCK Nalchik 69.70 310*d i*P **P 03 02 30.9 +0.6**
MSEY Mahe Island 69.84 258 *e*P **P 03 02 31.9 +0.3**
MSEY pmax pmax
comp=Z,184nm,1.3s
MSEY MLR MLR
comp=Z,2μm,20.0s
MSEY Mahe Island 69.84 258 P **P 03 02 32.3 +0.7**
SNR=10
MSEY Mahe Island 69.84 258⇑ *i*P **P 03 02 31.6 0.0**
SNR=12
MSEY Mahe Island 69.84 258 *e*P **P 03 02 31.9 +0.3**
comp=Z,184nm,1.3s
MSEY LR LR
comp=Z,2μm,20.0s
ONI Oni 69.91 309 P **P 03 02 33.1 +1.4**
ONI S **S 03 11 40.2 +0.7**
GOF Gofitskoye 69.93 312 *e*P **P 03 02 32.2 +0.6**
GOF *e*S **S 03 11 40.8 +1.3**
GOF pmax pmax
comp=Z,50nm,1.5s
GOF smax smax
comp=N,20nm,1.3s
GOF smax smax
comp=E,20nm,1.3s
CLDR Caldiran 69.98 306 *e*P **P 03 02 33.7 +1.4**
AKH Akhalkalaki 70.02 308 P **P 03 02 33.8 +1.4**
AKH S **S 03 11 45.2 +4.1**
EAK Akyaka 70.02 307 *i*P **P 03 02 34.7 +2.2**
KBZ Khabaz 70.18 311 P **P 03 02 33.4 +0.3**
comp=E,33nm,1.1s,baz=91,slow=5.5,SNR=30
KBZ LR LR 03 37 18.1
comp=E,4μm,18.5s,baz=80,slow=39
DIGO Kars 70.23 307 *i*P **P 03 02 33.7 -0.1**
SVW2 Sparrevohn 70.30 31 *e*P **P 03 02 35.7 +2.2**
comp=E,45nm,1.0s
KIV Kislovodsk 70.31 311 P **P 03 02 34.9 +0.8**
comp=E,387nm,1.0s,SNR=15
KIV Kislovodsk 70.31 311 *e*P **P 03 02 34.4 +0.3**
KIV *e*S **S 03 11 44.7 +0.5**
KIV *e*SS **SS 03 16 15.1 +0.4**
KIV pmax pmax
comp=Z,67nm,0.9s
KIV pmax pmax
comp=Z,112nm,3.9s
KIV MLR MLR
comp=Z,3μm,18.0s
KIV Kislovodsk 70.31 311 P **P 03 02 34.9 +0.8**
SNR=28
KIV Kislovodsk 70.31 311⇑ *i*P **P 03 02 34.6 +0.5**
SNR=20
KIV Kislovodsk 70.31 311 *e*P **P 03 02 34.9 +0.8**
comp=Z,67nm,0.9s
KIV LR LR
comp=Z,4μm,18.0s
VRHR Novokhopersk 70.31 319 *e*P **P 03 02 31.9 -1.9**

VRHR			*e*			03 05 14.1	
VRHR			*e*S		**S**	**03 11 43.2**	**-0.5**
VRHR			pmax		pmax		
	comp=N,20nm,1.0s						
VRHR			pmax		pmax		
	comp=E,20nm,1.0s						
VRHR			pmax		pmax		
	comp=Z,60nm,1.0s						
VRHR			pmax		pmax		
	comp=N,60nm,2.0s						
VRHR			pmax		pmax		
	comp=E,50nm,2.0s						
VRHR			pmax		pmax		
	comp=Z,60nm,2.0s						
VRHR			smax		smax		
	comp=N,180nm,3.0s						
VRHR			smax		smax		
	comp=E,90nm,3.0s						
VRHR			smax		smax		
	comp=Z,90nm,3.0s						
KARS	**Kars**	**70.43 307**	*e*P		**P**	**03 02 36.6**	**+1.7**
VANB	**Van**	**70.47 305**	*e*P		P	03 02 39.0	+3.8
AGRB	**Hanur-Agry**	**70.64 306**	*e*P		**P**	**03 02 38.0**	**+1.7**
KLMR	**Klimovskoe**	**70.82 329**	*e*P		**P**	**03 02 34.7**	**-2.0**
KLMR			pmax		pmax		
	comp=Z,115nm,1.6s						
KLMR			MLR		MLR		
	comp=Z,5μm,17.0s						
EATA	**Eleskirt**	**70.98 307**	*i* P		P	03 02 31.9	-6.6
ARTV	**Artvin**	**71.22 308**	*i* P		**P**	**03 02 40.2**	**+0.3**
TMCR	**Tamitsa**	**71.32 333**	*e*P		**P**	**03 02 39.0**	**-0.6**
TMCR			*e*			03 02 56.8	
TMCR			*e*			03 05 19.8	
TMCR			pmax		pmax		
	comp=Z,51nm,1.5s						
RAYN	**Ar Rayn**	**71.33 289**	P		**P**	**03 02 40.0**	**-0.6**
	comp=Z,657nm,1.1s,SNR=58						
RAYN	**Ar Rayn**	**71.33 289**	*e*P		**P**	**03 02 40.8**	**+0.2**
	comp=Z,209nm,1.3s						
RAYN			LR		LR		
	comp=Z,3μm,21.0s						
SIRT	**Sirnak**	**71.37 304**	*e*P		**P**	**03 02 41.5**	**+0.8**
DDEM	**Demirkent**	**71.39 308**	*i* P		**P**	**03 02 40.3**	**-0.4**
DBAD	**Bademkaya**	**71.42 308**	*i* P		**P**	**03 02 38.5**	**-2.4**
RSO	**Redoubt South**	**71.72 31**	*e*P		**P**	**03 02 44.0**	**+1.5**
PPLA	**Purkeypile**	**71.79 29**	*e*P		**P**	**03 02 44.5**	**+1.7**
	comp=Z,314nm,2.0s						
PPLA			LR		LR		
	comp=Z,2μm,19.1s						
CAST	**Castle Rocks**	**71.80 28**	*e*P		**P**	**03 02 44.6**	**+2.0**
	comp=Z,63nm,0.8s						
CAST			LR		LR		
	comp=Z,2μm,20.4s						
ERZM	**Erzurum**	**71.83 307**	*i* P		**P**	**03 02 44.0**	**+0.4**
VSR	**Storozhevoye**	**71.84 319**	*e*P		**P**	**03 02 42.2**	**-0.8**
VSR			*e**SP		**sP**	**03 02 56.6**	**-0.5**
VSR			*e*			03 05 27.0	
VSR			*e*S		**S**	**03 12 00.3**	**-1.1**
VSR			*e*SS		**SS**	**03 16 39.3**	**+1.7**
VSR			pmax		pmax		
	comp=Z,50nm,1.0s						
VSR			pmax		pmax		
	comp=N,5.0nm,0.9s						
VSR			pmax		pmax		
	comp=E,30nm,1.0s						
VSR			pmax		pmax		
	comp=N,20nm,1.4s						
VSR			pmax		pmax		
	comp=E,20nm,1.4s						
VSR			pmax		pmax		
	comp=Z,80nm,1.4s						
VSR			smax		smax		
	comp=N,50nm,2.5s						
VSR			smax		smax		
	comp=E,100nm,2.5s						
VSR			smax		smax		
	comp=Z,30nm,2.5s						
VRTB	**Varto-Mus**	**71.88 306**	*e*P		**P**	**03 02 45.7**	**+1.9**
KDAK	**Kodiak Island**	**72.06 34**	P		**P**	**03 02 43.7**	**-0.5**
	comp=Z,403nm,1.1s,SNR=9.2						
KDAK	**Kodiak Island**	**72.06 34**	*i* P		**P**	**03 02 44.8**	**+0.6**
KDAK	**Kodiak Island**	**72.06 34**	*e*P		**P**	**03 02 45.5**	**+1.3**
	comp=Z,219nm,1.5s						
BNGL	**BINGOL**	**72.14 306**	*i* P		**P**	**03 02 45.5**	**+0.1**
SVAN	**Silvan-Diyarba**	**72.24 305**	*e*P		**P**	**03 02 46.7**	**+0.9**
MOS	**Moscow**	**72.24 324**	*e*P		**P**	**03 02 44.6**	**-0.7**
MOS			*e*			03 03 02.9	
MOS			*e*			03 05 21.5	
MOS			*e*PPP		PPP	03 07 09.3	
MOS			*e*S		**S**	**03 12 00.3**	**-5.5**
MOS			pmax		pmax		
	comp=Z,49nm,0.6s						
AFI	**Afiamalu**	**72.25 112**	*e*P		**P**	**03 02 47.9**	**+1.7**
AFI			pmax		pmax		
	comp=Z,410nm,1.1s						
AFI	**Afiamalu**	**72.25 112**	*e*P		**P**	**03 02 47.9**	**+1.7**
	comp=Z,410nm,1.1s						
COLD	**Coldfoot**	**72.28 24**	*e*P		**P**	**03 02 47.5**	**+2.1**
	comp=Z,47nm,0.9s						
KTH	**Kantishna Hill**	**72.31 28**	*e*P		**P**	**03 02 47.0**	**+1.2**
	comp=Z,47nm,1.0s						
KTH			LR		LR		
	comp=Z,2μm,20.4s						
LVZ	**Lovozero**	**72.42 337**	PFAKE			03 03 00.0	+14
LVZ			LR		LR		
	comp=Z,3μm,19.0s						
SOC	**Sochi**	**72.49 311***c*	*i*P		**P**	**03 02 46.4**	**-0.7**
SOC			*e**PP		**pP**	**03 02 55.9**	**-1.5**
SOC			*e*			03 05 26.3	
SOC			*e*S		**S**	**03 12 09.3**	**+0.1**
SOC			*e*SS		**SS**	**03 16 45.4**	**-2.5**
SOC			pmax		pmax		
	comp=Z,47nm,1.1s						
BNGB	**Bing¨ll**	**72.50 306**	*e*P		**P**	**03 02 48.7**	**+1.3**
TRF	**Thorofare Moun**	**72.60 28**	*e*P		**P**	**03 02 49.5**	**+1.8**
	comp=Z,150nm,1.4s						
TRF			LR		LR		
	comp=Z,2μm,20.1s						
BAYT	**Ayd¨–ntepe-Bay**	**72.68 308**	*e*P		**P**	**03 02 49.7**	**+1.1**
MARD	**Mardin**	**72.70 304**	*i* P		**P**	**03 02 48.6**	**-0.1**
KTUT	**Trabzon**	**72.86 308**	*e*P		**P**	**03 02 50.2**	**+0.8**
MACK	**Trabzon**	**72.87 308**	*i* P		**P**	**03 02 48.4**	**-1.1**
OBN	**Obninsk**	**72.91 323***c*	*i*P		**P**	**03 02 48.7**	**-0.6**
OBN			*i*			03 03 06.4	
OBN			*i*			03 05 33.8	
OBN			*i* S		**S**	**03 12 08.6**	**-4.9**
OBN			pmax		pmax		
	comp=Z,85nm,1.6s						
OBN			MLR		MLR		
	comp=Z,3μm,19.0s						
OBN	**Obninsk**	**72.91 323**	*e*P		**P**	**03 02 48.1**	**-1.3**
	comp=Z,268nm,2.1s						
OBN			LR		LR		
	comp=Z,4μm,19.0s						
APA	**Apatity**	**72.93 336**	⇓*i*P		**P**	**03 02 49.8**	**+0.5**
APA			*i*			03 03 11.6	
APA			*i*			03 05 29.0	
APA			*i* S		**S**	**03 12 10.0**	**-3.4**
APA			*i*			03 12 52.0	
MAZI	**Mazidag**	**72.94 304**	*e*P		**P**	**03 02 50.9**	**+0.8**
MZRK	**Al-Mazaregh**	**73.07 303**	*i* P		**P**	**03 02 49.2**	**-1.5**
RC01	**Rabbit Creek A**	**73.13 30**	*e*P		**P**	**03 02 51.6**	**+1.0**
	comp=Z,121nm,1.8s						
MCK	**McKinley**	**73.17 28**	*e*P		**P**	**03 02 51.7**	**+0.9**
MCK			pmax		pmax		
	comp=Z,113nm,1.0s						
MCK			MLR		MLR		
	comp=Z,2μm,21.2s						
MCK	**McKinley**	**73.17 28**	*e*P		**P**	**03 02 51.7**	**+0.9**
	comp=Z,113nm,1.0s						
MCK			LR		LR		
	comp=Z,2μm,21.2s						
PMR	**Palmer**	**73.35 30**	*e*P		**P**	**03 02 52.4**	**+0.6**
PMR			pmax		pmax		
	comp=Z,58nm,1.0s						
PMR	**Palmer**	**73.35 30**	*e*P		**P**	**03 02 52.4**	**+0.6**
	comp=Z,58nm,1.0s						
SFNV	**Sufian**	**73.39 303**	*i* P		**P**	**03 02 53.0**	**+0.2**
COLA	**College**	**73.49 26**	⇑*i*P		**P**	**03 02 53.5**	**+0.8**
COLA			pmax		pmax		
	comp=Z,403nm,2.3s						
COLA	**College**	**73.49 26**	*e*P		**P**	**03 02 53.4**	**+0.8**
	comp=Z,48nm,1.1s						
COLA			LR		LR		
	comp=Z,2μm,22.0s						
ANN	**Anapa**	**73.91 312**	*e**PP		**P**	**03 02 53.3**	**-2.2**
ANN			*e*			03 03 00.7	
ANN			pmax		pmax		
	comp=Z,65nm,1.3s						
IL1	**Eielson Array**	**73.92 26**	*e*P		**P**	**03 02 55.0**	**-0.1**
ILAR	**Eielson Array**	**73.92 26**	P		**P**	**03 02 54.7**	**-0.4**
	comp=Z,14nm,0.8s,baz=288,slow=3.7,SNR=43						
ILAR			LR		LR	03 38 45.8	
	comp=Z,877nm,18.1s,baz=286,slow=38						
ILB	**Eielson Array**	**73.92 26**	*e*P		**P**	**03 02 54.7**	**-0.4**
GRSN	**GIRESUNGRSN**	**73.99 308**	*i* P		**P**	**03 02 52.9**	**-3.1**
URFA	**Urfa**	**74.22 305**	*e*P		**P**	**03 02 58.7**	**+1.2**
MALT	**Malatya**	**74.35 306**	*e*P		**P**	**03 02 60.0**	**+1.6**
MALT	**Malatya**	**74.35 306**	⇓*i*P		**P**	**03 02 58.2**	**-0.2**
MRIV	**Mauritius Mete**	**74.36 242**	*e*P		**P**	**03 02 58.8**	**+0.3**
KSRV	**Kasrt alli**	**74.38 303**	*i* P		**P**	**03 02 59.5**	**+1.1**
JOF	**Joensuu**	**74.45 332**	*e*P		**P**	**03 02 56.9**	**-1.4**
JOF			pmax		pmax		
	comp=Z,12nm,0.7s						
JOF	**Joensuu**	**74.45 332**	*e*p		**P**	**03 02 56.9**	**-1.4**
	comp=Z,12nm,0.7s						
ATAB	**Bozova**	**74.62 305**	*i* P		**P**	**03 02 58.7**	**-1.1**
PAX	**Paxson**	**74.83 28**	*e*P		**P**	**03 03 01.9**	**+1.3**
PAX			pmax		pmax		
	comp=Z,58nm,1.2s						
PAX			MLR		MLR		
	comp=Z,2μm,20.7s						
PAX	**Paxson**	**74.83 28**	*e*P		**P**	**03 03 01.9**	**+1.3**
	comp=Z,58nm,1.2s						
PAX			LR		LR		
	comp=Z,2μm,20.7s						
KEV	**Kevo**	**74.90 339**	*e*P		**P**	**03 03 00.0**	**-0.7**
KEV			pmax		pmax		
	comp=Z,10.0nm,0.6s						
KEV	**Kevo**	**74.90 339**	*e*p		**P**	**03 03 00.0**	**-0.7**
	comp=Z,9.8nm,0.6s						
KEV	**Kevo**	**74.90 339**	PFAKE			03 03 10.0	+9.3
KEV			LR		LR		
	comp=Z,2μm,19.0s						
DIV	**Divide**	**75.02 30**	*e*P		**P**	**03 03 03.3**	**+1.6**
	comp=Z,78nm,1.0s						
DARE	**Darende-Malaty**	**75.03 306**	*e*P		**P**	**03 03 03.9**	**+1.7**
SVSK	**Karacayir**	**75.13 308**	*e*P		**P**	**03 03 03.8**	**+1.2**
SLMH	**Al Salmeh**	**75.16 304**	*i* P		**P**	**03 03 02.9**	**-0.1**
GZT	**Gaziantep**	**75.21 305**	*i* P		**P**	**03 03 04.7**	**+1.3**
DOT	**Dot Lake**	**75.33 27**	*e*P		**P**	**03 03 04.2**	**+0.9**
	comp=Z,53nm,1.0s						
DOT			LR		LR		
	comp=Z,2μm,21.7s						
ARA0	**ARCESS Array S**	**75.46 339**	*e*P		**P**	**03 03 03.9**	**-0.1**
ARCES	**ARCESS Array B**	**75.46 339**	P		**P**	**03 03 03.9**	**-0.1**
	comp=Z,9.0nm,0.7s,baz=73,slow=8.0,SNR=40						
ARCES			LR		LR	03 40 46.1	
	comp=Z,2μm,18.3s,baz=69,slow=39						
ARE0	**ARCESS Array S**	**75.46 339**	*e*P		**P**	**03 03 03.9**	**-0.1**
ARE0			*e*S		**S**	**03 12 42.8**	**+1.0**
SPA0	**Spitsbergen Ar**	**75.50 348**	*e*P		**P**	**03 03 04.0**	**-0.1**
SPA0			*e*S		**S**	**03 12 42.0**	**0.0**
KVT	**Kavak**	**75.61 309**	*e*P		**P**	**03 03 06.5**	**+1.0**
BMRM	**Bremner River**	**75.61 30**	*e*P		**P**	**03 03 06.6**	**+1.5**
	comp=Z,72nm,1.0s						
KMRS	**Kahramanmaras**	**75.70 305**	*e*P		**P**	**03 03 07.1**	**+1.1**
KUZU	**Kuzuini**	**75.72 304**	*i* P		**P**	**03 03 04.9**	**-1.3**
RPZ	**Rata Peaks**	**76.03 146**	*e*P		**P**	**03 03 08.5**	**+0.9**
	comp=Z,1μm,2.7s						
KBS	**Kingsbay**	**76.04 349**	PFAKE			03 03 20.0	+13
KBS			LR		LR		
	comp=Z,4μm,19.0s						
URZ	**Urewera**	**76.06 139**	P		**P**	**03 03 08.8**	**+1.0**
	comp=Z,13nm,0.8s,baz=276,slow=5.5,SNR=7.3						
URZ	**Urewera**	**76.06 139**	*e*P		**P**	**03 03 08.8**	**+1.0**
URZ			LR		LR		
	comp=Z,2μm,20.6s						
HSPB	**Hornsund (broa**	**76.07 347**	*e*P		**P**	**03 03 07.8**	**+0.5**
HSPB			*e*S		**S**	**03 12 47.9**	**-0.3**
SIM	**Simferopol'**	**76.20 313***c**e*P			**P**	**03 03 08.6**	**-0.1**
SIM			*e*S		**S**	**03 12 50.0**	**-0.7**
SIM			*e*S		**S**	**03 12 52.0**	**+1.3**
SIM			pmax		pmax		
	comp=Z,41μm,1.1s						
SIM			MLR		MLR		
	comp=Z,1μm,17.0s						
BKZ	**Black Stump Fm**	**76.22 140**	*e*P		**P**	**03 03 09.5**	**+0.6**
	comp=Z,110nm,1.2s						
BKZ			LR		LR		
	comp=Z,2μm,21.0s						
BNN	**Bunyan**	**76.23 307**	*e*P		**P**	**03 03 09.9**	**+0.8**
EGAK	**Eagle**	**76.32 26**	*e*P		**P**	**03 03 10.0**	**+1.0**
	comp=Z,51nm,0.8s						
ZALF	**Zalf**	**76.35 300**	*i* P		**P**	**03 03 11.5**	**+1.7**
BTCH	**Batrach**	**76.36 304**	*i* P		**P**	**03 03 11.1**	**+1.3**
KTK1	**Kautokeino**	**76.37 339**	*e*P		**P**	**03 03 09.8**	**+0.6**
BOYT	**Boyabat**	**76.38 309**	*i* P		**P**	**03 03 09.5**	**-0.4**
KHZ	**Kahutara**	**76.53 144**	PFAKE			03 03 20.0	+10
KHZ			LR		LR		
	comp=Z,3μm,19.0s						
KOZT	**Kozan**	**76.54 305**	*e*P		**P**	**03 03 11.6**	**+0.8**
CEYT	**Ceyhan**	**76.70 305**	*e*P		**P**	**03 03 12.8**	**+1.1**
CORM	**Corum**	**76.86 308**	*e*P		**P**	**03 03 13.6**	**+0.9**
KAF	**Kangasniemi**	**76.89 331**	*e*P		**P**	**03 03 10.8**	**-1.4**
KAF			pmax		pmax		
	comp=Z,8.0nm,0.7s						
KAF	**Kangasniemi**	**76.89 331**	*e*p		**P**	**03 03 10.8**	**-1.4**
	comp=Z,7.5nm,0.7s						
BZK	**Bozkurt**	**76.92 310**	*e*P		**P**	**03 03 13.5**	**+0.7**
TOTH	**TOTAH**	**76.99 301**	*i* P		**P**	**03 03 14.3**	**+0.9**
AVNT	**Avonos**	**77.00 307**	*i* P		**P**	**03 03 12.1**	**-1.5**
BFZ	**Birch Farm**	**77.00 141**	PFAKE			03 03 20.0	+6.9
BFZ			LR		LR		
	comp=Z,2μm,21.0s						
FIA0	**FINESS Array S**	**77.16 331**	*e*P		**P**	**03 03 13.7**	**-0.1**
FIA0	**FINESS Array S**	**77.16 331**	*e*P		**P**	**03 03 13.7**	**-0.1**
FINES	**FINESS Array B**	**77.16 331**	P		**P**	**03 03 13.7**	**-0.1**
	comp=Z,9.3nm,0.5s,baz=61,slow=5.0,SNR=55						
FINES			LR		LR	03 39 10.9	
	comp=Z,5μm,21.6s,baz=90,slow=37						
CDAG	**Cicekdag**	**77.17 308**	*i* P		**P**	**03 03 13.7**	**-0.7**
KARA	**Karaisali**	**77.19 305**	*e*P		**P**	**03 03 15.1**	**+0.6**
DAWY	**Dawson**	**77.24 27**	*e*P		**P**	**03 03 16.0**	**+1.7**
NIG	**Nigde**	**77.34 306**	*e*P		**P**	**03 03 17.0**	**+1.4**
BRBR	**Barbar**	**77.36 301**	*i* P		**P**	**03 03 17.3**	**+1.5**
CANT	**Cankiri**	**77.51 309**	*e*P		**P**	**03 03 17.0**	**+0.7**
VSU	**Vasula**	**77.59 328**	⇑*i*P		**P**	**03 03 15.8**	**-0.4**
VSU			pmax		pmax		
	comp=Z,170nm,1.3s						
TRO	**Tromso**	**77.65 340**	*e*P		**P**	**03 03 17.0**	**+0.6**
BR101	**Keskin Array S**	**77.70 308**	*e*P		**P**	**03 03 17.5**	**+0.1**
BRTR	**Keskin Array B**	**77.70 308**	P		**P**	**03 03 17.5**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=113,slow=3.2,SNR=36						
MICGM	**Minsk**	**77.96 324**	⇑*e*P		**P**	**03 03 18.0**	**-0.4**
MNK	**Minsk**	**77.99 324**	⇑*e*P		**P**	**03 03 18.0**	**-0.5**
MNK			pmax		pmax		
	comp=Z,150nm,1.2s						
AKASG	**Malin Array Be**	**78.11 320**	P		**P**	**03 03 18.3**	**-1.0**
	comp=Z,3.1nm,0.4s,baz=62,slow=5.5,SNR=58						
AKASG			LR		LR	03 41 46.8	
	comp=Z,3μm,18.8s,baz=80,slow=39						
AKBB	**Malin Array Si**	**78.11 320**	*e*P		**P**	**03 03 18.3**	**-1.0**
AKBB	**Malin Array Si**	**78.11 320**	*e*P		**P**	**03 03 18.3**	**-1.0**
KIEV	**Kiev**	**78.12 320***c**i*P			**P**	**03 03 18.3**	**-1.0**
KIEV	**Kiev**	**78.12 320**	*e*P		**P**	**03 03 18.5**	**-0.9**
	comp=Z,91nm,1.6s						
KIEV			LR		LR		
	comp=Z,2μm,18.0s						
AK11	**Malin Array Si**	**78.15 320**	*e*P		**P**	**03 03 18.6**	**-0.9**
SULT	**Sultanhani-AKS**	**78.15 306**	*e*P		**P**	**03 03 20.5**	**+0.6**
AFSR	**Af¨ar-Bala (A**	**78.19 308**	*e*P		**P**	**03 03 20.5**	**+0.4**
ANTO	**Ankara**	**78.30 308**	*e*P		**P**	**03 03 22.1**	**+1.4**
ANTO	**Ankara**	**78.30 308**	⇓P		**P**	**03 03 20.4**	**-0.3**
ANTO	**Ankara**	**78.30 308**	⇓*i*P		**P**	**03 03 20.4**	**-0.3**
ANTO	**Ankara**	**78.30 308**	P		**P**	**03 03 21.1**	**+0.4**
	SNR=11						
ANTO	**Ankara**	**78.30 308**	*e*P		**P**	**03 03 21.1**	**+0.4**
	comp=Z,40nm,0.9s						
LOD	**Lodumlu**	**78.32 308**	*e*P		**P**	**03 03 21.1**	**+0.4**
BR231	**Keskin MP Arra**	**78.32 308**	*e*P		**P**	**03 03 18.2**	**-2.7**
IDID	**Didziasalis**	**78.39 325**	*e*P		**P**	**03 03 20.9**	**+0.1**
IDID			AMB		AMB	03 03 40.2	
	comp=Z,28nm,1.0s						
NACGM	**Naroch**	**78.48 324**	*e*P		P	03 03 18.0	-3.2
BCAM	**Yenicaga**	**78.61 309**	*i* P		P	03 03 15.6	-6.8
ISAL	**Salakas**	**78.66 325**	*e*P		**P**	**03 03 22.2**	**0.0**
ISAL			AMB		AMB	03 03 43.6	
	comp=Z,22nm,2.5s						
IIGN	**Ignalina**	**78.67 325**	*e*P		**P**	**03 03 22.3**	**+0.1**
IIGN			AMB		AMB	03 03 41.1	
	comp=Z,16nm,1.4s						
HYT	**Haines Junctio**	**79.01 29**	*e*P		**P**	**03 03 26.1**	**+1.8**
EIL	**Elat**	**79.11 298**	P		**P**	**03 03 26.9**	**+1.7**
	baz=79,SNR=6.0						
KIS	**Kishinev**	**79.31 316**	*e*P		**P**	**03 03 25.0**	**-1.0**
KIS			*e*S		**S**	**03 13 20.0**	**-4.2**
KIS			*e*			03 13 38.0	
KIS			*e*PS		PnS	03 14 00.0	-10
KIS			pmax		pmax		
	comp=Z,70nm,1.6s						
KIS			pmax		pmax		
	comp=Z,300nm,6.0s						
KIS	**Kishinev**	**79.31 316**	*e*P		**P**	**03 03 25.0**	**-1.0**
	comp=Z,70nm,1.6s						
KIS	**Kishinev**	**79.31 316**	*e*PP		PP	03 06 35.0	+9.2
KIS	**Kishinev**	**79.31 316**	*e*PPP		PPP	03 08 34.0	
KIS			*e*S		**S**	**03 13 20.0**	**-4.2**
KIS			*e*ScS		**SKSac**	**03 13 38.0**	**-1.9**
KIS	**Kishinev**	**79.31 316**	*e*PS			03 14 00.0	
KIS			*e*SS		SS	03 18 42.0	+11
KIS			*e*SSS		SSS	03 22 32.0	
KIS			*e*LQ		LQ	03 31 18.0	
	comp=Z,4μm,21.0s						
KIS			LRM		MLR	03 43 44.0	
	comp=Z,2μm,18.0s						
MDUB	**Mudurnu**	**79.33 309**	*e*P		**P**	**03 03 26.6**	**+0.2**
SVRH	**Sivrihisar-ESK**	**79.35 308**	*e*P		**P**	**03 03 26.7**	**+0.2**
LEF	**Lefka**	**79.40 303**	*e*P		**P**	**03 03 27.3**	**+0.6**
BTAS	**Taskesti**	**79.45 309**	*i* P		**P**	**03 03 26.5**	**-0.5**
GULT	**Gulveren**	**79.85 309**	*e*P		**P**	**03 03 29.2**	**0.0**
SPNC	**Sapanca-Adapaz**	**79.93 309**	*e*P		**P**	**03 03 29.5**	**0.0**
CFR	**Carcaliu**	**80.26 314**	⇑P		**P**	**03 03 31.1**	**0.0**
CFR	**Carcaliu**	**80.26 314**	⇑*i*P		**P**	**03 03 31.1**	**0.0**
TIRR	**Tirgusor**	**80.27 314**	⇓P		**P**	**03 03 30.6**	**-0.6**
TIRR	**Tirgusor**	**80.27 314**	⇓*i*P		**P**	**03 03 30.6**	**-0.6**
TIRR	**Tirgusor**	**80.27 314**	*e*P		**P**	**03 03 31.2**	**+0.1**
	comp=Z,21nm,0.9s						
TIRR			LR		LR		
	comp=Z,2μm,20.0s						
SILT	**Sile**	**80.29 310**	*e*P		**P**	**03 03 31.5**	**+0.1**
SHUT	**Suhut-Afyon**	**80.32 307**	*e*P		**P**	**03 03 31.8**	**0.0**
HRT	**Hereke**	**80.36 310**	*e*P		**P**	**03 03 31.6**	**-0.3**
CAVI	**Cavuskoy**	**80.40 309**	*e*P		**P**	**03 03 32.3**	**+0.2**
ADVT	**Abdulvahap**	**80.42 309**	*e*P		**P**	**03 03 32.2**	**+0.1**
MOR8	**Moi Rana**	**80.50 337**	*e*P		**P**	**03 03 31.7**	**-0.3**
MOR8			IAmb		IAmb	03 03 32.9	
	comp=Z,16nm,0.9s						
ALT	**Altintas**	**80.52 308**	P		**P**	**03 03 32.7**	**-0.1**
ALT	**Altintas**	**80.52 308**	*e*P		**P**	**03 03 32.7**	**-0.1**
ISP	**Isparta**	**80.54 307**	*e*P		**P**	**03 03 33.2**	**+0.2**
ISP	**Isparta**	**80.54 307**	*e*P		**P**	**03 03 32.4**	**-0.6**
ISP			pmax		pmax		
	comp=Z,57nm,1.0s						
ISP	**Isparta**	**80.54 307**	*e*P		**P**	**03 03 32.4**	**-0.6**
	comp=Z,57nm,1.0s						
BCK	**Bucak**	**80.58 306**	*e*P		**P**	**03 03 31.4**	**-1.8**
PSN	**Preselentsi**	**80.64 313**	⇓P		P	03 03 30.0	-3.2
PSN	**Preselentsi**	**80.64 313**	⇓*i*P		P	03 03 30.0	-3.2
PSN	**Preselentsi**	**80.64 313**	*i* P		**P**	**03 03 33.2**	**0.0**
KLYT	**Kilyos**	**80.70 310**	*e*P		**P**	**03 03 33.8**	**+0.2**
ISK	**Istanbul-Kandi**	**80.74 310**	*e*P		**P**	**03 03 34.1**	**+0.3**
SUW	**Suwalki**	**80.75 324**	*e*P		**P**	**03 03 33.1**	**-0.5**
SUW			MLR		MLR		
	comp=Z,3μm,19.3s						
SUW	**Suwalki**	**80.75 324**	*e*P		**P**	**03 03 33.1**	**-0.5**
SUW			LMZ		LR	03 43 40.8	
SUW	**Suwalki**	**80.75 324**	*e*P		**P**	**03 03 33.7**	**+0.1**
	comp=Z,253nm,1.0s						
SUW			LR		LR		
	comp=Z,3μm,19.0s						
KONS	**Konsvik**	**80.85 337**	*e*P		**P**	**03 03 36.5**	**+2.6**
TESR	**Tescani**	**80.88 316**	⇓*i*P		**P**	**03 03 32.4**	**-2.1**
KORT	**Korkueli**	**80.89 306**	*i* P		P	03 03 29.5	-5.4
TVSB	**Tavsanli**	**80.89 308**	*e*P		**P**	**03 03 35.1**	**+0.3**
BGKT	**Bogazkoy**	**80.92 310**	*e*P		**P**	**03 03 34.7**	**0.0**
VRI	**Vrincioaia**	**81.01 315**	⇓P		**P**	**03 03 33.4**	**-1.8**
VRI	**Vrincioaia**	**81.01 315**	⇓*i*P		**P**	**03 03 33.4**	**-1.8**
ARMT	**Armutlu**	**81.02 310**	*e*P		**P**	**03 03 35.3**	**-0.1**
PLOR	**Plostina**	**81.07 315**	⇑P		**P**	**03 03 36.3**	**+0.8**
PLOR	**Plostina**	**81.07 315**	⇑*i*P		**P**	**03 03 36.3**	**+0.8**
CTKS	**Kestanelik-??a**	**81.09 310**	*e*P		**P**	**03 03 35.8**	**+0.1**
CTYL	**Yal??k??y-??at**	**81.18 311**	*e*P		**P**	**03 03 36.2**	**0.0**
ELL	**Elmali**	**81.30 306**	*e*P		**P**	**03 03 36.9**	**-0.2**
SLVT	**Silivri**	**81.31 310**	*e*P		**P**	**03 03 37.1**	**+0.2**
PRD	**Provadia**	**81.32 313**	⇑P		**P**	**03 03 35.4**	**-1.5**
PRD	**Provadia**	**81.32 313**	*i* P		**P**	**03 03 36.7**	**-0.2**
KCTX	**Karacabey (Bur**	**81.48 309**	*e*P		**P**	**03 03 37.8**	**0.0**
BURAR	**Bucovina Array**	**81.49 317**	⇓P		**P**	**03 03 38.2**	**+0.4**
BURAR	**Bucovina Array**	**81.49 317**	⇓*i*P		**P**	**03 03 38.2**	**+0.4**
BUR04	**Bucovina Ar. S**	**81.49 317**	*e*P		**P**	**03 03 38.0**	**+0.1**
LVV	**L'vov**	**81.56 320**	*e*P		**P**	**03 03 37.7**	**-0.3**
LVV			*e*S		**S**	**03 13 43.7**	**-4.0**
LVV			*e*			03 19 06.5	
LVV			*e*			03 22 28.3	
LVV			MLR		MLR		
	comp=N

	comp=N,800nm,17.0s					
UZH				MLR	MLR	
	comp=E,2µm,17.0s					
UZH				MLR	MLR	
	comp=Z,980nm,17.0s					
TRPA	**Tarpa**	**83.03 318**	⇓*i*P		**P**	**03 03 45.0 -0.7**
LOT	**Lotru**	**83.11 316**	⇓*i*P		**P**	**03 03 47.1 +0.7**
KDZ	**Kurdzhali**	**83.19 311**	⇑P		**P**	**03 03 44.9 -1.8**
KDZ	**Kurdzhali**	**83.19 311**	⇑*i*P		**P**	**03 03 44.8 -1.9**
KDZ	**Kurdzhali**	**83.19 311**	*i* P		**P**	**03 03 46.5 -0.2**
DRGR		**83.37 317**	⇓P		**P**	**03 03 46.1 -1.5**
DRGR		**83.37 317**	⇓*i*P		**P**	**03 03 46.1 -1.5**
TBLU	**Trondheim**	**83.39 335**	*e*P		**P**	**03 03 46.5 -0.8**
TBLU				IAmb	IAmb	03 03 48.6
	comp=Z,34nm,0.8s					
TBLU			*e*SKSac		**S**	**03 14 04.7 -1.1**
STHS	**Stebnicka Huta**	**83.40 320**	*e*P		**P**	**03 03 46.2 -1.5**
STHS				pmax	pmax	
	comp=Z,12nm,1.0s					
STHS	**Stebnicka Huta**	**83.40 320**	*e*P		**P**	**03 03 46.2 -1.5**
DLBC	**Dease Lake**	**83.41 30**	*e*P		**P**	**03 03 47.8 +0.2**
CRVS	**Cervenica-Dubn**	**83.44 319**	*e*P		**P**	**03 03 48.1 +0.2**
CRVS	**Cervenica-Dubn**	**83.44 319**	*e*S		**S**	**03 14 04.6 -2.5**
CRVS			*e*SS		SS	03 19 43.1 +11
PLD	**Plovdiv**	**83.55 312**	*i* P		**P**	**03 03 48.3 -0.2**
RZN	**Rozhen**	**83.67 312**	*i* P		**P**	**03 03 48.5 -0.9**
PGB	**Panagyurishte**	**83.78 313**	*i* P		**P**	**03 03 49.8 0.0**
GZR	**Gura Zlata**	**83.79 316**	⇑P		**P**	**03 03 49.6 -0.2**
GZR	**Gura Zlata**	**83.79 316**	⇑*i*P		**P**	**03 03 49.6 -0.2**
MPEP	**Malo Peshtene**	**83.82 314**	*i* P		**P**	**03 03 50.1 +0.2**
NIE	**Niedzica**	**83.97 320**	⇑*i*P		**P**	**03 03 51.3 +0.7**
NIE	**Niedzica**	**83.97 320**	*i* P		**P**	**03 03 51.3 +0.7**
NIE				L	L	03 45 55.0
	comp=Z,2µm,18.7s					
OJC	**Ojcow**	**83.99 321**	⇑*i*P		**P**	**03 03 50.8 +0.2**
OJC			*e*S		**S**	**03 14 15.6 +3.1**
OJC				MLR	MLR	
	comp=Z,3µm,18.0s					
OJC	**Ojcow**	**83.99 321**	*i* P		**P**	**03 03 50.8 +0.2**
OJC			*e*PcP		**PcP**	**03 03 55.7 +1.1**
OJC			*e*S		**S**	**03 14 15.6 +3.1**
OJC				L	L	03 41 30.7
	comp=Z,3µm,18.0s					
OJC	**Ojcow**	**83.99 321**	*e*P		**P**	**03 03 50.9 +0.3**
	comp=Z,156nm,1.4s					
OJC				LR	LR	
	comp=Z,3µm,20.3s					
NC602	**NORSAR Array S**	**84.00 333**	*e*P		**P**	**03 03 49.3 -1.2**
NC602			*e*SKSac		**SKSac**	**03 14 09.4 -1.8**
NB2	**NORSAR Subarra**	**84.01 333**	P		**P**	**03 03 49.7 -0.9**
	comp=Z,33nm,0.9s,baz=62,slow=5.1					
NB2	**NORSAR Subarra**	**84.01 333**	P		**P**	**03 03 49.7 -0.9**
	baz=62,slow=5.1					
NB200	**NORSAR Array S**	**84.01 333**	*e*P		**P**	**03 03 50.0 -0.6**
NB200			⇑*e*			03 44 57.7
NOA	**NORSAR Array B**	**84.01 333**	P		**P**	**03 03 50.0 -0.6**
	comp=Z,16nm,0.8s,baz=63,slow=5.0,SNR=55					
NOA				LR	LR	03 44 57.7
	comp=Z,7µm,18.4s,baz=90,slow=38					
NBO02	**NORSAR Array S**	**84.16 333**	*e*P		**P**	**03 03 51.3 0.0**
RES	**Resolute Bay**	**84.28 9**	*e*P		**P**	**03 03 51.9 +0.3**
RES				pmax	pmax	
	comp=Z,36nm,1.0s					
RES				MLR	MLR	
	comp=Z,3µm,21.6s					
RES	**Resolute Bay**	**84.28 9**	*e*P		**P**	**03 03 51.9 +0.3**
	comp=Z,36nm,1.0s					
RES				LR	LR	
	comp=Z,3µm,21.6s					
GKP	**Gorka Klasztor**	**84.32 324**	*e*P		**P**	**03 03 53.2 +1.0**
GKP				MLR	MLR	
	comp=Z,6µm,20.4s					
GKP	**Gorka Klasztor**	**84.32 324**	*e*P		**P**	**03 03 53.2 +1.0**
GKP				LMZ	LR	03 45 04.2
NVR	**Nevrokopi**	**84.39 312**	P		**P**	**03 03 51.9 -1.0**
MMB	**Musomiste**	**84.41 312**	*i* P		**P**	**03 03 52.1 -0.9**
BZS	**Buzias**	**84.48 316**	⇓P		**P**	**03 03 53.3 +0.1**
BZS	**Buzias**	**84.48 316**	⇓*i*P		**P**	**03 03 53.3 +0.1**
SRS	**Serrai**	**84.66 311**	P		**P**	**03 03 53.0 -1.2**
KKB	**Krupnik**	**84.77 312**	*i* P		**P**	**03 03 53.1 -1.7**
PSZ	**Piszkesteto**	**84.77 319**	*e*P		**P**	**03 03 55.0 +0.3**
PSZ				pmax	pmax	
	comp=Z,52nm,1.2s					
PSZ				MLR	MLR	
	comp=Z,3µm,22.0s					
PSZ	**Piszkesteto**	**84.77 319**	⇑*e*P		**P**	**03 03 54.7 0.0**
PSZ	**Piszkesteto**	**84.77 319**	*e*P		**P**	**03 03 55.0 +0.3**
	comp=Z,52nm,1.2s					
PSZ				LR	LR	
	comp=Z,3µm,22.0s					
BSD	**Bornholm Skovb**	**84.83 327**	*e*P		**P**	**03 03 52.5 -2.2**
BSD				pmax	pmax	
	comp=Z,30nm,0.8s					
BSD				MLR	MLR	
	comp=Z,4µm,19.0s					
BSD	**Bornholm Skovb**	**84.83 327**	*i* P		**P**	**03 03 52.5 -2.2**
	comp=Z,30nm,0.8s					
SANT	**Santorini**	**84.83 306**	*e*P		**P**	**03 03 53.5 -1.8**
	comp=Z,178nm,1.1s					
SANT				LR	LR	
	comp=Z,800nm,18.0s					
PAIG	**Paliouri**	**84.99 310**	P		**P**	**03 03 54.9 -1.0**
RAC	**Raciborz**	**85.00 321**	*e*P		**P**	**03 03 56.2 +0.5**
RAC				MLR	MLR	
	comp=Z,3µm,20.3s					
PLG	**Polygyros**	**85.01 311**	P		**P**	**03 03 55.1 -1.0**
NPS	**Neapolis**	**85.07 305**	P		**P**	**03 03 56.0 -0.4**
OKC	**Ostrava-Krasne**	**85.12 321**	*e*P		**P**	**03 03 56.4 +0.1**
OKC			*e*			03 04 08.0
OKC			*e*			03 14 20.1
OKC				MLR	MLR	
	comp=Z,2µm,17.9s					
OKC	**Ostrava-Krasne**	**85.12 321**	*e*P		**P**	**03 03 56.4 +0.1**
OKC			*e*x		x	03 04 08.0
OKC			*e*x		x	03 08 09.2
OKC			*e*x		x	03 10 28.6
OKC			*e*SKS		**S**	**03 14 20.1 -3.7**
OKC				AMS	AMS	03 44 30.0
	comp=Z,2µm,17.9s					
KNT	**Kendrikon**	**85.14 312**	P		**P**	**03 03 55.8 -0.8**
PKSN	**Nyarlorinc**	**85.16 318**	⇓*e*P		**P**	**03 03 57.6 +1.0**
LAST	**Lasithi**	**85.20 305**	P		**P**	**03 03 56.7 -0.5**
VYHS	**Vyhne**	**85.21 320**	*e*P		**P**	**03 03 57.1 +0.2**
VYHS				pmax	pmax	
	comp=Z,56nm,1.3s					
VYHS	**Vyhne**	**85.21 320**	*e*P		**P**	**03 03 57.1 +0.2**
VYHS	**Vyhne**	**85.21 320**	*e*S		**S**	**03 14 26.6 +1.8**
VAY	**Valandovo**	**85.32 312**	P		**P**	**03 03 56.1 -1.4**
VAY	**Valandovo**	**85.32 312**	*i* P		**P**	**03 03 56.1 -1.4**
	comp=Z,109nm,1.3s					
KONO	**Kongsberg**	**85.37 332**	*e*P		**P**	**03 03 56.6 -0.8**
KONO	**Kongsberg**	**85.37 332**	PFAKE			03 04 10.0 +13
KONO				LR	LR	
	comp=Z,6µm,20.0s					
PKS6	**Bocsa**	**85.46 318**	⇓*e*P		**P**	**03 03 58.7 +0.6**
BUD	**Budapest**	**85.48 319**	⇑*e*P		**P**	**03 03 58.3 +0.1**
MORC	**Moravsky Berou**	**85.51 321**	⇓P		**P**	**03 03 56.9 -1.4**
MORC	**Moravsky Berou**	**85.51 321**	⇓*i*P		**P**	**03 03 56.9 -1.4**
MORC	**Moravsky Berou**	**85.51 321**	*e*P		**P**	**03 03 58.8 +0.4**
	comp=Z,32nm,1.1s					
MORC				LR	LR	
	comp=Z,2µm,20.0s					
GRG	**Griva**	**85.56 312**	P		**P**	**03 03 57.6 -1.2**
DRV	**Dumont d'Urvil**	**85.69 173**	S		SKSac	03 14 13.0 -8.1
DRV			L		L	03 26 00.0
DRV			R			03 32 00.0
SIVA	**Sivas**	**85.77 305**	P		**P**	**03 04 00.2 +0.3**
SIVA	**Sivas**	**85.77 305**	*e*P		**P**	**03 04 00.2 +0.3**
LIT	**Litokhoron**	**85.79 311**	P		**P**	**03 03 57.7 -2.2**
KSP	**Ksiaz**	**85.82 322**	⇑*e*P		**P**	**03 04 00.1 +0.3**
KSP			*e*S		**S**	**03 14 29.0 -1.6**
KSP	**Ksiaz**	**85.82 322**	*e*P		**P**	**03 04 00.1 +0.3**
KSP			*e*PcP		**PcP**	**03 04 02.3 -0.3**
KSP			*e*S		**S**	**03 14 33.9 +3.3**
KSP				LMZ	LR	03 47 08.5
KMBO	**Kilima Mbogo**	**85.83 267**	*e*P		**P**	**03 04 02.0 +1.2**
KMBO				pmax	pmax	
	comp=Z,145nm,1.3s					
KMBO				MLR	MLR	
	comp=Z,2µm,21.0s					
KMBO	**Kilima Mbogo**	**85.83 267**	P		**P**	**03 04 02.1 +1.2**
	SNR=53					
KMBO	**Kilima Mbogo**	**85.83 267**	P		**P**	**03 04 01.9 +1.2**
	comp=Z,55nm,1.0s,baz=54,slow=6.9,SNR=92					
KMBO				LR	LR	03 38 40.2
	comp=Z,2µm,21.9s,baz=64,slow=33					
KMBO	**Kilima Mbogo**	**85.83 267**	P		**P**	**03 04 02.1 +1.3**
	baz=86,SNR=5.1					
KMBO	**Kilima Mbogo**	**85.83 267**	*e*P		**P**	**03 04 02.0 +1.2**
	comp=Z,145nm,1.3s					
KMBO				LR	LR	
	comp=Z,2µm,21.0s					
KRLC	**Kraliky**	**85.84 322**	*e*P		**P**	**03 04 00.2 +0.2**
KRLC			*e*			03 04 11.9
KRLC	**Kraliky**	**85.84 322**	*e*P		**P**	**03 04 00.2 +0.2**
KRLC			*e*x		x	03 04 11.9
SKO	**Skopje**	**85.88 313**	*e*P		**P**	**03 03 59.6 -0.7**
	comp=Z,95nm,1.3s					
RGN	**Rugen**	**85.90 327**	PFAKE			03 04 10.0 +10
RGN				LR	LR	
	comp=Z,4µm,19.0s					
PKSG		**85.91 319**	⇓*e*P		**P**	**03 04 00.8 +0.5**
DPC	**Dobruska-Polom**	**86.00 322**	*e*P		**P**	**03 04 01.6 +0.8**
DPC			*e*			03 04 09.6
DPC			*e*			03 04 14.8
DPC			*e*			03 14 24.9
DPC	**Dobruska-Polom**	**86.00 322**	*e*P		**P**	**03 04 01.6 +0.8**
DPC			*e*pP		**pP**	**03 04 09.6 -1.6**
DPC			*e*x		x	03 04 14.8
DPC			*e*x		x	03 07 55.7
DPC			*e*SKS		**SKSac**	**03 14 24.9 +0.5**
DPC			AMS		AMS	03 46 40.0
DPC	**Dobruska-Polom**	**86.00 322**	*e*P		**P**	**03 04 01.6 +0.8**
	comp=Z,460nm,1.7s					
DPC				LR	LR	
	comp=Z,19µm,18.0s					
SMOL	**Smolenice**	**86.07 320**	*e*P		**P**	**03 04 02.4 +1.3**
SMOL	**Smolenice**	**86.07 320**	*e*P		**P**	**03 04 02.4 +1.3**
DIVS	**Divibare**	**86.11 315**	P		**P**	**03 04 00.7 -0.8**
VAM	**Vamos**	**86.11 306**	P		**P**	**03 03 59.5 -2.1**
UPC	**Upice**	**86.12 322**	*e*P		**P**	**03 04 00.9 -0.4**
UPC			*e*			03 04 10.9
UPC			*e*			03 04 14.2
UPC	**Upice**	**86.12 322**	*e*P		**P**	**03 04 00.9 -0.4**
UPC			*e*pP		**pP**	**03 04 10.9 -0.9**
UPC			*e*x		x	03 04 14.2
PKST	**T''s**	**86.18 319**	⇓*e*P		**P**	**03 04 02.1 +0.4**
PKSM	**Moragy**	**86.20 317**	⇓P		**P**	**03 04 00.0 -1.8**
PKSM	**Moragy**	**86.20 317**	⇓*i*P		**P**	**03 04 00.0 -1.8**
PKSM	**Moragy**	**86.20 317**	⇑*e*P		**P**	**03 04 01.9 +0.1**
PKS9	**Tamasi**	**86.29 318**	⇓*e*P		**P**	**03 04 02.5 +0.3**
FOO	**Floro**	**86.32 335**	*e*P		**P**	**03 03 60.0 -2.0**
HOMB	**Homborsund**	**86.54 331**	*e*P		**P**	**03 04 02.8 -0.4**
RUE	**Ruedersdorf**	**86.56 325**	PFAKE			03 04 10.0 +6.7
RUE				LR	LR	
	comp=Z,5µm,19.0s					
TREC	**Trest**	**86.93 321**	*e*P		**P**	**03 04 03.6 -1.7**
TREC			*e*			03 04 18.0
TREC			*e*			03 14 32.0
TREC				MLR	MLR	
	comp=Z,2µm,16.6s					
TREC	**Trest**	**86.93 321**	*e*P		**P**	**03 04 03.6 -1.7**
TREC			*e*x		x	03 04 18.0
TREC			*e*SKS		**SKSac**	**03 14 32.0 +1.9**
TREC			AMS		AMS	03 46 20.0
	comp=Z,2µm,16.6s					
SOP	**Sopron**	**86.94 319**	⇓*e*P		**P**	**03 04 05.5 +0.1**
PVCC	**Panska Ves**	**86.95 323**	*e*P		**P**	**03 04 05.7 +0.3**
PVCC			*e*			03 04 19.6
PVCC			*e*			03 14 32.6
PVCC				MLR	MLR	
	comp=Z,3µm,18.9s					
PVCC	**Panska Ves**	**86.95 323**	*e*P		**P**	**03 04 05.7 +0.3**
PVCC			*e*x		x	03 04 19.6
PVCC			*e*SKS		**SKSac**	**03 14 32.6 +2.5**
PVCC			AMS		AMS	03 47 50.0
	comp=Z,3µm,18.9s					
SNART	**Snartemo**	**87.10 331**	*e*P		**P**	**03 04 05.8 -0.1**
MUD	**Monsted U'grnd**	**87.11 329**	*i* P		**P**	**03 04 06.7 +0.7**
MUD				pmax	pmax	
	comp=Z,30nm,0.9s					
MUD				MLR	MLR	
	comp=Z,3µm,16.0s					
MUD	**Monsted U'grnd**	**87.11 329**	*i* P		**P**	**03 04 06.7 +0.7**
	comp=Z,30nm,0.9s					
BRG	**Berggiesshubel**	**87.16 323**	*e*P		**P**	**03 04 06.9 +0.5**
	comp=Z,18nm,0.9s					
BRG			PP		**PP**	**03 07 27.0 -2.8**
BRG			S		S	03 14 37.0 -6.6
BRG			PS		**PnS**	**03 15 47.0 +0.7**
BRG			SS		SS	03 20 13.0 -14
BRG	**Berggiesshubel**	**87.16 323**	*e*P		**P**	**03 04 06.9 +0.5**
BRG						03 07 27.0
BRG			S		S	03 14 37.0 -6.6
BRG			PS		**PnS**	**03 15 47.0 +0.7**
BRG			pmax		pmax	
	comp=Z,18nm,0.9s					
BRG				MLR	MLR	
	comp=N,3µm,20.5s					
BRG				MLR	MLR	
	comp=E,2µm,18.9s					
BRG				MLR	MLR	
	comp=Z,4µm,20.2s					
BRG	**Berggiesshubel**	**87.16 323**	*e*P		**P**	**03 04 06.4 0.0**
	comp=Z,60nm,1.8s					
BRG			*e*S		**S**	**03 14 39.4 -4.2**
PRU	**Pruhonice**	**87.19 322**	*e*P		**P**	**03 04 06.4 -0.2**
PRU			*e*			03 04 20.6
PRU			*e*			03 14 35.3
PRU				MLR	MLR	
	comp=Z,3µm,18.4s					
PRU	**Pruhonice**	**87.19 322**	*e*P		**P**	**03 04 06.4 -0.2**
PRU			*e*x		x	03 04 20.6
PRU			*e*SKS		**SKSac**	**03 14 35.3 +3.7**
PRU			AMS		AMS	03 46 30.0
	comp=Z,3µm,18.4s					
PRA	**Prague**	**87.22 322**	P		**P**	**03 04 07.0 +0.3**
CONA	**Conrad Observa**	**87.27 320**	⇑*i*PcP		**PcP**	**03 04 08.4 -0.8**
	comp=Z,43nm,1.4s,SNR=22					
KULLO	**Kullorsuaq**	**87.36 360**	*i* P		**P**	**03 04 06.8 -0.1**
KULLO				pmax	pmax	
	comp=Z,12nm,0.8s					
KULLO				MLR	MLR	
	comp=Z,2µm,19.0s					
KULLO	**Kullorsuaq**	**87.36 360**	*i* P		**P**	**03 04 06.8 -0.1**
	comp=Z,12nm,0.8s					
CLL	**Collm**	**87.50 324**	⇓*i*P		**P**	**03 04 08.0 0.0**
CLL			*i* *PP		**pP**	**03 04 17.9 -0.6**
CLL			*i* *SP		**sP**	**03 04 21.3 -1.0**
CLL			*e*S		**ScS**	**03 14 53.0 -0.8**
CLL			pmax		pmax	
	comp=Z,17nm,0.9s					
CLL				MLR	MLR	
	comp=Z,3µm,19.7s					
CLL	**Collm**	**87.50 324**	*e*P		**P**	**03 04 07.8 -0.2**
	comp=Z,17nm,0.9s					
CLL			*e*S		**S**	**03 14 41.9 -5.0**
CLL	**Collm**	**87.50 324**	⇓*i*P		**P**	**03 04 08.0 0.0**
	comp=Z,17nm,0.9s					
CLL			*i*			03 04 17.9
CLL			*e*S		**ScS**	**03 14 53.0 -0.8**
CLL			*e*SS		SS	03 20 42.0 +10
CLL			*e*SSSS			03 27 12.0
CLL			LmV			03 48 00.0
	comp=Z,3µm,19.7s					
CLL			Lm		MLR	03 51 00.0
	comp=N,2µm,18.0s					
CLL			Lm		MLR	03 51 00.0
	comp=E,2µm,18.9s					
CLL	**Collm**	**87.50 324**	*e*P		**P**	**03 04 07.3 -0.7**
	comp=E,29nm,1.2s					
CLL				LR	LR	
	comp=Z,4µm,19.0s					
BSEG	**Bad Segeberg**	**87.75 327**	*e*P		**P**	**03 04 09.3 +0.2**
	comp=Z,62nm,1.3s					
BSEG			*e*S		**S**	**03 14 45.5 -3.6**
ARSA	**Arzberg**	**87.75 319**	⇑*i*PcP		**P**	**03 04 10.2 +0.9**
	comp=Z,27nm,1.7s,SNR=8.8					
YKA	**Yellowknife Ar**	**87.92 23**	P		**P**	**03 04 10.3 +0.6**
	comp=Z,32nm,0.7s,baz=308,slow=4.6,SNR=414					
YKA			PKKP		**PKKPbc**	**03 21 54.1 -3.4**
	comp=Z,1.1nm,0.6s,baz=131,slow=2.6,SNR=20					
YKB5	**Yellowknife Ar**	**87.92 23**	*e*P		**P**	**03 04 10.0 +0.2**
KHC	**Kasperske Hory**	**88.13 322**	*e*P		**P**	**03 04 10.7 -0.4**
KHC			*e*			03 04 19.3
KHC			*e*			03 04 26.5
KHC			*e*			03 14 40.6
KHC				MLR	MLR	
	comp=Z,2µm,16.9s					
KHC	**Kasperske Hory**	**88.13 322**	*e*P		**P**	**03 04 10.7 -0.4**
KHC			*e*pP		**pP**	**03 04 19.3 -2.3**
KHC			*e*x		x	03 04 26.5
KHC			*e*SKS		**SKSac**	**03 14 40.6 +3.1**
KHC			AMS		AMS	03 47 50.0
	comp=Z,2µm,16.9s					
KHC	**Kasperske Hory**	**88.13 322**	*e*P		**P**	**03 04 11.2 0.0**
	comp=Z,5.7nm,0.9s					
KHC				LR	LR	
	comp=Z,2µm,18.8s					
GEC2	**GERESS Array S**	**88.18 321**	*e*P		**P**	**03 04 11.4 -0.1**
GEC2	**GERESS Array S**	**88.18 321**	*e*P		**P**	**03 04 11.4 -0.1**
	comp=Z,11nm,1.1s					
GEC2			*e*S		**S**	**03 14 50.7 -3.0**
GEC2	**GERESS Array S**	**88.18 321**	*e*P		**P**	**03 04 11.4 -0.1**
GERES	**GERESS Array B**	**88.18 321**	P		**P**	**03 04 11.7 +0.2**
	comp=Z,6.0nm,0.7s,baz=64,slow=3.9,SNR=55					
TANN	**Tannenbergstha**	**88.21 323**	*e*S		**S**	**03 14 50.2 -3.6**
PERS	**Pernice**	**88.27 319**	*i* P		**P**	**03 04 11.6 -0.3**
MOA	**Molln**	**88.27 320**	⇑*i*PcP		**PcP**	**03 04 13.0 -0.6**
	comp=Z,16nm,0.8s,SNR=5.2					
SOKA	**Soboth**	**88.30 319**	⇑*i*PcP		**P**	**03 04 12.8 +0.7**
	comp=Z,22nm,1.1s,SNR=12					
CRES	**Cresnjev**	**88.39 318**	*e*P		**P**	**03 04 12.5 +0.1**
SUMG	**Summit**	**88.48 354**	*e*P		**P**	**03 04 13.0 +0.3**
SUMG				pmax	pmax	
	comp=Z,69nm,1.2s					
SUMG				MLR	MLR	
	comp=Z,2µm,22.0s					
SUMG	**Summit**	**88.48 354**	*i* P		**P**	**03 04 13.1 +0.3**
	comp=Z,12nm,0.9s					
SUMG	**Summit**	**88.48 354**	*e*P		**P**	**03 04 13.0 +0.3**
	comp=Z,70nm,1.2s					
SUMG				LR	LR	
	comp=Z,2µm,22.0s					
WET	**Wettzell**	**88.54 322**	*e*P		**P**	**03 04 13.2 +0.2**
	comp=Z,46nm,2.3s					
WET			*e*S		**S**	**03 14 54.2 -2.7**
NRDL	**Niedersach Rie**	**88.55 326**	*e*P		**P**	**03 04 12.7 -0.2**
	comp=Z,40nm,1.2s					
NRDL			*e*S		**S**	**03 14 53.1 -3.6**
MOX	**Moxa**	**88.58 323**	*e*P		**P**	**03 04 12.7 -0.5**
	comp=Z,40nm,1.7s					
MOX			*e*S		**S**	**03 14 52.8 -4.5**
MOX			*e*L		L	03 48 18.6
	comp=Z,3µm,19.9s					
ROTZ	**Rotzenmuhle**	**88.65 323**	*e*P		**P**	**03 04 13.6 +0.1**
	comp=Z,16nm,1.2s					
ROTZ			*e*S		**S**	**03 14 55.4 -2.5**
BOJS	**Bojanci**	**88.66 318**	*e*P		**P**	**03 04 13.7 0.0**
OBKA	**Obir**	**88.67 319**	⇑*e*P		**P**	**03 04 13.2 -0.7**
	comp=Z,16nm,0.9s					
CLZ	**Clausthal**	**88.72 325**	*e*P		**P**	**03 04 14.0 +0.2**
	comp=Z,35nm,1.1s					
CLZ			*e*S		**S**	**03 14 54.7 -3.9**
LJU	**Ljubljana**	**88.89 318**	*i* P		**P**	**03 04 15.9 +1.1**
KBA	**Koelnbreinsper**	**89.17 320**	⇑*i*PcP		**P**	**03 04 16.5 +0.2**
	comp=Z,17nm,1.0s,SNR=6.9					
RJOB	**Jochberg**	**89.21 321**	*e*P		**P**	**03 04 15.9 -0.4**
	comp=Z,15nm,1.0s					
RJOB			*e*S		**S**	**03 14 59.6 -3.8**
JAVS	**Javornik**	**89.24 318**	*i* P		**P**	**03 04 16.2 -0.3**
GRF	**Grafenberg Arr**	**89.25 323**	*e*P		**P**	**03 04 15.9 -0.5**
	comp=Z,52nm,1.7s					
GRF			*e*S		**S**	**03 15 00.5 -3.1**
GRF			*e*L		L	03 46 45.2
	comp=Z,3µm,21.8s					
GRFO	**Grafenberg**	**89.25 323**	PFAKE			03 04 30.0 +14
GRFO				LR	LR	
	comp=Z,3µm,19.0s					
UBBA	**Unterbreizbach**	**89.41 324**	*e*P		**P**	**03 04 16.6 -0.3**
	comp=Z,36nm,1.7s					
UBBA			*e*S		**S**	**03 15 00.9 -3.9**
ABTA	**Abfaltersbach**	**89.83 320**	⇑*i*PcP		**P**	**03 04 19.3 0.0**
	comp=Z,33nm,1.5s,SNR=9.3					
IBBN	**Ibbenburen**	**89.90 326**	*e*P		**P**	**03 04 19.5 +0.2**
	comp=Z,97nm,1.4s					
FUR	**Furstenfeldbru**	**89.93 321**	*e*P		**P**	**03 04 20.0 +0.4**
	comp=Z,135nm,1.8s					
FUR			*e*S		**S**	**03 15 06.2 -3.8**
WTTA	**Wattenberg**	**90.13 320**	⇑*i*PcP		**P**	**03 04 21.2 +0.4**
	comp=Z,56nm,1.3s,SNR=13					
TIP	**Timpagrande**	**90.24 312**	PFAKE			03 04 30.0 +8.7
TIP				LR	LR	
	comp=Z,1µm,22.0s					
CRZF	**Crozet Islands**	**90.40 221**	P		P	03 03 56.0 -26
CRZF	**Crozet Islands**	**90.40 221**	S		SKSac	03 14 40.0 -10
CRZF			SS		SS	03 20 57.0 -18
CRZF			L		L	03 30 00.0
CRZF			R			03 32 00.0
MOTA	**Moosalm**	**90.41 321**	⇑*i*PcP		**P**	**03 04 22.2 +0.1**
	comp=Z,18nm,1.0s,SNR=11					
TNS	**Taunus Mts**	**90.57 324**	*e*P		**P**	**03 04 22.1 -0.5**
	comp=Z,13nm,1.1s					
TNS			*e*S		**S**	**03 15 13.0 -2.9**
CUC	**Castrocucco**	**90.57 313**	PFAKE			03 04 30.0 +7.2
CUC				LR	LR	
	comp=Z,1µm,19.0s					
BUG	**Bochum--Univer**	**90.60 326**	*e*P		**P**	**03 04 22.4 -0.1**
	comp=Z,32nm,1.1s					
BUG			*e*S		**S**	**03 15 12.7 -3.2**
FETA	**Feichten**	**90.79 321**	⇑*i*PcP		**PcP**	**03 04 24.6 -0.3**
	comp=Z,40nm,1.2s,SNR=11					
STU	**Stuttgart**	**90.86 323**	*e*P		**P**	**03 04 23.8 -0.1**
	comp=Z,16nm,1.0s					
STU			*e*S		**S**	**03 15 16.0 -2.5**
STU	**Stuttgart**	**90.86 323**	PFAKE			03 04 40.0 +16
STU				LR	LR	
	comp=Z,3µm,20.0s					
DAVA	**Damuels**	**91.17 321**	⇑*i*PcP		**PcP**	**03 04 26.3 -0.3**
	comp=Z,26nm,1.4s,SNR=5.6					
AQU	**L'Aquila**	**91.22 316**	*e*P		**P**	**03 04 26.6 +0.9**
AQU				pmax	pmax	
	comp=Z,32nm,0.8s					
AQU				MLR	MLR	
	comp=Z,2µm,20.0s					
AQU	**L'Aquila**	**91.22 316**	*e*P		**P**	**03 04 26.6 +0.9**
	comp=Z,32nm,0.8s					
AQU				LR	LR	
	comp=Z,2µm,20.0s					
CEL	**Celeste**	**91.23 311**	*e*P		**P**	**03 04 25.2 -0.7**
	comp=Z,202nm,1.5s					
FUORN	**Ofenpass-Fuorn**	**91.26 320**	*e*P		**P**	**03 04 26.3 +0.2**
	comp=Z,43nm,1.1s					
FUORN				LR	LR	
	comp=Z,3µm,19.9s					
PGC	**Sidney**	**91.36 37**	*e*P		**P**	**03 04 27.9 +1.8**
	comp=Z,29nm,0.9s					
**LAN

WLF	Walferdange	92.13	324	eP		P	03 04 30.3 +0.6
	comp=Z,65nm,1.2s						
WLF				eS		S	03 15 29.3 -0.6
WLF	Walferdange	92.13	324	eP		P	03 04 30.7 +1.0
	comp=Z,55nm,1.2s						
WLF					LR	LR	
	comp=Z,4µm,19.0s						
CDF	Champ du Feu	92.14	323	eP		P	03 04 29.6 -0.3
	comp=Z,125nm,1.7s						
CDF	Champ du Feu	92.14	323	eP		P	03 04 29.6 -0.3
CDF	Champ du Feu	92.14	323	eP		P	03 04 29.6 -0.3
BCLA	Clavier	92.19	325	P		P	03 04 29.8 -0.2
	comp=Z,27nm,2.3s						
ECH	Echery	92.31	323	eP		P	03 04 29.9 -0.7
E03A	Lebam	92.33	39	eP		P	03 04 33.1 +2.4
	comp=Z,49nm,0.9s						
VLC	Villacollemand	92.35	318		PFAKE		03 04 40.0 +9.1
VLC					LR	LR	
	comp=Z,3µm,21.0s						
UCC	Uccle	92.49	326	P		P	03 04 31.9 +0.6
MOF	Molkenrain	92.51	322	eP		P	03 04 31.1 -0.6
KDKW	Coast Env Seat	92.54	38	ePKiKP		PKiKP	03 09 22.8 +2.5
PIER	Pier 30 Seattl	92.54	38	ePKiKP		PKiKP	03 09 17.1 -3.1
B06A	Marblemount	92.55	37	eP		P	03 04 33.0 +1.3
	comp=Z,38nm,1.0s						
GIVF	Givet	92.62	325	eP		P	03 04 31.6 -0.4
	comp=Z,99nm,1.4s						
GIVF	Givet	92.62	325	eP		P	03 04 31.6 -0.4
GIVF	Givet	92.62	325	eP		P	03 04 31.6 -0.4
HINF	Hinteralfeld	92.69	323	eP		P	03 04 31.6 -0.8
	comp=Z,38nm,1.4s						
HINF	Hinteralfeld	92.69	323	eP		P	03 04 31.6 -0.8
HINF	Hinteralfeld	92.69	323	eP		P	03 04 31.6 -0.8
SNF	Seneffe	92.69	326	P		P	03 04 32.8 +0.5
DOU	Dourbes	92.75	325	P		P	03 04 32.5 0.0
HAU	Haudompre	92.88	323	eP		P	03 04 32.5 -0.8
	comp=Z,19nm,1.0s						
HAU				eR			
	comp=Z,4µm,19.2s						
HAU	Haudompre	92.88	323	eP		P	03 04 32.5 -0.8
HAU	Haudompre	92.88	323	eP		P	03 04 32.5 -0.8
LOMF	Lomont	92.94	322	eP		P	03 04 32.4 -1.3
D05A	Enumclaw	92.94	38	eP		P	03 04 35.1 +1.6
	comp=Z,48nm,1.0s						
PAGF	Fort de Pagny	92.95	324	eP		P	03 04 33.3 -0.3
	comp=Z,29nm,1.5s						
PAGF	Fort de Pagny	92.95	324	eP		P	03 04 33.3 -0.3
THEF	They Montfort	92.97	323	eP		P	03 04 33.4 -0.3
BAIF	Baives	92.98	325	eP		P	03 04 33.2 -0.4
	comp=Z,27nm,1.1s						
BAIF	Baives	92.98	325	eP		P	03 04 33.2 -0.4
BAIF	Baives	92.98	325	eP		P	03 04 33.2 -0.4
EDI	Edinburgh	93.12	333		PFAKE		03 04 50.0 +16
EDI					LR	LR	
	comp=Z,3µm,18.3s						
SENIN	Lac Senin/Sane	93.17	321	eP		P	03 04 35.3 +0.4
WDD	Wield Dalam	93.23	309		PFAKE		03 04 50.0 +15
WDD					LR	LR	
	comp=Z,1µm,22.0s						
LON	Longmire	93.28	38	eP		P	03 04 36.0 +0.8
LON					pmax	pmax	
	comp=Z,11nm,1.0s						
LON					MLR	MLR	
	comp=Z,1µm,18.4s						
LON	Longmire	93.28	38	eP		P	03 04 36.0 +0.8
	comp=Z,11nm,1.0s						
LON					LR	LR	
	comp=Z,1µm,18.4s						
F04A	Amboy	93.33	39	eP		P	03 04 37.0 +1.7
	comp=Z,33nm,0.8s						
MEZF	Maizieres J'vi	93.36	324	eP		P	03 04 35.3 -0.1
	comp=Z,167nm,1.6s						
MEZF	Maizieres J'vi	93.36	324	eP		P	03 04 35.3 -0.1
PPT	Papeete	93.48	107	LR		LR	03 42 54.7
	comp=Z,695nm,18.5s,baz=282,slow=33						
PPT2	Papeete2	93.49	107	eS		S	03 15 40.3 -2.9
	comp=Z,1µm,25.0s						
PPT2				eSS		SS	03 21 50.7 -10
	comp=Z,1µm,29.2s						
PPT2	Papeete2	93.49	107	eLR		LR	03 34 34.0
	comp=Z,4µm,31.0s						
ESK	Eskdalemuir	93.51	332		PFAKE		03 04 50.0 +14
ESK					LR	LR	
	comp=Z,5µm,20.0s						
SFTF	Sexfontaines	93.52	324	eP		P	03 04 35.7 -0.5
	comp=Z,158nm,1.6s						
SFTF	Sexfontaines	93.52	324	eP		P	03 04 35.7 -0.5
LTY	Liberty	93.68	38	eP		P	03 04 38.1 +1.1
	comp=Z,15nm,1.1s						
B08A	Colville Reser	93.85	36	eP		P	03 04 39.2 +1.5
	comp=Z,31nm,1.1s						
LPG	La Plagne	93.94	321	eP		P	03 04 38.5 -0.1
	comp=Z,46nm,0.8s						
LPG	La Plagne	93.94	321	eP		P	03 04 38.5 -0.1
LPG	La Plagne	93.94	321	eP		P	03 04 38.5 -0.1
LPL	La Plagne	93.94	321	eP		P	03 04 38.4 -0.1
	comp=Z,57nm,1.1s						
LPL	La Plagne	93.94	321	eP		P	03 04 38.4 -0.1
LPL	La Plagne	93.94	321	eP		P	03 04 38.4 -0.1
PGF	Pioggiola	94.01	317	eP		P	03 04 38.5 -0.2
	comp=Z,97nm,1.2s						
PGF	Pioggiola	94.01	317	eP		P	03 04 38.5 -0.2
PGF	Pioggiola	94.01	317	eP		P	03 04 38.5 -0.2
H04A	Detroit Lake	94.11	40	eP		P	03 04 40.1 +1.1
	comp=Z,144nm,2.3s						
EDM	Edmonton	94.12	30	eP		P	03 04 40.2 +1.3
EDM					pmax	pmax	
	comp=Z,28nm,1.1s						
EDM	Edmonton	94.12	30	eP		P	03 04 40.2 +1.3
	comp=Z,28nm,1.1s						
BNI	Bardonecchia	94.22	320	eP		P	03 04 39.7 +0.1
BNI					pmax	pmax	
	comp=Z,157nm,2.4s						
BNI					MLR	MLR	
	comp=Z,3µm,20.0s						
BNI	Bardonecchia	94.22	320	eP		P	03 04 39.7 +0.1
	comp=Z,157nm,2.4s						
BNI					LR	LR	
	comp=Z,3µm,20.0s						
PMOR	Pomariorio Ree	94.24	104	eT		T	04 48 53.0
	comp=Z,7.3nm,0.2s						
MBDF	Montbardon	94.33	320	eP		P	03 04 39.1 -1.1
	comp=Z,54nm,1.2s						
MBDF	Montbardon	94.33	320	eP		P	03 04 39.1 -1.1
MBDF	Montbardon	94.33	320	eP		P	03 04 39.1 -1.1
SBF	Sospel	94.35	319	eP		P	03 04 39.6 -0.6
	comp=Z,86nm,1.0s						
SBF	Sospel	94.35	319	eP		P	03 04 39.6 -0.6
SBF	Sospel	94.35	319	eP		P	03 04 39.6 -0.6
E07A	Sunnyside	94.52	38	eP		P	03 04 42.1 +1.3
	comp=Z,29nm,1.3s						
LOR	Lormes	94.70	323	eP		P	03 04 40.9 -0.8
	comp=Z,76nm,1.4s						
LOR				eR			
	comp=Z,2µm,19.8s						
LOR	Lormes	94.70	323	eP		P	03 04 40.9 -0.8
LOR	Lormes	94.70	323	eP		P	03 04 40.9 -0.8
C09A	Chrisman Ranch	94.75	36	eP		P	03 04 43.0 +1.1
	comp=Z,117nm,2.3s						
G06A	Carlson Farm,	94.76	39	eP		P	03 04 43.3 +1.2
	comp=Z,88nm,2.0s						
G06A					LR	LR	
	comp=Z,1µm,19.4s						
ORIF	Oris-en-Rattie	94.77	320	eP		P	03 04 41.9 -0.2
	comp=Z,45nm,1.1s						
ORIF				eR			
	comp=Z,6µm,21.8s						
ORIF	Oris-en-Rattie	94.77	320	eP		P	03 04 41.9 -0.2
ORIF	Oris-en-Rattie	94.77	320	eP		P	03 04 41.9 -0.2
D08A	Wollman Farm,	94.79	37	eP		P	03 04 43.1 +1.0
	comp=Z,15nm,0.9s						
HAWA	Hanford	94.80	38	eP		P	03 04 43.5 +1.4
	comp=Z,20nm,1.4s						
SFJD	Kangerlussuaq	94.83	357		PFAKE		03 04 50.0 +8.2
SFJD					LR	LR	
	comp=Z,2µm,19.0s						
J04D	Umpqua Nationa	94.89	41	P		P	03 04 44.2 +1.4
	baz=95						
FRF	La Foret Royal	95.00	319	eP		P	03 04 42.5 -0.6
	comp=Z,77nm,1.2s						
FRF	La Foret Royal	95.00	319	eP		P	03 04 42.5 -0.6
FRF	La Foret Royal	95.00	319	eP		P	03 04 42.5 -0.6
SSF	Saint Saulge	95.01	323	eP		P	03 04 42.5 -0.6
	comp=Z,32nm,1.2s						
SSF	Saint Saulge	95.01	323	eP		P	03 04 42.5 -0.6
SSF	Saint Saulge	95.01	323	eP		P	03 04 42.5 -0.6
SMF	Signal de Mont	95.05	323	eP		P	03 04 42.7 -0.6
	comp=Z,61nm,1.2s						
SMF	Signal de Mont	95.05	323	eP		P	03 04 42.7 -0.6
SMF	Signal de Mont	95.05	323	eP		P	03 04 42.7 -0.6
NEW	Newport	95.13	35	eP		P	03 04 45.0 +1.4
NEW					pmax	pmax	
	comp=Z,12nm,0.8s						
NEW	Newport	95.13	35	P		P	03 04 44.5 +0.9
	comp=Z,12nm,0.8s,baz=288,slow=3.4,SNR=8.6						
NEW	Newport	95.13	35	P		P	03 04 44.8 +1.1
	baz=95						
NEW	Newport	95.13	35	eP		P	03 04 45.0 +1.4
	comp=Z,12nm,0.8s						
LMR	La Mourre	95.20	319	eP		P	03 04 43.7 -0.3
	comp=Z,38nm,1.2s						
LMR	La Mourre	95.20	319	eP		P	03 04 43.7 -0.3
LMR	La Mourre	95.20	319	eP		P	03 04 43.7 -0.3
VSL	Villasalto	95.23	314		PFAKE		03 05 00.0 +16
VSL					LR	LR	
	comp=Z,900nm,18.0s						
AVF	Avril sur Loir	95.25	323	eP		P	03 04 43.6 -0.5
	comp=Z,41nm,0.9s						
AVF	Avril sur Loir	95.25	323	eP		P	03 04 43.6 -0.5
AVF	Avril sur Loir	95.25	323	eP		P	03 04 43.6 -0.5
YBH	Yreka Blue Hor	95.26	43	eP		P	03 04 45.9 +1.4
YBH					pmax	pmax	
	comp=Z,197nm,2.8s						
YBH	Yreka Blue Hor	95.26	43	P		P	03 04 45.9 +1.4
	comp=Z,2.9nm,0.8s,baz=277,slow=0.9,SNR=5.0						
YBH	Yreka Blue Hor	95.26	43	eP		P	03 04 45.9 +1.4
	comp=Z,196nm,2.8s						
M02C	Callahan	95.34	43	P		P	03 04 46.3 +1.5
	baz=95						
PINOR	Pine Mountain	95.36	41	eP		P	03 04 46.5 +1.9
	comp=Z,17nm,1.1s						
J05D	Fort Rock, OR	95.41	41	P		P	03 04 46.8 +1.6
	baz=95						
VIVF	Saint-Julien-I	95.53	321	eP		P	03 04 45.1 -0.4
	comp=Z,21nm,0.9s						
VIVF	Saint-Julien-I	95.53	321	eP		P	03 04 45.1 -0.4
VIVF	Saint-Julien-I	95.53	321	eP		P	03 04 45.1 -0.4
E09A	Wood Farm, Sta	95.53	37	eP		P	03 04 46.1 +0.6
	comp=Z,26nm,1.4s						
PLDF	La Plantade	95.55	322	eP		P	03 04 44.9 -0.7
BGF	Bois d'Agland	95.67	323	eP		P	03 04 45.5 -0.6
	comp=Z,34nm,1.1s						
BGF	Bois d'Agland	95.67	323	eP		P	03 04 45.5 -0.6
BGF	Bois d'Agland	95.67	323	eP		P	03 04 45.5 -0.6
M04C	Macdoel	95.80	43	P		P	03 04 48.2 +1.2
	baz=96						
K05A	Summer Lake	95.92	41	eP		P	03 04 49.1 +1.6
	comp=Z,233nm,2.6s						
MAW	Mawson	95.95	199	LR		LR	03 48 00.9
	comp=Z,1µm,18.2s,baz=55,slow=36						
PYM	Petit Puy Mans	96.03	322	eP		P	03 04 44.8 -3.0
I07A	Izee	96.06	40	eP		P	03 04 48.3 +0.2
	comp=Z,114nm,2.8s						
LDF	La Druitiere	96.14	326	eP		P	03 04 47.6 -0.6
	comp=Z,42nm,1.3s						
LDF	La Druitiere	96.14	326	eP		P	03 04 47.6 -0.6
LDF	La Druitiere	96.14	326	eP		P	03 04 47.6 -0.6
TCF	Toulx Ste Croi	96.19	323	eP		P	03 04 48.2 -0.3
	comp=Z,41nm,1.1s						
TCF	Toulx Ste Croi	96.19	323	eP		P	03 04 48.2 -0.3
TCF	Toulx Ste Croi	96.19	323	eP		P	03 04 48.2 -0.3
FLN	La Foliniere	96.23	326	eP		P	03 04 47.3 -1.3
	comp=Z,34nm,1.1s						
FLN				eR			
	comp=Z,4µm,21.0s						
FLN	La Foliniere	96.23	326	eP		P	03 04 47.3 -1.3
FLN	La Foliniere	96.23	326	eP		P	03 04 47.3 -1.3
DSB	Dublin	96.28	332		PFAKE		03 05 00.0 +11
DSB					LR	LR	
	comp=Z,4µm,19.0s						
F10A	Beach Ranch, E	96.37	37	eP		P	03 04 51.0 +1.7
	comp=Z,42nm,1.8s						
HOPS	Hopland Field	96.38	46		PFAKE		03 05 00.0 +11
HOPS					LR	LR	
	comp=Z,3µm,19.0s						
WALA	Waterton Lakes	96.39	33	eP		P	03 04 50.4 +0.9
	comp=Z,20nm,1.0s						
WALA				ePP		PP	03 08 38.5 -4.2
LASF	Ste Croix	96.44	320	eP		P	03 04 49.4 -0.3
	comp=Z,37nm,1.3s						
LASF	Ste Croix	96.44	320	eP		P	03 04 49.4 -0.3
BSMT	Bassoo Peak	96.64	35	eP		P	03 04 51.8 +1.1
GRR	Gorron	96.66	326	eP		P	03 04 49.6 -0.9
	comp=Z,27nm,1.1s						
GRR	Gorron	96.66	326	eP		P	03 04 49.6 -0.9
GRR	Gorron	96.66	326	eP		P	03 04 49.6 -0.9
MOD	Modoc Plateau	96.72	42	eP		P	03 04 51.3 +0.2
	comp=Z,11nm,1.0s						
MOD					LR	LR	
	comp=Z,2µm,21.0s						
MCCM	Marconi Confer	96.93	46		PFAKE		03 05 00.0 +8.1
MCCM					LR	LR	
	comp=Z,2µm,20.5s						
BMO	Blue Mountains	96.95	38	eP		P	03 04 52.6 +0.5
	comp=Z,18nm,1.7s						
JTMT	Jette	96.98	35	eP		P	03 04 53.4 +1.3
CAF	Calviac	97.04	322	eP		Pdif	03 04 52.5 0.0
CAF	Calviac	97.04	322	eP		Pdif	03 04 52.5 0.0
CAF	Calviac	97.04	322	eP		Pdif	03 04 52.5 0.0
KEST	Kesra	97.05	311	P		Pdif	03 04 53.3 +0.6
	comp=Z,2.4nm,1.0s,baz=269,slow=7.7,SNR=3.7						
KEST					LR	LR	03 56 55.9
	comp=Z,334nm,18.1s,baz=5.5,slow=40						
KEST	Kesra	97.05	311	eP		Pdif	03 04 54.2 +1.4
YBMT	Yellow Bay	97.05	34	eP		Pdif	03 04 54.1 +1.5
RJF	Les Rejaudoux	97.14	322	eP		Pdif	03 04 53.0 +0.1
	comp=Z,92nm,1.3s						
RJF				eR			
	comp=Z,3µm,19.5s						
RJF	Les Rejaudoux	97.14	322	eP		Pdif	03 04 53.0 +0.1
RJF	Les Rejaudoux	97.14	322	eP		Pdif	03 04 53.0 +0.1
SWMT	Swartz Lake	97.27	35	eP		Pdif	03 04 54.4 +0.8
MFF	Saint Martin d	97.33	324	eP		P	03 04 53.3 -0.3
	comp=Z,24nm,1.0s						
MFF	Saint Martin d	97.33	324	eP		P	03 04 53.3 -0.3
MFF	Saint Martin d	97.33	324	eP		P	03 04 53.3 -0.3
WVOR	Wild Horse Val	97.48	41	eP		Pdif	03 04 56.1 +1.5
WVOR					pmax	pmax	
	comp=Z,9.0nm,1.1s						
WVOR	Wild Horse Val	97.48	41	eP		Pdif	03 04 56.1 +1.5
	comp=Z,9.0nm,1.1s						
FCC	Fort Churchill	97.57	18	eP		Pdif	03 04 54.4 0.0
FCC					pmax	pmax	
	comp=Z,27nm,1.5s						
FCC	Fort Churchill	97.57	18	eP		Pdif	03 04 54.4 0.0
	comp=Z,27nm,1.5s						
SGMF	Saint Gilles	97.64	326	eP		P	03 04 54.8 -0.1
	comp=Z,13nm,0.7s						
SGMF	Saint Gilles	97.64	326	eP		P	03 04 54.8 -0.1
SGMF	Saint Gilles	97.64	326	eP		P	03 04 54.8 -0.1
SLMT	Seeley Lake	97.71	35	eP		P	03 04 55.5 0.0
MSO	Missoula	97.72	35	P		Pdif	03 04 56.1 +0.6
	baz=98						
MSO	Missoula	97.72	35	eP		Pdif	03 04 55.9 +0.4
	comp=Z,88nm,2.8s						
LFF	La Frestale	97.80	322	eP		P	03 04 55.3 -0.5
LFF	La Frestale	97.80	322	eP		P	03 04 55.3 -0.5
LFF	La Frestale	97.80	322	eP		P	03 04 55.3 -0.5
MTLF	Montolieu	97.84	321	eP		P	03 04 55.7 -0.3
	comp=Z,17nm,1.0s						
MTLF	Montolieu	97.84	321	eP		P	03 04 55.7 -0.3
MTLF	Montolieu	97.84	321	eP		P	03 04 55.7 -0.3
ROSF	Rostrenen	97.96	327	eP		P	03 04 55.3 -1.1
	comp=Z,24nm,1.1s						
ROSF	Rostrenen	97.96	327	eP		P	03 04 55.3 -1.1
ROSF	Rostrenen	97.96	327	eP		P	03 04 55.3 -1.1
FFC	Flin Flon	98.02	24	eP		P	03 04 55.4 -1.1
FFC					pmax	pmax	
	comp=Z,91nm,2.4s						
FFC	Flin Flon	98.02	24	eP		P	03 04 55.4 -1.1
	comp=Z,91nm,2.4s						
VNDA	Vanda	98.30	172	LR		LR	03 52 59.1
	comp=Z,937nm,18.1s,baz=332,slow=38						
MFID	Camas Ranch	98.64	39	eP		Pdif	03 05 00.9 +1.2
	comp=Z,22nm,1.6s						
LSZ	Lusaka	98.65	257	eP		P	03 04 59.5 -0.7
LSZ					pmax	pmax	
	comp=Z,26nm,1.4s						
LSZ					MLR	MLR	
	comp=Z,2µm,18.0s						
LSZ	Lusaka	98.65	257	Pdiff		Pdif	03 05 00.5 +0.3
	SNR=6.9						
LSZ	Lusaka	98.65	257	eP		P	03 04 59.5 -0.7
	comp=Z,26nm,1.4s						
LSZ					LR	LR	
	comp=Z,2µm,18.0s						
CMB	Columbia Colle	98.68	45	eP		P	03 04 59.4 -0.5
CMB					pmax	pmax	
	comp=Z,119nm,2.8s						
CMB					MLR	MLR	
	comp=Z,2µm,19.0s						
CMB	Columbia Colle	98.68	45	eP		P	03 04 59.4 -0.5
	comp=Z,119nm,2.8s						
CMB					LR	LR	
	comp=Z,2µm,19.0s						
HRY	Holter Researc	98.93	34	eP		P	03 04 56.7 -4.3
HRY				ePP		PP	03 08 59.9 -2.4
SBA	Scott Base	99.23	171		PFAKE		03 05 10.0 +8.7
SBA					LR	LR	
	comp=Z,2µm,18.0s						
DLMT	Dillon	99.35	36	eP		Pdif	03 05 01.8 -1.1
	comp=Z,16nm,1.5s						
HLID	Hailey	99.39	38	P		Pdif	03 05 04.3 +1.1
	baz=99						
HLID	Hailey	99.39	38	eP		Pdif	03 05 04.7 +1.5
	comp=Z,49nm,2.3s						
HLID					LR	LR	
	comp=Z,1µm,19.2s						
BMN	Battle Mountai	99.47	42	eP		Pdif	03 05 04.6 +1.0
BMN					pmax	pmax	
	comp=Z,72nm,2.7s						
BMN	Battle Mountai	99.47	42	eP		Pdif	03 05 04.6 +1.0
	comp=Z,72nm,2.7s						
TAOE	Nuku Hiva Isla	99.67	96	eT		T	04 55 41.6
	comp=Z,60nm,0.3s						
BOZ	Bozeman (W)	99.71	35		PFAKE		03 05 20.0 +16
BOZ					LR	LR	
	comp=Z,2µm,20.0s						
C19A	Slack Wire Ran	99.73	32	P		Pdif	03 05 05.1 +0.6
	baz=100						
NV01	Mina Array Sit	99.86	44	ePdif		Pdif	03 05 06.5 +1.1
NV01				ePP		PP	03 09 08.9 -0.9
NVAR	Mina Array Bea	99.86	44	P		Pdif	03 05 06.8 +1.3
	comp=Z,3.3nm,0.8s,baz=282,slow=4.5,SNR=19						
QLMT	Earthquake Lak	100.33	36	ePdif		Pdif	03 05 10.5 +3.1
ELK	Elko	100.54	41	eP		Pdif	03 05 10.1 +1.7
ELK	Elko	100.54	41	P		Pdif	03 05 10.3 +1.9
	comp=Z,0.6nm,0.7s,baz=31,slow=6.2,SNR=3.6						
ELK	Elko	100.54	41	ePdif		Pdif	03 05 10.1 +1.7
YMR	Madison River	100.69	36		PFAKE		03 05 20.0 +11
YMR					LR	LR	
	comp=Z,1µm,19.6s						
TPH	Tonopah	100.77	44	eP		Pdif	03 05 10.1 +0.7
TPH					MLR	MLR	
	comp=Z,2µm,18.0s						
TPH	Tonopah	100.77	44	ePdif		Pdif	03 05 10.1 +0.7
TPH					LR	LR	
	comp=Z,2µm,18.0s						
YFT	Old Faithful	100.90	36		PFAKE		03 05 20.0 +10
YFT					LR	LR	
	comp=Z,3µm,20.0s						
ISA	Isabella, Lake	101.23	47		PFAKE		03 05 20.0 +8.6
ISA					LR	LR	
	comp=Z,2µm,20.3s						
DAC	Darwin (Calif)	101.50	46		PFAKE		03 05 20.0 +7.3
DAC					LR	LR	
	comp=Z,2µm,21.0s						
PTU	Portage	101.60	39	ePKiKP		PKiKP	03 09 33.9 -2.8
OSI	Osito Audit: C	101.61	48		PFAKE		03 05 20.0 +7.0
OSI					LR	LR	
	comp=Z,2µm,20.4s						
MLI	Malad Range	101.66	38	ePKiKP		PKiKP	03 09 36.5 -0.3
R11A	Troy Canyon, C	101.69	43	P		Pdif	03 05 14.7 +1.2
	baz=102						
EPU	East Promontor	101.88	39	ePKiKP		PKiKP	03 09 38.8 +1.6
SPUT	South Promonto	101.91	39	ePKiKP		PKiKP	03 09 38.2 +1.0
SPUT					LR	LR	
	comp=Z,1µm,18.3s						
HDU	Hyde Park	102.01	38	ePKiKP		PKiKP	03 09 38.3 +0.9
WVUT	Wellsville	102.02	39	ePKiKP		PKiKP	03 09 35.5 -1.9
HONU	Honeyville	102.04	39	ePKiKP		PKiKP	03 09 34.4 -3.0
GZU	Grizzly Peak	102.12	39	ePKiKP		PKiKP	03 09 37.1 -0.7
PASC	Pasadena Art C	102.22	48		PFAKE		03 05 30.0 +14
PASC					LR	LR	
	comp=Z,2µm,20.0s						
BFSC	Mount Baldy Ra	102.55	47	P		Pdif	03 05 18.4 +1.1
	baz=102						
TCUT	Toone Canyon	102.64	39		PFAKE		03 05 30.0 +12
TCUT					LR	LR	
	comp=Z,2µm,21.4s						
BW06	Boulder Array	102.68	37		PFAKE		03 05 30.0 +12
BW06					LR	LR	
	comp=Z,2µm,18.4s						
PD31	Pinedale Array	102.68	37	ePdif		Pdif	03 05 17.9 0.0
PD31				ePKiKP		PKiKP	03 09 37.6 -1.1
PD31				ePKKPbc		PKKPbc	03 21 17.0 -0.9
PDAR	Pinedale Array	102.68	37	P		Pdif	03 05 17.9 0.0
	comp=Z,0.8nm,0.8s,baz=25,slow=5.2,SNR=3.7						
PDAR					PKiKP	PKiKP	03 09 37.6 -1.1
	comp=Z,2.1nm,1.0s,baz=302,slow=2.0,SNR=5.7						
PDAR					PKKPbc	PKKPbc	03 21 17.0 -0.9
	comp=Z,1.3nm,0.7s,baz=133,slow=5.6,SNR=12						
JLU	Jordanelle	102.94	39		PFAKE		03 05 30.0 +11
JLU					LR	LR	
	comp=Z,2µm,19.1s						
MPU	Maple Canyon	103.19	40		PFAKE		03 05 30.0 +10
MPU					LR	LR	
	comp=Z,2µm,20.5s						
LBTB	Lobatse	103.56	248		PFAKE		03 05 30.0 +8.1
LBTB					LR	LR	
	comp=Z,2µm,20.2s						
CCUT	Cedar City	103.58	43		PFAKE		03 05 30.0 +8.0
CCUT					LR	LR	
	comp=Z,2µm,18.2s						
PFO	Pinyon Flats O	103.73	47		PFAKE		03 05 30.0 +7.4
PFO					LR	LR	
	comp=Z,2µm,19.0s						
ESDC	Sonseca Array	103.75	320	PKiKP		PKiKP	03 09 39.0 -1.5
	comp=Z,0.8nm,0.7s,baz=50,slow=7.9,SNR=4.3						
LDFC	Landfair	103.85	45		PFAKE		03 05 40.0 +17
LDFC					LR	LR	
	comp=Z,1µm,19.3s						
PAB	San Pablo	104.06	320		PFAKE		03 05 40.0 +16
PAB					LR	LR	
	comp=Z,2µm,19.0s						
KNB	Kanab	104.25	43		PFAKE		03 05 40.0 +15
KNB					LR	LR	
	comp=Z,2µm,18.2s						
SYO	Syowa Base	104.38	202	eP		Pdif	03 05 14.0 -10
SRU	San Rafael Swe	104.42	40		PFAKE		03 05 40.0 +14
SR

comp=Z,2μm,19.0s
QSPA South Pole Qui 108.09 180 PKiKP **PKiKP 03 09 46.9 -0.7**
comp=Z,1.8nm,0.7s,baz=262,slow=1.4,SNR=2.5
RKT Rikitea 108.15 109 *e*SKSac **SKSac 03 16 19.1 -1.0**
comp=Z,388nm,30.0s
RKT Rikitea 108.15 109 *e*PS PS 03 19 34.7 -2.0
comp=Z,526nm,33.5s
RKT *e*SS SS 03 25 23.8 -0.9
comp=Z,550nm,28.5s
RKT Rikitea 108.15 109 *e*LR LR 03 41 25.0
comp=Z,2μm,29.8s
SDCO Great Sand Dun 108.31 38 PFAKE 03 10 00.0
SDCO LR LR
comp=Z,2μm,19.0s
TUC Tucson 108.39 46 PFAKE 03 10 00.0
TUC LR LR
comp=Z,2μm,19.0s
MSKU Masuku 108.44 274 PFAKE 03 10 00.0
MSKU LR LR
comp=Z,100nm,21.8s
RTC Rabat Centre 109.10 317 PFAKE 03 10 00.0
RTC LR LR
comp=Z,2μm,20.0s
T25A Trinidad 109.36 38 PFAKE 03 10 00.0
T25A LR LR
comp=Z,1μm,18.0s
TSUM Tsumeb 109.44 256 PFAKE 03 10 00.0
TSUM LR LR
comp=Z,2μm,20.0s
ANMO Albuquerque 109.57 41 PKiKP **PKiKP 03 09 52.4 +0.8**
comp=Z,1.3nm,1.0s,baz=134,slow=1.4,SNR=3.7
ANMO Albuquerque 109.57 41 PFAKE 03 10 00.0
ANMO LR LR
comp=Z,2μm,22.0s
BGNE Belgrade 109.70 31 PFAKE 03 10 00.0
BGNE LR LR
comp=Z,2μm,18.3s
P32A Huiting Farm, 110.81 33 P **PKiKP 03 09 54.7 +1.1**
baz=111
Y24A Capitan 110.88 41 P **PKiKP 03 09 55.6 +1.5**
baz=111
Z24A Sheeppen Canyo 111.31 42 P **PKiKP 03 09 55.9 +0.9**
baz=111
Y25A Mesa, Roswell 111.34 41 P **PKiKP 03 09 56.0 +1.1**
baz=111
W27A Bowe Ranch, En 111.57 39 P **PKiKP 03 09 55.2 -0.1**
baz=111
KSU1 Kansas State U 112.22 32 PFAKE 03 10 10.0
KSU1 LR LR
comp=Z,2μm,19.0s
MNTX Cornudas Mount 112.36 43 PFAKE 03 10 10.0
MNTX LR LR
comp=Z,1μm,21.0s
MSTX Muleshoe 112.49 40 *e*PKiKP **PKiKP 03 09 53.7 -3.3**
MSTX *e*PP **PP 03 10 43.2 +0.6**
MSTX LR LR
comp=Z,2μm,19.9s
AMTX Amarillo 112.52 38 PFAKE 03 10 10.0
AMTX LR LR
comp=Z,1μm,21.0s
TOA0 Torodi Ar. Sit 113.80 294 *e*PKiKP **PKiKP 03 09 58.3 -1.5**
TOA0 *e*PP PP 03 10 47.0 -5.7
TOA0 *e*PKKPbc **PKKPab 03 20 46.7 -3.4**
TORD Torodi Ar. Bea 113.80 294 PKiKP **PKiKP 03 09 59.4 -0.4**
comp=Z,5.2nm,0.9s,baz=33,slow=1.9,SNR=24
TORD PKKPbc **PKKPab 03 20 46.7 -3.4**
comp=Z,1.5nm,1.0s,baz=258,slow=4.6,SNR=4.9
V34A Guthrie 114.19 35 PFAKE 03 10 10.0 +10
V34A LR LR
comp=Z,2μm,21.0s
Z32A Haskell 114.92 38 P PKPdf 03 10 02.2 +0.6
baz=115
230A Sterling City 114.93 40 P PKPdf 03 10 02.5 +0.8
baz=115
LTX Lajitas 115.02 44 *e*PKIKP **PKPdf 03 10 03.5 +1.5**
LTX *e* 03 11 00.0
LTX Lajitas 115.02 44 *e*PKiKP **PKPdf 03 10 03.5 +1.5**
LTX *e*PP **PP 03 11 00.0 -0.7**
TX31 Lajitas Ar. Si 115.02 44 *e*PKiKP **PKPdf 03 10 02.4 +0.4**
TX31 *e*PP **PP 03 11 00.1 -0.6**
TXAR Lajitas Array 115.02 44 PKP **PKPdf 03 10 03.5 +1.5**
comp=Z,1.8nm,0.7s,baz=273,slow=1.4,SNR=7.4
TXAR PP **PP 03 11 00.0 -0.7**
comp=Z,3.3nm,1.1s,baz=246,slow=1.2,SNR=5.4
TUL1 Leonard 115.06 34 PFAKE 03 10 10.0 +8.2
TUL1 LR LR
comp=Z,2μm,19.0s
AAM Ann Arbor 115.08 21 PFAKE 03 10 10.0 +8.4
AAM LR LR
comp=Z,2μm,19.0s
ABTX Abilene, Hawle 115.31 39 P **PKPdf 03 10 03.3 +1.0**
baz=115
ABTX Abilene, Hawle 115.31 39 PFAKE 03 10 10.0 +7.6
ABTX LR LR
comp=Z,1μm,19.6s
529A Stev Forest Ra 115.44 42 P **PKPdf 03 10 03.1 +0.4**
baz=115
331A San Angelo 115.75 40 P **PKPdf 03 10 03.5 +0.2**
baz=116
H06E1 SOCORRO T-PHAS 115.90 58 T T 05 16 44.0
SNR=5.8
530A J-C Ranch, Com 115.98 42 P **PKPdf 03 10 04.1 +0.4**
baz=116
332A Millersview 116.12 40 P **PKPdf 03 10 04.4 +0.5**
baz=116
ERPA Erie 116.43 19 PFAKE 03 10 20.0 +16
ERPA LR LR
comp=Z,3μm,21.0s
432A Menard 116.44 40 P **PKPdf 03 10 04.6 -0.1**
baz=116
WVL Waterville 116.50 10 PFAKE 03 10 20.0 +16
WVL LR LR
comp=Z,3μm,18.0s
333A Richland Sprin 116.62 39 P **PKPdf 03 10 05.3 +0.3**
baz=116
234A Clairette 116.64 38 P **PKPdf 03 10 05.0 +0.1**
baz=116
EMMW East Machias 116.67 8 PFAKE 03 10 20.0 +15
EMMW LR LR
comp=Z,3μm,19.5s
JCT Junction City 116.72 41 *e*PKIKP **PKPdf 03 10 05.3 +0.2**
JCT MLR MLR
comp=Z,1μm,18.0s
JCT Junction City 116.72 41 P **PKPdf 03 10 05.7 +0.6**
baz=116
JCT Junction City 116.72 41 *e*PKPdf **PKPdf 03 10 05.3 +0.2**
JCT LR LR
comp=Z,1μm,18.0s
SIUC Southern Illin 116.83 28 PFAKE 03 10 20.0 +15
SIUC LR LR
comp=Z,2μm,20.0s
433A Art 116.96 40 P **PKPdf 03 10 05.6 0.0**
baz=117
631A Perdido Creek 116.97 42 P **PKPdf 03 10 05.5 -0.1**
baz=117
PBMO Poplar Bluff 117.04 29 PFAKE 03 10 20.0 +14
PBMO LR LR
comp=Z,800nm,20.0s
WHTX Lake Whitney, 117.05 38 PFAKE 03 10 20.0 +14
WHTX LR LR
comp=Z,2μm,18.9s
334A Lometa 117.06 39 P **PKPdf 03 10 06.7 +0.9**
baz=117
ACSO Alum Creek Sta 117.15 22 PFAKE 03 10 20.0 +14
ACSO LR LR
comp=Z,2μm,20.2s
MIAR Mount Ida 117.27 33 PFAKE 03 10 20.0 +14
MIAR LR LR
comp=Z,2μm,21.0s
632A Uvalde 117.40 41 P **PKPdf 03 10 06.6 +0.2**
baz=117
434A Burnet 117.42 39 P **PKPdf 03 10 07.0 +0.5**
baz=117
137A Heron Place, G 117.57 36 P **PKPdf 03 10 06.3 -0.4**
baz=117
WCI Wyandotte Cave 117.64 25 PFAKE 03 10 20.0 +13
WCI LR LR
comp=Z,1μm,19.6s
534A Blanco 117.85 40 P **PKPdf 03 10 08.2 +0.8**
baz=118
SNAA Sanae 118.00 197 *e*PKIKP **PKPdf 03 10 05.8 -0.5**
SNAA MLR MLR
comp=Z,1μm,22.0s
SNAA Sanae 118.00 197 PKP **PKPdf 03 10 05.4 -0.9**
comp=Z,1.1nm,1.0s,baz=300,slow=23,SNR=24
SNAA Sanae 118.00 197 *e*PKPdf **PKPdf 03 10 05.8 -0.5**
SNAA LR LR
comp=Z,1μm,22.0s
832A Faith Ranch, C 118.12 42 P **PKPdf 03 10 09.0 +1.2**
baz=118
833A Chaparral WMA, 118.47 42 P **PKPdf 03 10 09.2 +0.7**
baz=118
BRYW Bryant College 118.73 12 PFAKE 03 10 20.0 +11
BRYW LR LR
comp=Z,3μm,19.5s
OXF Oxford 119.37 30 PFAKE 03 10 20.0 +10
OXF LR LR
comp=Z,2μm,22.0s
HKT Hockley 119.49 38 PFAKE 03 10 20.0 +10
HKT LR LR
comp=Z,2μm,19.0s
VNA2 Neumayer--Watz 119.64 197 P **PKPdf 03 10 09.4 -0.1**
SDMD Soldier's Deli 119.84 17 PFAKE 03 10 20.0 +9.1
SDMD LR LR
comp=Z,2μm,18.9s
TZTN Tazewell 120.19 24 PFAKE 03 10 20.0 +8.4
TZTN LR LR
comp=Z,2μm,18.4s
BLA Blacksburg 120.74 21 PFAKE 03 10 20.0 +7.3
BLA LR LR
comp=Z,2μm,18.0s
TKL Tuckaleechee C 120.87 25 *e*PKIKP **PKPdf 03 10 13.8 +0.8**
TKL Tuckaleechee C 120.87 25 PKP **PKPdf 03 10 14.4 +1.4**
comp=Z,7.0nm,0.5s,baz=149,slow=5.7,SNR=16
TKL Tuckaleechee C 120.87 25 *e*PKPdf **PKPdf 03 10 13.8 +0.8**
KMSC Kings Mountain 122.27 23 *e*PKPdf **PKPdf 03 10 15.8 +0.2**
KMSC LR LR
comp=Z,2μm,20.0s
DBIC Dimbokro 122.45 291 *e*PKIKP **PKPdf 03 10 15.7 -0.8**
DBIC *e* 03 11 49.2
DBIC MLR MLR
comp=Z,1μm,20.6s
DBIC Dimbokro 122.45 291 PKP **PKPdf 03 10 15.4 -1.1**
comp=Z,9.3nm,0.9s,baz=52,slow=2.5,SNR=6.6
DBIC PP **PP 03 11 50.4 -2.5**
comp=Z,18nm,1.1s,baz=53,slow=9.3,SNR=6.1
DBIC Dimbokro 122.45 291 *e*PKPdf **PKPdf 03 10 15.7 -0.8**
DBIC *e*PP **PP 03 11 49.2 -3.7**
DBIC LR LR
comp=Z,1μm,20.6s
KIC Kosan Boka 122.49 290 *e*PKIKP **PKPdf 03 10 15.9 -0.7**
comp=Z,46nm,1.0s
TIC Toumodi 122.61 291 *e*PKIKP **PKPdf 03 10 16.1 -0.7**
comp=Z,26nm,1.0s
LIC Lamto 122.80 290 *e*PKIKP **PKPdf 03 10 16.4 -0.8**
comp=Z,37nm,1.0s
LIC *e*R
comp=Z,1μm,21.2s
LIC Lamto 122.80 290 *e*P **PKPdf 03 10 16.5 -0.8**
comp=Z,77nm,1.4s
LIC Lamto 122.80 290 *e*PKPdf **PKPdf 03 10 16.4 -0.8**
GOGA Godfrey 122.95 26 PFAKE 03 10 30.0 +13
GOGA LR LR
comp=Z,2μm,21.0s
CNNC Cliffs of the 123.38 20 PFAKE 03 10 30.0 +12
CNNC LR LR
comp=Z,2μm,20.0s
NHSC New Hope 124.51 23 PFAKE 03 10 30.0 +10
NHSC LR LR
comp=Z,2μm,21.0s
TIGA Tifton 124.60 27 PFAKE 03 10 30.0 +10
TIGA LR LR
comp=Z,2μm,19.8s
TEIG Tepich 131.28 40 PFAKE 03 10 50.0 +17
TEIG LR LR
comp=Z,800nm,20.0s
GTBY Guantanamo Bay 138.30 25 PFAKE 03 11 00.0 +14
GTBY LR LR
comp=Z,2μm,22.0s
MTDJ Mount Denham 138.74 30 PFAKE 03 11 00.0 +13
MTDJ LR LR
comp=Z,2μm,20.0s
SDDR Presa de Saban 140.59 21 PFAKE 03 11 00.0 +9.4
SDDR LR LR
comp=Z,2μm,21.0s
PAPH Port-au-Prince 140.66 22 PFAKE 03 11 00.0 +9.3
PAPH LR LR
comp=Z,1μm,20.9s
JTS JuntasAbangare 140.77 46 *e*PKIKP **PKPdf 03 10 51.1 +0.1**
JTS MLR MLR
comp=Z,900nm,22.0s
JTS JuntasAbangare 140.77 46 PKP **PKPdf 03 10 51.5 +0.5**
comp=Z,6.5nm,0.8s,baz=347,slow=3.3,SNR=4.6
JTS JuntasAbangare 140.77 46 *e*PKPdf **PKPdf 03 10 51.1 +0.1**
JTS LR LR
comp=Z,900nm,22.0s
JAKH Jacmel 140.84 23 PFAKE 03 11 00.0 +9.0
JAKH LR LR
comp=Z,2μm,21.9s
AGP Aguadilla 142.34 15 PFAKE 03 11 10.0 +16
AGP LR LR
comp=Z,1μm,18.6s
MPR Mayaguez 142.53 15 PFAKE 03 11 10.0 +16
MPR LR LR
comp=Z,600nm,20.7s
USHA Ushuaia 142.55 170 PKP **PKPdf 03 10 50.8 -2.1**
comp=Z,7.5nm,0.7s,baz=160,slow=6.5,SNR=5.5
CBYP Canovanas 142.77 13 PFAKE 03 11 10.0 +15
CBYP LR LR
comp=Z,900nm,21.3s
HUMP Col San Antoni 142.90 13 *e*PKPdf **PKPdf 03 10 52.4 -2.2**
HUMP LR LR
comp=Z,1μm,21.3s
SMRT St. Maarten 143.50 9 *e*PKPdf **PKPdf 03 10 54.7 -1.0**
SMRT LR LR
comp=Z,1μm,21.7s
SABA Saba 143.89 9 PFAKE 03 11 10.0 +14
SABA LR LR
comp=Z,1μm,19.2s
ANWB Willy Bob 144.04 7 PFAKE 03 11 10.0 +13
ANWB LR LR
comp=Z,1μm,20.0s
SEUS St. Eustatius 144.06 9 PFAKE 03 11 10.0 +13
SEUS LR LR
comp=Z,1μm,20.8s
BCIP Isla Barro Col 144.94 41 *e*PKPbc **PKPab 03 10 57.3 -0.2**
BCIP LR LR
comp=Z,1μm,20.0s
EFI East Falkland 146.66 179 *e*PKP2 **PKPbc 03 11 02.1 +0.4**
EFI East Falkland 146.66 179 *e*PKPdf **PKPbc 03 11 02.1 +0.4**
GRGR Grenville 149.52 8 PFAKE 03 11 20.0 +4.8
GRGR LR LR
comp=Z,700nm,20.0s
SDV Santo Domingo 150.07 27 *e*PKPdf **PKPdf 03 11 07.9 +0.8**
SDV LR LR
comp=Z,900nm,20.0s
PCRV Puerto La Cruz 150.88 15 PKPbc **PKPbc 03 11 13.5 -0.3**
comp=Z,20nm,0.6s,baz=197,slow=6.0,SNR=7.9
ROSC El Rosal 151.66 37 PKPbc **PKPbc 03 11 15.3 -0.8**
comp=Z,8.6nm,0.5s,baz=346,slow=1.6,SNR=8.7
ROSC El Rosal 151.66 37 *e*PKPdf **PKPdf 03 11 11.1 +1.2**
OTAV Otavalo 152.40 50 *e*PKPdf **PKPdf 03 11 12.8 +1.7**
OTAV LR LR
comp=Z,1μm,19.0s
PLCA Paso Flores 154.96 156 *e*PKIKP **PKPdf 03 11 11.5 -1.9**
PLCA *e* 03 11 23.0
PLCA *e* 03 11 38.4
PLCA Paso Flores 154.96 156 PKPbc **PKPbc 03 11 23.2 +1.1**
comp=Z,5.4nm,0.6s,baz=229,slow=1.2,SNR=5.0
PLCA PKPab **PKPab 03 11 38.3 +0.8**
comp=Z,14nm,1.0s,baz=197,slow=7.6,SNR=4.6
PLCA Paso Flores 154.96 156 *e*PKPdf **PKPdf 03 11 11.5 -1.9**
PLCA *e*PKPbc **PKPbc 03 11 23.0 +0.9**
PLCA *e*PKPab **PKPab 03 11 38.4 +0.8**
RCBR Riachuelo 155.56 298 PFAKE 03 11 30.0 -11
RCBR LR LR
comp=Z,2μm,19.0s
ATAH Atahualpa 156.85 64 PKP **PKPdf 03 11 19.1 +2.0**
comp=Z,16nm,1.1s,baz=37,slow=1.4,SNR=12
ATAH PKPab **PKPab 03 11 49.3 +2.4**
comp=Z,11nm,0.8s,baz=246,slow=3.2,SNR=7.1
TRQA Tornquist 159.90 170 *e*PKPdf **PKPdf 03 11 18.4 -1.2**
TRQA *e*PKPab **PKPab 03 11 58.1 -0.7**
TRQA LR LR
comp=Z,9μm,20.0s
LVC Limon Verde 168.47 114 *e*PKPdf **PKPdf 03 11 30.6 +2.5**
LVC *e*PKPab **PKPab 03 12 40.5 +3.0**
SAML Samuel 169.22 31 *e*PKPdf **PKPdf 03 11 28.1 -0.4**
SAML *e*PKPab **PKPab 03 12 39.5 -0.8**
LPAZ La Paz 169.66 81 *e*PKIKP **PKPdf 03 11 30.5 +1.1**
LPAZ La Paz 169.66 81 PKP **PKPdf 03 11 30.8 +1.4**
comp=Z,14nm,1.1s,baz=24,slow=5.1,SNR=21
LPAZ PKPab **PKPab 03 12 44.7 +1.4**
comp=Z,11nm,1.0s,baz=360,slow=6.8,SNR=5.2
LPAZ La Paz 169.66 81 *e*PKPdf **PKPdf 03 11 30.5 +1.1**
LPAZ *e*PKPab **PKPab 03 12 44.5 +1.2**
BDFB Brasilia 170.54 285 *e*PKIKP **PKPdf 03 11 27.0 -2.3**
BDFB Brasilia 170.54 285 PKP **PKPdf 03 11 28.6 -0.7**
comp=Z,8.0nm,0.9s,baz=4.2,slow=3.9,SNR=8.4
BDFB Brasilia 170.54 285 *e*PKPdf **PKPdf 03 11 27.0 -2.3**
CPUP Villa Florida 171.97 181 *e*PKIKP **PKPdf 03 11 29.9 +0.3**
CPUP *e* 03 12 53.1
CPUP Villa Florida 171.97 181 PKP **PKPdf 03 11 30.4 +0.8**
comp=Z,2.1nm,0.7s,baz=280,slow=0.8,SNR=3.3
CPUP PKPab **PKPab 03 12 54.1 +2.0**
comp=Z,3.5nm,0.8s,baz=191,slow=2.7,SNR=4.6
CPUP Villa Florida 171.97 181 *e*PKPdf **PKPdf 03 11 29.9 +0.3**
CPUP *e*PKPab **PKPab 03 12 53.1 +1.0**
SIV San Ignacio 175.91 57 PKP **PKPdf 03 11 32.0 +0.7**
comp=Z,3.8nm,0.6s,baz=259,slow=1.2,SNR=14
SIV PKPab **PKPab 03 13 10.0 -0.2**
comp=Z,13nm,0.9s,baz=316,slow=4.0,SNR=10

ISCJB ***02*** *02:56:00.3±1.5, 18°.42N±0°.05×122°.40E±0°.10, h15km±10km, mb4.1/10, Error ellipse: s-maj=16.2km s-min=7.4km az=22.0*
MAN ***02*** *02:56:03, 18°.10N×122°.29E, h0km, mb5.4, ML4.4, MS4.7*
IDC ***02*** *02:56:03.0±1.1, 18°.96N×122°.28E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.0/47, mbtmp4.2/11, ML3.4/1, Error ellipse: s-maj=31.5km s-min=22.8km az=78.0*
ISC 02 02:56:02.7±0.8, 18°.36N±0°.06×122°.32E±0°.07, h22km±6km, n29, σ1§47/27, mb4.2/10, 3C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.28**	**246**	*e*P			**Pb**	**02 56 09.4**	**+0.2**
CVP	**Callao Caves**	**0.81**	**216**	⇑*i*P			**Pb**	**02 56 16.4**	**-1.6**
CVP				*i* S			**Sb**	**02 56 27.5**	**-1.0**
APYP	**Conner**	**1.14**	**244**	*e*P			**Pn**	**02 56 22.8**	**-0.5**
APYP				*e*S			**Sb**	**02 56 36.0**	**-1.9**
CAUP	**Cauayan**	**1.48**	**199**	*e*P			**Pb**	**02 56 30.1**	**+0.5**
PIP	**Pasuquin**	**1.62**	**269**	⇑*i*P			**Pb**	**02 56 31.4**	**-0.4**
PIP				*i* S			**Sb**	**02 56 55.3**	**+3.5**
ABRA	**Dolores**	**1.69**	**246**	*e*P			**Pb**	**02 56 32.9**	**-0.1**
ABRA				*e*S			**Sn**	**02 56 48.8**	**-2.9**
SIPP	**Brgy, Tapao**	**1.82**	**257**	⇓*i*P			**Pb**	**02 56 36.3**	**+1.0**
SIPP				*i* S			Sb	02 57 05.0	+7.3
BCPH	**Baguio City Da**	**2.57**	**220**	⇑*i*P			**Pn**	**02 56 43.4**	**+0.1**
BCPH				*i* S			**Sn**	**02 57 13.5**	**-0.5**
BALP	**Baler**	**2.70**	**195**	*e*P			**Pn**	**02 56 45.4**	**+0.6**
PCPH	**Palayan**	**3.02**	**203**	⇓*i*P			**Pn**	**02 56 50.3**	**+1.1**
PCPH				*i* S			**Sn**	**02 57 27.3**	**+2.7**
BOLP	**Bolinao**	**3.02**	**230**	*e*P			Pn	02 56 39.2	-10
JOW	**Kunigami**	**10.07**	**32**	Pn			**Pn**	**02 58 23.8**	**-2.2**
	0.7nm,0.3s,baz=208,slow=14,SNR=4.6								
JOW				Sn			Sn	03 00 09.4	-8.9
	0.3nm,0.3s,baz=22,slow=8.5,SNR=2.9								
KSRS	**Korea Array**	**19.65**	**13**	P			**P**	**03 00 30.3**	**+0.4**
	0.4nm,0.3s,baz=194,slow=11,SNR=5.9								
USRK	**Ussuriysk Ar.**	**27.02**	**15**	P			**P**	**03 01 42.8**	**-0.2**
	4.2nm,0.9s,baz=213,slow=6.1,SNR=3.4								
SONM	**Songino Array**	**32.15**	**340**	P			**P**	**03 02 29.3**	**+0.6**
	3.0nm,1.0s,baz=159,slow=9.8,SNR=6.9								
WRA	**Warramunga Arr**	**39.85**	**162**	P			P	03 03 44.4	+10
	7.0nm,0.8s,baz=342,slow=9.2,SNR=7.3								
H11S3	**WAKE ISLAND Hy**	**42.01**	**83**	T			T	03 48 32.1	
	baz=277,slow=75,SNR=21								
H11S1	**WAKE ISLAND Hy**	**42.02**	**83**	T			T	03 48 32.0	
	baz=277,slow=75,SNR=26								
H11S2	**WAKE ISLAND Hy**	**42.03**	**83**	T			T	03 48 33.0	
	baz=277,slow=75,SNR=21								
H11N1	**WAKE ISLAND Hy**	**42.06**	**81**	T			T	03 48 38.4	
	baz=118,slow=74,SNR=20								
H11N2	**WAKE ISLAND Hy**	**42.07**	**81**	T			T	03 48 36.4	
	baz=276,slow=74,SNR=14								
MKAR	**Makanchi Array**	**43.35**	**320**	P			**P**	**03 04 04.3**	**+1.0**
	3.8nm,0.7s,baz=107,slow=7.4,SNR=10								
ZALV	**Zalesovo Beam**	**45.74**	**330**	P			**P**	**03 04 23.1**	**+1.0**
	2.7nm,0.9s,baz=115,slow=9.2,SNR=2.8								
ILAR	**Eielson Array**	**73.91**	**26**	P			**P**	**03 07 37.2**	**+1.4**
	0.8nm,0.9s,baz=280,slow=5.4,SNR=2.7								
ARCES	**ARCESS Array B**	**75.32**	**339**	P			**P**	**03 07 43.0**	**-0.8**
	1.0nm,0.7s,baz=58,slow=10,SNR=3.7								
FINES	**FINESS Array B**	**77.00**	**331**	P			**P**	**03 07 52.8**	**-0.7**
	3.0nm,0.8s,baz=48,slow=2.8,SNR=3.5								
NOA	**NORSAR Array B**	**83.86**	**333**	P			**P**	**03 08 30.0**	**-0.5**
	2.2nm,0.9s,baz=63,slow=5.1,SNR=4.3								
YKA	**Yellowknife Ar**	**87.90**	**23**	P			**P**	**03 08 50.1**	**-0.3**
	1.9nm,0.9s,baz=309,slow=4.9,SNR=4.5								
H06S1	**SOCORRO T**	**115.99**	**58**	T			T	05 21 34.5	
	SNR=9.1								

IDC 02 02:56:04.5±3.4, 16°.87S×176°.97W, h0km, mb4.4/3, mb1 4.8/3, mb1mx3.9/45, mbtmp4.4/3, Error ellipse: s-maj=199.1km s-min=31.2km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.17**	**258**	P			P	03 04 31.2	-0.2
	2.4nm,0.7s,baz=93,slow=6.8,SNR=14								
ASAR	**Alice Springs**	**46.39**	**253**	P			P	03 04 33.2	0.0
	15nm,0.6s,baz=88,slow=8.2,SNR=73								
PDAR	**Pinedale Array**	**85.66**	**43**	P			P	03 08 45.6	0.0
	1.6nm,1.0s,baz=235,slow=3.2,SNR=4.0								
BRTR	**Keskin Array B**	**145.00**	**317**	PKPbc			PKPab	03 15 42.0	-1.6
	1.0nm,0.8s,baz=102,slow=3.0,SNR=6.5								
GERES	**GERESS Array B**	**146.94**	**347**	PKPbc			PKPbc	03 15 49.0	-0.2
	0.5nm,0.5s,baz=29,slow=3.0,SNR=6.9								

IDC ***02*** *02:58:15.0±0.8, 33°.72S×72°.12W, h0km, mb4.4/9, mb1 4.5/11, mb1mx4.2/33, mbtmp4.4/11, ML4.4/2, MS4.2/2, Ms1 4.3/2, ms1mx3.6/21, Error ellipse: s-maj=29.4km s-min=15.7km az=90.0*
ISCJB ***02*** *02:58:16.9±1.2, 33°.76S±0°.05×72°.16W±0°.05, h25km±7km, mb4.5/14, MS5.2/1, Error ellipse: s-maj=8.1km s-min=7.0km az=14.0*
GUC ***02*** *02:58:17.1±0.4, 33°.80S×72°.12W, h20km±14km, ML4.3*
NEIC ***02*** *02:58:20.6±0.4, 33°.68S×72°.16W, h35km, mb4.8/4, Error ellipse: s-maj=11.6km s-min=6.8km az=88.0*
ISC 02 02:58:19.3±1.8, 33°.69S±0°.05×72°.02W±0°.07, h25km±12km, n39, σ1§16/45, mb4.6/14, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.73**	**26**	⇑*i*P			**Pb**	**02 58 32.8**	**-0.7**
IHA				*i* S			**Sn**	**02 58 44.9**	**+0.5**
TACH	**Talagante**	**0.90**	**88**	*e*P			**Pb**	**02 58 35.1**	**-1.3**
TACH				*i* S			**Sn**	**02 58 48.7**	**+0.1**
RCDM	**Rinconada Maip**	**1.03**	**79**	*e*P			**Pn**	**02 58 37.0**	**-1.2**
RCDM				*i* S			**Sn**	**02 58 52.3**	**+0.5**
RCDM				IAML				02 58 53.0	
	comp=N,12μm,0.5s								
SAN	**Santiago**	**1.16**	**79**	*e*P			**Pn**	**02 58 39.4**	**-0.5**
SAN				*i* S			**Sb**	**02 58 56.4**	**+1.1**
ANTU	**Antumapu**	**1.16**	**84**	⇑*i*P			**Pn**	**02 58 39.5**	**-0.5**
ANTU				*i* S			**Sb**	**02 58 56.5**	**+1.0**
ANTU				IAML				02 58 59.9	
	comp=E,14μm,0.6s								
CHCH	**Chadas Angostu**	**1.16**	**102**	*e*P			**Pn**	**02 58 38.8**	**-1.2**
STL	**Santa Lucia**	**1.18**	**78**	*e*P9			**Pn**	**02 58 38.8**	**-1.5**
STL				*i* S			**Sb**	**02 58 55.9**	**0.0**
PEL	**Peldehue**	**1.24**	**64**	*e*P			**Pn**	**02 58 41.4**	**+0.3**
PEL				*e*S			**Sb**	**02 58 59.4**	**+1.6**
PCH	**Pirque**	**1.26**	**87**	⇓*i*P			**Pn**	**02 58 41.1**	**-0.3**
CFAA	**Coronel Fontan**	**3.81**	**58**	Pn			**Pn**	**02 59 19.2**	**+2.8**
	comp=E,2.4nm,0.3s,baz=229,slow=11,SNR=59								
CFAA				Lg			Lg	03 00 18.6	
	comp=E,9.0nm,0.3s,baz=70,slow=4.1,SNR=6.8								
PLCA	**Paso Flores**	**7.13**	**171**	Pn			**Pn**	**03 00 01.4**	**-0.6**
	comp=E,1.5nm,0.3s,baz=358,slow=10,SNR=4.7								
PLCA				Lg			Lg	03 01 59.5	
	comp=E,1.3nm,0.3s,baz=61,slow=20,SNR=3.0								
PLCA	**Paso Flores**	**7.13**	**171**	*e*Pn			**Pn**	**03 00 01.6**	**-0.4**
	comp=E,36nm,1.0s								
PLCA				Lg			Lg	03 01 59.5	
TRQA	**Tornquist**	**9.24**	**121**	*e*Pn			**Pn**	**03 00 32.0**	**+1.1**
	comp=E,20nm,0.8s								
LVC	**Limon Verde**	**11.37**	**15**	*e*Pn			**Pn**	**03 01 01.4**	**+1.0**
	comp=E,12nm,0.6s								

LVC *e*S Sn 03 03 23.7 +17
CPUP Villa Florida 14.68 64 Pn **P 03 01 49.7 -1.6**
comp=E,0.6nm,0.3s,baz=222,slow=11,SNR=8.0
CPUP LR LR 03 07 25.4
comp=E,168nm,19.7s,baz=253,slow=37
CPUP Villa Florida 14.68 64 *e*Pn **P 03 01 48.5 -2.8**
comp=E,0.9nm,1.4s
LPAZ La Paz 17.68 12 P **P 03 02 25.2 -0.1**
comp=E,0.5nm,0.3s,baz=183,slow=7.1,SNR=26
LPAZ La Paz 17.68 12 *e*Pn **Pn 03 02 25.0 +0.5**
SIV San Ignacio 20.20 32 P **P 03 02 51.9 -0.4**
comp=E,13nm,0.6s,baz=218,slow=10,SNR=30
EFI East Falkland 20.63 155 *e*P **P 03 02 57.7 +1.0**
USHA Ushuaia 21.29 174 P **P 03 03 06.9 +3.2**
comp=E,9.7nm,1.0s,baz=334,slow=10,SNR=5.8
NNA Nana 22.05 347 P **P 03 03 11.9 -0.4**
comp=E,9.5nm,0.9s
SAML Samuel 25.94 20 *e*P **P 03 03 49.9 +0.2**
comp=E,21nm,0.8s
BDFB Brasilia 28.15 56 P **P 03 04 09.4 -0.3**
comp=E,9.8nm,0.5s,baz=222,slow=8.2,SNR=23
GRGR Grenville 46.62 14 *e*P **P 03 06 46.3 +0.8**
comp=E,66nm,1.0s
SNAA Sanae 51.87 158 P **P 03 07 25.4 +0.3**
comp=E,1.4nm,0.8s,baz=269,slow=8.7,SNR=6.9
TEIG Tepich 55.81 341 *e*P **P 03 07 54.1 -0.3**
comp=E,14nm,1.1s
QSPA South Pole Qui 56.54 180 P **P 03 07 59.7 +0.3**
comp=E,6.4nm,0.9s,baz=158,slow=3.5,SNR=9.4
TXAR Lajitas Array 69.47 331 P **P 03 09 25.2 -0.4**
comp=E,1.1nm,1.0s,baz=164,slow=4.9,SNR=5.6
TKL Tuckaleechee C 69.86 350 P **P 03 09 28.0 +0.3**
comp=E,1.7nm,0.8s,baz=222,slow=7.2,SNR=2.2
WVT Waverly 71.02 347 *e*P **P 03 09 34.4 -0.3**
comp=E,4.3nm,0.4s
DBIC Dimbokro 75.07 71 P **P 03 09 59.5 +0.3**
comp=E,3.9nm,0.8s,baz=218,slow=6.3,SNR=7.2
BOSA Boshof 80.20 118 P **P 03 10 27.8 -0.1**
comp=E,3.0nm,1.0s,baz=233,slow=9.0,SNR=2.5
TORD Torodi Ar. Bea 84.09 70 P **P 03 10 48.6 +0.3**
comp=E,4.4nm,0.7s,baz=270,slow=6.3,SNR=20
ESDC Sonseca Array 96.35 46 LR LR 03 56 54.7
comp=E,653nm,18.1s,baz=25,slow=36
WRA Warramunga Arr 121.04 209 PKP **PKPdf 03 17 07.6 -2.6**
comp=E,0.7nm,0.6s,baz=159,slow=1.7,SNR=17
ZALV Zalesovo Beam 153.96 32 PKPbc **PKPbc 03 18 16.0 +0.1**
comp=E,1.2nm,0.5s,baz=283,slow=4.3,SNR=7.0
MAJO Matsushiro 155.16 285 *e*PKPbc PKPdf 03 18 19.6 +9.4
MKAR Makanchi Array 156.55 48 PKP **PKPdf 03 18 12.2 +0.4**
comp=E,0.3nm,0.8s,baz=135,slow=0.3,SNR=2.5
MKAR PKPab **PKPab 03 18 40.9 +0.2**
comp=E,0.8nm,0.5s,baz=279,slow=2.9,SNR=13

NNC 02 03:05:02.0±7.1, 39°.83N×71°.16E, 0^{km}, mb3.7, mpv3.3, 2C-4D, Error ellipse: s-maj=61.1km s-min=40.8km az=16.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**3.31**	**352**	⇑Pg		Pb	03 05 59.9 -1.6
	5.3nm,0.6s,baz=170,slow=13,SNR=21						
KK31				⇓Lg		Lg	03 06 52.5
	6.3nm,0.4s,baz=173,slow=25						
AAK	**Ala-Archa**	**3.77**	**41**	⇓Pn		Pn	03 06 02.7 +1.1
	4.5nm,0.5s						
AAK				⇓Lg		Lg	03 06 59.2
	7.3nm,0.5s						
TKM2	**Tokmak 2**	**4.55**	**46**	⇑Pn		Pn	03 06 12.5 +0.1
	2.8nm,0.5s						
TKM2				⇓Lg		Lg	03 07 23.0
	4.0nm,0.5s						

*IDC **02** 03:10:44.3±0.6, 12°.70N×144°.27E, h0^{km}, mb4.1/17, mb1 4.3/17, mb1mx4.1/44, mbtmp4.1/17, Error ellipse: s-maj=22.2km s-min=15.0km az=90.0*
*ISCJB **02** 03:10:47.0±0.4, 12°.65N±0°.06×144°.08E±0°.08, h27^{km}, mb4.2/22, Error ellipse: s-maj=12.7km s-min=7.6km az=27.7*
*NEIC **02** 03:10:49.7±0.4, 12°.68N×144°.20E, h35^{km}, mb4.4/5, Error ellipse: s-maj=13.2km s-min=8.3km az=101.0*
NEIC Felt at Hagatna.
ISC 02 03:10:48.5±0.7, 12°.68N±0°.10×144°.2E±0°.1, h27^{km}, n32, σ0^{s}91/27, mb4.1/22, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO Guam		**1.10**	**35**	*e*Pg		**Pn**	**03 11 08.3 +0.1**
GUMO				*e*S		**Sb**	**03 11 23.7 +0.8**
H11S3 WAKE ISLAND Hy 22.39 72				T		T	03 38 48.5
	baz=258,slow=75,SNR=43						
H11S1 WAKE ISLAND Hy 22.41 72				T		T	03 38 51.1
	baz=258,slow=75,SNR=42						
H11S2 WAKE ISLAND Hy 22.41 72				T		T	03 38 49.7
	baz=258,slow=75,SNR=45						
H11N1 WAKE ISLAND Hy 22.86 69				T		T	03 38 59.3
	baz=255,slow=75,SNR=3.8						
H11N2 WAKE ISLAND Hy 22.87 69				T		T	03 39 24.3
	baz=255,slow=75,SNR=165						
H11N3 WAKE ISLAND Hy 22.87 69				T		T	03 38 57.0
	baz=255,slow=75,SNR=4.9						
JNU Nakatsue 23.72 331				P		**P**	**03 15 57.9 -0.5**
	2.7nm,0.4s,baz=88,slow=8.3,SNR=2.6						
MJAR Matsushiro Arr 24.36 348				P		**P**	**03 16 04.2 -0.1**
	2.3nm,0.7s,baz=169,slow=10.0,SNR=5.6						
KSRS Korea Array 28.65 332				P		**P**	**03 16 42.8 -0.1**
	0.4nm,0.4s,baz=91,slow=28,SNR=4.1						
KSAR Wonju Array Be 28.66 332				P		**P**	**03 16 42.8 -0.2**
WRAB Tennant Creek 33.83 197				*e*P		**P**	**03 17 28.2 -0.6**
	3.5nm,0.8s						
WRA Warramunga Arr 33.85 197				P		**P**	**03 17 28.2 -0.6**
	4.1nm,0.8s,baz=16,slow=9.7,SNR=16						
AS31 Alice Springs 37.51 196				*e*P		**P**	**03 18 00.3 0.0**
ASAR Alice Springs 37.51 196				P		**P**	**03 17 59.9 -0.4**
	2.0nm,0.8s,baz=17,slow=11,SNR=26						
CMAR Chiang Mai Arr 43.90 283				P		**P**	**03 18 54.3 +1.1**
	1.7nm,0.4s,baz=84,slow=6.4,SNR=9.3						
STKA Stephens Creek 44.38 183				P		**P**	**03 18 57.0 +0.3**
	1.9nm,0.9s,baz=323,slow=10,SNR=2.0						
SONM Songino Array 47.11 326				P		**P**	**03 19 18.6 +0.3**
	1.1nm,0.6s,baz=145,slow=9.0,SNR=15						
MKAR Makanchi Array 61.70 316				P		**P**	**03 21 04.8 +0.4**
	0.6nm,0.6s,baz=92,slow=8.7,SNR=9.0						
ZALV Zalesovo Beam 61.99 325				P		**P**	**03 21 06.3 +0.2**
	0.3nm,0.3s,baz=95,slow=6.4,SNR=3.1						
KURK Kurchatov 64.86 320				*e*P		**P**	**03 21 25.3 +0.1**
	2.3nm,0.8s						
ILAR Eielson Array 69.66 25				P		**P**	**03 21 53.5 -1.8**
	0.8nm,0.6s,baz=253,slow=5.3,SNR=9.9						
ABKAR Akbulak array 76.78 318				*e*P		**P**	**03 22 37.4 -0.3**
	0.9nm,0.5s						
YKA Yellowknife Ar 83.95 27				P		**P**	**03 23 15.4 -0.6**
	0.4nm,0.5s,baz=287,slow=5.1,SNR=8.5						
NEW Newport 86.33 41				P		**P**	**03 23 28.8 +0.5**
	3.7nm,0.8s,baz=224,slow=1.2,SNR=8.6						
NVAR Mina Array Bea 87.98 51				P		**P**	**03 23 37.6 +0.8**
	2.5nm,0.8s,baz=266,slow=5.7,SNR=13						
MFID Camas Ranch 88.49 46				*e*P		**P**	**03 23 39.8 +0.9**
	3.4nm,0.8s						
ELK Elko 89.65 48				P		**P**	**03 23 45.7 +1.2**
	4.0nm,0.8s,baz=42,slow=1.1,SNR=15						
FINES FINESS Array B 91.71 335				P		**P**	**03 23 51.6 -1.8**
	0.5nm,0.5s,baz=72,slow=6.2,SNR=3.9						
PDAR Pinedale Array 93.05 45				P		**P**	**03 24 00.4 +0.1**
	0.5nm,0.8s,baz=302,slow=8.4,SNR=3.2						
LAO LASA Array 93.83 41				*e*P		**P**	**03 24 04.2 +0.7**
	12nm,1.0s						
TORD Torodi Ar. Bea 134.84 303				PKP		**PKPdf**	**03 30 08.3 +2.4**
	0.4nm,0.8s,baz=26,slow=2.6,SNR=6.8						

*IDC **02** 03:17:52.5±1.7, 34°.63S×73°.73W, h0^{km}, mb3.7/3, mb1 3.9/6, mb1mx3.7/29, mbtmp3.7/6, ML3.6/3, MS3.7/2, Ms1 3.6/2, ms1mx3.2/31, Error ellipse: s-maj=39.7km s-min=31.3km az=80.0*
*ISCJB **02** 03:17:55.1±1.3, 34°.7S±0°.1×73°.6W±0°.2, h33^{km}, mb3.7/3, MS4.2/1, Error ellipse: s-maj=28.1km s-min=15.0km az=1.0*
ISC 02 03:17:57.5±1.4, 34°.7S±0°.1×73°.6W±0°.2, h35^{km}, n7, σ1^{s}08/6, mb3.8/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA Coronel Fontan 5.42 57				Pn		**Pn**	**03 19 15.4 -0.4**
	0.3nm,0.3s,baz=229,slow=12,SNR=7.8						
CFAA				Lg		Lg	03 20 40.1
	0.6nm,0.3s,baz=124,slow=18,SNR=5.2						
PLCA Paso Flores 6.50 159				Pn		**Pn**	**03 19 30.2 -0.5**
	0.6nm,0.3s,baz=336,slow=12,SNR=4.6						
PLCA				LR		LR	03 22 13.8
	comp=Z,148nm,18.1s,baz=104,slow=40						
LPAZ La Paz 18.95 16				P		**P**	**03 22 15.9 -0.4**
	0.1nm,0.3s,baz=190,slow=5.4,SNR=6.7						
SIV San Ignacio 21.73 34				P		**P**	**03 22 45.5 -0.3**
	2.2nm,0.7s,baz=213,slow=12,SNR=4.9						
RCBR Riachuelo 45.07 59				LR		LR	03 46 23.6
	comp=Z,330nm,20.6s,baz=180,slow=38						
TXAR Lajitas Array 69.72 332				P		**P**	**03 29 03.5 -0.4**
	0.7nm,0.7s,baz=158,slow=9.7,SNR=6.4						
TORD Torodi Ar. Bea 85.63 71				P		**P**	**03 30 34.4 +1.6**
	0.5nm,0.8s,baz=236,slow=3.6,SNR=2.9						

*IDC **02** 03:25:49.6±0.7, 34°.20S×71°.85W, h0^{km}, mb4.1/10, mb1 4.3/12, mb1mx4.1/30, mbtmp4.2/12, ML4.3/2, MS3.4/2, Ms1 3.4/2, ms1mx3.1/29, Error ellipse: s-maj=22.6km s-min=14.5km az=95.0*
*ISCJB **02** 03:25:51.1±0.6, 34°.20S±0°.07×71°.9W±0°.1, h19^{km}, mb4.1/11, MS4.2/1, Error ellipse: s-maj=15.9km s-min=9.5km az=171.3*
*NEIC **02** 03:25:54.9±0.4, 34°.16S×71°.88W, h35^{km}, mb4.2/5, Error ellipse: s-maj=11.9km s-min=7.2km az=82.0*
ISC 02 03:25:52.6±0.7, 34°.17S±0°.09×72°.0W±0°.1, h19^{km}, n24, σ0^{s}79/22, mb4.2/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA Coronel Fontan 4.04 52				Pn		**Pn**	**03 26 53.4 -0.1**
	0.5nm,0.3s,baz=218,slow=12,SNR=11						
CFAA				Lg		Lg	03 27 56.1
	1.5nm,0.3s,baz=34,slow=17,SNR=3.7						
CFAA				LR		LR	03 28 44.6
	comp=Z,60nm,18.5s,baz=154,slow=44						
PLCA Paso Flores 6.64 171				Pn		**Pn**	**03 27 29.7 +0.4**
	2.0nm,0.3s,baz=331,slow=14,SNR=3.7						
PLCA				Lg		Lg	03 29 17.0
	0.4nm,0.3s,baz=240,slow=19,SNR=2.7						
TRQA Tornquist 8.95 119				*e*Pn		**Pn**	**03 28 02.3 +1.3**
	6.8nm,0.8s						
LPAZ La Paz 18.14 12				P		**P**	**03 30 04.5 +0.1**
	0.2nm,0.3s,baz=177,slow=9.6,SNR=21						
LPAZ La Paz 18.14 12				*e*Pn		**P**	**03 30 04.2 -0.2**
	10nm,0.9s						
SIV San Ignacio 20.58 31				P		**P**	**03 30 29.0 -1.6**
	3.3nm,0.7s,baz=212,slow=11,SNR=10						
NNA Nana 22.53 347				P		**P**	**03 30 53.1 +1.6**
	2.9nm,0.5s,baz=211,slow=16,SNR=3.9						
SAML Samuel 26.37 20				*e*P		**P**	**03 31 28.4 +0.6**
	3.0nm,0.7s						
SNAA Sanae 51.40 158				P		**P**	**03 34 56.1 +0.2**
	3.3nm,1.1s,baz=224,slow=10,SNR=4.8						
SNAA				LR		LR	03 56 05.5
	comp=Z,257nm,21.4s,baz=108,slow=35						
QSPA South Pole Qui 56.07 180				P		**P**	**03 35 30.5 +0.4**
	2.2nm,0.8s,baz=159,slow=1.0,SNR=5.4						
QSPA South Pole Qui 56.07 180				*e*P		**P**	**03 35 30.3 +0.1**
	2.8nm,0.8s						
TXAR Lajitas Array 69.92 331				P		**P**	**03 37 02.4 -0.1**
	0.5nm,0.6s,baz=148,slow=7.4,SNR=4.8						
WVT Waverly 71.49 346				*e*P		**P**	**03 37 11.7 -0.2**
	5.3nm,0.7s						
DBIC Dimbokro 75.17 71				P		**P**	**03 37 33.9 -0.2**
	2.4nm,0.8s,baz=227,slow=6.2,SNR=5.0						
BOSA Boshof 79.93 118				P		**P**	**03 38 00.2 -0.6**
	5.7nm,1.0s,baz=223,slow=3.6,SNR=5.6						
PDAR Pinedale Array 83.95 333				P		**P**	**03 38 22.1 +0.7**
	0.6nm,0.7s,baz=196,slow=2.8,SNR=4.7						
NVAR Mina Array Bea 84.06 325				P		**P**	**03 38 22.6 +0.5**
	0.9nm,0.8s,baz=171,slow=5.6,SNR=5.1						
TORD Torodi Ar. Bea 84.20 70				P		**P**	**03 38 22.6 -0.5**
	2.5nm,0.7s,baz=263,slow=2.3,SNR=20						
WRA Warramunga Arr 120.65 209				PKP		**PKPdf**	**03 44 42.3 -1.5**
	0.4nm,0.7s,baz=163,slow=1.4,SNR=4.5						
H11S2 WAKE ISLAND Hy 125.84 269				T		T	06 03 11.4
	baz=120,slow=75,SNR=11						
H11S1 WAKE ISLAND Hy 125.85 269				T		T	06 03 12.7
	baz=120,slow=75,SNR=22						
H11S3 WAKE ISLAND Hy 125.86 269				T		T	06 03 11.0
	baz=120,slow=75,SNR=7.4						
ZALV Zalesovo Beam 154.33 33				PKPbc		**PKPbc**	**03 45 50.9 -0.2**
	3.0nm,0.7s,baz=311,slow=3.1,SNR=15						
ZALV				PKPab		**PKPab**	**03 46 04.9 -0.2**
	2.2nm,0.7s,baz=306,slow=4.9,SNR=8.1						
MKAR Makanchi Array 156.82 49				PKPab		**PKPab**	**03 46 15.6 -0.6**
	0.8nm,0.7s,baz=304,slow=3.8,SNR=9.3						

*IDC **02** 03:35:48.5±0.8, 35°.37S×74°.05W, h0^{km}, mb4.2/9, mb1 4.1/13, mb1mx4.0/30, mbtmp4.0/13, ML3.8/4, MS2.9/2, Ms1 2.9/2, ms1mx2.9/31, Error ellipse: s-maj=27.1km s-min=20.0km az=97.0*
*ISCJB **02** 03:35:52.1±0.8, 35°.35S±0°.09×73°.9W±0°.2, h33^{km}, mb4.1/9, Error ellipse: s-maj=18.2km s-min=12.2km az=5.6*
*NEIC **02** 03:35:54.0±0.7, 35°.35S×73°.85W, h35^{km}, mb4.5/3, Error ellipse: s-maj=16.5km s-min=13.2km az=88.0*
ISC 02 03:35:54.4±0.7, 35°.34S±0°.10×73°.8W±0°.1, h35^{km}, n22, σ1^{s}09/23, mb4.3/9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA Coronel Fontan 5.93 53				Pn		**Pn**	**03 37 20.0 +0.2**
	0.3nm,0.3s,baz=233,slow=10,SNR=3.1						
CFAA				LR		LR	03 40 18.4
	comp=Z,30nm,18.1s,baz=232,slow=44						
PLCA Paso Flores 5.95 156				Pn		**Pn**	**03 37 19.1 -1.0**
	1.1nm,0.3s,baz=327,slow=10,SNR=5.9						
PLCA				Lg		Lg	03 38 53.9
	0.4nm,0.3s,baz=332,slow=21,SNR=1.8						
PLCA				LR		LR	03 39 44.8
	comp=Z,299nm,19.4s,baz=344,slow=39						
PLCA Paso Flores 5.95 156				*e*Pn		**Pn**	**03 37 20.4 +0.3**
	28nm,1.0s						
PLCA				Lg		Lg	03 38 53.9
TRQA Tornquist 9.85 109				*e*Pn		**Pn**	**03 38 11.3 -2.2**
	10.0nm,0.8s						
CPUP Villa Florida 16.71 62				Pn		**P**	**03 39 48.8 +1.0**
	0.2nm,0.3s,baz=357,slow=17,SNR=1.8						
LPAZ La Paz 19.63 16				P		**P**	**03 40 21.1 +0.5**
	0.1nm,0.3s,baz=203,slow=8.8,SNR=7.4						
LPAZ La Paz 19.63 16				*e*P		**P**	**03 40 21.4 +0.8**
	7.8nm,1.1s						
SIV San Ignacio 22.36 34				P		**P**	**03 40 48.6 -0.9**
	3.8nm,1.1s,baz=228,slow=19,SNR=7.3						
BDFB Brasilia 30.26 56				P		**P**	**03 42 02.2 0.0**
	3.4nm,0.8s,baz=242,slow=3.7,SNR=4.0						
QSPA South Pole Qui 54.90 180				P		**P**	**03 45 20.2 -1.1**
	5.5nm,0.9s,baz=132,slow=2.0,SNR=9.4						
QSPA South Pole Qui 54.90 180				*e*P		**P**	**03 45 22.4 +1.1**
	6.2nm,1.0s						
TXAR Lajitas Array 70.23 332				P		**P**	**03 47 02.9 -1.0**
	0.6nm,0.6s,baz=153,slow=8.4,SNR=5.2						
DBIC Dimbokro 76.95 72				P		**P**	**03 47 44.9 +1.3**
	3.3nm,0.7s,baz=198,slow=5.5,SNR=6.8						
DBIC Dimbokro 76.95 72				*e*P		**P**	**03 47 45.1 +1.5**
	9.7nm,1.1s						
BOSA Boshof 80.70 118				P		**P**	**03 48 04.6 +0.3**
	2.9nm,0.8s,baz=270,slow=6.3,SNR=4.2						
PDAR Pinedale Array 84.33 334				P		**P**	**03 48 22.2 -0.5**
	0.4nm,0.6s,baz=195,slow=4.6,SNR=4.1						
TORD Torodi Ar. Bea 86.00 71				P		**P**	**03 48 32.5 +1.1**
	1.8nm,0.8s,baz=279,slow=3.7,SNR=9.6						
ULM Lac du Bonnet 87.43 346				P		**P**	**03 48 36.7 -0.9**
	1.5nm,0.7s,baz=160,slow=4.7,SNR=3.7						
BRTR Keskin Array B 123.72 62				PKP		**PKPdf**	**03 54 48.8 +0.4**
	0.4nm,0.7s,baz=226,slow=1.2,SNR=3.1						
ABKAR Akbulak array 143.62 53				*e*PKPdf		PKPbc	03 55 23.0 +0.5
ZALV Zalesovo Beam 156.11 32				PKP		**PKPdf**	**03 55 44.2 -0.2**
	0.5nm,0.5s,baz=241,slow=1.5,SNR=4.6						
ZALV				PKPab		**PKPab**	**03 56 13.2 +1.1**
	0.6nm,0.6s,baz=269,slow=7.4,SNR=3.9						
MKAR Makanchi Array 158.71 50				PKP		**PKPdf**	**03 55 46.1 -1.9**
	0.8nm,1.0s,baz=236,slow=1.3,SNR=5.2						
MKAR				PKPab		**PKPab**	**03 56 24.2 +0.5**
	0.9nm,0.7s,baz=301,slow=4.5,SNR=10.0						

*IDC **02** 03:39:06.6±5.2, 39°.89N×143°.04E, h0^{km}, mb3.7/3, mb1 3.7/5, mb1mx3.4/30, mbtmp3.7/5, ML3.1/2, MS4.1/1, Ms1 4.1/1, ms1mx3.1/46, Error ellipse: s-maj=93.2km s-min=56.4km az=140.0*

*JMA **02** 03:39:22.6±0.1, 40°.90N×142°.12E, h50^{km}±3^{km}, M3.2*
ISC 02 03:39:23.3±1.5, 40°.90N±0°.04×142°.05E±0°.05, h27^{km}±14^{km}, n17, σ1^{s}04/24, mb3.5/3, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JANG Nango 0.66 218				⇓P		**Pb**	**03 39 36.4 +0.1**
JANG				S		**Sn**	**03 39 46.1 -0.3**
JTM Tenmabayashi 0.75 262				⇓P		**Pb**	**03 39 37.7 -0.1**
JTM				S		**Sn**	**03 39 48.7 +0.1**
JOT Ohata 0.90 303				⇓P		**Pn**	**03 39 39.3 -0.8**
JOT				S		**Sb**	**03 39 51.7 -0.2**
JKB Kayabe 1.25 323				⇓P		**Pn**	**03 39 44.1 -0.9**
JKB				S		**Sn**	**03 39 59.9 -1.1**
JAH Hinai 1.29 237				⇓P		**Pn**	**03 39 45.2 -0.3**
JAH				S		**Sn**	**03 40 02.2 +0.3**
JSR Shiriuchi 1.39 298				P		**Pn**	**03 39 46.5 -0.3**
JSR				*e*S		**Sn**	**03 40 03.9 -0.3**
JEM Erimo 1.39 36				P		**Pn**	**03 39 46.4 -0.5**
JEM				S		**Sn**	**03 40 03.7 -0.7**
JNBK Urakawa-nobuka 1.48 21				P		**Pn**	**03 39 48.3 +0.2**
JNBK				*e*S		**Sn**	**03 40 08.3 +1.7**
JOM Ohasama 1.54 202				P		**Pn**	**03 39 48.4 -0.5**
JOM				S		**Sn**	**03 40 07.1 -0.8**
JIW Iwasaki 1.58 260				P		**Pn**	**03 39 49.7 +0.2**
JNB Noboribetsu 1.75 335				P		**Pn**	**03 39 50.4 -1.4**
JNB				S		**Sn**	**03 40 11.7 -1.4**
ASAJ Asahikawa 3.24 7				Pn		**Pn**	**03 40 12.2 -0.2**
	1.8nm,0.3s,baz=232,slow=11,SNR=11						
ASAJ				Sn		**Sn**	**03 40 50.9 +0.8**
	1.5nm,0.3s,baz=330,slow=25,SNR=4.1						
USRK Ussuriysk Ar. 8.13 297				Pn		**Pn**	**03 41 22.4 +3.0**
	0.2nm,0.3s,baz=98,slow=15,SNR=4.7						
ZALV Zalesovo Beam 39.77 309				P		P	03 46 50.6 -3.0
	0.4nm,0.4s,baz=86,slow=9.5,SNR=2.3						
MKAR Makanchi Array 42.59 299				P		P	03 47 13.4 -3.5
	0.3nm,0.4s,baz=85,slow=10.0,SNR=13						
HNR Honiara 52.73 158				LR		LR	04 08 25.8
	comp=Z,205nm,19.4s,baz=308,slow=34						
FINES FINESS Array B 65.64 332				P		P	03 50 00.5 -4.1
	2.2nm,1.0s,baz=57,slow=7.0,SNR=7.7						

*IDC **02** 03:41:58.0±0.7, 35°.25S×73°.96W, h0^{km}, mb4.3/11, mb1 4.4/16, mb1mx4.3/28, mbtmp4.2/16, ML4.2/5, Error ellipse: s-maj=22.3km s-min=15.3km az=95.0*
*ISCJB **02** 03:42:01.4±0.5, 35°.30S±0°.06×73°.86W±0°.09, h33^{km}, mb4.5/15, Error ellipse: s-maj=11.2km s-min=8.0km az=19.6*
*NEIC **02** 03:42:03.1±0.4, 35°.27S×73°.97W, h35^{km}, mb4.8/5, Error ellipse: s-maj=11.2km s-min=7.9km az=85.0*
ISC 02 03:42:03.2±0.6, 35°.29S±0°.07×73°.93W±0°.10, h35^{km}, n35, σ0^{s}64/37, mb4.6/15, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA Coronel Fontan 6.01 54				Pn		**Pn**	**03 43 29.0 -0.7**
	1.0nm,0.3s,baz=165,slow=14,SNR=4.0						
CFAA				Sn		**Sn**	**03 44 38.1 +0.8**
	2.0nm,0.3s,baz=128,slow=22,SNR=7.0						
PLCA Paso Flores 6.05 155				Pn		**Pn**	**03 43 29.9 -0.3**
	3.1nm,0.3s,baz=324,slow=11,SNR=29						
PLCA Paso Flores 6.05 155				*e*Pn		**Pn**	**03 43 29.9 -0.3**
	21nm,0.8s						
TRQA Tornquist 9.99 110				*e*Pn		**Pn**	**03 44 24.0 -0.2**
	25nm,0.9s						
CPUP Villa Florida 16.81 62				Pn		**Pn**	**03 45 56.3 +0.4**
	0.3nm,0.3s,baz=219,slow=11,SNR=4.6						
CPUP Villa Florida 16.81 62				*e*Pn		**P**	**03 45 58.2 +0.6**
LPAZ La Paz 19.62 17				P		**P**	**03 46 29.9 +0.6**
	0.4nm,0.3s,baz=182,slow=8.4,SNR=15						
LPAZ La Paz 19.62 17				*e*P		**P**	**03 46 30.1 +0.7**
	9.7nm,1.0s						
USHA Ushuaia 19.91 171				P		**P**	**03 46 31.8 +0.3**
	0.2nm,0.3s,baz=318,slow=5.6,SNR=6.5						
EFI East Falkland 19.95 150				*e*P		**Pn**	**03 46 33.1 -0.7**
	52nm,0.8s						
SIV San Ignacio 22.40 34				P		**P**	**03 46 57.1 -1.7**
	5.7nm,0.8s,baz=232,slow=14,SNR=12						
BDFB Brasilia 30.35 56				P		**P**	**03 48 11.3 -0.5**
	5.8nm,0.8s,baz=224,slow=8.6,SNR=6.9						
SNAA Sanae 50.99 157				P		**P**	**03 51 01.5 +0.4**
	1.9nm,0.9s,baz=259,slow=8.6,SNR=7.3						
SNAA Sanae 50.99 157				*e*P		**P**	**03 51 01.6 +0.4**
	15nm,1.3s						
QSPA South Pole Qui 54.95 180				P		**P**	**03 51 31.1 +0.6**
	7.4nm,0.9s,baz=145,slow=4.5,SNR=14						
QSPA South Pole Qui 54.95 180				*e*P		**P**	**03 51 31.0 +0.6**
	12nm,1.0s						
TXAR Lajitas Array 70.13 333				P		**P**	**03 53 12.4 +0.3**
	0.7nm,0.5s,baz=155,slow=8.2,SNR=6.8						
LIC Lamto 76.66 72				*e*P		**P**	**03 53 51.2 +0.4**
	49nm,1.3s						
TIC Toumodi 76.92 72				*e*P		**P**	**03 53 52.4 +0.1**
	7.3nm,0.7s						
KIC Kosan Boka 76.96 72				*e*P		**P**	**03 53 53.0 +0.5**
	51nm,1.1s						
DBIC Dimbokro 77.06 72				P		**P**	**03 53 53

comp=Z,59nm,1.1s
LPAZ La Paz 18.60 14 P Pn 03 49 13.1 0.0
comp=Z,0.5nm,0.3s,baz=178,slow=8.4,SNR=21
LPAZ La Paz 18.60 14 eP Pn 03 49 14.1 +1.0
comp=Z,59nm,1.1s
USHA Ushuaia 20.52 173 P Pn 03 49 34.6 -0.5
comp=Z,30nm,0.8s,baz=322,slow=7.1,SNR=15
SIV San Ignacio 21.18 32 P P 03 49 39.9 -0.5
comp=Z,42nm,1.0s,baz=230,slow=14,SNR=26
NNA Nana 22.75 349 ceP P 03 50 00.6 +3.4
NNA Nana 22.75 349 P P 03 49 58.1 +0.9
comp=Z,13nm,0.8s,baz=190,slow=9.8,SNR=6.4
NNA Nana 22.75 349 eP P 03 49 58.5 +1.4
comp=Z,37nm,0.9s
SAML Samuel 26.89 21 eP P 03 50 35.5 -0.4
comp=Z,18nm,0.9s
BDFB Brasilia 29.05 56 eP P 03 50 54.0 -1.3
BDFB Brasilia 29.05 56 P P 03 50 54.2 -1.1
comp=Z,12nm,0.8s,baz=237,slow=8.1,SNR=12
BDFB Brasilia 29.05 56 eP P 03 50 54.0 -1.3
OTAV Otavalo 35.00 350 eP P 03 51 50.1 +2.2
comp=Z,26nm,1.2s
ROSC El Rosal 39.20 357 P P 03 52 24.5 +1.0
comp=Z,2.8nm,0.5s,baz=194,slow=4.2,SNR=2.7
ROSC El Rosal 39.20 357 eP P 03 52 21.9 -1.6
SDV Santo Domingo 43.21 3 eP P 03 52 56.9 +0.6
comp=Z,14nm,0.8s
JTS JuntasAbangare 46.07 343 i P P 03 53 19.5 +0.6
JTS pmax pmax
comp=Z,31nm,2.0s
VNA3 Neumayer Olymp 49.07 158 P P 03 53 42.8 +1.1
VNA2 Neumayer--Watz 49.73 157 P P 03 53 47.9 +1.2
SNAA Sanae 51.30 158 P P 03 53 59.6 +1.0
SNAA Sanae 51.30 158 ⇓iP P 03 53 59.1 +0.6
SNAA Sanae 51.30 158 ceP P 03 53 59.5 +1.0
SNAA pmax pmax
comp=Z,117nm,1.6s
SNAA Sanae 51.30 158 P P 03 53 59.4 +0.8
comp=Z,20nm,0.8s,baz=281,slow=7.3,SNR=68
SNAA Sanae 51.30 158 eP P 03 53 59.4 +0.8
comp=Z,60nm,0.9s
QSPA South Pole Qui 55.72 180 P P 03 54 32.0 +0.8
comp=Z,32nm,0.8s,baz=149,slow=1.7,SNR=68
QSPA South Pole Qui 55.72 180 eP P 03 54 32.0 +0.8
NVL N'lazarevskaya 56.05 157 eP P 03 54 33.8 +0.6
NVL pmax pmax
comp=Z,28nm,0.7s
SYO Syowa Base 65.57 159⇑eP P 03 55 36.6 -1.5
SYO Syowa Base 65.57 159⇓epP pP 03 55 45.1 +3.8
934A Benavides 66.46 335 ⇓P P 03 55 46.6 +2.3
baz=67
834A Tilden 66.95 335 ⇑P P 03 55 48.8 +1.5
baz=67
735A Kenedy 67.37 336 ⇓P P 03 55 51.4 +1.4
baz=68
833A Chaparral WMA, 67.43 335 ⇓P P 03 55 51.4 +1.0
baz=68
832A Faith Ranch, C 67.60 334 ⇑P P 03 55 52.1 +0.6
baz=68
734A La Parita Cree 67.61 336 ⇓P P 03 55 52.6 +1.0
baz=68
636A Smothers Creek 67.70 337 ⇓P P 03 55 53.1 +1.0
baz=68
732A Laxson Ranch, 68.00 334 ⇓P P 03 55 54.3 +0.3
baz=68
536A Bastrop 68.25 337 ⇑P P 03 55 56.7 +1.2
baz=69
535A Dale 68.37 337 ⇓P P 03 55 57.5 +1.2
baz=69
633A Saathoff Ranch 68.39 335 ⇑P P 03 55 57.7 +1.2
baz=69
632A Uvalde 68.64 335 ⇓P P 03 55 58.1 0.0
baz=69
631A Perdido Creek 68.84 334 ⇑P P 03 55 59.6 +0.3
baz=69
533A Kerrville 68.90 336 ⇑P P 03 55 59.8 +0.2
baz=69,SNR=6.1
532A Rocksprings 69.25 335 ⇑P P 03 56 01.9 0.0
baz=70,SNR=9.3
434A Burnet 69.33 337 ⇑P P 03 56 02.2 0.0
baz=70,SNR=6.2
336A Riesel 69.40 338 ⇓P P 03 56 03.3 +0.6
baz=70
531A Rocksprings 69.51 334 ⇑P P 03 56 03.9 +0.4
baz=70,SNR=7.2
JCT Junction City 69.54 335 eP P 03 56 03.8 +0.2
JCT pmax pmax
comp=Z,45nm,1.4s
JCT Junction City 69.54 335 ⇑P P 03 56 03.8 +0.2
baz=70,SNR=6.8
JCT Junction City 69.54 335 eP P 03 56 03.8 +0.2
comp=Z,45nm,1.4s
433A Art 69.55 336 ⇓P P 03 56 03.8 +0.2
baz=70,SNR=8.8
KMSC Kings Mountain 69.78 352 ⇓P P 03 56 05.4 +0.5
baz=70
530A J-C Ranch, Com 69.78 334 ⇓P P 03 56 05.4 +0.2
baz=70,SNR=7.9
334A Lometa 69.79 337 ⇑P P 03 56 05.2 0.0
baz=70
432A Menard 69.90 335 ⇑P P 03 56 05.6 -0.2
baz=70
LTX Lajitas 69.94 331 eP P 03 56 06.2 0.0
LTX Lajitas 69.94 331 eP P 03 56 06.2 0.0
TX31 Lajitas Ar. Si 69.94 331 eP P 03 56 06.2 0.0
TXAR Lajitas Array 69.94 331 P P 03 56 06.2 0.0
comp=Z,4.0nm,1.0s,baz=148,slow=7.4,SNR=15
431A Sonora 70.00 335 ⇓P P 03 56 06.4 -0.1
baz=70
333A Richland Sprin 70.03 336 ⇑P P 03 56 06.5 -0.2
baz=70,SNR=6.3
529A Stev Forest Ra 70.09 333 ⇓P P 03 56 06.8 -0.3
baz=70
430A Baggett Ranch, 70.32 334 ⇑P P 03 56 08.2 -0.3
baz=71,SNR=7.6
332A Millersview 70.34 336 ⇓P P 03 56 08.1 -0.4
baz=71,SNR=6.6
234A Clairette 70.38 337 ⇓P P 03 56 08.2 -0.5
baz=71,SNR=6.4
429A Davenport Ranc 70.42 333 ⇑P P 03 56 08.7 -0.4
baz=71,SNR=6.8
331A San Angelo 70.51 335 ⇑P P 03 56 09.1 -0.5
baz=71,SNR=9.2
233A Rising Star 70.64 337 ⇑P P 03 56 10.1 -0.3
baz=71
232A Coleman 70.77 336 ⇑P P 03 56 10.7 -0.4
baz=71
330A Mertzon 70.86 334 ⇑P P 03 56 11.3 -0.5
baz=71
231A Bronte 71.04 335 ⇑P P 03 56 12.1 -0.7
baz=71,SNR=5.1
133A Hamilton Ranch 71.19 337 ⇑P P 03 56 13.3 -0.3
baz=72
329A Wagon Wheel Ra 71.23 334 ⇓P P 03 56 13.6 -0.4
baz=72,SNR=6.4
230A Sterling City 71.28 335 ⇑P P 03 56 13.8 -0.4
baz=72
Z35A Perchaven, San 71.33 338 ⇓P P 03 56 14.2 -0.3
baz=72
ABTX Abilene, Hawle 71.44 336 ⇑P P 03 56 14.7 -0.5
baz=72,SNR=6.4
ABTX Abilene, Hawle 71.44 336 eP P 03 56 14.9 -0.3
comp=Z,46nm,1.5s
Z34A Collier Ranch, 71.58 338 ⇓P P 03 56 15.7 -0.3
baz=72
229A Bryant Ranch, 71.60 334 ⇓P P 03 56 15.6 -0.6
baz=72
WVT Waverly 71.70 347 eP P 03 56 16.1 -0.5
WVT pmax pmax
comp=Z,24nm,0.9s
WVT Waverly 71.70 347 eP P 03 56 16.1 -0.5
comp=Z,24nm,0.9s
131A Roby 71.74 336 ⇑P P 03 56 16.5 -0.6
baz=72
Z33A Whitaker Ranch 71.77 337 ⇓P P 03 56 16.0 -1.1
baz=72
130A Snyder 71.87 335 ⇓P P 03 56 17.1 -0.7
baz=72
JSRW J. Sargeant Re 72.01 356 eP P 03 56 18.0 -0.4
Z32A Haskell 72.02 337 ⇓P P 03 56 18.5 -0.1
baz=72,SNR=7.4
228A UT Block 9, Go 72.02 334 ⇑P P 03 56 18.3 -0.4
baz=72,SNR=5.8
Y34A Reagan Ranch, 72.07 338 ⇓P P 03 56 18.5 -0.4
baz=72
129A Stewart Farms, 72.22 334 ⇑P P 03 56 19.3 -0.6
baz=72

Z31A Sharp Cattle R 72.25 336 ⇓P P 03 56 19.6 -0.4
baz=73,SNR=6.0
Y33A Hilltop Ranch, 72.39 338 ⇑P P 03 56 20.4 -0.4
baz=73
128A Castleberry Fa 72.43 334 ⇓P P 03 56 20.8 -0.4
baz=73,SNR=6.9
Z30A Sanderson Ranc 72.55 335 ⇓P P 03 56 21.3 -0.6
baz=73,SNR=7.1
Y32A R-V Farms, Ver 72.64 337 ⇓P P 03 56 22.4 0.0
baz=73
X34A Smith Ranch, M 72.69 338 ⇑P P 03 56 22.8 +0.2
baz=73
MNTX Cornudas Mount 72.71 331 eP P 03 56 21.6 -1.3
comp=Z,7.1nm,0.9s
Z29A Hungry Hill Ra 72.73 335 ⇓P P 03 56 22.5 -0.5
baz=73,SNR=7.4
X33A Lawton 72.84 338 ⇓P P 03 56 23.4 0.0
baz=73
Y31A Rekieta Farm, 72.87 336 ⇓P P 03 56 23.8 0.0
baz=73
X32A Elmer 72.98 337 ⇓P P 03 56 24.2 -0.1
baz=73
Z28A Tucker Farm, M 73.00 334 ⇑P P 03 56 23.9 -0.6
baz=73
Y29A Porterfield Fa 73.26 335 ⇑P P 03 56 25.2 -0.9
baz=74
TUL1 Leonard 73.32 341 ⇓P P 03 56 26.0 -0.3
baz=74
Z27A Tatum 73.32 334 ⇓P P 03 56 25.7 -0.8
baz=74
X31A McDonald Ranch 73.39 337 ⇑P P 03 56 25.9 -0.9
baz=74
W33A Caddo, Fort Co 73.39 338 ⇓P P 03 56 26.2 -0.5
baz=74
Y28A McKinney Farm, 73.51 335 ⇑P P 03 56 26.6 -1.0
baz=74
Z26A Caprock 73.57 333 ⇓P P 03 56 27.5 -0.4
baz=74,SNR=19
W32A Sentinel 73.61 338 ⇓P P 03 56 27.6 -0.5
baz=74
MSTX Muleshoe 73.75 334 ⇑P P 03 56 28.3 -0.8
baz=74
MSTX Muleshoe 73.75 334 eP P 03 56 28.6 -0.4
comp=Z,14nm,0.9s
X29A Tulia 73.80 335 ⇓P P 03 56 28.7 -0.6
baz=74
Y27A Causey 73.81 334 ⇓P P 03 56 28.7 -0.7
baz=74
Z25A Roswell 73.85 332 ⇑P P 03 56 28.7 -0.9
baz=74
W31A Holland Ranch, 73.89 337 ⇑P P 03 56 29.1 -0.6
baz=74
V33A Lossen Ranch, 73.96 339 ⇓P P 03 56 29.8 -0.3
baz=74
X28A Dimmitt 74.04 335 ⇓P P 03 56 30.3 -0.4
baz=74
319A Douglas 74.07 328 ⇓P P 03 56 30.7 -0.2
baz=74
Y26A Elida 74.09 333 ⇑P P 03 56 31.0 -0.1
baz=74,SNR=6.0
Z24A Sheeppen Canyo 74.15 332 ⇓P P 03 56 31.3 -0.2
baz=74,SNR=8.7
AMTX Amarillo 74.19 336 ⇓P P 03 56 31.7 +0.2
baz=74
AMTX Amarillo 74.19 336 eP P 03 56 31.0 -0.5
comp=Z,21nm,1.1s
U34A Anderson Ranch 74.31 339 ⇓P P 03 56 32.3 +0.2
baz=75
V31A Spring Creek L 74.40 337 ⇓P P 03 56 33.1 +0.4
baz=75
W29A Amarillo 74.40 336 ⇓P P 03 56 32.5 -0.2
baz=75
Y25A Mesa, Roswell 74.42 333 ⇓P P 03 56 33.0 0.0
baz=75
121A Cookes Peak, D 74.42 330 ⇑P P 03 56 33.2 +0.1
baz=75
X26A CR and CF Fran 74.65 334 ⇓P P 03 56 34.2 -0.1
baz=75,SNR=7.6
Y24A Capitan 74.70 332 ⇑P P 03 56 34.4 -0.3
baz=75,SNR=6.7
W28A Vega 74.71 335 ⇑P P 03 56 34.4 -0.2
baz=75
Z22A Elephant Butte 74.72 331 ⇑P P 03 56 34.9 +0.2
baz=75,SNR=7.6
W27A Bowe Ranch, En 74.84 335 ⇑P P 03 56 35.4 +0.1
baz=75,SNR=6.1
Y23A Lovelace Mesa, 74.95 332 ⇑P P 03 56 36.1 0.0
baz=75,SNR=7.0
ACSO Alum Creek Sta 74.99 352 eP P 03 56 35.4 -0.6
comp=Z,21nm,0.8s
W26A Owens Ranch, T 75.11 334 ⇓P P 03 56 37.4 +0.4
baz=75,SNR=5.9
T33A Patterson Ranc 75.11 339 ⇑P P 03 56 37.0 +0.2
baz=75
X24A Lazy VL Ranch, 75.27 332 ⇑P P 03 56 37.9 -0.1
baz=76,SNR=5.4
V27A Dan Oppiter Fa 75.38 335 ⇓P P 03 56 38.8 +0.4
baz=76
W25A X Bar L Ranch, 75.48 334 ⇓P P 03 56 39.4 +0.3
baz=76
LPM Los Pinos Moun 75.51 331 eP P 03 56 39.8 +0.5
TUC Tucson 75.53 327 eP P 03 56 40.0 +0.7
TUC pmax pmax
comp=Z,14nm,1.4s
TUC Tucson 75.53 327 eP P 03 56 40.0 +0.7
comp=Z,14nm,1.4s
T31A Randall Ranch, 75.56 338 ⇓P P 03 56 40.0 +0.7
baz=76
X23A Hourglass Bar 75.57 332 ⇓P P 03 56 40.5 +0.8
baz=76
U28A Mallet 75.73 336 ⇑P P 03 56 41.0 +0.5
baz=76
V26A Tequesquite Ra 75.75 334 ⇑P P 03 56 40.6 0.0
baz=76
W24A Lazy 6 Ranch, 75.83 333 ⇑P P 03 56 41.1 0.0
baz=76
DBIC Dimbokro 75.83 72 eP P 03 56 41.0 -0.4
DBIC Dimbokro 75.83 72 eP P 03 56 42.0 +0.6
DBIC pmax pmax
comp=Z,17nm,1.0s
DBIC Dimbokro 75.83 72 P P 03 56 41.8 +0.4
comp=Z,7.0nm,0.7s,baz=207,slow=4.9,SNR=10
DBIC Dimbokro 75.83 72 eP P 03 56 42.0 +0.6
comp=Z,17nm,1.0s
U27A Thompson Grove 75.98 335 ⇓P P 03 56 42.1 +0.2
baz=76
ANMO Albuquerque 76.00 332 ceP P 03 56 42.2 +0.1
ANMO pmax pmax
comp=Z,51nm,1.2s
ANMO Albuquerque 76.00 332 eP P 03 56 42.5 +0.5
comp=Z,13nm,1.3s
W23A Werner Place, 76.07 332 ⇑P P 03 56 42.4 -0.1
baz=76,SNR=7.3
V25A Rancho No Teng 76.09 334 ⇑P P 03 56 42.5 -0.2
baz=76,SNR=7.4
T29A Hugoton 76.13 337 ⇓P P 03 56 43.3 +0.6
baz=76
214A Organ Pipe Nat 76.15 326 ⇑P P 03 56 42.9 +0.1
baz=76
R33A Olander Ranch, 76.18 340 ⇑P P 03 56 43.6 +0.7
baz=76
V24A Rampart Ranch, 76.23 333 ⇑P P 03 56 43.9 +0.4
baz=76
U26A Atchley Ranch, 76.27 335 ⇓P P 03 56 43.8 +0.1
baz=77
S30A Montezuma 76.31 338 ⇑P P 03 56 44.0 +0.4
baz=77
T28A Walsh 76.37 336 ⇓P P 03 56 44.1 0.0
baz=77
R32A Long Quarter, 76.49 339 ⇑P P 03 56 44.8 +0.2
baz=77
S29A Ulysses 76.50 337 ⇓P P 03 56 45.1 +0.4
baz=77
U25A Circle Dot Ran 76.52 334 ⇓P P 03 56 44.9 -0.1
baz=77
T27A Campo 76.52 336 ⇓P P 03 56 44.7 -0.3
baz=77
V23A Ortiz Mt. (NFS 76.59 332 ⇓P P 03 56 45.3 -0.2
baz=77
R31A Burdett 76.61 339 ⇓P P 03 56 45.8 +0.4
baz=77
S28A Manter 76.72 337 ⇑P P 03 56 46.0 -0.1
baz=77
R30A Dighton 76.84 338 ⇑P P 03 56 47.2 +0.5
baz=77
U24A Moreno Valley 76.84 333 ⇓P P 03 56 47.1 +0.1
baz=77
T26A Comanche Natio 76.92 335 ⇓P P 03 56 47.1 -0.2
baz=77

Q32A Meitler Ranch, 76.98 340 ⇑P P 03 56 47.3 0.0
baz=77
V22A San Miguel Ran 77.02 332 ⇑P P 03 56 49.1 +1.1
baz=77,SNR=10
X18A Snowflake 77.05 329 ⇑P P 03 56 48.2 +0.1
baz=77
U23A El Rito 77.11 333 ⇓P P 03 56 49.1 +0.7
baz=77,SNR=5.7
T25A Trinidad 77.18 334 ⇑P P 03 56 49.2 +0.5
baz=78
Q31A Ellis 77.23 339 ⇑P P 03 56 49.2 +0.4
baz=78
R29A Marienthal 77.24 337 ⇓P P 03 56 49.5 +0.6
baz=78
S26A Kim 77.28 335 ⇓P P 03 56 49.6 +0.3
baz=78
R28A Tribune 77.38 337 ⇓P P 03 56 50.0 +0.3
baz=78
U22A Llaves 77.41 332 ⇑P P 03 56 50.3 +0.3
baz=78,SNR=7.1
Q30A Quinter 77.46 338 ⇓P P 03 56 50.3 +0.3
baz=78
T24B San Luis 77.46 334 ⇑P P 03 56 50.8 +0.3
baz=78
P32A Huiting Farm, 77.58 340 ⇑P P 03 56 51.3 +0.6
baz=78
X16A Lo Mia Camp, P 77.60 328 ⇑P P 03 56 51.4 +0.2
baz=78,SNR=12
Q29A Oakley 77.61 338 ⇑P P 03 56 50.9 -0.1
baz=78
R27A Eads 77.65 336 ⇓P P 03 56 51.3 0.0
baz=78
S25A Robets Cordova 77.65 335 ⇓P P 03 56 51.3 -0.1
baz=78
T23A Casias Ranch, 77.68 333 ⇑P P 03 56 51.5 -0.1
baz=78
P31A Stockton 77.71 339 ⇑P P 03 56 52.1 +0.7
baz=78
R26A Arlington 77.88 336 ⇓P P 03 56 52.7 +0.1
baz=78
Y14A Wickenburg 77.90 327 ⇓P P 03 56 52.9 +0.2
baz=78
S24A Houchin Ranch, 77.91 334 ⇑P P 03 56 53.4 +0.5
baz=78
Q28A Sharon Springs 78.04 337 ⇓P P 03 56 54.0 +0.6
baz=78
SDCO Great Sand Dun 78.11 334 eP P 03 56 54.4 +0.4
comp=Z,7.0nm,1.0s
P29A Atwood 78.25 338 ⇓P P 03 56 55.0 +0.5
baz=79
KSCO Kaye Shedlock' 78.25 337 ⇑P P 03 56 55.5 +0.9
baz=79
KSCO Kaye Shedlock' 78.25 337 eP P 03 56 55.3 +0.7
comp=Z,34nm,1.4s
R24A Sanders Place, 78.40 334 ⇑P P 03 56 56.3 +0.7
baz=79
Y12C Blythe 78.44 325 ⇓P P 03 56 56.4 +0.8
baz=79
Q26A Hugo 78.47 336 ⇓P P 03 56 56.6 +0.7
baz=79
P28A Saint Francis 78.48 337 ⇓P P 03 56 56.8 +1.0
baz=79
WUAZ Wupatki 78.50 329 ⇑P P 03 56 56.7 +0.6
baz=79,SNR=7.6
WUAZ Wupatki 78.50 329 eP P 03 56 56.9 +0.8
comp=Z,15nm,1.0s
O30A MW Ranch, Wils 78.51 339 ⇑P P 03 56 56.7 +0.8
baz=79
S22A 4UR Ranch, Cre 78.60 333 ⇓P P 03 56 57.1 +0.3
baz=79
R23A Moffat 78.62 334 ⇓P P 03 56 57.1 +0.3
baz=79
MONP Monument Peak, 78.65 324 ⇓P P 03 56 57.2 +0.2
baz=79
O29A 4D Ranch, Culb 78.69 338 ⇓P P 03 56 57.7 +0.8
baz=79
Q25A Bedland, Calha 78.71 335 ⇑P P 03 56 57.5 +0.3
baz=79
P27A Ficken Ranch, 78.73 337 ⇓P P 03 56 57.9 +0.7
baz=79
MVCO Mesa Verde 78.77 332 ⇓P P 03 56 58.3 +0.6
baz=79,SNR=6.1
MVCO Mesa Verde 78.77 332 eP P 03 56 58.0 +0.3
comp=Z,21nm,1.3s
BC3 Big Chuckawall 78.80 325 ⇑P P 03 56 57.9 +0.1
baz=79,SNR=5.6
EML El Monte Cty P 78.86 323 ePKiKP PKiKP 04 02 33.5 +0.8
P26A Davis Ranch, A 78.98 336 ⇑P P 03 57 00.0 +1.3
baz=79
Q24A Divide 79.07 335 ⇓P P 03 56 59.9 +0.6
baz=79
IRM Iron Mountain 79.07 325 ⇓P P 03 57 00.0 +0.9
baz=79
P25A Willow Gulch B 79.22 336 ⇑P P 03 57 00.5 +0.5
baz=80
PFO Pinyon Flats O 79.25 324 eP P 03 57 01.2 +1.0
PFO pmax pmax
comp=Z,13nm,1.1s
PFO Pinyon Flats O 79.25 324 ⇑P P 03 57 01.0 +0.8
baz=80,SNR=5.5
PFO Pinyon Flats O 79.25 324 eP P 03 57 01.2 +1.0
comp=Z,12nm,1.1s
W13A Hualapai Mount 79.26 327 ⇑P P 03 57 01.0 +0.6
baz=80
O27A Beecher Island 79.27 337 ⇓P P 03 57 00.8 +0.6
baz=80
M31A Lambtecht Ranc 79.28 340 ⇓P P 03 57 00.8 +0.7
baz=80
HVD Garlep Dam 79.35 120 eP P 03 57 00.7 -0.5
HVD AMB AMB 03 57 13.3
comp=Z,26nm,1.3s
N28A Pribbeno Ranch 79.43 338 ⇑P P 03 57 02.0 +1.0
baz=80
TSUM Tsumeb 79.56 106 eP P 03 57 04.1 +1.7
comp=Z,18nm,1.3s
O26A Horse Wrangler 79.59 337 ⇑P P 03 57 02.8 +0.8
baz=80
MURC Murrieta 79.60 323 ⇑P P 03 57 03.0 +1.0
baz=80
PV01 Paradox Valley 79.60 332 eP P 03 57 02.5 +0.3
U15A North Rim 79.67 328 ⇓P P 03 57 03.7 +1.1
baz=80,SNR=10
P23A Jefferson 79.68 334 ⇑P P 03 57 03.5 +0.8
baz=80
PV05 Paradox Valley 79.76 332 eP P 03 57 02.6 -0.4
LDFC Landfair 79.81 326 eP P 03 57 03.8 +0.5
comp=Z,11nm,0.5s
GMRC Granite Mounta 79.82 325 ⇑P P 03 57 04.4 +1.1
baz=80,SNR=6.4
N27A Anderson Farm, 79.85 337 ⇑P P 03 57 04.2 +0.9
baz=80
SMCO Snowmass 79.91 334 eP P 03 57 04.8 +0.7
comp=Z,17nm,1.1s
PV04 Paradox Valley 79.96 332 eP P 03 57 04.0 -0.1
ISCO Idaho Springs 79.97 335 eP P 03 57 04.7 +0.5
ISCO pmax pmax
comp=Z,21nm,1.7s
ISCO Idaho Springs 79.97 335 ⇓P P 03 57 05.0 +0.7
baz=80
ISCO Idaho Springs 79.97 335 eP P 03 57 04.7 +0.5
comp=Z,21nm,1.7s
PV10 Paradox Valley 80.00 332 eP P 03 57 03.9 -0.5
L31A Butterfield Fa 80.01 341 ⇑P P 03 57 05.2 +1.2
baz=80
L30A Spencer Herefo 80.05 340 ⇑P P 03 57 05.4 +1.2
baz=80
PV09 Paradox Valley 80.14 332 eP P 03 57 05.1 0.0
HEC Hector,Ludlow 80.18 325 ⇑P P 03 57 06.5 +1.3
baz=80,SNR=5.8
P22A Eagle 80.20 334 ⇑P P 03 57 06.0 +0.6
baz=80
BOSA Boshof 80.28 118 eP P 03 57 06.5 +0.3
BOSA AMB AMB 03 57 27.2
comp=Z,24nm,1.2s
BOSA Boshof 80.28 118 eP P 03 57 06.2 +0.1
BOSA pmax pmax
comp=Z,54nm,1.5s
BOSA Boshof 80.28 118 P P 03 57 06.3 +0.1
comp=Z,10nm,0.8s,baz=237,slow=4.2,SNR=9.8
BOSA Boshof 80.28 118 eP P 03 57 06.2 +0.1
comp=Z,54nm,1.5s
BFSC Mount Baldy Ra 80.34 324 ⇑P P 03 57 06.9 +0.8
baz=81
KNB Kanab 80.39 328 eP P 03 57 07.4 +1.0
KNB pmax pmax
comp=Z,23nm,1.1s
KNB Kanab 80.39 328 eP P 03 57 07.4 +1.0

comp=Z,23nm,1.1s
O23A Lake Granby, G 80.45 335 ⇑P P 03 57 07.5 +0.7
baz=81
TUQ Turquoise Moun 80.48 325 ⇓P P 03 57 07.6 +0.8
baz=81,SNR=6.0
O22A Kremmling 80.63 334 ⇑P P 03 57 08.3 +0.6
baz=81
N24A Carr 80.64 336 ⇓P P 03 57 08.3 +0.7
baz=81
K30A Basset 80.69 340 ⇓P P 03 57 08.1 +0.4
baz=81
GSC Goldstone, Bar 80.79 325 *e*P P 03 57 09.1 +0.6
GSC pmax pmax
comp=Z,25nm,0.3s
GSC Goldstone, Bar 80.79 325 ⇓P P 03 57 08.7 +0.2
baz=81
GSC Goldstone, Bar 80.79 325 *e*P P 03 57 09.1 +0.6
comp=Z,25nm,0.3s
ECSD EROS Data Cent 80.89 343 ⇑P P 03 57 08.8 +0.1
baz=81
ECSD EROS Data Cent 80.89 343 *e*P P 03 57 08.3 -0.4
comp=Z,16nm,0.9s
SHPR Sheep Range 81.01 327 *e*P P 03 57 09.8 +0.1
N23A Red Feather La 81.06 335 ⇑P P 03 57 10.1 +0.1
baz=81
CCUT Cedar City 81.08 328 *e*P P 03 57 11.5 +1.3
comp=Z,14nm,1.1s
N22A Wattenberg Ran 81.16 335 ⇓P P 03 57 10.6 +0.1
baz=82
M24A Cheyenne 81.19 336 ⇓P P 03 57 10.9 +0.3
baz=82
SRU San Rafael Swe 81.22 331 *e*P P 03 57 10.8 0.0
SRU pmax pmax
comp=Z,13nm,1.2s
SRU San Rafael Swe 81.22 331 *e*P P 03 57 10.8 0.0
comp=Z,13nm,1.2s
O20A White River Ci 81.22 333 ⇓P P 03 57 11.1 +0.3
baz=82
K28A Ten Mile Ranch 81.23 339 ⇓P P 03 57 11.2 +0.6
baz=82
PHWY Pilot Hill 81.26 336 *e*P P 03 57 11.1 0.0
comp=Z,11nm,1.1s
J30A Dallas 81.26 341 ⇑P P 03 57 11.4 +0.7
baz=82
ARUT Antelope Range 81.31 328 *e*P P 03 57 12.2 +0.9
ARUT Antelope Range 81.31 328 *e*P P 03 57 12.2 +0.9
LRMC Laurel Mtn Rad 81.35 324 ⇓P P 03 57 11.9 +0.4
baz=82,SNR=6.1
K27A Flueckinger Fa 81.48 338 ⇑P P 03 57 12.7 +0.7
baz=82
M23A Laramie 81.50 336 ⇑P P 03 57 12.4 +0.2
baz=82
J29A Okreek 81.56 340 ⇓P P 03 57 12.3 0.0
baz=82
TMUT Trail Mountain 81.65 331 *e*P P 03 57 13.7 +0.5
comp=Z,116nm,2.5s
I30A Oacoma 81.78 341 ⇓P P 03 57 12.9 -0.6
baz=82
N20A Spence Gulch, 81.84 333 ⇓P P 03 57 13.7 -0.3
baz=82
J28A Allard Ranch, 81.84 339 ⇓P P 03 57 13.4 -0.4
baz=82
ISA Isabella, Lake 81.88 324 *e*P P 03 57 14.9 +0.7
ISA pmax pmax
comp=Z,10.0nm,1.0s
ISA Isabella, Lake 81.88 324 ⇑P P 03 57 14.5 +0.3
baz=82,SNR=6.3
ISA Isabella, Lake 81.88 324 *e*P P 03 57 14.9 +0.7
comp=Z,10.0nm,1.0s
J27A Elkhorn Farm, 81.91 339 ⇓P P 03 57 14.7 +0.4
baz=82
DAC Darwin (Calif) 81.95 325 *e*P P 03 57 15.4 +0.6
DAC pmax pmax
comp=Z,12nm,1.0s
DAC Darwin (Calif) 81.95 325 *e*P P 03 57 15.4 +0.6
comp=Z,12nm,1.0s
I29A Vivian Onida 82.12 340 ⇑P P 03 57 15.7 +0.4
baz=82
SEK Senekal 82.17 119 *e*P P 03 57 12.8 -3.4
SEK AMB AMB 03 57 13.9
comp=Z,37nm,2.4s
L22A Ellis Ranch, M 82.24 335 ⇓P P 03 57 16.0 -0.2
baz=83
J26A Sides Ranch, S 82.29 338 ⇑P P 03 57 16.2 +0.1
baz=83
K24A Anderson Ranch 82.31 337 ⇓P P 03 57 16.6 +0.2
baz=83
VES Vestal, Richgr 82.32 324 ⇓P P 03 57 16.4 -0.1
baz=83
I28A Midland 82.35 340 ⇑P P 03 57 16.6 +0.1
baz=83
MPU Maple Canyon 82.43 331 *e*P P 03 57 17.3 +0.1
comp=Z,18nm,1.3s
LBTB Lobatse 82.55 115 *e*P P 03 57 17.8 -0.4
LBTB AMB AMB 03 57 25.0
comp=Z,20nm,3.7s
LBTB Lobatse 82.55 115 *e*P P 03 57 18.3 +0.1
LBTB pmax pmax
comp=Z,13nm,0.9s
LBTB Lobatse 82.55 115 *e*P P 03 57 18.3 +0.1
comp=Z,13nm,0.9s
NLU North Lily Min 82.56 331 *e*P P 03 57 18.3 +0.4
comp=Z,25nm,1.6s
J25A Sunshine Ranch 82.59 338 ⇓P P 03 57 17.2 -0.6
baz=83
K23A Bowen Ranch, D 82.61 336 ⇓P P 03 57 17.9 -0.1
baz=83
DAU Daniels Canyon 82.62 331 *e*P P 03 57 18.2 -0.1
DAU Daniels Canyon 82.62 331 *e*P P 03 57 18.2 -0.1
H29A Onida 82.66 341 ⇑P P 03 57 17.4 -0.6
baz=83
I27A Quinn 82.67 339 ⇑P P 03 57 18.4 +0.2
baz=83
R11A Troy Canyon, C 82.72 327 ⇑P P 03 57 19.0 +0.3
baz=83
R11A Troy Canyon, C 82.72 327 *e*P P 03 57 19.4 +0.7
comp=Z,16nm,1.1s
RCTC Rector, Farmer 82.77 324 ⇓P P 03 57 18.8 +0.1
baz=83
J24A Dixon Ranch, L 82.81 337 ⇑P P 03 57 18.9 0.0
baz=83
K22A Casper 82.82 336 ⇓P P 03 57 18.8 -0.3
baz=83
K22A Casper 82.82 336 *e*P P 03 57 19.2 +0.1
comp=Z,33nm,1.6s
JLU Jordanelle 82.86 331 *e*P P 03 57 19.8 +0.3
comp=Z,6.7nm,0.9s
H28A Mission Ridge 82.93 340 ⇑P P 03 57 18.9 -0.5
baz=83
K21A Alcova 83.06 335 ⇓P P 03 57 20.0 -0.3
baz=83
DUG Dugway, Tooele 83.06 330 *e*P P 03 57 21.0 +0.6
DUG pmax pmax
comp=Z,26nm,1.3s
DUG Dugway, Tooele 83.06 330 ⇓P P 03 57 20.0 -0.4
baz=83
DUG Dugway, Tooele 83.06 330 *e*P P 03 57 21.0 +0.6
comp=Z,26nm,1.3s
G29A Hoven 83.10 341 ⇓P P 03 57 20.4 +0.1
baz=83
I25A Rochford 83.13 338 ⇑P P 03 57 20.5 -0.2
baz=84
J23A Dilts Ranch, B 83.16 337 ⇑P P 03 57 20.8 -0.1
baz=84
H27A Howes 83.19 339 ⇑P P 03 57 20.3 -0.5
baz=84
TPH Tonopah 83.23 326 *e*P P 03 57 22.4 +1.0
TPH pmax pmax
comp=Z,17nm,1.2s
TPH Tonopah 83.23 326 *e*P P 03 57 22.4 +1.0
comp=Z,17nm,1.2s
G28A Parade 83.27 340 ⇑P P 03 57 20.7 -0.5
baz=84
KLOF Kloof 83.28 117 *e*P P 03 57 19.0 -3.1
KLOF AMB AMB 03 57 22.8
comp=Z,12nm,2.1s
TCUT Toone Canyon 83.28 332 *e*P P 03 57 22.7 +1.1
comp=Z,17nm,1.2s
RSSD Black Hills 83.32 338 *e*P P 03 57 21.4 -0.3
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 83.32 338 *e*P P 03 57 21.4 -0.3
comp=Z,7.1nm,0.9s
MLAC Mammoth, Mammo 83.63 325 ⇓P P 03 57 22.7 -0.7
baz=84
H25A Fruitdale 83.64 338 ⇑P P 03 57 23.2 +0.1
baz=84
F29A Eureka 83.67 341 ⇓P P 03 57 23.1 -0.1
baz=84
HWUT Hardware Ranch 83.76 332 *e*P P 03 57 24.0 0.0
BGU Big Grassy Mou 83.77 330 *e*P P 03 57 24.6 +0.6
comp=Z,4.5nm,1.1s
G27A Dupree 83.83 340 ⇑P P 03 57 23.8 -0.3
baz=84
SPUT South Promonto 83.86 331 *e*P P 03 57 24.9 +0.4
comp=Z,18nm,1.1s
I22A 9 Mile Ranch, 83.91 336 ⇓P P 03 57 24.1 -0.5
baz=84
G26A Maurine 83.95 339 ⇓P P 03 57 24.4 -0.3
baz=84
J20A Shoshoni 83.98 335 ⇓P P 03 57 24.5 -0.5
baz=84
BW06 Boulder Array 84.00 334 *e*P P 03 57 24.7 -0.6
PD31 Pinedale Array 84.00 334 *e*P P 03 57 25.4 +0.2
PDAR Pinedale Array 84.00 334 P P 03 57 25.4 +0.2
comp=Z,1.4nm,0.9s,baz=145,slow=5.4,SNR=7.3
NV01 Mina Array Sit 84.02 326 *e*P P 03 57 25.7 +0.3
NVAR Mina Array Bea 84.02 326 P P 03 57 26.3 +0.8
comp=Z,3.0nm,0.8s,baz=148,slow=6.0,SNR=16
H24A Dirks Ranch, A 84.04 338 ⇑P P 03 57 24.6 -0.6
baz=84
G25A Newell 84.10 339 ⇑P P 03 57 24.8 -0.7
baz=84
I21A Big Trails, Te 84.11 336 ⇑P P 03 57 24.9 -0.7
baz=84
SLR Silverton 84.13 117 *e*P P 03 57 25.0 -1.5
SLR AMB AMB 03 57 30.3
comp=Z,40nm,2.3s
J19A Crowheart 84.25 334 ⇓P P 03 57 25.8 -0.6
baz=85
E29A Napoleon 84.30 342 ⇑P P 03 57 26.1 -0.3
baz=85
F27A Lemmon 84.31 340 ⇓P P 03 57 26.2 -0.3
baz=85
F26A Lodgepole 84.47 339 ⇑P P 03 57 26.7 -0.7
baz=85
I20A Worland 84.52 335 ⇑P P 03 57 26.3 -1.4
baz=85
ELK Elko 84.54 329 *e*P P 03 57 28.1 +0.1
ELK pmax pmax
comp=Z,8.0nm,0.9s
ELK Elko 84.54 329 *e*P P 03 57 28.1 +0.1
comp=Z,8.1nm,0.9s
D30A Buchanan 84.58 342 ⇑P P 03 57 26.5 -1.3
baz=85
E28A Huff 84.58 341 ⇓P P 03 57 26.9 -1.0
baz=85
WAKR Walker 84.61 325 *e*P P 03 57 29.7 +1.3
E27A Carson 84.69 340 ⇓P P 03 57 27.9 -0.5
baz=85
CMB Columbia Colle 84.70 324 *e*P P 03 57 29.2 +0.6
CMB pmax pmax
comp=Z,9.0nm,1.2s
CMB Columbia Colle 84.70 324 *e*P P 03 57 29.2 +0.6
comp=Z,8.8nm,1.2s
G23A Biddle 84.72 337 ⇓P P 03 57 28.1 -0.5
baz=85
H21A Big Horn, Sher 84.74 336 ⇑P P 03 57 28.4 -0.5
baz=85
D29A Pettibone, Tap 84.75 342 ⇑P P 03 57 27.8 -0.8
baz=85
F25A Bowman 84.77 339 ⇓P P 03 57 28.0 -0.8
baz=85
TOA0 Torodi Ar. Sit 84.87 70 *e*P P 03 57 29.6 -0.4
TORD Torodi Ar. Bea 84.87 70 P P 03 57 29.8 -0.2
comp=Z,6.3nm,0.7s,baz=253,slow=2.4,SNR=31
I19A Meeteetse 84.90 335 ⇑P P 03 57 29.0 -0.7
baz=85
H20A Greybull 84.94 335 ⇑P P 03 57 29.0 -0.8
baz=85
E26A Carlson Angus 84.98 340 ⇑P P 03 57 28.7 -1.2
baz=85
F24A Ekalaka 85.00 338 ⇑P P 03 57 29.3 -0.7
baz=85
AGMN Agassiz Nation 85.02 345 ⇑P P 03 57 29.4 -0.5
baz=85
AGMN Agassiz Nation 85.02 345 *e*P P 03 57 29.1 -0.8
comp=Z,98nm,2.5s
SNOW Snow King Moun 85.04 333 *e*P P 03 57 30.0 -0.5
comp=Z,88nm,2.6s
C30A Mose, Pekin 85.06 343 ⇑P P 03 57 29.9 -0.3
baz=85
LOHW Long Hollow 85.11 333 *e*P P 03 57 30.2 -0.6
comp=Z,84nm,2.8s
D28A Regan 85.12 341 ⇓P P 03 57 30.4 -0.1
baz=85
TPAW Teton Pass 85.14 333 *e*P P 03 57 30.8 -0.2
comp=Z,9.1nm,1.1s
F23A Volborg 85.18 338 ⇑P P 03 57 30.1 -0.8
baz=86
E25A Miller Ranch, 85.28 339 ⇑P P 03 57 31.7 +0.3
baz=86
FXWY Fox Creek 85.29 333 *e*P P 03 57 31.2 -0.5
I17A Pilgrim Ck. 85.37 334 ⇓P P 03 57 31.9 -0.2
baz=86
H19A Powell 85.45 335 ⇑P P 03 57 32.2 -0.2
baz=86
IMW Indian Meadow 85.48 333 *e*P P 03 57 32.7 -0.1
comp=Z,8.5nm,1.1s
D26A Manning 85.48 340 ⇓P P 03 57 32.2 -0.2
baz=86
F22A Rosebud 85.51 337 ⇑P P 03 57 32.6 0.0
baz=86
FLWY Flagg Ranch 85.55 334 *e*P P 03 57 33.1 0.0
comp=Z,9.9nm,0.9s
G20A Bridger 85.66 336 ⇓P P 03 57 32.8 -0.6
baz=86
H18A Shoshone NF, C 85.69 334 ⇑P P 03 57 33.2 -0.5
baz=86
B30A Myrvik Farm, E 85.72 343 ⇓P P 03 57 33.5 0.0
baz=86
D25A Fairfield 85.84 340 ⇑P P 03 57 34.1 -0.1
baz=86
C27A Sayler Ranch, 85.85 341 ⇑P P 03 57 33.9 -0.3
baz=86
RLMT Red Lodge 85.94 335 *e*P P 03 57 34.9 0.0
comp=Z,6.5nm,0.9s
B29A Wagenman Farm, 85.99 343 ⇓P P 03 57 34.5 -0.3
baz=86
C26A Wahner Farm, P 86.11 341 ⇓P P 03 57 35.5 0.0
baz=86
YMR Madison River 86.15 334 *e*P P 03 57 36.4 +0.4
comp=Z,14nm,1.0s
A30A Hoffart Farm, 86.18 343 ⇑P P 03 57 35.5 -0.2
baz=86
B28A Dugan Ranch, T 86.23 342 ⇓P P 03 57 35.6 -0.4
baz=87
LAO LASA Array 86.30 338 *e*P P 03 57 36.3 -0.2
comp=Z,183nm,2.8s
A29A Manning Farm, 86.38 343 ⇑P P 03 57 36.5 -0.2
baz=87
D23A Lindsay 86.42 338 ⇓P P 03 57 36.8 -0.2
baz=87
E21A Keefer Ranch, 86.44 337 ⇑P P 03 57 37.4 +0.3
baz=87
F19A Roth Farm, Mol 86.46 336 ⇑P P 03 57 37.2 -0.1
baz=87
C24A Savage 86.51 339 ⇑P P 03 57 36.9 -0.6
baz=87
HLID Hailey 86.54 331 ⇓P P 03 57 37.3 -0.6
baz=87
HLID Hailey 86.54 331 *e*P P 03 57 38.0 +0.1
comp=Z,6.3nm,1.0s
D22A Cohagen 86.70 338 ⇓P P 03 57 38.3 -0.1
baz=87
E20A Meyer Farm, Mu 86.76 336 ⇑P P 03 57 38.4 -0.3
baz=87
ULM Lac du Bonnet 86.87 345 *e*P P 03 57 38.3 -0.8
ULM pmax pmax
comp=Z,8.0nm,0.9s
ULM Lac du Bonnet 86.87 345 P P 03 57 38.3 -0.8
comp=Z,2.7nm,0.8s,baz=186,slow=4.6,SNR=4.9
ULM Lac du Bonnet 86.87 345 *e*P P 03 57 38.3 -0.8
comp=Z,8.0nm,0.9s
D21A La Casta Ranch 86.88 337 ⇓P P 03 57 38.9 -0.4
baz=87
E19A Rath Farm, Rou 86.94 336 ⇑P P 03 57 39.1 -0.6
baz=87
C23A Lambert 86.98 339 ⇓P P 03 57 39.4 -0.4
baz=87
MCMT McKenzie Canyo 86.99 333 *e*P P 03 57 40.7 +0.6
A26A Wade Farm, Ken 87.08 341 ⇑P P 03 57 39.6 -0.5
baz=87
C22A Vida 87.14 338 ⇓P P 03 57 40.1 -0.4
baz=88
D20A Manuel Ranch, 87.28 337 ⇑P P 03 57 40.8 -0.4
baz=88
DGMT Dagmar 87.29 340 ⇑P P 03 57 41.1 -0.1
baz=88
DGMT Dagmar 87.29 340 *e*P P 03 57 41.0 -0.2
comp=Z,33nm,0.8s
DLMT Dillon 87.35 333 *e*P P 03 57 42.1 +0.3
comp=Z,14nm,1.4s
WVOR Wild Horse Val 87.39 328 *e*P P 03 57 42.1 +0.1
WVOR pmax pmax
comp=Z,8.0nm,1.1s
WVOR Wild Horse Val 87.39 328 *e*P P 03 57 42.0 +0.1
comp=Z,8.1nm,1.1s
A25A Svangstu Ranch 87.41 340 ⇑P P 03 57 41.5 -0.3
baz=88
B23A Brockton 87.52 339 ⇓P P 03 57 42.5 +0.2
baz=88
D19A Cripps Ranch, 87.58 336 ⇓P P 03 57 42.2 -0.5
baz=88
C21A Desert Coulee 87.59 338 ⇓P P 03 57 42.1 -0.5
baz=88
A24A Westby 87.64 340 ⇑P P 03 57 42.7 -0.2
baz=88
LRM Limekiln Ridge 87.68 333 *e*P P 03 57 43.6 +0.1
MOD Modoc Plateau 87.71 326 *e*P P 03 57 43.6 +0.1
comp=Z,12nm,0.9s
WDC Whiskeytown Da 87.73 324 *e*P P 03 57 42.9 -0.5
WDC pmax pmax
comp=Z,193nm,2.5s
WDC Whiskeytown Da 87.73 324 *e*P P 03 57 42.9 -0.5
comp=Z,193nm,2.5s
C20A Veseth Ranch, 87.78 337 ⇓P P 03 57 42.9 -0.7
baz=88
N02D Trinity Center 88.11 324 ⇑P P 03 57 45.1 -0.3
baz=88
C19A Slack Wire Ran 88.14 336 ⇑P P 03 57 45.6 +0.3
baz=88
A22A Carney Farms, 88.26 339 ⇑P P 03 57 45.5 -0.4
baz=89
M04C Macdoel 88.33 326 ⇑P P 03 57 46.1 -0.3
baz=89
A21A Bergtoll Ranch 88.57 338 ⇓P P 03 57 46.9 -0.4
baz=89
EGMT Eagleton 88.62 336 ⇑P P 03 57 47.3 -0.4
baz=89
K05A Summer Lake 88.63 327 *e*P P 03 57 48.9 +1.0
comp=Z,26nm,1.0s
A20A Cobblestone Ra 88.78 338 ⇓P P 03 57 47.7 -0.6
baz=89
BMO Blue Mountains 88.78 330 *e*P P 03 57 48.4 -0.1
comp=Z,53nm,2.6s
A19A Klindworth Far 89.08 337 ⇓P P 03 57 49.3 -0.5
baz=89
I07A Izee 89.09 328 *e*P P 03 57 50.5 +0.5
comp=Z,88nm,2.5s
J05D Fort Rock, OR 89.22 327 ⇓P P 03 57 50.2 -0.4
baz=90
WALA Waterton Lakes 90.95 334 *e*P P 03 57 58.3 -0.2
comp=Z,41nm,1.9s
C09A Chrisman Ranch 91.56 331 *e*P P 03 58 01.3 0.0
comp=Z,44nm,2.2s
ATES Arlington Traf 93.46 329 *e*P P 03 58 08.2 -1.8
YKA Yellowknife Ar 102.39 341 P Pdif 03 58 48.5 -1.3
comp=Z,0.3nm,0.8s,baz=140,slow=4.5,SNR=4.0
YKB5 Yellowknife Ar 102.39 341 *e*Pdif Pdif 03 58 50.0 +0.1
VYHS Vyhne 115.82 48 *e*PKIKP PKPdf 04 03 36.8 -0.2
VYHS Vyhne 115.82 48 *e*PKP PKPdf 04 03 36.8 -0.2
AS12 Alice Springs 116.87 207 *e*PKPdf PKPdf 04 03 38.7 -1.4
ASAR Alice Springs 116.87 207 PKP PKPdf 04 03 38.7 -1.4
comp=Z,1.0nm,0.7s,baz=121,slow=1.8,SNR=13
BUR04 Bucovina Ar. S 119.46 50 *e*PKPdf PKPdf 04 03 44.0 -0.3
WRA Warramunga Arr 120.06 210 PKP PKPdf 04 03 45.2 -1.0
comp=Z,2.8nm,0.6s,baz=160,slow=1.7,SNR=47
BR231 Keskin MP Arra 121.95 61 *e*PKPdf PKPdf 04 03 49.6 +0.4
BR101 Keskin Array S 122.53 61 *e*PKPdf PKPdf 04 03 50.2 -0.2
BRTR Keskin Array B 122.53 61 PKP PKPdf 04 03 50.2 -0.2
comp=Z,1.3nm,0.7s,baz=196,slow=2.3,SNR=12
AK11 Malin Array Si 122.88 48 *e*PKPdf PKPdf 04 03 49.1 -1.4
AKASG Malin Array Be 122.92 48 PKP PKPdf 04 03 48.4 -2.2
comp=Z,0.8nm,0.6s,baz=259,slow=3.2,SNR=6.6
AKBB Malin Array Si 122.92 48 *e*PKIKP PKPdf 04 03 48.4 -2.2
AKBB Malin Array Si 122.92 48 *e*PKPdf PKPdf 04 03 48.4 -2.2
FIA0 FINESS Array S 123.71 35 *e*PKIKP PKPdf 04 03 50.7 -1.1
FIA0 FINESS Array S 123.71 35 *e*PKPdf PKPdf 04 03 50.6 -1.1
FINES FINESS Array B 123.71 35 PKP PKPdf 04 03 50.6 -1.1
comp=Z,0.9nm,0.7s,baz=213,slow=6.6,SNR=3.4
ARA0 ARCESS Array S 124.70 25 *e*PKPdf PKPdf 04 03 53.4 -0.1
ARCES ARCESS Array B 124.70 25 PKP PKPdf 04 03 53.4 -0.1
comp=Z,2.1nm,0.7s,baz=316,slow=3.3,SNR=5.5
KLMR Klimovskoe 130.12 36 *e*PKIKP PKPdf 04 04 11.0 +7.0
KLMR pmax pmax
comp=Z,19nm,1.3s
KIV Kislovodsk 130.20 59 *e*PKIKP PKPdf 04 04 12.0 +7.1
KIV pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 130.30 59 PKP PKPdf 04 04 04.8 -0.1
comp=Z,0.6nm,0.6s,baz=279,slow=4.3,SNR=3.3
ZEI Tsey 130.81 60 *i* PKIKP PKPdf 04 04 04.8 -1.4
ZEI pmax pmax
comp=Z,4.0nm,1.2s
PRGR Permogore 133.04 35 *e*PKIKP PKPdf 04 04 08.6 -0.9
PRGR pmax pmax
comp=Z,7.0nm,0.8s
IKOO Kooshah 139.92 79 *e*P PKPdf 04 04 22.8 -0.8
ARU Arti 140.47 41 *i* PKIKP PKPdf 04 04 22.0 -1.5
TIXI Tiksi 141.11 349*c* *i*PKIKP PKPdf 04 04 26.0 +1.8
TIXI pmax pmax
comp=Z,6.0nm,1.2s
AB31 Akbulak array 142.40 52 *e*PKHKP PKPpre 04 04 22.2
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 142.40 52 *e*PKPpre PKPpre 04 04 22.5
KSM Kuching 147.01 185 *e*PKPdf PKPdf 04 04 36.3 0.0
SBUM Sibu 147.77 189 *e*PKPbc PKPbc 04 04 39.8 -0.5
BRVK Borovoye 147.94 43*c* *i*PKP2 PKPbc 04 04 40.3 +0.6
BRVK pmax pmax
comp=Z,12nm,0.7s
BRVK Borovoye 147.94 43 *e*PKPbc PKPbc 04 04 40.2 +0.6
BVA0 Borovoye Array 148.01 43 *i* PKP2 PKPbc 04 04 39.7 -0.1
BVA0 pmax pmax
comp=Z,24nm,0.8s
VOSK Vostochnaya 148.45 44 *e*PKIKP PKPdf 04 04 38.0 +0.5
VOSK *e* 04 04 41.4
VOSK Vostochnaya 148.45 44 *e*PKPdf PKPdf 04 04 38.0 +0.5
VOSK *e*PKPbc PKPbc 04 04 41.4 +0.4
YAK Yakutsk 149.04 340 *e*PKIKP PKPbc 04 04 40.6 -1.6
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.1s
HYB Hyderabad 149.17 116 *i* PKP PKPbc 04 04 42.0 -1.9
IPM Ipoh 149.54 167 *e*PKPdf PKPdf 04 04 39.1 -1.3
IPM *e*PKPbc PKPbc 04 04 43.2 -1.7
KKAR Karatay Array 150.24 62 *e*PKIKP PKPdf 04 04 40.5 -0.1
KKAR *e* 04 04 45.8
KKAR Karatay Array 150.24 62 *e*PKPdf PKPdf 04 04 40.5 -0.1
KKAR *e*PKPbc PKPbc 04 04 45.8 0.0
YSS Yuzh-Sakhalins 150.69 306 *e*PKIKP PKPbc 04 04 46.5 -0.2
ERM Erimo 151.06 296*c* *i*PKIKP PKPbc 04 04 50.0 +2.3
ERM pmax pmax
comp=Z,55nm,2.5s
ASAJ Asahikawa 151.28 300 *e*PKPbc PKPbc 04 04 47.0 -1.1
EKS2 Erkin-Say 152.67 63 *e*PKIKP PKPdf 04 04 45.4 +0.9
EKS2 *e* 04 04 51.9
EKS2 Erkin-Say 152.67 63 *e*PKPdf PKPdf 04 04 45.4 +0.9
EKS2 *e*PKPbc PKiKP 04 04 51.9 +0.1
AAK Ala-Archa 153.20 63 *e*PKIKP PKPbc 04 04 52.9 +0.1
AAK Ala-Archa 153.20 63 *e*PKPbc PKPbc 04 04 52.9 +0.1
KURK Kurchatov 153.61 43 *e*PKIKP PKPdf 04 04 45.1 -0.3
KURK *e* 04 04 53.0
KURK Kurchatov 153.61 43 *e*PKPdf PKPdf 04 04 45.1 -0.3
KURK *e*PKPbc PKPbc 04 04 53.0 -0.1
NVS Novosibirsk 153.65 32⇑ *i*PKIKP PKPbc 04 04 51.6 -1.5
NVS pmax pmax
comp=Z,31nm,1.1s
NVS pmax pmax
comp=N,2.0nm,0.8s
NVS pmax pmax
comp=E,9.0nm,1.4s
TKM2 Tokmak 2 153.97 62 *e*PKIKP PKPdf 04 04 45.2 -1.3
TKM2 *e* 04 04 54.3
TKM2 Tokmak 2 153.97 62 *e*PKPdf PKPdf 04 04 45.2 -1.3
TKM2 *e*PKPbc PKPbc 04 04 54.3 -0.2
KSH Kashi 154.53 69 PKPbc PKPdf 04 04 47.5 +0.2

KSH				sPKP		04 05 01.5	
KSH				PKS	**PKSdf**	**04 08 20.2**	**-1.3**
KSH				PP	**PP**	**04 08 44.0**	**-2.2**
KSH				SKS	**SKSdf**	**04 11 53.0**	**-1.1**
KSH				SKKS	**SKKSac**	**04 15 35.7**	**-0.2**
KSH				SS	**SS**	**04 28 24.1**	**-3.5**
KSH				PPMZ			
	comp=E,220nm,7.0s						
KSH				LN			
	comp=E,37nm,3.7s						
KSH				LE			
	comp=E,51nm,3.7s						
KSH				LZ			
	comp=E,180nm,5.6s						
ZAA1	**Zalesovo Array**	**154.93**	**32**	*e*PKPdf	**PKPdf**	**04 04 46.5**	**-0.6**
ZAA1				*e*PKPbc	**PKPbc**	**04 04 55.8**	**-0.1**
ZAA1				*e*PKPab	**PKPab**	**04 05 10.2**	**-1.1**
ZAA0	**Zalesovo Array**	**154.94**	**32**	*e*PKPdf	**PKPdf**	**04 04 46.3**	**-0.9**
ZAA0				*e*PKPbc	**PKPbc**	**04 04 54.4**	**-1.5**
ZALV	**Zalesovo Beam**	**154.94**	**32**	PKP	**PKPdf**	**04 04 46.5**	**-0.6**
	comp=E,1.2nm,0.7s,baz=262,slow=2.6,SNR=5.5						
ZALV				PKPbc	**PKPbc**	**04 04 55.8**	**-0.1**
	comp=E,4.2nm,0.7s,baz=299,slow=3.7,SNR=13						
ZALV				PKPab	**PKPab**	**04 05 10.2**	**-1.1**
	comp=E,6.3nm,0.8s,baz=319,slow=3.8,SNR=5.0						
MK31	**Makanchi Array**	**157.49**	**49**	*i* PKIKP	**PKPdf**	**04 04 50.5**	**-0.3**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MK32	**Makanchi Array**	**157.49**	**49**	*e*PKPdf	**PKPdf**	**04 04 50.5**	**-0.3**
MK32				*e*PKPab	**PKPab**	**04 05 22.7**	**+0.1**
MKAR	**Makanchi Array**	**157.49**	**49**	*e*PKIKP	**PKPdf**	**04 04 50.0**	**-0.8**
MKAR	**Makanchi Array**	**157.49**	**49**	PKP	**PKPdf**	**04 04 50.5**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=272,slow=0.8,SNR=7.5						
MKAR				PKPab	**PKPab**	**04 05 22.7**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=305,slow=3.4,SNR=11						
MKAR	**Makanchi Array**	**157.49**	**49**	*e*PKPdf	**PKPdf**	**04 04 50.0**	**-0.8**
CM01	**Chiang Mai Arr**	**162.31**	**153**	*e*PKPdf	**PKPdf**	**04 04 56.7**	**-0.3**
CM31	**Chiang Mai Arr**	**162.34**	**153**	*e*PKPdf	**PKPdf**	**04 04 56.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**162.34**	**153**	PKP	**PKPdf**	**04 04 56.1**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=247,slow=2.8,SNR=4.9						
TLY	**Talaya**	**162.64**	**8**	*e*PKIKP	**PKPdf**	**04 05 01.3**	**+4.9**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KSRS	**Korea Array**	**163.09**	**286**	PKP	**PKPdf**	**04 04 56.8**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=22,slow=1.3,SNR=4.0						
KS01	**Wonju Array Si**	**163.11**	**286**	*e*PKPdf	**PKPdf**	**04 04 56.0**	**-1.3**
KS15	**Wonju Array Si**	**163.12**	**286**	*e*PKPdf	**PKPdf**	**04 04 56.8**	**-0.5**
CN2	**Changchun**	**163.21**	**309**	*e*PKP	**PKPdf**	**04 04 56.6**	**-0.6**
ZAK	**Zakamensk**	**163.87**	**9**	*e*PKP2	**PKPab**	**04 05 51.1**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ULN	**Ulaanbaatar**	**166.66**	**1**	*e*PKIKP	**PKPdf**	**04 04 59.3**	**-1.0**
ULN				*e*		04 06 03.1	
ULN	**Ulaanbaatar**	**166.66**	**1**	*e*PKPdf	**PKPdf**	**04 04 59.3**	**-1.0**
ULN				*e*PKPab	**PKPab**	**04 06 03.1**	**+0.4**
SONA1	**Songino Array**	**166.67**	**3**	*e*PKPdf	**PKPdf**	**04 04 59.2**	**-1.0**
SONA1				*e*PKPab	**PKPab**	**04 06 02.7**	**0.0**
SONA0	**Songino Array**	**166.68**	**3**	*e*PKPdf	**PKPdf**	**04 04 59.1**	**-1.1**
SONA0				*e*PKPab	**PKPab**	**04 06 02.5**	**-0.2**
SONM	**Songino Array**	**166.68**	**3**	PKP	**PKPdf**	**04 04 59.1**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=179,slow=1.1,SNR=4.6						
SONM				PKPab	**PKPab**	**04 06 02.5**	**-0.2**
	comp=Z,1.3nm,1.0s,baz=347,slow=3.2,SNR=5.2						
KMI	**Kunming**	**169.82**	**156**	PKP	**PKPdf**	**04 05 03.5**	**+0.3**
KMI				LZ			
	comp=Z,330nm,20.3s						
NJ2	**Nanjing**	**170.06**	**259**	*e*PKP	**PKPdf**	**04 05 04.1**	**+1.3**
BJI	**Beijing**	**171.06**	**311**	PKP	**PKPdf**	**04 05 03.8**	**+0.7**
GYA	**Guiyang**	**171.94**	**176**	PKP	**PKPdf**	**04 05 03.2**	**-0.9**
GYA				pPKP	**pPKPdf**	**04 05 11.8**	**+4.2**
GYA				PKPab	**PKPab**	**04 06 28.0**	**+1.5**
GYA				PKS	**PKSdf**	**04 08 32.4**	**-4.2**
GYA				PP	**PP**	**04 10 20.7**	**+4.1**
GYA				SKKS		04 17 03.9	
GYA				SS	**SS**	**04 31 24.5**	**-0.2**
GYA				PPMZ			
	comp=Z,120nm,8.2s						
GYA				LN			
	comp=Z,130nm,21.2s						
GYA				LE			
	comp=Z,110nm,22.6s						
GYA				LZ			
	comp=Z,120nm,21.0s						
GTA	**Gaotai**	**172.25**	**49**	*e*PKP	**PKPdf**	**04 05 04.2**	**+0.3**
GTA				pPKP	**pPKPdf**	**04 05 12.1**	**+4.8**
GTA				sPKP		04 05 17.1	
GTA				PKPab	**PKPab**	**04 06 29.8**	**+2.0**
HHC	**Hu-ho-hao-te**	**172.85**	**333**	*e*PKP	**PKPdf**	**04 05 03.5**	**-0.5**
HHC				sPKP		04 05 17.7	
HHC				PP	**PP**	**04 10 24.2**	**+2.8**
HHC				SKKS		04 17 06.3	
HHC				SS	**SS**	**04 31 31.1**	**-3.1**
HHC				PPMZ			
	comp=Z,540nm,9.4s						
HHC				LN			
	comp=Z,280nm,18.5s						
HHC				LE			
	comp=Z,650nm,19.7s						
HHC				LZ			
	comp=Z,560nm,17.3s						
CD2	**Chengdu**	**175.30**	**139**	*e*PKP	**PKPdf**	**04 05 05.8**	**+0.7**
LZH	**Lanzhou**	**176.74**	**60**	*e*PKP	**PKPdf**	**04 05 04.6**	**-0.8**
LZH				pPKP	**pPKPdf**	**04 05 14.0**	**+5.1**
LZH				sPKP		04 05 17.8	
LZH				PKPab	**PKPab**	**04 06 46.5**	**-1.5**

*NSSC **02** 03:47:11.9±1.2, 35°.76N×44°.94E, h167km±63km, MD1.9, ML3.2*
*DDA **02** 03:47:24.3, 35°.70N×43°.90E, h5km, MD3.4, ML3.3*
*CSEM **02** 03:47:26.6±0.4, 35°.77N×43°.58E, h2km, ML3.5, Error ellipse: s-maj=12.2km s-min=7.8km az=64.0*
*ISN **02** 03:47:28.3±1.8, 35°.97N×44°.40E, h0km±7km, ML3.1*
*ISCJB **02** 03:47:29.1±1.1, 35°.95N±0°.05×44°.05E±0°.08, h21km±19km, Error ellipse: s-maj=11.3km s-min=6.9km az=29.9*
*ISK **02** 03:47:30.8, 36°.13N×43°.86E, h11km, ML3.5*
ISC 02 03:47:25.6±2.1, 35°.80N±0°.03×43°.85E±0°.04, h4km±15km, n60, σ1.9±96/71, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**0.56**	**135**	*e*PG	**Pn**	**03 47 39.5**	**-0.8**
IKRK				*e*SG	**Sn**	**03 47 49.6**	**-0.4**
IKRK	**Kirkuk**	**0.56**	**135**	*e*Pg	**Pn**	**03 47 39.5**	**-0.8**
	SNR=90						
IKRK				*e*Sg	**Sn**	**03 47 49.7**	**-0.4**
	SNR=90						
HAKT	**HAKKARI**	**1.76**	**356**	*i* P	**Pn**	**03 47 56.0**	**-1.1**
HAKT				*i* S	**Sg**	**03 48 23.0**	**+0.7**
HAKT	**HAKKARI**	**1.76**	**356**	*i* P	**Pn**	**03 47 56.0**	**-1.1**
HAKT				*i* S	**Sg**	**03 48 23.0**	**+0.7**
HKR	**Hakkari**	**1.78**	**357**	*e*PN	**Pn**	**03 47 57.1**	**-0.2**
HKR				*e*SN	**Sn**	**03 48 16.9**	**-3.6**
HKR	**Hakkari**	**1.78**	**357**	*e*Pn	**Pn**	**03 47 57.1**	**-0.2**
HKR				*e*Sn	**Sn**	**03 48 16.9**	**-3.6**
SIRT	**Sirnak**	**2.05**	**327**	*e*PN	**Pn**	**03 48 01.8**	**+0.9**
SIRT				*e*SN	**Sn**	**03 48 25.4**	**-1.6**
SIRT	**Sirnak**	**2.05**	**327**	*e*Pn	**Pn**	**03 48 01.8**	**+0.9**
SIRT				*e*Sn	**Sn**	**03 48 25.4**	**-1.6**
SIRN	**S¨–rnak**	**2.05**	**326**	*i* P	**Pn**	**03 48 00.9**	**-0.1**
SIRN				*i* S	**Sb**	**03 48 30.9**	**+1.5**
SIRN	**S¨–rnak**	**2.05**	**326**	*i* P	**Pn**	**03 48 00.9**	**-0.1**
SIRN				*i* S	**Sb**	**03 48 30.9**	**+1.5**
GEVA	**Gevas**	**2.59**	**346**	*i* P	**Pn**	**03 48 09.0**	**+0.5**
GEVA				*i* S	**Sb**	**03 48 46.0**	**+1.0**
GEVA	**Gevas**	**2.59**	**346**	*i* P	**Pn**	**03 48 09.0**	**+0.5**
GEVA				*i* S	**Sb**	**03 48 46.0**	**+1.0**
MZRK	**Al-Mazaregh**	**2.60**	**272**	*i* P	**Pn**	**03 48 07.6**	**-0.9**
	SNR=111						
MZRK				*e*S	**Sb**	**03 48 46.6**	**+1.5**
	110nm,0.5s,SNR=111						
MZRK	**Al-Mazaregh**	**2.60**	**272**	*i* P	**Pn**	**03 48 07.5**	**-0.9**
MZRK				*e*S	**Sb**	**03 48 46.6**	**+1.5**
MZRK				AML	AML	03 49 00.7	
	comp=E,191nm,0.5s						
MZRK				AML	AML	03 49 07.2	
	comp=N,110nm,0.5s						
VANB	**Van**	**2.82**	**353**	*e*PN	**Pn**	**03 48 12.1**	**+0.6**
VANB	**Van**	**2.82**	**353**	*e*Pn	**Pn**	**03 48 12.1**	**+0.6**
MARD	**Mardin**	**2.90**	**302**	*i* P	**Pb**	**03 48 15.5**	**-2.5**
MARD				*i* S	**Sb**	**03 48 52.3**	**-1.5**
KBSD	**Kabsdagh**	**2.93**	**295**	*i* P	**Pn**	**03 48 10.9**	**-2.1**
	SNR=109						
KBSD				*e*S	**Sb**	**03 48 52.9**	**-1.6**
	comp=N,83nm,0.5s,SNR=109						
KBSD	**Kabsdagh**	**2.93**	**295**	*i* P	**Pn**	**03 48 10.9**	**-2.1**
KBSD				*e*S	**Sb**	**03 48 52.9**	**-1.6**
KBSD				AML	AML	03 49 07.2	
	comp=E,70nm,0.4s						
KBSD				AML	AML	03 49 10.9	
	comp=Z,107nm,0.4s						
KBSD				AML	AML	03 49 11.7	
	comp=N,83nm,0.5s						
BEST	**Besiri**	**2.94**	**316**	*i* P	**Pn**	**03 48 15.5**	**+2.3**
BEST				*i* S	**Sb**	**03 48 54.7**	**-0.4**
BTMT	**Batman**	**3.05**	**322**	*e*PN	**Pn**	**03 48 16.8**	**+2.1**
BTMT	**Batman**	**3.05**	**322**	*e*Pn	**Pn**	**03 48 16.8**	**+2.1**
SFNV	**Sufian**	**3.09**	**283**	*e*P	**Pn**	**03 48 12.8**	**-2.4**
	SNR=108						
SFNV				*e*S	**Sb**	**03 48 58.1**	**-1.2**
	comp=N,106nm,0.6s,SNR=108						
SFNV	**Sufian**	**3.09**	**283**	*e*P	**Pn**	**03 48 12.8**	**-2.4**
SFNV				*e*S	**Sb**	**03 48 58.1**	**-1.2**
SFNV				AML	AML	03 49 13.5	
	comp=E,140nm,0.5s						
SFNV				AML	AML	03 49 19.3	
	comp=N,106nm,0.6s						
SVAN	**Silvan-Diyarba**	**3.17**	**319**	*e*PN	**Pn**	**03 48 18.8**	**+2.6**
MAZI	**Mazidag**	**3.20**	**302**	*e*PN	**Pn**	**03 48 19.4**	**+2.6**
MAZI	**Mazidag**	**3.20**	**302**	*e*Pn	**Pn**	**03 48 19.4**	**+2.6**
CLDR	**Caldiran**	**3.34**	**1**	*e*PN	**Pn**	**03 48 19.8**	**+1.0**
CLDR	**Caldiran**	**3.34**	**1**	*e*Pn	**Pn**	**03 48 19.8**	**+1.0**
DIY	**Diyarbakir**	**3.58**	**307**	*e*Pn	**Pb**	**03 48 26.7**	**-2.9**
DYBB	**Diyarbakir**	**3.67**	**307**	*e*PN	Pn	03 48 26.7	+3.4
MNKR	**ALMNKUR**	**3.72**	**274**	*e*P	**Pn**	**03 48 21.9**	**-2.0**
	SNR=106						
MNKR				*e*S	**Sn**	**03 49 12.9**	**+4.7**
	comp=N,217nm,0.4s,SNR=106						
MNKR	**ALMNKUR**	**3.72**	**274**	*e*P	**Pn**	**03 48 21.9**	**-2.0**
MNKR				*e*S	**Sn**	**03 49 12.9**	**+4.7**
MNKR				AML	AML	03 49 28.4	
	comp=Z,217nm,0.4s						
BNGL	**BINGOL**	**3.81**	**326**	*i* P	**Pb**	**03 48 34.4**	**+0.8**
AGRB	**Hanur-Agry**	**3.83**	**350**	*e*PN	**Pn**	**03 48 27.6**	**+2.0**
AGRB	**Hanur-Agry**	**3.83**	**350**	*e*Pn	**Pn**	**03 48 27.6**	**+2.0**
VRTB	**Varto-Mus**	**3.86**	**331**	*e*PN	**Pn**	**03 48 28.3**	**+2.4**
VRTB	**Varto-Mus**	**3.86**	**331**	*e*Pn	**Pn**	**03 48 28.3**	**+2.4**
RTB	**Rutbah**	**4.02**	**228**	*e*Pn	**Pb**	**03 48 37.9**	**+0.8**
	SNR=39						
RTB				*e*Sn	**Sb**	**03 49 28.4**	**+2.3**
	SNR=39						
BNGB	**Bing¶l**	**4.07**	**323**	*e*PN	**Pn**	**03 48 31.0**	**+2.3**
BINT	**Bingol**	**4.08**	**320**	*e*Pn	**Pn**	**03 48 31.0**	**+2.1**
GNI	**Garni**	**4.40**	**9**	*e*PN	**Pn**	**03 48 35.5**	**+2.2**
GNI	**Garni**	**4.40**	**9**	*e*Pn	**Pn**	**03 48 35.5**	**+2.2**
EZM	**Erzurum**	**4.55**	**335**	*e*PN	**Pn**	**03 48 38.1**	**+2.6**
ERZN	**Erzincan**	**5.00**	**320**	*e*PN	Pn	03 48 45.4	+3.8
MALT	**Malatya**	**5.01**	**302**	*e*PN	Pn	03 48 46.6	+4.9
MALT	**Malatya**	**5.01**	**302**	*e*Pn	Pn	03 48 46.6	+4.9
NSR	**Nassriya**	**5.14**	**158**	*e*PN	Pn	03 48 47.9	+4.6
NSR				*e*SN	**Sn**	**03 49 44.1**	**+1.0**
NSR	**Nassriya**	**5.14**	**158**	*e*Pn	Pn	03 48 47.9	+4.6
	SNR=39						
NSR				*e*Sn	**Sn**	**03 49 44.1**	**+1.0**
	SNR=39						
EZC	**Erzincan**	**5.32**	**319**	*e*Pn	**Pn**	**03 48 45.4**	**-0.5**
ILIC	**ilic-Erzincan**	**5.56**	**313**	*e*PN	Pn	03 48 53.9	+4.7
ILIC	**ilic-Erzincan**	**5.56**	**313**	*e*Pn	Pn	03 48 53.9	+4.7
DARE	**Darende-Malaty**	**5.79**	**300**	*e*PN	Pn	03 48 57.7	+5.3
DARE	**Darende-Malaty**	**5.79**	**300**	*e*Pn	Pn	03 48 57.7	+5.3
ZALF	**Zalf**	**6.10**	**244**	*e*P	**Pn**	**03 48 53.6**	**-3.0**
	SNR=100						
ZALF	**Zalf**	**6.10**	**244**	*e*P	**Pn**	**03 48 53.6**	**-3.0**
SALA	**Sala**	**6.65**	**244**	*e*P	Pn	03 49 00.3	-3.9
	SNR=99						
SALA	**Sala**	**6.65**	**244**	*e*P	Pn	03 49 00.3	-3.9
KOZT	**Kozan**	**6.67**	**287**	*e*PN	Pn	03 49 10.0	+5.7
KOZT	**Kozan**	**6.67**	**287**	*e*Pn	Pn	03 49 10.0	+5.7

*IDC **02** 03:48:32.1±0.5, 33°.84S×71°.79W, h0km, mb4.6/13, mb1 4.8/15, mb1mx4.6/23, mbtmp4.7/15, ML4.8/2, MS4.7/2, Ms1 4.7/2, ms1mx4.0/27, Error ellipse: s-maj=25.0km s-min=13.4km az=78.0*
*ISCJB **02** 03:48:33.9±0.2, 33°.75S±0°.05×71°.71W±0°.08, h19km, mb4.9/75, MS4.7/2, Error ellipse: s-maj=10.1km s-min=5.6km az=146.8*
*MOS **02** 03:48:36.0±0.8, 33°.83S×71°.74W, h33km, mb5.2/19, Error ellipse: s-maj=19.0km s-min=10.1km az=104.2*
*NEIC **02** 03:48:37.5±2.0, 33°.86S×71°.78W, h36km±3km, mb5.0/71, Error ellipse: s-maj=18.4km s-min=5.5km az=90.0*
NEIC Felt at Valparaiso.
ISC 02 03:48:35.1±0.3, 33°.79S±0°.06×71°.81W±0°.08, h19km, n563, σ0.983/575, mb5.0/76, 177C-173D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.71**	**55**	Pn	Pn	03 49 35.5	+4.0
	7.0nm,0.3s,baz=217,slow=12,SNR=17						
CFAA				Sn	**Sb**	**03 50 25.4**	**+0.6**
	5.9nm,0.3s,baz=99,slow=14,SNR=3.6						
PLCA	**Paso Flores**	**7.00**	**172**	*e*P	**Pn**	**03 50 17.6**	**+0.9**
PLCA	**Paso Flores**	**7.00**	**172**	Pn	**Pn**	**03 50 17.4**	**+0.7**
	3.0nm,0.3s,baz=338,slow=12,SNR=5.0						
PLCA				Lg	Lg	03 52 14.1	
	0.5nm,0.3s,baz=245,slow=23,SNR=2.3						
PLCA	**Paso Flores**	**7.00**	**172**	*e*Pn	**Pn**	**03 50 17.6**	**+0.9**
TRQA	**Tornquist**	**9.03**	**121**	*e*Pn	Pn	03 50 47.8	+3.3
LVC	**Limon Verde**	**11.42**	**14**	*e*Pn	Pn	03 51 10.9	-6.6
CPUP	**Villa Florida**	**14.56**	**63**	*e*P	**Pn**	**03 52 01.9**	**+1.7**
CPUP	**Villa Florida**	**14.56**	**63**	Pn	**Pn**	**03 52 02.9**	**+2.7**
	0.9nm,0.3s,baz=209,slow=15,SNR=3.3						
CPUP	**Villa Florida**	**14.56**	**63**	*e*Pn	**Pn**	**03 52 01.9**	**+1.7**
LPAZ	**La Paz**	**17.74**	**12**	P	**P**	**03 52 43.5**	**+1.0**
	2.2nm,0.3s,baz=191,slow=6.8,SNR=25						
SIV	**San Ignacio**	**20.20**	**31**	P	**P**	**03 53 09.4**	**+0.6**
	10nm,0.6s,baz=226,slow=10,SNR=20						
USHA	**Ushuaia**	**21.17**	**175**	P	**P**	**03 53 20.1**	**+1.1**
	19nm,0.8s,baz=1.5,slow=12,SNR=6.7						
NNA	**Nana**	**22.19**	**347**	P	**P**	**03 53 32.2**	**+1.9**
	5.1nm,0.5s,baz=206,slow=12,SNR=4.2						
SAML	**Samuel**	**25.97**	**20**	*e*P	**P**	**03 54 06.2**	**-0.4**
	43nm,0.8s						
BDFB	**Brasilia**	**28.06**	**56**	*e*P	**P**	**03 54 25.2**	**-0.3**
BDFB	**Brasilia**	**28.06**	**56**	P	**P**	**03 54 25.9**	**+0.4**
	13nm,0.7s,baz=200,slow=7.4,SNR=6.9						
BDFB	**Brasilia**	**28.06**	**56**	*e*P	**P**	**03 54 25.2**	**-0.3**
PMSA	**Palmer Station**	**31.37**	**174**	LR	LR	04 07 12.9	
	comp=Z,1μm,19.3s,baz=204,slow=36						
ROSC	**El Rosal**	**38.51**	**356**	P	**P**	**03 55 58.7**	**+2.0**
	2.3nm,0.5s,baz=240,slow=4.2,SNR=4.4						
ROSC	**El Rosal**	**38.51**	**356**	*e*P	**P**	**03 55 56.2**	**-0.5**
SDV	**Santo Domingo**	**42.45**	**2**	*e*P	**P**	**03 56 28.4**	**-0.8**
	18nm,1.0s						
VNA3	**Neumayer Olymp**	**49.48**	**158**	P	**P**	**03 57 23.6**	**-0.2**
VNA1	**Neumayer--Stat**	**49.79**	**157**	P	**P**	**03 57 24.9**	**-1.2**
VNA2	**Neumayer--Watz**	**50.13**	**157**	P	**P**	**03 57 28.8**	**+0.1**
SNAA	**Sanae**	**51.70**	**158**	P	**P**	**03 57 41.1**	**+0.5**
SNAA	**Sanae**	**51.70**	**158**	*e*P	**P**	**03 57 40.9**	**+0.3**
SNAA	**Sanae**	**51.70**	**158**	*e*P	**P**	**03 57 40.3**	**-0.3**
SNAA				pmax	pmax		
	comp=Z,53nm,1.1s						
SNAA	**Sanae**	**51.70**	**158**	P	**P**	**03 57 40.9**	**+0.3**
	comp=Z,14nm,1.0s,baz=292,slow=6.0,SNR=15						
SNAA	**Sanae**	**51.70**	**158**	*e*P	**P**	**03 57 40.3**	**-0.3**
	comp=Z,53nm,1.1s						
SABA	**Saba**	**51.77**	**10**	*e*P	**P**	**03 57 40.6**	**-1.0**
	comp=Z,59nm,0.8s						
CELP	**Cerrillos**	**51.81**	**6**	*e*P	**P**	**03 57 41.8**	**-0.1**
TEIG	**Tepich**	**55.96**	**341**	*e*P	**P**	**03 58 12.2**	**0.0**
	comp=Z,40nm,0.8s						
TIGA	**Tifton**	**65.83**	**349**	⇓P	**P**	**03 59 19.1**	**0.0**
	baz=66						
SYO	**Syowa Base**	**65.99**	**158**	*e*P	P	03 59 16.3	-3.4
933A	**Laredo**	**66.39**	**333**	⇓P	**P**	**03 59 24.2**	**+1.3**
	baz=67						
834A	**Tilden**	**66.59**	**334**	⇓P	**P**	**03 59 25.4**	**+1.4**
	baz=67						
735A	**Kenedy**	**67.00**	**335**	⇓P	**P**	**03 59 27.6**	**+1.0**
	baz=67						
833A	**Chaparral WMA,**	**67.08**	**334**	⇑P	**P**	**03 59 28.2**	**+1.0**
	baz=68						
734A	**La Parita Cree**	**67.25**	**335**	⇑P	**P**	**03 59 28.8**	**+0.5**
	baz=68						
832A	**Faith Ranch, C**	**67.26**	**333**	⇑P	**P**	**03 59 28.9**	**+0.6**
	baz=68						
636A	**Smothers Creek**	**67.31**	**336**	⇓P	**P**	**03 59 29.2**	**+0.5**
	baz=68						
733A	**Divot King Ran**	**67.40**	**334**	⇑P	**P**	**03 59 29.7**	**+0.5**
	baz=68						
732A	**Laxson Ranch,**	**67.66**	**333**	⇓P	**P**	**03 59 31.5**	**+0.6**
	baz=68,SNR=8.2						
536A	**Bastrop**	**67.86**	**336**	⇑P	**P**	**03 59 33.1**	**+1.0**
	baz=68						
535A	**Dale**	**67.99**	**336**	⇓P	**P**	**03 59 33.7**	**+0.8**
	baz=68						
633A	**Saathoff Ranch**	**68.03**	**334**	⇓P	**P**	**03 59 33.4**	**+0.2**
	baz=68						
632A	**Uvalde**	**68.30**	**334**	⇑P	**P**	**03 59 35.6**	**+0.7**
	baz=69,SNR=7.8						
631A	**Perdido Creek**	**68.50**	**333**	⇑P	**P**	**03 59 36.6**	**+0.5**
	baz=69						
533A	**Kerrville**	**68.54**	**335**	⇓P	**P**	**03 59 37.0**	**+0.6**
	baz=69,SNR=8.5						
337A	**Centerville**	**68.63**	**338**	⇑P	**P**	**03 59 37.7**	**+0.8**
	baz=69						
532A	**Rocksprings**	**68.90**	**334**	⇑P	**P**	**03 59 39.2**	**+0.5**
	baz=69,SNR=11						
434A	**Burnet**	**68.95**	**336**	⇓P	**P**	**03 59 39.3**	**+0.4**
	baz=69,SNR=6.7						
336A	**Riesel**	**69.00**	**337**	⇑P	**P**	**03 59 39.7**	**+0.6**
	baz=69						
335A	**Moody**	**69.09**	**337**	⇓P	**P**	**03 59 40.3**	**+0.5**
	baz=70						
KMSC	**Kings Mountain**	**69.15**	**352**	⇑P	**P**	**03 59 40.2**	**+0.2**
	baz=70						
531A	**Rocksprings**	**69.17**	**334**	⇓P	**P**	**03 59 40.6**	**+0.3**
	baz=70,SNR=6.3						
433A	**Art**	**69.18**	**335**	⇑P	**P**	**03 59 40.7**	**+0.4**
	baz=70,SNR=8.8						
JCT	**Junction City**	**69.18**	**334**	*e*P	**P**	**03 59 41.0**	**+0.6**
JCT				pmax	pmax		
	comp=Z,22nm,1.0s						
JCT	**Junction City**	**69.18**	**334**	⇓P	**P**	**03 59 40.6**	**+0.2**
	baz=70,SNR=10						
JCT	**Junction City**	**69.18**	**334**	*e*P	**P**	**03 59 41.0**	**+0.6**
	comp=Z,22nm,1.0s						
334A	**Lometa**	**69.41**	**336**	⇓P	**P**	**03 59 42.0**	**+0.3**
	baz=70						
530A	**J-C Ranch, Com**	**69.45**	**333**	⇑P	**P**	**03 59 42.6**	**+0.5**
	baz=70,SNR=7.6						
432A	**Menard**	**69.54**	**334**	⇓P	**P**	**03 59 42.9**	**+0.3**
	baz=70,SNR=5.7						
LTX	**Lajitas**	**69.65**	**331**	*e*P	**P**	**03 59 43.9**	**+0.5**
LTX	**Lajitas**	**69.65**	**331**	*e*P	**P**	**03 59 43.9**	**+0.5**
TX31	**Lajitas Ar. Si**	**69.65**	**331**	*e*P	**P**	**03 59 43.8**	**+0.4**
TXAR	**Lajitas Array**	**69.65**	**331**	P	**P**	**03 59 43.9**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=154,slow=8.7,SNR=11						
431A	**Sonora**	**69.66**	**334**	⇓P	**P**	**03 59 43.5**	**+0.2**
	baz=70						
333A	**Richland Sprin**	**69.66**	**335**	⇑P	**P**	**03 59 43.2**	**-0.1**
	baz=70,SNR=7.5						
WHTX	**Lake Whitney,**	**69.75**	**337**	⇓P	**P**	**03 59 43.9**	**+0.1**
	baz=70						
529A	**Stev Forest Ra**	**69.77**	**332**	⇓P	**P**	**03 59 44.6**	**+0.5**
	baz=70,SNR=10						
332A	**Millersview**	**69.98**	**335**	⇑P	**P**	**03 59 45.5**	**+0.2**
	baz=70,SNR=6.7						
430A	**Baggett Ranch,**	**69.99**	**333**	⇓P	**P**	**03 59 45.4**	**0.0**
	baz=70,SNR=7.0						
234A	**Clairette**	**69.99**	**336**	⇓P	**P**	**03 59 45.4**	**0.0**
	baz=70,SNR=7.0						
429A	**Davenport Ranc**	**70.09**	**333**	⇓P	**P**	**03 59 46.2**	**+0.1**
	baz=70						
331A	**San Angelo**	**70.16**	**334**	⇑P	**P**	**03 59 46.2**	**-0.2**
	baz=70,SNR=9.6						
233A	**Rising Star**	**70.26**	**336**	⇓P	**P**	**03 59 47.0**	**0.0**
	baz=71,SNR=7.1						
232A	**Coleman**	**70.40**	**335**	⇓P	**P**	**03 59 47.9**	**0.0**
	baz=71,SNR=5.8						
134A	**White-Moore Ra**	**70.49**	**337**	⇑P	**P**	**03 59 48.3**	**-0.1**
	baz=71						
330A	**Mertzon**	**70.52**	**334**	⇓P	**P**	**03 59 48.4

	baz=74				
Y28A	McKinney Farm,	73.16 334	⇑P	P	04 00 04.9 +0.4
	baz=74				
W32A	Sentinel	73.22 337	⇓P	P	04 00 04.7 0.0
	baz=74,SNR=9.6				
Z26A	Caprock	73.25 332	⇓P	P	04 00 05.3 +0.2
	baz=74,SNR=20				
V34A	Guthrie	73.32 338	⇑P	P	04 00 05.4 +0.1
	baz=74				
MSTX	Muleshoe	73.41 334	⇓P	P	04 00 06.2 +0.2
	baz=74				
MSTX	Muleshoe	73.41 334	eP	P	04 00 05.9 -0.1
	comp=Z,13nm,0.8s				
X29A	Tulia	73.44 335	⇓P	P	04 00 06.2 0.0
	baz=74				
Y27A	Causey	73.48 333	⇑P	P	04 00 06.5 +0.1
	baz=74				
W31A	Holland Ranch,	73.50 336	⇓P	P	04 00 06.7 +0.3
	baz=74				
Z25A	Roswell	73.54 332	⇓P	P	04 00 07.4 +0.6
	baz=74				
V33A	Lossen Ranch,	73.55 338	⇑P	P	04 00 07.2 +0.6
	baz=74				
X28A	Dimmitt	73.69 334	⇑P	P	04 00 08.2 +0.6
	baz=74				
V32A	Arapaho	73.69 337	⇑P	P	04 00 08.4 +0.9
	baz=74				
Y26A	Elida	73.76 333	⇑P	P	04 00 08.9 +0.8
	baz=74				
319A	Douglas	73.83 327	⇑P	P	04 00 09.2 +0.7
	baz=74				
AMTX	Amarillo	73.83 335	⇑P	P	04 00 09.2 +0.8
	baz=74				
AMTX	Amarillo	73.83 335	eP	P	04 00 08.8 +0.4
	comp=Z,245nm,2.9s				
Z24A	Sheeppen Canyo	73.84 331	⇑P	P	04 00 08.5 -0.2
	baz=74,SNR=7.3				
U34A	Anderson Ranch	73.88 339	⇑P	P	04 00 08.9 +0.3
	baz=74				
V31A	Spring Creek L	74.00 337	⇑P	P	04 00 10.5 +1.1
	baz=74				
W29A	Amarillo	74.03 335	⇓P	P	04 00 09.5 -0.1
	baz=74,SNR=5.9				
U33A	Lingo Farm, Me	74.06 338	⇓P	P	04 00 10.2 +0.6
	baz=74				
Y25A	Mesa, Roswell	74.10 332	⇑P	P	04 00 10.1 +0.1
	baz=74				
121A	Cookes Peak, D	74.16 329	⇓P	P	04 00 11.2 +0.7
	baz=74,SNR=7.9				
U32A	Winter Ranch,	74.28 337	⇑P	P	04 00 11.7 +0.8
	baz=75				
X26A	CR and CF Fran	74.31 333	⇓P	P	04 00 11.8 +0.4
	baz=75,SNR=8.2				
ACSO	Alum Creek Sta	74.38 351	eP	P	04 00 10.8 -0.5
	comp=Z,24nm,0.8s				
Y24A	Capitan	74.39 331	⇑P	P	04 00 12.5 +0.6
	baz=75				
Z22A	Elephant Butte	74.43 330	⇑P	P	04 00 12.5 +0.5
	baz=75				
W27A	Bowe Ranch, En	74.49 334	⇑P	P	04 00 12.5 +0.2
	baz=75,SNR=7.8				
U31A	Nine Bar Ranch	74.55 337	⇑P	P	04 00 13.7 +1.1
	baz=75				
Y23A	Lovelace Mesa,	74.65 331	⇑P	P	04 00 14.7 +1.3
	baz=75				
T33A	Patterson Ranc	74.69 338	⇑P	P	04 00 13.8 +0.5
	baz=75,SNR=7.4				
W26A	Owens Ranch, T	74.77 333	⇑P	P	04 00 14.1 +0.1
	baz=75,SNR=6.1				
V28A	Channing	74.80 335	⇑P	P	04 00 15.3 +1.3
	baz=75				
DBIC	Dimbokro	74.93 71	eP	P	04 00 14.4 -0.8
DBIC			pmax	pmax	
	comp=Z,56nm,2.2s				
DBIC	Dimbokro	74.93 71	P	P	04 00 15.0 -0.2
	comp=Z,6.3nm,0.9s,baz=208,slow=8.3,SNR=6.2				
DBIC	Dimbokro	74.93 71	eP	P	04 00 14.3 -0.8
	comp=Z,56nm,2.2s				
U30A	WK&E Inc. Balk	74.96 336	⇑P	P	04 00 15.8 +0.8
	baz=75				
T32A	Huddler Ranch,	75.00 338	⇑P	P	04 00 15.9 +0.8
	baz=75				
V27A	Dan Oppiter Fa	75.03 334	⇓P	P	04 00 16.0 +0.6
	baz=75				
W25A	X Bar L Ranch,	75.15 333	⇓P	P	04 00 16.7 +0.6
	baz=76				
T31A	Randall Ranch,	75.16 337	⇓P	P	04 00 16.8 +0.8
	baz=76				
X23A	Hourglass Bar	75.27 331	⇑P	P	04 00 17.7 +0.8
	baz=76				
TUC	Tucson	75.30 327	eP	P	04 00 17.8 +0.8
TUC			pmax	pmax	
	comp=Z,8.0nm,1.3s				
TUC	Tucson	75.30 327	eP	P	04 00 17.8 +0.8
	comp=Z,8.4nm,1.3s				
U28A	Mallet	75.37 335	⇑P	P	04 00 18.1 +0.8
	baz=76				
V26A	Tequesquite Ra	75.41 334	⇓P	P	04 00 18.3 +0.7
	baz=76				
S32A	Newby Ranch, P	75.48 338	⇑P	P	04 00 18.9 +1.0
	baz=76				
W24A	Lazy 6 Ranch,	75.51 332	⇑P	P	04 00 18.9 +0.6
	baz=76				
S31A	Mullinville	75.57 338	⇓P	P	04 00 19.1 +0.6
	baz=76				
U27A	Thompson Grove	75.62 335	⇑P	P	04 00 19.5 +0.7
	baz=76				
ANMO	Albuquerque	75.69 331	eP	P	04 00 20.0 +0.6
ANMO			pmax	pmax	
	comp=Z,8.0nm,1.0s				
ANMO	Albuquerque	75.69 331	eP	P	04 00 20.0 +0.6
	comp=Z,8.3nm,1.0s				
R33A	Olander Ranch,	75.75 339	⇓P	P	04 00 19.7 +0.3
	baz=76				
T29A	Hugoton	75.75 336	⇓P	P	04 00 20.5 +1.1
	baz=76				
W23A	Werner Place,	75.76 332	⇓P	P	04 00 20.5 +0.8
	baz=76				
V25A	Rancho No Teng	75.76 333	⇑P	P	04 00 19.9 +0.2
	baz=76,SNR=5.4				
S30A	Montezuma	75.91 337	⇓P	P	04 00 20.8 +0.5
	baz=76				
V24A	Rampart Ranch,	75.91 332	⇓P	P	04 00 20.8 +0.2
	baz=76				
U26A	Atchley Ranch,	75.93 334	⇑P	P	04 00 21.0 +0.4
	baz=76				
214A	Organ Pipe Nat	75.96 325	⇑P	P	04 00 21.6 +0.9
	baz=76,SNR=5.4				
T28A	Walsh	75.99 335	⇓P	P	04 00 21.2 +0.3
	baz=76,SNR=9.2				
R32A	Long Quarter,	76.07 339	⇑P	P	04 00 21.5 +0.3
	baz=76,SNR=5.3				
S29A	Ulysses	76.11 336	⇓P	P	04 00 22.3 +0.8
	baz=76				
T27A	Campo	76.15 335	⇑P	P	04 00 22.1 +0.2
	baz=76,SNR=8.2				
U25A	Circle Dot Ran	76.18 333	⇓P	P	04 00 22.4 +0.4
	baz=77,SNR=5.2				
R31A	Burdett	76.20 338	⇑P	P	04 00 22.5 +0.5
	baz=77				
Q33A	Connelly Farm,	76.34 339	⇑P	P	04 00 23.3 +0.6
	baz=77				
S28A	Manter	76.34 336	⇑P	P	04 00 23.3 +0.4
	baz=77,SNR=13				
R30A	Dighton	76.44 337	⇑P	P	04 00 23.9 +0.6
	baz=77				
Q32A	Meitler Ranch,	76.55 339	⇑P	P	04 00 24.1 +0.2
	baz=77,SNR=5.2				
T26A	Comanche Natio	76.56 334	⇑P	P	04 00 24.8 +0.5
	baz=77,SNR=5.5				
V22A	San Miguel Ran	76.72 331	⇓P	P	04 00 26.2 +1.0
	baz=77,SNR=13				
S27A	Las Animas	76.77 335	⇑P	P	04 00 26.1 +0.7
	baz=77				
U23A	El Rito	76.79 332	⇑P	P	04 00 26.5 +0.9
	baz=77,SNR=7.9				
X18A	Snowflake	76.80 328	⇓P	P	04 00 26.5 +0.9
	baz=77				
Q31A	Ellis	76.82 338	⇑P	P	04 00 26.0 +0.5
	baz=77,SNR=5.1				
T25A	Trinidad	76.83 334	⇓P	P	04 00 26.8 +1.0
	baz=77,SNR=12				
R29A	Marienthal	76.84 337	⇑P	P	04 00 25.9 +0.2
	baz=77,SNR=6.6				
S26A	Kim	76.92 335	⇑P	P	04 00 27.0 +0.8
	baz=77,SNR=11				
R28A	Tribune	76.99 336	⇓P	P	04 00 26.9 +0.4
	baz=77,SNR=7.6				
Q30A	Quinter	77.05 338	⇓P	P	04 00 27.0 +0.3
	baz=78,SNR=8.9				
U22A	Llaves	77.10 332	⇓P	P	04 00 28.7 +1.4
	baz=78				
T24B	San Luis	77.13 333	⇑P	P	04 00 28.5 +1.0
	baz=78,SNR=6.6				
P32A	Huiting Farm,	77.14 339	⇓P	P	04 00 27.9 +0.7
	baz=78				
Q29A	Oakley	77.21 337	⇓P	P	04 00 27.8 +0.1
	baz=78				
R27A	Eads	77.28 335	⇑P	P	04 00 28.4 +0.3
	baz=78,SNR=9.7				
P31A	Stockton	77.28 338	⇑P	P	04 00 28.2 +0.2
	baz=78,SNR=6.2				
S25A	Robets Cordova	77.30 334	⇑P	P	04 00 29.3 +0.9
	baz=78				
T23A	Casias Ranch,	77.35 333	⇓P	P	04 00 29.5 +0.8
	baz=78				
X16A	Lo Mia Camp, P	77.36 327	⇓P	P	04 00 29.7 +0.9
	baz=78,SNR=13				
R26A	Arlington	77.52 335	⇓P	P	04 00 29.9 +0.4
	baz=78,SNR=6.9				
S24A	Houchin Ranch,	77.57 333	⇓P	P	04 00 30.9 +0.9
	baz=78,SNR=12				
P30A	Selden	77.57 338	⇑P	P	04 00 30.1 +0.4
	baz=78				
Q28A	Sharon Springs	77.65 336	⇑P	P	04 00 31.0 +0.8
	baz=78				
Y14A	Wickenburg	77.68 326	⇓P	P	04 00 31.3 +0.9
	baz=78				
SDCO	Great Sand Dun	77.77 333	eP	P	04 00 32.0 +0.8
	comp=Z,4.2nm,0.8s				
P29A	Atwood	77.84 337	⇑P	P	04 00 31.9 +0.7
	baz=78,SNR=5.7				
O31A	Woolen Ranch,	77.85 339	⇑P	P	04 00 31.8 +0.7
	baz=78				
KSCO	Kaye Shedlock'	77.87 336	⇓P	P	04 00 32.3 +0.9
	baz=78				
KSCO	Kaye Shedlock'	77.87 336	eP	P	04 00 32.0 +0.6
	comp=Z,12nm,0.8s				
R24A	Sanders Place,	78.05 334	⇓P	P	04 00 33.3 +0.7
	baz=78,SNR=8.2				
P28A	Saint Francis	78.08 337	⇑P	P	04 00 33.5 +0.9
	baz=78				
O30A	MW Ranch, Wils	78.09 338	⇑P	P	04 00 33.5 +0.9
	baz=78				
Q26A	Hugo	78.10 335	⇑P	P	04 00 33.7 +1.0
	baz=78				
N32A	Stulken Farm,	78.11 340	⇑P	P	04 00 33.2 +0.6
	baz=78				
JFWS	Jewell Farm	78.18 346	eP	P	04 00 32.6 -0.3
JFWS			pmax	pmax	
	comp=Z,17nm,0.8s				
JFWS	Jewell Farm	78.18 346	eP	P	04 00 32.6 -0.3
	comp=Z,17nm,0.8s				
SWSC	Sam W. Stewart	78.22 323	⇓P	P	04 00 34.7 +1.4
	baz=79				
Y12C	Blythe	78.25 325	⇑P	P	04 00 34.9 +1.4
	baz=79				
WUAZ	Wupatki	78.26 328	⇑P	P	04 00 34.5 +0.8
	baz=79,SNR=6.1				
WUAZ	Wupatki	78.26 328	eP	P	04 00 34.5 +0.8
	comp=Z,7.4nm,0.9s				
O29A	4D Ranch, Culb	78.28 338	⇓P	P	04 00 34.3 +0.7
	baz=79				
S22A	4UR Ranch, Cre	78.28 332	⇑P	P	04 00 34.5 +0.6
	baz=79				
R23A	Moffat	78.28 333	⇑P	P	04 00 34.8 +0.9
	baz=79				
P27A	Ficken Ranch,	78.34 336	⇑P	P	04 00 35.2 +1.1
	baz=79				
Q25A	Bedland, Calha	78.35 335	⇑P	P	04 00 35.2 +1.0
	baz=79				
MVCO	Mesa Verde	78.48 331	⇑P	P	04 00 36.5 +1.5
	baz=79				
MVCO	Mesa Verde	78.48 331	eP	P	04 00 35.7 +0.7
	comp=Z,30nm,1.7s				
P26A	Davis Ranch, A	78.61 336	⇓P	P	04 00 36.4 +0.8
	baz=79				
BC3	Big Chuckawall	78.62 324	⇓P	P	04 00 37.0 +1.2
	baz=79				
BGNE	Belgrade	78.66 340	⇑P	P	04 00 36.1 +0.4
	baz=79				
Q24A	Divide	78.72 334	⇓P	P	04 00 36.8 +0.5
	baz=79,SNR=6.2				
M31A	Lambtecht Ranc	78.84 339	⇑P	P	04 00 37.2 +0.5
	baz=79,SNR=5.2				
P25A	Willow Gulch B	78.85 335	⇓P	P	04 00 37.7 +0.8
	baz=79,SNR=8.3				
N29A	Votaw Ranch, W	78.86 338	⇓P	P	04 00 37.5 +0.7
	baz=79				
O27A	Beecher Island	78.88 337	⇓P	P	04 00 38.0 +1.0
	baz=79,SNR=6.6				
IRM	Iron Mountain	78.88 325	⇓P	P	04 00 38.5 +1.4
	baz=79				
N28A	Pribbeno Ranch	79.02 337	⇑P	P	04 00 38.7 +0.9
	baz=79				
W13A	Hualapai Mount	79.05 326	⇑P	P	04 00 39.5 +1.3
	baz=79				
PLM	Palomar	79.08 323	eP	P	04 00 40.1 +1.7
PLM	Palomar	79.08 323	eP	P	04 00 40.0 +1.7
PFO	Pinyon Flats O	79.08 323	eP	P	04 00 39.7 +1.4
PFO			pmax	pmax	
	comp=Z,12nm,1.0s				
PFO	Pinyon Flats O	79.08 323	⇓P	P	04 00 39.7 +1.4
	baz=79				
PFO	Pinyon Flats O	79.08 323	eP	P	04 00 39.7 +1.4
	comp=Z,12nm,1.0s				
TSUM	Tsumeb	79.08 106	LR	LR	04 31 41.6
	comp=Z,468nm,19.7s,baz=321,slow=33				
TSUM	Tsumeb	79.08 106	eP	P	04 00 39.1 +0.4
	comp=Z,13nm,1.1s				
BELC	Belle Mtn. Jos	79.17 324	⇓P	P	04 00 39.7 +0.9
	baz=80				
O26A	Horse Wrangler	79.21 336	⇑P	P	04 00 39.7 +0.8
	baz=80,SNR=5.8				
M30A	Dale-Ortello V	79.28 339	⇓P	P	04 00 40.2 +1.1
	baz=80				
P23A	Jefferson	79.33 334	⇓P	P	04 00 41.2 +1.4
	baz=80				
O25A	Wiggins	79.37 335	⇓P	P	04 00 41.4 +1.7
	baz=80				
U15A	North Rim	79.42 328	⇑P	P	04 00 41.3 +1.0
	baz=80,SNR=6.1				
N27A	Anderson Farm,	79.45 337	⇑P	P	04 00 40.8 +0.6
	baz=80,SNR=5.1				
L31A	Butterfield Fa	79.57 340	⇓P	P	04 00 41.1 +0.5
	baz=80,SNR=6.4				
SMCO	Snowmass	79.58 333	eP	P	04 00 42.4 +1.2
	comp=Z,12nm,0.9s				
L30A	Spencer Herefo	79.61 339	⇑P	P	04 00 41.6 +0.8
	baz=80				
ISCO	Idaho Springs	79.62 334	⇑P	P	04 00 41.5 +0.2
	baz=80				
GMRC	Granite Mounta	79.63 325	⇓P	P	04 00 42.6 +1.4
	baz=80				
P22A	Eagle	79.86 333	⇑P	P	04 00 43.2 +0.7
	baz=80,SNR=5.3				
BOSA	Boshof	80.00 118	eP	P	04 00 39.5 -4.1
BOSA			AMB	AMB	04 00 55.6
	comp=Z,38nm,3.5s				
BOSA	Boshof	80.00 118	P	P	04 00 43.9 +0.3
	comp=Z,6.3nm,1.0s,baz=266,slow=4.0,SNR=5.1				
HEC	Hector,Ludlow	80.00 324	⇑P	P	04 00 44.7 +1.5
	baz=80				
O23A	Lake Granby, G	80.09 334	⇑P	P	04 00 44.2 +0.4
	baz=80,SNR=12				
KNB	Kanab	80.15 328	eP	P	04 00 45.4 +1.4
KNB			pmax	pmax	
	comp=Z,12nm,0.9s				
KNB	Kanab	80.15 328	eP	P	04 00 45.4 +1.4
	comp=Z,12nm,0.9s				
BFSC	Mount Baldy Ra	80.18 323	⇓P	P	04 00 45.4 +1.2
	baz=80				
L28A	Connealy Angus	80.21 338	⇑P	P	04 00 45.4 +1.2
	baz=81				
K30A	Basset	80.25 340	⇓P	P	04 00 44.7 +0.4
	baz=81,SNR=9.9				
N24A	Carr	80.27 335	⇑P	P	04 00 45.6 +1.0
	baz=81				
O22A	Kremmling	80.28 334	⇓P	P	04 00 45.2 +0.3
	baz=81,SNR=7.3				
TUQ	Turquoise Moun	80.29 325	⇑P	P	04 00 45.8 +1.0
	baz=81				
ECSD	EROS Data Cent	80.41 342	⇑P	P	04 00 45.0 0.0
	baz=81,SNR=19				
ECSD	EROS Data Cent	80.41 342	eP	P	04 00 44.8 -0.3
	comp=Z,21nm,0.8s				
M25A	Palm-Egli Farm	80.53 336	⇓P	P	04 00 46.9 +0.9
	baz=81				
K29A	Lazy Trails An	80.53 339	⇑P	P	04 00 46.9 +1.1
	baz=81				
GSC	Goldstone, Bar	80.61 324	⇓P	P	04 00 48.0 +1.5
	baz=81				
N23A	Red Feather La	80.70 334	⇑P	P	04 00 47.8 +0.8
	baz=81,SNR=5.5				
SHPR	Sheep Range	80.79 326	eP	P	04 00 48.8 +1.3
K28A	Ten Mile Ranch	80.81 338	⇓P	P	04 00 48.3 +0.9
	baz=81,SNR=8.7				
N22A	Wattenberg Ran	80.81 334	⇓P	P	04 00 48.2 +0.6
	baz=81,SNR=5.8				
M24A	Cheyenne	80.82 335	⇓P	P	04 00 48.4 +0.9
	baz=81				
EDW2	Edwards Air Fo	80.86 323	⇑P	P	04 00 48.4 +0.6
	baz=81				
PHWY	Pilot Hill	80.89 335	eP	P	04 00 48.4 +0.4
	comp=Z,11nm,1.0s				
SPMN	Marine on St.	80.92 345	⇓P	P	04 00 47.4 -0.4
	baz=81				
SPMN	Marine on St.	80.92 345	eP	P	04 00 47.0 -0.8
	comp=Z,9.1nm,0.6s				
BSC	Santa Cruz Isl	81.00 321	⇓P	P	04 00 49.0 +0.5
	baz=81				
K27A	Flueckinger Fa	81.07 338	⇓P	P	04 00 49.3 +0.5
	baz=82				
J29A	Okreek	81.13 339	⇑P	P	04 00 49.3 +0.4
	baz=82,SNR=16				
M23A	Laramie	81.13 335	⇑P	P	04 00 49.6 +0.3
	baz=82,SNR=7.0				
L25A	Engebretsen Ra	81.14 336	⇓P	P	04 00 50.4 +1.2
	baz=82				
LRMC	Laurel Mtn Rad	81.18 324	⇑P	P	04 00 51.1 +1.5
	baz=82				
ROA	Roan Cliffs	81.33 331	eP	P	04 00 48.6 -1.9
I30A	Oacoma	81.33 340	⇑P	P	04 00 50.2 +0.2
	baz=82,SNR=9.0				
K26A	Motz Farm, Whi	81.37 337	⇑P	P	04 00 51.4 +1.0
	baz=82				
M22A	Cedar Creek Ra	81.39 334	⇑P	P	04 00 51.8 +1.1
	baz=82				
J28A	Allard Ranch,	81.42 339	⇓P	P	04 00 50.9 +0.3
	baz=82,SNR=7.6				
J27A	Elkhorn Farm,	81.50 338	⇓P	P	04 00 51.8 +0.8
	baz=82,SNR=9.2				
N20A	Spence Gulch,	81.51 333	⇓P	P	04 00 51.8 +0.5
	baz=82				
I29A	Vivian Onida	81.68 340	⇓P	P	04 00 51.9 0.0
	baz=82				
BRSD	Miller	81.69 341	⇓P	P	04 00 51.9 0.0
	baz=82				
BRSD	Miller	81.69 341	eP	P	04 00 51.8 -0.1
	comp=Z,24nm,0.9s				
L23A	Garrett	81.69 335	⇑P	P	04 00 52.6 +0.3
	baz=82				
ISA	Isabella, Lake	81.72 323	eP	P	04 00 53.8 +1.5
ISA			pmax	pmax	
	comp=Z,7.0nm,0.9s				
ISA	Isabella, Lake	81.72 323	⇓P	P	04 00 53.8 +1.5
	baz=82				
ISA	Isabella, Lake	81.72 323	eP	P	04 00 53.8 +1.5
	comp=Z,6.5nm,0.9s				
L22A	Ellis Ranch, M	81.88 335	⇑P	P	04 00 54.0 +0.8
	baz=82				
J26A	Sides Ranch, S	81.88 337	⇓P	P	04 00 53.7 +0.7
	baz=82,SNR=6.0				
I28A	Midland	81.92 339	⇓P	P	04 00 53.4 +0.2
	baz=82,SNR=10				
K24A	Anderson Ranch	81.93 336	⇑P	P	04 00 53.9 +0.5
	baz=82,SNR=5.5				
MPU	Maple Canyon	82.15 330	eP	P	04 00 55.2 +0.6
	comp=Z,6.6nm,0.9s				
VES	Vestal, Richgr	82.16 323	⇑P	P	04 00 55.4 +0.8
	baz=82				
J25A	Sunshine Ranch	82.19 337	⇓P	P	04 00 54.9 +0.2
	baz=83,SNR=6.7				
H29A	Onida	82.21 340	⇑P	P	04 00 54.8 +0.1
	baz=83,SNR=6.2				
LBTB	Lobatse	82.22 115	eP	P	04 00 52.4 -3.1
LBTB			AMB	AMB	04 01 10.0
	comp=Z,21nm,4.5s				
LBTB	Lobatse	82.22 115	eP	P	04 00 55.5 0.0
LBTB			pmax	pmax	
	comp=Z,14nm,1.0s				
LBTB	Lobatse	82.22 115	eP	P	04 00 55.5 0.0
	comp=Z,14nm,1.0s				
K23A	Bowen Ranch, D	82.23 336	⇓P	P	04 00 55.9 +0.9
	baz=83				
I27A	Quinn	82.25 339	⇑P	P	04 00 55.6 +0.7
	baz=83				
NLU	North Lily Min	82.28 330	eP	P	04 00 56.4 +1.1
	comp=Z,58nm,2.4s				
G30A	Faulkton	82.38 341	⇑P	P	04 00 56.4 +0.9
	baz=83				
J24A	Dixon Ranch, L	82.42 336	⇓P	P	04 00 56.6 +0.7
	baz=83				
K22A	Casper	82.45 335	⇓P	P	04 00 56.5 +0.4
	baz=83,SNR=5.7				
K22A	Casper	82.45 335	eP	P	04 00 56.8 +0.6
	comp=Z,12nm,1.0s				
I26A	New Underwood	82.46 338	⇓P	P	04 00 57.2 +1.2
	baz=83				
PRYS	Parys	82.48 117	eP	P	04 00 56.4 -0.4
PRYS			AMB	AMB	04 01 03.3
	comp=Z,5.8nm,3.3s				
R11A	Troy Canyon, C	82.49 327	⇑P	P	04 00 57.9 +1.4
	baz=83				
R11A	Troy Canyon, C	82.49 327	eP	P	04 00 57.8 +1.4
	comp=Z,6.9nm,1.0s				
H28A	Mission Ridge	82.49 339	⇓P	P	04 00 56.1 0.0
	baz=83,SNR=14				
G29A	Hoven	82.65 340	⇓P	P	04 00 57.3 +0.4
	baz=83				
K21A	Alcova	82.70 334	⇓P	P	04 00 57.8 +0.3
	baz=83,SNR=9.7				
I25A	Rochford	82.73 337	⇑P	P	04 00 58.1 +0.5
	baz=83,SNR=8.2				
H27A	Howes	82.77 339	⇑P	P	04 00 57.5 0.0
	baz=83,SNR=11				
DUG	Dugway, Tooele	82.79 330	eP	P	04 00 58.6 +0.7
DUG			pmax	pmax	
	comp=Z,8.0nm,1.1s				
DUG	Dugway, Tooele	82.79 330	⇓P	P	04 00 58.3 +0.4
	baz=83,SNR=6.2				
DUG	Dugway, Tooele	82.79 330	eP	P	04 00 58.6 +0.7
	comp=Z,7.8nm,1.1s				
G28A	Parade	82.83 340	⇓P	P	04 00 57.8 0.0
	baz=83,SNR=10				
I24A	Kuemmerle Ranc	82.88 337	⇑P	P	04 00 59.0 +0.7
	baz=83				
RSSD	Black Hills	82.92 337	eP	P	04 00 58.9 +0.3
RSSD			pmax	pmax	
	comp=Z,10.0nm,0.9s				
RSSD	Black Hills	82.92 337	eP	P	04 00 58.9 +0.3
	comp=Z,9.9nm,0.9s				
TCUT	Toone Canyon	82.98 331	eP	P	04 00 59.4 +0.3
	comp=Z,8.2nm,1.0s				
TPH	Tonopah	83.03 326	eP	P	04 00 59.6 +0.3
TPH			pmax	pmax	
	comp=Z,9.0nm,0.9s				
TPH	Tonopah	83.03 326	eP	P	04 00 59.6 +0.3
	comp=Z,9.0nm,0.9s				
J22A	Midwest	83.11 335	⇓P	P	04 00 59.6 +0.1
	baz=84				
F29A	Eureka	83.21 341	⇓P	P	04 00 59.9 +0.1
	baz=84,SNR=6.1				
H25A	Fruitdale	83.23 338	⇓P	P	04 01 00.7 +0.8
	baz=84				
EYMN	Ely	83.26 347	eP	P	04 00 59.9 -0.1
	comp=Z,9.8nm,0.9s				
G27A	Dupree	83.40 339	⇑P	P	04 01 00.9 +0.1
	baz=84,SNR=6.4				
F28A	McLaughlin	83.50 340	⇓P	P	04 01 01.9 +0.6
	baz=84				
G26A	Maurine	83.52 339	⇓P	P	04 01 01.3 -0.2
	baz=84,SNR=7.0				
I22A	9 Mile Ranch,	83.53 336	⇑P	P	04 01 01.4 -0.2
	baz=84,SNR=6.3				
E30A	Jud	83.58 342	⇓P	P	04 01 02.0 +0.3
	baz=84				
J20A	Shoshoni	83.62 334	⇑P	P	04 01 02.8 +0.6
	baz=84,SNR=9.8				
H24A	Dirks Ranch, A	83.64 337	⇓P	P	04 01 01.6 -0.5
	baz=84,SNR=5.5				
BW06	Boulder Array	83.66 333	eP	P	04 01 02.2 -0.3
PD31	Pinedale Array	83.66 333	eP	P	04 01 02.5 0.0
PDAR	Pinedale Array	83.66 333	P	P	04 01 02.5 0.0

comp=Z,3.6nm,0.9s,baz=163,slow=4.1,SNR=16
G25A Newell 83.68 338 ⇓P **P 04 01 02.1 -0.2**
baz=84,SNR=9.7
I21A Big Trails, Te 83.74 335 ⇓P **P 04 01 02.5 -0.3**
baz=84
NV01 Mina Array Sit 83.82 325 *eP* **P 04 01 04.0 +0.6**
NVAR Mina Array Bea 83.82 325 P **P 04 01 04.6 +1.2**
comp=Z,2.9nm,0.8s,baz=162,slow=6.2,SNR=14
SLR Silverton 83.83 117 *eP* **P 04 01 02.7 -1.1**
SLR AMB AMB 04 01 03.8
comp=Z,26nm,1.7s
E29A Napoleon 83.84 341 ⇓P **P 04 01 02.9 -0.1**
baz=84
F27A Lemmon 83.87 339 ⇓P **P 04 01 03.2 -0.1**
baz=84,SNR=13
J19A Crowheart 83.90 334 ⇑P **P 04 01 03.4 -0.2**
baz=84,SNR=8.6
TOA0 Torodi Ar. Sit 83.96 70 *eP* **P 04 01 04.2 -0.1**
TORD Torodi Ar. Bea 83.96 70 P **P 04 01 04.4 +0.1**
comp=Z,14nm,0.9s,baz=252,slow=4.4,SNR=28
F26A Lodgepole 84.05 339 ⇓P **P 04 01 04.2 0.0**
baz=84,SNR=6.7
HVU Hansel Valley 84.10 330 *eP* **P 04 01 04.8 +0.1**
HVU pmax pmax
comp=Z,13nm,0.8s
HVU Hansel Valley 84.10 330 *eP* **P 04 01 04.8 +0.1**
comp=Z,13nm,0.8s
D30A Buchanan 84.10 342 ⇓P **P 04 01 04.2 -0.1**
baz=84,SNR=9.7
H22A Clearmont 84.10 336 ⇓P **P 04 01 04.6 0.0**
baz=84
G24A Alzada 84.12 338 ⇑P **P 04 01 04.4 -0.2**
baz=84
E28A Huff 84.13 340 ⇑P **P 04 01 04.6 +0.1**
baz=84,SNR=5.5
I20A Worland 84.16 335 ⇓P **P 04 01 04.7 -0.1**
baz=85,SNR=5.8
E27A Carson 84.25 340 ⇑P **P 04 01 05.1 -0.1**
baz=85
D29A Pettibone, Tap 84.28 341 ⇑P **P 04 01 05.1 -0.1**
baz=85,SNR=5.3
ELK Elko 84.29 328 *eP* **P 04 01 06.2 +0.5**
ELK pmax pmax
comp=Z,6.0nm,0.8s
ELK Elko 84.29 328 *eP* **P 04 01 06.2 +0.5**
comp=Z,6.1nm,0.8s
G23A Biddle 84.32 337 ⇓P **P 04 01 04.8 -0.8**
baz=85
F25A Bowman 84.35 338 ⇑P **P 04 01 05.6 -0.1**
baz=85,SNR=5.1
H21A Big Horn, Sher 84.37 336 ⇑P **P 04 01 05.2 -0.7**
baz=85
AGMN Agassiz Nation 84.51 344 ⇑P **P 04 01 06.1 -0.2**
baz=85,SNR=6.5
AGMN Agassiz Nation 84.51 344 *eP* **P 04 01 05.8 -0.5**
comp=Z,9.8nm,0.8s
E26A Carlson Angus 84.55 339 ⇓P **P 04 01 06.6 -0.1**
baz=85,SNR=6.1
I19A Meeteetse 84.55 344 ⇓P **P 04 01 06.6 -0.4**
baz=85
H20A Greybull 84.58 335 ⇓P **P 04 01 07.0 0.0**
baz=85,SNR=11
C30A Mose, Pekin 84.58 342 ⇑P **P 04 01 06.9 +0.1**
baz=85,SNR=10
F24A Ekalaka 84.59 338 ⇑P **P 04 01 06.9 0.0**
baz=85
D28A Regan 84.66 341 ⇓P **P 04 01 07.4 +0.2**
baz=85,SNR=6.2
SNOW Snow King Moun 84.71 333 *eP* **P 04 01 07.8 0.0**
comp=Z,5.4nm,0.8s
LOHW Long Hollow 84.78 333 *eP* **P 04 01 08.3 +0.1**
comp=Z,3.9nm,0.8s
F23A Volborg 84.78 337 ⇑P **P 04 01 07.8 -0.1**
baz=85
TPAW Teton Pass 84.81 333 *eP* **P 04 01 08.7 +0.4**
comp=Z,7.6nm,0.8s
E25A Miller Ranch, 84.85 339 ⇑P **P 04 01 08.2 0.0**
baz=85,SNR=5.8
G21A Lodge Grass 84.95 336 ⇓P **P 04 01 08.7 -0.1**
baz=85
I17A Pilgrim Ck. 85.03 333 ⇓P **P 04 01 10.0 +0.6**
baz=85,SNR=10
D26A Manning 85.04 340 ⇑P **P 04 01 09.3 +0.2**
baz=86,SNR=7.3
H19A Powell 85.09 334 ⇑P **P 04 01 09.5 0.0**
baz=86,SNR=6.4
F22A Rosebud 85.11 337 ⇑P **P 04 01 09.2 -0.4**
baz=86
IMW Indian Meadow 85.15 333 *eP* **P 04 01 09.7 -0.4**
comp=Z,10nm,1.1s
E24A Baker 85.18 338 ⇓P **P 04 01 10.1 +0.2**
baz=86
FLWY Flagg Ranch 85.22 333 *eP* **P 04 01 10.8 +0.4**
comp=Z,13nm,0.8s
B30A Myrvik Farm, E 85.24 343 ⇓P **P 04 01 10.0 0.0**
baz=86,SNR=13
G20A Bridger 85.29 335 ⇓P **P 04 01 10.2 -0.4**
baz=86,SNR=10
H18A Shoshone NF, C 85.34 334 ⇓P **P 04 01 11.0 +0.1**
baz=86,SNR=24
C27A Sayler Ranch, 85.40 340 ⇑P **P 04 01 11.2 +0.3**
baz=86,SNR=5.5
D25A Fairfield 85.41 339 ⇓P **P 04 01 11.5 +0.5**
baz=86,SNR=5.7
H17A Grant Village 85.44 333 ⇓P **P 04 01 12.2 +0.8**
baz=86
F21A Absaloka Mine, 85.44 336 ⇓P **P 04 01 11.3 +0.1**
baz=86
B29A Wagenman Farm, 85.51 342 ⇓P **P 04 01 11.6 +0.2**
baz=86
RLMT Red Lodge 85.58 334 *eP* **P 04 01 12.3 +0.2**
comp=Z,7.7nm,0.6s
YFT Old Faithful 85.58 333 *eP* **P 04 01 13.4 +1.2**
comp=Z,6.5nm,0.8s
E22A Miles City 85.60 337 ⇑P **P 04 01 11.8 -0.1**
baz=86
C26A Wahner Farm, P 85.67 340 ⇓P **P 04 01 12.6 +0.4**
baz=86
A30A Hoffart Farm, 85.69 343 ⇓P **P 04 01 12.2 0.0**
baz=86
B28A Dugan Ranch, T 85.76 341 ⇑P **P 04 01 12.8 +0.2**
baz=86,SNR=6.2
F20A Billings 85.77 335 ⇑P **P 04 01 13.0 +0.1**
baz=86
YMR Madison River 85.82 333 *eP* **P 04 01 14.1 +0.8**
comp=Z,22nm,0.8s
C25A Freed Ranch, W 85.90 339 ⇑P **P 04 01 13.9 +0.5**
baz=86
A29A Manning Farm, 85.90 342 ⇓P **P 04 01 13.3 0.0**
baz=86,SNR=11
LAO LASA Array 85.91 337 *eP* **P 04 01 13.7 +0.3**
comp=Z,15nm,0.9s
D23A Lindsay 86.01 338 ⇑P **P 04 01 14.4 +0.5**
baz=86,SNR=19
E21A Keefer Ranch, 86.06 336 ⇓P **P 04 01 14.8 +0.6**
baz=86
C24A Savage 86.09 339 ⇑P **P 04 01 14.8 +0.5**
baz=86,SNR=6.5
F19A Roth Farm, Mol 86.10 335 ⇑P **P 04 01 14.2 -0.3**
baz=86,SNR=6.8
QLMT Earthquake Lak 86.13 333 *eP* **P 04 01 15.8 +0.9**
A28A Rude Farm, Bot 86.16 342 ⇑P **P 04 01 14.9 +0.3**
baz=87
HLID Hailey 86.25 330 ⇓P **P 04 01 16.2 +0.8**
baz=87,SNR=8.3
HLID Hailey 86.25 330 *eP* **P 04 01 16.2 +0.8**
comp=Z,8.1nm,0.9s
D22A Cohagen 86.30 337 ⇑P **P 04 01 15.5 +0.1**
baz=87,SNR=6.5
ULM Lac du Bonnet 86.35 345 *eP* **P 04 01 14.9 -0.5**
ULM pmax pmax
comp=Z,177nm,2.9s
ULM Lac du Bonnet 86.35 345 P **P 04 01 15.2 -0.3**
comp=Z,8.8nm,0.8s,baz=129,slow=3.2,SNR=12
ULM Lac du Bonnet 86.35 345 *eP* **P 04 01 14.9 -0.5**
comp=Z,177nm,2.9s
B25A Knox Farm, Ray 86.38 340 ⇓P **P 04 01 16.7 +1.0**
baz=87
E20A Meyer Farm, Mu 86.38 336 ⇑P **P 04 01 15.9 0.0**
baz=87,SNR=22
D21A La Casta Ranch 86.49 337 ⇑P **P 04 01 16.4 +0.1**
baz=87,SNR=13
C23A Lambert 86.56 338 ⇑P **P 04 01 16.8 +0.1**
baz=87,SNR=9.6
E19A Rath Farm, Rou 86.57 335 ⇑P **P 04 01 16.5 -0.2**
baz=87,SNR=14
A26A Wade Farm, Ken 86.62 341 ⇓P **P 04 01 17.1 +0.2**
baz=87

MCMT McKenzie Canyo 86.67 332 *eP* **P 04 01 18.6 +1.0**
MFID Camas Ranch 86.72 330 *eP* **P 04 01 18.0 +0.3**
comp=Z,5.9nm,0.9s
C22A Vida 86.73 338 ⇓P **P 04 01 17.2 -0.3**
baz=87,SNR=7.5
DGMT Dagmar 86.86 339 ⇑P **P 04 01 18.3 +0.3**
baz=87,SNR=10.0
DGMT Dagmar 86.86 339 *eP* **P 04 01 18.4 +0.4**
comp=Z,50nm,1.1s
D20A Manuel Ranch, 86.89 336 ⇑P **P 04 01 18.1 -0.2**
baz=87,SNR=16
DLMT Dillon 87.03 333 *eP* **P 04 01 19.5 +0.4**
comp=Z,9.6nm,1.1s
MSNA Messina 87.06 115 *eP* **P 04 01 20.1 +0.2**
MSNA AMB AMB 04 01 31.8
B23A Brockton 87.09 339 ⇓P **P 04 01 19.3 +0.1**
baz=88
WVOR Wild Horse Val 87.16 327 *eP* **P 04 01 20.5 +0.7**
WVOR pmax pmax
comp=Z,6.0nm,1.1s
WVOR Wild Horse Val 87.16 327 *eP* **P 04 01 20.5 +0.7**
comp=Z,6.1nm,1.1s
C21A Desert Coulee 87.19 337 ⇑P **P 04 01 19.3 -0.4**
baz=88,SNR=17
A24A Westby 87.21 339 ⇑P **P 04 01 20.4 +0.6**
baz=88
D19A Cripps Ranch, 87.21 336 ⇓P **P 04 01 19.4 -0.5**
baz=88,SNR=6.8
B22A Reddig Ranch S 87.26 338 ⇓P **P 04 01 20.7 +0.7**
baz=88
LRM Limekiln Ridge 87.36 333 *eP* **P 04 01 21.4 +0.6**
C20A Veseth Ranch, 87.39 336 ⇑P **P 04 01 20.2 -0.5**
baz=88,SNR=6.4
A23A Redstone 87.50 339 ⇓P **P 04 01 21.4 +0.2**
baz=88
MOD Modoc Plateau 87.50 326 *eP* **P 04 01 22.0 +0.5**
comp=Z,8.3nm,1.0s
WDC Whiskeytown Da 87.55 324 *eP* **P 04 01 21.3 -0.3**
WDC pmax pmax
comp=Z,135nm,2.8s
WDC Whiskeytown Da 87.55 324 *eP* **P 04 01 21.3 -0.3**
comp=Z,135nm,2.8s
B21A Ellsworth Farm 87.69 337 ⇓P **P 04 01 22.4 +0.3**
baz=88
C19A Slack Wire Ran 87.76 336 ⇑P **P 04 01 22.6 +0.1**
baz=88
A22A Carney Farms, 87.84 338 ⇓P **P 04 01 23.1 +0.3**
baz=88,SNR=11
M04C Macdoel 88.13 325 ⇑P **P 04 01 24.8 +0.3**
baz=88
A21A Bergtoll Ranch 88.16 338 ⇓P **P 04 01 23.9 -0.5**
baz=89,SNR=7.5
EGMT Eagleton 88.25 336 ⇑P **P 04 01 24.8 0.0**
baz=89
M02C Callahan 88.32 324 ⇓P **P 04 01 25.6 +0.2**
baz=89
B19A Brinkman Farms 88.35 336 ⇑P **P 04 01 25.2 0.0**
baz=89
A20A Cobblestone Ra 88.38 337 ⇓P **P 04 01 25.2 -0.2**
baz=89,SNR=10
BMO Blue Mountains 88.51 330 *eP* **P 04 01 26.6 +0.4**
comp=Z,3.3nm,0.8s
A19A Klindworth Far 88.69 337 ⇓P **P 04 01 27.0 +0.1**
baz=89
J05D Fort Rock, OR 89.01 326 ⇑P **P 04 01 29.9 +1.3**
baz=89
YBMT Yellow Bay 89.65 333 *eP* **P 04 01 31.5 0.0**
JTMT Jette 89.66 333 *eP* **P 04 01 32.0 +0.5**
BSMT Bassoo Peak 89.93 333 *eP* **P 04 01 33.2 +0.3**
HAWA Hanford 90.68 329 *eP* **P 04 01 37.4 +1.2**
comp=Z,135nm,3.0s
PIER Pier 30 Seattl 92.81 328 *e*PKiKP **PKiKP 04 06 31.8 -2.0**
YKA Yellowknife Ar 101.92 341 P **Pdif 04 02 25.9 -0.8**
comp=Z,0.6nm,0.7s,baz=145,slow=4.6,SNR=9.8
YKB5 Yellowknife Ar 101.92 341 *e*Pdif **Pdif 04 02 27.0 +0.2**
VYHS Vyhne 114.81 47 *e*PKIKP PKPdf 04 07 13.8 -0.2
VYHS Vyhne 114.81 47 *e*PKP PKPdf 04 07 13.8 -0.2
KOLS Kolonicke sedl 117.08 48 *e*PKIKP **PKPdf 04 07 20.6 +2.2**
KOLS Kolonicke sedl 117.08 48 *e*PKP **PKPdf 04 07 20.6 +2.2**
BR231 Keskin MP Arra 120.98 60 *e*PKPdf **PKPdf 04 07 26.4 +0.1**
WRA Warramunga Arr 121.04 209 PKP **PKPdf 04 07 25.6 -1.4**
comp=Z,0.4nm,0.4s,baz=153,slow=1.8,SNR=20
BRTR Keskin Array B 121.56 61 PKP **PKPdf 04 07 26.9 -0.6**
comp=Z,1.2nm,0.8s,baz=200,slow=3.9,SNR=8.1
BR101 Keskin Array S 121.56 61 *e*PKPdf **PKPdf 04 07 26.9 -0.6**
AKASG Malin Array Be 121.91 47 PKP **PKPdf 04 07 25.9 -1.6**
comp=Z,2.0nm,0.8s,baz=266,slow=2.8,SNR=5.6
AKBB Malin Array Si 121.91 47 *e*PKIKP **PKPdf 04 07 26.0 -1.6**
AKBB Malin Array Si 121.91 47 *e*PKPdf **PKPdf 04 07 25.9 -1.6**
FIA0 FINESS Array S 122.71 34 *e*PKIKP **PKPdf 04 07 28.0 -0.8**
FIA0 FINESS Array S 122.71 34 *e*PKPdf **PKPdf 04 07 28.0 -0.8**
FINES FINESS Array B 122.71 34 PKP **PKPdf 04 07 28.0 -0.8**
comp=Z,1.3nm,0.8s,baz=343,slow=2.0,SNR=4.6
ARA0 ARCESS Array S 123.74 25 *e*PKPdf **PKPdf 04 07 30.2 -0.4**
ARCES ARCESS Array B 123.74 25 PKP **PKPdf 04 07 30.2 -0.4**
comp=Z,3.4nm,0.9s,baz=229,slow=1.1,SNR=6.2
H11S2 WAKE ISLAND Hyl 25.97 269 T T 06 26 37.4
baz=118,slow=74,SNR=41
H11S1 WAKE ISLAND Hyl 25.98 269 T T 06 26 30.8
baz=118,slow=74,SNR=29
H11S3 WAKE ISLAND Hyl 25.98 269 T T 06 26 37.9
baz=118,slow=74,SNR=32
H11N3 WAKE ISLAND Hyl 26.38 271 T T 06 26 58.1
H11N1 WAKE ISLAND Hyl 26.39 271 T T 06 26 58.6
baz=280,slow=74,SNR=4.7
H11N2 WAKE ISLAND Hyl 26.39 271 T T 06 26 59.7
baz=114,slow=74,SNR=9.9
KIV Kislovodsk 129.22 58 *e*PKHKP PKPpre 04 07 25.9
KIV pmax pmax
comp=Z,6.0nm,1.0s
GOF Gofitskoye 129.68 57 *e*PKHKP PKPpre 04 07 23.9
ZEI Tsey 129.84 60 *i* PKHKP PKPpre 04 07 26.1
ZEI pmax pmax
comp=Z,10.0nm,1.7s
IBAF Bafgh 136.05 78 *e*P **PKPdf 04 07 55.6 +0.3**
BRVK Borovoye 146.92 43 *e*PKP2 **PKPbc 04 08 16.0 +0.3**
BRVK Borovoye 146.92 43 *e*PKPbc **PKPbc 04 08 16.0 +0.3**
VOSK Vostochnaya 147.44 43 *e*PKIKP **PKPdf 04 08 14.9 +0.2**
VOSK Vostochnaya 147.44 43 *e*PKPdf **PKPdf 04 08 14.8 +0.2**
SBUM Sibu 148.59 188 *e*PKPdf **PKPdf 04 08 15.1 -2.7**
YAK Yakutsk 148.60 341 *e*PKIKP **PKPdf 04 08 15.3 -1.0**
YAK pmax pmax
comp=Z,24nm,1.0s
HYB Hyderabad 148.84 114 *i* PKP **PKPbc 04 08 20.5 -1.5**
KKAR Karatay Array 149.28 61 *e*PKIKP **PKPdf 04 08 15.8 -2.3**
KKAR *e* 04 08 22.1
KKAR Karatay Array 149.28 61 *e*PKPdf **PKPdf 04 08 15.8 -2.3**
KKAR *e*PKPbc **PKPbc 04 08 22.1 -0.2**
ASAJ Asahikawa 151.51 301 *e*PKPbc **PKPbc 04 08 26.7 -0.9**
EKS2 Erkin-Say 151.71 62 *e*PKIKP **PKPbc 04 08 28.9 +0.6**
EKS2 Erkin-Say 151.71 62 *e*PKPbc **PKPbc 04 08 28.9 +0.6**
AAK Ala-Archa 152.24 62 *e*PKIKP **PKPbc 04 08 29.9 +0.4**
AAK Ala-Archa 152.24 62 *e*PKPbc **PKPbc 04 08 29.9 +0.4**
KURK Kurchatov 152.59 43 *e*PKIKP **PKPdf 04 08 22.4 -0.4**
KURK *e* 04 08 28.5
KURK Kurchatov 152.59 43 *e*PKPdf **PKPdf 04 08 22.4 -0.4**
KURK *e*PKPbc **PKPbc 04 08 28.5 -1.3**
NVS Novosibirsk 152.66 32 ⇓ *i*PKIKP **PKPdf 04 08 22.0 -0.8**
NVS pmax pmax
comp=Z,33nm,1.2s
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,3.0nm,0.6s
TKM2 Tokmak 2 153.00 61 *e*PKIKP **PKPbc 04 08 29.7 -1.6**
TKM2 Tokmak 2 153.00 61 *e*PKPbc **PKPbc 04 08 29.7 -1.6**
KSH Kashi 153.61 68 PKPbc **PKPdf 04 08 25.3 +0.4**
KSH sPKP 04 08 35.0
KSH PKS **PKSdf 04 11 59.3 0.0**
KSH PP **PP 04 12 18.5 -1.5**
KSH SKS **SKSdf 04 15 31.4 +0.5**
KSH SS **SS 04 31 50.3 -5.3**
KSH PPMZ
comp=E,180nm,7.1s
KSH LN
comp=E,100nm,8.4s
KSH LE
comp=E,120nm,7.1s
KSH LZ
comp=E,180nm,5.6s
ZAA1 Zalesovo Array 153.94 32 *e*PKPdf **PKPdf 04 08 24.2 -0.5**
ZAA1 *e*PKPbc **PKPbc 04 08 32.7 0.0**
ZAA1 *e*PKPab **PKPab 04 08 45.4 -0.6**
ZAA0 Zalesovo Array 153.95 32 *e*PKPdf **PKPdf 04 08 23.7 -0.9**

ZAA0 *e*PKPbc **PKPbc 04 08 32.3 -0.4**
ZALV Zalesovo Beam 153.95 32 PKP **PKPdf 04 08 24.2 -0.5**
comp=E,2.6nm,0.8s,baz=242,slow=3.2,SNR=5.5
ZALV PKPbc **PKPbc 04 08 32.7 0.0**
comp=E,7.3nm,0.5s,baz=302,slow=3.1,SNR=16
ZALV PKPab **PKPab 04 08 45.4 -0.6**
comp=E,5.0nm,0.7s,baz=305,slow=5.2,SNR=5.9
BOD Bodaibo 155.65 352 *e*PKP2 **PKPab 04 08 51.5 -1.6**
BOD pmax pmax
comp=Z,11nm,1.0s
MK32 Makanchi Array 156.48 49 *e*PKPdf **PKPdf 04 08 28.2 -0.3**
MK32 *e*PKPab **PKPab 04 08 57.2 0.0**
MKAR Makanchi Array 156.48 49 PKP **PKPdf 04 08 28.2 -0.3**
comp=Z,1.6nm,0.9s,baz=318,slow=1.6,SNR=5.9
MKAR PKPab **PKPab 04 08 57.2 0.0**
comp=Z,2.8nm,0.8s,baz=291,slow=3.0,SNR=8.5
MDJ Mudanjiang 160.26 310 PKP **PKPdf 04 08 31.5 -1.5**
WMQ Urumqi 161.19 52 *e*PKP **PKPdf 04 08 37.1 +2.9**
WMQ LN
comp=Z,150nm,20.0s
WMQ LE
comp=Z,220nm,23.0s
WMQ LZ
comp=Z,140nm,22.0s
CM31 Chiang Mai Arr 162.63 149 *e*PKPdf **PKPdf 04 08 36.5 +0.1**
CM31 *e*PKPab **PKPab 04 09 23.9 -0.6**
CMAR Chiang Mai Arr 162.63 149 PKP **PKPdf 04 08 36.5 +0.1**
comp=Z,0.5nm,0.3s,baz=274,slow=2.8,SNR=5.0
CMAR PKPab **PKPab 04 09 23.9 -0.6**
comp=Z,0.5nm,0.3s,baz=214,slow=5.4,SNR=4.7
ZAK Zakamensk 163.03 11 *e*PKP2 **PKPab 04 09 25.3 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
CN2 Changchun 163.27 312 *e*PKP **PKPdf 04 08 35.8 -0.3**
SONA0 Songino Array 165.91 5 *e*PKPdf **PKPdf 04 08 38.3 -0.2**
SONA0 *e*PKPab **PKPab 04 09 38.8 +0.6**
SONM Songino Array 165.91 5 PKP **PKPdf 04 08 38.3 -0.2**
comp=Z,0.5nm,0.9s,baz=103,slow=3.1,SNR=3.5
SONM PKPab **PKPab 04 09 38.8 +0.6**
comp=Z,1.4nm,0.9s,baz=332,slow=2.4,SNR=6.3
ULN Ulaanbaatar 165.91 3 *e*PKIKP **PKPdf 04 08 38.5 -0.1**
ULN *e* 04 09 38.9
ULN Ulaanbaatar 165.91 3 *e*PKPdf **PKPdf 04 08 38.5 -0.1**
ULN *e*PKPab **PKPab 04 09 38.9 +0.6**
NJ2 Nanjing 170.87 262 *e*PKP **PKPdf 04 08 43.4 +1.3**
GTA Gaotai 171.24 48 *e*PKP **PKPdf 04 08 42.7 +0.4**
GTA pPKP **pPKPdf 04 08 50.7 +1.9**
GTA sPKP 04 08 55.1
GTA PKPab **PKPab 04 10 03.0 +0.7**
HHC Hu-ho-hao-te 172.46 340 *e*PKP **PKPdf 04 08 41.0 -1.8**
HHC sPKP 04 08 53.1
HHC PP **PP 04 14 00.6 +2.4**
HHC SKKS 04 20 42.6
HHC SS **SS 04 35 06.8 -1.3**
HHC PPMZ
comp=Z,300nm,6.2s
HHC LN
comp=Z,370nm,17.3s
HHC LE
comp=Z,360nm,19.7s
HHC LZ
comp=Z,530nm,18.5s
GYA Guiyang 172.57 169 PKP **PKPdf 04 08 43.0 -0.3**
GYA pPKP **pPKPdf 04 08 52.8 +3.0**
GYA PKPab **PKPab 04 10 10.0 +1.7**
GYA PKS **PKSdf 04 12 13.7 -2.1**
GYA PP **PP 04 14 02.4 +3.8**
GYA SKKS 04 20 45.9
GYA SS **SS 04 35 09.2 +0.3**
GYA PPMZ
comp=Z,120nm,8.5s
GYA LN
comp=Z,130nm,21.4s
GYA LE
comp=Z,110nm,22.8s
GYA LZ
comp=Z,120nm,21.2s
CD2 Chengdu 175.27 126 *e*PKP **PKPdf 04 08 44.0 0.0**
LZH Lanzhou 175.75 56 *e*PKP **PKPdf 04 08 42.5 -1.6**
LZH pPKP **pPKPdf 04 08 52.4 +1.7**
LZH sPKP 04 08 56.2
LZH PKPab **PKPab 04 10 24.1 +1.6**

GUC 02 04:01:27.8±0.4, 32°.09S×69°.31W, h100km, ML3.8, 2C,
Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAN	**Santiago**	**1.77**	**220**	*e*P	Pn			04 01 57.7	+0.2
SAN				*i* S	Sn			04 02 20.6	+0.5
ANTU	**Antumapu**	**1.84**	**217**	⇑ *i*P	Pn			04 01 58.9	+0.4
ANTU				*e*S	Sn			04 02 22.6	+0.8
ANTU				AML	AML			04 02 33.1	
comp=E,1μm,0.5s									
RCDM	**Rinconada Maip**	**1.88**	**222**	*e*P4	Pn			04 01 54.9	-3.9
RCDM				*e*S	Sn			04 02 23.0	+0.5
RCDM				AML	AML			04 02 27.1	
comp=E,926nm,0.5s									
TACH	**Talagante**	**2.07**	**221**	*e*P4	Pn			04 01 53.9	-7.4
CHCH	**Chadas Angostu**	**2.15**	**211**	⇑ *i*P	Pn			04 01 55.6	-6.9
IHA	**Instituto Hidr**	**2.18**	**244**	*i* S	Sn			04 02 29.7	+0.4

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*IDC **02** 04:06:53.4±0.9, 36°.56S×72°.75W, h0km, mb4.0/7, mb1 4.1/10, mb1mx4.0/30, mbtmp4.0/10, ML3.9/3, Error ellipse: s-maj=26.4km s-min=14.4km az=94.0*
*ISCJB **02** 04:06:57.3±0.8, 36°.57S±0°.07×72°.7W±0°.2, h35km, mb4.0/6, Error ellipse: s-maj=20.5km s-min=8.6km az=16.8*
ISC 02 04:06:58.8±0.9, 36°.57S±0°.09×72°.8W±0°.2, h35km, n11, σ0°.97/12, mb4.1/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.50**	**158**	Pn	**Pn**			**04 08 04.9**	**+0.3**
4.4nm,0.3s,baz=324,slow=7.8,SNR=15									
PLCA				Lg	Lg			04 09 16.1	
4.2nm,0.3s,baz=240,slow=19,SNR=5.0									
CFAA	**Coronel Fontan**	**6.21**	**38**	Pn	**Pn**			**04 08 27.9**	**-0.2**
0.6nm,0.3s,baz=198,slow=14,SNR=3.1									
CFAA				Sn	**Sn**			**04 09 39.1**	**+1.3**
0.5nm,0.3s,baz=13,slow=15,SNR=4.0									
CFAA				Lg	Lg			04 10 11.7	
0.2nm,0.3s,baz=2.1,slow=1.6,SNR=4.4									
USHA	**Ushuaia**	**18.51**	**172**	P	**P**			**04 11 12.7**	**+0.9**
0.2nm,0.3s,baz=347,slow=6.9,SNR=4.1									
LPAZ	**La Paz**	**20.61**	**13**	P	**P**			**04 11 36.6**	**+0.9**
3.2nm,0.6s,baz=192,slow=7.4,SNR=14									
SIV	**San Ignacio**	**22.98**	**30**	P	**P**			**04 11 59.1**	**-1.4**
6.3nm,0.8s,baz=234,slow=10,SNR=12									
QSPA	**South Pole Qui**	**53.67**	**180**	P	**P**			**04 16 16.6**	**-0.1**
1.6nm,0.8s,baz=121,slow=1.1,SNR=4.3									
TXAR	**Lajitas Array**	**71.70**	**332**	P	**P**			**04 18 17.4**	**+0.2**
0.9nm,0.7s,baz=153,slow=8.7,SNR=10.0									
DBIC	**Dimbokro**	**76.57**	**71**	P	**P**			**04 18 45.6**	**-0.2**
1.6nm,0.6s,baz=243,slow=4.1,SNR=5.1									
TORD	**Torodi Ar. Bea**	**85.64**	**70**	P	**P**			**04 19 33.4**	**-0.7**
0.5nm,0.8s,baz=270,slow=2.9,SNR=4.0									
NVAR	**Mina Array Bea**	**85.66**	**326**	P	**P**			**04 19 34.4**	**+0.5**
0.9nm,0.8s,baz=156,slow=6.9,SNR=3.6									
AKASG	**Malin Array Be**	**124.34**	**49**	PKP		**PKPdf**		**04 25 51.8**	**-1.6**
0.3nm,0.4s,baz=272,slow=2.9,SNR=4.4									

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*IDC **02** 04:08:24.6±3.4, 15°.73S×173°.21W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/44, mbtmp4.0/5, Error ellipse: s-maj=181.1km s-min=25.5km az=146.0*
*ISCJB **02** 04:08:27.9±2.9, 15°.5S±1°.0×173°.4W±0°.7, h29km, mb3.9/5, Error ellipse: s-maj=163.6km s-min=22.7km az=146.3*
ISC 02 04:08:29.2±3.0, 15°.6S±0°.9×173°.3W±0°.6, h29km, n13, σ0°.30/7, mb3.8/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy 39.21 329**			T	T			04 56 43.8	
baz=149,slow=76,SNR=57									
H11S3	**WAKE ISLAND Hy 39.22 329**			T	T			04 56 43.4	
baz=149,slow=76,SNR=45									
H11S1	**WAKE ISLAND Hy 39.23 329**			T	T			04 56 43.8	
baz=149,slow=76,SNR=51									
H11N3	**WAKE ISLAND Hy 40.16 330**			T	T			04 58 02.6	
baz=150,slow=76,SNR=24									
H11N1	**WAKE ISLAND Hy 40.16 330**			T	T			04 57 57.7	
baz=150,slow=76,SNR=24									

H11N2	WAKE ISLAND Hy	40.17	330	T	T	04 58 05.9	
	baz=150,slow=76,SNR=30						
WRA	Warramunga Arr	49.88	257	P	P	04 17 20.4	-0.1
	0.7nm,0.8s,baz=90,slow=7.2,SNR=12						
ASAR	Alice Springs	50.13	252	P	P	04 17 22.2	-0.1
	5.7nm,0.7s,baz=85,slow=8.5,SNR=55						
PDAR	Pinedale Array	82.38	42	P	P	04 20 48.6	-0.2
	0.5nm,0.7s,baz=221,slow=2.8,SNR=4.9						
ILAR	Eielson Array	82.65	11	P	P	04 20 49.2	-0.3
	0.7nm,0.8s,baz=236,slow=6.5,SNR=8.4						
YKA	Yellowknife Ar	90.27	23	P	P	04 21 27.2	+0.3
	0.2nm,0.7s,baz=231,slow=4.4,SNR=4.8						
GERES	GERESS Array B	146.38	352	PKPbc	PKPbc	04 28 07.8	+0.4
	0.9nm,0.7s,baz=29,slow=2.2,SNR=6.7						
BRTR	Keskin Array B	146.40	321	PKPbc	PKPab	04 28 08.8	0.0
	1.0nm,0.7s,baz=115,slow=2.6,SNR=7.9						

IDC ***02*** *04:09:22.7±0.5, 35°.81S×73°.26W, h0km, mb4.6/15, mb1 4.7/20, mb1mx4.6/31, mbtmp4.6/20, ML4.4/5, MS4.8/4, Ms1 4.8/4, ms1mx4.2/26, Error ellipse: s-maj=17.3km s-min=12.0km az=86.0*

ISCJB ***02*** *04:09:25.8±0.2, 35°.80S±0°.05×73°.23W±0°.07, h28km, mb4.9/48, MS4.8/4, Error ellipse: s-maj=8.8km s-min=5.1km az=145.2*

MOS ***02*** *04:09:27.1±1.1, 35°.66S×72°.99W, h33km, mb5.3/14, Error ellipse: s-maj=18.4km s-min=10.5km az=98.9*

GCMT ***02*** *04:09:28.4±0.2, 35°.88S×73°.73W, h15km, MW5.4/77, Moment Tensor Solution. s42,c51; s77,c104; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.59±.03; Mθθ0.08±.02; Mϕϕ-0.67±.02; Mrθ-0.27±.09; Mϕθ-0.08±.02; Mϕr-1.34±.07; Best double couple: M=1.50900×10^17 NP1:ϕs191.00000°, δ78.00000°, λ93.00000°. NP2: ϕs359.00000°, δ13.00000°, λ78.00000°. Principal axes: T 1.4660, Plg57.0000°, Azm104.0000°; N 0.0840, Plg3.0000°, Azm10.0000°; P -1.5510, Plg32.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***02*** *04:09:28.4±0.2, 35°.79S×73°.23W, h35km, mb5.1/35 Error ellipse: s-maj=8.9km s-min=5.9km az=66.0*

ISC 02 04:09:27.1±0.3, 35°.77S±0°.05×73°.23W±0°.08, h28km, n367, σ0.99/375, mb5.0/49, MS4.8/4, 116C-99D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.39	158	Pn	Pn	04 10 44.5	-1.2
	4.2nm,0.3s,baz=353,slow=8.8,SNR=2.5						
PLCA				Lg	Lg	04 12 14.2	
	9.6nm,0.3s,baz=264,slow=8.9,SNR=5.5						
PLCA	Paso Flores	5.39	158	Pn	Pn	04 10 33.2	-13
PLCA				Lg	Lg	04 12 14.2	
CFAA	Coronel Fontan	5.88	46	Pn	Pn	04 10 52.7	+0.3
	3.3nm,0.3s,baz=220,slow=12,SNR=17						
CFAA				Lg	Lg	04 12 30.6	
	1.7nm,0.3s,baz=114,slow=22,SNR=6.0						
TRQA	Tornquist	9.30	108	ePn	Pn	04 11 42.1	+2.8
TRQA				eS	Sn	04 13 51.3	+28
LVC	Limon Verde	13.64	17	ePn	Pn	04 12 42.1	+3.1
LVC				eS	S	04 15 27.2	-4.9
CPUP	Villa Florida	16.54	60	eP	Pn	04 13 13.1	-4.0
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CPUP	Villa Florida	16.54	60	Pn	Pn	04 13 15.4	-1.6
	comp=Z,0.6nm,0.3s,baz=214,slow=9.4,SNR=3.1						
CPUP				Lg	Lg	04 18 07.5	
	comp=Z,0.2nm,0.3s,baz=114,slow=20,SNR=3.2						
CPUP	Villa Florida	16.54	60	ePn	Pn	04 13 13.1	-4.0
	comp=Z,1.1nm,0.8s						
CPUP				Lg	Lg	04 18 07.5	
EFI	East Falkland	19.25	150	eP	Pn	04 13 50.8	+0.5
EFI				pmax	pmax		
	comp=Z,20nm,0.6s						
EFI	East Falkland	19.25	150	eP	Pn	04 13 50.8	+0.5
	comp=Z,20nm,0.6s						
USHA	Ushuaia	19.35	172	P	P	04 13 49.7	-0.5
	comp=Z,0.6nm,0.3s,baz=320,slow=5.1,SNR=11						
USHA				LR	LR	04 21 07.7	
	comp=Z,3μm,20.5s,baz=328,slow=36						
LPAZ	La Paz	19.93	15	eP	Pn	04 13 59.0	-0.2
LPAZ				pmax	pmax		
	comp=Z,45nm,0.9s						
LPAZ	La Paz	19.93	15	P	Pn	04 13 59.2	+0.1
	comp=Z,0.4nm,0.3s,baz=178,slow=8.1,SNR=16						
LPAZ	La Paz	19.93	15	ePn	Pn	04 13 59.0	-0.2
	comp=Z,44nm,0.9s						
SIV	San Ignacio	22.49	32	P	P	04 14 24.2	-0.2
	comp=Z,29nm,1.1s,baz=234,slow=13,SNR=24						
NNA	Nana	23.90	351	P	P	04 14 38.1	-0.5
	comp=Z,2.9nm,0.3s,baz=196,slow=12,SNR=3.2						
SAML	Samuel	28.23	21	eP	P	04 15 17.9	+0.2
	comp=Z,9.1nm,1.1s						
ATAH	Atahualpa	28.89	349	P	P	04 15 25.9	+1.8
	comp=Z,2.4nm,0.5s,baz=311,slow=16,SNR=3.8						
PMSA	Palmer Station	29.57	172	LR	LR	04 27 33.6	
	comp=Z,3μm,18.1s,baz=338,slow=37						
BDFB	Brasilia	30.14	55	eP	P	04 15 35.0	+0.1
BDFB	Brasilia	30.14	55	P	P	04 15 34.5	-0.4
	comp=Z,15nm,1.0s,baz=223,slow=6.5,SNR=14						
BDFB	Brasilia	30.14	55	eP	P	04 15 35.0	+0.1
RPN	Rapa Nui	31.84	275	LR	LR	04 25 05.1	
	comp=Z,1μm,19.9s,baz=98,slow=30						
OTAV	Otavalo	36.15	351	eP	P	04 16 29.9	+2.3
	comp=Z,33nm,1.6s						
SDV	Santo Domingo	44.48	4	eP	P	04 17 35.5	-0.8
	comp=Z,9.8nm,0.9s						
RCBR	Riachuelo	45.41	58	LR	LR	04 35 39.3	
	comp=Z,865nm,18.6s,baz=180,slow=35						
VNA3	Neumayer Olymp	48.11	157	P	P	04 18 04.9	+0.9
VNA2	Neumayer--Watz	48.78	156	P	P	04 18 09.9	+0.8
SNAA	Sanae	50.33	157	P	P	04 18 22.0	+1.0
SNAA	Sanae	50.33	157	eP	P	04 18 20.9	-0.1
SNAA	Sanae	50.33	157	eP	P	04 18 20.8	-0.3
SNAA				pmax	pmax		
	comp=Z,49nm,1.1s						
SNAA	Sanae	50.33	157	P	P	04 18 21.2	+0.1
	comp=Z,13nm,0.9s,baz=287,slow=6.2,SNR=30						
SNAA	Sanae	50.33	157	eP	P	04 18 20.8	-0.3
	comp=Z,49nm,1.1s						
FDF	Fort de France	51.51	15	eP	P	04 18 30.9	+0.5
FDF				pmax	pmax		
	comp=Z,12nm,0.4s						
FDF	Fort de France	51.51	15	eP	P	04 18 30.9	+0.5
	comp=Z,12nm,0.4s						
RKT	Rikitea	54.43	265	eS	S	04 26 25.2	-3.8
RKT				eLR	LR	04 34 35.1	
	comp=Z,394nm,25.0s						
RKT	Rikitea	54.43	265	eT	T	05 17 11.3	
	comp=Z,1.3nm,0.2s						
QSPA	South Pole Qui	54.47	180	P	P	04 18 51.2	-0.7
	comp=Z,19nm,0.9s,baz=138,slow=3.1,SNR=32						
QSPA	South Pole Qui	54.47	180	eP	P	04 18 51.8	-0.1
	comp=Z,22nm,0.9s						
NVL	N'lazarevskaya	55.10	156	eP	P	04 18 57.6	+1.4
NVL				pmax	pmax		
	comp=Z,17nm,0.7s						
NVL				MLR	MLR		
	comp=Z,718nm,16.0s						
SYO	Syowa Base	64.59	158	eP	P	04 19 59.6	-1.8
MEH	Mehetia	67.66	264	eT	T	05 33 42.8	
	comp=Z,38nm,0.2s						
TIAR	Tiarei	68.86	263	eT	T	05 35 12.8	
	comp=Z,5.3nm,0.3s						
732A	Laxson Ranch,	68.92	335	eP	P	04 20 30.0	+0.5
	baz=69						
PPT2	Papeete2	69.03	263	eS	S	04 29 34.4	+0.3
	comp=Z,911nm,27.5s						
PPT2	Papeete2	69.03	263	eLR	LR	04 41 23.6	
	comp=Z,1μm,26.0s,baz=120						
632A	Uvalde	69.57	335	eP	P	04 20 34.0	+0.5
	baz=70						
533A	Kerrville	69.84	336	eP	P	04 20 36.3	+1.2
	baz=70						
532A	Rocksprings	70.18	336	eP	P	04 20 37.8	+0.5
	baz=70						
434A	Burnet	70.28	337	eP	P	04 20 38.5	+0.6
	baz=71						
336A	Riesel	70.38	339	eP	P	04 20 39.3	+0.9
	baz=71						
531A	Rocksprings	70.44	335	eP	P	04 20 39.4	+0.6
	baz=71						
JCT	Junction City	70.47	336	eP	P	04 20 39.9	+0.9
JCT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
JCT	Junction City	70.47	336	eP	P	04 20 39.9	+0.9
	baz=71						
JCT	Junction City	70.47	336	eP	P	04 20 39.9	+0.9
	comp=Z,9.9nm,0.9s						
433A	Art	70.49	337	eP	P	04 20 39.3	+0.2
	baz=71						
530A	J-C Ranch, Com	70.70	334	eP	P	04 20 40.7	+0.3
	baz=71						
334A	Lometa	70.76	337	eP	P	04 20 41.6	+0.9
	baz=71						
TXAR	Lajitas Array	70.81	332	P	P	04 20 41.0	-0.2
TXAR	Lajitas Array	70.81	332	P	P	04 20 41.0	-0.2
	comp=Z,1.4nm,0.6s,baz=153,slow=8.1,SNR=15						
432A	Menard	70.83	336	eP	P	04 20 41.6	+0.4
	baz=71						
431A	Sonora	70.93	335	eP	P	04 20 42.3	+0.5
	baz=71						
KMSC	Kings Mountain	70.95	353	eP	P	04 20 42.7	+1.0
	baz=71						
333A	Richland Sprin	70.98	337	eP	P	04 20 42.7	+0.6
	baz=71						
529A	Stev Forest Ra	70.99	334	eP	P	04 20 43.1	+0.9
	baz=71						
WHTX	Lake Whitney,	71.13	338	eP	P	04 20 43.2	+0.2
	baz=72						
430A	Baggett Ranch,	71.24	335	eP	P	04 20 43.8	+0.1
	baz=72						
332A	Millersview	71.28	336	eP	P	04 20 44.0	+0.1
	baz=72						
429A	Davenport Ranc	71.33	334	eP	P	04 20 44.6	+0.4
	baz=72						
234A	Clairette	71.35	338	eP	P	04 20 44.8	+0.6
	baz=72						
331A	San Angelo	71.44	336	eP	P	04 20 45.2	+0.3
	baz=72						
233A	Rising Star	71.60	337	eP	P	04 20 46.2	+0.4
	baz=72						
232A	Coleman	71.72	337	eP	P	04 20 47.0	+0.4
	baz=72						
330A	Mertzon	71.79	335	eP	P	04 20 47.2	+0.2
	baz=72						
134A	White-Moore Ra	71.86	338	eP	P	04 20 47.8	+0.5
	baz=72						
231A	Bronte	71.98	336	eP	P	04 20 48.3	+0.2
	baz=72						
329A	Wagon Wheel Ra	72.14	334	eP	P	04 20 49.3	+0.2
	baz=72						
133A	Hamilton Ranch	72.15	337	eP	P	04 20 49.5	+0.4
	baz=72						
Z35A	Perchaven, San	72.32	339	eP	P	04 20 51.1	+1.0
	baz=73						
ABTX	Abilene, Hawle	72.40	337	eP	P	04 20 51.4	+0.9
	baz=73						
229A	Bryant Ranch,	72.52	335	eP	P	04 20 51.6	+0.2
	baz=73						
131A	Roby	72.68	336	eP	P	04 20 52.6	+0.3
	baz=73						
Z33A	Whitaker Ranch	72.73	338	eP	P	04 20 52.9	+0.3
	baz=73						
130A	Snyder	72.80	336	eP	P	04 20 53.3	+0.3
	baz=73						
WVT	Waverly	72.81	348	eP	P	04 20 52.3	-0.6
WVT				pmax	pmax		
	comp=Z,22nm,1.0s						
WVT	Waverly	72.81	348	eP	P	04 20 52.3	-0.6
	comp=Z,22nm,1.0s						
228A	UT Block 9, Go	72.93	334	eP	P	04 20 54.0	+0.1
	baz=73						
Z32A	Haskell	72.97	337	eP	P	04 20 54.6	+0.6
	baz=73						
Y34A	Reagan Ranch,	73.06	339	eP	P	04 20 55.2	+0.8
	baz=73						
Z31A	Sharp Cattle R	73.20	337	eP	P	04 20 55.9	+0.6
	baz=74						
128A	Castleberry Fa	73.35	335	eP	P	04 20 56.7	+0.4
	baz=74						
Y33A	Hilltop Ranch,	73.36	338	eP	P	04 20 56.6	+0.3
	baz=74						
Z30A	Sanderson Ranc	73.49	336	eP	P	04 20 57.2	+0.2
	baz=74						
Y32A	R-V Farms, Ver	73.61	338	eP	P	04 20 57.7	0.0
	baz=74						
Z29A	Hungry Hill Ra	73.66	335	eP	P	04 20 58.2	+0.1
	baz=74						
Y31A	Rekieta Farm,	73.83	337	eP	P	04 20 59.3	+0.2
	baz=74						
X32A	Elmer	73.94	338	eP	P	04 20 60.0	+0.3
	baz=74						
Y30A	Stafford Cattl	73.95	336	eP	P	04 20 60.0	+0.2
	baz=74						
Y29A	Porterfield Fa	74.19	336	eP	P	04 21 01.7	+0.5
	baz=74						
Z27A	Tatum	74.23	334	eP	P	04 21 02.1	+0.6
	baz=75						
W34A	Bridge Creek,	74.25	339	eP	P	04 21 01.7	+0.3
	baz=75						
TUL1	Leonard	74.34	341	eP	P	04 21 02.4	+0.5
	baz=75						
TUL1	Leonard	74.34	341	eP	P	04 21 02.0	+0.1
X31A	McDonald Ranch	74.35	337	eP	P	04 21 02.3	+0.3
	baz=75						
W33A	Caddo, Fort Co	74.38	339	eP	P	04 21 02.8	+0.6
	baz=75						
Z26A	Caprock	74.47	334	eP	P	04 21 02.8	0.0
	baz=75,SNR=8.5						
X30A	Coker Ranch, T	74.47	337	eP	P	04 21 03.5	+0.7
	baz=75						
W32A	Sentinel	74.58	338	eP	P	04 21 03.8	+0.4
	baz=75						
MSTX	Muleshoe	74.67	335	eP	P	04 21 04.1	0.0
	baz=75						
MSTX	Muleshoe	74.67	335	eP	P	04 21 03.8	-0.2
	comp=Z,79nm,2.3s						
X29A	Tulia	74.74	336	eP	P	04 21 04.9	+0.5
	baz=75						
V34A	Guthrie	74.74	340	eP	P	04 21 04.8	+0.5
	baz=75						
V34A	Guthrie	74.74	340	eP	P	04 21 06.2	+1.9
	comp=Z,208nm,2.8s						
W31A	Holland Ranch,	74.86	338	eP	P	04 21 05.1	+0.1
	baz=75						
319A	Douglas	74.88	329	eP	P	04 21 05.2	-0.1
	baz=75						
V33A	Lossen Ranch,	74.95	339	eP	P	04 21 05.7	+0.3
	baz=75						
X28A	Dimmitt	74.97	336	eP	P	04 21 06.0	+0.2
	baz=75						
Y26A	Elida	75.00	334	eP	P	04 21 05.9	0.0
	baz=75						
Z24A	Sheeppen Canyo	75.03	333	eP	P	04 21 06.4	+0.2
	baz=75						
V32A	Arapaho	75.08	338	eP	P	04 21 06.9	+0.7
	baz=75						
AMTX	Amarillo	75.13	336	eP	P	04 21 06.9	+0.3
	baz=76						
AMTX	Amarillo	75.13	336	eP	P	04 21 07.0	+0.3
	comp=Z,16nm,1.0s						
121A	Cookes Peak, D	75.26	330	eP	P	04 21 07.8	+0.2
	baz=76						
Y25A	Mesa, Roswell	75.31	333	eP	P	04 21 07.9	+0.2
	baz=76						
W29A	Amarillo	75.34	336	eP	P	04 21 08.1	+0.2
	baz=76						
V31A	Spring Creek L	75.37	338	eP	P	04 21 08.3	+0.4
	baz=76						
X26A	CR and CF Fran	75.56	334	eP	P	04 21 09.3	+0.1
	baz=76,SNR=5.4						
Z22A	Elephant Butte	75.57	331	eP	P	04 21 09.6	+0.3
	baz=76						
Y24A	Capitan	75.59	333	eP	P	04 21 10.0	+0.6
	baz=76						
W27A	Bowe Ranch, En	75.76	335	eP	P	04 21 10.3	0.0
	baz=76,SNR=5.3						
Y23A	Lovelace Mesa,	75.82	332	eP	P	04 21 11.1	+0.3
	baz=76						
V28A	Channing	76.10	336	eP	P	04 21 13.2	+1.0
	baz=76						
T33A	Patterson Ranc	76.11	340	eP	P	04 21 12.9	+0.8
	baz=76						
X24A	Lazy VL Ranch,	76.16	333	eP	P	04 21 12.9	+0.2
	baz=76						
ACSO	Alum Creek Sta	76.16	352	eP	P	04 21 11.7	-0.5
	comp=Z,14nm,0.7s						
LIC	Lamto	76.26	72	eP	P	04 21 13.8	+0.3
	comp=Z,68nm,1.0s						
U30A	WK&E Inc. Balk	76.31	338	eP	P	04 21 13.6	+0.2
	baz=77						
W25A	X Bar L Ranch,	76.39	334	eP	P	04 21 14.0	+0.1
	baz=77						
TIC	Toumodi	76.53	72	eP	P	04 21 15.4	+0.4
	comp=Z,35nm,0.9s						
KIC	Kosan Boka	76.56	72	eP	P	04 21 15.8	+0.6
	comp=Z,90nm,1.0s						
LAZ	Ladron	76.65	332	eP	P	04 21 16.3	+0.8
	comp=Z,1.1nm,0.9s						
DBIC	Dimbokro	76.67	72	eP	P	04 21 16.5	+0.7
DBIC				pmax	pmax		
	comp=Z,28nm,0.9s						
DBIC	Dimbokro	76.67	72	P	P	04 21 16.4	+0.7
	comp=Z,24nm,0.9s,baz=203,slow=6.0,SNR=26						
DBIC	Dimbokro	76.67	72	eP	P	04 21 16.5	+0.7
	comp=Z,28nm,0.9s						
V26A	Tequesquite Ra	76.67	335	eP	P	04 21 15.9	+0.4
	baz=77						
W24A	Lazy 6 Ranch,	76.72	333	eP	P	04 21 16.3	+0.5
	baz=77						
ANMO	Albuquerque	76.88	332	eP	P	04 21 17.2	+0.5
ANMO				pmax	pmax		
	comp=Z,133nm,3.0s						
ANMO	Albuquerque	76.88	332	eP	P	04 21 17.2	+0.5
	comp=Z,133nm,3.0s						
U27A	Thompson Grove	76.91	336	eP	P	04 21 17.1	+0.3
	baz=77						
214A	Organ Pipe Nat	76.92	326	eP	P	04 21 17.2	+0.4
	baz=77						
W23A	Werner Place,	76.95	333	eP	P	04 21 17.5	+0.3
	baz=77						
S31A	Mullinville	76.97	339	eP	P	04 21 17.4	+0.4
	baz=77						
V25A	Rancho No Teng	77.00	334	eP	P	04 21 17.7	+0.3
	baz=77,SNR=6.1						
T29A	Hugoton	77.09	337	eP	P	04 21 18.4	+0.7
	baz=78						
V24A	Rampart Ranch,	77.13	334	eP	P	04 21 18.7	+0.4
	baz=78						
R33A	Olander Ranch,	77.19	340	eP	P	04 21 19.0	+0.8
	baz=78						
U26A	Atchley Ranch,	77.20	335	eP	P	04 21 19.0	+0.4
	baz=78						
S30A	Montezuma	77.28	338	eP	P	04 21 19.8	+1.0
	baz=78						
T28A	Walsh	77.32	337	eP	P	04 21 18.9	-0.1
	baz=78,SNR=9.3						
WIN	Windhoek	77.43	109	eP	P	04 21 19.2	-1.1
WIN				AMB	AMB	04 21 40.7	
	comp=Z,4.1nm,5.2s						
WIN	Windhoek	77.43	109	P	P	04 21 19.2	-1.1
WIN				pmax	pmax		
	comp=Z,4.0nm,5.2s						
WIN	Windhoek	77.43	109	P	P	04 21 19.2	-1.1
	comp=Z,4.1nm,5.2s						
U25A	Circle Dot Ran	77.43	335	eP	P	04 21 20.4	+0.5
	baz=78						
S29A	Ulysses	77.46	338	eP	P	04 21 20.5	+0.7
	baz=78						
T27A	Campo	77.46	336	eP	P	04 21 20.6	+0.7
	baz=78						
V23A	Ortiz Mt. (NFS	77.48	333	eP	P	04 21 20.6	+0.4
	baz=78						
R32A	Long Quarter,	77.49	340	eP	P	04 21 20.8	+0.9
	baz=78						
R31A	Burdett	77.60	339	eP	P	04 21 20.9	+0.3
	baz=78						
S28A	Manter	77.68	337	eP	P	04 21 21.2	+0.2
	baz=78,SNR=8.0						
U24A	Moreno Valley	77.75	334	eP	P	04 21 22.3	+0.6
	baz=78						
Q33A	Connelly Farm,	77.79	341	eP	P	04 21 22.3	+0.8
	baz=78						
R30A	Dighton	77.82	339	eP	P	04 21 22.0	+0.3
	baz=78						
T26A	Comanche Natio	77.85	336	eP	P	04 21 22.7	+0.6
	baz=78						
V22A	San Miguel Ran	77.90	333	eP	P	04 21 23.0	+0.5
	baz=78,SNR=6.0						
Q32A	Meitler Ranch,	77.98	340	eP	P	04 21 23.4	+0.8
	baz=78						
U23A	El Rito	78.01	333	eP	P	04 21 23.5	+0.4
	baz=78						
T25A	Trinidad	78.10	335	eP	P	04 21 24.4	+0.9
	baz=78,SNR=6.2						
R29A	Marienthal	78.21	338	eP	P	04 21 24.5	+0.6
	baz=79						
S26A	Kim	78.22	336	eP	P	04 21 24.5	+0.4
	baz=79,SNR=5.8						
Q31A	Ellis	78.23	339	eP	P	04 21 24.7	+0.7
	baz=79						
U22A	Llaves	78.29	333	eP	P	04 21 25.0	+0.4
	baz=79						
R28A	Tribune	78.34	337	eP	P	04 21 24.5	-0.2
	baz=79,SNR=5.6						
T24B	San Luis	78.37	334	eP	P	04 21 25.7	+0.5
	baz=79						
X16A	Lo Mia Camp, P	78.41	329	eP	P	04 21 25.6	+0.3
	baz=79						
Q30A	Quinter	78.44	339	eP	P	04 21 24.9	-0.3
	baz=79,SNR=6.9						
S25A	Robets Cordova	78.58	335	eP	P	04 21 26.5	+0.3
	baz=79						
T23A	Casias Ranch,	78.58	334	eP	P	04 21 26.9	+0.6
	baz=79						
Q29A	Oakley	78.59	338	eP	P	04 21 26.4	+0.4
	baz=79						
R27A	Eads	78.60	337	eP	P	04 21 26.7	+0.5
	baz=79						
Y14A	Wickenburg	78.68	327	eP	P	04 21 27.0	+0.4
	baz=79						
P31A	Stockton	78.70	340	eP	P	04 21 27.6	+1.0
	baz=79						
R26A	Arlington	78.83	336	eP	P	04 21 28.6	+1.2
	baz=79						
S24A	Houchin Ranch,	78.83	335	eP	P	04 21 27.9	+0.3
	baz=79,SNR=6.5						
Q28A	Sharon Springs	79.01	338	eP	P	04 21 29.3	+0.9
	baz=79						
P29A	Atwood	79.23	339	eP	P	04 21 30.7	+1.1
	baz=80						
R24A	Sanders Place,	79.32	335	eP	P	04 21 30.1	-0.1
	baz=80,SNR=5.9						
WUAZ	Wupatki	79.32	329	eP	P	04 21 30.7	+0.4
	baz=80						
Q26A	Hugo	79.42	336	eP	P	04 21 31.6	+0.9
	baz=80						
P28A	Saint Francis	79.45	338	eP	P	04 21 31.6	+0.8
	baz=80						
S22A	4UR Ranch, Cre	79.50	334	eP	P	04 21 31.7	+0.3
	baz=80						
O30A	MW Ranch, Wils	79.51	339	eP	P	04 21 32.1	+1.1
	baz=80						
R23A	Moffat	79.54	334	eP	P	04 21 32.0	+0.5
	baz=80						
BC3	Big Chuckawall	79.55	325	eP	P	04 21 31.8	+0.4
	baz=80						
MVCO	Mesa Verde	79.65	332	eP	P	04 21 32.8	+0.7
	baz=80						
MVCO	Mesa Verde	79.65	332	eP	P	04 21 33.5	+1.4
	comp=Z,140nm,3.0s						
O29A	4D Ranch, Culb	79.67	339	eP	P	04 21 33.3	+1.4
	baz=80						
P27A	Ficken Ranch,	79.69	337	eP	P	04 21 33.3	+1.3
	baz=80						
N31A	Bailey Ranch,	79.80	340	eP	P	04 21 34.6	+2.0
	baz=80						
IRM	Iron Mountain	79.83	326	eP	P	04 21 33.6	+0.7
	baz=80						
PFO	Pinyon Flats O	79.98	325	P	P	04 21 35.2	+1.3
	comp=Z,3.5nm,1.0s,baz=146,slow=3.2,SNR=3.9						
PFO	Pinyon Flats O	79.98	325	eP	P	04 21 34.5	+0.7
	baz=80						
Q24A	Divide	80.00	335	eP	P	04 21 34.7	+0.6
	baz=80						
W13A	Hualapai Mount	80.05	327	eP	P	04 21 34.7	+0.5
	baz=80						
BOSA	Boshof	80.11	118	eP	P	04 21 34.7	-0.2
BOSA				AMB	AMB	04 21 47.9	
	comp=Z,25nm,2.8s	

	baz=80					
O27A	Beecher Island	80.24 338	⇑P	P	04 21 35.9	+0.9
	baz=81					
N29A	Votaw Ranch, W	80.26 339	⇑P	P	04 21 35.8	+0.7
	baz=81					
M31A	Lambtecht Ranc	80.29 341	⇑P	P	04 21 36.1	+0.9
	baz=81					
N28A	Pribbeno Ranch	80.41 339	⇑P	P	04 21 36.5	+0.6
	baz=81					
U15A	North Rim	80.49 329	⇓P	P	04 21 37.4	+0.7
	baz=81					
GMRC	Granite Mounta	80.58 326	⇓P	P	04 21 38.0	+1.0
	baz=81					
SMCO	Snowmass	80.82 334	*e*P	P	04 21 40.1	+1.5
	comp=Z,11nm,1.3s					
L31A	Butterfield Fa	81.03 341	⇓P	P	04 21 40.5	+1.4
	baz=81					
P22A	Eagle	81.12 334	⇓P	P	04 21 41.0	+1.1
	baz=82					
TUQ	Turquoise Moun	81.24 326	⇓P	P	04 21 41.4	+0.9
	baz=82					
O23A	Lake Granby, G	81.37 335	⇓P	P	04 21 42.1	+0.8
	baz=82					
O22A	Kremmling	81.55 335	⇓P	P	04 21 42.9	+0.6
	baz=82					
K30A	Basset	81.70 341	⇓P	P	04 21 43.2	+0.5
	baz=82					
CCUT	Cedar City	81.89 329	*e*P	P	04 21 46.1	+2.1
	comp=Z,122nm,2.9s					
ECSD	EROS Data Cent	81.94 343	⇓P	P	04 21 43.1	-0.7
	baz=82,SNR=10					
ECSD	EROS Data Cent	81.94 343	*e*P	P	04 21 43.3	-0.6
	comp=Z,17nm,0.9s					
SEK	Senekal	81.97 119	*e*P	P	04 21 46.5	+1.6
SEK			AMB	AMB	04 22 26.8	
	comp=Z,29nm,2.0s					
SEK	Senekal	81.97 119	P	P	04 21 46.5	+1.6
	comp=Z,29nm,2.0s					
N22A	Wattenberg Ran	82.09 335	⇑P	P	04 21 45.7	+0.7
	baz=82					
LRMC	Laurel Mtn Rad	82.09 325	⇓P	P	04 21 45.9	+0.9
	baz=82					
ARUT	Antelope Range	82.12 329	*e*P	P	04 21 45.6	+0.4
ARUT			pmax	pmax		
	comp=Z,92nm,1.1s					
ARUT	Antelope Range	82.12 329	*e*P	P	04 21 45.6	+0.4
	comp=Z,92nm,1.1s					
K28A	Ten Mile Ranch	82.22 339	⇓P	P	04 21 46.9	+1.4
	baz=83					
LBTB	Lobatse	82.45 115	*e*P	P	04 21 48.2	+0.9
LBTB			AMB	AMB	04 21 48.3	
	comp=Z,22nm,3.3s					
LBTB	Lobatse	82.45 115	P	P	04 21 48.2	+0.9
LBTB			pmax	pmax		
	comp=Z,22nm,3.3s					
LBTB	Lobatse	82.45 115	P	P	04 21 48.2	+0.9
	comp=Z,22nm,3.3s					
FURC	Furnace Creek,	82.52 326	⇑P	P	04 21 48.1	+1.1
	baz=83					
J29A	Okreek	82.58 340	⇑P	P	04 21 48.7	+1.5
	baz=83					
PRYS	Parys	82.61 118	*e*P	P	04 21 47.6	-0.6
PRYS			AMB	AMB	04 21 48.3	
	comp=Z,14nm,3.1s					
PRYS	Parys	82.61 118	P	P	04 21 47.6	-0.6
	comp=Z,14nm,3.1s					
ISA	Isabella, Lake	82.61 324	⇑P	P	04 21 48.8	+1.1
	baz=83					
DAC	Darwin (Calif)	82.70 325	*e*P	P	04 21 50.0	+1.7
DAC			pmax	pmax		
	comp=Z,6.0nm,1.0s					
DAC	Darwin (Calif)	82.70 325	*e*P	P	04 21 50.0	+1.7
	comp=Z,6.2nm,1.0s					
I30A	Oacoma	82.81 341	⇑P	P	04 21 48.3	-0.1
	baz=83					
J27A	Elkhorn Farm,	82.90 339	⇓P	P	04 21 50.0	+1.0
	baz=83					
WDLM	Western Deep L	82.95 117	*e*P	P	04 21 46.3	-3.8
WDLM			AMB	AMB	04 22 06.8	
	comp=Z,15nm,5.6s					
VES	Vestal, Richgr	83.05 324	⇑P	P	04 21 50.7	+0.9
	baz=83					
MPU	Maple Canyon	83.29 331	*e*P	P	04 21 52.7	+1.4
	comp=Z,8.3nm,1.1s					
I28A	Midland	83.36 340	⇓P	P	04 21 52.3	+1.1
	baz=84					
R11A	Troy Canyon, C	83.51 328	⇑P	P	04 21 53.8	+1.4
	baz=84					
OBSV	Observatory	83.56 118	*e*P	P	04 21 53.2	0.0
OBSV			AMB	AMB	04 22 05.3	
	comp=Z,23nm,2.3s					
K22A	Casper	83.76 336	⇑P	P	04 21 54.1	+0.6
	baz=84					
K22A	Casper	83.76 336	*e*P	P	04 21 54.6	+1.0
	comp=Z,37nm,1.8s					
DUG	Dugway, Tooele	83.91 331	*e*P	P	04 21 55.1	+0.7
DUG			pmax	pmax		
	comp=Z,10.0nm,1.1s					
DUG	Dugway, Tooele	83.91 331	⇑P	P	04 21 55.3	+0.9
	baz=84					
DUG	Dugway, Tooele	83.91 331	*e*P	P	04 21 55.1	+0.7
	comp=Z,9.9nm,1.1s					
SLR	Silverton	83.98 117	*e*P	P	04 21 55.2	-0.1
SLR			AMB	AMB	04 22 13.1	
	comp=Z,24nm,3.3s					
SLR	Silverton	83.98 117	P	P	04 21 55.2	-0.1
SLR			pmax	pmax		
	comp=Z,25nm,3.3s					
SLR	Silverton	83.98 117	P	P	04 21 55.2	-0.1
	comp=Z,24nm,3.3s					
H27A	Howes	84.19 340	⇓P	P	04 21 56.2	+0.6
	baz=85					
G28A	Parade	84.28 341	⇓P	P	04 21 57.0	+1.1
	baz=85					
H25A	Fruitdale	84.62 339	⇑P	P	04 21 58.4	+0.7
	baz=85					
F29A	Eureka	84.70 342	⇓P	P	04 21 58.3	+0.2
	baz=85					
NVAR	Mina Array Bea	84.78 326	P	P	04 21 59.5	+0.5
	comp=Z,2.1nm,0.8s,baz=158,slow=6.3,SNR=11					
G27A	Dupree	84.84 340	⇑P	P	04 21 58.7	-0.1
	baz=85					
PDAR	Pinedale Array	84.91 334	P	P	04 21 59.3	-0.1
	comp=Z,0.6nm,0.7s,baz=161,slow=6.3,SNR=5.1					
G26A	Maurine	84.95 340	⇑P	P	04 21 59.2	-0.1
	baz=85					
H24A	Dirks Ranch, A	85.02 338	⇓P	P	04 21 59.3	-0.5
	baz=85					
I21A	Big Trails, Te	85.05 336	⇓P	P	04 21 59.6	-0.5
	baz=85					
G25A	Newell	85.09 339	⇑P	P	04 22 00.1	+0.1
	baz=86					
J19A	Crowheart	85.16 335	⇓P	P	04 22 00.6	0.0
	baz=86					
HVU	Hansel Valley	85.25 331	*e*P	P	04 22 00.8	-0.3
HVU			pmax	pmax		
	comp=Z,91nm,2.6s					
HVU	Hansel Valley	85.25 331	*e*P	P	04 22 00.8	-0.3
	comp=Z,91nm,2.6s					
F27A	Lemmon	85.32 340	⇑P	P	04 22 01.3	+0.1
	baz=86					
E29A	Napoleon	85.34 342	⇑P	P	04 22 01.5	+0.2
	baz=86					
WAKR	Walker	85.36 325	*e*P	P	04 22 02.9	+1.1
I20A	Worland	85.45 336	⇑P	P	04 22 01.8	-0.2
	baz=86					
TORD	Torodi Ar. Bea	85.73 71	P	P	04 22 03.1	-0.8
	comp=Z,6.9nm,1.0s,baz=239,slow=3.0,SNR=24					
D29A	Pettibone, Tap	85.78 342	⇑P	P	04 22 03.6	+0.1
	baz=86					
H20A	Greybull	85.88 336	⇑P	P	04 22 04.2	+0.1
	baz=86					
G22A	Birney	85.98 337	⇑P	P	04 22 04.7	+0.2
	baz=86					
TPAW	Teton Pass	86.03 333	*e*P	P	04 22 05.0	-0.1
	comp=Z,12nm,1.2s					
AGMN	Agassiz Nation	86.10 345	⇑P	P	04 22 04.6	-0.4
	baz=86					
AGMN	Agassiz Nation	86.10 345	*e*P	P	04 22 05.4	+0.5
	comp=Z,98nm,2.5s					
C30A	Mose, Pekin	86.11 343	⇑P	P	04 22 04.6	-0.5
	baz=86					
F23A	Volborg	86.16 338	⇑P	P	04 22 05.3	-0.1
	baz=86					
I17A	Pilgrim Ck.	86.27 334	⇓P	P	04 22 05.9	-0.3
	baz=87					
E25A	Miller Ranch,	86.28 340	⇑P	P	04 22 06.4	+0.4
	baz=87					
IMW	Indian Meadow	86.38 334	*e*P	P	04 22 07.6	+0.8
	comp=Z,18nm,1.5s					
FLWY	Flagg Ranch	86.46 334	*e*P	P	04 22 07.6	+0.5
	comp=Z,20nm,1.3s					
D26A	Manning	86.49 340	⇑P	P	04 22 07.1	+0.1
	baz=87					
E24A	Baker	86.59 339	⇑P	P	04 22 07.7	+0.2
	baz=87					
G20A	Bridger	86.60 336	⇓P	P	04 22 07.5	-0.2
	baz=87					
H18A	Shoshone NF, C	86.61 335	⇓P	P	04 22 07.7	-0.1
	baz=87					
B30A	Myrvik Farm, E	86.78 344	⇑P	P	04 22 08.3	0.0
	baz=87					
D25A	Fairfield	86.85 340	⇓P	P	04 22 09.0	+0.3
	baz=87					
C27A	Sayler Ranch,	86.88 341	⇑P	P	04 22 09.0	+0.2
	baz=87					
B29A	Wagenman Farm,	87.04 343	⇓P	P	04 22 09.8	+0.3
	baz=87					
D24A	Glendive	87.10 339	⇓P	P	04 22 10.0	0.0
	baz=88					
C26A	Wahner Farm, P	87.13 341	⇑P	P	04 22 10.2	+0.1
	baz=88					
B28A	Dugan Ranch, T	87.27 342	⇓P	P	04 22 10.9	+0.2
	baz=88					
HLID	Hailey	87.40 331	⇓P	P	04 22 11.4	-0.3
	baz=88					
HLID	Hailey	87.40 331	*e*P	P	04 22 13.1	+1.4
	comp=Z,80nm,2.8s					
D23A	Lindsay	87.41 339	⇓P	P	04 22 11.6	+0.1
	baz=88					
A29A	Manning Farm,	87.44 343	⇓P	P	04 22 11.7	+0.2
	baz=88					
C24A	Savage	87.50 339	⇑P	P	04 22 12.8	+0.9
	baz=88					
A28A	Rude Farm, Bot	87.67 343	⇑P	P	04 22 13.5	+0.9
	baz=88					
D22A	Cohagen	87.68 338	⇑P	P	04 22 13.2	+0.5
	baz=88					
E20A	Meyer Farm, Mu	87.71 337	⇑P	P	04 22 13.0	+0.1
	baz=88					
B25A	Knox Farm, Ray	87.83 341	⇓P	P	04 22 14.2	+0.8
	baz=88					
MCMT	McKenzie Canyo	87.88 333	*e*P	P	04 22 14.5	+0.5
	comp=Z,6.6nm,1.5s					
E19A	Rath Farm, Rou	87.89 336	⇓P	P	04 22 14.0	+0.2
	baz=88					
ULM	Lac du Bonnet	87.95 346	P	P	04 22 13.3	-0.6
	comp=Z,6.4nm,0.8s,baz=176,slow=2.5,SNR=15					
C23A	Lambert	87.97 339	⇓P	P	04 22 14.3	+0.3
	baz=88					
A26A	Wade Farm, Ken	88.11 341	⇓P	P	04 22 14.8	+0.1
	baz=88					
DGMT	Dagmar	88.29 340	⇑P	P	04 22 16.4	+0.8
	baz=89					
DGMT	Dagmar	88.29 340	*e*P	P	04 22 15.9	+0.3
	comp=Z,34nm,1.1s					
ESDC	Sonseca Array	98.50 47	P	Pdif	04 23 03.6	+0.7
	comp=Z,0.2nm,0.4s,baz=254,slow=4.8,SNR=4.8					
DZM	Mont Dzumac	99.41 234	*e*LR	LR	04 55 09.8	
	comp=Z,381nm,23.6s					
YKA	Yellowknife Ar	103.42 342	Pdiff	Pdif	04 23 23.6	-0.5
	comp=Z,0.2nm,0.6s,baz=145,slow=4.9,SNR=4.7					
SML	Sawmill	114.38 330	*e*PKIKP	PKPdf	04 28 02.7	-0.7
SML	Sawmill	114.38 330	*e*PKPdf	PKPdf	04 28 02.7	-0.7
ILAR	Eielson Array	115.32 333	PKP	PKPdf	04 28 04.8	-0.3
	comp=Z,0.6nm,0.9s,baz=215,slow=2.0,SNR=5.7					
VYHS	Vyhne	117.00 48	*e*PKIKP	PKPdf	04 28 06.7	-2.1
VYHS	Vyhne	117.00 48	*e*PKP	PKPdf	04 28 06.7	-2.1
WRA	Warramunga Arr	118.75 210	PKP	PKPdf	04 28 11.4	-1.7
	comp=Z,0.6nm,0.8s,baz=152,slow=1.6,SNR=6.3					
AKASG	Malin Array Be	124.10 49	PKP	PKPdf	04 28 21.6	-0.7
	comp=Z,0.4nm,0.5s,baz=268,slow=3.0,SNR=5.2					
ARCES	ARCESS Array B	126.03 25	PKP	PKPdf	04 28 26.3	+0.8
	comp=Z,1.9nm,0.7s,baz=48,slow=1.8,SNR=3.8					
KLMR	Klimovskoe	131.40 37	*e*PKIKP	PKPdf	04 28 34.8	-1.2
KLMR			pmax	pmax		
	comp=Z,13nm,1.5s					
SEY	Seymchan	141.05 329	PKP	PKPdf	04 28 54.0	+0.2
	comp=Z,0.7nm,0.3s,baz=140,slow=5.0,SNR=3.8					
ABKAR	Akbulak array	143.53 54	*e*PKPdf	PKPbc	04 28 55.7	-0.3
GSI	Gunungsitoli	144.66 164	*e*PKPdf	PKPdf	04 29 01.4	-0.4
POO	Poona	146.26 112	*e*P	PKPdf	04 29 04.0	-0.4
HYB	Hyderabad	149.01 119	*i* PKP	PKPbc	04 29 11.5	-1.5
BVAR	Boroevye Array	149.23 44	PKPbc	PKPdf	04 29 10.0	+1.8
	comp=Z,4.9nm,0.8s,baz=273,slow=2.8,SNR=12					
YAK	Yakutsk	150.03 338	*e*PKIKP	PKPbc	04 29 12.8	-1.3
YAK			pmax	pmax		
	comp=Z,38nm,0.9s					
YAK			pmax	pmax		
	comp=N,7.0nm,1.0s					
YAK	Yakutsk	150.03 338	*e*PKPbc	PKPbc	04 29 13.8	-0.3
KKAR	Karatay Array	151.22 64	*e*PKIKP	PKPbc	04 29 17.6	0.0
KKAR	Karatay Array	151.22 64	*e*PKPbc	PKPbc	04 29 17.6	0.0
ASAJ	Asahikawa	151.47 298	PKPbc	PKPbc	04 29 17.8	-0.3
	comp=N,1.9nm,0.3s,baz=339,slow=5.1,SNR=4.2					
AAK	Ala-Archa	154.17 65	*e*PKIKP	PKPbc	04 29 25.1	+0.7
AAK	Ala-Archa	154.17 65	*e*PKPbc	PKPbc	04 29 25.1	+0.7
NVS	Novosibirsk	154.95 33	*e*PKIKP	PKPdf	04 29 15.3	-1.3
KSH	Kashi	155.39 72	PKP	PKPdf	04 29 18.9	+1.0
KSH			sPKP		04 29 32.2	
KSH			PKS	PKSdf	04 32 51.6	-0.5
KSH			PP	PP	04 33 20.3	-0.3
KSH			SKS	SKSdf	04 36 21.2	-1.3
KSH			SKKS	SKKSac	04 40 08.1	+0.1
KSH			SS	SS	04 53 04.7	0.0
KSH			PPMZ			
	comp=N,130nm,4.6s					
KSH			LN			
	comp=N,66nm,4.4s					
KSH			LE			
	comp=N,50nm,5.2s					
KSH			LZ			
	comp=N,520nm,27.1s					
ZALV	Zalesovo Beam	156.24 33	PKP	PKPdf	04 29 18.1	-0.3
	comp=N,4.5nm,0.8s,baz=302,slow=2.8,SNR=16					
ZALV			PKPab	PKPab	04 29 46.4	0.0
	comp=N,7.8nm,0.7s,baz=302,slow=5.0,SNR=14					
BOD	Bodaibo	157.42 350	*e*PKIKP	PKPdf	04 29 13.3	-6.5
BOD			pmax	pmax		
	comp=Z,8.0nm,1.0s					
MKAR	Makanchi Array	158.65 51	PKP	PKPdf	04 29 21.8	+0.1
	comp=Z,2.9nm,0.9s,baz=291,slow=1.5,SNR=15					
MKAR			PKPab	PKPab	04 29 57.9	+0.7
	comp=Z,2.5nm,0.9s,baz=292,slow=3.8,SNR=6.4					
CMAR	Chiang Mai Arr	161.42 156	PKP	PKPdf	04 29 26.9	+1.3
	comp=Z,0.6nm,0.3s,baz=252,slow=3.3,SNR=4.8					
WMQ	Urumqi	163.30 55	*e*PKP	PKPdf	04 29 26.0	-0.9
WMQ			PKPab	PKPab	04 30 19.9	+2.2
WMQ			PKS	PKSdf	04 32 57.6	-2.2
WMQ			PP	PP	04 34 06.1	+2.9
WMQ			SKS	SKSdf	04 36 25.3	-4.1
WMQ			SKKS	SKKSac	04 40 49.0	+0.1
WMQ			SS	SS	04 54 28.7	+1.1
WMQ			PPMZ			
	comp=Z,200nm,6.0s					
WMQ			LN			
	comp=Z,180nm,22.0s					
WMQ			LE			
	comp=Z,180nm,22.0s					
WMQ			LZ			
	comp=Z,200nm,23.0s					
CN2	Changchun	163.57 305	*e*PKP	PKPdf	04 29 27.9	+0.9
TLY	Talaya	163.93 7	*e*PKP2	PKPab	04 30 22.0	+2.0
TLY			pmax	pmax		
	comp=Z,6.0nm,1.6s					
ZAK	Zakamensk	165.17 9	*e*PKP2	PKPab	04 30 21.6	-4.0
ZAK			pmax	pmax		
	comp=Z,3.0nm,1.0s					
SONM	Songino Array	167.94 1	PKP	PKPdf	04 29 30.5	-0.1
	comp=Z,0.3nm,0.8s,baz=325,slow=2.3,SNR=3.8					
SONM			PKPab	PKPab	04 30 38.2	+0.3
	comp=Z,2.3nm,0.9s,baz=342,slow=3.5,SNR=15					
NJ2	Nanjing	169.30 253	*e*PKP	PKPdf	04 29 32.9	+1.1
GYA	Guiyang	170.72 179	PKP	PKPdf	04 29 33.2	+0.2
GYA			pPKP	pPKPdf	04 29 44.3	+2.0
GYA			PKPab	PKPab	04 30 52.0	+1.3
GYA			PKS	PKSdf	04 33 03.7	-1.9
GYA			PP	PP	04 34 43.9	+3.8
GYA			SKKS		04 41 25.5	
GYA			SS	SS	04 55 39.8	-0.6
GYA			PPMZ			
	comp=Z,120nm,8.6s					
GYA			LN			
	comp=Z,130nm,21.5s					
GYA			LE			
	comp=Z,110nm,22.3s					
GYA			LZ			
	comp=Z,120nm,21.7s					
BJI	Beijing	171.43 303	PKP	PKPdf	04 29 33.5	+0.8
HHC	Hu-ho-hao-te	173.68 325	*e*PKP	PKPdf	04 29 33.6	-0.2
HHC			sPKP		04 29 46.1	
HHC			PP	PP	04 34 58.1	+2.8
HHC			SKKS		04 41 40.2	
HHC			SS	SS	04 56 09.9	-0.5
HHC			PPMZ			
	comp=Z,210nm,11.1s					
HHC			LN			
	comp=Z,230nm,18.5s					
HHC			LE			
	comp=Z,260nm,18.5s					
HHC			LZ			
	comp=Z,290nm,18.5s					
CD2	Chengdu	174.54 152	*e*PKP	PKPdf	04 29 34.2	-0.2
LZH	Lanzhou	177.60 81	*e*PKP	PKPdf	04 29 34.5	-0.6
LZH			pPKP	pPKPdf	04 29 44.6	+0.2
LZH			sPKP		04 29 49.0	

IDC ***02*** *04:16:28.2±1.1, 36°65S×73°02W, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/33, mbtmp4.0/9, ML3.2/1, Error ellipse: s-maj=36.7km s-min=19.5km az=99.0*

ISCJB ***02*** *04:16:30.6±0.9, 36°6S±0°1×73°0W±0°2, h25km, mb4.1/7, Error ellipse: s-maj=27.1km s-min=10.4km az=25.1*

ISC 02 04:16:32.0±1.0, 36°7S±0°1×73°1W±0°2, h25km, n11, σ1$02/11, mb4.2/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.52	155	Pn	Pn	04 17 33.7	-5.2
	1.8nm,0.3s,baz=3.2,slow=18,SNR=3.5						
PLCA				Lg	Lg	04 18 50.9	
	13nm,0.3s,baz=275,slow=18,SNR=4.0						
CFAA	Coronel Fontan	6.42	40	Pn	Pn	04 18 04.7	-0.3
	0.6nm,0.3s,baz=171,slow=12,SNR=6.7						
CFAA				Sn	Sn	04 19 18.1	+0.6
	0.7nm,0.3s,baz=293,slow=19,SNR=3.8						
LPAZ	La Paz	20.74	13	P	P	04 21 12.4	+0.9
	1.3nm,0.7s,baz=225,slow=11,SNR=3.6						
SIV	San Ignacio	23.16	30	P	P	04 21 38.2	+1.5
	1.5nm,0.6s,baz=208,slow=15,SNR=3.4						
SNAA	Sanae	49.46	157	P	P	04 25 20.3	+0.5
	2.6nm,1.1s,baz=272,slow=4.4,SNR=4.5						
QSPA	South Pole Qui	53.59	180	P	P	04 25 51.4	+0.7
	5.4nm,1.0s,baz=148,slow=3.7,SNR=7.0						
TXAR	Lajitas Array	71.66	332	P	P	04 27 51.5	-0.1
	0.8nm,0.7s,baz=152,slow=10,SNR=7.8						
DBIC	Dimbokro	76.81	71	P	P	04 28 21.2	-0.7
	1.7nm,0.6s,baz=208,slow=5.4,SNR=5.4						
BOSA	Boshof	79.57	118	P	P	04 28 37.2	-0.1
	5.8nm,1.1s,baz=237,slow=6.9,SNR=3.9						
TORD	Torodi Ar. Bea	85.88	70	P	P	04 29 09.6	-0.3
	1.0nm,1.0s,baz=225,slow=4.0,SNR=4.1						
MKAR	Makanchi Array	159.06	53	PKPab	PKPab	04 37 02.4	-1.9
	0.5nm,0.7s,baz=299,slow=3.7,SNR=4.9						

KRNET ***02*** *04:17:40.3±0.1, 42°42N×75°64E, h11km, mb4.4*

MOS ***02*** *04:17:40.2±1.3, 42°48N×75°63E, h9km, mb4.8/3, Error ellipse: s-maj=8.2km s-min=6.9km az=106.7*

ISCJB ***02*** *04:17:40.2±0.4, 42°46N±0°02×75°64E±0°02, h8km±3km, mb3.7/5, MS4.0/2, Error ellipse: s-maj=3.6km s-min=2.7km az=169.7*

IDC ***02*** *04:17:40.8±1.4, 42°49N×75°58E, h0km, mb3.6/4, mb1 3.8/8, mb1mx3.5/47, mbtmp3.7/8, ML3.1/3, MS4.1/2, Ms1 4.1/2, ms1mx3.1/49, Error ellipse: s-maj=19.2km s-min=7.7km az=166.0*

KNET ***02*** *04:17:40.2±0.3, 42°44N×75°62E, h0km, ml3.4, Error ellipse: s-maj=2.8km s-min=2.4km az=38.0*

NNC ***02*** *04:17:40.8±0.9, 42°46N×75°59E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=6.2km s-min=2.6km az=143.0*

BJI ***02*** *04:17:43.3, 42°50N×76°03E, h4km, ML3.7/7*

ISC 02 04:17:40.8±0.8, 42°44N±0°02×75°63E±0°02, h6km±6km, n75, σ0$94/98, mb3.8/6, MS4.2/3, 31C-21D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOOM	Boomskoye usch	0.24	77	*i* P	Pg	04 17 45.6	+0.1
	baz=75						
BOOM				*e*S	Sg	04 17 49.8	+1.1
	baz=75						
KZA	Kyzart	0.46	218	P	Pg	04 17 49.8	+0.1
	806nm,0.2s,SNR=2667						
KZA				⇓S	Sg	04 17 56.5	+0.8
	2μm,0.3s						
KZA	Kyzart	0.46	218	*i* PG	Pg	04 17 49.7	+0.1
KZA	Kyzart	0.46	218	⇓*i*P	Pg	04 17 49.7	+0.1
	baz=220						
KZA				⇓*i*S	Sg	04 17 56.4	+0.8
	baz=220						
TKM2	Tokmak 2	0.48	357	⇓P	Pg	04 17 50.2	0.0
	75nm,0.2s						
TKM2				⇓S	Sg	04 17 56.7	+0.2
	4μm,0.3s						
TKM2	Tokmak 2	0.48	357	P	Pg	04 17 50.2	0.0
	207nm,0.1s,SNR=3021						
TKM2	Tokmak 2	0.48	357	PG	Pg	04 17 50.1	0.0
TKM2				S	Sg	04 17 56.7	+0.2
TKM2				pmax	pmax		
	comp=Z,75nm,0.3s						
TKM2				smax	smax		
	comp=N,4μm,0.4s						
TKM2	Tokmak 2	0.48	357	⇑*i*P	Pg	04 17 50.2	0.0
	baz=357						
TKM2				⇑*i*S	Sg	04 17 56.9	+0.4
	baz=357						
ULHL	Ulahol	0.50	113	P	Pg	04 17 49.8	-0.6
	comp=N,399nm,0.2s,SNR=1913						
ULHL				⇑S	Sg	04 17 56.4	-0.5
	comp=N,5μm,0.2s						
ULHL	Ulahol	0.50	113	*i* PG	Pg	04 17 49.7	-0.6
ULHL	Ulahol	0.50	113	⇑*i*P	Pg	04 17 49.7	-0.6
	baz=111						
ULHL				⇑*i*S	Sg	04 17 56.3	-0.5
	baz=111						
KBK	Karagaybulak	0.55	294	P	Pg	04 17 51.7	+0.3
	comp=N,456nm,0.1s,SNR=2067						
KBK				⇓S	Sg	04 17 59.2	+0.8
	comp=N,7μm,0.2s						
KBK	Karagaybulak	0.55	294	*i* PG	Pg	04 17 51.7	+0.3
KBK	Karagaybulak	0.55	294	⇑*i*P	Pg	04 17 51.6	+0.3
	baz=295						
KBK				⇑*i*S	Sg	04 17 59.4	+0.9
	baz=295						
FRU	Bishkek	0.84	298	*e*P	Pg	04 17 57.0	+0.1
	baz=299						
FRU				*e*S	Sb	04 18 09.0	-0.4
	baz=299						
UCH	Uchtor	0.85	256	⇑P	Pg	04 17 56.5	-0.6
	comp=N,190nm,0.2s,SNR=572						
UCH	Uchtor	0.85	256	*i* PG	Pg	04 17 56.6	-0.6
UCH	Uchtor	0.85	256	⇑*i*P	Pg	04 17 56.5	-0.6
	baz=257						
UCH				⇑*i*S	Sg	04 18 07.8	-0.4
	baz=257						
CHMS	Chumysh	0.85	311	P	Pg	04 17 56.7	-0.5
	comp=N,130nm,0.2s,SNR=127						
CHMS				⇓S	Sg	04 18 08.3	+0.1
	comp=N,633nm,0.2s						
CHMS	Chumysh	0.85	311	*i* PG	Pg	04 17 56.6	-0.5
CHMS	Chumysh	0.85	311	⇑*i*P	Pg	04 17 56.7	-0.5
	baz=312						
CHMS				⇑*i*S	Sg	04 18 08.3	+0.1
	baz=312					

AAK Ala-Archa 0.86 283 Pg **Pg 04 17 57.0 -0.3**
comp=N,132nm,0.3s,baz=102,slow=8.2,SNR=1325
AAK Lg Lg 04 18 08.3
comp=N,249nm,0.3s,baz=20,slow=24,SNR=54
AAK Ala-Archa 0.86 283 ⇑*i*P **Pg 04 17 56.9 -0.3**
baz=284
AAK ⇑*i*S **Sg 04 18 08.2 -0.2**
baz=284
NRN Naryn 1.04 164 ⇓*i*P **Pg 04 18 00.0 -0.8**
baz=165
NRN ⇓*i*S **Sg 04 18 14.4 +0.1**
baz=165
ARLS Aral 1.13 240 *i* P **Pg 04 18 01.2 -1.2**
baz=240
ARLS *i* S **Sg 04 18 16.5 -0.5**
baz=240
USP Ospenovka 1.17 315 P **Pg 04 18 02.2 -1.0**
comp=N,128nm,0.2s,SNR=274
USP Ospenovka 1.17 315 *i* PG **Pg 04 18 02.2 -1.0**
USP Ospenovka 1.17 315 ⇑*i*P **Pg 04 18 02.2 -1.0**
baz=316
USP ⇑*i*S **Sg 04 18 18.2 -0.2**
baz=316
KNDC Almaty 1.26 51 ⇓P **Pn 04 18 04.2 -0.7**
KNDC ⇑S **Sg 04 18 21.4 +0.3**
AAA Alma-Ata 1.28 49 *e*PG **Pn 04 18 03.8 -1.4**
EKS Erkin-Say 1.38 280 *i* P **Pg 04 18 07.2 0.0**
baz=281
EKS *e*S **Sg 04 18 25.7 +0.6**
baz=281
EKS2 Erkin-Say 1.38 280 *i* PG **Pn 04 18 06.7 0.0**
EKS2 Erkin-Say 1.38 280 ⇓*i*P **Pn 04 18 06.8 0.0**
baz=281
EKS2 ⇓*i*S **Sg 04 18 25.7 +0.4**
baz=281
AML Almayashu 1.47 259 *i* PG **Pn 04 18 07.8 -0.3**
AML Almayashu 1.47 259 ⇑*i*P **Pn 04 18 07.8 -0.3**
baz=259
AML ⇑*i*S **Sn 04 18 27.5 -0.3**
baz=259
ANVS Anan'yevo 1.55 76 ⇓*i*P **Pn 04 18 08.8 -0.2**
baz=76
ANVS ⇓*e*S **Sn 04 18 29.6 +0.1**
baz=76
ARSB Arslanbob 2.27 241 ⇓*i*P **Pb 04 18 22.7 +0.5**
baz=242
ARSB ⇓*i*S **Sg 04 18 53.9 +0.3**
baz=242
OHH Osh 2.87 229 *e*P **Pb 04 18 31.2 -1.1**
baz=229
SFK Sufi-Kurgan 2.90 214 *e*P **Pn 04 18 28.4 +0.7**
baz=215
SFK *e*S **Sn 04 19 04.0 +0.9**
baz=215
KSH Kashi 2.93 175 Pn **Pg 04 18 37.4 +0.5**
KSH SMN
comp=N,370nm,0.8s
KSH SME
comp=N,480nm,0.5s
KK31 Karatay Array 3.82 282 Pn Pb 04 18 45.0 -3.6
comp=N,0.6nm,0.3s,baz=95,slow=14,SNR=196
KK31 ⇓Pg Pg 04 18 50.3 -3.7
comp=N,12nm,0.3s,baz=274,slow=58,SNR=6.7
KK31 ⇑Lg Lg 04 19 38.5
comp=N,69nm,0.5s,baz=104,slow=31,SNR=17
KK31 Karatay Array 3.82 282 PN Pb 04 18 45.0 -3.6
KK31 04 18 50.0
KK31 04 19 38.3
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KK31 pmax pmax
comp=Z,26nm,0.3s
KK31 pmax pmax
comp=N,78nm,0.3s
MK31 Makanchi Array 6.45 45 ⇑Pn **Pn 04 19 18.2 +2.0**
comp=N,15nm,0.4s
MK31 ⇑Sn **Sn 04 20 28.9 -1.1**
comp=N,3.1nm,0.3s,baz=221,slow=24,SNR=4.1
MK31 ⇓Lg Lg 04 21 02.4
comp=N,3.2nm,0.4s
MK31 Makanchi Array 6.45 45 PN **Pn 04 19 17.9 +1.7**
MK31 pmax pmax
comp=Z,38nm,0.5s
MKAR Makanchi Array 6.45 45 PN **Pn 04 19 18.0 +1.8**
MKAR 04 20 31.5
MKAR pmax pmax
comp=Z,10.0nm,0.3s
MKAR smax smax
comp=N,2.0nm,0.3s
MKAR Makanchi Array 6.45 45 Pn **Pn 04 19 18.0 +1.8**
comp=N,9.8nm,0.3s,baz=222,slow=15,SNR=565
MKAR Sn **Sn 04 20 31.5 +1.5**
comp=N,2.3nm,0.3s,baz=222,slow=24,SNR=6.1
MKAR Lg Lg 04 21 04.0
comp=N,2.0nm,0.3s,baz=249,slow=22,SNR=4.1
KURBB Kurchatov Arra 8.43 13 ⇑Pn **Pn 04 19 42.9 -0.4**
comp=N,1.2nm,0.3s
KURBB ⇓Lg Lg 04 22 05.6
comp=N,43nm,0.7s
KURK Kurchatov 8.53 13 ⇓Pn **Pn 04 19 44.6 -0.1**
comp=N,0.3nm,0.6s
KURK ⇑Lg Lg 04 22 07.3
comp=N,39nm,1.1s
KURK Kurchatov 8.53 13 P **Pn 04 19 44.7 -0.1**
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK pmax pmax
comp=N,24nm,0.7s
VOSK Vostochnaya 10.76 345 ⇑Pn Pn 04 20 21.5 +6.3
comp=N,0.6nm,0.6s
VOSK ⇑Lg Lg 04 23 19.2
comp=N,18nm,0.9s
BVA0 Borovoye Array 11.16 343 Pn **Pn 04 20 21.5 +0.8**
comp=N,0.8nm,0.7s,baz=227,slow=42,SNR=6.2
BVA0 ⇑Lg Lg 04 23 30.9
comp=N,21nm,1.0s,baz=157,slow=32,SNR=5.6
BVAR Borovoye Array 11.16 343 Pn **Pn 04 20 21.4 +0.7**
comp=N,0.2nm,0.3s,baz=155,slow=12,SNR=4.8
BVAR Sn Sn 04 22 19.1 -6.6
comp=N,0.4nm,0.3s,baz=165,slow=18,SNR=3.7
BVAR Lg Lg 04 23 30.8
comp=N,1.4nm,0.3s,baz=150,slow=27,SNR=6.1
BRVK Borovoye 11.21 343 *i* P **Pn 04 20 21.2 -0.2**
BRVK pmax pmax
comp=Z,1.0nm,1.1s
AB31 Akbulak array 12.87 307 ⇑Pn **Pn 04 20 44.5 +0.3**
comp=Z,0.3nm,0.3s,baz=3.2,slow=26,SNR=25
AB31 Akbulak array 12.87 307 P **Pn 04 20 44.4 +0.3**
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 13.03 25 Pn **Pn 04 20 46.7 +0.4**
comp=Z,0.3nm,0.3s,baz=223,slow=13,SNR=8.1
ZALV Sn **Sn 04 23 07.8 -3.7**
comp=Z,0.3nm,0.3s,baz=233,slow=22,SNR=5.4
ZALV Lg Lg 04 24 31.1
comp=Z,0.1nm,0.3s,baz=221,slow=28,SNR=2.8
AKTO Aktyubinsk 14.51 309 ⇑Pn **Pn 04 21 06.5 -0.1**
comp=Z,0.8nm,0.8s
AKTO Aktyubinsk 14.51 309 Pn **Pn 04 21 05.4 -1.2**
comp=Z,0.1nm,0.3s,baz=131,slow=13,SNR=2.4
BRTR Keskin Array B 31.53 279 P **P 04 24 05.4 +1.6**
comp=Z,0.2nm,0.5s,baz=70,slow=8.3,SNR=2.6
KOLS Kolonicke sedl 37.17 299 *e*P P 04 24 58.0 +5.6
KOLS pmax pmax
comp=Z,13nm,2.1s
KOLS Kolonicke sedl 37.17 299 *e*P P 04 24 58.0 +5.6
ARCES ARCESS Array B 37.22 334 P **P 04 24 53.4 +0.9**
ARCES pmax pmax
comp=Z,5.0nm,1.1s
ARCES ARCESS Array B 37.22 334 P **P 04 24 53.4 +0.9**
comp=Z,5.2nm,1.1s,baz=101,slow=9.3,SNR=2.7
CRVS Cervenica-Dubn 37.71 299 *e*P P 04 25 03.0 +6.1
CRVS pmax pmax
comp=Z,55nm,3.0s
CRVS Cervenica-Dubn 37.71 299 *e*P P 04 25 03.0 +6.1
KSRS Korea Array 39.88 79 LR LR 04 42 20.6
comp=Z,157nm,20.1s,baz=326,slow=37
CLL Collm 42.52 304 *e*P **P 04 25 34.0 -2.7**
CLL *e* 04 25 38.0
CLL Collm 42.52 304 *e*P **P 04 25 34.0 -2.7**
CLL *e*pP **pP 04 25 38.0 -0.6**
CLL Lm MLR 05 16 00.0
comp=Z,400nm,20.4s
CLL LmV 05 34 00.0
comp=Z,500nm,19.6s
DAVOX Davos/Dischmat 45.78 299 LR LR 04 48 39.5
comp=Z,274nm,18.8s,baz=268,slow=41

TORD Torodi Ar. Bea 69.42 269 P **P 04 28 49.0 -0.9**
comp=Z,0.2nm,0.7s,baz=48,slow=4.7,SNR=4.4
YKA Yellowknife Ar 75.09 5 P **P 04 29 25.0 +2.0**
YKA Yellowknife Ar 75.09 5 P **P 04 29 25.0 +2.0**
comp=Z,0.2nm,0.5s,baz=347,slow=5.9,SNR=7.3

IDC ***02*** *04:19:47.9±0.7, 34°.06S×73°.39W, h0km, mb4.2/11, mb1 4.3/14, mb1mx4.1/36, mbtmp4.2/14, ML4.4/2, Error ellipse: s-maj=23.7km s-min=16.3km az=98.0*
ISCJB ***02*** *04:19:51.5±0.7, 34°.12S±0°.07×73°.3W±0°.1, h33km, mb4.2/10, Error ellipse: s-maj=14.7km s-min=8.7km az=29.2*
NEIC ***02*** *04:19:53.1±0.4, 34°.08S×73°.36W, h35km, mb4.7/4, Error ellipse: s-maj=13.2km s-min=7.7km az=100.0*
ISC 02 04:19:53.2±0.6, 34°.09S±0°.08×73°.4W±0°.1, h35km, n25, σ0s70/28, mb4.3/11, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.99**	**62**	Pn	**Pn**	**04 21 06.1**	**+0.4**
	0.7nm,0.3s,baz=172,slow=9.1,SNR=4.0						
CFAA				Sn	**Sn**	**04 22 03.0**	**+0.8**
	1.0nm,0.3s,baz=17,slow=10,SNR=2.8						
PLCA	**Paso Flores**	**7.01**	**162**	Pn	**Pn**	**04 21 32.9**	**-0.5**
	2.9nm,0.3s,baz=340,slow=10.0,SNR=4.2						
LPAZ	**La Paz**	**18.34**	**16**	P	**Pn**	**04 24 06.0**	**+0.5**
	0.2nm,0.3s,baz=179,slow=11,SNR=5.2						
LPAZ	**La Paz**	**18.34**	**16**	*e*P	**Pn**	**04 24 05.8**	**+0.3**
	12nm,1.3s						
USHA	**Ushuaia**	**21.03**	**172**	P	**P**	**04 24 34.4**	**+0.7**
	12nm,0.8s,baz=1.1,slow=9.6,SNR=3.6						
SIV	**San Ignacio**	**21.16**	**35**	P	**P**	**04 24 34.7**	**-0.7**
	3.5nm,0.7s,baz=222,slow=11,SNR=4.7						
BDFB	**Brasilia**	**29.32**	**57**	P	**P**	**04 25 51.0**	**-1.7**
	2.9nm,0.8s,baz=185,slow=6.0,SNR=3.4						
SNAA	**Sanae**	**51.93**	**158**	P	**P**	**04 28 58.8**	**+0.7**
	3.1nm,0.6s,baz=275,slow=8.4,SNR=13						
SNAA	**Sanae**	**51.93**	**158**	*e*P	**P**	**04 28 58.0**	**-0.1**
	14nm,0.9s						
QSPA	**South Pole Qui**	**56.15**	**180**	P	**P**	**04 29 29.4**	**+0.3**
	4.6nm,1.0s,baz=119,slow=3.4,SNR=5.7						
QSPA	**South Pole Qui**	**56.15**	**180**	*e*P	**P**	**04 29 29.8**	**+0.7**
	74nm,2.1s						
TXAR	**Lajitas Array**	**69.27**	**332**	P	**P**	**04 30 57.2**	**+0.4**
	0.8nm,0.7s,baz=156,slow=7.5,SNR=8.0						
DBIC	**Dimbokro**	**76.27**	**72**	P	**P**	**04 31 38.8**	**+0.2**
	4.2nm,0.7s,baz=206,slow=4.4,SNR=9.0						
DBIC	**Dimbokro**	**76.27**	**72**	*e*P	**P**	**04 31 38.5**	**-0.1**
	3.7nm,0.6s						
TSUM	**Tsumeb**	**80.26**	**107**	P	**P**	**04 32 01.7**	**+0.8**
	0.6nm,0.3s,baz=163,slow=8.2,SNR=3.9						
BOSA	**Boshof**	**81.02**	**118**	P	**P**	**04 32 04.9**	**+0.1**
	2.6nm,0.8s,baz=159,slow=10,SNR=3.2						
PDAR	**Pinedale Array**	**83.34**	**334**	P	**P**	**04 32 17.7**	**+1.1**
	0.6nm,1.0s,baz=153,slow=5.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**85.29**	**71**	P	**P**	**04 32 26.3**	**-0.5**
	2.2nm,0.7s,baz=260,slow=4.1,SNR=12						
ASAR	**Alice Springs**	**116.97**	**208**	PKP	**PKPdf**	**04 38 34.0**	**-0.8**
	0.6nm,1.0s,baz=142,slow=4.6,SNR=3.3						
WRA	**Warramunga Arr**	**120.13**	**210**	PKP	**PKPdf**	**04 38 39.5**	**-1.4**
	0.5nm,0.7s,baz=170,slow=1.6,SNR=6.0						
BRTR	**Keskin Array B**	**122.85**	**61**	PKP	**PKPdf**	**04 38 45.2**	**-0.3**
	0.8nm,0.8s,baz=146,slow=2.4,SNR=7.4						
SEY	**Seymchan**	**139.54**	**330**	PKP	**PKPdf**	**04 39 15.3**	**-0.8**
	0.5nm,0.3s,baz=93,slow=4.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**154.89**	**31**	PKP	**PKPdf**	**04 39 41.5**	**-0.1**
	0.5nm,0.4s,baz=248,slow=0.8,SNR=3.2						
ZALV				PKPbc	**PKPbc**	**04 39 50.3**	**0.0**
	1.3nm,0.5s,baz=300,slow=3.3,SNR=7.7						
MKAR	**Makanchi Array**	**157.66**	**48**	PKP	**PKPdf**	**04 39 45.6**	**0.0**
	0.3nm,0.7s,baz=9.5,slow=1.8,SNR=3.3						
MKAR				PKPab	**PKPab**	**04 40 18.0**	**0.0**
	0.9nm,0.8s,baz=299,slow=5.0,SNR=6.3						
CMAR	**Chiang Mai Arr**	**162.99**	**154**	PKP	**PKPdf**	**04 39 52.0**	**-0.3**
	1.7nm,0.3s,baz=243,slow=2.9,SNR=2.8						

KMA 02 04:27:17.8±1.5, 39°.09N×128°.46E, h11km±8km, 13C-3D, Error ellipse: s-maj=12.7km s-min=7.3km az=68.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSSKC	**Sokcho**	**0.80**	**176**	⇑P	Pg	04 27 33.4	+0.2
	SNR=18						
KSSKC	**Sokcho**	**0.80**	**176**	⇑P	Pg	04 27 33.4	+0.2
	SNR=18						
SEHB	**SEOHWA**	**0.83**	**191**	P	Pg	04 27 32.7	-1.2
	SNR=61						
SEHB	**SEOHWA**	**0.83**	**191**	P	Pg	04 27 32.7	-1.2
	SNR=61						
KSIJA	**INJE**	**1.13**	**194**	⇑P	Pb	04 27 38.0	-1.4
	SNR=16						
KSIJA	**INJE**	**1.13**	**194**	⇑P	Pb	04 27 38.0	-1.4
	SNR=16						
KSIJA				⇑S	Sb	04 27 53.6	-0.5
KSJMJ	**Jumunjin**	**1.23**	**169**	⇓P	Pg	04 27 41.7	+0.3
	SNR=27						
KSJMJ	**Jumunjin**	**1.23**	**169**	⇓P	Pg	04 27 41.7	+0.3
	SNR=27						
KSJMJ				⇓S	Sn	04 27 57.4	0.0
KSCWO	**Cheorwon**	**1.24**	**217**	⇑P	Pn	04 27 39.4	-1.7
	SNR=18						
KSCWO	**Cheorwon**	**1.24**	**217**	⇑P	Pn	04 27 39.4	-1.7
	SNR=18						
KSCHC	**Chuncheon**	**1.40**	**201**	⇑P	Pn	04 27 42.6	-0.6
	SNR=29						
KSCHC	**Chuncheon**	**1.40**	**201**	⇑P	Pn	04 27 42.6	-0.6
	SNR=29						
KSDGY	**Daegwallycong**	**1.41**	**173**	P	Pg	04 27 45.0	+0.1
	SNR=38						
KSDGY	**Daegwallycong**	**1.41**	**173**	P	Pg	04 27 45.0	+0.1
	SNR=38						
YNCB	**YEONCHEON**	**1.59**	**229**	⇑P	Pn	04 27 46.1	+0.2
	SNR=31						
YNCB	**YEONCHEON**	**1.59**	**229**	⇑P	Pn	04 27 46.1	+0.2
	SNR=31						
KSGAH	**Ganghwa**	**2.10**	**229**	⇑P	Pn	04 27 53.6	+0.8
	SNR=10						
KSGAH	**Ganghwa**	**2.10**	**229**	⇑P	Pn	04 27 53.6	+0.8
	SNR=10						

IDC ***02*** *04:28:39.5±0.6, 36°.82S×73°.51W, h0km, mb4.5/16, mb1 4.6/20, mb1mx4.6/29, mbtmp4.5/20, ML4.2/4, MS4.9/17, Ms1 4.9/17, ms1mx4.7/30, Error ellipse: s-maj=19.6km s-min=12.8km az=75.0*
ISCJB ***02*** *04:28:42.7±0.2, 36°.68S±0°.04×73°.34W±0°.05, h27km, mb5.0/65, MS5.1/21, Error ellipse: s-maj=6.2km s-min=4.4km az=139.0*
MOS ***02*** *04:28:44.2±1.1, 36°.67S×73°.39W, h33km, mb5.3/13, Error ellipse: s-maj=20.1km s-min=10.3km az=97.9*
GCMT ***02*** *04:28:45.4±0.2, 36°.85S×73°.81W, h15km±1km, MW5.5/94, Moment Tensor Solution. s70,c105; s94,c153; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.68±.03; $M_{\theta\theta}$0.04±.01; $M_{\phi\phi}$-0.71±.02; $M_{r\theta}$0.10±.05; $M_{\theta\phi}$-0.09±.01; $M_{\phi r}$-1.79±.13; Best double couple: $M_0$1.92700×10^{17} NP1:ϕ_s178.00000°, δ79.00000°, λ86.00000°. NP2:ϕ_s17.00000°, δ11.00000°, λ110.00000°. Principal axes: T 1.9140, Plg55.0000°, Azm83.0000°; N 0.0260, Plg4.0000°, Azm178.0000°; P -1.9400, Plg34.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *04:28:45.4±0.2, 36°.68S×73°.30W, h35km, mb5.1/46 Error ellipse: s-maj=8.8km s-min=6.3km az=70.0*
ISC 02 04:28:44.0±0.3, 36°.72S±0°.05×73°.44W±0°.06, h27km, n451, σ0s93/449, mb5.0/65, MS5.1/21, 147C-127D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.60**	**151**	*e*P	**Pn**	**04 29 53.3**	**+1.4**
PLCA				*e*		04 30 44.5	
PLCA	**Paso Flores**	**4.60**	**151**	Pn	**Pn**	**04 29 51.1**	**-0.7**
	4.6nm,0.3s,baz=326,slow=11,SNR=14						
PLCA				Lg	Lg	04 31 04.3	
	14nm,0.3s,baz=316,slow=6.2,SNR=1.9						
PLCA	**Paso Flores**	**4.60**	**151**	*e*Pn	**Pn**	**04 29 53.3**	**+1.4**
PLCA				*e*Sn	**Sn**	**04 30 44.5**	**+0.1**
PLCA				Lg	Lg	04 31 04.3	
CFAA	**Coronel Fontan**	**6.68**	**42**	Pn	**Pn**	**04 30 19.4**	**-1.1**
	3.3nm,0.3s,baz=54,slow=12,SNR=8.6						
CFAA				Sn	**Sn**	**04 31 37.4**	**+1.6**
	0.7nm,0.3s,baz=204,slow=14,SNR=3.8						
CFAA				LR	LR	04 33 39.0	
	comp=Z,1μm,18.1s,baz=222,slow=44						
TRQA	**Tornquist**	**9.22**	**102**	*e*Pn	**Pn**	**04 30 56.2**	**+0.9**
TRQA				*e*Sn	**Sn**	**04 32 38.9**	**+0.8**
LVC	**Limon Verde**	**14.60**	**17**	*e*Pn	**Pn**	**04 32 07.6**	**-1.5**
LVC				*e*Sn	**Sn**	**04 34 53.4**	**+3.2**
CPUP	**Villa Florida**	**17.18**	**57**	*e*P	**Pn**	**04 32 42.0**	**-0.2**
CPUP				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CPUP	**Villa Florida**	**17.18**	**57**	Pn	**Pn**	**04 32 41.5**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=215,slow=11,SNR=8.5						
CPUP				LR	LR	04 38 51.9	
	comp=Z,3μm,19.7s,baz=220,slow=35						
CPUP	**Villa Florida**	**17.18**	**57**	*e*Pn	**Pn**	**04 32 42.0**	**-0.2**
	comp=Z,4.0nm,1.1s						
USHA	**Ushuaia**	**18.44**	**171**	P	**P**	**04 32 56.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=314,slow=9.2,SNR=2.9						
LPAZ	**La Paz**	**20.89**	**14**	*e*P	**P**	**04 33 26.0**	**+1.0**
LPAZ	**La Paz**	**20.89**	**14**	P	**P**	**04 33 25.5**	**+0.6**
	comp=Z,10nm,0.7s,baz=181,slow=7.9,SNR=18						
LPAZ	**La Paz**	**20.89**	**14**	*e*Pn	**P**	**04 33 25.9**	**+1.0**
SIV	**San Ignacio**	**23.39**	**31**	P	**P**	**04 33 50.2**	**-0.6**
	comp=Z,16nm,0.9s,baz=234,slow=14,SNR=30						
SIV				LR	LR	04 44 46.2	
	comp=Z,6μm,19.8s,baz=226,slow=41						
NNA	**Nana**	**24.82**	**352**	P	**P**	**04 34 04.9**	**+0.8**
	comp=Z,5.6nm,0.8s,baz=184,slow=13,SNR=3.1						
PMSA	**Palmer Station**	**28.64**	**172**	LR	LR	04 45 04.2	
	comp=Z,1μm,20.8s,baz=332,slow=34						
SAML	**Samuel**	**29.18**	**21**	*e*P	**P**	**04 34 42.4**	**-0.8**
	comp=Z,11nm,1.0s						
ATAH	**Atahualpa**	**29.80**	**350**	P	**P**	**04 34 48.6**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=103,slow=11,SNR=3.0						
BDFB	**Brasilia**	**30.84**	**54**	*e*P	**P**	**04 34 58.3**	**+0.2**
BDFB	**Brasilia**	**30.84**	**54**	P	**P**	**04 34 58.1**	**0.0**
	comp=Z,4.1nm,0.7s,baz=214,slow=10,SNR=5.0						
BDFB				LR	LR	04 48 30.3	
	comp=Z,5μm,19.7s,baz=221,slow=38						
BDFB	**Brasilia**	**30.84**	**54**	*e*P	**P**	**04 34 58.2**	**+0.2**
OTAV	**Otavalo**	**37.07**	**352**	*e*P	**P**	**04 35 52.5**	**0.0**
	comp=Z,38nm,1.5s						
ROSC	**El Rosal**	**41.37**	**359**	P	**P**	**04 36 30.1**	**+1.7**
	comp=Z,3.9nm,0.5s,baz=181,slow=23,SNR=9.4						
ROSC	**El Rosal**	**41.37**	**359**	*e*P	**P**	**04 36 30.6**	**+2.3**
SDV	**Santo Domingo**	**45.44**	**4**	*e*P	**P**	**04 36 59.5**	**-1.4**
	comp=Z,16nm,0.8s						
RCBR	**Riachuelo**	**46.06**	**57**	P	**P**	**04 37 07.2**	**+1.4**
	comp=Z,18nm,1.2s,baz=207,slow=8.3,SNR=6.5						
RCBR				LR	LR	04 58 11.5	
	comp=Z,3μm,18.5s,baz=193,slow=38						
RCBR	**Riachuelo**	**46.06**	**57**	*e*P	**P**	**04 37 05.1**	**-0.7**
VNA3	**Neumayer Olymp**	**47.30**	**157**	P	**P**	**04 37 16.1**	**+1.4**
PCRV	**Puerto La Cruz**	**47.38**	**12**	LR	LR	04 58 31.5	
	comp=Z,2μm,18.1s,slow=38						
VNA2	**Neumayer--Watz**	**47.97**	**156**	P	**P**	**04 37 21.4**	**+1.5**
JTS	**JuntasAbangare**	**48.00**	**345**	*e*P	**P**	**04 37 21.3**	**+0.5**
JTS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
JTS	**JuntasAbangare**	**48.00**	**345**	P	**P**	**04 37 22.1**	**+1.4**
	comp=Z,3.3nm,0.8s,baz=179,slow=8.8,SNR=3.7						
JTS	**JuntasAbangare**	**48.00**	**345**	*e*P	**P**	**04 37 21.3**	**+0.5**
	comp=Z,9.6nm,1.1s						
SNAA	**Sanae**	**49.52**	**157**	P	**P**	**04 37 33.0**	**+1.0**
SNAA	**Sanae**	**49.52**	**157**	*e*P	**P**	**04 37 31.8**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,92nm,1.7s						
SNAA	**Sanae**	**49.52**	**157**	*e*P	**P**	**04 37 31.8**	**-0.1**
	comp=Z,92nm,1.7s						
GRGR	**Grenville**	**49.85**	**15**	*e*P	**P**	**04 37 34.3**	**-0.6**
	comp=Z,96nm,0.7s						
QSPA	**South Pole Qui**	**53.52**	**180**	P	**P**	**04 37 59.3**	**-2.7**
	comp=Z,11nm,0.8s,baz=160,slow=3.9,SNR=4.1						
QSPA	**South Pole Qui**	**53.52**	**180**	*e*P	**P**	**04 38 02.7**	**+0.7**
	comp=Z,13nm,0.9s						
RKT	**Rikitea**	**54.20**	**266**	*e*S	**S**	**04 45 43.5**	**+0.6**
RKT				*e*LR	LR	04 53 51.9	
	comp=Z,690nm,26.0s						
RKT	**Rikitea**	**54.20**	**266**	*e*T	T	05 36 13.2	
	comp=Z,1μm,31.2s,baz=126						
RKT	**Rikitea**	**54.20**	**266**	*e*T	T	05 36 13.2	
	comp=Z,2.1nm,0.2s						
NVL	**N'lazarevskaya**	**54.29**	**156**	*e*P	**P**	**04 38 08.5**	**+1.1**
NVL				pmax	pmax		
	comp=Z,18nm,0.9s						
NVL				MLR	MLR		
	comp=Z,506nm,14.0s						
CRPR	**Cabo Rojo, PR**	**54.76**	**7**	*e*P	**P**	**04 38 10.4**	**-0.9**
	comp=Z,11nm,0.4s						
CELP	**Cerrillos**	**54.88**	**8**	*e*P	**P**	**04 38 11.3**	**-0.9**
SMN1	**Samana, DR**	**55.75**	**5**	*e*P	**P**	**04 38 16.8**	**-1.6**
TEIG	**Tepich**	**58.35**	**344**	LR	LR	04 59 46.0	
	comp=Z,527nm,20.3s,baz=84,slow=32						
TEIG	**Tepich**	**58.35**	**344**	*e*P	**P**	**04 38 36.8**	**0.0**
	comp=Z,11nm,0.6s						
SYO	**Syowa Base**	**63.76**	**158**	⇑*e*P	**P**	**04 39 12.0**	**-1.0**
SYO	**Syowa Base**	**63.76**	**158**	⇑*e*pP	pP	04 39 21.4	0.0
TBI	**Tubuai**	**65.61**	**258**	*e*T	T	05 50 26.2	
	comp=Z,4.2nm,0.3s						
MEH	**Mehetia**	**67.39**	**264**	*e*T	T	05 52 41.3	
	comp=Z,49nm,0.2s						
TIAR	**Tiarei**	**68.58**	**264**	*e*T	T	05 54 10.8	
	comp=Z,7.4nm,0.2s						
PAE	**Paea**	**68.71**	**263**	*e*T	T	05 54 20.3	
	comp=Z,1.1nm,0.3s						
PPT2	**Papeete2**	**68.75**	**264**	*e*S	**S**	**04 48 47.8**	**-0.1**
	comp=Z,664nm,23.5s						
PPT2	**Papeete2**	**68.75**	**264**	*e*LR	LR	05 00 39.2	
	comp=Z,2μm,24.5s,baz=119						
PPT2	**Papeete2**	**68.75**	**264**	*e*T	T	05 54 22.4	
	comp=Z,1.6nm,0.3s						
PPT	**Papeete**	**68.76**	**264**	LR	LR	05 02 03.9	
	comp=Z,1μm,18.3s,baz=110,slow=29						
833A	**Chaparral WMA,**	**69.15**	**336**	⇑P	**P**	**04 39 48.5**	**+0.6**
	baz=70						
636A	**Smothers Creek**	**69.49**	**338**	⇑P	**P**	**04 39 50.7**	**+0.8**
	baz=70						
732A	**Laxson Ranch,**	**69.72**	**335**	⇑P	**P**	**04 39 51.6**	**+0.2**
	baz=70,SNR=5.5						
LPIG	**La Paz**	**69.78**	**324**	LR	LR	05 02 12.6	
	comp=Z,342nm,18.4s,baz=127,slow=29						
633A	**Saathoff Ranch**	**70.13**	**336**	⇑P	**P**	**04 39 54.9**	**+1.0**
	baz=70						
535A	**Dale**	**70.16**	**338**	⇓P	**P**	**04 39 55.0**	**+0.9**
	baz=70						
632A	**Uvalde**	**70.37**	**336**	⇓P	**P**	**04 39 56.3**	**+0.8**
	baz=71						
339A	**Huntington**	**70.53**	**341**	⇑P	**P**	**04 39 57.3**	**+1.0**
	baz=71						
533A	**Kerrville**	**70.65**	**337**	⇓P	**P**	**04 39 58.1**	**+0.9**
	baz=71						
MAW	**Mawson**	**70.90**	**164**	LR	LR	05 13 13.2	
	comp=Z,1μm,18.2s,baz=230,slow=38						
532A	**Rocksprings**	**70.98**	**336**	⇓P	**P**	**04 39 59.4**	**+0.2**
	baz=71,SNR=6.5						
434A	**Burnet**	**71.10**	**338**	⇑P	**P**	**04 39 60.0**	**+0.1**
	baz=71,SNR=6.1						
336A	**Riesel**	**71.21**	**339**	⇑P	**P**	**04 40 00.5**	**+0.1**
	baz=72						
531A	**Rocksprings**	**71.23**	**335**	⇑P	**P**	**04 40 00.7**	**0.0**
	baz=72,SNR=5.6						
JCT	**Junction City**	**71.28**	**336**	*e*P	**P**	**04 40 00.4**	**-0.5**
JCT				pmax	pmax		
	com

baz=72
KMSC **Kings Mountain** 71.88 353 ⇑P P 04 40 04.0 -0.4
baz=72
KMSC **Kings Mountain** 71.88 353 eP P 04 40 04.0 -0.4
comp=Z,59nm,1.6s
430A **Baggett Ranch,** 72.03 335 ⇑P P 04 40 05.2 -0.3
baz=72
332A **Millersview** 72.09 337 ⇑P P 04 40 05.3 -0.5
baz=72,SNR=5.7
429A **Davenport Ranc** 72.11 334 ⇑P P 04 40 05.6 -0.4
baz=72
234A **Clairette** 72.17 338 ⇓P P 04 40 05.9 -0.3
baz=72
331A **San Angelo** 72.24 336 ⇑P P 04 40 06.3 -0.4
baz=73,SNR=9.2
233A **Rising Star** 72.42 337 ⇓P P 04 40 08.0 +0.2
baz=73,SNR=5.6
SWET **Sewanee** 72.51 349 eP P 04 40 08.0 -0.3
comp=Z,28nm,0.7s
232A **Coleman** 72.53 337 ⇓P P 04 40 08.0 -0.4
baz=73
CPCT **Cooper Cave** 72.54 351 eP P 04 40 09.6 +1.3
330A **Mertzon** 72.58 335 ⇑P P 04 40 08.3 -0.5
baz=73
231A **Bronte** 72.79 336 ⇓P P 04 40 09.5 -0.4
baz=73,SNR=8.9
329A **Wagon Wheel Ra** 72.93 335 ⇓P P 04 40 10.9 0.0
baz=73,SNR=5.1
133A **Hamilton Ranch** 72.97 338 ⇓P P 04 40 10.5 -0.5
baz=73,SNR=5.8
230A **Sterling City** 73.00 336 ⇑P P 04 40 10.9 -0.3
baz=73
Z35A **Perchaven, San** 73.16 339 ⇓P P 04 40 11.6 -0.4
baz=74
ABTX **Abilene, Hawle** 73.21 337 ⇑P P 04 40 12.0 -0.4
baz=74
ABTX **Abilene, Hawle** 73.21 337 eP P 04 40 12.2 -0.3
comp=Z,90nm,2.1s
229A **Bryant Ranch,** 73.31 335 ⇓P P 04 40 12.7 -0.3
baz=74
MIAR **Mount Ida** 73.34 343 eP P 04 40 13.6 +0.5
MIAR pmax pmax
comp=Z,44nm,1.8s
MIAR **Mount Ida** 73.34 343 eP P 04 40 13.6 +0.5
comp=Z,44nm,1.8s
Z34A **Collier Ranch,** 73.38 339 ⇑P P 04 40 13.2 -0.2
baz=74
131A **Roby** 73.49 337 ⇑P P 04 40 13.7 -0.4
baz=74
TZTN **Tazewell** 73.50 352 eP P 04 40 13.4 -0.7
comp=Z,35nm,1.4s
Z33A **Whitaker Ranch** 73.56 338 ⇑P P 04 40 14.0 -0.5
baz=74,SNR=6.3
130A **Snyder** 73.61 336 ⇑P P 04 40 14.4 -0.4
baz=74
228A **UT Block 9, Go** 73.72 334 ⇓P P 04 40 15.0 -0.5
baz=74
Z32A **Haskell** 73.79 337 ⇓P P 04 40 15.6 -0.2
baz=74,SNR=6.3
Y34A **Reagan Ranch,** 73.89 339 ⇑P P 04 40 15.5 -0.8
baz=74
Z31A **Sharp Cattle R** 74.01 337 ⇑P P 04 40 16.6 -0.5
baz=74,SNR=5.3
128A **Castleberry Fa** 74.14 335 ⇓P P 04 40 17.6 -0.4
baz=74,SNR=5.4
Y33A **Hilltop Ranch,** 74.19 338 ⇓P P 04 40 17.5 -0.6
baz=74,SNR=5.3
Z30A **Sanderson Ranc** 74.29 336 ⇑P P 04 40 18.3 -0.5
baz=75
Y32A **R-V Farms, Ver** 74.43 338 ⇓P P 04 40 18.9 -0.6
baz=75
Z29A **Hungry Hill Ra** 74.46 336 ⇑P P 04 40 18.8 -1.0
baz=75,SNR=6.9
X34A **Smith Ranch, M** 74.51 339 ⇑P P 04 40 20.1 +0.1
baz=75
Y31A **Rekieta Farm,** 74.64 337 ⇓P P 04 40 20.9 +0.1
baz=75
X33A **Lawton** 74.65 339 ⇓P P 04 40 20.5 -0.3
baz=75
Z28A **Tucker Farm, M** 74.71 335 ⇓P P 04 40 21.3 0.0
baz=75
Y30A **Stafford Cattl** 74.76 337 ⇑P P 04 40 21.7 +0.2
baz=75
X32A **Elmer** 74.77 338 ⇓P P 04 40 21.8 +0.3
baz=75
PBMO **Poplar Bluff** 74.81 346 eP P 04 40 20.6 -1.0
comp=Z,43nm,1.6s
Y29A **Porterfield Fa** 75.00 336 ⇑P P 04 40 23.0 0.0
baz=75
Z27A **Tatum** 75.02 335 ⇓P P 04 40 23.1 0.0
baz=75
W34A **Bridge Creek,** 75.09 340 ⇓P P 04 40 23.1 -0.2
baz=75
X31A **McDonald Ranch** 75.17 338 ⇑P P 04 40 23.6 -0.2
baz=76
TUL1 **Leonard** 75.19 341 ⇓P P 04 40 23.0 -0.9
baz=76,SNR=6.9
W33A **Caddo, Fort Co** 75.21 339 ⇑P P 04 40 24.3 +0.3
baz=76
Y28A **McKinney Farm,** 75.23 336 ⇓P P 04 40 24.2 -0.1
baz=76
Z26A **Caprock** 75.25 334 ⇑P P 04 40 24.0 -0.4
baz=76,SNR=10
X30A **Coker Ranch, T** 75.28 337 ⇓P P 04 40 24.8 +0.4
baz=76
W32A **Sentinel** 75.41 338 ⇓P P 04 40 24.6 -0.6
baz=76,SNR=8.7
MSTX **Muleshoe** 75.46 335 ⇑P P 04 40 25.3 -0.4
baz=76,SNR=5.3
MSTX **Muleshoe** 75.46 335 eP P 04 40 25.5 -0.2
comp=Z,120nm,2.5s
SIUC **Southern Illin** 75.49 347 eP P 04 40 25.0 -0.5
Z25A **Roswell** 75.52 333 ⇑P P 04 40 26.4 +0.4
baz=76
Y27A **Causey** 75.52 335 ⇓P P 04 40 24.4 -1.5
baz=76
X29A **Tulia** 75.54 336 ⇓P P 04 40 25.5 -0.6
baz=76,SNR=5.6
V34A **Guthrie** 75.58 340 ⇓P P 04 40 25.8 -0.3
baz=76
V34A **Guthrie** 75.58 340 eP P 04 40 25.8 -0.3
comp=Z,18nm,1.1s
W31A **Holland Ranch,** 75.67 338 ⇓P P 04 40 26.9 +0.1
baz=76
V33A **Lossen Ranch,** 75.78 339 ⇑P P 04 40 27.2 0.0
baz=76
Y26A **Elida** 75.78 334 ⇓P P 04 40 27.2 -0.3
baz=76
Z24A **Sheeppen Canyo** 75.80 333 ⇑P P 04 40 27.0 -0.7
baz=76,SNR=8.0
V32A **Arapaho** 75.90 339 ⇑P P 04 40 28.1 0.0
baz=76
AMTX **Amarillo** 75.94 336 ⇓P P 04 40 28.1 -0.2
baz=76
121A **Cookes Peak, D** 76.01 331 ⇑P P 04 40 29.7 +0.8
baz=76
Y25A **Mesa, Roswell** 76.09 334 ⇓P P 04 40 28.7 -0.6
baz=76
W29A **Amarillo** 76.15 336 ⇓P P 04 40 28.9 -0.6
baz=76,SNR=5.4
U34A **Anderson Ranch** 76.15 340 ⇓P P 04 40 28.8 -0.5
baz=76
V31A **Spring Creek L** 76.19 338 ⇓P P 04 40 30.2 +0.5
baz=76
X27A **F and S Farms,** 76.19 335 ⇑P P 04 40 29.5 -0.3
baz=76
U33A **Lingo Farm, Me** 76.31 340 ⇑P P 04 40 30.1 -0.2
baz=77
Z22A **Elephant Butte** 76.33 332 ⇑P P 04 40 30.5 -0.1
baz=77
X26A **CR and CF Fran** 76.35 335 ⇑P P 04 40 30.1 -0.5
baz=77,SNR=6.8
Y24A **Capitan** 76.36 333 ⇑P P 04 40 30.7 -0.2
baz=77
U32A **Winter Ranch,** 76.51 339 ⇑P P 04 40 31.2 -0.2
baz=77
W27A **Bowe Ranch, En** 76.56 335 ⇑P P 04 40 31.5 -0.4
baz=77,SNR=8.4
SLM **Saint Louis** 76.57 347 eP P 04 40 30.8 -0.9
SLM pmax pmax
comp=Z,28nm,1.0s
SLM **Saint Louis** 76.57 347 eP P 04 40 30.8 -0.9
comp=Z,28nm,1.0s
LIC **Lamto** 76.72 72 eP P 04 40 33.4 +0.3
comp=Z,85nm,1.6s
W26A **Owens Ranch, T** 76.82 335 ⇑P P 04 40 33.8 +0.5
baz=77
V28A **Channing** 76.91 336 ⇓P P 04 40 34.1 +0.3
baz=77
T33A **Patterson Ranc** 76.95 340 ⇓P P 04 40 33.7 -0.2
baz=77,SNR=7.5
TIC **Toumodi** 76.99 71 eP P 04 40 35.2 +0.5
comp=Z,45nm,1.3s
KIC **Kosan Boka** 77.02 72 eP P 04 40 35.2 +0.3
comp=Z,170nm,1.6s
DBIC **Dimbokro** 77.13 72 P P 04 40 36.0 +0.6
comp=Z,7.4nm,0.6s,baz=207,slow=5.7,SNR=14
DBIC LR LR 05 11 56.6
comp=Z,758nm,18.6s,baz=217,slow=34
U30A **WK&E Inc. Balk** 77.13 338 ⇓P P 04 40 35.5 +0.5
baz=78
LPM **Los Pinos Moun** 77.14 332 eP P 04 40 35.0 -0.2
W25A **X Bar L Ranch,** 77.17 334 ⇓P P 04 40 35.7 +0.3
baz=78
LAZ **Ladron** 77.42 332 eP P 04 40 37.6 +0.8
comp=Z,6.8nm,1.2s
V26A **Tequesquite Ra** 77.47 335 ⇓P P 04 40 37.3 +0.3
baz=78
W24A **Lazy 6 Ranch,** 77.50 334 ⇑P P 04 40 36.9 -0.4
baz=78,SNR=7.1
214A **Organ Pipe Nat** 77.62 326 ⇓P P 04 40 38.3 +0.5
baz=78
ANMO **Albuquerque** 77.65 333 eP P 04 40 38.4 +0.3
ANMO pmax pmax
comp=Z,25nm,1.5s
ANMO **Albuquerque** 77.65 333 eP P 04 40 38.4 +0.3
comp=Z,25nm,1.5s
U27A **Thompson Grove** 77.72 336 ⇓P P 04 40 38.5 +0.1
baz=78
S32A **Newby Ranch, P** 77.72 340 ⇑P P 04 40 38.0 -0.2
baz=78,SNR=5.6
V25A **Rancho No Teng** 77.79 335 ⇓P P 04 40 38.5 -0.4
baz=78,SNR=6.0
T29A **Hugoton** 77.91 338 ⇓P P 04 40 40.0 +0.7
baz=78
V24A **Rampart Ranch,** 77.92 334 ⇓P P 04 40 40.0 +0.4
baz=78
R33A **Olander Ranch,** 78.03 340 ⇑P P 04 40 39.9 0.0
baz=78
S30A **Montezuma** 78.11 338 ⇓P P 04 40 40.3 -0.1
baz=78,SNR=6.4
T28A **Walsh** 78.13 337 ⇑P P 04 40 40.4 -0.2
baz=78,SNR=9.9
U25A **Circle Dot Ran** 78.22 335 ⇑P P 04 40 41.6 +0.4
baz=79,SNR=6.7
T27A **Campo** 78.27 336 ⇑P P 04 40 41.9 +0.5
baz=79
S29A **Ulysses** 78.28 338 ⇓P P 04 40 41.5 +0.1
baz=79
R32A **Long Quarter,** 78.33 340 ⇓P P 04 40 41.4 -0.2
baz=79
KSU1 **Kansas State U** 78.42 342 ⇑P P 04 40 41.9 -0.1
baz=79
R31A **Burdett** 78.44 339 ⇓P P 04 40 42.1 -0.1
baz=79
S28A **Manter** 78.49 337 ⇑P P 04 40 42.9 +0.3
baz=79,SNR=7.3
Q33A **Connelly Farm,** 78.64 341 ⇓P P 04 40 43.3 +0.1
baz=79
R30A **Dighton** 78.65 339 ⇑P P 04 40 43.5 +0.1
baz=79
T26A **Comanche Natio** 78.66 336 ⇓P P 04 40 44.3 +0.7
baz=79,SNR=5.6
V22A **San Miguel Ran** 78.67 333 ⇑P P 04 40 44.7 +0.9
baz=79,SNR=6.5
Q32A **Meitler Ranch,** 78.82 340 ⇑P P 04 40 44.8 +0.6
baz=79
T25A **Trinidad** 78.89 335 ⇑P P 04 40 45.7 +0.7
baz=79,SNR=9.2
S26A **Kim** 79.02 336 ⇓P P 04 40 45.9 +0.4
baz=79,SNR=11
R29A **Marienthal** 79.03 338 ⇓P P 04 40 46.1 +0.6
baz=79
Q31A **Ellis** 79.07 340 ⇓P P 04 40 46.2 +0.5
baz=79
X16A **Lo Mia Camp, P** 79.14 329 ⇑P P 04 40 46.4 +0.1
baz=80
R28A **Tribune** 79.16 338 ⇓P P 04 40 46.4 +0.2
baz=80,SNR=5.5
T24B **San Luis** 79.16 334 ⇑P P 04 40 46.9 +0.4
baz=80
Q30A **Quinter** 79.27 339 ⇑P P 04 40 47.0 +0.3
baz=80,SNR=8.8
S25A **Robets Cordova** 79.38 335 ⇑P P 04 40 47.7 +0.1
baz=80
R27A **Eads** 79.41 337 ⇓P P 04 40 47.7 0.0
baz=80,SNR=6.2
Q29A **Oakley** 79.41 338 ⇓P P 04 40 47.2 -0.4
baz=80
P32A **Hutting Farm,** 79.42 340 ⇑P P 04 40 48.0 +0.5
baz=80
P31A **Stockton** 79.54 340 ⇑P P 04 40 48.6 +0.4
baz=80
S24A **Houchin Ranch,** 79.62 335 ⇑P P 04 40 49.6 +0.6
baz=80,SNR=9.3
R26A **Arlington** 79.63 336 ⇑P P 04 40 49.5 +0.6
baz=80,SNR=8.0
P30A **Selden** 79.81 339 ⇓P P 04 40 50.2 +0.5
baz=80
BOSA **Boshof** 79.81 118 P P 04 40 51.1 +0.8
comp=Z,5.1nm,0.8s,baz=261,slow=4.1,SNR=6.5
BOSA LR LR 05 14 48.9
comp=Z,533nm,18.6s,baz=234,slow=35
Q28A **Sharon Springs** 79.83 338 ⇑P P 04 40 50.4 +0.6
baz=80
Y12C **Blythe** 79.90 326 ⇓P P 04 40 51.2 +0.9
baz=80
O32A **Brookman Farm,** 79.94 341 ⇓P P 04 40 51.0 +0.7
baz=80
KSCO **Kaye Shedlock'** 80.02 337 ⇑P P 04 40 51.5 +0.5
baz=80
KSCO **Kaye Shedlock'** 80.02 337 eP P 04 40 52.5 +1.5
comp=Z,60nm,1.8s
P29A **Atwood** 80.06 339 ⇑P P 04 40 51.5 +0.5
baz=80,SNR=5.8
WUAZ **Wupatki** 80.06 329 ⇓P P 04 40 52.2 +0.9
baz=80
O31A **Woolen Ranch,** 80.12 340 ⇑P P 04 40 52.0 +0.7
baz=80
R24A **Sanders Place,** 80.12 335 ⇑P P 04 40 52.3 +0.7
baz=80,SNR=10
Q26A **Hugo** 80.22 337 ⇑P P 04 40 53.0 +0.9
baz=81
BC3 **Big Chuckawall** 80.24 325 ⇓P P 04 40 53.1 +0.9
baz=81
O30A **MW Ranch, Wils** 80.34 340 ⇓P P 04 40 53.6 +1.0
baz=81
MVCO **Mesa Verde** 80.41 332 ⇓P P 04 40 53.9 +0.6
baz=81
Q25A **Bedland, Calha** 80.45 336 ⇑P P 04 40 54.1 +0.7
baz=81
O29A **4D Ranch, Culb** 80.50 339 ⇑P P 04 40 54.4 +1.0
baz=81
P27A **Ficken Ranch,** 80.51 338 ⇑P P 04 40 54.2 +0.6
baz=81
IRM **Iron Mountain** 80.53 326 ⇓P P 04 40 54.4 +0.7
baz=81
PFO **Pinyon Flats O** 80.66 325 ⇓P P 04 40 55.0 +0.5
baz=81
P26A **Davis Ranch, A** 80.75 337 ⇓P P 04 40 55.6 +0.7
baz=81
W13A **Hualapai Mount** 80.76 327 ⇓P P 04 40 55.8 +0.7
baz=81
BELC **Belle Mtn. Jos** 80.78 325 ⇑P P 04 40 56.0 +0.8
baz=81
O28A **Krutsinger Ran** 80.79 338 ⇑P P 04 40 55.7 +0.7
baz=81
Q24A **Divide** 80.79 335 ⇓P P 04 40 55.4 +0.1
baz=81,SNR=5.8
P25A **Willow Gulch B** 80.97 336 ⇓P P 04 40 57.0 +0.9
baz=81
N29A **Votaw Ranch, W** 81.10 339 ⇑P P 04 40 57.3 +0.7
baz=81
M31A **Lambtecht Ranc** 81.14 341 ⇑P P 04 40 57.0 +0.3
baz=82,SNR=6.1
PV01 **Paradox Valley** 81.25 333 eP P 04 40 58.7 +1.0
comp=Z,656nm,1.1s
GMRC **Granite Mounta** 81.27 326 ⇑P P 04 40 58.9 +1.1
baz=82
O26A **Horse Wrangler** 81.36 337 ⇑P P 04 40 58.9 +0.9
baz=82
O25A **Wiggins** 81.50 337 ⇓P P 04 41 00.2 +1.3
baz=82
SMCO **Snowmass** 81.61 334 eP P 04 41 00.9 +1.1
comp=Z,25nm,1.4s
OGNE **Ogallala** 81.62 339 ⇓P P 04 41 00.2 +0.8
baz=82
N27A **Anderson Farm,** 81.64 338 ⇓P P 04 41 00.7 +1.1
baz=82
M29A **Burnside Ranch** 81.70 340 ⇓P P 04 41 00.6 +0.8
baz=82
ISCO **Idaho Springs** 81.70 336 eP P 04 41 00.6 +0.5
ISCO pmax pmax
comp=Z,28nm,1.9s
ISCO **Idaho Springs** 81.70 336 ⇑P P 04 41 00.5 +0.3
baz=82
ISCO **Idaho Springs** 81.70 336 eP P 04 41 00.6 +0.5
comp=Z,28nm,1.9s
L31A **Butterfield Fa** 81.88 341 ⇑P P 04 41 01.4 +0.8
baz=82
P22A **Eagle** 81.91 335 ⇓P P 04 41 01.5 +0.4
baz=82
TUQ **Turquoise Moun** 81.94 326 ⇑P P 04 41 01.7 +0.5
baz=82
O23A **Lake Granby, G** 82.17 335 ⇑P P 04 41 03.2 +0.6
baz=82,SNR=9.2
L29A **Maesberg Ranch** 82.21 340 ⇓P P 04 41 03.5 +1.1
baz=83
GSC **Goldstone, Bar** 82.23 325 ⇑P P 04 41 03.3 +0.6
baz=83
M27A **Reverse DX Ran** 82.26 338 ⇓P P 04 41 03.8 +1.0
baz=83
O22A **Kremmling** 82.34 335 ⇑P P 04 41 03.8 +0.3
baz=83,SNR=8.3
EDW2 **Edwards Air Fo** 82.42 324 ⇓P P 04 41 05.0 +1.3
baz=83
K30A **Basset** 82.55 341 ⇑P P 04 41 05.0 +0.9
baz=83
N23A **Red Feather La** 82.80 336 ⇑P P 04 41 06.4 +0.6
baz=83
ECSD **EROS Data Cent** 82.80 343 ⇑P P 04 41 05.0 -0.4
baz=83,SNR=17
K29A **Lazy Trails An** 82.82 340 ⇓P P 04 41 06.1 +0.5
baz=83
N22A **Wattenberg Ran** 82.88 335 ⇑P P 04 41 07.2 +1.0
baz=83,SNR=5.8
O20A **White River Ci** 82.90 334 ⇑P P 04 41 07.1 +0.8
baz=83
M24A **Cheyenne** 82.95 337 ⇓P P 04 41 07.3 +0.9
baz=83
PHWY **Pilot Hill** 83.00 336 eP P 04 41 07.2 +0.4
comp=Z,101nm,2.6s
K28A **Ten Mile Ranch** 83.06 340 ⇑P P 04 41 07.9 +1.1
baz=83
M23A **Laramie** 83.24 336 ⇑P P 04 41 08.7 +0.7
baz=84
ISA **Isabella, Lake** 83.29 325 eP P 04 41 09.6 +1.4
ISA pmax pmax
comp=Z,14nm,1.4s
ISA **Isabella, Lake** 83.29 325 ⇑P P 04 41 08.7 +0.5
baz=84
ISA **Isabella, Lake** 83.29 325 eP P 04 41 09.6 +1.4
comp=Z,14nm,1.4s
K27A **Flueckinger Fa** 83.30 339 ⇓P P 04 41 08.5 +0.4
baz=84
J29A **Okreek** 83.42 341 ⇓P P 04 41 08.8 +0.1
baz=84,SNR=7.2
M22A **Cedar Creek Ra** 83.47 336 ⇓P P 04 41 10.7 +1.5
baz=84
N20A **Spence Gulch,** 83.53 334 ⇑P P 04 41 10.7 +1.1
baz=84
I30A **Oacoma** 83.66 341 ⇑P P 04 41 09.2 -0.6
baz=84,SNR=5.6
J28A **Allard Ranch,** 83.68 340 ⇑P P 04 41 10.7 +0.7
baz=84
K25A **Mack Ranch, Ha** 83.70 338 ⇓P P 04 41 11.7 +1.5
baz=84
VES **Vestal, Richgr** 83.72 324 ⇑P P 04 41 11.4 +1.1
baz=84
J27A **Elkhorn Farm,** 83.74 339 ⇑P P 04 41 11.5 +1.2
baz=84
L23A **Garrett** 83.81 336 ⇓P P 04 41 12.0 +1.1
baz=84
L22A **Ellis Ranch, M** 83.98 336 ⇓P P 04 41 12.3 +0.6
baz=84
BRSD **Miller** 84.03 342 ⇓P P 04 41 12.0 +0.3
baz=84
BRSD **Miller** 84.03 342 eP P 04 41 11.3 -0.4
comp=Z,19nm,0.8s
K24A **Anderson Ranch** 84.08 337 ⇑P P 04 41 12.9 +0.7
baz=84
J26A **Sides Ranch, S** 84.10 339 ⇓P P 04 41 13.1 +0.9
baz=84
I28A **Midland** 84.20 340 ⇑P P 04 41 13.2 +0.6
baz=84
R11A **Troy Canyon, C** 84.23 328 ⇑P P 04 41 13.5 +0.4
baz=85
K23A **Bowen Ranch, D** 84.37 337 ⇑P P 04 41 13.9 +0.3
baz=85
J25A **Sunshine Ranch** 84.39 338 ⇓P P 04 41 14.0 +0.4
baz=85
JLU **Jordanelle** 84.49 332 eP P 04 41 15.2 +0.8
comp=Z,8.8nm,0.9s
I27A **Quinn** 84.50 340 ⇑P P 04 41 14.1 -0.1
baz=85
H29A **Onida** 84.53 341 ⇓P P 04 41 14.2 0.0
baz=85
K22A **Casper** 84.56 336 ⇑P P 04 41 15.2 +0.5
baz=85
J24A **Dixon Ranch, L** 84.59 338 ⇓P P 04 41 15.2 +0.5
baz=85
DUG **Dugway, Tooele** 84.66 331 ⇑P P 04 41 15.5 +0.3
baz=85
H28A **Mission Ridge** 84.78 341 ⇓P P 04 41 15.9 +0.4
baz=85
K21A **Alcova** 84.79 336 ⇑P P 04 41 16.1 +0.3
baz=85,SNR=8.0
I25A **Rochford** 84.94 339 ⇓P P 04 41 16.9 +0.4
baz=85,SNR=7.2
H27A **Howes** 85.03 340 ⇓P P 04 41 17.1 +0.3
baz=85
G28A **Parade** 85.13 341 ⇑P P 04 41 17.2 0.0
baz=86
J22A **Midwest** 85.23 337 ⇓P P 04 41 17.4 -0.6
baz=86,SNR=6.1
BGU **Big Grassy Mou** 85.37 331 eP P 04 41 20.1 +1.3
comp=Z,13nm,2.0s
H25A **Fruitdale** 85.45 339 ⇑P P 04 41 19.7 +0.8
baz=86
SPUT **South Promonto** 85.48 332 eP P 04 41 19.4 +0.1
comp=Z,19nm,1.3s
NVAR **Mina Array Bea** 85.48 326 P P 04 41 20.1 +0.7
comp=Z,1.9nm,0.7s,baz=153,slow=6.2,SNR=9.5
J21A **Lysite** 85.49 336 ⇑P P 04 41 20.1 +0.8
baz=86
F29A **Eureka** 85.55 342 ⇓P P 04 41 19.5 +0.1
baz=86
I22A **9 Mile Ranch,** 85.67 337 ⇑P P 04 41 20.3 +0.2
baz=86
G27A **Dupree** 85.68 340 ⇑P P 04 41 20.1 +0.1
baz=86
PDAR **Pinedale Array** 85.69 334 P P 04 41 20.3 -0.1
comp=Z,3.0nm,0.9s,baz=144,slow=5.3,SNR=14
J20A **Shoshoni** 85.70 335 ⇑P P 04 41 20.4 +0.1
baz=86,SNR=9.4
G26A **Maurine** 85.78 340 ⇓P P 04 41 20.0 -0.6
baz=86,SNR=8.9
H24A **Dirks Ranch, A** 85.84 338 ⇑P P 04 41 20.3 -0.6
baz=86,SNR=8.1
I21A **Big Trails, Te** 85.85 336 ⇓P P 04 41 20.6 -0.5
baz=86,SNR=7.4
G25A **Newell** 85.92 339 ⇓P P 04 41 21.0 -0.2
baz=86,SNR=8.6
J19A **Crowheart** 85.95 335 ⇑P P 04 41 21.3 -0.3
baz=86,SNR=11
WAKR **Walker** 86.06 326 eP P 04 41 23.8 +1.5
ELK **Elko** 86.10 329 eP P 04 41 23.7 +1.2
ELK pmax pmax
comp=Z,7.0nm,1.1s
ELK **Elko** 86.10 329 eP P 04 41 23.7 +1.2
comp=Z,6.7nm,1.1s
F27A **Lemmon** 86.16 340 ⇓P P 04 41 22.1 -0.3
baz=86,SNR=9.3
E29A **Napoleon** 86.19 342 ⇓P P 04 41 22.4 -0.1
baz=86
TORD **Torodi Ar. Bea** 86.20 71 P P 04 41 23.0 -0.3
comp=Z,2.6nm,0.6s,baz=219,slow=3.7,SNR=26
TORD LR LR 05 18 50.9
comp=Z,743nm,18.0s,baz=245,slow=35
I20A **Worland** 86.25 336 ⇓P P 04 41 23.0 0.0
baz=87
H22A **Clearmont** 86.25 337 ⇑P P 04 41 23.2 +0.2
baz=87
F26A **Lodgepole** 86.32 340 ⇑P P 04 41 23.5 +0.3

	baz=87						
G24A	Alzada	86.33	339	⇓P	P	04 41 23.6	+0.2
	baz=87						
D30A	Buchanan	86.49	343	⇓P	P	04 41 23.7	-0.2
	baz=87,SNR=6.5						
H21A	Big Horn, Sher	86.50	337	⇑P	P	04 41 23.6	-0.6
	baz=87						
G23A	Biddle	86.51	338	⇓P	P	04 41 24.0	-0.1
	baz=87						
E27A	Carson	86.55	341	⇑P	P	04 41 23.9	-0.4
	baz=87						
F25A	Bowman	86.60	340	⇓P	P	04 41 24.5	-0.1
	baz=87						
I19A	Meeteetse	86.62	335	⇑P	P	04 41 24.4	-0.5
	baz=87						
D29A	Pettibone, Tap	86.64	342	⇑P	P	04 41 24.8	+0.1
	baz=87						
REDW	Red Top Meadow	86.67	334	*e*P	P	04 41 25.4	+0.2
	comp=Z,24nm,1.4s						
H20A	Greybull	86.68	336	⇑P	P	04 41 25.1	0.0
	baz=87						
LOHW	Long Hollow	86.80	334	*e*P	P	04 41 26.0	+0.2
	comp=Z,10nm,1.3s						
F24A	Ekalaka	86.81	339	⇑P	P	04 41 25.0	-0.6
	baz=87						
TPAW	Teton Pass	86.81	334	*e*P	P	04 41 26.2	+0.2
	comp=Z,20nm,1.1s						
E26A	Carlson Angus	86.83	340	⇑P	P	04 41 25.1	-0.6
	baz=87,SNR=7.8						
FXWY	Fox Creek	86.97	334	*e*P	P	04 41 26.4	-0.3
	comp=Z,6.7nm,1.0s						
AGMN	Agassiz Nation	86.98	345	⇑P	P	04 41 25.6	-0.7
	baz=87,SNR=6.3						
C30A	Mose, Pekin	86.98	343	⇓P	P	04 41 26.1	-0.2
	baz=87,SNR=7.2						
F23A	Volborg	86.98	338	⇓P	P	04 41 25.9	-0.5
	baz=87						
D28A	Regan	87.01	342	⇑P	P	04 41 26.3	-0.1
	baz=87,SNR=6.3						
I17A	Pilgrim Ck.	87.06	334	⇓P	P	04 41 27.3	+0.2
	baz=87						
E25A	Miller Ranch,	87.11	340	⇓P	P	04 41 26.8	-0.2
	baz=88,SNR=5.6						
IMW	Indian Meadow	87.17	334	*e*P	P	04 41 28.0	+0.4
	comp=Z,13nm,1.1s						
D27A	Center	87.17	341	⇑P	P	04 41 26.2	-1.0
	baz=88						
H19A	Powell	87.17	335	⇑P	P	04 41 27.2	-0.3
	baz=88						
FLWY	Flagg Ranch	87.24	334	*e*P	P	04 41 28.5	+0.6
	comp=Z,23nm,1.3s						
D26A	Manning	87.34	341	⇑P	P	04 41 28.4	+0.3
	baz=88						
G20A	Bridger	87.41	336	⇑P	P	04 41 28.3	-0.3
	baz=88						
H18A	Shoshone NF, C	87.41	335	⇓P	P	04 41 28.5	-0.3
	baz=88,SNR=7.3						
E24A	Baker	87.42	339	⇑P	P	04 41 29.1	+0.5
	baz=88						
YFT	Old Faithful	87.61	334	*e*P	P	04 41 33.3	+3.5
	comp=Z,19nm,1.4s						
B30A	Myrvik Farm, E	87.65	344	⇑P	P	04 41 29.4	-0.1
	baz=88,SNR=6.2						
D25A	Fairfield	87.69	340	⇓P	P	04 41 30.3	+0.5
	baz=88						
C27A	Sayler Ranch,	87.73	341	⇓P	P	04 41 30.0	+0.1
	baz=88,SNR=7.2						
YMR	Madison River	87.85	334	*e*P	P	04 41 32.7	+1.9
	comp=Z,19nm,1.3s						
B29A	Wagenman Farm,	87.90	343	⇓P	P	04 41 30.6	-0.1
	baz=88						
D24A	Glendive	87.93	339	⇑P	P	04 41 30.7	-0.2
	baz=88						
C26A	Wahner Farm, P	87.98	341	⇓P	P	04 41 30.8	-0.3
	baz=88						
A30A	Hoffart Farm,	88.11	344	⇑P	P	04 41 31.9	+0.2
	baz=88						
B28A	Dugan Ranch, T	88.12	342	⇑P	P	04 41 32.0	+0.2
	baz=88,SNR=8.8						
QLMT	Earthquake Lak	88.15	334	*e*P	P	04 41 34.0	+1.7
	comp=Z,0.9nm,1.0s						
HLID	Hailey	88.16	332	⇑P	P	04 41 32.9	+0.5
	baz=88						
C25A	Freed Ranch, W	88.19	340	⇓P	P	04 41 32.7	+0.5
	baz=88						
F19A	Roth Farm, Mol	88.20	336	⇑P	P	04 41 32.7	+0.4
	baz=88						
D23A	Lindsay	88.24	339	⇓P	P	04 41 32.5	+0.1
	baz=89,SNR=7.0						
A29A	Manning Farm,	88.30	343	⇓P	P	04 41 32.3	-0.3
	baz=89,SNR=11						
C24A	Savage	88.34	340	⇓P	P	04 41 33.4	+0.5
	baz=89						
D22A	Cohagen	88.50	338	⇓P	P	04 41 34.1	+0.5
	baz=89						
E20A	Meyer Farm, Mu	88.52	337	⇑P	P	04 41 34.5	+0.7
	baz=89						
A28A	Rude Farm, Bot	88.53	343	⇓P	P	04 41 33.8	+0.1
	baz=89						
MCMT	McKenzie Canyo	88.66	333	*e*P	P	04 41 35.5	+0.8
	comp=Z,6.1nm,1.2s						
E19A	Rath Farm, Rou	88.69	336	⇑P	P	04 41 34.9	+0.3
	baz=89						
ULM	Lac du Bonnet	88.84	346	*e*P	P	04 41 34.5	-0.6
ULM	Lac du Bonnet	88.84	346	P	P	04 41 34.3	-0.8
	comp=Z,3.7nm,0.7s,baz=188,slow=4.3,SNR=8.2						
ULM	Lac du Bonnet	88.84	346	*e*P	P	04 41 34.5	-0.6
WVOR	Wild Horse Val	88.92	328	*e*P	P	04 41 36.6	+0.8
WVOR				pmax	pmax		
	comp=Z,19nm,1.4s						
WVOR	Wild Horse Val	88.92	328	*e*P	P	04 41 36.6	+0.8
	comp=Z,18nm,1.4s						
DGMT	Dagmar	89.13	340	⇓P	P	04 41 37.0	+0.4
	baz=90						
DGMT	Dagmar	89.13	340	*e*P	P	04 41 38.5	+1.9
	comp=Z,251nm,2.8s						
BSMT	Bassoo Peak	91.94	334	*e*P	P	04 41 50.6	+0.7
	comp=Z,7.0nm,1.4s						
HAWA	Hanford	92.53	330	*e*P	P	04 41 55.1	+2.7
	comp=Z,68nm,2.4s						
C09A	Chrisman Ranch	93.19	332	*e*P	P	04 41 56.9	+1.5
	comp=Z,11nm,1.0s						
MDT	Midelt	94.40	52	LR	LR	05 25 51.3	
	comp=Z,1μm,18.1s,slow=36						
TAM	Tamanrasset	95.01	65	*e*P	P	04 42 01.1	-3.5
TAM				pmax	pmax		
	comp=Z,11nm,1.6s						
TAM	Tamanrasset	95.01	65	*e*P	P	04 42 01.1	-3.5
	comp=Z,11nm,1.6s						
DZM	Mont Dzumac	98.71	234	*e*SP	SP	04 55 14.0	-0.1
	comp=Z,373nm,23.4s						
DZM	Mont Dzumac	98.71	234	*e*LR	LR	05 14 32.6	
	comp=Z,748nm,25.7s						
ESDC	Sonseca Array	99.28	47	LR	LR	05 26 03.2	
	comp=Z,513nm,19.8s,baz=225,slow=35						
GERES	GERESS Array B	114.87	47	PKP	PKPdf	04 47 21.6	-0.2
	comp=Z,0.4nm,0.5s,baz=198,slow=2.7,SNR=5.8						
KHC	Kasperske Hory	114.93	46	AMS	AMS	05 39 00.0	
	comp=Z,600nm,16.1s						
PRU	Pruhonice	115.88	46	AMS	AMS	05 39 30.0	
	comp=Z,700nm,20.0s						
TREC	Trest	116.12	47	AMS	AMS	05 39 10.0	
	comp=Z,400nm,16.2s						
PVCC	Panska Ves	116.14	45	AMS	AMS	05 40 40.0	
	comp=Z,600nm,18.2s						
DPC	Dobruska-Polom	117.07	46	AMS	AMS	05 40 30.0	
VYHS	Vyhne	117.76	49	*e*PKIKP	PKPdf	04 47 26.8	-0.5
VYHS	Vyhne	117.76	49	*e*PKP	PKPdf	04 47 26.8	-0.5
WRA	Warramunga Arr	117.83	210	PKP	PKPdf	04 47 28.0	-0.4
	comp=Z,0.2nm,0.6s,baz=159,slow=1.6,SNR=3.4						
OKC	Ostrava-Krasne	117.91	47	AMS	AMS	05 42 00.0	
	comp=Z,300nm,14.8s						
KOLS	Kolonicke sedl	120.02	49	*e*PKIKP	PKPdf	04 47 34.4	+2.8
KOLS	Kolonicke sedl	120.02	49	*e*	PKPdf	04 47 34.4	+2.8
MLR	Muntele Rosu	121.02	54	PKP	PKPdf	04 47 33.8	0.0
	comp=Z,0.4nm,0.7s,baz=210,slow=5.6,SNR=3.4						
BRTR	Keskin Array B	124.12	63	PKP	PKPdf	04 47 39.9	-0.2
	comp=Z,1.2nm,0.9s,baz=195,slow=3.3,SNR=8.0						
AKASG	Malin Array Be	124.86	49	PKP	PKPdf	04 47 39.1	-1.7
	comp=Z,0.8nm,0.6s,baz=259,slow=2.9,SNR=7.7						
H11N3	WAKE ISLAND Hyl	25.04	269	T	T	07 05 27.8	
	baz=115,slow=79,SNR=2.5						
H11N1	WAKE ISLAND Hyl	25.05	269	T	T	07 05 08.0	
	baz=115,slow=79,SNR=4.2						
H11N2	WAKE ISLAND Hyl	25.06	269	T	T	07 05 07.9	
	baz=115,slow=79,SNR=6.6						
KBZ	Khabaz	131.95	61	PKP	PKPdf	04 47 55.7	+1.2
	comp=Z,0.9nm,0.8s,baz=32,slow=3.0,SNR=4.4						
GNI	Garni	132.32	66	PKP	PKPdf	04 47 56.4	+0.8
	comp=Z,1.5nm,0.4s,baz=288,slow=7.9,SNR=3.0						
AKTO	Aktyubinsk	142.93	53	PKP	PKPdf	04 48 10.3	-4.3
	comp=Z,0.9nm,0.6s,baz=284,slow=3.4,SNR=5.4						
AB31	Akbulak array	144.23	55	*i* PKIKP	PKPbc	04 48 15.2	0.0
AB31				pmax	pmax		
	comp=Z,24nm,1.1s						
ABKAR	Akbulak array	144.23	55	*e*PKPdf	PKPbc	04 48 15.0	-0.1
KSM	Kuching	144.75	187	*e*PKPdf	PKPbc	04 48 18.3	+0.5
HYB	Hyderabad	148.69	120	*i* PKP	PKPbc	04 48 28.0	-1.2
BRVK	Borovoye	149.96	46	*e*PKPdf	PKPdf	04 48 26.3	0.0
BRVK				*e*PKPbc	PKiKP	04 48 31.9	-0.2
BVAR	Borovoye Array	150.03	46	PKPbc	PKPbc	04 48 31.9	+0.4
	comp=Z,3.7nm,0.8s,baz=270,slow=5.9,SNR=9.8						
ASAJ	Asahikawa	151.76	296	PKPbc	PKPbc	04 48 35.4	-0.4
	comp=Z,4.9nm,0.8s,baz=274,slow=18,SNR=3.8						
KK31	Karatay Array	151.78	66	*i* PKIKP	PKPbc	04 48 35.5	-0.4
KK31				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KKAR	Karatay Array	151.78	66	*e*PKIKP	PKPdf	04 48 30.5	+1.0
KKAR				*e*		04 48 35.5	
KKAR				*e*		04 48 44.9	
KKAR	Karatay Array	151.78	66	*e*PKPdf	PKPdf	04 48 30.5	+1.0
KKAR				*e*PKPbc	PKPbc	04 48 35.5	-0.4
KKAR				*e*PKPab	PKPab	04 48 44.9	-0.1
EKS2	Erkin-Say	154.19	67	*e*PKIKP	PKPdf	04 48 30.6	-2.6
EKS2				*e*		04 48 42.9	
EKS2				*e*		04 48 55.4	
EKS2	Erkin-Say	154.19	67	*e*PKPdf	PKPdf	04 48 30.6	-2.6
EKS2				*e*PKPbc	PKiKP	04 48 42.9	+1.4
EKS2				*e*PKPab	PKPab	04 48 55.4	+0.1
AAK	Ala-Archa	154.72	67	*e*PKIKP	PKPdf	04 48 34.4	+0.4
AAK				*e*		04 48 42.7	
AAK				*e*		04 48 57.8	
AAK	Ala-Archa	154.72	67	*e*PKPdf	PKPdf	04 48 34.4	+0.4
AAK				*e*PKPbc	PKiKP	04 48 42.7	+0.1
AAK				*e*PKPab	PKPab	04 48 57.8	+0.1
TKM2	Tokmak 2	155.52	66	*e*PKIKP	PKPdf	04 48 34.2	-0.9
TKM2				*e*		04 49 01.0	
TKM2	Tokmak 2	155.52	66	*e*PKPdf	PKPdf	04 48 34.2	-0.9
TKM2				*e*PKPab	PKPab	04 49 01.0	-0.1
KSH	Kashi	155.83	74	PKP	PKPdf	04 48 36.9	+1.3
KSH				sPKP		04 48 50.2	
KSH				PKS	PKSdf	04 52 08.7	-0.9
KSH				PP	PP	04 52 38.8	-1.3
KSH				PPMZ			
	comp=Z,230nm,3.8s						
KSH				LN			
	comp=Z,59nm,8.3s						
KSH				LE			
	comp=Z,120nm,10.7s						
KSH				LZ			
	comp=Z,760nm,11.7s						
NVS	Novosibirsk	155.84	34	⇓*i* PKIKP	PKPdf	04 48 28.2	-6.6
NVS				pmax	pmax		
	comp=Z,18nm,1.3s						
NVS				pmax	pmax		
	comp=N,1.0nm,0.3s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.6s						
ZALV	Zalesovo Beam	157.13	34	PKP	PKPdf	04 48 33.6	-3.0
	comp=E,0.6nm,0.4s,baz=270,slow=3.0,SNR=6.9						
ZALV				PKPab	PKPab	04 49 07.7	+0.4
	comp=E,7.3nm,1.1s,baz=311,slow=4.8,SNR=6.0						
BOD	Bodaibo	158.32	349	*e*PKIKP	PKPdf	04 48 37.9	0.0
BOD				*e*		04 49 09.6	
BOD				pmax	pmax		
	comp=Z,6.0nm,1.5s						
MKAR	Makanchi Array	159.36	53	PKP	PKPdf	04 48 36.9	-2.7
	comp=Z,1.7nm,1.0s,baz=338,slow=2.0,SNR=7.3						
MKAR				PKPab	PKPab	04 49 15.2	-2.1
	comp=Z,1.9nm,0.9s,baz=318,slow=1.6,SNR=4.5						
MKAR				PP	PP	04 52 58.9	-0.1
	comp=Z,1.7nm,1.1s,baz=262,slow=7.2,SNR=3.9						
CMAR	Chiang Mai Arr	160.61	158	PKP	PKPdf	04 48 42.0	+0.2
	comp=Z,0.8nm,0.3s,baz=198,slow=1.7,SNR=2.8						
CN2	Changchun	163.96	302	*e*PKP	PKPdf	04 48 45.4	+1.0
WMQ	Urumqi	163.97	58	*e*PKP	PKPdf	04 48 43.7	-0.8
WMQ				PKPab	PKPab	04 49 38.3	+0.6
WMQ				PKS	PKSdf	04 52 15.5	-1.9
WMQ				PP	PP	04 53 25.8	+2.0
WMQ				SKS	SKSdf	04 55 43.0	-4.1
WMQ				SKKS	SKKSac	05 00 07.9	-1.5
WMQ				SS	SS	05 13 48.9	-2.8
WMQ				PPMZ			
	comp=Z,240nm,7.5s						
WMQ				LN			
	comp=Z,320nm,23.0s						
WMQ				LE			
	comp=Z,160nm,20.0s						
WMQ				LZ			
	comp=Z,370nm,22.0s						
ZAK	Zakamensk	166.14	9	*e*PKP2	PKPab	04 49 30.9	-16
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
KMI	Kunming	167.98	163	PKP	PKPdf	04 48 48.7	+0.2
KMI				LZ			
	comp=Z,140nm,21.8s						
NJ2	Nanjing	168.83	249	*e*PKP	PKPdf	04 48 48.6	+0.1
SONM	Songino Array	168.90	1	PKP	PKPdf	04 48 46.1	-2.2
	comp=Z,0.5nm,0.7s,baz=135,slow=0.2,SNR=3.7						
SONM				PKPab	PKPab	04 49 59.3	+0.2
	comp=Z,0.9nm,1.0s,baz=358,slow=4.1,SNR=4.4						
GYA	Guiyang	169.77	181	PKP	PKPdf	04 48 49.2	-0.3
GYA				pPKP	pPKPdf	04 49 01.6	+3.1
GYA				PKPab	PKPab	04 50 05.8	+2.3
GYA				PKS	PKSdf	04 52 20.0	-2.1
GYA				PP	PP	04 53 55.9	+3.5
GYA				SKKS		05 00 37.3	
GYA				SS	SS	05 14 48.4	+0.3
GYA				PPMZ			
	comp=Z,120nm,8.2s						
GYA				LN			
	comp=Z,130nm,21.2s						
GYA				LE			
	comp=Z,110nm,22.0s						
GYA				LZ			
	comp=Z,120nm,21.5s						
CD2	Chengdu	173.75	157	*e*PKP	PKPdf	04 48 51.4	+0.3
HHC	Hu-ho-hao-te	174.32	318	*e*PKP	PKPdf	04 48 52.0	+0.9
HHC				sPKP		04 49 04.6	
HHC				PP	PP	04 54 19.0	+3.3
HHC				SKS	SKSdf	04 55 49.1	-3.2
HHC				SKKS	SKKSac	05 01 00.6	+0.3
HHC				SS	SS	05 15 31.6	-2.5
HHC				PPMZ			
	comp=Z,310nm,11.1s						
HHC				LN			
	comp=Z,330nm,18.5s						
HHC				LE			
	comp=Z,410nm,17.3s						
HHC				LZ			
	comp=Z,480nm,18.5s						
LZH	Lanzhou	177.72	105	*e*PKP	PKPdf	04 48 52.6	+0.5
LZH				pPKP	pPKPdf	04 49 03.0	+1.8
LZH				sPKP		04 49 06.5	

GUC 02 04:37:22.1±0.4, 34°.30S×71°.95W, h4km±19km, ML4.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	Talagante	1.06	53	*e*P	Pb	04 37 43.3	+0.2
TACH				*i* S	Sn	04 37 59.2	+0.2
RCDM	Rinconada Maip	1.25	50	*e*P	Pn	04 37 46.5	+0.1
RCDM				AML	AML	04 38 06.6	
	comp=E,3μm,0.2s						
IHA	Instituto Hidr	1.30	12	*i* P	Pn	04 37 46.9	0.0
IHA				*i* S	Sn	04 38 06.3	+1.5
SAN	Santiago	1.37	52	*e*P	Pg	04 37 48.6	+0.2
SAN				*e*S	Sn	04 38 08.5	+2.0
PEL	Peldehue	1.56	43	*e*P	Pb	04 37 51.5	-0.2
PEL				*i* S	Sg	04 38 14.1	+1.5
PEL				AML	AML	04 38 17.1	
	comp=E,6μm,0.3s						

IDC 02 04:41:22.0±11.0, 36°.17N×95°.86E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.2/50, mbtmp3.6/4, ML3.3/3, Error ellipse: s-maj=169.4km s-min=62.3km az=165.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	14.03	31	Pn	Pn	04 44 42.3	+0.2
	0.1nm,0.3s,baz=213,slow=16,SNR=9.5						
MKAR	Makanchi Array	14.68	320	Pn	Pn	04 44 46.8	-4.1
	0.4nm,0.3s,baz=130,slow=14,SNR=44						
ZALV	Zalesovo Beam	19.38	340	P	P	04 45 49.0	-0.1
	0.2nm,0.3s,baz=144,slow=12,SNR=5.0						
BVAR	Borovoye Array	24.56	321	P	P	04 46 43.4	0.0
	0.3nm,0.4s,baz=127,slow=11,SNR=2.7						

GUC 02 04:45:36.2±2.0, 34°.31S×71°.85W, h25km±35km, ML3.6, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.51	45	⇓*i* P	Pb	04 45 45.7	-0.9
CHCH	Chadas Angostu	1.06	69	⇑*i* P	Pn	04 45 54.5	-1.1
RCDM	Rinconada Maip	1.19	47	⇑*i* P	Pn	04 45 55.8	-1.6
RCDM				*i* S	Sn	04 46 13.0	+0.2
RCDM				AML	AML	04 46 16.6	
	comp=E,2μm,0.1s						
ANTU	Antumapu	1.25	54	⇑*i* P	Pn	04 45 57.5	-0.7
ANTU				⇓*i* S	Sn	04 46 13.6	-0.7
ANTU				AML	AML	04 46 18.7	
	comp=N,2μm,0.5s						
PEL	Peldehue	1.52	40	⇑*i* P	Pn	04 46 01.4	-0.5
PEL				*i* S	Sn	04 46 20.6	-0.2
PEL				AML	AML	04 46 26.4	
	comp=N,2μm,0.5s						

IDC 02 04:51:39.2±2.0, 36°.21S×72°.67W, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/22, mbtmp3.9/6, ML3.2/1, MS3.7/1, Ms1 3.7/1, ms1mx3.0/28, Error ellipse: s-maj=43.1km s-min=36.8km az=144.0

ISC 02 04:51:47.1±1.6, 36°.1S±0°.2×72°.6W±0°.2, h54km, n7, σ1°.04/7, mb3.9/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.75	40	Pn	Pn	04 53 08.8	-1.2
	0.6nm,0.3s,baz=202,slow=13,SNR=13						
CFAA				Sn	Sn	04 54 15.9	+1.3
	0.3nm,0.3s,baz=300,slow=10,SNR=3.6						
CPUP	Villa Florida	16.27	58	LR	LR	05 03 02.6	
	comp=Z,263nm,18.3s,baz=53,slow=42						
LPAZ	La Paz	20.11	13	P	P	04 56 17.4	+0.3
	2.7nm,0.6s,baz=200,slow=9.4,SNR=9.2						
SIV	San Ignacio	22.49	30	P	P	04 56 41.2	-0.9
	4.3nm,0.6s,baz=213,slow=14,SNR=12						
TXAR	Lajitas Array	71.33	332	P	P	05 03 01.3	+0.2
	0.4nm,0.6s,baz=151,slow=8.8,SNR=6.6						
DBIC	Dimbokro	76.29	71	P	P	05 03 30.9	+0.5
	1.8nm,0.6s,baz=232,slow=7.8,SNR=5.5						
TORD	Torodi Ar. Bea	85.35	70	P	P	05 04 18.9	+0.1
	0.6nm,0.8s,baz=225,slow=4.4,SNR=3.9						

KLM 02 04:55:08.1, 7°.01S×115°.69E, h626km, mb4.8, ML4.3, MS6.0
BJI 02 04:55:08.4, 6°.92S×116°.22E, h518km, mB4.7/12, mb4.2/21
ISCJB 02 04:55:09.8±0.2, 6°.79S±0°.03×115°.75E±0°.02, h507km±2km, mb4.4/61, Error ellipse: s-maj=4.5km s-min=3.2km az=37.4
DJA 02 04:55:10.6±0.1, 7°.S±2°.×11°.6E±°, h502km±2km, M4.5/37, mb4.8/36, mB5.0/20, MLv5.0/37, Mw(mB)4.3/20
NEIC 02 04:55:10.9±0.3, 6°.79S×115°.76E, h506km±3km, mb4.5/21, Error ellipse: s-maj=6.1km s-min=4.5km az=56.0
IDC 02 04:55:11.4±0.6, 6°.74S×115°.87E, h511km±6km, mb3.9/30, mb1 4.0/32, mb1mx3.9/43, mbtmp4.7/32, Error ellipse: s-maj=10.6km s-min=5.7km az=56.0
MOS 02 04:55:11.6±0.9, 6°.65S×115°.86E, h530km, mb4.4/21, Error ellipse: s-maj=16.0km s-min=6.9km az=121.0

ISC 02 04:55:10.5±0.4, 6°.80S±0°.04×115°.79E±0°.04, h503km±4km, n253, σ1°.35/289, mb4.4/60, 4C-6D, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	Singaraja	1.40	204	P	P	04 56 13.4	+0.1
KMMI	Kalianget	1.83	262	P	P	04 56 15.9	+0.9
ABJI	Asem Bagus	1.83	237	P	P	04 56 15.2	+0.1
DNP	Denpasar	1.95	197	P	P	04 56 14.8	-0.8
DNP				S	S	04 57 06.2	-2.3
IGBI	Denpasar	2.10	198	P	P	04 56 14.8	-1.6
IGBI				S	S	04 57 05.3	-4.5
JAGI	Jajag, Banyuwa	2.32	224	P	P	04 56 15.9	-1.7
JAGI	Jajag, Banyuwa	2.32	224	P	P	04 56 15.8	-1.7
	baz=2.4,SNR=509						
JAGI				S	S	04 57 06.9	-5.1
	baz=2.4,SNR=7.0						
JAGI	Jajag, Banyuwa	2.32	224	*e*P	P	04 56 15.9	-1.7
JAGI				*e*S	S	04 57 07.2	-4.8
BLJI	Banyuglugur	2.37	247	P	P	04 56 17.2	-0.6
GMJI	Gumukmas	2.75	238	P	P	04 56 18.4	-1.7
BWJI	Bawean	3.25	287	P	P	04 56 23.9	+0.4
GRJI	Gresik	3.29	268	P	P	04 56 23.6	-0.1
BBKI	Banjar Baru	3.45	344	P	P	04 56 25.8	+0.8
TBJI	Tambak Boyo	3.92	270	P	P	04 56 28.8	+0.3
PWJI	Pagerwojo	4.14	253	P	P	04 56 29.4	-0.8
PWJI				S	S	04 57 32.6	-2.5
NGJI	Ngawi	4.33	262	P	P	04 56 33.1	+1.2
WBSI	Waikabubak, Su	4.54	129	P	P	04 56 32.3	-1.4
BKSI	Bulukumba	4.55	71	P	P	04 56 34.5	+0.8
BSSI	Bau Bau, Buton	4.71	82	P	P	04 56 36.2	+1.0
SPSI	Sidrap Palu	4.86	55	P	P	04 56 37.9	+1.4
BNSI	Bone	4.91	61	P	P	04 56 39.1	+2.2
	194nm,0.7s,2μm0.6nm						
WOJI	Wonogiri, Jawa	4.94	258	P	P	04 56 38.1	+1.0
WSI	Waingapu	5.29	123	P	P	04 56 40.0	-0.3
	baz=5.3,SNR=3.6						
WSI				S	S	04 57 48.2	-5.3
	baz=5.3,SNR=7.5						
UGM	Wanagama	5.34	258	P	P	04 56 42.3	+1.5
	318nm,1.1s,2.5nm						
UGM				S	S	04 57 52.7	-1.8
	318nm,1.1s,2.5nm						
UGM	Wanagama	5.34	258	P	P	04 56 40.9	+0.1
	baz=5.4,SNR=35						
UGM				S	S	04 57 52.0	-2.5
	baz=5.4,SNR=6.2						
UGM	Wanagama	5.34	258	*e*P	P	04 56 41.6	+0.7
UGM				*e*S	S	04 57 52.8	-1.7
TTSI	Tana Toraja	5.48	47	P	P	04 56 43.7	+1.6
	198nm,0.7s,2μm0.7nm						
BKB	Balikpapan	5.62	11	P	P	04 56 47.4	+4.0
	530nm,1.3s,6μm1.6nm						
BASI	Baing,

LUWI Luwuk 9.01 51 *eP* **P 04 57 19.1 +1.6**
TOLI Toli-Toli 9.32 33 *eP* **P 04 57 20.9 +0.1**
MRSI Marisa 9.48 41 P **P 04 57 22.3 -0.3**
210nm,1.1s,2μm
SBUM Sibu 9.86 339 *eP* **P 04 57 28.1 +1.6**
SBUM *eS* S 04 59 25.8 +7.5
KSM Kuching 9.88 326 P **P 04 57 28.0 +1.2**
baz=9.8,SNR=16
KSM Kuching 9.88 326 *eP* **P 04 57 27.9 +1.2**
KSM *eS* **S 04 59 18.3 -0.3**
CGJI Cibinong 10.03 270 P **P 04 57 27.8 -0.5**
54nm,0.7s,4μm
CGJI S **S 04 59 17.5 -4.1**
54nm,0.7s,4μm
XMI Christmas Isla 10.62 249 P **P 04 57 34.6 0.0**
baz=11,SNR=8.1
XMI S **S 04 59 35.8 +2.7**
baz=11,SNR=7.3
XMIS Christmas Isla 10.67 249 P **P 04 57 34.8 -0.3**
baz=11,SNR=16
XMIS S **S 04 59 33.7 -0.3**
baz=11,SNR=6.7
XMIS Christmas Isla 10.67 249 *eP* **P 04 57 34.7 -0.4**
XMIS *eS* **S 04 59 33.8 -0.2**
KMSI Cibinong 10.98 48 P **P 04 57 40.6 +2.3**
417nm,1.0s
SANI Sanana 11.21 66 P **P 04 57 41.8 +1.0**
108nm,0.7s,876nm
LWLI Liwa 11.80 278 P **P 04 57 45.6 -1.6**
214nm,0.8s,37μm
NLAI Namlea 11.81 73 P P 04 57 51.4 +4.3
61nm,0.7s
MYLDM Lahad Datu 12.21 13 *eP* **P 04 57 54.1 +2.8**
MYLDM *eS* **S 05 00 08.6 +4.7**
KKM Kota Kinabalu 12.77 2 P **P 04 57 57.2 -0.2**
baz=13,SNR=9.8
KKM Kota Kinabalu 12.77 2 *eP* **P 04 57 57.0 -0.4**
KKM *eS* **S 05 00 13.5 -1.5**
MNAI Manna 13.00 280 S S 05 00 11.0 -8.4
baz=13,SNR=4.3
MYKOM Kota Tinggi 14.66 305 ⇑P P 04 58 12.4 -4.8
MBWA Marble Bar 14.77 165 *eP* **P 04 58 18.7 +0.3**
33nm,0.6s
FITZ Fitzroy Crossi 14.78 140 S **S 05 00 54.4 +1.1**
baz=15,SNR=5.8
KGM Kluang 15.22 305 ⇑P P 04 58 17.8 -5.3
KNRA Kununurra 15.47 126 P **P 04 58 25.3 -0.3**
baz=16,SNR=34
KNRA S **S 05 01 06.3 -0.3**
baz=16,SNR=4.8
GIRL Giralia 15.82 185 P **P 04 58 30.4 +1.2**
baz=16,SNR=21
MTN Manton Dam 16.26 113 P **P 04 58 32.8 -1.1**
baz=16,SNR=29
SWI Sorong 16.52 70 P **P 04 58 38.9 +2.2**
49nm,1.0s,2μm
FAKI Fak Fak 16.84 78 P **P 04 58 37.8 -2.2**
baz=17,SNR=6.7
KDU Kakadu 17.44 111 P **P 04 58 43.0 -2.7**
baz=18,SNR=30
KTGM Kuala Trenggan 17.46 313 ⇓P P 04 58 38.9 -7.0
IPM Ipoh 18.52 307 ⇑P P 04 58 47.8 -7.8
PSI Prapat 19.35 299 P **P 04 59 03.4 -0.1**
1.9nm,0.3s,baz=144,slow=6.5,SNR=13
PSI Prapat 19.35 299 P **P 04 59 04.4 +1.0**
baz=19,SNR=7.9
MEEK Meekatharra 19.91 173 P **P 04 59 08.5 +0.3**
baz=20,SNR=22
DLV T Lat 19.99 339 *eP* **P 04 59 10.9 +1.6**
5.4nm,0.5s
WRKA Warakurna 21.73 148 P **P 04 59 25.5 +0.8**
baz=22,SNR=21
WRKA S **S 05 02 50.0 -0.5**
baz=22,SNR=5.2
MORW Morawa 22.15 179 P **P 04 59 29.3 +0.9**
baz=22,SNR=16
WRA Warramunga Arr 22.24 128 P **P 04 59 29.8 +0.3**
21nm,0.8s,baz=308,slow=9.3,SNR=281
WRA S **S 05 02 57.6 -1.1**
5.9nm,0.7s,baz=316,slow=17,SNR=8.8
WRA ScP **ScP 05 05 55.6 -0.6**
1.9nm,0.8s,baz=279,slow=2.2,SNR=5.1
WRAB Tennant Creek 22.24 128 *d iP* **P 04 59 30.0 +0.5**
WRAB pmax pmax
comp=Z,64nm,0.9s
WB2 Warramunga Arr 22.25 128 *eP* **P 04 59 29.8 +0.3**
WB2 *eS* **S 05 02 53.0 -5.8**
BLDU Balliduu 23.70 178 P **P 04 59 43.1 +0.7**
baz=24,SNR=14
ASAR Alice Springs 24.17 136 P **P 04 59 47.2 +0.6**
comp=Z,13nm,0.4s,baz=312,slow=8.3,SNR=304
ASAR PcP **PcP 05 03 10.8 +0.3**
comp=Z,5.7nm,0.6s,baz=320,slow=1.8,SNR=16
ASAR S **S 05 03 27.4 -1.6**
comp=Z,10nm,0.9s,baz=305,slow=16,SNR=22
ASAR ScP **ScP 05 06 01.1 -0.3**
comp=Z,2.6nm,0.8s,baz=330,slow=2.4,SNR=6.3
KLBR Kellerberrin 24.73 176 P **P 04 59 52.2 +0.8**
baz=25,SNR=16
NWAO Narrogin (SRO) 26.03 177 P **P 05 00 04.1 +1.2**
comp=Z,29nm,0.7s,baz=356,slow=8.9,SNR=18
FORT Forrest 26.48 156 P **P 05 00 08.2 +1.3**
baz=27,SNR=12
FORT Forrest 26.48 156 *eP* **P 05 00 08.2 +1.3**
comp=Z,46nm,0.7s
QIS Mount Isa 26.82 123 P **P 05 00 10.8 +0.6**
baz=27,SNR=17
QIS S **S 05 04 08.8 -1.9**
baz=27,SNR=5.6
RKGY Rocky Gully 27.69 178 P **P 05 00 19.6 +2.0**
baz=28,SNR=28
COEN Coen 27.84 107 P **P 05 00 19.4 +0.3**
baz=28,SNR=16
COEN Coen 27.84 107 *eP* **P 05 00 19.4 +0.3**
comp=Z,157nm,0.9s
UMPA Umpang Tak 28.35 324 P **P 05 00 23.5 0.0**
comp=Z,18nm,0.5s,comp=Z,2μm
CMAR Chiang Mai Arr 30.11 327 P **P 05 00 39.5 +0.8**
comp=Z,1.0nm,0.3s,baz=148,slow=5.8,SNR=6.9
CMAR PcP **PcP 05 03 26.4 +1.3**
comp=Z,1.7nm,0.5s,baz=184,slow=2.6,SNR=8.0
CMAR ScP **ScP 05 06 20.1 +0.5**
comp=Z,0.8nm,0.3s,baz=152,slow=2.7,SNR=6.9
PMG Port Moresby 31.16 97 *eP* **P 05 00 48.9 +1.0**
PMG pmax pmax
comp=Z,22nm,0.7s
PMG Port Moresby 31.16 97 *eP* **P 05 00 48.9 +1.0**
comp=Z,22nm,0.7s
BBOO Buckleboo 32.01 147 P **P 05 00 55.8 +0.8**
baz=32,SNR=13
BBOO S **S 05 05 30.8 0.0**
baz=32,SNR=4.9
BBOO Buckleboo 32.01 147 *eP* **P 05 00 55.6 +0.6**
comp=Z,110nm,0.5s
CTA Charters Tower 32.36 117 P **P 05 00 59.4 +1.2**
comp=Z,6.0nm,0.7s,baz=275,slow=8.6,SNR=6.6
CTA PcP **PcP 05 03 31.5 +0.2**
comp=Z,4.0nm,0.5s,baz=191,slow=18,SNR=4.3
QLP Quilpie 33.46 129 P **P 05 01 09.0 +1.6**
baz=34,SNR=8.2
HTT Hallett 34.09 144 P **P 05 01 14.0 +1.4**
baz=34,SNR=17
STKA Stephens Creek 34.67 139 *eP* **P 05 01 18.8 +1.2**
STKA 05 03 37.8
STKA S **S 05 06 10.0 -1.2**
STKA pmax pmax
comp=Z,7.0nm,0.3s
STKA Stephens Creek 34.67 139 P **P 05 01 18.8 +1.2**
comp=Z,24nm,0.3s,baz=315,slow=7.4,SNR=30
STKA PcP **PcP 05 03 37.8 +0.1**
comp=Z,3.9nm,0.4s,baz=314,slow=8.2,SNR=4.2
STKA S **S 05 06 10.0 -1.2**
comp=Z,9.5nm,0.9s,baz=87,slow=17,SNR=2.9
STKA Stephens Creek 34.67 139 P **P 05 01 18.9 +1.4**
baz=35,SNR=24
STKA S **S 05 06 12.6 +1.3**
baz=35,SNR=5.1
STKA Stephens Creek 34.67 139 *eP* **P 05 01 18.8 +1.2**
comp=Z,7.1nm,0.3s
STKA PcP **PcP 05 03 37.8 +0.1**
STKA S **S 05 06 10.0 -1.2**
RMQ Roma 36.98 126 P **P 05 01 38.7 +1.9**
baz=37,SNR=4.9
CMSA Cobar Meteorol 37.22 135 P **P 05 01 40.4 +1.6**
baz=37,SNR=20
ARPS Mount Arapiles 38.14 145 P **P 05 01 47.6 +1.4**
baz=38,SNR=7.9

EIDS Eidsvold 38.42 123 P **P 05 01 50.0 +1.3**
baz=38,SNR=3.4
YNG Young 40.66 137 P **P 05 02 08.1 +1.5**
baz=41,SNR=9.5
TOO Toolangi 40.81 143 P **P 05 02 10.3 +2.5**
baz=41,SNR=6.4
ARMA Armidale 41.00 130 P **P 05 02 12.4 +2.9**
baz=41,SNR=7.6
XAN Xi'an 41.14 351 P **P 05 02 10.0 -0.4**
XAN PMZ
comp=Z,3.0nm,0.8s
XAN PMZ
comp=Z,19nm,5.0s
CNB Canberra Magne 41.89 137 P **P 05 02 18.0 +1.6**
baz=42,SNR=8.2
MGCD Mangrove Creek 41.97 134 P **P 05 02 19.6 +2.5**
baz=42,SNR=11
JCJ Chichijima 42.29 36 P **P 05 02 18.6 -1.0**
comp=Z,57nm,0.7s,baz=243,slow=15,SNR=3.6
CBIJ Chichi jima 42.30 36 P **P 05 02 18.6 -1.0**
ODAN Odare 43.33 322 *eP* **P 05 02 27.8 -0.2**
LSA Lhasa 43.34 328 *eP* **P 05 02 28.9 +0.6**
LSA pmax pmax
comp=Z,6.0nm,0.4s
LSA Lhasa 43.34 328 *eP* **P 05 02 28.9 +0.6**
comp=Z,5.7nm,0.4s
TAPN Taplejung 43.49 323 *eP* **P 05 02 29.3 0.0**
comp=Z,38nm,0.9s
RAMN Ramite 43.88 321 *eP* **P 05 02 32.2 -0.1**
JIRN Jiri 44.64 321 *eP* **P 05 02 38.3 -0.1**
comp=Z,39nm,0.6s
GUN Gumba 45.01 321 *eP* **P 05 02 40.6 -0.6**
comp=Z,46nm,0.8s
PKI Pulchoki 45.06 321 *eP* **P 05 02 41.0 -0.6**
comp=Z,8.2nm,0.5s
DMN Daman 45.28 320 *eP* **P 05 02 42.8 -0.4**
comp=Z,11nm,0.4s
KSAR Wonju Array Be 45.44 14 P **P 05 02 44.5 +0.6**
KSAR 05 04 13.1
KSAR Wonju Array Be 45.44 14 P **P 05 02 44.5 +0.6**
KSAR PcP **PcP 05 04 13.1 +0.5**
KSRS Korea Array 45.46 14 P **P 05 02 44.5 +0.4**
comp=Z,5.1nm,0.8s,baz=193,slow=7.5,SNR=15
KSRS PcP **PcP 05 04 13.1 +0.4**
comp=Z,2.5nm,0.7s,baz=181,slow=4.8,SNR=5.0
GKN Gorkha 45.85 320 *eP* **P 05 02 46.7 -0.7**
comp=Z,14nm,0.3s
KOLN Koldanda 46.36 319 *eP* **P 05 02 50.8 -0.5**
DANN Dangsing 46.65 320 *eP* **P 05 02 53.2 -0.5**
comp=Z,38nm,0.6s
PYUN Piuthan 46.98 319 *eP* **P 05 02 55.6 -0.4**
comp=Z,15nm,0.4s
MJAR Matsushiro Arr 47.97 24 P **P 05 03 02.0 -1.1**
MJAR Matsushiro Arr 47.97 24 P **P 05 03 02.0 -1.1**
comp=Z,6.3nm,0.6s,baz=198,slow=8.2,SNR=15
GTA Gaotai 48.30 343 *eP* **P 05 03 07.0 +1.3**
GTA PMZ
comp=Z,7.0nm,0.8s
MDJ Mudanjiang 52.67 12 P **P 05 03 36.8 -0.6**
MDJ PMZ
comp=Z,26nm,0.8s
MDJ PMZ
comp=Z,89nm,3.8s
MDJ Mudanjiang 52.67 12 *eP* **P 05 03 37.0 -0.4**
comp=Z,21nm,0.8s
USRK Ussuriysk Ar. 52.83 15 P **P 05 03 38.2 -0.3**
comp=Z,14nm,0.8s,baz=188,slow=6.8,SNR=23
ULN Ulaanbaatar 54.98 353 *eP* **P 05 03 53.5 -0.4**
ULN pmax pmax
comp=Z,7.0nm,0.6s
ULN Ulaanbaatar 54.98 353 *eP* **P 05 03 53.5 -0.4**
comp=Z,7.1nm,0.6s
SONM Songino Array 55.03 352 P **P 05 03 54.1 -0.2**
comp=Z,6.9nm,0.5s,baz=170,slow=8.8,SNR=85
SONM PcP **PcP 05 04 47.8 -0.5**
comp=Z,3.2nm,0.7s,baz=176,slow=4.7,SNR=12
SONM pP **pP 05 05 35.1 +2.0**
comp=Z,2.1nm,0.8s,baz=172,slow=7.4,SNR=5.8
SONM ScP **ScP 05 07 57.6 -0.9**
comp=Z,0.8nm,0.8s,baz=158,slow=7.8,SNR=4.0
ASAJ Asahikawa 56.17 23 P **P 05 04 01.7 -0.3**
comp=Z,8.1nm,0.7s,baz=261,slow=13,SNR=9.0
ZAK Zakamensk 57.98 351 *eP* **P 05 04 12.8 -1.7**
ZAK *e* 05 04 59.0
ZAK pmax pmax
comp=Z,3.0nm,1.2s
KBL Kabul 60.31 316 *eP* **P 05 04 29.5 -1.1**
KBL pmax pmax
comp=Z,14nm,0.7s
KBL Kabul 60.31 316 *eP* **P 05 04 29.5 -1.1**
comp=Z,14nm,0.7s
MK31 Makanchi Array 61.09 334 *i P* **P 05 04 34.8 -0.5**
MK31 pmax pmax
comp=Z,15nm,0.8s
MKAR Makanchi Array 61.09 334 P **P 05 04 35.0 -0.3**
comp=Z,9.2nm,0.6s,baz=147,slow=7.6,SNR=135
MKAR PcP **PcP 05 05 12.3 -0.1**
comp=Z,1.3nm,0.6s,baz=152,slow=5.1,SNR=4.5
MKAR pP **pP 05 06 18.4 +1.4**
comp=Z,0.9nm,0.6s,baz=139,slow=7.7,SNR=4.1
KZA Kyzart 61.10 326 P **P 05 04 36.6 +0.7**
SNR=9.2
KZA Kyzart 61.10 326 *i P* **P 05 04 36.6 +0.7**
TKM2 Tokmak 2 61.49 327 P **P 05 04 38.4 +0.2**
SNR=7.0
TKM2 Tokmak 2 61.49 327 *eP* **P 05 04 38.0 -0.2**
TKM2 pmax pmax
comp=Z,7.0nm,0.9s
TKM2 Tokmak 2 61.49 327 *eP* **P 05 04 38.0 -0.2**
comp=Z,6.9nm,0.9s
KBK Karagaybulak 61.66 327 P **P 05 04 39.5 +0.3**
SNR=10
KBK Karagaybulak 61.66 327 *i P* **P 05 04 39.6 +0.3**
AAK Ala-Archa 61.89 326 P **P 05 04 41.4 +0.6**
SNR=6.6
AAK Ala-Archa 61.89 326 *d iP* **P 05 04 40.8 0.0**
AAK pmax pmax
comp=Z,25nm,0.8s
AAK Ala-Archa 61.89 326 P **P 05 04 41.0 +0.2**
comp=Z,10.0nm,0.8s,baz=136,slow=5.9,SNR=29
AAK pP **pP 05 06 24.0 +1.2**
comp=Z,1.5nm,0.7s,baz=152,slow=8.0,SNR=2.9
AAK Ala-Archa 61.89 326 *eP* **P 05 04 41.0 +0.2**
comp=Z,11nm,0.9s
AAK pP **pP 05 06 24.0 +1.2**
AML Almayashu 62.00 326 P **P 05 04 41.9 +0.1**
SNR=12
AML Almayashu 62.00 326 *i P* **P 05 04 41.9 +0.1**
EKS2 Erkin-Say 62.30 326 P **P 05 04 44.0 +0.6**
SNR=11
EKS2 Erkin-Say 62.30 326 *eP* **P 05 04 43.7 +0.3**
EKS2 pmax pmax
comp=Z,12nm,0.9s
EKS2 Erkin-Say 62.30 326 *eP* **P 05 04 43.7 +0.3**
comp=Z,12nm,0.9s
USP Ospenovka 62.31 327 P **P 05 04 43.2 -0.1**
SNR=8.6
USP Ospenovka 62.31 327 *i P* **P 05 04 43.2 -0.1**
BKZ Black Stump Fm 63.14 131 *eP* **P 05 04 49.7 +0.8**
comp=Z,26nm,1.2s
URZ Urewera 63.40 129 *eP* **P 05 04 50.5 0.0**
comp=Z,12nm,0.6s
BOD Bodaibo 64.42 359 *eP* **P 05 04 54.7 -1.8**
BOD pmax pmax
comp=Z,8.0nm,1.6s
KK31 Karatay Array 64.43 325 *i P* **P 05 04 56.2 -0.7**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 65.66 335 P **P 05 05 04.0 -0.4**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 65.66 335 *eP* **P 05 05 04.2 -0.3**
comp=Z,5.9nm,0.7s
ZALV Zalesovo Beam 65.90 341 P **P 05 05 04.8 -1.1**
comp=Z,9.6nm,0.5s,baz=142,slow=4.7,SNR=45
ZALV PcP **PcP 05 05 31.2 -0.8**
comp=Z,1.8nm,0.7s,baz=174,slow=5.9,SNR=3.6
ZALV pP **pP 05 06 50.8 +1.2**
comp=Z,0.9nm,0.5s,baz=160,slow=4.7,SNR=2.9
NVS Novosibirsk 67.16 340 *eP* **P 05 05 11.4 -2.3**
IMYA Miami 67.51 314 *eP* **P 05 05 16.6 +0.1**
OPO Ambohidratompo 67.61 253 P **P 05 05 17.9 +0.4**
comp=Z,4.7nm,0.8s,baz=79,slow=6.8,SNR=5.0
ISRO Mashad 67.95 314 *eP* **P 05 05 19.7 +0.6**
IPAY Payeh 68.35 313 *eP* **P 05 05 22.5 +0.7**
IKRD Kardeh 68.85 314 *eP* P 05 05 21.3 -3.5

PETK Petropavlovsk- 69.41 25 P **P 05 05 28.0 +0.6**
comp=Z,3.3nm,0.6s,baz=147,slow=3.0,SNR=3.6
GEYT Alibeck 69.64 315 P **P 05 05 29.4 +0.1**
comp=Z,3.4nm,0.4s,baz=180,slow=5.9,SNR=7.6
VOSK Vostochnaya 70.42 333 P **P 05 05 32.5 -1.0**
VOSK pmax pmax
comp=Z,9.0nm,0.8s
BVA0 Borovoye Array 70.89 333 *i* P **P 05 05 35.7 -0.6**
BVA0 pmax pmax
comp=Z,21nm,0.9s
BVAR Borovoye Array 70.89 333 P **P 05 05 35.8 -0.4**
comp=Z,12nm,0.7s,baz=140,slow=7.8,SNR=83
BRVK Borovoye 70.96 333 *d iP* **P 05 05 36.1 -0.6**
BRVK pmax pmax
comp=Z,19nm,1.3s
BRVK Borovoye 70.96 333 *eP* **P 05 05 36.5 -0.1**
comp=Z,12nm,0.9s
AB31 Akbulak array 73.96 326 P **P 05 05 53.4 -0.7**
AB31 pmax pmax
comp=Z,16nm,0.6s
VNDA Vanda 74.65 171 P **P 05 05 58.4 +0.9**
comp=Z,2.5nm,0.5s,baz=295,slow=7.1,SNR=7.3
RAYN Ar Rayn 74.89 296 *eP* **P 05 05 59.4 -0.6**
comp=Z,5.0nm,0.9s
AKTO Aktyubinsk 75.63 326 P **P 05 06 03.2 -0.2**
comp=Z,18nm,0.6s,baz=111,slow=6.7,SNR=82
ARU Arti 78.42 332 *d iP* **P 05 06 17.2 -1.4**
ARU S **S 05 15 30.3 -2.5**
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 78.42 332 *eP* **P 05 06 18.0 -0.6**
comp=Z,19nm,1.4s
KMBO Kilima Mbogo 78.49 270 *eP* **P 05 06 19.7 -0.5**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 78.49 270 P **P 05 06 20.7 +0.5**
comp=Z,3.8nm,0.8s,baz=78,slow=6.0,SNR=12
KMBO Kilima Mbogo 78.49 270 *eP* **P 05 06 19.7 -0.5**
comp=Z,4.2nm,0.9s
TIXI Tiksi 78.77 4 *d iP* **P 05 06 18.6 -1.5**
TIXI pmax pmax
comp=Z,18nm,0.9s
TIXI Tiksi 78.77 4 *eP* **P 05 06 19.1 -1.0**
comp=Z,15nm,0.8s
GNI Garni 80.12 313 *cePP* **P 05 06 30.1 +1.9**
GNI pmax pmax
comp=Z,7.0nm,1.2s
GNI Garni 80.12 313 P **P 05 06 28.4 +0.2**
comp=Z,1.7nm,0.4s,baz=284,slow=11,SNR=2.3
ZEI Tsey 81.51 315 *eP* **P 05 06 34.0 -1.4**
ZEI pmax pmax
comp=Z,12nm,1.3s
KBZ Khabaz 82.49 316 P **P 05 06 40.5 +0.5**
comp=Z,5.9nm,0.9s,baz=124,slow=5.2,SNR=21
QSPA South Pole Qui 83.18 180 P **P 05 06 43.4 +0.1**
comp=Z,1.2nm,0.4s,baz=136,slow=0.9,SNR=12
VRHR Novokhopersk 85.44 323 *eP* **P 05 06 53.4 -1.1**
VRHR pmax pmax
comp=N,6.0nm,0.9s
VRHR pmax pmax
comp=E,9.0nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VORD Divnogorie 86.82 322 *eP* **P 05 06 59.4 -1.7**
VORD pmax pmax
comp=N,50nm,1.0s
VORD pmax pmax
comp=E,50nm,1.0s
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 86.96 322 *eP* **P 05 07 00.2 -1.6**
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
BOSA Boshof 87.25 242 P **P 05 07 04.5 +0.6**
comp=Z,7.2nm,1.1s,baz=121,slow=10.0,SNR=3.1
BRTR Keskin Array B 88.30 310 P **P 05 07 07.8 -0.7**
comp=Z,1.5nm,0.7s,baz=129,slow=4.9,SNR=12
GAMB Gambell 88.44 25 *eP* **P 05 07 08.9 +0.5**
comp=Z,8.9nm,1.0s
FINES FINESS Array B 95.79 331 P **P 05 07 41.0 -1.1**
comp=Z,2.1nm,0.7s,baz=90,slow=5.7,SNR=6.2
ARCES ARCESS Array B 96.42 339 P **P 05 07 43.8 -1.2**
comp=Z,3.7nm,1.0s,baz=99,slow=7.5,SNR=6.1
ILAR Eielson Array 99.24 26 P **Pdif 05 07 55.6 -1.9**
comp=Z,0.5nm,0.8s,baz=253,slow=4.9,SNR=7.0
YKA Yellowknife Ar 113.46 23 PKiKP **PKiKP 05 12 50.3 -0.4**
comp=Z,1.7nm,0.6s,baz=314,slow=1.9,SNR=53
TORD Torodi Ar. Bea 114.93 281 PKP PKPdf 05 12 54.0 -0.9
comp=Z,2.1nm,0.6s,baz=46,slow=2.0,SNR=29
ESDC Sonseca Array 117.08 311 PKP **PKPdf 05 12 58.9 +0.4**
comp=Z,0.4nm,0.5s,baz=42,slow=2.3,SNR=4.3
DBIC Dimbokro 121.09 274 PKP **PKPdf 05 13 06.5 -0.3**
comp=Z,3.0nm,0.6s,baz=84,slow=2.6,SNR=7.1
MSO Missoula 121.75 38 *e*PKPdf **PKPdf 05 13 07.5 +0.1**
NVAR Mina Array Bea 122.02 49 PKP **PKPdf 05 13 09.4 +1.2**
comp=Z,2.6nm,0.7s,baz=269,slow=2.0,SNR=17
HLID Hailey 122.88 42 *e*PKPdf **PKPdf 05 13 10.8 +1.1**
R11A Troy Canyon, C 124.06 48 *e*PKPdf **PKPdf 05 13 13.3 +1.1**
HVU Hansel Valley 124.72 43 *e*PKIKP **PKPdf 05 13 14.5 +1.2**
HVU Hansel Valley 124.72 43 *e*PKPdf **PKPdf 05 13 14.4 +1.2**
PFO Pinyon Flats O 124.91 54 PKP **PKPdf 05 13 14.6 +0.8**
comp=Z,0.8nm,0.6s,baz=9.1,slow=1.4,SNR=5.1
PDAR Pinedale Array 126.41 41 PKP **PKPdf 05 13 17.2 +0.7**
comp=Z,0.6nm,0.7s,baz=126,slow=1.1,SNR=6.0
ULM Lac du Bonnet 129.26 26 PKP **PKPdf 05 13 21.1 -0.4**
comp=Z,1.0nm,0.7s,baz=330,slow=1.9,SNR=4.9
SCHQ Schefferville 132.06 2 PKP **PKPdf 05 13 26.4 -0.2**
comp=Z,2.9nm,0.7s,baz=284,slow=2.2,SNR=6.7
TXAR Lajitas Array 136.62 54 PKhKP PKPpre 05 13 27.6
comp=Z,0.6nm,0.6s,baz=270,slow=2.5,SNR=8.0
JCT Junction City 139.16 50 *e*PKIKP PKPdf 05 13 35.0 -5.6
JCT Junction City 139.16 50 *e*PKPdf PKPdf 05 13 35.0 -5.6
CFAA Coronel Fontan 141.62 174 PKP **PKPdf 05 13 42.3 -2.7**
comp=Z,0.8nm,0.7s,baz=171,slow=3.3,SNR=3.9
WVT Waverly 143.67 33 *e*PKIKP PKPab 05 13 46.8 -0.2
WVT Waverly 143.67 33 *e*PKPdf PKPab 05 13 46.8 -0.2
OXF Oxford 143.94 37 *e*PKIKP PKPbc 05 13 47.9 -0.1
OXF Oxford 143.94 37 *e*PKPdf PKPbc 05 13 47.9 -0.1
SSPA Standing Stone 144.16 18 *e*PKPdf **PKPab 05 13 48.8 +0.1**
ODNJ Ogdensburg 144.63 14 *e*PKPdf **PKPab 05 13 50.2 -0.1**
PAL Palisades 144.86 13 *e*PKIKP **PKPab 05 13 51.1 -0.2**
PAL Palisades 144.86 13 *e*PKPdf **PKPab 05 13 51.1 -0.2**
MVL Millersville 145.20 16 *e*PKPab **PKPbc 05 13 52.1 +0.4**
SWET Sewanee 145.38 32 *e*PKPbc **PKPdf 05 13 51.8 +0.3**
TZTN Tazewell 145.52 28 *e*PKPab **PKPbc 05 13 52.9 +0.1**
SDMD Soldier's Deli 145.60 17 *e*PKPbc **PKPbc 05 13 52.7 -0.2**
TKL Tuckaleechee C 146.13 29 *e*PKP2 **PKPbc 05 13 54.8 +0.2**
TKL Tuckaleechee C 146.13 29 *e*PKPbc **PKPbc 05 13 54.8 +0.2**
CPUP Villa Florida 146.39 191 *e*PKP2 **PKPbc 05 13 56.0 +0.5**
CPUP Villa Florida 146.39 191 PKPbc **PKPbc 05 13 55.6 +0.1**
comp=Z,4.9nm,0.5s,baz=148,slow=3.4,SNR=11
CPUP Villa Florida 146.39 191 *e*PKPbc **PKPbc 05 13 56.0 +0.5**
CPUP *e*PKPab **PKiKP 05 13 58.6 +0.7**
JSRW J. Sargeant Re 146.83 20 *e*PKPbc **PKPbc 05 13 56.5 +0.1**
KMSC Kings Mountain 147.69 27 *e*PKPab **PKPbc 05 13 59.0 +0.2**
RCBR Riachuelo 149.09 247 PKPbc **PKPbc 05 14 03.4 +0.5**
comp=Z,6.0nm,0.8s,baz=151,slow=3.3,SNR=4.1
BDFB Brasilia 152.53 216 PKPbc **PKPbc 05 14 11.4 +0.6**
comp=Z,3.0nm,0.6s,baz=67,slow=2.4,SNR=5.6
BDFB PKPab **PKPab 05 14 24.3 +0.8**
comp=Z,1.5nm,0.6s,baz=59,slow=7.8,SNR=3.6
LPAZ La Paz 156.73 170 *e*PKP2 **PKPab 05 14 43.4 +1.4**
LPAZ La Paz 156.73 170 PKPab **PKPab 05 14 42.7 +0.7**
comp=Z,3.6nm,0.6s,baz=199,slow=5.0,SNR=10
LPAZ La Paz 156.73 170 *e*PKPab **PKPab 05 14 43.4 +1.4**

ISCJB ***02*** *05:01:38.5±1.1, 35.°04S±0.°10×72.°7W±0.°4, h18km, mb3.8/4, Error ellipse: s-maj=42.6km s-min=13.8km az=0.3*
IDC ***02*** *05:01:38.4±1.1, 34.°99S×72.°71W, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, ML3.8/2, Error ellipse: s-maj=46.6km s-min=23.5km az=94.0*
ISC 02 05:01:41.0±1.1, 35.°05S±0.°1×72.°6W±0.°3, h18km, n7, σ1♀50/7, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.93**	**165**	Pn	**Pn**	**05 03 07.2**	**-0.8**
	0.5nm,0.3s,baz=335,slow=11,SNR=3.9						
PLCA				Lg	Lg	05 04 45.7	
	5.1nm,0.3s,baz=88,slow=22,SNR=4.9						

LPAZ La Paz 19.07 13 P Pn 05 06 03.0 -0.9
0.1nm,0.3s,baz=196,slow=10,SNR=4.4
SIV San Ignacio 21.58 31 P P 05 06 29.2 -0.5
2.8nm,0.7s,baz=240,slow=8.7,SNR=6.8
QSPA South Pole Qui 55.22 180 P P 05 11 12.2 -0.4
1.0nm,0.8s,baz=310,slow=10,SNR=1.6
TXAR Lajitas Array 70.40 331 P P 05 12 53.5 -0.5
0.8nm,0.9s,baz=157,slow=9.6,SNR=5.9
TORD Torodi Ar. Bea 84.98 70 P P 05 14 16.9 +1.3
0.4nm,0.7s,baz=238,slow=4.8,SNR=3.4
WRA Warramunga Arr 119.66 209 PKP PKPdf 05 20 32.6 +2.2
0.5nm,1.1s,baz=172,slow=1.5,SNR=6.0

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*IDC **02** 05:05:14.2±1.2,36.76S×72.48W,h0km,mb4.0/7, mb1 4.3/8,mb1mx4.1/16,mbtmp4.0/8,ML4.3/1,Error ellipse: s-maj=41.4km s-min=25.4km az=59.0*
*ISCJB **02** 05:05:18.1±0.6,36.66S±0.06×72.1W±0.1,h35km,mb4.1/9, Error ellipse: s-maj=15.9km s-min=8.0km az=165.9*
*NEIC **02** 05:05:19.3±0.7,36.74S×72.21W,h35km,mb4.5/2,Error ellipse: s-maj=17.0km s-min=11.9km az=70.0*
ISC 02 05:05:19.4±0.7,36.69S±0.07×72.3W±0.1,h35km,n18, σ1968/19,mb4.2/9,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.26**	**162**	*e*Pn	**Pn**	**05 06 18.9**	**-2.9**
	4.3nm,0.3s,baz=321,slow=8.7,SNR=2.0						
PLCA				Sn	**Sn**	**05 07 12.5**	**+2.2**
	4.3nm,0.3s,baz=232,slow=21,SNR=2.9						
PLCA				Lg	Lg	05 07 22.2	
	12nm,0.3s,baz=19,slow=21,SNR=6.3						
PLCA	**Paso Flores**	**4.26**	**162**	*e*Pn	**Pn**	**05 06 19.4**	**-2.4**
PLCA				Sn	**Sn**	**05 07 12.5**	**+2.2**
PLCA				Lg	Lg	05 07 22.2	
TRQA	**Tornquist**	**8.33**	**102**	*e*Pn	**Pn**	**05 07 16.4**	**-1.2**
LVC	**Limon Verde**	**14.34**	**13**	*e*Pn	**Pn**	**05 08 39.5**	**-0.6**
	8.2nm,0.8s						
CPUP	**Villa Florida**	**16.41**	**55**	Pn	**Pn**	**05 09 05.6**	**-1.3**
LPAZ	**La Paz**	**20.66**	**11**	P	P	05 09 52.1	-4.7
	2.9nm,1.0s,baz=176,slow=8.0,SNR=3.6						
SIV	**San Ignacio**	**22.91**	**29**	P	**P**	**05 10 20.6**	**+0.3**
	1.1nm,0.5s,baz=232,slow=13,SNR=2.8						
SAML	**Samuel**	**28.84**	**19**	P	**P**	**05 11 13.8**	**-0.7**
SNAA	**Sanae**	**49.19**	**157**	*e*P	**P**	**05 14 03.0**	**-0.6**
	7.1nm,1.1s						
NATX	**Nacogdoches**	**71.24**	**340**	*e*P	**P**	**05 16 36.6**	**+1.8**
TXAR	**Lajitas Array**	**71.98**	**331**	P	**P**	**05 16 38.5**	**-0.9**
	1.1nm,0.6s,baz=159,slow=8.2,SNR=21						
WVT	**Waverly**	**73.88**	**347**	*e*P	**P**	**05 16 48.6**	**-1.7**
DBIC	**Dimbokro**	**76.26**	**71**	P	**P**	**05 17 07.1**	**+2.5**
	3.2nm,0.8s,baz=175,slow=3.5,SNR=4.1						
ANMO	**Albuquerque**	**78.04**	**332**	*e*P	**P**	**05 17 14.9**	**+0.5**
	4.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**85.33**	**70**	P	**P**	**05 17 53.1**	**0.0**
	0.7nm,0.8s,baz=224,slow=3.5,SNR=3.6						
NVAR	**Mina Array Bea**	**85.97**	**326**	P	**P**	**05 17 57.9**	**+1.9**
	0.6nm,0.7s,baz=163,slow=6.5,SNR=3.6						
PDAR	**Pinedale Array**	**86.07**	**333**	P	**P**	**05 17 56.7**	**+0.3**
	1.6nm,1.1s,baz=180,slow=5.9,SNR=4.6						
ULM	**Lac du Bonnet**	**89.04**	**345**	P	**P**	**05 18 10.8**	**+0.7**
	2.2nm,0.9s,baz=185,slow=9.2,SNR=3.1						

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*ISCJB **02** 05:12:49.8±0.9,35.15S±0.08×72.8W±0.2,h10km,mb3.9/6, Error ellipse: s-maj=28.7km s-min=10.8km az=7.9*
*IDC **02** 05:12:50.2±1.2,35.06S×72.52W,h0km,mb3.9/6, mb1 4.0/8,mb1mx3.9/28,mbtmp3.9/8,ML4.0/2,Error ellipse: s-maj=45.0km s-min=21.2km az=91.0*
ISC 02 05:12:51.9±1.1,35.13S±0.10×72.8W±0.2,h10km,n10, σ1930/10,mb4.0/6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.16**	**48**	Pn	**Pn**	**05 14 10.8**	**+1.5**
	0.3nm,0.3s,baz=235,slow=18,SNR=5.0						
CFAA				Lg	Lg	05 15 30.2	
	0.6nm,0.3s,baz=206,slow=22,SNR=3.8						
PLCA	**Paso Flores**	**5.86**	**163**	Pn	**Pn**	**05 14 19.4**	**+0.7**
	1.3nm,0.3s,baz=324,slow=12,SNR=6.5						
LPAZ	**La Paz**	**19.22**	**14**	P	**P**	**05 17 18.1**	**+1.3**
	0.2nm,0.3s,baz=350,slow=22,SNR=3.4						
USHA	**Ushuaia**	**19.93**	**173**	P	**P**	**05 17 24.8**	**+1.2**
	0.2nm,0.3s,baz=9.3,slow=13,SNR=2.1						
SIV	**San Ignacio**	**21.75**	**32**	P	**P**	**05 17 42.1**	**-1.5**
	2.7nm,0.6s,baz=200,slow=7.3,SNR=9.3						
SNAA	**Sanae**	**50.77**	**157**	P	**P**	**05 21 51.4**	**-0.4**
	1.6nm,0.9s,baz=180,slow=17,SNR=3.4						
QSPA	**South Pole Qui**	**55.11**	**180**	P	**P**	**05 22 23.6**	**-0.3**
	1.1nm,0.7s,baz=284,slow=6.1,SNR=3.1						
TXAR	**Lajitas Array**	**70.44**	**332**	P	**P**	**05 24 06.7**	**+0.3**
	0.4nm,0.7s,baz=153,slow=9.6,SNR=5.4						
DBIC	**Dimbokro**	**76.10**	**71**	P	**P**	**05 24 38.5**	**-1.6**
	1.8nm,0.7s,baz=220,slow=7.3,SNR=1.8						
TORD	**Torodi Ar. Bea**	**85.15**	**70**	P	**P**	**05 25 27.7**	**-0.9**
	0.9nm,0.8s,baz=241,slow=4.8,SNR=5.8						

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*IDC **02** 05:15:57.3±1.0,34.25S×71.68W,h0km,mb4.0/7, mb1 4.3/8,mb1mx4.1/18,mbtmp4.1/8,ML4.0/1,Error ellipse: s-maj=38.2km s-min=25.8km az=84.0*
*GUC **02** 05:15:58.0±0.4,34.14S×71.97W,h52km,ML4.0*
*ISCJB **02** 05:16:00.7±0.6,34.25S±0.08×71.81W±0.08,h35km, mb4.1/10,Error ellipse: s-maj=12.8km s-min=7.3km az=147.4*
*NEIC **02** 05:16:02.5±0.5,34.24S×71.88W,h35km,mb4.3/4,Error ellipse: s-maj=12.7km s-min=10.0km az=105.0*
ISC 02 05:16:02.4±0.7,34.22S±0.09×71.78W±0.09,h35km,n27, σ0983/29,mb4.2/10,3C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TACH	**Talagante**	**0.90**	**52**	⇑*i*P	Pn	05 16 16.5	-2.1
CHCH	**Chadas Angostu**	**0.98**	**74**	⇓*i*P	**Pn**	**05 16 18.5**	**-1.2**
RCDM	**Rinconada Maip**	**1.09**	**49**	*e*P	**Pn**	**05 16 19.3**	**-1.9**
RCDM				*i*S	**Sn**	**05 16 35.2**	**+0.2**
RCDM				IAML		05 16 35.9	
	comp=N,6μm,0.5s						
ANTU	**Antumapu**	**1.15**	**56**	⇑*i*P	**Pn**	**05 16 20.9**	**-1.2**
ANTU				*e*S1	**Sn**	**05 16 37.9**	**+1.2**
ANTU				IAML		05 16 38.8	
	comp=E,5μm,0.5s						
SAN	**Santiago**	**1.20**	**51**	⇑*i*P	**Pn**	**05 16 21.2**	**-1.6**
SAN				*e*S	**Sn**	**05 16 38.7**	**+0.8**
CFAA	**Coronel Fontan**	**3.96**	**50**	Pn	Pn	05 17 04.2	+3.5
	comp=E,0.3nm,0.3s,baz=260,slow=12,SNR=1.7						
LVC	**Limon Verde**	**11.83**	**13**	*e*Pn	**Pn**	**05 18 49.5**	**+0.5**
CPUP	**Villa Florida**	**14.74**	**62**	*e*Pn	**Pn**	**05 19 29.4**	**+1.0**
LPAZ	**La Paz**	**18.15**	**11**	P	**Pn**	**05 20 12.2**	**-0.1**
	comp=E,0.2nm,0.3s,baz=175,slow=9.6,SNR=20						
LPAZ	**La Paz**	**18.15**	**11**	*e*Pn	**Pn**	**05 20 12.7**	**+0.3**
SIV	**San Ignacio**	**20.55**	**31**	P	**P**	**05 20 37.5**	**-0.5**
	comp=E,2.2nm,0.6s,baz=223,slow=14,SNR=6.1						
NNA	**Nana**	**22.60**	**347**	P	**P**	**05 21 00.6**	**+0.4**
	comp=E,11nm,0.8s,baz=200,slow=13,SNR=2.2						
SAML	**Samuel**	**26.36**	**19**	*e*P	**P**	**05 21 35.3**	**0.0**
	comp=E,23nm,1.8s						
OTAV	**Otavalo**	**34.84**	**348**	*e*P	**P**	**05 22 50.6**	**-0.2**
	comp=E,5.8nm,1.3s						
SNAA	**Sanae**	**51.31**	**158**	*e*P	**P**	**05 25 02.7**	**0.0**
	comp=E,2.8nm,0.8s						
QSPA	**South Pole Qui**	**56.02**	**180**	P	**P**	**05 25 37.7**	**+0.3**
	comp=E,2.6nm,0.9s,baz=150,slow=4.5,SNR=3.7						
QSPA	**South Pole Qui**	**56.02**	**180**	*e*P	**P**	**05 25 37.4**	**-0.1**
TXAR	**Lajitas Array**	**70.03**	**331**	P	**P**	**05 27 10.8**	**+0.1**
	comp=E,1.6nm,1.1s,baz=163,slow=4.6,SNR=6.5						
WVT	**Waverly**	**71.57**	**346**	*e*P	**P**	**05 27 19.1**	**-0.7**
ANMO	**Albuquerque**	**76.07**	**331**	*e*P	**P**	**05 27 46.6**	**+0.1**
	comp=E,1.1nm,1.0s						
PDAR	**Pinedale Array**	**84.05**	**333**	P	**P**	**05 28 30.7**	**+1.3**
	comp=E,0.7nm,1.0s,baz=160,slow=4.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**84.08**	**70**	P	**P**	**05 28 29.7**	**-0.2**
	comp=E,2.0nm,1.0s,baz=263,slow=4.0,SNR=8.3						
NVAR	**Mina Array Bea**	**84.18**	**325**	P	**P**	**05 28 31.4**	**+1.2**
	comp=E,0.9nm,0.8s,baz=189,slow=3.9,SNR=4.0						
MCMT	**McKenzie Canyo**	**87.06**	**332**	*e*P	**P**	**05 28 44.3**	**-0.1**
ZALV	**Zalesovo Beam**	**154.29**	**33**	PKPbc	**PKPbc**	**05 35 58.4**	**+0.1**
	comp=E,0.9nm,0.7s,baz=276,slow=4.3,SNR=5.5						
ZALV				PKPab	**PKPab**	**05 36 12.9**	**+0.5**
	comp=E,1.2nm,0.8s,baz=276,slow=6.9,SNR=4.9						
MKAR	**Makanchi Array**	**156.74**	**50**	PKPab	**PKPab**	**05 36 23.4**	**+0.1**
	comp=E,0.6nm,0.9s,baz=289,slow=3.7,SNR=4.1						
SONM	**Songino Array**	**166.32**	**5**	PKPab	**PKPab**	**05 37 04.2**	**-0.9**
	comp=E,0.1nm,0.4s,baz=11,slow=1.1,SNR=4.1						

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*ISCJB **02** 05:21:52.8±0.4,34.72S±0.05×72.20W±0.10,h10km, mb4.3/18,MS4.0/5,Error ellipse: s-maj=11.9km s-min=7.4km az=172.3*
*IDC **02** 05:21:53.5±0.6,34.62S×72.31W,h0km,mb4.3/13, mb1 4.4/16,mb1mx4.4/21,mbtmp4.3/16,ML4.6/2,MS4.1/6, Ms1 4.0/6,ms1mx3.7/21,Error ellipse: s-maj=21.8km s-min=15.5km az=93.0*
*NEIC **02** 05:21:58.3±0.3,34.68S×72.14W,h35km,mb4.4/7,Error ellipse: s-maj=9.8km s-min=6.5km az=82.0*
ISC 02 05:21:54.8±0.5,34.69S±0.06×72.30W±0.09,h10km,n48, σ1903/46,mb4.3/18,MS4.1/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.59**	**49**	Pn	**Pn**	**05 23 03.9**	**-0.3**
	1.1nm,0.3s,baz=222,slow=12,SNR=21						
CFAA				Pg	**Pb**	**05 23 16.6**	**+1.2**
	2.1nm,0.3s,baz=225,slow=18,SNR=12						
CFAA				Lg	Lg	05 24 13.7	
	2.9nm,0.3s,baz=133,slow=23,SNR=12						
CFAA				LR	LR	05 24 33.5	
	comp=Z,76nm,22.0s,baz=238,slow=35						
PLCA	**Paso Flores**	**6.19**	**168**	Pn	**Pn**	**05 23 24.5**	**-1.8**
	3.0nm,0.3s,baz=340,slow=12,SNR=13						
PLCA				Pg	**Pb**	**05 23 44.0**	**+1.3**
	4.4nm,0.3s,baz=356,slow=16,SNR=8.3						
PLCA				Lg	Lg	05 25 03.7	
	2.4nm,0.3s,baz=267,slow=22,SNR=6.3						
PLCA				LR	LR	05 25 51.5	
	comp=Z,1μm,20.5s,baz=352,slow=38						
PLCA	**Paso Flores**	**6.19**	**168**	*e*Pn	**Pn**	**05 23 24.9**	**-1.4**
PLCA				Pg	**Pb**	**05 23 44.0**	**+1.3**
PLCA				Lg	Lg	05 25 03.7	
TRQA	**Tornquist**	**8.97**	**115**	*e*Pn	**Pn**	**05 24 02.6**	**-1.9**
	103nm,1.5s						
LVC	**Limon Verde**	**12.39**	**15**	*e*Pn	**Pn**	**05 24 51.9**	**+0.4**
CPUP	**Villa Florida**	**15.34**	**61**	Pn	**Pn**	**05 25 32.6**	**+1.2**
	0.6nm,0.3s,baz=194,slow=11,SNR=4.1						
CPUP	**Villa Florida**	**15.34**	**61**	*e*Pn	**Pn**	**05 25 30.5**	**-0.9**
LPAZ	**La Paz**	**18.70**	**13**	P	**P**	**05 26 14.1**	**+0.1**
	0.8nm,0.3s,baz=187,slow=9.2,SNR=33						
LPAZ	**La Paz**	**18.70**	**13**	*e*P	**P**	**05 26 13.5**	**-0.5**
	18nm,0.8s						
USHA	**Ushuaia**	**20.32**	**174**	P	**P**	**05 26 31.4**	**+0.5**
	15nm,1.0s,baz=31,slow=10,SNR=3.1						
SIV	**San Ignacio**	**21.17**	**31**	P	**P**	**05 26 38.8**	**-1.5**
	12nm,0.7s,baz=232,slow=11,SNR=34						
NNA	**Nana**	**22.97**	**349**	P	**P**	**05 26 59.0**	**-0.6**
	13nm,0.8s,baz=212,slow=9.8,SNR=5.2						
NNA				LR	LR	05 33 48.8	
	comp=Z,162nm,21.9s,baz=174,slow=31						
SAML	**Samuel**	**26.95**	**20**	*e*P	**P**	**05 27 35.2**	**-1.2**
	3.3nm,0.6s						
BDFB	**Brasilia**	**28.90**	**55**	P	**P**	**05 27 55.0**	**+0.9**
	2.8nm,0.8s,baz=230,slow=13,SNR=5.5						
BDFB				LR	LR	05 40 15.8	
	comp=Z,346nm,21.2s,baz=225,slow=38						
PMSA	**Palmer Station**	**30.53**	**173**	LR	LR	05 39 20.2	
	comp=Z,435nm,19.9s,baz=320,slow=34						
OTAV	**Otavalo**	**35.22**	**349**	*e*P	**P**	**05 28 50.4**	**+0.5**
	9.3nm,1.3s						
ROSC	**El Rosal**	**39.38**	**357**	P	P	05 29 29.1	+4.0
	2.3nm,0.5s,baz=110,slow=14,SNR=2.4						
VNA3	**Neumayer Olymp**	**48.81**	**158**	P	**P**	**05 30 41.6**	**+1.9**
VNA2	**Neumayer--Watz**	**49.47**	**157**	P	**P**	**05 30 42.6**	**-2.2**
SNAA	**Sanae**	**51.03**	**158**	P	**P**	**05 30 55.9**	**-0.7**
SNAA	**Sanae**	**51.03**	**158**	P	**P**	**05 30 57.7**	**+1.0**
	1.9nm,0.9s,baz=299,slow=7.1,SNR=4.9						
QSPA	**South Pole Qui**	**55.55**	**180**	P	**P**	**05 31 31.8**	**+1.7**
	7.2nm,1.1s,baz=338,slow=2.4,SNR=14						
QSPA	**South Pole Qui**	**55.55**	**180**	*e*P	**P**	**05 31 30.2**	**+0.1**
	6.2nm,1.0s						
VNDA	**Vanda**	**63.39**	**191**	LR	LR	05 57 19.2	
	comp=Z,145nm,18.4s,baz=178,slow=34						
H06S1	**SOCORRO T**	**64.60**	**319**	T	T	06 44 44.0	
	SNR=8.9						
TXAR	**Lajitas Array**	**70.23**	**331**	P	**P**	**05 33 07.7**	**-0.4**
	0.7nm,0.7s,baz=152,slow=8.2,SNR=10						
MIAR	**Mount Ida**	**71.69**	**342**	*e*P	**P**	**05 33 16.4**	**-0.3**
WVT	**Waverly**	**71.93**	**347**	*e*P	**P**	**05 33 16.3**	**-1.8**
	12nm,0.8s						
MAW	**Mawson**	**72.58**	**164**	LR	LR	06 06 18.5	
	comp=Z,192nm,18.8s,baz=244,slow=37						
121A	**Cookes Peak, D**	**74.72**	**329**	*e*P	**P**	**05 33 35.2**	**+0.4**
	4.0nm,0.8s						
DBIC	**Dimbokro**	**75.60**	**71**	P	**P**	**05 33 40.4**	**+0.2**
	3.2nm,0.8s,baz=258,slow=5.8,SNR=4.3						
DBIC	**Dimbokro**	**75.60**	**71**	*e*P	**P**	**05 33 39.8**	**-0.3**
ANMO	**Albuquerque**	**76.28**	**332**	*e*P	**P**	**05 33 44.0**	**+0.1**
TSUM	**Tsumeb**	**79.23**	**106**	*e*P	**P**	**05 33 59.6**	**-1.1**
BOSA	**Boshof**	**79.94**	**118**	P	**P**	**05 34 03.5**	**-1.0**
	5.9nm,0.6s,baz=234,slow=3.7,SNR=11						
DAC	**Darwin (Calif)**	**82.26**	**325**	*e*P	**P**	**05 34 16.6**	**+0.2**
	1.6nm,0.8s						
PDAR	**Pinedale Array**	**84.28**	**333**	P	**P**	**05 34 26.6**	**-0.2**
	0.9nm,0.7s,baz=128,slow=2.4,SNR=6.8						
NVAR	**Mina Array Bea**	**84.32**	**325**	P	**P**	**05 34 26.8**	**-0.3**
	0.9nm,0.7s,baz=132,slow=6.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**84.64**	**70**	P	**P**	**05 34 29.0**	**+0.1**
	1.8nm,0.9s,baz=280,slow=5.6,SNR=11						
ULM	**Lac du Bonnet**	**87.10**	**345**	P	**P**	**05 34 40.2**	**-0.1**
	1.7nm,0.8s,baz=187,slow=7.0,SNR=4.0						
YKA	**Yellowknife Ar**	**102.64**	**341**	Pdiff	**Pdif**	**05 35 49.8**	**-1.3**
	0.2nm,0.8s,baz=139,slow=3.8,SNR=4.0						
WRA	**Warramunga Arr**	**120.06**	**209**	PKP	**PKPdf**	**05 40 46.1**	**-0.2**
	0.2nm,0.6s,baz=157,slow=1.8,SNR=5.5						
H11N3	**WAKE ISLAND Hyl**	**25.97**	**270**	T	T	07 59 38.2	
	baz=116,slow=78,SNR=94						
H11N1	**WAKE ISLAND Hyl**	**25.99**	**270**	T	T	07 59 40.9	
	baz=116,slow=78,SNR=151						
H11N2	**WAKE ISLAND Hyl**	**25.99**	**270**	T	T	07 59 39.5	
	baz=116,slow=78,SNR=112						
ZALV	**Zalesovo Beam**	**154.92**	**33**	PKP	**PKPdf**	**05 41 47.4**	**+0.2**
	0.3nm,0.4s,baz=338,slow=11,SNR=1.9						
ZALV				PKPbc	**PKPbc**	**05 41 56.8**	**+0.9**
	0.5nm,0.5s,baz=318,slow=4.2,SNR=3.7						
ZALV				PKPab	**PKPab**	**05 42 12.0**	**+0.7**
	1.0nm,0.6s,baz=310,slow=4.8,SNR=4.3						
MKAR	**Makanchi Array**	**157.37**	**50**	PKP	**PKPdf**	**05 41 51.1**	**+0.4**
	0.3nm,0.8s,baz=342,slow=2.3,SNR=2.5						
MKAR				PKPab	**PKPab**	**05 42 22.8**	**+0.6**
	0.6nm,0.9s,baz=276,slow=3.5,SNR=4.6						
SONM	**Songino Array**	**166.83**	**4**	PKPab	**PKPab**	**05 43 04.5**	**+1.0**
	0.1nm,0.3s,baz=348,slow=38,SNR=3.0						

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*IDC **02** 05:24:45.2±0.9,37.58S×73.69W,h0km,mb4.1/8, mb1 4.3/11,mb1mx4.1/31,mbtmp4.2/11,ML4.1/3,Error ellipse: s-maj=32.5km s-min=16.0km az=80.0*
*ISCJB **02** 05:24:47.1±0.9,37.57S±0.08×73.7W±0.2,h23km, mb4.3/11,Error ellipse: s-maj=24.1km s-min=11.0km az=2.2*
ISC 02 05:24:48.8±0.9,37.6S±0.1×73.7W±0.2,h23km,n21, σ0975/21,mb4.3/11,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.00**	**143**	Pn	**Pn**	**05 25 49.2**	**+0.5**
	2.5nm,0.3s,baz=278,slow=18,SNR=0.7						
PLCA				Lg	Lg	05 26 51.5	
	10nm,0.3s,baz=242,slow=18,SNR=5.1						
USHA	**Ushuaia**	**17.64**	**170**	P	**P**	**05 28 53.4**	**-0.2**
	0.3nm,0.3s,baz=320,slow=8.4,SNR=3.5						
CPUP	**Villa Florida**	**17.82**	**56**	P	**P**	**05 28 55.9**	**0.0**
	0.3nm,0.3s,baz=174,slow=14,SNR=3.1						
LPAZ	**La Paz**	**21.77**	**15**	P	**P**	**05 29 41.0**	**+1.5**
	4.2nm,0.7s,baz=170,slow=12,SNR=5.6						
SIV	**San Ignacio**	**24.23**	**31**	P	**P**	**05 30 03.9**	**-0.1**
	2.8nm,0.8s,baz=221,slow=12,SNR=4.8						
SNAA	**Sanae**	**48.82**	**157**	P	**P**	**05 33 31.8**	**-0.1**
	2.9nm,1.0s,baz=293,slow=7.5,SNR=5.6						
QSPA	**South Pole Qui**	**52.67**	**180**	P	**P**	**05 34 01.4**	**+0.4**
	5.4nm,0.9s,baz=148,slow=4.7,SNR=5.3						
H06S1	**SOCORRO T**	**66.08**	**321**	T	T	06 46 29.1	
	SNR=29						
TXAR	**Lajitas Array**	**72.23**	**333**	P	**P**	**05 36 12.1**	**0.0**
	0.5nm,0.8s,baz=145,slow=4.6,SNR=3.8						
LIC	**Lamto**	**77.18**	**72**	*e*P	**P**	**05 36 40.9**	**-0.1**
	20nm,1.1s						
TIC	**Toumodi**	**77.46**	**71**	*e*P	**P**	**05 36 41.6**	**-1.0**
	2.5nm,0.2s						
KIC	**Kosan Boka**	**77.49**	**72**	*e*P	**P**	**05 36 42.4**	**-0.3**
	30nm,1.2s						
DBIC	**Dimbokro**	**77.60**	**72**	P	**P**	**05 36 41.9**	**-1.5**
	4.1nm,0.7s,baz=208,slow=2.8,SNR=6.6						
BOSA	**Boshof**	**79.60**	**118**	P	**P**	**05 36 55.3**	**+0.8**
	2.3nm,0.9s,baz=92,slow=2.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**86.68**	**71**	P	**P**	**05 37 30.1**	**-0.8**
	1.0nm,0.7s,baz=229,slow=4.5,SNR=5.7						
BRTR	**Keskin Array B**	**124.69**	**64**	PKP	**PKPdf**	**05 43 45.9**	**-0.5**
	0.6nm,0.7s,baz=207,slow=2.5,SNR=3.9						
PSI	**Prapat**	**144.74**	**167**	PKP	**PKPab**	**05 44 22.2**	**-1.0**
	5.0nm,0.7s,baz=226,slow=3.6,SNR=6.3						
BVAR	**Borovoye Array**	**150.77**	**47**	PKPbc	**PKPbc**	**05 44 38.8**	**+0.2**
	1.8nm,0.6s,baz=279,slow=2.9,SNR=8.4						
BVAR				PKPab	**PKPab**	**05 44 46.9**	**+1.2**
	2.0nm,0.9s,baz=354,slow=1.5,SNR=4.2						
AAK	**Ala-Archa**	**155.24**	**68**	PKPab	**PKPab**	**05 45 05.1**	**-0.1**
	2.0nm,0.6s,baz=190,slow=1.5,SNR=6.3						
ZALV	**Zalesovo Beam**	**157.94**	**35**	PKPab	**PKPab**	**05 45 16.0**	**-0.1**
	1.2nm,0.7s,baz=289,slow=4.5,SNR=4.5						
MKAR	**Makanchi Array**	**160.03**	**55**	PKPab	**PKPab**	**05 45 25.2**	**-0.3**
	0.5nm,0.8s,baz=264,slow=4.6,SNR=3.7						

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*CSEM **02** 05:25:21.0,44.15N×21.67E,h0km,ML1.6*
BEO 02 05:25:21.0±0.6,44.15N×21.67E,h0km,ML1.6/8,2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVIS	**Svilajnac**	**0.35**	**290**	*e*Pg	Pg	05 25 27.3	-0.4
SVIS	**Svilajnac**	**0.35**	**290**	*e*Pg	Pg	05 25 27.3	-0.4
TRUS	**Trudelj**	**0.91**	**275**	*e*Pg	Pg	05 25 37.4	-1.1
TRUS				*e*Sg	Sg	05 25 49.8	-0.6
TRUS	**Trudelj**	**0.91**	**275**	*e*Pg	Pg	05 25 37.4	-1.1
TRUS				*e*Sg	Sg	05 25 49.8	-0.6
SELS	**Selova**	**1.01**	**203**	*e*Pg	Pg	05 25 39.0	-1.5
SELS				*e*Sg	Sg	05 25 53.4	-0.2
ZAPS	**Zavoj**	**1.12**	**141**	*e*Pg	Pg	05 25 41.2	-1.4
ZAPS				*e*Sg	Sg	05 25 56.6	-0.6
DIVS	**Divibare**	**1.21**	**268**	*e*Pg	Pg	05 25 42.8	-1.5
DIVS				*e*Sg	Sg	05 25 59.7	-0.4
DIVS	**Divibare**	**1.21**	**268**	*e*Pg	Pg	05 25 42.8	-1.5
DIVS				*e*Sg	Sg	05 25 59.7	-0.4
IVAS	**Ivanjica**	**1.24**	**243**	*e*Pg	Pg	05 25 43.1	-1.8
IVAS				*e*Sg	Sg	05 26 00.1	-0.9
IVAS	**Ivanjica**	**1.24**	**243**	*e*Pg	Pg	05 25 43.1	-1.8
IVAS				*e*Sg	Sg	05 26 00.1	-0.9
BARS	**Barje**	**1.34**	**175**	*e*Pg	Pg	05 25 45.2	-1.5
BARS				*e*Sg	Sg	05 26 03.2	-0.8
BARS	**Barje**	**1.34**	**175**	*e*Pg	Pg	05 25 45.2	-1.5
BARS				*e*Sg	Sg	05 26 03.2	-0.8
BZS	**Buzias**	**1.47**	**359**	⇑*i*P	Pn	05 25 45.8	-2.9
BZS	**Buzias**	**1.47**	**359**	S	Sg	05 26 07.4	-0.8
GZR	**Gura Zlata**	**1.47**	**32**	⇑*i*P	Pn	05 25 47.1	-1.8
GZR				S	Sg	05 26 06.8	-1.7
BBLS	**Lazići**	**1.66**	**261**	*e*Sg	Sb	05 26 14.3	+0.2
BBLS	**Lazići**	**1.66**	**261**	*e*Sg	Sb	05 26 14.3	+0.2

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*NIED **02** 05:39:00,26.00N×128.70E,h17km,Mw4.1 Best double couple: M0:1.49000×10^15 NP1:φ=57.00000°,δ=35.00000°,λ=119.00000°. NP2:φ=204.00000°,δ=59.00000°,λ=71.00000°.*
*IDC **02** 05:39:25.2±1.8,25.99N×128.68E,h0km,mb3.8/11, mb1 4.0/12,mb1mx3.9/27,mbtmp3.8/12,ML3.6/1,MS4.0/1, Ms1 4.0/1,ms1mx3.1/40,Error ellipse: s-maj=39.9km s-min=30.6km az=23.0*
*ISCJB **02** 05:39:26.9±1.0,25.97N±0.04×128.71E±0.04,h25km±6km, mb3.7/11,MS4.1/1,Error ellipse: s

*ISK **02** 05:40:37.2, 40.30N×24.06E, h5km, MD3.6*
*SKO **02** 05:40:39.9, 40.39N×23.84E, h11km, M2.5, ML2.8*
*SOF **02** 05:40:40.1, 40.53N×23.96E, h3km, MD3.0*

ISC 02 05:40:37.5±0.8, 40.33N±0.01×23.93E±0.02, h10km±4km, n153, σ0.71/204, 18C-7D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.04**	**83**	P	**Pg**	**05 40 39.6**	**+0.2**
OUR				S	**Sg**	**05 40 40.7**	**0.0**
OUR	**Ouranopolis**	**0.04**	**83**	*e*PG	**Pg**	**05 40 39.6**	**+0.2**
OUR				*e*SG	**Sg**	**05 40 40.4**	**-0.3**
OUR	**Ouranopolis**	**0.04**	**83**	P	**Pg**	**05 40 39.6**	**+0.2**
OUR				*e*Sg	**Sg**	**05 40 40.4**	**-0.3**
PLG	**Polygyros**	**0.37**	**277**	P	**Pg**	**05 40 45.2**	**+0.3**
PLG				S	**Sg**	**05 40 50.5**	**+0.6**
PLG	**Polygyros**	**0.37**	**277**	*e*PB	**Pg**	**05 40 45.2**	**+0.3**
PLG				*e*SB	**Sg**	**05 40 50.2**	**+0.3**
PLG	**Polygyros**	**0.37**	**277**	P	**Pg**	**05 40 45.2**	**+0.3**
PLG				*e*Sb	**Sg**	**05 40 50.2**	**+0.3**
PAIG	**Paliouri**	**0.45**	**206**	P	**Pg**	**05 40 46.4**	**+0.2**
PAIG				S	**Sg**	**05 40 52.6**	**+0.5**
PAIG	**Paliouri**	**0.45**	**206**	*e*PB	**Pg**	**05 40 46.4**	**+0.2**
PAIG				*e*SB	**Sg**	**05 40 52.2**	**+0.1**
PAIG	**Paliouri**	**0.45**	**206**	P	**Pg**	**05 40 46.4**	**+0.2**
PAIG				*e*Sb	**Sg**	**05 40 52.2**	**+0.1**
SOH	**Sokhos**	**0.66**	**318**	P	**Pg**	**05 40 50.5**	**+0.2**
SOH				S	**Sg**	**05 40 59.6**	**+0.7**
SOH	**Sokhos**	**0.66**	**318**	*e*PN	**Pg**	**05 40 50.5**	**+0.2**
SOH				*e*SN	**Sg**	**05 40 59.2**	**+0.3**
SOH	**Sokhos**	**0.66**	**318**	P	**Pg**	**05 40 50.5**	**+0.2**
SOH				*e*Sn	**Sg**	**05 40 59.2**	**+0.3**
HORT	**Hortiatis**	**0.69**	**293**	P	**Pg**	**05 40 50.8**	**0.0**
HORT				S	**Sb**	**05 41 00.9**	**-0.4**
HORT	**Hortiatis**	**0.69**	**293**	*e*PN	**Pg**	**05 40 50.5**	**-0.3**
HORT	**Hortiatis**	**0.69**	**293**	*e*Pn	**Pg**	**05 40 50.5**	**-0.3**
HORT	**Hortiatis**	**0.69**	**293**	P	**Pg**	**05 40 50.8**	**0.0**
HORT				S	**Sb**	**05 41 00.9**	**-0.4**
THE	**Thessaloniki**	**0.80**	**293**	P	**Pg**	**05 40 52.8**	**-0.1**
THE				S	**Sb**	**05 41 04.3**	**0.0**
THE	**Thessaloniki**	**0.80**	**293**	*e*PN	**Pg**	**05 40 52.7**	**-0.1**
THE	**Thessaloniki**	**0.80**	**293**	P	**Pg**	**05 40 52.8**	**-0.1**
THE				S	**Sb**	**05 41 04.3**	**0.0**
KAVA	**Kavala**	**0.80**	**33**	P	**Pg**	**05 40 53.1**	**+0.1**
KAVA				S	**Sg**	**05 41 04.1**	**+0.7**
KAVA	**Kavala**	**0.80**	**33**	*e*PN	**Pg**	**05 40 53.0**	**+0.1**
KAVA				*e*SN	**Sg**	**05 41 04.0**	**+0.7**
KAVA	**Kavala**	**0.80**	**33**	P	**Pg**	**05 40 53.1**	**+0.1**
KAVA				S	**Sg**	**05 41 04.1**	**+0.7**
SRS	**Serrai**	**0.83**	**342**	P	**Pg**	**05 40 53.7**	**+0.2**
SRS				S	**Sb**	**05 41 05.5**	**+0.3**
SRS	**Serrai**	**0.83**	**342**	*e*PN	**Pg**	**05 40 53.4**	**-0.1**
SRS	**Serrai**	**0.83**	**342**	*e*Pn	**Pg**	**05 40 53.4**	**-0.1**
SRS	**Serrai**	**0.83**	**342**	P	**Pg**	**05 40 53.7**	**+0.2**
SRS				S	**Sb**	**05 41 05.5**	**+0.3**
NVR	**Nevrokopi**	**1.02**	**357**	P	**Pg**	**05 40 57.0**	**-0.1**
NVR				S	**Sb**	**05 41 11.5**	**+0.7**
NVR	**Nevrokopi**	**1.02**	**357**	P	**Pg**	**05 40 57.0**	**-0.1**
NVR				S	**Sb**	**05 41 11.5**	**+0.7**
LIA	**Limnos Island**	**1.05**	**114**	P	**Pg**	**05 40 57.4**	**-0.3**
LIA	**Limnos Island**	**1.05**	**114**	*e*PN	**Pg**	**05 40 57.3**	**-0.4**
LIA	**Limnos Island**	**1.05**	**114**	P	**Pg**	**05 40 57.4**	**-0.3**
XOR	**Xorichti**	**1.12**	**211**	P	**Pb**	**05 40 59.0**	**0.0**
XOR				S	**Sn**	**05 41 14.9**	**+0.2**
XOR	**Xorichti**	**1.12**	**211**	*e*PN	**Pb**	**05 40 58.9**	**0.0**
XOR				*e*SN	**Sb**	**05 41 13.8**	**+0.2**
XOR	**Xorichti**	**1.12**	**211**	*e*Pn	**Pb**	**05 40 58.9**	**0.0**
XOR				*e*Sn	**Sb**	**05 41 13.8**	**+0.2**
XOR				S	**Sn**	**05 41 14.9**	**+0.2**
LIT	**Litokhoron**	**1.13**	**259**	P	**Pb**	**05 40 58.6**	**-0.5**
LIT	**Litokhoron**	**1.13**	**259**	*e*PN	**Pb**	**05 40 58.5**	**-0.5**
LIT				*e*SN	**Sb**	**05 41 14.3**	**+0.5**
LIT	**Litokhoron**	**1.13**	**259**	P	**Pb**	**05 40 58.6**	**-0.5**
LIT				*e*Sn	**Sb**	**05 41 14.3**	**+0.5**
KNT	**Kendrikon**	**1.14**	**317**	P	**Pb**	**05 40 59.1**	**-0.3**
KNT				S	**Sn**	**05 41 16.0**	**+0.6**
KNT	**Kendrikon**	**1.14**	**317**	*e*PN	**Pb**	**05 40 59.0**	**-0.3**
KNT				*e*SN	**Sb**	**05 41 14.2**	**-0.1**
KNT	**Kendrikon**	**1.14**	**317**	P	**Pb**	**05 40 59.1**	**-0.3**
KNT				*e*Sn	**Sb**	**05 41 14.2**	**-0.1**
KNT				S	**Sn**	**05 41 16.0**	**+0.6**
NEO	**Neokhori**	**1.16**	**208**	P	**Pb**	**05 40 59.6**	**0.0**
NEO	**Neokhori**	**1.16**	**208**	*e*PN	**Pb**	**05 40 59.3**	**-0.3**
NEO				*e*SN	**Sb**	**05 41 14.8**	**+0.1**
NEO	**Neokhori**	**1.16**	**208**	*e*Pn	**Pb**	**05 40 59.3**	**-0.3**
NEO	**Neokhori**	**1.16**	**208**	P	**Pb**	**05 40 59.6**	**0.0**
NEO				*e*Sn	**Sb**	**05 41 14.8**	**+0.1**
AOS	**Alonnisos**	**1.16**	**182**	P	**Pb**	**05 40 59.0**	**-0.6**
AOS				S	**Sn**	**05 41 16.3**	**+0.6**
AOS	**Alonnisos**	**1.16**	**182**	*e*PN	**Pb**	**05 40 59.1**	**-0.6**
AOS				*e*SN	**Sn**	**05 41 15.8**	**+0.1**
AOS	**Alonnisos**	**1.16**	**182**	*e*PN	**Pb**	**05 40 58.8**	**-0.8**
AOS	**Alonnisos**	**1.16**	**182**	P	**Pb**	**05 40 59.0**	**-0.6**
AOS				*e*Sn	**Sn**	**05 41 15.8**	**+0.1**
AOS				S	**Sn**	**05 41 16.3**	**+0.6**
SKIA	**Skiathos**	**1.22**	**197**	P	**Pn**	**05 41 00.0**	**-0.6**
SKIA	**Skiathos**	**1.22**	**197**	*e*PN	**Pn**	**05 40 59.9**	**-0.6**
SKIA	**Skiathos**	**1.22**	**197**	P	**Pn**	**05 41 00.0**	**-0.6**
SMTH	**Samothraki Isl**	**1.23**	**83**	P	**Pn**	**05 40 59.7**	**-1.1**
SMTH	**Samothraki Isl**	**1.23**	**83**	P	**Pn**	**05 40 59.7**	**-1.1**
MMB	**Musomiste**	**1.27**	**353**	⇑*i*P	**Pn**	**05 41 00.6**	**-0.8**
MMB	**Musomiste**	**1.27**	**353**	S	**Sb**	**05 41 16.8**	**-1.1**
MMB	**Musomiste**	**1.27**	**353**	*i*P	**Pn**	**05 41 00.5**	**-0.8**
MMB				Pg	**Pb**	**05 41 01.5**	**0.0**
MMB	**Musomiste**	**1.27**	**353**	*i*P	**Pn**	**05 41 00.5**	**-0.8**
GRG	**Griva**	**1.32**	**299**	P	**Pn**	**05 41 02.1**	**0.0**
GRG	**Griva**	**1.32**	**299**	P	**Pn**	**05 41 02.1**	**0.0**
VAY	**Valandovo**	**1.43**	**314**	P	**Pn**	**05 41 03.8**	**+0.3**
VAY	**Valandovo**	**1.43**	**314**	*e*Pg	**Pg**	**05 41 04.8**	**-0.2**
VAY				*i*Sg	**Sn**	**05 41 21.9**	**-0.6**
VAY				*e*Lg	Lg	05 41 26.1	
	comp=E,458nm,1.1s						
VAY				*e*Lg	Lg	05 41 26.5	
	comp=N,698nm,1.1s						
VAY	**Valandovo**	**1.43**	**314**	P	**Pn**	**05 41 03.8**	**+0.3**
VAY	**Valandovo**	**1.43**	**314**	*e*Pg	**Pg**	**05 41 04.7**	**-0.2**
VAY				*i*Sg	**Sn**	**05 41 21.8**	**-0.6**
VAY				*e*Lg	Lg	05 41 26.4	
	comp=N,698nm,1.1s						
RZN	**Rozhen**	**1.48**	**23**	*i*P	**Pn**	**05 41 04.2**	**-0.2**
RZN				Pg	**Pb**	**05 41 05.8**	**+0.5**
RZN	**Rozhen**	**1.48**	**23**	*i*P	**Pn**	**05 41 04.2**	**-0.2**
MRKA	**Markates**	**1.64**	**189**	P	**Pn**	**05 41 07.2**	**+0.7**
MRKA	**Markates**	**1.64**	**189**	*e*PB	**Pn**	**05 41 05.8**	**-0.7**
MRKA	**Markates**	**1.64**	**189**	*e*Pb	**Pn**	**05 41 05.8**	**-0.7**
MRKA	**Markates**	**1.64**	**189**	P	**Pn**	**05 41 07.2**	**+0.7**
KZN	**Kozani**	**1.65**	**270**	*e*PN	**Pn**	**05 41 07.4**	**+0.7**
KZN	**Kozani**	**1.65**	**270**	*e*Pn	**Pn**	**05 41 07.4**	**+0.7**
THL	**Klokotos Trika**	**1.66**	**243**	P	**Pn**	**05 41 06.9**	**+0.2**
THL	**Klokotos Trika**	**1.66**	**243**	*e*PN	**Pn**	**05 41 06.6**	**-0.1**
THL				*e*SN	**Sn**	**05 41 27.8**	**-0.2**
THL	**Klokotos Trika**	**1.66**	**243**	*e*Pn	**Pn**	**05 41 06.6**	**-0.1**
THL	**Klokotos Trika**	**1.66**	**243**	P	**Pn**	**05 41 06.9**	**+0.2**
THL				*e*Sn	**Sn**	**05 41 27.8**	**-0.2**
KKB	**Krupnik**	**1.66**	**338**	P	**Pn**	**05 41 06.8**	**0.0**
KKB				Pg	**Pb**	**05 41 08.7**	**+0.4**
KKB	**Krupnik**	**1.66**	**338**	P	**Pn**	**05 41 06.8**	**0.0**
ALN	**Alexandroupoli**	**1.71**	**70**	P	**Pn**	**05 41 06.8**	**-0.6**
ALN				*e*SN	**Sn**	**05 41 29.5**	**+0.2**
ALN	**Alexandroupoli**	**1.71**	**70**	*e*PN	**Pn**	**05 41 06.8**	**-0.6**
ALN				*e*SN	**Sn**	**05 41 29.4**	**+0.2**
ALN	**Alexandroupoli**	**1.71**	**70**	*e*PN	**Pn**	**05 41 07.0**	**-0.3**
ALN				*e*SN	**Sb**	**05 41 30.1**	**-0.4**
ALN	**Alexandroupoli**	**1.71**	**70**	*e*Pn	**Pn**	**05 41 07.0**	**-0.3**
ALN				*e*Sn	**Sn**	**05 41 29.4**	**+0.2**
KDZ	**Kurdzhali**	**1.73**	**40**	⇑*i*P	**Pn**	**05 41 06.4**	**-1.3**
KDZ	**Kurdzhali**	**1.73**	**40**	P	**Pb**	**05 41 09.5**	**0.0**
KDZ	**Kurdzhali**	**1.73**	**40**	P	**Pb**	**05 41 09.5**	**0.0**
ENEZ	**Enez**	**1.74**	**76**	*e*PN	**Pn**	**05 41 07.5**	**-0.3**
ENEZ	**Enez**	**1.74**	**76**	*e*Pn	**Pn**	**05 41 07.5**	**-0.3**
AGG	**Agios Georgios**	**1.80**	**224**	*e*PN	**Pn**	**05 41 08.8**	**+0.2**
AGG	**Agios Georgios**	**1.80**	**224**	*e*Pn	**Pn**	**05 41 08.8**	**+0.2**
SIGR	**SIGRI**	**1.86**	**126**	*e*PN	**Pn**	**05 41 09.9**	**+0.5**
SIGR	**SIGRI**	**1.86**	**126**	*e*Pn	**Pn**	**05 41 09.9**	**+0.5**
PLD	**Plovdiv**	**1.87**	**18**	P	**Pg**	**05 41 13.6**	**+0.3**
PLD	**Plovdiv**	**1.87**	**18**	P	**Pg**	**05 41 13.9**	**+0.6**
PLD	**Plovdiv**	**1.87**	**18**	P	**Pg**	**05 41 13.9**	**+0.6**
EZN	**Ezine**	**1.91**	**105**	*e*PN	**Pn**	**05 41 09.8**	**-0.2**
EZN	**Ezine**	**1.91**	**105**	*e*Pn	**Pn**	**05 41 09.8**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.94**	**87**	*e*PN	**Pn**	**05 41 10.0**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.94**	**87**	*e*Pn	**Pn**	**05 41 10.0**	**-0.6**
DIM	**Dimitrovgrad**	**2.10**	**35**	P	**Pg**	**05 41 17.7**	**-0.1**
DIM	**Dimitrovgrad**	**2.10**	**35**	P	**Pg**	**05 41 17.7**	**-0.1**
PGB	**Panagyrishte**	**2.23**	**4**	P	**Pb**	**05 41 18.8**	**+0.9**
PGB	**Panagyrishte**	**2.23**	**4**	P	**Pb**	**05 41 18.8**	**+0.9**
SKO	**Skopje**	**2.50**	**312**	*i*Pn	**Pb**	**05 41 20.8**	**-1.7**
SKO				*e*Sn	**Sn**	**05 41 48.9**	**+0.1**
SKO				*e*Lg	Lg	05 41 52.1	
	comp=N,21nm,0.3s						
SKO				*e*Lg	Lg	05 41 52.3	
	comp=E,22nm,0.7s						
SKO	**Skopje**	**2.50**	**312**	*i*Pn	**Pb**	**05 41 20.7**	**-1.7**
SKO				*e*Sn	**Sn**	**05 41 48.8**	**+0.1**
SKO				*e*Lg	Lg	05 41 52.2	
	comp=E,22nm,0.7s						
RKY	**Sarkoy-Tekirda**	**2.50**	**81**	*e*PN	**Pn**	**05 41 17.6**	**-0.7**
RKY	**Sarkoy-Tekirda**	**2.50**	**81**	*e*Pn	**Pn**	**05 41 17.6**	**-0.7**
CHOS	**Chios island**	**2.54**	**139**	*e*PN	**Pn**	**05 41 19.9**	**+1.0**
CHOS	**Chios island**	**2.54**	**139**	*e*PN	**Pn**	**05 41 18.9**	**0.0**
CHOS	**Chios island**	**2.54**	**139**	*e*Pn	**Pn**	**05 41 18.9**	**0.0**
KRBG	**Karabiga-Canak**	**2.57**	**88**	*e*PN	**Pn**	**05 41 19.5**	**+0.3**
KRBG	**Karabiga-Canak**	**2.57**	**88**	*e*Pn	**Pn**	**05 41 19.5**	**+0.3**
EDRB	**Edirne**	**2.61**	**54**	*e*PN	**Pn**	**05 41 20.6**	**+0.8**
EDRB	**Edirne**	**2.61**	**54**	*e*Pn	**Pn**	**05 41 20.6**	**+0.8**
MRMT	**Marmara Adasi**	**2.81**	**83**	*e*PN	**Pn**	**05 41 22.7**	**+0.1**
MRMT	**Marmara Adasi**	**2.81**	**83**	*e*Pn	**Pn**	**05 41 22.7**	**+0.1**
JMB	**Yambol**	**2.92**	**42**	‖*i*P	**Pg**	**05 41 32.7**	**-0.8**
BARS	**Barje**	**2.95**	**328**	‖*i*Pn	**Pn**	**05 41 25.1**	**+0.7**
EDC	**Edincik**	**3.01**	**88**	*e*PN	**Pn**	**05 41 25.4**	**+0.2**
EDC	**Edincik**	**3.01**	**88**	*e*Pn	**Pn**	**05 41 25.4**	**+0.2**
MPEP	**Malo Peshtene**	**3.03**	**357**	P	**Pg**	**05 41 34.6**	**-0.9**
PVL	**Pavlikeni**	**3.07**	**20**	P	**Pn**	**05 41 24.7**	**-1.4**
PVL	**Pavlikeni**	**3.07**	**20**	P	**Pn**	**05 41 24.7**	**-1.4**
KCTX	**Karacabey (Bur**	**3.38**	**90**	*e*PN	**Pn**	**05 41 30.8**	**+0.3**
KCTX	**Karacabey (Bur**	**3.38**	**90**	*e*Pn	**Pn**	**05 41 30.8**	**+0.3**
CTYL	**Yal??k??y-??at**	**3.50**	**69**	*e*PN	**Pn**	**05 41 33.4**	**+1.5**
CTYL	**Yal??k??y-??at**	**3.50**	**69**	*e*Pn	**Pn**	**05 41 33.4**	**+1.5**
CTKS	**Kestanelik-??a**	**3.59**	**74**	*e*PN	**Pn**	**05 41 34.0**	**+0.9**
CTKS	**Kestanelik-??a**	**3.59**	**74**	*e*Pn	**Pn**	**05 41 34.1**	**+0.9**
KLYT	**Kilyos**	**3.99**	**75**	*e*PN	**Pn**	**05 41 39.3**	**+0.6**
KLYT	**Kilyos**	**3.99**	**75**	*e*Pn	**Pn**	**05 41 39.3**	**+0.6**
IVAS	**Ivanjica**	**4.30**	**320**	⇑‖*i*Pn	**Pn**	**05 41 43.9**	**+0.9**
SILT	**Sile**	**4.42**	**77**	*e*PN	**Pn**	**05 41 45.4**	**+0.8**
SILT	**Sile**	**4.42**	**77**	*e*Pn	**Pn**	**05 41 45.4**	**+0.8**
PSN	**Preselentsi**	**4.61**	**42**	‖*i*P	Pn	05 41 37.8	-9.4
TRUS	**Trudelj**	**4.69**	**327**	⇑‖*i*Pn	**Pn**	**05 41 47.3**	**-1.0**
DIVS	**Divibare**	**4.77**	**323**	‖*i*Pn	**Pn**	**05 41 50.0**	**+0.5**
LOT	**Lotru**	**5.12**	**359**	‖*i*P	**Pn**	**05 41 54.6**	**+0.3**
LOT	**Lotru**	**5.12**	**359**	‖*i*P	**Pn**	**05 41 54.6**	**+0.3**
GZR	**Gura Zlata**	**5.13**	**351**	‖*i*P	**Pn**	**05 41 53.0**	**-1.5**
GZR	**Gura Zlata**	**5.13**	**351**	‖*i*P	**Pn**	**05 41 53.0**	**-1.5**
VOIR		**5.17**	**9**	⇑‖*i*P	**Pn**	**05 41 55.6**	**+0.6**
VOIR		**5.17**	**9**	⇑‖*i*P	**Pn**	**05 41 55.6**	**+0.6**
TIRR	**Tirgusor**	**5.29**	**37**	⇑‖*i*P	**Pn**	**05 41 53.7**	**-2.9**
TIRR	**Tirgusor**	**5.29**	**37**	⇑‖*i*P	**Pn**	**05 41 53.7**	**-2.9**
TEKS	**Tekeris**	**5.33**	**324**	*e*Pn	**Pn**	**05 41 57.5**	**+0.4**
MLR	**Muntele Rosu**	**5.37**	**15**	⇑‖*i*P	**Pn**	**05 41 59.4**	**+1.6**
MLR	**Muntele Rosu**	**5.37**	**15**	⇑‖*i*P	**Pn**	**05 41 59.4**	**+1.6**
BZS	**Buzias**	**5.55**	**343**	⇑‖*i*P	**Pn**	**05 41 57.7**	**-2.5**
DOPR	**Dopca**	**5.74**	**10**	⇑‖*i*P	**Pn**	**05 42 04.3**	**+1.6**
DOPR	**Dopca**	**5.74**	**10**	⇑‖*i*P	**Pn**	**05 42 04.3**	**+1.6**
DRGR		**6.52**	**353**	⇑‖*i*P	**Pn**	**05 42 12.3**	**-1.2**
DRGR		**6.52**	**353**	⇑‖*i*P	**Pn**	**05 42 12.3**	**-1.2**
BURAR	**Bucovina Array**	**7.34**	**7**	⇑‖*i*P	**Pn**	**05 42 26.0**	**+1.2**
BURAR	**Bucovina Array**	**7.34**	**7**	⇑‖*i*P	**Pn**	**05 42 26.0**	**+1.2**

*ISCJB **02** 05:40:49.0±0.6, 24.74S±0.08×179.67E±0.09, h501km, mb4.0/10, Error ellipse: s-maj=10.9km s-min=10.6km az=161.0*
*IDC **02** 05:40:51.9±1.6, 24.85S×179.72E, h527km±17km, mb3.6/10, mb1 3.9/13, mb1mx3.7/22, mbtmp4.5/13, Error ellipse: s-maj=20.3km s-min=11.9km az=172.0*

ISC 02 05:40:49.5±0.6, 24.79S±0.10×179.78E±0.09, h501km, n30, σ1.41/35, mb4.0/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.90**	**156**	P	**P**	**05 42 17.7**	**+2.2**
	52nm,0.3s,baz=92,slow=24,SNR=2.4						
DZM	**Mont Dzumac**	**12.54**	**280**	P	**P**	**05 43 36.4**	**+2.5**
	0.7nm,0.3s,baz=82,slow=16,SNR=16						
URZ	**Urewera**	**13.62**	**189**	P	**P**	**05 43 45.2**	**+0.2**
	2.5nm,0.3s,baz=11,slow=3.5,SNR=12						
URZ				S	**S**	**05 46 07.9**	**-1.8**
	1.0nm,0.3s,baz=104,slow=22,SNR=8.0						
RMQ	**Roma**	**27.99**	**260**	P	**P**	**05 46 01.7**	**+2.3**
	baz=29,SNR=4.7						
CMSA	**Cobar Meteorol**	**30.71**	**250**	P	**P**	**05 46 23.9**	**+1.0**
	baz=32,SNR=5.1						
CTA	**Charters Tower**	**31.29**	**272**	P	**P**	**05 46 29.2**	**+1.1**
	26nm,0.5s,baz=96,slow=11,SNR=26						
STKA	**Stephens Creek**	**34.21**	**249**	P	**P**	**05 46 53.7**	**+1.0**
	2.1nm,0.4s,baz=104,slow=11,SNR=9.6						
STKA	**Stephens Creek**	**34.21**	**249**	P	**P**	**05 46 53.6**	**+0.8**
	baz=36,SNR=6.9						
COEN	**Coen**	**36.07**	**280**	P	**P**	**05 47 09.7**	**+1.2**
	baz=38,SNR=4.4						
HTT	**Hallett**	**36.53**	**247**	P	**P**	**05 47 12.5**	**+0.3**
	3.9nm,0.6s,baz=98,slow=8.3,SNR=35						
ASAR	**Alice Springs**	**41.70**	**262**	P	**P**	**05 47 54.0**	**-0.2**
	3.9nm,0.6s,baz=98,slow=8.3,SNR=35						
ASAR				ScP	**ScP**	**05 52 42.0**	**+0.4**
	0.7nm,0.7s,baz=99,slow=4.0,SNR=4.6						
ASAR				S	**S**	**05 53 32.7**	**-1.8**
	0.4nm,0.8s,baz=98,slow=18,SNR=4.2						
WRA	**Warramunga Arr**	**42.16**	**267**	P	**P**	**05 47 56.8**	**-0.9**
	6.7nm,0.3s,baz=100,slow=7.3,SNR=10						
WRA				ScP	**ScP**	**05 52 44.9**	**+1.5**
	4.4nm,1.1s,baz=101,slow=4.0,SNR=10						
WRA				S	**S**	**05 53 38.5**	**-2.6**
	1.9nm,0.9s,baz=101,slow=14,SNR=7.0						
FORT	**Forrest**	**45.82**	**250**	P	**P**	**05 48 25.4**	**-0.7**
	baz=47,SNR=8.6						
KDU	**Kakadu**	**46.18**	**276**	P	**P**	**05 48 28.1**	**-0.7**
	baz=48,SNR=9.1						
WRKA	**Warakurna**	**46.45**	**258**	P	**P**	**05 48 30.5**	**-0.5**
	baz=48,SNR=35						
KNRA	**Kununurra**	**48.49**	**271**	P	**P**	**05 48 46.0**	**-0.4**
	baz=50,SNR=9.1						
MEEK	**Meekatharra**	**54.67**	**254**	P	**P**	**05 49 30.0**	**-1.0**
	baz=56,SNR=3.2						
MORW	**Morawa**	**56.39**	**251**	P	**P**	**05 49 42.6**	**-0.3**
	baz=58,SNR=3.7						
QSPA	**South Pole Qui**	**65.30**	**180**	P	**P**	**05 50 41.7**	**+0.5**
	3.0nm,0.9s,baz=314,slow=1.0,SNR=10						
NVAR	**Mina Array Bea**	**85.53**	**44**	P	**P**	**05 52 34.3**	**-0.1**
	1.7nm,0.8s,baz=232,slow=8.2,SNR=8.8						
CMAR	**Chiang Mai Arr**	**89.65**	**290**	P	**P**	**05 52 54.5**	**+0.5**
	0.4nm,0.3s,baz=151,slow=3.3,SNR=6.8						
TXAR	**Lajitas Array**	**91.07**	**58**	P	**P**	**05 53 01.1**	**+0.7**
	1.5nm,0.8s,baz=217,slow=6.5,SNR=20						
ILAR	**Eielson Array**	**92.94**	**14**	P	**P**	**05 53 07.3**	**-0.7**
	0.4nm,0.9s,baz=211,slow=6.3,SNR=4.4						
PDAR	**Pinedale Array**	**93.47**	**44**	P	**P**	**05 53 10.9**	**-0.3**
	0.4nm,0.6s,baz=147,slow=3.5,SNR=3.8						
ARCES	**ARCESS Array B**	**132.71**	**348**	PKP	**PKPdf**	**05 59 06.3**	**+0.1**
	2.9nm,1.0s,baz=54,slow=1.6,SNR=6.1						
NB2	**NORSAR Subarra**	**142.92**	**351**	PKP	**PKPdf**	**05 59 21.1**	**-4.1**
	comp=Z,2.9nm,1.0s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**142.92**	**351**	PKhKP	PKPpre	05 59 21.4	
	comp=Z,2.2nm,0.9s,baz=16,slow=5.0,SNR=4.0						
AKASG	**Malin Array Be**	**145.60**	**326**	PKPbc	**PKPdf**	**05 59 30.3**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=42,slow=3.6,SNR=3.9						
BRTR	**Keskin Array B**	**147.94**	**306**	PKPbc	**PKPbc**	**05 59 37.8**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=69,slow=3.6,SNR=2.4						
TORD	**Torodi Ar. Bea**	**168.28**	**189**	PKP	**PKPdf**	**05 59 57.9**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=346,slow=2.1,SNR=2.2						
TORD				PKPab	**PKPab**	**06 01 09.3**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=169,slow=4.9,SNR=3.8						

*ISCJB **02** 05:42:10.0±0.8, 34.32S±0.06×72.33W±0.2, h10km, mb3.8/4, MS4.3/1, Error ellipse: s-maj=21.6km s-min=8.5km az=177.7*
*IDC **02** 05:42:09.7±1.0, 34.33S×72.33W, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.9/18, mbtmp3.7/8, ML3.6/3, MS1.8/1, Ms1 1.8/1, ms1mx1.8/23, Error ellipse: s-maj=32.8km s-min=23.6km az=91.0*

ISC 02 05:42:11.5±0.9, 34.28S±0.08×72.4W±0.2, h10km, n11, σ0.71/11, mb3.9/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.38**	**54**	Pn	**Pn**	**05 43 18.9**	**+0.7**
	0.5nm,0.3s,baz=221,slow=14,SNR=11						
CFAA				Lg	Lg	05 44 20.8	
	2.7nm,0.3s,baz=74,slow=10,SNR=12						
CFAA				LR	LR	05 44 30.4	
	comp=Z,11nm,20.3s,baz=263,slow=32						
PLCA	**Paso Flores**	**6.60**	**168**	Pn	**Pn**	**05 43 48.9**	**+0.2**
	0.5nm,0.3s,baz=268,slow=10,SNR=2.2						
PLCA				Sn	**Sn**	**05 45 04.3**	**+0.4**
	1.1nm,0.3s,baz=247,slow=11,SNR=5.3						
LPAZ	**La Paz**	**18.32**	**13**	P	**P**	**05 46 27.0**	**+0.4**
	0.2nm,0.3s,baz=181,slow=8.0,SNR=9.0						
SIV	**San Ignacio**	**20.86**	**32**	P	**P**	**05 46 52.9**	**-0.8**
	3.0nm,0.6s,baz=207,slow=7.4,SNR=11						
TXAR	**Lajitas Array**	**69.85**	**331**	P	**P**	**05 53 23.2**	**+0.7**
	0.4nm,0.5s,baz=153,slow=8.9,SNR=12						
PDAR	**Pinedale Array**	**83.89**	**333**	P	**P**	**05 54 41.4**	**-0.1**
	0.4nm,0.8s,baz=117,slow=5.2,SNR=5.7						
NVAR	**Mina Array Bea**	**83.96**	**325**	P	**P**	**05 54 42.3**	**+0.4**
	0.6nm,0.7s,baz=41,slow=28,SNR=2.8						
TORD	**Torodi Ar. Bea**	**84.57**	**70**	P	**P**	**05 54 44.6**	**-0.7**
	0.9nm,0.8s,baz=262,slow=4.4,SNR=5.8						
YBH	**Yreka Blue Hor**	**88.64**	**325**	LR	LR	06 29 00.6	
	comp=Z,118nm,18.7s,baz=9.5,slow=32						
WRA	**Warramunga Arr**	**120.38**	**209**	PKP	**PKPdf**	**06 01 02.7**	**-1.0**
	0.5nm,0.9s,baz=168,slow=1.6,SNR=6.3						
ZALV	**Zalesovo Beam**	**154.61**	**32**	PKPbc	**PKPbc**	**06 02 11.4**	**-0.7**
	0.9nm,0.6s,baz=269,slow=2.1,SNR=4.2						

**IDC 02

LNV	Longovilo	0.61	15	⇓iP		Pn	05 54 12.1	0.0
LNV				iS		Sn	05 54 19.9	-1.0
CHCH	Chadas Angostu	0.99	52	iP		Pn	05 54 16.6	-0.7
CHCH				iS		Sn	05 54 29.7	-0.6
RCDM	Rinconada Maip	1.24	32	⇓iP		Pn	05 54 19.6	-1.1
RCDM				iS		Sn	05 54 35.2	-1.1
RCDM				AML		AML	05 54 38.4	
	comp=E,6μm,0.1s							
ANTU	Antumapu	1.26	40	eP		Pn	05 54 20.9	-0.1
ANTU				eS		Sn	05 54 36.4	-0.4
ANTU				AML		AML	05 54 39.1	
	comp=N,7μm,0.4s							
IHA	Instituto Hidr	1.52	359	⇓iP		Pn	05 54 24.5	+0.1
PEL	Peldehue	1.59	29	eP		Pn	05 54 25.9	+0.4
PEL				iS		Sn	05 54 45.2	+0.3
PEL				AML		AML	05 54 50.0	
	comp=E,5μm,0.3s							
CMCH	Combarbala	3.40	9	eP		Pn	05 54 50.6	+0.2
CFAA	Coronel Fontan	4.07	45	Pn		Pn	05 55 00.9	+1.4
	comp=E,1.7nm,0.3s,baz=198,slow=14,SNR=17							
CFAA				Sn		Sn	05 55 55.2	+9.3
	comp=E,3.3nm,0.3s,baz=121,slow=23,SNR=6.6							
CPUP	Villa Florida	14.77	60	Pn		Pn	05 57 27.4	+1.6
	comp=E,0.7nm,0.3s,baz=226,slow=8.6,SNR=4.2							
LPAZ	La Paz	18.45	11	P		Pn	05 58 14.0	+1.3
	comp=E,0.2nm,0.3s,baz=192,slow=11,SNR=7.7							
SIV	San Ignacio	20.76	30	P		P	05 58 35.1	-1.8
	comp=E,6.1nm,0.8s,baz=221,slow=12,SNR=13							
TXAR	Lajitas Array	70.39	331	P		P	06 05 09.4	+0.3
	comp=E,0.1nm,0.4s,baz=158,slow=8.2,SNR=4.2							
TORD	Torodi Ar. Bea	84.06	70	P		P	06 06 24.9	-1.1
	comp=E,0.9nm,0.7s,baz=247,slow=5.7,SNR=6.2							

*IDC **02** 05:54:21.7±0.8, 37°.56S×73°.70W, h0km, mb4.2/9, mb1 4.3/12, mb1mx4.2/21, mbtmp4.2/12, ML3.6/3, MS3.5/6, Ms1 3.5/6, ms1mx3.3/29, Error ellipse: s-maj=26.4km s-min=15.1km az=79.0*

*ISCJB **02** 05:54:23.6±0.6, 37°.54S±0°.06×73°.6W±0°.1, h23km, mb4.3/13, MS3.8/2, Error ellipse: s-maj=15.0km s-min=8.9km az=179.6*

*NEIC **02** 05:54:26.9±0.4, 37°.56S×73°.56W, h35km, mb4.2/2, Error ellipse: s-maj=12.1km s-min=7.7km az=92.0*

ISC 02 05:54:25.3±0.7, 37°.56S±0°.08×73°.6W±0°.1, h23km, n33, σ0 77/35, mb4.2/13, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.96	144	Pn	Pn	05 55 25.0	+0.3
	1.0nm,0.3s,baz=322,slow=10,SNR=3.1						
PLCA				LR	LR	05 56 20.3	
	comp=Z,153nm,21.3s,baz=260,slow=30						
PLCA				Lg	Lg	05 56 30.1	
	6.2nm,0.3s,baz=238,slow=20,SNR=7.9						
CFAA	Coronel Fontan	7.40	38	Pn	Pn	05 56 12.3	+0.3
	1.2nm,0.3s,baz=282,slow=23,SNR=6.6						
CFAA				LR	LR	05 59 10.5	
	comp=Z,60nm,19.6s,baz=228,slow=39						
TRQA	Tornquist	9.21	97	ePn	Pn	05 56 36.7	-0.1
LVC	Limon Verde	15.43	16	Pn	Pn	05 57 59.8	-2.1
USHA	Ushuaia	17.64	170	P	Pn	05 58 29.5	+0.2
	0.2nm,0.3s,baz=325,slow=10,SNR=4.0						
USHA				LR	LR	06 06 10.5	
	comp=Z,284nm,18.5s,baz=333,slow=40						
CPUP	Villa Florida	17.75	56	LR	LR	06 05 55.9	
	comp=Z,296nm,18.4s,baz=212,slow=39						
CPUP	Villa Florida	17.75	56	ePn	Pn	05 58 30.9	0.0
LPAZ	La Paz	21.73	14	P	P	05 59 17.4	+1.7
	3.8nm,0.7s,baz=175,slow=7.2,SNR=8.7						
SIV	San Ignacio	24.17	31	P	P	05 59 39.1	-0.9
	4.8nm,0.9s,baz=229,slow=12,SNR=6.5						
SAML	Samuel	30.00	21	eP	P	06 00 31.3	-1.0
BDFB	Brasilia	31.44	53	P	P	06 00 46.9	+1.8
	2.3nm,0.7s,baz=80,slow=4.4,SNR=3.7						
RCBR	Riachuelo	46.62	57	LR	LR	06 21 33.8	
	comp=Z,282nm,19.9s,baz=139,slow=35						
SNAA	Sanae	48.80	157	P	P	06 03 08.6	+0.3
	2.4nm,0.9s,baz=249,slow=8.1,SNR=4.7						
SNAA				LR	LR	06 22 47.6	
	comp=Z,39nm,18.0s,baz=28,slow=35						
SNAA	Sanae	48.80	157	eP	P	06 03 07.2	-1.0
QSPA	South Pole Qui	52.68	180	P	P	06 03 37.7	+0.1
	2.5nm,1.0s,baz=346,slow=1.2,SNR=7.0						
QSPA	South Pole Qui	52.68	180	eP	P	06 03 37.0	-0.6
TXAR	Lajitas Array	72.26	333	P	P	06 05 48.7	0.0
	1.1nm,0.8s,baz=151,slow=8.6,SNR=9.9						
LIC	Lamto	77.10	72	eP	P	06 06 16.7	-0.4
	66nm,1.7s						
TIC	Toumodi	77.38	71	eP	P	06 06 18.4	-0.3
	16nm,0.8s						
KIC	Kosan Boka	77.40	72	eP	P	06 06 19.0	+0.2
	7.3nm,0.4s						
DBIC	Dimbokro	77.52	71	P	P	06 06 19.6	+0.1
	5.4nm,0.6s,baz=203,slow=6.3,SNR=13						
DBIC	Dimbokro	77.52	71	eP	P	06 06 19.5	+0.1
	3.9nm,0.6s						
ANMO	Albuquerque	78.33	333	eP	P	06 06 23.4	-0.3
	0.9nm,0.8s						
PDAR	Pinedale Array	86.39	334	P	P	06 07 06.0	+0.4
	1.1nm,1.0s,baz=174,slow=3.0,SNR=5.2						
TORD	Torodi Ar. Bea	86.60	71	P	P	06 07 06.6	-0.5
	1.1nm,0.5s,baz=223,slow=4.8,SNR=12						
ILAR	Eielson Array	116.77	333	PKP	PKPdf	06 13 06.9	+0.2
	0.4nm,1.0s,baz=172,slow=4.0,SNR=4.2						
ABKAR	Akbulak array	144.81	56	ePKPdf	PKPab	06 13 58.4	-0.4
BVAR	Borovoye Array	150.70	47	PKPbc	PKPbc	06 14 15.2	+0.3
	3.1nm,0.6s,baz=298,slow=3.1,SNR=14						
BVAR				PKPab	PKPab	06 14 22.3	+0.4
	1.6nm,0.8s,baz=336,slow=3.3,SNR=3.9						
KKAR	Karatay Array	152.23	67	ePKPdf	PKPdf	06 14 12.0	-0.1
AAK	Ala-Archa	155.16	68	PKP	PKPdf	06 14 16.3	-0.2
	1.1nm,0.7s,baz=255,slow=7.2,SNR=3.7						
AAK				PKPab	PKPab	06 14 41.4	+0.1
	2.7nm,0.5s,baz=216,slow=2.4,SNR=9.6						
ZALV	Zalesovo Beam	157.88	35	PKP	PKPdf	06 14 18.0	-1.4
	1.1nm,0.9s,baz=323,slow=2.2,SNR=4.9						
ZALV				PKPab	PKPab	06 14 52.5	+0.1
	1.9nm,0.7s,baz=289,slow=6.0,SNR=7.9						
JOW	Kunigami	158.67	246	ePKPdf	PKPdf	06 14 22.6	+1.4
MKAR	Makanchi Array	159.96	55	PKP	PKPdf	06 14 22.1	-0.1
	0.9nm,1.1s,baz=298,slow=2.6,SNR=5.0						
MKAR				PKPab	PKPab	06 15 01.2	-0.5
	1.0nm,0.7s,baz=281,slow=3.6,SNR=9.7						

*IDC **02** 06:00:38.7±1.8, 35°.79S×73°.63W, h0km, mb3.6/4, mb1 4.0/6, mb1mx3.8/18, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=41.0km s-min=33.7km az=97.0*

ISC 02 06:00:43.6±1.2, 35°.85S±0°.1×73°.5W±0°.2, h35km, n6, σ0 54/6, mb3.7/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.42	156	Pn	Pn	06 02 01.8	-0.1
	1.2nm,0.3s,baz=330,slow=18,SNR=1.4						
PLCA				Sn	Sn	06 03 13.1	+10
	0.5nm,0.3s,baz=254,slow=23,SNR=1.8						
CFAA	Coronel Fontan	6.07	48	Pn	Pn	06 02 10.9	+0.1
	0.5nm,0.3s,baz=208,slow=16,SNR=2.8						
LPAZ	La Paz	20.03	15	P	P	06 05 13.4	-0.8
	0.9nm,0.7s,baz=165,slow=13,SNR=2.1						
SIV	San Ignacio	22.64	32	P	P	06 05 41.9	+0.2
	2.6nm,0.9s,baz=220,slow=10,SNR=3.9						
TXAR	Lajitas Array	70.77	332	P	P	06 11 56.8	+0.4
	0.2nm,0.6s,baz=151,slow=7.1,SNR=4.6						
NVAR	Mina Array Bea	84.72	326	P	P	06 13 13.8	-0.1
	3.0nm,1.2s,baz=147,slow=5.5,SNR=2.7						

*ISCJB **02** 06:08:50.2±1.1, 18°.2S±0°.1×69°.41W±0°.08, h126km, mb4.1/5, Error ellipse: s-maj=17.7km s-min=10.2km az=178.0*

*IDC **02** 06:08:55.1±4.1, 17°.86S×69°.40W, h147km±26km, mb3.7/6, mb1 3.8/8, mb1mx3.5/21, mbtmp4.2/8, Error ellipse: s-maj=54.6km s-min=17.6km az=19.0*

ISC 02 06:08:51.4±1.2, 18°.2S±0°.2×69°.44W±0°.09, h126km, n9, σ1 78/11, mb4.1/5, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.30	33	P	Pn	06 09 32.0	+2.5
LPAZ				S	Sn	06 09 57.6	-1.2
	8.0nm,0.3s,baz=27,slow=20,SNR=2.9						
SIV	San Ignacio	8.30	76	P	Pn	06 10 49.2	+0.1
	4.2nm,0.3s,baz=268,slow=12,SNR=37						
SIV				S	Sn	06 12 18.9	-2.4
	0.8nm,0.3s,baz=343,slow=14,SNR=5.8						
NNA	Nana	9.47	310	P	Pn	06 11 05.0	+0.3
	3.1nm,0.3s,baz=137,slow=11,SNR=7.1						
BDFB	Brasilia	20.66	86	P	P	06 13 23.1	+1.6
	2.5nm,0.5s,baz=267,slow=6.1,SNR=7.0						
APG	El Apazote	38.99	327	P	P	06 16 03.1	-2.8
	4.7nm,1.0s,baz=156,slow=9.0,SNR=2.6						
DBIC	Dimbokro	68.33	75	P	P	06 19 40.5	+0.9
	3.8nm,0.6s,baz=232,slow=6.6,SNR=8.4						
ULM	Lac du Bonnet	72.07	343	P	P	06 20 01.0	-0.6
	0.6nm,0.3s,baz=266,slow=4.3,SNR=1.8						
TORD	Torodi Ar. Bea	76.76	71	P	P	06 20 29.6	0.0
	1.2nm,0.4s,baz=259,slow=5.6,SNR=42						
YKA	Yellowknife Ar	87.95	341	P	P	06 21 27.4	+0.8
	0.4nm,0.5s,baz=133,slow=4.9,SNR=16						

IDC 02 06:10:30.1±8.8, 34°.25S×72°.69W, h31km±60km, mb3.7/2, mb1 3.7/6, mb1mx3.6/19, mbtmp3.7/6, ML3.8/4, Error ellipse: s-maj=83.8km s-min=30.9km az=98.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.58	56	Pn	Pn	06 11 36.4	-0.9
	0.6nm,0.3s,baz=232,slow=17,SNR=15						
PLCA	Paso Flores	6.69	166	Pn	Pn	06 12 06.1	-0.2
	0.7nm,0.3s,baz=342,slow=15,SNR=4.0						
CPUP	Villa Florida	15.43	63	Pn	Pn	06 14 07.4	+1.9
	0.3nm,0.3s,baz=252,slow=16,SNR=3.2						
LPAZ	La Paz	18.35	14	P	Pn	06 14 43.7	+0.6
	0.1nm,0.3s,baz=218,slow=13,SNR=3.4						
SIV	San Ignacio	20.97	33	P	P	06 15 09.7	-1.1
	2.4nm,0.6s,baz=228,slow=10,SNR=3.7						
TORD	Torodi Ar. Bea	84.80	70	P	P	06 23 01.8	0.0
	1.3nm,0.9s,baz=237,slow=4.8,SNR=5.7						

*ISCJB **02** 06:10:47.8±0.2, 34°.54S±0°.04×72°.72W±0°.05, h10km, mb5.3/57, MS5.2/22, Error ellipse: s-maj=6.3km s-min=5.5km az=38.4*

*IDC **02** 06:10:48.0±0.4, 34°.54S×72°.72W, h0km, mb5.0/16, mb1 5.0/19, mb1mx5.0/23, mbtmp4.9/19, ML4.5/4, MS5.2/16, Ms1 5.1/16, ms1mx5.0/23, Error ellipse: s-maj=15.2km s-min=13.1km az=92.0*

*MOS **02** 06:10:52.4±1.0, 34°.53S×72°.64W, h33km, mb5.7/12, Error ellipse: s-maj=17.7km s-min=10.3km az=91.3*

*BJI **02** 06:10:53.7, 34°.40S×72°.60W, h35km, mB5.3/30, Ms5.5/28, Ms7 5.3/29*

*NEIC **02** 06:10:53.3±0.2, 34°.54S×72°.68W, h35km, mb5.5/35, Error ellipse: s-maj=6.1km s-min=4.6km az=70.0*

*GCMT **02** 06:10:53.3±0.2, 34°.63S×72°.87W, h15km±2km, MW5.3/72, Moment Tensor Solution. s50,c76; s72,c106; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.20±.03; Mθθ0.04±.01; Mφφ-0.24±.02; Mrθ-0.17±.04; Mφθ-0.03±.01; Mφr-1.14±.24; Best double couple: M0 1.17400×10^17 NP1:φs189.00000°, δ85.00000°, λ91.00000°. NP2: φs3.00000°, δ5.00000°, λ84.00000°. Principal axes: T 1.1530, Plg50.0000°, Azm99.0000°; N 0.0410, Plg1.0000°, Azm9.0000°; P -1.1950, Plg40.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 02 06:10:49.3±0.3, 34°.56S±0°.05×72°.71W±0°.06, h10km, n606, σ1 21/642, mb5.4/57, MS5.3/23, 198C-207D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.77	53	Pn	Pn	06 12 02.9	+1.6
	2.9nm,0.3s,baz=226,slow=12,SNR=6.8						
CFAA				Sn	Sn	06 12 58.8	+2.1
	3.0nm,0.3s,baz=259,slow=17,SNR=4.8						
CFAA				Lg	Lg	06 13 17.9	
	9.5nm,0.3s,baz=247,slow=19,SNR=5.4						
PLCA	Paso Flores	6.39	165	Pn	Pn	06 12 24.5	+0.9
	3.2nm,0.3s,baz=339,slow=12,SNR=4.1						
PLCA				Lg	Lg	06 14 08.2	
	7.5nm,0.3s,baz=253,slow=22,SNR=6.2						
PLCA	Paso Flores	6.39	165	Pn	Pn	06 12 24.5	+0.9
PLCA				ePn	Pn	06 12 25.6	+2.0
PLCA				Lg	Lg	06 14 08.2	
TRQA	Tornquist	9.33	115	ePn	Pn	06 13 06.2	+2.3
	116nm,0.8s						
LVC	Limon Verde	12.36	17	ePn	Pn	06 13 47.1	+1.5
CPUP	Villa Florida	15.58	62	P	Pn	06 14 29.0	-0.1
CPUP	Villa Florida	15.58	62	Pn	Pn	06 14 28.9	-0.1
	0.7nm,0.3s,baz=200,slow=13,SNR=3.0						
CPUP	Villa Florida	15.58	62	Pn	Pn	06 14 28.9	-0.1
CPUP				eP	P	06 14 32.2	-1.0
LPAZ	La Paz	18.66	14	eP	Pn	06 15 08.2	-0.1
LPAZ				pmax	pmax		
	comp=Z,51nm,0.9s						
LPAZ	La Paz	18.66	14	P	Pn	06 15 08.5	+0.2
	comp=Z,0.9nm,0.3s,baz=183,slow=6.0,SNR=25						
LPAZ	La Paz	18.66	14	eP	Pn	06 15 08.2	-0.1
	comp=Z,51nm,0.9s						
LPAZ				P	Pn	06 15 08.5	+0.2
USHA	Ushuaia	20.49	173	P	P	06 15 27.8	+0.7
	comp=Z,94nm,1.0s,baz=320,slow=6.0,SNR=24						
USHA				LR	LR	06 24 05.8	
	comp=Z,8μm,18.0s,baz=328,slow=39						
SIV	San Ignacio	21.24	32	P	P	06 15 35.4	-0.2
	comp=Z,57nm,0.9s,baz=228,slow=12,SNR=16						
SIV				LR	LR	06 25 30.6	
	comp=Z,9μm,18.8s,baz=228,slow=42						
NNA	Nana	22.79	350	P	P	06 15 53.5	+1.4
	comp=Z,328nm,0.9s,SNR=6.5						
NNA	Nana	22.79	350	ceP	P	06 15 53.9	+1.8
NNA	Nana	22.79	350	P	P	06 15 53.0	+0.8
	comp=Z,29nm,0.8s,baz=203,slow=9.0,SNR=15						
SAML	Samuel	26.95	21	eP	P	06 16 30.7	-0.3
	comp=Z,12nm,0.9s						
ATAH	Atahualpa	27.79	348	P	P	06 16 39.8	+0.7
	comp=Z,6.7nm,0.8s,baz=163,slow=7.8,SNR=12						
ATAH				LR	LR	06 25 59.7	
	comp=Z,2μm,18.3s,baz=190,slow=33						
BDFB	Brasilia	29.11	56	P	P	06 16 50.3	-0.1
	comp=Z,14nm,0.9s,baz=212,slow=11,SNR=3.0						
BDFB				LR	LR	06 29 40.2	
	comp=Z,8μm,18.0s,baz=225,slow=39						
PMSA	Palmer Station	30.70	173	LR	LR	06 29 10.9	
	comp=Z,4μm,18.5s,baz=336,slow=36						
OTAV	Otavalo	35.03	350	eP	P	06 17 44.2	+1.5
	comp=Z,137nm,1.6s						
ROSC	El Rosal	39.24	357	P	P	06 18 20.9	+2.5
	comp=Z,8.8nm,0.5s,baz=138,slow=4.1,SNR=17						
RCBR	Riachuelo	44.41	58	eP	P	06 18 59.2	-1.2
	comp=Z,67nm,1.5s						
JTS	JuntasAbangare	46.09	343	P	P	06 19 15.0	+1.3
	comp=Z,170nm,1.7s,SNR=7.0						
JTS	JuntasAbangare	46.09	343	diP	P	06 19 14.8	+1.1
JTS				pmax	pmax		
	comp=Z,123nm,1.6s						
JTS	JuntasAbangare	46.09	343	P	P	06 19 13.1	-0.6
	comp=Z,11nm,0.9s,baz=162,slow=7.1,SNR=13						
GRGR	Grenville	47.61	15	eP	P	06 19 20.0	-5.4
VNA3	Neumayer Olymp	49.05	158	P	P	06 19 37.7	+1.6
VNA2	Neumayer--Watz	49.71	157	P	P	06 19 42.6	+1.5
SNAA	Sanae	51.28	158	P	P	06 19 53.9	+0.9
SNAA	Sanae	51.28	158	ceP	P	06 19 53.6	+0.6
SNAA				pmax	pmax		
	comp=Z,81nm,1.1s						
SNAA	Sanae	51.28	158	P	P	06 19 53.9	+0.9
	comp=Z,24nm,1.0s,baz=285,slow=6.3,SNR=38						
SNAA	Sanae	51.28	158	eP	P	06 19 53.7	+0.6
	comp=Z,82nm,1.1s						
SNAA				P	P	06 19 53.9	+0.9
APG	El Apazote	52.10	338	P	P	06 19 55.1	-4.8
	comp=Z,19nm,1.0s,baz=168,slow=7.0,SNR=14						
APG				LR	LR	06 37 21.9	
	comp=Z,1μm,19.9s,baz=152,slow=31						
OBIP	Obispado Ponce	52.63	7	eP	P	06 20 02.5	-1.0
	comp=Z,43nm,0.7s						
RKT	Rikitea	54.97	264	eS	S	06 28 01.2	-1.6
	comp=Z,536nm,26.2s						
RKT				eLR	LR	06 36 17.9	
	comp=Z,1μm,25.5s,baz=124						
RKT	Rikitea	54.97	264	eT	T	07 19 30.8	
	comp=Z,1.6nm,0.3s						
QSPA	South Pole Qui	55.67	180	LR	LR	06 43 12.1	
	comp=Z,859nm,18.5s,baz=168,slow=35						
NVL	N'lazarevskaya	56.03	157	eP	P	06 20 29.3	+1.6
NVL				pmax	pmax		
	comp=Z,50nm,1.0s						
TEIG	Tepich	56.46	342	P	P	06 20 29.4	-2.0
	comp=Z,20nm,0.6s,baz=148,slow=1.0,SNR=15						
SYO	Syowa Base	65.55	159	⇑eP	P	06 21 31.2	-1.3
034A	Hebbronville	66.05	335	⇓P	P	06 21 37.0	+0.8
	baz=66						
934A	Benavides	66.48	335	⇑P	P	06 21 39.8	+0.8
	baz=67						
933A	Laredo	66.76	334	⇓P	P	06 21 41.2	+0.4
	baz=67,SNR=6.5						
834A	Tilden	66.97	335	⇑P	P	06 21 43.1	+1.0
	baz=67,SNR=5.4						
735A	Kenedy	67.39	336	⇓P	P	06 21 45.2	+0.5
	baz=68						
833A	Chaparral WMA,	67.45	335	⇓P	P	06 21 45.4	+0.3
	baz=68,SNR=8.9						
832A	Faith Ranch, C	67.62	334	⇓P	P	06 21 46.3	+0.1
	baz=68,SNR=12						
734A	La Parita Cree	67.64	336	⇑P	P	06 21 46.8	+0.5
	baz=68,SNR=6.1						
636A	Smothers Creek	67.72	337	⇓P	P	06 21 47.7	+0.8
	baz=68						
733A	Divot King Ran	67.77	335	⇑P	P	06 21 47.6	+0.5
	baz=68						
635A	Leesville	67.87	336	⇑P	P	06 21 47.6	-0.1
	baz=68						
732A	Laxson Ranch,	68.02	334	⇓P	P	06 21 49.1	+0.4
	baz=68,SNR=23						
MEH	Mehetia	68.23	263	eT	T	07 36 09.7	
	comp=Z,24nm,0.2s						
536A	Bastrop	68.28	337	⇓P	P	06 21 50.8	+0.5
	baz=68						
535A	Dale	68.40	337	⇑P	P	06 21 51.7	+0.6
	baz=69,SNR=8.6						
633A	Saathoff Ranch	68.41	335	⇑P	P	06 21 51.6	+0.4
	baz=69,SNR=12						
632A	Uvalde	68.67	335	⇑P	P	06 21 53.4	+0.6
	baz=69,SNR=16						
534A	Blanco	68.69	336	⇑P	P	06 21 53.2	+0.3
	baz=69,SNR=6.0						
631A	Perdido Creek	68.86	334	⇑P	P	06 21 54.6	+0.6
	baz=69,SNR=7.2						
533A	Kerrville	68.92	336	⇓P	P	06 21 54.6	+0.2
	baz=69,SNR=16						
338A	Crockett	68.94	339	⇓P	P	06 21 55.6	+1.2
	baz=69						
337A	Centerville	69.07	339	⇓P	P	06 21 56.1	+0.9
	baz=69						
435B	Jarrell	69.10	337	⇑P	P	06 21 56.3	+0.8
	baz=69						
532A	Rocksprings	69.27	335	⇑P	P	06 21 57.1	+0.5
	baz=70,SNR=22						
434A	Burnet	69.35	337	⇓P	P	06 21 57.3	+0.3
	baz=70,SNR=24						
336A	Riesel	69.43	338	⇑P	P	06 21 57.8	+0.3
	baz=70,SNR=9.2						
TIAR	Tiarei	69.44	262	eT	T	07 37 39.5	
	comp=Z,3.0nm,0.3s						
335A	Moody	69.51	338	⇓P	P	06 21 58.3	+0.3
	baz=70,SNR=5.4						
531A	Rocksprings	69.53	334	⇓P	P	06 21 58.8	+0.6
	baz=70,SNR=18						
JCT	Junction City	69.56	335	⇓P	P	06 21 58.1	-0.2
	baz=70						
433A	Art	69.57	336	⇓P	P	06 21 58.4	0.0
	baz=70,SNR=27						
PPT2	Papeete2	69.61	262	eP	P	06 21 58.2	-0.9
	comp=Z,196nm,23.8s						
PPT2				eS	S	06 31 04.7	-3.0
	comp=Z,1μm,24.0s						
PPT2	Papeete2	69.61	262	eLR	LR	06 43 01.9	
	comp=Z,1μm,25.2s,baz=119						
PPT	Papeete	69.62	262	P	P	06 21 58.7	-0.4
	comp=Z,61nm,0.9s,baz=167,slow=7.7,SNR=5.4						
530A	J-C Ranch, Com	69.80	334	⇑P	P	06 22 00.3	+0.4
	baz=70,SNR=23						
KMSC	Kings Mountain	69.81	352	⇑P	P	06 21 59.0	-0.7
	baz=70						
334A	Lometa	69.82	337	⇓P	P	06 21 59.9	0.0
	baz=70,SNR=14						
432A	Menard	69.92	335	⇓P	P	06 22 00.5	0.0
	baz=70,SNR=12						
TXAR	Lajitas Array	69.96	331	P	P	06 22 01.0	+0.1
TXAR	Lajitas Array	69.96	331	P	P	06 22 00.9	+0.1
	comp=Z,15nm,1.1s,baz=150,slow=5.8,SNR=52						
TXAR				LR	LR	06 48 08.7	
	comp=Z,2μm,18.4s,baz=0.0,slow=32						
431A	Sonora	70.03	335	⇑P	P	06 22 01.4	+0.1
	baz=70,SNR=16						
333A	Richland Sprin	70.05	336	⇓P	P	06 22 01.1	-0.3
	baz=70,SNR=16						
529A	Stev Forest Ra	70.11	333	⇓P	P	06 22 01.8	+0.1
	baz=70,SNR=25						
WHTX	Lake Whitney,	70.18	338	⇑P	P	06 22 02.3	+0.2
	baz=70						
WHTX	Lake Whitney,	70.18	338	eP	P	06 22 02.5	+0.4
	comp=Z,62nm,1.3s						
430A	Baggett Ranch,	70.34	334	⇑P	P	06 22 03.2	0.0
	baz=71,SNR=18						
332A	Millersview	70.36	336	⇑P	P	06 22 02.9	-0.3
	baz=71,SNR=22						
234A	Clairette	70.40	337	⇑P	P	06 22 03.4	-0.1
	baz=71,SNR=16						
429A	Davenport Ranc	70.44	334	⇑P	P	06 22 03.9	+0.1
	baz=71,SNR=23						
SWET	Sewanee	70.51	349	eP	P	06 22 03.4	-0.7
	comp=Z,69nm,1.2s						
331A	San Angelo	70.53	335	⇓P	P	06 22 04.2	-0.1
	baz=71,SNR=26						
233A	Rising Star	70.66	337	⇓P	P	06 22 04.9	-0.2
	baz=71,SNR=15						
232A	Coleman	70.79	336	⇓P	P	06 22 05.6	-0.3
	baz=71,SNR=18						
330A	Mertzon	70.88	334	⇑P	P	06 22 06.2	-0.3

X33A	Lawton baz=73	72.86	338	⇑P	P	06 22 17.2 -1.1
Y31A	Rekieta Farm, baz=73,SNR=11	72.90	336	⇓P	P	06 22 18.1 -0.4
X32A	Elmer baz=73,SNR=8.6	73.00	337	⇓P	P	06 22 18.8 -0.3
Z28A	Tucker Farm, M baz=73,SNR=12	73.02	334	⇓P	P	06 22 18.8 -0.5
Y30A	Stafford Cattl baz=73,SNR=5.8	73.03	336	⇑P	P	06 22 19.1 -0.2
Y29A	Porterfield Fa baz=74,SNR=13	73.28	335	⇓P	P	06 22 20.2 -0.7
W34A	Bridge Creek, baz=74	73.28	339	⇓P	P	06 22 19.6 -1.1
Z27A	Tatum baz=74,SNR=12	73.34	334	⇓P	P	06 22 20.6 -0.7
TUL1	Leonard baz=74,SNR=6.0	73.35	341	⇑P	P	06 22 20.7 -0.3
TUL1	Leonard comp=Z,25nm,1.0s	73.35	341	*eP*	P	06 22 20.7 -0.3
X31A	McDonald Ranch baz=74,SNR=19	73.42	337	⇑P	P	06 22 21.3 -0.3
W33A	Caddo, Fort Co baz=74,SNR=5.4	73.42	338	⇑P	P	06 22 21.6 +0.1
Y28A	McKinney Farm, baz=74,SNR=10	73.53	335	⇑P	P	06 22 21.9 -0.4
X30A	Coker Ranch, T baz=74	73.54	336	⇓P	P	06 22 21.8 -0.5
Z26A	Caprock baz=74,SNR=39	73.58	333	⇓P	P	06 22 22.2 -0.5
W32A	Sentinel baz=74,SNR=25	73.63	338	⇑P	P	06 22 22.5 -0.2
V34A	Guthrie baz=74,SNR=5.6	73.77	339	⇑P	P	06 22 23.1 -0.4
V34A	Guthrie comp=Z,42nm,1.2s	73.77	339	*eP*	P	06 22 23.3 -0.2
MSTX	Muleshoe baz=74,SNR=17	73.77	334	⇑P	P	06 22 23.4 -0.3
MSTX	Muleshoe comp=Z,60nm,1.2s	73.77	334	*eP*	P	06 22 23.0 -0.7
X29A	Tulia baz=74,SNR=8.7	73.82	335	⇓P	P	06 22 23.7 -0.4
Y27A	Causey baz=74,SNR=8.5	73.83	334	⇑P	P	06 22 23.8 -0.4
Z25A	Roswell baz=74,SNR=16	73.87	332	⇑P	P	06 22 24.2 -0.1
W31A	Holland Ranch, baz=74,SNR=8.4	73.91	337	⇑P	P	06 22 24.5 +0.1
V33A	Lossen Ranch, baz=74,SNR=9.9	73.98	339	⇓P	P	06 22 24.8 0.0
X28A	Dimmitt baz=74	74.06	335	⇑P	P	06 22 25.2 -0.2
319A	Douglas baz=74,SNR=16	74.08	328	⇑P	P	06 22 26.2 +0.6
Y26A	Elida baz=74,SNR=25	74.11	333	⇓P	P	06 22 25.8 0.0
V32A	Arapaho baz=74,SNR=6.3	74.12	338	⇓P	P	06 22 26.3 +0.7
Z24A	Sheeppen Canyo baz=74,SNR=34	74.16	332	⇑P	P	06 22 26.2 +0.1
AMTX	Amarillo baz=74	74.21	336	⇑P	P	06 22 25.7 -0.5
U34A	Anderson Ranch baz=75,SNR=7.4	74.33	339	⇑P	P	06 22 26.1 -0.7
W29A	Amarillo baz=75,SNR=13	74.42	336	⇑P	P	06 22 27.3 -0.2
V31A	Spring Creek L baz=75,SNR=11	74.42	337	⇑P	P	06 22 28.1 +0.7
Y25A	Mesa, Roswell baz=75,SNR=11	74.43	333	⇓P	P	06 22 27.7 +0.1
121A	Cookes Peak, D baz=75,SNR=23	74.44	330	⇑P	P	06 22 28.0 +0.2
121A	Cookes Peak, D comp=Z,83nm,1.4s	74.44	330	*eP*	P	06 22 28.4 +0.6
X27A	F and S Farms, baz=75,SNR=7.2	74.49	334	⇑P	P	06 22 27.9 -0.1
U33A	Lingo Farm, Me baz=75	74.50	339	⇓P	P	06 22 27.4 -0.4
X26A	CR and CF Fran baz=75,SNR=24	74.67	334	⇑P	P	06 22 29.0 +0.1
V30A	Spur Ranch, Mi baz=75,SNR=8.2	74.68	337	⇓P	P	06 22 29.6 +0.6
U32A	Winter Ranch, baz=75	74.72	338	⇑P	P	06 22 29.6 +0.5
Y24A	Capitan baz=75,SNR=30	74.72	332	⇑P	P	06 22 29.6 +0.2
W28A	Vega baz=75,SNR=5.7	74.73	335	⇓P	P	06 22 29.6 +0.3
Z22A	Elephant Butte baz=75,SNR=5.5	74.73	331	⇑P	P	06 22 30.1 +0.7
W27A	Bowe Ranch, En baz=75,SNR=19	74.86	335	⇓P	P	06 22 30.1 0.0
X25A	Clemmons Ranch baz=75	74.96	333	⇓P	P	06 22 30.7 0.0
Y23A	Lovelace Mesa, baz=75,SNR=24	74.96	332	⇓P	P	06 22 31.2 +0.4
U31A	Nine Bar Ranch baz=75	74.97	338	⇓P	P	06 22 30.8 +0.2
SUR	Sutherland comp=Z,2μm,20.8s,baz=230,slow=32	75.04	119	LR	LR	06 50 51.0
V29A	Stinnett baz=75	75.06	336	⇑P	P	06 22 31.6 +0.5
W26A	Owens Ranch, T baz=75,SNR=15	75.13	334	⇓P	P	06 22 31.9 +0.3
T33A	Patterson Ranc baz=75,SNR=7.0	75.14	339	⇓P	P	06 22 31.5 0.0
V28A	Channing baz=75,SNR=13	75.19	336	⇓P	P	06 22 32.1 +0.2
X24A	Lazy VL Ranch, baz=76,SNR=16	75.28	333	⇓P	P	06 22 33.0 +0.3
U30A	WK&E Inc. Balk baz=76,SNR=6.1	75.37	337	⇓P	P	06 22 33.1 +0.1
T32A	Huddler Ranch, baz=76	75.43	339	⇓P	P	06 22 34.1 +0.9
LIC	Lamto comp=Z,64nm,1.3s	75.48	72	*eP*	P	06 22 34.2 +0.2
W25A	X Bar L Ranch, baz=76,SNR=20	75.50	334	⇑P	P	06 22 33.8 0.0
T31A	Randall Ranch, baz=76	75.59	338	⇓P	P	06 22 34.6 +0.5
TIC	Toumodi comp=Z,38nm,1.1s	75.74	71	*eP*	P	06 22 35.7 +0.2
SFIN	Lafayette baz=76	75.74	349	⇑P	P	06 22 34.2 -0.6
U28A	Mallet baz=76	75.75	336	⇑P	P	06 22 35.3 +0.1
V26A	Tequesquite Ra baz=76,SNR=16	75.77	334	⇑P	P	06 22 35.0 -0.3
KIC	Kosan Boka comp=Z,131nm,1.5s	75.78	72	*eP*	P	06 22 36.2 +0.4
LAZ	Ladron comp=Z,43nm,1.5s	75.80	331	*eP*	P	06 22 36.4 +0.7
T30A	Plains baz=76	75.81	337	⇑P	P	06 22 36.2 +0.8
W24A	Lazy 6 Ranch, baz=76,SNR=16	75.84	333	⇑P	P	06 22 35.9 +0.1
DBIC	Dimbokro comp=Z,12nm,0.7s,baz=211,slow=6.4,SNR=19	75.88	72	P	P	06 22 37.0 +0.7
DBIC				LR	LR	06 54 18.8
S32A	Newby Ranch, P comp=Z,1μm,18.7s,baz=218,slow=34	75.92	339	⇑P	P	06 22 35.9 -0.1
U27A	Thompson Grove baz=76,SNR=9.0	76.00	335	⇓P	P	06 22 36.7 +0.1
S31A	Mullinville baz=76,SNR=7.1	76.01	338	⇑P	P	06 22 36.6 +0.1
ANMO	Albuquerque	76.01	332	*cP*	P	06 22 37.4 +0.6
ANMO				pmax	pmax	
W23A	comp=Z,196nm,1.3s Werner Place, baz=76,SNR=14	76.08	332	⇓P	P	06 22 37.8 +0.5
V25A	Rancho No Teng baz=76,SNR=24	76.11	334	⇓P	P	06 22 37.4 0.0
T29A	Hugoton baz=76	76.15	337	⇓P	P	06 22 37.9 +0.5
214A	Organ Pipe Nat baz=76,SNR=14	76.16	326	⇑P	P	06 22 37.7 +0.2
214A	Organ Pipe Nat comp=Z,55nm,1.4s	76.16	326	*eP*	P	06 22 37.6 +0.1
R33A	Olander Ranch, baz=76	76.20	340	⇑P	P	06 22 37.2 -0.4
V24A	Rampart Ranch, baz=76,SNR=15	76.25	333	⇓P	P	06 22 37.9 -0.2
U26A	Atchley Ranch, baz=76,SNR=12	76.29	335	⇓P	P	06 22 38.0 -0.4
S30A	Montezuma baz=77,SNR=10.0	76.33	338	⇑P	P	06 22 38.0 -0.3
T28A	Walsh baz=77,SNR=30	76.39	336	⇑P	P	06 22 38.6 -0.2
S29A	Ulysses baz=77,SNR=11	76.52	337	⇓P	P	06 22 39.8 +0.3
R32A	Long Quarter, baz=77,SNR=8.1	76.52	339	⇓P	P	06 22 39.6 +0.2
U25A	Circle Dot Ran baz=77,SNR=20	76.53	334	⇓P	P	06 22 40.0 +0.3
T27A	Campo baz=77,SNR=23	76.54	336	⇑P	P	06 22 39.7 +0.1
KSU1	Kansas State U baz=77	76.56	341	⇓P	P	06 22 38.9 -0.7
V23A	Ortiz Mt. (NFS baz=77,SNR=9.1	76.61	333	⇓P	P	06 22 40.8 +0.6
R31A	Burdett baz=77,SNR=8.0	76.64	339	⇑P	P	06 22 40.2 +0.1
S28A	Manter baz=77,SNR=26	76.74	337	⇑P	P	06 22 40.9 +0.2
Q33A	Connelly Farm, baz=77	76.80	340	⇓P	P	06 22 41.2 +0.3
U24A	Moreno Valley baz=77,SNR=8.7	76.86	334	⇑P	P	06 22 42.8 +1.1
R30A	Dighton baz=77,SNR=7.1	76.86	338	⇓P	P	06 22 41.4 0.0
T26A	Comanche Natio baz=77,SNR=16	76.94	335	⇑P	P	06 22 42.7 +0.7
Q32A	Meitler Ranch, baz=77	77.00	340	⇓P	P	06 22 42.7 +0.6
V22A	San Miguel Ran baz=77,SNR=33	77.04	332	⇑P	P	06 22 43.9 +1.2
X18A	Snowflake baz=77,SNR=16	77.07	329	⇑P	P	06 22 43.8 +1.0
U23A	El Rito baz=77,SNR=24	77.13	333	⇓P	P	06 22 44.1 +0.9
P33A	Williams Farm, baz=77	77.17	340	⇑P	P	06 22 43.0 -0.1
T25A	Trinidad baz=77,SNR=40	77.20	334	⇓P	P	06 22 44.2 +0.8
Q31A	Ellis baz=78,SNR=7.9	77.26	339	⇓P	P	06 22 44.2 +0.6
R29A	Marienthal baz=78,SNR=19	77.26	337	⇑P	P	06 22 44.2 +0.6
113A	Mohawk Valley, baz=78,SNR=6.3	77.28	325	⇓P	P	06 22 44.8 +1.0
S26A	Kim baz=78,SNR=30	77.30	335	⇓P	P	06 22 44.5 +0.5
R28A	Tribune baz=78,SNR=19	77.40	337	⇑P	P	06 22 44.6 +0.2
Z14A	Wintersburg baz=78,SNR=5.5	77.40	326	⇓P	P	06 22 45.0 +0.6
U22A	Llaves baz=78,SNR=23	77.42	332	⇑P	P	06 22 45.7 +0.9
T24B	San Luis baz=78,SNR=15	77.48	334	⇑P	P	06 22 45.6 +0.5
Q30A	Quinter baz=78,SNR=14	77.48	338	⇓P	P	06 22 44.9 +0.1
W18A	Petrified Fore baz=78,SNR=27	77.48	330	⇑P	P	06 22 45.6 +0.5
W18A	Petrified Fore comp=Z,129nm,1.4s	77.48	330	*eP*	P	06 22 45.5 +0.4
P32A	Huiting Farm, baz=78,SNR=8.8	77.60	340	⇓P	P	06 22 45.6 +0.1
X16A	Lo Mia Camp, P baz=78,SNR=36	77.61	328	⇓P	P	06 22 46.3 +0.4
Q29A	Oakley baz=78,SNR=8.5	77.64	338	⇓P	P	06 22 45.4 -0.3
S25A	Robets Cordova baz=78,SNR=23	77.67	335	⇑P	P	06 22 46.4 +0.4
R27A	Eads baz=78,SNR=21	77.67	336	⇓P	P	06 22 45.8 -0.2
T23A	Casias Ranch, baz=78,SNR=7.7	77.70	333	⇑P	P	06 22 46.7 +0.3
P31A	Stockton baz=78,SNR=8.2	77.73	339	⇑P	P	06 22 46.2 0.0
R26A	Arlington baz=78,SNR=22	77.91	336	⇓P	P	06 22 47.6 +0.3
Y14A	Wickenburg baz=78,SNR=5.9	77.91	327	⇓P	P	06 22 47.9 +0.6
S24A	Houchin Ranch, baz=78,SNR=32	77.93	334	⇑P	P	06 22 48.2 +0.6
P30A	Selden baz=78	78.01	339	⇓P	P	06 22 48.0 +0.2
GLA	Glamis baz=78,SNR=11	78.02	325	⇓P	P	06 22 48.7 +0.7
R25A	Fountain Ranch baz=78,SNR=8.0	78.05	335	⇑P	P	06 22 48.2 +0.1
Q28A	Sharon Springs baz=78,SNR=14	78.06	337	⇑P	P	06 22 48.2 +0.1
O32A	Brockman Farm, baz=78	78.10	340	⇓P	P	06 22 48.5 +0.2
P29A	Atwood baz=78	78.27	338	⇓P	P	06 22 49.7 +0.5
KSCO	Kaye Shedlock' baz=78,SNR=13	78.27	337	⇑P	P	06 22 49.8 +0.5
KSCO	Kaye Shedlock' comp=Z,164nm,1.6s	78.27	337	*eP*	P	06 22 50.1 +0.7
S23A	Nye Farm, Mont baz=78,SNR=6.1	78.28	334	⇓P	P	06 22 50.2 +0.7
O31A	Woolen Ranch, baz=78,SNR=9.5	78.30	339	⇓P	P	06 22 49.5 +0.2
SWSC	Sam W. Stewart baz=79,SNR=7.3	78.39	324	⇓P	P	06 22 50.4 +0.4
R24A	Sanders Place, baz=79,SNR=26	78.42	334	⇑P	P	06 22 50.8 +0.5
Y12C	Blythe baz=79,SNR=9.2	78.45	325	⇓P	P	06 22 51.4 +1.2
Q26A	Hugo baz=79,SNR=15	78.49	336	⇓P	P	06 22 50.8 +0.3
P28A	Saint Francis baz=79,SNR=9.5	78.50	337	⇓P	P	06 22 50.9 +0.3
WUAZ	Wupatki baz=79	78.52	329	⇑P	P	06 22 51.7 +0.9
O30A	MW Ranch, Wils baz=79	78.54	339	⇓P	P	06 22 50.9 +0.2
S22A	4UR Ranch, Cre baz=79,SNR=20	78.62	333	⇓P	P	06 22 52.0 +0.5
R23A	Moffat baz=79	78.64	334	⇓P	P	06 22 52.1 +0.5
MONP	Monument Peak, baz=79	78.66	324	⇑P	P	06 22 52.5 +0.8
O29A	4D Ranch, Culb baz=79	78.71	338	⇑P	P	06 22 52.1 +0.5
PDMCI	Parker Dam,Lak baz=79	78.73	326	⇑P	P	06 22 52.2 +0.5
Q25A	Bedland, Calha baz=79,SNR=12	78.73	335	⇓P	P	06 22 52.0 +0.1
P27A	Ficken Ranch, baz=79,SNR=7.5	78.75	337	⇓P	P	06 22 52.4 +0.4
MVCO	Mesa Verde baz=79	78.79	332	⇓P	P	06 22 52.6 +0.2
BC3	Big Chuckawall baz=79,SNR=19	78.81	325	⇓P	P	06 22 52.8 +0.4
P26A	Davis Ranch, A baz=79,SNR=9.8	79.01	336	⇓P	P	06 22 53.9 +0.5
O28A	Krutsinger Ran baz=79,SNR=15	79.01	338	⇓P	P	06 22 54.1 +0.8
IRM	Iron Mountain baz=79,SNR=17	79.08	325	⇓P	P	06 22 54.4 +0.6
Q24A	Divide baz=79,SNR=11	79.09	335	⇑P	P	06 22 54.4 +0.3
BGNE	Belgrade baz=79	79.14	341	⇑P	P	06 22 53.8 -0.1
BGNE	Belgrade comp=Z,111nm,1.5s	79.14	341	*eP*	P	06 22 54.2 +0.3
P25A	Willow Gulch B baz=80,SNR=22	79.24	336	⇓P	P	06 22 55.4 +0.7
PFO	Pinyon Flats O comp=Z,162nm,1.3s,SNR=7.9	79.26	324	P	P	06 22 56.2 +1.3
PFO	Pinyon Flats O baz=80,SNR=16	79.26	324	⇓P	P	06 22 55.9 +1.0
W13A	Hualapai Mount baz=80,SNR=22	79.28	327	⇑P	P	06 22 55.7 +0.7
O27A	Beecher Island baz=80,SNR=14	79.29	337	⇓P	P	06 22 55.5 +0.7
N29A	Votaw Ranch, W baz=80,SNR=6.0	79.30	339	⇓P	P	06 22 55.5 +0.7
M31A	Lambtecht Ranc baz=80	79.30	340	⇑P	P	06 22 55.4 +0.5
BELC	Belle Mtn. Jos baz=80,SNR=9.1	79.36	325	⇑P	P	06 22 55.9 +0.5
N28A	Pribbeno Ranch baz=80,SNR=5.8	79.45	338	⇑P	P	06 22 55.9 +0.2
P24A	Kohler Place, baz=80	79.49	335	⇓P	P	06 22 56.4 +0.3
O26A	Horse Wrangler baz=80,SNR=5.5	79.61	337	⇑P	P	06 22 57.3 +0.7
MURC	Murrieta baz=80,SNR=8.9	79.61	324	⇓P	P	06 22 57.4 +0.7
PV01	Paradox Valley comp=Z,5μm,1.5s	79.62	332	*eP*	P	06 22 57.3 +0.5
U15A	North Rim baz=80,SNR=32	79.68	329	⇓P	P	06 22 57.9 +0.6
P23A	Jefferson baz=80,SNR=12	79.69	334	⇑P	P	06 22 58.1 +0.7
O25A	Wiggins baz=80,SNR=11	79.76	336	⇑P	P	06 22 58.3 +0.8
GMRC	Granite Mounta baz=80,SNR=14	79.83	325	⇑P	P	06 22 58.9 +0.9
N27A	Anderson Farm, baz=80,SNR=12	79.87	337	⇓P	P	06 22 58.7 +0.7
M29A	Burnside Ranch baz=80	79.89	339	⇓P	P	06 22 58.9 +0.8
ISCO	Idaho Springs baz=80	79.99	335	⇓P	P	06 22 59.8 +0.8
BBRC	Big Bear Solar baz=80,SNR=5.7	80.01	324	⇑P	P	06 22 59.9 +0.9
L31A	Butterfield Fa baz=80,SNR=15	80.04	341	⇑P	P	06 22 59.4 +0.6
CIS	Catalina Islan baz=80	80.05	323	⇓P	P	06 23 00.1 +1.0
L30A	Spencer Herefo baz=80,SNR=7.9	80.07	340	⇓P	P	06 22 59.4 +0.4
N26A	Koester Ranch, baz=80,SNR=5.8	80.11	337	⇓P	P	06 22 59.8 +0.5
HEC	Hector,Ludlow baz=80,SNR=26	80.19	325	⇓P	P	06 23 00.6 +0.8
P22A	Eagle baz=80,SNR=12	80.22	334	⇓P	P	06 23 00.7 +0.6
BOSA	Boshof	80.30	118	*eP*	P	06 23 01.2 +0.3
BOSA				pmax	pmax	
BOSA	comp=Z,38nm,1.1s Boshof comp=Z,6.1nm,0.6s,baz=244,slow=5.7,SNR=7.1	80.30	118	P	P	06 23 01.9 +1.0
BOSA				LR	LR	06 58 34.6
BOSA	comp=Z,856nm,18.1s,baz=226,slow=36 Boshof comp=Z,38nm,1.1s	80.30	118	*eP*	P	06 23 01.2 +0.3
BOSA				P	P	06 23 01.9 +1.0
BFSC	Mount Baldy Ra baz=81,SNR=11	80.35	324	⇓P	P	06 23 01.5 +0.7
L29A	Maesberg Ranch baz=81	80.40	339	⇓P	P	06 23 01.6 +0.8
O23A	Lake Granby, G baz=81,SNR=18	80.47	335	⇓P	P	06 23 01.9 +0.4
M27A	Reverse DX Ran baz=81	80.48	338	⇑P	P	06 23 01.7 +0.4
TUQ	Turquoise Moun baz=81,SNR=16	80.49	325	⇑P	P	06 23 02.0 +0.5
PASC	Pasadena Art C comp=Z,51nm,1.3s	80.56	323	*eP*	P	06 23 02.8 +1.0
O22A	Kremmling baz=81,SNR=24	80.64	334	⇑P	P	06 23 02.6 +0.2
K30A	Basset baz=81,SNR=14	80.71	340	⇓P	P	06 23 03.0 +0.6
GSC	Goldstone, Bar baz=81,SNR=18	80.80	325	⇓P	P	06 23 03.8 +0.7
ECSD	EROS Data Cent baz=81	80.92	343	⇓P	P	06 23 03.0 -0.4
M25A	Palm-Egli Farm baz=81	80.93	337	⇓P	P	06 23 04.4 +0.7
SHPR	Sheep Range comp=Z,61nm,1.3s	81.02	327	*eP*	P	06 23 05.3 +1.0
EDW2	Edwards Air Fo baz=81,SNR=11	81.03	324	⇓P	P	06 23 04.9 +0.6
SHOC	Shoshone, Teco baz=81,SNR=7.6	81.04	325	⇑P	P	06 23 05.2 +0.9
N23A	Red Feather La baz=81	81.08	335	⇑P	P	06 23 05.2 +0.5
L26A	Underwood Farm baz=81	81.16	338	⇓P	P	06 23 05.6 +0.7
OSI	Osito Audit: C baz=81	81.18	323	⇑P	P	06 23 06.4 +1.3
N22A	Wattenberg Ran baz=81,SNR=17	81.18	335	⇓P	P	06 23 05.8 +0.5
M24A	Cheyenne baz=81,SNR=10	81.21	336	⇓P	P	06 23 05.6 +0.4
O20A	White River Ci baz=82,SNR=10	81.24	333	⇓P	P	06 23 06.0 +0.5
O20A	White River Ci comp=Z,79nm,1.6s	81.24	333	*eP*	P	06 23 05.1 -0.4
K28A	Ten Mile Ranch baz=82,SNR=7.9	81.25	339	⇑P	P	06 23 05.9 +0.6
J30A	Dallas baz=82,SNR=7.0	81.28	341	⇓P	P	06 23 05.0 -0.4
ARUT	Antelope Range	81.32	328	*eP*	P	06 23 06.4 +0.5
ARUT				pmax	pmax	
ARUT	comp=Z,1μm,1.5s Antelope Range comp=Z,1μm,1.5s	81.32	328	*eP*	P	06 23 06.4 +0.5
LRMC	Laurel Mtn Rad baz=82,SNR=12	81.36	324	⇑P	P	06 23 06.8 +0.7
SPMN	Marine on St. baz=82	81.48	346	⇑P	P	06 23 05.0 -1.3
K27A	Flueckinger Fa baz=82,SNR=8.4	81.50	338	⇓P	P	06 23 06.6 -0.1
M23A	Laramie baz=82	81.52	336	⇓P	P	06 23 07.5 +0.6
J29A	Okreek baz=82,SNR=24	81.59	340	⇑P	P	06 23 06.8 -0.2
L24A	Wheatland baz=82,SNR=6.7	81.76	336	⇑P	P	06 23 08.6 +0.5
FURC	Furnace Creek, baz=82,SNR=12	81.77	325	⇓P	P	06 23 09.0 +0.9
K26A	Motz Farm, Whi baz=82	81.79	338	⇑P	P	06 23 08.7 +0.4
I30A	Oacoma baz=82,SNR=11	81.81	341	⇑P	P	06 23 07.5 -0.7
N20A	Spence Gulch, baz=82,SNR=10	81.86	334	⇓P	P	06 23 08.3 -0.5
J28A	Allard Ranch, baz=82,SNR=15	81.87	339	⇑P	P	06 23 08.6 +0.1
ISA	Isabella, Lake baz=82,SNR=19	81.89	324	⇑P	P	06 23 09.5 +0.6
K25A	Mack Ranch, Ha baz=82	81.93	337	⇑P	P	06 23 10.0 +1.0
J27A	Elkhorn Farm, baz=82,SNR=21	81.94	339	⇑P	P	06 23 09.6 +0.6
DAC	Darwin (Calif)	81.96	325	*eP*	P	06 23 09.6 +0.2
DAC				pmax	pmax	
DAC	comp=Z,50nm,1.3s Darwin (Calif) comp=Z,50nm,1.3s	81.96	325	*eP*	P	06 23 09.6 +0.2
L23A	Garrett baz=82,SNR=8.4	82.08	336	⇓P	P	06 23 10.2 +0.3
I29A	Vivian Onida baz=82,SNR=6.8	82.15	340	⇓P	P	06 23 09.3 -0.7
BRSD	Miller baz=82	82.18	341	⇓P	P	06 23 10.3 +0.2
BRSD	Miller comp=Z,18nm,0.8s	82.18	341	*eP*	P	06 23 09.9 -0.2
L22A	Ellis Ranch, M baz=82	82.26	335	⇑P	P	06 23 11.8 +0.9
J26A	Sides Ranch, S baz=82,SNR=13	82.31	338	⇑P	P	06 23 11.2 +0.3
VES	Vestal, Richgr baz=83,SNR=16	82.33	324	⇑P	P	06 23 11.3 +0.2
SMMC	Simmler baz=83	82.36	323	⇓P	P	06 23 12.6 +1.3
I28A	Midland baz=83,SNR=17	82.38	340	⇓P	P	06 23 11.1 0.0
GRAC	Grapevine Rang baz=83,SNR=18	82.44	325	⇑P	P	06 23 12.4 +0.7
J25A	Sunshine Ranch baz=83	82.61	338	⇑P	P	06 23 12.9 +0.4
K23A	Bowen Ranch, D baz=83,SNR=6.8	82.63	336	⇓P	P	06 23 12.3 -0.3
H29A	Onida baz=83,SNR=14	82.68	341	⇑P	P	06 23 12.1 -0.7
I27A	Quinn baz=83,SNR=14	82.69	339	⇓P	P	06 23 12.5 -0.4
R11A	Troy Canyon, C baz=83,SNR=38	82.73	327	⇓P	P	06 23 14.1 +0.8
R11A	Troy Canyon, C comp=Z,52nm,1.4s	82.73	327	*eP*	P	06 23 13.8 +0.5
RCTC	Rector, Farmer baz=83	82.78	324	⇑P	P	06 23 14.1 +0.7
J24A	Dixon Ranch, L baz=83,SNR=6.0	82.83	337	⇑P	P	06 23 14.0 +0.4
K22A	Casper baz=83,SNR=20	82.84	336	⇑P	P	06 23 13.8 +0.1
K22A	Casper comp=Z,110nm,1.5s	82.84	336	*eP*	P	06 23 13.6 -0.2
G30A	Faulkton baz=83,SNR=6.8	82.86	341	⇑P	P	06 23 13.6 -0.1
I26A	New Underwood baz=83,SNR=5.8	82.90	339	⇓P	P	06 23 13.9 0.0
H28A	Mission Ridge baz=83,SNR=10	82.95	340	⇑P	P	06 23 13.6 -0.5

K21A **Alcova** 83.08 335 ⇓P P 06 23 14.5 -0.5
baz=83,SNR=18
DUG **Dugway, Tooele** 83.08 330 ⇑P P 06 23 15.7 +0.6
baz=83
G29A **Hoven** 83.13 341 ⇓P P 06 23 14.6 -0.4
baz=83,SNR=7.9
I25A **Rochford** 83.16 338 ⇑P P 06 23 14.9 -0.5
baz=83,SNR=9.9
H27A **Howes** 83.22 339 ⇑P P 06 23 14.9 -0.6
baz=83,SNR=15
G28A **Parade** 83.29 340 ⇑P P 06 23 15.2 -0.7
baz=84,SNR=17
I24A **Kuemmerle Ranc** 83.29 337 ⇓P P 06 23 16.4 +0.4
baz=84
TCUT **Toone Canyon** 83.30 332 *eP* P 06 23 16.7 +0.4
comp=Z,122nm,1.5s
F30A **Leola** 83.49 342 ⇓P P 06 23 16.4 -0.4
baz=84
J22A **Midwest** 83.50 336 ⇑P P 06 23 15.8 -1.3
baz=84,SNR=9.1
MLAC **Mammoth, Mammo** 83.64 325 ⇑P P 06 23 19.0 +0.8
baz=84,SNR=6.8
H25A **Fruitdale** 83.66 338 ⇓P P 06 23 17.9 0.0
baz=84,SNR=12
F29A **Eureka** 83.70 341 ⇓P P 06 23 17.2 -0.7
baz=84,SNR=14
J21A **Lysite** 83.77 335 ⇓P P 06 23 17.7 -0.9
baz=84
G27A **Dupree** 83.86 340 ⇑P P 06 23 18.1 -0.7
baz=84,SNR=10
SPUT **South Promonto** 83.87 331 *eP* P 06 23 18.5 -0.6
comp=Z,115nm,1.5s
I22A **9 Mile Ranch,** 83.93 336 ⇓P P 06 23 19.0 -0.3
baz=84,SNR=8.9
F28A **McLaughlin** 83.97 341 ⇑P P 06 23 18.9 -0.5
baz=84,SNR=10
G26A **Maurine** 83.97 339 ⇑P P 06 23 18.8 -0.6
baz=84,SNR=13
J20A **Shoshoni** 84.00 335 ⇑P P 06 23 19.1 -0.6
baz=84,SNR=25
PDAR **Pinedale Array** 84.02 334 P P 06 23 19.5 -0.4
comp=Z,9.1nm,1.1s,baz=134,slow=4.3,SNR=29
PDAR LR LR 06 56 58.0
comp=Z,1μm,18.4s,baz=148,slow=33
NVAR **Mina Array Bea** 84.03 326 P P 06 23 20.8 +0.7
comp=Z,12nm,1.0s,baz=151,slow=5.5,SNR=40
H24A **Dirks Ranch, A** 84.07 338 ⇓P P 06 23 18.8 -1.1
baz=84,SNR=7.7
E30A **Jud** 84.08 342 ⇓P P 06 23 19.3 -0.6
baz=84
G25A **Newell** 84.12 339 ⇓P P 06 23 19.5 -0.7
baz=84,SNR=11
I21A **Big Trails, Te** 84.13 336 ⇑P P 06 23 19.6 -0.8
baz=84,SNR=24
J19A **Crowheart** 84.27 334 ⇓P P 06 23 20.3 -0.8
baz=84,SNR=25
E29A **Napoleon** 84.33 342 ⇑P P 06 23 20.6 -0.5
baz=85,SNR=7.3
F27A **Lemmon** 84.33 340 ⇓P P 06 23 20.8 -0.4
baz=85
F26A **Lodgepole** 84.50 339 ⇓P P 06 23 21.7 -0.4
baz=85,SNR=7.7
H22A **Clearmont** 84.51 337 ⇑P P 06 23 21.7 -0.5
baz=85,SNR=5.2
I20A **Worland** 84.54 335 ⇑P P 06 23 22.0 -0.4
baz=85
G24A **Alzada** 84.55 338 ⇑P P 06 23 22.2 -0.2
baz=85,SNR=6.2
AHID **Auburn Hatcher** 84.59 333 *eP* P 06 23 22.6 -0.2
comp=Z,69nm,1.5s
D30A **Buchanan** 84.61 342 ⇑P P 06 23 22.0 -0.6
baz=85,SNR=13
E28A **Huff** 84.61 341 ⇑P P 06 23 22.0 -0.6
baz=85,SNR=5.9
WAKR **Walker** 84.62 325 *eP* P 06 23 23.9 +0.8
comp=Z,60nm,1.5s
E27A **Carson** 84.72 340 ⇑P P 06 23 22.4 -0.8
baz=85
G23A **Biddle** 84.74 337 ⇓P P 06 23 22.5 -0.8
baz=85,SNR=7.9
H21A **Big Horn, Sher** 84.76 336 ⇑P P 06 23 22.5 -1.1
baz=85,SNR=6.0
D29A **Pettibone, Tap** 84.77 342 ⇓P P 06 23 22.9 -0.5
baz=85,SNR=8.9
F25A **Bowman** 84.80 339 ⇓P P 06 23 23.4 -0.2
baz=85,SNR=5.9
I19A **Meeteetse** 84.92 335 ⇑P P 06 23 24.0 -0.4
baz=85,SNR=8.2
TORD **Torodi Ar. Bea** 84.92 70 P P 06 23 24.1 -0.7
comp=Z,12nm,0.8s,baz=246,slow=3.8,SNR=45
TORD LR LR 07 00 38.6
comp=Z,2μm,18.2s,baz=230,slow=35
H20A **Greybull** 84.96 335 ⇓P P 06 23 23.8 -0.8
baz=85,SNR=28
E26A **Carlson Angus** 85.00 340 ⇑P P 06 23 23.7 -0.9
baz=85
F24A **Ekalaka** 85.02 338 ⇓P P 06 23 24.2 -0.6
baz=85,SNR=7.7
G22A **Birney** 85.04 337 ⇓P P 06 23 23.8 -1.1
baz=85
AGMN **Agassiz Nation** 85.05 345 ⇑P P 06 23 23.7 -1.0
baz=85
C30A **Mose, Pekin** 85.09 343 ⇑P P 06 23 24.5 -0.4
baz=85,SNR=15
D28A **Regan** 85.15 341 ⇓P P 06 23 24.9 -0.4
baz=85,SNR=6.2
F23A **Volborg** 85.21 338 ⇓P P 06 23 24.6 -1.0
baz=85,SNR=18
E25A **Miller Ranch,** 85.30 339 ⇓P P 06 23 25.9 -0.2
baz=86,SNR=6.7
G21A **Lodge Grass** 85.35 336 ⇑P P 06 23 25.8 -0.6
baz=86,SNR=8.1
I17A **Pilgrim Ck.** 85.39 334 ⇑P P 06 23 26.8 0.0
baz=86,SNR=12
H19A **Powell** 85.47 335 ⇑P P 06 23 26.4 -0.7
baz=86,SNR=14
D26A **Manning** 85.51 340 ⇓P P 06 23 26.8 -0.3
baz=86,SNR=7.5
F22A **Rosebud** 85.53 337 ⇓P P 06 23 26.6 -0.6
baz=86,SNR=11
C28A **Hausauer Farms** 85.58 342 ⇑P P 06 23 27.4 0.0
baz=86
E24A **Baker** 85.62 339 ⇓P P 06 23 27.3 -0.4
baz=86,SNR=9.1
G20A **Bridger** 85.68 336 ⇓P P 06 23 27.3 -0.8
baz=86,SNR=21
H18A **Shoshone NF, C** 85.71 335 ⇓P P 06 23 28.0 -0.5
baz=86,SNR=26
B30A **Myrvik Farm, E** 85.75 343 ⇓P P 06 23 27.8 -0.4
baz=86,SNR=16
F21A **Absaloka Mine,** 85.85 337 ⇑P P 06 23 28.4 -0.5
baz=86,SNR=6.1
D25A **Fairfield** 85.87 340 ⇑P P 06 23 29.0 +0.1
baz=86,SNR=11
E23A **Ismay** 85.87 338 ⇑P P 06 23 28.1 -0.8
baz=86
C27A **Sayler Ranch,** 85.88 341 ⇓P P 06 23 28.6 -0.3
baz=86,SNR=6.6
RLMT **Red Lodge** 85.96 335 *eP* P 06 23 29.1 -0.5
comp=Z,42nm,1.3s
B29A **Wagenman Farm,** 86.02 343 ⇑P P 06 23 28.9 -0.6
baz=86,SNR=13
E22A **Miles City** 86.02 338 ⇑P P 06 23 28.6 -1.0
baz=86,SNR=8.5
D24A **Glendive** 86.13 339 ⇑P P 06 23 30.0 -0.2
baz=86,SNR=10.0
C26A **Wahner Farm, P** 86.14 341 ⇓P P 06 23 29.6 -0.6
baz=86,SNR=5.8
F20A **Billings** 86.17 336 ⇑P P 06 23 29.7 -0.8
baz=86,SNR=8.2
A30A **Hoffart Farm,** 86.20 343 ⇑P P 06 23 29.6 -0.8
baz=86,SNR=9.3
B28A **Dugan Ranch, T** 86.25 342 ⇓P P 06 23 30.5 -0.2
baz=86,SNR=19
C25A **Freed Ranch, W** 86.36 340 ⇑P P 06 23 31.0 -0.3
baz=87,SNR=6.7
A29A **Manning Farm,** 86.41 343 ⇑P P 06 23 30.7 -0.8
baz=87,SNR=13
B27A **Peters Farms,** 86.45 341 ⇓P P 06 23 31.6 -0.1
baz=87
D23A **Lindsay** 86.45 338 ⇓P P 06 23 31.5 -0.3
baz=87,SNR=30
E21A **Keefer Ranch,** 86.47 337 ⇑P P 06 23 31.4 -0.4
baz=87,SNR=9.6
F19A **Roth Farm, Mol** 86.48 336 ⇓P P 06 23 31.1 -0.9
baz=87,SNR=15
C24A **Savage** 86.53 339 ⇑P P 06 23 32.0 -0.2
baz=87,SNR=16

HLID **Hailey** 86.56 331 ⇑P P 06 23 32.8 +0.2
baz=87
A28A **Rude Farm, Bot** 86.66 342 ⇑P P 06 23 32.1 -0.6
baz=87,SNR=7.8
GCMT **Greycliff** 86.68 335 *eP* P 06 23 32.1 -1.0
comp=Z,27nm,1.4s
D22A **Cohagen** 86.72 338 ⇑P P 06 23 32.6 -0.6
baz=87,SNR=16
E20A **Meyer Farm, Mu** 86.78 336 ⇑P P 06 23 32.8 -0.6
baz=87,SNR=24
B25A **Knox Farm, Ray** 86.84 340 ⇓P P 06 23 33.5 -0.2
baz=87,SNR=13
ULM **Lac du Bonnet** 86.90 345 P P 06 23 33.4 -0.4
comp=Z,17nm,1.1s,baz=158,slow=3.0,SNR=13
D21A **La Casta Ranch** 86.91 337 ⇓P P 06 23 33.4 -0.7
baz=87,SNR=8.3
E19A **Rath Farm, Rou** 86.96 336 ⇓P P 06 23 33.6 -0.7
baz=87,SNR=27
C23A **Lambert** 87.00 339 ⇑P P 06 23 33.9 -0.5
baz=87,SNR=20
MCMT **McKenzie Canyo** 87.01 333 *eP* P 06 23 35.3 +0.5
comp=Z,32nm,1.3s
A26A **Wade Farm, Ken** 87.10 341 ⇓P P 06 23 33.9 -1.0
baz=87,SNR=7.7
C22A **Vida** 87.16 338 ⇓P P 06 23 34.3 -0.9
baz=87,SNR=12
D20A **Manuel Ranch,** 87.30 337 ⇑P P 06 23 35.3 -0.7
baz=88,SNR=22
DGMT **Dagmar** 87.31 340 ⇓P P 06 23 35.3 -0.6
baz=88
A25A **Svangstu Ranch** 87.43 340 ⇑P P 06 23 35.4 -1.1
baz=88,SNR=10.0
B23A **Brockton** 87.54 339 ⇓P P 06 23 36.0 -1.0
baz=88,SNR=12
D19A **Cripps Ranch,** 87.61 336 ⇑P P 06 23 36.2 -1.3
baz=88,SNR=13
C21A **Desert Coulee** 87.61 338 ⇓P P 06 23 36.5 -0.9
baz=88,SNR=16
A24A **Westby** 87.67 340 ⇓P P 06 23 37.2 -0.4
baz=88,SNR=10
B22A **Reddig Ranch S** 87.69 338 ⇓P P 06 23 37.1 -0.7
baz=88,SNR=7.9
C20A **Veseth Ranch,** 87.80 337 ⇑P P 06 23 37.2 -1.1
baz=88,SNR=13
B21A **Ellsworth Farm** 88.12 338 ⇓P P 06 23 39.0 -0.8
baz=88,SNR=6.5
N02D **Trinity Center** 88.12 325 ⇓P P 06 23 39.1 -1.0
baz=88
C19A **Slack Wire Ran** 88.16 336 ⇑P P 06 23 39.2 -0.9
baz=88,SNR=8.2
A22A **Carney Farms,** 88.29 339 ⇑P P 06 23 39.5 -1.1
baz=88,SNR=15
M04C **Macdoel** 88.34 326 ⇓P P 06 23 40.2 -0.9
baz=89
B20A **Soberg Farm,** 88.44 337 ⇑P P 06 23 40.2 -1.2
baz=89,SNR=17
M02C **Callahan** 88.51 325 ⇓P P 06 23 42.3 +0.4
baz=89
A21A **Bergtoll Ranch** 88.59 338 ⇑P P 06 23 40.5 -1.5
baz=89,SNR=11
EGMT **Eagleton** 88.65 336 ⇑P P 06 23 41.1 -1.2
baz=89
B19A **Brinkman Farms** 88.75 337 ⇑P P 06 23 42.0 -0.9
baz=89,SNR=14
A20A **Cobblestone Ra** 88.80 338 ⇑P P 06 23 42.2 -0.9
baz=89,SNR=17
A19A **Klindworth Far** 89.10 337 ⇓P P 06 23 43.6 -0.9
baz=89,SNR=10
MSO **Missoula** 89.11 333 ⇓P P 06 23 44.5 0.0
baz=89
SCHQ **Schefferville** 89.18 3 LR LR 07 03 11.0
comp=Z,520nm,21.7s,baz=192,slow=35
J05D **Fort Rock, OR** 89.24 327 ⇑P P 06 23 45.3 -0.1
baz=90
PINOR **Pine Mountain** 89.49 327 *eP* P 06 23 47.1 +0.8
comp=Z,27nm,1.0s
I05D **Terrebonne, OR** 90.11 327 ⇑P P 06 23 49.9 +0.6
baz=90
NEW **Newport** 91.50 332 P P 06 23 55.9 +0.3
comp=Z,5.2nm,1.1s,baz=178,slow=3.5,SNR=6.2
NEW **Newport** 91.50 332 ⇓P P 06 23 55.1 -0.5
baz=92
TAM **Tamanrasset** 93.56 65 *eP* P 06 24 06.1 +0.2
TAM pmax pmax
comp=Z,5.0nm,1.1s
TAM **Tamanrasset** 93.56 65 *eP* P 06 24 06.1 +0.2
comp=Z,4.9nm,1.1s
ESDC **Sonseca Array** 97.36 46 LR LR 07 08 21.3
comp=Z,838nm,18.1s,baz=225,slow=36
DZM **Mont Dzumac** 100.46 234 *e*PS PS 06 37 44.0 +0.1
comp=Z,155nm,23.5s
DZM **Mont Dzumac** 100.46 234 *e*LR LR 06 57 29.6
comp=Z,641nm,25.1s
YKA **Yellowknife Ar** 102.41 341 P Pdif 06 24 44.4 -0.2
comp=Z,0.7nm,0.9s,baz=140,slow=4.6,SNR=10
YKA PP PP 06 28 59.8 +2.0
comp=Z,1.1nm,1.2s,baz=139,slow=7.3,SNR=5.7
GERES **GERESS Array B** 112.94 46 PKIKP PKiKP 06 29 26.1 -0.2
comp=Z,0.4nm,0.3s,baz=202,slow=2.5,SNR=5.2
KHC **Kasperske Hory** 113.00 45 AMS AMS 07 18 30.0
comp=Z,600nm,14.8s
CLL **Collm** 113.63 43 *e*PP PP 06 30 18.0 -2.1
CLL *e*PS **PS** 06 39 53.0 -3.2
CLL *e*SS SS 06 46 03.0 -4.8
CLL *e*SSS SSS 06 50 11.0
CLL *e* 06 56 12.0
CLL Lm MLR 07 16 00.0
comp=N,300nm,21.0s
CLL Lm MLR 07 16 00.0
comp=E,700nm,20.3s
CLL Lm MLR 07 16 00.0
comp=Z,900nm,20.4s
PRU **Pruhonice** 113.94 45 AMS AMS 07 18 20.0
comp=Z,800nm,18.8s
PVCC **Panska Ves** 114.19 44 AMS AMS 07 18 10.0
comp=Z,1μm,19.2s
TREC **Trest** 114.19 46 AMS AMS 07 22 50.0
comp=Z,500nm,16.9s
ILAR **Eielson Array** 114.44 333 PKP PKPdf 06 29 27.6 -0.9
comp=Z,1.6nm,1.1s,baz=132,slow=1.7,SNR=6.6
ILAR PP PP 06 30 31.5 +6.0
comp=Z,0.8nm,1.0s,baz=99,slow=3.6,SNR=4.8
DPC **Dobruska-Polom** 115.13 45 AMS AMS 07 20 00.0
VYHS **Vyhne** 115.88 48 *e*PKIKP **PKPdf** 06 29 32.1 +0.3
VYHS **Vyhne** 115.88 48 *e*PKP **PKPdf** 06 29 32.1 +0.3
OKC **Ostrava-Krasne** 116.00 46 AMS AMS 07 24 30.0
comp=Z,600nm,17.1s
ASAR **Alice Springs** 116.82 207 PKP **PKPdf** 06 29 34.0 -0.5
comp=Z,1.7nm,0.9s,baz=141,slow=1.7,SNR=10
ASAR PKKPbc **PKKPbc** 06 40 00.7 +0.6
comp=Z,1.1nm,0.6s,baz=338,slow=2.9,SNR=16
WRA **Warramunga Arr** 120.00 210 PKP **PKPdf** 06 29 40.5 -0.3
comp=Z,3.2nm,0.7s,baz=164,slow=1.6,SNR=35
WRA PKKPbc **PKKPbc** 06 39 48.4 -0.1
comp=Z,0.6nm,0.7s,baz=346,slow=4.0,SNR=6.1
WRAB **Tennant Creek** 120.01 210 *c i*PKIKP **PKPdf** 06 29 40.9 +0.2
WRAB pmax pmax
comp=Z,37nm,2.5s
BRTR **Keskin Array B** 122.59 61 PKP **PKPdf** 06 29 45.5 +0.3
comp=Z,2.1nm,0.7s,baz=197,slow=3.0,SNR=14
AKASG **Malin Array Be** 122.98 48 PKP **PKPdf** 06 29 44.6 -0.6
comp=Z,1.9nm,0.7s,baz=261,slow=2.5,SNR=8.5
FINES **FINESS Array B** 123.77 35 PKP **PKPdf** 06 29 47.6 +1.1
comp=Z,0.8nm,0.6s,baz=150,slow=8.1,SNR=4.2
GAMB **Gambell** 124.28 328 *e*PKPdf **PKPdf** 06 29 47.1 -0.2
ARCES **ARCESS Array B** 124.76 25 PKP **PKPdf** 06 29 48.6 +0.4
comp=Z,3.2nm,0.7s,baz=273,slow=2.3,SNR=10
H11S2 **WAKE ISLAND Hyl** 25.21 269 T T 08 48 32.3
baz=119,slow=74,SNR=8.6
H11S1 **WAKE ISLAND Hyl** 25.22 269 T T 08 48 21.0
baz=210,slow=74,SNR=6.0
H11S3 **WAKE ISLAND Hyl** 25.23 269 T T 08 47 37.3
SNR=6.0
H11N3 **WAKE ISLAND Hyl** 25.64 271 T T 08 48 03.5
baz=116,slow=78,SNR=7.3
H11N1 **WAKE ISLAND Hyl** 25.65 271 T T 08 48 05.7
baz=116,slow=78,SNR=16
H11N2 **WAKE ISLAND Hyl** 25.65 271 T T 08 48 05.0
baz=116,slow=78,SNR=7.5
ANN **Anapa** 126.79 57 *i*PKIKP PKPdf 06 30 00.6 +7.8
ANN pmax pmax
comp=Z,89nm,1.7s
OBN **Obninsk** 128.22 44 *i*PKIKP **PKPdf** 06 29 55.5 +0.3
OBN *i* 06 32 00.4
OBN pmax pmax
comp=Z,55nm,2.5s
MOS **Moscow** 128.90 43 *e*PKIKP **PKPdf** 06 29 56.3 -0.1
KLMR **Klimovskoe** 130.18 36 *e*PKIKP **PKPdf** 06 29 57.9 -0.8

KLMR pmax pmax
comp=Z,46nm,1.3s
KIV **Kislovodsk** 130.25 59 *i*PKIKP **PKPdf** 06 30 00.1 +0.5
KIV *e* 06 32 11.6
KIV *e*SS SS 06 49 37.1 -3.4
KIV pmax pmax
comp=Z,14nm,1.1s
KBZ **Khabaz** 130.36 59 PKP **PKPdf** 06 30 00.0 +0.4
comp=Z,3.2nm,0.9s,baz=252,slow=3.5,SNR=8.8
GOF **Gofitskoye** 130.73 57 *e*PKIKP **PKPdf** 06 30 01.7 +1.4
ZEI **Tsey** 130.87 60 *i*PKIKP **PKPdf** 06 29 59.2 -1.7
ZEI pmax pmax
comp=Z,8.0nm,1.4s
IHRS **Heris** 132.13 67 *eP* **PKPdf** 06 30 03.6 +0.1
PRGR **Permogore** 133.09 35 *e*PKIKP **PKPdf** 06 30 02.8 -1.4
PRGR pmax pmax
comp=Z,9.0nm,0.7s
BILL **Bilibino** 133.10 334 *e*PKIKP **PKPdf** 06 30 04.6 +0.5
BILL **Bilibino** 133.10 334 *e*PKPdf **PKPdf** 06 30 04.6 +0.5
SEY **Seymchan** 140.24 330 PKhKP PKPpre 06 30 11.2
comp=Z,4.5nm,0.8s,baz=86,slow=3.2,SNR=8.4
SEY PKP **PKPdf** 06 30 16.9 -0.5
comp=Z,4.5nm,0.8s,baz=61,slow=4.1,SNR=11
ARU **Arti** 140.53 41 *i*PKIKP **PKPdf** 06 30 13.5 -4.7
ARU SS SS 06 51 37.1 -5.5
GEYT **Alibeck** 140.56 70 PKP **PKPdf** 06 30 19.7 +0.8
comp=Z,1.7nm,0.4s,baz=215,slow=1.8,SNR=4.7
IKRD **Kardeh** 140.65 72 *eP* **PKPdf** 06 30 18.8 -0.6
IMYA **Miami** 141.81 73 *eP* **PKPdf** 06 30 17.6 -3.8
GSI **Gunungsitoli** 145.69 163 *e*PKPdf **PKPdf** 06 30 28.5 -0.2
KSM **Kuching** 146.96 186 *e*PKPdf **PKPbc** 06 30 32.8 +0.1
KBL **Kabul** 148.62 79 *e*PKIKP **PKPdf** 06 30 33.3 +0.1
KBL **Kabul** 148.62 79 *e*PKPdf **PKPdf** 06 30 33.3 +0.1
YUK **Yuzh-Kuril'sk** 148.93 299 *c i*PKHKP PKPpre 06 30 32.1
YUK *i* 06 34 16.3
YUK *i* SSS SSS 06 59 02.4
YUK MLR MLR
comp=Z,537nm,19.0s
YAK **Yakutsk** 149.07 340 *e*PKIKP **PKPbc** 06 30 35.3 -1.5
YAK pmax pmax
comp=Z,76nm,1.2s
YAK pmax pmax
comp=E,12nm,1.3s
YAK pmax pmax
comp=N,12nm,1.3s
YAK **Yakutsk** 149.07 340 *e*PKPbc **PKPbc** 06 30 36.8 -0.1
HYB **Hyderabad** 149.19 116 *i*PKP **PKPbc** 06 30 38.5 -0.1
IPM **Ipoh** 149.51 168 *e*PKPdf **PKPdf** 06 30 35.6 +0.6
IPM *e*PKPbc **PKPbc** 06 30 39.1 -0.4
KULM **Kulim** 150.23 167 *e*PKPdf **PKPdf** 06 30 35.5 -0.6
KULM *e*PKPbc **PKPbc** 06 30 40.6 -0.6
KULM *e*PKPab **PKPab** 06 30 48.0 +0.9
KKAR **Karatay Array** 150.30 62 *e*PKIKP **PKPdf** 06 30 35.7 +0.4
KKAR *e* 06 30 40.5
KKAR **Karatay Array** 150.30 62 *e*PKPdf **PKPdf** 06 30 35.7 +0.4
KKAR *e*PKPbc **PKPbc** 06 30 40.5 -0.1
KKM **Kota Kinabalu** 150.45 198 *e*PKPbc **PKPbc** 06 30 41.3 -0.5
YSS **Yuzh-Sakhalins** 150.68 306 *e*PKIKP **PKPdf** 06 30 35.6 -0.2
YSS *e* 06 30 40.7
YSS **Yuzh-Sakhalins** 150.68 306 *e*PKPdf **PKPdf** 06 30 35.5 -0.2
YSS *e*PKPbc **PKPbc** 06 30 40.7 -0.5
ERM **Erimo** 151.04 296 *c i*PKIKP **PKPbc** 06 30 44.9 +2.6
ERM pmax pmax
comp=Z,22nm,1.0s
ASAJ **Asahikawa** 151.26 300 *e*PKPdf **PKPdf** 06 30 36.8 0.0
ASAJ *e*PKPbc **PKPbc** 06 30 42.0 -0.7
EKS2 **Erkin-Say** 152.73 63 *e*PKIKP **PKPdf** 06 30 40.2 +1.0
EKS2 *e* 06 30 46.6
EKS2 **Erkin-Say** 152.73 63 *e*PKPdf **PKPdf** 06 30 40.2 +1.0
EKS2 *e*PKPbc **PKiKP** 06 30 46.6 +0.1
FRU **Bishkek** 153.32 62 *e*PKIKP **PKPbc** 06 30 48.0 +0.5
FRU *e* 06 30 56.0
NVS **Novosibirsk** 153.71 32 ⇓ *i*PKIKP **PKPdf** 06 30 39.5 -0.5
NVS *e* 06 34 37.6
NVS pmax pmax
comp=Z,39nm,1.2s
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.0s
NDI **New Delhi** 153.78 95 *eP* **PKPdf** 06 30 43.0 +2.0
TKM2 **Tokmak 2** 154.03 62 *e*PKIKP **PKPdf** 06 30 40.7 -0.4
TKM2 *e* 06 30 48.9
TKM2 **Tokmak 2** 154.03 62 *e*PKPdf **PKPdf** 06 30 40.7 -0.4
TKM2 *e*PKPbc **PKPbc** 06 30 48.9 -0.3
KSH **Kashi** 154.59 70 PKPbc **PKPdf** 06 30 41.7 -0.3
KSH sPKP 06 30 56.0
KSH PKS **PKSdf** 06 34 15.5 -0.7
KSH PP **PP** 06 34 39.7 -1.4
KSH SKS **SKSdf** 06 37 45.0 -3.8
KSH SS **SS** 06 54 16.7 -6.1
KSH PPMZ
comp=E,230nm,5.2s
KSH LN
comp=E,120nm,5.7s
KSH LE
comp=E,110nm,5.4s
KSH LZ
comp=E,230nm,5.5s
MJAR **Matsushiro Ar** 154.82 283 PKP **PKPdf** 06 30 40.8 -1.4
comp=E,0.8nm,0.3s,baz=228,slow=1.8,SNR=6.9
MJAR PKPbc **PKiKP** 06 30 51.7 +0.8
comp=E,0.8nm,0.3s,baz=0.0,slow=0.1,SNR=4.6
ZALV **Zalesovo Beam** 155.00 32 PKP **PKPdf** 06 30 41.3 -0.5
comp=E,4.0nm,0.9s,baz=270,slow=2.7,SNR=19
ZALV PKPbc **PKiKP** 06 30 51.0 +0.4
comp=E,13nm,0.8s,baz=304,slow=3.2,SNR=26
ZALV PKPab **PKPab** 06 31 05.8 -0.3
comp=E,15nm,0.7s,baz=301,slow=4.1,SNR=14
BOD **Bodaibo** 156.30 351 *e*PKIKP **PKPdf** 06 30 39.0 -4.5
BOD *e* 06 31 09.8
BOD pmax pmax
comp=Z,32nm,1.3s
KLR **Kul'dur** 156.77 317 *e*PKIKP **PKPdf** 06 30 39.2 -5.2
MKAR **Makanchi Array** 157.55 50 PKP **PKPdf** 06 30 45.9 +0.4
comp=Z,2.4nm,0.8s,baz=55,slow=0.6,SNR=16
MKAR PKPab **PKPab** 06 31 17.8 +0.3
comp=Z,3.7nm,0.6s,baz=307,slow=3.9,SNR=15
KOLN **Koldanda** 158.65 102 *eP* **PKPdf** 06 30 47.2 -0.5
USRK **Ussuriysk Ar.** 158.69 304 PKPab **PKPab** 06 31 23.2 +0.8
comp=Z,1.8nm,0.7s,baz=64,slow=4.4,SNR=7.5
DANN **Dangsing** 159.01 101 *eP* **PKPdf** 06 30 47.7 -0.5
comp=Z,123nm,1.5s
GKN **Gorkha** 159.58 102 *eP* **PKPdf** 06 30 48.2 -0.5
DMN **Daman** 159.80 104 *eP* **PKPdf** 06 30 49.1 0.0
KKN **Kakani** 160.01 104 *eP* **PKPdf** 06 30 49.2 -0.1
PKIN **Phulchoki** 160.01 104 *eP* **PKPdf** 06 30 48.8 -0.5
PKI **Pulchoki** 160.02 104 *eP* **PKPdf** 06 30 49.0 -0.4
MDJ **Mudanjiang** 160.15 307 PKP **PKPdf** 06 30 48.2 -0.4
MDJ pPKP **pPKPdf** 06 30 59.2 +7.2
MDJ sPKP 06 31 03.2
MDJ PP **PP** 06 35 12.7 +1.6
MDJ PPMZ
comp=Z,160nm,14.0s
MDJ LN
comp=Z,67nm,23.2s
MDJ LE
comp=Z,170nm,27.6s
MDJ LZ
comp=Z,220nm,26.1s
GUN **Gumba** 160.54 104 *eP* **PKPdf** 06 30 49.4 -0.6
JIRN **Jiri** 160.68 105 *eP* **PKPdf** 06 30 50.1 -0.1
RAMN **Ramite** 160.69 108 *eP* **PKPdf** 06 30 50.3 +0.2
ODAN **Odare** 161.26 109 *eP* **PKPdf** 06 30 50.9 +0.2
TAPN **Taplejung** 161.75 108 *eP* **PKPdf** 06 30 51.2 -0.1
WMQ **Urumqi** 162.25 53 PKP **PKPdf** 06 30 51.1 +0.2
WMQ pPKP pPKPdf 06 31 02.6 +8.2
WMQ PKPab **PKPab** 06 31 39.3 +1.2
WMQ PKS **PKSdf** 06 34 22.9 -1.2
WMQ PP **PP** 06 35 24.7 +2.2
WMQ SKS **SKSdf** 06 37 50.5 -5.3
WMQ SKKS **SKKSac** 06 42 07.1 -3.5
WMQ SS **SS** 06 55 39.5 -3.9
WMQ PPMZ
comp=Z,35nm,10.0s
WMQ LN
comp=Z,170nm,19.0s
WMQ LE
comp=Z,420nm,20.0s
WMQ LZ
comp=Z,430nm,20.0s
MOY **Mondy** 162.31 13 *e*PKP2 **PKPab** 06 31 39.0 +1.0
CMAR **Chiang Mai Arr** 162.32 153 PKP **PKPdf** 06 30 51.9 +0.2

comp=Z,2.5nm,0.9s,baz=243,slow=2.4,SNR=20
CMAR PKPab **PKPab** **06 31 38.5 -0.2**
comp=Z,0.8nm,0.3s,baz=227,slow=5.5,SNR=4.4
TLY Talaya 162.69 8 *e*PKIKP **PKPdf** **06 30 51.2 +0.1**
TLY *e* 06 31 40.7
TLY pmax pmax
comp=Z,9.0nm,1.5s
KSRS Korea Array 163.06 286 PKP **PKPdf** **06 30 51.7 -0.1**
comp=Z,4.6nm,1.1s,baz=193,slow=0.4,SNR=9.2
KSRS PKPab **PKPab** **06 31 43.2 +1.5**
comp=Z,2.2nm,0.8s,baz=88,slow=4.4,SNR=5.2
KSAR Wonju Array Be 163.09 286 PKIKP **PKPdf** **06 30 51.7 -0.2**
KSAR 06 31 43.3
KSAR Wonju Array Be 163.09 286 PKP **PKPdf** **06 30 51.7 -0.2**
KSAR PKPab **PKPab** **06 31 43.2 +1.3**
CN2 Changchun 163.20 309 *e*PKP **PKPdf** **06 30 52.7 +0.9**
CN2 *e*PP **PP** **06 35 31.8 +4.4**
CN2 LN
comp=Z,300nm,20.0s
CN2 LE
comp=Z,400nm,20.0s
CN2 LZ
comp=Z,300nm,20.0s
ZAK Zakamensk 163.92 9 *e*PKIKP **PKPdf** **06 30 50.7 -1.7**
ZAK *e* 06 31 45.0
ZAK pmax pmax
comp=Z,3.0nm,2.0s
QIZ Qiongzhong 164.36 189 PKP **PKPdf** **06 30 54.2 +0.6**
QIZ PP **PP** **06 35 35.1 +2.7**
QIZ LN
comp=Z,330nm,15.0s
QIZ LE
comp=Z,120nm,24.1s
QIZ LZ
comp=Z,480nm,18.9s
LSA Lhasa 165.49 105 *e*PKIKP **PKPdf** **06 30 54.3 -0.6**
LSA Lhasa 165.49 105 *e*PKPdf **PKPdf** **06 30 54.3 -0.6**
SONM Songino Array 166.72 3 PKP **PKPdf** **06 30 54.6 -0.2**
comp=Z,1.2nm,0.9s,baz=162,slow=1.8,SNR=8.3
SONM PKPab **PKPab** **06 31 58.5 +1.0**
comp=Z,7.5nm,1.1s,baz=326,slow=2.1,SNR=17
SONM PP **PP** **06 35 49.0 +4.2**
comp=Z,0.6nm,1.0s,baz=12,slow=7.6,SNR=3.5
KMI Kunming 169.80 156 PKP **PKPdf** **06 30 55.9 -1.9**
KMI pPKP pPKPdf 06 31 08.8 +7.6
KMI sPKP 06 31 12.7
KMI PP **PP** **06 36 04.7 +3.8**
KMI PPMZ
comp=Z,150nm,4.3s
KMI LN
comp=Z,380nm,18.9s
KMI LE
comp=Z,300nm,20.4s
KMI LZ
comp=Z,380nm,18.4s
NJ2 Nanjing 170.01 259 *e*P **PKPdf** **06 30 58.5 +1.2**
BJI Beijing 171.06 310 PKP **PKPdf** **06 30 57.9 +0.2**
GYA Guiyang 171.91 176 PKP **PKPdf** **06 30 58.2 -0.5**
GYA pPKP pPKPdf 06 31 10.6 +8.5
GYA PKPab **PKPab** **06 32 23.4 +2.4**
GYA PKS **PKSdf** **06 34 29.0 -2.2**
GYA PP **PP** **06 36 15.8 +4.8**
GYA SKKS 06 42 57.2
GYA SS **SS** **06 57 18.0 -0.9**
GYA PPMZ
comp=Z,190nm,8.8s
GYA LN
comp=Z,230nm,21.7s
GYA LE
comp=Z,180nm,22.4s
GYA LZ
comp=Z,200nm,21.6s
GTA Gaotai 172.31 49 *e*PKP **PKPdf** **06 30 59.0 +0.5**
GTA pPKP pPKPdf 06 31 09.2 +7.3
GTA sPKP 06 31 13.4
GTA PKPab **PKPab** **06 32 24.0 +1.3**
GTA PP **PP** **06 36 17.7 +3.7**
GTA SKS **SKSdf** **06 37 56.9 -5.0**
GTA SKKS **SKKSac** **06 42 58.1 -2.7**
GTA SS **SS** **06 57 23.2 -1.6**
GTA PPMZ
comp=Z,220nm,11.9s
GTA LN
comp=Z,330nm,20.4s
GTA LE
comp=Z,450nm,20.9s
GTA LZ
comp=Z,420nm,17.6s
HHC Hu-ho-hao-te 172.87 333 *e*PKP **PKPdf** **06 30 58.2 -0.5**
HHC pPKP **pPKPdf** **06 31 08.3 +6.2**
HHC PP **PP** **06 36 19.0 +2.9**
HHC SKKS 06 42 59.9
HHC SS **SS** **06 57 26.7 -2.3**
HHC PPMZ
comp=Z,160nm,11.1s
HHC LN
comp=Z,920nm,18.5s
HHC LE
comp=Z,550nm,18.5s
HHC LZ
comp=Z,870nm,17.3s
CD2 Chengdu 175.30 140 *e*PKP **PKPdf** **06 31 00.3 +0.6**
CD2 sPKP 06 31 17.0
CD2 PKPab **PKPab** **06 32 39.1 +3.1**
CD2 PKS **PKSdf** **06 34 30.1 -1.9**
CD2 PP **PP** **06 36 29.8 +1.6**
CD2 SKS **SKSdf** **06 37 59.0 -3.9**
CD2 SKKS **SKKSac** **06 43 10.6 -4.5**
CD2 SS **SS** **06 57 49.2 -3.8**
CD2 PPMZ
comp=Z,260nm,8.3s
CD2 LN
comp=Z,560nm,17.8s
CD2 LE
comp=Z,360nm,17.8s
CD2 LZ
comp=Z,630nm,22.4s
LZH Lanzhou 176.80 61 *e*PKP **PKPdf** **06 31 00.3 +0.2**
LZH pPKP **pPKPdf** **06 31 10.5 +7.0**
LZH sPKP 06 31 15.0
LZH PP **PP** **06 36 41.0 +4.9**
LZH SKKS 06 43 18.3
LZH SS **SS** **06 58 03.3 -5.4**
LZH PPMZ
comp=Z,340nm,4.7s
LZH LN
comp=Z,1μm,19.4s
LZH LE
comp=Z,360nm,18.4s
LZH LZ
comp=Z,640nm,20.0s
XAN Xi'an 178.56 249 PKP **PKPdf** **06 31 00.2 0.0**
XAN PKS **PKSdf** **06 34 32.0 -0.3**
XAN SKS **SKSdf** **06 37 58.0 -5.3**
XAN PPMZ
comp=Z,110nm,12.1s

*IDC **02** 06:17:04.1±4.0, 34°.94N×140°.85E, h73km±35km, mb3.2/5, mb1 3.4/6, mb1mx3.2/27, mbtmp3.5/6, ML3.6/1, Error ellipse: s-maj=39.5km s-min=21.9km az=76.0*
*ISCJB **02** 06:17:06.6±0.5, 34°.64N±0°.04×140°.11E±0°.05, h83km±4km, mb3.5/5, Error ellipse: s-maj=8.1km s-min=5.6km az=34.8*
*JMA **02** 06:17:07.0±0.2, 34°.67N×140°.09E, h78km±2km, M3.0*
ISC 02 06:17:07.6±0.9, 34°.66N±0°.05×140°.07E±0°.04, h74km±7km, n20, σ1§10/33, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.39**	**69**	P	**Pn**	**06 17 19.9**	**+0.3**
BSO3				S	**Sn**	**06 17 27.9**	**-0.5**
BSO4	**Boso 4**	**0.39**	**34**	P	**Pn**	**06 17 20.1**	**+0.3**
BSO4				S	**Sn**	**06 17 30.7**	**+1.9**
TATJ	**Tateyama 2**	**0.40**	**338**	P	**Pn**	**06 17 20.5**	**+0.5**
TATJ				S	**Sn**	**06 17 30.7**	**+1.7**
KTR	**Katsuura**	**0.52**	**22**	P	**Pn**	**06 17 19.8**	**-1.2**
KTR				S	**Sn**	**06 17 31.3**	**+0.4**
JIM2	**Oshima 3**	**0.53**	**276**	P	**Pn**	**06 17 21.0**	**-0.1**
JIM2				S	**Sn**	**06 17 30.9**	**-0.2**
BSO1	**Boso 1**	**0.75**	**90**	P	**Pn**	**06 17 23.1**	**+0.3**
BSO1				S	**Sn**	**06 17 35.6**	**+1.5**
KTJJ	**Kamata 2**	**0.87**	**288**	P	**Pn**	**06 17 24.4**	**-0.4**
KTJJ				S	**Sn**	**06 17 36.8**	**-0.7**
JIZS	**Izushimoda**	**0.98**	**274**	P	**Pn**	**06 17 26.5**	**+0.4**
JIZS				S	**Sn**	**06 17 40.7**	**+0.7**
JOD2	**Odawara 2**	**1.01**	**307**	P	**Pn**	**06 17 25.9**	**-0.5**
JOD2				S	**Sn**	**06 17 39.8**	**-0.7**
JYN	**Shimob**	**1.50**	**304**	P	**Pn**	**06 17 33.4**	**+0.6**
JYN				S	**Sn**	**06 17 53.3**	**+1.4**
JHJ2	**Mitsune**	**1.56**	**188**	P	**Pn**	**06 17 34.6**	**+1.1**
JHJ2				S	**Sn**	**06 17 54.5**	**+1.4**
SHZ3	**Shizuoka 3**	**1.58**	**285**	P	**Pn**	**06 17 34.8**	**+0.9**
JRY	**Ryogami san**	**1.66**	**325**	P	**Pn**	**06 17 34.9**	**+0.1**
JRY				S	**Sn**	**06 17 56.6**	**+1.2**
MJAR	**Matsushiro Arr**	**2.41**	**322**	P	**Pn**	**06 17 46.0**	**+1.1**
11nm,0.3s,baz=152,slow=12,SNR=65							
MJAR				S	**Sn**	**06 18 15.8**	**+2.3**
12nm,0.3s,baz=151,slow=21,SNR=9.3							
MAT	**Matsushiro**	**2.42**	**322**	P	**Pn**	**06 17 46.1**	**+1.2**
MAT				S	**Sn**	**06 18 15.4**	**+1.9**
ZALV	**Zalesovo Beam**	**42.75**	**314**	P	**P**	**06 24 56.5**	**-0.8**
0.3nm,0.3s,baz=88,slow=7.6,SNR=2.5							
MKAR	**Makanchi Array**	**44.49**	**304**	P	**P**	**06 25 11.0**	**-0.5**
0.3nm,0.5s,baz=94,slow=9.6,SNR=4.4							
ILAR	**Eielson Array**	**52.08**	**31**	P	P	06 26 01.4	-8.2
0.2nm,0.7s,baz=273,slow=5.0,SNR=2.1							
WRA	**Warramunga Arr**	**54.58**	**187**	P	**P**	**06 26 27.0**	**-1.3**
0.6nm,0.5s,baz=1.5,slow=7.5,SNR=16							
ASAR	**Alice Springs**	**58.30**	**187**	P	**P**	**06 26 54.2**	**-0.5**
0.4nm,0.7s,baz=11,slow=8.4,SNR=4.8							

*IDC **02** 06:20:00.7±0.9, 12°.52N×143°.96E, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.7/38, mbtmp3.7/7, Error ellipse: s-maj=40.6km s-min=20.6km az=101.0*
*ISCJB **02** 06:20:03.3±0.8, 12°.5N±0°.1×143°.8E±0°.2, h27km, mb3.7/7, Error ellipse: s-maj=35.2km s-min=18.3km az=7.4*
ISC 02 06:20:05.0±1.0, 12°.5N±0°.2×143°.9E±0°.3, h27km, n11, σ1§12/7, mb3.6/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**22.74**	**72**	T	T	06 48 52.7	
baz=260,slow=74,SNR=2.9							
H11S2	**WAKE ISLAND Hy**	**22.75**	**72**	T	T	06 48 48.6	
baz=308,slow=74,SNR=4.6							
H11N1	**WAKE ISLAND Hy**	**23.20**	**69**	T	T	06 49 25.8	
baz=140,slow=74,SNR=14							
H11N2	**WAKE ISLAND Hy**	**23.21**	**69**	T	T	06 49 21.0	
baz=254,slow=74,SNR=6.6							
WRA	**Warramunga Arr**	**33.59**	**196**	P	**P**	**06 26 42.3**	**-0.8**
2.3nm,0.5s,baz=21,slow=9.8,SNR=39							
ASAR	**Alice Springs**	**37.25**	**195**	P	**P**	**06 27 15.1**	**+0.4**
0.6nm,0.6s,baz=20,slow=11,SNR=9.1							
SONM	**Songino Array**	**47.09**	**326**	P	**P**	**06 28 34.7**	**0.0**
0.3nm,0.5s,baz=286,slow=26,SNR=3.3							
MKAR	**Makanchi Array**	**61.62**	**317**	P	**P**	**06 30 20.8**	**+0.4**
0.2nm,0.4s,baz=86,slow=9.0,SNR=6.8							
ILAR	**Eielson Array**	**69.95**	**25**	P	**P**	**06 31 12.2**	**-1.4**
0.2nm,0.5s,baz=257,slow=5.3,SNR=6.2							
YKA	**Yellowknife Ar**	**84.25**	**27**	P	**P**	**06 32 33.8**	**-0.1**
0.2nm,0.4s,baz=286,slow=5.0,SNR=8.5							
NVAR	**Mina Array Bea**	**88.33**	**51**	P	**P**	**06 32 56.3**	**+1.4**
1.3nm,0.8s,baz=258,slow=7.5,SNR=6.6							

*IDC **02** 06:23:19.7±2.0, 38°.07S×73°.95W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.9/15, mbtmp3.9/5, ML4.3/1, Error ellipse: s-maj=86.5km s-min=29.9km az=40.0*
ISC 02 06:23:22.6±1.6, 38°.1S±0°.3×73°.9W±0°.4, h18km, n7, σ1§23/9, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.64**	**136**	Pn	**Pn**	**06 24 19.4**	**+1.3**
5.0nm,0.3s,baz=308,slow=12,SNR=11							
PLCA				Sn	**Sb**	**06 25 08.9**	**-1.3**
6.5nm,0.3s,baz=187,slow=23,SNR=3.5							
TXAR	**Lajitas Array**	**72.69**	**333**	P	**P**	**06 34 48.7**	**-0.7**
0.6nm,0.6s,baz=155,slow=9.1,SNR=8.4							
DBIC	**Dimbokro**	**77.89**	**71**	P	**P**	**06 35 20.6**	**+1.1**
2.4nm,0.8s,baz=231,slow=6.5,SNR=3.6							
NVAR	**Mina Array Bea**	**86.48**	**327**	P	**P**	**06 36 04.9**	**+0.6**
0.2nm,0.3s,baz=137,slow=6.8,SNR=2.5							
TORD	**Torodi Ar. Bea**	**86.98**	**71**	P	**P**	**06 36 06.6**	**-0.4**
0.5nm,0.9s,baz=240,slow=3.5,SNR=3.6							
BVAR	**Borovoye Array**	**151.24**	**47**	PKPbc	**PKPbc**	**06 43 12.6**	**-1.7**
0.6nm,0.5s,baz=257,slow=3.5,SNR=5.1							
BVAR				PKPab	**PKPab**	**06 43 22.8**	**+0.5**
2.1nm,0.6s,baz=296,slow=4.1,SNR=14							
MKAR	**Makanchi Array**	**160.45**	**56**	PKPab	**PKPab**	**06 44 01.4**	**-0.6**
0.3nm,0.6s,baz=271,slow=3.0,SNR=4.7							

*IDC **02** 06:26:53.0±1.6, 37°.58S×72°.37W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.8/15, mbtmp3.7/4, ML4.1/1, Error ellipse: s-maj=60.0km s-min=20.5km az=68.0*
*ISCJB **02** 06:26:58.2±1.7, 38°.0S±0°.2×72°.8W±0°.5, h66km, mb3.5/4, Error ellipse: s-maj=55.7km s-min=17.4km az=160.0*
ISC 02 06:27:00.4±1.6, 37°.9S±0°.2×72°.6W±0°.4, h66km, n7, σ1§50/7, mb3.6/4, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.21**	**151**	Pn	**Pn**	**06 27 48.3**	**-0.3**
4.3nm,0.3s,baz=334,slow=14,SNR=8.2							
PLCA				Lg	Lg	06 28 42.2	
9.3nm,0.3s,baz=303,slow=8.9,SNR=4.9							
LPAZ	**La Paz**	**21.92**	**12**	P	**P**	**06 31 48.8**	**-0.2**
1.9nm,0.8s,baz=202,slow=6.7,SNR=5.1							
TXAR	**Lajitas Array**	**72.97**	**332**	P	**P**	**06 38 22.1**	**-0.7**
0.1nm,0.4s,baz=161,slow=8.0,SNR=4.3							
DBIC	**Dimbokro**	**76.88**	**71**	P	**P**	**06 38 45.8**	**+0.1**
3.1nm,0.9s,baz=219,slow=4.1,SNR=3.4							
TORD	**Torodi Ar. Bea**	**85.97**	**70**	P	**P**	**06 39 32.7**	**-1.0**
0.7nm,1.0s,baz=229,slow=4.7,SNR=4.8							
BVAR	**Borovoye Array**	**150.37**	**47**	PKPbc	**PKPbc**	**06 46 46.3**	**+2.7**
1.2nm,0.6s,baz=290,slow=2.8,SNR=8.6							
MKAR	**Makanchi Array**	**159.50**	**56**	PKPab	**PKPab**	**06 47 29.9**	**+0.4**
0.2nm,0.7s,baz=300,slow=3.0,SNR=2.2							

*ISCJB **02** 06:31:58.6±0.7, 37°.22S±0°.06×73°.7W±0°.1, h10km, mb4.0/9, MS4.6/2, Error ellipse: s-maj=15.8km s-min=9.3km az=178.9*
*IDC **02** 06:31:58.5±0.8, 37°.21S×73°.77W, h0km, mb4.0/7, mb1 4.1/11, mb1mx4.0/21, mbtmp3.9/11, ML3.7/4, MS4.5/3, Ms1 4.5/3, ms1mx3.8/25, Error ellipse: s-maj=27.4km s-min=15.4km az=79.0*
*NEIC **02** 06:32:03.6±0.5, 37°.25S×73°.65W, h35km, mb4.2/4, Error ellipse: s-maj=12.7km s-min=7.6km az=92.0*
ISC 02 06:31:59.8±0.7, 37°.14S±0°.07×73°.8W±0°.1, h10km, n29, σ1§12/31, mb4.1/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.38**	**146**	Pn	**Pn**	**06 33 06.2**	**-0.3**
1.1nm,0.3s,baz=306,slow=17,SNR=2.3							
PLCA				Pg	**Pb**	**06 33 18.8**	**+1.9**
6.0nm,0.3s,baz=332,slow=9.9,SNR=11							
PLCA				Lg	Lg	06 34 15.9	
2.9nm,0.3s,baz=42,slow=17,SNR=1.9							
PLCA	**Paso Flores**	**4.38**	**146**	*e*Pn	**Pn**	**06 33 06.6**	**+0.1**
PLCA				Pg	**Pb**	**06 33 18.8**	**+1.9**
PLCA				Lg	Lg	06 34 15.9	
CFAA	**Coronel Fontan**	**7.18**	**41**	Pn	**Pn**	**06 33 45.2**	**+0.4**
0.2nm,0.3s,baz=214,slow=11,SNR=2.7							
CFAA				LR	LR	06 36 42.0	
comp=Z,124nm,18.0s,baz=216,slow=39							
TRQA	**Tornquist**	**9.42**	**99**	*e*Pn	**Pn**	**06 34 15.2**	**-0.3**
20nm,0.9s							
LVC	**Limon Verde**	**15.08**	**18**	*e*Pn	**P**	**06 35 37.2**	**-1.3**
9.1nm,1.0s							
CPUP	**Villa Florida**	**17.64**	**57**	P	**P**	**06 36 06.9**	**+0.3**
0.3nm,0.3s,baz=218,slow=18,SNR=2.2							
CPUP				LR	LR	06 43 40.2	
comp=Z,1μm,18.3s,baz=185,slow=40							
CPUP	**Villa Florida**	**17.64**	**57**	*e*Pn	**Pn**	**06 36 05.6**	**0.0**
USHA	**Ushuaia**	**18.07**	**170**	P	**Pn**	**06 36 10.6**	**-0.1**
0.2nm,0.3s,baz=5.2,slow=19,SNR=1.7							
LPAZ	**La Paz**	**21.37**	**15**	P	**P**	**06 36 49.8**	**+1.7**
12nm,1.1s,baz=168,slow=9.6,SNR=10							
LPAZ	**La Paz**	**21.37**	**15**	*e*P	**P**	**06 36 49.3**	**+1.3**
19nm,1.3s							
SIV	**San Ignacio**	**23.89**	**32**	P	**P**	**06 37 15.2**	**+1.5**
2.5nm,0.8s,baz=231,slow=12,SNR=6.3							
SAML	**Samuel**	**29.67**	**22**	*e*P	**P**	**06 38 05.5**	**-0.2**
3.2nm,1.2s							
BDFB	**Brasilia**	**31.31**	**54**	LR	LR	06 50 40.8	
comp=Z,907nm,18.0s,baz=180,slow=36							
SNAA	**Sanae**	**49.24**	**157**	*e*P	**P**	**06 40 47.1**	**-1.0**
11nm,1.3s							
QSPA	**South Pole Qui**	**53.10**	**180**	P	**P**	**06 41 17.9**	**+0.7**
3.0nm,1.0s,baz=154,slow=6.8,SNR=4.0							
QSPA	**South Pole Qui**	**53.10**	**180**	*e*P	**P**	**06 41 16.6**	**-0.6**
TXAR	**Lajitas Array**	**71.82**	**333**	P	**P**	**06 43 23.5**	**+0.8**
0.2nm,0.4s,baz=155,slow=8.6,SNR=6.1							
WVT	**Waverly**	**74.06**	**348**	P	**P**	**06 43 35.5**	**-0.2**
BBTS	**Babate**	**74.51**	**58**	LR	LR	07 15 22.9	
comp=Z,355nm,18.2s,baz=197,slow=35							
DBIC	**Dimbokro**	**77.53**	**72**	P	**P**	**06 43 56.1**	**+0.1**
4.3nm,0.9s,baz=177,slow=7.0,SNR=4.0							
DBIC	**Dimbokro**	**77.53**	**72**	*e*P	**P**	**06 43 55.5**	**-0.5**
TSUM	**Tsumeb**	**79.72**	**106**	*e*P	**P**	**06 44 06.7**	**-1.6**
PDAR	**Pinedale Array**	**85.95**	**334**	P	**P**	**06 44 42.5**	**+2.4**
0.6nm,0.9s,baz=53,slow=30,SNR=3.1							
TORD	**Torodi Ar. Bea**	**86.60**	**71**	P	**P**	**06 44 43.8**	**+0.1**
0.7nm,0.5s,baz=215,slow=5.3,SNR=8.1							
WRA	**Warramunga Arr**	**117.33**	**210**	PKP	**PKPdf**	**06 50 44.8**	**-1.2**
0.2nm,0.5s,baz=163,slow=1.8,SNR=5.1							
PSI	**Prapat**	**145.17**	**167**	PKPbc	**PKPbc**	**06 51 36.5**	**-1.3**
8.1nm,0.7s,baz=181,slow=5.3,SNR=6.5							
BVAR	**Borovoye Array**	**150.52**	**46**	PKPbc	**PKPbc**	**06 51 51.7**	**+0.6**
1.7nm,0.9s,baz=298,slow=3.2,SNR=7.6							
ZALV	**Zalesovo Beam**	**157.63**	**35**	PKP	**PKPdf**	**06 51 54.2**	**-1.5**
0.3nm,0.3s,baz=343,slow=31,SNR=2.1							
ZALV				PKPab	**PKPab**	**06 52 27.9**	**0.0**
0.4nm,0.3s,baz=268,slow=4.0,SNR=3.9							
MKAR	**Makanchi Array**	**159.83**	**54**	PKP	**PKPdf**	**06 51 57.8**	**-0.8**
0.4nm,1.0s,baz=256,slow=15,SNR=2.2							
MKAR				PKPab	**PKPab**	**06 52 36.6**	**-1.2**
0.5nm,0.8s,baz=291,slow=5.0,SNR=3.6							

*IDC **02** 06:36:47.9±0.9, 10°.08S×33°.76E, h0km, mb3.8/8, mb1 4.1/12, mb1mx3.9/32, mbtmp4.0/12, ML2.5/1, Error ellipse: s-maj=28.6km s-min=15.8km az=124.0*
*NEIC **02** 06:36:49.4±0.6, 10°.09S×33°.80E, h10km, mb4.1/3, Error ellipse: s-maj=16.3km s-min=10.7km az=122.0*
ISC 02 06:36:49.0±0.8, 10°.38S±0°.09×34°.0E±0°.1, h10km, n21, σ2§02/24, mb3.8/7, Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.50**	**229**	Pn	**Pn**	**06 38 40.3**	**+1.7**
7.4nm,0.3s,baz=39,slow=11,SNR=33							
LSZ				Sn	**Sn**	**06 40 04.1**	**+0.3**
14nm,0.3s,baz=320,slow=16,SNR=8.6							
LSZ				Lg	Lg	06 40 46.9	
19nm,0.3s,baz=314,slow=9.6,SNR=4.7							
LSZ	**Lusaka**	**7.50**	**229**	*e*Pn	**Pn**	**06 38 41.1**	**+2.5**
LSZ				Sn	**Sn**	**06 40 04.1**	**+0.3**
LSZ				Lg	Lg	06 40 46.9	
KMBO	**Kilima Mbogo**	**9.73**	**19**	Pn	Pn	06 39 03.6	-5.8
1.9nm,0.3s,baz=200,slow=14,SNR=34							
KMBO				Lg	Lg	06 41 36.0	
3.1nm,0.3s,baz=274,slow=24,SNR=4.4							
OPO	**Ambohidratompo**	**15.10**	**124**	Pn	**P**	**06 40 27.9**	**-0.1**
0.6nm,0.3s,baz=301,slow=10,SNR=3.9							
RUDU	**RUNDU**	**15.77**	**240**	P	**Pn**	**06 40 31.8**	**+0.5**
RUDU				S	Sn	06 43 12.7	-14
SLR	**Silverton**	**16.22**	**199**	P	Pn	06 40 32.1	-5.1
SLR				S	**Sn**	**06 43 35.4**	**-1.9**
LBTB	**Lobatse**	**16.62**	**208**	Pn	**P**	**06 40 44.4**	**-0.4**
1.1nm,0.3s,baz=44,slow=14,SNR=22							
LBTB				Lg	Lg	06 45 34.3	
0.6nm,0.3s,baz=349,slow=13,SNR=4.9							
LBTB	**Lobatse**	**16.62**	**208**	*e*Pn	**Pn**	**06 40 42.0**	**-0.3**
13nm,0.5s							
LBTB				S	**Sn**	**06 43 45.3**	**-1.6**
LBTB				Lg	Lg	06 45 34.3	
ERPM	**east rand prop**	**16.80**	**198**	P	**Pn**	**06 40 45.5**	**+0.9**
ERPM				S	**Sn**	**06 43 45.5**	**-5.9**
PRYS	**Parys**	**17.62**	**200**	P	**P**	**06 40 59.4**	**+3.5**
PRYS				S	**Sn**	**06 44 08.6**	**-2.8**
TSUM	**Tsumeb**	**18.15**	**239**	P	**Pn**	**06 41 01.1**	**-0.4**
0.9nm,0.3s,baz=52,slow=11,SNR=13							
TSUM				Lg	Lg	06 46 15.3	
0.6nm,0.3s,baz=102,slow=19,SNR=2.8							
TSUM	**Tsumeb**	**18.15**	**239**	*e*Pn	**Pn**	**06 41 00.7**	**-0.8**
10nm,0.8s							
TSUM				Lg	Lg	06 46 15.3	
BOSA	**Boshof**	**19.92**	**203**	P	**Pn**	**06 41 23.0**	**+0.2**
7.6nm,0.9s,baz=36,slow=13,SNR=6.6							
BOSA				Lg	Lg	06 47 17.2	
22nm,0.8s,baz=115,slow=20,SNR=5.7							
BOSA	**Boshof**	**19.92**	**203**	*e*P	**Pn**	**06 41 22.4**	**-0.4**
5.8nm,0.7s							
BOSA				S	S	06 44 56.4	-9.1
BOSA				Lg	Lg	06 47 17.2	
TORD	**Torodi Ar. Bea**	**39.72**	**305**	P	P	06 44 17.6	-4.3
0.6nm,0.8s,baz=114,slow=7.8,SNR=4.7							
BRTR	**Keskin Array B**	**49.85**	**360**	P	**P**	**06 45 40.2**	**-2.3**
0.6nm,0.7s,baz=173,slow=11,SNR=4.3							
AKASG	**Malin Array Be**	**60.97**	**356**	P	**P**	**06 47 02.2**	**0.0**
0.2nm,0.3s,baz=187,slow=6.8,SNR=5.1							
BVAR	**Borovoye Array**	**70.37**	**22**	P	**P**	**06 48 03.9**	**+1.0**
0.4nm,0.6s,baz=228,slow=44,SNR=2.4							
MKAR	**Makanchi Array**	**71.33**	**33**	P	**P**	**06 48 08.2**	**-0.8**
0.8nm,0.7s,baz=232,slow=6.5,SNR=8.9							
ZALV	**Zalesovo Beam**	**77.10**	**28**	P	**P**	**06 48 41.2**	**-1.2**
0.4nm,0.4s,baz=318,slow=42,SNR=1.5							
ASAR	**Alice Springs**	**94.77**	**115**	P	**P**	**06 50 13.7**	**+2.1**
0.6nm,0.6s,baz=266,slow=4.3,SNR=11							

IDC 02 06:41:50.0±2.8, 54°.24N×86°.23E, h0km, mb1 2.9/1, mb1mx2.7/30, mbtmp2.9/1, ML2.9/1, Error ellipse: s-maj=20.6km s-min=12.2km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.88**	**251**	*i*		06 47 52.4	
baz=72,slow=349,SNR=0.6							
ZALV	**Zalesovo Beam**	**0.88**	**251**	Pg	Pg	06 42 05.6	-1.3
1.6nm,0.3s,baz=68,slow=16,SNR=19							
ZALV				Lg	Lg	06 42 19.9	
2.1nm,0.3s,baz=71,slow=26,SNR=13							
ZALV				Rg	Rg	06 42 24.5	
2.5nm,0.3s,baz=68,slow=27,SNR=13							
MKAR	**Makanchi Array**	**7.87**	**200**	Pn	Pn	06 43 47.0	+1.4
0.2nm,0.3s,baz=23,slow=13,SNR=14							

*IDC **02** 06:50:60.0±1.5, 35°.02S×71°.82W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.9/17, mbtmp3.7/7, ML3.2/2, Error ellipse: s-maj=41.3km s-min=28.1km az=143.0*
*GUC **02** 06:51:01.8±0.4, 34°.68S×72°.04W, h50km, ML3.7*
*ISCJB **02** 06:51:05.5±1.1, 34°.7S±0°.1×71°.7W±0°.2, h35km, mb3.8/5, Error ellipse: s-maj=29.0km s-min=8.1km az=44.7*
ISC 02 06:51:06.7±1.3, 34°.7S±0°.2×71°.8W±0°.2, h35km, n17, σ1§44/17, mb3.7/5, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.40**	**34**	⇑*i*P	**Pn**	**06 51 27.1**	**-2.7**
RCDM				*e*S	**Sn**	**06 51 46.2**	**-0.9**
RCDM				AML	AML	06 51 56.2	
comp=E,1μm,0.2s							
ANTU	**Antumapu**	**1.42**	**41**	⇑*i*P	**Pn**	**06 51 27.9**	**-2.2**
ANTU				*i* S4	**Sn**	**06 51 47.2**	**-0.4**
ANTU				AML	AML	06 51 57.0	
comp=N,1μm,0.4

comp=N,0.6nm,0.5s,baz=156,slow=8.6,SNR=14
ANMO Albuquerque 76.47 331 P **P 07 02 55.1 +2.1**
comp=N,0.8nm,0.9s,baz=183,slow=11,SNR=4.2
TORD Torodi Ar. Bea 84.21 70 P **P 07 03 34.5 -0.3**
comp=N,1.1nm,0.8s,baz=252,slow=4.4,SNR=6.1
PDAR Pinedale Array 84.45 333 P **P 07 03 35.4 -0.3**
comp=N,0.4nm,0.8s,baz=140,slow=16,SNR=3.2
NVAR Mina Array Bea 84.56 325 P **P 07 03 37.0 +0.7**
comp=N,0.4nm,0.6s,baz=74,slow=16,SNR=2.4
WRA Warramunga Arr 120.31 209 PKP **PKPdf 07 09 52.7 -2.0**
comp=N,0.3nm,0.6s,baz=170,slow=1.6,SNR=6.9
H11N3 WAKE ISLAND Hyl 26.43 270 T T 09 28 54.0
baz=121,slow=76,SNR=4.9
H11N1 WAKE ISLAND Hyl 26.44 270 T T 09 28 54.9
baz=121,slow=76,SNR=14
H11N2 WAKE ISLAND Hyl 26.44 270 T T 09 28 53.5
baz=121,slow=76,SNR=7.8

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*ISCJB **02** 06:55:05.9±0.4, 35.°91S±0.°06×73.°25W±0.°08, h10km, mb4.6/33, MS4.0/5, Error ellipse: s-maj=9.3km s-min=7.8km az=22.6*
*IDC **02** 06:55:05.5±0.6, 35.°83S×73.°35W, h0km, mb4.4/11, mb1 4.5/15, mb1mx4.4/21, mbtmp4.4/15, ML4.1/4, MS3.9/8, Ms1 3.9/8, ms1mx3.7/30, Error ellipse: s-maj=20.2km s-min=13.0km az=92.0*
*NEIC **02** 06:55:11.0±0.2, 35.°91S×73.°20W, h35km, mb4.6/22, Error ellipse: s-maj=8.7km s-min=6.3km az=77.0*
ISC 02 06:55:07.8±0.5, 35.°89S±0.°06×73.°3W±0.°1, h10km, n61, σ1§73/56, mb4.6/33, MS4.0/5, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.29**	**157**	Pn	**Pn**	**06 56 27.6**	**+0.7**
	1.6nm,0.3s,baz=319,slow=12,SNR=5.2						
PLCA				Pg	**Pb**	**06 56 41.7**	**+1.4**
	2.6nm,0.3s,baz=317,slow=18,SNR=5.7						
PLCA				Lg	Lg	06 57 58.5	
	2.3nm,0.3s,baz=257,slow=20,SNR=3.1						
PLCA				LR	LR	06 58 25.7	
	comp=Z,613nm,19.8s,baz=346,slow=37						
CFAA	**Coronel Fontan**	**6.00**	**46**	Pn	**Pn**	**06 56 37.0**	**+0.4**
	3.0nm,0.3s,baz=221,slow=12,SNR=9.1						
CFAA				Sn	**Sn**	**06 57 46.9**	**+1.5**
	0.8nm,0.3s,baz=100,slow=19,SNR=1.7						
CFAA				Lg	Lg	06 58 14.7	
	baz=306,slow=16,SNR=3.5						
CFAA				LR	LR	06 59 11.2	
	comp=Z,156nm,19.1s,baz=236,slow=41						
CPUP	**Villa Florida**	**16.64**	**59**	Pn	**Pn**	**06 59 01.4**	**+0.3**
	0.4nm,0.3s,baz=266,slow=12,SNR=5.8						
CPUP				LR	LR	07 06 06.6	
	comp=Z,666nm,18.7s,baz=212,slow=40						
CPUP	**Villa Florida**	**16.64**	**59**	*e*Pn	**Pn**	**06 59 00.8**	**-0.3**
	0.6nm,0.9s						
USHA	**Ushuaia**	**19.23**	**171**	P	**P**	**06 59 33.2**	**+1.3**
	0.2nm,0.3s,baz=358,slow=7.8,SNR=4.0						
LPAZ	**La Paz**	**20.06**	**15**	P	**P**	**06 59 42.9**	**+1.0**
	9.8nm,1.0s,baz=176,slow=6.9,SNR=19						
LPAZ	**La Paz**	**20.06**	**15**	*e*P	**P**	**06 59 43.0**	**+1.1**
	9.4nm,0.8s						
SIV	**San Ignacio**	**22.62**	**32**	P	**P**	**07 00 08.0**	**-0.9**
	18nm,1.0s,baz=236,slow=14,SNR=25						
SIV				LR	LR	07 10 28.0	
	comp=Z,664nm,19.4s,baz=216,slow=41						
NNA	**Nana**	**24.02**	**351**	LR	LR	07 06 47.7	
	comp=Z,266nm,20.2s,baz=346,slow=29						
BDFB	**Brasilia**	**30.25**	**55**	P	P	07 01 17.6	-1.4
	8.7nm,1.0s,baz=235,slow=2.2,SNR=8.1						
BDFB				LR	LR	07 15 17.9	
	comp=Z,329nm,19.1s,baz=238,slow=40						
BDFB	**Brasilia**	**30.25**	**55**	*e*P	P	07 01 17.8	-1.3
OTAV	**Otavalo**	**36.27**	**351**	*e*P	**P**	**07 02 13.4**	**+1.5**
	10nm,1.2s						
SNAA	**Sanae**	**50.23**	**157**	P	**P**	**07 04 03.2**	**-0.4**
	3.9nm,0.9s,baz=289,slow=7.5,SNR=9.8						
SNAA	**Sanae**	**50.23**	**157**	*e*P	**P**	**07 04 03.2**	**-0.4**
	20nm,1.1s						
QSPA	**South Pole Qui**	**54.35**	**180**	P	**P**	**07 04 33.6**	**-0.8**
	7.2nm,0.9s,baz=147,slow=1.6,SNR=19						
SYO	**Syowa Base**	**64.48**	**158⇑**	*e*P	P	07 05 40.2	-3.9
PPT	**Papeete**	**68.98**	**263**	LR	LR	07 29 05.4	
	comp=Z,69nm,21.1s,baz=122,slow=30						
TXAR	**Lajitas Array**	**70.91**	**332**	P	P	07 06 24.2	-1.0
	0.5nm,0.7s,baz=150,slow=8.2,SNR=5.8						
MAW	**Mawson**	**71.65**	**164**	LR	LR	07 38 25.1	
	comp=Z,177nm,18.0s,baz=60,slow=36						
AMTX	**Amarillo**	**75.23**	**336**	*e*P	**P**	**07 06 50.4**	**-0.3**
	151nm,2.7s						
121A	**Cookes Peak, D**	**75.36**	**330**	*e*P	**P**	**07 06 50.9**	**-0.6**
	6.4nm,1.1s						
LIC	**Lamto**	**76.34**	**72**	*e*P	**P**	**07 06 56.7**	**-0.7**
	32nm,1.1s						
TUC	**Tucson**	**76.41**	**328**	*e*P	**P**	**07 06 57.3**	**-0.2**
	3.5nm,1.0s						
TIC	**Toumodi**	**76.61**	**72**	*e*P	**P**	**07 06 58.1**	**-0.8**
	8.3nm,0.2s						
KIC	**Kosan Boka**	**76.64**	**72**	*e*P	**P**	**07 06 58.3**	**-0.8**
	17nm,0.7s						
LAZ	**Ladron**	**76.75**	**332**	*e*P	**P**	**07 06 59.0**	**-0.5**
	2.2nm,1.1s						
DBIC	**Dimbokro**	**76.75**	**72**	P	**P**	**07 06 59.4**	**-0.4**
	5.9nm,0.6s,baz=221,slow=4.9,SNR=8.9						
DBIC	**Dimbokro**	**76.75**	**72**	*e*P	**P**	**07 06 59.3**	**-0.4**
	14nm,1.1s						
ANMO	**Albuquerque**	**76.97**	**333**	*e*P	**P**	**07 07 00.4**	**-0.3**
	5.9nm,1.1s						
WUAZ	**Wupatki**	**79.41**	**329**	*e*P	**P**	**07 07 14.2**	**0.0**
	6.1nm,1.1s						
BOSA	**Boshof**	**80.09**	**118**	P	**P**	**07 07 18.1**	**-0.1**
	6.5nm,1.0s,baz=270,slow=5.5,SNR=4.2						
SMCO	**Snowmass**	**80.92**	**334**	*e*P	**P**	**07 07 23.0**	**+0.5**
	6.0nm,1.0s						
CCUT	**Cedar City**	**81.98**	**329**	*e*P	**P**	**07 07 28.9**	**+0.9**
	5.1nm,1.1s						
DAC	**Darwin (Calif)**	**82.78**	**325**	*e*P	P	07 07 39.5	+7.3
	3.8nm,1.0s						
MPU	**Maple Canyon**	**83.39**	**331**	*e*P	**P**	**07 07 34.9**	**-0.3**
	9.0nm,1.2s						
JLU	**Jordanelle**	**83.82**	**332**	*e*P	P	07 07 36.6	-0.9
	2.5nm,0.9s						
DUG	**Dugway, Tooele**	**84.00**	**331**	*e*P	**P**	**07 07 37.6**	**-0.7**
	8.6nm,1.1s						
TPH	**Tonopah**	**84.09**	**327**	*e*P	**P**	**07 07 39.4**	**+0.5**
	5.9nm,1.1s						
RSSD	**Black Hills**	**84.40**	**338**	*e*P	P	07 07 46.5	+6.2
	13nm,1.6s						
NVAR	**Mina Array Bea**	**84.87**	**326**	P	P	07 07 42.0	-0.9
	1.2nm,0.9s,baz=142,slow=5.8,SNR=6.6						
PDAR	**Pinedale Array**	**85.00**	**334**	P	**P**	**07 07 43.1**	**-0.3**
	2.2nm,1.2s,baz=142,slow=5.1,SNR=5.7						
HVU	**Hansel Valley**	**85.34**	**331**	*e*P	P	07 07 43.8	-1.2
	6.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**85.81**	**71**	P	P	07 07 46.5	-1.3
	2.4nm,1.0s,baz=234,slow=3.3,SNR=9.0						
TPAW	**Teton Pass**	**86.13**	**334**	*e*P	**P**	**07 07 48.8**	**-0.3**
	56nm,2.5s						
IMW	**Indian Meadow**	**86.48**	**334**	*e*P	**P**	**07 07 50.1**	**-0.7**
MCMT	**McKenzie Canyo**	**87.98**	**333**	*e*P	**P**	**07 07 57.6**	**-0.3**
	2.9nm,1.2s						
ULM	**Lac du Bonnet**	**88.07**	**346**	P	P	07 07 55.9	-2.0
	3.3nm,0.8s,baz=174,slow=4.5,SNR=7.6						
DGMT	**Dagmar**	**88.40**	**340**	*e*P	**P**	**07 07 59.4**	**-0.2**
	17nm,1.1s						
NACGM	**Naroch**	**123.95**	**43**	*e*LR	LR	07 24 21.0	
ABKAR	**Akbulak array**	**143.64**	**54**	*e*PKPdf	PKPab	07 14 38.5	-0.6
GSI	**Gunungsitoli**	**144.55**	**164**	*e*PKPdf	**PKPab**	**07 14 43.0**	**-0.5**
PSI	**Prapat**	**146.29**	**166**	PKPbc	**PKPdf**	**07 14 47.4**	**-0.9**
	8.0nm,0.7s,baz=204,slow=8.2,SNR=5.9						
BVAR	**Borovoye Array**	**149.35**	**45**	PKP	**PKPdf**	**07 14 51.4**	**-0.5**
	1.3nm,0.6s,baz=245,slow=37,SNR=3.6						
BVAR				PKPbc	**PKPbc**	**07 14 55.8**	**-0.6**
	1.6nm,0.7s,baz=291,slow=9.1,SNR=7.5						
KKAR	**Karatay Array**	**151.31**	**64**	*e*PKPbc	**PKPdf**	**07 14 58.6**	**+3.2**
AAK	**Ala-Archa**	**154.26**	**65**	PKPab	**PKPab**	**07 15 21.5**	**-0.7**
	1.7nm,0.6s,baz=205,slow=1.8,SNR=5.5						
KSH	**Kashi**	**155.47**	**72**	PKP	**PKPdf**	**07 15 00.3**	**-1.3**
KSH				sPKP		07 15 13.5	
KSH				PKS	**PKSdf**	**07 18 33.5**	**-2.2**
KSH				PP	**PP**	**07 19 01.9**	**-2.6**
KSH				SKS	**SKSdf**	**07 22 03.7**	**-4.5**
ZALV	**Zalesovo Beam**	**156.37**	**33**	PKP	**PKPdf**	**07 15 00.6**	**-1.5**
	2.7nm,0.9s,baz=267,slow=3.0,SNR=8.2						
ZALV				PKPab	**PKPab**	**07 15 29.9**	**-0.6**
	2.1nm,0.7s,baz=289,slow=4.5,SNR=5.4						
MKAR	**Makanchi Array**	**158.76**	**52**	PKP	**PKPdf**	**07 15 03.8**	**-1.6**
	1.0nm,0.8s,baz=17,slow=1.3,SNR=6.9						
MKAR				PKPab	**PKPab**	**07 15 39.9**	**-1.3**
	0.9nm,0.9s,baz=269,slow=4.9,SNR=4.4						
SONM	**Songino Array**	**168.06**	**1**	PKPab	**PKPab**	**07 16 21.5**	**-0.4**
	0.7nm,0.9s,baz=310,slow=4.8,SNR=5.0						
HHC	**Hu-ho-hao-te**	**173.76**	**324**	*e*PKP	**PKPdf**	**07 15 16.8**	**-0.7**
HHC				pPKP	**pPKPdf**	**07 15 27.4**	**+6.5**
HHC				PP	**PP**	**07 20 42.0**	**+2.8**
LZH	**Lanzhou**	**177.66**	**84**	*e*PKP	**PKPdf**	**07 15 17.5**	**-1.2**
LZH				pPKP	**pPKPdf**	**07 15 28.0**	**+5.9**
LZH				sPKP		07 15 31.0	
LZH				PKP	PKPab	07 16 59.4	-5.8

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*IDC **02** 07:05:23.7±1.1, 33.°99S×72.°37W, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.9/23, mbtmp3.7/8, ML3.8/2, MS2.1/1, Ms1 2.1/1, ms1mx2.1/25, Error ellipse: s-maj=30.2km s-min=21.5km az=153.0*
*ISCJB **02** 07:05:24.4±0.7, 34.°02S±0.°08×72.°45W±0.°07, h17km, mb3.9/6, Error ellipse: s-maj=12.6km s-min=7.1km az=161.0*
*GUC **02** 07:05:27.0±0.5, 33.°91S×72.°50W, h15km±59km, ML4.3*
*NEIC **02** 07:05:28.6±0.6, 34.°03S×72.°37W, h35km, mb4.2/2, Error ellipse: s-maj=17.1km s-min=12.1km az=98.0*
ISC 02 07:05:26.0±0.9, 33.°98S±0.°10×72.°40W±0.°08, h17km, n20, σ0§86/21, mb3.8/6, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.14**	**34⇑**	*i*P	**Pn**	**07 05 45.2**	**-2.0**
RCDM	**Rinconada Maip**	**1.42**	**70⇑**	*i*P	**Pn**	**07 05 50.6**	**-0.4**
RCDM				*e*S	**Sn**	**07 06 08.5**	**-0.8**
ANTU	**Antumapu**	**1.53**	**75⇑**	*i*P	**Pn**	**07 05 52.9**	**+0.3**
ANTU				*i* S	**Sb**	**07 06 12.2**	**-0.8**
ANTU				AML	AML	07 06 20.9	
	comp=E,3μm,0.5s						
PEL	**Peldehue**	**1.66**	**60⇓**	*i*P	**Pn**	**07 05 54.6**	**+0.3**
PEL				*i* S	**Sn**	**07 06 15.6**	**+0.3**
PEL				AML	AML	07 06 29.1	
	comp=N,9μm,0.4s						
CFAA	**Coronel Fontan**	**4.23**	**57**	Pn	**Pn**	**07 06 31.4**	**+1.6**
	comp=N,0.2nm,0.3s,baz=230,slow=13,SNR=3.4						
CFAA				LR	LR	07 07 33.1	
	comp=N,23nm,21.7s,baz=10,slow=31						
CFAA				Lg	Lg	07 07 36.4	
	comp=N,1.0nm,0.3s,baz=41,slow=12,SNR=4.2						
PLCA	**Paso Flores**	**6.90**	**168**	Pn	**Pn**	**07 07 06.1**	**-0.4**
	comp=N,0.5nm,0.3s,baz=313,slow=11,SNR=4.6						
PLCA				Sn	Sn	07 08 09.7	-15
	comp=N,1.7nm,0.3s,baz=43,slow=20,SNR=3.4						
PLCA	**Paso Flores**	**6.90**	**168**	*e*Pn	**Pn**	**07 07 05.7**	**-0.8**
PLCA				Sn	Sn	07 08 09.7	-15
TRQA	**Tornquist**	**9.37**	**119**	*e*Pn	Pn	07 07 46.4	+6.0
	comp=N,5.0nm,0.9s						
CPUP	**Villa Florida**	**15.09**	**64**	Pn	**P**	**07 09 04.2**	**+0.6**
	comp=N,0.1nm,0.3s,baz=154,slow=19,SNR=2.0						
LPAZ	**La Paz**	**18.03**	**13**	P	**Pn**	**07 09 36.1**	**-0.3**
	comp=N,0.1nm,0.3s,baz=197,slow=7.0,SNR=6.8						
LPAZ	**La Paz**	**18.03**	**13**	*e*P	**Pn**	**07 09 35.9**	**-0.5**
	comp=N,3.7nm,0.8s						
SIV	**San Ignacio**	**20.61**	**32**	P	Pn	07 10 06.0	-0.9
	comp=N,1.5nm,0.7s,baz=216,slow=9.2,SNR=4.2						
BDFB	**Brasilia**	**28.57**	**56**	P	**P**	**07 11 20.4**	**-0.9**
	comp=N,2.5nm,0.8s,baz=215,slow=8.9,SNR=2.9						
TXAR	**Lajitas Array**	**69.57**	**331**	P	**P**	**07 16 34.7**	**+0.6**
	comp=N,0.4nm,0.7s,baz=152,slow=8.3,SNR=4.6						
WVT	**Waverly**	**71.22**	**347**	*e*P	**P**	**07 16 43.6**	**-0.3**
	comp=N,13nm,1.2s						
PDAR	**Pinedale Array**	**83.60**	**333**	P	**P**	**07 17 53.7**	**+0.3**
	comp=N,0.3nm,0.7s,baz=158,slow=7.6,SNR=2.5						
NVAR	**Mina Array Bea**	**83.69**	**325**	P	**P**	**07 17 54.8**	**+0.8**
	comp=N,0.3nm,0.6s,baz=99,slow=9.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**84.49**	**70**	P	**P**	**07 17 59.1**	**+0.8**
	comp=N,0.5nm,0.7s,baz=249,slow=4.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**154.37**	**32**	PKPbc	**PKPbc**	**07 25 25.6**	**+0.8**
	comp=N,0.9nm,0.8s,baz=278,slow=4.0,SNR=3.4						
MKAR	**Makanchi Array**	**156.98**	**49**	PKPab	**PKPab**	**07 25 50.2**	**-0.4**
	comp=N,0.2nm,0.6s,baz=339,slow=3.1,SNR=3.1						

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*ISCJB **02** 07:22:45.5±0.3, 13.°63N±0.°04×120.°74E±0.°07, h139km±3km, mb3.9/19, Error ellipse: s-maj=10.9km s-min=6.7km az=170.7*
*IDC **02** 07:22:45.8±0.5, 13.°66N×120.°96E, h135km±3km, mb3.7/18, mb1 3.8/18, mb1mx3.6/41, mbtmp4.1/18, Error ellipse: s-maj=21.5km s-min=10.5km az=66.0*
*MAN **02** 07:22:47, 13.°66N×120.°64E, h110km, mb4.7, ML3.6, MS3.5*
ISC 02 07:22:46.2±0.6, 13.°64N±0.°04×120.°68E±0.°07, h132km±5km, n49, σ1§10/55, mb4.0/19, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.29**	**117⇑**	*e*P	**Pn**	**07 23 04.4**	**-0.2**
PGP				*e*S	**Sn**	**07 23 18.1**	**-0.4**
LUBP	**Lubang**	**0.44**	**283**	*e*P	**Pn**	**07 23 05.5**	**+0.4**
TGY	**Tagaytay City**	**0.52**	**28**	P	**Pn**	**07 23 06.4**	**+0.7**
	2μm,0.3s,baz=250,slow=1.1,SNR=186						
TGY				S	**Sn**	**07 23 21.3**	**+0.8**
	658nm,0.3s,baz=23,slow=12,SNR=9.1						
TGY	**Tagaytay City**	**0.52**	**28⇑**	*i*P	**Pn**	**07 23 06.4**	**+0.7**
TGY				*i* S	Sn	07 23 10.4	-10
SJMP	**San Jose**	**1.25**	**160**	*e*P	**Pn**	**07 23 12.3**	**+0.6**
SJMP				*e*S	**Sn**	**07 23 30.4**	**-0.6**
BUSP	**Coron**	**1.69**	**196**	*e*P	**Pn**	**07 23 17.3**	**+0.7**
BUSP				*e*S	Sn	07 23 31.1	-8.8
GQP	**Guinayangan**	**1.73**	**81⇓**	*e*P	**Pn**	**07 23 18.0**	**+0.9**
GQP				*e*S	Sn	07 23 30.9	-10
PCPH	**Palayan**	**1.95**	**12⇓**	*e*P	**Pn**	**07 23 19.2**	**-0.4**
PCPH				*e*S	**Sn**	**07 23 44.4**	**-0.9**
AUQP	**San Andres**	**1.96**	**99**	*e*P	**Pn**	**07 23 22.1**	**+2.3**
BALP	**Baler**	**2.26**	**22**	*e*P	**Pn**	**07 23 24.6**	**+1.2**
BOLP	**Bolinao**	**2.83**	**345**	*e*P	**Pn**	**07 23 31.2**	**+0.5**
PVCP	**Virac**	**3.37**	**90**	*e*P	**Pn**	**07 23 39.3**	**+1.6**
CAUP	**Cauayan**	**3.47**	**18**	*e*P	**Pn**	**07 23 40.2**	**+1.2**
GUIM	**Jordan**	**3.53**	**148**	*e*P	**Pn**	**07 23 42.1**	**+2.4**
APYP	**Conner**	**4.23**	**7**	*e*P	**Pn**	**07 23 50.5**	**+1.4**
CMAR	**Chiang Mai Arr**	**21.43**	**286**	P	**P**	**07 27 26.4**	**+2.4**
	8.2nm,0.8s,baz=92,slow=7.7,SNR=35						
BATI	**Baumata**	**23.87**	**173**	P	**P**	**07 27 48.1**	**+0.3**
	27nm,0.5s,baz=76,slow=0.9,SNR=6.1						
PSI	**Prapat**	**24.05**	**245**	P	**P**	**07 27 51.1**	**+1.6**
	9.3nm,0.7s,baz=66,slow=4.6,SNR=7.4						
TAPN	**Taplejung**	**33.64**	**299**	*e*P	**P**	**07 29 15.6**	**+0.8**
	10.0nm,0.5s						
ODAN	**Odare**	**33.78**	**298**	*e*P	**P**	**07 29 16.8**	**+0.9**
	45nm,0.7s						
RAMN	**Ramite**	**34.48**	**298**	*e*P	**P**	**07 29 23.2**	**+1.2**
	32nm,0.7s						
JIRN	**Jiri**	**35.02**	**299**	*e*P	**P**	**07 29 27.8**	**+1.0**
	42nm,0.4s						
GUN	**Gumba**	**35.36**	**299**	*e*P	**P**	**07 29 30.5**	**+0.9**
	28nm,0.4s						
PKI	**Pulchoki**	**35.67**	**298**	*e*P	**P**	**07 29 32.6**	**+0.4**
	19nm,0.5s						
PKIN	**Phulchoki**	**35.68**	**298**	*e*P	**P**	**07 29 32.4**	**+0.1**
	16nm,0.4s						
KKN	**Kakani**	**35.84**	**299**	*e*P	**P**	**07 29 34.0**	**+0.4**
DMN	**Daman**	**35.94**	**298**	*e*P	**P**	**07 29 34.9**	**+0.4**
	17nm,0.6s						
WRA	**Warramunga Arr**	**35.97**	**158**	P	**P**	**07 29 32.1**	**-2.4**
	1.2nm,0.6s,baz=337,slow=9.4,SNR=15						
WRA				pP	**pP**	**07 30 03.3**	**-0.1**
	1.9nm,0.8s,baz=336,slow=9.4,SNR=8.3						
SONM	**Songino Array**	**36.11**	**344**	P	**P**	**07 29 34.7**	**-0.8**
	1.3nm,0.6s,baz=162,slow=9.5,SNR=19						
GKN	**Gorkha**	**36.44**	**299**	*e*P	**P**	**07 29 38.9**	**+0.3**
KOLN	**Koldanda**	**37.27**	**298**	*e*P	**P**	**07 29 46.2**	**+0.5**
	13nm,0.7s						
DANN	**Dangsing**	**37.28**	**299**	*e*P	**P**	**07 29 46.2**	**+0.3**
PYUN	**Piuthan**	**37.87**	**298**	*e*P	**P**	**07 29 51.5**	**+0.7**
	33nm,0.8s						
ASAR	**Alice Springs**	**39.27**	**161**	P	**P**	**07 30 00.7**	**-1.5**
	0.7nm,0.4s,baz=336,slow=6.9,SNR=15						
ASAR				pP	**pP**	**07 30 31.4**	**-0.1**
	0.7nm,0.6s,baz=334,slow=6.6,SNR=5.7						
MKAR	**Makanchi Array**	**46.07**	**324**	P	**P**	**07 30 57.6**	**+0.7**
	1.5nm,0.3s,baz=134,slow=9.1,SNR=42						
AAK	**Ala-Archa**	**49.10**	**315**	P	**P**	**07 31 22.0**	**+1.5**
	1.4nm,0.5s,baz=122,slow=6.0,SNR=5.8						
ZALV	**Zalesovo Beam**	**49.10**	**333**	P	**P**	**07 31 19.6**	**-0.5**
	3.1nm,0.4s,baz=144,slow=7.7,SNR=6.2						
STKA	**Stephens Creek**	**49.50**	**156**	P	**P**	**07 31 21.9**	**-1.5**
	1.5nm,0.8s,baz=360,slow=11,SNR=3.1						
BVAR	**Borovoye Array**	**55.81**	**326**	P	**P**	**07 32 09.8**	**+0.2**
	0.7nm,0.4s,baz=117,slow=8.5,SNR=7.3						
GEYT	**Alibeck**	**60.16**	**306**	P	**P**	**07 32 41.4**	**+1.2**
	4.1nm,0.7s,baz=180,slow=1.3,SNR=6.9						
AKTO	**Aktyubinsk**	**62.25**	**320**	P	**P**	**07 32 54.9**	**+0.8**
	1.2nm,0.5s,baz=96,slow=7.4,SNR=6.1						
KBZ	**Khabaz**	**71.91**	**312**	P	**P**	**07 33 55.5**	**+0.4**
	1.8nm,0.9s,baz=164,slow=4.6,SNR=4.5						
ILAR	**Eielson Array**	**78.81**	**26**	P	**P**	**07 34 33.4**	**-0.8**
	0.1nm,0.5s,baz=304,slow=4.5,SNR=4.2						
ARCES	**ARCESS Array B**	**79.14**	**339**	P	**P**	**07 34 35.1**	**-0.8**
	1.9nm,0.7s,baz=78,slow=7.0,SNR=11						
FINES	**FINESS Array B**	**80.33**	**331**	P	**P**	**07 34 40.9**	**-1.5**
	0.3nm,0.5s,baz=278,slow=39,SNR=3.3						
NOA	**NORSAR Array B**	**87.31**	**333**	P	**P**	**07 35 17.3**	**-0.7**
	1.0nm,0.9s,baz=294,slow=15,SNR=3.3						
YKA	**Yellowknife Ar**	**92.84**	**22**	P	**P**	**07 35 43.2**	**-0.5**
	0.4nm,0.5s,baz=308,slow=4.5,SNR=12						
TORD	**Torodi Ar. Bea**	**113.95**	**291**	PKP	**PKiKP**	**07 41 09.2**	**-1.4**
	0.1nm,0.3s,baz=138,slow=52,SNR=2.4						
TXAR	**Lajitas Array**	**119.53**	**45**	PKP	**PKPdf**	**07 41 20.8**	**-0.3**
	0.2nm,0.6s,baz=203,slow=1.2,SNR=5.0						

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*IDC **02** 07:22:48.3±1.3, 38.°50S×73.°70W, h0km, mb4.1/6, mb1 4.2/8, mb1mx4.0/29, mbtmp4.0/8, ML4.0/2, MS3.4/2, Ms1 3.4/2, ms1mx3.0/22, Error ellipse: s-maj=42.8km s-min=17.9km az=41.0*
*NEIC **02** 07:22:53.4±0.9, 38.°54S×73.°71W, h35km, mb4.6/3, Error ellipse: s-maj=23.9km s-min=12.7km az=211.0*
ISC 02 07:22:50.2±1.2, 38.°7S±0.°2×73.°9W±0.°2, h18km, n15, σ1§53/13, mb4.3/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.29**	**130**	Pn	**Pn**	**07 23 42.2**	**+1.2**
	1.5nm,0.3s,baz=308,slow=11,SNR=6.8						
PLCA				Lg	Lg	07 24 33.0	
	23nm,0.3s,baz=28,slow=14,SNR=6.5						
TRQA	**Tornquist**	**9.38**	**90**	*e*Pn	**Pn**	**07 25 04.9**	**+0.4**
	15nm,0.6s						
CPUP	**Villa Florida**	**18.59**	**53**	P	**P**	**07 27 04.5**	**-1.8**
	0.6nm,0.3s,baz=214,slow=6.9,SNR=4.3						
LPAZ	**La Paz**	**22.88**	**14**	P	**P**	**07 27 57.3**	**+3.9**
	4.8nm,0.9s,baz=194,slow=9.8,SNR=4.9						
LPAZ				LR	LR	07 38 02.3	
	comp=Z,94nm,21.0s,baz=132,slow=40						
BDFB	**Brasilia**	**32.31**	**52**	P	**P**	**07 29 18.2**	**-0.2**
	5.6nm,0.9s,baz=122,slow=6.8,SNR=5.4						
BDFB				LR	LR	07 42 30.0	
	comp=Z,61nm,20.9s,baz=184,slow=37						
TXAR	**Lajitas Array**	**73.15**	**333**	P	**P**	**07 34 18.8**	**-0.9**
	0.5nm,0.8s,baz=145,slow=8.9,SNR=5.3						
WVT	**Waverly**	**75.55**	**348**	*e*P	P	07 34 28.9	-4.4
	5.0nm,0.6s						
DBIC	**Dimbokro**	**78.10**	**71**	P	**P**	**07 34 47.9**	**-0.3**
	5.0nm,0.8s,baz=183,slow=5.9,SNR=6.1						
DBIC	**Dimbokro**	**78.10**	**71**	*e*P	**P**	**07 34 47.8**	**-0.5**
	6.6nm,0.9s						
ECSD	**EROS Data Cent**	**84.57**	**344**	*e*P	**P**	**07 35 21.2**	**-0.7**
	2.1nm,0.6s						
NVAR	**Mina Array Bea**	**86.91**	**327**	P	P	07 35 36.5	+2.6
	0.1nm,0.3s,baz=200,slow=25,SNR=3.1						
TORD	**Torodi Ar. Bea**	**87.19**	**71**	P	**P**	**07 35 34.7**	**-0.9**
	1.3nm,0.7s,baz=244,slow=4.0,SNR=7.1						
PDAR	**Pinedale Array**	**87.30**	**335**	P	**P**	**07 35 36.6**	**+0.8**
	0.2nm,0.3s,baz=69,slow=5.0,SNR=4.1						
MKAR	**Makanchi Array**	**160.77**	**57**	PKPab	**PKPab**	**07 43 30.7**	**-0.3**
	0.5nm,0.8s,baz=282,slow=2.4,SNR=1.8						
SONM	**Songino

PFO					Lg	Lg	07 24 19.6	
	9.0nm,0.3s,baz=244,slow=22,SNR=10							
CMB	**Columbia Colle**	**2.85**	**315**	*e*Pn	**Pb**		**07 23 43.0**	**-2.2**
CMB				*e*Sg	**Sb**		**07 24 20.6**	**+0.4**
IRM	**Iron Mountain**	**2.89**	**130**	P	**Pn**		**07 23 39.8**	**-0.4**
	baz=2.9							
SAO	**San Andreas Ge**	**3.01**	**285**	*e*Pn	**Pn**		**07 23 42.5**	**+0.6**
CCUT	**Cedar City**	**3.88**	**66**	*e*Pn	**Pn**		**07 23 55.9**	**+1.9**
CCUT				*e*Pg	**Pg**		**07 24 06.0**	**-2.6**
CCUT				*e*Sg	**Sg**		**07 24 57.3**	**-1.6**
ARUT	**Antelope Range**	**3.92**	**62**	*e*Pn	**Pn**		**07 23 55.8**	**+1.3**
ARUT				*e*Pg	**Pg**		**07 24 07.2**	**-2.0**
ARUT				*e*Sg	**Sg**		**07 25 00.1**	**+0.1**
BMN	**Battle Mountai**	**4.41**	**6**	*e*Pn	**Pn**		**07 24 02.0**	**+0.9**
BMN				*e*Pg	**Pg**		**07 24 16.2**	**-2.3**
BMN				*e*Sg	**Sg**		**07 25 15.5**	**-0.1**
ELK	**Elko**	**5.12**	**23**	Pn	**Pn**		**07 24 12.4**	**+1.4**
	1.7nm,0.3s,baz=181,slow=7.5,SNR=28							
ELK				Pg	**Pb**		**07 24 25.7**	**+1.9**
	1.5nm,0.3s,baz=182,slow=13,SNR=26							
ELK				Lg	Lg		07 25 34.4	
	3.3nm,0.3s,baz=0.7,slow=2.7,SNR=6.9							
WUAZ	**Wupatki**	**5.27**	**94**	*e*Pg	Pg		07 24 31.0	-4.0
	23nm,0.7s							
DUG	**Dugway, Tooele**	**5.73**	**42**	*e*Pg	**Pg**		**07 24 41.2**	**-2.6**
	6.3nm,0.8s							
DUG				*e*Sg	**Sg**		**07 25 53.7**	**-4.2**
NLU	**North Lily Min**	**5.99**	**48**	*e*Pg	**Pg**		**07 24 48.9**	**+0.1**
MOD	**Modoc Plateau**	**6.16**	**343**	*e*Pg	**Pg**		**07 24 51.1**	**-0.9**
	6.0nm,0.7s							
TMUT	**Trail Mountain**	**6.17**	**56**	*e*Pg	**Pg**		**07 24 51.2**	**-1.1**
	12nm,0.8s							
TUC	**Tucson**	**6.92**	**121**	*e*Pg	**Pg**		**07 25 06.1**	**-0.6**
	2.0nm,0.8s							
TUC				*e*Sg	**Sg**		**07 26 35.0**	**-1.3**
HVU	**Hansel Valley**	**6.95**	**33**	*e*Pn	**Pn**		**07 24 37.5**	**+1.4**
	2.2nm,0.8s							
HVU				*e*Pg	**Pg**		**07 25 06.9**	**-0.2**
HVU				*e*Sg	**Sg**		**07 26 35.9**	**-1.2**
PV04	**Paradox Valley**	**7.49**	**69**	*e*Pn	Pn		07 24 48.1	+4.5
PV04				*e*Pg	**Pg**		**07 25 14.8**	**-2.8**
MVCO	**Mesa Verde**	**7.59**	**78**	*e*Pg	**Pg**		**07 25 17.8**	**-1.6**
	8.4nm,0.7s							
PV01	**Paradox Valley**	**7.69**	**72**	*e*Pg	Pg		07 25 14.9	-6.4
	322nm,0.6s							
PDAR	**Pinedale Array**	**9.27**	**41**	Pn	Pn		07 25 13.3	+5.3
	baz=189,slow=11,SNR=3.7							
ANMO	**Albuquerque**	**9.34**	**93**	LR	LR		07 28 15.3	
	comp=Z,148nm,20.5s,baz=70,slow=34							
TXAR	**Lajitas Array**	**13.67**	**115**	LR	LR		07 31 56.8	
	comp=Z,72nm,21.4s,baz=0.0,slow=40							
YKA	**Yellowknife Ar**	**26.55**	**3**	P	**P**		**07 28 33.9**	**+2.1**
	0.4nm,0.8s,baz=182,slow=9.2,SNR=7.7							
ILAR	**Eielson Array**	**33.60**	**338**	P	P		07 29 37.4	+3.1
	0.5nm,0.8s,baz=155,slow=6.7,SNR=5.6							

GUC ***02*** *07:23:02.4±0.5, 33°.56S×73°.00W, h29km±5km, ML4.2*
ISCJB ***02*** *07:23:09.8±1.1, 33°.9S±0°.1×72°.4W±0°.1, h19km, mb4.1/7, Error ellipse: s-maj=16.1km s-min=14.3km az=144.1*
IDC ***02*** *07:23:12.5±1.0, 34°.12S×71°.17W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/29, mbtmp4.1/9, ML3.8/1, Error ellipse: s-maj=33.7km s-min=22.1km az=91.0*
NEIC ***02*** *07:23:14.9±1.3, 33°.94S×71°.99W, h35km, mb4.4/2, Error ellipse: s-maj=45.9km s-min=13.0km az=100.0*
ISC 02 07:23:11.3±1.0, 33°.9S±0°.1×72°.36W±0°.09, h19km, n18, σ1°38/18, mb4.1/7, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.79**	**95**	*e*P	**Pn**	**07 23 26.4**	**-1.1**
TACH	**Talagante**	**1.21**	**79**	⇓*i*P	**Pn**	**07 23 31.9**	**-1.4**
RCDM	**Rinconada Maip**	**1.36**	**73**	*e*P	**Pn**	**07 23 33.4**	**-1.9**
RCDM				AML	AML	07 24 03.2	
	comp=N,2μm,0.5s						
CHCH	**Chadas Angostu**	**1.42**	**92**	⇑*i*P	**Pb**	**07 23 35.9**	**-1.3**
ANTU	**Antumapu**	**1.47**	**78**	⇓*i*P	**Pn**	**07 23 36.2**	**-0.7**
ANTU				*i* S	**Sg**	**07 24 01.7**	**+2.7**
ANTU				AML	AML	07 24 07.0	
	comp=E,5μm,0.5s						
SAN	**Santiago**	**1.48**	**73**	*e*P4	**Pn**	**07 23 36.9**	**-0.2**
SAN				*e*S	**Sg**	**07 24 00.7**	**+1.4**
LPAZ	**La Paz**	**17.94**	**13**	P	**P**	**07 27 22.4**	**+1.5**
	comp=E,0.1nm,0.3s,baz=202,slow=5.8,SNR=9.4						
LPAZ	**La Paz**	**17.94**	**13**	*e*P	**P**	**07 27 21.6**	**+0.7**
	comp=E,6.4nm,1.0s						
SIV	**San Ignacio**	**20.53**	**32**	P	**P**	**07 27 49.7**	**+1.0**
	comp=E,6.9nm,0.8s,baz=225,slow=11,SNR=14						
BDFB	**Brasilia**	**28.50**	**56**	P	**P**	**07 29 05.1**	**-0.6**
	comp=E,1.4nm,0.4s,baz=202,slow=10,SNR=3.4						
SNAA	**Sanae**	**51.78**	**158**	P	**P**	**07 32 18.4**	**+0.9**
	comp=E,2.1nm,0.8s,baz=275,slow=5.7,SNR=6.1						
QSPA	**South Pole Qui**	**56.34**	**180**	P	**P**	**07 32 52.4**	**+1.5**
	comp=E,2.4nm,0.9s,baz=121,slow=4.4,SNR=3.9						
QSPA	**South Pole Qui**	**56.34**	**180**	*e*P	**P**	**07 32 51.6**	**+0.8**
	comp=E,46nm,2.0s						
TXAR	**Lajitas Array**	**69.52**	**331**	P	P	07 34 27.4	+8.6
	comp=E,0.5nm,0.6s,baz=158,slow=8.3,SNR=6.9						
DBIC	**Dimbokro**	**75.40**	**72**	P	**P**	**07 34 52.6**	**-1.5**
	comp=E,2.5nm,0.6s,baz=224,slow=3.0,SNR=4.3						
PDAR	**Pinedale Array**	**83.55**	**333**	P	P	07 35 46.5	+8.3
	comp=E,0.7nm,0.8s,baz=119,slow=1.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**84.42**	**70**	P	**P**	**07 35 42.5**	**-0.5**
	comp=E,1.8nm,0.8s,baz=261,slow=4.2,SNR=8.8						
MKAR	**Makanchi Array**	**156.90**	**49**	PKPab	**PKPab**	**07 43 35.7**	**+0.5**
	comp=E,1.2nm,0.8s,baz=336,slow=2.7,SNR=4.0						

ATH ***02*** *07:23:56.3, 39°.51N×20°.17E, h5km±3km, MD3.2/7*
TIR ***02*** *07:23:58.9±1.2, 39°.34N×20°.43E, h40km±337km*
ISCJB ***02*** *07:24:00.7±0.5, 39°.35N±0°.02×20°.48E±0°.04, h1km±5km, mb3.7/3, Error ellipse: s-maj=5.4km s-min=3.3km az=155.9*
SKO ***02*** *07:24:00.3, 39°.29N×20°.29E, h6km, M2.0, ML2.7*
CSEM ***02*** *07:24:01.0±0.2, 39°.36N×20°.47E, h2km, ML2.8, Error ellipse: s-maj=4.9km s-min=3.1km az=66.0*
THE ***02*** *07:24:01.2, 39°.35N×20°.47E, h0km±2km, ML2.8/3, Error ellipse: s-maj=2.2km s-min=0.5km az=280.0*
IDC ***02*** *07:24:09.2±4.9, 35°.49N×23°.33E, h75km±49km, mb3.3/4, mb1 3.3/5, mb1mx3.1/45, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=55.3km s-min=23.7km az=135.0*
ISC 02 07:24:01.3±1.1, 39°.37N±0°.02×20°.46E±0°.03, h8km±8km, n58, σ0°94/79, mb3.5/3, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.42**	**47**	P	**Pg**	**07 24 09.0**	**-0.5**
JAN				S	**Sg**	**07 24 16.1**	**+1.1**
JAN	**Janina**	**0.42**	**47**	P	**Pg**	**07 24 09.0**	**-0.5**
JAN				S	**Sg**	**07 24 16.1**	**+1.1**
DSL	**Palaion Diasel**	**0.55**	**115**	P	**Pg**	**07 24 11.0**	**-1.0**
DSL				S	**Sg**	**07 24 19.7**	**+0.6**
DSL	**Palaion Diasel**	**0.55**	**115**	P	**Pg**	**07 24 11.0**	**-1.0**
DSL				S	**Sg**	**07 24 19.7**	**+0.6**
LKD2	**Lefkada island**	**0.60**	**165**	P	**Pg**	**07 24 12.1**	**-0.8**
LKD2				S	**Sg**	**07 24 21.4**	**+0.7**
LKD2	**Lefkada island**	**0.60**	**165**	*e*PB	**Pg**	**07 24 11.9**	**-1.0**
LKD2				*e*SB	**Sb**	**07 24 22.6**	**-0.2**
LKD2	**Lefkada island**	**0.60**	**165**	P	**Pg**	**07 24 12.1**	**-0.8**
LKD2				S	**Sg**	**07 24 21.4**	**+0.7**
LKD2				*e*Sb	**Sb**	**07 24 22.6**	**-0.2**
KEK	**Kerkira**	**0.61**	**304**	P	**Pg**	**07 24 13.0**	**-0.2**
KEK				S	**Sb**	**07 24 23.3**	**+0.1**
KEK	**Kerkira**	**0.61**	**304**	P	**Pg**	**07 24 13.0**	**-0.2**
KEK				S	**Sb**	**07 24 23.3**	**+0.1**
SRN	**Sarande**	**0.62**	**326**	*i* PG	**Pg**	**07 24 13.4**	**+0.1**
SRN				*i* SG	**Sb**	**07 24 23.8**	**+0.4**
SRN	**Sarande**	**0.62**	**326**	P	**Pg**	**07 24 13.4**	**+0.1**
SRN	**Sarande**	**0.62**	**326**	P	**Pg**	**07 24 13.4**	**+0.1**
SRN				*i* Sg	**Sb**	**07 24 23.8**	**+0.4**
	SNR=92						
MEV	**Metsovon**	**0.73**	**55**	P	**Pg**	**07 24 15.1**	**-0.3**
MEV	**Metsovon**	**0.73**	**55**	P	**Pg**	**07 24 15.1**	**-0.3**
PDO	**Prodromos**	**0.95**	**143**	P	**Pg**	**07 24 18.3**	**-1.4**
PDO				S	**Sb**	**07 24 32.6**	**-0.4**
PDO	**Prodromos**	**0.95**	**143**	*e*PN	**Pg**	**07 24 18.1**	**-1.6**
PDO				*e*SB	**Sn**	**07 24 36.1**	**+1.2**
PDO	**Prodromos**	**0.95**	**143**	P	**Pg**	**07 24 18.3**	**-1.4**
PDO				S	**Sb**	**07 24 32.6**	**-0.4**
PDO				*e*Sb	**Sn**	**07 24 36.1**	**+1.2**
PVO	**Paravola**	**1.12**	**132**	P	**Pg**	**07 24 21.9**	**-1.0**
PVO	**Paravola**	**1.12**	**132**	P	**Pg**	**07 24 21.9**	**-1.0**
EVR	**Evrytania**	**1.15**	**113**	P	**Pg**	**07 24 22.6**	**-0.7**
EVR	**Evrytania**	**1.15**	**113**	*e*PG	**Pg**	**07 24 22.4**	**-0.9**
EVR	**Evrytania**	**1.15**	**113**	P	**Pg**	**07 24 22.6**	**-0.7**
VLS	**Valsamata**	**1.19**	**175**	P	**Pg**	**07 24 23.4**	**-0.8**
VLS	**Valsamata**	**1.19**	**175**	*e*PB	**Pg**	**07 24 22.8**	**-1.4**
VLS				*e*SB	**Sn**	**07 24 41.5**	**+0.7**
VLS	**Valsamata**	**1.19**	**175**	*e*Pb	**Pg**	**07 24 22.8**	**-1.4**
VLS	**Valsamata**	**1.19**	**175**	P	**Pg**	**07 24 23.4**	**-0.8**
VLS				*e*Sb	**Sn**	**07 24 41.5**	**+0.7**
THL	**Klokotos Trika**	**1.22**	**80**	P	**Pb**	**07 24 23.8**	**-0.9**
THL	**Klokotos Trika**	**1.22**	**80**	*e*PB	**Pb**	**07 24 23.7**	**-0.9**
THL				*e*SB	**Sn**	**07 24 42.9**	**+1.4**
THL	**Klokotos Trika**	**1.22**	**80**	P	**Pb**	**07 24 23.8**	**-0.9**
THL				*e*Sb	**Sn**	**07 24 42.9**	**+1.4**
KBN	**Korca**	**1.28**	**11**	*i* PG	**Pn**	**07 24 25.1**	**-0.5**
KBN	**Korca**	**1.28**	**11**	*i* Pg	**Pn**	**07 24 25.1**	**-0.5**
	SNR=90						
AGG	**Agios Georgios**	**1.50**	**103**	P	**Pn**	**07 24 28.4**	**-0.2**
AGG	**Agios Georgios**	**1.50**	**103**	*e*PG	**Pn**	**07 24 28.4**	**-0.2**
AGG	**Agios Georgios**	**1.50**	**103**	P	**Pn**	**07 24 28.4**	**-0.2**
RLS	**Riolos of Patr**	**1.53**	**149**	*e*PN	**Pb**	**07 24 30.0**	**+0.1**
RLS	**Riolos of Patr**	**1.53**	**149**	*e*Pn	**Pb**	**07 24 30.0**	**+0.1**
KALE	**Kalithea**	**1.64**	**126**	*e*PG	**Pb**	**07 24 31.8**	**0.0**
KALE	**Kalithea**	**1.64**	**126**	*e*Pg	**Pb**	**07 24 31.8**	**0.0**
LAKA	**Lakka**	**1.64**	**133**	*e*PG	**Pb**	**07 24 31.5**	**-0.3**
LAKA	**Lakka**	**1.64**	**133**	*e*Pg	**Pb**	**07 24 31.5**	**-0.3**
KLV	**Kalavryta, Ach**	**1.87**	**134**	*e*PN	**Pn**	**07 24 34.5**	**+0.7**
KLV	**Kalavryta, Ach**	**1.87**	**134**	*e*Pn	**Pn**	**07 24 34.5**	**+0.7**
GUR	**Goura**	**2.06**	**133**	*e*PN	**Pn**	**07 24 37.2**	**+0.9**
GUR	**Goura**	**2.06**	**133**	*e*Pn	**Pn**	**07 24 37.2**	**+0.9**
ITM	**Ithomi**	**2.47**	**152**	*e*PN	**Pn**	**07 24 42.4**	**+0.4**
ITM	**Ithomi**	**2.47**	**152**	*e*Pn	**Pn**	**07 24 42.4**	**+0.4**
VAY	**Valandovo**	**2.53**	**39**	*i* Pn	**Pn**	**07 24 43.9**	**+1.1**
VAY				*e*Sn	**Sn**	**07 25 11.9**	**-1.9**
VAY				*e*Lg	Lg	07 25 18.5	
	comp=N,15nm,0.7s						
VAY				*e*Lg	Lg	07 25 18.7	
	comp=E,13nm,0.7s						
VAY	**Valandovo**	**2.53**	**39**	*i* Pn	**Pn**	**07 24 43.9**	**+1.1**
VAY				*e*Sn	**Sn**	**07 25 11.9**	**-1.9**
VAY				*e*Lg	Lg	07 25 18.7	
	comp=E,13nm,0.7s						
PUK	**Puka**	**2.71**	**351**	*i* PN	**Pn**	**07 24 46.4**	**+1.2**
PUK	**Puka**	**2.71**	**351**	*i* Pn	**Pn**	**07 24 46.4**	**+1.2**
SKO	**Skopje**	**2.71**	**16**	*i* Pn	**Pg**	**07 24 53.3**	**+0.1**
SKO				*e*Sn	**Sb**	**07 25 22.1**	**-1.3**
SKO				*e*Lg	Lg	07 25 23.3	
	comp=N,34nm,0.8s						
SKO				*e*Lg	Lg	07 25 24.0	
	comp=E,17nm,0.6s						
DID	**Didima**	**2.87**	**130**	P	Pn	07 24 41.7	-5.7
STON	**Ston**	**4.07**	**330**	*i* Pn	**Pn**	**07 25 02.9**	**-1.1**
STON				Sn	**Sn**	**07 25 49.6**	**-2.2**
STON	**Ston**	**4.07**	**330**	*i* Pn	**Pn**	**07 25 02.8**	**-1.1**
STON				Sn	**Sn**	**07 25 49.5**	**-2.2**
BRTR	**Keskin Array B**	**10.19**	**84**	P	Pn	07 26 19.3	-8.8
	comp=E,0.1nm,0.3s,baz=240,slow=12,SNR=6.1						
TORD	**Torodi Ar. Bea**	**30.93**	**218**	P	P	07 30 07.3	-12
	comp=E,0.4nm,0.6s,baz=34,slow=8.4,SNR=4.8						
MKAR	**Makanchi Array**	**44.73**	**59**	P	**P**	**07 32 16.0**	**+1.0**
	comp=E,0.3nm,0.4s,baz=269,slow=7.9,SNR=5.6						
ZALV	**Zalesovo Beam**	**44.94**	**49**	P	P	07 32 23.3	+6.8
	comp=E,0.6nm,0.3s,baz=263,slow=10,SNR=2.8						

ISCJB ***02*** *07:24:23.7±1.8, 11°.91N±0°.06×43°.74E±0°.08, h6km±10km, Error ellipse: s-maj=15.5km s-min=5.7km az=40.3*
CSEM ***02*** *07:24:23.3, 11°.94N×43°.81E, h9km, ML4.1*
DHMR ***02*** *07:24:23.3±2.1, 11°.94N×43°.81E, h10km±22km, ML4.1*
ARO ***02*** *07:24:25.9, 12°.N±2°.×4°.4E±°., h11km±4km, ML4.1*
ISC 02 07:24:24.0±1.7, 11°.95N±0°.06×43°.74E±0°.08, h15km±14km, n13, σ0°88/21, 3C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.44**	**275**	*e*P	**Pg**	**07 24 33.4**	**+0.6**
OBO				*e*S	**Sg**	**07 24 39.1**	**+0.4**
ATA	**Atar**	**0.71**	**227**	*e*P	**Pb**	**07 24 38.8**	**+0.6**
TDD	**Tadjoura Ara**	**0.83**	**260**	*e*P	**Pg**	**07 24 39.7**	**-0.4**
ATD	**Arta Tunnel**	**0.97**	**245**	*e*P	**Pg**	**07 24 42.0**	**-0.8**
ATD				*e*S	**Sg**	**07 24 55.5**	**+0.1**
SGH	**Sud-Ghoubbet**	**1.20**	**245**	*e*P	**Pn**	**07 24 45.4**	**-0.9**
TRBA	**At Turbah**	**1.33**	**16**	⇑*i*P	**Pn**	**07 24 48.5**	**+0.2**
TRBA				*i* S	**Sb**	**07 25 05.9**	**+0.2**
TRBA				AML	AML	07 25 08.3	
	comp=N,4μm,0.3s						
GBR	**Grand-Bara**	**1.48**	**238**	*e*P	**Pn**	**07 24 50.3**	**+0.2**
MAOD	**Malaho**	**1.49**	**276**	*e*P	**Pn**	**07 24 50.5**	**+0.3**
UDYN	**Al 'Udayn**	**2.02**	**6**	⇑*i*P	**Pn**	**07 24 58.6**	**+0.9**
UDYN				*i* S	**Sb**	**07 25 25.8**	**+0.2**
UDYN	**Al 'Udayn**	**2.02**	**6**	⇑*i*P	**Pn**	**07 24 58.6**	**+0.9**
UDYN				*i* S	**Sb**	**07 25 25.8**	**+0.2**
DHBB	**Dhamar BB**	**2.69**	**14**	*i* P	**Pb**	**07 25 09.8**	**-2.1**
DHBB				*i* S	**Sb**	**07 25 46.4**	**+1.6**
BDHA	**Al Bayda'**	**2.69**	**41**	⇓*i*P	**Pn**	**07 25 08.0**	**+1.0**
BDHA				*i* S	**Sb**	**07 25 44.9**	**-0.1**
BDHA				AML	AML	07 25 56.7	
	comp=E,1μm,0.5s						
BDHA	**Al Bayda'**	**2.69**	**41**	⇓*i*P	**Pn**	**07 25 08.0**	**+1.0**
BDHA				*i* S	**Sb**	**07 25 44.9**	**-0.1**
	comp=E,624nm,0.5s						

GUC 02 07:30:37.0±0.5, 34°.68S×71°.75W, h53km±13km, ML3.5, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**1.23**	**34**	⇓*i*P	Pn	07 30 59.0	+1.1
RCDM	**Rinconada Maip**	**1.42**	**34**	⇑*i*P	Pn	07 31 02.0	+1.4
RCDM				*e*S	Sn	07 31 21.2	+3.0
RCDM				AML	AML	07 31 26.1	
	comp=E,909nm,0.4s						
ANTU	**Antumapu**	**1.44**	**40**	*e*P1	Pn	07 31 02.7	+1.8
ANTU				*i* S	Sn	07 31 21.7	+2.9
ANTU				AML	AML	07 31 28.2	
	comp=E,1μm,0.8s						
SAN	**Santiago**	**1.52**	**37**	*e*P	Pn	07 31 03.6	+1.7
SAN				*i* S	Sn	07 31 23.2	+2.6
PEL	**Peldehue**	**1.77**	**30**	⇑*i*P	Pn	07 31 06.9	+1.6
PEL				*i* S	Sn	07 31 29.9	+3.2
PEL				AML	AML	07 31 37.7	
	comp=E,1μm,0.5s						

BJI ***02*** *07:31:13.7, 2°.60S×138°.60E, h15km, mB4.9/3, mb4.6/10*
ISCJB ***02*** *07:31:15.9±0.3, 2°.84S±0°.04×138°.50E±0°.05, h32km, mb4.5/15, MS4.1/9, Error ellipse: s-maj=6.7km s-min=5.2km az=13.0*
IDC ***02*** *07:31:18.4±4.5, 2°.75S×138°.49E, h40km±39km, mb4.1/11, mb1 4.3/13, mb1mx4.0/38, mbtmp4.4/13, ML4.2/2, MS4.3/10, Ms1 4.3/10, ms1mx3.8/29, Error ellipse: s-maj=28.7km s-min=10.8km az=87.0*
NEIC ***02*** *07:31:18.5±1.6, 2°.75S×138°.58E, h42km±14km, mb5.0/7, Error ellipse: s-maj=13.1km s-min=9.1km az=55.0*
DJA ***02*** *07:31:19.9±0.4, 3°.S±3°.×13°.9E±°., h19km±6km, M4.8/8, mb4.9/8, mB5.8/2, MLv4.7/8, Mw(mB)5.4/2*
ISC 02 07:31:17.4±0.4, 2°.72S±0°.05×138°.59E±0°.04, h32km, n61, σ1°34/54, mb4.5/15, MS4.2/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.73**	**9**	P	**Pn**	**07 31 29.8**	**-1.8**
SMPI				S	**Sn**	**07 31 45.3**	**+3.6**
GENI	**Genyem**	**1.58**	**86**	P	**Pn**	**07 31 44.2**	**+1.0**
GENI				S	**Sb**	**07 32 04.7**	**-1.0**
JAY	**Jayapura**	**2.12**	**85**	P	**Pn**	**07 31 51.0**	**+0.3**
JAY	**Jayapura**	**2.12**	**85**	P	**Pn**	**07 31 51.5**	**+0.7**
	baz=2.2,SNR=8.9						
SRPI	**Serui, Papua**	**2.49**	**290**	P	**Pb**	**07 32 02.6**	**+1.0**
SRPI				S	**Sb**	**07 32 33.2**	**+1.3**
BAKI	**Biak**	**2.91**	**301**	P	**Pb**	**07 32 06.3**	**-2.3**
BAKI				S	**Sb**	**07 32 44.1**	**+0.3**
MMPI	**Merauke**	**5.98**	**163**	P	Pn	07 32 48.5	+4.7
	890nm,1.1s,46μm6.9nm						
FAKI	**Fak Fak**	**6.34**	**268**	P	Pn	07 32 53.6	+4.9
	45nm,1.4s,0.2nm						
FAKI	**Fak Fak**	**6.34**	**268**	P	Pn	07 32 54.3	+5.6
	baz=6.3,SNR=6.9						
PMG	**Port Moresby**	**10.80**	**128**	Pn	Pn	07 33 56.2	+6.3
	1.4nm,0.3s,baz=329,slow=2.8,SNR=22						
PMG	**Port Moresby**	**10.80**	**128**	P	Pn	07 33 56.5	+6.5
	baz=11,SNR=4.9						
PMG	**Port Moresby**	**10.80**	**128**	*e*Pn	**Pn**	**07 33 51.1**	**+1.1**
	47nm,0.8s						
PALU	**Palau**	**10.81**	**338**	P	Pn	07 33 54.9	+4.9
	baz=11,SNR=6.1						
KDU	**Kakadu**	**11.61**	**211**	P	**Pn**	**07 34 00.3**	**-0.6**
	baz=11,SNR=15						
COEN	**Coen**	**12.05**	**158**	P	**Pn**	**07 34 06.7**	**-0.3**
	baz=12,SNR=36						
COEN	**Coen**	**12.05**	**158**	*e*Pn	**Pn**	**07 34 06.4**	**-0.7**
	132nm,0.5s						
MTN	**Manton Dam**	**12.48**	**216**	P	**Pn**	**07 34 12.7**	**-0.2**
	baz=12,SNR=4.7						
SOEI	**Soe**	**15.85**	**243**	P	**P**	**07 35 03.2**	**+1.3**
	154nm,1.1s						
SOEI	**Soe**	**15.85**	**243**	P	**P**	**07 35 03.3**	**+1.3**
	baz=16,SNR=5.3						
SOEI	**Soe**	**15.85**	**243**	*e*P	**P**	**07 35 01.1**	**-0.9**
	169nm,1.0s						
KNRA	**Kununurra**	**16.11**	**216**	P	**Pn**	**07 35 02.3**	**+0.7**
	baz=16,SNR=10.0						
BATI	**Baumata**	**16.58**	**243**	P	**P**	**07 35 12.0**	**+2.0**
	71nm,0.8s						
BATI	**Baumata**	**16.58**	**243**	Pn	**P**	**07 35 13.0**	**+3.0**
	5.3nm,0.3s,baz=157,slow=0.7,SNR=11						
APSI	**Ampana**	**17.03**	**276**	P	**P**	**07 35 18.2**	**+3.3**
	73nm,1.4s,848nm						
WB2	**Warramunga Arr**	**17.61**	**193**	*e*P	**Pn**	**07 35 19.0**	**-1.5**
WRA	**Warramunga Arr**	**17.61**	**193**	P	**Pn**	**07 35 18.4**	**-2.2**
	1.1nm,0.3s,baz=17,slow=13,SNR=52						
WRA				S	Sn	07 38 25.9	-10
	0.4nm,0.3s,baz=15,slow=22,SNR=4.0						
WRA				LR	LR	07 42 54.3	
	comp=Z,904nm,18.6s,baz=5.0,slow=40						
QIS	**Mount Isa**	**17.76**	**177**	P	**Pn**	**07 35 19.5**	**-2.8**
	baz=18,SNR=22						
CTA	**Charters Tower**	**18.82**	**157**	P	**Pn**	**07 35 35.8**	**+0.5**
	0.4nm,0.3s,baz=357,slow=12,SNR=7.0						
CTA				LR	LR	07 43 21.1	
	comp=Z,1μm,20.9s,baz=10,slow=38						
CTAO	**Charters Tower**	**18.82**	**157**	*e*P	**Pn**	**07 35 35.6**	**+0.4**
	25nm,1.2s						
AS31	**Alice Springs**	**21.31**	**192**	*e*P	**P**	**07 36 00.9**	**-0.9**
ASAR	**Alice Springs**	**21.31**	**192**	P	**P**	**07 36 00.7**	**-1.0**
	13nm,0.8s,baz=22,slow=10,SNR=78						
ASAR				S	**S**	**07 39 55.8**	**-1.1**
	4.9nm,0.9s,baz=15,slow=23,SNR=5.3						
ASAR				LR	LR	07 45 08.8	
	comp=Z,796nm,18.1s,baz=12,slow=39						
KKM	**Kota Kinabalu**	**23.98**	**291**	*e*P	**P**	**07 36 29.6**	**+0.1**
	21nm,1.0s						
WRKA	**Warakurna**	**24.31**	**203**	P	**P**	**07 36 30.5**	**-1.8**
	baz=24,SNR=25						
EIDS	**Eidsvold**	**25.53**	**153**	*e*P	**P**	**07 36 43.8**	**+0.5**
	174nm,2.0s						
STKA	**Stephens Creek**	**29.14**	**175**	P	**P**	**07 37 17.1**	**+1.4**
	2.6nm,0.7s,baz=330,slow=6.6,SNR=4.5						
STKA				LR	LR	07 49 59.5	
	comp=Z,677nm,18.9s,baz=349,slow=38						
JOW	**Kunigami**	**31.02**	**342**	LR	LR	07 48 15.7	
	comp=Z,19nm,19.3s,baz=118,slow=33						
PSI	**Prapat**	**40.03**	**278**	P	**P**	**07 38 48.7**	**-1.4**
	baz=40,SNR=4.1						
CMAR	**Chiang Mai Arr**	**44.34**	**300**	P	**P**	**07 39 25.1**	**+0.2**
	1.9nm,0.6s,baz=121,slow=5.7,SNR=7.9						
USRK	**Ussuriysk Ar.**	**47.08**	**354**	LR	LR	07 56 38.3	
	comp=Z,225nm,20.6s,baz=307,slow=32						
RPZ	**Rata Peaks**	**49.94**	**149**	*e*P	**P**	**07 40 08.9**	**+0.5**
	39nm,1.0s					

Ms1 3.4/3, ms1mx3.1/27, Error ellipse: s-maj=30.0km s-min=14.4km az=99.0
NEIC ***02*** *07:39:59.3±1.9, 35°.37S×73°.04W, h35km±15km, mb4.6/3, Error ellipse: s-maj=23.9km s-min=9.3km az=98.0*
ISC 02 07:39:55.9±0.9, 35°.37S±0°.08×73°.2W±0°.2, h17km, n23, σ0§91/22, mb4.3/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.61**	**49**	Pn	**Pn**	**07 41 17.3**	**-1.4**
	0.5nm,0.3s,baz=232,slow=9.5,SNR=4.3						
CFAA				Lg	Lg	07 42 47.9	
	0.7nm,0.3s,baz=329,slow=9.4,SNR=4.3						
PLCA	**Paso Flores**	**5.75**	**159**	Pn	**Pn**	**07 41 18.9**	**-1.8**
	0.4nm,0.3s,baz=315,slow=12,SNR=6.2						
PLCA				Lg	Lg	07 42 53.6	
	1.9nm,0.3s,baz=237,slow=6.9,SNR=5.2						
PLCA				LR	LR	07 43 14.9	
	comp=Z,127nm,20.8s,baz=260,slow=36						
PLCA	**Paso Flores**	**5.75**	**159**	*e*Pn	**Pn**	**07 41 20.6**	**0.0**
	1.3nm,0.2s						
PLCA				Lg	Lg	07 42 53.6	
TRQA	**Tornquist**	**9.42**	**110**	*e*Pn	**Pn**	**07 42 12.3**	**+1.4**
	10.0nm,0.6s						
CPUP	**Villa Florida**	**16.34**	**61**	LR	LR	07 50 05.7	
	comp=Z,114nm,18.2s,baz=220,slow=38						
LPAZ	**La Paz**	**19.54**	**15**	P	**Pn**	**07 44 25.4**	**+0.7**
	0.1nm,0.3s,baz=172,slow=5.7,SNR=8.0						
LPAZ	**La Paz**	**19.54**	**15**	*e*P	**Pn**	**07 44 25.4**	**+0.7**
	6.2nm,0.9s						
USHA	**Ushuaia**	**19.74**	**172**	P	**Pn**	**07 44 26.2**	**0.0**
	0.3nm,0.3s,baz=295,slow=4.9,SNR=7.8						
SIV	**San Ignacio**	**22.15**	**32**	P	**P**	**07 44 51.8**	**+0.8**
	9.4nm,1.1s,baz=224,slow=14,SNR=5.0						
BDFB	**Brasilia**	**29.91**	**55**	P	**P**	**07 46 02.2**	**-1.0**
	2.6nm,0.8s,baz=48,slow=21,SNR=3.9						
VNA3	**Neumayer Olymp**	**48.47**	**157**	P	**P**	**07 48 38.2**	**+1.1**
VNA2	**Neumayer--Watz**	**49.14**	**157**	P	**P**	**07 48 42.9**	**+0.6**
SNAA	**Sanae**	**50.69**	**157**	P	**P**	**07 48 54.4**	**+0.2**
SNAA	**Sanae**	**50.69**	**157**	P	**P**	**07 48 54.7**	**+0.5**
	4.6nm,1.1s,baz=274,slow=9.3,SNR=9.4						
QSPA	**South Pole Qui**	**54.87**	**180**	P	**P**	**07 49 25.8**	**+0.6**
	3.0nm,0.9s,baz=166,slow=9.9,SNR=5.1						
QSPA	**South Pole Qui**	**54.87**	**180**	*e*P	**P**	**07 49 25.7**	**+0.6**
	8.2nm,1.1s						
TXAR	**Lajitas Array**	**70.47**	**332**	P	**P**	**07 51 10.9**	**+1.4**
	0.4nm,0.7s,baz=151,slow=6.7,SNR=3.5						
DBIC	**Dimbokro**	**76.54**	**72**	P	**P**	**07 51 46.2**	**+0.7**
	5.7nm,0.9s,baz=183,slow=6.8,SNR=4.5						
DBIC	**Dimbokro**	**76.54**	**72**	*e*P	**P**	**07 51 46.0**	**+0.5**
	15nm,1.2s						
TSUM	**Tsumeb**	**79.78**	**106**	LR	LR	08 26 00.5	
	comp=Z,57nm,18.1s,baz=318,slow=35						
BOSA	**Boshof**	**80.29**	**118**	P	**P**	**07 52 05.6**	**-0.8**
	5.1nm,0.9s,baz=157,slow=7.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**85.59**	**71**	P	**P**	**07 52 33.1**	**-0.6**
	1.6nm,0.9s,baz=230,slow=3.0,SNR=7.0						
MKAR	**Makanchi Array**	**158.39**	**51**	PKP	**PKPdf**	**07 59 52.1**	**+0.1**
	0.5nm,0.9s,baz=291,slow=1.0,SNR=3.6						
MKAR				PKPab	**PKPab**	**08 00 26.2**	**-0.3**
	0.7nm,0.8s,baz=318,slow=3.4,SNR=6.2						

IDC 02 07:47:52.6±2.0, 37°.81S×74°.01W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.7/19, mbtmp3.5/5, ML2.9/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/20, Error ellipse: s-maj=50.4km s-min=20.4km az=59.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.96**	**138**	Pn	Pn	07 48 56.2	+1.4
	0.1nm,0.3s,baz=343,slow=11,SNR=2.3						
PLCA				Lg	Lg	07 49 55.9	
	3.0nm,0.3s,baz=262,slow=11,SNR=6.0						
CFAA	**Coronel Fontan**	**7.80**	**39**	Pn	Pn	07 49 45.7	-1.8
	1.1nm,0.3s,baz=228,slow=12,SNR=14						
LPAZ	**La Paz**	**22.06**	**15**	P	P	07 52 50.2	+0.4
	2.1nm,0.8s,baz=152,slow=7.2,SNR=4.8						
SIV	**San Ignacio**	**24.55**	**31**	P	P	07 53 20.8	+6.6
	2.7nm,0.8s,baz=216,slow=8.8,SNR=4.8						
RPN	**Rapa Nui**	**31.48**	**279**	LR	LR	08 02 33.8	
	comp=Z,52nm,20.2s,baz=54,slow=28						
TXAR	**Lajitas Array**	**72.34**	**333**	P	P	07 59 19.3	-0.9
	0.2nm,0.5s,baz=153,slow=7.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**86.99**	**71**	P	P	08 00 41.2	+1.1
	0.4nm,0.8s,baz=209,slow=3.3,SNR=2.6						

ISCJB ***02*** *08:01:35.0±1.2, 35°.12S±0°.10×72°.7W±0°.3, h18km, mb3.5/3, Error ellipse: s-maj=30.6km s-min=14.2km az=3.7*
IDC ***02*** *08:01:34.1±1.7, 35°.12S×72°.62W, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.5/24, mbtmp3.4/6, ML3.5/3, MS2.6/2, Ms1 2.7/2, ms1mx2.6/20, Error ellipse: s-maj=44.4km s-min=29.4km az=90.0*
ISC 02 08:01:36.9±1.4, 35°.1S±0°.1×72°.7W±0°.2, h18km, n7, σ1§13/6, mb3.6/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.10**	**48**	Pn	**Pn**	**08 02 53.5**	**+1.0**
	0.4nm,0.3s,baz=222,slow=11,SNR=8.3						
CFAA				Lg	Lg	08 04 07.2	
	0.7nm,0.3s,baz=22,slow=19,SNR=6.0						
CFAA				LR	LR	08 04 50.8	
	comp=Z,14nm,18.1s,baz=240,slow=39						
PLCA	**Paso Flores**	**5.87**	**164**	Pn	**Pn**	**08 03 03.2**	**+0.2**
	0.7nm,0.3s,baz=326,slow=10,SNR=7.8						
PLCA				Lg	Lg	08 04 35.3	
	0.5nm,0.3s,baz=257,slow=24,SNR=4.7						
CPUP	**Villa Florida**	**15.82**	**61**	LR	LR	08 11 54.5	
	comp=Z,101nm,18.6s,baz=118,slow=39						
LPAZ	**La Paz**	**19.18**	**13**	P	**Pn**	**08 06 01.0**	**-0.1**
	0.1nm,0.3s,baz=162,slow=6.4,SNR=2.9						
SIV	**San Ignacio**	**21.69**	**32**	P	**P**	**08 06 25.6**	**-1.3**
	1.4nm,0.6s,baz=232,slow=16,SNR=4.4						
TXAR	**Lajitas Array**	**70.44**	**332**	P	**P**	**08 12 50.8**	**+0.6**
	0.3nm,0.9s,baz=159,slow=7.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**85.08**	**70**	P	**P**	**08 14 11.1**	**-0.8**
	0.4nm,0.7s,baz=253,slow=2.2,SNR=2.7						

IDC ***02*** *08:07:50.1±1.3, 35°.23S×73°.98W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.7/26, mbtmp3.6/6, ML4.0/1, Error ellipse: s-maj=37.7km s-min=29.4km az=23.0*
ISCJB ***02*** *08:07:53.7±0.9, 35°.30S±0°.09×73°.9W±0°.1, h33km, mb3.6/4, Error ellipse: s-maj=13.8km s-min=11.7km az=39.1*
NEIC ***02*** *08:07:55.5±0.8, 35°.30S×74°.00W, h35km, mb4.2/1, Error ellipse: s-maj=17.8km s-min=12.0km az=59.0*
ISC 02 08:07:55.4±1.0, 35°.3S±0°.1×74°.0W±0°.1, h35km, n11, σ0§65/12, mb3.6/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**6.04**	**54**	Pn	**Pn**	**08 09 22.1**	**-0.2**
	0.1nm,0.3s,baz=265,slow=6.0,SNR=4.3						
CFAA				Sn	**Sn**	**08 10 30.2**	**0.0**
	0.6nm,0.3s,baz=346,slow=15,SNR=7.7						
PLCA	**Paso Flores**	**6.08**	**155**	Pn	**Pn**	**08 09 23.0**	**+0.1**
	0.9nm,0.3s,baz=318,slow=9.9,SNR=3.8						
PLCA	**Paso Flores**	**6.08**	**155**	*e*Pn	**Pn**	**08 09 23.1**	**+0.2**
TRQA	**Tornquist**	**10.03**	**110**	*e*Pn	**Pn**	**08 10 17.7**	**+0.6**
LPAZ	**La Paz**	**19.62**	**17**	P	**Pn**	**08 12 23.9**	**+0.8**
	0.1nm,0.3s,baz=179,slow=7.5,SNR=5.8						
LPAZ	**La Paz**	**19.62**	**17**	*e*P	**Pn**	**08 12 23.2**	**+0.1**
	18nm,1.3s						
TXAR	**Lajitas Array**	**70.10**	**333**	P	**P**	**08 19 05.1**	**+1.0**
	0.5nm,0.6s,baz=160,slow=7.7,SNR=6.9						
NVAR	**Mina Array Bea**	**84.04**	**327**	P	**P**	**08 20 22.5**	**+0.1**
	0.2nm,0.5s,baz=150,slow=2.5,SNR=3.4						
PDAR	**Pinedale Array**	**84.20**	**334**	P	**P**	**08 20 22.1**	**-1.1**
	0.3nm,0.7s,baz=104,slow=7.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**86.15**	**71**	P	**P**	**08 20 32.5**	**-0.7**
	0.6nm,1.0s,baz=255,slow=5.5,SNR=2.6						
MKAR	**Makanchi Array**	**158.81**	**50**	PKPab	**PKPab**	**08 28 25.2**	**0.0**
	0.3nm,0.7s,baz=331,slow=3.8,SNR=3.5						

IDC ***02*** *08:08:54.1±2.6, 24°.70N×95°.72E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.5/52, mbtmp3.9/5, Error ellipse: s-maj=297.5km s-min=19.0km az=58.0*
ISCJB ***02*** *08:09:03.9±0.8, 23°.9N±0°.2×94°.36E±0°.10, h100km, mb3.8/5, Error ellipse: s-maj=25.6km s-min=5.9km az=26.6*
ISC 02 08:09:04.5±1.2, 23°.9N±0°.2×94°.4E±0°.1, h100km, n19, σ1§51/33, mb3.9/5, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.82**	**307**	*e*PN	**Pn**	**08 09 50.0**	**+1.9**
SHL				*e*SN	**Sn**	**08 10 22.0**	**+0.4**
TAPN	**Taplejung**	**6.94**	**301**	*e*Pn	**Pn**	**08 10 46.4**	**+2.5**
TAPN				*e*Sn	**Sn**	**08 12 03.6**	**+2.1**
	76nm,0.5s						
ODAN	**Odare**	**6.98**	**297**	*e*Pn	**Pn**	**08 10 46.9**	**+2.5**
ODAN				*e*Sn	**Sn**	**08 12 03.0**	**+0.6**
	111nm,0.4s						
RAMN	**Ramite**	**7.67**	**295**	*e*Pn	**Pn**	**08 10 55.8**	**+2.1**
RAMN				*e*Sn	**Sn**	**08 12 18.7**	**-0.4**
	71nm,0.5s						
JIRN	**Jiri**	**8.29**	**299**	*e*Pn	**Pn**	**08 11 04.4**	**+2.2**
JIRN				*e*Sn	**Sn**	**08 12 34.4**	**+0.1**
	59nm,0.4s						
GUN	**Gumba**	**8.64**	**300**	*e*Pn	**Pn**	**08 11 08.7**	**+1.7**
GUN				*e*Sn	**Sn**	**08 12 42.4**	**-0.5**
PKI	**Pulchoki**	**8.88**	**296**	*e*Pn	**Pn**	**08 11 12.0**	**+1.7**
PKI				*e*Sn	**Sn**	**08 12 48.8**	**0.0**
	37nm,0.7s						
PKIN	**Phulchoki**	**8.90**	**296**	*e*Pn	**Pn**	**08 11 12.2**	**+1.8**
PKIN				*e*Sn	**Sn**	**08 12 48.7**	**-0.3**
	69nm,0.6s						
KKN	**Kakani**	**9.07**	**297**	*e*Pn	**Pn**	**08 11 14.2**	**+1.4**
KKN				*e*Sn	**Sn**	**08 12 53.2**	**-0.1**
	18nm,0.4s						
DMN	**Daman**	**9.15**	**296**	*e*Pn	**Pn**	**08 11 15.2**	**+1.4**
DMN				*e*Sn	**Sn**	**08 12 54.8**	**-0.3**
	33nm,0.6s						
GKN	**Gorkha**	**9.68**	**297**	*e*Pn	**Pn**	**08 11 22.2**	**+1.2**
GKN				*e*Sn	**Sn**	**08 13 07.0**	**-1.0**
	39nm,0.4s						
KOLN	**Koldanda**	**10.45**	**294**	*e*Pn	**Pn**	**08 11 32.4**	**+0.8**
KOLN				*e*Sn	**Sn**	**08 13 24.6**	**-2.2**
	16nm,0.3s						
DANN	**Dangsing**	**10.53**	**297**	*e*Pn	**Pn**	**08 11 33.2**	**+0.5**
DANN				*e*Sn	**Sn**	**08 13 26.1**	**-2.7**
	16nm,0.4s						
PYUN	**Piuthan**	**11.07**	**295**	*e*Pn	**Pn**	**08 11 39.4**	**-0.6**
PYUN				*e*Sn	**Sn**	**08 13 39.6**	**-2.3**
	27nm,0.4s						
MKAR	**Makanchi Array**	**24.84**	**340**	P	**P**	**08 14 16.5**	**-1.0**
	3.3nm,0.4s,baz=150,slow=9.4,SNR=44						
BVAR	**Borovoye Array**	**34.31**	**334**	P	**P**	**08 15 40.4**	**-0.8**
	0.3nm,0.4s,baz=130,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**58.42**	**135**	P	**P**	**08 18 50.2**	**+0.2**
	0.8nm,0.7s,baz=326,slow=7.3,SNR=13						
ARCES	**ARCESS Array B**	**60.47**	**338**	P	**P**	**08 19 02.5**	**-0.9**
	0.8nm,0.5s,baz=103,slow=6.5,SNR=16						
ASAR	**Alice Springs**	**60.87**	**138**	P	**P**	**08 19 07.3**	**+0.5**
	0.5nm,0.6s,baz=320,slow=6.9,SNR=7.2						

DHMR ***02*** *08:15:29.6±1.5, 11°.97N×43°.87E, h4km±11km, ML4.6*
ISCJB ***02*** *08:15:31.8±0.6, 11°.91N±0°.05×43°.64E±0°.06, h10km, mb4.0/11, MS3.5/6, Error ellipse: s-maj=10.2km s-min=4.5km az=41.3*
IDC ***02*** *08:15:32.4±1.9, 11°.86N×43°.62E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.8/48, mbtmp4.0/9, MS3.6/7, Ms1 3.5/7, ms1mx3.2/31, Error ellipse: s-maj=42.8km s-min=23.2km az=175.0*
ARO ***02*** *08:15:32.3, 12°N±4°×4°E±°, h7km±5km, ML4.8*
CSEM ***02*** *08:15:33.8±0.7, 12°.11N×43°.72E, h2km, ML4.6, Error ellipse: s-maj=29.6km s-min=18.9km az=99.0*
NEIC ***02*** *08:15:34.1±1.0, 11°.83N×43°.60E, h10km, mb4.4/3, Error ellipse: s-maj=24.4km s-min=16.5km az=51.0*
ISC 02 08:15:33.4±0.7, 12°.01N±0°.05×43°.56E±0°.07, h10km, n33, σ2§02/29, mb4.1/10, MS3.5/6, 3C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.27**	**265**	*i* P	**Pg**	**08 15 39.3**	**+0.5**
ATA	**Atar**	**0.65**	**212**	*e*P	**Pg**	**08 15 44.8**	**-1.3**
TDD	**Tadjoura Ara**	**0.67**	**252**	*i* P	**Pg**	**08 15 45.7**	**-0.8**
ATD	**Arta Tunnel**	**0.85**	**236**	*e*P	**Pg**	**08 15 48.0**	**-1.8**
ATD				*e*S	**Sg**	**08 16 01.4**	**+0.6**
SGH	**Sud-Ghoubbet**	**1.07**	**238**	*e*P	**Pg**	**08 15 51.5**	**-2.6**
MAOD	**Malaho**	**1.31**	**274**	*e*P	**Pn**	**08 15 56.2**	**-1.6**
TRBA	**At Turbah**	**1.33**	**24**	*e*P	Pn	08 15 54.2	-4.0
TRBA				*i* S	**Sb**	**08 16 11.4**	**-4.4**
TRBA				AML	AML	08 16 14.2	
	comp=N,13μm,0.4s						
GBR	**Grand-Bara**	**1.37**	**232**	*e*P	**Pn**	**08 15 56.3**	**-2.4**
UDYN	**Al 'Udayn**	**1.99**	**11**	*i*P	Pn	08 16 04.5	-2.8
UDYN				*i* S	**Sb**	**08 16 33.2**	**-1.5**
UDYN				AML	AML	08 16 40.5	
	comp=E,9μm,0.6s						
UDYN	**Al 'Udayn**	**1.99**	**11**	*i*P	Pn	08 16 04.5	-2.8
UDYN				*i* S	**Sb**	**08 16 33.2**	**-1.5**
	comp=E,4μm,0.6s						
DHBB	**Dhamar BB**	**2.67**	**17**	*i* P	**Pn**	**08 16 15.3**	**-1.5**
DHBB				*i* S	**Sn**	**08 16 51.6**	**+2.2**
FURI	**Furi**	**5.71**	**238**	P	**Pb**	**08 17 14.2**	**+0.8**
FURI				S	**Sg**	**08 18 34.3**	**-2.7**
EIL	**Elat**	**19.31**	**337**	LR	LR	08 25 40.1	
	comp=E,156nm,19.8s,baz=93,slow=31						
MSEY	**Mahe Island**	**20.37**	**144**	*e*P	**P**	**08 20 10.1**	**-0.4**
	comp=E,31nm,1.5s						
MSEY	**Mahe Island**	**20.37**	**144**	*e*P	**P**	**08 20 10.1**	**-0.4**
	comp=E,31nm,1.5s						
ASF	**Jabal al Asfar**	**20.98**	**344**	P	Pn	08 20 22.2	+2.5
	comp=E,3.7nm,0.9s,baz=136,slow=4.9,SNR=3.1						
MMAI	**Mount Meron Ar**	**22.21**	**342**	LR	LR	08 27 52.0	
	comp=E,125nm,19.8s,baz=65,slow=33						
GNI	**Garni**	**28.05**	**2**	LR	LR	08 33 15.7	
	comp=E,59nm,19.8s,baz=162,slow=38						
IDI	**Anoyia**	**28.70**	**327**	P	**P**	**08 21 32.5**	**+1.7**
	comp=E,6.3nm,0.9s,baz=105,slow=22,SNR=3.1						
GEYT	**Alibeck**	**28.91**	**24**	LR	LR	08 34 41.0	
	comp=E,184nm,19.6s,baz=280,slow=40						
BRTR	**Keskin Array B**	**28.97**	**344**	P	**P**	**08 21 35.4**	**+2.1**
	comp=E,1.7nm,0.8s,baz=165,slow=9.9,SNR=7.8						
BRTR				LR	LR	08 32 59.2	
	comp=E,94nm,20.1s,baz=131,slow=36						
KBZ	**Khabaz**	**31.61**	**359**	P	P	08 21 59.7	+3.3
	comp=E,3.2nm,1.0s,baz=128,slow=6.4,SNR=6.5						
KBZ				LR	LR	08 35 48.0	
	comp=E,94nm,18.3s,baz=149,slow=38						
KIV	**Kislovodsk**	**31.84**	**359**	*e*P	**P**	**08 22 00.9**	**+2.3**
	comp=E,11nm,0.8s						
KIV	**Kislovodsk**	**31.84**	**359**	*e*P	**P**	**08 22 00.9**	**+2.3**
	comp=E,11nm,0.8s						
AAK	**Ala-Archa**	**40.64**	**36**	P	**P**	**08 23 16.2**	**+2.3**
	comp=E,1.8nm,0.8s,baz=198,slow=12,SNR=4.1						
AAK	**Ala-Archa**	**40.64**	**36**	*e*P	**P**	**08 23 17.0**	**+3.1**
	comp=E,3.1nm,1.0s						
AAK	**Ala-Archa**	**40.64**	**36**	*e*P	**P**	**08 23 17.0**	**+3.1**
	comp=E,3.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**40.85**	**276**	P	**P**	**08 23 17.1**	**+1.3**
	comp=E,2.1nm,0.8s,baz=92,slow=7.0,SNR=13						
BOSA	**Boshof**	**44.09**	**203**	LR	LR	08 42 10.7	
	comp=E,75nm,19.6s,baz=36,slow=36						
GERES	**GERESS Array B**	**44.30**	**332**	P	**P**	**08 23 43.6**	**+0.1**
	comp=E,0.3nm,0.4s,baz=147,slow=9.3,SNR=4.2						
BVAR	**Borovoye Array**	**46.20**	**22**	P	**P**	**08 23 59.8**	**+1.3**
	comp=E,1.2nm,0.8s,baz=206,slow=6.1,SNR=6.4						
MKAR	**Makanchi Array**	**47.58**	**36**	P	**P**	**08 24 08.8**	**-0.6**
	comp=E,2.4nm,1.1s,baz=225,slow=6.0,SNR=9.2						
CMAR	**Chiang Mai Arr**	**53.65**	**76**	P	**P**	**08 24 56.2**	**+0.5**
	comp=E,0.8nm,0.3s,baz=267,slow=7.7,SNR=6.3						

IDC ***02*** *08:16:52.8±1.3, 36°.77S×73°.42W, h0km, mb3.8/6, mb1 3.8/9, mb1mx3.7/28, mbtmp3.7/9, ML3.4/3, Error ellipse: s-maj=34.9km s-min=17.7km az=85.0*
ISCJB ***02*** *08:16:56.4±1.0, 36°.75S±0°.09×73°.3W±0°.2, h35km, mb3.8/5, Error ellipse: s-maj=19.4km s-min=12.5km az=0.4*
NEIC ***02*** *08:16:58.2±1.8, 36°.69S×73°.41W, h37km±14km, mb4.0/2, Error ellipse: s-maj=22.4km s-min=9.7km az=95.0*
ISC 02 08:16:57.6±1.0, 36°.7S±0°.1×73°.5W±0°.2, h35km, n15, σ0§99/13, mb3.8/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.59**	**151**	Pn	**Pn**	**08 18 02.4**	**-2.2**
	0.3nm,0.3s,baz=348,slow=19,SNR=2.6						
PLCA				Lg	Lg	08 19 18.2	
	1.3nm,0.3s,baz=48,slow=13,SNR=5.4						
PLCA	**Paso Flores**	**4.59**	**151**	*e*Pn	**Pn**	**08 18 05.1**	**+0.5**
PLCA				Lg	Lg	08 19 18.2	
CFAA	**Coronel Fontan**	**6.71**	**42**	Pn	**Pn**	**08 18 33.1**	**-0.5**
	0.2nm,0.3s,baz=218,slow=12,SNR=7.2						
TRQA	**Tornquist**	**9.23**	**102**	*e*Pn	**Pn**	**08 19 09.3**	**+1.1**
CPUP	**Villa Florida**	**17.20**	**57**	P	**Pn**	**08 20 53.8**	**-1.3**
	0.1nm,0.3s,baz=204,slow=8.2,SNR=2.9						
LPAZ	**La Paz**	**20.91**	**14**	P	Pn	08 21 39.3	-1.3
	1.3nm,0.8s,baz=178,slow=12,SNR=5.5						
LPAZ	**La Paz**	**20.91**	**14**	*e*P	**P**	**08 21 38.2**	**+0.4**
	2.3nm,0.8s						
SIV	**San Ignacio**	**23.41**	**31**	P	**P**	**08 22 03.4**	**-0.2**
	2.3nm,0.8s,baz=225,slow=5.1,SNR=5.1						
QSPA	**South Pole Qui**	**53.50**	**180**	P	**P**	**08 26 14.9**	**+0.6**
	1.8nm,0.9s,baz=118,slow=1.7,SNR=6.1						
QSPA	**South Pole Qui**	**53.50**	**180**	*e*P	**P**	**08 26 14.9**	**+0.6**
	6.4nm,1.3s						
TXAR	**Lajitas Array**	**71.58**	**332**	P	**P**	**08 28 15.8**	**+0.6**
	0.3nm,0.7s,baz=152,slow=5.7,SNR=3.6						
DBIC	**Dimbokro**	**77.15**	**72**	P	**P**	**08 28 48.2**	**+0.3**
	2.1nm,0.7s,baz=185,slow=4.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**86.22**	**71**	P	**P**	**08 29 36.2**	**+0.5**
	0.4nm,0.7s,baz=215,slow=4.3,SNR=3.4						
ABKAR	**Abkulak array**	**144.25**	**55**	*e*PKPdf	PKPbc	08 36 28.5	+0.9
MKAR	**Makanchi Array**	**159.39**	**53**	PKPab	**PKPab**	**08 37 30.1**	**+0.4**
	0.6nm,0.8s,baz=268,slow=3.4,SNR=3.9						

NIED ***02*** *08:21:00,25°.90N×128°.70E, h5km, Mw4.9 Best double couple: M0=2.21000×10^16 NP1:φs=83.00000°, δ52.00000°, λ24.00000°. NP2:φs=337.00000°, δ71.00000°, λ140.00000°.*
IDC ***02*** *08:21:38.1±0.5, 25°.92N×128°.47E, h0km, mb4.7/23, mb1 4.7/27, mb1mx4.6/41, mbtmp4.6/27, ML3.9/4, MS4.1/28, Ms1 4.1/28, ms1mx4.1/31, Error ellipse: s-maj=17.0km s-min=11.1km az=84.0*
BJI ***02*** *08:21:39.2, 25°.83N×128°.59E, h30km, mB4.9/49, mb5.0/69, Ms4.8/74, Ms7 4.5/68*
ISCJB ***02*** *08:21:40.3±0.7, 25°.94N±0°.02×128°.44E±0°.02, h20km±4km, mb4.9/119, MS4.4/41, Error ellipse: s-maj=4.2km s-min=2.8km az=137.0*
JMA ***02*** *08:21:40.6±0.2, 25°.92N×128°.62E, h40km, M5.2*
JMA Felt I J1.
MOS ***02*** *08:21:41.9±1.2, 25°.96N×128°.40E, h33km, mb5.2/72, MS4.3/19, Error ellipse: s-maj=8.2km s-min=4.7km az=112.4*
NEIC ***02*** *08:21:43.9±0.3, 25°.92N×128°.34E, h35km, mb5.1/57, MW4.8(NIED), Error ellipse: s-maj=7.5km s-min=5.2km az=130.0*
NEIC Felt [II] at Chatan, Okinawa. Also felt at Ginowan, Gushikawa, Naha and Okinawa. Recorded [1 JMA] in the Kerama-retto and on Okinawa.
GCMT ***02*** *08:21:43.9±0.3, 25°.95N×128°.45E, h12km, MW4.9/82, Moment Tensor Solution. s18,c23; s82,c112; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.68±.07; Mθθ-1.12±.07; Mφφ0.44±.07; Mrθ0.95±.20; Mrφ2.05±.05; Mθf-0.18±.20; Best double couple: M0=2.37400×10^16 NP1:φs81.00000°, δ87.00000°, λ24.00000°. NP2: φs350.00000°, δ66.00000°, λ177.00000°. Principal axes: T 1.9860, Plg19.0000°, Azm308.0000°; N 0.7740, Plg66.0000°, Azm88.0000°; P -2.7630, Plg15.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 02 08:21:42.8±0.4, 25°.98N±0°.03×128°.44E±0°.03, h27km±2km, h27km:pP-P, n399, σ1§67/464, mb5.0/120, MS4.3/41, 30C-11D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.65**	**285**	P	**Pb**	**08 21 55.8**	**+0.3**
JJT2				S	**Sn**	**08 27 07.1**	**+1.6**
JNTH	**Nagotoyohara**	**0.66**	**325**	P	**Pb**	**08 21 55.2**	**-0.5**
JNTH				S	**Sn**	**08 22 06.3**	**+0.4**
JOW	**Kunigami**	**0.87**	**350**	P	**Pn**	**08 21 58.2**	**-1.0**
JOW				*e*S	**Sb**	**08 22 10.1**	**-0.4**
JOW	**Kunigami**	**0.87**	**350**	Pn	**Pn**	**08 21 58.2**	**-1.0**
	116nm,0.3s,baz=148,slow=15,SNR=1023						
JOW				Sn	**Sb**	**08 22 10.0**	**-0.5**
	253nm,0.3s,baz=146,slow=14,SNR=27						
JOW	**Kunigami**	**0.87**	**350**	*e*Pn	**Pn**	**08 21 58.2**	**-1.0**
JOW				*e*Sg	**Sb**	**08 22 05.8**	**-4.7**
JOW				Sn	**Sb**	**08 22 10.0**	**-0.5**
JIH	**Iheya**	**1.14**	**338**	P	**Pn**	**08 22 02.6**	**-0.3**
JIH				S	**Sn**	**08 22 18.1**	**+0.4**
JAGN	**Aguni-jima**	**1.24**	**300**	P	**Pn**	**08 22 04.4**	**+0.1**
JAGN				S	**Sn**	**08 22 20.4**	**+0.3**
JOKE	**Okinoerabujima**	**1.39**	**5**	P	**Pn**	**08 22 05.2**	**-1.2**

MAJO	**Matsushiro**	**13.43**	**36**	*e*Pn	**Pn**	**08 24 54.0 +2.4**
MAT	**Matsushiro**	**13.43**	**36**	P	**Pn**	**08 24 54.4 +2.8**
MAT				S	**Sn**	**08 27 23.6 +3.5**
MJAR	**Matsushiro Arr**	**13.43**	**36**	Pn	**Pn**	**08 24 49.8 -1.9**
	0.2nm,0.3s,baz=240,slow=9.6,SNR=4.2					
MJAR				LR	LR	08 29 49.2
	comp=Z,531nm,21.9s,baz=250,slow=36					
TIA	**Tai'an**	**14.06**	**319**	⇓P	P	08 25 04.3 -3.4
TIA				PMZ		
	10.0nm,0.8s					
TIA				LN		
	2μm,10.4s					
TIA				LE		
	1μm,11.0s					
TIA				LZ		
	2μm,14.4s					
DL2	**Dalian**	**14.11**	**338**	*e*P	**Pn**	**08 25 03.8 +2.9**
DL2				*e*S	**Sn**	**08 27 42.2 +5.7**
DL2				PMZ		
	10.0nm,1.2s					
DL2				PMZ		
	270nm,5.3s					
DL2				LE		
	2μm,14.9s					
DL2				LZ		
	1μm,14.2s					
ENH	**Enshi**	**17.26**	**289**	*e*P	**P**	**08 25 43.0 -0.3**
	22nm,1.0s					
BJT	**Baijiatuau**	**17.36**	**327**	*e*P	**P**	**08 25 44.1 -0.1**
BJT				pmax	pmax	
	comp=Z,59nm,0.6s					
BJT	**Baijiatuau**	**17.36**	**327**	*e*P	**P**	**08 25 44.1 -0.1**
	comp=Z,59nm,0.6s					
BJI	**Beijing**	**17.37**	**327**	P	**Pn**	**08 25 43.4 +0.2**
BJI				S	**Sn**	**08 28 56.1 +0.4**
BJI				PMZ		
	comp=Z,78nm,0.7s					
BJI				PMZ		
	comp=Z,320nm,9.4s					
BJI				LN		
	comp=Z,2μm,18.2s					
BJI				LE		
	comp=Z,3μm,16.8s					
BJI				LZ		
	comp=Z,370nm,23.1s					
TIY	**Taiyuan**	**17.91**	**315**	*e*P	**P**	**08 25 52.2 +1.7**
TIY				pP	**pP**	**08 25 58.0 +0.2**
TIY				PP	PnPn	08 26 09.8 +8.7
TIY				S	**Sn**	**08 29 07.9 -1.1**
TIY				PMZ		
	comp=Z,370nm,6.3s					
TIY				LN		
	comp=Z,2μm,12.6s					
TIY				LE		
	comp=Z,1μm,12.0s					
TIY				LZ		
	comp=Z,2μm,11.6s					
CN2	**Changchun**	**17.95**	**353**	*e*P	**Pn**	**08 25 50.5 +0.1**
CN2				*e*pP	**pP**	**08 25 57.7 -0.3**
CN2				*e*S	**Sn**	**08 29 06.8 -2.9**
CN2				PMZ		
	comp=Z,20nm,1.2s					
CN2				LN		
	comp=Z,3μm,13.0s					
CN2				LE		
	comp=Z,2μm,13.0s					
CN2				LZ		
	comp=Z,2μm,14.0s					
USRK	**Ussuriysk Ar.**	**18.41**	**8**	P	**P**	**08 25 54.5 -1.3**
	comp=Z,0.8nm,0.3s,baz=188,slow=9.3,SNR=31					
USRK				LR	LR	08 33 10.9
	comp=Z,450nm,18.4s,baz=178,slow=38					
QIZ	**Qiongzhong**	**18.51**	**252**	P	**Pn**	**08 25 58.3 +0.9**
QIZ				S	**Sn**	**08 29 23.8 +0.2**
QIZ				PMZ		
	comp=Z,220nm,7.5s					
QIZ				LN		
	comp=Z,1μm,20.3s					
QIZ				LE		
	comp=Z,380nm,18.2s					
QIZ				LZ		
	comp=Z,1μm,18.8s					
QIZ	**Qiongzhong**	**18.51**	**252**	*e*P	**P**	**08 25 56.6 -0.5**
	comp=Z,81nm,1.4s					
MDJ	**Mudanjiang**	**18.62**	**3**	P	**Pn**	**08 25 58.8 +0.2**
MDJ				pP	**pP**	**08 26 05.1 -0.4**
MDJ				sP	**sP**	**08 26 07.5 -1.4**
MDJ				S	**Sn**	**08 29 27.0 +1.0**
MDJ				PcP	**PcP**	**08 30 28.0 +1.7**
MDJ				PcS	**PcS**	**08 34 03.9 +1.0**
MDJ				ScS	**ScS**	**08 37 41.2 +0.1**
MDJ				PMZ		
	comp=Z,7.0nm,0.8s					
MDJ				PMZ		
	comp=Z,180nm,4.7s					
MDJ				LN		
	comp=Z,390nm,16.7s					
MDJ				LE		
	comp=Z,680nm,12.2s					
MDJ				LZ		
	comp=Z,630nm,13.3s					
XAN	**Xi'an**	**18.70**	**300**	P	**P**	**08 25 59.2 +0.1**
XAN				pP	**pP**	**08 26 05.2 -1.3**
XAN				sP	**sP**	**08 26 09.3 -0.6**
XAN				S	**Sn**	**08 29 23.6 -4.5**
XAN				PMZ		
	comp=Z,19nm,1.0s					
XAN				LN		
	comp=Z,690nm,14.0s					
XAN				LE		
	comp=Z,410nm,15.5s					
XAN				LZ		
	comp=Z,270nm,12.4s					
GYA	**Guiyang**	**19.55**	**276**	⇑*i*P	**P**	**08 26 09.2 +0.6**
GYA				pP	**pP**	**08 26 17.8 +1.9**
GYA				PP	**PnPn**	**08 26 28.2 +4.6**
GYA				S	**S**	**08 29 41.3 -6.7**
GYA				SS	**SnSn**	**08 30 07.5 +4.5**
GYA				PMZ		
	comp=Z,20nm,0.8s					
GYA				PMZ		
	comp=Z,120nm,7.7s					
GYA				LN		
	comp=Z,1μm,15.1s					
GYA				LE		
	comp=Z,1μm,16.0s					
GYA				LZ		
	comp=Z,1μm,16.0s					
ERM	**Erimo**	**20.07**	**33**	P	**P**	**08 26 12.0 -2.0**
HHC	**Hu-ho-hao-te**	**20.41**	**321**	*e*P	**P**	**08 26 17.6 -0.2**
HHC				sP	**sP**	**08 26 27.9 -0.7**
HHC				PP	**PnPn**	**08 26 37.8 +2.5**
HHC				S	**S**	**08 29 58.4 -6.7**
HHC				PMZ		
	comp=Z,77nm,0.7s					
HHC				PMZ		
	comp=Z,200nm,4.1s					
HHC				LN		
	comp=Z,2μm,11.1s					
HHC				LE		
	comp=Z,2μm,9.9s					
HHC				LZ		
	comp=Z,2μm,11.1s					
BTO	**Baotou**	**21.15**	**318**	*e*P	**P**	**08 26 23.9 -2.0**
ASAJ	**Asahikawa**	**21.44**	**29**	P	**P**	**08 26 28.1 -0.6**
ASAJ				pmax	pmax	
	comp=Z,7.0nm,0.6s					
ASAJ	**Asahikawa**	**21.44**	**29**	P	**P**	**08 26 28.1 -0.6**
	comp=Z,7.4nm,0.6s,baz=217,slow=12,SNR=11					
ASAJ	**Asahikawa**	**21.44**	**29**	*e*P	**P**	**08 26 28.4 -0.4**
	comp=Z,12nm,1.1s					
CD2	**Chengdu**	**22.24**	**288**	P	**P**	**08 26 35.3 -2.2**
CD2				PP	**PnPn**	**08 27 04.2 +3.9**
CD2				S	**S**	**08 30 35.7 -5.3**
CD2				sS	**sS**	**08 30 48.8 -4.3**
CD2				SS	**SnSn**	**08 31 13.8 +4.9**
CD2				PMZ		
	comp=Z,50nm,0.8s					
CD2				PMZ		
	comp=Z,150nm,9.5s					
CD2				LN		
	comp=Z,3μm,16.6s					
CD2				LE		
	comp=Z,2μm,13.1s					
CD2				LZ		
	comp=Z,2μm,14.3s					
YUK	**Yuzh-Kuril'sk**	**22.90**	**34**	*e*P	**P**	**08 26 44.9 +0.5**
SDKM	**Sandakan**	**22.90**	**210**	⇓P	**P**	**08 26 45.5 +0.8**
SLVN	**Son La**	**22.93**	**264**	*e*P	**P**	**08 26 45.8 +0.8**
	comp=Z,40nm,0.9s					
KKM	**Kota Kinabalu**	**23.01**	**213**	⇑P	**P**	**08 26 45.8 0.0**
KKM	**Kota Kinabalu**	**23.01**	**213**	*e*P	**P**	**08 26 45.0 -0.9**
KMI	**Kunming**	**23.20**	**274**	P	**P**	**08 26 48.4 +0.5**
KMI				pP	**pP**	**08 26 56.2 +0.8**
KMI				sP	**sP**	**08 26 58.7 -0.1**
KMI				PP	**PnPn**	**08 27 20.1 +6.4**
KMI				S	**S**	**08 30 54.9 -3.4**
KMI				sS	**sS**	**08 31 07.6 -3.8**
KMI				SS	**SnSn**	**08 31 41.0 +8.3**
KMI				PMZ		
	comp=Z,76nm,1.0s					
KMI				PMZ		
	comp=Z,200nm,4.3s					
KMI				LN		
	comp=Z,2μm,13.4s					
KMI				LE		
	comp=Z,960nm,11.8s					
KMI				LZ		
	comp=Z,980nm,13.4s					
LZH	**Lanzhou**	**23.31**	**302**	⇓P	**P**	**08 26 48.0 -0.8**
LZH				pP	**pP**	**08 26 57.6 +1.2**
LZH				sP	**sP**	**08 27 00.5 +0.7**
LZH				S	S	08 30 51.1 -8.7
LZH				SS	**SnSn**	**08 31 40.1 +4.9**
LZH				PMZ		
	comp=Z,96nm,1.2s					
LZH				PMZ		
	comp=Z,640nm,7.0s					
LZH				LN		
	comp=Z,1μm,12.8s					
LZH				LE		
	comp=Z,720nm,11.1s					
LZH				LZ		
	comp=Z,880nm,13.0s					
KLR	**Kul'dur**	**23.36**	**5**	*e*P	**P**	**08 26 44.4 -4.6**
KLR				pmax	pmax	
	comp=E,64nm,1.8s					
KLR				pmax	pmax	
	comp=Z,78nm,1.8s					
KLR				MLR	MLR	
	comp=E,900nm,12.0s					
KLR				MLR	MLR	
	comp=Z,3μm,12.0s					
YSS	**Yuzh-Sakhalins**	**23.82**	**25**	*αe*P	**P**	**08 26 53.8 +0.4**
YSS				*e**SP	**sP**	**08 27 07.0 +2.4**
YSS				*e*		08 27 30.0
YSS				*e*S	**S**	**08 31 10.0 +2.5**
YSS				*e*SS	SnSn	08 32 07.0 +20
YSS				pmax	pmax	
	comp=Z,140nm,1.0s					
YSS				pmax	pmax	
	comp=N,120nm,1.1s					
YSS				MLR	MLR	
	comp=Z,600nm,19.0s					
YSS				MLR	MLR	
	comp=N,500nm,18.0s					
YSS	**Yuzh-Sakhalins**	**23.82**	**25**	*e*P	**P**	**08 26 54.7 +1.3**
	comp=N,112nm,0.8s					
UBPT	**Khong Chiam**	**23.95**	**248**	P	**P**	**08 26 56.6 +1.7**
	comp=N,34nm,1.6s,comp=N,908nm					
KUR	**Kuril'sk**	**24.76**	**34**	⇑*i*P	**P**	**08 27 03.6 +1.5**
KUR				pmax	pmax	
	comp=N,43nm,1.3s					
KUR				pmax	pmax	
	comp=Z,144nm,1.3s					
KUR				pmax	pmax	
	comp=E,50nm,1.3s					
KUR				pmax	pmax	
	comp=Z,33nm,0.1s					
CRAI	**Chiangrai**	**26.41**	**263**	P	**P**	**08 27 18.7 +1.3**
	comp=Z,27nm,0.8s					
UTTA	**Uttaradit**	**27.11**	**258**	P	**P**	**08 27 25.3 +1.7**
	comp=Z,5.0nm,0.9s					
GTA	**Gaotai**	**27.43**	**306**	⇑P	**P**	**08 27 25.3 -1.2**
GTA				pP	**pP**	**08 27 32.3 -2.2**
GTA				sP	**sP**	**08 27 36.0 -1.8**
GTA				S	**S**	**08 32 00.7 -4.7**
GTA				PMZ		
	comp=Z,140nm,1.1s					
GTA				PMZ		
	comp=Z,170nm,4.0s					
GTA				LN		
	comp=Z,910nm,12.4s					
GTA				LE		
	comp=Z,730nm,12.3s					
GTA				LZ		
	comp=Z,780nm,13.1s					
ULN	**Ulaanbaatar**	**27.57**	**328**	⇓*e*P	**P**	**08 27 26.4 -1.3**
ULN				pmax	pmax	
	comp=Z,66nm,1.7s					
ULN				MLR	MLR	
	comp=Z,617nm,14.0s					
ULN	**Ulaanbaatar**	**27.57**	**328**	*e*P	**P**	**08 27 25.4 -2.2**
	comp=Z,28nm,0.7s					
LAMP	**Lampang**	**27.64**	**260**	P	**P**	**08 27 29.8 +1.5**
	comp=Z,15nm,0.8s,comp=Z,224nm					
CMAI	**Chiengmai2**	**27.69**	**264**	P	**P**	**08 27 30.6 +1.6**
	comp=Z,21nm,0.8s					
SONM	**Songino Array**	**27.87**	**327**	P	**P**	**08 27 29.1 -1.2**
SONM				pmax	pmax	
	comp=Z,22nm,0.5s					
SONM				MLR	MLR	
	comp=Z,188nm,21.0s					
SONM	**Songino Array**	**27.87**	**327**	P	**P**	**08 27 29.1 -1.2**
	comp=Z,22nm,0.5s,baz=143,slow=10.0,SNR=109					
SONM				LR	LR	08 38 27.2
	comp=Z,188nm,21.0s,baz=123,slow=36					
SBUM	**Sibu**	**28.11**	**216**	⇑P	**P**	**08 27 33.0 +0.4**
SBUM	**Sibu**	**28.11**	**216**	*e*P	**P**	**08 27 32.1 -0.5**
	comp=Z,24nm,1.1s					
CHTO	**Chiang Mai**	**28.15**	**261**	*e*P	**P**	**08 27 34.0 +1.1**
CHTO				*e*		08 27 44.2
CHTO				pmax	pmax	
	comp=Z,36nm,1.0s					
CHTO	**Chiang Mai**	**28.15**	**261**	P	**P**	**08 27 33.8 +0.9**
	comp=Z,181nm,0.9s,comp=Z,1μm					
CHTO	**Chiang Mai**	**28.15**	**261**	*e*P	**P**	**08 27 34.0 +1.1**
	comp=Z,36nm,1.0s					
CHTO				*e*		08 27 44.2
CMAR	**Chiang Mai Arr**	**28.27**	**261**	P	**P**	**08 27 34.3 +0.3**
CMAR				pmax	pmax	
	comp=Z,6.0nm,0.7s					
CMAR				MLR	MLR	
	comp=Z,465nm,18.1s					
CMAR	**Chiang Mai Arr**	**28.27**	**261**	P	**P**	**08 27 34.3 +0.3**
	comp=Z,5.7nm,0.7s,baz=56,slow=8.3,SNR=18					
CMAR				LR	LR	08 39 59.5
	comp=Z,465nm,18.1s,baz=72,slow=39					
KSM	**Kuching**	**29.97**	**219**	⇑P	**P**	**08 27 50.1 +1.0**
KSM	**Kuching**	**29.97**	**219**	*e*P	**P**	**08 27 49.6 +0.5**
	comp=Z,79nm,1.2s					
KSM				*e*		08 27 56.7
ZAK	**Zakamensk**	**31.11**	**328**	*e*P	P	08 27 53.9 -5.0
ZAK				pmax	pmax	
	comp=Z,2.0nm,1.7s					
TLY	**Talaya**	**31.83**	**330**	*e*P	**P**	**08 28 04.7 -0.5**
TLY				*e*S	**S**	**08 33 19.2 +5.3**
TLY				pmax	pmax	
	comp=Z,8.0nm,1.8s					
TLY				MLR	MLR	
	comp=Z,711nm,12.0s					
TLY	**Talaya**	**31.83**	**330**	*e*P	**P**	**08 28 04.2 -0.9**
	comp=Z,15nm,1.7s					
SURT	**Suratani**	**32.83**	**244**	P	**P**	**08 28 15.7 +1.4**
	comp=Z,8.5nm,0.8s					
SHL	**Shillong**	**32.86**	**277**	*e*P	**P**	**08 28 15.0 +0.3**
SHL				*e*S	**S**	**08 33 31.5 +0.7**
LSA	**Lhasa**	**33.09**	**285**	*e*P	**P**	**08 28 17.5 +0.5**
LSA				*e*		08 28 24.1
LSA				pmax	pmax	
	comp=Z,45nm,1.3s					
LSA	**Lhasa**	**33.09**	**285**	*e*P	**P**	**08 28 17.5 +0.5**
	comp=Z,45nm,1.3s					
LSA				*e*		08 28 24.1
KULM	**Kulim**	**33.61**	**237**	*e*P	**P**	**08 28 20.7 -0.4**
	comp=Z,18nm,1.1s					
IPM	**Ipoh**	**33.86**	**235**	*e*P	**P**	**08 28 23.6 +0.3**
	comp=Z,15nm,0.8s					
PETK	**Petropavlovsk-**	**34.82**	**31**	P	**P**	**08 28 32.0 +0.8**
PETK				pmax	pmax	
	comp=Z,7.0nm,0.9s					
PETK				MLR	MLR	
	comp=Z,164nm,18.8s					
PETK	**Petropavlovsk-**	**34.82**	**31**	P	**P**	**08 28 32.0 +0.8**
	comp=Z,6.9nm,0.9s,baz=216,slow=12,SNR=4.1					
PETK				LR	LR	08 44 39.4
	comp=Z,164nm,18.8s,baz=219,slow=40					
PET	**Petropavlovsk**	**35.21**	**32**	*e*P	**P**	**08 28 35.1 +0.6**
PET				*e*S	**S**	**08 34 02.5 -3.7**
PET				MLR	MLR	
	comp=Z,400nm,19.0s					
YAK	**Yakutsk**	**36.06**	**1**	*e*P	**P**	**08 28 40.4 -1.3**
YAK				pmax	pmax	
	comp=Z,45nm,0.9s					
YAK				pmax	pmax	
	comp=E,6.0nm,0.9s					
YAK				pmax	pmax	
	comp=N,39nm,1.3s					
YAK				MLR	MLR	
	comp=E,244nm,12.0s					
YAK				MLR	MLR	
	comp=N,291nm,13.0s					
YAK				MLR	MLR	
	comp=Z,425nm,16.0s					
YAK	**Yakutsk**	**36.06**	**1**	*e*P	**P**	**08 28 41.0 -0.7**
	comp=Z,76nm,0.8s					
BATI	**Baumata**	**36.26**	**188**	P	**P**	**08 28 40.8 -3.1**
	comp=Z,25nm,0.5s,baz=313,slow=2.0,SNR=6.3					
TAPN	**Taplejung**	**36.31**	**281**	*e*P	**P**	**08 28 45.2 +0.5**
	comp=Z,123nm,1.1s					
HVS	**Khovu-Aksy**	**36.46**	**323**	⇑*e*P	**P**	**08 28 44.7 -0.7**
HVS				pmax	pmax	
	comp=Z,146nm,1.8s					
ODAN	**Odare**	**36.66**	**281**	*e*P	**P**	**08 28 47.9 +0.3**
	comp=Z,311nm,0.9s					
RAMN	**Ramite**	**37.35**	**281**	*e*P	**P**	**08 28 53.5 0.0**
WMQ	**Urumqi**	**37.42**	**309**	P	**P**	**08 28 52.9 -0.8**
WMQ				pP	**pP**	**08 29 01.4 -0.4**
WMQ				PP	**PnPn**	**08 30 21.8 +1.8**
WMQ				S	**S**	**08 34 37.1 -3.4**
WMQ				PMZ		
	comp=Z,44nm,1.0s					
WMQ				PMZ		
	comp=Z,160nm,4.5s					
WMQ				LN		
	comp=Z,340nm,18.0s					
WMQ				LE		
	comp=Z,190nm,20.0s					
WMQ				LZ		
	comp=Z,300nm,19.0s					
JIRN	**Jiri**	**37.61**	**282**	*e*P	**P**	**08 28 55.9 0.0**
	comp=Z,49nm,0.7s					
GUN	**Gumba**	**37.86**	**283**	*e*P	**P**	**08 28 58.0 +0.1**
	comp=Z,55nm,0.4s					
PKI	**Pulchoki**	**38.31**	**282**	*e*P	**P**	**08 29 01.4 -0.3**
PKIN	**Phulchoki**	**38.32**	**282**	*e*P	**P**	**08 29 01.4 -0.3**
	comp=Z,122nm,0.8s					
KKN	**Kakani**	**38.40**	**283**	*e*P	**P**	**08 29 02.4 +0.1**
DMN	**Daman**	**38.57**	**282**	*e*P	**P**	**08 29 03.8 0.0**
	comp=Z,232nm,1.1s					
GKN	**Gorkha**	**38.93**	**283**	*e*P	**P**	**08 29 06.6 -0.1**
	comp=Z,211nm,0.9s					
DANN	**Dangsing**	**39.66**	**284**	*e*P	**P**	**08 29 13.4 +0.5**
	comp=Z,317nm,0.6s					
KOLN	**Koldanda**	**39.88**	**283**	*e*P	**P**	**08 29 14.9 +0.3**
	comp=Z,276nm,0.9s					
PYUN	**Piuthan**	**40.36**	**284**	*e*P	**P**	**08 29 19.2 +0.5**
	comp=Z,102nm,0.5s					
MKAR	**Makanchi Array**	**41.85**	**312**	P	**P**	**08 29 29.8 -0.7**
MKAR						08 31 25.8
MKAR				pmax	pmax	
	comp=Z,11nm,0.7s					
MKAR				pmax	pmax	
	comp=Z,4.0nm,0.9s					
MKAR				pmax	pmax	
	comp=N,1.0nm,1.0s					
MKAR	**Makanchi Array**	**41.85**	**312**	P	**P**	**08 29 29.8 -0.7**
	comp=N,11nm,0.7s,baz=97,slow=10,SNR=133					
MKAR				PcP	**PcP**	**08 31 25.8 -0.2**
	comp=N,4.3nm,0.9s,baz=82,slow=5.0,SNR=3.6					
MKAR				ScP	**ScP**	**08 35 18.0 +3.4**
	comp=N,0.5nm,1.0s,baz=104,slow=6.1,SNR=2.8					
COEN	**Coen**	**42.20**	**158**	*e*P	**P**	**08 29 35.6 +2.1**
	comp=N,299nm,1.6s					
ZALV	**Zalesovo Beam**	**42.56**	**323**	P	**P**	**08 29 34.8 -1.3**
ZALV				pmax	pmax	
	comp=Z,11nm,0.7s					
ZALV	**Zalesovo Beam**	**42.56**	**323**	P	**P**	**08 29 34.8 -1.3**
	comp=Z,11nm,0.7s,baz=109,slow=7.8,SNR=26					
FX1	**Attu Island--F**	**42.77**	**39**	LR	LR	08 50 03.9
	comp=Z,76nm,19.3s,baz=273,slow=40					
NVS	**Novosibirsk**	**43.77**	**324**	*e*P	**P**	**08 29 44.0 -1.8**
NVS				*i*		08 29 53.6
NVS				*i*		08 31 26.5
NVS				pmax	pmax	
	comp=Z,11nm,1.0s					
NVS				pmax	pmax	
	comp=N,4.0nm,0.7s					
NVS				pmax	pmax	
	comp=E,8.0nm,1.0s					
KURK	**Kurchatov**	**45.13**	**317**	P	**P**	**08 29 55.3 -1.6**
	comp=E,65nm,1.1s,SNR=11					
KURK	**Kurchatov**	**45.13**	**317**	P	**P**	**08 29 54.8 -2.0**
KURK				pmax	pmax	
	comp=Z,20nm,1.1s					
KURK	**Kurchatov**	**45.13**	**317**	*e*P	**P**	**08 29 55.2 -1.6**
	comp=Z,32nm,1.4s					
KSH	**Kashi**	**45.55**	**301**	P	**P**	**08 30 03.4 +2.9**
KSH				sP	**sP**	**08 30 14.4 +2.4**
KSH				PP	**PP**	**08 31 51.2 +4.0**
KSH				S	**S**	**08 36 42.7 +1.5**
KSH				ScS	**ScS**	**08 39 53.1 -2.2**
KSH				SS	**SS**	**08 39 59.8 -5.3**
KSH				PMZ		
	comp=Z,12nm,1.0s					
KSH				PMZ		
	comp=Z,88nm,4.3s					
KSH				LN		
	comp=Z,340nm,12.1s					
KSH				LE		
	comp=Z,540nm,14.5s					
KSH				LZ		
	comp=Z,500nm,16.0s					
TIXI	**Tiksi**	**45.71**	**0**	⇑*e*P	**P**	**08 29 59.8 -1.3**
TIXI				pmax	pmax	
	comp=Z,29nm,1.7s					
TIXI				MLR	MLR	
	comp=Z,636nm,21.0s					
TIXI	**Tiksi**	**45.71**	**0**	*e*P	**P**	**08 29 59.5 -1.5**
	comp=Z,46nm,1.6s					
TKM2	**Tokmak 2**	**45.98**	**305**	*e*P	**P**	**08 30 04.5 +0.6**
TKM2				*e*		08 30 13.6
TKM2				pmax	pmax	
	comp=Z,22nm,0.8s					
TKM2	**Tokmak 2**	**45.98**	**305**	*e*P	**P**	**08 30 04.5 +0.6**
	comp=Z,22nm,0.8s					
TKM2				*e*		08 30 13.6
WRAB	**Tennant Creek**	**45.99**	**172**	P	**P**	**08 30 02.6 -1.3**
	comp=Z,92nm,0.7s,SNR=11					
WRAB	**Tennant Creek**	**45.99**	**172**	*e*P	**P**	**08 30 02.8 -1.1**
WRAB				pmax	pmax	
	comp=Z,17nm,1.0s					
WRAB	**Tennant Creek**	**45.99**	**172**	*e*P	**P**	**08 30 02.8 -1.1**
	comp=Z,17nm,1.0s					
WRA	**Warramunga Arr**	**46.00**	**172**	P	**P**	**08 30 02.4 -1.5**
WRA				pmax	pmax	
	comp=Z,7.0nm,0.7s					
WRA	**Warramunga Arr**	**46.00**	**172**	P	**P**	**08 30 02.4 -1.5**
	comp=Z,7.3nm,0.7s,baz=353,slow=8.4,SNR=60					
WB2	**Warramunga Arr**	**46.00**	**172**	*e*P	**P**	**08 30 02.6 -1.4**
AAK	**Ala-Archa**	**46.77**	**305**	⇑*e*P	**P**	**08 30 10.7 +0.6**
AAK				pmax	pmax	
	comp=Z,6.0nm,0.7s					
AAK	**Ala-Archa**	**46.77**	**305**	*e*P	**P**	**08 30 10.2 +0.2**
	comp=Z,12nm,1.2s					
AAK				*e*		08 30 19.6
HYB	**Hyderabad**	**46.90**	**270**	*i* P	**P**	**08 30 11.0 -0.2**
EKS2	**Erkin-Say**	**47.30**	**305**	*e*P	**P**	**08 30 15.6 +1.4**
EKS2				pmax	pmax	
	comp=Z,8.0nm,0.9s					
EKS2	**Erkin-Say**	**47.30**	**305**	*e*P	**P**	**08 30 15.6 +1.4**
	comp=Z,8.2nm,0.9s					
BILL	**Bilibino**	**47.85**	**18**	*e*P	**P**	**08 30 17.4 -0.5**
BILL				pmax	pmax	
	comp=Z,12nm,0.8s					
BILL	**Bilibino**	**47.85**	**18**	*e*P	**P**	**08 30 17.4 -0.5**
	comp=Z,12nm,0.8s					
CTA	**Charters Tower**	**48.95**	**158**	P	**P**	**08 30 26.4 -0.5**

CTA pmax pmax
comp=Z,6.0nm,0.9s
CTA Charters Tower 48.95 158 P **P 08 30 26.4 -0.5**
comp=Z,6.1nm,0.9s,baz=332,slow=12,SNR=4.1
CTAO Charters Tower 48.95 158 *e*P **P 08 30 27.2 +0.3**
CTAO pmax pmax
comp=Z,8.0nm,0.8s
CTAO Charters Tower 48.95 158 *e*P **P 08 30 27.2 +0.3**
comp=Z,8.2nm,0.8s
ASAR Alice Springs 49.63 173 P **P 08 30 31.2 -0.9**
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR MLR MLR
comp=Z,114nm,19.1s
ASAR Alice Springs 49.63 173 P **P 08 30 31.2 -0.9**
comp=Z,3.4nm,0.8s,baz=7.1,slow=7.4,SNR=28
ASAR LR LR 08 52 07.7
comp=Z,114nm,19.1s,baz=342,slow=37
KK31 Karatay Array 49.71 306 *i* P **P 08 30 32.5 -0.1**
KK31 pmax pmax
comp=Z,15nm,0.9s
KKAR Karatay Array 49.71 306 *e*P **P 08 30 33.3 +0.7**
KKAR *e* 08 30 42.0
KKAR pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 49.71 306 *e*P **P 08 30 33.3 +0.7**
comp=Z,9.1nm,0.8s
KKAR *e* 08 30 42.0
VOSK Vostochnaya 50.19 318 P **P 08 30 35.6 -0.5**
VOSK pmax pmax
comp=Z,17nm,1.4s
BVA0 Borovoye Array 50.59 318 *i* P **P 08 30 38.6 -0.5**
BVA0 pmax pmax
comp=Z,21nm,0.9s
BVAR Borovoye Array 50.59 318 LR LR 08 53 40.0
comp=Z,638nm,19.1s,baz=96,slow=38
BRVK Borovoye 50.66 318 P **P 08 30 39.4 -0.2**
comp=Z,191nm,1.0s,SNR=8.2
BRVK Borovoye 50.66 318*d i*P **P 08 30 39.6 0.0**
BRVK pmax pmax
comp=Z,26nm,1.0s
BRVK MLR MLR
comp=Z,686nm,19.0s
BRVK Borovoye 50.66 318 *e*P **P 08 30 39.3 -0.2**
comp=Z,30nm,0.9s
BRVK *e* 08 30 48.5
POO Poona 50.77 273 *e*P **P 08 30 40.0 -1.0**
KBL Kabul 51.38 295 *e*P **P 08 30 46.3 +0.7**
KBL *e* 08 30 55.2
KBL pmax pmax
comp=Z,44nm,0.8s
KBL Kabul 51.38 295 *e*P **P 08 30 46.3 +0.7**
comp=Z,44nm,0.8s
KBL *e* 08 30 55.2
GAMB Gambell 53.77 28 *e*P **P 08 31 05.4 +2.9**
comp=Z,9.1nm,1.1s
TNA Tin City 55.78 27 *e*P **P 08 31 17.4 +0.4**
comp=Z,18nm,0.9s
TNA *e* 08 31 22.8
SVE Sverdlovsk 56.58 322⇓ *i*P **P 08 31 23.5 +0.6**
SVE pmax pmax
comp=Z,27nm,0.9s
SVE MLR MLR
comp=Z,542nm,15.0s
AB31 Akbulak array 56.96 313 *i* P **P 08 31 25.5 -0.2**
AB31 pmax pmax
comp=Z,23nm,0.9s
ABKAR Akbulak array 56.96 313 *e*P **P 08 31 25.7 0.0**
comp=Z,12nm,0.6s
ARU Arti 57.71 322*d i*P **P 08 31 30.6 -0.3**
ARU 08 33 34.7
ARU S **S 08 39 27.9 +0.1**
ARU SS **SS 08 43 13.9 -4.0**
ARU pmax pmax
comp=Z,18nm,1.0s
ARU MLR MLR
comp=Z,548nm,16.0s
ARU Arti 57.71 322 *e*P **P 08 31 30.4 -0.5**
comp=Z,15nm,0.9s
AKTO Aktyubinsk 58.15 315 P **P 08 31 34.2 +0.1**
AKTO pmax pmax
comp=Z,7.0nm,0.8s
AKTO Aktyubinsk 58.15 315 LR LR 08 59 17.4
comp=Z,241nm,19.7s,baz=83,slow=39
IMYA Miami 58.31 298 *e*P **P 08 31 37.4 +1.7**
ISRO Mashad 58.82 298 *e*Pn **P 08 31 39.2 0.0**
ISRO *e*P pP 08 31 40.5 -7.0
STKA Stephens Creek 58.88 167 P **P 08 31 38.3 -1.0**
STKA pmax pmax
comp=Z,2.0nm,0.6s
STKA MLR MLR
comp=Z,115nm,19.7s
STKA Stephens Creek 58.88 167 P **P 08 31 38.3 -1.0**
comp=Z,2.3nm,0.6s,baz=356,slow=5.4,SNR=4.4
STKA LR LR 08 57 23.6
comp=Z,115nm,19.7s,baz=16,slow=36
IPAY Payeh 59.17 298 *e*P **P 08 31 43.1 +1.4**
IAKL Akhelmad 59.33 299 *e*P **P 08 31 43.1 +0.2**
IKRD Kardeh 59.49 299 *e*P P 08 31 40.8 -3.2
GEYT Alibeck 59.58 300 P **P 08 31 45.2 +0.9**
comp=Z,14nm,0.8s,baz=64,slow=3.4,SNR=18
GEYT LR LR 09 00 56.3
comp=Z,176nm,18.4s,baz=25,slow=40
IKOO Kooshah 60.01 294 *e*P **P 08 31 48.3 +0.7**
IGLO Ghaloghah 63.23 300 *e*P **P 08 32 09.4 +0.2**
IANJ Anjilo 63.41 298 *e*P **P 08 32 10.5 +0.1**
MCK McKinley 63.80 29 *e*P **P 08 32 12.7 +0.4**
MCK pmax pmax
comp=Z,158nm,2.3s
MCK McKinley 63.80 29 *e*P **P 08 32 12.7 +0.4**
comp=Z,158nm,2.3s
IALA Alasht 64.13 299 *e*P **P 08 32 14.0 -1.2**
COLA College 64.15 28 *e*P **P 08 32 16.5 +2.1**
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA College 64.15 28 *e*P **P 08 32 16.5 +2.1**
comp=Z,6.4nm,0.8s
IFIR Firoozkooh 64.28 299 *e*P **P 08 32 17.6 +1.3**
ILAR Eielson Array 64.57 28 P **P 08 32 16.4 -0.9**
comp=Z,1.8nm,0.7s,baz=265,slow=5.4,SNR=15
ILAR LR LR 09 04 47.7
comp=Z,76nm,18.5s,baz=296,slow=40
IDMV Damavand 64.87 299 *e*P **P 08 32 19.6 -0.4**
IVRN Varamin 65.26 298 *e*P P 08 32 17.9 -4.5
PAX Paxson 65.45 30 *e*P **P 08 32 23.5 +0.4**
PAX *e* 08 32 31.6
PAX pmax pmax
comp=Z,71nm,2.2s
PAX Paxson 65.45 30 *e*P **P 08 32 23.4 +0.4**
comp=Z,71nm,2.2s
PAX *e* 08 32 31.6
DOT Dot Lake 65.96 29 *e*P **P 08 32 26.1 -0.3**
comp=Z,25nm,1.4s
IGZV Ghazvin 66.08 300 *e*P **P 08 32 28.1 +0.2**
IRAZ Razeghan 66.57 299 *e*P **P 08 32 31.9 +1.0**
EGAK Eagle 66.99 28 *e*P **P 08 32 33.9 +1.0**
comp=Z,7.3nm,1.0s
TMCR Tamitsa 67.12 332 *e*P **P 08 32 33.4 -0.3**
TMCR *e* 08 34 59.6
TMCR pmax pmax
comp=Z,49nm,1.2s
KLMR Klimovskoe 67.16 328 *e*P **P 08 32 32.3 -1.7**
KLMR pmax pmax
comp=Z,20nm,1.1s
KLMR MLR MLR
comp=Z,797nm,15.0s
APA Apatity 68.17 336⇑ *i*P **P 08 32 40.0 -0.2**
APA MLR MLR
comp=Z,300nm,14.0s
VRHR Novokhopersk 68.31 317 *e*P **P 08 32 39.3 -2.1**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,20nm,1.5s
VRHR pmax pmax
comp=E,10.0nm,0.9s
DGRG David-gareji 68.35 307 P **P 08 32 43.1 +1.1**
DUS Dusheti 68.66 307 P P 08 32 47.3 +3.4
GUDG Gudauri 68.71 308 P **P 08 32 46.4 +2.0**
TBLG Delisi 68.73 307 P P 08 32 49.4 +5.2
GOF Gofitskoye 68.99 311 *e*P **P 08 32 46.6 +0.8**
ZEI Tsey 69.03 308 *e*P **P 08 32 44.3 -2.0**
ZEI pmax pmax
comp=Z,28nm,1.1s
GNI Garni 69.18 305*c i*P **P 08 32 48.4 +1.1**
GNI pmax pmax
comp=Z,19nm,1.2s
GNI MLR MLR
comp=Z,144nm,16.0s
GNI Garni 69.18 305 P **P 08 32 48.2 +0.9**
comp=Z,3.3nm,0.3s,baz=125,slow=2.5,SNR=5.7
MOS Moscow 69.39 323 *e*P **P 08 32 44.9 -3.1**
ONI Oni 69.40 308 P **P 08 32 50.3 +1.8**
KBZ Khabaz 69.47 309 P **P 08 32 49.9 +1.2**
comp=Z,22nm,0.9s,baz=91,slow=4.5,SNR=65
KBZ LR LR 09 06 02.4
comp=Z,204nm,20.2s,baz=102,slow=38
KIV Kislovodsk 69.55 310 P **P 08 32 50.6 +1.2**
comp=Z,270nm,1.1s,SNR=5.4
KIV Kislovodsk 69.55 310 *e*P **P 08 32 49.9 +0.5**
KIV pmax pmax
comp=Z,65nm,1.2s
KIV Kislovodsk 69.55 310 *e*P **P 08 32 49.9 +0.5**
comp=Z,65nm,1.2s
AKH Akhalkalaki 69.72 307 P **P 08 32 51.8 +1.2**
KEV Kevo 69.74 339 *e*P **P 08 32 48.6 -1.4**
KEV pmax pmax
comp=Z,10.0nm,0.7s
KEV Kevo 69.74 339 *e*p **P 08 32 48.6 -1.4**
comp=Z,9.5nm,0.7s
VORD Divnogorie 69.76 318 *e*P **P 08 32 48.5 -1.9**
VORD pmax pmax
comp=Z,10.0nm,1.3s
VORD pmax pmax
comp=N,6.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,1.1s
VSR Storozhevoye 69.77 318 *e*P **P 08 32 48.8 -1.7**
VSR pmax pmax
comp=Z,20nm,1.1s
VSR pmax pmax
comp=N,9.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.2s
OBN Obninsk 70.15 322 *i* P **P 08 32 51.5 -1.2**
OBN *i* 08 33 01.3
OBN *i* 08 33 15.1
OBN *i* 08 35 27.8
OBN pmax pmax
comp=Z,49nm,2.1s
OBN MLR MLR
comp=Z,333nm,19.0s
OBN Obninsk 70.15 322 LR LR 09 06 12.1
comp=Z,329nm,18.1s,baz=88,slow=38
ARCES ARCESS Array B 70.31 339 P **P 08 32 53.1 -0.4**
comp=Z,13nm,1.1s,baz=80,slow=6.8,SNR=8.7
ARCES LR LR 09 10 26.9
comp=Z,168nm,18.2s,baz=52,slow=42
JOF Joensuu 70.36 331 *e*P **P 08 32 53.2 -0.6**
JOF pmax pmax
comp=Z,9.0nm,0.7s
JOF Joensuu 70.36 331 *e*p **P 08 32 53.2 -0.6**
comp=Z,8.8nm,0.7s
HAKT HAKKARI 70.73 303 *i* P **P 08 32 57.7 +0.8**
EATA Eleskirt 70.91 306 *i* P **P 08 32 59.9 +1.8**
DAGI Agillar 70.95 307 *i* P **P 08 32 59.3 +1.3**
EKAR Karacoban 71.42 305 *i* P **P 08 33 03.2 +2.2**
SOC Sochi 71.71 310*c i*P **P 08 33 02.6 +0.2**
SOC *e**PP **pP 08 33 11.6 +0.6**
SOC *e*PPP PPP 08 37 25.8
SOC *e*S **S 08 42 22.5 +1.8**
SOC *e* 08 43 01.0
SOC *e*SSS SSS 08 50 08.6
SOC pmax pmax
comp=Z,36nm,0.9s
SOC MLR MLR
comp=Z,172nm,13.0s
KOPT Kop Dagi 72.31 306 *i* P **P 08 33 07.0 +0.5**
KAF Kangasniemi 72.81 331 *e*P **P 08 33 06.8 -1.9**
KAF pmax pmax
comp=Z,10.0nm,0.7s
KAF Kangasniemi 72.81 331 *e*p **P 08 33 06.8 -1.9**
comp=Z,9.5nm,0.7s
ANN Anapa 72.86 312 *e*P P 08 33 02.9 -6.4
ANN *e**PP pP 08 33 13.8 -4.1
ANN *e* 08 33 21.1
ANN *e*S S 08 42 22.5 -11
ANN pmax pmax
comp=Z,48nm,1.0s
FINES FINESS Array B 73.18 331 P **P 08 33 10.8 0.0**
FINES pmax pmax
comp=Z,11nm,0.7s
FINES MLR MLR
comp=Z,149nm,20.6s
FINES FINESS Array B 73.18 331 P **P 08 33 10.8 0.0**
comp=Z,11nm,0.7s,baz=71,slow=5.3,SNR=39
FINES LR LR 09 07 06.0
comp=Z,149nm,20.6s,baz=90,slow=37
VSU Vasula 74.06 328⇑ *e*P **P 08 33 16.1 0.0**
VSU pmax pmax
comp=Z,205nm,2.3s
RAYN Ar Rayn 74.07 289 P **P 08 33 17.5 +0.6**
comp=Z,91nm,1.1s,SNR=7.8
RAYN Ar Rayn 74.07 289 *e*P **P 08 33 17.8 +0.9**
comp=Z,22nm,1.0s
MALT Malatya 74.41 305⇑ *i*P **P 08 33 20.2 +1.5**
SIM Simferopol' 75.02 313 *e*P **P 08 33 22.5 +0.6**
SIM pmax pmax
comp=Z,24nm,0.9s
GZT Gaziantep 75.39 305 *i* P **P 08 33 25.8 +1.4**
NACGM Naroch 75.49 324 *e*P **P 08 33 22.0 -2.4**
DAG Danmarks Havn 75.53 353 *i* P **P 08 33 24.0 -0.3**
DAG pmax pmax
comp=Z,3.0nm,1.0s
DAG Danmarks Havn 75.53 353 *i* P **P 08 33 24.0 -0.3**
comp=Z,3.3nm,1.0s
BOYT Boyabat 75.80 309 *i* P **P 08 33 27.9 +1.3**
AKASG Malin Array Be 75.85 320 P **P 08 33 26.3 -0.3**
AKASG pmax pmax
comp=Z,22nm,0.6s
AKASG MLR MLR
comp=Z,399nm,19.1s
AKASG Malin Array Be 75.85 320 P **P 08 33 26.2 -0.3**
comp=Z,22nm,0.6s,baz=58,slow=6.3,SNR=83
AKASG LR LR 09 09 12.5
comp=Z,399nm,19.1s,baz=45,slow=38
KIEV Kiev 75.86 320*c i*P **P 08 33 26.2 -0.4**
KIEV Kiev 75.86 320 *e*P **P 08 33 25.4 -1.2**
comp=Z,21nm,0.7s
CDAG Cicekdag 76.86 308 *i* P **P 08 33 33.4 +0.7**
ELDT Eldivan 77.19 309 *i* P **P 08 33 34.8 +0.3**
BRTR Keskin Array B 77.34 308 P **P 08 33 35.8 +0.4**
BRTR pmax pmax
comp=Z,19nm,1.0s
BRTR MLR MLR
comp=Z,73nm,18.3s
BRTR Keskin Array B 77.34 308 P **P 08 33 35.8 +0.4**
comp=Z,19nm,0.9s,baz=97,slow=5.0,SNR=75
BRTR LR LR 09 12 36.6
comp=Z,73nm,18.3s,baz=48,slow=40
SUW Suwalki 77.77 324 *e*P **P 08 33 37.3 0.0**
SUW *e* 08 33 46.8
SUW pmax pmax
comp=Z,43nm,0.5s
SUW Suwalki 77.77 324 *e*P **P 08 33 37.6 +0.3**
SUW Suwalki 77.77 324 *e*P **P 08 33 37.3 0.0**
comp=Z,43nm,0.5s
SUW *e* 08 33 46.8
ANTO Ankara 77.88 308 *e*P **P 08 33 38.4 +0.1**
ANTO *e* 08 33 47.6
ANTO pmax pmax
comp=Z,54nm,1.6s
ANTO Ankara 77.88 308 *e*P **P 08 33 38.4 +0.1**
comp=Z,54nm,1.6s
ANTO *e* 08 33 47.6
YKA Yellowknife Ar 78.67 25 P **P 08 33 42.1 0.0**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 78.67 25 P **P 08 33 42.1 0.0**
comp=Z,1.0nm,0.6s,baz=300,slow=5.6,SNR=23
CFR Carcaliu 78.81 315⇑ *i*P **P 08 33 42.1 -1.1**
KDHN Kadinhani 78.91 307 *i* P **P 08 33 43.9 -0.2**
TIRR Tirgusor 78.94 314 *e*P **P 08 33 44.7 +0.7**
TIRR *e* 08 33 52.3
TIRR pmax pmax
comp=Z,23nm,1.2s
TIRR Tirgusor 78.94 314⇑ *i*P **P 08 33 45.1 +1.1**
TIRR Tirgusor 78.94 314 *e*P **P 08 33 44.7 +0.7**
comp=Z,23nm,1.2s
TIRR *e* 08 33 52.3
ERMK Ermenek 79.10 305 *i* P **P 08 33 45.9 +0.6**
HFS Hagfors 79.13 332 LR LR 09 10 56.9
comp=Z,110nm,18.0s,baz=61,slow=37
VRI Vrincioaia 79.40 316⇑ *i*P **P 08 33 47.4 +0.9**
BORA Eskisehir 79.52 309 *i* P **P 08 33 47.6 +0.2**
BURAR Bucovina Array 79.55 318⇑ *i*P **P 08 33 47.3 -0.1**
NB2 NORSAR Subarra 79.62 334 P **P 08 33 46.8 -0.7**
comp=Z,16nm,1.1s,baz=50,slow=5.6
NOA NORSAR Array B 79.62 334 P **P 08 33 46.8 -0.7**
comp=Z,8.5nm,0.8s,baz=52,slow=5.5,SNR=25
NOA LR LR 09 12 36.1
comp=Z,143nm,18.6s,baz=50,slow=38
KULLO Kullorsuaq 79.63 2 *i* P P 08 33 51.3 +4.1
KULLO pmax pmax
comp=Z,12nm,0.8s
KULLO Kullorsuaq 79.63 2 *i* P P 08 33 51.3 +4.1
comp=Z,12nm,0.8s
GAZI Gazipasa 79.71 305 *i* P **P 08 33 48.3 -0.1**
ISR Istrita 79.85 315⇑ *i*P **P 08 33 48.9 -0.1**
MLR Muntele Rosu 80.06 316⇑ *i*P **P 08 33 50.9 +0.6**
BEL Belsk 80.08 323 *e*P **P 08 33 50.9 +0.9**
BEL Belsk 80.08 323 *e*P **P 08 33 50.9 +0.9**
KWP Kalwaria Pacla 80.08 321 *e*P **P 08 33 47.3 -2.9**
KWP pmax pmax
comp=Z,45nm,0.9s
KWP Kalwaria Pacla 80.08 321 *e*P **P 08 33 50.9 +0.8**
KWP Kalwaria Pacla 80.08 321 *e*P **P 08 33 47.3 -2.9**
comp=Z,45nm,0.9s
DOPR Dopca 80.19 316⇑ *i*P **P 08 33 51.5 +0.7**
ISP Isparta 80.34 307 *e*P **P 08 33 52.0 +0.1**
ISP pmax pmax
comp=Z,17nm,0.9s
ISP Isparta 80.34 307 *e*P **P 08 33 52.0 +0.1**
comp=Z,17nm,0.9s
VOIR 80.65 316⇑ *i*P **P 08 33 53.6 +0.3**
KOLS Kolonicke sedl 80.67 320 *e*P **P 08 33 54.4 +1.1**
KOLS pmax pmax
comp=Z,36nm,2.6s
KOLS Kolonicke sedl 80.67 320 *e*P **P 08 33 54.4 +1.1**
UZH Uzhgorod 80.80 320 *e*P **P 08 33 54.5 +0.5**
UZH *e* 08 34 03.9
STHS Stebnicka Huta 81.02 321 *e*P **P 08 33 56.9 +1.7**
STHS pmax pmax
comp=Z,7.0nm,1.2s
STHS Stebnicka Huta 81.02 321 *e*P **P 08 33 56.9 +1.7**
STHS *e*pP **pP 08 34 03.7 -0.2**
CRVS Cervenica-Dubn 81.15 320 *e*P **P 08 33 56.0 +0.1**
CRVS pmax pmax
comp=Z,28nm,1.7s
CRVS Cervenica-Dubn 81.15 320 *e*P **P 08 33 56.0 +0.1**
CRVS *e*pP **pP 08 34 07.0 +2.4**
GOLH Golhisar 81.28 307 *i* P **P 08 33 56.3 -0.7**
SUMG Summit 81.30 356 *e*P **P 08 33 56.7 0.0**
SUMG pmax pmax
comp=Z,28nm,0.7s
SUMG Summit 81.30 356 *i* P **P 08 33 57.2 +0.5**
SUMG Summit 81.30 356 *e*P **P 08 33 56.7 0.0**
comp=Z,28nm,0.7s
OJC Ojcow 81.43 322 *e*P **P 08 33 58.8 +1.5**
OJC Ojcow 81.43 322 *e*P **P 08 33 58.8 +1.5**
DRGR 81.44 318⇑ *i*P **P 08 33 58.3 +0.8**
NIE Niedzica 81.55 321 *e*P **P 08 33 59.7 +1.7**
NIE Niedzica 81.55 321 *e*P **P 08 33 59.7 +1.7**
GZR Gura Zlata 82.08 317⇑ *i*P **P 08 34 00.2 -0.7**
MPEP Malo Peshtene 82.45 315 P **P 08 34 03.9 +1.1**
OKC Ostrava-Krasne 82.54 322 *e*P P 08 34 09.0 +5.8
OKC MLR MLR
comp=Z,300nm,17.5s
OKC Ostrava-Krasne 82.54 322 *e*P P 08 34 09.0 +5.8
OKC AMS AMS 09 14 00.0
comp=Z,300nm,17.5s
PSZ Piszkesteto 82.55 320 *e*P **P 08 34 04.4 +1.1**
PSZ pmax pmax
comp=Z,11nm,1.1s
PSZ Piszkesteto 82.55 320 *e*P **P 08 34 04.4 +1.1**
comp=Z,11nm,1.1s
RZN Rozhen 82.61 313 P **P 08 34 04.5 +0.6**
VYHS Vyhne 82.86 321 *e*P **P 08 34 05.4 +0.5**
VYHS pmax pmax
comp=Z,9.0nm,1.2s
VYHS Vyhne 82.86 321 *e*P **P 08 34 05.4 +0.5**
VYHS *e*pP **pP 08 34 14.6 +1.0**
MORC Moravsky Berou 82.91 322 *e*P **P 08 34 07.2 +2.1**
MORC pmax pmax
comp=Z,8.0nm,1.1s
MORC Moravsky Berou 82.91 322⇓ *i*P **P 08 34 05.6 +0.5**
MORC Moravsky Berou 82.91 322 *e*P **P 08 34 07.2 +2.1**
comp=Z,8.5nm,1.1s
KSP Ksiaz 83.01 324 *e*P **P 08 34 07.8 +2.2**
MUD Monsted U'grnd 83.22 331 *e*P **P 08 34 06.5 0.0**
MUD Monsted U'grnd 83.22 331 *i* P **P 08 34 06.5 0.0**
DPC Dobruska-Polom 83.26 323 *e*P **P 08 34 07.1 +0.1**
DPC Dobruska-Polom 83.26 323 *e*P **P 08 34 07.6 +0.6**
DPC *e*pP **pP 08 34 17.3 +1.6**
DPC AMS AMS 09 14 10.0
DPC Dobruska-Polom 83.26 323 *e*P **P 08 34 07.1 +0.1**
MMB Musomiste 83.31 313⇑ *i*P **P 08 34 07.4 0.0**
MMB Musomiste 83.31 313 P **P 08 34 07.6 +0.2**
UPC Upice 83.34 324 *e*P **P 08 34 09.9 +2.6**
UPC *e* 08 34 18.0
UPC Upice 83.34 324 *e*P **P 08 34 09.9 +2.6**
UPC *e*pP **pP 08 34 18.0 +2.0**
KKB Krupnik 83.59 314 *e*P **P 08 34 09.9 +1.1**
VRAC Vranov 83.68 322⇑ *i*P **P 08 34 09.6 +0.5**
PVCC Panska Ves 84.10 324 *e*P **P 08 34 11.7 +0.5**
PVCC *e* 08 34 22.7
PVCC Panska Ves 84.10 324 *e*P **P 08 34 11.7 +0.5**
PVCC *e*pP **pP 08 34 22.7 +2.8**
BRG Berggiesshubel 84.23 325 *e*P **P 08 34 12.4 +0.6**
comp=Z,5.7nm,1.0s
BRG *e* 08 34 22.1
comp=Z,8.6nm,0.8s
BRG PP PP 08 37 12.0 -14
BRG S S 08 44 28.0 -7.4
BRG Berggiesshubel 84.23 325 *e*P **P 08 34 12.4 +0.6**
BRG *e* 08 34 22.1
BRG S S 08 44 28.0 -7.4
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG MLR MLR
comp=N,318nm,16.1s
BRG MLR MLR
comp=E,331nm,15.2s
BRG MLR MLR
comp=Z,305nm,13.8s
TREC Trest 84.29 323 *e*P **P 08 34 12.9 +0.7**
TREC *e* 08 34 23.3
TREC MLR MLR
comp=Z,400nm,15.6s
TREC Trest 84.29 323 *e*P **P 08 34 12.9 +0.7**
TREC *e*pP **pP 08 34 23.3 +2.4**
TREC AMS AMS 09 15 00.0
comp=Z,400nm,15.6s
PRU Pruhonice 84.42 324 *e*P **P 08 34 13.9 +1.1**
PRU *e* 08 34 22.3
PRU MLR MLR
comp=Z,300nm,15.2s
PRU Pruhonice 84.42 324 *e*P **P 08 34 13.9 +1.1**
PRU *e*pP **pP 08 34 22.3 +0.8**
PRU AMS AMS 09 15 00.0
comp=Z,300nm,15.2s
CLL Collm 84.47 325 *e*P **P 08 34 13.0 0.0**
CLL *i* 08 34 22.8
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 84.47 325 *e*P **P 08 34 13.0 0.0**
comp=Z,9.0nm,1.0s
CLL *e*(PcP) **PcP 08 34 16.0 -0.6**
CLL *i* pP **pP 08 34 22.8 +1.1**
CLL LmH 09 09 00.0
comp=N,1μm,20.8s
CLL LmH 09 09 00.0
comp=E,900nm,21.8s
CLL Collm 84.47 325 *e*P **P 08 34 13.3 +0.3**
CONA Conrad Observa 84.84 321⇓ *i*PcP **P 08 34 15.8 +0.7**
comp=E,13nm,1.3s
KHC Kasperske Hory 85.42 323 *e*P **P 08 34 18.7 +0.8**
KHC *e* 08 34 29.2
KHC MLR MLR
comp=Z,400nm,17.2s
KHC Kasperske Hory 85.42 323 *e*P **P 08 34 18.7 +0.8**
KHC *e*pP **pP 08 34 29.2 +2.6**
KHC AMS AMS 09 16 00.0

comp=Z,400nm,17.2s
KHC Kasperske Hory 85.42 323 *e*P **P 08 34 18.9 +1.0**
comp=Z,27nm,1.8s
GERES GERESS Array B 85.52 323 P **P 08 34 21.4 +3.0**
comp=Z,3.5nm,0.7s,baz=48,slow=4.0,SNR=19
GERES LR LR 09 16 14.1
comp=Z,393nm,18.1s,baz=55,slow=38
IDI Anoyia 85.53 307 P **P 08 34 21.2 +2.5**
comp=Z,6.3nm,0.4s,baz=54,slow=8.8,SNR=8.7
GRFO Grafenberg 86.34 325 *e*P **P 08 34 23.0 +0.6**
GRFO pmax pmax
comp=Z,31nm,1.2s
GRFO Grafenberg 86.34 325 *e*P **P 08 34 23.0 +0.6**
comp=Z,31nm,1.2s
SFJD Kangerlussuaq 87.32 360 *e*P P 08 34 31.1 +4.3
SFJD pmax pmax
comp=Z,8.0nm,0.9s
SFJD Kangerlussuaq 87.32 360 *i*P P 08 34 31.1 +4.3
comp=Z,7.7nm,0.9s
MOD Modoc Plateau 87.35 44 *e*P **P 08 34 29.3 +1.6**
comp=Z,9.0nm,1.1s
ABTA Abfaltersbach 87.39 322⇓*i*PcP **PcP 08 34 30.8 +1.1**
comp=Z,7.9nm,0.6s
DAVA Damuels 88.50 323⇑*e*P **P 08 34 31.9 -1.2**
comp=Z,10nm,0.6s
FCC Fort Churchill 88.51 21 *e*P **P 08 34 32.5 -0.1**
FCC *e* 08 34 39.9
FCC Fort Churchill 88.51 21 *e*P **P 08 34 32.5 -0.1**
FCC *e* 08 34 39.9
FUORN Ofenpass-Fuorn 88.70 323 *e*P **P 08 34 36.0 +1.9**
comp=Z,11nm,0.8s
FFC Flin Flon 88.73 27 *e*P **P 08 34 33.3 -0.5**
FFC *e* 08 34 41.8
FFC pmax pmax
comp=Z,26nm,1.3s
FFC Flin Flon 88.73 27 *e*P **P 08 34 33.2 -0.5**
comp=Z,26nm,1.3s
FFC *e* 08 34 41.8
BCLA Clavier 88.85 328 P **P 08 34 34.8 +0.4**
comp=Z,15nm,2.7s
CDF Champ du Feu 89.17 325 *e*P **P 08 34 36.4 +0.3**
comp=Z,13nm,0.9s
CDF Champ du Feu 89.17 325 *e*P **P 08 34 36.4 +0.3**
CDF pmax pmax
comp=Z,13nm,0.9s
CDF Champ du Feu 89.17 325 *e*P **P 08 34 36.4 +0.3**
comp=Z,13nm,0.9s
HLID Hailey 89.97 40 P **P 08 34 40.7 +0.7**
baz=90
HLID Hailey 89.97 40 *e*P **P 08 34 40.8 +0.7**
comp=Z,3.0nm,1.0s
A20A Cobblestone Ra 90.11 33 P **P 08 34 41.2 +0.7**
baz=90
C19A Slack Wire Ran 90.30 35 P **P 08 34 41.6 +0.2**
baz=90
A21A Bergtoll Ranch 90.53 33 P **P 08 34 43.2 +0.8**
baz=90
NVAR Mina Array Bea 90.54 46 P **P 08 34 44.1 +1.2**
comp=Z,0.8nm,0.7s,baz=292,slow=5.9,SNR=4.5
PPT Papeete 90.62 109 LR LR 09 08 40.5
comp=Z,95nm,20.1s,baz=293,slow=31
D19A Cripps Ranch, 90.75 35 P **P 08 34 43.7 +0.2**
baz=91
A22A Carney Farms, 91.02 32 P **P 08 34 44.7 +0.1**
baz=91
C21A Desert Coulee 91.22 34 P **P 08 34 46.4 +0.8**
baz=91
LPG La Plagne 91.31 323 *e*P **P 08 34 46.9 +0.5**
comp=Z,9.0nm,0.8s
LPG La Plagne 91.31 323 *e*P **P 08 34 46.9 +0.5**
LPG pmax pmax
comp=Z,9.0nm,0.8s
LPG La Plagne 91.31 323 *e*P **P 08 34 46.9 +0.5**
comp=Z,9.0nm,0.8s
TPH Tonopah 91.44 46 *e*P **P 08 34 48.5 +1.4**
TPH Tonopah 91.44 46 *e*P **P 08 34 48.5 +1.4**
MBDF Montbardon 91.80 323 *e*P **P 08 34 48.3 -0.2**
MBDF Montbardon 91.80 323 *e*P **P 08 34 48.3 -0.2**
MBDF Montbardon 91.80 323 *e*P **P 08 34 48.3 -0.2**
ISA Isabella, Lake 91.98 49 *e*P **P 08 34 50.8 +1.4**
ISA pmax pmax
comp=Z,6.0nm,1.4s
ISA Isabella, Lake 91.98 49 *e*P **P 08 34 50.8 +1.4**
comp=Z,6.1nm,1.4s
C23A Lambert 92.19 33 P **P 08 34 50.6 +0.5**
baz=92
H19A Powell 92.33 37 P **P 08 34 51.8 +0.8**
baz=92
R11A Troy Canyon, C 92.34 45 P **P 08 34 51.0 -0.2**
baz=92
BW06 Boulder Array 93.24 39 *e*P **P 08 34 56.5 +1.1**
comp=Z,3.5nm,1.1s
PDAR Pinedale Array 93.24 39 P **P 08 34 56.0 +0.7**
comp=Z,0.6nm,0.8s,baz=318,slow=2.0,SNR=3.5
ULM Lac du Bonnet 94.56 27 LR LR 09 20 14.0
comp=Z,72nm,18.1s,baz=357,slow=37
KEST Kesra 95.90 314 LR LR 09 25 45.2
comp=Z,59nm,18.1s,baz=274,slow=40
SCHQ Schefferville 98.46 9 LR LR 09 22 34.6
comp=Z,84nm,20.5s,baz=354,slow=37
TORD Torodi Ar. Bea 115.22 300 PP **PP 08 41 20.0 -2.5**
comp=Z,1.4nm,0.9s,baz=30,slow=4.8,SNR=3.6

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*IDC **02** 08:22:59.2±0.9, 35°.34S×73°.08W, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/28, mbtmp4.1/8, ML3.7/2, Error ellipse: s-maj=27.5km s-min=15.8km az=100.0*
*ISCJB **02** 08:23:00.5±0.9, 35°.37S±0°.08×73°.0W±0°.2, h17km, mb4.1/7, Error ellipse: s-maj=20.0km s-min=11.0km az=2.0*
*NEIC **02** 08:23:04.4±1.6, 35°.36S×73°.07W, h35km±12km, mb4.4/3, Error ellipse: s-maj=20.3km s-min=8.5km az=96.0*
ISC 02 08:23:01.8±0.8, 35°.34S±0°.08×73°.1W±0°.2, h17km, n21, σ0°65/21, mb4.2/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.53**	**49**	Pn	**Pn**	**08 24 23.7**	**+0.3**
	0.3nm,0.3s,baz=217,slow=13,SNR=4.0						
CFAA				Lg	Lg	08 25 52.3	
	7.8nm,0.3s,baz=98,slow=8.6,SNR=5.2						
PLCA	**Paso Flores**	**5.76**	**160**	Pn	**Pn**	**08 24 26.8**	**+0.3**
	1.2nm,0.3s,baz=335,slow=11,SNR=6.9						
PLCA				Lg	Lg	08 26 00.3	
	4.1nm,0.3s,baz=284,slow=22,SNR=5.6						
PLCA	**Paso Flores**	**5.76**	**160**	*e*Pn	**Pn**	**08 24 26.6**	**0.0**
	144nm,0.6s						
PLCA				Lg	Lg	08 26 00.3	
TRQA	**Tornquist**	**9.36**	**110**	*e*Pn	**Pn**	**08 25 16.3**	**+0.3**
LPAZ	**La Paz**	**19.49**	**15**	P	**Pn**	**08 27 31.1**	**+1.2**
	0.2nm,0.3s,baz=190,slow=8.4,SNR=11						
LPAZ	**La Paz**	**19.49**	**15**	*e*P	**Pn**	**08 27 30.2**	**+0.2**
	20nm,1.0s						
SIV	**San Ignacio**	**22.09**	**32**	P	**P**	**08 27 55.3**	**-0.9**
	6.5nm,1.1s,baz=202,slow=9.8,SNR=5.4						
RCBR	**Riachuelo**	**45.12**	**58**	P	**P**	**08 31 17.7**	**+0.2**
	5.1nm,0.7s,baz=217,slow=4.9,SNR=3.2						
SNAA	**Sanae**	**50.70**	**157**	P	**P**	**08 32 00.5**	**+0.5**
	1.4nm,0.5s,baz=279,slow=7.9,SNR=11						
QSPA	**South Pole Qui**	**54.90**	**180**	P	**P**	**08 32 31.8**	**+0.5**
	1.7nm,0.8s,baz=87,slow=3.9,SNR=3.7						
QSPA	**South Pole Qui**	**54.90**	**180**	*e*P	**P**	**08 32 31.4**	**+0.1**
	3.8nm,1.0s						
TXAR	**Lajitas Array**	**70.47**	**332**	P	**P**	**08 34 16.1**	**+0.7**
	0.5nm,0.8s,baz=147,slow=8.9,SNR=5.4						
BOSA	**Boshof**	**80.25**	**118**	P	**P**	**08 35 11.5**	**-0.4**
	3.3nm,0.9s,baz=217,slow=6.3,SNR=4.5						
BOSA	**Boshof**	**80.25**	**118**	*e*P	**P**	**08 35 11.5**	**-0.4**
	4.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**85.51**	**71**	P	**P**	**08 35 38.7**	**-0.5**
	0.7nm,0.7s,baz=278,slow=4.0,SNR=4.8						
WRA	**Warramunga Arr**	**119.15**	**210**	PKP	**PKPdf**	**08 41 49.1**	**-1.3**
	0.5nm,0.8s,baz=164,slow=1.5,SNR=5.9						
ABKAR	**Akbulak array**	**143.21**	**53**	*e*PKPdf	PKPab	08 42 30.5	+0.3
BRVK	**Borovoye**	**148.80**	**44**	*e*PKPbc	**PKPbc**	**08 42 48.3**	**+0.5**
KKAR	**Karatay Array**	**150.97**	**63**	*e*PKPbc	**PKPbc**	**08 42 53.0**	**-0.4**
ZALV	**Zalesovo Beam**	**155.84**	**33**	PKP	**PKPdf**	**08 42 53.3**	**-1.0**
	0.4nm,0.5s,baz=343,slow=4.6,SNR=3.6						
ZALV				PKPab	**PKPab**	**08 43 21.4**	**-0.3**
	1.3nm,0.6s,baz=316,slow=4.1,SNR=6.0						
MKAR	**Makanchi Array**	**158.32**	**51**	PKPab	**PKPab**	**08 43 31.6**	**-0.5**
	0.3nm,0.7s,baz=277,slow=3.8,SNR=3.5						

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*ISCJB **02** 08:23:48.0±0.8, 33°.90S±0°.09×72°.40W±0°.08, h17km, mb4.4/6, MS4.1/1, Error ellipse: s-maj=12.6km s-min=8.9km az=167.0*
*GUC **02** 08:23:52.0±0.4, 33°.82S×72°.10W, h20km, ML4.3*
*NEIC **02** 08:23:52.2±0.7, 33°.84S×72°.42W, h35km, mb4.6/4, Error ellipse: s-maj=15.8km s-min=14.2km az=98.0*
*IDC **02** 08:23:53.6±6.5, 33°.83S×72°.20W, h47km±57km, mb3.9/5, mb1 4.1/6, mb1mx3.8/28, mbtmp4.2/6, ML4.1/1, MS3.9/2, Ms1 3.9/2, ms1mx3.4/17, Error ellipse: s-maj=41.1km s-min=30.7km az=100.0*
ISC 02 08:23:49.7±0.8, 33°.85±0°.1×72°.33W±0°.09, h17km, n26, σ19°08/28, mb4.5/6, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.98**	**36**	⇑*i*P	**Pn**	**08 24 08.8**	**+0.2**
RCDM	**Rinconada Maip**	**1.31**	**76**	⇑*i*P	**Pn**	**08 24 12.8**	**-0.5**
RCDM				*e*S1	**Sn**	**08 24 28.9**	**-1.5**
RCDM				AML	AML	08 24 34.2	
	comp=N,6μm,0.7s						
ANTU	**Antumapu**	**1.44**	**80**	⇑*i*P	**Pn**	**08 24 15.4**	**+0.4**
ANTU				*e*S	**Sn**	**08 24 32.6**	**-0.9**
ANTU				AML	AML	08 24 36.9	
	comp=N,10μm,0.5s						
PEL	**Peldehue**	**1.53**	**64**	⇓*i*P	**Pn**	**08 24 17.1**	**+0.8**
PEL				*i* S	**Sn**	**08 24 36.1**	**+0.3**
PEL				AML	AML	08 24 46.1	
	comp=E,27μm,0.4s						
CFAA	**Coronel Fontan**	**4.09**	**58**	P	Pn	08 24 55.4	+3.9
	comp=E,0.4nm,0.3s,baz=242,slow=15,SNR=11						
PLCA	**Paso Flores**	**7.04**	**169**	LR	LR	08 28 07.7	
	comp=E,555nm,18.8s,baz=330,slow=36						
TRQA	**Tornquist**	**9.39**	**120**	*e*Pn	**Pn**	**08 26 06.1**	**+1.8**
CPUP	**Villa Florida**	**14.97**	**64**	P	**P**	**08 27 25.9**	**0.0**
	comp=E,0.3nm,0.3s,baz=237,slow=6.7,SNR=3.8						
CPUP	**Villa Florida**	**14.97**	**64**	*e*Pn	**Pn**	**08 27 22.0**	**+1.5**
LPAZ	**La Paz**	**17.86**	**13**	P	**P**	**08 27 60.0**	**+1.2**
	comp=E,0.3nm,0.3s,baz=195,slow=7.3,SNR=9.6						
LPAZ	**La Paz**	**17.86**	**13**	*e*P	**P**	**08 27 59.9**	**+1.2**
	comp=E,27nm,1.2s						
SIV	**San Ignacio**	**20.45**	**33**	P	**P**	**08 28 26.4**	**-0.1**
	comp=E,4.2nm,0.8s,baz=222,slow=13,SNR=4.9						
SAML	**Samuel**	**26.15**	**21**	*e*P	**P**	**08 29 23.2**	**+0.1**
	comp=E,18nm,1.4s						
BDFB	**Brasilia**	**28.43**	**56**	P	**P**	**08 29 42.6**	**-1.3**
	comp=E,6.7nm,1.2s,baz=194,slow=8.6,SNR=4.2						
RPN	**Rapa Nui**	**32.46**	**272**	LR	LR	08 40 25.8	
	comp=E,347nm,18.2s,baz=130,slow=30						
QSPA	**South Pole Qui**	**56.41**	**180**	P	**P**	**08 33 30.0**	**-0.1**
	comp=E,3.7nm,1.0s,baz=171,slow=4.9,SNR=3.8						
QSPA	**South Pole Qui**	**56.41**	**180**	*e*P	**P**	**08 33 30.4**	**+0.3**
	comp=E,14nm,1.5s						
TXAR	**Lajitas Array**	**69.46**	**331**	P	**P**	**08 34 57.5**	**+0.4**
	comp=E,0.5nm,0.7s,baz=154,slow=9.7,SNR=4.6						
WVT	**Waverly**	**71.08**	**347**	*e*P	**P**	**08 35 07.3**	**+0.5**
	comp=E,11nm,0.8s						
TORD	**Torodi Ar. Bea**	**84.38**	**70**	P	**P**	**08 36 21.4**	**0.0**
	comp=E,3.9nm,0.9s,baz=258,slow=4.5,SNR=14						
BRVK	**Borovoye**	**147.24**	**43**	*e*PKPbc	**PKPbc**	**08 43 32.1**	**+0.6**
KKAR	**Karatay Array**	**149.67**	**61**	*e*PKPbc	**PKPbc**	**08 43 38.2**	**0.0**
EKS2	**Erkin-Say**	**152.10**	**62**	*e*PKPbc	**PKPbc**	**08 43 44.0**	**-0.1**
AAK	**Ala-Archa**	**152.63**	**61**	*e*PKPbc	**PKPbc**	**08 43 46.4**	**+1.0**
ZALV	**Zalesovo Beam**	**154.20**	**32**	PKPbc	**PKPbc**	**08 43 48.1**	**-0.1**
	comp=E,2.8nm,0.8s,baz=290,slow=3.6,SNR=7.8						
ZALV				PKPab	**PKPab**	**08 43 59.9**	**-2.1**
	comp=E,1.5nm,0.6s,baz=313,slow=2.9,SNR=5.2						
MKAR	**Makanchi Array**	**156.83**	**48**	PKP	**PKPdf**	**08 43 40.9**	**-2.9**
	comp=E,0.4nm,0.9s,baz=267,slow=2.9,SNR=3.6						
MKAR				PKPab	**PKPab**	**08 44 13.7**	**+0.1**
	comp=E,0.7nm,0.9s,baz=288,slow=4.4,SNR=4.4						

IDC 02 08:31:00.8±7.1, 6°.42S×147°.59E, h107km±67km, mb2.7/1, mb1 3.1/3, mb1mx2.9/28, mbtmp3.3/3, ML3.0/2, Error ellipse: s-maj=105.2km s-min=55.8km az=117.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.00**	**188**	P	Pn	08 31 46.5	-0.3
	4.4nm,0.3s,baz=24,slow=12,SNR=10						
PMG				S	Sn	08 32 22.9	+0.7
	5.7nm,0.3s,baz=189,slow=19,SNR=7.6						
WRA	**Warramunga Arr**	**18.61**	**222**	P	P	08 35 09.7	-0.4
	0.1nm,0.3s,baz=47,slow=11,SNR=14						
ASAR	**Alice Springs**	**21.62**	**216**	P	P	08 35 42.5	0.0
	0.4nm,0.6s,baz=55,slow=8.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**145.76**	**284**	PKPbc	PKPdf	08 50 27.9	-0.1
	1.2nm,1.3s,baz=58,slow=4.4,SNR=2.6						

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*CSEM **02** 08:31:52.6, 43°.92N×19°.34E, h10km, ML1.3*
BEO 02 08:31:52.6±0.9, 43°.92N×19°.34E, h10km±5km, ML1.3/3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBLS	**Lazići**	**0.07**	**139**	*e*Pg	Pg	08 31 53.8	-1.2
BBLS				*e*Sg	Sg	08 31 58.3	+1.6
BBLS	**Lazići**	**0.07**	**139**	*e*Pg	Pg	08 31 53.8	-1.2
BBLS				*e*Sg	Sg	08 31 58.3	+1.6
DIVS	**Divibare**	**0.50**	**69**	*e*Pg	Pg	08 32 01.7	-0.9
DIVS				*e*Sg	Sg	08 32 09.7	+0.4
DIVS	**Divibare**	**0.50**	**69**	*e*Pg	Pg	08 32 01.7	-0.9
DIVS				*e*Sg	Sg	08 32 09.7	+0.4
TEKS	**Tekeris**	**0.64**	**12**	*e*Pg	Pg	08 32 05.3	+0.1
TEKS	**Tekeris**	**0.64**	**12**	*e*Pg	Pg	08 32 05.3	+0.1
IVAS	**Ivanjica**	**0.68**	**120**	*e*Pg	Pg	08 32 04.9	-1.0
IVAS				*e*Sg	Sb	08 32 15.7	-0.5
IVAS	**Ivanjica**	**0.68**	**120**	*e*Pg	Pg	08 32 04.9	-1.0
IVAS				*e*Sg	Sb	08 32 15.7	-0.5

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*CSEM **02** 08:33:21.9±0.1, 46°.30N×14°.24E, h15km, ML2.7/15, Error ellipse: s-maj=1.5km s-min=1.0km az=3.0*
*LJU **02** 08:33:21.7, 46°.30N×14°.24E, h15km, ML2.0*
*VIE **02** 08:33:22.1±0.1, 46°.30N×14°.24E, h8km, mb1.5/5, ML2.3/5, Error ellipse: s-maj=1.3km s-min=1.0km az=145.0 11 km NW of Kranj*
ISC 02 08:33:22.0±0.8, 46°.30N±0°.02×14°.25E±0°.01, h15km±5km, n72, σ0°55/128, 14C-20D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOZS	**Mozjanca**	**0.14**	**92**	⇑*i*Pg	**Pg**	**08 33 25.8**	**+0.1**
MOZS				*i* Sg	**Sg**	**08 33 28.6**	**+0.4**
	comp=Z,31nm,0.1s						
MOZS	**Mozjanca**	**0.14**	**92**	⇑*i*Pg	**Pg**	**08 33 25.8**	**+0.1**
MOZS				*i* Sg	**Sg**	**08 33 28.6**	**+0.4**
	comp=Z,31nm,0.1s						
GORS	**Gorjuse**	**0.18**	**276**	*i* Pg	**Pg**	**08 33 26.1**	**-0.3**
GORS				*i* Sg	**Sg**	**08 33 28.8**	**-0.4**
	comp=Z,110nm,0.1s						
GORS	**Gorjuse**	**0.18**	**276**	*i* Pg	**Pg**	**08 33 26.1**	**-0.3**
GORS				*i* Sg	**Sg**	**08 33 28.8**	**-0.4**
	comp=Z,110nm,0.1s						
CRNS	**Crni Vrh**	**0.22**	**177**	*i* Pg	**Pg**	**08 33 26.8**	**-0.2**
CRNS				*i* Sg	**Sg**	**08 33 30.6**	**+0.3**
	comp=Z,67nm,0.1s						
OBKA	**Obir**	**0.30**	**45**	⇓*i*Pg	**Pg**	**08 33 28.5**	**+0.2**
	comp=Z,9.4nm,0.2s,SNR=35						
OBKA				⇑*i*Sg	**Sg**	**08 33 33.0**	**+0.4**
	comp=Z,93nm,0.2s						
OBKA	**Obir**	**0.30**	**45**	Pg	**Pg**	**08 33 28.5**	**+0.2**
	comp=Z,9.4nm,0.2s,SNR=35						
OBKA				Sg	**Sg**	**08 33 33.0**	**+0.4**
	comp=Z,93nm,0.2s						
LJU	**Ljubljana**	**0.32**	**142**	⇓*i*Pg	**Pg**	**08 33 29.0**	**+0.3**
LJU				*i* Sg	**Sg**	**08 33 33.4**	**+0.2**
	comp=Z,74nm,0.1s						
LJU	**Ljubljana**	**0.32**	**142**	⇓*i*Pg	**Pg**	**08 33 29.0**	**+0.3**
LJU				*i* Sg	**Sg**	**08 33 33.4**	**+0.2**
	comp=Z,74nm,0.1s						
CADS	**Cadrg**	**0.36**	**259**	*i* Pg	**Pg**	**08 33 29.1**	**-0.3**
CADS				*i* Sg	**Sg**	**08 33 34.3**	**-0.1**
	comp=Z,74nm,0.1s						
CADS	**Cadrg**	**0.36**	**259**	*i* Pg	**Pg**	**08 33 29.1**	**-0.3**
CADS				*i* Sg	**Sg**	**08 33 34.3**	**-0.1**
	comp=Z,74nm,0.1s						
VOJS	**Vojsko**	**0.37**	**224**	*i* Pg	**Pg**	**08 33 29.2**	**-0.4**
VOJS				*e*Sg	**Sg**	**08 33 34.5**	**-0.1**
	comp=Z,51nm,0.1s						
VOJS	**Vojsko**	**0.37**	**224**	*i* Pg	**Pg**	**08 33 29.2**	**-0.4**
VOJS				*e*Sg	**Sg**	**08 33 34.5**	**-0.1**
	comp=Z,51nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.37**	**122**	*i* Pg	**Pg**	**08 33 29.9**	**+0.3**
VNDS				*e*Sg	**Sg**	**08 33 34.9**	**+0.2**
	comp=Z,58nm,0.1s						
JAVS	**Javornik**	**0.42**	**197**	*i* Pg	**Pg**	**08 33 30.2**	**-0.3**
JAVS				*i* Sg	**Sg**	**08 33 36.4**	**0.0**
	comp=Z,50nm,0.1s						
JAVS	**Javornik**	**0.42**	**197**	*i* Pg	**Pg**	**08 33 30.2**	**-0.3**
JAVS				*i* Sg	**Sg**	**08 33 36.4**	**0.0**
	comp=Z,50nm,0.1s						
DRE	**Drenchia**	**0.44**	**254**	⇓*e*Pg	**Pg**	**08 33 30.6**	**-0.2**
DRE				*e*Sg	**Sb**	**08 33 37.4**	**-0.5**
DRE	**Drenchia**	**0.44**	**254**	⇓*e*Pg	**Pg**	**08 33 30.6**	**-0.2**
DRE				*e*Sg	**Sb**	**08 33 37.4**	**-0.5**
ROBS	**Robic**	**0.51**	**264**	*i* Pg	**Pg**	**08 33 31.9**	**-0.2**
ROBS	**Robic**	**0.51**	**264**	*i* Pg	**Pg**	**08 33 32.0**	**-0.2**
LSR	**Lussari**	**0.53**	**290**	⇓*e*Pg	**Pg**	**08 33 32.4**	**-0.1**
LSR				*e*Sg	**Sb**	**08 33 40.4**	**-0.3**
LSR	**Lussari**	**0.53**	**290**	⇓*e*Pg	**Pg**	**08 33 32.4**	**-0.1**
LSR				*e*Sg	**Sb**	**08 33 40.4**	**-0.3**
MYKA	**Terra Mystica**	**0.53**	**309**	⇓*e*Pg	**Pg**	**08 33 32.6**	**0.0**
	comp=Z,12nm,0.2s,SNR=13						
MYKA				⇓*i*Sg	**Sg**	**08 33 39.7**	**0.0**
	comp=Z,32nm,0.1s						
MYKA	**Terra Mystica**	**0.53**	**309**	Pg	**Pg**	**08 33 32.6**	**0.0**
	comp=Z,12nm,0.2s,SNR=13						
MYKA				Sg	**Sg**	**08 33 39.7**	**0.0**
	comp=Z,32nm,0.1s						
SABO	**M.te Sabotino**	**0.55**	**235**	⇑*e*Pg	**Pg**	**08 33 32.3**	**-0.6**
SABO				*e*Sg	**Sg**	**08 33 40.5**	**+0.3**
SABO	**M.te Sabotino**	**0.55**	**235**	⇑*e*Pg	**Pg**	**08 33 32.3**	**-0.6**
SABO				*e*Sg	**Sg**	**08 33 40.5**	**+0.3**
ACOM	**Acomizza, Ital**	**0.57**	**296**	⇓*e*Pg	**Pg**	**08 33 33.3**	**0.0**
ACOM				*e*Sg	**Sb**	**08 33 41.6**	**-0.2**
ACOM	**Acomizza, Ital**	**0.57**	**296**	⇓*e*Pg	**Pg**	**08 33 33.3**	**0.0**
ACOM				*e*Sg	**Sb**	**08 33 41.6**	**-0.2**
PDKS	**Podkum**	**0.57**	**114**	*i* Pg	**Pg**	**08 33 33.5**	**+0.2**
PDKS				*i* Sg	**Sb**	**08 33 41.7**	**-0.1**
	comp=Z,26nm,0.2s						
PDKS	**Podkum**	**0.57**	**114**	*i* Pg	**Pg**	**08 33 33.5**	**+0.2**
PDKS				*i* Sg	**Sb**	**08 33 41.7**	**-0.1**
	comp=Z,26nm,0.2s						
CEY	**Cerknica**	**0.57**	**167**	*i* Pg	**Pg**	**08 33 33.5**	**+0.2**
CEY				*i* Sg	**Sg**	**08 33 41.4**	**+0.4**
	comp=Z,155nm,0.3s						
CEY	**Cerknica**	**0.57**	**167**	*i* Pg	**Pg**	**08 33 33.5**	**+0.2**
CEY				*i* Sg	**Sg**	**08 33 41.3**	**+0.4**
	comp=Z,155nm,0.3s						
COLI	**Coloredo**	**0.62**	**255**	⇓*e*Pg	**Pg**	**08 33 33.9**	**-0.4**
COLI				*e*Sg	**Sb**	**08 33 44.1**	**+0.9**
COLI	**Coloredo**	**0.62**	**255**	⇓*e*Pg	**Pg**	**08 33 33.9**	**-0.4**
COLI				*e*Sg	**Sb**	**08 33 44.2**	**+0.9**
SOKA	**Soboth**	**0.66**	**55**	⇑*e*Pg	**Pg**	**08 33 35.0**	**0.0**
	comp=Z,1.3nm,0.1s						
SOKA				⇑*e*Sg	**Sg**	**08 33 43.7**	**-0.1**
	comp=Z,6.0nm,0.1s,SNR=8.5						
SOKA	**Soboth**	**0.66**	**55**	Pg	**Pg**	**08 33 35.0**	**0.0**
	comp=Z,1.3nm,0.1s						
SOKA				Sg	**Sg**	**08 33 43.7**	**-0.1**
	comp=Z,6.0nm,0.1s,SNR=8.5						
VINO	**Villanova**	**0.67**	**267**	⇓*e*Pg	**Pg**	**08 33 34.6**	**-0.5**
VINO				*e*Sg	**Sb**	**08 33 45.0**	**+0.4**
VINO	**Villanova**	**0.67**	**267**	⇓*e*Pg	**Pg**	**08 33 34.6**	**-0.5**
VINO				*e*Sg	**Sb**	**08 33 45.0**	**+0.4**
TRI	**Trieste**	**0.68**	**210**	⇓*e*Pg	**Pg**	**08 33 34.5**	**-0.8**
TRI				*e*Sg	**Sb**	**08 33 44.8**	**0.0**
TRI	**Trieste**	**0.68**	**210**	⇓*e*Pg	**Pg**	**08 33 34.5**	**-0.8**
TRI				*e*Sg	**Sb**	**08 33 44.8**	**0.0**
PERS	**Pernice**	**0.69**	**60**	*i* Pg	**Pg**	**08 33 35.5**	**0.0**
	comp=Z,67nm,0.3s						
PERS	**Pernice**	**0.69**	**60**	*i* Pg	**Pg**	**08 33 35.5**	**0.0**
	comp=Z,67nm,0.3s						
BAD	**Bernadia**	**0.70**	**265**	⇑*e*Pg	**Pg**	**08 33 35.0**	**-0.6**
BAD				*e*Sg	**Sb**	**08 33 46.2**	**+0.7**
BAD	**Bernadia**	**0.70**	**265**	⇑*e*Pg	**Pg**	**08 33 35.0**	**-0.6**
BAD				*e*Sg	**Sb**	**08 33 46.2**	**+0.7**
BISS	**Bistriski jare**	**0.70**	**60**	*i* Pg	**Pb**	**08 33 36.0**	**0.0**
BISS				*i* Sg	**Sg**	**08 33 45.0**	**0.0**
BISS	**Bistriski jare**	**0.70**	**60**	*i* Pg	**Pb**	**08 33 36.0**	**0.0**
BISS				*i* Sg	**Sg**	**08 33 45.0**	**0.0**
SKDS	**Skadanscina**	**0.77**	**192**	*i* Pg	**Pg**	**08 33 36.1**	**-0.9**
SKDS				*i* Sg	**Sb**	**08 33 47.6**	**+0.2**
	comp=Z,39nm,0.1s						
SKDS	**Skadanscina**	**0.77**	**192**	*i* Pg	**Pg**	**08 33 36.1**	**-0.9**
SKDS				*i* Sg	**Sb**	**08 33 47.6**	**+0.2**
	comp=Z,39nm,0.1s						
PLRO	**Paularo**	**0.80**	**289**	⇑*e*Pg	**Pg**	**08 33 37.4**	**-0.2**
PLRO				*e*Sg	**Sb**	**08 33 48.7**	**+0.2**
PLRO	**Paularo**	**0.80**	**289**	⇑*e*Pg	**Pg**	**08 33 37.4**	**-0.2**
PLRO				*e*Sg	**Sb**	**08 33 48.7**	**+0.2**
LEGS	**Legarje**	**0.82**	**115**	*i* Pg	**Pb**	**08 33 38.0**	**-0.1**
LEGS	**Legarje**	**0.82**	**115**	*i* Pg	**Pb**	**08 33 38.0**	**-0.1**
DOBS	**Dobrina**	**0.86**	**100**	*i* Pg	**Pn**	**08 33 39.3**	**-0.4**
DOBS	**Dobrina**	**0.86**	**100**	*i* Pg	**Pn**	**08 33 39.3**	**-0.4**
GBRS	**Gornja Briga**	**0.86**	**153**	*i* Sg	**Sg**	**08 33 50.5**	**+0.4**
	comp=Z,21nm,0.1s						
ZOU	**Zoufplan**	**0.92**	**287**	⇑*e*Pg	**Pb**	**08 33 39.8**	**-0.1**
ZOU				*e*Sg	**Sn**	**08 33 53.0**	**-0.7**
CRES	**Cresnjev**	**

ellipse: s-maj=24.1km s-min=5.0km az=36.0
ARO 02 08:41:18.1, 12°N±3°×4°4E±°, h15km±3km, ML3.8
ISC 02 08:41:16.3±1.7, 11°95N±0°09×43°7E±0°1, h10km, n8, σ0°66/11, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.43**	**275**	*eP*	**Pb**	**08 41 26.1**	**0.0**
ATA	**Atar**	**0.71**	**226**	*eP*	**Pb**	**08 41 31.3**	**+0.4**
TDD	**Tadjoura Ara**	**0.82**	**260**	*eP*	**Pg**	**08 41 32.4**	**+0.2**
ATD	**Arta Tunnel**	**0.96**	**244**	*eP*	**Pg**	**08 41 34.6**	**-0.3**
ATD				*eS*	**Sb**	**08 41 48.5**	**+0.5**
SGH	**Sud-Ghoubbet**	**1.19**	**245**	*eP*	**Pn**	**08 41 38.7**	**-0.4**
TRBA	**At Turbah**	**1.33**	**16**	*i P*	**Pn**	**08 41 41.0**	**-0.1**
TRBA				*e*		08 41 41.4	
	baz=193,slow=12						
TRBA				*i S*	**Sb**	**08 41 57.9**	**-0.8**
TRBA				AML	AML	08 41 59.6	
	comp=E,565nm,0.3s						
GBR	**Grand-Bara**	**1.48**	**238**	*eP*	**Pn**	**08 41 42.8**	**-0.2**
UDYN	**Al 'Udayn**	**2.02**	**6**	*i P*	**Pn**	**08 41 51.9**	**+1.3**
UDYN				*i S*	**Sn**	**08 42 15.4**	**-0.7**

ISCJB 02 08:47:41.8±0.6, 33°95S±0°04×71°49W±0°07, h57km±5km, mb4.3/15, Error ellipse: s-maj=9.8km s-min=7.3km az=171.5
NEIC 02 08:47:42.3, 33°90S×71°49W, h44km, mb4.5/11, After GUC.
NEIC Felt [IV] at San Antonio and [III] at Quillota and Valparaiso.
IDC 02 08:47:42.2±0.6, 33°89S×71°31W, h41km±4km, mb3.9/9, mb1 4.1/12, mb1mx3.9/26, mbtmp4.1/12, ML4.5/3, Error ellipse: s-maj=22.1km s-min=13.6km az=90.0
GUC 02 08:47:42.3±0.8, 33°90S×71°49W, h44km±8km, ML4.4
ISC 02 08:47:42.2±0.5, 33°93S±0°05×71°50W±0°05, h43km±4km, n57, σ0°92/72, mb4.3/16, 14C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.08**	**113**	⇑*iP*	**Pn**	**08 47 49.5**	**+0.5**
LNV	**Longovilo**	**0.08**	**113**	⇑*iP*	**Pn**	**08 47 49.5**	**+0.5**
TACH	**Talagante**	**0.54**	**60**	⇑*iP*	**Pn**	**08 47 53.8**	**+0.2**
TACH	**Talagante**	**0.54**	**60**	⇑*iP*	**Pn**	**08 47 53.8**	**+0.2**
CHCH	**Chadas Angostu**	**0.70**	**91**	⇑*iP*	**Pn**	**08 47 56.2**	**+0.4**
CHCH	**Chadas Angostu**	**0.70**	**91**	⇑*iP*	**Pn**	**08 47 56.2**	**+0.4**
ANTU	**Antumapu**	**0.80**	**64**	⇓*iP*	**Pn**	**08 47 57.5**	**+0.4**
ANTU				*i S*	**Sn**	**08 48 09.2**	**+1.3**
ANTU				AML	AML	08 48 09.7	
	comp=E,30μm,0.5s						
ANTU	**Antumapu**	**0.80**	**64**	⇓*iP*	**Pn**	**08 47 57.5**	**+0.4**
ANTU				*i S*	**Sn**	**08 48 09.2**	**+1.3**
SAN	**Santiago**	**0.84**	**56**	⇑*iP*	**Pn**	**08 47 58.1**	**+0.5**
SAN				*i* S1	**Sn**	**08 48 10.3**	**+1.4**
SAN				AML	AML	08 48 12.4	
	comp=E,13μm,0.4s						
SAN	**Santiago**	**0.84**	**56**	⇑*iP*	**Pn**	**08 47 58.1**	**+0.5**
SAN				*i S*	**Sn**	**08 48 10.3**	**+1.4**
PCH	**Pirque**	**0.87**	**70**	⇑*iP*	**Pn**	**08 47 58.5**	**+0.4**
PCH				*i* S1		08 48 10.5	
PCH	**Pirque**	**0.87**	**70**	⇑*iP*	**Pn**	**08 47 58.5**	**+0.4**
PCH				*i S*	**Sn**	**08 48 10.5**	**+0.7**
IHA	**Instituto Hidr**	**0.91**	**352**	⇑*iP*	**Pn**	**08 47 59.0**	**+0.5**
IHA				*i* S1	**Sn**	**08 48 10.9**	**+0.6**
IHA	**Instituto Hidr**	**0.91**	**352**	⇑*iP*	**Pn**	**08 47 59.0**	**+0.5**
IHA				*i S*	**Sn**	**08 48 10.9**	**+0.6**
PEL	**Peldehue**	**1.03**	**41**	⇑*iP*	**Pn**	**08 48 01.2**	**+0.9**
PEL				*i S*	**Sn**	**08 48 15.3**	**+1.7**
PEL				AML	AML	08 48 16.7	
	comp=E,27μm,0.6s						
PEL	**Peldehue**	**1.03**	**41**	⇑*iP*	**Pn**	**08 48 01.2**	**+0.9**
PEL				*i S*	**Sn**	**08 48 15.3**	**+1.7**
FCH	**Farellones**	**1.17**	**60**	⇓*iP*	**Pn**	**08 48 02.9**	**+0.5**
FCH	**Farellones**	**1.17**	**60**	⇓*iP*	**Pn**	**08 48 02.9**	**+0.5**
CFAA	**Coronel Fontan**	**3.59**	**51**	P Pn	**Pn**	**08 48 37.0**	**+1.6**
	comp=E,2.3nm,0.3s,baz=215,slow=10.0,SNR=59						
CFAA				Lg	Lg	08 49 27.4	
	comp=E,11nm,0.3s,baz=319,slow=22,SNR=14						
PLCA	**Paso Flores**	**6.84**	**174**	P	**Pn**	**08 49 22.0**	**+2.1**
	comp=E,3.1nm,0.3s,baz=341,slow=11,SNR=26						
PLCA	**Paso Flores**	**6.84**	**174**	*e*Pn	**Pn**	**08 49 21.8**	**+1.9**
	comp=E,7.6nm,0.8s						
TRQA	**Tornquist**	**8.74**	**121**	*e*Pn	**Pn**	**08 49 46.8**	**+0.8**
	comp=E,32nm,1.1s						
LVC	**Limon Verde**	**11.50**	**12**	*e*Pn	**Pn**	**08 50 24.0**	**0.0**
	comp=E,5.9nm,0.6s						
CPUP	**Villa Florida**	**14.40**	**62**	P	**Pn**	**08 51 03.1**	**-0.2**
	comp=E,0.9nm,0.3s,baz=230,slow=9.7,SNR=5.7						
LPAZ	**La Paz**	**17.82**	**11**	P	**P**	**08 51 48.1**	**+0.1**
	comp=E,0.3nm,0.3s,baz=177,slow=6.7,SNR=13						
LPAZ	**La Paz**	**17.82**	**11**	*eP*	**P**	**08 51 48.6**	**+0.5**
	comp=E,6.7nm,0.8s						
SIV	**San Ignacio**	**20.18**	**30**	P	**P**	**08 52 12.2**	**-1.0**
	comp=E,4.8nm,0.5s,baz=214,slow=9.1,SNR=24						
SIV				sP	**sP**	**08 52 28.6**	**-0.4**
	comp=E,10nm,0.6s,baz=223,slow=12,SNR=9.8						
EFI	**East Falkland**	**20.23**	**155**	*eP*	**P**	**08 52 12.9**	**-0.6**
	comp=E,79nm,1.3s						
USHA	**Ushuaia**	**21.01**	**175**	P	**P**	**08 52 22.7**	**+0.9**
	comp=E,6.9nm,0.9s,baz=341,slow=10.0,SNR=4.4						
SAML	**Samuel**	**26.01**	**19**	*eP*	**P**	**08 53 12.8**	**+1.6**
	comp=E,7.3nm,0.6s						
BDFB	**Brasilia**	**27.92**	**55**	P	**P**	**08 53 26.4**	**-2.2**
	comp=E,3.1nm,0.5s,baz=199,slow=7.5,SNR=4.8						
SNAA	**Sanae**	**51.48**	**158**	P	**P**	**08 56 42.7**	**-0.3**
	comp=E,1.4nm,0.7s,baz=278,slow=13,SNR=5.6						
QSPA	**South Pole Qui**	**56.31**	**180**	P	**P**	**08 57 19.1**	**+0.7**
	comp=E,1.6nm,0.9s,baz=162,slow=2.6,SNR=6.5						
QSPA				pP	**pP**	**08 57 30.9**	**+0.3**
	comp=E,2.6nm,0.7s,baz=288,slow=2.0,SNR=6.0						
QSPA	**South Pole Qui**	**56.31**	**180**	*eP*	**P**	**08 57 19.5**	**+1.1**
	comp=E,5.5nm,1.0s						
TXAR	**Lajitas Array**	**69.89**	**330**	P	**P**	**08 58 49.6**	**+0.9**
	comp=E,0.5nm,0.5s,baz=158,slow=8.6,SNR=25						
TXAR				pP	**pP**	**08 59 01.4**	**0.0**
	comp=E,0.4nm,0.6s,baz=156,slow=9.4,SNR=5.4						
SWET	**Sewanee**	**70.10**	**347**	*eP*	**P**	**08 58 49.7**	**-0.2**
	comp=E,6.8nm,0.5s						
WVT	**Waverly**	**71.35**	**346**	*eP*	**P**	**08 58 56.9**	**-0.5**
	comp=E,10.0nm,0.6s						
ACSO	**Alum Creek Sta**	**74.55**	**351**	*eP*	**P**	**08 59 15.7**	**-0.5**
	comp=E,4.2nm,0.3s						
ANMO	**Albuquerque**	**75.94**	**331**	*eP*	**P**	**08 59 25.6**	**+1.0**
	comp=E,2.0nm,1.0s						
SDCO	**Great Sand Dun**	**78.01**	**333**	*eP*	**P**	**08 59 36.6**	**+0.3**
	comp=E,5.3nm,1.5s						
BOSA	**Boshof**	**79.70**	**117**	P	**P**	**08 59 45.2**	**-0.7**
	comp=E,5.8nm,0.8s,baz=274,slow=3.6,SNR=8.9						
ECSD	**EROS Data Cent**	**80.62**	**342**	*eP*	**P**	**08 59 49.8**	**-0.3**
	comp=E,3.8nm,1.0s						
LBTB	**Lobatse**	**81.92**	**115**	*eP*	**P**	**08 59 57.2**	**-0.6**
	comp=E,5.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.76**	**70**	P	**P**	**09 00 06.5**	**-0.6**
	comp=E,3.1nm,0.8s,baz=277,slow=4.3,SNR=16						
TORD				sP	**sP**	**09 00 24.1**	**-0.7**
	comp=E,1.8nm,0.8s,baz=255,slow=4.2,SNR=5.7						
NVAR	**Mina Array Bea**	**84.08**	**325**	P	**P**	**09 00 09.6**	**+1.1**
	comp=E,0.2nm,0.3s,baz=146,slow=7.2,SNR=3.5						
NVAR				pP	**pP**	**09 00 21.9**	**+0.5**
	comp=E,1.0nm,0.8s,baz=180,slow=6.0,SNR=3.9						
YKA	**Yellowknife Ar**	**102.13**	**341**	P	**Pdif**	**09 01 30.8**	**-0.7**
	comp=E,0.1nm,0.5s,baz=144,slow=4.5,SNR=4.4						
YKA				pP		09 01 42.9	
	comp=E,0.1nm,0.6s,baz=143,slow=5.0,SNR=3.1						
WRA	**Warramunga Arr**	**121.04**	**209**	PKP	**PKPdf**	**09 06 29.4**	**-1.3**
	comp=E,0.6nm,0.5s,baz=159,slow=1.6,SNR=13						
WRA				pPKP	**pPKPdf**	**09 06 42.2**	**-1.8**
	comp=E,0.5nm,0.7s,baz=162,slow=1.4,SNR=2.7						
ARCES	**ARCESS Array B**	**123.76**	**25**	PKP	**PKPdf**	**09 06 33.3**	**-1.0**
	comp=E,2.8nm,0.9s,baz=270,slow=1.2,SNR=6.2						
ARCES				pPKP	**pPKPdf**	**09 06 46.4**	**-1.2**
	comp=E,2.7nm,1.0s,baz=336,slow=2.7,SNR=1.2						
H11S2	**WAKE ISLAND Hyl**	**26.22**	**269**	T	T	11 25 45.4	
	baz=116						
H11S1	**WAKE ISLAND Hyl**	**26.24**	**269**	T	T	11 25 47.1	
	baz=116,SNR=5.0						
H11S3	**WAKE ISLAND Hyl**	**26.24**	**269**	T	T	11 25 46.7	
	baz=116						
BRVK	**Borovoye**	**146.85**	**43**	*e*PKPbc	**PKPbc**	**09 07 19.3**	**+0.1**
EKS2	**Erkin-Say**	**151.54**	**62**	*e*PKPbc	**PKPbc**	**09 07 31.5**	**-0.1**
AAK	**Ala-Archa**	**152.07**	**62**	*e*PKPdf	**PKPdf**	**09 07 27.2**	**+1.0**
AAK				*e*PKPbc	**PKiKP**	**09 07 33.1**	**-0.1**
KURK	**Kurchatov**	**152.52**	**43**	*e*PKPbc	**PKPbc**	**09 07 32.6**	**-0.8**
ZALV	**Zalesovo Beam**	**153.92**	**33**	PKPbc	**PKPbc**	**09 07 36.2**	**-0.1**
	comp=E,3.9nm,0.6s,baz=282,slow=3.4,SNR=6.0						
ZALV				PKPab	**PKPab**	**09 07 49.0**	**-0.7**
	comp=E,1.8nm,0.5s,baz=292,slow=3.9,SNR=3.7						
MKAR	**Makanchi Array**	**156.37**	**49**	PKPab	**PKPab**	**09 07 60.0**	**-0.5**
	comp=E,0.6nm,0.5s,baz=290,slow=3.4,SNR=5.8						

IDC 02 08:52:08.4±1.0, 35°52S×72°67W, h0km, mb4.2/6, mb1 4.3/9, mb1mx4.1/25, mbtmp4.2/9, ML3.9/3, MS3.4/7, Ms1 3.4/7, ms1mx3.3/21, Error ellipse: s-maj=35.5km s-min=16.8km az=96.0
ISCJB 02 08:52:09.8±0.8, 35°53S±0°07×72°7W±0°1, h20km, mb4.2/6, MS3.7/4, Error ellipse: s-maj=16.9km s-min=8.1km az=18.3
NEIC 02 08:52:13.6±0.6, 35°54S×72°71W, h35km, mb4.4/2, Error ellipse: s-maj=15.9km s-min=8.0km az=94.0
ISC 02 08:52:11.3±0.9, 35°51S±0°08×72°8W±0°1, h20km, n21, σ0°79/15, mb4.1/6, MS3.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.42**	**45**	Pn	**Pn**	**08 53 32.1**	**+1.0**
	0.2nm,0.3s,baz=216,slow=14,SNR=4.0						
CFAA				Sn	**Sn**	**08 54 32.5**	**-0.4**
	1.7nm,0.3s,baz=265,slow=12,SNR=5.3						
CFAA				LR	LR	08 55 45.8	
	comp=Z,43nm,21.1s,baz=230,slow=40						
PLCA	**Paso Flores**	**5.49**	**162**	Pn	**Pn**	**08 53 33.2**	**+1.2**
	2.5nm,0.3s,baz=332,slow=12,SNR=7.6						
PLCA				LR	LR	08 55 06.1	
	comp=Z,68nm,20.9s,baz=19,slow=32						
PLCA	**Paso Flores**	**5.49**	**162**	*e*Pn	**Pn**	**08 53 32.4**	**+0.3**
	64nm,1.0s						
TRQA	**Tornquist**	**9.00**	**110**	*e*Pn	**Pn**	**08 54 21.2**	**+1.0**
USHA	**Ushuaia**	**19.55**	**173**	P	**Pn**	**08 56 38.6**	**-0.3**
	0.2nm,0.3s,baz=333,slow=14,SNR=3.7						
USHA				LR	LR	09 04 26.3	
	comp=Z,205nm,18.4s,baz=332,slow=38						
LPAZ	**La Paz**	**19.59**	**13**	P	**Pn**	**08 56 39.6**	**-0.6**
	0.1nm,0.3s,baz=198,slow=6.3,SNR=8.0						
LPAZ	**La Paz**	**19.59**	**13**	*eP*	**Pn**	**08 56 40.0**	**-0.2**
	7.9nm,1.1s						
SIV	**San Ignacio**	**22.07**	**31**	P	**P**	**08 57 05.7**	**+0.6**
	5.0nm,0.9s,baz=223,slow=14,SNR=4.6						
SIV				LR	LR	09 06 59.3	
	comp=Z,172nm,20.9s,baz=215,slow=40						
ATAH	**Atahualpa**	**28.72**	**348**	LR	LR	09 07 48.6	
	comp=Z,93nm,18.1s,baz=222,slow=33						
BDFB	**Brasilia**	**29.68**	**55**	LR	LR	09 11 09.9	
	comp=Z,248nm,19.0s,baz=213,slow=38						
PMSA	**Palmer Station**	**29.76**	**172**	LR	LR	09 09 30.1	
	comp=Z,323nm,19.2s,baz=308,slow=35						
SNAA	**Sanae**	**50.41**	**157**	P	**P**	**09 01 06.7**	**-0.2**
	2.3nm,1.0s,baz=302,slow=7.1,SNR=4.2						
QSPA	**South Pole Qui**	**54.73**	**180**	P	**P**	**09 01 39.4**	**+0.3**
	8.7nm,0.9s,baz=152,slow=2.1,SNR=21						
QSPA	**South Pole Qui**	**54.73**	**180**	*eP*	**P**	**09 01 39.2**	**+0.1**
	9.7nm,0.9s						
PPT2	**Papeete2**	**69.45**	**263**	*e*LR	LR	09 03 36.8	
	238nm,23.8s						
TXAR	**Lajitas Array**	**70.78**	**332**	P	**P**	**09 03 26.9**	**+0.6**
	0.4nm,0.6s,baz=153,slow=8.3,SNR=7.7						
BOSA	**Boshof**	**79.88**	**118**	P	**P**	**09 04 17.8**	**-1.2**
	5.0nm,0.9s,baz=244,slow=4.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**85.27**	**70**	P	**P**	**09 04 46.1**	**-0.9**
	1.7nm,1.1s,baz=213,slow=3.9,SNR=4.8						
H11N3	**WAKE ISLAND Hyl**	**25.61**	**270**	T	T	11 30 48.2	
	baz=122,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hyl**	**25.62**	**270**	T	T	11 30 47.7	
	baz=122,slow=76,SNR=20						
H11N2	**WAKE ISLAND Hyl**	**25.62**	**270**	T	T	11 30 50.1	
	baz=122,slow=76,SNR=23						

IDC 02 08:56:51.7±1.0, 36°60S×73°39W, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.8/22, mbtmp3.7/9, ML3.4/2, Error ellipse: s-maj=33.7km s-min=17.4km az=80.0
ISCJB 02 08:56:54.1±0.7, 36°58S±0°09×73°3W±0°2, h27km, mb4.0/8, Error ellipse: s-maj=21.9km s-min=12.5km az=177.7
NEIC 02 08:56:56.7±0.6, 36°57S×73°35W, h35km, mb4.6/4, Error ellipse: s-maj=18.6km s-min=10.6km az=90.0
ISC 02 08:56:55.8±0.8, 36°58S±0°10×73°4W±0°2, h27km, n16, σ0°59/16, mb4.1/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.70**	**153**	Pn	**Pn**	**08 58 04.9**	**-0.1**
	0.6nm,0.3s,baz=334,slow=14,SNR=5.2						
PLCA				Lg	Lg	08 59 20.3	
	1.8nm,0.3s,baz=219,slow=18,SNR=2.7						
PLCA	**Paso Flores**	**4.70**	**153**	*e*Pn	**Pn**	**08 58 05.5**	**+0.6**
PLCA				Lg	Lg	08 59 20.3	
CFAA	**Coronel Fontan**	**6.53**	**42**	Pn	**Pn**	**08 58 30.2**	**0.0**
	0.3nm,0.3s,baz=208,slow=13,SNR=6.9						
LPAZ	**La Paz**	**20.74**	**14**	P	**P**	**09 01 36.1**	**+1.1**
	0.9nm,0.6s,baz=216,slow=8.7,SNR=3.9						
LPAZ	**La Paz**	**20.74**	**14**	*eP*	**P**	**09 01 35.9**	**+0.9**
	3.5nm,1.0s						
SIV	**San Ignacio**	**23.23**	**31**	P	**P**	**09 02 00.2**	**-0.8**
	2.1nm,0.9s,baz=225,slow=9.1,SNR=4.1						
QSPA	**South Pole Qui**	**53.66**	**180**	P	**P**	**09 06 14.6**	**-0.2**
	1.5nm,0.9s,baz=313,slow=1.5,SNR=6.3						
QSPA	**South Pole Qui**	**53.66**	**180**	*eP*	**P**	**09 06 14.9**	**+0.1**
	17nm,1.7s						
TXAR	**Lajitas Array**	**71.48**	**332**	P	**P**	**09 08 14.5**	**+0.5**
	0.2nm,0.6s,baz=148,slow=7.4,SNR=5.8						
SWET	**Sewanee**	**72.38**	**349**	*eP*	**P**	**09 08 19.2**	**-0.1**
	7.5nm,0.8s						
DBIC	**Dimbokro**	**77.03**	**72**	P	**P**	**09 08 47.1**	**+0.5**
	2.7nm,0.8s,baz=206,slow=9.1,SNR=3.1						
ECSD	**EROS Data Cent**	**82.68**	**343**	*eP*	**P**	**09 09 15.9**	**-0.7**
	4.2nm,1.0s						
PDAR	**Pinedale Array**	**85.59**	**334**	P	**P**	**09 09 31.4**	**-0.2**
	0.9nm,1.0s,baz=146,slow=8.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**86.10**	**71**	P	**P**	**09 09 33.9**	**-0.7**
	0.6nm,0.7s,baz=227,slow=3.6,SNR=3.9						
ABKAR	**Akbulak array**	**144.09**	**54**	*e*PKPdf	**PKPab**	**09 16 25.9**	**-0.2**
BVAR	**Borovoye Array**	**149.88**	**45**	PKPbc	**PKPbc**	**09 16 43.1**	**+0.2**
	0.5nm,0.6s,baz=299,slow=4.1,SNR=4.3						

IDC 02 09:07:11.7±2.0, 35°71S×72°01W, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.8/20, mbtmp3.8/6, ML3.6/2, Error ellipse: s-maj=43.5km s-min=38.2km az=138.0
ISCJB 02 09:07:16.1±0.7, 35°50S±0°06×72°19W±0°09, h35km, mb3.9/7, Error ellipse: s-maj=10.2km s-min=8.5km az=170.0
NEIC 02 09:07:18.2±0.7, 35°47S×72°16W, h35km, mb4.1/5, Error ellipse: s-maj=14.9km s-min=9.6km az=89.0
ISC 02 09:07:17.9±0.9, 35°48S±0°08×72°3W±0°1, h35km, n15, σ1°12/17, mb4.0/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.12**	**42**	Pn	**Pn**	**09 08 32.2**	**+0.1**
	0.4nm,0.3s,baz=202,slow=11,SNR=10						
CFAA				Sn	**Sn**	**09 09 31.3**	**+1.3**
	0.7nm,0.3s,baz=280,slow=17,SNR=2.7						
PLCA	**Paso Flores**	**5.42**	**166**	Pn	**Pn**	**09 08 35.6**	**-0.6**
TRQA	**Tornquist**	**8.64**	**110**	*e*Pn	**Pn**	**09 09 20.7**	**+0.3**
TRQA				*e*Sn	**Sn**	**09 10 57.9**	**+1.3**
LVC	**Limon Verde**	**13.15**	**14**	*e*Pn	**Pn**	**09 10 22.2**	**-0.1**
CPUP	**Villa Florida**	**15.71**	**59**	*e*Pn	**Pn**	**09 10 56.7**	**+0.2**
LPAZ	**La Paz**	**19.46**	**12**	P	**Pn**	**09 11 43.3**	**-0.4**
	0.2nm,0.3s,baz=186,slow=7.4,SNR=9.0						
LPAZ	**La Paz**	**19.46**	**12**	*eP*	**P**	**09 11 42.2**	**-0.1**
	3.7nm,0.9s						
SIV	**San Ignacio**	**21.83**	**30**	P	**P**	**09 12 05.5**	**-1.9**
	1.9nm,0.8s,baz=223,slow=12,SNR=3.5						
QSPA	**South Pole Qui**	**54.76**	**180**	*eP*	**P**	**09 16 44.8**	**+1.0**
	1.9nm,0.9s						
TXAR	**Lajitas Array**	**70.94**	**331**	P	**P**	**09 18 32.9**	**+1.2**
	0.2nm,0.5s,baz=149,slow=9.5,SNR=5.1						
WVT	**Waverly**	**72.70**	**347**	*eP*	**P**	**09 18 42.3**	**+0.3**
	2.9nm,0.8s						
DBIC	**Dimbokro**	**75.83**	**71**	P	**P**	**09 18 59.5**	**-1.3**
	3.0nm,0.7s,baz=188,slow=7.6,SNR=4.6						
DBIC	**Dimbokro**	**75.83**	**71**	*eP*	**P**	**09 18 59.3**	**-1.5**
	2.4nm,0.7s						
ANMO	**Albuquerque**	**76.99**	**332**	*eP*	**P**	**09 19 08.7**	**+1.5**
	0.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**84.88**	**70**	P	**P**	**09 19 48.2**	**-1.2**
	0.9nm,0.8s,baz=258,slow=4.4,SNR=5.2						

WEL 02 09:10:41.4±0.8, 34°86S×178°24E, h33km, ML3.5/3, Error ellipse: s-maj=13.3km s-min=5.3km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**2.92**	**187**	P*	Pn	09 11 26.6	+1.1
HAZ				S*	Sn	09 11 58.8	-0.5
WMGZ	**Waiomatatini S**	**2.96**	**177**	PN	Pn	09 11 25.6	-0.4
WMGZ				SN	Sn	09 11 58.3	-2.1
PUZ	**Puketiti**	**3.21**	**180**	PN	Pn	09 11 28.1	-1.5
PUZ				SN	Sn	09 12 02.4	-4.3
URZ	**Urewera**	**3.52**	**195**	P*	Pn	09 11 33.5	-0.2
MWZ	**Matawai**	**3.52**	**189**	P*	Pn	09 11 33.5	-0.3

IDC 02 09:10:46.8±1.4, 36°21S×72°06W, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.6/20, mbtmp3.4/5, ML4.0/1, Error ellipse: s-maj=36.5km s-min=18.4km az=91.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.67**	**166**	Pn	Pn	09 12 00.3	+1.6
	1.6nm,0.3s,baz=331,slow=12,SNR=11						
PLCA				Lg	Lg	09 13 14.8	
	1.9nm,0.3s,baz=269,slow=18,SNR=3.0						
CFAA	**Coronel Fontan**	**5.58**	**36**	Pn	Pn	09 12 12.5	+1.4
	0.1nm,0.3s,baz=351,slow=19,SNR=2.9						
CFAA				Lg	Lg	09 13 44.6	
	0.2nm,0.3s,baz=329,slow=21,SNR=3.3						
LPAZ	**La Paz**	**20.14**	**11**	P	P	09 15 23.2	-0.2
	0.6nm,0.5s,baz=203,slow=5.7,SNR=3.0						
SIV	**San Ignacio**	**22.39**	**29**	P	P	09 15 53.0	+6.2
	1.5nm,0.6s,baz=231,slow=12,SNR=5.8						
TXAR	**Lajitas Array**	**71.65**	**331**	P	P	09 22 10.5	+0.2
	0.3nm,0.8s,baz=153,slow=8.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**84.98**	**70**	P	P	09 23 23.4	-0.9
	0.5nm,0.9s,baz=212,slow=5.1,SNR=2.6						

IDC 02 09:14:44.2±4.2, 53°95N×91°03E, h0km, mb1 3.3/2, mb1mx3.0/42, mbtmp3.3/2, ML2.9/2, Error ellipse: s-maj=37.2km s-min=25.5km az=62.0
NNC 02 09:14:49.4±5.3, 53°55N×90°68E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=43.0km s-min=34.9km az=15.0
ISC 02 09:14:46.7±4.4, 53°9N±0°2×90°9E±0°2, h10km, n9, σ2°28/10, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.59**	**274**	*i*		09 41 40.0	
	baz=91,slow=348,SNR=1.6						
ZALV	**Zalesovo Beam**	**3.59**	**274**	Pn	Pn	09 15 44.4	+2.0
	2.2nm,0.3s,baz=94,slow=13,SNR=17						
ZALV				Pg	**Pb**	**09 15 49.4**	**-0.8**
	2.2nm,0.3s,baz=97,slow=15,SNR=40						
ZALV				Lg	Lg	09 16 39.2	
	3.3nm,0.3s,baz=90,slow=28,SNR=10						
TLY	**Talaya**	**8.04**	**101**	Pg	Pb	09 17 05.8	-0.2
	0.0nm,0.3s,baz=76,slow=19,SNR=3.3						
TLY				Lg	Lg	09 18 49.4	
	0.0nm,0.3s,baz=19,slow=7.8,SNR=7.6						
KURK	**Kurchatov**	**8.16**	**252**	⇑Pn	**Pn**	**09 16 45.3**	**+0.3**
	2.8nm,1.0s						
KURK				⇑Sn	**Sn**	**09 18 20.4**	**+3.2**
	9.6nm,0.9s						
KURK				⇓Lg	Lg	09 19 07.2	
	19nm,0.9s						
KURK	**Kurchatov**	**8.16**	**252**	*e*PKPdf	**Pn**	**09 16 45.2**	**+0.2**
KURBB	**Kurchatov Arra**	**8.25**	**252**	⇑Pn	**Pn**	**09 16 46.8**	**+0.5**
	4.4nm,0.5s						
KURBB				⇑Sn	**Sn**	**09 18 17.8**	**-1.7**
	38nm,0.8s						
KURBB				⇑Lg	Lg	09 19 08.1	
	91nm,0.8s						
MK31	**Makanchi Array**	**8.96**	**221**	⇑Pn	**Pn**	**09 16 57.0**	**+0.9**
	2.0nm,0.7s,baz=33,slow=13						
MK31				⇓Sn	**Sn**	**09 18 33.2**	**-3.9**
	3.0nm,0.7s,baz=47,slow=23						
MK31				⇑Lg	Lg	09 19 24.4	

TLIG *e*S Sn 09 24 31.2 -4.2

ISCJB ***02*** *09:27:47.2±0.6, 33.°27S±0.°07×72.°3W±0.°1, h12km, mb4.2/12, Error ellipse: s-maj=14.4km s-min=9.8km az=170.7*
IDC ***02*** *09:27:47.6±0.8, 33.°32S×72.°26W, h0km, mb4.1/8, mb1 4.2/10, mb1mx4.1/28, mbtmp4.1/10, ML3.7/3, Error ellipse: s-maj=22.6km s-min=17.8km az=129.0*
NEIC ***02*** *09:27:52.6±0.6, 33.°25S×72.°20W, h35km, mb4.3/7, Error ellipse: s-maj=14.5km s-min=10.5km az=81.0*
ISC 02 09:27:49.4±0.7, 33.°28S±0.°08×72.°3W±0.°1, h12km, n27, σ1°11/22, mb4.3/12, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.81**	**65**	P	**Pn**	**09 28 49.7**	**+1.7**
	0.8nm,0.3s,baz=224,slow=11,SNR=11						
CFAA				Lg	Lg	09 29 51.5	
	4.4nm,0.3s,baz=137,slow=9.1,SNR=5.4						
PLCA	**Paso Flores**	**7.57**	**170**	Pn	Pn	09 29 44.3	+4.7
	2.1nm,0.3s,baz=326,slow=9.4,SNR=5.0						
PLCA	**Paso Flores**	**7.57**	**170**	Pn	**Pn**	**09 29 39.7**	**+0.1**
	7.1nm,0.6s						
TRQA	**Tornquist**	**9.65**	**123**	*e*Pn	**Pn**	**09 30 08.3**	**+0.3**
	33nm,1.1s						
LVC	**Limon Verde**	**11.03**	**17**	Pn	**Pn**	**09 30 25.7**	**-1.6**
CPUP	**Villa Florida**	**14.71**	**66**	Pn	**Pn**	**09 31 18.8**	**+1.5**
	0.3nm,0.3s,baz=241,slow=19,SNR=2.3						
CPUP	**Villa Florida**	**14.71**	**66**	*e*Pn	**Pn**	**09 31 17.0**	**-0.3**
LPAZ	**La Paz**	**17.33**	**14**	P	**Pn**	**09 31 51.9**	**+0.1**
	0.1nm,0.3s,baz=166,slow=6.8,SNR=6.6						
LPAZ	**La Paz**	**17.33**	**14**	*e*Pn	**Pn**	**09 31 51.9**	**+0.1**
	6.6nm,0.8s						
SIV	**San Ignacio**	**19.98**	**33**	P	**P**	**09 32 21.1**	**-0.6**
	6.2nm,0.6s,baz=218,slow=11,SNR=12						
SAML	**Samuel**	**25.63**	**21**	*e*P	**P**	**09 33 18.9**	**+0.1**
	4.7nm,0.8s						
BDFB	**Brasilia**	**28.11**	**57**	P	**P**	**09 33 39.8**	**-1.5**
	1.5nm,0.4s,baz=252,slow=9.6,SNR=2.5						
OTAV	**Otavalo**	**33.84**	**349**	*e*P	**P**	**09 34 30.6**	**-1.6**
	2.3nm,1.0s						
SNAA	**Sanae**	**52.33**	**158**	P	**P**	**09 37 00.4**	**-0.2**
	1.3nm,0.8s,baz=288,slow=9.0,SNR=6.7						
QSPA	**South Pole Qui**	**56.96**	**180**	P	**P**	**09 37 34.7**	**+0.3**
	3.5nm,0.9s,baz=154,slow=1.8,SNR=9.2						
QSPA	**South Pole Qui**	**56.96**	**180**	*e*P	**P**	**09 37 34.0**	**-0.4**
	3.7nm,0.9s						
JCT	**Junction City**	**68.54**	**335**	*e*P	**P**	**09 38 53.8**	**+2.0**
	1.3nm,0.5s						
TXAR	**Lajitas Array**	**69.00**	**331**	P	**P**	**09 38 54.8**	**0.0**
	0.9nm,0.7s,baz=152,slow=8.0,SNR=10						
SWET	**Sewanee**	**69.33**	**348**	*e*P	P	09 38 54.1	-2.5
	44nm,1.7s						
WVT	**Waverly**	**70.56**	**347**	*e*P	**P**	**09 39 04.5**	**+0.4**
	3.0nm,0.7s						
BOSA	**Boshof**	**80.59**	**118**	P	**P**	**09 40 01.7**	**-0.5**
	2.9nm,0.8s,baz=254,slow=7.4,SNR=4.0						
NVAR	**Mina Array Bea**	**83.17**	**325**	P	**P**	**09 40 17.7**	**+2.2**
	0.4nm,0.7s,baz=126,slow=9.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**84.16**	**70**	P	**P**	**09 40 20.1**	**-0.8**
	3.0nm,0.8s,baz=253,slow=4.4,SNR=15						
H11S2	**WAKE ISLAND Hyl**	**25.57**	**270**	T	T	12 05 48.2	
	baz=118,slow=74,SNR=4.3						
H11S1	**WAKE ISLAND Hyl**	**25.58**	**270**	T	T	12 05 49.7	
	baz=118,slow=74,SNR=3.9						
H11S3	**WAKE ISLAND Hyl**	**25.58**	**270**	T	T	12 05 52.5	
	baz=118,slow=74,SNR=3.2						
BVAR	**Borovoye Array**	**146.89**	**42**	PKPbc	**PKPbc**	**09 47 31.5**	**+0.4**
	1.2nm,0.7s,baz=292,slow=3.9,SNR=4.1						

IDC ***02*** *09:29:47.2±1.2, 34.°95S×72.°50W, h0km, mb4.0/5, mb1 4.1/8, mb1mx3.9/32, mbtmp3.9/8, ML4.2/2, Error ellipse: s-maj=39.4km s-min=17.5km az=90.0*
ISCJB ***02*** *09:29:48.2±0.8, 34.°86S±0.°07×72.°6W±0.°2, h18km, mb4.0/6, Error ellipse: s-maj=19.2km s-min=10.6km az=177.4*
NEIC ***02*** *09:29:52.4±0.6, 34.°85S×72.°58W, h35km, mb4.0/2, Error ellipse: s-maj=15.6km s-min=8.7km az=88.0*
ISC 02 09:29:49.9±0.9, 34.°86S±0.°09×72.°7W±0.°2, h18km, n14, σ0°79/14, mb4.1/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.93**	**50**	P	**Pn**	**09 31 02.6**	**-0.5**
	baz=201,slow=17,SNR=1.2						
PLCA	**Paso Flores**	**6.10**	**165**	Pn	**Pn**	**09 31 19.1**	**-0.1**
	1.8nm,0.3s,baz=354,slow=11,SNR=3.9						
PLCA				Lg	Lg	09 32 54.1	
	1.2nm,0.3s,baz=238,slow=13,SNR=2.0						
TRQA	**Tornquist**	**9.18**	**113**	*e*Pn	**Pn**	**09 32 02.8**	**+1.3**
LVC	**Limon Verde**	**12.63**	**16**	*e*Pn	**Pn**	**09 32 48.9**	**-0.1**
	36nm,0.8s						
LPAZ	**La Paz**	**18.93**	**14**	P	**Pn**	**09 34 12.6**	**+1.4**
	0.2nm,0.3s,baz=190,slow=6.8,SNR=4.1						
LPAZ	**La Paz**	**18.93**	**14**	*e*P	**Pn**	**09 34 11.9**	**+0.7**
	3.0nm,0.6s						
SIV	**San Ignacio**	**21.48**	**32**	P	**P**	**09 34 36.5**	**-1.1**
	2.3nm,0.6s,baz=216,slow=14,SNR=3.5						
QSPA	**South Pole Qui**	**55.38**	**180**	P	**P**	**09 39 22.5**	**-0.2**
	1.4nm,0.9s,baz=135,slow=1.5,SNR=2.3						
QSPA	**South Pole Qui**	**55.38**	**180**	*e*P	**P**	**09 39 22.9**	**+0.2**
TXAR	**Lajitas Array**	**70.23**	**331**	P	**P**	**09 41 02.5**	**+0.6**
	0.5nm,0.7s,baz=150,slow=8.5,SNR=4.3						
BOSA	**Boshof**	**80.13**	**118**	P	**P**	**09 41 58.8**	**-0.5**
	3.2nm,0.7s,baz=238,slow=3.4,SNR=6.2						
ECSD	**EROS Data Cent**	**81.21**	**343**	*e*P	**P**	**09 42 04.7**	**+0.4**
	2.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**84.99**	**70**	P	**P**	**09 42 24.1**	**-0.4**
	1.1nm,0.7s,baz=282,slow=4.7,SNR=5.9						
ABKAR	**Akbulak array**	**142.62**	**53**	*e*PKPdf	**PKPdf**	**09 49 20.8**	**-0.6**

IDC ***02*** *09:33:18.2±1.0, 36.°16S×73.°39W, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.9/34, mbtmp4.0/10, ML4.0/2, MS3.3/2, Ms1 3.3/2, ms1mx3.1/27, Error ellipse: s-maj=33.6km s-min=16.0km az=85.0*
ISCJB ***02*** *09:33:21.8±0.6, 36.°20S±0.°07×73.°2W±0.°1, h35km, mb4.1/12, Error ellipse: s-maj=15.6km s-min=9.9km az=168.4*
NEIC ***02*** *09:33:23.5±0.5, 36.°17S×73.°27W, h35km, mb4.2/7, Error ellipse: s-maj=13.6km s-min=9.1km az=78.0*
ISC 02 09:33:23.6±0.7, 36.°17S±0.°09×73.°2W±0.°1, h35km, n21, σ0°86/19, mb4.1/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.02**	**156**	Pn	**Pn**	**09 34 37.0**	**+0.5**
	1.8nm,0.3s,baz=326,slow=10,SNR=5.1						
PLCA				Lg	Lg	09 35 59.7	
	5.8nm,0.3s,baz=78,slow=21,SNR=3.9						
CFAA	**Coronel Fontan**	**6.17**	**44**	Pn	**Pn**	**09 34 52.9**	**+0.6**
	1.9nm,0.3s,baz=212,slow=16,SNR=14						
CFAA				LR	LR	09 37 39.5	
	comp=Z,57nm,18.3s,baz=233,slow=42						
TRQA	**Tornquist**	**9.19**	**105**	Pn	**Pn**	**09 35 33.5**	**-0.3**
LVC	**Limon Verde**	**14.03**	**17**	*e*Pn	**Pn**	**09 36 41.4**	**+1.2**
USHA	**Ushuaia**	**18.95**	**171**	LR	LR	09 45 42.6	
	comp=Z,334nm,19.0s,baz=332,slow=39						
LPAZ	**La Paz**	**20.32**	**14**	P	Pn	09 37 58.4	-1.4
	2.7nm,0.6s,baz=194,slow=9.4,SNR=9.7						
LPAZ	**La Paz**	**20.32**	**14**	*e*P	**P**	**09 37 56.0**	**-1.5**
	9.2nm,1.2s						
SIV	**San Ignacio**	**22.84**	**31**	P	**P**	**09 38 23.0**	**-0.9**
	3.6nm,0.6s,baz=224,slow=8.0,SNR=10						
OTAV	**Otavalo**	**36.55**	**351**	*e*P	**P**	**09 40 28.4**	**+1.8**
	1.5nm,0.5s						
SNAA	**Sanae**	**49.96**	**157**	P	**P**	**09 42 13.9**	**+0.2**
	1.1nm,0.9s,baz=283,slow=7.4,SNR=6.9						
QSPA	**South Pole Qui**	**54.07**	**180**	P	**P**	**09 42 44.3**	**-0.2**
	2.4nm,0.9s,baz=285,slow=0.8,SNR=8.3						
QSPA	**South Pole Qui**	**54.07**	**180**	*e*P	**P**	**09 42 44.7**	**+0.2**
	3.7nm,0.9s						
TXAR	**Lajitas Array**	**71.17**	**332**	P	**P**	**09 44 38.9**	**+0.1**
	0.4nm,0.6s,baz=155,slow=9.7,SNR=5.7						
SWET	**Sewanee**	**72.00**	**349**	*e*P	**P**	**09 44 43.2**	**-0.5**
	2.8nm,0.5s						
DBIC	**Dimbokro**	**76.81**	**72**	P	**P**	**09 45 12.2**	**+0.2**
	1.5nm,0.6s,baz=191,slow=5.2,SNR=3.8						
CCUT	**Cedar City**	**82.23**	**329**	*e*P	**P**	**09 45 39.9**	**-1.4**
	0.9nm,0.7s						
ECSD	**EROS Data Cent**	**82.32**	**343**	*e*P	**P**	**09 45 40.9**	**-0.5**
	2.2nm,0.5s						
DUG	**Dugway, Tooele**	**84.26**	**331**	*e*P	**P**	**09 45 51.7**	**+0.1**
	0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**85.87**	**71**	P	**P**	**09 45 59.9**	**-0.2**
	1.5nm,1.2s,baz=254,slow=4.2,SNR=3.3						
ULM	**Lac du Bonnet**	**88.35**	**346**	P	**P**	**09 46 10.1**	**-1.1**
	2.1nm,0.8s,baz=163,slow=6.8,SNR=5.0						
BVAR	**Borovoye Array**	**149.53**	**45**	PKPbc	**PKPbc**	**09 53 08.8**	**+0.2**
	0.5nm,0.5s,baz=294,slow=3.8,SNR=4.0						

NIED ***02*** *09:35:00, 25.°90N×128.°70E, h17km, Mw4.9 Best double couple: M0:2.70000×10^16 NP1:φ0=132.00000°, δ50.00000°, λ173.00000°. NP2:φ0=227.00000°, δ85.00000°, λ41.00000°.*
IDC ***02*** *09:35:15.1±0.4, 25.°96N×128.°52E, h0km, mb4.6/33, mb1 4.7/36, mb1mx4.6/51, mbtmp4.6/36, ML3.9/3, MS4.2/20, Ms1 4.2/20, ms1mx4.0/39, Error ellipse: s-maj=15.0km s-min=9.8km az=74.0*
BJI ***02*** *09:35:15.1, 25.°92N×128.°61E, h22km, mB4.9/48, mb4.8/68, Ms5.0/74, MS7 4.8/66*
JMA ***02*** *09:35:16.9±0.2, 25.°93N×128.°65E, h33km, M5.1*
JMA Felt I J1.
ISCJB ***02*** *09:35:17.5±0.7, 25.°98N±0.°02×128.°49E±0.°02, h24km±4km, mb4.8/109, MS4.6/35, Error ellipse: s-maj=4.2km s-min=2.8km az=138.2*
MOS ***02*** *09:35:18.7±1.2, 26.°01N×128.°56E, h33km, mb5.0/61, MS4.7/12, Error ellipse: s-maj=8.2km s-min=4.7km az=110.1*
NEIC ***02*** *09:35:20.4±0.2, 25.°96N×128.°49E, h35km, mb5.0/34, MW4.9(NIED), Error ellipse: s-maj=6.2km s-min=4.8km az=124.0*
NEIC Felt at Chatan and Okinawa, Okinawa. Recorded [1 JMA] on Okinawa.
SZGRF ***02*** *09:35:24.2, 26.°29N×129.°22E, h33km, mb5.1, MS5.1, Ryukyu Islands, Japan*
ISC 02 09:35:19.2±0.4, 26.°02N±0.°03×128.°47E±0.°03, h24km±2km, h24km:pP-P, n343, σ1°89/407, mb4.9/109, MS4.6/37, 22C-21D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.64**	**321**	P	**Pb**	**09 35 31.6**	**-0.2**
JNTH				*e*S	**Sn**	**09 35 42.5**	**+0.3**
JJT2	**Tamagusuku 2**	**0.66**	**281**	P	**Pb**	**09 35 32.4**	**+0.3**
JJT2				S	**Sn**	**09 35 43.9**	**+1.2**
JOW	**Kunigami**	**0.83**	**348**	P	**Pb**	**09 35 34.5**	**-0.5**
JOW				S	**Sb**	**09 35 46.3**	**+0.5**
JOW	**Kunigami**	**0.83**	**348**	Pn	**Pb**	**09 35 34.6**	**-0.4**
	75nm,0.3s,baz=133,slow=20,SNR=859						
JOW				Sn	**Sb**	**09 35 46.1**	**+0.3**
	205nm,0.3s,baz=131,slow=19,SNR=30						
JOW				LR	LR	09 35 58.0	
	comp=Z,615nm,19.4s,baz=165,slow=48						
JOW	**Kunigami**	**0.83**	**348**	*e*Pn	**Pb**	**09 35 34.7**	**-0.4**
JOW				*e*Sn	**Sn**	**09 35 47.3**	**+0.3**
JIH	**Iheya**	**1.11**	**336**	P	**Pn**	**09 35 39.1**	**-0.2**
JIH				*e*S	**Sb**	**09 35 54.3**	**+0.5**
JAGN	**Aguni-jima**	**1.24**	**298**	P	**Pn**	**09 35 41.0**	**0.0**
JAGN				S	**Sb**	**09 35 58.8**	**+1.3**
JOKE	**Okinoerabujima**	**1.34**	**4**	P	**Pn**	**09 35 41.6**	**-0.9**
JOKE				S	**Sn**	**09 35 58.5**	**-1.1**
JKE	**Kume jima 2**	**1.54**	**282**	P	**Pn**	**09 35 44.4**	**-0.8**
JKE				S	**Sn**	**09 36 04.0**	**-0.5**
JTK	**Tokunoshima**	**1.81**	**14**	P	**Pn**	**09 35 47.9**	**-1.1**
JTK				S	**Sn**	**09 36 09.2**	**-2.0**
JAMN	**Amaminishikomi**	**2.31**	**16**	P	**Pn**	**09 35 54.7**	**-1.0**
JAMN				S	**Sn**	**09 36 23.5**	**+0.2**
JMZ	**Minamidaito 2**	**2.48**	**94**	P	Pn	09 35 53.5	-4.7
JMZ				*e*S	Sn	09 36 20.1	-7.7
JAM	**Amami Oshima**	**2.59**	**23**	P	**Pn**	**09 35 58.1**	**-1.5**
JAM				S	**Sn**	**09 36 27.8**	**-2.5**
JZK	**Kikaishima**	**2.65**	**30**	P	**Pn**	**09 36 00.0**	**-0.5**
JZK				S	**Sn**	**09 36 31.2**	**-0.7**
JOGS	**Gusukube**	**3.04**	**246**	P	**Pn**	**09 36 05.0**	**-0.8**
JOGS				S	**Sn**	**09 36 39.8**	**-1.7**
JIKM	**Ikemajima**	**3.11**	**250**	P	**Pn**	**09 36 06.1**	**-0.7**
JIKM				*e*S	**Sn**	**09 36 41.2**	**-2.0**
JMJ	**Miyako jima 2**	**3.11**	**248**	P	**Pn**	**09 36 06.0**	**-0.8**
JMJ				S	**Sn**	**09 36 41.7**	**-1.5**
JTAJ	**Takarajima**	**3.19**	**12**	P	**Pn**	**09 36 06.7**	**-1.2**
YOJ	**Yonaguni jima**	**5.18**	**254**	*e*P	**Pn**	**09 36 33.4**	**-1.9**
YOJ				*e*		09 37 32.9	
YOJ	**Yonaguni jima**	**5.18**	**254**	*e*Pn	**Pn**	**09 36 33.4**	**-1.9**
YOJ				*e*Sn	**Sn**	**09 37 32.9**	**-1.4**
TATO	**Taipei**	**6.39**	**262**	*e*Pn	**Pn**	**09 36 53.7**	**+1.7**
TATO				*e*Sn	**Sn**	**09 38 01.2**	**-3.0**
NACB	**Ninganchiao**	**6.50**	**255**	*e*Pn	**Pn**	**09 36 50.6**	**-2.8**
	58nm,0.6s						
NACB				*e*Sn	**Sn**	**09 38 04.0**	**-2.8**
YHNB	**Yeheng**	**6.56**	**260**	*e*Pn	**Pn**	**09 36 54.3**	**0.0**
	192nm,1.1s						
YULB	**Yu-li**	**7.03**	**250**	*e*Pn	Pn	09 36 55.6	-5.0
	30nm,0.6s						
YULB				*e*Sn	**Sn**	**09 38 14.7**	**-5.1**
JTA	**Tamana**	**7.15**	**14**	P	**Pn**	**09 37 03.3**	**+1.0**
SSLB	**Suanglung**	**7.17**	**254**	*e*Pn	Pn	09 36 59.3	-3.4
JNU	**Nakatsue**	**7.38**	**16**	P	**Pn**	**09 37 06.2**	**+0.6**
JNU	**Nakatsue**	**7.38**	**16**	Pn	**Pn**	**09 37 06.1**	**+0.6**
	4.4nm,0.3s,baz=194,slow=6.6,SNR=51						
JNU	**Nakatsue**	**7.38**	**16**	*e*Pn	**Pn**	**09 37 06.1**	**+0.6**
JNU				*e*Sn	**Sn**	**09 38 29.6**	**+1.0**
TPUB	**Ta-pu**	**7.63**	**251**	*e*Pn	**Pn**	**09 37 07.0**	**-1.9**
	43nm,0.6s						
TPUB				*e*Sn	**Sn**	**09 38 29.3**	**-5.3**
SSE	**Sheshan**	**8.16**	**310**	P	**Pn**	**09 37 14.6**	**-1.6**
SSE				S	Sn	09 38 57.0	+9.4
SSE				PMZ			
	11nm,0.7s						
SSE				PMZ			
	230nm,5.4s						
SSE				LN			
	5μm,9.7s						
SSE				LE			
	6μm,9.9s						
SSE				LZ			
	9μm,10.6s						
QZH	**Quanzhou**	**8.99**	**265**	⇓*i*P	Pn	09 37 31.8	+4.2
QZH				S	Sn	09 39 14.6	+6.5
QZH				LN			
	5μm,12.5s						
QZH				LE			
	3μm,11.8s						
QZH				LZ			
	7μm,12.4s						
NJ2	**Nanjing**	**10.34**	**308**	*e*P	**Pn**	**09 37 43.8**	**-2.2**
NJ2				S	**Sn**	**09 39 38.3**	**-2.9**
NJ2				PMZ			
	12nm,0.6s						
NJ2				LN			
	4μm,12.0s						
NJ2				LE			
	8μm,11.0s						
NJ2				LZ			
	9μm,12.5s						
KSAR	**Wonju Array Be**	**11.40**	**358**	P	**Pn**	**09 38 01.9**	**+1.3**
KSAR	**Wonju Array Be**	**11.40**	**358**	Pn	**Pn**	**09 38 01.9**	**+1.3**
KSRS	**Korea Array**	**11.41**	**358**	Pn	**Pn**	**09 38 01.9**	**+1.2**
	0.3nm,0.3s,baz=179,slow=14,SNR=24						
KSRS				LR	LR	09 42 48.4	
	comp=Z,2μm,18.2s,baz=176,slow=40						
JCJ	**Chichijima**	**12.32**	**82**	LR	LR	09 42 00.0	
	comp=Z,462nm,22.0s,baz=120,slow=33						
WHN	**Wuhan**	**13.23**	**293**	P	**Pn**	**09 38 26.3**	**+0.7**
WHN				S	**Sn**	**09 40 54.9**	**+2.9**
WHN				LN			
	3μm,10.3s						
WHN				LE			
	10μm,14.7s						
WHN				LZ			
	12μm,12.8s						
MAJO	**Matsushiro**	**13.38**	**36**	P	**Pn**	**09 38 28.0**	**+0.3**
MAJO	**Matsushiro**	**13.38**	**36**	*e*Pn	**Pn**	**09 38 25.0**	**-2.7**
MAT	**Matsushiro**	**13.38**	**36**	P	**Pn**	**09 38 27.7**	**0.0**
MAT				*e*S	**Sn**	**09 40 52.4**	**-3.3**
MJAR	**Matsushiro Arr**	**13.38**	**36**	Pn	**Pn**	**09 38 27.7**	**0.0**
	0.4nm,0.3s,baz=242,slow=12,SNR=5.7						
TIA	**Tai'an**	**14.05**	**319**	⇑P	**P**	**09 38 45.8**	**+1.5**
TIA				S	S	09 41 23.6	-9.3
ENH	**Enshi**	**17.27**	**289**	*e*P	**Pn**	**09 39 17.9**	**-0.9**
	12nm,0.9s						
BJT	**Baijiatuau**	**17.33**	**327**	*e*P	**P**	**09 39 22.2**	**+1.4**
BJT				pmax	pmax		
	comp=Z,30nm,0.8s						
BJT	**Baijiatuau**	**17.33**	**327**	*e*Pn	**P**	**09 39 22.2**	**+1.4**
	comp=Z,30nm,0.8s						
BJI	**Beijing**	**17.35**	**327**	P	**Pn**	**09 39 20.3**	**+0.6**
BJI				S	**Sn**	**09 42 29.9**	**-2.1**
BJI				PMZ			
	comp=Z,38nm,1.3s						
BJI				PMZ			
	comp=Z,530nm,8.4s						
BJI				LN			
	comp=Z,6μm,14.1s						
BJI				LE			
	comp=Z,2μm,13.2s						
BJI				LZ			
	comp=Z,2μm,15.1s						
CN2	**Changchun**	**17.91**	**353**	*e*P	**Pn**	**09 39 26.8**	**+0.1**
CN2				*e*pP	**pP**	**09 39 31.3**	**-2.4**
CN2				*e*S	**Sn**	**09 42 42.1**	**-3.6**
CN2				PMZ			
	comp=Z,20nm,1.2s						
CN2				LN			
	comp=Z,3μm,12.0s						
CN2				LE			
	comp=Z,4μm,12.0s						
CN2				LZ			
	comp=Z,3μm,14.0s						
USRK	**Ussuriysk Ar.**	**18.36**	**8**	P	**Pn**	**09 39 33.6**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=188,slow=9.0,SNR=24						
QIZ	**Qiongzhong**	**18.55**	**252**	P	**P**	**09 39 34.0**	**-0.3**
QIZ				S	**Sn**	**09 42 59.3**	**-2.1**
QIZ				PMZ			
	comp=Z,420nm,10.3s						
QIZ				LN			
	comp=Z,1μm,20.1s						
QIZ				LE			
	comp=Z,490nm,15.7s						
QIZ				LZ			
	comp=Z,1μm,17.1s						
QIZ	**Qiongzhong**	**18.55**	**252**	*e*P	**Pn**	**09 39 37.7**	**+3.1**
	comp=Z,54nm,1.3s						
MDJ	**Mudanjiang**	**18.58**	**3**	P	**Pn**	**09 39 35.1**	**+0.3**
MDJ				pP	**pP**	**09 39 41.5**	**+0.5**
MDJ				sP	**sP**	**09 39 44.0**	**-0.2**
MDJ				S	**Sn**	**09 43 00.9**	**-0.9**
MDJ				PcP	**PcP**	**09 44 03.5**	**+0.4**
MDJ				PcS	**PcS**	**09 47 40.1**	**+0.4**
MDJ				PMZ			
	comp=Z,6.0nm,1.2s						
MDJ				PMZ			
	comp=Z,120nm,10.2s						
MDJ				LN			
	comp=Z,280nm,16.0s						
MDJ				LE			
	comp=Z,690nm,18.6s						
MDJ				LZ			
	comp=Z,820nm,18.6s						
XAN	**Xi'an**	**18.70**	**300**	P	**P**	**09 39 36.0**	**+0.1**
XAN				pP	**pP**	**09 39 42.0**	**-0.5**
XAN				sP	**sP**	**09 39 46.1**	**+0.5**
XAN				S	**Sn**	**09 42 58.5**	**-6.5**
XAN				SS	**SnSn**	**09 43 26.7**	**+7.8**
XAN				PMZ			
	comp=Z,15nm,1.2s						
XAN				PMZ			
	comp=Z,93nm,8.9s						
XAN				LN			
	comp=Z,1μm,12.4s						
XAN				LE			
	comp=Z,1μm,13.8s						
XAN				LZ			
	comp=Z,910nm,13.8s						
GYA	**Guiyang**	**19.57**	**276**	⇑*i*P	**Pn**	**09 39 48.8**	**+1.8**
GYA				PP	**PnPn**	**09 40 05.0**	**+4.4**
GYA				S	**S**	**09 43 19.4**	**-5.9**
GYA				SS	**SnSn**	**09 43 46.2**	**+5.9**
GYA				PMZ			
	comp=Z,20nm,0.9s						
GYA				PMZ			
	comp=Z,120nm,7.2s						
GYA				LN			
	comp=Z,870nm,15.1s						
GYA				LE			
	comp=Z,640nm,16.4s						
GYA				LZ			
	comp=Z,780nm,16.2s						
ERM	**Erimo**	**20.02**	**33**	⇑*i*P	**P**	**09 39 49.3**	**-1.0**
HHC	**Hu-ho-hao-te**	**20.39**	**321**	*e*P	**P**	**09 39 54.6**	**+0.2**
HHC				sP	**sP**	**09 40 03.0**	**-1.1**
HHC				PP	**PnPn**	**09 40 15.3**	**+3.6**
HHC				S	**S**	**09 43 35.1**	**-6.7**
HHC				SS	**SnSn**	**09 44 03.4**	**+3.0**
HHC				PMZ			
	comp=Z,74nm,1.2s						
HHC				PMZ			
	comp=Z,430nm,5.1s						
HHC				LN			
	comp=Z,6μm,9.9s						
HHC				LE			
	comp=Z,4μm,11.1s						
HHC				LZ			
	comp=Z,6μm,11.1s						
BTO	**Baotou**	**21.14**	**318**	*e*P	**P**	**09 40 01.1**	**-1.4**
ASAJ	**Asahikawa**	**21.39**	**29**	P	**P**	**09 40 03.7**	**-1.3**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ASAJ	**Asahikawa**	**21.39**	**29**	P	**P**	**09 40 03.6**	**-1.3**
	comp=Z,2.5nm,0.4s,baz=262,slow=7.1,SNR=3.7						
CD2	**Chengdu**	**22.25**	**288**	⇓*i*P	**P**	**09 40 12.8**	**-1.7**
CD2				sP	**sP**	**09 40 22.4**	**-1.8**
CD2				PP	**PnPn**	**09 40 38.1**	**+0.9**
CD2				S	**S**	**09 44 13.1**	**-5.1**
CD2				SS	**SnSn**	**09 44 52.3**	**+6.3**
CD2				PMZ			
	comp=Z,30nm,1.0s						
CD2				PMZ			
	comp=Z,370nm,4.2s						
CD2				LN			
	comp=Z,3μm,13.1s						
CD2				LE			
	comp=Z,5μm,11.9s						
CD2				LZ			
	comp=Z,6μm,13.1s						
SLVN	**Son La**	**22.96**	**263**	*e*P	**P**	**09 40 22.8**	**+0.7**
	comp=Z,25nm,0.9s						
KMI	**Kunming**	**23.22**	**273**	P	**P**	**09 40 24.7**	**-0.2**
KMI				pP	**pP**	**09 40 30.3**	**-1.3**
KMI				sP	**sP**	**09 40 33.2**	**-1.5**
KMI				PP	**PnPn**	**09 40 55.6**	**+4.9**
KMI				S	**S**	**09 44 29.9**	**-5.8**
KMI				SS	**SnSn**	**09 45 15.8**	**+5.7**
KMI				PMZ			
	comp=Z,72nm,1.3s						
KMI				PMZ			
	comp=Z,250nm,3.4s						
K

YSS			*e*S	**S**	**09 44 42.0**	**-1.8**
YSS			*e*SS	**SnSn**	**09 45 32.0**	**+9.0**
YSS			pmax	pmax		
	comp=Z,270nm,1.2s					
YSS			pmax	pmax		
	comp=N,120nm,1.1s					
YSS			pmax	pmax		
	comp=E,70nm,1.0s					
YSS			MLR	MLR		
	comp=E,500nm,16.0s					
YSS			MLR	MLR		
	comp=Z,500nm,16.0s					
YSS	**Yuzh-Sakhalins**	**23.77 25**	*e*P	**P**	**09 40 30.5**	**+0.8**
	comp=Z,484nm,1.5s					
KUR	**Kuril'sk**	**24.71 34**	⇓*i*P	**P**	**09 40 39.3**	**+0.8**
KUR			pmax	pmax		
	comp=Z,292nm,1.3s					
KUR			pmax	pmax		
	comp=E,27nm,1.3s					
KUR			pmax	pmax		
	comp=N,71nm,1.3s					
KUR			pmax	pmax		
	comp=Z,290nm,1.3s					
CRAI	**Chiangrai**	**26.44 263**	P	**P**	**09 40 55.0**	**+0.5**
	comp=Z,17nm,1.0s,comp=Z,651nm					
UTTA	**Uttaradit**	**27.14 258**	P	**P**	**09 41 01.9**	**+1.2**
	comp=Z,3.3nm,1.0s,comp=Z,41nm					
GTA	**Gaotai**	**27.43 306**	⇑P	**P**	**09 41 02.2**	**-1.1**
GTA			pP	**pP**	**09 41 07.4**	**-3.0**
GTA			sP	**sP**	**09 41 10.9**	**-2.5**
GTA			S	**S**	**09 45 41.6**	**-0.9**
GTA			sS	**sS**	**09 45 49.7**	**-4.6**
GTA			SS	**SnSn**	**09 46 58.4**	**+5.6**
GTA			PMZ			
	comp=Z,77nm,0.9s					
GTA			PMZ			
	comp=Z,220nm,5.7s					
GTA			LN			
	comp=Z,1μm,11.4s					
GTA			LE			
	comp=Z,1μm,12.4s					
GTA			LZ			
	comp=Z,2μm,13.8s					
ULN	**Ulaanbaatar**	**27.55 328***c*	*i*P	**P**	**09 41 02.7**	**-1.6**
ULN			pmax	pmax		
	comp=Z,74nm,1.7s					
ULN	**Ulaanbaatar**	**27.55 328**	P	**P**	**09 41 03.7**	**-0.6**
	SNR=30					
ULN	**Ulaanbaatar**	**27.55 328**	*e*P	**P**	**09 41 02.9**	**-1.4**
	comp=Z,85nm,1.5s					
LAMP	**Lampang**	**27.67 260**	P	**P**	**09 41 06.5**	**+1.0**
	comp=Z,9.0nm,0.8s,comp=Z,86nm					
CMAI	**Chiengmai2**	**27.72 264**	P	**P**	**09 41 07.6**	**+1.5**
	comp=Z,20nm,1.3s,comp=Z,718nm					
SONM	**Songino Array**	**27.85 327**	P	**P**	**09 41 05.8**	**-1.1**
SONM			pmax	pmax		
	comp=Z,12nm,0.8s					
SONM			MLR	MLR		
	comp=Z,936nm,19.4s					
SONM	**Songino Array**	**27.85 327**	P	**P**	**09 41 05.8**	**-1.1**
	comp=Z,12nm,0.8s,baz=143,slow=7.2,SNR=38					
SONM			LR	LR	09 53 40.8	
	comp=Z,936nm,19.4s,baz=132,slow=40					
SBUM	**Sibu**	**28.16 216**	*e*P	**P**	**09 41 10.5**	**+0.6**
CHTO	**Chiang Mai**	**28.18 261**	*e*P	**P**	**09 41 10.4**	**+0.3**
CHTO			pmax	pmax		
	comp=Z,19nm,1.0s					
CHTO	**Chiang Mai**	**28.18 261**	P	**P**	**09 41 10.9**	**+0.8**
	SNR=12					
CHTO	**Chiang Mai**	**28.18 261**	P	**P**	**09 41 10.6**	**+0.6**
	comp=Z,99nm,1.1s					
CHTO	**Chiang Mai**	**28.18 261**	*e*P	**P**	**09 41 10.3**	**+0.3**
	comp=Z,19nm,1.0s					
CMAR	**Chiang Mai Arr**	**28.30 261**	P	**P**	**09 41 12.2**	**+1.1**
	comp=Z,2.4nm,0.4s,baz=58,slow=8.3,SNR=20					
CMAR			LR	LR	09 53 55.3	
	comp=Z,373nm,18.6s,baz=70,slow=40					
KSM	**Kuching**	**30.02 219**	*e*P	**P**	**09 41 27.4**	**+1.0**
ZAK	**Zakamensk**	**31.08 328**	*e*P	**P**	**09 41 33.1**	**-2.5**
ZAK			pmax	pmax		
	comp=Z,3.0nm,1.6s					
TLY	**Talaya**	**31.80 330**	*e*P	**P**	**09 41 39.8**	**-2.0**
TLY			pmax	pmax		
	comp=Z,9.0nm,1.4s					
TLY			MLR	MLR		
	comp=Z,1μm,12.0s					
TLY	**Talaya**	**31.80 330**	P	**P**	**09 41 40.7**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=168,slow=12,SNR=5.7					
TLY	**Talaya**	**31.80 330**	*e*P	**P**	**09 41 40.7**	**-1.1**
	comp=Z,13nm,1.4s					
SHL	**Shillong**	**32.88 277**	*e*P	**P**	**09 41 52.0**	**+0.3**
SHL			*ex*	x	09 47 08.5	
LSA	**Lhasa**	**33.11 285**	*e*P	**P**	**09 41 54.6**	**+0.6**
LSA			pmax	pmax		
	comp=Z,3.0nm,0.4s					
LSA	**Lhasa**	**33.11 285**	*e*P	**P**	**09 41 54.6**	**+0.6**
	comp=Z,3.5nm,0.4s					
KULM	**Kulim**	**33.65 237**	*e*P	**P**	**09 41 60.0**	**+1.7**
	comp=Z,14nm,1.0s					
IPM	**Ipoh**	**33.90 235**	*e*P	**P**	**09 42 01.0**	**+0.5**
	comp=Z,20nm,1.1s					
PETK	**Petropavlovsk-**	**34.77 31**	P	**P**	**09 42 06.6**	**-1.0**
PETK			pmax	pmax		
	comp=Z,12nm,1.2s					
PETK			MLR	MLR		
	comp=Z,161nm,19.8s					
PETK	**Petropavlovsk-**	**34.77 31**	P	**P**	**09 42 06.6**	**-1.0**
	comp=Z,12nm,1.2s,baz=216,slow=12,SNR=3.5					
PETK			LR	LR	09 57 44.9	
	comp=Z,161nm,19.8s,baz=224,slow=39					
PET	**Petropavlovsk**	**35.16 32**	*e*P	**P**	**09 42 11.5**	**+0.6**
PET			*e*S	**S**	**09 47 46.0**	**+3.5**
PET			pmax	pmax		
	comp=Z,9.0nm,0.6s					
PET			MLR	MLR		
	comp=Z,300nm,19.0s					
YAK	**Yakutsk**	**36.02 1**	*e*P	**P**	**09 42 16.0**	**-2.1**
YAK			pmax	pmax		
	comp=Z,29nm,1.0s					
YAK			pmax	pmax		
	comp=N,39nm,1.5s					
YAK			pmax	pmax		
	comp=E,15nm,1.3s					
YAK	**Yakutsk**	**36.02 1**	*e*P	**P**	**09 42 18.5**	**+0.3**
	comp=E,24nm,0.6s					
BATI	**Baumata**	**36.31 188**	P	**P**	**09 42 18.3**	**-2.8**
	comp=E,50nm,0.6s,baz=310,slow=2.1,SNR=14					
HVS	**Khovu-Aksy**	**36.44 323***d*	*i*P	**P**	**09 42 21.8**	**-0.3**
HVS			pmax	pmax		
	comp=Z,169nm,1.6s					
WMQ	**Urumqi**	**37.42 309**	P	**P**	**09 42 30.0**	**-0.5**
WMQ			sP	**sP**	**09 42 39.0**	**-1.7**
WMQ			PP	**PnPn**	**09 43 56.6**	**-0.1**
WMQ			S	**S**	**09 48 14.7**	**-2.8**
WMQ			SS	**SnSn**	**09 50 46.0**	**-9.1**
WMQ			ScS	**ScS**	**09 52 41.1**	**-1.7**
WMQ			PMZ			
	comp=Z,43nm,1.0s					
WMQ			PMZ			
	comp=Z,210nm,5.6s					
WMQ			LN			
	comp=Z,500nm,19.0s					
WMQ			LE			
	comp=Z,140nm,21.0s					
WMQ			LZ			
	comp=Z,560nm,15.0s					
SEY	**Seymchan**	**40.16 17**	P	**P**	**09 42 53.2**	**+0.1**
SEY			pmax	pmax		
	comp=Z,6.0nm,1.0s					
SEY	**Seymchan**	**40.16 17**	P	**P**	**09 42 53.1**	**+0.1**
	comp=Z,5.6nm,0.9s,baz=200,slow=8.1,SNR=10					
MK31	**Makanchi Array**	**41.84 312**	P	**P**	**09 43 06.0**	**-1.2**
MK31			pmax	pmax		
	comp=Z,26nm,1.1s					
MKAR	**Makanchi Array**	**41.84 312**	P	**P**	**09 43 06.6**	**-0.6**
MKAR			pmax	pmax		
	comp=Z,4.0nm,0.5s					
MKAR			MLR	MLR		
	comp=Z,209nm,18.1s					
MKAR	**Makanchi Array**	**41.84 312**	P	**P**	**09 43 06.6**	**-0.6**
	comp=Z,3.9nm,0.5s,baz=99,slow=11,SNR=73					
MKAR			LR	LR	10 02 12.6	
	comp=Z,209nm,18.1s,baz=82,slow=39					
ZALV	**Zalesovo Beam**	**42.55 323**	P	**P**	**09 43 12.2**	**-0.6**
ZALV			pmax	pmax		
	comp=Z,4.0nm,0.6s					
ZALV			MLR	MLR		
	comp=Z,468nm,19.0s					
ZALV	**Zalesovo Beam**	**42.55 323**	P	**P**	**09 43 12.2**	**-0.6**
	comp=Z,3.5nm,0.6s,baz=105,slow=7.3,SNR=6.6					
ZALV			LR	LR	10 02 28.9	
	comp=Z,468nm,19.0s,baz=75,slow=38					
FX1	**Attu Island--F**	**42.72 39**	LR	LR	10 02 17.4	
	comp=Z,81nm,19.1s,baz=268,slow=38					
NVS	**Novosibirsk**	**43.75 324**	*i* P	**P**	**09 43 21.2**	**-1.3**
NVS			*i*		09 45 03.2	
NVS			pmax	pmax		
	comp=Z,44nm,2.2s					
NVS			pmax	pmax		
	comp=N,7.0nm,1.2s					
NVS			pmax	pmax		
	comp=E,20nm,1.4s					
FITZ	**Fitzroy Crossi**	**43.94 184**	*e*P	**P**	**09 43 23.5**	**-0.8**
	comp=E,14nm,0.8s					
KURK	**Kurchatov**	**45.12 317**	P	**P**	**09 43 33.3**	**-0.3**
	SNR=9.0					
KSH	**Kashi**	**45.55 301**	P	P	09 43 40.6	+3.3
KSH			sP	sP	09 43 49.5	+1.9
KSH			PP	**PP**	**09 45 27.6**	**+3.6**
KSH			S	**S**	**09 50 21.7**	**+3.4**
KSH			SS	**ScS**	**09 53 36.5**	**+4.0**
KSH			PMZ			
	comp=E,17nm,1.3s					
KSH			PMZ			
	comp=E,130nm,5.1s					
KSH			LN			
	comp=E,260nm,10.0s					
KSH			LE			
	comp=E,540nm,15.9s					
KSH			LZ			
	comp=E,790nm,16.0s					
TIXI	**Tiksi**	**45.67 0**	⇓*e*P	**P**	**09 43 37.2**	**-0.4**
TIXI			pmax	pmax		
	comp=Z,39nm,1.7s					
TIXI			MLR	MLR		
	comp=Z,472nm,18.0s					
TIXI	**Tiksi**	**45.67 0**	*e*P	**P**	**09 43 37.7**	**+0.2**
	comp=Z,47nm,1.5s					
TKM2	**Tokmak 2**	**45.98 305**	*e*P	**P**	**09 43 41.7**	**+1.0**
TKM2			pmax	pmax		
	comp=Z,15nm,0.8s					
TKM2	**Tokmak 2**	**45.98 305**	*e*P	**P**	**09 43 41.7**	**+1.0**
	comp=Z,15nm,0.8s					
WRAB	**Tennant Creek**	**46.03 172***d*	*i*P	**P**	**09 43 39.2**	**-1.8**
WRAB			pmax	pmax		
	comp=Z,58nm,0.7s					
WRAB	**Tennant Creek**	**46.03 172**	*e*P	**P**	**09 43 39.4**	**-1.7**
	comp=Z,19nm,0.6s					
WRA	**Warramunga Arr**	**46.04 172**	P	**P**	**09 43 39.4**	**-1.7**
WRA			pmax	pmax		
	comp=Z,16nm,0.6s					
WRA			MLR	MLR		
	comp=Z,127nm,19.6s					
WRA	**Warramunga Arr**	**46.04 172**	P	**P**	**09 43 39.4**	**-1.7**
	comp=Z,16nm,0.6s,baz=353,slow=8.4,SNR=135					
WRA			LR	LR	10 02 42.4	
	comp=Z,127nm,19.6s,baz=150,slow=36					
WB2	**Warramunga Arr**	**46.04 172**	*e*P	**P**	**09 43 39.3**	**-1.8**
AAK	**Ala-Archa**	**46.77 305**	⇓*i*P	**P**	**09 43 47.8**	**+0.9**
AAK			pmax	pmax		
	comp=Z,21nm,2.5s					
AAK	**Ala-Archa**	**46.77 305**	P	**P**	**09 43 47.2**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=164,slow=8.5,SNR=6.3					
AAK			LR	LR	10 06 03.0	
	comp=Z,334nm,18.4s,baz=93,slow=40					
AAK	**Ala-Archa**	**46.77 305**	*e*P	**P**	**09 43 47.5**	**+0.6**
HYB	**Hyderabad**	**46.92 270**	*i* P	**P**	**09 43 48.0**	**-0.3**
EKS2	**Erkin-Say**	**47.30 305**	*e*P	**P**	**09 43 52.1**	**+1.1**
EKS2			pmax	pmax		
	comp=Z,5.0nm,0.9s					
EKS2	**Erkin-Say**	**47.30 305**	*e*P	**P**	**09 43 52.1**	**+1.1**
	comp=Z,4.8nm,0.9s					
BILL	**Bilibino**	**47.80 18**	*e*P	**P**	**09 43 54.8**	**+0.4**
BILL			pmax	pmax		
	comp=Z,44nm,1.4s					
BILL	**Bilibino**	**47.80 18**	*e*P	**P**	**09 43 54.8**	**+0.4**
	comp=Z,44nm,1.4s					
CTA	**Charters Tower**	**48.98 158**	P	**P**	**09 44 03.4**	**-0.5**
CTA			pmax	pmax		
	comp=Z,10.0nm,0.7s					
CTA	**Charters Tower**	**48.98 158**	P	**P**	**09 44 03.4**	**-0.5**
	comp=Z,9.9nm,0.7s,baz=332,slow=9.9,SNR=15					
PALK	**Pallekele**	**49.09 256**	*i* P	**P**	**09 44 07.3**	**+2.2**
ASAR	**Alice Springs**	**49.67 173**	P	**P**	**09 44 08.5**	**-0.7**
	comp=Z,8.7nm,0.6s,baz=4.8,slow=13,SNR=126					
ASAR			LR	LR	10 04 00.5	
	comp=Z,87nm,20.5s,baz=350,slow=35					
KK31	**Karatay Array**	**49.71 306**	P	**P**	**09 44 09.5**	**+0.1**
KK31			pmax	pmax		
	comp=Z,3.0nm,0.6s					
KKAR	**Karatay Array**	**49.71 306**	*e*P	**P**	**09 44 09.3**	**-0.1**
KKAR			*e**PP	**pP**	**09 44 19.4**	**+2.5**
KKAR			pmax	pmax		
	comp=Z,4.0nm,0.6s					
KKAR	**Karatay Array**	**49.71 306**	*e*P	**P**	**09 44 09.3**	**-0.1**
	comp=Z,3.6nm,0.6s					
KKAR			*e*pP	**pP**	**09 44 19.4**	**+2.5**
BVA0	**Borovoye Array**	**50.58 318**	*i* P	**P**	**09 44 14.9**	**-0.9**
BVA0			pmax	pmax		
	comp=Z,18nm,1.2s					
BVAR	**Borovoye Array**	**50.58 318**	P	**P**	**09 44 16.5**	**+0.7**
BVAR			pmax	pmax		
	comp=Z,4.0nm,0.6s					
BVAR	**Borovoye Array**	**50.58 318**	P	**P**	**09 44 16.5**	**+0.7**
	comp=Z,4.2nm,0.6s,baz=86,slow=8.0,SNR=34					
BRVK	**Borovoye**	**50.64 318**	⇓*i*P	**P**	**09 44 16.3**	**0.0**
BRVK			pmax	pmax		
	comp=Z,33nm,1.2s					
BRVK	**Borovoye**	**50.64 318**	P	**P**	**09 44 16.7**	**+0.4**
	SNR=13					
BRVK	**Borovoye**	**50.64 318**	*e*P	**P**	**09 44 16.1**	**-0.2**
	comp=Z,26nm,1.0s					
POO	**Poona**	**50.79 273**	*e*P	**P**	**09 44 17.0**	**-1.0**
KBL	**Kabul**	**51.39 295**	*e*P	**P**	**09 44 23.1**	**+0.6**
KBL			*e**PP	**pP**	**09 44 33.2**	**+3.3**
KBL			pmax	pmax		
	comp=Z,24nm,0.8s					
KBL	**Kabul**	**51.39 295**	*e*P	**P**	**09 44 23.1**	**+0.6**
	comp=Z,24nm,0.8s					
KBL			*e*pP	**pP**	**09 44 33.1**	**+3.3**
TNA	**Tin City**	**55.73 27**	*e*P	**P**	**09 44 54.1**	**+0.7**
	comp=Z,30nm,1.1s					
SVE	**Sverdlovsk**	**56.56 322**	⇓*e*P	**P**	**09 45 00.3**	**+0.7**
SVE			*e*S	S	09 53 03.2	+13
SVE			pmax	pmax		
	comp=Z,42nm,1.6s					
SVE			MLR	MLR		
	comp=Z,2μm,14.0s					
AB31	**Akbulak array**	**56.95 313**	*i* P	**P**	**09 45 02.6**	**+0.1**
AB31			pmax	pmax		
	comp=Z,8.0nm,0.6s					
ABKAR	**Akbulak array**	**56.95 313**	*e*P	**P**	**09 45 02.9**	**+0.4**
	comp=Z,19nm,1.0s					
ARU	**Arti**	**57.69 322***d*	*i*P	**P**	**09 45 07.5**	**-0.1**
ARU					09 47 13.0	
ARU			S	**S**	**09 53 07.8**	**+3.1**
ARU			SS	**SS**	**09 56 51.8**	**-3.0**
ARU			pmax	pmax		
	comp=Z,33nm,1.7s					
ARU			MLR	MLR		
	comp=Z,1μm,17.0s					
ARU	**Arti**	**57.69 322**	*e*P	**P**	**09 45 07.5**	**-0.1**
	comp=Z,55nm,1.4s					
AKTO	**Aktyubinsk**	**58.13 315**	P	**P**	**09 45 11.6**	**+0.7**
AKTO			pmax	pmax		
	comp=Z,3.0nm,0.9s					
AKTO	**Aktyubinsk**	**58.13 315**	P	**P**	**09 45 11.6**	**+0.7**
	comp=Z,3.4nm,0.9s,baz=76,slow=7.2,SNR=10.0					
IMYA	**Miami**	**58.32 298**	*e*P	**P**	**09 45 13.8**	**+1.2**
ISRO	**Mashad**	**58.82 298**	*e*P	**P**	**09 45 15.0**	**-1.0**
STKA	**Stephens Creek**	**58.92 167**	P	**P**	**09 45 15.5**	**-0.8**
	comp=Z,4.4nm,0.6s,baz=342,slow=5.2,SNR=10					
STKA			LR	LR	10 10 44.2	
	comp=Z,75nm,19.8s,baz=26,slow=36					
GEYT	**Alibeck**	**59.58 300**	P	**P**	**09 45 21.9**	**+0.7**
	comp=Z,11nm,0.9s,baz=64,slow=3.4,SNR=18					
GEYT			LR	LR	10 14 54.3	
	comp=Z,288nm,19.6s,baz=100,slow=40					
IKOO	**Kooshah**	**60.02 294**	*e*P	**P**	**09 45 26.2**	**+1.7**
DZM	**Mont Dzumac**	**60.33 139**	P	**P**	**09 45 26.0**	**-0.5**
	comp=Z,4.1nm,0.6s,baz=311,slow=9.9,SNR=11					
IGLO	**Ghaloghah**	**63.23 300**	*e*P	**P**	**09 45 47.4**	**+1.3**
IANJ	**Anjilo**	**63.41 298**	*e*P	**P**	**09 45 47.6**	**+0.3**
PRGR	**Permogore**	**64.10 328**	P	**P**	**09 45 52.0**	**+1.0**
COLA	**College**	**64.10 28**	⇑*e*P	**P**	**09 45 53.6**	**+2.6**
COLA			pmax	pmax		
	comp=Z,62nm,2.0s					
ILAR	**Eielson Array**	**64.52 28**	P	**P**	**09 45 53.2**	**-0.6**
ILAR			pmax	pmax		
	comp=Z,1.0nm,0.5s					
ILAR	**Eielson Array**	**64.52 28**	P	**P**	**09 45 53.2**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=253,slow=5.2,SNR=21					
IGZV	**Ghazvin**	**66.08 300**	*e*P	**P**	**09 46 05.3**	**+0.6**
TMCR	**Tamitsa**	**67.10 332**	*e*P	**P**	**09 46 10.2**	**-0.2**
TMCR			*e*		09 46 38.3	
TMCR			pmax	pmax		
	comp=Z,46nm,1.3s					
KLMR	**Klimovskoe**	**67.14 328**	*e*P	**P**	**09 46 07.9**	**-2.8**
KLMR			pmax	pmax		
	comp=Z,25nm,1.4s					
APA	**Apatity**	**68.14 336**	⇓*i*P	**P**	**09 46 17.0**	**+0.1**
APA			MLR	MLR		
	comp=Z,700nm,14.0s					
VRHR	**Novokhopersk**	**68.30 317**	*e*P	**P**	**09 46 16.8**	**-1.4**
VRHR			pmax	pmax		
	comp=Z,10.0nm,1.1s					
VRHR			pmax	pmax		
	comp=N,20nm,1.7s					
VRHR			pmax	pmax		
	comp=E,10.0nm,0.8s					
TBLG	**Delisi**	**68.72 307**	P	**P**	**09 46 23.0**	**+1.9**
GOF	**Gofitskoye**	**68.98 311**	*e*P	**P**	**09 46 22.8**	**+0.2**
GOF			pmax	pmax		
	comp=Z,40nm,1.3s					
ZEI	**Tsey**	**69.02 308**	*e*P	P	09 46 19.7	-3.5
ZEI			pmax	pmax		
	comp=Z,28nm,1.4s					
SPITS	**Spitsbergen Ar**	**69.08 348**	P	**P**	**09 46 22.7**	**0.0**
SPITS			pmax	pmax		
	comp=Z,8.0nm,0.8s					
SPITS	**Spitsbergen Ar**	**69.08 348**	P	**P**	**09 46 22.7**	**0.0**
	comp=Z,8.1nm,0.8s,baz=85,slow=10,SNR=14					
GNI	**Garni**	**69.17 305**	⇓*i*P	**P**	**09 46 25.8**	**+1.7**
GNI			pmax	pmax		
	comp=Z,28nm,1.2s					
GNI	**Garni**	**69.17 305**	P	**P**	**09 46 25.5**	**+1.4**
	SNR=8.2					
GNI	**Garni**	**69.17 305**	*e*P	**P**	**09 46 26.1**	**+2.0**
	comp=Z,44nm,1.4s					
MOS	**Moscow**	**69.37 323**	*e*P	**P**	**09 46 24.1**	**-0.7**
MOS			*e*		09 46 43.4	
MOS			*e*		09 48 55.9	
ONI	**Oni**	**69.40 308**	P	**P**	**09 46 26.6**	**+1.3**
KBZ	**Khabaz**	**69.46 309**	P	**P**	**09 46 26.2**	**+0.6**
	comp=Z,22nm,1.1s,baz=75,slow=5.1,SNR=32					
KBZ			LR	LR	10 20 20.6	
	comp=Z,254nm,18.6s,baz=60,slow=39					
KIV	**Kislovodsk**	**69.54 310**	*e*P	**P**	**09 46 26.9**	**+0.7**
KIV			*e*		09 46 48.5	
KIV			*e*S	**S**	**09 55 34.8**	**+2.0**
KIV			pmax	pmax		
	comp=Z,59nm,1.1s					
KIV			pmax	pmax		
	comp=Z,100nm,4.7s					
KIV			MLR	MLR		
	comp=Z,296nm,17.0s					
KIV	**Kislovodsk**	**69.54 310**	P	**P**	**09 46 27.3**	**+1.1**
	SNR=22					
KIV	**Kislovodsk**	**69.54 310**	*e*P	**P**	**09 46 27.4**	**+1.1**
	comp=Z,110nm,1.4s					
AKH	**Akhalkalaki**	**69.71 307**	P	**P**	**09 46 28.9**	**+1.5**
KEV	**Kevo**	**69.71 339**	*e*P	P	09 46 19.8	-6.8
KEV			pmax	pmax		
	comp=Z,7.0nm,0.7s					
KEV	**Kevo**	**69.71 339**	*e*p	P	09 46 19.8	-6.8
	comp=Z,6.6nm,0.7s					
VSR	**Storozhevoye**	**69.75 318**	*e*P	**P**	**09 46 25.7**	**-1.5**
VSR			pmax	pmax		
	comp=Z,20nm,1.3s					
VSR			pmax	pmax		
	comp=N,8.0nm,1.1s					
VSR			pmax	pmax		
	comp=E,20nm,1.3s					
OBN	**Obninsk**	**70.13 322***c*	*i*P	**P**	**09 46 29.2**	**-0.2**
OBN			*i*		09 46 38.8	
OBN			*i*		09 46 48.6	
OBN			pmax	pmax		
	comp=Z,26nm,1.2s					
OBN			MLR	MLR		
	comp=Z,657nm,17.0s					
OBN	**Obninsk**	**70.13 322**	P	**P**	**09 46 28.9**	**-0.5**
	comp=Z,16nm,0.3s,baz=0.7,slow=5.1,SNR=5.3					
ARCES	**ARCESS Array B**	**70.28 339**	P	**P**	**09 46 30.2**	**0.0**
	comp=Z,10nm,1.1s,baz=42,slow=9.8,SNR=5.8					
ARCES			LR	LR	10 23 35.2	
	comp=Z,160nm,18.4s,baz=48,slow=41					
JOF	**Joensuu**	**70.33 331**	*e*P	**P**	**09 46 30.1**	**-0.5**
JOF			pmax	pmax		
	comp=Z,4.0nm,0.6s					
JOF	**Joensuu**	**70.33 331**	*e*p	**P**	**09 46 30.1**	**-0.5**
	comp=Z,4.4nm,0.6s					
SOC	**Sochi**	**71.70 310**	*e*P	**P**	**09 46 38.9**	**-0.4**
SOC			*e*S	**S**	**09 55 59.0**	**+1.2**
SOC			pmax	pmax		
	comp=Z,25nm,0.7s					
SOC			MLR	MLR		
	comp=Z,334nm,18.0s					
KAF	**Kangasniemi**	**72.79 331**	*e*P	**P**	**09 46 43.3**	**-2.1**
KAF			pmax	pmax		
	comp=Z,4.0nm,0.7s					
KAF	**Kangasniemi**	**72.79 331**	*e*p	**P**	**09 46 43.3**	**-2.1**
	comp=Z,4.2nm,0.7s					
ANN	**Anapa**	**72.86 312**	*e*P	P	09 46 42.4	-3.7
ANN			*e**PP	pP	09 46 47.6	-6.2
ANN			*e*S	**S**	**09 56 06.7**	**-4.2**
ANN			pmax	pmax		
	comp=Z,80nm,1.5s					
FINES	**FINESS Array B**	**73.15 331**	P	**P**	**09 46 47.7**	**+0.2**
FINES			pmax	pmax		
	comp=Z,6.0nm,0.7s					
FINES			MLR	MLR		
	comp=Z,398nm,19.3s					
FINES	**FINESS Array B**	**73.15 331**	P	**P**	**09 46 47.7**	**+0.2**
	comp=Z,5.7nm,0.7s,baz=74,slow=5.2,SNR=20					
FINES			LR	LR	10 22 29.5	
	comp=Z,398nm,19.3s,baz=89,slow=39					
SFNV	**Sufian**	**73.82 303**	*e*P	**P**	**09 46 52.8**	**+0.7**
VSU	**Vasula**	**74.04 328**	⇑*e*P	**P**	**09 46 53.2**	**+0.4**
VSU			pmax	pmax		
	comp=Z,140nm,1.5s					
RAYN	**Ar Rayn**	**74.08 289**	*e*P	**P**	**09 46 54.5**	**+0.7**
	comp=Z,45nm,1.4s					
MALT	**Malatya**	**74.41 305**	⇑P	**P**	**09 46 57.1**	**+1.6**
MALT	**Malatya**	**74.41 305**	⇑*i*P	**P**	**09 46 57.1**	**+1.6**
KSRV	**Kasrt alli**	**74.86 303**	*e*P	**P**	**09 46 59.0**	**+1.0**
SIM	**Simferopol'**	**75.01 313**	*e*P	**P**	**09 46 59.2**	**+0.5**
SIM			pmax	pmax		
	comp=Z,24nm,1.0s					
JHLN	**Al Jahlan**	**75.35 303**	*e*P	**P**	**09 47 01.1**	**+0.2**
NACGM	**Naroch**	**75.47 324**	*e*	**P**	**09 47 01.0**	**-0.2**
DAG	**Danmarks Havn**	**75.49 353**	*i* P	**P**	**09 47 00.4**	**-0.5**
DAG			pmax	pmax		
	comp=Z,3.0nm,1.0s					
DAG	**Danmarks Havn**	**75.49 353**	*i* P	**P**	**09 47 00.4**	**-0.5**
	comp=Z,2.8nm,1.0s					
RES	**Resolute Bay**	**75.72 11**	*e*P	**P**	**09 47 02.5**	**+0.3**
RES			pmax	pmax		
	comp=Z,13nm,0.9s					
RES	**Resolute Bay**	**75.72 11**	*e*P	**P**	**09 47 02.5**	**+0.3**
	comp=Z,13nm,0.9s					
AKASG	**Malin Array Be**	**75.83 320**	P	**P**	**09 47 02.9**	**-0.4**
AKASG			pmax	pmax		
	comp=Z,13nm,0.7s					
AKASG			MLR	MLR		
	comp=Z,615nm,19.3s					
AKASG	**Malin Array Be**	**75.83 320**	P	**P**	**09 47 02.9**	**-0.4**
	comp=Z,13nm,0.7s,baz=58,slow=6.2,SNR=48					
AKASG			LR	LR	10 23 14.1	
	comp=Z,615nm,19.2s,baz=65,slow=38					
KIEV	**Kiev**	**75.84 320**	*i* P	**P**	**09 47 02.8**	**

BRTR pmax pmax
comp=Z,14nm,1.0s
BRTR Keskin Array B 77.33 308 P **P 09 47 12.5 +0.2**
comp=Z,14nm,1.0s,baz=97,slow=4.1,SNR=60
KIS Kishinev 77.60 316 *e*P **P 09 47 13.0 -0.4**
KIS MLR MLR
comp=E,500nm,14.0s
KIS MLR MLR
comp=Z,800nm,14.0s
KIS MLR MLR
comp=Z,800nm,15.0s
KIS Kishinev 77.60 316 *e*P **P 09 47 13.0 -0.4**
KIS *e*L L 10 21 36.0
KIS LRM MLR 10 25 54.0
comp=Z,500nm,14.0s
SUW Suwalki 77.75 324 *e*P **P 09 47 14.7 +0.6**
SUW Suwalki 77.75 324 *e*P **P 09 47 14.7 +0.6**
TOTH TOTAH 77.76 301 *e*P **P 09 47 16.4 +1.8**
ANTO Ankara 77.87 308 P **P 09 47 16.1 +0.9**
SNR=6.1
YKA Yellowknife Ar 78.63 25 P **P 09 47 19.2 +0.4**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 78.63 25 P **P 09 47 19.2 +0.4**
comp=Z,0.9nm,0.5s,baz=301,slow=5.7,SNR=42
CFR Carcaliu 78.80 315 ⇓*i*P **P 09 47 20.5 +0.4**
CFR Carcaliu 78.80 315 ⇓*i*P **P 09 47 20.5 +0.4**
TIRR Tirgusor 78.93 314 ⇑*i*P **P 09 47 22.0 +1.2**
TIRR Tirgusor 78.93 314 ⇑*i*P **P 09 47 22.0 +1.2**
TESR Tescani 79.15 317 ⇓*i*P **P 09 47 22.8 +0.8**
VRI Vrincioaia 79.39 316 ⇑*i*P **P 09 47 24.5 +1.2**
VRI Vrincioaia 79.39 316 ⇑*i*P **P 09 47 24.5 +1.2**
PLOR Plostina 79.44 316 ⇓P **P 09 47 25.1 +1.4**
PLOR Plostina 79.44 316 ⇓*i*P **P 09 47 25.1 +1.4**
NB2 NORSAR Subarra 79.60 334 P **P 09 47 23.7 -0.5**
comp=Z,24nm,1.4s,baz=51,slow=5.6
NB2 NORSAR Subarra 79.60 334 P **P 09 47 23.7 -0.5**
baz=51,slow=5.6
NOA NORSAR Array B 79.60 334 P **P 09 47 24.1 -0.1**
NOA pmax pmax
comp=Z,3.0nm,0.5s
NOA MLR MLR
comp=Z,271nm,18.5s
NOA NORSAR Array B 79.60 334 P **P 09 47 24.1 -0.1**
comp=Z,3.2nm,0.5s,baz=52,slow=5.5,SNR=13
NOA LR LR 10 27 18.8
comp=Z,271nm,18.5s,baz=70,slow=39
MLR Muntele Rosu 80.05 316 ⇑P **P 09 47 28.6 +1.5**
MLR Muntele Rosu 80.05 316 ⇑*i*P **P 09 47 28.6 +1.5**
KWP Kalwaria Pacla 80.07 321 *e*P **P 09 47 28.1 +1.1**
KWP Kalwaria Pacla 80.07 321 *e*P **P 09 47 28.0 +1.1**
KWP Kalwaria Pacla 80.07 321 *e*P **P 09 47 28.4 +1.5**
comp=Z,35nm,0.9s
PRD Provadia 80.14 313 ⇑P **P 09 47 26.7 -0.7**
DOPR Dopca 80.18 316 ⇑*i*P **P 09 47 28.6 +1.0**
VOIR 80.63 316 ⇑P **P 09 47 32.7 +2.5**
VOIR 80.63 316 ⇑*i*P **P 09 47 32.7 +2.5**
KOLS Kolonicke sedl 80.65 320 *e*P **P 09 47 30.6 +0.5**
KOLS Kolonicke sedl 80.65 320 *e*P **P 09 47 30.6 +0.5**
UZH Uzhgorod 80.78 320 *e*P **P 09 47 32.4 +1.6**
UZH *e* 09 47 50.2
STHS Stebnicka Huta 81.00 321 *e*P **P 09 47 32.6 +0.6**
STHS pmax pmax
comp=Z,6.0nm,1.3s
STHS Stebnicka Huta 81.00 321 *e*P **P 09 47 32.6 +0.6**
CRVS Cervenica-Dubn 81.13 320 *e*P **P 09 47 33.2 +0.5**
CRVS pmax pmax
comp=Z,29nm,2.0s
CRVS Cervenica-Dubn 81.13 320 *e*P **P 09 47 33.2 +0.5**
SUMG Summit 81.26 356 *e*P **P 09 47 33.6 +0.2**
SUMG pmax pmax
comp=Z,51nm,1.3s
SUMG Summit 81.26 356 *i*P P 09 47 38.1 +4.7
comp=Z,15nm,0.8s
SUMG Summit 81.26 356 *e*P **P 09 47 33.6 +0.2**
comp=Z,51nm,1.3s
OJC Ojcow 81.41 322 *e*P **P 09 47 34.8 +0.7**
OJC Ojcow 81.41 322 *e*P **P 09 47 34.8 +0.7**
NIE Niedzica 81.53 321 *e*P **P 09 47 35.9 +1.1**
NIE Niedzica 81.53 321 *e*P **P 09 47 35.9 +1.1**
GZR Gura Zlata 82.06 317 ⇓P **P 09 47 39.1 +1.4**
GZR Gura Zlata 82.06 317 ⇓*i*P **P 09 47 39.1 +1.4**
OKC Ostrava-Krasne 82.52 322 *e*P **P 09 47 42.4 +2.5**
OKC MLR MLR
comp=Z,600nm,12.4s
OKC Ostrava-Krasne 82.52 322 *e*P **P 09 47 42.4 +2.5**
OKC AMS AMS 10 28 20.0
comp=Z,600nm,12.4s
VYHS Vyhne 82.84 321 *e*P **P 09 47 42.5 +0.8**
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 82.84 321 *e*P **P 09 47 42.5 +0.8**
DPC Dobruska-Polom 83.24 323 *e*P **P 09 47 46.1 +2.4**
DPC *e* 09 47 55.4
DPC Dobruska-Polom 83.24 323 *e*P **P 09 47 46.1 +2.4**
DPC *e*pP **pP 09 47 55.4 +3.9**
DPC *e*x x 09 48 06.5
DPC AMS AMS 10 29 10.0
MMB Musomiste 83.30 313 ⇓P **P 09 47 45.3 +1.1**
MMB Musomiste 83.30 313 ⇓*i*P **P 09 47 45.3 +1.1**
UPC Upice 83.32 324 *e*P **P 09 47 45.5 +1.4**
UPC *e* 09 47 57.0
UPC Upice 83.32 324 *e*P **P 09 47 45.5 +1.4**
UPC *e*pP **pP 09 47 57.0 +5.1**
PVCC Panska Ves 84.08 324 *e*P **P 09 47 49.6 +1.7**
PVCC *e* 09 48 01.2
PVCC MLR MLR
comp=Z,800nm,12.4s
PVCC Panska Ves 84.08 324 *e*P **P 09 47 49.6 +1.7**
PVCC *e*pP pP 09 48 01.2 +5.4
PVCC AMS AMS 10 29 40.0
comp=Z,800nm,12.4s
TREC Trest 84.28 323 AMS AMS 10 28 40.0
comp=Z,600nm,17.4s
PRU Pruhonice 84.40 324 *e*P **P 09 47 50.4 +0.8**
PRU *e* 09 48 03.2
PRU MLR MLR
comp=Z,800nm,11.1s
PRU Pruhonice 84.40 324 *e*P **P 09 47 50.4 +0.8**
PRU *e*pP pP 09 48 03.2 +5.8
PRU AMS AMS 10 29 50.0
comp=Z,800nm,11.1s
CLL Collm 84.45 325 *e*P **P 09 47 50.0 +0.2**
CLL *e*S **S 09 58 15.0 +0.3**
CLL pmax pmax
comp=Z,11nm,1.2s
CLL Collm 84.45 325 *e*P **P 09 47 50.0 +0.2**
comp=Z,11nm,1.2s
CLL *i*PcP **PcP 09 47 53.3 -0.1**
CLL *e*S **S 09 58 15.0 +0.3**
CLL *e*PPS PPS 09 59 30.0
CLL *e*SS **SS 10 03 42.0 -2.2**
CLL *e* 10 05 18.0
CLL LmH 10 23 00.0
comp=N,800nm,20.7s
CLL LmH 10 23 00.0
comp=E,700nm,20.4s
KHC Kasperske Hory 85.40 323 *e*P **P 09 47 56.2 +1.5**
KHC *e* 09 48 07.0
KHC MLR MLR
comp=Z,900nm,14.1s
KHC Kasperske Hory 85.40 323 *e*P **P 09 47 56.2 +1.5**
KHC *e*pP **pP 09 48 07.0 +4.5**
KHC AMS AMS 10 30 30.0
comp=Z,900nm,14.1s
CLZ Clausthal 85.45 327 *e*P P 09 47 58.6 +3.7
comp=Z,39nm,1.4s
GEC2 GERESS Array S 85.50 323 *e*P P 09 47 58.6 +3.3
comp=Z,3.0nm,0.9s
GERES GERESS Array B 85.50 323 P **P 09 47 56.0 +0.7**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES MLR MLR
comp=Z,722nm,18.9s
GERES GERESS Array B 85.50 323 P **P 09 47 56.0 +0.7**
comp=Z,1.6nm,0.7s,baz=61,slow=6.3,SNR=6.4
GERES LR LR 10 29 31.7
comp=Z,722nm,18.9s,baz=66,slow=38
MOX Moxa 85.55 325 *e*P P 09 47 58.9 +3.5
comp=Z,29nm,2.0s
MOX *e*L L 10 30 14.9
comp=Z,820nm,18.1s
NEW Newport 85.63 38 P **P 09 47 56.0 +0.1**
NEW pmax pmax
comp=Z,3.0nm,0.9s
NEW Newport 85.63 38 P **P 09 47 56.0 +0.1**
comp=Z,2.7nm,0.9s,baz=296,slow=7.3,SNR=3.9
NEW Newport 85.63 38 P **P 09 47 55.9 +0.1**
baz=85
ROTZ Rotzenmuhle 85.76 324 *e*P P 09 48 00.3 +3.9
comp=Z,23nm,1.5s
WET Wettzell 85.77 324 *e*P P 09 48 00.1 +3.6
comp=Z,9.0nm,1.4s
M02C Callahan 85.95 46 P **P 09 47 57.8 +0.1**
baz=86
J05D Fort Rock, OR 85.98 43 P **P 09 47 58.2 +0.3**
baz=86
UBBA Unterbreizbach 86.26 326 *e*P P 09 48 02.3 +3.6
comp=Z,17nm,1.4s
GRF Grafenberg Arr 86.32 325 *e*P P 09 48 02.9 +3.7
comp=Z,38nm,1.4s
GRF *e*L L 10 30 08.3
comp=Z,499nm,18.4s
M04C Macdoel 86.40 45 P **P 09 48 00.1 +0.2**
baz=86
IBBN Ibbenburen 86.44 328 *e*P **P 09 48 02.7 +3.0**
comp=Z,86nm,1.8s
RJOB Jochberg 86.63 322 *e*P P 09 48 04.5 +3.6
comp=Z,12nm,1.1s
BSMT Bassoo Peak 87.15 37 *e*P **P 09 48 04.5 +0.9**
comp=Z,3.2nm,1.1s
FUR Furstenfeldbru 87.20 323 *e*P P 09 48 07.2 +3.6
comp=Z,19nm,0.5s
BUG Bochum--Univer 87.22 328 *e*P P 09 48 07.1 +3.6
comp=Z,8.0nm,0.7s
SFJD Kangerlussuaq 87.28 360 *i*P P 09 48 08.3 +4.8
SFJD pmax pmax
comp=Z,8.0nm,0.9s
SFJD Kangerlussuaq 87.28 360 *i*P P 09 48 08.3 +4.8
comp=Z,7.9nm,0.8s
FCC Fort Churchill 88.46 21 *e*P **P 09 48 09.3 0.0**
FCC Fort Churchill 88.46 21 *e*P **P 09 48 09.3 0.0**
comp=Z,0.5nm,1.4s
FFC Flin Flon 88.68 27 *e*P **P 09 48 10.0 -0.4**
FFC *e**PP **pP 09 48 20.8 +2.5**
FFC pmax pmax
comp=Z,12nm,1.1s
FFC Flin Flon 88.68 27 *e*P **P 09 48 10.0 -0.4**
comp=Z,12nm,1.1s
FFC *e*pP **pP 09 48 20.8 +2.5**
EGMT Eagleton 89.70 35 P **P 09 48 14.9 -0.6**
baz=90
HLID Hailey 89.92 40 P **P 09 48 16.5 -0.2**
baz=90
B20A Solberg Farm, 90.31 34 P **P 09 48 17.9 -0.3**
baz=90
A21A Bergtoll Ranch 90.48 33 P **P 09 48 18.7 -0.3**
baz=90
NVAR Mina Array Bea 90.50 46 P **P 09 48 20.1 +0.6**
comp=Z,0.3nm,0.4s,baz=283,slow=7.2,SNR=4.6
D19A Cripps Ranch, 90.71 35 P **P 09 48 19.6 -0.6**
baz=90
C20A Veseth Ranch, 90.79 34 P **P 09 48 20.5 -0.1**
baz=91
A22A Carney Farms, 90.97 32 P **P 09 48 20.4 -0.9**
baz=91
D20A Manuel Ranch, 91.14 35 P **P 09 48 22.3 +0.1**
baz=91
B23A Brockton 91.78 32 P **P 09 48 24.7 -0.3**
baz=92
GRAC Grapevine Rang 91.92 47 P **P 09 48 25.1 -0.9**
baz=92
R11A Troy Canyon, C 92.29 45 P **P 09 48 27.9 +0.1**
baz=92
FURC Furnace Creek, 92.55 47 P **P 09 48 28.1 -0.7**
baz=92
D23A Lindsay 92.56 33 P **P 09 48 28.6 -0.2**
baz=92
EDW2 Edwards Air Fo 92.70 49 P **P 09 48 30.1 +0.4**
baz=92
PDAR Pinedale Array 93.19 39 P **P 09 48 31.4 -0.5**
comp=Z,0.8nm,0.9s,baz=222,slow=2.0,SNR=4.1
GSC Goldstone, Bar 93.26 48 P **P 09 48 31.9 -0.3**
baz=93
SHPR Sheep Range 93.65 46 *e*P **P 09 48 34.4 +0.2**
comp=Z,5.6nm,1.2s
HEC Hector,Ludlow 93.85 48 P **P 09 48 34.8 -0.2**
baz=94
J21A Lysite 93.98 37 P **P 09 48 35.4 -0.2**
baz=94
F25A Bowman 94.30 33 P **P 09 48 36.4 -0.4**
baz=94
PFO Pinyon Flats O 94.47 49 P **P 09 48 38.3 +0.4**
PFO pmax pmax
comp=Z,1.0nm,0.4s
PFO Pinyon Flats O 94.47 49 P **P 09 48 38.3 +0.4**
comp=Z,0.9nm,0.4s,baz=318,slow=4.9,SNR=4.1
ULM Lac du Bonnet 94.51 27 LR LR 10 35 48.1
comp=Z,87nm,18.2s,baz=16,slow=38
BELC Belle Mtn. Jos 94.55 49 P **P 09 48 37.9 -0.4**
baz=94
IRM Iron Mountain 95.03 48 P **P 09 48 40.5 +0.2**
baz=95
BC3 Big Chuckawall 95.12 49 P **P 09 48 41.1 +0.2**
baz=95
JTS JuntasAbangare 131.43 46 *e*PKIKP **PKPdf 09 54 29.0 -1.5**
JTS JuntasAbangare 131.43 46 *e*PKPdf **PKPdf 09 54 29.0 -1.5**

ISCJB ***02*** *09:36:06.1±0.6, 33°.42S±0°.07×72°.5W±0°.2, h12km, mb4.1/12, Error ellipse: s-maj=27.1km s-min=10.1km az=173.2*
IDC ***02*** *09:36:06.2±1.0, 33°.43S×72°.49W, h0km, mb4.0/5, mb1 4.2/7, mb1mx3.9/34, mbtmp4.0/7, ML4.4/2, Error ellipse: s-maj=46.0km s-min=21.7km az=86.0*
NEIC ***02*** *09:36:11.3±0.5, 33°.41S×72°.42W, h35km, mb4.1/9, Error ellipse: s-maj=21.7km s-min=9.1km az=85.0*
ISC 02 09:36:08.0±0.6,**33°.41S**±0°.08×**72°.5W**±0°.2,**h12km**,**n21**,
σ0**°79**/21,**mb4.2**/12,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**7.47**	**169**	Pn	**Pn**	**09 37 56.3**	**-0.5**
1.9nm,0.3s,baz=332,slow=12,SNR=7.8							
PLCA	**Paso Flores**	**7.47**	**169**	*e*Pn	**Pn**	**09 37 56.6**	**-0.2**
LVC	**Limon Verde**	**11.20**	**17**	*e*Pn	**Pn**	**09 38 48.2**	**0.0**
LPAZ	**La Paz**	**17.48**	**14**	P	**Pn**	**09 40 12.6**	**+0.3**
0.3nm,0.3s,baz=210,slow=6.9,SNR=4.7							
LPAZ	**La Paz**	**17.48**	**14**	*e*Pn	**P**	**09 40 13.0**	**-0.6**
6.5nm,1.0s							
OTAV	**Otavalo**	**33.94**	**349**	*e*P	**P**	**09 42 52.4**	**+0.7**
3.6nm,1.1s							
SNAA	**Sanae**	**52.26**	**158**	P	**P**	**09 45 19.3**	**+0.5**
1.3nm,0.9s,baz=311,slow=13,SNR=4.7							
QSPA	**South Pole Qui**	**56.83**	**180**	P	**P**	**09 45 52.1**	**0.0**
1.5nm,0.7s,baz=192,slow=1.4,SNR=10							
QSPA	**South Pole Qui**	**56.83**	**180**	*e*P	**P**	**09 45 53.0**	**+0.9**
2.0nm,0.8s							
TXAR	**Lajitas Array**	**69.05**	**331**	P	**P**	**09 47 14.1**	**+0.4**
0.4nm,0.7s,baz=146,slow=7.6,SNR=4.9							
SWET	**Sewanee**	**69.42**	**348**	*e*P	**P**	**09 47 15.8**	**0.0**
13nm,1.2s							
WVT	**Waverly**	**70.66**	**347**	*e*P	**P**	**09 47 22.4**	**-0.9**
1.0nm,0.4s							
TUL1	**Leonard**	**72.33**	**340**	*e*P	**P**	**09 47 31.9**	**-1.6**
1.9nm,0.5s							
ECSD	**EROS Data Cent**	**79.88**	**342**	*e*P	**P**	**09 48 14.6**	**-1.6**
1.1nm,0.8s							
CCUT	**Cedar City**	**80.22**	**328**	*e*P	**P**	**09 48 19.1**	**+0.6**
1.0nm,0.9s							
SRU	**San Rafael Swe**	**80.33**	**331**	*e*P	**P**	**09 48 20.0**	**+0.9**
0.7nm,0.3s							
BOSA	**Boshof**	**80.65**	**118**	P	**P**	**09 48 20.9**	**-0.2**
2.6nm,0.8s,baz=227,slow=6.1,SNR=3.1							
TORD	**Torodi Ar. Bea**	**84.33**	**70**	P	**P**	**09 48 40.5**	**+0.2**
1.3nm,0.8s,baz=251,slow=4.6,SNR=6.7							
WRA	**Warramunga Arr**	**121.11**	**210**	PKP	**PKPdf**	**09 55 00.1**	**-1.1**
0.2nm,0.5s,baz=156,slow=1.6,SNR=5.8							
BVAR	**Borovoye Array**	**147.07**	**42**	PKPbc	**PKPbc**	**09 55 51.0**	**+0.7**
0.3nm,0.4s,baz=323,slow=3.6,SNR=3.9							
MKAR	**Makanchi Array**	**156.62**	**48**	PKPab	**PKPab**	**09 56 31.9**	**0.0**
0.5nm,0.8s,baz=284,slow=3.9,SNR=4.7							

ISCJB ***02*** *09:36:49.6±0.4, 33°.54S±0°.05×71°.8W±0°.1, h19km, mb4.2/17, Error ellipse: s-maj=14.9km s-min=7.0km az=167.8*
IDC ***02*** *09:36:49.0±1.1, 33°.57S×71°.96W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.9/33, mbtmp3.9/5, ML4.3/1, Error ellipse: s-maj=50.5km s-min=27.9km az=68.0*
NEIC ***02*** *09:36:53.8±0.4, 33°.53S×71°.79W, h35km, mb4.3/14, Error ellipse: s-maj=12.5km s-min=8.3km az=71.0*
ISC 02 09:36:51.7±0.6,**33°.50S**±0°.07×**71°.84W**±0°.10,**h19km**,**n28**,
σ0**°73**/29,**mb4.3**/17,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.58**	**59**	Pn	**Pb**	**09 37 53.8**	**-0.6**
1.9nm,0.3s,baz=229,slow=14,SNR=3.4							
CFAA				Lg	Lg	09 38 43.7	
2.1nm,0.3s,baz=30,slow=4.9,SNR=5.2							
PLCA	**Paso Flores**	**7.29**	**172**	*e*Pn	**Pn**	**09 38 35.7**	**-1.5**
PLCA				*e*Sn	**Sn**	**09 39 59.4**	**-0.1**
TRQA	**Tornquist**	**9.21**	**122**	*e*Pn	**Pn**	**09 39 03.4**	**-0.1**
LVC	**Limon Verde**	**11.15**	**14**	*e*Pn	**Pn**	**09 39 29.8**	**-0.6**
CPUP	**Villa Florida**	**14.46**	**64**	Pn	**Pn**	**09 40 14.8**	**-0.5**
LPAZ	**La Paz**	**17.46**	**12**	P	**P**	**09 40 57.4**	**+1.4**
0.4nm,0.3s,baz=168,slow=9.7,SNR=7.5							
LPAZ	**La Paz**	**17.46**	**12**	*e*P	**P**	**09 40 57.6**	**+1.6**
1.9nm,0.4s							
OTAV	**Otavalo**	**34.13**	**348**	*e*P	**P**	**09 43 34.9**	**-1.1**
1.8nm,0.8s							
SNAA	**Sanae**	**51.98**	**158**	P	**P**	**09 45 59.8**	**+0.5**
0.7nm,0.6s,baz=318,slow=12,SNR=2.6							
QSPA	**South Pole Qui**	**56.73**	**180**	*e*P	**P**	**09 46 35.1**	**+1.1**
4.2nm,1.0s							
JCT	**Junction City**	**68.91**	**334**	*e*P	**P**	**09 47 55.5**	**+0.2**
3.0nm,0.7s							
TXAR	**Lajitas Array**	**69.38**	**331**	P	**P**	**09 47 58.8**	**+0.5**
0.4nm,0.6s,baz=157,slow=8.6,SNR=6.3							
SWET	**Sewanee**	**69.62**	**348**	*e*P	P	09 48 03.5	+3.9
35nm,1.6s							
WVT	**Waverly**	**70.87**	**346**	*e*P	**P**	**09 48 06.6**	**-0.5**
7.6nm,0.8s							
TUL1	**Leonard**	**72.60**	**340**	*e*P	**P**	**09 48 17.3**	**-0.2**
2.0nm,0.6s							
ACSO	**Alum Creek Sta**	**74.09**	**351**	*e*P	**P**	**09 48 25.5**	**-0.7**
3.8nm,0.4s							
ANMO	**Albuquerque**	**75.43**	**331**	*e*P	**P**	**09 48 34.6**	**+0.2**
0.5nm,0.4s							
ECSD	**EROS Data Cent**	**80.13**	**342**	*e*P	**P**	**09 48 59.9**	**-0.3**
3.0nm,0.7s							
CCUT	**Cedar City**	**80.58**	**328**	*e*P	**P**	**09 49 02.7**	**-0.3**
0.5nm,0.6s							
SRU	**San Rafael Swe**	**80.66**	**330**	*e*P	**P**	**09 49 03.3**	**-0.1**
0.9nm,0.5s							
DUG	**Dugway, Tooele**	**82.53**	**330**	*e*P	**P**	**09 49 12.7**	**-0.4**
0.9nm,0.7s							
NVAR	**Mina Array Bea**	**83.57**	**325**	P	**P**	**09 49 19.1**	**+0.4**
0.8nm,0.6s,baz=157,slow=6.8,SNR=5.6							
HVU	**Hansel Valley**	**83.83**	**330**	*e*P	**P**	**09 49 19.7**	**-0.2**
2.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**83.88**	**70**	P	**P**	**09 49 21.3**	**+0.8**
1.7nm,0.8s,baz=254,slow=4.3,SNR=4.9							
BRVK	**Borovoye**	**146.73**	**42**	*e*PKPbc	**PKPbc**	**09 56 32.0**	**+0.2**
BVAR	**Borovoye Array**	**146.80**	**43**	PKPbc	**PKPbc**	**09 56 32.7**	**+0.7**
1.8nm,0.6s,baz=312,slow=2.4,SNR=10							
ZALV	**Zalesovo Beam**	**153.72**	**32**	PKPbc	**PKPbc**	**09 56 48.7**	**0.0**
2.5nm,0.7s,baz=329,slow=1.7,SNR=4.0							
ZALV				PKPab	**PKPab**	**09 57 02.4**	**+0.7**
1.3nm,0.6s,baz=328,slow=5.1,SNR=3.5							
MKAR	**Makanchi Array**	**156.31**	**48**	PKPab	**PKPab**	**09 57 13.1**	**+0.1**
0.8nm,0.6s,baz=296,slow=4.0,SNR=7.1							

IDC ***02*** *09:38:22.2±1.2, 34°.56S×73°.67W, h0km, mb3.9/5, mb1 3.9/7, mb1mx3.8/34, mbtmp3.8/7, ML3.8/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/26, Error ellipse: s-maj=35.2km s-min=25.9km az=103.0*
ISCJB ***02*** *09:38:25.2±0.7, 34°.61S±0°.07×73°.6W±0°.1, h33km, mb3.9/8, MS3.9/1, Error ellipse: s-maj=13.7km s-min=9.3km az=28.3*
NEIC ***02*** *09:38:27.5±0.5, 34°.59S×73°.58W, h35km, mb4.1/5, Error ellipse: s-maj=14.1km s-min=9.0km az=97.0*
ISC 02 09:38:27.5±0.7,**34°.60S**±0°.08×**73°.6W**±0°.1,**h35km**,**n20**,
σ0**°78**/20,**mb4.0**/8,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.41**	**58**	Pn	**Pn**	**09 39 45.6**	**-0.2**
baz=223,slow=18,SNR=0.8							
CFAA				Sn	**Sn**	**09 40 48.2**	**+1.3**
0.3nm,0.3s,baz=111,slow=18,SNR=3.5							
PLCA	**Paso Flores**	**6.59**	**159**	*e*Pn	**Pn**	**09 40 00.8**	**-1.2**
LVC	**Limon Verde**	**12.63**	**20**	*e*Pn	**Pn**	**09 41 23.8**	**-1.2**
CPUP	**Villa Florida**	**16.27**	**64**	*e*Pn	**Pn**	**09 42 13.7**	**+0.4**
LPAZ	**La Paz**	**18.89**	**16**	P	**Pn**	**09 42 46.2**	**-0.2**
0.1nm,0.3s,baz=204,slow=7.4,SNR=3.1							
LPAZ	**La Paz**	**18.89**	**16**	*e*P	**P**	**09 42 45.0**	**-0.6**
1.1nm,0.6s							
SIV	**San Ignacio**	**21.69**	**34**	P	**P**	**09 43 14.3**	**-1.1**
1.6nm,0.6s,baz=222,slow=8.3,SNR=3.6							
OTAV	**Otavalo**	**34.95**	**352**	*e*P	**P**	**09 45 16.9**	**+0.2**
0.8nm,0.4s							
SNAA	**Sanae**	**51.53**	**158**	P	**P**	**09 47 30.0**	**+0.6**
1.5nm,0.9s,baz=322,slow=12,SNR=3.3							
APG	**El Apazote**	**51.86**	**339**	LR	LR	10 03 32.7	
comp=Z,98nm,19.3s,baz=118,slow=29							
QSPA	**South Pole Qui**	**55.64**	**180**	*e*P	**P**	**09 48 00.3**	**+0.6**
2.4nm,1.0s							
TXAR	**Lajitas Array**	**69.64**	**332**	P	**P**	**09 49 32.7**	**-0.7**
0.4nm,0.7s,baz=157,slow=8.0,SNR=4.4							
WVT	**Waverly**	**71.60**	**348**	*e*P	**P**	**09 49 46.4**	**+1.3**
1.1nm,0.4s							
DBIC	**Dimbokro**	**76.61**	**72**	P	**P**	**09 50 14.7**	**-0.1**
1.4nm,0.7s,baz=208,slow=6.1,SNR=3.5							
DBIC	**Dimbokro**	**76.61**	**72**	*e*P	**P**	**09 50 15.0**	**+0.2**
2.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**85.64**	**71**	P	**P**	**09 51 02.4**	**-0.4**
0.7nm,0.7s,baz=258,slow=6.4,SNR=4.4							
BRVK	**Borovoye**	**148.54**	**43**	*e*PKPbc	**PKPbc**	**09 58 10.6**	**+0.6**
BVAR	**Borovoye Array**	**148.61**	**43**	PKP	**PKPdf**	**09 58 07.1**	**+0.6**
1.1nm,0.4s,baz=299,slow=5.9,SNR=6.3							
BVAR				PKPbc	**PKPbc**	**09 58 10.6**	**+0.3**
1.1nm,0.4s,baz=277,slow=2.0,SNR=7.8							
ZALV	**Zalesovo Beam**	**155.43**	**31**	PKPbc	PKPdf	09 58 24.6	+8.0
0.5nm,0.4s,baz=343,slow=4.5,SNR=2.9							
MKAR	**Makanchi Array**	**158.14**	**49**	PKPab	**PKPab**	**09 58 54.3**	**0.0**
0.4nm,0.7s,baz=289,slow=4.4,SNR=3.2							

NIED ***02*** *09:39:00, 26°.00N×128°.60E, h8km, Mw4.4 Best double couple: M0=4.03000×10^15 NP1:φs=201.00000°, δ=44.00000°, λ=-121.00000°. NP2:φs=61.00000°, δ=54.00000°, λ=-64.00000°.*
BJI ***02*** *09:39:29.0, 25°.45N×129°.01E, h30km, mB4.8/26, mb4.5/37, Ms4.8/22, Ms7 4.6/22*
IDC ***02*** *09:39:33.0±0.6, 25°.96N×128°.50E, h0km, mb4.4/25, mb1 4.6/27, mb1mx4.4/46, mbtmp4.4/27, ML3.9/2, Error ellipse: s-maj=17.9km s-min=12.8km az=87.0*
NEIC ***02*** *09:39:35.0±2.7, 25°.93N×128°.47E, h12km±17km, mb4.9/19, MW4.3(NIED), Error ellipse: s-maj=7.7km s-min=5.7km az=126.0*
NEIC Felt [II] at Chatan, Okinawa. Also felt at Ginowan.
JMA ***02*** *09:39:35.2±0.2, 25°.96N×128°.63E, h38km, M4.3*
ISCJB ***02*** *09:39:36.3±0.6, 25°.99N±0°.03×128°.53E±0°.03, h33km±4km, mb4.5/58, MS4.1/1, Error ellipse: s-maj=6.3km s-min=4.0km az=148.0*
MOS ***02*** *09:39:36.6±1.1, 26°.00N×128°.49E, h33km, mb4.7/42, Error ellipse: s-maj=11.1km s-min=6.1km az=99.4*
ISC 02 09:39:37.8±0.5,**26°.01N**±0°.04×**128°.49E**±0°.04,**h30km**±2km,
h29km:**pP-P**,**n174**,σ1**°39**/212,**mb4.7**/58,**9C-2D**,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.66**	**320**	P	**Pb**	**09 39 49.5**	**-1.3**
JNTH				*e*S	**Sn**	**09 40 00.5**	**+0.1**
JJT2	**Tamagusuku 2**	**0.68**	**281**	P	**Pb**	**09 39 50.5**	**-0.6**
JJT2				S	**Sn**	**09 40 01.3**	**+0.4**
JOW	**Kunigami**	**0.84**	**347**	P	**Pn**	**09 39 52.2**	**-1.4**
JOW				*e*S	**Sb**	**09 40 04.7**	**-0.1**
JOW	**Kunigami**	**0.84**	**347**	Pn	**Pn**	**09 39 52.4**	**-1.2**
38nm,0.3s,baz=148,slow=18,SNR=18							
JOW				Sn	**Sb**	**09 40 04.5**	**-0.3**
81nm,0.3s,baz=150,slow=20,SNR=29							
JIH	**Iheya**	**1.12**	**335**	P	**Pn**	**09 39 56.5**	**-1.0**
JIH				S	**Sn**	**09 40 11.6**	**-0.3**
JAGN	**Aguni-jima**	**1.26**	**297**	P	**Pn**	**09 39 59.0**	**-0.3**
JAGN				*e*S	**Sn**	**09 40 14.5**	**-0.8**
JOKE	**Okinoerabujima**	**1.35**	**3**	P	**Pn**	**09 39 59.6**	**-1.0**

JOKE eS Sn 09 40 16.5 -1.0
JKE Kume jima 2 1.56 282 P Pn 09 40 02.5 -1.0
JKE eS Sn 09 40 21.5 -1.3
JTK Tokunoshima 1.81 13 P Pn 09 40 05.8 -1.2
JAMN Amaminishikomi 2.31 15 P Pn 09 40 12.4 -1.3
JAMN S Sn 09 40 39.6 -1.5
JMZ Minamidaito 2 2.47 94 P Pn 09 40 11.5 -4.4
JMZ eS Sn 09 40 37.5 -7.6
JAM Amami Oshima 2.59 22 P Pn 09 40 15.7 -1.9
JAM S Sn 09 40 45.9 -2.2
JZK Kikaishima 2.65 30 P Pn 09 40 17.8 -0.6
JZK eS Sn 09 40 48.0 -1.5
JOGS Gusukube 3.06 247 P Pn 09 40 23.5 -0.5
JTAJ Takarajima 3.19 11 P Pn 09 40 24.4 -1.5
SSLB Suanglung 7.19 254 ePn Pn 09 41 17.8 -3.2
SSLB eSn Sn 09 42 32.8 -8.9
JNU Nakatsue 7.38 16 Pn Pn 09 41 23.8 +0.2
3.8nm,0.3s,baz=336,slow=3.1,SNR=14
JNU Nakatsue 7.38 16 ePn Pn 09 41 23.9 +0.3
JNU eSn Sn 09 42 47.5 +1.1
NJ2 Nanjing 10.36 308 eP Pn 09 42 02.0 -2.3
KSAR Wonju Array Be 11.41 358 P Pn 09 42 19.7 +1.0
KSAR Wonju Array Be 11.41 358 Pn Pn 09 42 19.7 +1.0
KSRS Korea Array 11.42 358 Pn Pn 09 42 19.7 +0.9
0.2nm,0.3s,baz=179,slow=14,SNR=7.4
MAJO Matsushiro 13.38 36 eP Pn 09 42 45.6 0.0
MAJO Matsushiro 13.38 36 ePn Pn 09 42 45.6 0.0
MAT Matsushiro 13.38 36 P Pn 09 42 48.5 +2.9
MJAR Matsushiro Arr 13.38 36 Pn P 09 42 54.8 0.0
0.3nm,0.3s,baz=220,slow=9.9,SNR=11
BJI Beijing 17.36 327 P P 09 43 40.3 +1.4
BJI PMZ
23nm,1.0s
CN2 Changchun 17.92 353 eP P 09 43 45.2 +0.1
CN2 epP pP 09 43 51.0 -2.0
CN2 eS Sn 09 47 01.2 -2.4
CN2 PMZ
10.0nm,1.0s
CN2 LN
400nm,11.0s
CN2 LE
500nm,11.0s
CN2 LZ
500nm,12.0s
USRK Ussuriysk Ar. 18.37 8 P Pn 09 43 51.7 +1.6
0.6nm,0.3s,baz=180,slow=9.4,SNR=12
MDJ Mudanjiang 18.59 2 P P 09 43 51.7 -0.7
MDJ PMZ
3.0nm,0.8s
MDJ PMZ
73nm,5.5s
GYA Guiyang 19.59 276 P P 09 44 03.0 -0.7
GYA pP pP 09 44 11.4 -0.2
GYA PP PnPn 09 44 21.0 +2.1
GYA S Sn 09 47 46.8 +2.5
GYA PMZ
10.0nm,0.9s
GYA PMZ
120nm,7.0s
GYA LN
870nm,15.1s
GYA LE
640nm,16.4s
GYA LZ
780nm,16.2s
HHC Hu-ho-hao-te 20.40 321 eP P 09 44 12.6 +0.2
HHC sP sP 09 44 25.1 +0.9
HHC PP PnPn 09 44 33.1 +3.1
HHC PMZ
54nm,0.7s
HHC PMZ
680nm,4.1s
HHC LN
730nm,13.0s
HHC LE
680nm,14.8s
HHC LZ
550nm,14.8s
ASAJ Asahikawa 21.38 29 P P 09 44 25.4 +2.6
ASAJ pmax pmax
comp=Z,3.0nm,0.5s
ASAJ Asahikawa 21.38 29 P P 09 44 25.4 +2.6
comp=Z,3.2nm,0.5s,baz=247,slow=12,SNR=4.9
CD2 Chengdu 22.27 288 eP P 09 44 30.2 -2.3
CD2 sP sP 09 44 44.2 -0.2
CD2 PP PnPn 09 44 58.5 +3.0
CD2 PMZ
comp=Z,30nm,1.0s
CD2 PMZ
comp=Z,560nm,8.3s
CD2 LN
comp=Z,2μm,15.5s
CD2 LE
comp=Z,1μm,13.1s
CD2 LZ
comp=Z,2μm,10.7s
SLVN Son La 22.98 263 eP P 09 44 40.8 +0.6
comp=Z,8.3nm,0.8s
KMI Kunming 23.24 273 P P 09 44 39.9 -3.0
KMI pP pP 09 44 49.4 -1.7
KMI sP sP 09 44 53.0 -1.9
KMI S S 09 48 46.7 -6.7
KMI sS sS 09 49 01.7 -5.9
KMI PMZ
comp=Z,17nm,0.5s
KMI PMZ
comp=Z,110nm,7.0s
KMI LN
comp=Z,2μm,12.3s
KMI LE
comp=Z,2μm,9.4s
KMI LZ
comp=Z,2μm,13.2s
KLR Kul'dur 23.32 5 eP P 09 44 39.2 -4.0
YSS Yuzh-Sakhalins 23.77 25 eP P 09 44 48.0 +0.4
YSS e 09 44 58.0
YSS pmax pmax
comp=N,90nm,1.2s
YSS pmax pmax
comp=Z,130nm,1.2s
YSS pmax pmax
comp=E,30nm,1.0s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS Yuzh-Sakhalins 23.77 25 eP P 09 44 48.4 +0.9
comp=Z,93nm,1.0s
HIA Hailar 24.19 346 ⇑eP P 09 44 52.5 +0.9
HIA pmax pmax
comp=Z,7.0nm,1.0s
KUR Kuril'sk 24.70 34 ⇑iP P 09 44 55.0 -1.2
KUR pmax pmax
comp=E,24nm,1.1s
KUR pmax pmax
comp=N,34nm,1.1s
KUR pmax pmax
comp=Z,97nm,1.1s
GTA Gaotai 27.45 306 eP P 09 45 20.2 -1.1
GTA pP pP 09 45 29.2 -0.7
GTA sP sP 09 45 33.4 -0.2
GTA S S 09 49 57.4 -2.6
GTA PMZ
comp=Z,21nm,0.9s
GTA PMZ
comp=Z,110nm,5.5s
GTA LN
comp=Z,1μm,10.9s
GTA LE
comp=Z,1μm,10.9s
GTA LZ
comp=Z,940nm,12.4s
ULN Ulaanbaatar 27.57 328 ceP P 09 45 24.2 +2.0
ULN pmax pmax
comp=Z,12nm,1.2s
ULN Ulaanbaatar 27.57 328 eP P 09 45 24.3 +2.1
comp=Z,7.8nm,0.9s
SONM Songino Array 27.86 327 P P 09 45 27.1 +2.2
SONM pmax pmax
comp=Z,4.0nm,0.6s
SONM Songino Array 27.86 327 P P 09 45 27.1 +2.2
comp=Z,4.4nm,0.6s,baz=143,slow=11,SNR=27
CMAR Chiang Mai Arr 28.32 261 P P 09 45 29.8 +0.7
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR Chiang Mai Arr 28.32 261 P P 09 45 29.8 +0.7
comp=Z,3.1nm,0.3s,baz=61,slow=9.4,SNR=6.3

PETK Petropavlovsk- 34.76 31 P P 09 46 25.5 +0.2
PETK pmax pmax
comp=Z,4.0nm,0.8s
PETK Petropavlovsk- 34.76 31 P P 09 46 25.5 +0.2
comp=Z,3.9nm,0.8s,baz=270,slow=5.9,SNR=3.9
PET Petropavlovsk 35.16 32 eP P 09 46 29.1 +0.4
YAK Yakutsk 36.02 1 eP P 09 46 33.1 -2.9
YAK pmax pmax
comp=Z,39nm,1.0s
YAK pmax pmax
comp=N,25nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK Yakutsk 36.02 1 eP P 09 46 35.7 -0.3
comp=E,87nm,1.3s
BATI Baumata 36.30 188 P P 09 46 36.5 -2.4
comp=E,9.0nm,0.6s,baz=333,slow=9.0,SNR=2.9
TAPN Taplejung 36.35 281 eP P 09 46 40.1 +0.4
HVS Khovu-Aksy 36.45 323 ⇑eP P 09 46 40.6 +0.6
HVS pmax pmax
comp=Z,30nm,1.3s
ODAN Odare 36.70 281 eP P 09 46 42.9 +0.3
comp=Z,64nm,0.7s
RAMN Ramite 37.38 281 eP P 09 46 48.4 0.0
WMQ Urumqi 37.43 309 P P 09 46 47.9 -0.5
WMQ pP pP 09 46 56.3 -0.9
WMQ S S 09 52 32.1 -2.9
WMQ PMZ
comp=Z,10.0nm,1.5s
WMQ PMZ
comp=Z,200nm,5.0s
WMQ LN
comp=Z,500nm,19.0s
WMQ LE
comp=Z,140nm,21.0s
WMQ LZ
comp=Z,560nm,15.0s
JIRN Jiri 37.65 282 eP P 09 46 51.0 +0.2
GUN Gumba 37.89 283 eP P 09 46 53.1 +0.3
comp=Z,38nm,0.9s
PKI Pulchoki 38.35 282 eP P 09 46 56.0 -0.6
comp=Z,34nm,0.7s
PKIN Phulchoki 38.36 282 eP P 09 46 56.5 -0.1
comp=Z,23nm,0.6s
KKN Kakani 38.43 283 eP P 09 46 57.2 0.0
comp=Z,33nm,0.7s
DMN Daman 38.61 282 eP P 09 46 58.3 -0.4
comp=Z,26nm,0.7s
GKN Gorkha 38.97 283 eP P 09 47 01.0 -0.6
comp=Z,48nm,0.8s
DANN Dangsing 39.69 284 eP P 09 47 07.9 +0.1
comp=Z,69nm,0.6s
KOLN Koldanda 39.91 283 eP P 09 47 08.8 -0.7
comp=Z,42nm,0.8s
SEY Seymchan 40.16 17 P P 09 47 11.3 +0.4
SEY pmax pmax
comp=Z,2.0nm,0.5s
SEY Seymchan 40.16 17 P P 09 47 11.2 +0.4
comp=Z,1.6nm,0.5s,baz=216,slow=7.1,SNR=7.6
PYUN Piuthan 40.40 284 eP P 09 47 12.7 -0.9
comp=Z,28nm,0.6s
MKAR Makanchi Array 41.85 312 P P 09 47 24.3 -0.8
MKAR 09 49 20.7
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 41.85 312 P P 09 47 24.2 -0.8
comp=Z,1.6nm,0.6s,baz=96,slow=9.1,SNR=12
MKAR PcP PcP 09 49 20.7 +0.1
comp=Z,1.4nm,0.7s,baz=74,slow=4.3,SNR=4.2
ZALV Zalesovo Beam 42.56 323 P P 09 47 29.6 -1.1
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 42.56 323 P P 09 47 29.6 -1.1
comp=Z,1.5nm,0.6s,baz=106,slow=9.0,SNR=4.9
FX1 Attu Island--F 42.71 39 eP P 09 47 32.9 +0.9
FX1 Attu Island--F 42.71 39 eP P 09 47 32.9 +0.9
KSH Kashi 45.57 301 P P 09 47 55.3 0.0
KSH sP sP 09 48 09.0 +1.2
KSH PP PP 09 49 42.2 +0.1
KSH S S 09 54 32.6 -3.2
KSH PMZ
comp=Z,7.0nm,0.9s
KSH PMZ
comp=Z,78nm,5.1s
KSH LN
comp=Z,200nm,8.3s
KSH LE
comp=Z,250nm,8.0s
KSH LZ
comp=Z,520nm,14.1s
TIXI Tiksi 45.67 0 ⇑eP P 09 47 54.7 -0.6
TIXI pmax pmax
comp=Z,22nm,2.5s
TIXI Tiksi 45.67 0 eP P 09 47 54.8 -0.6
comp=Z,32nm,1.8s
WRAB Tennant Creek 46.02 172 ⇑eP P 09 47 58.8 +0.1
WRAB pmax pmax
comp=Z,49nm,2.5s
WRAB Tennant Creek 46.02 172 eP P 09 47 58.5 -0.3
comp=Z,7.1nm,0.7s
WRAB epP pP 09 48 06.8 -0.9
WRA Warramunga Arr 46.03 172 P P 09 47 58.1 -0.7
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 46.03 172 P P 09 47 58.1 -0.7
comp=Z,5.1nm,0.7s,baz=353,slow=8.5,SNR=23
WB2 Warramunga Arr 46.03 172 eP P 09 47 58.5 -0.4
WB2 epP pP 09 48 06.8 -0.9
BILL Bilibino 47.80 18 eP P 09 48 12.4 +0.3
BILL pmax pmax
comp=Z,17nm,1.4s
BILL Bilibino 47.80 18 eP P 09 48 12.4 +0.3
comp=Z,17nm,1.4s
ASAR Alice Springs 49.66 173 P P 09 48 26.9 0.0
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 49.66 173 P P 09 48 26.9 0.0
comp=Z,3.0nm,0.8s,baz=4.3,slow=8.6,SNR=16
KKAR Karatay Array 49.73 306 eP P 09 48 27.8 +0.5
KKAR e*PP pP 09 48 36.9 +0.6
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 49.73 306 eP P 09 48 27.8 +0.5
comp=Z,3.5nm,0.8s
KKAR epP pP 09 48 36.9 +0.6
BVAR Borovoye Array 50.59 318 P P 09 48 34.0 +0.3
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 50.59 318 P P 09 48 34.0 +0.3
comp=Z,2.0nm,0.7s,baz=81,slow=9.2,SNR=7.0
BRVK Borovoye 50.66 318 c iP P 09 48 34.8 +0.6
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 50.66 318 eP P 09 48 35.0 +0.8
comp=Z,11nm,0.7s
BRVK epP pP 09 48 43.2 0.0
KBL Kabul 51.41 295 eP P 09 48 41.2 +0.8
KBL e*PP pP 09 48 50.6 +1.2
KBL pmax pmax
comp=Z,8.0nm,0.6s
KBL Kabul 51.41 295 eP P 09 48 41.2 +0.8
comp=Z,7.6nm,0.6s
KBL epP pP 09 48 50.6 +1.2
TNA Tin City 55.72 27 eP P 09 49 12.2 +1.0
comp=Z,9.7nm,1.0s
ABKAR Akbulak array 56.97 313 eP P 09 49 19.6 -0.8
comp=Z,6.9nm,0.7s
ABKAR epP pP 09 49 29.8 +0.3
ARU Arti 57.71 322 d iP P 09 49 26.2 +0.7
ARU 09 51 30.5
ARU S S 09 57 27.4 +5.3
ARU SS SS 10 01 17.0 +4.7
ARU pmax pmax
comp=Z,9.0nm,1.2s
AKTO Aktyubinsk 58.15 315 P P 09 49 29.5 +0.8
AKTO pmax pmax
comp=Z,2.0nm,0.8s
AKTO Aktyubinsk 58.15 315 P P 09 49 29.4 +0.8
comp=Z,2.2nm,0.8s,baz=90,slow=12,SNR=5.4
GEYT Alibeck 59.60 300 P P 09 49 39.8 +0.8
comp=Z,2.7nm,0.6s,baz=60,slow=7.0,SNR=5.0
ITEG Tejag 60.14 294 eP P 09 49 39.0 -4.0
COLA College 64.10 28 eP P 09 50 10.0 +1.3
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 64.10 28 eP P 09 50 10.0 +1.3
comp=Z,5.3nm,0.8s
ILAR Eielson Array 64.52 28 P P 09 50 11.2 -0.3
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 64.52 28 P P 09 50 11.2 -0.3
comp=Z,1.1nm,0.7s,baz=268,slow=5.8,SNR=11
DOT Dot Lake 65.91 29 eP P 09 50 21.0 +0.4
comp=Z,8.6nm,0.8s
IRAZ Razeghan 66.59 299 eP P 09 50 25.9 +0.2
TMCR Tamitsa 67.11 332 eP P 09 50 28.8 +0.6
TMCR e 09 52 56.5
TMCR pmax pmax
comp=Z,36nm,1.2s
KLMR Klimovskoe 67.16 328 eP P 09 50 26.9 -1.6
KLMR pmax pmax
comp=Z,11nm,1.7s
DAWY Dawson 67.84 28 eP P 09 50 33.0 +0.1
ZEI Tsey 69.04 308 eP P 09 50 39.9 -1.1
ZEI pmax pmax
comp=Z,5.0nm,0.6s
SPITS Spitsbergen Ar 69.09 348 P P 09 50 40.5 +0.1
SPITS pmax pmax
comp=Z,7.0nm,0.7s
SPITS Spitsbergen Ar 69.09 348 P P 09 50 40.5 +0.1
comp=Z,6.5nm,0.7s,baz=100,slow=8.6,SNR=8.8
GNI Garni 69.19 305 P P 09 50 44.0 +2.1
GNI pmax pmax
comp=Z,7.0nm,1.2s
KBZ Khabaz 69.48 309 P P 09 50 43.9 +0.5
KBZ pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 69.48 309 P P 09 50 43.9 +0.5
comp=Z,7.7nm,1.1s,baz=284,slow=14,SNR=7.3
KIV Kislovodsk 69.56 310 eP P 09 50 45.3 +1.3
KIV pmax pmax
comp=Z,15nm,1.0s
KIV Kislovodsk 69.56 310 eP P 09 50 45.3 +1.3
comp=Z,15nm,1.0s
ARCES ARCESS Array B 70.29 339 P P 09 50 47.5 -0.5
ARCES pmax pmax
comp=Z,8.0nm,1.1s
ARCES ARCESS Array B 70.29 339 P P 09 50 47.5 -0.5
comp=Z,8.0nm,1.1s,baz=337,slow=2.8,SNR=5.3
JOF Joensuu 70.35 331 eP P 09 50 46.9 -1.5
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 70.35 331 ep P 09 50 46.9 -1.5
comp=Z,2.6nm,0.6s
SOC Sochi 71.72 310 eP P 09 50 55.5 -1.6
KAF Kangasniemi 72.80 331 eP P 09 51 01.4 -1.8
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 72.80 331 ep P 09 51 01.4 -1.8
comp=Z,3.0nm,0.6s
FINES FINESS Array B 73.17 331 P P 09 51 05.3 -0.1
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 73.17 331 P P 09 51 05.3 -0.1
comp=Z,3.9nm,0.6s,baz=85,slow=5.8,SNR=12
RAYN Ar Rayn 74.10 289 eP P 09 51 12.2 +0.6
comp=Z,12nm,1.0s
NACGM Naroch 75.49 324 e P 09 51 17.0 -2.0
DAG Danmarks Havn 75.50 353 i P P 09 51 18.3 -0.4
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 75.50 353 i P P 09 51 18.3 -0.4
comp=Z,2.6nm,0.8s
AKASG Malin Array Be 75.85 320 P P 09 51 20.8 -0.3
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG Malin Array Be 75.85 320 P P 09 51 20.8 -0.3
comp=Z,7.8nm,0.6s,baz=60,slow=6.1,SNR=30
KIEV Kiev 75.86 320 d iP P 09 51 20.7 -0.5
KIEV Kiev 75.86 320 eP P 09 51 20.7 -0.5
comp=Z,4.2nm,0.6s
BRTR Keskin Array B 77.35 308 P P 09 51 30.3 +0.2
BRTR pmax pmax
comp=Z,8.0nm,1.0s
BRTR Keskin Array B 77.35 308 P P 09 51 30.2 +0.2
comp=Z,8.4nm,1.0s,baz=103,slow=3.9,SNR=28
YKA Yellowknife Ar 78.62 25 P P 09 51 36.6 +0.2
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 78.62 25 P P 09 51 36.6 +0.2
comp=Z,2.2nm,0.8s,baz=300,slow=5.5,SNR=23
LVV L'vov 79.24 320 eP P 09 51 36.5 -3.6
NB2 NORSAR Subarra 79.61 334 P P 09 51 41.2 -0.8
comp=Z,11nm,1.1s,baz=53,slow=5.9
NOA NORSAR Array B 79.61 334 P P 09 51 41.6 -0.4
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA NORSAR Array B 79.61 334 P P 09 51 41.5 -0.4
comp=Z,4.8nm,0.8s,baz=52,slow=5.4,SNR=11
KOLS Kolonicke sedl 80.67 320 eP P 09 51 50.3 +2.4
KOLS Kolonicke sedl 80.67 320 eP P 09 51 50.3 +2.4
STHS Stebnicka Huta 81.02 321 eP P 09 51 50.3 +0.5
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 81.02 321 eP P 09 51 50.3 +0.5
CRVS Cervenica-Dubn 81.15 320 eP sP 09 51 55.9 -7.5
CRVS pmax pmax
comp=Z,5.0nm,1.3s
CRVS Cervenica-Dubn 81.15 320 es P sP 09 51 55.9 -7.5
SUMG Summit 81.27 356 i P P 09 51 52.1 +1.0
SUMG pmax pmax
comp=Z,11nm,0.8s
SUMG Summit 81.27 356 i P P 09 51 52.1 +1.0
comp=Z,11nm,0.8s
SUMG Summit 81.27 356 eP P 09 51 51.6 +0.5
comp=Z,15nm,0.7s
SUMG epP pP 09 52 04.5 +3.9
VYHS Vyhne 82.86 321 eP P 09 52 00.6 +1.2
VYHS pmax pmax
comp=Z,54nm,3.1s
VYHS Vyhne 82.86 321 eP P 09 52 00.6 +1.2
PVCC Panska Ves 84.09 324 eP P 09 52 07.0 +1.3
PVCC Panska Ves 84.09 324 eP P 09 52 07.0 +1.3
PRU Pruhonice 84.41 324 eP P 09 52 08.0 +0.7
PRU Pruhonice 84.41 324 eP P 09 52 08.0 +0.7
CLL Collm 84.46 325 eP P 09 52 08.0 +0.4
CLL e 09 52 20.0
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 84.46 325 eP P 09 52 08.0 +0.4
comp=Z,6.0nm,1.0s
CLL e 09 52 20.0
GERES GERESS Array B 85.51 323 P P 09 52 13.7 +0.7
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 85.51 323 P P 09 52 13.7 +0.7
comp=Z,0.6nm,0.6s,baz=333,slow=0.3,SNR=4.0
NEW Newport 85.63 38 P P 09 52 13.9 +0.3
NEW pmax pmax
comp=Z,2.0nm,0.9s
NEW Newport 85.63 38 P P 09 52 13.8 +0.3
comp=Z,1.8nm,0.9s,baz=62,slow=3.5,SNR=3.6
FFC Flin Flon 88.68 27 eP P 09 52 28.1 0.0
FFC pmax pmax
comp=Z,8.0nm,1.2s
FFC Flin Flon 88.68 27 eP P 09 52 28.1 0.0
comp=Z,7.9nm,1.2s
NVAR Mina Array Bea 90.49 46 P P 09 52 37.6 +0.4
comp=Z,0.4nm,0.7s,baz=264,slow=3.0,SNR=3.9
PDAR Pinedale Array 93.19 39 P P 09 52 49.6 0.0
comp=Z,1.0nm,1.0s,baz=264,slow=1.5,SNR=4.3
PFO Pinyon Flats O 94.46 49 P P 09 52 55.6 +0.1
PFO pmax pmax
comp=Z,3.0nm,0.8s
PFO Pinyon Flats O 94.46 49 P P 09 52 55.6 +0.1
comp=Z,2.7nm,0.8s,baz=279,slow=6.1,SNR=4.6

IDC 02 09:39:52.6±3.8, 54.54N×86.37E, h0km, mb1 2.5/1, mb1mx2.5/48, mbtmp2.5/1, ML2.5/1, Error ellipse: s-maj=27.8km s-min=14.7km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.09**	**237**	*i*			09 46 58.1	
	baz=58,slow=346,SNR=1.8							
ZALV	**Zalesovo Beam**	**1.09**	**237**	Pg	Pg	Pg	09 40 12.2	-1.2
	1.0nm,0.3s,baz=54,slow=16,SNR=11							
ZALV				Lg	Lg	Lg	09 40 29.0	

6.4nm,0.3s,baz=56,slow=27,SNR=20
MKAR Makanchi Array 8.18 200 Pn Pn 09 41 53.7 +1.2
0.1nm,0.3s,baz=23,slow=14,SNR=5.9

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*IDC **02** 09:44:51.0±0.5,34°.09S×73°.48W,h0km,mb4.7/14,*
mb1 4.9/15,mb1mx4.7/27,mbtmp4.7/15,ML5.1/1,MS3.9/7,
Ms1 4.0/7,ms1mx3.7/20,Error ellipse: s-maj=19.9km
s-min=14.8km az=69.0
*ISCJB **02** 09:44:55.2±0.2,34°.02S±0°.04×73°.34W±0°.06,h33km,*
mb5.0/95,MS3.9/7,Error ellipse: s-maj=7.3km
s-min=5.1km az=147.1
*MOS **02** 09:44:55.5±1.0,34°.06S×73°.58W,h33km,mb5.1/26,Error*
ellipse: s-maj=19.7km s-min=10.3km az=103.8
*NEIC **02** 09:44:56.6±0.8,34°.16S×73°.35W,h37km±7km,mb5.0/75,*
Error ellipse: s-maj=8.6km s-min=4.7km az=67.0
*BJI **02** 09:44:57.0,34°.00S×73°.50W,h35km,mB5.4/6,Ms5.4/7,*
Ms7 5.2/7
ISC 02 09:44:56.7±0.3,34°.08S±0°.05×73°.41W±0°.08,h35km,n609,
σ0°.79/622,mb5.0/95,MS3.8/7,189C-201D,Off coast of
central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.01**	**62**	Pn	**Pn**	**09 46 09.3**	**-0.1**
	1.6nm,0.3s,baz=235,slow=12,SNR=27						
CFAA				Sn	**Sn**	**09 47 08.1**	**+2.0**
	7.0nm,0.3s,baz=123,slow=20,SNR=18						
CFAA				LR	LR	09 48 16.0	
	comp=Z,71nm,19.9s,baz=237,slow=40						
PLCA	**Paso Flores**	**7.02**	**162**	Pn	**Pn**	**09 46 34.4**	**-2.8**
	8.5nm,0.3s,baz=328,slow=13,SNR=31						
PLCA	**Paso Flores**	**7.02**	**162**	*e*Pn	**Pn**	**09 46 34.3**	**-2.8**
PLCA				*e*Sn	**Sn**	**09 48 00.1**	**+4.4**
TRQA	**Tornquist**	**10.07**	**116**	*e*Pn	**Pn**	**09 47 17.6**	**-1.3**
LVC	**Limon Verde**	**12.09**	**20**	*e*Pn	**Pn**	**09 47 48.2**	**+1.4**
CPUP	**Villa Florida**	**15.89**	**65**	P	**P**	**09 48 40.7**	**-0.4**
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CPUP	**Villa Florida**	**15.89**	**65**	Pn	**P**	**09 48 40.7**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=215,slow=11,SNR=5.4						
LPAZ	**La Paz**	**18.34**	**16**	P	**Pn**	**09 49 09.9**	**+0.9**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LPAZ	**La Paz**	**18.34**	**16**	P	**Pn**	**09 49 09.9**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=183,slow=9.3,SNR=74						
LPAZ	**La Paz**	**18.34**	**16**	*e*Pn	**Pn**	**09 49 10.0**	**+0.9**
	comp=Z,40nm,0.9s						
USHA	**Ushuaia**	**21.04**	**172**	P	**P**	**09 49 40.1**	**+2.8**
	comp=Z,39nm,0.8s,baz=326,slow=8.1,SNR=21						
USHA				LR	LR	09 58 49.1	
	comp=Z,283nm,20.0s,baz=329,slow=40						
SIV	**San Ignacio**	**21.16**	**35**	P	**P**	**09 49 38.9**	**-0.1**
	comp=Z,17nm,0.7s,baz=224,slow=8.8,SNR=24						
SIV				LR	LR	09 57 51.1	
	comp=Z,187nm,20.5s,baz=246,slow=37						
SAML	**Samuel**	**26.72**	**23**	*e*P	**P**	**09 50 32.5**	**-0.4**
	comp=Z,3.1nm,0.8s						
ATAH	**Atahualpa**	**27.20**	**349**	LR	LR	09 58 39.7	
	comp=Z,142nm,21.6s,baz=177,slow=30						
BDFB	**Brasilia**	**29.33**	**58**	P	**P**	**09 50 55.0**	**-1.4**
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BDFB	**Brasilia**	**29.33**	**58**	P	**P**	**09 50 55.0**	**-1.4**
	comp=Z,4.4nm,0.6s,baz=242,slow=4.4,SNR=5.6						
PMSA	**Palmer Station**	**31.25**	**172**	LR	LR	10 03 48.2	
	comp=Z,180nm,18.0s,baz=16,slow=36						
OTAV	**Otavalo**	**34.46**	**351**	*e*P	**P**	**09 51 43.1**	**+1.3**
	comp=Z,21nm,1.2s						
ROSC	**El Rosal**	**38.73**	**359**	P	**P**	**09 52 20.5**	**+2.4**
	comp=Z,20nm,0.7s,baz=135,slow=2.2,SNR=14						
ROSC	**El Rosal**	**38.73**	**359**	*e*P	**P**	**09 52 21.1**	**+3.0**
SDV	**Santo Domingo**	**42.81**	**4**	*e*P	**P**	**09 52 50.8**	**-0.7**
	comp=Z,33nm,0.9s						
JTS	**JuntasAbangare**	**45.47**	**344**	P	P	09 53 07.6	-5.0
	comp=Z,85nm,0.5s,SNR=9.4						
JTS	**JuntasAbangare**	**45.47**	**344**	*e*P	P	09 53 07.3	-5.3
JTS				pmax	pmax		
	comp=Z,159nm,2.7s						
JTS	**JuntasAbangare**	**45.47**	**344**	*e*P	P	09 53 07.3	-5.3
	comp=Z,159nm,2.7s						
VNA3	**Neumayer Olymp**	**49.72**	**158**	P	**P**	**09 53 43.8**	**-1.2**
VNA2	**Neumayer--Watz**	**50.38**	**157**	P	**P**	**09 53 50.4**	**+0.4**
SNAA	**Sanae**	**51.94**	**158**	P	**P**	**09 54 01.7**	**-0.1**
SNAA	**Sanae**	**51.94**	**158**	P	**P**	**09 54 01.3**	**-0.5**
	comp=Z,6.4nm,0.9s,baz=278,slow=8.8,SNR=14						
SNAA	**Sanae**	**51.94**	**158**	*e*P	**P**	**09 54 01.4**	**-0.4**
TEIG	**Tepich**	**55.83**	**343**	P	**P**	**09 54 30.3**	**-0.2**
	comp=Z,18nm,0.7s,baz=171,slow=3.7,SNR=9.9						
QSPA	**South Pole Qui**	**56.16**	**180**	P	**P**	**09 54 33.3**	**+0.7**
	comp=Z,15nm,1.0s,baz=157,slow=6.0,SNR=4.9						
NVL	**N'lazarevskaya**	**56.70**	**157**	*e*P	**P**	**09 54 34.8**	**-1.5**
NVL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
035A	**Encino**	**65.05**	**336**	⇓P	**P**	**09 55 34.5**	**+1.1**
	baz=66						
034A	**Hebbronville**	**65.36**	**335**	⇑P	**P**	**09 55 36.5**	**+1.0**
	baz=66						
933A	**Laredo**	**66.07**	**335**	⇑P	**P**	**09 55 40.9**	**+0.8**
	baz=66						
835A	**Beeville**	**66.20**	**337**	⇑P	**P**	**09 55 42.4**	**+1.5**
	baz=67						
SYO	**Syowa Base**	**66.21**	**159**	⇓*e*P	**P**	**09 55 39.6**	**-0.9**
SYO	**Syowa Base**	**66.21**	**159**	⇑*e*X		09 55 45.6	
834A	**Tilden**	**66.29**	**336**	⇓P	**P**	**09 55 42.6**	**+1.1**
	baz=67						
735A	**Kenedy**	**66.72**	**337**	⇑P	**P**	**09 55 45.1**	**+0.9**
	baz=67,SNR=5.8						
833A	**Chaparral WMA,**	**66.76**	**335**	⇓P	**P**	**09 55 45.0**	**+0.5**
	baz=67,SNR=10						
832A	**Faith Ranch, C**	**66.93**	**335**	⇑P	**P**	**09 55 45.8**	**+0.2**
	baz=67,SNR=8.9						
734A	**La Parita Cree**	**66.96**	**336**	⇑P	**P**	**09 55 46.3**	**+0.6**
	baz=67						
636A	**Smothers Creek**	**67.05**	**338**	⇑P	**P**	**09 55 47.5**	**+1.2**
	baz=68						
733A	**Divot King Ran**	**67.09**	**335**	⇑P	**P**	**09 55 47.0**	**+0.4**
	baz=68						
635A	**Leesville**	**67.20**	**337**	⇓P	**P**	**09 55 47.6**	**+0.4**
	baz=68						
732A	**Laxson Ranch,**	**67.34**	**335**	⇑P	**P**	**09 55 48.2**	**+0.1**
	baz=68,SNR=14						
537A	**Green Hill Far**	**67.38**	**339**	⇓P	**P**	**09 55 49.4**	**+1.1**
	baz=68						
536A	**Bastrop**	**67.61**	**338**	⇓P	**P**	**09 55 50.2**	**+0.4**
	baz=68,SNR=5.3						
535A	**Dale**	**67.73**	**337**	⇑P	**P**	**09 55 50.7**	**+0.2**
	baz=68,SNR=9.0						
633A	**Saathoff Ranch**	**67.73**	**336**	⇑P	**P**	**09 55 50.8**	**+0.2**
	baz=68,SNR=7.7						
632A	**Uvalde**	**67.98**	**335**	⇑P	**P**	**09 55 52.6**	**+0.4**
	baz=68,SNR=13						
534A	**Blanco**	**68.02**	**337**	⇑P	**P**	**09 55 52.4**	**0.0**
	baz=68						
339A	**Huntington**	**68.05**	**341**	⇓P	**P**	**09 55 52.8**	**+0.2**
	baz=68						
436A	**Wall Ranch, Ga**	**68.17**	**338**	⇑P	**P**	**09 55 53.6**	**+0.3**
	baz=69						
631A	**Perdido Creek**	**68.17**	**335**	⇓P	**P**	**09 55 53.3**	**-0.1**
	baz=69						
533A	**Kerrville**	**68.24**	**336**	⇓P	**P**	**09 55 54.0**	**+0.2**
	baz=69,SNR=9.2						
338A	**Crockett**	**68.28**	**340**	⇑P	**P**	**09 55 54.9**	**+0.9**
	baz=69						
337A	**Centerville**	**68.41**	**339**	⇑P	**P**	**09 55 55.7**	**+0.9**
	baz=69						
435B	**Jarrell**	**68.43**	**338**	⇓P	**P**	**09 55 55.3**	**+0.3**
	baz=69						
532A	**Rocksprings**	**68.59**	**335**	⇑P	**P**	**09 55 56.5**	**+0.4**
	baz=69,SNR=16						
434A	**Burnet**	**68.68**	**337**	⇑P	**P**	**09 55 56.7**	**+0.2**
	baz=69,SNR=15						
336A	**Riesel**	**68.76**	**339**	⇓P	**P**	**09 55 57.2**	**+0.2**
	baz=69,SNR=7.6						
531A	**Rocksprings**	**68.85**	**335**	⇓P	**P**	**09 55 58.1**	**+0.4**
	baz=69,SNR=8.7						
JCT	**Junction City**	**68.88**	**336**	*e*P	**P**	**09 55 57.7**	**-0.1**
JCT				pmax	pmax		
	comp=Z,32nm,1.0s						
JCT	**Junction City**	**68.88**	**336**	⇓P	**P**	**09 55 58.0**	**+0.2**
	baz=69,SNR=13						
JCT	**Junction City**	**68.88**	**336**	*e*P	**P**	**09 55 57.7**	**-0.1**
	comp=Z,32nm,1.0s						
433A	**Art**	**68.89**	**336**	⇓P	**P**	**09 55 57.9**	**0.0**
	baz=69,SNR=20						
530A	**J-C Ranch, Com**	**69.11**	**334**	⇑P	**P**	**09 55 59.7**	**+0.4**
	baz=70,SNR=15						
334A	**Lometa**	**69.14**	**337**	⇑P	**P**	**09 55 59.6**	**+0.2**
	baz=70,SNR=14						
432A	**Menard**	**69.24**	**336**	⇓P	**P**	**09 55 59.8**	**-0.3**
	baz=70,SNR=9.7						
TXAR	**Lajitas Array**	**69.26**	**332**	P	**P**	**09 56 00.1**	**-0.2**
	comp=Z,6.1nm,0.8s,baz=150,slow=8.2,SNR=58						
TXAR				LR	LR	10 21 34.3	
	comp=Z,112nm,18.1s,baz=0.0,slow=32						
KMSC	**Kings Mountain**	**69.26**	**353**	⇓P	**P**	**09 55 59.6**	**-0.4**
	baz=70,SNR=5.9						
KMSC	**Kings Mountain**	**69.26**	**353**	*e*P	**P**	**09 55 59.7**	**-0.4**
	comp=Z,21nm,0.9s						
431A	**Sonora**	**69.34**	**335**	⇑P	**P**	**09 56 00.7**	**0.0**
	baz=70						
333A	**Richland Sprin**	**69.38**	**337**	⇑P	**P**	**09 56 00.8**	**-0.1**
	baz=70,SNR=12						
529A	**Stev Forest Ra**	**69.42**	**334**	⇓P	**P**	**09 56 01.3**	**+0.1**
	baz=70,SNR=6.1						
WHTX	**Lake Whitney,**	**69.51**	**338**	⇑P	**P**	**09 56 01.6**	**-0.1**
	baz=70						
WHTX	**Lake Whitney,**	**69.51**	**338**	*e*P	**P**	**09 56 01.9**	**+0.2**
	comp=Z,35nm,0.9s						
430A	**Baggett Ranch,**	**69.66**	**335**	⇑P	**P**	**09 56 02.8**	**+0.1**
	baz=70,SNR=10.0						
332A	**Milleview**	**69.68**	**336**	⇑P	**P**	**09 56 02.7**	**-0.1**
	baz=70,SNR=10.0						
234A	**Clairette**	**69.73**	**338**	⇑P	**P**	**09 56 03.2**	**+0.1**
	baz=70,SNR=12						
429A	**Davenport Ranc**	**69.75**	**334**	⇓P	**P**	**09 56 03.4**	**+0.2**
	baz=70,SNR=6.6						
331A	**San Angelo**	**69.85**	**336**	⇓P	**P**	**09 56 03.7**	**-0.1**
	baz=70,SNR=18						
233A	**Rising Star**	**69.99**	**337**	⇓P	**P**	**09 56 04.6**	**0.0**
	baz=70,SNR=12						
135A	**Vickery Place,**	**70.02**	**339**	⇓P	**P**	**09 56 04.3**	**-0.5**
	baz=70						
TKL	**Tuckaleechee C**	**70.05**	**351**	P	**P**	**09 56 03.3**	**-1.6**
TKL				pmax	pmax		
	comp=Z,16nm,0.8s						
TKL	**Tuckaleechee C**	**70.05**	**351**	P	**P**	**09 56 03.3**	**-1.6**
	comp=Z,16nm,0.8s,baz=176,slow=6.9,SNR=17						
TKL	**Tuckaleechee C**	**70.05**	**351**	*e*P	**P**	**09 56 04.4**	**-0.5**
232A	**Coleman**	**70.12**	**336**	⇑P	**P**	**09 56 05.2**	**-0.3**
	baz=70,SNR=14						
330A	**Mertzon**	**70.20**	**335**	⇑P	**P**	**09 56 05.8**	**-0.2**
	baz=71,SNR=11						
134A	**White-Moore Ra**	**70.24**	**338**	⇓P	**P**	**09 56 05.9**	**-0.3**
	baz=71,SNR=5.1						
231A	**Bronte**	**70.38**	**336**	⇓P	**P**	**09 56 06.8**	**-0.3**
	baz=71,SNR=20						
133A	**Hamilton Ranch**	**70.54**	**337**	⇓P	**P**	**09 56 08.0**	**0.0**
	baz=71,SNR=9.6						
329A	**Wagon Wheel Ra**	**70.56**	**334**	⇓P	**P**	**09 56 08.0**	**-0.1**
	baz=71,SNR=12						
230A	**Sterling City**	**70.61**	**335**	⇓P	**P**	**09 56 08.1**	**-0.4**
	baz=71						
Z35A	**Perchaven, San**	**70.70**	**339**	⇓P	**P**	**09 56 09.0**	**+0.1**
	baz=71,SNR=12						
ABTX	**Abilene, Hawle**	**70.79**	**337**	⇓P	**P**	**09 56 09.6**	**+0.1**
	baz=71,SNR=20						
ABTX	**Abilene, Hawle**	**70.79**	**337**	*e*P	**P**	**09 56 09.3**	**-0.2**
	comp=Z,41nm,1.0s						
229A	**Bryant Ranch,**	**70.93**	**335**	⇑P	**P**	**09 56 10.2**	**-0.3**
	baz=71,SNR=6.2						
Z34A	**Collier Ranch,**	**70.94**	**338**	⇑P	**P**	**09 56 10.1**	**-0.3**
	baz=71,SNR=5.4						
131A	**Roby**	**71.08**	**336**	⇓P	**P**	**09 56 11.2**	**-0.1**
	baz=72,SNR=14						
Z33A	**Whitaker Ranch**	**71.12**	**338**	⇓P	**P**	**09 56 11.4**	**0.0**
	baz=72,SNR=14						
WVT	**Waverly**	**71.13**	**348**	*e*P	**P**	**09 56 10.9**	**-0.6**
WVT				pmax	pmax		
	comp=Z,68nm,1.0s						
WVT	**Waverly**	**71.13**	**348**	*e*P	**P**	**09 56 10.9**	**-0.6**
	comp=Z,68nm,1.0s						
130A	**Snyder**	**71.21**	**336**	⇓P	**P**	**09 56 11.8**	**-0.3**
	baz=72						
228A	**UT Block 9, Go**	**71.35**	**334**	⇓P	**P**	**09 56 12.8**	**-0.2**
	baz=72,SNR=7.7						
Z32A	**Haskell**	**71.36**	**337**	⇑P	**P**	**09 56 13.1**	**+0.1**
	baz=72,SNR=17						
Y34A	**Reagan Ranch,**	**71.43**	**339**	⇓P	**P**	**09 56 13.0**	**-0.4**
	baz=72,SNR=8.5						
JSRW	**J. Sargeant Re**	**71.53**	**356**	*e*P	**P**	**09 56 14.2**	**+0.4**
129A	**Stewart Farms,**	**71.55**	**335**	⇓P	**P**	**09 56 13.8**	**-0.4**
	baz=72,SNR=6.0						
Z31A	**Sharp Cattle R**	**71.59**	**337**	⇓P	**P**	**09 56 14.3**	**0.0**
	baz=72,SNR=15						
Y33A	**Hilltop Ranch,**	**71.74**	**338**	⇑P	**P**	**09 56 15.0**	**-0.2**
	baz=72,SNR=7.2						
128A	**Castleberry Fa**	**71.76**	**334**	⇑P	**P**	**09 56 15.4**	**0.0**
	baz=72,SNR=11						
Z30A	**Sanderson Ranc**	**71.89**	**336**	⇓P	**P**	**09 56 15.9**	**-0.3**
	baz=72						
Y32A	**R-V Farms, Ver**	**72.00**	**337**	⇓P	**P**	**09 56 16.7**	**0.0**
	baz=72,SNR=8.6						
MNTX	**Cornudas Mount**	**72.03**	**332**	*e*P	**P**	**09 56 16.0**	**-1.0**
	comp=Z,10nm,1.0s						
X34A	**Smith Ranch, M**	**72.05**	**339**	⇓P	**P**	**09 56 16.9**	**-0.2**
	baz=72,SNR=5.5						
Z29A	**Hungry Hill Ra**	**72.07**	**335**	⇓P	**P**	**09 56 16.9**	**-0.4**
	baz=72,SNR=18						
127A	**Arkansas Junct**	**72.13**	**334**	⇓P	**P**	**09 56 17.7**	**0.0**
	baz=72,SNR=7.7						
X33A	**Lawton**	**72.20**	**338**	⇓P	**P**	**09 56 17.2**	**-0.7**
	baz=73,SNR=5.4						
Y31A	**Rekieta Farm,**	**72.22**	**337**	⇑P	**P**	**09 56 18.0**	**-0.2**
	baz=73,SNR=12						
PBMO	**Poplar Bluff**	**72.26**	**346**	*e*P	**P**	**09 56 17.8**	**-0.4**
	comp=Z,17nm,0.8s						
X32A	**Elmer**	**72.33**	**338**	⇓P	**P**	**09 56 18.5**	**-0.2**
	baz=73,SNR=5.2						
Z28A	**Tucker Farm, M**	**72.33**	**335**	⇓P	**P**	**09 56 18.4**	**-0.5**
	baz=73,SNR=5.8						
Y30A	**Stafford Cattl**	**72.35**	**336**	⇑P	**P**	**09 56 18.6**	**-0.4**
	baz=73,SNR=7.1						
Y29A	**Porterfield Fa**	**72.60**	**336**	⇓P	**P**	**09 56 20.2**	**-0.3**
	baz=73,SNR=19						
W34A	**Bridge Creek,**	**72.63**	**339**	⇓P	**P**	**09 56 20.0**	**-0.5**
	baz=73						
W34A	**Bridge Creek,**	**72.63**	**339**	*e*P	**P**	**09 56 20.4**	**0.0**
	comp=Z,24nm,1.0s						
Z27A	**Tatum**	**72.65**	**334**	⇓P	**P**	**09 56 20.4**	**-0.4**
	baz=73,SNR=9.8						
TUL1	**Leonard**	**72.70**	**341**	⇓P	**P**	**09 56 20.4**	**-0.5**
	baz=73,SNR=8.4						
X31A	**McDonald Ranch**	**72.74**	**337**	⇓P	**P**	**09 56 21.1**	**-0.1**
	baz=73,SNR=12						
W33A	**Caddo, Fort Co**	**72.75**	**339**	⇓P	**P**	**09 56 21.7**	**+0.5**
	baz=73,SNR=12						
Y28A	**McKinney Farm,**	**72.84**	**335**	⇑P	**P**	**09 56 21.6**	**-0.3**
	baz=73,SNR=10.0						
X30A	**Coker Ranch, T**	**72.87**	**336**	⇓P	**P**	**09 56 21.4**	**-0.6**
	baz=73						
Z26A	**Caprock**	**72.89**	**334**	⇓P	**P**	**09 56 22.3**	**0.0**
	baz=73,SNR=38						
USIN	**Unrsity of**	**72.89**	**348**	*e*P	**P**	**09 56 21.0**	**-0.9**
	comp=Z,30nm,0.8s						
SIUC	**Southern Illin**	**72.93**	**347**	*e*P	**P**	**09 56 21.7**	**-0.4**
	comp=Z,24nm,0.8s						
W32A	**Sentinel**	**72.97**	**338**	⇓P	**P**	**09 56 22.5**	**0.0**
	baz=73,SNR=29						
MSTX	**Muleshoe**	**73.08**	**335**	⇑P	**P**	**09 56 23.1**	**-0.3**
	baz=74,SNR=16						
MSTX	**Muleshoe**	**73.08**	**335**	*e*P	**P**	**09 56 23.2**	**-0.1**
	comp=Z,27nm,0.8s						
V34A	**Guthrie**	**73.11**	**340**	⇑P	**P**	**09 56 22.9**	**-0.4**
	baz=74,SNR=7.0						
V34A	**Guthrie**	**73.11**	**340**	*e*P	**P**	**09 56 23.0**	**-0.3**
	comp=Z,22nm,0.9s						
X29A	**Tulia**	**73.14**	**336**	⇓P	**P**	**09 56 23.6**	**-0.1**
	baz=74,SNR=11						
Y27A	**Causey**	**73.14**	**334**	⇑P	**P**	**09 56 23.2**	**-0.5**
	baz=74,SNR=6.5						
Z25A	**Roswell**	**73.17**	**333**	⇓P	**P**	**09 56 23.5**	**-0.4**
	baz=74,SNR=7.4						
W31A	**Holland Ranch,**	**73.24**	**338**	⇑P	**P**	**09 56 23.9**	**-0.3**
	baz=74,SNR=7.8						
V33A	**Lossen Ranch,**	**73.32**	**339**	⇓P	**P**	**09 56 24.5**	**-0.1**
	baz=74,SNR=9.4						
319A	**Douglas**	**73.36**	**328**	⇑P	**P**	**09 56 25.7**	**+0.7**
	baz=74,SNR=8.7						
X28A	**Dimmitt**	**73.38**	**335**	⇑P	**P**	**09 56 24.9**	**-0.2**
	baz=74						
Y26A	**Elida**	**73.42**	**334**	⇓P	**P**	**09 56 25.4**	**0.0**
	baz=74,SNR=14						
W30A	**Crocket Farms**	**73.44**	**337**	⇑P	**P**	**09 56 25.4**	**0.0**
	baz=74						
V32A	**Arapaho**	**73.46**	**338**	⇓P	**P**	**09 56 25.7**	**+0.3**
	baz=74,SNR=5.3						
Z24A	**Sheeppen Canyo**	**73.47**	**332**	⇓P	**P**	**09 56 26.0**	**+0.2**
	baz=74,SNR=15						
AMTX	**Amarillo**	**73.53**	**336**	⇑P	**P**	**09 56 26.0**	**0.0**
	baz=74						
U34A	**Anderson Ranch**	**73.68**	**340**	⇑P	**P**	**09 56 26.5**	**-0.1**
	baz=74						
U34A	**Anderson Ranch**	**73.68**	**340**	*e*P	**P**	**09 56 26.6**	**-0.1**
	comp=Z,20nm,0.9s						
121A	**Cookes Peak, D**	**73.73**	**330**	⇓P	**P**	**09 56 28.1**	**+0.8**
	baz=74,SNR=12						
121A	**Cookes Peak, D**	**73.73**	**330**	*e*P	**P**	**09 56 27.9**	**+0.6**
	comp=Z,21nm,1.0s						
Y25A	**Mesa, Roswell**	**73.74**	**333**	⇑P	**P**	**09 56 26.7**	**-0.5**
	baz=74						
W29A	**Amarillo**	**73.74**	**336**	⇓P	**P**	**09 56 27.2**	**0.0**
	baz=74,SNR=13						
V31A	**Spring Creek L**	**73.75**	**338**	⇓P	**P**	**09 56 27.8**	**+0.6**
	baz=74,SNR=6.9						
X27A	**F and S Farms,**	**73.81**	**335**	⇓P	**P**	**09 56 27.0**	**-0.6**
	baz=74						
U33A	**Lingo Farm, Me**	**73.84**	**339**	⇓P	**P**	**09 56 27.2**	**-0.4**
	baz=74,SNR=5.8						
X26A	**CR and CF Fran**	**73.98**	**334**	⇑P	**P**	**09 56 28.9**	**+0.2**
	baz=74,SNR=12						
V30A	**Spur Ranch, Mi**	**74.01**	**337**	⇑P	**P**	**09 56 29.3**	**+0.6**
	baz=74						
Y24A	**Capitan**	**74.02**	**333**	⇓P	**P**	**09 56 29.3**	**+0.3**
	baz=74,SNR=14						
W28A	**Vega**	**74.05**	**336**	⇓P	**P**	**09 56 29.1**	**+0.1**
	baz=74						
U32A	**Winter Ranch,**	**74.05**	**339**	⇓P	**P**	**09 56 29.0**	**+0.1**
	baz=74,SNR=5.7						
W27A	**Bowe Ranch, En**	**74.17**	**335**	⇓P	**P**	**09 56 29.8**	**+0.1**
	baz=75,SNR=10						
Y23A	**Lovelace Mesa,**	**74.26**	**332**	⇑P	**P**	**09 56 31.1**	**+0.7**
	baz=75,SNR=6.5						
X25A	**Clemmons Ranch**	**74.27**	**334**	⇓P	**P**	**09 56 30.2**	**-0.1**
	baz=75,SNR=5.4						
U31A	**Nine Bar Ranch**	**74.30**	**338**	⇓P	**P**	**09 56 30.6**	**+0.2**
	baz=75						
W26A	**Owens Ranch, T**	**74.44**	**335**	⇑P	**P**	**09 56 31.7**	**+0.3**
	baz=75,SNR=7.6						
ACSO	**Alum Creek Sta**	**74.47**	**352**	*e*P	**P**	**09 56 30.8**	**-0.4**
	comp=Z,42nm,1.0s						
T33A	**Patterson Ranc**	**74.48**	**340**	⇑P	**P**	**09 56 31.7**	**+0.3**
	baz=75,SNR=12						
V28A	**Channing**	**74.51**	**336**	⇓P	**P**	**09 56 32.1**	**+0.4**
	baz=75,SNR=14						
X24A	**Lazy VL Ranch,**	**74.59**	**333**	⇑P	**P**	**09 56 32.8**	**+0.5**
	baz=75,SNR=9.3						
U30A	**WK&E Inc. Balk**	**74.70**	**338**	⇓P	**P**	**09 56 33.0**	**+0.3**
	baz=75,SNR=6.5						
V27A	**Dan Oppiter Fa**	**74.72**	**336**	⇓P	**P**	**09 56 33.2**	**+0.3**
	baz=75,SNR=7.0						
T32A	**Huddler Ranch,**	**74.77**	**339**	⇓P	**P**	**09 56 33.3**	**+0.3**
	baz=75						
W25A	**X Bar L Ranch,**	**74.81**	**334**	⇑P	**P**	**09 56 33.4**	**0.0**
	baz=75,SNR=8.4						
TUC	**Tucson**	**74.82**	**328**	*e*P	**P**	**09 56 34.0**	**+0.5**
TUC				pmax	pmax		
	comp=Z,12nm,1.1s						
TUC	**Tucson**	**74.82**	**328**	*e*P	**P**	**09 56 34.0**	**+0.5**
	comp=Z,12nm,1.1s						
LPM	**Los Pinos Moun**	**74.82**	**332**	*e*P	**P**	**09 56 34.5**	**+0.9**
U29A	**Oasis Ranch, S**	**74.83**	**337**	⇓P	**P**	**09 56 33.7**	**+0.2**
	baz=75						
X23A	**Hourglass Bar**	**74.89**	**332**	⇑P	**P**	**09 56 34.9**	**+0.9**
	baz=75						
T31A	**Randall Ranch,**	**74.92**	**339**	⇑P	**P**	**09 56 34.1**	**+0.2**
	baz=75						
U28A	**Mallet**	**75.08**	**336**	⇑P	**P**	**09 56 34.9**	**0.0**
	baz=76,SNR=7.8						
V26A	**Tequesquite Ra**	**75.09**	**335**	⇓P	**P**	**09 56 34.9**	**-0.2**
	baz=76,SNR=6.8						
T30A	**Plains**	**75.14**	**338**	⇓P	**P**	**09 56 35.4**	**+0.2**
	baz=76						
W24A	**Lazy 6 Ranch,**	**75.15**	**333**	⇓P	**P**	**09 56 35.8**	**+0.3**
	baz=76,SNR=9.1						
S32A	**Newby Ranch, P**	**75.26**	**339**	⇓P	**P**	**09 56 36.3**	**+0.4**
	baz=76						
ANMO	**Albuquerque**	**75.31**	**332**	*e*P	**P**	**09 56 36.8**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ANMO	**Albuquerque**	**75.31**	**332**	P	**P**	**09 56 37.2**	**+0.8**
	comp=Z,7.9nm,1.0s,baz=167,slow=8.2,SNR

baz=77
R29A Marienthal 76.59 338 ⇓P P 09 56 43.9 +0.4
baz=77,SNR=11
Q31A Ellis 76.60 339 ⇓P P 09 56 44.0 +0.5
baz=77,SNR=9.5
S26A Kim 76.62 336 ⇓P P 09 56 44.5 +0.8
baz=77,SNR=23
Z14A Wintersburg 76.68 327 ⇑P P 09 56 44.6 +0.6
baz=77
U22A Llaves 76.73 333 ⇓P P 09 56 45.7 +1.2
baz=77,SNR=7.7
R28A Tribune 76.73 337 ⇓P P 09 56 44.7 +0.4
baz=77,SNR=15
W18A Petrified Fore 76.77 330 ⇓P P 09 56 45.4 +0.7
baz=77
W18A Petrified Fore 76.77 330 eP P 09 56 45.6 +0.8
comp=Z,26nm,1.2s
T24B San Luis 76.79 334 ⇑P P 09 56 46.1 +1.1
baz=77,SNR=12
Q30A Quinter 76.82 339 ⇓P P 09 56 45.3 +0.5
baz=77,SNR=16
X16A Lo Mia Camp, P 76.90 328 ⇑P P 09 56 46.5 +1.0
baz=77,SNR=16
P32A Huiting Farm, 76.95 340 ⇑P P 09 56 45.5 +0.1
baz=77,SNR=5.7
Q29A Oakley 76.97 338 ⇑P P 09 56 45.7 +0.1
baz=77,SNR=6.1
S25A Robets Cordova 76.99 335 ⇓P P 09 56 46.7 +0.8
baz=77,SNR=9.4
R27A Eads 77.00 337 ⇓P P 09 56 46.1 +0.3
baz=77,SNR=13
T23A Casias Ranch, 77.00 334 ⇓P P 09 56 46.7 +0.6
baz=77,SNR=8.6
P31A Stockton 77.08 340 ⇓P P 09 56 46.4 +0.2
baz=78,SNR=7.3
Y14A Wickenburg 77.19 327 ⇑P P 09 56 47.6 +0.6
baz=78,SNR=6.7
R26A Arlington 77.23 336 ⇓P P 09 56 47.6 +0.4
baz=78,SNR=11
S24A Houchin Ranch, 77.24 335 ⇑P P 09 56 48.5 +1.1
baz=78,SNR=25
GLA Glamis 77.29 325 eP P 09 56 48.7 +1.2
GLA pmax pmax
comp=Z,46nm,1.9s
GLA Glamis 77.29 325 ⇓P P 09 56 48.5 +1.0
baz=78
GLA Glamis 77.29 325 eP P 09 56 48.7 +1.2
comp=Z,46nm,1.9s
P30A Selden 77.35 339 ⇑P P 09 56 48.0 +0.3
baz=78
R25A Fountain Ranch 77.37 336 ⇑P P 09 56 48.3 +0.4
baz=78
Q28A Sharon Springs 77.39 338 ⇓P P 09 56 48.5 +0.5
baz=78,SNR=6.4
SDCO Great Sand Dun 77.44 334 eP P 09 56 49.0 +0.4
comp=Z,5.9nm,0.8s
O32A Brockman Farm, 77.45 341 ⇑P P 09 56 48.2 0.0
baz=78
S23A Nye Farm, Mont 77.59 334 ⇓P P 09 56 49.9 +0.6
baz=78
KSCO Kaye Shedlock' 77.60 337 ⇓P P 09 56 50.0 +0.8
baz=78,SNR=7.5
KSCO Kaye Shedlock' 77.60 337 eP P 09 56 50.0 +0.8
comp=Z,22nm,0.9s
P29A Atwood 77.61 339 ⇑P P 09 56 49.9 +0.7
baz=78,SNR=6.8
O31A Woolen Ranch, 77.64 340 ⇓P P 09 56 49.4 +0.1
baz=78,SNR=7.9
SWSC Sam W. Stewart 77.66 325 ⇓P P 09 56 50.3 +0.8
baz=78
Y12C Blythe 77.72 326 ⇑P P 09 56 50.9 +1.0
baz=78,SNR=5.3
R24A Sanders Place, 77.73 335 ⇑P P 09 56 51.1 +1.0
baz=78,SNR=19
SCIA State Center 77.77 345 eP P 09 56 49.8 -0.1
comp=Z,48nm,1.4s
WUAZ Wupatki 77.80 329 ⇑P P 09 56 51.5 +1.0
baz=78,SNR=13
WUAZ Wupatki 77.80 329 eP P 09 56 51.3 +0.8
comp=Z,16nm,1.0s
Q26A Hugo 77.81 336 ⇑P P 09 56 50.9 +0.5
baz=78
P28A Saint Francis 77.84 338 ⇑P P 09 56 51.2 +0.8
baz=78,SNR=11
O30A MW Ranch, Wils 77.88 339 ⇑P P 09 56 51.0 +0.3
baz=78,SNR=8.6
S22A 4UR Ranch, Cre 77.92 333 ⇓P P 09 56 52.0 +0.7
baz=78,SNR=8.2
R23A Moffat 77.95 334 ⇑P P 09 56 52.1 +0.7
baz=78,SNR=7.3
O29A 4D Ranch, Culb 78.05 339 ⇓P P 09 56 52.4 +0.8
baz=78
Q25A Bedland, Calha 78.05 336 ⇓P P 09 56 52.2 +0.4
baz=78,SNR=5.7
P27A Ficken Ranch, 78.08 337 ⇓P P 09 56 52.5 +0.6
baz=78
BC3 Big Chuckawall 78.08 325 ⇑P P 09 56 53.0 +1.0
baz=78,SNR=12
MVCO Mesa Verde 78.09 332 ⇑P P 09 56 52.8 +0.7
baz=78,SNR=9.4
MVCO Mesa Verde 78.09 332 eP P 09 56 52.5 +0.3
comp=Z,12nm,0.9s
JFWS Jewell Farm 78.16 347 eP P 09 56 51.7 -0.4
JFWS pmax pmax
comp=Z,12nm,0.8s
JFWS Jewell Farm 78.16 347 eP P 09 56 51.7 -0.4
comp=Z,12nm,0.8s
P26A Davis Ranch, A 78.33 337 ⇓P P 09 56 54.0 +0.7
baz=79,SNR=7.7
O28A Krutsinger Ran 78.35 338 ⇑P P 09 56 54.2 +0.9
baz=79
IRM Iron Mountain 78.36 326 ⇑P P 09 56 54.4 +1.0
baz=79,SNR=8.0
Q24A Divide 78.40 335 ⇓P P 09 56 54.7 +0.7
baz=79,SNR=9.6
BGNE Belgrade 78.49 341 eP P 09 56 53.9 -0.1
comp=Z,23nm,0.8s
PFO Pinyon Flats O 78.53 324 eP P 09 56 54.9 +0.4
PFO Pinyon Flats O 78.53 324 ⇑P P 09 56 55.7 +1.2
baz=79,SNR=7.7
PFO Pinyon Flats O 78.53 324 eP P 09 56 54.9 +0.4
W13A Hualapai Mount 78.55 327 ⇑P P 09 56 55.8 +1.1
baz=79,SNR=8.4
P25A Willow Gulch B 78.56 336 ⇓P P 09 56 55.7 +1.1
baz=79,SNR=21
BELC Belle Mtn. Jos 78.62 325 ⇑P P 09 56 56.0 +1.0
baz=79
O27A Beecher Island 78.63 338 ⇓P P 09 56 55.7 +0.8
baz=79,SNR=13
N29A Votaw Ranch, W 78.64 339 ⇓P P 09 56 55.2 +0.3
baz=79,SNR=6.7
M31A Lambtecht Ranc 78.65 341 ⇑P P 09 56 55.5 +0.6
baz=79
N28A Pribbeno Ranch 78.79 339 ⇓P P 09 56 56.0 +0.3
baz=79,SNR=6.1
P24A Kohler Place, 78.81 336 ⇓P P 09 56 56.6 +0.6
baz=79
MURC Murrieta 78.88 324 ⇓P P 09 56 57.3 +1.0
baz=79,SNR=6.2
PV01 Paradox Valley 78.92 332 eP P 09 56 57.4 +0.7
comp=Z,720nm,1.0s
O26A Horse Wrangler 78.94 337 ⇑P P 09 56 57.5 +0.9
baz=79,SNR=7.8
U15A North Rim 78.97 329 ⇑P P 09 56 58.2 +1.2
baz=79,SNR=13
P23A Jefferson 79.01 335 ⇓P P 09 56 58.3 +1.0
baz=79
M30A Dale-Ortello V 79.08 340 ⇑P P 09 56 57.8 +0.5
baz=80
O25A Wiggins 79.09 336 ⇓P P 09 56 58.5 +1.1
baz=80
GMRC Granite Mounta 79.10 326 ⇑P P 09 56 58.8 +1.1
baz=80,SNR=9.2
N27A Anderson Farm, 79.20 338 ⇓P P 09 56 58.9 +0.8
baz=80,SNR=6.3
M29A Burnside Ranch 79.23 339 ⇑P P 09 56 58.4 +0.3
baz=80,SNR=5.4
SMCO Snowmass 79.24 334 eP P 09 56 59.1 +0.5
comp=Z,17nm,1.0s
PV04 Paradox Valley 79.28 332 eP P 09 56 59.2 +0.7
ISCO Idaho Springs 79.31 335 eP P 09 56 59.2 +0.3
ISCO pmax pmax
comp=Z,7.0nm,0.9s
ISCO Idaho Springs 79.31 335 ⇑P P 09 56 59.2 +0.3
baz=80,SNR=7.3
ISCO Idaho Springs 79.31 335 eP P 09 56 59.2 +0.3
comp=Z,7.2nm,0.9s
M28A Bar X Bar Ranc 79.39 339 ⇑P P 09 56 59.8 +0.8
baz=80
L31A Butterfield Fa 79.39 341 ⇑P P 09 56 59.3 +0.4
baz=80,SNR=8.0
O24A Longmont 79.41 336 ⇓P P 09 56 59.7 +0.5
baz=80
L30A Spencer Herefo 79.42 340 ⇑P P 09 56 59.6 +0.5
baz=80,SNR=5.2
N26A Koester Ranch, 79.44 337 ⇓P P 09 57 00.2 +0.9
baz=80
HEC Hector,Ludlow 79.46 325 ⇑P P 09 57 00.8 +1.2
baz=80,SNR=9.1
P22A Eagle 79.53 334 ⇓P P 09 57 00.7 +0.7
baz=80,SNR=5.8
BFSC Mount Baldy Ra 79.62 324 ⇓P P 09 57 01.3 +0.8
baz=80,SNR=6.5
L29A Maesberg Ranch 79.74 340 ⇓P P 09 57 01.4 +0.6
baz=80
TUQ Turquoise Moun 79.77 326 ⇓P P 09 57 02.3 +1.1
baz=80,SNR=5.8
O23A Lake Granby, G 79.78 335 ⇓P P 09 57 02.2 +0.8
baz=80,SNR=22
O22A Kremmling 79.96 335 ⇑P P 09 57 02.9 +0.5
baz=80,SNR=13
N24A Carr 79.98 336 ⇑P P 09 57 03.2 +0.9
baz=80,SNR=5.5
K30A Basset 80.06 341 ⇑P P 09 57 03.0 +0.4
baz=80,SNR=11
GSC Goldstone, Bar 80.07 325 eP P 09 57 03.9 +1.1
GSC pmax pmax
comp=Z,6.0nm,0.9s
GSC Goldstone, Bar 80.07 325 ⇑P P 09 57 03.9 +1.1
baz=80
GSC Goldstone, Bar 80.07 325 eP P 09 57 03.9 +1.1
comp=Z,6.2nm,0.9s
M25A Palm-Egli Farm 80.26 337 ⇑P P 09 57 04.3 +0.5
baz=81,SNR=5.4
ECSD EROS Data Cent 80.28 343 ⇑P P 09 57 03.5 -0.2
baz=81,SNR=16
ECSD EROS Data Cent 80.28 343 eP P 09 57 03.0 -0.6
comp=Z,19nm,0.8s
TSUM Tsumeb 80.29 107 eP P 09 57 05.0 +0.4
comp=Z,15nm,1.4s
SHPR Sheep Range 80.30 327 eP P 09 57 04.9 +0.8
EDW2 Edwards Air Fo 80.30 324 ⇓P P 09 57 04.5 +0.5
baz=81,SNR=6.1
K29A Lazy Trails An 80.34 340 ⇑P P 09 57 04.5 +0.4
baz=81,SNR=8.2
CCUT Cedar City 80.37 329 eP P 09 57 05.8 +1.2
comp=Z,16nm,1.0s
N23A Red Feather La 80.40 336 ⇓P P 09 57 05.4 +0.7
baz=81,SNR=6.9
N22A Wattenberg Ran 80.50 335 ⇓P P 09 57 06.1 +0.9
baz=81,SNR=10
SRU San Rafael Swe 80.53 332 eP P 09 57 05.7 +0.4
SRU pmax pmax
comp=Z,10.0nm,0.9s
SRU San Rafael Swe 80.53 332 eP P 09 57 05.7 +0.4
comp=Z,9.7nm,0.9s
M24A Cheyenne 80.54 337 ⇓P P 09 57 06.2 +0.9
baz=81,SNR=6.7
O20A White River Ci 80.55 334 ⇓P P 09 57 06.0 +0.5
baz=81,SNR=5.0
O20A White River Ci 80.55 334 eP P 09 57 05.9 +0.5
comp=Z,11nm,0.9s
K28A Ten Mile Ranch 80.60 340 ⇑P P 09 57 06.5 +1.0
baz=81,SNR=12
PHWY Pilot Hill 80.60 336 eP P 09 57 05.9 +0.1
comp=Z,10nm,0.9s
ARUT Antelope Range 80.61 329 eP P 09 57 06.6 +0.9
ARUT pmax pmax
comp=Z,169nm,1.0s
ARUT Antelope Range 80.61 329 eP P 09 57 06.6 +0.9
comp=Z,169nm,1.0s
LRMC Laurel Mtn Rad 80.63 325 ⇓P P 09 57 06.5 +0.6
baz=81
J30A Dallas 80.64 341 ⇑P P 09 57 05.5 -0.1
baz=81,SNR=5.1
M23A Laramie 80.84 336 ⇑P P 09 57 07.4 +0.4
baz=81,SNR=9.0
K27A Flueckinger Fa 80.84 339 ⇓P P 09 57 07.5 +0.7
baz=81,SNR=7.7
SPMN Marine on St. 80.87 346 ⇑P P 09 57 06.1 -0.6
baz=81
SPMN Marine on St. 80.87 346 eP P 09 57 06.0 -0.8
J29A Okreek 80.94 340 ⇓P P 09 57 07.5 +0.3
baz=81,SNR=18
TMUT Trail Mountain 80.96 331 eP P 09 57 08.4 +0.6
comp=Z,114nm,2.7s
BOSA Boshof 81.04 118 P P 09 57 09.3 +0.8
BOSA pmax pmax
comp=Z,11nm,1.0s
BOSA Boshof 81.04 118 P P 09 57 09.3 +0.8
comp=Z,11nm,1.0s,baz=222,slow=5.9,SNR=7.0
FURC Furnace Creek, 81.05 326 ⇑P P 09 57 08.9 +1.0
baz=81
M22A Cedar Creek Ra 81.08 335 ⇑P P 09 57 09.1 +0.8
baz=82
L24A Wheatland 81.09 337 ⇓P P 09 57 09.0 +0.8
baz=82
ISA Isabella, Lake 81.16 324 eP P 09 57 09.4 +0.8
ISA Isabella, Lake 81.16 324 ⇑P P 09 57 09.8 +1.1
baz=82,SNR=8.2
ISA Isabella, Lake 81.16 324 eP P 09 57 09.4 +0.8
I30A Oacoma 81.17 341 ⇑P P 09 57 08.0 -0.4
baz=82,SNR=8.6
N20A Spence Gulch, 81.17 334 ⇑P P 09 57 09.0 +0.3
baz=82,SNR=5.5
J28A Allard Ranch, 81.21 340 ⇑P P 09 57 09.2 +0.5
baz=82,SNR=9.3
DAC Darwin (Calif) 81.23 325 eP P 09 57 10.1 +0.9
DAC Darwin (Calif) 81.23 325 eP P 09 57 10.1 +0.9
K25A Mack Ranch, Ha 81.26 338 ⇓P P 09 57 09.8 +0.7
baz=82
J27A Elkhorn Farm, 81.28 339 ⇑P P 09 57 10.0 +0.9
baz=82,SNR=10
L23A Garrett 81.41 336 ⇑P P 09 57 09.9 -0.1
baz=82
I29A Vivian Onida 81.50 341 ⇑P P 09 57 10.0 -0.2
baz=82
BRSD Miller 81.53 342 ⇑P P 09 57 10.1 -0.2
baz=82
BRSD Miller 81.53 342 eP P 09 57 10.0 -0.4
comp=Z,16nm,0.8s
L22A Ellis Ranch, M 81.58 336 ⇑P P 09 57 11.6 +0.7
baz=82
VES Vestal, Richgr 81.60 324 ⇓P P 09 57 11.7 +0.8
baz=82
J26A Sides Ranch, S 81.65 339 ⇑P P 09 57 11.7 +0.7
baz=82,SNR=7.4
GRAC Grapevine Rang 81.72 326 ⇓P P 09 57 12.5 +1.0
baz=82
I28A Midland 81.72 340 ⇑P P 09 57 11.6 +0.3
baz=82,SNR=10
MPU Maple Canyon 81.75 331 eP P 09 57 12.3 +0.6
comp=Z,15nm,1.0s
NLU North Lily Min 81.87 331 eP P 09 57 13.4 +0.9
comp=Z,23nm,1.6s
J25A Sunshine Ranch 81.94 338 ⇓P P 09 57 12.9 +0.2
baz=82
K23A Bowen Ranch, D 81.95 337 ⇓P P 09 57 13.0 +0.2
baz=82,SNR=6.8
R11A Troy Canyon, C 82.01 328 ⇑P P 09 57 14.3 +1.1
baz=82,SNR=10
R11A Troy Canyon, C 82.01 328 eP P 09 57 13.9 +0.7
comp=Z,11nm,1.1s
H29A Onida 82.04 341 ⇓P P 09 57 12.7 -0.3
baz=82,SNR=11
I27A Quinn 82.04 340 ⇑P P 09 57 13.1 0.0
baz=82,SNR=5.8
J24A Dixon Ranch, L 82.16 338 ⇑P P 09 57 14.5 +0.7
baz=83
K22A Casper 82.16 336 ⇓P P 09 57 14.2 +0.3
baz=83,SNR=7.7
K22A Casper 82.16 336 eP P 09 57 14.1 +0.2
comp=Z,19nm,1.0s
JLU Jordanelle 82.17 332 eP P 09 57 14.5 +0.4
comp=Z,8.5nm,0.9s
G30A Faulkton 82.22 342 ⇓P P 09 57 13.4 -0.5
baz=83,SNR=7.3
I26A New Underwood 82.24 339 ⇓P P 09 57 14.1 0.0
baz=83
H28A Mission Ridge 82.30 341 ⇓P P 09 57 14.2 -0.2
baz=83,SNR=9.8
CTU Camp Tracy 82.37 332 eP P 09 57 15.1 +0.1
comp=Z,5.0nm,0.7s
DUG Dugway, Tooele 82.37 331 eP P 09 57 15.4 +0.4
DUG pmax pmax
comp=Z,32nm,1.4s
DUG Dugway, Tooele 82.37 331 ⇓P P 09 57 15.7 +0.7
baz=83,SNR=15
DUG Dugway, Tooele 82.37 331 eP P 09 57 15.4 +0.4
comp=Z,32nm,1.4s
K21A Alcova 82.39 336 ⇑P P 09 57 15.3 +0.2
baz=83,SNR=17
G29A Hoven 82.48 341 ⇑P P 09 57 14.9 -0.4
baz=83,SNR=8.3
I25A Rochford 82.49 338 ⇑P P 09 57 15.9 +0.3
baz=83,SNR=8.3
TPH Tonopah 82.52 327 eP P 09 57 16.7 +0.8
TPH Tonopah 82.52 327 eP P 09 57 16.7 +0.8
H27A Howes 82.56 340 ⇑P P 09 57 15.6 -0.2
baz=83,SNR=9.5
TCUT Toone Canyon 82.60 332 eP P 09 57 16.1 -0.2
comp=Z,40nm,1.5s
I24A Kuemmerle Ranc 82.62 338 ⇑P P 09 57 16.2 0.0
baz=83
G28A Parade 82.64 341 ⇓P P 09 57 16.2 +0.1
baz=83,SNR=9.4
RSSD Black Hills 82.68 338 eP P 09 57 16.3 -0.3
RSSD pmax pmax
comp=Z,11nm,1.0s
RSSD Black Hills 82.68 338 eP P 09 57 16.3 -0.3
comp=Z,10nm,1.0s
J22A Midwest 82.82 336 ⇑P P 09 57 16.8 -0.5
baz=83
F30A Leola 82.85 342 ⇓P P 09 57 17.0 -0.2
baz=83,SNR=6.8
H25A Fruitdale 83.00 339 ⇓P P 09 57 18.1 0.0
baz=83,SNR=6.5
F29A Eureka 83.05 342 ⇓P P 09 57 18.0 -0.2
baz=84,SNR=11
BGU Big Grassy Mou 83.08 331 eP P 09 57 18.8 +0.1
comp=Z,9.3nm,1.6s
J21A Lysite 83.09 336 ⇓P P 09 57 18.4 -0.3
baz=84
G27A Dupree 83.20 340 ⇓P P 09 57 18.8 -0.3
baz=84,SNR=5.6
EYMN Ely 83.25 348 eP P 09 57 18.4 -0.8
comp=Z,11nm,1.0s
I22A 9 Mile Ranch, 83.25 337 ⇑P P 09 57 19.1 -0.4
baz=84,SNR=5.7
LBTB Lobatse 83.30 116 eP P 09 57 21.8 +1.4
LBTB pmax pmax
comp=Z,36nm,1.4s
LBTB Lobatse 83.30 116 eP P 09 57 21.8 +1.4
comp=Z,36nm,1.4s
NVAR Mina Array Bea 83.31 326 P P 09 57 20.7 +0.7
comp=Z,2.5nm,0.8s,baz=146,slow=5.9,SNR=15
G26A Maurine 83.32 340 ⇓P P 09 57 19.3 -0.4
baz=84,SNR=5.4
J20A Shoshoni 83.32 335 ⇑P P 09 57 20.3 +0.5
baz=84,SNR=15
F28A McLaughlin 83.33 341 ⇑P P 09 57 19.6 0.0
baz=84,SNR=8.0
PDAR Pinedale Array 83.33 334 P P 09 57 19.6 -0.5
comp=Z,4.1nm,1.0s,baz=154,slow=4.8,SNR=20
PDAR LR LR 10 30 23.0
comp=Z,142nm,19.1s,baz=322,slow=33
H24A Dirks Ranch, A 83.40 338 ⇑P P 09 57 19.7 -0.5
baz=84,SNR=6.1
E30A Jud 83.44 343 ⇑P P 09 57 19.9 -0.3
baz=84,SNR=9.7
I21A Big Trails, Te 83.45 336 ⇑P P 09 57 20.1 -0.4
baz=84,SNR=8.8
G25A Newell 83.46 339 ⇑P P 09 57 20.4 -0.1
baz=84,SNR=11
J19A Crowheart 83.58 335 ⇑P P 09 57 21.1 -0.1
baz=84,SNR=15
F27A Lemmon 83.68 340 ⇓P P 09 57 21.4 -0.1
baz=84,SNR=8.0
E29A Napoleon 83.69 342 ⇑P P 09 57 21.1 -0.4
baz=84
HVU Hansel Valley 83.70 331 eP P 09 57 21.6 -0.3
HVU pmax pmax
comp=Z,20nm,0.9s
HVU Hansel Valley 83.70 331 eP P 09 57 21.6 -0.3
comp=Z,20nm,0.9s
ELK Elko 83.84 329 eP P 09 57 23.1 +0.4
ELK Elko 83.84 329 eP P 09 57 23.1 +0.4
F26A Lodgepole 83.84 340 ⇓P P 09 57 22.2 -0.1
baz=84
I20A Worland 83.86 336 ⇑P P 09 57 22.5 -0.1
baz=84,SNR=7.4
G24A Alzada 83.88 339 ⇓P P 09 57 22.1 -0.5
baz=84
E28A Huff 83.97 341 ⇑P P 09 57 22.9 0.0
baz=84
D30A Buchanan 83.97 343 ⇑P P 09 57 22.8 -0.1
baz=84,SNR=10
E27A Carson 84.07 341 ⇓P P 09 57 23.2 -0.3
baz=84
G23A Biddle 84.07 338 ⇑P P 09 57 23.1 -0.5
baz=84
D29A Pettibone, Tap 84.14 342 ⇑P P 09 57 23.5 -0.2
baz=85,SNR=8.6
F25A Bowman 84.14 339 ⇓P P 09 57 23.6 -0.2
baz=85
I19A Meeteetse 84.23 335 ⇓P P 09 57 24.4 -0.1
baz=85
H20A Greybull 84.28 336 ⇓P P 09 57 24.1 -0.6
baz=85,SNR=14
REDW Red Top Meadow 84.32 334 eP P 09 57 25.0 -0.1
comp=Z,7.9nm,1.1s
E26A Carlson Angus 84.35 340 ⇓P P 09 57 24.5 -0.4
baz=85
F24A Ekalaka 84.36 339 ⇑P P 09 57 24.7 -0.4
baz=85
G22A Birney 84.37 337 ⇓P P 09 57 24.5 -0.6
baz=85
AGMN Agassiz Nation 84.43 345 ⇑P P 09 57 24.7 -0.5
baz=85,SNR=9.2
AGMN Agassiz Nation 84.43 345 eP P 09 57 24.8 -0.5
comp=Z,10nm,0.8s
LOHW Long Hollow 84.44 334 eP P 09 57 25.5 -0.1
C30A Mose, Pekin 84.46 343 ⇑P P 09 57 25.4 0.0
baz=85,SNR=20
TPAW Teton Pass 84.46 334 eP P 09 57 25.9 +0.1
comp=Z,12nm,1.0s
D28A Regan 84.51 342 ⇑P P 09 57 25.6 0.0
baz=85,SNR=7.0
F23A Volborg 84.54 338 ⇓P P 09 57 25.3 -0.6
baz=85
FXWY Fox Creek 84.62 334 eP P 09 57 26.0 -0.6
comp=Z,7.5nm,1.3s
E25A Miller Ranch, 84.65 340 ⇑P P 09 57 26.1 -0.3
baz=85
G21A Lodge Grass 84.67 337 ⇓P P 09 57 26.2 -0.4
baz=85
I17A Pilgrim Ck. 84.70 334 ⇑P P 09 57 27.4 +0.4
baz=85,SNR=7.4
H19A Powell 84.78 335 ⇑P P 09 57 27.1 -0.2
baz=85,SNR=6.4
IMW Indian Meadow 84.81 334 eP P 09 57 27.7 +0.1
comp=Z,13nm,1.2s
D26A Manning 84.86 341 ⇑P P 09 57 27.4 0.0
baz=85,SNR=5.0
F22A Rosebud 84.86 338 ⇓P P 09 57 27.1 -0.4
baz=85,SNR=5.2
FLWY Flagg Ranch 84.88 334 eP P 09 57 28.3 +0.5
comp=Z,19nm,1.3s
C28A Hausauer Farms 84.94 342 ⇓P P 09 57 27.7 -0.1
baz=85
E24A Baker 84.97 339 ⇑P P 09 57 28.1 0.0
baz=85
G20A Bridger 85.00 336 ⇓P P 09 57 27.8 -0.5
baz=85,SNR=11
H18A Shoshone NF, C 85.03 335 ⇓P P 09 57 28.5 -0.1
baz=86,SNR=17
B30A Myrvik Farm, E 85.12 344 ⇑P P 09 57 28.6 -0.1
baz=86,SNR=28
D25A Fairfield 85.22 340 ⇓P P 09 57 29.3 0.0
baz=86
C27A Sayler Ranch, 85.23 341 ⇑P P 09 57 29.5 +0.2
baz=86,SNR=5.5
TORD Torodi Ar. Bea 85.31 71 P P 09 57 30.6 +0.1
comp=Z,4.6nm,0.9s,baz=256,slow=3.9,SNR=20
E22A Miles City 85.35 338 ⇑P P 09 57 29.1 -0.8
baz=86
B29A Wagenman Farm, 85.38 343 ⇓P P 09 57 29.8 -0.2
baz=86,SNR=6.6
D24A Glendive 85.47 339 ⇓P P 09 57 30.6 0.0
baz=86,SNR=6.2
YMR Madison River 85.48 334 eP P 09 57 31.6 +0.8
comp=Z,15nm,1.0s
C26A Wahner Farm, P 85.49 341 ⇓P P 09 57 30.4 -0.2
baz=86

A30A	Hoffart Farm,	85.58	344	⇑P		P	09 57 30.5	-0.4
	baz=86,SNR=7.4							
B28A	Dugan Ranch, T	85.62	342	⇑P		P	09 57 31.0	-0.1
	baz=86,SNR=8.5							
LAO	LASA Array	85.66	338	eP		P	09 57 31.2	-0.3
	comp=Z,21nm,1.2s							
C25A	Freed Ranch, W	85.71	340	⇑P		P	09 57 31.5	-0.2
	baz=86							
A29A	Manning Farm,	85.78	343	⇓P		P	09 57 31.4	-0.6
	baz=86,SNR=9.9							
D23A	Lindsay	85.78	339	⇑P		P	09 57 32.3	+0.2
	baz=86,SNR=19							
E21A	Keefer Ranch,	85.80	337	⇓P		P	09 57 31.8	-0.3
	baz=86,SNR=5.9							
B27A	Peters Farms,	85.81	342	⇓P		P	09 57 31.8	-0.2
	baz=86							
F19A	Roth Farm, Mol	85.81	336	⇑P		P	09 57 31.9	-0.4
	baz=86,SNR=7.4							
HLID	Hailey	85.85	331	⇓P		P	09 57 33.4	+0.7
	baz=86,SNR=12							
HLID	Hailey	85.85	331	eP		P	09 57 33.1	+0.4
	comp=Z,12nm,1.2s							
C24A	Savage	85.88	340	⇑P		P	09 57 32.8	+0.3
	baz=86,SNR=16							
A28A	Rude Farm, Bot	86.02	343	⇓P		P	09 57 32.8	-0.3
	baz=86							
D22A	Cohagen	86.06	338	⇑P		P	09 57 33.3	-0.1
	baz=86,SNR=7.9							
E20A	Meyer Farm, Mu	86.11	337	⇓P		P	09 57 33.6	-0.1
	baz=86,SNR=21							
B25A	Knox Farm, Ray	86.19	341	⇓P		P	09 57 34.4	+0.4
	baz=87,SNR=7.9							
D21A	La Casta Ranch	86.24	338	⇓P		P	09 57 34.2	-0.2
	baz=87,SNR=7.7							
E19A	Rath Farm, Rou	86.28	336	⇓P		P	09 57 34.2	-0.4
	baz=87,SNR=13							
ULM	Lac du Bonnet	86.29	346	P		P	09 57 32.8	-1.6
ULM				pmax	pmax			
	comp=Z,7.0nm,0.9s							
ULM	Lac du Bonnet	86.29	346	P		P	09 57 32.8	-1.6
	comp=Z,7.4nm,0.9s,baz=144,slow=3.3,SNR=11							
ULM	Lac du Bonnet	86.29	346	eP		P	09 57 33.1	-1.3
MFID	Camas Ranch	86.30	330	eP		P	09 57 35.2	+0.4
	comp=Z,14nm,1.4s							
MCMT	McKenzie Canyo	86.31	333	eP		P	09 57 35.7	+0.7
	comp=Z,8.7nm,1.2s							
C23A	Lambert	86.34	339	⇓P		P	09 57 34.7	-0.1
	baz=87,SNR=11							
A26A	Wade Farm, Ken	86.46	342	⇑P		P	09 57 35.0	-0.3
	baz=87							
C22A	Vida	86.50	339	⇓P		P	09 57 35.1	-0.5
	baz=87							
D20A	Manuel Ranch,	86.62	337	⇓P		P	09 57 35.9	-0.4
	baz=87,SNR=13							
DGMT	Dagmar	86.66	340	⇑P		P	09 57 36.5	+0.2
	baz=87,SNR=16							
DGMT	Dagmar	86.66	340	eP		P	09 57 36.2	-0.1
	comp=Z,50nm,0.9s							
DLMT	Dillon	86.67	334	eP		P	09 57 37.3	+0.7
	comp=Z,12nm,1.1s							
WVOR	Wild Horse Val	86.69	328	eP		P	09 57 37.2	+0.4
WVOR				pmax	pmax			
	comp=Z,11nm,1.2s							
WVOR	Wild Horse Val	86.69	328	eP		P	09 57 37.1	+0.4
	comp=Z,10nm,1.2s							
A25A	Svangstu Ranch	86.79	341	⇑P		P	09 57 37.0	+0.1
	baz=87,SNR=5.0							
B23A	Brockton	86.88	340	⇓P		P	09 57 37.0	-0.4
	baz=87							
D19A	Cripps Ranch,	86.93	337	⇓P		P	09 57 37.1	-0.7
	baz=87							
C21A	Desert Coulee	86.94	338	⇑P		P	09 57 37.2	-0.5
	baz=87,SNR=9.0							
MOD	Modoc Plateau	87.00	327	eP		P	09 57 39.0	+0.7
LRM	Limekiln Ridge	87.01	334	eP		P	09 57 38.8	+0.4
A24A	Westby	87.02	340	⇑P		P	09 57 38.0	0.0
	baz=88,SNR=6.6							
B22A	Reddig Ranch S	87.03	339	⇑P		P	09 57 37.9	-0.2
	baz=88,SNR=8.2							
C20A	Veseth Ranch,	87.13	337	⇑P		P	09 57 37.9	-0.7
	baz=88,SNR=5.8							
A23A	Redstone	87.30	340	⇓P		P	09 57 38.9	-0.5
	baz=88							
C19A	Slack Wire Ran	87.49	337	⇓P		P	09 57 39.9	-0.5
	baz=88							
A22A	Carney Farms,	87.63	339	⇑P		P	09 57 40.8	-0.2
	baz=88,SNR=11							
B20A	Solberg Farm,	87.78	338	⇑P		P	09 57 41.1	-0.6
	baz=88,SNR=9.5							
K05A	Summer Lake	87.92	327	eP		P	09 57 43.9	+1.1
	comp=Z,23nm,0.9s							
A21A	Bergtoll Ranch	87.93	339	⇑P		P	09 57 41.7	-0.8
	baz=88,SNR=6.5							
EGMT	Eagleton	87.97	337	⇓P		P	09 57 41.6	-1.1
	baz=88							
B19A	Brinkman Farms	88.08	337	⇑P		P	09 57 42.4	-0.9
	baz=88							
BMO	Blue Mountains	88.09	330	eP		P	09 57 43.5	+0.1
	comp=Z,78nm,2.8s							
A20A	Cobblestone Ra	88.14	338	⇑P		P	09 57 42.8	-0.7
	baz=89,SNR=7.5							
I07A	Izee	88.39	329	eP		P	09 57 45.7	+0.8
	comp=Z,16nm,1.3s							
A19A	Klindworth Far	88.44	338	⇑P		P	09 57 44.4	-0.5
	baz=89							
J05D	Fort Rock, OR	88.52	327	⇓P		P	09 57 46.3	+0.8
	baz=89							
G08A	Pilot Rock	89.13	330	eP		P	09 57 49.0	+0.6
	comp=Z,7.3nm,1.2s							
I05D	Terrebonne, OR	89.39	328	⇓P		P	09 57 50.3	+0.8
	baz=90							
FCC	Fort Churchill	94.09	349	eP		P	09 58 10.5	-0.3
FCC	Fort Churchill	94.09	349	eP		P	09 58 10.4	-0.3
ESDC	Sonseca Array	97.46	47	LR		LR	10 41 42.5	
	comp=Z,121nm,18.1s,baz=0.0,slow=35							
YKA	Yellowknife Ar	101.77	342	P		Pdif	09 58 43.8	-1.5
YKA							10 02 57.2	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
YKA	Yellowknife Ar	101.77	342	P		Pdif	09 58 43.8	-1.5
	comp=Z,0.6nm,0.9s,baz=140,slow=4.5,SNR=10							
YKA				PP		PP	10 02 57.2	+0.3
	comp=Z,0.4nm,1.0s,baz=141,slow=7.7,SNR=3.7							
GERES	GERESS Array B	113.02	46	PKiKP		PKiKP	10 03 29.4	-0.5
	comp=Z,0.2nm,0.3s,baz=255,slow=4.0,SNR=3.5							
CLL	Collm	113.68	43	ePKiKP		PKiKP	10 03 35.0	+4.1
CLL				pmax	pmax			
	comp=Z,4.0nm,0.7s							
CLL	Collm	113.68	43	e(PKiKP)		PKiKP	10 03 35.0	+4.1
	comp=Z,4.0nm,0.7s							
ILAR	Eielson Array	113.75	333	PP		PP	10 04 27.1	+2.7
	comp=Z,0.5nm,1.0s,baz=134,slow=4.1,SNR=4.1							
VYHS	Vyhne	115.98	48	ePKIKP		PKPdf	10 03 35.3	-0.1
VYHS	Vyhne	115.98	48	ePKP		PKPdf	10 03 35.3	-0.1
WRA	Warramunga Arr	120.13	210	PKIKP		PKPdf	10 03 42.7	-1.7
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WRA	Warramunga Arr	120.13	210	PKP		PKPdf	10 03 42.7	-1.7
	comp=Z,0.9nm,0.8s,baz=159,slow=1.5,SNR=7.7							
BRTR	Keskin Array B	122.87	61	PKIKP		PKPdf	10 03 48.7	-0.5
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BRTR	Keskin Array B	122.87	61	PKP		PKPdf	10 03 48.6	-0.5
	comp=Z,1.3nm,0.8s,baz=191,slow=5.0,SNR=6.2							
KIEV	Kiev	123.08	48	∥PKIKP		PKPdf	10 03 48.2	-0.7
AKASG	Malin Array Be	123.09	48	PKIKP		PKPdf	10 03 47.5	-1.5
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKASG	Malin Array Be	123.09	48	PKP		PKPdf	10 03 47.5	-1.5
	comp=Z,1.7nm,0.7s,baz=263,slow=2.6,SNR=11							
SIM	Simferopol'	124.77	56	i PKIKP		PKPdf	10 04 01.7	+9.3
SIM				pmax	pmax			
	comp=Z,12nm,0.6s							
KLMR	Klimovskoe	130.14	36	ePKIKP		PKPdf	10 04 00.8	-1.3
KLMR				pmax	pmax			
	comp=Z,17nm,1.0s							
SEY	Seymchan	139.53	330	PKIKP		PKPdf	10 04 19.6	0.0
SEY				pmax	pmax			
	comp=Z,3.0nm,0.9s							
SEY	Seymchan	139.53	330	PKP		PKPdf	10 04 19.6	0.0
	comp=Z,2.9nm,0.9s,baz=54,slow=4.8,SNR=7.7							
ARU	Arti	140.55	41	i PKIKP		PKPdf	10 04 21.5	-0.2
ARU							10 07 19.4	
ARU				SS	SS		10 25 37.9	-6.1
TIXI	Tiksi	140.56	349	i PKIKP		PKPdf	10 04 20.4	-0.9
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.0s							
AKTO	Aktyubinsk	141.26	50	i PKHKP		PKPpre	10 04 18.2	
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKTO	Aktyubinsk	141.26	50	PKhKP		PKPpre	10 04 18.2	
	comp=Z,1.5nm,0.7s,baz=266,slow=1.5,SNR=9.2							
ABKAR	Akbulak array	142.63	52	eP		PKPdf	10 04 20.8	-4.8
BRVK	Borovoye	148.04	42	⇑i PKIKP		PKPdf	10 04 35.1	+0.3
BRVK				pmax	pmax			
	comp=Z,13nm,0.8s							
BRVK	Borovoye	148.04	42	ePKPdf		PKPdf	10 04 34.9	+0.1
BRVK				ePKPbc		PKPbc	10 04 38.3	+0.3
BRVK				ePKPab		PKPab	10 04 41.8	+0.9
PSI	Prapat	148.07	165	PKIKP		PKPdf	10 04 37.0	+0.7
PSI				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PSI	Prapat	148.07	165	PKPbc		PKPdf	10 04 37.0	+0.7
	comp=Z,9.5nm,0.7s,baz=267,slow=2.3,SNR=5.9							
BVAR	Borovoye Array	148.11	42	PKIKP		PKPdf	10 04 35.0	+0.1
BVAR							10 04 38.5	
BVAR				pmax	pmax			
	comp=Z,6.0nm,0.5s							
BVAR				pmax	pmax			
	comp=Z,6.0nm,0.5s							
BVAR	Borovoye Array	148.11	42	PKP		PKPdf	10 04 35.0	+0.1
	comp=Z,5.8nm,0.5s,baz=336,slow=3.2,SNR=23							
BVAR				PKPbc		PKPbc	10 04 38.5	+0.3
	comp=Z,5.8nm,0.5s,baz=296,slow=2.8,SNR=20							
YAK	Yakutsk	148.41	339	ePKP2		PKPbc	10 04 37.4	-1.2
HYB	Hyderabad	149.93	116	i PKP		PKPbc	10 04 42.0	-1.9
IPM	Ipoh	150.10	169	ePKPbc		PKPbc	10 04 43.2	-1.2
IPM				ePKPab		PKPab	10 04 50.7	+0.5
ASAJ	Asahikawa	150.52	301	PKIKP		PKPbc	10 04 44.2	-0.3
ASAJ				pmax	pmax			
	comp=Z,8.0nm,1.0s							
ASAJ	Asahikawa	150.52	301	PKPbc		PKPbc	10 04 44.2	-0.3
	comp=Z,8.1nm,1.0s,baz=26,slow=3.2,SNR=4.3							
KKAR	Karatay Array	150.59	61	ePKIKP		PKPbc	10 04 44.4	-0.3
KKAR	Karatay Array	150.59	61	ePKPbc		PKPbc	10 04 44.4	-0.3
KULM	Kulim	150.83	168	ePKPbc		PKPbc	10 04 44.8	-1.4
EKS2	Erkin-Say	153.02	62	ePKIKP		PKPdf	10 04 43.4	+0.3
EKS2				e			10 04 49.3	
EKS2				e			10 05 01.8	
EKS2	Erkin-Say	153.02	62	ePKPdf		PKPdf	10 04 43.4	+0.3
EKS2				ePKPbc		PKPbc	10 04 49.3	-1.1
EKS2				ePKPab		PKPab	10 05 01.8	-0.1
AAK	Ala-Archa	153.55	62	c iPKIKP		PKPbc	10 04 52.1	+0.5
AAK	Ala-Archa	153.55	62	PKPbc		PKPbc	10 04 51.8	+0.1
	comp=Z,3.5nm,0.7s,baz=208,slow=5.0,SNR=9.5							
NVS	Novosibirsk	153.60	31	i PKIKP		PKPdf	10 04 41.5	-1.8
KURK	Kurchatov	153.71	42	ePKIKP		PKPdf	10 04 43.7	+0.1
KURK				e			10 04 50.9	
KURK				e			10 05 04.6	
KURK	Kurchatov	153.71	42	ePKPdf		PKPdf	10 04 43.7	+0.1
KURK				ePKPbc		PKPbc	10 04 50.9	-0.6
KURK				ePKPab		PKPab	10 05 04.6	+0.2
ZALV	Zalesovo Beam	154.89	31	PKIKP		PKPdf	10 04 43.8	-1.3
ZALV							10 04 53.6	
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ZALV	Zalesovo Beam	154.89	31	PKP		PKPdf	10 04 43.8	-1.3
	comp=Z,1.5nm,0.7s,baz=252,slow=4.2,SNR=6.7							
ZALV				PKPbc		PKPbc	10 04 53.6	-0.3
	comp=Z,4.9nm,0.8s,baz=298,slow=3.2,SNR=12							
ZALV				PKPab		PKPab	10 05 10.2	+0.9
	comp=Z,5.2nm,0.8s,baz=306,slow=5.0,SNR=8.4							
KSH	Kashi	154.96	69	PKPbc		PKPdf	10 04 46.0	+0.1
KSH				sPKP			10 04 59.6	
KSH				PKS		PKSdf	10 08 20.4	+0.3
KSH				PP		PP	10 08 45.0	-1.8
KSH				SKS		SKSdf	10 11 48.1	-1.8
KSH				SKKS		SKKSac	10 15 32.3	-1.3
KSH				PPMZ				
	comp=Z,410nm,10.9s							
KSH				LN				
	comp=Z,51nm,3.9s							
KSH				LE				
	comp=Z,67nm,4.2s							
KSH				LZ				
	comp=Z,150nm,6.8s							
BOD	Bodaibo	155.73	350	ePKIKP		PKPdf	10 04 36.6	-10
BOD				e			10 05 10.9	
BOD				pmax	pmax			
	comp=Z,9.0nm,1.1s							
MKAR	Makanchi Array	157.67	48	PKIKP		PKPdf	10 04 48.4	-0.7
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MKAR	Makanchi Array	157.67	48	PKP		PKPdf	10 04 48.4	-0.7
	comp=Z,0.6nm,0.8s,baz=270,slow=0.5,SNR=5.9							
MKAR				PKPab		PKPab	10 05 21.4	-0.1
	comp=Z,4.9nm,0.7s,baz=298,slow=4.2,SNR=24							
TLY	Talaya	162.28	6	ePKP2		PKPab	10 05 42.3	+1.0
TLY				pmax	pmax			
	comp=Z,5.0nm,1.1s							
WMQ	Urumqi	162.41	51	ePKP		PKPdf	10 04 53.9	-0.7
WMQ				LN				
	comp=Z,50nm,20.0s							
WMQ				LZ				
	comp=Z,57nm,20.0s							
CN2	Changchun	162.44	309	ePKP		PKPdf	10 04 55.0	+0.5
ZAK	Zakamensk	163.53	7	ePKP2		PKPab	10 05 35.6	-11
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.4s							
SONM	Songino Array	166.26	1	PKP2		PKPab	10 05 59.3	+0.3
SONM				pmax	pmax			
	comp=Z,1.0nm,0.8s							
SONM	Songino Array	166.26	1	PKPab		PKPab	10 05 59.3	+0.3
	comp=Z,0.8nm,0.8s,baz=326,slow=4.5,SNR=4.3							
NJ2	Nanjing	169.51	262	ePKP		PKPdf	10 05 00.9	+0.4
BJI	Beijing	170.30	311	PKP		PKPdf	10 05 01.4	+0.7
HHC	Hu-ho-hao-te	172.17	331	ePKP		PKPdf	10 05 01.2	-0.6
HHC				sPKP			10 05 15.2	
HHC				PP		PP	10 10 19.8	+3.5
HHC				SKKS			10 17 01.0	
HHC				SS		SS	10 31 23.1	-0.2
HHC				PPMZ				
	comp=Z,670nm,7.4s							
HHC				LN				
	comp=Z,260nm,18.5s							
HHC				LE				
	comp=Z,310nm,18.5s							
HHC				LZ				
	comp=Z,910nm,19.7s							
GYA	Guiyang	172.40	181	PKP		PKPdf	10 05 01.2	-1.2
GYA				pPKP		pPKPdf	10 05 13.8	-0.1
GYA				PKPab		PKPab	10 06 28.4	+1.7
GYA				PP		PP	10 10 20.0	+3.0
GYA				SKKS			10 17 02.7	
GYA				SS		SS	10 31 25.2	+0.4
GYA				PPMZ				
	comp=Z,120nm,8.4s							
GYA				LN				
	comp=Z,130nm,21.5s							
GYA				LE				
	comp=Z,110nm,22.0s							
GYA				LZ				
	comp=Z,120nm,21.6s							
CD2	Chengdu	176.04	142	ePKP		PKPdf	10 05 02.8	-0.5
LZH	Lanzhou	176.99	48	ePKP		PKPdf	10 05 02.6	-0.9
LZH				pPKP		pPKPdf	10 05 13.0	-2.0
LZH				sPKP			10 05 17.4	
LZH				PKPab		PKPab	10 06 45.1	-2.1

NEIC ***02*** *09:45:08.9, 17°.15N×94°.59W, h139km, MD4.0(MEX), After MEX.*

MEX 02 09:45:08.9±1.0, 17°.15N×94°.59W, h139km±10km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.29	258	i P	Pn	09 45 26.9	-1.2
CMIG				eS	Sn	09 45 40.2	-2.4
CMIG	Matias Romero	0.29	258	i P	Pn	09 45 26.9	-1.2
CMIG				eS	Sn	09 45 40.2	-2.4
PCIG		1.95	137	eP	Pn	09 45 41.9	-0.9
PCIG				i S	Sn	09 46 07.1	-1.7
PCIG		1.95	137	eP	Pn	09 45 41.9	-0.9
PCIG				i S	Sn	09 46 07.1	-1.7
HUIG	Huatulco	2.00	227	i P	Pn	09 45 41.2	-2.3
HUIG				i S	Sn	09 46 08.6	-1.4
HUIG	Huatulco	2.00	227	i P	Pn	09 45 41.2	-2.3
HUIG				i S	Sn	09 46 08.6	-1.4
VHO	Vista Hermosa	2.05	268	i P	Pn	09 45 43.6	-0.6
VHO				eS	Sn	09 46 10.0	-1.3
VHO	Vista Hermosa	2.05	268	i P	Pn	09 45 43.6	-0.6
VHO				eS	Sn	09 46 10.0	-1.3
TEIG	Tepich	6.72	62	ePn	Pn	09 46 45.5	+0.3
TEIG				eSn	Sn	09 47 59.2	-1.3

IDC 02 09:48:02.7±6.4, 20°.22S×176°.84W, h266km±62km, mb3.1/3, mb1 3.4/4, mb1mx3.1/42, mbtmp3.8/4, Error ellipse: s-maj=39.0km s-min=16.9km az=92.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	18.73	195	P	P	09 52 02.1	0.0
	0.6nm,0.3s,baz=44,slow=2.0,SNR=5.6						
URZ				S	S	09 55 21.7	+0.7
	baz=29,slow=19						
ASAR	Alice Springs	45.65	256	P	P	09 55 57.5	+0.1
	2.4nm,0.6s,baz=96,slow=8.3,SNR=34						
WRA	Warramunga Arr	45.72	262	P	P	09 55 57.7	-0.3
	0.3nm,0.4s,baz=96,slow=7.6,SNR=16						
ILAR	Eielson Array	87.80	12	P	P	10 00 21.3	-0.1
	0.1nm,0.4s,baz=218,slow=4.6,SNR=4.4						

IDC ***02*** *09:50:27.7±1.0, 37°.11S×74°.91W, h0km, mb3.9/7, mb1 4.2/8, mb1mx4.0/26, mbtmp3.9/8, ML4.3/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/20, Error ellipse: s-maj=37.9km s-min=20.5km az=74.0*

ISCJB ***02*** *09:50:30.5±0.7, 37°.12S±0°.10×74°.8W±0°.1, h33km, mb4.1/13, Error ellipse: s-maj=15.3km s-min=9.6km az=34.2*

NEIC ***02*** *09:50:32.2±0.6, 37°.13S×74°.61W, h35km, mb4.3/8, Error ellipse: s-maj=22.8km s-min=12.4km az=77.0*

ISC 02 09:50:33.1±0.8, 36°.96S±0°.08×74°.8W±0°.1, h35km, n21, σ1§63/22, mb4.0/13, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.03	140	P	Pn	09 51 43.5	-2.5
	2.5nm,0.3s,baz=310,slow=13,SNR=2.8						
PLCA				Sn	Sn	09 52 45.4	+2.5
	5.4nm,0.3s,baz=223,slow=22,SNR=3.4						
PLCA	Paso Flores	5.03	140	ePn	Pn	09 51 41.4	-4.7
PLCA				Sn	Sn	09 52 45.4	+2.5
TRQA	Tornquist	10.26	100	ePn	Pn	09 52 45.5	-12
	11nm,0.8s						
TRQA				eSn	Sn	09 54 52.9	+1.4
LVC	Limon Verde	15.18	21	ePn	Pn	09 54 04.8	-0.3
LVC				eSn	Sn	09 56 49.2	-3.0
CPUP	Villa Florida	18.24	59	LR	LR	10 01 57.8	
	comp=Z,278nm,20.8s,baz=200,slow=38						
LPAZ	La Paz	21.42	18	P	P	09 55 18.9	+0.2
	1.6nm,0.7s,baz=192,slow=13,SNR=3.9						
LPAZ	La Paz	21.42	18	eP	P	09 55 19.5	+0.8
	1.8nm,0.8s						
SIV	San Ignacio	24.18	34	P	P	09 55 47.9	+1.6
	2.1nm,0.7s,baz=221,slow=14,SNR=3.8						
OTAV	Otavalo	37.16	354	eP	P	09 57 43.1	+1.9
	1.5nm,0.6s						
QSPA	South Pole Qui	53.28	180	P	P	09 59 46.4	-1.8
	2.7nm,0.8s,baz=131,slow=1.9,SNR=7.8						
QSPA	South Pole Qui	53.28	180	eP	P	09 59 46.9	-1.2
	3.6nm,0.8s						
TXAR	Lajitas Array	71.29	334	P	P	10 01 50.3	+1.4
	1.0nm,0.7s,baz=150,slow=8.6,SNR=12						
SWET	Sewanee	72.55	350	eP	P	10 01 55.6	-0.7
	3.6nm,0.4s						
WVT	Waverly	73.72	349	eP	P	10 02 02.9	-0.2
	1.8nm,0.6s						
TUL1	Leonard	75.07	342	eP	P	10 02 11.3	+0.3
	1.4nm,0.4s						
ACSO	Alum Creek Sta	77.18	354	eP	P	10 02 21.2	-1.7
	4.2nm,0.4s						
ANMO	Albuquerque	77.36	334	P	P	10 02 24.3	0.0
	1.5nm,0.9s,baz=151,slow=7.2,SNR=7.3						
ANMO	Albuquerque	77.36	334	eP	P	10 02 24.5	+0.2
ECSD	EROS Data Cent	82.72	344	eP	P	10 02 51.9	-0.9
	2.3nm,0.7s						
NVAR	Mina Array Bea	85.07	327	P	P	10 03 07.0	+1.8
	0.6nm,0.7s,baz=154,slow=6.6,SNR=4.2						
PDAR	Pinedale Array	85.43	335	P	P	10 03 07.3	+0.4
	0.8nm,0.9s,baz=172,slow=5.7,SNR=4.5						

IDC 02 09:53:58.5±3.3, 54°.63N×86°.73E, h0km, mb1 2.8/1, mb1mx2.7/44, mbtmp2.8/1, ML2.8/1, Error ellipse: s-maj=26.9km s-min=17.0km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.31	239	i		10 01 33.0	
	baz=61,slow=347,SNR=3.1						
ZALV	Zalesovo Beam	1.31	239	Pg	Pg	09 54 22.2	-1.3
	1.1nm,0.3s,baz=55,slow=16,SNR=13						
ZALV				Lg	Lg	09 54 40.8	
	1.6nm,0.3s,baz=56,slow=26,SNR=14						
MKAR	Makanchi Array	8.33	202	Pn	Pn	09 56 01.8	+1.3
	0.1nm,0.3s,baz=24,slow=14,SNR=15						
MKAR				Sn	Sn	09 57 33.9	-1.4
	0.1nm,0.3s,baz=30,slow=27,SNR=7.1						
MKAR				Lg	Lg	09 58 25.2	
	0.0nm,0.3s,baz=28,slow=31,SNR=5.1						

IDC 02 09:55:29.9±3.6, 37°.87S×72°.02W, h0km, mb3.7/2, mb1 3.6/4, mb1mx3.5/24, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=97.2km s-min=15.9km az=83.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.08	159	Pn	Pn	09 56 18.6	-1.4
	0.7nm,0.3s,baz=306,slow=7.9,SNR=3.6						
PLCA				Pg	Pb	09 56 25.4	-0.4
	3.6nm,0.3s,baz=317,slow=13,SNR=10.0						
PLCA				Lg

JOW				*e*Sn		**Sn**	**09 58 42.4 +0.3**
JIH	**Iheya**	**1.27**	**333**	P		**Pn**	**09 58 31.1 -0.8**
JIH				S		**Sb**	**09 58 46.3 -2.2**
JAGN	**Aguni-jima**	**1.41**	**299**	P		**Pn**	**09 58 33.2 -0.6**
JAGN				S		**Sn**	**09 58 50.2 -2.5**
JOKE	**Okinoerabujima**	**1.46**	**359**	P		**Pn**	**09 58 33.6 -0.9**
JOKE				S		**Sn**	**09 58 50.9 -3.0**
JKE	**Kume jima 2**	**1.69**	**285**	P		**Pn**	**09 58 36.7 -1.0**
JKE				S		**Sn**	**09 58 56.0 -3.8**
JTK	**Tokunoshima**	**1.90**	**9**	P		**Pn**	**09 58 39.8 -0.8**
JTK				S		**Sn**	**09 59 01.6 -3.3**
JMZ	**Minamidaito 2**	**2.35**	**91**	P		**Pn**	**09 58 45.7 -1.1**
JMZ				S		**Sn**	**09 59 11.4 -4.6**
JAMN	**Amaminishikomi**	**2.39**	**12**	P		**Pn**	**09 58 46.6 -0.6**
JAM	**Amami Oshima**	**2.65**	**19**	P		**Pn**	**09 58 50.1 -0.8**
JAM				S		**Sn**	**09 59 20.2 -3.2**
JZK	**Kikaishima**	**2.69**	**26**	P		**Pn**	**09 58 51.6 +0.1**
JZK				S		**Sn**	**09 59 22.9 -1.5**
JOGS	**Gusukube**	**3.12**	**249**	P		**Pn**	**09 58 57.0 -0.3**
JOGS				S		**Sn**	**09 59 32.4 -2.5**
JMJ	**Miyako jima 2**	**3.19**	**251**	P		**Pn**	**09 58 58.0 -0.3**
JMJ				S		**Sn**	**09 59 33.6 -3.1**
JIKM	**Ikemajima**	**3.19**	**253**	P		**Pn**	**09 58 58.3 -0.1**
JIKM				S		**Sn**	**09 59 34.9 -1.9**
JTAJ	**Takarajima**	**3.28**	**9**	P		**Pn**	**09 58 59.5 -0.1**
JIRB	**Irabujima**	**3.29**	**252**	P		**Pn**	**09 58 59.1 -0.6**
JIRB				S		**Sn**	**09 59 35.8 -3.4**
JTJ	**Tarama**	**3.76**	**251**	P		**Pn**	**09 59 04.8 -1.3**
JTJ				S		**Sn**	**09 59 46.7 -4.0**
JISG	**Ishigakijimahi**	**4.11**	**252**	P		**Pn**	**09 59 09.4 -1.5**
JIJ	**Ishigaki jima**	**4.33**	**250**	P		**Pn**	**09 59 12.3 -1.7**
JIJ				S		Sn	09 59 58.3 -6.5
JKRS	**Kuro-shima**	**4.49**	**249**	P		**Pn**	**09 59 14.8 -1.4**
IRIF	**Iriomote-Funau**	**4.69**	**252**	P		**Pn**	**09 59 17.2 -1.8**
YOJ	**Yonaguni jima**	**5.27**	**255**	*e*Pn		**Pn**	**09 59 24.9 -2.1**
NACB	**Ninganchiao**	**6.59**	**256**	*e*Pn		**Pn**	**09 59 42.7 -2.4**
NACB				*e*Sn		**Sn**	**10 01 02.1 +1.4**
YHNB	**Yeheng**	**6.66**	**261**	*e*Pn		**Pn**	**09 59 46.6 +0.5**
YULB	**Yu-li**	**7.11**	**251**	*e*Pn		Pn	09 59 48.2 -4.0
YULB				*e*Sn		**Sn**	**10 01 13.6 +0.3**
SSLB	**Suanglung**	**7.27**	**255**	*e*Pn		**Pn**	**09 59 51.5 -2.9**
SSLB				*e*Sn		**Sn**	**10 01 16.3 -1.1**
JNU	**Nakatsue**	**7.46**	**15**	Pn		**Pn**	**09 59 58.5 +1.5**
1.8nm,0.3s,baz=196,slow=9.3,SNR=24							
TPUB	**Ta-pu**	**7.71**	**252**	*e*Pn		**Pn**	**09 59 58.9 -1.6**
TPUB				*e*Sn		**Sn**	**10 01 28.5 +0.2**
USRK	**Ussuriysk Ar.**	**18.46**	**8**	P		**Pn**	**10 02 26.1 +2.0**
0.1nm,0.3s,baz=180,slow=7.9,SNR=8.3							
SONM	**Songino Array**	**28.01**	**327**	P		**P**	**10 04 01.2 +1.7**
1.6nm,0.4s,baz=142,slow=11,SNR=25							
SONM				LR		LR	10 17 16.4
comp=Z,34nm,18.0s,baz=358,slow=41							
MKAR	**Makanchi Array**	**42.01**	**312**	P		**P**	**10 05 59.1 -0.6**
0.9nm,0.5s,baz=94,slow=10,SNR=19							
ZALV	**Zalesovo Beam**	**42.72**	**323**	P		**P**	**10 06 06.7 +1.4**
0.7nm,0.3s,baz=114,slow=11,SNR=2.5							
ZALV				LR		LR	10 25 22.2
comp=Z,73nm,19.3s,baz=252,slow=38							
WRAB	**Tennant Creek**	**45.90**	**172**	*e*P		**P**	**10 06 32.4 +1.3**
4.0nm,0.6s							
WRA	**Warramunga Arr**	**45.91**	**172**	P		**P**	**10 06 31.9 +0.6**
3.7nm,0.6s,baz=353,slow=8.5,SNR=30							
AAK	**Ala-Archa**	**46.94**	**305**	*e*P		**P**	**10 06 39.4 0.0**
ASAR	**Alice Springs**	**49.54**	**174**	P		**P**	**10 07 01.0 +1.6**
2.2nm,0.8s,baz=1.0,slow=7.9,SNR=19							
BVAR	**Borovoye Array**	**50.75**	**318**	LR		LR	10 29 09.1
comp=Z,65nm,19.0s,baz=51,slow=37							
BRVK	**Borovoye**	**50.82**	**318**	*e*P		**P**	**10 07 08.6 -0.2**
1.3nm,0.7s							
ILAR	**Eielson Array**	**64.56**	**28**	P		**P**	**10 08 45.6 +0.3**
0.5nm,0.7s,baz=267,slow=7.1,SNR=7.3							
KBZ	**Khabaz**	**69.63**	**310**	P		**P**	**10 09 18.5 +0.6**
1.8nm,0.8s,baz=91,slow=5.4,SNR=5.7							
FINES	**FINESS Array B**	**73.32**	**331**	P		**P**	**10 09 39.9 0.0**
2.1nm,0.6s,baz=111,slow=4.3,SNR=6.5							
AKASG	**Malin Array Be**	**76.00**	**320**	P		**P**	**10 09 55.4 -0.2**
2.7nm,0.5s,baz=60,slow=6.2,SNR=10.0							
BRTR	**Keskin Array B**	**77.51**	**308**	P		**P**	**10 10 05.3 +0.8**
3.2nm,0.9s,baz=95,slow=4.2,SNR=16							
YKA	**Yellowknife Ar**	**78.68**	**25**	P		**P**	**10 10 11.5 +1.2**
1.3nm,0.9s,baz=300,slow=5.3,SNR=16							
NB2	**NORSAR Subarra**	**79.76**	**334**	P		**P**	**10 10 15.9 -0.5**
comp=Z,1.2nm,0.6s,baz=52,slow=5.9							
NOA	**NORSAR Array B**	**79.76**	**334**	P		**P**	**10 10 16.2 -0.2**
comp=Z,2.5nm,0.8s,baz=52,slow=5.5,SNR=7.7							
DUG	**Dugway, Tooele**	**92.91**	**42**	*e*P		**P**	**10 11 22.2 +0.2**
comp=Z,0.2nm,0.4s							
SRU	**San Rafael Swe**	**94.96**	**42**	*e*P		**P**	**10 11 32.4 +0.9**
comp=Z,0.7nm,0.5s							

*IDC **02** 10:06:13.6±1.8, 36°.69S×74°.40W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.6/27, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=38.9km s-min=32.4km az=75.0*
*GUC **02** 10:07:02.2±0.7, 33°.57S×72°.04W, h35km±44km, ML3.5*
ISC 02 10:06:14.0±2.1, 36°.9S±0°.3×74°.4W±0°.2, h10km, n10, σ1°46/8, mb3.7/3, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCH	**Chadas Angostu**	**4.23**	**48**	⇑*i*P	Pb	10 07 23.5	-5.0
IHA	**Instituto Hidr**	**4.44**	**32**	⇑*i*P	Pn	10 07 14.3	-7.1
ANTU	**Antumapu**	**4.50**	**44**	⇑*i*P	**Pn**	**10 07 23.2**	**+0.9**
ANTU				*e*S	Sn	10 07 39.2	-36
ANTU				AML	AML	10 07 42.1	
comp=E,2μm,0.4s							
STL	**Santa Lucia**	**4.60**	**43**	*e*P	**Pn**	**10 07 22.9**	**-0.7**
STL				*i*S	Sn	10 07 38.3	-39
PEL	**Peldehue**	**4.80**	**41**	⇑*i*P	**Pn**	**10 07 23.6**	**-2.8**
PEL				*e*S	Sn	10 07 40.0	-42
PEL				AML	AML	10 07 44.7	
comp=E,3μm,0.7s							
PLCA	**Paso Flores**	**4.91**	**143**	Pn	Pn	10 07 32.5	+4.6
comp=E,0.5nm,0.3s,baz=326,slow=13,SNR=3.2							
PLCA				Lg	Lg	10 08 44.6	
comp=E,0.7nm,0.3s,baz=192,slow=9.9,SNR=2.4							
CFAA	**Coronel Fontan**	**7.31**	**46**	Pn	**Pn**	**10 08 00.7**	**-0.2**
comp=E,0.2nm,0.3s,baz=222,slow=12,SNR=5.0							
CFAA				Sn	**Sn**	**10 09 24.9**	**+0.9**
comp=E,0.6nm,0.3s,baz=307,slow=21,SNR=3.2							
LPAZ	**La Paz**	**21.23**	**17**	P	**P**	**10 11 01.1**	**+0.4**
comp=E,2.2nm,0.8s,baz=177,slow=12,SNR=5.5							
TXAR	**Lajitas Array**	**71.34**	**333**	P	**P**	**10 17 34.6**	**+0.6**
comp=E,0.5nm,0.8s,baz=161,slow=8.0,SNR=5.8							
TORD	**Torodi Ar. Bea**	**86.98**	**71**	P	**P**	**10 18 59.4**	**-0.3**
comp=E,0.5nm,0.9s,baz=222,slow=1.9,SNR=2.4							

*IDC **02** 10:07:39.9±1.2, 25°.97N×128°.54E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/35, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=59.2km s-min=15.0km az=77.0*
*ISCJB **02** 10:07:41.2±0.6, 25°.94N±0°.04×128°.65E±0°.04, h27km, mb3.4/4, Error ellipse: s-maj=5.5km s-min=4.7km az=162.0*
*JMA **02** 10:07:41.7±0.3, 25°.94N×128°.63E, h33km, M3.3*
ISC 02 10:07:42.3±0.9, 25°.93N±0°.05×128°.60E±0°.04, h27km, n19, σ1°38/29, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.78**	**319**	P	**Pb**	**10 07 56.2**	**-1.0**
JJT2	**Tamagusuku 2**	**0.79**	**285**	P	**Pn**	**10 07 57.0**	**-0.6**
JJT2				S	**Sn**	**10 08 07.8**	**-0.8**
JOW	**Kunigami**	**0.94**	**342**	P	**Pb**	**10 07 59.1**	**-0.9**
JOW	**Kunigami**	**0.94**	**342**	Pn	**Pb**	**10 07 59.1**	**-0.9**
13nm,0.3s,baz=130,slow=27,SNR=11							
JOW				Sn	**Sn**	**10 08 12.9**	**+0.6**
14nm,0.3s,baz=187,slow=27,SNR=6.6							
JIH	**Iheya**	**1.23**	**333**	P	**Pb**	**10 08 03.7**	**-1.2**
JIH				S	**Sb**	**10 08 18.8**	**-1.6**
JAGN	**Aguni-jima**	**1.38**	**299**	P	**Pn**	**10 08 05.6**	**-0.2**
JAGN				S	**Sb**	**10 08 22.8**	**-1.9**
JOKE	**Okinoerabujima**	**1.42**	**359**	P	**Pn**	**10 08 06.2**	**-0.2**
JOKE				S	**Sn**	**10 08 22.9**	**-1.3**
JKE	**Kume jima 2**	**1.67**	**284**	P	**Pn**	**10 08 09.0**	**-0.8**
JTK	**Tokunoshima**	**1.87**	**10**	P	**Pn**	**10 08 12.5**	**-0.1**
JTK				S	**Sn**	**10 08 33.6**	**-1.7**
JAMN	**Amaminishikomi**	**2.36**	**12**	P	**Pn**	**10 08 19.2**	**0.0**
JAMN				S	**Sn**	**10 08 47.4**	**+0.1**
JMZ	**Minamidaito 2**	**2.37**	**92**	P	**Pn**	**10 08 18.3**	**-1.0**
JMZ				S	**Sn**	**10 08 44.3**	**-3.2**
JAM	**Amami Oshima**	**2.63**	**20**	P	**Pn**	**10 08 22.5**	**-0.4**
JAM				S	**Sn**	**10 08 52.1**	**-1.8**
JZK	**Kikaishima**	**2.67**	**27**	P	**Pn**	**10 08 24.2**	**+0.7**
JZK				S	**Sn**	**10 08 55.3**	**+0.3**
JOGS	**Gusukube**	**3.11**	**249**	P	**Pn**	**10 08 29.6**	**0.0**
JNU	**Nakatsue**	**7.43**	**15**	Pn	**Pn**	**10 09 30.6**	**+1.6**
0.5nm,0.3s,baz=176,slow=11,SNR=9.6							
SONM	**Songino Array**	**27.98**	**327**	P	**P**	**10 13 33.8**	**+3.0**
0.3nm,0.5s,baz=145,slow=11,SNR=3.9							
MKAR	**Makanchi Array**	**41.98**	**312**	P	**P**	**10 15 31.4**	**+0.3**
0.3nm,0.7s,baz=120,slow=8.8,SNR=3.4							
WRA	**Warramunga Arr**	**45.94**	**172**	P	**P**	**10 16 04.5**	**+1.6**
0.5nm,0.6s,baz=354,slow=8.5,SNR=6.1							
ASAR	**Alice Springs**	**49.57**	**174**	P	**P**	**10 16 32.9**	**+1.8**
0.6nm,0.9s,baz=1.8,slow=5.7,SNR=3.8							

*IDC **02** 10:09:26.0±1.4, 25°.98N×128°.51E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.3/36, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=45.4km s-min=18.0km az=80.0*
*ISCJB **02** 10:09:27.5±1.1, 25°.93N±0°.05×128°.68E±0°.04, h29km±9km, mb3.2/3, Error ellipse: s-maj=8.1km s-min=6.2km az=8.0*
*JMA **02** 10:09:28.2±0.4, 25°.95N×128°.65E, h30km, M3.0*
ISC 02 10:09:28.5±2.9, 25°.94N±0°.05×128°.66E±0°.04, h29km±25km, n17, σ1°32/21, mb3.2/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.82**	**315**	P	Pn	10 09 42.8	-1.3
JJT2	**Tamagusuku 2**	**0.85**	**284**	P	**Pn**	**10 09 43.7**	**-0.8**
JJT2				S	**Sn**	**10 09 54.7**	**-1.3**
JOW	**Kunigami**	**0.96**	**339**	P	Pn	10 09 45.6	-0.5
JOW	**Kunigami**	**0.96**	**339**	Pn	Pn	10 09 45.5	-0.6
3.2nm,0.3s,baz=146,slow=19,SNR=7.2							
JOW				Sn	**Sn**	**10 09 58.4**	**-0.4**
8.7nm,0.3s,baz=125,slow=26,SNR=6.3							
JIH	**Iheya**	**1.26**	**330**	P	**Pn**	**10 09 50.3**	**+0.1**
JIH				S	**Sn**	**10 10 05.3**	**-0.9**
JOKE	**Okinoerabujima**	**1.42**	**357**	P	**Pn**	**10 09 52.7**	**+0.2**
JOKE				S	**Sn**	**10 10 09.4**	**-0.8**
JAGN	**Aguni-jima**	**1.43**	**297**	P	**Pn**	**10 09 52.3**	**-0.3**
JAGN				S	**Sn**	**10 10 11.0**	**+0.6**
JKE	**Kume jima 2**	**1.73**	**283**	P	Pn	10 09 55.6	-1.1
JKE				S	**Sn**	**10 10 15.5**	**-2.4**
JTK	**Tokunoshima**	**1.86**	**8**	P	**Pn**	**10 09 58.9**	**+0.4**
JTK				S	**Sn**	**10 10 20.0**	**-1.0**
JMZ	**Minamidaito 2**	**2.31**	**92**	P	**Pn**	**10 10 04.9**	**+0.3**
JMZ				S	**Sn**	**10 10 30.1**	**-1.9**
JAMN	**Amaminishikomi**	**2.34**	**11**	P	**Pn**	**10 10 05.8**	**+0.7**
JAM	**Amami Oshima**	**2.60**	**19**	S	**Sn**	**10 10 39.5**	**+0.1**
JNU	**Nakatsue**	**7.42**	**15**	Pn	**Pn**	**10 11 16.9**	**+2.1**
0.3nm,0.3s,baz=180,slow=19,SNR=3.0							
MJAR	**Matsushiro Arr**	**13.35**	**35**	Pn	**Pn**	**10 12 36.3**	**+0.2**
0.3nm,0.3s,baz=109,slow=18,SNR=4.1							
SONM	**Songino Array**	**28.01**	**327**	P	**P**	**10 15 19.5**	**+2.4**
0.3nm,0.4s,baz=141,slow=9.7,SNR=4.9							
MKAR	**Makanchi Array**	**42.02**	**312**	P	**P**	**10 17 17.2**	**-0.2**
0.2nm,0.5s,baz=102,slow=8.8,SNR=3.9							
WRA	**Warramunga Arr**	**45.94**	**173**	P	**P**	**10 17 50.9**	**+1.9**
0.2nm,0.6s,baz=352,slow=8.4,SNR=3.2							

*ISCJB **02** 10:09:45.8±1.2, 26°.5S±0°.3×71°.8E±0°.2, h10km, mb3.9/10, MS4.0/2, Error ellipse: s-maj=42.0km s-min=20.9km az=26.7*
*IDC **02** 10:09:45.9±1.4, 26°.50S×71°.72E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.8/46, mbtmp3.9/10, MS4.0/2, Ms1 4.0/2, ms1mx3.2/37, Error ellipse: s-maj=46.1km s-min=23.8km az=27.0*
ISC 02 10:09:47.6±1.6, 26°.5S±0°.3×71°.7E±0°.2, h10km, n19, σ0°61/10, mb3.9/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.77**	**2**	T	T	10 33 05.9	
baz=183,slow=76							
H08S2	**Diego Garcia H**	**18.77**	**2**	T	T	10 33 08.1	
baz=183,slow=76							
H08S3	**Diego Garcia H**	**18.79**	**2**	T	T	10 33 08.7	
baz=183,slow=76							
H08N3	**Diego Garcia H**	**20.06**	**358**	T	T	10 34 46.5	
baz=197,slow=76							
H08N1	**Diego Garcia H**	**20.06**	**358**	T	T	10 34 47.8	
baz=197,slow=76							
H08N2	**Diego Garcia H**	**20.08**	**358**	T	T	10 34 48.4	
baz=197,slow=76							
PSI	**Prapat**	**39.23**	**46**	LR	LR	10 31 43.7	
comp=Z,196nm,18.9s,baz=200,slow=34							
BOSA	**Boshof**	**41.06**	**256**	LR	LR	10 32 15.7	
comp=Z,237nm,19.8s,baz=130,slow=33							
CMAR	**Chiang Mai Arr**	**51.92**	**33**	P	**P**	**10 18 57.0**	**+0.4**
0.9nm,0.4s,baz=213,slow=7.6,SNR=7.5							
ASAR	**Alice Springs**	**55.89**	**102**	P	**P**	**10 19 25.6**	**-0.4**
1.2nm,0.9s,baz=249,slow=7.3,SNR=7.7							
WRA	**Warramunga Arr**	**57.42**	**98**	P	**P**	**10 19 37.1**	**+0.3**
1.3nm,1.0s,baz=257,slow=7.0,SNR=6.2							
MKAR	**Makanchi Array**	**73.57**	**8**	P	**P**	**10 21 20.1**	**-0.6**
1.2nm,0.7s,baz=196,slow=7.0,SNR=16							
KBZ	**Khabaz**	**74.73**	**339**	P	**P**	**10 21 27.6**	**+0.2**
1.0nm,0.7s,baz=123,slow=5.5,SNR=3.9							
BRTR	**Keskin Array B**	**74.85**	**330**	P	**P**	**10 21 27.6**	**-0.8**
1.0nm,0.8s,baz=126,slow=6.3,SNR=5.6							
TORD	**Torodi Ar. Bea**	**78.60**	**291**	P	**P**	**10 21 50.4**	**+0.4**
1.3nm,1.0s,baz=111,slow=3.7,SNR=6.8							
BVAR	**Borovoye Array**	**79.20**	**359**	P	**P**	**10 21 53.3**	**+0.9**
0.3nm,0.4s,baz=270,slow=0.7,SNR=2.8							
ZALV	**Zalesovo Beam**	**80.91**	**8**	P	**P**	**10 22 01.1**	**-0.6**
0.9nm,0.6s,baz=204,slow=3.3,SNR=4.9							
AKASG	**Malin Array Be**	**85.55**	**334**	P	**P**	**10 22 25.6**	**0.0**
0.7nm,0.7s,baz=127,slow=4.4,SNR=5.4							
YKA	**Yellowknife Ar**	**143.77**	**5**	PKP	PKPbc	10 29 20.4	+0.5
0.1nm,0.7s,baz=342,slow=3.0,SNR=3.6							

*IDC **02** 10:10:30.2±0.9, 35°.53S×72°.47W, h0km, mb4.3/6, mb1 4.3/8, mb1mx4.1/26, mbtmp4.2/8, ML3.8/3, MS3.4/4, Ms1 3.4/4, ms1mx3.1/22, Error ellipse: s-maj=35.2km s-min=16.5km az=85.0*
*ISCJB **02** 10:10:31.2±0.5, 35°.56S±0°.05×72°.4W±0°.1, h20km, mb4.2/17, MS3.7/2, Error ellipse: s-maj=12.5km s-min=7.5km az=164.9*
*NEIC **02** 10:10:35.4±0.3, 35°.49S×72°.41W, h35km, mb4.2/12, Error ellipse: s-maj=9.4km s-min=7.6km az=65.0*
ISC 02 10:10:33.2±0.6, 35°.51S±0°.07×72°.4W±0°.1, h20km, n33, σ0°81/32, mb4.3/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.23**	**43**	Pn	**Pn**	**10 11 51.5**	**+1.1**
0.4nm,0.3s,baz=26,slow=1.4,SNR=11							
CFAA				Lg	Lg	10 13 11.0	
0.9nm,0.3s,baz=80,slow=22,SNR=5.9							
CFAA				LR	LR	10 14 21.7	
comp=Z,26nm,18.1s,baz=268,slow=44							
PLCA	**Paso Flores**	**5.42**	**165**	Pn	**Pn**	**10 11 54.4**	**+1.4**
1.3nm,0.3s,baz=327,slow=10,SNR=7.2							
PLCA				Lg	Lg	10 13 20.6	
0.8nm,0.3s,baz=280,slow=21,SNR=4.1							
PLCA				LR	LR	10 14 08.6	
comp=Z,223nm,20.6s,baz=297,slow=40							
PLCA	**Paso Flores**	**5.42**	**165**	*e*Pn	**Pn**	**10 11 54.7**	**+1.7**
15nm,0.8s							
PLCA				*e*Sn	**Sn**	**10 12 52.9**	**-1.9**
PLCA				Lg	Lg	10 13 20.6	
TRQA	**Tornquist**	**8.76**	**110**	*e*Pn	**Pn**	**10 12 39.2**	**+0.4**
12nm,0.6s							
LVC	**Limon Verde**	**13.21**	**14**	*e*Pn	Pn	10 13 31.7	-8.3
CPUP	**Villa Florida**	**15.85**	**59**	LR	LR	10 20 01.0	
comp=Z,84nm,19.4s,baz=228,slow=36							
CPUP	**Villa Florida**	**15.85**	**59**	*e*Pn	**Pn**	**10 14 14.4**	**-0.7**
LPAZ	**La Paz**	**19.52**	**12**	P	**Pn**	**10 15 01.7**	**+0.3**
0.2nm,0.3s,baz=187,slow=6.5,SNR=11							
LPAZ	**La Paz**	**19.52**	**12**	*e*P	**Pn**	**10 15 02.3**	**+1.0**
5.4nm,0.9s							
SIV	**San Ignacio**	**21.93**	**30**	P	**P**	**10 15 25.2**	**-0.3**
8.4nm,0.9s,baz=218,slow=8.8,SNR=14							
PMSA	**Palmer Station**	**29.73**	**173**	LR	LR	10 27 10.8	
comp=Z,132nm,18.1s,baz=310,slow=34							
APG	**El Apazote**	**53.07**	**338**	LR	LR	10 36 48.2	
comp=Z,73nm,20.9s,baz=284,slow=30							
QSPA	**South Pole Qui**	**54.73**	**180**	P	**P**	**10 20 01.4**	**+0.4**
4.3nm,1.0s,baz=145,slow=6.5,SNR=8.0							
QSPA	**South Pole Qui**	**54.73**	**180**	*e*P	**P**	**10 20 01.1**	**+0.1**
6.2nm,1.1s							
JCT	**Junction City**	**70.51**	**335**	*e*P	**P**	**10 21 46.4**	**-0.1**
1.3nm,0.5s							
TXAR	**Lajitas Array**	**70.90**	**331**	P	**P**	**10 21 49.3**	**+0.3**
0.7nm,0.6s,baz=160,slow=8.7,SNR=10							
SWET	**Sewanee**	**71.48**	**348**	*e*P	**P**	**10 21 51.7**	**-0.6**
5.9nm,0.9s							
WVT	**Waverly**	**72.70**	**347**	*e*P	**P**	**10 21 58.8**	**-0.7**
DBIC	**Dimbokro**	**75.97**	**71**	*e*P	**P**	**10 22 19.3**	**+0.2**
3.5nm,0.9s							
ACSO	**Alum Creek Sta**	**76.00**	**352**	*e*P	**P**	**10 22 18.0**	**-0.6**
6.4nm,0.2s							
ANMO	**Albuquerque**	**76.96**	**332**	*e*P	**P**	**10 22 25.0**	**+0.6**
0.8nm,0.7s							
BOSA	**Boshof**	**79.65**	**118**	P	**P**	**10 22 39.9**	**+0.2**
6.6nm,1.1s,baz=281,slow=5.1,SNR=3.7							
ECSD	**EROS Data Cent**	**81.89**	**343**	*e*P	**P**	**10 22 50.3**	**-0.5**
4.3nm,0.8s							
CCUT	**Cedar City**	**82.02**	**328**	*e*P	**P**	**10 22 53.0**	**+1.0**
1.3nm,0.9s							
SRU	**San Rafael Swe**	**82.17**	**331**	*e*P	**P**	**10 22 51.8**	**-1.0**
0.5nm,0.3s							
ISA	**Isabella, Lake**	**82.79**	**324**	*e*P	**P**	**10 22 54.4**	**-1.5**
1.8nm,1.0s							
DUG	**Dugway, Tooele**	**84.02**	**330**	*e*P	**P**	**10 23 02.2**	**0.0**
1.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**85.02**	**70**	P	**P**	**10 23 07.4**	**-0.2**
1.8nm,1.0s,baz=234,slow=4.9,SNR=5.4							
HVU	**Hansel Valley**	**85.34**	**331**	*e*P	**P**	**10 23 08.8**	**0.0**
1.5nm,0.8s							
ULM	**Lac du Bonnet**	**87.87**	**345**	P	**P**	**10 23 20.5**	**-0.3**
2.3nm,0.8s,baz=180,slow=0.9,SNR=5.5							
ISP	**Isparta**	**119.86**	**63**	*e*PKPdf	**PKPdf**	**10 29 22.1**	**0.0**
AAK	**Ala-Archa**	**153.47**	**64**	*e*PKPdf	**PKPdf**	**10 30 22.9**	**+0.3**
AAK				*e*PKPbc	**PKiKP**	**10 30 30.6**	**+0.3**
AAK				*e*PKPab	**PKPab**	**10 30 42.8**	**+0.2**
SONM	**Songino Array**	**167.65**	**4**	PKPab	**PKPab**	**10 31 43.2**	**-0.7**
0.3nm,0.7s,baz=325,slow=2.3,SNR=4.5							

*ISCJB **02** 10:11:54.4±1.2, 26°.3S±0°.3×71°.8E±0°.2, h10km, mb3.9/7, MS4.3/2, Error ellipse: s-maj=42.2km s-min=21.9km az=31.4*
*IDC **02** 10:11:54.5±1.4, 26°.30S×71°.73E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/48, mbtmp3.9/7, MS4.3/2, Ms1 4.2/2, ms1mx3.2/36, Error ellipse: s-maj=47.8km s-min=25.2km az=31.0*
ISC 02 10:11:56.2±1.3, 26°.3S±0°.3×71°.8E±0°.2, h10km, n12, σ0°59/7, mb3.9/7, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.55**	**2**	T	T	10 35 15.2	
baz=183,slow=76,SNR=13							
H08S2	**Diego Garcia H**	**18.55**	**2**	T	T	10 35 15.6	
baz=183,slow=76,SNR=15							
H08S3	**Diego Garcia H**	**18.57**	**2**	T	T	10 35 20.8	
baz=183,slow=76,SNR=15							
MAW	**Mawson**	**41.69**	**185**	LR	LR	10 34 52.4	
comp=Z,221nm,18.2s,baz=56,slow=33							
CMAR	**Chiang Mai Arr**	**51.73**	**34**	P	**P**	**10 21 04.6**	**+0.6**
1.2nm,0.3s,baz=220,slow=6.8,SNR=9.2							
ASAR	**Alice Springs**	**55.93**	**102**	P	**P**	**10 21 34.3**	**-0.5**
1.4nm,1.0s,baz=232,slow=5.9,SNR=5.6							
WRA	**Warramunga Arr**	**57.45**	**98**	P	**P**	**10 21 45.3**	**-0.3**
1.3nm,1.0s,baz=252,slow=7.8,SNR=4.4							
STKA	**Stephens Creek**	**60.36**	**113**	P	**P**	**10 22 06.1**	**+0.4**
0.7nm,0.4s,baz=279,slow=9.2,SNR=3.6							
CTA	**Charters Tower**	**67.93**	**102**	LR	LR	10 51 20.9	
comp=Z,330nm,18.7s,baz=262,slow=35							
MKAR	**Makanchi Array**	**73.36**	**8**	P	**P**	**10 23 27.4**	**-0.7**
1.0nm,0.8s,baz=192,slow=6.4,SNR=5.8							
TORD	**Torodi Ar. Bea**	**78.53**	**291**	P	**P**	**10

ARMT	**Armutlu**	**1.45**	**354**	*e*PN	**Pn**	**10 22 20.8**	**-0.3**
ARMT	**Armutlu**	**1.45**	**354**	*e*Pn	**Pn**	**10 22 20.8**	**-0.3**
GULT	**Gulveren**	**1.73**	**40**	*e*PN	**Pn**	**10 22 24.6**	**-0.3**
GULT	**Gulveren**	**1.73**	**40**	*e*Pn	**Pn**	**10 22 24.6**	**-0.3**
MRMT	**Marmara Adasi**	**1.86**	**323**	*e*PN	**Pn**	**10 22 25.8**	**-0.9**
MRMT	**Marmara Adasi**	**1.86**	**323**	*e*Pn	**Pn**	**10 22 25.8**	**-0.9**

*IDC **02** 10:23:35.3±0.9, 26°.00N×93°.49E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.5/49, mbtmp3.7/9, MS4.4/1, Ms1 4.4/1, ms1mx2.7/38, Error ellipse: s-maj=52.9km s-min=19.4km az=53.0*

ISC 02 10:23:40.4±1.0, 26°.0N±0°.2×93°.5E±0°.1, h33km, n10, σ0§87/10, mb3.8/9, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.49**	**254**	*i* PN	**Pb**	**10 24 07.5**	**-0.1**
SHL				*i* SN	Sb	10 24 36.0	+10
MKAR	**Makanchi Array**	**22.59**	**340**	P	**P**	**10 28 38.6**	**+0.5**
	0.8nm,0.5s,baz=151,slow=9.6,SNR=14						
MLR	**Muntele Rosu**	**56.52**	**309**	P	**P**	**10 33 21.0**	**+1.4**
	0.5nm,0.6s,baz=113,slow=14,SNR=3.3						
MLR				LR	LR	11 00 24.7	
	comp=Z,351nm,20.9s,baz=347,slow=39						
FINES	**FINESS Array B**	**56.75**	**328**	P	**P**	**10 33 20.3**	**-0.4**
	1.7nm,0.8s,baz=117,slow=4.8,SNR=3.1						
ARCES	**ARCESS Array B**	**58.22**	**337**	P	**P**	**10 33 30.4**	**-0.7**
	1.7nm,0.8s,baz=90,slow=6.3,SNR=4.9						
WRA	**Warramunga Arr**	**60.48**	**135**	P	**P**	**10 33 47.5**	**+0.2**
	0.4nm,0.9s,baz=323,slow=7.3,SNR=7.1						
HFS	**Hagfors**	**62.80**	**326**	P	**P**	**10 34 01.0**	**-1.4**
	5.3nm,1.1s,baz=90,slow=6.5,SNR=5.1						
ASAR	**Alice Springs**	**62.98**	**138**	P	**P**	**10 34 04.3**	**+0.2**
	0.2nm,0.7s,baz=319,slow=6.4,SNR=4.3						
ILAR	**Eielson Array**	**78.30**	**22**	P	**P**	**10 35 36.6**	**-0.2**
	1.1nm,1.2s,baz=300,slow=4.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**85.91**	**283**	P	**P**	**10 36 17.3**	**-0.3**
	0.3nm,0.5s,baz=61,slow=5.6,SNR=5.2						

GUC 02 10:25:13.1±0.6, 34°.20N×72°.03W, h43km±4km, ML3.6, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.57**	**65**	⇓*i*P	Pn	10 25 24.8	-0.1
LNV				*e*S	Sn	10 25 33.3	0.0
CHCH	**Chadas Angostu**	**1.18**	**78**	⇑*i*P	Pn	10 25 34.2	+1.0
ANTU	**Antumapu**	**1.32**	**62**	⇓*i*P	Pn	10 25 36.0	+0.8
ANTU				*i* S	Sn	10 25 53.7	+2.0
ANTU				AML	AML	10 26 01.0	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**1.54**	**47**	⇓*i*P	Pn	10 25 39.3	+1.1
PEL				*e*S	Sn	10 25 59.8	+2.8
PEL				AML	AML	10 26 07.6	
	comp=N,2μm,0.4s						

*IDC **02** 10:25:29.9±1.4, 34°.86S×73°.96W, h0km, mb3.8/4, mb1 4.0/7, mb1mx3.8/28, mbtmp3.8/7, ML3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/21, Error ellipse: s-maj=33.7km s-min=23.4km az=80.0*

*ISCJB **02** 10:25:32.9±0.6, 34°.91S±0°.06×73°.92W±0°.09, h33km, mb4.1/11, Error ellipse: s-maj=11.1km s-min=8.6km az=12.8*

*NEIC **02** 10:25:34.6±0.6, 34°.96S×73°.95W, h35km, mb4.2/8, Error ellipse: s-maj=15.3km s-min=11.4km az=93.0*

ISC 02 10:25:34.8±0.8, 34°.85S±0°.07×74°.0W±0°.1, h35km, n20, σ1§45/22, mb4.2/11, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.81**	**58**	Pn	**Pn**	**10 26 57.0**	**-1.5**
	0.7nm,0.3s,baz=238,slow=9.5,SNR=6.2						
CFAA				Sn	**Sn**	**10 28 05.0**	**+1.0**
	baz=119,slow=22,SNR=2.1						
PLCA	**Paso Flores**	**6.47**	**156**	Pn	**Pn**	**10 27 06.0**	**-1.7**
	1.2nm,0.3s,baz=324,slow=7.3,SNR=11						
PLCA				Sn	**Sn**	**10 28 24.6**	**+4.3**
	0.4nm,0.3s,baz=325,slow=8.4,SNR=2.2						
PLCA				LR	LR	10 29 32.4	
	comp=Z,249nm,18.9s,baz=318,slow=38						
PLCA	**Paso Flores**	**6.47**	**156**	*e*Pn	**Pn**	**10 27 05.7**	**-1.9**
	7.8nm,0.7s						
PLCA				*e*Sn	**Sn**	**10 28 21.3**	**+1.0**
LVC	**Limon Verde**	**12.98**	**21**	*e*Pn	**Pn**	**10 28 36.5**	**-0.4**
CPUP	**Villa Florida**	**16.66**	**64**	*e*P	**P**	**10 29 27.8**	**+0.2**
LPAZ	**La Paz**	**19.22**	**17**	P	**Pn**	**10 29 58.2**	**+0.6**
	0.1nm,0.3s,baz=190,slow=8.5,SNR=4.6						
LPAZ	**La Paz**	**19.22**	**17**	*e*P	**Pn**	**10 29 59.0**	**+1.3**
	4.6nm,1.3s						
SIV	**San Ignacio**	**22.07**	**35**	P	**P**	**10 30 26.2**	**-0.6**
	2.6nm,0.8s,baz=195,slow=12,SNR=6.2						
QSPA	**South Pole Qui**	**55.39**	**180**	*e*P	**P**	**10 35 03.2**	**-2.1**
	1.2nm,0.7s						
TXAR	**Lajitas Array**	**69.71**	**333**	P	**P**	**10 36 41.7**	**+0.6**
	0.3nm,0.5s,baz=158,slow=9.1,SNR=7.9						
WVT	**Waverly**	**71.79**	**348**	*e*P	**P**	**10 36 53.7**	**+0.3**
	2.2nm,0.7s						
TUL1	**Leonard**	**73.28**	**342**	*e*P	**P**	**10 37 02.4**	**0.0**
	2.0nm,0.6s						
ANMO	**Albuquerque**	**75.78**	**333**	*e*P	**P**	**10 37 18.2**	**+1.1**
	2.6nm,1.1s						
DBIC	**Dimbokro**	**76.98**	**72**	*e*P	**P**	**10 37 24.4**	**+0.2**
	1.9nm,0.6s						
BOSA	**Boshof**	**81.10**	**119**	P	**P**	**10 37 47.4**	**+0.5**
	2.3nm,0.8s,baz=234,slow=8.1,SNR=3.4						
DUG	**Dugway, Tooele**	**82.81**	**331**	*e*P	**P**	**10 37 56.6**	**+1.2**
	2.3nm,1.0s						
HVU	**Hansel Valley**	**84.15**	**332**	*e*P	**P**	**10 38 02.9**	**+0.7**
	0.8nm,0.2s						
TORD	**Torodi Ar. Bea**	**86.02**	**71**	P	**P**	**10 38 12.0**	**0.0**
	0.7nm,0.8s,baz=259,slow=2.9,SNR=3.4						
ABKAR	**Akbulak array**	**143.48**	**52**	*e*PKPdf	PKPbc	10 45 03.3	+0.7
BRVK	**Borovoye**	**148.93**	**43**	*e*PKPbc	**PKPbc**	**10 45 19.0**	**+0.6**

IDC 02 10:40:15.5±1.7, 35°.83S×72°.86W, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.6/21, mbtmp3.4/5, ML3.8/2, Error ellipse: s-maj=33.5km s-min=19.2km az=93.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.22**	**160**	Pn	Pn	10 41 36.4	+1.4
	1.0nm,0.3s,baz=341,slow=9.2,SNR=11						
PLCA				Lg	Lg	10 42 59.9	
	2.5nm,0.3s,baz=261,slow=23,SNR=5.8						
CFAA	**Coronel Fontan**	**5.71**	**44**	Pn	Pn	10 41 42.8	+1.2
	0.1nm,0.3s,baz=220,slow=9.7,SNR=4.2						
CFAA				Lg	Lg	10 43 17.0	
	0.1nm,0.3s,baz=272,slow=9.1,SNR=3.7						
LPAZ	**La Paz**	**19.92**	**13**	P	P	10 44 50.3	+0.7
	0.1nm,0.3s,baz=188,slow=5.6,SNR=6.7						
SIV	**San Ignacio**	**22.39**	**31**	P	P	10 45 14.7	-0.8
	1.5nm,0.6s,baz=216,slow=15,SNR=6.8						
TXAR	**Lajitas Array**	**71.01**	**332**	P	P	10 51 34.7	-0.4
	0.2nm,0.6s,baz=166,slow=7.5,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**25.05**	**268**	T	T	13 17 17.5	
	baz=119,slow=75,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**25.07**	**268**	T	T	13 17 19.7	
	baz=119,slow=75,SNR=7.0						
H11S3	**WAKE ISLAND Hy**	**25.07**	**268**	T	T	13 17 19.9	
	baz=119,slow=75,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**25.51**	**270**	T	T	13 17 48.8	
H11N1	**WAKE ISLAND Hy**	**25.52**	**270**	T	T	13 17 49.8	
	baz=269						
H11N2	**WAKE ISLAND Hy**	**25.53**	**270**	T	T	13 17 52.3	
	baz=125						

*CSEM **02** 10:41:01.0, 44°.08N×12°.09E, h3km, MD2.1/4*

ROM 02 10:41:01.0±0.6, 44°.08N×12°.09E, h3km, Md2.1/4, Ml1.3/2, Error ellipse: s-maj=4.8km s-min=2.6km az=19.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.25**	**225**	Pg	Pg	10 41 06.5	+0.7
SFI				Sg	Sg	10 41 10.7	+1.6
	60nm,0.8s						
SFI	**Santa Sofia**	**0.25**	**225**	Pg	Pg	10 41 06.5	+0.7
SFI				Sg	Sg	10 41 10.7	+1.6
	60nm,0.8s						
ASQU	**Asqua**	**0.36**	**217**	Pg	Pg	10 41 08.6	+0.6
ASQU				Sg	Sb	10 41 14.7	-1.5
	32nm,0.4s						
ASQU	**Asqua**	**0.36**	**217**	Pg	Pg	10 41 08.6	+0.6
ASQU				Sg	Sb	10 41 14.7	-1.5
	32nm,0.4s						
VMG	**Vicchio**	**0.41**	**253**	Pg	Pg	10 41 09.6	+0.7
VMG				Sg	Sb	10 41 17.3	-0.3
VMG	**Vicchio**	**0.41**	**253**	Pg	Pg	10 41 09.6	+0.7
VMG				Sg	Sb	10 41 17.3	-0.3
PARC	**Parchiule**	**0.45**	**166**	Pg	Pb	10 41 11.5	-0.1
PARC				Sg	Sb	10 41 18.1	-0.6
PARC	**Parchiule**	**0.45**	**166**	Pg	Pb	10 41 11.5	-0.1
PARC				Sg	Sb	10 41 18.1	-0.6

*IDC **02** 10:41:20.4±9.7, 16°.53N×93°.44W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/27, mbtmp3.8/3, Error ellipse: s-maj=264.1km s-min=89.1km az=27.0*

*ISCJB **02** 10:41:34.2±0.7, 16°.40N±0°.09×94°.01W±0°.05, h131km±6km, mb3.5/3, Error ellipse: s-maj=15.7km s-min=7.3km az=18.9*

*MEX **02** 10:41:36.1±0.5, 16°.40N×94°.00W, h131km±6km, MD4.2*

ISC 02 10:41:35.2±0.9, 16°.38N±0°.10×94°.01W±0°.06, h127km±9km, n8, σ0§50/13, mb3.6/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.01**	**131**	*e*P	**Pn**	**10 41 58.3**	**+0.4**
PCIG				*i* S	**Sn**	**10 42 15.2**	**+0.1**
CMIG	**Matias Romero**	**1.10**	**310**	*i* P	**Pn**	**10 41 59.2**	**+0.4**
CMIG				*i* S	**Sn**	**10 42 16.2**	**-0.5**
CCIG	**Comitan**	**1.80**	**93**	*i* P	**Pn**	**10 42 06.8**	**+0.1**
CCIG				*i* S	**Sn**	**10 42 29.9**	**-0.9**
HUIG	**Huatulco**	**2.11**	**254**	*i* P	**Pn**	**10 42 10.1**	**-0.2**
HUIG				*i* S	**Sn**	**10 42 37.1**	**-0.2**
THIG		**2.23**	**131**	*e*P	**Pn**	**10 42 11.4**	**-0.4**
THIG				*i* S	**Sn**	**10 42 40.3**	**+0.4**
YKA	**Yellowknife Ar**	**48.29**	**347**	P	**P**	**10 50 02.9**	**-0.3**
	0.6nm,0.5s,baz=152,slow=7.4,SNR=18						
ILAR	**Eielson Array**	**59.90**	**337**	P	**P**	**10 51 28.1**	**+0.6**
	0.1nm,0.4s,baz=129,slow=5.6,SNR=5.5						
ARCES	**ARCESS Array B**	**84.49**	**18**	P	**P**	**10 53 53.4**	**-0.1**
	3.5nm,1.0s,baz=312,slow=4.4,SNR=7.6						

*MOS **02** 10:42:18.9±1.0, 10°.58S×166°.01E, h162km, mb5.1/28, Error ellipse: s-maj=8.9km s-min=8.7km az=110.9*

*ISCJB **02** 10:42:19.3±0.8, 10°.75S±0°.03×166°.03E±0°.02, h170km±7km, mb5.0/115, Error ellipse: s-maj=4.5km s-min=3.8km az=149.6*

*IDC **02** 10:42:19.7±1.5, 10°.72S×166°.08E, h161km±13km, mb4.6/20, mb1 4.8/22, mb1mx4.7/28, mbtmp5.0/22, MS4.0/2, Ms1 4.0/2, ms1mx3.1/28, Error ellipse: s-maj=12.1km s-min=8.8km az=123.0*

*GCMT **02** 10:42:21.5±0.2, 10°.67S×165°.98E, h169km±1km, MW5.3/97, Moment Tensor Solution. s83,c120; s97,c159; Duration: 1s1 Moment tensor: Scale 10^17^Nm; M_{rr}0.94±.02; $M_{\theta\theta}$-0.27±.02; $M_{\phi\phi}$-0.67±.02; $M_{r\theta}$-0.22±.02; $M_{\theta\phi}$-0.49±.02; $M_{\phi r}$-0.45±.02; Best double couple: M_0=1.09300×10^17^ NP1:ϕ_s210.00000°, δ59.00000°, λ86.00000°. NP2:ϕ_s38.00000°, δ32.00000°, λ97.00000°. Principal axes: T 1.0670, Plg76.0000°, Azm108.0000°; N 0.0530, Plg4.0000°, Azm212.0000°; P -1.1190, Plg14.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 10:42:21.6±0.9, 10°.74S×166°.08E, h179km±8km, mb5.0/77 Error ellipse: s-maj=4.8km s-min=3.5km az=165.0*

*BJI **02** 10:42:25.6, 10°.26S×166°.10E, h221km, mB4.9/39, mb4.8/55*

ISC 02 10:42:20.4±0.8, 10°.68S±0°.04×166°.11E±0°.04, h172km±7km, n531, σ1§09/557, mb5.0/115, 106C-92D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.19**	**281**	*e*P	**Pn**	**10 43 49.0**	**-0.9**
HNR				*e*S	Sn	10 45 12.0	+12
DZM	**Mont Dzumac**	**11.34**	**178**	*e*Pn	**Pn**	**10 44 57.5**	**-0.2**
	78nm,0.2s						
DZM				*e*Sn	Sn	10 46 57.4	-6.1
	25nm,0.3s						
DZM	**Mont Dzumac**	**11.34**	**178**	P	**Pn**	**10 44 57.4**	**-0.3**
	34nm,0.3s,baz=18,slow=18,SNR=494						
DZM				S	**Sn**	**10 47 00.5**	**-3.0**
	2.5nm,0.3s,baz=310,slow=22,SNR=5.6						
MSVF	**Nonsavu**	**13.53**	**123**	*e*P	**Pn**	**10 45 26.2**	**+0.4**
MSVF				*e*		10 47 56.9	
MSVF	**Nonsavu**	**13.53**	**123**	*e*Pn	**Pn**	**10 45 26.2**	**+0.4**
MSVF				*e*Sn	**Sn**	**10 47 56.9**	**+0.6**
PMG	**Port Moresby**	**18.70**	**272**	*d i* P	**P**	**10 46 26.7**	**+0.7**
PMG				pmax	pmax		
	comp=Z,187nm,1.7s						
PMG	**Port Moresby**	**18.70**	**272**	P	**P**	**10 46 26.9**	**+0.9**
	comp=Z,1.7nm,0.3s,baz=90,slow=8.2,SNR=24						
PMG	**Port Moresby**	**18.70**	**272**	P	**P**	**10 46 27.2**	**+1.2**
	baz=19,SNR=11						
PMG	**Port Moresby**	**18.70**	**272**	*e*P	**P**	**10 46 26.7**	**+0.7**
	comp=Z,101nm,1.0s						
PMG				*e*S	**S**	**10 49 54.4**	**+4.4**
EIDS	**Eidsvold**	**20.41**	**222**	P	**P**	**10 46 45.3**	**+1.0**
	baz=20,SNR=15						
EIDS	**Eidsvold**	**20.41**	**222**	*e*P	**P**	**10 46 45.2**	**+1.0**
	comp=Z,58nm,0.8s						
CTA	**Charters Tower**	**21.29**	**242**	P	**P**	**10 46 54.2**	**+0.5**
	comp=Z,24nm,0.9s,baz=68,slow=14,SNR=15						
CTAO	**Charters Tower**	**21.29**	**242**	*e*P	**P**	**10 46 54.4**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,113nm,1.2s						
CTAO	**Charters Tower**	**21.29**	**242**	*e*P	**P**	**10 46 54.4**	**+0.7**
	comp=Z,113nm,1.2s						
LHI	**Lord Howe Isla**	**21.75**	**196**	P	**P**	**10 46 59.0**	**+0.7**
	baz=22,SNR=3.4						
AFI	**Afiamalu**	**21.84**	**101**	*e*P	**P**	**10 47 00.3**	**+0.6**
AFI				pmax	pmax		
	comp=Z,1μm,1.5s						
AFI	**Afiamalu**	**21.84**	**101**	*e*P	**P**	**10 47 00.3**	**+0.6**
	comp=Z,1μm,1.5s						
COEN	**Coen**	**22.64**	**259**	P	**P**	**10 47 07.3**	**+0.1**
	baz=22,SNR=5.8						
RMQ	**Roma**	**22.71**	**224**	P	**P**	**10 47 08.8**	**+1.1**
	baz=23,SNR=8.1						
ARMA	**Armidale**	**23.82**	**212**	P	**P**	**10 47 18.9**	**+1.0**
	baz=24,SNR=26						
ARMA	**Armidale**	**23.82**	**212**	*e*P	**P**	**10 47 18.8**	**+0.9**
	comp=Z,55nm,0.8s						
JAY	**Jayapura**	**26.48**	**286**	P	**P**	**10 47 43.4**	**+1.3**
	baz=26,SNR=4.5						
QIS	**Mount Isa**	**27.31**	**246**	P	**P**	**10 47 49.9**	**+0.5**
	baz=27,SNR=4.7						
CMSA	**Cobar Meteorol**	**28.07**	**219**	P	**P**	**10 47 56.1**	**+0.1**
	baz=28,SNR=9.1						
YNG	**Young**	**28.55**	**212**	P	**P**	**10 48 01.2**	**+1.0**
	baz=28,SNR=5.0						
CNB	**Canberra Magne**	**28.88**	**209**	P	**P**	**10 48 03.9**	**+0.8**
	baz=29,SNR=7.0						
HAZ	**Te Kaha**	**28.93**	**161**	PN	**P**	**10 48 03.1**	**-0.4**
H11S2	**WAKE ISLAND Hy**	**28.99**	**1**	T	T	11 18 55.0	
	baz=181,slow=76,SNR=105						
H11S3	**WAKE ISLAND Hy**	**28.99**	**1**	T	T	11 18 56.6	
	baz=181,slow=76,SNR=93						
H11S1	**WAKE ISLAND Hy**	**29.00**	**1**	T	T	11 18 59.2	
	baz=181,slow=76,SNR=55						
URZ	**Urewera**	**29.18**	**162**	P	**P**	**10 48 05.4**	**-0.3**
	comp=Z,22nm,0.4s,baz=281,slow=2.8,SNR=63						
URZ	**Urewera**	**29.18**	**162**	PN	**P**	**10 48 05.1**	**-0.6**
URZ				SN	**S**	**10 52 46.8**	**+1.4**
URZ	**Urewera**	**29.18**	**162**	*e*P	**P**	**10 48 05.5**	**-0.2**
WMGZ	**Waiomatatini S**	**29.20**	**160**	PN	**P**	**10 48 04.7**	**-1.2**
WMGZ				SN	**S**	**10 52 44.4**	**-1.3**
PUZ	**Puketiti**	**29.38**	**160**	PN	**P**	**10 48 06.0**	**-1.6**
MWZ	**Matawai**	**29.38**	**161**	PN	**P**	**10 48 06.7**	**-0.9**
MWZ				SN	**S**	**10 52 45.7**	**-2.9**
BKZ	**Black Stump Fm**	**29.85**	**164**	PN	**P**	**10 48 11.1**	**-0.5**
BKZ				SN	**S**	**10 52 53.5**	**-2.4**
BKZ	**Black Stump Fm**	**29.85**	**164**	*e*P	**P**	**10 48 11.4**	**-0.3**
	comp=Z,57nm,0.8s						
BHHZ	**Black Hill Sta**	**30.03**	**164**	PN	**P**	**10 48 12.9**	**-0.5**
BHHZ				SN	**S**	**10 52 58.7**	**-0.2**
KNZ	**Kokohu**	**30.06**	**162**	PN	**P**	**10 48 12.2**	**-1.2**
H11N1	**WAKE ISLAND Hy**	**30.21**	**1**	T	T	11 20 29.5	
	baz=182,slow=76,SNR=66						
H11N3	**WAKE ISLAND Hy**	**30.21**	**2**	T	T	11 20 27.1	
	baz=182,slow=76,SNR=77						
H11N2	**WAKE ISLAND Hy**	**30.23**	**1**	T	T	11 20 28.8	
	baz=182,slow=76,SNR=77						
MILA	**Mila**	**30.39**	**207**	P	**P**	**10 48 17.7**	**+1.2**
	baz=30,SNR=6.2						
PNHZ	**Pukenui**	**30.47**	**165**	PN	**P**	**10 48 16.5**	**-0.7**
TSZ	**Takapari Road**	**30.54**	**165**	PN	**P**	**10 48 16.5**	**-1.2**
TSZ				SN	**S**	**10 53 05.3**	**-1.4**
STKA	**Stephens Creek**	**30.95**	**223**	*e*P	**P**	**10 48 22.0**	**+0.6**
STKA						10 51 14.1	
STKA	**Stephens Creek**	**30.95**	**223**	P	**P**	**10 48 22.6**	**+1.1**
	comp=Z,45nm,0.8s,baz=44,slow=9.5,SNR=63						
STKA				PcP	**PcP**	**10 51 14.1**	**+0.4**
	comp=Z,10.0nm,0.9s,baz=73,slow=3.0,SNR=5.7						
STKA				ScP	**ScP**	**10 54 43.4**	**+3.0**
	comp=Z,4.3nm,0.9s,baz=358,slow=6.9,SNR=3.3						
STKA				LR	LR	11 00 52.3	
	comp=Z,357nm,18.1s,baz=44,slow=36						
STKA	**Stephens Creek**	**30.95**	**223**	P	**P**	**10 48 22.5**	**+1.0**
	baz=31,SNR=42						
STKA	**Stephens Creek**	**30.95**	**223**	*e*P	**P**	**10 48 22.0**	**+0.6**
STKA				PcP	**PcP**	**10 51 14.1**	**+0.4**
STKA				ScP	**ScP**	**10 54 43.4**	**+3.0**
OGWZ	**Otaki Gorge**	**31.07**	**167**	PN	**P**	**10 48 21.0**	**-1.4**
NNZ	**Nelson**	**31.09**	**169**	PN	**P**	**10 48 23.4**	**+0.9**
BFZ	**Birch Farm**	**31.20**	**165**	PN	**P**	**10 48 21.8**	**-1.7**
BFZ	**Birch Farm**	**31.20**	**165**	*e*P	**P**	**10 48 22.2**	**-1.3**
	comp=Z,72nm,0.6s						
THZ	**Tophouse**	**31.54**	**170**	PN	**P**	**10 48 25.9**	**-0.6**
WRAB	**Tennant Creek**	**31.93**	**249**	P	**P**	**10 48 29.3**	**-0.9**
	comp=Z,228nm,1.2s,SNR=29						
WRAB	**Tennant Creek**	**31.93**	**249**	*d i* P	**P**	**10 48 29.4**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,131nm,1.3s						
WRAB	**Tennant Creek**	**31.93**	**249**	*e*P	**P**	**10 48 28.9**	**-1.3**
	comp=Z,54nm,1.2s						
WRAB				*e*S	**S**	**10 53 28.9**	**0.0**
WB2	**Warramunga Arr**	**31.93**	**249**	*e*P	**P**	**10 48 29.7**	**-0.5**
WB2				*e*S	**S**	**10 53 28.6**	**-0.3**
WRA	**Warramunga Arr**	**31.94**	**249**	P	**P**	**10 48 29.8**	**-0.6**
	comp=Z,31nm,1.0s,baz=82,slow=9.0,SNR=148						
WRA				PcP	**PcP**	**10 51 16.8**	**+0.2**
	comp=Z,8.1nm,0.8s,baz=77,slow=3.3,SNR=15						
WRA				S	**S**	**10 53 27.1**	**-1.9**
	comp=Z,4.3nm,1.0s,baz=84,slow=14,SNR=8.8						
WRA				ScP	**ScP**	**10 54 47.8**	**+3.8**
	comp=Z,3.6nm,0.9s,baz=79,slow=3.7,SNR=10						
WRA				PKiKP	**PKiKP**	**10 58 44.0**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=15,slow=0.9,SNR=6.4						
TOO	**Toolangi**	**32.57**	**211**	P	**P**	**10 48 36.4**	**+0.8**
	baz=32,SNR=8.2						
KDU	**Kakadu**	**32.99**	**263**	P	**P**	**10 48 38.9**	**-0.5**
	baz=33,SNR=9.6						
KDU				S	S	10 53 36.0	-9.2
	baz=33,SNR=14						
RPZ	**Rata Peaks**	**33.20**	**173**	*e*P	**P**	**10 48 40.1**	**-0.8**
	comp=Z,92nm,0.8s						
AS31	**Alice Springs**	**33.27**	**243**	*e*P	**P**	**10 48 41.0**	**-0.9**
AS31				*e*PcP	**PcP**	**10 51 20.3**	**0.0**
ASAR	**Alice Springs**	**33.27**	**243**	P	**P**	**10 48 40.9**	**-1.0**
	comp=Z,26nm,0.9s,baz=74,slow=9.3,SNR=140						
ASAR				PcP	**PcP**	**10 51 20.1**	**-0.1**
	comp=Z,8.8nm,0.8s,baz=68,slow=2.5,SNR=16						
ASAR				S	**S**	**10 53 49.4**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=74,slow=13,SNR=5.9						
ASAR				ScP	**ScP**	**10 54 52.5**	**+3.9**
	comp=Z,3.5nm,0.8s,baz=76,slow=3.4,SNR=12						
ASAR				LR	LR	11 01 52.9	
	comp=Z,157nm,18.5s,baz=67,slow=35						
HTT	**Hallett**	**33.69**	**224**	P	**P**	**10 48 46.0**	**+0.7**
	baz=34,SNR=34						
ARPS	**Mount Arapiles**	**33.98**	**216**	P	**P**	**10 48 49.3**	**+1.6**
	baz=34,SNR=8.8						
BBOO	**Buckleboo**	**35.34**	**227**	P	**P**	**10 48 59.7**	**+0.3**
	baz=35,SNR=28						
BBOO	**Buckleboo**	**35.34**	**227**	*e*P	**P**	**10 48 59.9**	**+0.4**
	comp=Z,774nm,0.8s						
BBOO				*e*PcP	**PcP**	**10 51 25.7**	**-0.2**
MOO	**Moorlands**	**35.71**	**204**	P	**P**	**10 49 04.8**	**+2.3**
	baz=36,SNR=3.1						
KNRA	**Kununurra**	**36.66**	**258**	P	**P**	**10 49 10.7**	**-0.3**
	baz=37,SNR=21						
WRKA	**Warakurna**	**38.57**	**243**	P	**P**	**10 49 26.7**	**-0.2**
	baz=38,SNR=34						
FITZ	**Fitzroy Crossi**	**39.82**	**255**	P	**P**	**10 49 37.1**	**-0.2**
	baz=40,SNR=24						
FITZ	**Fitzroy Crossi**	**39.82**	**255**	*e*P	**P**	**10 49 37.1**	**-0.2**
	comp=Z,42nm,1.0s						
FORT	**Forrest**	**40.55**	**235**	P	**P**	**10 49 43.4**	**+0.3**
	baz=40,SNR=14						
FORT	**Forrest**	**40.55**	**235**	*e*P	**P**	**10 49 43.1**	**0.0**
	comp=Z,107nm,0.9s						
FORT				*e*PcP	**PcP**	**10 51 41.9**	**-0.3**
PPT2	**Papeete2**	**43.44**	**104**	*e*S	**S**	**10 56 23.1**	**+0.6**
	comp=Z,267nm,32.2s						
PPT2				*e*LQ	LQ	11 00 40.1	
	comp=Z,642nm,25.8s						
PPT2				*e*LR	LR	11 02 28.6	
	comp

KGM	Kluang	63.72	278	⇑P	P	10 52 35.2 +0.8
PETK	Petropavlovsk-	63.94	354	P	P	10 52 34.9 -0.1
	comp=Z,9.0nm,0.8s,baz=154,slow=7.0,SNR=7.4					
MDJ	Mudanjiang	64.19	332	P	P	10 52 35.4 -1.4
MDJ				PcP	PcP	10 53 07.1 -3.1
MDJ				pP	pP	10 53 26.5 +9.3
MDJ				sP	sP	10 53 52.2 +16
MDJ				PP	PP	10 54 58.8 -1.6
MDJ				S	S	11 00 53.6 -6.7
MDJ				ScS	SKSac	11 02 06.2 -7.8
MDJ				PMZ		
	comp=Z,15nm,1.2s					
MDJ				PMZ		
	comp=Z,120nm,4.6s					
MDJ	Mudanjiang	64.19	332	eP	P	10 52 37.7 +0.9
	comp=Z,3.0nm,0.5s					
UBPT	Khong Chiam	65.36	292	P	P	10 52 46.1 +1.2
	comp=Z,15nm,1.0s					
CN2	Changchun	65.61	329	eP	P	10 52 45.1 -0.9
CN2				epP	pP	10 53 37.5 +11
CN2				eS	S	11 01 11.0 -6.7
CN2				PMZ		
	comp=Z,10.0nm,1.0s					
IPM	Ipoh	66.51	280	eP	P	10 52 52.2 -0.1
	comp=Z,24nm,0.9s					
KLR	Kul'dur	66.86	336	eP	P	10 52 51.0 -2.8
KLR				e		10 53 22.7
KLR				pmax	pmax	
	comp=Z,40nm,1.6s					
VNDA	Vanda	66.87	181	P	P	10 52 54.5 +1.0
	comp=Z,8.6nm,0.9s,baz=335,slow=7.6,SNR=4.6					
PSI	Prapat	68.17	277	P	P	10 53 02.6 -0.4
	baz=68,SNR=5.8					
BJT	Baijiatuau	68.41	321	eP	P	10 53 04.4 +0.7
BJT				pmax	pmax	
	comp=Z,9.0nm,0.4s					
BJT	Baijiatuau	68.41	321	eP	P	10 53 04.4 +0.7
	comp=Z,8.5nm,0.4s					
BJI	Beijing	68.42	321	P	P	10 53 02.8 -1.0
BJI				S	S	11 01 45.0 -6.5
BJI				PMZ		
	comp=Z,17nm,0.8s					
BJI				PMZ		
	comp=Z,130nm,4.5s					
GYA	Guiyang	68.51	304	P	P	10 53 03.2 -1.6
GYA				pP	pP	10 53 56.8 +11
GYA				sP	sP	10 54 22.0 +18
GYA				PP	PP	10 55 39.2 +0.7
GYA				ScP		10 57 05.3
GYA				S	S	11 01 45.2 -8.1
GYA				SKS	SKiKP	11 02 35.7 -5.0
GYA				PMZ		
	comp=Z,20nm,1.0s					
GYA				PMZ		
	comp=Z,120nm,5.2s					
SLVN	Son La	68.85	298	eP	P	10 53 08.2 +1.3
	comp=Z,4.6nm,0.9s					
GSI	Gunungsitoli	69.18	275	eP	P	10 53 09.2 +0.2
	comp=Z,58nm,0.8s					
SURT	Suratani	69.75	284	P	P	10 53 13.8 +1.3
	comp=Z,6.3nm,0.9s					
PBKT	Sadao Pong	69.87	292	P	P	10 53 14.2 +1.0
	comp=Z,22nm,1.1s					
XAN	Xi'an	70.14	312	P	P	10 53 14.9 +0.3
XAN				PMZ		
	comp=Z,9.0nm,0.7s					
XAN				PMZ		
	comp=Z,13nm,4.2s					
UTTA	Uttaradit	70.61	293	P	P	10 53 19.0 +1.3
	comp=Z,3.2nm,1.0s					
KMI	Kunming	71.23	301	P	P	10 53 23.4 +1.8
KMI				PMZ		
	comp=Z,21nm,1.0s					
CRAI	Chiangrai	71.57	296	P	P	10 53 23.4 -0.1
	comp=Z,11nm,1.1s,comp=Z,232nm					
LAMP	Lampang	71.69	294	P	P	10 53 25.5 +1.3
	comp=Z,11nm,0.8s,comp=Z,81nm					
HHC	Hu-ho-hao-te	71.78	319	eP	P	10 53 22.8 -1.6
HHC				pP	pP	10 54 15.4 +10
HHC				sP	sP	10 54 39.1 +15
HHC				PP	PP	10 56 06.9 +0.6
HHC				S	S	11 02 26.5 -4.4
HHC				sS	sS	11 03 55.3 +13
HHC				SS	SS	11 07 06.6 -4.3
HHC				PMZ		
	comp=Z,98nm,5.3s					
HIA	Hailar	72.23	330	c iP	P	10 53 27.4 +0.6
HIA				pmax	pmax	
	comp=Z,19nm,1.1s					
HIA	Hailar	72.23	330	eP	P	10 53 27.7 +1.0
	comp=Z,16nm,1.1s					
CMAR	Chiang Mai Arr	72.29	293	P	P	10 53 29.0 +1.2
CMAR	Chiang Mai Arr	72.29	293	P	P	10 53 28.9 +1.2
	comp=Z,12nm,0.8s,baz=115,slow=4.4,SNR=47					
CMMT	Chiang Mai	72.40	294	P	P	10 53 29.1 +0.7
	comp=Z,23nm,1.3s					
CHTO	Chiang Mai	72.40	294	eP	P	10 53 29.5 +1.1
CHTO				pmax	pmax	
	comp=Z,23nm,1.3s					
CHTO	Chiang Mai	72.40	294	P	P	10 53 29.2 +0.8
	comp=Z,79nm,1.3s					
CHTO	Chiang Mai	72.40	294	eP	P	10 53 29.5 +1.1
	comp=Z,23nm,1.3s					
CMAI	Chiengmai2	72.66	295	P	P	10 53 31.2 +1.1
	comp=Z,16nm,1.4s,comp=Z,1μm					
CD2	Chengdu	72.66	307	P	P	10 53 30.6 +0.8
CD2				PcP	PcP	10 53 45.2 -1.1
CD2				pP	pP	10 54 22.3 +11
CD2				sP	sP	10 54 47.8 +18
CD2				PP	PP	10 56 20.5 +6.5
CD2				S	S	11 02 38.2 -3.0
CD2				SS	SS	11 07 21.3 -3.3
CD2				PMZ		
	comp=Z,40nm,1.1s					
CD2				PMZ		
	comp=Z,100nm,4.8s					
MHMT	Maesarieng	73.12	293	P	P	10 53 34.0 +1.4
	comp=Z,10nm,0.8s					
LZH	Lanzhou	74.78	312	eP	P	10 53 44.0 +1.9
LZH				pP	pP	10 54 37.1 +13
LZH				sP	sP	10 55 00.1 +18
LZH				S	S	11 03 03.3 -1.6
LZH				sS	sS	11 04 33.5 +16
LZH				PMZ		
	comp=Z,47nm,1.1s					
LZH				PMZ		
	comp=Z,120nm,4.0s					
CLNS	Chul'man	75.37	338	eP	P	10 53 46.4 +1.5
CLNS				pmax	pmax	
	comp=Z,20nm,1.1s					
CLNS				pmax	pmax	
	comp=N,5.0nm,1.0s					
CLNS				pmax	pmax	
	comp=E,5.0nm,1.0s					
OHAK	Old Harbor	75.44	21	eP	P	10 53 45.5 +0.3
	comp=E,24nm,0.8s					
KDAK	Kodiak Island	76.11	21	i P	P	10 53 50.0 +1.1
GAMB	Gambell	76.15	10	eP	P	10 53 49.8 +0.7
	comp=E,46nm,0.8s					
YAK	Yakutsk	77.85	343	eP	P	10 53 57.9 -0.7
YAK				pmax	pmax	
	comp=Z,47nm,0.9s					
YAK				pmax	pmax	
	comp=E,12nm,1.2s					
YAK				pmax	pmax	
	comp=N,21nm,1.3s					
YAK	Yakutsk	77.85	343	eP	P	10 53 58.8 +0.2
	comp=N,57nm,0.6s					
ULN	Ulaanbaatar	78.21	324	c iP	P	10 54 02.1 +0.9
ULN				pmax	pmax	
	comp=Z,34nm,1.3s					
ULN	Ulaanbaatar	78.21	324	eP	P	10 54 01.4 +0.3
	comp=Z,21nm,0.9s					
TNA	Tin City	78.45	11	eP	P	10 54 02.2 +0.4
	comp=Z,29nm,1.5s					
BILL	Bilibino	78.51	0	eP	P	10 54 02.4 +0.2
BILL				pmax	pmax	
	comp=Z,38nm,0.9s					
BILL	Bilibino	78.51	0	eP	P	10 54 02.4 +0.2
	comp=Z,38nm,0.9s					
SONM	Songino Array	78.58	324	P	P	10 54 04.0 +0.9
	comp=Z,4.5nm,0.5s,baz=142,slow=5.7,SNR=42					
GTA	Gaotai	79.06	314	P	P	10 54 07.4 +1.4
GTA				pP	pP	10 55 00.8 +13
GTA				sP	sP	10 55 25.3 +19
GTA				PMZ		
	comp=Z,23nm,1.2s					
QSPA	South Pole Qui	79.33	180	eP	P	10 54 06.5 -0.5
	comp=Z,28nm,0.6s					
BOD	Bodaibo	80.35	335	eP	P	10 54 11.9 -0.4
BOD				pmax	pmax	
	comp=Z,11nm,1.6s					
DIV	Divide	80.94	21	eP	P	10 54 16.0 +0.5
	comp=Z,69nm,1.0s					
KTH	Kantishna Hill	80.94	18	eP	P	10 54 15.0 -0.4
	comp=Z,21nm,1.0s					
TRF	Thorofare Moun	81.06	18	eP	P	10 54 15.5 -0.7
	comp=Z,13nm,0.8s					
BMRM	Bremner River	81.25	22	eP	P	10 54 17.5 +0.4
	comp=Z,40nm,1.1s					
ZAK	Zakamensk	81.61	325	⇑i P	P	10 54 19.3 0.0
ZAK				e		10 54 58.9
ZAK				pmax	pmax	
	comp=Z,11nm,1.0s					
ZAK				pmax	pmax	
	comp=Z,2.0nm,1.3s					
MCK	McKinley	81.68	19	eP	P	10 54 19.0 -0.3
MCK				pmax	pmax	
	comp=Z,71nm,1.2s					
MCK	McKinley	81.68	19	eP	P	10 54 19.0 -0.3
	comp=Z,71nm,1.2s					
TLY	Talaya	82.02	326	P	P	10 54 21.3 0.0
	comp=Z,132nm,0.8s,SNR=6.7					
TLY	Talaya	82.02	326	eP	P	10 54 21.5 +0.2
TLY				e		11 04 22.9
TLY				pmax	pmax	
	comp=Z,19nm,0.8s					
TLY	Talaya	82.02	326	eP	P	10 54 21.9 +0.7
	comp=Z,14nm,0.7s					
PAX	Paxson	82.28	20	eP	P	10 54 22.9 +0.4
PAX				pmax	pmax	
	comp=Z,21nm,1.3s					
PAX	Paxson	82.28	20	eP	P	10 54 22.9 +0.4
	comp=Z,21nm,1.3s					
COLA	College	82.83	18	c iP	P	10 54 25.8 +0.7
COLA				pmax	pmax	
	comp=Z,171nm,0.7s					
COLA	College	82.83	18	eP	P	10 54 25.0 -0.1
	comp=Z,49nm,0.8s					
MENT	Mentasta	82.86	21	eP	P	10 54 26.2 +0.8
L02D	Cave Junction,	82.91	45	⇑P	P	10 54 27.2 +1.0
	baz=83					
ILAR	Eielson Array	83.05	18	P	P	10 54 26.2 -0.1
	comp=Z,21nm,0.8s,baz=237,slow=5.0,SNR=306					
ILAR				PKKPbc	PKKPbc	11 12 48.8 -1.9
	comp=Z,0.4nm,1.0s,baz=95,slow=0.8,SNR=4.1					
N02D	Trinity Center	83.12	46	⇓P	P	10 54 28.2 +0.9
	baz=83					
M02C	Callahan	83.16	46	⇑P	P	10 54 28.8 +1.3
	baz=83					
DOT	Dot Lake	83.21	20	eP	P	10 54 27.4 +0.3
	comp=Z,81nm,1.2s					
MOY	Mondy	83.48	325	eP	P	10 54 28.6 -0.3
HUMO	Hull Mountain	83.52	45	eP	P	10 54 30.5 +1.3
	comp=Z,42nm,1.0s					
I03D	Drain, OR	83.64	43	⇓P	P	10 54 30.7 +1.0
	baz=84					
CMB	Columbia Colle	83.83	50	eP	P	10 54 31.3 +0.3
CMB				pmax	pmax	
	comp=Z,23nm,0.9s					
CMB	Columbia Colle	83.83	50	eP	P	10 54 31.3 +0.3
	comp=Z,23nm,0.9s					
COLD	Coldfoot	83.85	16	eP	P	10 54 31.6 +1.3
	comp=Z,17nm,1.1s					
HYT	Haines Junctio	83.91	24	eP	P	10 54 31.3 +0.3
CIS	Catalina Islan	83.97	55	⇑P	P	10 54 32.5 +0.8
	baz=84					
M04C	Macdoel	84.01	46	⇑P	P	10 54 32.9 +0.9
	baz=84					
OSI	Osito Audit: C	84.06	53	eP	P	10 54 34.0 +1.7
	comp=Z,10nm,0.6s					
ARVC	Arvin	84.13	53	⇓P	P	10 54 32.6 +0.1
	baz=84					
VES	Vestal, Richgr	84.15	52	⇑P	P	10 54 32.5 0.0
	baz=84					
RCTC	Rector, Farmer	84.17	52	⇑P	P	10 54 32.9 +0.2
	baz=84					
G03D	McMinnville, O	84.25	42	⇓P	P	10 54 33.4 +0.6
	baz=84					
I04A	Tendick Farm,	84.31	44	⇑P	P	10 54 33.7 +0.5
	baz=84					
J04D	Umpqua Nationa	84.32	44	⇑P	P	10 54 33.8 +0.3
	baz=84					
MWC	Mount Wilson	84.48	54	eP	P	10 54 34.8 +0.3
MWC				pmax	pmax	
	comp=Z,101nm,1.5s					
MWC	Mount Wilson	84.48	54	eP	P	10 54 34.8 +0.3
	comp=Z,101nm,1.5s					
ISA	Isabella, Lake	84.57	52	eP	P	10 54 35.4 +0.6
ISA				pmax	pmax	
	comp=Z,61nm,1.5s					
ISA	Isabella, Lake	84.57	52	⇑P	P	10 54 35.2 +0.5
	baz=85					
ISA	Isabella, Lake	84.57	52	eP	P	10 54 35.4 +0.6
	comp=Z,61nm,1.5s					
WAKR	Walker	84.69	49	eP	P	10 54 36.7 +1.3
	comp=Z,62nm,1.3s					
EDW2	Edwards Air Fo	84.72	53	⇑P	P	10 54 36.1 +0.6
	baz=85,SNR=40					
TAPN	Taplejung	84.74	299	eP	P	10 54 36.7 +0.6
BFSC	Mount Baldy Ra	84.80	54	⇑P	P	10 54 36.0 0.0
	baz=85,SNR=19					
109C	Camp Elliot, M	84.86	55	⇑P	P	10 54 36.7 +0.5
	baz=85					
MLAC	Mammoth, Mammo	84.88	50	⇑P	P	10 54 37.3 +0.8
	baz=85					
ODAN	Odare	84.89	298	eP	P	10 54 37.3 +0.5
	comp=Z,77nm,1.1s					
EGAK	Eagle	84.91	20	eP	P	10 54 34.9 -0.8
	comp=Z,88nm,0.9s					
J05D	Fort Rock, OR	84.94	44	⇑P	P	10 54 37.2 +0.7
	baz=85					
MURC	Murrieta	84.98	55	⇓P	P	10 54 37.5 +0.6
	baz=85,SNR=6.2					
DAWY	Dawson	85.08	21	eP	P	10 54 37.1 +0.4
LRMC	Laurel Mtn Rad	85.13	53	⇑P	P	10 54 38.4 +0.8
	baz=85					
MOD	Modoc Plateau	85.13	46	eP	P	10 54 38.0 +0.4
	comp=Z,23nm,1.0s					
TIN	Tinemaha, Big	85.17	51	⇑P	P	10 54 38.5 +0.7
	baz=85					
I05D	Terrebonne, OR	85.22	43	⇓P	P	10 54 38.4 +0.6
	baz=85					
BBRC	Big Bear Solar	85.39	54	⇑P	P	10 54 39.8 +0.7
	baz=86,SNR=7.8					
MONP	Monument Peak,	85.42	55	⇑P	P	10 54 40.3 +1.1
	baz=86,SNR=14					
DAC	Darwin (Calif)	85.43	52	eP	P	10 54 39.5 +0.3
DAC				e		10 58 00.0
DAC				pmax	pmax	
	comp=Z,42nm,1.4s					
DAC	Darwin (Calif)	85.43	52	eP	P	10 54 39.5 +0.3
	comp=Z,42nm,1.4s					
DAC				ePP	PP	10 57 60.0 -0.1
BLN	Blyn Mountain	85.45	40	P	P	10 54 40.4 +1.6
VFP	Flag Point	85.47	42	P	P	10 54 40.1 +0.9
NVAR	Mina Array Bea	85.52	50	P	P	10 54 40.4 +0.8
	comp=Z,17nm,0.9s,baz=234,slow=7.6,SNR=63					
G05D	Wamic, OR	85.55	43	⇓P	P	10 54 39.9 +0.5
	baz=86					
PFO	Pinyon Flats O	85.58	55	P	P	10 54 40.2 +0.3
	comp=Z,91nm,0.9s,SNR=5.8					
PFO	Pinyon Flats O	85.58	55	eP	P	10 54 40.0 +0.1
PFO				pmax	pmax	
	comp=Z,16nm,0.9s					
PFO	Pinyon Flats O	85.58	55	⇑P	P	10 54 40.4 +0.4
	baz=86,SNR=8.9					
PFO	Pinyon Flats O	85.58	55	eP	P	10 54 40.0 +0.1
	comp=Z,16nm,0.9s					
RAMN	Ramite	85.59	298	eP	P	10 54 40.6 +0.3
	comp=Z,52nm,1.3s					
NV11	Mina Array Sit	85.63	50	eP	P	10 54 40.4 +0.4
GSC	Goldstone, Bar	85.77	53	⇑P	P	10 54 41.4 +0.7
	baz=86,SNR=10					
TIXI	Tiksi	85.80	349	⇑eP	P	10 54 40.0 +0.1
TIXI				pmax	pmax	
	comp=Z,31nm,1.5s					
TIXI	Tiksi	85.80	349	eP	P	10 54 40.1 +0.1
	comp=Z,42nm,1.4s					
GRAC	Grapevine Rang	85.81	51	⇓P	P	10 54 41.6 +0.8
	baz=86					
FMW	Mount Fremont	85.89	41	P	P	10 54 42.0 +0.7
SWSC	Sam W. Stewart	85.94	56	⇓P	P	10 54 42.4 +0.9
	baz=86,SNR=13					
HEC	Hector,Ludlow	86.02	54	⇑P	P	10 54 42.7 +0.8
	baz=86,SNR=19					
FURC	Furnace Creek,	86.05	52	⇓P	P	10 54 42.7 +0.7
	baz=86					
BELC	Belle Mtn. Jos	86.06	55	⇓P	P	10 54 43.0 +0.7
	baz=86,SNR=32					
JIRN	Jiri	86.12	299	eP	P	10 54 43.5 +0.5
JCW	Jim Creek	86.17	40	P	P	10 54 43.4 +1.0
TPH	Tonopah	86.23	50	eP	P	10 54 43.3 +0.2
TPH				pmax	pmax	
	comp=Z,22nm,1.3s					
TPH	Tonopah	86.23	50	eP	P	10 54 43.3 +0.2
	comp=Z,22nm,1.3s					
SHOC	Shoshone, Teco	86.34	53	⇑P	P	10 54 44.1 +0.6
	baz=86,SNR=11					
BC3	Big Chuckawall	86.40	55	⇑P	P	10 54 44.9 +1.0
	baz=86,SNR=21					
GUN	Gumba	86.45	299	eP	P	10 54 44.9 +0.3
	comp=Z,44nm,1.0s					
WVOR	Wild Horse Val	86.48	46	eP	P	10 54 45.0 +0.9
WVOR				pmax	pmax	
	comp=Z,42nm,1.3s					
WVOR	Wild Horse Val	86.48	46	eP	P	10 54 45.0 +0.9
	comp=Z,42nm,1.3s					
TUQ	Turquoise Moun	86.50	53	⇓P	P	10 54 45.1 +0.7
	baz=87,SNR=19					
GMRC	Granite Mounta	86.53	54	⇓P	P	10 54 45.4 +0.8
	baz=87,SNR=28					
GLA	Glamis	86.75	56	⇓P	P	10 54 46.8 +1.3
	baz=87,SNR=6.7					
PKI	Pulchoki	86.77	299	eP	P	10 54 46.3 +0.1
IRM	Iron Mountain	86.78	55	⇓P	P	10 54 46.7 +1.1
	baz=87,SNR=32					
PKIN	Phulchoki	86.78	299	eP	P	10 54 45.8 -0.3
	comp=Z,42nm,1.0s					
KKN	Kakani	86.94	299	eP	P	10 54 47.0 +0.2
	comp=Z,39nm,1.0s					
DMN	Daman	87.04	299	eP	P	10 54 47.6 +0.2
NLW	Nelson Butte	87.13	40	P	P	10 54 47.7 +0.5
Y12C	Blythe	87.17	55	⇑P	P	10 54 48.8 +1.3
	baz=87,SNR=17					
WTV	Waterville	87.25	41	P	P	10 54 48.2 +0.6
NEE2	Needles Airpor	87.36	54	⇓P	P	10 54 49.3 +1.0
	baz=88,SNR=10					
SHPR	Sheep Range	87.38	52	eP	P	10 54 49.6 +1.0
	comp=Z,69nm,1.6s					
HVS	Khovu-Aksy	87.46	323	⇓i P	P	10 54 48.0 -0.6
GKN	Gorkha	87.54	299	eP	P	10 54 49.5 -0.1
	comp=Z,67nm,1.0s					
R11A	Troy Canyon, C	87.54	50	⇑P	P	10 54 50.1 +0.7
	baz=88					
113A	Mohawk Valley,	87.54	56	⇑P	P	10 54 50.3 +1.1
	baz=88,SNR=22					
PDMCI	Parker Dam,Lak	87.62	55	⇓P	P	10 54 50.7 +1.1
	baz=88,SNR=24					
OD2	Odessa Site #2	87.95	41	P	P	10 54 51.7 +0.8
W13A	Hualapai Mount	88.02	54	⇓P	P	10 54 52.9 +1.0
	baz=88,SNR=23					
BMO	Blue Mountains	88.12	44	eP	P	10 54 52.3 +0.5
	comp=Z,46nm,1.6s					
214A	Organ Pipe Nat	88.13	57	⇑P	P	10 54 53.5 +1.3
	baz=88					
214A	Organ Pipe Nat	88.13	57	eP	P	10 54 53.2 +1.0
	comp=Z,40nm,1.1s					
Z14A	Wintersburg	88.36	56	⇑P	P	10 54 54.8 +1.7
	baz=88					
DANN	Dangsing	88.37	299	eP	P	10 54 53.3 -0.4
	comp=Z,44nm,0.8s					
KOLN	Koldanda	88.38	298	eP	P	10 54 53.2 -0.4
	comp=Z,34nm,0.9s					
Y14A	Wickenburg	88.44	55	⇑P	P	10 54 54.3 +0.7
	baz=89					
PYUN	Piuthan	88.98	299	eP	P	10 54 55.9 -0.6
	comp=Z,31nm,0.8s					
ARUT	Antelope Range	89.03	51	eP	P	10 54 57.7 +1.2
ARUT				pmax	pmax	
	comp=Z,612nm,1.1s					
ARUT	Antelope Range	89.03	51	eP	P	10 54 57.7 +1.2
	comp=Z,612nm,1.1s					
WMQ	Urumqi	89.09	315	eP	P	10 54 52.0 -4.4
WMQ				pP	pP	10 55 49.1 +10
WMQ				PP	PP	10 58 25.6 -3.5
WMQ				S	S	11 05 17.7 -13
WMQ				SS	SS	11 11 18.0 -11
WMQ				PMZ		
	comp=Z,15nm,1.0s					
WMQ				PMZ		
	comp=Z,160nm,4.6s					
WMQ				LN		
	comp=Z,25nm,20.0s					
WMQ				LE		
	comp=Z,68nm,20.0s					
WMQ				LZ		
	comp=Z,46nm,20.0s					
NEW	Newport	89.23	41	⇓P	P	10 54 57.4 +0.5
	baz=89					
U15A	North Rim	89.60	53	⇓P	P	10 55 00.3 +1.1
	baz=90,SNR=40					
HLID	Hailey	89.77	46	⇑P	P	10 55 00.9 +1.1
	baz=90					
HLID	Hailey	89.77	46	eP	P	10 55 00.5 +0.7
	comp=Z,19nm,1.0s					
X16A	Lo Mia Camp, P	89.82	55	⇓P	P	10 55 01.7 +1.5
	baz=90					
TUC	Tucson	89.89	57	eP	P	10 55 01.6 +1.2
TUC				pmax	pmax	
	comp=Z,28nm,1.4s					
TUC	Tucson	89.89	57	eP	P	10 55 01.6 +1.2
	comp=Z,28nm,1.4s					
DUG	Dugway, Tooele	90.09	49	eP	P	10 55 01.9 +0.6
DUG				pmax	pmax	
	comp=Z,15nm,0.9s					
DUG	Dugway, Tooele	90.09	49	⇑P	P	10 55 01.7 +0.5
	baz=90,SNR=12					
DUG	Dugway, Tooele	90.09	49	eP	P	10 55 01.9 +0.6
	comp=Z,15nm,0.9s					
BGU	Big Grassy Mou	90.11	48	eP	P	10 55 02.2 +0.9
	comp=Z,39nm,1.8s					
WUAZ	Wupatki	90.12	54	⇓P	P	10 55 02.7 +1.2
	baz=90,SNR=23					
WUAZ	Wupatki	90.12	54	eP	P	10 55 02.9 +1.4
	comp=Z,34nm,1.1s					
HVU	Hansel Valley	90.50	48	eP	P	10 55 03.7 +0.6
HVU				pmax	pmax	
	comp=Z,39nm,0.9s					
HVU	Hansel Valley	90.50	48	eP	P	10 55 03.7 +0.6
	comp=Z,39nm,0.9s					
NLU	North Lily Min	90.58	50	eP	P	10 55 05.1 +1.5
	comp=Z,24nm,1.0s					
BSMT	Bassoo Peak	90.63	41	eP	P	10 55 03.9 +0.2
	comp=Z,19nm,0.9s					
HYB	Hyderabad	90.84	287	i P	P	10 55 04.0 -1.1
MSO	Missoula	90.92	43	⇑P	P	10 55 05.0 0.0
	baz=91					
319A	Douglas	90.94	58	⇓P	P	10 55 06.7 +1.3
	baz=91					
X18A	Snowflake	91.04	55	⇑P	P	10 55 07.3 +1.4
	baz=91					
SWMT	Swartz Lake	91.05	42	eP	P	10 55 05.5 0.0
	comp=Z,9.8nm,1.2s					
TMUT	Trail Mountain	91.09	50	eP	P	10 55 07.6 +1.4
	comp=Z,10nm,0.8s					
YBMT	Yellow Bay	91.13	42	eP	P	10 55 06.1 +0.2
	comp=Z,9.4nm,1.2s					
MCMT	McKenzie Canyo	91.17	45	eP	P	10 55 06.9 +0.5
	comp=Z,4.5nm,0.8s					
SLMT	Seeley Lake	91.32	42	eP	P	10 55 06.9 +0.1
	comp=Z,4.5nm,0.8s					
W18A	Petrified Fore	91.34	55	⇑P	P	10 55 08.4 +1.1
	baz=92					
W18A	Petrified Fore	91.34	55	eP	P	10 55 08.4 +1.1
	comp=Z,13nm,1.0s					
TCUT	Toone Canyon	91.34	49	eP	P	10 55 08.2 +1.0
	comp=Z,14nm,0.7s					
CHMT	Chamberlain Mo	91.40	43	eP	P	10 55 07.1 -0.2
	comp=Z,23nm,1.3s					
LRM	Limekiln Ridge	91.68	44	eP	P	10 55 09.3 +0.7
	comp=Z,195nm,1.0s					
QLMT	Earthquake Lak	92.15	45	eP	P	10 55 12.5 +1.6
	comp=Z,0.5nm,0.5s					
SYO	Syowa Base	92.24	197	⇑eP	P	10 55 09.2 -1.3
SYO	Syowa Base	92.24	197	⇓ePcP	PcP	10 55 12.2 +1.1
HRY	Holter Researc	92.30	43	eP	P	10 55 12.0 +0.6
	comp=Z,20nm,0.6s					
121A	Cookes Peak, D	92.42	58	⇓P	P	10 55 13.5 +1.2

baz=92
121A Cookes Peak, D 92.42 58 *e*P **P 10 55 13.2 +0.9**
comp=Z,12nm,0.9s
YMR Madison River 92.44 45 *e*P **P 10 55 13.6 +1.5**
comp=Z,9.0nm,0.7s
I17A Pilgrim Ck. 92.55 46 ⇓P **P 10 55 14.0 +1.2**
baz=93,SNR=6.0
H17A Grant Village 92.66 45 ⇑P **P 10 55 15.2 +2.0**
baz=93,SNR=8.5
H17A Grant Village 92.66 45 *e*P **P 10 55 15.0 +1.8**
comp=Z,9.8nm,0.9s
MVCO Mesa Verde 92.74 53 ⇑P **P 10 55 14.2 +0.5**
baz=93
PV01 Paradox Valley 92.86 52 *e*P **P 10 55 15.2 +0.9**
comp=Z,680nm,1.3s
BW06 Boulder Array 93.04 47 *e*P **P 10 55 15.5 +0.5**
comp=Z,3.8nm,0.9s
PDAR Pinedale Array 93.04 47 P **P 10 55 15.3 +0.3**
comp=Z,5.2nm,0.9s,baz=248,slow=2.6,SNR=28
PDAR PP **PP 10 58 60.0 -0.6**
comp=Z,0.5nm,0.9s,baz=259,slow=1.5,SNR=3.7
PDAR PKKPbc **PKKPdf 11 12 23.6 +0.2**
comp=Z,0.6nm,0.8s,baz=96,slow=4.5,SNR=4.8
Z22A Elephant Butte 93.23 57 ⇓P **P 10 55 17.0 +1.0**
baz=93
H18A Shoshone NF, C 93.35 45 ⇑P **P 10 55 17.2 +0.8**
baz=94
ZALV Zalesovo Beam 93.47 324 P **P 10 55 15.7 -0.6**
comp=Z,10nm,0.9s,baz=108,slow=4.8,SNR=43
ZALV PKKPbc **PKKPdf 11 12 22.9 +0.2**
comp=Z,0.4nm,0.3s,baz=319,slow=5.9,SNR=4.6
MKAR Makanchi Array 93.50 317 P **P 10 55 16.8 +0.1**
comp=Z,14nm,0.7s,baz=92,slow=6.4,SNR=163
MKAR PKKPbc **PKKPdf 11 12 21.0 -1.5**
comp=Z,2.3nm,0.7s,baz=283,slow=2.8,SNR=23
O20A White River Ci 93.50 50 ⇑P **P 10 55 17.8 +0.7**
baz=94
J19A Crowheart 93.50 47 ⇑P **P 10 55 17.4 +0.4**
baz=94
N20A Spence Gulch, 93.61 49 ⇑P **P 10 55 18.3 +0.6**
baz=94
I19A Meeteetse 93.70 46 ⇓P **P 10 55 18.8 +0.9**
baz=94
H19A Powell 93.82 45 ⇑P **P 10 55 19.5 +1.1**
baz=94,SNR=9.6
U22A Llaves 93.88 54 ⇑P **P 10 55 19.5 +0.5**
baz=94
ANMO Albuquerque 93.95 55 P **P 10 55 20.0 +0.7**
ANMO pmax pmax
comp=Z,18nm,1.0s
ANMO Albuquerque 93.95 55 *e*P **P 10 55 19.9 +0.7**
comp=Z,3.4nm,0.8s
EGMT Eagleton 93.96 42 ⇑P **P 10 55 19.0 +0.1**
baz=94,SNR=14
EGMT Eagleton 93.96 42 *e*P **P 10 55 19.3 +0.4**
comp=Z,28nm,1.0s
F19A Roth Farm, Mol 94.08 44 ⇑P **P 10 55 19.8 +0.3**
baz=94,SNR=5.2
Y23A Lovelace Mesa, 94.10 56 ⇑P **P 10 55 20.4 +0.4**
baz=94
X23A Hourglass Bar 94.10 56 ⇑P **P 10 55 20.7 +0.6**
baz=94
S22A 4UR Ranch, Cre 94.14 53 ⇑P **P 10 55 20.9 +0.6**
baz=94
J20A Shoshoni 94.22 47 ⇑P **P 10 55 21.5 +1.3**
baz=94
W23A Werner Place, 94.23 55 ⇓P **P 10 55 21.5 +0.9**
baz=94
I20A Worland 94.29 46 ⇑P **P 10 55 21.3 +0.7**
baz=94
E19A Rath Farm, Rou 94.30 44 ⇓P **P 10 55 21.7 +1.2**
baz=94,SNR=6.6
V23A Ortiz Mt. (NFS 94.31 55 ⇑P **P 10 55 21.9 +0.9**
baz=94
C19A Slack Wire Ran 94.37 42 ⇑P **P 10 55 21.9 +1.1**
baz=94,SNR=5.5
D19A Cripps Ranch, 94.37 43 ⇓P **P 10 55 21.8 +0.9**
baz=94,SNR=15
U23A El Rito 94.40 54 ⇓P **P 10 55 22.4 +1.0**
baz=94
G20A Bridger 94.47 45 ⇑P **P 10 55 21.9 +0.6**
baz=95
YKA Yellowknife Ar 94.48 27 P **P 10 55 19.6 -1.2**
comp=Z,3.9nm,0.7s,baz=258,slow=4.6,SNR=89
YKA PKiKP **PKiKP 11 00 02.4 -0.5**
comp=Z,0.3nm,0.6s,baz=249,slow=1.2,SNR=5.8
B19A Brinkman Farms 94.57 42 ⇑P **P 10 55 22.2 +0.5**
baz=95,SNR=6.4
Y24A Capitan 94.60 56 ⇓P **P 10 55 22.5 +0.1**
baz=95
T23A Casias Ranch, 94.64 53 ⇑P **P 10 55 22.9 +0.3**
baz=95
J21A Lysite 94.67 47 ⇓P **P 10 55 23.2 +0.8**
baz=95,SNR=6.5
K21A Alcova 94.69 48 ⇑P **P 10 55 22.7 +0.2**
baz=95
E20A Meyer Farm, Mu 94.76 44 ⇓P **P 10 55 24.0 +1.4**
baz=95,SNR=7.4
O22A Kremmling 94.78 50 ⇑P **P 10 55 23.6 +0.5**
baz=95
A19A Klindworth Far 94.79 41 ⇓P **P 10 55 22.9 +0.2**
baz=95,SNR=5.6
W24A Lazy 6 Ranch, 94.84 55 ⇑P **P 10 55 23.7 +0.3**
baz=95
D20A Manuel Ranch, 94.86 43 ⇓P **P 10 55 23.8 +0.8**
baz=95,SNR=12
I21A Big Trails, Te 94.86 46 ⇑P **P 10 55 23.4 +0.1**
baz=95
M22A Cedar Creek Ra 94.96 49 ⇓P **P 10 55 24.4 +0.6**
baz=95
N22A Wattenberg Ran 94.96 50 ⇑P **P 10 55 24.6 +0.6**
baz=95
R23A Moffat 95.00 52 ⇑P **P 10 55 24.9 +0.7**
baz=95
V24A Rampart Ranch, 95.03 55 ⇑P **P 10 55 24.7 +0.3**
baz=95
C20A Veseth Ranch, 95.06 43 ⇑P **P 10 55 24.0 +0.1**
baz=95,SNR=7.4
U24A Moreno Valley 95.14 54 ⇓P **P 10 55 25.8 +0.9**
baz=95
T24B San Luis 95.17 53 ⇑P **P 10 55 25.5 +0.5**
baz=95
Y25A Mesa, Roswell 95.21 57 ⇓P **P 10 55 25.3 +0.3**
baz=95
K22A Casper 95.22 48 ⇓P **P 10 55 25.0 +0.1**
baz=95
A20A Cobblestone Ra 95.31 41 ⇓P **P 10 55 25.4 +0.3**
baz=96,SNR=13
X25A Clemmons Ranch 95.33 56 ⇑P **P 10 55 25.9 +0.3**
baz=96
TXAR Lajitas Array 95.34 61 P **P 10 55 26.0 +0.3**
comp=Z,0.8nm,0.6s,baz=225,slow=6.0,SNR=12
TXAR PP **PP 10 59 17.7 -0.8**
comp=Z,4.6nm,1.3s,baz=242,slow=8.9,SNR=9.7
N23A Red Feather La 95.36 50 ⇑P **P 10 55 26.2 +0.5**
baz=96
J22A Midwest 95.38 47 ⇓P **P 10 55 25.8 +0.2**
baz=96
S24A Houchin Ranch, 95.39 53 ⇓P **P 10 55 26.5 +0.5**
baz=96
ISCO Idaho Springs 95.43 51 ⇓P **P 10 55 26.4 +0.3**
baz=96
I22A 9 Mile Ranch, 95.45 47 ⇑P **P 10 55 26.8 +0.9**
baz=96
E21A Keefer Ranch, 95.48 44 ⇓P **P 10 55 27.0 +1.2**
baz=96
R24A Sanders Place, 95.57 52 ⇓P **P 10 55 27.6 +0.9**
baz=96
V25A Rancho No Teng 95.58 55 ⇓P **P 10 55 27.4 +0.6**
baz=96
W25A X Bar L Ranch, 95.61 55 ⇓P **P 10 55 27.0 +0.2**
baz=96
D21A La Casta Ranch 95.62 43 ⇓P **P 10 55 27.0 +0.5**
baz=96
C21A Desert Coulee 95.68 43 ⇑P **P 10 55 27.0 +0.3**
baz=96
Z26A Caprock 95.70 57 ⇓P **P 10 55 27.4 +0.2**
baz=96
L23A Garrett 95.73 48 ⇑P **P 10 55 28.2 +0.8**
baz=96
U25A Circle Dot Ran 95.83 54 ⇓P **P 10 55 27.8 -0.1**
baz=96
T25A Trinidad 95.94 53 ⇑P **P 10 55 29.0 +0.6**
baz=96
A21A Bergtoll Ranch 95.98 41 ⇑P **P 10 55 28.6 +0.6**
baz=96,SNR=21
S25A Robets Cordova 96.00 53 ⇑P **P 10 55 29.5 +0.9**
baz=96
127A Arkansas Junct 96.12 58 ⇓P **P 10 55 29.5 +0.3**
baz=96
N24A Carr 96.14 50 ⇑P **P 10 55 29.3 +0.1**
baz=96
D22A Cohagen 96.19 43 ⇓P **P 10 55 29.8 +0.8**
baz=96
V26A Tequesquite Ra 96.24 55 ⇓P **P 10 55 29.7 0.0**
baz=96
Z27A Tatum 96.34 57 ⇓P **P 10 55 30.5 +0.4**
baz=96
Q25A Bedland, Calha 96.34 52 ⇑P **P 10 55 30.5 +0.4**
baz=96
U26A Atchley Ranch, 96.36 54 ⇓P **P 10 55 30.6 +0.3**
baz=96
Y27A Causey 96.46 57 ⇓P **P 10 55 30.6 -0.1**
baz=97
B22A Reddig Ranch S 96.48 42 ⇑P **P 10 55 30.8 +0.4**
baz=97
X27A F and S Farms, 96.63 56 ⇓P **P 10 55 31.6 +0.1**
baz=97
A22A Carney Farms, 96.64 42 ⇓P **P 10 55 31.2 +0.2**
baz=97
S26A Kim 96.75 53 ⇓P **P 10 55 31.9 -0.1**
baz=97
MSTX Muleshoe 96.80 57 ⇓P **P 10 55 32.0 -0.2**
baz=97
KSH Kashi 96.80 309 *e*P **P 10 55 29.8 -2.3**
KSH sP sP 10 56 49.9 +17
KSH PP **PP 10 59 28.6 -1.0**
KSH S **SKKSac 11 06 24.0 +4.1**
KSH PMZ
comp=Z,3.0nm,0.4s
KSH PMZ
comp=Z,160nm,6.5s
KSH LN
comp=Z,110nm,5.5s
KSH LE
comp=Z,120nm,5.0s
KSH LZ
comp=Z,130nm,5.5s
D23A Lindsay 96.84 43 ⇓P **P 10 55 32.4 +0.3**
baz=97
R26A Arlington 96.87 52 ⇑P **P 10 55 33.3 +0.8**
baz=97
Q26A Hugo 96.90 52 ⇑P **P 10 55 33.7 +1.0**
baz=97
C23A Lambert 96.95 43 ⇑P **P 10 55 33.3 +0.9**
baz=97
H24A Dirks Ranch, A 96.95 46 ⇑P **P 10 55 33.2 +0.6**
baz=97
429A Davenport Ranc 97.06 60 ⇓P **P 10 55 33.4 0.0**
baz=97
U27A Thompson Grove 97.10 54 ⇑P Pdif 10 55 33.8 +0.2
baz=97
329A Wagon Wheel Ra 97.10 59 ⇓P Pdif 10 55 34.0 +0.3
baz=97
P26A Davis Ranch, A 97.12 51 ⇓P Pdif 10 55 33.9 +0.2
baz=97
G24A Alzada 97.13 45 ⇑P **P 10 55 33.2 -0.3**
baz=97
B23A Brockton 97.17 42 ⇓P Pdif 10 55 33.8 +0.3
baz=97
Y28A McKinney Farm, 97.22 57 ⇑P **P 10 55 34.0 -0.1**
baz=97
O26A Horse Wrangler 97.24 50 ⇓P Pdif 10 55 34.8 +0.6
baz=97
T27A Campo 97.27 54 ⇓P Pdif 10 55 34.4 +0.1
baz=97
A23A Redstone 97.31 42 ⇑P Pdif 10 55 34.7 +0.6
baz=98
R27A Eads 97.37 53 ⇓P Pdif 10 55 35.0 +0.3
baz=98
D24A Glendive 97.43 44 ⇓P **P 10 55 34.6 0.0**
baz=98
SNAA Sanae 97.50 184 P **P 10 55 33.4 -1.2**
SNAA Sanae 97.50 184 ⇓*i*P **P 10 55 33.4 -1.2**
SNAA pmax pmax
comp=Z,11nm,1.0s
U28A Mallet 97.57 54 ⇑P Pdif 10 55 35.7 0.0
baz=98
430A Baggett Ranch, 97.64 60 ⇓P **P 10 55 35.6 -0.4**
baz=98
Y29A Porterfield Fa 97.69 57 ⇑P **P 10 55 36.1 -0.1**
baz=98
DGMT Dagmar 97.70 42 ⇓P Pdif 10 55 35.9 +0.1
baz=98
P27A Ficken Ranch, 97.71 51 ⇑P Pdif 10 55 36.5 +0.3
baz=98
X29A Tulia 97.74 56 ⇑P **P 10 55 36.3 -0.1**
baz=98
T28A Walsh 97.76 54 ⇑P **P 10 55 36.4 -0.1**
baz=98
AMTX Amarillo 97.81 56 ⇓P **P 10 55 36.1 -0.6**
baz=98
A24A Westby 97.88 42 ⇓P Pdif 10 55 37.3 +0.7
baz=98
631A Perdido Creek 98.02 62 ⇓P **P 10 55 37.6 -0.1**
baz=98
Z30A Sanderson Ranc 98.06 58 ⇓P **P 10 55 37.7 -0.1**
baz=98
D25A Fairfield 98.12 44 ⇓P Pdif 10 55 37.9 +0.1
baz=98
VNA3 Neumayer Olymp 98.22 181 P **P 10 55 36.0 -1.8**
C25A Freed Ranch, W 98.23 43 ⇓P Pdif 10 55 38.8 +0.5
baz=98
AAK Ala-Archa 98.32 312 *e*P **P 10 55 38.7 -0.2**
AAK pmax pmax
comp=Z,3.0nm,0.7s
832A Faith Ranch, C 98.39 63 ⇓P Pdif 10 55 39.6 +0.2
baz=98
G26A Maurine 98.40 46 ⇑P Pdif 10 55 39.3 +0.2
baz=98
A25A Svangstu Ranch 98.46 42 ⇓P Pdif 10 55 40.3 +1.1
baz=99
VNA2 Neumayer--Watz 98.47 182 P **P 10 55 38.0 -0.8**
R29A Marienthal 98.69 53 ⇓P Pdif 10 55 41.8 +1.3
baz=99
H27A Howes 98.69 46 ⇓P Pdif 10 55 41.6 +1.2
baz=99
Z31A Sharp Cattle R 98.88 58 ⇓P Pdif 10 55 42.2 +0.8
baz=99
833A Chaparral WMA, 98.91 63 ⇓P Pdif 10 55 42.0 +0.4
baz=99
933A Laredo 98.92 64 ⇑P Pdif 10 55 42.2 +0.5
baz=99
B26A Jensen Ranch, 98.98 42 ⇓P Pdif 10 55 42.5 +0.9
baz=99
C26A Wahner Farm, P 99.02 43 ⇑P **Pdif 10 55 42.4 +0.7**
baz=99
A26A Wade Farm, Ken 99.17 42 ⇑P **Pdif 10 55 43.2 +0.8**
baz=99
633A Sasthoff Ranch 99.24 62 ⇑P **Pdif 10 55 43.7 +0.6**
baz=99
E27A Carson 99.24 44 ⇑P **Pdif 10 55 43.9 +1.1**
baz=99
C27A Sayler Ranch, 99.41 43 ⇓P **Pdif 10 55 44.6 +1.1**
baz=100
V31A Spring Creek L 99.41 55 ⇑P **Pdif 10 55 44.4 +0.6**
baz=100
BRVK Borovoye 101.94 322 ⇓*e*P **Pdif 10 55 54.1 -0.5**
BRVK pmax pmax
comp=Z,7.0nm,2.0s
ULM Lac du Bonnet 103.25 41 Pdiff **Pdif 10 55 59.7 -0.7**
comp=Z,1.5nm,0.7s,baz=318,slow=9.5,SNR=3.8
KEV Kevo 115.54 345 *e*PKIKP **PKPdf 11 00 40.0 -1.4**
KEV Kevo 115.54 345 *e*pkp **PKPdf 11 00 40.0 -1.4**
ARCES ARCESS Array B 116.07 346 PKP **PKPdf 11 00 41.9 -0.7**
comp=Z,6.3nm,0.5s,baz=72,slow=1.9,SNR=85
ARCES PKKPbc **PKKPbc 11 11 12.6 -3.6**
comp=Z,3.8nm,1.0s,baz=282,slow=1.1,SNR=6.7
JOF Joensuu 118.72 338 *e*PKIKP **PKPdf 11 00 46.7 -1.1**
JOF pmax pmax
comp=Z,5.0nm,0.6s
JOF Joensuu 118.72 338 *e*pkp **PKPdf 11 00 46.7 -1.1**
comp=Z,4.5nm,0.6s
SCHQ Schefferville 119.53 32 PKP **PKPdf 11 00 48.8 -0.8**
comp=Z,3.0nm,0.6s,baz=276,slow=4.5,SNR=6.2
SCHQ PKKPbc **PKKPab 11 11 02.5 -0.9**
comp=Z,5.9nm,1.1s,baz=111,slow=4.7,SNR=3.9
LPAZ La Paz 120.02 116 PKP **PKPdf 11 00 52.2 -0.2**
comp=Z,4.2nm,0.8s,baz=244,slow=3.1,SNR=14
GNI Garni 120.69 310 ⇑/PKIKP **PKPdf 11 00 54.0 +1.5**
GNI pmax pmax
comp=Z,10.0nm,1.2s
KAF Kangasniemi 121.03 339 *e*PKIKP **PKPdf 11 00 50.9 -1.3**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 121.03 339 *e*pkp **PKPdf 11 00 50.9 -1.3**
comp=Z,4.2nm,0.6s
FINES FINESS Array B 121.56 339 PKP **PKPdf 11 00 52.8 -0.5**
comp=Z,3.7nm,0.8s,baz=84,slow=1.5,SNR=11
RAYN Ar Rayn 122.17 291 *e*PKPdf **PKPdf 11 00 55.8 +0.1**
CPUP Villa Florida 124.01 132 PKP **PKPdf 11 00 58.8 -0.3**
comp=Z,5.0nm,0.7s,baz=319,slow=0.8,SNR=12
SDV Santo Domingo 124.12 86 *e*PKPdf **PKPdf 11 00 58.8 -1.1**
BOSA Boshof 125.63 223 *e*PKIKP **PKPdf 11 01 02.6 +0.3**
BOSA Boshof 125.63 223 PKP **PKPdf 11 01 03.0 +0.7**
comp=Z,13nm,0.7s,baz=146,slow=1.1,SNR=19
BOSA Boshof 125.63 223 *e*PKPdf **PKPdf 11 01 02.6 +0.3**
BOSA PKP **PKPdf 11 01 03.0 +0.7**
NB2 NORSAR Subarra 126.44 345 PKPdf **PKPdf 11 01 02.2 -0.5**
comp=Z,6.7nm,1.1s,baz=31,slow=1.9
NB2 NORSAR Subarra 126.44 345 PKPdf **PKPdf 11 01 02.2 -0.5**
baz=31,slow=1.9
NOA NORSAR Array B 126.44 345 PKP **PKPdf 11 01 02.7 0.0**
comp=Z,3.1nm,0.7s,baz=35,slow=2.0,SNR=12
AKASG Malin Array Be 126.75 327 PKP **PKPdf 11 01 03.6 +0.1**
comp=Z,0.9nm,0.5s,baz=52,slow=1.5,SNR=13
KIEV Kiev 126.76 327 *i* PKIKP **PKPdf 11 01 04.0 +0.5**
SAML Samuel 127.22 110 *e*PKPdf **PKPdf 11 01 04.8 -0.7**
KMBO Kilima Mbogo 127.80 260 PKP **PKPdf 11 01 08.5 +1.5**
comp=Z,1.1nm,0.4s,baz=133,slow=7.9,SNR=7.5
KONO Kongsberg 128.05 345 *e*P **Pdif 10 57 51.3 +0.8**
KONO Kongsberg 128.05 345 *e*Pdif **Pdif 10 57 51.3 +0.8**
BRTR Keskin Array B 128.97 313 PKP **PKPdf 11 01 08.8 +0.5**
comp=Z,1.8nm,0.9s,baz=124,slow=2.2,SNR=10
KOLS Kolonicke sedl 131.43 329 *e*PKIKP **PKPdf 11 01 14.1 +1.6**
KOLS Kolonicke sedl 131.43 329 *e*PKP **PKPdf 11 01 14.1 +1.6**
CRVS Cervenica-Dubn 131.86 329 *e*PKIKP **PKPdf 11 01 14.6 +1.2**
CRVS Cervenica-Dubn 131.86 329 *e*PKP **PKPdf 11 01 14.6 +1.2**
OKC Ostrava-Krasne 132.82 332 *e*PKIKP **PKPdf 11 01 17.7 +2.6**
OKC Ostrava-Krasne 132.82 332 *e*PKPdf **PKPdf 11 01 17.7 +2.6**
DPC Dobruska-Polom 133.27 334 *e*PKIKP **PKPdf 11 01 18.2 +2.2**
DPC Dobruska-Polom 133.27 334 *e*PKPdf **PKPdf 11 01 18.2 +2.2**
VYHS Vyhne 133.43 330 *e*PKIKP **PKPdf 11 01 18.0 +1.7**
VYHS Vyhne 133.43 330 *e*PKP **PKPdf 11 01 18.0 +1.7**
CLL Collm 133.91 337 *e*PKIKP **PKPdf 11 01 15.0 -2.1**
CLL Collm 133.91 337 *e*PKPdf **PKPdf 11 01 19.0 +1.9**
comp=Z,7.0nm,0.8s
CLL *e*PP **PP 11 03 48.0 -0.3**
PRU Pruhonice 134.31 335 *e*PKIKP **PKPdf 11 01 19.7 +1.8**
PRU Pruhonice 134.31 335 *e*PKPdf **PKPdf 11 01 19.7 +1.8**
KHC Kasperske Hory 135.37 334 *e*PKIKP **PKPdf 11 01 20.6 +0.6**
KHC Kasperske Hory 135.37 334 *e*PKPdf **PKPdf 11 01 20.7 +0.7**
KHC Kasperske Hory 135.37 334 *e*PKPdf **PKPdf 11 01 20.6 +0.7**
GERES GERESS Array B 135.53 334 PKP **PKPdf 11 01 20.9 +0.5**
comp=Z,2.3nm,0.7s,baz=294,slow=1.3,SNR=8.0
GRF Grafenberg Arr 135.88 337 *e*PKPdf **PKPdf 11 01 21.1 +0.2**
TSUM Tsumeb 137.06 226 *e*PKPdf PKPdf 11 01 17.5 -6.6
BDFB Brasilia 137.28 127 PKP **PKPdf 11 01 25.4 +0.8**
comp=Z,7.7nm,0.8s,baz=324,slow=4.7,SNR=8.7
VSL Villasalto 144.61 328 *e*PKPdf PKPbc 11 01 36.3 +0.2
LRDF Laroque-de-Fa 144.81 339 PKP **PKPdf 11 01 37.7 +0.5**
SJAF Saint Jean de 145.08 338 PKP **PKPdf 11 01 38.0 +0.3**
FILF Fillols 145.13 339 PKP **PKPab 11 01 38.5 +0.6**
VALF Valcebollere 145.47 339 PKP **PKPab 11 01 39.7 +0.4**
RESF Ens 145.67 341 PKP **PKPab 11 01 40.9 +0.9**
VIEF Viey 145.69 342 PKP **PKPab 11 01 40.7 +0.7**
KEST Kesra 147.34 324 PKPbc **PKPbc 11 01 45.1 +0.7**
comp=Z,12nm,0.9s,baz=338,slow=1.9,SNR=24
CMAH Djebel Manchou 147.78 327 P **PKPbc 11 01 45.8 +0.2**
ABSA Djebel Ababsia 148.00 326 P **PKPbc 11 01 46.8 +0.6**
CKFL Kef-Lekhel 148.32 327 P **PKPbc 11 01 47.7 +0.6**
CASM Ain Smara 148.55 327 P **PKPbc 11 01 48.1 +0.6**
DFRA Djebel Bou Aff 148.65 328 P **PKPbc 11 01 48.9 +1.0**
CTEI Djebel Teioual 148.74 327 P **PKPbc 11 01 48.6 +0.5**
POLO Lamas de Olo 148.96 351 PKPdf **PKPbc 11 01 48.9 +0.4**
MVO Moncorvo 149.03 350 PKPdf **PKPbc 11 01 47.7 -0.9**
PVRL Vila Real 149.04 351 PKPdf **PKPbc 11 01 49.3 +0.7**
PTO Porto 149.30 352 PKPdf **PKPbc 11 01 49.8 +0.6**
PVIS Viseu 149.61 351 PKPdf **PKPbc 11 01 50.4 +0.3**
ESDC Sonseca Array 149.80 345 PKPbc **PKPbc 11 01 50.8 +0.3**
comp=Z,5.6nm,0.8s,baz=11,slow=2.7,SNR=21
ESDC PKPab **PKPab 11 01 57.7 +1.3**
comp=Z,4.0nm,0.6s,baz=16,slow=4.7,SNR=11
PMRV Marv??o 150.79 350 PKPdf **PKPbc 11 01 53.0 +0.1**
PMTG Montargil 151.28 351 PKPdf **PKPbc 11 01 53.3 -0.7**
PESTR Estremoz 151.37 350 PKPdf **PKPbc 11 01 54.6 +0.4**
TORD Torodi Ar. Bea 164.55 281 PKP **PKPdf 11 02 04.7 +0.1**
comp=Z,2.6nm,0.7s,baz=23,slow=1.3,SNR=15
TORD PKPab **PKPab 11 03 00.7 0.0**
comp=Z,4.7nm,1.0s,baz=69,slow=4.3,SNR=12
TORD PP **PP 11 06 51.5 +4.0**
comp=Z,1.5nm,1.1s,baz=116,slow=5.1,SNR=5.1
KIC Kosan Boka 169.99 245 *e*P **PKPdf 11 02 08.1 -0.6**
comp=Z,79nm,1.5s
LIC Lamto 170.18 244 *e*P **PKPdf 11 02 06.0 -2.8**
comp=Z,201nm,1.9s
DBIC Dimbokro 170.22 247 PKP **PKPdf 11 02 08.6 -0.2**
comp=Z,6.1nm,1.0s,baz=215,slow=5.6,SNR=4.9
TIC Toumodi 170.36 246 *e*P **PKPdf 11 02 08.2 -0.7**
comp=Z,6.7nm,0.2s

ISCJB ***02*** *10:45:48.2±1.6, 11°.91N±0°.10×43°.8E±0°.1, h4km, Error ellipse: s-maj=22.4km s-min=4.7km az=37.4*
DHMR ***02*** *10:45:48.6±1.6, 11°.98N×43°.86E, h9km±22km, ML3.6*
ARO ***02*** *10:45:51.2, 12°N±4°×4°4E±°, h4km±6km, ML4.0*
ISC 02 10:45:47.7±1.9, 11°.9N±0°.1×43°.8E±0°.1, h4km, n9, σ0s65/13, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.50**	**277**	*e*P	**Pg**	**10 45 57.9**	**+0.5**
ATA	**Atar**	**0.75**	**232**	*e*P	**Pb**	**10 46 03.5**	**+0.2**
TDD	**Tadjoura Ara**	**0.88**	**262**	*e*P	**Pg**	**10 46 04.5**	**-0.2**
ATD	**Arta Tunnel**	**1.01**	**247**	*e*P	**Pg**	**10 46 07.5**	**+0.4**
ATD				*e*S	**Sg**	**10 46 20.2**	**-0.1**
SGH	**Sud-Ghoubbet**	**1.24**	**247**	*e*P	**Pg**	**10 46 11.2**	**-0.4**
TRBA	**At Turbah**	**1.34**	**13⇑**	*e*P	**Pn**	**10 46 13.1**	**-0.4**
TRBA				*i* S	**Sg**	**10 46 29.9**	**-0.9**
TRBA				AML	AML	10 46 34.8	
	comp=E,2μm,0.5s						
GBR	**Grand-Bara**	**1.52**	**240**	*e*P	**Pn**	**10 46 15.5**	**-0.3**
UDYN	**Al 'Udayn**	**2.04**	**5**	*i* P	**Pn**	**10 46 23.0**	**0.0**
UDYN				*i* S	**Sb**	**10 46 51.3**	**0.0**
UDYN				AML	AML	10 46 56.8	
	comp=E,522nm,0.5s						
DHBB	**Dhamar BB**	**2.70**	**12**	*i* P	**Pn**	**10 46 33.8**	**+1.6**
DHBB				*i* S	**Sb**	**10 47 09.8**	**-0.5**

UPP ***02*** *10:59:57.6, 67°.91N×20°.18E, h0km, ML0.4, Suspected Mining explosion.*
CSEM ***02*** *10:59:57.5±0.1, 67°.88N×20°.15E, h1km, ML0.4, Error ellipse: s-maj=5.0km s-min=3.3km az=156.0, Mining explosion.*
HEL 02 10:59:59.3, 67°.85N×20°.18E, h0km, ML1.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**29**	*i* P	Pg	10 59 59.2	-2.5
KUA				*i* S	Sg	11 00 00.2	-3.2
KUA	**Kurravaara**	**0.12**	**29**	P	Pg	10 59 59.2	-2.5
KUA				S	Sg	11 00 00.2	-3.1
NIKU	**Nikkaluokta**	**0.43**	**273**	*i* P	Pg	11 00 06.0	-1.7
NIKU	**Nikkaluokta**	**0.43**	**273**	P	Pg	11 00 05.9	-1.7
LANU	**Lannavaara**	**0.71**	**73**	*e*PB	Pg	11 00 12.7	-0.3
LANU				*e*S	Sg	11 00 20.0	-2.2
LANU	**Lannavaara**	**0.71**	**73**	P	Pg	11 00 11.0	-2.0
LANU	**Lannavaara**	**0.71**	**73**	Pb	Pg	11 00 12.7	-0.3
LANU				S	Sg	11 00 20.0	-2.3
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	11 00 12.7	-1.9
SALU	**Saltoluokta**	**0.79**	**235**	P	Pg	11 00 12.7	-1.9
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*PN	Pg	11 00 20.6	-1.4
KIF				*e*SN	Sb	11 00 38.3	-0.2
KIF	**Kilpisjarvi**	**1.19**	**11**	Pn	Pg	11 00 20.5	-1.5
KIF				Sn	Sb	11 00 38.2	-0.3
HEF	**Hetta**	**1.42**	**65**	*e*PN	Pn	11 00 24.9	-1.5
	baz=252						
HEF				MSG	Sn	11 00 46.9	+1.2
	comp=Z,1.5nm,0.2s						
HEF				*e*SN	Sn	11 00 46.9	+1.2
HEF	**Hetta**	**1.42**	**65**	Pn	Pn	11 00 24.8	-1.6
HEF				Sn	Sn	11 00 46.9	+1.1
ERTU	**Ertsjaerv**	**1.52**	**148**	*e*PG	Pn	11 00 26.3	-1.3
ERTU				*e*SN	Sg	11 00 47.4	-0.6
ERTU	**Ertsjaerv**	**1.52**	**148**	P	Pn	11 00 26.2	-1.5
ERTU				Sn	Sg	11 00 47.4	-0.6

SJA 02 11:07:43.8±0.5, 24°.94S×65°.69W, h14km±5km, ML3.5, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**0.28**	**38**	*i* P	Pg	11 07 47.5	-2.4
SLA				*i* S	Sg	11 07 52.5	-1.5
SLA				AML	AML	11 07 53.4	
	comp=Z,59nm,0.2s						
AZAP	**Zapla**	**0.91**	**39**	*i* P	Pb	11 07 59.2	-2.5
AZAP				*i* S	Sb	11 08 12.5	-1.5
AZAP				AML	AML	11 08 15.4	
	comp=Z,20nm,0.2s						
ASTB	**Santa Barbara**	**1.48**	**48**	*i* P	Pn	11 08 09.8	-0.4
ASTB				*i* S	Sb	11 08 30.7	+0.6
AHML	**Horco Molle**	**1.86**	**170**	*i* P	Pn	11 08 15.0	-0.4
AHML				*i* S	Sn	11 08 39.5	+0.7
ALOL	**LOMAS DE OLMED**	**1.93**	**55**	*i* P	Pn	11 08 15.5	-0.7
ALOL				*i* P	Pn	11 08 15.5	-0.7

*DHMR **02** 11:21:04.9±1.1, 12°.06N×43°.70E, h13km±13km, ML4.4*
*IDC **02** 11:21:05.5±2.1, 11°.65N×43°.55E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/26, mbtmp3.8/7, MS3.5/7, Ms1 3.5/7, ms1mx3.1/41, Error ellipse: s-maj=46.2km s-min=27.7km az=173.0*
*ARO **02** 11:21:05.4, 12°N±6°×4°4E±°, h5km±11km, ML4.5*
*ISCJB **02** 11:21:06.7±0.7, 11°.99N±0°.06×43°.57E±0°.08, h14km, mb3.8/7, MS3.5/6, Error ellipse: s-maj=12.8km s-min=3.9km az=36.0*

ISC 02 11:21:07.5±0.9, 11°.84N±0°.07×43°.54E±0°.08, h14km, n22, σ1970/18, mb4.0/7, MS3.5/6, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.28**	**301**	*e*P	**Pg**	**11 21 12.9**	**-0.5**
ATA	**Atar**	**0.50**	**220**	*e*P	**Pn**	**11 21 18.5**	**-1.7**
ATA				*e*S	**Sn**	**11 21 28.2**	**-0.5**
TDD	**Tadjoura Ara**	**0.62**	**267**	*e*P	**Pb**	**11 21 19.3**	**-0.8**
ATD	**Arta Tunnel**	**0.74**	**246**	*e*P	**Pn**	**11 21 21.7**	**-1.9**
ATD				*e*S	**Sn**	**11 21 35.4**	**+0.6**
SGH	**Sud-Ghoubbet**	**0.97**	**246**	*e*P	**Pn**	**11 21 25.4**	**-1.4**
GBR	**Grand-Bara**	**1.25**	**237**	*e*P	**Pg**	**11 21 29.9**	**-1.7**
MAOD	**Malaho**	**1.31**	**281**	*e*P	**Pn**	**11 21 30.2**	**-1.2**
TRBA	**At Turbah**	**1.50**	**22**	⇑*i*P	Pn	11 21 27.8	-6.4
TRBA				*i* S	Sn	11 21 45.4	-8.4
TRBA				AML	AML	11 21 46.6	
	comp=Z,8μm,0.5s						
UDYN	**Al 'Udayn**	**2.16**	**11**	*i* P	Pn	11 21 38.1	-5.1
UDYN				*i* S	Sn	11 22 05.3	-4.6
UDYN				AML	AML	11 22 08.3	
	comp=E,5μm,0.5s						
DHBB	**Dhamar BB**	**2.84**	**17**	*i* P	**Pn**	**11 21 50.0**	**-2.8**
DHBB				*i* S	**Sn**	**11 22 24.0**	**-3.0**
EIL	**Elat**	**19.46**	**337**	LR	LR	11 31 47.5	
	comp=E,101nm,19.5s,baz=134,slow=33						
GEYT	**Alibeck**	**29.07**	**24**	LR	LR	11 40 15.0	
	comp=E,118nm,18.5s,baz=220,slow=39						
BRTR	**Keskin Array B**	**29.13**	**344**	P	**P**	**11 27 09.8**	**+1.6**
	comp=E,2.1nm,0.8s,baz=153,slow=11,SNR=11						
OPO	**Ambohidratompo**	**30.43**	**173**	LR	LR	11 37 58.6	
	comp=E,105nm,20.5s,baz=112,slow=34						
KBZ	**Khabaz**	**31.78**	**359**	P	**P**	**11 27 32.9**	**+1.5**
	comp=E,2.1nm,0.9s,baz=185,slow=8.3,SNR=5.5						
AKTO	**Aktyubinsk**	**40.28**	**14**	LR	LR	11 48 12.6	
	comp=E,64nm,19.9s,slow=40						
AKASG	**Malin Array Be**	**40.49**	**346**	P	**P**	**11 28 47.5**	**+1.8**
	comp=E,0.3nm,0.3s,baz=169,slow=7.1,SNR=2.7						
AAK	**Ala-Archa**	**40.79**	**36**	LR	LR	11 48 00.8	
	comp=E,36nm,18.9s,baz=96,slow=40						
TORD	**Torodi Ar. Bea**	**40.84**	**276**	P	**P**	**11 28 49.5**	**+0.3**
	comp=E,1.3nm,0.9s,baz=94,slow=6.2,SNR=7.5						
MKAR	**Makanchi Array**	**47.73**	**36**	P	**P**	**11 29 45.2**	**+1.2**
	comp=E,1.5nm,1.0s,baz=230,slow=7.5,SNR=9.0						
MKAR				LR	LR	11 53 42.2	
	comp=E,25nm,20.7s,baz=264,slow=41						
ZALV	**Zalesovo Beam**	**53.18**	**29**	P	**P**	**11 30 26.6**	**+1.6**
	comp=E,0.6nm,0.6s,baz=236,slow=11,SNR=5.5						
ZALV				LR	LR	11 56 11.5	
	comp=E,87nm,18.2s,baz=249,slow=40						
CMAR	**Chiang Mai Arr**	**53.72**	**76**	P	**P**	**11 30 29.9**	**+0.2**
	comp=E,0.5nm,0.3s,baz=111,slow=43,SNR=1.8						

*IDC **02** 11:21:13.9±0.7, 37°.83S×74°.80W, h0km, mb4.1/11, mb1 4.4/12, mb1mx4.3/19, mbtmp4.2/12, ML4.9/1, MS1.8/1, Ms1 1.8/1, ms1mx1.8/25, Error ellipse: s-maj=26.9km s-min=17.8km az=77.0*
*ISCJB **02** 11:21:18.1±0.3, 37°.74S±0°.07×74°.50W±0°.07, h33km, mb4.5/31, Error ellipse: s-maj=10.8km s-min=6.7km az=30.6*
*NEIC **02** 11:21:19.5±0.2, 37°.84S×74°.61W, h35km, mb4.6/21, Error ellipse: s-maj=7.6km s-min=5.2km az=216.0*
*BJI **02** 11:21:20.3, 37°.80S×74°.60W, h35km, mB5.2/2, Ms5.3/1, Ms7 5.1/2*

ISC 02 11:21:19.9±0.5, 37°.71S±0°.08×74°.62W±0°.09, h35km, n271, σ0983/287, mb4.5/31, 117C-92D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.37**	**135**	Pn	**Pn**	**11 22 23.7**	**-0.1**
	16nm,0.3s,baz=291,slow=12,SNR=17						
PLCA				Sn	**Sn**	**11 23 18.3**	**+4.8**
	7.3nm,0.3s,baz=279,slow=9.6,SNR=6.2						
PLCA	**Paso Flores**	**4.37**	**135**	*e*Pn	**Pn**	**11 22 21.9**	**-2.0**
PLCA				Sn	**Sn**	**11 23 18.3**	**+4.8**
CFAA	**Coronel Fontan**	**8.04**	**43**	Pn	**Pn**	**11 23 15.4**	**+1.1**
	0.2nm,0.3s,baz=222,slow=21,SNR=2.9						
CFAA				LR	LR	11 25 33.4	
	comp=Z,7.6nm,21.2s,baz=247,slow=32						
TRQA	**Tornquist**	**10.00**	**96**	*e*Sn	**Sn**	**11 25 31.2**	**-0.7**
LVC	**Limon Verde**	**15.83**	**20**	*e*Pn	**Pn**	**11 25 01.1**	**+0.7**
LPAZ	**La Paz**	**22.10**	**17**	P	**P**	**11 26 14.2**	**+1.4**
	5.2nm,0.8s,baz=162,slow=4.8,SNR=15						
LPAZ	**La Paz**	**22.10**	**17**	*e*P	**P**	**11 26 13.7**	**+0.9**
	9.5nm,1.0s						
SIV	**San Ignacio**	**24.73**	**33**	P	**P**	**11 26 39.9**	**+1.8**
	0.9nm,0.5s,baz=239,slow=9.0,SNR=3.9						
SAML	**Samuel**	**30.45**	**23**	*e*P	**P**	**11 27 28.9**	**-0.3**
	9.8nm,1.4s						
OTAV	**Otavalo**	**37.93**	**354**	*e*P	**P**	**11 28 36.2**	**+1.6**
	1.2nm,0.3s						
JTS	**JuntasAbangare**	**48.72**	**346**	*e*P	**P**	**11 30 02.1**	**+0.9**
	3.6nm,0.8s						
SNAA	**Sanae**	**48.98**	**157**	P	**P**	**11 30 02.0**	**-0.6**
	1.5nm,0.9s,baz=306,slow=13,SNR=3.6						
SNAA	**Sanae**	**48.98**	**157**	*e*P	**P**	**11 30 01.4**	**-1.2**
	4.6nm,0.9s						
QSPA	**South Pole Qui**	**52.53**	**180**	P	**P**	**11 30 28.4**	**-1.0**
	4.3nm,0.9s,baz=159,slow=1.2,SNR=14						
QSPA	**South Pole Qui**	**52.53**	**180**	*e*P	**P**	**11 30 28.8**	**-0.7**
933A	**Laredo**	**68.98**	**337**	⇑P	**P**	**11 32 22.5**	**+1.0**
	baz=69						
834A	**Tilden**	**69.23**	**337**	⇑P	**P**	**11 32 24.2**	**+1.1**
	baz=70						
833A	**Chaparral WMA,**	**69.68**	**337**	⇑P	**P**	**11 32 26.6**	**+0.7**
	baz=70						
735A	**Kenedy**	**69.70**	**338**	⇓P	**P**	**11 32 27.0**	**+1.0**
	baz=70						
832A	**Faith Ranch, C**	**69.83**	**336**	⇓P	**P**	**11 32 27.4**	**+0.6**
	baz=70						
636A	**Smothers Creek**	**70.07**	**339**	⇑P	**P**	**11 32 29.4**	**+1.2**
	baz=70						
732A	**Laxson Ranch,**	**70.24**	**336**	⇓P	**P**	**11 32 29.3**	**0.0**
	baz=71,SNR=5.9						
537A	**Green Hill Far**	**70.43**	**340**	⇑P	**P**	**11 32 31.5**	**+1.1**
	baz=71						
632A	**Uvalde**	**70.90**	**337**	⇓P	**P**	**11 32 34.2**	**+0.8**
	baz=71						
631A	**Perdido Creek**	**71.06**	**336**	⇓P	**P**	**11 32 34.7**	**+0.3**
	baz=72						
340A	**Bronson**	**71.09**	**343**	⇑P	**P**	**11 32 35.0**	**+0.6**
	baz=72						
533A	**Kerrville**	**71.20**	**338**	⇓P	**P**	**11 32 35.7**	**+0.5**
	baz=72						
337A	**Centerville**	**71.49**	**341**	⇑P	**P**	**11 32 37.8**	**+0.9**
	baz=72						
532A	**Rocksprings**	**71.52**	**337**	⇓P	**P**	**11 32 37.3**	**+0.2**
	baz=72,SNR=7.9						
434A	**Burnet**	**71.67**	**339**	⇑P	**P**	**11 32 38.1**	**+0.1**
	baz=72,SNR=5.8						
531A	**Rocksprings**	**71.75**	**336**	⇑P	**P**	**11 32 39.2**	**+0.7**
	baz=72						
336A	**Riesel**	**71.81**	**340**	⇓P	**P**	**11 32 39.1**	**+0.3**
	baz=72						
JCT	**Junction City**	**71.81**	**337**	⇑P	**P**	**11 32 39.1**	**+0.2**
	baz=72						
JCT	**Junction City**	**71.81**	**337**	*e*P	**P**	**11 32 39.1**	**+0.2**
	9.1nm,0.9s						
433A	**Art**	**71.86**	**338**	⇓P	**P**	**11 32 39.2**	**+0.1**
	baz=72						
530A	**J-C Ranch, Com**	**71.99**	**336**	⇑P	**P**	**11 32 40.1**	**+0.2**
	baz=72,SNR=5.4						
TXAR	**Lajitas Array**	**72.03**	**334**	P	**P**	**11 32 40.4**	**0.0**
	2.2nm,0.7s,baz=156,slow=8.9,SNR=27						
334A	**Lometa**	**72.15**	**339**	⇑P	**P**	**11 32 40.9**	**0.0**
	baz=73,SNR=8.7						
431A	**Sonora**	**72.25**	**337**	⇑P	**P**	**11 32 41.7**	**+0.2**
	baz=73						
333A	**Richland Sprin**	**72.36**	**338**	⇓P	**P**	**11 32 41.6**	**-0.5**
	baz=73						
430A	**Baggett Ranch,**	**72.55**	**336**	⇓P	**P**	**11 32 43.3**	**0.0**
	baz=73,SNR=6.4						
429A	**Davenport Ranc**	**72.61**	**336**	⇑P	**P**	**11 32 43.6**	**-0.1**
	baz=73,SNR=6.4						
332A	**Millersview**	**72.64**	**338**	⇑P	**P**	**11 32 43.6**	**-0.1**
	baz=73						
234A	**Clairette**	**72.75**	**339**	⇑P	**P**	**11 32 44.7**	**+0.3**
	baz=73						
331A	**San Angelo**	**72.78**	**337**	⇑P	**P**	**11 32 44.6**	**-0.1**
	baz=73						
233A	**Rising Star**	**72.98**	**339**	⇑P	**P**	**11 32 45.8**	**0.0**
	baz=73						
232A	**Coleman**	**73.08**	**338**	⇑P	**P**	**11 32 46.5**	**+0.1**
	baz=74						
330A	**Mertzon**	**73.10**	**336**	⇑P	**P**	**11 32 46.3**	**-0.3**
	baz=74						
134A	**White-Moore Ra**	**73.27**	**339**	⇓P	**P**	**11 32 47.3**	**-0.2**
	baz=74						
SWET	**Sewanee**	**73.32**	**350**	*e*P	**P**	**11 32 47.5**	**-0.2**
	8.2nm,0.6s						
231A	**Bronte**	**73.33**	**337**	⇑P	**P**	**11 32 47.7**	**-0.2**
	baz=74						
329A	**Wagon Wheel Ra**	**73.44**	**336**	⇑P	**P**	**11 32 48.7**	**+0.1**
	baz=74						
133A	**Hamilton Ranch**	**73.54**	**339**	⇑P	**P**	**11 32 49.0**	**-0.1**
	baz=74,SNR=5.4						
Z35A	**Perchaven, San**	**73.76**	**340**	⇑P	**P**	**11 32 50.7**	**+0.3**
	baz=74						
ABTX	**Abilene, Hawle**	**73.77**	**338**	⇑P	**P**	**11 32 50.7**	**+0.2**
	baz=74						
ABTX	**Abilene, Hawle**	**73.77**	**338**	*e*P	**P**	**11 32 50.4**	**0.0**
229A	**Bryant Ranch,**	**73.82**	**336**	⇑P	**P**	**11 32 51.1**	**+0.3**
	baz=74						
Z34A	**Collier Ranch,**	**73.98**	**340**	⇓P	**P**	**11 32 51.9**	**+0.3**
	baz=74						
MIAR	**Mount Ida**	**74.02**	**344**	*e*P	**P**	**11 32 51.3**	**-0.5**
	8.5nm,1.2s						
MIAR				*e*pP	**pP**	**11 33 02.9**	**+0.2**
131A	**Roby**	**74.03**	**338**	⇑P	**P**	**11 32 52.4**	**+0.3**
	baz=74						
Z33A	**Whitaker Ranch**	**74.13**	**339**	⇓P	**P**	**11 32 52.7**	**+0.2**
	baz=75						
130A	**Snyder**	**74.14**	**337**	⇑P	**P**	**11 32 52.3**	**-0.3**
	baz=75						
228A	**UT Block 9, Go**	**74.22**	**336**	⇑P	**P**	**11 32 53.4**	**+0.2**
	baz=75						
Z32A	**Haskell**	**74.36**	**339**	⇓P	**P**	**11 32 53.5**	**-0.4**
	baz=75,SNR=5.4						
Y34A	**Reagan Ranch,**	**74.49**	**340**	⇑P	**P**	**11 32 54.4**	**-0.2**
	baz=75						
WVT	**Waverly**	**74.49**	**349**	*e*P	**P**	**11 32 53.8**	**-0.7**
	18nm,1.5s						
Z31A	**Sharp Cattle R**	**74.56**	**338**	⇑P	**P**	**11 32 54.8**	**-0.3**
	baz=75						
128A	**Castleberry Fa**	**74.64**	**336**	⇓P	**P**	**11 32 55.3**	**-0.4**
	baz=75						
Z30A	**Sanderson Ranc**	**74.83**	**337**	⇓P	**P**	**11 32 56.2**	**-0.4**
	baz=75						
Z29A	**Hungry Hill Ra**	**74.98**	**337**	⇑P	**P**	**11 32 57.1**	**-0.5**
	baz=75,SNR=6.3						
Y32A	**R-V Farms, Ver**	**75.00**	**339**	⇓P	**P**	**11 32 57.5**	**-0.1**
	baz=76						
X34A	**Smith Ranch, M**	**75.11**	**340**	⇑P	**P**	**11 32 58.4**	**+0.2**
	baz=76						
Y31A	**Rekieta Farm,**	**75.20**	**338**	⇓P	**P**	**11 32 58.8**	**+0.1**
	baz=76						
X33A	**Lawton**	**75.24**	**340**	⇑P	**P**	**11 32 58.2**	**-0.7**
	baz=76						
Y30A	**Stafford Cattl**	**75.31**	**338**	⇓P	**P**	**11 32 59.1**	**-0.3**
	baz=76						
X32A	**Elmer**	**75.34**	**339**	⇓P	**P**	**11 32 59.1**	**-0.5**
	baz=76						
Z27A	**Tatum**	**75.52**	**336**	⇑P	**P**	**11 33 01.4**	**+0.7**
	baz=76						
Y29A	**Porterfield Fa**	**75.53**	**337**	⇑P	**P**	**11 33 00.9**	**+0.2**
	baz=76						
Z26A	**Caprock**	**75.73**	**335**	⇓P	**P**	**11 33 01.9**	**0.0**
	baz=76						
X31A	**McDonald Ranch**	**75.74**	**339**	⇑P	**P**	**11 33 01.4**	**-0.4**
	baz=76,SNR=5.0						
W33A	**Caddo, Fort Co**	**75.81**	**340**	⇑P	**P**	**11 33 02.2**	**+0.1**
	baz=76						
X30A	**Coker Ranch, T**	**75.83**	**338**	⇓P	**P**	**11 33 03.1**	**+0.7**
	baz=76						
TUL1	**Leonard**	**75.84**	**342**	⇓P	**P**	**11 33 01.9**	**-0.4**
	baz=76						
TUL1	**Leonard**	**75.84**	**342**	*e*P	**P**	**11 33 02.0**	**-0.4**
	9.6nm,0.6s						
319A	**Douglas**	**75.98**	**330**	⇓P	**P**	**11 33 04.1**	**+0.7**
	baz=76						
MSTX	**Muleshoe**	**75.98**	**336**	⇑P	**P**	**11 33 03.5**	**+0.2**
	baz=76						
Z25A	**Roswell**	**75.99**	**334**	⇑P	**P**	**11 33 04.0**	**+0.6**
	baz=76						
W32A	**Sentinel**	**75.99**	**339**	⇓P	**P**	**11 33 03.4**	**+0.2**
	baz=76,SNR=7.0						
Y27A	**Causey**	**76.03**	**336**	⇑P	**P**	**11 33 03.5**	**0.0**
	baz=76						
X29A	**Tulia**	**76.08**	**337**	⇑P	**P**	**11 33 03.9**	**0.0**
	baz=76						
W31A	**Holland Ranch,**	**76.25**	**339**	⇓P	**P**	**11 33 04.5**	**-0.2**
	baz=77						
Z24A	**Sheeppen Canyo**	**76.26**	**334**	⇑P	**P**	**11 33 05.0**	**-0.1**
	baz=77						
Y26A	**Elida**	**76.28**	**335**	⇑P	**P**	**11 33 05.2**	**+0.2**
	baz=77						
V33A	**Lossen Ranch,**	**76.39**	**340**	⇑P	**P**	**11 33 05.8**	**+0.3**
	baz=77						
121A	**Cooks Peak, D**	**76.42**	**332**	⇓P	**P**	**11 33 06.4**	**+0.4**
	baz=77						
AMTX	**Amarillo**	**76.48**	**337**	⇑P	**P**	**11 33 05.9**	**-0.2**
	baz=77						
AMTX	**Amarillo**	**76.48**	**337**	*e*P	**P**	**11 33 06.0**	**-0.1**
	12nm,1.0s						
V32A	**Arapaho**	**76.50**	**340**	⇓P	**P**	**11 33 06.5**	**+0.4**
	baz=77						
Y25A	**Mesa, Roswell**	**76.57**	**335**	⇓P	**P**	**11 33 07.0**	**+0.3**
	baz=77						
W29A	**Amarillo**	**76.69**	**337**	⇑P	**P**	**11 33 07.7**	**+0.4**
	baz=77						
Z22A	**Elephant Butte**	**76.77**	**333**	⇓P	**P**	**11 33 08.7**	**+0.8**
	baz=77						
V31A	**Spring Creek L**	**76.77**	**339**	⇓P	**P**	**11 33 08.1**	**+0.5**
	baz=77						
Y24A	**Capitan**	**76.83**	**334**	⇑P	**P**	**11 33 08.5**	**+0.3**
	baz=77						
X26A	**CR and CF Fran**	**76.85**	**336**	⇓P	**P**	**11 33 08.4**	**+0.2**
	baz=77						
U33A	**Lingo Farm, Me**	**76.92**	**341**	⇓P	**P**	**11 33 08.5**	**+0.1**
	baz=77						
Y23A	**Lovelace Mesa,**	**77.05**	**334**	⇑P	**P**	**11 33 09.8**	**+0.3**
	baz=78						
W27A	**Bowe Ranch, En**	**77.08**	**336**	⇑P	**P**	**11 33 09.1**	**-0.4**
	baz=78,SNR=6.2						
U32A	**Winter Ranch,**	**77.11**	**340**	⇑P	**P**	**11 33 09.5**	**0.0**
	baz=78						
X25A	**Clemmons Ranch**	**77.11**	**335**	⇓P	**P**	**11 33 09.3**	**-0.5**
	baz=78						
W26A	**Owens Ranch, T**	**77.33**	**336**	⇓P	**P**	**11 33 10.7**	**-0.2**
	baz=78						
U31A	**Nine Bar Ranch**	**77.33**	**339**	⇑P	**P**	**11 33 11.0**	**+0.2**
	baz=78						
TUC	**Tucson**	**77.40**	**329**	*e*P	**P**	**11 33 12.0**	**+0.7**
	57nm,2.9s						
T33A	**Patterson Ranc**	**77.56**	**341**	⇓P	**P**	**11 33 12.4**	**+0.3**
	baz=78						
V27A	**Dan Oppiter Fa**	**77.64**	**337**	⇑P	**P**	**11 33 13.1**	**+0.5**
	baz=78						
W25A	**X Bar L Ranch,**	**77.67**	**335**	⇑P	**P**	**11 33 12.9**	**0.0**
	baz=78						
X23A	**Hourglass Bar**	**77.68**	**334**	⇑P	**P**	**11 33 14.1**	**+1.1**
	baz=78						
214A	**Organ Pipe Nat**	**77.94**	**327**	⇓P	**P**	**11 33 15.1**	**+0.9**
	baz=78						
V26A	**Tequesquite Ra**	**77.98**	**336**	⇑P	**P**	**11 33 14.5**	**0.0**
	baz=78						
W24A	**Lazy 6 Ranch,**	**77.98**	**335**	⇓P	**P**	**11 33 15.1**	**+0.5**
	baz=78						
ANMO	**Albuquerque**	**78.11**	**334**	*e*P	**P**	**11 33 16.0**	**+0.6**
	2.1nm,0.9s						
W23A	**Werner Place,**	**78.19**	**334**	⇓P	**P**	**11 33 16.4**	**+0.5**
	baz=79						
U27A	**Thompson Grove**	**78.25**	**337**	⇓P	**P**	**11 33 16.5**	**+0.5**
	baz=79						
V25A	**Rancho No Teng**	**78.29**	**335**	⇑P	**P**	**11 33 16.6**	**+0.2**
	baz=79						
S32A	**Newby Ranch, P**	**78.33**	**341**	⇓P	**P**	**11 33 16.7**	**+0.4**
	baz=79						
DBIC	**Dimbokro**	**78.33**	**72**	P	**P**	**11 33 17.1**	**+0.3**
	4.6nm,0.7s,baz=177,slow=4.0,SNR=7.0						
V24A	**Rampart Ranch,**	**78.41**	**335**	⇑P	**P**	**11 33 17.4**	**+0.4**
	baz=79						
T29A	**Hugoton**	**78.47**	**339**	⇓P	**P**	**11 33 17.5**	**+0.3**
	baz=79						
T28A	**Walsh**	**78.68**	**338**	⇓P	**P**	**11 33 18.5**	**+0.1**
	baz=79						
S30A	**Montezuma**	**78.69**	**339**	⇓P	**P**	**11 33 18.5**	**+0.2**
	baz=79						
V23A	**Ortiz Mt. (NFS**	**78.73**	**334**	⇓P	**P**	**11 33 19.6**	**+0.8**
	baz=79						
U25A	**Circle Dot Ran**	**78.73**	**336**	⇓P	**P**	**11 33 19.6**	**+0.9**
	baz=79						
T27A	**Campo**	**78.81**	**337**	⇑P	**P**	**11 33 19.7**	**+0.6**
	baz=79						
R32A	**Long Quarter,**	**78.95**	**341**	⇑P	**P**	**11 33 20.0**	**+0.3**
	baz=79						
X18A	**Snowflake**	**79.02**	**331**	⇑P	**P**	**11 33 21.1**	**+0.8**
	baz=80						
R31A	**Burdett**	**79.04**	**340**	⇓P	**P**	**11 33 20.5**	**+0.3**
	baz=80						
113A	**Mohawk Valley,**	**79.05**	**327**	⇓P	**P**	**11 33 21.8**	**+1.5**
	baz=80						
S28A	**Manter**	**79.05**	**338**	⇑P	**P**	**11 33 20.5**	**+0.2**
	baz=80						
KSU1	**Kansas State U**	**79.07**	**343**	⇑P	**P**	**11 33 20.4**	**+0.1**
	baz=80						
V22A	**San Miguel Ran**	**79.14**	**334**	⇑P	**P**	**11 33 21.9**	**+0.9**
	baz=80						
T26A	**Comanche Natio**	**79.19**	**337**	⇓P	**P**	**11 33 21.2**	**0.0**
	baz=80						
R30A	**Dighton**	**79.24**	**340**	⇑P	**P**	**11 33 22.0**	**+0.7**
	baz=80						
U23A	**El Rito**	**79.26**	**335**	⇓P	**P**	**11 33 22.9**	**+1.2**
	baz=80						
Q33A	**Connelly Farm,**	**79.27**	**342**	⇑P	**P**	**11 33 21.6**	**+0.2**
	baz=80						
T25A	**Trinidad**	**79.41**	**336**	⇑P	**P**	**11 33 23.1**	**+0.6**
	baz=80,SNR=6.6						
Q32A	**Meitler Ranch,**	**79.45**	**341**	⇓P	**P**	**11 33 22.4**	**0.0**
	baz=80						
X16A	**Lo Mia Camp, P**	**79.51**	**330**	⇑P	**P**	**11 33 24.2**	**+1.1**
	baz=80						
U22A	**Llaves**	**79.53**	**334**	⇓P	**P**	**11 33 24.0**	**+0.8**
	baz=80						
S26A	**Kim**	**79.56**	**337**	⇓P	**P**	**11 33 23.5**	**+0.3**
	baz=80,SNR=5.3						
R29A	**Marienthal**	**79.61**	**339**	⇑P	**P**	**11 33 23.8**	**+0.4**
	baz=80						
R28A	**Tribune**	**79.73**	**339**	⇓P	**P**	**11 33 23.9**	**-0.1**
	baz=80						
Y14A	**Wickenburg**	**79.73**	**328**	⇓P	**P**	**11 33 24.8**	**+0.7**
	baz=80						
T23A	**Casias Ranch,**	**79.85**	**335**	⇑P	**P**	**11 33 25.9**	**+1.0**
	baz=80						
Q30A	**Quinter**	**79.87**	**340**	⇑P	**P**	**11 33 25.3**	**+0.6**
	baz=80						
S25A	**Robets Cordova**	**79.89**	**336**	⇑P	**P**	**11 33 25.7**	**+0.6**
	baz=80						
R27A	**Eads**	**79.97**	**338**	⇑P	**P**	**11 33 25.3**	**0.0**
	baz=80,SNR=6.4						
P32A	**Huiting Farm,**	**80.05**	**341**	⇓P	**P**	**11 33 26.0**	**+0.3**
	baz=80						
S24A	**Houchin Ranch,**	**80.13**	**336**	⇑P	**P**	**11 33 27.4**	**+1.0**
	baz=81						
R26A	**Arlington**	**80.17**	**337**	⇑P	**P**	**11 33 27.4**	**+1.0**
	baz=81						
TSUM	**Tsumeb**	**80.19**	**107**	*e*P	**P**	**11 33 27.9**	**+0.7**
Y12C	**Blythe**	**80.21**	**327**	⇓P	**P**	**11 33 27.9**	**+1.3**
	baz=81						
SDCO	**Great Sand Dun**	**80.32**	**336**	*e*P	**P**	**11 33 27.2**	**-0.2**
	2.0nm,1.1s						
MONP	**Monument Peak,**	**80.32**	**325**	⇑P	**P**	**11 33 28.2**	**+0.7**
	baz=81						
Q28A	**Sharon Springs**	**80.40**	**339**	⇓P	**P**	**11 33 28.0**	**+0.4**
	baz=81						
P30A	**Selden**	**80.41**	**340**	⇑P	**P**	**11 33 28.2**	**+0.6**
	baz=81						
WUAZ	**Wupatki**	**80.44**	**330**	⇑P	**P**	**11 33 29.2**	**+1.1**
	baz=81						
WUAZ	**Wupatki**	**80.44**	**330**	*e*P	**P**	**11 33 28.7**	**+0.7**
	55nm,2.7s						
BC3	**Big Chuckawall**	**80.53**	**326**	⇑P	**P**	**11 33 29.5**	**+1.0**
	baz=81						
R24A	**Sanders Place,**	**80.63**	**336**	⇑P	**P**	**11 33 30.0**	**+0.9**
	baz=81,SNR=5.6						
P29A	**Atwood**	**80.65**	**340**	⇑P	**P**	**11 33 29.8**	**+0.8**
	baz=81						
S22A	**4UR Ranch

baz=84
SRU San Rafael Swe 83.28 333 *e*P **P 11 33 43.4 +0.4**
4.2nm,0.8s
N23A Red Feather La 83.32 337 ⇓P **P 11 33 44.0 +0.8**
baz=84
O20A White River Ci 83.39 335 ⇑P **P 11 33 44.2 +0.8**
baz=84
N22A Wattenberg Ran 83.40 336 ⇓P **P 11 33 44.6 +1.0**
baz=84
ECSD EROS Data Cent 83.49 344 ⇓P **P 11 33 44.1 +0.4**
baz=84
ECSD EROS Data Cent 83.49 344 *e*P **P 11 33 43.6 -0.1**
15nm,1.1s
M24A Cheyenne 83.50 338 ⇑P **P 11 33 45.1 +1.1**
baz=84
ISA Isabella, Lake 83.56 325 ⇑P **P 11 33 45.6 +1.3**
baz=84
ISA Isabella, Lake 83.56 325 *e*P **P 11 33 45.8 +1.5**
J27A Elkhorn Farm, 84.34 340 ⇑P **P 11 33 49.2 +1.1**
baz=85
MPU Maple Canyon 84.48 332 *e*P **P 11 33 49.8 +0.8**
5.2nm,1.0s
R11A Troy Canyon, C 84.58 329 ⇑P **P 11 33 50.5 +0.9**
baz=85
J26A Sides Ranch, S 84.69 340 ⇑P **P 11 33 50.5 +0.6**
baz=85
I28A Midland 84.82 341 ⇑P **P 11 33 51.0 +0.6**
baz=85
DUG Dugway, Tooele 85.08 332 ⇑P **P 11 33 52.7 +0.8**
baz=86
DUG Dugway, Tooele 85.08 332 *e*P **P 11 33 52.8 +0.8**
5.3nm,1.0s
H29A Onida 85.17 342 ⇓P **P 11 33 52.0 -0.2**
baz=86
K21A Alcova 85.31 336 ⇓P **P 11 33 53.0 -0.1**
baz=86
H28A Mission Ridge 85.41 341 ⇓P **P 11 33 53.0 -0.4**
baz=86
I25A Rochford 85.53 339 ⇑P **P 11 33 53.8 -0.4**
baz=86
H27A Howes 85.65 341 ⇑P **P 11 33 54.1 -0.5**
baz=86
G28A Parade 85.76 342 ⇓P **P 11 33 54.8 -0.3**
baz=86
NVAR Mina Array Bea 85.79 327 P **P 11 33 56.0 +0.3**
0.6nm,0.7s,baz=155,slow=4.4,SNR=5.0
H25A Fruitdale 86.04 340 ⇓P **P 11 33 56.6 0.0**
baz=86
PDAR Pinedale Array 86.18 335 P **P 11 33 57.1 -0.4**
1.5nm,0.9s,baz=152,slow=6.6,SNR=9.6
F29A Eureka 86.21 343 ⇑P **P 11 33 57.0 -0.3**
baz=87
J20A Shoshoni 86.22 336 ⇓P **P 11 33 58.0 +0.4**
baz=87
G27A Dupree 86.30 341 ⇓P **P 11 33 57.3 -0.5**
baz=87
I21A Big Trails, Te 86.39 337 ⇑P **P 11 33 58.1 -0.3**
baz=87
G26A Maurine 86.40 341 ⇓P **P 11 33 57.9 -0.4**
baz=87
HVU Hansel Valley 86.44 332 *e*P **P 11 33 58.9 +0.1**
2.3nm,0.7s
F28A McLaughlin 86.46 342 ⇓P **P 11 33 58.6 +0.1**
baz=87
J19A Crowheart 86.46 336 ⇓P **P 11 33 58.9 +0.1**
baz=87
ELK Elko 86.49 330 *e*P **P 11 33 59.7 +0.6**
E30A Jud 86.63 343 ⇑P **P 11 33 59.9 +0.6**
baz=87
I20A Worland 86.77 336 ⇓P **P 11 34 00.6 +0.3**
baz=87
F27A Lemmon 86.78 341 ⇓P **P 11 33 59.9 -0.2**
baz=87
E29A Napoleon 86.86 343 ⇓P **P 11 34 00.4 -0.1**
baz=87
E28A Huff 87.11 342 ⇑P **P 11 34 02.0 +0.3**
baz=88
I19A Meeteetse 87.13 336 ⇑P **P 11 34 02.0 0.0**
baz=88
TORD Torodi Ar. Bea 87.41 71 P **P 11 34 02.2 -1.6**
0.8nm,0.8s,baz=221,slow=4.0,SNR=4.2
E26A Carlson Angus 87.45 341 ⇑P **P 11 34 03.2 -0.1**
baz=88
F23A Volborg 87.56 339 ⇓P **P 11 34 05.0 +1.0**
baz=88
C30A Mose, Pekin 87.67 344 ⇑P **P 11 34 04.4 +0.1**
baz=88
AGMN Agassiz Nation 87.70 346 ⇓P **P 11 34 04.0 -0.4**
baz=88
AGMN Agassiz Nation 87.70 346 *e*P **P 11 34 03.9 -0.6**
124nm,2.8s
B30A Myrvik Farm, E 88.34 344 ⇑P **P 11 34 07.8 +0.3**
baz=89
B29A Wagenman Farm, 88.58 344 ⇑P **P 11 34 08.4 -0.2**
baz=89
B28A Dugan Ranch, T 88.79 343 ⇑P **P 11 34 09.9 +0.3**
baz=89
A30A Hoffart Farm, 88.80 345 ⇓P **P 11 34 09.7 0.0**
baz=89
A29A Manning Farm, 88.99 344 ⇓P **P 11 34 10.2 -0.3**
baz=90
E19A Rath Farm, Rou 89.23 337 ⇑P **P 11 34 12.8 +1.0**
baz=90
ULM Lac du Bonnet 89.57 347 P **P 11 34 13.1 -0.1**
1.1nm,0.6s,baz=187,slow=1.8,SNR=4.1
ILAR Eielson Array 116.54 333 PKP **PKPdf 11 39 57.2 -1.9**
0.2nm,0.7s,baz=131,slow=6.5,SNR=4.5
BRTR Keskin Array B 125.41 64 PKP **PKPdf 11 40 15.9 -1.2**
0.5nm,0.7s,baz=222,slow=1.7,SNR=3.7
AKTO Aktyubinsk 144.27 54 PKP **PKPab 11 40 49.8 +0.2**
2.9nm,0.9s,baz=296,slow=3.1,SNR=4.3
ABKAR Akbulak array 145.56 56 *e*PKPbc **PKPdf 11 40 53.8 -0.1**
ABKAR *ep*PKPdf **pPKPdf 11 41 02.9 -2.4**
BRVK Borovoye 151.32 46 *e*PKPdf **PKPdf 11 41 02.2 -0.9**
BRVK *e*PKPbc **PKPbc 11 41 08.9 -0.2**
BRVK *e*PKPab **PKPab 11 41 17.4 +0.1**
BVAR Borovoye Array 151.39 46 PKPbc **PKPbc 11 41 09.1 -0.2**
1.5nm,0.7s,baz=278,slow=4.3,SNR=8.5
BVAR PKPab **PKPab 11 41 17.0 -0.7**
0.6nm,0.6s,baz=222,slow=2.0,SNR=3.8
KKAR Karatay Array 153.03 67 *e*PKPbc **PKPbc 11 41 12.4 -0.9**
KKAR *e*PKPab **PKPab 11 41 24.2 -0.8**
AAK Ala-Archa 155.97 68 PKPab **PKPab 11 41 37.7 0.0**
1.9nm,0.7s,baz=19,slow=0.7,SNR=6.4
AAK Ala-Archa 155.97 68 *e*PKPab **PKPab 11 41 37.3 -0.4**
TKM2 Tokmak 2 156.77 68 *e*PKPdf **PKPdf 11 41 11.4 0.0**
TKM2 *e*PKPab **PKPab 11 41 41.1 -0.1**
KURK Kurchatov 156.98 47 *e*PKPdf **PKPdf 11 41 11.5 +0.4**
KSH Kashi 156.99 76 *e*PKP **PKPdf 11 41 11.1 -0.6**
KSH sPKP 11 41 25.0
KSH PKS **PKSdf 11 44 44.5 -1.1**
KSH PP **PP 11 45 18.9 -2.4**
KSH SKS **SKSdf 11 48 14.9 -0.2**
KSH PPMZ
100nm,4.6s
KSH LZ
140nm,5.9s
MKAR Makanchi Array 160.70 55 PKP **PKPdf 11 41 15.4 -0.3**
0.1nm,0.5s,baz=336,slow=39,SNR=2.3
MKAR PKPab **PKPab 11 41 56.9 -0.9**
0.8nm,0.9s,baz=298,slow=2.6,SNR=6.8
CN2 Changchun 163.64 298 *e*PKP **PKPdf 11 41 19.2 +0.5**
SONM Songino Array 169.86 356 PKPab **PKPab 11 42 37.5 -0.6**
0.5nm,0.8s,baz=288,slow=2.1,SNR=5.5
CD2 Chengdu 173.08 168 *e*PKP **PKPdf 11 41 25.8 +0.3**
HHC Hu-ho-hao-te 174.27 305 *e*PKP **PKPdf 11 41 26.0 +0.3**
HHC sPKP 11 41 39.9
HHC PP **PP 11 46 54.4 +3.9**
HHC SKKS 11 53 35.7
HHC SS **SS 12 08 08.3 0.0**
HHC PPMZ
130nm,6.2s
HHC LN
290nm,18.5s
HHC LE
250nm,18.5s
HHC LZ
160nm,18.5s
LZH Lanzhou 177.96 142 *e*PKP **PKPdf 11 41 26.6 -0.2**
LZH pPKP **pPKPdf 11 41 37.2 -1.1**
LZH sPKP 11 41 41.5

IDC ***02*** *11:30:25.3±0.4,35°.26S×72°.87W,h0km,mb4.7/12, mb1 4.7/17,mb1mx4.7/23,mbtmp4.6/17,ML4.5/5,MS4.5/21, Ms1 4.5/21,ms1mx4.4/28,Error ellipse: s-maj=17.5km s-min=14.5km az=87.0*

ISCJB ***02*** *11:30:27.6±0.2,35°.21S±0°.04×72°.72W±0°.05,h20km, mb5.2/140,MS4.5/19,Error ellipse: s-maj=5.6km s-min=5.5km az=164.5*

GUC ***02*** *11:30:27.8±0.6,34°.91S×72°.93W,h11km±9km,ML5.2*

MOS ***02*** *11:30:31.0±0.9,34°.94S×72°.68W,h33km,mb5.4/38,Error ellipse: s-maj=18.7km s-min=9.1km az=102.4*

NEIC ***02*** *11:30:31.9±0.8,35°.20S×72°.59W,h39km±7km,mb5.2/123, Error ellipse: s-maj=8.1km s-min=4.6km az=73.0*

GCMT ***02*** *11:30:31.9±0.2,35°.45S×72°.99W,h12km,MW5.0/79, Moment Tensor Solution. s26,c32; s79,c107; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.85±.14; Mθθ2.81±.11; Mφφ-0.95±.17; Mrθ-0.85±.39; Mθφ3.22±.10; Mφr0.30±.48; Best double couple: M0 3.94000×10^16 NP1:φs101.00000°,δ74.00000°,λ-24.00000°. NP2: φs198.00000°,δ67.00000°,λ-163.00000°. Principal axes: T 4.7120, Plg5.0000°, Azm151.0000°; N -1.5360, Plg61.0000°, Azm250.0000°; P -3.1670, Plg28.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 02 11:30:29.3±0.3,35°.26S±0°.04×72°.71W±0°.06,h20km, h20km:pP-P,n744,σ1§14/760,mb5.2/140,MS4.5/20, 189C-212D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TACH	**Talagante**	**2.17**	**43**	*e*P1	**Pn**	**11 31 03.2**	**-1.0**
IHA	**Instituto Hidr**	**2.40**	**22**	*e*P	**Pn**	**11 31 05.2**	**-2.2**
ANTU	**Antumapu**	**2.40**	**46**	*e*P	**Pn**	**11 31 08.3**	**+0.7**
ANTU				*i*S	**Sn**	**11 31 38.4**	**+1.9**
ANTU				AML	AML	11 31 51.9	
	comp=N,20μm,0.5s						
SAN	**Santiago**	**2.47**	**44**	*e*P1	**Pn**	**11 31 08.5**	**0.0**
SAN				*e*S1	**Sn**	**11 31 39.7**	**+1.6**
STL	**Santa Lucia**	**2.50**	**44**	*e*P9	**Pn**	**11 31 09.5**	**+0.7**
STL				*e*S	**Sn**	**11 31 40.9**	**+2.2**
PEL	**Peldehue**	**2.69**	**39**	⇑*i*P	**Pn**	**11 31 11.3**	**-0.3**
PEL				*e*S	**Sn**	**11 31 44.2**	**+0.6**
PEL				AML	AML	11 31 59.8	
	comp=N,13μm,0.6s						
CFAA	**Coronel Fontan**	**5.22**	**47**	Pn	**Pn**	**11 31 46.8**	**+0.5**
	comp=N,2.2nm,0.3s,baz=217,slow=4.3,SNR=19						
CFAA				Lg	Lg	11 33 09.9	
	comp=N,3.0nm,0.3s,baz=234,slow=2.4,SNR=4.0						
CFAA				LR	LR	11 34 18.9	
	comp=N,164nm,21.7s,baz=229,slow=44						
PLCA	**Paso Flores**	**5.72**	**163**	*e*P	**Pn**	**11 31 52.7**	**-0.5**
PLCA				pmax	pmax		
	comp=Z,140nm,0.5s						
PLCA	**Paso Flores**	**5.72**	**163**	Pn	**Pn**	**11 31 53.0**	**-0.2**
	comp=Z,8.1nm,0.3s,baz=327,slow=11,SNR=43						
PLCA				Lg	Lg	11 33 24.7	
	comp=Z,16nm,0.3s,baz=259,slow=20,SNR=6.0						
PLCA				LR	LR	11 34 11.1	
	comp=Z,6μm,21.3s,baz=348,slow=39						
PLCA	**Paso Flores**	**5.72**	**163**	*e*Pn	**Pn**	**11 31 52.6**	**-0.5**
	comp=Z,140nm,0.5s						
PLCA				*e*Sn	**Sn**	**11 32 55.9**	**-2.5**
PLCA				Lg	Lg	11 33 24.7	
TRQA	**Tornquist**	**9.06**	**111**	*e*Pn	**Pn**	**11 32 40.2**	**+1.2**
TRQA				*e*Sn	**Sn**	**11 34 18.7**	**-1.7**
LVC	**Limon Verde**	**13.03**	**16**	*e*Pn	**Pn**	**11 33 33.7**	**+0.2**
LVC				*e*Sn	**Sn**	**11 35 54.5**	**-3.5**
CPUP	**Villa Florida**	**15.92**	**60**	*e*P	**Pn**	**11 34 11.9**	**-0.2**
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CPUP	**Villa Florida**	**15.92**	**60**	Pn	**Pn**	**11 34 11.4**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=228,slow=11,SNR=3.5						
CPUP				LR	LR	11 40 31.7	
	comp=Z,622nm,21.1s,baz=230,slow=38						
CPUP	**Villa Florida**	**15.92**	**60**	*e*Pn	**Pn**	**11 34 11.8**	**-0.2**
	comp=Z,0.6nm,0.6s						
LPAZ	**La Paz**	**19.33**	**13**	*e*P	**P**	**11 34 54.6**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,46nm,1.0s						
LPAZ	**La Paz**	**19.33**	**13**	P	**Pn**	**11 34 55.1**	**0.0**
	comp=Z,0.6nm,0.3s,baz=175,slow=4.7,SNR=30						
LPAZ	**La Paz**	**19.33**	**13**	*e*Pn	**P**	**11 34 54.6**	**+0.6**
	comp=Z,46nm,1.0s						
USHA	**Ushuaia**	**19.80**	**173**	P	**P**	**11 34 58.8**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=343,slow=10,SNR=9.0						
USHA				LR	LR	11 43 27.6	
	comp=Z,3μm,18.6s,baz=331,slow=40						
SIV	**San Ignacio**	**21.83**	**31**	P	**P**	**11 35 19.3**	**-1.2**
	comp=Z,44nm,0.9s,baz=228,slow=11,SNR=46						
SIV				LR	LR	11 45 41.9	
	comp=Z,3μm,18.8s,baz=226,slow=42						
NNA	**Nana**	**23.47**	**350**	P	**P**	**11 35 35.6**	**-2.1**
	comp=Z,4.1nm,0.4s,baz=201,slow=12,SNR=2.4						
NNA				LR	LR	11 43 23.2	
	comp=Z,1μm,18.1s,baz=179,slow=33						
SAML	**Samuel**	**27.60**	**21**	*e*P	**P**	**11 36 15.6**	**+0.2**
	comp=Z,7.8nm,1.2s						
ATAH	**Atahualpa**	**28.47**	**348**	P	**P**	**11 36 25.5**	**+1.9**
	comp=Z,9.4nm,0.9s,baz=174,slow=12,SNR=3.1						
ATAH				LR	LR	11 45 51.3	
	comp=Z,597nm,18.7s,baz=186,slow=32						
BDFB	**Brasilia**	**29.50**	**55**	*e*P	**P**	**11 36 32.8**	**+0.4**
BDFB	**Brasilia**	**29.50**	**55**	P	**P**	**11 36 31.6**	**-0.8**
	comp=Z,6.7nm,0.7s,baz=222,slow=7.0,SNR=4.3						
BDFB				LR	LR	11 49 54.0	
	comp=Z,1μm,19.1s,baz=224,slow=40						
BDFB	**Brasilia**	**29.50**	**55**	*e*P	**P**	**11 36 32.8**	**+0.4**
ROSC	**El Rosal**	**39.93**	**357**	P	**P**	**11 38 02.5**	**-0.1**
	comp=Z,5.4nm,0.3s,baz=84,slow=23,SNR=3.3						
ROSC				LR	LR	11 54 36.9	
	comp=Z,548nm,19.4s,baz=188,slow=36						
SDV	**Santo Domingo**	**43.95**	**3**	*e*P	**P**	**11 38 33.9**	**-1.4**
	comp=Z,34nm,1.0s						
BCIP	**Isla Barro Col**	**44.70**	**350**	*e*P	**P**	**11 38 41.5**	**+0.5**
	comp=Z,13nm,0.8s						
RCBR	**Riachuelo**	**44.77**	**58**	P	**P**	**11 38 42.4**	**+0.6**
	comp=Z,10nm,0.9s,baz=212,slow=11,SNR=4.7						
RCBR	**Riachuelo**	**44.77**	**58**	*e*P	**P**	**11 38 41.9**	**+0.1**
	comp=Z,7.8nm,0.8s						
RCBR				P	**P**	**11 38 42.4**	**+0.6**
JTS	**JuntasAbangare**	**46.76**	**343**	*e*P	**P**	**11 38 57.7**	**+0.3**
JTS				pmax	pmax		
	comp=Z,24nm,1.2s						
JTS	**JuntasAbangare**	**46.76**	**343**	*e*P	**P**	**11 38 57.7**	**+0.3**
	comp=Z,24nm,1.2s						
VNA3	**Neumayer Olymp**	**48.41**	**157**	P	**P**	**11 39 10.8**	**+1.2**
VNA2	**Neumayer--Watz**	**49.07**	**157**	P	**P**	**11 39 15.3**	**+0.6**
SNAA	**Sanae**	**50.63**	**157**	P	**P**	**11 39 27.4**	**+0.8**
SNAA	**Sanae**	**50.63**	**157**	⇓*i*P	P	11 39 32.2	+5.6
SNAA				pmax	pmax		
	comp=Z,102nm,1.2s						
SNAA	**Sanae**	**50.63**	**157**	P	**P**	**11 39 26.2**	**-0.4**
	comp=Z,5.6nm,0.7s,baz=283,slow=7.1,SNR=26						
OBIP	**Obispado Ponce**	**53.32**	**7**	*e*P	**P**	**11 39 46.2**	**-0.8**
	comp=Z,39nm,0.9s						
CELP	**Cerrillos**	**53.36**	**7**	*e*P	**P**	**11 39 45.9**	**-1.4**
LRS	**Lares**	**53.54**	**7**	*e*P	**P**	**11 39 46.9**	**-1.9**
SDDR	**Presa de Saban**	**53.96**	**2**	*e*P	**P**	**11 39 51.1**	**-0.6**
	comp=Z,4.7nm,0.4s						
RKT	**Rikitea**	**54.90**	**265**	*e*T	T	12 38 53.0	
	comp=Z,3.5nm,0.2s						
GTBY	**Guantanamo Bay**	**54.93**	**357**	*e*P	**P**	**11 39 58.1**	**-0.7**
	comp=Z,12nm,0.5s						
NVL	**N'lazarevskaya**	**55.39**	**156**	*e*P	**P**	**11 40 02.4**	**+0.9**
NVL				pmax	pmax		
	comp=Z,52nm,0.9s						
TEIG	**Tepich**	**57.12**	**343**	*e*P	**P**	**11 40 13.7**	**-0.8**
	comp=Z,62nm,1.0s						
VNDA	**Vanda**	**62.76**	**191**	LR	LR	12 03 59.7	
	comp=Z,220nm,20.8s,baz=146,slow=32						
H06S1	**SOCORRO T**	**64.81**	**320**	T	T	12 51 53.9	
	SNR=14						
SYO	**Syowa Base**	**64.90**	**158**	⇑*e*P	**P**	**11 41 06.9**	**+0.2**
SYO	**Syowa Base**	**64.90**	**158**	⇑*ep*P	pP	11 41 15.4	+2.2
TBI	**Tubuai**	**66.50**	**257**	*e*T	T	12 53 21.8	
	comp=Z,8.3nm,0.3s						
034A	**Hebbronville**	**66.67**	**335**	⇓P	**P**	**11 41 18.6**	**0.0**
	baz=67						
933A	**Laredo**	**67.38**	**335**	⇑P	**P**	**11 41 23.2**	**+0.1**
	baz=68						
835A	**Beeville**	**67.51**	**336**	⇑P	**P**	**11 41 23.4**	**-0.4**
	baz=68						
834A	**Tilden**	**67.60**	**335**	⇓P	**P**	**11 41 24.8**	**+0.3**
	baz=68						
735A	**Kenedy**	**68.03**	**336**	⇓P	**P**	**11 41 27.1**	**0.0**
	baz=68						
833A	**Chaparral WMA,**	**68.08**	**335**	⇓P	**P**	**11 41 27.4**	**-0.1**
	baz=68,SNR=6.4						
MEH	**Mehetia**	**68.14**	**263**	*e*T	T	12 55 25.5	
	comp=Z,47nm,0.2s						
832A	**Faith Ranch, C**	**68.24**	**334**	⇑P	**P**	**11 41 28.5**	**0.0**
	baz=68,SNR=5.4						
734A	**La Parita Cree**	**68.27**	**336**	⇓P	**P**	**11 41 28.6**	**-0.1**
	baz=69						
636A	**Smothers Creek**	**68.36**	**337**	⇓P	**P**	**11 41 29.5**	**+0.2**
	baz=69						
733A	**Divot King Ran**	**68.40**	**335**	⇑P	**P**	**11 41 29.4**	**-0.1**
	baz=69						
635A	**Leesville**	**68.51**	**337**	⇑P	**P**	**11 41 30.0**	**-0.2**
	baz=69						
732A	**Laxson Ranch,**	**68.65**	**334**	⇓P	**P**	**11 41 31.1**	**0.0**
	baz=69,SNR=20						
537A	**Green Hill Far**	**68.69**	**338**	⇓P	**P**	**11 41 30.8**	**-0.5**
	baz=69						
536A	**Basstrop**	**68.92**	**337**	⇑P	**P**	**11 41 32.3**	**-0.4**
	baz=69						
LPIG	**La Paz**	**68.95**	**323**	LR	LR	12 04 56.2	
	comp=Z,199nm,21.2s,baz=166,slow=30						
535A	**Dale**	**69.04**	**337**	⇓P	**P**	**11 41 33.6**	**+0.2**
	baz=69,SNR=5.9						
633A	**Saathoff Ranch**	**69.04**	**335**	⇑P	**P**	**11 41 33.3**	**-0.2**
	baz=69,SNR=5.8						
632A	**Uvalde**	**69.29**	**335**	⇓P	**P**	**11 41 34.8**	**-0.2**
	baz=70,SNR=13						
534A	**Blanco**	**69.33**	**336**	⇓P	**P**	**11 41 34.9**	**-0.3**
	baz=70						
TIAR	**Tiarei**	**69.35**	**263**	*e*T	T	12 56 55.4	
	comp=Z,4.8nm,0.2s						
PAE	**Paea**	**69.48**	**262**	*e*T	T	12 57 05.6	
	comp=Z,1.0nm,0.3s						
631A	**Perdido Creek**	**69.48**	**334**	⇑P	**P**	**11 41 35.8**	**-0.5**
	baz=70,SNR=7.0						
PPT2	**Papeete2**	**69.52**	**263**	*e*LR	LR	12 02 43.6	
	comp=Z,320nm,25.5s						
PPT	**Papeete**	**69.53**	**263**	LR	LR	12 04 17.9	
	comp=Z,126nm,18.5s,baz=106,slow=29						
533A	**Kerrville**	**69.56**	**336**	⇓P	**P**	**11 41 36.6**	**-0.1**
	baz=70,SNR=6.2						
338A	**Crockett**	**69.59**	**339**	⇓P	**P**	**11 41 37.6**	**+0.8**
	baz=70,SNR=6.7						
337A	**Centerville**	**69.72**	**339**	⇓P	**P**	**11 41 38.1**	**+0.5**
	baz=70,SNR=5.3						
435B	**Jarrell**	**69.74**	**337**	⇑P	**P**	**11 41 37.7**	**0.0**
	baz=70						
532A	**Rocksprings**	**69.90**	**335**	⇑P	**P**	**11 41 39.0**	**+0.1**
	baz=70,SNR=28						
434A	**Burnet**	**69.99**	**337**	⇑P	**P**	**11 41 39.1**	**-0.2**
	baz=70,SNR=14						
336A	**Riesel**	**70.07**	**338**	⇑P	**P**	**11 41 39.7**	**-0.1**
	baz=70,SNR=13						
335A	**Moody**	**70.15**	**338**	⇓P	**P**	**11 41 39.9**	**-0.4**
	baz=70						
531A	**Rocksprings**	**70.16**	**335**	⇓P	**P**	**11 41 40.2**	**-0.3**
	baz=70,SNR=9.7						
JCT	**Junction City**	**70.19**	**335**	*e*P	**P**	**11 41 39.8**	**-0.8**
JCT	**Junction City**	**70.19**	**335**	⇑P	**P**	**11 41 40.1**	**-0.5**
	baz=70,SNR=17						
JCT	**Junction City**	**70.19**	**335**	*e*P	**P**	**11 41 39.8**	**-0.8**
JCT				*e*P	pP	11 41 40.4	-6.7
433A	**Art**	**70.20**	**336**	⇓P	**P**	**11 41 40.1**	**-0.6**
	baz=70,SNR=23						
530A	**J-C Ranch, Com**	**70.43**	**334**	⇑P	**P**	**11 41 41.9**	**-0.2**
	baz=71,SNR=23						
334A	**Lometa**	**70.45**	**337**	⇓P	**P**	**11 41 41.9**	**-0.3**
	baz=71,SNR=20						
KMSC	**Kings Mountain**	**70.50**	**353**	⇑P	**P**	**11 41 41.5**	**-0.8**
	baz=71						
KMSC	**Kings Mountain**	**70.50**	**353**	*e*P	**P**	**11 41 41.5**	**-0.8**
	comp=Z,36nm,1.1s						
432A	**Menard**	**70.55**	**335**	⇓P	**P**	**11 41 42.2**	**-0.6**
	baz=71,SNR=6.6						
TXAR	**Lajitas Array**	**70.57**	**332**	P	**P**	**11 41 42.8**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=151,slow=8.4,SNR=43						
TXAR				LR	LR	12 07 27.9	
	comp=Z,474nm,20.0s,baz=0.0,slow=32						
431A	**Sonora**	**70.65**	**335**	⇑P	**P**	**11 41 42.8**	**-0.6**
	baz=71						
333A	**Richland Sprin**	**70.69**	**336**	⇑P	**P**	**11 41 43.2**	**-0.4**
	baz=71,SNR=18						
529A	**Stev Forest Ra**	**70.73**	**333**	⇓P	**P**	**11 41 43.6**	**-0.3**
	baz=71,SNR=23						
WHTX	**Lake Whitney,**	**70.82**	**338**	⇓P	**P**	**11 41 44.1**	**-0.2**
	baz=71						
WHTX	**Lake Whitney,**	**70.82**	**338**	*e*P	**P**	**11 41 44.2**	**-0.2**
	comp=Z,50nm,1.0s						
430A	**Baggett Ranch,**	**70.97**	**334**	⇑P	**P**	**11 41 45.0**	**-0.4**
	baz=71,SNR=19						
332A	**Millersview**	**71.00**	**336**	⇑P	**P**	**11 41 45.0**	**-0.5**
	baz=71,SNR=16						
234A	**Clairette**	**71.04**	**337**	⇑P	**P**	**11 41 45.5**	**-0.3**
	baz=71,SNR=14						
429A	**Davenport Ranc**	**71.06**	**334**	⇓P	**P**	**11 41 45.6**	**-0.3**
	baz=71,SNR=16						
OXF	**Oxford**	**71.14**	**345**	*e*P	**P**	**11 41 45.0**	**-1.2**
OXF				pmax	pmax		
	comp=Z,57nm,1.0s						
OXF	**Oxford**	**71.14**	**345**	*e*P	**P**	**11 41 45.0**	**-1.2**
	comp=Z,57nm,1.0s						
331A	**San Angelo,**	**71.16**	**335**	⇑P	**P**	**11 41 46.1**	**-0.4**
	baz=72,SNR=21						
SWET	**Sewanee**	**71.19**	**349**	*e*P	**P**	**11 41 46.0**	**-0.6**
	comp=Z,52nm,1.0s						
CPCT	**Cooper Cave**	**71.20**	**350**	*e*P	**P**	**11 41 48.0**	**+1.4**
233A	**Rising Star**	**71.30**	**337**	⇑P	**P**	**11 41 47.0**	**-0.3**
	baz=72,SNR=17						
TKL	**Tuckaleechee C**	**71.30**	**351**	*e*P	**P**	**11 41 46.1**	**-1.1**
TKL	**Tuckaleechee C**	**71.30**	**351**	*e*P	**P**	**11 41 46.1**	**-1.1**
135A	**Vickery Place,**	**71.33**	**338**	⇓P	**P**	**11 41 46.6**	**-0.9**
	baz=72						
232A	**Coleman**	**71.43**	**336**	⇓P	**P**	**11 41 47.5**	**-0.6**
	baz=72,SNR=14						
330A	**Mertzon**	**71.51**	**335**	⇑P	**P**	**11 41 47.9**	**-0.8**
	baz=72,SNR=13						
134A	**White-Moore Ra**	**71.55**	**338**	⇓P	**P**	**11 41 48.2**	**-0.6**
	baz=72						
231A	**Bronte**	**71.69**	**335**	⇓P	**P**	**11 41 49.2**	**-0.5**
	baz=72,SNR=13						
133A	**Hamilton Ranch**	**71.85**	**337**	⇓P	**P**	**11 41 50.2**	**-0.4**
	baz=72,SNR=19						
329A	**Wagon Wheel Ra**	**71.87**	**334**	⇓P	**P**	**11 41 50.4**	**-0.4**
	baz=72,SNR=14						
230A	**Sterling City**	**71.93**	**335**	⇓P	**P**	**11 41 50.1**	**-1.0**
	baz=72						
Z35A	**Perchaven, San**	**72.00**	**339**	⇓P	**P**	**11 41 51.3**	**-0.2**
	baz=72,SNR=6.4						
UALR	**University of**	**72.05**	**343**	*e*P	P	11 41 56.0	+4.3
	comp=Z,20nm,1.0s						
ABTX	**Abilene, Hawle**	**72.10**	**336**	⇓P	**P**	**11 41 51.8**	**-0.3**
	baz=72,SNR=16						
ABTX	**Abilene, Hawle**	**72.10**	**336**	*e*P	**P**	**11 41 51.7**	**-0.5**
	comp=Z,78nm,1.2s						
MAW	**Mawson**	**72.13**	**164**	LR	LR	12 12 00.3	
	comp=Z,849nm,21.8s,baz=236,slow=35						
MIAR	**Mount Ida**	**72.13**	**342**	*e*P	**P**	**11 41 51.4**	**-0.8**
MIAR				pmax	pmax		
	comp=Z,17nm,1.2s						
MIAR	**Mount Ida**	**72.13**	**342**	*e*P	**P**	**11 41 51.4**	**-0.8**
	comp=Z,17nm,1.2s						
Z34A	**Collier Ranch,**	**72.24**	**338**	⇑P	**P**	**11 41 51.9**	**-1.0**
	baz=73,SNR=5.4						
229A	**Bryant Ranch,**	**72.24**	**334**	⇑P	**P**	**11 41 52.3**	**-0.8**
	baz=73,SNR=5.4						
131A	**Roby**	**72.39**	**336**	⇑P	**P**	**11 41 53.3**	**-0.6**
	baz=73,SNR=20						
**WVT

baz=73
128A **Castleberry Fa** 73.08 334 ⇑P P 11 41 57.7 -0.3
baz=73,SNR=19
Z30A **Sanderson Ranc** 73.20 335 ⇑P P 11 41 57.7 -1.0
baz=74,SNR=20
Y32A **R-V Farms, Ver** 73.31 337 ⇑P P 11 41 58.6 -0.6
baz=74,SNR=12
MNTX **Cornudas Mount** 73.34 331 eP P 11 41 58.1 -1.4
comp=Z,13nm,1.0s
X34A **Smith Ranch, M** 73.36 339 ⇓P P 11 41 58.9 -0.6
baz=74,SNR=13
Z29A **Hungry Hill Ra** 73.38 335 ⇓P P 11 41 58.9 -0.9
baz=74,SNR=26
127A **Arkansas Junct** 73.44 333 ⇑P P 11 41 59.5 -0.7
baz=74,SNR=6.9
X33A **Lawton** 73.51 338 ⇑P P 11 41 59.3 -1.1
baz=74,SNR=5.3
Y31A **Rekieta Farm,** 73.53 336 ⇓P P 11 42 00.0 -0.6
baz=74,SNR=20
PBMO **Poplar Bluff** 73.54 345 eP P 11 41 59.7 -0.9
comp=Z,31nm,1.0s
X32A **Elmer** 73.64 337 ⇓P P 11 42 00.4 -0.8
baz=74,SNR=7.9
Z28A **Tucker Farm, M** 73.64 334 ⇓P P 11 42 00.3 -1.1
baz=74,SNR=6.3
Y30A **Stafford Cattl** 73.67 336 ⇑P P 11 42 00.7 -0.7
baz=74,SNR=11
Y29A **Porterfield Fa** 73.91 335 ⇑P P 11 42 02.0 -0.9
baz=74,SNR=18
W34A **Bridge Creek,** 73.93 339 ⇓P P 11 42 01.2 -1.7
baz=74
W34A **Bridge Creek,** 73.93 339 eP P 11 42 02.0 -0.9
comp=Z,32nm,1.0s
Z27A **Tatum** 73.96 334 ⇓P P 11 42 02.7 -0.6
baz=74,SNR=5.3
TUL1 **Leonard** 74.00 341 ⇑P P 11 42 02.6 -0.7
baz=74,SNR=6.2
TUL1 **Leonard** 74.00 341 eP P 11 42 02.5 -0.8
comp=Z,45nm,0.9s
X31A **McDonald Ranch** 74.05 337 ⇑P P 11 42 03.1 -0.5
baz=74,SNR=20
W33A **Caddo, Fort Co** 74.06 338 ⇓P P 11 42 03.4 -0.2
baz=74,SNR=20
Y28A **McKinney Farm,** 74.16 335 ⇑P P 11 42 03.9 -0.4
baz=74
USIN **University of** 74.17 348 eP P 11 42 03.1 -1.1
comp=Z,48nm,1.0s
X30A **Coker Ranch, T** 74.18 336 ⇓P P 11 42 04.2 -0.2
baz=74
Z26A **Caprock** 74.20 333 ⇑P P 11 42 04.6 -0.1
baz=74
SIUC **Southern Illin** 74.21 346 eP P 11 42 03.6 -0.8
comp=Z,33nm,1.0s
W32A **Sentinel** 74.28 338 ⇑P P 11 42 04.8 -0.1
baz=75,SNR=39
MSTX **Muleshoe** 74.39 334 ⇓P P 11 42 05.1 -0.7
baz=75,SNR=19
MSTX **Muleshoe** 74.39 334 eP P 11 42 05.3 -0.5
comp=Z,42nm,1.0s
SDMD **Soldier's Deli** 74.40 357 eP P 11 42 05.5 0.0
comp=Z,31nm,1.0s
V34A **Guthrie** 74.42 339 ⇓P P 11 42 05.1 -0.6
baz=75
V34A **Guthrie** 74.42 339 eP P 11 42 05.0 -0.7
comp=Z,79nm,1.4s
X29A **Tulia** 74.45 335 ⇓P P 11 42 05.5 -0.5
baz=75,SNR=11
Y27A **Causey** 74.46 334 ⇑P P 11 42 05.3 -0.8
baz=75
Z25A **Roswell** 74.49 333 ⇓P P 11 42 05.4 -0.9
baz=75,SNR=5.2
W31A **Holland Ranch,** 74.55 337 ⇑P P 11 42 05.9 -0.7
baz=75,SNR=6.2
V33A **Lossen Ranch,** 74.63 339 ⇓P P 11 42 06.5 -0.5
baz=75,SNR=17
319A **Douglas** 74.67 328 ⇓P P 11 42 07.8 +0.4
baz=75,SNR=7.3
X28A **Dimmitt** 74.69 335 ⇑P P 11 42 07.0 -0.4
baz=75
Y26A **Elida** 74.73 334 ⇓P P 11 42 07.4 -0.4
baz=75,SNR=15
W30A **Crocket Farms** 74.75 337 ⇑P P 11 42 07.5 -0.2
baz=75
V32A **Arapaho** 74.76 338 ⇓P P 11 42 07.6 -0.1
baz=75,SNR=5.8
Z24A **Sheeppen Canyo** 74.78 332 ⇓P P 11 42 08.0 -0.1
baz=75,SNR=12
AMTX **Amarillo** 74.85 336 ⇓P P 11 42 07.6 -0.8
baz=75
AMTX **Amarillo** 74.85 336 eP P 11 42 08.1 -0.2
comp=Z,68nm,1.0s
MVL **Millersville** 74.96 357 eP P 11 42 08.7 0.0
comp=Z,36nm,1.2s
U34A **Anderson Ranch** 74.98 339 ⇑P P 11 42 08.3 -0.7
baz=75,SNR=5.5
U34A **Anderson Ranch** 74.98 339 eP P 11 42 08.5 -0.5
comp=Z,72nm,1.2s
OLIL **Olney** 74.99 348 eP P 11 42 12.0 +3.1
comp=Z,34nm,1.3s
121A **Cookes Peak, D** 75.04 330 ⇑P P 11 42 10.2 +0.6
baz=75,SNR=21
121A **Cookes Peak, D** 75.04 330 eP P 11 42 10.3 +0.6
comp=Z,26nm,1.0s
W29A **Amarillo** 75.05 336 ⇑P P 11 42 09.2 -0.3
baz=75,SNR=17
Y25A **Mesa, Roswell** 75.05 333 ⇓P P 11 42 08.8 -0.8
baz=75
V31A **Spring Creek L** 75.06 337 ⇓P P 11 42 09.6 +0.1
baz=75,SNR=8.5
X27A **F and S Farms,** 75.12 334 ⇓P P 11 42 09.7 -0.2
baz=75
U33A **Lingo Farm, Me** 75.15 339 ⇓P P 11 42 09.6 -0.3
baz=76
X26A **CR and CF Fran** 75.29 334 ⇑P P 11 42 11.0 0.0
baz=76,SNR=27
SLM **Saint Louis** 75.30 346 eP P 11 42 09.8 -0.9
SLM pmax pmax
comp=Z,52nm,0.9s
SLM **Saint Louis** 75.30 346 eP P 11 42 09.8 -0.9
comp=Z,52nm,0.9s
V30A **Spur Ranch, Mi** 75.32 337 ⇓P P 11 42 11.3 +0.3
baz=76,SNR=5.4
Y24A **Capitan** 75.33 332 ⇓P P 11 42 11.1 -0.2
baz=76,SNR=20
Z22A **Elephant Butte** 75.34 331 ⇑P P 11 42 11.1 -0.2
baz=76,SNR=13
U32A **Winter Ranch,** 75.36 338 ⇓P P 11 42 10.9 -0.3
baz=76,SNR=12
W28A **Vega** 75.36 335 ⇓P P 11 42 11.0 -0.3
baz=76
W27A **Bowe Ranch, En** 75.48 335 ⇓P P 11 42 11.6 -0.4
baz=76,SNR=22
Y23A **Lovelace Mesa,** 75.58 332 ⇓P P 11 42 12.8 +0.1
baz=76,SNR=16
X25A **Clemmons Ranch** 75.58 333 ⇓P P 11 42 12.1 -0.5
baz=76,SNR=16
SSPA **Standing Stone** 75.67 356 eP P 11 42 12.3 -0.5
comp=Z,34nm,1.3s
LIC **Lamto** 75.69 72 eP P 11 42 13.1 -0.5
comp=Z,69nm,1.4s
ACSO **Alum Creek Sta** 75.71 352 eP P 11 42 12.2 -0.9
comp=Z,71nm,1.1s
W26A **Owens Ranch, T** 75.76 334 ⇓P P 11 42 13.5 -0.1
baz=76,SNR=8.5
T33A **Patterson Ranc** 75.79 339 ⇑P P 11 42 13.5 -0.1
baz=76,SNR=18
V28A **Channing** 75.82 336 ⇓P P 11 42 13.7 -0.2
baz=76
X24A **Lazy VL Ranch,** 75.90 333 ⇓P P 11 42 14.4 -0.1
baz=76,SNR=26
TIC **Toumodi** 75.96 71 eP P 11 42 15.2 +0.1
comp=Z,5.7nm,0.2s
KIC **Kosan Boka** 76.00 72 eP P 11 42 15.0 -0.4
comp=Z,24nm,0.7s
U30A **WK&E Inc. Balk** 76.01 337 ⇓P P 11 42 14.4 -0.6
baz=76,SNR=7.5
V27A **Dan Oppiter Fa** 76.03 335 ⇑P P 11 42 15.1 -0.1
baz=76
T32A **Huddler Ranch,** 76.08 339 ⇑P P 11 42 15.0 -0.3
baz=76,SNR=5.4
DBIC **Dimbokro** 76.10 71 P P 11 42 16.3 +0.4
comp=Z,11nm,0.7s,baz=204,slow=6.5,SNR=18
DBIC LR LR 12 13 58.5
comp=Z,240nm,18.4s,baz=211,slow=34
W25A **X Bar L Ranch,** 76.12 334 ⇓P P 11 42 15.3 -0.4
baz=76,SNR=17
TUC **Tucson** 76.12 327 eP P 11 42 16.1 +0.4
TUC pmax pmax
comp=Z,26nm,1.3s
TUC **Tucson** 76.12 327 eP P 11 42 16.1 +0.4
comp=Z,26nm,1.3s
LPM **Los Pinos Moun** 76.14 332 eP P 11 42 16.3 +0.5
U29A **Oasis Ranch, S** 76.14 337 ⇓P P 11 42 15.6 -0.1
baz=76
LENM **Lemitar** 76.14 331 eP P 11 42 16.6 +0.7
X23A **Hourglass Bar** 76.20 332 ⇓P P 11 42 16.4 +0.1
baz=76,SNR=13
T31A **Randall Ranch,** 76.23 338 ⇑P P 11 42 15.7 -0.4
baz=77,SNR=5.8
U28A **Mallet** 76.39 336 ⇓P P 11 42 16.7 -0.4
baz=77,SNR=5.6
V26A **Tequesquite Ra** 76.40 334 ⇓P P 11 42 16.9 -0.3
baz=77,SNR=7.9
LAZ **Ladron** 76.41 331 eP P 11 42 17.5 +0.1
comp=Z,12nm,1.1s
SFIN **Lafayette** 76.42 349 ⇓P P 11 42 15.4 -1.7
baz=77
T30A **Plains** 76.45 337 ⇑P P 11 42 17.2 -0.2
baz=77
W24A **Lazy 6 Ranch,** 76.46 333 ⇑P P 11 42 17.3 -0.5
baz=77,SNR=8.3
S32A **Newby Ranch, P** 76.56 339 ⇑P P 11 42 17.9 -0.1
baz=77,SNR=5.5
ANMO **Albuquerque** 76.63 332⇑eP P 11 42 18.8 +0.2
ANMO pmax pmax
comp=Z,50nm,1.2s
ANMO **Albuquerque** 76.63 332 eP P 11 42 18.4 -0.3
comp=Z,27nm,1.0s
U27A **Thompson Grove** 76.63 335 ⇑P P 11 42 18.6 +0.1
baz=77,SNR=11
S31A **Mullinville** 76.65 338 ⇑P P 11 42 18.8 +0.2
baz=77
W23A **Werner Place,** 76.70 332 ⇑P P 11 42 19.2 +0.1
baz=77,SNR=23
V25A **Rancho No Teng** 76.73 334 ⇓P P 11 42 18.9 -0.3
baz=77,SNR=21
214A **Organ Pipe Nat** 76.74 326 ⇑P P 11 42 19.1 -0.1
baz=77,SNR=6.4
214A **Organ Pipe Nat** 76.74 326 eP P 11 42 19.7 +0.5
comp=Z,18nm,1.1s
T29A **Hugoton** 76.79 337 ⇓P P 11 42 19.4 0.0
baz=77,SNR=5.1
R33A **Olander Ranch,** 76.86 340 ⇑P P 11 42 19.0 -0.6
baz=77
V24A **Rampart Ranch,** 76.87 333 ⇑P P 11 42 19.7 -0.4
baz=77,SNR=16
U26A **Atchley Ranch,** 76.92 335 ⇑P P 11 42 20.0 -0.3
baz=77,SNR=5.3
S30A **Montezuma** 76.97 338 ⇓P P 11 42 20.2 -0.2
baz=77,SNR=6.3
T28A **Walsh** 77.03 336 ⇓P P 11 42 20.3 -0.4
baz=77,SNR=31
S29A **Ulysses** 77.16 337 ⇑P P 11 42 21.5 0.0
baz=78,SNR=15
U25A **Circle Dot Ran** 77.16 334 ⇑P P 11 42 21.4 -0.2
baz=78,SNR=16
R32A **Long Quarter,** 77.17 339 ⇑P P 11 42 21.2 -0.2
baz=78,SNR=9.6
T27A **Campo** 77.17 336 ⇓P P 11 42 21.3 -0.3
baz=78,SNR=23
KSU1 **Kansas State U** 77.22 341 ⇓P P 11 42 20.8 -0.8
baz=78
KSU1 **Kansas State U** 77.22 341 eP P 11 42 20.8 -0.8
comp=Z,17nm,0.8s
V23A **Ortiz Mt. (NFS** 77.23 333 ⇑P P 11 42 22.4 +0.4
baz=78
R31A **Burdett** 77.28 339 ⇓P P 11 42 21.7 -0.4
baz=78,SNR=5.9
ERPA **Erie** 77.29 354 eP P 11 42 20.9 -1.1
comp=Z,38nm,1.0s
S28A **Manter** 77.38 337 ⇑P P 11 42 22.7 0.0
baz=78,SNR=28
Q33A **Connelly Farm,** 77.46 340 ⇓P P 11 42 22.8 -0.2
baz=78
U24A **Moreno Valley** 77.48 334 ⇓P P 11 42 24.0 +0.4
baz=78,SNR=6.8
R30A **Dighton** 77.51 338 ⇓P P 11 42 22.9 -0.4
baz=78
T26A **Comanche Natio** 77.57 335 ⇑P P 11 42 24.1 +0.2
baz=78,SNR=19
TRY **Troy** 77.62 359 eP P 11 42 29.1 +5.3
comp=Z,76nm,1.1s
Q32A **Meitler Ranch,** 77.65 340 ⇑P P 11 42 23.7 -0.3
baz=78,SNR=14
V22A **San Miguel Ran** 77.65 332 ⇓P P 11 42 24.9 +0.5
baz=78,SNR=37
X18A **Snowflake** 77.67 329 ⇓P P 11 42 24.7 +0.2
baz=78,SNR=14
U23A **El Rito** 77.75 333 ⇓P P 11 42 25.6 +0.6
baz=78,SNR=20
MMNY **Mt. Morris Dam** 77.76 356 eP P 11 42 23.9 -0.6
comp=Z,119nm,1.2s
T25A **Trinidad** 77.82 335 ⇓P P 11 42 25.9 +0.5
baz=78,SNR=36
P33A **Williams Farm,** 77.83 340 ⇓P P 11 42 24.7 -0.3
baz=78
113A **Mohawk Valley,** 77.86 326 ⇑P P 11 42 25.5 +0.1
baz=78
R29A **Marienthal** 77.90 338 ⇑P P 11 42 25.1 -0.5
baz=78,SNR=13
Q31A **Ellis** 77.91 339 ⇑P P 11 42 25.3 -0.3
baz=78,SNR=10.0
S26A **Kim** 77.93 335 ⇓P P 11 42 25.9 0.0
baz=78,SNR=31
R28A **Tribune** 78.04 337 ⇑P P 11 42 26.1 -0.2
baz=78,SNR=21
U22A **Llaves** 78.04 332 ⇑P P 11 42 26.9 +0.4
baz=78,SNR=21
W18A **Petrified Fore** 78.08 330 ⇑P P 11 42 27.3 +0.5
baz=78,SNR=7.8
W18A **Petrified Fore** 78.08 330 eP P 11 42 26.9 +0.1
comp=Z,52nm,1.1s
T24B **San Luis** 78.10 334 ⇑P P 11 42 27.4 +0.4
baz=78,SNR=16
Q30A **Quinter** 78.13 338 ⇓P P 11 42 27.1 +0.3
baz=78
X16A **Lo Mia Camp, P** 78.20 328 ⇑P P 11 42 28.0 +0.5
baz=78,SNR=26
P32A **Huiting Farm,** 78.25 340 ⇑P P 11 42 27.1 -0.3
baz=79,SNR=6.3
Q29A **Oakley** 78.28 338 ⇓P P 11 42 27.7 +0.1
baz=79
S25A **Robets Cordova** 78.30 335 ⇓P P 11 42 27.9 0.0
baz=79,SNR=18
R27A **Eads** 78.31 336 ⇓P P 11 42 27.7 -0.2
baz=79,SNR=27
T23A **Casias Ranch,** 78.32 333 ⇓P P 11 42 28.3 +0.2
baz=79,SNR=5.6
P31A **Stockton** 78.38 339 ⇓P P 11 42 28.1 0.0
baz=79
Y14A **Wickenburg** 78.49 327 ⇑P P 11 42 29.2 +0.3
baz=79,SNR=5.2
R26A **Arlington** 78.54 336 ⇓P P 11 42 29.2 +0.1
baz=79,SNR=19
S24A **Houchin Ranch,** 78.56 334 ⇑P P 11 42 29.9 +0.4
baz=79,SNR=23
GLA **Glamis** 78.59 325 eP P 11 42 30.4 +0.9
GLA pmax pmax
comp=Z,71nm,2.0s
GLA **Glamis** 78.59 325 ⇓P P 11 42 30.0 +0.5
baz=79
GLA **Glamis** 78.59 325 eP P 11 42 30.4 +0.9
comp=Z,71nm,2.0s
R25A **Fountain Ranch** 78.69 335 ⇓P P 11 42 30.1 +0.1
baz=79
Q28A **Sharon Springs** 78.70 337 ⇑P P 11 42 29.9 -0.1
baz=79,SNR=6.9
SDCO **Great Sand Dun** 78.75 334 eP P 11 42 29.5 -1.1
comp=Z,13nm,0.9s
S23A **Nye Farm, Mont** 78.90 334 ⇓P P 11 42 31.3 0.0
baz=79,SNR=5.9
KSCO **Kaye Shedlock'** 78.91 337 ⇑P P 11 42 31.0 -0.2
baz=79
KSCO **Kaye Shedlock'** 78.91 337 eP P 11 42 31.6 +0.4
comp=Z,52nm,1.3s
P29A **Atwood** 78.92 338 ⇓P P 11 42 31.2 0.0
baz=79,SNR=9.9
O31A **Woolen Ranch,** 78.95 340 ⇓P P 11 42 30.9 -0.4
baz=79,SNR=5.5
SWSC **Sam W. Stewart** 78.96 324 ⇑P P 11 42 30.9 -0.5
baz=79
Y12C **Blythe** 79.03 326 ⇑P P 11 42 32.5 +0.7
baz=79,SNR=6.1
R24A **Sanders Place,** 79.05 335 ⇓P P 11 42 32.6 +0.5
baz=79,SNR=31
SCIA **State Center** 79.06 345 eP P 11 42 31.7 -0.1
comp=Z,48nm,1.2s
WUAZ **Wupatki** 79.11 329 ⇓P P 11 42 32.5 +0.1
baz=79,SNR=22
WUAZ **Wupatki** 79.11 329 eP P 11 42 33.2 +0.7
comp=Z,38nm,1.1s
Q26A **Hugo** 79.12 336 ⇓P P 11 42 32.4 0.0
baz=80,SNR=18
P28A **Saint Francis** 79.14 338 ⇓P P 11 42 32.4 0.0
baz=80,SNR=7.3
O30A **MW Ranch, Wils** 79.19 339 ⇓P P 11 42 32.4 -0.2
baz=80,SNR=7.1
MONP **Monument Peak,** 79.22 324 ⇑P P 11 42 32.9 -0.2
baz=80
S22A **4UR Ranch, Cre** 79.24 333 ⇓P P 11 42 33.0 -0.2
baz=80,SNR=10
R23A **Moffat** 79.27 334 ⇓P P 11 42 33.5 +0.2
baz=80
PDMCI **Parker Dam,Lak** 79.31 326 ⇓P P 11 42 33.4 +0.1
baz=80
O29A **4D Ranch, Culb** 79.36 338 ⇑P P 11 42 32.8 -0.7
baz=80
Q25A **Bedland, Calha** 79.36 335 ⇓P P 11 42 33.6 -0.2
baz=80,SNR=7.1
BC3 **Big Chuckawall** 79.38 325 ⇑P P 11 42 34.0 +0.2
baz=80,SNR=6.6
P27A **Ficken Ranch,** 79.39 337 ⇓P P 11 42 33.9 +0.1
baz=80,SNR=5.7
TSUM **Tsumeb** 79.40 106 eP P 11 42 36.2 +1.8
comp=Z,18nm,1.1s
MVCO **Mesa Verde** 79.40 332 ⇑P P 11 42 34.1 +0.1
baz=80,SNR=17
MVCO **Mesa Verde** 79.40 332 eP P 11 42 34.3 +0.3
comp=Z,43nm,1.2s
JFWS **Jewell Farm** 79.43 347 eP P 11 42 33.0 -0.8
JFWS pmax pmax
comp=Z,87nm,1.6s
JFWS **Jewell Farm** 79.43 347 eP P 11 42 33.0 -0.8
comp=Z,87nm,1.6s
N31A **Bailey Ranch,** 79.47 340 ⇓P P 11 42 34.1 0.0
baz=80
LONY **Lake Ozonia** 79.52 359 eP P 11 42 34.2 -0.1
comp=Z,26nm,1.0s
P26A **Davis Ranch, A** 79.64 336 ⇓P P 11 42 35.5 +0.3
baz=80
IRM **Iron Mountain** 79.66 325 ⇓P P 11 42 35.5 +0.3
baz=80,SNR=6.0
O28A **Krutsinger Ran** 79.66 338 ⇑P P 11 42 35.4 +0.3
baz=80,SNR=12
Q24A **Divide** 79.72 335 ⇓P P 11 42 35.9 0.0
baz=80,SNR=12
BGNE **Belgrade** 79.79 341 ⇓P P 11 42 35.8 0.0
baz=80
BGNE **Belgrade** 79.79 341 eP P 11 42 37.1 +1.3
comp=Z,46nm,1.1s
PFO **Pinyon Flats O** 79.82 324 eP P 11 42 37.3 +1.0
PFO **Pinyon Flats O** 79.82 324 LR LR 12 10 29.6
comp=Z,245nm,20.0s,baz=150,slow=30
PFO **Pinyon Flats O** 79.82 324 ⇑P P 11 42 37.0 +0.8
baz=80,SNR=14
PFO **Pinyon Flats O** 79.82 324 eP P 11 42 37.3 +1.0
W13A **Hualapai Mount** 79.86 327 ⇑P P 11 42 37.1 +0.6
baz=80,SNR=6.0
P25A **Willow Gulch B** 79.87 336 ⇑P P 11 42 36.8 +0.4
baz=80,SNR=14
BELC **Belle Mtn. Jos** 79.92 325 ⇑P P 11 42 36.6 -0.2
baz=80
O27A **Beecher Island** 79.94 337 ⇑P P 11 42 36.8 +0.1
baz=80,SNR=13
N29A **Votaw Ranch, W** 79.94 339 ⇓P P 11 42 36.8 +0.1
baz=80
M31A **Lambtecht Ranc** 79.96 340 ⇓P P 11 42 36.7 0.0
baz=80
N28A **Pribbeno Ranch** 80.10 338 ⇓P P 11 42 37.1 -0.5
baz=80,SNR=6.5
P24A **Kohler Place,** 80.12 335 ⇓P P 11 42 37.7 -0.2
baz=80,SNR=5.8
MURC **Murrieta** 80.17 324 ⇓P P 11 42 37.8 -0.3
baz=80
PV01 **Paradox Valley** 80.23 332 eP P 11 42 38.4 -0.1
comp=Z,2µm,1.1s
O26A **Horse Wrangler** 80.25 337 ⇑P P 11 42 38.9 +0.4
baz=81,SNR=10
U15A **North Rim** 80.28 329 ⇑P P 11 42 39.5 +0.7
baz=81,SNR=24
P23A **Jefferson** 80.32 335 ⇓P P 11 42 39.0 -0.1
baz=81
LDFC **Landfair** 80.39 326 P P 11 42 39.2 -0.2
LDFC ePcP pP 11 42 45.6 -0.4
comp=Z,23nm,1.1s
O25A **Wiggins** 80.40 336 ⇑P P 11 42 39.4 +0.2
baz=81,SNR=6.7
GMRC **Granite Mounta** 80.40 325 ⇓P P 11 42 39.3 -0.1
baz=81
N27A **Anderson Farm,** 80.51 337 ⇑P P 11 42 39.9 +0.1
baz=81,SNR=14
M29A **Burnside Ranch** 80.54 339 ⇑P P 11 42 39.9 0.0
baz=81
SMCO **Snowmass** 80.55 334 eP P 11 42 41.1 +0.6
comp=Z,39nm,1.2s
BBRC **Big Bear Solar** 80.58 324 ⇑P P 11 42 39.8 -0.6
baz=81
PV04 **Paradox Valley** 80.59 332 eP P 11 42 40.7 +0.3
ISCO **Idaho Springs** 80.62 335 eP P 11 42 40.9 +0.2
ISCO pmax pmax
comp=Z,10.0nm,1.0s
ISCO **Idaho Springs** 80.62 335 ⇓P P 11 42 40.5 -0.2
baz=81,SNR=11
ISCO **Idaho Springs** 80.62 335 eP P 11 42 40.9 +0.2
comp=Z,10nm,1.0s
L31A **Butterfield Fa** 80.69 341 ⇓P P 11 42 40.5 -0.1
baz=81,SNR=18
L30A **Spencer Herefo** 80.73 340 ⇓P P 11 42 41.2 +0.3
baz=81
O24A **Longmont** 80.73 335 ⇓P P 11 42 40.8 -0.3
baz=81
HEC **Hector,Ludlow** 80.76 325 ⇑P P 11 42 41.8 +0.6
baz=81,SNR=6.1
P22A **Eagle** 80.85 334 ⇑P P 11 42 42.0 +0.2
baz=81
BFSC **Mount Baldy Ra** 80.91 324 ⇓P P 11 42 42.4 +0.2
baz=81,SNR=6.2
L29A **Maesberg Ranch** 81.05 339 ⇓P P 11 42 42.7 +0.1
baz=81,SNR=14
TUQ **Turquoise Moun** 81.06 326 ⇓P P 11 42 43.5 +0.5
baz=81,SNR=14
MWC **Mount Wilson** 81.09 323 eP P 11 42 43.8 +0.6
MWC pmax pmax
comp=Z,30nm,1.4s
MWC **Mount Wilson** 81.09 323 eP P 11 42 43.8 +0.6
comp=Z,30nm,1.4s
O23A **Lake Granby, G** 81.09 335 ⇑P P 11 42 43.2 0.0
baz=81,SNR=23
O22A **Kremmling** 81.27 334 ⇑P P 11 42 43.8 -0.4
baz=82,SNR=19
N24A **Carr** 81.29 336 ⇓P P 11 42 44.0 0.0
baz=82
GSC **Goldstone, Bar** 81.37 325 eP P 11 42 45.4 +0.9
GSC pmax pmax
comp=Z,12nm,1.2s
GSC **Goldstone, Bar** 81.37 325 ⇓P P 11 42 44.4 -0.1
baz=82
GSC **Goldstone, Bar** 81.37 325 eP P 11 42 45.4 +0.9
comp=Z,12nm,1.2s
K30A **Basset** 81.37 340 ⇓P P 11 42 44.1 -0.2
baz=82,SNR=22
M25A **Palm-Egli Farm** 81.57 337 ⇑P P 11 42 45.5 0.0
baz=82
ECSD **EROS Data Cent** 81.58 343 ⇓P P 11 42 44.6 -0.7
baz=82,SNR=44
ECSD **EROS Data Cent** 81.58 343 eP P 11 42 44.5 -0.8
comp=Z,51nm,0.9s
EDW2 **Edwards Air Fo** 81.59 324 ⇓P P 11 42 45.5 -0.2
baz=82,SNR=5.5
SHPR **Sheep Range** 81.60 327 eP P 11 42 46.1 +0.3
SHOC **Shoshone, Teco** 81.61 326 ⇓P P 11 42 45.7 0.0
baz=82
K29A **Lazy Trails An** 81.64 340 ⇑P P 11 42 45.7 -0.1
baz=82,SNR=14
CCUT **Cedar City** 81.68 328 eP P 11 42 47.5 +1.2
comp=Z,35nm,1.1s
N23A **Red Feather La** 81.71 335 ⇑P P 11 42 46.1 -0.3
baz=82,SNR=8.0
N22A **Wattenberg Ran** 81.81 335 ⇓P P 11 42 47.0 +0.1
baz=82,SNR=20
SRU **San Rafael Swe** 81.84 331 eP P 11 42 47.0 0.0
SRU pmax pmax
comp=Z,18nm,1.0s
SRU **San Rafael Swe** 81.84 331 eP P 11 42 47.0 0.0

comp=Z,18nm,1.0s
M24A Cheyenne 81.85 336 ⇑P P 11 42 47.0 0.0
baz=82,SNR=6.7
O20A White River Ci 81.86 333 ⇓P P 11 42 47.2 +0.1
baz=82
O20A White River Ci 81.86 333 eP P 11 42 47.3 +0.1
comp=Z,16nm,0.9s
K28A Ten Mile Ranch 81.90 339 ⇑P P 11 42 47.4 +0.3
baz=82,SNR=16
PHWY Pilot Hill 81.91 336 eP P 11 42 47.4 -0.1
comp=Z,20nm,1.1s
ARUT Antelope Range 81.91 329 eP P 11 42 47.0 -0.4
ARUT pmax pmax
comp=Z,389nm,1.1s
ARUT Antelope Range 81.91 329 eP P 11 42 47.0 -0.4
comp=Z,389nm,1.1s
LRMC Laurel Mtn Rad 81.93 324 ⇑P P 11 42 47.9 +0.4
baz=82,SNR=5.5
J30A Dallas 81.94 341 ⇑P P 11 42 46.7 -0.5
baz=82,SNR=6.6
M23A Laramie 82.15 336 ⇑P P 11 42 48.5 -0.1
baz=82,SNR=15
K27A Flueckinger Fa 82.15 338 ⇓P P 11 42 48.3 -0.1
baz=82,SNR=6.6
SPMN Marine on St. 82.15 346 ⇓P P 11 42 46.9 -1.4
baz=82
SPMN Marine on St. 82.15 346 eP P 11 42 47.0 -1.2
comp=Z,23nm,1.0s
L25A Engebretsen Ra 82.19 337 ⇓P P 11 42 47.7 -1.0
baz=82
J29A Okreek 82.24 340 ⇑P P 11 42 48.8 0.0
baz=83,SNR=26
TMUT Trail Mountain 82.27 331 eP P 11 42 49.9 +0.4
comp=Z,18nm,0.9s
LBTB Lobatse 82.28 115 eP P 11 42 50.3 +0.6
LBTB pmax pmax
comp=Z,25nm,1.0s
LBTB Lobatse 82.28 115 eP P 11 42 50.3 +0.6
comp=Z,25nm,1.0s
FURC Furnace Creek, 82.35 325 ⇓P P 11 42 50.0 +0.6
baz=83,SNR=5.2
M22A Cedar Creek Ra 82.39 335 ⇑P P 11 42 50.3 +0.3
baz=83,SNR=5.5
L24A Wheatland 82.40 336 ⇑P P 11 42 50.1 +0.3
baz=83
K26A Motz Farm, Whi 82.44 338 ⇓P P 11 42 50.4 +0.5
baz=83
ISA Isabella, Lake 82.45 324 eP P 11 42 51.0 +0.8
ISA pmax pmax
comp=Z,18nm,1.1s
ISA Isabella, Lake 82.45 324 ⇓P P 11 42 50.8 +0.7
baz=83,SNR=7.6
ISA Isabella, Lake 82.45 324 eP P 11 42 51.0 +0.8
comp=Z,18nm,1.1s
I30A Oacoma 82.47 341 ⇑P P 11 42 49.3 -0.6
baz=83,SNR=16
N20A Spence Gulch, 82.48 334 ⇑P P 11 42 50.5 +0.1
baz=83,SNR=7.9
J28A Allard Ranch, 82.52 339 ⇓P P 11 42 50.3 0.0
baz=83,SNR=17
K25A Mack Ranch, Ha 82.57 337 ⇑P P 11 42 50.2 -0.5
baz=83
J27A Elkhorn Farm, 82.58 339 ⇑P P 11 42 50.9 +0.2
baz=83,SNR=16
L23A Garrett 82.72 336 ⇓P P 11 42 51.1 -0.5
baz=83
I29A Vivian Onida 82.81 340 ⇑P P 11 42 51.5 -0.3
baz=83
BRSD Miller 82.83 341 ⇑P P 11 42 51.4 -0.5
baz=83
BRSD Miller 82.83 341 eP P 11 42 51.1 -0.8
comp=Z,38nm,1.0s
L22A Ellis Ranch, M 82.89 335 ⇑P P 11 42 51.9 -0.6
baz=83
VES Vestal, Richgr 82.89 324 ⇓P P 11 42 52.6 +0.3
baz=83,SNR=6.8
J26A Sides Ranch, S 82.96 338 ⇓P P 11 42 52.7 +0.1
baz=83,SNR=14
GRAC Grapevine Rang 83.01 325 ⇑P P 11 42 53.4 +0.3
baz=83,SNR=5.1
I28A Midland 83.03 340 ⇓P P 11 42 52.9 -0.1
baz=83,SNR=24
MPU Maple Canyon 83.06 331 eP P 11 42 53.8 +0.4
comp=Z,32nm,1.1s
NLU North Lily Min 83.18 331 eP P 11 42 54.5 +0.5
comp=Z,22nm,1.3s
J25A Sunshine Ranch 83.25 338 ⇓P P 11 42 54.0 -0.2
baz=84
K23A Bowen Ranch, D 83.27 336 ⇓P P 11 42 54.2 -0.2
baz=84,SNR=5.3
R11A Troy Canyon, C 83.31 327 ⇓P P 11 42 55.3 +0.6
baz=84,SNR=23
R11A Troy Canyon, C 83.31 327 eP P 11 42 55.0 +0.2
comp=Z,18nm,1.0s
H29A Onida 83.34 341 ⇑P P 11 42 53.8 -0.6
baz=84,SNR=13
RCTC Rector, Farmer 83.34 324 ⇑P P 11 42 54.5 -0.1
baz=84
I27A Quinn 83.34 339 ⇑P P 11 42 54.2 -0.3
baz=84,SNR=5.6
J24A Dixon Ranch, L 83.47 337 ⇓P P 11 42 55.0 -0.3
baz=84
K22A Casper 83.47 336 ⇑P P 11 42 55.2 -0.2
baz=84,SNR=8.5
K22A Casper 83.47 336 eP P 11 42 55.5 +0.1
comp=Z,56nm,1.3s
JLU Jordanelle 83.48 331 eP P 11 42 55.8 +0.2
comp=Z,15nm,1.1s
G30A Faulkton 83.52 342 ⇑P P 11 42 54.8 -0.6
baz=84,SNR=17
I26A New Underwood 83.55 339 ⇓P P 11 42 55.5 -0.1
baz=84
H28A Mission Ridge 83.61 340 ⇓P P 11 42 55.3 -0.5
baz=84,SNR=18
CTU Camp Tracy 83.68 331 eP P 11 42 56.9 +0.3
comp=Z,8.9nm,0.8s
DUG Dugway, Tooele 83.68 330 eP P 11 42 57.0 +0.5
DUG pmax pmax
comp=Z,43nm,1.2s
DUG Dugway, Tooele 83.68 330 ⇑P P 11 42 56.4 -0.2
baz=84,SNR=24
DUG Dugway, Tooele 83.68 330 eP P 11 42 57.0 +0.5
comp=Z,43nm,1.2s
K21A Alcova 83.70 335 ⇓P P 11 42 56.2 -0.5
baz=84,SNR=21
G29A Hoven 83.78 341 ⇑P P 11 42 56.1 -0.7
baz=84,SNR=18
I25A Rochford 83.80 338 ⇑P P 11 42 56.7 -0.4
baz=84,SNR=13
TPH Tonopah 83.82 326 eP P 11 42 58.1 +0.7
TPH pmax pmax
comp=Z,32nm,1.1s
TPH Tonopah 83.82 326 eP P 11 42 58.0 +0.7
comp=Z,32nm,1.1s
H27A Howes 83.87 339 ⇓P P 11 42 56.5 -0.7
baz=84,SNR=17
I24A Kuemmerle Ranc 83.93 337 ⇓P P 11 42 57.0 -0.7
baz=84
G28A Parade 83.95 340 ⇑P P 11 42 57.2 -0.4
baz=84,SNR=5.6
RSSD Black Hills 83.99 338 eP P 11 42 57.7 -0.4
RSSD pmax pmax
comp=Z,12nm,1.0s
RSSD Black Hills 83.99 338 eP P 11 42 57.6 -0.4
comp=Z,12nm,1.0s
J22A Midwest 84.13 336 ⇑P P 11 42 57.7 -1.0
baz=84
F30A Leola 84.15 342 ⇓P P 11 42 58.0 -0.7
baz=84,SNR=6.9
MLAC Mammoth, Mammo 84.21 325 ⇓P P 11 42 59.5 +0.1
baz=84,SNR=6.2
H25A Fruitdale 84.31 338 ⇑P P 11 42 59.2 -0.3
baz=85
F29A Eureka 84.35 341 ⇓P P 11 42 59.2 -0.4
baz=85,SNR=18
J21A Lysite 84.40 335 ⇓P P 11 42 59.7 -0.5
baz=85,SNR=6.4
SPUT South Promonto 84.48 331 eP P 11 43 00.7 +0.1
comp=Z,37nm,1.1s
G27A Dupree 84.51 340 ⇑P P 11 42 59.6 -0.8
baz=85
EYMN Ely 84.52 347 eP P 11 42 59.2 -1.2
comp=Z,23nm,1.1s
I22A 9 Mile Ranch, 84.56 336 ⇑P P 11 42 59.9 -1.0
baz=85,SNR=6.4
NVAR Mina Array Bea 84.61 326 P P 11 43 01.6 +0.2
comp=Z,5.3nm,0.9s,baz=162,slow=4.8,SNR=19
G26A Maurine 84.62 339 ⇓P P 11 43 00.3 -0.7
baz=85,SNR=10
F28A McLaughlin 84.63 341 ⇑P P 11 43 00.4 -0.7
baz=85,SNR=18
J20A Shoshoni 84.63 335 ⇓P P 11 43 00.9 -0.3
baz=85,SNR=20
BW06 Boulder Array 84.64 334 eP P 11 43 00.3 -1.1
comp=Z,11nm,1.2s
PDAR Pinedale Array 84.64 334 P P 11 43 00.7 -0.8
comp=Z,2.7nm,1.0s,baz=157,slow=4.2,SNR=10
PDAR LR LR 12 16 27.0
comp=Z,386nm,19.1s,baz=150,slow=33
H24A Dirks Ranch, A 84.71 338 ⇓P P 11 43 00.6 -0.9
baz=85,SNR=5.3
RAO Raoul Island 84.74 238 LR LR 12 12 02.5
comp=Z,72nm,20.9s,baz=126,slow=30
E30A Jud 84.74 342 ⇑P P 11 43 00.8 -0.8
baz=85,SNR=13
I21A Big Trails, Te 84.76 336 ⇓P P 11 43 00.9 -1.1
baz=85,SNR=18
G25A Newell 84.77 339 ⇑P P 11 43 01.3 -0.5
baz=85,SNR=18
J19A Crowheart 84.89 334 ⇓P P 11 43 01.8 -0.9
baz=85,SNR=16
F27A Lemmon 84.99 340 ⇑P P 11 43 02.1 -0.7
baz=85,SNR=18
E29A Napoleon 84.99 342 ⇑P P 11 43 01.8 -1.0
baz=85,SNR=9.6
HVU Hansel Valley 85.01 331 eP P 11 43 02.6 -0.7
HVU pmax pmax
comp=Z,21nm,1.0s
HVU Hansel Valley 85.01 331 eP P 11 43 02.6 -0.7
comp=Z,21nm,1.0s
H22A Clearmont 85.14 337 ⇓P P 11 43 02.9 -0.9
baz=86,SNR=6.2
ELK Elko 85.15 329 eP P 11 43 04.1 +0.1
ELK pmax pmax
comp=Z,12nm,1.0s
ELK Elko 85.15 329 eP P 11 43 04.1 +0.1
comp=Z,12nm,1.0s
F26A Lodgepole 85.15 339 ⇑P P 11 43 03.2 -0.5
baz=86,SNR=17
TORD Torodi Ar. Bea 85.15 70 P P 11 43 03.8 -0.6
comp=Z,6.0nm,0.7s,baz=249,slow=3.9,SNR=36
TORD LR LR 12 19 50.9
comp=Z,197nm,18.6s,baz=240,slow=35
I20A Worland 85.17 335 ⇑P P 11 43 03.5 -0.4
baz=86,SNR=21
G24A Alzada 85.19 338 ⇑P P 11 43 03.4 -0.6
baz=86,SNR=6.6
WAKR Walker 85.19 325 eP P 11 43 05.5 +1.2
D30A Buchanan 85.27 342 ⇓P P 11 43 03.7 -0.5
baz=86,SNR=5.3
CMB Columbia Colle 85.27 324 eP P 11 43 04.9 +0.4
CMB pmax pmax
comp=Z,13nm,1.1s
CMB Columbia Colle 85.27 324 eP P 11 43 04.9 +0.4
comp=Z,13nm,1.1s
E28A Huff 85.27 341 ⇓P P 11 43 03.8 -0.4
baz=86,SNR=9.1
E27A Carson 85.37 340 ⇓P P 11 43 03.9 -0.8
baz=86
G23A Biddle 85.38 337 ⇑P P 11 43 03.8 -1.1
baz=86,SNR=12
H21A Big Horn, Sher 85.40 336 ⇑P P 11 43 04.2 -0.9
baz=86
D29A Pettibone, Tap 85.43 342 ⇓P P 11 43 04.2 -0.8
baz=86
F25A Bowman 85.45 339 ⇑P P 11 43 04.3 -0.9
baz=86
I19A Meeteetse 85.54 335 ⇓P P 11 43 04.6 -1.3
baz=86
H20A Greybull 85.60 335 ⇑P P 11 43 05.0 -1.0
baz=86
REDW Red Top Meadow 85.63 333 eP P 11 43 06.1 -0.3
comp=Z,17nm,1.1s
E26A Carlson Angus 85.66 340 ⇑P P 11 43 05.5 -0.7
baz=86,SNR=5.5
F24A Ekalaka 85.67 338 ⇓P P 11 43 05.5 -0.8
baz=86,SNR=17
G22A Birney 85.68 337 ⇓P P 11 43 05.3 -1.1
baz=86
AGMN Agassiz Nation 85.72 345 ⇑P P 11 43 05.5 -0.8
baz=86,SNR=10
AGMN Agassiz Nation 85.72 345 eP P 11 43 05.6 -0.8
comp=Z,41nm,1.5s
LOHW Long Hollow 85.75 333 eP P 11 43 06.6 -0.4
comp=Z,14nm,1.1s
C30A Mose, Pekin 85.75 343 ⇑P P 11 43 06.0 -0.6
baz=86,SNR=24
TPAW Teton Pass 85.78 333 eP P 11 43 06.8 -0.3
comp=Z,21nm,1.1s
D28A Regan 85.81 341 ⇑P P 11 43 06.5 -0.4
baz=86
F23A Volborg 85.85 338 ⇑P P 11 43 06.3 -0.9
baz=86,SNR=23
FXWY Fox Creek 85.93 333 eP P 11 43 07.5 -0.4
comp=Z,10nm,1.3s
E25A Miller Ranch, 85.95 339 ⇓P P 11 43 07.0 -0.6
baz=86,SNR=17
G21A Lodge Grass 85.98 336 ⇓P P 11 43 07.3 -0.6
baz=86
I17A Pilgrim Ck. 86.01 334 ⇓P P 11 43 07.9 -0.3
baz=86,SNR=16
H19A Powell 86.09 335 ⇑P P 11 43 07.7 -0.8
baz=86,SNR=13
IMW Indian Meadow 86.12 333 eP P 11 43 08.6 -0.3
comp=Z,20nm,1.0s
D26A Manning 86.16 340 ⇓P P 11 43 08.2 -0.5
baz=86,SNR=22
F22A Rosebud 86.17 337 ⇑P P 11 43 08.0 -0.8
baz=86,SNR=13
FLWY Flagg Ranch 86.19 334 eP P 11 43 09.3 +0.2
comp=Z,22nm,1.0s
C28A Hausauer Farms 86.24 342 ⇓P P 11 43 08.2 -0.8
baz=87
E24A Baker 86.27 339 ⇑P P 11 43 08.6 -0.7
baz=87,SNR=16
G20A Bridger 86.31 336 ⇑P P 11 43 08.7 -0.9
baz=87,SNR=29
H18A Shoshone NF, C 86.34 335 ⇑P P 11 43 08.9 -1.0
baz=87,SNR=28
B30A Myrvik Farm, E 86.42 343 ⇓P P 11 43 09.2 -0.6
baz=87,SNR=27
H17A Grant Village 86.42 334 eP P 11 43 16.1 +5.8
comp=Z,20nm,1.5s
F21A Absaloka Mine, 86.49 337 ⇓P P 11 43 09.5 -0.8
baz=87
E23A Ismay 86.52 338 ⇓P P 11 43 09.5 -0.9
baz=87,SNR=13
D25A Fairfield 86.52 340 ⇑P P 11 43 10.1 -0.4
baz=87,SNR=22
C27A Sayler Ranch, 86.53 341 ⇓P P 11 43 10.0 -0.5
baz=87,SNR=16
YFT Old Faithful 86.56 334 eP P 11 43 18.7 +7.7
comp=Z,28nm,1.2s
RLMT Red Lodge 86.59 335 eP P 11 43 10.6 -0.5
comp=Z,34nm,1.2s
B29A Wagenman Farm, 86.68 343 ⇑P P 11 43 10.6 -0.5
baz=87,SNR=14
D24A Glendive 86.78 339 ⇑P P 11 43 11.4 -0.3
baz=87,SNR=17
YMR Madison River 86.80 334 eP P 11 43 12.6 +0.5
comp=Z,42nm,1.1s
C26A Wahner Farm, P 86.80 341 ⇓P P 11 43 11.3 -0.5
baz=87,SNR=5.6
OHCM Honcut 86.82 324 eP P 11 43 17.1 +5.1
A30A Hoffart Farm, 86.87 343 ⇑P P 11 43 11.2 -0.9
baz=87
B28A Dugan Ranch, T 86.92 342 ⇑P P 11 43 11.7 -0.6
baz=87,SNR=22
LAO LASA Array 86.97 338 eP P 11 43 12.1 -0.6
comp=Z,45nm,1.1s
C25A Freed Ranch, W 87.01 340 ⇓P P 11 43 12.4 -0.4
baz=87,SNR=6.6
A29A Manning Farm, 87.08 343 ⇓P P 11 43 12.5 -0.6
baz=87,SNR=27
D23A Lindsay 87.09 338 ⇓P P 11 43 12.8 -0.4
baz=87,SNR=36
QLMT Earthquake Lak 87.10 334 eP P 11 43 14.7 +1.1
B27A Peters Farms, 87.11 341 ⇓P P 11 43 12.9 -0.3
baz=87
E21A Keefer Ranch, 87.11 337 ⇑P P 11 43 12.8 -0.6
baz=87,SNR=7.8
F19A Roth Farm, Mol 87.12 336 ⇑P P 11 43 12.3 -1.2
baz=87,SNR=5.8
HLID Hailey 87.16 331 ⇑P P 11 43 13.6 -0.2
baz=88,SNR=18
HLID Hailey 87.16 331 eP P 11 43 14.3 +0.4
comp=Z,29nm,1.4s
C24A Savage 87.18 339 ⇓P P 11 43 13.3 -0.4
baz=88,SNR=13
A28A Rude Farm, Bot 87.32 342 ⇓P P 11 43 13.4 -0.9
baz=88,SNR=10
B26A Jensen Ranch, 87.34 341 ⇑P P 11 43 14.2 -0.1
baz=88,SNR=6.0
D22A Cohagen 87.37 338 ⇓P P 11 43 14.0 -0.6
baz=88,SNR=20
E20A Meyer Farm, Mu 87.42 336 ⇓P P 11 43 14.2 -0.6
baz=88,SNR=23
B25A Knox Farm, Ray 87.50 340 ⇓P P 11 43 14.6 -0.5
baz=88,SNR=16
D21A La Casta Ranch 87.55 337 ⇓P P 11 43 14.7 -0.7
baz=88,SNR=14
ULM Lac du Bonnet 87.57 345 eP P 11 43 14.4 -1.0
ULM Lac du Bonnet 87.57 345 P P 11 43 14.1 -1.3
comp=Z,20nm,0.9s,baz=182,slow=3.4,SNR=22
ULM Lac du Bonnet 87.57 345 eP P 11 43 14.4 -1.0
E19A Rath Farm, Rou 87.59 336 ⇓P P 11 43 14.8 -0.9
baz=88,SNR=23
MFID Camas Ranch 87.61 330 eP P 11 43 16.2 +0.3
comp=Z,15nm,1.1s
MCMT McKenzie Canyo 87.63 333 eP P 11 43 15.9 -0.3
comp=Z,13nm,1.1s
C23A Lambert 87.65 339 ⇓P P 11 43 15.2 -0.7
baz=88,SNR=27
A26A Wade Farm, Ken 87.76 341 ⇑P P 11 43 15.6 -0.7
baz=88,SNR=10
C22A Vida 87.81 338 ⇑P P 11 43 15.9 -0.8
baz=88,SNR=14
BOZ Bozeman (W) 87.88 334 eP P 11 43 16.7 -0.5
BOZ pmax pmax
comp=Z,54nm,2.3s
BOZ Bozeman (W) 87.88 334 eP P 11 43 16.7 -0.5
comp=Z,54nm,2.3s
D20A Manuel Ranch, 87.94 337 ⇓P P 11 43 16.4 -0.9
baz=88,SNR=16
DGMT Dagmar 87.97 340 ⇓P P 11 43 17.0 -0.4
baz=88,SNR=36
DGMT Dagmar 87.97 340 eP P 11 43 17.2 -0.2
comp=Z,121nm,1.0s
DLMT Dillon 87.99 333 eP P 11 43 17.9 +0.2
comp=Z,30nm,1.3s
WVOR Wild Horse Val 87.99 328 eP P 11 43 18.2 +0.4
WVOR pmax pmax
comp=Z,16nm,1.3s
WVOR Wild Horse Val 87.99 328 eP P 11 43 18.2 +0.4
comp=Z,16nm,1.3s
A25A Svangstu Ranch 88.09 340 ⇑P P 11 43 17.7 -0.3
baz=88,SNR=8.4
B23A Brockton 88.19 339 ⇑P P 11 43 17.9 -0.6
baz=88,SNR=6.5
D19A Cripps Ranch, 88.24 336 ⇓P P 11 43 17.8 -1.0
baz=89
C21A Desert Coulee 88.25 338 ⇓P P 11 43 17.9 -0.9
baz=89,SNR=18
WDC Whiskeytown Da 88.30 324 eP P 11 43 18.6 -0.5
WDC pmax pmax
comp=Z,12nm,1.0s
WDC Whiskeytown Da 88.30 324 eP P 11 43 18.6 -0.5
comp=Z,12nm,1.0s
MOD Modoc Plateau 88.30 327 eP P 11 43 19.9 +0.5
comp=Z,26nm,1.0s
A24A Westby 88.32 340 ⇑P P 11 43 18.0 -1.0
baz=89
LRM Limekiln Ridge 88.33 333 eP P 11 43 19.6 +0.1
B22A Reddig Ranch S 88.34 338 ⇓P P 11 43 18.7 -0.5
baz=89,SNR=17
C20A Veseth Ranch, 88.44 337 ⇓P P 11 43 18.3 -1.4
baz=89,SNR=6.7
A23A Redstone 88.60 339 ⇓P P 11 43 19.0 -1.4
baz=89
N02D Trinity Center 88.69 325 ⇑P P 11 43 19.2 -1.8
baz=89
B21A Ellsworth Farm 88.76 338 ⇑P P 11 43 20.7 -0.5
baz=89,SNR=5.1
C19A Slack Wire Ran 88.80 336 ⇑P P 11 43 20.6 -0.8
baz=89
M04C Macdoel 88.91 326 ⇑P P 11 43 21.4 -0.7
baz=89
A22A Carney Farms, 88.94 339 ⇓P P 11 43 21.5 -0.5
baz=89,SNR=13
M02C Callahan 89.08 325 ⇓P P 11 43 22.5 -0.4
baz=89
K05A Summer Lake 89.22 327 eP P 11 43 24.6 +1.0
comp=Z,40nm,1.0s
A21A Bergtoll Ranch 89.24 338 ⇓P P 11 43 22.7 -0.7
baz=90
EGMT Eagleton 89.28 336 ⇑P P 11 43 22.3 -1.4
baz=90
EGMT Eagleton 89.28 336 eP P 11 43 24.9 +1.2
comp=Z,12nm,1.1s
B19A Brinkman Farms 89.39 337 ⇓P P 11 43 23.3 -0.9
baz=90
BMO Blue Mountains 89.40 330 eP P 11 43 28.2 +3.9
comp=Z,8.7nm,1.2s
A20A Cobblestone Ra 89.44 338 ⇓P P 11 43 23.3 -1.1
baz=90
CHMT Chamberlain Mo 89.55 334 eP P 11 43 25.4 +0.3
comp=Z,4.0nm,1.3s
PAF Port-aux-Franc 89.55 157 SS SS 12 00 15.0 +6.0
PAF R 12 12 00.0
I07A Izee 89.69 328 eP P 11 43 26.4 +0.7
comp=Z,19nm,1.3s
MSO Missoula 89.73 333 ⇓P P 11 43 25.7 -0.2
baz=90,SNR=5.5
MSO Missoula 89.73 333 eP P 11 43 27.5 +1.7
A19A Klindworth Far 89.74 337 ⇑P P 11 43 24.9 -0.9
baz=90
J05D Fort Rock, OR 89.82 327 ⇓P P 11 43 26.0 -0.4
baz=90
SCHQ Schefferville 89.87 3 LR LR 12 24 13.9
comp=Z,122nm,19.9s,baz=234,slow=36
SLMT Seeley Lake 89.91 334 eP P 11 43 26.4 -0.4
comp=Z,6.0nm,1.0s
F10A Beach Ranch, E 90.28 331 eP P 11 43 33.4 +4.9
comp=Z,13nm,1.1s
G08A Pilot Rock 90.44 329 eP P 11 43 34.0 +4.8
comp=Z,50nm,2.1s
JTMT Jette 90.62 333 eP P 11 43 29.9 -0.2
comp=Z,3.5nm,1.1s
YBMT Yellow Bay 90.62 334 eP P 11 43 30.0 0.0
comp=Z,5.1nm,0.9s
BLMT Blacktail Moun 90.88 333 eP P 11 43 31.4 +0.1
BSMT Bassoo Peak 90.90 333 eP P 11 43 31.5 +0.1
E09A Wood Farm, Sta 91.09 331 eP P 11 43 36.9 +4.9
comp=Z,50nm,2.5s
HAWA Hanford 91.56 330 eP P 11 43 35.2 +0.9
comp=Z,14nm,1.1s
WALA Waterton Lakes 91.59 334 eP P 11 43 34.0 -0.4
E07A Sunnyside 91.83 330 eP P 11 43 35.9 +0.4
comp=Z,12nm,1.1s
D08A Wollman Farm, 91.84 330 eP P 11 43 35.9 +0.3
comp=Z,11nm,1.1s
NEW Newport 92.12 332 eP P 11 43 40.3 +3.5
NEW pmax pmax
comp=Z,15nm,1.4s
NEW Newport 92.12 332 eP P 11 43 40.3 +3.5
comp=Z,15nm,1.4s
C09A Chrisman Ranch 92.19 331 eP P 11 43 37.0 -0.1
comp=Z,14nm,1.0s
MDT Midelt 93.03 51 LR LR 12 25 49.3
comp=Z,246nm,19.2s,slow=36
B08A Colville Reser 93.06 331 eP P 11 43 46.5 +5.3
comp=Z,6.9nm,1.0s
FFC Flin Flon 93.09 343 eP P 11 43 43.9 +2.8
FFC pmax pmax
comp=Z,64nm,2.4s
FFC Flin Flon 93.09 343 eP P 11 43 43.9 +2.8
comp=Z,64nm,2.4s
EDM Edmonton 94.92 337 eP P 11 43 47.9 -1.7
EDM Edmonton 94.92 337 eP P 11 43 47.9 -1.7
FCC Fort Churchill 95.36 349 eP P 11 43 50.6 -0.7
FCC Fort Churchill 95.36 349 eP P 11 43 50.6 -0.7
ESDC Sonseca Array 97.84 47 LR LR 12 27 57.4
comp=Z,206nm,18.5s,baz=250,slow=35
DZM Mont Dzumac 100.05 234 eLR LR 12 16 51.0
comp=Z,252nm,27.1s
YKA Yellowknife Ar 103.07 341 Pdiff Pdif 11 44 24.8 -1.0
comp=Z,2.1nm,1.0s,baz=143,slow=4.6,SNR=13
YKA PKiKP PKiKP 11 48 44.9 -0.5
comp=Z,0.7nm,1.0s,baz=122,slow=2.7,SNR=6.4
GERES GERESS Array B 113.43 46 PKiKP PKiKP 11 49 05.2 -0.2
comp=Z,1.1nm,0.8s,baz=282,slow=1.8,SNR=3.2
CLL Collm 114.14 43 ePKiKP PKPdf 11 49 11.0 +4.4
CLL Collm 114.14 43 ePKiKP PKiKP 11 49 11.0 +4.4

CLL Lm MLR 12 36 00.0
comp=Z,200nm,20.2s
ILAR Eielson Array 115.06 333 PKP **PKPdf 11 49 06.9 -11.7**
comp=Z,1.1nm,1.0s,baz=185,slow=1.8,SNR=6.7
ASAR Alice Springs 116.20 207 PKP **PKPdf 11 49 10.4 -1.2**
comp=Z,0.9nm,0.8s,baz=113,slow=0.9,SNR=8.1
ASAR PKKPbc **PKKPbc 11 59 43.8 +3.3**
comp=Z,1.2nm,1.0s,baz=333,slow=3.1,SNR=5.9
VYHS Vyhne 116.34 48 *e*PKIKP **PKPdf 11 49 10.5 -0.4**
VYHS Vyhne 116.34 48 *e*PKP **PKPdf 11 49 10.5 -0.4**
NOA NORSAR Array B 117.38 33 PKKPbc PKKPbc 11 59 39.9 +3.0
comp=Z,1.1nm,0.8s,baz=68,slow=4.7,SNR=3.2
WRA Warramunga Arr 119.40 209 PKP **PKPdf 11 49 16.4 -1.5**
comp=Z,2.6nm,0.9s,baz=155,slow=1.6,SNR=9.8
BRTR Keskin Array B 122.92 62 PKP **PKPdf 11 49 23.6 -0.4**
comp=Z,2.3nm,0.9s,baz=187,slow=1.6,SNR=9.1
KIEV Kiev 123.43 48 *e*PKIKP **PKPdf 11 49 23.2 -1.2**
KIEV Kiev 123.43 48 *e*PKPdf **PKPdf 11 49 23.2 -1.2**
AKASG Malin Array Be 123.44 48 PKP **PKPdf 11 49 24.1 -0.3**
comp=Z,3.3nm,0.8s,baz=265,slow=2.2,SNR=6.6
VSU Vasula 124.02 39 *i* PKIKP **PKPdf 11 49 28.0 +2.7**
FINES FINESS Array B 124.34 35 PKP **PKPdf 11 49 25.0 -0.8**
comp=Z,3.3nm,0.9s,baz=249,slow=1.6,SNR=6.5
KAF Kangasniemi 124.57 34 *e*PKIKP **PKPdf 11 49 24.4 -1.9**
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 124.57 34 *e*p **PKPdf 11 49 24.4 -1.9**
comp=Z,3.8nm,0.7s
H11S2 WAKE ISLAND Hyl 25.19 269 T T 14 07 09.9
baz=118,slow=74,SNR=45
H11S1 WAKE ISLAND Hyl 25.21 269 T T 14 07 01.5
baz=118,slow=74,SNR=44
H11S3 WAKE ISLAND Hyl 25.21 269 T T 14 07 14.9
baz=118,slow=74,SNR=46
ARCES ARCESS Array B 125.39 25 PKP **PKPdf 11 49 26.6 -1.1**
comp=Z,4.3nm,1.0s,baz=266,slow=3.4,SNR=5.7
H11N3 WAKE ISLAND Hyl 25.64 270 T T 14 07 33.2
baz=116,slow=78,SNR=23
H11N1 WAKE ISLAND Hyl 25.65 270 T T 14 07 34.2
baz=116,slow=78,SNR=62
H11N2 WAKE ISLAND Hyl 25.66 270 T T 14 07 34.5
baz=116,slow=78,SNR=44
JOF Joensuu 126.99 34 *e*PKIKP **PKPdf 11 49 29.3 -1.6**
JOF pmax pmax
comp=Z,4.0nm,0.8s
JOF Joensuu 126.99 34 *e*p **PKPdf 11 49 29.3 -1.6**
comp=Z,3.9nm,0.8s
ANN Anapa 127.17 57 *i* PKIKP **PKPdf 11 49 35.6 +3.8**
ANN *e*PPP PPP 11 54 20.6
ANN pmax pmax
comp=Z,20nm,1.1s
OBN Obninsk 128.72 44 *i* PKIKP **PKPdf 11 49 37.9 +3.5**
OBN pmax pmax
comp=Z,13nm,1.3s
MOS Moscow 129.40 43 *e*PKIKP **PKPdf 11 49 34.4 -1.3**
MOS *e* 11 51 54.9
TMCR Tamitsa 130.06 32 *e*PKIKP **PKPdf 11 49 40.7 +4.0**
TMCR pmax pmax
comp=Z,25nm,1.2s
KIV Kislovodsk 130.61 59 *i* PKIKP **PKPdf 11 49 42.8 +4.2**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,66nm,20.0s
KBZ Khabaz 130.71 60 PKP **PKPdf 11 49 41.9 +3.3**
comp=Z,1.9nm,0.8s,baz=283,slow=3.5,SNR=5.3
KLMR Klimovskoe 130.74 37 *e*PKIKP **PKPdf 11 49 36.3 -1.8**
KLMR pmax pmax
comp=Z,25nm,1.0s
GOF Gofitskoye 131.10 58 *e*PKIKP PKPdf 11 49 44.9 +5.6
GNI Garni 131.17 65 ⇑*i*PKIKP **PKPdf 11 49 41.7 +1.9**
ZEI Tsey 131.21 61 *i* PKIKP **PKPdf 11 49 44.1 +4.2**
ZEI pmax pmax
comp=Z,5.0nm,1.1s
PRGR Permogore 133.66 36 *e*PKIKP **PKPdf 11 49 43.4 -0.2**
PRGR pmax pmax
comp=Z,20nm,0.8s
BILL Bilibino 133.72 334 *e*PKIKP **PKPdf 11 49 44.4 +0.8**
BILL Bilibino 133.72 334 *e*PKPdf **PKPdf 11 49 44.4 +0.8**
PETK Petropavlovsk- 140.62 313 PKP **PKPdf 11 49 53.5 -3.2**
comp=Z,6.1nm,1.0s,baz=258,slow=41,SNR=3.4
GEYT Alibeck 140.79 71 PKP **PKPdf 11 49 56.3 -1.3**
comp=Z,1.0nm,0.5s,baz=329,slow=10,SNR=2.6
SEY Seymchan 140.84 329 PKhKP PKPpre 11 49 48.7
comp=Z,2.6nm,0.7s,baz=63,slow=3.0,SNR=6.0
SEY PKP **PKPdf 11 49 53.8 -3.0**
comp=Z,5.0nm,0.8s,baz=136,slow=3.3,SNR=15
ARU Arti 141.05 42 *i* PKIKP **PKPdf 11 49 59.6 +2.2**
ARU 11 52 58.2
AKTO Aktyubinsk 141.56 51 PKP **PKPdf 11 49 56.4 -2.1**
comp=Z,1.1nm,0.7s,baz=278,slow=2.0,SNR=3.1
TIXI Tiksi 141.83 349 *i* PKIKP **PKPdf 11 49 59.0 +0.7**
AB31 Akbulak array 142.89 53 *i* PKHKP PKPpre 11 49 55.6
AB31 pmax pmax
comp=Z,6.0nm,0.8s
ABKAR Akbulak array 142.89 53 *e*PKPdf PKPpre 11 49 55.8
BKNI Bangkinang 144.76 169 *e*PKPdf **PKPdf 11 50 07.1 +1.7**
GSI Gunungsitoli 145.03 163 *e*PKPbc **PKPab 11 50 05.6 +0.5**
POO Poona 146.04 111 *e*P **PKPdf 11 50 06.0 -1.4**
KSM Kuching 146.27 185 *e*PKPbc **PKPab 11 50 09.8 +0.1**
BRVK Borovoye 148.50 44 ⇓*i*PKIKP **PKPdf 11 50 11.1 +0.7**
BRVK Borovoye 148.50 44 *e*PKPdf **PKPdf 11 50 10.4 0.0**
BRVK *e*PKPbc **PKPbc 11 50 13.9 -0.1**
BVAR Borovoye Array 148.57 44 PKPbc **PKPdf 11 50 11.3 +0.8**
comp=Z,14nm,1.0s,baz=273,slow=2.8,SNR=28
IPM Ipoh 148.83 168 *e*PKPbc **PKPbc 11 50 15.4 -0.6**
IPM *e*PKPab **PKPab 11 50 20.2 +0.4**
HYB Hyderabad 148.88 117 *i* PKP **PKPbc 11 50 14.5 -1.6**
KULM Kulim 149.55 167 *e*PKPdf **PKPdf 11 50 11.8 -1.5**
KULM *e*PKPbc **PKPbc 11 50 17.2 -0.7**
YAK Yakutsk 149.72 339 *e*PKPdf **PKPdf 11 50 11.7 -0.3**
YAK *e*PKPbc **PKPbc 11 50 16.0 -0.7**
YAK *e*PKPab **PKPab 11 50 21.1 -0.9**
KKM Kota Kinabalu 149.79 198 *e*PKPdf **PKPdf 11 50 14.2 +0.4**
KKM *e*PKPbc **PKPbc 11 50 18.1 -0.4**
KKM *e*PKPab **PKPab 11 50 22.8 -1.0**
KK31 Karatay Array 150.62 63 PKIKP **PKPbc 11 50 18.7 -0.9**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 150.62 63 *e*PKIKP **PKPdf 11 50 13.6 -0.5**
KKAR *e* 11 50 19.2
KKAR Karatay Array 150.62 63 *e*PKPdf **PKPdf 11 50 13.6 -0.5**
KKAR *e*PKPbc **PKPbc 11 50 19.2 -0.4**
YSS Yuzh-Sakhalins 151.08 305 *e*PKIKP **PKPbc 11 50 19.8 -0.7**
YSS *e* 11 50 28.5
YSS Yuzh-Sakhalins 151.08 305 *e*PKPbc **PKPbc 11 50 19.8 -0.7**
YSS *e*PKPab **PKPab 11 50 28.5 +0.3**
ERM Erimo 151.34 294 *e*PKIKP **PKPbc 11 50 22.0 +0.8**
ERM Erimo 151.34 294 *e*PKPbc **PKPbc 11 50 22.0 +0.8**
PKDT Phuket 151.55 161 PKP **PKPab 11 50 27.3 -3.6**
ASAJ Asahikawa 151.61 299 PKPbc **PKPbc 11 50 19.4 -2.4**
comp=Z,17nm,0.9s,baz=260,slow=9.0,SNR=11
ASAJ PKPab **PKiKP 11 50 26.8 +4.5**
comp=Z,40nm,1.0s,baz=264,slow=14,SNR=12
ASAJ Asahikawa 151.61 299 *e*PKPdf **PKPdf 11 50 15.2 -0.3**
ASAJ *e*PKPbc **PKPbc 11 50 20.5 -1.3**
ASAJ PKPab **PKiKP 11 50 26.8 +4.5**
AAK Ala-Archa 153.57 64 PKIKP **PKPdf 11 50 22.0 +3.3**
AAK Ala-Archa 153.57 64 PKPbc **PKPbc 11 50 26.8 +0.3**
comp=Z,7.6nm,0.8s,baz=128,slow=2.1,SNR=9.2
AAK PKPab **PKPab 11 50 36.4 -2.7**
comp=Z,7.3nm,0.9s,baz=238,slow=1.4,SNR=8.5
NVS Novosibirsk 154.29 33 *e*PKIKP **PKPdf 11 50 20.8 +1.7**
NVS pmax pmax
comp=Z,30nm,1.3s
KSH Kashi 154.82 71 PKPbc **PKPdf 11 50 20.8 +0.2**
KSH sPKP 11 50 35.0
KSH PKS **PKSdf 11 53 54.8 0.0**
KSH PP **PP 11 54 19.1 -1.7**
KSH SKS **SKSdf 11 57 24.6 -1.5**
KSH SKKS **SKKSac 12 01 06.1 -3.1**
KSH SS **SS 12 13 56.8 -5.9**
KSH PPMZ
comp=Z,200nm,5.9s
KSH LN
comp=Z,41nm,5.4s
KSH LE
comp=Z,74nm,5.6s
KSH LZ
comp=Z,120nm,5.5s
MJAR Matsushiro Arr 154.97 282 PKPbc **PKPbc 11 50 29.5 0.0**
comp=Z,1.2nm,0.8s,baz=194,slow=2.7,SNR=3.1
MJAR PKPab **PKPab 11 50 42.8 -2.2**
comp=Z,6.0nm,1.2s,baz=145,slow=3.0,SNR=4.8
MAJO Matsushiro 154.97 282 *e*PKIKP **PKPdf 11 50 20.1 -0.6**
MAJO *e* 11 50 28.9
MAJO *e* 11 50 44.7
MAJO Matsushiro 154.97 282 *e*PKPdf **PKPdf 11 50 20.1 -0.6**
MAJO *e*PKPbc **PKPbc 11 50 28.9 -0.6**
MAJO *e*PKPab **PKPab 11 50 44.7 -0.4**
ZALV Zalesovo Beam 155.58 33 PKP **PKPdf 11 50 19.3 -1.6**
comp=Z,9.1nm,1.0s,baz=298,slow=3.0,SNR=13
ZALV PKPab **PKPab 11 50 48.0 +1.0**
comp=Z,10.0nm,1.0s,baz=295,slow=4.4,SNR=3.7
BOD Bodaibo 156.99 351 *e*PKIKP **PKPdf 11 50 23.1 +0.5**
BOD pmax pmax
comp=Z,23nm,1.2s
MKAR Makanchi Array 158.00 51 PKP **PKPdf 11 50 23.8 -0.5**
comp=Z,3.0nm,1.0s,baz=291,slow=0.5,SNR=14
MKAR PKPab **PKPab 11 50 57.6 -0.1**
comp=Z,2.7nm,0.9s,baz=285,slow=3.8,SNR=7.1
KOLN Koldanda 158.50 104 *e*P **PKPdf 11 50 29.3 +3.5**
DANN Dangsing 158.87 102 *e*P **PKPdf 11 50 29.5 +3.2**
comp=Z,30nm,0.9s
USRK Ussuriysk Ar. 159.07 303 PKPab **PKPab 11 51 00.7 -1.7**
comp=Z,1.0nm,0.6s,baz=181,slow=1.3,SNR=3.0
GKN Gorkha 159.42 104 *e*P **PKPdf 11 50 30.2 +3.4**
DMN Daman 159.62 106 *e*P **PKPdf 11 50 29.6 +2.4**
PKIN Phulchoki 159.83 106 *e*P **PKPdf 11 50 29.6 +2.2**
GUN Gumba 160.36 106 *e*P **PKPdf 11 50 30.6 +2.5**
MDJ Mudanjiang 160.56 305 PKP **PKPdf 11 50 25.2 -2.1**
HVS Khovu-Aksy 161.34 28 PKIKP **PKPdf 11 50 32.0 +3.9**
CMAR Chiang Mai Arr 161.70 154 PKP **PKPdf 11 50 29.5 +0.1**
comp=Z,2.0nm,1.0s,baz=243,slow=4.2,SNR=4.1
CMAR PKPab **PKPab 11 51 14.1 -0.2**
comp=Z,0.6nm,0.4s,baz=244,slow=3.1,SNR=2.9
WMQ Urumqi 162.66 55 *e*PKP **PKPdf 11 50 29.0 -0.6**
WMQ sPKP 11 50 42.9
WMQ PKPab **PKPab 11 51 18.6 +0.4**
WMQ PKS **PKSdf 11 54 01.0 -1.7**
WMQ PP **PP 11 55 05.0 +1.9**
WMQ SKS **SKSdf 11 57 28.5 -4.7**
WMQ SS **SS 12 15 22.5 -2.5**
WMQ PPMZ
comp=Z,130nm,7.0s
WMQ LN
comp=Z,78nm,22.0s
WMQ LE
comp=Z,100nm,23.0s
WMQ LZ
comp=Z,120nm,23.0s
KSRS Korea Array 163.24 284 PKP **PKPdf 11 50 30.0 -0.3**
comp=Z,0.3nm,0.3s,baz=252,slow=29,SNR=3.2
KSRS PKPab **PKPab 11 51 19.9 -0.9**
comp=Z,2.1nm,0.8s,baz=95,slow=4.1,SNR=4.6
KSAR Wonju Array Be 163.27 284 PKIKP **PKPdf 11 50 30.0 -0.3**
KSAR 11 51 19.9
KSAR Wonju Array Be 163.27 284 PKP **PKPdf 11 50 30.0 -0.3**
KSAR PKPab **PKPab 11 51 19.9 -1.1**
HIA Hailar 163.28 331 *i* PKIKP **PKPdf 11 50 31.8 +1.8**
CN2 Changchun 163.62 307 *e*PKP **PKPdf 11 50 31.1 +0.7**
CRAI Chiangrai 163.83 156 PKP **PKPdf 11 50 36.1 +4.7**
ZAK Zakamensk 164.60 10 *e*PKP2 **PKPab 11 51 25.4 -1.0**
ZAK *e* 11 55 17.0
ZAK pmax pmax
comp=Z,6.0nm,1.3s
SONM Songino Array 167.42 3 PKIKP **PKPdf 11 50 33.0 -0.7**
SONM Songino Array 167.42 3 PKP **PKPdf 11 50 33.0 -0.7**
comp=Z,0.6nm,0.9s,baz=111,slow=40,SNR=5.0
SONM PKPab **PKPab 11 51 39.2 +0.3**
comp=Z,5.6nm,0.9s,baz=335,slow=4.4,SNR=10
KMI Kunming 169.16 158 PKP **PKPdf 11 50 34.6 -1.0**
KMI pPKP **pPKPdf 11 50 46.0 +3.5**
KMI sPKP 11 50 50.5
KMI LZ
comp=Z,90nm,20.2s
NJ2 Nanjing 169.85 255 *e*PKP **PKPdf 11 50 38.7 +3.2**
GYA Guiyang 171.21 176 PKP **PKPdf 11 50 36.2 -0.4**
GYA pPKP **pPKPdf 11 50 47.6 +4.1**
GYA PKPab **PKPab 11 51 58.0 +1.8**
GYA PKS **PKSdf 11 54 07.2 -2.0**
GYA PP **PP 11 55 49.3 +3.4**
GYA SKKS 12 02 31.0
GYA SS **SS 12 16 49.8 +0.4**
GYA PPMZ
comp=Z,140nm,8.3s
GYA LN
comp=Z,150nm,21.8s
GYA LE
comp=Z,130nm,22.4s
GYA LZ
comp=Z,140nm,21.8s
BJI Beijing 171.49 307 PKP **PKPdf 11 50 36.6 +0.5**
BJI LZ
comp=Z,85nm,30.4s
GTA Gaotai 172.74 53 *e*PKP **PKPdf 11 50 36.9 -0.1**
GTA pPKP **pPKPdf 11 50 47.2 +3.3**
GTA sPKP 11 50 51.8
GTA PKPab **PKPab 11 52 08.0 +5.0**
HHC Hu-ho-hao-te 173.48 330 *e*PKP **PKPdf 11 50 36.7 -0.5**
HHC pPKP **pPKPdf 11 50 48.5 +4.4**
HHC PP **PP 11 56 01.0 +3.5**
HHC SKKS 12 02 42.6
HHC SS **SS 12 17 11.1 -1.2**
HHC PPMZ
comp=Z,680nm,7.4s
HHC LN
comp=Z,310nm,17.3s
HHC LE
comp=Z,240nm,17.3s
HHC LZ
comp=Z,250nm,18.5s
CD2 Chengdu 174.75 145 *e*PKP **PKPdf 11 50 37.2 -0.6**
CD2 sPKP 11 50 52.1
CD2 PKPab **PKPab 11 52 12.0 +0.2**
CD2 PP PP 11 56 10.7 +7.0
CD2 SKS **SKSdf 11 57 36.3 -3.6**
CD2 SKKS **SKKSac 12 02 45.7 -3.8**
CD2 SS **SS 12 17 22.0 -2.7**
CD2 PPMZ
comp=Z,80nm,10.7s
CD2 LE
comp=Z,250nm,20.2s
CD2 LZ
comp=Z,150nm,19.0s
LZH Lanzhou 177.07 73 *e*PKP **PKPdf 11 50 37.6 -0.8**
LZH pPKP **pPKPdf 11 50 48.4 +3.1**
LZH sPKP 11 50 52.1
LZH PKPab PKPab 11 52 19.5 -2.9
XAN Xi'an 178.19 228 PKP **PKPdf 11 50 42.7 +4.3**

KNET ***02*** *11:31:26.4±0.5, 42°.43N×75°.60E, h0km, ml2.2, Error ellipse: s-maj=3.1km s-min=2.2km az=135.0*
KRNET ***02*** *11:31:26.3±0.1, 42°.42N×75°.65E, h15km, mb3.3*
NNC ***02*** *11:31:26.6±0.8, 42°.44N×75°.61E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=5.3km s-min=2.5km az=142.0*
ISC 02 11:31:27.0±0.9, 42°.42N±0°.02×75°.64E±0°.02, h10km±9km, n33, σ0°72/58, 34C-13D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOOM	**Boomskoye usch**	**0.23**	**73**	*eP*	**Pg**	**11 31 32.0**	**+0.1**
BOOM	baz=73			*eS*	**Sg**	**11 31 35.8**	**+0.6**
KZA	**Kyzart**	**0.45**	**220**	P	**Pg**	**11 31 35.9**	**+0.1**
KZA	57nm,0.2s,SNR=227			⇑S	**Sg**	**11 31 42.4**	**+0.6**
KZA	138nm,0.2s						
KZA	**Kyzart**	**0.45**	**220**	⇑*iP*	**Pg**	**11 31 35.8**	**0.0**
KZA	baz=221			⇑*iS*	**Sg**	**11 31 42.3**	**+0.5**
KZA	baz=221						
ULHL	**Ulahol**	**0.48**	**111**	P	**Pg**	**11 31 35.8**	**-0.7**
ULHL	21nm,0.1s,SNR=145			⇑S	**Sg**	**11 31 42.4**	**-0.5**
ULHL	177nm,0.1s						
ULHL	**Ulahol**	**0.48**	**111**	⇑*iP*	**Pg**	**11 31 35.6**	**-0.8**
ULHL	baz=111			⇑*iS*	**Sg**	**11 31 42.1**	**-0.7**
ULHL	baz=111						
TKM2	**Tokmak 2**	**0.50**	**357**	⇓P	**Pg**	**11 31 36.3**	**-0.4**
TKM2	19nm,0.2s			⇑S	**Sg**	**11 31 43.0**	**-0.4**
TKM2	178nm,0.3s						
TKM2	**Tokmak 2**	**0.50**	**357**	⇓P	**Pg**	**11 31 36.4**	**-0.4**
TKM2	88nm,0.2s,SNR=36			⇑S	**Sg**	**11 31 43.1**	**-0.2**
TKM2	389nm,0.1s						
TKM2	**Tokmak 2**	**0.50**	**357**	⇑*iP*	**Pg**	**11 31 36.2**	**-0.5**
TKM2	baz=355			⇑*iS*	**Sg**	**11 31 43.0**	**-0.4**
TKM2	baz=355						
KBK	**Karagaybulak**	**0.56**	**295**	⇓P	**Pg**	**11 31 38.0**	**+0.1**
KBK	37nm,0.1s,SNR=67			⇓S	**Sg**	**11 31 45.9**	**+0.5**
KBK	199nm,0.1s						
KBK	**Karagaybulak**	**0.56**	**295**	⇑*iP*	**Pg**	**11 31 37.8**	**-0.1**
KBK	baz=295			⇑*iS*	**Sg**	**11 31 45.8**	**+0.5**
KBK	baz=295						
UCH	**Uchtor**	**0.85**	**257**	⇑P	**Pg**	**11 31 42.8**	**-0.7**
UCH	12nm,0.2s,SNR=26			⇑S	**Sg**	**11 31 54.6**	**-0.1**
UCH	35nm,0.3s						
UCH	**Uchtor**	**0.85**	**257**	⇑*iP*	**Pg**	**11 31 42.6**	**-0.9**
UCH	baz=258			⇑*iS*	**Sg**	**11 31 54.1**	**-0.6**
UCH	baz=258						
AAK	**Ala-Archa**	**0.87**	**284**	⇑P	**Pg**	**11 31 43.2**	**-0.5**
AAK	2.9nm,0.2s			⇑S	**Sg**	**11 31 54.7**	**-0.4**
AAK	42nm,0.5s						
AAK	**Ala-Archa**	**0.87**	**284**	⇑P	**Pg**	**11 31 43.2**	**-0.5**
AAK	17nm,0.1s,SNR=42			⇑S	**Sg**	**11 31 54.6**	**-0.5**
AAK	73nm,0.2s						
AAK	**Ala-Archa**	**0.87**	**284**	⇑*iP*	**Pg**	**11 31 43.2**	**-0.5**
AAK	baz=285			⇑*iS*	**Sg**	**11 31 54.7**	**-0.4**
AAK	baz=285						
CHMS	**Chumysh**	**0.87**	**312**	⇓P	**Pg**	**11 31 43.0**	**-0.8**
CHMS	7.3nm,0.1s,SNR=21			⇓S	**Sg**	**11 31 54.6**	**-0.5**
CHMS	42nm,0.1s						
CHMS	**Chumysh**	**0.87**	**312**	⇑*iP*	**Pg**	**11 31 42.8**	**-0.9**
CHMS	baz=312			⇑*iS*	**Sg**	**11 31 54.5**	**-0.5**
CHMS	baz=312						
NRN	**Naryn**	**1.02**	**164**	*i* P	**Pg**	**11 31 46.0**	**-0.7**
NRN	baz=166			*eS*	**Sg**	**11 31 59.8**	**-0.3**
NRN	baz=166						
ARLS	**Aral**	**1.13**	**241**	*i* P	**Pg**	**11 31 47.4**	**-1.2**
ARLS	baz=241			*eS*	**Sg**	**11 32 02.5**	**-0.7**
ARLS	baz=241						
USP	**Ospenovka**	**1.19**	**316**	⇓P	**Pg**	**11 31 48.5**	**-1.2**
USP	17nm,0.3s,SNR=8.8			⇓*iP*	**Pg**	**11 31 48.4**	**-1.4**
USP	**Ospenovka**	**1.19**	**316**	⇓*iS*	**Sg**	**11 32 04.1**	**-1.1**
USP	baz=315						
KNDC	**Almaty**	**1.26**	**51**	⇑P	**Pn**	**11 31 50.4**	**-0.3**
KNDC				⇓S	**Sg**	**11 32 07.5**	**0.0**
EKS	**Erkin-Say**	**1.39**	**281**	*i* P	**Pg**	**11 31 53.4**	**-0.2**
EKS	baz=281			*eS*	**Sg**	**11 32 11.9**	**+0.3**
EKS	baz=281						
EKS2	**Erkin-Say**	**1.39**	**280**	⇑*iP*	**Pb**	**11 31 53.0**	**-0.2**
EKS2	baz=281			⇑*iS*	**Sg**	**11 32 12.0**	**+0.2**
EKS2	baz=281						
AML	**Almayashu**	**1.47**	**259**	⇑*iP*	**Pn**	**11 31 53.9**	**0.0**
AML	baz=259			⇑*iS*	**Sn**	**11 32 13.1**	**-0.3**
AML	baz=259						
ANVS	**Anan'yevo**	**1.54**	**76**	*i* P	**Pn**	**11 31 55.0**	**+0.3**
ANVS	baz=75			*eS*	**Sb**	**11 32 15.8**	**+0.4**
ANVS	baz=75						
ARSB	**Arslanbob**	**2.27**	**242**	*eP*	**Pb**	**11 32 08.1**	**+0.1**
ARSB	baz=242			*eS*	**Sg**	**11 32 39.8**	**+0.1**
ARSB	baz=242						
ARK	**Arkit**	**2.80**	**258**	*eP*	**Pb**	**11 32 16.8**	**-0.4**
ARK	baz=259			*eS*	**Sg**	**11 32 56.1**	**-0.9**
ARK	baz=259						
PDGK	**Podgornoye**	**2.97**	**71**	⇑Pg	**Pb**	**11 32 19.1**	**-0.8**
PDGK				⇑Lg	Lg	11 33 00.5	
KK31	**Karatay Array**	**3.83**	**282**	⇑Pg	**Pb**	**11 32 36.5**	**+1.8**
KK31	0.9nm,0.3s,baz=94,slow=16			⇓Lg	Lg	11 33 24.8	
KK31	3.9nm,0.6s,baz=94,slow=28						
MK31	**Makanchi Array**	**6.45**	**45**	⇓Pn	**Pn**	**11 33 04.5**	**+2.5**
MK31	1.1nm,0.4s,baz=221,slow=15,SNR=32			⇓Lg	Lg	11 34 45.5	
MK31	0.5nm,0.6s,baz=231,slow=28,SNR=4.2						
KURBB	**Kurchatov Arra**	**8.44**	**13**	⇑Lg	Lg	11 35 50.9	
KURBB	6.1nm,0.8s						
KURK	**Kurchatov**	**8.54**	**13**	⇑Lg	Lg	11 35 53.2	
KURK	2.5nm,1.1s						

IDC 02 11:32:52.2±1.8, 38°.21N×123°.73E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/33, mbtmp3.5/3, Error ellipse: s-maj=198.8km s-min=25.7km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.26**	**156**	P	P	11 38 19.9	-0.4
	0.8nm,0.4s,baz=334,slow=11,SNR=22						
ASAR	**Alice Springs**	**28.50**	**160**	P	P	11 38 49.9	+0.4
	0.3nm,0.7s,baz=337,slow=7.2,SNR=6.0						
MKAR	**Makanchi Array**	**56.31**	**327**	P	P	11 42 34.9	0.0
	0.2nm,0.4s,baz=121,slow=6.9,SNR=6.4						

IDC 02 11:37:02.0±2.8, 38°.67S×74°.75W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.7/21, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=81.7km s-min=34.2km az=51.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.84**	**124**	Pn	Pn	11 38 00.6	-1.9
	5.0nm,0.3s,baz=331,slow=11,SNR=11						
LPAZ	**La Paz**	**23.04**	**16**	P	P	11 42 08.8	-0.9
	1.3nm,0.8s,baz=113,slow=4.2,SNR=2.8						
TXAR	**Lajitas Array**	**72.84**	**334**	P	P	11 48 32.2	-0.5
	0.2nm,0.8s,baz=140,slow=9.9,SNR=2.2						
TORD	**Torodi Ar. Bea**	**87.82**	**71**	P	P	11 49 55.2	+1.8
	0.7nm,1.0s,baz=246,slow=4.0,SNR=3.6						

IDC ***02*** *11:39:28.2±1.1, 36°.26S×73°.43W, h0km, mb3.8/8, mb1 4.0/9, mb1mx4.0/24, mbtmp3.8/9, ML2.9/1, Error ellipse: s-maj=34.8km s-min=27.1km az=86.0*
ISCJB ***02*** *11:39:32.0±0.6, 36°.14S±0°.07×73°.3W±0°.1, h33km, mb4.0/13, Error ellipse: s-maj=14.8km s-min=10.0km az=165.4*
NEIC ***02*** *11:39:33.9±0.5, 36°.11S×73°.32W, h35km, mb4.3/6, Error ellipse: s-maj=13.5km s-min=9.7km az=75.0*
ISC 02 11:39:33.7±0.7, 36°.12S±0°.09×73°.4W±0°.1, h35km, n23, σ0°82/21, mb4.0/13, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.11**	**155**	Pn	**Pn**	**11 40 48.1**	**+0.2**
	1.1nm,0.3s,baz=335,slow=15,SNR=2.0						
PLCA	**Paso Flores**	**5.11**	**155**	*e*Pn	**Pn**	**11 40 47.9**	**+0.1**
CFAA	**Coronel Fontan**	**6.20**	**45**	Pn	**Pn**	**11 41 02.9**	**+0.1**
	0.3nm,0.3s,baz=24,slow=2.1,SNR=13						
TRQA	**Tornquist**	**9.31**	**105**	*e*Pn	**Pn**	**11 41 45.7**	**+0.3**
LVC	**Limon Verde**	**14.01**	**17**	*e*Pn	**Pn**	**11 42 48.6**	**-1.3**
LPAZ	**La Paz**	**20.29**	**15**	P	Pn	11 44 09.2	-0.3
	3.1nm,0.8s,baz=196,slow=11,SNR=7.6						
LPAZ	**La Paz**	**20.29**	**15**	*e*P	**P**	**11 44 06.8**	**-0.3**
SIV	**San Ignacio**	**22.85**	**32**	P	**P**	**11 44 34.6**	**+0.6**
	4.8nm,0.9s,baz=234,slow=13,SNR=4.9						
SNAA	**Sanae**	**50.05**	**157**	P	**P**	**11 48 23.7**	**-0.8**
	1.3nm,0.9s,baz=183,slow=5.3,SNR=4.3						
QSPA	**South Pole Qui**	**54.12**	**180**	*e*P	**P**	**11 48 54.8**	**-0.2**
	2.6nm,0.7s						
JCT	**Junction City**	**70.75**	**336**	*e*P	**P**	**11 50 46.8**	**+0.6**
	0.9nm,0.4s						
TXAR	**Lajitas Array**	**71.07**	**332**	P	**P**	**11 50 48.4**	**+0.1**
	0.5nm,0.6s,baz=154,slow=8.2,SNR=13						
SWET	**Sewanee**	**71.93**	**349**	*e*P	**P**	**11 50 53.4**	**+0.1**
	1.8nm,0.4s						
TUL1	**Leonard**	**74.64**	**341**	*e*P	**P**	**11 51 09.6**	**+0.4**
	2.4nm,0.3s						
ANMO	**Albuquerque**	**77.13**	**333**	*e*P	**P**	**11 51 25.1**	**+1.4**

0.8nm,0.8s
NVAR Mina Array Bea 85.01 326 P P 11 52 06.8 +1.2
0.2nm,0.5s,baz=136,slow=45,SNR=2.9
PDAR Pinedale Array 85.17 334 P P 11 52 08.3 +2.0
0.3nm,0.6s,baz=137,slow=40,SNR=1.7
HVU Hansel Valley 85.50 332 *eP* **P 11 52 08.0 +0.1**
1.7nm,0.9s
TORD Torodi Ar. Bea 85.95 71 P P 11 52 10.4 -0.2
0.5nm,0.8s,baz=235,slow=1.6,SNR=3.0
ULM Lac du Bonnet 88.27 346 P P 11 52 19.9 -1.0
1.4nm,0.6s,baz=225,slow=4.7,SNR=3.6
ABKAR Akbulak array 143.83 54 *e*PKPdf PKPab 11 59 01.9 +0.1
BVAR Borovoye Array 149.56 45 PKPbc **PKPbc 11 59 18.6 -0.1**
0.8nm,0.6s,baz=270,slow=3.0,SNR=4.9
ZALV Zalesovo Beam 156.59 34 PKPab **PKPab 11 59 53.9 +0.4**
0.5nm,0.3s,baz=322,slow=6.2,SNR=4.7

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*NEIC **02** 11:42:34.9±0.3, 35.°08S×71.°60W, h35km, mb4.9/67, Error ellipse: s-maj=12.9km s-min=7.2km az=64.0*
*BJI **02** 11:42:35.8, 35.°10S×71.°50W, h35km, mB5.1/3, Ms5.2/4, Ms7 5.1/4*
*ISCJB **02** 11:42:37.9±0.7, 34.°37S±0.°09×72.°9W±0.°2, h28km, mb4.9/65, Error ellipse: s-maj=23.2km s-min=9.8km az=25.8*
ISC 02 11:42:34.4±0.8, 35.°07S±0.°06×71.°8W±0.°2, h29km±5km, h29km:pP-P, n440, σ0.984/449, mb5.0/65, 189C-167D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.73**	**171**	*e*Pn	**Pn**	**11 43 58.7**	**+1.1**
PLCA				*e*Sn	**Sn**	**11 45 01.2**	**-1.3**
TRQA	**Tornquist**	**8.41**	**114**	*e*Pn	Pn	11 44 29.8	-4.6
LVC	**Limon Verde**	**12.66**	**12**	*e*Pn	**Pn**	**11 45 32.9**	**+0.1**
LVC				*e*Sn	**Sn**	**11 47 50.7**	**-2.3**
LPAZ	**La Paz** 9.0nm,0.6s	**18.98**	**11**	*e*P	**P**	**11 46 54.0**	**-0.4**
SAML	**Samuel** 4.5nm,1.3s	**27.16**	**19**	P	**P**	**11 48 15.2**	**-0.2**
SDV	**Santo Domingo** 11nm,0.9s	**43.73**	**2**	*e*P	**P**	**11 50 39.6**	**+2.2**
BCIP	**Isla Barro Col** 44nm,1.2s	**44.66**	**349**	*e*P	**P**	**11 50 43.7**	**-0.9**
JTS	**JuntasAbangare** 33nm,1.8s	**46.81**	**342**	*e*P	**P**	**11 51 00.9**	**-0.8**
SNAA	**Sanae** 57nm,1.6s	**50.51**	**158**	P	**P**	**11 51 28.9**	**-0.6**
QSPA	**South Pole Qui** 11nm,1.1s	**55.17**	**180**	*e*P	P	11 52 11.9	+7.8
TEIG	**Tepich** 15nm,0.6s	**57.19**	**341**	*e*P	**P**	**11 52 17.3**	**-1.4**
SYO	**Syowa Base**	**64.78**	**158⇑**	*e*PcP	**PcP**	**11 53 38.8**	**-4.3**
834A	**Tilden** baz=68	**67.77**	**335**	⇑P	**P**	**11 53 28.7**	**-0.7**
735A	**Kenedy** baz=68	**68.18**	**335**	⇑P	**P**	**11 53 30.8**	**-1.1**
833A	**Chaparral WMA,** baz=69,SNR=5.9	**68.25**	**334**	⇓P	**P**	**11 53 30.9**	**-1.5**
832A	**Faith Ranch, C** baz=69	**68.42**	**333**	⇑P	**P**	**11 53 32.0**	**-1.5**
636A	**Smothers Creek** baz=69	**68.50**	**336**	⇓P	**P**	**11 53 33.2**	**-0.7**
733A	**Divot King Ran** baz=69	**68.57**	**334**	⇓P	**P**	**11 53 33.8**	**-0.6**
732A	**Laxson Ranch,** baz=69,SNR=9.4	**68.82**	**334**	⇑P	**P**	**11 53 34.6**	**-1.3**
633A	**Saathoff Ranch** baz=70	**69.20**	**335**	⇓P	**P**	**11 53 37.0**	**-1.3**
632A	**Uvalde** baz=70,SNR=5.2	**69.46**	**334**	⇑P	**P**	**11 53 38.7**	**-1.2**
631A	**Perdido Creek** baz=70	**69.66**	**333**	⇓P	**P**	**11 53 39.5**	**-1.7**
533A	**Kerrville** baz=70	**69.71**	**335**	⇓P	**P**	**11 53 39.9**	**-1.6**
532A	**Rocksprings** baz=70,SNR=13	**70.07**	**334**	⇑P	**P**	**11 53 42.5**	**-1.2**
434A	**Burnet** baz=70,SNR=6.1	**70.13**	**336**	⇓P	**P**	**11 53 42.7**	**-1.4**
336A	**Riesel** baz=71	**70.19**	**337**	⇑P	**P**	**11 53 43.6**	**-0.7**
335A	**Moody** baz=71	**70.28**	**337**	⇑P	**P**	**11 53 43.8**	**-1.2**
531A	**Rocksprings** baz=71,SNR=5.5	**70.33**	**334**	⇑P	**P**	**11 53 44.2**	**-1.1**
JCT	**Junction City** baz=71,SNR=5.5	**70.35**	**334**	⇑P	**P**	**11 53 44.0**	**-1.5**
JCT	**Junction City** 42nm,1.5s	**70.35**	**334**	*e*P	**P**	**11 53 44.3**	**-1.1**
433A	**Art** baz=71,SNR=8.6	**70.36**	**335**	⇑P	**P**	**11 53 43.8**	**-1.6**
334A	**Lometa** baz=71,SNR=6.3	**70.60**	**336**	⇓P	**P**	**11 53 45.5**	**-1.3**
530A	**J-C Ranch, Com** baz=71,SNR=8.9	**70.61**	**333**	⇑P	**P**	**11 53 46.0**	**-1.0**
432A	**Menard** baz=71	**70.71**	**335**	⇑P	**P**	**11 53 45.9**	**-1.7**
431A	**Sonora** baz=71	**70.82**	**334**	⇑P	**P**	**11 53 46.5**	**-1.9**
333A	**Richland Sprin** baz=71,SNR=5.9	**70.84**	**336**	⇑P	**P**	**11 53 46.6**	**-1.7**
529A	**Stev Forest Ra** baz=71,SNR=10	**70.92**	**332**	⇓P	**P**	**11 53 47.2**	**-1.7**
WHTX	**Lake Whitney,** baz=71	**70.95**	**337**	⇓P	**P**	**11 53 47.6**	**-1.4**
430A	**Baggett Ranch,** baz=72,SNR=7.3	**71.15**	**333**	⇓P	**P**	**11 53 48.6**	**-1.6**
332A	**Millersview** baz=72,SNR=5.5	**71.15**	**335**	⇓P	**P**	**11 53 49.0**	**-1.3**
SWET	**Sewanee** 54nm,1.9s	**71.17**	**348**	*e*P	**P**	**11 53 50.7**	**+0.4**
SWET				*e*pP	**pP**	**11 53 59.3**	**-0.2**
234A	**Clairette** baz=72,SNR=6.1	**71.18**	**336**	⇓P	**P**	**11 53 49.1**	**-1.3**
429A	**Davenport Ranc** baz=72,SNR=6.5	**71.25**	**333**	⇓P	**P**	**11 53 49.3**	**-1.6**
331A	**San Angelo** baz=72,SNR=7.3	**71.33**	**334**	⇓P	**P**	**11 53 49.8**	**-1.6**
233A	**Rising Star** baz=72	**71.45**	**336**	⇑P	**P**	**11 53 50.5**	**-1.5**
232A	**Coleman** baz=72,SNR=6.2	**71.58**	**335**	⇑P	**P**	**11 53 51.2**	**-1.6**
330A	**Mertzon** baz=72	**71.68**	**334**	⇑P	**P**	**11 53 51.8**	**-1.7**
231A	**Bronte** baz=72,SNR=8.5	**71.86**	**335**	⇑P	**P**	**11 53 52.8**	**-1.7**
133A	**Hamilton Ranch** baz=72,SNR=7.3	**71.99**	**336**	⇓P	**P**	**11 53 54.1**	**-1.2**
329A	**Wagon Wheel Ra** baz=72,SNR=5.8	**72.05**	**333**	⇓P	**P**	**11 53 54.2**	**-1.5**
230A	**Sterling City** baz=72	**72.10**	**334**	⇑P	**P**	**11 53 54.6**	**-1.3**
Z35A	**Perchaven, San** baz=72	**72.12**	**338**	⇑P	**P**	**11 53 55.4**	**-0.6**
MIAR	**Mount Ida** 3.4nm,0.9s	**72.20**	**341**	*e*P	**P**	**11 53 55.8**	**-0.7**
MIAR				*e*pP	**pP**	**11 54 05.8**	**+0.1**
ABTX	**Abilene, Hawle** baz=73,SNR=6.1	**72.25**	**336**	⇓P	**P**	**11 53 55.4**	**-1.5**
ABTX	**Abilene, Hawle** 16nm,1.0s	**72.25**	**336**	*e*P	**P**	**11 53 55.8**	**-1.1**
Z34A	**Collier Ranch,** baz=73	**72.37**	**337**	⇑P	**P**	**11 53 56.5**	**-1.0**
WVT	**Waverly** 22nm,1.1s	**72.41**	**346**	*e*P	**P**	**11 53 58.0**	**+0.4**
229A	**Bryant Ranch,** baz=73	**72.42**	**333**	⇑P	**P**	**11 53 56.4**	**-1.5**
131A	**Roby** baz=73,SNR=6.5	**72.55**	**335**	⇑P	**P**	**11 53 57.5**	**-1.2**
Z33A	**Whitaker Ranch** baz=73,SNR=6.6	**72.56**	**336**	⇓P	**P**	**11 53 57.6**	**-1.0**
130A	**Snyder** baz=73	**72.68**	**334**	⇑P	**P**	**11 53 57.4**	**-2.1**
Z32A	**Haskell** baz=73,SNR=11	**72.82**	**336**	⇓P	**P**	**11 53 59.1**	**-1.1**
228A	**UT Block 9, Go** baz=73	**72.84**	**333**	⇓P	**P**	**11 53 58.9**	**-1.6**
Y34A	**Reagan Ranch,** baz=73	**72.86**	**338**	⇑P	**P**	**11 53 59.2**	**-1.2**
129A	**Stewart Farms,** baz=73	**73.04**	**334**	⇓P	**P**	**11 53 60.0**	**-1.6**
Z31A	**Sharp Cattle R** baz=73,SNR=6.3	**73.05**	**335**	⇓P	**P**	**11 54 00.3**	**-1.4**
Y33A	**Hilltop Ranch,** baz=74	**73.18**	**337**	⇑P	**P**	**11 54 01.2**	**-1.1**
128A	**Castleberry Fa** baz=74,SNR=6.7	**73.26**	**333**	⇑P	**P**	**11 54 01.4**	**-1.5**
Z30A	**Sanderson Ranc** baz=74,SNR=6.8	**73.37**	**335**	⇑P	**P**	**11 54 01.7**	**-1.8**
Y32A	**R-V Farms, Ver** baz=74	**73.44**	**336**	⇓P	**P**	**11 54 02.7**	**-1.2**
X34A	**Smith Ranch, M** baz=74	**73.48**	**338**	⇑P	**P**	**11 54 03.0**	**-1.1**
Z29A	**Hungry Hill Ra** baz=74,SNR=7.1	**73.55**	**334**	⇑P	**P**	**11 54 02.6**	**-2.0**
PBMO	**Poplar Bluff** 8.4nm,1.0s	**73.57**	**344**	*e*P	**P**	**11 54 04.6**	**+0.1**
127A	**Arkansas Junct** baz=74	**73.63**	**333**	⇑P	**P**	**11 54 03.7**	**-1.5**
X33A	**Lawton** baz=74	**73.63**	**337**	⇑P	**P**	**11 54 03.5**	**-1.5**
Y31A	**Rekieta Farm,** baz=74	**73.68**	**336**	⇓P	**P**	**11 54 04.2**	**-1.1**
X32A	**Elmer** baz=74	**73.78**	**337**	⇑P	**P**	**11 54 04.7**	**-1.1**
Z28A	**Tucker Farm, M** baz=74	**73.82**	**334**	⇑P	**P**	**11 54 04.3**	**-1.9**
Y30A	**Stafford Cattl** baz=74	**73.82**	**335**	⇑P	**P**	**11 54 04.9**	**-1.3**
W34A	**Bridge Creek,** baz=74	**74.05**	**338**	⇓P	**P**	**11 54 06.4**	**-1.0**
Y29A	**Porterfield Fa** baz=74,SNR=6.0	**74.08**	**334**	⇓P	**P**	**11 54 06.2**	**-1.5**
TUL1	**Leonard** baz=74,SNR=6.1	**74.09**	**340**	⇓P	**P**	**11 54 06.8**	**-0.8**
Z27A	**Tatum** baz=74	**74.15**	**333**	⇓P	**P**	**11 54 06.7**	**-1.4**
W33A	**Caddo, Fort Co** baz=75,SNR=7.1	**74.19**	**337**	⇓P	**P**	**11 54 07.7**	**-0.5**
X31A	**McDonald Ranch** baz=75,SNR=7.2	**74.20**	**336**	⇓P	**P**	**11 54 07.2**	**-1.1**
Y28A	**McKinney Farm,** baz=75	**74.33**	**334**	⇑P	**P**	**11 54 07.9**	**-1.2**
X30A	**Coker Ranch, T** baz=75	**74.33**	**335**	⇑P	**P**	**11 54 07.5**	**-1.6**
Z26A	**Caprock** baz=75	**74.40**	**332**	⇓P	**P**	**11 54 08.3**	**-1.3**
W32A	**Sentinel** baz=75,SNR=17	**74.41**	**337**	⇓P	**P**	**11 54 08.5**	**-1.0**
MSTX	**Muleshoe** baz=75,SNR=6.2	**74.57**	**334**	⇑P	**P**	**11 54 09.2**	**-1.4**
MSTX	**Muleshoe** 15nm,0.9s	**74.57**	**334**	*e*P	**P**	**11 54 09.2**	**-1.4**
X29A	**Tulia** baz=75	**74.62**	**335**	⇑P	**P**	**11 54 09.6**	**-1.2**
Y27A	**Causey** baz=75	**74.64**	**333**	⇓P	**P**	**11 54 09.6**	**-1.4**
Z25A	**Roswell** baz=75	**74.69**	**332**	⇓P	**P**	**11 54 09.8**	**-1.5**
W31A	**Holland Ranch,** baz=75	**74.69**	**336**	⇑P	**P**	**11 54 10.1**	**-1.1**
V33A	**Losen Ranch,** baz=75,SNR=8.0	**74.75**	**338**	⇓P	**P**	**11 54 10.6**	**-0.8**
V32A	**Arapaho** baz=75	**74.89**	**337**	⇑P	**P**	**11 54 11.7**	**-0.6**
Y26A	**Elida** baz=75,SNR=7.1	**74.92**	**333**	⇓P	**P**	**11 54 11.2**	**-1.5**
319A	**Douglas** baz=75	**74.93**	**327**	⇓P	**P**	**11 54 11.6**	**-1.1**
Z24A	**Sheeppen Canyo** baz=75,SNR=12	**74.98**	**331**	⇑P	**P**	**11 54 12.1**	**-1.0**
AMTX	**Amarillo** baz=75	**75.00**	**335**	⇑P	**P**	**11 54 12.1**	**-0.9**
AMTX	**Amarillo** 48nm,1.7s	**75.00**	**335**	*e*P	**P**	**11 54 12.4**	**-0.6**
U34A	**Anderson Ranch** baz=76	**75.09**	**339**	⇓P	**P**	**11 54 12.9**	**-0.5**
V31A	**Spring Creek L** baz=76	**75.19**	**337**	⇓P	**P**	**11 54 13.8**	**-0.3**
W29A	**Amarillo** baz=76,SNR=6.9	**75.21**	**335**	⇓P	**P**	**11 54 13.3**	**-0.9**
Y25A	**Mesa, Roswell** baz=76	**75.25**	**332**	⇑P	**P**	**11 54 13.0**	**-1.5**
U33A	**Lingo Farm, Me** baz=76	**75.26**	**338**	⇓P	**P**	**11 54 13.5**	**-0.9**
121A	**Cookes Peak, D** baz=76,SNR=6.6	**75.28**	**329**	⇓P	**P**	**11 54 13.8**	**-1.0**
121A	**Cookes Peak, D** 9.1nm,0.9s	**75.28**	**329**	*e*P	**P**	**11 54 13.8**	**-1.0**
X27A	**F and S Farms,** baz=76	**75.30**	**334**	⇓P	**P**	**11 54 13.6**	**-1.2**
X26A	**CR and CF Fran** baz=76,SNR=7.0	**75.47**	**333**	⇑P	**P**	**11 54 14.9**	**-1.0**
U32A	**Winter Ranch,** baz=76,SNR=6.1	**75.48**	**338**	⇓P	**P**	**11 54 15.1**	**-0.6**
W28A	**Vega** baz=76	**75.53**	**335**	⇓P	**P**	**11 54 15.1**	**-1.0**
Y24A	**Capitan** baz=76,SNR=8.7	**75.54**	**332**	⇓P	**P**	**11 54 15.3**	**-1.0**
Z22A	**Elephant Butte** baz=76,SNR=5.8	**75.56**	**330**	⇓P	**P**	**11 54 15.8**	**-0.6**
W27A	**Bowe Ranch, En** baz=76,SNR=6.5	**75.66**	**334**	⇑P	**P**	**11 54 15.9**	**-0.9**
X25A	**Clemmons Ranch** baz=76	**75.77**	**332**	⇓P	**P**	**11 54 16.3**	**-1.3**
Y23A	**Lovelace Mesa,** baz=76	**75.79**	**331**	⇑P	**P**	**11 54 16.7**	**-1.0**
T33A	**Patterson Ranc** baz=76	**75.90**	**338**	⇑P	**P**	**11 54 18.0**	**0.0**
W26A	**Owens Ranch, T** baz=76,SNR=5.7	**75.94**	**333**	⇑P	**P**	**11 54 17.6**	**-0.8**
V28A	**Channing** baz=76	**75.98**	**335**	⇑P	**P**	**11 54 17.9**	**-0.7**
X24A	**Lazy VL Ranch,** baz=76,SNR=12	**76.10**	**332**	⇑P	**P**	**11 54 18.6**	**-0.8**
U30A	**WK&E Inc. Balk** baz=76	**76.15**	**336**	⇑P	**P**	**11 54 18.7**	**-0.8**
T32A	**Huddler Ranch,** baz=77	**76.19**	**338**	⇑P	**P**	**11 54 19.0**	**-0.7**
V27A	**Dan Oppiter Fa** baz=77	**76.20**	**334**	⇑P	**P**	**11 54 19.3**	**-0.6**
W25A	**X Bar L Ranch,** baz=77	**76.31**	**333**	⇓P	**P**	**11 54 19.4**	**-1.2**
T31A	**Randall Ranch,** baz=77	**76.36**	**337**	⇑P	**P**	**11 54 20.4**	**-0.2**
TUC	**Tucson** 8.5nm,1.2s	**76.39**	**327**	*e*P	**P**	**11 54 19.8**	**-1.3**
U28A	**Mallet** baz=77	**76.54**	**335**	⇓P	**P**	**11 54 20.8**	**-1.1**
V26A	**Tequesquite Ra** baz=77	**76.57**	**334**	⇑P	**P**	**11 54 20.8**	**-1.3**
T30A	**Plains** baz=77	**76.59**	**337**	⇑P	**P**	**11 54 21.5**	**-0.5**
LAZ	**Ladron** 5.1nm,1.4s	**76.63**	**331**	*e*P	**P**	**11 54 22.4**	**-0.1**
W24A	**Lazy 6 Ranch,** baz=77	**76.66**	**332**	⇑P	**P**	**11 54 21.8**	**-0.8**
S31A	**Mullinville** baz=77	**76.77**	**338**	⇓P	**P**	**11 54 22.8**	**-0.2**
U27A	**Thompson Grove** baz=77	**76.79**	**335**	⇓P	**P**	**11 54 22.5**	**-0.7**
ANMO	**Albuquerque** 9.7nm,1.2s	**76.83**	**331**	*e*P	**P**	**11 54 23.3**	**-0.4**
W23A	**Werner Place,** baz=77	**76.90**	**332**	⇑P	**P**	**11 54 23.5**	**-0.5**
V25A	**Rancho No Teng** baz=77,SNR=8.0	**76.92**	**333**	⇑P	**P**	**11 54 22.9**	**-1.1**
T29A	**Hugoton** baz=77	**76.93**	**336**	⇑P	**P**	**11 54 23.8**	**-0.2**
R33A	**Olander Ranch,** baz=77	**76.95**	**339**	⇓P	**P**	**11 54 23.2**	**-0.8**
214A	**Organ Pipe Nat** baz=77	**77.03**	**325**	⇓P	**P**	**11 54 23.1**	**-1.5**
V24A	**Rampart Ranch,** baz=77	**77.06**	**333**	⇓P	**P**	**11 54 24.1**	**-0.8**
U26A	**Atchley Ranch,** baz=78	**77.09**	**334**	⇑P	**P**	**11 54 23.7**	**-1.3**
S30A	**Montezuma** baz=78,SNR=5.8	**77.10**	**337**	⇑P	**P**	**11 54 24.4**	**-0.5**
T28A	**Walsh** baz=78,SNR=13	**77.17**	**336**	⇑P	**P**	**11 54 24.7**	**-0.7**
R32A	**Long Quarter,** baz=78,SNR=5.4	**77.28**	**339**	⇓P	**P**	**11 54 25.6**	**-0.2**
S29A	**Ulysses** baz=78,SNR=7.3	**77.30**	**336**	⇓P	**P**	**11 54 25.9**	**-0.1**
KSU1	**Kansas State U** baz=78	**77.30**	**340**	⇓P	**P**	**11 54 25.4**	**-0.6**
KSU1	**Kansas State U** 12nm,0.9s	**77.30**	**340**	*e*P	**P**	**11 54 25.7**	**-0.2**
T27A	**Campo** baz=78	**77.33**	**335**	⇓P	**P**	**11 54 25.6**	**-0.7**
U25A	**Circle Dot Ran** baz=78,SNR=5.4	**77.34**	**334**	⇑P	**P**	**11 54 25.9**	**-0.5**
R31A	**Burdett** baz=78	**77.40**	**338**	⇓P	**P**	**11 54 26.1**	**-0.5**
V23A	**Ortiz Mt. (NFS** baz=78	**77.43**	**332**	⇓P	**P**	**11 54 26.4**	**-0.6**
S28A	**Manter** baz=78,SNR=11	**77.53**	**336**	⇓P	**P**	**11 54 27.2**	**-0.1**
Q33A	**Connelly Farm,** baz=78	**77.55**	**339**	⇑P	**P**	**11 54 27.2**	**-0.1**
R30A	**Dighton** baz=78	**77.63**	**337**	⇑P	**P**	**11 54 27.7**	**-0.1**
T26A	**Comanche Natio** baz=78,SNR=5.4	**77.74**	**334**	⇓P	**P**	**11 54 28.3**	**-0.3**
Q32A	**Meitler Ranch,** baz=78,SNR=7.2	**77.76**	**339**	⇑P	**P**	**11 54 28.5**	**0.0**
V22A	**San Miguel Ran** baz=78,SNR=11	**77.86**	**331**	⇑P	**P**	**11 54 29.2**	**-0.2**
X18A	**Snowflake** baz=78	**77.91**	**329**	⇑P	**P**	**11 54 28.9**	**-0.7**
U23A	**El Rito** baz=78,SNR=6.8	**77.94**	**332**	⇑P	**P**	**11 54 29.6**	**-0.2**
T25A	**Trinidad** baz=78,SNR=10	**78.00**	**334**	⇓P	**P**	**11 54 30.2**	**+0.1**
Q31A	**Ellis** baz=78,SNR=5.2	**78.02**	**338**	⇓P	**P**	**11 54 30.0**	**0.0**
R29A	**Marienthal** baz=78,SNR=5.6	**78.03**	**337**	⇑P	**P**	**11 54 30.0**	**-0.1**
S26A	**Kim** baz=78,SNR=9.2	**78.09**	**335**	⇑P	**P**	**11 54 30.6**	**0.0**
113A	**Mohawk Valley,** baz=78	**78.15**	**325**	⇓P	**P**	**11 54 29.8**	**-1.0**
R28A	**Tribune** baz=79,SNR=8.2	**78.18**	**336**	⇑P	**P**	**11 54 30.7**	**-0.2**
U22A	**Llaves** baz=79	**78.24**	**332**	⇓P	**P**	**11 54 31.4**	**-0.1**
T24B	**San Luis** baz=79,SNR=5.0	**78.28**	**333**	⇓P	**P**	**11 54 31.4**	**-0.4**
W18A	**Petrified Fore** baz=79	**78.32**	**329**	⇓P	**P**	**11 54 31.1**	**-0.8**
W18A	**Petrified Fore** 12nm,1.1s	**78.32**	**329**	*e*P	**P**	**11 54 31.5**	**-0.4**
P32A	**Huiting Farm,** baz=79	**78.35**	**339**	⇑P	**P**	**11 54 31.8**	**0.0**
Q29A	**Oakley** baz=79	**78.41**	**337**	⇓P	**P**	**11 54 32.0**	**-0.2**
R27A	**Eads** baz=79,SNR=9.8	**78.46**	**336**	⇓P	**P**	**11 54 32.3**	**-0.2**
X16A	**Lo Mia Camp, P** baz=79,SNR=3.9	**78.47**	**327**	⇑P	**P**	**11 54 32.2**	**-0.5**
S25A	**Robets Cordova** baz=79,SNR=5.4	**78.47**	**334**	⇑P	**P**	**11 54 32.5**	**-0.2**
P31A	**Stockton** baz=79	**78.49**	**339**	⇑P	**P**	**11 54 32.6**	**+0.1**
T23A	**Casias Ranch,** baz=79	**78.51**	**333**	⇓P	**P**	**11 54 32.4**	**-0.6**
R26A	**Arlington** baz=79,SNR=7.2	**78.69**	**335**	⇑P	**P**	**11 54 33.7**	**-0.1**
TSUM	**Tsumeb** 31nm,1.9s	**78.70**	**105**	*e*P	**P**	**11 54 35.4**	**+0.9**
NCB	**Newcomb** 42nm,1.0s	**78.70**	**358**	*e*P	**P**	**11 54 36.2**	**+2.6**
S24A	**Houchin Ranch,** baz=79,SNR=10.0	**78.73**	**333**	⇓P	**P**	**11 54 34.7**	**+0.4**
Y14A	**Wickenburg** baz=79	**78.77**	**326**	⇑P	**P**	**11 54 33.1**	**-1.2**
Q28A	**Sharon Springs** baz=79	**78.84**	**337**	⇑P	**P**	**11 54 34.3**	**-0.2**
GLA	**Glamis** baz=79	**78.89**	**324**	⇓P	**P**	**11 54 33.8**	**-1.1**
SDCO	**Great Sand Dun** 3.9nm,0.9s	**78.93**	**333**	*e*P	**P**	**11 54 35.0**	**-0.4**
P29A	**Atwood** baz=79,SNR=8.6	**79.04**	**337**	⇑P	**P**	**11 54 35.8**	**+0.2**
O31A	**Woolen Ranch,** baz=80	**79.05**	**339**	⇑P	**P**	**11 54 35.5**	**-0.2**
KSCO	**Kaye Shedlock'** baz=79	**79.06**	**336**	⇑P	**P**	**11 54 35.9**	**+0.1**
KSCO	**Kaye Shedlock'** 22nm,1.1s	**79.06**	**336**	*e*P	**P**	**11 54 36.4**	**+0.6**
S23A	**Nye Farm, Mont** baz=80	**79.08**	**333**	⇑P	**P**	**11 54 35.7**	**-0.5**
R24A	**Sanders Place,** baz=80,SNR=14	**79.22**	**334**	⇓P	**P**	**11 54 36.8**	**0.0**
SWSC	**Sam W. Stewart** baz=80	**79.27**	**323**	⇑P	**P**	**11 54 35.7**	**-1.2**
P28A	**Saint Francis** baz=80,SNR=5.8	**79.28**	**337**	⇓P	**P**	**11 54 37.5**	**+0.5**
Q26A	**Hugo** baz=80	**79.28**	**335**	⇑P	**P**	**11 54 37.2**	**+0.1**
O30A	**MW Ranch, Wils** baz=80	**79.30**	**338**	⇑P	**P**	**11 54 36.9**	**-0.1**
Y12C	**Blythe** baz=80	**79.32**	**325**	⇓P	**P**	**11 54 36.4**	**-0.8**
WUAZ	**Wupatki** baz=80,SNR=6.1	**79.36**	**328**	⇓P	**P**	**11 54 37.0**	**-0.6**
WUAZ	**Wupatki** 10nm,1.1s	**79.36**	**328**	*e*P	**P**	**11 54 37.4**	**-0.2**
S22A	**4UR Ranch, Cre** baz=80	**79.43**	**332**	⇓P	**P**	**11 54 37.9**	**-0.2**
R23A	**Moffat** baz=80	**79.45**	**333**	⇑P	**P**	**11 54 38.0**	**-0.1**
O29A	**4D Ranch, Culb** baz=80	**79.48**	**338**	⇓P	**P**	**11 54 38.3**	**+0.4**
Q25A	**Bedland, Calha** baz=80,SNR=5.7	**79.52**	**335**	⇑P	**P**	**11 54 38.0**	**-0.5**
P27A	**Ficken Ranch,** baz=80	**79.53**	**336**	⇓P	**P**	**11 54 38.2**	**-0.1**
PDMCI	**Parker Dam,Lak** baz=80	**79.59**	**325**	⇑P	**P**	**11 54 38.2**	**-0.5**
MVCO	**Mesa Verde** baz=80,SNR=5.4	**79.61**	**331**	⇓P	**P**	**11 54 38.4**	**-0.7**
MVCO	**Mesa Verde** 15nm,1.3s	**79.61**	**331**	*e*P	**P**	**11 54 38.7**	**-0.4**
BC3	**Big Chuckawall** baz=80,SNR=6.3	**79.68**	**324**	⇑P	**P**	**11 54 38.4**	**-1.0**
O28A	**Krutsinger Ran** baz=80	**79.78**	**337**	⇓P	**P**	**11 54 40.0**	**+0.3**
P26A	**Davis Ranch, A** baz=80,SNR=5.7	**79.79**	**336**	⇑P	**P**	**11 54 40.0**	**+0.1**
Q24A	**Divide** baz=80	**79.89**	**334**	⇓P	**P**	**11 54 40.3**	**-0.2**
IRM	**Iron Mountain** baz=80	**79.95**	**325**	⇑P	**P**	**11 54 39.9**	**-0.8**
P25A	**Willow Gulch B** baz=80	**80.03**	**335**	⇓P	**P**	**11 54 41.1**	**0.0**
M31A	**Lambtecht Ranc** baz=80	**80.05**	**340**	⇓P	**P**	**11 54 41.8**	**+0.7**
N29A	**Votaw Ranch, W** baz=80	**80.06**	**338**	⇑P	**P**	**11 54 41.7**	**+0.6**
O27A	**Beecher Island** baz=80,SNR=6.1	**80.07**	**337**	⇓P	**P**	**11 54 41.9**	**+0.6**
PFO	**Pinyon Flats O** baz=80,SNR=5.6	**80.13**	**323**	⇑P	**P**	**11 54 41.0**	**-0.8**
PFO	**Pinyon Flats O**	**80.13**	**323**	*e*P	**P**	**11 54 41.4**	**-0.4**
W13A	**Hualapai Mount** baz=80	**80.13**	**326**	⇑P	**P**	**11 54 41.7**	**-0.1**
N28A	**Pribbeno Ranch** baz=81	**80.22**	**337**	⇑P	**P**	**11 54 42.1**	**+0.1**
BELC	**Belle Mtn. Jos** baz=81	**80.23**	**324**	⇓P	**P**	**11 54 41.6**	**-0.7**
O26A	**Horse Wrangler** baz=81	**80.39**	**336**	⇓P	**P**	**11 54 43.1**	**+0.1**
PV01	**Paradox Valley** 100nm,0.6s	**80.44**	**331**	*e*P	**P**	**11 54 43.3**	**-0.2**
M30A	**Dale-Ortello V** baz=81	**80.49**	**339**	⇓P	**P**	**11 54 44.0**	**+0.5**
MURC	**Murrieta** baz=81	**80.49**	**323**	⇓P	**P**	**11 54 43.1**	**-0.5**
P23A	**Jefferson** baz=81	**80.50**	**334**	⇓P	**P**	**11 54 44.2**	**+0.3**
U15A	**North Rim** baz=81,SNR=8.1	**80.53**	**328**	⇓P	**P**	**11 54 43.9**	**-0.1**
O25A	**Wiggins** baz=81	**80.55**	**335**	⇓P	**P**	**11 54 44.2**	**+0.3**
N27A	**Anderson Farm,** baz=81,SNR=5.1	**80.65**	**337**	⇓P	**P**	**11 54 44.7**	**+0.4**
M29A	**Burnside Ranch** baz=81	**80.65**	**338**	⇓P	**P**	**11 54 44.9**	**+0.6**
GMRC	**Granite Mounta** baz=81	**80.70**	**325**	⇓P	**P**	**11 54 44.1**	**-0.7**
SMCO	**Snowmass** 9.2nm,1.0s	**80.74**	**333**	*e*P	**P**	**11 54 45.8**	**+0.5**
L31A	**Butterfield Fa** baz=81,SNR=6.0	**80.78**	**340**	⇓P	**P**	**11 54 45.8**	**+0.9**
ISCO	**Idaho Springs** baz=81	**80.79**	**334**	⇓P	**P**	**11 54 45.5**	**+0.1**
ISCO	**Idaho Springs** 6.1nm,1.4s	**80.79**	**334**	*e*P	**P**	**11 54 45.5**	**+0.1**
PV04	**Paradox Valley**	**80.80**	**331**	*e*P	**P**	**11 54 45.0**	**-0.3**
L30A	**Spencer Herefo** baz=81	**80.83**	**339**	⇓P	**P**

N26A	Koester Ranch, baz=81	80.89	336	⇑P	P	11 54 45.9 +0.2
P22A	Eagle baz=81	81.03	333	⇓P	P	11 54 46.9 +0.3
HEC	Hector,Ludlow baz=81	81.06	324	⇓P	P	11 54 46.5 -0.2
L29A	Maesberg Ranch baz=82	81.15	339	⇓P	P	11 54 48.0 +1.0
O23A	Lake Granby, G baz=82,SNR=9.9	81.26	334	⇑P	P	11 54 48.0 +0.1
TUQ	Turquoise Moun baz=82,SNR=5.2	81.36	325	⇓P	P	11 54 47.8 -0.5
N24A	Carr baz=82	81.45	335	⇓P	P	11 54 48.7 0.0
O22A	Kremmling baz=82,SNR=7.4	81.45	334	⇑P	P	11 54 49.0 +0.1
K30A	Basset baz=82,SNR=8.2	81.46	340	⇑P	P	11 54 49.0 +0.5
ECSD	EROS Data Cent baz=82,SNR=12	81.64	342	⇓P	P	11 54 49.6 +0.2
ECSD	EROS Data Cent 24nm,1.3s	81.64	342	eP	P	11 54 49.6 +0.2
LBTB	Lobatse 23nm,1.4s	81.64	115	eP	P	11 54 48.6 -1.6
GSC	Goldstone, Bar baz=82	81.67	324	⇑P	P	11 54 48.8 -1.1
M25A	Palm-Egli Farm baz=82	81.71	336	⇓P	P	11 54 50.3 +0.3
K29A	Lazy Trails An baz=82	81.75	339	⇑P	P	11 54 50.4 +0.3
N23A	Red Feather La baz=82	81.88	335	⇓P	P	11 54 51.4 +0.3
SHPR	Sheep Range	81.88	326	eP	P	11 54 50.4 -0.7
SHOC	Shoshone, Teco baz=82	81.90	325	⇓P	P	11 54 50.7 -0.3
EDW2	Edwards Air Fo baz=82	81.91	323	⇓P	P	11 54 50.0 -1.1
CCUT	Cedar City 11nm,1.1s	81.94	328	eP	P	11 54 51.9 +0.5
N22A	Wattenberg Ran baz=82,SNR=5.6	81.98	334	⇓P	P	11 54 52.0 +0.4
M24A	Cheyenne baz=82,SNR=5.3	82.00	336	⇓P	P	11 54 52.1 +0.5
K28A	Ten Mile Ranch baz=82,SNR=8.1	82.01	338	⇑P	P	11 54 52.4 +0.9
J30A	Dallas baz=82	82.03	340	⇓P	P	11 54 51.6 +0.1
O20A	White River Ci baz=82	82.05	333	⇑P	P	11 54 51.5 -0.4
O20A	White River Ci 67nm,2.3s	82.05	333	eP	P	11 54 52.1 +0.2
SRU	San Rafael Swe 6.3nm,1.0s	82.06	331	eP	P	11 54 51.6 -0.4
PHWY	Pilot Hill 16nm,1.3s	82.07	335	eP	P	11 54 52.0 -0.1
SPMN	Marine on St. baz=83	82.17	345	⇑P	P	11 54 52.4 +0.3
SPMN	Marine on St. 11nm,0.9s	82.17	345	eP	P	11 54 52.5 +0.3
K27A	Flueckinger Fa baz=83	82.27	338	⇑P	P	11 54 52.9 +0.1
M23A	Laramie baz=83	82.31	335	⇑P	P	11 54 53.2 -0.1
J29A	Okreek baz=83,SNR=10	82.34	339	⇑P	P	11 54 53.5 +0.3
SBC	Santa Barbara baz=83	82.42	322	⇓P	P	11 54 53.7 -0.1
I30A	Oacoma baz=83,SNR=6.3	82.55	340	⇑P	P	11 54 54.1 -0.1
M22A	Cedar Creek Ra baz=83	82.56	334	⇓P	P	11 54 54.7 +0.1
J28A	Allard Ranch, baz=83,SNR=7.7	82.62	339	⇓P	P	11 54 55.0 +0.4
FURC	Furnace Creek, baz=83	82.64	325	⇑P	P	11 54 54.2 -0.6
N20A	Spence Gulch, baz=83	82.67	333	⇓P	P	11 54 54.8 -0.3
J27A	Elkhorn Farm, baz=83,SNR=8.2	82.70	338	⇑P	P	11 54 56.0 +0.9
ISA	Isabella, Lake baz=83	82.77	323	⇑P	P	11 54 55.1 -0.5
ISA	Isabella, Lake 7.6nm,1.3s	82.77	323	eP	P	11 54 55.3 -0.3
L23A	Garrett baz=83	82.87	335	⇑P	P	11 54 56.1 -0.1
I29A	Vivian Onida baz=83	82.90	340	⇑P	P	11 54 56.1 +0.1
BRSD	Miller baz=83	82.91	341	⇓P	P	11 54 56.3 +0.3
L22A	Ellis Ranch, M baz=83	83.05	335	⇓P	P	11 54 57.5 +0.4
J26A	Sides Ranch, S baz=84	83.08	338	⇓P	P	11 54 57.9 +0.8
I28A	Midland baz=84,SNR=7.7	83.13	339	⇑P	P	11 54 57.7 +0.4
VES	Vestal, Richgr baz=84	83.21	323	⇑P	P	11 54 57.4 -0.4
MPU	Maple Canyon	83.28	330	eP	P	11 54 58.3 0.0
GRAC	Grapevine Rang baz=84	83.31	325	⇓P	P	11 54 58.2 -0.1
J25A	Sunshine Ranch baz=84	83.38	337	⇓P	P	11 54 59.1 +0.5
NLU	North Lily Min 10.0nm,1.4s	83.41	330	eP	P	11 54 58.6 -0.4
K23A	Bowen Ranch, D baz=84	83.41	336	⇑P	P	11 54 59.3 +0.4
H29A	Onida baz=84	83.43	340	⇑P	P	11 54 59.1 +0.4
I27A	Quinn baz=84	83.45	339	⇑P	P	11 54 59.4 +0.5
R11A	Troy Canyon, C baz=84,SNR=7.3	83.58	327	⇑P	P	11 54 59.7 -0.2
G30A	Faulkton baz=84	83.60	341	⇑P	P	11 54 60.0 +0.4
J24A	Dixon Ranch, L baz=84	83.61	336	⇑P	P	11 55 00.0 +0.2
K22A	Casper baz=84,SNR=7.7	83.63	335	⇓P	P	11 55 00.1 +0.1
K22A	Casper 7.4nm,0.7s	83.63	335	eP	P	11 55 00.4 +0.4
RCTC	Rector, Farmer baz=84	83.66	323	⇑P	P	11 54 59.8 -0.2
I26A	New Underwood baz=84	83.66	338	⇓P	P	11 55 00.2 +0.2
H28A	Mission Ridge baz=84	83.70	339	⇑P	P	11 55 00.6 +0.4
JLU	Jordanelle 7.1nm,0.9s	83.70	331	eP	P	11 55 00.4 -0.1
K21A	Alcova baz=84,SNR=13	83.87	334	⇑P	P	11 55 01.2 -0.1
CTU	Camp Tracy 4.1nm,0.8s	83.90	331	eP	P	11 55 00.9 -0.6
DUG	Dugway, Tooele baz=84,SNR=16	83.92	330	⇓P	P	11 55 01.6 +0.1
I25A	Rochford baz=84,SNR=7.7	83.92	337	⇓P	P	11 55 02.0 +0.5
H27A	Howes baz=84,SNR=5.8	83.97	339	⇓P	P	11 55 01.3 -0.2
G28A	Parade baz=84,SNR=5.8	84.04	340	⇑P	P	11 55 02.3 +0.4
I24A	Kuemmerle Ranc baz=84	84.07	337	⇑P	P	11 55 02.2 +0.1
TPH	Tonopah 8.2nm,1.1s	84.11	326	eP	P	11 55 02.4 -0.2
RSSD	Black Hills 6.4nm,0.9s	84.11	337	eP	P	11 55 02.8 +0.2
F30A	Leola baz=85,SNR=6.0	84.22	341	⇑P	P	11 55 03.1 +0.4
J22A	Midwest baz=85	84.29	335	⇓P	P	11 55 03.3 0.0
H25A	Fruitdale baz=85	84.42	338	⇓P	P	11 55 03.7 -0.2
F29A	Eureka baz=85,SNR=7.5	84.43	341	⇑P	P	11 55 04.2 +0.4
J21A	Lysite baz=85	84.56	335	⇑P	P	11 55 05.1 +0.3
G27A	Dupree baz=85	84.61	339	⇑P	P	11 55 04.9 +0.1
I22A	9 Mile Ranch, baz=85	84.71	336	⇓P	P	11 55 05.5 0.0
F28A	McLaughlin baz=85,SNR=6.1	84.72	340	⇑P	P	11 55 06.0 +0.7
G26A	Maurine baz=85,SNR=6.4	84.73	339	⇓P	P	11 55 05.4 0.0
J20A	Shoshoni baz=85,SNR=11	84.80	334	⇑P	P	11 55 06.3 +0.4
E30A	Jud baz=85,SNR=6.6	84.81	342	⇑P	P	11 55 06.0 +0.3
H24A	Dirks Ranch, A baz=85	84.84	337	⇓P	P	11 55 05.8 -0.3
G25A	Newell baz=85,SNR=8.6	84.89	338	⇓P	P	11 55 06.3 +0.1
I21A	Big Trails, Te baz=85,SNR=6.0	84.92	335	⇑P	P	11 55 06.1 -0.4
E29A	Napoleon baz=86	85.06	341	⇑P	P	11 55 07.0 0.0
J19A	Crowheart baz=86,SNR=8.9	85.07	334	⇓P	P	11 55 07.0 -0.3
F27A	Lemmon baz=86,SNR=5.8	85.08	339	⇓P	P	11 55 07.3 +0.1
F26A	Lodgepole baz=86	85.25	339	⇑P	P	11 55 08.1 +0.1
H22A	Clearmont baz=86	85.29	336	⇑P	P	11 55 08.1 -0.2
G24A	Alzada baz=86	85.31	338	⇓P	P	11 55 07.9 -0.5
D30A	Buchanan baz=86,SNR=5.6	85.33	342	⇓P	P	11 55 08.6 +0.3
I20A	Worland baz=86,SNR=8.2	85.33	335	⇑P	P	11 55 08.5 0.0
E28A	Huff baz=86	85.35	340	⇓P	P	11 55 08.7 +0.2
ELK	Elko 5.7nm,1.0s	85.40	328	eP	P	11 55 08.9 -0.2
E27A	Carson baz=86	85.46	340	⇓P	P	11 55 09.2 +0.2
D29A	Pettibone, Tap baz=86	85.50	341	⇑P	P	11 55 09.6 +0.4
G23A	Biddle baz=86	85.51	337	⇑P	P	11 55 09.2 -0.1
H21A	Big Horn, Sher baz=86	85.55	336	⇓P	P	11 55 09.1 -0.5
F25A	Bowman baz=86	85.56	338	⇑P	P	11 55 09.4 -0.2
I19A	Meeteetse baz=86	85.72	334	⇑P	P	11 55 10.5 0.0
AGMN	Agassiz Nation baz=86,SNR=7.1	85.75	344	⇑P	P	11 55 11.0 +0.6
AGMN	Agassiz Nation 9.7nm,0.8s	85.75	344	eP	P	11 55 10.9 +0.6
H20A	Greybull baz=86,SNR=14	85.75	335	⇓P	P	11 55 10.4 -0.2
E26A	Carlson Angus baz=86	85.76	339	⇑P	P	11 55 10.7 +0.3
F24A	Ekalaka baz=86	85.79	338	⇓P	P	11 55 10.9 +0.1
C30A	Mose, Pekin baz=86,SNR=17	85.81	342	⇓P	P	11 55 11.6 +0.9
REDW	Red Top Meadow 24nm,1.6s	85.82	333	eP	P	11 55 11.0 -0.1
G22A	Birney baz=86	85.82	336	⇑P	P	11 55 11.0 +0.1
D28A	Regan baz=86,SNR=6.2	85.89	341	⇑P	P	11 55 11.7 +0.6
LOHW	Long Hollow 4.2nm,0.9s	85.94	333	eP	P	11 55 11.5 -0.2
TPAW	Teton Pass 7.6nm,1.0s	85.97	333	eP	P	11 55 11.9 0.0
F23A	Volborg baz=86,SNR=5.7	85.98	337	⇑P	P	11 55 11.5 -0.1
E25A	Miller Ranch, baz=86	86.06	339	⇓P	P	11 55 12.2 +0.2
FXWY	Fox Creek 8.0nm,1.4s	86.12	333	eP	P	11 55 12.1 -0.5
G21A	Lodge Grass baz=86	86.13	336	⇑P	P	11 55 12.4 -0.1
I17A	Pilgrim Ck. baz=87,SNR=5.9	86.19	333	⇑P	P	11 55 13.1 +0.1
D26A	Manning baz=87,SNR=5.7	86.26	340	⇑P	P	11 55 13.6 +0.6
H19A	Powell baz=87,SNR=5.2	86.26	334	⇑P	P	11 55 13.2 +0.1
F22A	Rosebud baz=87,SNR=5.9	86.31	337	⇑P	P	11 55 13.1 -0.1
IMW	Indian Meadow 13nm,1.3s	86.31	333	eP	P	11 55 13.2 -0.4
C28A	Hausauer Farms baz=87	86.32	341	⇑P	P	11 55 13.7 +0.5
FLWY	Flagg Ranch 21nm,1.4s	86.38	333	eP	P	11 55 13.9 +0.1
E24A	Baker baz=87	86.39	338	⇑P	P	11 55 13.8 +0.2
B30A	Myrvik Farm, E baz=87,SNR=18	86.47	343	⇓P	P	11 55 14.7 +0.8
G20A	Bridger baz=87,SNR=9.2	86.47	335	⇓P	P	11 55 13.6 -0.5
H18A	Shoshone NF, C baz=87,SNR=16	86.51	334	⇑P	P	11 55 14.2 -0.3
C27A	Sayler Ranch, baz=87	86.62	340	⇑P	P	11 55 15.1 +0.4
D25A	Fairfield baz=87,SNR=7.7	86.62	339	⇓P	P	11 55 15.6 +0.8
F21A	Absaloka Mine, baz=87	86.63	336	⇑P	P	11 55 14.7 -0.2
E23A	Ismay baz=87	86.64	338	⇓P	P	11 55 15.0 +0.2
B29A	Wagenman Farm, baz=87	86.74	342	⇑P	P	11 55 16.0 +0.8
C26A	Wahner Farm, P baz=87	86.88	340	⇑P	P	11 55 16.4 +0.4
D24A	Glendive baz=87,SNR=6.2	86.89	338	⇑P	P	11 55 16.8 +0.7
A30A	Hoffart Farm, baz=87,SNR=5.4	86.92	343	⇑P	P	11 55 16.5 +0.4
YMR	Madison River 14nm,1.0s	86.98	333	eP	P	11 55 17.6 +0.9
B28A	Dugan Ranch, T baz=87,SNR=6.5	86.98	341	⇑P	P	11 55 16.9 +0.5
LAO	LASA Array 16nm,0.9s	87.10	337	eP	P	11 55 17.3 +0.2
C25A	Freed Ranch, W baz=88	87.11	339	⇑P	P	11 55 17.6 +0.5
A29A	Manning Farm, baz=88,SNR=12	87.13	342	⇓P	P	11 55 17.7 +0.5
D23A	Lindsay baz=88,SNR=16	87.21	338	⇓P	P	11 55 18.2 +0.5
E21A	Keefer Ranch, baz=88,SNR=5.5	87.25	336	⇑P	P	11 55 18.2 +0.4
F19A	Roth Farm, Mol baz=88	87.27	335	⇑P	P	11 55 17.4 -0.6
QLMT	Earthquake Lak	87.29	333	eP	P	11 55 19.3 +1.0
C24A	Savage baz=88	87.29	339	⇑P	P	11 55 18.7 +0.7
A28A	Rude Farm, Bot baz=88	87.38	342	⇑P	P	11 55 19.0 +0.6
HLID	Hailey baz=88,SNR=9.0	87.38	330	⇓P	P	11 55 19.4 +0.7
HLID	Hailey 7.6nm,0.9s	87.38	330	eP	P	11 55 18.8 +0.1
B26A	Jensen Ranch, baz=88	87.42	340	⇓P	P	11 55 19.1 +0.5
D22A	Cohagen baz=88	87.49	337	⇓P	P	11 55 19.5 +0.5
E20A	Meyer Farm, Mu baz=88,SNR=13	87.56	336	⇓P	P	11 55 19.6 +0.3
B25A	Knox Farm, Ray baz=88,SNR=11	87.59	340	⇑P	P	11 55 20.6 +1.2
D21A	La Casta Ranch baz=88,SNR=6.6	87.68	337	⇓P	P	11 55 20.2 +0.3
E19A	Rath Farm, Rou baz=88,SNR=12	87.75	335	⇑P	P	11 55 20.0 -0.2
C23A	Lambert baz=88,SNR=8.6	87.77	338	⇑P	P	11 55 20.5 +0.3
MCMT	McKenzie Canyo 6.9nm,0.9s	87.82	332	eP	P	11 55 21.2 +0.4
MCMT				epP	pP	11 55 30.0 -0.3
MFID	Camas Ranch 9.6nm,1.0s	87.84	330	eP	P	11 55 21.0 +0.2
A26A	Wade Farm, Ken baz=88,SNR=5.5	87.84	341	⇑P	P	11 55 21.1 +0.5
C22A	Vida baz=88,SNR=6.4	87.93	338	⇓P	P	11 55 21.1 0.0
BOZ	Bozeman (W) 4.4nm,0.8s	88.06	333	eP	P	11 55 19.2 -2.7
DGMT	Dagmar baz=88,SNR=12	88.07	339	⇑P	P	11 55 22.5 +0.8
DGMT	Dagmar 37nm,0.8s	88.07	339	eP	P	11 55 22.7 +1.0
DGMT				epP	pP	11 55 30.9 -0.1
D20A	Manuel Ranch, baz=88,SNR=8.6	88.08	336	⇑P	P	11 55 21.6 -0.2
A25A	Svangstu Ranch baz=89	88.18	340	⇑P	P	11 55 23.2 +1.0
DLMT	Dillon 16nm,1.3s	88.18	333	eP	P	11 55 23.1 +0.7
WVOR	Wild Horse Val	88.25	327	eP	P	11 55 22.9 +0.1
	12nm,1.4s					
B23A	Brockton baz=89	88.30	339	⇓P	P	11 55 22.8 +0.1
C21A	Desert Coulee baz=89,SNR=5.6	88.38	337	⇑P	P	11 55 23.3 +0.1
D19A	Cripps Ranch, baz=89	88.39	336	⇓P	P	11 55 23.3 0.0
A24A	Westby baz=89,SNR=7.5	88.42	339	⇑P	P	11 55 24.0 +0.7
B22A	Reddig Ranch S baz=89,SNR=9.9	88.46	338	⇓P	P	11 55 24.1 +0.5
LRM	Limekiln Ridge	88.51	333	eP	P	11 55 24.7 +0.6
C20A	Veseth Ranch, baz=89	88.58	336	⇑P	P	11 55 24.1 0.0
A23A	Redstone baz=89	88.71	339	⇑P	P	11 55 25.1 +0.4
B21A	Ellsworth Farm baz=89	88.89	337	⇓P	P	11 55 25.8 +0.3
C19A	Slack Wire Ran baz=89	88.94	336	⇑P	P	11 55 25.6 -0.2
N02D	Trinity Center baz=89	88.99	324	⇑P	P	11 55 25.6 -0.6
A22A	Carney Farms, baz=89,SNR=8.5	89.05	338	⇑P	P	11 55 26.4 +0.1
M04C	Macdoel baz=90	89.20	325	⇑P	P	11 55 27.3 0.0
A21A	Bergtoll Ranch baz=90,SNR=6.1	89.36	338	⇓P	P	11 55 27.3 -0.5
M02C	Callahan baz=90	89.39	324	⇑P	P	11 55 28.2 +0.1
EGMT	Eagleton baz=90	89.43	336	⇑P	P	11 55 27.7 -0.5
K05A	Summer Lake 26nm,0.9s	89.50	326	eP	P	11 55 29.5 +0.7
B19A	Brinkman Farms baz=90	89.53	336	⇓P	P	11 55 28.2 -0.4
A20A	Cobblestone Ra baz=90	89.57	337	⇓P	P	11 55 28.8 0.0
BMO	Blue Mountains 4.6nm,1.1s	89.63	329	eP	P	11 55 29.3 +0.1
A19A	Klindworth Far baz=90	89.88	337	⇓P	P	11 55 30.0 -0.2
I07A	Izee 9.0nm,0.8s	89.95	328	eP	P	11 55 31.1 +0.3
J05D	Fort Rock, OR baz=90	90.09	326	⇑P	P	11 55 32.0 +0.5
I05D	Terrebonne, OR baz=91	90.97	327	⇓P	P	11 55 36.0 +0.7
D08A	Wollman Farm, 108nm,2.6s	92.07	330	eP	P	11 55 40.5 +0.2
VYHS	Vyhne	115.64	48	ePKP	PKPdf	12 01 15.4 +2.1
KSH	Kashi	154.02	71	ePKPbc	PKPdf	12 02 23.9 +0.7
KSH				PKS	PKSdf	12 05 57.9 +0.4
KSH				PP	PP	12 06 19.9 -0.2
KSH	95nm,5.1s			PPMZ		
KSH	32nm,4.6s			LE		
KSH	170nm,6.6s			LZ		
WMQ	Urumqi	161.92	55	ePKP	PKPdf	12 02 32.9 +0.3
WMQ	49nm,19.0s			LN		
WMQ	94nm,19.0s			LE		
WMQ	69nm,20.0s			LZ		
CN2	Changchun	164.13	308	ePKP	PKPdf	12 02 35.4 +0.8
NJ2	Nanjing	170.65	254	ePKP	PKPdf	12 02 40.4 +0.7
BJI	Beijing	171.99	311	PKP	PKPdf	12 02 41.3 +1.2
HHC	Hu-ho-hao-te	173.67	337	ePKP	PKPdf	12 02 40.7 -0.3
HHC				sPKP		12 02 54.9
HHC				PP	PP	12 08 04.2 +2.2
HHC				SS	SS	12 29 14.7 -2.0
HHC	90nm,7.4s			PPMZ		
HHC	330nm,17.3s			LN		
HHC	260nm,17.3s			LE		
HHC	290nm,16.0s			LZ		
CD2	Chengdu	174.39	136	ePKP	PKPdf	12 02 41.2 -0.3
LZH	Lanzhou	176.27	73	ePKP	PKPdf	12 02 41.4 -0.6
LZH				pPKP	pPKPdf	12 02 52.1 +0.4
LZH				sPKP		12 02 56.2
LZH				PKPab	PKPab	12 04 23.8 +1.1

*IDC **02** 11:42:35.3±0.6,34°.71S×73°.98W,h0km,mb4.5/11, mb1 4.6/15,mb1mx4.5/22,mbtmp4.4/15,ML4.5/4,MS3.9/4, Ms1 3.9/4,ms1mx3.5/27,Error ellipse: s-maj=21.1km s-min=16.1km az=83.0*

*ISCJB **02** 11:42:38.6±0.5,34°.71S±0°.05×73°.84W±0°.08,h33km, mb4.5/13,MS4.0/4,Error ellipse: s-maj=9.7km s-min=6.8km az=177.6*

*NEIC **02** 11:42:40.7±0.4,34°.68S×73°.81W,h35km,mb4.9/5,Error ellipse: s-maj=10.3km s-min=7.9km az=80.0*

ISC 02 11:42:40.4±0.5,34°.67S±0°.06×73°.95W±0°.09,h35km,n45, σ1§**10**/47,**mb4.5**/13,**MS4.0**/4,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan 2.6nm,0.3s,baz=227,slow=10,SNR=28	5.68	59	Pn	Pn	11 44 00.9	-1.5
CFAA	3.1nm,0.3s,baz=58,slow=13,SNR=10			Sn	Sn	11 45 07.3	+1.0
PLCA	Paso Flores 5.1nm,0.3s,baz=326,slow=10,SNR=18	6.62	157	Pn	Pn	11 44 13.5	-1.8
PLCA	Paso Flores 53nm,0.6s	6.62	157	ePn	Pn	11 44 13.6	-1.7
PLCA				eSn	Sn	11 45 31.8	+2.2
TRQA	Tornquist	10.22	113	ePn	Pn	11 45 03.5	-1.2
TRQA				eSn	Sn	11 46 49.6	-8.4
LVC	Limon Verde	12.80	21	ePn	Pn	11 45 39.0	-1.1
CPUP	Villa Florida 0.7nm,0.3s,baz=240,slow=13,SNR=3.3	16.54	64	Pn	Pn	11 46 30.2	+0.5
CPUP	Villa Florida	16.54	64	ePn	Pn	11 46 28.0	-1.7
LPAZ	La Paz 0.5nm,0.3s,baz=187,slow=8.8,SNR=21	19.03	17	P	Pn	11 47 01.6	+0.6
EFI	East Falkland 396nm,1.1s,SNR=5.9	20.49	151	P	P	11 47 14.0	-1.1
USHA	Ushuaia 18nm,0.8s,baz=304,slow=8.0,SNR=9.6	20.52	171	P	P	11 47 16.4	+0.9
SIV	San Ignacio 16nm,0.9s,baz=221,slow=9.1,SNR=17	21.90	35	P	P	11 47 29.8	-0.8
NNA	Nana 15nm,0.8s,baz=190,slow=10.0,SNR=6.1	22.73	353	P	P	11 47 41.3	+1.7
RPN	Rapa Nui comp=Z,211nm,19.5s,baz=118,slow=29	31.16	274	LR	LR	11 57 47.9	
RCBR	Riachuelo 6.3nm,0.9s	45.34	60	eP	P	11 50 55.9	+0.6
SNAA	Sanae 3.5nm,0.8s,baz=283,slow=8.3,SNR=15	51.57	158	P	P	11 51 42.2	-0.5
SNAA	Sanae 33nm,1.3s	51.57	158	P	P	11 51 42.2	-0.5
H06S1	SOCORRO T SNR=13	63.71	320	T	T	13 00 42.5	
TXAR	Lajitas Array 4.9nm,0.6s,baz=156,slow=8.5,SNR=117	69.57	332	P	P	11 53 46.4	+0.5
ACSO	Alum Creek Sta 4.6nm,0.7s	75.00	353	eP	P	11 54 17.3	-0.6
DBIC	Dimbokro 4.2nm,1.1s,baz=206,slow=9.0,SNR=3.6	76.89	72	P	P	11 54 29.9	+0.6
DBIC	Dimbokro	76.89	72	eP	P	11 54 29.4	+0.1
TSUM	Tsumeb comp=Z,74nm,19.3s,baz=344,slow=34	80.54	107	LR	LR	12 27 38.2	
LBTB	Lobatse	83.44	116	eP	P	11 55 06.5	+1.7
NVAR	Mina Array Bea 1.7nm,0.8s,baz=150,slow=6.5,SNR=12	83.55	326	P	P	11 55 06.2	+1.3
PDAR	Pinedale Array 3.2nm,1.0s,baz=161,slow=4.6,SNR=16	83.67	334	P	P	11 55 05.6	+0.2
HVU	Hansel Valley 15nm,0.9s	84.01	332	eP	P	11 55 06.6	-0.5
TORD	Torodi Ar. Bea 1.7nm,1.0s,baz=284,slow=3.5,SNR=5.0	85.92	71	P	P	11 55 17.6	+0.5
ULM	Lac du Bonnet 7.1nm,0.9s,baz=175,slow=2.8,SNR=13	86.75	346	P	P	11 55 20.0	-0.3
MSKU	Masuku comp=Z,70nm,19.3s,baz=159,slow=33	87.06	90	LR	LR	12 30 10.3	
SCHQ	Schefferville 2.6nm,0.7s,baz=20,slow=12,SNR=1.9	89.35	4	P	P	11 55 32.0	-0.7
DZM	Mont Dzumac comp=Z,47nm,21.3s,baz=200,slow=28	99.57	235	LR	LR	12 28 48.3	
YKA	Yellowknife Ar 0.5nm,0.8s,baz=142,slow=4.1,SNR=10.0	102.19	342	P	Pdif	11 56 30.2	-0.7

WRA Warramunga Arr 119.40 211 PKP **PKPdf 12 01 27.8 +1.1**
0.4nm,0.7s,baz=159,slow=1.8,SNR=2.5
BRTR Keskin Array B 123.54 62 PKP **PKPdf 12 01 34.2 +0.1**
0.6nm,0.6s,baz=200,slow=3.8,SNR=3.4
SEY Seymchan 139.81 329 PKP **PKPdf 12 02 01.6 -2.2**
1.4nm,0.7s,baz=161,slow=3.2,SNR=5.5
ABKAR Akbulak array 143.34 52 *e*PKPdf PKPbc 12 02 07.2 -0.6
BRVK Borovoye 148.77 43 *e*PKPdf **PKPdf 12 02 20.0 +0.3**
BRVK *e*PKPbc **PKPbc 12 02 24.1 +0.6**
YAK Yakutsk 148.80 339 *e*PKPdf **PKPdf 12 02 19.8 +0.4**
YAK *e*PKPbc **PKPbc 12 02 23.0 -0.3**
YAK *e*PKPab **PKPab 12 02 27.6 +0.4**
HYB Hyderabad 150.05 118 *i* PKP **PKPbc 12 02 26.5 -1.3**
ASAJ Asahikawa 150.43 300 PKPbc **PKPbc 12 02 27.1 -0.8**
10nm,1.0s,baz=271,slow=16,SNR=6.1
MJAR Matsushiro Arr 153.85 283 PKPbc **PKPbc 12 02 37.5 +1.5**
0.7nm,0.8s,baz=175,slow=15,SNR=3.3
MJAR PKPab **PKPab 12 02 47.0 -2.2**
1.1nm,0.7s,baz=144,slow=1.9,SNR=4.3
TKM2 Tokmak 2 154.97 62 *e*PKPdf **PKPdf 12 02 29.6 0.0**
TKM2 *e*PKPbc **PKiKP 12 02 39.0 +0.6**
ZALV Zalesovo Beam 155.62 31 PKP **PKPdf 12 02 31.0 +1.2**
0.3nm,0.3s,baz=319,slow=45,SNR=1.2
ZALV PKPab **PKPab 12 02 57.0 +0.9**
2.5nm,0.9s,baz=319,slow=4.3,SNR=6.4
MKAR Makanchi Array 158.39 49 PKPab **PKPab 12 03 08.0 -0.3**
0.9nm,0.6s,baz=292,slow=4.0,SNR=11
SONM Songino Array 166.84 359 PKPab **PKPab 12 03 45.9 +0.6**
1.5nm,0.9s,baz=346,slow=4.7,SNR=9.6

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*CSEM **02** 11:54:27.4±1.2, 47°.11N×12°.27E, h0km, mb1.0/1, ML1.5/4, Error ellipse: s-maj=20.1km s-min=19.0km az=107.0, Suspected Mining explosion.*

VIE 02 11:54:19.7±1.1, 47°.51N×12°.27E, h0km, mb1.0/1, ML1.5/4, 7C-1D, Error ellipse: s-maj=16.4km s-min=6.2km az=158.0 8 km NNW of Kirchberg in Tirol Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WTTA	**Wattenberg**	**0.49**	**241**	⇑*e*Pg		Pg	11 54 29.2	-0.3
WTTA	3.8nm,0.2s			⇑*e*Sg		Sg	11 54 35.2	-0.8
	4.7nm,0.2s							
WATA	**Walderalm**	**0.50**	**250**	⇑*e*Pg		Pg	11 54 29.5	0.0
WATA	3.2nm,0.1s			⇑*e*Sg		Sg	11 54 36.0	-0.1
	4.7nm,0.2s							
SQTA	**Sankt Quirin**	**0.78**	**249**	⇑*i*Pg		Pg	11 54 35.0	+0.2
SQTA				⇑*i*Sg		Sb	11 54 46.3	-1.1
SQTA	**Sankt Quirin**	**0.78**	**249**	Pg		Pg	11 54 35.0	+0.3
MOTA	**Moosalm**	**0.81**	**259**	⇓*i*Pg		Pg	11 54 34.9	-0.5
MOTA	0.6nm,0.1s			⇑*e*Sg		Sg	11 54 46.3	+0.2
	1.7nm,0.2s							

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*IDC **02** 11:55:29.0±1.3, 36°.45S×73°.25W, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.8/27, mbtmp3.7/8, ML3.5/2, Error ellipse: s-maj=38.6km s-min=17.8km az=74.0*
*ISCJB **02** 11:55:31.7±1.1, 36°.5S±0°.1×73°.2W±0°.2, h27km, mb3.8/5, Error ellipse: s-maj=26.6km s-min=18.3km az=0.7*

ISC 02 11:55:33.3±1.1, 36°.45S±0°.09×73°.2W±0°.2, h27km, n9, σ0§63/11, mb3.8/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PLCA	**Paso Flores**	**4.76**	**155**	Pn		**Pn**	**11 56 44.0**	**+0.6**
PLCA	0.8nm,0.3s,baz=336,slow=10,SNR=4.7			Pg		**Pb**	**11 56 56.0**	**0.0**
PLCA	1.5nm,0.3s,baz=314,slow=17,SNR=6.6			Lg		Lg	11 58 01.4	
	3.2nm,0.3s,baz=30,slow=22,SNR=4.2							
CFAA	**Coronel Fontan**	**6.35**	**42**	Pn		**Pn**	**11 57 05.6**	**+0.4**
	0.2nm,0.3s,baz=209,slow=8.3,SNR=5.5							
LPAZ	**La Paz**	**20.58**	**14**	P		**P**	**12 00 11.8**	**+1.0**
	0.9nm,0.5s,baz=184,slow=3.5,SNR=4.2							
SIV	**San Ignacio**	**23.06**	**31**	P		**P**	**12 00 36.8**	**+0.1**
	2.7nm,0.8s,baz=232,slow=12,SNR=8.3							
TXAR	**Lajitas Array**	**71.42**	**332**	P		**P**	**12 06 51.5**	**+0.3**
	0.2nm,0.6s,baz=150,slow=10,SNR=3.9							
DBIC	**Dimbokro**	**76.87**	**71**	P		**P**	**12 07 22.6**	**-0.6**
	3.3nm,0.9s,baz=246,slow=5.0,SNR=3.8							
PDAR	**Pinedale Array**	**85.52**	**334**	P		**P**	**12 08 08.6**	**-0.2**
	0.3nm,0.8s,baz=132,slow=24,SNR=2.1							
TORD	**Torodi Ar. Bea**	**85.94**	**71**	P		**P**	**12 08 10.7**	**-0.6**
	1.0nm,0.9s,baz=225,slow=4.5,SNR=4.8							
MKAR	**Makanchi Array**	**159.05**	**53**	PKP		**PKPdf**	**12 15 28.6**	**+0.2**
	0.1nm,0.5s,baz=301,slow=9.8,SNR=3.6							
MKAR				PKPab		**PKPab**	**12 16 04.3**	**-0.9**
	0.5nm,0.8s,baz=260,slow=3.6,SNR=3.9							

IDC 02 11:55:52.5±14.0, 14°.83S×166°.46E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/20, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=238.3km s-min=37.7km az=61.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
DZM	**Mont Dzumac**	**7.20**	**180**	Pn		Pn	11 57 39.4	+0.2
	1.8nm,0.3s,baz=100,slow=19,SNR=35							
DZM				Sn		Sn	11 59 00.9	-1.0
	3.7nm,0.3s,baz=150,slow=23,SNR=12							
STKA	**Stephens Creek**	**28.34**	**229**	P		P	12 01 48.4	+0.2
	1.1nm,0.4s,baz=53,slow=7.9,SNR=5.7							
WRA	**Warramunga Arr**	**31.05**	**256**	P		P	12 02 12.2	-0.2
	0.4nm,0.5s,baz=84,slow=8.9,SNR=8.5							
ASAR	**Alice Springs**	**31.91**	**249**	P		P	12 02 20.0	0.0
	1.0nm,0.6s,baz=80,slow=9.1,SNR=25							

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*NIED **02** 12:07:00.26°.00N×128°.80E, h8km, Mw3.8 Best double couple: M0=4.95000×10^14 NP1:φs=36.00000°, δ=34.00000°, λ=-66.00000°. NP2:φs=188.00000°, δ=59.00000°, λ=-105.00000°.*
*IDC **02** 12:07:39.5±0.9, 26°.00N×128°.76E, h0km, mb3.5/8, mb1 3.7/9, mb1mx3.6/42, mbtmp3.6/9, ML3.8/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/28, Error ellipse: s-maj=34.1km s-min=16.2km az=72.0*
*ISCJB **02** 12:07:40.6±0.9, 26°.01N±0°.03×128°.76E±0°.04, h27km±6km, mb3.5/8, MS3.7/1, Error ellipse: s-maj=6.5km s-min=5.2km az=38.6*
*JMA **02** 12:07:41.2±0.3, 25°.99N×128°.76E, h36km, M3.7*

ISC 02 12:07:40.4±1.9, 25°.97N±0°.04×128°.74E±0°.04, h13km±12km, n28, σ1§93/39, mb3.5/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JNTH	**Nagotoyohara**	**0.84**	**310**	P		**Pg**	**12 07 56.6**	**-0.1**
JJT2	**Tamagusuku 2**	**0.91**	**281**	P		**Pb**	**12 07 58.1**	**+0.1**
JJT2				S		**Sb**	**12 08 10.0**	**0.0**
JOW	**Kunigami**	**0.95**	**334**	P		**Pb**	**12 07 58.6**	**-0.2**
JOW				S		**Sb**	**12 08 10.0**	**-1.3**
JOW	**Kunigami**	**0.95**	**334**	Pn		**Pb**	**12 07 58.6**	**-0.2**
	23nm,0.3s,baz=148,slow=18,SNR=407							
JOW				Sn		**Sb**	**12 08 09.9**	**-1.5**
	50nm,0.3s,baz=296,slow=27,SNR=39							
JIH	**Iheya**	**1.26**	**327**	P		**Pn**	**12 08 03.4**	**-0.4**
JIH				S		**Sb**	**12 08 18.6**	**-1.7**
JOKE	**Okinoerabujima**	**1.39**	**354**	P		**Pn**	**12 08 05.1**	**-0.5**
JOKE				S		**Sn**	**12 08 21.7**	**-2.1**
JAGN	**Aguni-jima**	**1.48**	**295**	P		**Pn**	**12 08 06.4**	**-0.3**
JAGN				S		**Sn**	**12 08 24.7**	**-1.3**
JKE	**Kume jima 2**	**1.79**	**282**	P		**Pn**	**12 08 09.9**	**-1.2**
JKE				S		**Sn**	**12 08 30.2**	**-3.5**
JTK	**Tokunoshima**	**1.81**	**6**	P		**Pn**	**12 08 10.8**	**-0.6**
JTK				S		**Sn**	**12 08 30.8**	**-3.5**
JMZ	**Minamidaito 2**	**2.24**	**93**	P		**Pn**	**12 08 15.8**	**-1.4**
JMZ				S		**Sn**	**12 08 40.1**	**-4.7**
JAMN	**Amaminishikomi**	**2.29**	**10**	P		**Pn**	**12 08 17.4**	**-0.6**
JAM	**Amami Oshima**	**2.55**	**17**	P		**Pn**	**12 08 20.6**	**-0.9**
JAM				S		**Sn**	**12 08 49.7**	**-2.7**
JZK	**Kikaishima**	**2.58**	**25**	P		**Pn**	**12 08 21.7**	**-0.2**
JZK				S		**Sn**	**12 08 52.0**	**-1.1**
JTAJ	**Takarajima**	**3.19**	**7**	P		Pn	12 08 28.5	-1.8
JTAJ				S		**Sn**	**12 09 05.6**	**-2.7**
JOGS	**Gusukube**	**3.25**	**249**	P		**Pn**	**12 08 30.7**	**-0.4**
JTJ	**Tarama**	**3.89**	**251**	P		**Pn**	**12 08 38.4**	**-1.5**
JTJ				S		**Sn**	**12 09 21.1**	**-4.4**
JISG	**Ishigakijimahi**	**4.24**	**252**	P		**Pn**	**12 08 42.8**	**-1.9**
JIJ	**Ishigaki jima**	**4.46**	**250**	P		Pn	12 08 45.2	-2.6

JNU	**Nakatsue**	**7.36**	**14**	Pn		**Pn**	**12 09 27.3**	**-0.4**
	1.4nm,0.3s,baz=204,slow=5.7,SNR=24							
JNU				Sn		**Sn**	**12 10 48.8**	**-2.4**
	0.3nm,0.3s,baz=346,slow=6.2,SNR=3.1							
SONM	**Songino Array**	**28.02**	**327**	P		**P**	**12 13 33.7**	**+2.4**
	0.6nm,0.4s,baz=145,slow=12,SNR=22							
PMG	**Port Moresby**	**39.47**	**151**	LR		LR	12 30 25.9	
	comp=Z,125nm,21.5s,baz=140,slow=35							
MKAR	**Makanchi Array**	**42.05**	**312**	P		**P**	**12 15 32.8**	**+1.0**
	0.4nm,0.6s,baz=94,slow=11,SNR=5.4							
ZALV	**Zalesovo Beam**	**42.73**	**323**	P		**P**	**12 15 39.2**	**+2.1**
	0.3nm,0.3s,baz=53,slow=24,SNR=2.6							
WRA	**Warramunga Arr**	**45.96**	**173**	P		**P**	**12 16 03.4**	**0.0**
	0.9nm,0.6s,baz=353,slow=8.4,SNR=13							
ASAR	**Alice Springs**	**49.60**	**174**	P		**P**	**12 16 33.7**	**+2.1**
	0.3nm,0.5s,baz=4.8,slow=12,SNR=7.0							
ILAR	**Eielson Array**	**64.44**	**28**	P		**P**	**12 18 18.0**	**+1.8**
	0.2nm,0.7s,baz=269,slow=5.0,SNR=3.6							
FINES	**FINESS Array B**	**73.31**	**331**	P		**P**	**12 19 11.6**	**+0.1**
	0.3nm,0.4s,baz=67,slow=5.0,SNR=3.8							
YKA	**Yellowknife Ar**	**78.56**	**25**	P		**P**	**12 19 42.1**	**+0.7**
	0.2nm,0.6s,baz=302,slow=6.0,SNR=5.5							

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*IDC **02** 12:15:43.5±1.1, 35°.32S×72°.74W, h0km, mb4.0/6, mb1 3.9/9, mb1mx3.9/33, mbtmp3.8/9, ML3.8/3, MS4.3/2, Ms1 4.3/2, ms1mx3.6/16, Error ellipse: s-maj=33.1km s-min=17.2km az=107.0*
*ISCJB **02** 12:15:44.4±0.6, 35°.30S±0°.07×72°.8W±0°.1, h17km, mb4.1/10, MS4.3/2, Error ellipse: s-maj=16.6km s-min=9.3km az=172.3*
*NEIC **02** 12:15:48.8±0.5, 35°.29S×72°.79W, h35km, mb4.3/7, Error ellipse: s-maj=12.8km s-min=7.7km az=82.0*

ISC 02 12:15:45.8±0.6, 35°.33S±0°.08×72°.9W±0°.1, h17km, n26, σ1§16/30, mb4.1/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CFAA	**Coronel Fontan**	**5.40**	**48**	Pn		**Pn**	**12 17 04.5**	**-1.1**
	0.3nm,0.3s,baz=220,slow=11,SNR=5.8							
CFAA				Lg		Lg	12 18 30.6	
	2.4nm,0.3s,baz=216,slow=9.6,SNR=5.5							
PLCA	**Paso Flores**	**5.72**	**162**	Pn		**Pn**	**12 17 10.2**	**+0.2**
	1.3nm,0.3s,baz=339,slow=11,SNR=3.5							
PLCA	**Paso Flores**	**5.72**	**162**	*e*Pn		**Pn**	**12 17 09.8**	**-0.2**
TRQA	**Tornquist**	**9.21**	**110**	*e*Pn		**Pn**	**12 17 59.2**	**+1.3**
LVC	**Limon Verde**	**13.14**	**17**	*e*Pn		**Pn**	**12 18 52.6**	**+0.7**
LPAZ	**La Paz**	**19.44**	**14**	P		**P**	**12 20 11.2**	**-0.9**
	0.2nm,0.3s,baz=192,slow=8.0,SNR=4.6							
LPAZ	**La Paz**	**19.44**	**14**	*e*P		**P**	**12 20 11.3**	**-0.9**
	3.8nm,0.8s							
SIV	**San Ignacio**	**21.99**	**32**	P		**P**	**12 20 39.1**	**0.0**
	4.8nm,0.7s,baz=220,slow=9.9,SNR=9.4							
OTAV	**Otavalo**	**35.75**	**351**	*e*P		**P**	**12 22 45.6**	**+1.2**
	1.5nm,0.3s							
SNAA	**Sanae**	**50.64**	**157**	P		**P**	**12 24 43.6**	**0.0**
	1.8nm,0.9s,baz=279,slow=8.8,SNR=6.7							
SDDR	**Presa de Saban**	**54.03**	**2**	*e*P		**P**	**12 25 09.2**	**-0.1**
	5.9nm,0.9s							
QSPA	**South Pole Qui**	**54.91**	**180**	P		**P**	**12 25 15.7**	**+0.3**
	1.3nm,0.7s,baz=207,slow=8.4,SNR=4.2							
QSPA				LR		LR	12 49 04.7	
	comp=Z,112nm,19.1s,baz=176,slow=36							
QSPA	**South Pole Qui**	**54.91**	**180**	*e*P		**P**	**12 25 16.6**	**+1.2**
	1.3nm,0.9s							
TXAR	**Lajitas Array**	**70.54**	**332**	P		**P**	**12 27 00.8**	**+1.0**
	0.4nm,0.6s,baz=156,slow=8.2,SNR=5.6							
DBIC	**Dimbokro**	**76.30**	**72**	P		**P**	**12 27 33.6**	**-0.4**
	2.4nm,0.7s,baz=11,slow=16,SNR=4.1							
DBIC	**Dimbokro**	**76.30**	**72**	*e*P		**P**	**12 27 33.6**	**-0.4**
	2.6nm,0.8s							
ECSD	**EROS Data Cent**	**81.59**	**343**	*e*P		**P**	**12 28 02.9**	**+0.6**
	1.6nm,0.6s							
LBTB	**Lobatse**	**82.41**	**115**	*e*P		**P**	**12 28 07.9**	**+0.4**
	13nm,1.5s							
PDAR	**Pinedale Array**	**84.62**	**334**	LR		LR	13 03 23.1	
	comp=Z,322nm,18.7s,baz=174,slow=34							
TORD	**Torodi Ar. Bea**	**85.35**	**70**	P		**P**	**12 28 21.3**	**-1.1**
	0.6nm,0.7s,baz=254,slow=4.6,SNR=4.3							
GCMT	**Greycliff**	**87.29**	**335**	*e*P		**P**	**12 28 31.4**	**0.0**
TNA	**Tin City**	**123.58**	**330**	*e*PKPdf		**PKPdf**	**12 34 38.0**	**-3.3**
BRVK	**Borovoye**	**148.68**	**44**	*e*PKPbc		**PKPbc**	**12 35 30.6**	**-0.9**
BRVK				*e*PKPab		**PKPab**	**12 35 34.6**	**-0.5**
EKS2	**Erkin-Say**	**153.24**	**64**	*e*PKPdf		**PKPdf**	**12 35 34.8**	**-0.5**
EKS2				*e*PKPab		**PKPab**	**12 35 53.0**	**-1.6**
AAK	**Ala-Archa**	**153.76**	**64**	*e*PKPdf		**PKPdf**	**12 35 36.8**	**+0.8**
AAK				*e*PKPbc		**PKPbc**	**12 35 42.9**	**-1.1**
AAK				*e*PKPab		**PKPab**	**12 35 57.5**	**+0.6**
KURK	**Kurchatov**	**154.34**	**44**	*e*PKPdf		**PKPdf**	**12 35 36.9**	**+0.6**
KURK				*e*PKPbc		**PKiKP**	**12 35 47.6**	**+2.9**

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*IDC **02** 12:16:29.2±0.5, 36°.68S×73°.48W, h0km, mb4.9/18, mb1 5.0/22, mb1mx4.8/35, mbtmp4.9/22, ML4.3/4, MS4.5/7, Ms1 4.5/7, ms1mx4.3/16, Error ellipse: s-maj=18.7km s-min=11.4km az=78.0*
*ISCJB **02** 12:16:32.3±0.2, 36°.56S±0°.04×73°.39W±0°.05, h28km, mb5.1/110, MS4.6/5, Error ellipse: s-maj=6.3km s-min=4.7km az=149.5*
*MOS **02** 12:16:33.6±0.9, 36°.53S×73°.35W, h33km, mb5.3/24, Error ellipse: s-maj=19.5km s-min=9.3km az=103.6*
*BJI **02** 12:16:34.8, 36°.50S×73°.30W, h35km, mB5.2/17, Ms5.4/13, Ms7 4.9/15*
*NEIC **02** 12:16:34.7±0.2, 36°.62S×73°.33W, h35km, mb5.1/94, Error ellipse: s-maj=6.6km s-min=4.7km az=62.0*
*GCMT **02** 12:16:34.7±0.2, 36°.76S×73°.83W, h18km±1km, MW5.2/80, Moment Tensor Solution. s46,c55; s80,c112; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr4.19±.22; Mθθ-0.16±.12; Mφφ-4.03±.15; Mrθ-0.01±.27; Mrφ-0.21±.09; Mθφ-6.39±.51; Best double couple: M0=7.60100×10^16 NP1:φs181.00000°, δ74.00000°, λ89.00000°. NP2: φs=5.00000°, δ16.00000°, λ95.00000°. Principal axes: T 7.6790, Plg61.0000°, Azm89.0000°; N -0.1540, Plg1.0000°, Azm181.0000°; P -7.5230, Plg29.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 02 12:16:34.1±0.5, 36°.58S±0°.05×73°.37W±0°.06, h30km±3km, h30km:pP-P, n613, σ0§81/648, mb5.2/112, MS4.8/6, 166C-189D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PLCA	**Paso Flores**	**4.70**	**153**	*e*P		**Pn**	**12 17 42.6**	**-0.3**
PLCA				*e*			12 18 38.5	
PLCA	**Paso Flores**	**4.70**	**153**	Pn		**Pn**	**12 17 43.0**	**0.0**
	3.2nm,0.3s,baz=340,slow=12,SNR=9.6							
PLCA				Lg		Lg	12 18 57.1	
	30nm,0.3s,baz=16,slow=4.2,SNR=6.2							
PLCA	**Paso Flores**	**4.70**	**153**	*e*Pn		**Pn**	**12 17 42.6**	**-0.3**
PLCA				*e*Sn		**Sn**	**12 18 38.5**	**+2.0**
PLCA				Lg		Lg	12 18 57.1	
CFAA	**Coronel Fontan**	**6.54**	**42**	Pn		**Pn**	**12 18 08.9**	**+0.6**
	3.4nm,0.3s,baz=207,slow=13,SNR=18							
CFAA				Lg		Lg	12 19 45.7	
	0.6nm,0.3s,baz=138,slow=16,SNR=3.2							
CFAA				LR		LR	12 20 45.8	
	comp=Z,608nm,19.1s,baz=226,slow=38							
TRQA	**Tornquist**	**9.19**	**103**	*e*Pn		**Pn**	**12 18 47.1**	**+2.5**
TRQA				*e*Sn		Sn	12 21 07.6	+41
LVC	**Limon Verde**	**14.45**	**17**	*e*Pn		**Pn**	**12 19 56.5**	**-0.2**
LVC				*e*Sn		**Sn**	**12 22 36.6**	**+0.6**
CPUP	**Villa Florida**	**17.06**	**58**	P		**Pn**	**12 20 30.8**	**+0.5**
CPUP				*e*			12 23 40.3	
CPUP				pmax		pmax		
	comp=Z,59nm,1.0s							
CPUP	**Villa Florida**	**17.06**	**58**	Pn		**Pn**	**12 20 30.8**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=214,slow=10,SNR=14							
CPUP				Lg		Lg	12 25 45.9	
	comp=Z,0.1nm,0.3s,baz=106,slow=19,SNR=2.0							
CPUP				LR		LR	12 28 17.2	
	comp=Z,3μm,18.2s,baz=220,slow=41							
CPUP	**Villa Florida**	**17.06**	**58**	Pn		**Pn**	**12 20 30.8**	**+0.5**
	comp=Z,59nm,1.0s							
CPUP				*e*Sn		**Sn**	**12 23 40.3**	**+1.2**
CPUP				Lg		Lg	12 25 45.9	
USHA	**Ushuaia**	**18.57**	**171**	P		**P**	**12 20 47.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=313,slow=6.5,SNR=7.7							
LPAZ	**La Paz**	**20.74**	**14**	P		Pn	12 21 14.7	-1.0
	comp=Z,20nm,0.7s,baz=184,slow=7.0,SNR=28							
SIV	**San Ignacio**	**23.24**	**31**	P		**P**	**12 21 38.3**	**-0.6**
	comp=Z,34nm,0.9s,baz=231,slow=13,SNR=31							

SIV				LR		LR	12 32 34.1	
	comp=Z,3μm,19.4s,baz=225,slow=41							
NNA	**Nana**	**24.69**	**352**	*e*P		**P**	**12 21 51.9**	**-0.6**
NNA				pmax		pmax		
	comp=Z,8.0nm,0.7s							
NNA	**Nana**	**24.69**	**352**	P		**P**	**12 21 52.0**	**-0.6**
	comp=Z,4.5nm,0.5s,baz=219,slow=10,SNR=3.3							
NNA				LR		LR	12 29 36.3	
	comp=Z,515nm,19.5s,baz=176,slow=32							
NNA	**Nana**	**24.69**	**352**	*e*P		**P**	**12 21 51.9**	**-0.6**
	comp=Z,8.3nm,0.7s							
SAML	**Samuel**	**29.02**	**21**	*e*P		**P**	**12 22 31.1**	**-0.4**
	comp=Z,13nm,1.4s							
ATAH	**Atahualpa**	**29.67**	**350**	P		**P**	**12 22 39.4**	**+1.8**
	comp=Z,4.9nm,0.8s,baz=229,slow=8.4,SNR=3.3							
ATAH				LR		LR	12 33 25.8	
	comp=Z,350nm,18.0s,baz=181,slow=34							
BDFB	**Brasília**	**30.71**	**54**	P		**P**	**12 22 46.8**	**+0.2**
	comp=Z,16nm,0.9s,baz=229,slow=10.0,SNR=13							
BDFB				LR		LR	12 36 18.5	
	comp=Z,2μm,19.1s,baz=223,slow=39							
ROSC	**El Rosal**	**41.23**	**359**	P		**P**	**12 24 18.8**	**+2.0**
	comp=Z,9.0nm,0.4s,baz=227,slow=2.5,SNR=7.0							
SDV	**Santo Domingo**	**45.30**	**4**	*e*P		**P**	**12 24 49.0**	**-0.4**
	comp=Z,33nm,0.8s							
BCIP	**Isla Barro Col**	**45.91**	**351**	*e*P		**P**	**12 24 53.8**	**-0.2**
BCIP				*e*pP		**pP**	**12 25 04.1**	**+1.0**
RCBR	**Riachuelo**	**45.94**	**57**	P		**P**	**12 24 55.3**	**+0.9**
	comp=Z,19nm,0.9s,baz=213,slow=11,SNR=8.0							
RCBR				LR		LR	12 45 59.0	
	comp=Z,2μm,18.2s,baz=206,slow=38							
RCBR	**Riachuelo**	**45.94**	**57**	*e*P		**P**	**12 24 55.3**	**+0.9**
RCBR				*e*pP		**pP**	**12 25 04.9**	**+1.4**
VNA3	**Neumayer Olymp**	**47.40**	**157**	P		P	12 25 12.7	+7.5
VNA2	**Neumayer--Watz**	**48.08**	**156**	P		**P**	**12 25 10.3**	**-0.1**
SNAA	**Sanae**	**49.63**	**157**	P		**P**	**12 25 22.3**	**-0.1**
SNAA	**Sanae**	**49.63**	**157**	*c i*P		**P**	**12 25 22.1**	**-0.3**
SNAA				pmax		pmax		
	comp=Z,96nm,1.4s							
SNAA	**Sanae**	**49.63**	**157**	P		**P**	**12 25 22.0**	**-0.3**
	comp=Z,18nm,1.0s,baz=289,slow=6.4,SNR=22							
SNAA	**Sanae**	**49.63**	**157**	*e*P		**P**	**12 25 22.2**	**-0.1**
	comp=Z,69nm,1.1s							
GRGR	**Grenville**	**49.70**	**15**	*e*P		**P**	**12 25 23.6**	**+0.2**
	comp=Z,267nm,1.1s							
QSPA	**South Pole Qui**	**53.66**	**180**	P		**P**	**12 25 52.4**	**-0.2**
	comp=Z,39nm,0.9s,baz=151,slow=2.8,SNR=38							
QSPA	**South Pole Qui**	**53.66**	**180**	P		**P**	**12 25 52.5**	**-0.2**
	comp=Z,24nm,1.1s							
RKT	**Rikitea**	**54.26**	**266**	*e*S		**S**	**12 33 37.6**	**+4.5**
	comp=Z,385nm,26.8s							
RKT				*e*LR		LR	12 41 45.0	
	comp=Z,615nm,27.8s,baz=126							
RKT	**Rikitea**	**54.26**	**266**	*e*T		T	13 23 56.1	
	comp=Z,1.9nm,0.2s							
NVL	**N'lazarevskaya**	**54.40**	**156**	*e*P		**P**	**12 25 56.2**	**-1.5**
OBIP	**Obispado Ponce**	**54.70**	**8**	*e*P		**P**	**12 26 00.1**	**-0.4**
	comp=Z,27nm,0.6s							
CELP	**Cerrillos**	**54.74**	**8**	*e*P		**P**	**12 26 00.1**	**-0.6**
LRS	**Lares**	**54.92**	**8**	*e*P		**P**	**12 26 01.0**	**-1.2**
SDDR	**Presa de Saban**	**55.30**	**2**	*e*P		**P**	**12 26 04.6**	**-0.2**
TEIG	**Tepich**	**58.23**	**343**	*e*P		**P**	**12 26 25.4**	**-0.1**
	comp=Z,20nm,0.7s							
SYO	**Syowa Base**	**63.87**	**158**	⇑*i*P		**P**	**12 27 01.4**	**-1.9**
SYO	**Syowa Base**	**63.87**	**158**	⇑*e*pP		pP	12 27 11.4	-1.3
H06S1	**SOCORRO T**	**65.48**	**321**	T		T	13 37 32.8	
	SNR=17							
MEH	**Mehetia**	**67.46**	**264**	*e*T		T	13 40 25.0	
	comp=Z,42nm,0.2s							
834A	**Tilden**	**68.59**	**336**	⇓P		**P**	**12 27 35.1**	**+1.1**
	baz=69							
TIAR	**Tiarei**	**68.65**	**264**	*e*T		T	13 41 54.8	
	comp=Z,5.1nm,0.3s							
PPT2	**Papeete2**	**68.82**	**263**	*e*S		**S**	**12 36 40.2**	**+2.1**
	comp=Z,353nm,23.0s							
PPT2	**Papeete2**	**68.82**	**263**	*e*LR		LR	12 48 31.0	
	comp=Z,1μm,24.2s,baz=121							
735A	**Kenedy**	**69.03**	**337**	⇓P		**P**	**12 27 37.4**	**+0.8**
	baz=69							
833A	**Chaparral WMA,**	**69.05**	**336**	⇓P		**P**	**12 27 37.6**	**+0.7**
	baz=69							
832A	**Faith Ranch, C**	**69.21**	**335**	⇓P		**P**	**12 27 38.3**	**+0.4**
	baz=70

330A	Mertzon	72.48	335	⇓P	P	12 27 57.2 -0.6
	baz=73					
TKL	Tuckaleechee C	72.52	351	eP	P	12 27 57.4 -0.4
TKL	Tuckaleechee C	72.52	351	eP	P	12 27 57.4 -0.4
134A	White-Moore Ra	72.58	338	⇓P	P	12 27 57.4 -0.8
	baz=73					
231A	Bronte	72.68	336	⇓P	P	12 27 58.4 -0.5
	baz=73,SNR=7.9					
329A	Wagon Wheel Ra	72.83	335	⇓P	P	12 27 59.4 -0.5
	baz=73					
133A	Hamilton Ranch	72.86	338	⇓P	P	12 27 59.7 -0.2
	baz=73,SNR=7.2					
230A	Sterling City	72.90	336	⇑P	P	12 27 59.6 -0.7
	baz=73					
Z35A	Perchaven, San	73.04	339	⇓P	P	12 28 00.6 -0.4
	baz=73,SNR=5.8					
ABTX	Abilene, Hawle	73.10	337	⇑P	P	12 28 00.8 -0.6
	baz=74,SNR=8.4					
ABTX	Abilene, Hawle	73.10	337	eP	P	12 28 01.4 0.0
	comp=Z,22nm,0.9s					
ABTX				epP	pP	12 28 10.8 0.0
229A	Bryant Ranch,	73.21	335	⇓P	P	12 28 01.4 -0.7
	baz=74					
MIAR	Mount Ida	73.23	343	eP	P	12 28 01.7 -0.3
MIAR	Mount Ida	73.23	343	eP	P	12 28 01.7 -0.3
Z34A	Collier Ranch,	73.27	339	⇓P	P	12 28 02.0 -0.3
	baz=74					
TZTN	Tazewell	73.37	351	eP	P	12 28 02.4 -0.5
	comp=Z,194nm,2.3s					
131A	Roby	73.38	336	⇓P	P	12 28 02.7 -0.4
	baz=74,SNR=6.5					
Z33A	Whitaker Ranch	73.44	338	⇓P	P	12 28 03.1 -0.3
	baz=74,SNR=6.8					
130A	Snyder	73.50	336	⇓P	P	12 28 02.9 -0.9
	baz=74					
WVT	Waverly	73.58	348	eP	P	12 28 03.4 -0.7
WVT				pmax	pmax	
	comp=Z,35nm,1.1s					
WVT	Waverly	73.58	348	eP	P	12 28 03.4 -0.7
	comp=Z,35nm,1.1s					
228A	UT Block 9, Go	73.61	334	⇓P	P	12 28 03.6 -0.8
	baz=74					
Z32A	Haskell	73.68	337	⇑P	P	12 28 04.2 -0.6
	baz=74,SNR=9.2					
Y34A	Reagan Ranch,	73.77	339	⇑P	P	12 28 04.7 -0.5
	baz=74					
129A	Stewart Farms,	73.83	335	⇑P	P	12 28 04.9 -0.8
	baz=74					
Z31A	Sharp Cattle R	73.90	337	⇓P	P	12 28 06.1 0.0
	baz=74,SNR=7.2					
BBTS	Babate	73.92	57	P	P	12 28 08.3 +1.8
	comp=Z,28nm,0.6s,baz=218,slow=4.7,SNR=3.9					
JSRW	J. Sargeant Re	74.02	356	eP	P	12 28 06.5 -0.1
128A	Castleberry Fa	74.03	335	⇑P	P	12 28 06.5 -0.5
	baz=74,SNR=6.5					
Y33A	Hilltop Ranch,	74.08	338	⇑P	P	12 28 06.6 -0.4
	baz=74					
Z30A	Sanderson Ranc	74.19	336	⇑P	P	12 28 07.3 -0.5
	baz=75,SNR=7.2					
MNTX	Cornudas Mount	74.25	332	eP	P	12 28 07.1 -1.0
	comp=Z,6.6nm,0.9s					
Y32A	R-V Farms, Ver	74.32	338	⇓P	P	12 28 07.9 -0.6
	baz=75					
Z29A	Hungry Hill Ra	74.35	336	⇑P	P	12 28 08.2 -0.6
	baz=75,SNR=12					
127A	Arkansas Junct	74.39	334	⇑P	P	12 28 08.8 -0.2
	baz=75					
X34A	Smith Ranch, M	74.40	339	⇓P	P	12 28 08.6 -0.3
	baz=75					
Y31A	Rekieta Farm,	74.53	337	⇑P	P	12 28 09.4 -0.3
	baz=75					
Z28A	Tucker Farm, M	74.61	335	⇓P	P	12 28 09.5 -0.8
	baz=75					
Y30A	Stafford Cattl	74.66	337	⇓P	P	12 28 09.9 -0.6
	baz=75					
X32A	Elmer	74.66	338	⇓P	P	12 28 09.8 -0.7
	baz=75					
PBMO	Poplar Bluff	74.69	346	eP	P	12 28 10.1 -0.4
	comp=Z,16nm,0.7s					
Y29A	Porterfield Fa	74.89	336	⇑P	P	12 28 11.6 -0.3
	baz=75,SNR=5.1					
Z27A	Tatum	74.92	334	⇓P	P	12 28 11.2 -0.9
	baz=75					
W34A	Bridge Creek,	74.97	340	⇓P	P	12 28 11.7 -0.5
	baz=75					
X31A	McDonald Ranch	75.06	338	⇓P	P	12 28 12.7 -0.1
	baz=75,SNR=6.8					
TUL1	Leonard	75.08	341	⇓P	P	12 28 12.3 -0.5
	baz=76					
TUL1	Leonard	75.08	341	eP	P	12 28 11.9 -0.9
	comp=Z,25nm,0.8s					
W33A	Caddo, Fort Co	75.10	339	⇓P	P	12 28 12.9 0.0
	baz=76,SNR=7.3					
Y28A	McKinney Farm,	75.13	335	⇑P	P	12 28 12.8 -0.4
	baz=76					
Z26A	Caprock	75.15	334	⇓P	P	12 28 13.3 -0.1
	baz=76,SNR=9.3					
X30A	Coker Ranch, T	75.17	337	⇓P	P	12 28 13.2 -0.2
	baz=76					
W32A	Sentinel	75.30	338	⇓P	P	12 28 14.1 -0.1
	baz=76,SNR=13					
USIN	University of	75.35	348	eP	P	12 28 13.5 -0.8
	comp=Z,37nm,0.8s					
MSTX	Muleshoe	75.36	335	⇑P	P	12 28 14.4 -0.2
	baz=76					
MSTX	Muleshoe	75.36	335	eP	P	12 28 14.6 0.0
	comp=Z,9.9nm,0.8s					
SIUC	Southern Illin	75.37	347	eP	P	12 28 14.0 -0.4
	comp=Z,26nm,0.9s					
Y27A	Causey	75.42	335	⇑P	P	12 28 14.4 -0.6
	baz=76					
Z25A	Roswell	75.42	333	⇑P	P	12 28 14.6 -0.4
	baz=76					
X29A	Tulia	75.44	336	⇓P	P	12 28 14.4 -0.7
	baz=76					
V34A	Guthrie	75.47	340	⇑P	P	12 28 14.1 -1.0
	baz=76					
319A	Douglas	75.51	329	⇑P	P	12 28 15.2 -0.3
	baz=76					
W31A	Holland Ranch,	75.57	338	⇑P	P	12 28 14.7 -1.0
	baz=76					
X28A	Dimmitt	75.67	336	⇑P	P	12 28 15.2 -1.2
	baz=76					
V33A	Lossen Ranch,	75.67	339	⇓P	P	12 28 16.3 +0.1
	baz=76,SNR=6.2					
Y26A	Elida	75.68	334	⇑P	P	12 28 15.9 -0.6
	baz=76					
Z24A	Sheeppen Canyo	75.70	333	⇑P	P	12 28 16.8 +0.1
	baz=76,SNR=5.8					
V32A	Arapaho	75.79	339	⇑P	P	12 28 16.8 -0.2
	baz=76					
AMTX	Amarillo	75.83	336	⇑P	P	12 28 17.0 -0.3
	baz=76					
AMTX	Amarillo	75.83	336	eP	P	12 28 17.5 +0.2
	comp=Z,28nm,1.0s					
121A	Cookes Peak, D	75.92	331	⇓P	P	12 28 17.9 0.0
	baz=76					
121A	Cookes Peak, D	75.92	331	eP	P	12 28 18.3 +0.4
	comp=Z,7.5nm,0.8s					
Y25A	Mesa, Roswell	75.99	334	⇓P	P	12 28 17.9 -0.4
	baz=76					
U34A	Anderson Ranch	76.04	340	⇑P	P	12 28 18.1 -0.2
	baz=76					
U34A	Anderson Ranch	76.04	340	eP	P	12 28 18.3 0.0
	comp=Z,30nm,1.1s					
W29A	Amarillo	76.04	336	⇑P	P	12 28 18.3 -0.2
	baz=76,SNR=5.8					
V31A	Spring Creek L	76.08	338	⇓P	P	12 28 18.4 -0.2
	baz=76					
X27A	F and S Farms,	76.09	335	⇑P	P	12 28 18.3 -0.5
	baz=76					
U33A	Lingo Farm, Me	76.19	340	⇑P	P	12 28 18.8 -0.4
	baz=77					
Z22A	Elephant Butte	76.23	331	⇑P	P	12 28 19.6 -0.1
	baz=77					
X26A	CR and CF Fran	76.24	334	⇑P	P	12 28 19.9 +0.2
	baz=77,SNR=5.4					
Y24A	Capitan	76.26	333	⇑P	P	12 28 20.0 +0.1
	baz=77,SNR=6.1					
U32A	Winter Ranch,	76.39	339	⇑P	P	12 28 19.7 -0.7
	baz=77					
W27A	Bowe Ranch, En	76.45	335	⇑P	P	12 28 20.6 -0.2
	baz=77,SNR=10.0					
Y23A	Lovelace Mesa,	76.49	332	⇓P	P	12 28 20.5 -0.7
	baz=77					
X25A	Clemmons Ranch	76.52	334	⇓P	P	12 28 20.8 -0.5
	baz=77					
LIC	Lamto	76.62	72	eP	P	12 28 22.6 +0.4
	comp=Z,120nm,1.0s					
W26A	Owens Ranch, T	76.72	335	⇑P	P	12 28 22.1 -0.2
	baz=77					
V28A	Channing	76.80	336	⇓P	P	12 28 23.1 +0.3
	baz=77					
X24A	Lazy VL Ranch,	76.83	333	⇑P	P	12 28 23.3 +0.1
	baz=77,SNR=6.3					
T33A	Patterson Ranc	76.84	340	⇑P	P	12 28 22.8 0.0
	baz=77					
TIC	Toumodi	76.89	71	eP	P	12 28 24.0 +0.3
	comp=Z,68nm,0.9s					
KIC	Kosan Boka	76.92	72	eP	P	12 28 24.5 +0.6
	comp=Z,120nm,0.9s					
ACSO	Alum Creek Sta	76.95	352	eP	P	12 28 22.8 -0.6
	comp=Z,36nm,0.8s					
TUC	Tucson	76.95	328	eP	P	12 28 24.5 +0.8
TUC				pmax	pmax	
	comp=Z,13nm,1.3s					
TUC	Tucson	76.95	328	eP	P	12 28 24.4 +0.8
	comp=Z,13nm,1.3s					
V27A	Dan Oppiter Fa	77.01	336	⇓P	P	12 28 24.0 +0.1
	baz=77					
U30A	WK&E Inc. Balk	77.03	338	⇑P	P	12 28 23.8 -0.2
	baz=77					
DBIC	Dimbokro	77.03	72	P	P	12 28 25.1 +0.6
	comp=Z,37nm,0.7s,baz=201,slow=5.8,SNR=51					
LPM	Los Pinos Moun	77.05	332	eP	P	12 28 24.5 +0.2
W25A	X Bar L Ranch,	77.07	334	⇓P	P	12 28 24.6 +0.2
	baz=77,SNR=6.5					
T32A	Huddler Ranch,	77.12	339	⇑P	P	12 28 24.7 +0.2
	baz=78					
X23A	Hourglass Bar	77.12	333	⇑P	P	12 28 25.3 +0.5
	baz=78,SNR=5.1					
S33A	Kaszmaul Farm,	77.25	340	⇓P	P	12 28 25.0 -0.1
	baz=78					
T31A	Randall Ranch,	77.26	339	⇓P	P	12 28 25.2 0.0
	baz=78					
LAZ	Ladron	77.32	332	eP	P	12 28 26.9 +1.0
	comp=Z,6.8nm,1.1s					
V26A	Tequesquite Ra	77.36	335	⇓P	P	12 28 25.5 -0.5
	baz=78					
U28A	Mallet	77.38	336	⇓P	P	12 28 25.6 -0.4
	baz=78					
W24A	Lazy 6 Ranch,	77.40	334	⇓P	P	12 28 26.5 +0.2
	baz=78,SNR=5.5					
214A	Organ Pipe Nat	77.53	326	⇓P	P	12 28 27.4 +0.5
	baz=78					
214A	Organ Pipe Nat	77.53	326	eP	P	12 28 28.0 +1.1
	comp=Z,9.6nm,1.0s					
ANMO	Albuquerque	77.55	333	⇓iP	P	12 28 27.9 +0.8
ANMO				pmax	pmax	
	comp=Z,49nm,1.2s					
ANMO	Albuquerque	77.55	333	eP	P	12 28 27.4 +0.3
	comp=Z,16nm,1.0s					
S32A	Newby Ranch, P	77.61	339	⇓P	P	12 28 27.3 +0.1
	baz=78					
U27A	Thompson Grove	77.61	336	⇑P	P	12 28 27.3 -0.1
	baz=78					
SFIN	Lafayette	77.62	349	⇑P	P	12 28 26.8 -0.2
	baz=78					
W23A	Werner Place,	77.62	333	⇓P	P	12 28 27.9 +0.4
	baz=78,SNR=6.1					
V25A	Rancho No Teng	77.69	334	⇑P	P	12 28 27.8 -0.1
	baz=78,SNR=9.3					
S31A	Mullinville	77.69	339	⇑P	P	12 28 27.5 -0.2
	baz=78					
T29A	Hugoton	77.80	337	⇑P	P	12 28 28.6 +0.3
	baz=78					
V24A	Rampart Ranch,	77.81	334	⇑P	P	12 28 28.4 -0.3
	baz=78					
U26A	Atchley Ranch,	77.89	335	⇓P	P	12 28 28.9 -0.1
	baz=78					
R33A	Olander Ranch,	77.91	340	⇓P	P	12 28 28.6 -0.2
	baz=78					
S30A	Montezuma	78.00	338	⇑P	P	12 28 29.3 -0.1
	baz=78,SNR=5.4					
T28A	Walsh	78.02	337	⇑P	P	12 28 29.3 -0.3
	baz=78,SNR=11					
U25A	Circle Dot Ran	78.12	335	⇑P	P	12 28 30.5 +0.2
	baz=78,SNR=6.3					
V23A	Ortiz Mt. (NFS	78.16	333	⇑P	P	12 28 30.5 0.0
	baz=78					
T27A	Campo	78.16	336	⇓P	P	12 28 30.6 +0.2
	baz=78					
S29A	Ulysses	78.17	338	⇑P	P	12 28 30.4 0.0
	baz=79					
R32A	Long Quarter,	78.22	340	⇑P	P	12 28 30.3 -0.3
	baz=79					
KSU1	Kansas State U	78.30	342	⇑P	P	12 28 30.5 -0.5
	baz=79					
KSU1	Kansas State U	78.30	342	eP	P	12 28 30.6 -0.3
	comp=Z,12nm,0.8s					
R31A	Burdett	78.32	339	⇓P	P	12 28 30.9 -0.3
	baz=79					
S28A	Manter	78.39	337	⇑P	P	12 28 31.6 0.0
	baz=79,SNR=6.4					
U24A	Moreno Valley	78.43	334	⇑P	P	12 28 31.8 -0.3
	baz=79					
Q33A	Connelly Farm,	78.52	341	⇓P	P	12 28 31.7 -0.5
	baz=79					
X18A	Snowflake	78.53	330	⇑P	P	12 28 32.6 0.0
	baz=79					
R30A	Dighton	78.54	339	⇑P	P	12 28 32.1 -0.2
	baz=79					
T26A	Comanche Natio	78.55	336	⇑P	P	12 28 33.0 +0.3
	baz=79,SNR=6.2					
V22A	San Miguel Ran	78.58	333	⇓P	P	12 28 33.7 +0.8
	baz=79,SNR=9.5					
113A	Mohawk Valley,	78.65	326	⇓P	P	12 28 33.2 +0.2
	baz=79					
U23A	El Rito	78.68	333	⇑P	P	12 28 33.9 +0.5
	baz=79,SNR=6.3					
Q32A	Meitler Ranch,	78.71	340	⇓P	P	12 28 32.9 -0.4
	baz=79,SNR=7.7					
T25A	Trinidad	78.79	335	⇓P	P	12 28 34.5 +0.5
	baz=79,SNR=8.7					
P33A	Williams Farm,	78.90	341	⇓P	P	12 28 34.3 0.0
	baz=79					
S26A	Kim	78.92	336	⇑P	P	12 28 34.8 +0.3
	baz=79,SNR=9.7					
R29A	Marienthal	78.92	338	⇓P	P	12 28 34.6 +0.1
	baz=79					
Q31A	Ellis	78.95	340	⇓P	P	12 28 35.1 +0.5
	baz=79					
W18A	Petrified Fore	78.96	330	⇑P	P	12 28 35.2 +0.2
	baz=79					
W18A	Petrified Fore	78.96	330	eP	P	12 28 36.0 +1.1
	comp=Z,22nm,1.1s					
U22A	Llaves	78.97	333	⇑P	P	12 28 35.6 +0.6
	baz=79					
X16A	Lo Mia Camp, P	79.05	329	⇑P	P	12 28 35.5 +0.1
	baz=79					
R28A	Tribune	79.05	338	⇓P	P	12 28 35.3 +0.1
	baz=79,SNR=6.1					
T24B	San Luis	79.06	334	⇓P	P	12 28 36.1 +0.6
	baz=79,SNR=5.9					
Q30A	Quinter	79.16	339	⇑P	P	12 28 36.2 +0.4
	baz=80					
T23A	Casias Ranch,	79.26	334	⇑P	P	12 28 37.0 +0.3
	baz=80,SNR=5.6					
S25A	Robets Cordova	79.27	335	⇓P	P	12 28 36.6 +0.1
	baz=80,SNR=5.9					
Q29A	Oakley	79.30	338	⇓P	P	12 28 36.6 0.0
	baz=80					
Y14A	Wickenburg	79.30	327	⇑P	P	12 28 36.9 +0.2
	baz=80					
R27A	Eads	79.31	337	⇓P	P	12 28 36.7 +0.1
	baz=80,SNR=8.0					
P32A	Huiting Farm,	79.31	340	⇓P	P	12 28 36.6 +0.1
	baz=80					
P31A	Stockton	79.43	340	⇑P	P	12 28 37.4 +0.2
	baz=80					
S24A	Houchin Ranch,	79.52	335	⇑P	P	12 28 38.3 +0.3
	baz=80,SNR=10					
R26A	Arlington	79.53	336	⇑P	P	12 28 38.3 +0.4
	baz=80,SNR=7.4					
TSUM	Tsumeb	79.55	106	P	P	12 28 39.3 +0.7
	comp=Z,8.3nm,0.9s,baz=207,slow=6.7,SNR=18					
TSUM	Tsumeb	79.55	106	eP	P	12 28 39.4 +0.7
	comp=Z,21nm,1.1s					
P30A	Selden	79.70	339	⇓P	P	12 28 39.3 +0.7
	baz=80					
SDCO	Great Sand Dun	79.71	335	eP	P	12 28 39.6 +0.5
	comp=Z,5.9nm,1.0s					
Q28A	Sharon Springs	79.72	338	⇓P	P	12 28 38.7 -0.1
	baz=80					
Y12C	Blythe	79.82	326	⇑P	P	12 28 40.0 +0.7
	baz=80					
O32A	Brockman Farm,	79.82	341	⇓P	P	12 28 39.5 +0.2
	baz=80					
BOSA	Boshof	79.83	118	eP	P	12 28 40.1 +0.1
BOSA	Boshof	79.83	118	P	P	12 28 39.7 -0.3
	comp=Z,25nm,1.0s,baz=360,slow=22,SNR=15					
BOSA	Boshof	79.83	118	eP	P	12 28 40.1 +0.1
KSCO	Kaye Shedlock'	79.92	337	⇑P	P	12 28 40.5 +0.6
	baz=80					
KSCO	Kaye Shedlock'	79.92	337	eP	P	12 28 40.8 +0.8
	comp=Z,35nm,1.4s					
P29A	Atwood	79.95	339	⇑P	P	12 28 40.3 +0.3
	baz=80,SNR=8.2					
WUAZ	Wupatki	79.97	329	⇓P	P	12 28 40.9 +0.5
	baz=80					
WUAZ	Wupatki	79.97	329	eP	P	12 28 41.7 +1.3
	comp=Z,19nm,1.5s					
O31A	Woolen Ranch,	80.00	340	⇑P	P	12 28 40.3 0.0
	baz=80					
R24A	Sanders Place,	80.01	335	⇓P	P	12 28 40.9 +0.3
	baz=80,SNR=10					
PDMCI	Parker Dam,Lak	80.11	327	⇑P	P	12 28 41.2 +0.3
	baz=80					
Q26A	Hugo	80.12	337	⇓P	P	12 28 41.7 +0.6
	baz=80					
BC3	Big Chuckawall	80.16	325	⇓P	P	12 28 41.9 +0.5
	baz=80					
S22A	4UR Ranch, Cre	80.18	334	⇓P	P	12 28 41.9 +0.3
	baz=81,SNR=5.9					
R23A	Moffat	80.22	335	⇓P	P	12 28 42.0 +0.2
	baz=81,SNR=5.4					
O30A	MW Ranch, Wils	80.23	340	⇓P	P	12 28 41.7 +0.2
	baz=81					
MVCO	Mesa Verde	80.31	332	⇓P	P	12 28 42.4 +0.1
	baz=81					
MVCO	Mesa Verde	80.31	332	eP	P	12 28 43.1 +0.8
	comp=Z,20nm,1.1s					
Q25A	Bedland, Calha	80.34	336	⇑P	P	12 28 42.7 +0.3
	baz=81					
O29A	4D Ranch, Culb	80.39	339	⇓P	P	12 28 42.7 +0.3
	baz=81					
P27A	Ficken Ranch,	80.40	338	⇑P	P	12 28 42.9 +0.3
	baz=81					
IRM	Iron Mountain	80.44	326	⇓P	P	12 28 43.0 +0.2
	baz=81					
PFO	Pinyon Flats O	80.58	325	eP	P	12 28 45.2 +1.5
PFO	Pinyon Flats O	80.58	325	eP	P	12 28 45.2 +1.5
JFWS	Jewell Farm	80.60	348	eP	P	12 28 43.0 -0.4
JFWS				pmax	pmax	
	comp=Z,28nm,1.0s					
JFWS	Jewell Farm	80.60	348	eP	P	12 28 43.0 -0.4
	comp=Z,28nm,1.0s					
P26A	Davis Ranch, A	80.64	337	⇓P	P	12 28 44.2 +0.3
	baz=81					
O28A	Krutsinger Ran	80.68	338	⇑P	P	12 28 44.4 +0.4
	baz=81,SNR=5.8					
Q24A	Divide	80.69	335	⇑P	P	12 28 44.8 +0.4
	baz=81,SNR=5.5					
P25A	Willow Gulch B	80.86	336	⇓P	P	12 28 45.8 +0.7
	baz=81,SNR=9.1					
BGNE	Belgrade	80.87	341	⇓P	P	12 28 45.0 +0.1
	baz=81					
BGNE	Belgrade	80.87	341	eP	P	12 28 45.0 +0.1
	comp=Z,21nm,0.8s					
BGNE				epP	pP	12 28 54.4 -0.1
O27A	Beecher Island	80.95	338	⇓P	P	12 28 45.8 +0.3
	baz=81					
N29A	Votaw Ranch, W	80.99	339	⇑P	P	12 28 46.0 +0.4
	baz=81					
M31A	Lambtecht Ranc	81.02	341	⇑P	P	12 28 46.1 +0.3
	baz=81,SNR=5.5					
N28A	Pribbeno Ranch	81.13	339	⇑P	P	12 28 46.9 +0.5
	baz=82					
U15A	North Rim	81.13	329	⇓P	P	12 28 47.2 +0.5
	baz=82					
PV01	Paradox Valley	81.15	333	eP	P	12 28 47.5 +0.7
	comp=Z,884nm,1.0s					
GMRC	Granite Mounta	81.19	326	⇓P	P	12 28 47.6 +0.7
	baz=82					
LDFC	Landfair	81.19	326	eP	P	12 28 48.2 +1.3
	comp=Z,16nm,1.1s					
O26A	Horse Wrangler	81.25	337	⇓P	P	12 28 47.5 +0.4
	baz=82					
P23A	Jefferson	81.29	335	⇓P	P	12 28 48.1 +0.5
	baz=82					
SMCO	Snowmass	81.50	334	eP	P	12 28 49.9 +1.1
	comp=Z,14nm,1.0s					
PV04	Paradox Valley	81.51	332	eP	P	12 28 49.3 +0.8
N27A	Anderson Farm,	81.53	338	⇑P	P	12 28 49.1 +0.6
	baz=82					
M29A	Burnside Ranch	81.58	340	⇓P	P	12 28 49.5 +0.8
	baz=82					
ISCO	Idaho Springs	81.60	335	eP	P	12 28 49.7 +0.5
ISCO				pmax	pmax	
	comp=Z,30nm,1.8s					
ISCO	Idaho Springs	81.60	335	⇑P	P	12 28 49.5 +0.3
	baz=82					
ISCO	Idaho Springs	81.60	335	eP	P	12 28 49.7 +0.5
	comp=Z,30nm,1.8s					
BFSC	Mount Baldy Ra	81.66	324	⇑P	P	12 28 50.0 +0.6
	baz=82					
M28A	Bar X Bar Ranc	81.73	339	⇓P	P	12 28 50.4 +0.9
	baz=82					
N26A	Koester Ranch,	81.76	338	⇓P	P	12 28 50.5 +0.7
	baz=82					
L31A	Butterfield Fa	81.77	341	⇑P	P	12 28 50.1 +0.5
	baz=82,SNR=7.9					
L30A	Spencer Herefo	81.79	340	⇓P	P	12 28 50.2 +0.5
	baz=82,SNR=5.9					
P22A	Eagle	81.80	335	⇑P	P	12 28 50.4 +0.3
	baz=82					
TUQ	Turquoise Moun	81.86	326	⇓P	P	12 28 50.9 +0.5
	baz=82,SNR=6.0					
O23A	Lake Granby, G	82.07	335	⇓P	P	12 28 52.0 +0.4
	baz=82,SNR=9.3					
L29A	Maesberg Ranch	82.10	340	⇑P	P	12 28 52.5 +1.0
	baz=82					
GSC	Goldstone, Bar	82.14	325	⇓P	P	12 28 52.7 +0.9
	baz=82					
LBTB	Lobatse	82.20	115	eP	P	12 28 52.6 0.0
LBTB				e*PP	pP	12 29 00.8 -1.5
LBTB				pmax	pmax	
	comp=Z,29nm,0.6s					
LBTB	Lobatse	82.20	115	eP	P	12 28 52.6 0.0
	comp=Z,29nm,0.6s					
LBTB				epP	pP	12 29 00.8 -1.5
O22A	Kremmling	82.24	335	⇑P	P	12 28 52.7 +0.2
	baz=83,SNR=6.3					
N24A	Carr	82.28	336	⇑P	P	12 28 53.3 +0.7
	baz=83					
EDW2	Edwards Air Fo	82.34	324	⇑P	P	12 28 53.3 +0.4
	baz=83					
SHPR	Sheep Range	82.41	327	eP	P	12 28 54.0 +0.7
K30A	Basset	82.43	341	⇓P	P	12 28 53.4 +0.2
	baz=83,SNR=12					
CCUT	Cedar City	82.53	329	eP	P	12 28 55.6 +1.6
	comp=Z,12nm,1.1s					
M25A	Palm-Egli Farm	82.57	337	⇑P	P	12 28 54.7 +0.6
	baz=83					
ECSD	EROS Data Cent	82.69	343	⇑P	P	12 28 54.3 -0.1
	baz=83,SNR=22					
ECSD	EROS Data Cent	82.69	343	eP	P	12 28 53.9 -0.5
	comp=Z,27nm,0.7s					
N23A	Red Feather La	82.69	336	⇑P	P	12 28 55.3 +0.5
	baz=83,SNR=5.6					
K29A	Lazy Trails An	82.70	340	⇓P	P	12 28 55.0 +0.4
	baz=83					
SRU	San Rafael Swe	82.74	332	eP	P	12 28 55.5 +0.5
SRU				pmax	pmax	
	comp=Z,10.0nm,0.8s					
SRU	San Rafael Swe	82.74	332	eP	P	12 28 55.5 +0.5
	comp=Z,9.9nm,0.8s					
ARUT	Antelope Range	82.77	329	eP	P	12 28 55.8 +0.7
ARUT				pmax	pmax	
	com

J30A	Dallas	83.01	341	⇊P	P	12 28 56.0	-0.1
	baz=83						
M23A	Laramie	83.13	336	⇊P	P	12 28 57.3	+0.3
	baz=84						
FURC	Furnace Creek,	83.14	326	⇊P	P	12 28 57.6	+0.8
	baz=84						
TMUT	Trail Mountain	83.17	331	eP	P	12 28 58.1	+0.7
	comp=Z,90nm,2.3s						
K27A	Flueckinger Fa	83.19	339	⇊P	P	12 28 57.6	+0.5
	baz=84						
ISA	Isabella, Lake	83.21	324	eP	P	12 28 58.7	+1.3
ISA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ISA	Isabella, Lake	83.21	324	⇊P	P	12 28 57.9	+0.5
	baz=84						
ISA	Isabella, Lake	83.21	324	eP	P	12 28 58.7	+1.3
	comp=Z,7.2nm,1.0s						
SPMN	Marine on St.	83.30	346	⇊P	P	12 28 56.6	-0.9
	baz=84						
SPMN	Marine on St.	83.30	346	eP	P	12 28 56.6	-0.9
	comp=Z,5.6nm,0.8s						
J29A	Okreek	83.31	341	⇑P	P	12 28 57.6	0.0
	baz=84,SNR=11						
M22A	Cedar Creek Ra	83.36	335	⇑P	P	12 28 59.2	+1.0
	baz=84						
N20A	Spence Gulch,	83.43	334	⇑P	P	12 28 59.2	+0.6
	baz=84						
K26A	Motz Farm, Whi	83.46	338	⇑P	P	12 28 58.0	-0.5
	baz=84						
I30A	Oacoma	83.54	341	⇑P	P	12 28 58.3	-0.5
	baz=84,SNR=8.6						
J27A	Elkhorn Farm,	83.63	339	⇊P	P	12 28 59.9	+0.5
	baz=84,SNR=7.2						
VES	Vestal, Richgr	83.64	324	⇊P	P	12 28 59.5	0.0
	baz=84						
L23A	Garrett	83.71	336	⇊P	P	12 28 59.9	-0.1
	baz=84						
GRAC	Grapevine Rang	83.80	326	⇑P	P	12 29 00.9	+0.5
	baz=84						
I29A	Vivian Onida	83.87	341	⇊P	P	12 29 00.1	-0.4
	baz=84						
L22A	Ellis Ranch, M	83.87	336	⇊P	P	12 29 01.1	+0.3
	baz=84						
BRSD	Miller	83.92	342	⇊P	P	12 29 00.5	-0.2
	baz=84,SNR=5.6						
BRSD	Miller	83.92	342	eP	P	12 29 00.3	-0.5
	comp=Z,16nm,0.7s						
MPU	Maple Canyon	83.95	331	eP	P	12 29 01.9	+0.7
	comp=Z,17nm,1.1s						
K24A	Anderson Ranch	83.98	337	⇊P	P	12 29 01.9	+0.6
	baz=84						
J26A	Sides Ranch, S	83.99	339	⇊P	P	12 29 01.3	+0.1
	baz=84,SNR=7.6						
NLU	North Lily Min	84.07	331	eP	P	12 29 02.8	+0.9
	comp=Z,11nm,1.1s						
I28A	Midland	84.08	340	⇊P	P	12 29 01.6	0.0
	baz=84,SNR=8.0						
RCTC	Rector, Farmer	84.10	324	⇊P	P	12 29 01.6	-0.1
	baz=84						
R11A	Troy Canyon, C	84.14	328	⇊P	P	12 29 02.7	+0.4
	baz=84,SNR=5.4						
R11A	Troy Canyon, C	84.14	328	eP	P	12 29 03.5	+1.2
	comp=Z,11nm,1.2s						
K23A	Bowen Ranch, D	84.26	337	⇊P	P	12 29 02.6	-0.1
	baz=85,SNR=5.2						
J25A	Sunshine Ranch	84.28	338	⇑P	P	12 29 03.0	+0.3
	baz=85						
I27A	Quinn	84.39	340	⇑P	P	12 29 03.4	+0.2
	baz=85						
JLU	Jordanelle	84.39	332	eP	P	12 29 04.1	+0.6
	comp=Z,8.5nm,0.8s						
H29A	Onida	84.41	341	⇑P	P	12 29 03.0	-0.3
	baz=85,SNR=5.8						
K22A	Casper	84.46	336	⇊P	P	12 29 03.8	+0.1
	baz=85,SNR=8.3						
K22A	Casper	84.46	336	eP	P	12 29 04.1	+0.4
	comp=Z,31nm,1.3s						
J24A	Dixon Ranch, L	84.48	338	⇊P	P	12 29 03.6	-0.2
	baz=85,SNR=6.7						
DUG	Dugway, Tooele	84.57	331	eP	P	12 29 05.2	+0.9
DUG				pmax	pmax		
	comp=Z,23nm,1.1s						
DUG	Dugway, Tooele	84.57	331	⇊P	P	12 29 04.2	-0.1
	baz=85,SNR=19						
DUG	Dugway, Tooele	84.57	331	eP	P	12 29 05.2	+0.9
	comp=Z,23nm,1.1s						
CTU	Camp Tracy	84.58	332	eP	P	12 29 04.8	+0.4
	comp=Z,8.5nm,1.0s						
I26A	New Underwood	84.58	339	⇊P	P	12 29 04.2	0.0
	baz=85						
G30A	Faulkton	84.61	342	⇑P	P	12 29 03.9	-0.3
	baz=85,SNR=6.2						
TPH	Tonopah	84.62	327	eP	P	12 29 05.9	+1.2
TPH				e*PP	pP	12 29 14.5	+0.2
TPH				pmax	pmax		
	comp=Z,15nm,1.1s						
TPH	Tonopah	84.62	327	eP	P	12 29 05.9	+1.2
	comp=Z,15nm,1.1s						
TPH				epP	pP	12 29 14.5	+0.2
H28A	Mission Ridge	84.67	341	⇑P	P	12 29 04.3	-0.3
	baz=85,SNR=8.9						
K21A	Alcova	84.68	336	⇑P	P	12 29 04.5	-0.3
	baz=85,SNR=11						
TCUT	Toone Canyon	84.82	332	eP	P	12 29 05.8	+0.1
	comp=Z,23nm,0.9s						
I25A	Rochford	84.83	339	⇊P	P	12 29 05.2	-0.4
	baz=85,SNR=11						
G29A	Hoven	84.86	341	⇑P	P	12 29 05.5	0.0
	baz=85						
H27A	Howes	84.92	340	⇑P	P	12 29 05.2	-0.6
	baz=85,SNR=10						
I24A	Kuemmerle Ranc	84.95	338	⇑P	P	12 29 05.8	-0.3
	baz=85,SNR=5.8						
RSSD	Black Hills	85.01	338	eP	P	12 29 06.3	-0.3
RSSD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RSSD	Black Hills	85.01	338	eP	P	12 29 06.2	-0.3
	comp=Z,10nm,0.8s						
G28A	Parade	85.01	341	⇊P	P	12 29 05.8	-0.4
	baz=85,SNR=7.6						
J22A	Midwest	85.13	336	⇊P	P	12 29 06.5	-0.5
	baz=86						
F30A	Leola	85.24	342	⇑P	P	12 29 07.1	-0.3
	baz=86,SNR=5.0						
BGU	Big Grassy Mou	85.28	331	eP	P	12 29 08.2	+0.3
	comp=Z,5.0nm,1.1s						
H25A	Fruitdale	85.34	339	⇑P	P	12 29 08.0	0.0
	baz=86,SNR=11						
J21A	Lysite	85.38	336	⇑P	P	12 29 08.0	-0.3
	baz=86						
NVAR	Mina Array Bea	85.40	326	P	P	12 29 09.5	+0.9
	comp=Z,1.5nm,0.6s,baz=150,slow=6.3,SNR=14						
F29A	Eureka	85.44	342	⇑P	P	12 29 07.7	-0.6
	baz=86,SNR=8.2						
I22A	9 Mile Ranch,	85.56	337	⇑P	P	12 29 08.4	-0.7
	baz=86,SNR=9.1						
G27A	Dupree	85.57	340	⇊P	P	12 29 08.1	-0.9
	baz=86,SNR=6.0						
PDAR	Pinedale Array	85.59	334	P	P	12 29 09.2	-0.3
	comp=Z,7.1nm,1.1s,baz=144,slow=4.6,SNR=19						
J20A	Shoshoni	85.60	335	⇊P	P	12 29 09.2	-0.1
	baz=86,SNR=11						
G26A	Maurine	85.67	340	⇊P	P	12 29 09.1	-0.5
	baz=86,SNR=15						
EYMN	Ely	85.70	348	eP	P	12 29 08.3	-1.3
	comp=Z,10nm,1.0s						
F28A	McLaughlin	85.70	341	⇑P	P	12 29 09.3	-0.4
	baz=86,SNR=9.0						
H24A	Dirks Ranch, A	85.73	338	⇊P	P	12 29 09.3	-0.7
	baz=86,SNR=10						
I21A	Big Trails, Te	85.75	336	⇊P	P	12 29 09.6	-0.5
	baz=86,SNR=8.0						
G25A	Newell	85.81	339	⇊P	P	12 29 09.9	-0.4
	baz=86,SNR=20						
E30A	Jud	85.84	343	⇑P	P	12 29 10.1	-0.3
	baz=86,SNR=6.4						
J19A	Crowheart	85.85	335	⇊P	P	12 29 10.5	-0.2
	baz=86,SNR=14						
HVU	Hansel Valley	85.91	332	eP	P	12 29 11.2	+0.2
HVU				pmax	pmax		
	comp=Z,15nm,1.0s						
HVU	Hansel Valley	85.91	332	eP	P	12 29 11.2	+0.2
	comp=Z,15nm,1.0s						
ELK	Elko	86.01	329	eP	P	12 29 12.1	+0.5
ELK				pmax	pmax		
	comp=Z,11nm,1.4s						
ELK	Elko	86.01	329	eP	P	12 29 12.1	+0.5
	comp=Z,11nm,1.4s						
F27A	Lemmon	86.05	340	⇑P	P	12 29 11.2	-0.2
	baz=86,SNR=20						
E29A	Napoleon	86.08	342	⇑P	P	12 29 11.6	+0.1
	baz=86,SNR=5.3						
TORD	Torodi Ar. Bea	86.10	71	P	P	12 29 12.3	-0.1
	comp=Z,12nm,0.7s,baz=222,slow=3.9,SNR=45						
I20A	Worland	86.14	336	⇑P	P	12 29 11.9	-0.1
	baz=86,SNR=7.5						
H22A	Clearmont	86.15	337	⇑P	P	12 29 11.4	-0.6
	baz=86,SNR=5.3						
F26A	Lodgepole	86.20	340	⇑P	P	12 29 12.0	-0.2
	baz=87,SNR=14						
G24A	Alzada	86.22	339	⇊P	P	12 29 11.8	-0.5
	baz=87,SNR=5.2						
E28A	Huff	86.35	342	⇊P	P	12 29 12.6	-0.3
	baz=87,SNR=7.8						
D30A	Buchanan	86.37	343	⇊P	P	12 29 12.8	-0.1
	baz=87,SNR=7.0						
H21A	Big Horn, Sher	86.39	337	⇑P	P	12 29 12.7	-0.6
	baz=87						
G23A	Biddle	86.40	338	⇊P	P	12 29 12.3	-0.9
	baz=87,SNR=9.1						
E27A	Carson	86.44	341	⇑P	P	12 29 13.0	-0.3
	baz=87,SNR=6.2						
F25A	Bowman	86.49	339	⇑P	P	12 29 13.4	-0.2
	baz=87,SNR=9.0						
I19A	Meeteetse	86.51	335	⇑P	P	12 29 13.6	-0.4
	baz=87						
D29A	Pettibone, Tap	86.53	342	⇑P	P	12 29 13.3	-0.4
	baz=87,SNR=5.8						
REDW	Red Top Meadow	86.57	334	eP	P	12 29 14.4	+0.1
	comp=Z,17nm,1.1s						
H20A	Greybull	86.58	336	⇑P	P	12 29 13.4	-0.7
	baz=87,SNR=5.3						
G22A	Birney	86.69	337	⇑P	P	12 29 13.8	-0.8
	baz=87						
LOHW	Long Hollow	86.70	334	eP	P	12 29 15.0	+0.1
	comp=Z,9.8nm,0.9s						
F24A	Ekalaka	86.70	339	⇊P	P	12 29 13.9	-0.8
	baz=87,SNR=9.5						
TPAW	Teton Pass	86.71	334	eP	P	12 29 15.2	+0.2
	comp=Z,20nm,1.1s						
E26A	Carlson Angus	86.72	340	⇊P	P	12 29 14.4	-0.3
	baz=87,SNR=14						
AGMN	Agassiz Nation	86.85	345	⇑P	P	12 29 14.9	-0.3
	baz=87						
AGMN	Agassiz Nation	86.85	345	eP	P	12 29 14.6	-0.6
	comp=Z,11nm,0.7s						
C30A	Mose, Pekin	86.86	343	⇊P	P	12 29 15.4	+0.1
	baz=87,SNR=18						
FXWY	Fox Creek	86.87	334	eP	P	12 29 15.5	-0.3
	comp=Z,9.9nm,1.0s						
F23A	Volborg	86.87	338	⇊P	P	12 29 14.7	-0.8
	baz=87,SNR=9.9						
D28A	Regan	86.89	342	⇊P	P	12 29 15.8	+0.3
	baz=87,SNR=12						
I17A	Pilgrim Ck.	86.96	334	⇑P	P	12 29 16.5	+0.3
	baz=87,SNR=9.3						
G21A	Lodge Grass	86.98	337	⇑P	P	12 29 15.8	-0.3
	baz=87						
E25A	Miller Ranch,	87.00	340	⇊P	P	12 29 16.0	-0.1
	baz=87,SNR=12						
D27A	Center	87.06	341	⇑P	P	12 29 16.2	-0.1
	baz=88						
IMW	Indian Meadow	87.06	334	eP	P	12 29 17.0	+0.3
	comp=Z,20nm,1.1s						
H19A	Powell	87.07	335	⇑P	P	12 29 16.7	+0.1
	baz=88						
FLWY	Flagg Ranch	87.14	334	eP	P	12 29 17.5	+0.5
	comp=Z,23nm,0.9s						
F22A	Rosebud	87.18	338	⇊P	P	12 29 16.6	-0.4
	baz=88,SNR=5.1						
D26A	Manning	87.22	341	⇑P	P	12 29 17.0	-0.1
	baz=88,SNR=20						
G20A	Bridger	87.30	336	⇑P	P	12 29 17.0	-0.6
	baz=88,SNR=5.6						
H18A	Shoshone NF, C	87.30	335	⇊P	P	12 29 17.4	-0.4
	baz=88,SNR=9.3						
E24A	Baker	87.31	339	⇑P	P	12 29 17.5	-0.1
	baz=88,SNR=5.5						
C28A	Hausauer Farms	87.33	342	⇑P	P	12 29 17.3	-0.3
	baz=88,SNR=5.8						
H17A	Grant Village	87.37	334	eP	P	12 29 17.6	-0.6
	comp=Z,30nm,2.0s						
YFT	Old Faithful	87.51	334	eP	P	12 29 20.9	+2.1
	comp=Z,19nm,1.1s						
B30A	Myrvik Farm, E	87.53	344	⇊P	P	12 29 18.5	0.0
	baz=88,SNR=22						
D25A	Fairfield	87.57	340	⇊P	P	12 29 19.1	+0.2
	baz=88,SNR=7.8						
C27A	Sayler Ranch,	87.61	341	⇊P	P	12 29 18.9	-0.1
	baz=88,SNR=14						
E22A	Miles City	87.68	338	⇊P	P	12 29 18.8	-0.5
	baz=88						
YMR	Madison River	87.75	334	eP	P	12 29 20.9	+1.0
	comp=Z,20nm,1.0s						
B29A	Wagenman Farm,	87.78	343	⇊P	P	12 29 19.8	+0.1
	baz=88,SNR=13						
D24A	Glendive	87.82	339	⇊P	P	12 29 20.1	+0.1
	baz=88,SNR=6.3						
C26A	Wahner Farm, P	87.87	341	⇊P	P	12 29 20.0	-0.2
	baz=88,SNR=7.8						
A30A	Hoffart Farm,	87.99	344	⇊P	P	12 29 20.2	-0.5
	baz=88,SNR=9.8						
LAO	LASA Array	87.99	338	eP	P	12 29 20.9	+0.1
	comp=Z,258nm,3.0s						
B28A	Dugan Ranch, T	88.01	342	⇊P	P	12 29 20.8	0.0
	baz=88,SNR=13						
QLMT	Earthquake Lak	88.05	334	eP	P	12 29 22.8	+1.4
HLID	Hailey	88.06	331	⇑P	P	12 29 21.7	+0.3
	baz=88,SNR=8.7						
HLID	Hailey	88.06	331	eP	P	12 29 22.2	+0.8
	comp=Z,8.2nm,1.1s						
C25A	Freed Ranch, W	88.07	340	⇑P	P	12 29 21.3	+0.1
	baz=88						
F19A	Roth Farm, Mol	88.10	336	⇑P	P	12 29 21.3	-0.1
	baz=88						
E21A	Keefer Ranch,	88.12	337	⇑P	P	12 29 21.4	-0.1
	baz=88						
D23A	Lindsay	88.13	339	⇊P	P	12 29 21.3	-0.2
	baz=88,SNR=8.6						
A29A	Manning Farm,	88.18	343	⇊P	P	12 29 21.5	-0.2
	baz=89,SNR=21						
B27A	Peters Farms,	88.19	342	⇑P	P	12 29 21.6	-0.1
	baz=89						
C24A	Savage	88.23	340	⇊P	P	12 29 21.8	-0.1
	baz=89,SNR=7.9						
D22A	Cohagen	88.39	338	⇊P	P	12 29 22.8	+0.1
	baz=89						
B26A	Jensen Ranch,	88.41	341	⇊P	P	12 29 22.9	+0.1
	baz=89						
A28A	Rude Farm, Bot	88.41	343	⇑P	P	12 29 22.3	-0.5
	baz=89,SNR=6.1						
E20A	Meyer Farm, Mu	88.41	337	⇊P	P	12 29 22.4	-0.5
	baz=89,SNR=5.6						
MFID	Camas Ranch	88.49	331	eP	P	12 29 24.6	+1.2
	comp=Z,24nm,1.4s						
MCMT	McKenzie Canyo	88.56	333	eP	P	12 29 24.6	+0.8
	comp=Z,9.9nm,1.2s						
B25A	Knox Farm, Ray	88.56	341	⇊P	P	12 29 23.4	-0.1
	baz=89,SNR=6.1						
E19A	Rath Farm, Rou	88.59	336	⇑P	P	12 29 23.0	-0.7
	baz=89,SNR=5.5						
C23A	Lambert	88.69	339	⇑P	P	12 29 23.4	-0.8
	baz=89						
ULM	Lac du Bonnet	88.72	346	P	P	12 29 23.5	-0.6
	comp=Z,8.9nm,0.8s,baz=169,slow=4.3,SNR=18						
WVOR	Wild Horse Val	88.83	328	eP	P	12 29 25.9	+0.9
WVOR				pmax	pmax		
	comp=Z,13nm,1.3s						
WVOR	Wild Horse Val	88.83	328	eP	P	12 29 25.9	+0.9
	comp=Z,12nm,1.3s						
A26A	Wade Farm, Ken	88.84	342	⇑P	P	12 29 24.6	-0.2
	baz=89						
C22A	Vida	88.84	339	⇊P	P	12 29 24.4	-0.4
	baz=89						
DLMT	Dillon	88.92	334	eP	P	12 29 26.1	+0.7
	comp=Z,10nm,1.1s						
D20A	Manuel Ranch,	88.94	337	⇊P	P	12 29 24.8	-0.6
	baz=89						
DGMT	Dagmar	89.02	340	⇊P	P	12 29 25.6	0.0
	baz=89						
DGMT	Dagmar	89.02	340	eP	P	12 29 25.8	+0.1
	comp=Z,48nm,1.3s						
MOD	Modoc Plateau	89.11	327	eP	P	12 29 28.5	+2.1
	comp=Z,39nm,1.8s						
A25A	Svangstu Ranch	89.16	341	⇑P	P	12 29 26.2	-0.1
	baz=90						
B23A	Brockton	89.24	340	⇑P	P	12 29 26.5	-0.1
	baz=90						
D19A	Cripps Ranch,	89.24	337	⇑P	P	12 29 26.3	-0.5
	baz=90						
LRM	Limekiln Ridge	89.27	334	eP	P	12 29 27.6	+0.5
C21A	Desert Coulee	89.27	338	⇊P	P	12 29 26.3	-0.5
	baz=90						
B22A	Reddig Ranch S	89.38	339	⇑P	P	12 29 26.8	-0.5
	baz=90,SNR=7.5						
A24A	Westby	89.38	340	⇑P	P	12 29 27.0	-0.4
	baz=90						
C19A	Slack Wire Ran	89.80	337	⇊P	P	12 29 28.8	-0.6
	baz=90						
A22A	Carney Farms,	89.97	339	⇑P	P	12 29 29.6	-0.5
	baz=90						
A21A	Bergtoll Ranch	90.27	339	⇊P	P	12 29 30.6	-0.9
	baz=91						
BMO	Blue Mountains	90.28	330	eP	P	12 29 29.1	-2.6
	comp=Z,24nm,1.8s						
A20A	Cobblestone Ra	90.46	338	⇊P	P	12 29 31.7	-0.7
	baz=91						
I07A	Izee	90.54	329	eP	P	12 29 33.7	+0.8
	comp=Z,84nm,2.8s						
MSO	Missoula	90.66	333	eP	P	12 29 34.5	+1.1
	comp=Z,60nm,2.6s						
SWMT	Swartz Lake	91.27	334	eP	P	12 29 36.4	+0.1
	comp=Z,5.4nm,1.2s						
JTMT	Jette	91.57	334	eP	P	12 29 38.0	+0.4
YBMT	Yellow Bay	91.57	334	eP	P	12 29 37.8	+0.1
	comp=Z,8.9nm,1.3s						
BLMT	Blacktail Moun	91.82	334	eP	P	12 29 39.6	+0.7
BSMT	Bassoo Peak	91.84	334	eP	P	12 29 39.3	+0.3
	comp=Z,7.2nm,1.1s						
HAWA	Hanford	92.43	330	eP	P	12 29 43.0	+1.5
	comp=Z,17nm,1.3s						
WALA	Waterton Lakes	92.56	335	eP	P	12 29 42.4	+0.2
D08A	Wollman Farm,	92.73	331	eP	P	12 29 43.2	+0.3
	comp=Z,138nm,3.0s						
C09A	Chrisman Ranch	93.09	332	eP	P	12 29 45.3	+0.8
	comp=Z,12nm,1.2s						
TAM	Tamanrasset	94.90	65	eP	P	12 29 54.6	+0.9
TAM				pmax	pmax		
	comp=Z,14nm,1.2s						
TAM	Tamanrasset	94.90	65	eP	P	12 29 54.6	+0.9
	comp=Z,14nm,1.2s						
EDM	Edmonton	95.93	337	eP	P	12 29 56.1	-1.4
EDM	Edmonton	95.93	337	eP	P	12 29 56.1	-1.4
DZM	Mont Dzumac	98.84	234	eLR	LR	13 02 23.9	
	comp=Z,427nm,25.8s						
YKA	Yellowknife Ar	104.15	342	Pdiff	Pdif	12 30 31.6	-2.4
	comp=Z,0.1nm,0.3s,baz=61,slow=13,SNR=6.7						
YKA				PKKPbc	PKKPbc	12 46 20.9	-2.9
	comp=Z,0.1nm,0.3s,baz=43,slow=5.2,SNR=3.8						
GERES	GERESS Array B	114.73	47	PKP	PKPdf	12 35 10.5	-0.6
	comp=Z,1.8nm,0.7s,baz=199,slow=2.4,SNR=11						
ASAR	Alice Springs	114.78	208	PKKPbc	PKKPbc	12 45 48.4	-0.1
	comp=Z,0.6nm,0.5s,baz=338,slow=3.1,SNR=15						
ASAR				PKPab	PKKPab	12 45 55.0	-3.1
	comp=Z,0.9nm,0.7s,baz=332,slow=3.0,SNR=10						
CLL	Collm	115.47	44	ePKIKP	PKPdf	12 35 12.0	-0.3
CLL	Collm	115.47	44	ePKiKP	PKPdf	12 35 12.0	-0.3
CLL				Lm	MLR	13 21 00.0	
	comp=Z,200nm,20.7s						
CLL				LmV		16 00 00.0	
	comp=Z,100nm,19.3s						
CLL				Lm	MLR	16 32 00.0	
	comp=Z,200nm,19.1s						
VYHS	Vyhne	117.62	49	ePKIKP	PKPdf	12 35 16.0	-0.6
VYHS	Vyhne	117.62	49	ePKP	PKPdf	12 35 16.0	-0.6
WRA	Warramunga Arr	117.98	210	PKP	PKPdf	12 35 15.9	-2.4
	comp=Z,0.6nm,0.8s,baz=173,slow=1.5,SNR=9.3						
WRA				PKKPab	PKKPbc	12 45 39.7	+2.5
	comp=Z,0.4nm,0.6s,baz=342,slow=4.3,SNR=6.1						
BRTR	Keskin Array B	124.01	63	PKP	PKPdf	12 35 27.6	-1.8
	comp=Z,2.6nm,0.7s,baz=188,slow=3.3,SNR=15						
TNA	Tin City	124.48	330	ePKPdf	PKPdf	12 35 29.1	-0.1
KIEV	Kiev	124.71	49	d iPKIKP	PKPdf	12 35 28.8	-1.3
KIEV	Kiev	124.71	49	ePKPdf	PKPdf	12 35 28.5	-1.6
AKASG	Malin Array Be	124.72	49	PKP	PKPdf	12 35 28.5	-1.6
	comp=Z,2.9nm,0.6s,baz=262,slow=2.7,SNR=8.4						
RAYN	Ar Rayn	126.32	86	ePKPdf	PKPdf	12 35 34.5	+0.4
ARCES	ARCESS Array B	126.81	26	PKP	PKPdf	12 35 34.6	+1.0
	comp=Z,2.1nm,0.8s,baz=299,slow=1.2,SNR=3.8						
OBN	Obninsk	130.04	45	i PKIKP	PKPdf	12 35 40.8	+0.7
OBN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV	Kislovodsk	131.74	60	i PKIKP	PKPdf	12 35 44.6	+0.7
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KBZ	Khabaz	131.83	61	PKP	PKPdf	12 35 44.2	+0.3
	comp=Z,1.2nm,0.7s,baz=324,slow=3.7,SNR=4.3						
KLMR	Klimovskoe	132.12	37	ePKIKP	PKPdf	12 35 40.4	-3.5
KLMR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GNI	Garni	132.21	66	i PKIKP	PKPdf	12 35 47.0	+2.0
ZEI	Tsey	132.31	62	i PKIKP	PKPdf	12 35 44.3	-0.9
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
PRGR	Permogore	135.05	36	ePKIKP	PKPdf	12 35 48.0	-1.4
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
GEYT	Alibeck	141.71	73	PKhKP	PKPpre	12 35 56.8	
	comp=Z,2.5nm,0.4s,baz=256,slow=6.0,SNR=6.7						
ARU	Arti	142.39	43	i PKIKP	PKPdf	12 36 05.3	+2.3
ARU						12 39 11.0	
AKTO	Aktyubinsk	142.80	53	PKHKP	PKPpre	12 35 58.7	
AKTO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI	Tiksi	143.02	349	⇊ i PKIKP	PKPdf	12 36 03.0	-0.7
AB31	Akbulak array	144.10	54	PKIKP	PKPab	12 36 03.8	-0.1
AB31				pmax	pmax		
	comp=Z,14nm,0.6s						
ABKAR	Akbulak array	144.10	54	ePKPdf	PKPab	12 36 03.8	-0.1
KSM	Kuching	144.90	186	ePKPdf	PKPab	12 36 07.1	-0.8
PSI	Prapat	145.64	166	PKPbc	PKPdf	12 36 09.2	-1.1
	comp=Z,45nm,0.8s,baz=191,slow=3.2,SNR=22						
SBUM	Sibu	145.65	190	ePKPdf	PKPdf	12 36 09.9	-0.2
POO	Poona	146.05	113	eP	PKPdf	12 36 10.0	-0.6
IPM	Ipoh	147.64	170	ePKPbc	PKPdf

NVS	**Novosibirsk**	155.69	34	*e*PKIKP	**PKPdf**	**12 36 21.9**	**-2.3**
NVS				*e*		12 40 37.4	
NVS				pmax	pmax		
comp=Z,12nm,0.9s							
KSH	**Kashi**	155.74	74	PKP	**PKPdf**	**12 36 25.1**	**+0.1**
KSH				sPKP		12 36 40.0	
KSH				PKS	**PKSdf**	**12 39 58.0**	**-1.1**
KSH				PP	**PP**	**12 40 27.6**	**-1.6**
KSH				SKS	**SKSdf**	**12 43 28.6**	**-0.6**
KSH				SKKS	**SKKSac**	**12 47 15.0**	**-1.3**
KSH				PPMZ			
comp=Z,79nm,4.5s							
KSH				LN			
comp=Z,67nm,6.1s							
KSH				LE			
comp=Z,57nm,4.2s							
KSH				LZ			
comp=Z,170nm,6.3s							
ZALV	**Zalesovo Beam**	156.98	34	PKP	**PKPdf**	**12 36 24.9**	**-1.0**
comp=Z,7.7nm,1.0s,baz=281,slow=2.4,SNR=23							
ZALV				PKPab	**PKPab**	**12 36 56.6**	**+0.4**
comp=Z,9.5nm,0.8s,baz=305,slow=5.2,SNR=8.4							
BOD	**Bodaibo**	158.20	349	*e*PKIKP	**PKPdf**	**12 36 25.9**	**-1.4**
BOD				*e*		12 36 59.3	
BOD				pmax	pmax		
comp=Z,12nm,1.2s							
KOLN	**Koldanda**	158.66	108	*e*P	**PKPdf**	**12 36 27.9**	**-1.3**
DANN	**Dangsing**	159.06	107	*e*P	**PKPdf**	**12 36 28.8**	**-0.9**
comp=Z,23nm,1.0s							
JOW	**Kunigami**	159.22	248	*e*PKPab	**PKPab**	**12 37 07.5**	**+0.7**
MKAR	**Makanchi Array**	159.23	53	PKP	**PKPdf**	**12 36 28.4**	**-0.6**
comp=Z,4.9nm,1.0s,baz=268,slow=1.2,SNR=23							
MKAR				PKPab	**PKPab**	**12 37 06.2**	**-0.2**
comp=Z,5.4nm,0.9s,baz=286,slow=5.7,SNR=10							
MKAR				PP	**PP**	**12 40 47.7**	**-0.1**
comp=Z,3.7nm,1.0s,baz=287,slow=4.6,SNR=12							
GKN	**Gorkha**	159.57	108	*e*P	**PKPdf**	**12 36 29.2**	**-1.0**
KKN	**Kakani**	159.95	110	*e*P	**PKPdf**	**12 36 29.0**	**-1.7**
RAMN	**Ramite**	160.48	114	*e*P	**PKPdf**	**12 36 30.3**	**-1.0**
CMAR	**Chiang Mai Arr**	160.72	157	PKP	**PKPdf**	**12 36 30.9**	**-0.5**
comp=Z,0.4nm,0.3s,baz=234,slow=3.7,SNR=4.3							
CMAR				PKPab	**PKPab**	**12 37 12.4**	**-0.8**
comp=Z,1.0nm,0.5s,baz=237,slow=3.5,SNR=5.8							
QIZ	**Qiongzhong**	162.29	190	PKP	**PKPdf**	**12 36 33.5**	**+0.4**
QIZ				PP	**PP**	**12 41 06.2**	**+3.1**
QIZ				LZ			
comp=Z,150nm,18.4s							
HVS	**Khovu-Aksy**	162.76	28‖	*e*PKIKP	**PKPdf**	**12 36 31.8**	**-0.9**
WMQ	**Urumqi**	163.85	58	*e*PKP	**PKPdf**	**12 36 33.5**	**-0.5**
WMQ				LN			
comp=Z,130nm,23.0s							
WMQ				LE			
comp=Z,83nm,21.0s							
WMQ				LZ			
comp=Z,180nm,21.0s							
CN2	**Changchun**	163.93	302	*e*PKP	**PKPdf**	**12 36 35.5**	**+1.6**
TLY	**Talaya**	164.76	7	*e*PKIKP	PKPdf	12 36 43.8	+9.4
TLY				pmax	pmax		
comp=Z,2.0nm,0.8s							
ZAK	**Zakamensk**	166.00	9↑	*i*PKP2	**PKPab**	**12 37 35.2**	**-0.6**
ZAK				*e*		12 41 21.9	
ZAK				pmax	pmax		
comp=Z,3.0nm,1.1s							
KMI	**Kunming**	168.10	163	PKP	**PKPdf**	**12 36 38.8**	**+0.7**
KMI				pPKP	**pPKPdf**	**12 36 49.7**	**+1.5**
KMI				sPKP		12 36 53.7	
KMI				PP	**PP**	**12 41 36.8**	**+3.0**
KMI				SS	SS	13 02 25.7	+4.4
KMI				PPMZ			
comp=Z,100nm,4.9s							
KMI				LN			
comp=Z,150nm,17.9s							
KMI				LE			
comp=Z,140nm,17.2s							
KMI				LZ			
comp=Z,140nm,19.9s							
SONM	**Songino Array**	168.75	1	PKP	**PKPdf**	**12 36 36.4**	**-1.3**
comp=Z,1.4nm,1.1s,baz=154,slow=1.3,SNR=7.0							
SONM				PKPab	**PKPab**	**12 37 48.4**	**+0.3**
comp=Z,2.7nm,0.8s,baz=345,slow=3.3,SNR=14							
GYA	**Guiyang**	169.91	180	PKP	**PKPdf**	**12 36 39.0**	**-0.1**
GYA				pPKP	**pPKPdf**	**12 36 50.8**	**+1.7**
GYA				PKPab	**PKPab**	**12 37 56.4**	**+2.7**
GYA				PKS	**PKSdf**	**12 40 10.2**	**-1.6**
GYA				PP	**PP**	**12 41 47.5**	**+4.8**
GYA				SKKS		12 48 29.0	
GYA				SS	**SS**	**13 02 41.8**	**+3.0**
GYA				PPMZ			
comp=Z,120nm,8.6s							
GYA				LN			
comp=Z,130nm,21.8s							
GYA				LE			
comp=Z,110nm,22.4s							
GYA				LZ			
comp=Z,120nm,21.5s							
CD2	**Chengdu**	173.86	156	*e*PKP	**PKPdf**	**12 36 40.9**	**+0.2**
GTA	**Gaotai**	173.92	60	*e*PKP	**PKPdf**	**12 36 39.8**	**-0.8**
GTA				pPKP	**pPKPdf**	**12 36 50.3**	**-0.3**
GTA				sPKP		12 36 54.4	
GTA				PKPab	**PKPab**	**12 38 11.9**	**+0.4**
HHC	**Hu-ho-hao-te**	174.25	319	*e*PKP	**PKPdf**	**12 36 40.8**	**+0.2**
HHC				sPKP		12 36 55.2	
HHC				PP	**PP**	**12 42 08.0**	**+3.1**
HHC				SKKS		12 48 49.3	
HHC				SS	**SS**	**13 03 20.8**	**-1.9**
HHC				PPMZ			
comp=Z,140nm,7.4s							
HHC				LN			
comp=Z,450nm,18.5s							
HHC				LE			
comp=Z,340nm,18.5s							
HHC				LZ			
comp=Z,220nm,19.7s							
LZH	**Lanzhou**	177.70	102	*e*PKP	**PKPdf**	**12 36 41.6**	**-0.1**
LZH				pPKP	**pPKPdf**	**12 36 51.8**	**+0.1**
LZH				sPKP		12 36 55.4	

NIED ***02*** *12:29:00,25°.90N×128°.60E,h5km,Mw3.8 Best double couple: M₀4.77000×10¹⁴ NP1:φs178.00000°,δ45.00000°, λ-25.00000°. NP2:φs287.00000°,δ72.00000°, λ-132.00000°.*

IDC ***02*** *12:29:14.0±1.1,25°.85N×128°.49E,h0km,mb4.0/7, mb1 4.0/9,mb1mx3.8/36,mbtmp3.9/9,ML3.2/2,Error ellipse: s-maj=50.5km s-min=16.5km az=80.0*

JMA ***02*** *12:29:16.2±0.3,25°.91N×128°.63E,h34km,M3.5*

NEIC ***02*** *12:29:19.2±0.8,25°.82N×128°.32E,h35km,mb4.1/3,Error ellipse: s-maj=17.1km s-min=10.6km az=120.0*

ISC 02 12:29:13.9±2.3,25°.84N±0°.05×128°.59E±0°.05,h6km±14km, n33,σ1§96/48,mb4.0/11,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**0.81**	**291**	P	**Pn**	**12 29 31.6**	**-0.3**
JJT2				S	**Sn**	**12 29 42.8**	**-1.4**
JNTH	**Nagotoyohara**	**0.84**	**323**	P	**Pb**	**12 29 31.1**	**+0.1**
JOW	**Kunigami**	**1.02**	**344**	P	**Pb**	**12 29 34.1**	**+0.1**
JOW				S	**Sg**	**12 29 46.1**	**-0.8**
JOW	**Kunigami**	**1.02**	**344**	Pn	**Pb**	**12 29 34.1**	**+0.1**
16nm,0.3s,baz=148,slow=19,SNR=343							
JOW				Sn	**Sg**	**12 29 45.9**	**-1.0**
20nm,0.3s,baz=105,slow=27,SNR=27							
JIH	**Iheya**	**1.31**	**335**	P	**Pn**	**12 29 38.5**	**-0.3**
JIH				S	**Sb**	**12 29 54.0**	**-2.0**
JAGN	**Aguni-jima**	**1.42**	**302**	P	**Pn**	**12 29 40.2**	**0.0**
JAGN				S	**Sn**	**12 29 58.0**	**-1.2**
JOKE	**Okinoerabujima**	**1.51**	**359**	P	**Pn**	**12 29 41.2**	**-0.4**
JOKE				S	**Sn**	**12 29 59.3**	**-2.3**
JKE	**Kume jima 2**	**1.69**	**287**	P	**Pn**	**12 29 43.6**	**-0.4**
JKE				S	**Sn**	**12 30 03.0**	**-2.9**
JTK	**Tokunoshima**	**1.96**	**9**	P	**Pn**	**12 29 47.5**	**-0.2**
JTK				S	**Sn**	**12 30 09.2**	**-3.5**
JMZ	**Minamidaito 2**	**2.38**	**90**	P	**Pn**	**12 29 52.7**	**-0.7**
JMZ				S	**Sn**	**12 30 18.3**	**-4.5**
JAMN	**Amaminishikomi**	**2.45**	**12**	P	**Pn**	**12 29 54.2**	**-0.2**
JAMN				S	**Sn**	**12 30 21.6**	**-3.0**
JAM	**Amami Oshima**	**2.71**	**19**	P	**Pn**	**12 29 57.5**	**-0.6**
JAM				S	**Sn**	**12 30 28.1**	**-3.1**
JZK	**Kikaishima**	**2.75**	**26**	S	**Sn**	**12 30 29.9**	**-2.3**
JTJ	**Tarama**	**3.72**	**252**	P	**Pn**	**12 30 11.6**	**-0.2**
JTJ				S	**Sn**	**12 30 52.9**	**-3.0**
JISG	**Ishigakijimahi**	**4.07**	**253**	P	**Pn**	**12 30 15.9**	**-0.8**
JISG				S	**Sn**	**12 31 01.2**	**-3.5**
JIJ	**Ishigaki jima**	**4.29**	**251**	P	**Pn**	**12 30 18.9**	**-0.8**
JIJ				S	**Sn**	**12 31 06.3**	**-3.8**
YULB	**Yu-li**	**7.07**	**251**	*e*Pn	**Pn**	**12 30 55.1**	**-2.9**
YULB				*e*Sn	**Sn**	**12 32 16.7**	**-2.0**
SSLB	**Suanglung**	**7.23**	**255**	*e*Pn	**Pn**	**12 30 58.5**	**-1.7**
JNU	**Nakatsue**	**7.52**	**15**	Pn	**Pn**	**12 31 05.9**	**+1.7**
1.0nm,0.3s,baz=300,slow=4.1,SNR=9.6							
JNU				Sn	**Sn**	**12 32 26.9**	**-3.0**
0.3nm,0.3s,baz=4.7,slow=21,SNR=3.0							
TPUB	**Ta-pu**	**7.67**	**252**	*e*Pn	**Pn**	**12 31 05.4**	**-0.9**
TPUB				*e*Sn	**Sn**	**12 32 34.8**	**+1.3**
MAJO	**Matsushiro**	**13.46**	**35**	*e*Pn	P	12 32 30.3	-4.7
30nm,1.5s							
USRK	**Ussuriysk Ar.**	**18.52**	**8**	P	**Pn**	**12 33 33.1**	**+2.0**
0.1nm,0.3s,baz=168,slow=9.5,SNR=4.7							
ULN	**Ulaanbaatar**	**27.75**	**328**	*e*P	**P**	**12 35 06.0**	**+2.5**
2.0nm,0.8s							
SONM	**Songino Array**	**28.05**	**327**	P	**P**	**12 35 08.5**	**+2.4**
2.2nm,0.5s,baz=142,slow=11,SNR=31							
FITZ	**Fitzroy Crossi**	**43.78**	**184**	*e*P	**P**	**12 37 21.2**	**+0.8**
15nm,1.5s							
WRA	**Warramunga Arr**	**45.85**	**172**	P	**P**	**12 37 37.3**	**+0.2**
0.7nm,0.6s,baz=353,slow=8.4,SNR=9.1							
ASAR	**Alice Springs**	**49.49**	**174**	P	**P**	**12 38 07.2**	**+1.9**
0.4nm,0.7s,baz=3.2,slow=12,SNR=6.7							
ABKAR	**Akbulak array**	**57.14**	**313**	*e*P	**P**	**12 39 01.9**	**+0.6**
0.9nm,0.6s							
KBZ	**Khabaz**	**69.65**	**310**	P	**P**	**12 40 24.6**	**+0.3**
1.4nm,0.8s,baz=138,slow=3.1,SNR=4.0							
FINES	**FINESS Array B**	**73.36**	**331**	P	**P**	**12 40 46.6**	**+0.2**
1.6nm,0.8s,baz=100,slow=4.3,SNR=3.4							
AKASG	**Malin Array Be**	**76.03**	**320**	P	**P**	**12 41 02.3**	**+0.2**
1.2nm,0.5s,baz=56,slow=6.2,SNR=3.9							
BRTR	**Keskin Array B**	**77.52**	**308**	P	**P**	**12 41 11.8**	**+0.9**
0.9nm,0.8s,baz=90,slow=5.6,SNR=4.5							
YKA	**Yellowknife Ar**	**78.74**	**25**	P	P	12 41 26.3	+9.3
0.4nm,0.8s,baz=298,slow=5.8,SNR=6.5							

IDC ***02*** *12:30:49.8±1.4,34°.80S×72°.47W,h0km,mb3.9/4, mb1 4.0/6,mb1mx3.8/26,mbtmp3.9/6,ML3.7/3,MS2.4/1, Ms1 2.4/1,ms1mx2.4/19,Error ellipse: s-maj=38.2km s-min=25.0km az=80.0*

ISCJB ***02*** *12:30:50.7±1.2,34°.76S±0°.10×72°.6W±0°.3,h18km,mb3.9/4, Error ellipse: s-maj=29.7km s-min=13.6km az=4.0*

ISC 02 12:30:52.7±1.3,34°.8S±0°.1×72°.6W±0°.2,h18km,n7,σ1§13/7, mb4.0/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.80**	**50**	Pn	**Pn**	**12 32 05.1**	**+0.9**
0.4nm,0.3s,baz=228,slow=0.9,SNR=22							
CFAA				Lg	Lg	12 33 11.9	
1.2nm,0.3s,baz=342,slow=8.8,SNR=9.4							
CFAA				LR	LR	12 34 18.3	
comp=Z,39nm,20.6s,baz=268,slow=44							
PLCA	**Paso Flores**	**6.17**	**166**	Pn	**Pn**	**12 32 23.5**	**+0.5**
0.8nm,0.3s,baz=3.6,slow=15,SNR=9.9							
PLCA				Lg	Lg	12 33 55.3	
0.3nm,0.3s,baz=294,slow=15,SNR=2.2							
LPAZ	**La Paz**	**18.82**	**13**	P	**P**	**12 35 10.9**	**-1.2**
0.1nm,0.3s,baz=208,slow=8.2,SNR=4.5							
SIV	**San Ignacio**	**21.35**	**32**	P	**P**	**12 35 39.0**	**0.0**
4.5nm,0.7s,baz=233,slow=10,SNR=9.9							
TXAR	**Lajitas Array**	**70.19**	**331**	P	**P**	**12 42 05.3**	**+0.9**
0.4nm,0.5s,baz=155,slow=8.4,SNR=12							
BOSA	**Boshof**	**80.10**	**118**	P	**P**	**12 43 00.7**	**-1.2**
1.5nm,0.5s,baz=90,slow=22,SNR=3.4							
TORD	**Torodi Ar. Bea**	**84.88**	**70**	P	**P**	**12 43 26.3**	**-0.5**
0.6nm,0.7s,baz=245,slow=3.0,SNR=7.4							

IDC ***02*** *12:36:33.7±0.6,33°.90S×73°.37W,h0km,mb4.3/12, mb1 4.4/15,mb1mx4.3/29,mbtmp4.3/15,ML4.8/2,MS3.2/1, Ms1 3.2/1,ms1mx2.9/23,Error ellipse: s-maj=22.0km s-min=15.1km az=95.0*

ISCJB ***02*** *12:36:37.2±0.4,33°.96S±0°.05×73°.28W±0°.07,h33km, mb4.4/23,Error ellipse: s-maj=8.6km s-min=6.5km az=178.2*

NEIC ***02*** *12:36:39.2±0.3,33°.94S×73°.31W,h35km,mb4.4/11,Error ellipse: s-maj=8.0km s-min=6.5km az=74.0*

ISC 02 12:36:39.0±0.5,33°.92S±0°.06×73°.37W±0°.09,h35km,n50, σ0§96/60,mb4.4/23,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.90**	**63**	Pn	**Pn**	**12 37 49.6**	**-0.6**
1.2nm,0.3s,baz=233,slow=12,SNR=3.7							
CFAA				Sn	**Sn**	**12 38 46.0**	**+0.3**
3.0nm,0.3s,baz=125,slow=15,SNR=11							
PLCA	**Paso Flores**	**7.16**	**163**	Pn	**Pn**	**12 38 20.2**	**-1.0**
5.7nm,0.3s,baz=334,slow=13,SNR=28							
PLCA				LR	LR	12 41 02.2	
comp=Z,204nm,21.9s,baz=90,slow=37							
PLCA	**Paso Flores**	**7.16**	**163**	*e*Pn	**Pn**	**12 38 20.3**	**-1.0**
32nm,0.7s							
PLCA				*e*Sn	**Sn**	**12 39 41.9**	**+0.6**
TRQA	**Tornquist**	**10.10**	**117**	*e*Pn	**Pn**	**12 39 00.8**	**-0.7**
6.2nm,0.7s							
LVC	**Limon Verde**	**11.93**	**20**	*e*Pn	Pn	12 39 23.1	-3.7
3.8nm,0.6s							
CPUP	**Villa Florida**	**15.79**	**66**	Pn	**Pn**	**12 40 20.2**	**+1.5**
0.5nm,0.3s,baz=220,slow=7.0,SNR=5.0							
CPUP	**Villa Florida**	**15.79**	**66**	*e*P	**Pn**	**12 40 20.1**	**+1.4**
0.2nm,0.6s							
LPAZ	**La Paz**	**18.18**	**16**	P	**P**	**12 40 49.4**	**+0.1**
0.6nm,0.3s,baz=185,slow=9.4,SNR=17							
LPAZ	**La Paz**	**18.18**	**16**	*e*P	**P**	**12 40 50.0**	**+0.7**
4.8nm,0.6s							
SIV	**San Ignacio**	**21.01**	**35**	P	**P**	**12 41 19.4**	**-0.2**
10nm,0.7s							
USHA	**Ushuaia**	**21.19**	**172**	P	**P**	**12 41 22.7**	**+1.5**
12nm,0.8s,baz=326,slow=13,SNR=8.3							
BDFB	**Brasília**	**29.21**	**58**	P	**P**	**12 42 36.7**	**-0.9**
1.4nm,0.4s,baz=242,slow=9.7,SNR=3.2							
RCBR	**Riachuelo**	**44.55**	**60**	P	**P**	**12 44 48.0**	**+0.4**
1.8nm,0.4s,baz=214,slow=8.5,SNR=3.6							
VNA2	**Neumayer--Watz**	**50.51**	**157**	P	**P**	**12 45 33.9**	**+0.7**
SNAA	**Sanae**	**52.07**	**158**	P	**P**	**12 45 45.2**	**+0.2**
SNAA	**Sanae**	**52.07**	**158**	P	**P**	**12 45 45.2**	**+0.2**
2.4nm,0.6s,baz=286,slow=7.9,SNR=20							
QSPA	**South Pole Qui**	**56.31**	**180**	P	**P**	**12 46 16.4**	**+0.4**
5.6nm,0.9s,baz=294,slow=0.9,SNR=20							
QSPA	**South Pole Qui**	**56.31**	**180**	*e*P	**P**	**12 46 16.1**	**+0.1**
4.0nm,0.8s							
JCT	**Junction City**	**68.75**	**336**	*e*P	**P**	**12 47 39.8**	**+0.5**
1.4nm,0.6s							
TXAR	**Lajitas Array**	**69.14**	**332**	P	**P**	**12 47 42.1**	**+0.3**
0.7nm,0.5s,baz=157,slow=8.4,SNR=24							
SWET	**Sewanee**	**69.78**	**349**	*e*P	**P**	**12 47 45.4**	**-0.2**
3.0nm,0.5s							
WVT	**Waverly**	**70.99**	**348**	*e*P	**P**	**12 47 52.5**	**-0.3**
10nm,0.8s							
LIC	**Lamto**	**75.80**	**72**	*e*P	**P**	**12 48 21.6**	**-0.1**
67nm,1.8s							
TIC	**Toumodi**	**76.06**	**72**	*e*P	**P**	**12 48 23.0**	**-0.2**
4.7nm,0.2s							
KIC	**Kosan Boka**	**76.11**	**72**	*e*P	**P**	**12 48 23.5**	**0.0**
21nm,0.8s							
DBIC	**Dimbokro**	**76.20**	**72**	P	**P**	**12 48 23.6**	**-0.4**
7.3nm,0.6s,baz=198,slow=6.8,SNR=14							
DBIC	**Dimbokro**	**76.20**	**72**	*e*P	**P**	**12 48 24.0**	**0.0**
7.6nm,0.8s							
ECSD	**EROS Data Cent**	**80.14**	**343**	*e*P	**P**	**12 48 44.9**	**-0.3**
4.1nm,0.9s							
CCUT	**Cedar City**	**80.26**	**329**	*e*P	**P**	**12 48 48.3**	**+2.1**
2.7nm,1.0s							
SRU	**San Rafael Swe**	**80.41**	**332**	*e*P	**P**	**12 48 48.1**	**+1.2**
1.4nm,0.6s							
BOSA	**Boshof**	**81.08**	**118**	P	**P**	**12 48 50.8**	**-0.1**
1.8nm,0.7s,baz=90,slow=22,SNR=3.1							
DUG	**Dugway, Tooele**	**82.26**	**331**	*e*P	**P**	**12 48 57.6**	**+0.9**
1.1nm,0.6s							
PDAR	**Pinedale Array**	**83.20**	**334**	P	**P**	**12 49 02.3**	**+0.7**
0.2nm,0.4s,baz=93,slow=3.0,SNR=3.6							
HVU	**Hansel Valley**	**83.58**	**331**	*e*P	**P**	**12 49 03.5**	**0.0**
4.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**85.22**	**71**	P	**P**	**12 49 12.0**	**-0.2**
5.3nm,0.7s,baz=260,slow=4.2,SNR=31							
ULM	**Lac du Bonnet**	**86.14**	**346**	P	**P**	**12 49 15.7**	**-0.3**
2.9nm,1.0s,baz=119,slow=2.4,SNR=3.7							
YKA	**Yellowknife Ar**	**101.63**	**342**	P	**Pdif**	**12 50 26.2**	**-0.8**
0.4nm,1.0s,baz=142,slow=3.9,SNR=3.6							
WRA	**Warramunga Arr**	**120.28**	**210**	PKP	**PKPdf**	**12 55 25.4**	**-1.5**
0.4nm,0.5s,baz=156,slow=1.6,SNR=9.4							
BRTR	**Keskin Array B**	**122.76**	**61**	PKP	**PKPdf**	**12 55 31.0**	**-0.2**
0.6nm,0.5s,baz=191,slow=5.0,SNR=5.1							
ABKAR	**Akbulak array**	**142.50**	**52**	*e*PKPdf	**PKPdf**	**12 56 03.0**	**-4.7**
BRVK	**Borovoye**	**147.90**	**42**	*e*PKPbc	**PKPbc**	**12 56 19.8**	**0.0**
HYB	**Hyderabad**	**149.96**	**116**	*i* PKP	**PKPbc**	**12 56 25.0**	**-1.2**
IPM	**Ipoh**	**150.24**	**169**	*e*PKPdf	**PKPdf**	**12 56 22.7**	**+0.8**
IPM				*e*PKPbc	**PKPbc**	**12 56 26.5**	**-0.5**
IPM				*e*PKPab	**PKPab**	**12 56 34.3**	**+1.3**
KKAR	**Karatay Array**	**150.47**	**61**	*e*PKPbc	**PKPbc**	**12 56 26.6**	**-0.1**
EKS2	**Erkin-Say**	**152.91**	**62**	*e*PKPdf	**PKPdf**	**12 56 25.2**	**+0.1**
EKS2				*e*PKPbc	**PKiKP**	**12 56 33.0**	**+0.4**
EKS2				*e*PKPab	**PKPab**	**12 56 45.0**	**+1.3**
AAK	**Ala-Archa**	**153.44**	**61**	*e*PKPdf	**PKPdf**	**12 56 26.5**	**+0.5**
AAK				*e*PKPbc	**PKiKP**	**12 56 34.1**	**+0.3**
AAK				*e*PKPab	**PKPab**	**12 56 46.6**	**+0.6**
KURK	**Kurchatov**	**153.57**	**42**	*e*PKPdf	**PKPdf**	**12 56 26.9**	**+1.3**
KURK				*e*PKPbc	**PKiKP**	**12 56 33.6**	**+0.1**
KURK				*e*PKPab	**PKPab**	**12 56 45.9**	**-0.1**
ZALV	**Zalesovo Beam**	**154.74**	**31**	PKPbc	**PKPbc**	**12 56 35.6**	**-0.2**
0.7nm,0.4s,baz=219,slow=2.2,SNR=4.6							
ZALV				PKPab	**PKPab**	**12 56 51.3**	**+0.4**
1.0nm,0.7s,baz=297,slow=6.5,SNR=5.9							
MKAR	**Makanchi Array**	**157.54**	**48**	PKPab	**PKPab**	**12 57 03.2**	**0.0**
0.8nm,0.7s,baz=289,slow=4.0,SNR=7.6							
SONM	**Songino Array**	**166.10**	**1**	PKPab	**PKPab**	**12 57 40.4**	**-0.2**
0.1nm,0.4s,baz=81,slow=23,SNR=3.8							

IDC ***02*** *12:48:42.9±1.6,37°.58S×73°.84W,h0km,mb3.8/3, mb1 3.7/5,mb1mx3.6/23,mbtmp3.6/5,ML3.4/2,Error ellipse: s-maj=42.4km s-min=19.7km az=81.0*

ISC 02 12:48:46.8±1.7,37°.6S±0°.1×73°.7W±0°.3,h23km,n7,σ1§33/6, mb3.9/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.99**	**144**	Pn	**Pn**	**12 49 47.3**	**+0.7**
0.8nm,0.3s,baz=323,slow=11,SNR=8.6							
PLCA				Lg	Lg	12 50 52.7	
1.2nm,0.3s,baz=46,slow=23,SNR=2.8							
CFAA	**Coronel Fontan**	**7.42**	**39**	Pn	**Pn**	**12 50 32.8**	**-0.9**
0.2nm,0.3s,baz=227,slow=13,SNR=4.1							
LPAZ	**La Paz**	**21.73**	**14**	P	**P**	**12 53 39.0**	**+1.8**
1.0nm,0.6s,baz=194,slow=9.6,SNR=6.8							
SIV	**San Ignacio**	**24.18**	**31**	P	P	12 54 08.9	+7.4
2.7nm,0.8s,baz=220,slow=9.4,SNR=6.5							
QSPA	**South Pole Qui**	**52.70**	**180**	P	**P**	**12 57 58.5**	**-0.7**
2.0nm,0.9s,baz=139,slow=9.3,SNR=5.7							
TORD	**Torodi Ar. Bea**	**86.63**	**71**	P	**P**	**13 01 28.5**	**-0.2**
0.9nm,1.1s,baz=230,slow=3.9,SNR=4.6							
ZALV	**Zalesovo Beam**	**157.90**	**35**	PKPab	**PKPab**	**13 09 13.6**	**-0.3**
0.8nm,0.5s,baz=283,slow=4.8,SNR=4.5							

ISCJB ***02*** *12:54:26.8±0.5,4°.03S±0°.04×140°.31E±0°.06,h59km, mb3.9/9,MS3.7/1,Error ellipse: s-maj=7.9km s-min=5.4km az=178.8*

IDC ***02*** *12:54:31.7±2.9,4°.00S×140°.21E,h96km±27km,mb3.6/10, mb1 3.9/12,mb1mx3.8/22,mbtmp4.1/12,MS3.7/1, Ms1 3.7/1,ms1mx2.8/23,Error ellipse: s-maj=22.1km s-min=10.9km az=93.0*

DJA ***02*** *12:54:32.3±0.3,4°.S±3°.×14°.0E±°,h76km±5km,M4.7/16, mB5.1/6,mb4.8/16,MLv4.9/8,Mw(mB)4.4/6*

ISC 02 12:54:27.6±0.6,4°.13S±0°.05×140°.27E±0°.08,h59km,n60, σ1§95/59,mb3.9/9,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.53**	**356**	P	**Pn**	**12 54 54.7**	**+2.1**
GENI				S	**Sn**	**12 55 12.7**	**+1.2**
JAY	**Jayapura**	**1.66**	**15**	P	**Pn**	**12 54 55.7**	**+1.2**
JAY	**Jayapura**	**1.66**	**15**	P	**Pn**	**12 54 55.8**	**+1.4**
baz=1.5,SNR=359							
SMPI	**Sarmi**	**2.63**	**324**	P	**Pn**	**12 55 09.5**	**+1.8**
SMPI				S	**Sn**	**12 55 37.6**	**-0.9**
MMPI	**Merauke**	**4.31**	**179**	P	Pn	12 55 39.6	+8.9
MMPI	**Merauke**	**4.31**	**179**	P	Pn	12 55 39.8	+9.1
baz=4.5,SNR=16							
MMPI				S	Sn	12 56 31.3	+12
baz=4.5,SNR=4.8							
SRPI	**Serui, Papua**	**4.61**	**299**	P	**Pn**	**12 55 35.1**	**+0.4**
BAKI	**Biak**	**5.08**	**305**	P	**Pn**	**12 55 42.9**	**+1.7**
BAKI				S	**Sn**	**12 56 33.8**	**-4.8**
KMPI	**Kaimana, Papua**	**6.57**	**274**	P	Pn	12 56 06.3	+4.7
240nm,0.8s,0.9nm							

RAMN	Ramite	60.31	304	eP	P	13 04 31.0	+0.1
JIRN	Jiri	60.92	305	eP	P	13 04 35.1	-0.1
	17nm,0.7s						
GUN	Gumba	61.27	305	eP	P	13 04 37.4	-0.1
	16nm,0.8s						
KKN	Kakani	61.72	305	eP	P	13 04 40.5	+0.1
DMN	Daman	61.79	304	eP	P	13 04 40.9	0.0
	15nm,0.9s						
GKN	Gorkha	62.32	304	eP	P	13 04 44.4	0.0
	20nm,0.8s						
KOLN	Koldanda	63.10	304	eP	P	13 04 49.4	-0.2
	19nm,0.9s						
DANN	Dangsing	63.17	305	eP	P	13 04 49.9	-0.3
	14nm,0.8s						
MKAR	Makanchi Array	71.86	322	P	P	13 05 43.6	-0.7
	1.9nm,1.0s,baz=108,slow=7.2,SNR=14						
ZALV	Zalesovo Beam	73.94	330	P	P	13 05 55.1	-1.3
	0.3nm,0.3s,baz=76,slow=6.3,SNR=3.9						
ILAR	Eielson Array	86.47	24	P	P	13 07 01.2	-2.4
	0.5nm,0.6s,baz=256,slow=4.2,SNR=17						
TORD	Torodi Ar. Bea	138.13	285	PKP	PKPdf	13 13 47.5	+0.5
	0.4nm,0.4s,baz=54,slow=2.4,SNR=7.0						
KIC	Kosan Boka	145.09	275	ePKP1	PKPbc	13 13 58.8	-0.3
	43nm,0.8s						
DBIC	Dimbokro	145.19	276	PKPbc	PKPbc	13 13 59.4	+0.1
	18nm,0.6s,baz=83,slow=3.2,SNR=46						
LPAZ	La Paz	145.35	127	PKPbc	PKPab	13 14 02.0	+1.3
	2.4nm,0.7s,baz=211,slow=1.2,SNR=11						
TIC	Toumodi	145.36	276	ePKP1	PKPbc	13 13 59.7	-0.2
	36nm,0.8s						
LIC	Lamto	145.38	275	ePKP1	PKPbc	13 13 59.7	-0.3
	56nm,1.1s						
SIV	San Ignacio	150.92	134	PKPbc	PKPbc	13 14 16.3	+1.6
	3.4nm,0.5s,baz=230,slow=2.2,SNR=8.5						

*IDC **02** 13:02:20.1±1.6,35°.61S×72°.44W,h0km,mb4.0/3, mb1 4.1/6,mb1mx3.9/23,mbtmp4.0/6,ML3.9/3,MS3.9/14, Ms1 3.9/14,ms1mx3.7/26,Error ellipse: s-maj=43.0km s-min=20.1km az=84.0*

*ISCJB **02** 13:02:21.6±0.9,35°.66S±0°.08×72°.2W±0°.2,h20km,mb4.0/4, MS4.0/9,Error ellipse: s-maj=21.1km s-min=11.4km az=0.5*

*NEIC **02** 13:02:25.6±1.0,35°.67S×72°.15W,h35km,mb4.2/1,Error ellipse: s-maj=22.0km s-min=12.1km az=91.0*

ISC 02 13:02:23.4±1.0,35°.63S±0°.10×72°.3W±0°.2,h20km,n18, σ0s87/9,mb4.2/4,MS4.1/9,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.23	41	Pn	Pn	13 03 40.5	0.0
	0.4nm,0.3s,baz=227,slow=14,SNR=28						
CFAA				Lg	Lg	13 05 00.2	
	0.6nm,0.3s,baz=37,slow=23,SNR=3.6						
CFAA				LR	LR	13 05 56.9	
	comp=Z,146nm,18.6s,baz=210,slow=41						
PLCA	Paso Flores	5.27	166	Pn	Pn	13 03 40.3	-0.8
	2.1nm,0.3s,baz=241,slow=15,SNR=5.2						
PLCA				Lg	Lg	13 05 09.8	
	1.8nm,0.3s,baz=285,slow=20,SNR=2.0						
PLCA				LR	LR	13 05 45.2	
	comp=Z,596nm,19.6s,baz=45,slow=38						
TRQA	Tornquist	8.59	109	P	Pn	13 04 26.0	-0.6
	21nm,1.0s						
CPUP	Villa Florida	15.79	58	LR	LR	13 12 49.6	
	comp=Z,698nm,18.5s,baz=221,slow=40						
USHA	Ushuaia	19.39	173	LR	LR	13 14 45.6	
	comp=Z,363nm,18.2s,baz=338,slow=38						
LPAZ	La Paz	19.61	12	P	Pn	13 06 51.9	-0.6
	0.2nm,0.3s,baz=190,slow=11,SNR=6.8						
LPAZ				LR	LR	13 14 55.0	
	comp=Z,189nm,18.7s,baz=188,slow=38						
LPAZ	La Paz	19.61	12	eP	Pn	13 06 53.0	+0.5
SIV	San Ignacio	21.96	30	P	P	13 07 15.4	-0.6
	7.8nm,1.0s,baz=230,slow=12,SNR=10						
BDFB	Brasilia	29.42	54	LR	LR	13 21 22.0	
	comp=Z,457nm,18.2s,baz=221,slow=39						
ROSC	El Rosal	40.31	357	LR	LR	13 26 23.3	
	comp=Z,54nm,18.4s,baz=5.5,slow=36						
RCBR	Riachuelo	44.66	57	LR	LR	13 31 16.3	
	comp=Z,303nm,19.4s,baz=206,slow=39						
SNAA	Sanae	50.15	157	LR	LR	13 29 41.7	
	comp=Z,41nm,20.8s,baz=48,slow=33						
QSPA	South Pole Qui	54.61	180	eP	P	13 11 51.2	+0.9
	2.0nm,0.8s						
VNDA	Vanda	62.48	191	LR	LR	13 35 08.0	
	comp=Z,86nm,21.1s,baz=260,slow=32						
TXAR	Lajitas Array	71.07	331	P	P	13 13 39.5	-0.7
	0.2nm,0.7s,baz=150,slow=9.5,SNR=5.4						
TXAR				LR	LR	13 39 19.9	
	comp=Z,112nm,19.6s,baz=0.0,slow=31						
MAW	Mawson	71.68	163	LR	LR	13 47 32.6	
	comp=Z,173nm,18.3s,baz=68,slow=38						
DBIC	Dimbokro	75.87	71	P	P	13 14 09.8	+1.1
	3.7nm,0.7s,baz=195,slow=6.4,SNR=4.2						
DBIC				LR	LR	13 44 15.7	
	comp=Z,71nm,21.4s,baz=200,slow=33						
NVAR	Mina Array Bea	85.11	325	LR	LR	13 47 22.0	
	comp=Z,242nm,21.9s,baz=34,slow=32						

*IDC **02** 13:25:47.8±1.3,3°.13N×126°.22E,h0km,mb3.8/6, mb1 3.9/6,mb1mx3.7/33,mbtmp3.8/6,MS3.2/1,Ms1 3.2/1, ms1mx2.6/30,Error ellipse: s-maj=208.0km s-min=17.3km az=68.0*

*NEIC **02** 13:25:50.8±6.1,3°.22N×126°.43E,h22km±46km,mb4.0/4, Error ellipse: s-maj=41.2km s-min=10.9km az=74.0*

*ISCJB **02** 13:25:53.3±0.6,3°.3N±0°.1×126°.7E±0°.3,h63km,mb3.9/10, Error ellipse: s-maj=40.6km s-min=8.2km az=156.2*

ISC 02 13:25:55.4±0.8,3°.3N±0°.2×126°.7E±0°.3,h63km,n16, σ0s79/14,mb3.8/10,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.59	166	P	Pn	13 26 30.5	-4.5
CTBH	Cotabato--PC H	4.62	328	↓iP	Pn	13 27 03.2	+0.5
FAKI	Fak Fak	8.28	138	eP	Pn	13 27 52.6	-0.2
FITZ	Fitzroy Crossi	21.29	183	eP	P	13 30 36.6	-0.3
	1.6nm,0.6s						
PMG	Port Moresby	23.95	122	LR	LR	13 40 45.9	
	comp=Z,55nm,20.1s,baz=272,slow=37						
WRAB	Tennant Creek	24.27	162	eP	P	13 31 06.3	-0.5
	2.5nm,0.6s						
WRA	Warramunga Arr	24.27	162	P	P	13 31 06.4	-0.5
	1.5nm,0.5s,baz=336,slow=11,SNR=26						
WB2	Warramunga Arr	24.28	162	eP	P	13 31 06.0	-1.0
AS31	Alice Springs	27.70	166	eP	P	13 31 37.5	-0.4
ASAR	Alice Springs	27.70	166	P	P	13 31 37.6	-0.2
	0.3nm,0.5s,baz=347,slow=7.7,SNR=11						
STKA	Stephens Creek	37.73	159	P	P	13 33 06.4	+1.2
	2.1nm,0.6s,baz=345,slow=5.4,SNR=3.8						
ULN	Ulaanbaatar	47.53	342	P	P	13 34 24.6	-0.1
	1.5nm,0.9s						
SONM	Songino Array	47.71	342	P	P	13 34 25.5	-0.4
	0.5nm,0.5s,baz=152,slow=9.1,SNR=4.5						
MKAR	Makanchi Array	57.91	325	P	P	13 35 40.4	-0.7
	1.8nm,0.6s,baz=118,slow=8.2,SNR=36						
ZALV	Zalesovo Beam	60.97	333	P	P	13 36 03.0	+1.0
	0.3nm,0.4s,baz=120,slow=10,SNR=3.4						
KURK	Kurchatov	62.10	328	eP	P	13 36 08.6	-1.2
	2.3nm,0.6s						

IDC 02 13:31:03.5±2.2,7°.43S×130°.13E,h0km,mb3.2/1, mb1 3.4/3,mb1mx3.2/27,mbtmp3.2/3,ML3.3/2,Error ellipse: s-maj=133.4km s-min=25.5km az=70.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDU	Kakadu	5.72	156	P	Pn	13 32 33.7	+3.9
	baz=3.8,SNR=15						
WRA	Warramunga Arr	13.10	162	Pn	Pn	13 34 11.6	+0.5
	0.2nm,0.3s,baz=345,slow=14,SNR=7.6						
WRA				Sn	Sn	13 36 36.0	-1.7
	0.2nm,0.3s,baz=354,slow=23,SNR=5.2						
ASAR	Alice Springs	16.55	168	Pn	P	13 34 58.8	-1.2
	0.1nm,0.3s,baz=352,slow=8.0,SNR=8.4						
ASAR				Sn	Sn	13 38 00.8	-1.1
	0.1nm,0.3s,baz=355,slow=25,SNR=3.8						
MKAR	Makanchi Array	68.65	327	P	P	13 42 08.6	-0.1
	0.1nm,0.4s,baz=109,slow=7.8,SNR=4.2						

IDC 02 13:31:39.6±1.7,35°.16S×72°.69W,h0km,mb3.8/1, mb1 4.0/3,mb1mx3.7/20,mbtmp3.7/3,ML4.1/2,Error ellipse: s-maj=48.1km s-min=26.9km az=82.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.14	48	Pn	Pn	13 32 58.4	+0.4
	0.2nm,0.3s,baz=222,slow=17,SNR=4.1						
CFAA				Lg	Lg	13 34 12.1	
	0.5nm,0.3s,baz=14,slow=17,SNR=4.3						
PLCA	Paso Flores	5.82	164	Pn	Pn	13 33 07.8	+0.5
	2.3nm,0.3s,baz=327,slow=8.4,SNR=3.6						
PLCA				Sn	Sn	13 34 14.2	-0.6
	4.7nm,0.3s,baz=34,slow=22,SNR=3.5						
LPAZ	La Paz	19.23	13	P	P	13 36 05.5	-0.7
	0.1nm,0.3s,baz=187,slow=8.1,SNR=3.8						
TXAR	Lajitas Array	70.49	332	P	P	13 42 56.2	+0.1
	0.5nm,0.5s,baz=156,slow=8.8,SNR=12						
H11N3	WAKE ISLAND Hyl25.65	270		T	T	16 09 05.1	
	baz=121,slow=76,SNR=3.9						
H11N1	WAKE ISLAND Hyl25.67	270		T	T	16 09 04.7	
	baz=121,slow=76,SNR=4.6						
H11N2	WAKE ISLAND Hyl25.67	270		T	T	16 09 05.9	
	baz=121,slow=76,SNR=5.9						

*IDC **02** 13:41:07.4±1.0,34°.33S×72°.16W,h0km,mb4.0/5, mb1 4.2/7,mb1mx4.1/23,mbtmp4.0/7,ML3.8/2,MS3.0/3, Ms1 3.1/3,ms1mx2.9/20,Error ellipse: s-maj=37.6km s-min=21.6km az=93.0*

*ISCJB **02** 13:41:08.3±0.7,34°.33S±0°.08×72°.2W±0°.2,h16km,mb4.2/6, MS3.0/1,Error ellipse: s-maj=22.4km s-min=10.7km az=7.5*

*NEIC **02** 13:41:12.7±0.5,34°.30S×72°.15W,h35km,mb4.6/4,Error ellipse: s-maj=19.1km s-min=9.2km az=98.0*

ISC 02 13:41:10.0±0.7,34°.29S±0°.08×72°.2W±0°.2,h16km,n20, σ0s84/15,mb4.3/6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.27	52	Pn	Pn	13 42 15.5	+1.1
	0.2nm,0.3s,baz=246,slow=14,SNR=4.6						
CFAA				Lg	Lg	13 43 14.0	
	0.4nm,0.3s,baz=68,slow=11,SNR=7.4						
CFAA				LR	LR	13 44 10.2	
	comp=Z,40nm,20.5s,baz=217,slow=43						
PLCA	Paso Flores	6.57	169	Pn	Pn	13 42 46.1	+0.1
	0.6nm,0.3s,baz=339,slow=13,SNR=5.8						
PLCA				Lg	Lg	13 44 30.7	
	0.4nm,0.3s,baz=260,slow=13,SNR=4.7						
PLCA	Paso Flores	6.57	169	eP	Pn	13 42 47.2	+1.2
PLCA				Lg	Lg	13 44 30.7	
CPUP	Villa Florida	15.08	62	LR	LR	13 50 55.7	
	comp=Z,193nm,19.9s,baz=208,slow=39						
LPAZ	La Paz	18.29	13	P	P	13 45 24.3	+0.4
	0.1nm,0.3s,baz=190,slow=5.9,SNR=15						
LPAZ	La Paz	18.29	13	eP	Pn	13 45 23.3	-0.5
	6.1nm,0.8s						
SIV	San Ignacio	20.79	32	P	Pn	13 45 51.8	-1.2
	2.5nm,0.7s,baz=230,slow=14,SNR=6.0						
SIV				LR	LR	13 54 18.6	
	comp=Z,70nm,20.5s,baz=232,slow=38						
PMSA	Palmer Station	30.92	173	P	P	13 47 25.7	0.0
	9.7nm,0.6s,baz=348,slow=22,SNR=5.7						
PMSA	Palmer Station	30.92	173	P	P	13 47 24.9	-0.8
	16nm,0.7s						
QSPA	South Pole Qui	55.95	180	eP	P	13 50 47.4	+0.2
	4.4nm,1.0s						
H06S1	SOCORRO T	64.35	319	T	T	15 01 56.3	
	SNR=8.5						
TXAR	Lajitas Array	69.92	331	P	P	13 52 21.3	+0.9
	0.3nm,0.5s,baz=142,slow=6.6,SNR=5.3						
WVT	Waverly	71.56	347	eP	P	13 52 30.1	0.0
	7.9nm,0.8s						
PDAR	Pinedale Array	83.96	333	P	P	13 53 39.5	+0.1
	1.0nm,1.0s,baz=146,slow=3.8,SNR=4.5						
TORD	Torodi Ar. Bea	84.43	70	P	P	13 53 40.6	-1.6
	1.1nm,0.9s,baz=261,slow=4.0,SNR=5.2						
H11S2	WAKE ISLAND Hyl25.63	269		T	T	16 18 21.3	
	baz=120,slow=75,SNR=7.5						
H11S1	WAKE ISLAND Hyl25.64	269		T	T	16 18 21.2	
	baz=120,slow=75,SNR=20						
H11S3	WAKE ISLAND Hyl25.65	269		T	T	16 18 21.7	
	baz=120,slow=75,SNR=10						
ZALV	Zalesovo Beam	154.54	32	PKPbc	PKPbc	14 01 09.2	-0.2
	1.1nm,0.7s,baz=276,slow=5.0,SNR=7.0						
ZALV				PKPab	PKPab	14 01 23.7	-0.3
	0.5nm,0.3s,baz=319,slow=7.9,SNR=4.9						
MKAR	Makanchi Array	157.05	49	PKPab	PKPab	14 01 33.9	-1.2
	0.3nm,0.7s,baz=306,slow=2.9,SNR=4.8						

*IDC **02** 13:59:02.7±4.7,21°.92N×122°.49E,h0km,mb3.0/3, mb1 3.2/3,mb1mx3.1/31,mbtmp3.0/3,Error ellipse: s-maj=335.9km s-min=28.5km az=61.0*

*TAP **02** 13:59:05.2,21°.77N×121°.38E,h26km,ML3.5,C*

*JMA **02** 13:59:10.5±0.4,22°.37N×121°.58E,h0km,M3.6*

ISC 02 13:59:06.1±1.1,21°.81N±0°.05×121°.39E±0°.03,h28km±8km, n47,σ1s09/71,mb3.0/3,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.27	33	iP	Pb	13 59 12.8	-0.2
	baz=40						
LAY				S	Sb	13 59 18.3	+0.7
	baz=40						
TSEB	Hengchuen, Pin	0.47	281	P	Pb	13 59 16.1	+0.2
	baz=286						
TSEB				S	Sn	13 59 24.1	-0.2
	baz=286						
TWK1	Hengchun	0.56	284	iP	Pb	13 59 16.8	-0.6
	baz=298						
TWK1				S	Sb	13 59 25.2	0.0
	baz=298						
HEN	Hengchun	0.64	288	eP	Pb	13 59 18.1	-0.6
	baz=299						
HEN				eS	Sb	13 59 25.6	-1.7
	baz=299						
TAW	Tawu	0.71	320	P	Pb	13 59 19.1	-0.9
	baz=334						
TAW				S	Sb	13 59 29.1	-0.3
	baz=334						
EAST	Anshuo	0.76	318	P	Pb	13 59 19.9	-0.9
	baz=331						
EAST				S	Sb	13 59 30.4	-0.4
	baz=331						
ECL	Taimali	0.88	333	P	Pb	13 59 21.6	-1.3
	baz=335						
ECL				eS	Sb	13 59 33.7	-0.5
	baz=335						
SCZT	Fangliau	0.91	308	eP	Pb	13 59 22.9	-0.4
	baz=321						
SCZT				eS	Sn	13 59 36.4	+1.1
	baz=321						
TTN	Taitung	0.96	346	eP	Pn	13 59 23.9	0.0
	baz=348						
TTN				eS	Sn	13 59 38.2	+1.5
	baz=348						
TWG	Pinlang	1.05	344	↓iP	Pn	13 59 23.9	-1.1
	baz=345						
TWG				eS	Sb	13 59 37.3	-1.6
	baz=345						
TWP	Hsiaoliuchiu	1.09	299	eP	Pb	13 59 26.6	+0.2
	baz=302						
TWP				eS	Sn	13 59 41.0	+1.2
	baz=302						
SSD	Sandimen	1.17	323	eP	Pn	13 59 26.7	+0.1
	baz=325						
SGLT	Jiouru	1.23	318	eP	Pb	13 59 28.9	+0.2
	baz=327						
CHKT	Chengkung	1.28	359	eP	Pn	13 59 28.4	+0.1
	baz=6.0						
CHKT				eS	Sb	13 59 45.3	-0.4
	baz=6.0						
TWM1	Shoushan	1.35	318	eP	Pb	13 59 31.2	+0.4
	baz=320						
ELDTW	Lidau	1.41	346	eP	Pn	13 59 29.3	-0.9
	baz=347						
STYT	Tauyuan	1.47	337	eP	Pn	13 59 30.6	-0.2
	baz=349						
SGST	Jiashian	1.47	329	eP	Pb	13 59 32.6	-0.2
	baz=331						
SGST				eS	Sb	13 59 53.7	+2.6
	baz=331						
TWF1	Yuli	1.54	357	eP	Pn	13 59 31.2	-0.5
	baz=346						
CHN3	Shinhua	1.58	323	eP	Pb	13 59 33.5	-1.2
	baz=324						
CHN1	Nanshi	1.58	330	eP	Pb	13 59 34.0	-0.8
	baz=331						
CHN1				eS	Sb	13 59 57.1	+2.8
	baz=331						
WTP	Ta-pu	1.60	333	P	Pb	13 59 34.4	-0.7
	baz=335						
WTP				eS	Sb	13 59 56.1	+1.2
	baz=335						
TWK	Hsinying	1.67	330	eP	Pn	13 59 34.4	+0.7
	baz=332						
EHY	Hungye	1.69	358	eP	Pn	13 59 33.2	-0.6
	baz=348						
CHN4	Tsaushan	1.70	334	eP	Pb	13 59 36.0	-0.7
	baz=335						
CHN4				eS	Sb	13 59 59.8	+2.1
	baz=335						
YUS	Yu-Shan	1.72	346	eP	Pn	13 59 34.7	0.0
	baz=354						
ALS	Alishan	1.77	342	eP	Pn	13 59 36.3	+1.0
	baz=352						
ALS				eS	Sb	14 00 01.1	+0.9
	baz=352						
CHN5	Tsauling	1.90	340	eP	Pb	13 59 38.8	-1.3
	baz=349						
CHN5				eS	Sb	14 00 05.1	+1.7
	baz=349						
ESL	Shilin	1.99	1	eP	Pn	13 59 38.3	+0.3
	baz=352						
WGK	Gukeng	2.02	338	eP	Pn	13 59 37.7	-0.7
	baz=339						
SMLT	Sun Moon Lake	2.11	348	eP	Pn	13 59 40.5	+0.7
	baz=348						
SMLT				eS	Sb	14 00 09.3	-0.3
	baz=348						
TYC	Yuchr	2.14	347	eP	Pn	13 59 41.7	+1.7
	baz=348						
TYC				eS	Sb	14 00 09.2	-1.2
	baz=348						
WNT	Mingjian	2.16	342	eP	Pn	13 59 42.0	+1.7
	baz=343						
TWQ1	Liyutan	2.59	347	eP	Pn	13 59 47.0	+0.8
	baz=348						
NNS	Nan Shan	2.62	360	eP	Pb	13 59 50.4	-2.0
	baz=11						
NSK	Sanguang	2.85	359	eP	Pn	13 59 50.5	+0.6
	baz=10.0						
YOJ	Yonaguni jima	3.03	29	P	Pn	13 59 54.2	+2.0
HATJ	Hateruma jima	3.15	44	P	Pn	13 59 54.9	+1.0
HATJ				S	Sn	14 00 30.2	-0.5
IRIF	Iriomote-Funau	3.31	40	P	Pn	13 59 57.3	+1.2
JKRS	Kuro-shima	3.41	44	P	Pn	13 59 59.1	+1.6
JKRS				S	Sn	14 00 37.2	+0.1
JIJ	Ishigaki jima	3.59	44	P	Pn	14 00 00.8	+0.9
JIJ				S	Sn	14 00 40.6	-0.8
JISG	Ishigakijimahi	3.85	44	P	Pn	14 00 04.8	+1.2
JISG				S	Sn	14 00 48.4	+0.5
JTJ	Tarama	4.15	47	P	Pn	14 00 08.8	+1.2
JTJ				S	Sn	14 00 55.6	+0.4
JIRB	Irabujima	4.59	48	P	Pn	14 00 14.7	+1.0
MKAR	Makanchi Array	40.19	318	P	P	14 06 45.7	+5.6
	0.1nm,0.4s,baz=106,slow=8.9,SNR=4.1						
WRA	Warramunga Arr	43.39	162	P	P	14 07 04.7	-1.7
	0.2nm,0.7s,baz=345,slow=9.0,SNR=7.5						
ASAR	Alice Springs	46.82	164	P	P	14 07 33.9	+0.2
	0.1nm,0.6s,baz=343,slow=6.4,SNR=6.6						

*IDC **02** 14:05:33.6±1.1,34°.93S×72°.69W,h0km,mb3.8/6, mb1 4.1/8,mb1mx4.0/34,mbtmp3.8/8,ML4.2/2,MS4.8/1, Ms1 4.7/1,ms1mx3.3/15,Error ellipse: s-maj=33.0km s-min=24.2km az=68.0*

*ISCJB **02** 14:05:35.3±0.7,34°.87S±0°.08×72°.6W±0°.1,h18km,mb3.7/6, Error ellipse: s-maj=15.2km s-min=7.0km az=42.9*

*GUC **02** 14:05:37.1±0.5,34°.59S×72°.53W,h12km,ML4.1*

ISC 02 14:05:36.7±1.0,34°.9S±0°.1×72°.5W±0°.1,h18km,n14, σ0s91/18,mb3.9/6,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	El Canelo	1.77	66	↓iP	Pn	14 06 07.3	+0.8
RCDM	Rinconada Maip	1.99	47	↑iP	Pn	14 06 08.5	-0.9
RCDM				iS	Sn	14 06 32.4	-1.4
ANTU	Antumapu	2.04	51	eP	Pn	14 06 09.4	-0.8
ANTU				eS	Sn	14 06 34.8	-0.5
ANTU				AML	AML	14 06 43.1	
	comp=E,2μm,0.6s						
SAN	Santiago	2.10	49	eP	Pn	14 06 10.6	-0.4
SAN				iS	Sn	14 06 35.8	-0.9
PEL	Peldehue	2.31	43	↑iP	Pn	14 06 13.8	-0.1
PEL				iS	Sn	14 06 41.5	-0.3
PEL				AML	AML	14 06 55.8	
	comp=E,2μm,0.6s						
CFAA	Coronel Fontan	4.85	49	Pn	Pn	14 06 50.4	+1.5
	comp=E,0.1nm,0.3s,baz=234,slow=17,SNR=11						
CFAA				Lg	Lg	14 08 04.1	
	comp=E,0.5nm,0.3s,baz=111,slow=18,SNR=4.7						
PLCA	Paso Flores	6.07	166	Pn	Pn	14 07 05.8	+0.2
	comp=E,3.1nm,0.3s,baz=344,slow=11,SNR=21						
PLCA				LR	LR	14 09 19.9	
	comp=E,8μm,19.2s,baz=284,slow=38						
LPAZ	La Paz	18.91	13	P	Pn	14 09 58.9	+1.2
	comp=E,0.1nm,0.3s,baz=192,slow=12,SNR=3.8						
SIV	San Ignacio	21.42	32	P	P	14 10 24.0	+0.2
	comp=E,1.9nm,0.8s,baz=233,slow=13,SNR=6.1						
TXAR	Lajitas Array	70.28	331	P	P	14 16 49.9	+0.9
	comp=E,0.9nm,0.6s,baz=154,slow=9.1,SNR=13						
BOSA	Boshof	80.04	118	P	P	14 17 45.5	-0.1
	comp=E,2.0nm,0.7s,baz=180,slow=7.1,SNR=2.5						
PDAR	Pinedale Array	84.34	334	P	P	14 18 06.7	-1.0
	comp=E,0.5nm,0.7s,baz=149,slow=6.1,SNR=4.5						
NVAR	Mina Array Bea	84.35	326	P	P	14 18 06.7	-1.2
	comp=E,0.7nm,0.8s,baz=132,slow=17,SNR=3.6						
TORD	Torodi Ar. Bea	84.89	70	P	P	14 18 11.3	+0.5
	comp=E,0.1nm,0.4s,baz=276,slow=4.6,SNR=3.6						

IDC 02 14:06:20.2±2.4,7°.73N×124°.63E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.4/34,mbtmp3.6/3,Error ellipse: s-maj=223.5km s-min=25.3km az=64.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	29.11	161	P	P	14 12 21.9	-1.0
	0.5nm,0.4s,baz=340,slow=10,SNR=11						
ASAR	Alice Springs	32.49	164	P	P	14 12 53.9	+1.1
	0.2nm,0.4s,baz=343,slow=10,SNR=6.0						
MKAR	Makanchi Array	53.11	325	P	P	14 15 39.5	-0.1
	0.3nm,0.4s,baz=126,slow=7.7,SNR=9.8						

IDC 02 14:06:31.9±1.5,0°.96S×128°.24E,h0km,mb3.3/3, mb1 3.4/4,mb1mx3.3/33,mbtmp3.3/4,ML3.5/1,Error ellipse: s-maj=130.3km s-min=21.7km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.79	163	P	P	14 11 04.1	+0.1
	0.1nm,0.3s,baz=339,slow=10,SNR=11						
ASAR	Alice Springs	23.23	167	P	P	14 11 40.5	-0.4
	0.2nm,0.6s,baz=342,slow=9.1,SNR=3.4						
SONM

Plg10.0000°, Azm177.0000°; P -5.3090, Plg18.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

MOS ***02*** *14:07:08.0±1.1, 39.°45S×73.°38W, h33km, mb5.3/8 Error ellipse: s-maj=22.3km s-min=13.2km az=94.2*

GUC ***02*** *14:07:08.0±0.5, 39.°45S×73.°06W, h50km±9km, ML5.2*

IDC ***02*** *14:07:13.1±2.5, 39.°56S×73.°67W, h72km±20km, mb4.4/15, mb1 4.5/18, mb1mx4.4/34, mbtmp4.7/18, MS4.5/6, Ms1 4.4/6, ms1mx4.2/13, Error ellipse: s-maj=21.8km s-min=12.3km az=71.0*

BJI ***02*** *14:07:13.5, 39.°50S×73.°50W, h68km, mB5.1/7, Ms5.4/4, Ms7 5.3/4*

ISC 02 14:07:10.5±0.8, 39.°55S±0.°05×73.°34W±0.°09, h48km±6km, n252, σ1§08/255, mb4.8/27, MS4.4/7, 71C-74D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**0.26**	**165**	⇓*iP*		**Pn**		**14 07 17.4**	**-1.7**
VLCH				*i* S1		**Sn**		**14 07 24.6**	**-0.7**
VLCH				AML		AML		14 07 27.7	
	comp=E,199μm,0.6s								
OSCH	**Osorno**	**1.03**	**171**	*e*P1		**Pn**		**14 07 27.9**	**-0.7**
OSCH				*i* S1		**Sn**		**14 07 42.5**	**+0.5**
OSCH				AML		AML		14 07 51.8	
	comp=N,152μm,0.7s								
PMCH	**Puerto Montt**	**1.96**	**170**	*e*P9		**Pn**		**14 07 40.0**	**-1.4**
PMCH				*i* S1		**Sn**		**14 08 04.7**	**-0.1**
PLCA	**Paso Flores**	**2.44**	**120**	P		Pn		14 07 53.3	+5.3
	comp=N,88nm,0.3s,baz=289,slow=13,SNR=59								
PLCA				S		Sn		14 08 26.4	+10
	comp=N,114nm,0.3s,baz=311,slow=7.0,SNR=6.5								
HOCH	**HornopirØn**	**2.46**	**164**	*e*P1		**Pn**		**14 07 46.9**	**-1.2**
HOCH				*e*S		**Sn**		**14 08 17.3**	**+0.5**
COYC	**Coyhaique**	**6.09**	**172**	*e*P1		**Pn**		**14 08 37.5**	**-0.4**
CHRN	**Cochrane**	**7.60**	**177**	⇑*iP*		**Pn**		**14 08 59.2**	**+0.6**
CFAA	**Coronel Fontan**	**8.95**	**29**	P		**Pn**		**14 09 18.0**	**+0.8**
	comp=N,2.2nm,0.3s,baz=204,slow=11,SNR=13								
CFAA				LR		LR		14 12 32.8	
	comp=N,96nm,20.6s,baz=210,slow=35								
TRQA	**Tornquist**	**8.99**	**84**	P		Pn		14 09 21.7	+4.0
USHA	**Ushuaia**	**15.64**	**169**	P		**Pn**		**14 10 48.0**	**+0.5**
	comp=N,0.3nm,0.3s,baz=299,slow=6.5,SNR=6.2								
USHA				LR		LR		14 17 31.7	
	comp=N,3μm,18.2s,baz=326,slow=39								
EFI	**East Falkland**	**16.12**	**144**	*e*P		**P**		**14 10 56.4**	**+0.2**
EFI	**East Falkland**	**16.12**	**144**	*e*P		**P**		**14 10 56.4**	**+0.2**
LVC	**Limon Verde**	**17.30**	**14**	*e*P		**Pn**		**14 11 07.3**	**-1.6**
	comp=N,14nm,0.8s								
CPUP	**Villa Florida**	**18.78**	**50**	*e*P		**P**		**14 11 25.0**	**-0.8**
CPUP				pmax		pmax			
	comp=Z,2.0nm,0.8s								
CPUP	**Villa Florida**	**18.78**	**50**	P		**Pn**		**14 11 28.1**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=219,slow=9.3,SNR=34								
CPUP	**Villa Florida**	**18.78**	**50**	*e*P		**P**		**14 11 25.0**	**-0.8**
	comp=Z,2.2nm,0.8s								
LPAZ	**La Paz**	**23.62**	**13**	*e*P		**P**		**14 12 18.6**	**+0.7**
LPAZ				pmax		pmax			
	comp=Z,43nm,1.0s								
LPAZ	**La Paz**	**23.62**	**13**	P		**P**		**14 12 19.4**	**+1.4**
	comp=Z,25nm,0.8s,baz=181,slow=7.5,SNR=34								
LPAZ	**La Paz**	**23.62**	**13**	*e*P		**P**		**14 12 18.6**	**+0.7**
	comp=Z,43nm,1.0s								
SIV	**San Ignacio**	**25.81**	**28**	P		**P**		**14 12 37.8**	**+0.6**
	comp=Z,8.8nm,0.9s,baz=227,slow=10.0,SNR=12								
SIV				LR		LR		14 24 45.4	
	comp=Z,2μm,18.9s,baz=214,slow=41								
NNA	**Nana**	**27.63**	**353**	LR		LR		14 21 21.0	
	comp=Z,450nm,20.4s,baz=166,slow=31								
SAML	**Samuel**	**31.80**	**19**	*e*P		**P**		**14 13 30.5**	**0.0**
	comp=Z,36nm,1.4s								
RPN	**Rapa Nui**	**32.31**	**282**	LR		LR		14 22 49.4	
	comp=Z,963nm,19.6s,baz=124,slow=29								
BDFB	**Brasilia**	**32.52**	**50**	P		**P**		**14 13 37.2**	**+0.3**
	comp=Z,17nm,1.1s,baz=194,slow=6.6,SNR=10								
BDFB				LR		LR		14 27 41.0	
	comp=Z,651nm,21.3s,baz=214,slow=38								
ATAH	**Atahualpa**	**32.59**	**351**	P		**P**		**14 13 37.0**	**-1.0**
	comp=Z,7.0nm,0.8s,baz=168,slow=8.3,SNR=4.8								
ATAH				LR		LR		14 24 01.0	
	comp=Z,351nm,18.7s,baz=182,slow=31								
OTAV	**Otavalo**	**39.88**	**352**	*e*P		**P**		**14 14 41.5**	**+1.4**
	comp=Z,30nm,1.4s								
ROSC	**El Rosal**	**44.20**	**359**	P		**P**		**14 15 16.6**	**+1.3**
	comp=Z,8.3nm,0.4s,baz=100,slow=19,SNR=10								
VNA2	**Neumayer--Watz**	**45.37**	**155**	P		**P**		**14 15 24.5**	**+0.9**
SNAA	**Sanae**	**46.90**	**156**	P		**P**		**14 15 36.5**	**+0.8**
SNAA	**Sanae**	**46.90**	**156**	⇓*eP*		**P**		**14 15 36.7**	**+1.0**
SNAA				pmax		pmax			
	comp=Z,42nm,1.1s								
SNAA	**Sanae**	**46.90**	**156**	P		**P**		**14 15 36.5**	**+0.8**
	comp=Z,8.5nm,1.0s,baz=278,slow=7.9,SNR=11								
SNAA	**Sanae**	**46.90**	**156**	*e*P		**P**		**14 15 36.2**	**+0.5**
	comp=Z,49nm,1.3s								
RCBR	**Riachuelo**	**47.56**	**55**	P		**P**		**14 15 44.1**	**+2.6**
	comp=Z,12nm,0.8s,baz=209,slow=9.4,SNR=5.5								
RCBR	**Riachuelo**	**47.56**	**55**	*e*P		**P**		**14 15 42.8**	**+1.3**
	comp=Z,52nm,1.4s								
SDV	**Santo Domingo**	**48.26**	**4**	*e*P		**P**		**14 15 46.1**	**-0.8**
	comp=Z,16nm,0.9s								
QSPA	**South Pole Qui**	**50.69**	**180**	P		**P**		**14 16 04.7**	**-0.3**
	comp=Z,4.3nm,0.9s,baz=127,slow=3.2,SNR=6.6								
QSPA	**South Pole Qui**	**50.69**	**180**	*e*P		**P**		**14 16 04.4**	**-0.5**
	comp=Z,12nm,0.9s								
JTS	**JuntasAbangare**	**50.75**	**345**	⇑*eP*		**P**		**14 16 05.9**	**+0.2**
JTS				pmax		pmax			
	comp=Z,55nm,1.5s								
JTS	**JuntasAbangare**	**50.75**	**345**	P		**P**		**14 16 06.4**	**+0.7**
	comp=Z,7.0nm,0.7s,baz=320,slow=20,SNR=8.6								
JTS	**JuntasAbangare**	**50.75**	**345**	*e*P		**P**		**14 16 05.3**	**-0.4**
	comp=Z,8.1nm,0.9s								
NVL	**N'lazarevskaya**	**51.69**	**155**	*e*P		**P**		**14 16 11.9**	**-0.2**
NVL				*e*S		**S**		**14 23 26.2**	**-3.5**
NVL				pmax		pmax			
	comp=Z,16nm,0.7s								
RKT	**Rikitea**	**54.14**	**268**	*e*S		**S**		**14 24 09.2**	**+4.9**
	comp=Z,226nm,26.8s								
RKT				*e*LR		LR		14 32 08.2	
	comp=Z,946nm,31.5s,baz=123								
RKT	**Rikitea**	**54.14**	**268**	*e*T		T		15 14 04.5	
	comp=Z,2.8nm,0.2s								
CELP	**Cerrillos**	**57.67**	**8**	*e*P		**P**		**14 16 55.1**	**-0.9**
LRS	**Lares**	**57.86**	**7**	*e*P		**P**		**14 16 55.4**	**-1.9**
SDDR	**Presa de Saban**	**58.26**	**2**	P		**P**		**14 16 59.8**	**-0.4**
SYO	**Syowa Base**	**61.11**	**158**	⇑*eP*		**P**		**14 17 18.0**	**-1.2**
TBI	**Tubuai**	**65.14**	**260**	*e*T		T		15 27 52.5	
	comp=Z,7.2nm,0.3s								
MEH	**Mehetia**	**67.21**	**265**	*e*T		T		15 30 24.6	
	comp=Z,67nm,0.2s								
TIAR	**Tiarei**	**68.38**	**265**	*e*T		T		15 31 52.6	
	comp=Z,6.3nm,0.3s								
PPT2	**Papeete2**	**68.54**	**265**	*e*S		S		14 27 12.8	+5.5
	comp=Z,214nm,23.2s								
PPT2	**Papeete2**	**68.54**	**265**	*e*LR		LR		14 38 33.2	
	comp=Z,222nm,26.5s								
834A	**Tilden**	**71.31**	**337**	⇑P		**P**		**14 18 25.3**	**+0.4**
	baz=72								
832A	**Faith Ranch, C**	**71.91**	**335**	⇓P		**P**		**14 18 28.3**	**-0.3**
	baz=72								
636A	**Smothers Creek**	**72.14**	**338**	⇑P		**P**		**14 18 29.0**	**-0.9**
	baz=72								
632A	**Uvalde**	**72.98**	**336**	⇓P		**P**		**14 18 33.9**	**-1.0**
	baz=73								
631A	**Perdido Creek**	**73.15**	**335**	⇓P		**P**		**14 18 35.0**	**-0.9**
	baz=73								
533A	**Kerrville**	**73.28**	**337**	⇓P		**P**		**14 18 35.8**	**-0.9**
	baz=73								
532A	**Rocksprings**	**73.60**	**336**	⇓P		**P**		**14 18 37.6**	**-1.0**
	baz=74,SNR=5.5								
434A	**Burnet**	**73.75**	**338**	⇑P		**P**		**14 18 38.5**	**-0.9**
	baz=74,SNR=7.0								
531A	**Rocksprings**	**73.84**	**336**	⇑P		**P**		**14 18 39.2**	**-0.8**
	baz=74								
336A	**Riesel**	**73.88**	**339**	⇑P		**P**		**14 18 39.7**	**-0.5**
	baz=74								
JCT	**Junction City**	**73.89**	**336**	⇓P		**P**		**14 18 39.8**	**-0.5**
	baz=74								
433A	**Art**	**73.93**	**337**	⇓P		**P**		**14 18 39.3**	**-1.2**
	baz=74,SNR=5.5								
530A	**J-C Ranch, Com**	**74.08**	**335**	⇑P		**P**		**14 18 40.6**	**-0.8**
	baz=74								
TXAR	**Lajitas Array**	**74.12**	**333**	P		**P**		**14 18 41.3**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=156,slow=8.6,SNR=18								
334A	**Lometa**	**74.22**	**338**	⇓P		**P**		**14 18 41.4**	**-0.8**
	baz=74,SNR=8.5								
432A	**Menard**	**74.26**	**337**	⇓P		**P**		**14 18 41.2**	**-1.2**
	baz=74								
431A	**Sonora**	**74.33**	**336**	⇑P		**P**		**14 18 41.6**	**-1.3**
	baz=74								
333A	**Richland Sprin**	**74.44**	**337**	⇑P		**P**		**14 18 42.3**	**-1.1**
	baz=75								
430A	**Baggett Ranch,**	**74.63**	**335**	⇑P		**P**		**14 18 43.8**	**-0.8**
	baz=75								
429A	**Davenport Ranc**	**74.70**	**335**	⇓P		**P**		**14 18 44.0**	**-1.0**
	baz=75								
332A	**Millersview**	**74.72**	**337**	⇑P		**P**		**14 18 44.1**	**-1.0**
	baz=75,SNR=6.4								
234A	**Clairette**	**74.82**	**338**	⇑P		**P**		**14 18 45.0**	**-0.6**
	baz=75								
331A	**San Angelo**	**74.86**	**336**	⇑P		**P**		**14 18 45.0**	**-0.9**
	baz=75								
233A	**Rising Star**	**75.06**	**338**	⇓P		**P**		**14 18 46.1**	**-0.9**
	baz=75								
232A	**Coleman**	**75.16**	**337**	⇓P		**P**		**14 18 46.3**	**-1.3**
	baz=75,SNR=5.3								
330A	**Mertzon**	**75.19**	**336**	⇑P		**P**		**14 18 46.6**	**-1.2**
	baz=75								
134A	**White-Moore Ra**	**75.34**	**339**	⇑P		**P**		**14 18 47.5**	**-1.1**
	baz=76								
231A	**Bronte**	**75.41**	**337**	⇑P		**P**		**14 18 47.7**	**-1.3**
	baz=76								
329A	**Wagon Wheel Ra**	**75.52**	**335**	⇓P		**P**		**14 18 48.7**	**-1.1**
	baz=76								
230A	**Sterling City**	**75.61**	**336**	⇓P		**P**		**14 18 49.1**	**-1.1**
	baz=76								
133A	**Hamilton Ranch**	**75.61**	**338**	⇑P		**P**		**14 18 49.3**	**-0.9**
	baz=76								
Z35A	**Perchaven, San**	**75.83**	**340**	⇑P		**P**		**14 18 50.5**	**-0.8**
	baz=76								
ABTX	**Abilene, Hawle**	**75.84**	**337**	⇓P		**P**		**14 18 50.7**	**-0.8**
	baz=76								
229A	**Bryant Ranch,**	**75.91**	**335**	⇓P		**P**		**14 18 51.0**	**-0.9**
	baz=76								
Z34A	**Collier Ranch,**	**76.05**	**339**	⇑P		**P**		**14 18 52.0**	**-0.6**
	baz=76								
131A	**Roby**	**76.11**	**337**	⇓P		**P**		**14 18 52.2**	**-0.8**
	baz=76								
130A	**Snyder**	**76.22**	**336**	⇑P		**P**		**14 18 52.4**	**-1.2**
	baz=76								
228A	**UT Block 9, Go**	**76.30**	**335**	⇓P		**P**		**14 18 53.2**	**-1.0**
	baz=76								
Z32A	**Haskell**	**76.43**	**338**	⇓P		**P**		**14 18 53.8**	**-1.0**
	baz=77,SNR=8.2								
WVT	**Waverly**	**76.49**	**348**	P		**P**		**14 18 53.4**	**-1.6**
WVT				pmax		pmax			
	comp=Z,3.0nm,0.8s								
WVT	**Waverly**	**76.49**	**348**	P		**P**		**14 18 53.4**	**-1.6**
	comp=Z,3.0nm,0.8s								
Y34A	**Reagan Ranch,**	**76.56**	**339**	⇑P		**P**		**14 18 54.3**	**-1.2**
	baz=77								
Z31A	**Sharp Cattle R**	**76.64**	**337**	⇑P		**P**		**14 18 55.2**	**-0.8**
	baz=77,SNR=6.4								
128A	**Castleberry Fa**	**76.73**	**335**	⇓P		**P**		**14 18 55.8**	**-0.8**
	baz=77								
Y33A	**Hilltop Ranch,**	**76.84**	**339**	⇓P		**P**		**14 18 56.1**	**-1.0**
	baz=77								
Z30A	**Sanderson Ranc**	**76.91**	**336**	⇑P		**P**		**14 18 56.3**	**-1.2**
	baz=77,SNR=6.2								
Z29A	**Hungry Hill Ra**	**77.07**	**336**	⇑P		**P**		**14 18 57.2**	**-1.3**
	baz=77,SNR=8.9								
Y32A	**R-V Farms, Ver**	**77.07**	**338**	⇓P		**P**		**14 18 57.9**	**-0.5**
	baz=77								
X34A	**Smith Ranch, M**	**77.18**	**339**	⇑P		**P**		**14 18 58.4**	**-0.6**
	baz=77								
Y31A	**Rekieta Farm,**	**77.28**	**337**	⇓P		**P**		**14 18 59.0**	**-0.5**
	baz=77								
X32A	**Elmer**	**77.42**	**338**	⇓P		**P**		**14 18 59.8**	**-0.5**
	baz=78								
LIC	**Lamto**	**77.54**	**71**	*e*P		**P**		**14 19 03.0**	**+1.5**
	comp=Z,92nm,1.0s								
Z27A	**Tatum**	**77.61**	**335**	⇓P		**P**		**14 19 00.8**	**-0.7**
	baz=78								
Y29A	**Porterfield Fa**	**77.61**	**336**	⇓P		**P**		**14 19 00.6**	**-0.9**
	baz=78								
X31A	**McDonald Ranch**	**77.81**	**338**	⇑P		**P**		**14 19 01.5**	**-1.0**
	baz=78,SNR=5.2								
Z26A	**Caprock**	**77.82**	**334**	⇓P		**P**		**14 19 01.6**	**-1.1**
	baz=78								
TIC	**Toumodi**	**77.83**	**71**	*e*P		**P**		**14 19 04.7**	**+1.6**
	comp=Z,66nm,0.9s								
KIC	**Kosan Boka**	**77.84**	**71**	*e*P		**P**		**14 19 04.8**	**+1.6**
	comp=Z,60nm,0.9s								
W33A	**Caddo, Fort Co**	**77.87**	**339**	⇑P		**P**		**14 19 01.8**	**-1.1**
	baz=78								
TUL1	**Leonard**	**77.89**	**342**	⇑P		**P**		**14 19 02.1**	**-0.8**
	baz=78								
TUL1	**Leonard**	**77.89**	**342**	*e*P		**P**		**14 19 01.7**	**-1.2**
	comp=Z,9.3nm,0.8s								
X30A	**Coker Ranch, T**	**77.91**	**337**	⇓P		**P**		**14 19 02.9**	**-0.2**
	baz=78,SNR=5.1								
DBIC	**Dimbokro**	**77.96**	**71**	*e*P		**P**		**14 19 05.4**	**+1.5**
DBIC				pmax		pmax			
	comp=Z,27nm,0.9s								
DBIC	**Dimbokro**	**77.96**	**71**	P		**P**		**14 19 05.7**	**+1.9**
	comp=Z,24nm,0.8s,baz=204,slow=6.2,SNR=37								
DBIC	**Dimbokro**	**77.96**	**71**	*e*P		**P**		**14 19 05.3**	**+1.5**
	comp=Z,27nm,0.9s								
MSTX	**Muleshoe**	**78.06**	**335**	⇑P		**P**		**14 19 03.2**	**-0.8**
	baz=78								
MSTX	**Muleshoe**	**78.06**	**335**	*e*P		**P**		**14 19 02.7**	**-1.3**
	comp=Z,3.3nm,0.8s								
W32A	**Sentinel**	**78.06**	**339**	⇓P		**P**		**14 19 03.4**	**-0.5**
	baz=78,SNR=6.8								
319A	**Douglas**	**78.07**	**329**	⇑P		**P**		**14 19 04.2**	**0.0**
	baz=78								
Y27A	**Causey**	**78.11**	**335**	⇑P		**P**		**14 19 03.1**	**-1.2**
	baz=78								
X29A	**Tulia**	**78.16**	**336**	⇓P		**P**		**14 19 03.4**	**-1.1**
	baz=78								
V34A	**Guthrie**	**78.26**	**340**	⇑P		**P**		**14 19 04.2**	**-0.8**
	baz=78								
W31A	**Holland Ranch,**	**78.32**	**338**	⇑P		**P**		**14 19 04.6**	**-0.8**
	baz=78								
Z24A	**Sheeppen Canyo**	**78.35**	**333**	⇓P		**P**		**14 19 05.6**	**-0.2**
	baz=78								
Y26A	**Elida**	**78.36**	**334**	⇓P		**P**		**14 19 04.6**	**-1.1**
	baz=78								
X28A	**Dimmitt**	**78.38**	**336**	⇑P		**P**		**14 19 05.1**	**-0.7**
	baz=78								
BOSA	**Boshof**	**78.43**	**117**	*e*P		**P**		**14 19 06.9**	**+0.4**
BOSA	**Boshof**	**78.43**	**117**	P		**P**		**14 19 07.3**	**+0.9**
	comp=Z,10nm,0.9s,baz=212,slow=4.0,SNR=8.7								
BOSA	**Boshof**	**78.43**	**117**	*e*P		**P**		**14 19 06.9**	**+0.4**
V33A	**Lossen Ranch,**	**78.45**	**340**	⇑P		**P**		**14 19 05.2**	**-0.8**
	baz=79								
AMTX	**Amarillo**	**78.56**	**337**	⇓P		**P**		**14 19 06.2**	**-0.5**
	baz=79								
V32A	**Arapaho**	**78.57**	**339**	⇓P		**P**		**14 19 06.1**	**-0.6**
	baz=79								
TSUM	**Tsumeb**	**78.72**	**106**	P		**P**		**14 19 09.7**	**+1.5**
	comp=Z,5.9nm,0.9s,baz=214,slow=8.3,SNR=10								
W29A	**Amarillo**	**78.77**	**337**	⇑P		**P**		**14 19 07.3**	**-0.6**
	baz=79								
U34A	**Anderson Ranch**	**78.83**	**340**	⇑P		**P**		**14 19 07.0**	**-1.1**
	baz=79								
V31A	**Spring Creek L**	**78.84**	**338**	⇑P		**P**		**14 19 08.1**	**-0.1**
	baz=79								
Z22A	**Elephant Butte**	**78.86**	**332**	⇓P		**P**		**14 19 07.7**	**-0.8**
	baz=79								
Y24A	**Capitan**	**78.92**	**333**	⇓P		**P**		**14 19 07.9**	**-1.0**
	baz=79								
X26A	**CR and CF Fran**	**78.93**	**335**	⇑P		**P**		**14 19 08.1**	**-0.8**
	baz=79								
Y23A	**Lovelace Mesa,**	**79.14**	**333**	⇓P		**P**		**14 19 09.4**	**-0.7**
	baz=79								
W27A	**Bowe Ranch, En**	**79.16**	**336**	⇑P		**P**		**14 19 09.4**	**-0.7**
	baz=79								
U32A	**Winter Ranch,**	**79.17**	**339**	⇓P		**P**		**14 19 09.2**	**-0.8**
	baz=79								
X25A	**Clemmons Ranch**	**79.20**	**334**	⇓P		**P**		**14 19 09.2**	**-1.2**
	baz=79								
W26A	**Owens Ranch, T**	**79.41**	**335**	⇑P		**P**		**14 19 10.8**	**-0.6**
	baz=80								
X24A	**Lazy VL Ranch,**	**79.49**	**334**	⇑P		**P**		**14 19 11.8**	**-0.3**
	baz=80								
W25A	**X Bar L Ranch,**	**79.76**	**335**	⇓P		**P**		**14 19 13.1**	**-0.3**
	baz=80								
X23A	**Hourglass Bar**	**79.77**	**333**	⇑P		**P**		**14 19 13.1**	**-0.4**
	baz=80								
T32A	**Huddler Ranch,**	**79.90**	**339**	⇑P		**P**		**14 19 14.1**	**+0.2**
	baz=80								
LAZ	**Ladron**	**79.95**	**332**	*e*P		**P**		**14 19 14.4**	**-0.1**
	comp=Z,12nm,1.8s								
W24A	**Lazy 6 Ranch,**	**80.07**	**334**	⇑P		**P**		**14 19 14.4**	**-0.8**
	baz=80								
ANMO	**Albuquerque**	**80.19**	**333**	⇑*eP*		**P**		**14 19 15.6**	**-0.2**
ANMO				pmax		pmax			
	comp=Z,26nm,1.0s								
W23A	**Werner Place,**	**80.28**	**333**	⇑P		**P**		**14 19 15.9**	**-0.4**
	baz=80								
V25A	**Rancho No Teng**	**80.38**	**335**	⇑P		**P**		**14 19 16.3**	**-0.5**
	baz=80,SNR=5.5								
S31A	**Mullinville**	**80.47**	**339**	⇑P		**P**		**14 19 16.5**	**-0.5**
	baz=81								
V24A	**Rampart Ranch,**	**80.49**	**334**	⇓P		**P**		**14 19 16.9**	**-0.5**
	baz=81								
S30A	**Montezuma**	**80.76**	**338**	⇑P		**P**		**14 19 18.1**	**-0.5**
	baz=81								
T28A	**Walsh**	**80.76**	**337**	⇑P		**P**		**14 19 18.1**	**-0.5**
	baz=81,SNR=6.3								
U25A	**Circle Dot Ran**	**80.82**	**335**	⇓P		**P**		**14 19 19.2**	**0.0**
	baz=81,SNR=5.2								
T27A	**Campo**	**80.89**	**337**	⇑P		**P**		**14 19 18.8**	**-0.6**
	baz=81								
LBTB	**Lobatse**	**80.92**	**115**	*e*P		**P**		**14 19 20.2**	**+0.2**
LBTB				pmax		pmax			
	comp=Z,8.0nm,0.6s								
LBTB	**Lobatse**	**80.92**	**115**	*e*P		**P**		**14 19 20.2**	**+0.2**
	comp=Z,8.2nm,0.6s								
R31A	**Burdett**	**81.11**	**339**	⇑P		**P**		**14 19 19.8**	**-0.6**
	baz=81								
S28A	**Manter**	**81.13**	**337**	⇓P		**P**		**14 19 20.4**	**-0.2**
	baz=81								
V22A	**San Miguel Ran**	**81.23**	**333**	⇑P		**P**		**14 19 21.0**	**-0.3**
	baz=81								
T26A	**Comanche Natio**	**81.27**	**336**	⇑P		**P**		**14 19 21.3**	**-0.2**
	baz=81,SNR=6.1								
T25A	**Trinidad**	**81.50**	**335**	⇓P		**P**		**14 19 22.9**	**+0.2**
	baz=82,SNR=6.7								
Q32A	**Meitler Ranch,**	**81.51**	**340**	⇓P		**P**		**14 19 22.2**	**-0.3**
	baz=82								
X16A	**Lo Mia Camp, P**	**81.60**	**329**	⇓P		**P**		**14 19 22.2**	**-1.0**
	baz=82								
S26A	**Kim**	**81.64**	**336**	⇓P		**P**		**14 19 23.3**	**-0.1**
	baz=82,SNR=9.1								
R29A	**Marienthal**	**81.68**	**338**	⇑P		**P**		**14 19 23.2**	**-0.3**
	baz=82								
P33A	**Williams Farm,**	**81.71**	**341**	⇑P		**P**		**14 19 23.0**	**-0.5**
	baz=82								
Q31A	**Ellis**	**81.74**	**340**	⇑P		**P**		**14 19 23.5**	**-0.2**
	baz=82								
R28A	**Tribune**	**81.80**	**338**	⇑P		**P**		**14 19 23.7**	**-0.5**
	baz=82								
Q30A	**Quinter**	**81.94**	**339**	⇓P		**P**		**14 19 24.2**	**-0.6**
	baz=82								
S25A	**Robets Cordova**	**81.98**	**336**	⇓P		**P**		**14 19 24.9**	**-0.3**
	baz=82								
R27A	**Eads**	**82.04**	**337**	⇓P		**P**		**14 19 24.9**	**-0.5**
	baz=82								
Q29A	**Oakley**	**82.07**	**339**	⇑P		**P**		**14 19 25.6**	**+0.1**
	baz=82								
S24A	**Houchin Ranch,**	**82.21**	**335**	⇑P		**P**		**14 19 26.6**	**0.0**
	baz=82,SNR=5.8								
R26A	**Arlington**	**82.26**	**337**	⇓P		**P**		**14 19 26.5**	**-0.1**
	baz=82,SNR=6.1								
P30A	**Selden**	**82.48**	**339**	⇑P		**P**		**14 19 27.3**	**-0.3**
	baz=83								
R24A	**Sanders Place,**	**82.72**	**335**	⇓P		**P**		**14 19 29.1**	**0.0**
	baz=83,SNR=7.3								
S22A	**4UR Ranch, Cre**	**82.85**	**334**	⇓P		**P**		**14 19 29.6**	**-0.2**
	baz=83,SNR=5.1								
Q26A	**Hugo**	**82.85**	**337**	⇑P		**P**		**14 19 29.6**	**-0.1**
	baz=83								
R23A	**Moffat**	**82.91**	**335**	⇓P		**P**		**14 19 29.7**	**-0.5**
	baz=83								
MVCO	**Mesa Verde**	**82.95**	**332**	⇓P		**P**		**14 19 30.2**	**-0.1**
	baz=83								
O30A	**MW Ranch, Wils**	**83.02**	**340**	⇑P		**P**		**14 19 30.2**	**-0.2

KSH SKS **SKSdf** **14 34 00.1 -1.9**
KSH SKKS SKKSac 14 37 43.1 -8.8
KSH SS **SS** **14 50 52.2 -2.2**
KSH PPMZ
comp=Z,190nm,6.0s
KSH LN
comp=Z,70nm,4.9s
KSH LE
comp=Z,38nm,4.0s
KSH LZ
comp=Z,130nm,5.6s
KURK Kurchatov 157.42 51 *e*PKIKP **PKPdf** **14 27 00.6 0.0**
KURK Kurchatov 157.42 51 *e*PKPdf **PKPdf** **14 27 00.6 0.0**
NVS Novosibirsk 158.08 38 *e*PKIKP **PKPdf** **14 26 57.1 -4.1**
ZALV Zalesovo Beam 159.35 39 PKP **PKPdf** **14 27 02.1 -0.6**
comp=Z,0.6nm,0.4s,baz=288,slow=1.4,SNR=8.4
ZALV PKPab **PKPab** **14 27 42.0 +1.4**
comp=Z,2.3nm,0.8s,baz=316,slow=6.2,SNR=6.0
MKAR Makanchi Array 160.85 60 PKP **PKPdf** **14 27 04.7 -0.1**
comp=Z,1.1nm,0.9s,baz=0.0,slow=1.2,SNR=9.5
MKAR PKPab **PKPab** **14 27 48.1 +0.6**
comp=Z,1.7nm,0.8s,baz=275,slow=4.4,SNR=9.5
KMI Kunming 165.24 166 PKP **PKPdf** **14 27 09.3 -0.6**
HVS Khovu-Aksy 165.29 34 *i* PKIKP **PKPdf** **14 27 08.7 -0.3**
CN2 Changchun 165.34 293 *e*PKP **PKPdf** **14 27 13.4 +4.3**
GYA Guiyang 166.94 180 *e*PKP **PKPdf** **14 27 10.6 -0.5**
GYA pPKP pPKPdf 14 27 30.0 +4.2
GYA PKPab **PKPab** **14 28 15.2 +0.5**
GYA PKS **PKSdf** **14 30 41.9 -2.1**
GYA PP **PP** **14 32 04.5 +2.7**
GYA SKKS 14 38 44.0
GYA SS **SS** **14 52 41.3 -0.4**
GYA PPMZ
comp=Z,120nm,8.4s
GYA LN
comp=Z,130nm,21.2s
GYA LE
comp=Z,110nm,22.0s
GYA LZ
comp=Z,120nm,21.4s
ZAK Zakamensk 168.91 11 *e*PKP2 **PKPab** **14 28 22.2 -0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.5s
CD2 Chengdu 171.06 164 *e*PKP **PKPdf** **14 27 12.3 -1.2**
ULN Ulaanbaatar 171.68 358 *e*PKIKP **PKPdf** **14 27 12.3 -1.1**
SONM Songino Array 171.72 1 PKP **PKPdf** **14 27 12.8 -0.6**
comp=Z,1.1nm,1.0s,baz=138,slow=1.2,SNR=8.0
SONM PKPab **PKPab** **14 28 34.6 -0.7**
comp=Z,1.9nm,1.0s,baz=329,slow=1.7,SNR=7.2
GTA Gaotai 174.70 89 *e*PKP **PKPdf** **14 27 15.1 +0.3**
GTA PKPab **PKPab** **14 28 50.8 +1.7**
LZH Lanzhou 175.88 146 *e*PKP **PKPdf** **14 27 18.3 +3.0**
LZH PKPab PKPab 14 29 00.5 +6.3
HHC Hu-ho-hao-te 176.03 291 *e*PKP **PKPdf** **14 27 15.8 +0.7**
HHC PP **PP** **14 32 51.5 +3.2**
HHC SKKS 14 39 31.5
HHC SS **SS** **14 54 11.7 -1.8**
HHC PPMZ
comp=Z,160nm,11.1s
HHC LN
comp=Z,300nm,19.7s
HHC LE
comp=Z,450nm,17.3s
HHC LZ
comp=Z,400nm,17.3s

IDC ***02*** *14:22:12.1±2.9, 34°.46S×72°.41W, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.7/22, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=65.4km s-min=45.4km az=2.0*
ISCJB ***02*** *14:22:16.2±1.7, 33°.87S±0°.06×72°.30W±0°.08, h20km±9km, mb3.6/2, Error ellipse: s-maj=11.7km s-min=9.1km az=148.3*
GUC ***02*** *14:22:17.1±0.3, 33°.88S×72°.31W, h15km±9km, ML3.9*
ISC 02 14:22:16.1±2.2, 33°.88S±0°.07×72°.28W±0°.08, h13km±11km, n13, σ1§24/22, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.73**	**96**	⇓*iP*	**Pg**	**14 22 30.4**	**+0.1**
LNV				*i* S	**Sg**	**14 22 40.0**	**+0.2**
IHA	**Instituto Hidr**	**1.01**	**32**	⇑*iP*	**Pb**	**14 22 34.4**	**-1.0**
IHA				*i* S	**Sb**	**14 22 47.7**	**-0.8**
RCDM	**Rinconada Maip**	**1.29**	**73**	*e*P	**Pn**	**14 22 39.0**	**-0.8**
RCDM				*i* S	**Sb**	**14 22 55.6**	**-1.1**
RCDM				AML	AML	14 22 57.8	
comp=N,3μm,0.4s
CHCH	**Chadas Angostu**	**1.36**	**93**	*e*P	**Pn**	**14 22 40.2**	**-0.5**
CHCH				*i* S	**Sn**	**14 22 57.8**	**-0.8**
ANTU	**Antumapu**	**1.41**	**78**	⇑*iP*	**Pn**	**14 22 41.3**	**-0.2**
ANTU				*i* S	**Sn**	**14 22 59.4**	**-0.5**
ANTU				AML	AML	14 23 01.0	
comp=N,4μm,0.4s
CACH	**El Canelo**	**1.42**	**100**	⇑*iP*	**Pn**	**14 22 41.9**	**+0.2**
CACH				*i* S	**Sb**	**14 23 00.9**	**+0.5**
STL	**Santa Lucia**	**1.44**	**72**	*e*P9	**Pn**	**14 22 40.8**	**-1.1**
STL				*i* S	**Sn**	**14 22 59.5**	**-1.1**
PACH	**Papudo**	**1.52**	**28**	⇓*iP*	**Pn**	**14 22 42.5**	**-0.4**
PACH				*e*S	**Sn**	**14 23 02.0**	**-0.6**
PEL	**Peldehue**	**1.52**	**62**	⇓*eP*	**Pn**	**14 22 43.0**	**-0.1**
PEL				*i* S	**Sn**	**14 23 02.5**	**-0.3**
CFAA	**Coronel Fontan**	**4.10**	**57**	Pn	**Pn**	**14 23 20.4**	**+2.0**
comp=N,0.4nm,0.3s,baz=229,slow=11,SNR=9.4
CFAA Sn **Sb** **14 24 21.4 +3.9**
comp=N,1.6nm,0.3s,baz=196,slow=5.5,SNR=9.1
LPAZ La Paz 17.91 13 P P 14 26 31.7 +5.5
comp=N,0.1nm,0.3s,baz=186,slow=4.1,SNR=4.2
TXAR Lajitas Array 69.53 331 P **P** **14 33 25.1 +0.6**
comp=N,0.3nm,0.5s,baz=154,slow=8.1,SNR=4.6
TORD Torodi Ar. Bea 84.36 70 P **P** **14 34 48.5 +0.1**
comp=N,0.6nm,0.8s,baz=243,slow=5.2,SNR=4.1

DJA 02 14:27:40.2±0.9, 8°.S±4°.×10°.9E±°, h30km±11km, M3.8/13, mb4.1/1, MLv3.7/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.80**	**329**	P	Pn	14 27 55.4	-0.1
CMJI				S	Sn	14 28 06.4	0.0
KPJI	**Karang Pucung**	**1.14**	**4**	P	Pb	14 28 00.8	-0.6
KPJI				S	Sb	14 28 15.4	-0.4
CISI	**Cisompet, Garu**	**1.38**	**312**	P	Pn	14 28 03.9	+0.3
CISI				S	Sn	14 28 20.5	-0.4
UGM	**Wanagama**	**1.74**	**71**	P	Pn	14 28 07.4	-1.0
CNJI	**Cibinong**	**2.07**	**304**	P	Pn	14 28 12.8	-0.1
CNJI				S	Sn	14 28 36.2	-1.6
PWJI	**Pagerwojo**	**2.95**	**81**	P	Pn	14 28 24.6	-0.4
CGJI	**Cibinong**	**3.65**	**300**	P	Pn	14 28 35.5	+0.9
GMJI	**Gumukmas**	**4.54**	**88**	P	Pn	14 28 47.5	+0.6
JAGI	**Jajag, Banyuwa**	**5.24**	**90**	P	Pn	14 28 56.3	-0.2

MAN 02 14:28:07.8±3.93N×123°.10E, h66km, mb4.6, ML3.5, MS3.5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**1.07**	**45**	*e*P	Pn	14 28 33.0	+6.8
TBP				*e*S	Sn	14 28 38.6	-1.8
LLP	**Lapu-Lapu**	**1.62**	**32**	⇑*eP*	Pn	14 28 33.0	-0.6
LLP				*i* S	Sn	14 28 54.6	+1.0
GUIM	**Jordan**	**1.76**	**343**	*e*P	Pn	14 28 37.2	+1.8
GUIM				*e*S	Sn	14 28 58.2	+1.3
CTBH	**Cotabato--PC H**	**2.04**	**146**	⇑*iP*	Pn	14 28 39.8	+0.7
MSLP	**Maasin**	**2.11**	**55**	*e*P	Pn	14 28 41.0	+1.0
MSLP				*e*S	Sn	14 29 06.0	+0.8
BUKP	**Musuan**	**2.20**	**118**	*e*P	Pn	14 28 42.7	+1.3
BUKP				*e*S	Sn	14 29 09.4	+1.8

IDC ***02*** *14:31:44.1±0.9, 3°.09N×126°.32E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/36, mbtmp3.9/8, Error ellipse: s-maj=56.3km s-min=15.7km az=68.0*
NEIC ***02*** *14:31:51.9±1.3, 3°.39N×126°.91E, h70km±13km, mb4.1/3, Error ellipse: s-maj=27.3km s-min=8.4km az=65.0*
ISC 02 14:31:50.1±0.8, 3°.3N±0°.1×126°.7E±0°.2, h35km, n18, σ1§91/15, mb4.0/11, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.60**	**164**	*e*Pn	**Pn**	**14 32 31.7**	**+2.0**
CTBH	**Cotabato--PC H**	**4.58**	**328**	⇑*eP*	**Pn**	**14 32 58.3**	**+1.3**
FAKI	**Fak Fak**	**8.32**	**138**	P	**Pn**	**14 33 49.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**21.28**	**183**	*e*P	**P**	**14 36 35.5**	**+1.8**
WRAB	**Tennant Creek**	**24.28**	**162**	*e*P	**P**	**14 37 02.5**	**-1.8**
1.8nm,0.4s
WRA	**Warramunga Arr**	**24.29**	**162**	P	**P**	**14 37 02.0**	**-2.5**
1.6nm,0.5s,baz=341,slow=10,SNR=12
WB2	**Warramunga Arr**	**24.29**	**162**	*e*P	**P**	**14 37 02.7**	**-1.8**
AS31	**Alice Springs**	**27.71**	**166**	P	**P**	**14 37 34.0**	**-1.4**
ASAR	**Alice Springs**	**27.71**	**166**	P	**P**	**14 37 33.8**	**-1.5**
0.4nm,0.6s,baz=341,slow=8.8,SNR=15
CMAR	**Chiang Mai Arr**	**31.03**	**301**	P	P	14 38 04.0	-1.0
0.5nm,0.4s,baz=123,slow=8.0,SNR=5.8
KSAR	**Wonju Array Be**	**34.01**	**2**	P	**P**	**14 38 33.2**	**+2.6**
KSRS	**Korea Array**	**34.02**	**2**	P	**P**	**14 38 33.2**	**+2.5**
1.3nm,0.7s,baz=182,slow=9.3,SNR=4.7
STKA	**Stephens Creek**	**37.75**	**159**	P	**P**	**14 39 01.7**	**-1.1**
3.5nm,0.9s,baz=347,slow=11,SNR=5.9
LSA	**Lhasa**	**42.68**	**312**	*e*P	**P**	**14 39 43.9**	**-0.4**
2.3nm,0.6s
SONM	**Songino Array**	**47.69**	**342**	P	**P**	**14 40 22.2**	**-1.2**
0.5nm,0.5s,baz=166,slow=6.5,SNR=6.8
MKAR	**Makanchi Array**	**57.88**	**325**	P	**P**	**14 41 37.1**	**-1.5**
1.9nm,0.5s,baz=121,slow=7.9,SNR=36
ZALV	**Zalesovo Beam**	**60.95**	**333**	P	P	14 41 57.2	-2.4
0.4nm,0.4s,baz=151,slow=9.5,SNR=3.9
KURK	**Kurchatov**	**62.07**	**328**	*e*P	P	14 42 05.4	-1.9
2.1nm,0.6s

GUC 02 14:40:26.4±0.4, 34°.04S×72°.31W, h34km±3km, ML3.9, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.75**	**84**	⇓*iP*	Pb	14 40 41.1	0.0
LNV				*i* S	Sb	14 40 52.3	+1.2
RCDM	**Rinconada Maip**	**1.36**	**67**	*e*P	Pb	14 40 50.8	-0.6
RCDM				*e*S	Sb	14 41 09.4	+0.7
CHCH	**Chadas Angostu**	**1.38**	**86**	⇑*iP*	Pb	14 40 51.3	-0.5
CHCH				*i* S	Sb	14 41 10.0	+0.9
CACH	**El Canelo**	**1.42**	**94**	⇓*iP*	Pb	14 40 52.4	-0.2
CACH				*e*S	Sb	14 41 12.7	+2.2
ANTU	**Antumapu**	**1.47**	**72**	⇓*iP*	Pb	14 40 52.4	-0.9
ANTU				*i* S	Sb	14 41 12.3	+0.6
ANTU				IAML		14 41 19.4	
comp=E,2μm,0.5s
PEL	**Peldehue**	**1.62**	**57**	⇓*iP*	Pb	14 40 55.2	-0.7
PEL				*i* S	Sb	14 41 16.7	+0.7
PEL				IAML		14 41 24.8	
comp=N,3μm,0.8s

ISCJB ***02*** *14:48:43.5±0.7, 33°.07S±0°.06×72°.33W±0°.06, h15km, mb4.1/6, Error ellipse: s-maj=9.6km s-min=6.5km az=24.6*
IDC ***02*** *14:48:43.3±1.0, 33°.02S×72°.25W, h0km, mb4.0/4, mb1 4.1/9, mb1mx3.9/28, mbtmp3.9/9, ML4.1/5, MS3.5/1, Ms1 3.5/1, ms1mx3.0/21, Error ellipse: s-maj=31.6km s-min=21.5km az=109.0*
GUC ***02*** *14:48:46.0±0.4, 33°.15S×72°.13W, h15km, ML4.2*
NEIC ***02*** *14:48:48.5±1.6, 33°.05S×72°.22W, h37km±14km, mb4.2/3, Error ellipse: s-maj=19.6km s-min=8.1km az=102.0*
ISC 02 14:48:45.6±0.8, 33°.06S±0°.08×72°.23W±0°.06, h15km, n22, σ0§71/25, mb4.3/6, 5C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.49**	**86**	⇓*iP*	**Pg**	**14 48 55.1**	**-0.2**
IHA				*e*S1	**Sg**	**14 49 01.9**	**-0.1**
TACH	**Talagante**	**1.23**	**119**	⇑*iP*	Pn	14 49 01.3	-7.0
PEL	**Peldehue**	**1.29**	**94**	⇑*iP*	**Pn**	**14 49 08.5**	**-0.7**
PEL				*e*S	**Sb**	**14 49 26.0**	**-0.2**
PEL				AML	AML	14 49 29.6	
comp=N,11μm,0.5s
SAN	**Santiago**	**1.37**	**107**	⇑*iP*	**Pn**	**14 49 09.5**	**-0.6**
SAN				*e*S	**Sn**	**14 49 27.7**	**-0.4**
SAN				AML	AML	14 49 32.7	
comp=N,8μm,0.7s
ANTU	**Antumapu**	**1.43**	**111**	⇑*iP*	**Pn**	**14 49 10.4**	**-0.6**
ANTU				*e*S	**Sn**	**14 49 29.1**	**-0.4**
ANTU				AML	AML	14 49 30.6	
comp=E,6μm,0.3s
PCH	**Pirque**	**1.54**	**112**	⇑*iP*	**Pn**	**14 49 12.8**	**+0.2**
CFAA	**Coronel Fontan**	**3.67**	**68**	Pn	**Pn**	**14 49 43.5**	**+1.6**
comp=E,5.8nm,0.3s,baz=224,slow=15,SNR=31
CFAA Sn **Sb** **14 50 34.9 +0.2**
comp=E,3.5nm,0.3s,baz=143,slow=22,SNR=6.2
PLCA	**Paso Flores**	**7.77**	**171**	Pn	**Pn**	**14 50 38.8**	**+0.6**
comp=E,0.5nm,0.3s,baz=340,slow=12,SNR=3.9
PLCA Sn Sn 14 52 14.7 +8.7
comp=E,0.5nm,0.3s,baz=352,slow=12,SNR=3.2
TRQA	**Tornquist**	**9.72**	**124**	*e*P	**Pn**	**14 51 05.1**	**+0.2**
comp=E,16nm,1.0s
LVC	**Limon Verde**	**10.81**	**17**	P	Pn	14 51 13.9	-6.2
CPUP	**Villa Florida**	**14.57**	**66**	Pn	**Pn**	**14 52 12.8**	**+1.5**
comp=E,0.7nm,0.3s,baz=217,slow=10,SNR=5.0
CPUP LR LR 14 58 08.8
comp=E,175nm,18.4s,baz=256,slow=39
LPAZ	**La Paz**	**17.11**	**13**	P	**Pn**	**14 52 44.8**	**-0.1**
comp=E,0.3nm,0.3s,baz=185,slow=8.5,SNR=13
LPAZ	**La Paz**	**17.11**	**13**	*e*P	**Pn**	**14 52 44.6**	**-0.3**
comp=E,2.8nm,0.6s
SIV	**San Ignacio**	**19.77**	**33**	P	**P**	**14 53 15.6**	**+0.3**
comp=E,0.2nm,0.3s,baz=230,slow=13,SNR=7.3
SAML	**Samuel**	**25.41**	**21**	*e*P	**P**	**14 54 11.6**	**-1.1**
comp=E,5.7nm,0.8s
BDFB	**Brasilia**	**27.95**	**57**	P	**P**	**14 54 35.3**	**-0.4**
comp=E,1.8nm,0.4s,baz=222,slow=8.3,SNR=3.5
PMSA	**Palmer Station**	**32.13**	**173**	*e*P	**P**	**14 55 12.0**	**-0.1**
comp=E,14nm,0.8s
QSPA	**South Pole Qui**	**57.17**	**180**	P	**P**	**14 58 32.6**	**+0.9**
comp=E,2.9nm,1.0s,baz=146,slow=0.8,SNR=9.4
TXAR	**Lajitas Array**	**68.84**	**331**	P	**P**	**14 59 50.0**	**+0.5**
comp=E,0.2nm,0.5s,baz=144,slow=7.7,SNR=3.5
TORD	**Torodi Ar. Bea**	**84.04**	**70**	P	**P**	**15 01 15.1**	**-0.8**
comp=E,1.9nm,0.9s,baz=289,slow=5.4,SNR=9.4
ZALV	**Zalesovo Beam**	**153.51**	**31**	PKPbc	**PKPbc**	**15 08 42.6**	**-0.3**
comp=E,0.9nm,0.6s,baz=310,slow=5.6,SNR=5.7
MKAR	**Makanchi Array**	**156.26**	**47**	PKPab	**PKPab**	**15 09 06.5**	**-0.9**
comp=E,0.7nm,0.7s,baz=303,slow=3.0,SNR=8.1

ISCJB ***02*** *15:05:19.4±0.6, 0°.73N±0°.08×124°.09E±0°.05, h233km±5km, mb3.6/5, Error ellipse: s-maj=13.1km s-min=7.4km az=0.9*
IDC ***02*** *15:05:22.0±13.0, 0°.59N×123°.67E, h250km±141km, mb3.3/5, mb1 3.4/5, mb1mx3.0/38, mbtmp3.9/5, Error ellipse: s-maj=130.4km s-min=21.6km az=68.0*
DJA ***02*** *15:05:23.8±0.6, 1°.N±7°.×12°.4E±°, h190km±6km, M4.0/8, mb4.2/1, MLv3.9/8*
ISC 02 15:05:19.9±0.8, 0°.76N±0°.08×124°.09E±0°.05, h222km±7km, n21, σ1§25/27, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.21**	**210**	P	**Pn**	**15 05 50.9**	**+1.9**
KMSI				S	**S**	**15 06 08.7**	**-3.0**
MRSI	**Marisa**	**2.16**	**263**	P	**Pn**	**15 06 03.2**	**+1.4**
MRSI				S	**S**	**15 06 35.0**	**+0.7**
LUWI	**Luwuk**	**2.22**	**216**	P	**Pn**	**15 06 02.9**	**+0.6**
LUWI				S	**S**	**15 06 33.7**	**-1.7**
LUWI	**Luwuk**	**2.22**	**216**	S	**S**	**15 06 34.2**	**-1.2**
baz=4.5,SNR=4.9
APSI	**Ampana**	**2.95**	**236**	P	**Pn**	**15 06 10.9**	**+0.7**
TNTI	**Ternate**	**3.28**	**90**	P	**Pn**	**15 06 15.2**	**+1.2**
TNTI				S	**S**	**15 06 56.9**	**+0.6**
SANI	**Sanana**	**3.37**	**146**	P	**Pn**	**15 06 14.9**	**-0.2**
LBMI	**Labuha**	**3.69**	**112**	P	**Pn**	**15 06 19.9**	**+1.1**
LBMI				S	**S**	**15 07 04.3**	**-0.6**
TTSI	**Tana Toraja**	**5.70**	**228**	P	**Pn**	**15 06 46.1**	**+2.4**
MTN	**Manton Dam**	**15.21**	**153**	P	**P**	**15 08 44.2**	**+0.3**
baz=18,SNR=7.2
KDU	**Kakadu**	**15.74**	**148**	P	**Pn**	**15 08 50.8**	**+0.5**
baz=19,SNR=5.0
KNRA	**Kununurra**	**16.97**	**164**	P	**P**	**15 09 03.9**	**+0.8**
baz=20,SNR=8.7
FITZ	**Fitzroy Crossi**	**18.80**	**175**	P	**P**	**15 09 22.7**	**-0.4**
baz=22,SNR=3.6
WRA	**Warramunga Arr**	**22.90**	**155**	P	**P**	**15 10 04.2**	**-0.4**
4.2nm,0.3s,baz=336,slow=10.0,SNR=71
WRKA	**Warakurna**	**25.96**	**171**	P	**P**	**15 10 32.6**	**+0.3**
baz=29,SNR=8.1
QIS	**Mount Isa**	**26.07**	**145**	P	**P**	**15 10 33.7**	**+0.5**
baz=29,SNR=4.6
ASAR	**Alice Springs**	**26.09**	**159**	P	**P**	**15 10 33.3**	**-0.1**
0.5nm,0.5s,baz=332,slow=7.9,SNR=15
STKA	**Stephens Creek**	**36.45**	**154**	P	**P**	**15 12 03.7**	**-0.1**
0.6nm,0.3s,baz=325,slow=6.6,SNR=5.8
STKA	**Stephens Creek**	**36.45**	**154**	P	**P**	**15 12 04.1**	**+0.4**
baz=40,SNR=4.7
SONM	**Songino Array**	**49.34**	**344**	P	**P**	**15 13 46.9**	**+0.1**
0.6nm,0.5s,baz=161,slow=8.8,SNR=5.7
MKAR	**Makanchi Array**	**58.55**	**328**	P	**P**	**15 14 51.7**	**-1.7**
0.5nm,0.3s,baz=128,slow=8.1,SNR=21
MKAR PcP **PcP** **15 15 39.6 -1.5**
0.2nm,0.4s,baz=127,slow=3.6,SNR=4.3

NIED ***02*** *15:11:00.26°.10N×128°.80E, h17km, Mw4.3 Best double couple: M0:2.71000×10^15 NP1:φ0=68.00000°, δ81.00000°, λ5.00000°. NP2:φ0=337.00000°, δ85.00000°, λ171.00000°.*
IDC ***02*** *15:11:28.6±0.7, 26°.01N×128°.68E, h0km, mb4.0/17, mb1 4.2/21, mb1mx4.1/40, mbtmp4.1/21, ML4.3/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/32, Error ellipse: s-maj=20.6km s-min=13.2km az=87.0*
ISCJB ***02*** *15:11:29.6±0.8, 26°.00N±0°.03×128°.67E±0°.03, h24km±5km, mb4.0/24, Error ellipse: s-maj=6.4km s-min=3.3km az=44.0*
NEIC ***02*** *15:11:29.0±1.7, 25°.98N×128°.69E, h4km±10km, mb4.2/8, Error ellipse: s-maj=9.6km s-min=5.9km az=130.0*
NEIC Recorded [1 JMA] on Okinawa.
JMA ***02*** *15:11:31.8±0.3, 26°.09N×128°.70E, h37km, M4.5*
JMA Felt I J1.
ISC 02 15:11:29.7±1.7, 26°.04N±0°.04×128°.69E±0°.04, h11km±10km, n80, σ1§53/101, mb4.1/24, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.77**	**308**	P	**Pn**	**15 11 45.7**	**-0.8**
JNTH				S	**Sb**	**15 11 55.3**	**-0.2**
JJT2	**Tamagusuku 2**	**0.85**	**277**	P	**Pn**	**15 11 47.5**	**-0.2**
JJT2				S	**Sn**	**15 11 59.6**	**-0.6**
JOW	**Kunigami**	**0.87**	**335**	P	**Pn**	**15 11 47.4**	**-0.6**
JOW				S	**Sb**	**15 11 58.2**	**-0.4**
JOW	**Kunigami**	**0.87**	**335**	Pn	**Pn**	**15 11 47.4**	**-0.6**
150nm,0.3s,baz=138,slow=19,SNR=3661
JOW Sn **Sg** **15 11 57.9 -0.1**
375nm,0.3s,baz=327,slow=25,SNR=88
JOW LR LR 15 12 14.4
comp=Z,13nm,21.2s,baz=272,slow=51
JOW	**Kunigami**	**0.87**	**335**	*e*P	**Pn**	**15 11 47.6**	**-0.4**
JOW				Sn	**Sg**	**15 11 57.9**	**-0.1**
JOW				*e*S	**Sb**	**15 11 58.2**	**-0.4**
JIH	**Iheya**	**1.19**	**327**	P	**Pg**	**15 11 52.3**	**-0.2**
JIH				S	**Sb**	**15 12 07.1**	**-0.4**
JOKE	**Okinoerabujima**	**1.32**	**355**	P	**Pn**	**15 11 53.9**	**-0.2**
JOKE				S	**Sb**	**15 12 09.6**	**-1.9**
JAGN	**Aguni-jima**	**1.41**	**293**	P	**Pb**	**15 11 55.6**	**-0.5**
JKE	**Kume jima 2**	**1.74**	**280**	P	**Pn**	**15 11 59.4**	**-0.4**
JKE				S	**Sn**	**15 12 19.6**	**-2.4**
JTK	**Tokunoshima**	**1.75**	**7**	P	**Pn**	**15 11 59.7**	**-0.4**
JTK				S	**Sn**	**15 12 20.0**	**-2.4**
JAMN	**Amaminishikomi**	**2.24**	**11**	P	**Pn**	**15 12 06.2**	**-0.5**
JMZ	**Minamidaito 2**	**2.29**	**95**	P	**Pn**	**15 12 05.3**	**-2.1**
JMZ				S	Sn	15 12 29.8	-5.8
JAM	**Amami Oshima**	**2.50**	**19**	P	**Pn**	**15 12 09.4**	**-0.9**
JAM				S	**Sn**	**15 12 38.1**	**-2.7**
JZK	**Kikaishima**	**2.54**	**26**	P	**Pn**	**15 12 10.6**	**-0.2**
JZK				S	**Sn**	**15 12 41.1**	**-0.6**
JTAJ	**Takarajima**	**3.13**	**8**	P	**Pn**	**15 12 18.6**	**-0.4**
JTAJ				S	**Sn**	**15 12 53.2**	**-3.3**
JOGS	**Gusukube**	**3.23**	**247**	P	**Pn**	**15 12 20.5**	**+0.1**
JOGS				S	**Sn**	**15 12 56.9**	**-2.0**
JIKM	**Ikemajima**	**3.31**	**251**	P	**Pn**	**15 12 21.1**	**-0.3**
JIKM				S	**Sn**	**15 12 58.1**	**-2.6**
JMJ	**Miyako jima 2**	**3.31**	**249**	P	**Pn**	**15 12 21.4**	**0.0**
JMJ				S	**Sn**	**15 12 58.1**	**-2.6**
JIRB	**Irabujima**	**3.40**	**250**	P	**Pn**	**15 12 22.1**	**-0.6**
JIRB				S	**Sn**	**15 13 00.3**	**-2.8**
JTJ	**Tarama**	**3.87**	**250**	P	**Pn**	**15 12 28.3**	**-0.9**
JTJ				S	**Sn**	**15 13 10.7**	**-3.9**
JISG	**Ishigakijimahi**	**4.22**	**251**	P	**Pn**	**15 12 32.5**	**-1.5**
JISG				S	**Sn**	**15 13 18.2**	**-5.1**
JIJ	**Ishigaki jima**	**4.45**	**249**	P	**Pn**	**15 12 35.5**	**-1.6**
JIJ				S	Sn	15 13 22.8	-6.1
JKRS	**Kuro-shima**	**4.61**	**248**	P	**Pn**	**15 12 38.2**	**-1.1**
JKRS				S	**Sn**	**15 13 28.7**	**-4.2**
IRIF	**Iriomote-Funau**	**4.81**	**250**	P	**Pn**	**15 12 40.3**	**-1.7**
IRIF				S	Sn	15 13 31.5	-6.2
HATJ	**Hateruma jima**	**4.85**	**247**	P	**Pn**	**15 12 41.8**	**-0.9**
HATJ				S	**Sn**	**15 13 36.8**	**-2.1**
YOJ	**Yonaguni jima**	**5.38**	**254**	P	**Pn**	**15 12 48.5**	**-1.4**
YOJ	**Yonaguni jima**	**5.38**	**254**	*e*P	**Pn**	**15 12 48.6**	**-1.3**
JYNG	**Yonagunijimaku**	**5.44**	**254**	P	**Pn**	**15 12 49.4**	**-1.3**
YHNB	**Yeheng**	**6.76**	**260**	*e*P	**Pn**	**15 13 09.5**	**+0.6**
28nm,0.5s
YULB	**Yu-li**	**7.22**	**250**	*e*P	Pn	15 13 11.3	-3.9
JNU	**Nakatsue**	**7.31**	**15**	Pn	**Pn**	**15 13 17.2**	**+0.8**
14nm,0.3s,baz=189,slow=8.0,SNR=116
JNU Sn **Sn** **15 14 35.8 -3.7**
0.9nm,0.3s,baz=48,slow=22,SNR=2.0
JNU LR LR 15 16 33.6
comp=Z,178nm,20.4s,baz=200,slow=42
SSLB	**Suanglung**	**7.37**	**254**	*e*P	**Pn**	**15 13 14.6**	**-2.8**
27nm,0.6s
TWG	**Pinlang**	**7.65**	**247**	*e*P	Pn	15 13 16.8	-4.3
62nm,0.4s
TPUB	**Ta-pu**	**7.82**	**251**	*e*P	**Pn**	**15 13 22.0**	**-1.5**
23nm,0.4s
KSAR	**Wonju Array Be**	**11.39**	**357**	Pn	**Pn**	**15 14 11.4**	**-0.9**
KSRS	**Korea Array**	**11.40**	**357**	Pn	**Pn**	**15 14 11.4**	**-1.0**
0.3nm,0.3s,baz=122,slow=38,SNR=11
KSRS LR LR 15 18 53.6
comp=Z,137nm,18.6s,baz=168,slow=39
MAJO	**Matsushiro**	**13.25**	**36**	*e*P	**Pn**	**15 14 38.3**	**+0.5**
11nm,0.9s
MAT	**Matsushiro**	**13.25**	**36**	P	**Pn**	**15 14 36.6**	**-1.2**
MAT *e*S **Sn** **15 17 04.2 -0.9**
MJAR	**Matsushiro Arr**	**13.25**	**36**	Pn	**Pn**	**15 14 39.0**	**+1.2**
0.9nm,0.3s,baz=254,slow=13,SNR=11
USRK	**Ussuriysk Ar.**	**18.32**	**8**	P	**P**	**15 15 45.2**	**+1.4**
0.5nm,0.3s,baz=194,slow=9.5,SNR=12
ASAJ	**Asahikawa**	**21.27**	**28**	P	**P**	**15 16 18.0**	**+2.0**
13nm,0.7s,baz=210,slow=13,SNR=16
ASAJ	**Asahikawa**	**21.27**	**28**	*e*P	**P**	**15 16 17.6**	**+1.6**
6.6nm,0.8s
SLVN	**Son La**	**23.16**	**264**	*e*P	**P**	**15 16 38.1**	**+1.6**
8.3nm,1.0s
YSS	**Yuzh-Sakhalins**	**23.67**	**24**	*e*P	**P**	**15 16 41.8**	**+0.7**
34nm,0.8s

1.0nm,0.5s
WRA Warramunga Arr 46.04 173 P P 15 19 53.4 -0.1
1.3nm,0.7s,baz=352,slow=8.3,SNR=9.2
ASAR Alice Springs 49.67 174 P P 15 20 23.3 +1.6
0.5nm,0.7s,baz=8.2,slow=14,SNR=8.9
KKAR Karatay Array 49.86 306 *eP* **P 15 20 23.5 +0.5**
KBL Kabul 51.56 295 *eP* **P 15 20 37.0 +0.8**
5.6nm,0.6s
ABKAR Akbulak array 57.08 313 *eP* **P 15 21 16.2 +0.3**
1.1nm,0.6s
GEYT Alibeck 59.74 300 P **P 15 21 37.4 +2.6**
4.5nm,0.7s,baz=57,slow=5.5,SNR=7.7
ILAR Eielson Array 64.41 28 P **P 15 22 05.8 +0.2**
0.5nm,0.8s,baz=267,slow=8.2,SNR=9.2
KBZ Khabaz 69.60 310 P **P 15 22 40.5 +1.5**
1.2nm,0.7s,baz=69,slow=3.2,SNR=6.3
FINES FINESS Array B 73.23 331 P **P 15 23 02.1 +1.5**
0.9nm,0.5s,baz=101,slow=3.9,SNR=5.9
AKASG Malin Array Be 75.94 320 P **P 15 23 16.3 -0.3**
1.0nm,0.5s,baz=54,slow=6.5,SNR=3.4
BRTR Keskin Array B 77.48 308 P **P 15 23 26.3 +0.7**
1.0nm,0.5s,baz=76,slow=5.2,SNR=6.6
YKA Yellowknife Ar 78.52 25 P **P 15 23 31.4 +0.7**
0.6nm,0.7s,baz=298,slow=5.5,SNR=9.7
NB2 NORSAR Subarra 79.67 334 P **P 15 23 39.3 +2.2**
comp=Z,1.8nm,0.7s,baz=52,slow=5.9
NOA NORSAR Array B 79.67 334 P **P 15 23 39.0 +1.9**
comp=Z,1.0nm,0.8s,baz=78,slow=8.4,SNR=3.1
GERES GERESS Array B 85.60 323 P **P 15 24 09.2 +0.9**
comp=Z,0.2nm,0.2s,baz=283,slow=18,SNR=2.4

IDC ***02*** *15:25:05.6±0.5, 33°.39S×71°.90W, h0km, mb4.4/13, mb1 4.5/16, mb1mx4.4/32, mbtmp4.4/16, ML4.6/3, Error ellipse: s-maj=22.3km s-min=14.2km az=84.0*
ISCJB ***02*** *15:25:07.0±0.3, 33°.40S±0°.05×72°.07W±0°.04, h19km, mb4.7/26, Error ellipse: s-maj=7.0km s-min=4.7km az=22.4*
NEIC ***02*** *15:25:09.5±1.3, 33°.35S×71°.91W, h24km±8km, mb4.9/13, ML4.3(GUC), Error ellipse: s-maj=9.5km s-min=5.6km az=83.0*
NEIC Felt [III] at Valparaiso and [II] at Santiago.
MOS ***02*** *15:25:10.1±1.5, 33°.42S×71°.64W, h33km, mb5.2/5, Error ellipse: s-maj=17.4km s-min=11.5km az=83.1*
GUC ***02*** *15:25:10.5±0.6, 33°.56S×71°.90W, h41km±5km, ML4.3*
ISC 02 15:25:08.4±0.3, 33°.35S±0°.05×71°.90W±0°.04, h19km, n108, σ1§50/127, **mb4.7**/26, **9C-9D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.73**	**146**	⇓*iP*	**Pb**	**15 25 22.4**	**-0.1**
LNV	**Longovilo**	**0.73**	**146**	⇓*iP*	**Pb**	**15 25 22.4**	**-0.1**
RCDM	**Rinconada Maip**	**0.93**	**99**	*eP*1	**Pg**	**15 25 27.6**	**+1.2**
RCDM				*i* S	**Sn**	**15 25 39.8**	**+0.6**
RCDM				AML	AML	15 25 43.1	
	comp=E,10μm,0.4s						
RCDM	**Rinconada Maip**	**0.93**	**99**	*eP*	**Pg**	**15 25 27.6**	**+1.2**
RCDM				*i* S	**Sn**	**15 25 39.8**	**+0.6**
PEL	**Peldehue**	**1.04**	**79**	⇑*iP*	**Pg**	**15 25 29.7**	**+1.1**
PEL				*eS*	**Sg**	**15 25 45.0**	**+2.7**
PEL	**Peldehue**	**1.04**	**79**	⇑*iP*	**Pg**	**15 25 29.7**	**+1.1**
PEL				*e*S1		15 25 45.0	
PEL				AML	AML	15 25 52.9	
	comp=N,24μm,0.5s						
PEL	**Peldehue**	**1.04**	**79**	⇑*iP*	**Pg**	**15 25 29.7**	**+1.1**
PEL				*eS*	**Sg**	**15 25 45.0**	**+2.7**
ANTU	**Antumapu**	**1.08**	**102**	⇓*iP*	**Pg**	**15 25 29.6**	**+0.2**
ANTU				*i* S1	**Sg**	**15 25 44.5**	**+0.8**
ANTU				AML	AML	15 25 48.3	
	comp=E,19μm,0.5s						
ANTU	**Antumapu**	**1.08**	**102**	⇓*iP*	**Pg**	**15 25 29.6**	**+0.2**
ANTU				*i* S	**Sg**	**15 25 44.5**	**+0.8**
CHCH	**Chadas Angostu**	**1.20**	**120**	⇑*iP*	**Pn**	**15 25 30.2**	**+0.1**
CHCH	**Chadas Angostu**	**1.20**	**120**	⇑*iP*	**Pn**	**15 25 30.2**	**+0.1**
CACH	**El Canelo**	**1.33**	**126**	⇓*iP*	**Pb**	**15 25 33.1**	**+0.3**
CACH	**El Canelo**	**1.33**	**126**	⇓*iP*	**Pb**	**15 25 33.1**	**+0.3**
FCH	**Farellones**	**1.35**	**90**	⇓*iP*	Pn	15 25 28.4	-4.1
FCH				*i* S1	**Sn**	**15 25 46.9**	**-3.2**
FCH				AML	AML	15 25 55.7	
	comp=E,8μm,0.3s						
FCH	**Farellones**	**1.35**	**90**	⇓*iP*	Pn	15 25 28.4	-4.1
FCH				*i* S	**Sn**	**15 25 46.9**	**-3.2**
CFAA	**Coronel Fontan**	**3.55**	**62**	Pn	Pn	15 26 06.5	+4.0
	comp=E,1.5nm,0.3s,baz=32,slow=2.6,SNR=26						
CFAA				Lg	Lg	15 27 00.4	
	comp=E,9.4nm,0.3s,baz=3.2,slow=13,SNR=6.0						
PLCA	**Paso Flores**	**7.45**	**172**	*eP*	**Pn**	**15 26 57.1**	**+1.0**
PLCA	**Paso Flores**	**7.45**	**172**	Pn	**Pn**	**15 26 56.6**	**+0.5**
	comp=E,2.7nm,0.3s,baz=330,slow=12,SNR=9.8						
PLCA				Lg	Lg	15 28 59.6	
	comp=E,0.7nm,0.3s,baz=250,slow=16,SNR=2.8						
PLCA	**Paso Flores**	**7.45**	**172**	*eP*	**Pn**	**15 26 57.1**	**+1.0**
PLCA				Lg	Lg	15 28 59.6	
TRQA	**Tornquist**	**9.34**	**123**	*e*Pn	**Pn**	**15 27 22.8**	**+0.9**
	comp=E,65nm,0.9s						
LVC	**Limon Verde**	**11.01**	**15**	*eP*	**Pn**	**15 27 44.1**	**-1.1**
	comp=E,31nm,0.8s						
CPUP	**Villa Florida**	**14.44**	**65**	P	**Pn**	**15 28 29.1**	**-2.7**
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CPUP	**Villa Florida**	**14.44**	**65**	Pn	**Pn**	**15 28 34.8**	**+3.0**
	comp=Z,0.6nm,0.3s,baz=206,slow=12,SNR=7.8						
CPUP	**Villa Florida**	**14.44**	**65**	P	**Pn**	**15 28 29.1**	**-2.7**
	comp=Z,2.3nm,0.4s						
LPAZ	**La Paz**	**17.32**	**12**	*eP*	**Pn**	**15 29 10.5**	**+0.7**
LPAZ				pmax	pmax		
	comp=Z,19nm,0.8s						
LPAZ	**La Paz**	**17.32**	**12**	P	**P**	**15 29 11.6**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=183,slow=6.4,SNR=30						
LPAZ	**La Paz**	**17.32**	**12**	*eP*	**Pn**	**15 29 10.5**	**+0.7**
	comp=Z,18nm,0.8s						
SIV	**San Ignacio**	**19.86**	**32**	P	**P**	**15 29 39.1**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=222,slow=11,SNR=26						
EFI	**East Falkland**	**20.90**	**155**	*eP*	**P**	**15 29 48.7**	**-0.7**
EFI				pmax	pmax		
	comp=Z,61nm,1.0s						
EFI	**East Falkland**	**20.90**	**155**	*eP*	**P**	**15 29 48.7**	**-0.7**
	comp=Z,61nm,1.0s						
USHA	**Ushuaia**	**21.62**	**175**	P	**P**	**15 29 59.6**	**+2.5**
	comp=Z,9.5nm,0.7s,baz=346,slow=7.0,SNR=5.2						
SAML	**Samuel**	**25.58**	**20**	*eP*	**P**	**15 30 36.5**	**+0.2**
	comp=Z,24nm,0.8s						
BDFB	**Brasilia**	**27.88**	**57**	P	**P**	**15 30 57.2**	**0.0**
	comp=Z,9.4nm,0.7s,baz=225,slow=9.1,SNR=11						
BDFB				PcP	**PcP**	15 34 10.2	-2.6
	comp=Z,13nm,0.7s,baz=14,slow=4.2,SNR=4.1						
RCBR	**Riachuelo**	**43.20**	**59**	P	**P**	**15 33 08.7**	**+0.2**
	comp=Z,8.3nm,0.9s,baz=216,slow=13,SNR=4.4						
VNA3	**Neumayer Olymp**	**49.92**	**158**	P	P	15 34 07.6	+7.2
VNA2	**Neumayer--Watz**	**50.57**	**157**	P	**P**	**15 34 06.0**	**+0.7**
CELP	**Cerrillos**	**51.38**	**6**	*eP*	**P**	**15 34 12.7**	**+0.8**
SNAA	**Sanae**	**52.15**	**158**	P	**P**	**15 34 18.2**	**+1.0**
SNAA	**Sanae**	**52.15**	**158**	P	**P**	**15 34 17.2**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,27nm,1.6s						
SNAA	**Sanae**	**52.15**	**158**	P	**P**	**15 34 18.0**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=276,slow=8.6,SNR=12						
SNAA	**Sanae**	**52.15**	**158**	P	**P**	**15 34 17.3**	**+0.1**
	comp=Z,18nm,0.9s						
TEIG	**Tepich**	**55.52**	**341**	P	P	15 34 46.1	+3.8
	comp=Z,8.6nm,0.5s,baz=195,slow=23,SNR=2.8						
QSPA	**South Pole Qui**	**56.89**	**180**	P	**P**	**15 34 52.3**	**+0.5**
	comp=Z,3.9nm,0.8s,baz=153,slow=1.3,SNR=23						
QSPA	**South Pole Qui**	**56.89**	**180**	*eP*	**P**	**15 34 51.7**	**-0.1**
	comp=Z,11nm,1.0s						
SYO	**Syowa Base**	**66.43**	**159**	⇑*eP*	**P**	**15 35 54.4**	**-1.4**
JCT	**Junction City**	**68.75**	**334**	*eP*	**P**	**15 36 12.5**	**+1.5**
JCT				pmax	pmax		
	comp=Z,24nm,1.2s						
JCT	**Junction City**	**68.75**	**334**	*eP*	**P**	**15 36 12.5**	**+1.5**
	comp=Z,24nm,1.2s						
MEH	**Mehetia**	**69.05**	**262**	*e*T	T	16 51 24.2	
	comp=Z,10nm,0.2s						
TXAR	**Lajitas Array**	**69.22**	**331**	P	**P**	**15 36 15.5**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=154,slow=8.6,SNR=8.8						
PPT2	**Papeete2**	**70.44**	**261**	*e*S	**S**	**15 45 32.9**	**-1.3**
	comp=Z,87nm,24.2s						
PPT2	**Papeete2**	**70.44**	**261**	*e*LR	LR	15 57 55.2	
	comp=Z,195nm,26.2s						
MNTX	**Cornudas Mount**	**72.00**	**330**	*eP*	**P**	**15 36 30.9**	**+0.1**
	comp=Z,3.0nm,0.9s						
MSTX	**Muleshoe**	**72.97**	**334**	*eP*	**P**	**15 36 37.5**	**+0.8**
	comp=Z,35nm,1.4s						
MSTX				*e*		15 36 45.7	

ACSO	**Alum Creek Sta**	**73.92**	**351**	*eP*	**P**	**15 36 42.0**	**0.0**
	comp=Z,22nm,0.9s						
LIC	**Lamto**	**74.46**	**72**	*eP*	**P**	**15 36 46.1**	**+0.3**
	comp=Z,50nm,1.3s						
TIC	**Toumodi**	**74.72**	**71**	*eP*	**P**	**15 36 47.8**	**+0.5**
	comp=Z,11nm,0.2s						
KIC	**Kosan Boka**	**74.77**	**72**	*eP*	**P**	**15 36 47.9**	**+0.3**
	comp=Z,18nm,0.9s						
DBIC	**Dimbokro**	**74.86**	**71**	*eP*	**P**	**15 36 48.1**	**0.0**
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
DBIC	**Dimbokro**	**74.86**	**71**	P	**P**	**15 36 48.9**	**+0.8**
	comp=Z,4.9nm,0.6s,baz=216,slow=6.3,SNR=10						
DBIC	**Dimbokro**	**74.86**	**71**	*eP*	**P**	**15 36 48.1**	**0.0**
	comp=Z,6.2nm,0.8s						
SUR	**Sutherland**	**75.05**	**119**	P	**P**	**15 36 50.6**	**+1.3**
	comp=Z,5.3nm,0.6s,baz=215,slow=6.2,SNR=6.7						
ANMO	**Albuquerque**	**75.27**	**331**	P	**P**	**15 36 53.0**	**+2.8**
ECSD	**EROS Data Cent**	**79.96**	**342**	*eP*	**P**	**15 37 16.3**	**+0.3**
	comp=Z,23nm,1.0s						
BOSA	**Boshof**	**80.27**	**118**	P	**P**	**15 37 18.8**	**+0.4**
	comp=Z,9.1nm,0.9s,baz=230,slow=3.1,SNR=9.6						
EYMN	**Ely**	**82.81**	**347**	*eP*	**P**	**15 37 31.3**	**+0.4**
	comp=Z,11nm,1.1s						
PDAR	**Pinedale Array**	**83.23**	**333**	P	**P**	**15 37 34.4**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=138,slow=7.6,SNR=4.4						
NVAR	**Mina Array Bea**	**83.41**	**325**	P	**P**	**15 37 36.5**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=212,slow=35,SNR=3.4						
TORD	**Torodi Ar. Bea**	**83.88**	**70**	P	**P**	**15 37 37.5**	**+0.3**
	comp=Z,6.8nm,0.7s,baz=268,slow=4.4,SNR=41						
ULM	**Lac du Bonnet**	**85.90**	**345**	P	**P**	**15 37 46.4**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=214,slow=0.6,SNR=4.4						
MCMT	**McKenzie Canyo**	**86.25**	**332**	*eP*	**P**	**15 37 49.2**	**+0.5**
	comp=Z,6.8nm,1.3s						
SCHQ	**Schefferville**	**87.93**	**3**	P	**P**	**15 37 56.4**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=193,slow=3.0,SNR=3.1						
YKA	**Yellowknife Ar**	**101.48**	**341**	P	**Pdif**	**15 38 58.1**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=145,slow=4.8,SNR=4.5						
DZM	**Mont Dzumac**	**101.72**	**234**	*e*LR	LR	16 12 22.8	
	comp=Z,140nm,29.3s						
GERES	**GERESS Array B**	**111.61**	**45**	PKiKP	**PKiKP**	**15 43 41.3**	**0.0**
	comp=Z,0.4nm,0.5s,baz=299,slow=2.7,SNR=4.3						
ASAR	**Alice Springs**	**118.20**	**207**	PKP	**PKPdf**	**15 43 53.0**	**-1.8**
	comp=Z,0.2nm,0.7s,baz=111,slow=1.8,SNR=5.1						
ASAR				PKKPbc	**PKKPbc**	**15 54 13.3**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=334,slow=3.0,SNR=6.8						
WRA	**Warramunga Arr**	**121.39**	**209**	PKP	**PKPdf**	**15 43 59.8**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=159,slow=1.6,SNR=18						
BRTR	**Keskin Array B**	**121.42**	**61**	PKP	**PKPdf**	**15 44 00.6**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=187,slow=3.1,SNR=4.8						
KIEV	**Kiev**	**121.65**	**47**	*i* PKIKP	**PKPdf**	**15 43 59.0**	**-1.3**
FINES	**FINESS Array B**	**122.39**	**34**	PKP	**PKPdf**	**15 44 00.2**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=194,slow=31,SNR=3.9						
ARCES	**ARCESS Array B**	**123.38**	**25**	PKP	**PKPdf**	**15 44 03.5**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=349,slow=1.2,SNR=5.6						
KLMR	**Klimovskoe**	**128.81**	**36**	*e*PKIKP	**PKPdf**	**15 44 12.7**	**-1.0**
KLMR				pmax	pmax		
	comp=Z,19nm,1.5s						
GEYT	**Alibeck**	**139.51**	**69**	PKP	**PKPdf**	**15 44 34.6**	**0.0**
	comp=Z,1.3nm,0.6s,baz=288,slow=5.8,SNR=4.2						
TIXI	**Tiksi**	**140.07**	**350**	*i* PKIKP	**PKPdf**	**15 44 34.0**	**-0.5**
POO	**Poona**	**146.03**	**107**	*eP*	**PKPdf**	**15 44 47.0**	**+0.3**
BRVK	**Borovoye**	**146.65**	**42**	⇑*i*PKP2	**PKPab**	**15 44 49.3**	**-0.1**
BVAR	**Borovoye Array**	**146.72**	**42**	PKP2	**PKPbc**	**15 44 48.0**	**-0.5**
BVAR	**Borovoye Array**	**146.72**	**42**	PKPbc	**PKPbc**	**15 44 48.0**	**-0.5**
	comp=Z,8.9nm,0.5s,baz=271,slow=2.3,SNR=36						
YAK	**Yakutsk**	**148.15**	**341**	*e*PKIKP	**PKPbc**	**15 44 51.5**	**-0.6**
YAK				pmax	pmax		
	comp=Z,22nm,0.9s						
HYB	**Hyderabad**	**149.09**	**114**	*i* PKP	**PKPbc**	**15 44 55.0**	**-0.9**
AAK	**Ala-Archa**	**152.09**	**61**	*c i* PKIKP	**PKPbc**	**15 45 03.4**	**+0.9**
NVS	**Novosibirsk**	**152.33**	**32**	⇑*i*PKIKP	**PKPbc**	**15 45 02.6**	**+0.2**
NVS				pmax	pmax		
	comp=Z,21nm,1.1s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.4s						
KSH	**Kashi**	**153.52**	**67**	PKPbc	**PKPdf**	**15 44 57.8**	**-0.2**
KSH				sPKP		15 45 05.8	
KSH				PKS	**PKSdf**	**15 48 30.2**	**-2.2**
KSH				PP	**PP**	**15 48 49.8**	**-2.9**
KSH				SKS	**SKSdf**	**15 52 02.2**	**-1.9**
KSH				SKKS	**SKKSac**	**15 55 36.1**	**-5.5**
KSH				SS	**SS**	**16 08 22.1**	**-5.7**
KSH				PPMZ			
	comp=E,130nm,5.9s						
KSH				LN			
	comp=E,39nm,4.6s						
KSH				LE			
	comp=E,52nm,4.4s						
KSH				LZ			
	comp=E,110nm,6.4s						
ZALV	**Zalesovo Beam**	**153.61**	**32**	PKP	**PKPdf**	**15 44 57.5**	**0.0**
	comp=E,1.8nm,0.7s,baz=279,slow=1.5,SNR=9.4						
ZALV				PKPbc	**PKiKP**	**15 45 05.6**	**+0.2**
	comp=E,6.9nm,0.5s,baz=304,slow=3.2,SNR=34						
BOD	**Bodaibo**	**155.20**	**352**	*e*PKIKP	PKPdf	15 45 08.0	+8.4
BOD				*e*		15 45 24.2	
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MKAR	**Makanchi Array**	**156.25**	**48**	PKP	**PKPdf**	**15 45 01.7**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=270,slow=1.9,SNR=9.7						
MKAR				PKPab	**PKPab**	**15 45 29.1**	**-0.3**
	comp=Z,5.7nm,0.6s,baz=294,slow=4.1,SNR=37						
KOLN	**Koldanda**	**158.21**	**98**	*eP*	**PKPdf**	**15 45 04.8**	**+0.1**
DANN	**Dangsing**	**158.54**	**97**	*eP*	**PKPdf**	**15 45 05.7**	**+0.5**
	comp=Z,11nm,0.8s						
GKN	**Gorkha**	**159.15**	**99**	*eP*	**PKPdf**	**15 45 05.5**	**-0.3**
HVS	**Khovu-Aksy**	**159.34**	**26**	⇓*i*PKIKP	**PKPdf**	**15 45 05.3**	**+0.1**
DMN	**Daman**	**159.39**	**100**	*eP*	**PKPdf**	**15 45 06.4**	**+0.2**
CN2	**Changchun**	**162.91**	**313**	*e*PKP	**PKPdf**	**15 45 09.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**163.05**	**149**	PKP	**PKPdf**	**15 45 10.3**	**+0.3**
	comp=Z,0.7nm,1.0s,baz=235,slow=1.6,SNR=5.9						
CMAR				PKPab	**PKPab**	**15 45 59.0**	**-0.6**
	comp=Z,0.3nm,0.2s,baz=221,slow=5.7,SNR=3.3						
SONM	**Songino Array**	**165.47**	**5**	PKPab	**PKPab**	**15 46 11.6**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=357,slow=3.0,SNR=4.1						
GTA	**Gaotai**	**170.99**	**45**	*e*PKP	**PKPdf**	**15 45 15.8**	**+0.3**
GTA				pPKP	**pPKPdf**	**15 45 26.1**	**+4.1**
GTA				PKPab	**PKPab**	**15 46 36.1**	**+1.7**
HHC	**Hu-ho-hao-te**	**172.02**	**341**	*e*PKP	**PKPdf**	**15 45 14.6**	**-1.3**
HHC				sPKP		15 45 26.3	
HHC				PP	**PP**	**15 50 32.2**	**+2.9**
HHC				SKKS		15 57 14.2	
HHC				SS	**SS**	**16 11 34.7**	**-2.3**
HHC				PPMZ			
	comp=Z,230nm,6.2s						
HHC				LN			
	comp=Z,270nm,16.0s						
HHC				LE			
	comp=Z,250nm,16.0s						
HHC				LZ			
	comp=Z,240nm,16.0s						
GYA	**Guiyang**	**173.02**	**169**	*e*PKP	**PKPdf**	**15 45 16.2**	**-0.6**
GYA				PKPab	**PKPab**	**15 46 44.8**	**+1.3**
GYA				PKS	**PKSdf**	**15 48 46.5**	**-2.7**
GYA				PP	**PP**	**15 50 37.0**	**+2.9**
GYA				SKKS		15 57 20.2	
GYA				SS	**SS**	**16 11 46.6**	**+0.1**
GYA				PPMZ			
	comp=Z,120nm,8.2s						
GYA				LN			
	comp=Z,130nm,21.6s						
GYA				LE			
	comp=Z,110nm,22.4s						
GYA				LZ			
	comp=Z,120nm,21.8s						
LZH	**Lanzhou**	**175.56**	**51**	*e*PKP	**PKPdf**	**15 45 15.2**	**-2.2**
LZH				pPKP	**pPKPdf**	**15 45 24.0**	**+0.1**
LZH				sPKP		15 45 26.5	
LZH				PKPab	**PKPab**	**15 46 57.4**	**+2.5**
CD2	**Chengdu**	**175.59**	**122**	*e*PKP	**PKPdf**	**15 45 17.8**	**+0.4**

IDC ***02*** *15:27:44.7±0.6, 34°.24S×72°.20W, h0km, mb4.6/14, mb1 4.7/17, mb1mx4.6/35, mbtmp4.7/17, ML4.5/3, MS4.3/15, Ms1 4.3/15, ms1mx4.1/25, Error ellipse: s-maj=20.1km s-min=15.7km az=82.0*
ISCJB ***02*** *15:27:49.8±1.6, 34°.17S±0°.07×72°.1W±0°.1, h49km±14km, mb4.7/28, MS4.3/12, Error ellipse: s-maj=15.5km s-min=11.3km az=175.8*
NEIC ***02*** *15:27:50.0±0.3, 34°.18S×72°.21W, mb4.8/13, Error ellipse: s-maj=8.5km s-min=6.6km az=85.0*
ISC 02 15:27:49.5±0.8, 34°.18S±0°.07×72°.22W±0°.09, h33km±2km, h33km:pP-P, n77, σ1§14/80, **mb4.8**/28, **MS4.4**/12, **1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.22**	**54**	Pn	**Pn**	**15 28 52.6**	**+1.1**
	2.5nm,0.3s,baz=217,slow=1.5,SNR=5.3						
CFAA				Lg	Lg	15 29 53.4	
	25nm,0.3s,baz=60,slow=13,SNR=11						
CFAA				LR	LR	15 30 54.5	
	comp=Z,619nm,19.7s,baz=224,slow=45						
PLCA	**Paso Flores**	**6.68**	**169**	Pn	**Pn**	**15 29 27.4**	**+2.1**
	0.9nm,0.3s,baz=316,slow=1.7,SNR=2.0						
PLCA				Lg	Lg	15 31 11.6	
	1.6nm,0.3s,baz=53,slow=13,SNR=2.4						
PLCA				LR	LR	15 32 10.6	
	comp=Z,2μm,20.6s,baz=347,slow=40						
CPUP	**Villa Florida**	**15.05**	**63**	Pn	**Pn**	**15 31 20.0**	**+0.3**
	0.4nm,0.3s,baz=169,slow=19,SNR=1.8						
CPUP				LR	LR	15 37 32.9	
	comp=Z,2μm,21.0s,baz=224,slow=39						
LPAZ	**La Paz**	**18.19**	**13**	P	**P**	**15 32 01.3**	**+1.2**
	2.8nm,0.3s,baz=184,slow=6.1,SNR=25						
LPAZ	**La Paz**	**18.19**	**13**	*eP*	**P**	**15 32 01.3**	**+1.2**
	73nm,0.7s						
SIV	**San Ignacio**	**20.71**	**32**	P	**P**	**15 32 27.3**	**+0.2**
	88nm,1.0s,baz=236,slow=14,SNR=33						
SIV				LR	LR	15 42 03.8	
	comp=Z,2μm,19.4s,baz=224,slow=41						
USHA	**Ushuaia**	**20.82**	**174**	LR	LR	15 40 15.7	
	comp=Z,756nm,18.4s,baz=314,slow=36						
NNA	**Nana**	**22.49**	**348**	P	**P**	**15 32 47.3**	**+1.2**
	8.4nm,0.6s,baz=219,slow=11,SNR=4.4						
NNA				LR	LR	15 39 20.0	
	comp=Z,404nm,20.5s,baz=174,slow=31						
SAML	**Samuel**	**26.45**	**20**	*eP*	**P**	**15 33 23.4**	**-0.1**
ATAH	**Atahualpa**	**27.51**	**347**	LR	LR	15 43 23.1	
	comp=Z,122nm,19.2s,baz=180,slow=34						
BDFB	**Brasilia**	**28.56**	**56**	P	**P**	**15 33 41.7**	**-0.8**
	26nm,0.9s,baz=238,slow=7.2,SNR=9.9						
BDFB				LR	LR	15 46 20.6	
	comp=Z,2μm,18.0s,baz=223,slow=39						
PMSA	**Palmer Station**	**31.03**	**173**	LR	LR	15 46 08.9	
	comp=Z,1μm,18.5s,baz=312,slow=36						
SDV	**Santo Domingo**	**42.85**	**2**	*eP*	**P**	**15 35 44.6**	**-0.2**
	22nm,0.8s						
RCBR	**Riachuelo**	**43.87**	**58**	P	**P**	**15 35 52.8**	**-0.1**
	19nm,1.1s,baz=200,slow=7.8,SNR=6.1						
RCBR				LR	LR	15 55 22.9	
	comp=Z,1μm,19.1s,baz=178,slow=38						
VNA3	**Neumayer Olymp**	**49.25**	**158**	P	P	15 36 44.7	+10
VNA2	**Neumayer--Watz**	**49.91**	**157**	P	P	15 36 49.2	+10
SNAA	**Sanae**	**51.48**	**158**	P	P	15 36 57.4	+6.1
SNAA	**Sanae**	**51.48**	**158**	P	**P**	**15 36 51.4**	**+0.1**
SNAA				LR	LR	15 58 10.4	
	comp=Z,76nm,18.2s,baz=342,slow=36						
SNAA	**Sanae**	**51.48**	**158**	*eP*	**P**	**15 36 51.7**	**+0.4**
QSPA	**South Pole Qui**	**56.06**	**180**	P	**P**	**15 37 25.5**	**+0.6**
	4.6nm,0.9s,baz=91,slow=0.6,SNR=5.0						
QSPA	**South Pole Qui**	**56.06**	**180**	*eP*	**P**	**15 37 24.9**	**0.0**
TEIG	**Tepich**	**56.22**	**342**	P	**P**	**15 37 26.5**	**+0.2**
	11nm,0.7s,baz=82,slow=20,SNR=4.1						
SYO	**Syowa Base**	**65.76**	**158**	⇓*eP*	P	15 38 26.2	-4.4
MEH	**Mehetia**	**68.67**	**262**	*e*T	T	16 53 43.6	
	12nm,0.2s						
JCT	**Junction City**	**69.38**	**335**	*eP*	**P**	**15 38 54.2**	**+0.3**
	9.8nm,1.0s						
TXAR	**Lajitas Array**	**69.81**	**331**	P	**P**	**15 38 57.5**	**+0.7**
	1.3nm,0.6s,baz=150,slow=8.9,SNR=6.7						
PPT2	**Papeete2**	**70.06**	**262**	*e*S	**S**	**15 48 03.9**	**-3.4**
	151nm,23.8s						
PPT2	**Papeete2**	**70.06**	**262**	*e*LR	LR	16 00 24.2	
	369nm,27.5s						
PPT	**Papeete**	**70.07**	**262**	LR	LR	16 03 41.7	
	comp=Z,145nm,18.0s,baz=114,slow=31						
SWET	**Sewanee**	**70.22**	**348**	*eP*	**P**	**15 38 58.3**	**-0.7**
	24nm,0.9s						
MIAR	**Mount Ida**	**71.23**	**341**	P	**P**	**15 39 05.6**	**+0.5**
	5.5nm,0.4s						
WVT	**Waverly**	**71.45**	**347**	*eP*	**P**	**15 39 05.

DANN	Dangsing	158.69	99	eP		PKPdf	15 47 44.0 -0.3
	14nm,1.0s						
GKN	Gorkha	159.27	101	eP		PKPdf	15 47 43.9 -0.9
	12nm,1.2s						
DMN	Daman	159.49	102	eP		PKPdf	15 47 44.7 -0.5
CMAR	Chiang Mai Arr	162.47	151	PKP		PKPdf	15 47 48.2 -0.1
	0.3nm,0.3s,baz=244,slow=2.7,SNR=3.7						
CMAR				PKPab		PKPab	15 48 37.6 +1.6
	0.6nm,0.5s,baz=207,slow=2.9,SNR=5.0						
CN2	Changchun	163.26	310	ePKP		PKPdf	15 47 48.7 +0.4
SONM	Songino Array	166.32	4	PKPab		PKPab	15 48 53.3 +1.0
	1.6nm,0.8s,baz=336,slow=4.2,SNR=8.8						
GTA	Gaotai	171.75	48	ePKP		PKPdf	15 47 55.5 +0.8
GTA				pPKP		pPKPdf	15 48 05.1 -0.6
GTA				sPKP			15 48 10.1
GTA				PKPab		PKPab	15 49 17.7 +0.9
HHC	Hu-ho-hao-te	172.69	337	ePKP		PKPdf	15 47 54.4 -0.6
HHC				sPKP			15 48 08.3
HHC				PP		PP	15 53 15.4 +3.7
HHC				SKKS			15 59 56.8
HHC				SS		SS	16 14 22.0 +0.7
HHC				PPMZ			
	310nm,11.1s						
HHC				LN			
	310nm,17.3s						
HHC				LE			
	240nm,17.3s						
HHC				LZ			
	210nm,17.3s						
CD2	Chengdu	175.29	133	ePKP		PKPdf	15 47 55.3 -0.9
LZH	Lanzhou	176.26	58	ePKP		PKPdf	15 47 55.5 -0.9
LZH				pPKP		pPKPdf	15 48 05.6 -1.8
LZH				sPKP			15 48 08.9

*IDC **02** 15:43:07.5±0.8, 36°.63S×73°.03W, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.1/29, mbtmp4.0/11, ML3.2/2, MS3.2/1, Ms1 3.1/1, ms1mx2.6/26, Error ellipse: s-maj=27.3km s-min=15.6km az=78.0*

*ISCJB **02** 15:43:09.9±0.7, 36°.64S±0°.07×73°.0W±0°.1, h25km, mb4.0/9, Error ellipse: s-maj=16.7km s-min=9.5km az=18.0*

ISC 02 15:43:11.3±0.8, 36°.65S±0°.09×73°.1W±0°.1, h25km, n14, σ0°94/15, mb4.0/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.53	155	Pn	Pn	15 44 18.5	+0.2
	0.4nm,0.3s,baz=21,slow=1.3,SNR=1.5						
PLCA				Lg	Lg	15 45 32.3	
	4.4nm,0.3s,baz=237,slow=22,SNR=2.8						
PLCA				LR	LR	15 46 14.2	
	comp=Z,266nm,20.9s,baz=304,slow=41						
CFAA	Coronel Fontan	6.43	40	Pn	Pn	15 44 44.7	+0.2
	0.2nm,0.3s,baz=191,slow=13,SNR=6.2						
CFAA				Sn	Sn	15 45 57.7	+0.6
	0.0nm,0.3s,baz=212,slow=17,SNR=1.8						
LPAZ	La Paz	20.75	13	P	P	15 47 52.1	+1.2
	2.2nm,0.8s,baz=170,slow=3.9,SNR=6.7						
SIV	San Ignacio	23.18	31	P	P	15 48 15.3	-0.8
	1.5nm,0.7s,baz=226,slow=9.1,SNR=2.9						
NNA	Nana	24.79	351	P	P	15 48 29.6	-1.7
	2.8nm,0.3s,baz=92,slow=5.6,SNR=3.5						
QSPA	South Pole Qui	53.59	180	P	P	15 52 30.2	+0.2
	2.2nm,0.9s,baz=118,slow=3.1,SNR=5.8						
TXAR	Lajitas Array	71.65	332	P	P	15 54 31.7	+0.9
	1.0nm,0.7s,baz=152,slow=8.9,SNR=13						
DBIC	Dimbokro	76.83	71	P	P	15 55 01.5	+0.2
	1.5nm,0.5s,baz=268,slow=14,SNR=3.0						
LBTB	Lobatse	81.95	115	P	P	15 55 29.4	+0.1
	2.9nm,0.6s,baz=243,slow=7.0,SNR=5.1						
NVAR	Mina Array Bea	85.59	326	P	P	15 55 49.0	+1.4
	0.7nm,0.7s,baz=141,slow=6.2,SNR=6.0						
PDAR	Pinedale Array	85.76	334	P	P	15 55 47.7	-0.6
	1.1nm,1.0s,baz=145,slow=3.6,SNR=4.5						
TORD	Torodi Ar. Bea	85.90	70	P	P	15 55 48.4	-0.9
	0.3nm,0.8s,baz=242,slow=6.1,SNR=2.1						
MKAR	Makanchi Array	159.08	53	PKPab	PKPab	16 03 43.5	-0.1
	0.3nm,0.7s,baz=290,slow=3.6,SNR=3.8						
SONM	Songino Array	168.82	2	PKPab	PKPab	16 04 25.3	-1.0
	0.2nm,0.6s,baz=0.0,slow=2.9,SNR=3.5						

*IDC **02** 15:45:59.0±1.2, 35°.60S×72°.66W, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.9/27, mbtmp3.9/6, ML4.1/2, MS3.2/2, Ms1 3.2/2, ms1mx3.0/24, Error ellipse: s-maj=42.5km s-min=21.2km az=98.0*

*ISCJB **02** 15:46:00.3±1.0, 35°.58S±0°.09×72°.7W±0°.3, h20km, mb3.9/4, Error ellipse: s-maj=30.2km s-min=12.5km az=7.0*

ISC 02 15:46:02.5±1.1, 35°.65±0°.1×72°.5W±0°.2, h20km, n8, σ1°10/8, mb3.9/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.32	44	Pn	Pn	15 47 22.5	+1.7
	0.2nm,0.3s,baz=180,slow=6.7,SNR=3.0						
CFAA				Sn	Sb	15 48 36.7	-1.5
	0.4nm,0.3s,baz=296,slow=18,SNR=3.2						
CFAA				LR	LR	15 49 48.1	
	comp=Z,57nm,20.3s,baz=226,slow=42						
PLCA	Paso Flores	5.41	164	Pn	Pn	15 47 22.4	+0.4
	2.1nm,0.3s,baz=335,slow=12,SNR=3.4						
PLCA				Lg	Lg	15 48 40.1	
	0.9nm,0.3s,baz=275,slow=19,SNR=2.5						
CPUP	Villa Florida	15.94	59	LR	LR	15 56 29.2	
	comp=Z,300nm,19.8s,baz=219,slow=39						
LPAZ	La Paz	19.58	13	P	Pn	15 50 31.1	-0.1
	0.1nm,0.3s,baz=165,slow=15,SNR=8.4						
SIV	San Ignacio	22.00	31	P	P	15 50 55.7	+0.2
	8.2nm,1.0s,baz=223,slow=14,SNR=12						
QSPA	South Pole Qui	54.69	180	P	P	15 55 29.2	-0.7
	1.1nm,1.0s,baz=141,slow=2.3,SNR=4.7						
TXAR	Lajitas Array	70.89	331	P	P	15 57 18.1	0.0
	0.5nm,0.7s,baz=153,slow=8.1,SNR=6.4						
TORD	Torodi Ar. Bea	85.12	70	P	P	15 58 36.8	-0.6
	0.8nm,0.8s,baz=238,slow=4.1,SNR=4.4						

CASC 02 16:20:42.7±2.3, 15°.72N×91°.45W, h0km±21km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBG	Las Nubes	1.55	136	eP	Pn	16 21 11.4	-0.5
NBG				eS	Sn	16 21 32.2	-0.8
IXG	Ixpaco	1.81	148	eP	Pn	16 21 15.3	-0.2
IXG				eS	Sg	16 21 41.6	+0.3
MRL	Marmol	1.82	111	eP	Pn	16 21 15.0	-0.4
MRL				eP	Pb	16 21 15.5	-1.6
MRL				eS	Sb	16 21 40.5	0.0
MRL				eS	Sg	16 21 41.4	-0.1
RBDL	Robledal	2.33	133	eP	Pn	16 21 21.8	-0.8
RBDL				eS	Sb	16 21 55.3	-0.2
SBLS	San Blas	2.57	136	eP	Pn	16 21 25.2	-0.8

*IDC **02** 16:25:33.8±1.0, 35°.69S×73°.48W, h0km, mb4.1/6, mb1 4.1/9, mb1mx4.0/34, mbtmp4.1/9, ML3.8/3, Error ellipse: s-maj=40.0km s-min=18.8km az=98.0*

*ISCJB **02** 16:25:38.1±0.8, 35°.80S±0°.07×73°.1W±0°.2, h35km, mb4.1/6, Error ellipse: s-maj=20.1km s-min=10.4km az=4.3*

*NEIC **02** 16:25:39.0±0.7, 35°.75S×73°.33W, h35km, mb4.4/3, Error ellipse: s-maj=18.3km s-min=10.3km az=92.0*

ISC 02 16:25:39.1±0.8, 35°.81S±0°.07×73°.3W±0°.2, h35km, n18, σ1°40/22, mb4.2/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.35	157	Pn	Pn	16 26 57.5	+0.9
	1.6nm,0.3s,baz=316,slow=12,SNR=6.0						
PLCA				Sn	Sn	16 27 54.0	-3.0
	10nm,0.3s,baz=241,slow=17,SNR=4.1						
PLCA	Paso Flores	5.35	157	eP	Pn	16 26 56.8	+0.2
	19nm,0.4s						
PLCA				Sn	Sn	16 27 54.0	-3.0
CFAA	Coronel Fontan	5.92	46	Pn	Pn	16 27 03.7	-0.6
	0.4nm,0.3s,baz=219,slow=13,SNR=12						
TRQA	Tornquist	9.29	107	eP	Pn	16 27 51.8	+1.2
	8.0nm,0.6s						
USHA	Ushuaia	19.31	172	P	Pn	16 30 03.2	+1.0
	0.3nm,0.3s,baz=336,slow=12,SNR=2.5						
LPAZ	La Paz	19.97	15	P	Pn	16 30 11.4	+0.5
	0.1nm,0.3s,baz=197,slow=5.6,SNR=8.8						
LPAZ	La Paz	19.97	15	P	Pn	16 30 09.8	-1.1
	3.0nm,0.8s						
SIV	San Ignacio	22.53	32	P	P	16 30 35.3	-0.8
	1.4nm,0.4s,baz=229,slow=13,SNR=7.4						
SNAA	Sanae	50.30	157	P	P	16 34 33.3	+1.5
	2.5nm,0.9s,baz=280,slow=5.7,SNR=4.9						
SNAA	Sanae	50.30	157	eP	P	16 34 32.2	+0.4
	8.2nm,1.0s						
QSPA	South Pole Qui	54.43	180	P	P	16 35 02.9	+0.2
	3.3nm,0.8s,baz=146,slow=2.9,SNR=12						
QSPA	South Pole Qui	54.43	180	eP	P	16 35 02.8	+0.2
	4.2nm,0.9s						
DBIC	Dimbokro	76.69	72	P	P	16 37 27.8	+0.9
	4.6nm,0.9s,baz=214,slow=8.6,SNR=5.6						
NVAR	Mina Array Bea	84.81	326	P	P	16 38 09.8	-0.2
	0.5nm,0.8s,baz=24,slow=30,SNR=2.2						
TORD	Torodi Ar. Bea	85.75	71	P	P	16 38 15.9	+0.9
	0.9nm,0.9s,baz=256,slow=3.0,SNR=5.0						
ZALV	Zalesovo Beam	156.28	33	PKP	PKPdf	16 45 26.6	-2.7
	0.7nm,0.9s,baz=276,slow=40,SNR=2.2						
ZALV				PKPab	PKPab	16 45 57.9	+0.3
	1.2nm,0.7s,baz=306,slow=5.0,SNR=6.2						
MKAR	Makanchi Array	158.68	52	PKP	PKPdf	16 45 31.6	-1.1
	0.4nm,0.8s,baz=276,slow=3.3,SNR=4.2						
MKAR				PKPab	PKPab	16 46 08.8	+0.5
	0.3nm,0.7s,baz=298,slow=2.6,SNR=3.8						
SONM	Songino Array	167.98	1	PKPab	PKPab	16 46 49.0	0.0
	0.1nm,0.3s,baz=22,slow=43,SNR=2.7						

GUC 02 16:27:32.8±0.5, 33°.96S×71°.35W, h47km±12km, ML3.9, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	Talagante	0.46	48	⇑iP	Pn	16 27 43.0	-0.4
RCDM	Rinconada Maip	0.65	44	⇑iP	Pn	16 27 45.9	0.0
RCDM				i S	Sn	16 27 55.5	+0.3
RCDM				AML	AML	16 27 57.4	
	comp=N,20μm,0.2s						
ANTU	Antumapu	0.71	57	⇑iP	Pn	16 27 46.9	+0.2
ANTU				i S	Sn	16 27 57.4	+0.8
ANTU				AML	AML	16 28 00.3	
	comp=N,6μm,0.3s						
SAN	Santiago	0.76	49	⇑iP	Pn	16 27 47.4	0.0
SAN				i S	Sn	16 27 58.4	+0.5
PCH	Pirque	0.77	64	⇑iP	Pn	16 27 47.8	+0.2
PCH				i S	Sn	16 27 59.1	+0.9
STL	Santa Lucia	0.79	49	⇓iP	Pn	16 27 46.7	-1.0
STL				eS4	Sn	16 27 58.4	0.0

*IDC **02** 16:28:06.2±0.6, 35°.60S×71°.87W, h0km, mb4.4/15, mb1 4.5/17, mb1mx4.4/23, mbtmp4.4/17, ML4.4/2, MS3.9/20, Ms1 3.9/20, ms1mx3.8/33, Error ellipse: s-maj=23.2km s-min=15.3km az=74.0*

*ISCJB **02** 16:28:10.1±0.4, 35°.67S±0°.06×71°.9W±0°.1, h35km, mb4.6/23, MS3.9/17, Error ellipse: s-maj=13.2km s-min=8.1km az=167.7*

*NEIC **02** 16:28:11.9±0.4, 35°.61S×72°.01W, h35km, mb4.8/9, Error ellipse: s-maj=13.8km s-min=8.2km az=78.0*

ISC 02 16:28:11.4±0.5, 35°.66S±0°.07×71°.9W±0°.1, h35km, n75, σ0°96/72, mb4.5/23, MS4.0/17, 1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.06	38	LR	LR	16 30 54.2	
	comp=Z,46nm,21.2s,baz=238,slow=34						
PLCA	Paso Flores	5.17	169	Pn	Pn	16 29 30.6	+4.3
	8.0nm,0.3s,baz=336,slow=14,SNR=2.9						
PLCA				LR	LR	16 31 17.7	
	comp=Z,344nm,21.1s,baz=324,slow=37						
TRQA	Tornquist	8.29	110	eP	Pn	16 30 14.2	+5.1
LVC	Limon Verde	13.26	12	eP	Pn	16 31 19.2	+1.8
	11nm,0.6s						
CPUP	Villa Florida	15.55	57	Pn	Pn	16 31 48.2	+0.2
	0.8nm,0.3s,baz=209,slow=11,SNR=4.5						
CPUP				LR	LR	16 38 34.8	
	comp=Z,1μm,18.4s,baz=220,slow=40						
EFI	East Falkland	18.82	153	eP	P	16 32 27.7	-0.2
USHA	Ushuaia	19.32	174	P	Pn	16 32 35.3	+0.8
	0.4nm,0.3s,baz=339,slow=6.7,SNR=2.5						
USHA				LR	LR	16 39 39.1	
	comp=Z,395nm,21.5s,baz=342,slow=36						
LPAZ	La Paz	19.58	11	P	Pn	16 32 38.8	+0.3
	0.8nm,0.3s,baz=197,slow=3.4,SNR=11						
LPAZ	La Paz	19.58	11	eP	Pn	16 32 38.9	+0.3
	56nm,1.3s						
SIV	San Ignacio	21.84	29	P	P	16 33 01.5	+0.6
	11nm,0.6s,baz=225,slow=13,SNR=20						
SIV				LR	LR	16 42 28.4	
	comp=Z,324nm,21.8s,baz=220,slow=40						
NNA	Nana	23.99	348	P	P	16 33 23.1	+0.2
	8.2nm,0.5s,baz=210,slow=12,SNR=4.1						
NNA				LR	LR	16 40 34.1	
	comp=Z,115nm,20.7s,baz=170,slow=31						
SAML	Samuel	27.75	19	eP	P	16 33 59.3	+2.5
ATAH	Atahualpa	29.01	347	LR	LR	16 43 07.4	
	comp=Z,121nm,20.4s,baz=205,slow=31						
BDFB	Brasilia	29.20	53	P	P	16 34 09.1	-0.7
	3.4nm,0.5s,baz=243,slow=7.2,SNR=4.8						
BDFB				LR	LR	16 47 08.7	
	comp=Z,492nm,20.7s,baz=221,slow=39						
PMSA	Palmer Station	29.53	173	LR	LR	16 45 33.7	
	comp=Z,294nm,19.6s,baz=333,slow=35						
RPN	Rapa Nui	32.92	274	LR	LR	16 44 09.5	
	comp=Z,360nm,20.9s,baz=89,slow=29						
ROSC	El Rosal	40.37	356	LR	LR	16 51 30.3	
	comp=Z,70nm,21.6s,baz=358,slow=35						
SDV	Santo Domingo	44.32	2	eP	P	16 36 17.7	-0.6
	3.7nm,0.6s						
RCBR	Riachuelo	44.43	57	LR	LR	16 56 31.9	
	comp=Z,426nm,20.3s,baz=174,slow=38						
SNAA	Sanae	50.00	157	P	P	16 37 02.6	+0.7
	0.5nm,0.2s,baz=235,slow=5.1,SNR=17						
SNAA				LR	LR	16 58 20.8	
	comp=Z,48nm,18.1s,baz=222,slow=36						
SNAA	Sanae	50.00	157	eP	P	16 37 02.8	+1.0
QSPA	South Pole Qui	54.58	180	P	P	16 37 36.8	+0.8
	4.5nm,0.5s,baz=235,slow=0.3,SNR=29						
QSPA	South Pole Qui	54.58	180	eP	P	16 37 36.7	+0.8
	11nm,0.8s						
RKT	Rikitea	55.53	265	eLR	LR	16 53 49.5	
	349nm,37.2s						
VNDA	Vanda	62.50	191	LR	LR	17 03 14.0	
	comp=Z,63nm,18.6s,baz=282,slow=34						
SYO	Syowa Base	64.28	158	⇓eP	P	16 38 39.8	-2.8
PPT2	Papeete2	70.13	262	eLR	LR	17 00 37.8	
	284nm,26.0s						
TXAR	Lajitas Array	71.24	331	P	P	16 39 27.2	+0.2
	1.0nm,0.6s,baz=153,slow=8.9,SNR=12						
TXAR				LR	LR	17 05 25.5	
	comp=Z,85nm,18.4s,baz=0.0,slow=32						
MAW	Mawson	71.56	163	LR	LR	17 12 08.1	
	comp=Z,240nm,18.2s,baz=225,slow=37						
WVT	Waverly	72.95	347	eP	P	16 39 35.8	-1.2
	6.1nm,0.6s						
MNTX	Cornudas Mount	74.02	331	eP	P	16 39 42.8	-0.6
	4.7nm,0.8s						
LIC	Lamto	75.19	71	eP	P	16 39 51.3	+0.7
	32nm,1.0s						
TIC	Toumodi	75.45	71	eP	P	16 39 53.1	+0.9
	57nm,0.2s						
KIC	Kosan Boka	75.49	71	eP	P	16 39 53.3	+1.0
	34nm,0.8s						
DBIC	Dimbokro	75.60	71	P	P	16 39 53.9	+0.9
	12nm,0.9s,baz=203,slow=6.8,SNR=14						
DBIC				LR	LR	17 09 29.6	
	comp=Z,83nm,21.1s,baz=197,slow=33						
DBIC	Dimbokro	75.60	71	eP	P	16 39 53.7	+0.8
	13nm,1.1s						
121A	Cookes Peak, D	75.73	329	eP	P	16 39 54.4	+0.9
	18nm,1.1s						
ANMO	Albuquerque	77.30	331	P	P	16 40 02.5	+0.1
	0.6nm,0.3s,baz=190,slow=8.6,SNR=3.3						
ANMO				LR	LR	17 09 30.3	
	comp=Z,94nm,19.4s,baz=170,slow=32						
TSUM	Tsumeb	78.64	105	P	P	16 40 10.3	+0.1
	2.7nm,0.8s,baz=40,slow=8.2,SNR=6.3						
BOSA	Boshof	79.19	117	P	P	16 40 13.4	+0.3
	23nm,0.9s,baz=239,slow=5.0,SNR=19						
BOSA				LR	LR	17 10 50.4	
	comp=Z,60nm,19.8s,baz=202,slow=32						
BOSA	Boshof	79.19	117	eP	P	16 40 13.8	+0.7
	25nm,1.1s						
LBTB	Lobatse	81.50	115	eP	P	16 40 25.2	-0.3
	15nm,1.2s						
URZ	Urewera	82.64	228	LR	LR	17 09 50.7	
	comp=Z,64nm,18.3s,baz=120,slow=30						
TORD	Torodi Ar. Bea	84.66	70	P	P	16 40 42.3	+0.5
	3.3nm,0.9s,baz=256,slow=4.1,SNR=12						
TORD				LR	LR	17 18 00.7	
	comp=Z,67nm,18.6s,baz=180,slow=35						
PDAR	Pinedale Array	85.30	333	P	P	16 40 44.6	0.0
	1.1nm,1.0s,baz=114,slow=3.7,SNR=5.3						
NVAR	Mina Array Bea	85.32	325	P	P	16 40 45.5	+0.7
	0.2nm,0.4s,baz=195,slow=32,SNR=2.4						
ELK	Elko	85.84	328	P	P	16 40 48.3	+0.9
	0.8nm,0.7s,baz=160,slow=3.3,SNR=3.1						
ULM	Lac du Bonnet	88.13	345	P	P	16 40 57.8	-0.1
	4.7nm,0.9s,baz=150,slow=2.6,SNR=5.9						
DZM	Mont Dzumac	100.36	233	eLR	LR	17 14 35.1	
	174nm,25.9s						
SPITS	Spitsbergen Ar	124.25	14	PKP	PKPdf	16 47 04.8	-0.4
	13nm,1.2s,baz=147,slow=7.8,SNR=1.8						
ARCES	ARCESS Array B	125.46	25	PKP	PKPdf	16 47 06.2	-1.4
	1.7nm,0.7s,baz=258,slow=3.6,SNR=5.8						
SEY	Seymchan	141.53	329	PKP	PKPdf	16 47 39.5	+1.6
	1.1nm,0.8s,baz=28,slow=21,SNR=4.4						
HYB	Hyderabad	148.09	117	i PKP	PKPbc	16 47 53.0	-0.8
KKAR	Karatay Array	150.19	64	ePKPbc	PKPbc	16 47 57.7	-0.6
AAK	Ala-Archa	153.14	65	ePKPbc	PKPbc	16 48 06.3	+1.0
KSH	Kashi	154.31	72	ePKPbc	PKPdf	16 48 00.0	+0.4
KSH				sPKP		16 48 13.1	
KSH				PKS	PKSdf	16 51 33.1	-0.8
KSH				PP	PP	16 51 56.1	-1.7
KSH				SKS	SKSdf	16 55 03.0	-0.7
KSH				SKKS	SKKSac	16 58 45.0	+0.3
KSH				SS	SS	17 11 35.3	-0.3
KSH				PPMZ			
	76nm,5.8s						
KSH				LN			
	33nm,5.0s						
KSH				LE			
	50nm,4.6s						
KSH				LZ			
	110nm,5.0s						
ZALV	Zalesovo Beam	155.54	34	PKP	PKPdf	16 47 59.9	-0.7
	0.6nm,0.6s,baz=304,slow=3.4,SNR=4.2						
ZALV				PKPbc	PKPbc	16 48 09.7	
	1.8nm,0.6s,baz=298,slow=3.2,SNR=3.9						
ZALV				PKPab	PKPab	16 48 24.2	-2.4
	2.8nm,0.5s,baz=301,slow=2.8,SNR=5.9						
MKAR	Makanchi Array	157.72	52	PKP	PKPdf	16 48 03.4	-0.4
	0.4nm,0.8s,baz=198,slow=23,SNR=3.0						
MKAR				PKPab	PKPab	16 48 34.8	-1.6
	1.8nm,1.0s,baz=297,slow=4.0,SNR=6.3						
KOLN	Koldanda	157.75	104	eP	PKPab	16 48 36.8	-0.5
	18nm,1.2s						
DANN	Dangsing	158.13	103	eP	PKPab	16 48 38.6	-0.4
GKN	Gorkha	158.67	104	eP	PKPab	16 48 41.1	-0.1
	12nm,1.0s						
DMN	Daman	158.86	106	eP	PKPab	16 48 42.5	+0.3
	21nm,0.8s						
PKIN	Phulchoki	159.07	106	eP	PKPab	16 48 42.6	-0.5
	25nm,1.2s						
PKI	Pulchoki	159.08	106	eP	PKPab	16 48 43.0	-0.2
	28nm,1.1s						
KKN	Kakani	159.08	106	eP	PKPab	16 48 43.2	+0.1
	26nm,1.1s						
GUN	Gumba	159.61	106	eP	PKPab	16 48 45.6	+0.1
RAMN	Ramite	159.70	109	eP	PKPab	16 48 45.8	0.0
JIRN	Jiri	159.73	107	eP	PKPab	16 48 46.3	+0.2
ODAN	Odare	160.26	111	eP	PKPab	16 48 48.4	+0.2
CMAR	Chiang Mai Arr	161.03	152	PKP	PKPdf	16 48 08.3	-0.1
	0.3nm,0.4s,baz=266,slow=2.2,SNR=4.5						
CMAR				PKPab	PKPab	16 48 51.3	0.0
	0.3nm,0.3s,baz=208,slow=5.0,SNR=3.7						
CN2	Changchun	164.40	307	ePKP	PKPdf	16 48 10.6	-0.3
BJI	Beijing	172.27	307	PKP	PKPdf	16 48 14.3	-2.0
CD2	Chengdu	174.02	141	ePKP	PKPdf	16 48 17.2	-0.2
HHC	Hu-ho-hao-te	174.15	333	ePKP	PKPdf	16 48 16.8	-0.4
HHC				sPKP		16 48 32.3	
HHC				PP	PP	16 53 43.3	+2.7
HHC				SKKS		17 00 24.1	
HHC				SS	SS	17 14 55.3	-1.8
HHC				PPMZ			
	96nm,8.3s						
HHC				LN			
	320nm,16.0s						
HHC				LE			
	210nm,17.3s						
HHC				LZ			
	170nm,18.5s						
LZH	Lanzhou	176.50	82	ePKP	PKPdf	16 48 17.4	-0.6
LZH				pPKP	pPKPdf	16 48 27.5	-2.1
LZH				sPKP		16 48 31.2	
LZH				PKPab	PKPab	16 49 59.5	-0.3

GUC 02 16:35:26.1±0.5, 33°.84S×72°.09W, h10km, ML3.6, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	Talagante	0.97	79	⇑iP	Pb	16 35 45.0	-0.1
RCDM	Rinconada Maip	1.12	72	⇑iP	Pb	16 35 47.7	0.0
RCDM				i S	Sn	16 36 04.0	+0.5
RCDM				AML	AML	16 36 07.1	
	comp=E,1μm,0.2s						
ANTU	Antumapu	1.24	78	eP	Pn	16 35 49.6	0.0
ANTU				i S	Sn	16 36 08.1	+1.7
ANTU				AML	AML	16 36 11.0	
	comp=N,3μm,0.5s						
SAN	Santiago	1.25	72	eP1	Pn	16 35 49.7	0.0
SAN				i S	Sn	16 36 07.7	+1.1
PEL	Peldehue	1.36	60	⇓iP	Pb	16 35 52.0	+0.2
PEL				i S	Sg	16 36 11.3	+1.1
PEL				AML	AML	16 36 15.5	
	comp=E,3μm,0.4s						

IDC 02 16:37:33.3±2.6, 35°.79S×71°.22W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.8/15, mbtmp3.7/3, ML2.8/1, Error ellipse: s-maj=72.0km s-min=49.7km az=12.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.86	32	Pn	Pn	16 38 47.8	+0.2
	0.4nm,0.3s,baz=215,slow=14,SNR=2.0						
LPAZ	La Paz	19.62	9	P	P	16 41 58.2	-5.7
	0.2nm,0.3s,baz=160,slow=3.8,SNR=5.0						
SIV	San Ignacio	21.70

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	1.61	28⇑	*i*P	Pn	16 40 45.9	-0.3
CACH	**El Canelo**	1.90	49⇑	*i*P	Pn	16 40 51.4	+1.0
CHCH	**Chadas Angostu**	2.00	44⇑	*i*P	Pn	16 40 52.7	+1.1
TACH	**Talagante**	2.07	34	*e*P1	Pn	16 40 53.1	+0.5
RCDM	**Rinconada Maip**	2.27	34	*e*P1	Pn	16 40 55.4	+0.1
RCDM				*i*S	Sb	16 41 27.1	+0.2
RCDM				AML	AML	16 41 34.1	
	comp=N,1μm,0.4s						
SAN	**Santiago**	2.37	36	*e*P	Pn	16 40 57.0	+0.4
SAN				*e*S	Sb	16 41 29.9	+0.2
PEL	**Peldehue**	2.62	32⇑	*i*P	Pn	16 41 00.3	+0.3
PEL				*e*S	Sn	16 41 35.3	+4.0
PEL				AML	AML	16 41 47.3	
	comp=N,5μm,0.7s						
CFAA	**Coronel Fontan**	5.09	43	Pn	Pn	16 41 34.0	0.0
	comp=N,0.7nm,0.3s,baz=220,slow=11,SNR=2.2						
CFAA				Lg	Lg	16 42 49.5	
	comp=N,0.8nm,0.3s,baz=117,slow=18,SNR=3.8						
CFAA				LR	LR	16 43 54.3	
	comp=N,83nm,18.5s,baz=239,slow=45						
PLCA	**Paso Flores**	5.52	166	Pn	Pn	16 41 41.7	+1.7
	comp=N,1.2nm,0.3s,baz=5.2,slow=11,SNR=1.5						
PLCA				Lg	Lg	16 43 15.4	
	comp=N,2.7nm,0.3s,baz=274,slow=21,SNR=4.8						
PLCA	**Paso Flores**	5.52	166	*e*P	Pn	16 41 41.4	+1.4
	comp=N,56nm,1.0s						
PLCA				Lg	Lg	16 43 15.4	
TRQA	**Tornquist**	8.73	111	P	Pn	16 42 19.4	-4.6
	comp=N,28nm,0.8s						
CPUP	**Villa Florida**	15.71	59	LR	LR	16 50 40.0	
	comp=N,465nm,18.0s,baz=210,slow=40						
EFI	**East Falkland**	19.23	152	*e*P	P	16 44 41.3	-0.3
LPAZ	**La Paz**	19.38	12	P	P	16 44 43.0	-1.2
	comp=N,0.2nm,0.3s,baz=180,slow=7.6,SNR=5.9						
LPAZ				LR	LR	16 53 39.5	
	comp=N,131nm,18.1s,baz=170,slow=42						
LPAZ	**La Paz**	19.38	12	*e*P	P	16 44 42.6	-1.6
	comp=N,8.5nm,0.8s						
USHA	**Ushuaia**	19.64	173	P	P	16 44 46.3	+0.3
	comp=N,0.2nm,0.3s,baz=346,slow=21,SNR=3.2						
SIV	**San Ignacio**	21.78	30	P	P	16 45 07.3	-2.3
	comp=N,7.3nm,0.8s,baz=210,slow=8.6,SNR=12						
SIV				LR	LR	16 55 03.5	
	comp=N,200nm,18.4s,baz=210,slow=41						
RCBR	**Riachuelo**	44.58	57	P	P	16 48 29.1	-0.7
	comp=N,3.6nm,0.6s,baz=194,slow=14,SNR=1.8						
SNAA	**Sanae**	50.40	157	P	P	16 49 14.7	+0.3
	comp=N,2.6nm,0.8s,baz=284,slow=8.2,SNR=11						
SNAA	**Sanae**	50.40	157	*e*P	P	16 49 14.3	-0.1
	comp=N,8.6nm,0.9s						
QSPA	**South Pole Qui**	54.86	180	P	P	16 49 48.4	+0.8
	comp=N,1.3nm,0.8s,baz=300,slow=5.8,SNR=2.7						
QSPA	**South Pole Qui**	54.86	180	*e*P	P	16 49 47.6	0.0
	comp=N,5.3nm,1.0s						
TXAR	**Lajitas Array**	70.83	331	P	P	16 51 36.6	+2.4
	comp=N,0.4nm,0.3s,baz=282,slow=41,SNR=4.5						
DBIC	**Dimbokro**	75.85	71	P	P	16 52 03.4	-0.6
	comp=N,4.6nm,0.8s,baz=207,slow=5.8,SNR=5.6						
DBIC	**Dimbokro**	75.85	71	*e*P	P	16 52 02.5	-1.5
	comp=N,12nm,1.3s						
BOSA	**Boshof**	79.64	118	P	P	16 52 25.4	+0.1
	comp=N,5.5nm,0.8s,baz=232,slow=3.5,SNR=6.8						
TORD	**Torodi Ar. Bea**	84.91	70	P	P	16 52 51.3	-1.4
	comp=N,1.6nm,0.7s,baz=250,slow=4.7,SNR=7.1						
ULM	**Lac du Bonnet**	87.77	345	P	P	16 53 06.9	+1.0
	comp=N,1.6nm,0.6s,baz=282,slow=4.1,SNR=4.1						
ZALV	**Zalesovo Beam**	155.51	34	PKP	PKPdf	17 00 09.2	-1.2
	comp=N,0.2nm,0.3s,baz=232,slow=1.7,SNR=3.3						
ZALV				PKPab	PKPab	17 00 34.4	-1.9
	comp=N,0.5nm,0.5s,baz=306,slow=5.1,SNR=2.9						

GUC 02 16:48:35.0±0.4, 34°22S×72°43W, h44km±5km, ML4.3, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	0.89	73	*e*P	Pn	16 48 52.0	+1.0
CHCH	**Chadas Angostu**	1.50	80	*e*P	Pn	16 49 01.2	+1.6
CACH	**El Canelo**	1.52	87⇑	*i*P	Pn	16 49 02.6	+2.6
RCDM	**Rinconada Maip**	1.54	62	*e*P	Pn	16 49 01.6	+1.7
RCDM				*e*S	Sn	16 49 22.1	+3.3
RCDM				AML	AML	16 49 32.0	
	comp=E,4μm,0.5s						
ANTU	**Antumapu**	1.63	67	*e*P	Pn	16 49 03.2	+1.9
ANTU				*i*S	Sn	16 49 24.6	+3.4
ANTU				AML	AML	16 49 32.1	
	comp=N,6μm,0.6s						
PEL	**Peldehue**	1.81	54	*e*P	Pn	16 49 05.8	+2.1
PEL				*i*S	Sn	16 49 29.4	+3.9
PEL				AML	AML	16 49 42.0	
	comp=E,8μm,0.4s						

*IDC **02** 16:50:01.9±1.8, 37°67S×72°87W, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.1/30, mbtmp4.1/7, ML4.4/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/26, Error ellipse: s-maj=44.3km s-min=40.9km az=24.0*

*ISCJB **02** 16:50:05.0±0.9, 37°67S±0°08×72°9W±0°2, h33km, mb4.5/12, Error ellipse: s-maj=25.0km s-min=11.9km az=1.1*

*NEIC **02** 16:50:05.5±5.7, 37°66S×72°96W, h30km±38km, mb4.7/5, Error ellipse: s-maj=32.3km s-min=12.5km az=94.0*

ISC 02 16:50:06.4±1.0, 37°7S±0°1×72°9W±0°2, h33km, n24, σ1$24/19, mb4.6/12, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	3.57	150	Pn	Pb	16 51 04.5	-4.4
	0.7nm,0.3s,baz=311,slow=16,SNR=3.0						
PLCA				Lg	Lg	16 52 11.4	
	15nm,0.3s,baz=243,slow=22,SNR=5.6						
PLCA	**Paso Flores**	3.57	150	P	Pn	16 50 59.5	-0.1
PLCA				Lg	Lg	16 52 11.4	
CFAA	**Coronel Fontan**	7.18	34	LR	LR	16 55 10.6	
	comp=Z,102nm,20.4s,baz=226,slow=43						
TRQA	**Tornquist**	8.67	96	P	Pn	16 52 17.3	+7.8
CPUP	**Villa Florida**	17.38	54	P	Pn	16 54 06.2	-0.1
	0.3nm,0.3s,baz=204,slow=7.9,SNR=1.6						
CPUP				LR	LR	17 00 60.0	
	comp=Z,201nm,18.6s,baz=218,slow=38						
USHA	**Ushuaia**	17.44	171	LR	LR	17 01 44.9	
	comp=Z,579nm,19.1s,baz=320,slow=40						
LPAZ	**La Paz**	21.72	13	P	P	16 54 54.3	-1.1
	5.1nm,1.0s,baz=173,slow=8.4,SNR=6.1						
LPAZ	**La Paz**	21.72	13	*e*P	P	16 54 53.7	-1.7
	19nm,1.0s						
SIV	**San Ignacio**	24.00	29	P	P	16 55 18.7	+0.5
	1.4nm,0.6s,baz=232,slow=14,SNR=2.8						
SAML	**Samuel**	29.92	20	*e*P	P	16 56 09.3	-2.0
	7.9nm,1.1s						
BDFB	**Brasilia**	31.08	52	P	P	16 56 21.6	-0.2
	4.6nm,0.9s,baz=193,slow=5.8,SNR=2.6						
SNAA	**Sanae**	48.49	157	*e*P	P	16 58 46.0	+0.5
	13nm,1.0s						
QSPA	**South Pole Qui**	52.57	180	*e*P	P	16 59 15.1	-1.4
	12nm,1.1s						
TXAR	**Lajitas Array**	72.61	332	P	P	17 01 32.4	+1.9
	0.9nm,0.9s,baz=151,slow=8.0,SNR=4.4						
LIC	**Lamto**	76.63	71	*e*P	P	17 01 55.7	+1.6
	32nm,1.2s						
TIC	**Toumodi**	76.91	71	*e*P	P	17 01 51.6	-4.1
	13nm,0.2s						
KIC	**Kosan Boka**	76.93	71	*e*P	P	17 01 56.6	+0.8
	35nm,1.4s						
DBIC	**Dimbokro**	77.05	71	P	P	17 01 58.6	+2.2
	4.6nm,0.9s,baz=176,slow=5.4,SNR=4.3						
DBIC	**Dimbokro**	77.05	71	*e*P	P	17 01 56.9	+0.5
	33nm,1.7s						
TORD	**Torodi Ar. Bea**	86.13	70	P	P	17 02 44.9	+0.6
	2.4nm,0.9s,baz=231,slow=3.6,SNR=8.0						
BRTR	**Keskin Array B**	124.18	63	PKP	PKPdf	17 09 01.1	-0.5
	0.3nm,0.4s,baz=184,slow=5.9,SNR=3.5						
ABKAR	**Abkulak array**	144.43	56	*e*PKP	PKPab	17 09 36.3	-0.6
ZALV	**Zalesovo Beam**	157.66	36	PKPab	PKPab	17 10 30.6	-0.5
	2.4nm,0.8s,baz=298,slow=6.4,SNR=8.2						
MKAR	**Makanchi Array**	159.58	56	PKPab	PKPab	17 10 39.0	-0.7
	0.7nm,0.8s,baz=288,slow=4.7,SNR=6.4						

MEX 02 16:54:29.9±1.2, 16°61N×94°38W, h140km±27km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.43	129	*e*P	Pn	16 54 56.6	-1.4
PCIG				*i*S	Sn	16 55 17.9	-1.5
HUIG	**Huatulco**	1.86	244	*i*P	Pn	16 55 00.7	-2.2
HUIG				*i*S	Sn	16 55 26.6	-1.4
CCIG	**Comitan**	2.17	98	*e*P	Pn	16 55 05.0	-1.7
CCIG				*i*S	Sn	16 55 32.8	-2.3
VHO	**Vista Hermosa**	2.30	282	*e*P	Pn	16 55 07.9	-0.4
VHO				*i*S	Sn	16 55 35.3	-2.7

*IDC **02** 16:59:39.2±1.9, 37°90S×73°21W, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.7/31, mbtmp3.6/6, ML3.3/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/32, Error ellipse: s-maj=49.3km s-min=29.6km az=74.0*

*ISCJB **02** 16:59:43.0±1.5, 37°9S±0°1×73°0W±0°3, h33km, mb3.7/4, MS4.5/1, Error ellipse: s-maj=35.3km s-min=15.1km az=170.8*

ISC 02 16:59:44.2±1.6, 37°9S±0°1×73°1W±0°3, h33km, n8, σ0$71/6, mb3.7/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	3.44	146	Pn	Pn	17 00 35.4	-0.2
	1.4nm,0.3s,baz=302,slow=13,SNR=8.0						
CFAA	**Coronel Fontan**	7.41	34	Pn	Pn	17 01 29.9	-0.2
	0.1nm,0.3s,baz=210,slow=14,SNR=2.6						
CFAA				LR	LR	17 04 25.7	
	comp=Z,53nm,18.4s,baz=220,slow=38						
LPAZ	**La Paz**	21.95	13	P	P	17 04 35.2	-0.5
	3.5nm,0.8s,baz=174,slow=12,SNR=9.2						
SIV	**San Ignacio**	24.24	29	P	P	17 04 59.2	+1.1
	2.2nm,0.7s,baz=225,slow=12,SNR=6.1						
H06S1	**SOCORRO T**	66.64	321	T	T	18 22 45.4	
	SNR=6.1						
TXAR	**Lajitas Array**	72.75	332	P	P	17 11 09.1	0.0
	0.5nm,0.8s,baz=150,slow=7.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	86.30	70	P	P	17 12 23.1	+0.1
	0.4nm,0.9s,baz=170,slow=30,SNR=3.3						
YBH	**Yreka Blue Hor**	91.27	325	LR	LR	17 48 40.4	
	comp=Z,177nm,18.4s,baz=265,slow=32						

IDC 02 17:02:03.3±1.7, 3°25N×126°61E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/24, mbtmp3.7/4, Error ellipse: s-maj=147.5km s-min=22.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.26	162	P	P	17 07 21.9	-0.4
	0.7nm,0.5s,baz=342,slow=11,SNR=19						
ASAR	**Alice Springs**	27.68	165	P	P	17 07 53.5	+0.3
	0.2nm,0.3s,baz=342,slow=10,SNR=16						
STKA	**Stephens Creek**	37.72	159	P	P	17 09 21.1	+0.2
	1.6nm,0.8s,baz=348,slow=8.8,SNR=3.7						
MKAR	**Makanchi Array**	57.89	325	P	P	17 11 57.0	-0.2
	0.7nm,0.5s,baz=120,slow=7.9,SNR=17						

*IDC **02** 17:11:15.8±0.9, 37°45S×73°57W, h0km, mb4.2/7, mb1 4.3/10, mb1mx4.1/32, mbtmp4.2/10, ML4.4/3, MS3.8/13, Ms1 3.8/13, ms1mx3.6/31, Error ellipse: s-maj=28.2km s-min=15.4km az=87.0*

*ISCJB **02** 17:11:17.8±0.7, 37°42S±0°05×73°5W±0°1, h23km, mb4.7/15, MS3.9/10, Error ellipse: s-maj=14.5km s-min=7.6km az=8.5*

*NEIC **02** 17:11:21.1±1.6, 37°43S×73°48W, h36km±11km, mb4.8/10, Error ellipse: s-maj=18.7km s-min=7.6km az=87.0*

ISC 02 17:11:19.2±0.5, 37°44S±0°07×73°56W±0°10, h23km, n56, σ1$40/45, mb4.6/15, MS4.0/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	4.03	145	Pn	Pn	17 12 20.1	+0.6
	5.5nm,0.3s,baz=319,slow=12,SNR=40						
PLCA				Lg	Lg	17 13 23.9	
	24nm,0.3s,baz=28,slow=13,SNR=4.8						
CFAA	**Coronel Fontan**	7.29	39	Pn	Pn	17 13 04.2	-0.2
	1.8nm,0.3s,baz=207,slow=12,SNR=23						
CFAA				Sn	Sn	17 14 27.2	+0.8
	0.9nm,0.3s,baz=247,slow=5.8,SNR=3.5						
CFAA				LR	LR	17 16 12.3	
	comp=Z,94nm,19.9s,baz=222,slow=41						
TRQA	**Tornquist**	9.19	97	*e*Pn	Pn	17 13 31.6	+1.2
LVC	**Limon Verde**	15.31	16	*e*Pn	Pn	17 14 52.7	-1.5
	10nm,0.8s						
CPUP	**Villa Florida**	17.66	56	P	Pn	17 15 23.9	+0.3
	0.9nm,0.3s,baz=204,slow=9.3,SNR=8.0						
CPUP				LR	LR	17 23 23.2	
	comp=Z,485nm,18.1s,baz=215,slow=41						
CPUP	**Villa Florida**	17.66	56	*e*Pn	Pn	17 15 23.4	-0.2
USHA	**Ushuaia**	17.74	170	LR	LR	17 23 16.6	
	comp=Z,346nm,19.6s,baz=344,slow=41						
EFI	**East Falkland**	17.95	147	*e*Pn	P	17 15 27.8	+0.2
	34nm,0.5s						
LPAZ	**La Paz**	21.61	14	P	P	17 16 09.3	+1.0
	4.1nm,0.6s,baz=177,slow=7.8,SNR=14						
LPAZ	**La Paz**	21.61	14	*e*P	P	17 16 09.3	+1.0
	9.2nm,0.9s						
SIV	**San Ignacio**	24.05	31	P	P	17 16 33.1	+0.3
	9.3nm,0.8s,baz=212,slow=8.0,SNR=27						
SIV				LR	LR	17 27 45.1	
	comp=Z,282nm,19.1s,baz=216,slow=41						
NNA	**Nana**	25.52	353	LR	LR	17 24 39.0	
	comp=Z,76nm,19.1s,baz=174,slow=32						
PMSA	**Palmer Station**	27.95	171	LR	LR	17 27 26.7	
	comp=Z,162nm,20.4s,baz=146,slow=35						
SAML	**Samuel**	29.88	21	*e*P	P	17 17 24.6	-0.5
	3.2nm,0.9s						
BDFB	**Brasilia**	31.34	53	P	P	17 17 43.2	+5.0
	2.5nm,0.5s,baz=255,slow=5.2,SNR=4.3						
BDFB				LR	LR	17 31 33.5	
	comp=Z,293nm,20.7s,baz=212,slow=39						
RPN	**Rapa Nui**	31.78	278	LR	LR	17 26 31.3	
	comp=Z,184nm,20.7s,baz=44,slow=29						
OTAV	**Otavalo**	37.77	352	P	P	17 18 38.1	+4.0
RCBR	**Riachuelo**	46.53	57	P	P	17 19 44.6	-0.5
SNAA	**Sanae**	48.89	157	P	P	17 20 02.7	-0.1
	2.1nm,0.9s,baz=49,slow=22,SNR=2.7						
SNAA	**Sanae**	48.89	157	*e*P	P	17 20 01.7	-1.1
	20nm,1.3s						
QSPA	**South Pole Qui**	52.80	180	P	P	17 20 33.6	+1.2
	4.7nm,1.0s,baz=140,slow=3.6,SNR=8.0						
QSPA	**South Pole Qui**	52.80	180	*e*P	P	17 20 32.2	-0.2
	123nm,2.6s						
RKT	**Rikitea**	54.06	267	*e*LR	LR	17 36 25.9	
	175nm,26.2s						
RKT	**Rikitea**	54.06	267	*e*T	T	18 18 43.4	
	1.7nm,0.2s						
MEH	**Mehetia**	67.22	264	*e*T	T	18 35 11.3	
	20nm,0.3s						
TIAR	**Tiarei**	68.41	264	*e*T	T	18 36 40.7	
	3.2nm,0.3s						
PPT2	**Papeete2**	68.58	264	*e*S	S	17 31 22.0	+0.1
	64nm,23.8s						
PPT2	**Papeete2**	68.58	264	*e*LR	LR	17 43 14.6	
	114nm,24.5s						
PPT	**Papeete**	68.59	264	LR	LR	17 44 26.7	
	comp=Z,102nm,19.3s,baz=92,slow=29						
TXAR	**Lajitas Array**	72.17	333	P	P	17 22 42.4	+0.2
	0.4nm,0.7s,baz=160,slow=8.9,SNR=5.8						
TXAR				LR	LR	17 49 25.1	
	comp=Z,90nm,19.0s,baz=0.0,slow=32						
SUR	**Sutherland**	74.25	119	P	P	17 22 51.4	-3.4
	25nm,1.2s						
LIC	**Lamto**	77.03	72	*e*P	P	17 23 11.0	+0.4
	61nm,1.2s						
TIC	**Toumodi**	77.31	71	*e*P	P	17 23 09.1	-3.1
	50nm,0.2s						
KIC	**Kosan Boka**	77.33	72	*e*P	P	17 23 12.8	+0.5
	32nm,0.7s						
DBIC	**Dimbokro**	77.45	71	P	P	17 23 13.5	+0.6
	8.7nm,0.9s,baz=199,slow=3.3,SNR=10.0						
DBIC				LR	LR	17 55 30.0	
	comp=Z,75nm,18.4s,baz=156,slow=34						
DBIC	**Dimbokro**	77.45	71	*e*P	P	17 23 13.2	+0.2
	12nm,0.7s						
DBIC				*e*		17 23 20.5	
TSUM	**Tsumeb**	79.46	106	*e*P	P	17 23 24.4	+0.2
	8.4nm,1.2s						
TSUM				*e*		17 23 32.9	
BOSA	**Boshof**	79.56	118	LR	LR	17 58 11.4	
	comp=Z,84nm,18.5s,baz=187,slow=35						
LBTB	**Lobatse**	81.97	115	*e*P	P	17 23 37.0	-0.6
	94nm,2.3s						
BW06	**Boulder Array**	86.30	334	*e*P	P	17 24 01.7	+2.6
TOA0	**Torodi Ar. Sit**	86.53	71	*e*P	P	17 23 59.3	-1.3
TORD	**Torodi Ar. Bea**	86.53	71	P	P	17 24 00.4	-0.2
	1.4nm,0.6s,baz=214,slow=4.8,SNR=11						
LSZ	**Lusaka**	89.88	109	LR	LR	18 04 59.4	
	comp=Z,67nm,18.0s,baz=324,slow=36						
DZM	**Mont Dzumac**	98.22	234	*e*LR	LR	17 56 50.3	
	98nm,26.5s						
GERES	**GERESS Array B**	115.43	47	PKP	PKPdf	17 29 59.0	+0.4
	0.3nm,0.5s,baz=262,slow=3.6,SNR=3.8						
BR231	**Keskin MP Arra**	123.96	63	*e*PKPdf	PKPdf	17 30 16.0	+0.6
BRTR	**Keskin Array B**	124.53	63	PKP	PKPdf	17 30 15.6	-0.9
	0.6nm,0.6s,baz=194,slow=4.5,SNR=4.7						
TIXI	**Tiksi**	143.83	348	*e*PKPdf	PKPab	17 30 47.3	-1.0
ABKAR	**Abkulak array**	144.72	55	*e*PKPdf	PKPab	17 30 52.1	-0.3
BRVK	**Borovoye**	150.52	46	*e*PKPbc	PKPbc	17 31 08.8	+0.4
AAK	**Ala-Archa**	155.09	68	*e*PKPdf	PKPdf	17 31 10.7	+0.5
AAK				*e*PKPbc	PKPab	17 31 19.7	-15
AAK				*e*PKPab	PKPab	17 31 34.7	-0.2
ZAA0	**Zalesovo Array**	157.77	35	*e*PKPdf	PKPdf	17 31 12.1	-1.0
ZALV	**Zalesovo Beam**	157.77	35	PKP	PKPdf	17 31 13.0	-0.1
	1.3nm,0.8s,baz=267,slow=3.0,SNR=6.8						
ZALV				PKPab	PKPab	17 31 46.3	+0.5
	1.9nm,0.6s,baz=295,slow=5.7,SNR=6.2						
MKAR	**Makanchi Array**	159.86	55	PKP	PKPdf	17 31 16.1	+0.2
	1.0nm,1.1s,baz=272,slow=4.4,SNR=5.6						
MKAR				PKPab	PKPab	17 31 55.1	-0.1
	0.7nm,0.5s,baz=284,slow=4.0,SNR=8.7						
CMAR	**Chiang Mai Arr**	159.97	159	PKPab	PKPab	17 31 55.1	-1.1
	0.6nm,0.9s,baz=221,slow=3.0,SNR=4.4						
HHC	**Hu-ho-hao-te**	174.76	312	*e*PKP	PKPdf	17 31 28.1	+1.1
HHC				pPKP	pPKPdf	17 31 39.0	+4.2
HHC				PP	PP	17 36 52.4	-1.3
HHC				SKS	SKSdf	17 38 23.4	-5.2

*ISCJB **02** 17:11:30.0±1.0, 36°42N±0°04×70°4E±0°1, h100km, mb4.0/2, Error ellipse: s-maj=13.4km s-min=6.1km az=171.1*

*NNC **02** 17:11:41.9±7.3, 37°07N×70°75E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=57.6km s-min=48.3km az=166.0*

*IDC **02** 17:11:42.1±8.0, 36°79N×70°79E, h198km±54km, mb3.4/2, mb1 3.1/5, mb1mx2.7/29, mbtmp3.6/5, MS3.7/1, Ms1 3.7/1, ms1mx2.6/23, Error ellipse: s-maj=82.5km s-min=49.0km az=161.0*

ISC 02 17:11:30.5±1.4, 36°33N±0°08×70°5E±0°1, h100km, n16, σ1$30/16, 5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	6.76	0	Pn	Pn	17 13 14.0	+6.9
	1.8nm,0.5s,baz=176,slow=12,SNR=87						
KK31				⇓Sn	Sn	17 14 23.7	+1.1
	2.2nm,0.3s,baz=183,slow=25,SNR=11						
AAK	**Ala-Archa**	7.02	25	⇓Pn	Pn	17 13 15.7	+4.9
	1.3nm,0.3s						
AAK				⇓Sn	Sn	17 14 29.7	+0.6
	4.0nm,0.5s						
AAK	**Ala-Archa**	7.02	25	P	Pn	17 13 16.2	+5.4
	1.2nm,0.3s,baz=212,slow=12,SNR=22						
AAK				S	Sn	17 14 30.8	+1.6
	0.6nm,0.3s,baz=316,slow=23,SNR=14						
TKM2	**Tokmak 2**	7.68	29	⇓Pn	Pn	17 13 23.8	+4.0
	0.8nm,0.3s						
TKM2				⇓Sn	Sn	17 14 44.1	-1.0
	5.3nm,1.0s						
MKAR	**Makanchi Array**	13.68	37	P	Pn	17 14 40.8	+0.6
	0.1nm,0.3s,baz=216,slow=13,SNR=4.5						
MKAR				S	Sn	17 17 09.4	-1.3
	0.1nm,0.3s,baz=234,slow=20,SNR=5.3						
DANN	**Dangsing**	13.76	122	*e*P	P	17 14 45.2	-1.6
GKN	**Gorkha**	14.58	121	*e*P	Pn	17 14 53.9	+1.8
KKN	**Kakani**	15.16	120	*e*P	Pn	17 15 00.5	+1.0
PKIN	**Phulchoki**	15.38	120	*e*P	Pn	17 15 03.4	+1.1
	4.5nm,0.3s						
PKI	**Pulchoki**	15.39	120	*e*P	Pn	17 15 03.6	+1.1
GUN	**Gumba**	15.51	118	*e*P	Pn	17 15 05.2	+1.1
JIRN	**Jiri**	15.88	119	*e*P	Pn	17 15 10.2	+1.5
	6.7nm,0.4s						
ZALV	**Zalesovo Beam**	20.25	25	P	P	17 15 56.4	-1.2
	0.2nm,0.3s,baz=214,slow=11,SNR=4.5						
FINES	**FINESS Array B**	37.38	326	P	P	17 18 33.1	-0.1
	0.5nm,0.6s,baz=109,slow=8.8,SNR=3.6						
ARCES	**ARCESS Array B**	41.13	338	P	P	17 19 04.0	-0.3
	4.6nm,1.0s,baz=107,slow=8.6,SNR=5.0						
MJAR	**Matsushiro Arr**	53.42	68	LR	LR	17 44 56.1	
	comp=Z,70nm,20.1s,baz=90,slow=38						

*ISCJB **02** 17:21:12.0±0.6, 17°45S±0°07×69°42W±0°05, h152km, mb3.9/6, Error ellipse: s-maj=10.6km s-min=6.8km az=6.3*

*NEIC **02** 17:21:13.0±0.8, 17°54S×69°52W, h147km±8km, mb4.4/2, Error ellipse: s-maj=14.2km s-min=12.1km az=190.0*

*IDC **02** 17:21:16.1±2.2, 17°56S×69°27W, h166km±14km, mb3.8/6, mb1 3.8/7, mb1mx3.6/20, mbtmp4.3/7, Error ellipse: s-maj=31.0km s-min=20.3km az=22.0*

ISC 02 17:21:13.0±0.6, 17°56S±0°07×69°51W±0°06, h152km, n22, σ2$14/26, mb4.0/7, 1C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	1.83	46	P	Pn	17 21 49.6	+2.7
	105nm,0.3s,baz=238,slow=7.0,SNR=1573						
LPAZ				S	Sn	17 22 15.2	+2.4
	5.7nm,0.3s,baz=53,slow=25,SNR=6.3

PLCA	**Paso Flores**	**3.60**	**144**	Pn	**Pn**	**17 25 58.3**	**-0.5**
	0.2nm,0.3s,baz=250,slow=16,SNR=3.4						
PLCA				LR	LR	17 26 56.7	
	comp=Z,94nm,20.7s,baz=252,slow=32						
CFAA	**Coronel Fontan**	**7.51**	**35**	Pn	**Pn**	**17 26 52.0**	**-0.5**
	0.2nm,0.3s,baz=65,slow=14,SNR=3.8						
CFAA				LR	LR	17 29 21.5	
	comp=Z,7.4nm,21.2s,baz=230,slow=34						
CPUP	**Villa Florida**	**17.75**	**54**	LR	LR	17 36 43.9	
	comp=Z,185nm,18.6s,baz=220,slow=39						
LPAZ	**La Paz**	**21.97**	**13**	P	**P**	**17 29 57.6**	**+0.4**
	3.0nm,0.8s,baz=180,slow=5.4,SNR=6.9						
SIV	**San Ignacio**	**24.32**	**30**	P	**P**	**17 30 19.6**	**-0.8**
	1.5nm,0.7s,baz=227,slow=14,SNR=3.0						
BDFB	**Brasilia**	**31.45**	**52**	LR	LR	17 46 15.7	
	comp=Z,86nm,19.1s,baz=211,slow=40						
TXAR	**Lajitas Array**	**72.62**	**332**	P	**P**	**17 36 29.4**	**-0.5**
	0.6nm,0.8s,baz=153,slow=8.4,SNR=5.6						
DBIC	**Dimbokro**	**77.42**	**71**	P	**P**	**17 36 59.0**	**+1.1**
	2.9nm,0.8s,baz=225,slow=9.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**86.50**	**71**	P	**P**	**17 37 46.2**	**+0.5**
	0.2nm,0.6s,baz=219,slow=3.5,SNR=1.6						
ZALV	**Zalesovo Beam**	**158.00**	**36**	PKPab	**PKPab**	**17 45 32.2**	**+0.2**
	0.6nm,0.7s,baz=306,slow=5.3,SNR=4.2						
MKAR	**Makanchi Array**	**159.95**	**56**	PKPab	**PKPab**	**17 45 40.8**	**0.0**
	0.5nm,0.8s,baz=338,slow=2.9,SNR=6.2						

NNC 02 17:32:25.9±1.9, 41°.50N×81°.76E, h0km, mb3.5, mpv3.2, 7C-3D, Error ellipse: s-maj=15.3km s-min=13.4km az=20.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**2.48**	**318**	⇑Pn	Pn	17 33 07.4	-0.1
PDGK				⇓Sn	Sn	17 33 39.9	+1.4
TKM2	**Tokmak 2**	**4.79**	**289**	⇑Pn	Pn	17 33 38.6	-1.0
	2.4nm,0.4s						
TKM2				⇑Lg	Lg	17 34 56.1	
	21nm,0.5s						
MK31	**Makanchi Array**	**5.30**	**4**	⇑Pn	Pn	17 33 46.7	+0.2
	0.9nm,0.5s,baz=191,slow=13,SNR=14						
MK31				Lg	Lg	17 35 13.4	
	4.0nm,0.5s,baz=184,slow=30,SNR=4.2						
AAK	**Ala-Archa**	**5.52**	**284**	⇓Pg	Pg	17 34 10.1	-2.0
	2.1nm,0.6s						
AAK				⇑Lg	Lg	17 35 19.1	
	9.1nm,0.7s						
KK31	**Karatay Array**	**8.49**	**285**	⇑Pg	Pg	17 35 01.3	-7.2
	0.4nm,0.6s,baz=97,slow=15,SNR=5.8						
KK31				⇑Lg	Lg	17 36 56.1	
	1.5nm,0.6s,baz=87,slow=28,SNR=5.8						
OTUK	**Ortayu**	**9.49**	**318**	⇓Lg	Lg	17 37 29.0	

*IDC **02** 17:45:03.4±3.2, 13°.99N×93°.00W, h0km, mb3.8/3, mb1 4.2/6, mb1mx3.9/25, mbtmp3.9/6, ML4.0/3, Error ellipse: s-maj=68.9km s-min=30.8km az=1.0*
*NEIC **02** 17:45:10.1, 14°.33N×93°.18W, h5km, mb4.0/4, MD4.2(MEX), After MEX.*
*MEX **02** 17:45:10.1±0.4, 14°.33N×93°.18W, h5km±23km, MD4.2*
*ISCJB **02** 17:45:11.5±0.9, 14°.49N±0°.07×93°.09W±0°.06, h51km, mb4.0/6, Error ellipse: s-maj=10.4km s-min=7.2km az=20.8*
ISC 02 17:45:13.0±1.2, 14°.49N±0°.10×93°.12W±0°.06, h51km, n22, σ1§59/29, mb4.0/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.93**	**63**	*i P*	**Pn**	**17 45 27.7**	**-2.1**
THIG				*e*S	**Sn**	**17 45 41.4**	**-0.7**
THIG		**0.93**	**63**	*i P*	**Pn**	**17 45 27.7**	**-2.1**
THIG				*e*S	**Sn**	**17 45 41.4**	**-0.7**
PCIG		**1.21**	**355**	*e*P	**Pn**	**17 45 31.5**	**-2.2**
PCIG				*i* S	**Sn**	**17 45 48.9**	**-0.1**
PCIG		**1.21**	**355**	*e*P	**Pn**	**17 45 31.5**	**-2.2**
PCIG				*i* S	**Sn**	**17 45 48.9**	**-0.1**
CCIG	**Comitan**	**2.02**	**28**	*e*P	**Pn**	**17 45 44.9**	**+0.1**
CCIG				*i* S	**Sn**	**17 46 11.1**	**+2.1**
CCIG	**Comitan**	**2.02**	**28**	*e*P	**Pn**	**17 45 44.9**	**+0.1**
CCIG				*i* S	**Sn**	**17 46 11.1**	**+2.1**
APG	**El Apazote**	**2.62**	**78**	Pn	Pn	17 45 47.9	-5.2
	24nm,0.3s,baz=248,slow=14,SNR=29						
CMIG	**Matias Romero**	**3.10**	**327**	*i P*	**Pn**	**17 45 58.0**	**-1.4**
CMIG				*i* S	**Sn**	**17 46 36.5**	**+1.3**
CMIG	**Matias Romero**	**3.10**	**327**	*i P*	**Pn**	**17 45 58.0**	**-1.4**
CMIG				*i* S	**Sn**	**17 46 36.5**	**+1.3**
TEIG	**Tepich**	**7.34**	**38**	Pn	**Pn**	**17 46 57.8**	**+0.1**
	11nm,0.3s,baz=217,slow=14,SNR=25						
TEIG	**Tepich**	**7.34**	**38**	*e*Pn	**Pn**	**17 46 56.3**	**-1.4**
	26nm,0.4s						
TEIG				*e*Sn	**Sn**	**17 48 18.7**	**-1.0**
JTS	**JuntasAbangare**	**9.00**	**117**	Pn	**Pn**	**17 47 22.3**	**+1.8**
JTS				*e*Sn	Sn	17 49 16.4	+16
H06E1	**SOCORRO T-PHASE**	**17.59**	**286**	T	T	18 07 09.2	
	SNR=3.3						
TXAR	**Lajitas Array**	**17.70**	**328**	P	**P**	**17 49 18.4**	**+2.0**
	0.1nm,0.3s,baz=154,slow=12,SNR=7.7						
MIAR	**Mount Ida**	**19.98**	**359**	*e*P	**P**	**17 49 39.9**	**-1.2**
	5.5nm,0.9s						
AMTX	**Amarillo**	**21.73**	**341**	P	**P**	**17 49 56.4**	**-3.7**
	11nm,0.8s						
121A	**Cookes Peak, D**	**22.39**	**326**	*e*P	**P**	**17 50 07.0**	**-0.5**
	8.8nm,1.0s						
SDCO	**Great Sand Dun**	**25.64**	**337**	P	**P**	**17 50 38.4**	**+0.1**
	1.8nm,1.0s						
NVAR	**Mina Array Bea**	**32.61**	**322**	P	**P**	**17 51 41.8**	**+1.6**
	0.7nm,0.6s,baz=132,slow=9.6,SNR=4.8						
YKA	**Yellowknife Ar**	**50.31**	**347**	P	**P**	**17 54 04.5**	**+0.3**
	1.8nm,0.7s,baz=152,slow=7.3,SNR=38						
ILAR	**Eielson Array**	**61.97**	**337**	P	**P**	**17 55 27.7**	**+0.2**
	0.9nm,1.1s,baz=107,slow=6.0,SNR=4.6						
CMAR	**Chiang Mai Arr**	**145.17**	**340**	PKPbc	**PKPdf**	**18 04 44.8**	**-1.1**
	0.8nm,0.7s,baz=338,slow=2.9,SNR=7.3						

FUNV 02 17:45:59.3, 9°.77N×73°.91W, h6km, MW3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**1.65**	**64**	*e*P	Pn	17 46 28.1	-0.8
VIRV				*e*S	Sn	17 46 49.8	-0.7
CAPV	**Capacho**	**2.46**	**140**	*e*P	Pn	17 46 39.1	-1.2
CAPV				*e*S	Sn	17 47 09.5	-1.4
SOCV	**Socops**	**3.36**	**116**	*e*P	Pn	17 46 50.9	-1.5
SOCV				*e*S	Sn	17 47 29.5	-3.1
MONV	**Montecano**	**4.44**	**60**	*e*P	Pn	17 47 06.0	-1.2
BAUV	**El Baul**	**5.85**	**98**	*e*P	Pn	17 47 24.9	-1.8
CUPV	**Cœpira**	**8.01**	**87**	*e*P	Pn	17 47 54.3	-2.1

IDC 02 17:46:09.5±2.4, 2°.68N×128°.61E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/32, mbtmp3.2/3, Error ellipse: s-maj=158.2km s-min=26.6km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.18**	**166**	P	P	17 51 18.5	+0.5
	0.2nm,0.5s,baz=346,slow=11,SNR=12						
ASAR	**Alice Springs**	**26.69**	**169**	P	P	17 51 49.8	-0.8
	0.3nm,0.6s,baz=357,slow=8.0,SNR=5.2						
MKAR	**Makanchi Array**	**59.48**	**325**	P	P	17 56 14.8	+0.2
	0.3nm,0.9s,baz=113,slow=5.9,SNR=4.7						

GUC 02 17:49:38.2±0.5, 33°.90S×71°.40W, h39km±19km, ML3.7, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**0.64**	**51**	⇓*i P*	Pn	17 49 50.8	-0.2
RCDM				*e*S	Sn	17 50 00.4	+0.4
RCDM				AML	AML	17 50 02.1	
	comp=E,9μm,0.1s						
ANTU	**Antumapu**	**0.72**	**63**	⇑*i P*	Pn	17 49 52.2	+0.2
ANTU				*e*S	Sn	17 50 03.0	+1.2
ANTU				AML	AML	17 50 04.4	
	comp=N,5μm,0.2s						
STL	**Santa Lucia**	**0.78**	**54**	⇑*i P*	Pn	17 49 52.1	-0.8
STL				*e*S	Sn	17 50 04.0	+0.6
PEL	**Peldehue**	**0.96**	**39**	⇑*i P*	Pn	17 49 55.9	+0.6
PEL				*e*S	Sn	17 50 09.3	+1.6
PEL				AML	AML	17 50 11.5	
	comp=N,4μm,0.6s						
FCH	**Farellones**	**1.09**	**59**	⇓*i P*	Pn	17 49 56.3	-1.1
FCH				*i* S4	Sn	17 50 11.9	+0.4
FCH				AML	AML	17 50 13.5	
	comp=E,3μm,0.2s						

*IDC **02** 17:51:31.9±1.2, 27°.87N×141°.48E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/55, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=47.3km s-min=16.3km az=57.0*
*ISCJB **02** 17:51:34.5±0.9, 28°.0N±0°.2×141°.5E±0°.2, h33km, mb3.6/4, Error ellipse: s-maj=35.6km s-min=9.8km az=143.9*
ISC 02 17:51:36.3±1.0, 28°.0N±0°.2×141°.7E±0°.3, h35km, n6, σ1§05/7, mb3.5/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.01**	**152**	Pn	**Pn**	**17 51 53.7**	**-0.2**
	72nm,0.3s,baz=306,slow=15,SNR=23						
JCJ				Sn	**Sn**	**17 52 07.1**	**+0.2**
	230nm,0.3s,baz=280,slow=21,SNR=15						
MJAR	**Matsushiro Arr**	**9.01**	**342**	Pn	**Pn**	**17 53 42.9**	**-1.1**
	0.8nm,0.3s,baz=152,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**48.17**	**189**	P	**P**	**18 00 12.9**	**-0.4**
	0.8nm,0.4s,baz=7.5,slow=7.8,SNR=12						
MKAR	**Makanchi Array**	**49.54**	**309**	P	**P**	**18 00 23.8**	**+0.2**
	0.1nm,0.3s,baz=253,slow=37,SNR=2.8						
ASAR	**Alice Springs**	**51.89**	**189**	P	**P**	**18 00 41.0**	**-0.6**
	0.1nm,0.3s,baz=8.4,slow=6.5,SNR=5.6						
FINES	**FINESS Array B**	**76.94**	**334**	P	**P**	**18 03 26.5**	**+1.6**
	0.8nm,0.8s,baz=101,slow=8.0,SNR=4.3						

*IDC **02** 17:52:54.4±0.8, 1°.47N×128°.30E, h0km, mb4.3/13, mb1 4.3/13, mb1mx4.1/23, mbtmp4.3/13, MS3.4/1, Ms1 3.4/1, ms1mx2.6/29, Error ellipse: s-maj=41.2km s-min=16.2km az=83.0*
*ISCJB **02** 17:53:09.1±0.5, 1°.42N±0°.07×128°.62E±0°.08, h150km, mb4.0/22, Error ellipse: s-maj=12.4km s-min=8.7km az=25.7*
*NEIC **02** 17:53:10.5±1.2, 1°.33N×128°.55E, h150km±12km, mb4.3/8, Error ellipse: s-maj=16.9km s-min=10.3km az=72.0*
ISC 02 17:53:10.9±0.8, 1°.4N±0°.1×128°.6E±0°.1, h150km, n32, σ1§21/28, mb4.0/22, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.32**	**244**	*e*Pn	**Pn**	**17 53 38.4**	**-0.2**
TNTI				*e*Sn	**Sn**	**17 54 01.4**	**+1.7**
LBMI	**Labuha**	**2.24**	**208**	P	Pn	17 53 38.9	-10
SWI	**Sorong**	**3.49**	**129**	P	Pn	17 54 13.6	+9.1
	35nm,0.8s,0.1nm						
KKM	**Kota Kinabalu**	**13.16**	**291**	*e*Pn	**Pn**	**17 56 12.5**	**+0.2**
	17nm,1.0s						
KSM	**Kuching**	**18.24**	**271**	*e*P	**P**	**17 57 12.1**	**-0.9**
	23nm,1.1s						
PMG	**Port Moresby**	**21.40**	**120**	LR	LR	18 06 43.3	
	comp=Z,99nm,20.2s,baz=217,slow=38						
WRA	**Warramunga Arr**	**21.91**	**165**	P	**P**	**17 57 51.6**	**-0.8**
	0.2nm,0.5s,baz=340,slow=11,SNR=9.7						
AS31	**Alice Springs**	**25.41**	**168**	P	**P**	**17 58 22.4**	**-2.2**
ASAR	**Alice Springs**	**25.41**	**168**	P	**P**	**17 58 24.7**	**0.0**
	0.3nm,0.8s,baz=346,slow=12,SNR=4.1						
ASAR				PcP	PcP	18 01 58.1	+5.0
	0.5nm,0.5s,baz=349,slow=2.1,SNR=13						
JNU	**Nakatsue**	**31.68**	**4**	P	**P**	**17 59 19.2**	**-1.1**
	9.9nm,1.1s,baz=157,slow=17,SNR=2.6						
STKA	**Stephens Creek**	**35.29**	**161**	P	P	18 00 00.5	+9.0
	2.6nm,0.5s,baz=340,slow=8.0,SNR=18						
KSAR	**Wonju Array Be**	**35.92**	**359**	P	**P**	**17 59 54.6**	**-2.1**
KSRS	**Korea Array**	**35.93**	**359**	P	**P**	**17 59 54.6**	**-2.2**
	2.4nm,0.4s,baz=176,slow=9.5,SNR=15						
MJAR	**Matsushiro Arr**	**36.14**	**13**	P	**P**	**17 59 56.6**	**-2.1**
	1.5nm,0.7s,baz=182,slow=9.7,SNR=5.9						
BJT	**Baijiatuau**	**40.10**	**345**	*e*P	**P**	**18 00 30.6**	**-1.1**
	20nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**41.10**	**63**	T	T	18 44 37.0	
	SNR=2.6						
USRK	**Ussuriysk Ar.**	**42.77**	**4**	P	**P**	**18 00 53.8**	**+0.3**
	1.9nm,0.7s,baz=314,slow=32,SNR=4.8						
MDJ	**Mudanjiang**	**43.09**	**1**	P	**P**	**18 00 55.2**	**-0.8**
ASAJ	**Asahikawa**	**44.37**	**14**	P	**P**	**18 01 07.2**	**+0.9**
	3.0nm,0.7s,baz=207,slow=10,SNR=5.6						
LSA	**Lhasa**	**45.37**	**312**	*e*P	**P**	**18 01 15.2**	**+0.2**
	2.4nm,0.7s						
ULN	**Ulaanbaatar**	**49.93**	**341**	*e*P	**P**	**18 01 49.2**	**-0.3**
	6.4nm,1.1s						
SONM	**Songino Array**	**50.12**	**341**	P	**P**	**18 01 50.7**	**-0.2**
	2.1nm,0.6s,baz=154,slow=8.1,SNR=27						
PETK	**Petropavlovsk-**	**56.97**	**21**	P	**P**	**18 02 41.5**	**+1.0**
	3.2nm,0.8s,baz=217,slow=9.1,SNR=3.2						
MKAR	**Makanchi Array**	**60.53**	**325**	P	**P**	**18 03 05.4**	**+0.1**
	2.7nm,0.5s,baz=117,slow=8.5,SNR=47						
ZALV	**Zalesovo Beam**	**63.52**	**333**	P	**P**	**18 03 23.9**	**-1.1**
	0.6nm,0.4s,baz=104,slow=6.3,SNR=4.7						
SEY	**Seymchan**	**63.95**	**12**	P	**P**	**18 03 29.5**	**+1.8**
	1.3nm,0.7s,baz=197,slow=6.5,SNR=12						
KURK	**Kurchatov**	**64.71**	**327**	*e*P	**P**	**18 03 32.4**	**-0.4**
	3.8nm,0.7s						
BRVK	**Borovoye**	**70.36**	**327**	*e*P	**P**	**18 04 07.7**	**-0.6**
	1.2nm,0.8s						
ABKAR	**Akbulak array**	**75.13**	**321**	*e*P	**P**	**18 04 36.0**	**-0.5**
	0.7nm,0.6s						
ILAR	**Eielson Array**	**86.46**	**25**	P	**P**	**18 05 37.6**	**+1.2**
	0.3nm,0.4s,baz=245,slow=4.9,SNR=2.8						
SPITS	**Spitsbergen Ar**	**93.15**	**349**	P	**P**	**18 06 08.8**	**+1.3**
	7.9nm,1.1s,baz=198,slow=1.7,SNR=2.1						
ARCES	**ARCESS Array B**	**93.29**	**340**	P	**P**	**18 06 08.1**	**-0.2**
	1.9nm,0.7s,baz=90,slow=6.1,SNR=4.5						

*IDC **02** 17:56:58.9±0.7, 33°.74S×71°.86W, h0km, mb4.3/11, mb1 4.4/13, mb1mx4.3/22, mbtmp4.3/13, ML4.3/2, MS3.9/8, Ms1 3.9/8, ms1mx3.6/28, Error ellipse: s-maj=27.3km s-min=17.2km az=84.0*
*ISCJB **02** 17:57:00.4±0.3, 33°.82S±0°.05×72°.01W±0°.04, h19km, mb4.6/14, MS3.9/6, Error ellipse: s-maj=7.9km s-min=4.2km az=176.9*
*NEIC **02** 17:57:02.0±3.1, 33°.82S×72°.06W, h27km±21km, mb5.0/11, Error ellipse: s-maj=15.7km s-min=8.3km az=88.0*
NEIC Felt at Santiago, Talca and Valparaiso.
*BJI **02** 17:57:02.6, 33°.80S×72°.10W, h26km, mB5.1/5, Ms5.1/5, Ms7 4.9/6*
*GUC **02** 17:57:03.4±0.5, 33°.84S×71°.77W, h40km±9km, ML4.2*
ISC 02 17:57:01.3±0.4, 33°.81S±0°.06×71°.92W±0°.05, h19km, n99, σ1§24/113, mb4.6/15, MS3.9/6, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.45**	**109**	⇓*i P*	**Pn**	**17 57 12.3**	**-0.4**
TACH	**Talagante**	**0.83**	**79**	⇓*i P*	**Pg**	**17 57 17.6**	**0.0**
RCDM	**Rinconada Maip**	**0.98**	**71**	⇑*i P*	**Pn**	**17 57 20.2**	**0.0**
RCDM				*i* S	**Sg**	**17 57 33.4**	**+0.1**
RCDM				AML	AML	17 57 40.3	
	comp=N,12μm,0.4s						
ANTU	**Antumapu**	**1.10**	**78**	⇑*i P*	**Pb**	**17 57 22.3**	**+0.5**
ANTU				*e*S	**Sb**	**17 57 36.1**	**+0.4**
ANTU				AML	AML	17 57 39.2	
	comp=N,13μm,0.4s						
SAN	**Santiago**	**1.11**	**72**	⇑*i P*	**Pb**	**17 57 22.3**	**+0.4**
SAN				*i* S4	**Sb**	**17 57 33.3**	**-2.6**
PCH	**Pirque**	**1.19**	**81**	⇓*i P*	**Pb**	**17 57 23.6**	**+0.4**
PEL	**Peldehue**	**1.23**	**57**	⇑*i P*	**Pb**	**17 57 24.6**	**+0.6**
PEL				*i* S	**Sn**	**17 57 40.5**	**+0.9**
CFAA	**Coronel Fontan**	**3.80**	**56**	Pn	**Pn**	**17 58 01.3**	**+2.3**
	comp=N,3.7nm,0.3s,baz=237,slow=13,SNR=21						
CFAA				Lg	Lg	17 58 53.5	
	comp=N,13nm,0.3s,baz=106,slow=20,SNR=5.8						
PLCA	**Paso Flores**	**7.00**	**171**	Pn	**Pn**	**17 58 45.2**	**+2.3**
	comp=N,1.6nm,0.3s,baz=321,slow=9.0,SNR=6.1						
PLCA				Lg	Lg	18 00 37.5	
	comp=N,0.1nm,0.3s,baz=279,slow=12,SNR=3.1						
PLCA				LR	LR	18 01 38.0	
	comp=N,644nm,18.6s,baz=346,slow=40						
PLCA	**Paso Flores**	**7.00**	**171**	*e*Pn	**Pn**	**17 58 43.0**	**+0.1**
PLCA				Lg	Lg	18 00 37.5	
TRQA	**Tornquist**	**9.10**	**121**	*e*Pn	**Pn**	**17 59 14.2**	**+2.5**
CPUP	**Villa Florida**	**14.66**	**63**	Pn	**P**	**18 00 32.1**	**-1.7**
	comp=N,0.8nm,0.3s,baz=224,slow=9.1,SNR=4.8						
CPUP				LR	LR	18 06 30.5	
	comp=N,595nm,19.7s,baz=222,slow=39						
CPUP	**Villa Florida**	**14.66**	**63**	*e*Pn	**Pn**	**18 00 30.2**	**+2.5**
LPAZ	**La Paz**	**17.78**	**12**	P	**Pn**	**18 01 07.5**	**-0.9**
	comp=N,0.3nm,0.3s,baz=192,slow=7.0,SNR=12						
LPAZ	**La Paz**	**17.78**	**12**	*e*Pn	**Pn**	**18 01 07.7**	**-0.8**
	comp=N,13nm,0.9s						
SIV	**San Ignacio**	**20.26**	**32**	P	**P**	**18 01 34.9**	**-0.9**
	comp=N,2.7nm,0.6s,baz=168,slow=8.2,SNR=9.0						
SIV				LR	LR	18 10 51.0	
	comp=N,339nm,19.9s,baz=224,slow=41						
EFI	**East Falkland**	**20.49**	**155**	*e*P	**P**	**18 01 34.8**	**-3.1**
	comp=N,22nm,0.7s						
SAML	**Samuel**	**26.02**	**20**	*e*P	**P**	**18 02 33.5**	**+0.2**
	comp=N,12nm,0.9s						
ATAH	**Atahualpa**	**27.21**	**346**	LR	LR	18 11 06.0	
	comp=N,112nm,20.7s,baz=190,slow=31						
BDFB	**Brasilia**	**28.14**	**56**	P	**P**	**18 02 52.5**	**0.0**
	comp=N,2.3nm,0.4s,baz=182,slow=10,SNR=5.4						
BDFB				LR	LR	18 15 27.3	
	comp=N,352nm,19.5s,baz=219,slow=40						
SNAA	**Sanae**	**51.72**	**158**	P	**P**	**18 06 08.0**	**+1.0**
	comp=N,3.6nm,0.9s,baz=285,slow=5.5,SNR=7.4						
SNAA	**Sanae**	**51.72**	**158**	*e*P	**P**	**18 06 07.5**	**+0.5**
	comp=N,10nm,0.9s						
TEIG	**Tepich**	**55.95**	**341**	P	**P**	**18 06 39.3**	**+0.9**
	comp=N,11nm,0.5s,baz=176,slow=9.4,SNR=3.6						
TEIG	**Tepich**	**55.95**	**341**	P	**P**	**18 06 36.4**	**-1.9**
	comp=N,14nm,0.7s						
QSPA	**South Pole Qui**	**56.42**	**180**	P	**P**	**18 06 42.6**	**+1.2**
	comp=N,4.4nm,0.9s,baz=123,slow=2.2,SNR=8.1						
H06S1	**SOCORRO T**	**64.15**	**318**	T	T	19 15 44.4	
	SNR=10						
VNDA	**Vanda**	**64.31**	**191**	LR	LR	18 31 24.1	
	comp=N,66nm,20.6s,baz=258,slow=32						
SYO	**Syowa Base**	**66.00**	**158**	⇑*e*P	**P**	**18 07 43.4**	**-2.7**
BBSR	**BB Station**	**66.18**	**7**	*e*P	**P**	**18 07 46.5**	**-1.1**
	comp=N,37nm,0.9s						
532A	**Rocksprings**	**68.88**	**334**	P	**P**	**18 08 06.5**	**+1.7**
	baz=69						
433A	**Art**	**69.16**	**335**	P	**P**	**18 08 07.9**	**+1.5**
	baz=69						
TXAR	**Lajitas Array**	**69.62**	**331**	P	**P**	**18 08 09.8**	**+0.4**
	comp=N,0.4nm,0.5s,baz=157,slow=7.7,SNR=7.5						
529A	**Stev Forest Ra**	**69.74**	**332**	P	**P**	**18 08 11.6**	**+1.4**
	baz=70						
429A	**Davenport Ranc**	**70.06**	**333**	P	**P**	**18 08 13.5**	**+1.4**
	baz=70						
233A	**Rising Star**	**70.24**	**336**	P	**P**	**18 08 14.3**	**+1.2**
	baz=70						
330A	**Mertzon**	**70.50**	**334**	P	**P**	**18 08 16.0**	**+1.3**
	baz=71						
WVT	**Waverly**	**71.15**	**346**	*e*P	**P**	**18 08 18.2**	**-0.3**
	comp=N,36nm,1.0s						
Z32A	**Haskell**	**71.61**	**336**	P	**P**	**18 08 22.1**	**+0.6**
	baz=72						
Z31A	**Sharp Cattle R**	**71.85**	**335**	P	**P**	**18 08 24.0**	**+1.1**
	baz=72						
WCI	**Wyandotte Cave**	**72.91**	**348**	*e*P	**P**	**18 08 27.9**	**-1.2**
	comp=N,208nm,2.6s						
Z26A	**Caprock**	**73.22**	**332**	P	**P**	**18 08 31.8**	**+0.7**
	baz=74						
MAW	**Mawson**	**73.33**	**164**	LR	LR	18 41 05.5	
	comp=N,147nm,18.9s,baz=171,slow=36						
DBIC	**Dimbokro**	**75.02**	**71**	P	**P**	**18 08 41.8**	**-0.1**
	comp=N,3.4nm,0.8s,baz=204,slow=4.5,SNR=4.7						
DBIC				LR	LR	18 40 20.7	
	comp=N,70nm,18.5s,baz=184,slow=35						
DBIC	**Dimbokro**	**75.02**	**71**	*e*P	**P**	**18 08 41.5**	**-0.5**
	comp=N,9.2nm,1.1s						
TSUM	**Tsumeb**	**79.17**	**106**	P	**P**	**18 09 06.3**	**+0.8**
	comp=N,1.7nm,0.9s,baz=230,slow=7.6,SNR=4.1						
ECSD	**EROS Data Cent**	**80.40**	**342**	*e*P	**P**	**18 09 10.0**	**-1.3**
	comp=N,156nm,3.0s						
H29A	**Onida**	**82.20**	**340**	P	**P**	**18 09 21.8**	**+1.0**
	baz=82						
LBTB	**Lobatse**	**82.29**	**115**	P	**P**	**18 09 22.6**	**+0.5**
	comp=N,3.5nm,0.7s,baz=264,slow=6.5,SNR=4.4						
LBTB	**Lobatse**	**82.29**	**115**	*e*P	**P**	**18 09 21.3**	**-0.8**
	comp=N,7.3nm,1.0s						
K21A	**Alcova**	**82.68**	**335**	P	**P**	**18 09 24.9**	**+1.3**
	baz=83						
DUG	**Dugway, Tooele**	**82.76**	**330**	P	**P**	**18 09 24.4**	**+0.3**
	baz=83						
F29A	**Eureka**	**83.20**	**341**	P	**P**	**18 09 26.6**	**+0.6**
	baz=84						
G27A	**Dupree**	**83.38**	**339**	P	**P**	**18 09 27.8**	**+0.8**
	baz=84						
G26A	**Maurine**	**83.51**	**339**	P	**P**	**18 09 28.4**	**+0.7**
	baz=84						
I22A	**9 Mile Ranch,**	**83.51**	**336**	P	**P**	**18 09 28.6**	**+0.8**
	baz=84						
PDAR	**Pinedale Array**	**83.64**	**333**	P	**P**	**18 09 29.4**	**+0.8**
	comp=N,0.9nm,1.0s,baz=150,slow=6.3,SNR=4.9						
TOA0	**Torodi Ar. Sit**	**84.05**	**70**	*e*P	**P**	**18 09 30.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**84.05**	**70**	P	**P**	**18 09 31.4**	**+0.3**
	comp=N,5.4nm,0.8s,baz=260,slow=4.3,SNR=28						
C30A	**Mose, Pekin**	**84.57**	**342**

WMQ LN
comp=N,26nm,22.0s
WMQ LE
comp=N,14nm,20.0s
WMQ LZ
comp=N,22nm,18.0s
CN2 Changchun 163.22 312 *e*PKP **PKPdf 18 17 02.5 +0.2**
QIZ Qiongzhong 165.19 187 PKP **PKPdf 18 17 04.5 -0.4**
QIZ PP **PP 18 21 48.8 +1.5**
QIZ SS SS 18 42 23.4 +2.3
SONM Songino Array 165.93 5 PKPab **PKPab 18 18 05.1 +0.5**
comp=N,0.5nm,0.9s,baz=345,slow=3.5,SNR=4.2
KMI Kunming 170.17 150 PKP **PKPdf 18 17 07.1 -1.4**
KMI sPKP 18 17 23.1
KMI LZ
comp=N,92nm,24.1s
NJ2 Nanjing 170.78 262 *e*PKP **PKPdf 18 17 07.8 -0.5**
BJI Beijing 171.02 316 PKP **PKPdf 18 17 08.6 +0.4**
HHC Hu-ho-hao-te 172.45 339 *e*PKP **PKPdf 18 17 08.4 -0.6**
HHC sPKP 18 17 22.7
HHC PP **PP 18 22 27.2 +2.8**
HHC SKKS 18 29 09.4
HHC SS **SS 18 43 32.3 -1.9**
HHC PPMZ
comp=N,220nm,9.9s
HHC LN
comp=N,250nm,17.3s
HHC LE
comp=N,170nm,18.5s
HHC LZ
comp=N,350nm,17.3s
GYA Guiyang 172.57 170 *e*PKP **PKPdf 18 17 08.0 -1.5**
GYA PKPab **PKPab 18 18 35.5 +1.0**
GYA PKS PKSdf 18 20 35.0 -7.0
GYA PP **PP 18 22 27.6 +2.7**
GYA SKKS 18 29 10.9
GYA SS **SS 18 43 33.2 -1.9**
GYA PPMZ
comp=N,120nm,8.2s
GYA LN
comp=N,130nm,21.3s
GYA LE
comp=N,110nm,22.1s
GYA LZ
comp=N,120nm,21.5s
CD2 Chengdu 175.34 127 *e*PKP **PKPdf 18 17 09.2 -1.1**
LZH Lanzhou 175.84 56 *e*PKP **PKPdf 18 17 09.4 -1.0**
LZH pPKP **pPKPdf 18 17 20.1 +3.1**
LZH sPKP 18 17 23.4
LZH PKPab **PKPab 18 18 51.5 +2.4**

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*ISCJB **02** 18:01:05.8±0.6, 9°.69S±0°.05×159°.43E±0°.05, h552km±7km, mb4.3/41, Error ellipse: s-maj=8.6km s-min=6.6km az=42.6*
*BJI **02** 18:01:05.1, 9°.38S×159°.68E, h541km, mB4.7/18, mb4.3/34*
*NEIC **02** 18:01:06.6±0.6, 9°.67S×159°.42E, h549km±8km, mb4.6/25, Error ellipse: s-maj=9.4km s-min=7.3km az=146.0*
*IDC **02** 18:01:07.3±1.5, 9°.75S×159°.46E, h563km±16km, mb3.6/21, mb1 3.7/24, mb1mx3.7/28, mbtmp4.6/24, Error ellipse: s-maj=13.1km s-min=8.9km az=124.0*
ISC 02 18:01:06.2±0.4, 9.72S±0°.06×159°.48E±0°.06, h545km±3km, n118, σ1§25/143, mb4.3/40, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.54**	**59**	*e*P		**P**	**18 02 11.6**	**+0.4**
RABL	**Rabaul**	**9.10**	**307**	P		**P**	**18 03 14.1**	**-0.9**
baz=9.0,SNR=10								
PMG	**Port Moresby**	**12.15**	**270**	P		**P**	**18 03 47.6**	**+1.2**
0.3nm,0.3s,baz=77,slow=9.6,SNR=4.8								
PMG	**Port Moresby**	**12.15**	**270**	*e*P		**P**	**18 03 46.6**	**+0.2**
DZM	**Mont Dzumac**	**13.99**	**152**	P		**P**	**18 04 04.6**	**-0.7**
2.8nm,0.3s,baz=170,slow=18,SNR=46								
DZM	**Mont Dzumac**	**13.99**	**152**	*e*P		**P**	**18 04 05.1**	**-0.2**
30nm,0.6s								
CTA	**Charters Tower**	**16.41**	**230**	P		**P**	**18 04 30.2**	**+0.5**
0.9nm,0.3s,baz=54,slow=11,SNR=12								
CTAO	**Charters Tower**	**16.41**	**230**	*e*P		**P**	**18 04 30.6**	**+0.8**
19nm,1.0s								
COEN	**Coen**	**16.50**	**254**	P		**P**	**18 04 31.9**	**+1.2**
baz=16,SNR=6.3								
TARA	**Tarawa**	**17.32**	**51**	*e*P		**P**	**18 04 41.4**	**+3.2**
254nm,1.4s								
EIDS	**Eidsvold**	**17.49**	**206**	P		**P**	**18 04 41.8**	**+2.2**
baz=18,SNR=5.0								
EIDS	**Eidsvold**	**17.49**	**206**	*e*P		**P**	**18 04 41.3**	**+1.7**
50nm,1.1s								
RMQ	**Roma**	**19.52**	**210**	P		**P**	**18 05 00.3**	**+2.2**
baz=20,SNR=7.0								
MSVF	**Nonsavu**	**19.71**	**116**	*e*P		**P**	**18 05 00.6**	**+0.6**
44nm,0.7s								
QIS	**Mount Isa**	**21.98**	**238**	P		**P**	**18 05 21.5**	**+1.1**
baz=22,SNR=3.8								
WRAB	**Tennant Creek**	**26.29**	**244**	*e*P		**P**	**18 05 58.7**	**0.0**
27nm,0.6s								
WB2	**Warramunga Arr**	**26.30**	**244**	*e*P		**P**	**18 05 59.0**	**+0.2**
WRA	**Warramunga Arr**	**26.31**	**244**	P		**P**	**18 05 58.4**	**-0.4**
31nm,0.7s,baz=68,slow=8.9,SNR=246								
WRA				PcP		**PcP**	**18 09 07.2**	**+0.3**
2.5nm,0.8s,baz=75,slow=2.2,SNR=11								
WRA				S		**S**	**18 09 52.4**	**-1.2**
3.8nm,0.9s,baz=66,slow=14,SNR=8.8								
KDU	**Kakadu**	**26.65**	**261**	P		**P**	**18 06 01.5**	**-0.4**
baz=26,SNR=4.0								
STKA	**Stephens Creek**	**27.59**	**214**	P		**P**	**18 06 09.3**	**-0.5**
2.4nm,0.7s,baz=46,slow=13,SNR=6.0								
STKA				PcP		**PcP**	**18 09 09.4**	**-0.3**
2.7nm,0.8s,baz=6.6,slow=1.9,SNR=3.3								
STKA	**Stephens Creek**	**27.59**	**214**	P		**P**	**18 06 10.8**	**+0.9**
baz=28,SNR=4.4								
STKA	**Stephens Creek**	**27.59**	**214**	*e*P		**P**	**18 06 10.7**	**+0.9**
22nm,2.8s								
MTN	**Manton Dam**	**27.96**	**261**	P		**P**	**18 06 13.3**	**-0.1**
baz=28,SNR=5.2								
AS01	**Alice Springs**	**28.04**	**237**	*e*P		**P**	**18 06 13.6**	**-0.4**
AS01				*e*PcP		**PcP**	**18 09 11.2**	**+0.1**
AS31	**Alice Springs**	**28.08**	**237**	*e*P		**P**	**18 06 13.8**	**-0.6**
ASAR	**Alice Springs**	**28.08**	**237**	P		**P**	**18 06 14.2**	**-0.3**
10nm,0.8s,baz=66,slow=9.3,SNR=125								
ASAR				PcP		**PcP**	**18 09 11.1**	**-0.1**
1.4nm,0.6s,baz=70,slow=2.2,SNR=8.4								
ASAR				S		**S**	**18 10 19.5**	**-1.9**
6.2nm,1.1s,baz=63,slow=16,SNR=17								
ASAR				ScP		**ScP**	**18 12 00.7**	**-0.1**
0.6nm,0.6s,baz=71,slow=2.5,SNR=5.7								
WAKE	**Wake Island**	**29.67**	**14**	*e*P		**P**	**18 06 27.4**	**-0.7**
235nm,0.5s								
HTT	**Hallett**	**30.25**	**216**	P		**P**	**18 06 34.0**	**+1.0**
baz=30,SNR=4.8								
KNRA	**Kununurra**	**30.52**	**256**	P		**P**	**18 06 35.5**	**0.0**
baz=30,SNR=34								
BBOO	**Buckleboo**	**31.55**	**220**	P		**P**	**18 06 44.8**	**+0.7**
baz=32,SNR=8.4								
URZ	**Urewera**	**32.54**	**154**	P		**P**	**18 06 52.4**	**-0.1**
4.6nm,0.4s,baz=309,slow=13,SNR=3.5								
BKZ	**Black Stump Fm**	**33.04**	**155**	*e*P		**P**	**18 06 57.5**	**+0.8**
21nm,0.6s								
WRKA	**Warakurna**	**33.32**	**239**	P		**P**	**18 06 59.6**	**+0.2**
baz=33,SNR=19								
WRKA				S		**S**	**18 11 40.2**	**-1.6**
baz=33,SNR=4.7								
FITZ	**Fitzroy Crossi**	**33.84**	**252**	P		**P**	**18 07 03.5**	**-0.3**
baz=34,SNR=13								
FITZ	**Fitzroy Crossi**	**33.84**	**252**	*e*P		**P**	**18 07 03.3**	**-0.4**
21nm,1.2s								
BATI	**Baumata**	**35.27**	**266**	P		**P**	**18 07 17.2**	**+1.4**
29nm,0.6s,baz=168,slow=2.5,SNR=9.3								
MMRI	**Maumere**	**36.77**	**269**	*e*P		**P**	**18 07 27.0**	**-1.1**
68nm,1.2s								
MBWA	**Marble Bar**	**39.86**	**249**	*e*P		**P**	**18 07 53.0**	**-0.1**
9.0nm,0.4s								
MEEK	**Meekatharra**	**42.09**	**241**	P		**P**	**18 08 11.8**	**+0.9**
baz=42,SNR=21								
KLBR	**Kellerberrin**	**44.33**	**234**	P		**P**	**18 08 28.3**	**+0.1**
baz=44,SNR=4.5								
JAGI	**Jajag, Banyuwa**	**44.75**	**268**	P		**P**	**18 08 29.9**	**-1.7**
baz=45,SNR=4.7								
BLDU	**Ballidu**	**44.86**	**236**	P		**P**	**18 08 32.8**	**+0.6**
baz=45,SNR=6.4								
MORW	**Morawa**	**44.95**	**238**	P		**P**	**18 08 33.3**	**+0.3**
baz=45,SNR=5.7								
GIRL	**Giralia**	**45.14**	**248**	P		**P**	**18 08 36.2**	**+1.7**
baz=45,SNR=3.2								
NWAO	**Narrogin (SRO)**	**45.21**	**233**	P		**P**	**18 08 34.8**	**-0.1**
6.8nm,0.7s,baz=41,slow=6.3,SNR=6.2								
KKM	**Kota Kinabalu**	**45.86**	**288**	*e*P		**P**	**18 08 40.0**	**-0.2**
21nm,0.9s								
JOW	**Kunigami**	**47.30**	**321**	P		**P**	**18 08 50.0**	**-0.8**
2.7nm,0.3s,baz=145,slow=17,SNR=10								
MJAR	**Matsushiro Arr**	**50.17**	**338**	P		**P**	**18 09 10.7**	**-1.2**
1.1nm,0.7s,baz=169,slow=8.4,SNR=4.2								
KSM	**Kuching**	**50.20**	**280**	*e*P		**P**	**18 09 11.8**	**-0.7**
19nm,1.0s								
YHNB	**Yeheng**	**50.49**	**313**	P		**P**	**18 09 14.8**	**+0.3**
QIZ	**Qiongzhong**	**56.66**	**300**	P		**P**	**18 09 58.4**	**+0.2**
QIZ				pP		**pP**	**18 11 43.7**	**-0.5**
QIZ				sP		**sP**	**18 12 42.0**	**-0.9**
QIZ				S		**S**	**18 17 09.6**	**+0.1**
QIZ				ScS		**ScS**	**18 18 51.5**	**-0.4**
QIZ				PMZ				
10.0nm,1.9s								
QIZ				PMZ				
44nm,3.3s								
USRK	**Ussuriysk Ar.**	**59.17**	**337**	P		**P**	**18 10 15.5**	**+0.8**
4.2nm,0.7s,baz=147,slow=7.0,SNR=7.5								
CN2	**Changchun**	**61.58**	**333**	*e*P		P	18 10 34.3	+3.6
PSI	**Prapat**	**61.58**	**279**	P		**P**	**18 10 30.8**	**-0.7**
1.8nm,0.4s,baz=247,slow=7.6,SNR=4.9								
GSI	**Gunungsitoli**	**62.59**	**277**	*e*P		**P**	**18 10 37.7**	**-0.2**
GSI				*e*PP		PP	18 12 57.9	-6.9
PEA0	**Petropavlovsk-**	**62.59**	**359**	*e*P		**P**	**18 10 37.3**	**+0.3**
PETK	**Petropavlovsk-**	**62.59**	**359**	P		**P**	**18 10 37.4**	**+0.3**
5.3nm,0.7s,baz=165,slow=7.7,SNR=5.0								
BJI	**Beijing**	**63.68**	**324**	P		**P**	**18 10 44.9**	**+0.6**
BJI				PMZ				
6.0nm,1.1s								
KMI	**Kunming**	**65.21**	**303**	P		**P**	**18 10 56.3**	**+1.7**
KMI				PMZ				
12nm,1.1s								
CM01	**Chiang Mai Arr**	**65.92**	**295**	*e*P		**P**	**18 10 59.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**65.95**	**295**	P		**P**	**18 10 58.9**	**-0.2**
5.6nm,1.0s,baz=109,slow=4.3,SNR=20								
CHTO	**Chiang Mai**	**66.07**	**296**	*e*P		**P**	**18 10 59.7**	**-0.1**
5.8nm,1.0s								
HHC	**Hu-ho-hao-te**	**66.92**	**322**	*e*P		**P**	**18 11 06.6**	**+1.9**
HHC				pP		**pP**	**18 12 57.6**	**+1.7**
HHC				PP		**PP**	**18 13 43.2**	**+1.3**
HHC				sP		**sP**	**18 13 54.3**	**+1.2**
HHC				S		**S**	**18 19 17.7**	**+2.5**
HHC				sS		**sS**	**18 22 32.8**	**-0.8**
HHC				PMZ				
18nm,0.7s								
HHC				PMZ				
230nm,7.8s								
CD2	**Chengdu**	**66.95**	**309**	*e*P		**P**	**18 11 05.0**	**-0.1**
CD2				PMZ				
20nm,1.1s								
VNDA	**Vanda**	**67.80**	**179**	P		**P**	**18 11 09.8**	**+0.5**
4.5nm,1.0s								
LZH	**Lanzhou**	**69.36**	**314**	*e*P		**P**	**18 11 21.5**	**+1.7**
LZH				pP		**pP**	**18 13 14.2**	**+2.2**
LZH				sP		**sP**	**18 14 07.8**	**-1.1**
LZH				PMZ				
23nm,1.2s								
LZH				PMZ				
110nm,4.5s								
SEY	**Seymchan**	**72.64**	**357**	P		**P**	**18 11 38.1**	**0.0**
2.3nm,0.5s,baz=151,slow=5.3,SNR=14								
ULN	**Ulaanbaatar**	**73.69**	**326**	*e*P		**P**	**18 11 45.7**	**+1.0**
6.0nm,0.8s								
GTA	**Gaotai**	**73.76**	**316**	*e*P		**P**	**18 11 46.5**	**+1.2**
GTA				PMZ				
10.0nm,1.1s								
SONM	**Songino Array**	**74.03**	**326**	P		**P**	**18 11 47.2**	**+0.6**
4.4nm,0.7s,baz=144,slow=5.9,SNR=51								
SONA1	**Songino Array**	**74.04**	**326**	*e*P		**P**	**18 11 47.1**	**+0.5**
YAK	**Yakutsk**	**75.20**	**346**	*e*P		**P**	**18 11 52.3**	**-0.3**
12nm,0.6s								
TAPN	**Taplejung**	**78.60**	**300**	*e*P		**P**	**18 12 12.0**	**-0.4**
ODAN	**Odare**	**78.73**	**300**	*e*P		**P**	**18 12 13.1**	**+0.1**
18nm,0.7s								
JIRN	**Jiri**	**79.98**	**300**	*e*P		**P**	**18 12 20.0**	**+0.2**
5.8nm,0.4s								
PALK	**Pallekele**	**80.25**	**279**	*e*P		**P**	**18 12 22.1**	**+1.0**
17nm,0.9s								
QSPA	**South Pole Qui**	**80.28**	**180**	P		**P**	**18 12 20.1**	**-0.2**
1.9nm,0.7s,baz=312,slow=0.8,SNR=8.7								
GUN	**Gumba**	**80.31**	**301**	*e*P		**P**	**18 12 21.3**	**-0.2**
14nm,0.7s								
PKI	**Pulchoki**	**80.62**	**300**	*e*P		**P**	**18 12 23.0**	**-0.1**
15nm,0.7s								
PKIN	**Phulchoki**	**80.63**	**300**	*e*P		**P**	**18 12 22.8**	**-0.3**
10nm,0.5s								
KKN	**Kakani**	**80.79**	**300**	*e*P		**P**	**18 12 23.7**	**-0.1**
DMN	**Daman**	**80.89**	**300**	*e*P		**P**	**18 12 24.6**	**+0.2**
GKN	**Gorkha**	**81.39**	**300**	*e*P		**P**	**18 12 26.6**	**-0.2**
KTH	**Kantishna Hill**	**82.17**	**20**	*e*P		**P**	**18 12 28.7**	**-1.2**
9.6nm,0.9s								
KOLN	**Koldanda**	**82.22**	**300**	*e*P		**P**	**18 12 30.5**	**-0.6**
27nm,0.8s								
DANN	**Dangsing**	**82.23**	**300**	*e*P		**P**	**18 12 30.7**	**-0.6**
27nm,0.6s								
MCK	**McKinley**	**82.97**	**21**	*e*P		**P**	**18 12 32.7**	**-1.1**
13nm,1.0s								
WMQ	**Urumqi**	**83.84**	**316**	P		**P**	**18 12 38.1**	**-0.6**
WMQ				pP		**pP**	**18 14 38.0**	**+1.4**
WMQ				PP		**PP**	**18 16 02.5**	**+0.3**
WMQ				SKS		S	18 22 07.3	-10
WMQ				S		**SKKSac**	**18 22 15.5**	**-1.0**
WMQ				sS		**sS**	**18 25 43.3**	**-3.9**
WMQ				SS		**SS**	**18 28 02.3**	**+1.3**
WMQ				PMZ				
130nm,4.5s								
COLA	**College**	**84.05**	**20**	*e*P		**P**	**18 12 37.2**	**-1.9**
7.1nm,0.8s								
IL1	**Eielson Array**	**84.32**	**20**	*e*P		**P**	**18 12 39.1**	**-1.4**
ILAR	**Eielson Array**	**84.32**	**20**	P		**P**	**18 12 39.8**	**-0.7**
4.9nm,0.9s,baz=235,slow=4.1,SNR=27								
DOT	**Dot Lake**	**84.66**	**22**	*e*P		**P**	**18 12 42.5**	**+0.3**
161nm,2.8s								
EGAK	**Eagle**	**86.34**	**22**	*e*P		**P**	**18 12 51.4**	**+1.2**
13nm,1.1s								
MK01	**Makanchi Array**	**88.36**	**318**	*e*P		**P**	**18 12 59.7**	**-0.5**
MKAR	**Makanchi Array**	**88.37**	**318**	P		**P**	**18 12 59.8**	**-0.5**
2.2nm,0.5s,baz=90,slow=6.2,SNR=56								
MKAR	**Makanchi Array**	**88.37**	**318**	*e*P		**P**	**18 12 59.9**	**-0.3**
ZAA0	**Zalesovo Array**	**88.92**	**325**	*e*P		**P**	**18 13 00.9**	**-1.6**
ZALV	**Zalesovo Beam**	**88.92**	**325**	P		**P**	**18 13 00.6**	**-1.9**
1.0nm,0.5s,baz=117,slow=5.2,SNR=7.0								
NVAR	**Mina Array Bea**	**89.94**	**51**	P		**P**	**18 13 08.3**	**+0.4**
1.7nm,0.7s,baz=236,slow=8.9,SNR=8.0								
NV01	**Mina Array Sit**	**89.94**	**51**	*e*P		**P**	**18 13 09.1**	**+1.1**
KSH	**Kashi**	**91.15**	**310**	*e*P		**P**	**18 13 14.9**	**+1.5**
KSH				sP		**sP**	**18 16 08.5**	**+0.3**
KSH				PP		**PP**	**18 17 05.1**	**+5.0**
KSH				PMZ				
3.0nm,1.0s								
KSH				PMZ				
110nm,5.6s								
KURK	**Kurchatov**	**91.71**	**321**	*e*P		**P**	**18 13 14.6**	**-0.9**
4.4nm,1.5s								
BMO	**Blue Mountains**	**92.01**	**45**	*e*P		**P**	**18 13 18.3**	**+1.1**
52nm,2.6s								
TKM2	**Tokmak 2**	**92.10**	**313**	*e*P		**P**	**18 13 17.0**	**-0.7**
YKA	**Yellowknife Ar**	**96.66**	**28**	P		**P**	**18 13 36.6**	**-1.1**
0.8nm,0.7s,baz=258,slow=4.8,SNR=18								
PDAR	**Pinedale Array**	**97.22**	**48**	P		Pdif	18 13 40.8	-0.2
0.2nm,0.4s,baz=159,slow=3.9,SNR=4.3								
TXAR	**Lajitas Array**	**100.63**	**62**	P		**Pdif**	**18 13 51.9**	**-4.5**
0.1nm,0.5s,baz=161,slow=7.5,SNR=4.6								
ARCES	**ARCESS Array B**	**113.43**	**344**	PKiKP		**PKiKP**	**18 18 40.5**	**-1.3**
1.9nm,0.8s,baz=45,slow=1.9,SNR=8.4								
FINES	**FINESS Array B**	**118.20**	**337**	PKP		**PKPdf**	**18 18 48.4**	**-2.7**
5.1nm,1.1s,baz=132,slow=2.8,SNR=4.4								
AKASG	**Malin Array Be**	**122.31**	**325**	PKP		**PKPdf**	**18 18 58.3**	**-1.0**
0.9nm,0.5s,baz=52,slow=3.4,SNR=4.1								
BRTR	**Keskin Array B**	**123.50**	**311**	PKP		**PKPdf**	**18 19 01.0**	**-1.2**
1.1nm,1.0s,baz=127,slow=0.6,SNR=5.3								
NOA	**NORSAR Array B**	**123.68**	**342**	PKP		**PKPdf**	**18 19 00.6**	**-1.1**
0.8nm,0.6s,baz=47,slow=1.9,SNR=3.3								
LPAZ	**La Paz**	**126.27**	**118**	PKP		**PKPdf**	**18 19 08.9**	**+0.2**
1.0nm,0.5s,baz=321,slow=4.0,SNR=4.3								
KOLS	**Kolonicke sedl**	**127.09**	**326**	*e*PKP		**PKPdf**	**18 19 09.2**	**+0.6**
KEST	**Kesra**	**142.47**	**318**	PKP		**PKPdf**	**18 19 34.9**	**-2.7**
0.8nm,0.6s,baz=204,slow=2.6,SNR=5.8								
BDFB	**Brasilia**	**142.90**	**132**	PKP		**PKPdf**	**18 19 36.2**	**-2.8**
4.1nm,0.5s,baz=256,slow=2.0,SNR=7.3								
ESDC	**Sonseca Array**	**146.71**	**336**	PKPbc		**PKPdf**	**18 19 45.1**	**+0.3**
0.9nm,0.5s,baz=23,slow=2.6,SNR=5.9								
TORD	**Torodi Ar. Bea**	**157.96**	**281**	PKP		**PKPdf**	**18 20 00.1**	**-1.6**
0.9nm,1.0s,baz=21,slow=3.9,SNR=4.2								
TORD				PKPab		**PKPab**	**18 20 37.0**	**-1.5**
0.8nm,0.5s,baz=84,slow=4.5,SNR=7.2								

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*IDC **02** 18:19:22.7±1.2, 37°.86S×74°.51W, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.9/30, mbtmp4.1/6, ML4.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/23, Error ellipse: s-maj=36.2km s-min=21.2km az=57.0*
*ISCJB **02** 18:19:26.7±0.9, 37°.74S±0°.07×74°.4W±0°.1, h33km, mb4.1/5, Error ellipse: s-maj=14.1km s-min=8.9km az=162.7*
ISC 02 18:19:28.3±1.0, 37°.79S±0°.09×74°.5W±0°.1, h35km, n8, σ1§20/10, mb4.0/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.22**	**135**	Pn		**Pn**	**18 20 29.8**	**-0.4**
5.1nm,0.3s,baz=303,slow=14,SNR=22								
PLCA				Sn		**Sn**	**18 21 19.4**	**+1.2**
0.7nm,0.3s,baz=13,slow=19,SNR=1.8								
PLCA				LR		LR	18 22 16.2	
comp=Z,288nm,19.4s,baz=10,slow=41								
CFAA	**Coronel Fontan**	**8.02**	**41**	Pn		**Pn**	**18 21 20.6**	**-1.7**
0.1nm,0.3s,baz=221,slow=11,SNR=4.7								
CFAA				Sn		**Sn**	**18 22 52.6**	**+0.9**
0.2nm,0.3s,baz=18,slow=13,SNR=3.6								
LPAZ	**La Paz**	**22.13**	**16**	P		**P**	**18 24 23.2**	**+1.7**
2.0nm,0.9s,baz=181,slow=9.3,SNR=4.4								
APG	**El Apazote**	**54.63**	**341**	P		**P**	**18 28 54.3**	**+0.6**
4.0nm,0.5s,baz=152,slow=9.2,SNR=5.1								
TXAR	**Lajitas Array**	**72.16**	**333**	P		**P**	**18 30 48.9**	**-0.5**
0.9nm,0.7s,baz=161,slow=9.4,SNR=8.8								
BOSA	**Boshof**	**80.02**	**118**	P		**P**	**18 31 34.2**	**-0.2**
2.0nm,0.5s,baz=24,slow=1.7,SNR=9.0								
PDAR	**Pinedale Array**	**86.30**	**335**	P		**P**	**18 32 07.0**	**+0.6**
0.9nm,1.0s,baz=165,slow=3.7,SNR=3.4								
BRTR	**Keskin Array B**	**125.32**	**64**	PKP		**PKPdf**	**18 38 24.2**	**-1.0**
0.1nm,0.3s,baz=198,slow=2.7,SNR=3.8								

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*IDC **02** 18:30:15.8±0.4, 36°.63S×72°.74W, h0km, mb4.7/21, mb1 4.8/24, mb1mx4.8/28, mbtmp4.7/24, ML4.5/3, MS4.0/14, Ms1 4.0/14, ms1mx3.8/29, Error ellipse: s-maj=17.9km s-min=12.9km az=80.0*
*ISCJB **02** 18:30:20.3±0.2, 36°.49S±0°.04×72°.56W±0°.06, h35km, mb5.0/89, MS4.0/11, Error ellipse: s-maj=7.8km s-min=5.1km az=153.2*
*MOS **02** 18:30:20.4±1.0, 36°.51S×72°.69W, h33km, mb5.2/29, Error ellipse: s-maj=18.8km s-min=7.9km az=103.1*
*NEIC **02** 18:30:21.4±0.1, 36°.54S×72°.56W, h35km, mb5.1/75, Error ellipse: s-maj=6.6km s-min=4.0km az=76.0*
*BJI **02** 18:30:23.0, 36°.50S×72°.50W, h45km, mB5.3/2, Ms5.5/2, Ms7 5.2/2*
ISC 02 18:30:21.3±0.3, 36°.55S±0°.05×72°.66W±0°.08, h35km, n592, σ0§85/595, mb5.0/89, MS4.1/11, 175C-144D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.50**	**159**	*e*P		**Pn**	**18 31 28.8**	**+1.9**
PLCA	**Paso Flores**	**4.50**	**159**	Pn		**Pn**	**18 31 28.2**	**+1.3**
24nm,0.3s,baz=328,slow=7.6,SNR=118								
PLCA				Lg		Lg	18 32 38.8	
33nm,0.3s,baz=248,slow=20,SNR=6.8								
PLCA				LR		LR	18 33 24.9	
comp=Z,2μm,18.4s,baz=324,slow=43								
PLCA	**Paso Flores**	**4.50**	**159**	*e*Pn		**Pn**	**18 31 28.8**	**+1.9**
PLCA				Lg		Lg	18 32 38.8	
CFAA	**Coronel Fontan**	**6.14**	**38**	Pn		**Pn**	**18 31 50.6**	**+1.1**
2.2nm,0.3s,baz=210,slow=13,SNR=71								
CFAA				Sn		**Sn**	**18 33 02.6**	**+4.0**
1.7nm,0.3s,baz=330,slow=18,SNR=3.2								
CFAA				LR		LR	18 34 24.9	
comp=Z,154nm,19.1s,baz=240,slow=40								
TRQA	**Tornquist**	**8.64**	**103**	*e*Pn		Pn	18 32 27.1	+3.2
LVC	**Limon Verde**	**14.26**	**14**	*e*Pn		**Pn**	**18 33 39.8**	**-1.2**
CPUP	**Villa Florida**	**16.56**	**56**	*e*P		**Pn**	**18 34 10.6**	**-0.1**
CPUP	**Villa Florida**	**16.56**	**56**	Pn		**P**	**18 34 11.8**	**-1.2**
1.7nm,0.3s,baz=228,slow=11,SNR=10								
CPUP				LR		LR	18 41 20.6	
comp=Z,854nm,18.8s,baz=212,slow=40								
CPUP	**Villa Florida**	**16.56**	**56**	*e*Pn		**Pn**	**18 34 10.6**	**-0.1**
EFI	**East Falkland**	**18.35**	**150**	P		**Pn**	**18 34 32.6**	**-0.1**
361nm,0.6s,SNR=8.9								
EFI	**East Falkland**	**18.35**	**150**	*e*P		**Pn**	**18 34 32.6**	**-0.1**
EFI				pmax		pmax		
comp=Z,1μm,2.8s								
EFI	**East Falkland**	**18.35**	**150**	*e*P		**Pn**	**18 34 32.6**	**-0.1**
comp=Z,1μm,2.8s								
USHA	**Ushuaia**	**18.52**	**172**	P		**P**	**18 34 33.9**	**-0.5**
comp=Z,1.1nm,0.3s,baz=306,slow=7.5,SNR=10								
USHA				LR		LR	18 42 32.8	
comp=Z,450nm,20.3s,baz=24,slow=40								
LPAZ	**La Paz**	**20.57**	**12**	*e*P		Pn	18 34 59.3	-1.0
LPAZ				pmax		pmax		
comp=Z,18nm,0.6s								
LPAZ	**La Paz**	**20.57**	**12**	P		Pn	18 34 59.9	-0.4
comp=Z,15nm,0.6s,baz=182,slow=5.5,SNR=62								
LPAZ	**La Paz**	**20.57**	**12**	*e*P		P

CELP	Cerrillos	54.63	7	eP	P	18 39 45.3 -1.2
MTDJ	Mount Denham	54.67	354	eP	P	18 39 46.9 +0.1
LRS	Lares	54.81	7	P	P	18 39 46.2 -1.6
RKT	Rikitea	54.84	266	eT	T	19 38 07.4
	comp=Z,1.6nm,0.2s					
SDDR	Presa de Saban	55.24	2	eP	P	18 39 50.8 -0.2
GTBY	Guantanamo Bay	56.21	357	eP	P	18 39 57.0 -0.8
TEIG	Tepich	58.36	343	eP	P	18 40 12.6 -0.4
TEIG				e		18 40 21.5
VNDA	Vanda	61.51	192	P	P	18 40 34.4 +0.4
VNDA				pmax	pmax	
	comp=Z,5.0nm,0.9s					
VNDA	Vanda	61.51	192	P	P	18 40 34.0 0.0
	comp=Z,3.1nm,0.8s,baz=117,slow=6.8,SNR=3.8					
VNDA	Vanda	61.51	192	P	P	18 40 34.4 +0.4
	comp=Z,4.5nm,0.9s					
035A	Encino	67.54	335	⇑P	P	18 41 14.8 +0.9
	baz=68					
936A	North Padre Is	67.73	336	⇓P	P	18 41 15.0 0.0
	baz=68					
034A	Hebbronville	67.85	335	⇑P	P	18 41 17.1 +1.2
	baz=68					
MEH	Mehetia	68.03	264	eT	T	19 54 32.7
	comp=Z,35nm,0.2s					
933A	Laredo	68.56	335	⇓P	P	18 41 21.4 +1.1
	baz=69					
834A	Tilden	68.79	336	⇑P	P	18 41 23.2 +1.4
	baz=69					
735A	Kenedy	69.22	337	⇓P	P	18 41 25.8 +1.4
	baz=70					
TIAR	Tiarei	69.23	263	eT	T	19 56 01.2
	comp=Z,4.3nm,0.2s					
833A	Chaparral WMA,	69.25	335	⇑P	P	18 41 25.4 +0.8
	baz=70,SNR=6.6					
PPT2	Papeete2	69.39	263	eS	S	18 50 34.8 +3.9
	comp=Z,60nm,25.0s					
PPT2	Papeete2	69.39	263	eLR	LR	19 02 34.8
	comp=Z,240nm,24.0s					
832A	Faith Ranch, C	69.42	334	⇓P	P	18 41 26.2 +0.6
	baz=70,SNR=6.4					
636A	Smothers Creek	69.56	337	⇑P	P	18 41 27.7 +1.2
	baz=70,SNR=6.6					
732A	Laxson Ranch,	69.82	335	⇑P	P	18 41 28.8 +0.7
	baz=70					
537A	Green Hill Far	69.90	338	⇓P	P	18 41 29.6 +1.1
	baz=70					
536A	Bastrop	70.12	338	⇑P	P	18 41 30.4 +0.5
	baz=70					
633A	Saathoff Ranch	70.22	336	⇓P	P	18 41 31.1 +0.5
	baz=71					
535A	Dale	70.23	337	⇑P	P	18 41 31.4 +0.8
	baz=71					
632A	Uvalde	70.47	335	⇓P	P	18 41 32.8 +0.7
	baz=71,SNR=11					
534A	Blanco	70.52	336	⇓P	P	18 41 32.6 +0.2
	baz=71					
631A	Perdido Creek	70.66	334	⇑P	P	18 41 33.5 +0.2
	baz=71,SNR=6.9					
436A	Wall Ranch, Ga	70.69	338	⇑P	P	18 41 34.2 +0.9
	baz=71					
533A	Kerrville	70.74	336	⇑P	P	18 41 34.6 +0.8
	baz=71					
338A	Crockett	70.81	340	⇑P	P	18 41 35.1 +1.1
	baz=71					
MAW	Mawson	70.89	163	LR	LR	19 13 59.4
	comp=Z,204nm,18.0s,baz=218,slow=37					
337A	Centerville	70.93	339	⇑P	P	18 41 36.1 +1.3
	baz=71					
435B	Jarrell	70.94	337	⇓P	P	18 41 35.8 +0.9
	baz=71					
NATX	Nacogdoches	71.01	340	eP	P	18 41 36.2 +0.9
	comp=Z,36nm,0.8s					
532A	Rocksprings	71.08	335	⇓P	P	18 41 36.5 +0.6
	baz=71,SNR=25					
434A	Burnet	71.18	337	⇑P	P	18 41 36.5 +0.1
	baz=72,SNR=11					
336A	Riesel	71.28	338	⇑P	P	18 41 37.0 0.0
	baz=72,SNR=8.0					
531A	Rocksprings	71.34	335	⇓P	P	18 41 38.1 +0.7
	baz=72,SNR=17					
335A	Moody	71.36	338	⇓P	P	18 41 37.5 +0.1
	baz=72					
JCT	Junction City	71.37	335	eP	P	18 41 37.5 -0.1
JCT				e		18 41 47.3
JCT				pmax	pmax	
	comp=Z,21nm,0.8s					
JCT	Junction City	71.37	335	⇓P	P	18 41 38.3 +0.8
	baz=72,SNR=7.0					
JCT	Junction City	71.37	335	eP	P	18 41 37.5 -0.1
	comp=Z,21nm,0.8s					
JCT				e		18 41 47.2
433A	Art	71.39	336	⇑P	P	18 41 37.9 +0.2
	baz=72,SNR=13					
530A	J-C Ranch, Com	71.60	334	⇑P	P	18 41 39.8 +0.8
	baz=72,SNR=13					
334A	Lometa	71.65	337	⇓P	P	18 41 39.4 +0.2
	baz=72,SNR=18					
TX31	Lajitas Ar. Si	71.72	332	eP	P	18 41 40.1 +0.4
TXAR	Lajitas Array	71.72	332	P	P	18 41 40.2 +0.5
	comp=Z,6.3nm,0.7s,baz=150,slow=8.6,SNR=72					
TXAR				LR	LR	19 07 35.8
	comp=Z,103nm,20.4s,baz=0.0,slow=31					
432A	Menard	71.73	336	⇑P	P	18 41 39.9 +0.1
	baz=72,SNR=5.0					
KMSC	Kings Mountain	71.78	353	⇓P	P	18 41 39.9 0.0
	baz=72					
431A	Sonora	71.83	335	⇑P	P	18 41 40.7 +0.3
	baz=72,SNR=8.8					
333A	Richland Sprin	71.88	336	⇓P	P	18 41 40.9 +0.2
	baz=72,SNR=7.5					
529A	Stev Forest Ra	71.89	333	⇓P	P	18 41 41.0 +0.2
	baz=72,SNR=12					
WHTX	Lake Whitney,	72.03	338	⇓P	P	18 41 41.6 +0.2
	baz=72					
430A	Baggett Ranch,	72.14	334	⇑P	P	18 41 42.7 +0.4
	baz=72,SNR=12					
332A	Millersview	72.18	336	⇑P	P	18 41 42.4 0.0
	baz=72,SNR=8.6					
429A	Davenport Ranc	72.23	334	⇓P	P	18 41 43.3 +0.6
	baz=73,SNR=8.7					
234A	Clairette	72.25	337	⇑P	P	18 41 43.0 +0.2
	baz=73,SNR=7.2					
331A	San Angelo	72.34	335	⇓P	P	18 41 43.7 +0.3
	baz=73,SNR=15					
SWET	Sewanee	72.46	349	eP	P	18 41 43.8 -0.2
	comp=Z,29nm,0.7s					
SWET				e		18 41 53.2
233A	Rising Star	72.50	337	⇓P	P	18 41 44.4 +0.1
	baz=73,SNR=9.3					
135A	Vickery Place,	72.54	338	⇓P	P	18 41 44.3 -0.2
	baz=73					
TKL	Tuckaleechee C	72.58	351	P	P	18 41 44.4 -0.3
	comp=Z,7.4nm,0.8s,baz=169,slow=8.5,SNR=5.6					
232A	Coleman	72.62	336	⇑P	P	18 41 45.1 +0.1
	baz=73,SNR=13					
330A	Mertzon	72.69	335	⇓P	P	18 41 45.5 0.0
	baz=73					
134A	White-Moore Ra	72.76	338	⇑P	P	18 41 45.7 0.0
	baz=73					
231A	Bronte	72.88	336	⇑P	P	18 41 46.7 +0.2
	baz=73,SNR=15					
329A	Wagon Wheel Ra	73.04	334	⇑P	P	18 41 47.8 +0.2
	baz=73,SNR=5.6					
133A	Hamilton Ranch	73.05	337	⇑P	P	18 41 47.5 0.0
	baz=73,SNR=7.3					
230A	Sterling City	73.11	335	⇑P	P	18 41 47.9 0.0
	baz=74					
Z35A	Perchaven, San	73.21	339	⇑P	P	18 41 48.9 +0.5
	baz=74					
ABTX	Abilene, Hawle	73.29	336	⇑P	P	18 41 49.0 0.0
	baz=74,SNR=5.6					
ABTX	Abilene, Hawle	73.29	336	eP	P	18 41 48.5 -0.5
	comp=Z,17nm,0.8s					
ABTX				e		18 41 58.8
MIAR	Mount Ida	73.36	342	eP	P	18 41 49.4 +0.1
MIAR				pmax	pmax	
	comp=Z,77nm,2.3s					
MIAR	Mount Ida	73.36	342	eP	P	18 41 49.4 +0.1
	comp=Z,76nm,2.3s					
229A	Bryant Ranch,	73.42	334	⇓P	P	18 41 50.1 +0.4
	baz=74					
Z34A	Collier Ranch,	73.45	338	⇓P	P	18 41 50.2 +0.3
	baz=74					
131A	Roby	73.58	336	⇑P	P	18 41 51.0 +0.3
	baz=74					
Z33A	Whitaker Ranch	73.63	337	⇓P	P	18 41 51.2 +0.2
	baz=74,SNR=11					
WVT	Waverly	73.67	347	eP	P	18 41 50.6 -0.5
WVT				e		18 42 00.1
WVT				pmax	pmax	
	comp=Z,21nm,0.8s					
WVT	Waverly	73.67	347	eP	P	18 41 50.6 -0.5
	comp=Z,21nm,0.8s					
WVT				e		18 42 00.1
130A	Snyder	73.70	335	⇓P	P	18 41 51.2 -0.2
	baz=74,SNR=5.7					
228A	UT Block 9, Go	73.83	334	⇑P	P	18 41 52.1 -0.2
	baz=74,SNR=5.7					
Z32A	Haskell	73.87	337	⇑P	P	18 41 52.5 +0.1
	baz=74,SNR=11					
Y34A	Reagan Ranch,	73.95	338	⇓P	P	18 41 52.5 -0.3
	baz=74,SNR=5.4					
JSRW	J. Sargeant Re	74.03	356	eP	P	18 41 53.2 +0.1
129A	Stewart Farms,	74.04	335	⇑P	P	18 41 53.7 +0.2
	baz=74					
SUR	Sutherland	74.05	119	eP	P	18 41 55.0 +1.0
	comp=Z,23nm,0.8s					
Z31A	Sharp Cattle R	74.09	336	⇓P	P	18 41 53.9 +0.3
	baz=74,SNR=11					
128A	Castleberry Fa	74.25	334	⇑P	P	18 41 54.7 +0.1
	baz=75,SNR=8.5					
Y33A	Hilltop Ranch,	74.25	338	⇑P	P	18 41 54.5 0.0
	baz=75,SNR=5.8					
Z30A	Sanderson Ranc	74.39	336	⇓P	P	18 41 55.1 -0.3
	baz=75,SNR=9.3					
MNTX	Cornudas Mount	74.49	331	eP	P	18 41 55.1 -0.9
	comp=Z,5.3nm,0.8s					
MNTX				e		18 42 05.0
Y32A	R-V Farms, Ver	74.50	337	⇑P	P	18 41 56.2 +0.2
	baz=75					
Z29A	Hungry Hill Ra	74.56	335	⇓P	P	18 41 56.1 -0.3
	baz=75,SNR=13					
X34A	Smith Ranch, M	74.57	339	⇑P	P	18 41 56.6 +0.2
	baz=75					
Y31A	Rekieta Farm,	74.72	336	⇑P	P	18 41 57.5 +0.2
	baz=75					
PBMO	Poplar Bluff	74.80	345	eP	P	18 41 57.5 -0.1
	comp=Z,18nm,0.6s					
X32A	Elmer	74.84	337	⇑P	P	18 41 57.8 -0.2
	baz=75					
Y30A	Stafford Cattl	74.85	336	⇑P	P	18 41 58.1 -0.1
	baz=75					
Y29A	Porterfield Fa	75.09	335	⇑P	P	18 41 59.5 -0.1
	baz=76					
W34A	Bridge Creek,	75.14	339	⇓P	P	18 41 59.4 -0.3
	baz=76					
TUL1	Leonard	75.23	341	⇓P	P	18 41 59.8 -0.3
	baz=76					
TUL1	Leonard	75.23	341	eP	P	18 41 59.5 -0.6
	comp=Z,21nm,0.8s					
TUL1				e		18 42 09.3
X31A	McDonald Ranch	75.25	337	⇓P	P	18 42 00.5 +0.1
	baz=76,SNR=7.4					
W33A	Caddo, Fort Co	75.27	338	⇑P	P	18 42 00.9 +0.4
	baz=76,SNR=8.2					
Y28A	McKinney Farm,	75.33	335	⇑P	P	18 42 01.2 +0.3
	baz=76					
X30A	Coker Ranch, T	75.37	336	⇑P	P	18 42 01.9 +0.8
	baz=76					
Z26A	Caprock	75.37	333	⇓P	P	18 42 01.4 +0.2
	baz=76,SNR=16					
USIN	University of	75.43	348	eP	P	18 41 59.9 -1.3
	comp=Z,49nm,0.9s					
W32A	Sentinel	75.48	338	⇓P	P	18 42 01.9 +0.2
	baz=76,SNR=11					
MSTX	Muleshoe	75.57	334	⇓P	P	18 42 02.5 +0.2
	baz=76					
MSTX	Muleshoe	75.57	334	eP	P	18 42 02.0 -0.3
MSTX				ePcP	pP	18 42 11.2 -2.1
V34A	Guthrie	75.63	339	⇑P	P	18 42 02.7 +0.2
	baz=76					
V34A	Guthrie	75.63	339	eP	P	18 42 01.7 -0.8
	comp=Z,20nm,0.9s					
X29A	Tulia	75.64	336	⇓P	P	18 42 03.2 +0.5
	baz=76					
W31A	Holland Ranch,	75.75	337	⇓P	P	18 42 03.2 -0.1
	baz=76					
319A	Douglas	75.78	328	⇑P	P	18 42 04.9 +1.4
	baz=76					
V33A	Lossen Ranch,	75.84	339	⇓P	P	18 42 03.7 +0.1
	baz=76,SNR=5.8					
Y26A	Elida	75.90	334	⇓P	P	18 42 04.7 +0.4
	baz=76					
Z24A	Sheeppen Canyo	75.93	332	⇓P	P	18 42 04.9 +0.4
	baz=76,SNR=7.5					
V32A	Arapaho	75.97	338	⇓P	P	18 42 05.0 +0.6
	baz=76					
AMTX	Amarillo	76.03	336	⇑P	P	18 42 05.3 +0.4
	baz=76					
AMTX	Amarillo	76.03	336	eP	P	18 42 05.2 +0.3
	comp=Z,33nm,1.2s					
AMTX				e		18 42 14.4
LIC	Lamto	76.06	71	eP	P	18 42 05.9 +0.4
	comp=Z,47nm,0.7s					
121A	Cookes Peak, D	76.17	330	⇓P	P	18 42 06.9 +1.1
	baz=76,SNR=6.9					
121A	Cookes Peak, D	76.17	330	eP	P	18 42 06.4 +0.6
	comp=Z,13nm,1.0s					
121A				e		18 42 16.6
U34A	Anderson Ranch	76.20	340	⇑P	P	18 42 05.8 +0.1
	baz=77					
W29A	Amarillo	76.24	336	⇓P	P	18 42 06.3 +0.2
	baz=77,SNR=6.8					
V31A	Spring Creek L	76.26	338	⇑P	P	18 42 07.1 +0.9
	baz=77,SNR=5.3					
TIC	Toumodi	76.34	71	eP	P	18 42 07.5 +0.4
	comp=Z,16nm,0.4s					
U33A	Lingo Farm, Me	76.36	339	⇑P	P	18 42 06.8 +0.2
	baz=77					
KIC	Kosan Boka	76.37	71	eP	P	18 42 07.8 +0.6
	comp=Z,59nm,0.7s					
X26A	CR and CF Fran	76.46	334	⇑P	P	18 42 07.7 +0.3
	baz=77,SNR=7.8					
DBIC	Dimbokro	76.48	71	eP	P	18 42 08.5 +0.7
DBIC				pmax	pmax	
	comp=Z,21nm,0.6s					
DBIC	Dimbokro	76.48	71	P	P	18 42 08.6 +0.8
	comp=Z,19nm,0.7s,baz=208,slow=5.3,SNR=46					
DBIC	Dimbokro	76.48	71	eP	P	18 42 08.5 +0.7
	comp=Z,21nm,0.6s					
Y24A	Capitan	76.49	332	⇑P	P	18 42 08.2 +0.5
	baz=77,SNR=5.1					
U32A	Winter Ranch,	76.57	338	⇑P	P	18 42 08.6 +0.8
	baz=77					
W27A	Bowe Ranch, En	76.66	335	⇓P	P	18 42 09.4 +0.9
	baz=77					
Y23A	Lovelace Mesa,	76.73	332	⇑P	P	18 42 10.1 +1.1
	baz=77					
W26A	Owens Ranch, T	76.93	334	⇑P	P	18 42 10.8 +0.8
	baz=77					
ACSO	Alton Creek Sta	76.99	352	eP	P	18 42 09.5 -0.6
	comp=Z,34nm,0.6s					
T33A	Patterson Ranc	77.00	339	⇓P	P	18 42 10.8 +0.6
	baz=77					
V28A	Channing	77.00	336	⇑P	P	18 42 11.2 +0.8
	baz=77					
X24A	Lazy VL Ranch,	77.06	333	⇓P	P	18 42 11.9 +1.0
	baz=77					
U30A	WK&E Inc. Balk	77.21	337	⇑P	P	18 42 12.4 +0.9
	baz=78					
V27A	Dan Oppiter Fa	77.21	335	⇑P	P	18 42 12.5 +0.9
	baz=78					
TUC	Tucson	77.23	328	eP	P	18 42 12.7 +1.0
TUC				e		18 42 22.2
TUC	Tucson	77.23	328	eP	P	18 42 12.7 +1.0
TUC				e		18 42 22.2
LPM	Los Pinos Moun	77.28	332	eP	P	18 42 13.0 +0.9
T32A	Huddler Ranch,	77.29	339	⇑P	P	18 42 12.5 +0.7
	baz=78					
W25A	X Bar L Ranch,	77.29	334	⇑P	P	18 42 12.7 +0.7
	baz=78					
S33A	Kaszmaul Farm,	77.41	340	⇑P	P	18 42 12.7 +0.2
	baz=78					
T31A	Randall Ranch,	77.44	338	⇑P	P	18 42 13.1 +0.4
	baz=78					
LAZ	Ladron	77.56	331	eP	P	18 42 14.4 +0.7
	comp=Z,0.9nm,0.6s					
LAZ				e		18 42 24.6
V26A	Tequesquite Ra	77.57	335	⇑P	P	18 42 14.0 +0.4
	baz=78					
U28A	Mallet	77.58	336	⇑P	P	18 42 14.0 +0.4
	baz=78					
W24A	Lazy 6 Ranch,	77.63	333	⇑P	P	18 42 14.4 +0.4
	baz=78,SNR=8.8					
T30A	Plains	77.65	337	⇑P	P	18 42 14.7 +0.8
	baz=78					
SFIN	Lafayette	77.69	349	⇓P	P	18 42 13.3 -0.7
	baz=78					
S32A	Newby Ranch, P	77.78	339	⇓P	P	18 42 14.9 +0.3
	baz=78,SNR=5.8					
ANMO	Albuquerque	77.78	332	⇓iP	P	18 42 16.1 +1.2
ANMO				pmax	pmax	
	comp=Z,50nm,1.4s					
ANMO	Albuquerque	77.78	332	P	P	18 42 15.5 +0.6
	comp=Z,3.9nm,0.9s,baz=159,slow=8.0,SNR=8.9					
ANMO	Albuquerque	77.78	332	eP	P	18 42 16.1 +1.2
	comp=Z,9.9nm,1.1s					
U27A	Thompson Grove	77.81	336	⇓P	P	18 42 15.6 +0.6
	baz=78					
214A	Organ Pipe Nat	77.82	326	⇓P	P	18 42 16.0 +1.0
	baz=78,SNR=7.9					
W23A	Werner Place,	77.86	332	⇓P	P	18 42 15.8 +0.5
	baz=78,SNR=6.5					
S31A	Mullinville	77.86	338	⇓P	P	18 42 15.6 +0.5
	baz=78					
V25A	Rancho No Teng	77.90	334	⇑P	P	18 42 15.9 +0.3
	baz=78,SNR=7.8					
T29A	Hugoton	77.99	337	⇓P	P	18 42 16.1 +0.3
	baz=78					
V24A	Rampart Ranch,	78.04	333	⇑P	P	18 42 16.9 +0.6
	baz=78					
R33A	Olander Ranch,	78.07	340	⇑P	P	18 42 16.3 +0.1
	baz=78					
U26A	Atchley Ranch,	78.10	335	⇑P	P	18 42 16.8 +0.2
	baz=78					
S30A	Montezuma	78.17	338	⇓P	P	18 42 17.6 +0.8
	baz=78					
T28A	Walsh	78.22	336	⇑P	P	18 42 17.5 +0.4
	baz=79					
U25A	Circle Dot Ran	78.33	334	⇓P	P	18 42 18.1 +0.2
	baz=79,SNR=6.1					
T27A	Campo	78.36	336	⇓P	P	18 42 18.5 +0.5
	baz=79					
R32A	Long Quarter,	78.38	339	⇓P	P	18 42 18.6 +0.7
	baz=79					
KSU1	Kansas State U	78.45	341	⇑P	P	18 42 18.4 +0.2
	baz=79					
R31A	Burdett	78.50	339	⇑P	P	18 42 18.7 +0.2
	baz=79,SNR=5.9					
S28A	Manter	78.58	337	⇑P	P	18 42 19.5 +0.5
	baz=79,SNR=8.0					
Q33A	Connelly Farm,	78.68	340	⇓P	P	18 42 19.8 +0.3
	baz=79					
R30A	Dighton	78.71	338	⇑P	P	18 42 20.2 +0.4
	baz=79					
T26A	Comanche Natio	78.75	335	⇓P	P	18 42 20.7 +0.5
	baz=79,SNR=8.3					
X18A	Snowflake	78.79	329	⇓P	P	18 42 22.0 +1.6
	baz=79					
V22A	San Miguel Ran	78.81	332	⇑P	P	18 42 21.6 +1.0
	baz=79,SNR=12					
Q32A	Meitler Ranch,	78.87	340	⇑P	P	18 42 21.0 +0.4
	baz=79					
U23A	El Rito	78.91	333	⇑P	P	18 42 22.1 +1.0
	baz=79					
T25A	Trinidad	79.00	335	⇓P	P	18 42 22.4 +0.8
	baz=79,SNR=10.0					
P33A	Williams Farm,	79.05	340	⇓P	P	18 42 22.0 +0.4
	baz=79					
R29A	Marienthal	79.10	338	⇓P	P	18 42 22.5 +0.5
	baz=80,SNR=5.3					
S26A	Kim	79.12	336	⇓P	P	18 42 23.1 +1.0
	baz=80,SNR=11					
W18A	Petrified Fore	79.21	330	⇑P	P	18 42 24.1 +1.3
	baz=80					
R28A	Tribune	79.24	337	⇓P	P	18 42 23.3 +0.6
	baz=80					
T24B	San Luis	79.27	334	⇓P	P	18 42 24.1 +1.0
	baz=80,SNR=5.8					
X16A	Lo Mia Camp, P	79.32	328	⇑P	P	18 42 24.6 +1.2
	baz=80,SNR=10					
Q30A	Quinter	79.34	338	⇓P	P	18 42 23.5 +0.3
	baz=80,SNR=6.5					
BOSA	Boshof	79.34	118	eP	P	18 42 23.7 -0.1
BOSA	Boshof	79.34	118	P	P	18 42 24.4 +0.6
	comp=Z,12nm,1.1s,baz=242,slow=3.8,SNR=7.3					
BOSA	Boshof	79.34	118	eP	P	18 42 23.7 -0.1
P32A	Huiting Farm,	79.47	340	⇓P	P	18 42 24.4 +0.6
	baz=80					
S25A	Robets Cordova	79.48	335	⇑P	P	18 42 24.6 +0.4
	baz=80,SNR=7.0					
Q29A	Oakley	79.48	338	⇑P	P	18 42 24.3 +0.3
	baz=80,SNR=6.1					
R27A	Eads	79.50	336	⇓P	P	18 42 24.5 +0.3
	baz=80,SNR=9.6					
Y14A	Wickenburg	79.58	327	⇑P	P	18 42 26.1 +1.4
	baz=80					
P31A	Stockton	79.59	339	⇓P	P	18 42 25.4 +0.8
	baz=80					
R26A	Arlington	79.73	336	⇑P	P	18 42 26.1 +0.7
	baz=80,SNR=8.4					
S24A	Houchin Ranch,	79.73	334	⇓P	P	18 42 26.6 +0.9
	baz=80,SNR=10					
P30A	Selden	79.87	339	⇑P	P	18 42 26.7 +0.7
	baz=80					
Q28A	Sharon Springs	79.90	337	⇑P	P	18 42 27.1 +0.8
	baz=80					
Y12C	Blythe	80.11	326	⇑P	P	18 42 29.2 +1.8
	baz=80					
P29A	Atwood	80.12	338	⇓P	P	18 42 28.0 +0.5
	baz=80,SNR=6.4					
NCB	Newcomb	80.15	359	P	P	18 42 26.6 -0.8
	comp=Z,11nm,1.3s					
R24A	Sanders Place,	80.22	335	⇓P	P	18 42 29.2 +1.0
	baz=81,SNR=9.1					
WUAZ	Wupatki	80.23	329	⇓P	P	18 42 29.5 +1.3
	baz=81					
WUAZ	Wupatki	80.23	329	eP	P	18 42 29.3 +1.1
	comp=Z,12nm,1.0s					
MONP	Monument Peak,	80.28	324	⇑P	P	18 42 30.0 +1.3
	baz=81					
Q26A	Hugo	80.31	336	⇓P	P	18 42 29.5 +0.8
	baz=81					
P28A	Saint Francis	80.35	338	⇑P	P	18 42 29.6 +0.9
	baz=81					
PDMCI	Parker Dam,Lak	80.39	326	⇑P	P	18 42 30.4 +1.5
	baz=81					
O30A	MW Ranch, Wils	80.40	339	⇓P	P	18 42 29.6 +0.7
	baz=81					
S22A	4UR Ranch, Cre	80.40	333	⇓P	P	18 42 30.3 +1.0
	baz=81					
R23A	Moffat	80.44	334	⇓P	P	18 42 30.2 +0.7
	baz=81					
BC3	Big Chuckawall	80.45	325	⇑P	P	18 42 30.9 +1.5
	baz=81					
Q25A	Bedland, Calha	80.55	336	⇑P	P	18 42 30.6 +0.7
	baz=81					
JFWS	Jewell Farm	80.69	347	eP	P	18 42 30.3 -0.1
JFWS				pmax	pmax	
	comp=Z,14nm,0.8s					
JFWS	Jewell Farm	80.69	347	eP	P	18 42 30.3 -0.1
	comp=Z,14nm,0.8s					
IRM	Iron Mountain	80.73	325	⇓P	P	18 42 32.2 +1.4
	baz=81					
PTN	Potsdam (NY)	80.77	358	eP	P	18 42 31.3 +0.6
PTN				pmax	pmax	
	comp=Z,200nm,2.0s					
PTN	Potsdam (NY)	80.77	358	eP	P	18 42 31.3 +0.6
	comp=Z,200nm,2.0s					
P26A	Davis Ranch, A	80.83	336	⇑P	P	18 42 32.4 +1.0
	baz=81					
PFO	Pinyon Flats O	80.88	324	eP	P	18 42 32.8 +1.0
PFO				e		18 42 39.2
PFO				pmax	pmax	
	comp=Z,7.0nm,0.8s					
PFO	Pinyon Flats O	80.88	324	P	P	18 42 33.4 +1.6
	comp=Z,7.7nm,0.8s,baz=136,slow=5.7,SNR=10					
PFO	Pinyon Flats O	80.88	324	⇑P	P	18 42 33.3 +1.6
	baz=81					
PFO	Pinyon Flats O	80.88	324	eP	P	18 42 32.8 +1.0
	comp=Z,6.7nm,0.8s					
PFO				e		18 42 39.1
Q24A	Divide	80.89	335	⇑P	P	18 42 32.9

N29A Votaw Ranch, W 81.16 339 ⇑P P 18 42 34.0 +1.0
baz=82
M31A Lambtecht Ranc 81.18 340 ⇑P P 18 42 33.6 +0.6
baz=82,SNR=5.8
MURC Murrieta 81.23 324 ⇑P P 18 42 35.1 +1.7
baz=82
PV01 Paradox Valley 81.39 332 eP P 18 42 31.9 -2.5
comp=Z,446nm,1.0s
U15A North Rim 81.39 329 ⇑P P 18 42 36.4 +1.8
baz=82
O26A Horse Wrangler 81.44 337 ⇑P P 18 42 35.7 +1.1
baz=82
GMRC Granite Mounta 81.48 325 ⇑P P 18 42 36.9 +1.9
baz=82
P23A Jefferson 81.50 335 ⇑P P 18 42 36.0 +0.8
baz=82
PV05 Paradox Valley 81.54 332 eP P 18 42 36.0 +0.7
URZ Urewera 81.58 228 eP P 18 42 35.8 +0.3
comp=Z,12nm,0.6s
O25A Wiggins 81.59 336 ⇑P P 18 42 36.6 +1.3
baz=82
M30A Dale-Ortello V 81.61 340 ⇑P P 18 42 36.2 +0.9
baz=82
OGNE Ogallala 81.69 338 ⇑P P 18 42 37.0 +1.2
baz=82
LBTB Lobatse 81.70 115 eP P 18 42 36.6 +0.1
LBTB pmax pmax
comp=Z,32nm,0.6s
LBTB Lobatse 81.70 115 eP P 18 42 36.6 +0.1
comp=Z,32nm,0.6s
N27A Anderson Farm, 81.72 338 ⇑P P 18 42 37.1 +1.1
baz=82
SMCO Snowmass 81.72 334 eP P 18 42 37.9 +1.5
comp=Z,7.2nm,0.8s
M29A Burnside Ranch 81.75 339 ⇓P P 18 42 37.0 +0.9
baz=82
PV10 Paradox Valley 81.78 332 eP P 18 42 37.0 +0.4
ISCO Idaho Springs 81.80 335 eP P 18 42 37.3 +0.6
ISCO pmax pmax
comp=Z,56nm,2.5s
ISCO Idaho Springs 81.80 335 ⇓P P 18 42 37.5 +0.8
baz=82
ISCO Idaho Springs 81.80 335 eP P 18 42 37.3 +0.6
comp=Z,56nm,2.5s
HEC Hector,Ludlow 81.83 325 ⇑P P 18 42 38.5 +1.8
baz=82
L31A Butterfield Fa 81.92 341 ⇑P P 18 42 37.8 +0.9
baz=82
PV09 Paradox Valley 81.92 332 eP P 18 42 38.4 +1.1
L30A Spencer Herefo 81.95 340 ⇑P P 18 42 37.8 +0.7
baz=82
N26A Koester Ranch, 81.95 337 ⇑P P 18 42 38.0 +0.8
baz=82
P22A Eagle 82.02 334 ⇓P P 18 42 38.7 +1.0
baz=82
KNB Kanab 82.12 329 eP P 18 42 39.7 +1.4
KNB pmax pmax
comp=Z,18nm,0.9s
KNB Kanab 82.12 329 eP P 18 42 39.7 +1.4
comp=Z,18nm,0.9s
TUQ Turquoise Moun 82.15 326 ⇓P P 18 42 40.2 +1.8
baz=82
L29A Maesberg Ranch 82.26 339 ⇑P P 18 42 39.4 +0.7
baz=83
O23A Lake Granby, G 82.28 335 ⇓P P 18 42 40.1 +1.0
baz=83
GSC Goldstone, Bar 82.44 325 eP P 18 42 41.7 +1.8
GSC pmax pmax
comp=Z,8.0nm,0.9s
GSC Goldstone, Bar 82.44 325 ⇑P P 18 42 41.3 +1.4
baz=83
GSC Goldstone, Bar 82.44 325 eP P 18 42 41.7 +1.8
comp=Z,8.4nm,0.9s
O22A Kremmling 82.45 334 ⇑P P 18 42 40.9 +0.8
baz=83
K30A Basset 82.59 340 ⇑P P 18 42 41.4 +1.0
baz=83
EDW2 Edwards Air Fo 82.65 324 ⇑P P 18 42 42.2 +1.3
baz=83
SHPR Sheep Range 82.69 327 eP P 18 42 42.3 +1.0
SHPR e 18 42 51.0
M25A Palm-Egli Farm 82.76 337 ⇓P P 18 42 42.2 +0.7
baz=83
CCUT Cedar City 82.80 329 eP P 18 42 43.4 +1.5
comp=Z,12nm,0.9s
L27A T5 Ranch, Ells 82.82 338 ⇑P P 18 42 42.7 +1.0
baz=83
ECSD EROS Data Cent 82.82 343 ⇑P P 18 42 41.8 +0.2
baz=83
ECSD EROS Data Cent 82.82 343 eP P 18 42 41.1 -0.4
comp=Z,24nm,0.8s
ECSD e 18 42 51.0
K29A Lazy Trails An 82.86 340 ⇓P P 18 42 42.9 +1.1
baz=83
N23A Red Feather La 82.89 335 ⇓P P 18 42 43.1 +0.8
baz=83
SRU San Rafael Swe 82.98 331 eP P 18 42 43.5 +0.8
SRU pmax pmax
comp=Z,10.0nm,0.9s
SRU San Rafael Swe 82.98 331 eP P 18 42 43.5 +0.8
comp=Z,9.6nm,0.9s
N22A Wattenberg Ran 82.99 335 ⇑P P 18 42 43.8 +1.0
baz=83
ARUT Antelope Range 83.03 329 eP P 18 42 44.0 +1.0
ARUT Antelope Range 83.03 329 eP P 18 42 44.0 +1.0
M24A Cheyenne 83.04 336 ⇓P P 18 42 43.8 +0.8
baz=83
PHWY Pilot Hill 83.10 336 eP P 18 42 43.9 +0.5
comp=Z,6.0nm,0.8s
K28A Ten Mile Ranch 83.12 339 ⇓P P 18 42 44.2 +1.1
baz=84
J30A Dallas 83.16 341 ⇑P P 18 42 43.7 +0.4
baz=84
M23A Laramie 83.33 336 ⇓P P 18 42 45.6 +1.1
baz=84
K27A Flueckinger Fa 83.36 339 ⇑P P 18 42 45.4 +0.9
baz=84
TMUT Trail Mountain 83.41 331 eP P 18 42 44.9 -0.2
comp=Z,14nm,1.2s
FURC Furnace Creek, 83.43 326 ⇑P P 18 42 46.6 +1.8
baz=84
J29A Okreek 83.46 340 ⇑P P 18 42 45.5 +0.6
baz=84
ISA Isabella, Lake 83.52 324 eP P 18 42 46.7 +1.3
ISA e 18 42 56.0
ISA pmax pmax
comp=Z,8.0nm,0.8s
ISA Isabella, Lake 83.52 324 ⇑P P 18 42 47.2 +1.7
baz=84
ISA Isabella, Lake 83.52 324 eP P 18 42 46.7 +1.3
comp=Z,8.0nm,0.8s
ISA e 18 42 56.0
WOFM Oak Flat 83.53 324 eP P 18 42 45.0 -0.5
M22A Cedar Creek Ra 83.57 335 ⇑P P 18 42 46.8 +1.0
baz=84
DAC Darwin (Calif) 83.61 325 eP P 18 42 46.9 +0.9
DAC pmax pmax
comp=Z,6.0nm,0.8s
DAC Darwin (Calif) 83.61 325 eP P 18 42 46.9 +0.9
comp=Z,6.1nm,0.8s
N20A Spence Gulch, 83.65 334 ⇓P P 18 42 46.5 +0.4
baz=84
I30A Oacoma 83.69 341 ⇑P P 18 42 46.6 +0.5
baz=84
J28A Allard Ranch, 83.73 339 ⇓P P 18 42 47.4 +1.1
baz=84
K25A Mack Ranch, Ha 83.77 337 ⇑P P 18 42 47.9 +1.3
baz=84
J27A Elkhorn Farm, 83.80 339 ⇓P P 18 42 48.0 +1.3
baz=84
L23A Garrett 83.91 336 ⇓P P 18 42 47.9 +0.4
baz=84
J26A Sides Ranch, S 84.17 338 ⇓P P 18 42 49.3 +0.7
baz=84
MPU Maple Canyon 84.20 331 eP P 18 42 50.4 +1.5
comp=Z,16nm,1.1s
I28A Midland 84.25 340 ⇑P P 18 42 49.5 +0.6
baz=85
NLU North Lily Min 84.32 331 eP P 18 42 50.9 +1.3
comp=Z,8.8nm,1.1s
DAU Daniels Canyon 84.39 331 eP P 18 42 50.6 +0.5
DAU Daniels Canyon 84.39 331 eP P 18 42 50.6 +0.5
R11A Troy Canyon, C 84.42 327 ⇑P P 18 42 51.7 +1.6
baz=85
R11A Troy Canyon, C 84.42 327 eP P 18 42 51.0 +0.9
comp=Z,9.8nm,0.9s
R11A e 18 43 01.1

J25A Sunshine Ranch 84.46 338 ⇑P P 18 42 51.5 +1.4
baz=85
K23A Bowen Ranch, D 84.46 336 ⇑P P 18 42 51.2 +1.0
baz=85
TIN Tinemaha, Big 84.53 325 ⇓P P 18 42 52.1 +1.5
baz=85
I27A Quinn 84.56 339 ⇓P P 18 42 50.9 +0.4
baz=85
H29A Onida 84.56 341 ⇓P P 18 42 51.2 +0.8
baz=85
JLU Jordanelle 84.63 331 eP P 18 42 52.2 +1.0
comp=Z,8.0nm,0.9s
K22A Casper 84.66 336 ⇑P P 18 42 52.2 +1.0
baz=85
K22A Casper 84.66 336 eP P 18 42 51.5 +0.3
comp=Z,14nm,0.8s
K22A e 18 43 01.2
J24A Dixon Ranch, L 84.67 337 ⇓P P 18 42 52.2 +1.1
baz=85
G30A Faulkton 84.75 342 ⇓P P 18 42 52.2 +0.8
baz=85
DUG Dugway, Tooele 84.82 330 eP P 18 42 52.4 +0.4
DUG e 18 43 00.4
DUG pmax pmax
comp=Z,20nm,1.4s
DUG Dugway, Tooele 84.82 330 ⇑P P 18 42 52.9 +0.9
baz=85
DUG Dugway, Tooele 84.82 330 eP P 18 42 52.4 +0.4
comp=Z,20nm,1.4s
DUG e 18 43 00.4
CTU Camp Tracy 84.83 331 eP P 18 42 53.1 +1.0
comp=Z,7.5nm,1.0s
K21A Alcova 84.89 335 ⇓P P 18 42 53.0 +0.6
baz=85
TPH Tonopah 84.91 326 eP P 18 42 53.7 +1.1
TPH e 18 43 03.3
TPH pmax pmax
comp=Z,15nm,0.9s
TPH Tonopah 84.91 326 eP P 18 42 53.7 +1.1
comp=Z,15nm,0.9s
TPH e 18 43 03.3
I25A Rochford 85.01 338 ⇑P P 18 42 53.4 +0.5
baz=85
TCUT Toone Canyon 85.06 332 eP P 18 42 53.7 +0.4
comp=Z,6.8nm,0.6s
I24A Kuemmerle Ranc 85.13 337 ⇓P P 18 42 54.1 +0.6
baz=86
G28A Parade 85.17 340 ⇑P P 18 42 53.9 +0.4
baz=86
RSSD Black Hills 85.19 338 eP P 18 42 53.6 -0.3
RSSD e 18 43 03.5
RSSD pmax pmax
comp=Z,11nm,0.9s
RSSD Black Hills 85.19 338 eP P 18 42 53.6 -0.3
comp=Z,11nm,0.9s
RSSD e 18 43 03.5
J22A Midwest 85.32 336 ⇓P P 18 42 54.5 +0.1
baz=86
F30A Leola 85.38 342 ⇓P P 18 42 54.7 +0.2
baz=86
H25A Fruitdale 85.51 338 ⇑P P 18 42 55.7 +0.4
baz=86
BGU Big Grassy Mou 85.53 331 eP P 18 42 56.6 +1.0
comp=Z,13nm,1.9s
TORD Torodi Ar. Bea 85.55 70 P P 18 42 56.1 0.0
comp=Z,4.5nm,0.9s,baz=244,slow=3.3,SNR=25
J21A Lysite 85.58 335 ⇑P P 18 42 56.4 +0.5
baz=86
NV01 Mina Array Sit 85.69 326 eP P 18 42 57.4 +0.8
NVAR Mina Array Bea 85.69 326 P P 18 42 57.9 +1.4
comp=Z,6.7nm,0.8s,baz=157,slow=6.1,SNR=29
G27A Dupree 85.73 340 ⇓P P 18 42 56.6 +0.3
baz=86
I22A 9 Mile Ranch, 85.75 336 ⇑P P 18 42 56.7 +0.1
baz=86
EYMN Ely 85.78 347 eP P 18 42 56.2 -0.2
comp=Z,39nm,1.9s
BW06 Boulder Array 85.81 334 eP P 18 42 55.6 -1.4
J20A Shoshoni 85.81 335 ⇓P P 18 42 57.6 +0.7
baz=86
PDAR Pinedale Array 85.81 334 P P 18 42 57.0 0.0
comp=Z,1.9nm,0.6s,baz=145,slow=5.5,SNR=15
G26A Maurine 85.84 339 ⇓P P 18 42 57.1 +0.3
baz=86
H24A Dirks Ranch, A 85.91 338 ⇓P P 18 42 57.6 +0.2
baz=86
I21A Big Trails, Te 85.95 336 ⇓P P 18 42 57.8 +0.2
baz=86
E30A Jud 85.97 342 ⇑P P 18 42 57.8 +0.3
baz=86
G25A Newell 85.98 339 ⇑P P 18 42 58.1 +0.5
baz=86
J19A Crowheart 86.06 334 ⇓P P 18 42 58.4 +0.2
baz=86
HVU Hansel Valley 86.15 331 eP P 18 42 58.7 0.0
HVU e 18 43 08.4
HVU pmax pmax
comp=Z,13nm,0.9s
HVU Hansel Valley 86.15 331 eP P 18 42 58.7 0.0
comp=Z,13nm,0.9s
HVU e 18 43 08.4
F27A Lemmon 86.20 340 ⇓P P 18 42 58.9 +0.3
baz=87
E29A Napoleon 86.22 342 ⇓P P 18 42 58.9 +0.2
baz=87
WAKR Walker 86.27 325 eP P 18 43 00.2 +0.9
comp=Z,5.3nm,0.9s
ELK Elko 86.27 329 eP P 18 43 00.3 +0.9
ELK pmax pmax
comp=Z,8.0nm,1.0s
ELK Elko 86.27 329 P P 18 42 59.6 +0.3
comp=Z,5.1nm,0.9s,baz=217,slow=3.4,SNR=17
ELK Elko 86.27 329 eP P 18 43 00.3 +0.9
comp=Z,7.5nm,1.0s
H22A Clearmont 86.34 337 ⇑P P 18 42 59.6 +0.1
baz=87
I20A Worland 86.35 335 ⇑P P 18 42 59.8 +0.3
baz=87
AHID Auburn Hatcher 86.37 333 eP P 18 42 59.3 -0.5
comp=Z,16nm,0.3s
F26A Lodgepole 86.37 339 ⇑P P 18 42 59.9 +0.4
baz=87
G24A Alzada 86.40 338 ⇓P P 18 43 00.2 +0.5
baz=87
E28A Huff 86.50 341 ⇑P P 18 43 00.5 +0.4
baz=87
D30A Buchanan 86.50 342 ⇓P P 18 43 00.8 +0.7
baz=87
G23A Biddle 86.58 337 ⇑P P 18 43 00.3 -0.2
baz=87
H21A Big Horn, Sher 86.59 336 ⇑P P 18 43 00.6 -0.1
baz=87
E27A Carson 86.59 340 ⇓P P 18 43 00.7 +0.2
baz=87
F25A Bowman 86.66 339 ⇑P P 18 43 01.2 +0.3
baz=87
D29A Pettibone, Tap 86.67 342 ⇓P P 18 43 01.3 +0.4
baz=87
H20A Greybull 86.78 336 ⇑P P 18 43 01.6 0.0
baz=87
REDW Red Top Meadow 86.79 333 eP P 18 43 02.4 +0.5
comp=Z,18nm,1.5s
F24A Ekalaka 86.88 338 ⇑P P 18 43 02.4 +0.4
baz=87
E26A Carlson Angus 86.88 340 ⇑P P 18 43 02.4 +0.4
baz=87
G22A Birney 86.88 337 ⇑P P 18 43 01.9 -0.1
baz=87
LOHW Long Hollow 86.92 333 eP P 18 43 02.8 +0.4
comp=Z,20nm,1.7s
TPAW Teton Pass 86.94 333 eP P 18 43 03.2 +0.6
comp=Z,7.0nm,0.8s
AGMN Agassiz Nation 86.97 345 ⇓P P 18 43 02.5 +0.3
baz=87
AGMN Agassiz Nation 86.97 345 eP P 18 43 02.1 -0.1
comp=Z,9.7nm,0.8s
C30A Mose, Pekin 86.99 343 ⇑P P 18 43 03.0 +0.6
baz=87
F23A Volborg 87.05 338 ⇓P P 18 43 03.1 +0.3
baz=87
E25A Miller Ranch, 87.17 339 ⇓P P 18 43 03.7 +0.3
baz=88
I17A Pilgrim Ck. 87.18 334 ⇓P P 18 43 04.5 +0.8
baz=88
H19A Powell 87.28 335 ⇓P P 18 43 04.3 +0.3
baz=88
FLWY Flagg Ranch 87.36 334 eP P 18 43 05.4 +0.8
comp=Z,15nm,1.1s

F22A Rosebud 87.37 337 ⇑P P 18 43 04.9 +0.6
baz=88
D26A Manning 87.38 340 ⇓P P 18 43 04.8 +0.5
baz=88
E24A Baker 87.48 339 ⇓P P 18 43 05.1 +0.2
baz=88
G20A Bridger 87.50 336 ⇑P P 18 43 05.0 -0.1
baz=88
H18A Shoshone NF, C 87.51 335 ⇑P P 18 43 05.5 +0.2
baz=88
B30A Myrvik Farm, E 87.66 343 ⇓P P 18 43 06.4 +0.7
baz=88
C27A Sayler Ranch, 87.76 341 ⇑P P 18 43 06.6 +0.5
baz=88
RLMT Red Lodge 87.77 335 eP P 18 43 06.7 +0.2
comp=Z,101nm,2.6s
B29A Wagenman Farm, 87.92 343 ⇑P P 18 43 07.3 +0.5
baz=88
YMR Madison River 87.96 334 eP P 18 43 08.6 +1.1
comp=Z,17nm,1.3s
D24A Glendive 87.99 339 ⇓P P 18 43 07.8 +0.5
baz=88
C26A Wahner Farm, P 88.02 341 ⇑P P 18 43 08.1 +0.7
baz=88
A30A Hoffart Farm, 88.11 343 ⇓P P 18 43 07.8 0.0
baz=88
B28A Dugan Ranch, T 88.15 342 ⇑P P 18 43 08.5 +0.5
baz=88
LAO LASA Array 88.17 338 P P 18 43 06.9 -1.3
comp=Z,9.2nm,1.0s
D23A Lindsay 88.30 338 ⇓P P 18 43 09.2 +0.5
baz=89
F19A Roth Farm, Mol 88.30 336 ⇓P P 18 43 09.5 +0.6
baz=89
HLID Hailey 88.31 331 ⇓P P 18 43 10.1 +1.0
baz=89
HLID Hailey 88.31 331 eP P 18 43 09.4 +0.3
comp=Z,21nm,1.8s
A29A Manning Farm, 88.31 343 ⇓P P 18 43 09.0 +0.3
baz=89
C24A Savage 88.40 339 ⇑P P 18 43 10.4 +1.2
baz=89
A28A Rude Farm, Bot 88.55 342 ⇑P P 18 43 10.4 +0.5
baz=89
D22A Cohagen 88.57 338 ⇓P P 18 43 10.7 +0.6
baz=89
E20A Meyer Farm, Mu 88.61 336 ⇑P P 18 43 10.5 +0.2
baz=89
D21A La Casta Ranch 88.75 337 ⇓P P 18 43 11.5 +0.6
baz=89
E19A Rath Farm, Rou 88.78 336 ⇑P P 18 43 10.8 -0.2
baz=89
MCMT McKenzie Canyo 88.78 333 eP P 18 43 11.9 +0.5
ULM Lac du Bonnet 88.82 345 eP P 18 43 10.4 -0.6
ULM pmax pmax
comp=Z,12nm,0.9s
ULM Lac du Bonnet 88.82 345 P P 18 43 10.7 -0.4
comp=Z,11nm,0.8s,baz=184,slow=4.1,SNR=15
ULM Lac du Bonnet 88.82 345 eP P 18 43 10.4 -0.6
comp=Z,12nm,0.9s
A26A Wade Farm, Ken 88.99 341 ⇓P P 18 43 12.4 +0.5
baz=89
WVOR Wild Horse Val 89.10 328 eP P 18 43 13.9 +1.1
WVOR pmax pmax
comp=Z,19nm,1.7s
WVOR Wild Horse Val 89.10 328 eP P 18 43 13.9 +1.1
comp=Z,19nm,1.7s
D20A Manuel Ranch, 89.13 337 ⇓P P 18 43 12.4 -0.2
baz=90
DLMT Dillon 89.15 333 eP P 18 43 13.9 +1.0
comp=Z,9.7nm,1.4s
A25A Svangstu Ranch 89.31 340 ⇓P P 18 43 14.2 +0.8
baz=90
MOD Modoc Plateau 89.40 327 eP P 18 43 15.0 +0.8
comp=Z,12nm,1.3s
B22A Reddig Ranch S 89.55 338 ⇑P P 18 43 15.1 +0.5
baz=90
M04C Macdoel 89.99 326 ⇓P P 18 43 18.2 +1.3
baz=90
A22A Carney Farms, 90.15 339 ⇑P P 18 43 17.5 +0.1
baz=90
B19A Brinkman Farms 90.59 337 ⇑P P 18 43 19.3 -0.2
baz=91
A20A Cobblestone Ra 90.65 338 ⇓P P 18 43 19.5 -0.2
baz=91
J05D Fort Rock, OR 90.91 327 ⇑P P 18 43 22.5 +1.3
baz=91
A19A Klindworth Far 90.94 337 ⇑P P 18 43 21.0 -0.1
baz=91
G08A Pilot Rock 91.56 329 eP P 18 43 25.0 +0.8
comp=Z,49nm,2.4s
NEW Newport 93.27 332 P P 18 43 30.9 -1.0
comp=Z,1.1nm,0.4s,baz=134,slow=3.5,SNR=3.3
DZM Mont Dzumac 99.33 234 eLR LR 19 16 26.7
comp=Z,139nm,26.2s
YKA Yellowknife Ar 104.30 341 Pdiff Pdif 18 44 20.0 -1.0
comp=Z,0.2nm,0.5s,baz=145,slow=4.2,SNR=6.3
GERES GERESS Array B 114.29 46 PKP PKPdf 18 48 56.6 -0.1
comp=Z,1.5nm,0.6s,baz=207,slow=1.5,SNR=14
CLL Collm 115.04 44 i PKIKP PKPdf 18 48 58.3 +0.4
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 115.04 44 i PKiKP PKiKP 18 48 58.3 +0.4
comp=Z,5.0nm,0.8s
ASAR Alice Springs 115.07 207 PKP PKPdf 18 48 57.9 -1.3
comp=Z,0.6nm,0.6s,baz=127,slow=1.7,SNR=14
DPC Dobruska-Polom 116.49 46 ePKIKP PKPdf 18 49 01.8 +0.9
DPC Dobruska-Polom 116.49 46 ePKP PKPdf 18 49 01.8 +0.9
VYHS Vyhne 117.17 48 ePKIKP PKPdf 18 49 02.3 +0.1
VYHS e 18 49 12.6
VYHS Vyhne 117.17 48 ePKP PKPdf 18 49 02.3 +0.1
VYHS e 18 49 12.6
WRA Warramunga Arr 118.30 209 PKP PKPdf 18 49 04.2 -1.2
comp=Z,1.2nm,0.5s,baz=161,slow=1.7,SNR=35
WRAB Tennant Creek 118.30 209 ePKIKP PKPdf 18 49 03.8 -1.6
WRAB Tennant Creek 118.30 209 ePKPdf PKPdf 18 49 03.8 -1.6
STHS Stebnicka Huta 119.00 48 ePKIKP PKPdf 18 49 06.3 +0.6
STHS Stebnicka Huta 119.00 48 ePKP PKPdf 18 49 06.3 +0.6
KOLS Kolonicke sedl 119.43 49 ePKIKP PKPdf 18 49 06.9 +0.4
KOLS Kolonicke sedl 119.43 49 ePKP PKPdf 18 49 06.9 +0.4
BUR04 Bucovina Ar. S 120.74 51 ePKPdf PKPdf 18 49 09.2 +0.1
BR231 Keskin MP Arra 122.91 62 ePKPdf PKPdf 18 49 13.7 +0.1
BRTR Keskin Array B 123.48 63 PKP PKPdf 18 49 14.4 -0.4
comp=Z,2.0nm,0.8s,baz=188,slow=2.8,SNR=15
AK11 Malin Array Si 124.22 49 ePKPdf PKPdf 18 49 14.8 -0.9
KIEV Kiev 124.25 49 i PKIKP PKPdf 18 49 14.9 -0.8
KIEV Kiev 124.25 49 ePKPdf PKPdf 18 49 14.7 -1.0
AKASG Malin Array Be 124.26 49 PKIKP PKPdf 18 49 15.0 -0.7
AKASG Malin Array Be 124.26 49 PKP PKPdf 18 49 15.0 -0.7
comp=Z,2.8nm,0.5s,baz=258,slow=2.8,SNR=10
VSU Vasula 124.99 39 PKIKP PKPdf 18 49 17.0 +0.2
FINES FINESS Array B 125.36 36 PKP PKPdf 18 49 17.2 -0.2
comp=Z,2.6nm,0.8s,baz=228,slow=4.9,SNR=5.9
ARCES ARCESS Array B 126.53 26 PKP PKPdf 18 49 18.7 -0.8
comp=Z,3.5nm,0.9s,baz=279,slow=3.1,SNR=6.7
ANN Anapa 127.83 58 i PKIKP PKPdf 18 49 21.8 -0.9
ANN e SSS SSS 19 13 19.6
ANN pmax pmax
comp=Z,42nm,1.3s
OBN Obninsk 129.62 45 i PKIKP PKPdf 18 49 25.9 +0.2
OBN i 18 51 43.1
OBN pmax pmax
comp=Z,12nm,1.3s
KIV Kislovodsk 131.23 60 i PKIKP PKPdf 18 49 30.7 +1.3
KIV pmax pmax
comp=Z,2.0nm,0.5s
KIV MLR MLR
comp=Z,129nm,20.0s
KBZ Khabaz 131.32 61 PKP PKPdf 18 49 29.8 +0.4
comp=Z,1.5nm,0.9s,baz=1,3,slow=2.8,SNR=4.5
GNI Garni 131.67 66 ⇑ i PKIKP PKPdf 18 49 31.7 +1.3
GNI pmax pmax
comp=Z,9.0nm,2.5s
KLMR Klimovskoe 131.74 37 ePKIKP PKPdf 18 49 28.5 -1.1
KLMR pmax pmax
comp=Z,12nm,1.3s
ZEI Tsey 131.78 62 i PKIKP PKPdf 18 49 30.1 -0.5
ZEI pmax pmax
comp=Z,4.0nm,1.2s
PRGR Permogore 134.68 36 ePKIKP PKPdf 18 49 34.3 -0.8
PRGR pmax pmax
comp=Z,13nm,0.8s
GEYT Alibeck 141.15 73 PKhKP PKPpre 18 49 41.5
comp=Z,0.5nm,0.7s,baz=22,slow=43,SNR=2.5
GEYT PKP PKiKP 18 49 49.3 -1.3
comp=Z,1.5nm,0.7s,baz=270,slow=7.4,SNR=4.8
SEY Seymchan 141.95 328 PKhKP PKPpre 18 49 42.4

comp=Z,4.3nm,0.9s,baz=139,slow=4.1,SNR=14
ARU Arti 141.98 43 *i* PKIKP **PKPdf 18 49 50.4 +1.7**
ARU 18 52 54.1
TIXI Tiksi 143.09 349⇑ *i* PKIKP **PKPdf 18 49 49.4 -0.8**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
ABKAR Abkulak array 143.61 54 *e*PKPpre PKPpre 18 49 49.0
KSM Kuching 144.99 185 *e*PKPdf **PKPab 18 49 54.2 -0.5**
SBUM Sibu 145.77 189 *e*PKPdf **PKPdf 18 49 56.3 -0.4**
IPM Ipoh 147.56 168 *e*PKPdf **PKPdf 18 49 58.9 -0.9**
HYB Hyderabad 148.23 119 *i* PKP **PKPbc 18 50 03.0 -1.1**
KULM Kulim 148.29 167 *e*PKPdf **PKPbc 18 50 03.3 -1.0**
BRVK Borovoye 149.38 46⇓ *i*?PKHKP **PKPdf 18 50 02.1 +0.7**
BRVK pmax pmax
comp=Z,18nm,0.7s
BRVK Borovoye 149.38 46 *e*PKPdf **PKPdf 18 50 01.6 +0.2**
BRVK *e*PKPbc **PKiKP 18 50 06.5 -0.5**
VOSK Vostochnaya 149.89 46 *e*PKPdf **PKPdf 18 50 02.9 +0.6**
YAK Yakutsk 150.93 338 *e*PKIKP **PKPdf 18 50 02.9 -0.7**
YAK *e* 18 50 08.7
YAK *e* 18 50 19.1
YAK Yakutsk 150.93 338 *e*PKPdf **PKPdf 18 50 02.9 -0.7**
YAK *e*PKPbc **PKPbc 18 50 08.7 -0.6**
YAK *e*PKPab **PKPab 18 50 19.1 +2.3**
KKAR Karatay Array 151.13 65 *e*PKIKP **PKPdf 18 50 05.0 +0.5**
KKAR *e* 18 50 10.3
KKAR Karatay Array 151.13 65 *e*PKPdf **PKPdf 18 50 05.0 +0.5**
KKAR *e*PKPbc **PKPbc 18 50 10.3 -0.1**
YSS Yuzh-Sakhalins 151.82 303 *e*PKIKP **PKPbc 18 50 11.0 -0.8**
YSS *e* 18 50 21.0
EKS2 Erkin-Say 153.54 66 *e*PKIKP **PKPdf 18 50 08.7 +0.4**
EKS2 *e* 18 50 16.5
EKS2 Erkin-Say 153.54 66 *e*PKPdf **PKPdf 18 50 08.7 +0.4**
EKS2 *e*PKPbc **PKiKP 18 50 16.5 +0.3**
AAK Ala-Archa 154.07 66 *e*PKIKP **PKPdf 18 50 09.8 +0.7**
AAK *e* 18 50 17.7
AAK *e* 18 50 31.3
AAK Ala-Archa 154.07 66 *e*PKPdf **PKPdf 18 50 09.8 +0.7**
AAK *e*PKPbc **PKiKP 18 50 17.7 +0.4**
AAK *e*PKPab **PKPab 18 50 31.3 +0.3**
TKM2 Tokmak 2 154.87 66 *e*PKIKP **PKPdf 18 50 10.6 +0.3**
TKM2 *e* 18 50 18.9
TKM2 *e* 18 50 34.7
TKM2 Tokmak 2 154.87 66 *e*PKPdf **PKPdf 18 50 10.6 +0.3**
TKM2 *e*PKPbc **PKPbc 18 50 18.9 -0.1**
TKM2 *e*PKPab **PKPab 18 50 34.7 +0.3**
KURK Kurchatov 155.04 46 *e*PKIKP **PKPdf 18 50 09.8 -0.1**
KURK *e* 18 50 18.8
KURK *e* 18 50 34.5
KURK Kurchatov 155.04 46 *e*PKPdf **PKPdf 18 50 09.8 -0.1**
KURK *e*PKPbc 18 50 18.8
KURK *e*PKPab **PKPab 18 50 34.5 0.0**
KSH Kashi 155.18 74 *e*PKPbc PKPdf 18 50 15.9 +5.2
KSH sPKP 18 50 30.2
KSH PP **PP 18 54 11.0 -1.6**
KSH PPMZ
comp=Z,150nm,4.6s
KSH LN
comp=Z,94nm,7.2s
KSH LE
comp=Z,80nm,8.0s
KSH LZ
comp=Z,74nm,7.4s
MJAR Matsushiro Arr 155.25 279 PKPbc PKPdf 18 50 20.3 +10
comp=Z,1.4nm,0.9s,baz=178,slow=12,SNR=3.2
MJAR PKPab **PKPab 18 50 33.6 -2.3**
comp=Z,1.8nm,0.8s,baz=141,slow=2.6,SNR=5.0
NVS Novosibirsk 155.34 34 *e*PKIKP **PKPdf 18 50 08.2 -2.0**
ZAAO Zalesovo Array 156.62 35 *e*PKPdf **PKPdf 18 50 10.9 -1.0**
ZALV Zalesovo Beam 156.62 35 PKP **PKPdf 18 50 11.4 -0.5**
comp=Z,8.4nm,0.8s,baz=287,slow=2.5,SNR=44
ZALV PKPab **PKPab 18 50 41.8 +0.6**
comp=Z,4.9nm,0.6s,baz=293,slow=4.0,SNR=8.9
KOLN Koldanda 158.12 107 *e*P **PKPdf 18 50 14.3 -0.6**
comp=Z,17nm,1.3s
BOD Bodaibo 158.26 350 *e*PKIKP **PKPdf 18 50 11.0 -2.8**
BOD *e* 18 50 46.6
BOD pmax pmax
comp=Z,11nm,1.3s
DANN Dangsing 158.53 106 *e*P **PKPdf 18 50 15.3 -0.2**
comp=Z,16nm,0.9s
MKAR Makanchi Array 158.75 53 PKP **PKPdf 18 50 14.8 -0.1**
comp=Z,3.9nm,0.8s,baz=309,slow=0.6,SNR=45
MKAR PKPbc PKPbc 18 50 25.6
comp=Z,2.1nm,0.7s,baz=267,slow=0.9,SNR=11
MKAR PKPab **PKPab 18 50 50.7 0.0**
comp=Z,3.8nm,0.8s,baz=291,slow=3.9,SNR=12
MK01 Makanchi Array 158.77 53 *e*PKPdf **PKPdf 18 50 14.6 -0.3**
GKN Gorkha 159.03 107 *e*P **PKPdf 18 50 15.3 -0.7**
comp=Z,14nm,1.3s
DMN Daman 159.19 109 *e*P **PKPdf 18 50 15.8 -0.5**
comp=Z,5.6nm,0.9s
PKIN Phulchoki 159.40 109 *e*P **PKPdf 18 50 15.6 -0.9**
PKI Pulchoki 159.41 110 *e*P **PKPdf 18 50 15.7 -0.9**
KKN Kakani 159.42 109 *e*P **PKPdf 18 50 16.3 -0.2**
GUN Gumba 159.94 109 *e*P **PKPdf 18 50 16.1 -1.2**
RAMN Ramite 159.97 113 *e*P **PKPdf 18 50 17.0 -0.2**
JIRN Jiri 160.04 110 *e*P **PKPdf 18 50 16.9 -0.5**
CM01 Chiang Mai Arr 160.49 156 *e*PKPdf **PKPdf 18 50 17.3 -0.4**
ODAN Odare 160.50 114 *e*P **PKPdf 18 50 17.4 -0.4**
CMAR Chiang Mai Arr 160.52 155 PKP **PKPdf 18 50 17.8 0.0**
comp=Z,1.3nm,0.9s,baz=233,slow=2.9,SNR=8.6
CMAR PKPab **PKPab 18 50 58.8 -0.2**
comp=Z,1.1nm,1.0s,baz=229,slow=7.8,SNR=6.0
TAPN Taplejung 161.01 113 *e*P **PKPdf 18 50 17.9 -0.5**
KSRS Korea Array 163.53 279 PKP **PKPdf 18 50 19.6 -0.6**
comp=Z,1.5nm,0.8s,baz=33,slow=3.0,SNR=4.1
KSRS PKPab **PKPab 18 51 12.7 +0.8**
comp=Z,1.8nm,1.0s,baz=33,slow=33,SNR=4.4
KS01 Wonju Array Si 163.56 279 *e*PKPab **PKPab 18 51 12.3 +0.4**
KSAR Wonju Array Be 163.56 279 PKIKP **PKPdf 18 50 19.6 -0.6**
KSAR 18 51 12.7
KSAR Wonju Array Be 163.56 279 PKP **PKPdf 18 50 19.6 -0.6**
KSAR PKPab **PKPab 18 51 12.7 +0.7**
TLY Talaya 164.64 9 *e*PKP2 **PKPab 18 51 17.8 +1.6**
TLY pmax pmax
comp=Z,7.0nm,1.5s
LSA Lhasa 164.82 112 *e*PKIKP **PKPdf 18 50 22.3 +0.1**
LSA *e* 18 51 18.9
LSA Lhasa 164.82 112 *e*PKPdf **PKPdf 18 50 22.3 +0.1**
LSA *e*PKPab **PKPab 18 51 18.9 +0.6**
ZAK Zakamensk 165.86 11 *e*PKP2 PKPab 18 51 28.4 +6.7
ZAK pmax pmax
comp=Z,2.0nm,2.2s
SONA1 Songino Array 168.69 3 *e*PKPab **PKPab 18 51 34.5 +0.3**
ULN Ulaanbaatar 168.69 1 PKIKP **PKPdf 18 50 24.0 -0.2**
ULN Ulaanbaatar 168.69 1 *e*PKPab **PKPab 18 51 35.2 +1.0**
SONM Songino Array 168.70 3 PKP **PKPdf 18 50 23.7 -0.4**
comp=Z,0.8nm,1.0s,baz=194,slow=0.6,SNR=5.1
SONM PKPab **PKPab 18 51 34.9 +0.6**
comp=Z,2.2nm,0.8s,baz=340,slow=5.0,SNR=15
GTA Gaotai 173.40 62 *e*PKP **PKPdf 18 50 27.0 +0.2**

SJA 02 18:34:41.0±0.6, 24°.93S×65°.65W, h15km±2km, ML4.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**0.24**	**33**	*i* P	Pg	18 34 46.7	+0.1
SLA				*i* S	Sg	18 34 50.8	+0.4
AZAP	**Zapla**	**0.88**	**37**	*e*P	Pn	18 34 59.0	-0.2
AZAP				*i* S	Sn	18 35 13.1	+1.2
AZAP				AML	AML	18 35 18.3	
comp=Z,6μm,0.3s							
FSA	**Cafayete**	**1.21**	**196**	*i* P	Pg	18 35 05.6	+1.0
FSA				*i* S	Sg	18 35 23.8	+3.3
ASTB	**Santa Barbara**	**1.44**	**48**	*i* P	Pg	18 35 09.8	+0.8
AHML	**Horco Molle**	**1.87**	**171**	*i* P	Pg	18 35 16.7	-0.4
AHML				*i* P	Pg	18 35 16.7	-0.4
AHML				*i* S	Sg	18 35 43.2	+1.7
ALOL	**LOMAS DE OLMED**	**1.89**	**54**	*i* P	Pg	18 35 17.1	-0.3
YJA	**Yavi**	**2.74**	**3**	*i* P	Pb	18 35 29.5	-0.8
YJA				*i* S	Sb	18 36 05.8	+1.6
CYA	**Choya**	**3.50**	**182**	*i* P	Pb	18 35 40.2	-2.6
CYA				AML	AML	18 36 37.1	
comp=Z,264nm,0.5s							

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*IDC **02** 18:39:19.6±0.9, 32°.87S×72°.09W, h0km, mb4.0/4, mb1 4.1/6, mb1mx4.0/17, mbtmp4.0/6, ML4.1/2, Error ellipse: s-maj=45.1km s-min=21.8km az=83.0*

*NEIC **02** 18:39:20.4±6.0, 32°.94S×71°.87W, h4km±36km, mb4.6/2, Error ellipse: s-maj=28.9km s-min=12.1km az=86.0*
*GUC **02** 18:39:24.4±0.6, 33°.11S×72°.17W, h34km±2km, ML4.1*
ISC 02 18:39:19.7±2.1, 32°.93S±0°.05×72°.20W±0°.07, h1km±12km, n21, σ1°.04/28, mb4.2/6, 4C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.22**	**148**⇑	*i* P	**Pg**	**18 39 43.3**	**+0.3**
LNV				*i* S	**Sg**	**18 39 57.2**	**-1.7**
PEL	**Peldehue**	**1.29**	**100**⇑	*i* P	**Pn**	**18 39 46.2**	**+1.3**
PEL				*i* S	**Sn**	**18 40 02.9**	**+0.1**
PEL				IAML		18 40 09.4	
comp=N,6μm,0.9s							
CHCH	**Chadas Angostu**	**1.64**	**128**⇑	*i* P	**Pg**	**18 39 50.8**	**-0.2**
CHCH				*i* S	**Sb**	**18 40 10.4**	**-1.5**
FCH	**Farellones**	**1.65**	**105**⇓	*i* P	**Pg**	**18 39 52.3**	**+1.0**
FCH				*i* S	**Sg**	**18 40 13.8**	**+1.1**
FCH				IAML		18 40 23.3	
comp=N,4μm,0.7s							
CACH	**El Canelo**	**1.79**	**132**⇑	*i* P	**Pb**	**18 39 53.1**	**-0.2**
CACH				*i* S	**Sb**	**18 40 15.2**	**-1.0**
CFAA	**Coronel Fontan**	**3.61**	**70**	Pn	**Pb**	**18 40 23.5**	**-0.7**
comp=N,2.0nm,0.3s,baz=235,slow=12,SNR=23							
CFAA				Lg	Lg	18 41 12.2	
comp=N,2.8nm,0.3s,baz=150,slow=23,SNR=5.6							
PLCA	**Paso Flores**	**7.90**	**171**	Pn	**Pn**	**18 41 16.7**	**+0.9**
comp=N,0.6nm,0.3s,baz=336,slow=16,SNR=3.1							
PLCA				Sn	**Sn**	**18 42 47.4**	**+1.5**
comp=N,0.7nm,0.3s,baz=225,slow=19,SNR=2.8							
PLCA	**Paso Flores**	**7.90**	**171**	Pn	**Pn**	**18 41 16.0**	**+0.2**
PLCA				Sn	**Sn**	**18 42 47.4**	**+1.5**
TRQA	**Tornquist**	**9.78**	**124**	Pn	Pn	18 41 37.0	-4.4
comp=N,33nm,1.2s							
LVC	**Limon Verde**	**10.68**	**17**	Pn	Pn	18 41 43.6	-10
LPAZ	**La Paz**	**16.97**	**14**	Pn	**Pn**	**18 43 19.8**	**+0.8**
comp=N,0.4nm,0.3s,baz=192,slow=9.3,SNR=6.5							
EFI	**East Falkland**	**21.39**	**155**	*e*P	**P**	**18 44 08.4**	**-0.1**
comp=N,70nm,1.3s							
SAML	**Samuel**	**25.27**	**21**	*e*P	**P**	**18 44 47.1**	**-0.5**
comp=N,4.1nm,0.8s							
AGPR	**Aguadilla, PR**	**51.33**	**6**	P	P	18 48 29.6	+4.0
QSPA	**South Pole Qui**	**57.31**	**180**	P	**P**	**18 49 09.9**	**+1.0**
comp=N,2.2nm,0.9s,baz=122,slow=2.4,SNR=6.3							
TXAR	**Lajitas Array**	**68.73**	**331**	P	**P**	**18 50 25.2**	**+0.1**
comp=N,0.2nm,0.6s,baz=140,slow=7.1,SNR=2.4							
BOSA	**Boshof**	**80.69**	**118**	P	**P**	**18 51 34.1**	**-0.7**
comp=N,2.6nm,0.8s,baz=70,slow=2.1,SNR=5.2							
TORD	**Torodi Ar. Bea**	**83.97**	**70**	P	**P**	**18 51 52.1**	**+0.2**
comp=N,1.6nm,0.8s,baz=261,slow=4.3,SNR=8.0							
PETK	**Petropavlovsk-**	**139.31**	**315**	PKP	**PKPdf**	**18 58 47.3**	**-0.7**
comp=N,3.7nm,0.9s,baz=214,slow=6.2,SNR=3.4							
ZALV	**Zalesovo Beam**	**153.38**	**31**	PKP	**PKPdf**	**18 59 10.7**	**-0.8**
comp=N,0.2nm,0.4s,baz=222,slow=1.7,SNR=2.4							
ZALV				PKPbc	**PKPbc**	**18 59 18.4**	**-0.6**
comp=N,0.9nm,0.7s,baz=299,slow=3.1,SNR=5.3							
ZALV				PKPab	**PKPab**	**18 59 29.2**	**-1.9**
comp=N,1.2nm,0.7s,baz=262,slow=3.0,SNR=5.1							
MKAR	**Makanchi Array**	**156.15**	**47**	PKP	**PKPdf**	**18 59 16.9**	**+1.3**
comp=N,0.2nm,0.7s,baz=115,slow=7.2,SNR=4.5							
MKAR				PKPab	**PKPab**	**18 59 42.9**	**-0.4**
comp=N,0.6nm,0.7s,baz=277,slow=2.5,SNR=7.4							

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*IDC **02** 18:42:48.8±1.0, 35°.69S×72°.02W, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.2/21, mbtmp4.2/11, ML4.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/29, Error ellipse: s-maj=36.0km s-min=17.6km az=92.0*
*ISCJB **02** 18:42:52.2±0.8, 35°.77S±0°.06×72°.2W±0°.2, h35km, mb4.2/9, Error ellipse: s-maj=18.8km s-min=9.0km az=1.0*
*NEIC **02** 18:42:53.6±0.8, 35°.76S×72°.24W, h35km, mb4.8/3, Error ellipse: s-maj=19.3km s-min=9.4km az=91.0*
ISC 02 18:42:53.6±0.8, 35°.75S±0°.08×72°.3W±0°.1, h35km, n22, σ1°.24/21, mb4.2/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.15**	**165**	Pn	**Pn**	**18 44 08.5**	**+0.2**
3.6nm,0.3s,baz=335,slow=11,SNR=16							
PLCA				Sn	Sn	18 45 19.5	+13
1.9nm,0.3s,baz=338,slow=11,SNR=3.0							
CFAA	**Coronel Fontan**	**5.33**	**40**	Pn	**Pn**	**18 44 09.0**	**-1.7**
baz=206,slow=12,SNR=1.6							
CFAA				Lg	Lg	18 45 23.7	
0.9nm,0.3s,baz=98,slow=17,SNR=13							
TRQA	**Tornquist**	**8.56**	**109**	*e*Pn	**Pn**	**18 44 56.2**	**+1.2**
LVC	**Limon Verde**	**13.42**	**13**	Pn	**Pn**	**18 46 03.9**	**+2.1**
CPUP	**Villa Florida**	**15.86**	**58**	LR	LR	18 52 59.9	
comp=Z,128nm,18.0s,baz=224,slow=39							
CPUP	**Villa Florida**	**15.86**	**58**	Pn	**Pn**	**18 46 35.0**	**+0.7**
EFI	**East Falkland**	**18.89**	**152**	P	**P**	**18 47 10.0**	**-0.8**
118nm,1.4s							
LPAZ	**La Paz**	**19.73**	**12**	P	**P**	**18 47 21.7**	**+0.7**
0.4nm,0.3s,baz=175,slow=6.8,SNR=8.9							
SIV	**San Ignacio**	**22.08**	**30**	P	**P**	**18 47 45.4**	**-0.3**
3.3nm,0.6s,baz=210,slow=11,SNR=7.0							
SNAA	**Sanae**	**50.04**	**157**	P	**P**	**18 51 44.8**	**+0.4**
1.1nm,0.9s,baz=252,slow=3.2,SNR=4.9							
QSPA	**South Pole Qui**	**54.49**	**180**	P	**P**	**18 52 19.0**	**+1.4**
4.4nm,0.8s,baz=313,slow=1.2,SNR=25							
QSPA	**South Pole Qui**	**54.49**	**180**	*e*P	**P**	**18 52 18.6**	**+1.1**
6.0nm,0.9s							
TXAR	**Lajitas Array**	**71.17**	**331**	P	**P**	**18 54 09.8**	**+0.9**
0.5nm,0.5s,baz=149,slow=9.3,SNR=5.9							
DBIC	**Dimbokro**	**75.92**	**71**	P	**P**	**18 54 36.0**	**-1.0**
5.1nm,0.7s,baz=190,slow=5.4,SNR=8.6							
TSUM	**Tsumeb**	**78.92**	**106**	P	**P**	**18 54 54.2**	**+0.2**
1.1nm,0.8s,baz=234,slow=8.7,SNR=2.7							
BOSA	**Boshof**	**79.43**	**118**	P	**P**	**18 54 56.1**	**-0.5**
5.3nm,0.8s,baz=249,slow=3.4,SNR=7.8							
LBTB	**Lobatse**	**81.74**	**115**	P	**P**	**18 55 09.2**	**+0.2**
4.6nm,0.7s,baz=265,slow=8.0							
LBTB	**Lobatse**	**81.74**	**115**	*e*P	**P**	**18 55 07.6**	**-1.5**
14nm,1.2s							
TORD	**Torodi Ar. Bea**	**84.99**	**70**	P	**P**	**18 55 24.8**	**-0.9**
1.6nm,0.9s,baz=255,slow=4.7,SNR=9.0							
KKAR	**Karatay Array**	**150.51**	**64**	*e*PKPbc	**PKPbc**	**19 02 41.3**	**-0.1**
ZALV	**Zalesovo Beam**	**155.79**	**34**	PKPbc	PKPdf	19 02 52.8	+10
0.9nm,0.7s,baz=328,slow=2.3,SNR=4.2							
ZALV				PKPab	**PKPab**	**19 03 07.3**	**-2.7**
1.6nm,0.5s,baz=289,slow=4.4,SNR=5.9							
MKAR	**Makanchi Array**	**158.02**	**52**	PKPab	**PKPab**	**19 03 18.8**	**-1.2**
0.7nm,0.8s,baz=297,slow=2.7,SNR=6.4							

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*AWI **02** 18:50:48.5, 51°.50S×23°.15W*
*IDC **02** 18:51:20.2±0.8, 55°.96S×27°.11W, h0km, mb4.3/5, mb1 4.3/6, mb1mx3.9/30, mbtmp4.3/6, ML4.2/1, Error ellipse: s-maj=39.0km s-min=20.1km az=89.0*
*ISCJB **02** 18:51:27.1±0.8, 56°.0S±0°.1×27°.1W±0°.4, h63km, mb4.3/5, Error ellipse: s-maj=34.1km s-min=14.5km az=167.2*
ISC 02 18:51:28.6±0.8, 56°.0S±0°.1×27°.2W±0°.3, h63km, n11, σ0°.79/11, mb4.2/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**17.23**	**158**	P	**P**	**18 55 26.0**	**+0.8**
SNAA	**Sanae**	**18.78**	**156**	P	**P**	**18 55 42.3**	**0.0**
SNAA	**Sanae**	**18.78**	**156**	P	**P**	**18 55 42.4**	**+0.1**
0.7nm,0.3s,baz=307,slow=9.0,SNR=32							
QSPA	**South Pole Qui**	**34.25**	**180**	P	**P**	**18 58 08.0**	**-0.1**
8.3nm,0.5s,baz=202,slow=1.9,SNR=96							
VNDA	**Vanda**	**46.62**	**183**	P	**P**	**18 59 49.9**	**+0.2**
3.3nm,0.7s,baz=205,slow=6.6,SNR=6.7							
LPAZ	**La Paz**	**50.36**	**305**	P	**P**	**19 00 20.1**	**+0.3**
1.2nm,0.4s,baz=130,slow=8.1,SNR=5.9							
DBIC	**Dimbokro**	**65.12**	**25**	P	**P**	**19 02 02.3**	**-0.2**
1.7nm,0.7s,baz=186,slow=4.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**73.01**	**29**	P	**P**	**19 02 52.5**	**+1.2**
0.7nm,0.4s,baz=200,slow=6.2,SNR=14							
FINES	**FINESS Array B**	**124.34**	**28**	PKP	**PKPdf**	**19 10 17.8**	**-0.8**
0.6nm,0.8s,baz=160,slow=4.4,SNR=5.3							
ILAR	**Eielson Array**	**150.10**	**312**	PKPbc	**PKPbc**	**19 11 10.1**	**-0.4**
0.9nm,0.7s,baz=124,slow=2.6,SNR=8.7							
SONM	**Songino Array**	**150.71**	**86**	PKPbc	**PKPbc**	**19 11 11.2**	**-1.4**
0.5nm,0.5s,baz=216,slow=3.9,SNR=10							

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*ISCJB **02** 18:56:05.6±0.2, 7°.05S±0°.03×129°.28E±0°.03, h139km, mb3.9/11, Error ellipse: s-maj=4.5km s-min=3.5km az=164.4*
*KLM **02** 18:56:09.5, 6°.96S×128°.70E, h50km, mb4.8, MS5.8*
*DJA **02** 18:56:09.9±0.4, 7°.5±3°.×12°.9E±°., h204km±11km, M4.6/14, mb4.7/12, mB5.1/9, MLv4.8/14, Mw(mB)4.5/9*

*NEIC **02** 18:56:09.3±0.9, 7°.12S×129°.26E, h171km±12km, mb4.3/13, Error ellipse: s-maj=13.7km s-min=10.2km az=55.0*
*IDC **02** 18:56:11.7±4.7, 7°.19S×129°.12E, h182km±48km, mb3.7/6, mb1 3.9/8, mb1mx3.6/21, mbtmp4.4/8, Error ellipse: s-maj=42.5km s-min=13.4km az=42.0*
ISC 02 18:56:07.5±0.4, 7°.08S±0°.04×129°.27E±0°.04, h139km, n88, σ1°.86/89, mb3.8/11, 2C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.21**	**114**	P	Pn	18 56 49.7	+5.2
SAUI				S	**Sn**	**18 57 18.4**	**+5.5**
SAUI	**Saumlaki**	**2.21**	**114**	*e*Pn	Pn	18 56 49.8	+5.2
BNDI	**Bandanaira**	**2.62**	**14**	P	Pn	18 56 54.6	+5.0
NLAI	**Namlea**	**4.38**	**330**	P	Pn	18 57 18.3	+5.8
FAKI	**Fak Fak**	**5.09**	**36**	P	**Pn**	**18 57 23.3**	**+1.3**
67nm,0.7s,7μm1.4nm							
FAKI				S	**Sn**	**18 58 16.3**	**-3.7**
67nm,0.7s,7μm1.4nm							
FAKI	**Fak Fak**	**5.09**	**36**	P	**Pn**	**18 57 23.5**	**+1.5**
baz=5.2,SNR=13							
FAKI				S	**Sn**	**18 58 18.8**	**-1.2**
baz=5.2,SNR=35							
FAKI	**Fak Fak**	**5.09**	**36**	*e*Pn	**Pn**	**18 57 23.3**	**+1.3**
FAKI				*e*Sn	Sn	18 58 14.8	-5.2
KMPI	**Kaimana, Papua**	**5.57**	**53**	P	**Pn**	**18 57 28.4**	**0.0**
314nm,1.0s,7μm3.9nm							
KMPI				S	**Sn**	**18 58 29.8**	**-1.7**
314nm,1.0s,7μm3.9nm							
SOEI	**Soe**	**5.62**	**241**	P	**Pn**	**18 57 32.1**	**+3.0**
273nm,0.7s,3μm1.2nm							
SOEI				S	**Sn**	**18 58 31.2**	**-1.5**
273nm,0.7s,3μm1.2nm							
SOEI	**Soe**	**5.62**	**241**	P	**Pn**	**18 57 32.2**	**+3.0**
baz=5.5,SNR=78							
SOEI				S	**Sn**	**18 58 34.3**	**+1.6**
baz=5.5,SNR=5.8							
SOEI	**Soe**	**5.62**	**241**	*e*Pn	**Pn**	**18 57 32.1**	**+3.0**
SOEI				*e*Sn	**Sn**	**18 58 32.2**	**-0.5**
SANI	**Sanana**	**5.97**	**327**	P	Pn	18 57 38.8	+5.1
29nm,1.0s,0.1nm							
MTN	**Manton Dam**	**6.02**	**162**	P	**Pn**	**18 57 36.3**	**+1.9**
baz=6.0,SNR=324							
MTN				S	**Sn**	**18 58 39.7**	**-2.5**
baz=6.0,SNR=15							
BATI	**Baumata**	**6.35**	**240**	P	**Pn**	**18 57 41.5**	**+2.6**
158nm,0.7s,2μm0.6nm							
BATI	**Baumata**	**6.35**	**240**	P	**Pn**	**18 57 41.8**	**+3.0**
72nm,0.3s,baz=238,slow=1.0,SNR=141							
BATI				S	**Sn**	**18 58 50.4**	**+0.1**
38nm,0.3s,baz=213,slow=23,SNR=14							
KDU	**Kakadu**	**6.41**	**151**	P	**Pn**	**18 57 41.2**	**+1.7**
baz=6.4,SNR=178							
KDU				S	**Sn**	**18 58 48.6**	**-2.9**
baz=6.4,SNR=9.3							
SWI	**Sorong**	**6.49**	**18**	P	Pn	18 57 44.0	+3.4
SWI	**Sorong**	**6.49**	**18**	P	**Pn**	**18 57 42.3**	**+1.6**
baz=6.6,SNR=13							
SWI				S	**Sn**	**18 58 52.1**	**-1.4**
baz=6.6,SNR=5.3							
LBMI	**Labuha**	**6.63**	**345**	P	Pn	18 57 47.1	+4.4
123nm,0.7s,1μm0.3nm							
MMRI	**Maumere**	**7.13**	**257**	P	**Pn**	**18 57 52.3**	**+3.0**
54nm,1.3s,0.2nm							
MMRI	**Maumere**	**7.13**	**257**	*e*Pn	Pn	18 57 52.5	+3.2
KNRA	**Kununurra**	**8.56**	**183**	P	**Pn**	**18 58 08.9**	**+0.5**
baz=8.6,SNR=234							
KNRA				S	Sn	18 59 36.8	-6.7
baz=8.6,SNR=10							
BASI	**Baing, Sumba**	**9.14**	**249**	P	**Pn**	**18 58 18.1**	**+1.9**
108nm,0.6s,2μm							
BKSI	**Bulukumba**	**9.26**	**280**	P	**Pn**	**18 58 19.5**	**+1.7**
23nm,0.9s							
WBSI	**Waikabubak, Su**	**10.10**	**255**	P	**Pn**	**18 58 31.8**	**+2.7**
56nm,0.7s,1μm							
FITZ	**Fitzroy Crossi**	**11.51**	**198**	P	**Pn**	**18 58 46.3**	**-1.5**
baz=12,SNR=63							
FITZ	**Fitzroy Crossi**	**11.51**	**198**	*e*Pn	**Pn**	**18 58 46.4**	**-1.4**
FITZ				*e*Sn	Sn	19 00 44.3	-11
WRAB	**Tennant Creek**	**13.70**	**159**	*e*Pn	**Pn**	**18 59 13.6**	**-2.5**
WRAB				*e*Sn	Sn	19 01 37.1	-11
WRA	**Warramunga Arr**	**13.70**	**159**	P	**Pn**	**18 59 14.2**	**-1.9**
1.9nm,0.3s,baz=337,slow=13,SNR=80							
WRA				S	Sn	19 01 38.0	-10
6.2nm,0.3s,baz=334,slow=22,SNR=7.3							
WB2	**Warramunga Arr**	**13.71**	**159**	*e*Pn	**Pn**	**18 59 13.9**	**-2.3**
WB2				*e*Sn	Sn	19 01 36.5	-11
JAGI	**Jajag, Banyuwa**	**15.04**	**264**	P	**Pn**	**18 59 32.8**	**-0.3**
baz=15,SNR=14							
JAGI	**Jajag, Banyuwa**	**15.04**	**264**	*e*Pn	**Pn**	**18 59 31.8**	**-1.3**
21nm,1.0s							
COEN	**Coen**	**15.28**	**118**	P	**Pn**	**18 59 36.3**	**+0.2**
baz=15,SNR=19							
COEN				S	Sn	19 02 15.6	-10
baz=15,SNR=4.6							
MYLDM	**Lahad Datu**	**16.24**	**318**	⇓P	**P**	**18 59 51.3**	**+3.0**
QIS	**Mount Isa**	**16.73**	**144**	P	**Pn**	**18 59 54.9**	**+1.1**
baz=17,SNR=79							
QIS				S	Sn	19 02 52.4	-8.2
baz=17,SNR=4.4							
MBWA	**Marble Bar**	**16.76**	**212**	*e*P	**P**	**18 59 51.6**	**-2.4**
15nm,1.1s							
MBWA				*e*S	Sn	19 02 46.9	-14
AS31	**Alice Springs**	**17.09**	**165**	*e*P	**Pn**	**18 59 58.8**	**+0.7**
ASAR	**Alice Springs**	**17.09**	**165**	P	**Pn**	**18 59 59.1**	**+1.1**

LSA	Lhasa	51.75	317	P	P	19 05 01.3 -0.2
ODAN	Odare	52.76	311	eP	P	19 05 07.9 -0.8
	9.3nm,0.5s					
TAPN	Taplejung	52.80	312	eP	P	19 05 08.2 -0.9
	6.9nm,0.3s					
RAMN	Ramite	53.40	311	eP	P	19 05 12.9 -0.5
	24nm,0.5s					
JIRN	Jiri	54.09	312	eP	P	19 05 17.8 -0.8
	5.8nm,0.4s					
GUN	Gumba	54.46	312	eP	P	19 05 20.5 -0.7
	14nm,0.5s					
PKI	Pulchoki	54.62	311	eP	P	19 05 21.1 -1.3
	10nm,0.7s					
PKIN	Phulchoki	54.64	311	eP	P	19 05 21.2 -1.2
	6.3nm,0.5s					
KKN	Kakani	54.84	311	eP	P	19 05 22.9 -0.9
	6.4nm,0.5s					
DMN	Daman	54.87	311	eP	P	19 05 23.2 -0.9
	3.9nm,0.4s					
GKN	Gorkha	55.43	311	eP	P	19 05 27.1 -0.9
	12nm,0.4s					
KOLN	Koldanda	56.09	310	eP	P	19 05 31.9 -0.9
	3.5nm,0.2s					
DANN	Dangsing	56.27	311	eP	P	19 05 33.0 -1.1
ULN	Ulaanbaatar	58.12	343	eP	P	19 05 45.9 -0.6
	0.8nm,0.7s					
SONM	Songino Array	58.29	342	P	P	19 05 48.0 +0.3
	0.2nm,0.5s,baz=157,slow=7.8,SNR=3.7					
MKAR	Makanchi Array	67.89	327	P	P	19 06 50.6 -0.5
	0.6nm,0.4s,baz=112,slow=8.5,SNR=24					
ZALV	Zalesovo Beam	71.33	334	P	P	19 07 10.0 -1.9
	0.4nm,0.3s,baz=123,slow=6.0,SNR=3.8					
KURK	Kurchatov	72.20	329	P	P	19 07 13.0 -4.2
	0.4nm,0.5s					
QSPA	South Pole Qui	82.90	180	eP	P	19 08 15.2 -1.3
	1.2nm,0.6s					

IDC **02** *19:12:51.1±0.4, 34°.29S×72°.13W, h0km, mb4.9/22, mb1 5.0/24, mb1mx4.9/32, mbtmp4.9/24, ML4.8/2, MS5.1/19, Ms1 5.1/19, ms1mx5.0/29, Error ellipse: s-maj=18.4km s-min=11.6km az=73.0*

ISCJB **02** *19:12:53.1±0.2, 34°.10S±0°.05×71°.96W±0°.06, h19km, mb5.0/97, MS5.2/23, Error ellipse: s-maj=9.2km s-min=4.7km az=141.0*

MOS **02** *19:12:55.6±1.3, 34°.13S×72°.13W, h33km, mb5.3/31, Error ellipse: s-maj=20.8km s-min=9.7km az=102.9*

BJI **02** *19:12:56.6, 34°.30S×72°.10W, h41km, mB5.2/19, Ms5.6/20, Ms7 5.4/20*

NEIC **02** *19:12:56.4±1.3, 34°.27S×72°.17W, h40km±11km, mb5.1/73, Error ellipse: s-maj=11.9km s-min=6.4km az=72.0*

NEIC Felt at San Antonio.

GCMT **02** *19:12:56.4±0.1, 34°.39S×72°.55W, h19km, MW5.6/97, Moment Tensor Solution. s80,c134; s97,c174; Duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}1.57±.04; $M_{\theta\theta}$0.16±.03; $M_{\phi\phi}$-1.73±.03; $M_{r\theta}$0.92±.08; $M_{\theta\phi}$0.06±.02; $M_{r\phi}$-2.66±.13; Best double couple: $M_0$3.26600×10^{17} NP1:ϕ_s163.00000°, δ75.00000°, λ81.00000°. NP2:ϕ_s14.00000°, δ17.00000°, λ119.00000°. Principal axes: T 3.2470, Plg59.0000°, Azm62.0000°; N 0.0390, Plg8.0000°, Azm165.0000°; P -3.2850, Plg30.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 02 19:12:53.8±0.2, 34°.24S±0°.05×72°.10W±0°.06, h19km, n475, σ1.51/474, mb5.1/98, MS5.3/23, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.18	52	Pn	Pn	19 14 00.1	+3.6
	6.2nm,0.3s,baz=228,slow=12,SNR=98						
CFAA				Lg	Lg	19 15 04.4	
	12nm,0.3s,baz=97,slow=23,SNR=6.5						
CFAA				LR	LR	19 16 03.4	
	comp=Z,6μm,19.3s,baz=217,slow=46						
PLCA	Paso Flores	6.60	170	eP	Pn	19 14 29.3	-0.5
PLCA	Paso Flores	6.60	170	Pn	Pn	19 14 30.0	+0.2
	4.5nm,0.3s,baz=334,slow=11,SNR=27						
PLCA				Lg	Lg	19 16 16.7	
	4.1nm,0.3s,baz=293,slow=16,SNR=2.2						
PLCA				LR	LR	19 17 17.4	
	comp=Z,14μm,19.3s,baz=352,slow=41						
PLCA	Paso Flores	6.60	170	ePn	Pn	19 14 29.3	-0.5
PLCA				Lg	Lg	19 16 16.7	
TRQA	Tornquist	9.03	118	ePn	Pn	19 15 05.7	+2.6
LVC	Limon Verde	11.92	14	ePn	Pn	19 15 38.4	-4.5
CPUP	Villa Florida	14.99	62	eP	Pn	19 16 20.1	-4.5
CPUP	Villa Florida	14.99	62	Pn	Pn	19 16 22.1	-2.5
	0.8nm,0.3s,baz=220,slow=13,SNR=6.9						
CPUP				Lg	Lg	19 20 33.8	
	1.3nm,0.3s,baz=128,slow=12,SNR=3.9						
CPUP				LR	LR	19 22 42.3	
	comp=Z,17μm,20.4s,baz=223,slow=39						
CPUP	Villa Florida	14.99	62	ePn	Pn	19 16 20.1	-4.5
CPUP				Lg	Lg	19 20 33.8	
LPAZ	La Paz	18.23	12	P	Pn	19 17 00.7	-5.7
LPAZ				pmax	pmax		
	comp=Z,189nm,1.5s						
LPAZ	La Paz	18.23	12	P	P	19 17 07.5	+1.0
	comp=Z,1.9nm,0.3s,baz=191,slow=7.0,SNR=44						
LPAZ	La Paz	18.23	12	P	Pn	19 17 00.7	-5.7
	comp=Z,189nm,1.5s						
EFI	East Falkland	20.17	154	P	Pn	19 17 27.6	-1.2
	comp=Z,325nm,0.5s,SNR=12						
EFI	East Falkland	20.17	154	eP	P	19 17 26.7	-0.2
EFI				pmax	pmax		
	comp=Z,63nm,0.8s						
EFI	East Falkland	20.17	154	eP	P	19 17 26.7	-0.2
	comp=Z,62nm,0.8s						
SIV	San Ignacio	20.70	31	P	P	19 17 33.4	+0.4
	comp=Z,137nm,0.9s,baz=235,slow=13,SNR=56						
SIV				LR	LR	19 27 12.5	
	comp=Z,20μm,19.1s,baz=226,slow=42						
USHA	Ushuaia	20.75	174	P	Pn	19 17 37.0	+1.4
	comp=Z,35nm,0.7s,baz=280,slow=7.5,SNR=7.8						
USHA				LR	LR	19 26 30.9	
	comp=Z,10μm,18.3s,baz=333,slow=40						
NNA	Nana	22.57	348	eP	P	19 17 55.3	+2.2
NNA				pmax	pmax		
	comp=Z,55nm,1.0s						
NNA	Nana	22.57	348	P	P	19 17 55.8	+2.7
	comp=Z,11nm,0.5s,baz=162,slow=7.5,SNR=6.5						
NNA				LR	LR	19 23 05.3	
	comp=Z,984nm,21.9s,baz=184,slow=27						
NNA	Nana	22.57	348	eP	P	19 17 55.3	+2.2
	comp=Z,55nm,1.0s						
SAML	Samuel	26.47	20	eP	P	19 18 29.8	0.0
	comp=Z,43nm,0.9s						
BDFB	Brasilia	28.51	55	eP	P	19 18 48.4	+0.1
BDFB	Brasilia	28.51	55	P	P	19 18 48.7	+0.4
	comp=Z,52nm,0.8s,baz=217,slow=5.8,SNR=47						
BDFB				LR	LR	19 31 21.1	
	comp=Z,16μm,18.1s,baz=226,slow=39						
BDFB	Brasilia	28.51	55	eP	P	19 18 48.4	+0.1
PMSA	Palmer Station	30.96	173	P	P	19 19 08.1	-1.2
	comp=Z,49nm,1.2s						
OTAV	Otavalo	34.81	349	eP	P	19 19 44.9	+0.9
	comp=Z,21nm,1.2s						
ROSC	El Rosal	38.94	356	LR	LR	19 36 49.5	
	comp=Z,2μm,18.3s,baz=194,slow=37						
SDV	Santo Domingo	42.91	2	eP	P	19 20 51.0	-0.5
	comp=Z,34nm,0.8s						
RCBR	Riachuelo	43.81	58	P	P	19 20 59.5	+0.8
	comp=Z,18nm,0.9s,baz=222,slow=11,SNR=6.5						
RCBR	Riachuelo	43.81	58	eP	P	19 20 59.1	+0.4
	comp=Z,37nm,1.1s						
JTS	JuntasAbangare	45.94	342	eP	P	19 21 17.2	+1.6
JTS				pmax	pmax		
	comp=Z,47nm,2.2s						
JTS	JuntasAbangare	45.94	342	P	P	19 21 17.5	+2.0
	comp=Z,3.5nm,0.7s,baz=181,slow=8.4,SNR=4.5						
JTS	JuntasAbangare	45.94	342	eP	P	19 21 17.1	+1.6
	comp=Z,16nm,1.1s						
GRGR	Grenville	47.17	14	eP	P	19 21 24.2	-1.0
	comp=Z,192nm,0.9s						
VNA3	Neumayer Olymp	49.16	158	P	P	19 21 42.3	+2.4
FDF	Fort de France	49.80	14	P	P	19 21 44.1	-1.4
FDF				pmax	pmax		
	comp=Z,110nm,1.0s						
FDF	Fort de France	49.80	14	P	P	19 21 44.1	-1.4
	comp=Z,110nm,1.0s						
VNA2	Neumayer--Watz	49.81	157	P	P	19 21 46.2	+1.3
SNAA	Sanae	51.38	158	P	P	19 21 58.6	+1.8
SNAA	Sanae	51.38	158	eP	P	19 21 58.0	+1.1
SNAA	Sanae	51.38	158	eP	P	19 21 58.7	+1.8
SNAA				pmax	pmax		
	comp=Z,43nm,1.7s						
SNAA	Sanae	51.38	158	P	P	19 21 57.4	+0.5
	comp=Z,4.2nm,0.7s,baz=278,slow=8.4,SNR=26						
SNAA	Sanae	51.38	158	eP	P	19 21 57.5	+0.6
	comp=Z,72nm,1.1s						
APG	El Apazote	52.00	337	P	P	19 22 00.6	-1.7
	comp=Z,4.2nm,0.8s,baz=103,slow=1.4,SNR=4.2						
CRPR	Cabo Rojo, PR	52.17	6	eP	P	19 22 02.1	-1.0
	comp=Z,31nm,0.7s						
OBIP	Obispado Ponce	52.25	7	eP	P	19 21 59.5	-4.4
	comp=Z,47nm,0.9s						
CELP	Cerrillos	52.29	7	eP	P	19 22 03.3	-0.7
MTDJ	Mount Denham	52.43	353	P	P	19 22 03.2	-2.0
LRS	Lares	52.48	6	eP	P	19 22 03.7	-1.8
ANWB	Willy Bob	52.55	12	eP	P	19 22 01.9	-4.0
SDDR	Presa de Saban	52.93	1	eP	P	19 22 06.9	-1.9
	comp=Z,12nm,0.7s						
RKT	Rikitea	55.50	264	eS	S	19 30 12.1	0.0
	comp=Z,1μm,27.2s						
RKT				eLR	LR	19 38 32.8	
	comp=Z,2μm,27.2s,baz=121						
RKT	Rikitea	55.50	264	eT	T	20 21 51.1	
	comp=Z,2.0nm,0.3s						
QSPA	South Pole Qui	56.00	180	P	P	19 22 32.2	+1.4
	comp=Z,22nm,0.9s,baz=146,slow=2.9,SNR=30						
QSPA	South Pole Qui	56.00	180	eP	P	19 22 31.2	+0.3
	comp=Z,89nm,1.1s						
NVL	N'lazarevskaya	56.12	157	eP	P	19 22 39.4	+7.9
NVL				eS	S	19 30 20.5	+1.4
NVL				e		19 32 18.9	
NVL				pmax	pmax		
	comp=Z,37nm,0.8s						
TEIG	Tepich	56.31	342	P	P	19 22 33.0	-0.3
	comp=Z,18nm,0.7s,baz=116,slow=3.8,SNR=6.6						
TEIG	Tepich	56.31	342	eP	P	19 22 32.5	-0.9
	comp=Z,52nm,0.8s						
VNDA	Vanda	63.86	191	LR	LR	19 47 47.9	
	comp=Z,527nm,20.0s,baz=129,slow=33						
H06E1	SOCORRO T-PHAS	64.39	319	T	T	20 33 17.3	
SYO	Syowa Base	65.66	158	eP	P	19 23 35.0	-1.3
833A	Chaparral WMA,	67.37	334	P	P	19 23 49.5	+1.8
	baz=68						
632A	Uvalde	68.59	334	P	P	19 23 56.5	+1.1
	baz=69						
MEH	Mehetia	68.77	262	eT	T	20 38 25.7	
	comp=Z,33nm,0.2s						
532A	Rocksprings	69.20	334	P	P	19 23 59.6	+0.4
	baz=70						
336A	Riesel	69.32	338	P	P	19 23 59.6	-0.2
	baz=70						
531A	Rocksprings	69.46	334	P	P	19 24 01.3	+0.5
	baz=70						
JCT	Junction City	69.48	335	eP	P	19 24 02.4	+1.5
JCT				pmax	pmax		
	comp=Z,33nm,0.9s						
JCT	Junction City	69.48	335	eP	P	19 24 02.4	+1.5
	comp=Z,33nm,0.9s						
334A	Lometa	69.72	336	P	P	19 24 02.3	0.0
	baz=70						
530A	J-C Ranch, Com	69.74	333	P	P	19 24 05.4	+2.9
	baz=70						
432A	Menard	69.84	335	P	P	19 24 06.1	+3.0
	baz=70						
TXAR	Lajitas Array	69.92	331	P	P	19 24 04.4	+0.7
	comp=Z,1.9nm,0.6s,baz=153,slow=8.9,SNR=17						
TXAR				LR	LR	19 50 13.5	
	comp=Z,2μm,18.6s,baz=0.0,slow=32						
431A	Sonora	69.95	334	P	P	19 24 04.4	+0.6
	baz=70						
TIAR	Tiarei	69.98	262	eT	T	20 39 56.3	
	comp=Z,6.3nm,0.2s						
PPT2	Papeete2	70.15	262	eS	S	19 33 14.6	-1.6
	comp=Z,2μm,24.5s						
PPT2	Papeete2	70.15	262	eLR	LR	19 45 29.7	
	comp=Z,4μm,27.0s,baz=122						
PPT	Papeete	70.16	262	LR	LR	19 47 16.3	
	comp=Z,2μm,18.1s,baz=148,slow=30						
OXF	Oxford	70.29	345	eP	P	19 24 05.6	-0.1
OXF				pmax	pmax		
	comp=Z,89nm,1.1s						
OXF	Oxford	70.29	345	eP	P	19 24 05.6	-0.1
	comp=Z,89nm,1.1s						
SWET	Sewanee	70.30	348	eP	P	19 24 05.2	-0.6
	comp=Z,24nm,0.7s						
429A	Davenport Ranc	70.38	333	P	P	19 24 07.4	+1.0
	baz=71						
TKL	Tuckaleechee C	70.39	350	P	P	19 24 06.1	-0.3
	comp=Z,12nm,0.8s,baz=169,slow=6.8,SNR=9.3						
331A	San Angelo	70.45	334	P	P	19 24 07.2	+0.3
	baz=71						
233A	Rising Star	70.57	336	P	P	19 24 07.5	-0.1
	baz=71						
231A	Bronte	70.98	335	P	P	19 24 10.9	+0.8
	baz=71						
133A	Hamilton Ranch	71.12	336	P	P	19 24 11.8	+0.9
	baz=71						
ABTX	Abilene, Hawle	71.38	336	P	P	19 24 13.9	+1.4
	baz=72						
ABTX	Abilene, Hawle	71.38	336	P	P	19 24 11.9	-0.5
	comp=Z,29nm,1.1s						
Z34A	Collier Ranch,	71.49	337	P	P	19 24 12.8	-0.3
	baz=72						
WVT	Waverly	71.53	347	eP	P	19 24 12.6	-0.6
WVT				pmax	pmax		
	comp=Z,50nm,0.8s						
WVT	Waverly	71.53	347	eP	P	19 24 12.6	-0.6
	comp=Z,50nm,0.8s						
131A	Roby	71.68	335	P	P	19 24 14.6	+0.3
	baz=72						
Z33A	Whitaker Ranch	71.69	337	P	P	19 24 14.3	0.0
	baz=72						
JSRW	J. Sargeant Re	71.77	355	eP	P	19 24 14.7	+0.1
Z32A	Haskell	71.94	336	P	P	19 24 16.0	+0.2
	baz=72						
Z31A	Sharp Cattle R	72.18	336	P	P	19 24 17.3	+0.1
	baz=72						
Y33A	Hilltop Ranch,	72.31	337	P	P	19 24 18.7	+0.7
	baz=73						
128A	Castleberry Fa	72.39	333	P	P	19 24 19.0	+0.4
	baz=73						
Z30A	Sanderson Ranc	72.49	335	P	P	19 24 19.6	+0.4
	baz=73						
Y32A	R-V Farms, Ver	72.57	336	P	P	19 24 20.0	+0.4
	baz=73						
X34A	Smith Ranch, M	72.60	338	P	P	19 24 20.4	+0.6
	baz=73						
Z29A	Hungry Hill Ra	72.67	334	P	P	19 24 20.3	0.0
	baz=73						
MNTX	Cornudas Mount	72.69	331	eP	P	19 24 19.6	-0.7
	comp=Z,9.1nm,1.0s						
Y31A	Rekieta Farm,	72.81	336	P	P	19 24 21.4	+0.4
	baz=73						
X32A	Elmer	72.90	337	P	P	19 24 22.2	+0.7
	baz=73						
MAW	Mawson	72.97	164	P	P	19 24 21.5	0.0
	comp=Z,26nm,0.8s,baz=202,slow=12,SNR=4.5						
Y29A	Porterfield Fa	73.20	335	P	P	19 24 24.5	+1.1
	baz=74						
TUL1	Leonard	73.21	340	eP	P	19 24 23.1	-0.2
	comp=Z,16nm,0.8s						
W33A	Caddo, Fort Co	73.31	338	P	P	19 24 25.1	+1.2
	baz=74						
Z26A	Caprock	73.53	333	P	P	19 24 25.9	+0.5
	baz=74						
W32A	Sentinel	73.53	337	P	P	19 24 25.8	+0.5
	baz=74						
KOMG	Komaggas	73.61	115	eP	P	19 24 27.8	+1.7
KOMG				AMB	AMB	19 24 28.4	
	comp=Z,38nm,1.4s						
MSTX	Muleshoe	73.70	334	P	P	19 24 27.3	+0.9
	baz=74						
MSTX	Muleshoe	73.70	334	eP	P	19 24 24.2	-2.1
	comp=Z,17nm,0.9s						
V33A	Lossen Ranch,	73.87	338	P	P	19 24 28.1	+0.9
	baz=74						
Y26A	Elida	74.05	333	P	P	19 24 30.1	+1.6
	baz=74						
Z24A	Sheeppen Canyo	74.12	331	P	P	19 24 30.5	+1.5
	baz=74						
AMTX	Amarillo	74.13	335	P	P	19 24 30.2	+1.3
	baz=74						
AMTX	Amarillo	74.13	335	eP	P	19 24 29.4	+0.5
	comp=Z,29nm,1.2s						
W29A	Amarillo	74.33	335	P	P	19 24 30.5	+0.4
	baz=75						
121A	Cookes Peak, D	74.42	329	P	P	19 24 32.6	+1.9
	baz=75						
121A	Cookes Peak, D	74.42	329	eP	P	19 24 32.7	+2.0
	comp=Z,18nm,0.9s						
X26A	CR and CF Fran	74.60	333	P	P	19 24 32.1	+0.5
	baz=75						
Y24A	Capitan	74.67	332	P	P	19 24 33.2	+1.1
	baz=75						
Z22A	Elephant Butte	74.70	330	P	P	19 24 33.9	+1.6
	baz=75						
SUR	Sutherland	74.76	119	P	P	19 24 35.6	+2.6
	comp=Z,302nm,0.9s,SNR=5.5						
SUR	Sutherland	74.76	119	eP	P	19 24 34.4	+1.4
	comp=Z,62nm,1.0s						
ACSO	Alum Creek Sta	74.78	351	eP	P	19 24 28.3	-4.1
	comp=Z,27nm,0.7s						
W27A	Bowe Ranch, En	74.78	334	P	P	19 24 33.0	+0.3
	baz=75						
LIC	Lamto	74.90	72	ePKP2	P	19 24 35.2	+1.5
	comp=Z,52nm,0.8s						
W26A	Owens Ranch, T	75.06	334	P	P	19 24 35.0	+0.7
	baz=75						
TIC	Toumodi	75.16	71	ePKP2	P	19 24 36.7	+1.5
	comp=Z,36nm,0.9s						
KIC	Kosan Boka	75.21	72	ePKP2	P	19 24 36.2	+0.7
	comp=Z,62nm,0.8s						
X24A	Lazy VL Ranch,	75.23	332	P	P	19 24 36.8	+1.4
	baz=76						
DBIC	Dimbokro	75.30	71	eP	P	19 24 36.8	+0.8
DBIC	Dimbokro	75.30	71	eP	P	19 24 36.5	+0.5
DBIC				pmax	pmax		
	comp=Z,39nm,0.9s						
DBIC	Dimbokro	75.30	71	P	P	19 24 36.9	+0.8
	comp=Z,27nm,0.9s,baz=209,slow=6.3,SNR=33						
DBIC				LR	LR	19 56 10.7	
	comp=Z,2μm,18.9s,baz=215,slow=34						
DBIC	Dimbokro	75.30	71	eP	P	19 24 36.5	+0.5
	comp=Z,39nm,0.9s						
V27A	Dan Oppiter Fa	75.32	335	P	P	19 24 37.1	+1.4
	baz=76						
W25A	X Bar L Ranch,	75.44	333	P	P	19 24 37.8	+1.3
	baz=76						
LPM	Los Pinos Moun	75.48	331	eP	P	19 24 35.6	-1.2
	comp=Z,5.2nm,0.9s						
TUC	Tucson	75.54	327	P	P	19 24 37.1	+0.1
TUC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TUC	Tucson	75.54	327	P	P	19 24 37.1	+0.1
	comp=Z,6.9nm,1.0s						
LAZ	Ladron	75.77	331	eP	P	19 24 39.9	+1.5
	comp=Z,9.8nm,1.3s						
ANMO	Albuquerque	75.97	331	eP	P	19 24 41.9	+2.3
ANMO				pmax	pmax		
	comp=Z,28nm,1.0s						
ANMO	Albuquerque	75.97	331	P	P	19 24 41.3	+1.7
	comp=Z,5.9nm,1.0s,baz=172,slow=6.8,SNR=11						
ANMO				LR	LR	19 53 41.6	
	comp=Z,2μm,19.7s,baz=146,slow=32						
ANMO	Albuquerque	75.97	331	eP	P	19 24 39.6	+0.1
	comp=Z,16nm,1.1s						
V25A	Rancho No Teng	76.05	333	P	P	19 24 41.1	+1.1
	baz=76						
214A	Organ Pipe Nat	76.18	325	P	P	19 24 42.1	+1.5
	baz=76						
214A	Organ Pipe Nat	76.18	325	eP	P	19 24 41.0	+0.3
	comp=Z,16nm,1.2s						
V24A	Rampart Ranch,	76.19	333	P	P	19 24 42.5	+1.6
	baz=76						
U26A	Atchley Ranch,	76.22	334	P	P	19 24 41.8	+0.8
	baz=76						
T28A	Walsh	76.30	336	P	P	19 24 41.8	+0.5
	baz=77						
T27A	Campo	76.46	335	P	P	19 24 42.8	+0.5
	baz=77						
DRV	Dumont d'Urvil	76.46	193	S	SKiKP	19 34 10.0	+11
DRV				SS	SS	19 39 26.0	+6.5
DRV				L	L	19 44 00.0	
DRV				R		19 49 00.0	
U25A	Circle Dot Ran	76.47	334	P	P	19 24 43.2	+0.8
	baz=77						
S28A	Manter	76.65	336	P	P	19 24 43.9	+0.6
	baz=77						
T26A	Comanche Natio	76.86	335	P	P	19 24 45.5	+0.9
	baz=77						
Q32A	Meitler Ranch,	76.88	339	P	P	19 24 44.6	+0.1
	baz=77						
V22A	San Miguel Ran	76.99	332	P	P	19 24 47.7	+2.3
	baz=77						
WIN	Windhoek	77.03	108	eP	P	19 24 46.8	+0.7
WIN				AMB	AMB	19 25 08.3	
	comp=Z,5.8nm,2.6s						
U23A	El Rito	77.08	332	P	P	19 24 47.6	+1.7
	baz=77						
T25A	Trinidad	77.12	334	P	P	19 24 47.0	+0.9
	baz=78						
S26A	Kim	77.22	335	P	P	19 24 47.6	+1.1
	baz=78						
R28A	Tribune	77.30	336	P	P	19 24 47.2	+0.3
	baz=78						
Q30A	Quinter	77.37	338	P	P	19 24 47.7	+0.4
	baz=78						
U22A	Llaves	77.38	332	P	P	19 24 49.6	+2.1
	baz=78						
T24B	San Luis	77.41	333	P	P	19 24 48.8	+0.9
	baz=78						
W18A	Petrified Fore	77.46	329	P	P	19 24 45.4	-2.6
P32A	Huiting Farm,	77.47	339	P	P	19 24 48.1	+0.4
	baz=78						
R27A	Eads	77.58	336	P	P	19 24 48.3	-0.2
	baz=78						
S25A	Robets Cordova	77.60	334	P	P	19 24 49.9	+1.2
	baz=78						
X16A	Lo Mia Camp, P	77.61	328	P	P	19 24 49.8	+1.0
	baz=78						
R26A	Arlington	77.82	335	P	P	19 24 50.7	+0.8
	baz=78						
S24A	Houchin Ranch,	77.86	334	P	P	19 24 50.9	+0.6
	baz=78						
R25A	Fountain Ranch	77.98	335	P	P	19 24 52.6	+1.8
	baz=78						
SDCO	Great Sand Dun	78.06	334	eP	P	19 24 52.3	+0.9
	comp=Z,4.5nm,0.8s						
LBNH	Lisbon	78.11	0	eP	P	19 24 50.5	-0.6
LBNH				pmax	pmax		
	comp=Z,25nm,1.1s						
LBNH	Lisbon	78.11	0	eP	P	19 24 50.5	-0.6
	comp=Z,25nm,1.1s						
P29A	Atwood	78.16	338	P	P	19 24 52.2	+0.5
	baz=78						
KSCO	Kaye Shedlock'	78.18	336	P	P	19 24 51.0	-0.9
	comp=Z,32nm,1.2s						
SCIA	State Center	78.22	344	eP	P	19 24 51.8	0.0
	comp=Z,22nm,0.8s						
R24A	Sanders Place,	78.35	334	P	P	19 24 53.7	+0.8
	baz=79						
P28A	Saint Francis	78.40	337	P	P	19 24 54.6	+1.6
	baz=79						
WUAZ	Wupatki	78.51	328	P	P	19 24 54.7	+1.0
	baz=79						
WUAZ	Wupatki	78.51	328	eP	P	19 24 54.0	+0.2
	comp=Z,11nm,1.0s						
JFWS	Jewell Farm	78.56	346	eP	P	19 24 53.1	-0.6
JFWS				pmax	pmax		
	comp=Z,12nm,0.6s						
JFWS	Jewell Farm	78.56	346	eP	P	19 24 53.1	-0.6
	comp=Z,12nm,0.6s						
S22A	4UR Ranch, Cre	78.56	333	P	P	19 24 55.0	+0.8
	baz=79						
R23A	Moffat	78.58	333	P	P	19 24 54.5	+0.3
	baz=

baz=80
PFO Pinyon Flats O 79.29 324 *e*P **P 19 24 59.2 +1.1**
PFO pmax pmax
comp=Z,8.0nm,0.9s
PFO Pinyon Flats O 79.29 324 P **P 19 24 59.1 +1.0**
comp=Z,7.8nm,1.0s,baz=139,slow=4.0,SNR=6.9
PFO LR LR 19 53 00.1
comp=Z,707nm,21.4s,baz=132,slow=30
PV01 Paradox Valley 79.58 332 *e*P **P 19 24 58.1 -1.5**
comp=Z,809nm,1.1s
U15A North Rim 79.67 328 P **P 19 25 02.2 +1.9**
baz=80
GMRC Granite Mounta 79.86 325 P **P 19 25 02.6 +1.5**
baz=80
BOSA Boshof 80.00 118 *e*P **P 19 25 02.6 +0.3**
BOSA AMB AMB 19 25 16.4
comp=Z,52nm,1.5s
BOSA Boshof 80.00 118 *e*P **P 19 25 01.7 -0.6**
BOSA pmax pmax
comp=Z,43nm,1.0s
BOSA Boshof 80.00 118 P **P 19 25 03.1 +0.8**
comp=Z,29nm,0.9s,baz=234,slow=5.2,SNR=26
BOSA LR LR 19 58 47.6
comp=Z,1µm,18.0s,baz=236,slow=34
BOSA Boshof 80.00 118 *e*P **P 19 25 01.7 -0.6**
comp=Z,43nm,1.0s
HEC Hector,Ludlow 80.22 324 P **P 19 25 05.8 +2.8**
baz=80
O23A Lake Granby, G 80.39 334 P **P 19 25 05.3 +1.2**
baz=81
O22A Kremmling 80.58 334 P **P 19 25 06.3 +1.2**
baz=81
ECSD EROS Data Cent 80.76 342 P **P 19 25 05.7 +0.1**
baz=81
ECSD EROS Data Cent 80.76 342 *e*P **P 19 25 04.7 -1.0**
comp=Z,28nm,0.9s
GSC Goldstone, Bar 80.83 324 *e*P **P 19 25 06.5 +0.2**
GSC pmax pmax
comp=Z,5.0nm,0.6s
GSC Goldstone, Bar 80.83 324 *e*P **P 19 25 06.5 +0.2**
comp=Z,4.6nm,0.6s
SWZ Schweizer 80.85 117 *e*P **P 19 25 06.9 0.0**
SWZ AMB AMB 19 25 29.2
comp=Z,69nm,3.8s
SHPR Sheep Range 81.03 326 *e*P **P 19 25 08.1 +0.7**
comp=Z,12nm,1.0s
CCUT Cedar City 81.08 328 *e*P **P 19 25 08.2 +0.4**
comp=Z,9.9nm,0.9s
N22A Wattenberg Ran 81.11 334 P **P 19 25 09.4 +1.5**
baz=81
M24A Cheyenne 81.12 336 P **P 19 25 08.6 +0.7**
baz=82
K28A Ten Mile Ranch 81.14 339 P **P 19 25 09.2 +1.5**
baz=82
SPMN Marine on St. 81.29 345 P **P 19 25 07.2 -1.2**
comp=Z,16nm,0.2s
ARUT Antelope Range 81.31 328 *e*P **P 19 25 10.8 +1.9**
ARUT pmax pmax
comp=Z,318nm,1.2s
ARUT Antelope Range 81.31 328 *e*P **P 19 25 10.8 +1.9**
comp=Z,318nm,1.2s
J29A Okreek 81.46 340 P **P 19 25 10.1 +0.7**
baz=82
RUDU RUNDU 81.60 106 *e*P **P 19 25 12.4 +1.4**
RUDU AMB AMB 19 25 28.7
comp=Z,48nm,1.2s
TMUT Trail Mountain 81.63 330 *e*P **P 19 25 10.9 +0.1**
comp=Z,11nm,0.9s
I30A Oacoma 81.67 340 P **P 19 25 11.6 +1.2**
baz=82
J28A Allard Ranch, 81.74 339 P **P 19 25 11.3 +0.4**
baz=82
N20A Spence Gulch, 81.80 333 P **P 19 25 11.7 +0.2**
baz=82
SEK Senekal 81.90 119 *e*P **P 19 25 12.4 -0.1**
SEK AMB AMB 19 25 23.6
comp=Z,47nm,6.1s
ISA Isabella, Lake 81.93 323 *e*P **P 19 25 13.1 +1.0**
ISA pmax pmax
comp=Z,9.0nm,1.0s
ISA Isabella, Lake 81.93 323 P **P 19 25 14.1 +2.0**
baz=82
ISA Isabella, Lake 81.93 323 *e*P **P 19 25 13.1 +1.0**
comp=Z,9.0nm,1.0s
BRSD Miller 82.03 341 *e*P **P 19 25 10.4 -1.9**
comp=Z,19nm,0.8s
LBTB Lobatse 82.25 115 *e*P **P 19 25 15.2 +0.8**
LBTB AMB AMB 19 25 15.6
comp=Z,33nm,2.7s
LBTB Lobatse 82.25 115 *e*P **P 19 25 14.9 +0.6**
LBTB pmax pmax
comp=Z,21nm,0.6s
LBTB Lobatse 82.25 115 *e*P **P 19 25 14.9 +0.6**
comp=Z,21nm,0.6s
VES Vestal, Richgr 82.37 323 P **P 19 25 16.2 +1.9**
baz=83
PRYS Parys 82.49 117 *e*P **P 19 25 14.4 -1.2**
PRYS AMB AMB 19 25 18.5
comp=Z,27nm,3.9s
H29A Onida 82.55 340 P **P 19 25 15.1 0.0**
baz=83
DAU Daniels Canyon 82.60 331 *e*P **P 19 25 13.6 -2.2**
DAU pmax pmax
comp=Z,12nm,1.1s
DAU Daniels Canyon 82.60 331 *e*P **P 19 25 13.6 -2.2**
comp=Z,12nm,1.1s
G30A Faulkton 82.72 341 P **P 19 25 16.3 +0.4**
baz=83
J24A Dixon Ranch, L 82.73 337 P **P 19 25 16.7 +0.5**
baz=83
R11A Troy Canyon, C 82.73 327 P **P 19 25 17.7 +1.3**
baz=83
R11A Troy Canyon, C 82.73 327 *e*P **P 19 25 17.2 +0.8**
comp=Z,16nm,1.3s
K22A Casper 82.76 335 P **P 19 25 15.6 -0.8**
comp=Z,47nm,1.5s
H28A Mission Ridge 82.82 340 P **P 19 25 16.6 +0.1**
baz=83
K21A Alcova 83.00 335 P **P 19 25 17.9 +0.2**
baz=83
I25A Rochford 83.05 338 P **P 19 25 18.4 +0.5**
baz=83
DUG Dugway, Tooele 83.05 330 *e*P **P 19 25 17.0 -1.0**
DUG pmax pmax
comp=Z,21nm,1.3s
DUG Dugway, Tooele 83.05 330 P **P 19 25 19.2 +1.2**
baz=83
DUG Dugway, Tooele 83.05 330 *e*P **P 19 25 17.0 -1.0**
comp=Z,21nm,1.3s
H27A Howes 83.09 339 P **P 19 25 18.5 +0.6**
baz=83
G28A Parade 83.16 340 P **P 19 25 19.0 +0.7**
baz=84
RSSD Black Hills 83.24 337 *e*P **P 19 25 18.0 -0.9**
RSSD pmax pmax
comp=Z,8.0nm,1.0s
RSSD Black Hills 83.24 337 *e*P **P 19 25 17.9 -0.9**
comp=Z,8.2nm,1.0s
TCUT Toone Canyon 83.26 331 *e*P P 19 25 14.7 -4.5
comp=Z,28nm,1.2s
TPH Tonopah 83.26 326 *e*P **P 19 25 20.6 +1.5**
TPH pmax pmax
comp=Z,10.0nm,1.0s
TPH Tonopah 83.26 326 *e*P **P 19 25 20.6 +1.5**
comp=Z,10nm,1.0s
F30A Leola 83.34 341 P **P 19 25 19.9 +0.8**
baz=84
CRWM Crown Mines 83.36 117 *e*P **P 19 25 20.0 -0.2**
CRWM AMB AMB 19 25 21.1
comp=Z,28nm,2.8s
OBSV Observatory 83.44 117 *e*P **P 19 25 21.1 +0.5**
OBSV AMB AMB 19 25 52.8
comp=Z,21nm,4.4s
ERPM east rand prop 83.47 117 *e*P **P 19 25 21.0 +0.3**
ERPM AMB AMB 19 25 35.6
comp=Z,19nm,2.3s
EYMN Ely 83.64 347 *e*P **P 19 25 19.3 -1.3**
comp=Z,21nm,1.3s
I22A 9 Mile Ranch, 83.84 336 P **P 19 25 22.2 +0.3**
baz=84
SLR Silverton 83.84 117 *e*P **P 19 25 22.6 -0.1**
SLR AMB AMB 19 25 36.1
comp=Z,44nm,5.0s
J20A Shoshoni 83.92 334 P **P 19 25 23.5 +1.1**
baz=84
PDAR Pinedale Array 83.95 333 P **P 19 25 23.1 +0.4**
comp=Z,1.8nm,0.7s,baz=134,slow=8.5,SNR=14

G25A Newell 84.01 338 P **P 19 25 22.9 +0.3**
baz=84
I21A Big Trails, Te 84.05 335 P **P 19 25 22.4 -0.6**
baz=84
NVAR Mina Array Bea 84.05 325 P **P 19 25 24.1 +0.9**
comp=Z,3.7nm,0.7s,baz=156,slow=5.9,SNR=17
J19A Crowheart 84.20 334 P **P 19 25 24.0 +0.2**
baz=84
F27A Lemmon 84.21 339 P **P 19 25 23.4 -0.2**
baz=85
TORD Torodi Ar. Bea 84.34 70 P **P 19 25 24.9 -0.1**
comp=Z,29nm,0.9s,baz=235,slow=3.3,SNR=88
TORD LR LR 20 02 22.5
comp=Z,3µm,18.6s,baz=235,slow=35
H22A Clearmont 84.41 336 P **P 19 25 25.5 +0.7**
baz=85
D30A Buchanan 84.45 342 P **P 19 25 24.9 +0.1**
baz=85
E28A Huff 84.47 341 P **P 19 25 24.7 -0.2**
baz=85
ELK Elko 84.54 329 P **P 19 25 27.1 +1.4**
comp=Z,3.8nm,0.9s,baz=148,slow=3.2,SNR=13
ELK LR LR 20 00 10.5
comp=Z,613nm,19.3s,baz=208,slow=34
D29A Pettibone, Tap 84.62 342 P **P 19 25 25.9 +0.2**
baz=85
WAKR Walker 84.65 325 P P 19 25 22.1 -4.1
comp=Z,6.4nm,1.0s
AGMN Agassiz Nation 84.87 344 P **P 19 25 26.7 -0.1**
baz=85
AGMN Agassiz Nation 84.87 344 *e*P **P 19 25 26.0 -0.8**
comp=Z,8.0nm,0.5s
E26A Carlson Angus 84.88 339 P **P 19 25 27.1 +0.1**
baz=85
H20A Greybull 84.88 335 P **P 19 25 27.5 +0.3**
baz=85
F24A Ekalaka 84.91 338 P **P 19 25 27.2 -0.1**
baz=85
C30A Mose, Pekin 84.93 342 P **P 19 25 27.5 +0.3**
baz=85
I17A Pilgrim Ck. 85.32 333 P **P 19 25 29.1 -0.5**
baz=86
D26A Manning 85.38 340 P **P 19 25 29.4 -0.1**
baz=86
H19A Powell 85.39 335 P **P 19 25 29.3 -0.4**
baz=86
B30A Myrvik Farm, E 85.59 343 P **P 19 25 30.0 -0.4**
baz=86
G20A Bridger 85.60 335 P **P 19 25 29.9 -0.8**
baz=86
H18A Shoshone NF, C 85.64 334 P **P 19 25 30.9 -0.2**
baz=86
B29A Wagenman Farm, 85.86 342 P **P 19 25 31.9 +0.2**
baz=86
RLMT Red Lodge 85.88 335 *e*P **P 19 25 31.8 -0.5**
comp=Z,7.4nm,0.7s
D24A Glendive 86.01 339 P **P 19 25 33.7 +1.0**
baz=86
YMR Madison River 86.11 333 *e*P **P 19 25 34.0 +0.5**
comp=Z,21nm,1.0s
LAO LASA Array 86.22 337 *e*P **P 19 25 32.1 -1.6**
comp=Z,15nm,0.9s
A29A Manning Farm, 86.25 342 P **P 19 25 34.7 +1.0**
baz=87
D23A Lindsay 86.33 338 P **P 19 25 34.8 +0.5**
baz=87
F19A Roth Farm, Mol 86.40 335 P **P 19 25 34.5 -0.1**
baz=87
C24A Savage 86.41 339 P **P 19 25 35.0 +0.4**
baz=87
QLMT Earthquake Lak 86.42 333 *e*P **P 19 25 36.0 +1.1**
comp=Z,0.5nm,0.7s
HLID Hailey 86.52 331 P **P 19 25 37.4 +2.0**
baz=87
GCMT Greycliff 86.60 335 *e*P **P 19 25 34.3 -1.4**
comp=Z,3.4nm,0.8s
D22A Cohagen 86.62 337 P **P 19 25 36.5 +0.9**
baz=87
E20A Meyer Farm, Mu 86.69 336 P **P 19 25 36.8 +0.8**
baz=87
ULM Lac du Bonnet 86.72 345 P **P 19 25 36.1 +0.2**
comp=Z,5.7nm,0.8s,baz=175,slow=1.6,SNR=8.3
D21A La Casta Ranch 86.80 337 P **P 19 25 37.0 +0.5**
baz=87
E19A Rath Farm, Rou 86.87 336 P **P 19 25 37.2 +0.3**
baz=87
C23A Lambert 86.89 338 P **P 19 25 37.2 +0.3**
baz=87
MCMT McKenzie Canyo 86.96 332 *e*P **P 19 25 37.6 +0.1**
comp=Z,7.3nm,1.1s
MSNA Messina 87.10 115 *e*P **P 19 25 39.5 +0.8**
MSNA AMB AMB 19 26 02.6
comp=Z,24nm,3.0s
DGMT Dagmar 87.19 339 P **P 19 25 38.5 +0.1**
baz=88
DGMT Dagmar 87.19 339 *e*P **P 19 25 37.4 -1.0**
comp=Z,24nm,0.8s
D20A Manuel Ranch, 87.20 336 P **P 19 25 38.5 0.0**
baz=88
C21A Desert Coulee 87.51 337 P **P 19 25 39.6 -0.3**
baz=88
B22A Reddig Ranch S 87.58 338 P **P 19 25 40.5 +0.2**
baz=88
LRM Limekiln Ridge 87.64 333 *e*P **P 19 25 40.5 -0.4**
comp=Z,35nm,0.8s
MOD Modoc Plateau 87.73 326 *e*P **P 19 25 41.3 0.0**
comp=Z,7.7nm,0.8s
C19A Slack Wire Ran 88.07 336 P **P 19 25 43.3 +0.7**
baz=88
A22A Carney Farms, 88.17 338 P **P 19 25 43.2 +0.1**
baz=88
A21A Bergtoll Ranch 88.48 338 P **P 19 25 44.6 0.0**
baz=89
YBH Yreka Blue Hor 88.73 325 P **P 19 25 45.5 -0.4**
comp=Z,3.5nm,0.9s,baz=334,slow=22,SNR=4.1
SCHQ Schefferville 88.83 3 P **P 19 25 45.6 -0.3**
comp=Z,5.6nm,1.0s,baz=210,slow=5.2,SNR=5.2
SCHQ LR LR 20 08 44.4
comp=Z,287nm,18.9s,baz=186,slow=38
YBMT Yellow Bay 89.94 333 *e*P **P 19 25 52.7 +1.2**
comp=Z,4.2nm,1.2s
TAM Tamanrasset 92.97 65 *e*P **P 19 26 07.2 +1.0**
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM Tamanrasset 92.97 65 *e*P **P 19 26 07.2 +1.0**
comp=Z,7.0nm,0.9s
ESDC Sonseca Array 96.78 46 P **P 19 26 24.5 +1.3**
comp=Z,1.1nm,0.8s,baz=230,slow=4.1,SNR=4.4
ESDC LR LR 20 08 40.8
comp=Z,518nm,19.3s,baz=240,slow=35
DZM Mont Dzumac 101.06 234 *e*SKSac **SKSac 19 37 19.0 -2.6**
comp=Z,474nm,25.8s
DZM *e*SP **SP 19 39 53.1 +2.1**
comp=Z,297nm,24.9s
DZM *e*SS **SS 19 45 23.1 +4.0**
comp=Z,2µm,26.0s
DZM Mont Dzumac 101.06 234 *e*LR LR 19 59 49.3
comp=Z,2µm,28.2s
YKA Yellowknife Ar 102.27 341 P **Pdif 19 26 47.6 +0.6**
comp=Z,0.5nm,0.7s,baz=142,slow=4.5,SNR=10
GERES GERESS Array B 112.36 45 PKiKP **PKiKP 19 31 27.7 -0.4**
comp=Z,1.1nm,0.7s,baz=174,slow=1.2,SNR=9.6
KHC Kasperske Hory 112.41 45 AMS AMS 20 21 40.0
comp=Z,1µm,17.3s
CLL Collm 113.05 43 *e*P **Pdif 19 27 44.0 +8.8**
CLL *e* 19 32 25.0
CLL MLR MLR
comp=Z,1µm,21.1s
CLL Collm 113.05 43 *e*Pdif **Pdif 19 27 38.0 +2.8**
CLL *e*PP PP 19 32 25.0 +5.9
CLL *e*Sdif Sdif 19 39 58.0 -1.4
CLL *e*PS **PS 19 42 01.0 +6.9**
CLL *e*PPS PPS 19 43 12.0
CLL *e* 19 43 35.0
CLL *e*SS **SS 19 48 01.0 -1.3**
CLL *e*SSS SSS 19 52 18.0
CLL *e*SSSS 19 55 54.0
CLL *e* 19 59 12.0
CLL Lm MLR 20 17 00.0
comp=N,500nm,21.9s
CLL Lm MLR 20 17 00.0
comp=E,900nm,20.9s
CLL Lm MLR 20 17 00.0
comp=Z,1µm,21.1s
PRU Pruhonice 113.36 45 AMS AMS 20 19 50.0
comp=Z,900nm,19.9s
BRG Berggiesshubel 113.40 44 PP PP 19 32 18.0 -3.6
BRG SKS **SKSac 19 38 09.0 -4.6**

BRG SS **SS 19 48 12.0 +5.1**
TREC Trest 113.61 46 AMS AMS 20 24 20.0
comp=Z,1µm,18.3s
ILAR Eielson Array 114.38 333 PKP PKPdf 19 31 30.8 -0.5
comp=Z,0.4nm,0.9s,baz=167,slow=1.3,SNR=3.9
DPC Dobruska-Polom 114.55 45 *e*PKIKP PKPdf 19 31 33.4 +1.2
DPC *e* 19 31 43.2
DPC Dobruska-Polom 114.55 45 *e*PKP PKPdf 19 31 33.4 +1.2
DPC *ex* x 19 31 43.2
DPC AMS AMS 20 20 50.0
VYHS Vyhne 115.29 47 *e*PKIKP **PKPdf 19 31 34.1 +0.5**
VYHS Vyhne 115.29 47 *e*PKP **PKPdf 19 31 34.1 +0.5**
OKC Ostrava-Krasne 115.41 46 AMS AMS 20 26 00.0
comp=Z,1µm,20.8s
NOA NORSAR Array B 116.25 33 PKP **PKPdf 19 31 35.4 +0.3**
comp=Z,2.1nm,0.9s,baz=256,slow=2.1,SNR=3.4
ASAR Alice Springs 117.33 207 PKP **PKPdf 19 31 37.3 -1.2**
comp=Z,0.6nm,0.6s,baz=127,slow=1.6,SNR=13
ASAR PKKPbc **PKKPbc 19 42 01.6 +0.4**
comp=Z,1.1nm,0.9s,baz=356,slow=2.0,SNR=5.9
AS31 Alice Springs 117.33 207 *e*PKPdf **PKPdf 19 31 36.5 -2.0**
KOLS Kolonicke sedl 117.56 48 *e* PKPdf 19 31 43.5 +5.5
KWP Kalwaria Pacla 118.08 47 *e*PKIKP **PKPdf 19 31 34.2 -4.7**
KWP Kalwaria Pacla 118.08 47 *e*PKP **PKPdf 19 31 34.1 -4.8**
SUW Suwalki 119.81 43 *e*PKIKP **PKPdf 19 31 42.0 -0.1**
SUW Suwalki 119.81 43 *e*PKP **PKPdf 19 31 41.9 -0.1**
WB2 Warramunga Arr 120.52 209 *e*PKPdf **PKPdf 19 31 42.9 -1.8**
WRA Warramunga Arr 120.53 209 PKP **PKPdf 19 31 43.3 -1.4**
comp=Z,1.4nm,0.5s,baz=159,slow=1.7,SNR=42
WRAB Tennant Creek 120.53 209 *e*PKIKP **PKPdf 19 31 43.2 -1.5**
WRAB Tennant Creek 120.53 209 *e*PKPdf **PKPdf 19 31 43.2 -1.5**
KIS Kishinev 121.05 52 *e* 19 43 04.0
BRTR Keskin Array B 121.99 61 PKP **PKPdf 19 31 47.0 0.0**
comp=Z,3.5nm,0.8s,baz=192,slow=2.8,SNR=21
KIEV Kiev 122.38 48 *i* PKIKP **PKPdf 19 31 46.5 -0.6**
AKASG Malin Array Be 122.39 48 PKP **PKPdf 19 31 47.2 +0.1**
comp=Z,4.5nm,0.7s,baz=264,slow=2.6,SNR=11
VSU Vasula 122.91 38 *i* PKIKP **PKPdf 19 31 49.0 +1.1**
FINES FINESS Array B 123.22 35 PKP **PKPdf 19 31 48.1 -0.3**
comp=Z,3.8nm,0.8s,baz=129,slow=5.2,SNR=7.7
KAF Kangasniemi 123.45 34 *e*PKIKP **PKPdf 19 31 47.2 -1.6**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 123.45 34 *ep* **PKPdf 19 31 47.2 -1.6**
comp=Z,3.8nm,0.6s
MBWA Marble Bar 123.77 193 PKPdf **PKPdf 19 31 49.5 -1.4**
ARCES ARCESS Array B 124.25 25 PKP **PKPdf 19 31 51.3 +1.1**
comp=Z,5.6nm,1.0s,baz=266,slow=1.9,SNR=8.0
H11S2 WAKE ISLAND Hyl 25.72 269 T T 21 50 27.0
baz=119,slow=75,SNR=13
H11S1 WAKE ISLAND Hyl 25.73 269 T T 21 50 27.1
baz=119,slow=75,SNR=12
H11S3 WAKE ISLAND Hyl 25.73 269 T T 21 50 28.3
baz=119,slow=75,SNR=3.6
JOF Joensuu 125.87 33 *e*PKIKP **PKPdf 19 31 52.3 -1.1**
JOF pmax pmax
comp=Z,5.0nm,0.8s
JOF Joensuu 125.87 33 *ep* **PKPdf 19 31 52.3 -1.1**
comp=Z,5.0nm,0.8s
H11N3 WAKE ISLAND Hyl 26.14 270 T T 21 50 53.9
baz=115,slow=78,SNR=5.5
H11N1 WAKE ISLAND Hyl 26.15 270 T T 21 50 54.5
baz=115,slow=78,SNR=18
H11N2 WAKE ISLAND Hyl 26.15 270 T T 21 50 54.7
baz=115,slow=78,SNR=14
ANN Anapa 126.19 56 *i* PKIKP PKPdf 19 32 01.2 +6.6
ANN pmax pmax
comp=Z,41nm,1.6s
SOC Sochi 127.48 58 *e*PKIKP **PKPdf 19 31 57.1 -0.1**
SOC *e*PS **PS 19 44 04.5 +0.8**
SOC *e*SS SS 19 51 09.4 +1.3
SOC pmax pmax
comp=Z,9.0nm,0.6s
SOC MLR MLR
comp=Z,256nm,18.0s
OBN Obninsk 127.64 43⇑ *i*PKIKP **PKPdf 19 32 00.0 +3.0**
OBN pmax pmax
comp=Z,25nm,2.5s
KLMR Klimovskoe 129.63 36 *e*PKIKP **PKPdf 19 32 00.5 -0.2**
KLMR pmax pmax
comp=Z,24nm,1.1s
KIV Kislovodsk 129.66 58 *i* PKIKP **PKPdf 19 32 02.3 +0.9**
KIV *e* 19 34 11.0
KIV *e*PS **PS 19 44 21.5 -1.4**
KIV *e*SS SS 19 51 32.1 -3.2
KIV pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 129.76 59 PKP **PKPdf 19 32 03.5 +2.1**
comp=Z,3.9nm,0.9s,baz=232,slow=1.1,SNR=11
GOF Gofitskoye 130.13 57 *e*PKIKP **PKPdf 19 32 03.7 +1.5**
GNI Garni 130.27 64 PKIKP **PKPdf 19 32 02.1 -0.7**
GNI Garni 130.27 64 PKPdf **PKPdf 19 32 02.1 -0.7**
ZEI Tsey 130.27 60 *i* PKIKP **PKPdf 19 32 02.6 -0.2**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
PRGR Permogore 132.54 35 *e*PKIKP **PKPdf 19 32 05.2 -1.0**
PRGR pmax pmax
comp=Z,13nm,0.8s
BILL Bilibino 133.03 334 *e*PKIKP **PKPdf 19 32 07.3 +0.4**
BILL Bilibino 133.03 334 *e*PKPdf **PKPdf 19 32 07.3 +0.4**
ARU Arti 139.96 41 *i* PKIKP **PKPdf 19 32 21.1 +1.0**
ARU 19 35 13.5
GEYT Alibeck 139.98 70 PKP **PKPdf 19 32 22.6 +1.7**
comp=Z,3.3nm,0.8s,baz=234,slow=5.1,SNR=5.8
TIXI Tiksi 140.92 350 *i* PKIKP **PKPdf 19 32 22.0 +0.6**
TIXI pmax pmax
comp=Z,10.0nm,2.5s
AB31 Akbulak array 141.87 52 PKHKP PKPpre 19 32 18.7
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 141.87 52 *e*PKPpre PKPpre 19 32 18.3
PALK Pallekele 143.27 131 *e*PKIKP PKPbc 19 32 24.7 +0.3
PALK Pallekele 143.27 131 PKP PKPbc 19 32 25.2 +0.8
comp=Z,12nm,0.8s,baz=30,slow=4.4,SNR=4.5
PALK Pallekele 143.27 131 *e*PKPdf PKPbc 19 32 24.7 +0.3
BKNI Bangkinang 145.66 168 *e*PKPdf **PKPbc 19 32 31.4 -0.4**
GSI Gunungsitoli 145.84 161 *e*PKPdf **PKPbc 19 32 32.0 -0.4**
POO Poona 145.91 109 *e*P **PKPdf 19 32 31.0 -0.9**
KSM Kuching 147.33 184 *e*PKPbc **PKPdf 19 32 34.4 0.0**
BRVK Borovoye 147.42 43*c* *i*PKIKP **PKPbc 19 32 34.7 -1.1**
BRVK Borovoye 147.42 43 *e*PKPdf **PKPdf 19 32 33.6 +0.4**
BRVK *e*PKPbc **PKPab 19 32 36.6 -1.2**
BVA0 Borovoye Array 147.49 43 *i* PKIKP **PKPdf 19 32 33.6 +0.2**
BVA0 pmax pmax
comp=Z,18nm,0.7s
KBL Kabul 148.06 78 *e*PKIKP **PKPdf 19 32 36.4 +1.1**
KBL Kabul 148.06 78 *e*PKPbc **PKPdf 19 32 36.4 +1.1**
HYB Hyderabad 148.88 115 *i* PKP **PKPbc 19 32 40.0 -0.8**
YAK Yakutsk 148.94 340 *e*PKIKP **PKPbc 19 32 38.2 -1.3**
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK Yakutsk 148.94 340 *e*PKPbc **PKPbc 19 32 38.8 -0.7**
YUK Yuzh-Kuril'sk 149.21 300*d* *i*PKHKP PKPpre 19 32 34.4
YUK MLR MLR
comp=N,802nm,22.0s
YUK MLR MLR
comp=E,722nm,22.0s
YUK MLR MLR
comp=Z,571nm,22.0s
KK31 Karatay Array 149.70 62 PKHKP **PKPbc 19 32 41.0 -1.1**
KK31 pmax pmax
comp=Z,40nm,1.4s
KKAR Karatay Array 149.70 62 *e*PKHKP **PKPdf 19 32 38.7 +1.3**
KKAR Karatay Array 149.70 62 *e*PKPdf **PKPdf 19 32 38.7 +1.3**
IPM Ipoh 149.71 166 *e*PKPbc **PKPbc 19 32 41.7 -1.3**
KULM Kulim 150.42 165 *e*PKPbc **PKPbc 19 32 43.8 -0.9**
KULM *e*PKPab **PKPab 19 32 52.6 +1.7**
YSS Yuzh-Sakhalins 150.89 306 *e*PKIKP **PKPbc 19 32 42.8 -1.9**
YSS Yuzh-Sakhalins 150.89 306 *e*PKPbc **PKPbc 19 32 42.8 -1.9**
KKM Kota Kinabalu 150.91 197 *e*PKPdf **PKPdf 19 32 37.6 -2.6**
KKM *e*PKPbc **PKPbc 19 32 45.4 -0.5**
AML Almayashu 152.12 63 P **PKPbc 19 32 49.3 +1.0**
SNR=11
EKS2 Erkin-Say 152.13 62 P **PKPbc 19 32 49.2 +1.3**
SNR=13
EKS2 Erkin-Say 152.13 62 *e*PKIKP **PKPdf 19 32 42.0 +0.7**
EKS2 *e* 19 32 48.5
EKS2 Erkin-Say 152.13 62 *e*PKPdf **PKPdf 19 32 42.0 +0.7**
EKS2 *e*PKPbc **PKiKP 19 32 48.5 +0.3**
USP Ospenovka 152.59 61 P **PKPbc 19 32 49.8 +1.0**

SNR=9.7
AAK Ala-Archa 152.66 62 P **PKPbc 19 32 50.1 +0.9**
SNR=14
AAK Ala-Archa 152.66 62 *e*PKIKP **PKPdf 19 32 42.8 +0.7**
AAK *e* 19 32 49.9
AAK Ala-Archa 152.66 62 *e*PKPdf **PKPdf 19 32 42.8 +0.7**
AAK *e*PKPbc **PKiKP 19 32 49.9 +0.5**
UCH Uchtor 152.72 63 P **PKPbc 19 32 50.8 +1.1**
SNR=17
CHMS Chumysh 152.81 61 P **PKPbc 19 32 50.2 +0.9**
SNR=8.5
KBK Karagaybulak 152.99 62 P **PKPbc 19 32 51.7 +1.8**
SNR=6.0
KURK Kurchatov 153.09 43 *e*PKIKP **PKPdf 19 32 41.8 -0.4**
KURK *e* 19 32 49.6
KURK Kurchatov 153.09 43 *e*PKPdf **PKPdf 19 32 41.8 -0.4**
KURK *e*PKPbc **PKiKP 19 32 49.6 -0.2**
NVS Novosibirsk 153.17 32 *e*PKIKP **PKPdf 19 32 42.8 +0.6**
NVS *e* 19 36 35.4
NVS pmax pmax
comp=Z,31nm,0.9s
NVS pmax pmax
comp=E,9.0nm,1.1s
NDI New Delhi 153.31 94 *ex* **PKPbc 19 32 48.0 -2.8**
TKM2 Tokmak 2 153.43 61 *e*PKIKP **PKPdf 19 32 43.9 +0.6**
TKM2 Tokmak 2 153.43 61 *e*PKPdf **PKPdf 19 32 43.9 +0.6**
KSH Kashi 154.00 69 PKPbc **PKPdf 19 32 42.1 -2.0**
KSH sPKP 19 32 59.2
KSH PKS **PKSdf 19 36 16.5 -1.9**
KSH PP **PP 19 36 38.8 -2.0**
KSH SKS **SKSdf 19 39 45.8 -4.2**
KSH SKKS **SKKSac 19 43 25.9 -3.7**
KSH SS **SS 19 56 13.7 -4.8**
KSH PPMZ
comp=E,280nm,5.7s
KSH LN
comp=E,260nm,12.2s
KSH LE
comp=E,180nm,9.9s
KSH LZ
comp=E,390nm,16.5s
ZALV Zalesovo Beam 154.45 33 PKP **PKPdf 19 32 43.4 -0.6**
comp=E,3.3nm,0.8s,baz=277,slow=2.5,SNR=17
ZALV PKPbc **PKiKP 19 32 52.8 +0.3**
comp=E,27nm,0.8s,baz=297,slow=3.0,SNR=44
ZALV PKPab **PKPab 19 33 08.4 +1.6**
comp=E,17nm,0.8s,baz=292,slow=5.6,SNR=8.4
MJAR Matsushiro Arr 155.23 284 PKPab **PKPab 19 33 07.5 -3.3**
comp=E,1.7nm,0.8s,baz=126,slow=1.7,SNR=5.4
BOD Bodaibo 156.06 352 *e*PKIKP **PKPdf 19 32 44.1 -2.0**
BOD *e* 19 33 11.7
BOD pmax pmax
comp=Z,15nm,1.0s
MKAR Makanchi Array 156.96 49 PKP **PKPdf 19 32 47.7 0.0**
comp=Z,2.1nm,0.9s,baz=284,slow=1.3,SNR=22
MKAR PKPab **PKPab 19 33 18.9 +1.0**
comp=Z,6.6nm,0.8s,baz=289,slow=4.5,SNR=13
MKAR PP **PP 19 36 58.1 +1.5**
comp=Z,1.9nm,0.9s,baz=270,slow=3.6,SNR=4.3
DANN Dangsing 158.57 99 *e*P **PKPdf 19 32 50.6 -0.1**
comp=Z,33nm,0.8s
GKN Gorkha 159.16 101 *e*P **PKPdf 19 32 50.6 -0.6**
comp=Z,14nm,1.0s
DMN Daman 159.38 103 *e*P **PKPdf 19 32 51.7 +0.1**
KKN Kakani 159.59 102 *e*P **PKPdf 19 32 51.3 -0.5**
comp=Z,12nm,1.0s
PKIN Phulchoki 159.60 103 *e*P **PKPdf 19 32 51.1 -0.7**
PKI Pulchoki 159.61 103 *e*P **PKPdf 19 32 51.2 -0.7**
GUN Gumba 160.13 103 *e*P **PKPdf 19 32 51.5 -1.0**
HVS Khovu-Aksy 160.21 27 PKIKP **PKPdf 19 32 53.0 +1.5**
JIRN Jiri 160.28 104 *e*P **PKPdf 19 32 52.3 -0.4**
RAMN Ramite 160.30 106 *e*P **PKPdf 19 32 52.7 +0.1**
TAPN Taplejung 161.36 106 *e*P **PKPdf 19 32 53.5 -0.3**
WMQ Urumqi 161.66 53 PKP **PKPdf 19 32 51.9 -1.4**
WMQ pPKP **pPKPdf 19 33 02.9 +3.0**
WMQ PKPab **PKPab 19 33 41.1 +2.6**
WMQ PKS **PKSdf 19 36 24.0 -2.5**
WMQ PP **PP 19 37 24.5 +2.2**
WMQ SKKS 19 44 07.6
WMQ SS **SS 19 57 37.0 -2.3**
WMQ PPMZ
comp=Z,88nm,10.0s
WMQ LN
comp=Z,700nm,20.0s
WMQ LE
comp=Z,360nm,15.0s
WMQ LZ
comp=Z,600nm,19.0s
TLY Talaya 162.30 9 *e*PKIKP PKPdf 19 32 59.7 +6.1
TLY pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 162.37 151 PKP **PKPdf 19 32 54.5 -0.2**
comp=Z,0.9nm,0.8s,baz=246,slow=2.8,SNR=7.3
CMAR PKPab **PKPab 19 33 41.9 -0.1**
comp=Z,1.5nm,0.9s,baz=217,slow=6.0,SNR=5.6
CHTO Chiang Mai 162.69 150 *e*PKIKP **PKPdf 19 32 53.1 -1.9**
CHTO Chiang Mai 162.69 150 *e*PKPdf **PKPdf 19 32 53.1 -1.9**
KSRS Korea Array 163.45 287 PKPab **PKPab 19 33 48.0 +1.5**
comp=Z,2.3nm,0.9s,baz=77,slow=5.5,SNR=3.7
KSAR Wonju Array Be 163.48 287 PKP2 **PKPab 19 33 48.0 +1.4**
KSAR Wonju Array Be 163.48 287 PKPab **PKPab 19 33 48.0 +1.4**
ZAK Zakamensk 163.52 10 *e*PKIKP PKPdf 19 32 49.3 -5.7
ZAK pmax pmax
comp=Z,2.0nm,1.8s
ZAK pmax pmax
comp=Z,2.0nm,1.8s
SHL Shillong 163.66 118 *ex* PKPdf 19 32 48.0 -8.0
LSA Lhasa 165.08 103 *e*PKIKP **PKPdf 19 32 57.8 +0.3**
LSA *e* 19 33 55.8
LSA Lhasa 165.08 103 *e*PKPdf **PKPdf 19 32 57.8 +0.3**
LSA *e*PKPab **PKPab 19 33 55.8 +1.3**
SONM Songino Array 166.37 4 PKP **PKPdf 19 32 58.0 +0.4**
comp=Z,1.2nm,0.9s,baz=168,slow=1.5,SNR=8.6
SONM PKPab **PKPab 19 33 59.8 +0.8**
comp=Z,4.0nm,0.9s,baz=344,slow=3.7,SNR=15
ULN Ulaanbaatar 166.37 2|| *e*PKIKP **PKPdf 19 32 58.0 +0.4**
ULN Ulaanbaatar 166.37 2 *e*PKPdf **PKPdf 19 32 57.1 -0.4**
ULN *e*PKPab **PKPab 19 33 59.5 +0.4**
KMI Kunming 169.87 152 PKP **PKPdf 19 32 59.3 -1.5**
KMI pPKP **pPKPdf 19 33 11.3 +4.0**
KMI sPKP 19 33 15.6
KMI PP **PP 19 38 06.0 +1.6**
KMI SKKS 19 44 48.5
KMI SS **SS 19 58 56.2 -5.6**
KMI PPMZ
comp=Z,190nm,8.5s
KMI LN
comp=Z,340nm,21.2s
KMI LE
comp=Z,320nm,21.2s
KMI LZ
comp=Z,540nm,19.4s
NJ2 Nanjing 170.56 260 *e*PKP **PKPdf 19 32 59.2 -1.4**
BJI Beijing 171.22 314 PKP **PKPdf 19 32 59.5 -1.2**
BJI PP **PP 19 38 12.1 +0.7**
BJI LN
comp=Z,490nm,18.2s
BJI LE
comp=Z,500nm,21.6s
BJI LZ
comp=Z,720nm,22.8s
GTA Gaotai 171.72 49 *e*PKP **PKPdf 19 33 01.6 +0.4**
GTA pPKP **pPKPdf 19 33 11.9 +4.2**
GTA sPKP 19 33 16.0
GTA PKPab **PKPab 19 34 24.3 +1.2**
GTA PP **PP 19 38 12.6 -1.5**
GTA SKS **SKSdf 19 40 00.9 -2.7**
GTA SKKS **SKKSac 19 45 01.1 +1.2**
GTA SS **SS 19 59 20.5 -0.6**
GTA PPMZ
comp=Z,250nm,12.8s
GTA LN
comp=Z,650nm,19.0s
GTA LE
comp=Z,310nm,20.9s
GTA LZ
comp=Z,670nm,18.5s
HHC Hu-ho-hao-te 172.79 337 *e*PKP **PKPdf 19 33 00.6 -1.0**
HHC sPKP 19 33 15.2
HHC PP **PP 19 38 22.3 +3.7**
HHC SKKS 19 45 02.7
HHC LN
comp=Z,550nm,19.7s
HHC LE
comp=Z,560nm,19.7s
CD2 Chengdu 175.18 132 *e*PKP **PKPdf 19 33 01.2 -1.5**
LZH Lanzhou 176.20 60 *e*PKP **PKPdf 19 33 04.0 +1.1**
LZH pPKP **pPKPdf 19 33 14.1 +4.6**
LZH sPKP 19 33 18.2
LZH PKPab **PKPab 19 34 45.1 +1.9**
LZH PPMZ
comp=Z,290nm,10.7s
XAN Xi'an 179.13 257 PKP **PKPdf 19 33 02.6 -0.6**
XAN pPKP **pPKPdf 19 33 13.0 +3.2**
XAN PKS **PKSdf 19 36 33.3 -2.1**
XAN SKS **SKSdf 19 40 00.2 -5.0**
XAN PPMZ
comp=Z,110nm,8.8s
XAN LN
comp=Z,290nm,19.5s
XAN LE
comp=Z,210nm,22.3s
XAN LZ
comp=Z,200nm,18.1s

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*ISCJB **02** 19:32:18.9±0.6,21°.2S±0°.1×174°.9W±0°.1,h10km,mb4.5/15, Error ellipse: s-maj=19.1km s-min=14.2km az=32.1*
*IDC **02** 19:32:18.5±0.8,21°.15S×174°.68W,h0km,mb4.4/9, mb1 4.5/10,mb1mx4.3/35,mbtmp4.3/10,ML4.2/1,MS4.0/1, Ms1 4.0/1,ms1mx3.1/42,Error ellipse: s-maj=27.3km s-min=22.7km az=130.0*
*NEIC **02** 19:32:19.4±0.6,21°.04S×174°.72W,h10km,mb4.8/5,Error ellipse: s-maj=22.8km s-min=13.2km az=125.0*
ISC 02 19:32:19.5±0.7,21°.1S±0°.1×174°.6W±0°.2,h10km,n26, σ1§48/24,mb4.6/15,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.60**	**21**	*e*P	**Pn**	**19 34 08.7**	**-1.8**
URZ	**Urewera**	**18.58**	**201**	P	**Pn**	**19 36 37.1**	**+0.2**
0.7nm,0.3s,baz=137,slow=14,SNR=8.4							
PMG	**Port Moresby**	**38.55**	**282**	LR	LR	19 53 58.5	
comp=Z,196nm,18.6s,baz=332,slow=34							
STKA	**Stephens Creek**	**40.41**	**245**	P	**P**	**19 39 57.4**	**-0.8**
3.3nm,1.0s,baz=33,slow=5.1,SNR=3.6							
AS31	**Alice Springs**	**47.47**	**257**	*e*P	**P**	**19 40 52.3**	**-2.7**
ASAR	**Alice Springs**	**47.47**	**257**	P	**P**	**19 40 53.5**	**-1.5**
4.5nm,1.0s,baz=86,slow=8.5,SNR=24							
ASAR				PcP	**PcP**	**19 42 26.7**	**+1.4**
0.2nm,0.5s,baz=116,slow=4.2,SNR=4.4							
WB2	**Warramunga Arr**	**47.65**	**262**	*e*P	**P**	**19 40 54.4**	**-1.9**
WRAB	**Tennant Creek**	**47.65**	**262**	*e*P	**P**	**19 40 54.7**	**-1.7**
7.9nm,0.9s							
WRA	**Warramunga Arr**	**47.66**	**262**	P	**P**	**19 40 54.7**	**-1.8**
5.5nm,1.1s,baz=96,slow=8.3,SNR=22							
QSPA	**South Pole Qui**	**69.02**	**180**	*e*P	**P**	**19 43 24.6**	**-0.7**
6.9nm,1.0s							
MJAR	**Matsushiro Arr**	**72.56**	**322**	P	**P**	**19 43 48.6**	**+1.6**
4.2nm,1.0s,baz=163,slow=6.8,SNR=9.3							
NVAR	**Mina Array Bea**	**79.29**	**42**	P	**P**	**19 44 25.2**	**-0.5**
1.0nm,0.8s,baz=238,slow=6.9,SNR=5.0							
KSRS	**Korea Array**	**79.42**	**317**	P	**P**	**19 44 28.5**	**+2.5**
2.8nm,0.9s,baz=119,slow=5.0,SNR=5.7							
KSAR	**Wonju Array Be**	**79.44**	**317**	P	**P**	**19 44 28.5**	**+2.4**
PMSA	**Palmer Station**	**79.51**	**156**	P	**P**	**19 44 26.9**	**+0.7**
7.3nm,0.3s,baz=9.0,slow=14,SNR=18							
MDJ	**Mudanjiang**	**82.81**	**323**	P	P	19 44 47.1	+3.2
4.7nm,0.8s							
COCO	**West Island**	**84.37**	**259**	P	**P**	**19 44 51.9**	**-0.8**
90nm,1.1s							
LPM	**Los Pinos Moun**	**84.87**	**50**	P	P	19 44 59.3	+4.3
3.3nm,0.8s							
MCK	**McKinley**	**86.86**	**11**	*e*P	**P**	**19 45 03.9**	**0.0**
14nm,1.2s							
ILAR	**Eielson Array**	**88.19**	**12**	P	**P**	**19 45 10.8**	**+0.5**
1.0nm,0.9s,baz=230,slow=4.4,SNR=4.4							
CMAR	**Chiang Mai Arr**	**93.28**	**288**	P	**P**	**19 45 37.1**	**+2.0**
2.4nm,1.0s,baz=123,slow=3.6,SNR=13							
AKASG	**Malin Array Be**	**144.97**	**333**	PKPbc	**PKPab**	**19 51 55.8**	**-0.3**
0.9nm,0.5s,baz=32,slow=3.3,SNR=7.4							
CLL	**Collm**	**149.22**	**351**	*i* PKPbc	**PKPbc**	**19 52 08.5**	**+0.3**
comp=Z,7.0nm,1.3s							
CLL				LmH		22 09 00.0	
comp=N,200nm,20.6s							
CLL				LmH		22 09 00.0	
comp=E,200nm,19.5s							
BRG	**Berggiesshubel**	**149.49**	**349**	*e*PKP	**PKPab**	**19 52 14.4**	**+0.7**
comp=E,5.3nm,1.1s							
BRTR	**Keskin Array B**	**149.53**	**314**	PKPbc	**PKPbc**	**19 52 09.6**	**0.0**
comp=E,1.5nm,0.9s,baz=90,slow=1.2,SNR=7.1							
GERES	**GERESS Array B**	**151.48**	**348**	PKPbc	**PKPbc**	**19 52 13.9**	**0.0**
comp=E,0.9nm,0.9s,baz=4.3,slow=5.4,SNR=5.4							

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*NEIC **02** 19:37:35.0,36°.79N×89°.36W,h8km,MN3.7,MW3.4(SLM), After CERI.*
NEIC Felt [IV] at East Prairie; [III] at Charleston and New Madrid; [II] at Cape Girardeau, Lilbourn, Matthews, Oran, Saint Louis and Sikeston. Felt [II] at Clinton, Hickman, Mayfield, Paducah and Wickliffe, Kentucky and at Cairo, Illinois. Felt in parts of northeastern Arkansas, southern Illinois, southwestern Indiana and western Tennessee.
ISC 02 19:37:33.4±1.0,36°.87N±0°.02×89°.47W±0°.02,h1km±7km, n170,σ1§58/208,62C-64D,New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARMO	**Parma**	**0.30**	**228**	*e*Pg	**Pb**	**19 37 41.9**	**+0.3**
PVMO	**Portageville**	**0.49**	**202**	*e*Pg	**Pb**	**19 37 44.1**	**-0.7**
PVMO				*e*Sg	**Sg**	**19 37 50.1**	**+1.0**
WADM	**Wardell**	**0.57**	**207**	*e*Pg	**Pb**	**19 37 46.0**	**0.0**
GLAT	**Glass**	**0.62**	**166**	*e*Pg	**Pg**	**19 37 44.9**	**-0.3**
GLAT				*e*Sg	**Sg**	**19 37 51.9**	**-1.3**
GLST	**Glass**	**0.62**	**166**	*e*Pg	**Pg**	**19 37 45.4**	**+0.1**
PBMO	**Poplar Bluff**	**0.77**	**264**	*e*Pg	**Pn**	**19 37 51.0**	**-0.4**
SIUC	**Southern Illin**	**0.87**	**13**	*e*Pg	**Pb**	**19 37 51.9**	**+0.7**
SIUC				*e*Sg	**Sb**	**19 38 04.1**	**+0.8**
HALT	**Halls**	**0.96**	**174**	*e*Pg	**Pg**	**19 37 51.5**	**-0.3**
HALT				*e*Sg	**Sg**	**19 38 02.8**	**-1.5**
GNAR	**Gosnell**	**1.00**	**206**	*e*Pg	**Pn**	**19 37 54.0**	**-0.5**
GNAR				*e*Sg	**Sg**	**19 38 05.9**	**+0.2**
WVT	**Waverly**	**1.52**	**119**	*e*Pn	**Pn**	**19 37 59.3**	**-2.3**
WVT				*e*Sn	**Sn**	**19 38 17.9**	**-4.1**
HBAR	**Harrisburg**	**1.62**	**216**	*e*Pn	**Pn**	**19 38 03.2**	**+0.2**
HBAR				*e*Sn	**Sb**	**19 38 24.5**	**-0.6**
USIN	**University of**	**1.81**	**52**	*e*Pn	**Pb**	**19 38 06.7**	**-0.6**
USIN				*e*Sn	**Sn**	**19 38 29.6**	**+0.5**
SLM	**Saint Louis**	**1.86**	**341**	*e*Pn	**Pg**	**19 38 09.7**	**+0.6**
SLM				*e*Sn	**Sg**	**19 38 35.2**	**+1.9**
OLIL	**Olney**	**2.16**	**30**	*e*Pn	**Pb**	**19 38 12.1**	**-1.1**
OLIL				*e*Sn	**Sb**	**19 38 40.1**	**-0.3**
OXF	**Oxford**	**2.35**	**179**	*e*Pn	**Pn**	**19 38 12.7**	**-0.4**
OXF				*e*Sn	**Sn**	**19 38 39.4**	**-3.2**
WCI	**Wyandotte Cave**	**2.87**	**61**	*e*Pn	**Pn**	**19 38 20.4**	**+0.2**
UALR	**University of**	**3.13**	**229**	*e*Pn	**Pn**	**19 38 25.3**	**+1.4**
BLO	**Bloomington**	**3.27**	**44**	*e*Pn	**Pn**	**19 38 27.6**	**+1.8**
BLO				*e*Sg	**Sb**	**19 39 12.4**	**-0.1**
SWET	**Sewanee**	**3.31**	**119**	*e*Pn	**Pn**	**19 38 25.8**	**-0.5**
SWET				*e*Sn	**Sn**	**19 39 03.2**	**-3.1**
SFIN	**Lafayette**	**3.97**	**27**	‖P	**Pn**	**19 38 36.8**	**+1.4**
baz=4.0,SNR=12							
SFIN				⇑S	**Sn**	**19 39 23.4**	**+1.0**
baz=4.0							
SFIN	**Lafayette**	**3.97**	**27**	*e*Pn	**Pn**	**19 38 36.6**	**+1.3**
SFIN				*e*Sn	**Sn**	**19 39 23.1**	**+0.7**
SFIN				*e*Sg	**Sg**	**19 39 39.5**	**-1.4**
MIAR	**Mount Ida**	**4.06**	**236**	*e*Pn	**Pn**	**19 38 38.5**	**+1.8**
MIAR				*e*Sg	**Sg**	**19 39 42.2**	**-1.7**
CPCT	**Cooper Cave**	**4.25**	**108**	*e*Pn	**Pn**	**19 38 41.2**	**+2.0**
CPCT				*e*Sn	**Sn**	**19 39 31.3**	**+1.9**
CPCT				*e*Sg	**Sb**	**19 39 44.4**	**+3.7**
LRAL	**Lakeview Retre**	**4.33**	**151**	*e*Pn	**Pn**	**19 38 38.4**	**-1.9**
LRAL				*e*Sg	**Sb**	**19 39 44.5**	**+1.5**
VBMS	**Vicksburg**	**4.72**	**191**	*e*Pg	Pg	19 39 00.3	-3.5
VBMS				*e*Lg	Lg	19 40 10.9	
TKL	**Tuckaleechee C**	**4.76**	**103**	*e*Pn	**Pn**	**19 38 45.7**	**-0.6**
TKL				*e*Sg	**Sb**	**19 39 57.8**	**+2.4**
TZTN	**Tazewell**	**4.77**	**92**	*e*Pn	Pn	19 38 49.5	+3.1
TUL1	**Leonard**	**5.19**	**261**	‖P	**Pn**	**19 38 54.0**	**+1.9**
baz=5.3							
TUL1				‖S	**Sn**	**19 39 50.0**	**-2.5**
baz=5.3							
TUL1	**Leonard**	**5.19**	**261**	*e*Pn	**Pn**	**19 38 53.2**	**+1.1**
32nm,0.5s							
TUL1				*e*Sg	**Sg**	**19 40 21.4**	**+1.4**
SCIA	**State Center**	**5.80**	**331**	*e*Pn	**Pn**	**19 39 02.0**	**+1.4**
SCIA				*e*Sn	**Sn**	**19 40 09.5**	**+1.7**
GOGA	**Godfrey**	**6.01**	**123**	*e*Pn	**Pn**	**19 39 03.3**	**-0.1**
GOGA				*e*Pb	**Pb**	**19 39 16.7**	**-2.2**
GOGA				*e*Sg	**Sb**	**19 40 32.9**	**+1.6**
KSU1	**Kansas State U**	**6.06**	**294**	⇑P	**Pn**	**19 39 06.2**	**+2.1**
baz=6.2,SNR=13							
KSU1				⇑S	**Sn**	**19 40 14.0**	**-0.1**
baz=6.2							
KSU1	**Kansas State U**	**6.06**	**294**	*e*Pn	**Pn**	**19 39 06.3**	**+2.2**
KSU1				*e*Sn	**Sn**	**19 40 13.6**	**-0.5**
KSU1				*e*Sg	**Sg**	**19 40 46.4**	**-1.7**
JFWS	**Jewell Farm**	**6.07**	**355**	*e*Pn	**Pn**	**19 39 06.1**	**+2.0**
JFWS				*e*Sg	**Sg**	**19 40 44.6**	**-3.6**
ACSO	**Alum Creek Sta**	**6.09**	**55**	*e*Pn	**Pn**	**19 39 03.3**	**-1.2**
ACSO				*e*Sn	**Sn**	**19 40 10.8**	**-4.0**
ACSO				*e*Sg	Sg	19 40 43.3	-5.8
U34A	**Anderson Ranch**	**6.50**	**269**	⇑P	Pn	19 39 12.8	+2.7
baz=6.6							
U34A				⇑S	**Sn**	**19 40 24.2**	**-0.6**
baz=6.6							
U34A	**Anderson Ranch**	**6.50**	**269**	*e*Pn	**Pn**	**19 39 11.0**	**+0.9**
26nm,0.6s							
U34A				*e*Sg	**Sg**	**19 41 01.1**	**-0.9**
V34A	**Guthrie**	**6.57**	**263**	*e*P	Pn	19 39 13.9	+2.8
NATX	**Nacogdoches**	**6.66**	**222**	Pn	**Pn**	**19 39 12.8**	**+0.4**
KMSC	**Kings Mountain**	**6.82**	**102**	‖P	**Pn**	**19 39 16.0**	**+1.5**
baz=6.7							
KMSC	**Kings Mountain**	**6.82**	**102**	*e*Pn	**Pn**	**19 39 11.6**	**-3.0**
KMSC				*e*Pg	**Pb**	**19 39 33.2**	**+0.5**
KMSC				*e*Sg	Sb	19 41 00.5	+6.0
S33A	**Kaszmaul Farm,**	**6.84**	**279**	‖P	**Pn**	**19 39 16.5**	**+1.6**
baz=6.9							
S33A				‖S	**Sn**	**19 40 32.4**	**-1.0**
baz=6.9							
R33A	**Olander Ranch,**	**6.91**	**285**	‖P	**Pn**	**19 39 18.4**	**+2.6**
baz=7.0							
R33A				⇑S	**Sn**	**19 40 34.7**	**-0.4**
baz=7.0							
W34A	**Bridge Creek,**	**6.92**	**259**	‖P	**Pn**	**19 39 18.4**	**+2.5**
baz=7.0							
W34A	**Bridge Creek,**	**6.92**	**259**	Pn	**Pn**	**19 39 17.3**	**+1.4**
W34A				*e*Pg	Pg	19 39 40.9	-5.0
W34A				*e*Sg	**Sg**	**19 41 11.6**	**-4.0**
Q33A	**Connelly Farm,**	**6.94**	**290**	‖P	Pn	19 39 19.6	+3.4
baz=7.0							
Q33A				⇑S	**Sn**	**19 40 35.7**	**-0.1**
baz=7.0							
U33A	**Lingo Farm, Me**	**6.96**	**269**	⇑P	Pn	19 39 19.4	+2.9
baz=7.0							
U33A				⇑S	**Sn**	**19 40 35.2**	**-1.1**
baz=7.0							
P33A	**Williams Farm,**	**6.97**	**294**	‖P	**Pn**	**19 39 18.5**	**+1.9**
baz=7.1							
P33A				‖S	**Sn**	**19 40 36.1**	**-0.3**
baz=7.1							
T33A	**Patterson Ranc**	**7.03**	**274**	‖P	**Pn**	**19 39 18.9**	**+1.5**
baz=7.1							
T33A				‖S	**Sn**	**19 40 37.5**	**-0.3**
baz=7.1							
AAM	**Ann Arbor**	**7.04**	**38**	*e*Pn	**Pn**	**19 39 16.8**	**-0.7**
AAM				*e*Sn	Sn	19 40 28.9	-9.2
AAM				*e*Sg	Sg	19 41 13.4	-6.1
V33A	**Lossen Ranch,**	**7.19**	**264**	‖P	**Pn**	**19 39 20.9**	**+1.3**
baz=7.3							
V33A				⇑S	**Sn**	**19 40 41.8**	**-0.1**
baz=7.3							
BLA	**Blacksburg**	**7.25**	**85**	*e*Pn	**Pn**	**19 39 21.0**	**+0.6**
BLA				*e*Sn	**Sn**	**19 40 42.1**	**-1.3**
BLA				*e*Sg	Sb	19 41 15.5	+8.6
TIGA	**Tifton**	**7.29**	**136**	*e*Sg	**Sb**	**19 41 13.2**	**+5.2**
Z35A	**Perchaven, San**	**7.29**	**243**	⇑P	**Pn**	**19 39 22.4**	**+1.4**
baz=7.3							
338A	**Crockett**	**7.33**	**223**	‖P	**Pn**	**19 39 23.8**	**+2.3**
baz=7.3							
Q32A	**Meitler Ranch,**	**7.49**	**289**	⇑P	**Pn**	**19 39 26.4**	**+2.7**
baz=7.6,SNR=6.3							
W33A	**Caddo, Fort Co**	**7.49**	**259**	‖P	**Pn**	**19 39 26.3**	**+2.6**
baz=7.5							
R32A	**Long Quarter,**	**7.49**	**285**	⇑S	**Sn**	**19 40 48.7**	**-0.6**
baz=7.6							
T32A	**Huddler Ranch,**	**7.57**	**275**	‖P	**Pn**	**19 39 27.0**	**+2.2**
baz=7.7							
S32A	**Newby Ranch, P**	**7.59**	**279**	‖P	Pn	19 39 27.9	+2.8
baz=7.7							
VWCC	**Virginia Weste**	**7.60**	**84**	Pn	**Pn**	**19 39 26.7**	**+1.4**
VWCC				*e*Sg	Sb	19 41 24.3	+7.2
O32A	**Brockman Farm,**	**7.68**	**299**	‖P	**Pn**	**19 39 28.3**	**+1.9**
baz=7.8							
X33A	**Lawton**	**7.70**	**255**	‖P	Pn	19 39 29.5	+2.8
baz=7.8							
Z34A	**Collier Ranch,**	**7.75**	**246**	⇑P	**Pn**	**19 39 29.5**	**+2.2**
baz=7.8							
S31A	**Mullinville**	**8.02**	**278**	‖P	**Pn**	**19 39 33.0**	**+1.9**
baz=8.1							
R31A	**Burdett**	**8.11**	**283**	‖P	**Pn**	**19 39 34.0**	**+1.7**
baz=8.2							
W32A	**Sentinel**	**8.11**	**260**	‖P	**Pn**	**19 39 33.9**	**+1.6**
baz=8.2							
BGNE	**Belgrade**	**8.12**	**307**	⇑P	**Pn**	**19 39 34.0**	**+1.6**
baz=8.2							
BGNE	**Belgrade**	**8.12**	**307**	*e*Pn	**Pn**	**19 39 33.1**	**+0.7**
BGNE				*e*Sn	**Sn**	**19 41 06.2**	**+1.4**
BGNE				*e*Sg	**Sg**	**19 41 54.2**	**0.0**
T31A	**Randall Ranch,**	**8.17**	**275**	‖P	**Pn**	**19 39 35.1**	**+2.0**
baz=8.2							
X32A	**Elmer**	**8.35**	**256**	‖P	**Pn**	**19 39 37.8**	**+2.2**
baz=8.4							
Y32A	**R-V Farms, Ver**	**8.62**	**254**	⇑P	**Pn**	**19 39 40.7**	**+1.4**
baz=8.7							
W31A	**Holland Ranch,**	**8.65**	**262**	⇑P	**Pn**	**19 39 40.3**	**+0.7**
baz=8.7							
ALLY	**Alegheny Colle**	**8.66**	**54**	*e*Pn	**Pn**	**19 39 40.9**	**+1.1**
R30A	**Dighton**	**8.69**	**283**	⇑P	**Pn**	**19 39 42.5**	**+2.2**
baz=8.8							
SPMN	**Marine on St.**	**8.72**	**344**	⇑P	**Pn**	**19 39 42.8**	**+2.2**
baz=8.8							
SPMN	**Marine on St.**	**8.72**	**344**	*e*Pn	**Pn**	**19 39 42.2**	**+1.7**
Q30A	**Quinter**	**8.75**	**287**	⇑P	**Pn**	**19 39 42.9**	**+1.9**
baz=8.8,SNR=17							
ECSD	**EROS Data Cent**	**8.76**	**324**	⇑P	**Pn**	**19 39 42.9**	**+1.8**
baz=8.9							
ECSD	**EROS Data Cent**	**8.76**	**324**	*e*Pn	**Pn**	**19 39 41.8**	**+0.6**
ECSD				*e*Sn	**Sn**	**19 41 15.5**	**-4.9**
ECSD				*e*Sg	Sg	19 42 04.3	-10
133A	**Hamilton Ranch**	**8.86**	**244**	⇑P	**Pn**	**19 39 43.2**	**+0.7**
baz=8.9							
O30A	**MW Ranch, Wils**	**8.93**	**295**	⇑P	**Pn**	**19 39 46.2**	**+2.7**
baz=9.0							
Z32A	**Haskell**	**8.94**	**250**	⇑P	**Pn**	**19 39 44.7**	**+1.1**
baz=9.0							
ERPA	**Erie**	**9.01**	**52**	Pn	**Pn**	**19 39 44.0**	**-0.5**
13nm,0.4s							
ERPA				*e*Sn	**Sn**	**19 41 24.6**	**-2.0**
ERPA				*e*Lg	Lg	19 42 09.2	
334A	**Lometa**	**9.13**	**235**	‖P	**Pn**	**19 39 46.5**	**+0.3**
baz=9.2							
233A	**Rising Star**	**9.16**	**241**	‖P	**Pn**	**19 39 47.2**	**+0.4**
baz=9.2							
COWI	**Conover**	**9.23**	**1**	*e*Pn	**Pn**	**19 39 48.2**	**+0.7**
Y31A	**Rekieta Farm,**	**9.27**	**255**	‖P	**Pn**	**19 39 48.5**	**+0.3**
baz=9.3							
S29A	**Ulysses**	**9.32**	**278**	‖P	**Pn**	**19 39 50.6**	**+1.7**
baz=9.4						

R28A	Tribune	9.90	282	⇑P	Pn	19 39 59.1 +2.2
	baz=10.0					
131A	Roby	9.90	248	⇓P	Pn	19 39 57.8 +0.9
	baz=9.9					
S28A	Manter	9.94	278	⇓P	Pn	19 39 58.6 +1.2
	baz=10.0,SNR=9.5					
W29A	Amarillo	10.02	264	⇑P	Pn	19 40 00.3 +1.8
	baz=10					
P28A	Saint Francis	10.03	289	⇓P	Pn	19 40 00.9 +2.2
	baz=10					
433A	Art	10.06	235	⇓P	Pn	19 40 00.6 +1.7
	baz=10					
AMTX	Amarillo	10.10	262	⇑P	Pn	19 40 00.4 +0.8
	baz=10					
AMTX	Amarillo	10.10	262	*e*Pn	Pn	19 40 00.1 +0.5
AMTX				*e*Sn	Sn	19 41 52.0 -1.7
T28A	Walsh	10.12	275	⇑P	Pn	19 40 01.1 +1.3
	baz=10					
534A	Blanco	10.15	230	⇑P	Pn	19 40 02.3 +2.1
	baz=10					
Z30A	Sanderson Ranc	10.20	253	⇓P	Pn	19 40 01.5 +0.6
	baz=10,SNR=11					
231A	Bronte	10.22	244	⇑P	Pn	19 40 01.8 +0.6
	baz=10					
X29A	Tulia	10.24	260	⇓P	Pn	19 40 03.7 +2.2
	baz=10					
M28A	Bar X Bar Ranc	10.29	300	⇑P	Pn	19 40 05.5 +3.3
	baz=10					
130A	Snyder	10.37	249	⇑P	Pn	19 40 03.2 -0.1
	baz=10,SNR=7.7					
Y29A	Porterfield Fa	10.40	257	⇑P	Pn	19 40 04.0 +0.2
	baz=10,SNR=8.7					
T27A	Campo	10.61	275	⇓P	Pn	19 40 07.1 +0.5
	baz=11,SNR=9.2					
Z29A	Hungry Hill Ra	10.65	254	⇓P	Pn	19 40 08.2 +1.0
	baz=11					
R27A	Eads	10.67	282	⇑P	Pn	19 40 08.3 +0.9
	baz=11					
JCT	Junction City	10.70	236	*e*Pn	Pn	19 40 08.5 +0.7
JCT				*e*Sn	Sn	19 42 02.6 -5.8
230A	Sterling City	10.82	246	P	Pn	19 40 09.6 +0.1
	baz=11,SNR=6.3					
Y28A	McKinney Farm,	10.84	258	⇑P	Pn	19 40 10.2 +0.4
	baz=11,SNR=7.2					
532A	Rocksprings	11.00	235	⇓P	Pn	19 40 11.5 -0.4
	baz=11					
129A	Stewart Farms,	11.04	251	⇓P	Pn	19 40 12.5 +0.1
	baz=11					
330A	Mertzon	11.12	244	P	Pn	19 40 13.7 +0.1
	baz=11,SNR=9.2					
J28A	Allard Ranch,	11.12	310	⇑P	Pn	19 40 14.9 +1.4
	baz=11					
431A	Sonora	11.13	240	⇓P	Pn	19 40 14.5 +0.8
	baz=11					
W27A	Bowe Ranch, En	11.16	265	⇑P	Pn	19 40 15.8 +1.6
	baz=11					
EYMN	Ely	11.17	353	*e*Pn	Pn	19 40 12.4 -1.8
EYMN				*e*Sn	Sn	19 42 13.0 -6.6
R26A	Arlington	11.18	282	⇑P	Pn	19 40 14.3 -0.2
	baz=11					
S26A	Kim	11.19	278	⇓P	Pn	19 40 14.4 -0.1
	baz=11					
X27A	F and S Farms,	11.29	263	⇑P	Pn	19 40 16.7 +0.7
	baz=11					
T26A	Comanche Natio	11.29	276	⇑P	Pn	19 40 16.0 -0.1
	baz=11,SNR=7.2					
531A	Rocksprings	11.40	237	⇓P	Pn	19 40 18.0 +0.6
	baz=11					
F30A	Leola	11.47	324	⇓P	Pn	19 40 18.5 +0.2
	baz=12					
U26A	Atchley Ranch,	11.48	272	⇑P	Pn	19 40 18.7 +0.1
	baz=12					
430A	Baggett Ranch,	11.51	242	⇑P	Pn	19 40 19.1 +0.3
	baz=12					
128A	Castleberry Fa	11.51	252	⇑P	Pn	19 40 18.2 -0.7
	baz=12					
V26A	Tequesquite Ra	11.60	269	⇓P	Pn	19 40 20.8 +0.7
	baz=12					
Z27A	Tatum	11.80	257	⇓P	Pn	19 40 23.6 +0.6
	baz=12					
228A	UT Block 9, Go	11.81	250	⇑P	Pn	19 40 22.6 -0.4
	baz=12					
R25A	Fountain Ranch	11.83	281	⇓P	Pn	19 40 23.2 -0.2
	baz=12					
X26A	CR and CF Fran	11.88	263	⇑P	Pn	19 40 24.0 -0.1
	baz=12					
631A	Perdido Creek	11.90	235	⇓P	Pn	19 40 24.9 +0.6
	baz=12					
T25A	Trinidad	11.95	276	⇓P	Pn	19 40 25.4 +0.4
	baz=12					
S25A	Robets Cordova	11.95	278	⇑P	Pn	19 40 25.2 +0.2
	baz=12,SNR=6.7					
530A	J-C Ranch, Com	11.95	239	⇓P	Pn	19 40 25.8 +0.9
	baz=12					
I27A	Quinn	11.97	311	⇑P	Pn	19 40 25.9 +0.8
	baz=12					
U25A	Circle Dot Ran	12.01	272	⇓P	Pn	19 40 25.6 -0.3
	baz=12					
429A	Davenport Ranc	12.06	243	⇓P	Pn	19 40 26.3 -0.2
	baz=12					
Y26A	Elida	12.07	260	⇑P	Pn	19 40 26.7 0.0
	baz=12					
J26A	Sides Ranch, S	12.24	306	⇓P	Pn	19 40 30.1 +1.3
	baz=12					
W25A	X Bar L Ranch,	12.24	267	⇓P	Pn	19 40 30.9 +1.9
	baz=12					
V25A	Rancho No Teng	12.26	270	⇓P	Pn	19 40 29.9 +0.7
	baz=12					
AGMN	Agassiz Nation	12.35	340	*e*Pn	Pn	19 40 41.8 +12
Z26A	Caprock	12.41	257	⇓P	Pn	19 40 30.6 -0.7
	baz=12,SNR=13					
Q24A	Divide	12.56	284	⇓P	Pn	19 40 33.1 -0.3
	baz=13					
S24A	Houchin Ranch,	12.57	278	⇑P	Pn	19 40 34.2 +0.6
	baz=13					
X25A	Clemmons Ranch	12.57	264	⇓P	Pn	19 40 33.2 -0.3
	baz=13					
529A	Stev Forest Ra	12.58	241	⇑P	Pn	19 40 33.7 +0.1
	baz=13					
T24B	San Luis	12.73	276	⇑P	Pn	19 40 35.5 -0.2
	baz=13					
Y25A	Mesa, Roswell	12.76	261	⇑P	Pn	19 40 35.8 -0.3
	baz=13					
SDCO	Great Sand Dun	12.79	279	*e*Pn	Pn	19 40 37.3 +0.6
	3.5nm,0.6s					
SDCO				*e*Lg	Lg	19 44 13.4
I25A	Rochford	12.99	308	⇑P	Pn	19 40 39.9 +0.7
	baz=13					
Z25A	Roswell	12.99	258	⇑P	Pn	19 40 38.7 -0.5
	baz=13					
Y24A	Capitan	13.35	262	⇑P	Pn	19 40 43.6 -0.6
	baz=13					
Z24A	Sheeppen Canyo	13.48	260	⇓P	Pn	19 40 45.6 -0.4
	baz=14,SNR=7.6					
L23A	Garrett	13.58	298	⇓P	Pn	19 40 45.5 -1.8
	baz=14					
S22A	4UR Ranch, Cre	13.85	279	⇑P	Pn	19 40 51.4 +0.4
	baz=14					
MNTX	Cornudas Mount	14.12	253	*e*Pn	Pn	19 40 52.6 -2.0

DHMR ***02*** *19:39:56.2±1.7, 11°.98N×43°.78E, h4km±20km, ML3.2*
ISCJB ***02*** *19:39:57.1±1.2, 11°.92N±0°.08×43°.77E±0°.10, h10km, Error ellipse: s-maj=17.9km s-min=4.8km az=40.0*
ARO ***02*** *19:39:59.8, 12°N±3°×4°4E±°, h11km±10km, ML3.6*
ISC 02 19:39:57.4±1.2,**11°.98N**±0°.08×**43°.71E**±0°.08,**h10**km,**n10,**
σ0§**49**/14,**1C, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.41**	**271**	*e*P	**Pb**	**19 40 06.8**	**0.0**
ATA	**Atar**	**0.72**	**224**	*e*P	**Pb**	**19 40 12.1**	**+0.1**
TDD	**Tadjoura Ara**	**0.81**	**258**	*e*P	**Pg**	**19 40 13.1**	**+0.1**
ATD	**Arta Tunnel**	**0.96**	**242**	*e*P	**Pg**	**19 40 15.5**	**-0.4**
ATD				*e*S	**Sb**	**19 40 29.1**	**+0.2**
SGH	**Sud-Ghoubbet**	**1.19**	**243**	*e*P	**Pb**	**19 40 19.5**	**-0.6**
TRBA	**At Turbah**	**1.30**	**17⇑**	*e*P	**Pn**	**19 40 21.3**	**-0.6**
TRBA				*i* S	**Sb**	**19 40 38.5**	**-0.6**
MAOD	**Malaho**	**1.46**	**275**	*e*P	**Pn**	**19 40 23.9**	**+0.1**
GBR	**Grand-Bara**	**1.48**	**236**	*e*P	**Pn**	**19 40 24.3**	**+0.2**
UDYN	**Al 'Udayn**	**1.99**	**7**	*i* P	**Pn**	**19 40 31.6**	**+0.3**
UDYN				*i* S	**Sb**	**19 40 59.7**	**+0.9**
UDYN				AML	AML	19 41 07.0	
	comp=E,279nm,0.5s						
BDHA	**Al Bayda'**	**2.68**	**42**	*i* P	**Pn**	**19 40 41.6**	**+0.7**
BDHA				*i* S	**Sb**	**19 41 18.6**	**-0.2**
BDHA				AML	AML	19 41 28.2	

comp=N,120nm,0.3s

IDC ***02*** *19:41:44.8±0.9, 37°.54S×73°.75W, h0km, mb4.3/9, mb1 4.3/12, mb1mx4.2/33, mbtmp4.2/12, ML4.2/3, MS3.9/7, Ms1 3.9/7, ms1mx3.8/24, Error ellipse: s-maj=23.7km s-min=14.7km az=93.0*
ISCJB ***02*** *19:41:48.0±0.7, 37°.52S±0°.06×73°.6W±0°.1, h33km, mb4.5/13, MS4.3/3, Error ellipse: s-maj=15.5km s-min=8.4km az=176.5*
NEIC ***02*** *19:41:49.0±3.4, 37°.50S×73°.64W, h30km±22km, mb4.5/5, Error ellipse: s-maj=19.0km s-min=7.8km az=82.0*
ISC 02 19:41:49.6±0.6,**37°.54S**±0°.07×**73°.7W**±0°.1,**h35**km,**n39,**
σ1§**20**/42,**mb4.4**/13,**MS4.3**/3,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.03**	**143**	Pn	**Pn**	**19 42 49.7**	**+0.8**
	3.7nm,0.3s,baz=318,slow=11,SNR=24						
PLCA				Lg	Lg	19 43 52.3	
	12nm,0.3s,baz=207,slow=3.1,SNR=4.2						
PLCA				LR	LR	19 43 52.7	
	comp=Z,256nm,18.8s,baz=267,slow=32						
PLCA	**Paso Flores**	**4.03**	**143**	*e*Pn	**Pn**	**19 42 49.1**	**+0.2**
PLCA				Lg	Lg	19 43 52.3	
PLCA				*e*Sg	Sn	19 43 52.9	+18
CFAA	**Coronel Fontan**	**7.45**	**39**	Pn	**Pn**	**19 43 34.3**	**-1.5**
	1.3nm,0.3s,baz=54,slow=4.8,SNR=19						
CFAA				Sn	**Sn**	**19 45 03.7**	**+4.6**
	0.4nm,0.3s,baz=229,slow=17,SNR=2.7						
CFAA				Lg	Lg	19 45 42.5	
	0.5nm,0.3s,baz=300,slow=23,SNR=2.8						
CFAA				LR	LR	19 46 07.5	
	comp=Z,98nm,19.0s,baz=213,slow=35						
TRQA	**Tornquist**	**9.31**	**97**	*e*Pn	**Pn**	**19 44 00.2**	**-1.1**
	12nm,0.7s						
LVC	**Limon Verde**	**15.44**	**17**	*e*Pn	**Pn**	**19 45 24.7**	**-0.3**
	21nm,1.1s						
USHA	**Ushuaia**	**17.67**	**170**	LR	LR	19 53 08.9	
	comp=Z,465nm,18.6s,baz=329,slow=39						
CPUP	**Villa Florida**	**17.81**	**56**	Pn	**P**	**19 45 54.3**	**-0.9**
	0.3nm,0.3s,baz=193,slow=10,SNR=3.4						
CPUP				Lg	Lg	19 51 13.8	
	0.4nm,0.3s,baz=103,slow=17,SNR=2.5						
CPUP				LR	LR	19 53 28.4	
	comp=Z,846nm,19.5s,baz=198,slow=40						
CPUP	**Villa Florida**	**17.81**	**56**	*e*Pn	**Pn**	**19 45 52.8**	**-2.0**
	1.3nm,1.3s						
CPUP				Lg	Lg	19 51 13.8	
EFI	**East Falkland**	**17.95**	**147**	*e*Pn	**P**	**19 45 56.6**	**+0.1**
LPAZ	**La Paz**	**21.73**	**15**	P	**P**	**19 46 39.7**	**+1.1**
	8.2nm,1.0s,baz=162,slow=8.5,SNR=15						
LPAZ	**La Paz**	**21.73**	**15**	*e*P	**P**	**19 46 39.0**	**+0.5**
	38nm,1.4s						
SIV	**San Ignacio**	**24.20**	**31**	P	**P**	**19 47 02.7**	**-0.2**
	9.8nm,0.8s,baz=227,slow=12,SNR=23						
SIV				LR	LR	19 56 24.2	
	comp=Z,850nm,18.4s,baz=168,slow=36						
NNA	**Nana**	**25.59**	**353**	P	**P**	**19 47 12.9**	**-2.7**
PMSA	**Palmer Station**	**27.88**	**171**	LR	LR	19 57 53.9	
	comp=Z,500nm,18.0s,baz=6.0,slow=35						
SAML	**Samuel**	**30.01**	**21**	*e*P	**P**	**19 47 54.6**	**-0.5**
	3.6nm,1.1s						
OTAV	**Otavalo**	**37.84**	**352**	P	**P**	**19 49 03.9**	**+0.4**
RCBR	**Riachuelo**	**46.69**	**57**	P	**P**	**19 50 16.1**	**+0.9**
	5.7nm,0.9s,baz=222,slow=7.5,SNR=3.6						
RCBR	**Riachuelo**	**46.69**	**57**	P	**P**	**19 50 16.0**	**+0.8**
SNAA	**Sanae**	**48.86**	**157**	P	**P**	**19 50 31.5**	**+0.1**
	2.5nm,0.9s,baz=246,slow=1.6,SNR=3.7						
SNAA	**Sanae**	**48.86**	**157**	*e*P	**P**	**19 50 29.4**	**-1.9**
SNAA				P	**P**	**19 50 31.5**	**+0.1**
QSPA	**South Pole Qui**	**52.71**	**180**	P	**P**	**19 51 01.8**	**+1.3**
	1.8nm,1.0s,baz=156,slow=2.3,SNR=5.2						
QSPA	**South Pole Qui**	**52.71**	**180**	*e*P	**P**	**19 51 01.2**	**+0.7**
	9.1nm,1.2s						
LPIG	**La Paz**	**70.31**	**325**	LR	LR	20 17 31.7	
	comp=Z,239nm,18.6s,baz=198,slow=30						
TXAR	**Lajitas Array**	**72.19**	**333**	P	**P**	**19 53 11.3**	**+0.3**
	0.9nm,0.9s,baz=180,slow=3.8,SNR=6.1						
LIC	**Lamto**	**77.18**	**72**	*e*P	**P**	**19 53 40.4**	**+0.3**
	56nm,1.8s						
TIC	**Toumodi**	**77.46**	**71**	*e*P	**P**	**19 53 42.1**	**+0.4**
	4.5nm,0.2s						
KIC	**Kosan Boka**	**77.49**	**72**	*e*P	**P**	**19 53 42.3**	**+0.4**
	22nm,0.9s						
DBIC	**Dimbokro**	**77.60**	**72**	P	**P**	**19 53 43.0**	**+0.5**
	5.5nm,0.6s,baz=220,slow=5.4,SNR=11						
DBIC	**Dimbokro**	**77.60**	**72**	*e*P	**P**	**19 53 41.1**	**-1.4**
	19nm,1.2s						
BOSA	**Boshof**	**79.63**	**118**	P	**P**	**19 53 54.2**	**+0.5**
	3.7nm,0.9s,baz=219,slow=10.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**86.68**	**71**	P	**P**	**19 54 29.9**	**-0.1**
	1.6nm,0.7s,baz=217,slow=4.9,SNR=9.8						
ASAR	**Alice Springs**	**113.81**	**208**	PKKPbc	PKKPbc	20 11 07.0	+0.6
	0.3nm,0.6s,baz=336,slow=3.4,SNR=4.3						
ASAR				PKKPab	**PKKPab**	**20 11 16.6**	**-0.5**
	0.4nm,1.0s,baz=278,slow=3.7,SNR=4.2						
SEY	**Seymchan**	**142.34**	**327**	PKP	**PKPdf**	**20 01 18.5**	**+1.0**
	0.9nm,0.8s,baz=128,slow=2.1,SNR=3.9						
PSI	**Prapat**	**144.78**	**167**	PKP	**PKPdf**	**20 01 22.4**	**-1.1**
	8.4nm,0.7s,baz=116,slow=1.3,SNR=8.1						
ABKAR	**Akbulak array**	**144.88**	**55**	*e*PKPdf	**PKPdf**	**20 01 21.4**	**-1.0**
KKAR	**Karatay Array**	**152.31**	**67**	*e*PKPab	**PKPab**	**20 01 51.1**	**-0.5**
AAK	**Ala-Archa**	**155.24**	**68**	PKPdf	**PKPdf**	**20 01 39.2**	**+0.2**
AAK				*e*PKPbc	PKPbc	20 01 48.6	
AAK				*e*PKPab	**PKPab**	**20 02 04.4**	**+0.2**
ZALV	**Zalesovo Beam**	**157.92**	**35**	PKP	**PKPdf**	**20 01 42.3**	**+0.4**
	1.4nm,0.9s,baz=5.7,slow=3.0,SNR=5.5						
ZALV				PKPab	**PKPab**	**20 02 15.8**	**+0.7**
	1.6nm,0.6s,baz=286,slow=6.0,SNR=6.9						
MKAR	**Makanchi Array**	**160.02**	**55**	PKP	**PKPdf**	**20 01 45.6**	**+1.0**
	1.3nm,1.1s,baz=298,slow=2.6,SNR=6.1						
MKAR				PKPab	**PKPab**	**20 02 24.8**	**+0.3**
	1.4nm,0.9s,baz=298,slow=2.6,SNR=7.1						
MKAR				PP	**PP**	**20 06 07.3**	**+0.3**
	0.5nm,0.9s,baz=318,slow=1.6,SNR=3.5						

ISK ***02*** *19:45:27.1, 34°.19N×32°.57E, h10km, ML3.6*
NIC ***02*** *19:45:29.8, 34°.27N×32°.59E, h13km, ML3.7*
NSSC ***02*** *19:45:31.6±1.1, 34°.52N×32°.61E, h10km±42km, MD1.7, ML2.5*
HLW ***02*** *19:45:31.3, 34°.92N×32°.85E, h30km±15km, Md3.2*
DDA ***02*** *19:45:32.1, 34°.61N×32°.54E, h10km, MD3.5, ML3.8*
ISCJB ***02*** *19:45:33.4±0.5, 34°.45N±0°.02×32°.63E±0°.03, h33km±4km, Error ellipse: s-maj=4.2km s-min=3.1km az=161.1*
GII ***02*** *19:45:33.9±0.3, 34°.48N×32°.83E, h10km, MD2.8/8*
CSEM ***02*** *19:45:33.4±0.1, 34°.48N×32°.65E, h20km, ML3.7, Error ellipse: s-maj=3.3km s-min=2.2km az=70.0*
ISC 02 19:45:33.6±1.0,**34°.47N**±0°.03×**32°.64E**±0°.03,**h22**km±6km,
n126, σ0§**92**/177,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.34**	**35**	P	**Pb**	**19 45 40.5**	**-0.6**
	baz=206						
SZAC				S	**Sn**	**19 45 48.8**	**-0.8**
SZAC	**Souni-Zanaja**	**0.34**	**35**	P	**Pb**	**19 45 40.5**	**-0.6**
PPCY	**Paphos**	**0.48**	**329**	P	**Pb**	**19 45 42.6**	**-0.7**
	baz=161						
PPCY	**Paphos**	**0.48**	**329**	P	**Pb**	**19 45 42.6**	**-0.7**
AKMC	**Akamas**	**0.61**	**335**	P	**Pb**	**19 45 45.2**	**-0.4**
	baz=163						
AKMC	**Akamas**	**0.61**	**335**	P	**Pb**	**19 45 45.2**	**-0.4**
LEF	**Lefka**	**0.68**	**17**	*e*PG	**Pb**	**19 45 45.6**	**-1.1**
LEF				*e*SG	**Sn**	**19 45 59.1**	**+1.5**
LEF	**Lefka**	**0.68**	**17**	*e*Pg	**Pb**	**19 45 45.6**	**-1.1**
LEF				*e*Sg	**Sn**	**19 45 59.2**	**+1.5**
ALFC	**Alevga**	**0.68**	**357**	P	**Pb**	**19 45 46.4**	**-0.5**
	baz=180						
ALFC				S	**Sn**	**19 45 59.2**	**+1.2**
ALFC	**Alevga**	**0.68**	**357**	P	**Pb**	**19 45 46.4**	**-0.5**
CSS	**Prodhromos**	**0.75**	**49**	P	**Pb**	**19 45 46.9**	**-1.0**
	baz=221						
CSS				S	**Sb**	**19 45 57.9**	**+0.2**
CSS	**Prodhromos**	**0.75**	**49**	*e*PG	**Pb**	**19 45 46.5**	**-1.3**
CSS				*e*SG	**Sn**	**19 46 00.9**	**+1.5**
CSS	**Prodhromos**	**0.75**	**49**	Pg	**Pb**	**19 45 46.3**	**-1.6**
CSS	**Prodhromos**	**0.75**	**49**	*e*Pg	**Pb**	**19 45 46.6**	**-1.3**
CSS	**Prodhromos**	**0.75**	**49**	P	**Pb**	**19 45 46.9**	**-1.0**
CSS				S	**Sb**	**19 45 57.9**	**+0.2**
CSS				*e*Sg	**Sn**	**19 46 01.0**	**+1.5**
MAMC	**Mammari**	**0.84**	**34**	P	**Pb**	**19 45 49.4**	**-0.1**
	baz=209						
MAMC	**Mammari**	**0.84**	**34**	P	**Pb**	**19 45 49.4**	**-0.1**
AKDN	**Akdeniz- K¯-br**	**0.86**	**18**	*e*PN	**Pb**	**19 45 49.8**	**-0.1**
AKDN	**Akdeniz- K¯-br**	**0.86**	**18**	*e*Pn	**Pb**	**19 45 49.8**	**-0.1**
PHNC	**Paralimni**	**1.26**	**65**	P	**Pb**	**19 45 57.7**	**+1.1**
	baz=238						
PHNC				S	**Sb**	**19 46 17.6**	**+5.2**
PHNC	**Paralimni**	**1.26**	**65**	P	**Pb**	**19 45 57.7**	**+1.1**
EREN	**Erenkoy**	**1.64**	**49**	*e*PN	**Pn**	**19 46 00.7**	**-0.3**
EREN	**Erenkoy**	**1.64**	**49**	*e*Pn	**Pn**	**19 46 00.7**	**-0.3**
GAZI	**Gazipasa**	**1.78**	**351**	*i* P	**Pn**	**19 46 02.9**	**-0.1**
GAZI				*i* S	**Sn**	**19 46 25.6**	**+0.6**
GAZI	**Gazipasa**	**1.78**	**351**	*i* P	**Pn**	**19 46 02.9**	**-0.1**
GAZI				*i* S	**Sn**	**19 46 25.6**	**+0.6**
ERMK	**Ermenek**	**2.17**	**6**	*i* P	**Pn**	**19 46 10.2**	**+1.6**
ERMK				*i* S	**Sb**	**19 46 38.0**	**-1.0**
ERMK	**Ermenek**	**2.17**	**6**	*i* P	**Pn**	**19 46 10.2**	**+1.6**
ERMK				*i* S	**Sb**	**19 46 38.0**	**-1.0**
KIZK	**Mersin**	**2.35**	**31**	*i* P	**Pn**	**19 46 12.3**	**+1.5**
KIZK				*i* S	**Sb**	**19 46 42.9**	**-0.8**
KIZK	**Mersin**	**2.35**	**31**	*i* P	**Pn**	**19 46 12.3**	**+1.5**
KIZK				*i* S	**Sb**	**19 46 42.9**	**-0.8**
HNTI	**Hanita**	**2.52**	**123**	Pn	**Pn**	**19 46 12.8**	**-0.4**
HNTI				Sn	**Sn**	**19 46 42.6**	**-0.7**
HNTI	**Hanita**	**2.52**	**123**	Pn	**Pn**	**19 46 12.8**	**-0.4**
HNTI				Sn	**Sn**	**19 46 42.6**	**-0.7**
BHL	**Bhannes**	**2.56**	**102**	*e*P	**Pn**	**19 46 14.1**	**+0.3**
BHL	**Bhannes**	**2.56**	**102**	*e*P	**Pn**	**19 46 14.1**	**+0.3**
OFRI	**'Ofer**	**2.69**	**133**	Pn	**Pn**	**19 46 15.3**	**-0.3**
OFRI	**'Ofer**	**2.69**	**133**	Pn	**Pn**	**19 46 15.3**	**-0.3**
MMA0B	**Mount Meron ar**	**2.72**	**122**	Pn	**Pn**	**19 46 15.3**	**-0.7**
MMA0B				Sn	**Sn**	**19 46 47.3**	**-1.0**
MMA0B	**Mount Meron ar**	**2.72**	**122**	Pn	**Pn**	**19 46 15.3**	**-0.7**
MMA0B				Sn	**Sn**	**19 46 47.3**	**-1.0**
HWQ	**Hawqa**	**2.74**	**93**	*e*P	**Pn**	**19 46 17.1**	**+0.8**
HWQ	**Hawqa**	**2.74**	**93**	*e*P	**Pn**	**19 46 17.1**	**+0.8**
BLGI	**Bet Lehem HaGe**	**2.74**	**129**	Pn	**Pn**	**19 46 15.7**	**-0.6**
BLGI	**Bet Lehem HaGe**	**2.74**	**129**	Pn	**Pn**	**19 46 15.7**	**-0.6**
KSDI	**Kefar Szold**	**2.82**	**116**	Pn	**Pn**	**19 46 16.8**	**-0.5**
KSDI				Sn	**Sn**	**19 46 49.1**	**-1.4**
KSDI	**Kefar Szold**	**2.82**	**116**	Pn	**Pn**	**19 46 16.8**	**-0.5**
KSDI				Sn	**Sn**	**19 46 49.1**	**-1.4**
MERS	**Mersin**	**2.84**	**32**	*e*PN	**Pn**	**19 46 18.2**	**+0.6**
MERS	**Mersin**	**2.84**	**32**	*e*Pn	**Pn**	**19 46 18.2**	**+0.6**
BRBR	**Barbar**	**2.95**	**110**	*e*P	**Pn**	**19 46 19.3**	**0.0**
	SNR=47						
BRBR				*e*S	**Sn**	**19 46 53.8**	**-0.2**
	133nm,0.4s,SNR=49						
BRBR	**Barbar**	**2.95**	**110**	*e*P	**Pn**	**19 46 19.3**	**0.0**
BRBR				*e*S	**Sn**	**19 46 53.8**	**-0.2**
BRBR				AML	AML	19 46 57.0	
	comp=N,55nm,0.3s						
BRBR				AML	AML	19 46 57.4	
	comp=E,133nm,0.4s						
SLTI	**Sal'it**	**3.00**	**137**	Pn	**Pn**	**19 46 19.3**	**-0.5**
SLTI				Sn	**Sn**	**19 46 55.0**	**0.0**
SLTI	**Sal'it**	**3.00**	**137**	Pn	**Pn**	**19 46 19.3**	**-0.5**
SLTI				Sn	**Sn**	**19 46 55.0**	**0.0**
ARNB	**Al Arnab**	**3.06**	**62**	*e*P	**Pn**	**19 46 20.5**	**-0.2**
	SNR=47						
ARNB				*e*S	**Sn**	**19 46 55.3**	**-1.3**
	comp=E,26nm,0.3s,SNR=49						
ARNB	**Al Arnab**	**3.06**	**62**	*e*P	**Pn**	**19 46 20.5**	**-0.2**
ARNB				*e*S	**Sn**	**19 46 55.3**	**-1.3**
ARNB				AML	AML	19 46 58.5	
	comp=E,44nm,0.6s						
ARNB				AML	AML	19 47 03.1	
	comp=N,26nm,0.3s						
BIDA	**Albida**	**3.08**	**79**	*e*P	**Pn**	**19 46 20.7**	**-0.2**
	SNR=47						
BIDA				*e*S	**Sn**	**19 46 56.3**	**-0.8**
	comp=N,34nm,0.3s,SNR=49						
BIDA	**Albida**	**3.08**	**79**	*e*P	**Pn**	**19 46 20.7**	**-0.2**
BIDA				*e*S	**Sn**	**19 46 56.3**	**-0.8**
BIDA				AML	AML	19 47 01.4	
	comp=N,67nm,0.3s						
BIDA				AML	AML	19 47 03.1	
	comp=E,34nm,0.3s						
MMLI	**Mount Malkishu**	**3.08**	**130**	Pn	**Pn**	**19 46 21.1**	**+0.1**
MMLI				Sn	**Sn**	**19 46 56.9**	**-0.3**
MMLI	**Mount Malkishu**	**3.08**	**130**	Pn	**Pn**	**19 46 21.1**	**+0.1**
MMLI				Sn	**Sn**	**19 46 56.9**	**-0.3**
HAWK	**Haweek**	**3.11**	**88**	*e*P	**Pn**	**19 46 20.2**	**-1.1**
	SNR=47						
HAWK				*e*S	**Sn**	**19 46 57.3**	**-0.5**
	comp=E,32nm,0.5s,SNR=49						
HAWK	**Haweek**	**3.11**	**88**	*e*P	**Pn**	**19 46 20.2**	**-1.1**
HAWK				*e*S	**Sn**	**19 46 57.4**	**-0.5**
HAWK				AML	AML	19 47 04.3	
	comp=N,37nm,0.6s						
HAWK				AML	AML	19 47 08.0	
	comp=E,32nm,0.5s						

KOZT	**Kozan**	**3.96**	**40**	*e*Pn	**Pn**	**19 46 33.1**	**+0.1**
DALY	**Dalyan (Mu¨la**	**4.00**	**307**	*e*PN	**Pn**	**19 46 32.4**	**-1.1**
DALY	**Dalyan (Mu¨la**	**4.00**	**307**	*e*Pn	**Pn**	**19 46 32.4**	**-1.1**
KDHN	**Kadinhani**	**4.06**	**354**	*i* P	Pn	19 46 38.7	+4.2
KDHN	**Kadinhani**	**4.06**	**354**	*i* P	Pn	19 46 38.7	+4.2
ZALF	**Zalf**	**4.21**	**110**	*e*P	**Pn**	**19 46 37.3**	**+0.9**
	SNR=47						
ZALF				*e*S	**Sn**	**19 47 23.9**	**-1.0**
	comp=E,18nm,0.8s,SNR=49						
ZALF	**Zalf**	**4.21**	**110**	*e*P	**Pn**	**19 46 37.3**	**+0.9**
ZALF				*e*S	**Sn**	**19 47 23.9**	**-1.0**
ZALF				AML	AML	19 47 44.0	
	comp=N,18nm,0.8s						
RMNI	**Mount Ramon**	**4.26**	**155**	Pn	**Pn**	**19 46 37.6**	**+0.4**
RMNI	**Mount Ramon**	**4.26**	**155**	Pn	**Pn**	**19 46 37.6**	**+0.4**
KUZU	**Kuzuini**	**4.28**	**56**	*i* P	**Pn**	**19 46 37.3**	**-0.1**
KUZU				*i* S	**Sn**	**19 47 24.2**	**-2.4**
KUZU	**Kuzuini**	**4.28**	**56**	*i* P	**Pn**	**19 46 37.3**	**-0.1**
KUZU				*i* S	**Sn**	**19 47 24.2**	**-2.4**
YER	**Yerkesik**	**4.43**	**308**	*e*PN	**Pn**	**19 46 38.2**	**-1.3**
YER	**Yerkesik**	**4.43**	**308**	*e*Pn	**Pn**	**19 46 38.2**	**-1.3**
HHAG	**Hagoal**	**4.53**	**186**	P	**Pn**	**19 46 42.3**	**+1.4**
	baz=188						
HHAG				S	**Sn**	**19 47 34.0**	**+1.1**
	baz=188						
HHAG	**Hagoal**	**4.53**	**186**	P	**Pn**	**19 46 42.3**	**+1.4**
HHAG				S	**Sn**	**19 47 34.0**	**+1.1**
PRNI	**Paran**	**4.57**	**153**	Pn	**Pn**	**19 46 41.4**	**0.0**
PRNI	**Paran**	**4.57**	**153**	Pn	**Pn**	**19 46 41.4**	**0.0**
HNKL	**Nakhl**	**4.67**	**166**	P	**Pn**	**19 46 43.2**	**+0.4**
	baz=168						
HNKL	**Nakhl**	**4.67**	**166**	P	**Pn**	**19 46 43.2**	**+0.4**
KRMI	**Paran Flat**	**4.69**	**157**	Pn	**Pn**	**19 46 43.1**	**+0.1**
KRMI	**Paran Flat**	**4.69**	**157**	Pn	**Pn**	**19 46 43.1**	**+0.1**
HRFI	**Mount Harif**	**4.87**	**155**	Pn	**Pn**	**19 46 45.2**	**-0.3**
HRFI	**Mount Harif**	**4.87**	**155**	Pn	**Pn**	**19 46 45.2**	**-0.3**
BDRM	**Kayabasi**	**4.96**	**303**	*i* P	**Pn**	**19 46 47.1**	**+0.4**
BDRM	**Kayabasi**	**4.96**	**303**	*i* P	**Pn**	**19 46 47.1**	**+0.4**
BODT	**Bodrum**	**5.05**	**302**	*e*PN	**Pn**	**19 46 47.1**	**-0.8**
BODT	**Bodrum**	**5.05**	**302**	*e*Pn	**Pn**	**19 46 47.1**	**-0.8**
EIL	**Elat**	**5.17**	**157**	Pn	**Pn**	**19 46 50.0**	**+0.3**
EIL	**Elat**	**5.17**	**157**	Pn	**Pn**	**19 46 50.0**	**+0.3**
DARE	**Darende-Malaty**	**5.65**	**42**	*e*PN	**Pn**	**19 46 57.5**	**+1.2**
DARE	**Darende-Malaty**	**5.65**	**42**	*e*Pn	**Pn**	**19 46 57.5**	**+1.2**
MALT	**Malatya**	**6.04**	**49**	*e*PN	**Pn**	**19 47 02.3**	**+0.7**
MALT	**Malatya**	**6.04**	**49**	*e*Pn	**Pn**	**19 47 02.3**	**+0.7**
HKAT	**Jabal Katrina**	**6.04**	**169**	P	**Pn**	**19 47 01.8**	**0.0**
	baz=170						
HKAT	**Jabal Katrina**	**6.04**	**169**	P	**Pn**	**19 47 01.8**	**0.0**
TR2		**6.14**	**171**	P	**Pn**	**19 47 02.8**	**-0.2**
	baz=173						
TR2		**6.14**	**171**	P	**Pn**	**19 47 02.8**	**-0.2**
CANT	**Cankiri**	**6.17**	**7**	*e*PN	**Pn**	**19 47 04.8**	**+1.4**
SHRM		**6.68**	**169**	P	**Pn**	**19 47 10.0**	**-0.4**
	baz=170						
SHRM		**6.68**	**169**	P	**Pn**	**19 47 10.0**	**-0.4**

IDC 02 19:48:56.9±2.9, 7.°61S×128.°44E, h0km, mb1 3.9/3, mb1mx3.4/36, mbtmp3.6/3, ML3.4/3, Error ellipse: s-maj=51.7km s-min=32.9km az=55.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.64**	**242**	P	Pb	19 50 22.4	+3.1
	baz=4.5,SNR=4.9						
BATI	**Baumata**	**5.38**	**241**	Pn	Pn	19 50 18.0	-0.4
	1.1nm,0.3s,baz=296,slow=3.0,SNR=4.6						
BATI				Sn	Sb	19 51 39.0	+2.0
	3.8nm,0.3s,baz=205,slow=22,SNR=6.6						
MTN	**Manton Dam**	**5.83**	**153**	P	Pb	19 50 34.0	-5.6
	baz=4.0,SNR=8.2						
MTN				S	Sn	19 51 40.8	+8.4
	baz=4.0,SNR=5.3						
KDU	**Kakadu**	**6.42**	**142**	P	Pn	19 50 39.1	+6.4
	baz=4.8,SNR=33						
KDU				S	Sn	19 51 51.0	+4.2
	baz=4.8,SNR=4.2						
WSI	**Waingapu**	**8.30**	**255**	S	Sb	19 53 06.4	+5.2
	baz=8.4,SNR=6.4						
WRA	**Warramunga Arr**	**13.53**	**156**	Pn	Pn	19 52 10.6	+0.4
	0.2nm,0.3s,baz=342,slow=13,SNR=11						
WRA				Sn	Sn	19 54 41.7	+0.3
	0.1nm,0.3s,baz=329,slow=24,SNR=3.9						
ASAR	**Alice Springs**	**16.80**	**162**	Pn	Pn	19 52 53.9	+0.2
	0.3nm,0.3s,baz=338,slow=9.7,SNR=46						
ASAR				Sn	Sn	19 56 02.4	+1.3
	0.0nm,0.3s,baz=354,slow=24,SNR=3.4						
FINES	**FINESS Array B**	**102.56**	**331**	P	Pdif	20 02 55.0	-0.1
	4.0nm,1.0s,baz=88,slow=3.5,SNR=7.6						

*ISCJB **02** 19:50:09.5±0.7, 18.°18N±0.°09×146.°0E±0.°1, h10km, mb4.3/15, Error ellipse: s-maj=16.8km s-min=12.3km az=6.9*
*IDC **02** 19:50:09.9±0.7, 18.°15N×146.°02E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.8/47, mbtmp4.0/10, Error ellipse: s-maj=27.9km s-min=16.8km az=109.0*
*NEIC **02** 19:50:15.0±0.5, 18.°18N×145.°98E, h35km, mb4.7/5, Error ellipse: s-maj=14.8km s-min=11.9km az=103.0*

ISC 02 19:50:11.5±0.7, 18.°2N±0.°1×146.°0E±0.°1, h10km, n22, σ1°21/22, mb4.2/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**23.49**	**289**	P	**P**	**19 55 21.9**	**+0.3**
YHNB	**Yeheng**	**23.78**	**290**	*e*P	**P**	**19 55 26.0**	**+1.5**
	22nm,0.7s						
KKM	**Kota Kinabalu**	**31.43**	**251**	*e*P	**P**	**19 56 34.0**	**+0.6**
	6.9nm,0.6s						
QIZ	**Qiongzhong**	**34.22**	**277**	P	**P**	**19 56 56.3**	**-1.4**
	67nm,1.8s						
BATI	**Baumata**	**35.77**	**220**	P	**P**	**19 57 10.5**	**-0.5**
	7.0nm,0.5s,baz=242,slow=1.6,SNR=4.6						
WRAB	**Tennant Creek**	**39.54**	**197**	*e*P	**P**	**19 57 43.4**	**+0.6**
	10nm,1.0s						
WRA	**Warramunga Arr**	**39.55**	**197**	P	**P**	**19 57 44.0**	**+1.1**
	3.2nm,0.7s,baz=18,slow=8.9,SNR=25						
ASAR	**Alice Springs**	**43.21**	**196**	P	**P**	**19 58 13.4**	**+0.5**
	0.7nm,0.4s,baz=16,slow=6.8,SNR=24						
CMAR	**Chiang Mai Arr**	**44.55**	**278**	P	**P**	**19 58 24.9**	**+1.0**
	3.1nm,0.9s,baz=69,slow=8.1,SNR=15						
KULM	**Kulim**	**46.05**	**260**	*e*P	**P**	**19 58 36.7**	**+0.9**
MBWA	**Marble Bar**	**46.78**	**215**	*e*P	**P**	**19 58 41.1**	**-0.2**
	3.5nm,0.4s						
STKA	**Stephens Creek**	**49.93**	**185**	P	**P**	**19 59 03.6**	**-1.9**
	1.2nm,0.4s,baz=352,slow=7.1,SNR=12						
LSA	**Lhasa**	**51.01**	**294**	P	**P**	**19 59 14.6**	**+0.2**
MKAR	**Makanchi Array**	**59.02**	**314**	P	**P**	**20 00 11.1**	**-0.6**
	0.2nm,0.3s,baz=84,slow=8.6,SNR=8.5						
KURK	**Kurchatov**	**61.85**	**318**	P	**P**	**20 00 28.9**	**-1.9**
TKM2	**Tokmak 2**	**63.59**	**309**	P	**P**	**20 00 40.9**	**-2.0**
ILAR	**Eielson Array**	**64.01**	**26**	P	**P**	**20 00 43.7**	**-1.3**
	0.3nm,0.6s,baz=255,slow=5.7,SNR=6.2						
YKA	**Yellowknife Ar**	**78.34**	**28**	P	**P**	**20 02 12.2**	**+0.5**
	0.5nm,0.6s,baz=288,slow=5.6,SNR=8.9						
RES	**Resolute Bay**	**79.88**	**14**	P	**P**	**20 02 19.2**	**-0.8**
NVAR	**Mina Array Bea**	**83.26**	**52**	P	**P**	**20 02 40.8**	**+1.9**
	0.8nm,0.5s,baz=278,slow=6.3,SNR=7.2						
FINES	**FINESS Array B**	**87.48**	**335**	P	**P**	**20 02 59.8**	**+0.7**
	0.7nm,0.5s,baz=53,slow=7.1,SNR=5.7						
LPAZ	**La Paz**	**147.40**	**92**	PKPbc	**PKPdf**	**20 09 55.9**	**+1.1**
	1.4nm,0.6s,baz=18,slow=1.8,SNR=4.6						

GUC 02 19:53:27.5±0.4, 34.°17S×72.°24W, h16km±44km, ML3.9, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.25**	**24**	*e*P	Pb	19 53 50.6	-0.1
CHCH	**Chadas Angostu**	**1.34**	**80**	⇓*i*P	Pb	19 53 52.6	+0.3
CACH	**El Canelo**	**1.36**	**88**	⇑*i*P	Pg	19 53 53.4	-0.6
RCDM	**Rinconada Maip**	**1.38**	**61**	*e*P	Pb	19 53 53.0	+0.1
RCDM				*e*S	Sg	19 54 12.2	+0.2
RCDM				AML	AML	19 54 21.4	
	comp=N,2μm,0.6s						
ANTU	**Antumapu**	**1.47**	**66**	*e*P	Pb	19 53 54.3	-0.2
ANTU				*e*S	Sg	19 54 14.8	-0.2
ANTU				AML	AML	19 54 22.9	
	comp=E,3μm,0.6s						
PEL	**Peldehue**	**1.66**	**52**	⇓*i*P	Pb	19 53 57.7	0.0
PEL				*i* S	Sg	19 54 20.4	-0.6
PEL				AML	AML	19 54 32.9	
	comp=N,3μm,0.4s						

GUC 02 20:02:06.4±0.3, 33.°53S×72.°27W, h23km±7km, ML3.7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.73**	**47**	*e*P	Pb	20 02 20.8	+0.4
IHA				*i* S	Sn	20 02 31.5	-0.2
RCDM	**Rinconada Maip**	**1.22**	**89**	*e*P	Pb	20 02 28.8	-0.1
RCDM				*i* S	Sb	20 02 46.1	+1.7
RCDM				AML	AML	20 02 48.4	
	comp=N,3μm,0.3s						
STL	**Santa Lucia**	**1.36**	**87**	*e*P	Pb	20 02 31.7	+0.4
STL				*i* S	Sb	20 02 50.9	+2.5
ANTU	**Antumapu**	**1.37**	**92**	*i* P	Pb	20 02 31.4	0.0
ANTU				*i* S	Sb	20 02 50.3	+1.8
ANTU				AML	AML	20 02 56.8	
	comp=E,3μm,0.4s						
PEL	**Peldehue**	**1.38**	**74**	*e*P	Pb	20 02 31.7	0.0
PEL				*i* S	Sb	20 02 50.9	+1.9
CHCH	**Chadas Angostu**	**1.41**	**107**	*e*P	Pb	20 02 31.9	-0.2
CHCH				*i* S	Sb	20 02 51.8	+2.1
CACH	**El Canelo**	**1.51**	**113**	*e*P	Pb	20 02 34.7	+0.7
CACH				*i* S	Sb	20 02 56.1	+3.3

*ISCJB **02** 20:11:13.0±0.2, 43.°97N±0.°02×105.°32W±0.°02, h0km, mb3.6/1, Error ellipse: s-maj=2.3km s-min=2.1km az=150.2*
*NEIC **02** 20:11:13.5±0.5, 44.°03N×105.°17W, h0km, ML3.2, Error ellipse: s-maj=8.6km s-min=6.7km az=161.0, Suspected Mining explosion.*
NEIC 40 km [25 miles] SE of Gillette.
*IDC **02** 20:11:13.8±1.4, 44.°03N×105.°40W, h0km, mb3.7/1, mb1 3.5/6, mb1mx3.3/43, mbtmp3.3/6, ML2.7/4, Error ellipse: s-maj=40.9km s-min=8.2km az=146.0*

ISC 02 20:11:13.3±0.7, 43.°97N±0.°02×105.°29W±0.°02, h0km, n101, σ0°75/107, 33C-29D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.12**	**265**	P	**Pg**	**20 11 16.7**	**+1.0**
	baz=0.2,SNR=1000						
I24A	**Kuemmerle Ranc**	**0.49**	**103**	P	**Pg**	**20 11 23.1**	**+0.3**
	baz=0.4,SNR=154						
H23A	**Clabaugh Cattl**	**0.60**	**352**	P	**Pg**	**20 11 25.2**	**+0.5**
	baz=0.6,SNR=20						
J23A	**Dilts Ranch, B**	**0.60**	**199**	⇓P	**Pg**	**20 11 24.9**	**+0.1**
	baz=0.7,SNR=26						
J23A				⇑S	**Sg**	**20 11 32.7**	**+0.2**
	baz=0.7						
J24A	**Dixon Ranch, L**	**0.79**	**144**	P	**Pg**	**20 11 28.5**	**+0.2**
	baz=0.8,SNR=165						
I22A	**9 Mile Ranch,**	**0.87**	**265**	⇑P	**Pg**	**20 11 29.9**	**0.0**
	baz=1.0,SNR=248						
I22A				⇓S	**Sg**	**20 11 41.3**	**+0.2**
	baz=1.0						
RSSD	**Black Hills**	**0.92**	**80**	*e*Pg	**Pg**	**20 11 30.4**	**-0.5**
H24A	**Dirks Ranch, A**	**0.94**	**34**	P	**Pg**	**20 11 31.1**	**-0.2**
	baz=0.8,SNR=117						
H22A	**Clearmont**	**0.98**	**310**	P	**Pg**	**20 11 32.5**	**+0.3**
	baz=1.0,SNR=177						
J22A	**Midwest**	**1.03**	**238**	P	**Pg**	**20 11 32.2**	**-0.8**
	baz=1.1,SNR=57						
J22A				⇓S	**Sg**	**20 11 46.6**	**+0.4**
	baz=1.1						
I25A	**Rochford**	**1.12**	**87**	P	**Pg**	**20 11 34.6**	**-0.3**
	baz=1.0,SNR=160						
I25A				⇓S	**Sb**	**20 11 51.1**	**+0.1**
	baz=1.0						
J25A	**Sunshine Ranch**	**1.23**	**118**	⇓P	**Pg**	**20 11 36.4**	**-0.4**
	baz=1.2,SNR=133						
G23A	**Biddle**	**1.23**	**357**	⇑P	**Pg**	**20 11 36.6**	**-0.3**
	baz=1.2,SNR=246						
K23A	**Bowen Ranch, D**	**1.24**	**191**	⇑P	**Pg**	**20 11 36.3**	**-0.7**
	baz=1.3,SNR=20						
K24A	**Anderson Ranch**	**1.29**	**164**	⇓P	**Pg**	**20 11 37.6**	**-0.5**
	baz=1.3,SNR=26						
K24A				⇑S	**Sb**	**20 11 56.3**	**+0.5**
	baz=1.3						
H25A	**Fruitdale**	**1.38**	**61**	⇑P	**Pg**	**20 11 39.1**	**-0.6**
	baz=1.3,SNR=56						
H21A	**Big Horn, Sher**	**1.42**	**298**	⇓P	**Pn**	**20 11 40.0**	**-0.5**
	baz=1.5,SNR=58						
G22A	**Birney**	**1.44**	**331**	⇑P	**Pn**	**20 11 40.1**	**-0.6**
	baz=1.4,SNR=92						
I21A	**Big Trails, Te**	**1.46**	**264**	P	**Pn**	**20 11 39.6**	**-1.4**
	baz=1.5,SNR=248						
G24A	**Alzada**	**1.49**	**24**	⇓P	**Pn**	**20 11 41.3**	**-0.2**
	baz=1.4,SNR=100						
K22A	**Casper**	**1.60**	**215**	⇑P	**Pn**	**20 11 42.4**	**-0.6**
	baz=1.7,SNR=237						
K22A				⇑S	**Sn**	**20 12 04.4**	**0.0**
	baz=1.7						
K22A	**Casper**	**1.60**	**215**	*e*Pn	**Pn**	**20 11 42.2**	**-0.8**
J21A	**Lysite**	**1.69**	**249**	P	**Pn**	**20 11 43.6**	**-0.6**
	baz=1.8,SNR=38						
J21A				⇓S	**Sn**	**20 12 06.2**	**-0.4**
	baz=1.8						
K25A	**Mack Ranch, Ha**	**1.71**	**142**	⇓P	**Pn**	**20 11 44.7**	**+0.2**
	baz=1.7,SNR=26						
J26A	**Sides Ranch, S**	**1.74**	**111**	P	**Pn**	**20 11 45.1**	**+0.3**
	baz=1.7,SNR=77						
F23A	**Volborg**	**1.75**	**357**	⇑P	**Pn**	**20 11 45.4**	**+0.4**
	baz=1.7,SNR=107						
I26A	**New Underwood**	**1.75**	**87**	⇓P	**Pb**	**20 11 46.2**	**-0.2**
	baz=1.7,SNR=48						
G25A	**Newell**	**1.81**	**47**	⇓P	**Pb**	**20 11 46.9**	**-0.5**
	baz=1.7,SNR=47						
G21A	**Lodge Grass**	**1.86**	**313**	⇑P	**Pn**	**20 11 46.9**	**+0.4**
	baz=1.9,SNR=96						
G21A				⇑S	**Sn**	**20 12 11.5**	**+0.8**
	baz=1.9						
L23A	**Garrett**	**1.88**	**189**	P	**Pn**	**20 11 46.8**	**-0.1**
	baz=2.0,SNR=50						
H26A	**Fairpoint**	**1.92**	**69**	⇑Pb	**Pb**	**20 11 49.3**	**+0.1**
	baz=1.8						
F22A	**Rosebud**	**1.94**	**340**	⇓P	**Pn**	**20 11 47.4**	**-0.2**
	baz=1.9,SNR=66						
F22A				⇑Sb	**Sg**	**20 12 15.8**	**+0.3**
	baz=1.9						
L24A	**Wheatland**	**1.94**	**172**	⇑P	**Pn**	**20 11 48.1**	**+0.4**
	baz=2.0						
K21A	**Alcova**	**1.96**	**228**	⇓P	**Pn**	**20 11 48.2**	**+0.2**
	baz=2.1,SNR=93						
K21A				⇑S	**Sn**	**20 12 13.4**	**0.0**
	baz=2.1						
F24A	**Ekalaka**	**1.97**	**17**	⇑P	**Pn**	**20 11 48.4**	**+0.3**
	baz=1.9,SNR=26						
F24A				⇓S	**Sb**	**20 12 15.1**	**-0.1**
	baz=1.9						
K26A	**Motz Farm, Whi**	**2.00**	**129**	⇑P	**Pn**	**20 11 48.8**	**+0.4**
	baz=2.0,SNR=28						
I20A	**Worland**	**2.05**	**270**	⇑P	**Pn**	**20 11 49.5**	**+0.4**
	baz=2.1,SNR=88						
I20A				⇑S	**Sn**	**20 12 15.8**	**+0.3**
	baz=2.1						
L25A	**Engebretsen Ra**	**2.06**	**151**	⇑P	**Pn**	**20 11 50.1**	**+0.8**
	baz=2.1,SNR=15						
L22A	**Ellis Ranch, M**	**2.11**	**204**	⇓P	**Pn**	**20 11 50.5**	**+0.3**
	baz=2.2,SNR=63						
J20A	**Shoshoni**	**2.12**	**254**	⇑Pb	**Pb**	**20 11 51.8**	**-0.9**
	baz=2.2						
G26A	**Maurine**	**2.33**	**55**	⇑P	**Pn**	**20 11 54.3**	**+1.3**
	baz=2.2,SNR=108						
G26A				⇓Sb	**Sg**	**20 12 27.6**	**-0.6**
	baz=2.2						
I27A	**Quinn**	**2.34**	**86**	⇑Pb	**Pb**	**20 11 56.3**	**-0.1**
	baz=2.2						
F25A	**Bowman**	**2.35**	**33**	⇑P	**Pn**	**20 11 54.5**	**+1.2**
	baz=2.3,SNR=23						
H27A	**Howes**	**2.40**	**73**	⇓P	**Pn**	**20 11 55.3**	**+1.4**
	baz=2.3						
G20A	**Bridger**	**2.43**	**302**	P	**Pn**	**20 11 54.3**	**-0.1**
	baz=2.5,SNR=147						
J27A	**Elkhorn Farm,**	**2.49**	**106**	⇑P	**Pn**	**20 11 56.5**	**+1.3**
	baz=2.4						
E22A	**Miles City**	**2.51**	**350**	⇓P	**Pn**	**20 11 55.3**	**-0.1**
	baz=2.5,SNR=8.9						
M23A	**Laramie**	**2.52**	**187**	⇓P	**Pn**	**20 11 56.1**	**+0.3**
	baz=2.6						
M24A	**Cheyenne**	**2.52**	**172**	⇑P	**Pn**	**20 11 56.2**	**+0.5**
	baz=2.6,SNR=52						
E23A	**Ismay**	**2.53**	**360**	⇑P	**Pn**	**20 11 55.9**	**+0.2**
	baz=2.5,SNR=9.0						
K27A	**Flueckinger Fa**	**2.56**	**119**	⇓P	**Pn**	**20 11 56.7**	**+0.5**
	baz=2.5,SNR=16						
I19A	**Meeteetse**	**2.67**	**273**	⇑P	**Pn**	**20 11 58.3**	**+0.4**
	baz=2.7,SNR=13						
E24A	**Baker**	**2.68**	**15**	P	**Pn**	**20 11 58.5**	**+0.7**
	baz=2.6,SNR=31						
M25A	**Palm-Egli Farm**	**2.69**	**160**	⇓P	**Pn**	**20 11 59.2**	**+1.2**
	baz=2.7						
F20A	**Billings**	**2.73**	**313**	P	**Pn**	**20 11 58.3**	**-0.2**
	baz=2.8,SNR=25						
H19A	**Powell**	**2.74**	**286**	⇓P	**Pn**	**20 11 58.7**	**-0.1**
	baz=2.8						
LAO	**LASA Array**	**2.80**	**347**	*e*Pn	**Pn**	**20 11 59.3**	**-0.1**
E21A	**Keefer Ranch,**	**2.86**	**334**	⇑P	**Pn**	**20 12 00.3**	**+0.1**
	baz=2.8						
RLMT	**Red Lodge**	**3.07**	**293**	*e*Pn	**Pn**	**20 12 03.3**	**+0.1**
N23A	**Red Feather La**	**3.11**	**189**	⇓P	**Pn**	**20 12 04.7**	**+0.8**
	baz=3.2,SNR=22						
D23A	**Lindsay**	**3.20**	**1**	⇓P	**Pn**	**20 12 05.7**	**+0.7**
	baz=3.1,SNR=26						
F19A	**Roth Farm, Mol**	**3.21**	**307**	⇓P	**Pn**	**20 12 05.4**	**+0.4**
	baz=3.2,SNR=93						
D24A	**Glendive**	**3.22**	**12**	⇑P	**Pn**	**20 12 06.2**	**+1.0**
	baz=3.1,SNR=12						
H18A	**Shoshone NF, C**	**3.22**	**284**	⇓P	**Pn**	**20 12 05.1**	**-0.2**
	baz=3.3,SNR=23						
PDAR	**Pinedale Array**	**3.34**	**250**	Pn	**Pn**	**20 12 09.9**	**+3.0**
	2.8nm,0.3s,baz=70,slow=16,SNR=54						
PDAR				Lg	Lg	20 12 56.8	
	7.2nm,0.3s,baz=68,slow=33,SNR=17						
BW06	**Boulder Array**	**3.34**	**250**	*e*Pn	**Pn**	**20 12 07.3**	**+0.4**
GCMT	**Greycliff**	**3.60**	**302**	*e*Pn	**Pn**	**20 12 11.0**	**+0.4**
D20A	**Manuel Ranch,**	**3.71**	**328**	⇓P	**Pn**	**20 12 11.8**	**-0.1**
	baz=3.7,SNR=16						
N27A	**Anderson Farm,**	**3.76**	**146**	P	**Pn**	**20 12 13.5**	**+0.8**
	baz=3.8,SNR=7.3						
H17A	**Grant Village**	**3.83**	**278**	*e*Pn	**Pn**	**20 12 14.8**	**+1.1**
C23A	**Lambert**	**3.83**	**1**	⇑P	**Pn**	**20 12 14.9**	**+1.3**
	baz=3.8,SNR=80						
OGNE	**Ogallala**	**3.87**	**140**	*e*Pn	**Pn**	**20 12 14.4**	**+0.3**
YFT	**Old Faithful**	**4.02**	**279**	P	**Pn**	**20 12 18.5**	**+2.2**
YMR	**Madison River**	**4.13**	**282**	Pn	**Pn**	**20 12 18.1**	**+0.2**
AHID	**Auburn Hatcher**	**4.40**	**256**	*e*Pn	Pn	20 12 25.1	+3.5
O20A	**White River Ci**	**4.42**	**211**	*e*Pn	**Pn**	**20 12 22.8**	**+0.9**
DGMT	**Dagmar**	**4.56**	**9**	*e*Pn	**Pn**	**20 12 24.8**	**+1.1**
BRSD	**Miller**	**4.58**	**82**	*e*Pn	Pn	20 12 19.8	-4.0
P26A	**Davis Ranch, A**	**4.64**	**161**	P	**Pn**	**20 12 25.6**	**+0.8**
	baz=4.7,SNR=14						
EGMT	**Eagleton**	**5.11**	**324**	*e*Pn	**Pn**	**20 12 30.4**	**-0.7**
	17nm,0.5s						
Q26A	**Hugo**	**5.21**	**165**	⇑P	**Pn**	**20 12 32.7**	**0.0**
	baz=5.3,SNR=8.4						
TCUT	**Toone Canyon**	**5.34**	**240**	*e*Pn	**Pn**	**20 12 33.7**	**-0.8**
	15nm,0.6s						
HRY	**Holter Researc**	**5.36**	**303**	*e*Pn	**Pn**	**20 12 34.7**	**0.0**
	18nm,0.5s						
LRM	**Limekiln Ridge**	**5.41**	**292**	*e*Pn	**Pn**	**20 12 34.4**	**-1.1**
	44nm,0.5s						
MCMT	**McKenzie Canyo**	**5.48**	**282**	*e*Pn	Pn	20 12 42.4	+5.9
	1.5nm,0.6s						
DAU	**Daniels Canyon**	**5.68**	**233**	*e*Pn	Pn	20 12 44.8	+5.6
	0.4nm,0.6s						
R26A	**Arlington**	**5.83**	**166**	⇓P	**Pn**	**20 12 41.2**	**+0.1**
	baz=5.9,SNR=18						
BGNE	**Belgrade**	**5.85**	**113**	Pn	Pn	20 12 45.6	+4.3
	32nm,0.4s						
HVU	**Hansel Valley**	**5.92**	**251**	*e*Pn	Pn	20 12 46.9	+4.5
	2.1nm,0.5s						
SRU	**San Rafael Swe**	**6.24**	**221**	*e*Pn	**Pn**	**20 12 46.7**	**-0.1**
	10nm,0.5s						
ECSD	**EROS Data Cent**	**6.28**	**89**	*e*Pn	**Pn**	**20 12 47.1**	**-0.1**
	10nm,0.5s						
CHMT	**Chamberlain Mo**	**6.33**	**300**	*e*Pn	**Pn**	**20 12 48.0**	**0.0**
	3.8nm,0.4s						
TMUT	**Trail Mountain**	**6.44**	**226**	*e*Pn	**Pn**	**20 12 50.2**	**+0.6**
	7.8nm,0.6s						
YBMT	**Yellow Bay**	**7.22**	**306**	*e*Pn	**Pn**	**20 13 00.9**	**+0.7**
	6.1nm,0.5s						
JTMT	**Jette**	**7.33**	**304**	*e*Pn	**Pn**	**20 13 02.2**	**+0.6**
	1.8nm,0.5s						
ELK	**Elko**	**8.04**	**250**	Pn	**Pn**	**20 13 13.5**	**+1.9**
	0.1nm,0.3s,baz=335,slow=3.2,SNR=3.6						
I10CA	**LAC DU BONNET**	**8.87**	**42**	*i*		21 06 40.0	
	baz=224,slow=328,SNR=4.4						
ULM	**Lac du Bonnet**	**8.98**	**42**	Pn	**Pn**	**20 13 23.0**	**-1.1**
	1.4nm,0.3s

JZK				*e*S	Sn	20 39 38.4	+2.2
JOGS	**Gusukube**	**3.12**	**247**	P	Pn	20 39 13.0	+0.4
JTAJ	**Takarajima**	**3.19**	**10**	P	Pn	20 39 14.2	+0.7
JTAJ				*e*S	Sn	20 39 49.8	-0.5
JIRB	**Irabujima**	**3.29**	**250**	P	Pn	20 39 14.5	-0.5
JIRB				*e*S	Sn	20 39 50.4	-2.5
JTJ	**Tarama**	**3.76**	**250**	P	Pn	20 39 20.8	-0.6
JTJ				*e*S	Sn	20 40 01.9	-2.5
JISG	**Ishigakijimahi**	**4.11**	**251**	P	Pn	20 39 25.3	-0.9
JISG				*e*S	Sn	20 40 09.4	-3.7
JIJ	**Ishigaki jima**	**4.34**	**249**	P	Pn	20 39 27.9	-1.4
JIJ				*e*S	Sn	20 40 15.4	-3.2
JKRS	**Kuro-shima**	**4.50**	**248**	P	Pn	20 39 33.5	+2.0
JKRS				*e*S	Sn	20 40 21.3	-1.3
JYAK	**Yakushimahirau**	**4.55**	**22**	P	Pn	20 39 32.7	+0.4
JYAK				*e*S	Sn	20 40 21.9	-2.0

*IDC **02** 20:39:17.2±2.2, 34.°49S×72.°18W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/25, mbtmp3.9/6, ML3.2/2, MS3.0/2, Ms1 3.1/2, ms1mx2.9/30, Error ellipse: s-maj=58.7km s-min=33.1km az=166.0*
*GUC **02** 20:39:18.1±0.6, 33.°85S×72.°60W, h37km±4km, ML3.8*
ISC 02 20:39:20.7±1.4, 34.°3S±0.°2×72.°2W±0.°1, h16km, n15, σ1°04/16, mb3.9/4, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.72**	**63**	⇓*i*P	**Pn**	**20 39 35.8**	**-0.3**
CHCH	**Chadas Angostu**	**1.32**	**75**	⇓*i*P	**Pb**	**20 39 45.4**	**+0.3**
RCDM	**Rinconada Maip**	**1.39**	**55**	*e*S	**Sb**	**20 40 04.5**	**+0.6**
RCDM				AML	AML	20 40 14.4	
	comp=N,3μm,1.0s						
ANTU	**Antumapu**	**1.47**	**61**	⇑*i*P	**Pb**	**20 39 47.8**	**+0.1**
ANTU				*i* S	**Sg**	**20 40 08.7**	**+0.4**
ANTU				AML	AML	20 40 13.2	
	comp=E,4μm,0.4s						
STL	**Santa Lucia**	**1.54**	**57**	*e*P	**Pn**	**20 39 46.9**	**-0.6**
STL				*i* S	**Sb**	**20 40 08.4**	**+0.4**
PEL	**Peldehue**	**1.69**	**48**	⇓*i*P	**Pn**	**20 39 48.0**	**-1.6**
PEL				AML	AML	20 40 04.0	
	comp=E,550nm,0.2s						
PACH	**Papudo**	**1.86**	**20**	⇑*i*P	Pn	20 39 46.2	-5.7
CFAA	**Coronel Fontan**	**4.26**	**52**	Pn	**Pn**	**20 40 27.2**	**+2.3**
	comp=E,0.2nm,0.3s,baz=227,slow=14,SNR=9.0						
CFAA				Sn	**Sb**	**20 41 24.9**	**-1.6**
	comp=E,0.7nm,0.3s,baz=275,slow=23,SNR=4.0						
CFAA				LR	LR	20 42 10.4	
	comp=E,52nm,19.6s,baz=248,slow=40						
CPUP	**Villa Florida**	**15.07**	**62**	LR	LR	20 48 41.0	
	comp=E,190nm,19.4s,baz=228,slow=37						
LPAZ	**La Paz**	**18.29**	**12**	P	**P**	**20 43 35.8**	**+1.3**
	comp=E,0.1nm,0.3s,baz=178,slow=9.5,SNR=4.0						
SIV	**San Ignacio**	**20.78**	**31**	P	**P**	**20 44 00.5**	**-0.7**
	comp=E,3.9nm,0.8s,baz=231,slow=12,SNR=5.5						
BDFB	**Brasilia**	**28.59**	**55**	P	**P**	**20 45 15.7**	**-0.7**
	comp=E,1.7nm,0.4s,baz=250,slow=4.1,SNR=3.0						
PDAR	**Pinedale Array**	**83.97**	**333**	P	**P**	**20 51 50.3**	**+0.2**
	comp=E,0.4nm,0.8s,baz=144,slow=6.3,SNR=3.5						
NVAR	**Mina Array Bea**	**84.06**	**325**	P	**P**	**20 51 50.8**	**+0.1**
	comp=E,0.1nm,0.3s,baz=142,slow=4.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**84.42**	**70**	P	**P**	**20 51 52.5**	**-0.2**
	comp=E,0.9nm,0.8s,baz=259,slow=3.3,SNR=4.4						

*ISCJB **02** 20:52:19.3±1.0, 11.°92N±0.°08×43.°73E±0.°08, h4km, Error ellipse: s-maj=15.5km s-min=4.0km az=42.3*
*CSEM **02** 20:52:19.8, 11.°99N×43.°82E, h10km, ML4.0*
*DHMR **02** 20:52:19.8±1.4, 11.°99N×43.°82E, h11km±15km, ML4.0*
*ARO **02** 20:52:21.0, 12.°N±3.°×4.°4E±.°, h15km±3km, ML4.0*
ISC 02 20:52:18.6±1.2, 11.°96N±0.°06×43.°76E±0.°07, h4km, n13, σ0°95/20, 3C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.45**	**273**	*e*P	**Pg**	**20 52 29.0**	**+1.6**
ATA	**Atar**	**0.74**	**227**	*e*P	**Pg**	**20 52 34.2**	**+1.5**
TDD	**Tadjoura Ara**	**0.84**	**260**	*e*P	**Pg**	**20 52 35.3**	**+0.5**
ATD	**Arta Tunnel**	**0.99**	**244**	*e*P	**Pg**	**20 52 37.6**	**0.0**
ATD				*e*S	**Sg**	**20 52 51.4**	**+1.0**
SGH	**Sud-Ghoubbet**	**1.22**	**245**	*e*P	**Pg**	**20 52 41.0**	**-0.9**
LDLD	**Lac de Lave**	**1.28**	**253**	*e*P	**Pg**	**20 52 42.3**	**-0.9**
TRBA	**At Turbah**	**1.31**	**16**	⇑*e*P	**Pg**	**20 52 43.7**	**-0.1**
TRBA				*i* S	**Sg**	**20 53 01.0**	**+0.1**
TRBA				AML	AML	20 53 05.8	
	comp=E,2μm,0.6s						
GBR	**Grand-Bara**	**1.50**	**238**	*e*P	**Pn**	**20 52 45.6**	**-0.8**
UDYN	**Al 'Udayn**	**2.01**	**6**	⇑*i*P	**Pn**	**20 52 54.0**	**+0.6**
UDYN				*i* S	**Sb**	**20 53 21.7**	**+0.5**
UDYN	**Al 'Udayn**	**2.01**	**6**	⇑*i*P	**Pn**	**20 52 54.0**	**+0.6**
UDYN				*i* S	**Sb**	**20 53 21.7**	**+0.5**
DHBB	**Dhamar BB**	**2.67**	**13**	*i* P	**Pb**	**20 53 05.7**	**-1.5**
DHBB				*i* S	**Sb**	**20 53 40.1**	**-0.4**
DHBB				AML	AML	20 53 52.6	
	comp=N,2μm,0.7s						
BDHA	**Al Bayda'**	**2.67**	**41**	*i* P	**Pn**	**20 53 03.9**	**+1.2**
BDHA				*i* S	**Sb**	**20 53 40.1**	**-0.3**
BDHA	**Al Bayda'**	**2.67**	**41**	*i* P	**Pn**	**20 53 03.9**	**+1.2**
BDHA				*i* S	**Sb**	**20 53 40.1**	**-0.3**

*IDC **02** 20:53:27.2±2.0, 2.°79S×128.°18E, h0km, mb3.3/2, mb1 3.8/3, mb1mx3.4/37, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=138.1km s-min=25.5km az=67.0*
*ISCJB **02** 20:53:34.3±0.7, 3.°48S±0.°08×127.°27E±0.°08, h38km, mb3.3/2, Error ellipse: s-maj=13.6km s-min=7.4km az=135.1*
*DJA **02** 20:53:36.5±0.5, 3.°S±7.°×12.°7E±.°, h34km±6km, M4.0/9, mb4.2/2, MLv4.0/9*
ISC 02 20:53:35.2±1.0, 3.°42S±0.°08×127.°26E±0.°09, h38km, n11, σ1°77/12, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.24**	**318**	P	**Pn**	**20 53 45.2**	**+1.5**
SANI	**Sanana**	**1.86**	**317**	P	**Pn**	**20 54 04.6**	**0.0**
SANI				S	**Sn**	**20 54 26.4**	**-0.5**
LBMI	**Labuha**	**2.77**	**5**	P	**Pn**	**20 54 18.9**	**+1.7**
BNDI	**Bandanaira**	**2.86**	**113**	P	**Pn**	**20 54 19.2**	**+0.9**
TNTI	**Ternate**	**4.16**	**1**	P	**Pn**	**20 54 37.7**	**+1.4**
SWI	**Sorong**	**4.74**	**58**	P	**Pn**	**20 54 44.4**	**+0.3**
APSI	**Ampana**	**6.14**	**294**	P	**Pn**	**20 55 06.1**	**+2.7**
	33nm,1.1s,0.1nm						
MRSI	**Marisa**	**6.58**	**306**	P	**Pn**	**20 55 12.3**	**+2.9**
WRA	**Warramunga Arr**	**17.82**	**158**	P	**Pn**	**20 57 40.0**	**-0.4**
	0.5nm,0.3s,baz=340,slow=11,SNR=38						
ASAR	**Alice Springs**	**21.13**	**163**	P	**P**	**20 58 16.6**	**-0.4**
	1.9nm,0.6s,baz=346,slow=12,SNR=33						
MKAR	**Makanchi Array**	**63.76**	**327**	P	**P**	**21 04 01.4**	**-2.0**
	0.1nm,0.6s,baz=118,slow=5.5,SNR=2.9						

*ISCJB **02** 20:57:43.7±0.5, 34.°15S±0.°06×72.°43W±0.°07, h19km, mb4.5/13, MS4.2/4, Error ellipse: s-maj=10.4km s-min=6.2km az=144.8*
*IDC **02** 20:57:43.8±0.7, 34.°20S×72.°12W, h0km, mb4.4/10, mb1 4.4/12, mb1mx4.2/31, mbtmp4.3/12, ML3.9/3, MS4.1/5, Ms1 4.0/5, ms1mx3.8/18, Error ellipse: s-maj=24.5km s-min=17.9km az=109.0*
*GUC **02** 20:57:45.7±0.6, 34.°39S×72.°15W, h40km±13km, ML4.8*
*NEIC **02** 20:57:48.1±2.0, 34.°05S×72.°31W, h36km±15km, mb4.9/9, Error ellipse: s-maj=19.8km s-min=9.4km az=81.0*
ISC 02 20:57:45.8±0.5, 34.°11S±0.°08×72.°25W±0.°07, h19km, n53, σ1°03/59, mb4.6/13, MS4.3/4, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**1.19**	**68**	*e*P	**Pg**	**20 58 07.7**	**-1.1**
ANTU	**Antumapu**	**1.45**	**69**	*e*P	**Pb**	**20 58 11.7**	**-0.6**
ANTU				*i* S	**Sg**	**20 58 31.2**	**-1.6**
ANTU				AML	AML	20 58 40.8	
	comp=E,14μm,0.5s						
SAN	**Santiago**	**1.48**	**64**	⇑*i*P	**Pb**	**20 58 12.6**	**0.0**
SAN				*i* S	**Sg**	**20 58 32.8**	**-0.8**
PEL	**Peldehue**	**1.62**	**54**	⇓*i*P	**Pb**	**20 58 14.8**	**-0.4**
PEL				*i* S	**Sg**	**20 58 37.6**	**-0.6**
PEL				AML	AML	20 58 45.4	
	comp=N,30μm,0.7s						
CFAA	**Coronel Fontan**	**4.20**	**55**	Pn	**Pn**	**20 58 50.7**	**+1.9**
	comp=N,1.7nm,0.3s,baz=234,slow=11,SNR=9.5						
CFAA				Lg	Lg	20 59 49.7	
	comp=N,2.6nm,0.3s,baz=270,slow=12,SNR=3.9						
PLCA	**Paso Flores**	**6.75**	**169**	Lg	Lg	21 01 14.2	
	comp=N,2.2nm,0.3s,baz=262,slow=23,SNR=2.6						
PLCA				LR	LR	21 01 26.6	
	comp=N,271nm,20.1s,baz=355,slow=34						
TRQA	**Tornquist**	**9.20**	**118**	Pn	Pn	21 00 00.2	+2.7
CPUP	**Villa Florida**	**15.04**	**63**	Pn	**Pn**	**21 01 17.8**	**+0.5**
	comp=N,0.4nm,0.3s,baz=170,slow=16,SNR=2.2						
CPUP				Sn	**Sn**	**21 04 05.7**	**+2.3**
	comp=N,0.6nm,0.3s,baz=200,slow=19,SNR=2.2						
CPUP	**Villa Florida**	**15.04**	**63**	Pn	Pn	21 01 11.1	-6.2
CPUP				Sn	**Sn**	**21 04 05.7**	**+2.3**
LPAZ	**La Paz**	**18.13**	**13**	P	**P**	**21 01 59.2**	**+1.7**
	comp=N,0.2nm,0.3s,baz=181,slow=9.8,SNR=15						
LPAZ	**La Paz**	**18.13**	**13**	*e*Pn	**P**	**21 01 55.8**	**-1.4**
	comp=N,14nm,1.0s						
EFI	**East Falkland**	**20.34**	**154**	*e*P	**P**	**21 02 19.9**	**-0.8**
	comp=N,100nm,1.3s						
SIV	**San Ignacio**	**20.66**	**32**	P	**P**	**21 02 24.9**	**+0.3**
	comp=N,17nm,1.0s,baz=226,slow=13,SNR=24						
USHA	**Ushuaia**	**20.89**	**174**	LR	LR	21 11 53.7	
	comp=N,422nm,19.6s,baz=22,slow=41						
SAML	**Samuel**	**26.39**	**21**	*e*P	**P**	**21 03 19.5**	**-1.6**
	comp=N,12nm,1.0s						
BDFB	**Brasilia**	**28.54**	**56**	P	**P**	**21 03 39.9**	**-0.6**
	comp=N,10nm,0.9s,baz=217,slow=6.2,SNR=11						
BDFB	**Brasilia**	**28.54**	**56**	*e*P	**P**	**21 03 38.6**	**-2.0**
SDV	**Santo Domingo**	**42.78**	**2**	*e*P	**P**	**21 05 42.3**	**-0.2**
RCBR	**Riachuelo**	**43.85**	**58**	P	**P**	**21 05 53.2**	**+2.1**
	comp=N,5.1nm,0.9s,baz=247,slow=9.7,SNR=3.0						
SNAA	**Sanae**	**51.55**	**158**	P	**P**	**21 06 50.8**	**+0.7**
	comp=N,5.4nm,1.0s,baz=247,slow=6.4,SNR=6.3						
SNAA	**Sanae**	**51.55**	**158**	*e*P	**P**	**21 06 50.4**	**+0.3**
	comp=N,49nm,1.5s						
QSPA	**South Pole Qui**	**56.13**	**180**	P	**P**	**21 07 25.1**	**+1.4**
	comp=N,8.8nm,1.0s,baz=132,slow=4.1,SNR=14						
QSPA	**South Pole Qui**	**56.13**	**180**	*e*P	**P**	**21 07 24.6**	**+0.8**
	comp=N,19nm,1.2s						
SYO	**Syowa Base**	**65.83**	**158**	⇑*e*P	**P**	**21 08 28.4**	**-1.0**
TXAR	**Lajitas Array**	**69.74**	**331**	P	P	21 08 58.3	+3.7
	comp=N,0.4nm,0.5s,baz=142,slow=11,SNR=6.1						
PPT	**Papeete**	**70.05**	**262**	LR	LR	21 32 17.6	
	comp=N,146nm,20.5s,baz=12,slow=30						
WVT	**Waverly**	**71.38**	**347**	*e*P	**P**	**21 09 04.1**	**-0.2**
	comp=N,14nm,0.9s						
MAW	**Mawson**	**73.13**	**164**	LR	LR	21 43 42.3	
	comp=N,248nm,18.1s,baz=246,slow=38						
DBIC	**Dimbokro**	**75.38**	**71**	P	**P**	**21 09 28.6**	**+0.1**
	comp=N,3.4nm,0.8s,baz=253,slow=6.0,SNR=4.0						
DBIC	**Dimbokro**	**75.38**	**71**	*e*P	**P**	**21 09 27.4**	**-1.1**
	comp=N,9.6nm,1.1s						
TSUM	**Tsumeb**	**79.36**	**106**	*e*P	**P**	**21 09 51.3**	**+0.4**
	comp=N,9.9nm,1.3s						
BOSA	**Boshof**	**80.18**	**118**	P	**P**	**21 09 56.0**	**+0.7**
	comp=N,4.5nm,0.9s,baz=212,slow=3.5,SNR=5.2						
BOSA				LR	LR	21 43 22.2	
	comp=N,155nm,18.2s,baz=192,slow=34						
SHPR	**Sheep Range**	**80.85**	**326**	P	**P**	**21 09 57.7**	**-0.8**
LBTB	**Lobatse**	**82.42**	**115**	*e*P	**P**	**21 10 07.5**	**+0.4**
	comp=N,16nm,1.4s						
PDAR	**Pinedale Array**	**83.78**	**333**	P	**P**	**21 10 15.2**	**+1.5**
	comp=N,0.9nm,1.1s,baz=80,slow=3.3,SNR=3.1						
TOA0	**Torodi Ar. Sit**	**84.41**	**70**	*e*P	**P**	**21 10 16.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**84.41**	**70**	P	**P**	**21 10 17.8**	**+0.4**
	comp=N,6.2nm,0.9s,baz=257,slow=4.3,SNR=25						
WRA	**Warramunga Arr**	**120.58**	**209**	PKP	**PKPdf**	**21 16 36.2**	**-0.6**
	comp=N,0.4nm,0.7s,baz=151,slow=1.7,SNR=4.6						
BRTR	**Keskin Array B**	**122.04**	**61**	PKP	**PKPdf**	**21 16 38.6**	**-0.5**
	comp=N,0.6nm,0.7s,baz=144,slow=2.3,SNR=3.2						
POO	**Poona**	**146.07**	**109**	*e*P	**PKPdf**	**21 17 24.0**	**-0.1**
VOSK	**Vostochnaya**	**147.92**	**43**	*e*PKPdf	**PKPdf**	**21 17 26.7**	**+0.5**
HYB	**Hyderabad**	**149.05**	**115**	*i* PKP	**PKPbc**	**21 17 32.0**	**-1.2**
KKAR	**Karatay Array**	**149.75**	**62**	*e*PKPbc	**PKPbc**	**21 17 33.7**	**-0.5**
EKS2	**Erkin-Say**	**152.19**	**62**	*e*PKPdf	**PKPdf**	**21 17 33.9**	**+0.6**
EKS2				*e*PKPbc	**PKiKP**	**21 17 40.9**	**+0.5**
EKS2				*e*PKPab	**PKPab**	**21 17 48.6**	**-1.3**
KSH	**Kashi**	**154.08**	**69**	PKPbc	**PKPbc**	**21 17 43.5**	**-0.8**
KSH				sPKP		21 17 57.6	
KSH				PP	**PP**	**21 21 32.5**	**-0.7**
KSH				AMB	AMB		
	comp=Z,160nm,4.4s						
KSH				LR	LR		
	comp=N,120nm,5.5s						
KSH				LR	LR		
	comp=E,93nm,5.3s						
KSH				LR	LR		
	comp=Z,140nm,5.5s						
ZAA0	**Zalesovo Array**	**154.41**	**32**	*e*PKPdf	**PKPdf**	**21 17 35.2**	**-0.8**
ZALV	**Zalesovo Beam**	**154.41**	**32**	PKP	**PKPdf**	**21 17 35.8**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=243,slow=1.7,SNR=6.0						
ZALV				PKPbc	**PKiKP**	**21 17 44.6**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=248,slow=7.8,SNR=3.7						
MKAR	**Makanchi Array**	**156.97**	**49**	PKP	**PKPdf**	**21 17 39.9**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=347,slow=2.6,SNR=4.6						
MKAR				PKPab	**PKPab**	**21 18 10.5**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=296,slow=3.9,SNR=10						
MKAR	**Makanchi Array**	**156.97**	**49**	*e*PKPdf	**PKPdf**	**21 17 39.2**	**-0.6**
MKAR				*e*PKPab	**PKPab**	**21 18 10.4**	**+0.5**
MK01	**Makanchi Array**	**156.99**	**49**	*e*PKPdf	**PKPdf**	**21 17 39.4**	**-0.3**
MK01				*e*PKPab	**PKPab**	**21 18 09.8**	**-0.3**
LSA	**Lhasa**	**165.24**	**103**	*e*PKPab	**PKPab**	**21 18 48.9**	**+1.7**
ULN	**Ulaanbaatar**	**166.25**	**2**	*e*PKPdf	**PKPdf**	**21 17 48.1**	**-1.4**
ULN				*e*PKPab	**PKPab**	**21 18 50.8**	**+0.3**
SONM	**Songino Array**	**166.25**	**4**	PKPab	**PKPab**	**21 18 51.1**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=325,slow=1.8,SNR=3.7						

*CSEM **02** 21:00:04.1±0.9, 49.°99N×18.°11E, h2km, Error ellipse: s-maj=34.9km s-min=12.9km az=37.0*
PRU 02 21:00:01.1, 50.°04N×18.°41E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.26**	**220**	*e*PG	Pg	21 00 06.4	+0.2
OKC				*e*SG	Sg	21 00 09.6	0.0
	4.2nm,0.5s						
OKC	**Ostrava-Krasne**	**0.26**	**220**	Pg	Pg	21 00 06.4	+0.2
OKC				Sg	Sg	21 00 09.6	0.0
	4.2nm,0.5s						
DPC	**Dobruska-Polom**	**1.38**	**284**	*e*PG	Pg	21 00 26.5	-1.1
DPC				*e*SG	Sg	21 00 45.3	-0.2
DPC	**Dobruska-Polom**	**1.38**	**284**	Pg	Pg	21 00 26.5	-1.1
DPC				Sg	Sg	21 00 45.3	-0.2

BUC 02 21:01:24.8±0.5, 45.°49N×24.°43E, h2km±7km, MD2.3/2, 6C-10D, Error ellipse: s-maj=8.1km s-min=3.0km az=5.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARR	**Arges**	**0.19**	**131**	⇓*i*P	Pg	21 01 29.0	+0.4
ARR				S	Sg	21 01 31.8	+0.6
ARR	**Arges**	**0.19**	**131**	⇓*i*P	Pg	21 01 29.0	+0.4
ARR				*i* S	Sg	21 01 31.8	+0.6
VOIR		**0.44**	**97**	⇓*i*P	Pg	21 01 33.7	+0.3
VOIR		**0.44**	**97**	S	Sg	21 01 39.8	+0.6
VOIR		**0.44**	**97**	⇓*i*P	Pg	21 01 33.7	+0.3
VOIR				*i* S	Sg	21 01 39.8	+0.6
LOT	**Lotru**	**0.47**	**265**	⇑*i*P	Pg	21 01 34.4	+0.5
LOT	**Lotru**	**0.47**	**265**	S	Sg	21 01 40.8	+0.7
LOT	**Lotru**	**0.47**	**265**	⇑*i*P	Pg	21 01 34.4	+0.5
LOT				*i* S	Sg	21 01 40.8	+0.7
LOT	**Lotru**	**0.47**	**265**	⇑*i*P	Pg	21 01 34.4	+0.5
DOPR	**Dopca**	**0.82**	**55**	⇓*i*P	Pb	21 01 41.8	-0.1
DOPR	**Dopca**	**0.82**	**55**	⇓*i*P	Pb	21 01 41.8	-0.1
DOPR				*i* S	Sb	21 01 52.7	-0.7
MLR	**Muntele Rosu**	**1.07**	**90**	⇑*i*P	Pb	21 01 46.3	+0.1
MLR	**Muntele Rosu**	**1.07**	**90**	⇑*i*P	Pb	21 01 46.3	+0.1
MLR				*i* S	Sn	21 02 02.0	-0.5
MLR	**Muntele Rosu**	**1.07**	**90**	⇑*i*P	Pb	21 01 46.3	+0.1
GZR	**Gura Zlata**	**1.17**	**266**	⇓*i*P	Pn	21 01 48.2	0.0
GZR	**Gura Zlata**	**1.17**	**266**	⇓*i*P	Pn	21 01 48.2	0.0
DRGR		**1.76**	**318**	⇓*i*P	Pb	21 01 57.7	-0.3
DRGR		**1.76**	**318**	⇓*i*P	Pb	21 01 57.7	-0.3
DRGR				*i* S	Sb	21 02 20.7	+0.1
BZS	**Buzias**	**1.98**	**275**	S	Sb	21 02 25.8	-0.8
BZS	**Buzias**	**1.98**	**275**	*i* S	Sb	21 02 25.8	-0.8

IDC 02 21:07:21.0±3.7, 35.°21S×71.°40W, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.7/25, mbtmp3.7/4, ML4.0/2, Error ellipse: s-maj=116.3km s-min=20.0km az=94.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.46**	**37**	Pn	Pn	21 08 29.0	-1.0
	0.0nm,0.3s,baz=270,slow=6.1,SNR=2.5						
PLCA	**Paso Flores**	**5.56**	**173**	Pn	Pn	21 08 45.2	+0.1
	1.1nm,0.3s,baz=333,slow=9.9,SNR=9.9						
PLCA				Lg	Lg	21 10 16.8	
	2.0nm,0.3s,baz=276,slow=17,SNR=5.0						
LPAZ	**La Paz**	**19.07**	**10**	P	P	21 11 45.0	-0.8
	0.2nm,0.3s,baz=204,slow=12,SNR=6.2						
SIV	**San Ignacio**	**21.25**	**28**	P	P	21 12 09.4	+0.5
	3.4nm,0.9s,baz=209,slow=10,SNR=5.1						
TORD	**Torodi Ar. Bea**	**84.13**	**70**	P	P	21 19 54.6	+0.4
	0.4nm,0.8s,baz=242,slow=5.3,SNR=4.4						

IDC 02 21:13:57.2±1.5, 34.°89S×72.°81W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.7/23, mbtmp3.6/5, ML3.9/2, Error ellipse: s-maj=49.2km s-min=21.3km az=79.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.10**	**164**	Pn	Pn	21 15 30.3	+1.6
	1.1nm,0.3s,baz=337,slow=15,SNR=7.6						
PLCA				Lg	Lg	21 17 10.3	
	0.6nm,0.3s,baz=259,slow=22,SNR=3.4						
LPAZ	**La Paz**	**19.00**	**14**	Pn	Pn	21 18 21.6	-0.3
	0.1nm,0.3s,baz=195,slow=8.3,SNR=2.2						
SIV	**San Ignacio**	**21.57**	**32**	P	P	21 18 49.1	+0.7
	2.2nm,0.7s,baz=216,slow=11,SNR=4.4						
TXAR	**Lajitas Array**	**70.21**	**332**	P	P	21 25 11.9	0.0
	0.2nm,0.7s,baz=149,slow=11,SNR=3.1						
TORD	**Torodi Ar. Bea**	**85.11**	**70**	P	P	21 26 34.8	-0.6
	0.9nm,0.6s,baz=263,slow=6.2,SNR=18						

*ISCJB **02** 21:21:08.1±1.7, 25.°90N±0.°04×128.°66E±0.°04, h7km±11km, mb3.9/16, MS3.7/3, Error ellipse: s-maj=6.5km s-min=5.8km az=39.3*
*JMA **02** 21:21:09.7±0.4, 25.°91N×128.°63E, h23km, M3.6*
*IDC **02** 21:21:11.0±0.9, 26.°12N×128.°65E, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.8/49, mbtmp3.9/15, ML3.2/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/30, Error ellipse: s-maj=30.4km s-min=14.7km az=73.0*
ISC 02 21:21:11.8±0.8, 25.°95N±0.°05×128.°60E±0.°05, h19km±2km, n42, σ1°82/47, mb4.0/16, MS3.8/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.77**	**317**	P	**Pb**	**21 21 24.6**	**-2.0**
JJT2	**Tamagusuku 2**	**0.79**	**284**	P	**Pb**	**21 21 25.2**	**-1.8**
JJT2				*e*S	**Sb**	**21 21 36.8**	**-0.5**
JOW	**Kunigami**	**0.93**	**342**	P	**Pb**	**21 21 28.0**	**-1.3**
JOW				*e*S	**Sb**	**21 21 40.1**	**-1.1**
JOW	**Kunigami**	**0.93**	**342**	Pn	**Pb**	**21 21 27.7**	**-1.6**
	8.4nm,0.3s,baz=146,slow=23,SNR=46						
JOW				Sn	**Sn**	**21 21 43.8**	**+1.1**
	34nm,0.3s,baz=124,slow=27,SNR=19						
JIH	**Iheya**	**1.22**	**332**	P	**Pn**	**21 21 32.7**	**-1.2**
JAGN	**Aguni-jima**	**1.38**	**298**	P	**Pn**	**21 21 34.0**	**-2.0**
JOKE	**Okinoerabujima**	**1.41**	**359**	P	**Pn**	**21 21 35.3**	**-1.2**
JOKE				*e*S	**Sn**	**21 21 52.5**	**-2.0**
JKE	**Kume jima 2**	**1.68**	**283**	P	**Pn**	**21 21 37.4**	**-2.7**
JTK	**Tokunoshima**	**1.85**	**10**	P	**Pn**	**21 21 41.6**	**-1.0**
JAMN	**Amaminishikomi**	**2.34**	**12**	P	**Pn**	**21 21 48.5**	**-0.8**
JAMN				*e*S	**Sn**	**21 22 18.0**	**+0.5**
JMZ	**Minamidaito 2**	**2.36**	**93**	P	**Pn**	**21 21 48.1**	**-1.5**
JMZ				*e*S	**Sn**	**21 22 14.7**	**-3.3**
JAM	**Amami Oshima**	**2.61**	**20**	P	**Pn**	**21 21 51.8**	**-1.2**
JAM				*e*S	**Sn**	**21 22 23.7**	**-0.4**
JNU	**Nakatsue**	**7.42**	**15**	Pn	**Pn**	**21 22 57.4**	**-1.7**
	0.4nm,0.3s,baz=0.5,slow=21,SNR=6.9						
XAN	**Xi'an**	**18.84**	**300**	Pg	**Pn**	**21 25 33.4**	**+2.1**
XAN				smax	smax		
	comp=N,6.0nm,1.0s						
XAN				smax	smax		
	comp=E,2.0nm,1.1s					

ASAR	Alice Springs	24.90	221	P	P	21 27 31.6	-0.5
	0.9nm,0.7s,baz=53,slow=9.6,SNR=6.7						
TORD	Torodi Ar. Bea	149.25	287	PKPbc	PKPbc	21 41 58.6	-0.4
	0.3nm,0.7s,baz=100,slow=2.8,SNR=4.6						

NIED ***02*** *21:22:00.25°.90N×128°.60E, h5km, Mw4.3 Best double couple: M0:3.18000×10^15 NP1:φs=337.00000°, δ54.00000°, λ137.00000°. NP2:φs=96.00000°, δ56.00000°, λ44.00000°.*
IDC ***02*** *21:22:04.1±0.9, 26°.03N×128°.58E, h0km, mb4.1/16, mb1 4.3/17, mb1mx4.0/49, mbtmp4.1/17, ML3.8/1, MS3.5/4, Ms1 3.5/4, ms1mx3.2/29, Error ellipse: s-maj=28.3km s-min=14.6km az=80.0*
NEIC ***02*** *21:22:05.1±2.3, 25°.94N×128°.41E, h6km±13km, mb4.4/3, Error ellipse: s-maj=16.4km s-min=11.6km az=110.0*
ISCJB ***02*** *21:22:06.0±0.8, 25°.92N±0°.03×128°.60E±0°.04, h29km±5km, mb4.1/20, MS3.5/2, Error ellipse: s-maj=6.1km s-min=4.3km az=38.2*
JMA ***02*** *21:22:06.3±0.3, 25°.94N×128°.63E, h27km±4km, M4.3*
BJI ***02*** *21:22:08.3, 26°.20N×128°.27E, h25km, mB4.6, mb4.5/16, Ms4.0/2*

ISC 02 21:22:07.1±0.9,**25°.95N**±0°.04×**128°.58E**±0°.04,**h23**km±5km, **n49**,σ1§**24**/64,**mb4.2**/20,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.76	318	P	Pb	21 22 20.8	-0.8
JNTH				eS	Sn	21 22 31.9	-1.2
JJT2	Tamagusuku 2	0.77	284	P	Pb	21 22 21.6	-0.3
JJT2				eS	Sb	21 22 32.4	+0.4
JOW	Kunigami	0.92	343	P	Pb	21 22 23.7	-0.7
JOW				eS	Sb	21 22 35.6	-0.6
JOW	Kunigami	0.92	343	Pn	Pb	21 22 22.9	-1.5
	41nm,0.3s,baz=137,slow=22,SNR=6.7						
JOW				Sn	Sb	21 22 35.9	-0.3
	78nm,0.3s,baz=105,slow=25,SNR=8.7						
JOW				LR	LR	21 22 50.4	
	comp=Z,32nm,18.9s,baz=268,slow=55						
JOW	Kunigami	0.92	343	eP	Pb	21 22 22.9	-1.5
JOW				eS	Sb	21 22 33.6	-2.5
JIH	Iheya	1.21	333	P	Pn	21 22 28.4	-0.2
JIH				eS	Sn	21 22 43.6	-0.7
JAGN	Aguni-jima	1.36	298	P	Pn	21 22 30.8	+0.1
JAGN				eS	Sn	21 22 48.1	+0.1
JOKE	Okinoerabujima	1.40	360	P	Pn	21 22 31.1	-0.2
JOKE				eS	Sn	21 22 48.0	-1.1
JKE	Kume jima 2	1.66	283	P	Pn	21 22 33.8	-0.9
JTK	Tokunoshima	1.86	10	P	Pn	21 22 37.6	+0.1
JTK				eS	Sn	21 22 59.7	-0.5
JAMN	Amaminishikomi	2.34	13	eS	Sn	21 23 13.7	+1.5
JMZ	Minamidaito 2	2.38	93	P	Pn	21 22 43.9	-0.8
JMZ				eS	Sn	21 23 10.5	-2.6
JAM	Amami Oshima	2.61	20	P	Pn	21 22 48.4	+0.5
JAM				eS	Sn	21 23 17.9	-1.0
JZK	Kikaishima	2.66	27	P	Pn	21 22 49.8	+1.3
JZK				eS	Sn	21 23 20.5	+0.5
JOGS	Gusukube	3.11	248	P	Pn	21 22 54.0	-0.7
JOGS				eS	Sn	21 23 29.2	-2.0
JIKM	Ikemajima	3.18	252	P	Pn	21 22 56.2	+0.5
JTAJ	Takarajima	3.24	10	P	Pn	21 22 56.7	+0.2
JTAJ				eS	Sn	21 23 32.9	-1.4
JIRB	Irabujima	3.28	251	P	Pn	21 22 56.2	-0.9
JTJ	Tarama	3.75	250	P	Pn	21 23 01.9	-1.6
JTJ				eS	Sn	21 23 42.7	-4.2
JKC	Kuchinoerabu	4.71	17	P	Pn	21 23 16.8	0.0
NACB	Ninganchiao	6.58	256	eP	Pn	21 23 38.9	-3.5
JNU	Nakatsue	7.42	15	Pn	Pn	21 23 54.3	+0.3
	1.5nm,0.3s,baz=208,slow=10,SNR=11						
JNU				Sn	Sn	21 25 15.6	-1.9
	1.3nm,0.3s,baz=130,slow=19,SNR=4.2						
JNU				LR	LR	21 27 00.2	
	comp=Z,270nm,21.4s,baz=180,slow=40						
JNU	Nakatsue	7.42	15	ePn	Pn	21 23 54.8	+0.8
JNU				Sn	Sn	21 25 15.6	-1.9
KSRS	Korea Array	11.48	357	LR	LR	21 29 20.9	
	comp=Z,211nm,19.8s,baz=176,slow=38						
BJI	Beijing	17.46	327	P	P	21 26 09.9	-0.2
BJI				PMZ			
	13nm,1.2s						
BJI				PMZ			
	140nm,3.8s						
ASAJ	Asahikawa	21.39	29	LR	LR	21 35 15.2	
	comp=Z,139nm,18.1s,baz=4.0,slow=37						
KMI	Kunming	23.32	274	P	P	21 27 15.6	+1.7
KMI				PMZ			
	16nm,0.9s						
GTA	Gaotai	27.55	306	eP	P	21 27 51.4	-1.0
GTA				pP	pP	21 27 59.7	+0.4
GTA				sP	sP	21 28 03.4	+1.2
GTA				PMZ			
	28nm,0.9s						
ULN	Ulaanbaatar	27.66	328	eP	P	21 27 51.6	-1.6
	4.1nm,0.7s						
SONM	Songino Array	27.96	327	P	P	21 27 56.7	+0.8
	4.2nm,0.7s,baz=138,slow=10,SNR=11						
SONM				LR	LR	21 39 35.7	
	comp=Z,148nm,19.1s,baz=62,slow=38						
CHTO	Chiang Mai	28.27	262	eP	P	21 27 58.6	-0.2
	4.7nm,0.9s						
CMAR	Chiang Mai Arr	28.39	261	P	P	21 28 01.1	+1.1
	1.3nm,0.8s,baz=58,slow=7.8,SNR=8.3						
MKAR	Makanchi Array	41.95	312	P	P	21 29 54.2	-1.9
	1.9nm,0.6s,baz=94,slow=9.9,SNR=15						
ZALV	Zalesovo Beam	42.66	323	P	P	21 30 00.5	-1.3
	1.0nm,0.6s,baz=120,slow=8.9,SNR=5.3						
WRA	Warramunga Arr	45.96	172	P	P	21 30 29.1	+0.6
	1.1nm,0.7s,baz=350,slow=8.2,SNR=6.7						
TKM2	Tokmak 2	46.09	306	eP	P	21 30 28.3	-1.4
	4.7nm,0.7s						
ASAR	Alice Springs	49.59	174	P	P	21 30 56.8	+0.1
	0.5nm,0.7s,baz=3.9,slow=13,SNR=4.5						
BVAR	Borovoye Array	50.69	318	P	P	21 31 04.7	0.0
	2.5nm,0.8s,baz=81,slow=9.2,SNR=6.5						
AKTO	Aktyubinsk	58.25	315	P	P	21 32 00.6	+0.9
	1.0nm,0.4s,baz=93,slow=12,SNR=4.5						
KBZ	Khabaz	69.58	310	P	P	21 33 15.6	+1.3
	4.2nm,0.8s,baz=145,slow=2.3,SNR=6.0						
FINES	FINESS Array B	73.26	331	P	P	21 33 36.5	+0.3
	3.7nm,0.8s,baz=72,slow=5.7,SNR=8.7						
AKASG	Malin Array Be	75.95	320	P	P	21 33 52.1	+0.1
	3.7nm,0.5s,baz=57,slow=6.4,SNR=8.8						
BRTR	Keskin Array B	77.45	308	P	P	21 34 01.8	+0.9
	5.0nm,0.9s,baz=107,slow=4.1,SNR=12						
ASF	Jabal al Asfar	77.98	300	P	P	21 34 05.4	+1.5
	3.9nm,1.0s,baz=278,slow=2.4,SNR=4.2						
YKA	Yellowknife Ar	78.64	25	P	P	21 34 07.6	+0.8
	0.2nm,0.5s,baz=304,slow=5.4,SNR=3.2						
NB2	NORSAR Subarra	79.70	334	P	P	21 34 12.4	-0.4
	comp=Z,2.6nm,0.7s,baz=49,slow=5.6						
NOA	NORSAR Array B	79.70	334	P	P	21 34 12.8	+0.1
	comp=Z,2.1nm,0.8s,baz=51,slow=5.6,SNR=5.8						
SUMG	Summit	81.33	356	*i* P	P	21 34 27.0	+5.2
	comp=Z,7.2nm,0.9s						
GERES	GERESS Array B	85.61	323	P	P	21 34 45.7	+1.9
	comp=Z,0.8nm,0.8s,baz=48,slow=4.0,SNR=5.4						

IDC ***02*** *21:23:13.4±0.6, 35°.77S×73°.27W, h0km, mb4.3/12, mb1 4.4/16, mb1mx4.3/31, mbtmp4.2/16, ML4.1/3, MS3.5/3, Ms1 3.5/3, ms1mx3.3/20, Error ellipse: s-maj=19.9km s-min=13.9km az=89.0*
ISCJB ***02*** *21:23:16.4±0.4, 35°.90S±0°.05×73°.21W±0°.09, h28km, mb4.6/24, MS3.8/1, Error ellipse: s-maj=10.8km s-min=7.2km az=165.5*
NEIC ***02*** *21:23:19.7±1.5, 35°.89S×73°.28W, h42km±14km, mb4.7/13, Error ellipse: s-maj=16.8km s-min=9.9km az=86.0*

ISC 02 21:23:17.9±0.5,**35°.88S**±0°.06×**73°.21W**±0°.10,**h28**km,**n53**, σ1§**25**/57,**mb4.6**/24,**1D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.27	157	Pn	Pn	21 24 36.4	+1.4
	2.4nm,0.3s,baz=329,slow=11,SNR=13						
PLCA				Lg	Lg	21 26 03.2	
	7.3nm,0.3s,baz=263,slow=23,SNR=5.9						
PLCA	Paso Flores	5.27	157	ePn	Pn	21 24 36.4	+1.4
PLCA				eSn	Sn	21 25 33.2	-1.6
PLCA				Lg	Lg	21 26 03.2	
CFAA	Coronel Fontan	5.94	46	Pn	Pn	21 24 43.5	-0.6
	1.9nm,0.3s,baz=201,slow=2.1,SNR=38						
CFAA				Lg	Lg	21 26 18.0	
	0.4nm,0.3s,baz=98,slow=14,SNR=3.8						
CFAA				LR	LR	21 27 28.1	
	comp=Z,129nm,20.2s,baz=232,slow=43						
TRQA	Tornquist	9.24	107	ePn	Pn	21 25 31.9	+2.5
TRQA				eSn	Sn	21 27 21.4	+9.0
SLA	San Lorenzo	12.96	33	*i* P	Pn	21 26 22.1	+1.7
AZAP	Zapla	13.58	33	*i* P	P	21 26 34.2	-3.5
LVC	Limon Verde	13.74	17	ePn	Pn	21 26 32.7	+1.6
ASTB	Santa Barbara	14.08	35	*i* P	P	21 26 45.0	+1.8
ALOL	LOMAS DE OLMED	14.44	36	*i* P	P	21 26 51.3	+4.3
CPUP	Villa Florida	16.58	59	Pn	Pn	21 27 05.5	-2.9
	baz=199,slow=13,SNR=3.2						
CPUP				LR	LR	21 33 45.6	
	comp=Z,249nm,20.0s,baz=217,slow=38						
CPUP	Villa Florida	16.58	59	ePn	P	21 27 11.2	+0.5
LPAZ	La Paz	20.03	14	P	P	21 27 48.8	-0.6
	0.3nm,0.3s,baz=191,slow=4.5,SNR=21						
LPAZ	La Paz	20.03	14	eP	Pn	21 27 51.0	-0.4
	25nm,1.4s						
SIV	San Ignacio	22.58	32	P	P	21 28 15.0	-1.2
	9.6nm,0.9s,baz=229,slow=13,SNR=17						
SIV				LR	LR	21 38 44.9	
	comp=Z,344nm,19.4s,baz=175,slow=41						
BDFB	Brasilia	30.19	55	P	P	21 29 25.2	-1.0
	3.5nm,0.8s,baz=184,slow=5.5,SNR=4.8						
BDFB	Brasilia	30.19	55	eP	P	21 29 26.8	+0.7
OTAV	Otavalo	36.27	351	eP	P	21 30 21.1	+1.7
	9.1nm,1.1s						
SDV	Santo Domingo	44.59	4	eP	P	21 31 26.4	-1.5
	4.5nm,0.6s						
SNAA	Sanae	50.22	157	P	P	21 32 11.3	+0.3
	5.3nm,1.1s,baz=287,slow=10.0,SNR=5.6						
SNAA	Sanae	50.22	157	eP	P	21 32 12.1	+1.1
	54nm,1.6s						
QSPA	South Pole Qui	54.36	180	P	P	21 32 42.9	+1.0
	3.4nm,0.9s,baz=199,slow=1.6,SNR=17						
SYO	Syowa Base	64.47	158	‖ ePP	pP	21 34 01.0	+0.8
H06S1	SOCORRO T	65.03	320	T	T	22 44 52.3	
	SNR=13						
KVTX	Kingsville	67.25	336	eP	P	21 34 11.4	+1.6
	93nm,0.4s						
TXAR	Lajitas Array	70.92	332	P	P	21 34 32.3	-0.4
	1.6nm,0.6s,baz=153,slow=8.5,SNR=19						
DBIC	Dimbokro	76.69	72	P	P	21 35 07.5	+0.9
	6.0nm,0.7s,baz=202,slow=5.8,SNR=9.7						
DBIC	Dimbokro	76.69	72	eP	P	21 35 07.8	+1.1
	11nm,0.9s						
ANMO	Albuquerque	76.99	332	eP	P	21 35 08.5	+0.3
	7.6nm,1.2s						
BOSA	Boshof	80.04	118	P	P	21 35 26.0	+0.7
	4.6nm,0.8s,baz=211,slow=5.5,SNR=5.6						
BFZ	Birch Farm	80.67	226	eP	P	21 35 26.0	-2.3
	245nm,1.2s						
SMCO	Snowmass	80.93	334	eP	P	21 35 30.7	+0.8
	17nm,1.6s						
ECSD	EROS Data Cent	82.05	343	eP	P	21 35 34.3	-1.0
	9.1nm,0.8s						
R11A	Troy Canyon, C	83.62	328	eP	P	21 35 44.5	+0.8
	12nm,1.7s						
DUG	Dugway, Tooele	84.02	331	eP	P	21 35 46.1	+0.4
	12nm,1.4s						
TPH	Tonopah	84.11	327	eP	P	21 35 47.4	+1.1
	9.2nm,1.2s						
NVAR	Mina Array Bea	84.89	326	P	P	21 35 50.1	-0.1
	1.8nm,0.8s,baz=149,slow=6.7,SNR=8.1						
PDAR	Pinedale Array	85.02	334	P	P	21 35 49.9	-0.9
	0.7nm,0.7s,baz=183,slow=3.0,SNR=4.7						
ELK	Elko	85.47	329	P	P	21 35 51.1	-2.0
	1.3nm,0.8s,baz=59,slow=3.1,SNR=4.4						
TORD	Torodi Ar. Bea	85.75	71	P	P	21 35 54.5	-0.3
	1.3nm,0.9s,baz=229,slow=4.6,SNR=5.5						
MCMT	McKenzie Canyo	87.99	333	eP	P	21 36 05.3	0.0
	3.7nm,1.4s						
ULM	Lac du Bonnet	88.07	346	P	P	21 36 03.9	-1.4
	5.5nm,0.8s,baz=174,slow=4.3,SNR=13						
ULM	Lac du Bonnet	88.07	346	eP	P	21 36 04.2	-1.0
MOD	Modoc Plateau	88.60	327	eP	P	21 36 08.6	+0.5
	4.4nm,0.8s						
WRA	Warramunga Arr	118.66	210	PKP	PKPdf	21 42 02.4	-1.4
	0.2nm,0.4s,baz=156,slow=1.7,SNR=5.3						
KSH	Kashi	155.41	72	PKP	PKPdf	21 43 08.1	-0.6
KSH				sPKP		21 43 22.5	
KSH				PKS	PKSdf	21 46 42.8	-0.1
KSH				PP	PP	21 47 11.2	-0.3
KSH				SKS	SKSdf	21 50 11.0	-2.3
KSH				SKKS	SKKSac	21 53 57.6	-1.3
KSH				PPMZ			
	110nm,6.9s						
KSH				LZ			
	140nm,6.1s						
ZALV	Zalesovo Beam	156.32	33	PKPab	PKPab	21 43 37.5	-0.1
	1.3nm,0.6s,baz=308,slow=5.4,SNR=5.3						
MKAR	Makanchi Array	158.70	52	PKP	PKPdf	21 43 11.7	-0.8
	0.2nm,0.8s,baz=318,slow=3.3,SNR=3.6						
MKAR				PKPab	PKPab	21 43 48.1	-0.1
	0.5nm,0.8s,baz=316,slow=3.3,SNR=4.8						
WMQ	Urumqi	163.35	56	ePKP	PKPdf	21 43 17.4	-0.3
WMQ				LN			
	65nm,22.0s						
WMQ				LE			
	88nm,24.0s						
WMQ				LZ			
	52nm,21.0s						
CN2	Changchun	163.66	305	ePKP	PKPdf	21 43 18.0	+0.1
SONM	Songino Array	168.05	1	PKPab	PKPab	21 44 28.9	-0.2
	0.7nm,0.6s,baz=350,slow=7.5,SNR=5.3						
HHC	Hu-ho-hao-te	173.78	324	ePKP	PKPdf	21 43 24.7	0.0
HHC				sPKP		21 43 40.0	
HHC				PP	PP	21 48 49.7	+3.1
HHC				SKKS		21 55 31.5	
HHC				SS	SS	22 10 01.6	-0.6
HHC				PPMZ			
	130nm,8.1s						
HHC				LN			
	250nm,17.3s						
HHC				LE			
	250nm,18.5s						
HHC				LZ			
	150nm,17.3s						
CD2	Chengdu	174.43	152	ePKP	PKPdf	21 43 25.1	0.0
LZH	Lanzhou	177.60	84	ePKP	PKPdf	21 43 25.6	-0.2
LZH				pPKP	pPKPdf	21 43 35.5	+0.3
LZH				sPKP		21 43 40.0	

IDC ***02*** *21:27:57.6±1.3, 36°.70N×65°.66E, h0km, mb3.5/3, mb1 3.6/8, mb1mx3.3/43, mbtmp3.5/8, ML3.2/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/39, Error ellipse: s-maj=23.6km s-min=14.3km az=157.0*
ISCJB ***02*** *21:28:00.2±1.1, 37°.0N±0°.1×65°.6E±0°.1, h33km, mb3.6/3, MS3.0/1, Error ellipse: s-maj=21.2km s-min=9.4km az=157.0*

ISC 02 21:28:02.6±1.3,**36°.9N**±0°.2×**65°.69E**±0°.08,**h35**km,**n9**, σ2§**91**/10,**mb3.5**/3,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	Alibeck	6.12	282	Pn	Pn	21 29 29.2	-1.3
	0.4nm,0.3s,baz=90,slow=11,SNR=7.4						
GEYT				Sn	Sn	21 30 42.5	+3.2
	2.2nm,0.3s,baz=350,slow=32,SNR=5.0						
GEYT				Lg	Lg	21 31 14.7	
	1.0nm,0.3s,baz=99,slow=35,SNR=2.2						
AAK	Ala-Archa	8.87	47	Pn	Pn	21 30 08.5	0.0
	1.0nm,0.3s,baz=190,slow=2.4,SNR=15						
AAK				Sn	Sn	21 31 50.0	+2.7
	0.5nm,0.3s,baz=328,slow=11,SNR=5.6						
AKTO	Aktyubinsk	14.62	340	Pn	Pn	21 31 25.2	-1.5
	0.2nm,0.3s,baz=157,slow=14,SNR=4.9						
MKAR	Makanchi Array	15.81	46	Pn	Pn	21 31 40.3	-2.1
	0.0nm,0.3s,baz=235,slow=18,SNR=2.5						
BVAR	Borovoye Array	16.46	10	Pn	Pn	21 31 46.0	-4.7
	baz=188,slow=10,SNR=2.3						
ZALV	Zalesovo Beam	21.59	32	P	P	21 32 52.3	+3.2
	0.9nm,0.5s,baz=241,slow=10,SNR=4.5						
EIL	Elat	26.61	263	LR	LR	21 45 10.7	
	comp=Z,44nm,19.2s,baz=204,slow=39						
TORD	Torodi Ar. Bea	61.48	265	P	P	21 38 16.1	+0.1
	0.2nm,0.5s,baz=50,slow=4.8,SNR=8.1						
WRA	Warramunga Arr	85.88	119	P	P	21 40 39.1	+0.1
	0.6nm,0.8s,baz=323,slow=5.0,SNR=5.0						

IDC ***02*** *21:38:00.4±1.5, 37°.48S×73°.50W, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.8/23, mbtmp3.7/7, ML3.3/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/31, Error ellipse: s-maj=37.4km s-min=26.4km az=93.0*
ISCJB ***02*** *21:38:03.1±1.4, 37°.4S±0°.1×73°.4W±0°.3, h23km, mb3.7/5, Error ellipse: s-maj=33.3km s-min=15.1km az=171.5*

ISC 02 21:38:04.4±1.5,**37°.4S**±0°.1×**73°.4W**±0°.3,**h23**km,**n8**,σ0§**93**/8, **mb3.6**/5,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.99	147	Pn	Pn	21 39 04.8	+0.5
	0.4nm,0.3s,baz=310,slow=12,SNR=3.8						
PLCA				Lg	Lg	21 40 01.8	
	2.7nm,0.3s,baz=25,slow=9.5,SNR=5.8						
PLCA				LR	LR	21 40 48.4	
	comp=Z,171nm,21.2s,baz=309,slow=42						
CFAA	Coronel Fontan	7.19	38	Pn	Pn	21 39 48.0	-0.2
	0.5nm,0.3s,baz=168,slow=1.1,SNR=7.7						
CFAA				Lg	Lg	21 41 51.8	
	baz=127,slow=20,SNR=3.5						
LPAZ	La Paz	21.55	14	P	P	21 42 54.2	+1.4
	1.2nm,0.8s,baz=166,slow=8.3,SNR=3.6						
SIV	San Ignacio	23.97	30	P	P	21 43 18.2	+1.0
	0.6nm,0.3s,baz=296,slow=2.2,SNR=3.1						
TXAR	Lajitas Array	72.20	332	P	P	21 49 27.4	-0.1
	0.4nm,0.6s,baz=154,slow=9.6,SNR=4.6						
DBIC	Dimbokro	77.33	71	P	P	21 49 57.4	-0.1
	2.1nm,0.6s,baz=185,slow=8.5,SNR=6.0						
TORD	Torodi Ar. Bea	86.41	71	P	P	21 50 44.4	-0.9
	0.3nm,0.6s,baz=210,slow=6.0,SNR=5.8						
MKAR	Makanchi Array	159.75	55	PKPab	PKPab	21 58 39.3	-0.6
	0.2nm,0.5s,baz=258,slow=5.7,SNR=4.1						

GUC ***02*** *21:44:28.9±0.4, 34°.47S×75°.39W, h25km, ML5.7*
IDC ***02*** *21:44:30.4±0.7, 36°.53S×73°.27W, h0km, mb4.3/10, mb1 4.4/14, mb1mx4.3/28, mbtmp4.3/14, ML4.4/4, MS4.3/12, Ms1 4.3/12, ms1mx4.0/32, Error ellipse: s-maj=21.9km s-min=14.1km az=93.0*
ISCJB ***02*** *21:44:33.5±0.3, 36°.53S±0°.03×73°.14W±0°.06, h25km, mb4.8/30, MS4.5/10, Error ellipse: s-maj=7.2km s-min=4.6km az=179.8*
NEIC ***02*** *21:44:36.2±3.4, 36°.48S×73°.12W, h33km±23km, mb4.9/20, Error ellipse: s-maj=16.5km s-min=9.0km az=81.0*
GCMT ***02*** *21:44:36.2±0.4, 36°.61S×73°.85W, h37km±1km, MW5.1/53, Moment Tensor Solution. s27,c35; s53,c65; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.54±.29; Mθθ-1.07±.20; Mφφ-2.46±.18; Mrθ-0.42±.19; Mrφ-1.40±.13; Mθφ-3.25±.23; Best double couple: M0:4.73300×10^16 NP1:φs196.00000°, δ67.00000°, λ79.00000°. NP2: φs44.00000°, δ26.00000°, λ115.00000°. Principal axes: T 4.9680, Plg66.0000°, Azm86.0000°; N -0.4590, Plg11.0000°, Azm201.0000°; P -4.4990, Plg21.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 02 21:44:34.1±0.5,**36°.48S**±0°.04×**73°.30W**±0°.08,**h25**km,**n79**, σ1§**45**/64,**mb4.9**/30,**MS4.5**/10,**6C**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	2.96	32	⇑ *i* P	Pn	21 45 20.0	+0.6
LNV				*i* S	Sb	21 45 59.4	-2.4
VLCH	Valdivia	3.32	179	eP	Pn	21 45 21.2	-3.2
VLCH				eS	Sn	21 46 04.4	+1.4
CHCH	Chadas Angostu	3.34	41	⇑ *i* P	Pn	21 45 26.3	+1.6
RCDM	Rinconada Maip	3.62	35	⇑ *i* P	Pn	21 45 28.5	0.0
RCDM				eS	Sn	21 46 13.1	+2.5
ANTU	Antumapu	3.64	38	⇑ *i* P	Pn	21 45 30.2	+1.4
ANTU				*i* S	Sb	21 46 20.1	-1.3
ANTU				AML	AML	21 46 39.7	
	comp=N,4μm,0.7s						
PEL	Peldehue	3.96	34	⇑ *i* P	Pn	21 45 31.5	-1.8
PEL				eS	Sb	21 46 34.1	+3.3
PEL				AML	AML	21 46 55.7	
	comp=E,4μm,0.7s						
OSCH	Osorno	4.09	178	*i* S	Sb	21 46 34.4	0.0
PLCA	Paso Flores	4.76	154	Pn	Pn	21 45 43.6	-0.7
	comp=E,9.5nm,0.3s,baz=324,slow=11,SNR=44						
PLCA				Lg	Lg	21 47 00.3	
	comp=E,27nm,0.3s,baz=58,slow=20,SNR=5.4						
PLCA	Paso Flores	4.76	154	ePn	Pn	21 45 44.9	+0.6
PLCA				eSn	Sn	21 46 39.2	+0.5
PLCA				Lg	Lg	21 47 00.3	
CFAA	Coronel Fontan	6.43	42	Pn	Pn	21 46 08.1	+0.9
	comp=E,1.3nm,0.3s,baz=88,slow=1.1,SNR=31						
CFAA				Lg	Lg	21 47 55.8	
	comp=E,0.4nm,0.3s,baz=88,slow=21,SNR=3.3						
CFAA				LR	LR	21 48 58.7	
	comp=E,330nm,18.1s,baz=226,slow=42						
TRQA	Tornquist	9.16	103	ePn	Pn	21 46 45.6	+0.9
TRQA				eSn	Sn	21 48 26.5	-0.5
LVC	Limon Verde	14.34	17	ePn	Pn	21 47 57.0	+1.3
CPUP	Villa Florida	16.96	58	Pn	P	21 48 31.0	-0.3
	comp=E,0.7nm,0.3s,baz=220,slow=10,SNR=10						
CPUP	Villa Florida	16.96	58	ePn	Pn	21 48 27.9	-1.7
USHA	Ushuaia	18.66	171	P	P	21 48 49.9	0.0
	comp=E,0.5nm,0.3s,baz=338,slow=7.4,SNR=3.1						
USHA				LR	LR	21 56 53.3	
	comp=E,757nm,19.3s,baz=340,slow=40						
LPAZ	La Paz	20.63	14	P	P	21 49 11.0	-1.3
	comp=E,2.1nm,0.3s,baz=229,slow=5.8,SNR=6.9						
SIV	San Ignacio	23.12	31	P	P	21 49 37.4	-1.0
	comp=E,14nm,1.0s,baz=232,slow=12,SNR=20						
PMSA	Palmer Station	28.87	172	LR	LR	22 02 09.4	
	comp=E,549nm,18.0s,baz=321,slow=37						
BDFB	Brasilia	30.61	54	P	P	21 50 46.7	+0.4
	comp=E,3.7nm,0.9s,baz=222,slow=9.0,SNR=4.8						
BDFB				LR	LR	22 02 40.2	
	comp=E,972nm,18.4s,baz=222,slow=36						
OTAV	Otavalo	36.84	351	P	P	21 51 38.7	-2.2
SDV	Santo Domingo	45.19	4	eP

comp=E,16nm,1.6s
ANMO Albuquerque 77.48 333 *e*P **P 21 56 29.1 +1.6**
comp=E,9.5nm,1.2s
TSUM Tsumeb 79.53 106 LR LR 22 30 10.8
comp=E,241nm,18.1s,baz=226,slow=34
BOSA Boshof 79.83 118 P **P 21 56 39.2 -1.5**
comp=E,4.5nm,0.8s,baz=261,slow=9.2,SNR=5.9
BOSA LR LR 22 29 57.8
comp=E,164nm,19.0s,baz=170,slow=34
BOSA Boshof 79.83 118 *e*P **P 21 56 40.8 +0.1**
comp=E,10.0nm,1.0s
WUAZ Wupatki 79.91 329 *e*P P 21 56 51.4 +11
comp=E,52nm,2.2s
MVCO Mesa Verde 80.25 332 *e*P P 21 56 53.4 +11
comp=E,16nm,1.3s
PV04 Paradox Valley 81.44 332 P **P 21 56 51.1 +2.1**
LBTB Lobatse 82.19 115 *e*P **P 21 56 53.4 0.0**
comp=E,7.8nm,0.7s
SHPR Sheep Range 82.36 327 *e*P **P 21 56 56.9 +3.1**
SHPR *e* 21 57 04.3
MPU Maple Canyon 83.89 331 *e*P P 21 57 12.5 +11
comp=E,12nm,1.1s
NLU North Lily Min 84.01 331 *e*P P 21 57 14.0 +12
R11A Troy Canyon, C 84.08 328 *e*P **P 21 57 04.2 +1.5**
R11A *e* 21 57 12.5
DUG Dugway, Tooele 84.51 331 *e*P **P 21 57 06.3 +1.6**
comp=E,20nm,1.3s
DUG *i* 21 57 15.5
TPH Tonopah 84.57 327 P **P 21 57 07.9 +2.7**
comp=E,19nm,1.4s
BGU Big Grassy Mou 85.22 331 *e*P P 21 57 18.8 +11
comp=E,12nm,1.7s
NVAR Mina Array Bea 85.34 326 P **P 21 57 10.6 +1.5**
comp=E,0.7nm,0.6s,baz=180,slow=5.0,SNR=2.2
HVU Hansel Valley 85.85 332 *e*P **P 21 57 12.0 +0.5**
comp=E,11nm,1.2s
TORD Torodi Ar. Bea 86.02 71 P **P 21 57 12.4 -0.3**
comp=E,1.9nm,0.6s,baz=218,slow=4.2,SNR=24
TORD LR LR 22 34 09.3
comp=E,189nm,18.1s,baz=245,slow=35
ULM Lac du Bonnet 88.63 346 P **P 21 57 23.8 -0.6**
comp=E,1.1nm,0.5s,baz=160,slow=6.3,SNR=4.7
DLMT Dillon 88.86 333 *e*P P 21 57 37.0 +11
comp=E,28nm,1.8s
LSZ Lusaka 90.00 109 LR LR 22 36 58.7
comp=E,317nm,18.1s,baz=320,slow=35
WRA Warramunga Arr 118.10 210 PKP **PKPdf 22 03 17.9 -1.4**
comp=E,0.2nm,0.6s,baz=171,slow=1.6,SNR=7.8
BRTR Keskin Array B 123.91 63 PKP **PKPdf 22 03 30.1 +0.1**
comp=E,0.8nm,0.7s,baz=226,slow=3.2,SNR=5.4
GEYT Alibeck 141.63 73 PKhKP PKPpre 22 03 57.9
comp=E,0.9nm,0.6s,baz=270,slow=4.4,SNR=3.9
HYB Hyderabad 148.72 120 *i* PKP **PKPbc 22 04 18.5 -1.1**
KBL Kabul 149.41 82 *e*PKPdf **PKPbc 22 04 20.2 -0.9**
BVAR Borovoye Array 149.78 45 PKPbc **PKPbc 22 04 23.0 +1.8**
comp=E,2.1nm,0.8s,baz=320,slow=3.2,SNR=5.6
KKAR Karatay Array 151.58 65 *e*PKPdf **PKPbc 22 04 23.8 -2.0**
AAK Ala-Archa 154.52 66 *e*PKPdf **PKPdf 22 04 27.1 +3.1**
ZALV Zalesovo Beam 156.86 34 PKP **PKPdf 22 04 26.2 -0.4**
comp=E,2.0nm,0.7s,baz=318,slow=2.0,SNR=11
ZALV PKPab **PKPab 22 04 56.9 +0.4**
comp=E,1.9nm,0.6s,baz=303,slow=4.9,SNR=5.1
MKAR Makanchi Array 159.13 53 PKP **PKPdf 22 04 29.8 +0.2**
comp=E,0.9nm,0.7s,baz=268,slow=0.3,SNR=12
MKAR PKPab **PKPab 22 05 06.8 +0.1**
comp=E,1.5nm,0.8s,baz=297,slow=4.0,SNR=11

IDC ***02*** *21:56:37.6±0.4, 30°.29S×69°.19W, h0km, mb4.9/15, mb1 4.9/20, mb1mx4.8/30, mbtmp4.8/20, ML4.5/5, MS4.3/6, Ms1 4.3/6, ms1mx3.7/32, Error ellipse: s-maj=19.3km s-min=9.9km az=63.0*
SJA ***02*** *21:56:41.3±0.7, 30°.39S×69°.21W, h10km±5km, ML4.9*
BJI ***02*** *21:56:42.5, 30°.40S×69°.30W, h30km, mB5.1/9, Ms5.2/7, Ms7 4.9/8*
MOS ***02*** *21:56:42.2±1.1, 30°.14S×69°.17W, h33km, mb5.2/18, Error ellipse: s-maj=19.3km s-min=9.3km az=103.3*
GUC ***02*** *21:56:42.9±0.5, 30°.44S×69°.23W, h110km, ML4.5*
ISCJB ***02*** *21:56:42.7±0.5, 30°.22S±0°.03×69°.10W±0°.04, h43km±4km, mb5.1/84, MS4.5/8, Error ellipse: s-maj=5.8km s-min=4.5km az=149.0*
NEIC ***02*** *21:56:43.0±0.6, 30°.26S×69°.02W, h36km±5km, mb5.1/62, MD4.9(SJA), Error ellipse: s-maj=8.1km s-min=4.2km az=77.0*
NEIC Felt [IV] in the Iglesia area and [II] at San Juan. Also felt at Cordoba. Felt at La Serena and Vallenar, Chile.
ISC 02 21:56:42.4±0.7, 30°.35S±0°.03×69°.19W±0°.04, h32km±4km, n599, σ0°76/601, mb5.2/83, MS4.5/8, 184C-189D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
AMOG	**MOGNA**	**0.84**	**134**	*e*P		**Pn**	**21 56 57.7**	**-0.3**
AGUA	**GUANDACOL**	**1.05**	**35**	*e*P		**Pb**	**21 57 02.1**	**-0.2**
AGUA				*e*P		**Pb**	**21 57 02.1**	**-0.2**
RTLL	**Cerro Villicun**	**1.15**	**148**	*e*P		**Pb**	**21 57 03.0**	**-0.9**
SJA	**San Juan**	**1.29**	**155**	*e*P		**Pb**	**21 57 05.4**	**-0.7**
SJA				*e*S		**Sb**	**21 57 23.7**	**+1.2**
SJA				AML		AML	21 57 28.4	
comp=Z,13μm,0.6s								
RTLS	**Leoncito**	**1.44**	**184**	*e*P		**Pb**	**21 57 08.3**	**-0.6**
CFAA	**Coronel Fontan**	**1.49**	**147**	Pn		**Pb**	**21 57 08.1**	**-1.5**
comp=Z,138nm,0.3s,baz=327,slow=15,SNR=639								
CFAA				Lg		Lg	21 57 28.1	
comp=Z,367nm,0.3s,baz=228,slow=21,SNR=34								
CFAA	**Coronel Fontan**	**1.49**	**147**	*e*P		**Pb**	**21 57 08.9**	**-0.7**
CFAA				*e*S		**Sb**	**21 57 29.4**	**+1.2**
CFAA				AML		AML	21 57 30.1	
comp=Z,1μm,0.4s								
RTCV	**Cerro Valdivia**	**1.60**	**160**	*e*P		**Pb**	**21 57 10.9**	**-0.6**
RTCV				*e*S		**Sb**	**21 57 32.4**	**+0.9**
CMCH	**Combarbala**	**1.76**	**242**	⇑*i*P		**Pn**	**21 57 12.0**	**+1.2**
CMCH				*e*S		**Sb**	**21 57 34.6**	**-1.3**
LSCH	**La Serena**	**1.83**	**283**	⇓*i*P		**Pn**	**21 57 13.1**	**+1.4**
LSCH				*i* S		**Sb**	**21 57 36.4**	**-1.5**
LSCH				AML		AML	21 57 39.6	
comp=N,6μm,0.5s								
AUSP	**Uspallata**	**1.87**	**185**	*e*P		**Pb**	**21 57 15.8**	**-0.3**
VACH	**Vallenar**	**2.24**	**322**	⇓*i*P		**Pb**	**21 57 20.1**	**-2.2**
VACH				*i* S		**Sb**	**21 57 48.0**	**-1.5**
ACAN	**Cantantal**	**2.57**	**139**	*e*P		**Pb**	**21 57 25.4**	**-2.5**
ACAN				*e*S		**Sb**	**21 57 57.8**	**-1.3**
CPCH	**Copiapo**	**3.15**	**341**	*e*P1		Pn	21 57 32.7	+2.8
CPCH				*i* S		**Sn**	**21 58 10.1**	**+3.6**
SLA	**San Lorenzo**	**6.49**	**31**	AML		AML	22 00 14.2	
comp=Z,256nm,0.6s								
LVC	**Limon Verde**	**7.71**	**2**	*e*Pn		**Pn**	**21 58 33.4**	**+0.7**
comp=Z,134nm,0.8s								
LVC				*e*Sn		**Sn**	**22 00 00.0**	**+0.9**
TRQA	**Tornquist**	**9.73**	**144**	*e*P		**Pn**	**21 59 00.8**	**+0.7**
comp=Z,74nm,0.6s								
TRQA				*e*Sn		**Sn**	**22 00 44.7**	**-3.5**
PLCA	**Paso Flores**	**10.42**	**186**	Pn		**Pn**	**21 59 10.6**	**+1.0**
comp=Z,0.1nm,0.3s,baz=5.4,slow=14,SNR=3.2								
PLCA				LR		LR	22 03 29.1	
comp=Z,2μm,19.4s,baz=14,slow=39								
CPUP	**Villa Florida**	**11.19**	**72**	*e*P		Pn	21 59 17.6	-2.5
CPUP				*e*			22 01 27.1	
CPUP				pmax		pmax		
comp=Z,2.0nm,0.8s								
CPUP	**Villa Florida**	**11.19**	**72**	Pn		**Pn**	**21 59 20.1**	**0.0**
comp=Z,6.5nm,0.3s,baz=227,slow=12,SNR=15								
CPUP				Lg		Lg	22 02 41.6	
comp=Z,17nm,0.3s,baz=151,slow=18,SNR=3.6								
CPUP	**Villa Florida**	**11.19**	**72**	*e*Pn		Pn	21 59 17.6	-2.5
comp=Z,1.8nm,0.8s								
CPUP				*e*Sn		**Sn**	**22 01 27.1**	**+3.0**
CPUP				Lg		Lg	22 02 41.6	
LPAZ	**La Paz**	**14.03**	**4**	*e*P		**Pn**	**21 59 58.1**	**-1.5**
LPAZ				pmax		pmax		
comp=Z,32nm,0.8s								
LPAZ	**La Paz**	**14.03**	**4**	Pn		**Pn**	**21 59 58.5**	**-1.2**
comp=Z,1.9nm,0.3s,baz=173,slow=7.6,SNR=28								
LPAZ	**La Paz**	**14.03**	**4**	*e*Pn		**Pn**	**21 59 58.1**	**-1.5**
comp=Z,32nm,0.8s								
SIV	**San Ignacio**	**16.11**	**29**	Pn		**Pn**	**22 00 25.4**	**-1.3**
comp=Z,1.5nm,0.3s,baz=223,slow=12,SNR=24								
NNA	**Nana**	**19.61**	**337**	P		**P**	**22 01 06.9**	**-1.3**
NNA				pmax		pmax		
comp=Z,38nm,0.9s								
NNA	**Nana**	**19.61**	**337**	P		**P**	**22 01 07.7**	**-0.5**
comp=Z,0.9nm,0.3s,baz=198,slow=13,SNR=3.1								
NNA				LR		LR	22 07 23.7	
comp=Z,405nm,21.9s,baz=162,slow=33								
NNA	**Nana**	**19.61**	**337**	P		**P**	**22 01 06.9**	**-1.3**
comp=Z,38nm,0.9s								
SAML	**Samuel**	**22.02**	**16**	*e*P		**P**	**22 01 33.6**	**-0.7**
comp=Z,119nm,1.4s								
EFI	**East Falkland**	**22.84**	**162**	*e*P		**P**	**22 01 42.9**	**+0.2**
EFI				pmax		pmax		
comp=Z,32nm,0.7s								
EFI	**East Falkland**	**22.84**	**162**	*e*P		**P**	**22 01 42.9**	**+0.2**
comp=Z,32nm,0.7s								
BDFB	**Brasilia**	**24.32**	**58**	P		**P**	**22 01 56.2**	**-1.2**
comp=Z,49nm,1.1s,baz=231,slow=8.8,SNR=33								
BDFB				LR		LR	22 12 35.9	
comp=Z,1μm,18.2s,baz=222,slow=40								
USHA	**Ushuaia**	**24.47**	**179**	P		**P**	**22 01 58.9**	**+0.6**
comp=Z,25nm,0.9s,baz=346,slow=5.4,SNR=6.4								
USHA				LR		LR	22 12 24.8	
comp=Z,730nm,18.6s,baz=348,slow=39								
ATAH	**Atahualpa**	**24.66**	**338**	P		**P**	**22 02 00.7**	**-0.2**
comp=Z,6.8nm,0.7s,baz=143,slow=9.5,SNR=5.5								
OTAV	**Otavalo**	**31.67**	**342**	*e*P		**P**	**22 03 04.5**	**+1.0**
comp=Z,10nm,0.9s								
OTAV				*e*PcP		**PcP**	**22 05 55.9**	**+0.8**
RPN	**Rapa Nui**	**35.22**	**265**	LR		LR	22 14 05.8	
comp=Z,437nm,18.7s,baz=148,slow=30								
ROSC	**El Rosal**	**35.35**	**351**	P		**P**	**22 03 36.5**	**+1.1**
comp=Z,15nm,0.5s,baz=271,slow=19,SNR=6.4								
SDV	**Santo Domingo**	**39.04**	**358**	*e*P		P	22 04 05.0	-1.5
comp=Z,42nm,0.9s								
GRGR	**Grenville**	**42.86**	**11**	*e*P		P	22 04 35.9	-1.8
JTS	**JuntasAbangare**	**43.16**	**337**	*c i*P		**P**	**22 04 41.5**	**+1.3**
JTS				pmax		pmax		
comp=Z,58nm,1.8s								
FDF	**Fort de France**	**45.49**	**11**	*e*P		P	22 04 56.9	-2.0
FDF				pmax		pmax		
comp=Z,120nm,0.6s								
FDF	**Fort de France**	**45.49**	**11**	*e*P		P	22 04 56.9	-2.0
comp=Z,120nm,0.6s								
CRPR	**Cabo Rojo, PR**	**48.12**	**3**	*e*P		P	22 05 17.3	-2.0
comp=Z,79nm,1.1s								
OBIP	**Obispado Ponce**	**48.18**	**3**	*e*P		P	22 05 17.3	-2.5
comp=Z,105nm,0.7s								
CELP	**Cerrillos**	**48.21**	**3**	*e*P		P	22 05 18.5	-1.5
SDDR	**Presa de Saban**	**49.09**	**357**	*e*P		**P**	**22 05 26.6**	**-0.2**
GTBY	**Guantanamo Bay**	**50.31**	**353**	*e*P		**P**	**22 05 35.4**	**-0.7**
comp=Z,34nm,0.5s								
VNA3	**Neumayer Olymp**	**51.86**	**159**	P		P	22 05 56.6	+9.4
VNA2	**Neumayer--Watz**	**52.47**	**159**	P		P	22 06 02.5	+11
TEIG	**Tepich**	**53.54**	**338**	*e*P		**P**	**22 05 59.5**	**-0.6**
comp=Z,64nm,0.6s								
SNAA	**Sanae**	**54.08**	**159**	P		P	22 06 13.7	+10
SNAA	**Sanae**	**54.08**	**159**	P		**P**	**22 06 03.1**	**-0.5**
comp=Z,5.0nm,1.1s,baz=286,slow=10,SNR=5.8								
NVL	**N'lazarevskaya**	**58.73**	**157**	*e*P		P	22 06 32.9	-3.7
NVL				pmax		pmax		
comp=Z,18nm,1.2s								
SHEL	**Horse Pasture**	**59.39**	**91**	*i* P		**P**	**22 06 44.4**	**+2.3**
QSPA	**South Pole Qui**	**59.88**	**180**	LR		LR	22 31 51.4	
comp=Z,116nm,20.4s,baz=158,slow=35								
QSPA	**South Pole Qui**	**59.88**	**180**	*e*P		**P**	**22 06 45.5**	**+0.7**
comp=Z,63nm,0.8s								
035A	**Encino**	**63.33**	**331**	⇓P		**P**	**22 07 09.6**	**+1.3**
baz=64								
034A	**Hebbronville**	**63.68**	**331**	⇑P		**P**	**22 07 11.9**	**+1.2**
baz=64,SNR=8.1								
934A	**Benavides**	**64.08**	**331**	⇓P		**P**	**22 07 14.7**	**+1.4**
baz=64								
835A	**Beeville**	**64.40**	**332**	⇓P		**P**	**22 07 16.7**	**+1.4**
baz=65								
933A	**Laredo**	**64.41**	**330**	⇓P		**P**	**22 07 16.4**	**+1.0**
baz=65,SNR=5.8								
834A	**Tilden**	**64.56**	**331**	⇓P		**P**	**22 07 17.7**	**+1.3**
baz=65,SNR=9.0								
735A	**Kenedy**	**64.90**	**332**	⇑P		**P**	**22 07 19.7**	**+1.1**
baz=65								
833A	**Chaparral WMA,**	**65.08**	**331**	⇓P		**P**	**22 07 20.7**	**+0.9**
baz=65,SNR=22								
636A	**Smothers Creek**	**65.16**	**333**	⇑P		**P**	**22 07 21.4**	**+1.1**
baz=65								
734A	**La Parita Cree**	**65.20**	**332**	⇓P		**P**	**22 07 21.5**	**+0.9**
baz=66								
538A	**Harpers Horsep**	**65.23**	**335**	⇑P		**P**	**22 07 22.0**	**+1.2**
baz=66								
832A	**Faith Ranch, C**	**65.30**	**330**	⇑P		**P**	**22 07 21.9**	**+0.7**
baz=66,SNR=25								
635A	**Leesville**	**65.36**	**333**	⇓P		**P**	**22 07 22.0**	**+0.5**
baz=66								
733A	**Divot King Ran**	**65.39**	**331**	⇑P		**P**	**22 07 22.5**	**+0.7**
baz=66								
537A	**Green Hill Far**	**65.41**	**334**	⇑P		**P**	**22 07 22.8**	**+0.9**
baz=66								
634A	**China Grove, S**	**65.58**	**332**	⇓P		**P**	**22 07 23.7**	**+0.6**
baz=66								
732A	**Laxson Ranch,**	**65.68**	**330**	⇑P		**P**	**22 07 24.4**	**+0.7**
baz=66								
340A	**Bronson**	**65.76**	**337**	⇑P		**P**	**22 07 24.7**	**+0.6**
baz=66								
535A	**Dale**	**65.85**	**333**	⇓P		**P**	**22 07 25.0**	**+0.3**
baz=66								
339A	**Huntington**	**65.91**	**336**	⇓P		**P**	**22 07 25.7**	**+0.6**
baz=66								
633A	**Saathoff Ranch**	**65.99**	**331**	⇓P		**P**	**22 07 26.1**	**+0.5**
baz=66,SNR=7.1								
KMSC	**Kings Mountain**	**66.14**	**349**	⇓P		**P**	**22 07 26.1**	**-0.4**
baz=66								
338A	**Crockett**	**66.20**	**336**	⇓P		**P**	**22 07 27.0**	**+0.1**
baz=66								
534A	**Blanco**	**66.20**	**332**	⇓P		**P**	**22 07 27.0**	**0.0**
baz=66								
632A	**Uvalde**	**66.28**	**331**	⇓P		**P**	**22 07 28.3**	**+0.7**
baz=67,SNR=16								
337A	**Centerville**	**66.37**	**335**	⇓P		**P**	**22 07 28.7**	**+0.7**
baz=67								
533A	**Kerrville**	**66.47**	**332**	⇑P		**P**	**22 07 29.1**	**+0.3**
baz=67,SNR=6.6								
435B	**Jarrell**	**66.52**	**333**	⇓P		**P**	**22 07 29.0**	**0.0**
baz=67								
631A	**Perdido Creek**	**66.54**	**330**	⇑P		**P**	**22 07 29.4**	**+0.2**
baz=67,SNR=5.7								
336A	**Riesel**	**66.78**	**334**	⇑P		**P**	**22 07 31.0**	**+0.3**
baz=67								
434A	**Burnet**	**66.82**	**333**	⇓P		**P**	**22 07 30.9**	**-0.1**
baz=67,SNR=12								
532A	**Rocksprings**	**66.88**	**331**	⇑P		**P**	**22 07 31.9**	**+0.6**
baz=67,SNR=24								
335A	**Moody**	**66.91**	**334**	⇓P		**P**	**22 07 31.8**	**+0.3**
baz=67								
433A	**Art**	**67.09**	**332**	⇑P		**P**	**22 07 33.0**	**+0.3**
baz=67,SNR=28								
JCT	**Junction City**	**67.14**	**332**	*e*P		**P**	**22 07 33.4**	**+0.3**
JCT				pmax		pmax		
comp=Z,21nm,0.8s								
JCT	**Junction City**	**67.14**	**332**	⇓P		**P**	**22 07 33.4**	**+0.3**
baz=67,SNR=8.8								
JCT	**Junction City**	**67.14**	**332**	*e*P		**P**	**22 07 33.4**	**+0.3**
comp=Z,21nm,0.8s								
531A	**Rocksprings**	**67.18**	**331**	⇓P		**P**	**22 07 33.9**	**+0.6**
baz=68,SNR=15								
334A	**Lometa**	**67.27**	**333**	⇓P		**P**	**22 07 33.8**	**0.0**
baz=68,SNR=10.0								
432A	**Menard**	**67.48**	**332**	⇓P		**P**	**22 07 35.3**	**+0.1**
baz=68,SNR=6.1								
530A	**J-C Ranch, Com**	**67.50**	**330**	⇑P		**P**	**22 07 35.9**	**+0.6**
baz=68,SNR=21								
333A	**Richland Sprin**	**67.55**	**333**	⇑P		**P**	**22 07 35.8**	**+0.1**
baz=68,SNR=13								
WHTX	**Lake Whitney,**	**67.55**	**334**	⇑P		**P**	**22 07 35.6**	**0.0**
baz=68								
431A	**Sonora**	**67.65**	**331**	⇓P		**P**	**22 07 36.5**	**+0.2**
baz=68,SNR=11								
234A	**Clairette**	**67.82**	**334**	⇓P		**P**	**22 07 37.4**	**+0.1**
baz=68,SNR=7.1								
TXAR	**Lajitas Array**	**67.84**	**328**	P		**P**	**22 07 38.1**	**+0.5**
comp=Z,5.8nm,0.6s,baz=151,slow=8.2,SNR=57								
529A	**Stev Forest Ra**	**67.86**	**329**	⇓P		**P**	**22 07 38.3**	**+0.6**
baz=68,SNR=26								
332A	**Millersview**	**67.91**	**332**	⇑P		**P**	**22 07 38.0**	**+0.1**
baz=68,SNR=9.3								
430A	**Baggett Ranch,**	**68.01**	**330**	⇑P		**P**	**22 07 38.9**	**+0.3**
baz=68,SNR=21								
135A	**Vickery Place,**	**68.04**	**334**	⇑P		**P**	**22 07 38.5**	**-0.2**
baz=68								
331A	**San Angelo**	**68.12**	**331**	⇓P		**P**	**22 07 39.3**	**0.0**
baz=68,SNR=6.5								
VNDA	**Vanda**	**68.13**	**191**	*e*P		**P**	**22 07 40.1**	**+1.4**
VNDA	**Vanda**	**68.13**	**191**	*e*P		**P**	**22 07 40.1**	**+1.4**
233A	**Rising Star**	**68.13**	**333**	⇑P		**P**	**22 07 39.4**	**+0.2**
baz=68,SNR=16								
429A	**Davenport Ranc**	**68.15**	**330**	⇓P		**P**	**22 07 40.0**	**+0.5**
baz=68,SNR=14								
134A	**White-Moore Ra**	**68.31**	**334**	⇑P		**P**	**22 07 40.3**	**0.0**
baz=69								
232A	**Coleman**	**68.31**	**332**	⇓P		**P**	**22 07 40.6**	**+0.2**
baz=69,SNR=17								
SYO	**Syowa Base**	**68.36**	**158**	⇓*e*P		P	22 07 38.0	-2.2
330A	**Mertzon**	**68.52**	**331**	⇓P		**P**	**22 07 41.6**	**-0.1**
baz=69,SNR=10								
231A	**Bronte**	**68.63**	**332**	⇓P		**P**	**22 07 42.2**	**-0.2**
baz=69,SNR=14								
133A	**Hamilton Ranch**	**68.66**	**333**	⇓P		**P**	**22 07 42.5**	**-0.1**
baz=69,SNR=8.2								
Z35A	**Perchaven, San**	**68.68**	**335**	⇑P		**P**	**22 07 42.8**	**+0.2**
baz=69								
230A	**Sterling City**	**68.91**	**331**	⇑P		**P**	**22 07 44.0**	**-0.2**
baz=69								
329A	**Wagon Wheel Ra**	**68.93**	**330**	⇓P		**P**	**22 07 44.5**	**+0.1**
baz=69,SNR=7.2								
Z34A	**Collier Ranch,**	**68.96**	**334**	⇑P		**P**	**22 07 44.4**	**0.0**
baz=69,SNR=6.6								
ABTX	**Abilene, Hawle**	**68.96**	**333**	⇑P		**P**	**22 07 44.5**	**+0.1**
baz=69,SNR=9.1								
ABTX	**Abilene, Hawle**	**68.96**	**333**	*e*P		**P**	**22 07 43.7**	**-0.7**
comp=Z,53nm,1.3s								
Z33A	**Whitaker Ranch**	**69.20**	**334**	⇓P		**P**	**22 07 46.1**	**+0.2**
baz=70,SNR=17								
229A	**Bryant Ranch,**	**69.28**	**331**	⇓P		**P**	**22 07 46.4**	**0.0**
baz=70								
131A	**Roby**	**69.30**	**332**	⇓P		**P**	**22 07 46.7**	**+0.1**
baz=70,SNR=8.4								
Y34A	**Reagan Ranch,**	**69.42**	**335**	⇓P		**P**	**22 07 46.9**	**-0.3**
baz=70,SNR=5.4								
130A	**Snyder**	**69.47**	**332**	⇓P		**P**	**22 07 47.5**	**-0.1**
baz=70,SNR=7.3								
Z32A	**Haskell**	**69.50**	**333**	⇑P		**P**	**22 07 47.8**	**+0.1**
baz=70,SNR=12								
228A	**UT Block 9, Go**	**69.74**	**330**	⇑P		**P**	**22 07 49.2**	**-0.1**
baz=70,SNR=10								
Z31A	**Sharp Cattle R**	**69.77**	**333**	⇑P		**P**	**22 07 49.4**	**0.0**
baz=70,SNR=13								
Y33A	**Hilltop Ranch,**	**69.79**	**334**	⇓P		**P**	**22 07 49.4**	**-0.1**
baz=70,SNR=6.0								
129A	**Stewart Farms,**	**69.87**	**331**	⇑P		**P**	**22 07 50.1**	**0.0**
baz=70								
X34A	**Smith Ranch, M**	**70.03**	**335**	⇑P		**P**	**22 07 50.9**	**0.0**
baz=70,SNR=6.1								
Y32A	**R-V Farms, Ver**	**70.10**	**334**	⇑P		**P**	**22 07 51.3**	**-0.1**
baz=70								
128A	**Castleberry Fa**	**70.13**	**330**	⇑P		**P**	**22 07 51.7**	**0.0**
baz=70,SNR=7.2								
Z30A	**Sanderson Ranc**	**70.14**	**332**	⇓P		**P**	**22 07 51.5**	**-0.2**
baz=70,SNR=7.6								
X33A	**Lawton**	**70.22**	**335**	⇑P		**P**	**22 07 51.4**	**-0.8**
baz=70								
Z29A	**Hungry Hill Ra**	**70.35**	**331**	⇑P		**P**	**22 07 52.7**	**-0.3**
baz=71,SNR=8.9								
Y31A	**Rekieta Farm,**	**70.38**	**333**	⇓P		**P**	**22 07 53.2**	**0.0**
baz=71,SNR=6.4								
X32A	**Elmer**	**70.41**	**334**	⇑P		**P**	**22 07 53.0**	**-0.3**
baz=71								
TUL1	**Leonard**	**70.50**	**337**	⇓P		**P**	**22 07 53.3**	**-0.4**
baz=71,SNR=6.5								
TUL1	**Leonard**	**70.50**	**337**	*e*P		P	22 07 52.8	-1.0
comp=Z,27nm,0.8s								
127A	**Arkansas Junct**	**70.55**	**330**	⇓P		**P**	**22 07 54.2**	**-0.1**
baz=71								
Y30A	**Stafford Cattl**	**70.56**	**332**	⇑P		**P**	**22 07 54.4**	**+0.1**
baz=71								
MNTX	**Cornudas Mount**	**70.63**	**328**	*e*P		P	22 07 53.8	-0.9
comp=Z,12nm,0.8s								
Z28A	**Tucker Farm, M**	**70.66**	**331**	⇓P		**P**	**22 07 54.5**	**-0.5**
baz=71								
W33A	**Caddo, Fort Co**	**70.75**	**335**	⇓P		**P**	**22 07 55.7**	**+0.3**
baz=71,SNR=6.8								
Y29A	**Porterfield Fa**	**70.86**	**332**	⇑P		**P**	**22 07 56.0**	**-0.1**
baz=71,SNR=11								
X31A	**McDonald Ranch**	**70.86**	**333**	⇑P		**P**	**22 07 55.9**	**-0.2**
baz=71								
W32A	**Sentinel**	**71.02**	**334**	⇓P		**P**	**22 07 56.9**	**-0.1**
baz=71,SNR=7.7								
V34A	**Guthrie**	**71.02**	**336**	⇑P		**P**	**22 07 56.6**	**-0.4**
baz=71								
Z27A	**Tatum**	**71.03**	**330**	⇑P		**P**	**22 07 57.1**	**-0.2**
baz=71,SNR=7.4								
X30A	**Coker Ranch, T**	**71.05**	**333**	⇓P		**P**	**22 07 57.0**	**-0.2**
baz=71								
Y28A	**McKinney Farm,**	**71.14**	**331**	⇑P		**P**	**22 07 57.6**	**-0.2**
baz=71								
V33A	**Lossen Ranch,**	**71.28**	**335**	⇓P		**P**	**22 07 58.4**	**-0.2**
baz=72								
LIC	**Lamto**	**71.31**	**71**	*e*P		**P**	**22 07 58.8**	**-0.5**
comp=Z,76nm,0.8s								
Z26A	**Caprock**	**71.33**	**330**	⇑P		**P**	**22 07 59.3**	**+0.3**
baz=72,SNR=26								
W31A	**Holland Ranch,**	**71.33**	**334**	⇑P		**P**	**22 07 58.

baz=73
W25A X Bar L Ranch, 73.19 330 ⇓P P 22 08 10.4 +0.2
baz=74,SNR=12
S32A Newby Ranch, P 73.19 336 ⇑P P 22 08 10.3 +0.3
baz=74
U28A Mallet 73.27 333 ⇓P P 22 08 10.7 +0.2
baz=74
S31A Mullinville 73.32 335 ⇓P P 22 08 11.3 +0.6
baz=74
LPM Los Pinos Moun 73.38 328 eP P 22 08 12.3 +1.0
comp=Z,5.9nm,0.8s
LPM epP pP 22 08 22.2 +0.6
V26A Tequesquite Ra 73.40 331 ⇓P P 22 08 11.8 +0.4
baz=74,SNR=6.0
R33A Olander Ranch, 73.41 337 ⇓P P 22 08 11.1 -0.1
baz=74
X23A Hourglass Bar 73.41 329 ⇓P P 22 08 12.6 +1.0
baz=74,SNR=5.3
U27A Thompson Grove 73.55 332 ⇑P P 22 08 12.9 +0.7
baz=74
W24A Lazy 6 Ranch, 73.59 330 ⇓P P 22 08 13.1 +0.4
baz=74,SNR=11
V25A Rancho No Teng 73.79 331 ⇓P P 22 08 14.1 +0.4
baz=74,SNR=8.8
ANMO Albuquerque 73.83 329 eP P 22 08 14.2 +0.2
ANMO pmax pmax
comp=Z,12nm,1.1s
ANMO Albuquerque 73.83 329 eP P 22 08 14.2 +0.2
comp=Z,12nm,1.1s
T28A Walsh 73.87 333 ⇓P P 22 08 14.4 +0.3
baz=74
W23A Werner Place, 73.88 329 ⇓P P 22 08 14.9 +0.6
baz=74
U26A Atchley Ranch, 73.90 332 ⇓P P 22 08 14.8 +0.4
baz=74,SNR=7.5
S29A Ulysses 73.92 334 ⇓P P 22 08 14.5 +0.2
baz=74
R31A Burdett 73.93 336 ⇑P P 22 08 14.4 +0.1
baz=74
V24A Rampart Ranch, 73.97 330 ⇑P P 22 08 15.4 +0.5
baz=74,SNR=5.6
Q33A Connelly Farm, 73.98 337 ⇑P P 22 08 14.7 +0.2
baz=74
T27A Campo 74.06 333 ⇓P P 22 08 15.7 +0.5
baz=74
U25A Circle Dot Ran 74.18 331 ⇑P P 22 08 16.5 +0.5
baz=74,SNR=7.2
S28A Manter 74.19 334 ⇑P P 22 08 16.1 +0.2
baz=74
R30A Dighton 74.20 335 ⇑P P 22 08 16.0 +0.1
baz=74
Q32A Meitler Ranch, 74.22 337 ⇑P P 22 08 16.0 0.0
baz=74
P33A Williams Farm, 74.33 337 ⇓P P 22 08 16.9 +0.3
baz=75
V23A Ortiz Mt. (NFS 74.38 329 ⇓P P 22 08 18.2 +1.0
baz=75
T26A Comanche Natio 74.51 332 ⇓P P 22 08 18.2 +0.3
baz=75
214A Organ Pipe Nat 74.51 323 ⇑P P 22 08 18.9 +1.1
baz=75,SNR=13
214A Organ Pipe Nat 74.51 323 eP P 22 08 19.1 +1.2
comp=Z,41nm,1.4s
Q31A Ellis 74.52 336 ⇑P P 22 08 17.5 -0.2
baz=75
R29A Marienthal 74.64 334 ⇓P P 22 08 18.9 +0.4
baz=75
Q30A Quinter 74.79 335 ⇑P P 22 08 19.8 +0.4
baz=75,SNR=5.9
P32A Huiting Farm, 74.80 337 ⇑P P 22 08 19.5 +0.2
baz=75
T25A Trinidad 74.81 331 ⇑P P 22 08 20.5 +0.8
baz=75,SNR=12
R28A Tribune 74.82 334 ⇑P P 22 08 19.6 +0.1
baz=75
S26A Kim 74.84 332 ⇓P P 22 08 20.6 +0.8
baz=75,SNR=9.5
V22A San Miguel Ran 74.85 329 ⇑P P 22 08 21.3 +1.4
baz=75,SNR=11
U23A El Rito 74.88 330 ⇑P P 22 08 21.1 +1.0
baz=75,SNR=6.5
P31A Stockton 74.97 336 ⇑P P 22 08 20.6 +0.3
baz=75,SNR=7.2
Q29A Oakley 74.99 335 ⇑P P 22 08 20.5 0.0
baz=75
X18A Snowflake 75.12 326 ⇑P P 22 08 21.7 +0.3
baz=75
R27A Eads 75.15 333 ⇑P P 22 08 21.8 +0.3
baz=75
T24B San Luis 75.15 331 ⇓P P 22 08 23.0 +1.2
baz=75,SNR=13
U22A Llaves 75.21 329 ⇓P P 22 08 23.2 +1.2
baz=76
SCIA State Center 75.24 342 eP P 22 08 20.5 -1.3
comp=Z,22nm,0.9s
O32A Brockman Farm, 75.26 337 ⇓P P 22 08 21.9 -0.1
baz=76
S25A Robets Cordova 75.27 332 ⇓P P 22 08 23.1 +0.8
baz=76,SNR=8.1
P30A Seiden 75.30 336 ⇓P P 22 08 22.4 +0.1
baz=76
T23A Casias Ranch, 75.41 330 ⇑P P 22 08 22.7 -0.5
baz=76
R26A Arlington 75.42 333 ⇑P P 22 08 23.4 +0.4
baz=76,SNR=5.4
JFWS Jewell Farm 75.43 344 eP P 22 08 21.4 -1.4
JFWS pmax pmax
comp=Z,17nm,0.9s
JFWS Jewell Farm 75.43 344 eP P 22 08 21.4 -1.4
comp=Z,17nm,0.9s
W18A Petrified Fore 75.49 327 ⇓P P 22 08 24.4 +0.7
baz=76
O31A Woolen Ranch, 75.52 337 ⇓P P 22 08 24.1 +0.6
baz=76
S24A Houchin Ranch, 75.57 331 ⇓P P 22 08 25.2 +1.1
baz=76,SNR=6.0
R25A Fountain Ranch 75.62 332 ⇑P P 22 08 24.8 +0.6
baz=76
113A Mohawk Valley, 75.65 322 ⇓P P 22 08 25.0 +0.7
baz=76
X16A Lo Mia Camp, P 75.76 325 ⇑P P 22 08 26.1 +1.0
baz=76,SNR=15
SDCO Great Sand Dun 75.78 331 eP P 22 08 25.4 0.0
comp=Z,7.7nm,1.0s
Q26A Hugo 75.98 333 ⇑P P 22 08 27.1 +0.8
baz=76
N31A Bailey Ranch, 76.00 337 ⇑P P 22 08 26.9 +0.7
baz=76
R24A Sanders Place, 76.03 332 ⇑P P 22 08 27.7 +1.0
baz=76,SNR=8.6
Y14A Wickenburg 76.17 324 ⇓P P 22 08 28.2 +0.9
baz=76
BGNE Belgrade 76.25 338 ⇓P P 22 08 28.0 +0.4
baz=76
BGNE Belgrade 76.25 338 eP P 22 08 27.3 -0.3
comp=Z,51nm,0.8s
Q25A Bedland, Calha 76.26 333 ⇓P P 22 08 28.2 +0.3
baz=77
R23A Moffat 76.29 331 ⇑P P 22 08 29.1 +0.8
baz=77,SNR=7.0
S22A 4UR Ranch, Cre 76.34 330 ⇓P P 22 08 29.4 +0.9
baz=77
O28A Krutsinger Ran 76.37 335 ⇓P P 22 08 29.0 +0.7
baz=77
GLA Glamis 76.43 322 ⇓P P 22 08 29.1 +0.3
baz=77
P26A Davis Ranch, A 76.47 333 ⇓P P 22 08 29.5 +0.5
baz=77
M31A Lambtecht Ranc 76.47 337 ⇑P P 22 08 29.4 +0.5
baz=77,SNR=6.9
N29A Votaw Ranch, W 76.56 336 ⇑P P 22 08 29.9 +0.5
baz=77
WUAZ Wupatki 76.60 326 ⇑P P 22 08 30.9 +1.0
baz=77,SNR=12
WUAZ Wupatki 76.60 326 eP P 22 08 30.6 +0.7
comp=Z,37nm,1.3s
WUAZ epPcP PcP 22 08 41.7 +0.4
MVCO Mesa Verde 76.63 329 ⇓P P 22 08 31.0 +0.8
baz=77,SNR=12
MVCO Mesa Verde 76.63 329 eP P 22 08 30.1 0.0
comp=Z,74nm,1.5s
Q24A Divide 76.67 332 ⇓P P 22 08 31.2 +0.8
baz=77,SNR=14
O27A Beecher Island 76.69 334 ⇓P P 22 08 31.0 +0.8
baz=77
P25A Willow Gulch B 76.75 333 ⇑P P 22 08 31.7 +1.0
baz=77,SNR=9.3
N28A Pribbeno Ranch 76.78 335 ⇑P P 22 08 31.2 +0.6
baz=77
Y12C Blythe 76.81 323 ⇑P P 22 08 31.8 +0.9
baz=77
SWSC Sam W. Stewart 76.86 321 ⇑P P 22 08 32.0 +0.8
baz=77
PDMCI Parker Dam,Lak 77.03 323 ⇓P P 22 08 33.1 +1.0
baz=77
O26A Horse Wrangler 77.04 334 ⇓P P 22 08 33.1 +0.8
baz=77
M29A Burnside Ranch 77.14 336 ⇑P P 22 08 33.7 +1.0
baz=77
MONP Monument Peak, 77.17 321 ⇓P P 22 08 33.9 +0.7
baz=78
BC3 Big Chuckawall 77.23 322 ⇓P P 22 08 34.2 +0.8
baz=78
N27A Anderson Farm, 77.24 335 ⇓P P 22 08 34.4 +1.1
baz=78
O25A Wiggins 77.24 333 ⇑P P 22 08 34.3 +1.0
baz=78
L30A Spencer Herefo 77.26 337 ⇓P P 22 08 34.0 +0.7
baz=78
PV01 Paradox Valley 77.43 329 eP P 22 08 35.8 +1.2
comp=Z,2μm,1.2s
PV01 ePcP PcP 22 08 46.4 +1.4
IRM Iron Mountain 77.45 322 ⇑P P 22 08 35.3 +0.7
baz=78
N26A Koester Ranch, 77.52 334 ⇑P P 22 08 35.9 +1.0
baz=78
W13A Hualapai Mount 77.52 324 ⇓P P 22 08 36.0 +0.8
baz=78
ISCO Idaho Springs 77.57 332 eP P 22 08 34.7 -0.7
ISCO pmax pmax
comp=Z,12nm,0.9s
ISCO Idaho Springs 77.57 332 ⇓P P 22 08 36.1 +0.7
baz=78,SNR=5.8
ISCO Idaho Springs 77.57 332 eP P 22 08 34.7 -0.7
comp=Z,12nm,0.9s
PFO Pinyon Flats O 77.73 321 eP P 22 08 36.5 +0.3
PFO pmax pmax
comp=Z,17nm,1.3s
PFO Pinyon Flats O 77.73 321 ⇑P P 22 08 37.1 +0.9
baz=78
PFO Pinyon Flats O 77.73 321 eP P 22 08 36.5 +0.3
comp=Z,17nm,1.3s
U15A North Rim 77.78 326 ⇑P P 22 08 37.9 +1.3
baz=78,SNR=13
BELC Belle Mtn. Jos 77.78 322 ⇑P P 22 08 37.5 +1.0
baz=78
M27A Reverse DX Ran 77.82 335 ⇓P P 22 08 37.6 +1.1
baz=78
P22A Eagle 77.87 331 ⇑P P 22 08 37.5 +0.5
baz=78
K30A Basset 77.87 338 ⇓P P 22 08 37.4 +0.7
baz=78
ECSD EROS Data Cent 77.89 340 ⇑P P 22 08 36.4 -0.3
baz=78,SNR=23
ECSD EROS Data Cent 77.89 340 eP P 22 08 36.2 -0.6
comp=Z,35nm,0.8s
O23A Lake Granby, G 78.04 332 ⇑P P 22 08 38.9 +0.9
baz=78,SNR=12
MURC Murrieta 78.13 321 ⇑P P 22 08 39.4 +1.1
baz=78
N24A Carr 78.15 333 ⇑P P 22 08 39.0 +0.6
baz=78
K29A Lazy Trails An 78.18 337 ⇑P P 22 08 39.0 +0.6
baz=78
GMRC Granite Mounta 78.20 322 ⇓P P 22 08 39.7 +0.9
baz=78
SPMN Marine on St. 78.23 343 ⇓P P 22 08 37.8 -0.8
baz=78
SPMN Marine on St. 78.23 343 eP P 22 08 37.8 -0.8
comp=Z,21nm,0.9s
O22A Kremmling 78.26 332 ⇓P P 22 08 39.9 +0.7
baz=78,SNR=7.4
L27A T5 Ranch, Ells 78.28 335 ⇓P P 22 08 39.8 +0.8
baz=79
J30A Dallas 78.41 338 ⇑P P 22 08 40.0 +0.4
baz=79
HEC Hector,Ludlow 78.59 322 ⇑P P 22 08 41.9 +0.9
baz=79
N23A Red Feather La 78.63 332 ⇑P P 22 08 41.8 +0.6
baz=79,SNR=5.9
CIS Catalina Islan 78.65 320 ⇓P P 22 08 42.1 +0.9
baz=79
M24A Cheyenne 78.68 333 ⇑P P 22 08 42.0 +0.6
baz=79
J29A Okreek 78.76 337 ⇑P P 22 08 41.8 +0.2
baz=79,SNR=15
N22A Wattenberg Ran 78.76 332 ⇑P P 22 08 42.8 +0.9
baz=79,SNR=9.1
K27A Flueckinger Fa 78.79 336 ⇑P P 22 08 42.8 +0.9
baz=79
BFSC Mount Baldy Ra 78.86 321 ⇓P P 22 08 43.1 +0.6
baz=79
I30A Oacoma 78.92 338 ⇓P P 22 08 42.7 +0.3
baz=79
O20A White River Ci 78.94 331 ⇑P P 22 08 43.9 +1.0
baz=79,SNR=8.5
O20A White River Ci 78.94 331 eP P 22 08 44.3 +1.4
comp=Z,11nm,0.3s
M23A Laramie 79.03 333 ⇓P P 22 08 43.8 +0.5
baz=79
J28A Allard Ranch, 79.08 337 ⇓P P 22 08 44.0 +0.6
baz=79,SNR=5.6
CCUT Cedar City 79.19 326 eP P 22 08 45.7 +1.4
comp=Z,23nm,1.0s
CCUT ePcP pP 22 08 54.9 +0.4
J27A Elkhorn Farm, 79.19 336 ⇓P P 22 08 45.2 +1.1
baz=80,SNR=7.7
GSC Goldstone, Bar 79.20 322 ⇓P P 22 08 45.0 +0.7
baz=80
SHPR Sheep Range 79.27 324 eP P 22 08 45.8 +1.0
comp=Z,16nm,1.1s
I29A Vivian Onida 79.30 338 ⇓P P 22 08 44.4 -0.1
baz=80
K25A Mack Ranch, Ha 79.31 335 ⇑P P 22 08 45.2 +0.5
baz=80
M22A Cedar Creek Ra 79.32 332 ⇓P P 22 08 45.7 +0.7
baz=80,SNR=5.5
ARUT Antelope Range 79.41 326 eP P 22 08 46.9 +1.4
ARUT e 22 08 56.5
ARUT pmax pmax
comp=Z,272nm,0.9s
ARUT Antelope Range 79.41 326 eP P 22 08 46.9 +1.4
comp=Z,272nm,0.9s
ARUT ePcP pP 22 08 56.5 +0.8
EDW2 Edwards Air Fo 79.52 321 ⇑P P 22 08 46.3 +0.3
baz=80
N20A Spence Gulch, 79.53 331 ⇑P P 22 08 46.1 0.0
baz=80
I28A Midland 79.57 337 ⇑P P 22 08 46.2 +0.2
baz=80
L23A Garrett 79.57 333 ⇓P P 22 08 46.8 +0.5
baz=80,SNR=6.2
BOSA Boshof 79.59 117 P P 22 08 47.0 +0.2
comp=Z,16nm,0.8s,baz=247,slow=5.0,SNR=8.2
J26A Sides Ranch, S 79.62 336 ⇓P P 22 08 47.7 +1.3
baz=80,SNR=6.4
K24A Anderson Ranch 79.75 334 ⇓P P 22 08 48.2 +1.0
baz=80
BSC Santa Cruz Isl 79.77 319 ⇓P P 22 08 48.2 +0.8
baz=80
L22A Ellis Ranch, M 79.79 333 ⇑P P 22 08 48.3 +0.8
baz=80
H29A Onida 79.81 338 ⇑P P 22 08 47.3 0.0
baz=80
I27A Quinn 79.93 337 ⇑P P 22 08 48.2 +0.2
baz=80,SNR=5.7
J25A Sunshine Ranch 79.95 335 ⇓P P 22 08 48.9 +0.7
baz=80,SNR=9.5
K23A Bowen Ranch, D 80.09 334 ⇓P P 22 08 49.6 +0.6
baz=80,SNR=7.6
H28A Mission Ridge 80.12 338 ⇓P P 22 08 49.0 +0.1
baz=80,SNR=7.1
J24A Dixon Ranch, L 80.22 335 ⇓P P 22 08 50.6 +0.9
baz=80,SNR=11
G29A Hoven 80.22 338 ⇑P P 22 08 49.7 +0.3
baz=80
K22A Casper 80.35 333 ⇑P P 22 08 51.0 +0.6
baz=81,SNR=7.4
K22A Casper 80.35 333 eP P 22 08 50.1 -0.3
comp=Z,29nm,1.0s
DAC Darwin (Calif) 80.36 322 eP P 22 08 51.3 +0.7
DAC pmax pmax
comp=Z,11nm,0.9s
DAC Darwin (Calif) 80.36 322 eP P 22 08 51.3 +0.7
comp=Z,11nm,0.9s
ISA Isabella, Lake 80.37 321 eP P 22 08 51.2 +0.6
ISA pmax pmax
comp=Z,9.0nm,0.9s
ISA Isabella, Lake 80.37 321 ⇑P P 22 08 51.4 +0.8
baz=81
ISA Isabella, Lake 80.37 321 eP P 22 08 51.2 +0.6
comp=Z,9.4nm,0.9s
H27A Howes 80.43 337 ⇑P P 22 08 50.7 0.0
baz=81,SNR=12
G28A Parade 80.44 338 ⇓P P 22 08 50.8 +0.1
baz=81,SNR=6.4
I25A Rochford 80.47 335 ⇑P P 22 08 51.7 +0.6
baz=81,SNR=14
EYMN Ely 80.48 345 eP P 22 08 49.9 -0.9
comp=Z,34nm,1.2s
F30A Leola 80.52 339 ⇑P P 22 08 50.9 -0.2
baz=81,SNR=6.4
K21A Alcova 80.62 333 ⇓P P 22 08 52.5 +0.6
baz=81,SNR=15
I24A Kuemmerle Ranc 80.66 335 ⇓P P 22 08 52.6 +0.6
baz=81,SNR=6.7
TORD Torodi Ar. Bea 80.67 69 P P 22 08 52.4 -0.2
comp=Z,28nm,0.6s,baz=278,slow=6.4,SNR=414
RSSD Black Hills 80.67 335 eP P 22 08 51.9 -0.3
RSSD pmax pmax
comp=Z,25nm,1.2s
RSSD Black Hills 80.67 335 eP P 22 08 51.9 -0.3
comp=Z,25nm,1.2s
F29A Eureka 80.77 339 ⇑P P 22 08 52.7 +0.4
baz=81
VES Vestal, Richgr 80.83 321 ⇓P P 22 08 53.9 +1.0
baz=81
R11A Troy Canyon, C 80.91 325 ⇑P P 22 08 54.3 +0.8
baz=81,SNR=18
SMMC Simmler 80.94 320 ⇓P P 22 08 54.8 +1.2
baz=81
H25A Fruitdale 80.95 336 ⇓P P 22 08 54.0 +0.5
baz=81
J22A Midwest 80.98 333 ⇓P P 22 08 53.8 0.0
baz=81,SNR=19
DUG Dugway, Tooele 81.02 328 eP P 22 08 54.3 +0.2
DUG pmax pmax
comp=Z,20nm,1.4s
DUG Dugway, Tooele 81.02 328 ⇑P P 22 08 54.3 +0.2
baz=81
DUG Dugway, Tooele 81.02 328 eP P 22 08 54.3 +0.2
comp=Z,20nm,1.4s
G27A Dupree 81.04 337 ⇑P P 22 08 53.8 -0.1
baz=81,SNR=5.6
E30A Jud 81.08 340 ⇓P P 22 08 54.0 -0.1
baz=81,SNR=5.3
F28A McLaughlin 81.09 338 ⇑P P 22 08 54.0 -0.1
baz=81
TCUT Toone Canyon 81.12 329 eP P 22 08 55.2 +0.5
comp=Z,13nm,0.9s
G26A Maurine 81.19 337 ⇑P P 22 08 54.6 -0.1
baz=82,SNR=11
TIN Tinemaha, Big 81.28 322 ⇑P P 22 08 56.2 +0.7
baz=82
J21A Lysite 81.30 333 ⇓P P 22 08 55.9 +0.4
baz=82
E29A Napoleon 81.36 339 ⇓P P 22 08 55.6 0.0
baz=82
G25A Newell 81.38 336 ⇑P P 22 08 56.0 +0.2
baz=82,SNR=5.7
I22A 9 Mile Ranch, 81.39 334 ⇑P P 22 08 56.1 +0.3
baz=82,SNR=22
H24A Dirks Ranch, A 81.40 335 ⇓P P 22 08 55.9 0.0
baz=82,SNR=12
F27A Lemmon 81.50 337 ⇑P P 22 08 56.5 +0.2
baz=82,SNR=9.0
TPH Tonopah 81.52 324 eP P 22 08 56.7 -0.1
TPH pmax pmax
comp=Z,14nm,1.0s
TPH Tonopah 81.52 324 eP P 22 08 56.7 -0.1
comp=Z,14nm,1.0s
J20A Shoshoni 81.56 332 ⇑P P 22 08 57.5 +0.7
baz=82,SNR=22
D30A Buchanan 81.59 340 ⇓P P 22 08 56.6 -0.1
baz=82,SNR=12
I21A Big Trails, Te 81.63 333 ⇑P P 22 08 57.2 0.0
baz=82,SNR=15
PDAR Pinedale Array 81.67 331 P P 22 08 57.4 -0.2
comp=Z,5.4nm,0.7s,baz=131,slow=7.5,SNR=35
E28A Huff 81.70 339 ⇓P P 22 08 57.5 +0.1
baz=82,SNR=5.3
F26A Lodgepole 81.70 337 ⇓P P 22 08 57.5 +0.1
baz=82,SNR=6.5
D29A Pettibone, Tap 81.79 340 ⇓P P 22 08 57.7 -0.1
baz=82
G24A Alzada 81.85 336 ⇑P P 22 08 58.3 0.0
baz=82,SNR=9.9
J19A Crowheart 81.88 332 ⇓P P 22 08 58.8 +0.2
baz=82,SNR=7.7
H22A Clearmont 81.93 334 ⇑P P 22 08 58.9 +0.1
baz=82,SNR=10
C30A Mose, Pekin 82.04 341 ⇑P P 22 08 59.2 +0.1
baz=82,SNR=13
I20A Worland 82.08 333 ⇑P P 22 08 59.8 +0.3
baz=82,SNR=9.5
G23A Biddle 82.09 335 ⇑P P 22 08 59.5 0.0
baz=82,SNR=10
H21A Big Horn, Sher 82.22 334 ⇓P P 22 09 00.2 0.0
baz=82
HVU Hansel Valley 82.27 329 eP P 22 09 00.0 -0.6
HVU pmax pmax
comp=Z,8.0nm,0.8s
HVU Hansel Valley 82.27 329 eP P 22 09 00.0 -0.6
comp=Z,8.5nm,0.8s
F24A Ekalaka 82.31 336 ⇓P P 22 09 00.7 0.0
baz=83,SNR=11
NVAR Mina Array Bea 82.35 323 P P 22 09 01.8 +0.6
comp=Z,7.8nm,0.8s,baz=156,slow=6.1,SNR=32
D27A Center 82.43 338 ⇑P P 22 09 01.2 0.0
baz=83
G22A Birney 82.44 335 ⇑P P 22 09 01.3 -0.1
baz=83,SNR=6.9
H20A Greybull 82.47 333 ⇑P P 22 09 01.4 -0.1
baz=83
I19A Meeteetse 82.49 332 ⇑P P 22 09 01.9 +0.1
baz=83,SNR=8.5
E25A Miller Ranch, 82.52 337 ⇓P P 22 09 02.1 +0.4
baz=83,SNR=5.9
F23A Volborg 82.54 335 ⇓P P 22 09 01.8 -0.1
baz=83,SNR=18
C28A Hausauer Farms 82.62 339 ⇑P P 22 09 02.1 0.0
baz=83
D26A Manning 82.66 338 ⇓P P 22 09 02.3 0.0
baz=83
B30A Myrvik Farm, E 82.68 341 ⇓P P 22 09 02.1 -0.2
baz=83,SNR=15
G21A Lodge Grass 82.79 334 ⇑P P 22 09 03.4 +0.2
baz=83,SNR=10
E24A Baker 82.88 336 ⇑P P 22 09 03.8 +0.2
baz=83,SNR=6.1
F22A Rosebud 82.90 335 ⇑P P 22 09 03.7 0.0
baz=83,SNR=22
C27A Sayler Ranch, 82.96 339 ⇑P P 22 09 04.2 +0.2
baz=83,SNR=7.8
B29A Wagenman Farm, 82.98 340 ⇑P P 22 09 03.8 -0.2
baz=83,SNR=7.2
WAKR Walker 83.00 323 eP P 22 09 05.2 +0.7
comp=Z,29nm,1.4s
H19A Powell 83.02 333 ⇓P P 22 09 04.5 0.0
baz=83
I17A Pilgrim Ck. 83.05 331 ⇓P P 22 09 05.0 +0.4
baz=83,SNR=7.0
D25A Fairfield 83.06 337 ⇓P P 22 09 04.8 +0.4
baz=83,SNR=11
A30A Hoffart Farm, 83.11 341 ⇑P P 22 09 04.2 -0.5
baz=83,SNR=6.7
G20A Bridger 83.17 333 ⇓P P 22 09 05.0 -0.2
baz=84,SNR=33
E23A Ismay 83.17 336 ⇓P P 22 09 05.1 +0.1
baz=84
C26A Wahner Farm, P 83.25 338 ⇓P P 22 09 05.5 +0.1
baz=84,SNR=6.4
B28A Dugan Ranch, T 83.27 340 ⇑P P 22 09 05.4 0.0
baz=84,SNR=10
H18A Shoshone NF, C 83.29 332 ⇓P P 22 09 06.0 0.0
baz=84,SNR=40
E22A Miles City 83.35 335 ⇓P P 22 09 06.0 0.0
baz=84
A29A Manning Farm, 83.36 341 ⇓P P 22 09 05.3 -0.6
baz=84,SNR=7.2
D24A Glendive 83.37 337 ⇑P P 22 09 06.5 +0.4
baz=84,SNR=7.9
H17A Grant Village 83.43 332 ⇓P P 22 09 07.6 +0.8
baz=84

RLMT	Red Lodge	83.50	333	*e*P		P	22 09 07.2 +0.2
	comp=Z,14nm,0.8s						
F20A	Billings	83.63	334	⇑P		P	22 09 07.5 0.0
	baz=84						
A28A	Rude Farm, Bot	83.65	340	⇑P		P	22 09 07.2 -0.3
	baz=84,SNR=5.1						
LAO	LASA Array	83.67	335	*e*P		P	22 09 06.7 -0.9
	comp=Z,32nm,1.0s						
ULM	Lac du Bonnet	83.67	343	P		P	22 09 06.9 -0.5
	comp=Z,15nm,0.8s,baz=163,slow=4.1,SNR=31						
D23A	Lindsay	83.72	336	⇓P		P	22 09 08.2 +0.3
	baz=84,SNR=14						
C24A	Savage	83.76	337	⇑P		P	22 09 08.8 +0.8
	baz=84						
YMR	Madison River	83.82	331	*e*P		P	22 09 09.1 +0.4
	comp=Z,18nm,0.8s						
E21A	Keefer Ranch,	83.85	335	⇓P		P	22 09 08.9 +0.4
	baz=84						
F19A	Roth Farm, Mol	83.98	333	⇑P		P	22 09 09.1 -0.2
	baz=84,SNR=12						
B25A	Knox Farm, Ray	83.98	338	⇑P		P	22 09 09.6 +0.5
	baz=84,SNR=5.1						
D22A	Cohagen	84.04	336	⇓P		P	22 09 09.8 +0.3
	baz=84,SNR=11						
QLMT	Earthquake Lak	84.14	331	*e*P		P	22 09 09.5 -0.8
	comp=Z,1.1nm,1.0s						
QLMT				*e*pP		pP	22 09 21.4 +0.8
A26A	Wade Farm, Ken	84.18	339	⇑P		P	22 09 09.5 -0.6
	baz=84						
E20A	Meyer Farm, Mu	84.21	334	⇑P		P	22 09 10.6 +0.2
	baz=84,SNR=26						
GCMT	Greycliff	84.21	333	*e*P		P	22 09 11.1 +0.5
	comp=Z,9.8nm,0.9s						
C23A	Lambert	84.25	337	⇑P		P	22 09 10.7 +0.2
	baz=84,SNR=11						
D21A	La Casta Ranch	84.27	335	⇓P		P	22 09 10.6 -0.1
	baz=85,SNR=9.1						
HLID	Hailey	84.42	329	⇑P		P	22 09 12.1 +0.4
	baz=85,SNR=19						
HLID	Hailey	84.42	329	*e*P		P	22 09 12.2 +0.6
	comp=Z,18nm,1.0s						
E19A	Rath Farm, Rou	84.43	334	⇑P		P	22 09 11.6 +0.1
	baz=85,SNR=29						
C22A	Vida	84.45	336	⇑P		P	22 09 11.3 -0.2
	baz=85,SNR=6.9						
DGMT	Dagmar	84.50	337	⇑P		P	22 09 12.0 +0.2
	baz=85,SNR=6.0						
DGMT	Dagmar	84.50	337	*e*P		P	22 09 11.9 +0.2
	comp=Z,43nm,0.7s						
DGMT				*e*pP		pP	22 09 22.5 +0.4
D20A	Manuel Ranch,	84.71	334	⇑P		P	22 09 12.7 -0.1
	baz=85,SNR=20						
MCMT	McKenzie Canyo	84.74	330	*e*P		P	22 09 13.1 -0.2
	comp=Z,13nm,1.3s						
B23A	Brockton	84.76	337	⇓P		P	22 09 13.1 0.0
	baz=85						
A24A	Westby	84.83	338	⇓P		P	22 09 13.8 +0.4
	baz=85						
SCHQ	Schefferville	84.86	1	P		P	22 09 12.8 -0.6
	comp=Z,8.5nm,0.8s,baz=205,slow=5.4,SNR=9.1						
C21A	Desert Coulee	84.95	335	⇓P		P	22 09 13.8 -0.3
	baz=85,SNR=13						
B22A	Reddig Ranch S	84.96	336	⇑P		P	22 09 14.2 0.0
	baz=85,SNR=6.5						
D19A	Cripps Ranch,	85.05	334	⇑P		P	22 09 14.4 -0.2
	baz=85,SNR=14						
C20A	Veseth Ranch,	85.18	335	⇓P		P	22 09 15.0 -0.2
	baz=86						
LRM	Limekiln Ridge	85.37	331	*e*P		P	22 09 16.8 +0.3
	comp=Z,83nm,1.0s						
LRM				*e*pP		pP	22 09 27.4 +0.6
B21A	Ellsworth Farm	85.43	336	⇓P		P	22 09 16.6 +0.1
	baz=86						
A22A	Carney Farms,	85.53	337	⇓P		P	22 09 17.0 +0.1
	baz=86,SNR=12						
C19A	Slack Wire Ran	85.59	334	⇑P		P	22 09 17.1 -0.2
	baz=86,SNR=7.6						
B20A	Solberg Farm,	85.80	335	⇓P		P	22 09 18.8 +0.5
	baz=86						
HRY	Holter Researc	85.83	332	*e*P		P	22 09 18.8 +0.2
	comp=Z,4.1nm,0.7s						
MOD	Modoc Plateau	85.95	324	*e*P		P	22 09 19.6 +0.2
	comp=Z,9.1nm,0.8s						
EGMT	Eagleton	86.09	334	⇓P		P	22 09 19.4 -0.4
	baz=86,SNR=9.0						
EGMT	Eagleton	86.09	334	*e*P		P	22 09 19.1 -0.7
	comp=Z,23nm,1.0s						
A20A	Cobblestone Ra	86.13	336	⇑P		P	22 09 19.7 -0.3
	baz=86,SNR=16						
B19A	Brinkman Farms	86.15	335	⇓P		P	22 09 19.9 -0.1
	baz=86,SNR=7.3						
A19A	Klindworth Far	86.47	335	⇓P		P	22 09 21.2 -0.4
	baz=87,SNR=9.1						
N02D	Trinity Center	86.52	322	⇓P		P	22 09 22.2 +0.1
	baz=87						
CHMT	Chamberlain Mo	86.57	331	*e*P		P	22 09 22.6 +0.2
	comp=Z,5.2nm,0.9s						
M04C	Macdoel	86.65	323	⇓P		P	22 09 23.1 +0.4
	baz=87						
M02C	Callahan	86.89	323	⇑P		P	22 09 24.3 +0.4
	baz=87						
SLMT	Seeley Lake	86.94	332	*e*P		P	22 09 24.0 0.0
	comp=Z,30nm,1.1s						
SWMT	Swartz Lake	87.36	331	*e*P		P	22 09 25.6 -0.4
	comp=Z,12nm,0.9s						
SWMT				*e*pP		pP	22 09 36.3 -0.1
J05D	Fort Rock, OR	87.44	325	⇓P		P	22 09 27.1 +0.6
	baz=88						
KTRM	Thompson Ridge	87.54	323	P		P	22 09 28.0 +1.0
YBMT	Yellow Bay	87.64	332	*e*P		P	22 09 27.0 -0.5
	comp=Z,12nm,0.7s						
YBMT				*e*pP		pP	22 09 37.7 0.0
JTMT	Jette	87.66	331	*e*P		P	22 09 28.2 +0.7
	comp=Z,12nm,0.7s						
J04D	Umpqua Nationa	87.84	324	⇓P		P	22 09 29.3 +0.7
	baz=88						
BSMT	Bassoo Peak	87.95	331	P		P	22 09 29.4 +0.4
I05D	Terrebonne, OR	88.26	325	⇓P		P	22 09 31.4 +1.0
	baz=88						
HBO	Huckleberry Mo	88.39	325	P		P	22 09 31.5 +0.4
I04A	Tendick Farm,	88.39	325	⇑P		P	22 09 31.2 +0.2
	baz=89						
WALA	Waterton Lakes	88.55	332	*e*P		P	22 09 31.2 -0.5
	comp=Z,1.5nm,1.0s						
BPO	Bald Peter	88.66	326	P		P	22 09 33.6 +1.1
NEW	Newport	89.26	330	⇓P		P	22 09 34.7 -0.2
	baz=90						
DPW	Davenport	89.43	329	P		P	22 09 36.6 +0.8
DPW	Davenport	89.43	329	P		P	22 09 36.6 +0.8
ETW	Entiat	90.18	328	P		P	22 09 39.6 +0.2
FCC	Fort Churchill	91.17	347	*e*P		P	22 09 43.5 0.0
FCC				pmax		pmax	
	comp=Z,1.0nm,0.7s						
FCC	Fort Churchill	91.17	347	*e*P		P	22 09 43.5 0.0
	comp=Z,0.6nm,0.7s						
EDM	Edmonton	91.66	335	*e*P		P	22 09 44.5 -1.5
EDM	Edmonton	91.66	335	*e*P		P	22 09 44.5 -1.5
ESDC	Sonseca Array	92.30	45	P		P	22 09 48.8 -0.5
	comp=Z,1.4nm,0.7s,baz=250,slow=4.4,SNR=5.9						
YKA	Yellowknife Ar	99.42	340	P		Pdif	22 10 20.5 -0.5
	comp=Z,2.5nm,0.7s,baz=138,slow=4.6,SNR=53						
KHC	Kasperske Hory	107.92	43	AMS		AMS	22 54 30.0
	comp=Z,300nm,15.7s						
PRU	Pruhonice	108.85	43	AMS		AMS	22 55 00.0
	comp=Z,200nm,21.1s						
VYHS	Vyhne	110.83	45	*e*PP		PP	22 15 45.5 -4.6
BRTR	Keskin Array B	117.91	58	PKP		PKPdf	22 15 25.4 -0.5
	comp=Z,1.1nm,0.8s,baz=194,slow=3.2,SNR=6.0						
KIEV	Kiev	117.92	45	⇓*i* PKIKP		PKPdf	22 15 24.3 -1.0
KIEV	Kiev	117.92	45	*e*PKPdf		PKPdf	22 15 22.8 -2.4
AKASG	Malin Array Be	117.94	45	PKP		PKPdf	22 15 23.3 -2.0
	comp=Z,2.6nm,0.6s,baz=265,slow=2.5,SNR=10.0						
ASAR	Alice Springs	121.89	205	PKP		PKPdf	22 15 32.9 -1.1
	comp=Z,1.4nm,0.5s,baz=135,slow=1.8,SNR=16						
OBN	Obninsk	123.12	41	⇑*i* PKIKP		PKPdf	22 15 34.1 -1.0
OBN				*i*			22 15 45.1
OBN				pmax		pmax	
	comp=Z,8.0nm,1.2s						
OBN				MLR		MLR	
	comp=Z,181nm,24.0s						
KLMR	Klimovskoe	125.04	34	*e*PKIKP		PKPdf	22 15 37.8 -0.8
KLMR				pmax		pmax	
	comp=Z,25nm,1.9s						
WRA	Warramunga Arr	125.11	207	PKP		PKPdf	22 15 39.4 -0.8
	comp=Z,4.0nm,0.6s,baz=161,slow=1.7,SNR=82						
KIV	Kislovodsk	125.48	55	*i* PKIKP		PKPdf	22 15 39.8 -0.4
KIV				pmax		pmax	
	comp=Z,6.0nm,1.0s						
KIV				MLR		MLR	
	comp=Z,130nm,20.0s						
KBZ	Khabaz	125.59	56	PKP		PKPdf	22 15 40.5 +0.3
	comp=Z,2.3nm,0.9s,baz=33,slow=0.8,SNR=7.4						
GNI	Garni	126.28	60	⇑*i* PKIKP		PKPdf	22 15 41.9 0.0
PMG	Port Moresby	127.25	227	⇓*i* PKIKP		PKPdf	22 15 44.6 +0.2
PRGR	Permogore	127.95	33	*e*PKIKP		PKPdf	22 15 43.9 -0.3
PRGR				pmax		pmax	
	comp=Z,10.0nm,1.0s						
ARU	Arti	135.40	39	*i* PKIKP		PKPdf	22 15 59.0 +0.6
ARU							22 18 33.2
GEYT	Alibeck	136.22	65	PKhKP		PKPpre	22 15 54.2
	comp=Z,1.8nm,0.8s,baz=304,slow=2.7,SNR=4.3						
TIXI	Tiksi	137.50	352	*i* PKIKP		PKPdf	22 16 01.6 -0.3
ABKAR	Akbulak array	137.50	49	*e*PKPdf		PKPdf	22 16 02.2 -0.3
SEY	Seymchan	137.98	333	PKP		PKPdf	22 16 03.6 +0.6
	comp=Z,14nm,0.8s,baz=111,slow=2.6,SNR=38						
PETK	Petropavlovsk-	139.23	318	PKP		PKPdf	22 16 06.2 +0.6
	comp=Z,13nm,1.1s,baz=115,slow=6.7,SNR=4.8						
BVAR	Borovoye Array	142.96	41	PKP		PKPdf	22 16 09.7 -2.6
	comp=Z,1.7nm,0.5s,baz=295,slow=3.1,SNR=11						
KKAR	Karatay Array	145.61	57	*e*PKP2		PKPdf	22 16 16.5 -0.8
KKAR	Karatay Array	145.61	57	*e*PKPdf		PKPdf	22 16 16.4 -0.8
YAK	Yakutsk	146.00	344	*e*PKIKP		PKPdf	22 16 17.0 -0.3
YAK				*e*			22 16 26.2
YAK				pmax		pmax	
	comp=Z,39nm,0.9s						
YAK				pmax		pmax	
	comp=N,9.0nm,1.1s						
YAK				pmax		pmax	
	comp=E,5.0nm,0.8s						
YAK	Yakutsk	146.00	344	*e*PKPdf		PKPdf	22 16 17.7 +0.4
HYB	Hyderabad	147.94	106	*i* PKP		PKPdf	22 16 23.5 +1.5
EKS2	Erkin-Say	148.05	57	P		PKPbc	22 16 25.3 +0.6
	SNR=12						
EKS2	Erkin-Say	148.05	57	*e*PKIKP		PKPdf	22 16 22.7 +1.1
EKS2	Erkin-Say	148.05	57	*e*PKPdf		PKPdf	22 16 22.7 +1.1
AML	Almayashu	148.08	58	P		PKPbc	22 16 25.7 +0.5
	SNR=12						
USP	Ospenovka	148.45	56	P		PKPbc	22 16 26.0 +0.3
	SNR=15						
KURK	Kurchatov	148.56	40	*e*PKIKP		PKPdf	22 16 22.4 +0.5
KURK	Kurchatov	148.56	40	*e*PKPdf		PKPdf	22 16 22.4 +0.5
AAK	Ala-Archa	148.57	57	P		PKPbc	22 16 26.9 +0.7
	SNR=19						
AAK	Ala-Archa	148.57	57	PKP		PKPdf	22 16 24.0 +1.5
	comp=E,26nm,0.7s,baz=208,slow=2.7,SNR=89						
AAK				PKPbc		PKPbc	22 16 26.9 +0.7
	comp=E,26nm,0.7s,baz=208,slow=1.9,SNR=88						
NVS	Novosibirsk	148.58	31	*e*PKIKP		PKPdf	22 16 20.9 -0.9
NVS				pmax		pmax	
	comp=Z,31nm,0.9s						
NVS				pmax		pmax	
	comp=E,9.0nm,1.3s						
UCH	Uchtor	148.66	58	P		PKPbc	22 16 27.7 +0.9
	SNR=19						
CHMS	Chumysh	148.69	56	P		PKPbc	22 16 26.8 +0.6
	SNR=23						
KBK	Karagaybulak	148.90	57	P		PKPbc	22 16 27.7 +0.7
	SNR=24						
KZA	Kyzart	149.23	58	P		PKPbc	22 16 28.9 +0.8
	SNR=9.5						
TKM2	Tokmak 2	149.31	56	P		PKPbc	22 16 28.4 +0.4
	SNR=30						
TKM2	Tokmak 2	149.31	56	*e*PKPdf		PKPdf	22 16 23.9 +0.1
ZALV	Zalesovo Beam	149.86	31	PKP		PKPdf	22 16 25.9 +2.0
	comp=E,40nm,0.7s,baz=321,slow=1.4,SNR=55						
ZALV				PKPbc		PKPbc	22 16 28.9 +0.1
	comp=E,40nm,0.7s,baz=309,slow=3.1,SNR=144						
ZALV				PKKP		PKKPdf	22 25 08.8 -4.8
	comp=E,1.1nm,0.6s,baz=307,slow=5.4,SNR=6.3						
ULHL	Ulahol	149.92	57	P		PKPbc	22 16 30.9 +1.3
	SNR=8.1						
ULHL	Ulahol	149.92	57	*i* PKP2		PKPbc	22 16 30.9 +1.3
KSH	Kashi	150.16	63	PKPbc		PKPdf	22 16 24.5 -0.6
KSH				sPKP			22 16 38.0
KSH				PKS		PKSdf	22 19 58.8 -1.2
KSH				PP		PP	22 20 03.0 -2.6
KSH				SKS		SKSdf	22 23 29.6 -1.1
KSH				SKKS		SKKSac	22 26 50.0 -4.0
KSH				SS		SS	22 39 17.5 -4.1
KSH				PPMZ			
	comp=E,91nm,4.6s						
KSH				LN			
	comp=E,44nm,4.6s						
KSH				LE			
	comp=E,36nm,4.0s						
KSH				LZ			
	comp=E,120nm,6.8s						
YSS	Yuzh-Sakhalins	150.32	313	⇑*e*PKIKP		PKPbc	22 16 29.8 -0.3
YSS				*e*			22 16 40.1
NDI	New Delhi	150.78	85	*e*P		PKPbc	22 16 32.0 +0.2
ASAJ	Asahikawa	151.40	308	PKPbc		PKPbc	22 16 32.9 +0.1
	comp=E,18nm,0.9s,baz=292,slow=6.9,SNR=7.7						
CLNS	Chul'man	151.75	344	*e*PKIKP		PKPbc	22 16 30.9 -2.3
CLNS				pmax		pmax	
	comp=Z,12nm,0.7s						
CLNS				pmax		pmax	
	comp=N,2.0nm,0.7s						
BOD	Bodaibo	152.45	356	*e*PKIKP		PKPdf	22 16 26.6 -1.2
BOD				*e*			22 16 33.2
BOD				pmax		pmax	
	comp=Z,19nm,1.0s						
MKAR	Makanchi Array	152.52	45	PKP		PKPdf	22 16 28.3 0.0
	comp=Z,0.6nm,0.8s,baz=316,slow=0.9,SNR=7.2						
MKAR				PKPbc		PKPbc	22 16 34.9 -0.3
	comp=Z,14nm,0.7s,baz=310,slow=2.0,SNR=145						
HVS	Khovu-Aksy	155.64	27	⇑*e*PKIKP		PKPdf	22 16 33.0 +0.4
KOLN	Koldanda	156.10	89	*e*P		PKPdf	22 16 33.6 -0.5
	comp=Z,8.1nm,0.9s						
DANN	Dangsing	156.35	88	*e*P		PKPdf	22 16 33.7 -0.9
	comp=Z,27nm,1.1s						
MJAR	Matsushiro Arr	156.37	292	PKPab		PKPab	22 17 01.6 -0.8
	comp=Z,3.2nm,0.7s,baz=122,slow=2.5,SNR=7.0						
GKN	Gorkha	157.04	89	*e*P		PKPdf	22 16 34.9 -0.4
WMQ	Urumqi	157.27	47	*e*PKP		PKPdf	22 16 35.1 +0.1
WMQ				PKPab		PKPab	22 17 06.8 +0.7
WMQ				PKS		PKSdf	22 20 07.4 -1.3
WMQ				PP		PP	22 20 47.5 +2.4
WMQ				SKS		SKSdf	22 23 35.3 -3.2
WMQ				SKKS		SKKSac	22 27 31.5 -0.5
WMQ				SS		SS	22 40 35.3 -2.9
WMQ				PPMZ			
	comp=Z,240nm,5.0s						
WMQ				LN			
	comp=Z,48nm,18.0s						
WMQ				LE			
	comp=Z,95nm,20.0s						
WMQ				LZ			
	comp=Z,95nm,22.0s						
DMN	Daman	157.36	91	*e*P		PKPdf	22 16 35.1 -0.7
MOY	Mondy	157.50	16	*e*PKP2		PKPab	22 17 06.9 +0.1
KKN	Kakani	157.55	90	*e*P		PKPdf	22 16 35.8 -0.2
PKIN	Phulchoki	157.60	91	*e*P		PKPdf	22 16 35.5 -0.7
PKI	Pulchoki	157.62	91	*e*P		PKPdf	22 16 35.7 -0.5
TLY	Talaya	158.04	12	PKPab		PKPab	22 17 08.7 -0.3
	comp=Z,1.5nm,0.3s,baz=313,slow=2.9,SNR=3.1						
GUN	Gumba	158.10	90	*e*P		PKPdf	22 16 35.6 -1.2
USRK	Ussuriysk Ar.	158.29	315	PKPab		PKPab	22 17 10.7 +0.3
	comp=Z,4.5nm,0.8s,baz=48,slow=3.0,SNR=8.7						
JIRN	Jiri	158.31	91	*e*P		PKPdf	22 16 36.4 -0.7
RAMN	Ramite	158.50	93	*e*P		PKPdf	22 16 37.2 0.0
ODAN	Odare	159.15	94	*e*P		PKPdf	22 16 37.9 -0.1
	comp=Z,7.7nm,0.7s						
ZAK	Zakamensk	159.21	14	*e*PKIKP		PKPdf	22 16 37.5 +0.4
ZAK				pmax		pmax	
	comp=Z,2.0nm,1.0s						
ZAK				pmax		pmax	
	comp=Z,2.0nm,1.9s						
TAPN	Taplejung	159.55	93	*e*P		PKPdf	22 16 38.5 0.0
HIA	Hailar	159.93	343	PKIKP		PKPdf	22 16 37.0 -0.9
SONM	Songino Array	162.22	10	PKP		PKPdf	22 16 42.0 +1.5
	comp=Z,0.8nm,0.7s,baz=132,slow=2.2,SNR=5.1						
SONM				PKPab		PKPab	22 17 27.6 +0.1
	comp=Z,1.4nm,0.7s,baz=318,slow=4.8,SNR=4.6						
CN2	Changchun	162.25	323	*e*PKP		PKPdf	22 16 40.7 +0.2
ULN	Ulaanbaatar	162.28	8	⇑*e*PKIKP		PKPdf	22 16 40.3 -0.3
CMAR	Chiang Mai Arr	163.98	135	PKP		PKPdf	22 16 43.4 +0.4
	comp=Z,0.6nm,0.5s,baz=270,slow=2.2,SNR=8.4						
CMAR				PKPab		PKPab	22 17 35.3 -0.6
	comp=Z,1.9nm,0.8s,baz=233,slow=5.6,SNR=7.7						
KSRS	Korea Array	164.14	301	PKP		PKPdf	22 16 43.1 +0.6
	comp=Z,2.7nm,1.0s,baz=38,slow=2.2,SNR=4.9						
KSAR	Wonju Array Be	164.17	301	PKIKP		PKPdf	22 16 43.1 +0.6
KSAR	Wonju Array Be	164.17	301	PKP		PKPdf	22 16 43.1 +0.6
GTA	Gaotai	167.24	42	*e*PKP		PKPdf	22 16 46.0 +0.8
GTA				pPKP		pPKPdf	22 16 56.8 +0.9
GTA				sPKP			22 17 00.6
GTA				PKPab		PKPab	22 17 50.6 +0.7
BJI	Beijing	169.39	337	PKP		PKPdf	22 16 46.0 -0.4
HHC	Hu-ho-hao-te	169.51	357	*e*PKP		PKPdf	22 16 46.4 -0.2
HHC				sPKP			22 17 00.9
HHC				PP		PP	22 21 51.9 +3.2
HHC				SKKS			22 28 34.0
HHC				SS		SS	22 42 42.9 +0.3
HHC				PPMZ			
	comp=Z,160nm,11.1s						
HHC				LN			
	comp=Z,220nm,21.0s						
HHC				LE			
	comp=Z,220nm,21.0s						
HHC				LZ			
	comp=Z,220nm,20.4s						
KMI	Kunming	171.16	124	PKP		PKPdf	22 16 48.0 -0.2
KMI				LZ			
	comp=Z,63nm,20.9s						
NJ2	Nanjing	172.91	286	*e*PKP		PKPdf	22 16 48.7 +0.3
CD2	Chengdu	173.90	83	*e*PKP		PKPdf	22 16 49.2 +0.3
GYA	Guiyang	174.67	136	*e*PKP		PKPdf	22 16 48.2 -1.2
GYA				pPKP		pPKPdf	22 17 00.9 +0.8
GYA				PKPab		PKPab	22 18 24.2 +1.0
GYA				PKS		PKSdf	22 20 19.0 -2.8
GYA				PP		PP	22 22 16.5 +1.3
GYA				SKKS			22 28 58.8
GYA				SS		SS	22 43 32.4 -2.5
GYA				PPMZ			
	comp=Z,130nm,8.6s						
GYA				LN			
	comp=Z,130nm,21.2s						
GYA				LE			
	comp=Z,110nm,22.4s						
GYA				LZ			
	comp=Z,120nm,21.8s						
XAN	Xi'an	175.99	23	PKP		PKPdf	22 16 49.4 -0.1

PRE 02 21:59:57.2±1.9, 22°.20S×33°.08E, h5km, ML3.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	Messina	2.83	266	*e*P		Pn	22 00 42.4 -0.8
MSNA				*e*S		Sn	22 01 18.5 +0.7
MSNA				AML		AML	22 01 36.2
	comp=Z,143nm,0.2s						
OBSV	Observatory	6.05	228	*e*P		Pn	22 01 29.9 +2.2
OBSV				*e*S		Sn	22 02 35.9 -1.7
OBSV				AML		AML	22 03 13.9
	comp=Z,12nm,0.4s						
PRYS	Parys	7.02	227	*e*P		Pn	22 01 42.8 +1.9
PRYS				*e*S		Sn	22 02 57.9 -3.4
PRYS				AML		AML	22 03 52.4
	comp=Z,7.1nm,0.6s						
LBTB	Lobatse	7.41	246	*e*P		Pn	22 01 46.6 +0.4
LBTB				*e*S		Sn	22 03 06.8 -4.0
LBTB				AML		AML	22 03 30.3
	comp=Z,10nm,0.6s						
SEK	Senekal	7.85	218	*e*P		Pn	22 01 52.8 +0.5
SEK				*e*S		Sn	22 03 17.3 -4.4
SEK				AML		AML	22 03 49.3
	comp=Z,5.9nm,0.2s						
SWZ	Schweizer	8.62	233	*e*P		Pn	22 02 03.8 +1.0
SWZ				*e*S		Sn	22 03 36.5 -4.0
SWZ				AML		AML	22 03 52.0
	comp=Z,9.5nm,0.4s						
BOSA	Boshof	9.53	226	*e*P		Pn	22 02 15.7 +0.4
BOSA				*e*S		Sn	22 03 56.8 -6.1
BOSA				AML		AML	22 04 08.1
	comp=Z,3.5nm,0.5s						
BOSA	Boshof	9.53	226	*i* P		Pn	22 02 16.6 +1.3
BOSA				*i*			22 02 17.0
	baz=71,slow=18						
BOSA				*i* S		Sn	22 04 05.2 +2.2

*IDC **02** 22:02:30.1±1.1, 33°.69N×93°.42E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.5/29, mbtmp3.5/7, ML3.3/2, Error ellipse: s-maj=49.8km s-min=22.9km az=63.0*
*BJI **02** 22:02:32.4, 33°.90N×93°.00E, h33km, mb3.9/2, ML3.5/5, Ms3.5/4, Ms7 3.2/5*
*ISCJB **02** 22:02:33.0±0.8, 33°.68N±0°.08×93°.2E±0°.1, h33km, mb3.5/4, Error ellipse: s-maj=13.1km s-min=11.5km az=29.4*
ISC 02 22:02:34.0±1.1, 33°.8N±0°.1×93°.1E±0°.1, h35km, n9, σ1§64/9, mb3.9/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	4.45	203	P		Pn	22 03 45.2 +5.8
MKAR	Makanchi Array	15.35	331	Pn		P	22 06 10.4 -1.8
	0.0nm,0.3s,baz=147,slow=13,SNR=2.7						
CMAR	Chiang Mai Arr	16.16	160	Pn		Pn	22 06 17.7 -0.8
	0.1nm,0.3s,baz=330,slow=13,SNR=6.7						
HHC	Hu-ho-hao-te	16.23	59	*e*P		P	22 06 21.6 -0.5
HHC				sP		sP	22 06 34.6 -1.1
HHC				S		Sn	22 09 20.5 +2.3
HHC				LZ			
	380nm,11.8s						
SONM	Songino Array	17.18	32	P		Pn	22 06 30.8 -0.5
	baz=216,slow=12,SNR=4.0						
ZALV	Zalesovo Beam	20.96	346	P		Pn	22 07 16.8 +0.3
	0.2nm,0.3s,baz=129,slow=6.1,SNR=2.5						
WRA	Warramunga Arr	66.34	137	P		P	22 13 19.1 -0.2
	1.2nm,1.0s,baz=335,slow=6.7,SNR=6.5						
ASAR	Alice Springs	69.09	140	P		P	22 13 36.5 0.0
	0.7nm,0.6s,baz=326,slow=6.4,SNR=14						
TORD	Torodi Ar. Bea	83.99	282	P		P	22 15 03.4 +2.3
	0.5nm,0.9s,baz=42,slow=6.4,SNR=4.1						

*IDC **02

WVT	Waverly	72.84	348	*e*P	P	22 16 12.2	-2.1
	6.4nm,0.6s						
DBIC	Dimbokro	76.59	72	P	P	22 16 37.1	+0.5
	2.6nm,0.7s,baz=186,slow=9.3,SNR=3.9						
DBIC	Dimbokro	76.59	72	*e*P	P	22 16 36.5	-0.1
BOSA	Boshof	80.03	118	P	P	22 16 56.5	+0.8
	3.5nm,0.6s,baz=246,slow=5.4,SNR=9.7						
SRU	San Rafael Swe	82.14	332	*e*P	P	22 17 06.5	0.0
	4.5nm,0.6s						
NVAR	Mina Array Bea	84.85	326	P	P	22 17 22.7	+2.3
	1.0nm,0.5s,baz=156,slow=5.8,SNR=5.1						
ELK	Elko	85.42	329	P	P	22 17 23.4	+0.1
	0.7nm,0.6s,baz=44,slow=1.4,SNR=4.5						
TORD	Torodi Ar. Bea	85.65	71	P	P	22 17 24.9	+0.2
	1.0nm,0.8s,baz=268,slow=4.2,SNR=12						
ULM	Lac du Bonnet	87.99	346	P	P	22 17 35.7	+0.4
	2.2nm,0.7s,baz=160,slow=1.5,SNR=8.9						
YBH	Yreka Blue Hor	89.51	325	LR	LR	22 51 56.0	
	comp=Z,82nm,21.7s,baz=212,slow=32						
MKAR	Makanchi Array	158.59	52	PKP	PKPdf	22 24 42.9	+0.1
	0.2nm,0.8s,baz=29,slow=3.3,SNR=3.1						
MKAR				PKPab	PKPab	22 25 18.2	+0.1
	0.5nm,0.8s,baz=252,slow=3.2,SNR=4.3						

IDC ***02*** *22:07:45.6±1.2,37.°61S×176.°99E,h135km±7km,mb3.6/4, mb1 3.7/4,mb1mx3.6/17,mbtmp4.0/4,MS3.5/1,Ms1 3.5/1, ms1mx3.0/24,Error ellipse: s-maj=40.6km s-min=24.0km az=50.0*

ISCJB ***02*** *22:07.°46.6±0.5,38.°08S±0.°03×176.°60E±0.°05,h156km±4km, mb3.7/4,Error ellipse: s-maj=6.0km s-min=5.6km az=7.3*

NEIC ***02*** *22:07.°48.5,37.°99S×176.°59E,h139km,MG4.5(WEL), After WEL.*

WEL ***02*** *22:07.°48.5±0.3,37.°99S×176.°59E,h140km±2km,ML4.5/20, Error ellipse: s-maj=1.4km s-min=1.3km az=0.0*

ISC 02 22:07.°47.7±0.8,38.°05S±0.°04×176.°58E±0.°04,h148km±5km, n191,σ1§09/189,mb3.7/4,39C-11D,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	Manawahe	0.10	49	⇑PN	Pn	22 08 07.4	-0.3
MARZ	Manawahe	0.10	49	Pn	Pn	22 08 07.4	-0.3
TARZ	Mount Tarawera	0.19	198	⇑PN	Pn	22 08 08.0	+0.1
TARZ	Mount Tarawera	0.19	198	Pn	Pn	22 08 08.0	+0.1
OPRZ	Ohinepanea	0.20	354	PN	Pn	22 08 07.2	-0.6
OPRZ				SN	Sn	22 08 21.8	-1.2
OPRZ	Ohinepanea	0.20	354	Pn	Pn	22 08 07.2	-0.6
HLRZ	Highlands Stat	0.27	222	⇑PN	Pn	22 08 08.2	+0.2
RRRZ	Republican Roa	0.29	190	⇑PN	Pn	22 08 08.0	-0.1
RRRZ	Republican Roa	0.29	190	Pn	Pn	22 08 08.0	-0.1
TGRZ	Tauranga	0.41	321	PN	Pn	22 08 08.0	-0.5
TGRZ				SN	Sn	22 08 23.5	-0.6
TGRZ	Tauranga	0.41	321	Pn	Pn	22 08 08.0	-0.5
TGRZ				Sn	Sn	22 08 23.5	-0.6
HRRZ	Handcock Road	0.41	215	⇑PN	Pn	22 08 08.7	+0.2
HRRZ	Handcock Road	0.41	215	Pn	Pn	22 08 08.7	+0.2
URZ	Urewera	0.47	117	PN	Pn	22 08 08.1	-0.5
URZ				SN	Sn	22 08 22.5	-2.1
URZ				AML	AML	22 08 23.9	
URZ	Urewera	0.47	117	P	Pn	22 08 08.2	-0.5
	458nm,0.3s,baz=261,slow=4.2,SNR=2248						
URZ				S	Sn	22 08 22.4	-2.2
	baz=162,slow=20						
URZ	Urewera	0.47	117	Pn	Pn	22 08 07.8	-0.8
URZ				Sn	Sn	22 08 22.5	-2.1
PRRZ	Plateau Road	0.47	198	⇑PN	Pn	22 08 08.8	0.0
PRRZ	Plateau Road	0.47	198	Pn	Pn	22 08 08.8	0.0
ALRZ	Allen Road	0.55	200	⇑PN	Pn	22 08 09.1	0.0
ALRZ	Allen Road	0.55	200	Pn	Pn	22 08 09.1	0.0
WIZ	White Island	0.71	43	PN	Pn	22 08 09.2	-0.9
RAWZ	Rawiri	0.79	124	PN	Pn	22 08 10.8	+0.1
MWZ	Matawai	0.80	111	PN	Pn	22 08 10.4	-0.3
MWZ				SN	Sn	22 08 27.0	-1.3
MWZ				AML	AML	22 08 27.9	
MWZ				AML	AML	22 08 28.5	
MWZ				AML	AML	22 08 29.5	
MWZ	Matawai	0.80	111	Pn	Pn	22 08 10.4	-0.3
MWZ				Sn	Sn	22 08 27.0	-1.3
MYRZ	Mayor Island	0.81	340	PN	Pn	22 08 10.6	-0.2
TOZ	Tahuroa Road	0.91	290	⇑PN	Pn	22 08 11.9	+0.3
TOZ	Tahuroa Road	0.91	290	Pn	Pn	22 08 11.9	+0.3
WATZ	Wairara	0.94	225	⇑PN	Pn	22 08 12.4	+0.6
WATZ	Wairara	0.94	225	Pn	Pn	22 08 12.4	+0.6
SNGZ	Shannon Statio	0.94	141	PN	Pn	22 08 12.4	+0.6
SNGZ				SN	Sn	22 08 29.5	-0.8
RAHZ	Arahi	0.95	156	⇑PN	Pn	22 08 12.7	+0.8
RAHZ				SN	Sn	22 08 30.5	+0.1
RAHZ	Arahi	0.95	156	Pn	Pn	22 08 12.7	+0.8
HAZ	Te Kaha	0.99	73	⇓PN	Pn	22 08 11.2	-1.0
HAZ				SN	Sn	22 08 28.5	-2.3
RATZ	Rangitukua	1.04	218	PN	Pn	22 08 13.2	+0.5
RATZ	Rangitukua	1.04	218	Pn	Pn	22 08 13.2	+0.5
NMHZ	Naumai	1.06	171	⇑PN	Pn	22 08 14.1	+1.2
NMHZ	Naumai	1.06	171	Pn	Pn	22 08 14.1	+1.2
RITZ	Rihia Road	1.09	211	⇑PN	Pn	22 08 14.0	+0.9
RITZ	Rihia Road	1.09	211	Pn	Pn	22 08 14.0	+0.9
TWGZ	Tauwhareparae	1.11	97	PN	Pn	22 08 13.5	+0.2
TWGZ				SN	Sn	22 08 32.7	-0.2
BKZ	Black Stump Fm	1.12	184	PN	Pn	22 08 13.2	-0.2
BKZ				AML	AML	22 08 32.3	
BKZ				AML	AML	22 08 33.9	
BKZ	Black Stump Fm	1.12	184	Pn	Pn	22 08 13.2	-0.2
RIGZ	Rimuhau	1.14	126	⇓PN	Pn	22 08 14.1	+0.6
WHHZ	Waihua	1.15	154	PN	Pn	22 08 14.3	+0.7
KRVZ	Karewarewa	1.28	215	⇑PN	Pn	22 08 15.5	+0.5
KRVZ	Karewarewa	1.28	215	Pn	Pn	22 08 15.5	+0.5
KNZ	Kokohu	1.29	139	⇓PN	Pn	22 08 15.4	+0.4
KNZ	Kokohu	1.29	139	Pn	Pn	22 08 15.4	+0.4
WTVZ	West Tongariro	1.32	216	PN	Pn	22 08 15.8	+0.5
WTVZ	West Tongariro	1.32	216	Pn	Pn	22 08 15.8	+0.5
PUZ	Puketiti	1.32	92	⇓PN	Pn	22 08 15.0	-0.4
PUZ				AML	AML	22 08 36.7	
PUZ				AML	AML	22 08 37.1	
PUZ	Puketiti	1.32	92	Pn	Pn	22 08 15.0	-0.4
OTVZ	Oturere	1.32	213	PN	Pn	22 08 16.2	+0.7
OTVZ	Oturere	1.32	213	Pn	Pn	22 08 16.2	+0.7
PRGZ	Paritu Road	1.34	131	⇓PN	Pn	22 08 15.8	+0.3
PRGZ				SN	Sn	22 08 37.3	+0.5
PRGZ	Paritu Road	1.34	131	Pn	Pn	22 08 15.8	+0.3
PRGZ				Sn	Sn	22 08 37.3	+0.5
CNGZ	Carnagh Statio	1.35	109	⇓PN	Pn	22 08 16.3	+0.8
CNGZ	Carnagh Statio	1.35	109	Pn	Pn	22 08 16.3	+0.8
TWVZ	Taurewa	1.36	221	⇑PN	Pn	22 08 16.2	+0.5
TWVZ	Taurewa	1.36	221	Pn	Pn	22 08 16.2	+0.5
NGZ	Ngauruhoe	1.36	214	⇑PN	Pn	22 08 16.4	+0.5
NGZ	Ngauruhoe	1.36	214	Pn	Pn	22 08 16.4	+0.5
MCHZ	McNeill Hill	1.40	176	⇑PN	Pn	22 08 16.9	+0.9
MCHZ	McNeill Hill	1.40	176	Pn	Pn	22 08 16.9	+0.9
COVZ	Chateau Observ	1.41	215	PN	Pn	22 08 16.6	+0.4
WPVZ	Whakapapa	1.41	215	⇑PN	Pn	22 08 16.7	+0.4
WPVZ	Whakapapa	1.41	215	Pn	Pn	22 08 16.7	+0.4
TUVZ	Tukino	1.42	211	PN	Pn	22 08 17.1	+0.7
TUVZ	Tukino	1.42	211	Pn	Pn	22 08 17.1	+0.7
HIZ	Hauiti	1.44	251	⇓PN	Pn	22 08 17.1	+0.6
HIZ	Hauiti	1.44	251	Pn	Pn	22 08 17.1	+0.6
FWVZ	Far West T-bar	1.45	214	⇓PN	Pn	22 08 17.4	+0.5
FWVZ	Far West T-bar	1.45	214	Pn	Pn	22 08 17.4	+0.5
MXZ	Matakaoa Point	1.45	71	PN	Pn	22 08 16.5	-0.1
MXZ				AML	AML	22 08 39.9	
MXZ				AML	AML	22 08 39.9	
MXZ				AML	AML	22 08 40.7	
MXZ				AML	AML	22 08 40.7	
MXZ	Matakaoa Point	1.45	71	Pn	Pn	22 08 16.5	-0.1
WHVZ	Whangaehu Hut	1.46	212	PN	Pn	22 08 17.2	+0.3
DRZ	Dome Shelter	1.46	213	PN	Pn	22 08 17.6	+0.6
DRZ	Dome Shelter	1.46	213	Pn	Pn	22 08 17.6	+0.6
MKAZ	Moumakai	1.46	309	PN	Pn	22 08 17.2	+0.4
MKAZ	Moumakai	1.46	309	Pn	Pn	22 08 16.9	+0.1
WMGZ	Waiomatatini S	1.47	82	⇑PN	Pn	22 08 16.5	-0.2
KUZ	Kuaotunu	1.47	332	PN	Pn	22 08 16.6	-0.2
KUZ	Kuaotunu	1.47	332	Pn	Pn	22 08 16.3	-0.5
TRVZ	Turoa	1.49	213	PN	Pn	22 08 17.6	+0.4
TRVZ	Turoa	1.49	213	Pn	Pn	22 08 17.4	+0.2
WNVZ	Wahianoa	1.49	211	⇑PN	Pn	22 08 17.7	+0.5
WNVZ	Wahianoa	1.49	211	Pn	Pn	22 08 17.7	+0.5
BHHZ	Black Hill Sta	1.49	196	⇑PN	Pn	22 08 17.3	+0.2
BHHZ	Black Hill Sta	1.49	196	Pn	Pn	22 08 17.3	+0.2
MOVZ	Moawhango	1.50	205	⇑PN	Pn	22 08 17.3	+0.1
MOVZ	Moawhango	1.50	205	Pn	Pn	22 08 17.3	+0.1
MHGZ	Mahia Peninsul	1.51	137	⇓PN	Pn	22 08 18.0	+0.7
MHGZ	Mahia Peninsul	1.51	137	Pn	Pn	22 08 18.0	+0.7
PKVZ	Pokaka	1.57	218	⇑PN	Pn	22 08 18.5	+0.5
PKVZ	Pokaka	1.57	218	Pn	Pn	22 08 18.5	+0.6
MTVZ	Mangateitei	1.59	213	PN	Pn	22 08 18.8	+0.6
MTVZ	Mangateitei	1.59	213	Pn	Pn	22 08 18.8	+0.6
KRHZ	Kereru	1.60	186	⇑PN	Pn	22 08 18.4	+0.1
KBAZ	Karaka Road Bo	1.65	305	⇑PN	Pn	22 08 19.4	+0.7
CKHZ	Cape Kidnapper	1.65	167	⇑PN	Pn	22 08 19.5	+0.7
CKHZ	Cape Kidnapper	1.65	167	Pn	Pn	22 08 19.5	+0.7
KAHZ	Kahuranaki	1.76	173	PN	Pn	22 08 20.6	+0.6
KAHZ	Kahuranaki	1.76	173	Pn	Pn	22 08 20.6	+0.6
VRZ	Vera Road	1.79	233	PN	Pn	22 08 20.8	+0.6
VRZ	Vera Road	1.79	233	Pn	Pn	22 08 20.8	+0.6
PNHZ	Pukenui	1.89	189	⇑PN	Pn	22 08 21.1	-0.3
PNHZ	Pukenui	1.89	189	Pn	Pn	22 08 21.1	-0.3
WTAZ	Waiatarua	1.95	304	⇑PN	Pn	22 08 22.7	+0.5
WTAZ	Waiatarua	1.95	304	Pn	Pn	22 08 22.7	+0.5
PXZ	Pawanui	1.99	174	⇑PN	Pn	22 08 22.7	+0.1
PXZ				AML	AML	22 08 51.4	
PXZ				AML	AML	22 08 51.4	
PXZ				AML	AML	22 08 51.8	
PXZ				AML	AML	22 08 51.9	
PXZ	Pawanui	1.99	174	Pn	Pn	22 08 22.7	+0.1
WPHZ	Waipukurau	2.02	183	⇑PN	Pn	22 08 22.8	-0.1
WPHZ	Waipukurau	2.02	183	Pn	Pn	22 08 22.8	-0.1
TSZ	Takapari Road	2.06	193	PN	Pn	22 08 23.1	-0.4
TSZ				AML	AML	22 08 51.4	
TSZ				AML	AML	22 08 52.3	
TSZ	Takapari Road	2.06	193	Pn	Pn	22 08 23.1	-0.4
WAZ	Wanganui	2.11	216	⇑PN	Pn	22 08 24.4	+0.4
WAZ	Wanganui	2.11	216	Pn	Pn	22 08 24.4	+0.4
LREZ	Lake Rotokare	2.21	230	PN	Pn	22 08 26.0	+0.8
PRHZ	Porangahau	2.21	179	⇑PN	Pn	22 08 25.1	-0.1
PRHZ	Porangahau	2.21	179	Pn	Pn	22 08 25.1	-0.1
DVHZ	Dannevirke	2.27	188	PN	Pn	22 08 25.2	-0.7
DVHZ	Dannevirke	2.27	188	Pn	Pn	22 08 25.2	-0.7
KHEZ	Kahui Hut	2.36	237	PN	Pn	22 08 28.5	+1.4
ANWZ	Angora Road	2.41	182	⇑PN	Pn	22 08 27.5	-0.1
POWZ	Post Office Ro	2.42	195	PN	Pn	22 08 27.2	-0.5
POWZ	Post Office Ro	2.42	195	Pn	Pn	22 08 27.2	-0.5
PRWZ	Pori Road	2.55	191	⇓PN	Pn	22 08 29.1	-0.2
BFZ	Birch Farm	2.64	186	PN	Pn	22 08 29.8	-0.7
BFZ	Birch Farm	2.64	186	Pn	Pn	22 08 29.8	-0.7
MRZ	Mangatainoka R	2.72	196	PN	Pn	22 08 30.2	-1.2
MRZ				AML	AML	22 09 04.6	
MRZ				AML	AML	22 09 05.0	
MRZ	Mangatainoka R	2.72	196	Pn	Pn	22 08 30.2	-1.2
TIWZ	Tintock	2.78	191	PN	Pn	22 08 31.4	-0.8
TIWZ				AML	AML	22 09 06.5	
TIWZ				AML	AML	22 09 08.3	
TIWZ	Tintock	2.78	191	Pn	Pn	22 08 31.4	-0.8
CPWZ	Castlepoint	2.87	186	PN	Pn	22 08 33.0	-0.3
HOWZ	Holdsworth Sta	2.96	196	PN	Pn	22 08 33.1	-1.4
HOWZ	Holdsworth Sta	2.96	196	Pn	Pn	22 08 33.1	-1.4
OGWZ	Otaki Gorge	2.97	201	⇑PN	Pn	22 08 33.4	-1.2
OGWZ	Otaki Gorge	2.97	201	Pn	Pn	22 08 33.4	-1.2
KIW	Kapiti Island	3.09	204	PN	Pn	22 08 34.6	-1.6
KIW				AML	AML	22 09 12.8	
KIW				AML	AML	22 09 13.0	
KIW	Kapiti Island	3.09	204	Pn	Pn	22 08 34.6	-1.6
TMWZ	Te Maipa	3.10	190	⇑PN	Pn	22 08 35.0	-1.2
TMWZ	Te Maipa	3.10	190	Pn	Pn	22 08 35.0	-1.2
MTW	Mount Morrison	3.21	195	AML	AML	22 09 15.0	
MTW				AML	AML	22 09 15.3	
CAW	Cannon Point	3.27	200	PN	Pn	22 08 36.9	-1.5
CAW				AML	AML	22 09 16.1	
CAW				AML	AML	22 09 20.9	
CAW	Cannon Point	3.27	200	Pn	Pn	22 08 36.9	-1.5
TRWZ	Traveller	3.42	191	⇑PN	Pn	22 08 38.6	-1.7
TRWZ				AML	AML	22 09 20.2	
TRWZ				AML	AML	22 09 20.2	
TRWZ	Traveller	3.42	191	Pn	Pn	22 08 38.6	-1.7
DUWZ	D'Urville Isla	3.44	216	PN	Pn	22 08 38.7	-1.9
DUWZ	D'Urville Isla	3.44	216	Pn	Pn	22 08 38.7	-1.9
PAWZ	Paruwai Farm	3.44	195	⇑PN	Pn	22 08 38.8	-1.9
PAWZ				AML	AML	22 09 20.0	
PAWZ				AML	AML	22 09 20.6	
PAWZ	Paruwai Farm	3.44	195	Pn	Pn	22 08 38.8	-1.9
MSWZ	Moikau Station	3.52	197	⇑PN	Pn	22 08 39.5	-2.1
MSWZ				AML	AML	22 09 21.3	
MSWZ				AML	AML	22 09 22.2	
MSWZ	Moikau Station	3.52	197	Pn	Pn	22 08 39.5	-2.1
WEL	Wellington	3.52	203	⇓PN	Pn	22 08 39.6	-2.0
WEL	Wellington	3.52	203	Pn	Pn	22 08 39.6	-2.0
BHW	Baring Head	3.60	201	PN	Pn	22 08 40.4	-2.3
BHW				AML	AML	22 09 24.1	
BHW				AML	AML	22 09 24.1	
TCW	Tory Channel	3.63	209	PN	Pn	22 08 40.8	-2.2
TCW				AML	AML	22 09 24.9	
TCW				AML	AML	22 09 25.0	
TCW	Tory Channel	3.63	209	Pn	Pn	22 08 40.8	-2.2
PLWZ	Palliser	3.66	196	⇑PN	Pn	22 08 41.2	-2.3
PLWZ	Palliser	3.66	196	Pn	Pn	22 08 41.2	-2.3
TUWZ	Tuamarina	3.94	210	PN	Pn	22 08 44.6	-2.5
TUWZ				AML	AML	22 09 31.8	
TUWZ				AML	AML	22 09 32.7	
TUWZ	Tuamarina	3.94	210	Pn	Pn	22 08 44.6	-2.5
NNZ	Nelson	4.02	217	PN	Pn	22 08 45.8	-2.3
NNZ	Nelson	4.02	217	Pn	Pn	22 08 45.8	-2.3
QRZ	Quartz Range	4.19	227	PN	Pn	22 08 48.2	-2.1
QRZ	Quartz Range	4.19	227	Pn	Pn	22 08 48.2	-2.1
BSWZ	Blackbirch Sta	4.21	209	PN	Pn	22 08 48.1	-2.5
BSWZ				AML	AML	22 09 39.9	
BSWZ				AML	AML	22 09 40.4	
BSWZ	Blackbirch Sta	4.21	209	Pn	Pn	22 08 48.1	-2.5
THZ	Tophouse	4.66	216	⇑PN	Pn	22 08 54.1	-2.5
THZ	Tophouse	4.66	216	Pn	Pn	22 08 54.1	-2.5
KHZ	Kahutara	4.94	207	PN	Pn	22 08 57.3	-2.9
KHZ				AML	AML	22 09 54.4	
KHZ				AML	AML	22 09 57.6	
KHZ	Kahutara	4.94	207	Pn	Pn	22 08 57.3	-2.9
DSZ	Denniston Nort	5.21	223	PN	Pn	22 09 00.9	-3.0
DSZ	Denniston Nort	5.21	223	Pn	Pn	22 09 00.9	-3.0
OXZ	Oxford	6.30	212	PN	Pn	22 09 14.0	-4.3
MQZ	McQueen's Vall	6.39	207	PN	Pn	22 09 14.5	-4.9
MQZ	McQueen's Vall	6.39	207	Pn	Pn	22 09 14.6	-4.9
RPZ	Rata Peaks	7.04	215	PN	Pn	22 09 24.9	-3.3
RPZ	Rata Peaks	7.04	215	Pn	Pn	22 09 24.9	-3.3
FOZ	Fox Glacier	7.59	221	PN	Pn	22 09 30.6	-4.9
FOZ	Fox Glacier	7.59	221	Pn	Pn	22 09 30.6	-4.9
LBZ	Lake Benmore	7.96	215	PN	Pn	22 09 36.6	-3.8
LBZ	Lake Benmore	7.96	215	Pn	Pn	22 09 36.6	-3.8
DZM	Mont Dzumac	18.16	328	LR	LR	22 17 24.4	
	comp=Z,140nm,18.7s,baz=34,slow=32						
ASAR	Alice Springs	39.00	279	P	P	22 15 00.8	+1.0
	0.7nm,0.6s,baz=126,slow=8.5,SNR=11						
WRA	Warramunga Arr	40.72	284	P	P	22 15 15.0	+1.0
	0.8nm,0.9s,baz=119,slow=8.6,SNR=6.7						
QSPA	South Pole Qui	52.07	180	P	P	22 16 44.8	+2.7
	0.7nm,0.4s,baz=41,slow=1.0,SNR=6.9						
PETK	Petropavlovsk-	92.25	349	P	P	22 20 36.4	-3.8
	3.1nm,0.8s,baz=153,slow=10.0,SNR=3.7						
ARCES	ARCESS Array B	144.84	343	PKP	PKPbc	22 27 04.9	-0.5
	3.0nm,0.6s,baz=45,slow=3.9,SNR=20						
FINES	FINESS Array B	150.28	331	PKPbc	PKPbc	22 27 18.9	-1.5
	2.8nm,0.9s,baz=46,slow=4.0,SNR=4.4						
TORD	Torodi Ar. Bea	154.78	192	PKPbc	PKPbc	22 27 30.5	-1.3
	0.4nm,0.5s,baz=155,slow=1.4,SNR=7.8						
TORD				PKPab	PKPab	22 27 48.2	+0.9
	0.6nm,0.5s,baz=156,slow=4.0,SNR=10						

BJI ***02*** *22:10:40.6,19.°30S×176.°80W,h595km,mB4.8/4,mb4.3/8*

ISCJB ***02*** *22:10:42.0±0.5,19.°2S±0.°1×177.°50W±0.°09,h570km, mb4.4/21,Error ellipse: s-maj=16.6km s-min=7.5km az=142.7*

NEIC ***02*** *22:10:43.6±0.9,18.°94S×177.°40W,h593km±10km, mb4.5/13,Error ellipse: s-maj=25.1km s-min=13.0km az=143.0*

IDC ***02*** *22:10:46.7±3.1,19.°53S×177.°54W,h605km±35km, mb3.6/10,mb1 3.8/11,mb1mx3.5/23,mbtmp4.6/11,Error ellipse: s-maj=20.0km s-min=15.9km az=84.0*

ISC 02 22:10:43.2±0.6,19.°2S±0.°1×177.°43W±0.°09,h570km,n66, σ1§22/78,mb4.5/21,3C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.53	288	*e*P	P	22 12 12.6	+2.0
MSVF				*e*S	S	22 13 23.4	+1.5
AFI	Afiamalu	7.55	47	*e*P	P	22 12 36.9	-0.5
	312nm,0.5s						
AFI				*e*S	S	22 14 08.9	-1.9
DZM	Mont Dzumac	15.36	257	P	P	22 13 55.0	-1.0
	1.1nm,0.3s,baz=78,slow=16,SNR=19						
DZM	Mont Dzumac	15.36	257	*e*P	P	22 13 56.4	+0.4
	8.1nm,0.5s						
URZ	Urewera	19.58	193	P	P	22 14 32.4	-1.9
	1.7nm,0.3s,baz=295,slow=2.4,SNR=5.6						
URZ				S	S	22 17 33.2	-8.5
	0.2nm,0.3s,baz=41,slow=19,SNR=4.1						
ARMA	Armidale	30.13	242	*e*P	P	22 16 08.1	+0.3
	4.0nm,0.4s						
CTAO	Charters Tower	34.17	262	*e*P	P	22 16 41.5	-0.6
	11nm,0.7s						
TAU	Tasmania Unive	37.93	224	*e*P	P	22 17 12.1	-0.6
COEN	Coen	38.06	272	*e*P	P	22 17 13.6	-0.6
	51nm,0.5s						
STKA	Stephens Creek	38.85	243	P	P	22 17 20.9	+0.6
	11nm,0.6s,baz=92,slow=9.5,SNR=31						
STKA	Stephens Creek	38.85	243	*e*P	P	22 17 20.9	+0.6
	6.8nm,1.2s						
BBOO	Buckleboo	43.61	242	*e*P	P	22 17 57.3	-0.7
	546nm,0.7s						
WB2	Warramunga Arr	45.31	261	*e*P	P	22 18 10.3	-1.0
WRAB	Tennant Creek	45.32	261	*e*P	P	22 18 09.4	-1.8
	14nm,0.9s						
WRA	Warramunga Arr	45.33	261	P	P	22 18 10.4	-0.9
	4.6nm,0.3s,baz=98,slow=7.5,SNR=136						
WRA				PcP	PcP	22 19 39.0	+0.2
	1.8nm,0.7s,baz=89,slow=4.0,SNR=5.5						
AS31	Alice Springs	45.35	255	*e*P	P	22 18 11.2	-0.3
ASAR	Alice Springs	45.35	255	P	P	22 18 11.3	-0.2
	15nm,0.7s,baz=86,slow=8.6,SNR=104						
ASAR				PcP	PcP	22 19 39.0	+0.1
	2.5nm,0.7s,baz=104,slow=3.8,SNR=7.6						
FORT	Forrest	50.31	246	*e*P	P	22 18 47.7	-0.6
	47nm,0.7s						
FITZ	Fitzroy Crossi	53.74	261	*e*P	P	22 19 12.6	-0.5
	5.9nm,0.4s						
SOEI	Soe	57.01	271	*e*P	P	22 19 36.3	+0.3
	41nm,0.8s						
BATI	Baumata	57.45	270	P	P	22 19 38.6	-0.3
	8.9nm,0.3s,baz=164,slow=2.5,SNR=4.3						
MBWA	Marble Bar	58.67	256	*e*P	P	22 19 46.5	-0.5
	15nm,0.6s						
NWAO	Narrogin (SRO)	59.44	243	P	P	22 19 51.6	-0.3
	9.6nm,0.7s,baz=92,slow=5.0,SNR=5.7						
QSPA	South Pole Qui	70.86	180	P	P	22 21 03.5	+0.5
	9.5nm,1.0s,baz=6.0,slow=0.9,SNR=25						
QSPA	South Pole Qui	70.86	180	*e*P	P	22 21 04.2	+1.2
	17nm,0.6s						
MDJ	Mudanjiang	79.77	325	P	P	22 21 52.0	-0.6
MDJ				PMZ			
	68nm,4.6s						
CN2	Changchun	81.61	322	*e*P	P	22 22 00.0	-2.1
IPM	Ipoh	83.50	277	*e*P	P	22 22 13.0	+0.6
	16nm,1.0s						
BJI	Beijing	85.35	315	P	P	22 22 20.7	0.0
BJI				PMZ			
	5.0nm,1.2s						
TXAR	Lajitas Array	85.90	57	P	P	22 22 25.0	+1.2
	1.1nm,1.1s,baz=232,slow=5.7,SNR=4.4						
GYA	Guiyang	86.48	299	*e*P	P	22 22 26.0	-0.6
GYA				pP	pP	22 24 30.5	+0.7
GYA				sP	sP	22 25 27.0	-0.2
GYA				PP	PP	22 26 03.2	+4.0
GYA				SKS	SKSac	22 31 57.8	-1.7

SKIA	Skiathos	0.49	8	P	Pg	22 11 53.9	+0.1
SKIA				S	Sg	22 12 00.6	+0.3
AXAR	Agios Charalam	0.57	279	P	Pg	22 11 54.9	-0.3
AXAR				S	Sg	22 12 03.3	+0.7
AXAR	Agios Charalam	0.57	279	*e*PB	Pg	22 11 54.8	-0.4
AXAR	Agios Charalam	0.57	279	P	Pg	22 11 54.9	-0.3
AXAR				S	Sg	22 12 03.3	+0.7
AOS	Alonnisos	0.63	39	P	Pg	22 11 55.8	-0.6
AOS				S	Sg	22 12 05.0	+0.3
AOS	Alonnisos	0.63	39	P	Pg	22 11 55.8	-0.6
AOS				S	Sg	22 12 05.0	+0.3
XOR	Xorichti	0.70	348	P	Pg	22 11 57.1	-0.7
XOR				S	Sg	22 12 07.6	+0.7
XOR	Xorichti	0.70	348	P	Pg	22 11 57.1	-0.7
XOR				S	Sg	22 12 07.6	+0.7
DSF	Desfina	0.71	248	P	Pg	22 11 57.4	-0.6
DSF				S	Sg	22 12 08.3	+1.0
DSF	Desfina	0.71	248	*e*PG	Pg	22 11 56.9	-1.1
DSF				*e*SG	Sg	22 12 07.6	+0.3
DSF	Desfina	0.71	248	P	Pg	22 11 57.4	-0.6
DSF				S	Sg	22 12 08.3	+1.0
DSF	Desfina	0.71	248	*e*Pg	Pg	22 11 56.9	-1.1
DSF				*e*Sg	Sg	22 12 07.6	+0.3
LTK	Loutraki	0.73	206	P	Pg	22 11 57.9	-0.2
LTK				S	Sb	22 12 08.9	-0.3
LTK	Loutraki	0.73	206	*e*PG	Pg	22 11 58.0	-0.2
LTK	Loutraki	0.73	206	*e*Pg	Pg	22 11 58.0	-0.2
LTK				S	Sb	22 12 08.9	-0.3
PTL	Penteli	0.74	148	P	Pg	22 11 58.3	-0.1
PTL				S	Sb	22 12 09.3	-0.2
PTL	Penteli	0.74	148	*e*PG	Pg	22 11 58.6	+0.2
PTL	Penteli	0.74	148	P	Pg	22 11 58.3	-0.1
PTL	Penteli	0.74	148	*e*Pg	Pg	22 11 58.6	+0.2
PTL				S	Sb	22 12 09.3	-0.2
ATH	Athens Observa	0.75	159	*e*PB	Pb	22 11 59.3	-0.3
ATH	Athens Observa	0.75	159	*e*Pb	Pb	22 11 59.3	-0.3
KALE	Kalithea	1.01	254	*e*PG	Pg	22 12 02.0	-1.6
KALE				*e*SG	Sb	22 12 17.6	+0.2
KALE	Kalithea	1.01	254	*e*Pg	Pg	22 12 02.0	-1.6
KALE				*e*Sg	Sb	22 12 17.6	+0.2
GUR	Goura	1.10	228	P	Pg	22 12 05.1	-0.2
GUR				S	Sb	22 12 21.1	+1.1
GUR	Goura	1.10	228	*e*PN	Pg	22 12 05.6	+0.3
GUR	Goura	1.10	228	P	Pg	22 12 05.1	-0.2
GUR				S	Sb	22 12 21.1	+1.1
GUR	Goura	1.10	228	*e*Pn	Pg	22 12 05.6	+0.3
KLV	Kalavryta, Ach	1.15	237	*e*PB	Pg	22 12 05.9	-0.4
KLV	Kalavryta, Ach	1.15	237	*e*Pb	Pg	22 12 05.9	-0.4
DID	Didima	1.17	185	P	Pg	22 12 06.0	-0.7
DID				S	Sn	22 12 23.6	+0.4
DID	Didima	1.17	185	*e*PB	Pg	22 12 06.2	-0.5
DID	Didima	1.17	185	P	Pg	22 12 06.0	-0.7
DID				S	Sn	22 12 23.6	+0.4
DID	Didima	1.17	185	*e*Pb	Pg	22 12 06.2	-0.5
EFP	Efpalio	1.18	258	*e*PG	Pg	22 12 04.8	-2.0
EFP	Efpalio	1.18	258	*e*Pg	Pg	22 12 04.8	-2.0
LAKA	Lakka	1.18	249	*e*PB	Pg	22 12 05.9	-0.9
LAKA	Lakka	1.18	249	*e*Pb	Pg	22 12 05.9	-0.9

IDC ***02*** *22:18:34.0±0.4, 3.˚40N×126.˚77E, h0km, mb4.8/32, mb1 4.8/32, mb1mx4.8/35, mbtmp4.8/32, MS4.2/14, Ms1 4.2/14, ms1mx3.9/34, Error ellipse: s-maj=15.8km s-min=8.5km az=77.0*

BJI ***02*** *22:18:37.9, 3.˚12N×126.˚74E, h64km, mB5.0/47, mb5.1/71, Ms4.6/58, Ms7 4.4/54*

ISCJB ***02*** *22:18:40.7±0.4, 3.˚53N±0.˚02×126.˚95E±0.˚03, h64km±3km, mb5.1/129, Error ellipse: s-maj=4.5km s-min=3.0km az=171.9*

DJA ***02*** *22:18:40.7±0.6, 4.˚N±4.˚×12.˚7E±.˚, h41km±4km, M4.9/70, mb5.1/70, mB5.4/41, MLv5.3/12, Mw(mB)4.9/41, Mwp5.4/2*

MOS ***02*** *22:18:41.6±1.2, 3.˚44N×126.˚82E, h72km, mb5.6/45, Error ellipse: s-maj=11.4km s-min=4.7km az=119.6*

KLM ***02*** *22:18:42.6, 3.˚54N×127.˚14E, h82km, mb5.2, ML4.4, MS6.2*

NEIC ***02*** *22:18:42.1±0.7, 3.˚44N×126.˚84E, h64km±6km, mb5.1/53, Error ellipse: s-maj=6.2km s-min=3.7km az=81.0*

ISC 02 22:18:42.6±0.3, 3.˚50N±0.˚03×126.˚88E±0.˚04, h65km±2km, h65km:pP-P, n397, σ1§42/440, mb5.1/126, 42C-20D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.36	278	P	Pn	22 19 03.3	-2.3
SGSI				S	Sn	22 19 25.0	+2.2
TNTI	Ternate	2.76	170	P	Pn	22 19 23.2	-1.2
TNTI				S	Sn	22 19 57.9	+1.3
TNTI	Ternate	2.76	170	*e*Pn	Pn	22 19 23.2	-1.2
GSPH	General Santos	3.21	323	⇓*i*P	Pn	22 19 29.4	-1.3
MATI	Mati	3.48	350	*e*P	Pn	22 19 34.6	+0.4
MATI				*e*S	Sn	22 20 01.6	-13
DAV	Davao City (W)	3.77	340	*e*Pn	Pn	22 19 37.9	-0.4
DMPH	Davao City--Mi	3.81	339	⇑*e*P	Pn	22 19 39.4	+0.5
DMPH				*e*S	Sn	22 20 20.0	-2.4
KMSI	Cibinong	4.11	225	P	Pn	22 19 43.2	+0.3
LBMI	Labuha	4.16	171	P	Pn	22 19 43.0	-0.6
CTBH	Cotabato--PC H	4.53	325	⇓*e*P	Pn	22 19 48.4	-0.2
BIPH	Bislig	4.68	354	⇑*e*P	Pn	22 19 52.1	+1.4
BIPH				*e*S	Sn	22 20 56.7	+13
BUKP	Musuan	4.71	337	*e*P	Pn	22 19 51.6	+0.4
CGP	Cagayan de Oro	5.38	336	⇓*e*P	Pn	22 20 00.2	-0.1
PAGZ	Pagadian	5.55	321	*e*P	Pn	22 20 01.9	-0.6
SANI	Sanana 91nm,0.9s,1μm0.5nm	5.59	189	P	Pn	22 20 02.0	-1.2
MRSI	Marisa 416nm,0.9s,4μm1.6nm	5.78	239	P	Pn	22 20 05.2	-0.6
ZMPH	Zamboanga City	5.90	306	⇓*e*P	Pn	22 20 05.7	-1.7
LUWI	Luwuk 812nm,1.0s,8μm4.2nm	6.10	222	P	Pn	22 20 13.6	+3.4
LUWI	Luwuk baz=6.2,SNR=6.7	6.10	222	P	Pn	22 20 13.4	+3.2
LUWI	Luwuk	6.10	222	*e*Pn	Pn	22 20 11.1	+0.9
LUWI				*e*Sn	Sn	22 21 26.8	+8.1
SWI	Sorong 271nm,0.9s,3μm1.1nm	6.16	135	P	Pn	22 20 09.4	-1.6
SWI	Sorong baz=6.1,SNR=9.6	6.16	135	P	Pn	22 20 10.3	-0.7
SWI				⇑P	Pn	22 20 10.7	-0.3
	baz=6.1						
SCPH	Surigao	6.39	348	⇓*e*P	Pn	22 20 16.6	+2.5
TOLI	Toli-Toli	6.53	249	*e*Pn	Pn	22 20 13.4	-2.6
TOLI				*e*S	Sn	22 21 27.5	-1.6
APSI	Ampana 718nm,0.8s,7μm2.7nm	6.83	230	P	Pn	22 20 22.5	+2.4
MSLP	Maasin	6.89	343	*e*P	Pn	22 20 20.9	0.0
MPSI	Mapaga 66nm,1.0s,708nm9μm0.3nm	7.66	246	P	Pn	22 20 31.9	+0.5
PLP	Palo	7.84	346	⇓*e*P	Pn	22 20 34.9	+0.9
FAKI	Fak Fak 96nm,1.1s	8.34	140	P	Pn	22 20 39.8	-1.0
FAKI	Fak Fak baz=8.2,SNR=21	8.34	140	P	Pn	22 20 39.6	-1.2
FAKI	Fak Fak	8.34	140	*e*Pn	Pn	22 20 39.7	-1.0
PALU	Palau baz=8.3,SNR=10	8.47	63	P	Pn	22 20 40.1	-2.5
MYLDM	Lahad Datu	8.52	282	⇑P	Pn	22 20 46.0	+2.7
MYLDM	Lahad Datu	8.52	282	*e*Pn	Pn	22 20 45.4	+2.0
TTSI	Tana Toraja 190nm,1.5s,2μm	9.60	227	P	Pn	22 20 59.5	+1.5
SPSI	Sidrap Palu 83nm,1.2s,789nm	10.27	224	P	Pn	22 21 09.0	+1.7
BAKI	Biak	10.33	117	P	Pn	22 21 15.6	+7.5
BNSI	Bone 72nm,1.3s,1μm	10.37	221	P	Pn	22 21 10.5	+2.0
KDM	Kudat	10.56	289	⇓P	Pn	22 21 15.4	+4.1
KKM	Kota Kinabalu baz=11,SNR=5.8	10.93	284	P	Pn	22 21 17.6	+1.3
KKM	Kota Kinabalu	10.93	284	⇓P	Pn	22 21 19.6	+3.3
KKM	Kota Kinabalu	10.93	284	*e*Pn	Pn	22 21 17.6	+1.3
KKM				*e*Sn	Sn	22 23 16.9	-0.1
KAPI	Kappang	11.06	220	*e*Pn	Pn	22 21 19.3	+1.3
BKSI	Bulukumba	11.06	218	P	Pn	22 21 34.4	+16
TGY	Tagaytay City	12.06	331	P	Pn	22 21 33.0	+1.3
TGY	Tagaytay City 12nm,0.3s,baz=333,slow=16,SNR=3.4	12.06	331	Pn	Pn	22 21 33.0	+1.3
MTKI	Muara Teweh, K 170nm,1.1s,4μm	12.77	250	P	Pn	22 21 43.3	+1.9
MMRI	Maumere	12.92	201	P	P	22 21 59.2	+7.5
SOEI	Soe	13.43	191	P	P	22 21 59.7	+2.2
SOEI	Soe baz=14,SNR=4.4	13.43	191	⇑P	Pn	22 21 52.4	+2.0
SOEI	Soe	13.43	191	*e*Pn	Pn	22 21 50.5	+0.1
BBKI	Banjar Baru 138nm,1.4s,2μm	13.88	240	P	P	22 21 59.9	-2.6
BATI	Baumata 33nm,0.9s	13.99	193	P	P	22 22 01.0	-2.7
BATI	Baumata 3.5nm,0.3s,baz=348,slow=1.6,SNR=10	13.99	193	Pn	Pn	22 21 59.0	+1.2
GENI	Genyem	14.60	114	P	P	22 22 11.4	+1.0
SBUM	Sibu	14.68	266	*e*Pn	Pn	22 22 07.5	+0.7
BASI	Baing, Sumba	15.01	205	P	P	22 22 23.6	+8.6
WBSI	Waikabubak, Su 135nm,1.0s,1μm	15.04	210	P	Pn	22 22 13.2	+1.7
JAY	Jayapura baz=15,SNR=6.7	15.05	113	⇓P	Pn	22 22 10.5	-1.2
SZP	Santa 243nm,1.2s	15.32	336	*e*Pn	Pn	22 22 15.0	0.0
STKI	Sintang 112nm,1.3s,19μm	15.77	258	P	P	22 22 24.1	+0.6
SRBI	Singaraja 171nm,1.3s,2μm	16.37	225	P	P	22 22 30.4	+0.3
PBKI	Pangkalan Bun 172nm,1.1s,2μm	16.41	248	P	P	22 22 31.8	+1.3
KSM	Kuching baz=17,SNR=13	16.68	263	⇓P	P	22 22 34.6	+1.1
KSM	Kuching	16.68	263	⇑P	P	22 22 34.7	+1.1
KSM	Kuching 52nm,0.9s	16.68	263	*e*P	P	22 22 33.4	-0.2
IGBI	Denpasar 97nm,1.2s,2μm	16.93	224	P	P	22 22 37.2	+0.9
BLJI	Banyuglugur	17.34	230	P	P	22 22 49.8	+9.0
JAGI	Jajag, Banyuwa 65nm,1.1s,1μm	17.40	227	P	P	22 22 41.9	+0.4
JAGI	Jajag, Banyuwa baz=18,SNR=7.0	17.40	227	P	P	22 22 41.7	+0.2
JAGI	Jajag, Banyuwa 94nm,1.1s	17.40	227	*e*P	Pn	22 22 39.6	-1.5
GMJI	Gumukmas 77nm,1.2s	17.79	229	P	Pn	22 22 50.1	+4.2
NGJI	Ngawi 74nm,1.1s	18.80	235	P	Pn	22 22 59.1	+1.0
PWJI	Pagerwojo	18.90	233	P	Pn	22 23 07.1	+7.8
KNRA	Kununurra baz=19,SNR=30	19.15	174	P	P	22 22 59.3	-1.3
UGM	Wanagama 151nm,1.3s	19.87	235	*e*Pn	Pn	22 23 11.6	+0.8
TWG	Pinlang 202nm,0.8s	20.01	344	*e*P	P	22 23 06.9	-3.1
DLV	T Lat 128nm,1.1s	20.05	296	*e*P	P	22 23 10.7	-0.1
TPI	Tanjungpandan 66nm,1.5s,727nm	20.20	252	P	Pn	22 23 15.2	+0.6
YULB	Yu-li 59nm,0.6s	20.50	345	*e*P	P	22 23 12.5	-2.8
TPUB	Ta-pu 117nm,0.6s	20.59	343	*e*P	P	22 23 13.9	-2.4
KPJI	Karang Pucung 54nm,1.2s,2μm	20.90	239	P	Pn	22 23 21.6	-1.3
SSLB	Suanglung 82nm,0.6s	20.96	345	*e*P	P	22 23 17.9	-2.5
YOJ	Yonaguni jima	21.17	350	*e*P	P	22 23 23.7	+1.2
YOJ				pmax	pmax		
	comp=Z,359nm,1.7s						
YOJ	Yonaguni jima comp=Z,359nm,1.7s	21.17	350	*e*P	P	22 23 23.7	+1.2
NACB	Ninganchiao comp=Z,31nm,0.8s	21.18	347	*e*P	P	22 23 20.9	-1.7
FITZ	Fitzroy Crossi baz=22,SNR=18	21.50	183	P	P	22 23 25.3	-0.8
FITZ	Fitzroy Crossi comp=Z,34nm,1.0s	21.50	183	*e*P	P	22 23 24.6	-1.6
YHNB	Yeheng comp=Z,78nm,0.7s	21.70	346	*e*P	P	22 23 27.5	-0.9
LEM	Lembang comp=Z,87nm,1.0s	21.80	242	P	P	22 23 31.6	+2.1
CISI	Cisompet, Garu	21.97	240	P	P	22 23 44.4	+13
CISI	Cisompet, Garu baz=22,SNR=3.6	21.97	240	⇑P	P	22 23 33.0	+1.7
CISI	Cisompet, Garu comp=Z,46nm,0.9s	21.97	240	*e*P	P	22 23 30.1	-1.2
TATO	Taipei comp=Z,362nm,1.4s	21.97	347	*e*P	P	22 23 30.5	-0.6
TPRI	Tanjung Pinang comp=Z,39nm,1.1s,comp=Z,5μm	22.48	264	P	P	22 23 39.3	+2.5
QIZ	Qiongzhong	22.70	314	P	P	22 23 38.8	-0.3
QIZ				S	S	22 27 41.4	-1.5
QIZ				LN			
	comp=Z,360nm,17.5s						
QIZ				LE			
	comp=Z,200nm,17.5s						
QIZ				LZ			
	comp=Z,660nm,22.7s						
QIZ	Qiongzhong comp=Z,61nm,1.4s	22.70	314	*e*P	P	22 23 37.6	-1.5
QZH	Quanzhou	22.76	340	⇑*i*P	P	22 23 41.5	+1.9
QZH				S	S	22 27 44.0	+0.4
QZH				PMZ			
	comp=Z,130nm,0.8s						
QZH				LN			
	comp=Z,1μm,18.3s						
QZH				LE			
	comp=Z,780nm,14.7s						
QZH				LZ			
	comp=Z,2μm,20.0s						
SKJI	Sukabumi comp=Z,136nm,1.0s	22.82	243	P	P	22 23 40.6	+0.3
SBJI	Serang comp=Z,116nm,1.2s,comp=Z,4μm	22.82	245	P	P	22 23 43.0	+2.7
PMBI	Palembang	23.00	254	P	P	22 23 51.1	+8.9
MYKOM	Kota Tinggi	23.07	266	⇑P	P	22 23 43.6	+0.7
MYKOM	Kota Tinggi	23.07	266	*e*P	P	22 23 43.3	+0.4
	comp=Z,42nm,0.8s						
BLSI	Bandar Lampung comp=Z,231nm,1.1s	23.34	248	P	P	22 23 46.0	+0.6
CGJI	Cibinong comp=Z,127nm,0.9s,comp=Z,1μm	23.42	245	P	P	22 23 44.9	-1.2
KLI	Kotabumi comp=Z,118nm,1.0s	23.52	249	P	P	22 23 48.1	+1.0
COEN	Coen baz=24,SNR=6.3	23.71	137	P	P	22 23 48.2	-0.5
KTGM	Kuala Trenggan	23.75	275	⇓P	P	22 23 49.5	+0.4
PMG	Port Moresby comp=Z,712nm,19.9s,baz=290,slow=40	23.93	123	LR	LR	22 34 28.7	
MDSI	Maura Dua comp=Z,50nm,1.0s,comp=Z,638nm	24.03	251	P	P	22 23 51.2	-0.5
KASI	Kota Agung comp=Z,98nm,1.1s,comp=Z,883nm	24.09	248	P	P	22 23 51.8	-0.4
UBPT	Khong Chiam comp=Z,139nm,1.4s,comp=Z,2μm	24.11	300	P	P	22 23 51.2	-1.2
LWLI	Liwa comp=Z,59nm,1.2s	24.32	250	P	P	22 23 55.7	+1.2
WRAB	Tennant Creek comp=Z,402nm,1.2s,SNR=72	24.42	163	P	P	22 23 53.3	-1.9
WRAB	Tennant Creek	24.42	163	*d*i P	P	22 23 53.2	-1.9
WRAB				pmax	pmax		
	comp=Z,232nm,1.2s						
WRAB	Tennant Creek comp=Z,58nm,0.8s	24.42	163	*e*P	P	22 23 53.5	-1.7
WRA	Warramunga Arr comp=Z,30nm,0.8s,baz=344,slow=11,SNR=113	24.42	163	P	P	22 23 52.9	-2.3
WRA				S	S	22 28 11.3	+0.6
	comp=Z,7.6nm,1.2s,baz=343,slow=18,SNR=4.8						
WB2	Warramunga Arr	24.43	163	*e*P	P	22 23 53.2	-2.1
LHSI	Lahat comp=Z,60nm,1.1s	24.45	253	P	P	22 23 58.1	+2.6
MBWA	Marble Bar comp=Z,29nm,0.9s	25.49	196	*e*P	P	22 24 04.7	-0.2
IPM	Ipoh comp=Z,33nm,1.1s	25.81	273	*e*P	P	22 24 07.5	-0.4
CHBT	CHBT comp=Z,80nm,1.0s,comp=Z,844nm	25.96	292	P	P	22 24 08.9	-0.3
BKNI	Bangkinang comp=Z,103nm,1.2s	26.02	264	P	P	22 24 10.6	+0.8
KULM	Kulim comp=Z,35nm,1.1s	26.21	275	*e*P	P	22 24 10.2	-1.4
PDSI	Pang comp=Z,17nm,1.2s	26.77	261	P	P	22 24 20.8	+4.2
QIS	Mount Isa baz=27,SNR=8.6	26.98	153	P	P	22 24 18.2	-0.2
MNSI	Mandailing Nat comp=Z,28nm,0.9s	27.41	265	P	P	22 24 27.0	+4.7
AS31	Alice Springs	27.86	166	*e*P	P	22 24 23.4	-2.8
ASAR	Alice Springs comp=Z,3.9nm,0.6s,baz=347,slow=7.0,SNR=35	27.86	166	P	P	22 24 24.6	-1.6
ASAR				S	S	22 29 14.6	+10
	comp=Z,3.9nm,1.0s,baz=351,slow=17,SNR=6.0						
PSI	Prapat comp=Z,8.2nm,0.7s,baz=119,slow=2.0,SNR=10.0	27.92	269	P	P	22 24 25.4	-1.6
PSI				LR	LR	22 37 24.2	
	comp=Z,587nm,18.9s,baz=90,slow=41						
PSI	Prapat baz=28,SNR=4.5	27.92	269	P	P	22 24 26.9	-0.1
WRKA	Warakurna baz=29,SNR=44	28.40	177	P	P	22 24 29.9	-1.2
SURT	Suratani comp=Z,15nm,0.9s,comp=Z,361nm	28.43	282	P	P	22 24 30.7	-0.7
SLVN	Son La comp=Z,38nm,1.6s	28.51	310	*e*P	P	22 24 31.7	-0.4
PBKT	Sadao Pong comp=Z,31nm,1.1s,comp=Z,1μm	28.57	299	P	P	22 24 31.9	-0.7
LOEI	Loei comp=Z,69nm,1.0s	28.72	301	P	P	22 24 29.9	-4.0
PKDT	Phuket comp=Z,45nm,0.9s	28.73	280	P	P	22 24 33.6	-0.5
KCSI	Kotacane, Aceh comp=Z,19nm,0.9s	29.05	271	P	P	22 24 37.6	+0.6
NJ2	Nanjing	29.38	346	*e*P	P	22 24 40.0	+0.4
NJ2				pP	pP	22 24 54.2	-1.3
NJ2				sP	sP	22 25 02.1	-1.1
NJ2				PMZ			
	comp=Z,25nm,1.0s						
WHN	Wuhan	29.39	338	P	P	22 24 39.6	-0.1
WHN				LN			
	comp=Z,1μm,14.7s						
WHN				LE			
	comp=Z,1μm,18.6s						
WHN				LZ			
	comp=Z,2μm,21.7s						
SRDT	SRDT comp=Z,46nm,1.1s	29.42	293	P	P	22 24 40.2	0.0
UTTA	Uttaradit comp=Z,10nm,1.1s,comp=Z,91nm	29.43	301	P	P	22 24 40.0	-0.2
JNU	Nakatsue comp=Z,14nm,0.8s,baz=156,slow=5.9,SNR=3.9	29.70	7	P	P	22 24 42.9	+0.4
JNU	Nakatsue comp=Z,20nm,1.2s	29.70	7	*e*P	P	22 24 43.0	+0.5
LHMI	Lhok Sumawe comp=Z,44nm,0.8s	29.89	274	*e*P	P	22 24 44.2	-0.2
GYA	Guiyang	29.94	322	⇑*i*P	P	22 24 45.8	+1.0
GYA				pP	pP	22 25 03.0	+2.3
GYA				sP	sP	22 25 11.4	+3.0
GYA				PP	PnPn	22 25 46.8	+3.0
GYA				S	S	22 29 38.3	+0.4
GYA				sS	sS	22 30 07.2	+2.1
GYA				SS	ScP	22 31 19.5	-3.4
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,130nm,5.0s						
GYA				LN			
	comp=Z,730nm,16.2s						
GYA				LE			
	comp=Z,580nm,17.4s						
GYA				LZ			
	comp=Z,640nm,17.8s						
KHLT	Khaolaem Dam comp=Z,10nm,1.1s	30.05	294	P	P	22 24 46.4	+0.6
LAMP	Lampang comp=Z,11nm,1.1s,comp=Z,96nm	30.55	301	P	P	22 24 50.6	+0.4
CRAI	Chiangrai comp=Z,98nm,0.8s,comp=Z,11μm	30.72	305	P	P	22 24 49.9	-1.8
MEEK	Meekatharra baz=31,SNR=10.0	31.01	194	P	P	22 24 54.1	0.0
CMAR	Chiang Mai Arr comp=Z,12nm,0.8s,baz=114,slow=7.1,SNR=48	31.12	301	P	P	22 24 54.9	-0.3
CMMT	Chiang Mai comp=Z,42nm,1.0s,comp=Z,44nm	31.26	301	P	P	22 24 55.6	-0.9
CHTO	Chiang Mai	31.27	301	*e*P	P	22 24 55.8	-0.7
CHTO				pmax	pmax		
	comp=Z,32nm,1.1s						
CHTO	Chiang Mai comp=Z,145nm,1.1s,comp=Z,1μm	31.27	301	P	P	22 24 55.7	-0.7
CHTO	Chiang Mai comp=Z,32nm,1.1s	31.27	301	*e*P	P	22 24 55.8	-0.7
ENH	Enshi comp=Z,18nm,1.0s	31.30	330	*e*P	P	22 24 56.0	-0.6
KMI	Kunming	31.65	315	P	P	22 25 00.3	+0.3
KMI				pP	pP	22 25 17.8	+1.9
KMI				sP	sP	22 25 24.5	+0.9
KMI				S	S	22 30 06.6	+1.7
KMI				PMZ			
	comp=Z,14nm,1.1s						
KMI				PMZ			
	comp=Z,86nm,3.5s						
KMI				LN			
	comp=Z,260nm,20.2s						
KMI				LE			
	comp=Z,300nm,20.6s						
KMI				LZ			
	comp=Z,310nm,21.4s						
MHMT	Maesarieng comp=Z,20nm,0.9s	31.88	299	P	P	22 25 01.5	-0.3
TIA	Tai'an	33.77	346	⇓P	P	22 25 18.5	+0.3
TIA				PMZ			
	comp=Z,20nm,1.4s						
KSAR	Wonju Array Be	33.79	1	P	P	22 25 19.5	+1.2
KSAR	Wonju Array Be	33.79	1	P	P	22 25 19.4	+1.2
KSRS	Korea Array comp=Z,8.9nm,0.8s,baz=176,slow=9.8,SNR=22	33.80	1	P	P	22 25 19.4	+1.1
MORW	Morawa baz=34,SNR=5.1	34.02	197	P	P	22 25 20.2	-0.2
FORT	Forrest comp=Z,41nm,0.9s	34.11	178	*e*P	P	22 25 22.9	+1.8
QLP	Quilpie baz=34,SNR=3.8	34.30	152	P	P	22 25 21.8	-1.0
MJAR	Matsushiro Arr comp=Z,2.3nm,0.7s,baz=200,slow=8.7,SNR=6.2	34.50	16	P	P	22 25 23.7	-0.7
XAN	Xi'an	34.69	333	P	P	22 25 24.9	-1.3
XAN				pP	pP	22 25 40.5	-1.7
XAN				sP	sP	22 25 47.5	-2.4
XAN				PMZ			
	comp=Z,16nm,0.8s						
XAN				PMZ			
	comp=Z,28nm,4.1s						
XAN				LN			
	comp=Z,420nm,17.0s						
XAN				LE			
	comp=Z,210nm,18.9s						
XAN				LZ			
	comp=Z,140nm,20.8s						
CD2	Chengdu	34.91	324	⇓*i*P	P	22 25 27.5	-0.7
CD2				pP	pP	22 25 43.6	-0.6
CD2				sP	sP	22 25 52.1	+0.2
CD2				PP	PP	22 26 50.1	+1.6
CD2				PcP	PcP	22 27 58.5	-1.3
CD2				S	S	22 30 56.3	+1.2
CD2				PMZ			
	comp=Z,30nm,1.1s						
CD2				PMZ			
	comp=Z,120nm,10.2s						
CD2				LN			
	comp=Z,540nm,19.0s						
CD2				LE			
	comp=Z,550nm,19.0s						
CD2				LZ			
	comp=Z,760nm,19.0s						
BLDU	Ballidu baz=36,SNR=6.0	35.29	195	P	P	22 25 31.5	+0.1
HNR	Honiara	35.37	112	LR	LR	22 39 47.9	
	comp=Z,515nm,21.2s,baz=291,slow=36						
DL2	Dalian	35.56	353	*e*P	P	22 25 35.2	+1.7
DL2				*e*S	S	22 31 08.3	+3.6
DL2				PMZ			
	comp=Z,82nm,0.9s						
DL2				PMZ			
	comp=Z,120nm,5.4s						
DL2				LE			
	comp=Z,340nm,11.8s						
DL2			

BJI LN
comp=Z,310nm,20.4s
BJI LE
comp=Z,220nm,17.8s
BJI LZ
comp=Z,220nm,24.2s
STKA Stephens Creek 37.87 159 P **P 22 25 52.7 -0.5**
comp=Z,20nm,0.7s,baz=332,slow=7.9,SNR=35
STKA Stephens Creek 37.87 159 P **P 22 25 52.8 -0.5**
baz=38,SNR=24
SNY Shenyang 38.27 356 ⇑P **P 22 25 57.5 +1.0**
SNY S **S 22 31 41.6 -4.2**
SNY PMZ
comp=Z,29nm,1.2s
SNY PMZ
comp=Z,220nm,4.5s
SNY LN
comp=Z,290nm,20.5s
SNY LE
comp=Z,410nm,18.3s
SNY LZ
comp=Z,290nm,26.0s
LZH Lanzhou 38.77 330 *e*P **P 22 26 01.1 +0.1**
LZH pP **pP 22 26 16.5 -0.8**
LZH sP **sP 22 26 23.3 -1.6**
LZH S **ScP 22 31 57.3 +3.1**
LZH PMZ
comp=Z,76nm,1.0s
LZH PMZ
comp=Z,370nm,5.1s
LZH LN
comp=Z,620nm,15.2s
LZH LE
comp=Z,830nm,16.5s
LZH LZ
comp=Z,1μm,17.4s
HHC Hu-ho-hao-te 39.66 342 *e*P **P 22 26 10.3 +2.0**
HHC pP **pP 22 26 26.3 +1.7**
HHC sP **sP 22 26 32.6 +0.4**
HHC PP **PnPn 22 27 46.5 +2.4**
HHC S **S 22 32 10.0 +3.0**
HHC sS **sS 22 32 36.1 +1.4**
HHC PMZ
comp=Z,39nm,0.8s
HHC PMZ
comp=Z,120nm,5.2s
HHC LN
comp=Z,1μm,18.5s
HHC LE
comp=Z,640nm,16.0s
HHC LZ
comp=Z,1μm,19.7s
SHL Shillong 40.13 307 *e*P **P 22 26 13.0 +0.5**
SHL *e*S **S 22 32 18.0 +3.3**
CN2 Changchun 40.15 358 *e*P P 22 26 15.8 +3.7
CN2 *e*pP pP 22 26 31.0 +2.5
CN2 PMZ
comp=Z,10.0nm,1.0s
USRK Ussuriysk Ar. 40.78 6 P **P 22 26 18.5 +1.2**
comp=Z,8.8nm,0.7s,baz=184,slow=7.7,SNR=23
MDJ Mudanjiang 41.01 3 P **P 22 26 20.3 +1.0**
MDJ pP **pP 22 26 34.7 -0.9**
MDJ sP **sP 22 26 42.4 -0.8**
MDJ PP **PP 22 27 56.0 +1.0**
MDJ PcP **PcP 22 28 17.8 -0.4**
MDJ ScP **ScP 22 32 03.1 +0.6**
MDJ PcS **PcS 22 32 10.1 +1.0**
MDJ S **S 22 32 28.3 +1.4**
MDJ ScS **ScS 22 36 18.4 +0.7**
MDJ PMZ
comp=Z,32nm,1.0s
MDJ PMZ
comp=Z,80nm,5.3s
MDJ LN
comp=Z,99nm,18.9s
MDJ LE
comp=Z,170nm,27.6s
MDJ LZ
comp=Z,180nm,25.8s
MDJ Mudanjiang 41.01 3 *e*P **P 22 26 19.8 +0.5**
comp=Z,39nm,0.9s
H11S3 WAKE ISLAND Hy 41.68 66 T T 23 11 00.7
baz=253,slow=74,SNR=16
H11S1 WAKE ISLAND Hy 41.70 66 T T 23 10 57.6
baz=253,slow=74,SNR=11
H11S2 WAKE ISLAND Hy 41.70 66 T T 23 10 57.5
baz=253,slow=74,SNR=15
LSA Lhasa 42.70 311 P **P 22 26 33.8 -0.1**
LSA Lhasa 42.70 311 *e*P **P 22 26 33.7 -0.1**
LSA pmax pmax
comp=Z,42nm,0.8s
LSA Lhasa 42.70 311 *e*P **P 22 26 33.7 -0.1**
comp=Z,42nm,0.8s
ASAJ Asahikawa 42.76 17 P **P 22 26 35.0 +1.5**
comp=Z,9.0nm,0.6s,baz=235,slow=9.8,SNR=13
ASAJ Asahikawa 42.76 17 *e*P **P 22 26 34.6 +1.0**
comp=Z,20nm,1.3s
GTA Gaotai 43.37 329 *e*P **P 22 26 38.5 -0.2**
GTA pP **pP 22 26 54.1 -1.1**
GTA sP **sP 22 27 01.1 -1.6**
GTA PP **PP 22 28 23.0 +2.4**
GTA S **S 22 33 02.3 +0.3**
GTA sS **sS 22 33 27.5 -2.5**
GTA SS SS 22 36 10.4 -7.6
GTA PMZ
comp=Z,17nm,1.0s
GTA PMZ
comp=Z,75nm,7.6s
GTA LN
comp=Z,570nm,25.2s
GTA LE
comp=Z,520nm,19.9s
GTA LZ
comp=Z,670nm,19.9s
CAN Canberra 43.84 154 *e*P **P 22 26 41.5 -1.0**
CAN pmax pmax
comp=Z,13nm,0.9s
CAN Canberra 43.84 154 *e*P **P 22 26 41.5 -1.0**
comp=Z,13nm,0.9s
TAPN Taplejung 44.27 306 *e*P **P 22 26 45.4 -0.9**
ODAN Odare 44.32 306 *e*P **P 22 26 45.5 -1.2**
comp=Z,66nm,0.8s
RAMN Ramite 45.00 305 *e*P **P 22 26 51.1 -1.0**
comp=Z,216nm,1.2s
YSS Yuzh-Sakhalins 45.42 15 *e*P **P 22 26 55.0 +0.3**
YSS pmax pmax
comp=Z,60nm,1.3s
YSS Yuzh-Sakhalins 45.42 15 *e*P **P 22 26 55.7 +1.0**
comp=Z,37nm,1.2s
KUR Kuril'sk 45.45 21 P **P 22 26 53.6 -1.4**
JIRN Jiri 45.63 306 *e*P **P 22 26 55.9 -1.3**
KLR Kul'dur 45.75 4 *e*P P 22 26 53.7 -3.6
KLR pmax pmax
comp=Z,34nm,1.2s
GUN Gumba 45.98 306 *e*P **P 22 26 58.7 -1.2**
HIA Hailar 46.00 354*c i*P **P 22 27 00.3 +0.9**
HIA pmax pmax
comp=Z,46nm,1.5s
HIA Hailar 46.00 354 *e*P **P 22 26 59.9 +0.5**
comp=Z,23nm,0.8s
PALK Pallekele 46.11 277 *e*P **P 22 27 00.3 -0.5**
PALK pmax pmax
comp=Z,55nm,1.4s
PALK Pallekele 46.11 277 P **P 22 27 00.4 -0.5**
comp=Z,57nm,1.2s,baz=104,slow=5.1,SNR=7.6
PALK Pallekele 46.11 277 *e*P **P 22 27 00.3 -0.5**
comp=Z,55nm,1.4s
PKI Pulchoki 46.22 305 *e*P **P 22 27 00.2 -1.6**
comp=Z,138nm,1.4s
PKIN Phulchoki 46.24 305 *e*P **P 22 27 00.2 -1.7**
DZM Mont Dzumac 46.28 125 P **P 22 27 01.3 -0.8**
comp=Z,4.4nm,0.8s,baz=311,slow=11,SNR=2.9
KKN Kakani 46.42 306 *e*P **P 22 27 01.8 -1.4**
DMN Daman 46.48 305 *e*P **P 22 27 02.5 -1.3**
GKN Gorkha 47.02 306 *e*P **P 22 27 06.7 -1.2**
ULN Ulaanbaatar 47.38 342*c i*P **P 22 27 10.6 +0.3**
ULN pmax pmax
comp=Z,49nm,1.2s
ULN Ulaanbaatar 47.38 342 *e*P **P 22 27 10.3 0.0**
comp=Z,60nm,1.3s
SONM Songino Array 47.56 341 P **P 22 27 12.5 +0.8**
comp=Z,12nm,0.9s,baz=160,slow=8.9,SNR=35
SONM LR LR 22 49 21.8
comp=Z,430nm,20.9s,baz=156,slow=39
KOLN Koldanda 47.78 305 *e*P **P 22 27 12.8 -1.0**
DANN Dangsing 47.87 306 *e*P **P 22 27 13.6 -1.0**
comp=Z,73nm,0.5s
HYB Hyderabad 49.33 290⇓*i*P **P 22 27 24.0 -1.7**
comp=Z,107nm,1.2s
TLY Talaya 51.79 342 P **P 22 27 44.6 +0.9**
comp=Z,148nm,0.8s,SNR=23
TLY Talaya 51.79 342 *e*P **P 22 27 44.5 +0.9**
TLY *e* 22 34 52.6
TLY pmax pmax
comp=Z,41nm,1.4s
TLY MLR MLR
comp=Z,217nm,21.0s
TLY Talaya 51.79 342 P **P 22 27 45.1 +1.5**
comp=Z,15nm,0.8s,baz=175,slow=5.6,SNR=39
TLY Talaya 51.79 342 *e*P **P 22 27 44.5 +0.9**
comp=Z,23nm,0.9s
IRK Irkutsk 52.09 343 *e*P **P 22 27 46.1 +0.3**
IRK pmax pmax
comp=Z,43nm,1.6s
MOY Mondy 52.65 340 *e*P **P 22 27 51.0 +0.9**
MOY pmax pmax
comp=Z,38nm,1.5s
WMQ Urumqi 53.00 325 P **P 22 27 52.5 -0.3**
WMQ pP **pP 22 28 09.9 +0.2**
WMQ PP **PP 22 29 54.7 +1.6**
WMQ S **S 22 35 16.0 -1.7**
WMQ sS **sS 22 35 44.8 -1.6**
WMQ ScS **ScS 22 37 33.3 -3.3**
WMQ SS **SS 22 38 55.0 -2.7**
WMQ PMZ
comp=Z,28nm,1.2s
WMQ PMZ
comp=Z,230nm,6.0s
WMQ LN
comp=Z,810nm,26.0s
WMQ LE
comp=Z,310nm,24.0s
WMQ LZ
comp=Z,350nm,20.0s
NDI New Delhi 53.37 303 *ex* **P 22 27 54.5 -1.2**
MSVF Nonsavu 54.68 115 *e*P **P 22 28 07.6 +2.1**
MSVF Nonsavu 54.68 115 *e*P **P 22 28 07.6 +2.1**
BHK Bhakra 54.92 306 *ex* **P 22 28 07.0 0.0**
HVS Khovu-Aksy 55.01 335*d i*P **P 22 28 08.2 +0.9**
HVS pmax pmax
comp=Z,161nm,1.1s
BOD Bodaibo 55.11 352 *i*P **P 22 28 08.6 +0.8**
BOD pmax pmax
comp=Z,14nm,1.4s
PETK Petropavlovsk- 55.58 22 P **P 22 28 12.8 +1.5**
comp=Z,9.4nm,0.7s,baz=186,slow=4.6,SNR=22
PETK LR LR 22 53 12.6
comp=Z,93nm,19.5s,baz=212,slow=37
MKAR Makanchi Array 57.83 325 P **P 22 28 27.1 -0.3**
comp=Z,16nm,0.4s,baz=120,slow=7.4,SNR=279
MKAR LR LR 22 56 23.2
comp=Z,197nm,18.7s,baz=98,slow=39
KSH Kashi 58.31 315⇑*i*P **P 22 28 31.5 +0.5**
KSH sP **sP 22 28 55.0 -0.6**
KSH S **S 22 36 24.9 -3.9**
KSH ScS **ScS 22 38 08.1 -7.1**
KSH SS **SS 22 40 20.1 -1.6**
KSH PMZ
comp=Z,87nm,1.5s
KSH LN
comp=Z,18nm,3.9s
KSH LE
comp=Z,15nm,4.1s
KSH LZ
comp=Z,140nm,6.1s
YAK Yakutsk 58.43 2 *e*P **P 22 28 30.9 -0.3**
YAK *e**PP **pP 22 28 49.2 +0.8**
YAK *e* 22 30 42.2
YAK *e*S **S 22 36 32.0 +2.8**
YAK pmax pmax
comp=Z,49nm,1.5s
YAK pmax pmax
comp=N,30nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,6.0nm,0.3s
YAK smax smax
comp=N,107nm,4.1s
YAK smax smax
comp=E,172nm,4.5s
TKM2 Tokmak 2 60.02 319 *e*P **P 22 28 43.0 +0.1**
TKM2 pmax pmax
comp=Z,41nm,1.2s
TKM2 Tokmak 2 60.02 319 *e*P **P 22 28 43.0 +0.1**
comp=Z,41nm,1.2s
UCH Uchtor 60.44 317 *i*P **P 22 28 46.7 +0.6**
CHMS Chumysh 60.61 318 *i*P **P 22 28 46.4 -0.3**
AAK Ala-Archa 60.62 318⇑*e*P **P 22 28 46.9 -0.1**
AAK pmax pmax
comp=Z,81nm,1.7s
AAK Ala-Archa 60.62 318 P **P 22 28 46.4 -0.6**
comp=Z,7.5nm,0.8s,baz=116,slow=5.6,SNR=22
AAK Ala-Archa 60.62 318 *e*P **P 22 28 47.2 +0.2**
FRU Bishkek 60.63 318 *e*P **P 22 28 44.0 -2.8**
ZALV Zalesovo Beam 60.86 333 P **P 22 28 47.6 -0.5**
comp=Z,4.3nm,0.4s,baz=112,slow=6.6,SNR=35
ZALV LR LR 22 59 07.2
comp=Z,210nm,18.3s,baz=74,slow=40
USP Ospenovka 60.89 319 *i*P **P 22 28 48.3 -0.3**
AML Almayashu 60.96 317 *i*P **P 22 28 49.4 -0.1**
EKS2 Erkin-Say 61.12 318 *e*P **P 22 28 50.4 +0.1**
EKS2 pmax pmax
comp=Z,34nm,1.0s
EKS2 Erkin-Say 61.12 318 *e*P **P 22 28 50.4 +0.1**
comp=Z,34nm,1.0s
KBL Kabul 61.78 308 *e*P **P 22 28 53.0 -2.0**
KBL pmax pmax
comp=Z,41nm,1.1s
KBL Kabul 61.78 308 *e*P **P 22 28 53.0 -2.0**
comp=Z,41nm,1.1s
KURK Kurchatov 62.01 328 P **P 22 28 55.9 0.0**
comp=Z,355nm,0.8s,SNR=80
KURK Kurchatov 62.01 328 *e*P **P 22 28 55.1 -0.9**
KURK pmax pmax
comp=Z,54nm,0.9s
KURK Kurchatov 62.01 328 *e*P **P 22 28 55.1 -0.9**
comp=Z,54nm,0.9s
NVS Novosibirsk 62.14 333 *e*P **P 22 28 55.4 -1.3**
NVS *e*S **S 22 37 14.5 -2.5**
NVS *e*PS PnS 22 38 31.8 +51
NVS pmax pmax
comp=Z,40nm,1.2s
NVS pmax pmax
comp=N,11nm,0.9s
NVS pmax pmax
comp=E,21nm,1.1s
NVS smax smax
comp=E,25nm,2.6s
SEY Seymchan 62.22 13 P **P 22 28 58.8 +1.7**
comp=E,9.8nm,1.0s,baz=212,slow=5.7,SNR=15
KKAR Karatay Array 63.50 317 *e*P **P 22 29 05.5 -0.5**
KKAR Karatay Array 63.50 317 *e*P **P 22 29 05.5 -0.5**
VOSK Vostochnaya 67.14 327 *i*P **P 22 29 28.5 -0.9**
VOSK pmax pmax
comp=Z,44nm,0.8s
BRVK Borovoye 67.66 327 P **P 22 29 32.1 -0.6**
comp=Z,451nm,0.9s,SNR=34
BRVK Borovoye 67.66 327*c i*P **P 22 29 32.3 -0.4**
BRVK pmax pmax
comp=Z,105nm,1.2s
BRVK Borovoye 67.66 327 *e*P **P 22 29 32.7 +0.1**
comp=Z,82nm,1.0s
TIXI Tiksi 68.07 1*c i*P **P 22 29 34.7 -0.1**
TIXI pmax pmax
comp=Z,38nm,1.2s
TIXI Tiksi 68.07 1 *e*P **P 22 29 35.0 +0.2**
ABKT Ailbek 71.15 309 P **P 22 29 54.7 +0.1**
comp=Z,65nm,0.9s,SNR=6.5
GEYT Alibeck 71.15 309 P **P 22 29 54.5 -0.1**
comp=Z,6.0nm,0.9s,baz=128,slow=4.1,SNR=20
GEYT LR LR 23 03 38.6
comp=Z,92nm,21.1s,baz=45,slow=38
ABKAR Akbulak array 72.42 321 *e*P **P 22 30 01.6 -0.2**
SVE Sverdlovsk 74.23 328*d i*P **P 22 30 12.6 +0.2**
SVE pmax pmax
comp=Z,75nm,1.1s
IZEF Zefreh 75.14 303 *e*P **P 22 30 17.0 -1.5**
ARU Arti 75.21 328 P **P 22 30 17.7 -0.3**
comp=Z,191nm,1.2s,SNR=17
ARU Arti 75.21 328*c i*P **P 22 30 17.6 -0.5**
ARU *e**PP **pP 22 30 35.7 -0.2**
ARU 22 33 02.4
ARU S **S 22 39 52.1 +0.3**
ARU SS **SS 22 44 42.3 -0.1**
ARU pmax pmax
comp=Z,47nm,1.2s
ARU Arti 75.21 328 *e*P **P 22 30 17.5 -0.5**
comp=Z,33nm,1.0s
IDMV Damavand 75.65 306 *e*P **P 22 30 20.0 -1.4**
IKLH Kolahrood 75.81 303 *e*P **P 22 30 21.9 -0.4**
IPIR Pirpir 76.33 303 *e*P **P 22 30 23.2 -2.1**
SOKR Solikamsk 76.99 331*c i*P **P 22 30 28.1 +0.1**
SOKR pmax pmax
comp=Z,10.0nm,0.7s
IRAZ Razeghan 77.34 305 *e*P **P 22 30 30.8 -0.1**
RAYN Ar Rayn 80.71 293 P **P 22 30 49.9 +0.6**
comp=Z,161nm,0.7s,SNR=20
RAYN Ar Rayn 80.71 293 *e*P **P 22 30 48.0 -1.3**
comp=Z,38nm,0.8s
DGRG David-gareji 81.33 311 P **P 22 30 53.4 +1.1**
OPO Ambohidratompo 81.36 251 P **P 22 30 52.2 -0.8**
comp=Z,25nm,1.0s,baz=73,slow=4.5,SNR=17
ABPO Ambohimpanom 81.38 250 *e*P **P 22 30 52.0 -1.1**
ABPO pmax pmax
comp=Z,12nm,0.7s
ABPO Ambohimpanom 81.38 250 *e*P **P 22 30 52.0 -1.1**
comp=Z,12nm,0.7s
GNI Garni 81.74 310⇑*e*P **P 22 30 55.2 +0.6**
GNI pmax pmax
comp=Z,19nm,1.2s
GNI Garni 81.74 310 *e*P **P 22 30 54.1 -0.6**
comp=Z,8.0nm,0.8s
TBLG Delisi 81.81 311 P **P 22 30 55.5 +0.7**
KDAK Kodiak Island 82.00 32 *i*P **P 22 30 58.3 +3.0**
ZEI Tsey 82.48 313 *e*P **P 22 30 56.3 -2.2**
ZEI pmax pmax
comp=Z,27nm,1.3s
AKH Akhalkalaki 82.74 311 P **P 22 31 01.0 +1.2**
PRGR Permogore 82.77 332⇑*i*P **P 22 30 59.8 +0.5**
PRGR *e**PP **pP 22 31 18.8 +1.4**
PRGR *e*S **S 22 41 13.1 +1.1**
PRGR pmax pmax
comp=Z,52nm,0.9s
ONI Oni 82.80 312 P **P 22 31 01.1 +1.1**
GOF Gofitskoye 83.18 315 *e*P **P 22 31 02.9 +1.1**
GOF pmax pmax
comp=Z,20nm,1.3s
KBZ Khabaz 83.24 313 P **P 22 31 01.8 -0.3**
comp=Z,6.4nm,1.1s,baz=152,slow=2.5,SNR=9.7
KBZ LR LR 23 13 22.1
comp=Z,92nm,19.5s,baz=68,slow=40
KIV Kislovodsk 83.40 314 *e*P **P 22 31 01.5 -1.6**
KIV pmax pmax
comp=Z,5.0nm,0.8s
KIV Kislovodsk 83.40 314 *e*P **P 22 31 01.5 -1.6**
comp=Z,4.8nm,0.8s
COLD Coldfoot 84.04 23 *e*P **P 22 31 05.0 -0.8**
comp=Z,15nm,1.1s
MCK McKinley 84.30 26 *e*P **P 22 31 06.2 -0.9**
MCK pmax pmax
comp=Z,93nm,1.7s
MCK McKinley 84.30 26 *e*P **P 22 31 06.2 -0.9**
comp=Z,93nm,1.7s
VRHR Novokhopersk 84.31 321 *e*P **P 22 31 06.4 -1.0**
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,40nm,0.9s
PPT Papeete 84.90 108 LR LR 23 06 16.6
comp=E,57nm,19.4s,baz=288,slow=34
ILAR Eielson Array 85.24 25 P **P 22 31 12.3 +0.5**
comp=E,0.8nm,0.5s,baz=250,slow=4.4,SNR=14
SFNV Sufian 85.34 306 *e*P **P 22 31 13.1 +0.1**
SOC Sochi 85.55 313*c i*P **P 22 31 12.5 -1.3**
SOC *e* 22 34 32.2
SOC *e*S S 22 41 29.8 -11
SOC pmax pmax
comp=Z,22nm,0.9s
KLMR Klimovskoe 85.67 331 *e*P **P 22 31 14.3 +0.3**
KLMR pmax pmax
comp=Z,75nm,1.3s
VORD Divnogorie 85.78 321 *e*P **P 22 31 12.9 -1.9**
VORD pmax pmax
comp=Z,40nm,0.9s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,40nm,0.9s
VSR Storozhevoye 85.86 321 *e*P **P 22 31 14.0 -1.1**
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=Z,50nm,0.9s
VSR pmax pmax
comp=E,40nm,1.0s
KSRV Kasrt alli 86.25 306 *e*P **P 22 31 18.2 +0.8**
TMCR Tamitsa 86.37 334 *e*P **P 22 31 19.2 +1.9**
TMCR *e* 22 34 45.3
TMCR pmax pmax
comp=Z,32nm,0.8s
MALT Malatya 86.64 308⇑*i*P **P 22 31 20.7 +1.3**
MALT Malatya 86.64 308⇑*i*P **P 22 31 20.7 +1.3**
MOS Moscow 86.71 325 *e*P **P 22 31 18.9 -0.3**
MOS *e* 22 34 46.6
MOS pmax pmax
comp=Z,128nm,1.6s
ANN Anapa 87.17 315 *e**PP P 22 31 27.9 +6.2
ANN pmax pmax
comp=Z,87nm,1.6s
OBN Obninsk 87.33 325*c i*P **P 22 31 22.0 -0.2**
OBN *i* 22 34 52.0
OBN pmax pmax
comp=Z,130nm,1.7s
OBN MLR MLR
comp=Z,124nm,20.0s
OBN Obninsk 87.33 325 *e*P **P 22 31 22.0 -0.2**
comp=Z,63nm,1.0s
ROOS tl_alroos 87.72 304 *e*P **P 22 31 25.3 +0.6**
KFRA Kufra 88.07 305 *e*P **P 22 31 26.9 +0.5**
BTCH Batrach 88.31 306 *e*P **P 22 31 27.3 -0.1**
WRDH Warideh 88.37 305 *e*P **P 22 31 27.1 -0.6**
HAWK Haweek 88.43 304 *e*P **P 22 31 28.1 0.0**
BIDA Albida 88.47 305 *e*P **P 22 31 26.4 -1.9**
TOTH TOTAH 88.47 303 *e*P **P 22 31 29.1 +0.8**
ARNB Al Arnab 88.71 306 *e*P **P 22 31 30.9 +1.5**
TCHB Talchebab 88.90 302 *e*P **P 22 31 32.9 +2.6**
JOF Joensuu 89.45 333 *e*P **P 22 31 31.0 -1.1**
JOF pmax pmax
comp=Z,13nm,0.6s
JOF Joensuu 89.45 333 *e*p **P 22 31 31.0 -1.1**
comp=Z,13nm,0.6s
KMBO Kilima Mbogo 89.70 269 *e*P **P 22 31 34.4 -0.3**
KMBO pmax pmax
comp=Z,18nm,1.0s
KMBO Kilima Mbogo 89.70 269 P **P 22 31 35.8 +1.1**
comp=Z,11nm,0.8s,baz=65,slow=6.9,SNR=36
KMBO Kilima Mbogo 89.70 269 *e*P **P 22 31 34.4 -0.3**
comp=Z,18nm,1.0s
KEV Kevo 90.15 340 *e*P **P 22 31 36.2 +0.9**
KEV Kevo 90.15 340 *e*p **P 22 31 36.2 +0.9**
comp=Z,0.4nm,0.4s
BRTR Keskin Array B 90.28 310 P **P 22 31 36.5 -0.3**
comp=Z,7.2nm,0.8s,baz=123,slow=5.3,SNR=27
BRTR PP **PP 22 35 14.6 +3.2**
comp=Z,1.2nm,0.9s,baz=126,slow=8.0,SNR=5.0
ARCES ARCESS Array B 90.71 340 P **P 22 31 37.9 0.0**
comp=Z,7.1nm,0.8s,baz=80,slow=6.8,SNR=13
ARCES LR LR 23 18 18.0
comp=Z,141nm,19.2s,baz=100,slow=40
KAF Kangasniemi 91.87 332 *e*P **P 22 31 42.3 -1.1**
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF Kangasniemi 91.87 332 *e*p **P 22 31 42.3 -1.1**
comp=Z,5.4nm,0.7s
FINES FINESS Array B 92.10 332 P **P 22 31 44.2 -0.3**
comp=Z,5.8nm,0.8s,baz=88,slow=4.6,SNR=22
FINES LR LR 23 17 41.4
comp=Z,147nm,21.4s,baz=270,slow=38
AKASG Malin Array Be 92.16 321 P **P 22 31 43.9 -1.1**
comp=Z,3.2nm,0.6s,baz=68,slow=4.6,SNR=11
AKASG LR LR 23 17 15.0
comp=Z,93nm,18.6s,baz=90,slow=38
KIEV Kiev 92.17 321⇓*e*P **P 22 31 44.7 -0.3**
QSPA South Pole Qui 93.41 180 P **P 22 31 51.3 +0.8**

comp=Z,3.0nm,0.8s,baz=138,slow=3.1,SNR=6.2
CFR Carcaliu 93.69 316 ⇑P P 22 31 52.5 +0.3
CFR Carcaliu 93.69 316 ⇑iP P 22 31 52.5 +0.3
TESR Tescani 94.51 317 ⇑iP P 22 31 56.6 +0.7
VRI Vrincioaia 94.56 316 ⇑P P 22 31 57.3 +1.1
VRI Vrincioaia 94.56 316 ⇑iP P 22 31 57.3 +1.1
PLOR Plostina 94.62 316 ⇑P P 22 31 57.3 +0.8
PLOR Plostina 94.62 316 ⇑iP P 22 31 57.3 +0.8
MLR Muntele Rosu 95.17 316 ⇑P P 22 31 59.9 +0.8
MLR Muntele Rosu 95.17 316 ⇑iP P 22 31 59.9 +0.8
SUW Suwalki 95.19 325 *eP* **P 22 31 58.2 -0.6**
SUW pmax pmax
comp=Z,26nm,0.8s
SUW Suwalki 95.19 325 *eP* **P 22 31 59.2 +0.4**
SUW Suwalki 95.19 325 *eP* **P 22 31 58.2 -0.6**
comp=Z,26nm,0.8s
BURAR Bucovina Array 95.27 318 ⇑P P 22 32 00.5 +1.0
BURAR Bucovina Array 95.27 318 ⇑iP P 22 32 00.5 +1.0
KWP Kalwaria Pacla 96.48 321 ⇑P P 22 32 04.9 +0.1
KWP Kalwaria Pacla 96.48 321 *eP* **P 22 32 06.7 +1.9**
KWP Kalwaria Pacla 96.48 321 ⇑iP P 22 32 04.8 0.0
KWP Kalwaria Pacla 96.48 321 *eP* **P 22 32 04.2 -0.6**
comp=Z,12nm,1.0s
KOLS Kolonicke sedl 96.91 320 *eP* **P 22 32 07.0 +0.2**
KOLS Kolonicke sedl 96.91 320 *eP* **P 22 32 07.0 +0.2**
UZH Uzhgorod 96.97 320 *eP* **P 22 32 06.3 -0.8**
UZH *i* 22 32 22.6
UZH *e* 22 32 35.6
DRGR 97.11 318 ⇑P Pdif 22 32 08.7 +0.8
DRGR 97.11 318 ⇑iP Pdif 22 32 08.6 +0.7
CRVS Cervenica-Dubn 97.44 320 *eP* Pdif 22 32 09.9 +0.6
CRVS Cervenica-Dubn 97.44 320 *eP* Pdif 22 32 09.9 +0.6
STHS Stebnicka Huta 97.45 321 *eP* Pdif 22 32 10.1 +0.8
STHS Stebnicka Huta 97.45 321 *eP* Pdif 22 32 10.1 +0.8
DAG Danmarks Havn 97.50 352 *i P* **P 22 32 07.8 -1.0**
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 97.50 352 *i P* **P 22 32 07.8 -1.0**
comp=Z,5.3nm,0.9s
BZS Buzias 98.12 317 ⇑P P 22 32 12.0 -0.4
BZS Buzias 98.12 317 ⇑iP P 22 32 11.9 -0.4
NB2 NORSAR Subarra 99.06 334 P **Pdif 22 32 15.2 -1.0**
comp=Z,4.0nm,0.9s,baz=66,slow=4.6
NB2 NORSAR Subarra 99.06 334 P **Pdif 22 32 15.2 -1.0**
baz=66,slow=4.6
NOA NORSAR Array B 99.06 334 P **Pdif 22 32 14.5 -1.7**
comp=Z,2.5nm,0.8s,baz=65,slow=4.6,SNR=5.2
NOA LR LR 23 23 25.8
comp=Z,146nm,19.2s,baz=110,slow=39
VYHS Vyhne 99.23 320 *eP* **Pdif 22 32 18.4 +1.2**
VYHS Vyhne 99.23 320 PDIF **Pdif 22 32 18.4 +1.2**
LSZ Lusaka 99.29 255 P **Pdif 22 32 17.5 -0.9**
comp=Z,1.0nm,0.5s,baz=75,slow=3.4,SNR=4.3
YKA Yellowknife Ar 99.64 24 P **Pdif 22 32 19.0 +0.3**
YKA Yellowknife Ar 99.64 24 P **Pdif 22 32 19.0 +0.3**
comp=Z,0.3nm,0.7s,baz=293,slow=4.3,SNR=5.3
PKSM Moragy 99.98 318 ⇓P Pdif 22 32 21.7 +1.1
PKSM Moragy 99.98 318 ⇓iP Pdif 22 32 21.7 +1.1
DPC Dobruska-Polom 100.25 322 *i P* **Pdif 22 32 23.6 +1.8**
DPC Dobruska-Polom 100.25 322 *e*PDIFF **Pdif 22 32 23.6 +1.8**
TREC Trest 101.10 322 *i P* **Pdif 22 32 27.2 +1.6**
TREC Trest 101.10 322 *e*PDIFF **Pdif 22 32 27.2 +1.6**
BRG Berggiesshubel 101.51 323 *eP* **Pdif 22 32 28.4 +1.1**
comp=Z,8.4nm,1.0s
BRG Berggiesshubel 101.51 323 *eP* **Pdif 22 32 28.4 +1.1**
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG MLR MLR
comp=N,143nm,22.9s
BRG MLR MLR
comp=E,143nm,14.4s
BRG MLR MLR
comp=Z,271nm,12.4s
CLL Collm 101.91 324 *ep*Pdif **pPdif 22 32 45.0 -2.4**
CLL *e*PP **PP 22 36 38.0 -2.5**
CLL Lm MLR 23 24 00.0
comp=Z,100nm,20.3s
CLL Collm 101.91 324 L L 22 49 00.0
comp=Z,100nm,20.4s
GERES GERESS Array B 102.36 322 P **Pdif 22 32 31.8 +0.5**
comp=Z,0.6nm,0.6s,baz=64,slow=6.1,SNR=6.3
TXAR Lajitas Array 121.62 52 PKP **PKPdf 22 37 31.2 +1.4**
comp=Z,0.4nm,0.7s,baz=309,slow=4.3,SNR=3.8
TORD Torodi Ar. Bea 123.13 288 PKP **PKPdf 22 37 33.1 +0.3**
comp=Z,3.1nm,0.8s,baz=38,slow=1.9,SNR=15
DBIC Dimbokro 130.77 282 PKP **PKPdf 22 37 48.4 +1.0**
comp=Z,5.9nm,1.1s,baz=14,slow=4.3,SNR=3.4
LPAZ La Paz 160.53 132 PKP **PKPdf 22 38 38.4 +1.6**
comp=Z,1.3nm,0.9s,baz=209,slow=3.8,SNR=3.8
LPAZ PKPab **PKPab 22 39 17.1 -1.0**
comp=Z,1.4nm,0.9s,baz=208,slow=4.9,SNR=2.3

KRSC 02 22:21:39.0±0.4, 53°.98N×160°.76E, h79km±9km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.81**	**44**	*eP*	Pn	22 21 57.3	+1.6
MKZ				*eS*	Sn	22 22 09.8	+1.7
SPN	**Mys Shipunski**	**0.99**	**207**	*eP*	Pn	22 21 59.3	+1.5
SPN				*eS*	Sn	22 22 13.0	+1.2
KZV	**Kizimen**	**1.16**	**347**	*eP*	Pn	22 22 01.5	+1.3
KZV				*eS*	Sn	22 22 16.7	+0.7
NLC	**Nalytchevo**	**1.17**	**227**	*eP*	Pn	22 22 01.4	+1.4
NLC				*eS*	Sn	22 22 16.6	+0.9
SDLR	**Sedlovina**	**1.32**	**238**	*i P*	Pn	22 22 03.7	+1.6
SDLR				*eS*	Sn	22 22 20.8	+1.4
TUMR	**Tumrok**	**1.35**	**345**	*i P*	Pn	22 22 04.1	+1.6
TUMR				*eS*	Sn	22 22 21.3	+1.2
SMAR	**Somma**	**1.37**	**239**	*eP*	Pn	22 22 04.5	+1.7
SMAR				*eS*	Sn	22 22 21.6	+0.8
KRER	**Koryakskii**	**1.38**	**241**	*eP*	Pn	22 22 04.6	+1.7
KRER				*eS*	Sn	22 22 22.2	+1.3
UGLR	**Uglovaya**	**1.39**	**237**	*i P*	Pn	22 22 04.8	+1.9
UGLR				*eS*	Sn	22 22 22.5	+1.5
AVH	**Avacha**	**1.40**	**240**	*eP*	Pn	22 22 05.1	+2.0
AVH				*eS*	Sn	22 22 23.1	+1.9
KRX	**Arik**	**1.40**	**244**	*eP*	Pn	22 22 04.7	+1.6
KRX				*eS*	Sn	22 22 22.5	+1.2
KOK	**Koryaka**	**1.44**	**242**	*eP*	Pn	22 22 05.3	+1.7
KOK				*eS*	Sn	22 22 23.7	+1.6
PET	**Petropavlovsk**	**1.58**	**233**	*i P*	Pn	22 22 07.2	+1.9
PET				*i S*	Sn	22 22 26.6	+1.5
GNL	**Ganaly**	**1.69**	**261**	*i P*	Pn	22 22 08.4	+1.5
GNL				*eS*	Sn	22 22 29.3	+1.2
KMNR	**Kamenistaya**	**1.80**	**351**	*eP*	Pn	22 22 10.1	+1.8
RUS	**Russkaya**	**2.06**	**222**	*i P*	Pn	22 22 12.9	+1.4
RUS				*eS*	Sn	22 22 37.1	+0.7
MTVR	**Mutnovka**	**2.16**	**227**	*eP*	Pn	22 22 15.2	+2.1
ESO	**Esso**	**2.28**	**329**	*eP*	Pn	22 22 16.8	+2.2
ASAK	**Asacha**	**2.35**	**228**	*eP*	Pn	22 22 17.9	+2.3
APC	**Apacha**	**2.40**	**245**	*eP*	Pn	22 22 18.5	+2.4
SRDR	**Sredinnyy**	**2.41**	**346**	*eP*	Pn	22 22 18.0	+1.6
KBTR	**Krutoberegovo**	**2.52**	**27**	*eP*	Pn	22 22 19.8	+2.0
SMKR	**Semkarok**	**2.64**	**9**	*eP*	Pn	22 22 22.0	+2.6
SRKR	**Sorokina**	**2.69**	**5**	*eP*	Pn	22 22 22.9	+2.8
MIPR	**Malaya Ipel'ka**	**2.95**	**236**	*eP*	Pn	22 22 26.2	+2.5
BKI	**Bering**	**3.27**	**66**	*eP*	Pn	22 22 30.1	+2.2
BKI				*eS*	Sn	22 23 06.7	+1.0

IDC 02 22:24:22.1±2.0, 6°.97S×11°.56E, h0km, mb3.9/4, mb1 3.8/6, mb1mx3.5/35, mbtmp3.8/6, ML0.9/1, Error ellipse: s-maj=54.2km s-min=25.5km az=41.0, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**13.50**	**155**	Pn	Pn	22 27 36.6	+1.3
TSUM	0.0nm,0.3s,baz=337,slow=15,SNR=2.4			Sn	Sn	22 29 58.3	-8.0
	0.2nm,0.3s,baz=224,slow=23,SNR=6.0						
LSZ	**Lusaka**	**18.28**	**118**	Pn	Pn	22 28 35.6	-2.0
	0.1nm,0.3s,baz=9.5,slow=6.1,SNR=2.4						
DBIC	**Dimbokro**	**21.25**	**309**	P	P	22 29 10.0	-0.1
	8.6nm,0.8s,baz=110,slow=12,SNR=11						
TORD	**Torodi Ar. Bea**	**22.25**	**334**	P	P	22 29 20.8	-0.2
	2.8nm,0.7s,baz=157,slow=11,SNR=49						
H10N1	**ASCENSION HYDR**	**25.83**	**266**	T	T	22 57 00.0	
	baz=90,slow=75,SNR=24						
H10N2	**ASCENSION HYDR**	**25.84**	**266**	T	T	22 57 00.6	
	baz=90,slow=75,SNR=14						
H10N3	**ASCENSION HYDR**	**25.86**	**266**	T	T	22 57 01.9	
	baz=90,slow=75,SNR=22						
GEYT	**Alibeck**	**62.22**	**40**	P	P	22 34 46.3	+0.4
	1.8nm,0.8s,baz=229,slow=5.5,SNR=4.0						
MKAR	**Makanchi Array**	**82.10**	**41**	P	P	22 36 44.6	-0.1
	0.2nm,0.4s,baz=248,slow=4.8,SNR=4.8						

IDC 02 22:25:38.0±8.4, 14°.12S×167°.06E, h129km±79km, mb3.3/2, mb1 3.6/3, mb1mx3.3/20, mbtmp3.8/3, Error ellipse: s-maj=72.2km s-min=39.9km az=154.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.93**	**184**	P	Pn	22 27 30.8	+0.2
	1.7nm,0.3s,baz=34,slow=15,SNR=7.8						
DZM				S	Sn	22 28 58.9	+0.1
	baz=120,slow=20,SNR=3.0						
ASAR	**Alice Springs**	**32.70**	**248**	P	P	22 31 58.3	-0.2
	0.6nm,0.6s,baz=72,slow=9.4,SNR=7.0						
ILAR	**Eielson Array**	**86.02**	**18**	P	P	22 38 03.5	0.0
	0.5nm,0.8s,baz=232,slow=5.5,SNR=4.0						
ARCES	**ARCESS Array B**	**119.62**	**345**	PKP	PKPdf	22 44 11.2	-0.9
	1.4nm,0.8s,baz=81,slow=1.9,SNR=13						
FINES	**FINESS Array B**	**125.09**	**338**	PKP	PKPdf	22 44 22.5	-0.2
	1.4nm,1.0s,baz=66,slow=3.4,SNR=2.8						
BRTR	**Keskin Array B**	**131.96**	**311**	PKP	PKPdf	22 44 37.8	+1.1
	0.4nm,0.7s,baz=82,slow=1.4,SNR=3.1						
KEST	**Kesra**	**150.62**	**321**	PKPbc	PKPbc	22 45 14.8	-0.5
	1.0nm,0.9s,baz=118,slow=5.5,SNR=6.6						

KNET ***02*** *22:28:12.7±0.3, 42°.44N×75°.65E, h0km, ml1.4, Error ellipse: s-maj=2.1km s-min=1.8km az=36.0*
KRNET ***02*** *22:28:12.8±0.1, 42°.42N×75°.63E, h4km, mb2.3*
ISC 02 22:28:13.3±1.2, 42°.43N±0°.03×75°.64E±0°.02, h2km±17km, n14, σ0°.53/27, 17C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOOM	**Boomskoye usch**	**0.23**	**75**	*i P*	**Pg**	**22 28 18.2**	**+0.4**
	baz=75						
BOOM				*eS*	**Sg**	**22 28 22.0**	**+1.1**
	baz=75						
KZA	**Kyzart**	**0.45**	**219**	⇑P	**Pg**	**22 28 22.1**	**0.0**
	2.2nm,0.1s,SNR=13						
KZA				⇑S	**Sg**	**22 28 29.0**	**+1.0**
	4.9nm,0.1s						
KZA	**Kyzart**	**0.45**	**219**	⇑*iP*	**Pg**	**22 28 21.8**	**-0.3**
	baz=220						
KZA				⇑*iS*	**Sg**	**22 28 28.6**	**+0.6**
	baz=220						
ULHL	**Ulahol**	**0.48**	**112**	⇑P	**Pg**	**22 28 22.1**	**-0.5**
	2.3nm,0.1s,SNR=30						
ULHL				⇑S	**Sg**	**22 28 28.8**	**-0.1**
	12nm,0.1s						
ULHL	**Ulahol**	**0.48**	**112**	⇑*iP*	**Pg**	**22 28 21.9**	**-0.7**
	baz=111						
ULHL				⇑*iS*	**Sg**	**22 28 28.6**	**-0.3**
	baz=111						
TKM2	**Tokmak 2**	**0.49**	**357**	⇑P	**Pg**	**22 28 22.6**	**-0.2**
	2.0nm,0.1s,SNR=24						
TKM2				⇓S	**Sg**	**22 28 29.4**	**+0.2**
	16nm,0.1s						
TKM2	**Tokmak 2**	**0.49**	**357**	⇑*iP*	**Pg**	**22 28 22.4**	**-0.4**
	baz=357						
TKM2				⇑*iS*	**Sg**	**22 28 29.2**	**0.0**
	baz=357						
KBK	**Karagaybulak**	**0.56**	**294**	⇑P	**Pg**	**22 28 24.2**	**+0.1**
	4.3nm,0.1s,SNR=13						
KBK				⇓S	**Sg**	**22 28 31.9**	**+0.7**
	13nm,0.2s						
KBK	**Karagaybulak**	**0.56**	**294**	⇑*iP*	**Pg**	**22 28 23.9**	**-0.1**
	baz=295						
KBK				⇑*iS*	**Sg**	**22 28 31.7**	**+0.4**
	baz=295						
AAK	**Ala-Archa**	**0.87**	**284**	P	**Pg**	**22 28 29.9**	**-0.1**
	17nm,0.4s,SNR=6.0						
AAK	**Ala-Archa**	**0.87**	**284**	P	**Pg**	**22 28 29.4**	**-0.6**
	1.6nm,0.1s,SNR=5.3						
AAK				⇑S	**Sg**	**22 28 40.9**	**-0.4**
	3.3nm,0.2s						
AAK	**Ala-Archa**	**0.87**	**284**	⇑*iP*	**Pg**	**22 28 29.2**	**-0.8**
	baz=285						
AAK				⇑*iS*	**Sg**	**22 28 40.7**	**-0.6**
	baz=285						
NRN	**Naryn**	**1.03**	**165**	*i P*	**Pg**	**22 28 32.7**	**-0.4**
	baz=165						
NRN				*i S*	**Sg**	**22 28 46.7**	**+0.2**
	baz=165						
EKS	**Erkin-Say**	**1.39**	**281**	*eP*	**Pg**	**22 28 39.6**	**-0.3**
	baz=281						
EKS				*eS*	**Sn**	**22 28 59.2**	**+0.3**
	baz=281						

ISCJB ***02*** *22:33:23.9±0.9, 5°.2S±0°.1×153°.2E±0°.1, h35km, mb3.7/7, Error ellipse: s-maj=20.9km s-min=11.8km az=138.7*
IDC ***02*** *22:33:30.6±5.0, 5°.35S×153°.18E, h82km±44km, mb3.5/7, mb1 3.7/8, mb1mx3.5/21, mbtmp3.9/8, ML3.1/1, Error ellipse: s-maj=31.5km s-min=25.5km az=16.0*
ISC 02 22:33:25.5±1.0, 5°.2S±0°.2×153°.3E±0°.1, h35km, n9, σ1°.05/10, mb3.6/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.36**	**235**	P	Pn	22 35 14.6	+4.1
	2.1nm,0.3s,baz=39,slow=13,SNR=3.9						
PMG				S	**Sn**	**22 36 33.8**	**+0.9**
	5.1nm,0.3s,baz=0.0,slow=20,SNR=4.7						
DZM	**Mont Dzumac**	**21.09**	**144**	P	**P**	**22 38 07.0**	**-0.1**
	7.0nm,0.7s,baz=263,slow=12,SNR=8.8						
WRA	**Warramunga Arr**	**23.54**	**230**	P	**P**	**22 38 32.0**	**-0.8**
	1.4nm,0.7s,baz=53,slow=9.9,SNR=14						
ASAR	**Alice Springs**	**26.18**	**224**	P	**P**	**22 38 56.9**	**-0.1**
	0.4nm,0.4s,baz=58,slow=8.8,SNR=7.2						
CMAR	**Chiang Mai Arr**	**58.45**	**295**	P	**P**	**22 43 18.8**	**+0.3**
	0.7nm,0.3s,baz=109,slow=5.9,SNR=4.5						
MKAR	**Makanchi Array**	**80.92**	**319**	P	**P**	**22 45 36.1**	**-0.2**
	0.3nm,0.4s,baz=94,slow=7.5,SNR=10						
ZALV	**Zalesovo Beam**	**81.73**	**326**	P	**P**	**22 45 39.0**	**-1.4**
	0.4nm,0.4s,baz=82,slow=10,SNR=3.3						
ILAR	**Eielson Array**	**82.35**	**22**	P	**P**	**22 45 45.2**	**+1.7**
	0.4nm,0.8s,baz=251,slow=5.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**150.86**	**288**	PKPbc	**PKPbc**	**22 53 14.7**	**-0.8**
	1.0nm,0.4s,baz=81,slow=2.0,SNR=30						
TORD				PKPab	**PKPab**	**22 53 22.1**	**-0.7**
	0.6nm,0.5s,baz=59,slow=2.6,SNR=6.4						

IDC ***02*** *22:43:38.1±1.1, 36°.44S×74°.96W, h0km, mb4.1/3, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, ML4.2/2, MS3.7/3, Ms1 3.6/3, ms1mx2.9/25, Error ellipse: s-maj=42.6km s-min=24.1km az=71.0*
ISCJB ***02*** *22:43:41.5±1.1, 36°.4S±0°.1×74°.9W±0°.2, h33km, mb4.1/3, MS4.0/2, Error ellipse: s-maj=23.5km s-min=11.5km az=152.0*
ISC 02 22:43:43.7±1.1, 36°.4S±0°.1×74°.9W±0°.2, h35km, n8, σ1°.00/7, mb4.3/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.56**	**143**	Pn	Pn	22 44 59.8	-4.2
	0.8nm,0.3s,baz=313,slow=12,SNR=3.4						
PLCA				Sn	**Sn**	**22 46 07.2**	**+0.5**
	1.5nm,0.3s,baz=38,slow=23,SNR=8.0						
PLCA				LR	LR	22 47 13.3	
	comp=Z,270nm,20.3s,baz=318,slow=39						
CPUP	**Villa Florida**	**18.02**	**61**	P	**Pn**	**22 47 50.5**	**-0.8**
	0.6nm,0.3s,baz=227,slow=12,SNR=3.0						
QSPA	**South Pole Qui**	**53.89**	**180**	P	**P**	**22 53 02.5**	**-0.7**
	3.5nm,1.0s,baz=230,slow=0.4,SNR=8.5						
TXAR	**Lajitas Array**	**70.70**	**334**	P	**P**	**22 54 55.4**	**-0.7**
	0.6nm,0.8s,baz=167,slow=4.4,SNR=5.6						
TORD	**Torodi Ar. Bea**	**87.21**	**72**	LR	LR	23 33 08.6	
	comp=Z,50nm,21.2s,baz=155,slow=34						
ULM	**Lac du Bonnet**	**88.19**	**347**	P	**P**	**22 56 31.8**	**+1.3**
	2.3nm,1.1s,baz=167,slow=4.3,SNR=3.1						
MDT	**Midelt**	**95.12**	**53**	LR	LR	23 40 59.8	
	comp=Z,56nm,18.4s,baz=142,slow=36						
MKAR	**Makanchi Array**	**160.07**	**51**	PKP	**PKPdf**	**23 03 38.8**	**-0.1**
	0.3nm,0.7s,baz=270,slow=1.1,SNR=4.7						
MKAR				PKPab	**PKPab**	**23 04 19.4**	**+0.5**
	0.4nm,0.9s,baz=270,slow=5.9,SNR=3.9						

ISCJB ***02*** *22:51:34.8±0.4, 40°.82N±0°.02×25°.37E±0°.02, h6km±4km, Error ellipse: s-maj=3.8km s-min=2.8km az=19.6*
ISK ***02*** *22:51:34.2, 40°.79N×25°.34E, h4km, MD3.5*
ATH ***02*** *22:51:34.4, 40°.83N×25°.44E, h22km±1km, MD3.2/12*
THE ***02*** *22:51:35.3, 40°.81N×25°.39E, h3km±3km, ML2.6/5, Error ellipse: s-maj=3.1km s-min=0.7km az=182.0*
SOF ***02*** *22:51:35.4, 40°.89N×25°.39E, h2km, MD2.6*
CSEM ***02*** *22:51:35.1±0.1, 40°.83N×25°.36E, h5km, ML2.6, Error ellipse: s-maj=3.6km s-min=2.8km az=22.0*
SKO ***02*** *22:51:36.8, 40°.81N×25°.33E, h9km, M2.0, ML2.4*
DDA ***02*** *22:51:39.9, 40°.59N×25°.73E, h4km, MD3.0*
ISC 02 22:51:34.7±1.0, 40°.83N±0°.02×25°.39E±0°.01, h8km±9km, n113, σ0°.93/142, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.37**	**163**	P	**Pb**	**22 51 42.6**	**-1.0**
SMTH				S	**Sg**	**22 51 47.7**	**+0.9**
SMTH	**Samothraki Isl**	**0.37**	**163**	P	**Pb**	**22 51 42.6**	**-1.0**
SMTH				S	**Sg**	**22 51 47.7**	**+0.9**
SMTH	**Samothraki Isl**	**0.37**	**163**	*e*PB	**Pb**	**22 51 42.5**	**-1.0**
SMTH	**Samothraki Isl**	**0.37**	**163**	*e*Pb	**Pb**	**22 51 42.5**	**-1.0**
SMTH				S	**Sg**	**22 51 47.7**	**+0.9**
ALN	**Alexandroupoli**	**0.50**	**82**	P	**Pb**	**22 51 45.1**	**-0.6**
ALN				S	**Sb**	**22 51 51.8**	**-1.4**
ALN	**Alexandroupoli**	**0.50**	**82**	P	**Pb**	**22 51 45.1**	**-0.6**
ALN				S	**Sb**	**22 51 51.8**	**-1.4**
ALN	**Alexandroupoli**	**0.50**	**82**	*e*PG	**Pb**	**22 51 44.9**	**-0.9**
ALN	**Alexandroupoli**	**0.50**	**82**	*e*PB	**Pg**	**22 51 43.3**	**-1.1**
ALN				*e*SB	**Sg**	**22 51 52.2**	**+0.3**
ALN	**Alexandroupoli**	**0.50**	**82**	*e*Pb	**Pg**	**22 51 43.3**	**-1.1**
ALN	**Alexandroupoli**	**0.50**	**82**	*e*Pg	**Pb**	**22 51 44.9**	**-0.9**
ALN				*e*Sb	**Sg**	**22 51 52.2**	**+0.3**
ENEZ	**Enez**	**0.58**	**99**	*e*PG	**Pg**	**22 51 46.1**	**+0.1**
ENEZ				*e*SG	**Sb**	**22 51 56.1**	**+0.5**
ENEZ	**Enez**	**0.58**	**99**	*e*Pg	**Pg**	**22 51 46.1**	**+0.1**
ENEZ				*e*Sg	**Sb**	**22 51 56.1**	**+0.5**
KAVA	**Kavala**	**0.69**	**285**	P	**Pb**	**22 51 48.7**	**-0.2**
KAVA				S	**Sb**	**22 51 58.0**	**-0.6**
KAVA	**Kavala**	**0.69**	**285**	P	**Pb**	**22 51 48.7**	**-0.2**
KAVA				S	**Sb**	**22 51 58.0**	**-0.6**
KAVA	**Kavala**	**0.69**	**285**	*e*PN	**Pb**	**22 51 48.7**	**-0.2**
KAVA	**Kavala**	**0.69**	**285**	P	**Pb**	**22 51 48.7**	**-0.2**
KAVA				S	**Sb**	**22 51 58.0**	**-0.6**
KDZ	**Kurdzhali**	**0.82**	**1**	*i P*	**Pb**	**22 51 50.9**	**-0.4**
KDZ	**Kurdzhali**	**0.82**	**1**	*i P*	**Pb**	**22 51 50.9**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.93**	**117**	*e*PG	**Pb**	**22 51 53.2**	**+0.2**
GELI				*e*SG	**Sn**	**22 52 06.7**	**-0.8**
GELI	**Tayfur-Gelibol**	**0.93**	**117**	*e*Pg	**Pb**	**22 51 53.2**	**+0.2**
GELI				*e*Sg	**Sn**	**22 52 06.7**	**-0.8**
LIA	**Limnos Island**	**0.94**	**190**	P	**Pb**	**22 51 53.3**	**+0.1**
LIA				S	**Sb**	**22 52 05.8**	**0.0**
LIA	**Limnos Island**	**0.94**	**190**	P	**Pb**	**22 51 53.3**	**+0.1**
LIA				S	**Sb**	**22 52 05.8**	**0.0**
LIA	**Limnos Island**	**0.94**	**190**	*e*PN	**Pg**	**22 51 52.1**	**-0.6**
LIA				*e*SN	**Sb**	**22 52 06.1**	**+0.3**
LIA	**Limnos Island**	**0.94**	**190**	*e*Pn	**Pg**	**22 51 52.1**	**-0.6**
LIA	**Limnos Island**	**0.94**	**190**	P	**Pb**	**22 51 53.3**	**+0.1**
LIA				S	**Sb**	**22 52 05.8**	**0.0**
LIA				*e*Sn	**Sb**	**22 52 06.1**	**+0.3**
RZN	**Rozhen**	**1.00**	**330**	*i* Pg	**Pb**	**22 51 54.4**	**0.0**
RZN	**Rozhen**	**1.00**	**330**	*i* Pg	**Pb**	**22 51 54.4**	**0.0**
BOZC	**Bozcaada**	**1.10**	**153**	*i P*	**Pb**	**22 51 55.7**	**-0.4**
BOZC				*i S*	**Sg**	**22 52 09.8**	**-0.4**
OUR	**Ouranopolis**	**1.18**	**246**	P	**Pb**	**22 51 56.9**	**-0.4**
OUR				S	**Sn**	**22 52 14.1**	**+0.3**
OUR	**Ouranopolis**	**1.18**	**246**	P	**Pb**	**22 51 56.9**	**-0.4**
OUR				S	**Sn**	**22 52 14.1**	**+0.3**
OUR	**Ouranopolis**	**1.18**	**246**	*e*PN	**Pb**	**22 51 56.6**	**-0.8**
OUR				*e*SN	**Sg**	**22 52 12.4**	**-0.3**
OUR	**Ouranopolis**	**1.18**	**246**	*e*PN	**Pb**	**22 51 56.9**	**-0.4**
OUR	**Ouranopolis**	**1.18**	**246**	P	**Pb**	**22 51 56.9**	**-0.4**
OUR				*e*Sn	**Sg**	**22 52 12.4**	**-0.3**
OUR				S	**Sn**	**22 52 14.1**	**+0.3**
EZN	**Ezine**	**1.23**	**144**	*e*PN	**Pg**	**22 51 58.3**	**+0.1**
EZN	**Ezine**	**1.23**	**144**	*e*Pn	**Pg**	**22 51 58.3**	**+0.1**
DIM	**Dimitrovgrad**	**1.23**	**5**	*i* Pg	**Pn**	**22 51 57.9**	**-0.3**
DIM	**Dimitrovgrad**	**1.23**	**5**	*i* Pg	**Pn**	**22 51 57.9**	**-0.3**
NVR	**Nevrokopi**	**1.27**	**295**	P	**Pg**	**22 51 59.6**	**+0.5**
NVR	**Nevrokopi**	**1.27**	**295**	P	**Pg**	**22 51 59.6**	**+0.5**
NVR	**Nevrokopi**	**1.27**	**295**	*e*PN	**Pg**	**22 51 59.6**	**+0.5**
NVR	**Nevrokopi**	**1.27**	**295**	P	**Pg**	**22 51 59.6**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.36**	**95**	*e*PN	**Pg**	**22 52 00.8**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.36**	**95**	*e*Pn	**Pg**	**22 52 00.8**	**0.0**
PLD	**Plovdiv**	**1.38**	**338**	P	**Pg**	**22 52 00.8**	**-0.3**
PLD	**Plovdiv**	**1.38**	**338**	P	**Pg**	**22 52 00.8**	**-0.3**
PLD	**Plovdiv**	**1.38**	**338**	*i P*	**Pb**	**22 52 00.6**	**-0.1**
PLD	**Plovdiv**	**1.38**	**338**	*i P*	**Pb**	**22 52 00.6**	**-0.1**
SRS	**Serrai**	**1.39**	**283**	P	**Pb**	**22 52 00.8**	**-0.2**
SRS	**Serrai**	**1.39**	**283**	P	**Pb**	**22 52 00.8**	**-0.2**
SRS	**Serrai**	**1.39**	**283**	*e*PN	**

APE	**Apeiranthos**	**3.75**	**178**	*e*PN	**Pn**	**22 52 34.0**	**+1.0**
APE	**Apeiranthos**	**3.75**	**178**	*e*Pn	**Pn**	**22 52 34.0**	**+1.0**
ALT	**Altintas**	**4.03**	**114**	*e*PN	**Pn**	**22 52 38.9**	**+2.0**
ALT	**Altintas**	**4.03**	**114**	*e*Pn	**Pn**	**22 52 38.9**	**+2.0**

CSEM ***02*** *22:53:45.1±0.1, 46°.30N×14°.31E, h12km, ML1.6/4, Error ellipse: s-maj=2.0km s-min=1.3km az=171.0*
VIE ***02*** *22:53:45.0±0.3, 46°.30N×14°.32E, h10km±5km, ML1.6/2, Error ellipse: s-maj=1.2km s-min=0.8km az=144.0 7 km NNW of Kranj*
LJU ***02*** *22:53:45.2, 46°.30N×14°.32E, h6km, ML1.0*

ISC 02 22:53:45.3±0.9, 46°.30N±0°.02×14°.31E±0°.02, h10km±7km, n34, σ0°.44/58, 5C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOZS	**Mozjanca**	**0.09**	**92**	*i* Pg	**Pg**	**22 53 47.6**	**-0.2**
	comp=Z,51nm,0.1s						
MOZS	**Mozjanca**	**0.09**	**92**	*i* Pg	**Pg**	**22 53 47.6**	**-0.2**
	comp=Z,51nm,0.1s						
CRNS	**Crni Vrh**	**0.22**	**190**	*i* Pg	**Pg**	**22 53 49.7**	**-0.2**
CRNS				*e*Sg	**Sg**	**22 53 53.5**	**+0.6**
	comp=Z,21nm,0.1s						
GORS	**Gorjuse**	**0.22**	**275**	*i* Pg	**Pg**	**22 53 49.9**	**-0.1**
GORS				*i* Sg	**Sg**	**22 53 53.2**	**+0.1**
GORS	**Gorjuse**	**0.22**	**275**	*i* Pg	**Pg**	**22 53 49.9**	**-0.1**
GORS				*i* Sg	**Sg**	**22 53 53.2**	**+0.1**
OBKA	**Obir**	**0.27**	**37**	⇓*i* Pg	**Pg**	**22 53 50.7**	**-0.1**
OBKA				⇑*i* Sg	**Sg**	**22 53 54.5**	**0.0**
	comp=Z,18nm,0.1s						
OBKA	**Obir**	**0.27**	**37**	Pg	**Pg**	**22 53 50.7**	**-0.1**
OBKA				Sg	**Sg**	**22 53 54.5**	**0.0**
	comp=Z,18nm,0.1s						
LJU	**Ljubljana**	**0.29**	**149**	*i* Pg	**Pg**	**22 53 51.4**	**+0.2**
LJU				*i* Sg	**Sg**	**22 53 55.5**	**+0.3**
	comp=Z,3.0nm,0.1s						
LJU	**Ljubljana**	**0.29**	**149**	*i* Pg	**Pg**	**22 53 51.4**	**+0.2**
VNDS	**Vrh nad Dolski**	**0.33**	**126**	*i* Pg	**Pg**	**22 53 52.2**	**+0.2**
VOJS	**Vojsko**	**0.40**	**229**	*i* Pg	**Pg**	**22 53 52.8**	**-0.4**
VOJS				*i* Sg	**Sg**	**22 53 58.5**	**0.0**
VOJS	**Vojsko**	**0.40**	**229**	*i* Pg	**Pg**	**22 53 52.8**	**-0.4**
VOJS				*i* Sg	**Sg**	**22 53 58.5**	**0.0**
CADS	**Cadrg**	**0.41**	**260**	*e*Pg	**Pg**	**22 53 53.0**	**-0.3**
CADS				*i* Sg	**Sg**	**22 53 59.5**	**+0.8**
CADS	**Cadrg**	**0.41**	**260**	*e*Pg	**Pg**	**22 53 53.0**	**-0.3**
CADS				*i* Sg	**Sg**	**22 53 59.5**	**+0.8**
JAVS	**Javornik**	**0.44**	**203**	*e*Pg	**Pg**	**22 53 53.4**	**-0.5**
JAVS	**Javornik**	**0.44**	**203**	*e*Pg	**Pg**	**22 53 53.4**	**-0.5**
DRE	**Drenchia**	**0.48**	**255**	⇑*e*Pg	**Pg**	**22 53 54.6**	**-0.1**
DRE				*e*Sg	**Sg**	**22 54 01.7**	**+0.6**
DRE	**Drenchia**	**0.48**	**255**	⇑*e*Pg	**Pg**	**22 53 54.6**	**-0.1**
DRE				*e*Sg	**Sg**	**22 54 01.7**	**+0.6**
CEY	**Cerknica**	**0.56**	**172**	*i* Pg	**Pg**	**22 53 56.3**	**+0.1**
CEY				*i* Sg	**Sg**	**22 54 03.9**	**+0.2**
	comp=Z,10.0nm,0.2s						
CEY	**Cerknica**	**0.56**	**172**	*i* Pg	**Pg**	**22 53 56.3**	**+0.1**
CEY				*i* Sg	**Sg**	**22 54 03.9**	**+0.2**
	comp=Z,10.0nm,0.2s						
SABO	**M.te Sabotino**	**0.59**	**238**	⇑*e*Pg	**Pg**	**22 53 56.0**	**-0.7**
SABO				*e*Sg	**Sg**	**22 54 04.5**	**0.0**
SABO	**M.te Sabotino**	**0.59**	**238**	⇑*e*Pg	**Pg**	**22 53 56.0**	**-0.7**
SABO				*e*Sg	**Sg**	**22 54 04.5**	**0.0**
ACOM	**Acomizza, Ital**	**0.61**	**295**	⇓*e*Pg	**Pg**	**22 53 57.3**	**+0.1**
ACOM				*e*Sg	**Sg**	**22 54 06.0**	**+0.8**
ACOM	**Acomizza, Ital**	**0.61**	**295**	⇓*e*Pg	**Pg**	**22 53 57.3**	**+0.1**
ACOM				*e*Sg	**Sg**	**22 54 06.0**	**+0.8**
SOKA	**Soboth**	**0.63**	**52**	⇓*i* Pg	**Pg**	**22 53 57.3**	**-0.2**
SOKA				⇓*i* Sg	**Sg**	**22 54 05.9**	**+0.2**
	comp=Z,1.7nm,0.1s						
SOKA	**Soboth**	**0.63**	**52**	Pg	**Pg**	**22 53 57.3**	**-0.2**
SOKA				Sg	**Sg**	**22 54 05.9**	**+0.2**
	comp=Z,1.7nm,0.1s						
LEGS	**Legarje**	**0.78**	**116**	*i* Pg	**Pb**	**22 54 00.9**	**0.0**
LEGS				*e*Sg	**Sb**	**22 54 11.5**	**-0.1**
LEGS	**Legarje**	**0.78**	**116**	*i* Pg	**Pb**	**22 54 00.9**	**0.0**
LEGS				*e*Sg	**Sb**	**22 54 11.5**	**-0.1**
GOLS	**Golise**	**0.95**	**107**	*i* Pg	**Pb**	**22 54 03.7**	**-0.2**
GOLS	**Golise**	**0.95**	**107**	*i* Pg	**Pb**	**22 54 03.7**	**-0.2**
NVLJ	**Novalja**	**1.78**	**167**	*i* Pn	**Pn**	**22 54 15.5**	**-0.6**
NVLJ				Sn	**Sg**	**22 54 42.8**	**+0.4**
NVLJ	**Novalja**	**1.78**	**167**	*i* Pn	**Pn**	**22 54 15.4**	**-0.6**
NVLJ				Sn	**Sg**	**22 54 42.8**	**+0.4**
UDBI	**Udbina**	**2.04**	**149**	Sn	**Sb**	**22 54 49.2**	**+1.2**
UDBI	**Udbina**	**2.04**	**149**	Sn	**Sb**	**22 54 49.1**	**+1.2**

GUC 02 22:59:57.7±0.3, 33°.32S×71°.16W, h57km±4km, ML3.6, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**0.34**	**120**	⇑*i* P	Pn	23 00 08.0	+0.1
RCDM				*i* S	Sn	23 00 15.8	+0.5
RCDM				AML	AML	23 00 16.6	
	comp=N,13μm,0.2s						
PEL	**Peldehue**	**0.44**	**67**	⇓*i* P	Pn	23 00 11.4	+2.5
PEL				*e*S	Sn	23 00 20.0	+3.1
PEL				AML	AML	23 00 22.5	
	comp=N,5μm,0.6s						
STL	**Santa Lucia**	**0.45**	**105**	⇓*i* P	Pn	23 00 09.1	+0.1
STL				*e*S	Sn	23 00 18.0	+0.8
ANTU	**Antumapu**	**0.51**	**120**	⇑*i* P	Pn	23 00 09.8	+0.2
ANTU				*e*S	Sn	23 00 18.9	+0.7
ANTU				AML	AML	23 00 20.4	
	comp=N,4μm,0.2s						

ISCJB ***02*** *23:09:09.8±0.7, 33°.99S±0°.06×72°.02W±0°.09, h19km, mb4.2/6, MS3.7/4, Error ellipse: s-maj=11.1km s-min=7.6km az=17.6*
IDC ***02*** *23:09:09.8±0.9, 33°.94S×71°.89W, h0km, mb4.0/5, mb1 4.2/7, mb1mx4.0/25, mbtmp4.0/7, ML3.9/2, MS3.7/6, Ms1 3.7/6, ms1mx3.4/24, Error ellipse: s-maj=31.1km s-min=17.0km az=113.0*
NEIC ***02*** *23:09:14.7±0.6, 33°.94S×71°.78W, h35km, mb4.3/5, Error ellipse: s-maj=15.0km s-min=7.2km az=91.0*
GUC ***02*** *23:09:15.2±0.6, 34°.40S×70°.59W, h98km±12km, ML4.0*

ISC 02 23:09:12.4±0.7, 33°.99S±0°.06×71°.97W±0°.07, h19km, n25, σ1°.07/29, mb4.4/6, MS3.7/4, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.09**	**63**	⇑*i* P	**Pg**	**23 09 35.2**	**+1.6**
RCDM				*e*S1	**Sg**	**23 09 51.2**	**+3.2**
RCDM				AML	AML	23 09 55.8	
	comp=E,3μm,0.9s						
ANTU	**Antumapu**	**1.19**	**70**	*e*P1	**Pg**	**23 09 35.0**	**-0.5**
ANTU				*i* S	**Sb**	**23 09 49.0**	**-0.4**
ANTU				AML	AML	23 10 04.0	
	comp=E,4μm,0.6s						
SAN	**Santiago**	**1.22**	**64**	*e*P1	**Pg**	**23 09 35.8**	**-0.1**
PEL	**Peldehue**	**1.37**	**52**	⇓*i* P	**Pg**	**23 09 39.3**	**+0.5**
PEL				*i* S	**Sg**	**23 09 57.8**	**+1.1**
PEL				AML	AML	23 10 06.1	
	comp=N,9μm,0.3s						
CFAA	**Coronel Fontan**	**3.94**	**54**	Pn	**Pn**	**23 10 10.0**	**-1.9**
	baz=236,slow=18,SNR=3.3						
CFAA				Lg	Lg	23 11 13.2	
	comp=N,2.5nm,0.3s,baz=79,slow=21,SNR=6.5						
PLCA	**Paso Flores**	**6.83**	**171**	Pn	**Pn**	**23 10 52.7**	**+1.2**
	comp=N,0.5nm,0.3s,baz=333,slow=11,SNR=4.0						
PLCA				Sn	Sb	23 12 24.1	-7.4
	comp=N,3.2nm,0.3s,baz=34,slow=23,SNR=7.7						
PLCA				LR	LR	23 13 55.0	
	comp=N,362nm,20.9s,baz=300,slow=42						
PLCA	**Paso Flores**	**6.83**	**171**	*e*Pn	**Pn**	**23 10 51.4**	**-0.2**
	comp=N,24nm,0.6s						
PLCA				Sn	**Sn**	**23 12 08.6**	**-0.1**
TRQA	**Tornquist**	**9.05**	**119**	*e*Pn	**Pn**	**23 11 21.6**	**-0.5**
	comp=N,18nm,1.1s						
TRQA				*e*Sn	**Sn**	**23 13 01.6**	**-1.9**
LVC	**Limon Verde**	**11.65**	**14**	Pn	**Pn**	**23 11 56.5**	**-1.3**
CPUP	**Villa Florida**	**14.78**	**63**	LR	LR	23 18 58.4	
	comp=N,380nm,18.9s,baz=226,slow=40						
LPAZ	**La Paz**	**17.96**	**12**	P	**Pn**	**23 13 21.4**	**-0.3**
	comp=N,0.1nm,0.3s,baz=193,slow=8.1,SNR=13						
LPAZ	**La Paz**	**17.96**	**12**	*e*Pn	**Pn**	**23 13 21.1**	**-0.6**
	comp=N,8.0nm,0.8s						
SIV	**San Ignacio**	**20.44**	**31**	P	**P**	**23 13 47.8**	**-1.0**
	comp=N,2.6nm,0.8s,baz=224,slow=11,SNR=4.5						
SIV				LR	LR	23 23 28.4	
	comp=N,247nm,18.3s,baz=223,slow=42						
USHA	**Ushuaia**	**20.99**	**174**	LR	LR	23 23 28.6	
	comp=N,220nm,18.2s,baz=216,slow=41						
SAML	**Samuel**	**26.20**	**20**	*e*P	**P**	**23 14 45.4**	**-0.6**
	comp=N,4.2nm,0.8s						
BDFB	**Brasilia**	**28.28**	**56**	LR	LR	23 27 45.6	
	comp=N,238nm,18.1s,baz=227,slow=40						
SNAA	**Sanae**	**51.57**	**158**	P	**P**	**23 18 17.0**	**+0.1**
	comp=N,3.4nm,1.0s,baz=308,slow=7.2,SNR=5.3						
SNAA	**Sanae**	**51.57**	**158**	*e*P	**P**	**23 18 16.8**	**-0.1**
	comp=N,6.1nm,0.7s						
QSPA	**South Pole Qui**	**56.25**	**180**	P	**P**	**23 18 52.1**	**+0.9**
	comp=N,4.4nm,0.9s,baz=149,slow=3.7,SNR=9.8						
QSPA				LR	LR	23 44 47.1	
	comp=N,61nm,18.8s,baz=270,slow=38						
QSPA	**South Pole Qui**	**56.25**	**180**	*e*P	**P**	**23 18 51.6**	**+0.4**
	comp=N,4.9nm,0.9s						
TXAR	**Lajitas Array**	**69.75**	**331**	P	**P**	**23 20 21.6**	**+0.3**
	comp=N,0.2nm,0.6s,baz=149,slow=10,SNR=3.8						
DBIC	**Dimbokro**	**75.12**	**71**	*e*P	**P**	**23 20 52.9**	**-0.6**
	comp=N,3.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**84.16**	**70**	P	**P**	**23 21 42.5**	**-0.2**
	comp=N,3.8nm,0.9s,baz=253,slow=4.6,SNR=18						
ZALV	**Zalesovo Beam**	**154.19**	**32**	PKP	**PKPdf**	**23 29 02.7**	**+0.5**
	comp=N,0.2nm,0.2s,baz=343,slow=4.6,SNR=4.0						
ZALV				PKPbc	**PKiKP**	**23 29 10.8**	**+0.2**
	comp=N,2.2nm,0.7s,baz=302,slow=3.7,SNR=13						
ZALV				PKPab	**PKPab**	**23 29 25.2**	**+0.9**
	comp=N,2.0nm,0.7s,baz=305,slow=5.2,SNR=6.3						
MKAR	**Makanchi Array**	**156.72**	**49**	PKPab	**PKPab**	**23 29 35.6**	**+0.1**
	comp=N,0.8nm,0.7s,baz=294,slow=3.2,SNR=7.8						

ISCJB ***02*** *23:29:09.1±0.7, 8°.3N±0°.1×38°.5W±0°.1, h10km, mb3.9/8, Error ellipse: s-maj=17.1km s-min=15.6km az=21.5*
IDC ***02*** *23:29:09.5±0.9, 8°.30N×38°.54W, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.7/46, mbtmp4.0/9, ML4.2/1, Error ellipse: s-maj=23.9km s-min=20.5km az=155.0*

ISC 02 23:29:10.9±0.8, 8°.2N±0°.1×38°.5W±0°.1, h10km, n18, σ1°.03/9, mb4.0/8, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**14.20**	**169**	Pn	**Pn**	**23 32 31.2**	**-1.2**
	1.1nm,0.3s,baz=348,slow=12,SNR=9.2						
H05S1	**Guadeloupe/Mar**	**22.73**	**288**	T	T	23 57 41.4	
	SNR=18						
H05N1	**Guadeloupe/Mar**	**23.43**	**292**	T	T	23 58 35.8	
	SNR=4.7						
BDFB	**Brasilia**	**25.51**	**202**	P	**P**	**23 34 40.9**	**+1.0**
	2.3nm,0.6s,baz=352,slow=11,SNR=4.7						
H10N3	**ASCENSION HYDR**	**28.77**	**123**	T	T	00 05 09.6	
	baz=302,slow=75,SNR=24						
H10N2	**ASCENSION HYDR**	**28.77**	**123**	T	T	00 05 07.5	
	baz=302,slow=75,SNR=26						
H10N1	**ASCENSION HYDR**	**28.79**	**123**	T	T	00 05 08.8	
	baz=302,slow=75,SNR=39						
H10S3	**ASCENSION HYDR**	**29.26**	**125**	T	T	00 05 46.7	
	baz=305,slow=75,SNR=19						
H10S1	**ASCENSION HYDR**	**29.26**	**125**	T	T	00 05 47.3	
	baz=305,slow=75,SNR=23						
H10S2	**ASCENSION HYDR**	**29.27**	**125**	T	T	00 05 48.0	
	baz=305,slow=75,SNR=16						
H07S1	**FLORES T-PHASE**	**31.70**	**11**	T	T	00 08 25.4	
	SNR=6.5						
SIV	**San Ignacio**	**32.83**	**223**	P	**P**	**23 35 46.4**	**+1.4**
	2.3nm,0.8s,baz=90,slow=9.5,SNR=4.0						
DBIC	**Dimbokro**	**33.41**	**90**	P	**P**	**23 35 50.3**	**+0.3**
	1.3nm,0.5s,baz=268,slow=12,SNR=5.5						
LPAZ	**La Paz**	**38.11**	**230**	P	**P**	**23 36 30.6**	**-0.5**
	2.1nm,0.7s,baz=63,slow=5.4,SNR=7.0						
TORD	**Torodi Ar. Bea**	**39.78**	**79**	P	**P**	**23 36 44.9**	**+0.4**
	0.8nm,0.6s,baz=272,slow=9.2,SNR=10						
ULM	**Lac du Bonnet**	**63.14**	**323**	P	**P**	**23 39 37.7**	**-1.2**
	1.4nm,0.7s,baz=94,slow=8.5,SNR=3.9						
TXAR	**Lajitas Array**	**64.37**	**299**	P	**P**	**23 39 47.9**	**+0.3**
	0.5nm,0.6s,baz=99,slow=6.1,SNR=8.2						
YKA	**Yellowknife Ar**	**76.33**	**332**	P	**P**	**23 41 00.1**	**+0.2**
	0.1nm,0.3s,baz=104,slow=5.4,SNR=5.4						

MEX 02 23:34:48.3±0.7, 17°.12N×100°.93W, h14km±9km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.64**	**96**	*e*P	Pg	23 34 58.8	-2.0
CAIG				*i* S	Sg	23 35 06.9	-2.4
ZIIG	**Zihuatanejo**	**0.71**	**314**	*e*P	Pg	23 34 59.9	-2.1
ZIIG				*i* S	Sg	23 35 09.0	-2.4
ACX	**Acapulco**	**1.05**	**103**	*i* P	Pb	23 35 03.7	-4.8
ACX				*i* S	Sb	23 35 17.2	-5.0
ARIG	**Puente Sto Nin**	**1.29**	**26**	*e*P	Pn	23 35 08.4	-3.6
ARIG				*i* S	Sb	23 35 23.3	-5.6
MEIG	**Mezcala**	**1.49**	**57**	*e*P	Pn	23 35 11.6	-3.2
MEIG				*i* S	Sn	23 35 29.9	-4.3
TLIG	**Tlapa**	**2.30**	**78**	*e*P	Pn	23 35 23.5	-2.6
TLIG				*i* S	Sn	23 35 50.4	-4.0

IDC ***02*** *23:35:08.1±0.9, 24°.86S×65°.54W, h0km, mb3.7/3, mb1 3.9/7, mb1mx3.7/30, mbtmp3.8/7, ML3.9/4, MS3.0/1, Ms1 2.9/1, ms1mx2.3/28, Error ellipse: s-maj=23.0km s-min=17.7km az=102.0*
SJA ***02*** *23:35:09.5±0.6, 24°.88S×65°.68W, h7km±1km, ML3.7*

ISC 02 23:35:10.1±1.4, 24°.93S±0°.07×65°.61W±0°.08, h12km±8km, n15, σ1°.27/20, mb3.9/3, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**0.23**	**24**	*i* P	**Pg**	**23 35 14.5**	**-0.5**
SLA				*i* S	**Sg**	**23 35 18.9**	**+0.5**
SLA				AML	AML	23 35 20.1	
	comp=Z,15μm,0.6s						
AZAP	**Zapla**	**0.86**	**35**	*i* P	**Pb**	**23 35 27.0**	**-0.1**
AZAP				*i* S	**Sb**	**23 35 39.6**	**+1.0**
ASTB	**Santa Barbara**	**1.41**	**47**	*i* P	**Pg**	**23 35 37.8**	**+0.5**
ASTB				*i* S	**Sn**	**23 35 57.9**	**+3.4**
ALOL	**LOMAS DE OLMED**	**1.86**	**54**	*i* P	**Pb**	**23 35 43.9**	**-0.2**
ALOL				*i* P	**Pb**	**23 35 43.9**	**-0.2**
ALOL				*i* S	**Sg**	**23 36 09.6**	**-0.3**
CFAA	**Coronel Fontan**	**7.04**	**199**	Pn	**Pn**	**23 36 54.3**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=15,slow=12,SNR=12						
CFAA				Lg	Lg	23 38 54.7	
	comp=Z,0.5nm,0.3s,baz=148,slow=2.0,SNR=5.1						
CPUP	**Villa Florida**	**7.60**	**102**	Pn	**Pn**	**23 36 59.4**	**-1.3**
	comp=Z,1.7nm,0.3s,baz=274,slow=9.0,SNR=8.0						
CPUP				Lg	Lg	23 39 10.2	
	comp=Z,8.7nm,0.3s,baz=171,slow=20,SNR=3.5						
LPAZ	**La Paz**	**8.92**	**344**	Pn	**Pn**	**23 37 20.1**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=120,slow=7.4,SNR=5.1						
SIV	**San Ignacio**	**9.85**	**26**	Pn	**Pn**	**23 37 32.0**	**+0.3**
	comp=Z,3.1nm,0.3s,baz=218,slow=11,SNR=27						
SIV				Sn	**Sn**	**23 39 20.3**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=291,slow=22,SNR=3.2						
PLCA	**Paso Flores**	**16.29**	**194**	LR	LR	23 46 32.1	
	comp=Z,46nm,18.6s,baz=68,slow=42						
TXAR	**Lajitas Array**	**65.17**	**324**	P	**P**	**23 45 50.9**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=139,slow=7.2,SNR=3.0						
QSPA	**South Pole Qui**	**65.28**	**180**	P	**P**	**23 45 52.4**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=215,slow=0.5,SNR=9.5						
TORD	**Torodi Ar. Bea**	**75.73**	**68**	P	**P**	**23 46 54.5**	**-1.5**
	comp=Z,1.1nm,1.0s,baz=259,slow=5.9,SNR=7.8						
ASAR	**Alice Springs**	**128.12**	**203**	PKP	**PKPdf**	**23 54 16.9**	**-0.1**
	comp=Z,1.3nm,1.1s,baz=101,slow=1.5,SNR=4.3						
WRA	**Warramunga Arr**	**131.36**	**205**	PKP	**PKPdf**	**23 54 22.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=161,slow=1.8,SNR=8.6						
MKAR	**Makanchi Array**	**146.41**	**41**	PKPbc	**PKPdf**	**23 54 50.2**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=308,slow=2.8,SNR=3.8						

IDC ***02*** *23:41:51.0±0.5, 3°.37N×126°.68E, h0km, mb4.7/24, mb1 4.7/24, mb1mx4.6/37, mbtmp4.7/24, MS3.5/7, Ms1 3.5/7, ms1mx3.1/42, Error ellipse: s-maj=21.3km s-min=12.3km az=80.0*
ISCJB ***02*** *23:41:55.8±0.2, 3°.53N±0°.02×126°.94E±0°.03, h48km, mb4.8/77, MS3.5/7, Error ellipse: s-maj=4.4km s-min=3.1km az=164.7*
MOS ***02*** *23:41:56.3±1.1, 3°.37N×126°.77E, h55km, mb5.3/34, Error ellipse: s-maj=14.0km s-min=5.4km az=121.1*
BJI ***02*** *23:41:56.7, 2°.97N×126°.98E, h98km, mB5.0/34, mb4.9/50*
DJA ***02*** *23:41:57.8±0.5, 4°N±4°×12°7E±°, h45km±6km, M4.8/24, mB5.2/8, mb4.7/24, MLv5.0/11, Mw(mB)4.6/8*
NEIC ***02*** *23:42:01.1±0.6, 3°.34N×126°.88E, h90km±5km, mb4.8/30, Error ellipse: s-maj=6.8km s-min=4.8km az=69.0*
MAN ***02*** *23:42:48, 7°.12N×124°.83E, h96km, mb4.8, ML3.8, MS3.8*

ISC 02 23:41:57.6±0.3, 3°.47N±0°.04×126°.84E±0°.05, h48km, n261, σ1°.34/250, mb4.9/75, MS3.5/7, 20C-5D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.33**	**280**	P	**Pn**	**23 42 19.3**	**-0.4**
SGSI				S	Sn	23 42 43.3	+7.0
TNTI	**Ternate**	**2.73**	**169**	P	**Pn**	**23 42 40.2**	**+1.3**
TNTI				S	Sn	23 43 17.7	+7.0
TNTI	**Ternate**	**2.73**	**169**	*e*Pn	**Pn**	**23 42 40.6**	**+1.7**
TNTI				*e*Sn	**Sn**	**23 43 10.2**	**-0.5**
DAV	**Davao City (W)**	**3.79**	**341**	*e*Pn	Pn	23 43 00.0	+6.4
KMSI	**Cibinong**	**4.05**	**225**	P	**Pn**	**23 43 00.0**	**+2.9**
LBMI	**Labuha**	**4.13**	**171**	P	**Pn**	**23 42 59.6**	**+1.4**
LBMI				S	Sn	23 43 53.5	+8.3
CTBH	**Cotabato--PC H**	**4.54**	**325**	⇑*i* P	**Pn**	**23 43 05.6**	**+1.8**
BIPH	**Bislig**	**4.71**	**354**	⇓*e*P	**Pn**	**23 43 08.8**	**+2.6**
BIPH				*e*S	Sn	23 44 07.1	+7.5
BUKP	**Musuan**	**4.73**	**338**	*e*P	**Pn**	**23 43 08.2**	**+1.7**
PAGZ	**Pagadian**	**5.55**	**322**	*e*P	**Pn**	**23 43 19.0**	**+1.3**
PAGZ				*e*S	Sn	23 43 37.2	-43
BUTP	**Butuan**	**5.60**	**348**	*e*P	**Pn**	**23 43 20.9**	**+2.5**
MRSI	**Marisa**	**5.73**	**239**	P	**Pn**	**23 43 22.1**	**+2.0**
	169nm,0.8s,2μm0.6nm						
LUWI	**Luwuk**	**6.05**	**222**	P	Pn	23 43 29.0	+4.5
	254nm,1.3s,3μm1.0nm						
LUWI	**Luwuk**	**6.05**	**222**	P	Pn	23 43 32.2	+7.6
	baz=5.8,SNR=4.2						
LUWI	**Luwuk**	**6.05**	**222**	*e*Pn	**Pn**	**23 43 27.6**	**+3.1**
LUWI				*e*Sn	**Sn**	**23 44 34.6**	**+2.1**
SWI	**Sorong**	**6.16**	**134**	P	**Pn**	**23 43 27.5**	**+1.4**
	220nm,0.6s,0.8nm						
SWI	**Sorong**	**6.16**	**134**	P	**Pn**	**23 43 27.0**	**+0.9**
	baz=6.3,SNR=15						
SWI				S	**Sn**	**23 44 37.3**	**+1.9**
	baz=6.3,SNR=8.7						
TOLI	**Toli-Toli**	**6.47**	**249**	*e*Pn	**Pn**	**23 43 32.5**	**+2.1**
APSI	**Ampana**	**6.77**	**230**	P	Pn	23 43 39.1	+4.7
	335nm,1.0s,4μm1.1nm						
MPSI	**Mapaga**	**7.60**	**246**	P	Pn	23 43 49.4	+3.5
	30nm,0.7s,0.1nm						
FAKI	**Fak Fak**	**8.33**	**139**	P	**Pn**	**23 43 57.5**	**+1.6**
	56nm,1.7s						
FAKI	**Fak Fak**	**8.33**	**139**	P	**Pn**	**23 43 56.4**	**+0.5**
	baz=8.5,SNR=15						
FAKI	**Fak Fak**	**8.33**	**139**	*e*Pn	**Pn**	**23 43 56.4**	**+0.5**
MYLDM	**Lahad Datu**	**8.49**	**282**	*e*Pn	Pn	23 44 03.7	+5.6
PALU	**Palau**	**8.52**	**63**	P	**Pn**	**23 43 56.5**	**-1.9**
	baz=8.8,SNR=3.2						
TTSI	**Tana Toraja**	**9.54**	**227**	P	Pn	23 44 16.7	+4.2
SPSI	**Sidrap Palu**	**10.22**	**224**	P	Pn	23 44 26.4	+4.7
	20nm,0.8s						
BNSI	**Bone**	**10.31**	**221**	P	Pn	23 44 28.2	+5.2
BBKI	**Banjar Baru**	**13.83**	**240**	P	**P**	**23 45 16.0**	**-2.2**
BATI	**Baumata**	**13.95**	**193**	P	**P**	**23 45 16.7**	**-2.8**
	20nm,0.9s						
GENI	**Genyem**	**14.62**	**114**	P	**Pn**	**23 45 21.3**	**-0.3**
SBUM	**Sibu**	**14.64**	**266**	*e*Pn	**P**	**23 45 25.3**	**-1.8**
WBSI	**Waikabubak, Su**	**14.99**	**210**	P	**P**	**23 45 31.4**	**+0.3**
JAY	**Jayapura**	**15.08**	**113**	P	**P**	**23 45 32.7**	**+0.5**
	baz=15,SNR=5.1						
SZP	**Santa**	**15.34**	**336**	*e*Pn	**P**	**23 45 35.4**	**+0.5**
	77nm,0.7s						
STKI	**Sintang**	**15.72**	**258**	P	**P**	**23 45 41.0**	**+1.7**
SRBI	**Singaraja**	**16.32**	**225**	P	**P**	**23 45 47.3**	**+1.5**
	66nm,1.1s						
KSM	**Kuching**	**16.63**	**264**	*e*P	**P**	**23 45 49.8**	**+0.4**
	23nm,0.8s						
MTN	**Manton Dam**	**16.75**	**165**	P	**Pn**	**23 45 46.7**	**-2.3**
	baz=17,SNR=10						
KDU	**Kakadu**	**16.99**	**161**	P	**Pn**	**23 45 50.4**

comp=Z,7.3nm,0.8s
KMI Kunming 31.64 315 P **P** **23 48 19.6 +2.9**
KMI pP pP 23 48 39.7 +10
KMI sP sP 23 48 50.7 +16
KMI S **S** **23 53 24.1 +1.2**
KMI PMZ
comp=Z,6.0nm,0.8s
KMI PMZ
comp=Z,30nm,3.7s
KMI LZ
comp=Z,61nm,20.2s
MHMT Maesarieng 31.86 299 P P 23 48 23.6 +5.2
comp=Z,15nm,0.9s,comp=Z,732nm
KSAR Wonju Array Be 33.83 1 P **P** **23 48 36.1 +0.8**
KSAR Wonju Array Be 33.83 1 P **P** **23 48 36.1 +0.8**
KSRS Korea Array 33.84 2 P **P** **23 48 36.1 +0.7**
comp=Z,8.9nm,0.8s,baz=179,slow=10.0,SNR=24
FORT Forrest 34.07 178 P **P** **23 48 37.2 -0.3**
baz=34,SNR=7.6
QLP Quilpie 34.28 152 P **P** **23 48 38.8 -0.6**
baz=34,SNR=4.5
XAN Xi'an 34.70 333 P **P** **23 48 41.5 -1.5**
XAN PMZ
comp=Z,7.0nm,0.8s
XAN PMZ
comp=Z,19nm,5.2s
CD2 Chengdu 34.92 324 *e*P **P** **23 48 44.5 -0.5**
CD2 sP sP 23 49 16.6 +13
CD2 PP **PP** **23 50 06.3 +1.4**
CD2 S **S** **23 54 10.8 -2.5**
CD2 sS ScP 23 54 47.2 -11
CD2 SS **SnSn** **23 56 32.8 +1.2**
CD2 PMZ
comp=Z,10.0nm,0.7s
CD2 LN
comp=Z,120nm,16.6s
CD2 LZ
comp=Z,280nm,16.6s
KLBR Kellerberrin 35.92 193 P **P** **23 48 56.5 +3.1**
baz=36,SNR=7.6
BBOO Buckleboo 37.12 167 P **P** **23 49 03.0 -0.7**
baz=37,SNR=39
BJT Baijiatuau 37.65 347 *e*P **P** **23 49 08.8 +0.7**
BJT pmax pmax
comp=Z,41nm,0.6s
BJT Baijiatuau 37.65 347 *e*P **P** **23 49 08.8 +0.7**
comp=Z,41nm,0.6s
BJI Beijing 37.67 347 P **P** **23 49 08.9 +0.7**
BJI PMZ
comp=Z,75nm,0.9s
STKA Stephens Creek 37.84 159 P **P** **23 49 08.9 -0.9**
comp=Z,22nm,0.7s,baz=334,slow=7.8,SNR=38
STKA Stephens Creek 37.84 159 P **P** **23 49 09.3 -0.5**
baz=38,SNR=41
HTT Hallett 38.43 164 P **P** **23 49 15.9 +1.1**
baz=39,SNR=5.5
LZH Lanzhou 38.79 330 *e*P **P** **23 49 18.3 +0.4**
LZH pP pP 23 49 40.2 +9.5
LZH sP sP 23 49 51.2 +15
LZH PMZ
comp=Z,41nm,1.1s
LZH PMZ
comp=Z,210nm,5.4s
HHC Hu-ho-hao-te 39.68 342 *e*P **P** **23 49 27.7 +2.5**
HHC pP pP 23 49 49.3 +11
HHC sP sP 23 50 02.1 +18
HHC PP **PnPn** **23 51 04.9 +4.3**
HHC S **S** **23 55 26.1 +0.6**
HHC sS sS 23 56 04.7 +18
HHC PMZ
comp=Z,29nm,1.1s
HHC PMZ
comp=Z,290nm,6.7s
HHC LN
comp=Z,300nm,18.5s
HHC LE
comp=Z,370nm,17.3s
HHC LZ
comp=Z,160nm,16.0s
USRK Ussuriysk Ar. 40.82 6 P **P** **23 49 35.2 +0.8**
comp=Z,9.5nm,0.7s,baz=190,slow=8.2,SNR=21
USRK LR LR 00 09 01.9
comp=Z,41nm,18.7s,baz=207,slow=40
MDJ Mudanjiang 41.05 3 P **P** **23 49 37.3 +0.9**
MDJ PMZ
comp=Z,24nm,0.9s
MDJ PMZ
comp=Z,93nm,6.8s
MDJ Mudanjiang 41.05 3 *e*P **P** **23 49 36.7 +0.3**
comp=Z,20nm,0.8s
ARMA Armidale 41.19 147 P **P** **23 49 38.2 +0.4**
baz=41,SNR=5.5
H11S3 WAKE ISLAND Hy 41.74 66 T T 00 34 15.3
baz=253,slow=74,SNR=11
H11S1 WAKE ISLAND Hy 41.75 66 T T 00 34 14.0
baz=253,slow=74,SNR=4.8
H11S2 WAKE ISLAND Hy 41.75 66 T T 00 34 14.3
baz=253,slow=74,SNR=11
ARPS Mount Arapiles 42.40 162 P **P** **23 49 48.6 +1.1**
baz=43,SNR=5.2
LSA Lhasa 42.70 312 P **P** **23 49 50.6 0.0**
LSA Lhasa 42.70 312 *e*P **P** **23 49 49.9 -0.7**
LSA pmax pmax
comp=Z,16nm,0.7s
LSA Lhasa 42.70 312 *e*P **P** **23 49 49.9 -0.7**
comp=Z,16nm,0.7s
ASAJ Asahikawa 42.81 17 P **P** **23 49 51.6 +0.8**
comp=Z,12nm,0.7s,baz=234,slow=14,SNR=9.1
GTA Gaotai 43.38 329 *e*P **P** **23 49 56.2 +0.6**
GTA PMZ
comp=Z,8.0nm,1.0s
TAPN Taplejung 44.26 306 *e*P **P** **23 50 02.1 -1.0**
ODAN Odare 44.31 306 *e*P **P** **23 50 02.4 -1.0**
comp=Z,24nm,0.7s
RAMN Ramite 44.99 305 *e*P **P** **23 50 08.0 -0.8**
comp=Z,67nm,1.2s
YSS Yuzh-Sakhalins 45.47 15 *e*P **P** **23 50 12.5 +0.6**
JIRN Jiri 45.62 306 *e*P **P** **23 50 12.8 -1.1**
KLR Kul'dur 45.79 4 *e*P P 23 50 10.8 -3.7
GUN Gumba 45.97 306 *e*P **P** **23 50 15.6 -1.1**
comp=Z,28nm,0.4s
HIA Hailar 46.03 354 *e*P **P** **23 50 16.9 +0.4**
HIA pmax pmax
comp=Z,9.0nm,0.6s
HIA Hailar 46.03 354 *e*P **P** **23 50 16.9 +0.4**
comp=Z,9.0nm,0.6s
PALK Pallekele 46.07 277 *i*P **P** **23 50 18.8 +1.4**
PKI Pulchoki 46.21 306 *e*P **P** **23 50 17.0 -1.6**
PKIN Phulchoki 46.23 306 *e*P **P** **23 50 17.5 -1.1**
KKN Kakani 46.41 306 *e*P **P** **23 50 18.7 -1.3**
comp=Z,14nm,0.4s
DMN Daman 46.47 305 *e*P **P** **23 50 19.4 -1.2**
GKN Gorkha 47.01 306 *e*P **P** **23 50 23.2 -1.4**
ULN Ulaanbaatar 47.40 342 *d i*P **P** **23 50 28.1 +0.8**
ULN pmax pmax
comp=Z,17nm,1.0s
ULN Ulaanbaatar 47.40 342 *e*P **P** **23 50 27.2 -0.2**
comp=Z,20nm,1.1s
ULN *e*PcP **PcP** **23 51 56.0 -1.4**
SONM Songino Array 47.58 341 P **P** **23 50 28.7 0.0**
comp=Z,6.7nm,0.8s,baz=159,slow=8.5,SNR=17
SONM PcP **PcP** **23 51 58.9 +1.0**
comp=Z,1.9nm,0.7s,baz=170,slow=4.6,SNR=3.6
KOLN Koldanda 47.77 305 *e*P **P** **23 50 29.6 -1.0**
comp=Z,50nm,0.7s
DANN Dangsing 47.86 306 *e*P **P** **23 50 30.1 -1.3**
comp=Z,40nm,0.5s
HYB Hyderabad 49.31 290 *i*P **P** **23 50 41.0 -1.4**
ZAK Zakamensk 50.81 341 *e*P **P** **23 50 52.0 -1.3**
ZAK *e* 23 52 10.0
ZAK pmax pmax
comp=Z,2.0nm,1.2s
TLY Talaya 51.81 342 *e*P **P** **23 51 01.3 +0.6**
TLY pmax pmax
comp=Z,8.0nm,0.6s
TLY Talaya 51.81 342 P **P** **23 51 01.8 +1.1**
comp=Z,7.5nm,0.7s,baz=193,slow=5.9,SNR=16
TLY Talaya 51.81 342 *e*P **P** **23 51 01.3 +0.6**
comp=Z,7.5nm,0.6s
MOY Mondy 52.67 340 *e*P **P** **23 51 07.6 +0.5**
WMQ Urumqi 53.00 325 P **P** **23 51 10.3 +0.6**
WMQ PMZ
comp=Z,11nm,1.0s
WMQ PMZ
comp=Z,100nm,4.5s
WMQ LN
comp=Z,200nm,26.0s
WMQ LE
comp=Z,62nm,26.0s
WMQ LZ
comp=Z,70nm,21.0s
NDI New Delhi 53.36 303 *e*P **P** **23 51 11.0 -1.5**
POO Poona 53.91 290 *e*P **P** **23 51 14.0 -2.8**
HVS Khovu-Aksy 55.02 335 *d i*P **P** **23 51 24.8 +0.5**
HVS pmax pmax
comp=Z,77nm,1.0s
BOD Bodaibo 55.14 352⇑ *i*P **P** **23 51 25.3 +0.4**
BOD pmax pmax
comp=Z,5.0nm,1.1s
PETK Petropavlovsk- 55.63 22 P **P** **23 51 29.8 +1.3**
comp=Z,6.8nm,0.7s,baz=182,slow=5.5,SNR=6.0
MKAR Makanchi Array 57.84 325 P **P** **23 51 44.0 -0.4**
comp=Z,9.5nm,0.4s,baz=120,slow=6.9,SNR=209
MKAR PcP **PcP** **23 52 38.9 +2.4**
comp=Z,2.4nm,0.5s,baz=126,slow=3.7,SNR=4.0
KSH Kashi 58.31 315 P **P** **23 51 48.6 +0.7**
KSH sP sP 23 52 22.0 +15
KSH PP **PP** **23 54 00.0 +2.5**
KSH S S 23 59 40.5 -6.6
KSH sS sS 00 00 22.5 +13
KSH SS **SS** **00 03 36.7 -3.1**
KSH PMZ
comp=Z,10.0nm,0.9s
KSH PMZ
comp=Z,71nm,4.7s
KSH LN
comp=Z,110nm,5.0s
KSH LE
comp=Z,61nm,5.2s
KSH LZ
comp=Z,100nm,5.2s
YAK Yakutsk 58.47 2 *e*P **P** **23 51 49.6 +1.2**
YAK pmax pmax
comp=Z,16nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
KZA Kyzart 59.88 318 P **P** **23 51 58.8 -0.3**
SNR=15
KZA Kyzart 59.88 318 *i*P **P** **23 51 58.8 -0.3**
TKM2 Tokmak 2 60.02 319 P **P** **23 51 59.6 -0.2**
SNR=14
TKM2 Tokmak 2 60.02 319 *e*P **P** **23 51 59.2 -0.6**
TKM2 pmax pmax
comp=Z,13nm,1.0s
TKM2 Tokmak 2 60.02 319 *e*P **P** **23 51 59.2 -0.6**
comp=Z,13nm,1.0s
KBK Karagaybulak 60.33 318 P **P** **23 52 02.6 +0.6**
SNR=10.0
KBK Karagaybulak 60.33 318 *i*P **P** **23 52 02.6 +0.6**
UCH Uchtor 60.44 317 P **P** **23 52 03.5 +0.5**
SNR=16
UCH Uchtor 60.44 317 *i*P **P** **23 52 03.5 +0.5**
AAK Ala-Archa 60.63 318⇓ *e*P **P** **23 52 04.5 +0.6**
AAK pmax pmax
comp=Z,25nm,1.7s
AAK Ala-Archa 60.63 318 LR LR 00 19 57.4
comp=Z,57nm,21.8s,baz=82,slow=38
AAK Ala-Archa 60.63 318 *e*P **P** **23 52 04.1 +0.2**
comp=Z,5.8nm,0.9s
ZALV Zalesovo Beam 60.87 333 P **P** **23 52 04.3 -0.8**
comp=Z,3.9nm,0.6s,baz=114,slow=6.6,SNR=23
ZALV LR LR 00 21 01.2
comp=Z,34nm,18.4s,baz=72,slow=39
USP Ospenovka 60.89 319 P **P** **23 52 05.3 -0.3**
SNR=22
USP Ospenovka 60.89 319 *i*P **P** **23 52 05.3 -0.3**
AML Almayashu 60.96 317 P **P** **23 52 05.9 -0.6**
SNR=23
AML Almayashu 60.96 317 *i*P **P** **23 52 05.9 -0.6**
EKS2 Erkin-Say 61.12 318 P **P** **23 52 07.0 -0.2**
SNR=13
EKS2 Erkin-Say 61.12 318 *e*P **P** **23 52 06.7 -0.5**
EKS2 pmax pmax
comp=Z,12nm,0.9s
EKS2 Erkin-Say 61.12 318 *e*P **P** **23 52 06.7 -0.5**
comp=Z,12nm,0.9s
KBL Kabul 61.77 308 *e*P **P** **23 52 10.4 -1.5**
KBL pmax pmax
comp=Z,12nm,1.1s
KBL Kabul 61.77 308 P **P** **23 52 11.6 -0.3**
baz=62,SNR=4.8
KBL Kabul 61.77 308 *e*P **P** **23 52 10.4 -1.5**
comp=Z,12nm,1.1s
KURK Kurchatov 62.02 328 *e*P **P** **23 52 12.1 -0.9**
KURK pmax pmax
comp=Z,21nm,0.8s
KURK Kurchatov 62.02 328 *e*P **P** **23 52 12.1 -0.9**
comp=Z,21nm,0.8s
NVS Novosibirsk 62.16 333⇑ *i*P **P** **23 52 12.3 -1.5**
NVS pmax pmax
comp=E,14nm,1.4s
NVS pmax pmax
comp=Z,20nm,1.4s
FX1 Attu Island--F 62.26 30 LR LR 00 22 17.9
comp=Z,8.3nm,18.1s,baz=104,slow=39
SEY Seymchan 62.26 13 P **P** **23 52 16.4 +2.1**
comp=Z,3.0nm,0.6s,baz=223,slow=3.1,SNR=9.8
KKAR Karatay Array 63.50 317 *e*P **P** **23 52 22.3 -0.7**
KKAR pmax pmax
comp=Z,12nm,1.0s
KKAR Karatay Array 63.50 317 *e*P **P** **23 52 22.3 -0.7**
comp=Z,12nm,1.0s
BRVK Borovoye 67.67 327 *ce*P **P** **23 52 49.2 -0.5**
BRVK pmax pmax
comp=Z,33nm,0.8s
BRVK Borovoye 67.67 327 *e*P **P** **23 52 48.4 -1.3**
comp=Z,30nm,0.8s
TIXI Tiksi 68.10 1 *e*P **P** **23 52 52.0 0.0**
TIXI pmax pmax
comp=Z,11nm,0.8s
TIXI Tiksi 68.10 1 *e*P **P** **23 52 52.0 0.0**
comp=Z,11nm,0.8s
GEYT Alibeck 71.14 309 P **P** **23 53 11.6 0.0**
comp=Z,2.7nm,0.7s,baz=132,slow=2.2,SNR=13
ABKAR Akbulak array 72.42 321 *e*P **P** **23 53 18.3 -0.6**
comp=Z,9.8nm,0.7s
SVE Sverdlovsk 74.24 328 *e*P **P** **23 53 29.2 -0.3**
SVE pmax pmax
comp=Z,31nm,1.0s
ARU Arti 75.22 328 *d i*P **P** **23 53 34.2 -0.9**
ARU *PP **pP** **23 53 52.4 +3.4**
ARU S **S** **00 03 09.0 -1.4**
ARU SS **SS** **00 07 55.1 -5.6**
ARU pmax pmax
comp=Z,25nm,1.2s
ARU Arti 75.22 328 *e*P **P** **23 53 33.7 -1.4**
comp=Z,11nm,0.7s
RAYN Ar Rayn 80.69 293 *e*P **P** **23 54 05.3 -1.0**
comp=Z,21nm,0.8s
ABPO Ambohimpanom 81.33 250 *e*P **P** **23 54 07.9 -2.0**
ABPO pmax pmax
comp=Z,8.0nm,0.8s
ABPO Ambohimpanom 81.33 250 *e*P **P** **23 54 07.9 -2.0**
comp=Z,8.4nm,0.8s
GNI Garni 81.74 310 *e*P **P** **23 54 10.4 -1.2**
GNI pmax pmax
comp=Z,5.0nm,0.9s
GNI Garni 81.74 310 *e*P **P** **23 54 10.4 -1.2**
comp=Z,5.2nm,0.9s
ZEI Tsey 82.47 313 *e*P **P** **23 54 14.3 -1.2**
ZEI pmax pmax
comp=Z,11nm,1.3s
PRGR Permogore 82.79 332⇑ *i*P **P** **23 54 16.5 +0.1**
PRGR pmax pmax
comp=Z,24nm,0.7s
KBZ Khabaz 83.24 313 P **P** **23 54 19.1 -0.1**
comp=Z,1.3nm,0.7s,baz=103,slow=4.8,SNR=5.8
VRHR Novokhopersk 84.31 321 *e*P **P** **23 54 22.9 -1.6**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.9s
SFNV Sufian 85.33 306 *e*P **P** **23 54 30.1 0.0**
SOC Sochi 85.55 313 *e*P P 23 54 27.3 -3.6
SOC pmax pmax
comp=Z,18nm,0.9s
KLMR Klimovskoe 85.69 331 *e*P **P** **23 54 31.0 -0.2**
KLMR pmax pmax
comp=Z,30nm,1.2s
VORD Divnogorie 85.78 321 *e*P **P** **23 54 30.0 -1.8**
VORD pmax pmax
comp=Z,20nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.9s
VSR Storozhevoye 85.86 321 *e*P **P** **23 54 30.9 -1.3**
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.9s
KSRV Kasrt alli 86.24 306 *e*P **P** **23 54 34.1 -0.4**
TMCR Tamitsa 86.38 334 *e*P **P** **23 54 36.4 +1.9**
TMCR *e* 23 58 01.9
TMCR pmax pmax
comp=Z,18nm,0.7s
MALT Malatya 86.63 308⇑ P **P** **23 54 37.4 +0.9**
MALT Malatya 86.63 308⇑ *i*P **P** **23 54 37.4 +0.9**
SLMH Al Salmeh 87.10 306 *e*P **P** **23 54 38.4 -0.3**
OBN Obninsk 87.34 325 *e*P **P** **23 54 39.0 -0.3**
OBN pmax pmax
comp=Z,60nm,1.7s
OBN Obninsk 87.34 325 *e*P **P** **23 54 38.1 -1.3**
comp=Z,20nm,0.8s
BTCH Batrach 88.29 306 *e*P **P** **23 54 44.1 -0.4**
WRDH Warideh 88.36 305 *e*P **P** **23 54 46.4 +1.6**
MARH Ras Al Marh 88.38 304 *e*P P 23 54 48.9 +3.6
HAWK Hawaek 88.42 304 *e*P **P** **23 54 42.1 -3.0**
TOTH TOTAH 88.46 303 *e*P **P** **23 54 44.6 -0.7**
JOF Joensuu 89.46 333 *e*P **P** **23 54 48.2 -1.1**
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 89.46 333 *ep* P **P** **23 54 48.2 -1.1**
comp=Z,5.6nm,0.6s
KMBO Kilima Mbogo 89.66 269 *e*P **P** **23 54 50.9 -0.7**
KMBO pmax pmax
comp=Z,8.0nm,0.9s
KMBO Kilima Mbogo 89.66 269 P **P** **23 54 52.8 +1.3**
comp=Z,6.8nm,0.8s,baz=56,slow=7.6,SNR=26
KMBO Kilima Mbogo 89.66 269 *e*P **P** **23 54 50.9 -0.7**
comp=Z,8.2nm,0.9s
EIL Elat 89.95 300 P **P** **23 54 53.0 +0.7**
baz=90,SNR=6.5
BRTR Keskin Array B 90.27 310 P **P** **23 54 53.1 -0.6**
comp=Z,4.2nm,0.9s,baz=116,slow=5.3,SNR=20
ARCES ARCESS Array B 90.73 340 P **P** **23 54 54.6 -0.5**
comp=Z,7.5nm,0.7s,baz=71,slow=7.8,SNR=10
SPITS Spitsbergen Ar 90.76 349 P **P** **23 54 55.4 +0.3**
comp=Z,0.8nm,0.4s,baz=99,slow=10,SNR=7.8
KAF Kangasniemi 91.88 332 *e*P **P** **23 54 58.7 -1.8**
KAF pmax pmax
comp=Z,4.0nm,0.8s
KAF Kangasniemi 91.88 332 *ep* **P** **23 54 58.7 -1.8**
comp=Z,4.3nm,0.8s
FINES FINESS Array B 92.12 332 P **P** **23 55 00.9 -0.7**
comp=Z,2.3nm,0.6s,baz=20,slow=6.1,SNR=15
KIEV Kiev 92.18 321 P **P** **23 55 01.0 -1.1**
TESR Tescani 94.51 317⇑ *i*P **P** **23 55 12.6 -0.4**
VRI Vrincioaia 94.56 316⇑ P **P** **23 55 13.3 0.0**
VRI Vrincioaia 94.56 316⇑ *i*P **P** **23 55 13.3 0.0**
MLR Muntele Rosu 95.17 316 P **P** **23 55 16.1 -0.1**
MLR Muntele Rosu 95.17 316⇑ *i*P **P** **23 55 16.1 -0.1**
BURAR Bucovina Array 95.27 318⇑ P **P** **23 55 15.7 -0.9**
BURAR Bucovina Array 95.27 318⇑ *i*P **P** **23 55 15.7 -0.9**
KWP Kalwaria Pacla 96.48 321⇑ P **P** **23 55 21.9 -0.1**
KWP Kalwaria Pacla 96.48 321⇑ *i*P **P** **23 55 21.9 -0.1**
KOLS Kolonicke sedl 96.92 320 *e*P **P** **23 55 24.4 +0.5**
KOLS Kolonicke sedl 96.92 320 *e*P **P** **23 55 24.4 +0.5**
DRGR 97.11 318⇑ P **P** **23 55 23.8 -1.2**
DRGR 97.11 318⇑ *i*P **P** **23 55 23.8 -1.2**
CRVS Cervenica-Dubn 97.44 320 *e*P Pdif 23 55 26.6 +0.2
CRVS Cervenica-Dubn 97.44 320 *e*P Pdif 23 55 26.6 +0.2
STHS Stebnicka Huta 97.46 321 *e*P Pdif 23 55 26.9 +0.4
STHS Stebnicka Huta 97.46 321 *e*P Pdif 23 55 26.9 +0.4
DAG Danmarks Havn 97.53 352 *i*P **P** **23 55 25.6 -0.5**
DAG pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 97.53 352 *i*P **P** **23 55 25.6 -0.5**
comp=Z,2.4nm,0.9s
BZS Buzias 98.12 317 P **P** **23 55 28.3 -1.1**
BZS Buzias 98.12 317⇑ *i*P **P** **23 55 28.3 -1.1**
NB2 NORSAR Subarra 99.07 334 P **Pdif** **23 55 32.2 -1.2**
comp=Z,2.8nm,0.9s,baz=68,slow=4.6
NOA NORSAR Array B 99.07 334 P **Pdif** **23 55 32.1 -1.2**
comp=Z,1.6nm,0.8s,baz=68,slow=4.6,SNR=4.6
NOA LR LR 00 44 53.6
comp=Z,36nm,19.1s,baz=70,slow=38
VYHS Vyhne 99.23 320 *e*P **Pdif** **23 55 35.1 +0.7**
VYHS Vyhne 99.23 320 PDIF **Pdif** **23 55 35.0 +0.7**
YKA Yellowknife Ar 99.69 24 P **Pdif** **23 55 37.0 +1.0**
comp=Z,0.2nm,0.4s,baz=298,slow=4.5,SNR=10
PKSM Moragy 99.98 318 P **Pdif** **23 55 37.2 -0.5**
PKSM Moragy 99.98 318⇑ *i*P **Pdif** **23 55 37.2 -0.5**
DPC Dobruska-Polom 100.26 322 *i*P **Pdif** **23 55 39.6 +0.7**
DPC Dobruska-Polom 100.26 322 *e*PDIFF **Pdif** **23 55 39.6 +0.7**
GERES GERESS Array B 102.36 322 P **Pdif** **23 55 48.8 +0.4**
comp=Z,0.2nm,0.4s,baz=89,slow=9.1,SNR=3.9
TORD Torodi Ar. Bea 123.11 288 PKP **PKPdf** **00 00 50.4 +0.4**
comp=Z,2.6nm,0.8s,baz=54,slow=2.0,SNR=17
CFAA Coronel Fontan 148.62 155 PKPbc **PKPbc** **00 01 41.0 +0.9**
comp=Z,0.6nm,0.7s,baz=188,slow=7.1,SNR=3.6

IDC 02 23:42:26.2±2.1, 35°70S×69°34W, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.5/22, mbtmp3.5/3, ML3.8/2, Error ellipse: s-maj=90.0km s-min=21.9km az=102.0, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.12**	**190**	Pn	Pn	23 43 43.2	-1.1
	0.9nm,0.3s,baz=339,slow=12,SNR=12						
PLCA				Lg	Lg	23 45 10.6	
	1.0nm,0.3s,baz=4.4,slow=14,SNR=3.2						
LPAZ	**La Paz**	**19.36**	**4**	P	P	23 46 54.7	+0.4
	0.1nm,0.3s,baz=211,slow=12,SNR=3.2						
TORD	**Torodi Ar. Bea**	**82.74**	**68**	P	P	23 54 52.2	-0.1
	0.3nm,0.8s,baz=246,slow=5.3,SNR=7.2						

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*ISCJB **02** 23:52:00.7±0.2, 62°.42N±0°.02×149°.98W±0°.05, h72km±4km, mb3.5/5, Error ellipse: s-maj=3.8km s-min=2.9km az=27.7*
*NEIC **02** 23:52:02.5, 62°.41N×149°.96W, h60km, ML3.7(AEIC), After AEIC.*
NEIC Felt at Anchorage, Palmer and Talkeetna.
*IDC **02** 23:52:03.4±7.1, 62°.65N×150°.08W, h83km±63km, mb3.4/5, mb1 3.8/7, mb1mx3.4/38, mbtmp3.7/7, ML3.6/2, MS3.8/1, Ms1 3.9/1, ms1mx2.7/32, Error ellipse: s-maj=61.0km s-min=21.1km az=45.0*

ISC 02 23:52:01.7±0.8, 62°.42N±0°.03×150°.01W±0°.03, h62km±8km, n81, o0°78/95, mb3.6/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.12**	**263**	P	**Pn**	**23 52 11.1**	**0.0**
HUR	**Hurricane**	**0.58**	**17**	P	**Pn**	**23 52 14.9**	**+0.1**
SKT	**Skwentna**	**0.84**	**239**	P	**Pn**	**23 52 17.9**	**0.0**
SKT				S	**Sn**	**23 52 30.2**	**+0.5**
PMR	**Palmer**	**0.93**	**153**	*e*Pn	**Pn**	**23 52 18.3**	**-0.6**
PMR				*e*Sn	**Sn**	**23 52 30.9**	**-0.7**
SUA	**Susitna One**	**1.02**	**200**	P	**Pn**	**23 52 20.1**	**-0.1**
SUA				S	**Sn**	**23 52 34.5**	**+0.6**
TRF	**Thorofare Moun**	**1.04**	**353**	P	**Pn**	**23 52 20.8**	**+0.2**
TRF				S	**Sn**	**23 52 35.3**	**+0.8**
PPLA	**Purkeypile**	**1.11**	**296**	P	**Pn**	**23 52 21.7**	**+0.2**
RND	**Reindeer**	**1.12**	**28**	P	**Pn**	**23 52 21.3**	**-0.2**
RND				S	**Sn**	**23 52 35.9**	**-0.3**
KTH	**Kantishna Hill**	**1.21**	**340**	P	**Pn**	**23 52 23.2**	**+0.5**
STLK	**Strandline Lak**	**1.27**	**224**	P	**Pn**	**23 52 23.5**	**+0.1**
DHY	**Denali Highway**	**1.38**	**60**	P	**Pn**	**23 52 24.6**	**-0.4**
CAST	**Castle Rocks**	**1.38**	**317**	P	**Pn**	**23 52 25.1**	**+0.2**
SCM	**Sheep Creek Mo**	**1.39**	**114**	P	**Pn**	**23 52 25.3**	**+0.2**
SCM				S	**Sn**	**23 52 43.3**	**+0.8**
MCK	**McKinley**	**1.40**	**20**	P	**Pn**	**23 52 25.6**	**+0.4**
MCK				S	**Sn**	**23 52 43.8**	**+1.0**
PTE	**Portage**	**1.63**	**163**	P	**Pn**	**23 52 27.9**	**-0.3**
PWL	**Port Wells**	**1.76**	**152**	P	**Pn**	**23 52 29.5**	**-0.4**
BWN	**Browne**	**1.77**	**8**	P	**Pn**	**23 52 30.6**	**+0.4**
NKA	**Nikishka**	**1.78**	**200**	P	**Pn**	**23 52 31.7**	**+1.5**

CHUM	Lake Minchumin	1.80	325	P	Pn	23 52 31.0 +0.5
SLKM	Skilak Lake	1.92	183	P	Pn	23 52 31.8 -0.4
GLI	Glacier Island	2.08	137	P	Pn	23 52 33.8 -0.5
JPK	Jack Peak	2.12	129	P	Pn	23 52 34.1 -0.8
KLU	Klutina	2.14	114	P	Pn	23 52 34.7 -0.5
PS11	TAPS Pump St11	2.15	97	P	Pn	23 52 36.0 +0.8
PAX	Paxson	2.16	73	*e*Pn	Pn	23 52 35.9 +0.5
PAX				*e*Sn	Sn	23 53 01.5 +0.3
VLZ	Valdez	2.17	125	P	Pn	23 52 34.5 -1.0
PS10	TAPS Pump St10	2.18	61	P	Pn	23 52 36.8 +1.1
WRH	Wood River Hil	2.23	22	P	Pn	23 52 36.2 -0.1
HARP	HAARP	2.26	88	P	Pn	23 52 37.5 +0.8
RDN	Redoubt North	2.33	216	P	Pn	23 52 38.3 +0.6
DDM	Donnelly Dome	2.33	52	P	Pn	23 52 38.5 +0.8
SEW	Seward	2.34	173	P	Pn	23 52 38.2 +0.5
RSO	Redoubt South	2.37	215	*e*Pn	Pn	23 52 38.9 +0.5
RDWB	Redoubt West	2.37	216	P	Pn	23 52 39.1 +0.8
DIV	Divide	2.39	121	P	Pn	23 52 37.5 -1.1
HDA	Harding Lake	2.42	33	P	Pn	23 52 38.9 +0.1
CCB	Clear Creek Bu	2.44	23	P	Pn	23 52 39.0 -0.2
PS12	TAPS Pump St12	2.48	110	P	Pn	23 52 39.3 -0.5
PS08	TAPS Pump Stn8	2.56	32	P	Pn	23 52 40.9 0.0
MLY	Manley	2.64	353	P	Pn	23 52 42.0 +0.1
COLA	College	2.64	20	P	Pn	23 52 41.9 0.0
MDM	Murphy Dome	2.67	16	P	Pn	23 52 42.4 +0.1
BRLK	Bradley Lake	2.70	190	P	Pn	23 52 43.5 +0.8
IL1	Eielson Array	2.74	29	P	Pn	23 52 43.0 -0.3
ILAR	Eielson Array	2.74	29	P	Pn	23 52 43.0 -0.2
	29nm,0.3s,baz=212,slow=14,SNR=1399					
ILAR				S	Sn	23 53 13.4 -1.8
	30nm,0.3s,baz=218,slow=21,SNR=15					
EYAK	Cordova Ski Ar	2.77	131	P	Pn	23 52 43.2 -0.5
TT01	Tatalina	2.82	283	P	Pn	23 52 44.2 -0.1
GLM	Gilmore Dome	2.83	23	P	Pn	23 52 44.5 +0.1
MENT	Mentasta	2.94	77	*e*Pn	Pn	23 52 46.4 +0.3
MENT				*e*Sn	Sn	23 53 19.4 -0.9
BMRM	Bremner River	2.96	117	P	Pn	23 52 45.2 -1.0
SVW2	Sparrevohn	2.96	246	P	Pn	23 52 46.2 -0.1
DOT	Dot Lake	2.98	63	*e*Pn	Pn	23 52 46.9 +0.5
DOT				*e*Sn	Sn	23 53 21.4 +0.4
GLB	Gilahina Butte	3.09	106	P	Pn	23 52 47.8 -0.3
GOAT	Goat Mountain	3.13	124	P	Pn	23 52 47.8 -0.9
SCRK	Sand Creek	3.14	58	P	Pn	23 52 49.3 +0.4
RAGM	Ragged Mountai	3.28	126	P	Pn	23 52 50.1 -0.4
BCA3	Beaver Creek A	3.84	77	P	Pn	23 52 58.2 -0.1
GCSA	Galena City Sc	3.86	310	P	Pn	23 52 59.2 +0.8
IM3	Indian Mountai	3.93	337	P	Pn	23 52 59.6 +0.1
KAPH	Katmai Pasha	4.39	211	P	Pn	23 53 06.5 +0.6
KAHC	Katmai Hardscr	4.52	215	P	Pn	23 53 07.9 +0.2
EGAK	Eagle	4.60	55	*e*Pn	Pn	23 53 08.8 +0.1
EGAK				*e*Sn	Sn	23 54 01.1 +0.4
KVTA	Katmai Vly 10	4.83	215	P	Pn	23 53 12.4 +0.6
COLD	Coldfoot	4.83	359	*e*Pn	Pn	23 53 12.4 +0.7
COLD				*e*Sn	Sn	23 54 05.0 -1.3
KDAK	Kodiak Island	4.83	197	P	Pn	23 53 10.2 -1.6
KELA	Mount Kelaz	4.90	218	P	Pn	23 53 13.3 +0.5
KCE	Katmai Mt Cerb	4.92	214	P	Pn	23 53 14.1 +1.0
KABR	Katmai Barrier	4.96	212	P	Pn	23 53 14.1 +0.5
DAWY	Dawson	5.07	66	P	Pn	23 53 15.2 +0.1
OHAK	Old Harbor	5.47	199	P	Pn	23 53 19.0 -1.5
BM3	Burnt Mountain	5.52	22	P	Pn	23 53 21.4 +0.2
HYT	Haines Junctio	6.17	99	P	Pn	23 53 30.2 0.0
TNA	Tin City	8.47	300	*e*Pn	Pn	23 54 02.3 +0.9
	6.7nm,0.4s					
TNA				*e*Sn	Sn	23 55 31.8 -3.6
INK	Inuvik	9.04	42	P	Pn	23 54 08.3 -1.0
YKA	Yellowknife Ar	16.25	74	P	P	23 55 47.7 +0.1
	0.2nm,0.3s,baz=284,slow=14,SNR=17					
NEW	Newport	23.12	113	P	P	23 57 03.0 +0.8
	2.4nm,0.7s,baz=316,slow=9.4,SNR=8.6					
PDAR	Pinedale Array	30.73	111	P	P	23 58 11.6 +0.8
	0.6nm,0.8s,baz=304,slow=2.3,SNR=4.9					
NVAR	Mina Array Bea	30.81	126	P	P	23 58 12.9 +1.3
	1.1nm,0.6s,baz=313,slow=9.2,SNR=6.7					
NVAR				LR	LR	00 12 35.5
	comp=Z,166nm,18.2s,baz=3.0,slow=40					
TXAR	Lajitas Array	44.60	116	P	P	00 00 08.3 +0.7
	1.0nm,0.9s,baz=329,slow=5.3,SNR=7.4					
MKAR	Makanchi Array	63.41	323	P	P	00 02 22.9 -1.5
	0.2nm,0.5s,baz=37,slow=6.0,SNR=4.4					
QSPA	South Pole Qui	152.23	180	PKPbc	PKPbc	00 11 47.5 -1.0
	0.8nm,0.8s,baz=67,slow=6.3,SNR=4.8					

IDC ***03*** *00:09:41.6±7.0, 21°.25S×68°.18W, h169km±48km, mb3.7/4, mb1 3.6/7, mb1mx3.4/31, mbtmp4.1/7, Error ellipse: s-maj=68.0km s-min=22.6km az=23.0*

ISC 03 00:09:33.8±1.4, 21°.6S±0°.1×68°.5W±0°.1, h118km, n8, σ0s85/9, mb4.1/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.33	4	P	Pn	00 10 57.0	+5.2
	2.7nm,0.3s,baz=195,slow=4.3,SNR=47						
LPAZ				S	Sn	00 11 51.7	-0.6
	0.3nm,0.3s,baz=184,slow=13,SNR=5.0						
SIV	San Ignacio	8.99	53	P	Pn	00 11 41.9	+1.2
	1.0nm,0.3s,baz=253,slow=8.3,SNR=19						
SIV				S	Sn	00 13 19.7	-0.5
	0.6nm,0.3s,baz=306,slow=22,SNR=12						
BDFB	Brasilia	20.29	76	P	P	00 13 59.7	-0.7
	0.7nm,0.3s,baz=222,slow=14,SNR=5.6						
RCBR	Riachuelo	35.22	68	P	P	00 16 17.8	+0.7
	4.9nm,0.7s,baz=217,slow=9.8,SNR=4.2						
DBIC	Dimbokro	68.39	73	P	P	00 20 22.5	-0.8
	2.7nm,0.7s,baz=208,slow=5.0,SNR=5.1						
TORD	Torodi Ar. Bea	77.03	70	P	P	00 21 13.6	-0.7
	1.3nm,0.5s,baz=256,slow=5.5,SNR=31						
YKA	Yellowknife Ar	91.44	340	P	P	00 22 26.6	+0.4
	0.2nm,0.6s,baz=134,slow=4.9,SNR=8.4						
MKAR	Makanchi Array	145.51	36	PKPbc	PKPdf	00 28 58.2	+0.2
	0.9nm,0.8s,baz=327,slow=2.0,SNR=9.0						

IDC 03 00:15:49.2±1.2, 3°.01N×125°.87E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.8/38, mbtmp4.0/8, MS3.1/1, Ms1 3.1/1, ms1mx2.3/35, Error ellipse: s-maj=96.7km s-min=16.2km az=62.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.28	160	P	P	00 21 07.6	-0.8
	2.7nm,0.5s,baz=339,slow=11,SNR=35						
ASAR	Alice Springs	27.64	164	P	P	00 21 39.5	+0.6
	0.6nm,0.5s,baz=345,slow=7.0,SNR=12						
JCJ	Chichijima	28.59	32	LR	LR	00 35 57.9	
	comp=Z,38nm,18.2s,baz=136,slow=42						
CMAR	Chiang Mai Arr	30.51	302	P	P	00 22 03.7	-0.7
	0.9nm,0.4s,baz=96,slow=29,SNR=6.7						
STKA	Stephens Creek	37.77	158	P	P	00 23 07.0	-0.2
	3.4nm,0.8s,baz=322,slow=8.8,SNR=6.5						
MKAR	Makanchi Array	57.66	326	P	P	00 25 41.6	+0.1
	1.6nm,0.5s,baz=121,slow=7.7,SNR=36						
ZALV	Zalesovo Beam	60.84	334	P	P	00 26 02.2	-1.2
	0.6nm,0.5s,baz=111,slow=8.1,SNR=4.7						
BVAR	Borovoye Array	67.46	327	P	P	00 26 47.4	+0.6
	1.2nm,0.8s,baz=121,slow=11,SNR=6.4						
BRTR	Keskin Array B	89.82	310	P	P	00 28 51.5	+1.1
	0.9nm,0.8s,baz=90,slow=3.7,SNR=5.6						

IDC 03 00:18:04.6±1.7, 34°.86S×73°.90W, h0km, mb3.7/1, mb1 3.8/3, mb1mx3.5/30, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=37.4km s-min=35.4km az=38.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.75	57	Pn	Pn	00 19 31.1	-0.2
	0.3nm,0.3s,baz=229,slow=12,SNR=14						
CFAA				Sn	Sn	00 20 38.5	+0.4
	0.4nm,0.3s,baz=131,slow=20,SNR=7.3						
PLCA	Paso Flores	6.43	157	Pn	Pn	00 19 40.4	-0.3
	0.3nm,0.3s,baz=343,slow=11,SNR=4.9						
TXAR	Lajitas Array	69.76	332	P	P	00 29 16.5	-0.2
	0.4nm,0.5s,baz=157,slow=8.5,SNR=8.5						
MKAR	Makanchi Array	158.49	49	PKPab	PKPab	00 38 38.7	+0.2
	0.3nm,0.6s,baz=307,slow=4.1,SNR=5.4						

IDC ***03*** *00:21:31.2±1.0, 34°.87S×74°.04W, h0km, mb4.1/6, mb1 4.4/8, mb1mx4.1/29, mbtmp4.2/8, ML4.5/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/28, Error ellipse: s-maj=27.9km s-min=25.3km az=173.0*

ISCJB ***03*** *00:21:34.5±0.7, 34°.91S±0°.08×73°.88W±0°.10, h33km, mb4.2/8, MS3.5/4, Error ellipse: s-maj=12.2km s-min=10.0km az=35.7*

NEIC ***03*** *00:21:36.4±0.5, 34°.87S×73°.93W, h35km, mb4.0/3, Error ellipse: s-maj=12.0km s-min=8.8km az=74.0*

ISC 03 00:21:36.3±0.7, 34°.88S±0°.09×74°.0W±0°.1, h35km, n23, σ0s65/20, mb4.2/8, MS3.5/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.81	57	Pn	Pn	00 22 59.5	-0.6
	0.3nm,0.3s,baz=220,slow=12,SNR=7.5						
CFAA				Sn	Sn	00 24 06.2	+0.6
	0.9nm,0.3s,baz=313,slow=21,SNR=13						
PLCA	Paso Flores	6.44	156	Pn	Pn	00 23 09.1	+0.3
	4.4nm,0.3s,baz=321,slow=10.0,SNR=39						
PLCA				LR	LR	00 25 41.8	
	comp=Z,153nm,20.4s,baz=292,slow=39						
PLCA	Paso Flores	6.44	156	*e*Pn	Pn	00 23 08.7	-0.1
	19nm,0.5s						
TRQA	Tornquist	10.17	112	*e*Pn	Pn	00 23 59.4	-0.5
	8.7nm,0.8s						
CPUP	Villa Florida	16.66	64	LR	LR	00 32 56.2	
	comp=Z,51nm,20.2s,baz=210,slow=41						
LPAZ	La Paz	19.24	17	P	Pn	00 25 59.8	+0.3
	0.2nm,0.3s,baz=185,slow=7.8,SNR=18						
LPAZ	La Paz	19.24	17	*e*P	P	00 25 58.2	-0.2
	6.3nm,0.9s						
USHA	Ushuaia	20.32	171	LR	LR	00 34 41.6	
	comp=Z,86nm,20.8s,baz=320,slow=39						
SIV	San Ignacio	22.09	35	P	P	00 26 27.8	-0.7
	5.6nm,0.7s,baz=233,slow=13,SNR=12						
NNA	Nana	22.94	353	LR	LR	00 32 40.6	
	comp=Z,39nm,20.4s,baz=182,slow=29						
QSPA	South Pole Qui	55.36	180	*e*P	P	00 31 06.3	-0.2
	3.8nm,0.9s						
TXAR	Lajitas Array	69.74	333	P	P	00 32 43.7	+0.9
	1.7nm,0.7s,baz=154,slow=8.5,SNR=20						
TXAR				LR	LR	00 57 45.0	
	comp=Z,60nm,18.4s,baz=0.0,slow=31						
PFO	Pinyon Flats O	78.90	325	LR	LR	01 00 33.5	
	comp=Z,138nm,18.6s,baz=14,slow=30						
TSUM	Tsumeb	80.51	107	*e*P	P	00 33 45.8	+0.4
	1.1nm,0.7s						
NVAR	Mina Array Bea	83.71	326	P	P	00 34 02.2	+0.6
	0.7nm,0.6s,baz=126,slow=7.5,SNR=4.1						
PDAR	Pinedale Array	83.84	334	P	P	00 34 02.0	-0.2
	1.1nm,1.1s,baz=134,slow=6.4,SNR=3.9						
TORD	Torodi Ar. Bea	86.02	71	P	P	00 34 13.5	0.0
	1.4nm,0.9s,baz=275,slow=4.7,SNR=7.5						
ULM	Lac du Bonnet	86.94	346	P	P	00 34 16.1	-1.1
	3.3nm,0.8s,baz=153,slow=2.6,SNR=7.2						
YKA	Yellowknife Ar	102.38	342	P	Pdif	00 35 28.0	+0.4
	0.1nm,0.4s,baz=134,slow=3.5,SNR=4.3						
BRTR	Keskin Array B	123.66	62	PKP	PKPdf	00 40 30.9	+0.6
	0.6nm,0.8s,baz=177,slow=2.5,SNR=4.2						
ZALV	Zalesovo Beam	155.82	31	PKP	PKPdf	00 41 25.1	-0.9
	0.3nm,0.4s,baz=349,slow=1.5,SNR=2.6						
USRK	Ussurlysk Ar.	157.99	303	PKPab	PKPab	00 42 01.9	-0.6
	1.4nm,0.3s,baz=286,slow=17,SNR=12						
MKAR	Makanchi Array	158.55	49	PKPab	PKPab	00 42 05.9	+1.0
	0.8nm,0.6s,baz=300,slow=4.3,SNR=12						

IDC 03 00:29:22.9±3.0, 21°.31S×67°.03W, h185km±27km, mb3.4/3, mb1 3.6/5, mb1mx3.3/19, mbtmp4.0/5, Error ellipse: s-maj=29.7km s-min=24.4km az=0.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.10	348	P	Pn	00 30 39.4	+0.3
	1.1nm,0.3s,baz=165,slow=8.7,SNR=20						
LPAZ				S	Sn	00 31 38.9	-0.1
	0.2nm,0.3s,baz=24,slow=19,SNR=4.5						
SIV	San Ignacio	7.74	48	P	Pn	00 31 13.7	+0.8
	7.3nm,0.3s,baz=254,slow=13,SNR=53						
SIV				S	Sn	00 32 38.1	-2.0
	0.8nm,0.3s,baz=306,slow=19,SNR=3.5						
QSPA	South Pole Qui	68.88	180	P	P	00 40 07.1	-0.3
	0.4nm,0.6s,baz=6.1,slow=0.7,SNR=5.1						
TORD	Torodi Ar. Bea	75.65	70	P	P	00 40 48.5	+0.4
	0.7nm,0.3s,baz=259,slow=5.6,SNR=28						
YKA	Yellowknife Ar	91.60	340	P	P	00 42 07.9	-0.3
	0.2nm,0.5s,baz=131,slow=5.0,SNR=4.8						
WRA	Warramunga Arr	133.98	208	PKP	PKPdf	00 48 18.3	-0.6
	0.2nm,0.4s,baz=157,slow=1.8,SNR=4.6						
MKAR	Makanchi Array	144.44	37	PKP	PKPbc	00 48 36.1	+0.1
	0.7nm,0.7s,baz=308,slow=3.7,SNR=7.3						

IDC ***03*** *00:34:38.4±1.5, 37°.74S×73°.56W, h0km, mb3.9/4, mb1 4.0/7, mb1mx3.9/18, mbtmp3.8/7, ML4.2/2, MS3.5/8, Ms1 3.5/8, ms1mx3.3/23, Error ellipse: s-maj=40.8km s-min=28.7km az=82.0*

ISCJB ***03*** *00:34:40.1±0.7, 37°.70S±0°.06×73°.45W±0°.10, h22km, mb4.0/6, MS3.5/5, Error ellipse: s-maj=12.2km s-min=7.6km az=147.4*

NEIC ***03*** *00:34:43.1±0.5, 37°.76S×73°.48W, h35km, mb4.3/3, Error ellipse: s-maj=12.4km s-min=9.0km az=80.0*

ISC 03 00:34:41.3±0.8, 37°.73S±0°.08×73°.6W±0°.1, h22km, n25, σ0s82/22, mb4.2/6, MS3.6/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.81	143	Pn	Pn	00 35 40.0	+1.3
	3.1nm,0.3s,baz=291,slow=13,SNR=8.4						
PLCA				Lg	Lg	00 36 34.0	
	14nm,0.3s,baz=47,slow=22,SNR=5.1						
PLCA				LR	LR	00 37 18.9	
	comp=Z,250nm,19.5s,baz=66,slow=42						
PLCA	Paso Flores	3.81	143	*e*Pn	Pn	00 35 37.9	-0.9
PLCA				*e*Sn	Sn	00 36 23.6	+0.7
PLCA				Lg	Lg	00 36 34.0	
CFAA	Coronel Fontan	7.52	37	Pn	Pn	00 36 29.5	-0.2
	0.1nm,0.3s,baz=217,slow=11,SNR=6.1						
CFAA				Sn	Sn	00 38 05.7	+11
	0.1nm,0.3s,baz=203,slow=9.5,SNR=3.3						
TRQA	Tornquist	9.17	96	*e*Pn	Pn	00 36 52.6	+0.3
	13nm,0.9s						
TRQA				*e*Sn	Sn	00 38 34.8	0.0
USHA	Ushuaia	17.46	170	LR	LR	00 45 43.9	
	comp=Z,135nm,18.9s,baz=355,slow=38						
CPUP	Villa Florida	17.82	55	P	P	00 38 48.3	-0.2
	0.3nm,0.3s,baz=214,slow=10,SNR=5.4						
CPUP				LR	LR	00 45 48.6	
	comp=Z,152nm,21.3s,baz=210,slow=38						
CPUP	Villa Florida	17.82	55	*e*Pn	Pn	00 38 47.5	-0.5
LPAZ	La Paz	21.89	14	P	P	00 39 34.9	+1.3
	1.5nm,0.9s,baz=179,slow=9.0,SNR=6.8						
LPAZ	La Paz	21.89	14	*e*P	P	00 39 33.3	-0.2
	12nm,1.5s						
SIV	San Ignacio	24.31	30	P	P	00 39 57.7	+0.3
	3.3nm,0.8s,baz=228,slow=9.8,SNR=8.3						
SIV				LR	LR	00 50 58.4	
	comp=Z,121nm,20.3s,baz=190,slow=40						
NNA	Nana	25.80	353	LR	LR	00 48 11.6	
	comp=Z,63nm,20.2s,baz=188,slow=32						
PMSA	Palmer Station	27.67	171	LR	LR	00 50 39.6	
	comp=Z,253nm,18.2s,baz=314,slow=35						
SAML	Samuel	30.15	21	*e*P	P	00 40 49.4	-0.3
BDFB	Brasilia	31.52	53	LR	LR	00 54 50.4	
	comp=Z,123nm,20.2s,baz=205,slow=38						
RPN	Rapa Nui	31.81	279	LR	LR	00 49 51.2	
	comp=Z,181nm,18.1s,slow=29						
SDV	Santo Domingo	46.45	4	*e*P	P	00 43 07.0	+0.1
	2.5nm,0.0s						
QSPA	South Pole Qui	52.51	180	P	P	00 43 51.6	-0.9
TXAR	Lajitas Array	72.42	333	P	P	00 46 06.9	+1.0
	0.7nm,1.0s,baz=144,slow=7.7,SNR=3.9						
DBIC	Dimbokro	77.55	71	*e*P	P	00 46 36.0	+0.2
	2.7nm,0.7s						
ANMO	Albuquerque	78.49	333	*e*P	P	00 46 40.9	+0.2
TORD	Torodi Ar. Bea	86.63	71	P	P	00 47 23.3	-0.1
	1.7nm,0.6s,baz=258,slow=3.8,SNR=7.1						
ABKAR	Akbulak array	144.89	56	*e*PKPdf	PKPbc	00 54 15.6	+0.3
BVAR	Borovoye Array	150.80	47	PKPbc	PKPbc	00 54 32.6	+1.3
	1.4nm,0.8s,baz=274,slow=4.3,SNR=8.2						
ZALV	Zalesovo Beam	158.01	36	PKPab	PKPab	00 55 09.8	+0.7
	0.5nm,0.3s,baz=308,slow=7.3,SNR=3.9						
MKAR	Makanchi Array	160.03	55	PKP	PKPdf	00 54 37.1	-1.3
	0.3nm,0.9s,baz=11,slow=1.2,SNR=4.3						
MKAR				PKPab	PKPab	00 55 17.0	-1.2
	0.4nm,0.8s,baz=318,slow=1.6,SNR=4.6						

IDC ***03*** *00:38:37.8±0.9, 33°.96S×73°.21W, h0km, mb4.0/5, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, ML4.6/2, Error ellipse: s-maj=32.7km s-min=22.8km az=88.0*

ISCJB ***03*** *00:38:42.6±1.0, 34°.00S±0°.09×72°.7W±0°.1, h33km, mb4.0/4, Error ellipse: s-maj=19.0km s-min=10.6km az=28.9*

ISC 03 00:38:43.9±0.9, 33°.9S±0°.1×72°.8W±0°.1, h35km, n12, σ1s24/12, mb4.2/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.50	60	Pn	Pn	00 39 49.8	+0.1
	0.3nm,0.3s,baz=270,slow=2.4,SNR=6.6						
CFAA				Sn	Sn	00 40 39.2	-1.7
	0.7nm,0.3s,baz=18,slow=18,SNR=4.4						
PLCA	Paso Flores	7.02	166	Pn	Pn	00 40 23.5	-0.8
	4.8nm,0.3s,baz=333,slow=11,SNR=11						
LPAZ	La Paz	18.07	15	P	P	00 42 53.2	+0.1
	0.3nm,0.3s,baz=206,slow=8.5,SNR=6.5						
SIV	San Ignacio	20.77	34	P	Pn	00 43 23.7	-0.8
	3.7nm,0.8s,baz=203,slow=12,SNR=4.7						
SNAA	Sanae	51.89	158	P	P	00 47 49.0	+0.4
	1.1nm,0.9s,baz=263,slow=8.1,SNR=4.8						
TXAR	Lajitas Array	69.36	331	P	P	00 49 47.0	-1.1
	1.6nm,0.7s,baz=157,slow=8.9,SNR=19						
DBIC	Dimbokro	75.77	72	P	P	00 50 28.2	+1.7
	1.7nm,0.5s,baz=195,slow=5.4,SNR=4.4						
TORD	Torodi Ar. Bea	84.80	70	P	P	00 51 15.9	+0.9
	1.0nm,0.6s,baz=243,slow=5.2,SNR=9.9						
WRA	Warramunga Arr	120.50	210	PKP	PKPdf	00 57 30.6	-1.8
	0.4nm,0.7s,baz=161,slow=1.7,SNR=5.3						
BVAR	Borovoye Array	147.67	43	PKPbc	PKPdf	00 58 22.4	+1.0
	1.4nm,0.4s,baz=306,slow=1.8,SNR=16						
AAK	Ala-Archa	153.04	62	PKPbc	PKPbc	00 58 38.6	+0.9
	0.8nm,0.6s,baz=120,slow=4.7,SNR=5.0						
ZALV	Zalesovo Beam	154.51	32	PKPbc	PKPbc	00 58 39.6	-0.6
	0.6nm,0.7s,baz=343,slow=4.6,SNR=5.6						

ISCJB ***03*** *00:39:35.4±0.5, 37°.40N±0°.02×20°.99E±0°.03, h17km±3km, mb3.4/5, Error ellipse: s-maj=4.8km s-min=3.1km az=147.9*

CSEM ***03*** *00:39:35.6±0.3, 37°.45N×21°.04E, h2km, MD3.4, Error ellipse: s-maj=5.3km s-min=3.3km az=53.0*

THE ***03*** *00:39:36.2, 37°.48N×21°.08E, h4km, ML3.2/10, Error ellipse: s-maj=0.6km s-min=0.4km az=175.0*

ATH ***03*** *00:39:36.1, 37°.47N×21°.06E, h17km±1km, MD3.4/32, ML3.2*

IDC ***03*** *00:39:46.2±2.7, 36°.96N×21°.64E, h114km±29km, mb3.4/5, mb1 3.3/7, mb1mx3.0/46, mbtmp3.6/7, MS2.7/1, Ms1 2.7/1, ms1mx1.9/38, Error ellipse: s-maj=31.5km s-min=21.4km az=113.0*

SKO ***03*** *00:39:47.8, 38°.40N×21°.00E, h0km*

ISC 03 00:39:36.3±0.8, 37°.45N±0°.02×21°.05E±0°.02, h16km±6km, n120, σ1s19/161, mb3.6/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	Strofades	0.20	187	P	Pg	00 39 40.9	-0.2
SFD				S	Sg	00 39 44.1	-0.2
SFD	Strofades	0.20	187	*e*PB	Pg	00 39 41.1	0.0
SFD				*e*SB	Sb	00 39 45.5	+0.2
SFD	Strofades	0.20	187	P	Pg	00 39 40.9	-0.2
SFD				S	Sg	00 39 44.1	-0.2
AMT	Artemida-Makis	0.53	81	P	Pg	00 39 46.2	-0.7
AMT				S	Sg	00 39 53.1	-0.9
AMT	Artemida-Makis	0.53	81	*e*Pn	Pg	00 39 46.7	-0.2
AMT				*e*Sn	Sg	00 39 53.9	-0.1
AMT	Artemida-Makis	0.53	81	P	Pg	00 39 46.2	-0.7
AMT	Artemida-Makis	0.53	81	*e*Pn	Pg	00 39 46.7	-0.2
AMT				S	Sg	00 39 53.1	-0.9
KFL	Anninata	0.69	343	P	Pg	00 39 49.0	-0.7
KFL	Anninata	0.69	343	P	Pg	00 39 49.0	-0.7
RLS	Riolos of Patr	0.69	29	P	Pg	00 39 48.6	-1.2
RLS				S	Sg	00 39 58.2	-0.7
RLS	Riolos of Patr	0.69	29	*e*Pn	Pg	00 39 49.1	-0.7
RLS				*e*Sn	Sg	00 39 58.7	-0.2
RLS	Riolos of Patr	0.69	29	P	Pg	00 39 48.6	-1.2
RLS	Riolos of Patr	0.69	29	*e*Pn	Pg	00 39 49.1	-0.7
RLS				S	Sg	00 39 58.2	-0.7
DRO	Drossia	0.72	46	P	Pg	00 39 49.5	-1.0
DRO				S	Sg	00 39 59.5	-0.6
DRO	Drossia	0.72	46	*e*PN	Pg	00 39 49.8	-0.7
DRO	Drossia	0.72	46	P	Pg	00 39 49.5	-1.0
DRO	Drossia	0.72	46	*e*Pn	Pg	00 39 49.8	-0.7
DRO				S	Sg	00 39 59.5	-0.6
ITM	Ithomi	0.75	111	P	Pg	00 39 49.8	-1.2
ITM				S	Sg	00 40 00.6	-0.4
ITM	Ithomi	0.75	111	*e*PB	Pg	00 39 49.3	-1

DID	Didima	1.74	88	*e*PN	Pn	00 40 07.1	+1.1
DID	Didima	1.74	88	P	Pn	00 40 06.5	+0.5
DID	Didima	1.74	88	*e*Pn	Pn	00 40 07.1	+1.1
DID				S	Sb	00 40 29.6	0.0
MAKR	Makrakomi, Fth	1.77	28	*e*PN	Pb	00 40 09.3	+0.8
MAKR	Makrakomi, Fth	1.77	28	*e*Pn	Pb	00 40 09.3	+0.8
AXAR	Agios Charalam	1.83	44	*e*PN	Pg	00 40 10.7	-0.7
AGG	Agios Georgios	1.86	32	*e*PN	Pb	00 40 10.9	+0.9
AGG	Agios Georgios	1.86	32	*e*Pn	Pb	00 40 10.9	+0.9
LKR	Lokris	1.95	52	*e*PN	Pb	00 40 11.2	-0.3
LKR	Lokris	1.95	52	*e*Pn	Pb	00 40 11.2	-0.3
NAIG	Nisos Aigina	1.96	80	*e*PN	Pn	00 40 10.6	+1.6
NAIG	Nisos Aigina	1.96	80	*e*Pn	Pn	00 40 10.6	+1.6
KYTH	Kithira	1.98	126	P	Pn	00 40 09.9	+0.7
KYTH	Kithira	1.98	126	*e*PN	Pb	00 40 12.0	0.0
KYTH	Kithira	1.98	126	P	Pn	00 40 09.9	+0.7
ATH	Athens Observa	2.18	75	*e*PN	Pb	00 40 14.1	-1.3
ATH	Athens Observa	2.18	75	*e*Pn	Pb	00 40 14.1	-1.3
MRKA	Markates	2.36	57	*e*PN	Pn	00 40 16.3	+1.8
MRKA	Markates	2.36	57	*e*Pn	Pn	00 40 16.3	+1.8
KEK	Kerkira	2.46	337	*e*PB	Pn	00 40 18.3	+2.5
NEO	Neokhori	2.52	42	*e*PB	Pn	00 40 19.0	+2.4
XOR	Xorichti	2.55	41	*e*PB	Pn	00 40 19.4	+2.4
SKIA	Skiathos	2.56	47	*e*PB	Pn	00 40 19.6	+2.4
AOS	Alonnisos	2.81	52	*e*PN	Pn	00 40 22.2	+1.6
AOS	Alonnisos	2.81	52	*e*Pn	Pn	00 40 22.2	+1.6
PAIG	Paliouri	3.22	39	*e*PN	Pn	00 40 27.5	+1.3
PAIG	Paliouri	3.22	39	*e*Pn	Pn	00 40 27.5	+1.3
FNA	Florina	3.33	4	*e*PN	Pn	00 40 30.0	+2.1
FNA	Florina	3.33	4	*e*Pn	Pn	00 40 30.0	+2.1
PLG	Polygyros	3.46	32	*e*PN	Pn	00 40 31.2	+1.6
PLG	Polygyros	3.46	32	*e*Pn	Pn	00 40 31.2	+1.6
HORT	Hortiatis	3.52	26	*e*PN	Pn	00 40 32.7	+2.2
HORT	Hortiatis	3.52	26	*e*Pn	Pn	00 40 32.7	+2.2
OUR	Ouranopolis	3.68	38	*e*PN	Pn	00 40 34.1	+1.6
OUR	Ouranopolis	3.68	38	*e*Pn	Pn	00 40 34.1	+1.6
IDI	Anoyia	3.78	124	P	Pn	00 40 33.7	-0.3
	baz=303,slow=17						
IDI				S	Sn	00 41 19.1	+0.9
	1.7nm,0.3s,baz=324,slow=19,SNR=2.2						
SOH	Sokhos	3.81	27	*e*PN	Pn	00 40 36.5	+2.1
SOH	Sokhos	3.81	27	*e*Pn	Pn	00 40 36.5	+2.1
VAY	Valandovo	4.04	17	*e*Pn	Pn	00 40 37.8	+0.3
VAY				*e*Sg	Sn	00 41 27.8	+3.4
VAY	Valandovo	4.04	17	*e*Pn	Pn	00 40 37.8	+0.3
SRS	Serrai	4.16	28	*e*PN	Pn	00 40 41.1	+2.0
SRS	Serrai	4.16	28	*e*Pn	Pn	00 40 41.1	+2.0
LAST	Lasithi	4.25	121	*e*PN	Pn	00 40 41.3	+0.8
LAST	Lasithi	4.25	121	*e*Pn	Pn	00 40 41.3	+0.8
NVR	Nevrokopi	4.46	28	*e*PN	Pn	00 40 45.4	+2.1
NVR	Nevrokopi	4.46	28	*e*Pn	Pn	00 40 45.4	+2.1
STON	Ston	5.99	336	*e*Pn	Pn	00 41 02.8	-1.4
STON				Sn	Sn	00 42 07.5	-4.9
IVAS	Ivanjica	6.15	354	*e*Pn	Pn	00 41 08.4	+1.8
DIVS	Divibare	6.69	353	*e*Pn	Pn	00 41 13.2	-0.7
UDBI	Udbina	8.12	332	*i* Pn	Pn	00 41 33.8	+0.2
UDBI				Sn	Sn	00 42 59.1	-5.9
UDBI	Udbina	8.12	332	*i* Pn	Pn	00 41 33.7	+0.2
MLR	Muntele Rosu	8.83	23	P	Pn	00 41 55.4	+12
	0.1nm,0.3s,baz=210,slow=14,SNR=3.5						
MMAI	Mount Meron Ar	12.54	106	LR	LR	00 48 31.6	
	comp=Z,35nm,19.9s,baz=225,slow=44						
HFS	Hagfors	23.18	351	P	P	00 44 47.7	+5.7
	2.7nm,0.8s,baz=165,slow=12,SNR=3.1						
FINES	FINESS Array B	24.22	6	P	P	00 44 55.8	+3.8
	2.3nm,1.0s,baz=199,slow=12,SNR=3.9						
TORD	Torodi Ar. Bea	29.74	221	P	P	00 45 41.5	-0.6
	0.3nm,0.6s,baz=35,slow=9.3,SNR=4.6						
MKAR	Makanchi Array	45.33	58	P	P	00 47 51.5	-2.1
	0.2nm,0.6s,baz=277,slow=7.1,SNR=4.3						
ZALV	Zalesovo Beam	45.87	48	P	P	00 47 56.7	-0.9
	0.3nm,0.4s,baz=282,slow=7.2,SNR=3.0						

*IDC **03** 00:52:13.6±1.2,34°.44S×72°.15W,h0km,mb3.8/4, mb1 3.9/7,mb1mx3.8/26,mbtmp3.7/7,ML3.6/3,MS3.8/5, Ms1 3.7/5,ms1mx3.3/24,Error ellipse: s-maj=40.9km s-min=28.8km az=144.0*

*ISCJB **03** 00:52:16.3±1.2,34°.2S±0°.1×72°.2W±0°.2,h19km,mb3.8/3, MS3.7/4,Error ellipse: s-maj=23.9km s-min=18.6km az=31.2*

ISC 03 00:52:17.5±0.9,34°.2S±0°.2×72°.1W±0°.2,h19km,n15, σ1s55/13,mb4.1/3,MS3.7/4,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.15	53	Pn	Pn	00 53 22.8	+2.9
	0.5nm,0.3s,baz=224,slow=12,SNR=11						
CFAA				Sn	Sb	00 54 18.9	-0.9
	0.8nm,0.3s,baz=108,slow=21,SNR=3.3						
CPUP	Villa Florida	14.97	63	Pn	Pn	00 55 49.9	+1.7
	0.2nm,0.3s,baz=98,slow=19,SNR=2.3						
CPUP				LR	LR	01 02 18.9	
	comp=Z,256nm,18.1s,baz=218,slow=40						
LPAZ	La Paz	18.14	12	P	P	00 56 30.1	+0.7
	0.1nm,0.3s,baz=194,slow=5.9,SNR=8.5						
SIV	San Ignacio	20.64	32	P	P	00 56 55.7	-0.4
	2.4nm,0.8s,baz=229,slow=11,SNR=6.9						
SIV				LR	LR	01 06 30.1	
	comp=Z,187nm,18.3s,baz=232,slow=41						
BDFB	Brasilia	28.48	56	P	P	00 58 10.8	-1.0
	2.5nm,0.6s,baz=210,slow=8.6,SNR=4.3						
BDFB				LR	LR	01 10 39.8	
	comp=Z,161nm,18.2s,baz=220,slow=39						
RPN	Rapa Nui	32.63	272	LR	LR	01 08 36.4	
	comp=Z,131nm,18.1s,baz=52,slow=30						
RCBR	Riachuelo	43.79	58	LR	LR	01 19 53.5	
	comp=Z,129nm,18.9s,baz=214,slow=38						
SYO	Syowa Base	65.76	158⇑	*e*P	P	01 03 02.0	+1.3
TXAR	Lajitas Array	69.82	331	P	P	01 03 28.4	+1.5
	0.2nm,0.7s,baz=158,slow=5.7,SNR=2.8						
TORD	Torodi Ar. Bea	84.34	70	P	P	01 04 49.0	+0.3
	1.4nm,0.8s,baz=250,slow=3.6,SNR=7.1						
WRA	Warramunga Arr	120.59	209	PKP	PKPdf	01 11 05.4	-3.2
	0.4nm,0.9s,baz=143,slow=37,SNR=3.7						
BVAR	Borovoye Array	147.44	43	PKPbc	PKPab	01 12 00.4	-1.3
	1.0nm,0.8s,baz=231,slow=36,SNR=6.9						
AAK	Ala-Archa	152.65	62	PKPbc	PKPbc	01 12 13.7	+0.7
	0.4nm,0.4s,baz=195,slow=1.6,SNR=3.8						
ZALV	Zalesovo Beam	154.39	32	PKPbc	PKPbc	01 12 14.5	-1.6
	1.0nm,0.7s,baz=298,slow=3.2,SNR=5.4						
MKAR	Makanchi Array	156.92	49	PKPab	PKPab	01 12 41.5	-0.1
	0.5nm,0.8s,baz=294,slow=3.9,SNR=5.1						

*IDC **03** 00:55:16.3±0.8,35°.30S×72°.34W,h0km,mb4.0/6, mb1 4.1/8,mb1mx4.0/24,mbtmp4.0/8,ML3.6/2,Error ellipse: s-maj=31.7km s-min=20.2km az=92.0*

*ISCJB **03** 00:55:18.0±0.8,35°.21S±0°.09×72°.4W±0°.2,h18km,mb4.0/6, Error ellipse: s-maj=25.5km s-min=12.1km az=6.2*

ISC 03 00:55:19.6±0.8,35°.18S±0°.09×72°.4W±0°.1,h18km,n12, σ1s38/14,mb4.0/6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.96	45	Pn	Pn	00 56 35.2	+2.0
	0.7nm,0.3s,baz=214,slow=7.6,SNR=12						
CFAA				Sn	Sb	00 57 44.0	-1.4
	1.1nm,0.3s,baz=220,slow=16,SNR=3.2						
PLCA	Paso Flores	5.72	166	Pn	Pn	00 56 45.4	+1.7
	2.6nm,0.3s,baz=336,slow=11,SNR=10						
LPAZ	La Paz	19.19	12	P	Pn	00 59 45.5	+1.5
	0.2nm,0.3s,baz=128,slow=2.0,SNR=4.8						
SIV	San Ignacio	21.62	31	P	P	01 00 09.0	+0.1
	4.3nm,0.8s,baz=222,slow=8.9,SNR=8.4						
QSPA	South Pole Qui	55.06	180	P	P	01 04 50.3	+0.3
	3.3nm,0.8s,baz=288,slow=0.8,SNR=18						
TXAR	Lajitas Array	70.63	331	P	P	01 06 34.8	+0.8
	0.7nm,0.6s,baz=158,slow=8.9,SNR=18						
BOSA	Boshof	79.76	118	P	P	01 07 24.8	-2.1
	4.7nm,0.9s,baz=239,slow=3.8,SNR=9.0						
PDAR	Pinedale Array	84.69	333	P	P	01 07 51.5	-0.9
	0.4nm,0.8s,baz=129,slow=8.5,SNR=3.1						
TORD	Torodi Ar. Bea	84.87	70	P	P	01 07 53.0	-0.5
	0.7nm,0.7s,baz=259,slow=4.6,SNR=5.2						
WRA	Warramunga Arr	119.60	209	PKP	PKPdf	01 14 06.9	-1.9
	0.3nm,0.6s,baz=149,slow=1.7,SNR=4.5						
AAK	Ala-Archa	153.28	64	PKPbc	PKPbc	01 15 16.5	0.0
	1.3nm,0.7s,baz=180,slow=1.0,SNR=6.6						
AAK				PKPab	PKPab	01 15 28.3	-0.2
	1.2nm,0.6s,baz=167,slow=2.0,SNR=5.2						
CMAR	Chiang Mai Arr	161.64	153	PKPab	PKPab	01 16 04.2	-0.5
	2.1nm,0.6s,baz=74,slow=3.2,SNR=3.8						

*IDC **03** 01:12:15.1±1.2,34°.17S×73°.11W,h0km,mb3.8/5, mb1 3.9/7,mb1mx3.8/17,mbtmp3.8/7,ML3.7/2,Error ellipse: s-maj=43.5km s-min=21.1km az=78.0*

*ISCJB **03** 01:12:18.0±0.5,34°.16S±0°.07×73°.0W±0°.1,h33km, mb4.3/18,Error ellipse: s-maj=14.4km s-min=8.8km az=157.7*

*NEIC **03** 01:12:19.6±2.1,34°.17S×73°.01W,h32km±14km,mb4.5/14, Error ellipse: s-maj=11.1km s-min=5.8km az=74.0*

ISC 03 01:12:20.2±0.6,34°.16S±0°.08×73°.0W±0°.1,h35km,n40, σ0s67/41,mb4.4/18,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	6.84	164	Pn	Pn	01 13 58.0	0.0
	0.4nm,0.3s,baz=332,slow=11,SNR=6.1						
PLCA	Paso Flores	6.84	164	*e*Pn	Pn	01 13 57.7	-0.3
TRQA	Tornquist	9.71	117	*e*Pn	Pn	01 14 37.0	-0.3
LVC	Limon Verde	12.05	18	*e*Pn	Pn	01 15 09.0	-0.6
CPUP	Villa Florida	15.60	64	*e*Pn	Pn	01 15 57.5	0.0
LPAZ	La Paz	18.32	15	P	Pn	01 16 32.5	+0.4
	0.1nm,0.3s,baz=206,slow=5.5,SNR=5.8						
SIV	San Ignacio	21.03	34	P	P	01 17 00.5	-0.5
	0.8nm,0.4s,baz=172,slow=13,SNR=3.0						
SAML	Samuel	26.66	22	*e*P	P	01 17 56.1	+0.3
	1.1nm,0.7s						
ROSC	El Rosal	38.83	358	P	P	01 19 44.1	+1.8
	12nm,0.4s,baz=108,slow=20,SNR=8.5						
SDV	Santo Domingo	42.87	3	*e*P	P	01 20 14.9	-0.4
	3.6nm,0.8s						
SNAA	Sanae	51.73	158	P	P	01 21 24.3	+0.6
	1.7nm,0.9s,baz=276,slow=8.9,SNR=7.6						
SNAA	Sanae	51.73	158	*e*P	P	01 21 24.6	+1.0
	9.2nm,1.0s						
OBIP	Obispado Ponce	52.26	8	*e*P	P	01 21 28.1	0.0
GTBY	Guantanamo Bay	53.82	358	*e*P	P	01 21 39.2	-0.3
JCT	Junction City	69.10	335	*e*P	P	01 23 22.6	-0.1
TXAR	Lajitas Array	69.50	332	P	P	01 23 24.2	-0.9
	0.7nm,0.7s,baz=153,slow=7.5,SNR=8.2						
WHTX	Lake Whitney,	69.72	338	*e*P	P	01 23 26.1	-0.2
	5.4nm,0.8s						
ABTX	Abilene, Hawle	71.01	336	*e*P	P	01 23 34.0	-0.2
	2.4nm,0.7s						
WVT	Waverly	71.29	347	*e*P	P	01 23 35.8	0.0
	13nm,1.2s						
MNTX	Cornudas Mount	72.27	331	*e*P	P	01 23 41.0	-0.9
	2.2nm,1.2s						
TUL1	Leonard	72.89	341	*e*P	P	01 23 45.5	+0.1
	3.6nm,0.5s						
LAZ	Ladron	75.34	331	*e*P	P	01 24 00.0	0.0
DBIC	Dimbokro	75.97	72	P	P	01 24 04.6	+0.7
	1.9nm,0.7s,baz=161,slow=5.5,SNR=4.2						
DBIC	Dimbokro	75.97	72	*e*P	P	01 24 04.2	+0.3
	3.2nm,0.8s						
TSUM	Tsumeb	79.92	106	*e*P	P	01 24 25.2	-0.8
	6.1nm,1.4s						
DUG	Dugway, Tooele	82.62	330	*e*P	P	01 24 40.0	+0.3
	17nm,1.9s						
LBTB	Lobatse	82.94	115	*e*P	P	01 24 42.0	+0.1
	3.2nm,0.8s						
TORD	Torodi Ar. Bea	85.00	71	P	P	01 24 53.3	+1.0
	0.7nm,0.6s,baz=268,slow=4.2,SNR=6.1						
LSZ	Lusaka	90.50	109	*e*P	P	01 25 19.6	+0.6
	6.1nm,1.3s						
TAM	Tamanrasset	93.60	65	*e*P	P	01 25 33.2	+0.1
	2.7nm,1.4s						
MORC	Moravsky Berou	115.50	46	*e*PKPdf	PKPdf	01 30 57.9	0.0
SUW	Suwalki	120.25	43	*e*PKPdf	PKPdf	01 31 06.1	-0.7
COEN	Coen	121.07	222	*e*PKPdf	PKPdf	01 31 10.0	+0.3
KIEV	Kiev	122.86	48	*e*PKPdf	PKPdf	01 31 11.5	-0.5
MBWA	Marble Bar	123.67	194	*e*PKPdf	PKPdf	01 31 14.6	0.0
ABKAR	Abkulak array	142.40	52	*e*PKPdf	PKPdf	01 31 48.2	-0.4
KKM	Kota Kinabalu	150.76	199	*e*PKPdf	PKPdf	01 32 01.9	-2.0
KKM				*e*PKPbc	PKPbc	01 32 08.9	-0.5
TKM2	Tokmak 2	154.03	61	*e*PKPab	PKPab	01 32 29.1	-0.7
ZALV	Zalesovo Beam	154.77	32	PKPbc	PKPbc	01 32 17.6	+0.6
	0.9nm,0.5s,baz=266,slow=4.5,SNR=6.8						
MKAR	Makanchi Array	157.46	49	PKPab	PKPab	01 32 43.5	-0.5
	0.3nm,0.8s,baz=294,slow=3.9,SNR=4.6						

*IDC **03** 01:16:42.1±1.6,38°.86S×73°.78W,h0km,mb4.2/5, mb1 4.2/8,mb1mx4.1/18,mbtmp4.0/8,ML3.7/3,MS3.4/7, Ms1 3.4/7,ms1mx3.3/25,Error ellipse: s-maj=36.5km s-min=28.2km az=45.0*

*ISCJB **03** 01:16:45.6±0.5,38°.72S±0°.08×73°.65W±0°.10,h33km, mb4.4/27,MS3.4/4,Error ellipse: s-maj=13.0km s-min=9.1km az=44.1*

*NEIC **03** 01:16:47.2±1.5,38°.78S×73°.66W,h36km±12km,mb4.5/23, Error ellipse: s-maj=15.1km s-min=7.8km az=65.0*

ISC 03 01:16:46.7±0.7,38°.84S±0°.10×73°.8W±0°.1,h35km,n53, σ0s90/50,mb4.5/27,MS3.4/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.15	128	Pn	Pn	01 17 34.3	+0.4
	1.4nm,0.3s,baz=302,slow=13,SNR=10						
PLCA				LR	LR	01 18 21.4	
	comp=Z,97nm,18.4s,baz=14,slow=32						
PLCA				Lg	Lg	01 18 25.6	
	24nm,0.3s,baz=40,slow=17,SNR=10						
PLCA	Paso Flores	3.15	128	*e*Pn	Pn	01 17 34.1	+0.3
PLCA				*e*Lg	Lg	01 18 24.1	
CFAA	Coronel Fontan	8.54	34	Pn	Pn	01 18 46.9	-1.1
	0.3nm,0.3s,baz=219,slow=12,SNR=3.8						
TRQA	Tornquist	9.33	89	*e*Pn	Pn	01 18 59.6	+0.9
USHA	Ushuaia	16.41	169	LR	LR	01 27 59.9	
	comp=Z,260nm,19.1s,baz=326,slow=41						
LVC	Limon Verde	16.72	16	*e*Pn	Pn	01 20 36.4	-2.0
CPUP	Villa Florida	18.64	53	P	P	01 21 01.0	-0.3
	0.2nm,0.3s,baz=233,slow=8.5,SNR=3.5						
CPUP				LR	LR	01 28 56.8	
	comp=Z,252nm,18.4s,baz=215,slow=40						
LPAZ	La Paz	23.02	14	P	P	01 21 50.8	+1.5
	6.6nm,1.0s,baz=168,slow=7.2,SNR=12						
LPAZ	La Paz	23.02	14	*e*P	P	01 21 51.2	+1.9
	8.2nm,1.0s						
SIV	San Ignacio	25.37	30	P	P	01 22 10.5	-0.2
	6.2nm,1.0s,baz=252,slow=14,SNR=8.9						
SIV				LR	LR	01 34 03.7	
	comp=Z,86nm,18.9s,baz=153,slow=41						
PMSA	Palmer Station	26.60	171	LR	LR	01 31 57.0	
	comp=Z,148nm,18.9s,baz=292,slow=34						
NNA	Nana	26.88	353	LR	LR	01 30 39.8	
	comp=Z,61nm,19.0s,baz=176,slow=31						
SAML	Samuel	31.26	21	*e*P	P	01 23 02.6	-0.6
	3.5nm,1.2s						
BDFB	Brasilia	32.37	52	LR	LR	01 38 36.6	
	comp=Z,88nm,18.6s,baz=226,slow=41						
OTAV	Otavalo	39.12	353	*e*P	P	01 24 11.4	0.0
	4.0nm,1.2s						
SDV	Santo Domingo	47.58	4	*e*P	P	01 25 19.4	+0.3
	6.6nm,0.9s						
SNAA	Sanae	47.70	156	*e*P	P	01 25 18.8	-0.6
	12nm,1.1s						
BCIP	Isla Barro Col	48.09	352	*e*P	P	01 25 22.1	-0.9
GRGR	Grenville	51.97	15	*e*P	P	01 25 49.4	-2.9
CBYP	Canovanas	57.30	9	*e*P	P	01 26 31.2	+0.2
SDDR	Presa de Saban	57.57	3	*e*P	P	01 26 33.7	+0.8
GTBY	Guantanamo Bay	58.47	359	*e*P	P	01 26 38.8	-0.4
HKT	Hockley	71.45	340	*e*P	P	01 28 03.3	+0.1
	3.9nm,1.0s						
JCT	Junction City	73.09	337	*e*P	P	01 28 14.4	+1.1
	3.8nm,0.9s						
TXAR	Lajitas Array	73.32	333	P	P	01 28 16.1	+1.4
	1.2nm,0.8s,baz=151,slow=8.7,SNR=12						
WHTX	Lake Whitney,	73.82	339	*e*P	P	01 28 18.3	+0.9
	4.5nm,0.8s						
SWET	Sewanee	74.54	350	*e*P	P	01 28 22.4	+0.8
	8nm,1.3s						
ABTX	Abilene, Hawle	75.05	338	*e*P	P	01 28 23.6	-0.9
	3.5nm,0.9s						
WVT	Waverly	75.72	348	*e*P	P	01 28 27.7	-0.5
	3.4nm,0.7s						
MNTX	Cornudas Mount	76.08	333	*e*P	P	01 28 30.6	+0.1
	1.0nm,0.9s						
TUL1	Leonard	77.10	342	*e*P	P	01 28 36.5	+0.3
	7.1nm,0.9s						
DBIC	Dimbokro	78.09	71	*e*P	P	01 28 42.6	+0.4
	17nm,1.4s						
BOSA	Boshof	79.09	118	*e*P	P	01 28 47.3	-0.5
	17nm,1.4s						
LAZ	Ladron	79.15	332	*e*P	P	01 28 48.4	+0.6
ANMO	Albuquerque	79.39	333	*e*P	P	01 28 50.3	+1.1
	2.6nm,1.0s						
LBTB	Lobatse	81.57	115	*e*P	P	01 29 01.2	0.0
	7.8nm,1.3s						
SDCO	Great Sand Dun	81.60	335	*e*P	P	01 29 02.8	+1.7
	2.5nm,1.1s						
WUAZ	Wupatki	81.73	330	*e*P	P	01 29 02.6	+1.0
	1.4nm,0.6s						
MVCO	Mesa Verde	82.15	333	*e*P	P	01 29 05.5	+1.6
	5.6nm,1.2s						
ISCO	Idaho Springs	83.50	336	*e*P	P	01 29 12.9	+2.0
DUG	Dugway, Tooele	86.36	331	*e*P	P	01 29 24.6	-0.5
	6.2nm,1.5s						
HWUT	Hardware Ranch	87.14	333	*e*P	P	01 29 29.6	+0.8
	5.9nm,1.0s						
TORD	Torodi Ar. Bea	87.19	71	P	P	01 29 29.1	-0.5
	2.5nm,0.8s,baz=235,slow=4.8,SNR=5.7						
PDAR	Pinedale Array	87.47	335	P	P	01 29 31.3	+0.8
	1.1nm,0.9s,baz=145,slow=5.4,SNR=6.6						
TAM	Tamanrasset	96.17	66	*e*P	P	01 30 12.0	+0.8
	5.1nm,1.6s						
SUW	Suwalki	124.09	45	*e*PKPdf	PKPdf	01 35 41.0	+0.4
TNA	Tin City	126.24	329	*e*PKPdf	PKPdf	01 35 43.8	-0.6
KIEV	Kiev	126.44	50	*e*PKPdf	PKPdf	01 35 44.0	-1.2
TIXI	Tiksi	145.15	348	*e*PKPbc	PKPbc	01 36 18.3	-0.5
ABKAR	Akbulak array	145.67	57	*e*PKPbc	PKPab	01 36 21.7	+0.2
KKAR	Karatay Array	152.87	69	*e*PKPbc	PKPbc	01 36 40.1	+0.4
KKAR				*e*PKPab	PKPab	01 36 50.9	0.0
TKM2	Tokmak 2	156.59	70	*e*PKPdf	PKPdf	01 36 37.6	-0.3
TKM2				*e*PKPab	PKPab	01 37 06.8	-0.3
MKAR	Makanchi Array	160.81	58	PKPab	PKPab	01 37 25.6	+0.6
	0.7nm,0.8s,baz=277,slow=3.6,SNR=6.8						

GUC 03 01:24:26.6±0.3,34°.72S×72°.59W,h26km±2km,ML4.1, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	1.24	52	*e*P	Pb	01 24 49.2	-0.1
LNV				*i* S	Sb	01 25 06.3	+1.5
CACH	El Canelo	1.75	71	*e*P	Pb	01 24 57.9	-0.3
CACH				*i* S	Sb	01 25 22.0	+2.1
CHCH	Chadas Angostu	1.78	65	*e*P	Pb	01 24 58.1	-0.6
CHCH				*i* S	Sb	01 25 21.9	+1.2
IHA	Instituto Hidr	1.86	25	*e*P	Pb	01 24 59.0	-1.0
ANTU	Antumapu	1.99	55	IAML		01 25 37.2	
	comp=N,3μm,0.5s						
STL	Santa Lucia	2.06	52	*e*P	Pb	01 25 02.5	-0.9
STL				*i* S	Sb	01 25 29.8	+1.2
PEL	Peldehue	2.23	46	*e*P	Pb	01 25 04.8	-1.6
PEL				*i* S	Sb	01 25 33.4	-0.1
FCH	Farellones	2.36	55	IAML		01 25 45.5	
	comp=N,1μm,0.2s						

MEX 03 01:26:10.2±0.5,17°.03N×99°.20W,h16km±7km,MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.65	256	*e*P	Pg	01 26 19.3	-3.7
ACX				*e*S	Sg	01 26 28.8	-2.9
MEIG	Mezcala	0.98	336	*e*P	Pb	01 26 25.3	-3.6
MEIG				*e*S	Sb	01 26 37.5	-4.2
CAIG	El Cayaco	1.02	271	*e*P	Pb	01 26 26.3	-3.2
CAIG				*e*S	Sb	01 26 37.8	-4.9
CAIG				*i* S	Sg	01 26 37.9	-5.5
ARIG	Puente Sto Nin	1.66	319	*e*P	Pn	01 26 34.9	-3.8
ARIG				*e*S	Sn	01 26 54.8	-4.8

*IDC **03** 01:34:08.7±5.8,13°.75N×92°.79W,h0km,mb3.6/3, mb1 4.1/6,mb1mx3.7/32,mbtmp3.8/6,ML4.1/3,MS2.0/1, Ms1 2.0/1,ms1mx2.0/28,Error ellipse: s-maj=109.7km s-min=26.5km az=174.0*

ISC 03 01:34:15.5±2.9,14°.0N±0°.3×92°.8W±0°.1,h37km,n6,σ1s72/7, mb3.7/3,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	2.52	65	Pn	Pn	01 34 53.0	-1.1
	25nm,0.3s,baz=322,slow=13,SNR=95						
APG				Sn	Sn	01 35 25.6	+2.0
	26nm,0.3s,baz=321,slow=16,SNR=13						
APG				LR	LR	01 35 28.2	
	comp=Z,34nm,21.7s,baz=306,slow=31						
TEIG	Tepich	7.60	34	Pn	Pn	01 36 02.5	-1.3
	13nm,

832A	Faith Ranch, C baz=71	71.63	333	⇓P	P	02 00 30.8 -0.6
636A	Smothers Creek baz=72	71.75	336	⇓P	P	02 00 32.2 +0.1
HKT	Hockley 4.0nm,0.9s	71.81	337	*e*P	P	02 00 21.8 -10
732A	Laxson Ranch, baz=72	72.03	333	⇑P	P	02 00 33.5 -0.3
634A	China Grove, S baz=72	72.08	335	⇑P	P	02 00 33.7 -0.3
536A	Bastrop baz=72	72.31	336	⇓P	P	02 00 35.0 -0.3
633A	Saathoff Ranch baz=72	72.43	334	⇓P	P	02 00 36.2 0.0
632A	Uvalde baz=72	72.68	334	⇓P	P	02 00 37.6 -0.1
534A	Blanco baz=72	72.72	335	⇑P	P	02 00 37.8 0.0
631A	Perdido Creek baz=73	72.87	333	⇓P	P	02 00 38.3 -0.5
533A	Kerrville baz=73	72.94	335	⇓P	P	02 00 39.6 +0.4
338A	Crockett baz=73	72.97	338	⇑P	P	02 00 40.3 +1.0
337A	Centerville baz=73	73.10	338	⇓P	P	02 00 41.4 +1.3
532A	Rocksprings baz=73,SNR=8.2	73.29	334	⇓P	P	02 00 41.0 -0.3
434A	Burnet baz=73,SNR=7.8	73.37	336	⇓P	P	02 00 41.4 -0.3
336A	Riesel baz=73,SNR=6.9	73.46	337	⇑P	P	02 00 42.3 +0.1
335A	Moody baz=73	73.54	337	⇓P	P	02 00 42.9 +0.2
531A	Rocksprings baz=73,SNR=7.1	73.55	334	⇓P	P	02 00 42.8 0.0
JCT	Junction City baz=73	73.58	334	⇑P	P	02 00 42.5 -0.5
JCT	Junction City 17nm,1.0s	73.58	334	*e*P	P	02 00 31.9 -11
JCT				*e*	P	02 00 42.5 -0.5
433A	Art baz=73,SNR=6.7	73.59	335	⇓P	P	02 00 42.7 -0.3
KMSC	Kings Mountain baz=74	73.75	351	⇑P	P	02 00 45.2 +1.3
530A	J-C Ranch, Com baz=74,SNR=5.5	73.81	333	⇓P	P	02 00 43.9 -0.5
334A	Lometa baz=74,SNR=8.1	73.84	336	⇓P	P	02 00 44.0 -0.5
432A	Menard baz=74	73.94	334	⇑P	P	02 00 44.6 -0.5
TXAR	Lajitas Array 2.3nm,0.8s,baz=153,slow=8.4,SNR=19	73.94	331	P	P	02 00 43.2 -2.1
431A	Sonora baz=74	74.04	334	⇓P	P	02 00 45.4 -0.3
333A	Richland Sprin baz=74	74.08	335	⇑P	P	02 00 45.6 -0.3
529A	Stev Forest Ra baz=74	74.11	332	⇓P	P	02 00 46.1 -0.1
WHTX	Lake Whitney, baz=74	74.21	337	⇑P	P	02 00 46.6 +0.1
430A	Baggett Ranch, baz=74	74.35	333	⇑P	P	02 00 47.3 -0.3
332A	Millersview baz=74,SNR=6.9	74.38	335	⇓P	P	02 00 46.8 -0.8
234A	Clairette baz=74	74.43	336	⇑P	P	02 00 47.9 0.0
429A	Davenport Ranc baz=74,SNR=5.3	74.44	333	⇑P	P	02 00 47.3 -0.7
SWET	Sewanee 32nm,0.7s	74.50	347	*e*P	P	02 00 38.2 -10
331A	San Angelo baz=74,SNR=8.9	74.55	334	⇓P	P	02 00 48.3 -0.3
233A	Rising Star baz=74	74.69	336	⇑P	P	02 00 49.4 0.0
232A	Coleman baz=75	74.81	335	⇓P	P	02 00 49.7 -0.5
330A	Mertzon baz=75	74.90	334	⇑P	P	02 00 49.8 -0.9
134A	White-Moore Ra baz=75	74.94	337	⇑P	P	02 00 50.2 -0.6
231A	Bronte baz=75,SNR=5.6	75.08	334	⇑P	P	02 00 51.3 -0.4
133A	Hamilton Ranch baz=75	75.24	336	⇓P	P	02 00 52.6 +0.1
329A	Wagon Wheel Ra baz=75	75.25	333	⇓P	P	02 00 52.7 0.0
Z35A	Perchaven, San baz=75	75.39	337	⇑P	P	02 00 53.4 0.0
LIC	Lamto 53nm,1.2s	75.40	70	*e*P	P	02 00 55.2 +1.2
ABTX	Abilene, Hawle baz=75	75.49	335	⇑P	P	02 00 53.8 -0.3
229A	Bryant Ranch, baz=75	75.63	333	⇓P	P	02 00 54.6 -0.3
TIC	Toumodi 23nm,0.9s	75.69	69	*e*P	P	02 00 57.3 +1.7
KIC	Kosan Boka 38nm,1.0s	75.70	70	*e*P	P	02 00 57.0 +1.3
131A	Roby baz=76	75.78	335	⇓P	P	02 00 55.6 -0.1
Z33A	Whitaker Ranch baz=76	75.81	336	⇓P	P	02 00 55.7 -0.1
DBIC	Dimbokro 6.0nm,0.6s,baz=197,slow=5.0,SNR=16	75.82	70	P	P	02 00 58.0 +1.6
130A	Snyder baz=76	75.91	334	⇓P	P	02 00 56.1 -0.3
228A	UT Block 9, Go baz=76	76.04	333	⇓P	P	02 00 57.1 -0.2
Z32A	Haskell baz=76	76.06	336	⇓P	P	02 00 57.3 0.0
Y34A	Reagan Ranch, baz=76	76.12	337	⇓P	P	02 00 57.6 0.0
129A	Stewart Farms, baz=76	76.25	334	⇑P	P	02 00 58.2 -0.3
Z31A	Sharp Cattle R baz=76	76.29	335	⇓P	P	02 00 58.8 +0.2
Y33A	Hilltop Ranch, baz=76	76.44	337	⇑P	P	02 00 59.1 -0.3
128A	Castleberry Fa baz=76	76.46	333	⇑P	P	02 00 59.1 -0.6
Z30A	Sanderson Ranc baz=76	76.59	334	⇓P	P	02 00 59.8 -0.5
Y32A	R-V Farms, Ver baz=76	76.69	336	⇓P	P	02 01 00.1 -0.8
MNTX	Cornudas Mount 1.2nm,0.9s	76.72	330	*e*P	P	02 00 50.4 -11
X34A	Smith Ranch, M baz=77	76.75	337	⇓P	P	02 01 00.8 -0.4
Z29A	Hungry Hill Ra baz=76	76.77	334	⇑P	P	02 01 00.5 -0.9
Y31A	Rekieta Farm, baz=77	76.92	335	⇓P	P	02 01 01.5 -0.6
TSUM	Tsumeb 2.0nm,0.7s	77.25	104	*e*P	P	02 01 05.2 +0.5
Y29A	Porterfield Fa baz=77	77.30	334	⇑P	P	02 01 04.1 -0.2
W34A	Bridge Creek, baz=77	77.32	338	⇑P	P	02 01 04.2 -0.1
BOSA	Boshof 3.0nm,0.7s,baz=201,slow=2.5,SNR=6.5	77.33	116	P	P	02 01 04.0 -1.0
BOSA	Boshof 18nm,1.4s	77.33	113	*e*P	P	02 01 04.6 -0.4
Z27A	Tatum baz=77	77.35	333	⇑P	P	02 01 04.7 0.0
TUL1	Leonard baz=77	77.38	340	⇓P	P	02 01 04.9 +0.3
X31A	McDonald Ranch baz=77	77.44	336	⇓P	P	02 01 05.2 +0.1
W33A	Caddo, Fort Co baz=77	77.45	337	⇓P	P	02 01 05.4 +0.3
WCI	Wyandotte Cave 5.2nm,0.4s	77.50	348	*e*P	P	02 00 55.1 -10
Y28A	McKinney Farm, baz=77	77.54	334	⇑P	P	02 01 05.7 -0.1
X30A	Coker Ranch, T baz=77	77.56	335	⇑P	P	02 01 05.8 0.0
Z26A	Caprock baz=77	77.59	332	⇑P	P	02 01 05.5 -0.6
W32A	Sentinel baz=78	77.66	337	⇑P	P	02 01 06.4 +0.1
MSTX	Muleshoe baz=78	77.78	333	⇓P	P	02 01 06.4 -0.6
X29A	Tulia baz=78	77.84	334	⇓P	P	02 01 07.0 -0.3
W31A	Holland Ranch, baz=78	77.94	336	⇓P	P	02 01 08.0 +0.1
V33A	Lossen Ranch, baz=78	78.01	338	⇓P	P	02 01 08.3 +0.1
Z24A	Sheeppen Canyo baz=78	78.16	331	⇓P	P	02 01 08.7 -0.6
AMTX	Amarillo baz=78	78.23	335	⇑P	P	02 01 08.7 -0.9
Y25A	Mesa, Roswell baz=78	78.43	332	⇑P	P	02 01 09.9 -0.9
W29A	Amarillo baz=78	78.44	335	⇓P	P	02 01 10.9 +0.2
V31A	Spring Creek L baz=78	78.45	336	⇑P	P	02 01 11.3 +0.6
X26A	CR and CF Fran baz=78	78.67	333	⇑P	P	02 01 11.2 -0.8
Y24A	Capitan baz=78	78.71	331	⇓P	P	02 01 11.6 -0.7
U32A	Winter Ranch, baz=79	78.75	337	⇓P	P	02 01 12.8 +0.5
W27A	Bowe Ranch, En baz=79	78.87	334	⇑P	P	02 01 13.1 0.0
ACSO	Alum Creek Sta 18nm,0.8s	78.98	351	*e*P	P	02 01 05.1 -8.3
T33A	Patterson Ranc baz=79	79.17	338	⇓P	P	02 01 15.1 +0.6
W25A	X Bar L Ranch, baz=79	79.51	333	⇑P	P	02 01 15.5 -1.1
X23A	Hourglass Bar baz=79	79.58	331	⇑P	P	02 01 16.6 -0.5
LBTB	Lobatse 24nm,1.4s	79.73	114	*e*P	P	02 01 17.1 -1.2
V26A	Tequesquite Ra baz=80	79.78	333	⇓P	P	02 01 17.2 -0.9
LAZ	Ladron 2.4nm,1.3s	79.79	330	*e*P	P	02 01 06.2 -12
W24A	Lazy 6 Ranch, baz=80	79.84	332	⇓P	P	02 01 18.2 -0.3
ANMO	Albuquerque 2.3nm,1.0s,baz=193,slow=6.1,SNR=4.4	80.00	331	P	P	02 01 17.0 -2.4
ANMO	Albuquerque 4.5nm,1.3s	80.00	331	*e*P	P	02 01 07.7 -12
U27A	Thompson Grove baz=80	80.02	334	⇑P	P	02 01 19.3 -0.1
214A	Organ Pipe Nat baz=80	80.07	325	⇓P	P	02 01 19.5 -0.1
V25A	Rancho No Teng baz=80	80.12	333	⇑P	P	02 01 19.2 -0.8
U25A	Circle Dot Ran baz=80	80.55	333	⇓P	P	02 01 22.9 +0.6
R32A	Long Quarter, baz=80	80.55	338	⇓P	P	02 01 23.0 +1.0
R31A	Burdett baz=81	80.67	338	⇑P	P	02 01 23.6 +0.9
T26A	Comanche Natio baz=81	80.96	334	⇑P	P	02 01 25.3 +0.8
V22A	San Miguel Ran baz=81	81.03	331	⇑P	P	02 01 25.6 +0.7
Q32A	Meitler Ranch, baz=81	81.03	339	⇓P	P	02 01 25.4 +0.8
T25A	Trinidad baz=81	81.21	334	⇓P	P	02 01 26.3 +0.5
W18A	Petrified Fore baz=81	81.45	329	⇓P	P	02 01 27.4 +0.3
X16A	Lo Mia Camp, P baz=81	81.56	327	⇓P	P	02 01 27.9 +0.2
P32A	Huiting Farm, baz=82	81.63	339	⇑P	P	02 01 28.2 +0.5
S25A	Robets Cordova baz=82	81.69	334	⇑P	P	02 01 28.5 +0.2
R27A	Eads baz=82	81.70	335	⇓P	P	02 01 28.4 +0.2
GLA	Glamis baz=81	81.91	324	⇓P	P	02 01 29.3 -0.1
R26A	Arlington baz=82	81.92	335	⇑P	P	02 01 30.2 +0.7
S24A	Houchin Ranch, baz=82	81.94	333	⇓P	P	02 01 29.8 0.0
Y12C	Blythe baz=82	82.35	325	⇑P	P	02 01 31.6 -0.1
R24A	Sanders Place, baz=82	82.43	334	⇓P	P	02 01 32.3 +0.1
WUAZ	Wupatki baz=82	82.47	328	⇓P	P	02 01 32.7 +0.2
S22A	4UR Ranch, Cre baz=82	82.62	332	⇓P	P	02 01 33.5 +0.2
R23A	Moffat baz=82	82.65	333	⇓P	P	02 01 33.8 +0.3
MVCO	Mesa Verde baz=82	82.78	331	⇓P	P	02 01 34.4 +0.3
P25A	Willow Gulch B baz=83	83.26	335	⇑P	P	02 01 37.1 +0.6
M31A	Lambtecht Ranc baz=83	83.34	339	⇑P	P	02 01 38.0 +1.4
U15A	North Rim baz=83	83.63	328	⇑P	P	02 01 39.0 +0.4
ISCO	Idaho Springs baz=84	84.01	334	⇑P	P	02 01 41.5 +1.0
L31A	Butterfield Fa baz=84	84.07	340	⇑P	P	02 01 41.8 +1.5
BFSC	Mount Baldy Ra baz=84	84.22	323	⇑P	P	02 01 41.5 +0.1
O22A	Kremmling baz=84	84.66	333	⇑P	P	02 01 44.3 +0.6
TORD	Torodi Ar. Bea 2.6nm,0.7s,baz=221,slow=4.1,SNR=25	84.92	69	P	P	02 01 44.8 -0.5
ECSD	EROS Data Cent baz=85	84.94	342	⇓P	P	02 01 45.9 +1.2
ECSD	EROS Data Cent 17nm,1.1s	84.94	342	*e*P	P	02 01 34.3 -10
ECSD				*e*pP	P	02 01 45.3 +0.5
SPMN	Marine on St. baz=86	85.49	345	⇓P	P	02 01 48.8 +1.4
SPMN	Marine on St. 12nm,0.9s	85.49	345	*e*P	P	02 01 37.7 -10
J29A	Okreek baz=86	85.62	339	⇓P	P	02 01 49.4 +1.3
ISA	Isabella, Lake baz=85	85.76	323	⇓P	P	02 01 49.1 0.0
I30A	Oacoma baz=86	85.84	340	⇓P	P	02 01 50.5 +1.2
N20A	Spence Gulch, baz=86	85.86	333	⇑P	P	02 01 51.1 +1.5
J27A	Elkhorn Farm, baz=86	85.97	338	⇓P	P	02 01 51.4 +1.5
J26A	Sides Ranch, S baz=86	86.34	337	⇓P	P	02 01 52.9 +1.1
I28A	Midland baz=86	86.41	339	⇓P	P	02 01 53.1 +1.1
R11A	Troy Canyon, C baz=86	86.66	326	⇓P	P	02 01 54.4 +0.8
J24A	Dixon Ranch, L baz=87	86.86	336	⇓P	P	02 01 55.7 +1.4
H28A	Mission Ridge baz=87	86.99	339	⇓P	P	02 01 55.6 +0.8
DUG	Dugway, Tooele baz=87	87.05	329	⇓P	P	02 01 56.0 +0.6
DUG	Dugway, Tooele 3.7nm,1.3s	87.05	329	*e*P	P	02 01 44.7 -11
K21A	Alcova baz=87	87.09	334	⇓P	P	02 01 56.3 +0.7
G28A	Parade baz=87	87.32	339	⇑P	P	02 01 57.8 +1.3
RSSD	Black Hills 2.1nm,0.8s	87.37	337	*e*P	P	02 01 46.0 -11
F29A	Eureka baz=88	87.73	340	⇑P	P	02 01 59.4 +1.0
J21A	Lysite baz=88	87.79	334	⇓P	P	02 01 59.4 +0.4
NVAR	Mina Array Bea 0.9nm,0.8s,baz=165,slow=5.8,SNR=6.3	87.94	325	P	P	02 01 58.3 -1.5
G26A	Maurine baz=88	88.00	338	⇓P	P	02 02 00.1 +0.4
J20A	Shoshoni baz=88	88.01	334	⇓P	P	02 02 00.3 +0.3
BW06	Boulder Array 1.6nm,0.8s	88.02	333	*e*P	P	02 01 48.7 -11
PDAR	Pinedale Array 0.9nm,0.7s,baz=154,slow=5.6,SNR=7.8	88.02	333	P	P	02 01 58.6 -1.5
H24A	Dirks Ranch, A baz=88	88.10	337	⇓P	P	02 01 59.8 -0.4
E30A	Jud baz=88	88.11	341	⇑P	P	02 01 59.8 -0.3
I21A	Big Trails, Te baz=88	88.15	335	⇓P	P	02 02 00.2 -0.4
J19A	Crowheart baz=88	88.28	333	⇓P	P	02 02 02.1 +0.8
E29A	Napoleon baz=88	88.36	341	⇓P	P	02 02 02.6 +1.2
F27A	Lemmon baz=88	88.37	339	⇓P	P	02 02 02.4 +1.0
ELK	Elko 2.7nm,0.8s,baz=201,slow=6.0	88.51	328	P	P	02 02 01.6 -0.9
D30A	Buchanan baz=89	88.64	341	⇑P	P	02 02 03.8 +1.2
D29A	Pettibone, Tap baz=89	88.80	341	⇑P	P	02 02 04.4 +1.0
AGMN	Agassiz Nation baz=89	89.07	344	⇓P	P	02 02 06.3 +1.7
C30A	Mose, Pekin baz=89	89.12	342	⇓P	P	02 02 06.5 +1.6
D28A	Regan baz=89	89.18	340	⇑P	P	02 02 06.3 +1.0
I17A	Pilgrim Ck. baz=89	89.39	333	⇓P	P	02 02 07.4 +0.8
MDND	Maddock baz=90	89.54	341	⇓P	P	02 02 08.6 +1.8
MDND	Maddock 5.4nm,1.0s	89.54	341	*e*P	P	02 01 56.7 -10
MDND				*e*pP	P	02 02 07.7 +0.9
D26A	Manning baz=90	89.54	339	⇓P	P	02 02 08.4 +1.5
B30A	Myrvik Farm, E baz=90	89.78	342	⇓P	P	02 02 10.0 +2.0
B29A	Wagenman Farm, baz=90	90.05	342	⇓P	P	02 02 11.1 +2.0
A30A	Hoffart Farm, baz=90	90.23	342	⇑P	P	02 02 11.5 +1.4
B28A	Dugan Ranch, T baz=90	90.28	341	⇓P	P	02 02 11.6 +1.2
A29A	Manning Farm, baz=90	90.44	342	⇑P	P	02 02 12.3 +1.3
HLID	Hailey baz=90	90.54	330	⇓P	P	02 02 13.0 +1.2
HLID	Hailey 3.2nm,1.1s	90.54	330	*e*P	P	02 02 01.0 -11
A28A	Rude Farm, Bot baz=91	90.69	341	⇑P	P	02 02 13.6 +1.4
TAM	Tamanrasset 2.0nm,0.9s	93.93	64	*e*P	P	02 02 27.3 -0.8
NEW	Newport 2.5nm,1.0s	95.50	331	*e*P	P	02 02 23.8 -11
FCC	Fort Churchill 0.2nm,1.3s	98.66	348	*e*P	P	02 02 38.7 -10
WB2	Warramunga Arr	117.33	207	*e*PKPdf	PKPdf	02 07 39.5 -16
VYHS	Vyhne	117.36	49	*e*PKP	PKPdf	02 07 48.8 -6.2
ARU	Arti	142.36	45	*e*PKPdf	PKPdf	02 08 33.8 -8.0
ABKAR	Akbulak array	143.53	56	*e*PKPdf	PKPab	02 08 37.6 -2.9
TIXI	Tiksi	145.12	349	*e*PKPbc	PKPbc	02 08 35.6 -10
HYB	Hyderabad	146.18	120	*i* PKP	**PKPdf**	**02 08 45.5 -4.2**
BRVK	Borovoye	149.63	48	*e*PKPbc	**PKPdf**	**02 08 54.2 -0.1**
BVAR	Borovoye Array 3.2nm,0.7s,baz=281,slow=4.0,SNR=24	149.70	48	PKP	**PKPdf**	**02 08 53.6 -0.8**
BVAR				PKPab	**PKPab**	**02 09 04.9 +0.5**
TKM2	Tokmak 2 3.6nm,0.8s,baz=253,slow=1.5,SNR=5.8	154.33	69	*e*PKPdf	PKPdf	02 08 54.3 -7.6
KSH	Kashi	154.34	77	*e*PKP	PKPdf	02 08 54.8 -7.2
KSH				sPKP		02 09 18.6
KSH				PKS	PKSdf	02 12 28.3 -7.9
KSH				PP	**PP**	**02 12 58.5 -1.7**
KSH				SKS	SKSdf	02 15 56.1 -13
KSH				SS	**SS**	**02 32 42.1 +1.6**
KSH				PPMZ		
KSH	110nm,4.2s			LN		
KSH	27nm,4.4s			LE		
KSH	27nm,4.1s			LZ		
KSH	79nm,4.9s					
KURK	Kurchatov	155.24	50	*e*PKPdf	PKPdf	02 08 54.8 -7.9
KURK				*e*PKPab	**PKPab**	**02 09 25.2 -2.6**
ZALV	Zalesovo Beam 0.6nm,0.7s,baz=62,slow=3.4,SNR=2.3	157.26	39	PKP	**PKPdf**	**02 09 06.1 +0.9**
ZALV				PKPab	**PKPab**	**02 09 33.4 -2.9**
MKAR	Makanchi Array 1.4nm,0.7s,baz=268,slow=2.7,SNR=13	158.66	58	PKPab	**PKPab**	**02 09 41.0 -1.7**
NJ2	Nanjing	169.80	235	*e*PKP	PKPdf	02 09 07.7 -10
WHN	Wuhan	171.06	211	PKP	PKPdf	02 09 10.3 -8.0
BJI	Beijing	174.20	289	PKP	PKPdf	02 09 09.6 -10
LZH	Lanzhou	175.29	117	*e*PKP	PKPdf	02 09 10.5 -10
LZH				pPKP	pPKPdf	02 09 28.2 +4.7
LZH				sPKP		02 09 37.0
HHC	**Hu-ho-hao-te**	**176.83**	**323**	*e*PKP	PKPdf	02 09 12.5 -7.7
HHC				pPKP	pPKPdf	02 09 24.9 +1.3
HHC				PKS	PKSdf	02 12 38.5 -14
HHC				PP	PP	02 14 49.6 -6.3
HHC				SS	SS	02 36 07.0 -21
HHC				PPMZ		
HHC	100nm,10.4s			LN		
HHC	140nm,22.5s			LE		
HHC	170nm,22.1s			LZ		
HHC	85nm,22.7s					

IDC 03 01:49:35.8±2.2,2°99S×128°31E,h0km,mb3.11/2,
mb1 3.6/3,**mb1mx3.3**/38,**mbtmp3.4**/3,**ML4.0**/1,**Error ellipse: s-maj=137.9km s-min=28.7km az=67.0,Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=340,slow=11,SNR=63	**17.85**	**161**	P	P	01 53 46.8	+0.2
ASAR	**Alice Springs** 0.3nm,0.5s,baz=347,slow=12,SNR=4.6	**21.25**	**166**	P	P	01 54 21.9	-1.9
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=127,slow=7.9,SNR=3.5	**63.97**	**327**	P	P	02 00 11.7	+0.7

*IDC **03** 01:51:15.0±0.4,35°04S×72°82W,h0km,mb5.0/22,*
mb1 5.0/26,mb1mx5.0/33,mbtmp4.9/26,ML4.9/4,MS4.8/8,
Ms1 4.8/8,ms1mx4.6/12,Error ellipse: s-maj=15.7km
s-min=11.7km az=80.0
*ISCJB **03** 01:51:19.0±0.2,34°94S±0°04×72°55W±0°06,h33km,*
mb5.2/128,MS4.8/10,Error ellipse: s-maj=7.3km
s-min=5.0km az=144.4
*NEIC **03** 01:51:20.1±1.6,34°98S×72°67W,h32km±10km,mb5.3/106,*
Error ellipse: s-maj=6.9km s-min=3.7km az=68.0
NEIC Felt at Linares, Santiago and Talca.
*MOS **03** 01:51:20.4±1.0,34°65S×72°65W,h33km,mb5.5/38,Error*
ellipse: s-maj=15.8km s-min=9.0km az=99.5

ISC 03 01:51:20.2±0.3,35°00S±0°05×72°73W±0°07,h35km,n756,
σ0°95/638,**mb5.2**/128,**MS5.0**/10,**216C-204D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan** 7.0nm,0.3s,baz=225,slow=13,SNR=36	**5.06**	**49**	Pn	**Pn**	**01 52 34.5**	**+0.9**
CFAA				Lg	Lg	01 53 59.8	
CFAA	7.4nm,0.3s,baz=83,slow=20,SNR=4.2			LR	LR	01 54 22.4	
	comp=Z,221nm,20.8s,baz=232,slow=36						
PLCA	**Paso Flores**	**5.97**	**164**	*e*P	**Pn**	**01 52 46.1**	**-0.1**
PLCA				pmax	pmax		
	comp=Z,250nm,1.0s						
PLCA	**Paso Flores** comp=Z,3.2nm,0.3s,baz=335,slow=13,SNR=3.6	**5.97**	**164**	Pn	**Pn**	**01 52 46.1**	**-0.1**
PLCA	**Paso Flores** comp=Z,250nm,1.0s	**5.97**	**164**	*e*Pn	**Pn**	**01 52 46.1**	**-0.1**
TRQA	**Tornquist**	**9.17**	**113**	*e*Pn	**Pn**	**01 53 29.7**	**-0.3**
TRQA				*e*Lg	Lg	01 56 06.8	
LVC	**Limon Verde**	**12.79**	**16**	*e*Pn	**Pn**	**01 54 20.0**	**+0.2**
LVC				*e*Lg	Lg	01 57 33.4	
CPUP	**Villa Florida**	**15.80**	**61**	*e*P	**Pn**	**01 54 58.3**	**-1.8**
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CPUP	**Villa Florida** comp=Z,1.8nm,0.3s,baz=224,slow=10,SNR=8.7	**15.80**	**61**	Pn	**Pn**	**01 54 58.3**	**-1.8**
CPUP				LR	LR	02 00 53.3	
	comp=Z,2μm,18.5s,baz=222,slow=36						
CPUP	**Villa Florida** comp=Z,0.9nm,0.6s	**15.80**	**61**	*e*Pn	**Pn**	**01 54 58.3**	**-1.8**
LPAZ	**La Paz** comp=Z,8.2nm,0.3s,baz=179,slow=5.6,SNR=78	**19.09**	**14**	P	**Pn**	**01 55 42.5**	**+1.0**
USHA	**Ushuaia** comp=Z,55nm,0.9s,baz=323,slow=1.6,SNR=7.2	**20.05**	**173**	P	Pn	01 55 50.7	-1.4
USHA				LR	LR	02 03 45.5	
	comp=Z,3μm,19.5s,baz=328,slow=38						
SIV	**San Ignacio**	**21.62**	**32**	P	**P**	**01 56 07.6**	**+0.2**

comp=Z,157nm,0.7s,baz=216,slow=9.7,SNR=131
NNA Nana 23.21 350 P P 01 56 24.5 +0.3
comp=Z,437nm,0.8s,SNR=5.4
NNA Nana 23.21 350 eP P 01 56 24.6 +0.3
NNA pmax pmax
comp=Z,303nm,1.8s
NNA Nana 23.21 350 eP P 01 56 24.6 +0.3
comp=Z,303nm,1.8s
SAML Samuel 27.36 21 eP P 01 57 01.9 -0.4
comp=Z,13nm,0.9s
ATAH Atahualpa 28.22 348 P P 01 57 10.1 -0.2
comp=Z,13nm,0.8s,baz=180,slow=6.4,SNR=11
BDFB Brasilia 29.37 55 eP P 01 57 20.0 -0.2
BDFB Brasilia 29.37 55 P P 01 57 19.6 -0.6
comp=Z,31nm,1.1s,baz=231,slow=8.3,SNR=10
BDFB LR LR 02 10 20.0
comp=Z,5µm,18.2s,baz=220,slow=39
BDFB Brasilia 29.37 55 eP P 01 57 20.0 -0.2
PMSA Palmer Station 30.27 173 LR LR 02 09 20.8
comp=Z,4µm,18.7s,baz=310,slow=36
OTAV Otavalo 35.46 350 eP P 01 58 15.6 +1.7
comp=Z,85nm,1.4s
ROSC El Rosal 39.67 357 P P 01 58 50.3 +0.8
comp=Z,17nm,0.5s,baz=99,slow=5.4,SNR=15
ROSC El Rosal 39.67 357 eP P 01 58 52.8 +3.3
SDV Santo Domingo 43.69 3 eP P 01 59 21.9 -0.2
comp=Z,36nm,0.7s
BCIP Isla Barro Col 44.44 350 eP P 01 59 28.6 +0.8
comp=Z,75nm,1.2s
RCBR Riachuelo 44.65 58 P P 01 59 30.0 +0.3
comp=Z,22nm,0.7s,baz=220,slow=12,SNR=14
RCBR Riachuelo 44.65 58 eP P 01 59 30.8 +1.0
comp=Z,70nm,1.2s
JTS JuntasAbangare 46.51 343d iP P 01 59 45.0 +0.7
JTS pmax pmax
comp=Z,88nm,2.1s
JTS JuntasAbangare 46.51 343 P P 01 59 45.8 +1.5
comp=Z,8.8nm,0.8s,baz=125,slow=8.0,SNR=7.0
JTS JuntasAbangare 46.51 343 eP P 01 59 45.5 +1.2
comp=Z,75nm,1.7s
GRGR Grenville 48.04 15 eP P 01 59 56.5 +0.4
comp=Z,167nm,0.7s
VNA3 Neumayer Olymp 48.65 157 P P 02 00 01.2 +0.9
FDF Fort de France 50.67 15 eP P 02 00 15.1 -1.2
FDF pmax pmax
comp=Z,210nm,1.1s
FDF Fort de France 50.67 15 eP P 02 00 15.1 -1.2
comp=Z,210nm,1.1s
SNAA Sanae 50.88 157 P P 02 00 18.0 +0.7
SNAA Sanae 50.88 157ceP P 02 00 17.7 +0.4
SNAA pmax pmax
comp=Z,70nm,2.5s
SNAA Sanae 50.88 157 P P 02 00 16.7 -0.6
comp=Z,6.9nm,0.9s,baz=274,slow=8.5,SNR=12
SNAA Sanae 50.88 157 eP P 02 00 17.8 +0.5
comp=Z,79nm,1.3s
APG El Apazote 52.51 338 P P 02 00 26.5 -3.7
comp=Z,9.9nm,0.5s,baz=136,slow=6.2
ICMP Isla Caja de M 52.92 7 eP P 02 00 31.8 -1.2
CRPR Cabo Rojo, PR 52.98 7 eP P 02 00 32.6 -0.8
comp=Z,177nm,1.3s
OBIP Obispado Ponce 53.07 7 eP P 02 00 33.5 -0.6
comp=Z,94nm,0.8s
SABA Saba 53.10 11 eP P 02 00 34.4 +0.1
CELP Cerrillos 53.10 7 eP P 02 00 33.5 -0.8
LRS Lares 53.29 7 eP P 02 00 34.2 -1.5
AOPR Arecibo Observ 53.36 7 eP P 02 00 35.2 -1.0
comp=Z,231nm,1.9s
CBYP Canovanas 53.38 8 eP P 02 00 35.1 -1.3
comp=Z,60nm,0.8s
ANWB Willy Bob 53.40 13 eP P 02 00 35.4 -1.1
comp=Z,130nm,0.7s
SDDR Presa de Saban 53.70 2 eP P 02 00 37.2 -1.6
comp=Z,6.7nm,0.5s
GTBY Guantanamo Bay 54.67 357 eP P 02 00 46.1 +0.4
comp=Z,63nm,0.6s
RKT Rikitea 54.91 265 eS S 02 08 25.0 -1.9
comp=Z,543nm,32.5s
RKT eLQ LQ 02 14 24.0
comp=Z,388nm,28.0s
RKT eLR LR 02 16 43.9
comp=Z,702nm,40.2s
RKT Rikitea 54.91 265 eT T 02 59 34.3
comp=Z,1.3nm,0.2s
QSPA South Pole Qui 55.24 180 P P 02 00 48.7 -0.9
comp=Z,10nm,1.0s,baz=146,slow=3.9,SNR=8.6
NVL N'lazarevskaya 55.63 156 eP P 02 00 51.1 -1.0
NVL eS S 02 08 38.4 +3.1
NVL pmax pmax
comp=Z,33nm,1.3s
TEIG Tepich 56.88 343 eP P 02 01 01.6 +0.1
comp=Z,72nm,0.8s
SHEL Horse Pasture 62.30 91 i P P 02 01 41.9 +2.6
VNDA Vanda 63.01 191 LR LR 02 23 49.5
comp=Z,224nm,21.1s,baz=126,slow=31
SYO Syowa Base 65.14 158⇑eP P 02 01 55.0 -2.1
SYO Syowa Base 65.14 158epP pP 02 02 05.4 -2.5
035Z Hargill 65.67 335 ⇓P P 02 02 02.2 +1.2
baz=66
035A Encino 66.12 335 ⇓P P 02 02 05.0 +1.2
baz=66,SNR=5.9
034A Hebbronville 66.44 335 ⇑P P 02 02 07.2 +1.3
baz=67,SNR=6.6
934A Benavides 66.87 335 ⇓P P 02 02 10.2 +1.6
baz=67
TIGA Tifton 66.88 350 ⇑P P 02 02 09.0 +0.4
baz=67
933A Laredo 67.15 335 ⇑P P 02 02 11.6 +1.2
baz=68
835A Beeville 67.27 336 ⇑P P 02 02 12.9 +1.7
baz=68
834A Tilden 67.36 335 ⇓P P 02 02 13.5 +1.7
baz=68,SNR=11
735A Kenedy 67.79 336 ⇑P P 02 02 15.9 +1.5
baz=68,SNR=6.0
833A Chaparral WMA, 67.84 335 ⇓P P 02 02 15.8 +1.1
baz=68,SNR=5.1
832A Faith Ranch, C 68.01 334 ⇑P P 02 02 16.7 +0.8
baz=68
734A La Parita Cree 68.03 336 ⇓P P 02 02 16.9 +1.0
baz=68,SNR=7.5
636A Smothers Creek 68.12 337 ⇑P P 02 02 18.2 +1.6
baz=68,SNR=18
MEH Mehetia 68.16 263 eT T 03 16 06.5
comp=Z,18nm,0.2s
733A Divot King Ran 68.16 335 ⇓P P 02 02 17.8 +1.0
baz=68
635A Leesville 68.27 337 ⇓P P 02 02 18.4 +1.0
baz=69,SNR=5.2
732A Laxson Ranch, 68.41 334 ⇓P P 02 02 19.3 +1.0
baz=69,SNR=22
537A Green Hill Far 68.45 338 ⇓P P 02 02 19.8 +1.3
baz=69,SNR=6.0
536A Bastrop 68.68 337 ⇑P P 02 02 21.1 +1.2
baz=69
535A Dale 68.79 337 ⇓P P 02 02 21.7 +1.0
baz=69,SNR=6.4
GOGA Godfrey 68.80 350 eP P 02 02 20.7 0.0
GOGA pmax pmax
comp=Z,33nm,0.9s
GOGA Godfrey 68.80 350 eP P 02 02 20.7 0.0
comp=Z,33nm,0.9s
633A Saathoff Ranch 68.80 335 ⇑P P 02 02 21.6 +0.8
baz=69,SNR=13
LRAL Lakeview Retre 68.99 347 eP P 02 02 21.5 -0.4
comp=Z,9.8nm,0.7s
632A Uvalde 69.06 335 ⇓P P 02 02 23.3 +0.9
baz=69,SNR=15
534A Blanco 69.09 336 ⇑P P 02 02 23.1 +0.5
baz=69
339A Huntington 69.11 340 ⇑P P 02 02 24.0 +1.3
baz=69
436A Wall Ranch, Ga 69.24 338 ⇑P P 02 02 24.5 +1.1
baz=70
631A Perdido Creek 69.25 334 ⇑P P 02 02 24.3 +0.7
baz=70,SNR=9.9
533A Kerrville 69.31 336 ⇓P P 02 02 25.0 +0.9
baz=70,SNR=8.8
338A Crockett 69.34 339 ⇑P P 02 02 25.5 +1.5
baz=70,SNR=6.4
TIAR Tiarei 69.36 263 eT T 03 17 37.2
comp=Z,3.0nm,0.2s
337A Centerville 69.47 339 ⇓P P 02 02 26.3 +1.4
baz=70,SNR=6.6
435B Jarrell 69.50 337 ⇑P P 02 02 26.5 +1.4
baz=70
PPT2 Papeete2 69.53 262 eS S 02 11 30.6 -0.9
comp=Z,252nm,22.8s
PPT2 Papeete2 69.53 262 eLR LR 02 23 30.6
comp=Z,296nm,27.5s
NATX Nacogdoches 69.54 340 eP P 02 02 25.5 +0.2
comp=Z,33nm,0.8s
PPT Papeete 69.55 262 LR LR 02 24 59.1
comp=Z,150nm,18.1s,baz=134,slow=29
532A Rocksprings 69.66 335 ⇓P P 02 02 27.1 +0.9
baz=70,SNR=29
434A Burnet 69.75 337 ⇑P P 02 02 27.4 +0.7
baz=70,SNR=28
336A Riesel 69.83 338 ⇓P P 02 02 27.9 +0.8
baz=70,SNR=22
335A Moody 69.91 338 ⇑P P 02 02 28.3 +0.7
baz=70
531A Rocksprings 69.92 335 ⇓P P 02 02 28.8 +1.0
baz=70,SNR=21
JCT Junction City 69.95 335 eP P 02 02 28.1 +0.2
JCT pmax pmax
comp=Z,24nm,0.8s
JCT Junction City 69.95 335 ⇑P P 02 02 28.7 +0.8
baz=70,SNR=17
JCT Junction City 69.95 335 eP P 02 02 28.1 +0.2
comp=Z,24nm,0.8s
433A Art 69.96 336 ⇓P P 02 02 28.6 +0.6
baz=70,SNR=25
CNNC Cliffs of the 70.05 356 eP P 02 02 28.6 +0.3
comp=Z,74nm,0.8s
237A Washetta, Mont 70.09 339 P P 02 02 29.7 +1.0
baz=70
530A J-C Ranch, Com 70.19 334 ⇓P P 02 02 30.6 +1.1
baz=70,SNR=17
334A Lometa 70.21 337 ⇓P P 02 02 30.2 +0.8
baz=70,SNR=22
KMSC Kings Mountain 70.24 353 ⇑P P 02 02 29.5 0.0
baz=71
432A Menard 70.31 335 ⇑P P 02 02 29.7 -0.4
baz=71,SNR=9.9
TXAR Lajitas Array 70.34 332 P P 02 02 31.0 +0.6
comp=Z,6.1nm,0.7s,baz=154,slow=8.1,SNR=35
431A Sonora 70.41 335 ⇓P P 02 02 31.1 +0.3
baz=71,SNR=9.7
333A Richland Sprin 70.45 336 ⇑P P 02 02 31.4 +0.5
baz=71,SNR=23
529A Stev Forest Ra 70.49 333 ⇓P P 02 02 32.1 +0.9
baz=71,SNR=6.9
WHTX Lake Whitney, 70.58 338 ⇑P P 02 02 31.8 +0.1
baz=71,SNR=7.6
WHTX Lake Whitney, 70.58 338 eP P 02 02 31.8 +0.1
comp=Z,36nm,0.7s
137A Heron Place, G 70.64 340 P P 02 02 33.0 +1.0
baz=71
430A Baggett Ranch, 70.73 334 ⇑P P 02 02 33.1 +0.4
baz=71,SNR=18
332A Millersview 70.76 336 ⇑P P 02 02 33.0 +0.2
baz=71,SNR=16
234A Clairette 70.80 337 ⇓P P 02 02 33.4 +0.4
baz=71,SNR=16
429A Davenport Ranc 70.82 334 ⇑P P 02 02 33.9 +0.6
baz=71,SNR=13
OXF Oxford 70.89 345 eP P 02 02 33.1 -0.4
OXF pmax pmax
comp=Z,88nm,1.2s
OXF Oxford 70.89 345 eP P 02 02 33.0 -0.4
comp=Z,88nm,1.2s
331A San Angelo 70.92 335 ⇓P P 02 02 34.0 +0.2
baz=71,SNR=24
SWET Sewanee 70.94 349 eP P 02 02 33.6 -0.3
comp=Z,31nm,0.8s
TKL Tuckaleechee C 71.05 351 P P 02 02 33.6 -0.9
comp=Z,13nm,0.7s,baz=157,slow=6.8,SNR=13
233A Rising Star 71.06 337 ⇓P P 02 02 34.9 +0.2
baz=71,SNR=11
135A Vickery Place, 71.09 338 ⇓P P 02 02 35.0 +0.2
baz=71
232A Coleman 71.19 336 ⇑P P 02 02 35.5 +0.1
baz=72,SNR=6.1
330A Mertzon 71.27 335 ⇓P P 02 02 36.2 +0.2
baz=72,SNR=12
134A White-Moore Ra 71.31 338 ⇑P P 02 02 36.4 +0.3
baz=72,SNR=6.9
231A Bronte 71.46 335 ⇑P P 02 02 37.3 +0.2
baz=72,SNR=30
133A Hamilton Ranch 71.61 337 ⇓P P 02 02 38.3 +0.4
baz=72,SNR=19
329A Wagon Wheel Ra 71.63 334 ⇑P P 02 02 38.6 +0.4
baz=72,SNR=13
230A Sterling City 71.69 335 ⇑P P 02 02 38.4 -0.1
baz=72,SNR=6.8
Z35A Perchaven, San 71.76 339 ⇓P P 02 02 39.3 +0.5
baz=72,SNR=18
UALR University of 71.80 343 eP P 02 02 39.3 +0.3
comp=Z,22nm,1.0s
ABTX Abilene, Hawle 71.86 336 ⇓P P 02 02 39.8 +0.3
baz=72,SNR=18
ABTX Abilene, Hawle 71.86 336 eP P 02 02 39.8 +0.3
comp=Z,38nm,0.8s
MIAR Mount Ida 71.88 342 eP P 02 02 39.6 +0.1
MIAR pmax pmax
comp=Z,17nm,1.0s
MIAR Mount Ida 71.88 342 eP P 02 02 39.6 +0.1
comp=Z,17nm,1.0s
Z34A Collier Ranch, 72.00 338 ⇓P P 02 02 40.4 +0.2
baz=72,SNR=6.7
229A Bryant Ranch, 72.01 334 ⇓P P 02 02 40.5 0.0
baz=72,SNR=7.0
131A Roby 72.16 336 ⇓P P 02 02 41.6 +0.3
baz=72,SNR=13
WVT Waverly 72.16 347 eP P 02 02 41.1 0.0
WVT pmax pmax
comp=Z,45nm,0.7s
WVT Waverly 72.16 347 eP P 02 02 41.1 0.0
comp=Z,45nm,0.7s
Z33A Whitaker Ranch 72.19 337 ⇑P P 02 02 41.7 +0.3
baz=72,SNR=21
VWCC Virginia Weste 72.20 354 eP P 02 02 41.5 +0.1
130A Snyder 72.28 335 ⇓P P 02 02 42.1 +0.1
baz=73,SNR=23
MAW Mawson 72.38 164 LR LR 02 36 57.8
comp=Z,2µm,18.2s,baz=234,slow=38
228A UT Block 9, Go 72.42 334 ⇓P P 02 02 43.3 +0.4
baz=73,SNR=15
Z32A Haskell 72.43 337 ⇑P P 02 02 43.4 +0.5
baz=73,SNR=24
JSRW J. Sargeant Re 72.49 356 eP P 02 02 44.1 +1.1
Y34A Reagan Ranch, 72.50 338 ⇓P P 02 02 43.3 +0.1
baz=73,SNR=12
129A Stewart Farms, 72.63 334 ⇑P P 02 02 44.3 +0.2
baz=73,SNR=10.0
Z31A Sharp Cattle R 72.66 336 ⇓P P 02 02 44.6 +0.4
baz=73,SNR=26
Y33A Hilltop Ranch, 72.81 338 ⇓P P 02 02 45.2 +0.2
baz=73,SNR=14
128A Castleberry Fa 72.84 334 ⇑P P 02 02 45.8 +0.4
baz=73,SNR=23
Z30A Sanderson Ranc 72.97 335 ⇑P P 02 02 46.2 +0.1
baz=73,SNR=18
Y32A R-V Farms, Ver 73.06 337 ⇓P P 02 02 47.0 +0.4
baz=73,SNR=15
MNTX Cornudas Mount 73.11 331 eP P 02 02 46.2 -0.7
comp=Z,6.1nm,0.8s
X34A Smith Ranch, M 73.12 339 ⇓P P 02 02 47.3 +0.5
baz=73,SNR=15
Z29A Hungry Hill Ra 73.14 335 ⇓P P 02 02 46.9 -0.2
baz=74,SNR=26
127A Arkansas Junct 73.21 333 ⇓P P 02 02 48.2 +0.6
baz=74
X33A Lawton 73.26 338 ⇓P P 02 02 47.6 -0.2
baz=74,SNR=6.5
Y31A Rekieta Farm, 73.29 336 ⇑P P 02 02 48.5 +0.5
baz=74,SNR=10
PBMO Poplar Bluff 73.29 345 eP P 02 02 47.7 -0.2
comp=Z,27nm,0.7s
X32A Elmer 73.40 337 ⇑P P 02 02 48.9 +0.3
baz=74,SNR=9.7
Z28A Tucker Farm, M 73.41 334 ⇓P P 02 02 48.6 -0.1
baz=74,SNR=10
Y30A Stafford Cattl 73.42 336 ⇑P P 02 02 48.9 +0.1
baz=74,SNR=5.5
Y29A Porterfield Fa 73.67 335 ⇓P P 02 02 50.4 +0.1
baz=74,SNR=17
W34A Bridge Creek, 73.69 339 ⇑P P 02 02 50.5 +0.2
baz=74,SNR=6.0
W34A Bridge Creek, 73.69 339 eP P 02 02 50.8 +0.5
comp=Z,22nm,0.8s
Z27A Tatum 73.73 334 ⇑P P 02 02 50.8 +0.1
baz=74,SNR=11
TUL1 Leonard 73.76 341 ⇓P P 02 02 50.4 -0.2
baz=74,SNR=13
TUL1 Leonard 73.76 341 eP P 02 02 50.0 -0.6
comp=Z,39nm,0.8s
X31A McDonald Ranch 73.81 337 ⇑P P 02 02 51.3 +0.3
baz=74,SNR=18
W33A Caddo, Fort Co 73.82 338 ⇓P P 02 02 51.7 +0.7
baz=74,SNR=21
USIN University of 73.91 348 eP P 02 02 51.2 -0.2
Y28A McKinney Farm, 73.92 335 ⇓P P 02 02 52.1 +0.4
baz=74,SNR=6.8
X30A Coker Ranch, T 73.94 336 ⇑P P 02 02 52.0 +0.2
baz=74
SIUC Southern Illin 73.95 346 eP P 02 02 51.6 -0.1
comp=Z,31nm,0.8s
Z26A Caprock 73.97 333 ⇓P P 02 02 52.7 +0.6
baz=74,SNR=38
W32A Sentinel 74.03 338 ⇑P P 02 02 53.1 +0.8
baz=74
SDMD Soldier's Deli 74.14 357 eP P 02 02 53.7 +1.0
comp=Z,23nm,0.8s
MSTX Muleshoe 74.16 334 ⇑P P 02 02 53.6 +0.5
baz=74,SNR=16
MSTX Muleshoe 74.16 334 eP P 02 02 53.4 +0.2
V34A Guthrie 74.17 339 ⇓P P 02 02 53.0 0.0
baz=74,SNR=5.4
V34A Guthrie 74.17 339 eP P 02 02 52.9 -0.1
comp=Z,37nm,0.9s
X29A Tulia 74.22 335 ⇓P P 02 02 53.7 +0.3
baz=74,SNR=7.8
Y27A Causey 74.22 334 ⇓P P 02 02 53.5 0.0
baz=74
Z25A Roswell 74.25 333 ⇑P P 02 02 54.1 +0.3
baz=75,SNR=6.2
W31A Holland Ranch, 74.31 337 ⇓P P 02 02 54.1 +0.1
baz=75,SNR=6.8
V33A Lossen Ranch, 74.39 339 ⇑P P 02 02 54.5 +0.2
baz=75,SNR=13
319A Douglas 74.44 328 ⇑P P 02 02 56.0 +1.1
baz=75,SNR=8.6
Y26A Elida 74.50 334 ⇓P P 02 02 55.7 +0.6
baz=75,SNR=11
V32A Arapaho 74.52 338 ⇑P P 02 02 56.0 +0.9
baz=75
Z24A Sheeppen Canyo 74.55 332 ⇑P P 02 02 56.4 +0.8
baz=75,SNR=14
AMTX Amarillo 74.61 336 ⇑P P 02 02 56.3 +0.5
baz=75
AMTX Amarillo 74.61 336 eP P 02 02 56.2 +0.5
comp=Z,52nm,1.1s
MVL Millersville 74.71 357 eP P 02 02 57.2 +1.2
comp=Z,273nm,2.5s
U34A Anderson Ranch 74.74 339 ⇑P P 02 02 56.8 +0.5
baz=75
U34A Anderson Ranch 74.74 339 eP P 02 02 56.9 +0.5
comp=Z,48nm,1.1s
121A Cookes Peak, D 74.81 330 ⇓P P 02 02 58.2 +1.2
baz=75,SNR=12
121A Cookes Peak, D 74.81 330 eP P 02 02 58.2 +1.2
comp=Z,13nm,0.8s
W29A Amarillo 74.81 336 ⇑P P 02 02 57.4 +0.5
baz=75,SNR=12
Y25A Mesa, Roswell 74.82 333 ⇓P P 02 02 57.3 +0.3
baz=75
V31A Spring Creek L 74.82 337 ⇑P P 02 02 58.3 +1.4
baz=75,SNR=10
SUR Sutherland 74.84 119 eP P 02 02 57.2 -0.3
comp=Z,25nm,1.0s
X27A F and S Farms, 74.88 334 ⇑P P 02 02 57.9 +0.5
baz=75,SNR=5.7
BLO Bloomington 74.90 349 eP P 02 02 56.8 -0.4
BLO pmax pmax
comp=Z,36nm,1.0s
BLO Bloomington 74.90 349 eP P 02 02 56.8 -0.4
comp=Z,36nm,1.0s
U33A Lingo Farm, Me 74.90 339 ⇑P P 02 02 57.6 +0.4
baz=75
SLM Saint Louis 75.04 346 eP P 02 02 58.0 0.0
SLM pmax pmax
comp=Z,43nm,0.8s
SLM Saint Louis 75.04 346 eP P 02 02 58.0 0.0
comp=Z,43nm,0.8s
X26A CR and CF Fran 75.05 334 ⇓P P 02 02 59.2 +0.8
baz=75,SNR=16
Y24A Capitan 75.10 332 ⇓P P 02 02 59.2 +0.5
baz=75,SNR=15
U32A Winter Ranch, 75.12 338 ⇓P P 02 02 59.0 +0.5
baz=76,SNR=11
W28A Vega 75.12 335 ⇓P P 02 02 59.6 +0.9
baz=76
W27A Bowe Ranch, En 75.25 335 ⇑P P 02 02 59.8 +0.3
baz=76,SNR=21
X25A Clemmons Ranch 75.34 333 ⇑P P 02 03 00.5 +0.4
baz=76
Y23A Lovelace Mesa, 75.34 332 ⇑P P 02 03 01.6 +1.5
baz=76,SNR=6.7
U31A Nine Bar Ranch 75.37 338 ⇓P P 02 03 01.4 +1.4
baz=76
SSPA Standing Stone 75.42 356 eP P 02 03 00.3 +0.2
comp=Z,33nm,1.3s
V29A Stinnett 75.45 336 ⇑P P 02 03 01.0 +0.4
baz=76
ACSO Alum Creek Sta 75.46 352 eP P 02 03 00.3 -0.1
comp=Z,72nm,0.6s
W26A Owens Ranch, T 75.52 334 ⇓P P 02 03 01.7 +0.7
baz=76,SNR=11
T33A Patterson Ranc 75.54 339 ⇑P P 02 03 01.7 +0.8
baz=76,SNR=7.8
V28A Channing 75.58 336 ⇑P P 02 03 02.1 +0.8
baz=76,SNR=9.2
DRV Dumont d'Urvil 75.60 193 SS SS 02 17 56.0 +27
DRV R 02 27 00.0
LIC Lamto 75.63 72 eP P 02 03 02.6 +0.6
comp=Z,120nm,1.3s
X24A Lazy VL Ranch, 75.67 333 ⇓P P 02 03 02.8 +0.8
baz=76
ODNJ Ogdensburg 75.73 359 eP P 02 03 02.8 +0.9
comp=Z,69nm,1.5s
U30A WK&E Inc. Balk 75.77 337 ⇑P P 02 03 03.2 +0.9
baz=76,SNR=8.8
V27A Dan Oppiter Fa 75.79 335 ⇓P P 02 03 03.1 +0.6
baz=76,SNR=8.4
T32A Huddler Ranch, 75.83 339 ⇑P P 02 03 03.3 +0.7
baz=76,SNR=5.7
W25A X Bar L Ranch, 75.89 334 ⇓P P 02 03 03.5 +0.3
baz=76,SNR=13
TIC Toumodi 75.89 71 eP P 02 03 04.1 +0.6
comp=Z,44nm,1.0s
TUC Tucson 75.90 327 eP P 02 03 04.2 +1.0
TUC pmax pmax
comp=Z,12nm,1.2s
TUC Tucson 75.90 327 eP P 02 03 04.2 +1.0
comp=Z,12nm,1.2s
LPM Los Pinos Moun 75.90 332 eP P 02 03 03.8 +0.5
KIC Kosan Boka 75.94 72 eP P 02 03 04.4 +0.6
comp=Z,85nm,0.9s
YLE Yale 75.94 360 eP P 02 03 03.6 +0.5
S33A Kaszmaul Farm, 75.95 340 ⇓P P 02 03 03.7 +0.5
baz=76
X23A Hourglass Bar 75.97 332 ⇑P P 02 03 05.0 +1.3
baz=76,SNR=11
T31A Randall Ranch, 75.99 338 ⇓P P 02 03 04.1 +0.6
baz=76
DBIC Dimbokro 76.04 71 eP P 02 03 05.3 +1.0
DBIC pmax pmax
comp=Z,35nm,0.8s
DBIC Dimbokro 76.04 71 P P 02 03 05.2 +0.9
comp=Z,26nm,0.7s,baz=213,slow=5.8,SNR=29
DBIC LR LR 02 34 14.0
comp=Z,570nm,19.1s,baz=211,slow=34
DBIC Dimbokro 76.04 71 eP P 02 03 05.2 +1.0
comp=Z,36nm,0.8s
U28A Mallet 76.15 336 ⇓P P 02 03 05.3 +0.8
baz=76
V26A Tequesquite Ra 76.16 334 ⇑P P 02 03 05.0 +0.4
baz=76,SNR=9.0
SFIN Lafayette 76.17 349 ⇓P P 02 03 03.3 -1.1
baz=76
LAZ Ladron 76.18 331 eP P 02 03 06.0 +1.1
comp=Z,12nm,1.3s
T30A Plains 76.21 337 ⇑P P 02 03 05.7 +0.9
baz=76
W24A Lazy 6 Ranch, 76.23 333 ⇑P P 02 03 06.0 +0.9
baz=77,SNR=10
S32A Newby Ranch, P 76.32 339 ⇓P P 02 03 06.0 +0.6
baz=77,SNR=7.5
U27A Thompson Grove 76.39 335 ⇓P P 02 03 06.8 +0.9
baz=77,SNR=7.4
ANMO Albuquerque 76.39 332c iP P 02 03 07.8 +1.7

ANMO pmax pmax
comp=Z,83nm,1.2s
ANMO Albuquerque 76.39 332 P P 02 03 06.2 +0.1
comp=Z,12nm,1.0s,baz=156,slow=7.6,SNR=21
ANMO Albuquerque 76.39 332 *eP* **P 02 03 06.7 +0.6**
comp=Z,21nm,1.1s
S31A Mullinville 76.41 338 ⇑P **P 02 03 06.6 +0.7**
baz=77,SNR=5.9
W23A Werner Place, 76.47 332 ⇑P P 02 03 08.0 +1.4
baz=77,SNR=9.3
V25A Rancho No Teng 76.50 334 ⇑P **P 02 03 07.4 +0.8**
baz=77,SNR=17
214A Organ Pipe Nat 76.52 326 ⇓P P 02 03 08.2 +1.5
baz=77,SNR=5.5
T29A Hugoton 76.55 337 ⇑P **P 02 03 07.5 +0.7**
baz=77
R33A Olander Ranch, 76.61 340 ⇑P **P 02 03 07.5 +0.5**
baz=77,SNR=7.2
V24A Rampart Ranch, 76.64 333 ⇑P **P 02 03 08.1 +0.6**
baz=77,SNR=6.8
U26A Atchley Ranch, 76.68 335 ⇑P **P 02 03 08.4 +0.7**
baz=77,SNR=6.1
S30A Montezuma 76.73 338 ⇓P **P 02 03 08.6 +0.9**
baz=77,SNR=9.1
T28A Walsh 76.78 336 ⇓P **P 02 03 08.8 +0.7**
baz=77,SNR=25
S29A Ulysses 76.92 337 ⇑P **P 02 03 09.6 +0.7**
baz=77,SNR=15
R32A Long Quarter, 76.92 339 ⇑P **P 02 03 09.5 +0.7**
baz=77,SNR=11
U25A Circle Dot Ran 76.92 334 ⇑P **P 02 03 09.8 +0.8**
baz=77,SNR=9.0
T27A Campo 76.93 336 ⇑P **P 02 03 09.9 +0.9**
baz=77,SNR=17
KSU1 Kansas State U 76.97 341 ⇓P **P 02 03 08.7 -0.3**
baz=77,SNR=5.3
KSU1 Kansas State U 76.97 341 *eP* **P 02 03 08.5 -0.5**
comp=Z,18nm,0.8s
V23A Ortiz Mt. (NFS 76.99 333 ⇑P P 02 03 10.9 +1.5
baz=77,SNR=5.5
ERPA Erie 77.03 354 *eP* **P 02 03 09.3 +0.1**
comp=Z,28nm,0.8s
R31A Burdett 77.04 339 ⇑P **P 02 03 10.4 +0.9**
baz=77,SNR=7.2
S28A Manter 77.14 337 ⇑P **P 02 03 10.6 +0.5**
baz=78,SNR=29
Q33A Connelly Farm, 77.21 340 ⇑P **P 02 03 10.9 +0.5**
baz=78,SNR=5.4
U24A Moreno Valley 77.25 334 ⇑P **P 02 03 11.9 +0.9**
baz=78,SNR=5.6
R30A Dighton 77.26 338 ⇑P **P 02 03 11.3 +0.5**
baz=78,SNR=7.7
T26A Comanche Natio 77.33 335 ⇑P P 02 03 12.4 +1.0
baz=78,SNR=11
Q32A Meitler Ranch, 77.41 340 ⇑P **P 02 03 11.7 +0.2**
baz=78,SNR=14
V22A San Miguel Ran 77.42 332 ⇑P P 02 03 13.4 +1.5
baz=78,SNR=24
X18A Snowflake 77.44 329 ⇑P P 02 03 13.4 +1.4
baz=78,SNR=5.3
MMNY Mt. Morris Dam 77.51 356 *eP* **P 02 03 12.6 +0.7**
comp=Z,229nm,1.4s
U23A El Rito 77.51 333 ⇑P P 02 03 14.0 +1.6
baz=78,SNR=8.6
S27A Las Animas 77.56 336 ⇑P **P 02 03 13.4 +0.9**
baz=78,SNR=5.4
AAM Ann Arbor 77.58 352 *eP* **P 02 03 12.4 +0.1**
AAM pmax pmax
comp=Z,108nm,1.6s
AAM Ann Arbor 77.58 352 *eP* **P 02 03 12.3 +0.1**
comp=Z,108nm,1.6s
P33A Williams Farm, 77.58 340 ⇓P **P 02 03 12.8 +0.4**
baz=78,SNR=5.1
T25A Trinidad 77.59 335 ⇑P P 02 03 14.0 +1.2
baz=78,SNR=26
113A Mohawk Valley, 77.64 326 ⇑P P 02 03 14.1 +1.2
baz=78
R29A Marienthal 77.66 338 ⇓P **P 02 03 13.7 +0.7**
baz=78
Q31A Ellis 77.66 339 ⇑P **P 02 03 13.6 +0.7**
baz=78,SNR=11
S26A Kim 77.69 335 ⇑P P 02 03 14.5 +1.2
baz=78,SNR=19
Z14A Wintersburg 77.76 326 ⇓P P 02 03 15.0 +1.4
baz=78
R28A Tribune 77.80 337 ⇑P **P 02 03 14.6 +0.8**
baz=78,SNR=19
U22A Llaves 77.81 332 ⇓P P 02 03 15.6 +1.6
baz=78,SNR=9.3
W18A Petrified Fore 77.85 330 ⇑P P 02 03 16.0 +1.7
baz=78,SNR=7.1
W18A Petrified Fore 77.85 330 *eP* **P 02 03 15.3 +1.0**
comp=Z,32nm,1.2s
T24B San Luis 77.86 334 ⇓P P 02 03 16.0 +1.5
baz=78,SNR=14
Q30A Quinter 77.88 338 ⇓P **P 02 03 14.9 +0.7**
baz=78,SNR=20
X16A Lo Mia Camp, P 77.98 328 ⇑P P 02 03 16.4 +1.4
baz=78,SNR=14
P32A Huiting Farm, 78.01 340 ⇓P **P 02 03 15.3 +0.5**
baz=78,SNR=7.6
ACCN Adirondack Com 78.02 359 *eP* **P 02 03 15.1 +0.3**
comp=Z,50nm,1.2s
Q29A Oakley 78.04 338 ⇑P **P 02 03 15.4 +0.4**
baz=78,SNR=12
S25A Robets Cordova 78.06 335 ⇓P **P 02 03 16.2 +0.8**
baz=78,SNR=11
R27A Eads 78.07 336 ⇓P **P 02 03 16.2 +0.9**
baz=78,SNR=14
T23A Casias Ranch, 78.08 333 ⇓P P 02 03 17.0 +1.4
baz=78,SNR=5.7
P31A Stockton 78.14 339 ⇓P **P 02 03 16.0 +0.5**
baz=78,SNR=13
Y14A Wickenburg 78.27 327 ⇑P P 02 03 17.6 +1.1
baz=79
R26A Arlington 78.30 336 ⇑P P 02 03 17.9 +1.3
baz=79,SNR=14
S24A Houchin Ranch, 78.32 334 ⇑P P 02 03 18.3 +1.4
baz=79,SNR=21
GLA Glamis 78.37 325 *eP* P 02 03 18.8 +1.8
GLA pmax pmax
comp=Z,9.0nm,1.1s
GLA Glamis 78.37 325 ⇓P P 02 03 18.6 +1.6
baz=79
GLA Glamis 78.37 325 *eP* P 02 03 18.8 +1.8
comp=Z,8.8nm,1.1s
P30A Selden 78.41 339 ⇑P P 02 03 18.1 +1.0
baz=79
R25A Fountain Ranch 78.45 335 ⇓P **P 02 03 18.4 +1.0**
baz=79
Q28A Sharon Springs 78.46 337 ⇓P **P 02 03 18.3 +0.8**
baz=79,SNR=11
O32A Brockman Farm, 78.51 340 ⇓P P 02 03 18.7 +1.1
baz=79
SDCO Great Sand Dun 78.52 334 *eP* **P 02 03 18.7 +0.7**
comp=Z,11nm,1.0s
NCB Newcomb 78.61 359 *eP* **P 02 03 18.1 0.0**
comp=Z,9.9nm,0.8s
MDV Middlebury 78.63 360 *eP* **P 02 03 18.3 +0.2**
S23A Nye Farm, Mont 78.66 334 ⇑P P 02 03 20.6 +1.8
baz=79
KSCO Kaye Shedlock' 78.67 337 ⇓P P 02 03 19.7 +1.0
baz=79,SNR=6.5
KSCO Kaye Shedlock' 78.67 337 *eP* **P 02 03 19.5 +0.9**
comp=Z,29nm,1.0s
P29A Atwood 78.67 338 ⇓P P 02 03 19.7 +1.1
baz=79,SNR=8.6
O31A Woolen Ranch, 78.70 340 ⇓P **P 02 03 19.4 +0.7**
baz=79,SNR=7.6
Y12C Blythe 78.81 326 ⇑P P 02 03 21.1 +1.8
baz=79
R24A Sanders Place, 78.81 335 ⇓P P 02 03 21.1 +1.6
baz=79,SNR=26
SCIA State Center 78.81 345 *eP* **P 02 03 18.3 -0.9**
comp=Z,59nm,1.2s
LBNH Lisbon 78.87 1 *eP* **P 02 03 20.3 +0.9**
LBNH pmax pmax
comp=Z,30nm,1.1s
LBNH Lisbon 78.87 1 *eP* **P 02 03 20.3 +0.9**
comp=Z,30nm,1.1s
Q26A Hugo 78.88 336 ⇑P P 02 03 21.4 +1.6
baz=79
WUAZ Wupatki 78.88 329 ⇑P P 02 03 21.4 +1.5
baz=79,SNR=7.9
WUAZ Wupatki 78.88 329 *eP* P 02 03 21.5 +1.5
comp=Z,13nm,0.9s
P28A Saint Francis 78.90 338 ⇓P P 02 03 20.9 +1.1
baz=79,SNR=5.4

O30A MW Ranch, Wils 78.94 339 ⇑P P 02 03 21.2 +1.2
baz=79,SNR=7.5
N32A Stulken Farm, 78.98 340 ⇓P **P 02 03 21.0 +0.9**
baz=79
MONP Monument Peak, 79.00 324 ⇓P **P 02 03 21.4 +0.7**
baz=79
S22A 4UR Ranch, Cre 79.00 333 ⇓P **P 02 03 21.4 +0.7**
baz=79,SNR=7.6
R23A Moffat 79.03 334 ⇑P P 02 03 22.0 +1.1
baz=79,SNR=10.0
PDMCI Parker Dam,Lak 79.08 326 ⇑P **P 02 03 21.3 +0.5**
baz=79
O29A 4D Ranch, Culb 79.11 338 ⇑P P 02 03 22.3 +1.4
baz=80
Q25A Bedland, Calha 79.12 335 ⇑P **P 02 03 22.1 +0.9**
baz=80,SNR=7.8
P27A Ficken Ranch, 79.15 337 ⇑P P 02 03 22.6 +1.4
baz=80
BC3 Big Chuckawall 79.16 325 ⇓P P 02 03 22.8 +1.4
baz=80
MVCO Mesa Verde 79.17 332 ⇑P **P 02 03 22.5 +0.9**
baz=80,SNR=12
MVCO Mesa Verde 79.17 332 *eP* P 02 03 22.7 +1.1
comp=Z,28nm,1.2s
JFWS Jewell Farm 79.18 347 *eP* **P 02 03 21.0 -0.2**
JFWS pmax pmax
comp=Z,87nm,1.5s
JFWS Jewell Farm 79.18 347 *eP* **P 02 03 21.0 -0.2**
comp=Z,87nm,1.5s
N31A Bailey Ranch, 79.22 340 ⇓P P 02 03 22.7 +1.2
baz=80
LONY Lake Ozonia 79.27 359 *eP* **P 02 03 21.0 -0.6**
comp=Z,50nm,1.2s
P26A Davis Ranch, A 79.40 336 ⇓P P 02 03 24.0 +1.4
baz=80,SNR=6.8
O28A Krutsinger Ran 79.41 338 ⇓P P 02 03 23.7 +1.1
baz=80,SNR=8.3
IRM Iron Mountain 79.44 325 ⇓P P 02 03 24.3 +1.5
baz=80
Q24A Divide 79.48 335 ⇓P **P 02 03 24.2 +0.9**
baz=80,SNR=12
TSUM Tsumeb 79.48 106 *eP* **P 02 03 24.6 +0.9**
comp=Z,25nm,1.3s
BGNE Belgrade 79.55 341 ⇓P **P 02 03 23.7 +0.5**
baz=80
BGNE Belgrade 79.55 341 *eP* **P 02 03 23.4 +0.2**
comp=Z,26nm,0.8s
PFO Pinyon Flats O 79.60 324 *eP* **P 02 03 23.6 -0.2**
PFO pmax pmax
comp=Z,9.0nm,0.9s
PFO Pinyon Flats O 79.60 324 P **P 02 03 24.4 +0.6**
comp=Z,8.2nm,0.9s,baz=114,slow=3.7,SNR=9.4
PFO Pinyon Flats O 79.60 324 ⇑P P 02 03 25.0 +1.1
baz=80,SNR=6.3
PFO Pinyon Flats O 79.60 324 *eP* **P 02 03 23.6 -0.2**
comp=Z,9.0nm,0.9s
P25A Willow Gulch B 79.63 336 ⇓P P 02 03 25.4 +1.4
baz=80,SNR=17
W13A Hualapai Mount 79.63 327 ⇓P P 02 03 25.2 +1.0
baz=80
O27A Beecher Island 79.69 337 ⇓P P 02 03 25.4 +1.2
baz=80,SNR=8.4
N29A Votaw Ranch, W 79.70 339 ⇑P **P 02 03 25.2 +1.0**
baz=80
BELC Belle Mtn. Jos 79.70 325 ⇓P P 02 03 25.8 +1.3
baz=80
M31A Lambtecht Ranc 79.71 340 ⇓P P 02 03 25.2 +1.1
baz=80,SNR=9.7
N28A Pribbeno Ranch 79.85 338 ⇓P **P 02 03 25.9 +0.9**
baz=80
P24A Kohler Place, 79.89 335 ⇓P P 02 03 26.6 +1.3
baz=80
MURC Murrieta 79.96 324 ⇑P P 02 03 27.3 +1.7
baz=80
PV01 Paradox Valley 80.00 332 *eP* **P 02 03 26.8 +0.7**
comp=Z,1µm,1.2s
O26A Horse Wrangler 80.01 337 ⇓P P 02 03 27.3 +1.4
baz=80,SNR=5.9
U15A North Rim 80.05 329 ⇑P P 02 03 28.0 +1.6
baz=80,SNR=13
P23A Jefferson 80.08 335 ⇓P P 02 03 28.2 +1.6
baz=80
BOSA Boshof 80.11 118 *eP* **P 02 03 27.6 +0.6**
BOSA pmax pmax
comp=Z,53nm,1.0s
BOSA Boshof 80.11 118 P P 02 03 28.1 +1.2
comp=Z,18nm,0.9s,baz=241,slow=3.9,SNR=19
BOSA Boshof 80.11 118 *eP* **P 02 03 27.6 +0.6**
comp=Z,53nm,1.0s
SCI San Clemente I 80.12 322 ⇑P P 02 03 28.6 +2.1
baz=80
O25A Wiggins 80.16 336 ⇑P P 02 03 28.0 +1.2
baz=80,SNR=5.9
LDFC Landfair 80.17 326 *eP* P 02 03 28.6 +1.7
comp=Z,5.4nm,0.8s
GMRC Granite Mounta 80.18 325 ⇑P P 02 03 28.5 +1.5
baz=80
N27A Anderson Farm, 80.27 337 ⇓P **P 02 03 28.2 +0.9**
baz=81,SNR=8.2
M29A Burnside Ranch 80.29 339 ⇑P P 02 03 28.7 +1.4
baz=81
ISCO Idaho Springs 80.39 335 *eP* **P 02 03 29.1 +0.9**
ISCO pmax pmax
comp=Z,9.0nm,0.8s
ISCO Idaho Springs 80.39 335 ⇑P **P 02 03 29.1 +0.9**
baz=81,SNR=9.8
ISCO Idaho Springs 80.39 335 *eP* **P 02 03 29.1 +0.9**
comp=Z,8.8nm,0.8s
L31A Butterfield Fa 80.45 341 ⇑P P 02 03 29.3 +1.2
baz=81,SNR=6.9
L30A Spencer Herefo 80.48 340 ⇑P P 02 03 29.5 +1.2
baz=81,SNR=5.6
N26A Koester Ranch, 80.51 337 ⇑P P 02 03 30.4 +1.8
baz=81
HEC Hector,Ludlow 80.54 325 ⇑P P 02 03 30.6 +1.8
baz=81
P22A Eagle 80.61 334 ⇓P P 02 03 30.5 +1.2
baz=81,SNR=9.1
BFSC Mount Baldy Ra 80.70 324 ⇓P P 02 03 30.9 +1.2
baz=81
L29A Maesberg Ranch 80.80 339 ⇑P P 02 03 31.3 +1.3
baz=81
TUQ Turquoise Moun 80.84 326 ⇑P P 02 03 32.3 +1.7
baz=81
O23A Lake Granby, G 80.86 335 ⇑P P 02 03 31.9 +1.3
baz=81,SNR=16
O22A Kremmling 81.03 334 ⇑P **P 02 03 32.3 +0.6**
baz=81,SNR=13
N24A Carr 81.05 336 ⇑P P 02 03 32.9 +1.3
baz=81
K30A Basset 81.12 340 ⇑P **P 02 03 32.4 +0.7**
baz=82,SNR=14
GSC Goldstone, Bar 81.15 325 ⇓P **P 02 03 32.7 +0.7**
baz=82,SNR=5.3
M25A Palm-Egli Farm 81.33 337 ⇓P **P 02 03 33.8 +0.8**
baz=82
ECSD EROS Data Cent 81.33 343 ⇓P **P 02 03 33.1 +0.4**
baz=82,SNR=42
ECSD EROS Data Cent 81.33 343 *eP* **P 02 03 32.5 -0.2**
comp=Z,46nm,0.8s
L27A T5 Ranch, Ells 81.37 338 ⇓P P 02 03 34.3 +1.2
baz=82
EDW2 Edwards Air Fo 81.37 324 ⇑P P 02 03 34.5 +1.3
baz=82
SHPR Sheep Range 81.38 327 *eP* **P 02 03 34.3 +0.9**
comp=Z,10nm,1.1s
K29A Lazy Trails An 81.40 340 ⇑P **P 02 03 34.1 +0.9**
baz=82,SNR=7.4
CCUT Cedar City 81.45 328 *eP* P 02 03 35.2 +1.3
comp=Z,17nm,1.1s
N23A Red Feather La 81.47 335 ⇑P P 02 03 35.0 +1.0
baz=82,SNR=8.4
N22A Wattenberg Ran 81.57 335 ⇓P P 02 03 35.7 +1.3
baz=82,SNR=10
M24A Cheyenne 81.61 336 ⇓P P 02 03 35.5 +1.0
baz=82,SNR=5.4
SRU San Rafael Swe 81.61 331 *eP* **P 02 03 34.1 -0.4**
SRU pmax pmax
comp=Z,12nm,1.0s
SRU San Rafael Swe 81.61 331 *eP* **P 02 03 34.1 -0.4**
comp=Z,12nm,1.0s
O20A White River Ci 81.62 333 ⇓P **P 02 03 35.5 +0.8**
baz=82,SNR=5.2
O20A White River Ci 81.62 333 *eP* **P 02 03 35.0 +0.4**
comp=Z,14nm,1.0s
K28A Ten Mile Ranch 81.66 339 ⇑P P 02 03 35.8 +1.2
baz=82,SNR=10
J30A Dallas 81.69 341 ⇑P **P 02 03 35.3 +0.6**
baz=82

SPMN Marine on St. 81.90 346 ⇑P **P 02 03 35.1 -0.5**
baz=82,SNR=8.2
SPMN Marine on St. 81.90 346 *eP* **P 02 03 34.7 -1.0**
comp=Z,12nm,0.6s
K27A Flueckinger Fa 81.91 338 ⇓P P 02 03 37.0 +1.1
baz=82,SNR=5.5
M23A Laramie 81.91 336 ⇓P **P 02 03 37.0 +0.9**
baz=82,SNR=9.4
L25A Engebretsen Ra 81.95 337 ⇓P P 02 03 37.3 +1.1
baz=82
J29A Okreek 82.00 340 ⇑P **P 02 03 36.9 +0.6**
baz=82,SNR=21
TMUT Trail Mountain 82.04 331 *eP* **P 02 03 37.7 +0.7**
comp=Z,6.3nm,0.6s
M22A Cedar Creek Ra 82.15 335 ⇓P P 02 03 38.9 +1.4
baz=82,SNR=5.7
L24A Wheatland 82.16 336 ⇓P P 02 03 38.8 +1.5
baz=82
I30A Oacoma 82.22 341 ⇑P **P 02 03 37.5 +0.1**
baz=83,SNR=16
ISA Isabella, Lake 82.24 324 ⇑P P 02 03 39.6 +1.8
baz=82,SNR=5.3
N20A Spence Gulch, 82.24 334 ⇑P P 02 03 39.1 +1.2
baz=83,SNR=6.3
J28A Allard Ranch, 82.27 339 ⇑P P 02 03 39.2 +1.4
baz=83
J27A Elkhorn Farm, 82.34 339 ⇑P P 02 03 39.5 +1.3
baz=83,SNR=11
LBTB Lobatse 82.40 115 *eP* **P 02 03 39.8 +0.6**
LBTB pmax pmax
comp=Z,31nm,1.1s
LBTB Lobatse 82.40 115 *eP* **P 02 03 39.8 +0.6**
comp=Z,31nm,1.1s
L23A Garrett 82.48 336 ⇓P **P 02 03 40.0 +0.9**
baz=83
I29A Vivian Onida 82.56 340 ⇑P **P 02 03 40.0 +0.8**
baz=83
BRSD Miller 82.59 341 ⇓P **P 02 03 39.3 0.0**
baz=83,SNR=6.1
BRSD Miller 82.59 341 *eP* **P 02 03 39.1 -0.2**
comp=Z,23nm,0.8s
L22A Ellis Ranch, M 82.65 335 ⇓P P 02 03 41.5 +1.5
baz=83
VES Vestal, Richgr 82.68 324 ⇑P P 02 03 41.2 +1.2
baz=83
J26A Sides Ranch, S 82.72 338 ⇑P P 02 03 41.3 +1.2
baz=83,SNR=7.0
K24A Anderson Ranch 82.73 337 ⇓P P 02 03 41.8 +1.5
baz=83
I28A Midland 82.78 340 ⇓P **P 02 03 41.2 +0.8**
baz=83,SNR=11
J25A Sunshine Ranch 83.01 338 ⇑P P 02 03 43.0 +1.3
baz=83
DAU Daniels Canyon 83.02 331 *eP* **P 02 03 42.9 +0.9**
DAU pmax pmax
comp=Z,40nm,1.6s
DAU Daniels Canyon 83.02 331 *eP* **P 02 03 42.9 +0.9**
comp=Z,40nm,1.6s
K23A Bowen Ranch, D 83.02 336 ⇓P P 02 03 42.9 +1.1
baz=83,SNR=7.2
R11A Troy Canyon, C 83.09 327 ⇓P P 02 03 43.8 +1.5
baz=83,SNR=14
R11A Troy Canyon, C 83.09 327 *eP* **P 02 03 43.0 +0.7**
comp=Z,13nm,1.2s
H29A Onida 83.09 341 ⇓P **P 02 03 42.3 +0.3**
baz=83,SNR=13
I27A Quinn 83.10 339 ⇓P **P 02 03 42.8 +0.7**
baz=83
J24A Dixon Ranch, L 83.23 337 ⇑P **P 02 03 43.7 +0.9**
baz=84,SNR=7.1
K22A Casper 83.23 336 ⇑P **P 02 03 43.6 +0.7**
baz=84,SNR=6.7
JLU Jordanelle 83.25 331 *eP* **P 02 03 43.7 +0.5**
comp=Z,8.2nm,0.9s
G30A Faulkton 83.27 342 ⇑P **P 02 03 43.3 +0.5**
baz=84
I26A New Underwood 83.30 339 ⇑P **P 02 03 43.8 +0.7**
baz=84
H28A Mission Ridge 83.36 340 ⇓P **P 02 03 43.7 +0.3**
baz=84,SNR=13
DUG Dugway, Tooele 83.45 330 *eP* **P 02 03 45.0 +0.9**
DUG pmax pmax
comp=Z,28nm,1.2s
DUG Dugway, Tooele 83.45 330 ⇓P **P 02 03 45.0 +0.9**
baz=84,SNR=19
DUG Dugway, Tooele 83.45 330 *eP* **P 02 03 45.0 +0.9**
comp=Z,28nm,1.2s
K21A Alcova 83.47 335 ⇓P **P 02 03 44.7 +0.5**
baz=84,SNR=14
G29A Hoven 83.54 341 ⇑P **P 02 03 44.4 +0.2**
baz=84,SNR=9.2
I25A Rochford 83.56 338 ⇑P **P 02 03 44.8 +0.2**
baz=84,SNR=10.0
H27A Howes 83.62 339 ⇓P **P 02 03 45.2 +0.5**
baz=84,SNR=7.6
I24A Kuemmerle Ranc 83.69 337 ⇑P **P 02 03 45.6 +0.4**
baz=84,SNR=5.6
G28A Parade 83.70 340 ⇑P **P 02 03 45.5 +0.4**
baz=84,SNR=14
RSSD Black Hills 83.74 338 *eP* **P 02 03 45.5 -0.1**
RSSD pmax pmax
comp=Z,7.0nm,0.8s
RSSD Black Hills 83.74 338 *eP* **P 02 03 45.5 -0.1**
comp=Z,7.1nm,0.8s
J22A Midwest 83.89 336 ⇓P **P 02 03 46.1 -0.2**
baz=84,SNR=6.9
F30A Leola 83.90 342 ⇓P **P 02 03 46.2 +0.1**
baz=84,SNR=6.9
H25A Fruitdale 84.06 338 ⇓P **P 02 03 47.7 +0.7**
baz=84
F29A Eureka 84.11 341 ⇓P **P 02 03 47.3 +0.2**
baz=84,SNR=16
J21A Lysite 84.16 335 ⇑P **P 02 03 48.1 +0.4**
baz=84,SNR=5.5
SPUT South Promonto 84.25 331 *eP* **P 02 03 48.6 +0.4**
comp=Z,21nm,1.0s
G27A Dupree 84.26 340 ⇓P **P 02 03 48.2 +0.3**
baz=85
EYMN Ely 84.27 347 *eP* **P 02 03 47.1 -0.8**
comp=Z,21nm,1.2s
I22A 9 Mile Ranch, 84.32 336 ⇓P **P 02 03 48.5 +0.1**
baz=85,SNR=8.0
G26A Maurine 84.38 339 ⇑P **P 02 03 48.7 +0.1**
baz=85,SNR=6.0
F28A McLaughlin 84.38 341 ⇑P **P 02 03 49.2 +0.7**
baz=85,SNR=7.9
NVAR Mina Array Bea 84.39 326 P P 02 03 50.3 +1.3
comp=Z,3.6nm,0.7s,baz=157,slow=6.3,SNR=20
J20A Shoshoni 84.39 335 ⇓P **P 02 03 49.7 +0.9**
baz=85,SNR=15
PDAR Pinedale Array 84.40 334 P **P 02 03 49.2 +0.3**
comp=Z,3.4nm,0.9s,baz=160,slow=4.4,SNR=13
H24A Dirks Ranch, A 84.47 338 ⇓P **P 02 03 49.2 +0.2**
baz=85,SNR=6.8
E30A Jud 84.49 342 ⇓P **P 02 03 49.4 +0.3**
baz=85,SNR=6.9
I21A Big Trails, Te 84.52 336 ⇓P **P 02 03 49.9 +0.4**
baz=85,SNR=11
G25A Newell 84.53 339 ⇓P **P 02 03 49.7 +0.3**
baz=85,SNR=14
J19A Crowheart 84.65 334 ⇑P **P 02 03 50.5 +0.3**
baz=85,SNR=10
E29A Napoleon 84.74 342 ⇓P **P 02 03 50.5 +0.2**
baz=85
F27A Lemmon 84.74 340 ⇓P **P 02 03 50.7 +0.4**
baz=85,SNR=9.3
HVU Hansel Valley 84.78 331 *eP* **P 02 03 50.6 -0.2**
HVU pmax pmax
comp=Z,10.0nm,0.8s
HVU Hansel Valley 84.78 331 *eP* **P 02 03 50.6 -0.2**
comp=Z,9.8nm,0.8s
H22A Clearmont 84.90 337 ⇓P **P 02 03 51.5 +0.2**
baz=85,SNR=5.0
F26A Lodgepole 84.91 339 ⇓P **P 02 03 51.7 +0.5**
baz=85,SNR=6.7
ELK Elko 84.92 329 P **P 02 03 51.5 -0.1**
comp=Z,5.2nm,0.9s,baz=186,slow=3.8,SNR=16
I20A Worland 84.93 335 ⇑P **P 02 03 51.8 +0.3**
baz=85,SNR=13
G24A Alzada 84.95 338 ⇓P **P 02 03 51.9 +0.4**
baz=85
WAKR Walker 84.97 325 *eP* P 02 03 53.3 +1.4
comp=Z,44nm,1.8s
D30A Buchanan 85.02 342 ⇑P **P 02 03 52.2 +0.5**
baz=85,SNR=10
E28A Huff 85.02 341 ⇑P **P 02 03 52.3 +0.5**
baz=85

TORD	Torodi Ar. Bea	85.08	70	P		P	02 03 53.2	+0.4
	comp=Z,17nm,0.7s,baz=257,slow=3.8,SNR=44							
E27A	Carson	85.12	340	⇓P		P	02 03 52.5	+0.3
	baz=86							
G23A	Biddle	85.14	337	⇓P		P	02 03 52.6	+0.2
	baz=86							
H21A	Big Horn, Sher	85.16	336	⇓P		P	02 03 52.4	-0.2
	baz=86							
D29A	Pettibone, Tap	85.19	342	⇑P		P	02 03 53.0	+0.4
	baz=86,SNR=8.1							
F25A	Bowman	85.20	339	⇓P		P	02 03 53.2	+0.5
	baz=86							
I19A	Meeteetse	85.31	335	⇓P		P	02 03 53.8	+0.3
	baz=86							
H20A	Greybull	85.36	336	⇓P		P	02 03 53.9	+0.3
	baz=86,SNR=9.3							
E26A	Carlson Angus	85.41	340	⇓P		P	02 03 54.3	+0.6
	baz=86,SNR=6.0							
F24A	Ekalaka	85.42	338	⇓P		P	02 03 53.9	0.0
	baz=86,SNR=6.8							
G22A	Birney	85.44	337	⇑P		P	02 03 54.0	0.0
	baz=86							
AGMN	Agassiz Nation	85.47	345	⇓P		P	02 03 54.1	+0.3
	baz=86,SNR=15							
AGMN	Agassiz Nation	85.47	345	*e*P		P	02 03 53.5	-0.4
	comp=Z,12nm,0.6s							
C30A	Mose, Pekin	85.51	343	⇑P		P	02 03 54.8	+0.7
	baz=86,SNR=21							
D28A	Regan	85.56	341	⇑P		P	02 03 55.2	+0.8
	baz=86,SNR=9.0							
F23A	Volborg	85.61	338	⇑P		P	02 03 54.8	0.0
	baz=86,SNR=9.5							
E25A	Miller Ranch,	85.71	339	⇓P		P	02 03 55.4	+0.2
	baz=86,SNR=5.3							
G21A	Lodge Grass	85.74	336	⇓P		P	02 03 55.8	+0.3
	baz=86,SNR=6.5							
I17A	Pilgrim Ck.	85.77	334	⇓P		P	02 03 57.1	+1.3
	baz=86,SNR=8.1							
H19A	Powell	85.86	335	⇑P		P	02 03 56.4	+0.3
	baz=86,SNR=7.0							
D26A	Manning	85.92	340	⇓P		P	02 03 56.7	+0.5
	baz=86,SNR=9.9							
MDND	Maddock	85.92	342	⇓P		P	02 03 56.6	+0.4
	baz=86,SNR=9.1							
MDND	Maddock	85.92	342	*e*P		P	02 03 56.3	+0.1
	comp=Z,9.3nm,0.9s							
F22A	Rosebud	85.93	337	⇑P		P	02 03 56.6	+0.3
	baz=86,SNR=6.3							
C28A	Hausauer Farms	86.00	342	⇓P		P	02 03 57.3	+0.8
	baz=86							
E24A	Baker	86.03	339	⇑P		P	02 03 57.4	+0.6
	baz=86,SNR=6.8							
G20A	Bridger	86.07	336	⇑P		P	02 03 57.3	+0.2
	baz=86,SNR=18							
H18A	Shoshone NF, C	86.10	335	⇑P		P	02 03 57.8	+0.4
	baz=86,SNR=22							
B30A	Myrvik Farm, E	86.17	343	⇑P		P	02 03 57.7	+0.3
	baz=86,SNR=23							
F21A	Absaloka Mine,	86.25	337	⇑P		P	02 03 58.4	+0.5
	baz=87							
E23A	Ismay	86.27	338	⇓P		P	02 03 58.1	+0.1
	baz=87,SNR=6.0							
D25A	Fairfield	86.27	340	⇓P		P	02 03 59.0	+1.0
	baz=87,SNR=9.6							
C27A	Sayler Ranch,	86.29	341	⇑P		P	02 03 59.0	+1.0
	baz=87,SNR=8.0							
RLMT	Red Lodge	86.35	335	*e*P		P	02 03 58.8	+0.2
	comp=Z,8.0nm,0.6s							
E22A	Miles City	86.42	338	⇓P		P	02 03 59.0	+0.3
	baz=87							
B29A	Wagenman Farm,	86.43	343	⇓P		P	02 03 59.0	+0.3
	baz=87,SNR=9.1							
D24A	Glendive	86.53	339	⇓P		P	02 03 60.0	+0.7
	baz=87							
C26A	Wahner Farm, P	86.55	341	⇓P		P	02 03 59.8	+0.5
	baz=87							
YMR	Madison River	86.56	334	*e*P		P	02 04 00.6	+0.9
	comp=Z,31nm,1.1s							
F20A	Billings	86.56	336	⇑P		P	02 03 59.7	+0.2
	baz=87							
A30A	Hoffart Farm,	86.62	343	⇓P		P	02 03 59.5	-0.1
	baz=87,SNR=13							
B28A	Dugan Ranch, T	86.67	342	⇑P		P	02 04 00.5	+0.7
	baz=87,SNR=14							
LAO	LASA Array	86.73	338	*e*P		P	02 04 00.4	+0.2
	comp=Z,28nm,1.2s							
C25A	Freed Ranch, W	86.77	340	⇑P		P	02 04 00.8	+0.5
	baz=87							
A29A	Manning Farm,	86.83	343	⇓P		P	02 04 01.3	+0.7
	baz=87,SNR=12							
D23A	Lindsay	86.85	338	⇑P		P	02 04 01.7	+0.9
	baz=87,SNR=27							
E21A	Keefer Ranch,	86.86	337	⇓P		P	02 04 01.7	+0.8
	baz=87							
QLMT	Earthquake Lak	86.87	334	*e*P		P	02 04 02.0	+0.9
	comp=Z,1.3nm,1.0s							
F19A	Roth Farm, Mol	86.88	336	⇑P		P	02 04 01.2	+0.2
	baz=87,SNR=5.7							
HLID	Hailey	86.93	331	⇓P		P	02 04 02.7	+1.2
	baz=87,SNR=11							
C24A	Savage	86.94	339	⇑P		P	02 04 02.0	+0.8
	baz=87,SNR=12							
A28A	Rude Farm, Bot	87.07	342	⇑P		P	02 04 02.4	+0.6
	baz=87							
GCMT	Greycliff	87.07	335	*e*P		P	02 04 01.8	-0.2
	comp=Z,5.0nm,1.0s							
B26A	Jensen Ranch,	87.09	341	⇑P		P	02 04 02.7	+0.7
	baz=87							
D22A	Cohagen	87.12	338	⇑P		P	02 04 02.6	+0.4
	baz=88,SNR=9.7							
E20A	Meyer Farm, Mu	87.17	336	⇓P		P	02 04 03.0	+0.6
	baz=88,SNR=15							
B25A	Knox Farm, Ray	87.25	340	⇑P		P	02 04 03.5	+0.8
	baz=88,SNR=13							
D21A	La Casta Ranch	87.30	337	⇓P		P	02 04 03.0	0.0
	baz=88							
ULM	Lac du Bonnet	87.32	345	P		P	02 04 02.5	-0.4
	comp=Z,16nm,1.0s,baz=182,slow=3.7,SNR=17							
E19A	Rath Farm, Rou	87.36	336	⇑P		P	02 04 03.5	+0.2
	baz=88,SNR=10							
MCMT	McKenzie Canyo	87.39	333	*e*P		P	02 04 04.9	+1.1
	comp=Z,12nm,1.3s							
C23A	Lambert	87.41	339	⇓P		P	02 04 03.8	+0.3
	baz=88,SNR=16							
A26A	Wade Farm, Ken	87.52	341	⇑P		P	02 04 04.2	+0.2
	baz=88,SNR=8.7							
C22A	Vida	87.57	338	⇑P		P	02 04 04.5	+0.3
	baz=88							
D20A	Manuel Ranch,	87.69	337	⇓P		P	02 04 05.3	+0.4
	baz=88,SNR=7.4							
DGMT	Dagmar	87.72	340	⇓P		P	02 04 05.5	+0.6
	baz=88,SNR=16							
DGMT	Dagmar	87.72	340	*e*P		P	02 04 05.1	+0.2
	comp=Z,36nm,0.8s							
WVOR	Wild Horse Val	87.77	328	*e*P		P	02 04 06.3	+0.8
WVOR				pmax		pmax		
	comp=Z,59nm,2.0s							
WVOR	Wild Horse Val	87.77	328	*e*P		P	02 04 06.3	+0.8
	comp=Z,59nm,2.0s							
A25A	Svangstu Ranch	87.84	341	⇓P		P	02 04 06.1	+0.6
	baz=88							
B23A	Brockton	87.94	339	⇑P		P	02 04 06.3	+0.3
	baz=88,SNR=7.4							
D19A	Cripps Ranch,	88.00	336	⇑P		P	02 04 06.6	+0.2
	baz=88							
C21A	Desert Coulee	88.01	338	⇑P		P	02 04 06.3	-0.1
	baz=88,SNR=9.1							
A24A	Westby	88.08	340	⇓P		P	02 04 06.7	+0.1
	baz=88,SNR=5.5							
MOD	Modoc Plateau	88.08	327	*e*P		P	02 04 07.8	+0.8
	comp=Z,8.9nm,0.8s							
WDC	Whiskeytown Da	88.08	324	*e*P		P	02 04 06.8	0.0
WDC				pmax		pmax		
	comp=Z,15nm,1.1s							
WDC	Whiskeytown Da	88.08	324	*e*P		P	02 04 06.8	0.0
	comp=Z,15nm,1.1s							
LRM	Limekiln Ridge	88.09	333	*e*P		P	02 04 07.5	+0.5
	comp=Z,99nm,1.3s							
B22A	Reddig Ranch S	88.10	338	⇑P		P	02 04 07.0	+0.3
	baz=88							
C20A	Veseth Ranch,	88.20	337	⇓P		P	02 04 07.5	+0.2
	baz=88							
A23A	Redstone	88.36	339	⇑P		P	02 04 08.9	+0.9
	baz=89							
B21A	Ellsworth Farm	88.52	338	⇓P		P	02 04 09.3	+0.5
	baz=89							
C19A	Slack Wire Ran	88.56	336	⇓P		P	02 04 08.8	-0.2
	baz=89							
A22A	Carney Farms,	88.69	339	⇑P		P	02 04 09.7	+0.1
	baz=89,SNR=9.7							
M04C	Macdoel	88.69	326	⇓P		P	02 04 10.7	+0.9
	baz=89							
B20A	Solberg Farm,	88.84	337	⇑P		P	02 04 10.5	+0.2
	baz=89							
A21A	Bergtoll Ranch	88.99	338	⇑P		P	02 04 11.0	0.0
	baz=89							
EGMT	Eagleton	89.04	336	⇑P		P	02 04 11.2	-0.1
	baz=89							
YBH	Yreka Blue Hor	89.06	325	P		P	02 04 11.7	+0.1
	comp=Z,5.1nm,0.9s,baz=81,slow=9.9,SNR=5.7							
B19A	Brinkman Farms	89.15	337	⇓P		P	02 04 11.7	0.0
	baz=90							
A20A	Cobblestone Ra	89.20	338	⇓P		P	02 04 12.1	+0.1
	baz=90,SNR=7.7							
A19A	Klindworth Far	89.50	337	⇓P		P	02 04 13.2	-0.2
	baz=90,SNR=5.6							
J05D	Fort Rock, OR	89.59	327	⇑P		P	02 04 14.8	+0.8
	baz=90							
SCHQ	Schefferville	89.61	3	P		P	02 04 13.1	-0.6
	comp=Z,9.8nm,1.0s,baz=125,slow=5.9,SNR=4.5							
SLMT	Seeley Lake	89.67	334	*e*P		P	02 04 14.6	+0.2
LSZ	Lusaka	90.03	109	*e*P		P	02 04 18.0	+1.2
LSZ				pmax		pmax		
	comp=Z,12nm,1.2s							
LSZ	Lusaka	90.03	109	*e*P		P	02 04 18.0	+1.2
	comp=Z,12nm,1.2s							
JTMT	Jette	90.39	333	*e*P		P	02 04 17.1	-0.6
	comp=Z,2.3nm,0.6s							
TAM	Tamanrasset	93.76	65	*e*P		P	02 04 34.9	+1.0
TAM				pmax		pmax		
	comp=Z,12nm,1.4s							
TAM	Tamanrasset	93.76	65	*e*P		P	02 04 34.9	+1.0
	comp=Z,12nm,1.4s							
FCC	Fort Churchill	95.10	349	*e*P		P	02 04 38.6	-0.3
FCC	Fort Churchill	95.10	349	*e*P		P	02 04 38.6	-0.3
	comp=Z,0.2nm,0.7s							
YKA	Yellowknife Ar	102.82	341	P		Pdif	02 05 12.0	-1.5
	comp=Z,0.6nm,0.8s,baz=143,slow=4.4,SNR=11							
YKA				PP		PKiKP	02 09 30.1	-3.6
	comp=Z,0.6nm,1.0s,baz=138,slow=8.4,SNR=4.2							
GERES	GERESS Array B	113.26	46	PKiKP		PKiKP	02 09 54.0	+0.2
	comp=Z,0.8nm,0.7s,baz=186,slow=1.0,SNR=7.7							
ILAR	Eielson Array	114.83	333	PKP		PKPdf	02 09 56.2	+0.1
	comp=Z,0.6nm,0.8s,baz=174,slow=2.7,SNR=3.9							
VYHS	Vyhne	116.18	48	*e*PKIKP		PKPdf	02 10 00.0	+0.7
VYHS	Vyhne	116.18	48	*e*PKP		PKPdf	02 10 00.0	+0.7
ASAR	Alice Springs	116.42	207	PKP		PKPdf	02 09 59.6	-1.1
	comp=Z,0.5nm,0.6s,baz=152,slow=2.0,SNR=7.8							
BZS	Buzias	116.77	52	⇑*i*P		PKPdf	02 09 59.1	-1.4
DRGR		117.93	51	⇓*i*P		PKPdf	02 10 02.3	-0.5
CRVS	Cervenica-Dubn	117.94	48	*e*PKIKP		PKPdf	02 10 03.9	+1.2
CRVS	Cervenica-Dubn	117.94	48	*e*PKP		PKPdf	02 10 03.9	+1.2
TRPA	Tarpa	118.32	49	⇑*i*P		PKPdf	02 10 04.1	+0.7
UZH	Uzhgorod	118.35	49	*e*PKIKP		PKPdf	02 10 02.2	-1.2
UZH				*i*			02 10 10.6	
KOLS	Kolonicke sedl	118.45	48	*e*PKIKP		PKPdf	02 10 05.1	+1.5
KOLS	Kolonicke sedl	118.45	48	*e*PKP		PKPdf	02 10 05.1	+1.5
VOIR		118.93	53	⇑*i*P		PKPdf	02 10 04.5	-0.3
KWP	Kalwaria Pacla	118.97	48	*e*PKIKP		PKPdf	02 10 05.4	+0.8
KWP	Kalwaria Pacla	118.97	48	*e*PKP		PKPdf	02 10 05.8	+1.2
KWP	Kalwaria Pacla	118.97	48	*e*PKPdf		PKPdf	02 10 05.4	+0.8
MLR	Muntele Rosu	119.53	53	⇑*i*P		PKPdf	02 10 05.9	-0.1
MLR	Muntele Rosu	119.53	53	PKP		PKPdf	02 10 04.3	-1.7
	comp=Z,0.5nm,0.6s,baz=127,slow=5.1,SNR=4.9							
WRA	Warramunga Arr	119.61	209	PKP		PKPdf	02 10 06.0	-0.9
	comp=Z,1.4nm,0.6s,baz=168,slow=1.5,SNR=26							
WRA				PKKPbc		PKKPab	02 20 19.9	-2.1
	comp=Z,0.8nm,0.7s,baz=344,slow=4.6,SNR=6.7							
WRAB	Tennant Creek	119.62	210	*e*PKIKP		PKPdf	02 10 06.2	-0.7
WRAB	Tennant Creek	119.62	210	*e*PKPdf		PKPdf	02 10 06.2	-0.7
BURAR	Bucovina Array	119.82	51	⇓*i*P		PKPdf	02 10 08.4	+2.0
PLOR	Plostina	120.12	53	⇑*i*P		PKPdf	02 10 07.3	+0.3
VRI	Vrincioaia	120.18	53	⇑*i*P		PKPdf	02 10 07.4	+0.3
TESR	Tescani	120.35	52	⇑*i*P		PKPdf	02 10 07.8	+0.4
SUW	Suwalki	120.72	43	*e*PKIKP		PKPdf	02 10 08.4	+0.6
SUW	Suwalki	120.72	43	*e*PKP		PKPdf	02 10 08.5	+0.6
SUW	Suwalki	120.72	43	*e*PKPdf		PKPdf	02 10 08.3	+0.6
CFR	Carcaliu	120.87	54	⇑*i*P		PKPdf	02 10 08.9	+0.5
KIS	Kishinev	121.92	52	*e*PKIKP		PKPdf	02 10 12.0	+1.7
KIS				*e*			02 10 17.0	
KIS	Kishinev	121.92	52	*e*P		PKPdf	02 10 12.0	+1.7
KIS				*e*L		L	02 53 12.0	
BRTR	Keskin Array B	122.81	62	PKP		PKPdf	02 10 13.0	+0.5
	comp=Z,3.6nm,0.8s,baz=192,slow=3.1,SNR=17							
MBWA	Marble Bar	122.91	194	*e*PKPdf		PKPdf	02 10 14.8	+1.7
KIEV	Kiev	123.27	48	⇓*i*PKIKP		PKPdf	02 10 13.0	+0.2
KIEV	Kiev	123.27	48	*e*PKPdf		PKPdf	02 10 12.5	-0.3
AKASG	Malin Array Be	123.28	48	PKP		PKPdf	02 10 12.5	-0.3
	comp=Z,2.4nm,0.6s,baz=261,slow=2.5,SNR=7.2							
VSU	Vasula	123.83	39	⇑*i*PKIKP		PKPdf	02 10 14.7	+1.1
FINES	FINESS Array B	124.14	35	PKP		PKPdf	02 10 14.5	+0.4
	comp=Z,3.2nm,0.9s,baz=145,slow=4.0,SNR=4.4							
H11N3	WAKE ISLAND Hyl	125.62	270	T		T	04 28 28.0	
	baz=115,slow=78,SNR=6.8							
H11N1	WAKE ISLAND Hyl	125.64	270	T		T	04 28 24.5	
	baz=115,slow=78,SNR=9.8							
H11N2	WAKE ISLAND Hyl	125.64	270	T		T	04 28 27.6	
	baz=115,slow=78,SNR=6.8							
MALT	Malatya	125.84	65	⇓*i*P		PKPdf	02 10 19.1	+0.8
SOC	Sochi	128.32	59*c*	*i*PKIKP		PKPdf	02 10 23.5	+0.8
SOC				*e*			02 12 28.0	
SOC				*e*PPP		PPP	02 15 13.1	
SOC				*e*			02 17 32.8	
SOC				*e*PS		PS	02 22 30.5	-4.8
SOC				*e*SS		SS	02 29 39.4	-1.8
SOC				pmax		pmax		
	comp=Z,30nm,1.2s							
OBN	Obninsk	128.55	44	⇑*i*PKIKP		PKPdf	02 10 24.1	+1.4
OBN				*e*			02 12 28.2	
OBN				pmax		pmax		
	comp=Z,20nm,1.4s							
OBN				MLR		MLR		
	comp=Z,322nm,19.0s							
KIV	Kislovodsk	130.50	59	*i*PKIKP		PKPdf	02 10 28.4	+1.4
KIV				*e*			02 12 42.4	
KIV				*e*PS		PS	02 22 50.3	-4.2
KIV				*e*SS		SS	02 30 08.4	+0.1
KIV				pmax		pmax		
	comp=Z,16nm,1.1s							
KIV	Kislovodsk	130.50	59	*e*PKPdf		PKPdf	02 10 28.1	+1.2
KLMR	Klimovskoe	130.54	37	*e*PKIKP		PKPdf	02 10 25.7	-0.7
KLMR				pmax		pmax		
	comp=Z,35nm,1.4s							
KBZ	Khabaz	130.59	59	PKIKP		PKPdf	02 10 28.0	+1.0
KBZ	Khabaz	130.59	59	PKP		PKPdf	02 10 27.9	+1.0
	comp=Z,3.9nm,0.9s,baz=213,slow=5.3,SNR=6.4							
IDHR	Dehrash	130.74	72	*e*P		PKPdf	02 10 29.4	+1.5
GOF	Gofitskoye	130.98	58	*e*PKIKP		PKPdf	02 10 28.2	+0.5
GNI	Garni	131.07	64	*e*PKIKP		PKPdf	02 10 28.5	+0.2
GNI	Garni	131.07	64	PKP		PKPdf	02 10 29.9	+1.6
	comp=Z,0.8nm,0.3s,baz=306,slow=19,SNR=2.4							
GNI	Garni	131.07	64	*e*PKPdf		PKPdf	02 10 28.5	+0.2
GNI				PKP		PKPdf	02 10 29.9	+1.6
ZEI	Tsey	131.10	61	*i*PKIKP		PKPdf	02 10 28.4	+0.1
ZEI				pmax		pmax		
	comp=Z,8.0nm,1.2s							
IHRS	Heris	132.31	67	*e*P		PKPdf	02 10 31.5	+0.7
PRGR	Permogore	133.46	35	*e*PKIKP		PKPdf	02 10 31.9	0.0
PRGR				pmax		pmax		
	comp=Z,15nm,1.1s							
BILL	Bilibino	133.48	334*d*	*i*PKIKP		PKPdf	02 10 32.2	+0.4
BILL				*e*			02 13 03.8	
BILL				pmax		pmax		
	comp=Z,19nm,3.3s							
BILL				MLR		MLR		
	comp=Z,218nm,22.0s							
BILL	Bilibino	133.48	334	*e*PKPdf		PKPdf	02 10 32.3	+0.6
KAPI	Kappang	138.50	199	*e*PKPpre		PKPpre	02 10 39.4	
SEY	Seymchan	140.61	329	PKhKP		PKPpre	02 10 38.5	
	comp=Z,1.3nm,0.4s,baz=122,slow=4.3,SNR=4.8							
GEYT	Alibeck	140.72	71	PKP		PKPdf	02 10 47.3	+1.1
	comp=Z,3.8nm,1.0s,baz=278,slow=4.3,SNR=7.6							
ARU	Arti	140.87	41	*i*PKIKP		PKPdf	02 10 54.3	+8.6
ARU				MLR		MLR		
	comp=Z,307nm,19.0s							
ARU	Arti	140.87	41	*e*PKPpre		PKPpre	02 10 40.1	
ARU				*e*PKPdf		PKiKP	02 10 46.0	-2.4
AKTO	Aktyubinsk	141.41	51	PKHKP		PKPpre	02 10 41.0	
AKTO	Aktyubinsk	141.41	51	PKhKP		PKPpre	02 10 41.0	
	comp=Z,1.5nm,0.6s,baz=285,slow=1.8,SNR=4.8							
TIXI	Tiksi	141.57	349	⇑*i*PKIKP		PKPdf	02 10 46.9	+0.4
TIXI	Tiksi	141.57	349	*e*PKPdf		PKPdf	02 10 46.1	-0.4
AB31	Akbulak array	142.74	53	*i*PKHKP		PKPpre	02 10 45.2	
AB31				pmax		pmax		
	comp=Z,8.0nm,0.7s							
ABKAR	Akbulak array	142.74	53	*e*PKPpre		PKPpre	02 10 45.7	
ABKAR				*e*PKPdf		PKiKP	02 10 49.5	-3.0
GSI	Gunungsitoli	145.28	163	*e*PKPbc		PKPdf	02 10 55.6	+0.7
POO	Poona	146.15	110	*e*P		PKPab	02 10 57.0	-0.9
KSM	Kuching	146.52	186	*e*PKPbc		PKPab	02 10 57.9	-1.4
PSI	Prapat	147.03	165	PKPbc		PKPab	02 10 59.3	-2.2
	comp=Z,7.3nm,0.6s,baz=318,slow=21,SNR=9.7							
BRVK	Borovoye	148.32	44	⇑*i*PKIKP		PKPbc	02 11 00.2	-2.0
BRVK	Borovoye	148.32	44	*e*PKPdf		PKPbc	02 10 59.5	-2.8
BRVK				*e*PKPbc		PKPab	02 11 03.4	-2.0
BVA0	Borovoye Array	148.40	44	*i*PKIKP		PKPbc	02 11 00.2	-2.2
BVA0				pmax		pmax		
	comp=Z,24nm,1.4s							
BVAR	Borovoye Array	148.40	44	PKPbc		PKPbc	02 11 00.3	-2.1
	comp=Z,6.5nm,0.6s,baz=284,slow=2.4,SNR=12							
KBL	Kabul	148.72	80	*e*PKP2		PKPab	02 11 04.3	-3.6
KBL	Kabul	148.72	80	*e*PKPbc		PKPab	02 11 04.3	-3.6
HYB	Hyderabad	149.01	117	*i*PKP		PKPbc	02 11 04.5	-0.6
IPM	Ipoh	149.08	168	*e*PKPbc		PKPab	02 11 05.3	-4.3
IPM				*e*PKPab		PKiKP	02 11 10.1	+3.4
YAK	Yakutsk	149.47	339	*e*PKHKP		PKPpre	02 11 03.9	
YAK				*e*			02 14 39.3	
YAK				*e*SS		SS	02 33 45.6	-2.8
YAK				pmax		pmax		
	comp=Z,26nm,1.0s							
YAK				pmax		pmax		
	comp=N,2.0nm,0.9s							
YAK				pmax		pmax		
	comp=Z,190nm,3.8s							
YAK				pmax		pmax		
	comp=N,33nm,2.1s							
YAK				pmax		pmax		
	comp=E,139nm,4.3s							
YAK	Yakutsk	149.47	339	*e*PKPbc		PKPbc	02 11 04.7	-0.1
KULM	Kulim	149.81	167	*e*PKPbc		PKPbc	02 11 06.8	-0.4
KKM	Kota Kinabalu	150.03	198	*e*PKPdf		PKPdf	02 11 02.5	-0.3
KKM				*e*PKPbc		PKiKP	02 11 07.1	-1.6
KKM				*e*PKPab		PKPab	02 11 14.8	+1.3
KK31	Karatay Array	150.51	63	*i*PKIKP		PKPbc	02 11 08.0	0.0
KK31				pmax		pmax		
	comp=Z,14nm,0.8s							
KKAR	Karatay Array	150.51	63	*e*PKIKP		PKPdf	02 11 02.9	+0.3
KKAR				*e*			02 11 08.2	
KKAR				*e*			02 11 14.2	
KKAR	Karatay Array	150.51	63	*e*PKPdf		PKPdf	02 11 02.9	+0.3
KKAR				*e*PKPbc		PKiKP	02 11 08.2	-0.5
KKAR				*e*PKPab		PKPab	02 11 14.2	-0.5
YSS	Yuzh-Sakhalins	150.92	305	*e*PKIKP		PKPbc	02 11 08.8	0.0
YSS				pmax		pmax		
	comp=Z,30nm,1.0s							
YSS	Yuzh-Sakhalins	150.92	305	*e*PKPbc		PKPbc	02 11 09.5	+0.7
AML	Almayashu	152.92	65	P		PKPbc	02 11 15.4	+1.4
	SNR=5.7							
EKS2	Erkin-Say	152.94	63	P		PKPbc	02 11 14.9	+1.1
	SNR=8.9							
EKS2	Erkin-Say	152.94	63	*e*PKIKP		PKPdf	02 11 07.5	+1.1
EKS2				*e*			02 11 14.8	
EKS2	Erkin-Say	152.94	63	*e*PKPdf		PKPdf	02 11 07.5	+1.1
EKS2				*e*PKPbc		PKPbc	02 11 14.8	+1.1
USP	Ospenovka	153.40	62	P		PKPbc	02 11 15.5	+0.9
	SNR=6.4							
AAK	Ala-Archa	153.47	63	P		PKPbc	02 11 16.6	+1.7
	SNR=6.6							
AAK	Ala-Archa	153.47	63	*e*PKIKP		PKPdf	02 11 07.1	-0.2
AAK				*e*			02 11 15.9	
AAK	Ala-Archa	153.47	63	PKP		PKPdf	02 11 06.7	-0.5
	comp=Z,1.5nm,0.6s,baz=15,slow=23,SNR=4.1							
AAK	Ala-Archa	153.47	63	*e*PKPdf		PKPdf	02 11 07.1	-0.2
AAK				*e*PKPbc		PKiKP	02 11 15.9	+0.8
UCH	Uchtor	153.52	64	P		PKPbc	02 11 17.2	+1.8
	SNR=6.9							
FRU	Bishkek	153.54	63	*e*PKIKP		PKPbc	02 11 16.0	+1.1
FRU				pmax		pmax		
	comp=Z,85nm,2.2s							
KURK	Kur

QIZ				SS	SS	02 36 26.7	+3.5
QIZ				LZ			
comp=Z,240nm,23.1s							
ZAK	**Zakamensk**	**164.35**	**10**	⇓iPKP2	**PKPab**	**02 12 14.9**	**+0.9**
ZAK				pmax	pmax		
comp=Z,6.0nm,1.2s							
ULN	**Ulaanbaatar**	**167.15**	**1**	*e*PKP2	**PKPab**	**02 12 27.3**	**+0.8**
ULN	**Ulaanbaatar**	**167.15**	**1**	*e*PKPab	**PKPab**	**02 12 27.3**	**+0.8**
SONM	**Songino Array**	**167.16**	**3**	PKP	**PKPdf**	**02 11 23.6**	**+1.5**
comp=Z,0.7nm,0.8s,baz=242,slow=6.4,SNR=3.8							
SONM				PKPab	**PKPab**	**02 12 27.6**	**+1.1**
comp=Z,5.0nm,0.9s,baz=334,slow=4.1,SNR=13							
KMI	**Kunming**	**169.40**	**157**	PKP	**PKPdf**	**02 11 23.3**	**-1.1**
KMI				sPKP		02 11 39.5	
KMI				LZ			
comp=Z,160nm,22.5s							
NJ2	**Nanjing**	**169.90**	**256**	*e*PKP	**PKPdf**	**02 11 25.1**	**+0.9**
BJI	**Beijing**	**171.32**	**308**	PKP	**PKPdf**	**02 11 25.0**	**+0.3**
BJI				SS	SS	02 37 42.0	+2.5
BJI				LN			
comp=Z,180nm,21.8s							
BJI				LE			
comp=Z,190nm,21.8s							
BJI				LZ			
comp=Z,110nm,20.3s							
GYA	**Guiyang**	**171.47**	**176**	PKP	**PKPdf**	**02 11 25.0**	**-0.4**
GYA				pPKP	**pPKPdf**	**02 11 36.8**	**-0.1**
GYA				PKPab	**PKPab**	**02 12 48.6**	**+2.5**
GYA				PKS	**PKSdf**	**02 14 56.2**	**-1.8**
GYA				PP	PP	02 16 39.4	+3.5
GYA				SKKS		02 23 21.2	
GYA				SS	**SS**	**02 37 40.5**	**+1.3**
GYA				PPMZ			
comp=Z,140nm,8.4s							
GYA				LN			
comp=Z,160nm,21.6s							
GYA				LE			
comp=Z,140nm,22.5s							
GYA				LZ			
comp=Z,160nm,21.7s							
WHN	**Wuhan**	**172.57**	**235**	PKPbc	PKPdf	02 11 18.1	-7.5
WHN				PKPab	PKPab	02 12 37.6	-13
WHN				PP	**PP**	**02 16 38.6**	**-3.8**
GTA	**Gaotai**	**172.60**	**51**	*e*PKP	**PKPdf**	**02 11 26.1**	**+0.6**
GTA				pPKP	**pPKPdf**	**02 11 36.8**	**-0.2**
GTA				sPKP		02 11 40.9	
GTA				PKPab	**PKPab**	**02 12 52.3**	**+1.3**
GTA				PP	**PP**	**02 16 43.0**	**+0.4**
GTA				SKS	**SKSdf**	**02 18 23.4**	**-2.8**
GTA				SKKS	**SKKSac**	**02 23 27.9**	**+1.4**
GTA				PPMZ			
comp=Z,200nm,7.1s							
GTA				LN			
comp=Z,180nm,20.4s							
GTA				LE			
comp=Z,220nm,19.0s							
GTA				LZ			
comp=Z,290nm,19.5s							
HHC	**Hu-ho-hao-te**	**173.25**	**331**	*e*PKP	PKPdf	02 11 29.8	+4.1
HHC				pPKP	pPKPdf	02 11 41.5	+4.3
HHC				PKS	**PKSdf**	**02 15 00.5**	**+2.5**
HHC				PP	PP	02 16 52.7	+7.6
HHC				SKS	SKSdf	02 18 18.9	-7.3
HHC				SS	SS	02 38 02.4	+5.1
HHC				PPMZ			
comp=Z,140nm,10.6s							
HHC				LN			
comp=Z,150nm,22.1s							
HHC				LE			
comp=Z,170nm,22.7s							
HHC				LZ			
comp=Z,190nm,22.2s							
CD2	**Chengdu**	**174.96**	**143**	*e*PKP	**PKPdf**	**02 11 26.6**	**+0.1**
CD2				sPKP		02 11 40.9	
CD2				PKPab	**PKPab**	**02 13 02.8**	**+1.3**
CD2				PP	**PP**	**02 16 56.5**	**+2.9**
CD2				SKKS		02 23 37.2	
CD2				SS	**SS**	**02 38 11.9**	**-2.2**
CD2				PPMZ			
comp=Z,150nm,8.3s							
CD2				LN			
comp=Z,310nm,20.2s							
CD2				LE			
comp=Z,170nm,21.4s							
CD2				LZ			
comp=Z,240nm,21.4s							
LZH	**Lanzhou**	**177.00**	**68**	*e*PKP	**PKPdf**	**02 11 27.1**	**+0.1**
LZH				pPKP	**pPKPdf**	**02 11 37.7**	**-0.8**
LZH				sPKP		02 11 41.0	
LZH				PP	**PP**	**02 17 05.0**	**+0.7**
LZH				SKKS		02 23 47.5	
LZH				SS	SS	02 38 27.2	-8.3
LZH				PPMZ			
comp=Z,160nm,5.8s							
LZH				LN			
comp=Z,690nm,15.3s							
LZH				LE			
comp=Z,460nm,17.5s							
LZH				LZ			
comp=Z,1μm,19.8s							
XAN	**Xi'an**	**178.34**	**235**	PKP	**PKPdf**	**02 11 29.1**	**+2.0**
XAN				PKPab		02 13 22.5	
XAN				SKKS		02 23 56.2	

*IDC **03** 02:03:17.5±0.7, 34°.29S×72°.02W, h0km, mb4.2/11, mb1 4.3/13, mb1mx4.2/30, mbtmp4.2/13, ML4.1/2, Error ellipse: s-maj=30.4km s-min=18.4km az=65.0*
*ISCJB **03** 02:03:18.1±2.2, 34°.29S±0°.05×72°.11W±0°.05, h14km±13km, mb4.5/28, Error ellipse: s-maj=9.2km s-min=6.1km az=146.1*
*GUC **03** 02:03:18.1±1.3, 34°.41S×72°.06W, h36km±6km, ML4.6*
*NEIC **03** 02:03:22.8±0.8, 34°.29S×72°.03W, h36km±7km, mb4.6/21, Error ellipse: s-maj=8.5km s-min=5.1km az=72.0*

ISC 03 02:03:21.6±2.7, 34°.26S±0°.06×72°.03W±0°.08, h26km±18km, n71, σ0s84/75, mb4.5/28, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**1.09**	**57**	⇓*i*P		**Pn**	**02 03 39.1**	**-2.1**
IHA	**Instituto Hidr**	**1.27**	**15**	⇓*i*P		**Pn**	**02 03 42.1**	**-1.6**
IHA				*i* S1		**Sg**	**02 04 01.6**	**+1.5**
ANTU	**Antumapu**	**1.35**	**60**	⇑*i*P		**Pn**	**02 03 43.5**	**-1.3**
ANTU				*i* S		**Sn**	**02 04 02.3**	**+0.3**
ANTU				AML		AML	02 04 07.6	
comp=E,23μm,0.5s								
SAN	**Santiago**	**1.40**	**55**	⇑*i*P		**Pn**	**02 03 44.0**	**-1.5**
SAN				*e*S		**Sn**	**02 04 03.4**	**+0.4**
STL	**Santa Lucia**	**1.42**	**55**	*e*P9		**Pn**	**02 03 43.9**	**-1.8**
STL				*e*S		**Sn**	**02 04 02.5**	**-1.1**
PEL	**Peldehue**	**1.58**	**46**	⇓*i*P		**Pn**	**02 03 47.1**	**-0.9**
PEL				*i* S		**Sb**	**02 04 08.6**	**-1.2**
PEL				AML		AML	02 04 18.1	
comp=E,11μm,0.4s								
FCH	**Farellones**	**1.72**	**58**	⇑*i*P		Pb	02 03 58.1	+5.3
FCH				*i* S		Sb	02 04 22.4	+8.2
FCH				AML		AML	02 04 25.4	
comp=E,7μm,0.4s								
CFAA	**Coronel Fontan**	**4.15**	**51**	Pn		**Pn**	**02 04 25.4**	**+2.2**
comp=E,1.8nm,0.3s,baz=226,slow=10,SNR=20								
CFAA				Lg		Lg	02 05 20.9	
comp=E,2.6nm,0.3s,baz=39,slow=14,SNR=6.8								
PLCA	**Paso Flores**	**6.57**	**170**	Pn		**Pn**	**02 04 56.5**	**0.0**
comp=E,0.9nm,0.3s,baz=341,slow=8.6,SNR=12								
PLCA				Lg		Lg	02 06 39.3	
comp=E,0.8nm,0.3s,baz=256,slow=19,SNR=2.9								
PLCA	**Paso Flores**	**6.57**	**170**	*e*Pn		**Pn**	**02 04 56.7**	**+0.2**
comp=E,198nm,0.3s								
PLCA				*e*Lg		Lg	02 06 39.8	
TRQA	**Tornquist**	**8.97**	**118**	*e*Pn		**Pn**	**02 05 30.9**	**+1.5**
LVC	**Limon Verde**	**11.93**	**14**	*e*Pn		**Pn**	**02 06 10.8**	**+0.6**
CPUP	**Villa Florida**	**14.95**	**62**	*e*Pn		**Pn**	**02 06 51.4**	**+0.2**
LPAZ	**La Paz**	**18.24**	**12**	P		**P**	**02 07 34.5**	**+0.9**
comp=E,0.2nm,0.3s,baz=181,slow=7.1,SNR=8.5								
LPAZ	**La Paz**	**18.24**	**12**	*e*P		**P**	**02 07 34.4**	**+0.8**
comp=E,16nm,1.0s								
SIV	**San Ignacio**	**20.69**	**31**	P		**P**	**02 07 59.8**	**-0.1**
comp=E,2.5nm,0.7s,baz=224,slow=15,SNR=5.8								
SAML	**Samuel**	**26.47**	**20**	*e*P		**P**	**02 08 57.3**	**+0.7**
comp=E,27nm,1.7s								
OTAV	**Otavalo**	**34.84**	**349**	*e*P		**P**	**02 10 10.9**	**-0.1**
comp=E,1.5nm,0.6s								

SDV	**Santo Domingo**	**42.93**	**2**	*e*P		**P**	**02 11 18.4**	**-0.1**
comp=E,17nm,1.3s								
SNAA	**Sanae**	**51.34**	**158**	P		**P**	**02 12 23.5**	**+0.1**
comp=E,2.5nm,0.9s,baz=342,slow=4.5,SNR=4.4								
SNAA	**Sanae**	**51.34**	**158**	*e*P		**P**	**02 12 23.2**	**-0.2**
comp=E,10nm,0.9s								
GTBY	**Guantanamo Bay**	**53.97**	**356**	*e*P		**P**	**02 12 44.1**	**+1.0**
TEIG	**Tepich**	**56.35**	**342**	P		**P**	**02 13 00.6**	**+0.2**
comp=E,16nm,0.8s,baz=275,slow=11,SNR=4.6								
ASCN	**Ascension**	**58.97**	**78**	*e*P		**P**	**02 13 20.1**	**+1.0**
GOGA	**Godfrey**	**68.17**	**350**	*e*P		**P**	**02 14 17.9**	**-1.5**
comp=E,173nm,2.0s								
LRAL	**Lakeview Retre**	**68.40**	**347**	*e*P		**P**	**02 14 21.9**	**+1.1**
comp=E,14nm,1.1s								
JCT	**Junction City**	**69.52**	**335**	*e*P		**P**	**02 14 28.4**	**+0.5**
comp=E,3.2nm,0.7s								
TXAR	**Lajitas Array**	**69.96**	**331**	P		**P**	**02 14 31.2**	**+0.5**
comp=E,0.7nm,0.6s,baz=157,slow=8.5,SNR=21								
SWET	**Sewanee**	**70.33**	**348**	*e*P		**P**	**02 14 32.8**	**0.0**
comp=E,14nm,1.0s								
ABTX	**Abilene, Hawle**	**71.42**	**336**	*e*P		**P**	**02 14 38.4**	**-1.1**
comp=E,4.3nm,0.7s								
WVT	**Waverly**	**71.56**	**347**	*e*P		**P**	**02 14 39.9**	**-0.3**
comp=E,12nm,0.8s								
MNTX	**Cornudas Mount**	**72.74**	**331**	*e*P		**P**	**02 14 46.5**	**-0.8**
comp=E,1.7nm,0.8s								
SUR	**Sutherland**	**74.70**	**119**	*e*P		**P**	**02 14 59.3**	**-0.1**
comp=E,26nm,1.1s								
DBIC	**Dimbokro**	**75.26**	**71**	P		**P**	**02 15 02.5**	**0.0**
comp=E,1.7nm,0.7s,baz=190,slow=6.1,SNR=2.8								
DBIC	**Dimbokro**	**75.26**	**71**	*e*P		**P**	**02 15 02.5**	**0.0**
comp=E,14nm,1.4s								
LAZ	**Ladron**	**75.81**	**331**	*e*P		**P**	**02 15 05.5**	**+0.1**
ANMO	**Albuquerque**	**76.01**	**331**	*e*P		**P**	**02 15 07.1**	**+0.5**
comp=E,7.3nm,1.4s								
SDCO	**Great Sand Dun**	**78.11**	**333**	*e*P		**P**	**02 15 19.1**	**+0.7**
comp=E,5.4nm,1.4s								
WUAZ	**Wupatki**	**78.55**	**328**	*e*P		**P**	**02 15 20.5**	**-0.3**
comp=E,4.2nm,1.0s								
TSUM	**Tsumeb**	**79.14**	**106**	*e*P		**P**	**02 15 24.8**	**+0.3**
comp=E,15nm,1.7s								
BOSA	**Boshof**	**79.94**	**118**	P		**P**	**02 15 28.9**	**+0.1**
comp=E,6.1nm,1.0s,baz=200,slow=7.2,SNR=5.5								
BOSA	**Boshof**	**79.94**	**118**	*e*P		**P**	**02 15 28.5**	**-0.2**
comp=E,6.6nm,0.9s								
ISCO	**Idaho Springs**	**79.96**	**334**	*e*P		**P**	**02 15 28.9**	**+0.4**
comp=E,16nm,1.7s								
LBTB	**Lobatse**	**82.19**	**115**	*e*P		**P**	**02 15 40.1**	**-0.6**
comp=E,7.2nm,1.0s								
DUG	**Dugway, Tooele**	**83.10**	**330**	*e*P		**P**	**02 15 45.4**	**+0.4**
comp=E,1.5nm,0.8s								
PDAR	**Pinedale Array**	**84.00**	**333**	P		**P**	**02 15 50.0**	**+0.4**
comp=E,0.8nm,0.7s,baz=164,slow=6.0,SNR=5.3								
NVAR	**Mina Array Bea**	**84.10**	**325**	P		**P**	**02 15 51.2**	**+1.0**
comp=E,1.5nm,0.9s,baz=146,slow=6.5,SNR=6.8								
TORD	**Torodi Ar. Bea**	**84.30**	**70**	P		**P**	**02 15 51.4**	**0.0**
comp=E,1.6nm,0.7s,baz=292,slow=6.2,SNR=8.6								
ELK	**Elko**	**84.59**	**328**	P		**P**	**02 15 53.6**	**+1.0**
comp=E,0.9nm,0.7s,baz=270,slow=20,SNR=5.5								
ULM	**Lac du Bonnet**	**86.75**	**345**	P		**P**	**02 16 01.8**	**-1.1**
comp=E,1.9nm,0.8s,baz=117,slow=2.3,SNR=4.1								
FCC	**Fort Churchill**	**94.49**	**349**	*e*P		**P**	**02 16 38.6**	**-0.2**
YKA	**Yellowknife Ar**	**102.31**	**341**	P		**Pdif**	**02 17 13.2**	**-0.6**
comp=E,0.2nm,0.6s,baz=144,slow=4.3,SNR=5.8								
MORC	**Moravsky Berou**	**115.00**	**46**	*e*PKPdf		**PKPdf**	**02 22 00.5**	**+0.8**
SUW	**Suwalki**	**119.79**	**43**	*e*PKPdf		**PKPdf**	**02 22 08.8**	**+0.1**
WRA	**Warramunga Arr**	**120.54**	**209**	PKP		**PKPdf**	**02 22 10.3**	**-1.1**
comp=E,0.3nm,0.5s,baz=176,slow=1.5,SNR=7.2								
BRTR	**Keskin Array B**	**121.96**	**61**	PKP		**PKPdf**	**02 22 13.8**	**+0.2**
comp=E,0.6nm,0.8s,baz=305,slow=5.1,SNR=2.9								
TNA	**Tin City**	**123.02**	**330**	*e*PKPdf		**PKPdf**	**02 22 14.9**	**+0.3**
H11S2	**WAKE ISLAND Hyl**	**25.77**	**269**	T		T	04 40 31.7	
baz=120,slow=76,SNR=17								
H11S1	**WAKE ISLAND Hyl**	**25.78**	**269**	T		T	04 40 32.7	
baz=120,slow=76,SNR=38								
H11S3	**WAKE ISLAND Hyl**	**25.79**	**269**	T		T	04 40 33.0	
baz=120,slow=76,SNR=25								
GNI	**Garni**	**130.23**	**64**	*e*PKPdf		**PKPdf**	**02 22 29.4**	**0.0**
ABKAR	**Akbulak array**	**141.84**	**52**	*e*PKPdf		**PKPdf**	**02 22 49.8**	**-0.6**
PALK	**Pallekele**	**143.21**	**131**	*e*PKPdf		PKPab	02 22 49.2	-0.5
BRVK	**Borovoye**	**147.40**	**43**	*e*PKPbc		**PKPbc**	**02 23 02.4**	**-0.1**
KKAR	**Karatay Array**	**149.66**	**62**	*e*PKPbc		**PKPbc**	**02 23 08.3**	**-0.4**
KKAR				*e*PKPab		**PKPab**	**02 23 13.0**	**-1.0**
KULM	**Kulim**	**150.38**	**165**	*e*PKPdf		**PKPdf**	**02 23 05.6**	**-0.4**
KKM	**Kota Kinabalu**	**150.90**	**197**	*e*PKPbc		**PKPbc**	**02 23 11.8**	**-0.8**
YSS	**Yuzh-Sakhalins**	**150.95**	**306**	*e*PKPbc		**PKPbc**	**02 23 11.6**	**+0.1**
KURK	**Kurchatov**	**153.07**	**43**	*e*PKPbc		**PKPbc**	**02 23 15.6**	**-0.6**
TKM2	**Tokmak 2**	**153.39**	**61**	*e*PKPdf		**PKPdf**	**02 23 08.6**	**-1.3**
TKM2				*e*PKPbc		**PKPbc**	**02 23 17.0**	**-0.5**
TKM2				*e*PKPab		**PKPab**	**02 23 30.1**	**+0.4**
ZALV	**Zalesovo Beam**	**154.44**	**33**	PKPbc		**PKPbc**	**02 23 18.3**	**-0.8**
comp=E,2.2nm,0.7s,baz=298,slow=2.8,SNR=8.5								
ZALV				PKPab		**PKPab**	**02 23 33.9**	**+0.4**
comp=E,1.8nm,0.7s,baz=325,slow=4.5,SNR=5.6								

GUC 03 02:11:45.9±0.6, 34°.75S×71°.69W, h35km±6km, ML4.0, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.82**	**16**	⇓*i*P		Pn	02 12 01.8	+0.8
LNV				*i* S1		Sn	02 12 13.9	+2.0
CHCH	**Chadas Angostu**	**1.18**	**47**	⇑*i*P		Pn	02 12 07.8	+1.8
TACH	**Talagante**	**1.26**	**30**	⇓*i*P		Pn	02 12 08.8	+1.8
TACH				*i* S1		Sn	02 12 26.0	+3.3
ANTU	**Antumapu**	**1.46**	**37**	⇓*i*P		Pn	02 12 11.9	+2.0
ANTU				*e*S		Sn	02 12 31.4	+3.6
ANTU				AML		AML	02 12 33.3	
comp=E,3μm,0.3s								
SAN	**Santiago**	**1.55**	**34**	⇓*i*P		Pn	02 12 12.8	+1.8
SAN				*i* S		Sn	02 12 34.2	+4.3
PEL	**Peldehue**	**1.80**	**28**	⇑*i*P		Pn	02 12 17.0	+2.4
PEL				*i* S		Sn	02 12 40.9	+4.6
PEL				AML		AML	02 12 46.0	
comp=N,4μm,0.3s								
FCH	**Farellones**	**1.83**	**40**	⇓*i*P		Pn	02 12 19.9	+4.6
FCH				*e*S		Sn	02 12 44.2	+6.6
FCH				AML		AML	02 12 48.7	
comp=N,1μm,0.5s								

WEL 03 02:16:41.7±0.3, 45°.77S×166°.56E, h5km, ML3.6/10, Error ellipse: s-maj=3.2km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.51**	**55**	PG		Pg	02 16 51.9	+0.4
DCZ				SG		Sg	02 16 59.1	+0.9
DCZ				AML		AML	02 17 00.1	
DCZ				AML		AML	02 17 01.8	
DCZ				AML		AML	02 17 07.7	
WHZ	**Wether Hill Ro**	**0.98**	**98**	P*		Pg	02 17 00.8	+0.2
WHZ				S*		Sb	02 17 14.2	-0.3
WHZ				AML		AML	02 17 19.1	
MLZ	**Mavora Lakes**	**1.21**	**70**	P*		Pg	02 17 03.3	-1.8
MLZ				AML		AML	02 17 25.4	
MLZ				AML		AML	02 17 28.0	
APZ	**The Paps**	**1.46**	**137**	PN		Pn	02 17 08.1	-0.7
APZ				SN		Sb	02 17 26.9	-1.3
APZ				AML		AML	02 17 29.6	
MSZ	**Milford Sound**	**1.47**	**42**	PN		Pn	02 17 08.4	-0.4
MSZ				AML		AML	02 17 37.1	
MSZ				AML		AML	02 17 37.1	
MSZ				AML		AML	02 17 40.1	
MSZ				AML		AML	02 17 40.1	
SYZ	**Scrubby Hill**	**1.95**	**114**	PN		Pn	02 17 16.0	+0.5
SYZ				AML		AML	02 17 41.7	
SYZ				AML		AML	02 17 44.6	
WKZ	**Wanaka**	**1.98**	**62**	PN		Pn	02 17 17.0	+1.1
WKZ				AML		AML	02 17 46.8	
WKZ				AML		AML	02 17 48.6	
WKZ				AML		AML	02 17 53.1	
WKZ				AML		AML	02 17 56.0	
EAZ	**Earnscleugh**	**2.01**	**75**	PN		Pb	02 17 17.6	-1.1
EAZ				AML		AML	02 17 46.7	
EAZ				AML		AML	02 17 48.5	
EAZ				AML		AML	02 17 50.6	
EAZ				AML		AML	02 17 52.2	
JCZ	**Jackson Bay**	**2.31**	**43**	AML		AML	02 18 00.6	
JCZ				AML		AML	02 18 01.9	
LBZ	**Lake Benmore**	**2.92**	**63**	PN		Pn	02 17 29.7	+0.9
LBZ				AML		AML	02 18 08.1	
LBZ				AML		AML	02 18 10.4	

IDC 03 02:17:25.9±2.6, 5°.77S×130°.62E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/20, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=162.0km s-min=31.6km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.54**	**166**	Pn		Pn	02 20 54.8	+1.6
0.1nm,0.3s,baz=350,slow=12,SNR=11								
WRA				Sn		Sn	02 23 21.0	-14
0.2nm,0.3s,baz=337,slow=22,SNR=10								
ASAR	**Alice Springs**	**18.07**	**170**	P		Pn	02 21 37.6	-1.1
0.1nm,0.3s,baz=346,slow=9.6,SNR=5.4								
MKAR	**Makanchi Array**	**67.55**	**326**	P		P	02 28 24.2	0.0
0.2nm,0.5s,baz=113,slow=8.0,SNR=6.4								

IDC 03 02:36:30.8±1.7, 34°.81S×72°.77W, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.5/21, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=46.6km s-min=36.4km az=72.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.96**	**51**	Pn		Pn	02 37 47.7	+1.1
0.1nm,0.3s,baz=238,slow=13,SNR=6.7								
CFAA				Lg		Lg	02 39 02.5	
0.2nm,0.3s,baz=120,slow=20,SNR=2.8								
PLCA	**Paso Flores**	**6.17**	**164**	Pn		Pn	02 38 04.0	+0.7
0.4nm,0.3s,baz=342,slow=5.6,SNR=4.1								
PLCA				Lg		Lg	02 39 42.0	
0.3nm,0.3s,baz=11,slow=0.7,SNR=3.5								
TXAR	**Lajitas Array**	**70.15**	**332**	P		P	02 47 45.4	+0.2
0.2nm,0.5s,baz=155,slow=8.4,SNR=4.7								
TORD	**Torodi Ar. Bea**	**85.05**	**70**	P		P	02 49 08.0	-0.6
0.4nm,0.5s,baz=223,slow=6.3,SNR=8.4								

GUC 03 02:41:09.4±0.4, 33°.03S×72°.06W, h24km±2km, ML3.5, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.35**	**89**	⇓*i*P		Pb	02 41 17.4	+0.2
IHA				*i* S		Sb	02 41 23.6	+1.1
PEL	**Peldehue**	**1.16**	**96**	⇑*i*P		Pb	02 41 30.9	0.0
PEL				*i* S		Sb	02 41 47.0	+1.5
PEL				AML		AML	02 41 49.0	
comp=N,2μm,0.5s								
STL	**Santa Lucia**	**1.25**	**109**	⇓*i*P		Pn	02 41 31.7	+0.2
STL				*i* S		Sb	02 41 49.6	+1.4
ANTU	**Antumapu**	**1.31**	**115**	*i* P		Pb	02 41 33.5	+0.1
ANTU				*i* S		Sb	02 41 51.6	+1.8
ANTU				AML		AML	02 41 54.5	
comp=E,2μm,0.6s								
CMCH	**Combarbala**	**2.06**	**26**	*i* P9		Pn	02 41 40.2	-2.4
CMCH				*i* S		Sn	02 42 07.6	0.0

*IDC **03** 02:51:01.1±0.9, 34°.88S×74°.17W, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.1/30, mbtmp4.1/9, ML3.9/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/26, Error ellipse: s-maj=26.4km s-min=21.3km az=85.0*
*ISCJB **03** 02:51:03.8±0.5, 34°.89S±0°.07×74°.05W±0°.07, h33km, mb4.4/27, Error ellipse: s-maj=9.5km s-min=8.3km az=1.4*
*NEIC **03** 02:51:04.3±3.1, 34°.93S×74°.16W, h26km±21km, mb4.6/22, Error ellipse: s-maj=14.9km s-min=7.5km az=72.0*

ISC 03 02:51:05.7±0.5, 34°.90S±0°.08×74°.12W±0°.09, h35km, n55, σ0s96/55, mb4.5/27, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.92**	**58**	Pn		**Pn**	**02 52 31.2**	**+0.2**
0.6nm,0.3s,baz=235,slow=13,SNR=12								
CFAA				Sn		**Sn**	**02 53 37.5**	**-0.1**
0.7nm,0.3s,baz=319,slow=20,SNR=18								
PLCA	**Paso Flores**	**6.47**	**155**	Pn		**Pn**	**02 52 37.2**	**-1.3**
1.2nm,0.3s,baz=319,slow=11,SNR=8.3								
PLCA				LR		LR	02 54 56.4	
comp=Z,175nm,20.1s,baz=304,slow=36								
PLCA	**Paso Flores**	**6.47**	**155**	*e*Pn		**Pn**	**02 52 37.2**	**-1.3**
22nm,0.8s								
TRQA	**Tornquist**	**10.27**	**111**	*e*Pn		**Pn**	**02 53 29.9**	**-0.6**
12nm,1.1s								
LVC	**Limon Verde**	**13.06**	**22**	*e*Pn		**Pn**	**02 54 08.9**	**-0.2**
CPUP	**Villa Florida**	**16.77**	**64**	*e*Pn		**Pn**	**02 54 57.6**	**-0.3**
LPAZ	**La Paz**	**19.30**	**18**	P		**Pn**	**02 55 29.2**	**-0.3**
0.2nm,0.3s,baz=184,slow=8.1,SNR=16								
LPAZ	**La Paz**	**19.30**	**18**	*e*P		**Pn**	**02 55 30.1**	**+0.6**
15nm,1.2s								
SIV	**San Ignacio**	**22.17**	**35**	P		**P**	**02 55 58.6**	**-0.2**
7.7nm,1.0s,baz=229,slow=8.7,SNR=14								
SAML	**Samuel**	**27.70**	**24**	*e*P		**P**	**02 56 49.3**	**-1.5**
9.8nm,1.5s								
SDV	**Santo Domingo**	**43.67**	**5**	*e*P		**P**	**02 59 07.1**	**-0.3**
12nm,1.3s								
BCIP	**Isla Barro Col**	**44.16**	**352**	*e*P		**P**	**02 59 11.3**	**+0.2**
46nm,1.3s								
SNAA	**Sanae**	**51.41**	**157**	P		**P**	**03 00 08.8**	**+2.0**
4.6nm,1.1s,baz=260,slow=6.9,SNR=4.7								
SNAA	**Sanae**	**51.41**	**157**	*e*P		**P**	**03 00 07.1**	**+0.3**
11nm,1.0s								
SDDR	**Presa de Saban**	**53.65**	**3**	*e*P		**P**	**03 00 24.4

0.4nm,0.4s,baz=344,slow=4.7,SNR=4.1
MKAR Makanchi Array 158.65 49 PKPab **PKPab 03 11 35.2 +0.5**
0.4nm,0.7s,baz=309,slow=4.1,SNR=5.2
SONM Songino Array 167.07 358 PKPab **PKPab 03 12 12.5 +0.9**
0.8nm,0.9s,baz=2.7,slow=6.1,SNR=3.8

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*IDC **03** 03:00:54.7±0.8, 34°.68S×73°.65W, h0km, mb4.1/7, mb1 4.1/10, mb1mx4.0/31, mbtmp4.0/10, ML3.9/3, MS2.6/1, Ms1 2.6/1, ms1mx2.4/29, Error ellipse: s-maj=26.3km s-min=19.4km az=99.0*
*ISCJB **03** 03:00:58.5±0.8, 34°.71S±0°.09×73°.5W±0°.1, h33km, mb4.1/7, Error ellipse: s-maj=16.1km s-min=10.1km az=33.3*
ISC 03 03:00:60.0±0.8, 34°.7S±0°.1×73°.6W±0°.1, h35km, n13, σ0°79/15, mb4.1/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.46**	**57**	Pn	**Pn**	**03 02 18.4**	**-0.4**
	1.0nm,0.3s,baz=226,slow=11,SNR=35						
CFAA				Sn	**Sn**	**03 03 20.9**	**+0.5**
	0.2nm,0.3s,baz=117,slow=4.5,SNR=2.8						
PLCA	**Paso Flores**	**6.50**	**159**	Pn	**Pn**	**03 02 33.0**	**-0.2**
	1.3nm,0.3s,baz=337,slow=12,SNR=19						
PLCA				Lg	Lg	03 04 14.0	
	1.0nm,0.3s,baz=51,slow=24,SNR=2.8						
PLCA				LR	LR	03 04 21.6	
	comp=Z,53nm,22.0s,baz=13,slow=32						
LPAZ	**La Paz**	**18.97**	**16**	P	**Pn**	**03 05 20.3**	**+0.4**
	0.1nm,0.3s,baz=170,slow=3.8,SNR=6.1						
SIV	**San Ignacio**	**21.76**	**34**	P	**P**	**03 05 48.0**	**-0.6**
	4.6nm,0.8s,baz=223,slow=9.9,SNR=12						
QSPA	**South Pole Qui**	**55.55**	**180**	P	**P**	**03 10 32.5**	**+0.9**
	5.2nm,0.9s,baz=156,slow=1.4,SNR=12						
TXAR	**Lajitas Array**	**69.72**	**332**	P	**P**	**03 12 06.5**	**+0.2**
	0.5nm,0.6s,baz=153,slow=8.5,SNR=9.4						
DBIC	**Dimbokro**	**76.63**	**72**	P	**P**	**03 12 48.0**	**+0.6**
	2.6nm,0.7s,baz=211,slow=6.9,SNR=4.6						
BOSA	**Boshof**	**80.90**	**118**	P	**P**	**03 13 11.2**	**+0.3**
	2.6nm,0.7s,baz=228,slow=3.0,SNR=5.6						
NVAR	**Mina Array Bea**	**83.72**	**326**	P	**P**	**03 13 26.0**	**+0.7**
	0.2nm,0.3s,baz=154,slow=6.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**85.67**	**71**	P	**P**	**03 13 35.5**	**+0.1**
	0.9nm,0.8s,baz=295,slow=6.9,SNR=7.9						
WRA	**Warramunga Arr**	**119.52**	**210**	PKP	**PKPdf**	**03 19 45.0**	**-1.5**
	0.2nm,0.6s,baz=156,slow=1.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**155.50**	**32**	PKP	**PKPdf**	**03 20 48.2**	**-1.0**
	0.2nm,0.4s,baz=333,slow=1.7,SNR=4.5						
MKAR	**Makanchi Array**	**158.20**	**49**	PKP	**PKPdf**	**03 20 51.7**	**-1.2**
	0.3nm,0.7s,baz=270,slow=1.4,SNR=3.2						
MKAR				PKPab	**PKPab**	**03 21 26.6**	**-0.4**
	0.5nm,0.8s,baz=306,slow=4.2,SNR=5.5						

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*ISCJB **03** 03:04:15.3±0.4, 38°.45N±0°.02×21°.83E±0°.02, h14km±3km, Error ellipse: s-maj=3.2km s-min=2.8km az=176.1*
*CSEM **03** 03:04:15.3±0.1, 38°.44N×21°.84E, h10km, MD2.8, Error ellipse: s-maj=2.8km s-min=2.3km az=90.0*
*ATH **03** 03:04:15.1, 38°.44N×21°.83E, h20km, MD2.8/31, ML2.5*
*THE **03** 03:04:15.3, 38°.45N×21°.84E, h15km, ML2.5/12, Error ellipse: s-maj=0.4km s-min=0.3km az=92.0*
ISC 03 03:04:15.5±0.8, 38°.45N±0°.01×21°.83E±0°.02, h14km±4km, n105, σ0°59/145, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.06**	**110**	P	**Pg**	**03 04 18.0**	**-0.3**
EFP				S	**Sg**	**03 04 20.0**	**-0.1**
EFP	**Efpalio**	**0.06**	**110**	*e*PB	**Pg**	**03 04 18.0**	**-0.3**
EFP	**Efpalio**	**0.06**	**110**	P	**Pg**	**03 04 18.0**	**-0.3**
EFP				S	**Sg**	**03 04 20.0**	**-0.1**
UPR	**University Cam**	**0.17**	**193**	P	**Pg**	**03 04 19.3**	**-0.3**
UPR				S	**Sg**	**03 04 22.6**	**+0.3**
UPR	**University Cam**	**0.17**	**193**	P	**Pg**	**03 04 19.3**	**-0.3**
UPR				S	**Sg**	**03 04 22.6**	**+0.3**
LAKA	**Lakka**	**0.24**	**151**	P	**Pg**	**03 04 20.6**	**-0.1**
LAKA	**Lakka**	**0.24**	**151**	*e*PB	**Pg**	**03 04 20.7**	**0.0**
LAKA	**Lakka**	**0.24**	**151**	*e*Pb	**Pg**	**03 04 20.7**	**0.0**
KALE	**Kalithea**	**0.25**	**103**	P	**Pg**	**03 04 20.7**	**-0.2**
KALE				S	**Sg**	**03 04 24.8**	**+0.3**
KALE	**Kalithea**	**0.25**	**103**	*e*PB	**Pg**	**03 04 21.0**	**+0.1**
KALE				*e*SB	**Sb**	**03 04 25.3**	**-0.6**
KALE	**Kalithea**	**0.25**	**103**	P	**Pg**	**03 04 20.7**	**-0.2**
KALE	**Kalithea**	**0.25**	**103**	*e*Pb	**Pg**	**03 04 21.0**	**+0.1**
KALE				S	**Sg**	**03 04 24.8**	**+0.3**
KALE				*e*Sb	**Sb**	**03 04 25.3**	**-0.6**
PVO	**Paravola**	**0.29**	**305**	P	**Pg**	**03 04 21.3**	**-0.3**
PVO	**Paravola**	**0.29**	**305**	P	**Pg**	**03 04 21.3**	**-0.3**
EVR	**Evrytania**	**0.47**	**358**	P	**Pg**	**03 04 24.5**	**-0.3**
EVR				S	**Sg**	**03 04 31.1**	**-0.1**
EVR	**Evrytania**	**0.47**	**358**	*e*PB	**Pg**	**03 04 24.6**	**-0.3**
EVR				*e*SB	**Sg**	**03 04 31.8**	**+0.6**
EVR	**Evrytania**	**0.47**	**358**	P	**Pg**	**03 04 24.5**	**-0.3**
EVR				S	**Sg**	**03 04 31.1**	**-0.1**
KLV	**Kalavryta, Ach**	**0.47**	**148**	P	**Pg**	**03 04 24.7**	**-0.1**
KLV				S	**Sg**	**03 04 31.7**	**+0.4**
KLV	**Kalavryta, Ach**	**0.47**	**148**	*e*PB	**Pg**	**03 04 24.8**	**-0.1**
KLV				*e*SB	**Sb**	**03 04 32.0**	**-0.4**
KLV	**Kalavryta, Ach**	**0.47**	**148**	*e*Pb	**Pg**	**03 04 24.8**	**-0.1**
KLV				S	**Sg**	**03 04 31.7**	**+0.4**
KLV				*e*Sb	**Sb**	**03 04 32.0**	**-0.4**
RLS	**Riolos of Patr**	**0.48**	**217**	P	**Pg**	**03 04 24.8**	**-0.3**
RLS	**Riolos of Patr**	**0.48**	**217**	*e*PB	**Pg**	**03 04 24.9**	**-0.2**
RLS				*e*SB	**Sb**	**03 04 32.4**	**-0.3**
RLS	**Riolos of Patr**	**0.48**	**217**	P	**Pg**	**03 04 24.8**	**-0.3**
RLS				*e*Sb	**Sb**	**03 04 32.4**	**-0.3**
DRO	**Drossia**	**0.50**	**191**	P	**Pg**	**03 04 25.0**	**-0.4**
DRO				S	**Sb**	**03 04 33.3**	**0.0**
DRO	**Drossia**	**0.50**	**191**	*e*PB	**Pg**	**03 04 25.1**	**-0.4**
DRO				*e*SB	**Sg**	**03 04 32.2**	**0.0**
DRO	**Drossia**	**0.50**	**191**	*e*Pb	**Pg**	**03 04 25.1**	**-0.4**
DRO				*e*Sb	**Sg**	**03 04 32.2**	**0.0**
DRO				S	**Sb**	**03 04 33.3**	**0.0**
PDO	**Prodromos**	**0.53**	**287**	P	**Pg**	**03 04 25.1**	**-0.9**
PDO	**Prodromos**	**0.53**	**287**	*e*PN	**Pg**	**03 04 25.3**	**-0.7**
PDO				*e*SN	**Sb**	**03 04 33.8**	**-0.3**
PDO	**Prodromos**	**0.53**	**287**	*e*Pn	**Pg**	**03 04 25.3**	**-0.7**
PDO				*e*Sn	**Sb**	**03 04 33.8**	**-0.3**
DSF	**Desfina**	**0.55**	**94**	P	**Pg**	**03 04 25.8**	**-0.4**
DSF				S	**Sg**	**03 04 33.9**	**+0.4**
DSF	**Desfina**	**0.55**	**94**	*e*PN	**Pg**	**03 04 25.5**	**-0.7**
DSF	**Desfina**	**0.55**	**94**	*e*Pn	**Pg**	**03 04 25.5**	**-0.7**
DSF	**Desfina**	**0.55**	**94**	P	**Pg**	**03 04 25.8**	**-0.4**
DSF				S	**Sg**	**03 04 33.9**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.61**	**22**	P	**Pg**	**03 04 27.0**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.61**	**22**	*e*PN	**Pb**	**03 04 27.9**	**0.0**
MAKR	**Makrakomi, Fth**	**0.61**	**22**	P	**Pg**	**03 04 27.0**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.61**	**22**	*e*Pn	**Pb**	**03 04 27.9**	**0.0**
GUR	**Goura**	**0.65**	**142**	P	**Pg**	**03 04 27.7**	**-0.5**
GUR				S	**Sb**	**03 04 37.2**	**-0.3**
GUR	**Goura**	**0.65**	**142**	*e*PN	**Pg**	**03 04 27.8**	**-0.5**
GUR				*e*SN	**Sb**	**03 04 37.5**	**0.0**
GUR	**Goura**	**0.65**	**142**	P	**Pg**	**03 04 27.7**	**-0.5**
GUR				S	**Sb**	**03 04 37.2**	**-0.3**
AGG	**Agios Georgios**	**0.69**	**34**	P	**Pg**	**03 04 28.4**	**-0.6**
AGG	**Agios Georgios**	**0.69**	**34**	*e*PN	**Pg**	**03 04 29.1**	**+0.1**
AGG	**Agios Georgios**	**0.69**	**34**	P	**Pg**	**03 04 28.4**	**-0.6**
AGG	**Agios Georgios**	**0.69**	**34**	*e*Pn	**Pg**	**03 04 29.1**	**+0.1**
AXAR	**Agios Charalam**	**0.72**	**64**	P	**Pg**	**03 04 28.7**	**-0.8**
AXAR				S	**Sb**	**03 04 39.3**	**-0.2**
AXAR	**Agios Charalam**	**0.72**	**64**	*e*PN	**Pg**	**03 04 29.2**	**-0.3**
AXAR				*e*SN	**Sb**	**03 04 39.7**	**+0.2**
AXAR	**Agios Charalam**	**0.72**	**64**	P	**Pg**	**03 04 28.7**	**-0.8**
AXAR	**Agios Charalam**	**0.72**	**64**	*e*Pn	**Pg**	**03 04 29.2**	**-0.3**
AXAR				S	**Sb**	**03 04 39.3**	**-0.2**
AMT	**Artemida-Makis**	**0.92**	**186**	P	**Pb**	**03 04 32.4**	**-0.8**
AMT				S	**Sg**	**03 04 45.9**	**+0.6**
AMT	**Artemida-Makis**	**0.92**	**186**	*e*PN	**Pg**	**03 04 33.3**	**0.0**
AMT	**Artemida-Makis**	**0.92**	**186**	P	**Pb**	**03 04 32.4**	**-0.8**
AMT	**Artemida-Makis**	**0.92**	**186**	*e*Pn	**Pg**	**03 04 33.3**	**0.0**
AMT				S	**Sg**	**03 04 45.9**	**+0.6**
LKR	**Lokris**	**0.94**	**77**	P	**Pb**	**03 04 32.6**	**-0.8**
LKR				S	**Sg**	**03 04 45.8**	**0.0**
LKR	**Lokris**	**0.94**	**77**	*e*PN	**Pn**	**03 04 33.8**	**-0.3**
LKR				*e*SN	**Sg**	**03 04 45.9**	**+0.1**
LKR	**Lokris**	**0.94**	**77**	P	**Pb**	**03 04 32.6**	**-0.8**
LKR	**Lokris**	**0.94**	**77**	*e*Pn	**Pn**	**03 04 33.8**	**-0.3**
LKR				S	**Sg**	**03 04 45.8**	**0.0**
LKD2	**Lefkada island**	**0.98**	**291**	P	**Pb**	**03 04 33.7**	**-0.5**
LKD2				S	**Sn**	**03 04 48.1**	**-0.4**
LKD2	**Lefkada island**	**0.98**	**291**	P	**Pb**	**03 04 33.7**	**-0.5**
LKD2				S	**Sn**	**03 04 48.1**	**-0.4**
LTK	**Loutraki**	**0.99**	**115**	*e*PB	**Pb**	**03 04 33.3**	**-1.0**
LTK	**Loutraki**	**0.99**	**115**	*e*Pb	**Pb**	**03 04 33.3**	**-1.0**
VLS	**Valsamata**	**1.01**	**255**	*e*PN	**Pb**	**03 04 34.5**	**-0.3**
VLS	**Valsamata**	**1.01**	**255**	*e*Pn	**Pb**	**03 04 34.5**	**-0.3**
THL	**Klokotos Trika**	**1.12**	**7**	*e*PN	**Pg**	**03 04 37.0**	**-0.1**
THL	**Klokotos Trika**	**1.12**	**7**	*e*Pn	**Pg**	**03 04 37.0**	**-0.1**
VLX	**Vlachokerasia**	**1.16**	**158**	P	**Pn**	**03 04 36.3**	**-1.0**
VLX				S	**Sb**	**03 04 52.4**	**+0.2**
VLX	**Vlachokerasia**	**1.16**	**158**	*e*PN	**Pb**	**03 04 37.4**	**+0.1**
VLX	**Vlachokerasia**	**1.16**	**158**	P	**Pn**	**03 04 36.3**	**-1.0**
VLX	**Vlachokerasia**	**1.16**	**158**	*e*Pn	**Pb**	**03 04 37.4**	**+0.1**
VLX				S	**Sb**	**03 04 52.4**	**+0.2**
SMIA	**Simia**	**1.16**	**68**	*e*PN	**Pg**	**03 04 37.6**	**-0.2**
SMIA	**Simia**	**1.16**	**68**	*e*Pn	**Pg**	**03 04 37.6**	**-0.2**
ITM	**Ithomi**	**1.27**	**177**	*e*PN	**Pb**	**03 04 38.9**	**-0.2**
ITM	**Ithomi**	**1.27**	**177**	*e*Pn	**Pb**	**03 04 38.9**	**-0.2**
MRKA	**Markates**	**1.40**	**79**	*e*PN	**Pb**	**03 04 41.0**	**-0.3**
MRKA	**Markates**	**1.40**	**79**	*e*Pn	**Pb**	**03 04 41.0**	**-0.3**
XOR	**Xorichti**	**1.40**	**49**	*e*PN	**Pb**	**03 04 41.1**	**-0.3**
XOR	**Xorichti**	**1.40**	**49**	*e*Pn	**Pb**	**03 04 41.1**	**-0.3**
JAN	**Janina**	**1.43**	**328**	*e*PN	**Pg**	**03 04 42.6**	**-0.4**
JAN	**Janina**	**1.43**	**328**	*e*Pn	**Pg**	**03 04 42.6**	**-0.4**
DID	**Didima**	**1.45**	**130**	*e*PN	**Pb**	**03 04 42.3**	**0.0**
DID	**Didima**	**1.45**	**130**	*e*Pn	**Pb**	**03 04 42.3**	**0.0**
SKIA	**Skiathos**	**1.46**	**60**	*e*PN	**Pg**	**03 04 43.4**	**-0.2**
SKIA	**Skiathos**	**1.46**	**60**	*e*Pn	**Pg**	**03 04 43.4**	**-0.2**
NAIG	**Nisos Aigina**	**1.48**	**117**	*e*PN	**Pb**	**03 04 43.0**	**+0.4**
NAIG	**Nisos Aigina**	**1.48**	**117**	*e*Pn	**Pb**	**03 04 43.0**	**+0.4**
PYL	**PYLOS**	**1.55**	**183**	*e*PN	**Pb**	**03 04 43.7**	**-0.2**
PYL	**PYLOS**	**1.55**	**183**	*e*Pn	**Pb**	**03 04 43.7**	**-0.2**
ATH	**Athens Observa**	**1.56**	**107**	*e*PN	**Pb**	**03 04 43.5**	**-0.5**
ATH	**Athens Observa**	**1.56**	**107**	*e*Pn	**Pb**	**03 04 43.5**	**-0.5**
LIT	**Litokhoron**	**1.73**	**17**	*e*PN	**Pb**	**03 04 46.2**	**-0.8**
LIT	**Litokhoron**	**1.73**	**17**	*e*Pn	**Pb**	**03 04 46.2**	**-0.8**
KZN	**Kozani**	**1.86**	**359**	*e*PN	**Pb**	**03 04 48.3**	**-0.9**
KZN	**Kozani**	**1.86**	**359**	*e*Pn	**Pb**	**03 04 48.3**	**-0.9**
VLI	**Veliai**	**1.94**	**153**	*e*PB	**Pn**	**03 04 48.6**	**+0.7**
FNA	**Florina**	**2.36**	**352**	*e*PB	**Pn**	**03 04 55.5**	**+1.7**
HORT	**Hortiatis**	**2.36**	**24**	*e*PN	**Pn**	**03 04 54.9**	**+1.1**
HORT	**Hortiatis**	**2.36**	**24**	*e*Pn	**Pn**	**03 04 54.9**	**+1.1**
KYTH	**Kithira**	**2.37**	**156**	*e*PN	**Pn**	**03 04 55.1**	**+1.3**
KYTH	**Kithira**	**2.37**	**156**	*e*Pn	**Pn**	**03 04 55.1**	**+1.3**
SOH	**Sokhos**	**2.65**	**26**	*e*PN	**Pn**	**03 04 58.8**	**+1.1**
SOH	**Sokhos**	**2.65**	**26**	*e*Pn	**Pn**	**03 04 58.8**	**+1.1**
KNT	**Kendrikon**	**2.83**	**16**	*e*PN	**Pn**	**03 05 02.0**	**+1.8**
KNT	**Kendrikon**	**2.83**	**16**	*e*Pn	**Pn**	**03 05 02.0**	**+1.8**
SRS	**Serrai**	**2.99**	**26**	*e*PN	**Pn**	**03 05 04.2**	**+1.8**
SRS	**Serrai**	**2.99**	**26**	*e*Pn	**Pn**	**03 05 04.2**	**+1.8**

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*ATH **03** 03:04:48.9, 38°.43N×21°.82E, h20km, MD3.3/45, ML3.3*
*ISCJB **03** 03:04:48.9±0.3, 38°.44N±0°.01×21°.81E±0°.02, h10km±2km, mb3.6/4, Error ellipse: s-maj=2.3km s-min=1.9km az=172.4*
*THE **03** 03:04:49.1, 38°.45N×21°.81E, h10km, ML3.5/11, Error ellipse: s-maj=0.4km s-min=0.2km az=233.0*
*CSEM **03** 03:04:49.1±0.1, 38°.43N×21°.81E, h2km, MD3.3, Error ellipse: s-maj=2.2km s-min=1.8km az=75.0*
*IDC **03** 03:04:50.6±1.3, 38°.30N×22°.15E, h0km, mb3.7/4, mb1 3.6/7, mb1mx3.4/47, mbtmp3.5/7, ML2.9/3, Error ellipse: s-maj=27.4km s-min=21.4km az=119.0*
*SKO **03** 03:04:51.1, 38°.45N×21°.96E, h6km, M2.5, ML3.1*
ISC 03 03:04:49.6±0.7, 38°.44N±0°.01×21°.81E±0°.01, h12km±4km, n178, σ1§12/254, mb3.6/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.08**	**99**	P	**Pg**	**03 04 51.6**	**-0.6**
EFP				S	**Sg**	**03 04 53.5**	**-0.5**
EFP	**Efpalio**	**0.08**	**99**	*e*PB	**Pg**	**03 04 51.8**	**-0.4**
EFP	**Efpalio**	**0.08**	**99**	P	**Pg**	**03 04 51.6**	**-0.6**
EFP				S	**Sg**	**03 04 53.2**	**-0.8**
UPR	**University Cam**	**0.16**	**187**	P	**Pg**	**03 04 52.9**	**-0.4**
UPR				S	**Sg**	**03 04 55.6**	**-0.3**
UPR	**University Cam**	**0.16**	**187**	P	**Pg**	**03 04 52.8**	**-0.5**
UPR				S	**Sg**	**03 04 55.5**	**-0.3**
LAKA	**Lakka**	**0.24**	**146**	P	**Pg**	**03 04 54.3**	**-0.4**
LAKA	**Lakka**	**0.24**	**146**	*e*PB	**Pg**	**03 04 54.2**	**-0.4**
LAKA	**Lakka**	**0.24**	**146**	P	**Pg**	**03 04 54.2**	**-0.4**
KALE	**Kalithea**	**0.26**	**100**	P	**Pg**	**03 04 54.6**	**-0.5**
KALE				S	**Sg**	**03 04 58.7**	**-0.1**
KALE	**Kalithea**	**0.26**	**100**	*e*PB	**Pb**	**03 04 54.7**	**-1.7**
KALE				*e*SB	**Sb**	**03 04 59.2**	**-1.7**
KALE	**Kalithea**	**0.26**	**100**	P	**Pg**	**03 04 54.6**	**-0.5**
KALE				S	**Sg**	**03 04 58.4**	**-0.4**
KALE				*e*Sb	**Sb**	**03 04 59.2**	**-1.7**
PVO	**Paravola**	**0.28**	**308**	P	**Pg**	**03 04 54.7**	**-0.8**
PVO				S	**Sg**	**03 04 59.0**	**-0.4**
PVO	**Paravola**	**0.28**	**308**	P	**Pg**	**03 04 54.7**	**-0.8**
PVO				S	**Sg**	**03 04 59.0**	**-0.4**
RLS	**Riolos of Patr**	**0.47**	**216**	P	**Pg**	**03 04 58.1**	**-0.7**
RLS				S	**Sg**	**03 05 04.8**	**-0.2**
RLS	**Riolos of Patr**	**0.47**	**216**	*e*PB	**Pb**	**03 04 58.4**	**-1.4**
RLS				*e*SB	**Sg**	**03 05 04.9**	**-0.1**
RLS	**Riolos of Patr**	**0.47**	**216**	*e*Pb	**Pb**	**03 04 58.4**	**-1.4**
RLS				S	**Sg**	**03 05 04.8**	**-0.2**
EVR	**Evrytania**	**0.48**	**360**	P	**Pg**	**03 04 58.5**	**-1.0**
EVR				S	**Sg**	**03 05 04.9**	**-0.5**
EVR	**Evrytania**	**0.48**	**360**	*e*PB	**Pg**	**03 04 58.5**	**-0.5**
EVR				*e*SB	**Sb**	**03 05 06.1**	**-1.0**
EVR	**Evrytania**	**0.48**	**360**	P	**Pg**	**03 04 58.1**	**-1.0**
EVR	**Evrytania**	**0.48**	**360**	*e*Pb	**Pg**	**03 04 58.5**	**-0.5**
EVR				S	**Sg**	**03 05 04.9**	**-0.5**
EVR				*e*Sb	**Sb**	**03 05 06.1**	**-1.0**
KLV	**Kalavryta, Ach**	**0.48**	**146**	P	**Pg**	**03 04 58.3**	**-0.7**
KLV				S	**Sb**	**03 05 05.8**	**-1.2**
KLV	**Kalavryta, Ach**	**0.48**	**146**	*e*PB	**Pg**	**03 04 58.3**	**-0.7**
KLV				*e*SB	**Sb**	**03 05 06.2**	**-0.8**
KLV	**Kalavryta, Ach**	**0.48**	**146**	P	**Pg**	**03 04 58.3**	**-0.7**
KLV				S	**Sg**	**03 05 05.1**	**-0.3**
KLV				*e*Sb	**Sb**	**03 05 06.2**	**-0.8**
DRO	**Drossia**	**0.49**	**189**	P	**Pg**	**03 04 58.6**	**-0.7**
DRO				S	**Sb**	**03 05 06.0**	**-1.4**
DRO	**Drossia**	**0.49**	**189**	*e*PB	**Pg**	**03 04 58.8**	**-0.5**
DRO				*e*SB	**Sg**	**03 05 05.4**	**-0.4**
DRO	**Drossia**	**0.49**	**189**	*e*Pb	**Pg**	**03 04 58.8**	**-0.5**
DRO				*e*Sb	**Sg**	**03 05 05.4**	**-0.4**
DRO				S	**Sb**	**03 05 06.0**	**-1.4**
PDO	**Prodromos**	**0.52**	**288**	P	**Pg**	**03 04 58.7**	**-1.1**
PDO				S	**Sg**	**03 05 06.4**	**-0.2**
PDO	**Prodromos**	**0.52**	**288**	*e*PN	**Pb**	**03 04 59.5**	**-1.2**
PDO				*e*SN	**Sb**	**03 05 07.1**	**-1.0**
PDO	**Prodromos**	**0.52**	**288**	P	**Pg**	**03 04 58.7**	**-1.1**
PDO	**Prodromos**	**0.52**	**288**	*e*Pn	**Pb**	**03 04 59.5**	**-1.2**
PDO				S	**Sg**	**03 05 06.4**	**-0.2**
PDO				*e*Sn	**Sb**	**03 05 07.1**	**-1.0**
DSF	**Desfina**	**0.56**	**93**	P	**Pg**	**03 04 59.7**	**-0.9**
DSF				S	**Sb**	**03 05 08.2**	**-1.3**
DSF	**Desfina**	**0.56**	**93**	*e*PN	**Pg**	**03 04 59.7**	**-0.9**
DSF				*e*SN	**Sb**	**03 05 08.4**	**-1.1**
DSF	**Desfina**	**0.56**	**93**	P	**Pg**	**03 04 59.7**	**-0.9**
DSF				S	**Sg**	**03 05 07.5**	**-0.6**
DSF				*e*Sn	**Sb**	**03 05 08.4**	**-1.1**
MAKR	**Makrakomi, Fth**	**0.63**	**24**	P	**Pb**	**03 05 01.3**	**-1.3**
MAKR				S	**Sg**	**03 05 09.9**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.63**	**24**	*e*PN	**Pb**	**03 05 01.6**	**-0.9**
MAKR	**Makrakomi, Fth**	**0.63**	**24**	P	**Pb**	**03 05 01.2**	**-1.3**
MAKR	**Makrakomi, Fth**	**0.63**	**24**	*e*Pn	**Pb**	**03 05 01.6**	**-0.9**
MAKR				S	**Sg**	**03 05 09.6**	**-0.5**
GUR	**Goura**	**0.65**	**140**	P	**Pg**	**03 05 01.4**	**-0.9**
GUR				S	**Sb**	**03 05 11.2**	**-0.9**
GUR	**Goura**	**0.65**	**140**	*e*PN	**Pg**	**03 05 01.5**	**-0.9**
GUR				*e*SN	**Sb**	**03 05 11.1**	**-1.1**
GUR	**Goura**	**0.65**	**140**	*e*Pn	**Pg**	**03 05 01.5**	**-0.9**
GUR				S	**Sg**	**03 05 10.6**	**-0.4**
GUR				*e*Sn	**Sb**	**03 05 11.1**	**-1.1**
AGG	**Agios Georgios**	**0.71**	**35**	P	**Pg**	**03 05 02.3**	**-1.1**
AGG	**Agios Georgios**	**0.71**	**35**	*e*PN	**Pg**	**03 05 02.6**	**-0.8**
AGG				*e*SN	**Sb**	**03 05 13.2**	**-0.5**
AGG	**Agios Georgios**	**0.71**	**35**	P	**Pg**	**03 05 02.3**	**-1.1**
AGG	**Agios Georgios**	**0.71**	**35**	*e*Pn	**Pg**	**03 05 02.6**	**-0.8**
AGG				*e*Sn	**Sb**	**03 05 13.2**	**-0.5**
AXAR	**Agios Charalam**	**0.74**	**64**	P	**Pg**	**03 05 02.8**	**-1.2**
AXAR	**Agios Charalam**	**0.74**	**64**	*e*PN	**Pg**	**03 05 02.9**	**-1.1**
AXAR				*e*SN	**Sb**	**03 05 14.0**	**-0.6**
AXAR	**Agios Charalam**	**0.74**	**64**	P	**Pg**	**03 05 02.8**	**-1.2**
AXAR				*e*Sn	**Sb**	**03 05 14.0**	**-0.6**
KFL	**Anninata**	**0.87**	**248**	P	**Pg**	**03 05 05.2**	**-1.2**
KFL				S	**Sb**	**03 05 19.1**	**+0.8**
DSL	**Palaion Diasel**	**0.89**	**321**	P	**Pg**	**03 05 05.7**	**-1.1**
DSL				S	**Sb**	**03 05 18.7**	**-0.2**
DSL	**Palaion Diasel**	**0.89**	**321**	P	**Pg**	**03 05 05.7**	**-1.1**
DSL				S	**Sb**	**03 05 18.7**	**-0.2**
AMT	**Artemida-Makis**	**0.91**	**185**	P	**Pb**	**03 05 06.4**	**-1.0**
AMT				S	**Sb**	**03 05 19.6**	**+0.2**
AMT	**Artemida-Makis**	**0.91**	**185**	*e*PN	**Pg**	**03 05 06.1**	**-1.1**
AMT	**Artemida-Makis**	**0.91**	**185**	P	**Pb**	**03 05 06.8**	**-0.6**
AMT				S	**Sb**	**03 05 19.6**	**+0.2**
LKR	**Lokris**	**0.96**	**77**	P	**Pg**	**03 05 06.7**	**-1.4**
LKR				S	**Sb**	**03 05 21.2**	**+0.5**
LKR	**Lokris**	**0.96**	**77**	*e*PN	**Pg**	**03 05 06.7**	**-1.4**
LKR	**Lokris**	**0.96**	**77**	P	**Pg**	**03 05 06.7**	**-1.4**
LKR				S	**Sb**	**03 05 21.2**	**+0.5**
LKD2	**Lefkada island**	**0.97**	**291**	P	**Pg**	**03 05 07.5**	**-0.8**
LKD2	**Lefkada island**	**0.97**	**291**	*e*PN	**Pg**	**03 05 07.4**	**-0.8**
LKD2	**Lefkada island**	**0.97**	**291**	P	**Pg**	**03 05 07.5**	**-0.8**
VLS	**Valsamata**	**1.00**	**255**	P	**Pg**	**03 05 07.3**	**-1.5**
VLS	**Valsamata**	**1.00**	**255**	*e*PN	**Pg**	**03 05 07.8**	**-1.0**
VLS	**Valsamata**	**1.00**	**255**	P	**Pg**	**03 05 07.3**	**-1.5**
VLS	**Valsamata**	**1.00**	**255**	*e*Pn	**Pg**	**03 05 07.8**	**-1.0**
LTK	**Loutraki**	**1.00**	**114**	*e*PN	**Pg**	**03 05 07.6**	**-1.3**
LTK				*e*SN	**Sb**	**03 05 22.0**	**-0.1**
THL	**Klokotos Trika**	**1.14**	**8**	P	**Pg**	**03 05 10.1**	**-1.4**
THL				S	**Sb**	**03 05 26.4**	**+0.5**
THL	**Klokotos Trika**	**1.14**	**8**	*e*PN	**Pb**	**03 05 10.6**	**-0.6**
THL				*e*SN	**Sb**	**03 05 26.4**	**+0.5**
THL	**Klokotos Trika**	**1.14**	**8**	P	**Pg**	**03 05 10.1**	**-1.4**
THL	**Klokotos Trika**	**1.14**	**8**	*e*Pn	**Pb**	**03 05 10.6**	**-0.6**
THL				S	**Sb**	**03 05 26.4**	**+0.5**
VLX	**Vlachokerasia**	**1.16**	**157**	P	**Pg**	**03 05 10.4**	**-1.5**
VLX				S	**Sn**	**03 05 27.4**	**-0.2**
VLX	**Vlachokerasia**	**1.16**	**157**	*e*PN	**Pg**	**03 05 10.2**	**-1.7**
VLX				*e*SN	**Sb**	**03 05 26.2**	**-0.5**

LAST	**Lasithi**	**4.40 137**	*e*Pn	**Pn**	**03 05 57.6**	**+1.3**
LAST	**Lasithi**	**4.40 137**	*e*Pn	**Pn**	**03 05 57.6**	**+1.3**
IVAS	**Ivanjica**	**5.28 347**	*e*Pn	**Pn**	**03 06 10.7**	**+2.3**
STON	**Ston**	**5.42 326**	*e*Pn	**Pn**	**03 06 10.0**	**-0.3**
STON			Sn	**Sn**	**03 07 09.7**	**-2.7**
STON	**Ston**	**5.42 326**	*e*Pn	**Pn**	**03 06 09.9**	**-0.3**
DIVS	**Divibare**	**5.82 347**	*e*Pn	**Pn**	**03 06 16.1**	**+0.3**
TRUS	**Trudelj**	**5.88 350**	*e*Pn	**Pn**	**03 06 18.3**	**+1.8**
TEKS	**Tekeris**	**6.34 345**	*e*Pn	**Pn**	**03 06 21.7**	**-1.2**
UDBI	**Udbina**	**7.59 325**	*i* Pn	**Pn**	**03 06 41.1**	**+1.0**
UDBI			Sn	**Sn**	**03 08 05.3**	**-0.7**
UDBI	**Udbina**	**7.59 325**	*i* Pn	**Pn**	**03 06 41.0**	**+1.0**
UDBI			Sn	**Sn**	**03 08 05.3**	**-0.7**
MLR	**Muntele Rosu**	**7.69 22**	Pn	Pn	03 06 46.6	+5.1
	comp=N,0.1nm,0.3s,baz=52,slow=17,SNR=3.2					
NVLJ	**Novalja**	**8.03 322**	*e*Pn	**Pn**	**03 06 46.7**	**+0.6**
NVLJ			Sn	**Sn**	**03 08 11.8**	**-5.0**
NVLJ	**Novalja**	**8.03 322**	*e*Pn	**Pn**	**03 06 46.7**	**+0.6**
BRTR	**Keskin Array B**	**9.29 78**	Pn	**Pn**	**03 07 05.9**	**+2.4**
	comp=N,0.2nm,0.3s,baz=256,slow=12,SNR=7.6					
EKA	**Eskdalemuir Ar**	**23.81 323**	P	P	03 10 08.0	+5.8
	comp=N,0.9nm,0.7s,baz=124,slow=10,SNR=3.6					
TORD	**Torodi Ar. Bea**	**30.88 221**	P	**P**	**03 11 09.2**	**+3.2**
	comp=N,0.4nm,0.7s,baz=33,slow=9.5,SNR=4.4					
MKAR	**Makanchi Array**	**44.33 59**	P	**P**	**03 13 00.3**	**+1.1**
	comp=N,0.6nm,0.4s,baz=273,slow=7.8,SNR=22					
ZALV	**Zalesovo Beam**	**44.76 48**	P	**P**	**03 13 02.9**	**+0.2**
	comp=N,1.0nm,0.4s,baz=277,slow=8.9,SNR=5.0					

*IDC **03** 03:08:53.7±0.8, 33°.81S×71°.95W, h0km, mb4.1/6, mb1 4.1/9, mb1mx4.0/34, mbtmp4.0/9, ML4.2/3, MS3.8/4, Ms1 3.7/4, ms1mx3.2/26, Error ellipse: s-maj=33.3km s-min=20.1km az=106.0*
*GUC **03** 03:08:56.6±0.5, 33°.79S×72°.03W, h28km±3km, ML4.2*
*NEIC **03** 03:08:58.5±0.6, 33°.82S×72°.01W, h35km, mb4.2/1, Error ellipse: s-maj=14.5km s-min=8.3km az=95.0*
ISC 03 03:08:55.0±2.7,**33°.82S**±0°.06×**72°.14W**±0°.07,**h13**km±16km, **n29**,σ0°**69**/37,**mb4.2**/6,**3C-1D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.62**	**103**	*e*P	**Pb**	**03 09 07.9**	**+0.2**
LNV				*i* S	**Sb**	**03 09 16.1**	**-0.2**
IHA	**Instituto Hidr**	**0.89**	**28**	⇓*i*P	**Pn**	**03 09 12.9**	**-0.4**
IHA				*i* S	**Sb**	**03 09 24.4**	**+0.2**
CHCH	**Chadas Angostu**	**1.24**	**96**	⇑*i*P	**Pn**	**03 09 17.8**	**-0.3**
CHCH				*i* S	**Sb**	**03 09 34.2**	**-0.1**
ANTU	**Antumapu**	**1.28**	**79**	*i* P	**Pn**	**03 09 18.5**	**-0.1**
ANTU				*i* S	**Sb**	**03 09 35.2**	**-0.2**
ANTU				IAML		03 09 36.2	
	comp=E,6μm,0.3s						
STL	**Santa Lucia**	**1.31**	**73**	*i* P9	**Pn**	**03 09 18.5**	**-0.5**
STL				*i* S	**Sb**	**03 09 35.8**	**-0.3**
CACH	**El Canelo**	**1.31**	**104**	*e*P	**Pb**	**03 09 19.9**	**+0.2**
CACH				*i* S	**Sg**	**03 09 38.0**	**+0.6**
PEL	**Peldehue**	**1.39**	**61**	⇑*i*P	**Pn**	**03 09 20.3**	**+0.2**
PEL				*e*S	**Sn**	**03 09 38.3**	**-0.1**
PEL				IAML		03 09 45.6	
	comp=N,11μm,0.5s						
FCH	**Farellones**	**1.62**	**73**	⇑*i*P	**Pb**	**03 09 24.5**	**-0.4**
FCH				*i* S	**Sb**	**03 09 45.6**	**+0.2**
CFAA	**Coronel Fontan**	**3.96**	**57**	Pn	**Pn**	**03 09 57.3**	**+1.8**
	comp=N,0.7nm,0.3s,baz=226,slow=12,SNR=17						
CFAA				Lg	Lg	03 10 51.6	
	comp=N,1.1nm,0.3s,baz=281,slow=6.8,SNR=3.5						
CFAA				LR	LR	03 10 53.0	
	comp=N,14nm,21.1s,baz=236,slow=31						
PLCA	**Paso Flores**	**7.02**	**170**	Pn	**Pn**	**03 10 37.0**	**-0.5**
	comp=N,0.8nm,0.3s,baz=328,slow=12,SNR=7.7						
PLCA				LR	LR	03 13 32.9	
	comp=N,295nm,18.5s,baz=38,slow=40						
TRQA	**Tornquist**	**9.26**	**120**	*e*Pn	**Pn**	**03 11 08.1**	**-0.1**
LVC	**Limon Verde**	**11.52**	**15**	*e*Pn	**Pn**	**03 11 37.9**	**-1.5**
CPUP	**Villa Florida**	**14.83**	**64**	Pn	**Pn**	**03 12 24.7**	**+0.3**
	comp=N,0.3nm,0.3s,baz=218,slow=14,SNR=2.3						
CPUP				LR	LR	03 18 29.1	
	comp=N,254nm,19.6s,baz=232,slow=39						
LPAZ	**La Paz**	**17.83**	**13**	P	**P**	**03 13 04.5**	**+0.3**
	comp=N,0.5nm,0.3s,baz=193,slow=8.2,SNR=23						
SIV	**San Ignacio**	**20.36**	**32**	P	**P**	**03 13 31.1**	**-0.3**
	comp=N,2.7nm,0.6s,baz=204,slow=13,SNR=11						
EFI	**East Falkland**	**20.56**	**154**	P	**P**	**03 13 32.7**	**-0.5**
SAML	**Samuel**	**26.09**	**20**	*e*P	**P**	**03 14 28.2**	**-0.2**
	comp=N,6.5nm,0.9s						
BDFB	**Brasilia**	**28.30**	**56**	P	**P**	**03 14 47.5**	**-1.0**
	comp=N,2.0nm,0.5s,baz=240,slow=8.1,SNR=5.3						
BDFB				LR	LR	03 27 15.5	
	comp=N,245nm,18.1s,baz=218,slow=39						
RCBR	**Riachuelo**	**43.62**	**58**	LR	LR	03 36 16.9	
	comp=N,171nm,18.6s,baz=238,slow=38						
QSPA	**South Pole Qui**	**56.42**	**180**	P	**P**	**03 18 37.8**	**+1.8**
	comp=N,0.6nm,0.3s,baz=278,slow=6.0,SNR=13						
TXAR	**Lajitas Array**	**69.54**	**331**	P	**P**	**03 20 04.8**	**+1.2**
	comp=N,0.4nm,0.6s,baz=161,slow=7.5,SNR=7.6						
DBIC	**Dimbokro**	**75.20**	**71**	P	**P**	**03 20 37.5**	**-0.2**
	comp=N,1.8nm,0.7s,baz=191,slow=3.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**84.23**	**70**	P	**P**	**03 21 26.1**	**-0.5**
	comp=N,3.0nm,0.8s,baz=290,slow=7.0,SNR=15						
WRA	**Warramunga Arr**	**120.88**	**209**	PKP	**PKPdf**	**03 27 47.4**	**-0.2**
	comp=N,0.3nm,0.6s,baz=160,slow=1.6,SNR=7.8						
BVAR	**Borovoye Array**	**147.21**	**43**	PKPbc	**PKPab**	**03 28 38.4**	**-0.8**
	comp=N,1.1nm,0.6s,baz=288,slow=2.8,SNR=3.7						
KKAR	**Karatay Array**	**149.53**	**61**	*e*PKPbc	**PKPbc**	**03 28 43.8**	**-0.1**
AAK	**Ala-Archa**	**152.49**	**61**	PKPbc	**PKPbc**	**03 28 52.0**	**+0.9**
	comp=N,2.0nm,0.6s,baz=304,slow=0.6,SNR=6.3						
ZALV	**Zalesovo Beam**	**154.12**	**32**	PKPbc	**PKPbc**	**03 28 54.1**	**+0.2**
	comp=N,2.0nm,0.7s,baz=301,slow=3.2,SNR=8.5						
ZALV				PKPab	**PKPab**	**03 29 08.2**	**+0.5**
	comp=N,0.7nm,0.7s,baz=287,slow=6.0,SNR=4.2						
MKAR	**Makanchi Array**	**156.71**	**49**	PKPab	**PKPab**	**03 29 18.9**	**-0.1**
	comp=N,0.3nm,0.6s,baz=298,slow=3.8,SNR=4.7						

*IDC **03** 03:28:16.5±1.1, 35°.44S×72°.79W, h0km, mb3.9/5, mb1 4.0/8, mb1mx3.9/30, mbtmp3.9/8, ML3.8/3, MS2.8/3, Ms1 2.8/3, ms1mx2.7/24, Error ellipse: s-maj=37.6km s-min=21.4km az=97.0*
*ISCJB **03** 03:28:17.4±1.0, 35°.44S±0°.09×72°.8W±0°.2, h17km, mb3.9/5, MS3.2/1, Error ellipse: s-maj=28.6km s-min=12.4km az=7.1*
ISC 03 03:28:19.2±1.1,**35°.4S**±0°.1×**72°.8W**±0°.2,**h17**km,**n10**, σ0°**53**/9,**mb4.0**/5,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.40**	**46**	Pn	**Pn**	**03 29 39.5**	**+0.5**
	0.7nm,0.3s,baz=216,slow=9.9,SNR=17						
CFAA				Lg	Lg	03 31 00.9	
	1.1nm,0.3s,baz=48,slow=21,SNR=4.2						
CFAA				LR	LR	03 32 04.5	
	comp=Z,22nm,21.8s,baz=255,slow=42						
PLCA	**Paso Flores**	**5.60**	**162**	Pn	**Pn**	**03 29 41.9**	**+0.2**
	0.8nm,0.3s,baz=349,slow=8.5,SNR=6.6						
PLCA				Lg	Lg	03 31 07.7	
	0.8nm,0.3s,baz=272,slow=20,SNR=4.1						
CPUP	**Villa Florida**	**16.08**	**60**	LR	LR	03 38 03.8	
	comp=Z,56nm,19.4s,baz=236,slow=37						
LPAZ	**La Paz**	**19.51**	**14**	P	**Pn**	**03 32 47.9**	**+0.3**
	0.3nm,0.3s,baz=178,slow=6.6,SNR=21						
SIV	**San Ignacio**	**22.02**	**32**	P	**P**	**03 33 11.9**	**-1.0**
	6.5nm,0.9s,baz=92,slow=0.6,SNR=16						
SIV				LR	LR	03 43 25.1	
	comp=Z,78nm,18.3s,baz=188,slow=41						
QSPA	**South Pole Qui**	**54.82**	**180**	P	**P**	**03 37 48.0**	**-0.1**
	1.2nm,0.8s,baz=283,slow=1.9,SNR=5.9						
TXAR	**Lajitas Array**	**70.66**	**332**	P	**P**	**03 39 34.2**	**+0.3**
	0.2nm,0.7s,baz=163,slow=10,SNR=2.9						
DBIC	**Dimbokro**	**76.25**	**71**	P	**P**	**03 40 07.1**	**0.0**
	3.2nm,0.7s,baz=205,slow=5.4,SNR=5.6						
TORD	**Torodi Ar. Bea**	**85.30**	**70**	P	**P**	**03 40 55.0**	**-0.4**
	1.5nm,0.8s,baz=239,slow=5.3,SNR=14						
MKAR	**Makanchi Array**	**158.17**	**51**	PKPab	**PKPab**	**03 48 48.8**	**-0.1**
	0.3nm,0.7s,baz=270,slow=2.3,SNR=3.5						

*IDC **03** 03:29:45.8±1.3, 34°.71S×72°.30W, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.9/28, mbtmp4.2/5, Error ellipse: s-maj=46.5km s-min=36.0km az=24.0*
*ISCJB **03** 03:29:46.1±1.7, 34°.7S±0°.3×72°.3W±0°.3, h10km, mb4.1/5, Error ellipse: s-maj=53.5km s-min=32.1km az=27.7*
ISC 03 03:29:47.4±1.4,**34°.7S**±0°.3×**72°.3W**±0°.2,**h10**km,**n7**,σ1°**25**/7, **mb4.2**/5,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**28.93**	**55**	P	**P**	**03 35 47.9**	**+1.0**
	1.7nm,0.5s,baz=117,slow=9.0,SNR=2.7						
TXAR	**Lajitas Array**	**70.25**	**331**	P	**P**	**03 41 01.6**	**+0.8**
	0.4nm,0.7s,baz=146,slow=9.1,SNR=3.8						
BOSA	**Boshof**	**79.94**	**118**	P	**P**	**03 41 57.7**	**+0.6**
	3.8nm,0.8s,baz=248,slow=2.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**84.67**	**70**	P	**P**	**03 42 20.7**	**-1.0**
	1.3nm,0.8s,baz=283,slow=4.7,SNR=6.1						
ULM	**Lac du Bonnet**	**87.13**	**345**	P	**P**	**03 42 32.5**	**-0.5**
	2.0nm,0.7s,baz=172,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**120.03**	**209**	PKP	**PKPdf**	**03 48 39.2**	**+0.3**
	0.5nm,0.9s,baz=154,slow=1.7,SNR=6.1						
MKAR	**Makanchi Array**	**157.40**	**50**	PKPab	**PKPab**	**03 50 13.2**	**-1.7**
	0.3nm,0.7s,baz=307,slow=5.2,SNR=4.0						

*IDC **03** 03:35:32.4±1.5, 19°.65N×75°.39W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.7/44, mbtmp4.0/7, ML4.6/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/42, Error ellipse: s-maj=42.1km s-min=33.3km az=143.0*
*ISCJB **03** 03:35:36.7±0.6, 19°.91N±0°.05×75°.53W±0°.03, h37km±8km, mb4.0/7, MS3.4/2, Error ellipse: s-maj=8.5km s-min=4.3km az=160.8*
*NEIC **03** 03:35:37.9±1.3, 19°.91N×75°.53W, h31km±10km, mb4.3/3, Error ellipse: s-maj=9.3km s-min=8.3km az=151.0*
NEIC Felt [III] at Guantanamo. Also felt at Baracoa, Contramaestre and Santiago de Cuba.
*JSN **03** 03:35:40.7±1.0, 19°.78N×75°.64W, h30km±324km, MD4.0*
ISC 03 03:35:37.7±1.2,**19°.93N**±0°.06×**75°.59W**±0°.04,**h28**km±10km, **n36**,σ1°**48**/37,**mb4.2**/7,**Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**0.45**	**91**	*e*Pg	**Pb**	**03 35 47.2**	**0.0**
GTBY				*e*Sg	**Sb**	**03 35 53.0**	**-0.6**
GWJ	**Greenwich**	**2.14**	**210**	*i* P	**Pn**	**03 36 11.3**	**-0.4**
STH	**Stony Hill**	**2.18**	**212**	*i* P	**Pn**	**03 36 11.9**	**-0.3**
STH				*i* S	**Sn**	**03 36 35.6**	**-2.6**
YHJ	**Yallahs**	**2.21**	**203**	*i* P	**Pn**	**03 36 12.8**	**+0.3**
HOJ	**Hope**	**2.21**	**210**	*i* P	**Pn**	**03 36 11.9**	**-0.7**
CVJ	**Coleyville**	**2.51**	**228**	*i* P	**Pn**	**03 36 16.9**	**+0.2**
MTDJ	**Mount Denham**	**2.51**	**228**	*e*Pn	Pn	03 36 14.1	-2.6
MTDJ				*e*S	Sn	03 36 40.1	-6.3
MBJ	**Montego Bay**	**2.64**	**235**	*i* S	**Sn**	**03 36 47.6**	**-1.9**
PCJ	**Portland Cotta**	**2.64**	**215**	*i* P	**Pn**	**03 36 19.1**	**+0.7**
MCJ	**Malvern**	**2.82**	**225**	*i* P	**Pn**	**03 36 22.0**	**+1.0**
JAKH	**Jacmel**	**3.36**	**120**	*e*Pn	Pn	03 36 26.1	-2.2
JAKH				*e*S	**Sn**	**03 37 08.2**	**+1.0**
PAPH	**Port-au-Prince**	**3.41**	**114**	*e*Pn	Pn	03 36 27.9	-1.2
PAPH				*e*S	**Sn**	**03 37 08.2**	**-0.4**
SDDR	**Presa de Saban**	**4.17**	**102**	*e*Pn	**Pn**	**03 36 38.8**	**-0.7**
SDDR				*e*S	**Sn**	**03 37 25.5**	**-1.8**
GRTK	**Grand Turk**	**4.45**	**69**	*e*Pn	**Pn**	**03 36 43.5**	**+0.2**
GRTK				*e*S	**Sn**	**03 37 31.7**	**-2.7**
CRPR	**Cabo Rojo, PR**	**8.25**	**102**	*e*Pn	**Pn**	**03 37 35.9**	**+0.4**
CRPR				*e*S	**Sn**	**03 39 07.4**	**-0.4**
BCIP	**Isla Barro Col**	**11.47**	**202**	*e*Pn	**Pn**	**03 38 19.1**	**-0.6**
TEIG	**Tepich**	**11.93**	**274**	Pn	**Pn**	**03 38 28.8**	**+2.8**
	3.2nm,0.3s,baz=310,slow=2.0,SNR=21						
TEIG				Sn	**Sn**	**03 40 33.6**	**-4.6**
	0.5nm,0.3s,baz=338,slow=19,SNR=3.2						
TEIG				LR	LR	03 42 32.7	
	comp=Z,57nm,19.1s,baz=232,slow=35						
SDV	**Santo Domingo**	**11.98**	**156**	*e*Pn	**Pn**	**03 38 26.6**	**-0.3**
	6.6nm,0.3s						
SDV				*e*S	Sn	03 40 30.8	-9.1
JTS	**JuntasAbangare**	**13.17**	**225**	Pn	Pn	03 38 46.9	+3.9
	1.8nm,0.3s,baz=96,slow=23,SNR=13						
JTS				LR	LR	03 44 04.3	
	comp=Z,70nm,18.3s,baz=38,slow=39						
JTS	**JuntasAbangare**	**13.17**	**225**	*e*Pn	**Pn**	**03 38 44.6**	**+1.5**
	2.5nm,0.4s						
BBSR	**BB Station**	**15.77**	**36**	*e*Pn	**Pn**	**03 39 15.9**	**-1.8**
	12nm,0.5s						
BBSR				*e*S	Sn	03 41 54.0	-18
JSRW	**J. Sargeant Re**	**17.81**	**354**	Pn	**Pn**	**03 39 42.8**	**-0.7**
SSPA	**Standing Stone**	**20.73**	**355**	P	**P**	**03 40 14.3**	**-1.7**
	16nm,1.4s						
TUL1	**Leonard**	**23.84**	**316**	*e*P	**P**	**03 40 47.8**	**-0.8**
	6.1nm,0.7s						
TXAR	**Lajitas Array**	**27.13**	**296**	LR	LR	03 53 07.4	
	comp=Z,52nm,19.0s,baz=0.0,slow=38						
ULM	**Lac du Bonnet**	**34.27**	**337**	P	**P**	**03 42 22.4**	**+1.0**
	2.0nm,0.8s,baz=136,slow=10,SNR=3.9						
YKA	**Yellowknife Ar**	**50.24**	**338**	P	**P**	**03 44 32.4**	**+1.3**
	0.2nm,0.4s,baz=117,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**64.18**	**333**	P	**P**	**03 46 10.4**	**+0.9**
	0.2nm,0.5s,baz=93,slow=5.0,SNR=6.1						
SPITS	**Spitsbergen Ar**	**71.03**	**13**	P	**P**	**03 46 53.5**	**+0.9**
	1.6nm,0.7s,baz=210,slow=7.8,SNR=5.5						
ARCES	**ARCESS Array B**	**75.31**	**21**	P	**P**	**03 47 17.8**	**-0.2**
	2.5nm,0.9s,baz=289,slow=3.3,SNR=4.1						
FINES	**FINESS Array B**	**78.12**	**29**	P	**P**	**03 47 35.0**	**+1.1**
	3.4nm,1.0s,baz=254,slow=7.1,SNR=6.9						
AKTO	**Aktyubinsk**	**98.88**	**28**	LR	LR	04 31 34.4	
	comp=Z,22nm,20.1s,slow=34						
HHC	**Hu-ho-hao-te**	**119.17**	**354**	*e*PKP	PKPdf	03 54 19.6	-4.9
HHC				sPKP		03 54 34.1	
HHC				PP	**PP**	**03 55 44.5**	**+1.1**
HHC				PKS	PKSdf	03 57 54.0	-7.3
HHC				SKS	SKSdf	04 01 26.9	-8.1
HHC				SKKS	SKKSac	04 02 32.3	-11
HHC	**Hu-ho-hao-te**	**119.17**	**354**	SS	SS	04 11 57.0	-5.0
WRA	**Warramunga Arr**	**151.88**	**265**	PKPbc	**PKPbc**	**03 55 30.1**	**-0.7**
	0.5nm,0.4s,baz=87,slow=3.1,SNR=16						
ASAR	**Alice Springs**	**152.39**	**257**	PKPbc	**PKPbc**	**03 55 31.0**	**-0.9**
	0.7nm,0.6s,baz=102,slow=2.1,SNR=8.7						

*ISCJB **03** 03:38:48.6±0.4, 22°.99N±0°.02×122°.93E±0°.02, h26km, Error ellipse: s-maj=3.6km s-min=2.1km az=146.5*
*JMA **03** 03:38:48.7±0.2, 22°.95N×122°.92E, h49km, M3.6*
*TAP **03** 03:38:50.0, 22°.95N×122°.87E, h82km±2km, ML3.9, D*
ISC 03 03:38:48.5±1.3,**22°.95N**±0°.04×**122°.97E**±0°.03,**h26**km,**n59**, σ1°**13**/108,**4C**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.35**	**35**	P	**Pn**	**03 39 12.0**	**+0.4**
HATJ				S	**Sn**	**03 39 27.9**	**-0.8**
CHKT	**Chengkung**	**1.48**	**276**	⇑*i*P	**Pn**	**03 39 13.1**	**-0.5**
CHKT				*e*S	**Sn**	**03 39 29.7**	**-2.4**
	baz=281						
JYNG	**Yonagunijimaku**	**1.50**	**359**	P	**Pn**	**03 39 14.2**	**+0.5**
JYNG				S	**Sn**	**03 39 32.1**	**-0.4**
YOJ	**Yonaguni jima**	**1.51**	**1**	P	**Pn**	**03 39 14.0**	**+0.1**
YOJ				*e*S	**Sn**	**03 39 33.2**	**+0.5**
TEGC	**Jichi Village**	**1.52**	**300**	*e*P	**Pn**	**03 39 14.2**	**+0.2**
	baz=308						
IRIF	**Iriomote-Funau**	**1.55**	**27**	P	**Pn**	**03 39 14.8**	**+0.4**
IRIF				*e*S	**Sn**	**03 39 33.4**	**-0.3**
TWF1	**Yuli**	**1.59**	**285**	⇑*i*P	**Pn**	**03 39 14.9**	**-0.1**
	baz=286						
TWF1				*e*S	**Sn**	**03 39 33.1**	**-1.6**
	baz=286						
LAY	**Lan-yu**	**1.59**	**236**	⇑P	**Pn**	**03 39 15.0**	**-0.1**
	baz=233						
LAY				*e*S	**Sn**	**03 39 32.6**	**-2.2**
	baz=233						
JKRS	**Kuro-shima**	**1.60**	**36**	P	**Pn**	**03 39 15.7**	**+0.5**
JKRS				*e*S	**Sn**	**03 39 34.3**	**-0.7**
EHY	**Hungye**	**1.61**	**291**	P	**Pn**	**03 39 15.0**	**-0.3**
	baz=289						
EHY				S	**Sn**	**03 39 33.6**	**-1.7**
	baz=289						
HWA	**Hwalien**	**1.62**	**310**	*e*P	**Pn**	**03 39 15.3**	**-0.1**
	baz=312						
HWA				*e*S	**Sn**	**03 39 34.2**	**-1.2**
	baz=312						
ESL	**Shilin**	**1.65**	**302**	*e*P	**Pn**	**03 39 15.1**	**-0.8**
	baz=304						
ESL				*e*S	**Sn**	**03 39 33.6**	**-2.7**
	baz=304						
TTN	**Taitung**	**1.69**	**264**	*e*P	**Pn**	**03 39 16.7**	**+0.3**
	baz=259						
TWD	**Chiawan**	**1.69**	**312**	P	**Pn**	**03 39 15.7**	**-0.7**
	baz=309						
TWD				*e*S	**Sn**	**03 39 34.4**	**-2.8**
	baz=309						
TWG	**Pinlang**	**1.75**	**266**	P	**Pn**	**03 39 17.5**	**+0.2**
	baz=263						
TWG				*e*S	**Sn**	**03 39 37.8**	**-0.9**
	baz=263						
JIJ	**Ishigaki jima**	**1.78**	**37**	P	**Pn**	**03 39 17.6**	**0.0**
JIJ				*e*S	**Sn**	**03 39 38.1**	**-1.2**
ELDTW	**Lidau**	**1.81**	**278**	*e*P	**Pn**	**03 39 17.1**	**-1.1**
	baz=284						
ELDTW				*e*S	**Sn**	**03 39 39.4**	**-1.0**
	baz=284						
ENA	**Nanau**	**1.86**	**323**	P	**Pn**	**03 39 19.1**	**+0.5**
	baz=325						
ENA				*e*S	**Sn**	**03 39 40.2**	**-1.1**
	baz=325						
ECL	**Taimali**	**1.89**	**260**	*e*P	**Pn**	**03 39 19.3**	**+0.2**
	baz=259						
ECL				*e*S	**Sn**	**03 39 40.6**	**-1.6**
	baz=259						
YUS	**Yu-Shan**	**1.93**	**287**	*e*P	**Pn**	**03 39 20.7**	**+0.6**
	baz=283						
YUS				*e*S	**Sn**	**03 39 42.0**	**-1.8**
	baz=283						
TWC	**Suao**	**1.95**	**328**	*e*P	**Pn**	**03 39 20.2**	**+0.3**
	baz=338						
TWC				*e*S	**Sn**	**03 39 41.7**	**-1.8**
	baz=338						
WHF	**Hehuan Shan**	**1.97**	**308**	P	**Pn**	**03 39 20.6**	**+0.1**
	baz=310						
WHF				*e*S	**Sn**	**03 39 42.8**	**-1.8**
	baz=310						
EAST	**Anshuo**	**2.04**	**254**	P	**Pn**	**03 39 21.7**	**+0.5**
	baz=260						
EAST				*e*S	**Sn**	**03 39 45.3**	**-0.5**
	baz=260						
JISG	**Ishigakijimahi**	**2.04**	**37**	P	**Pn**	**03 39 21.3**	**0.0**
JISG				*e*S	**Sn**	**03 39 45.0**	**-0.9**
STYT	**Tauyuan**	**2.05**	**276**	P	**Pn**	**03 39 22.1**	**+0.7**
	baz=281						
STYT				*e*S	**Sn**	**03 39 45.0**	**-1.2**
	baz=281						
ALS	**Alishan**	**2.07**	**286**	*e*P	**Pn**	**03 39 22.6**	**+0.7**
	baz=287						
ALS				*e*S	**Sn**	**03 39 45.6**	**-1.3**
	baz=287						
NNS	**Nan Shan**	**2.09**	**316**	P	**Pn**	**03 39 22.6**	**+0.6**
	baz=313						
NNS				*e*S	**Sn**	**03 39 46.0**	**-1.2**
	baz=313						
TWT	**Tachien**	**2.10**	**309**	*e*P	**Pn**	**03 39 23.0**	**+0.8**
	baz=310						
TWT				*e*S	**Sn**	**03 39 46.2**	**-1.3**
	baz=310						
EGS		**2.12**	**334**	*e*P	**Pn**	**03 39 22.8**	**+0.6**
	baz=336						
EGS				*e*S	**Sn**	**03 39 46.4**	**-1.3**
	baz=336						
SMLT	**Sun Moon Lake**	**2.12**	**297**	⇑*i*P	**Pn**	**03 39 23.3**	**+0.9**
	baz=301						
SMLT				S	**Sn**	**03 39 47.7**	**-0.2**
	baz=301						
ENTT	**Nioudou**	**2.12**	**323**	*e*P	**Pn**	**03 39 23.3**	**+1.0**
	baz=325						
ENTT				*e*S	**Sn**	**03 39 47.3**	**-0.5**
	baz=325						
TWE	**Neicheng**	**2.13**	**326**	*e*P	**Pn**	**03 39 22.8**	**+0.3**
	baz=335						
TWE				*e*S	**Sn**	**03 39 47.7**	**-0.3**
	baz=335						
TYC	**Yuchr**	**2.16**	**297**	P	**Pn**	**03 39 23.6**	**+0.8**
	baz=302						
TYC				S	**Sn**	**03 39 48.7**	**-0.1**
	baz=302						
SSD	**Sandimen**	**2.16**	**265**	*e*P	**Pn**	**03 39 23.5**	**+0.6**
	baz=262						
TSEB	**Hengchuen, Pin**	**2.18**	**242**	*e*P	**Pn**	**03 39 24.4**	**+1.4**
	baz=248						
TSEB				*e*S	**Sn**	**03 39 49.4**	**+0.2**
	baz=248						
WTP	**Ta-pu**	**2.19**	**278**	*e*P	**Pn**	**03 39 24.8**	**+1.5**
	baz=282						
SGST	**Jiashian**	**2.20**	**274**	*e*P	**Pn**	**03 39 25.1**	**+1.7**
	baz=281						
SGST				*e*S	**Sn**	**03 39 49.7**	**-0.2**
	baz=281						
CHN5	**Tsauling**	**2.20**	**288**	*e*P	**Pn**	**03 39 25.2**	**+1.7**
	baz=288						
CHN5				*e*S	**Sn**	**03 39 50.6**	**+0.6**
	baz=288						
CHN4	**Tsaushan**	**2.22**	**281**	*e*P	**Pn**	**03 39 26.0**	**+2.2**

LNV	**Longovilo**	**0.81**	**31**	⇑ *i* P		**Pb**	**03 41 35.6**	**-0.4**
LNV				*i* S1		**Sn**	**03 41 48.6**	**-0.6**
CACH	**El Canelo**	**1.21**	**64**	⇑ *i* P		**Pb**	**03 41 43.2**	**+0.3**
CACH				*i* S1		**Sg**	**03 42 00.6**	**+1.6**
TACH	**Talagante**	**1.28**	**39**	⇓ *i* P		**Pn**	**03 41 43.3**	**-0.5**
TACH				*i* S1		**Sg**	**03 42 01.9**	**+0.6**
ANTU	**Antumapu**	**1.51**	**45**	*e*P		**Pb**	**03 41 47.8**	**-0.3**
ANTU				*i* S		**Sb**	**03 42 08.2**	**+0.9**
SAN	**Santiago**	**1.58**	**41**	*e*P9		**Pg**	**03 41 49.6**	**-0.9**
SAN				*e*S		**Sg**	**03 42 12.2**	**+1.2**
IHA	**Instituto Hidr**	**1.64**	**8**	⇑ *i* P		**Pn**	**03 41 48.7**	**0.0**
IHA				*i* S1		**Sn**	**03 42 11.0**	**+1.3**
PEL	**Peldehue**	**1.82**	**34**	⇓ *i* P		**Pn**	**03 41 52.1**	**+0.9**
PEL				AML		AML	03 42 28.8	
	comp=E,3μm,0.4s							
CFAA	**Coronel Fontan**	**4.33**	**46**	Pn		Pn	03 42 29.2	+3.5
	comp=E,0.4nm,0.3s,baz=226,slow=12,SNR=11							
CFAA				Sn		**Sb**	**03 43 24.9**	**-3.3**
	comp=E,0.3nm,0.3s,baz=195,slow=18,SNR=3.2							
CFAA				LR		LR	03 44 39.8	
	comp=E,7.7nm,20.4s,baz=266,slow=44							
PLCA	**Paso Flores**	**6.16**	**170**	Pn		**Pn**	**03 42 50.8**	**-0.2**
	comp=E,1.6nm,0.3s,baz=342,slow=12,SNR=9.6							
PLCA				Lg		Lg	03 44 26.4	
	comp=E,1.1nm,0.3s,baz=269,slow=14,SNR=5.6							
LPAZ	**La Paz**	**18.60**	**11**	P		**Pn**	**03 45 38.3**	**+0.2**
	comp=E,0.1nm,0.3s,baz=189,slow=9.0,SNR=6.0							
TXAR	**Lajitas Array**	**70.36**	**331**	P		**P**	**03 52 33.8**	**-0.1**
	comp=E,0.2nm,0.6s,baz=157,slow=8.1,SNR=4.0							
TORD	**Torodi Ar. Bea**	**84.33**	**70**	P		**P**	**03 53 52.9**	**+0.6**
	comp=E,0.4nm,0.9s,baz=239,slow=7.4,SNR=3.0							

*ISN **03** 03:49:09.6±4.1, 37.°10N×48.°12E, h0km, ML3.4*
*DDA **03** 03:49:15.9, 37.°97N×43.°77E, h5km, MD3.0*
*ISK **03** 03:49:18.7, 36.°95N×43.°44E, h11km, MD2.8*
*CSEM **03** 03:49:20.1±0.8, 37.°53N×43.°59E, h10km, MD2.8, Error ellipse: s-maj=21.1km s-min=12.4km az=34.0*
ISC 03 03:49:21.1±1.1, 37.°46N±0.°05×43.°62E±0.°05, h19km±3km, n13, σ1§62/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAKT	**HAKKARI**	**0.12**	**37**	*i* P	**Pg**	**03 49 24.3**	**-1.0**
HAKT				*i* S	**Sg**	**03 49 30.4**	**+2.2**
HAKT	**HAKKARI**	**0.12**	**37**	*i* P	**Pg**	**03 49 24.3**	**-1.0**
HAKT				*i* S	**Sg**	**03 49 30.4**	**+2.2**
CUKT	**Cukurca**	**0.21**	**182**	*e*PG	**Pb**	**03 49 25.7**	**-0.3**
CUKT				*e*SG	**Sg**	**03 49 30.9**	**+0.9**
CUKT	**Cukurca**	**0.21**	**182**	*e*Pg	**Pb**	**03 49 25.7**	**-0.3**
CUKT				*e*Sg	**Sg**	**03 49 30.9**	**+0.9**
SIRT	**Sirnak**	**0.94**	**273**	*e*PG	**Pb**	**03 49 37.3**	**-1.5**
SIRT				*e*SG	**Sg**	**03 49 52.0**	**+0.3**
SIRT	**Sirnak**	**0.94**	**273**	*e*Pg	**Pb**	**03 49 37.3**	**-1.5**
SIRT				*e*Sg	**Sg**	**03 49 52.0**	**+0.3**
SIRN	**S¨–rnak**	**0.96**	**272**	*i* P	**Pb**	**03 49 39.0**	**-0.1**
SIRN				*i* S	**Sn**	**03 49 55.4**	**+2.6**
SIRN	**S¨–rnak**	**0.96**	**272**	*i* P	**Pb**	**03 49 39.0**	**-0.1**
SIRN				*i* S	**Sn**	**03 49 55.4**	**+2.6**
BEST	**Besiri**	**1.91**	**284**	*i* P	**Pb**	**03 49 55.4**	**0.0**
BEST				*i* S	**Sg**	**03 50 25.9**	**+3.2**
SVAN	**Silvan-Diyarba**	**2.04**	**291**	*e*PN	**Pb**	**03 49 55.9**	**-1.6**
SVAN				*e*SN	**Sb**	**03 50 22.2**	**-0.3**
IKRK	**Kirkuk**	**2.14**	**164**	*e*Pn	x	03 50 07.8	
	baz=60						
IKRK				*i* Sn	x	03 50 46.0	
IKRK				*e*Sg	x	03 51 17.8	
MAZI	**Mazidag**	**2.52**	**271**	*e*PN	**Pn**	**03 49 59.9**	**-1.3**
MAZI	**Mazidag**	**2.52**	**271**	*e*Pn	**Pn**	**03 49 59.9**	**-1.3**

*IDC **03** 03:51:04.8±1.1, 25.°17N×124.°36E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/37, mbtmp3.6/5, Error ellipse: s-maj=61.1km s-min=21.1km az=67.0*
*ISCJB **03** 03:51:16.1±0.6, 24.°99N±0.°09×124.°12E±0.°05, h104km±5km, mb3.6/5, Error ellipse: s-maj=15.8km s-min=5.6km az=164.6*
*JMA **03** 03:51:17.6±0.1, 24.°97N×124.°13E, h95km±2km, M3.2*
ISC 03 03:51:16.9±0.9, 25.°0N±0.°1×124.°11E±0.°05, h99km±9km, n17, σ0§52/29, mb3.7/5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.45**	**157**	P	**Pn**	**03 51 32.4**	**+0.1**
JISG				*e*S	**Sn**	**03 51 43.6**	**-0.1**
JIJ	**Ishigaki jima**	**0.64**	**178**	P	**Pn**	**03 51 33.4**	**-0.3**
JIJ				*e*S	**Sn**	**03 51 45.4**	**-0.9**
JTJ	**Tarama**	**0.65**	**124**	P	**Pn**	**03 51 34.1**	**+0.3**
JTJ				*e*S	**Sn**	**03 51 46.7**	**+0.3**
IRIF	**Iriomote-Funau**	**0.75**	**208**	P	**Pn**	**03 51 34.9**	**+0.2**
IRIF				*e*S	**Sn**	**03 51 47.8**	**-0.3**
JKRS	**Kuro-shima**	**0.77**	**187**	P	**Pn**	**03 51 35.2**	**+0.3**
JKRS				S	**Sn**	**03 51 48.4**	**0.0**
JIRB	**Irabujima**	**0.98**	**100**	P	**Pn**	**03 51 37.1**	**+0.1**
JIRB				S	**Sn**	**03 51 51.7**	**-0.4**
HATJ	**Hateruma jima**	**0.98**	**197**	P	**Pn**	**03 51 37.5**	**+0.4**
HATJ				S	**Sn**	**03 51 51.7**	**-0.6**
JIKM	**Ikemajima**	**1.03**	**94**	P	**Pn**	**03 51 38.1**	**+0.5**
JIKM				S	**Sn**	**03 51 53.1**	**-0.1**
JMJ	**Miyako jima 2**	**1.09**	**100**	P	**Pn**	**03 51 38.7**	**+0.5**
JMJ				S	**Sn**	**03 51 54.6**	**+0.3**
YOJ	**Yonaguni jima**	**1.14**	**242**	P	**Pn**	**03 51 39.5**	**+0.7**
YOJ				S	**Sn**	**03 51 55.5**	**+0.2**
JYNG	**Yonagunijimaku**	**1.20**	**243**	P	**Pn**	**03 51 40.2**	**+0.7**
JYNG				S	**Sn**	**03 51 57.0**	**+0.5**
JOGS	**Gusukube**	**1.20**	**101**	P	**Pn**	**03 51 40.1**	**+0.6**
JOGS				S	**Sn**	**03 51 57.3**	**+0.7**
MKAR	**Makanchi Array**	**39.65**	**314**	P	**P**	**03 58 38.6**	**-0.4**
	0.4nm,0.3s,baz=101,slow=11,SNR=17						
ZALV	**Zalesovo Beam**	**41.05**	**325**	P	**P**	**03 58 49.7**	**-0.7**
	0.8nm,0.5s,baz=113,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**45.77**	**167**	P	**P**	**03 59 28.8**	**+0.1**
	0.7nm,0.6s,baz=348,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**49.30**	**168**	P	**P**	**03 59 57.0**	**+1.0**
	0.4nm,0.4s,baz=351,slow=9.3,SNR=7.3						
YKA	**Yellowknife Ar**	**81.17**	**24**	P	**P**	**04 03 20.6**	**-0.6**
	0.2nm,0.6s,baz=309,slow=4.9,SNR=4.2						

GUC 03 03:53:15.4±0.7, 33.°10S×72.°04W, h26km±6km, ML3.5, 3C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.34**	**77**	⇓ *i* P	Pb	03 53 23.1	0.0
LNV	**Longovilo**	**1.00**	**149**	⇑ *i* P	Pb	03 53 34.3	+0.2
LNV				*i* S1	Sn	03 53 48.0	+1.0
TACH	**Talagante**	**1.07**	**121**	⇑ *i* P	Pb	03 53 35.6	+0.2
TACH				*i* S1	Sn	03 53 50.6	+1.6
PEL	**Peldehue**	**1.14**	**93**	⇑ *i* P	Pb	03 53 36.5	0.0
PEL				*i* S	Sb	03 53 52.5	+1.6
PEL				AML	AML	03 53 58.0	
	comp=N,2μm,0.2s						
SAN	**Santiago**	**1.21**	**107**	⇓ *i* P	Pb	03 53 38.0	+0.3
SAN				*i* S	Sb	03 53 54.8	+1.9
ANTU	**Antumapu**	**1.27**	**112**	*e*P	Pb	03 53 38.6	-0.1
ANTU				*i* S	Sb	03 53 56.1	+1.5
ANTU				AML	AML	03 54 02.8	
	comp=E,1μm,0.4s						
CHCH	**Chadas Angostu**	**1.43**	**126**	⇓ *i* P	Pb	03 53 41.4	0.0
CHCH				*i* S1	Sn	03 54 01.1	+3.4
CACH	**El Canelo**	**1.57**	**131**	⇓ *i* P	Pb	03 53 44.0	0.0
CACH				*i* S1	Sn	03 54 06.0	+4.5

TAP 03 03:54:07.5, 23.°04N×122.°78E, h89km±2km, ML3.5, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**1.30**	**273**	P	Pn	03 54 29.4	-1.3
	baz=276						
CHKT				*e*S	Sn	03 54 45.6	-2.7
	baz=276						
TWF1	**Yuli**	**1.40**	**283**	P	Pn	03 54 31.5	-0.5
	baz=280						
TWF1				*e*S	Sn	03 54 49.4	-1.1
	baz=280						
EHY	**Hungye**	**1.42**	**290**	*e*P	Pn	03 54 31.9	-0.4
	baz=288						
EHY				*e*S	Sn	03 54 49.7	-1.3
	baz=288						
ESL	**Shilin**	**1.46**	**302**	*e*P	Pn	03 54 31.6	-1.1
	baz=302						
ESL				*e*S	Sn	03 54 50.0	-1.8
	baz=302						
TWD	**Chiawan**	**1.50**	**314**	*e*P	Pn	03 54 32.4	-0.9
	baz=314						
TWD				*e*S	Sn	03 54 51.2	-1.5
	baz=314						
LAY	**Lan-yu**	**1.51**	**229**	*e*P	Pn	03 54 31.5	-1.8
	baz=228						
LAY				*e*S	Sn	03 54 50.0	-3.0
	baz=228						
TWG	**Pinlang**	**1.59**	**263**	P	Pn	03 54 34.7	+0.3
	baz=262						
TWG				*e*S	Sn	03 54 54.3	-0.5
	baz=262						
ELDTW	**Lidau**	**1.63**	**276**	*e*P	Pn	03 54 34.4	-0.6
	baz=279						
ELDTW				*e*S	Sn	03 54 54.0	-1.9
	baz=279						
ENA	**Nanau**	**1.68**	**326**	P	Pn	03 54 35.8	+0.2
	baz=326						
ENA				*e*S	Sn	03 54 56.6	-0.2
	baz=326						
ECL	**Taimali**	**1.74**	**256**	*e*P	Pn	03 54 36.1	-0.2
	baz=255						
ECL				*e*S	Sn	03 54 56.3	-1.9
	baz=255						
YUS	**Yu-Shan**	**1.74**	**285**	*e*P	Pn	03 54 37.2	+0.3
	baz=281						
YUS				*e*S	Sn	03 54 58.9	-0.4
	baz=281						
WHF	**Hehuan Shan**	**1.78**	**309**	*e*P	Pn	03 54 37.5	+0.2
	baz=309						
WHF				*e*S	Sn	03 54 59.1	-0.9
	baz=309						
TWC	**Suao**	**1.78**	**332**	*e*P	Pn	03 54 36.3	-0.6
	baz=337						
TWC				*e*S	Sn	03 54 58.5	-0.7
	baz=337						
STYT	**Tauyuan**	**1.87**	**274**	*e*P	Pn	03 54 38.3	+0.3
	baz=276						
ALS	**Alishan**	**1.88**	**285**	*e*P	Pn	03 54 39.7	+1.3
	baz=281						
EAST	**Anshuo**	**1.90**	**250**	P	Pn	03 54 38.7	+0.3
	baz=255						
EAST				*e*S	Sn	03 55 01.3	-0.7
	baz=255						
NNS	**Nan Shan**	**1.90**	**318**	*e*P	Pn	03 54 39.2	+0.6
	baz=311						
NNS				*e*S	Sn	03 55 01.9	-0.3
	baz=311						
TWT	**Tachien**	**1.91**	**310**	*e*P	Pn	03 54 39.6	+0.9
	baz=309						
TWT				*e*S	Sn	03 55 01.9	-0.6
	baz=309						
SMLT	**Sun Moon Lake**	**1.92**	**296**	*e*P	Pn	03 54 39.8	+0.9
	baz=299						
SMLT				*e*S	Sn	03 55 02.1	-0.5
	baz=299						
TYC	**Yuchr**	**1.97**	**296**	*e*P	Pn	03 54 40.3	+1.1
	baz=300						
TYC				*e*S	Sn	03 55 04.3	+0.9
	baz=300						
WTP	**Ta-pu**	**2.00**	**276**	*e*P	Pn	03 54 41.6	+1.8
	baz=276						
WTP				*e*S	Sn	03 55 06.8	+2.3
	baz=276						
CHN5	**Tsauling**	**2.01**	**287**	*e*P	Pn	03 54 41.7	+1.7
	baz=286						
CHN5				*e*S	Sn	03 55 06.6	+1.9
	baz=286						
CHN4	**Tsaushan**	**2.04**	**279**	*e*P	Pn	03 54 41.9	+1.7
	baz=278						
CHN4				*e*S	Sn	03 55 07.5	+2.4
	baz=278						
CHN1	**Nanshi**	**2.08**	**275**	*e*P	Pn	03 54 43.1	+2.4
	baz=276						
CHN1				*e*S	Sn	03 55 09.6	+3.5
	baz=276						
NSK	**Sanguang**	**2.09**	**322**	*e*P	Pn	03 54 42.0	+1.1
	baz=315						
NSK				*e*S	Sn	03 55 06.0	-0.5
	baz=315						
SCZT	**Fangliau**	**2.10**	**252**	*e*P	Pn	03 54 42.5	+1.5
	baz=253						
SCZT				*e*S	Sn	03 55 06.3	-0.3
	baz=253						
TWK	**Hsinying**	**2.12**	**277**	*e*P	Pn	03 54 42.9	+1.5
	baz=276						
TWK				*e*S	Sn	03 55 08.0	+0.7
	baz=276						
NWF	**Wu-fen Shan**	**2.22**	**336**	*e*P	Pn	03 54 42.5	-0.2
	baz=344						
TWA	**Mucha**	**2.22**	**331**	*e*P	Pn	03 54 43.4	+0.7
	baz=331						
TWA				*e*S	Sn	03 55 10.9	+1.3
	baz=331						
TWQ1	**Liyutan**	**2.26**	**306**	*e*P	Pn	03 54 43.2	+0.1
	baz=305						
TWQ1				*e*S	Sn	03 55 11.5	+1.1
	baz=305						
NSTT	**Nanjuang**	**2.27**	**315**	*e*P	Pn	03 54 45.5	+2.2
	baz=310						
NSTT				*e*S	Sn	03 55 11.5	+0.8
	baz=310						

*IDC **03** 03:56:05.8±0.7, 26.°67N×44.°61W, h0km, mb4.1/18, mb1 4.4/18, mb1mx4.1/43, mbtmp4.1/18, MS3.6/15, Ms1 3.6/15, ms1mx3.4/41, Error ellipse: s-maj=21.3km s-min=15.8km az=163.0*
*ISCJB **03** 03:56:06.0±0.5, 26.°7N±0.°1×44.°60W±0.°08, h11km, mb4.3/30, MS3.6/15, Error ellipse: s-maj=16.1km s-min=9.8km az=175.4*
*NEIC **03** 03:56:07.6±0.4, 26.°69N×44.°61W, h10km, mb4.6/10, Error ellipse: s-maj=11.4km s-min=7.1km az=179.0*
ISC 03 03:56:07.8±0.7, 26.°7N±0.°1×44.°6W±0.°1, h11km, n49, σ0§71/34, mb4.4/30, MS3.5/15, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**32.48**	**336**	LR	LR	04 14 59.3	
	comp=Z,60nm,19.2s,baz=55,slow=35						
TKL	**Tuckaleechee C**	**34.49**	**295**	LR	LR	04 14 07.8	
	comp=Z,255nm,20.8s,baz=130,slow=31						
MDT	**Midelt**	**35.11**	**70**	LR	LR	04 14 12.5	
	comp=Z,163nm,20.7s,baz=333,slow=31						
ESDC	**Sonseca Array**	**36.11**	**59**	LR	LR	04 14 15.8	
	comp=Z,64nm,18.8s,baz=225,slow=30						
DBIC	**Dimbokro**	**42.72**	**111**	LR	LR	04 18 24.5	
	comp=Z,206nm,20.8s,baz=256,slow=31						
H10N2	**ASCENSION HYDR**	**45.07**	**135**	T	T	04 52 23.7	
	baz=321,slow=75,SNR=52						
H10N3	**ASCENSION HYDR**	**45.07**	**135**	T	T	04 52 30.6	
	baz=321,slow=75,SNR=49						
H10N1	**ASCENSION HYDR**	**45.09**	**135**	T	T	04 52 33.7	
	baz=321,slow=75,SNR=66						
TORD	**Torodi Ar. Bea**	**45.34**	**98**	P	**P**	**04 04 25.0**	**-1.2**
	1.0nm,0.9s,baz=300,slow=6.4,SNR=4.6						
TORD				LR	LR	04 22 42.0	
	comp=Z,229nm,18.6s,baz=260,slow=35						
ULM	**Lac du Bonnet**	**45.42**	**315**	P	**P**	**04 04 26.1**	**-0.4**
	3.9nm,1.0s,baz=80,slow=10,SNR=5.1						
ULM				LR	LR	04 22 54.0	
	comp=Z,55nm,19.3s,baz=70,slow=35						
TAM	**Tamanrasset**	**45.48**	**84**	*e*P	**P**	**04 04 29.0**	**+1.6**
	8.3nm,1.4s						
H10S1	**ASCENSION HYDR**	**45.83**	**137**	T	T	04 53 19.3	
	baz=321,slow=75,SNR=36						
H10S3	**ASCENSION HYDR**	**45.83**	**137**	T	T	04 53 19.3	
	baz=321,slow=75,SNR=38						
H10S2	**ASCENSION HYDR**	**45.84**	**137**	T	T	04 53 20.5	
	baz=321,slow=75,SNR=27						
DAVOX	**Davos/Dischmat**	**47.03**	**50**	LR	LR	04 20 56.4	
	comp=Z,53nm,19.3s,baz=274,slow=32						
LPAZ	**La Paz**	**48.44**	**211**	P	**P**	**04 04 50.8**	**-0.2**
	6.0nm,1.0s,baz=37,slow=12,SNR=4.3						
CLL	**Collm**	**49.57**	**44**	*e*P	**P**	**04 04 59.0**	**+0.3**
CLL				LmV		05 05 00.0	
	comp=Z,200nm,18.3s						
GERES	**GERESS Array B**	**49.78**	**47**	P	**P**	**04 05 00.3**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=270,slow=5.3,SNR=6.3						
GERES				LR	LR	04 22 56.8	
	comp=Z,16nm,20.1s,baz=215,slow=32						
FFC	**Flin Flon**	**49.93**	**320**	*e*P	**P**	**04 05 01.4**	**0.0**
	comp=Z,13nm,1.1s						
NOA	**NORSAR Array B**	**50.60**	**31**	P	**P**	**04 05 06.3**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=30,slow=22,SNR=3.1						
NOA				LR	LR	04 22 49.0	
	comp=Z,64nm,20.3s,baz=240,slow=32						
HFS	**Hagfors**	**51.54**	**33**	LR	LR	04 23 31.3	
	comp=Z,50nm,20.2s,baz=266,slow=32						
VRAC	**Vranov**	**51.70**	**47**	LR	LR	04 23 02.3	
	comp=Z,42nm,19.7s,baz=234,slow=31						
TXAR	**Lajitas Array**	**51.72**	**287**	P	**P**	**04 05 15.0**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=92,slow=8.8,SNR=6.9						
BW06	**Boulder Array**	**54.46**	**305**	*e*P	**P**	**04 05 35.9**	**+0.3**
	comp=Z,7.7nm,1.0s						
PDAR	**Pinedale Array**	**54.46**	**305**	P	**P**	**04 05 35.8**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=94,slow=7.9,SNR=14						
PDAR				LR	LR	04 27 56.9	
	comp=Z,93nm,18.9s,baz=115,slow=35						
WUAZ	**Wupatki**	**56.88**	**296**	*e*P	**P**	**04 05 54.9**	**+1.9**
	comp=Z,9.7nm,1.2s						
SWMT	**Swartz Lake**	**57.18**	**311**	*e*P	**P**	**04 05 54.9**	**0.0**
	comp=Z,9.6nm,1.3s						
DUG	**Dugway, Tooele**	**57.20**	**302**	*e*P	**P**	**04 05 55.7**	**+0.5**
BGU	**Big Grassy Mou**	**57.25**	**303**	*e*P	**P**	**04 05 55.7**	**+0.1**
	comp=Z,2.0nm,1.1s						
YKA	**Yellowknife Ar**	**57.47**	**329**	P	**P**	**04 05 56.0**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=93,slow=7.5,SNR=62						
FINES	**FINESS Array B**	**57.73**	**32**	P	**P**	**04 05 57.9**	**-0.5**
	comp=Z,5.1nm,0.9s,baz=264,slow=5.7,SNR=9.2						
KAF	**Kangasniemi**	**57.88**	**32**	*e*p	**P**	**04 05 58.4**	**-1.0**
	comp=Z,2.6nm,0.8s						
ARCES	**ARCESS Array B**	**58.32**	**23**	P	**P**	**04 06 02.1**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=250,slow=7.2,SNR=10						
KIEV	**Kiev**	**59.79**	**45**	*e*P	**P**	**04 06 11.9**	**-0.9**
	comp=Z,3.8nm,0.8s						
AKASG	**Malin Array Be**	**59.80**	**45**	P	**P**	**04 06 12.2**	**-0.7**
	comp=Z,4.7nm,0.8s,baz=273,slow=6.3,SNR=9.5						
AKASG				LR	LR	04 29 32.9	
	comp=Z,33nm,20.4s,baz=245,slow=34						
JOF	**Joensuu**	**60.22**	**31**	*e*p	**P**	**04 06 14.6**	**-1.0**
	comp=Z,1.7nm,0.7s						
NVAR	**Mina Array Bea**	**61.71**	**301**	P	**P**	**04 06 26.2**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=73,slow=3.0,SNR=3.6						
OBN	**Obninsk**	**63.62**	**39**	LR	LR	04 31 47.5	
	comp=Z,66nm,18.5s,baz=271,slow=34						
BRTR	**Keskin Array B**	**64.86**	**57**	P	**P**	**04 06 47.3**	**+0.1**
	comp=Z,2.4nm,1.0s,baz=263,slow=5.1,SNR=7.4						
DAWY	**Dawson**	**68.38**	**332**	*e*P	**P**	**04 07 09.1**	**-0.1**
KBZ	**Khabaz**	**70.38**	**50**	P	**P**	**04 07 22.9**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=288,slow=5.2,SNR=4.1						
ILAR	**Eielson Array**	**71.21**	**334**	P	**P**	**04 07 26.6**	**+0.1**
	comp=Z,5.2nm,0.8s,baz=76,slow=5.0,SNR=54						
PLCA	**Paso Flores**	**71.27**	**201**	P	**P**	**04 07 27.1**	**-0.1**
	comp=Z,3.8nm,1.0s,baz=26,slow=11,SNR=2.4						
KTH	**Kantishna Hill**	**73.33**	**333**	*e*P	**P**	**04 07 38.2**	**-1.0**
	comp=Z,15nm,1.1s						
ABKAR	**Akbulak array**	**79.04**	**40**	*e*P	**P**	**04 08 12.4**	**+0.4**
	comp=Z,3.3nm,0.9s						
TIXI	**Tiksi**	**81.83**	**2**	*e*P	**P**	**04 08 27.2**	**+0.7**
	comp=Z,8.5nm,1.1s						
ZALV	**Zalesovo Beam**	**88.61**	**27**	P	**P**	**04 09 00.5**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=316,slow=6.2,SNR=7.7						
MKAR	**Makanchi Array**	**92.56**	**33**	P	**P**	**04 09 19.9**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=313,slow=4.3,SNR=4.4						
WRA	**Warramunga Arr**	**173.22**	**8**	PKPab	**PKPab**	**04 17 45.1**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=354,slow=5.0,SNR=5.8						

*IDC **03** 03:56:14.5±0.9, 33.°46S×71.°98W, h0km, mb4.3/7, mb1 4.5/11, mb1mx4.2/29, mbtmp4.4/11, ML4.4/4, MS4.1/10, Ms1 4.1/10, ms1mx3.8/28, Error ellipse: s-maj=27.3km s-min=22.6km az=69.0*
*ISCJB **03** 03:56:18.5±0.4, 33.°31S±0.°07×72.°02W±0.°07, h35km, mb4.8/33, MS4.1/8, Error ellipse: s-maj=11.5km s-min=7.0km az=35.8*
*NEIC **03** 03:56:20.3±3.0, 33.°33S×71.°99W, h35km±4km, mb5.0/28, Error ellipse: s-maj=19.9km s-min=14.5km az=84.0*
NEIC Felt at Vina del Mar.
ISC 03 03:56:21.3±0.5, 33.°28S±0.°08×71.°85W±0.°09, h35km, n149, σ1§55/148, mb4.9/34, MS4.2/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.48**	**62**	Pn	Pn	03 57 16.4	+3.4
	0.5nm,0.3s,baz=234,slow=9.4,SNR=11						
CFAA				LR	LR	03 58 03.3	
	comp=Z,91nm,21.7s,baz=310,slow=30						
CFAA				Sn	Sn	03 58 06.5	+13
	2.2nm,0.3s,baz=220,slow=16,SNR=4.9						
PLCA	**Paso Flores**	**7.51**	**172**	Pn	Pn	03 58 04.9	-3.4
	1.7nm,0.3s,baz=329,slow=8.8,SNR=6.6						
PLCA				LR	LR	04 00 49.8	
	comp=Z,579nm,18.1s,baz=348,slow=37						
PLCA	**Paso Flores**	**7.51**	**172**	*e*Pn	**Pn**	**03 58 07.7**	**-0.7**
PLCA				*e*Sn	Sn	03 59 41.6	+9.2
TRQA	**Tornquist**	**9.33**	**123**	*e*Pn	**Pn**	**03 58 35.4**	**+2.1**
CPUP	**Villa Florida**	**14.37**	**65**	Pn	**Pn**	**03 59 41.9**	**-0.3**
	0.3nm,0.3s,baz=163,slow=11,SNR=3.0						
CPUP	**Villa Florida**	**14.37**	**65**	*e*Pn	**Pn**	**03 59 41.6**	**-0.6**
LPAZ	**La Paz**	**17.25**	**12**	P	**Pn**	**04 00 20.1**	**+0.1**
	0.8nm,0.3s,baz=181,slow=7.3,SNR=34						
LPAZ	**La Paz**	**17.25**	**12**	*e*Pn	**Pn**	**04 00 19.1**	**-1.0**
	32nm,1.0s						
SIV	**San Ignacio**	**19.78**	**32**	P	**P**	**04 00 48.6**	**0.0**
	0.5nm,0.3s,baz=231,slow=13,SNR=30						
SIV				LR	LR	04 09 49.8	
	comp=Z,704nm,18.9s,baz=230,slow=41						
NNA	**Nana**	**21.68**	**347**	P	**P**	**04 01 09.5**	**+0.4**
	14nm,0.9s,baz=180,slow=11,SNR=4.1						

	baz=70						
WHTX	Lake Whitney,	69.27	337	*e*P	P	04 07 24.1	-0.6
	82nm,2.1s						
529A	Stev Forest Ra	69.30	332	P	P	04 07 23.9	-1.1
	baz=70						
332A	Millersview	69.50	335	P	P	04 07 24.8	-1.4
	baz=70						
234A	Clairette	69.51	336	P	P	04 07 25.2	-1.0
	baz=70						
430A	Baggett Ranch,	69.51	333	P	P	04 07 25.1	-1.2
	baz=70						
429A	Davenport Ranc	69.62	333	P	P	04 07 25.9	-1.1
	baz=70						
331A	San Angelo	69.68	334	P	P	04 07 26.0	-1.3
	baz=70						
233A	Rising Star	69.78	336	P	P	04 07 26.5	-1.5
	baz=70						
231A	Bronte	70.21	334	P	P	04 07 28.8	-1.7
	baz=70						
133A	Hamilton Ranch	70.33	336	P	P	04 07 29.7	-1.5
	baz=71						
329A	Wagon Wheel Ra	70.42	333	P	P	04 07 30.3	-1.6
	baz=71						
PPT2	Papeete2	70.50	261	*e*S	S	04 16 57.3	+13
	106nm,22.8s						
PPT2	Papeete2	70.50	261	*e*LR	LR	04 28 35.8	
	158nm,26.2s						
ABTX	Abilene, Hawle	70.59	335	P	P	04 07 30.3	-2.5
	baz=71						
ABTX	Abilene, Hawle	70.59	335	*e*P	P	04 07 32.2	-0.7
	50nm,1.8s						
WVT	Waverly	70.65	346	*e*P	P	04 07 32.0	-1.1
	186nm,2.3s						
229A	Bryant Ranch,	70.79	333	P	P	04 07 32.8	-1.3
	baz=71						
Z33A	Whitaker Ranch	70.89	336	P	P	04 07 33.1	-1.5
	baz=71						
131A	Roby	70.90	335	P	P	04 07 32.9	-1.9
	baz=71						
Z32A	Haskell	71.16	336	P	P	04 07 34.0	-2.3
	baz=72						
Z31A	Sharp Cattle R	71.40	335	P	P	04 07 35.7	-2.0
	baz=72						
129A	Stewart Farms,	71.40	334	P	P	04 07 36.4	-1.4
	baz=72						
Y33A	Hilltop Ranch,	71.51	337	P	P	04 07 36.5	-1.8
	baz=72						
128A	Castleberry Fa	71.63	333	P	P	04 07 37.8	-1.4
	baz=72						
X34A	Smith Ranch, M	71.79	338	P	P	04 07 37.4	-2.7
	baz=72						
Z29A	Hungry Hill Ra	71.91	334	P	P	04 07 38.7	-2.2
	baz=72						
X33A	Lawton	71.95	337	P	P	04 07 39.9	-1.1
	baz=72						
MNTX	Cornudas Mount	71.96	330	*e*P	P	04 07 39.0	-2.2
	39nm,2.2s						
Y29A	Porterfield Fa	72.43	334	P	P	04 07 42.2	-1.8
	baz=73						
W33A	Caddo, Fort Co	72.50	337	P	P	04 07 43.9	-0.4
	baz=73						
Z27A	Tatum	72.52	333	P	P	04 07 43.5	-1.1
	baz=73						
X31A	McDonald Ranch	72.53	336	P	P	04 07 43.6	-0.9
	baz=73						
Y28A	McKinney Farm,	72.69	334	P	P	04 07 43.6	-2.0
	baz=73						
W32A	Sentinel	72.73	337	P	P	04 07 44.1	-1.6
	baz=73						
Z26A	Caprock	72.78	332	P	P	04 07 44.1	-2.0
	baz=73						
MSTX	Muleshoe	72.94	333	P	P	04 07 45.2	-1.8
	baz=73						
MSTX	Muleshoe	72.94	333	*e*P	P	04 07 45.8	-1.3
	14nm,0.9s						
X29A	Tulia	72.97	335	P	P	04 07 45.5	-1.6
	baz=73						
MAW	Mawson	73.82	164	LR	LR	04 41 46.8	
	comp=Z,314nm,18.2s,baz=236,slow=37						
Z22A	Elephant Butte	73.97	330	P	P	04 07 51.1	-2.1
	baz=74						
W27A	Bowe Ranch, En	74.02	334	P	P	04 07 51.8	-1.6
	baz=74						
T33A	Patterson Ranc	74.21	338	P	P	04 07 53.2	-1.1
	baz=74						
W26A	Owens Ranch, T	74.30	333	P	P	04 07 54.5	-0.6
	baz=75						
V28A	Channing	74.33	335	P	P	04 07 54.7	-0.4
	baz=75						
LIC	Lamto	74.39	72	*e*P	P	04 07 56.3	+0.4
	58nm,1.8s						
TIC	Toumodi	74.65	71	*e*P	P	04 07 58.0	+0.6
	3.1nm,0.2s						
KIC	Kosan Boka	74.70	72	*e*P	P	04 07 58.2	+0.5
	45nm,1.4s						
DBIC	Dimbokro	74.80	71	P	P	04 07 58.4	+0.1
	3.6nm,0.8s,baz=240,slow=6.3,SNR=4.2						
TUC	Tucson	74.86	327	*e*P	P	04 08 00.1	+1.8
	50nm,2.6s						
W24A	Lazy 6 Ranch,	75.04	332	P	P	04 07 58.4	-1.0
	baz=75						
ANMO	Albuquerque	75.23	331	*e*P	P	04 08 00.5	-0.1
	6.9nm,1.3s						
V25A	Rancho No Teng	75.29	333	P	P	04 07 60.0	-0.8
	baz=76						
T28A	Walsh	75.52	335	P	P	04 08 01.1	-0.8
	baz=76						
U25A	Circle Dot Ran	75.70	333	P	P	04 08 02.3	-0.9
	baz=76						
S28A	Manter	75.86	336	P	P	04 08 02.2	-1.8
	baz=76						
T25A	Trinidad	76.36	334	P	P	04 08 06.3	-0.7
	baz=77						
Q30A	Quinter	76.56	338	P	P	04 08 07.2	-0.6
	baz=77						
T24B	San Luis	76.66	333	P	P	04 08 07.3	-1.4
	baz=77						
S24A	Houchin Ranch,	77.10	333	P	P	04 08 10.9	-0.3
	baz=77						
R24A	Sanders Place,	77.58	334	P	P	04 08 13.9	+0.2
	baz=78						
EML	El Monte Cty P	78.28	323	*e*P	P	04 08 20.5	+3.0
BORC	Borrego Spring	78.36	323	*e*P	P	04 08 13.3	-4.7
PFO	Pinyon Flats O	78.65	323	*e*P	P	04 08 14.6	-5.1
SMCO	Snowmass	79.11	333	*e*P	P	04 08 25.2	+2.7
	60nm,2.4s						
LDFC	Landfair	79.17	325	*e*P	P	04 08 25.8	+3.3
	12nm,1.2s						
TSUM	Tsumeb	79.25	106	*e*P	P	04 08 24.4	+0.9
	10nm,1.1s						
KNB	Kanab	79.70	328	*e*P	P	04 08 25.5	+0.1
	7.7nm,1.0s						
ECSD	EROS Data Cent	79.91	342	*e*P	P	04 08 22.8	-3.4
	204nm,2.9s						
BOSA	Boshof	80.26	118	P	P	04 08 27.6	-1.3
	4.1nm,0.8s,baz=243,slow=9.1,SNR=5.1						
CCUT	Cedar City	80.38	328	*e*P	P	04 08 31.6	+2.4
	12nm,1.4s						
BAKC	Calstate	81.36	323	*e*P	P	04 08 34.0	-0.1
R11A	Troy Canyon, C	82.04	327	*e*P	P	04 08 38.1	+0.1
	49nm,2.5s						
DUG	Dugway, Tooele	82.33	330	*e*P	P	04 08 40.8	+1.4
	23nm,2.0s						
LBTB	Lobatse	82.46	115	*e*P	P	04 08 38.5	-2.0
	19nm,1.0s						
TPH	Tonopah	82.59	325	*e*P	P	04 08 45.5	+4.7
	4.8nm,1.0s						
NV01	Mina Array Sit	83.39	325	*e*P	P	04 08 46.5	+1.6
NVAR	Mina Array Bea	83.39	325	P	P	04 08 44.3	-0.7
	1.0nm,0.9s,baz=163,slow=4.1,SNR=3.7						
HVU	Hansel Valley	83.64	330	*e*P	P	04 08 44.7	-1.3
	107nm,2.9s						
TOA0	Torodi Ar. Sit	83.81	70	*e*P	P	04 08 46.7	-0.7
TORD	Torodi Ar. Bea	83.81	70	P	P	04 08 47.3	-0.1
	6.2nm,0.9s,baz=247,slow=4.5,SNR=29						
SCHQ	Schefferville	87.86	3	LR	LR	04 50 10.9	
	comp=Z,52nm,19.7s,baz=5.0,slow=37						
F10A	Beach Ranch, E	88.92	330	*e*P	P	04 09 12.4	+0.6
	160nm,3.0s						
COR	Corvallis	90.52	326	*e*P	P	04 09 19.6	+0.3
	244nm,1.8s						
KOLS	Kolonicke sedl	116.76	47	PDIF	Pdif	04 11 16.5	-0.4
WRA	Warramunga Arr	121.47	209	PKP	PKPdf	04 15 09.1	-2.5
	0.4nm,0.7s,baz=156,slow=1.7,SNR=4.6						
ABKAR	Akbulak array	141.11	51	*e*PKPdf	PKPdf	04 15 46.1	-1.4
BRVK	Borovoye	146.57	42	*e*PKPbc	PKPab	04 15 58.9	-0.7
VOSK	Vostochnaya	147.09	43	*e*PKPbc	PKPbc	04 15 59.4	-0.6
KKAR	Karatay Array	149.06	60	*e*PKPbc	PKPbc	04 16 03.8	-1.8
HYB	Hyderabad	149.08	113	*i* PKP	PKPbc	04 16 04.5	-1.8
HYB				*e*pPKP	pPKPdf	04 16 13.5	-0.1
IPM	Ipoh	150.59	165	*e*PKPbc	PKPbc	04 16 07.9	-2.2
EKS2	Érkin-Say	151.49	61	*e*PKPdf	PKPdf	04 16 04.5	-0.9
EKS2				*e*PKPbc	PKiKP	04 16 11.4	-0.6
KURK	Kurchatov	152.24	42	*e*PKPdf	PKPdf	04 16 07.8	+1.8
TKM2	Tokmak 2	152.78	60	*e*PKPdf	PKPdf	04 16 06.4	-1.0
TKM2				*e*PKPbc	PKiKP	04 16 16.2	+1.5
KSH	Kashi	153.45	67	PKPbc	PKPdf	04 16 11.2	+2.8
KSH				sPKP		04 16 24.0	
KSH				PKS	PKSdf	04 19 45.0	+2.2
KSH				PP	PP	04 20 02.8	0.0
KSH				SKS	SKSdf	04 23 15.4	+2.7
KSH				SKKS	SKKSac	04 26 50.2	+0.2
KSH				SS	SS	04 39 32.1	-4.0
KSH				LN			
	25nm,3.8s						
KSH				LE			
	53nm,4.9s						
KSH				LZ			
	100nm,5.5s						
ZAA1	Zalesovo Array	153.53	32	*e*PKPdf	PKPdf	04 16 06.3	-1.4
ZAA1				*e*PKPbc	PKPbc	04 16 14.2	-1.4
ZAA0	Zalesovo Array	153.53	32	*e*PKPdf	PKPdf	04 16 05.8	-2.0
ZAA0				*e*PKPbc	PKPbc	04 16 14.2	-1.3
ZALV	Zalesovo Beam	153.53	32	PKP	PKPdf	04 16 06.3	-1.4
	0.4nm,0.4s,baz=332,slow=5.0,SNR=4.1						
ZALV				PKPbc	PKPbc	04 16 14.2	-1.4
	3.2nm,0.8s,baz=282,slow=2.9,SNR=13						
MK32	Makanchi Array	156.17	48	*e*PKPdf	PKPdf	04 16 10.8	-1.0
MK32				*e*PKPab	PKPab	04 16 38.9	-0.8
MKAR	Makanchi Array	156.17	48	PKP	PKPdf	04 16 10.8	-1.0
	0.3nm,0.8s,baz=310,slow=1.8,SNR=4.4						
MKAR				PKPab	PKPab	04 16 38.9	-0.8
	1.7nm,0.8s,baz=293,slow=3.6,SNR=9.1						
MKAR	Makanchi Array	156.17	48	*e*PKPdf	PKPdf	04 16 10.7	-1.0
MKAR				*e*PKPab	PKPab	04 16 38.0	-1.6
MK01	Makanchi Array	156.18	48	*e*PKPdf	PKPdf	04 16 10.7	-1.1
MK01				*e*PKPab	PKPab	04 16 38.8	-0.9
CN2	Changchun	162.90	313	*e*PKP	PKPdf	04 16 23.7	+4.2
ULN	Ulaanbaatar	165.41	3	*e*PKPdf	PKPdf	04 16 26.7	+4.8
ULN				*e*PKPab	PKPab	04 17 25.2	+5.4
BJI	Beijing	170.67	319	PKP	PKPdf	04 16 28.9	+3.5
NJ2	Nanjing	170.90	265	*e*PKP	PKPdf	04 16 28.6	+2.8
GYA	Guiyang	173.08	169	*e*PKP	PKPdf	04 16 30.2	+3.0
GYA				pPKP	pPKPdf	04 16 41.8	+3.1
GYA				PKS	PKSdf	04 20 01.6	+1.9
GYA				PP	PP	04 21 51.4	+6.5
GYA				SKKS		04 28 33.8	
GYA				SS	SS	04 43 00.2	+4.2
GYA				PPMZ			
	120nm,8.2s						
GYA				LN			
	130nm,21.6s						
GYA				LE			
	110nm,22.8s						
GYA				LZ			
	120nm,21.4s						
WHN	Wuhan	174.07	244	PKP	PKPdf	04 16 30.8	+3.5
WHN				PP	PP	04 22 01.5	+10
WHN				LZ			
	370nm,25.6s						
LZH	Lanzhou	175.48	51	*e*PKP	PKPdf	04 16 30.1	+2.3
LZH				pPKP	pPKPdf	04 16 41.1	+1.8
LZH				sPKP		04 16 45.2	
CD2	Chengdu	175.59	121	*e*PKP	PKPdf	04 16 30.5	+2.7

IDC ***03*** *03:58:57.6±2.7, 22°.60S×174°.83W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.0/31, mbtmp4.2/6, MS3.7/3, Ms1 3.7/3, ms1mx3.1/29, Error ellipse: s-maj=94.1km s-min=29.0km az=138.0*

ISCJB ***03*** *03:59:01.6±3.3, 22°.5S±0°.5×175°.0W±0°.6, h33km, mb4.2/6, MS3.7/3, Error ellipse: s-maj=107.0km s-min=26.9km az=135.2*

ISC 03 03:59:02.9±2.4, 22°.6S±0°.5×174°.9W±0°.4, h33km, n9, σ1§29/8, mb4.2/6, MS3.7/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.60	247	P	P	04 06 32.1	+0.8
	0.9nm,0.4s,baz=95,slow=12,SNR=5.3						
STKA				LR	LR	04 21 24.4	
	comp=Z,69nm,19.1s,baz=44,slow=34						
ASAR	Alice Springs	46.93	258	P	P	04 07 30.1	-0.6
	3.8nm,0.8s,baz=92,slow=8.3,SNR=27						
ASAR				LR	LR	04 27 02.9	
	comp=Z,72nm,18.3s,baz=114,slow=36						
WRA	Warramunga Arr	47.24	263	P	P	04 07 31.8	-1.4
	1.8nm,0.7s,baz=99,slow=8.1,SNR=14						
VNDA	Vanda	56.12	186	LR	LR	04 30 60.0	
	comp=Z,91nm,19.4s,baz=80,slow=34						
MJAR	Matsushiro Arr	73.63	322	P	P	04 10 32.5	-0.6
	1.1nm,0.4s,baz=159,slow=6.2,SNR=5.4						
USRK	Ussuriysk Ar.	82.34	324	P	P	04 11 23.1	+1.9
	5.9nm,0.9s,baz=143,slow=6.5,SNR=6.8						
ILAR	Eielson Array	89.72	12	P	P	04 11 56.2	-1.0
	0.8nm,0.9s,baz=222,slow=6.0,SNR=4.3						
AKASG	Malin Array Be	146.23	332	PKPbc	PKPdf	04 18 38.5	-0.1
	3.3nm,0.7s,baz=38,slow=4.1,SNR=8.3						
GERES	GERESS Array B	152.93	348	PKPbc	PKPbc	04 18 57.3	+0.6
	0.8nm,0.9s,baz=323,slow=3.1,SNR=4.3						

ISCJB ***03*** *04:02:55.4±0.9, 26°.7N±0°.2×44°.6W±0°.2, h11km, mb4.0/9, Error ellipse: s-maj=29.2km s-min=20.8km az=143.8*

IDC ***03*** *04:02:55.3±1.1, 26°.64N×44°.64W, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.8/49, mbtmp4.0/9, Error ellipse: s-maj=32.6km s-min=24.2km az=149.0*

ISC 03 04:02:57.0±1.1, 26°.6N±0°.2×44°.6W±0°.2, h11km, n15, σ0§39/9, mb4.1/9, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	45.04	135	T	T	04 59 07.6	
	baz=321,slow=75,SNR=37						
H10N3	ASCENSION HYDR	45.04	135	T	T	04 59 19.0	
	baz=321,slow=75,SNR=25						
H10N1	ASCENSION HYDR	45.06	135	T	T	04 59 17.4	
	baz=321,slow=75,SNR=55						
H10S1	ASCENSION HYDR	45.80	136	T	T	05 00 05.8	
	baz=321,slow=75,SNR=17						
H10S3	ASCENSION HYDR	45.80	136	T	T	05 00 05.6	
	baz=321,slow=75,SNR=15						
H10S2	ASCENSION HYDR	45.81	136	T	T	05 00 07.0	
	baz=321,slow=75,SNR=17						
LPAZ	La Paz	48.38	211	P	P	04 11 39.8	-0.1
	3.0nm,0.9s,baz=26,slow=8.5,SNR=7.1						
PDAR	Pinedale Array	54.48	305	P	P	04 12 25.4	+0.3
	1.0nm,0.9s,baz=98,slow=7.6,SNR=5.3						
YKA	Yellowknife Ar	57.51	329	P	P	04 12 45.5	-0.5
	0.8nm,0.7s,baz=92,slow=7.5,SNR=18						
FINES	FINESS Array B	57.79	32	P	P	04 12 48.0	-0.1
	1.8nm,0.8s,baz=256,slow=3.9,SNR=4.0						
MLR	Muntele Rosu	58.25	51	P	P	04 12 52.0	+0.3
	0.7nm,0.8s,baz=190,slow=11,SNR=4.1						
ARCES	ARCESS Array B	58.38	23	P	P	04 12 51.6	-0.5
	3.3nm,0.7s,baz=261,slow=6.0,SNR=11						
BRTR	Keskin Array B	64.91	56	P	P	04 13 36.7	-0.1
	1.0nm,0.8s,baz=268,slow=6.8,SNR=4.9						
ILAR	Eielson Array	71.26	334	P	P	04 14 16.4	+0.3
	1.5nm,0.8s,baz=69,slow=4.6,SNR=20						
ZALV	Zalesovo Beam	88.67	27	P	P	04 15 50.5	+0.3
	0.5nm,0.7s,baz=263,slow=12,SNR=3.7						

IDC ***03*** *04:13:22.2±0.8, 34°.55S×72°.18W, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.9/30, mbtmp3.8/10, ML4.0/3, MS3.1/3, Ms1 3.1/3, ms1mx3.0/26, Error ellipse: s-maj=27.4km s-min=23.4km az=82.0*

ISCJB ***03*** *04:13:24.3±0.7, 34°.34S±0°.09×72°.32W±0°.08, h16km, mb4.0/7, Error ellipse: s-maj=14.4km s-min=7.3km az=150.4*

GUC ***03*** *04:13:25.9±0.7, 34°.27S×72°.22W, h34km±9km, ML4.3*

ISC 03 04:13:25.5±0.8, 34°.31S±0°.08×72°.16W±0°.07, h16km, n25, σ0§93/28, mb4.1/7, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.72	60	⇓*iP*	Pn	04 13 40.6	-0.3
TACH	Talagante	1.21	57	⇑*iP*	Pn	04 13 47.9	0.0
CHCH	Chadas Angostu	1.31	74	⇑*iP*	Pb	04 13 50.0	+0.2
CACH	El Canelo	1.31	82	⇓*iP*	Pg	04 13 50.7	0.0
IHA	Instituto Hidr	1.35	19	⇓*iP*	Pn	04 13 49.3	-0.4
IHA				*i* S1	Sn	04 14 07.8	+0.4
ANTU	Antumapu	1.47	60	*e*P	Pb	04 13 52.3	-0.2
ANTU				*i* S	Sg	04 14 12.3	-0.6
ANTU				AML	AML	04 14 19.3	
	comp=N,6μm,0.8s						
SAN	Santiago	1.51	56	⇑*iP*	Pb	04 13 53.4	+0.1
STL	Santa Lucia	1.54	56	⇓*iP*	Pn	04 13 52.7	+0.3
STL				*i* S	Sb	04 14 13.5	+0.6
PEL	Peldehue	1.69	47	⇑*iP*	Pb	04 13 55.9	-0.5
PEL				*i* S	Sb	04 14 18.5	+1.1
PEL				AML	AML	04 14 24.4	
	comp=N,7μm,0.6s						
CFAA	Coronel Fontan	4.26	52	Pn	Pn	04 14 32.3	+2.5
	comp=N,1.5nm,0.3s,baz=224,slow=13,SNR=32						
CFAA				Lg	Lg	04 15 33.0	
	comp=N,3.3nm,0.3s,baz=57,slow=16,SNR=9.3						
CFAA				LR	LR	04 16 26.9	
	comp=N,48nm,18.3s,baz=248,slow=42						
PLCA	Paso Flores	6.54	169	Pn	Pn	04 14 54.4	-6.7
	comp=N,2.0nm,0.3s,baz=301,slow=11,SNR=10						
PLCA				Lg	Lg	04 16 48.2	
	comp=N,0.5nm,0.3s,baz=248,slow=19,SNR=1.9						
PLCA				LR	LR	04 17 50.3	
	comp=N,220nm,18.7s,baz=289,slow=42						
CPUP	Villa Florida	15.07	62	Pn	P	04 17 00.5	-2.5
	comp=N,0.3nm,0.3s,baz=33,slow=2.3,SNR=3.5						
CPUP				LR	LR	04 23 24.5	
	comp=N,198nm,18.6s,baz=206,slow=40						
LPAZ	La Paz	18.31	12	P	P	04 17 40.8	+1.1
	comp=N,0.1nm,0.3s,baz=168,slow=7.1,SNR=5.6						
SIV	San Ignacio	20.79	31	P	P	04 18 05.8	-0.3
	comp=N,1.3nm,0.5s,baz=253,slow=4.8,SNR=5.8						
QSPA	South Pole Qui	55.92	180	P	P	04 23 03.7	+1.2
	comp=N,4.9nm,0.9s,baz=129,slow=0.5,SNR=16						
TXAR	Lajitas Array	69.96	331	P	P	04 24 36.4	+0.2
	comp=N,0.4nm,0.5s,baz=157,slow=8.4,SNR=10						
DBIC	Dimbokro	75.38	71	P	P	04 25 08.1	-0.5
	comp=N,2.5nm,0.9s,baz=258,slow=9.3,SNR=2.9						
BOSA	Boshof	80.02	118	P	P	04 25 34.8	+0.2
	comp=N,2.6nm,1.0s,baz=254,slow=6.9,SNR=3.1						
PDAR	Pinedale Array	84.00	333	P	P	04 25 55.6	+0.5
	comp=N,0.3nm,0.7s,baz=146,slow=6.6,SNR=2.8						
NVAR	Mina Array Bea	84.08	325	P	P	04 25 56.1	+0.5
	comp=N,0.3nm,0.4s,baz=137,slow=8.5,SNR=2.6						
TORD	Torodi Ar. Bea	84.41	70	P	P	04 25 57.0	-0.5
	comp=N,0.9nm,0.8s,baz=261,slow=3.6,SNR=5.6						
ASAR	Alice Springs	117.24	207	PKP	PKPdf	04 32 09.4	-1.2
	comp=N,0.2nm,0.6s,baz=132,slow=1.4,SNR=2.9						
WRA	Warramunga Arr	120.44	209	PKP	PKPdf	04 32 15.8	-0.9
	comp=N,0.5nm,0.4s,baz=160,slow=1.8,SNR=11						
ZALV	Zalesovo Beam	154.54	33	PKPbc	PKPbc	04 33 24.9	0.0
	comp=N,1.2nm,0.6s,baz=298,slow=3.2,SNR=7.4						
MKAR	Makanchi Array	157.04	49	PKPab	PKPab	04 33 50.3	-0.2
	comp=N,0.4nm,0.8s,baz=270,slow=2.4,SNR=4.2						

IDC ***03*** *04:35:17.1±1.0, 37°.64S×73°.31W, h0km, mb4.0/7, mb1 4.0/8, mb1mx3.9/23, mbtmp3.9/8, ML2.9/1, Error ellipse: s-maj=40.7km s-min=19.8km az=95.0*

ISCJB ***03*** *04:35:19.2±0.9, 37°.57S±0°.07×73°.4W±0°.2, h23km, mb4.0/7, Error ellipse: s-maj=19.0km s-min=9.7km az=176.8*

NEIC ***03*** *04:35:21.9±0.6, 37°.57S×73°.48W, h35km, mb4.3/4, Error ellipse: s-maj=15.3km s-min=8.3km az=88.0*

ISC 03 04:35:20.5±0.9, 37°.57S±0°.08×73°.5W±0°.2, h23km, n22, σ0§87/21, mb4.2/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.89	145	Pn	Pn	04 36 20.2	+1.3
	0.6nm,0.3s,baz=321,slow=16,SNR=12						
PLCA	Paso Flores	3.89	145	*e*Pn	Pn	04 36 20.0	+1.0
CFAA	Coronel Fontan	7.36	38	Pn	Pn	04 37 05.9	-0.6
	0.2nm,0.3s,baz=212,slow=12,SNR=8.0						
TRQA	Tornquist	9.12	97	*e*Pn	Pn	04 37 30.9	+0.3
LVC	Limon Verde	15.42	16	*e*Pn	Pn	04 38 57.5	+0.6
CPUP	Villa Florida	17.68	55	P	P	04 39 26.5	+0.6
	0.2nm,0.3s,baz=206,slow=14,SNR=3.7						
CPUP	Villa Florida	17.68	55	*e*Pn	P	04 39 25.7	-0.2
EFI	East Falkland	17.81	147	*e*Pn	P	04 39 27.6	+0.4
LPAZ	La Paz	21.72	14	P	P	04 40 10.7	-0.1
	3.2nm,0.7s,baz=178,slow=8.1,SNR=7.9						
LPAZ	La Paz	21.72	14	*e*P	P	04 40 10.8	+0.1
	5.8nm,0.9s						
SIV	San Ignacio	24.13	30	P	P	04 40 34.3	-0.5
	1.4nm,0.7s,baz=214,slow=12,SNR=3.8						
SNAA	Sanae	48.75	157	P	P	04 44 03.2	+0.2
	5.3nm,1.2s,baz=325,slow=12,SNR=2.7						
SNAA	Sanae	48.75	157	*e*P	P	04 44 02.4	-0.6
	11nm,1.1s						
QSPA	South Pole Qui	52.67	180	P	P	04 44 31.9	-0.8
	4.8nm,1.0s,baz=153,slow=2.5,SNR=15						
QSPA	South Pole Qui	52.67	180	*e*P	P	04 44 31.4	-1.4
	6.2nm,1.1s						
TXAR	Lajitas Array	72.31	333	P	P	04 46 46.0	+1.7
	0.4nm,0.8s,baz=182,slow=5.4,SNR=2.4						
DBIC	Dimbokro	77.43	71	P	P	04 47 14.6	+0.5
	2.7nm,0.9s,baz=254,slow=7.4,SNR=4.6						
DBIC	Dimbokro	77.43	71	*e*P	P	04 47 14.1	0.0
	1.8nm,0.8s						
TORD	Torodi Ar. Bea	86.51	71	P	P	04 48 01.4	-0.4
	1.2nm,0.8s,baz=219,slow=5.0,SNR=12						
BRTR	Keskin Array B	124.53	63	PKP	PKPdf	04 54 16.3	-1.5
	1.0nm,0.9s,baz=249,slow=3.4,SNR=3.6						
ABKAR	Akbulak array	144.74	56	*e*PKPdf	PKPab	04 54 52.9	-0.8
AAK	Ala-Archa	155.08	68	PKPbc	PKPdf	04 55 20.2	+8.7
	0.6nm,0.6s,baz=133,slow=1.7,SNR=5.8						

IDC ***03*** *04:35:54.5±0.5, 37°.60S×73°.79W, h0km, mb4.7/14, mb1 4.8/16, mb1mx4.8/23, mbtmp4.8/16, ML4.0/3, MS4.8/6, Ms1 4.7/6, ms1mx4.3/20, Error ellipse

EFI East Falkland 17.97 147 *e*P **Pn** **04 40 05.3 -0.9**
EFI pmax pmax
comp=Z,240nm,0.9s
EFI East Falkland 17.97 147 *e*Pn **Pn** **04 40 05.3 -0.9**
comp=Z,240nm,0.9s
LPAZ La Paz 21.78 15 P **P** **04 40 49.8 +0.9**
comp=Z,31nm,1.0s,baz=186,slow=9.4,SNR=21
LPAZ S **S** **04 44 51.9 +3.5**
comp=Z,1.5nm,0.9s,baz=204,slow=12,SNR=1.5
SIV San Ignacio 24.26 31 P **P** **04 41 14.0 +0.6**
comp=Z,13nm,0.9s,baz=229,slow=12,SNR=18
SIV LR LR 04 52 38.6
comp=Z,4µm,20.1s,baz=222,slow=41
PMSA Palmer Station 27.86 171 LR LR 04 53 54.6
comp=Z,2µm,18.0s,baz=321,slow=39
SAML Samuel 30.07 21 *e*P **P** **04 42 05.2 -0.2**
comp=Z,39nm,1.3s
BDFB Brasilia 31.58 53 *e*P **P** **04 42 18.2 -0.7**
BDFB Brasilia 31.58 53 P **P** **04 42 18.8 -0.2**
comp=Z,17nm,1.0s,baz=216,slow=7.7,SNR=17
BDFB Brasilia 31.58 53 *e*P **P** **04 42 18.2 -0.7**
OTAV Otavalo 37.86 352 *e*P **P** **04 43 14.6 +1.1**
comp=Z,52nm,1.4s
ROSC El Rosal 42.20 359 P **P** **04 43 51.2 +1.8**
comp=Z,7.9nm,0.9s,baz=265,slow=22,SNR=6.6
ROSC El Rosal 42.20 359 *e*P **P** **04 43 50.5 +1.1**
SDV Santo Domingo 46.30 4 *e*P **P** **04 44 21.3 -0.7**
comp=Z,17nm,1.0s
RCBR Riachuelo 46.77 57 *e*P **P** **04 44 26.6 +1.0**
comp=Z,86nm,1.4s
VNA2 Neumayer--Watz 47.33 156 P **P** **04 44 30.3 +1.1**
JTS JuntasAbangare 48.73 345 *i* P **P** **04 44 43.0 +2.3**
JTS pmax pmax
comp=Z,26nm,2.5s
JTS JuntasAbangare 48.73 345 P **P** **04 44 42.4 +1.7**
comp=Z,5.0nm,0.9s,baz=283,slow=12,SNR=3.5
JTS JuntasAbangare 48.73 345 *e*P **P** **04 44 42.4 +1.7**
comp=Z,263nm,2.9s
SNAA Sanae 48.87 157 P **P** **04 44 41.9 +0.7**
SNAA Sanae 48.87 157 *e*P **P** **04 44 41.7 +0.5**
SNAA pmax pmax
comp=Z,96nm,1.1s
SNAA Sanae 48.87 157 P **P** **04 44 41.8 +0.5**
comp=Z,26nm,1.1s,baz=297,slow=6.2,SNR=19
SNAA Sanae 48.87 157 *e*P **P** **04 44 41.7 +0.5**
comp=Z,96nm,1.1s
QSPA South Pole Qui 52.68 180 P **P** **04 45 10.7 +0.7**
comp=Z,64nm,1.0s,baz=148,slow=3.4,SNR=41
NVL N'lazarevskaya 53.65 156 *e*P **P** **04 45 16.7 -0.2**
NVL *e*S **S** **04 52 50.5 +2.7**
NVL pmax pmax
comp=Z,42nm,1.2s
NVL MLR MLR
comp=Z,852nm,16.0s
RKT Rikitea 53.85 267 *e*S **S** **04 52 48.9 -2.8**
comp=Z,469nm,27.8s
CELP Cerrillos 55.76 8 *e*P **P** **04 45 32.2 -0.6**
LRS Lares 55.94 8 *e*P **P** **04 45 32.8 -1.3**
PPT2 Papeete2 68.36 264 *e*S **S** **04 55 54.4 -2.3**
comp=Z,392nm,22.8s
PPT2 Papeete2 68.36 264 *e*LR LR 05 07 30.2
comp=Z,1µm,25.2s,baz=124
034A Hebbronville 68.40 336 ⇑P **P** **04 46 59.0 +1.5**
baz=69
933A Laredo 69.10 336 ⇓P **P** **04 47 03.2 +1.4**
baz=69
834A Tilden 69.34 337 ⇓P **P** **04 47 04.7 +1.5**
baz=70
833A Chaparral WMA, 69.79 336 ⇓P **P** **04 47 07.2 +1.1**
baz=70
832A Faith Ranch, C 69.95 336 ⇑P **P** **04 47 08.0 +0.9**
baz=70
733A Divot King Ran 70.13 336 ⇓P **P** **04 47 08.8 +0.7**
baz=70
732A Laxson Ranch, 70.36 336 ⇑P **P** **04 47 10.1 +0.6**
baz=71
633A Saathoff Ranch 70.78 337 ⇑P **P** **04 47 12.2 +0.1**
baz=71
632A Uvalde 71.02 336 ⇓P **P** **04 47 14.6 +1.1**
baz=71
631A Perdido Creek 71.19 335 ⇓P **P** **04 47 16.0 +1.4**
baz=72
533A Kerrville 71.31 337 ⇓P **P** **04 47 16.4 +1.1**
baz=72
532A Rocksprings 71.63 336 ⇑P **P** **04 47 18.2 +0.9**
baz=72
434A Burnet 71.77 338 ⇑P **P** **04 47 18.7 +0.6**
baz=72
531A Rocksprings 71.87 336 ⇓P **P** **04 47 19.8 +1.0**
baz=72
336A Riesel 71.89 339 ⇑P **P** **04 47 19.9 +1.2**
baz=72
JCT Junction City 71.92 337 *e*P **P** **04 47 19.5 +0.5**
JCT pmax pmax
comp=Z,21nm,1.3s
JCT Junction City 71.92 337 ⇓P **P** **04 47 20.0 +0.9**
baz=72
JCT Junction City 71.92 337 *e*P **P** **04 47 19.5 +0.5**
comp=Z,21nm,1.3s
433A Art 71.96 337 ⇑P **P** **04 47 20.1 +0.8**
baz=72
530A J-C Ranch, Com 72.12 335 ⇑P **P** **04 47 21.1 +0.9**
baz=72
LTX Lajitas 72.19 333 *e*P **P** **04 47 21.6 +0.9**
LTX Lajitas 72.19 333 *e*P **P** **04 47 21.6 +0.9**
TXAR Lajitas Array 72.19 333 P **P** **04 47 21.6 +0.9**
comp=Z,2.0nm,1.0s,baz=146,slow=7.3,SNR=11
TX31 Lajitas Ar. Si 72.19 333 *e*P **P** **04 47 21.0 +0.3**
334A Lometa 72.24 338 ⇑P **P** **04 47 21.8 +0.9**
baz=73
432A Menard 72.29 337 ⇓P **P** **04 47 22.3 +1.1**
baz=73
431A Sonora 72.37 336 ⇑P **P** **04 47 22.6 +0.9**
baz=73
529A Stev Forest Ra 72.39 334 ⇓P **P** **04 47 22.8 +0.9**
baz=73
333A Richland Sprin 72.46 338 ⇑P **P** **04 47 22.9 +0.7**
baz=73
WHTX Lake Whitney, 72.63 339 ⇓P **P** **04 47 23.7 +0.6**
baz=73
WHTX Lake Whitney, 72.63 339 *e*P **P** **04 47 22.9 -0.3**
comp=Z,143nm,2.6s
430A Baggett Ranch, 72.67 335 ⇑P **P** **04 47 23.7 +0.1**
baz=73
KMSC Kings Mountain 72.67 354 ⇓P **P** **04 47 23.7 +0.4**
baz=73
429A Davenport Ranc 72.74 335 ⇓P **P** **04 47 24.0 0.0**
baz=73
332A Millersview 72.74 337 ⇑P **P** **04 47 24.1 +0.2**
baz=73
234A Clairette 72.84 339 ⇓P **P** **04 47 24.7 +0.3**
baz=73
331A San Angelo 72.89 336 ⇑P **P** **04 47 25.1 +0.3**
baz=73
233A Rising Star 73.08 338 ⇑P **P** **04 47 26.2 +0.4**
baz=73
232A Coleman 73.18 337 ⇓P **P** **04 47 27.0 +0.5**
baz=74
330A Mertzon 73.22 336 ⇑P **P** **04 47 27.2 +0.4**
baz=74
231A Bronte 73.44 337 ⇓P **P** **04 47 28.7 +0.7**
baz=74
329A Wagon Wheel Ra 73.56 335 ⇑P **P** **04 47 29.3 +0.5**
baz=74
133A Hamilton Ranch 73.63 338 ⇓P **P** **04 47 29.6 +0.5**
baz=74
Z35A Perchaven, San 73.83 340 ⇑P **P** **04 47 30.6 +0.3**
baz=74
ABTX Abilene, Hawle 73.87 337 ⇓P **P** **04 47 30.7 +0.2**
baz=74
ABTX Abilene, Hawle 73.87 337 *e*P **P** **04 47 29.1 -1.4**
comp=Z,23nm,1.3s
229A Bryant Ranch, 73.95 335 ⇑P **P** **04 47 31.2 +0.1**
baz=74
131A Roby 74.14 337 ⇑P **P** **04 47 32.6 +0.5**
baz=74
Z33A Whitaker Ranch 74.22 338 ⇑P **P** **04 47 33.2 +0.7**
baz=75
130A Snyder 74.25 336 ⇓P **P** **04 47 33.4 +0.6**
baz=75
228A UT Block 9, Go 74.34 335 ⇑P **P** **04 47 34.0 +0.6**
baz=75
Z32A Haskell 74.45 338 ⇑P **P** **04 47 34.9 +1.0**
baz=75
Y34A Reagan Ranch, 74.56 340 ⇑P **P** **04 47 34.6 +0.1**
baz=75
129A Stewart Farms, 74.57 336 ⇑P **P** **04 47 34.8 +0.2**
baz=75

Z31A Sharp Cattle R 74.66 337 ⇓P **P** **04 47 35.4 +0.2**
baz=75
128A Castleberry Fa 74.77 335 ⇓P **P** **04 47 36.1 +0.3**
baz=75
Y33A Hilltop Ranch, 74.86 339 ⇑P **P** **04 47 36.6 +0.4**
baz=75
Z30A Sanderson Ranc 74.94 337 ⇑P **P** **04 47 37.2 +0.4**
baz=75
MNTX Cornudas Mount 74.95 332 *e*P **P** **04 47 35.6 -1.2**
comp=Z,4.1nm,1.1s
Y32A R-V Farms, Ver 75.09 338 ⇑P **P** **04 47 38.1 +0.5**
baz=75
Z29A Hungry Hill Ra 75.10 336 ⇑P **P** **04 47 38.3 +0.5**
baz=75
X34A Smith Ranch, M 75.19 340 ⇓P **P** **04 47 39.2 +1.1**
baz=76
Y31A Rekieta Farm, 75.30 338 ⇓P **P** **04 47 39.8 +1.0**
baz=76
Y29A Porterfield Fa 75.64 336 ⇑P **P** **04 47 42.5 +1.7**
baz=76
X31A McDonald Ranch 75.83 338 ⇑P **P** **04 47 42.9 +1.0**
baz=76
Z26A Caprock 75.87 334 ⇑P **P** **04 47 42.9 +0.7**
baz=76
W33A Caddo, Fort Co 75.88 339 ⇓P **P** **04 47 43.0 +0.9**
baz=76
TUL1 Leonard 75.89 342 ⇓P **P** **04 47 42.4 +0.3**
baz=76
TUL1 Leonard 75.89 342 *e*P **P** **04 47 41.5 -0.6**
comp=Z,27nm,1.3s
W32A Sentinel 76.08 339 ⇑P **P** **04 47 43.9 +0.7**
baz=76
MSTX Muleshoe 76.10 336 ⇓P **P** **04 47 44.1 +0.6**
baz=76
MSTX Muleshoe 76.10 336 *e*P **P** **04 47 44.3 +0.8**
comp=Z,87nm,2.3s
Z25A Roswell 76.14 334 ⇓P **P** **04 47 44.4 +0.7**
baz=76
Y27A Causey 76.15 335 ⇓P **P** **04 47 44.9 +1.1**
baz=76
X29A Tulia 76.19 337 ⇓P **P** **04 47 44.9 +0.9**
baz=76
Y26A Elida 76.41 335 ⇑P **P** **04 47 45.7 +0.4**
baz=77
V33A Lossen Ranch, 76.46 340 ⇓P **P** **04 47 46.2 +0.8**
baz=77
V32A Arapaho 76.58 339 ⇓P **P** **04 47 47.0 +0.9**
baz=77
AMTX Amarillo 76.59 337 ⇓P **P** **04 47 47.1 +0.9**
baz=77
AMTX Amarillo 76.59 337 *e*P **P** **04 47 46.4 +0.2**
comp=Z,18nm,1.0s
Y25A Mesa, Roswell 76.71 334 ⇓P **P** **04 47 47.4 +0.4**
baz=77
V31A Spring Creek L 76.86 339 ⇑P **P** **04 47 49.2 +1.5**
baz=77
Z22A Elephant Butte 76.93 332 ⇓P **P** **04 47 49.5 +1.2**
baz=77
Y24A Capitan 76.97 333 ⇑P **P** **04 47 49.7 +1.2**
baz=77
W27A Bowe Ranch, En 77.20 336 ⇓P **P** **04 47 50.6 +1.0**
baz=78
LIC Lamto 77.26 72 *e*P **P** **04 47 51.2 +0.8**
comp=Z,117nm,1.2s
W26A Owens Ranch, T 77.45 335 ⇑P **P** **04 47 52.9 +1.8**
baz=78
TIC Toumodi 77.54 72 *e*P **P** **04 47 52.7 +0.7**
comp=Z,59nm,1.0s
KIC Kosan Boka 77.57 72 *e*P **P** **04 47 52.9 +0.8**
comp=Z,116nm,1.1s
TUC Tucson 77.60 329 *e*P **P** **04 47 52.5 +0.6**
TUC pmax pmax
comp=Z,84nm,2.8s
TUC Tucson 77.60 329 *e*P **P** **04 47 52.5 +0.6**
comp=Z,84nm,2.8s
T33A Patterson Ranc 77.64 340 ⇑P **P** **04 47 53.3 +1.4**
baz=78
DBIC Dimbokro 77.68 72 *e*P **P** **04 47 53.2 +0.5**
DBIC pmax pmax
comp=Z,47nm,1.0s
DBIC Dimbokro 77.68 72 P **P** **04 47 53.7 +1.0**
comp=Z,28nm,1.0s,baz=205,slow=7.0,SNR=22
DBIC Dimbokro 77.68 72 *e*P **P** **04 47 53.2 +0.5**
comp=Z,47nm,1.0s
V27A Dan Oppiter Fa 77.76 336 ⇓P **P** **04 47 53.9 +1.1**
baz=78
W25A X Bar L Ranch, 77.80 335 ⇓P **P** **04 47 54.1 +1.1**
baz=78
ACSO Alum Creek Sta 77.88 353 *e*P **P** **04 47 52.9 -0.3**
comp=Z,522nm,2.9s
LAZ Ladron 78.02 332 *e*P **P** **04 47 55.9 +1.5**
W24A Lazy 6 Ranch, 78.12 334 ⇑P **P** **04 47 57.0 +2.1**
baz=78
214A Organ Pipe Nat 78.16 327 ⇑P **P** **04 47 56.5 +1.5**
baz=78,SNR=5.4
ANMO Albuquerque 78.25 333 ⇓*e*P **P** **04 47 56.5 +0.8**
ANMO pmax pmax
comp=Z,18nm,1.2s
ANMO Albuquerque 78.25 333 *e*P **P** **04 47 56.0 +0.3**
comp=Z,11nm,1.1s
U27A Thompson Grove 78.36 336 ⇓P **P** **04 47 58.0 +1.9**
baz=79
V25A Rancho No Teng 78.42 335 ⇓P **P** **04 47 57.7 +1.1**
baz=79
U26A Atchley Ranch, 78.64 336 ⇓P **P** **04 47 59.6 +1.9**
baz=79
T28A Walsh 78.78 337 ⇓P **P** **04 48 00.2 +1.8**
baz=79
U25A Circle Dot Ran 78.86 335 ⇑P **P** **04 48 00.7 +1.8**
baz=79
S29A Ulysses 78.95 338 ⇑P **P** **04 48 00.2 +1.0**
baz=79
R32A Long Quarter, 79.02 340 ⇓P **P** **04 48 01.0 +1.4**
baz=79
R31A Burdett 79.12 340 ⇓P **P** **04 48 01.4 +1.3**
baz=80
S28A Manter 79.15 338 ⇑P **P** **04 48 02.2 +1.8**
baz=80
X18A Snowflake 79.20 330 ⇓P **P** **04 48 01.9 +1.0**
baz=80
113A Mohawk Valley, 79.27 327 ⇓P **P** **04 48 02.8 +1.8**
baz=80
V22A San Miguel Ran 79.28 333 ⇓P **P** **04 48 03.0 +1.6**
baz=80
T26A Comanche Natio 79.30 336 ⇑P **P** **04 48 02.5 +1.2**
baz=80
Q33A Connelly Farm, 79.33 341 ⇑P **P** **04 48 02.3 +1.1**
baz=80
U23A El Rito 79.40 334 ⇑P **P** **04 48 03.8 +1.8**
baz=80
Q32A Meitler Ranch, 79.51 341 ⇓P **P** **04 48 03.6 +1.3**
baz=80
T25A Trinidad 79.53 336 ⇑P **P** **04 48 03.9 +1.2**
baz=80
TSUM Tsumeb 79.62 106 *e*P **P** **04 48 03.7 +0.1**
comp=Z,25nm,1.3s
S26A Kim 79.67 336 ⇑P **P** **04 48 04.8 +1.5**
baz=80
U22A Llaves 79.68 333 ⇓P **P** **04 48 04.9 +1.4**
baz=80
BOSA Boshof 79.69 118 *e*P **P** **04 48 04.2 +0.4**
BOSA pmax pmax
comp=Z,55nm,1.2s
BOSA Boshof 79.69 118 P **P** **04 48 04.0 +0.1**
comp=Z,23nm,1.0s,baz=217,slow=4.1,SNR=16
BOSA LR LR 05 23 31.8
comp=Z,302nm,18.1s,baz=220,slow=36
BOSA Boshof 79.69 118 *e*P **P** **04 48 04.2 +0.4**
comp=Z,55nm,1.2s
X16A Lo Mia Camp, P 79.70 329 ⇓P **P** **04 48 05.3 +1.7**
baz=80
R28A Tribune 79.82 338 ⇓P **P** **04 48 05.5 +1.4**
baz=80
Y14A Wickenburg 79.94 328 ⇑P **P** **04 48 06.2 +1.5**
baz=80
Q30A Quinter 79.95 339 ⇑P **P** **04 48 05.8 +1.1**
baz=80
S25A Robets Cordova 80.02 336 ⇓P **P** **04 48 06.1 +0.9**
baz=80
R27A Eads 80.07 337 ⇑P **P** **04 48 06.4 +1.0**
baz=80
Q29A Oakley 80.08 339 ⇑P **P** **04 48 06.5 +1.1**
baz=80
P32A Huiting Farm, 80.12 341 ⇓P **P** **04 48 07.1 +1.6**
baz=80
P31A Stockton 80.23 340 ⇑P **P** **04 48 07.8 +1.7**
baz=81
S24A Houchin Ranch, 80.25 335 ⇑P **P** **04 48 08.6 +2.0**
baz=81

R26A Arlington 80.28 337 ⇓P **P** **04 48 08.1 +1.5**
baz=81
SDCO Great Sand Dun 80.44 335 *e*P **P** **04 48 09.8 +2.2**
comp=Z,15nm,1.6s
WUAZ Wupatki 80.63 330 *e*P **P** **04 48 08.7 +0.1**
comp=Z,7.2nm,0.9s
KSCO Kaye Shedlock' 80.68 338 ⇓P **P** **04 48 10.3 +1.6**
baz=81
P29A Atwood 80.73 339 ⇑P **P** **04 48 10.6 +1.7**
baz=81
PDMCI Parker Dam,Lak 80.73 327 ⇓P **P** **04 48 10.5 +1.6**
baz=81
R24A Sanders Place, 80.75 336 ⇑P **P** **04 48 10.7 +1.5**
baz=81
BC3 Big Chuckawall 80.76 326 ⇓P **P** **04 48 11.1 +1.9**
baz=81
BORC Borrego Spring 80.87 325 *e*PKiKP **PKiKP** **04 53 37.0 +0.5**
S22A 4UR Ranch, Cre 80.90 334 ⇓P **P** **04 48 12.1 +2.0**
baz=81
MVCO Mesa Verde 81.02 333 *e*P **P** **04 48 09.9 -0.8**
comp=Z,80nm,2.4s
O30A MW Ranch, Wils 81.03 340 ⇓P **P** **04 48 12.1 +1.7**
baz=81
PFO Pinyon Flats O 81.18 325 *e*P **P** **04 48 11.9 +0.5**
PFO pmax pmax
comp=Z,10.0nm,1.1s
PFO Pinyon Flats O 81.18 325 ⇑P **P** **04 48 13.0 +1.6**
baz=82
PFO Pinyon Flats O 81.18 325 *e*P **P** **04 48 11.9 +0.5**
comp=Z,10nm,1.1s
W13A Hualapai Mount 81.31 328 ⇑P **P** **04 48 13.0 +0.8**
baz=82
P25A Willow Gulch B 81.62 337 ⇑P **P** **04 48 15.1 +1.4**
baz=82
U15A North Rim 81.79 330 ⇓P **P** **04 48 16.7 +1.9**
baz=82
M31A Lambtecht Ranc 81.83 341 ⇓P **P** **04 48 16.3 +1.7**
baz=82
LBTB Lobatse 82.11 115 *e*P **P** **04 48 16.7 -0.1**
LBTB pmax pmax
comp=Z,45nm,1.0s
LBTB Lobatse 82.11 115 *e*P **P** **04 48 16.7 -0.1**
comp=Z,45nm,1.0s
SMCO Snowmass 82.23 335 *e*P **P** **04 48 19.3 +2.1**
comp=Z,26nm,1.4s
SBI Santa Barbara 82.27 323 *e*PKiKP **PKiKP** **04 53 35.8 -2.8**
N27A Anderson Farm, 82.31 338 ⇓P **P** **04 48 18.5 +1.3**
baz=83
ISCO Idaho Springs 82.34 336 ⇑P **P** **04 48 19.0 +1.4**
baz=83
VTV Victorville 82.37 325 *e*PKiKP **PKiKP** **04 53 42.4 +3.6**
KNB Kanab 82.51 329 *e*P **P** **04 48 19.6 +1.2**
KNB pmax pmax
comp=Z,11nm,1.0s
KNB Kanab 82.51 329 *e*P **P** **04 48 19.6 +1.2**
comp=Z,11nm,1.0s
L31A Butterfield Fa 82.58 342 ⇑P **P** **04 48 19.7 +1.2**
baz=83
O23A Lake Granby, G 82.81 336 ⇑P **P** **04 48 21.3 +1.2**
baz=83
O22A Kremmling 82.97 335 ⇑P **P** **04 48 21.3 +0.3**
baz=83
CCUT Cedar City 83.19 329 *e*P **P** **04 48 22.8 +0.8**
comp=Z,17nm,1.6s
K30A Basset 83.24 341 ⇑P **P** **04 48 22.2 +0.3**
baz=84
ECSD EROS Data Cent 83.52 344 ⇓P **P** **04 48 24.1 +0.8**
baz=84
ECSD EROS Data Cent 83.52 344 *e*P **P** **04 48 23.0 -0.3**
comp=Z,23nm,1.0s
N22A Wattenberg Ran 83.52 336 ⇑P **P** **04 48 24.2 +0.5**
baz=84
O20A White River Ci 83.53 334 ⇓P **P** **04 48 24.0 +0.3**
baz=84
M24A Cheyenne 83.61 337 ⇓P **P** **04 48 23.8 -0.2**
baz=84
K28A Ten Mile Ranch 83.74 340 ⇑P **P** **04 48 25.8 +1.2**
baz=84
ISA Isabella, Lake 83.80 325 *e*P **P** **04 48 26.6 +1.6**
ISA pmax pmax
comp=Z,55nm,2.3s
ISA Isabella, Lake 83.80 325 *e*P **P** **04 48 26.6 +1.6**
comp=Z,54nm,2.3s
J30A Dallas 83.82 341 ⇓P **P** **04 48 25.7 +0.8**
baz=84
BAKC Calstate 83.83 324 *e*P **P** **04 48 25.1 0.0**
TMUT Trail Mountain 83.86 332 *e*P **P** **04 48 26.2 +0.7**
comp=Z,16nm,0.7s
J29A Okreek 84.11 341 ⇓P **P** **04 48 26.4 0.0**
baz=84
N20A Spence Gulch, 84.16 334 ⇓P **P** **04 48 26.7 -0.2**
baz=84
SPMN Marine on St. 84.17 347 ⇑P **P** **04 48 26.3 -0.3**
baz=84
J28A Allard Ranch, 84.37 340 ⇑P **P** **04 48 29.3 +1.6**
baz=85
J27A Elkhorn Farm, 84.42 340 ⇑P **P** **04 48 29.4 +1.4**
baz=85
MPU Maple Canyon 84.64 332 *e*P **P** **04 48 29.4 +0.1**
comp=Z,8.9nm,1.0s
I29A Vivian Onida 84.68 341 ⇓P **P** **04 48 31.0 +1.8**
baz=85
J26A Sides Ranch, S 84.77 339 ⇑P **P** **04 48 30.7 +0.9**
baz=85
R11A Troy Canyon, C 84.78 328 ⇑P **P** **04 48 31.1 +1.0**
baz=85
R11A Troy Canyon, C 84.78 328 *e*P **P** **04 48 29.9 -0.2**
comp=Z,37nm,2.3s
I28A Midland 84.89 341 ⇑P **P** **04 48 31.3 +1.0**
baz=85
K23A Bowen Ranch, D 85.02 337 ⇓P **P** **04 48 32.1 +0.9**
baz=85
J25A Sunshine Ranch 85.05 339 ⇓P **P** **04 48 32.2 +1.0**
baz=85
I27A Quinn 85.19 340 ⇓P **P** **04 48 32.8 +1.0**
baz=86
K22A Casper 85.21 336 ⇓P **P** **04 48 32.6 +0.5**
baz=86
K22A Casper 85.21 336 *e*P **P** **04 48 33.8 +1.7**
comp=Z,94nm,2.3s
H29A Onida 85.22 341 ⇓P **P** **04 48 32.6 +0.7**
baz=86
TPH Tonopah 85.25 327 *e*P **P** **04 48 33.7 +1.2**
TPH pmax pmax
comp=Z,143nm,3.0s
TPH Tonopah 85.25 327 *e*P **P** **04 48 33.7 +1.2**
comp=Z,143nm,3.0s
DUG Dugway, Tooele 85.25 331 *e*P **P** **04 48 33.0 +0.7**
DUG pmax pmax
comp=Z,12nm,1.1s
DUG Dugway, Tooele 85.25 331 ⇓P **P** **04 48 32.6 +0.3**
baz=86
DUG Dugway, Tooele 85.25 331 *e*P **P** **04 48 33.0 +0.7**
comp=Z,12nm,1.1s
J24A Dixon Ranch, L 85.25 338 ⇑P **P** **04 48 32.5 +0.2**
baz=86
I26A New Underwood 85.38 339 ⇑P **P** **04 48 33.1 +0.3**
baz=86
K21A Alcova 85.43 336 ⇓P **P** **04 48 33.8 +0.6**
baz=86
H28A Mission Ridge 85.48 341 ⇑P **P** **04 48 33.5 +0.3**
baz=86
I25A Rochford 85.61 339 ⇑P **P** **04 48 34.3 +0.2**
baz=86
G29A Hoven 85.68 342 ⇑P **P** **04 48 34.7 +0.6**
baz=86
H27A Howes 85.72 340 ⇑P **P** **04 48 34.4 0.0**
baz=86
RSSD Black Hills 85.79 339 *e*P **P** **04 48 34.6 -0.4**
RSSD pmax pmax
comp=Z,6.0nm,0.8s
RSSD Black Hills 85.79 339 *e*P **P** **04 48 34.6 -0.4**
comp=Z,5.8nm,0.8s
G28A Parade 85.82 341 ⇑P **P** **04 48 35.4 +0.5**
baz=86
J22A Midwest 85.88 337 ⇓P **P** **04 48 36.1 +0.7**
baz=86
HWUT Hardware Ranch 86.01 333 *e*P **P** **04 48 36.7 +0.6**
comp=Z,2nm,1.3s
NV01 Mina Array Sit 86.02 327 *e*P **P** **04 48 36.6 +0.3**
NVAR Mina Array Bea 86.02 327 P **P** **04 48 37.4 +1.1**
comp=Z,0.5nm,0.3s,baz=140,slow=6.9,SNR=5.6
F30A Leola 86.07 343 ⇓P **P** **04 48 36.9 +0.8**
baz=86
H25A Fruitdale 86.13 339 ⇑P **P** **04 48 37.3 +0.8**
baz=86
J21A Lysite 86.13 336 ⇑P **P** **04 48 37.3 +0.6**

baz=86
F29A Eureka 86.26 342 ⇑P **P 04 48 38.0 +0.9**
baz=87
BW06 Boulder Array 86.32 334 *e*P **P 04 48 37.7 0.0**
PD31 Pinedale Array 86.32 334 *e*P **P 04 48 37.8 +0.1**
PDAR Pinedale Array 86.32 334 P **P 04 48 37.8 +0.1**
comp=Z,1.7nm,0.9s,baz=148,slow=4.9,SNR=9.3
I22A 9 Mile Ranch, 86.32 337 ⇓P **P 04 48 38.3 +0.8**
baz=87
J20A Shoshoni 86.34 336 ⇑P **P 04 48 38.7 +1.0**
baz=87
G27A Dupree 86.37 341 ⇓P **P 04 48 38.0 +0.4**
baz=87
G26A Maurine 86.47 340 ⇑P **P 04 48 38.7 +0.6**
baz=87
I21A Big Trails, Te 86.50 336 ⇓P **P 04 48 38.8 +0.4**
baz=87
F28A McLaughlin 86.51 341 ⇑P **P 04 48 38.9 +0.7**
baz=87
H24A Dirks Ranch, A 86.51 339 ⇓P **P 04 48 38.7 +0.3**
baz=87
J19A Crowheart 86.59 335 ⇓P **P 04 48 39.5 +0.6**
baz=87,SNR=6.6
G25A Newell 86.60 340 ⇓P **P 04 48 39.4 +0.6**
baz=87,SNR=6.9
HVU Hansel Valley 86.61 332 *e*P **P 04 48 39.5 +0.5**
HVU pmax pmax
comp=Z,9.0nm,1.1s
HVU Hansel Valley 86.61 332 *e*P **P 04 48 39.5 +0.5**
comp=Z,9.3nm,1.1s
E30A Jud 86.67 343 ⇓P **P 04 48 39.7 +0.7**
baz=87
ELK Elko 86.67 330 *e*P **P 04 48 40.7 +1.2**
ELK pmax pmax
comp=Z,7.0nm,1.1s
ELK Elko 86.67 330 *e*P **P 04 48 40.7 +1.2**
comp=Z,7.2nm,1.1s
TOA0 Torodi Ar. Sit 86.76 71 *e*P **P 04 48 40.6 +0.4**
TORD Torodi Ar. Bea 86.76 71 P **P 04 48 40.4 +0.2**
comp=Z,13nm,1.0s,baz=242,slow=4.4,SNR=39
F27A Lemmon 86.85 341 ⇓P **P 04 48 40.1 +0.1**
baz=87,SNR=5.4
I20A Worland 86.89 336 ⇑P **P 04 48 40.7 +0.4**
baz=87
E29A Napoleon 86.90 342 ⇓P **P 04 48 40.6 +0.4**
baz=87
F26A Lodgepole 87.00 340 ⇓P **P 04 48 40.8 +0.1**
baz=87
G24A Alzada 87.00 339 ⇓P **P 04 48 41.6 +0.8**
baz=87
E28A Huff 87.16 342 ⇑P **P 04 48 42.1 +0.7**
baz=88
G23A Biddle 87.17 338 ⇑P **P 04 48 42.0 +0.4**
baz=88
D30A Buchanan 87.20 343 ⇑P **P 04 48 42.5 +0.9**
baz=88
I19A Meeteetse 87.25 335 ⇓P **P 04 48 42.7 +0.5**
baz=88
REDW Red Top Meadow 87.29 334 *e*P **P 04 48 42.6 +0.2**
comp=Z,16nm,1.4s
H20A Greybull 87.33 336 ⇓P **P 04 48 42.6 +0.2**
baz=88
D29A Pettibone, Tap 87.35 343 ⇓P **P 04 48 42.7 +0.4**
baz=88
LOHW Long Hollow 87.42 334 *e*P **P 04 48 43.1 +0.1**
comp=Z,55nm,2.5s
TPAW Teton Pass 87.44 334 *e*P **P 04 48 43.9 +0.7**
comp=Z,6.8nm,1.0s
E26A Carlson Angus 87.52 341 ⇑P **P 04 48 43.5 +0.3**
baz=88,SNR=5.4
FXWY Fox Creek 87.59 334 *e*P **P 04 48 44.0 +0.2**
comp=Z,37nm,2.4s
F23A Volborg 87.65 338 ⇓P **P 04 48 44.2 +0.4**
baz=88
I17A Pilgrim Ck. 87.68 334 ⇓P **P 04 48 44.7 +0.5**
baz=88
C30A Mose, Pekin 87.70 344 ⇑P **P 04 48 44.5 +0.5**
baz=88,SNR=5.7
D28A Regan 87.71 342 ⇑P **P 04 48 44.2 +0.1**
baz=88,SNR=6.0
AGMN Agassiz Nation 87.71 345 ⇓P **P 04 48 44.5 +0.5**
baz=88
AGMN Agassiz Nation 87.71 345 *e*P **P 04 48 43.9 -0.1**
comp=Z,19nm,1.3s
IMW Indian Meadow 87.79 334 *e*P **P 04 48 45.0 +0.1**
comp=Z,4.6nm,0.9s
E25A Miller Ranch, 87.80 340 ⇓P **P 04 48 45.8 +1.3**
baz=88
H19A Powell 87.81 336 ⇓P **P 04 48 45.2 +0.5**
baz=88
FLWY Flagg Ranch 87.87 334 *e*P **P 04 48 45.0 -0.2**
comp=Z,17nm,1.1s
D26A Manning 88.03 341 ⇑P **P 04 48 46.3 +0.7**
baz=88
H18A Shoshone NF, C 88.04 335 ⇓P **P 04 48 46.6 +0.6**
baz=88
MDND Maddock 88.09 343 ⇑P **P 04 48 46.4 +0.5**
baz=88,SNR=5.2
MDND Maddock 88.09 343 *e*P **P 04 48 46.0 +0.2**
comp=Z,9.1nm,1.0s
B30A Myrvik Farm, E 88.37 344 ⇑P **P 04 48 47.8 +0.7**
baz=89,SNR=13
C27A Sayler Ranch, 88.43 342 ⇓P **P 04 48 47.9 +0.5**
baz=89
YMR Madison River 88.47 334 *e*P **P 04 48 48.6 +0.6**
comp=Z,14nm,1.1s
B29A Wagenman Farm, 88.61 343 ⇑P **P 04 48 48.6 +0.3**
baz=89,SNR=5.9
D24A Glendive 88.61 340 ⇓P **P 04 48 49.4 +1.0**
baz=89
C26A Wahner Farm, P 88.68 341 ⇑P **P 04 48 49.9 +1.2**
baz=89
HLID Hailey 88.75 332 ⇓P **P 04 48 50.4 +1.1**
baz=89
HLID Hailey 88.75 332 *e*P **P 04 48 50.8 +1.5**
comp=Z,10nm,1.3s
A30A Hoffart Farm, 88.83 344 ⇑P **P 04 48 49.3 0.0**
baz=89,SNR=6.1
B28A Dugan Ranch, T 88.83 343 ⇑P **P 04 48 50.2 +0.9**
baz=89
A29A Manning Farm, 89.02 344 ⇓P **P 04 48 50.3 +0.2**
baz=89,SNR=9.0
C24A Savage 89.02 340 ⇑P **P 04 48 50.6 +0.3**
baz=89
E20A Meyer Farm, Mu 89.17 337 ⇑P **P 04 48 51.0 0.0**
baz=90
A28A Rude Farm, Bot 89.24 343 ⇑P **P 04 48 52.4 +1.1**
baz=90
MCMT McKenzie Canyo 89.27 333 *e*P **P 04 48 52.7 +0.9**
ULM Lac du Bonnet 89.58 346 *e*P **P 04 48 53.1 +0.3**
ULM pmax pmax
comp=Z,76nm,2.3s
ULM Lac du Bonnet 89.58 346 P **P 04 48 53.0 +0.3**
comp=Z,4.3nm,1.0s,baz=184,slow=7.5,SNR=5.4
ULM Lac du Bonnet 89.58 346 *e*P **P 04 48 53.0 +0.3**
comp=Z,76nm,2.3s
LSZ Lusaka 90.03 109 *e*P **P 04 48 57.6 +1.6**
LSZ pmax pmax
comp=Z,15nm,1.0s
LSZ Lusaka 90.03 109 *e*P **P 04 48 57.6 +1.6**
comp=Z,15nm,1.0s
F10A Beach Ranch, E 91.86 331 *e*P **P 04 49 03.5 -0.2**
comp=Z,27nm,1.7s
MDT Midelt 95.16 52 LR LR 05 31 50.7
comp=Z,733nm,19.7s,baz=236,slow=35
NIHS Ingelmoor High 95.27 330 *e*P P 04 49 24.3 +5.2
ESDC Sonseca Array 100.07 47 P **Pdif 04 49 40.9 -0.2**
comp=Z,0.3nm,0.5s,baz=266,slow=3.8,SNR=4.1
AS12 Alice Springs 113.75 208 *e*PKKPbc PKKPbc 05 05 16.4 -0.1
AS12 *e*PKKPab **PKKPab 05 05 24.9 -2.3**
ASAR Alice Springs 113.75 208 PKKPbc PKKPbc 05 05 16.4 -0.1
comp=Z,0.8nm,0.9s,baz=0.0,slow=2.8,SNR=5.2
ASAR PKKPab **PKKPab 05 05 24.9 -2.3**
comp=Z,1.6nm,1.0s,baz=343,slow=4.0,SNR=6.8
GEC2 GERESS Array S 115.66 47 *e*PKIKP **PKPdf 04 54 36.9 -0.6**
GEC2 GERESS Array S 115.66 47 *e*PKPdf **PKPdf 04 54 36.9 -0.6**
GERES GERESS Array B 115.66 47 PKP **PKPdf 04 54 36.9 -0.6**
comp=Z,2.3nm,0.9s,baz=202,slow=1.4,SNR=12
CLL Collm 116.42 44 *e*PKIKP **PKPdf 04 54 38.0 -0.7**
CLL MLR MLR
comp=Z,500nm,20.7s
CLL Collm 116.42 44 *e*SS SS 05 11 48.0 -0.5
CLL Lm MLR 05 41 00.0
comp=Z,500nm,20.7s
ILAR Eielson Array 116.70 333 PKP **PKPdf 04 54 38.1 -0.8**
comp=Z,0.8nm,1.0s,baz=212,slow=2.6,SNR=5.2
ILB Eielson Array 116.70 333 *e*PKPdf **PKPdf 04 54 38.1 -0.8**
CRVS Cervenica-Dubn 120.29 50 *e*PKIKP **PKPdf 04 54 50.0 +3.7**

CRVS Cervenica-Dubn 120.29 50 *e*PKP **PKPdf 04 54 50.0 +3.7**
STHS Stebnicka Huta 120.36 49 *e*PKIKP **PKPdf 04 54 49.2 +2.8**
STHS Stebnicka Huta 120.36 49 *e*PKP **PKPdf 04 54 49.2 +2.8**
KWP Kalwaria Pacla 121.33 49 *e*PKIKP **PKPdf 04 54 49.3 +1.0**
KWP Kalwaria Pacla 121.33 49 *e*PKP **PKPdf 04 54 49.2 +1.0**
BUR04 Bucovina Ar. S 122.10 52 *e*PKPdf **PKPdf 04 54 50.1 +0.2**
SUW Suwalki 123.17 44 *e*PKIKP **PKPdf 04 54 51.9 +0.3**
SUW Suwalki 123.17 44 *e*PKP **PKPdf 04 54 51.9 +0.3**
SUW Suwalki 123.17 44 *e*PKPdf **PKPdf 04 54 51.3 -0.3**
KIS Kishinev 124.16 54 *e*PKIKP **PKPdf 04 54 54.0 +0.2**
KIS MLR MLR
comp=Z,500nm,20.0s
KIS MLR MLR
comp=Z,400nm,22.0s
KIS Kishinev 124.16 54 *e*PKP **PKPdf 04 54 54.0 +0.2**
BR231 Keskin MP Arra 124.20 63 *e*PKPdf **PKPdf 04 54 55.1 +0.8**
BR101 Keskin Array S 124.77 64 *e*PKPdf **PKPdf 04 54 55.9 +0.5**
BRTR Keskin Array B 124.77 64 PKP **PKPdf 04 54 55.9 +0.5**
comp=Z,4.9nm,0.9s,baz=183,slow=3.8,SNR=20
AK11 Malin Array Si 125.59 50 *e*PKPdf **PKPdf 04 54 55.4 -1.0**
KIEV Kiev 125.62 50 *d i*PKIKP **PKPdf 04 54 56.1 -0.3**
KIEV Kiev 125.62 50 *e*PKPdf **PKPdf 04 54 55.3 -1.1**
AKASG Malin Array Be 125.63 50 PKP **PKPdf 04 54 55.6 -0.8**
AKASG PP **PP 04 56 45.5 -3.6**
comp=Z,4.1nm,0.9s,baz=270,slow=2.6,SNR=9.6
AKBB Malin Array Si 125.63 50 *e*PKIKP **PKPdf 04 54 55.7 -0.8**
AKBB *e* 04 56 45.5
AKBB Malin Array Si 125.63 50 *e*PKPdf **PKPdf 04 54 55.6 -0.8**
AKBB *e*PP **PP 04 56 45.5 -3.6**
FIA0 FINESS Array S 126.73 36 *e*PKIKP **PKPdf 04 54 58.8 +0.6**
FIA0 FINESS Array S 126.73 36 *e*PKPdf **PKPdf 04 54 58.8 +0.6**
FINES FINESS Array B 126.73 36 PKP **PKPdf 04 54 58.8 +0.6**
comp=Z,2.7nm,1.0s,baz=193,slow=7.8,SNR=4.5
RAYN Ar Rayn 126.73 87 *e*PKPdf **PKPdf 04 54 59.9 +0.3**
OBN Obninsk 130.99 46 *d i*PKIKP **PKPdf 04 55 07.0 +0.5**
OBN *i* 04 57 21.8
OBN pmax pmax
comp=Z,39nm,2.2s
OBN MLR MLR
comp=Z,400nm,20.0s
KIV Kislovodsk 132.53 61 *i*PKIKP **PKPdf 04 55 10.9 +0.9**
KIV *e* 04 57 33.0
KIV *e*SS SS 05 15 10.6 -1.7
KIV *e*SSS SSS 05 20 03.8
KIV pmax pmax
comp=Z,11nm,1.1s
KBZ Khabaz 132.62 62 PKhKP PKPpre 04 55 06.3
comp=Z,2.5nm,0.9s,baz=225,slow=5.7,SNR=2.9
GOF Gofitskoye 133.06 60 *e*PKIKP **PKPdf 04 55 11.6 +0.8**
ZEI Tsey 133.08 63 *i*PKIKP **PKPdf 04 55 11.2 0.0**
ZEI pmax pmax
comp=Z,6.0nm,1.2s
KLMR Klimovskoe 133.11 38 *e*PKIKP **PKPdf 04 55 09.0 -1.3**
KLMR pmax pmax
comp=Z,25nm,1.3s
PRGR Permogore 136.05 37 *e*PKIKP **PKPdf 04 55 14.3 -1.5**
PRGR pmax pmax
comp=Z,17nm,1.1s
GEYT Alibeck 142.33 74 PKhKP PKPpre 04 55 24.6
comp=Z,5.8nm,0.8s,baz=255,slow=5.7,SNR=7.7
IKRD Kardeh 142.33 76 *e*P **PKPdf 04 55 26.5 -2.0**
ISRO Mashad 142.94 77 *e*P **PKPdf 04 55 26.2 -3.2**
ARU Arti 143.35 43 *i*PKIKP PKPbc 04 55 26.2 -0.3
ARU MLR MLR
comp=Z,458nm,19.0s
ARU Arti 143.35 43 *e*PKPpre PKPab 04 55 26.6 +1.3
IMYA Miami 143.44 78 *e*P PKPbc 04 55 28.0 +0.3
KSM Kuching 143.89 187 *e*PKPpre PKPbc 04 55 28.7 -0.6
TIXI Tiksi 143.91 348 ⇑*i*PKIKP PKPbc 04 55 27.7 0.0
TIXI Tiksi 143.91 348 *e*PKPpre PKPab 04 55 28.1 +1.0
MYKOM Kota Tinggi 144.34 176 *e*PKPdf PKPbc 04 55 30.6 -0.1
SBUM Sibu 144.62 190 *e*PKPdf PKPbc 04 55 31.8 +0.2
PSI Prapat 144.77 167 PKP **PKPab 04 55 31.7 -0.4**
comp=Z,40nm,0.9s,baz=202,slow=4.0,SNR=28
AB31 Akbulak array 144.96 56 *i*PKIKP **PKPab 04 55 31.8 +0.2**
AB31 pmax pmax
comp=Z,93nm,1.0s
ABKAR Akbulak array 144.96 56 *e*PKPbc **PKPdf 04 55 32.0 -0.3**
POO Poona 145.98 115 ⇑*i*P **PKPdf 04 55 34.0 -1.1**
comp=Z,50nm,1.0s
LHMI Lhok Sumawe 146.73 163 *e*PKPdf **PKPbc 04 55 37.9 -0.2**
IPM Ipoh 146.74 171 *e*PKPdf **PKPdf 04 55 37.0 +0.5**
KULM Kulim 147.48 170 *e*PKPbc **PKPbc 04 55 40.2 0.0**
HYB Hyderabad 148.51 122 *i*PKP **PKPbc 04 55 43.0 +0.1**
KBL Kabul 149.95 84 *e*PKP2 **PKPbc 04 55 46.2 -0.1**
KBL Kabul 149.95 84 *e*PKPbc **PKPbc 04 55 46.2 -0.1**
SURT Suratani 150.75 165 PKP **PKPbc 04 55 48.4 -0.1**
BRVK Borovoye 150.75 46 ⇑*i*PKIKP **PKPdf 04 55 42.3 +0.6**
BRVK pmax pmax
comp=Z,8.0nm,2.5s
BRVK Borovoye 150.75 46 *e*PKPdf **PKPdf 04 55 41.3 -0.4**
BRVK *e*PKPbc **PKiKP 04 55 48.2 +0.3**
BVA0 Borovoye Array 150.83 46 *i*PKIKP **PKPbc 04 55 47.2 -0.3**
BVA0 pmax pmax
comp=Z,47nm,1.4s
VOSK Vostochnaya 151.26 47 *e*PKIKP **PKPdf 04 55 42.7 +0.1**
VOSK *e* 04 55 49.0
VOSK Vostochnaya 151.26 47 *e*PKPdf **PKPdf 04 55 42.6 +0.1**
VOSK *e*PKPbc **PKiKP 04 55 49.0 0.0**
YAK Yakutsk 151.51 337 *e*PKIKP **PKPbc 04 55 47.8 -1.0**
YAK *e* 04 56 00.0
YAK *e* 04 59 30.6
YAK *e*PPP PPP 05 02 44.8
YAK pmax pmax
comp=Z,57nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,156nm,3.8s
YAK pmax pmax
comp=N,60nm,3.5s
YAK pmax pmax
comp=E,51nm,3.3s
YAK Yakutsk 151.51 337 *e*PKPbc **PKPbc 04 55 48.7 -0.1**
YSS Yuzh-Sakhalins 151.57 301 *e*PKIKP **PKPbc 04 55 49.0 -0.4**
YSS *e* 04 55 56.0
KK31 Karatay Array 152.39 67 *i*PKIKP **PKPdf 04 55 47.3 +2.7**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 152.39 67 *e*PKIKP **PKPdf 04 55 44.1 -0.5**
KKAR *e* 04 55 51.4
KKAR Karatay Array 152.39 67 *e*PKPdf **PKPdf 04 55 44.1 -0.5**
KKAR *e*PKPbc **PKPbc 04 55 51.4 0.0**
NDI New Delhi 154.25 102 *e*P **PKPab 04 56 11.0 +1.0**
MJAR Matsushiro Arr 154.48 278 PKPab **PKPab 04 56 10.8 0.0**
comp=Z,4.0nm,1.0s,baz=150,slow=2.2,SNR=4.9
MAJO Matsushiro 154.48 278 *e*PKP2 **PKPab 04 56 10.8 0.0**
MAJO Matsushiro 154.48 278 *e*PKPab **PKPab 04 56 10.8 0.0**
EKS2 Erkin-Say 154.79 68 *e*PKIKP **PKPdf 04 55 48.5 +0.3**
EKS2 *e* 04 55 57.5
EKS2 *e* 04 56 11.9
EKS2 Erkin-Say 154.79 68 *e*PKPdf **PKPdf 04 55 48.5 +0.3**
EKS2 *e*PKPbc **PKiKP 04 55 57.5 +0.7**
EKS2 *e*PKPab **PKPab 04 56 11.8 -0.2**
AAK Ala-Archa 155.32 68 *e*PKIKP **PKPdf 04 55 49.9 +1.0**
AAK *e* 04 55 57.2
AAK Ala-Archa 155.32 68 PKP **PKPdf 04 55 50.4 +1.4**
comp=Z,2.7nm,0.8s,baz=190,slow=2.1,SNR=8.1
AAK PKPbc PKPab 04 55 59.3 -15
comp=Z,10nm,0.9s,baz=186,slow=2.3,SNR=17
AAK PKPab PKPab 04 56 15.4 +1.0
comp=Z,16nm,0.9s,baz=226,slow=5.1,SNR=13
AAK Ala-Archa 155.32 68 *e*PKPdf **PKPab 04 55 49.9 +1.0**
AAK *e*PKPbc PKPbc 04 55 57.2
AAK *e*PKPab **PKPab 04 56 14.9 +0.5**
FRU Bishkek 155.41 68 *e*PKIKP **PKPdf 04 55 51.0 +2.1**
FRU pmax pmax
comp=Z,55nm,2.0s
TKM2 Tokmak 2 156.12 67 *e*PKIKP **PKPdf 04 55 50.3 +0.2**
TKM2 Tokmak 2 156.12 67 *e*PKPdf **PKPdf 04 55 50.3 +0.2**
TKM2 *e*PKPab **PKPab 04 56 18.2 +0.3**
KSH Kashi 156.34 76 PKP **PKPdf 04 55 50.5 +0.1**
KSH sPKP 04 56 04.2
KSH PKS **PKSdf 04 59 23.6 -0.7**
KSH PP **PP 04 59 55.9 -1.3**
KSH SKS **SKSdf 05 02 54.5 +0.6**
KSH SKKS **SKKSac 05 06 43.4 -0.1**
KSH SS **SS 05 19 43.0 -2.5**
KSH PPMZ
comp=Z,150nm,5.0s
KSH LN
comp=Z,51nm,4.3s

KSH LE
comp=Z,37nm,4.2s
KSH LZ
comp=Z,260nm,5.8s
KURK Kurchatov 156.41 47 *e*PKIKP **PKPdf 04 55 50.1 +0.2**
KURK *e* 04 56 17.3
KURK Kurchatov 156.41 47 *e*PKPdf **PKPdf 04 55 50.1 +0.2**
KURK *e*PKPab **PKPab 04 56 17.3 -1.2**
NVS Novosibirsk 156.70 35 *e*PKIKP **PKPdf 04 55 48.4 -1.7**
NVS pmax pmax
comp=Z,25nm,1.0s
NVS pmax pmax
comp=E,3.0nm,0.7s
ZAA1 Zalesovo Array 157.98 35 *e*PKPdf **PKPdf 04 55 51.7 -0.1**
ZAA1 *e*PKPab **PKPab 04 56 26.1 +0.9**
ZAA0 Zalesovo Array 157.99 35 *e*PKPdf **PKPdf 04 55 50.9 -0.9**
ZAA0 *e*PKPab **PKPab 04 56 25.5 +0.3**
ZALV Zalesovo Beam 157.99 35 PKP **PKPdf 04 55 51.7 -0.1**
comp=E,6.9nm,1.0s,baz=276,slow=2.8,SNR=17
ZALV PKPab **PKPab 04 56 26.1 +0.9**
comp=E,20nm,0.9s,baz=298,slow=6.4,SNR=16
PYUN Piuthan 158.39 109 *e*P **PKPdf 04 55 52.2 -1.2**
KOLN Koldanda 158.67 111 *e*P **PKPdf 04 55 53.2 -0.5**
BOD Bodaibo 159.09 348 *e*PKP2 **PKPab 04 56 28.5 -1.3**
BOD pmax pmax
comp=Z,5.0nm,1.4s
DANN Dangsing 159.10 110 *e*P **PKPdf 04 55 52.6 -1.7**
GKN Gorkha 159.57 112 *e*P **PKPdf 04 55 53.9 -0.8**
DMN Daman 159.69 113 *e*P **PKPdf 04 55 54.2 -0.8**
PKIN Phulchoki 159.89 114 *e*P **PKPdf 04 55 55.1 -0.1**
PKI Pulchoki 159.89 114 *e*P **PKPdf 04 55 55.1 -0.2**
CM01 Chiang Mai Arr 159.90 160 *e*PKPdf **PKPdf 04 55 55.4 +0.2**
CM01 *e*PKPab **PKPab 04 56 33.8 -0.5**
KKN Kakani 159.92 113 *e*P **PKPdf 04 55 55.3 +0.1**
CM31 Chiang Mai Arr 159.94 160 *e*PKPdf **PKPdf 04 55 55.0 -0.2**
CM31 *e*PKPab **PKPab 04 56 34.4 -0.1**
CMAR Chiang Mai Arr 159.94 160 PKP **PKPdf 04 55 55.0 -0.2**
comp=Z,1.3nm,0.2s,baz=244,slow=2.6,SNR=4.2
CMAR PKPab **PKPab 04 56 34.4 -0.1**
comp=Z,1.1nm,0.3s,baz=221,slow=4.5,SNR=6.2
MK31 Makanchi Array 160.10 55 *i*PKIKP **PKPdf 04 55 53.9 -0.6**
MK32 Makanchi Array 160.10 55 *e*PKPdf **PKPdf 04 55 54.9 +0.3**
MK32 *e*PKPab **PKPab 04 56 35.1 +0.4**
MK32 *e*PP **PP 05 00 17.0 -0.2**
MKAR Makanchi Array 160.10 55 *e*PKIKP **PKPdf 04 55 54.0 -0.5**
MKAR Makanchi Array 160.10 55 PKP **PKPdf 04 55 54.9 +0.3**
comp=Z,3.4nm,1.1s,baz=321,slow=1.7,SNR=18
MKAR PKPab **PKPab 04 56 35.1 +0.3**
comp=Z,5.3nm,0.9s,baz=291,slow=3.8,SNR=12
MKAR PP **PP 05 00 17.0 -0.2**
comp=Z,2.4nm,1.1s,baz=270,slow=4.4,SNR=5.4
MKAR Makanchi Array 160.10 55 *e*PKPdf **PKPdf 04 55 54.0 -0.5**
MKAR *e*PKPab **PKPab 04 56 35.0 +0.3**
MK01 Makanchi Array 160.11 55 *e*PKPdf **PKPdf 04 55 53.9 -0.7**
MK01 *e*PKPab **PKPab 04 56 34.5 -0.3**
RAMN Ramite 160.38 117 *e*P **PKPdf 04 55 56.1 +0.3**
GUN Gumba 160.43 114 *e*P **PKPdf 04 55 55.4 -0.5**
JIRN Jiri 160.51 115 *e*P **PKPdf 04 55 55.7 -0.4**
ODAN Odare 160.88 119 *e*P **PKPdf 04 55 56.2 -0.1**
QIZ Qiongzhong 161.26 191 PKP **PKPdf 04 55 56.4 -0.2**
QIZ PP **PP 05 00 24.3 +2.0**
QIZ SS SS 05 20 38.7 +4.0
QIZ LZ
comp=Z,220nm,19.4s
TAPN Taplejung 161.41 118 *e*P **PKPdf 04 55 57.0 +0.1**
HVS Khovu-Aksy 163.79 29 ⇑*e*PKIKP **PKPdf 04 55 57.6 -0.6**
CN2 Changchun 164.13 299 *e*PKP **PKPdf 04 56 00.3 +1.6**
CN2 PP **PP 05 00 40.7 +2.0**
CN2 PPMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,500nm,20.0s
CN2 LE
comp=Z,500nm,20.0s
CN2 LZ
comp=Z,400nm,21.0s
WMQ Urumqi 164.66 60 *e*PKP **PKPdf 04 55 59.0 -0.2**
WMQ sPKP 04 56 13.5
WMQ PKPab **PKPab 04 56 55.9 +1.0**
WMQ PKS **PKSdf 04 59 30.6 -1.5**
WMQ PP **PP 05 00 44.0 +2.4**
WMQ SKS **SKSdf 05 02 58.2 -2.6**
WMQ PPMZ
comp=Z,220nm,9.0s
WMQ LN
comp=Z,270nm,21.0s
WMQ LE
comp=Z,180nm,21.0s
WMQ LZ
comp=Z,260nm,21.0s
HIA Hailar 164.74 324 PKIKP **PKPdf 04 55 56.7 -2.4**
TLY Talaya 165.77 6 *e*PKP2 **PKPab 04 57 00.6 +1.3**
TLY pmax pmax
comp=Z,4.0nm,0.8s
ZAK Zakamensk 167.02 8 ⇓*i*PKP2 **PKPab 04 57 05.9 +1.0**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
KMI Kunming 167.26 166 PKP **PKPdf 04 56 01.9 -0.2**
KMI pPKP **pPKPdf 04 56 11.5 -2.1**
KMI sPKP 04 56 15.4
KMI LZ
comp=Z,170nm,22.6s
NJ2 Nanjing 168.23 246 *e*PKP **PKPdf 04 56 01.9 -0.4**
GYA Guiyang 168.92 182 *e*PKP **PKPdf 04 56 03.2 +0.1**
GYA pPKP **pPKPdf 04 56 13.8 -0.8**
GYA PKPab **PKPab 04 57 16.0 +2.1**
GYA PKS **PKSdf 04 59 33.6 -2.2**
GYA PP **PP 05 01 06.0 +3.7**
GYA SKKS 05 07 49.5
GYA SS **SS 05 21 55.4 +2.3**
GYA PPMZ
comp=Z,120nm,8.8s
GYA LN
comp=Z,130nm,21.3s
GYA LE
comp=Z,110nm,22.5s
GYA LZ
comp=Z,120nm,21.0s
ULN Ulaanbaatar 169.68 357 PKIKP **PKPdf 04 56 01.1 -1.8**
SONA1 Songino Array 169.72 359 *e*PKPdf **PKPdf 04 56 01.8 -1.2**
SONA1 *e*PKPab **PKPab 04 57 17.7 +0.7**
SONA0 Songino Array 169.73 359 *e*PKPdf **PKPdf 04 56 01.0 -1.9**
SONA0 *e*PKPab **PKPab 04 57 18.3 +1.3**
SONM Songino Array 169.73 359 PKP **PKPdf 04 56 01.0 -1.9**
comp=Z,0.8nm,1.0s,baz=349,slow=4.4,SNR=5.5
SONM PKPab **PKPab 04 57 18.3 +1.3**
comp=Z,2.8nm,1.0s,baz=0.0,slow=1.5,SNR=9.5
WHN Wuhan 170.26 226 PKPbc PKPdf 04 55 54.2 -9.4
WHN PP PP 05 01 02.0 -7.8
BJI Beijing 171.82 291 PKP **PKPdf 04 56 05.1 +1.0**
CD2 Chengdu 173.07 162 *e*PKP **PKPdf 04 56 05.8 +0.8**
GTA Gaotai 174.67 68 *e*PKP **PKPdf 04 56 05.7 +0.3**
GTA pPKP **pPKPdf 04 56 15.9 -1.0**
GTA sPKP 04 56 20.1
GTA PKPab **PKPab 04 57 40.6 +1.1**
HHC Hu-ho-hao-te 174.69 310 *e*PKP **PKPdf 04 56 04.1 -0.8**
HHC pPKP **pPKPdf 04 56 15.1 -1.7**
HHC sPKP 04 56 19.8
HHC PKS **PKSdf 04 59 37.0 -0.5**
HHC PP **PP 05 01 35.4 +3.5**
HHC SKS **SKSdf 05 02 59.3 -6.4**
HHC SKKS **SKKSac 05 08 15.4 0.0**
HHC SS **SS 05 22 50.5 -1.0**
HHC PPMZ
comp=Z,260nm,9.5s
HHC LN
comp=Z,190nm,22.2s
HHC LE
comp=Z,250nm,22.2s
HHC LZ
comp=Z,170nm,22.6s
XAN Xi'an 175.84 213 PKP **PKPdf 04 56 05.9 +0.1**
XAN PKPab **PKPab 04 57 43.9 -0.5**
XAN PP **PP 05 01 37.7 +0.9**
XAN SKKS 05 08 18.6
XAN PPMZ
comp=Z,39nm,9.1s
LZH Lanzhou 177.61 127 *e*PKP **PKPdf 04 56 06.4 +0.2**
LZH pPKP **pPKPdf 04 56 15.2 -2.5**
LZH sPKP 04 56 18.0
LZH SKKS 05 08 29.5
LZH SS **SS 05 23 17.4 -2.2**
LZH PPMZ

comp=Z,140nm,5.4s
LZH LN
comp=Z,520nm,17.2s
LZH LE
comp=Z,660nm,18.0s
LZH LZ
comp=Z,820nm,18.8s

*IDC **03** 04:42:21.3±0.9, 37°.37S×73°.84W, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/26, mbtmp4.0/10, ML3.5/1, MS4.4/2, Ms1 4.4/2, ms1mx4.0/23, Error ellipse: s-maj=32.7km s-min=20.1km az=74.0*
*ISCJB **03** 04:42:25.6±0.6, 37°.31S±0°.08×73°.8W±0°.2, h35km, mb4.2/12, MS4.4/2, Error ellipse: s-maj=23.4km s-min=9.9km az=162.7*
*NEIC **03** 04:42:27.1±0.5, 37°.30S×73°.80W, h35km, mb4.5/6, Error ellipse: s-maj=22.4km s-min=9.4km az=73.0*
*GCMT **03** 04:42:27.1±0.4, 37°.40S×74°.27W, h21km±1km, MW5.1/71, Moment Tensor Solution. s30,c34; s71,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.24±.32; $M_{\theta\theta}$-0.73±.17; $M_{\phi\phi}$-3.51±.20; $M_{r\theta}$0.61±.31; $M_{\theta\phi}$-0.33±.11; $M_{\phi r}$-3.19±.32; Best double couple: $M_0$5.05800×10^{16} NP1:ϕ_s176.00000°, δ65.00000°, λ83.00000°. NP2: ϕ_s13.00000°, δ26.00000°, λ105.00000°. Principal axes: T 5.4590, Plg69.0000°, Azm72.0000°; N -0.8050, Plg6.0000°, Azm179.0000°; P -4.6570, Plg20.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 04:42:26.8±0.7, 37°.35±0°.1×73°.8W±0°.2, h35km, n30, σ0§96/23, mb4.2/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.25**	**145**	Pn	**Pn**	**04 43 26.8**	**-2.3**
0.6nm,0.3s,baz=320,slow=11,SNR=6.1							
PLCA	**Paso Flores**	**4.25**	**145**	*e*Pn	**Pn**	**04 43 29.8**	**+0.7**
EFI	**East Falkland**	**18.17**	**147**	*e*Pn	**P**	**04 46 38.0**	**+1.9**
LPAZ	**La Paz**	**21.53**	**15**	P	**P**	**04 47 13.8**	**+0.2**
18nm,1.2s,baz=169,slow=11,SNR=8.8							
LPAZ	**La Paz**	**21.53**	**15**	*e*P	**P**	**04 47 14.1**	**+0.6**
19nm,1.0s							
SIV	**San Ignacio**	**24.03**	**31**	P	**P**	**04 47 39.1**	**+0.5**
4.4nm,0.9s,baz=225,slow=14,SNR=5.3							
SAML	**Samuel**	**29.82**	**21**	*e*P	**P**	**04 48 29.4**	**-1.2**
ATAH	**Atahualpa**	**30.32**	**351**	LR	LR	04 58 36.7	
comp=Z,731nm,18.5s,baz=166,slow=32							
OTAV	**Otavalo**	**37.60**	**352**	*e*P	P	04 49 41.8	+3.2
SDV	**Santo Domingo**	**46.04**	**4**	*e*P	**P**	**04 50 46.4**	**-0.9**
4.6nm,0.9s							
SNAA	**Sanae**	**49.09**	**157**	*e*P	**P**	**04 51 10.4**	**+0.1**
QSPA	**South Pole Qui**	**52.94**	**180**	P	**P**	**04 51 38.9**	**-0.4**
1.3nm,0.8s,baz=80,slow=3.1,SNR=3.8							
QSPA	**South Pole Qui**	**52.94**	**180**	*e*P	**P**	**04 51 39.1**	**-0.2**
5.9nm,1.3s							
RKT	**Rikitea**	**53.88**	**267**	*e*T	T	05 49 28.6	
1.8nm,0.3s							
MEH	**Mehetia**	**67.05**	**265**	*e*T	T	06 05 57.6	
22nm,0.2s							
PPT2	**Papeete2**	**68.40**	**264**	*e*S	S	05 02 35.0	+10
184nm,24.0s							
PPT2	**Papeete2**	**68.40**	**264**	*e*LR	LR	05 14 11.5	
544nm,24.8s							
TXAR	**Lajitas Array**	**71.97**	**333**	P	**P**	**04 53 47.3**	**+0.6**
1.5nm,1.0s,baz=155,slow=8.8,SNR=8.5							
DBIC	**Dimbokro**	**77.58**	**72**	P	**P**	**04 54 19.2**	**-0.3**
4.8nm,1.0s,baz=204,slow=7.3,SNR=4.0							
DBIC	**Dimbokro**	**77.58**	**72**	*e*P	**P**	**04 54 20.0**	**+0.5**
9.4nm,1.1s							
ANMO	**Albuquerque**	**78.03**	**333**	*e*P	**P**	**04 54 23.6**	**+1.8**
5.0nm,1.2s							
BOSA	**Boshof**	**79.79**	**118**	P	**P**	**04 54 32.1**	**+0.4**
3.6nm,1.1s,baz=210,slow=8.1,SNR=3.0							
ECSD	**EROS Data Cent**	**83.28**	**344**	*e*P	**P**	**04 54 49.7**	**+0.3**
8.0nm,1.4s							
NVAR	**Mina Array Bea**	**85.81**	**326**	P	**P**	**04 55 02.3**	**-0.3**
0.4nm,0.6s,baz=171,slow=6.4,SNR=3.1							
PDAR	**Pinedale Array**	**86.09**	**334**	P	**P**	**04 55 04.1**	**+0.2**
0.7nm,1.1s,baz=99,slow=10,SNR=2.6							
TORD	**Torodi Ar. Bea**	**86.66**	**71**	P	**P**	**04 55 07.5**	**+0.4**
1.7nm,1.0s,baz=216,slow=5.2,SNR=6.0							
ULM	**Lac du Bonnet**	**89.33**	**346**	LR	LR	05 32 53.0	
comp=Z,209nm,21.2s,baz=149,slow=34							
ABKAR	**Akbulak array**	**144.79**	**55**	*e*PKPdf	**PKPdf**	**05 01 58.5**	**-0.9**
PSI	**Prapat**	**145.01**	**167**	PKP	**PKPdf**	**05 02 00.1**	**-0.9**
9.3nm,0.8s,baz=198,slow=5.5,SNR=10							
HYB	**Hyderabad**	**148.63**	**122**	*i* PKP	**PKPbc**	**05 02 10.5**	**-0.1**

*IDC **03** 04:45:17.0±1.0, 36°.03S×72°.10W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/28, mbtmp4.1/9, ML3.8/1, MS4.5/2, Ms1 4.5/2, ms1mx3.9/22, Error ellipse: s-maj=35.8km s-min=20.6km az=94.0*
*ISCJB **03** 04:45:20.7±0.9, 36°.0S±0°.1×72°.0W±0°.3, h35km, mb4.0/8, MS4.4/2, Error ellipse: s-maj=31.3km s-min=16.7km az=4.3*

ISC 03 04:45:23.1±1.2, 35°.9S±0°.2×72°.0W±0°.2, h35km, n12, σ1§31/9, mb4.2/8, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**19.86**	**11**	P	**P**	**04 49 51.2**	**-0.6**
0.1nm,0.3s,baz=187,slow=6.2,SNR=2.9							
SIV	**San Ignacio**	**22.11**	**29**	P	**P**	**04 50 13.8**	**-1.6**
2.8nm,0.9s,baz=227,slow=15,SNR=3.0							
NNA	**Nana**	**24.24**	**348**	LR	LR	04 57 19.1	
comp=Z,1μm,18.3s,baz=165,slow=30							
BDFB	**Brasilia**	**29.41**	**53**	P	**P**	**04 51 24.1**	**+0.6**
4.1nm,0.9s,baz=226,slow=6.8,SNR=3.0							
JTS	**JuntasAbangare**	**47.57**	**343**	LR	LR	05 10 16.1	
comp=Z,517nm,20.3s,baz=138,slow=32							
SNAA	**Sanae**	**49.79**	**157**	P	**P**	**04 54 11.2**	**-0.7**
2.9nm,1.2s,baz=304,slow=2.4,SNR=4.5							
QSPA	**South Pole Qui**	**54.31**	**180**	P	P	04 54 43.1	-2.7
5.1nm,0.9s,baz=135,slow=2.6,SNR=10							
TXAR	**Lajitas Array**	**71.44**	**331**	P	**P**	**04 56 39.9**	**-0.1**
0.2nm,0.5s,baz=153,slow=8.1,SNR=3.5							
DBIC	**Dimbokro**	**75.75**	**71**	P	**P**	**04 57 06.7**	**+1.2**
1.8nm,0.7s,baz=153,slow=2.3,SNR=3.5							
TORD	**Torodi Ar. Bea**	**84.81**	**70**	P	**P**	**04 57 54.5**	**+0.2**
1.6nm,1.0s,baz=282,slow=5.3,SNR=4.7							
ULM	**Lac du Bonnet**	**88.37**	**345**	P	**P**	**04 58 11.9**	**+1.1**
2.2nm,0.9s,baz=207,slow=2.3,SNR=3.1							
ZALV	**Zalesovo Beam**	**155.80**	**35**	PKPab	**PKPab**	**05 05 37.5**	**-2.0**
0.5nm,0.4s,baz=335,slow=6.6,SNR=3.7							

IDC 03 04:47:11.0±2.1, 38°.33S×73°.44W, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.7/28, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=97.2km s-min=19.2km az=50.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.28**	**138**	Pn	Pn	04 48 05.2	+1.4
1.8nm,0.3s,baz=307,slow=12,SNR=1.6							
PLCA				Lg	Lg	04 48 53.9	
20nm,0.3s,baz=32,slow=22,SNR=9.6							
TXAR	**Lajitas Array**	**73.01**	**333**	P	P	04 58 42.4	-0.2
0.6nm,0.8s,baz=153,slow=8.4,SNR=3.9							
TORD	**Torodi Ar. Bea**	**86.74**	**71**	P	P	04 59 56.9	-0.3
0.4nm,0.8s,baz=226,slow=4.2,SNR=2.7							
PDAR	**Pinedale Array**	**87.14**	**334**	P	P	04 59 58.6	-0.2
0.8nm,0.9s,baz=144,slow=5.3,SNR=4.7							
MKAR	**Makanchi Array**	**160.28**	**57**	PKPab	PKPab	05 07 52.8	+0.2
0.4nm,0.8s,baz=290,slow=4.2,SNR=3.1							

*IDC **03** 04:56:36.3±1.6, 37°.55S×73°.90W, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.6/27, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=42.3km s-min=18.6km az=84.0*

ISC 03 04:56:41.9±1.8, 37°.5S±0°.1×73°.7W±0°.3, h35km, n7, σ1§20/7, mb3.7/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.03**	**144**	Pn	**Pn**	**04 57 41.9**	**+0.6**
2.8nm,0.3s,baz=312,slow=15,SNR=11							
PLCA				Lg	Lg	04 58 47.0	
3.1nm,0.3s,baz=74,slow=22,SNR=4.3							
CFAA	**Coronel Fontan**	**7.38**	**39**	Pn	**Pn**	**04 58 26.1**	**-1.1**
0.3nm,0.3s,baz=222,slow=11,SNR=6.4							
LPAZ	**La Paz**	**21.68**	**14**	P	**P**	**05 01 31.7**	**+1.4**
1.3nm,0.6s,baz=195,slow=4.7,SNR=3.4							
SIV	**San Ignacio**	**24.14**	**31**	P	**P**	**05 01 55.8**	**+1.1**
0.7nm,0.5s,baz=219,slow=15,SNR=3.2							
QSPA	**South Pole Qui**	**52.75**	**180**	P	**P**	**05 05 52.1**	**-0.9**
2.3nm,0.9s,baz=133,slow=2.6,SNR=8.3							
TORD	**Torodi Ar. Bea**	**86.62**	**71**	P	**P**	**05 09 21.9**	**-0.1**
0.5nm,0.7s,baz=216,slow=5.2,SNR=4.5							
MKAR	**Makanchi Array**	**159.96**	**55**	PKPab	**PKPab**	**05 17 16.8**	**+0.3**
0.3nm,0.7s,baz=270,slow=4.3,SNR=4.3							

*IDC **03** 05:05:41.9±0.7, 37°.76S×74°.04W, h0km, mb4.1/10, mb1 4.2/14, mb1mx4.1/28, mbtmp4.1/14, ML4.0/4, MS3.9/8, Ms1 3.9/8, ms1mx3.7/22, Error ellipse: s-maj=26.3km s-min=17.3km az=85.0*
*ISCJB **03** 05:05:45.4±0.6, 37°.75S±0°.06×73°.8W±0°.1, h33km, mb4.1/11, MS4.0/5, Error ellipse: s-maj=13.9km s-min=8.7km az=169.5*
*NEIC **03** 05:05:47.2±0.4, 37°.73S×73°.88W, h35km, mb4.3/3, Error ellipse: s-maj=11.5km s-min=7.2km az=83.0*

ISC 03 05:05:47.4±0.7, 37°.74S±0°.08×73°.9W±0°.1, h35km, n32, σ0§88/28, mb4.1/11, MS4.0/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.94**	**140**	Pn	**Pn**	**05 06 44.9**	**-0.5**
2.0nm,0.3s,baz=313,slow=12,SNR=41							
PLCA				LR	LR	05 08 01.2	
comp=Z,557nm,18.4s,baz=322,slow=35							
PLCA	**Paso Flores**	**3.94**	**140**	*e*Pn	**Pn**	**05 06 45.4**	**0.0**
CFAA	**Coronel Fontan**	**7.67**	**39**	Pn	**Pn**	**05 07 34.7**	**-1.9**
0.5nm,0.3s,baz=210,slow=12,SNR=7.8							
TRQA	**Tornquist**	**9.39**	**96**	*e*Pn	**Pn**	**05 08 00.3**	**+0.1**
9.3nm,0.8s							
LVC	**Limon Verde**	**15.66**	**17**	*e*Pn	**Pn**	**05 09 24.8**	**-0.9**
10nm,0.8s							
USHA	**Ushuaia**	**17.50**	**170**	P	**Pn**	**05 09 47.6**	**-0.7**
0.4nm,0.3s,baz=288,slow=9.6,SNR=4.9							
USHA				LR	LR	05 16 15.8	
comp=Z,562nm,18.8s,baz=324,slow=36							
CPUP	**Villa Florida**	**18.02**	**56**	P	**P**	**05 09 55.3**	**+0.1**
0.3nm,0.3s,baz=192,slow=9.9,SNR=3.4							
CPUP				LR	LR	05 17 08.3	
comp=Z,330nm,19.4s,baz=200,slow=38							
LPAZ	**La Paz**	**21.96**	**15**	P	**P**	**05 10 39.7**	**+1.0**
13nm,1.0s,baz=181,slow=8.5,SNR=11							
LPAZ	**La Paz**	**21.96**	**15**	*e*P	**P**	**05 10 39.3**	**+0.6**
13nm,0.9s							
SIV	**San Ignacio**	**24.43**	**31**	P	**P**	**05 11 02.9**	**+0.1**
2.7nm,0.8s,baz=224,slow=10,SNR=5.2							
SIV				LR	LR	05 22 17.1	
comp=Z,324nm,19.5s,baz=211,slow=41							
PMSA	**Palmer Station**	**27.69**	**171**	LR	LR	05 21 02.3	
comp=Z,236nm,18.0s,baz=349,slow=33							
SAML	**Samuel**	**30.24**	**21**	*e*P	**P**	**05 11 54.4**	**-0.5**
OTAV	**Otavalo**	**38.02**	**353**	*e*P	**P**	**05 13 03.7**	**+0.8**
12nm,1.4s							
SDV	**Santo Domingo**	**46.48**	**4**	*e*P	**P**	**05 14 10.3**	**-1.0**
SNAA	**Sanae**	**48.72**	**157**	*e*P	**P**	**05 14 27.7**	**-0.3**
QSPA	**South Pole Qui**	**52.51**	**180**	P	**P**	**05 14 56.1**	**-0.6**
14nm,0.8s,baz=145,slow=1.6,SNR=50							
VNDA	**Vanda**	**60.15**	**192**	LR	LR	05 38 41.6	
comp=Z,102nm,18.6s,baz=224,slow=33							
MAW	**Mawson**	**70.02**	**164**	LR	LR	05 46 40.3	
comp=Z,124nm,18.8s,baz=236,slow=35							
TXAR	**Lajitas Array**	**72.33**	**333**	P	**P**	**05 17 08.7**	**-0.8**
0.4nm,0.6s,baz=151,slow=8.2,SNR=5.6							
TXAR				LR	LR	05 43 41.3	
comp=Z,84nm,18.3s,baz=0.0,slow=32							
DBIC	**Dimbokro**	**77.77**	**72**	P	**P**	**05 17 41.9**	**+0.8**
1.0nm,0.6s,baz=220,slow=7.9,SNR=2.8							
ANMO	**Albuquerque**	**78.40**	**333**	*e*P	**P**	**05 17 43.3**	**-1.0**
BOSA	**Boshof**	**79.63**	**118**	P	**P**	**05 17 51.8**	**+0.4**
1.3nm,0.6s,baz=288,slow=3.2,SNR=4.0							
NVAR	**Mina Array Bea**	**86.14**	**327**	P	**P**	**05 18 25.1**	**+0.3**
0.2nm,0.4s,baz=139,slow=4.3,SNR=3.2							
PDAR	**Pinedale Array**	**86.46**	**334**	P	**P**	**05 18 25.4**	**-0.9**
0.9nm,0.8s,baz=159,slow=2.8,SNR=3.2							
TORD	**Torodi Ar. Bea**	**86.85**	**71**	P	**P**	**05 18 28.7**	**+0.1**
1.0nm,0.7s,baz=226,slow=5.2,SNR=13							
ULM	**Lac du Bonnet**	**89.74**	**346**	P	**P**	**05 18 41.8**	**+0.4**
1.9nm,0.7s,baz=159,slow=1.2,SNR=4.4							
AKTO	**Aktyubinsk**	**143.80**	**54**	PKP	PKPbc	05 25 16.5	+0.6
1.1nm,0.5s,baz=315,slow=1.4,SNR=3.5							
ABKAR	**Akbulak array**	**145.08**	**56**	*e*PKPbc	**PKPbc**	**05 25 19.9**	**0.0**
BVAR	**Borovoye Array**	**150.97**	**47**	PKPbc	**PKPbc**	**05 25 36.2**	**+0.5**
0.9nm,0.7s,baz=323,slow=4.3,SNR=4.0							
AAK	**Ala-Archa**	**155.41**	**69**	PKPab	**PKPab**	**05 26 03.6**	**+0.9**
1.3nm,0.7s,baz=232,slow=6.0,SNR=4.1							
CMAR	**Chiang Mai Arr**	**159.78**	**160**	PKPab	**PKPab**	**05 26 22.1**	**+0.4**
0.8nm,0.3s,baz=204,slow=2.0,SNR=5.0							
MKAR	**Makanchi Array**	**160.22**	**55**	PKPab	**PKPab**	**05 26 25.6**	**+2.4**
0.4nm,0.7s,baz=280,slow=3.6,SNR=5.0							

IDC 03 05:12:57.5±7.5, 30°.80S×178°.89W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.5/28, mbtmp3.3/2, Error ellipse: s-maj=306.1km s-min=62.1km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.32**	**268**	P	P	05 20 54.1	+0.7
0.1nm,0.3s,baz=104,slow=7.8,SNR=2.5							
WRA	**Warramunga Arr**	**43.35**	**273**	P	P	05 21 00.7	-1.0
0.2nm,0.3s,baz=114,slow=7.9,SNR=5.9							
FINES	**FINESS Array B**	**145.25**	**339**	PKPbc	PKPbc	05 32 35.2	-0.9
1.7nm,1.0s,baz=48,slow=2.8,SNR=3.6							

*CSEM **03** 05:17:27.4, 37°.63N×25°.14W, h7km, ML2.9*

PDA 03 05:17:27.4±0.5, 37°.63N±25°.14W, h7km±8km, MD3.7, ML2.9, Error ellipse: s-maj=8.8km s-min=2.6km az=55.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRON	**Grota Negra**	**0.34**	**294**	*e*P	Pg	05 17 31.7	-2.4
GRON				*e*S	Sg	05 17 35.2	-3.4
GRON				A	A	05 17 38.4	
419nm,0.2s							
PDA	**Ponta Delgada**	**0.43**	**286**	*e*P	Pg	05 17 34.6	-1.1
PDA				*e*S	Sg	05 17 40.2	-1.1
PDA				A	A	05 17 40.8	
1μm,0.4s							
PDA	**Ponta Delgada**	**0.43**	**286**	*e*P	Pg	05 17 34.6	-1.1
PDA				*e*S	Sg	05 17 40.2	-1.1
PSET	**Sete Cidades**	**0.49**	**293**	*e*P	Pg	05 17 35.8	-1.3
PSET				*e*S	Sg	05 17 42.2	-1.4
PSET				A	A	05 17 50.6	
1μm,0.4s							
PSET	**Sete Cidades**	**0.49**	**293**	*e*P	Pg	05 17 35.8	-1.3
PSET				*e*S	Sg	05 17 42.2	-1.4
PSMN	**Pico do Norte,**	**0.63**	**174**	*e*P	Pg	05 17 37.7	-1.9
PSMN				*e*S	Sg	05 17 45.5	-2.4
PSMN				A	A	05 17 49.0	
125nm,0.4s							
PSMN	**Pico do Norte,**	**0.63**	**174**	*e*P	Pg	05 17 37.7	-1.9
PSMN				*e*S	Sg	05 17 45.5	-2.4
PSMA	**Santa Maria**	**0.64**	**179**	*e*P	Pg	05 17 38.1	-1.6
PSMA				*e*S	Sg	05 17 45.8	-2.2
PSMA				A	A	05 17 46.4	
154nm,0.2s							

GUC 03 05:18:50.4±0.6, 34°.63S×72°.17W, h27km±4km, ML3.7, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.92**	**43**	⇓*i*P	Pn	05 19 06.9	-0.7
LNV				*i* S1	Sn	05 19 19.3	-0.7
CACH	**El Canelo**	**1.40**	**69**	*e*P1	Pn	05 19 14.7	+0.4
CACH				*e*S	Sb	05 19 33.8	+0.2
TACH	**Talagante**	**1.42**	**47**	*e*P1	Pn	05 19 14.4	0.0
CHCH	**Chadas Angostu**	**1.44**	**61**	⇑*i*P	Pn	05 19 15.3	+0.6
CHCH				*i* S1	Sn	05 19 34.4	+1.5
ANTU	**Antumapu**	**1.66**	**51**	⇑*i*P	Pn	05 19 18.8	+1.0
ANTU				*i* S	Sb	05 19 40.1	-0.8
ANTU				AML	AML	05 19 42.6	
comp=N,1μm,0.5s							
SAN	**Santiago**	**1.72**	**47**	*e*P	Pb	05 19 20.0	-1.4
SAN				*i* S	Sb	05 19 42.1	-0.5
STL	**Santa Lucia**	**1.74**	**47**	*e*P9	Pn	05 19 19.6	+0.6
STL				*e*S	Sn	05 19 41.8	+1.4
PEL	**Peldehue**	**1.93**	**40**	⇑*i*P	Pn	05 19 23.1	+1.5
PEL				*i* S	Sb	05 19 47.5	-1.3
PEL				AML	AML	05 19 52.5	
comp=E,1μm,0.2s							

*IDC **03** 05:37:13.1±1.0, 36°.62S×73°.36W, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.7/29, mbtmp3.6/7, ML3.2/2, MS3.8/1, Ms1 3.8/1, ms1mx2.9/24, Error ellipse: s-maj=31.6km s-min=17.0km az=83.0*
*ISCJB **03** 05:37:16.0±0.9, 36°.61S±0°.08×73°.2W±0°.2, h27km, mb3.8/4, MS3.8/1, Error ellipse: s-maj=20.3km s-min=10.2km az=21.9*

ISC 03 05:37:17.4±1.0, 36°.61S±0°.1×73°.3W±0°.2, h27km, n9, σ0§91/9, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.65**	**153**	Pn	**Pn**	**05 38 26.3**	**+0.4**
0.5nm,0.3s,baz=325,slow=12,SNR=7.3							
PLCA				Lg	Lg	05 39 40.8	
4.2nm,0.3s,baz=57,slow=23,SNR=6.7							
CFAA	**Coronel Fontan**	**6.53**	**42**	Pn	**Pn**	**05 38 51.7**	**0.0**
0.1nm,0.3s,baz=233,slow=17,SNR=2.6							
CFAA				Sn	**Sn**	**05 40 05.3**	**0.0**
0.1nm,0.3s,baz=105,slow=20,SNR=2.3							
LPAZ	**La Paz**	**20.76**	**14**	P	**P**	**05 41 58.0**	**+1.2**
0.9nm,0.8s,baz=131,slow=9.3,SNR=2.8							
SIV	**San Ignacio**	**23.24**	**31**	P	**P**	**05 42 22.9**	**+0.3**
2.4nm,0.8s,baz=207,slow=4.6,SNR=4.7							
RCBR	**Riachuelo**	**45.92**	**57**	LR	LR	06 07 35.8	
comp=Z,107nm,18.7s,baz=231,slow=40							
QSPA	**South Pole Qui**	**53.63**	**180**	P	**P**	**05 46 36.1**	**0.0**
1.4nm,0.8s,baz=300,slow=1.8,SNR=5.7							
TXAR	**Lajitas Array**	**71.53**	**332**	P	**P**	**05 48 35.9**	**0.0**
0.7nm,0.7s,baz=152,slow=8.1,SNR=10							
PDAR	**Pinedale Array**	**85.63**	**334**	P	**P**	**05 49 53.5**	**0.0**
0.6nm,1.1s,baz=178,slow=4.4,SNR=2.7							
MKAR	**Makanchi Array**	**159.22**	**53**	PKPab	**PKPab**	**05 57 48.2**	**-1.8**
0.3nm,0.7s,baz=299,slow=3.0,SNR=3.2							

*ISCJB **03** 05:39:29.0±0.6, 34°.98S±0°.07×72°.6W±0°.1, h18km, mb4.1/12, MS3.7/1, Error ellipse: s-maj=13.2km s-min=8.9km az=23.6*
*IDC **03** 05:39:28.0±0.8, 35°.00S×72°.51W, h0km, mb4.0/9, mb1 4.2/12, mb1mx4.0/31, mbtmp4.0/12, ML4.4/2, MS3.2/5, Ms1 3.3/5, ms1mx3.1/28, Error ellipse: s-maj=24.7km s-min=19.2km az=82.0*
*NEIC **03** 05:39:33.1±0.5, 34°.99S×72°.41W, h35km, mb4.4/5, Error ellipse: s-maj=13.9km s-min=8.7km az=77.0*

ISC 03 05:39:30.6±0.7, 35°.01S±0°.08×72°.6W±0°.1, h18km, n24, σ1§01/23, mb4.1/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.95**	**48**	Pn	**Pn**	**05 40 45.5**	**+1.3**
0.7nm,0.3s,baz=211,slow=13,SNR=7.1							
CFAA				Sn	**Sn**	**05 41 42.8**	**+1.8**
1.3nm,0.3s,baz=169,slow=12,SNR=4.7							
CFAA				Lg	Lg	05 41 56.5	
4.8nm,0.3s,baz=125,slow=14,SNR=8.1							
CFAA				LR	LR	05 43 00.8	
comp=Z,38nm,19.9s,baz=243,slow=43							
PLCA	**Paso Flores**	**5.93**	**165**	Pn	**Pn**	**05 40 58.6**	**+1.0**
2.8nm,0.3s,baz=342,slow=12,SNR=4.4							
PLCA				LR	LR	05 43 19.6	
comp=Z,206nm,20.0s,baz=35,slow=39							
TRQA	**Tornquist**	**9.04**	**113**	*e*Pn	**Pn**	**05 41 37.8**	**-2.3**
13nm,0.9s							
LVC	**Limon Verde**	**12.75**	**15**	Pn	**Pn**	**05 42 30.3**	**-1.0**
CPUP	**Villa Florida**	**15.68**	**61**	LR	LR	05 49 34.3	
comp=Z,211nm,18.2s,baz=206,slow=39							
LPAZ	**La Paz**	**19.06**	**13**	P	**Pn**	**05 43 54.0**	**+0.6**
0.3nm,0.3s,baz=188,slow=8.2,SNR=9.6							
LPAZ				LR	LR	05 52 01.3	
comp=Z,60nm,18.7s,baz=52,slow=40							
LPAZ	**La Paz**	**19.06**	**13**	*e*P	**Pn**	**05 43 53.9**	**+0.5**
4.7nm,0.8s							
SIV	**San Ignacio**	**21.55**	**31**	P	**P**	**05 44 18.5**	**-0.5**
3.8nm,0.6s,baz=214,slow=7.4,SNR=12							
RPN	**Rapa Nui**	**32.33**	**274**	LR	LR	05 55 35.0	
comp=Z,155nm,18.5s,baz=107,slow=30							
OTAV	**Otavalo**	**35.49**	**350**	*e*P	**P**	**05 46 26.7**	**-0.1**
22nm,2.5s							
SDV	**Santo Domingo**	**43.69**	**3**	*e*P	**P**	**05 47 34.2**	**-0.6**
3.5nm,0.7s							
BCIP	**Isla Barro Col**	**44.47**	**350**	*e*P	**P**	**05 47 39.5**	**-1.3**
QSPA	**South Pole Qui**	**55.23**	**180**	P	**P**	**05 49 03.1**	**+0.8**
1.0nm,0.7s,baz=125,slow=1.3,SNR=5.7							
QSPA	**South Pole Qui**	**55.23**	**180**	*e*P	**P**	**05 49 02.8**	**+0.5**
3.4nm,0.9s							
TXAR	**Lajitas Array**	**70.41**	**331**	P	**P**	**05 50 44.4**	**+0.7**
1.4nm,0.5s,baz=156,slow=9.0,SNR=37							
WVT	**Waverly**	**72.19**	**347**	*e*P	**P**	**05 50 53.5**	**-0.7**
3.8nm,0.5s							
DBIC	**Dimbokro**	**75.90**	**71**	P	**P**	**05 51 15.8**	**-0.6**
2.5nm,0.9s,baz=219,slow=5.3,SNR=3.3							
ANMO	**Albuquerque**	**76.47**	**332**	P	**P**	**05 51 19.1**	**-0.2**
1.1nm,0.8s,baz=164,slow=14,SNR=5.6							
ANMO	**Alb

BOSA pP pP 06 01 08.4 -7.6
2.7nm,0.9s,baz=214,slow=6.1,SNR=1.7
LBTB Lobatse 81.25 114 P P 06 01 06.7 +1.1
3.4nm,0.8s,baz=248,slow=5.8,SNR=4.2
TMUT Trail Mountain 83.49 330 P P 06 01 16.5 -0.5
TORD Torodi Ar. Bea 84.90 70 P P 06 01 25.4 +1.2
1.2nm,0.9s,baz=261,slow=4.6,SNR=5.0
TORD pP pP 06 01 39.5 -8.1
0.7nm,0.8s,baz=232,slow=4.6,SNR=3.4
NVAR Mina Array Bea 85.83 325 P P 06 01 29.1 +0.5
0.3nm,0.6s,baz=144,slow=5.0,SNR=2.9
BVAR Borovoye Array 148.85 46 PKPbc PKPbc 06 08 37.0 +1.4
0.8nm,0.6s,baz=277,slow=1.2,SNR=4.5
MKAR Makanchi Array 158.12 53 PKPab PKPab 06 09 20.3 +1.1
0.4nm,0.8s,baz=290,slow=3.5,SNR=4.8
SONM Songino Array 168.41 6 PKP PKPdf 06 08 54.7 -0.2
0.4nm,0.3s,baz=1.1,slow=7.4,SNR=3.7

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*IDC **03** 05:49:32.8±0.7, 34°.03S×73°.29W, h0km, mb4.2/9, mb1 4.5/12, mb1mx4.2/35, mbtmp4.3/12, ML5.0/2, MS3.4/2, Ms1 3.3/2, ms1mx3.0/25, Error ellipse: s-maj=23.5km s-min=19.3km az=67.0*
*ISCJB **03** 05:49:35.8±0.6, 34°.09S±0°.08×73°.22W±0°.09, h33km, mb4.2/11, MS3.3/1, Error ellipse: s-maj=12.4km s-min=10.0km az=140.6*
*NEIC **03** 05:49:38.1±0.5, 34°.03S×73°.19W, h35km, mb4.2/2, Error ellipse: s-maj=15.3km s-min=9.9km az=89.0*
ISC 03 05:49:37.9±0.7, 34°.05S±0°.08×73°.3W±0°.1, h35km, n26, σ1§12/26, mb4.2/11, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.90**	**62**	Pn	**Pn**	**05 50 49.1**	**0.0**
	1.5nm,0.3s,baz=224,slow=14,SNR=11						
CFAA				Sn	**Sn**	**05 51 45.1**	**+0.5**
	2.2nm,0.3s,baz=120,slow=21,SNR=6.0						
PLCA	**Paso Flores**	**7.02**	**163**	Pn	**Pn**	**05 51 16.7**	**-1.6**
	9.4nm,0.3s,baz=3.8,slow=12,SNR=7.9						
PLCA				LR	LR	05 54 00.9	
	comp=Z,231nm,18.2s,baz=296,slow=38						
PLCA	**Paso Flores**	**7.02**	**163**	*e*Pn	**Pn**	**05 51 16.8**	**-1.4**
LVC	**Limon Verde**	**12.02**	**20**	Pn	**Pn**	**05 52 24.4**	**-2.6**
LPAZ	**La Paz**	**18.28**	**16**	P	**P**	**05 53 49.0**	**-0.4**
	1.1nm,0.3s,baz=178,slow=10.0,SNR=15						
SIV	**San Ignacio**	**21.08**	**34**	P	**P**	**05 54 17.8**	**-1.5**
	6.2nm,0.8s,baz=214,slow=9.0,SNR=6.3						
BDFB	**Brasilia**	**29.22**	**57**	LR	LR	06 09 03.5	
	comp=Z,66nm,19.0s,baz=272,slow=40						
OTAV	**Otavalo**	**34.45**	**351**	*e*P	**P**	**05 56 21.9**	**-0.9**
	2.3nm,0.9s						
ROSC	**El Rosal**	**38.70**	**358**	P	**P**	**05 57 02.0**	**+2.9**
	9.2nm,0.6s,baz=112,slow=11,SNR=7.1						
SNAA	**Sanae**	**51.93**	**158**	P	**P**	**05 58 43.7**	**+0.8**
	1.9nm,0.8s,baz=268,slow=13,SNR=6.1						
TXAR	**Lajitas Array**	**69.28**	**332**	P	**P**	**06 00 41.9**	**+0.3**
	3.1nm,0.6s,baz=157,slow=8.5,SNR=28						
ANMO	**Albuquerque**	**75.33**	**332**	P	**P**	**06 01 18.8**	**+1.0**
	2.3nm,0.9s,baz=158,slow=7.2,SNR=7.9						
ANMO	**Albuquerque**	**75.33**	**332**	*e*P	**P**	**06 01 18.2**	**+0.5**
	2.6nm,0.9s						
DBIC	**Dimbokro**	**76.18**	**72**	P	**P**	**06 01 22.7**	**-0.2**
	2.3nm,0.6s,baz=211,slow=4.1,SNR=5.0						
PFO	**Pinyon Flats O**	**78.56**	**324**	P	**P**	**06 01 35.6**	**-0.3**
	2.6nm,0.7s,baz=150,slow=6.3,SNR=4.4						
NVAR	**Mina Array Bea**	**83.34**	**326**	P	**P**	**06 02 02.2**	**+0.9**
	0.7nm,0.6s,baz=156,slow=5.9,SNR=4.9						
PDAR	**Pinedale Array**	**83.34**	**334**	P	**P**	**06 02 00.9**	**-0.4**
	2.2nm,1.1s,baz=174,slow=4.3,SNR=6.5						
TORD	**Torodi Ar. Bea**	**85.20**	**71**	P	**P**	**06 02 11.2**	**+0.2**
	2.4nm,0.8s,baz=259,slow=4.6,SNR=8.6						
WRA	**Warramunga Arr**	**120.21**	**210**	PKP	**PKPdf**	**06 08 25.3**	**-0.5**
	0.7nm,0.7s,baz=159,slow=1.4,SNR=5.0						
BRTR	**Keskin Array B**	**122.76**	**61**	PKP	**PKPdf**	**06 08 30.3**	**+0.1**
	0.7nm,0.7s,baz=209,slow=2.5,SNR=4.0						
BVAR	**Borovoye Array**	**148.02**	**42**	PKPbc	**PKPbc**	**06 09 20.0**	**+0.9**
	4.3nm,0.6s,baz=299,slow=1.8,SNR=14						
PSI	**Prapat**	**148.07**	**165**	PKPbc	**PKPbc**	**06 09 20.3**	**-0.3**
	2.4nm,0.4s,baz=321,slow=3.0,SNR=3.7						
AAK	**Ala-Archa**	**153.44**	**62**	PKPbc	**PKPbc**	**06 09 33.7**	**+1.1**
	2.9nm,0.8s,baz=184,slow=1.9,SNR=6.0						
ZALV	**Zalesovo Beam**	**154.81**	**31**	PKPbc	**PKPbc**	**06 09 35.0**	**+0.1**
	2.9nm,0.8s,baz=282,slow=3.2,SNR=7.1						
MKAR	**Makanchi Array**	**157.57**	**48**	PKPab	**PKPab**	**06 10 02.4**	**0.0**
	0.7nm,0.7s,baz=282,slow=3.6,SNR=5.1						
SONM	**Songino Array**	**166.22**	**1**	PKPab	**PKPab**	**06 10 40.6**	**+0.5**
	0.6nm,0.7s,baz=333,slow=3.6,SNR=3.7						

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*ISCJB **03** 05:49:38.8±0.7, 32°.7S±0°.1×71°.6W±0°.2, h25km, mb4.7/14, Error ellipse: s-maj=21.5km s-min=14.2km az=149.7*
*NEIC **03** 05:49:42.2±0.5, 32°.63S×71°.67W, h35km, mb4.7/15, Error ellipse: s-maj=16.0km s-min=10.6km az=59.0*
ISC 03 05:49:40.3±0.8, 32°.7S±0°.1×71°.7W±0°.2, h25km, n29, σ1§51/39, mb4.7/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRQA	**Tornquist**	**9.57**	**127**	*e*Pn	**Pn**	**05 51 57.7**	**+1.2**
LVC	**Limon Verde**	**10.36**	**15**	*e*Pn	**Pn**	**05 52 07.4**	**-0.2**
LPAZ	**La Paz**	**16.67**	**12**	*e*Pn	**Pn**	**05 53 31.6**	**-1.4**
	12nm,1.0s						
SDV	**Santo Domingo**	**41.38**	**2**	P	**P**	**05 57 25.3**	**+0.6**
	8.5nm,0.8s						
JCT	**Junction City**	**68.25**	**334**	*e*P	**P**	**06 00 39.0**	**+0.1**
	5.7nm,0.8s						
WHTX	**Lake Whitney,**	**68.80**	**337**	*e*P	**P**	**06 00 43.4**	**+1.1**
ABTX	**Abilene, Hawle**	**70.12**	**335**	*e*P	**P**	**06 00 50.8**	**+0.3**
	12nm,0.9s						
WVT	**Waverly**	**70.13**	**346**	*e*P	**P**	**06 00 52.1**	**+1.7**
	25nm,0.9s						
PBMO	**Poplar Bluff**	**71.31**	**344**	*e*P	**P**	**06 00 57.9**	**+0.4**
	15nm,1.2s						
TUL1	**Leonard**	**71.89**	**340**	*e*P	**P**	**06 01 00.7**	**-0.4**
MSTX	**Muleshoe**	**72.48**	**333**	*e*P	**P**	**06 01 04.8**	**-0.1**
SMCO	**Snowmass**	**78.66**	**333**	*e*P	**P**	**06 01 40.5**	**0.0**
	7.4nm,1.1s						
ECSD	**EROS Data Cent**	**79.41**	**342**	*e*P	**P**	**06 01 44.5**	**+0.4**
	144nm,2.7s						
CCUT	**Cedar City**	**79.97**	**328**	*e*P	**P**	**06 01 47.8**	**+0.3**
	4.6nm,0.9s						
SRU	**San Rafael Swe**	**80.03**	**330**	*e*P	**P**	**06 01 47.5**	**-0.3**
	5.3nm,1.0s						
R11A	**Troy Canyon, C**	**81.63**	**327**	*e*P	**P**	**06 01 56.0**	**-0.3**
DUG	**Dugway, Tooele**	**81.90**	**329**	*e*P	**P**	**06 01 57.5**	**-0.2**
	11nm,1.4s						
HWUT	**Hardware Ranch**	**82.56**	**331**	*e*P	**P**	**06 02 00.4**	**-0.7**
	4.0nm,0.6s						
HVU	**Hansel Valley**	**83.20**	**330**	*e*P	**P**	**06 02 03.6**	**-0.8**
	6.3nm,0.8s						
ELK	**Elko**	**83.41**	**328**	*e*P	**P**	**06 02 04.8**	**-0.8**
	7.0nm,1.4s						
DLMT	**Dillon**	**86.11**	**332**	*e*P	**P**	**06 02 19.2**	**+0.3**
	56nm,2.6s						
STHS	**Stebnicka Huta**	**115.83**	**46**	PDIF	**Pdif**	**06 04 34.6**	**+1.3**
EKS2	**Erkin-Say**	**151.11**	**60**	*e*PKPbc	**PKPbc**	**06 09 32.0**	**+0.7**
KURK	**Kurchatov**	**151.74**	**42**	*e*PKPbc	**PKPbc**	**06 09 32.1**	**-0.1**
KSH	**Kashi**	**153.12**	**66**	*e*PKPbc	**PKPdf**	**06 09 29.5**	**+1.0**
KSH				sPKP		06 09 43.0	
KSH				PKS	**PKSdf**	**06 13 01.9**	**-1.1**
KSH				PP	**PP**	**06 13 22.6**	**+1.1**
KSH				SKS	**SKSdf**	**06 16 33.2**	**-0.8**
KSH				SS	**SS**	**06 32 50.9**	**-3.0**
KSH				PPMZ			
	66nm,4.1s						
KSH				LN			
	23nm,4.1s						
KSH				LE			
	26nm,4.2s						
KSH				LZ			
	160nm,5.1s						
NJ2	**Nanjing**	**171.04**	**269**	*e*PKP	**PKPdf**	**06 09 46.8**	**+0.3**
HHC	**Hu-ho-hao-te**	**171.46**	**343**	*e*PKP	**PKPdf**	**06 09 46.0**	**-0.6**
HHC				sPKP	**pPKPdf**	**06 09 53.8**	**-1.3**
HHC				sPKP		06 10 00.8	
HHC				PKS	**PKSdf**	**06 13 16.2**	**-2.8**
HHC				PP	**PP**	**06 15 02.1**	**+4.5**
HHC				SKS	**SKSdf**	**06 16 43.8**	**-4.6**
HHC				SS	**SS**	**06 36 02.6**	**+0.7**
HHC				PPMZ			
	240nm,10.1s						
HHC				LN			
	150nm,22.3s						
HHC				LE			
	220nm,22.7s						
HHC				LZ			
	130nm,22.3s						
WHN	**Wuhan**	**174.40**	**249**	PKP	**PKPdf**	**06 09 47.1**	**-0.9**
LZH	**Lanzhou**	**175.02**	**46**	*e*PKP	**PKPdf**	**06 09 48.3**	**0.0**
LZH				pPKP	**pPKPdf**	**06 09 58.4**	**+1.7**
LZH				sPKP		06 10 03.1	

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*ISCJB **03** 05:53:41.7±0.4, 28°.05N±0°.05×139°.84E±0°.07, h500km, mb3.5/14, Error ellipse: s-maj=8.3km s-min=6.9km az=163.9*
*IDC **03** 05:53:42.1±0.6, 28°.03N×139°.72E, h485km±9km, mb3.0/13, mb1 3.1/14, mb1mx3.0/48, mbtmp3.9/14, Error ellipse: s-maj=15.4km s-min=12.8km az=89.0*
*JMA **03** 05:53:42.6±0.2, 28°.15N×140°.38E, h515km, M3.7*
ISC 03 05:53:42.8±0.6, 28°.04N±0°.07×139°.8E±0°.1, h500km, n31, σ1§29/34, mb3.5/14, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.29**	**114**	P	**P**	**05 54 49.0**	**-0.4**
CBIJ				*e*S	**S**	**05 55 41.4**	**-2.1**
JCJ	**Chichijima**	**2.29**	**114**	P	**P**	**05 54 49.1**	**-0.3**
	25nm,0.3s,baz=19,slow=14,SNR=39						
JCJ				S	**S**	**05 55 41.5**	**-2.0**
	43nm,0.3s,baz=247,slow=23,SNR=12						
JHHJ	**Haha-jima-NKT**	**2.51**	**124**	S	**S**	**05 55 44.9**	**-0.9**
BSO1	**Boso 1**	**6.66**	**8**	*e*S	**S**	**05 56 48.4**	**-0.2**
BSO3	**Boso 3**	**6.76**	**5**	S	**S**	**05 56 49.1**	**-1.8**
JIE	**Ise**	**6.87**	**338**	P	**P**	**05 55 30.4**	**+2.8**
JRY	**Ryogami san**	**7.99**	**355**	P	**P**	**05 55 39.6**	**+0.6**
JAG	**Ashikaga**	**8.37**	**358**	P	**P**	**05 55 42.5**	**-0.3**
JAG				*e*S	**S**	**05 57 16.8**	**-4.6**
SONM	**Songino Array**	**32.59**	**316**	P	**P**	**05 59 32.4**	**0.0**
	0.7nm,0.6s,baz=134,slow=10,SNR=3.6						
CMAR	**Chiang Mai Arr**	**38.62**	**265**	P	**P**	**06 00 21.6**	**-1.1**
	1.0nm,0.3s,baz=72,slow=6.3,SNR=4.7						
ODAN	**Odare**	**46.26**	**281**	*e*P	**P**	**06 01 23.7**	**+0.6**
PSI	**Prapat**	**46.38**	**245**	P	**P**	**06 01 23.9**	**-0.1**
	1.4nm,0.3s,baz=168,slow=9.3,SNR=3.3						
RAMN	**Ramite**	**46.92**	**282**	*e*P	**P**	**06 01 28.7**	**+0.6**
	5.4nm,0.3s						
JIRN	**Jiri**	**47.10**	**283**	*e*P	**P**	**06 01 30.1**	**+0.5**
	13nm,0.6s						
GUN	**Gumba**	**47.31**	**283**	*e*P	**P**	**06 01 31.5**	**+0.3**
	12nm,0.4s						
ZALV	**Zalesovo Beam**	**47.41**	**319**	P	**P**	**06 01 30.7**	**-0.3**
	0.8nm,0.3s,baz=114,slow=8.1,SNR=4.0						
PKIN	**Phulchoki**	**47.81**	**283**	*e*P	**P**	**06 01 35.1**	**+0.3**
	5.0nm,0.4s						
WRA	**Warramunga Arr**	**48.00**	**187**	P	**P**	**06 01 35.5**	**-0.4**
	176nm,0.9s,baz=5.3,slow=7.9,SNR=123						
DMN	**Daman**	**48.05**	**283**	*e*P	**P**	**06 01 36.5**	**-0.1**
	5.8nm,0.4s						
MKAR	**Makanchi Array**	**48.27**	**309**	P	**P**	**06 01 37.5**	**-0.1**
	0.9nm,0.6s,baz=90,slow=10.0,SNR=18						
DANN	**Dangsing**	**49.03**	**284**	*e*P	**P**	**06 01 44.3**	**+0.4**
	6.5nm,0.5s						
KOLN	**Koldanda**	**49.31**	**284**	*e*P	**P**	**06 01 45.9**	**0.0**
PYUN	**Piuthan**	**49.75**	**284**	*e*P	**P**	**06 01 49.2**	**0.0**
	30nm,0.4s						
ASAR	**Alice Springs**	**51.73**	**187**	P	**P**	**06 02 04.1**	**+0.8**
	0.2nm,0.6s,baz=16,slow=13,SNR=6.9						
AAK	**Ala-Archa**	**54.01**	**304**	P	**P**	**06 02 20.0**	**+0.4**
	1.4nm,0.5s,baz=112,slow=1.0,SNR=4.1						
BVAR	**Borovoye Array**	**55.94**	**317**	P	**P**	**06 02 33.0**	**+0.2**
	2.9nm,0.4s,baz=97,slow=7.2,SNR=14						
ILAR	**Eielson Array**	**57.89**	**29**	P	**P**	**06 02 46.2**	**+0.2**
	0.2nm,0.4s,baz=250,slow=5.6,SNR=6.4						
AKTO	**Aktyubinsk**	**63.90**	**315**	P	**P**	**06 03 25.1**	**-0.8**
	0.7nm,0.6s,baz=66,slow=16,SNR=4.0						
YKA	**Yellowknife Ar**	**72.29**	**28**	P	**P**	**06 04 17.4**	**+0.7**
	0.3nm,0.6s,baz=297,slow=5.8,SNR=6.5						
FINES	**FINESS Array B**	**76.17**	**333**	P	**P**	**06 04 38.8**	**+0.1**
	0.9nm,0.4s,baz=84,slow=5.9,SNR=5.7						
NVAR	**Mina Array Bea**	**81.56**	**51**	P	**P**	**06 05 10.3**	**+2.1**
	0.3nm,0.5s,baz=332,slow=3.6,SNR=2.9						

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*IDC **03** 05:56:00.9±0.8, 36°.11S×52°.59E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/51, mbtmp3.9/7, MS3.6/2, Ms1 3.6/2, ms1mx3.0/41, Error ellipse: s-maj=36.7km s-min=22.6km az=34.0*
*ISCJB **03** 05:56:02.3±0.8, 36°.3S±0°.1×52°.5E±0°.2, h18km, mb3.9/7, MS3.5/2, Error ellipse: s-maj=27.3km s-min=17.0km az=143.4*
ISC 03 05:56:03.8±0.8, 36°.2S±0°.2×52°.6E±0°.2, h18km, n12, σ1§09/11, mb4.0/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**18.23**	**343**	P	**P**	**06 00 18.0**	**+1.8**
	0.6nm,0.3s,baz=162,slow=11,SNR=4.6						
LBTB	**Lobatse**	**25.71**	**288**	LR	LR	06 10 07.9	
	comp=Z,106nm,19.4s,baz=175,slow=33						
MAW	**Mawson**	**31.96**	**173**	LR	LR	06 11 29.2	
	comp=Z,137nm,19.3s,baz=87,slow=29						
TSUM	**Tsumeb**	**35.10**	**289**	P	**P**	**06 02 56.5**	**+0.2**
	1.4nm,0.7s,baz=127,slow=10,SNR=4.1						
QSPA	**South Pole Qui**	**53.96**	**180**	P	**P**	**06 05 26.6**	**+0.3**
	2.1nm,1.0s,baz=311,slow=3.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**68.67**	**306**	P	**P**	**06 07 06.5**	**+0.1**
	0.9nm,0.8s,baz=124,slow=5.1,SNR=4.6						
ASAR	**Alice Springs**	**69.69**	**105**	P	**P**	**06 07 13.6**	**+0.9**
	1.6nm,0.7s,baz=233,slow=6.1,SNR=13						
WRA	**Warramunga Arr**	**72.01**	**102**	P	**P**	**06 07 27.5**	**+0.7**
	1.8nm,0.8s,baz=233,slow=5.3,SNR=8.5						
AKTO	**Aktyubinsk**	**86.42**	**3**	P	**P**	**06 08 44.5**	**-0.1**
	0.5nm,0.5s,baz=198,slow=3.2,SNR=2.3						
MKAR	**Makanchi Array**	**86.84**	**20**	P	**P**	**06 08 46.2**	**-0.6**
	0.3nm,0.7s,baz=205,slow=3.0,SNR=3.6						
ILAR	**Eielson Array**	**149.13**	**16**	PKPbc	**PKPbc**	**06 15 49.4**	**-0.7**
	1.3nm,0.9s,baz=318,slow=3.4,SNR=12						
YKA	**Yellowknife Ar**	**152.53**	**347**	PKPbc	**PKPbc**	**06 15 56.9**	**-1.2**
	0.3nm,0.6s,baz=14,slow=2.1,SNR=8.0						
YKA				PKPab	**PKPab**	**06 16 06.9**	**-1.6**
	0.4nm,0.8s,baz=21,slow=4.6,SNR=7.4						

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*ISCJB **03** 05:56:17.4±1.1, 34°.79S±0°.05×178°.7W±0°.2, h33km, mb4.6/6, MS3.7/4, Error ellipse: s-maj=18.6km s-min=5.2km az=16.0*
*NEIC **03** 05:56:23.0±2.6, 34°.79S×179°.03W, h51km±19km, mb4.6/2, Error ellipse: s-maj=24.5km s-min=14.6km az=52.0*
*IDC **03** 05:56:24.5±2.6, 34°.78S×179°.12W, h60km±22km, mb4.4/5, mb1 4.4/7, mb1mx3.8/41, mbtmp4.6/7, ML4.1/2, MS3.9/5, Ms1 3.9/5, ms1mx3.5/32, Error ellipse: s-maj=23.7km s-min=16.7km az=158.0*
ISC 03 05:56:22.1±0.7, 34°.77S±0°.07×179°.0W±0°.1, h42km, n54, σ1§32/64, mb4.6/6, MS3.7/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.56**	**218**	PN	**Pn**	**05 57 14.7**	**-0.1**
WMGZ	**Waiomatatini S**	**3.71**	**214**	PN	**Pn**	**05 57 16.4**	**-0.5**
WMGZ				SN	**Sn**	**05 58 01.3**	**+1.9**
HAZ	**Te Kaha**	**3.98**	**221**	PN	**Pn**	**05 57 20.9**	**+0.4**
HAZ				SN	**Sn**	**05 58 09.3**	**+3.4**
PUZ	**Puketiti**	**3.99**	**213**	PN	**Pn**	**05 57 19.3**	**-1.5**
PUZ				SN	**Sn**	**05 58 06.5**	**+0.2**
TWGZ	**Tauwhareparae**	**4.20**	**215**	PN	**Pn**	**05 57 23.0**	**-0.7**
TWGZ				SN	**Sn**	**05 58 12.7**	**+1.2**
MWZ	**Matawai**	**4.55**	**217**	PN	**Pn**	**05 57 27.2**	**-1.2**
MWZ				SN	**Sn**	**05 58 21.2**	**+1.2**
URZ	**Urewera**	**4.71**	**221**	P	**Pn**	**05 57 29.9**	**-0.7**
	16nm,0.3s,baz=39,slow=2.6,SNR=50						
URZ				S	**Sn**	**05 58 24.5**	**+0.6**
	23nm,0.3s,baz=139,slow=18,SNR=12						
URZ	**Urewera**	**4.71**	**221**	PN	**Pn**	**05 57 29.8**	**-0.7**
URZ	**Urewera**	**4.71**	**221**	*e*Pn	**Pn**	**05 57 29.7**	**-0.9**
URZ				S	**Sn**	**05 58 24.5**	**+0.6**
URZ				*e*Sn	Sn	05 58 25.1	+1.2
RAGZ	**Rawiri**	**4.72**	**217**	PN	**Pn**	**05 57 29.6**	**-1.3**
RIGZ	**Rimuhau**	**4.73**	**213**	PN	**Pn**	**05 57 29.7**	**-1.3**
KNZ	**Kokohu**	**5.03**	**211**	PN	**Pn**	**05 57 33.3**	**-1.7**
RAHZ	**Arahi**	**5.21**	**216**	*e*PN	**Pn**	**05 57 36.8**	**-0.8**
WHHZ	**Waihua**	**5.27**	**214**	PN	**Pn**	**05 57 38.6**	**+0.3**
MCHZ	**McNeill Hill**	**5.81**	**215**	PN	**Pn**	**05 57 44.7**	**-1.1**
OUZ	**Omahuta**	**6.13**	**264**	*e*Pn	**Pn**	**05 57 50.7**	**+0.6**
	249nm,1.2s						
BHHZ	**Black Hill Sta**	**6.16**	**219**	PN	**Pn**	**05 57 49.5**	**-1.2**
MRZ	**Mangatainoka R**	**7.30**	**215**	PN	**Pn**	**05 58 04.4**	**-1.8**
DZM	**Mont Dzumac**	**18.00**	**311**	P	**Pn**	**06 00 29.4**	**+0.1**
	0.4nm,0.3s,baz=139,slow=10,SNR=10						
DZM				LR	LR	06 06 25.0	
	comp=Z,639nm,18.4s,baz=174,slow=34						
RMQ	**Roma**	**28.89**	**278**	P	**P**	**06 02 18.7**	**+1.7**
	baz=35,SNR=9.3						
PPT	**Papeete**	**31.28**	**64**	LR	LR	06 13 15.7	
	comp=Z,98nm,21.9s,baz=224,slow=32						
HNR	**Honiara**	**31.76**	**318**	LR	LR	06 12 10.7	
	comp=Z,104nm,19.1s,baz=221,slow=30						
QLP	**Quilpie**	**32.55**	**274**	P	**P**	**06 02 49.7**	**+0.4**
	baz=38,SNR=5.4						
STKA	**Stephens Creek**	**32.95**	**264**	P	**P**	**06 02 53.8**	**+1.0**
	1.2nm,0.5s,baz=103,slow=12,SNR=6.3						
STKA				PcP	**PcP**	**06 05 35.2**	**-1.0**
	1.1nm,0.6s,baz=90,slow=8.1,SNR=3.8						
STKA				LR	LR	06 16 43.9	
	comp=Z,290nm,18.4s,baz=52,slow=37						
STKA	**Stephens Creek**	**32.95**	**264**	P	**P**	**06 02 54.1**	**+1.4**
	baz=39,SNR=3.5						
CTA	**Charters Tower**	**33.97**	**286**	P	**P**	**06 03 02.2**	**+0.5**
	5.1nm,0.6s,baz=106,slow=12,SNR=9.8						
CTAO	**Charters Tower**	**33.97**	**286**	*e*P	**P**	**06 03 01.4**	**-0.4**
	9.0nm,0.8s						
HTT	**Hallett**	**34.72**	**260**	P	**P**	**06 03 08.8**	**+0.6**
	baz=40,SNR=4.5						
BBOO	**Buckleboo**	**37.20**	**260**	P	**P**	**06 03 28.9**	**-0.5**
	baz=43,SNR=7.4						
AS31	**Alice Springs**	**42.27**	**272**	*e*P	**P**	**06 04 10.8**	**-0.9**
ASAR	**Alice Springs**	**42.27**	**272**	P	**P**	**06 04 10.8**	**-0.8**
	11nm,0.6s,baz=116,slow=7.6,SNR=215						
ASAR				PcP	**PcP**	**06 06 04.0**	**-1.0**
	1.3nm,0.7s,baz=120,slow=4.0,SNR=5.0						
ASAR				S	**S**	**06 10 26.9**	**-2.7**
	0.5nm,0.7s,baz=116,slow=15,SNR=7.5						
ASAR				LR	LR	06 22 11.5	
	comp=Z,165nm,18.8s,baz=115,slow=37						
WRAB	**Tennant Creek**	**43.64**	**277**	*e*P	**P**	**06 04 20.9**	**-1.8**
	6.8nm,0.6s						
WRA	**Warramunga Arr**	**43.65**	**277**	P	**P**	**06 04 21.6**	**-1.3**
	6.9nm,0.6s,baz=119,slow=7.5,SNR=33						
WRA				PcP	**PcP**	**06 06 08.6**	**-1.1**
	1.2nm,0.6s,baz=113,slow=3.3,SNR=3.9						
FORT	**Forrest**	**44.30**	**260**	P	**P**	**06 04 26.9**	**-1.0**
	baz=50,SNR=20						
WRKA	**Warakurna**	**46.29**	**267**	P	**P**	**06 04 42.0**	**-1.8**
	baz=52,SNR=25						
PATS	**Pohnpei**	**46.62**	**328**	S	**S**	**06 11 34.0**	**+1.4**
	baz=50,SNR=3.7						
KNRA	**Kununurra**	**50.39**	**278**	P	**P**	**06 05 14.5**	**-0.9**
	baz=56,SNR=4.7						
PETK	**Petropavlovsk-**	**89.84**	**346**	P	**P**	**06 09 16.6**	**+0.8**
	6.7nm,0.7s,baz=132,slow=6.6,SNR=6.9						
MKAR	**Makanchi Array**	**119.91**	**308**	PKP	**PKPdf**	**06 15 06.4**	**-1.2**
	0.2nm,0.7s,baz=116,slow=0.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**120.71**	**317**	PKP	**PKPdf**	**06 15 07.9**	**-1.0**
	0.4nm,0.4s,baz=90,slow=0.3,SNR=2.9						
ARCES	**ARCESS Array B**	**142.65**	**346**	PKP	**PKPdf**	**06 15 48.4**	**-1.2**
	2.6nm,0.8s,baz=29,slow=2.6,SNR=3.7						
JOF	**Joensuu**	**146.12**	**336**	*e*p	**PKPdf**	**06 15 55.8**	**0.0**
	8.2nm,0.5s						
KBZ	**Khabaz**	**146.67**	**298**	PKPbc	**PKPdf**	**06 15 57.6**	**+0.4**
	2.4nm,1.1s,baz=207,slow=2.3,SNR=2.4						
KAF	**Kangasniemi**	**148.33**	**338**	*e*p	**PKPdf**	**06 16 01.7**	**+2.2**
	2.9nm,0.5s						
FINES	**FINESS Array B**	**148.90**	**337**	PKPbc	**PKPbc**	**06 16 04.3**	**-0.1**
	3.9nm,0.7s,baz=100,slow=4.3,SNR=11						
LIC	**Lamto**	**151.04**	**167**	*e*PKIKP	**PKPab**	**06 16 22.1**	**+3.5**
	17nm,0.6s						
KIC	**Kosan Boka**	**151.23**	**168**	*e*PKIKP	**PKPab**	**06 16 22.4**	**+3.0**
	114nm,2.0s						
TIC	**Toumodi**	**151.46**	**167**	*e*PKIKP	**PKPab**	**06 16 22.5**	**+2.2**
	3.7nm,0.2s						
DBIC	**Dimbokro**	**151.51**	**168**	PKPab	**PKPab**	**06 16 20.8**	**+0.3**
	1.3nm,0.5s,baz=155,slow=4.9,SNR=5.6						
NB2	**NORSAR Subarra**	**152.91**	**349**	PKP	**PKPbc**	**06 16 13.7**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**152.91**	**349**	PKPbc	**PKPbc**	**06 16 13.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=

VLKR	**Vladikavkaz**	**0.99**	**56**	*e*Pg	**Pg**	**06 02 33.2**	**-0.3**
VLKR				*e*Sg	**Sg**	**06 02 46.7**	**+0.3**
NCK	**Nalchik**	**0.99**	**2**	*e*PG	**Pg**	**06 02 33.6**	**0.0**
NCK	**Nalchik**	**0.99**	**2**	*e*Pg	**Pg**	**06 02 33.6**	**0.0**
SNJR	**Sundja**	**1.08**	**58**	*e*PG	**Pb**	**06 02 34.7**	**-0.6**
SNJR				*e*S	**Sb**	**06 02 49.4**	**-0.1**
SNJR	**Sundja**	**1.08**	**58**	*e*Pg	**Pb**	**06 02 34.7**	**-0.6**
SNJR				*e*Sg	**Sb**	**06 02 49.4**	**-0.1**
AKH	**Akhalkalaki**	**1.09**	**183**	*e*PN	**Pb**	**06 02 34.1**	**-1.4**
AKH				*e*SN	**Sb**	**06 02 49.6**	**-0.2**
AKH	**Akhalkalaki**	**1.09**	**183**	*i* PG	**Pb**	**06 02 34.6**	**-0.9**
AKH	**Akhalkalaki**	**1.09**	**183**	P	**Pb**	**06 02 34.6**	**-0.9**
AKH				S	**Sg**	**06 02 50.1**	**+0.4**
AKH	**Akhalkalaki**	**1.09**	**183**	*e*Pn	**Pb**	**06 02 34.1**	**-1.4**
AKH	**Akhalkalaki**	**1.09**	**183**	P	**Pb**	**06 02 34.6**	**-0.9**
AKH				*e*Sn	**Sb**	**06 02 49.6**	**-0.2**
AKH				S	**Sg**	**06 02 50.1**	**+0.4**
BTKR	**Batakoyurt**	**1.13**	**39**	*e*PG	**Pg**	**06 02 37.1**	**+0.9**
BTKR				*e*S	**Sn**	**06 02 52.5**	**+0.6**
BTKR	**Batakoyurt**	**1.13**	**39**	*e*Pg	**Pg**	**06 02 37.1**	**+0.9**
BTKR				*e*Sg	**Sn**	**06 02 52.5**	**+0.6**
TBLG	**Delisi**	**1.17**	**131**	*e*PN	**Pb**	**06 02 36.3**	**-0.5**
TBLG				*e*SN	**Sn**	**06 02 52.6**	**-0.2**
TBLG	**Delisi**	**1.17**	**131**	*e*PG	**Pb**	**06 02 36.2**	**-0.5**
TBLG	**Delisi**	**1.17**	**131**	P	**Pb**	**06 02 36.2**	**-0.5**
TBLG				S	**Sg**	**06 02 52.2**	**+0.1**
TBLG	**Delisi**	**1.17**	**131**	P	**Pb**	**06 02 36.2**	**-0.5**
TBLG				S	**Sg**	**06 02 52.2**	**+0.1**
KUBR	**Kubataba**	**1.30**	**355**	‖*e*PG	**Pg**	**06 02 39.5**	**0.0**
KUBR				*e*S	**Sg**	**06 02 57.7**	**+1.3**
KUBR	**Kubataba**	**1.30**	**355**	*e*Pg	**Pg**	**06 02 39.5**	**0.0**
KUBR				*e*Sg	**Sg**	**06 02 57.7**	**+1.3**
PRTR	**Priterechnaya**	**1.36**	**23**	*e*PG	**Pb**	**06 02 39.9**	**0.0**
PRTR				*e*S	**Sg**	**06 02 58.3**	**+0.2**
PRTR	**Priterechnaya**	**1.36**	**23**	*e*Pg	**Pb**	**06 02 39.9**	**0.0**
PRTR				*e*Sg	**Sg**	**06 02 58.3**	**+0.2**
TRKR	**Terskaya**	**1.49**	**35**	*e*PG	**Pg**	**06 02 42.8**	**-0.3**
TRKR				*e*S	**Sg**	**06 03 03.0**	**+0.5**
TRKR	**Terskaya**	**1.49**	**35**	*e*Pg	**Pg**	**06 02 42.8**	**-0.3**
TRKR				*e*Sg	**Sg**	**06 03 03.0**	**+0.5**
PYA	**Pyatigorsk**	**1.57**	**347**	‖*e*PG	**Pb**	**06 02 43.3**	**-0.3**
PYA				*e*S	**Sg**	**06 03 04.6**	**-0.5**
PYA	**Pyatigorsk**	**1.57**	**347**	*e*Pg	**Pb**	**06 02 43.3**	**-0.3**
PYA				*e*Sg	**Sg**	**06 03 04.6**	**-0.5**
KIV	**Kislovodsk**	**1.59**	**337**	*e*PN	**Pn**	**06 02 41.0**	**-1.6**
KIV	**Kislovodsk**	**1.59**	**337**	‖*e*PG	**Pb**	**06 02 43.6**	**-0.3**
KIV				*i* S	**Sb**	**06 03 04.5**	**+0.5**
KIV	**Kislovodsk**	**1.59**	**337**	*e*Pg	**Pb**	**06 02 43.6**	**-0.3**
KIV				*i* Sg	**Sb**	**06 03 04.5**	**+0.5**
DGRG	**David-gareji**	**1.71**	**127**	*e*PN	**Pb**	**06 02 46.1**	**+0.1**
DGRG	**David-gareji**	**1.71**	**127**	P	**Pb**	**06 02 46.2**	**+0.1**
DGRG				S	**Sg**	**06 03 10.9**	**+1.4**
DGRG	**David-gareji**	**1.71**	**127**	*e*Pn	**Pb**	**06 02 46.1**	**+0.1**
DGRG				S	**Sg**	**06 03 10.9**	**+1.4**
ARTV	**Artvin**	**1.79**	**223**	*i* S	**Sb**	**06 03 10.3**	**+0.3**
ARTV	**Artvin**	**1.79**	**223**	*i* P	**Pb**	**06 02 46.6**	**-0.9**
ARTV				*i* S	**Sb**	**06 03 10.3**	**+0.3**
EAK	**Akyaka**	**1.81**	**179**	*i* P	**Pn**	**06 02 46.6**	**+0.8**
EAK	**Akyaka**	**1.81**	**179**	*i* P	**Pn**	**06 02 46.6**	**+0.8**
DBOC	**Borcka**	**1.82**	**231**	*i* P	**Pb**	**06 02 47.0**	**-0.9**
DBOC				*i* S	**Sb**	**06 03 10.7**	**-0.1**
DBOC	**Borcka**	**1.82**	**231**	*i* P	**Pb**	**06 02 47.0**	**-0.9**
DBOC				*i* S	**Sb**	**06 03 10.7**	**-0.1**
DAGI	**Agillar**	**1.88**	**221**	*i* P	**Pb**	**06 02 48.3**	**-0.6**
DAGI				*i* S	**Sb**	**06 03 12.0**	**-0.4**
KARS	**Kars**	**1.91**	**191**	*e*PN	**Pn**	**06 02 46.5**	**-0.5**
KARS	**Kars**	**1.91**	**191**	*e*Pn	**Pn**	**06 02 46.6**	**-0.5**
DBAD	**Bademkaya**	**2.04**	**224**	*i* P	**Pn**	**06 02 50.0**	**+1.2**
DBAD				*i* S	**Sb**	**06 03 17.8**	**+0.9**
DBAD	**Bademkaya**	**2.04**	**224**	*i* P	**Pn**	**06 02 50.0**	**+1.2**
DBAD				*i* S	**Sb**	**06 03 17.8**	**+0.9**
DDEM	**Demirkent**	**2.10**	**221**	*i* P	**Pb**	**06 02 51.8**	**-0.9**
DDEM				*i* S	**Sb**	**06 03 20.2**	**+1.4**
DDEM	**Demirkent**	**2.10**	**221**	*i* P	**Pb**	**06 02 51.8**	**-0.9**
DDEM				*i* S	**Sb**	**06 03 20.2**	**+1.4**
DBC	**Dubki**	**2.46**	**77**	‖*i*PN	**Pg**	**06 03 01.8**	**+0.1**
DBC				*i* S	**Sg**	**06 03 33.0**	**-0.6**
DBC	**Dubki**	**2.46**	**77**	*i* Sb	**Sg**	**06 03 33.0**	**-0.6**
GOF	**Gofitskoye**	**2.58**	**352**	*e*PN	**Pg**	**06 03 04.9**	**+1.0**
GOF				*e*S	**Sg**	**06 03 36.7**	**-0.7**
GOF				pmax	pmax		
	comp=Z,20nm,1.0s						
GOF				smax	smax		
	comp=N,90nm,1.1s						
GOF				smax	smax		
	comp=E,140nm,1.1s						
GOF	**Gofitskoye**	**2.58**	**352**	*e*Sb	**Sg**	**06 03 36.7**	**-0.7**
AGRB	**Hanur-Agry**	**2.96**	**189**	*e*PN	**Pn**	**06 03 01.1**	**-0.4**
SOC	**Sochi**	**3.02**	**292**	*e*PN	Pg	06 03 16.4	+4.2
SOC				*e*		06 03 17.2	
SOC				pmax	pmax		
	comp=Z,7.0nm,0.2s						
EZM	**Erzurum**	**3.08**	**213**	*e*PN	**Pn**	**06 03 03.0**	**-0.3**
BAYT	**Ayd¨–ntepe-Bay**	**3.32**	**232**	*e*PN	**Pn**	**06 03 06.1**	**-0.5**
BAYT	**Ayd¨–ntepe-Bay**	**3.32**	**232**	*e*Pn	**Pn**	**06 03 06.1**	**-0.5**
GUMT	**Gumushane**	**3.68**	**238**	*e*PN	**Pn**	**06 03 10.9**	**-0.5**
GUMT	**Gumushane**	**3.68**	**238**	*e*Pn	**Pn**	**06 03 10.9**	**-0.5**
ESPY	**Espiye-Giresun**	**3.95**	**248**	*e*PN	**Pn**	**06 03 13.9**	**-1.1**
ESPY	**Espiye-Giresun**	**3.95**	**248**	*e*Pn	**Pn**	**06 03 13.9**	**-1.1**
BRVK	**Borovoye**	**20.71**	**50**	*e*P	**P**	**06 06 55.1**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**20.71**	**50**	*e*P	**P**	**06 06 55.1**	**+0.5**
	comp=Z,2.0nm,0.8s						

IDC ***03*** *06:14:54.0±1.5,33˚.75S×72˚.20W,h0km,mb3.5/2, mb1 3.7/5,mb1mx3.5/33,mbtmp3.5/5,ML3.3/3,Error ellipse: s-maj=41.2km s-min=32.2km az=79.0*

ISCJB ***03*** *06:14:54.1±1.2,33˚.8S±0˚.1×72˚.3W±0˚.2,h12km,mb3.4/2, Error ellipse: s-maj=28.8km s-min=15.7km az=6.2*

ISC 03 06:14:55.9±1.3,33˚.7S±0˚.1×72˚.3W±0˚.2,h12km,n6,σ1§23/6,
Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.02**	**59**	Pn	**Pn**	**06 15 58.2**	**+0.8**
	0.3nm,0.3s,baz=226,slow=14,SNR=6.4						
PLCA	**Paso Flores**	**7.12**	**169**	Pn	**Pn**	**06 16 40.5**	**+0.5**
	0.3nm,0.3s,baz=333,slow=13,SNR=3.9						
LPAZ	**La Paz**	**17.77**	**13**	P	**Pn**	**06 19 04.0**	**+0.1**
	0.1nm,0.3s,baz=194,slow=7.2,SNR=6.3						
TXAR	**Lajitas Array**	**69.40**	**331**	P	**P**	**06 26 04.5**	**+0.7**
	0.1nm,0.6s,baz=152,slow=7.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P	**P**	**06 27 26.8**	**-1.4**
	0.8nm,0.8s,baz=228,slow=4.9,SNR=4.3						
MKAR	**Makanchi Array**	**156.74**	**48**	PKPab	**PKPab**	**06 35 19.2**	**-1.1**
	0.1nm,0.3s,baz=309,slow=2.7,SNR=7.2						

ISCJB ***03*** *06:16:18.8±0.9,33˚.78S±0˚.04×72˚.27W±0˚.04,h21km±6km, mb4.8/55,MS4.8/11,Error ellipse: s-maj=6.7km s-min=4.8km az=12.8*

GUC ***03*** *06:16:19.1±0.5,33˚.84S×72˚.31W,h32km±10km,ML5.1*

BJI ***03*** *06:16:21.3,33˚.62S×71˚.41W,h35km,mB5.1/9,Ms5.2/8, Ms7 5.1/11*

MOS ***03*** *06:16:21.6±1.2,33˚.64S×72˚.09W,h33km,mb5.3/15,Error ellipse: s-maj=12.9km s-min=10.1km az=89.9*

NEIC ***03*** *06:16:22.8±0.2,33˚.68S×72˚.04W,h35km,mb5.1/36, ML4.9(GUC),Error ellipse: s-maj=5.4km s-min=4.1km az=213.0*

NEIC Felt [IV] at San Antonio, [III] at Valparaiso and [II] at La Serena, Rancagua and Santiago. Also felt at Melipilla, Puente Alto and Talca.

GCMT ***03*** *06:16:22.8±0.2,33˚.81S×72˚.44W,h24km,MW5.2/77, Moment Tensor Solution. s66,c82; s77,c112; Duration: 1§0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.15±.22; $M_{\theta\theta}$0.29±.13; $M_{\phi\phi}$-5.44±.16; $M_{r\theta}$0.21±.19; $M_{\theta\phi}$-0.43±.10; $M_{\phi r}$-5.43±.27; Best double couple: $M_0$7.60000×10^{16} NP1:ϕ_s180.00000°,δ68.00000°,λ86.00000°. NP2: ϕ_s10.00000°,δ22.00000°,λ99.00000°. Principal axes: T 7.4570, Plg67.0000°, Azm83.0000°; N 0.2820, Plg4.0000°, Azm181.0000°; P -7.7420, Plg23.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***03*** *06:16:23.3±2.8,33˚.70S×72˚.01W,h39km±23km,mb4.1/19, mb1 4.3/23,mb1mx4.2/36,mbtmp4.4/23,ML4.7/3,MS4.8/13,*

Ms1 4.8/13,ms1mx4.5/24 Error ellipse: s-maj=18.8km s-min=12.6km az=83.0

ISC 03 06:16:21.9±0.8,33˚.73S±0˚.04×72˚.10W±0˚.05,h32km±5km, n286,σ1§05/304,mb4.9/55,MS4.8/11,9C-11D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.61**	**111**	*e*P	**Pb**	**06 16 32.6**	**-1.6**
LNV				*i* S	**Sb**	**06 16 43.0**	**+0.3**
LNV	**Longovilo**	**0.61**	**111**	‖*i*P	**Pb**	**06 16 33.0**	**-1.3**
IHA	**Instituto Hidr**	**0.80**	**29**	⇑*i*P	**Pn**	**06 16 35.8**	**-1.1**
IHA				*i* S	**Sn**	**06 16 49.3**	**+1.5**
IHA	**Instituto Hidr**	**0.80**	**29**	⇑*i*P	**Pn**	**06 16 35.8**	**-1.1**
IHA				*i* S	**Sn**	**06 16 49.3**	**+1.5**
TACH	**Talagante**	**0.97**	**86**	⇑*i*P	**Pn**	**06 16 38.4**	**-0.9**
TACH				*i* S	**Sb**	**06 16 53.5**	**+0.7**
TACH	**Talagante**	**0.97**	**86**	⇑*i*P	**Pn**	**06 16 38.3**	**-0.9**
CHCH	**Chadas Angostu**	**1.22**	**100**	⇑*i*P	**Pn**	**06 16 42.5**	**-0.3**
CHCH	**Chadas Angostu**	**1.22**	**100**	⇑*i*P	**Pn**	**06 16 42.5**	**-0.3**
SAN	**Santiago**	**1.23**	**77**	‖*i*P	**Pn**	**06 16 42.9**	**0.0**
SAN				*i* S	**Sb**	**06 17 01.0**	**+0.8**
SAN	**Santiago**	**1.23**	**77**	‖*i*P	**Pn**	**06 16 42.9**	**0.0**
SAN				*i* S	**Sb**	**06 17 01.0**	**+0.8**
SAN	**Santiago**	**1.23**	**77**	‖*i*P	**Pn**	**06 16 42.9**	**0.0**
SAN				*i* S	**Sb**	**06 17 01.0**	**+0.8**
ANTU	**Antumapu**	**1.23**	**83**	*e*P	**Pn**	**06 16 43.0**	**0.0**
ANTU				*i* S	**Sb**	**06 17 01.1**	**+0.9**
ANTU				AML	AML	06 17 04.8	
	comp=E,37μm,0.5s						
ANTU	**Antumapu**	**1.23**	**83**	*e*P	**Pn**	**06 16 43.0**	**0.0**
ANTU				*i* S	**Sb**	**06 17 01.5**	**+1.3**
STL	**Santa Lucia**	**1.25**	**77**	*e*P9		06 16 42.4	
STL				*i* S	**Sb**	**06 17 00.9**	**+0.1**
CACH	**El Canelo**	**1.30**	**107**	*i* P	**Pn**	**06 16 44.5**	**+0.5**
CACH	**El Canelo**	**1.30**	**107**	*i* P	**Pn**	**06 16 44.5**	**+0.5**
PACH	**Papudo**	**1.32**	**25**	‖*i*P	**Pn**	**06 16 44.3**	**+0.2**
PACH	**Papudo**	**1.32**	**25**	‖*i*P	**Pn**	**06 16 44.3**	**+0.2**
PEL	**Peldehue**	**1.32**	**64**	⇑*i*P	**Pn**	**06 16 44.8**	**+0.6**
PEL				*i* S	**Sb**	**06 17 04.0**	**+1.3**
PEL	**Peldehue**	**1.32**	**64**	⇑*i*P	**Pn**	**06 16 44.8**	**+0.6**
PEL				*i* S	**Sb**	**06 17 04.0**	**+1.3**
PEL				AML	AML	06 17 11.7	
	comp=N,72μm,0.7s						
PEL	**Peldehue**	**1.32**	**64**	⇑*i*P	**Pn**	**06 16 44.8**	**+0.6**
PEL				*i* S	**Sb**	**06 17 04.0**	**+1.3**
PCH	**Pirque**	**1.33**	**86**	*e*P	**Pn**	**06 16 44.6**	**+0.3**
PCH	**Pirque**	**1.33**	**86**	*e*P	**Pn**	**06 16 44.6**	**+0.3**
FSR	**Penalolen**	**1.34**	**79**	*i* P9		06 16 45.9	
FSR				*i* S	**Sb**	**06 17 05.5**	**+2.3**
FSR	**Penalolen**	**1.34**	**79**	*i* P	**Pb**	**06 16 45.9**	**-0.5**
FSR				*i* S	**Sb**	**06 17 06.0**	**+2.8**
FCH	**Farellones**	**1.56**	**75**	‖*i*P	**Pn**	**06 16 49.0**	**+1.2**
FCH				*i* S	**Sb**	**06 17 11.8**	**+1.8**
FCH	**Farellones**	**1.56**	**75**	‖*i*P	**Pn**	**06 16 49.0**	**+1.2**
CFAA	**Coronel Fontan**	**3.89**	**58**	Pn	**Pn**	**06 17 20.8**	**+1.4**
	comp=N,3.4nm,0.3s,baz=234,slow=14,SNR=48						
CFAA				LR	LR	06 19 14.7	
	comp=N,2μm,19.0s,baz=236,slow=45						
PLCA	**Paso Flores**	**7.09**	**170**	*e*P	**Pn**	**06 18 04.1**	**+0.6**
PLCA	**Paso Flores**	**7.09**	**170**	Pn	**Pn**	**06 18 04.0**	**+0.5**
	comp=N,3.1nm,0.3s,baz=334,slow=11,SNR=19						
PLCA				LR	LR	06 21 18.1	
	comp=N,5μm,18.1s,baz=350,slow=41						
PLCA	**Paso Flores**	**7.09**	**170**	*e*Pn	**Pn**	**06 18 04.1**	**+0.6**
TRQA	**Tornquist**	**9.27**	**121**	*e*Pn	**Pn**	**06 18 34.8**	**+1.5**
LVC	**Limon Verde**	**11.43**	**15**	*e*Pn	Pn	06 18 58.4	-4.8
CPUP	**Villa Florida**	**14.76**	**64**	*e*P	**Pn**	**06 19 47.9**	**-0.4**
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CPUP	**Villa Florida**	**14.76**	**64**	Pn	**Pn**	**06 19 48.2**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=221,slow=12,SNR=9.7						
CPUP				LR	LR	06 25 54.6	
	comp=Z,5μm,20.1s,baz=230,slow=39						
CPUP	**Villa Florida**	**14.76**	**64**	*e*Pn	**Pn**	**06 19 47.9**	**-0.4**
	comp=Z,2.1nm,0.8s						
LPAZ	**La Paz**	**17.74**	**13**	*e*P	**Pn**	**06 20 26.1**	**-0.9**
LPAZ	**La Paz**	**17.74**	**13**	P	**Pn**	**06 20 26.6**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=189,slow=11,SNR=53						
LPAZ	**La Paz**	**17.74**	**13**	*e*Pn	**Pn**	**06 20 26.1**	**-0.9**
	comp=Z,157nm,1.8s						
SIV	**San Ignacio**	**20.27**	**32**	P	**P**	**06 20 54.2**	**-0.7**
	comp=Z,20nm,0.7s,baz=219,slow=10.0,SNR=21						
SIV				LR	LR	06 30 09.9	
	comp=Z,5μm,18.8s,baz=228,slow=41						
EFI	**East Falkland**	**20.62**	**155**	P	**P**	**06 20 58.0**	**-0.3**
	comp=Z,402nm,0.5s,SNR=6.8						
EFI	**East Falkland**	**20.62**	**155**	*e*P	**P**	**06 20 57.6**	**-0.7**
EFI				pmax	pmax		
	comp=Z,57nm,0.7s						
EFI	**East Falkland**	**20.62**	**155**	*e*P	**P**	**06 20 57.5**	**-0.7**
	comp=Z,57nm,0.7s						
USHA	**Ushuaia**	**21.25**	**174**	P	**P**	**06 21 06.1**	**+1.0**
	comp=Z,13nm,1.1s,baz=333,slow=14,SNR=2.4						
SAML	**Samuel**	**26.00**	**20**	*e*P	**P**	**06 21 50.6**	**-1.3**
	comp=Z,11nm,0.9s						
BDFB	**Brasilia**	**28.23**	**56**	P	**P**	**06 22 11.4**	**-0.7**
	comp=Z,12nm,0.5s,baz=232,slow=8.4,SNR=22						
BDFB				LR	LR	06 35 14.9	
	comp=Z,3μm,18.4s,baz=224,slow=40						
PMSA	**Palmer Station**	**31.46**	**173**	LR	LR	06 34 59.8	
	comp=Z,2μm,20.6s,baz=323,slow=36						
RPN	**Rapa Nui**	**32.65**	**272**	LR	LR	06 32 30.8	
	comp=Z,2μm,19.2s,baz=74,slow=30						
OTAV	**Otavalo**	**34.32**	**349**	*e*P	**P**	**06 23 06.3**	**+0.3**
	comp=Z,8.2nm,1.1s						
ROSC	**El Rosal**	**38.44**	**356**	P	**P**	**06 23 40.5**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=90,slow=20,SNR=2.8						
SDV	**Santo Domingo**	**42.41**	**2**	*e*P	**P**	**06 24 12.5**	**-1.2**
	comp=Z,27nm,1.7s						
RCBR	**Riachuelo**	**43.55**	**59**	P	**P**	**06 24 23.0**	**+0.1**
	comp=Z,4.8nm,0.8s,baz=202,slow=11,SNR=3.2						
RCBR				LR	LR	06 43 34.5	
	comp=Z,3μm,18.8s,baz=190,slow=38						
JTS	**JuntasAbangare**	**45.46**	**342**	*e*P	**P**	**06 24 37.8**	**-0.2**
JTS				pmax	pmax		
	comp=Z,14nm,1.5s						
APG	**El Apazote**	**51.53**	**337**	P	**P**	**06 25 26.8**	**+1.8**
	comp=Z,4.7nm,0.4s,baz=127,slow=9.7,SNR=2.2						
CELP	**Cerrillos**	**51.79**	**7**	*e*P	**P**	**06 25 26.8**	**+0.2**
SNAA	**Sanae**	**51.85**	**158**	*e*P	**P**	**06 25 27.5**	**+0.9**
SNAA	**Sanae**	**51.85**	**158**	P	**P**	**06 25 27.6**	**+1.0**
	comp=Z,2.6nm,0.6s,baz=266,slow=8.4,SNR=7.2						
SNAA	**Sanae**	**51.85**	**158**	*e*P	**P**	**06 25 27.5**	**+0.9**
RKT	**Rikitea**	**55.55**	**264**	*e*S	**S**	**06 33 39.3**	**+1.4**
	comp=Z,338nm,28.8s						
RKT				*e*LR	LR	06 42 08.8	
	comp=Z,622nm,27.8s						
RKT	**Rikitea**	**55.55**	**264**	*e*T	T	07 25 40.3	
	comp=Z,1.6nm,0.4s						
QSPA	**South Pole Qui**	**56.50**	**180**	P	**P**	**06 26 01.3**	**+0.6**
	comp=Z,6.5nm,0.9s,baz=136,slow=1.6,SNR=16						
QSPA				LR	LR	06 49 56.4	
	comp=Z,254nm,18.6s,baz=164,slow=36						
034A	**Hebbronville**	**65.52**	**334**	P	**P**	**06 27 03.3**	**+1.2**
	baz=66						
SYO	**Syowa Base**	**66.13**	**159**	‖*e*pP	pP	06 27 12.7	-2.7
834A	**Tilden**	**66.44**	**335**	P	**P**	**06 27 09.4**	**+1.4**
	baz=67						
833A	**Chaparral WMA,**	**66.92**	**334**	P	**P**	**06 27 11.9**	**+0.8**
	baz=67						
832A	**Faith Ranch, C**	**67.10**	**333**	P	**P**	**06 27 12.5**	**+0.3**
	baz=67						
TBI	**Tubuai**	**67.33**	**256**	*e*T	T	07 40 23.3	
	comp=Z,4.2nm,0.2s						
732A	**Lawson Ranch,**	**67.50**	**334**	P	**P**	**06 27 15.4**	**+0.6**
	baz=68						
633A	**Saathoff Ranch**	**67.87**	**335**	P	**P**	**06 27 18.1**	**+1.0**
	baz=68						
632A	**Uvalde**	**68.14**	**334**	P	**P**	**06 27 19.5**	**+0.7**
	baz=68						
533A	**Kerrville**	**68.38**	**335**	P	**P**	**06 27 20.9**	**+0.6**
	baz=69						
532A	**Rocksprings**	**68.74**	**334**	P	**P**	**06 27 23.0**	**+0.4**
	baz=69						
434A	**Burnet**	**68.80**	**336**	P	**P**	**06 27 23.0**	**+0.2**
	baz=69						
MEH	**Mehetia**	**68.83**	**262**	*e*T	T	07 42 15.9	
	comp=Z,12nm,0.2s						
336A	**Riesel**	**68.85**	**337**	P	**P**	**06 27 23.7**	**+0.6**
	baz=69						
531A	**Rocksprings**	**69.01**	**334**	P	**P**	**06 27 24.5**	**+0.3**
	baz=69						
433A	**Art**	**69.02**	**335**	P	**P**	**06 27 24.2**	**0.0**
	baz=69						
JCT	**Junction City**	**69.02**	**335**	*e*P	**P**	**06 27 24.8**	**+0.5**
JCT				pmax	pmax		
	comp=Z,91nm,1.9s						
JCT	**Junction City**	**69.02**	**335**	P	**P**	**06 27 24.5**	**+0.2**
	baz=69						
JCT	**Junction City**	**69.02**	**335**	*e*P	**P**	**06 27 24.8**	**+0.5**
	comp=Z,91nm,1.9s						
334A	**Lometa**	**69.26**	**336**	P	**P**	**06 27 25.6**	**-0.1**
	baz=70						
530A	**J-C Ranch, Com**	**69.29**	**333**	P	**P**	**06 27 26.7**	**+0.8**
	baz=70						
432A	**Menard**	**69.38**	**335**	P	**P**	**06 27 26.2**	**-0.3**
	baz=70						
TXAR	**Lajitas Array**	**69.48**	**331**	P	**P**	**06 27 27.6**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=154,slow=8.1,SNR=20						
TXAR				LR	LR	06 53 46.6	
	comp=Z,695nm,18.2s,baz=0.0,slow=32						
333A	**Richland Sprin**	**69.51**	**336**	P	**P**	**06 27 26.6**	**-0.6**
	baz=70						
529A	**Stev Forest Ra**	**69.61**	**332**	P	**P**	**06 27 28.1**	**+0.2**
	baz=70						
WHTX	**Lake Whitney,**	**69.61**	**337**	P	**P**	**06 27 27.5**	**-0.3**
	baz=70						
WHTX	**Lake Whitney,**	**69.61**	**337**	*e*P	**P**	**06 27 28.1**	**+0.3**
	comp=Z,86nm,2.0s						
137A	**Heron Place, G**	**69.64**	**339**	P	**P**	**06 27 28.8**	**+0.8**
	baz=70						
332A	**Millersview**	**69.82**	**335**	P	**P**	**06 27 29.1**	**-0.1**
	baz=70						
430A	**Baggett Ranch,**	**69.83**	**333**	P	**P**	**06 27 29.5**	**+0.2**
	baz=70						
TVO	**Taravao**	**69.86**	**262**	*e*T	T	07 43 32.5	
	comp=Z,0.7nm,0.3s						
429A	**Davenport Ranc**	**69.93**	**333**	P	**P**	**06 27 30.3**	**+0.4**
	baz=70						
331A	**San Angelo**	**70.00**	**334**	P	**P**	**06 27 30.1**	**-0.2**
	baz=70						
233A	**Rising Star**	**70.11**	**336**	P	**P**	**06 27 30.9**	**-0.1**
	baz=70						
PPT2	**Papeete2**	**70.22**	**262**	*e*S	**S**	**06 36 43.1**	**+1.1**
	comp=Z,328nm,23.5s						
PPT2	**Papeete2**	**70.22**	**262**	*e*LR	LR	06 48 59.2	
	comp=Z,832nm,28.0s,baz=115						
232A	**Coleman**	**70.25**	**335**	P	**P**	**06 27 32.0**	**+0.2**
	baz=70						
330A	**Mertzon**	**70.36**	**334**	P	**P**	**06 27 31.9**	**-0.6**
	baz=71						
231A	**Bronte**	**70.53**	**335**	P	**P**	**06 27 33.0**	**-0.5**
	baz=71						
133A	**Hamilton Ranch**	**70.66**	**336**	P	**P**	**06 27 34.5**	**+0.2**
	baz=71						
329A	**Wagon Wheel Ra**	**70.73**	**333**	P	**P**	**06 27 34.7**	**-0.1**
	baz=71						
Z35A	**Perchaven, San**	**70.78**	**338**	P	**P**	**06 27 35.2**	**+0.3**
	baz=71						
ABTX	**Abilene, Hawle**	**70.92**	**336**	P	**P**	**06 27 35.9**	**0.0**
	baz=71						
WVT	**Waverly**	**71.04**	**347**	*e*P	**P**	**06 27 36.1**	**-0.4**
WVT				pmax	pmax		
	comp=Z,153nm,2.0s						
WVT	**Waverly**	**71.04**	**347**	*e*P	**P**	**06 27 36.1**	**-0.4**
	comp=Z,153nm,2.0s						
131A	**Roby**	**71.22**	**335**	P	**P**	**06 27 37.7**	**0.0**
	baz=72						
Z33A	**Whitaker Ranch**	**71.23**	**337**	P	**P**	**06 27 37.5**	**-0.2**
	baz=72						
130A	**Snyder**	**71.36**	**335**	P	**P**	**06 27 38.3**	**-0.2**
	baz=72						
Z32A	**Haskell**	**71.48**	**336**	P	**P**	**06 27 39.6**	**+0.4**
	baz=72						
228A	**UT Block 9, Go**	**71.53**	**333**	P	**P**	**06 27 39.5**	**-0.1**
	baz=72						
Z31A	**Sharp Cattle R**	**71.72**	**336**	P	**P**	**06 27 40.7**	**0.0**
	baz=72						
128A	**Castleberry Fa**	**71.94**	**333**	P	**P**	**06 27 42.

U22A	**Llaves**	76.93 332	P	P	06 28 13.5 +2.2
	baz=77				
R27A	**Eads**	77.12 336	P	P	06 28 12.1 -0.1
	baz=77				
P31A	**Stockton**	77.14 339	P	P	06 28 12.2 +0.1
	baz=77				
X16A	**Lo Mia Camp, P**	77.19 327	P	P	06 28 13.6 +1.0
	baz=78				
S24A	**Houchin Ranch,**	77.41 334	P	P	06 28 15.4 +1.4
	baz=78				
KSCO	**Kaye Shedlock'**	77.72 336	*e*P	P	06 28 15.1 -0.3
	comp=Z,54nm,1.8s				
R24A	**Sanders Place,**	77.89 334	P	P	06 28 17.9 +1.4
	baz=78				
R23A	**Moffat**	78.12 333	P	P	06 28 19.2 +1.3
	baz=78				
MVCO	**Mesa Verde**	78.31 331	*e*P	P	06 28 19.2 +0.3
	comp=Z,106nm,2.6s				
BC3	**Big Chuckawall**	78.43 324	P	P	06 28 21.1 +1.6
	baz=79				
P25A	**Willow Gulch B**	78.70 335	P	P	06 28 21.9 +1.0
	baz=79				
PFO	**Pinyon Flats O**	78.89 324	P	P	06 28 23.7 +1.6
	comp=Z,2.7nm,0.9s,baz=119,slow=2.5,SNR=4.3				
PV01	**Paradox Valley**	79.13 331	*e*P	P	06 28 24.4 +0.9
SMCO	**Snowmass**	79.42 333	*e*P	P	06 28 26.4 +1.2
	comp=Z,45nm,1.8s				
GMRC	**Granite Mounta**	79.44 325	P	P	06 28 26.0 +0.9
	baz=80				
ISCO	**Idaho Springs**	79.46 334	*e*P	P	06 28 25.6 +0.3
ISCO			pmax	pmax	
	comp=Z,29nm,1.8s				
ISCO	**Idaho Springs**	79.46 334	P	P	06 28 26.5 +1.2
	baz=80				
ISCO	**Idaho Springs**	79.46 334	*e*P	P	06 28 25.6 +0.3
	comp=Z,29nm,1.8s				
O23A	**Lake Granby, G**	79.94 334	P	P	06 28 29.0 +1.2
	baz=80				
O22A	**Kremmling**	80.12 334	P	P	06 28 29.7 +0.8
	baz=80				
BOSA	**Boshof**	80.24 118	P	P	06 28 30.5 +0.7
	comp=Z,2.9nm,0.7s,baz=254,slow=2.6,SNR=5.8				
ECSD	**EROS Data Cent**	80.28 342	P	P	06 28 28.7 -0.5
	baz=81				
ECSD	**EROS Data Cent**	80.28 342	*e*P	P	06 28 29.0 -0.2
	comp=Z,43nm,1.6s				
SHPR	**Sheep Range**	80.61 326	*e*P	P	06 28 31.5 +0.1
N22A	**Wattenberg Ran**	80.65 334	P	P	06 28 32.7 +1.1
	baz=81				
CCUT	**Cedar City**	80.65 328	*e*P	P	06 28 33.4 +1.7
	comp=Z,140nm,2.7s				
SRU	**San Rafael Swe**	80.76 331	*e*P	P	06 28 32.9 +0.8
SRU			pmax	pmax	
	comp=Z,56nm,2.2s				
SRU	**San Rafael Swe**	80.76 331	*e*P	P	06 28 32.9 +0.8
	comp=Z,56nm,2.2s				
ARUT	**Antelope Range**	80.89 328	*e*P	P	06 28 32.6 -0.2
ARUT			pmax	pmax	
	comp=Z,573nm,1.8s				
ARUT	**Antelope Range**	80.89 328	*e*P	P	06 28 32.6 -0.2
	comp=Z,573nm,1.8s				
J29A	**Okreek**	80.99 340	P	P	06 28 33.3 +0.3
	baz=81				
ISA	**Isabella, Lake**	81.53 323	*e*P	P	06 28 36.5 +0.3
ISA			pmax	pmax	
	comp=Z,11nm,1.3s				
ISA	**Isabella, Lake**	81.53 323	*e*P	P	06 28 36.5 +0.3
	comp=Z,11nm,1.3s				
DAC	**Darwin (Calif)**	81.58 324	*e*P	P	06 28 36.5 -0.1
DAC			pmax	pmax	
	comp=Z,33nm,2.0s				
DAC	**Darwin (Calif)**	81.58 324	*e*P	P	06 28 36.5 -0.1
	comp=Z,33nm,2.0s				
MPU	**Maple Canyon**	81.98 330	*e*P	P	06 28 38.2 -0.4
	comp=Z,63nm,2.3s				
R11A	**Troy Canyon, C**	82.31 327	P	P	06 28 41.3 +0.9
	baz=83				
R11A	**Troy Canyon, C**	82.31 327	*e*P	P	06 28 41.7 +1.3
	comp=Z,33nm,1.9s				
R11A			*e*pP	PcP	06 28 47.6 +2.1
H28A	**Mission Ridge**	82.35 340	P	P	06 28 40.7 +0.5
	baz=83				
LBTB	**Lobatse**	82.46 115	*e*P	P	06 28 42.1 +0.5
LBTB			pmax	pmax	
	comp=Z,28nm,1.3s				
LBTB	**Lobatse**	82.46 115	*e*P	P	06 28 42.1 +0.5
	comp=Z,28nm,1.3s				
K21A	**Alcova**	82.54 335	P	P	06 28 41.8 +0.3
	baz=83				
I25A	**Rochford**	82.58 338	P	P	06 28 42.5 +0.9
	baz=83				
DUG	**Dugway, Tooele**	82.62 330	*e*P	P	06 28 42.5 +0.6
DUG	**Dugway, Tooele**	82.62 330	P	P	06 28 42.2 +0.3
	baz=83				
DUG	**Dugway, Tooele**	82.62 330	*e*P	P	06 28 42.5 +0.6
TPH	**Tonopah**	82.84 326	*e*P	P	06 28 43.5 +0.3
TPH			pmax	pmax	
	comp=Z,32nm,1.8s				
TPH	**Tonopah**	82.84 326	*e*P	P	06 28 43.5 +0.3
	comp=Z,32nm,1.8s				
F30A	**Leola**	82.86 341	P	P	06 28 43.5 +0.6
	baz=83				
H25A	**Fruitdale**	83.08 338	P	P	06 28 44.5 +0.4
	baz=83				
BGU	**Big Grassy Mou**	83.32 330	*e*P	P	06 28 46.3 +0.8
	comp=Z,5.5nm,1.5s				
PDAR	**Pinedale Array**	83.50 333	P	P	06 28 47.2 +0.7
	comp=Z,0.5nm,0.8s,baz=134,slow=5.2,SNR=4.4				
G25A	**Newell**	83.54 338	P	P	06 28 46.3 -0.1
	baz=84				
NVAR	**Mina Array Bea**	83.64 325	P	P	06 28 48.6 +1.3
	comp=Z,0.6nm,0.6s,baz=158,slow=6.1,SNR=4.9				
F27A	**Lemmon**	83.73 339	P	P	06 28 46.9 -0.5
	baz=84				
J19A	**Crowheart**	83.74 334	P	P	06 28 46.9 -0.7
	baz=84				
HVU	**Hansel Valley**	83.93 331	*e*P	P	06 28 48.8 +0.2
HVU			pmax	pmax	
	comp=Z,10.0nm,1.0s				
HVU	**Hansel Valley**	83.93 331	*e*P	P	06 28 48.8 +0.2
	comp=Z,9.7nm,1.0s				
ELK	**Elko**	84.11 329	P	P	06 28 50.0 +0.4
	comp=Z,1.0nm,0.7s,baz=193,slow=3.9,SNR=6.0				
TORD	**Torodi Ar. Bea**	84.17 70	P	P	06 28 50.0 -0.2
	comp=Z,6.0nm,0.7s,baz=261,slow=4.2,SNR=34				
REDW	**Red Top Meadow**	84.50 333	*e*pP	pP	06 29 02.4 +0.6
IMW	**Indian Meadow**	84.99 333	*e*P	P	06 28 54.1 0.0
	comp=Z,15nm,1.6s				
FLWY	**Flagg Ranch**	85.06 333	*e*P	P	06 28 55.2 +0.9
	comp=Z,20nm,1.5s				
B30A	**Myrvik Farm, E**	85.11 343	P	P	06 28 54.2 0.0
	baz=85				
G20A	**Bridger**	85.14 335	P	P	06 28 54.1 -0.5
	baz=85				
H18A	**Shoshone NF, C**	85.19 334	P	P	06 28 55.1 +0.2
	baz=86				
B28A	**Dugan Ranch, T**	85.63 342	P	P	06 28 57.0 +0.2
	baz=86				
YMR	**Madison River**	85.66 333	*e*P	P	06 28 59.5 +2.2
	comp=Z,37nm,1.6s				
A29A	**Manning Farm,**	85.77 342	P	P	06 28 57.4 -0.1
	baz=86				
C24A	**Savage**	85.94 339	P	P	06 28 59.2 +0.8
	baz=86				
HLID	**Hailey**	86.08 331	*e*P	P	06 29 00.5 +1.1
	comp=Z,52nm,2.2s				
D22A	**Cohagen**	86.15 337	P	P	06 28 59.4 -0.1
	baz=86				
E20A	**Meyer Farm, Mu**	86.23 336	P	P	06 28 59.0 -0.9
	baz=86				
ULM	**Lac du Bonnet**	86.23 345	P	P	06 28 59.3 -0.4
	comp=Z,1.6nm,0.8s,baz=176,slow=6.1,SNR=4.0				
E19A	**Rath Farm, Rou**	86.42 336	P	P	06 29 00.2 -0.6
	baz=87				
C23A	**Lambert**	86.42 338	P	P	06 29 00.7 -0.1
	baz=87				
MCMT	**McKenzie Canyo**	86.51 332	*e*P	P	06 29 01.8 +0.3
	comp=Z,6.6nm,1.4s				
C22A	**Vida**	86.59 338	P	P	06 29 01.6 +0.1
	baz=87				
DGMT	**Dagmar**	86.72 339	*e*P	P	06 29 02.4 +0.2
	comp=Z,14nm,0.8s				
DLMT	**Dillon**	86.86 333	*e*pP	pP	06 29 14.8 +1.4
A21A	**Bergtoll Ranch**	88.01 338	P	P	06 29 08.0 -0.4
	baz=88				
A20A	**Cobblestone Ra**	88.23 337	P	P	06 29 09.1 -0.5
	baz=88				
SCHQ	**Schefferville**	88.32 3	P	P	06 29 10.0 +0.3
	comp=Z,2.7nm,0.9s,baz=196,slow=7.4,SNR=3.9				
WALA	**Waterton Lakes**	90.44 334	*e*pP	pP	06 29 32.9 +2.7
ESDC	**Sonseca Array**	96.43 46	LR	LR	07 12 18.5
	comp=Z,283nm,19.2s,baz=250,slow=35				
CRVS	**Cervenica-Dubn**	116.71 47	*e*P	Pdif	06 31 20.0 +2.3
CRVS	**Cervenica-Dubn**	116.71 47	PDIF	Pdif	06 31 20.0 +2.3
ASAR	**Alice Springs**	117.78 207	PKP	PKPdf	06 35 05.3 -0.2
	comp=Z,0.3nm,0.8s,baz=158,slow=2.7,SNR=3.2				
KIS	**Kishinev**	120.73 51	*e*		06 37 34.0
KIS			LRM	MLR	07 31 00.0
	comp=Z,600nm,24.0s				
WRA	**Warramunga Arr**	120.97 209	PKP	PKPdf	06 35 10.8 -0.8
	comp=Z,0.5nm,0.4s,baz=157,slow=1.6,SNR=22				
BRTR	**Keskin Array B**	121.75 61	PKP	PKPdf	06 35 13.4 +0.8
	comp=Z,0.7nm,0.7s,baz=215,slow=3.0,SNR=4.5				
ARCES	**ARCESS Array B**	123.80 25	PKP	PKPdf	06 35 15.7 +0.2
	comp=Z,2.8nm,1.0s,baz=282,slow=2.4,SNR=5.7				
OBN	**Obninsk**	127.28 43⇓	*e*PKIKP	PKPdf	06 35 20.8 -1.6
OBN			*e*		06 37 22.0
OBN			pmax	pmax	
	comp=Z,5.0nm,0.4s				
KLMR	**Klimovskoe**	129.22 36	*e*PKIKP	PKPdf	06 35 36.6 +11
KLMR			pmax	pmax	
	comp=Z,17nm,1.3s				
BILL	**Bilibino**	132.57 334⇓	*e*PKIKP	PKPdf	06 35 33.6 +1.4
BILL			*e*		06 37 59.9
BILL			pmax	pmax	
	comp=Z,6.0nm,1.4s				
BILL			MLR	MLR	
	comp=Z,194nm,19.0s				
ISFR	**Sfrayin**	139.56 71	*e*P	PKPdf	06 35 47.7 +1.2
AKTO	**Aktyubinsk**	140.21 50	PKIKP	PKPdf	06 35 48.0 +1.1
AKTO	**Aktyubinsk**	140.21 50	PKP	PKPdf	06 35 48.0 +1.1
	comp=Z,1.6nm,0.9s,baz=292,slow=3.1,SNR=5.1				
TIXI	**Tiksi**	140.42 350	*e*PKIKP	PKPdf	06 35 48.6 +2.0
TIXI			pmax	pmax	
	comp=Z,2.0nm,1.2s				
ABKAR	**Akbulak array**	141.56 52	*e*PKPdf	PKPdf	06 35 44.4 -4.9
POO	**Poona**	146.07 108	*e*P	PKPdf	06 35 57.0 -1.2
BRVK	**Borovoye**	147.05 43	*e*PKIKP	PKPdf	06 35 59.7 +0.9
BRVK	**Borovoye**	147.05 43	*e*PKPdf	PKPdf	06 35 59.2 +0.5
BVAR	**Borovoye Array**	147.12 43	PKPbc	PKPbc	06 36 00.2 -0.9
	comp=Z,1.9nm,0.5s,baz=270,slow=3.0,SNR=12				
PSI	**Prapat**	148.10 163	PKPbc	PKPbc	06 36 04.5 -0.6
	comp=Z,8.0nm,1.0s,baz=188,slow=5.6,SNR=7.8				
YAK	**Yakutsk**	148.46 340	*e*PKIKP	PKPdf	06 36 01.6 +0.8
YAK			*e*		06 36 11.7
YAK			pmax	pmax	
	comp=Z,13nm,1.1s				
HYB	**Hyderabad**	149.09 114	*i* PKP	PKPbc	06 36 06.0 -1.4
KKAR	**Karatay Array**	149.46 61	*e*PKP2	PKPbc	06 36 07.1 -0.5
KKAR	**Karatay Array**	149.46 61	*e*PKPbc	PKPbc	06 36 07.1 -0.5
EKS2	**Erkin-Say**	151.90 61	*e*PKIKP	PKPdf	06 36 08.2 +1.2
EKS2			*e*		06 36 13.8
EKS2	**Erkin-Say**	151.90 61	*e*PKPdf	PKPdf	06 36 08.2 +1.2
EKS2			*e*PKPbc	PKiKP	06 36 13.8 0.0
AAK	**Ala-Archa**	152.42 61	PKPbc	PKPbc	06 36 14.5 -0.2
	comp=Z,4.7nm,0.7s,baz=212,slow=1.8,SNR=18				
KURK	**Kurchatov**	152.72 43	*e*PKIKP	PKPdf	06 36 09.5 +1.7
KURK			*e*		06 36 15.1
KURK	**Kurchatov**	152.72 43	*e*PKPdf	PKPdf	06 36 09.5 +1.7
KURK			*e*PKPbc	PKiKP	06 36 15.1 +0.1
KSH	**Kashi**	153.82 68	PKPbc	PKPdf	06 36 09.9 0.0
KSH			sPKP		06 36 24.0
KSH			PKS	PKSdf	06 39 43.9 -0.4
KSH			PP	PP	06 40 04.6 -1.4
KSH			SKS	SKSdf	06 43 13.7 -0.8
KSH			SKKS	SKKSac	06 46 51.9 -1.5
KSH			PPMZ		
	comp=Z,91nm,5.2s				
KSH			LN		
	comp=Z,50nm,4.1s				
KSH			LE		
	comp=Z,47nm,5.0s				
KSH			LZ		
	comp=Z,180nm,5.9s				
ZALV	**Zalesovo Beam**	154.03 32	PKPbc	PKPbc	06 36 18.4 +0.8
	comp=Z,2.6nm,0.4s,baz=322,slow=3.2,SNR=4.3				
ZALV			PKPab	PKPab	06 36 31.2 0.0
	comp=Z,3.0nm,0.5s,baz=299,slow=4.2,SNR=4.3				
MKAR	**Makanchi Array**	156.63 48	PKP	PKPdf	06 36 13.8 +0.4
	comp=Z,0.8nm,0.9s,baz=282,slow=2.4,SNR=7.0				
MKAR			PKPab	PKPab	06 36 42.3 -0.3
	comp=Z,2.0nm,0.7s,baz=302,slow=2.7,SNR=12				
WMQ	**Urumqi**	161.35 51	*e*PKP	PKPdf	06 36 18.3 -0.8
WMQ			LN		
	comp=Z,67nm,24.0s				
WMQ			LE		
	comp=Z,190nm,24.0s				
WMQ			LZ		
	comp=Z,180nm,20.0s				
CMAR	**Chiang Mai Arr**	162.81 150	PKP	PKPdf	06 36 21.1 -0.1
	comp=Z,1.0nm,0.4s,baz=242,slow=2.5,SNR=4.1				
ZAK	**Zakamensk**	163.02 10	*e*PKP2	PKPab	06 37 07.0 -3.3
ZAK			pmax	pmax	
	comp=Z,3.0nm,1.8s				
CN2	**Changchun**	163.05 312	*e*PKP	PKPdf	06 36 22.1 +1.4
CN2			SS	SS	07 01 22.3 +4.0
CN2			PPMZ		
	comp=Z,200nm,6.0s				
CN2			LZ		
	comp=Z,300nm,21.0s				
KMI	**Kunming**	170.31 151	PKP	PKPdf	06 36 26.9 -0.2
KMI			pPKP	pPKPdf	06 36 38.2 +0.5
KMI			sPKP		06 36 43.1
KMI			LZ		
	comp=Z,120nm,22.9s				
NJ2	**Nanjing**	170.64 263	*e*PKP	PKPdf	06 36 26.8 +0.1
HHC	**Hu-ho-hao-te**	172.32 339	*e*PKP	PKPdf	06 36 25.4 -2.1
HHC			pPKP	pPKPdf	06 36 33.7 -4.4
HHC			sPKP		06 36 39.3
HHC			PKS	PKSdf	06 39 54.8 -5.0
HHC			PP	PP	06 41 43.2 +0.8
HHC			SKS	SKSdf	06 43 22.8 -5.6
HHC			SKKS	SKKSac	06 48 26.7 -0.5
HHC			SS	SS	07 02 48.7 -1.6
HHC			PPMZ		
	comp=Z,190nm,9.5s				
HHC			LN		
	comp=Z,130nm,22.8s				
HHC			LE		
	comp=Z,150nm,22.1s				
HHC			LZ		
	comp=Z,130nm,22.9s				
GYA	**Guiyang**	172.67 171	*e*PKP	PKPdf	06 36 27.8 -0.3
GYA			pPKP	pPKPdf	06 36 39.4 +0.7
GYA			PKPab	PKPab	06 37 55.8 +2.3
GYA			PKS	PKSdf	06 39 59.2 -1.4
GYA			PP	PP	06 41 47.5 +3.6
GYA			SKKS		06 48 29.0
GYA			SS	SS	07 02 53.6 +0.3
GYA			PPMZ		
	comp=Z,120nm,8.3s				
GYA			LN		
	comp=Z,130nm,21.4s				
GYA			LE		
	comp=Z,110nm,22.6s				
GYA			LZ		
	comp=Z,120nm,21.7s				
CD2	**Chengdu**	175.50 128	*e*PKP	PKPdf	06 36 28.5 -0.3
LZH	**Lanzhou**	175.92 54	*e*PKP	PKPdf	06 36 28.6 -0.3
LZH			pPKP	pPKPdf	06 36 39.5 0.0
LZH			sPKP		06 36 43.2
XAN	**Xi'an**	179.10 290	PKP	PKPdf	06 36 28.9 -0.4

*ISCJB **03** 06:21:31.8±1.5, 33°.76S±0°.05×72°.09W±0°.08, h15km±10km, mb3.9/3, Error ellipse: s-maj=12.2km s-min=7.4km az=161.5*

*GUC **03** 06:21:34.2±0.5, 33°.66S×71°.98W, h17km±4km, ML4.5*

*IDC **03** 06:21:36.9±2.9, 33°.90S×71°.98W, h47km±26km, mb3.7/3, mb1 3.9/6, mb1mx3.6/35, mbtmp3.9/6, ML3.9/3, Error ellipse: s-maj=38.8km s-min=29.7km az=89.0*

ISC 03 06:21:34.1±2.1, 33°.70S±0°.05×71°.98W±0°.08, h23km±14km, n19, σ1§01/27, mb4.3/3, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	0.53	119	⇑*i*P	Pb	06 21 44.5	-0.3
IHA	**Instituto Hidr**	0.73	23	⇑*i*P	Pn	06 21 47.2	-1.8
IHA				*i* S	Sn	06 21 57.4	-2.0
TACH	**Talagante**	0.87	87	⇑*i*P	Pn	06 21 49.7	-1.2
SAN	**Santiago**	1.12	78	⇑*i*P	Pn	06 21 53.9	-0.6
SAN				*i* S	Sb	06 22 08.9	-0.2
CHCH	**Chadas Angostu**	1.12	102	*e*P	Pn	06 21 54.0	-0.5
ANTU	**Antumapu**	1.13	84	⇓*i*P	Pn	06 21 54.0	-0.6
ANTU				*i* S	Sb	06 22 09.0	-0.2
ANTU				AML	AML	06 22 10.6	
	comp=E,24μm,0.4s						
STL	**Santa Lucia**	1.15	77	⇑*i*P	Pn	06 21 53.3	-1.5
STL				*i* S	Sn	06 22 08.8	-1.0
PEL	**Peldehue**	1.21	63	⇑*i*P	Pn	06 21 55.9	+0.2
PEL				*i* S	Sb	06 22 11.7	0.0
PEL				AML	AML	06 22 12.8	
	comp=E,22μm,0.4s						
CACH	**El Canelo**	1.22	110	⇓*i*P	Pn	06 21 56.2	+0.3
CACH				*i* S	Sb	06 22 13.3	+1.4
FSR	**Penalolen**	1.23	80	⇑*i*P	Pb	06 21 56.8	+0.1
FSR				*i* S	Sb	06 22 13.3	+1.2
PACH	**Papudo**	1.25	21	⇓*i*P	Pn	06 21 56.2	0.0
PACH				*i* S	Sn	06 22 13.4	+1.1
CFAA	**Coronel Fontan**	3.78	57	P	Pn	06 22 34.8	+3.7
	comp=E,2.4nm,0.3s,baz=231,slow=13,SNR=16						
CFAA				S	Sb	06 23 26.0	+0.3
	comp=E,2.3nm,0.3s,baz=353,slow=17,SNR=3.0						
PLCA	**Paso Flores**	7.11	171	P	Pn	06 23 15.6	-1.2
	comp=E,1.1nm,0.3s,baz=328,slow=13,SNR=5.3						
LPAZ	**La Paz**	17.68	12	P	P	06 25 41.5	+1.1
	comp=E,0.1nm,0.3s,baz=204,slow=10.0,SNR=4.0						
TXAR	**Lajitas Array**	69.50	331	P	P	06 32 42.1	+1.2
	comp=E,0.2nm,0.6s,baz=153,slow=8.1,SNR=3.4						
DBIC	**Dimbokro**	75.03	71	P	P	06 33 14.0	-0.2
	comp=E,3.4nm,1.0s,baz=219,slow=5.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	84.06	70	P	P	06 34 03.8	+0.5
	comp=E,2.0nm,0.8s,baz=250,slow=4.6,SNR=7.1						
BVAR	**Borovoye Array**	147.03	43	PKPbc	PKPbc	06 41 13.9	-0.6
	comp=E,0.3nm,0.4s,baz=293,slow=2.6,SNR=2.6						
ZALV	**Zalesovo Beam**	153.95	32	PKPbc	PKPbc	06 41 30.1	-1.0
	comp=E,0.6nm,0.6s,baz=349,slow=2.9,SNR=2.6						

GUC 03 06:25:54.1±0.4, 34°.21S×72°.36W, h18km, ML3.8, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	1.33	27	⇑*i*P	Pn	06 26 16.2	-1.5
IHA				*i* S	Sn	06 26 33.4	-1.6
ANTU	**Antumapu**	1.57	66	⇓*i*P	Pn	06 26 20.4	-0.8
ANTU				*i* S	Sn	06 26 40.3	-0.9
ANTU				AML	AML	06 26 46.9	
	comp=N,2μm,0.4s						
STL	**Santa Lucia**	1.63	62	*i* P9	Pn	06 26 19.9	-2.0
STL				*i* S	Sn	06 26 40.3	-2.1
PEL	**Peldehue**	1.76	53	⇑*i*P	Pn	06 26 23.6	-0.2
PEL				*i* S	Sn	06 26 45.4	-0.3
PEL				AML	AML	06 26 51.8	
	comp=E,2μm,0.4s						
SJCH	**San Jose de Ma**	1.76	72	*e*P9	Pn	06 26 19.2	-4.6
SJCH				*i* S	Sn	06 26 41.7	-4.2

*GUC **03** 06:31:31.9±0.3, 35°.55S×72°.12W, h57km±41km, ML5.1*

*ISCJB **03** 06:31:32.1±1.4, 35°.55S±0°.05×72°.1W±0°.1, h48km±11km, mb4.3/15, MS3.4/1, Error ellipse: s-maj=17.0km s-min=8.9km az=179.2*

*NEIC **03** 06:31:32.7±0.5, 35°.46S×71°.98W, h35km, mb4.5/6, Error ellipse: s-maj=13.5km s-min=9.3km az=82.0*

*IDC **03** 06:31:34.1±0.7, 35°.38S×71°.84W, h41km±5km, mb4.1/12, mb1 4.2/15, mb1mx4.0/33, mbtmp4.3/15, ML4.4/2, MS3.5/2, Ms1 3.5/2, ms1mx3.2/27, Error ellipse: s-maj=20.6km s-min=16.4km az=64.0*

ISC 03 06:31:33.8±0.8, 35°.46S±0°.06×72°.05W±0°.09, h45km±6km, n41, σ1§14/50, mb4.5/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	1.59	19	*i* P	Pn	06 31 59.5	+0.1
LNV				*i* S	Sn	06 32 20.6	+1.8
CACH	**El Canelo**	1.79	42	*i* P	Pn	06 32 02.8	+0.5
CACH				*i* S	Sn	06 32 26.2	+2.2
CHCH	**Chadas Angostu**	1.91	37	*i* P	Pn	06 32 04.3	+0.4
ANTU	**Antumapu**	2.22	32	*e*P9	Pn	06 32 09.4	+1.2
ANTU				*i* S	Sn	06 32 37.1	+2.7
ANTU				AML	AML	06 32 40.7	
	comp=N,10μm,0.5s						
STL	**Santa Lucia**	2.33	30	*e*P9	Pn	06 32 09.1	-0.5
STL				*i* S	Sn	06 32 38.0	+0.9
PEL	**Peldehue**	2.57	26	*e*P	Pn	06 32 13.1	+0.1
PEL				*e*S	Sn	06 32 44.6	+1.6
PEL				AML	AML	06 32 53.4	
	comp=N,11μm,0.5s						
CFAA	**Coronel Fontan**	4.99	41	P	Pn	06 32 42.9	-3.3
	comp=N,0.2nm,0.3s,baz=197,slow=14,SNR=3.7						
PLCA	**Paso Flores**	5.39	168	Pn	Pn	06 32 48.4	-3.4
	comp=N,22nm,0.6s						
TRQA	**Tornquist**	8.48	111	*e*Pn	Pn	06 33 35.8	+1.7
	comp=N,12nm,0.7s						
LVC	**Limon Verde**	13.09	13	*e*Pn	Pn	06 34 38.0	+0.6
	comp=N,6.5nm,0.8s						
CPUP	**Villa Florida**	15.55	58	P	Pn	06 35 08.4	-1.6
	comp=N,0.3nm,0.3s,baz=180,slow=7.1,SNR=1.9						
CPUP				LR	LR	06 41 17.0	
	comp=N,194nm,20.1s,baz=226,slow=38						
CPUP	**Villa Florida**	15.55	58	*e*Pn	Pn	06 35 06.8	-3.2
LPAZ	**La Paz**	19.41	11	P	Pn	06 35 58.0	-0.3
	comp=N,0.8nm,0.3s,baz=172,slow=11,SNR=18						
LPAZ	**La Paz**	19.41	11	*e*P	P	06 35 57.4	+0.5
	comp=N,9.7nm,0.8s						
SIV	**San Ignacio**	21.73	30	P	P	06 36 20.3	-1.0
	comp=N,6.3nm,0.7s,baz=230,slow=10,SNR=14						
SAML	**Samuel**	27.60	19	*e*P	P	06 37 16.2	-0.7
	comp=N,1.5nm,0.9s						
BDFB	**Brasília**	29.18	54	P	P	06 37 29.3	-1.9
	comp=N,1.9nm,0.6s,baz=192,slow=12,SNR=3.8						
RPN	**Rapa Nui**	32.78	274	LR	LR	06 47 44.6	
	comp=N,84nm,21.2s,baz=98,slow=30						
OTAV	**Otavalo**	36.01	349	*e*P	P	06 38 32.0	+0.8
ROSC	**El Rosal**	40.16	356	P	P	06 39 07.4	+1.4
	comp=N,4.1nm,0.5s,baz=98,slow=7.6,SNR=6.6						
SNAA	**Sanae**	50.24	157	P	P	06 40 24.6	-0.4
QSPA	**South Pole Qui**	54.78	180	P	P	06 41 00.3	+1.5
	comp=N,4.5nm,0.9s,baz=144,slow=1.1,SNR=16						
QSPA	**South Pole Qui**	54.78	180	*e*P	P	06 40 59.9	+1.1
	comp=N,5.1nm,1.0s						
TEIG	**Tepich**	57.48	342	P	P	06 41 18.6	+0.3
	comp=N,8.0nm,0.7s,baz=198,slow=4.4,SNR=5.9						
TXAR	**Lajitas Array**	71.00	331	P	P	06 42 47.6	+0.7
	comp=N,1.0nm,0.5s,baz=150,slow=7.8,SNR=20						
TXAR				pP	pP	06 42 59.8	-0.2
	comp=N,0.5nm,0.5s,baz=155,slow=8.6,SNR=5.7						
WVT	**Waverly**	72.73	347	*e*P	P	06 42 56.9	-0.1
	comp=N,7.1nm,0.6s						
DBIC	**Dimbokro**	75.66	71	P	P	06 43 14.5	0

MKAR Makanchi Array 157.70 52 PKP **PKPdf 06 51 25.1 +0.2**
comp=N,0.3nm,0.7s,baz=276,slow=1.3,SNR=3.0
MKAR PKPab **PKPab 06 51 57.2 -0.3**
comp=N,0.7nm,0.7s,baz=280,slow=3.4,SNR=7.6

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*IDC **03** 06:33:28.6±1.1,2°.22S×68°.16E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/48, mbtmp3.8/8, MS3.8/5, Ms1 3.8/5, ms1mx3.4/35, Error ellipse: s-maj=27.8km s-min=25.3km az=80.0*
*ISCJB **03** 06:33:29.1±0.9,2°.2S±0°.2×68°.2E±0°.2, h15km, mb3.8/8, MS3.7/4, Error ellipse: s-maj=24.1km s-min=21.7km az=38.8*
ISC 03 06:33:31.1±1.1,2°.2S±0°.2×68°.2E±0°.2, h15km, n13, σ0.96/8, mb4.0/8, MS3.8/4, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**4.95**	**145**	T	T	06 39 57.3	
	baz=325,slow=75,SNR=863						
H08N3	**Diego Garcia H**	**4.96**	**145**	T	T	06 39 58.6	
	baz=325,slow=75,SNR=796						
H08N1	**Diego Garcia H**	**4.97**	**145**	T	T	06 40 00.3	
	baz=325,slow=75,SNR=790						
PALK	**Pallekele**	**15.69**	**53**	LR	LR	06 41 52.9	
	comp=Z,709nm,19.5s,baz=237,slow=32						
CMAR	**Chiang Mai Arr**	**36.62**	**55**	P	**P**	**06 40 38.0 +0.8**	
	0.7nm,0.3s,baz=247,slow=11,SNR=7.0						
CMAR				LR	LR	06 55 25.9	
	comp=Z,41nm,18.8s,baz=231,slow=36						
GEYT	**Alibeck**	**41.03**	**348**	LR	LR	06 57 05.5	
	comp=Z,125nm,21.6s,baz=115,slow=34						
LSZ	**Lusaka**	**41.47**	**249**	P	**P**	**06 41 18.2 +0.1**	
	2.9nm,0.9s,baz=61,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**50.39**	**13**	P	**P**	**06 42 27.5 -0.3**	
	0.7nm,0.9s,baz=186,slow=2.0,SNR=3.5						
BVAR	**Borovoye Array**	**55.10**	**2**	P	**P**	**06 43 02.6 +0.1**	
	0.2nm,0.5s,baz=165,slow=6.0,SNR=2.4						
ZALV	**Zalesovo Beam**	**57.69**	**12**	P	**P**	**06 43 19.1 -1.8**	
	1.1nm,0.7s,baz=217,slow=7.1,SNR=3.8						
ZALV				LR	LR	07 05 43.8	
	comp=Z,82nm,20.6s,baz=72,slow=34						
SONM	**Songino Array**	**59.99**	**29**	P	**P**	**06 43 37.0 -0.2**	
	1.5nm,0.9s,baz=207,slow=5.0,SNR=6.1						
SONM				LR	LR	07 09 18.0	
	comp=Z,135nm,18.8s,baz=16,slow=36						
WRA	**Warramunga Arr**	**66.87**	**111**	P	**P**	**06 44 22.5 -0.7**	
	0.9nm,0.7s,baz=288,slow=5.8,SNR=9.9						
ASAR	**Alice Springs**	**66.93**	**115**	P	**P**	**06 44 24.0 +0.4**	
	0.7nm,0.8s,baz=282,slow=5.4,SNR=7.5						

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*ISCJB **03** 06:37:24.6±0.9,35°.29S±0°.08×72°.6W±0°.2, h20km, mb3.8/4, Error ellipse: s-maj=21.9km s-min=9.1km az=22.1*
*IDC **03** 06:37:29.7±3.2,35°.28S×72°.43W, h44km±32km, mb3.5/4, mb1 3.8/8, mb1mx3.6/29, mbtmp3.8/8, ML3.8/4, Error ellipse: s-maj=47.7km s-min=17.5km az=97.0*
ISC 03 06:37:26.7±1.1,35°.28S±0°.10×72°.7W±0°.2, h20km, n8, σ0.78/9, mb3.7/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.20**	**46**	P	**Pn**	**06 38 44.0 +0.6**	
	0.5nm,0.3s,baz=201,slow=14,SNR=5.0						
CFAA				S	**Sn**	**06 39 43.0 +0.3**	
	0.5nm,0.3s,baz=255,slow=19,SNR=1.9						
PLCA	**Paso Flores**	**5.70**	**164**	P	**Pn**	**06 38 50.6 +0.3**	
	2.6nm,0.3s,baz=336,slow=14,SNR=12						
LPAZ	**La Paz**	**19.34**	**13**	P	**P**	**06 41 51.9 +0.4**	
	0.1nm,0.3s,baz=175,slow=10,SNR=2.4						
USHA	**Ushuaia**	**19.77**	**173**	P	**P**	**06 41 55.3 -0.1**	
	0.2nm,0.3s,baz=347,slow=14,SNR=3.2						
SIV	**San Ignacio**	**21.82**	**31**	P	**P**	**06 42 16.6 -1.2**	
	1.3nm,0.7s,baz=206,slow=9.4,SNR=3.1						
QSPA	**South Pole Qui**	**54.96**	**180**	P	**P**	**06 46 56.4 +0.2**	
	5.1nm,1.0s,baz=150,slow=5.7,SNR=7.3						
TXAR	**Lajitas Array**	**70.61**	**332**	P	**P**	**06 48 41.0 +0.3**	
	0.4nm,0.6s,baz=154,slow=8.2,SNR=6.8						
TORD	**Torodi Ar. Bea**	**85.11**	**70**	P	**P**	**06 50 00.5 -1.1**	
	0.2nm,0.4s,baz=250,slow=4.3,SNR=3.4						

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*NEIC **03** 06:40:01.4±0.5,36°.34S×72°.37W, h35km, mb4.3/3, Error ellipse: s-maj=12.6km s-min=7.1km az=92.0*
*ISCJB **03** 06:40:02.2±0.6,36°.37S±0°.05×72°.2W±0°.1, h58km, mb4.3/12, Error ellipse: s-maj=14.2km s-min=7.3km az=11.1*
*IDC **03** 06:40:02.6±0.9,36°.38S×72°.23W, h47km±8km, mb3.6/8, mb1 3.8/11, mb1mx3.7/30, mbtmp3.9/11, ML4.3/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/22, Error ellipse: s-maj=25.6km s-min=13.1km az=107.0*
ISC 03 06:40:03.5±0.6,36°.37S±0°.07×72°.3W±0°.1, h58km, n26, σ1.16/32, mb4.3/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.56**	**163**	P	**Pn**	**06 41 10.7 +0.7**	
	4.6nm,0.3s,baz=337,slow=9.7,SNR=6.3						
PLCA	**Paso Flores**	**4.56**	**163**	*e*Pn	**Pn**	**06 41 09.3 -0.6**	
CFAA	**Coronel Fontan**	**5.81**	**36**	P	**Pn**	**06 41 26.7 -0.3**	
	0.3nm,0.3s,baz=207,slow=14,SNR=5.7						
CFAA				S	**Sn**	**06 42 33.6 +1.3**	
	0.3nm,0.3s,baz=168,slow=19,SNR=2.7						
TRQA	**Tornquist**	**8.38**	**105**	*e*Pn	**Pn**	**06 42 01.6 -0.6**	
LVC	**Limon Verde**	**14.01**	**13**	*e*Pn	**Pn**	**06 43 18.2 -1.1**	
CPUP	**Villa Florida**	**16.19**	**56**	LR	LR	06 49 40.3	
	comp=Z,197nm,19.3s,baz=208,slow=36						
CPUP	**Villa Florida**	**16.19**	**56**	*e*Pn	**Pn**	**06 43 46.7 -0.5**	
USHA	**Ushuaia**	**18.66**	**173**	P	**Pn**	**06 44 17.7 +0.4**	
	0.4nm,0.3s,baz=351,slow=14,SNR=4.4						
LPAZ	**La Paz**	**20.33**	**11**	P	**P**	**06 44 36.1 +0.6**	
	1.1nm,0.6s,baz=156,slow=10.0,SNR=2.6						
LPAZ	**La Paz**	**20.33**	**11**	*e*P	**P**	**06 44 34.7 -0.9**	
	12nm,2.1s						
SIV	**San Ignacio**	**22.61**	**29**	P	**P**	**06 44 59.1 -0.3**	
	2.8nm,0.6s,baz=202,slow=8.7,SNR=9.4						
OTAV	**Otavalo**	**36.87**	**350**	*e*P	**P**	**06 47 06.4 -0.5**	
	10.0nm,2.1s						
SNAA	**Sanae**	**49.47**	**157**	P	**P**	**06 48 48.4 +0.9**	
	15nm,1.3s						
QSPA	**South Pole Qui**	**53.88**	**180**	P	**P**	**06 49 21.1 +0.6**	
	0.9nm,0.5s,baz=307,slow=0.9,SNR=6.3						
QSPA				pP	**pP**	**06 49 34.4 -1.5**	
	0.9nm,0.6s,baz=269,slow=22,SNR=2.4						
QSPA	**South Pole Qui**	**53.88**	**180**	*e*P	**P**	**06 49 20.7 +0.2**	
QSPA				pP	**pP**	**06 49 34.4 -1.5**	
TXAR	**Lajitas Array**	**71.71**	**331**	P	**P**	**06 51 20.4 +1.1**	
	0.2nm,0.6s,baz=154,slow=8.6,SNR=2.7						
LIC	**Lamto**	**75.70**	**71**	*e*P	**P**	**06 51 43.7 +0.7**	
	58nm,1.8s						
TIC	**Toumodi**	**75.98**	**71**	*e*P	**P**	**06 51 43.3 -1.3**	
	3.8nm,0.2s						
KIC	**Kosan Boka**	**76.01**	**71**	*e*P	**P**	**06 51 45.6 +0.8**	
	8.5nm,0.5s						
DBIC	**Dimbokro**	**76.12**	**71**	P	**P**	**06 51 45.2 -0.1**	
	2.8nm,0.5s,baz=197,slow=5.6,SNR=9.7						
DBIC				pP	**PcP**	**06 51 58.8 +1.5**	
	2.9nm,0.6s,baz=202,slow=4.5,SNR=2.6						
DBIC	**Dimbokro**	**76.12**	**71**	*e*P	**P**	**06 51 45.6 +0.3**	
DBIC				pP	**PcP**	**06 51 58.8 +1.5**	
BOSA	**Boshof**	**79.14**	**117**	P	**P**	**06 52 02.4 +0.2**	
	2.6nm,1.0s,baz=188,slow=19,SNR=2.6						
TORD	**Torodi Ar. Bea**	**85.19**	**70**	P	**P**	**06 52 33.8 -0.1**	
	0.4nm,0.6s,baz=244,slow=3.5,SNR=3.2						
NVAR	**Mina Array Bea**	**85.72**	**325**	P	**P**	**06 52 37.1 +0.9**	
	0.2nm,0.5s,baz=126,slow=6.1,SNR=3.2						
WRA	**Warramunga Arr**	**118.61**	**209**	PKP	**PKPdf**	**06 58 44.5 -0.8**	
	0.2nm,0.6s,baz=159,slow=1.6,SNR=5.7						
WRA				pPKP	**pPKPdf**	**06 58 58.3 -4.2**	
	0.2nm,0.5s,baz=154,slow=1.6,SNR=1.6						
MKAR	**Makanchi Array**	**158.39**	**53**	PKP	**PKPdf**	**06 59 53.9 +0.1**	
	0.3nm,0.8s,baz=146,slow=2.3,SNR=3.2						
MKAR				PKPab	**PKPab**	**07 00 28.4 -0.2**	
	0.3nm,0.7s,baz=311,slow=3.8,SNR=8.0						

IDC 03 06:40:43.6±6.8,24°.08S×176°.59W, h196km±61km, mb3.7/6, mb1 3.8/8, mb1mx3.6/37, mbtmp4.2/8, Error ellipse: s-maj=49.8km s-min=27.9km az=175.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.12**	**199**	P	P	06 44 08.1	+0.1
	1.3nm,0.3s,baz=310,slow=3.8,SNR=8.0						
DZM	**Mont Dzumac**	**15.74**	**274**	P	Pn	06 44 16.6	+1.4
	0.2nm,0.3s,baz=106,slow=20,SNR=3.6						
CTA	**Charters Tower**	**34.59**	**269**	P	P	06 47 14.2	0.0
	5.2nm,0.4s,baz=91,slow=11,SNR=15						
STKA	**Stephens Creek**	**37.55**	**249**	P	P	06 47 38.5	-0.6
	0.4nm,0.4s,baz=52,slow=18,SNR=1.7						
ASAR	**Alice Springs**	**45.08**	**260**	P	P	06 48 40.3	-0.2
	1.4nm,0.9s,baz=91,slow=8.8,SNR=12						
ASAR				PcP	PcP	06 50 19.1	+1.3
	0.4nm,0.7s,baz=101,slow=4.8,SNR=3.6						
WRA	**Warramunga Arr**	**45.50**	**265**	P	P	06 48 43.0	-0.8
	3.0nm,0.8s,baz=102,slow=8.2,SNR=24						
WRA				PcP	PcP	06 50 18.2	-1.1
	0.3nm,0.6s,baz=104,slow=3.4,SNR=2.7						
TXAR	**Lajitas Array**	**87.91**	**57**	P	P	06 53 11.3	-0.1
	0.6nm,1.1s,baz=243,slow=8.0,SNR=3.3						
CMAR	**Chiang Mai Arr**	**92.52**	**289**	P	P	06 53 34.5	+1.5
	1.8nm,0.3s,baz=130,slow=3.2,SNR=9.0						
AKASG	**Malin Array Be**	**146.76**	**330**	PKPbc	PKPdf	07 00 00.4	+0.2
	1.6nm,0.5s,baz=43,slow=3.8,SNR=4.5						

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*IDC **03** 06:50:12.6±0.9,34°.87S×72°.35W, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.8/26, mbtmp3.8/8, ML3.3/2, MS2.1/1, Ms1 2.1/1, ms1mx2.1/27, Error ellipse: s-maj=31.7km s-min=24.2km az=92.0*
*ISCJB **03** 06:50:14.2±0.8,34°.8S±0°.1×72°.3W±0°.2, h18km, mb3.7/7, Error ellipse: s-maj=24.0km s-min=16.4km az=21.3*
ISC 03 06:50:15.6±0.9,34°.8S±0°.1×72°.4W±0°.2, h18km, n10, σ0.71/10, mb3.8/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.72**	**48**	Pn	**Pn**	**06 51 26.6 +0.6**	
	0.3nm,0.3s,baz=16,slow=2.6,SNR=6.6						
CFAA				Lg	Lg	06 52 34.4	
	0.5nm,0.3s,baz=327,slow=9.4,SNR=3.3						
CFAA				LR	LR	06 53 22.2	
	comp=Z,23nm,20.8s,baz=228,slow=40						
LPAZ	**La Paz**	**18.86**	**13**	P	**Pn**	**06 54 36.1 +0.2**	
	0.1nm,0.3s,baz=227,slow=9.5,SNR=5.3						
SIV	**San Ignacio**	**21.32**	**31**	P	**P**	**06 55 01.0 -0.6**	
	2.3nm,0.7s,baz=219,slow=9.0,SNR=6.7						
QSPA	**South Pole Qui**	**55.40**	**180**	P	**P**	**06 59 49.4 +0.9**	
	1.1nm,0.6s,baz=314,slow=7.8,SNR=3.0						
TXAR	**Lajitas Array**	**70.34**	**331**	P	**P**	**07 01 28.4 +0.2**	
	0.5nm,0.6s,baz=156,slow=8.5,SNR=8.5						
BOSA	**Boshof**	**79.91**	**118**	P	**P**	**07 02 23.4 -0.3**	
	1.6nm,0.7s,baz=286,slow=2.5,SNR=3.6						
PDAR	**Pinedale Array**	**84.39**	**333**	P	**P**	**07 02 47.1 +0.2**	
	0.2nm,0.6s,baz=126,slow=6.1,SNR=2.2						
NVAR	**Mina Array Bea**	**84.42**	**325**	P	**P**	**07 02 47.1 0.0**	
	0.2nm,0.5s,baz=157,slow=4.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**84.74**	**70**	P	**P**	**07 02 48.4 -0.5**	
	0.3nm,0.5s,baz=301,slow=6.9,SNR=4.7						
WRA	**Warramunga Arr**	**119.91**	**209**	PKP	**PKPdf**	**07 09 04.2 -1.2**	
	0.2nm,0.5s,baz=157,slow=1.8,SNR=6.3						

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*IDC **03** 06:52:27.5±2.3,35°.37S×73°.80W, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.8/26, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=61.4km s-min=32.2km az=166.0*
ISC 03 06:52:33.2±2.0,35°.2S±0°.3×73°.8W±0°.2, h35km, n6, σ0.81/7, mb3.8/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.90**	**54**	Pn	**Pn**	**06 53 57.3 -0.8**	
	baz=219,slow=6.5,SNR=1.5						
CFAA				Sn	**Sn**	**06 55 05.7 +1.1**	
	0.1nm,0.3s,baz=140,slow=17,SNR=3.0						
LPAZ	**La Paz**	**19.55**	**16**	P	**Pn**	**06 56 59.5 -0.5**	
	0.1nm,0.3s,baz=188,slow=7.1,SNR=3.2						
TXAR	**Lajitas Array**	**70.13**	**332**	P	**P**	**07 03 42.1 0.0**	
	0.4nm,0.7s,baz=146,slow=7.6,SNR=5.1						
NVAR	**Mina Array Bea**	**84.09**	**326**	P	**P**	**07 05 01.1 +0.7**	
	0.3nm,0.6s,baz=140,slow=4.5,SNR=2.8						
PDAR	**Pinedale Array**	**84.23**	**334**	P	**P**	**07 05 01.1 0.0**	
	0.9nm,1.1s,baz=157,slow=4.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**86.00**	**71**	P	**P**	**07 05 10.3 +0.1**	
	1.3nm,0.9s,baz=249,slow=4.6,SNR=4.8						

WEL 03 06:56:55.8±0.6,46°.19S×165°.59E, h33km, ML3.9/10, 2C, Error ellipse: s-maj=7.3km s-min=3.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.30**	**57**	⇑PN	Pn	06 57 14.5	-3.2
DCZ				AML	AML	06 57 29.7	
DCZ				AML	AML	06 57 34.1	
DCZ				AML	AML	06 57 34.2	
DCZ				AML	AML	06 57 35.2	
WHZ	**Wether Hill Ro**	**1.67**	**81**	PN	Pn	06 57 21.0	-1.7
WHZ				AML	AML	06 57 45.9	
WHZ				AML	AML	06 57 46.6	
APZ	**The Paps**	**1.77**	**112**	⇑PN	Pn	06 57 23.5	-0.7
APZ				SN	Sn	06 57 43.8	-1.9
APZ				AML	AML	06 57 55.6	
MLZ	**Mavora Lakes**	**1.99**	**66**	PN	Pn	06 57 25.7	-1.5
MLZ				SN	Sn	06 57 48.7	-2.4
MLZ				AML	AML	06 57 55.1	
MSZ	**Milford Sound**	**2.24**	**48**	PN	Pn	06 57 29.3	-1.2
MSZ				AML	AML	06 58 10.2	
MSZ				AML	AML	06 58 12.1	
SYZ	**Scrubby Hill**	**2.48**	**99**	PN	Pn	06 57 33.8	0.0
SYZ				SN	Sn	06 58 01.9	-1.0
SYZ				AML	AML	06 58 08.3	
WKZ	**Wanaka**	**2.77**	**62**	PN	Pn	06 57 37.6	-0.2
WKZ				AML	AML	06 58 13.4	
WKZ				AML	AML	06 58 17.9	
EAZ	**Earnscleugh**	**2.77**	**71**	PN	Pn	06 57 37.6	-0.3
EAZ				AML	AML	06 57 41.2	
EAZ				AML	AML	06 58 15.1	
EAZ				AML	AML	06 58 15.1	
EAZ				AML	AML	06 58 18.8	
TUZ	**Tuapeka**	**2.82**	**87**	PN	Pn	06 57 38.2	-0.3
TUZ				SN	Sn	06 58 09.3	-2.0
JCZ	**Jackson Bay**	**3.08**	**48**	PN	Pn	06 57 41.5	-0.8
JCZ				AML	AML	06 58 32.0	
JCZ				AML	AML	06 58 32.1	
LBZ	**Lake Benmore**	**3.71**	**63**	PN	Pn	06 57 48.9	-1.9
LBZ				AML	AML	06 58 49.3	
LBZ				AML	AML	06 59 17.4	
FOZ	**Fox Glacier**	**3.92**	**49**	PN	Pn	06 57 53.3	-0.3
WVZ	**Waitaha Valley**	**4.81**	**52**	PN	Pn	06 58 04.5	-1.4

IDC 03 07:09:01.6±2.7,34°.31S×72°.25W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/28, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=58.1km s-min=39.7km az=169.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.32**	**52**	Pn	Pn	07 10 09.2	+0.7
	0.8nm,0.3s,baz=224,slow=12,SNR=38						
LPAZ	**La Paz**	**18.32**	**13**	P	P	07 13 19.7	+1.4
	0.3nm,0.3s,baz=192,slow=8.1,SNR=11						
SIV	**San Ignacio**	**20.83**	**32**	P	P	07 13 43.3	-1.6
	6.6nm,0.7s,baz=218,slow=9.0,SNR=17						
TXAR	**Lajitas Array**	**69.92**	**331**	P	P	07 20 14.6	-0.1
	0.2nm,0.7s,baz=153,slow=10,SNR=2.3						
TORD	**Torodi Ar. Bea**	**84.48**	**70**	P	P	07 21 36.8	+0.2
	0.4nm,0.7s,baz=247,slow=4.6,SNR=4.4						

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*IDC **03** 07:09:35.7±0.6,36°.12S×72°.86W, h0km, mb4.5/12, mb1 4.6/15, mb1mx4.4/30, mbtmp4.4/15, ML4.3/3, MS3.6/5, Ms1 3.6/5, ms1mx3.3/26, Error ellipse: s-maj=22.3km s-min=13.4km az=79.0*
*ISCJB **03** 07:09:39.7±0.2,36°.00S±0°.05×72°.64W±0°.07, h33km, mb4.8/63, MS3.5/3, Error ellipse: s-maj=8.8km s-min=6.3km az=148.8*
*MOS **03** 07:09:40.1±0.9,35°.97S×72°.64W, h33km, mb5.0/14, Error ellipse: s-maj=20.4km s-min=9.9km az=99.9*
*BJI **03** 07:09:40.4,35°.70S×71°.91W, h39km, mB4.9/4, Ms4.9/2, Ms7 4.9/4*
*NEIC **03** 07:09:41.1±0.2,36°.06S×72°.62W, h35km, mb4.9/52, Error ellipse: s-maj=6.2km s-min=4.4km az=66.0*
ISC 03 07:09:40.7±0.7,36°.02S±0°.06×72°.64W±0°.08, h32km±4km, h32km:pP-P, n475, σ0.76/482, mb4.9/63, MS3.4/3, 159C-152D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.99**	**161**	*e*P	**Pn**	**07 10 54.8 +1.4**	
PLCA	**Paso Flores**	**4.99**	**161**	Pn	**Pn**	**07 10 52.6 -0.7**	
	4.0nm,0.3s,baz=324,slow=11,SNR=14						
PLCA				Lg	Lg	07 12 11.5	
	5.9nm,0.3s,baz=249,slow=17,SNR=2.2						
PLCA	**Paso Flores**	**4.99**	**161**	*e*Pn	**Pn**	**07 10 54.8 +1.4**	
PLCA				Lg	Lg	07 12 11.5	
CFAA	**Coronel Fontan**	**5.72**	**41**	Pn	**Pn**	**07 11 05.5 +2.0**	
	0.2nm,0.3s,baz=195,slow=13,SNR=3.8						
CFAA				Sn	**Sb**	**07 12 27.2 -0.7**	
	0.6nm,0.3s,baz=151,slow=19,SNR=6.5						
CFAA				LR	LR	07 13 32.5	
	comp=Z,107nm,18.4s,baz=260,slow=40						
TRQA	**Tornquist**	**8.76**	**107**	*e*Pn	**Pn**	**07 11 43.7 -1.5**	
LVC	**Limon Verde**	**13.74**	**15**	*e*Pn	**Pn**	**07 12 54.3 +0.7**	
CPUP	**Villa Florida**	**16.25**	**58**	*e*P	**Pn**	**07 13 26.2 -0.4**	
CPUP	**Villa Florida**	**16.25**	**58**	Pn	**P**	**07 13 28.8 -0.6**	
	0.3nm,0.3s,baz=207,slow=14,SNR=2.7						
CPUP				LR	LR	07 20 23.1	
	comp=Z,562nm,18.0s,baz=216,slow=39						
CPUP	**Villa Florida**	**16.25**	**58**	*e*Pn	**Pn**	**07 13 26.2 -0.4**	
USHA	**Ushuaia**	**19.04**	**173**	P	**P**	**07 13 59.0 -0.9**	
	0.2nm,0.3s,baz=320,slow=7.9,SNR=4.3						
LPAZ	**La Paz**	**20.05**	**13**	*e*P	Pn	07 14 14.8	+0.8
LPAZ	**La Paz**	**20.05**	**13**	P	**P**	**07 14 12.7 +0.8**	
	3.9nm,0.7s,baz=181,slow=8.1,SNR=9.4						
LPAZ	**La Paz**	**20.05**	**13**	*e*P	**P**	**07 14 12.8 +0.9**	
	13nm,0.9s						
SIV	**San Ignacio**	**22.45**	**30**	P	**P**	**07 14 37.3 +0.2**	
	17nm,1.0s,baz=226,slow=14,SNR=19						
SIV				LR	LR	07 23 45.7	
	comp=Z,125nm,18.7s,baz=214,slow=38						
NNA	**Nana**	**24.22**	**350**	P	**P**	**07 14 54.3 -0.4**	
NNA	**Nana**	**24.22**	**350**	LR	LR	07 23 08.8	
	comp=Z,96nm,18.1s,baz=172,slow=34						
NNA	**Nana**	**24.22**	**350**	P	**P**	**07 14 54.3 -0.4**	
SAML	**Samuel**	**28.29**	**20**	*e*P	**P**	**07 15 31.6 +0.3**	
	20nm,2.0s						
BDFB	**Brasilia**	**29.90**	**54**	P	**P**	**07 15 47.1 +1.4**	
	2.6nm,0.7s,baz=215,slow=9.4,SNR=4.0						
OTAV	**Otavalo**	**36.47**	**350**	*e*P	**P**	**07 16 42.7 -0.7**	
	20nm,1.6s						
ROSC	**El Rosal**	**40.69**	**357**	P	**P**	**07 17 19.7 +1.0**	
	3.7nm,0.4s,baz=109,slow=17,SNR=4.3						
SDV	**Santo Domingo**	**44.70**	**3**	*e*P	**P**	**07 17 50.4 -0.6**	
	10nm,1.1s						
JTS	**JuntasAbangare**	**47.50**	**343**	*e*P	P	07 18 16.9	+4.0
JTS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
JTS	**JuntasAbangare**	**47.50**	**343**	P	**P**	**07 18 11.8 -1.1**	
SNAA	**Sanae**	**49.91**	**157**	*e*P	**P**	**07 18 32.1 +1.2**	
SNAA				pmax	pmax		
	comp=Z,13nm,1.0s						
SNAA	**Sanae**	**49.91**	**157**	P	**P**	**07 18 31.2 +0.3**	
	comp=Z,3.8nm,0.7s,baz=329,slow=22,SNR=11						
SNAA	**Sanae**	**49.91**	**157**	*e*P	**P**	**07 18 30.7 -0.2**	
QSPA	**South Pole Qui**	**54.23**	**180**	*e*P	**P**	**07 19 02.7 -0.4**	
	comp=Z,17nm,1.1s						
RKT	**Rikitea**	**54.90**	**265**	*e*T	T	08 17 31.6	
	comp=Z,1.7nm,0.3s						
SYO	**Syowa Base**	**64.18**	**158**	*e*P	**P**	**07 20 09.3 -2.4**	
SYO	**Syowa Base**	**64.18**	**158**	*e*pP	pP	07 20 20.4	-1.1
H06E1	**SOCORRO T-PHAS**	**65.45**	**320**	T	T	08 31 16.1	
035A	**Encino**	**67.07**	**335**	⇓P	**P**	**07 20 31.9 +1.1**	
	baz=67						
034A	**Hebbronville**	**67.38**	**335**	⇓P	**P**	**07 20 33.9 +1.1**	
	baz=68						
933A	**Laredo**	**68.09**	**335**	⇓P	**P**	**07 20 37.5 +0.2**	
	baz=68						
MEH	**Mehetia**	**68.11**	**263**	*e*T	T	08 34 01.3	
	comp=Z,35nm,0.2s						
835A	**Beeville**	**68.22**	**336**	⇑P	**P**	**07 20 39.1 +1.0**	
	baz=69						
834A	**Tilden**	**68.31**	**335**	⇑P	**P**	**07 20 39.6 +1.0**	
	baz=69,SNR=8.2						
735A	**Kenedy**	**68.74**	**336**	⇑P	**P**	**07 20 42.3 +1.0**	
	baz=69,SNR=6.3						
833A	**Chaparral WMA,**	**68.78**	**335**	⇑P	**P**	**07 20 42.1 +0.6**	
	baz=69,SNR=8.6						
832A	**Faith Ranch, C**	**68.95**	**334**	⇑P	**P**	**07 20 42.9 +0.2**	
	baz=69,SNR=6.8						
734A	**La Parita Cree**	**68.98**	**336**	⇓P	**P**	**07 20 43.1 +0.3**	
	baz=69						
636A	**Smothers Creek**	**69.08**	**337**	⇓P	**P**	**07 20 44.6 +1.2**	
	baz=69,SNR=8.0						
733A	**Divot King Ran**	**69.11**	**335**	⇓P	**P**	**07 20 44.2 +0.6**	
	baz=70						
TVO	**Taravao**	**69.11**	**263**	*e*T	T	08 35 16.7	
	comp=Z,0.5nm,0.2s						
635A	**Leesville**	**69.22**	**337**	⇑P	**P**	**07 20 44.8 +0.5**	
	baz=70						
732A	**Laxson Ranch,**	**69.36**	**334**	⇑P	**P**	**07 20 45.5 +0.4**	
	baz=70,SNR=19						
537A	**Green Hill Far**	**69.41**	**338**	⇓P	**P**	**07 20 45.9 +0.4**	
	baz=70						
PPT2	**Papeete2**	**69.48**	**263**	*e*LR

430A	Baggett Ranch, baz=72,SNR=14	71.67 334	⇓P	P	07 20 59.5 +0.2
332A	Millersview baz=72,SNR=7.7	71.71 336	⇑P	P	07 20 59.4 -0.1
429A	Davenport Ranc baz=72,SNR=10	71.76 334	⇓P	P	07 21 00.1 +0.2
234A	Clairette baz=72,SNR=8.3	71.76 337	⇑P	P	07 20 59.6 -0.1
331A	San Angelo baz=72,SNR=22	71.87 335	⇑P	P	07 21 00.3 -0.2
233A	Rising Star baz=72,SNR=7.1	72.02 337	⇓P	P	07 21 01.1 -0.2
135A	Vickery Place, baz=72	72.06 338	⇓P	P	07 21 01.2 -0.3
232A	Coleman baz=72,SNR=6.7	72.14 336	⇑P	P	07 21 01.8 -0.2
330A	Mertzon baz=73,SNR=6.5	72.22 335	⇓P	P	07 21 02.2 -0.4
134A	White-Moore Ra baz=73	72.27 338	⇓P	P	07 21 02.4 -0.4
231A	Bronte baz=73,SNR=22	72.41 336	⇓P	P	07 21 03.3 -0.3
133A	Hamilton Ranch baz=73,SNR=10	72.57 337	⇓P	P	07 21 04.6 0.0
329A	Wagon Wheel Ra baz=73,SNR=8.5	72.58 334	⇓P	P	07 21 04.7 0.0
230A	Sterling City baz=73	72.64 335	⇑P	P	07 21 04.5 -0.5
Z35A	Perchaven, San baz=73	72.73 339	⇑P	P	07 21 05.4 0.0
ABTX	Abilene, Hawle baz=73,SNR=10	72.82 336	⇑P	P	07 21 05.9 -0.1
ABTX	Abilene, Hawle comp=Z,18nm,0.8s	72.82 336	eP	P	07 21 06.1 0.0
MIAR	Mount Ida	72.87 342 P		P	07 21 05.7 -0.6
MIAR	Mount Ida	72.87 342 P		P	07 21 05.7 -0.6
229A	Bryant Ranch, baz=73	72.95 334	⇑P	P	07 21 07.0 +0.1
Z34A	Collier Ranch, baz=73	72.97 338	⇓P	P	07 21 07.1 +0.2
131A	Roby baz=74,SNR=7.9	73.11 336	⇑P	P	07 21 07.9 +0.1
Z33A	Whitaker Ranch baz=74,SNR=12	73.15 337	⇓P	P	07 21 08.0 0.0
WVT	Waverly	73.16 347	eP	P	07 21 07.5 -0.4
WVT	comp=Z,46nm,1.2s		pmax	pmax	
WVT	Waverly comp=Z,46nm,1.2s	73.16 347	eP	P	07 21 07.5 -0.4
130A	Snyder baz=74,SNR=7.3	73.23 335	⇓P	P	07 21 08.1 -0.5
228A	UT Block 9, Go baz=74,SNR=5.9	73.36 334	⇓P	P	07 21 09.2 -0.2
Z32A	Haskell baz=74,SNR=9.2	73.39 337	⇓P	P	07 21 09.4 -0.1
Y34A	Reagan Ranch, baz=74,SNR=5.2	73.46 338	⇑P	P	07 21 09.5 -0.3
129A	Stewart Farms, baz=74	73.57 335	⇓P	P	07 21 10.4 -0.2
Z31A	Sharp Cattle R baz=74,SNR=11	73.62 336	⇓P	P	07 21 10.5 -0.3
Y33A	Hilltop Ranch, baz=74,SNR=9.9	73.77 338	⇑P	P	07 21 11.4 -0.2
128A	Castleberry Fa baz=74,SNR=12	73.78 334	⇑P	P	07 21 11.9 +0.1
Z30A	Sanderson Ranc baz=74,SNR=7.2	73.92 335	⇑P	P	07 21 12.1 -0.4
Y32A	R-V Farms, Ver baz=74,SNR=6.3	74.02 337	⇑P	P	07 21 13.0 -0.1
MNTX	Cornudas Mount comp=Z,4.2nm,0.8s	74.03 331	eP	P	07 21 12.6 -0.6
X34A	Smith Ranch, M baz=74	74.08 339	⇓P	P	07 21 13.5 +0.1
Z29A	Hungry Hill Ra baz=74,SNR=12	74.09 335	⇓P	P	07 21 13.3 -0.3
127A	Arkansas Junct baz=74	74.14 333	⇓P	P	07 21 13.9 -0.1
X33A	Lawton baz=75	74.23 338	⇑P	P	07 21 13.8 -0.5
Y31A	Rekieta Farm, baz=75	74.25 336	⇓P	P	07 21 15.0 +0.5
PBMO	Poplar Bluff comp=Z,111nm,2.1s	74.29 345	eP	P	07 21 14.2 -0.4
Z28A	Tucker Farm, M baz=75	74.35 334	⇓P	P	07 21 15.1 -0.1
X32A	Elmer baz=75	74.36 337	⇑P	P	07 21 15.3 +0.2
Y30A	Stafford Cattl baz=75	74.38 336	⇓P	P	07 21 15.5 +0.2
Y29A	Porterfield Fa baz=75,SNR=7.2	74.62 335	⇑P	P	07 21 16.6 -0.1
W34A	Bridge Creek, baz=75	74.66 339	⇑P	P	07 21 16.5 -0.3
Z27A	Tatum baz=75	74.67 334	⇑P	P	07 21 16.7 -0.3
TUL1	Leonard baz=75	74.74 341	⇑P	P	07 21 16.6 -0.6
TUL1	Leonard comp=Z,14nm,0.7s	74.74 341	eP	P	07 21 16.9 -0.3
X31A	McDonald Ranch baz=75,SNR=7.3	74.77 337	⇓P	P	07 21 17.6 +0.1
W33A	Caddo, Fort Co baz=75,SNR=8.0	74.79 338	⇑P	P	07 21 18.1 +0.6
Y28A	McKinney Farm, baz=75	74.86 335	⇓P	P	07 21 17.9 -0.2
X30A	Coker Ranch, T baz=75	74.89 336	⇓P	P	07 21 18.6 +0.4
Z26A	Caprock baz=75	74.91 333	⇑P	P	07 21 18.4 0.0
W32A	Sentinel baz=75,SNR=11	75.00 338	⇓P	P	07 21 19.2 +0.4
MSTX	Muleshoe baz=76	75.10 334	⇑P	P	07 21 19.4 -0.1
MSTX	Muleshoe comp=Z,11nm,0.6s	75.10 334	eP	P	07 21 19.4 -0.1
Y27A	Causey baz=76	75.16 334	⇑P	P	07 21 19.5 -0.3
X29A	Tulia baz=76	75.17 335	⇓P	P	07 21 20.0 +0.2
Z25A	Roswell baz=76	75.19 333	⇑P	P	07 21 20.3 +0.3
W31A	Holland Ranch, baz=76	75.27 337	⇓P	P	07 21 20.2 -0.2
319A	Douglas baz=76,SNR=5.6	75.34 328	⇑P	P	07 21 21.9 +0.9
V33A	Lossen Ranch, baz=76,SNR=5.5	75.35 339	⇓P	P	07 21 20.8 +0.1
Z24A	Sheeppen Canyo baz=76,SNR=10.0	75.47 332	⇓P	P	07 21 22.1 +0.3
V32A	Arapaho baz=76	75.49 338	⇑P	P	07 21 21.6 +0.1
AMTX	Amarillo baz=76	75.56 336	⇓P	P	07 21 22.2 +0.1
AMTX	Amarillo comp=Z,27nm,1.2s	75.56 336	eP	P	07 21 22.2 +0.1
121A	Cookes Peak, D baz=76	75.72 330	⇓P	P	07 21 24.3 +1.1
121A	Cookes Peak, D comp=Z,24nm,1.4s	75.72 330	eP	P	07 21 23.8 +0.6
Y25A	Mesa, Roswell baz=76	75.75 333	⇑P	P	07 21 22.6 -0.6
W29A	Amarillo baz=76,SNR=5.9	75.76 336	⇓P	P	07 21 23.5 +0.2
V31A	Spring Creek L baz=76	75.78 337	⇓P	P	07 21 23.9 +0.7
LIC	Lamto comp=Z,94nm,2.2s	75.88 71	eP	P	07 21 25.2 +0.9
X26A	CR and CF Fran baz=76,SNR=7.0	75.99 334	⇓P	P	07 21 24.9 +0.2
Z22A	Elephant Butte baz=76	76.03 331	⇓P	P	07 21 25.6 +0.7
Y24A	Capitan baz=76,SNR=7.5	76.03 332	⇑P	P	07 21 25.2 +0.2
U32A	Winter Ranch, baz=76	76.08 338	⇑P	P	07 21 25.3 +0.3
TIC	Toumodi comp=Z,5.9nm,0.3s	76.15 71	eP	P	07 21 27.4 +1.5
KIC	Kosan Boka comp=Z,13nm,0.5s	76.18 71	eP	P	07 21 27.0 +1.0
W27A	Bowe Ranch, En baz=77,SNR=9.7	76.19 335	⇑P	P	07 21 26.1 +0.4
Y23A	Lovelace Mesa, baz=77	76.27 332	⇓P	P	07 21 26.7 +0.4
DBIC	Dimbokro	76.29 71	eP	P	07 21 26.6 0.0
DBIC	Dimbokro comp=Z,5.7nm,0.6s,baz=214,slow=5.9,SNR=9.1	76.29 71 P		P	07 21 27.9 +1.2
DBIC	Dimbokro	76.29 71	eP	P	07 21 26.6 0.0
W26A	Owens Ranch, T baz=77	76.46 334	⇑P	P	07 21 27.5 +0.3
ACSO	Alum Creek Sta comp=Z,20nm,0.6s	76.47 352	eP	P	07 21 26.7 -0.3
V28A	Channing baz=77	76.53 336	⇑P	P	07 21 28.6 +0.9
X24A	Lazy VL Ranch, baz=77,SNR=6.4	76.60 333	⇑P	P	07 21 28.8 +0.7
U30A	WK&E Inc. Balk baz=77	76.73 337	⇑P	P	07 21 29.3 +0.6
V27A	Dan Oppiter Fa baz=77	76.74 335	⇓P	P	07 21 29.2 +0.4
TUC	Tucson	76.79 328	eP	P	07 21 29.6 +0.5
TUC			pmax	pmax	
TUC	Tucson comp=Z,6.0nm,1.0s	76.79 328	eP	P	07 21 29.6 +0.5
T32A	Tucson comp=Z,5.8nm,1.0s	76.79 328	eP	P	07 21 29.6 +0.5
W25A	Huddler Ranch, baz=77	76.81 339	⇑P	P	07 21 30.1 +1.1
T31A	X Bar L Ranch, baz=77	76.83 334	⇓P	P	07 21 29.3 0.0
U28A	Randall Ranch, baz=77	76.95 338	⇑P	P	07 21 30.1 +0.2
LAZ	Mallet baz=78	77.10 336	⇑P	P	07 21 31.0 +0.2
V26A	Ladron comp=Z,7.6nm,1.4s	77.10 331	eP	P	07 21 30.0 -1.0
W24A	Tequesquite Ra baz=78	77.11 334	⇓P	P	07 21 31.0 +0.1
S32A	Lazy 6 Ranch, baz=78,SNR=8.3	77.16 333	⇓P	P	07 21 31.8 +0.5
ANMO	Newby Ranch, P baz=78	77.29 339	⇑P	P	07 21 32.2 +0.5
ANMO	Albuquerque	77.32 332	eP	P	07 21 32.7 +0.5
ANMO			pmax	pmax	
ANMO	Albuquerque comp=Z,25nm,1.2s	77.32 332	eP	P	07 21 32.2 0.0
U27A	Thompson Grove comp=Z,5.4nm,0.9s	77.34 335	⇓P	P	07 21 32.6 +0.4
S31A	Mullinville baz=78	77.38 338	⇓P	P	07 21 32.4 +0.2
214A	Organ Pipe Nat baz=78	77.40 326	⇑P	P	07 21 33.2 +0.7
W23A	Werner Place, baz=78,SNR=5.6	77.40 332	⇓P	P	07 21 33.4 +0.7
V25A	Rancho No Teng baz=78,SNR=5.8	77.44 334	⇓P	P	07 21 33.1 +0.3
T29A	Hugoton baz=78	77.51 337	⇑P	P	07 21 33.5 +0.5
V24A	Rampart Ranch, baz=78	77.57 333	⇓P	P	07 21 34.1 +0.5
U26A	Atchley Ranch, baz=78	77.63 335	⇑P	P	07 21 34.1 +0.2
S30A	Montezuma baz=78,SNR=6.0	77.69 338	⇓P	P	07 21 34.5 +0.5
T28A	Walsh baz=78,SNR=7.7	77.74 336	⇓P	P	07 21 34.6 +0.3
U25A	Circle Dot Ran baz=78,SNR=5.4	77.87 334	⇑P	P	07 21 35.8 +0.6
S29A	Ulysses baz=78	77.88 337	⇑P	P	07 21 35.7 +0.6
T27A	Campo baz=78	77.89 336	⇓P	P	07 21 36.1 +0.9
R32A	Long Quarter, baz=78	77.90 339	⇑P	P	07 21 35.7 +0.6
V23A	Ortiz Mt. (NFS baz=78	77.93 333	⇓P	P	07 21 36.3 +0.8
KSU1	Kansas State U baz=78	77.95 341	⇓P	P	07 21 35.0 -0.4
R31A	Burdett baz=78	78.01 339	⇓P	P	07 21 36.0 +0.2
S28A	Manter baz=78,SNR=6.6	78.10 337	⇑P	P	07 21 36.9 +0.5
Q33A	Connelly Farm, baz=79	78.19 340	⇑P	P	07 21 36.7 0.0
R30A	Dighton baz=79	78.23 338	⇓P	P	07 21 37.3 +0.3
T26A	Comanche Natio baz=79	78.28 335	⇑P	P	07 21 38.3 +0.8
V22A	San Miguel Ran baz=79,SNR=7.5	78.35 332	⇑P	P	07 21 39.2 +1.2
Q32A	Meitler Ranch, baz=79	78.38 340	⇑P	P	07 21 38.3 +0.5
U23A	El Rito baz=79	78.45 333	⇑P	P	07 21 39.7 +1.2
T25A	Trinidad baz=79,SNR=7.5	78.53 335	⇑P	P	07 21 39.6 +0.7
R29A	Marienthal baz=79	78.62 338	⇓P	P	07 21 39.9 +0.7
Q31A	Ellis baz=79	78.63 339	⇑P	P	07 21 39.6 +0.4
S26A	Kim baz=79,SNR=5.7	78.64 335	⇑P	P	07 21 40.1 +0.6
U22A	Llaves baz=79	78.74 332	⇑P	P	07 21 41.3 +1.2
R28A	Tribune baz=79,SNR=5.1	78.76 337	⇑P	P	07 21 40.2 +0.2
W18A	Petrified Fore baz=79	78.77 330	⇑P	P	07 21 41.4 +1.2
W18A	Petrified Fore comp=Z,12nm,1.1s	78.77 330	eP	P	07 21 41.2 +1.0
T24B	San Luis baz=79	78.81 334	⇓P	P	07 21 41.4 +0.9
Q30A	Quinter baz=79	78.85 338	⇑P	P	07 21 41.0 +0.5
X16A	Lo Mia Camp, P baz=79,SNR=6.6	78.88 328	⇑P	P	07 21 41.8 +1.0
P32A	Huiting Farm, baz=79	78.98 340	⇑P	P	07 21 41.4 +0.3
Q29A	Oakley baz=79	79.00 338	⇑P	P	07 21 41.4 +0.1
S25A	Robets Cordova baz=79	79.01 335	⇓P	P	07 21 42.2 +0.7
T23A	Casias Ranch, baz=79	79.02 333	⇑P	P	07 21 42.5 +0.8
R27A	Eads baz=79,SNR=5.6	79.02 336	⇑P	P	07 21 41.6 +0.2
P31A	Stockton baz=80	79.11 339	⇓P	P	07 21 42.0 +0.2
TSUM	Tsumeb	79.14 106	eP	P	07 21 43.0 +0.3
Y14A	Wickenburg baz=80	79.15 327	⇑P	P	07 21 42.9 +0.7
GLA	Glamis baz=80	79.24 325	⇓P	P	07 21 43.8 +1.1
S24A	Houchin Ranch, baz=80,SNR=5.0	79.26 334	⇑P	P	07 21 43.9 +0.9
Q28A	Sharon Springs baz=80	79.42 337	⇑P	P	07 21 43.6 0.0
BOSA	Boshof	79.57 118	eP	P	07 21 44.9 0.0
BOSA			pmax	pmax	
BOSA	Boshof comp=Z,12nm,0.8s	79.57 118	P	P	07 21 45.5 +0.6
BOSA	Boshof comp=Z,12nm,0.8s,baz=240,slow=4.4,SNR=16	79.57 118	eP	P	07 21 44.9 0.0
KSCO	Kaye Shedlock' baz=80	79.63 337	⇓P	P	07 21 45.3 +0.5
P29A	Atwood baz=80	79.64 338	⇓P	P	07 21 45.6 +0.9
O31A	Woolen Ranch, baz=80	79.68 340	⇑P	P	07 21 45.2 +0.3
Y12C	Blythe baz=80	79.68 326	⇑P	P	07 21 46.9 +1.9
R24A	Sanders Place, baz=80,SNR=7.2	79.75 335	⇑P	P	07 21 46.6 +1.1
WUAZ	Wupatki baz=80	79.79 329	⇑P	P	07 21 46.9 +1.1
WUAZ	Wupatki comp=Z,9.8nm,1.1s	79.79 329	eP	P	07 21 46.8 +1.1
Q26A	Hugo baz=80	79.84 336	⇓P	P	07 21 46.9 +1.0
MONP	Monument Peak, baz=80	79.86 324	⇓P	P	07 21 47.2 +1.0
P28A	Saint Francis baz=80	79.87 338	⇓P	P	07 21 46.8 +0.8
S22A	4UR Ranch, Cre baz=80	79.94 333	⇓P	P	07 21 47.8 +1.1
R23A	Moffat baz=80	79.97 334	⇓P	P	07 21 47.4 +0.6
BC3	Big Chuckawall baz=80	80.03 325	⇑P	P	07 21 48.7 +1.6
Q25A	Bedland, Calha baz=80	80.07 335	⇑P	P	07 21 47.8 +0.5
MVCO	Mesa Verde baz=80	80.09 332	⇑P	P	07 21 48.3 +0.8
IRM	Iron Mountain baz=81	80.31 325	⇑P	P	07 21 49.3 +0.8
P26A	Davis Ranch, A baz=81	80.36 336	⇑P	P	07 21 49.5 +0.7
Q24A	Divide baz=81	80.42 335	⇓P	P	07 21 50.2 +0.9
PFO	Pinyon Flats O baz=81	80.47 324	⇑P	P	07 21 50.6 +1.2
W13A	Hualapai Mount baz=81,SNR=5.1	80.52 327	⇓P	P	07 21 50.8 +1.0
BELC	Belle Mtn. Jos baz=81	80.57 325	⇓P	P	07 21 51.5 +1.6
P25A	Willow Gulch B baz=81	80.59 336	⇓P	P	07 21 50.8 +0.8
N29A	Votaw Ranch, W baz=81	80.67 339	⇑P	P	07 21 50.9 +0.6
M31A	Lambtecht Ranc baz=81	80.69 340	⇑P	P	07 21 51.1 +0.8
N28A	Pribbeno Ranch baz=81	80.82 338	⇑P	P	07 21 51.7 +0.6
PV01	Paradox Valley	80.93 332	eP	P	07 21 52.3 +0.3
U15A	North Rim baz=81,SNR=7.0	80.95 329	⇓P	P	07 21 53.2 +1.0
GMRC	Granite Mounta baz=81,SNR=5.6	81.06 325	⇓P	P	07 21 53.8 +1.2
SMCO	Snowmass comp=Z,48nm,2.3s	81.26 334	eP	P	07 21 54.6 +0.7
PV10	Paradox Valley	81.32 332	eP	P	07 21 54.4 +0.4
ISCO	Idaho Springs baz=82	81.33 335	⇓P	P	07 21 54.1 0.0
L31A	Butterfield Fa baz=82,SNR=5.2	81.43 341	⇑P	P	07 21 54.6 +0.4
L30A	Spencer Herefo baz=82	81.46 340	⇓P	P	07 21 55.0 +0.7
BFSC	Mount Baldy Ra baz=82	81.56 324	⇑P	P	07 21 55.9 +0.7
KNB	Kanab	81.67 329	eP	P	07 21 57.0 +1.2
KNB			pmax	pmax	
KNB	Kanab comp=Z,9.0nm,0.9s	81.67 329	eP	P	07 21 57.0 +1.2
O23A	Lake Granby, G baz=82,SNR=6.8	81.80 335	⇑P	P	07 21 57.5 +0.9
O22A	Kremmling baz=82	81.98 334	⇓P	P	07 21 58.0 +0.5
GSC	Goldstone, Bar	82.02 325	eP	P	07 21 58.3 +0.7
GSC			pmax	pmax	
GSC	Goldstone, Bar comp=Z,3.0nm,0.6s	82.02 325	eP	P	07 21 58.3 +0.7
K30A	Basset comp=Z,3.4nm,0.6s	82.10 340	⇓P	P	07 21 58.4 +0.7
EDW2	Edwards Air Fo baz=82	82.23 324	⇑P	P	07 21 59.2 +0.5
SHPR	Sheep Range	82.26 327	eP	P	07 22 00.1 +1.2
ECSD	EROS Data Cent baz=83,SNR=9.0	82.32 343	⇑P	P	07 21 58.8 0.0
ECSD	EROS Data Cent comp=Z,15nm,0.8s	82.32 343	eP	P	07 21 58.8 0.0
CCUT	Cedar City comp=Z,6.1nm,1.0s	82.36 328	eP	P	07 22 01.3 +1.8
K29A	Lazy Trails An baz=83	82.38 340	⇑P	P	07 21 59.8 +0.6
N22A	Wattenberg Ran baz=83	82.52 335	⇑P	P	07 22 01.4 +1.2
SRU	San Rafael Swe	82.53 331	eP	P	07 22 00.9 +0.6
SRU			pmax	pmax	
SRU	San Rafael Swe comp=Z,4.0nm,0.8s	82.53 331	eP	P	07 22 00.9 +0.6
M24A	Cheyenne comp=Z,4.2nm,0.8s baz=83	82.56 336	⇓P	P	07 22 00.8 +0.4
ARUT	Antelope Range	82.59 329	eP	P	07 22 01.1 +0.5
ARUT	Antelope Range	82.59 329	eP	P	07 22 01.1 +0.5
K28A	Ten Mile Ranch baz=83	82.63 339	⇓P	P	07 22 01.3 +0.7
J30A	Dallas baz=83	82.67 341	⇓P	P	07 22 00.7 +0.1
SBC	Santa Barbara baz=83	82.72 322	⇓P	P	07 22 01.3 +0.2
M23A	Laramie baz=83	82.86 336	⇑P	P	07 22 02.2 +0.2
SPMN	Marine on St. baz=83	82.90 346	⇓P	P	07 22 01.2 -0.6
J29A	Okreek baz=83,SNR=7.2	82.97 340	⇓P	P	07 22 02.4 +0.2
FURC	Furnace Creek, baz=83	83.00 325	⇓P	P	07 22 03.4 +0.9
ISA	Isabella, Lake	83.10 324	eP	P	07 22 04.4 +1.2
ISA			pmax	pmax	
ISA	Isabella, Lake comp=Z,6.0nm,0.8s	83.10 324	⇑P	P	07 22 04.2 +1.0
ISA	Isabella, Lake comp=Z,6.3nm,0.8s	83.10 324	eP	P	07 22 04.4 +1.2
M22A	Cedar Creek Ra baz=84	83.10 335	⇓P	P	07 22 03.7 +0.4
N20A	Spence Gulch, baz=84	83.18 334	⇓P	P	07 22 04.3 +0.6
I30A	Oacoma baz=84,SNR=6.9	83.20 341	⇓P	P	07 22 03.4 0.0
J28A	Allard Ranch, baz=84	83.25 339	⇑P	P	07 22 04.2 +0.5
J27A	Elkhorn Farm, baz=84	83.31 339	⇓P	P	07 22 05.0 +0.9
BRSD	Miller baz=84	83.57 341	⇑P	P	07 22 05.6 +0.3
BRSD	Miller comp=Z,18nm,0.9s	83.57 341	eP	P	07 22 05.5 +0.3
J26A	Sides Ranch, S baz=84	83.68 338	⇑P	P	07 22 06.4 +0.5
I28A	Midland baz=84,SNR=5.5	83.76 340	⇓P	P	07 22 06.5 +0.2
J25A	Sunshine Ranch baz=84,SNR=5.2	83.97 338	⇓P	P	07 22 08.0 +0.5
K23A	Bowen Ranch, D baz=84	83.98 336	⇑P	P	07 22 08.2 +0.6
R11A	Troy Canyon, C baz=84,SNR=7.5	83.98 327	⇑P	P	07 22 08.9 +1.1
R11A	Troy Canyon, C comp=Z,5.7nm,1.0s	83.98 327	eP	P	07 22 08.9 +1.1
H29A	Onida baz=84	84.07 341	⇑P	P	07 22 08.0 +0.2
I27A	Quinn baz=84	84.07 339	⇑P	P	07 22 08.2 +0.2
JLU	Jordanelle comp=Z,32nm,2.0s	84.18 331	eP	P	07 22 09.3 +0.5
K22A	Casper baz=85	84.19 336	⇓P	P	07 22 09.5 +0.8
K22A	Casper comp=Z,10nm,1.0s	84.19 336	eP	P	07 22 09.3 +0.6
J24A	Dixon Ranch, L baz=85	84.19 337	⇑P	P	07 22 09.0 +0.4
G30A	Faulkton baz=85	84.26 341	⇓P	P	07 22 08.8 +0.1
H28A	Mission Ridge baz=85	84.34 340	⇑P	P	07 22 09.5 +0.3
DUG	Dugway, Tooele	84.37 330	eP	P	07 22 10.6 +0.9
DUG			pmax	pmax	
DUG	Dugway, Tooele comp=Z,10.0nm,1.2s	84.37 330	⇑P	P	07 22 10.5 +0.8
DUG	Dugway, Tooele baz=85,SNR=6.7	84.37 330	eP	P	07 22 10.6 +0.9
K21A	Alcova comp=Z,10nm,1.2s	84.42 335	⇑P	P	07 22 10.3 +0.4
TPH	Tonopah baz=85,SNR=7.5	84.48 326	eP	P	07 22 11.3 +0.9
TPH			pmax	pmax	
TPH	Tonopah comp=Z,8.0nm,1.0s	84.48 326	eP	P	07 22 11.3 +0.9
G29A	Hoven comp=Z,7.7nm,1.0s	84.52 341	⇓P	P	07 22 10.3 +0.2
I25A	Rochford baz=85	84.52 338	⇓P	P	07 22 10.6 +0.2
H27A	Howes baz=85	84.59 339	⇑P	P	07 22 10.5 0.0
I24A	Kuemmerle Ranc baz=85	84.65 337	⇓P	P	07 22 10.8 -0.1
G28A	Parade baz=85	84.68 340	⇓P	P	07 22 11.4 +0.5
RSSD	Black Hills	84.71 338	eP	P	07 22 11.5 +0.1
RSSD			pmax	pmax	
RSSD	Black Hills comp=Z,8.0nm,1.1s	84.71 338	eP	P	07 22 11.5 +0.1
J22A	Midwest baz=85	84.85 336	⇓P	P	07 22 12.1 +0.1
MLAC	Mammoth, Mammo baz=85	84.86 325	⇓P	P	07 22 13.0 +0.6
F30A	Leola	84.89 342	⇓P	P	07 22 12.0 0.0

baz=85
H25A Fruitdale 85.03 338 ⇓P **P 07 22 13.3 +0.6**
baz=85
BGU Big Grassy Mou 85.08 330 *e*P **P 07 22 13.3 +0.1**
comp=Z,6.0nm,1.7s
HWUT Hardware Ranch 85.08 332 *e*P **P 07 22 13.4 +0.2**
comp=Z,16nm,1.3s
F29A Eureka 85.09 341 ⇑P **P 07 22 12.9 -0.1**
baz=86
J21A Lysite 85.11 335 ⇑P **P 07 22 13.6 +0.2**
baz=86
G27A Dupree 85.24 340 ⇓P **P 07 22 13.7 0.0**
baz=86
NV01 Mina Array Sit 85.26 326 *e*P **P 07 22 15.0 +0.8**
NV01 *e*pP **pP 07 22 23.5 -0.9**
NVAR Mina Array Bea 85.26 326 P **P 07 22 15.2 +0.9**
comp=Z,2.8nm,0.6s,baz=153,slow=6.1,SNR=28
I22A 9 Mile Ranch, 85.28 336 ⇑P **P 07 22 14.2 +0.1**
baz=86
J20A Shoshoni 85.34 335 ⇑P **P 07 22 15.1 +0.6**
baz=86,SNR=7.5
BW06 Boulder Array 85.34 334 *e*P **P 07 22 14.1 -0.5**
PDAR Pinedale Array 85.34 334 P **P 07 22 14.3 -0.3**
comp=Z,1.5nm,1.0s,baz=144,slow=5.3,SNR=6.8
G26A Maurine 85.35 339 ⇑P **P 07 22 14.5 +0.2**
baz=86
TOA0 Torodi Ar. Sit 85.35 70 *e*P **P 07 22 15.4 +0.4**
TORD Torodi Ar. Bea 85.35 70 P **P 07 22 15.7 +0.7**
comp=Z,2.2nm,0.8s,baz=247,slow=4.9,SNR=12
F28A McLaughlin 85.36 341 ⇓P **P 07 22 15.0 +0.6**
baz=86
H24A Dirks Ranch, A 85.43 338 ⇑P **P 07 22 15.1 +0.3**
baz=86
I21A Big Trails, Te 85.47 336 ⇑P **P 07 22 15.0 -0.1**
baz=86
E30A Jud 85.48 342 ⇑P **P 07 22 14.9 0.0**
baz=86
G25A Newell 85.50 339 ⇑P **P 07 22 15.3 +0.3**
baz=86,SNR=6.4
J19A Crowheart 85.60 334 ⇑P **P 07 22 16.5 +0.7**
baz=86
HVU Hansel Valley 85.70 331 *e*P **P 07 22 15.9 -0.4**
HVU pmax pmax
comp=Z,5.0nm,0.8s
HVU Hansel Valley 85.70 331 *e*P **P 07 22 15.9 -0.4**
comp=Z,4.8nm,0.8s
F27A Lemmon 85.72 340 ⇑P **P 07 22 16.2 +0.1**
baz=86,SNR=5.4
E29A Napoleon 85.72 342 ⇑P **P 07 22 16.4 +0.3**
baz=86
H22A Clearmont 85.86 337 ⇓P **P 07 22 16.9 0.0**
baz=86
I20A Worland 85.88 335 ⇑P **P 07 22 17.2 +0.1**
baz=86,SNR=6.1
F26A Lodgepole 85.88 339 ⇓P **P 07 22 17.2 +0.2**
baz=86
G24A Alzada 85.92 338 ⇑P **P 07 22 17.3 +0.1**
baz=86
E28A Huff 86.00 341 ⇓P **P 07 22 17.5 0.0**
baz=86
D30A Buchanan 86.01 342 ⇓P **P 07 22 17.7 +0.2**
baz=86
G23A Biddle 86.10 337 ⇓P **P 07 22 18.0 -0.1**
baz=86
E27A Carson 86.10 340 ⇓P **P 07 22 17.9 -0.1**
baz=86
H21A Big Horn, Sher 86.11 336 ⇑P **P 07 22 17.8 -0.4**
baz=86
D29A Pettibone, Tap 86.17 342 ⇓P **P 07 22 18.3 0.0**
baz=87
F25A Bowman 86.17 339 ⇓P **P 07 22 18.4 -0.1**
baz=87
I19A Meeteetse 86.25 335 ⇓P **P 07 22 19.0 0.0**
baz=87
H20A Greybull 86.31 335 ⇓P **P 07 22 18.9 -0.3**
baz=87
REDW Red Top Meadow 86.33 333 *e*P **P 07 22 19.5 +0.1**
comp=Z,8.6nm,1.3s
E26A Carlson Angus 86.39 340 ⇓P **P 07 22 19.2 -0.3**
baz=87
F24A Ekalaka 86.39 338 ⇑P **P 07 22 19.2 -0.4**
baz=87
G22A Birney 86.40 337 ⇓P **P 07 22 19.3 -0.3**
baz=87
LOHW Long Hollow 86.45 333 *e*P **P 07 22 19.7 -0.3**
comp=Z,75nm,2.8s
AGMN Agassiz Nation 86.46 345 ⇓P **P 07 22 19.6 -0.1**
baz=87
AGMN Agassiz Nation 86.46 345 *e*P **P 07 22 19.0 -0.6**
comp=Z,6.6nm,0.8s
TPAW Teton Pass 86.48 333 *e*P **P 07 22 20.6 +0.3**
comp=Z,6.1nm,0.9s
C30A Mose, Pekin 86.50 343 ⇑P **P 07 22 20.2 +0.3**
baz=87,SNR=8.5
D28A Regan 86.54 341 ⇓P **P 07 22 20.1 0.0**
baz=87
F23A Volborg 86.57 338 ⇓P **P 07 22 20.1 -0.2**
baz=87,SNR=5.6
FXWY Fox Creek 86.63 333 *e*P **P 07 22 20.8 -0.1**
comp=Z,44nm,2.7s
E25A Miller Ranch, 86.68 339 ⇓P **P 07 22 21.0 +0.1**
baz=87,SNR=5.6
G21A Lodge Grass 86.70 336 ⇑P **P 07 22 21.0 0.0**
baz=87
I17A Pilgrim Ck. 86.71 334 ⇑P **P 07 22 21.9 +0.6**
baz=87,SNR=5.5
D27A Center 86.72 341 ⇓P **P 07 22 21.2 +0.2**
baz=87
H19A Powell 86.81 335 ⇑P **P 07 22 21.6 -0.1**
baz=87
F22A Rosebud 86.89 337 ⇓P **P 07 22 21.8 -0.1**
baz=87
D26A Manning 86.89 340 ⇑P **P 07 22 22.3 +0.4**
baz=87,SNR=6.4
MDND Maddock 86.90 342 ⇑P **P 07 22 22.8 +0.9**
baz=87
C28A Hausauer Farms 86.98 342 ⇑P **P 07 22 22.8 +0.5**
baz=87
E24A Baker 87.00 339 ⇑P **P 07 22 22.4 -0.1**
baz=87
G20A Bridger 87.03 336 ⇑P **P 07 22 22.4 -0.3**
baz=87
H18A Shoshone NF, C 87.05 335 ⇑P **P 07 22 22.8 -0.1**
baz=87
B30A Myrvik Farm, E 87.16 343 ⇑P **P 07 22 23.1 0.0**
baz=88,SNR=15
D25A Fairfield 87.25 340 ⇓P **P 07 22 23.7 0.0**
baz=88
C27A Sayler Ranch, 87.27 341 ⇓P **P 07 22 24.1 +0.5**
baz=88
RLMT Red Lodge 87.30 335 *e*P **P 07 22 24.2 +0.1**
comp=Z,92nm,2.6s
B29A Wagenman Farm, 87.42 343 ⇓P **P 07 22 24.6 +0.3**
baz=88
YMR Madison River 87.50 334 *e*P **P 07 22 25.8 +0.7**
comp=Z,10nm,1.1s
D24A Glendive 87.50 339 ⇓P **P 07 22 25.5 +0.7**
baz=88
C26A Wahner Farm, P 87.53 341 ⇑P **P 07 22 24.9 0.0**
baz=88
A30A Hoffart Farm, 87.61 343 ⇑P **P 07 22 25.1 -0.1**
baz=88
B28A Dugan Ranch, T 87.65 342 ⇑P **P 07 22 25.5 0.0**
baz=88,SNR=5.5
LAO LASA Array 87.69 338 *e*P **P 07 22 25.7 -0.1**
comp=Z,141nm,2.7s
C25A Freed Ranch, W 87.74 340 ⇑P **P 07 22 26.3 +0.3**
baz=88
A29A Manning Farm, 87.81 343 ⇑P **P 07 22 26.4 +0.1**
baz=88,SNR=6.4
F19A Roth Farm, Mol 87.83 336 ⇓P **P 07 22 26.3 -0.2**
baz=88
B27A Peters Farms, 87.84 341 ⇓P **P 07 22 26.8 +0.5**
baz=88
HLID Hailey 87.85 331 ⇑P **P 07 22 27.2 +0.4**
baz=88
HLID Hailey 87.85 331 *e*P **P 07 22 27.4 +0.6**
comp=Z,44nm,2.4s
C24A Savage 87.91 339 ⇓P **P 07 22 27.3 +0.5**
baz=88
A28A Rude Farm, Bot 88.06 342 ⇓P **P 07 22 27.5 +0.1**
baz=88
D22A Cohagen 88.09 338 ⇑P **P 07 22 28.0 +0.4**
baz=88
E20A Meyer Farm, Mu 88.13 336 ⇓P **P 07 22 28.5 +0.6**
baz=88
D21A La Casta Ranch 88.27 337 ⇑P **P 07 22 28.5 0.0**
baz=89
MFID Camas Ranch 88.29 330 *e*P **P 07 22 29.6 +0.8**
comp=Z,116nm,1.5s
E19A Rath Farm, Rou 88.31 336 ⇑P **P 07 22 28.7 -0.1**
baz=89
ULM Lac du Bonnet 88.32 345 *e*P **P 07 22 27.6 -0.9**
ULM pmax pmax
comp=Z,122nm,2.8s
ULM Lac du Bonnet 88.32 345 P **P 07 22 28.1 -0.5**
comp=Z,5.9nm,0.7s,baz=172,slow=4.0,SNR=15
ULM Lac du Bonnet 88.32 345 *e*P **P 07 22 27.6 -0.9**
comp=Z,122nm,2.8s
MCMT McKenzie Canyo 88.33 333 *e*P **P 07 22 30.1 +1.0**
C23A Lambert 88.38 339 ⇑P **P 07 22 29.1 +0.2**
baz=89
DGMT Dagmar 88.69 340 ⇑P **P 07 22 31.0 +0.5**
baz=89
DGMT Dagmar 88.69 340 *e*P **P 07 22 31.5 +1.1**
comp=Z,20nm,1.1s
D19A Cripps Ranch, 88.96 336 ⇓P **P 07 22 31.5 -0.3**
baz=89
MOD Modoc Plateau 88.97 326 *e*P **P 07 22 33.2 +1.1**
comp=Z,7.4nm,0.8s
C21A Desert Coulee 88.97 338 ⇑P **P 07 22 31.7 -0.1**
baz=89
MSO Missoula 90.43 333 ⇑P **P 07 22 39.9 +1.2**
baz=91
YKA Yellowknife Ar 103.81 341 Pdiff **Pdif 07 23 37.7 -1.0**
comp=Z,0.1nm,0.4s,baz=116,slow=6.3,SNR=4.0
ASAR Alice Springs 115.55 207 PKP **PKPdf 07 28 18.1 -1.9**
comp=Z,0.4nm,0.8s,baz=161,slow=2.7,SNR=4.9
ILAR Eielson Array 115.76 333 PKP **PKPdf 07 28 18.8 0.0**
comp=Z,0.3nm,0.7s,baz=188,slow=1.8,SNR=3.8
WRA Warramunga Arr 118.77 209 PKP **PKPdf 07 28 24.6 -1.5**
comp=Z,0.7nm,0.4s,baz=162,slow=1.6,SNR=8.0
BRTR Keskin Array B 123.22 62 PKP **PKPdf 07 28 34.5 +0.3**
comp=Z,0.9nm,0.8s,baz=180,slow=7.4,SNR=3.7
H11S2 WAKE ISLAND Hyl 25.23 268 T T 09 46 20.7
baz=120
H11S1 WAKE ISLAND Hyl 25.25 268 T T 09 46 15.0
baz=120
H11S3 WAKE ISLAND Hyl 25.25 268 T T 09 46 21.6
baz=120
H11N3 WAKE ISLAND Hyl 25.69 269 T T 09 46 40.9
baz=118
H11N1 WAKE ISLAND Hyl 25.71 269 T T 09 46 42.1
baz=118
H11N2 WAKE ISLAND Hyl 25.71 269 T T 09 46 43.2
baz=118
SEY Seymchan 141.51 329 PKP **PKPdf 07 29 07.2 -0.3**
comp=Z,1.8nm,0.2s,baz=128,slow=20,SNR=6.4
TIXI Tiksi 142.58 349 *e*PKIKP **PKPdf 07 29 08.7 -0.5**
ABKAR Akbulak array 143.29 54 *e*PKPpre PKPpre 07 29 08.3
PSI Prapat 146.04 165 PKPbc **PKPdf 07 29 17.3 0.0**
comp=Z,24nm,0.8s,baz=186,slow=3.9,SNR=22
IPM Ipoh 148.08 168 *e*PKPdf **PKPdf 07 29 20.7 +0.2**
IPM *e*PKPbc **PKPbc 07 29 22.6 -1.1**
HYB Hyderabad 148.47 118 *i* PKP **PKPbc 07 29 24.0 -0.6**
HYB *e*pPKP **pPKPdf 07 29 32.0 +0.5**
BRVK Borovoye 149.00 45 *e*PKIKP **PKPdf 07 29 21.0 +0.3**
BRVK 07 29 24.9
BRVK Borovoye 149.00 45 *e*PKPdf **PKPdf 07 29 21.0 +0.3**
BRVK *e*PKPbc **PKPbc 07 29 24.9 +0.1**
BVAR Borovoye Array 149.07 45 PKPbc **PKPbc 07 29 25.8 +0.8**
comp=Z,1.4nm,0.6s,baz=293,slow=3.9,SNR=10
VOSK Vostochnaya 149.50 45 *e*PKP2 **PKPbc 07 29 26.6 +0.5**
VOSK Vostochnaya 149.50 45 *e*P **PKPbc 07 29 26.6 +0.5**
YAK Yakutsk 150.44 339 *e*PKIKP **PKPbc 07 29 26.3 -1.7**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 150.44 339 *e*PKPbc **PKPbc 07 29 27.8 -0.2**
KKAR Karatay Array 150.89 65 *e*PKIKP **PKPbc 07 29 29.9 +0.1**
KKAR Karatay Array 150.89 65 *e*P **PKPbc 07 29 29.9 +0.1**
AAK Ala-Archa 153.84 65 PKP **PKPdf 07 29 28.4 -0.2**
comp=E,0.6nm,0.3s,baz=0.0,slow=20,SNR=4.9
AAK PKPab **PKPab 07 29 50.5 +0.7**
comp=E,6.0nm,0.8s,baz=245,slow=3.3,SNR=10
KSH Kashi 155.00 72 PKPbc **PKPdf 07 29 30.5 +0.2**
KSH sPKP 07 29 44.2
KSH PKS **PKSdf 07 33 05.3 +0.8**
KSH PP **PP 07 33 30.3 -1.2**
KSH PPMZ
comp=E,86nm,4.5s
KSH LZ
comp=E,100nm,5.1s
ZAA0 Zalesovo Array 156.18 34 *e*PKPdf **PKPdf 07 29 30.2 -1.0**
ZAA0 *e*PKPab **PKPab 07 30 00.0 +0.9**
ZALV Zalesovo Beam 156.18 34 PKP **PKPdf 07 29 30.4 -0.9**
comp=E,0.5nm,0.5s,baz=276,slow=2.8,SNR=4.8
ZALV PKPab **PKPab 07 29 59.9 +0.8**
comp=E,2.3nm,0.7s,baz=293,slow=4.8,SNR=6.1
MKAR Makanchi Array 158.42 52 *e*PKIKP **PKPdf 07 29 34.5 +0.1**
MKAR *e* 07 30 09.6
MKAR Makanchi Array 158.42 52 PKP **PKPdf 07 29 34.2 -0.2**
comp=E,1.1nm,0.8s,baz=270,slow=2.4,SNR=5.8
MKAR PKPab **PKPab 07 30 09.8 +0.6**
comp=E,1.1nm,0.7s,baz=270,slow=4.5,SNR=4.8
MKAR Makanchi Array 158.42 52 *e*PKPdf **PKPdf 07 29 34.5 +0.1**
MKAR *e*PKPab **PKPab 07 30 09.6 +0.5**
MK01 Makanchi Array 158.43 52 *e*PKPdf **PKPdf 07 29 34.4 0.0**
MK01 *e*PKPab **PKPab 07 30 09.3 +0.1**
CMAR Chiang Mai Arr 160.99 155 PKP **PKPdf 07 29 37.9 -0.2**
comp=E,1.2nm,0.3s,baz=241,slow=2.6,SNR=4.2
CN2 Changchun 164.11 305 *e*PKP **PKPdf 07 29 41.3 +0.9**
SONM Songino Array 168.17 3 PKPab **PKPab 07 30 52.1 +0.2**
comp=E,1.1nm,0.8s,baz=321,slow=2.9,SNR=6.9
KMI Kunming 168.44 159 PKP **PKPdf 07 29 44.1 -0.6**
NJ2 Nanjing 169.68 251 *e*PKP **PKPdf 07 29 45.6 +0.6**
GYA Guiyang 170.45 176 *e*PKP **PKPdf 07 29 44.9 -0.9**
GYA pPKP **pPKPdf 07 29 57.0 +0.7**
GYA PKPab **PKPab 07 31 04.2 +1.7**
GYA PKS **PKSdf 07 33 17.8 -0.6**
GYA PP **PP 07 34 55.4 +3.7**
GYA SKKS 07 41 37.7
GYA SS **SS 07 55 51.6 +1.2**
GYA PPMZ
comp=E,120nm,8.1s
GYA LN
comp=E,130nm,21.8s
GYA LE
comp=E,110nm,22.4s
GYA LZ
comp=E,120nm,21.6s
BJI Beijing 171.97 303 PKP **PKPdf 07 29 47.0 +1.1**
CD2 Chengdu 174.08 148 *e*PKP **PKPdf 07 29 47.1 -0.1**
HHC Hu-ho-hao-te 174.16 327 *e*PKP **PKPdf 07 29 45.7 -1.2**
HHC pPKP **pPKPdf 07 29 53.6 -3.8**
HHC sPKP 07 29 57.7
HHC PKS PKSdf 07 33 11.9 -7.3
HHC PP **PP 07 35 13.1 +2.6**
HHC SKS **SKSdf 07 36 42.0 -5.7**
HHC SKKS **SKKSac 07 41 51.8 -3.0**
HHC SS **SS 07 56 27.1 -0.4**
HHC PPMZ
comp=E,79nm,9.5s
HHC LN
comp=E,120nm,22.2s
HHC LE
comp=E,170nm,22.4s
HHC LZ
comp=E,170nm,22.7s
LZH Lanzhou 177.15 88 *e*PKP **PKPdf 07 29 47.6 -0.3**
LZH pPKP **pPKPdf 07 29 58.4 0.0**
LZH sPKP 07 30 02.2

*IDC **03** 07:25:44.3±2.1, 33°.86S×71°.93W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/25, mbtmp3.6/3, ML2.9/2, MS1.8/1, Ms1 1.8/1, ms1mx1.8/25, Error ellipse: s-maj=59.9km s-min=40.9km az=8.0*
*ISCJB **03** 07:25:48.4±1.3, 33°.59S±0°.09×72°.06W±0°.08, h30km±9km, mb3.6/2, Error ellipse: s-maj=14.9km s-min=10.8km az=24.3*
*GUC **03** 07:25:49.3±0.7, 33°.58S×72°.00W, h15km±872km, ML3.9*
ISC 03 07:25:47.9±1.7, 33°.64S±0°.06×71°.96W±0°.07, h18km±7km, n19, σ0°.74/23, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.56**	**124**	⇓*iP*		**Pn**		**07 26 01.2**	**+0.3**
LNV				*i* S1		**Sn**		**07 26 09.6**	**-0.2**
IHA	**Instituto Hidr**	**0.67**	**24**	⇓*iP*		**Pg**		**07 26 01.1**	**0.0**
IHA				*i* S1		**Sg**		**07 26 09.6**	**-0.5**
TACH	**Talagante**	**0.86**	**91**	⇑*iP*		**Pn**		**07 26 04.9**	**-0.2**
SAN	**Santiago**	**1.10**	**81**	⇓*iP*		**Pg**		**07 26 09.1**	**-0.2**
SAN				*i* S		**Sg**		**07 26 24.4**	**+0.6**
ANTU	**Antumapu**	**1.11**	**87**	*e*P		**Pg**		**07 26 09.2**	**-0.2**
ANTU				*i* S		**Sg**		**07 26 24.1**	**+0.1**
ANTU				AML		AML		07 26 29.4	
STL	**Santa Lucia**	**1.12**	**80**	*e*P9		**Pn**		**07 26 08.6**	**-0.2**
STL				*i* S1		**Sn**		**07 26 23.9**	**+0.1**
CHCH	**Chadas Angostu**	**1.13**	**105**	⇑*iP*		**Pg**		**07 26 09.8**	**0.0**
PEL	**Peldehue**	**1.18**	**65**	⇑*iP*		**Pg**		**07 26 10.4**	**-0.3**
PEL				*i* S		**Sg**		**07 26 25.9**	**-0.3**
PEL				AML		AML		07 26 28.8	
comp=N,7μm,0.4s
CACH El Canelo 1.23 113 ⇓*iP* **Pg 07 26 12.1 +0.4**
CFAA Coronel Fontan 3.74 58 Pn **Pn 07 26 46.6 +1.8**
comp=N,0.1nm,0.3s,baz=232,slow=13,SNR=5.8
CFAA Sn **Sb 07 27 38.7 +0.1**
comp=N,0.7nm,0.3s,baz=219,slow=14,SNR=8.4
CFAA LR LR 07 28 10.1
comp=N,12nm,19.6s,baz=257,slow=38
LPAZ La Paz 17.62 12 P **Pn 07 29 53.1 0.0**
comp=N,0.1nm,0.3s,baz=189,slow=7.3,SNR=3.9
TXAR Lajitas Array 69.45 331 P **P 07 36 56.2 +1.1**
comp=N,0.2nm,0.6s,baz=150,slow=7.3,SNR=3.2
TORD Torodi Ar. Bea 84.03 70 P **P 07 38 16.7 -1.0**
comp=N,0.8nm,0.8s,baz=224,slow=4.4,SNR=4.4
H11S2 WAKE ISLAND Hyl 25.84 269 T T 10 03 40.8
baz=118,slow=74,SNR=3.4
H11S1 WAKE ISLAND Hyl 25.85 269 T T 10 03 40.6
baz=118,slow=74,SNR=4.3
H11S3 WAKE ISLAND Hyl 25.86 269 T T 10 03 42.1
baz=118,slow=74,SNR=3.3
BVAR Borovoye Array 146.97 43 PKPbc **PKPbc 07 45 29.3 +0.4**
comp=N,1.0nm,0.9s,baz=276,slow=3.7,SNR=4.3
ZALV Zalesovo Beam 153.89 32 PKPab **PKPab 07 45 56.9 -1.9**
comp=N,0.4nm,0.3s,baz=291,slow=6.0,SNR=2.7
MKAR Makanchi Array 156.48 48 PKPab **PKPab 07 46 09.8 -0.3**
comp=N,0.3nm,0.8s,baz=318,slow=3.0,SNR=2.8

IDC 03 07:30:17.3±2.3, 34°.33S×179°.20W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/41, mbtmp3.6/3, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx3.0/18, Error ellipse: s-maj=61.7km s-min=33.3km az=128.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.92**	**216**	Pn		Pn	Pn	07 31 32.4	-0.1
1.7nm,0.3s,baz=29,slow=19,SNR=8.6
URZ Sn Sn 07 32 29.3 -0.8
1.6nm,0.3s,baz=45,slow=16,SNR=4.2
HNR Honiara 31.30 317 LR LR 07 46 12.8
comp=Z,76nm,18.6s,baz=298,slow=30
ASAR Alice Springs 42.05 272 P P 07 38 11.2 +0.2
0.7nm,0.7s,baz=113,slow=7.2,SNR=12
WRA Warramunga Arr 43.39 277 P P 07 38 21.5 -0.3
0.5nm,0.8s,baz=116,slow=7.7,SNR=7.8
FINES FINESS Array B 148.42 337 PKPbc PKPbc 07 50 03.4 -1.6
0.6nm,0.5s,baz=348,slow=5.8,SNR=3.6
NOA NORSAR Array B 152.44 349 PKPbc PKPbc 07 50 15.4 +0.7
1.5nm,0.8s,baz=359,slow=3.6,SNR=3.4

IDC 03 07:30:20.2±3.7, 54°.40N×86°.69E, h0km, mb1 2.5/1, mb1mx2.5/47, mbtmp2.5/1, ML2.5/1, Error ellipse: s-maj=30.8km s-min=17.8km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.19**	**249**	*i*				07 37 48.8	
baz=69,slow=350,SNR=0.7
ZALV Zalesovo Beam 1.19 249 Pg Pg 07 30 42.6 -0.3
0.7nm,0.3s,baz=64,slow=16,SNR=7.6
ZALV Lg Lg 07 30 59.0
0.7nm,0.3s,baz=64,slow=28,SNR=5.1
MKAR Makanchi Array 8.11 202 Pn Pn 07 32 20.2 +1.1
0.1nm,0.3s,baz=20,slow=10,SNR=4.3

*ISCJB **03** 07:46:22.4±0.6, 4°.77N±0°.09×76°.39W±0°.07, h103km, mb4.1/17, Error ellipse: s-maj=14.5km s-min=8.3km az=28.3*
*IDC **03** 07:46:26.9±1.2, 4°.80N×76°.07W, h135km±11km, mb3.7/15, mb1 4.0/17, mb1mx3.8/40, mbtmp4.2/17, MS3.4/1, Ms1 3.4/1, ms1mx2.6/41, Error ellipse: s-maj=18.8km s-min=10.1km az=50.0*
ISC 03 07:46:23.4±0.6, 4°.8N±0°.1×76°.36W±0°.09, h103km, n28, σ1°.21/30, mb4.1/17, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.03**	**87**	P		**Pn**		**07 46 59.2**	**+2.3**
137nm,0.3s,baz=336,slow=2.0,SNR=578
ROSC S **Sn 07 47 22.5 +0.1**
86nm,0.3s,baz=288,slow=22,SNR=5.9
ROSC LR LR 07 47 51.0
comp=Z,705nm,18.4s,baz=143,slow=48
JTS JuntasAbangare 10.14 303 P Pn 07 48 52.1 +6.0
0.5nm,0.3s,baz=120,slow=9.9,SNR=8.3
TEIG Tepich 19.26 324 P **Pn 07 50 41.5 -0.5**
0.5nm,0.3s,baz=130,slow=16,SNR=3.5
LPAZ La Paz 22.44 159 P **P 07 51 15.2 +0.6**
0.9nm,0.3s,baz=346,slow=6.3,SNR=6.3
SIV San Ignacio 25.57 144 P **P 07 51 42.1 -1.0**
5.7nm,0.6s,baz=327,slow=9.7,SNR=18
TXAR Lajitas Array 35.57 316 P **P 07 53 13.2 +2.0**
0.5nm,0.5s,baz=127,slow=8.2,SNR=15
TXAR PcP **PcP 07 55 39.2 +1.1**
1.5nm,0.7s,baz=140,slow=5.9,SNR=16
ANMO Albuquerque 40.95 321 P **P 07 53 58.4 +2.1**
2.7nm,0.8s,baz=135,slow=9.2,SNR=16
PLCA Paso Flores 45.58 174 P **P 07 54 34.1 +0.8**
5.6nm,0.9s,baz=2.0,slow=8.6,SNR=5.5
PDAR Pinedale Array 47.95 327 P **P 07 54 52.9 +0.9**
1.7nm,0.7s,baz=127,slow=9.4,SNR=14
ULM Lac du Bonnet 48.23 343 P **P 07 54 52.8 -0.9**
2.0nm,0.4s,baz=148,slow=8.0,SNR=12
ULM PcP **PcP 07 56 18.2 -1.1**
1.2nm,0.6s,baz=166,slow=4.2,SNR=2.9
ELK Elko 49.98 321 P **P 07 55 09.1 +1.5**
0.8nm,0.7s,baz=108,slow=1.8,SNR=5.1
SCHQ Schefferville 50.52 7 P **P 07 55 11.5 +0.4**
4.8nm,0.7s,baz=189,slow=6.4,SNR=11
NVAR Mina Array Bea 50.72 317 P **P 07 55 15.0 +1.9**
2.9nm,0.8s,baz=130,slow=6.8,SNR=19
NVAR PcP **PcP 07 56 30.0 +1.0**
2.2nm,0.7s,baz=135,slow=4.4,SNR=12
NEW Newport 55.55 328 P **P 07 55 48.8 +0.6**
0.9nm,0.6s,baz=102,slow=9.5,SNR=3.7
YKA Yellowknife Ar 64.13 341 P **P 07 56 45.8 -0.8**
3.6nm,0.5s,baz=134,slow=6.3,SNR=165
SUMG Summit 71.62 11 *i P* **P 07 57 33.8 0.0**
13nm,0.8s
TORD Torodi Ar. Bea 77.32 78 P **P 07 58 05.8 -1.7**
0.6nm,0.5s,baz=284,slow=6.6,SNR=18
ILAR Eielson Array 77.48 336 P **P 07 58 07.1 -0.3**
1.6nm,0.7s,baz=117,slow=3.9,SNR=34
DAG Danmarks Havn 78.31 11 *i P* **P 07 58 10.4 -1.3**
1.1nm,0.8s
DAVOX Davos/Dischmat 83.99 44 LR LR 08 34 23.5
comp=Z,21nm,18.5s,baz=270,slow=34
GERES GERESS Array B 86.50 41 P **P 07 58 54.8 -0.2**
1.8nm,0.9s,baz=285,slow=5.1,SNR=7.5
USRK Ussuriysk Ar. 125.00 335 PKP **PKPdf 08 05 10.3 -1.6**
1.4nm,0.7s,baz=26,slow=2.1,SNR=4.6
MKAR Makanchi Array 125.31 18 PKP **PKPdf 08 05 10.9 -1.6**
0.5nm,0.5s,baz=305,slow=2.7,SNR=12
SONM Songino Array 127.58 358 PKP **PKPdf 08 05 16.0 -1.0**
0.2nm,0.3s,baz=323,slow=1.2,SNR=4.6
KSRS Korea Array 132.31 334 PKP **PKPdf 08 05 25.8 -0.2**
1.7nm,0.6s,baz=360,slow=2.9,SNR=5.6
STKA Stephens Creek 135.38 228 PKP **PKPdf 08 05 31.7 -0.2**
0.6nm,0.6s,baz=106,slow=15,SNR=3.8
ASAR Alice Springs 145.29 234 PKPbc **PKPbc 08 05 49.2 -0.8**
5.9nm,0.8s,baz=119,slow=3.7,SNR=65
WRA Warramunga Arr 146.52 241 PKPbc **PKPdf 08 05 51.8 -0.4**
3.0nm,0.8s,baz=109,slow=2.9,SNR=16

*ISCJB **03** 07:51:29.4±0.3, 6°.78N±0°.03×72°.95W±0°.03, h170km±3km, mb4.6/101, Error ellipse: s-maj=5.3km s-min=4.3km az=164.4*
*IDC **03** 07:51:30.6±0.5, 6°.73N×73°.01W, h166km±5km, mb3.9/18,*

mb1 4.1/22,mb1mx3.9/37,mbtmp4.5/22,MS3.4/2, Ms1 3.4/2,ms1mx2.7/41,Error ellipse: s-maj=9.6km s-min=8.4km az=95.0

*FUNV **03** 07:51:30.9,6°.80N×73°.07W,h166km,MW4.9*

*NEIC **03** 07:51:31.1±0.2,6°.81N×72°.93W,mb4.7/90,Error ellipse: s-maj=4.4km s-min=4.0km az=160.0*

NEIC Felt at Bucaramanga, Giron, Manizales, Medellin, Pereira and Santa Marta. Also felt at San Antonio del Tachira and San Cristobal, Venezuela.

*BJI **03** 07:51:31.3,6°.80N×73°.10W,h157km,mB5.0/2*

ISC 03 07:51:30.4±0.5,6°.80N±0°.05×72°.95W±0°.04,h162km±3km, h162km:pP-P,n554,σ0s82/577,mb4.7/106,158C-192D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**311**	⇑*i*P	**Pn**	**07 51 59.3**	**+0.7**
CAPV				*e*S	**Sn**	**07 52 20.2**	**-0.1**
ROSC	**El Rosal**	**2.37**	**215**	P	**Pn**	**07 52 10.9**	**-0.1**
	922nm,0.3s,baz=39,slow=5.9,SNR=2926						
ROSC				S	**Sn**	**07 52 40.8**	**-1.7**
	2μm,0.3s,baz=87,slow=19,SNR=16						
SOCV	**Socops**	**2.54**	**55**	*e*P	**Pn**	**07 52 13.6**	**+0.8**
SOCV				*e*S	**Sn**	**07 52 45.4**	**-0.1**
SDV	**Santo Domingo**	**3.09**	**48**	*e*Pn	**Pn**	**07 52 20.8**	**+1.1**
ELOV	**Elorza**	**3.45**	**87**	*e*P	**Pn**	**07 52 25.6**	**+1.6**
VIRV	**Villa del Rosa**	**3.71**	**8**	*e*P	**Pn**	**07 52 26.1**	**-1.3**
SANV	**Sanarito**	**4.31**	**51**	*e*P	**Pn**	**07 52 35.9**	**+0.7**
DABV	**Dabajuro**	**4.69**	**29**	*e*P	**Pn**	**07 52 40.2**	**+0.3**
BAUV	**El Baul**	**5.31**	**66**	*e*P	**Pn**	**07 52 47.5**	**-0.6**
BAUV				*e*S	**Sn**	**07 53 44.8**	**-4.1**
JACV	**Jacura**	**5.89**	**43**	*e*P	**Pn**	**07 52 56.2**	**+0.3**
JACV				*e*S	**Sn**	**07 53 58.1**	**-4.7**
MONV	**Montecano**	**5.90**	**30**	*e*P	**Pn**	**07 52 55.3**	**-0.7**
MONV				*e*S	**Sn**	**07 53 58.3**	**-4.8**
TURV	**Turiamo**	**6.22**	**54**	*e*P	**Pn**	**07 52 59.8**	**-0.3**
TURV				*e*S	**Sn**	**07 54 06.5**	**-4.0**
FUNV	**FUNVISIS**	**7.08**	**59**	*e*P	**Pn**	**07 53 11.5**	**-0.2**
BCIP	**Isla Barro Col**	**7.21**	**289**	*e*Pn	Pn	07 53 08.6	-4.8
BIRV	**Birongo**	**7.54**	**61**	*e*P	**Pn**	**07 53 17.4**	**-0.4**
BIRV				*e*S	Sn	07 54 35.9	-6.5
CUPV	**Cœpira**	**7.79**	**65**	*e*P	**Pn**	**07 53 20.4**	**-0.7**
CUPV				*e*S	Sn	07 54 41.5	-6.8
OTAV	**Otavalo**	**8.52**	**220**	*e*Pn	**Pn**	**07 53 28.4**	**-2.8**
YHJ	**Yallahs**	**11.55**	**343**	*e*P	**Pn**	**07 54 11.6**	**+0.9**
PCJ	**Portland Cotta**	**11.62**	**340**	*e*P	**Pn**	**07 54 11.8**	**+0.3**
HOJ	**Hope**	**11.73**	**342**	*e*P	**Pn**	**07 54 15.2**	**+2.3**
GWJ	**Greenwich**	**11.79**	**342**	*e*P	**Pn**	**07 54 14.9**	**+1.0**
STH	**Stony Hill**	**11.82**	**342**	*e*P	**Pn**	**07 54 14.7**	**+0.6**
TPP	**Pointe-a-Pierr**	**11.89**	**72**	*e*	**P**	**07 54 20.4**	**-0.9**
MCJ	**Malvern**	**11.98**	**338**	*e*P	**Pn**	**07 54 17.4**	**+1.2**
TRN	**Trinidad (W)**	**12.04**	**71**	*e*	**P**	**07 54 25.1**	**+2.2**
CVJ	**Coleyville**	**12.20**	**339**	*e*P	**Pn**	**07 54 20.4**	**+1.3**
MTDJ	**Mount Denham**	**12.20**	**339**	*e*Pn	**Pn**	**07 54 19.2**	**+0.1**
SDDR	**Presa de Saban**	**12.21**	**7**	*e*Pn	**Pn**	**07 54 19.7**	**+0.5**
TBH	**Brigand Hill**	**12.30**	**72**	*e*	P	07 54 30.5	+4.5
GRGR	**Grenville**	**12.33**	**64**	*e*Pn	**P**	**07 54 23.7**	**-2.6**
JTS	**JuntasAbangare**	**12.36**	**287**	P	**Pn**	**07 54 21.5**	**+0.3**
	2.9nm,0.3s,baz=99,slow=6.3,SNR=20						
JTS				S	**Sn**	**07 56 37.1**	**-1.1**
	0.5nm,0.3s,baz=90,slow=20,SNR=1.4						
JTS				LR	LR	07 59 22.0	
	comp=Z,92nm,19.1s,baz=68,slow=38						
JTS	**JuntasAbangare**	**12.36**	**287**	*e*Pn	**Pn**	**07 54 21.1**	**-0.1**
JTS				S	**Sn**	**07 56 37.1**	**-1.1**
MBJ	**Montego Bay**	**12.48**	**338**	/ S	Sn	07 56 29.9	-11
CRPR	**Cabo Rojo, PR**	**12.51**	**27**	*e*Pn	**Pn**	**07 54 21.6**	**-1.3**
ICMP	**Isla Caja de M**	**12.67**	**29**	*e*Pn	**Pn**	**07 54 23.5**	**-1.5**
MPR	**Mayaguez**	**12.68**	**26**	*e*Pn	**Pn**	**07 54 22.7**	**-2.3**
OBIP	**Obispado Ponce**	**12.77**	**28**	*e*Pn	**Pn**	**07 54 24.5**	**-1.8**
CELP	**Cerrillos**	**12.81**	**28**	*e*Pn	**Pn**	**07 54 25.5**	**-1.4**
SMN1	**Samana, DR**	**12.82**	**16**	*e*Pn	**Pn**	**07 54 27.4**	**+0.5**
LRS	**Lares**	**12.88**	**27**	*e*Pn	**Pn**	**07 54 26.1**	**-1.6**
AOPR	**Arecibo Observ**	**12.96**	**27**	*e*Pn	**Pn**	**07 54 26.8**	**-2.0**
CPD	**Cerro la Pandu**	**13.10**	**31**	*e*Pn	**Pn**	**07 54 30.1**	**-0.5**
GTBY	**Guantanamo Bay**	**13.21**	**351**	*e*P	**P**	**07 54 34.9**	**-1.1**
HUMP	**Col San Antoni**	**13.23**	**31**	*e*Pn	**Pn**	**07 54 31.9**	**-0.2**
CDVI	**St. Croix**	**13.50**	**36**	*e*Pn	**Pn**	**07 54 36.3**	**+0.7**
STVI	**Saint Thomas**	**13.87**	**33**	*e*Pn	**Pn**	**07 54 40.3**	**+0.1**
FDF	**Fort de France**	**14.01**	**55**	*e*Pn	**Pn**	**07 54 42.0**	**-0.1**
	142nm,0.8s						
SMRT	**St. Maarten**	**14.75**	**40**	*e*Pn	**Pn**	**07 54 51.6**	**+0.3**
ATAH	**Atahualpa**	**14.87**	**202**	P	**Pn**	**07 54 53.9**	**+0.7**
	1.5nm,0.3s,baz=47,slow=5.5,SNR=5.0						
H05N1	**Guadeloupe/Mar**	**15.00**	**50**	P	**P**	**07 54 55.3**	**-0.6**
	SNR=33						
ANWB	**Willy Bob**	**15.34**	**44**	*e*Pn	**P**	**07 55 00.7**	**+1.1**
	582nm,1.8s						
SAML	**Samuel**	**18.43**	**148**	*e*P	**P**	**07 55 34.0**	**+0.4**
	18nm,0.8s						
APG	**El Apazote**	**19.02**	**297**	P	P	07 55 34.2	-6.0
	2.8nm,0.3s,baz=115,slow=7.2,SNR=16						
TEIG	**Tepich**	**19.98**	**313**	P	**P**	**07 55 50.8**	**+0.4**
	7.8nm,0.3s,baz=141,slow=1.2,SNR=25						
LPAZ	**La Paz**	**23.43**	**168**	P	**P**	**07 56 26.5**	**+0.7**
	1.3nm,0.3s,baz=7.9,slow=7.9,SNR=9.6						
LPAZ	**La Paz**	**23.43**	**168**	*e*P	**P**	**07 56 25.3**	**-0.5**
	14nm,0.7s						
SIV	**San Ignacio**	**25.52**	**153**	P	**P**	**07 56 43.6**	**-0.5**
	2.9nm,0.9s,baz=333,slow=9.4,SNR=4.5						
LVC	**Limon Verde**	**29.50**	**172**	P	**P**	**07 57 19.6**	**-0.2**
LVC				*es*P	**sP**	**07 58 10.9**	**-1.6**
035Z	**Hargill**	**30.89**	**312**	⇓P	**P**	**07 57 31.1**	**-0.6**
	baz=31						
035A	**Encino**	**31.19**	**313**	⇑P	**P**	**07 57 33.8**	**-0.6**
	baz=31,SNR=7.5						
340A	**Bronson**	**31.35**	**324**	⇓P	**P**	**07 57 35.6**	**-0.2**
	baz=31						
034A	**Hebbronville**	**31.68**	**313**	⇓P	**P**	**07 57 38.1**	**-0.6**
	baz=32,SNR=16						
339A	**Huntington**	**31.69**	**323**	⇓P	**P**	**07 57 39.0**	**+0.3**
	baz=32						
835A	**Beeville**	**31.79**	**315**	⇑P	**P**	**07 57 39.9**	**+0.2**
	baz=32						
934A	**Benavides**	**31.87**	**313**	⇓P	**P**	**07 57 40.0**	**-0.3**
	baz=32,SNR=5.9						
636A	**Smothers Creek**	**32.01**	**318**	⇓P	**P**	**07 57 41.9**	**+0.3**
	baz=32						
735A	**Kenedy**	**32.12**	**316**	⇓P	**P**	**07 57 42.7**	**+0.1**
	baz=32						
338A	**Crockett**	**32.16**	**322**	⇓P	**P**	**07 57 43.2**	**+0.4**
	baz=32,SNR=6.0						
834A	**Tilden**	**32.20**	**314**	⇑P	**P**	**07 57 42.7**	**-0.6**
	baz=32						
WVT	**Waverly**	**32.22**	**337**	*e*P	**P**	**07 57 44.1**	**+0.8**
	83nm,2.0s						
536A	**Bastrop**	**32.40**	**319**	⇓P	**P**	**07 57 44.7**	**-0.3**
	baz=32						
933A	**Laredo**	**32.43**	**313**	⇓P	**P**	**07 57 44.6**	**-0.6**
	baz=32,SNR=15						
635A	**Leesville**	**32.43**	**317**	⇓P	**P**	**07 57 44.9**	**-0.3**
	baz=32						
337A	**Centerville**	**32.48**	**322**	⇓P	**P**	**07 57 45.8**	**+0.2**
	baz=33						
734A	**La Parita Cree**	**32.64**	**315**	⇑P	**P**	**07 57 46.1**	**-0.9**
	baz=33						
436A	**Wall Ranch, Ga**	**32.68**	**320**	⇑P	**P**	**07 57 47.5**	**+0.1**
	baz=33						
535A	**Dale**	**32.70**	**318**	⇑P	**P**	**07 57 46.9**	**-0.7**
	baz=33						
833A	**Chaparral WMA,**	**32.92**	**314**	⇑P	**P**	**07 57 48.3**	**-1.2**
	baz=33,SNR=5.2						
733A	**Divot King Ran**	**33.08**	**314**	⇓P	**P**	**07 57 49.9**	**-1.0**
	baz=33						
336A	**Riesel**	**33.13**	**321**	⇓P	**P**	**07 57 51.0**	**-0.2**
	baz=33						
435B	**Jarrell**	**33.20**	**319**	⇑P	**P**	**07 57 51.7**	**-0.2**
	baz=33						
BDFB	**Brasilia**	**33.28**	**132**	P	**P**	**07 57 53.9**	**+1.1**
	3.1nm,0.9s,baz=299,slow=10,SNR=3.7						
534A	**Blanco**	**33.31**	**317**	⇓P	**P**	**07 57 51.6**	**-1.3**
	baz=33						
832A	**Faith Ranch, C**	**33.32**	**313**	⇑P	**P**	**07 57 52.1**	**-0.9**
	baz=33,SNR=8.9						
335A	**Moody**	**33.42**	**320**	⇑P	**P**	**07 57 53.7**	**-0.1**
	baz=34,SNR=10						
MIAR	**Mount Ida**	**33.53**	**328**	*e*P	**P**	**07 57 54.4**	**-0.3**
	120nm,2.7s						
732A	**Laxson Ranch,**	**33.57**	**314**	⇑P	**P**	**07 57 54.0**	**-1.1**
	baz=34						
434A	**Burnet**	**33.67**	**318**	⇓P	**P**	**07 57 55.3**	**-0.7**
	baz=34,SNR=6.3						
533A	**Kerrville**	**33.72**	**317**	⇓P	**P**	**07 57 55.7**	**-0.7**
	baz=34						
LUPA	**Lehigh Univers**	**33.72**	**357**	*e*P	**P**	**07 57 58.9**	**+2.7**
	5.5nm,0.7s						
USIN	**University of**	**33.77**	**339**	*e*P	**P**	**07 57 58.0**	**+1.2**
	25nm,0.8s						
PBMO	**Poplar Bluff**	**33.84**	**334**	*e*P	**P**	**07 57 58.1**	**+0.8**
	14nm,0.6s						
632A	**Uvalde**	**33.89**	**315**	⇑P	**P**	**07 57 57.4**	**-0.6**
	baz=34,SNR=8.3						
WHTX	**Lake Whitney,**	**33.92**	**321**	⇑P	**P**	**07 57 57.6**	**-0.5**
	baz=34						
WHTX	**Lake Whitney,**	**33.92**	**321**	*e*P	**P**	**07 57 58.3**	**+0.2**
	12nm,0.9s						
334A	**Lometa**	**33.98**	**319**	⇑P	**P**	**07 57 58.3**	**-0.4**
	baz=34,SNR=7.4						
PAL	**Palisades**	**34.07**	**359**	*e*P	**P**	**07 58 00.7**	**+1.5**
	23nm,0.7s						
SIUC	**Southern Illin**	**34.14**	**337**	*e*P	**P**	**07 58 00.6**	**+0.7**
	20nm,0.7s						
433A	**Art**	**34.18**	**318**	⇓P	**P**	**07 57 60.0**	**-0.4**
	baz=34,SNR=23						
135A	**Vickery Place,**	**34.27**	**322**	⇓P	**P**	**07 58 01.1**	**-0.1**
	baz=34						
532A	**Rocksprings**	**34.35**	**316**	⇓P	**P**	**07 58 01.5**	**-0.4**
	baz=34,SNR=14						
234A	**Clairette**	**34.36**	**320**	⇓P	**P**	**07 58 01.1**	**-0.8**
	baz=34,SNR=7.5						
631A	**Perdido Creek**	**34.40**	**314**	⇑P	**P**	**07 58 01.6**	**-0.6**
	baz=34,SNR=9.9						
333A	**Richland Sprin**	**34.46**	**318**	⇓P	**P**	**07 58 02.1**	**-0.7**
	baz=34,SNR=16						
JCT	**Junction City**	**34.49**	**316**	⇓P	**P**	**07 58 02.4**	**-0.7**
	baz=35						
JCT	**Junction City**	**34.49**	**316**	*e*P	**P**	**07 58 02.2**	**-0.9**
	4.1nm,0.8s						
134A	**White-Moore Ra**	**34.70**	**321**	⇓P	**P**	**07 58 04.2**	**-0.6**
	baz=35						
KSPA	**Keystone Colle**	**34.70**	**356**	*e*P	**P**	**07 58 06.7**	**+2.0**
	29nm,0.6s						
Z35A	**Perchaven, San**	**34.71**	**323**	⇓P	**P**	**07 58 04.9**	**0.0**
	baz=35,SNR=5.8						
432A	**Menard**	**34.72**	**317**	⇑P	**P**	**07 58 04.8**	**-0.3**
	baz=35						
531A	**Rocksprings**	**34.81**	**315**	⇓P	**P**	**07 58 05.4**	**-0.5**
	baz=35,SNR=7.0						
233A	**Rising Star**	**34.85**	**319**	⇓P	**P**	**07 58 05.9**	**-0.3**
	baz=35,SNR=8.0						
332A	**Millersview**	**35.00**	**318**	⇓P	**P**	**07 58 07.2**	**-0.3**
	baz=35						
Z34A	**Collier Ranch,**	**35.14**	**322**	⇓P	**P**	**07 58 08.4**	**-0.2**
	baz=35,SNR=5.9						
431A	**Sonora**	**35.16**	**316**	⇑P	**P**	**07 58 08.2**	**-0.7**
	baz=35,SNR=6.6						
133A	**Hamilton Ranch**	**35.25**	**320**	⇓P	**P**	**07 58 09.7**	**+0.1**
	baz=35,SNR=7.9						
232A	**Coleman**	**35.26**	**319**	⇑P	**P**	**07 58 09.4**	**-0.2**
	baz=35,SNR=12						
BINY	**Binghamton**	**35.35**	**356**	*e*P	**P**	**07 58 12.6**	**+2.3**
	19nm,0.6s						
530A	**J-C Ranch, Com**	**35.36**	**315**	⇑P	**P**	**07 58 10.4**	**-0.2**
	baz=35,SNR=20						
331A	**San Angelo**	**35.42**	**317**	⇓P	**P**	**07 58 10.5**	**-0.6**
	baz=36,SNR=7.4						
Y34A	**Reagan Ranch,**	**35.45**	**323**	⇓P	**P**	**07 58 11.1**	**-0.1**
	baz=36,SNR=7.4						
WES	**Weston**	**35.47**	**2**	*e*P	**P**	**07 58 13.5**	**+2.3**
	89nm,1.4s						
Z33A	**Whitaker Ranch**	**35.60**	**321**	⇑P	**P**	**07 58 12.6**	**0.0**
	baz=36,SNR=8.1						
430A	**Baggett Ranch,**	**35.66**	**316**	⇑P	**P**	**07 58 12.5**	**-0.6**
	baz=36						
ABTX	**Abilene, Hawle**	**35.73**	**320**	⇓P	**P**	**07 58 13.4**	**-0.2**
	baz=36,SNR=9.8						
ABTX	**Abilene, Hawle**	**35.73**	**320**	*e*P	**P**	**07 58 13.3**	**-0.3**
	18nm,0.8s						
231A	**Bronte**	**35.73**	**318**	⇑P	**P**	**07 58 12.9**	**-0.8**
	baz=36,SNR=10						
TUL1	**Leonard**	**35.74**	**327**	⇓P	**P**	**07 58 13.2**	**-0.4**
	baz=36						
TUL1	**Leonard**	**35.74**	**327**	*e*P	**P**	**07 58 13.3**	**-0.4**
	11nm,0.6s						
SFIN	**Lafayette**	**35.75**	**341**	⇓P	**P**	**07 58 14.4**	**+0.7**
	baz=36						
SFIN	**Lafayette**	**35.75**	**341**	*e*P	**P**	**07 58 14.6**	**+0.9**
	20nm,0.6s						
X34A	**Smith Ranch, M**	**35.94**	**324**	⇑P	**P**	**07 58 15.7**	**+0.3**
	baz=36						
529A	**Stev Forest Ra**	**35.97**	**314**	⇓P	**P**	**07 58 15.1**	**-0.7**
	baz=36,SNR=9.4						
330A	**Mertzon**	**35.99**	**317**	⇑P	**P**	**07 58 15.2**	**-0.7**
	baz=36						
Y33A	**Hilltop Ranch,**	**36.00**	**322**	⇓P	**P**	**07 58 15.7**	**-0.3**
	baz=36,SNR=6.4						
429A	**Davenport Ranc**	**36.03**	**315**	⇓P	**P**	**07 58 15.2**	**-1.1**
	baz=36,SNR=6.1						
Z32A	**Haskell**	**36.06**	**321**	⇓P	**P**	**07 58 16.5**	**0.0**
	baz=36,SNR=13						
230A	**Sterling City**	**36.23**	**317**	⇑P	**P**	**07 58 17.4**	**-0.6**
	baz=36						
131A	**Roby**	**36.24**	**319**	⇓P	**P**	**07 58 17.6**	**-0.5**
	baz=36,SNR=6.3						
X33A	**Lawton**	**36.29**	**323**	⇓P	**P**	**07 58 17.9**	**-0.5**
	baz=36,SNR=20						
W34A	**Bridge Creek,**	**36.35**	**325**	⇑P	**P**	**07 58 18.4**	**-0.5**
	baz=36,SNR=7.7						
W34A	**Bridge Creek,**	**36.35**	**325**	*e*P	**P**	**07 58 18.6**	**-0.3**
	23nm,0.7s						
Z31A	**Sharp Cattle R**	**36.49**	**320**	⇑P	**P**	**07 58 20.0**	**-0.2**
	baz=37,SNR=6.0						
Y32A	**R-V Farms, Ver**	**36.50**	**321**	⇑P	**P**	**07 58 20.0**	**-0.2**
	baz=37,SNR=7.4						
130A	**Snyder**	**36.57**	**318**	⇓P	**P**	**07 58 20.2**	**-0.6**
	baz=37,SNR=6.9						
329A	**Wagon Wheel Ra**	**36.59**	**316**	⇓P	**P**	**07 58 20.6**	**-0.4**
	baz=37,SNR=14						
TXAR	**Lajitas Array**	**36.60**	**312**	P	**P**	**07 58 21.1**	**-0.1**
	6.8nm,0.7s,baz=126,slow=8.7,SNR=92						
TXAR				PcP	**PcP**	**08 00 42.1**	**+1.2**
	0.6nm,0.7s,baz=126,slow=4.6,SNR=3.6						
TX31	**Lajitas Ar. Si**	**36.60**	**312**	*e*P	**P**	**07 58 20.8**	**-0.5**
X32A	**Elmer**	**36.69**	**322**	⇑P	**P**	**07 58 21.4**	**-0.3**
	baz=37						
W33A	**Caddo, Fort Co**	**36.70**	**324**	⇓P	**P**	**07 58 21.6**	**-0.2**
	baz=37						
229A	**Bryant Ranch,**	**36.76**	**317**	⇑P	**P**	**07 58 22.0**	**-0.5**
	baz=37,SNR=13						
Y31A	**Rekieta Farm,**	**36.98**	**321**	⇑P	**P**	**07 58 24.5**	**+0.2**
	baz=37,SNR=19						
V33A	**Lossen Ranch,**	**37.06**	**325**	⇑P	**P**	**07 58 24.2**	**-0.7**
	baz=37,SNR=8.8						
U34A	**Anderson Ranch**	**37.08**	**326**	⇓P	**P**	**07 58 24.5**	**-0.5**
	baz=37,SNR=6.4						
U34A	**Anderson Ranch**	**37.08**	**326**	*e*P	**P**	**07 58 24.6**	**-0.5**
	21nm,0.6s						
Z30A	**Sanderson Ranc**	**37.11**	**319**	⇓P	**P**	**07 58 24.6**	**-0.7**
	baz=37,SNR=9.4						
W32A	**Sentinel**	**37.14**	**323**	⇓P	**P**	**07 58 25.2**	**-0.4**
	baz=37,SNR=7.8						
129A	**Stewart Farms,**	**37.19**	**318**	⇓P	**P**	**07 58 26.0**	**-0.1**
	baz=37,SNR=11						
X31A	**McDonald Ranch**	**37.25**	**322**	⇓P	**P**	**07 58 25.9**	**-0.6**
	baz=37,SNR=5.5						
Y30A	**Stafford Cattl**	**37.33**	**320**	⇑P	**P**	**07 58 27.3**	**0.0**
	baz=37,SNR=6.5						
228A	**UT Block 9, Go**	**37.38**	**316**	⇑P	**P**	**07 58 27.0**	**-0.8**
	baz=38						
U33A	**Lingo Farm, Me**	**37.40**	**326**	⇓P	**P**	**07 58 26.8**	**-0.9**
	baz=38						
V32A	**Arapaho**	**37.43**	**324**	⇓P	**P**	**07 58 27.5**	**-0.5**
	baz=38						
Z29A	**Hungry Hill Ra**	**37.47**	**319**	⇑P	**P**	**07 58 28.2**	**-0.3**
	baz=38,SNR=20						
W31A	**Holland Ranch,**	**37.60**	**322**	⇑P	**P**	**07 58 28.8**	**-0.7**
	baz=38,SNR=9.8						
128A	**Castleberry Fa**	**37.60**	**317**	⇓P	**P**	**07 58 29.6**	**0.0**
	baz=38,SNR=28						
X30A	**Coker Ranch, T**	**37.69**	**321**	⇑P	**P**	**07 58 30.5**	**+0.3**
	baz=38,SNR=18						
WVL	**Waterville**	**37.72**	**4**	*e*P	**P**	**07 58 32.3**	**+2.0**
	146nm,1.7s						
Y29A	**Porterfield Fa**	**37.82**	**319**	⇓P	**P**	**07 58 31.4**	**0.0**
	baz=38,SNR=22						
U32A	**Winter Ranch,**	**37.86**	**325**	⇓P	**P**	**07 58 30.9**	**-0.7**
	baz=38						
V31A	**Spring Creek L**	**37.94**	**323**	⇓P	**P**	**07 58 32.2**	**-0.1**
	baz=38						
Z28A	**Tucker Farm, M**	**37.94**	**318**	⇓P	**P**	**07 58 32.1**	**-0.3**
	baz=38,SNR=6.9						
EMMW	**East Machias**	**38.06**	**6**	*e*P	**P**	**07 58 34.9**	**+1.8**
	59nm,0.6s						
X29A	**Tulia**	**38.21**	**320**	⇓P	**P**	**07 58 34.5**	**-0.1**
	baz=38						
Y28A	**McKinney Farm,**	**38.23**	**319**	⇓P	**P**	**07 58 34.4**	**-0.4**
	baz=38,SNR=15						
127A	**Arkansas Junct**	**38.23**	**316**	⇓P	**P**	**07 58 34.0**	**-0.9**
	baz=38						
T32A	**Huddler Ranch,**	**38.39**	**326**	⇓P	**P**	**07 58 35.7**	**-0.3**
	baz=38						
AMTX	**Amarillo**	**38.48**	**321**	⇑P	**P**	**07 58 37.4**	**+0.5**
	baz=39						
AMTX	**Amarillo**	**38.48**	**321**	*e*P	**P**	**07 58 37.1**	**+0.2**
	16nm,0.6s						
Z27A	**Tatum**	**38.51**	**317**	⇑P	**P**	**07 58 36.7**	**-0.5**
	baz=39,SNR=52						
X28A	**Dimmitt**	**38.57**	**320**	⇑P	**P**	**07 58 37.3**	**-0.4**
	baz=39,SNR=8.0						
KSU1	**Kansas State U**	**38.59**	**330**	⇑P	**P**	**07 58 36.9**	**-0.8**
	baz=39,SNR=5.9						
KSU1	**Kansas State U**	**38.59**	**330**	*e*P	**P**	**07 58 36.8**	**-0.8**
	20nm,0.6s						
MSTX	**Muleshoe**	**38.61**	**319**	⇓P	**P**	**07 58 37.3**	**-0.7**
	baz=39,SNR=6.0						
MSTX	**Muleshoe**	**38.61**	**319**	*e*P	**P**	**07 58 37.7**	**-0.4**
	23nm,1.1s						
T31A	**Randall Ranch,**	**38.75**	**325**	⇑P	**P**	**07 58 38.5**	**-0.6**
	baz=39						
S32A	**Newby Ranch, P**	**38.77**	**326**	⇓P	**P**	**07 58 38.8**	**-0.4**
	baz=39						
Y27A	**Causey**	**38.81**	**318**	⇑P	**P**	**07 58 39.4**	**-0.4**
	baz=39						
U30A	**WK&E Inc. Balk**	**38.93**	**323**	⇑P	**P**	**07 58 40.4**	**-0.2**
	baz=39						
Z26A	**Caprock**	**39.00**	**317**	⇑P	**P**	**07 58 41.0**	**-0.3**
	baz=39						
V29A	**Stinnett**	**39.02**	**322**	⇓P	**P**	**07 58 41.8**	**+0.5**
	baz=39,SNR=7.1						
JFWS	**Jewell Farm**	**39.07**	**340**	*e*P	**P**	**07 58 41.6**	**0.0**
	18nm,0.6s						
MNTX	**Cornudas Mount**	**39.11**	**314**	*e*P	**P**	**07 58 41.8**	**-0.3**
	13nm,0.8s						
Q33A	**Connelly Farm,**	**39.13**	**329**	⇑P	**P**	**07 58 42.2**	**+0.1**
	baz=39						
T30A	**Plains**	**39.21**	**324**	⇑P	**P**	**07 58 43.2**	**+0.2**
	baz=39						
SCIA	**State Center**	**39.31**	**336**	*e*P	**P**	**07 58 43.5**	**-0.1**
	434nm,2.8s						
W27A	**Bowe Ranch, En**	**39.47**	**320**	⇑P	**P**	**07 58 45.0**	**-0.2**
	baz=40,SNR=11						
Q32A	**Meitler Ranch,**	**39.50**	**328**	⇑P	**P**	**07 58 44.6**	**-0.7**
	baz=40						
Z25A	**Roswell**	**39.51**	**316**	⇓P	**P**	**07 58 46.0**	**+0.4**
	baz=40						
R31A	**Burdett**	**39.51**	**326**	⇓P	**P**	**07 58 44.7**	**-0.7**
	baz=40						
S30A	**Montezuma**	**39.58**	**325**	⇓P	**P**	**07 58 45.5**	**-0.5**
	baz=40						
X26A	**CR and CF Fran**	**39.64**	**318**	⇑P	**P**	**07 58 46.4**	**-0.3**
	baz=40,SNR=11						
T29A	**Hugoton**	**39.73**	**324**	⇓P	**P**	**07 58 47.7**	**+0.4**
	baz=40						
V27A	**Dan Oppiter Fa**	**39.76**	**321**	⇑P	**P**	**07 58 47.3**	**-0.3**
	baz=40,SNR=5.4						
U28A	**Mallet**	**39.78**	**322**	⇑P	**P**	**07 58 47.6**	**-0.1**
	baz=40						
Y25A	**Mesa, Roswell**	**39.86**	**317**	⇓P	**P**	**07 58 49.1**	**+0.7**
	baz=40,SNR=8.5						
R30A	**Dighton**	**39.92**	**326**	⇑P	**P**	**07 58 48.6**	**-0.2**
	baz=40						
W26A	**Owens Ranch, T**	**39.94**	**319**	⇓P	**P**	**07 58 48.9**	**-0.2**
	baz=40						
S29A	**Ulysses**	**39.94**	**324**	⇓P	**P**	**07 58 49.2**	**+0.2**
	baz=40						
Z24A	**Sheeppen Canyo**	**39.99**	**316**	⇑P	**P**	**07 58 49.5**	**-0.1**
	baz=40						
P32A	**Huiting Farm,**	**39.99**	**329**	⇑P	**P**	**07 58 48.7**	**-0.6**
	baz=40						
U27A	**Thompson Grove**	**40.17**	**321**	⇓P	**P**	**07 58 50.7**	**-0.2**
	baz=40						

	baz=42					
P27A	Ficken Ranch, baz=42	42.10	325	⇊P	P	07 59 06.6 -0.1
R25A	Fountain Ranch baz=42,SNR=8.6	42.17	322	⇊P	P	07 59 08.0 +0.8
T24B	San Luis baz=42,SNR=7.7	42.18	320	⇊P	P	07 59 08.8 +1.2
Q26A	Hugo baz=42,SNR=6.1	42.22	324	⇈P	P	07 59 08.2 +0.6
ECSD	EROS Data Cent baz=42	42.24	334	⇊P	P	07 59 07.1 -0.5
ECSD	EROS Data Cent 238nm,3.0s	42.24	334	eP	P	07 59 06.7 -0.8
U23A	El Rito baz=42,SNR=9.8	42.26	319	⇈P	P	07 59 09.2 +1.0
L30A	Spencer Herefo baz=42	42.29	330	⇊P	P	07 59 07.5 -0.5
N28A	Pribbeno Ranch baz=42	42.31	327	⇈P	P	07 59 07.5 -0.8
M29A	Burnside Ranch baz=42	42.41	329	⇈P	P	07 59 08.8 -0.3
S24A	Houchin Ranch, baz=42,SNR=6.7	42.42	321	⇊P	P	07 59 10.5 +1.0
O27A	Beecher Island baz=43	42.48	326	⇊P	P	07 59 09.9 +0.2
V22A	San Miguel Ran baz=43,SNR=5.9	42.49	318	⇊P	P	07 59 10.8 +0.7
P26A	Davis Ranch, A baz=43	42.54	325	⇊P	P	07 59 10.4 +0.1
T23A	Casias Ranch, baz=43,SNR=6.5	42.58	320	⇈P	P	07 59 11.7 +1.0
Q25A	Bedland, Calha baz=43	42.64	323	⇊P	P	07 59 11.4 +0.2
SDCO	Great Sand Dun 7.6nm,0.8s	42.67	321	eP	P	07 59 12.2 +0.8
U22A	Llaves baz=43,SNR=5.2	42.72	318	⇊P	P	07 59 12.9 +1.0
R24A	Sanders Place, baz=43,SNR=11	42.73	322	⇊P	P	07 59 12.8 +0.9
K30A	Basset baz=43,SNR=16	42.78	331	⇊P	P	07 59 11.6 -0.4
N27A	Anderson Farm, baz=43	42.94	327	⇈P	P	07 59 13.2 -0.1
S23A	Nye Farm, Mont baz=43	42.96	321	⇊P	P	07 59 14.7 +0.9
O26A	Horse Wrangler baz=43	42.98	325	⇈P	P	07 59 14.2 +0.4
R23A	Moffat baz=43,SNR=7.9	43.15	321	⇈P	P	07 59 16.1 +0.8
K29A	Lazy Trails An baz=43	43.19	330	⇊P	P	07 59 14.9 -0.4
J30A	Dallas baz=43	43.22	332	⇈P	P	07 59 15.0 -0.5
TUC	Tucson 9.1nm,0.8s	43.39	311	eP	P	07 59 17.3 +0.2
S22A	4UR Ranch, Cre baz=44,SNR=8.6	43.51	320	⇈P	P	07 59 18.8 +0.6
I30A	Oacoma baz=44,SNR=9.0	43.64	332	⇈P	P	07 59 18.1 -0.7
J29A	Okreek baz=44,SNR=11	43.68	331	⇈P	P	07 59 18.2 -1.0
K28A	Ten Mile Ranch baz=44	43.68	329	⇊P	P	07 59 18.9 -0.4
BRSD	Miller baz=44,SNR=18	43.83	333	⇊P	P	07 59 19.7 -0.7
BRSD	Miller 70nm,0.8s	43.83	333	eP	P	07 59 19.7 -0.7
X18A	Snowflake baz=44,SNR=8.1	43.85	314	⇈P	P	07 59 21.5 +0.6
P23A	Jefferson baz=44	43.89	323	⇊P	P	07 59 22.2 +0.9
O24A	Longmont baz=44	43.91	324	⇊P	P	07 59 21.8 +0.6
EYMN	Ely 11nm,0.7s	43.94	342	eP	P	07 59 21.4 +0.2
W18A	Petrified Fore baz=44	44.00	315	⇈P	P	07 59 22.3 +0.3
W18A	Petrified Fore 23nm,0.9s	44.00	315	eP	P	07 59 23.2 +1.2
ISCO	Idaho Springs baz=44,SNR=8.9	44.02	323	⇈P	P	07 59 23.0 +0.7
ISCO	Idaho Springs 8.9nm,0.9s	44.02	323	eP	P	07 59 23.2 +0.9
I29A	Vivian Onida baz=44	44.13	332	⇊P	P	07 59 21.5 -1.2
J28A	Allard Ranch, baz=44,SNR=8.0	44.13	330	⇊P	P	07 59 22.2 -0.7
N24A	Carr baz=44	44.26	325	⇊P	P	07 59 24.7 +0.7
MVCO	Mesa Verde baz=44,SNR=6.6	44.28	318	⇊P	P	07 59 24.4 +0.1
MVCO	Mesa Verde 19nm,1.4s	44.28	318	eP	P	07 59 24.7 +0.3
J27A	Elkhorn Farm, baz=44	44.39	330	⇊P	P	07 59 24.7 -0.2
G30A	Faulkton baz=45,SNR=8.7	44.45	333	⇈P	P	07 59 24.9 -0.4
SMCO	Snowmass 97nm,3.0s	44.46	322	eP	P	07 59 26.5 +0.6
I28A	Midland baz=45,SNR=5.1	44.53	331	⇊P	P	07 59 25.2 -0.7
H29A	Onida baz=45,SNR=12	44.54	332	⇊P	P	07 59 25.2 -0.8
P22A	Eagle baz=45,SNR=6.2	44.58	322	⇊P	P	07 59 26.7 0.0
M24A	Cheyenne baz=45	44.65	326	⇊P	P	07 59 27.2 +0.1
214A	Organ Pipe Nat baz=45,SNR=10	44.77	309	⇊P	P	07 59 28.3 +0.2
O22A	Kremmling baz=45,SNR=17	44.81	323	⇊P	P	07 59 28.9 +0.3
G29A	Hoven baz=45	44.84	333	⇈P	P	07 59 27.8 -0.7
PV01	Paradox Valley	44.85	319	eP	P	07 59 29.9 +1.1
X16A	Lo Mia Camp, P baz=45,SNR=14	44.87	313	⇊P	P	07 59 29.6 +0.7
PHWY	Pilot Hill 102nm,2.8s	44.90	325	eP	P	07 59 29.4 +0.2
N23A	Red Feather La baz=45	44.91	324	⇊P	P	07 59 29.8 +0.4
F30A	Leola baz=45,SNR=8.2	44.95	334	⇈P	P	07 59 28.9 -0.4
H28A	Mission Ridge baz=45	44.96	332	⇊P	P	07 59 28.6 -0.7
J26A	Sides Ranch, S baz=45	44.98	329	⇊P	P	07 59 29.1 -0.5
I27A	Quinn baz=45	45.01	330	⇊P	P	07 59 29.3 -0.4
N22A	Wattenberg Ran baz=45	45.15	324	⇈P	P	07 59 31.4 +0.2
M23A	Laramie baz=45	45.16	325	⇈P	P	07 59 31.3 +0.1
PV05	Paradox Valley	45.16	319	eP	P	07 59 31.6 +0.3
G28A	Parade baz=45,SNR=6.3	45.21	332	⇈P	P	07 59 30.9 -0.5
PV04	Paradox Valley	45.22	319	eP	P	07 59 31.5 -0.1
F29A	Eureka baz=45	45.30	334	⇊P	P	07 59 31.3 -0.6
WUAZ	Wupatki baz=45,SNR=20	45.35	315	⇈P	P	07 59 33.4 +0.7
WUAZ	Wupatki 28nm,0.9s	45.35	315	eP	P	07 59 33.8 +1.0
I26A	New Underwood baz=46	45.38	330	⇊P	P	07 59 31.9 -0.8
PV09	Paradox Valley	45.42	319	eP	P	07 59 33.0 -0.5
PV09				epP	pP	08 00 08.6 -0.9
E30A	Jud baz=46	45.43	335	⇊P	P	07 59 32.5 -0.4
H27A	Howes baz=46,SNR=6.3	45.43	331	⇈P	P	07 59 32.3 -0.8
Z14A	Wintersburg baz=46,SNR=6.0	45.48	311	⇊P	P	07 59 34.0 +0.3
L23A	Garrett baz=46	45.57	326	⇈P	P	07 59 34.5 0.0
M22A	Cedar Creek Ra baz=46	45.62	324	⇊P	P	07 59 34.3 -0.5
AGMN	Agassiz Nation baz=46,SNR=7.0	45.70	339	⇊P	P	07 59 35.4 +0.3
AGMN	Agassiz Nation 100nm,2.5s	45.70	339	eP	P	07 59 35.0 0.0
F28A	McLaughlin baz=46,SNR=5.1	45.74	333	⇊P	P	07 59 35.3 -0.2
Y14A	Wickenburg baz=46,SNR=19	45.79	312	⇊P	P	07 59 36.2 +0.2
E29A	Napoleon baz=46	45.79	334	⇊P	P	07 59 35.5 -0.4
I25A	Rochford baz=46,SNR=5.6	45.81	329	⇈P	P	07 59 36.3 0.0
O20A	White River Ci baz=46,SNR=5.1	45.82	322	⇊P	P	07 59 37.1 +0.8
O20A	White River Ci 6.5nm,0.7s	45.82	322	eP	P	07 59 37.2 +0.8
D30A	Buchanan baz=46	45.84	336	⇊P	P	07 59 36.1 -0.2
113A	Mohawk Valley, baz=46	45.85	310	⇊P	P	07 59 36.4 0.0
G27A	Dupree baz=46	45.91	332	⇊P	P	07 59 36.5 -0.4
K23A	Bowen Ranch, D baz=46	45.95	326	⇈P	P	07 59 37.0 -0.3
D29A	Pettibone, Tap baz=46,SNR=9.7	46.16	335	⇈P	P	07 59 38.3 -0.3
I24A	Kuemmerle Ranc baz=46	46.17	328	⇈P	P	07 59 38.7 -0.2
G26A	Maurine baz=46	46.17	331	⇊P	P	07 59 37.6 -1.3
H25A	Fruitdale baz=46	46.17	330	⇈P	P	07 59 38.5 -0.5
C30A	Mose, Pekin baz=46	46.21	336	⇈P	P	07 59 39.2 +0.1
N20A	Spence Gulch, baz=46	46.25	323	⇈P	P	07 59 40.4 +0.7
E28A	Huff baz=46	46.25	334	⇈P	P	07 59 39.4 0.0
F27A	Lemmon baz=46,SNR=8.7	46.32	332	⇈P	P	07 59 40.1 0.0
K22A	Casper baz=46	46.38	326	⇈P	P	07 59 40.8 +0.1
U15A	North Rim baz=46,SNR=8.9	46.45	315	⇈P	P	07 59 41.9 +0.4
G25A	Newell baz=47,SNR=5.1	46.49	330	⇈P	P	07 59 41.0 -0.4
E27A	Carson baz=47,SNR=6.1	46.53	333	⇈P	P	07 59 41.8 +0.2
F26A	Lodgepole baz=47	46.61	332	⇈P	P	07 59 41.8 -0.5
SRU	San Rafael Swe 9.8nm,0.8s	46.66	319	eP	P	07 59 43.5 +0.5
D28A	Regan baz=47	46.67	334	⇊P	P	07 59 42.6 -0.1
B30A	Myrvik Farm, E baz=47	46.75	337	⇈P	P	07 59 43.8 +0.5
GLA	Glamis baz=47	46.77	310	⇊P	P	07 59 43.6 -0.1
K21A	Alcova baz=47,SNR=12	46.78	325	⇊P	P	07 59 44.3 +0.4
MDND	Maddock baz=47	46.78	336	⇈P	P	07 59 43.7 +0.2
PDMCI	Parker Dam,Lak baz=47	46.79	312	⇈P	P	07 59 43.6 -0.2
Y12C	Blythe baz=47	46.84	311	⇊P	P	07 59 44.0 -0.1
J22A	Midwest baz=47,SNR=7.8	46.86	327	⇊P	P	07 59 44.2 -0.2
W13A	Hualapai Mount baz=47,SNR=5.4	46.96	313	⇈P	P	07 59 45.8 +0.4
E26A	Carlson Angus baz=47,SNR=6.9	46.97	332	⇈P	P	07 59 44.9 -0.2
ARGU	Argyle Ridge	47.08	320	eP	P	07 59 46.1 -0.2
KNB	Kanab 20nm,0.9s	47.11	316	eP	P	07 59 47.6 +1.1
A30A	Hoffart Farm, baz=47	47.14	337	⇈P	P	07 59 46.3 0.0
B29A	Wagenman Farm, baz=47,SNR=13	47.17	336	⇈P	P	07 59 47.0 +0.5
I22A	9 Mile Ranch, baz=47	47.18	327	⇊P	P	07 59 47.0 +0.2
J21A	Lysite baz=47,SNR=6.1	47.35	326	⇊P	P	07 59 48.4 +0.2
ULM	Lac du Bonnet 5.9nm,0.4s,baz=145,slow=6.8,SNR=25	47.36	340	P	P	07 59 47.4 -0.5
ULM	Lac du Bonnet 11nm,1.1s	47.36	340	eP	P	07 59 47.6 -0.3
D26A	Manning baz=48	47.38	333	⇊P	P	07 59 48.1 -0.1
E25A	Miller Ranch, baz=48	47.43	332	⇊P	P	07 59 48.3 -0.4
F24A	Ekalaka baz=48	47.47	330	⇈P	P	07 59 48.5 -0.5
SWSC	Sam W. Stewart baz=48	47.47	309	⇊P	P	07 59 48.3 -0.8
C27A	Sayler Ranch, baz=48,SNR=5.6	47.48	334	⇈P	P	07 59 49.6 +0.6
IRM	Iron Mountain baz=48,SNR=7.3	47.48	311	⇈P	P	07 59 49.4 +0.1
G23A	Biddle baz=48	47.49	329	⇊P	P	07 59 48.9 -0.3
A29A	Manning Farm, baz=48	47.49	337	⇊P	P	07 59 49.0 0.0
BC3	Big Chuckawall baz=48	47.50	310	⇈P	P	07 59 48.9 -0.6
I21A	Big Trails, Te baz=48,SNR=7.9	47.56	326	⇊P	P	07 59 49.9 0.0
B28A	Dugan Ranch, T baz=48	47.57	335	⇊P	P	07 59 49.5 0.0
H22A	Clearmont baz=48	47.57	328	⇈P	P	07 59 50.0 +0.1
J20A	Shoshoni baz=48,SNR=9.3	47.71	325	⇈P	P	07 59 51.5 +0.5
CCUT	Cedar City 4.1nm,0.9s	47.75	316	eP	P	07 59 52.2 +0.8
C26A	Wahner Farm, P baz=48	47.83	334	⇈P	P	07 59 51.7 +0.1
F23A	Volborg baz=48	47.86	330	⇈P	P	07 59 51.5 -0.5
D25A	Fairfield baz=48	47.87	332	⇈P	P	07 59 52.3 +0.3
MPU	Maple Canyon 10nm,0.9s	47.88	320	eP	P	07 59 52.9 +0.5
A28A	Rude Farm, Bot baz=48	47.89	336	⇈P	P	07 59 52.4 +0.3
B27A	Peters Farms, baz=48	47.91	335	⇈P	P	07 59 52.1 -0.1
ARUT	Antelope Range	47.92	316	eP	P	07 59 53.3 +0.6
H21A	Big Horn, Sher baz=48	47.96	327	⇈P	P	07 59 52.6 -0.3
G22A	Birney baz=48,SNR=6.4	47.97	328	⇈P	P	07 59 52.6 -0.2
BELC	Belle Mtn. Jos baz=48,SNR=5.5	48.06	310	⇈P	P	07 59 53.7 -0.1
JLU	Jordanelle 31nm,2.1s	48.09	320	eP	P	07 59 54.5 +0.5
I20A	Worland baz=48,SNR=14	48.12	326	⇊P	P	07 59 54.1 +0.1
GMRC	Granite Mounta baz=48	48.13	311	⇈P	P	07 59 53.6 -0.7
NLU	North Lily Min 6.0nm,0.9s	48.13	319	eP	P	07 59 54.2 -0.1
SCHQ	Schefferville 53nm,0.6s,baz=191,slow=6.3,SNR=120	48.15	5	P	P	07 59 54.8 +0.9
SCHQ				pP	pP	08 00 33.0 +2.6
SCHQ	Schefferville 4.8nm,0.5s,baz=201,slow=6.4,SNR=1.7	48.15	5	eP	P	07 59 55.0 +1.0
SCHQ	Schefferville 56nm,0.7s			pP	pP	08 00 33.0 +2.6
BW06	Boulder Array	48.19	324	eP	P	07 59 54.5 -0.3
PDAR	Pinedale Array 3.5nm,0.7s,baz=131,slow=9.1,SNR=25	48.19	324	P	P	07 59 54.5 -0.3
J19A	Crowheart baz=48,SNR=6.6	48.20	325	⇈P	P	07 59 54.6 -0.2
PFO	Pinyon Flats O 1.5nm,0.6s,baz=126,slow=17,SNR=2.9	48.25	310	P	P	07 59 55.2 0.0
C25A	Freed Ranch, W baz=48	48.26	333	⇈P	P	07 59 55.1 +0.2
D24A	Glendive baz=48,SNR=5.7	48.32	332	⇊P	P	07 59 55.8 +0.4
CTU	Camp Tracy 4.6nm,0.7s	48.33	320	eP	P	07 59 55.4 -0.3
F22A	Rosebud baz=48	48.33	329	⇊P	P	07 59 55.6 0.0
TCUT	Toone Canyon 19nm,0.6s	48.35	321	eP	P	07 59 56.1 +0.1
H20A	Greybull baz=48	48.39	327	⇊P	P	07 59 56.0 -0.1
G21A	Lodge Grass baz=48	48.45	328	⇈P	P	07 59 56.3 -0.2
SHPR	Sheep Range	48.52	314	eP	P	07 59 57.7 +0.4
TUQ	Turquoise Moun baz=49	48.60	312	⇊P	P	07 59 57.8 -0.1
A26A	Wade Farm, Ken baz=49	48.62	335	⇈P	P	07 59 57.4 -0.2
E22A	Miles City baz=49	48.63	330	⇊P	P	07 59 57.4 -0.4
B25A	Knox Farm, Ray baz=49,SNR=12	48.63	333	⇈P	P	07 59 58.6 +0.8
RSUT	Red Spur Mount	48.65	322	eP	P	07 59 58.1 -0.3
HEC	Hector,Ludlow baz=49	48.65	311	⇊P	P	07 59 57.6 -0.6
I19A	Meeteetse baz=49	48.65	326	⇈P	P	07 59 57.8 -0.4
C24A	Savage baz=49	48.66	332	⇈P	P	07 59 58.3 +0.3
BMUT	Black Mountain	48.72	322	eP	P	07 59 58.6 -0.2
HWUT	Hardware Ranch 6.2nm,0.7s	48.72	321	eP	P	07 59 58.7 -0.1
DUG	Dugway, Tooele baz=49,SNR=8.0	48.74	319	⇈P	P	07 59 59.3 +0.4
DUG	Dugway, Tooele 5.3nm,0.8s	48.74	319	eP	P	07 59 59.6 +0.7
F21A	Absaloka Mine, baz=49	48.80	329	⇊P	P	07 59 59.2 0.0
MURC	Murrieta baz=49	48.81	309	⇈P	P	07 59 58.8 -0.7
BBRC	Big Bear Solar baz=49	48.86	310	⇊P	P	07 59 59.9 -0.1
LAO	LASA Array 123nm,2.8s	48.94	330	eP	P	07 59 59.8 -0.4
G20A	Bridger baz=49,SNR=10	48.98	327	⇊P	P	08 00 00.4 -0.3
H19A	Powell baz=49,SNR=5.6	49.05	326	⇊P	P	08 00 01.1 -0.1
SHOC	Shoshone, Teco baz=49,SNR=5.5	49.07	312	⇈P	P	08 00 01.7 +0.4
AHID	Auburn Hatcher 6.3nm,0.8s	49.10	323	eP	P	08 00 01.7 0.0
A25A	Svangstu Ranch baz=49	49.11	334	⇊P	P	08 00 01.0 -0.4
GSC	Goldstone, Bar baz=49,SNR=9.5	49.20	312	⇈P	P	08 00 02.6 +0.1
GSC	Goldstone, Bar 9.5nm,0.8s	49.20	312	eP	P	08 00 02.8 +0.4
C23A	Lambert baz=49,SNR=5.0	49.22	332	⇊P	P	08 00 02.6 +0.4
D22A	Cohagen baz=49,SNR=15	49.23	330	⇊P	P	08 00 03.0 +0.6
DGMT	Dagmar baz=49,SNR=11	49.24	333	⇈P	P	08 00 03.0 +0.6
DGMT	Dagmar 28nm,0.6s	49.24	333	eP	P	08 00 03.1 +0.6
BGU	Big Grassy Mou 5.5nm,0.7s	49.27	320	eP	P	08 00 03.0 +0.1
REDW	Red Top Meadow 11nm,0.7s	49.31	324	eP	P	08 00 03.2 0.0
SNOW	Snow King Moun 6.6nm,0.6s	49.31	324	eP	P	08 00 03.7 +0.4
LOHW	Long Hollow 5.7nm,0.6s	49.31	324	eP	P	08 00 03.2 -0.1
F20A	Billings baz=49,SNR=9.9	49.33	328	⇊P	P	08 00 03.2 0.0
H18A	Shoshone NF, C baz=50,SNR=7.1	49.43	326	⇈P	P	08 00 03.6 -0.6
TPAW	Teton Pass 6.3nm,0.6s	49.44	324	eP	P	08 00 04.7 +0.3
I17A	Pilgrim Ck. baz=50	49.48	325	⇈P	P	08 00 04.7 +0.1
A24A	Westby baz=50,SNR=6.9	49.49	333	⇈P	P	08 00 05.0 +0.7
C22A	Vida baz=50,SNR=6.4	49.51	331	⇈P	P	08 00 05.0 +0.5
HVU	Hansel Valley 4.9nm,0.7s	49.57	321	eP	P	08 00 05.1 -0.1
FXWY	Fox Creek 44nm,2.5s	49.57	324	eP	P	08 00 05.1 -0.2
D21A	La Casta Ranch baz=50,SNR=6.1	49.58	330	⇊P	P	08 00 05.8 +0.8
B23A	Brockton baz=50,SNR=5.9	49.60	332	⇈P	P	08 00 06.3 +1.2
FLWY	Flagg Ranch 62nm,2.5s	49.65	325	eP	P	08 00 06.2 +0.4
R11A	Troy Canyon, C baz=50,SNR=8.9	49.67	316	⇊P	P	08 00 06.3 +0.2
R11A	Troy Canyon, C 3.9nm,0.8s	49.67	316	eP	P	08 00 06.6 +0.5
IMW	Indian Meadow 6.3nm,0.6s	49.68	324	eP	P	08 00 06.0 -0.1
FURC	Furnace Creek, baz=50,SNR=5.6	49.73	313	⇊P	P	08 00 06.8 +0.5
H17A	Grant Village baz=50	49.77	325	⇊P	P	08 00 07.4 +0.6
H17A	Grant Village 60nm,2.8s	49.77	325	eP	P	08 00 08.1 +1.3
E20A	Meyer Farm, Mu baz=50,SNR=14	49.78	329	⇈P	P	08 00 07.1 +0.5
F19A	Roth Farm, Mol baz=50	49.78	327	⇈P	P	08 00 06.9 +0.3
A23A	Redstone baz=50,SNR=9.6	49.91	333	⇊P	P	08 00 08.4 +0.9
EDW2	Edwards Air Fo baz=50	49.92	311	⇊P	P	08 00 07.7 -0.1
LRMC	Laurel Mtn Rad baz=50	49.93	311	⇊P	P	08 00 07.5 -0.4
B22A	Reddig Ranch S baz=50	49.95	332	⇈P	P	08 00 08.7 +0.9
DJJ	Donna J Jenkin	49.97	309	eP	P	08 00 11.8 +3.6
E19A	Rath Farm, Rou baz=50	50.09	328	⇊P	P	08 00 09.2 +0.2
C21A	Desert Coulee baz=50,SNR=7.0	50.15	330	⇊P	P	08 00 10.0 +0.7
YMR	Madison River 118nm,3.0s	50.16	325	eP	P	08 00 10.7 +1.0
A22A	Carney Farms, baz=50,SNR=16	50.41	332	⇊P	P	08 00 12.0 +0.8
QLMT	Earthquake Lak	50.52	325	eP	P	08 00 13.8 +1.5
C20A	Veseth Ranch, baz=51	50.52	330	⇊P	P	08 00 12.4 +0.3
B21A	Ellsworth Farm baz=51	50.53	331	⇊P	P	08 00 13.0 +0.9
ISA	Isabella, Lake baz=51	50.59	311	⇊P	P	08 00 12.3 -0.6
D19A	Cripps Ranch, baz=51,SNR=14	50.60	329	⇊P	P	08 00 13.1 +0.3
TPH	Tonopah 5.8nm,0.9s	50.70	315	eP	P	08 00 14.3 +0.5
BSC	Santa Cruz Isl baz=51	50.84	309	⇊P	P	08 00 14.2 -0.5
A21A	Bergtoll Ranch baz=51,SNR=8.9	50.88	332	⇊P	P	08 00 15.4 +0.6
B20A	Solberg Farm, baz=51,SNR=11	51.02	331	⇊P	P	08 00 16.6 +0.7
C19A	Slack Wire Ran baz=51	51.06	329	⇈P	P	08 00 16.6 +0.4
VES	Vestal, Richgr baz=51	51.12	311	⇈P	P	08 00 17.1 +0.4
A20A	Cobblestone Ra baz=51,SNR=7.4	51.28	331	⇈P	P	08 00 18.2 +0.5
MCMT	McKenzie Canyo	51.33	324	eP	P	08 00 19.5 +1.0
HLID	Hailey baz=52,SNR=9.4	51.55	322	⇊P	P	08 00 20.0 -0.1
HLID	Hailey 46nm,2.3s	51.55	322	eP	P	08 00 20.1 +0.1
EGMT	Eagleton baz=52	51.61	329	⇈P	P	08 00 20.3 -0.1
EGMT	Eagleton 6.1nm,1.0s	51.61	329	eP	P	08 00 20.2 -0.1
NV01	Mina Array Sit	51.62	315	eP	P	08 00 20.7 +0.1
NVAR	Mina Array Bea 3.4nm,0.7s,baz=124,slow=7.3,SNR=26	51.62	315	P	P	08 00 20.9 +0.2
LRM	Limekiln Ridge	51.69	325	eP	P	08 00 21.5 +0.4
A19A	Klindworth Far baz=52	51.71	331	⇊P	P	08 00 21.4 +0.4
HRY	Holter Researc	51.88	327	eP	P	08 00 22.9 +0.6
MFID	Camas Ranch 8.9nm,0.8s	52.35	321	eP	P	08 00 26.2 +0.3
WVOR	Wild Horse Val 51nm,1.9s	53.65	319	eP	P	08 00 35.4 0.0
YBMT	Yellow Bay	53.76	327	eP	P	08 00 37.0 +0.9
JTMT	Jette	53.84	326	eP	P	08 00 37.4 +0.7
BLMT	Blacktail Moun	54.04	327	eP	P	08 00 38.9 +0.7
BSMT	Bassoo Peak	54.18	326	eP	P	08 00 40.0 +0.8
FCC	Fort Churchill	54.33	347	eP	P	08 00 39.7 -0.1
F10A	Beach Ranch, E 143nm,3.0s	54.54	323	eP	P	08 00 41.4 -0.4
I07A	Izee 110nm,2.8s	54.99	320	eP	P	08 00 45.4 +0.3
G08A	Pilot Rock 9.5nm,0.7s	55.23	322	eP	P	08 00 46.8 0.0
E09A	Wood Farm, Sta 5.8nm,0.8s	55.36	323	eP	P	08 00 47.2 -0.3
NEW	Newport baz=56	55.70	326	⇈P	P	08 00 49.6 -0.4
J05D	Fort Rock, OR baz=56	55.74	319	⇊P	P	08 00 50.8 +0.3
PINOR	Pine Mountain 16nm,0.8s	55.74	319	eP	P	08 00 51.4 +1.2

YBH	Yreka Blue Hor	56.07	316	P		P	08 00 51.3 -1.4
	3.5nm,0.6s,baz=114,slow=4.0,SNR=12						
D08A	Wollman Farm,	56.10	324	eP		P	08 00 53.4 +0.6
	138nm,3.0s						
C09A	Chrisman Ranch	56.11	325	eP		P	08 00 53.2 +0.4
	8.3nm,0.8s						
EDM	Edmonton	56.72	332	eP		P	08 00 56.4 -0.7
H04A	Detroit Lake	56.98	320	eP		P	08 00 59.3 +0.3
	28nm,1.4s						
B08A	Colville Reser	57.01	325	eP		P	08 00 58.8 -0.4
	5.2nm,0.8s						
LTY	Liberty	57.23	323	eP		P	08 01 01.2 +0.3
	121nm,2.8s						
YKA	Yellowknife Ar	63.34	340	P		P	08 01 41.7 -0.2
	4.1nm,0.7s,baz=131,slow=7.1,SNR=84						
YKA				pP		pP	08 02 20.6 +0.3
	1.2nm,0.4s,baz=132,slow=6.8,SNR=2.2						
TIC	Toumodi	67.41	86	eP		P	08 02 08.5 -0.5
	5.7nm,0.2s						
LIC	Lamto	67.43	86	eP		P	08 02 08.7 -0.5
	44nm,0.8s						
DBIC	Dimbokro	67.57	86	P		P	08 02 09.4 -0.6
	11nm,0.7s,baz=262,slow=6.5,SNR=14						
DBIC				pP		pP	08 02 49.9 +1.0
	5.9nm,0.7s,baz=262,slow=9.4,SNR=4.1						
DBIC				LR		LR	08 29 14.6
	comp=Z,38nm,18.7s,baz=80,slow=34						
KIC	Kosan Boka	67.71	86	eP		P	08 02 10.6 -0.3
	31nm,0.7s						
SUMG	Summit	68.97	11	i P		P	08 02 18.5 +0.3
	46nm,0.7s						
SUMG	Summit	68.97	11	eP		P	08 02 18.3 +0.1
	52nm,0.7s						
RES	Resolute Bay	69.01	354	eP		P	08 02 17.8 -0.1
	26nm,2.0s						
TORD	Torodi Ar. Bea	73.58	78	P		P	08 02 45.4 -1.0
	0.9nm,0.6s,baz=282,slow=6.3,SNR=12						
TORD				pP		pP	08 03 27.4 +1.5
	0.7nm,0.6s,baz=290,slow=6.5,SNR=3.6						
DAG	Danmarks Havn	75.64	11	i P		P	08 02 56.8 -0.3
	10.0nm,0.8s						
ILAR	Eielson Array	77.05	335	P		P	08 03 05.5 +0.3
	0.7nm,0.7s,baz=105,slow=4.3,SNR=10						
ILAR				pP		pP	08 03 46.2 +1.2
	1.0nm,0.6s,baz=99,slow=4.8,SNR=4.6						
NB2	NORSAR Subarra	81.26	29	P		P	08 03 28.9 +0.6
	comp=Z,4.2nm,0.7s,baz=269,slow=5.6						
NOA	NORSAR Array B	81.26	29	P		P	08 03 29.3 +1.0
	comp=Z,3.6nm,0.7s,baz=268,slow=5.3,SNR=9.5						
GERES	GERESS Array B	82.72	42	P		P	08 03 36.5 +0.3
	comp=Z,1.1nm,0.6s,baz=252,slow=3.8,SNR=8.9						
ARCES	ARCESS Array B	86.63	20	P		P	08 03 55.1 -0.1
	comp=Z,3.7nm,0.9s,baz=328,slow=4.3,SNR=8.5						
FINES	FINESS Array B	88.38	28	P		P	08 04 03.3 -0.3
	comp=Z,3.6nm,1.1s,baz=268,slow=7.2,SNR=3.7						
ZALV	Zalesovo Beam	116.64	14	PKP		PKPdf	08 09 55.4 +0.1
	comp=Z,2.0nm,0.6s,baz=318,slow=2.0,SNR=11						
MKAR	Makanchi Array	122.28	20	PKP		PKPdf	08 10 06.0 -0.4
	comp=Z,1.0nm,0.4s,baz=297,slow=2.6,SNR=21						
SONM	Songino Array	125.60	1	PKP		PKPdf	08 10 13.2 +0.4
	comp=Z,1.3nm,0.7s,baz=336,slow=2.7,SNR=8.9						
KSH	Kashi	125.69	29	ePKP		PKPdf	08 10 14.0 +0.8
KSH				sPKP			08 11 10.1
KSH				PKS		PKSdf	08 13 50.4 +0.4
KSH				SKS		SKSdf	08 17 11.4 +1.2
KSH				SS		SS	08 28 55.6 +2.8
KSH				PPMZ			
	comp=Z,82nm,5.6s						
KSH				LN			
	comp=Z,48nm,5.1s						
KSH				LE			
	comp=Z,32nm,5.2s						
KSH				LZ			
	comp=Z,52nm,7.1s						
HHC	Hu-ho-hao-te	132.40	355	ePKP		PKPdf	08 10 23.8 -2.1
HHC				PP		PP	08 12 50.9 +1.5
HHC				PKS		PKSdf	08 13 59.2 -3.3
HHC				SKKS			08 19 26.0
HHC				PPMZ			
	comp=Z,150nm,9.9s						
LZH	Lanzhou	137.23	4	ePKP		PKPdf	08 10 34.1 -1.1
LZH				sPKP			08 11 33.8
NJ2	Nanjing	139.75	344	ePKP		PKPdf	08 10 38.7 -1.0
SHL	Shillong	144.60	24	eP		PKPab	08 10 46.5 -1.1
ASAR	Alice Springs	149.24	234	PKPbc		PKPbc	08 10 59.6 -1.1
	comp=Z,1.4nm,0.4s,baz=111,slow=3.8,SNR=25						
WRAB	Tennant Creek	150.47	241	ePKPdf		PKPdf	08 10 58.8 +0.5
WRAB				ePKPbc		PKPbc	08 11 02.2 -1.6
WRA	Warramunga Arr	150.48	241	PKPbc		PKPbc	08 11 02.9 -0.9
	comp=Z,1.8nm,0.3s,baz=107,slow=2.8,SNR=21						
SLVN	Son La	151.87	6	ePKPdf		PKPdf	08 11 02.4 +1.9
SLVN				ePKPbc		PKiKP	08 11 08.2 +0.8
SLVN				ePKPab		PKPab	08 11 16.1 -0.4
CMAR	Chiang Mai Arr	153.66	18	PKP		PKPdf	08 11 03.4 +0.3
	comp=Z,0.6nm,0.4s,baz=310,slow=2.3,SNR=5.3						
CMAR				PKPbc		PKiKP	08 11 11.4 +0.4
	comp=Z,3.6nm,0.6s,baz=323,slow=3.1,SNR=13						
CMAR				PKPab		PKPab	08 11 23.9 -0.1
	comp=Z,1.9nm,0.7s,baz=331,slow=4.7,SNR=4.3						

*IDC **03** 08:06:06.1±1.6,35°.10S×73°.17W,h0km,mb4.0/5, mb1 4.0/7,mb1mx3.9/26,mbtmp3.9/7,ML3.7/2,Error ellipse: s-maj=42.0km s-min=32.4km az=74.0*
*ISCJB **03** 08:06:08.6±0.7,35°.18S±0°.08×73°.0W±0°.2,h33km,mb4.1/7, Error ellipse: s-maj=18.1km s-min=11.0km az=169.5*
*NEIC **03** 08:06:10.9±0.7,35°.17S×73°.01W,h35km,mb4.5/3,Error ellipse: s-maj=17.8km s-min=10.9km az=77.0*

ISC 03 08:06:10.9±0.8,35°.15S±0°.09×73°.1W±0°.1,h35km,n18, σ1§15/17,mb4.1/7,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.36	50	Pn	Pn	08 07 27.5	-0.8
	0.7nm,0.3s,baz=33,slow=15,SNR=30						
CFAA				Lg	Lg	08 08 45.2	
	0.4nm,0.3s,baz=293,slow=7.7,SNR=3.3						
PLCA	Paso Flores	5.92	161	Lg	Lg	08 09 08.5	
	0.2nm,0.3s,baz=305,slow=12,SNR=2.3						
PLCA	Paso Flores	5.92	161	Pn	Pn	08 07 34.9	-1.2
PLCA				Lg	Lg	08 09 08.5	
TRQA	Tornquist	9.36	111	ePn	Pn	08 08 21.2	-2.0
LPAZ	La Paz	19.29	14	P	Pn	08 10 34.4	-0.2
	0.2nm,0.3s,baz=194,slow=6.2,SNR=9.7						
LPAZ	La Paz	19.29	14	eP	Pn	08 10 34.2	-0.4
	2.3nm,0.6s						
SIV	San Ignacio	21.89	32	P	P	08 11 00.2	-0.7
	3.8nm,0.5s,baz=219,slow=7.3,SNR=9.0						
SDV	Santo Domingo	43.85	3	eP	P	08 14 13.1	-0.9
JTS	JuntasAbangare	46.57	344	P	P	08 14 34.5	-0.9
QSPA	South Pole Qui	55.09	180	eP	P	08 15 38.2	-1.0
	11nm,1.5s						
TXAR	Lajitas Array	70.34	332	P	P	08 17 20.6	-0.4
	0.2nm,0.6s,baz=155,slow=9.7,SNR=4.1						
MIAR	Mount Ida	71.94	342	P	P	08 17 30.7	+0.3
DBIC	Dimbokro	76.33	72	P	P	08 17 57.4	+0.7
	1.8nm,0.6s,baz=194,slow=10,SNR=2.8						
TSUM	Tsumeb	79.70	106	eP	P	08 18 16.8	+1.3
	21nm,2.1s						
BOSA	Boshof	80.27	118	P	P	08 18 20.1	+1.6
	1.4nm,0.7s,baz=270,slow=3.0,SNR=2.7						
TORD	Torodi Ar. Bea	85.38	71	P	P	08 18 46.2	+1.3
	0.8nm,0.7s,baz=253,slow=5.2,SNR=7.6						
ZALV	Zalesovo Beam	155.64	33	PKPab	PKPab	08 26 28.1	+1.5
	1.0nm,0.6s,baz=318,slow=4.2,SNR=4.8						
MKAR	Makanchi Array	158.14	50	PKPab	PKPab	08 26 38.1	+0.4
	0.1nm,0.4s,baz=264,slow=2.6,SNR=3.3						

*IDC **03** 08:11:23.7±1.1,36°.81S×73°.44W,h0km,mb3.6/4, mb1 3.8/6,mb1mx3.7/25,mbtmp3.5/6,ML3.5/2,MS3.0/2, Ms1 3.0/2,ms1mx2.7/24,Error ellipse: s-maj=28.4km s-min=18.7km az=86.0*
*ISCJB **03** 08:11:24.8±1.0,36°.67S±0°.09×73°.2W±0°.2,h10km,mb3.6/3, MS3.1/1,Error ellipse: s-maj=20.4km s-min=11.6km az=22.1*

ISC 03 08:11:25.7±1.1,36°.7S±0°.1×73°.3W±0°.2,h10km,n8,σ1§36/8, mb3.7/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.56	153	Pn	Pn	08 12 35.2	+0.4
	0.9nm,0.3s,baz=313,slow=11,SNR=5.5						
PLCA				Lg	Lg	08 13 47.0	
	2.2nm,0.3s,baz=315,slow=10.0,SNR=4.2						
PLCA				LR	LR	08 14 14.0	
	comp=Z,109nm,19.2s,baz=256,slow=38						
CFAA	Coronel Fontan	6.60	41	Pn	Pn	08 13 02.5	-0.3
	0.2nm,0.3s,baz=192,slow=5.4,SNR=12						
CFAA				Sn	Sn	08 14 17.2	-0.9
	0.2nm,0.3s,baz=228,slow=11,SNR=3.0						
CFAA				Lg	Lg	08 14 56.5	
	0.1nm,0.3s,baz=302,slow=15,SNR=5.0						
LPAZ	La Paz	20.85	14	P	P	08 16 09.6	+1.3
	0.8nm,0.7s,baz=194,slow=4.2,SNR=3.4						
SIV	San Ignacio	23.32	31	P	P	08 16 35.8	+1.8
	1.8nm,0.7s,baz=211,slow=9.1,SNR=2.9						
ATAH	Atahualpa	29.80	350	LR	LR	08 26 42.2	
	comp=Z,38nm,18.8s,baz=183,slow=31						
TXAR	Lajitas Array	71.61	332	P	P	08 22 47.4	+0.1
	0.6nm,0.7s,baz=155,slow=8.9,SNR=11						
PDAR	Pinedale Array	85.72	334	P	P	08 24 04.7	-0.1
	0.3nm,0.6s,baz=155,slow=3.0,SNR=2.9						
WRA	Warramunga Arr	117.90	210	PKP	PKPdf	08 30 11.2	-1.8
	0.4nm,1.0s,baz=148,slow=1.9,SNR=2.8						

*ISCJB **03** 08:11:39.1±0.7,2°.5N±0°.1×128°.3E±0°.3,h200km,mb3.9/7, Error ellipse: s-maj=48.1km s-min=9.9km az=163.2*
*IDC **03** 08:11:41.3±3.3,2°.58N×128°.60E,h209km±29km,mb3.7/7, mb1 3.8/7,mb1mx3.4/42,mbtmp4.2/7,Error ellipse: s-maj=74.0km s-min=9.8km az=70.0*

ISC 03 08:11:40.5±0.7,2°.6N±0°.1×128°.5E±0°.3,h200km,n19, σ0§85/24,mb4.2/7,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	Manton Dam	15.57	170	P	Pn	08 15 09.7	0.0
	baz=16,SNR=5.7						
KDU	Kakadu	15.70	165	P	P	08 15 11.8	+0.7
	baz=16,SNR=8.5						
KNRA	Kununurra	18.16	179	P	P	08 15 39.0	+0.8
	baz=18,SNR=8.8						
WRA	Warramunga Arr	23.13	166	P	P	08 16 28.8	-0.4
	2.2nm,0.3s,baz=345,slow=9.9,SNR=37						
WRA				S	S	08 20 25.6	+0.2
	0.8nm,0.8s,baz=338,slow=21,SNR=5.0						
QIS	Mount Isa	25.47	155	P	P	08 16 50.5	+0.1
	baz=26,SNR=5.4						
ASAR	Alice Springs	26.64	169	P	P	08 17 00.2	-0.6
	2.3nm,0.5s,baz=354,slow=7.8,SNR=75						
ASAR				PcP	PcP	08 20 18.9	-0.6
	0.9nm,0.4s,baz=355,slow=2.2,SNR=14						
WRKA	Warakurna	27.48	180	P	P	08 17 07.9	-0.3
	baz=28,SNR=5.4						
MEEK	Meekatharra	30.59	198	P	P	08 17 35.2	-0.6
	baz=30,SNR=3.2						
BBOO	Buckleboo	35.94	169	P	P	08 18 21.5	-0.5
	baz=36,SNR=42						
STKA	Stephens Creek	36.48	161	P	P	08 18 26.2	-0.3
	3.8nm,0.4s,baz=338,slow=8.0,SNR=27						
STKA				PcP	PcP	08 20 45.0	-1.0
	0.9nm,0.4s,baz=333,slow=2.3,SNR=2.9						
STKA	Stephens Creek	36.48	161	P	P	08 18 26.2	-0.3
	baz=37,SNR=22						
HTT	Hallett	37.17	165	P	P	08 18 34.7	+2.3
	baz=38,SNR=3.1						
SONM	Songino Array	48.93	340	P	P	08 20 07.8	+1.3
	0.2nm,0.4s,baz=148,slow=8.5,SNR=3.0						
SONM				PcP	PcP	08 21 28.0	+0.4
	0.1nm,0.3s,baz=142,slow=3.3,SNR=2.2						
MKAR	Makanchi Array	59.48	325	P	P	08 21 23.4	+0.9
	0.8nm,0.4s,baz=117,slow=7.8,SNR=21						
MKAR				PcP	PcP	08 22 07.3	-0.6
	0.4nm,0.7s,baz=115,slow=5.1,SNR=3.9						
ZALV	Zalesovo Beam	62.38	333	P	P	08 21 41.5	-0.4
	0.5nm,0.3s,baz=126,slow=6.4,SNR=2.5						
ARCES	ARCESS Array B	92.10	340	P	P	08 24 25.8	-0.8
	6.8nm,1.1s,baz=73,slow=5.1,SNR=5.4						
TXAR	Lajitas Array	120.88	53	PKP	PKPdf	08 30 09.2	-0.6
	0.3nm,0.9s,baz=300,slow=1.8,SNR=3.4						
TORD	Torodi Ar. Bea	124.93	288	PKP	PKPdf	08 30 16.9	-0.8
	0.3nm,0.4s,baz=94,slow=1.3,SNR=5.4						
CFAA	Coronel Fontan	147.12	153	PKPbc	PKPdf	08 30 59.1	+0.9
	0.5nm,0.6s,baz=160,slow=3.2,SNR=6.6						

*ISCJB **03** 08:16:39.2±1.9,21°.1S±0°.8×179°.2W±0°.3,h600km,mb3.4/7, Error ellipse: s-maj=109.3km s-min=14.8km az=158.6*
*IDC **03** 08:16:39.8±4.7,21°.13S×179°.16W,h596km±47km,mb2.9/7, mb1 3.2/8,mb1mx2.9/37,mbtmp3.8/8,Error ellipse: s-maj=97.4km s-min=23.2km az=154.0*

ISC 03 08:16:40.0±1.8,21°.1S±0°.7×179°.2W±0°.3,h600km,n16, σ0§87/16,mb3.4/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.37	263	P	P	08 19 32.1	-0.6
	0.5nm,0.3s,baz=77,slow=21,SNR=9.1						
CTA	Charters Tower	32.29	266	P	P	08 22 21.9	+0.5
	1.3nm,0.3s,baz=98,slow=10.0,SNR=3.6						
ASAR	Alice Springs	43.27	257	P	P	08 23 50.9	+0.5
	0.7nm,0.4s,baz=89,slow=8.3,SNR=15						
ASAR				PcP	PcP	08 25 25.8	+0.2
	0.5nm,0.5s,baz=105,slow=3.9,SNR=7.2						
WRA	Warramunga Arr	43.38	263	P	P	08 23 51.6	+0.3
	0.4nm,0.6s,baz=94,slow=8.0,SNR=15						
NVAR	Mina Array Bea	82.24	44	P	P	08 27 59.8	-0.1
	0.6nm,0.6s,baz=222,slow=8.6,SNR=5.7						
TXAR	Lajitas Array	88.34	58	P	P	08 28 29.6	+0.2
	0.4nm,0.8s,baz=180,slow=3.8,SNR=4.3						
ILAR	Eielson Array	89.14	13	P	P	08 28 32.4	+0.3
	0.3nm,0.5s,baz=221,slow=5.0,SNR=8.6						
PDAR	Pinedale Array	90.18	44	P	P	08 28 38.2	+0.5
	0.3nm,0.6s,baz=204,slow=3.3,SNR=3.5						
BVAR	Borovoye Array	118.79	320	PKP	PKPdf	08 34 20.3	-0.5
	0.6nm,0.4s,baz=158,slow=1.8,SNR=4.6						
SPITS	Spitsbergen Ar	122.38	356	PKP	PKPdf	08 34 27.1	0.0
	1.6nm,0.6s,baz=86,slow=4.5,SNR=4.7						
ARCES	ARCESS Array B	129.28	349	PKP	PKPdf	08 34 40.9	+0.4
	8.5nm,1.1s,baz=23,slow=2.1,SNR=8.8						
FINES	FINESS Array B	136.00	343	PKP	PKPdf	08 34 54.0	+0.8
	1.2nm,0.9s,baz=97,slow=4.6,SNR=4.0						
HFS	Hagfors	139.93	350	PKhKP	PKPpre	08 34 54.1	
	0.8nm,0.3s,baz=42,slow=2.3,SNR=10						
AKASG	Malin Array Be	142.96	330	PKP	PKPdf	08 35 03.5	-2.6
	0.9nm,0.3s,baz=41,slow=4.5,SNR=5.9						
BRTR	Keskin Array B	146.37	311	PKPbc	PKPbc	08 35 15.6	+0.5
	1.0nm,0.7s,baz=138,slow=6.1,SNR=4.5						
GERES	GERESS Array B	150.44	343	PKPbc	PKPbc	08 35 24.5	-0.3
	0.8nm,0.6s,baz=22,slow=4.7,SNR=5.4						

MAN 03 08:20:24,13°.48N×120°.51E,h40km,mb4.2,ML3.1,MS2.8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.36	315	eP	Pn	08 20 35.7	+2.7
LUBP				eS	Sn	08 20 42.8	+3.5
PGP	Puerto Galera	0.43	86	eP	Pn	08 20 35.8	+1.8
SJMP	San Jose	1.17	149	eP	Pn	08 20 45.6	+1.7
BUSP	Coron	1.49	192	eP	Pn	08 20 49.8	+1.4
ENPP	El Nido	2.49	205	eP	Pn	08 21 03.3	+1.2

WEL 03 08:23:05.3±0.3,38°.02S×176°.41E,h146km±3km,ML3.9/19, 10C-6D,Error ellipse: s-maj=1.8km s-min=1.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.20	34	PN	Pn	08 23 24.9	-0.2
OPRZ				SN	Sn	08 23 40.2	+0.1
RRRZ	Republican Roa	0.33	166	⇑PN	Pn	08 23 25.6	0.0
RRRZ				SN	Sn	08 23 41.3	+0.3
PRRZ	Plateau Road	0.48	182	PN	Pn	08 23 26.1	0.0
URZ	Urewera	0.60	114	⇓PN	Pn	08 23 26.2	-0.5
URZ				AML	AML	08 23 42.5	
URZ				AML	AML	08 23 42.9	
TLZ	Tolley Road	0.76	245	PN	Pn	08 23 28.2	+0.3
TOZ	Tahuroa Road	0.77	291	⇑PN	Pn	08 23 28.2	+0.3
RAGZ	Rawiri	0.92	122	PN	Pn	08 23 29.0	-0.1
MWZ	Matawai	0.94	110	PN	Pn	08 23 28.8	-0.4
MWZ				SN	Sn	08 23 47.1	-0.3
MWZ				AML	AML	08 23 49.1	
MWZ				AML	AML	08 23 49.2	
RAHZ	Arahi	1.04	150	PN	Pn	08 23 30.6	+0.5
RITZ	Rihia Road	1.05	204	PN	Pn	08 23 30.6	+0.4
SNGZ	Shannon Statio	1.06	137	PN	Pn	08 23 30.5	+0.3
HAZ	Te Kaha	1.11	77	PN	Pn	08 23 29.7	-1.0
NMHZ	Naumai	1.12	164	PN	Pn	08 23 31.8	+0.9
BKZ	Black Stump Fm	1.15	177	⇑PN	Pn	08 23 30.9	-0.3
BKZ				AML	AML	08 23 51.1	
BKZ				AML	AML	08 23 51.6	
TWGZ	Tauwhareparae	1.25	98	PN	Pn	08 23 32.0	-0.1
RIGZ	Rimuhau	1.27	123	⇓PN	Pn	08 23 32.3	+0.1
WTVZ	West Tongariro	1.27	210	⇓PN	Pn	08 23 32.5	+0.1
TWVZ	Taurewa	1.30	216	PN	Pn	08 23 32.6	0.0
HIZ	Hauiti	1.32	247	PN	Pn	08 23 32.9	+0.1
NGZ	Ngauruhoe	1.32	208	PN	Pn	08 23 33.2	+0.2
COVZ	Chateau Observ	1.36	210	PN	Pn	08 23 33.3	-0.1
WPVZ	Whakapapa	1.37	209	PN	Pn	08 23 33.2	-0.1
TUVZ	Tukino	1.39	205	PN	Pn	08 23 33.6	0.0
FWVZ	Far West T-bar	1.41	208	PN	Pn	08 23 33.7	-0.2
KNZ	Kokohu	1.41	136	⇓PN	Pn	08 23 33.4	-0.1
WHVZ	Whangaehu Hut	1.42	207	PN	Pn	08 23 33.9	-0.1
DRZ	Dome Shelter	1.42	208	PN	Pn	08 23 34.2	+0.1
MCHZ	McNeill Hill	1.44	171	PN	Pn	08 23 34.4	+0.4
TRVZ	Turoa	1.45	208	PN	Pn	08 23 34.1	-0.2
WNVZ	Wahianoa	1.46	206	PN	Pn	08 23 34.2	-0.1
PUZ	Puketiti	1.46	93	PN	Pn	08 23 33.5	-0.7
PUZ				AML	AML	08 23 56.6	
PRGZ	Paritu Road	1.47	129	PN	Pn	08 23 34.1	-0.2
MOVZ	Moawhango	1.48	200	PN	Pn	08 23 33.9	-0.6
CNGZ	Carnagh Statio	1.49	109	⇑PN	Pn	08 23 34.9	+0.5
BHHZ	Black Hill Sta	1.50	190	⇑PN	Pn	08 23 34.2	-0.5
PKVZ	Pokaka	1.52	213	⇑PN	Pn	08 23 34.8	0.0
MTVZ	Mangateitei	1.55	208	PN	Pn	08 23 35.1	-0.2
MXZ	Matakaoa Point	1.57	74	PN	Pn	08 23 35.1	-0.2
MXZ				AML	AML	08 23 59.7	
MXZ				AML	AML	08 23 59.8	
MXZ				AML	AML	08 24 04.2	
MXZ				AML	AML	08 24 04.3	
WMGZ	Waiomatatini S	1.60	84	⇓PN	Pn	08 23 35.3	-0.3
KRHZ	Kereru	1.63	181	PN	Pn	08 23 35.5	-0.5
MHGZ	Mahia Peninsul	1.63	135	⇓PN	Pn	08 23 36.1	+0.1
VRZ	Vera Road	1.71	229	PN	Pn	08 23 37.2	+0.4
CKHZ	Cape Kidnapper	1.72	163	PN	Pn	08 23 37.0	0.0
KAHZ	Kahuranaki	1.81	169	⇑PN	Pn	08 23 38.0	-0.1
PNHZ	Pukenui	1.90	185	PN	Pn	08 23 38.2	-0.9
PXZ	Pawanui	2.04	170	PN	Pn	08 23 39.9	-0.8
PXZ				AML	AML	08 24 06.6	
PXZ				AML	AML	08 24 06.6	
PXZ				AML	AML	08 24 06.9	
PXZ				AML	AML	08 24 06.9	
WPHZ	Waipukurau	2.05	179	PN	Pn	08 23 39.8	-1.0
WAZ	Wanganui	2.06	212	PN	Pn	08 23 40.4	-0.6
TSZ	Takapari Road	2.07	190	⇑PN	Pn	08 23 39.9	-1.1
TSZ				AML	AML	08 24 09.7	
LREZ	Lake Rotokare	2.13	227	PN	Pn	08 23 42.2	+0.4
PRHZ	Porangahau	2.26	176	PN	Pn	08 23 42.3	-0.9
KHEZ	Kahui Hut	2.27	235	PN	Pn	08 23 44.1	+0.6
DVHZ	Dannevirke	2.29	185	PN	Pn	08 23 42.2	-1.5
POWZ	Post Office Ro	2.43	192	PN	Pn	08 23 43.7	-1.6
PRWZ	Pori Road	2.56	188	PN	Pn	08 23 45.7	-1.2
BFZ	Birch Farm	2.67	183	ePN	Pn	08 23 46.9	-1.4
MRZ	Mangatainoka R	2.72	193	PN	Pn	08 23 46.9	-2.1
MRZ				AML	AML	08 24 20.9	
MRZ				AML	AML	08 24 21.0	
TIWZ	Tintock	2.79	188	AML	AML	08 24 22.8	
TIWZ				AML	AML	08 24 24.7	
CPWZ	Castlepoint	2.89	183	PN	Pn	08 23 50.0	-1.2
OGWZ	Otaki Gorge	2.96	199	⇑PN	Pn	08 23 49.8	-2.2
HOWZ	Holdsworth Sta	2.96	193	PN	Pn	08 23 49.6	-2.4
KIW	Kapiti Island	3.07	202	PN	Pn	08 23 50.7	-2.7
KIW				AML	AML	08 24 28.7	
KIW				AML	AML	08 24 29.4	
TMWZ	Te Maipa	3.11	187	PN	Pn	08 23 51.6	-2.4
MTW	Mount Morrison	3.22	192	PN	Pn	08 23 52.4	-2.8
MTW				AML	AML	08 24 30.7	
CAW	Cannon Point	3.26	198	PN	Pn	08 23 52.9	-2.9
CAW				AML	AML	08 24 32.2	
CAW				AML	AML	08 24 32.4	
DUWZ	D'Urville Isla	3.39	214	PN	Pn	08 23 54.7	-2.8
TRWZ	Traveller	3.42	189	PN	Pn	08 23 55.2	-2.8
TRWZ				AML	AML	08 24 36.1	
TRWZ				AML	AML	08 24 37.5	
PAWZ	Paruwai Farm	3.45	192	PN	Pn	08 23 55.1	-3.1
PAWZ				AML	AML	08 24 35.9	
PAWZ				AML	AML	08 24 36.7	
WEL	Wellington	3.50	201	⇑PN	Pn	08 23 56.0	-2.9
WEL				AML	AML	08 23 56.9	
WEL				AML	AML	08 23 57.4	
MSWZ	Moikau Station	3.51	194	PN	Pn	08 23 55.8	-3.3
MSWZ				AML	AML	08 24 37.4	
MSWZ				AML	AML	08 24 37.8	
BHW	Baring Head	3.59	199	PN	Pn	08 23 56.8	-3.3
BHW				AML	AML	08 23 57.2	
TCW	Tory Channel	3.59	207	PN	Pn	08 23 56.9	-3.2
TCW				AML	AML	08 24 39.7	
TCW		

TXAR **Lajitas Array** 69.83 332 P **P** 08 43 13.5 +0.1
1.4nm,0.7s,baz=153,slow=8.5,SNR=21
MAW **Mawson** 72.72 164 LR LR 09 14 44.4
comp=Z,131nm,18.3s,baz=242,slow=35
ANMO **Albuquerque** 75.89 333 P **P** 08 43 49.5 +0.2
1.1nm,0.8s,baz=158,slow=7.1,SNR=4.7
DBIC **Dimbokro** 76.87 72 P **P** 08 43 57.3 +2.2
1.8nm,0.6s,baz=200,slow=3.8,SNR=2.8
BOSA **Boshof** 80.95 118 P **P** 08 44 18.6 +1.1
3.0nm,1.0s,baz=228,slow=9.5,SNR=3.3
NVAR **Mina Array Bea** 83.80 326 P **P** 08 44 32.4 +0.2
0.7nm,0.7s,baz=134,slow=4.3,SNR=4.4
PDAR **Pinedale Array** 83.92 334 P **P** 08 44 32.6 0.0
1.2nm,1.0s,baz=170,slow=4.2,SNR=6.0
TORD **Torodi Ar. Bea** 85.91 71 P **P** 08 44 44.3 +1.3
0.8nm,0.8s,baz=245,slow=4.4,SNR=4.5
MCMT **McKenzie Canyo** 86.90 333 *eP* **P** 08 44 48.1 +0.7
2.5nm,1.2s
ULM **Lac du Bonnet** 87.01 346 P **P** 08 44 46.5 -1.0
3.5nm,0.9s,baz=167,slow=6.0,SNR=7.3
SCHQ **Schefferville** 89.58 4 P **P** 08 45 00.2 +0.6
3.0nm,0.9s,baz=255,slow=12,SNR=2.3
YKA **Yellowknife Ar** 102.45 342 P **Pdif** 08 45 56.4 -1.5
0.2nm,0.7s,baz=153,slow=3.6,SNR=3.8
SEY **Seymchan** 140.06 329 PKP **PKPdf** 08 51 30.3 +0.2
1.1nm,0.6s,baz=153,slow=3.2,SNR=6.3
BVAR **Borovoye Array** 148.96 43 PKP **PKPdf** 08 51 46.5 +0.6
0.3nm,0.5s,baz=336,slow=3.2,SNR=3.3
BVAR PKPbc **PKiKP** 08 51 51.8 +0.6
0.6nm,0.4s,baz=272,slow=4.3,SNR=4.4
ASAJ **Asahikawa** 150.63 299 PKPbc **PKPbc** 08 51 54.8 +0.5
10nm,0.9s,baz=107,slow=16,SNR=4.2
AAK **Ala-Archa** 154.24 63 PKPbc **PKPbc** 08 52 03.1 +0.4
0.6nm,0.3s,baz=214,slow=15,SNR=3.8
ZALV **Zalesovo Beam** 155.78 32 PKP **PKPdf** 08 51 55.4 -0.5
0.3nm,0.3s,baz=48,slow=2.1,SNR=2.3
ZALV PKPbc PKPab 08 52 06.2 -16
0.8nm,0.8s,baz=325,slow=1.8,SNR=3.2
ZALV PKPab PKPab 08 52 24.3 +1.6
0.4nm,0.4s,baz=310,slow=6.8,SNR=2.6
MKAR **Makanchi Array** 158.48 49 PKPab **PKPab** 08 52 35.8 +1.2
0.7nm,0.7s,baz=305,slow=4.3,SNR=6.8
SONM **Songino Array** 167.09 359 PKPab **PKPab** 08 53 13.3 +1.1
0.9nm,0.8s,baz=343,slow=4.6,SNR=5.2

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*IDC **03** 08:43:28.1±1.0, 11°.44S×161°.44E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.8/35, mbtmp3.8/9, ML3.5/2, Error ellipse: s-maj=29.4km s-min=22.3km az=92.0*
*ISCJB **03** 08:43:31.9±0.9, 11°.41S±0°.09×161°.3E±0°.1, h33km, mb3.7/7, Error ellipse: s-maj=22.5km s-min=9.0km az=153.8*
ISC 03 08:43:32.9±0.8, 11°.4S±0°.1×161°.4E±0°.2, h35km, n10, σ1§29/12, mb3.8/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	2.42	325	Pn	**Pn**	08 44 09.6	-0.4
HNR	42nm,0.3s,baz=198,slow=11,SNR=7.9			Sn	**Sn**	08 44 37.2	-1.2
HNR	101nm,0.3s,baz=77,slow=18,SNR=15						
HNR	**Honiara**	2.42	325	*eP*	**Pn**	08 44 08.0	-2.0
HNR				*eS*	**Sn**	08 44 38.0	-0.4
DZM	**Mont Dzumac**	11.65	156	Pn	**Pn**	08 46 15.1	-1.8
WRA	0.1nm,0.3s,baz=311,slow=19,SNR=2.1 **Warramunga Arr**	27.33	249	P	**P**	08 49 16.0	+1.2
ASAR	0.5nm,0.6s,baz=78,slow=9.5,SNR=11 **Alice Springs**	28.81	241	P	**P**	08 49 27.8	-0.3
SONM	0.4nm,0.9s,baz=62,slow=9.8,SNR=3.4 **Songino Array**	76.48	325	P	**P**	08 55 21.0	+1.7
QSPA	2.0nm,0.6s,baz=144,slow=6.0,SNR=16 **South Pole Qui**	78.58	180	P	**P**	08 55 31.9	+1.0
ILAR	0.7nm,0.6s,baz=324,slow=8.1,SNR=3.9 **Eielson Array**	85.28	20	P	**P**	08 56 06.3	+0.6
MKAR	0.2nm,0.4s,baz=240,slow=6.0,SNR=9.3 **Makanchi Array**	90.87	318	P	**P**	08 56 33.5	+0.5
YKA	0.7nm,0.6s,baz=102,slow=5.5,SNR=10 **Yellowknife Ar**	97.29	28	P	**P**	08 57 01.7	-0.3
	0.2nm,0.5s,baz=261,slow=4.6,SNR=8.2						

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*IDC **03** 08:47:24.2±1.1, 34°.06S×72°.41W, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.7/26, mbtmp3.6/6, ML3.6/3, MS3.1/4, Ms1 3.2/4, ms1mx2.9/26, Error ellipse: s-maj=27.9km s-min=17.9km az=105.0*
*ISCJB **03** 08:47:25.5±1.0, 34°.12S±0°.09×72°.4W±0°.2, h17km, mb3.7/3, MS3.2/1, Error ellipse: s-maj=27.1km s-min=12.9km az=9.5*
ISC 03 08:47:27.0±1.1, 34°.1S±0°.1×72°.4W±0°.2, h17km, n9, σ1§02/7, mb3.7/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	4.26	56	Pn	**Pn**	08 48 31.4	+0.3
CFAA	0.7nm,0.3s,baz=230,slow=7.3,SNR=17			Lg	Lg	08 49 40.9	
CFAA	1.0nm,0.3s,baz=314,slow=20,SNR=9.5			LR	LR	08 50 23.1	
PLCA	comp=Z,50nm,18.7s,baz=240,slow=42 **Paso Flores**	6.82	168	Pn	**Pn**	08 49 06.6	+0.3
PLCA	0.4nm,0.3s,baz=341,slow=16,SNR=4.1			Lg	Lg	08 51 02.2	
PLCA	0.3nm,0.3s,baz=272,slow=16,SNR=3.5			LR	LR	08 52 02.1	
CPUP	comp=Z,252nm,20.5s,baz=27,slow=41 **Villa Florida**	15.11	63	LR	LR	08 57 29.7	
LPAZ	comp=Z,141nm,18.9s,baz=214,slow=40 **La Paz**	18.10	13	P	**P**	08 51 39.0	+0.3
SIV	0.1nm,0.3s,baz=209,slow=10,SNR=7.8 **San Ignacio**	20.67	32	LR	LR	09 01 49.0	
QSPA	comp=Z,96nm,18.6s,baz=240,slow=42 **South Pole Qui**	56.18	180	P	**P**	08 57 05.9	+0.2
TXAR	1.5nm,1.0s,baz=180,slow=1.0,SNR=3.2 **Lajitas Array**	69.65	331	P	**P**	08 58 36.2	+0.6
TORD	0.3nm,0.6s,baz=159,slow=6.8,SNR=7.6 **Torodi Ar. Bea**	84.49	70	P	**P**	08 59 58.9	-0.4
ZALV	0.4nm,0.8s,baz=247,slow=4.2,SNR=5.9 **Zalesovo Beam**	154.42	32	PKPbc	**PKPbc**	09 07 24.1	-1.8
	0.9nm,0.5s,baz=338,slow=1.5,SNR=5.0						

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*BJI **03** 08:49:34.7, 18°.06S×176°.93W, h355km, mB5.1/4, mb4.6/8*
*NEIC **03** 08:49:40.2±1.0, 17°.40S×177°.50W, h357km±10km, mb4.5/43, Error ellipse: s-maj=15.3km s-min=5.6km az=151.0*
*IDC **03** 08:49:41.5±1.7, 17°.42S×177°.53W, h373km±16km, mb3.8/13, mb1 4.1/14, mb1mx3.8/35, mbtmp4.5/14, Error ellipse: s-maj=17.2km s-min=9.7km az=146.0*
*ISCJB **03** 08:49:42.7±0.3, 17°.43S±0°.09×177°.55W±0°.06, h392km, mb4.4/57, Error ellipse: s-maj=13.8km s-min=4.7km az=149.3*
ISC 03 08:49:43.5±0.4, 17°.42S±0°.09×177°.43W±0°.07, h392km, n133, σ1§17/137, mb4.4/57, 5C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	4.33	265	*e*Pn	**Pn**	08 50 59.6	+1.2
AFI	**Afiamalu**	6.46	58	*e*Pn	Pn	08 51 16.8	-4.3
NIUE	**Niue**	7.31	104	P	**Pn**	08 51 28.4	-2.1
DZM	baz=7.2,SNR=12 **Mont Dzumac**	15.87	250	P	**P**	08 53 04.4	-1.4
DZM	0.8nm,0.3s,baz=112,slow=21,SNR=15 **Mont Dzumac**	15.87	250	P	**P**	08 53 04.4	-1.4
DZM				*e*P	**Pn**	08 53 05.5	-3.7
URZ	**Urewera**	21.31	192	P	**P**	08 53 58.0	-2.2
URZ	6.6nm,0.3s,baz=277,slow=3.2,SNR=28			S	**S**	08 57 35.0	+5.4
ARMA	6.4nm,0.9s,baz=16,slow=19,SNR=2.7 **Armidale**	30.99	240	P	**P**	08 55 27.1	+0.5
RMQ	baz=31,SNR=9.3 **Roma**	32.55	248	P	**P**	08 55 40.5	+0.5
CTA	baz=33,SNR=4.5 **Charters Tower**	34.45	260	P	**P**	08 55 54.8	-1.5
CTAO	7.8nm,0.8s,baz=88,slow=12,SNR=10 **Charters Tower**	34.45	260	*e*P	**P**	08 55 55.6	-0.7
CNB	9.5nm,0.8s **Canberra Magne**	34.46	232	P	**P**	08 55 57.0	+0.7
PMG	baz=35,SNR=18 **Port Moresby**	35.31	278	P	**P**	08 56 05.6	+2.0
PMG	baz=36,SNR=4.6 **Port Moresby**	35.31	278	*e*P	**P**	08 56 05.2	+1.6
CMSA	42nm,0.9s **Cobar Meteorol**	36.20	240	P	**P**	08 56 10.7	-0.2
QLP	baz=36,SNR=15 **Quilpie**	36.58	249	P	**P**	08 56 13.4	-0.7
	baz=37,SNR=9.7						
COEN	**Coen**	38.04	269	P	**P**	08 56 27.3	+0.9
	baz=38,SNR=4.9						
TOO	**Toolangi**	38.20	231	P	**P**	08 56 28.0	+0.5
	baz=38,SNR=32						
STKA	**Stephens Creek**	39.68	241	P	**P**	08 56 39.6	+0.1
	5.6nm,0.7s,baz=93,slow=11,SNR=16						
STKA	**Stephens Creek**	39.68	241	P	**P**	08 56 39.8	+0.1
	baz=40,SNR=13						
STKA	**Stephens Creek**	39.68	241	*e*P	**P**	08 56 39.7	+0.1
	1.8nm,1.0s						
ARPS	**Mount Arapiles**	40.69	233	P	**P**	08 56 48.0	+0.3
	baz=41,SNR=7.0						
HTT	**Hallett**	42.20	239	P	**P**	08 56 59.9	0.0
	baz=42,SNR=11						
JAY	**Jayapura**	43.68	285	P	**P**	08 57 11.2	-0.7
	baz=44,SNR=3.6						
BBOO	**Buckleboo**	44.46	241	P	**P**	08 57 17.5	-0.3
	baz=45,SNR=28						
BBOO	**Buckleboo**	44.46	241	*e*P	**P**	08 57 17.4	-0.3
	209nm,0.6s						
WB2	**Warramunga Arr**	45.63	259	*e*P	**P**	08 57 25.0	-2.0
WRAB	**Tennant Creek**	45.63	259	*e*P	**P**	08 57 25.5	-1.6
	8.6nm,1.1s						
WRA	**Warramunga Arr**	45.64	259	P	**P**	08 57 25.6	-1.5
	3.7nm,0.8s,baz=97,slow=8.1,SNR=46						
WRA				ScP	**ScP**	09 02 14.3	+1.7
	0.6nm,1.2s,baz=92,slow=3.7,SNR=4.6						
WRA				S	**S**	09 03 39.5	-0.4
	0.2nm,0.4s,baz=94,slow=14,SNR=8.2						
AS31	**Alice Springs**	45.83	254	*e*P	**P**	08 57 27.5	-1.0
ASAR	**Alice Springs**	45.83	254	P	**P**	08 57 27.6	-0.9
	24nm,0.6s,baz=88,slow=8.3,SNR=428						
ASAR				ScP	**ScP**	09 02 15.3	+1.9
	0.5nm,0.6s,baz=105,slow=4.3,SNR=4.3						
ASAR				S	**S**	09 03 41.9	-0.7
	0.8nm,0.8s,baz=88,slow=14,SNR=4.9						
KDU	**Kakadu**	48.51	268	P	**P**	08 57 48.4	-0.6
	baz=49,SNR=6.9						
MTN	**Manton Dam**	49.75	268	P	**P**	08 57 58.0	-0.3
	baz=50,SNR=3.8						
WRKA	**Warakurna**	50.89	252	P	**P**	08 58 06.1	-0.6
	baz=51,SNR=130						
FORT	**Forrest**	51.06	244	P	**P**	08 58 07.2	-0.6
	baz=51,SNR=13						
FORT	**Forrest**	51.06	244	*e*P	**P**	08 58 07.0	-0.8
	67nm,1.4s						
KNRA	**Kununurra**	51.47	264	P	**P**	08 58 10.3	-0.6
	baz=52,SNR=11						
MEEK	**Meekatharra**	59.48	249	P	**P**	08 59 06.7	-0.5
	baz=60,SNR=7.5						
KLBR	**Kellerberrin**	59.88	243	P	**P**	08 59 09.6	-0.2
	baz=60,SNR=14						
BLDU	**Ballidu**	60.84	244	P	**P**	08 59 15.9	-0.3
	baz=61,SNR=11						
MORW	**Morawa**	61.53	246	P	**P**	08 59 20.6	-0.2
	baz=62,SNR=3.4						
MJAR	**Matsushiro Arr**	68.08	323	P	**P**	09 00 01.5	-0.9
	0.6nm,0.5s,baz=165,slow=9.0,SNR=5.5						
UGM	**Wanagama**	70.60	268	P	**P**	09 00 18.8	+0.7
	baz=71,SNR=3.2						
SBUM	**Sibu**	72.06	278	*e*P	**P**	09 00 28.1	+1.4
	5.9nm,0.8s						
QSPA	**South Pole Qui**	72.63	180	P	**P**	09 00 29.6	+0.4
	2.1nm,0.5s,baz=331,slow=0.8,SNR=20						
PETK	**Petropavlovsk-**	73.46	345	P	**P**	09 00 33.2	-0.7
	4.2nm,0.7s,baz=141,slow=9.6,SNR=3.9						
KSM	**Kuching**	73.56	277	*e*P	**P**	09 00 36.8	+1.3
	19nm,0.9s						
NJ2	**Nanjing**	78.36	309	*e*P	**P**	09 01 00.9	-0.9
NJ2				PMZ			
	10.0nm,1.0s						
NVAR	**Mina Array Bea**	78.43	43	P	**P**	09 01 03.0	+0.6
	4.0nm,0.7s,baz=226,slow=8.8,SNR=31						
TPH	**Tonopah**	78.95	44	*e*P	**P**	09 01 05.5	+0.3
	4.5nm,0.8s						
R11A	**Troy Canyon, C**	80.19	45	*e*P	**P**	09 01 12.2	+0.4
	38nm,2.8s						
WVOR	**Wild Horse Val**	80.43	40	*e*P	**P**	09 01 13.6	+0.8
	5.6nm,0.9s						
TUC	**Tucson**	80.66	52	*e*P	**P**	09 01 15.8	+1.5
	8.2nm,0.9s						
I07A	**Izee**	80.84	38	*e*P	**P**	09 01 15.8	+0.8
	7.0nm,0.9s						
CCUT	**Cedar City**	81.30	46	*e*P	**P**	09 01 18.9	+1.2
	4.0nm,1.0s						
WUAZ	**Wupatki**	81.72	49	*e*P	**P**	09 01 21.6	+1.8
	9.0nm,1.2s						
G08A	**Pilot Rock**	81.86	37	*e*P	**P**	09 01 20.8	+0.6
	10nm,1.2s						
HAWA	**Hanford**	82.16	36	*e*P	**P**	09 01 22.2	+0.6
	7.8nm,0.8s						
BMO	**Blue Mountains**	82.58	38	*e*P	**P**	09 01 23.9	0.0
	3.9nm,0.9s						
121A	**Cookes Peak, D**	83.03	53	*e*P	**P**	09 01 27.8	+1.2
	17nm,1.4s						
F10A	**Beach Ranch, E**	83.24	38	*e*P	**P**	09 01 27.1	-0.1
	12nm,1.0s						
IPM	**Ipoh**	83.29	277	*e*P	**P**	09 01 28.6	+0.5
	14nm,0.6s						
TRF	**Thorofare Moun**	83.34	12	*e*P	**P**	09 01 26.2	-1.2
	11nm,0.8s						
B08A	**Colville Reser**	83.41	35	*e*P	**P**	09 01 27.8	-0.2
	4.9nm,0.7s						
HLID	**Hailey**	83.65	41	*e*P	**P**	09 01 30.1	+0.6
	6.6nm,0.8s						
HVU	**Hansel Valley**	83.79	43	*e*P	**P**	09 01 30.9	+0.8
	7.0nm,0.7s						
MCK	**McKinley**	83.87	12	*e*P	**P**	09 01 29.1	-0.8
	13nm,0.9s						
CTU	**Camp Tracy**	83.93	44	*e*P	**P**	09 01 32.0	+1.1
	5.5nm,0.8s						
SRU	**San Rafael Swe**	84.00	46	*e*P	**P**	09 01 32.1	+0.8
	7.6nm,0.9s						
JLU	**Jordanelle**	84.09	44	*e*P	**P**	09 01 32.5	+0.7
	4.0nm,1.0s						
BJI	**Beijing**	84.10	315	P	**P**	09 01 32.8	+1.3
BJI				PMZ			
	6.0nm,0.6s						
MNTX	**Cornudas Mount**	84.53	55	*e*P	**P**	09 01 34.8	+0.9
	2.9nm,0.8s						
DOT	**Dot Lake**	84.86	14	*e*P	**P**	09 01 34.4	-0.4
	8.9nm,0.7s						
TXAR	**Lajitas Array**	84.94	57	P	**P**	09 01 37.7	+1.6
	5.8nm,0.8s,baz=222,slow=6.9,SNR=56						
COLA	**College**	85.10	12	*e*P	**P**	09 01 34.2	-1.6
	14nm,0.8s						
ILAR	**Eielson Array**	85.21	13	P	**P**	09 01 35.0	-1.4
	4.4nm,0.8s,baz=227,slow=5.4,SNR=73						
MCMT	**McKenzie Canyo**	85.26	40	*e*P	**P**	09 01 37.8	+0.3
	4.6nm,1.1s						
BSMT	**Bassoo Peak**	85.67	37	*e*P	**P**	09 01 38.9	-0.4
DLMT	**Dillon**	85.69	40	*e*P	**P**	09 01 40.3	+0.8
	6.4nm,0.9s						
REDW	**Red Top Meadow**	85.80	42	*e*P	**P**	09 01 40.7	+0.6
	12nm,1.4s						
FXWY	**Fox Creek**	85.82	42	*e*P	**P**	09 01 40.9	+0.6
	2.0nm,0.9s						
IMW	**Indian Meadow**	86.00	42	*e*P	**P**	09 01 42.1	+0.9
	4.1nm,0.9s						
BILL	**Bilibino**	86.05	354	*e*P	**P**	09 01 40.0	-0.5
	6.5nm,0.8s						
QLMT	**Earthquake Lak**	86.14	41	*e*P	**P**	09 01 43.1	+1.4
FLWY	**Flagg Ranch**	86.24	42	*e*P	**P**	09 01 42.9	+0.7
	7.9nm,1.0s						
YMR	**Madison River**	86.36	41	*e*P	**P**	09 01 44.2	+1.5
	7.9nm,0.7s						
PDAR	**Pinedale Array**	86.36	43	P	**P**	09 01 42.8	-0.1
	1.3nm,0.6s,baz=210,slow=3.4,SNR=20						
BOZ	**Bozeman (W)**	86.42	40	*e*P	**P**	09 01 43.6	+0.6
	5.0nm,0.9s						
H17A	**Grant Village**	86.47	41	*e*P	**P**	09 01 45.4	+2.0
	4.5nm,0.8s						
SMCO	**Snowmass**	86.50	47	*e*P	**P**	09 01 44.3	+0.5
	41nm,2.4s						
HRY	**Holter Researc**	86.82	39	*e*P	**P**	09 01 45.4	+0.6
HHC	**Hu-ho-hao-te**	87.61	314	*e*P	**P**	09 01 49.4	+0.8
HHC				pP	pP	09 03 12.2	-6.8
HHC				sP	sP	09 03 46.9	-13
HHC				PP	**PP**	09 05 19.6	-1.1
HHC				S	**S**	09 11 58.6	+2.1
HHC				PMZ			
	22nm,1.2s						
HHC				PMZ			
	170nm,8.3s						
LAO	**LASA Array**	90.23	41	*e*P	**P**	09 02 02.1	+1.5
	220nm,2.9s						
RSSD	**Black Hills**	90.57	44	*e*P	**P**	09 02 02.2	-0.3
	6.5nm,1.1s						
LZH	**Lanzhou**	91.34	307	*e*P	**P**	09 02 07.0	+0.8
LZH				pP	pP	09 03 27.2	-10
LZH				sP	sP	09 04 05.4	-12
LZH				PMZ			
	16nm,1.0s						
DGMT	**Dagmar**	92.22	40	*e*P	**P**	09 02 10.8	+1.0
	27nm,1.1s						
YKA	**Yellowknife Ar**	93.50	24	P	**P**	09 02 14.4	-0.8
	1.2nm,0.7s,baz=246,slow=4.5,SNR=31						
KSH	**Kashi**	113.55	306	*e*PKP	PKiKP	09 07 44.9	+8.7
KSH				PP	PP	09 08 41.2	+6.2
KSH				PKS	**PKSdf**	09 11 14.3	+1.4
KSH				SKS	**SKSdf**	09 14 15.8	+5.3
KSH	**Kashi**	113.55	306	SS	SS	09 23 57.2	+5.6
ARCES	**ARCESS Array B**	126.00	350	PKP	**PKPdf**	09 07 58.8	-0.2
	2.8nm,0.6s,baz=29,slow=2.8,SNR=6.8						
GEYT	**Alibeck**	127.54	305	PKP	**PKPdf**	09 08 03.0	0.0
	1.0nm,0.5s,baz=117,slow=1.6,SNR=2.9						
FINES	**FINESS Array B**	132.97	345	PKP	**PKPdf**	09 08 12.1	-0.3
	11nm,1.3s,baz=38,slow=3.4,SNR=4.4						
KWP	**Kalwaria Pacla**	143.99	338	⇓*i*P	PKPbc	09 08 32.0	+0.3
OJC	**Ojcow**	144.47	341	*e*PKP	PKPbc	09 08 32.9	-0.4
BURAR	**Bucovina Array**	144.62	333	⇓*i*P	**PKPdf**	09 08 34.6	+0.4
STHS	**Stebnicka Huta**	144.69	339	*e*PKP	**PKPab**	09 08 34.4	+0.1
KOLS	**Kolonicke sedl**	144.73	337	*e*PKP	**PKPab**	09 08 34.3	-0.1
NIE	**Niedzica**	145.00	340	*e*PKP	PKPbc	09 08 35.1	+0.1
CFR	**Carcaliu**	145.04	328	⇑*i*P	**PKPbc**	09 08 35.2	0.0
CRVS	**Cervenica-Dubn**	145.05	338	*e*PKP	**PKPab**	09 08 35.7	0.0
BRTR	**Keskin Array B**	145.10	316	PKPbc	**PKPbc**	09 08 35.8	0.0
	4.4nm,0.8s,baz=130,slow=4.4,SNR=17						
CLL	**Collm**	145.19	349	⇓*i*PKPbc	**PKPdf**	09 08 34.9	0.0
	comp=Z,19nm,0.9s						
CLL	**Collm**	145.19	349	*e*PKPdf	**PKPdf**	09 08 35.0	0.0
UPC	**Upice**	145.28	345	*e*PKP	**PKPbc**	09 08 35.6	-0.2
DPC	**Dobruska-Polom**	145.34	344	*e*PKP	**PKPbc**	09 08 36.2	+0.2
DPC	**Dobruska-Polom**	145.34	344	*e*PKPdf	**PKPab**	09 08 36.3	-0.5
BRG	**Berggiesshubel**	145.41	347	*i* PKP	**PKPbc**	09 08 36.2	+0.1
	comp=Z,14nm,1.1s						
PVCC	**Panska Ves**	145.60	346	*e*PKP	**PKPab**	09 08 37.1	-0.6
MLR	**Muntele Rosu**	145.89	330	⇓*i*P	**PKPbc**	09 08 38.4	+0.5
PRU	**Pruhonice**	146.11	346	*e*PKP	**PKPbc**	09 08 38.0	-0.2
DRGR		146.31	335	⇑*i*P	**PKPbc**	09 08 38.9	-0.1
ARR	**Arges**	146.60	331	⇓*i*P	**PKPbc**	09 08 40.6	+0.8
KHC	**Kasperske Hory**	147.13	347	*e*PKP	**PKPdf**	09 08 38.8	+0.5
KHC				*ex*	x	09 08 42.0	
KHC	**Kasperske Hory**	147.13	347	*e*PKPdf	**PKPbc**	09 08 41.0	-0.1
GERES	**GERESS Array B**	147.38	346	PKPbc	**PKPbc**	09 08 41.6	-0.2
	comp=Z,1.4nm,0.5s,baz=5.1,slow=3.3,SNR=11						
CONA	**Conrad Observa**	147.68	343	⇑*i*PKPbc	**PKPbc**	09 08 43.2	+0.5
	comp=Z,4.4nm,0.6s						
KDZ	**Kurdzhali**	148.91	326	⇑*i*P	**PKPbc**	09 08 46.0	+0.1
WTTA	**Wattenberg**	149.32	348	⇑*i*PKPbc	**PKPbc**	09 08 46.8	-0.1
	comp=Z,10nm,0.6s						
GCIS	**Gornji Cirnik**	149.62	342	*i* PKPbc	**PKPbc**	09 08 47.5	0.0
MMB	**Musomiste**	149.85	327	⇓*i*P	**PKPbc**	09 08 47.8	-0.4
VISS	**Visnje**	149.91	343	*i* PKPbc	**PKPbc**	09 08 48.1	-0.1
FUORN	**Ofenpass-Fuorn**	150.19	349	*e*PKPdf	**PKPbc**	09 08 49.3	+0.2
TUE	**Stuetta**	150.49	350	*e*PKPdf	**PKPbc**	09 08 49.4	-0.4
TORD	**Torodi Ar. Bea**	175.67	169	PKP	**PKPdf**	09 09 06.3	-1.7
	comp=Z,1.2nm,0.9s,baz=252,slow=0.9,SNR=5.5						

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*ISCJB **03** 08:57:49.7±0.5, 33°.67S±0°.06×73°.21W±0°.08, h6km, mb4.2/13, MS3.3/6, Error ellipse: s-maj=9.1km s-min=8.6km az=4.8*
*IDC **03** 08:57:50.6±0.8, 33°.68S×73°.23W, h0km, mb4.1/8, mb1 4.2/11, mb1mx4.1/24, mbtmp4.1/11, ML4.5/2, MS3.3/9, Ms1 3.3/9, ms1mx3.2/20, Error ellipse: s-maj=25.2km s-min=20.1km az=75.0*
*NEIC **03** 08:57:54.1±2.2, 33°.66S×73°.17W, h22km±15km, mb4.4/5, Error ellipse: s-maj=10.7km s-min=5.6km az=80.0*
ISC 03 08:57:51.5±0.6, 33°.66S±0°.08×73°.23W±0°.09, h6km, n35, σ0§55/31, mb4.3/13, MS3.2/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	4.68	65	Pn	**Pn**	08 59 03.1	+0.3
CFAA	0.6nm,0.3s,baz=241,slow=13,SNR=34			Sn	**Sn**	08 59 57.8	+0.3
PLCA	1.3nm,0.3s,baz=323,slow=20,SNR=11 **Paso Flores**	7.38	164	Pn	**Pn**	08 59 40.0	+0.2
PLCA	2.3nm,0.3s,baz=336,slow=9.9,SNR=8.1			LR	LR	09 02 36.1	
PLCA	comp=Z,366nm,18.5s,baz=256,slow=39 **Paso Flores**	7.38	164	*e*Pn	**Pn**	08 59 40.4	+0.6
TRQA	**Tornquist**	10.13	119	*e*Pn	**Pn**	09 00 17.1	-0.4
LVC	**Limon Verde**	11.64	20	*e*Pn	**Pn**	09 00 38.5	0.0
CPUP	**Villa Florida**	15.58	66	LR	LR	09 07 43.9	
	comp=Z,71nm,19.6s,baz=222,slow=38						
CPUP	**Villa Florida**	15.58	66	Pn	**Pn**	09 01 31.2	-0.5
LPAZ	**La Paz**	17.90	16	P	**P**	09 02 03.3	+0.8
	0.4nm,0.3s,baz=190,slow=4.9,SNR=16						
LPAZ				LR	LR	09 09 44.8	
	comp=Z,20nm,19.7s,baz=218,slow=40						
SIV	**San Ignacio**	20.73	35	P	**P**	09 02 32.7	-0.2
	7.8nm,0.7s,baz=225,slow=12,SNR=15						
SIV				LR	LR	09 11 51.9	
	comp=Z,81nm,18.1s,baz=145,slow=40						
USHA	**Ushuaia**	21.44	172	LR	LR	09 11 38.9	
	comp=Z,100nm,21.3s,baz=273,slow=

ISC 03 09:20:44.9±0.5, 52°.94N±0°.03×142°.41E±0°.04, h14km, n34, σ1°.99/39, mb3.6/13, 2C-1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.69**	**27**	⇑*i*Pg	**Pg**	**09 20 57.8**	**-0.4**
OKH				*e*Pg	**Pg**	**09 20 57.8**	**-0.4**
OKH				AMB	AMB	09 20 58.8	
	500nm,0.5s						
OKH				*e*Sg	**Sn**	**09 21 09.0**	**-1.6**
OKH				A	A	09 21 10.0	
	10μm,0.5s						
NKL	**Nikolayevsk**	**1.06**	**282**	⇓*i*Pg	**Pb**	**09 21 02.8**	**-2.2**
NKL				*e*Pg	**Pb**	**09 21 02.8**	**-2.2**
NKL				AMB	AMB	09 21 04.4	
	68nm,0.4s						
NKL				AMB	AMB	09 21 04.4	
	500nm,0.4s						
NKL				*i* Sg	**Sb**	**09 21 17.0**	**-1.8**
NKL				A	A	09 21 25.2	
	2μm,0.5s						
TYV	**Tymovskoe**	**2.09**	**176**	*e*Pg	**Pb**	**09 21 22.8**	**+0.3**
TYV				*e*Sg	**Sg**	**09 21 51.5**	**-0.4**
TYV				A	A	09 21 53.5	
	131nm,0.6s						
TYV				AMS	AMS	09 22 42.0	
	2μm,7.0s						
TYV				AMS	AMS	09 22 42.0	
	1μm,7.0s						
UGL	**Uglegorsk**	**3.88**	**183**	*e*Pg	**Pg**	**09 21 59.0**	**-0.1**
UGL				AMB	AMB	09 22 06.5	
	47nm,0.7s						
UGL				*e*Sg	**Sg**	**09 22 53.0**	**+3.8**
UGL				A	A	09 23 09.0	
	84nm,0.8s						
UGL				A	A	09 23 09.0	
	157nm,0.8s						
GRNR	**Gornyy**	**4.30**	**242**	*e*Pg	**Pg**	**09 22 04.8**	**-2.4**
GRNR				AMB	AMB	09 22 04.9	
	46nm,0.2s						
GRNR				*e*Sg	**Sg**	**09 23 04.5**	**+1.6**
GRNR				A	A	09 23 08.5	
	120nm,0.7s						
EKMR	**Ekimchan**	**5.71**	**275**	*e*P	**Pn**	**09 22 07.5**	**-1.7**
EKMR				*e*Pg	**Pg**	**09 22 32.5**	**-1.7**
EKMR				AMB	AMB	09 22 37.2	
	7.0nm,0.5s						
EKMR				AMB	AMB	09 22 37.2	
	5.0nm,0.5s						
EKMR				AMB	AMB	09 22 37.2	
	11nm,0.5s						
EKMR				*e*Sg	**Sg**	**09 23 50.0**	**+1.9**
EKMR				A	A	09 24 02.7	
	100nm,0.6s						
EKMR				A	A	09 24 02.7	
	42nm,0.6s						
EKMR				A	A	09 24 02.7	
	40nm,0.6s						
YSS	**Yuzh-Sakhalins**	**6.00**	**178**	*e*PN	Pn	09 22 08.0	-5.1
YSS	**Yuzh-Sakhalins**	**6.00**	**178**	*e*P	**Pn**	**09 22 12.8**	**-0.3**
YSS				*e*S	**Sn**	**09 23 20.5**	**-1.1**
YSS				A	A	09 23 21.2	
	20nm,0.5s						
KLR	**Kul'dur**	**7.67**	**245**	*e*Pg	Pb	09 23 01.8	+4.2
KLR				AMS	AMS	09 25 43.0	
	600nm,6.0s						
KLR				AMS	AMS	09 25 43.0	
	900nm,6.0s						
BMKR	**Bomnak**	**8.22**	**288**	*e*P	**Pn**	**09 22 43.6**	**0.0**
BMKR				*e*Sg	**Sg**	**09 25 12.6**	**+4.2**
BMKR				A	A	09 25 13.9	
	11nm,0.5s						
YASR	**Yasnyy**	**8.69**	**278**	*e*Sg	Sg	09 25 08.7	-15
YASR				A	A	09 25 22.2	
	81nm,1.1s						
YASR				A	A	09 25 22.2	
	42nm,1.1s						
YASR				A	A	09 25 22.2	
	72nm,1.1s						
TEY	**Ternei**	**8.78**	**208**	*e*Sg	Sg	09 25 38.0	+12
TEY				A	A	09 25 39.7	
	26nm,0.8s						
ASAJ	**Asahikawa**	**8.83**	**179**	Pn	**Pn**	**09 22 49.5**	**-2.5**
	0.3nm,0.3s,baz=351,slow=19,SNR=2.2						
ASAJ				LR	LR	09 26 57.1	
	comp=Z,59nm,18.2s,baz=358,slow=43						
PETK	**Petropavlovsk-**	**9.22**	**83**	Pn	**Pn**	**09 22 56.9**	**-0.4**
	0.6nm,0.3s,baz=271,slow=9.9,SNR=8.1						
PETK				LR	LR	09 27 08.8	
	comp=Z,31nm,18.5s,baz=200,slow=42						
KROS	**Kirovskiy**	**9.28**	**285**	*e*P	**Pn**	**09 23 00.5**	**+2.3**
KROS				AMB	AMB	09 23 02.9	
	2.0nm,0.5s						
KROS				*e*Sg	Sn	09 25 38.2	+56
KROS				A	A	09 25 47.1	
	10.0nm,0.7s						
SEY	**Seymchan**	**11.31**	**24**	*e*PN	Pn	09 23 33.2	+7.3
MAJO	**Matsushiro**	**16.66**	**192**	*e*P	Pn	09 24 32.6	-5.2
MAJO				pmax	pmax		
	comp=Z,44nm,1.2s						
KSRS	**Korea Array**	**18.49**	**219**	LR	LR	09 32 02.9	
	comp=Z,29nm,20.4s,baz=4.5,slow=37						
TIXI	**Tiksi**	**19.70**	**347**	*e*P	**Pn**	**09 25 17.1**	**+2.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ULN	**Ulaanbaatar**	**22.94**	**272**	*e*P	**P**	**09 25 50.9**	**+2.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TLY	**Talaya**	**23.54**	**283**	*e*P	**P**	**09 25 55.0**	**+0.5**
TLY				pmax	pmax		
	comp=Z,5.0nm,2.0s						
TLY				MLR	MLR		
	comp=Z,22nm,7.0s						
ZAK	**Zakamensk**	**24.20**	**280**	*e*P	**P**	**09 26 02.7**	**+1.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ILAR	**Eielson Array**	**36.39**	**43**	P	**P**	**09 27 47.3**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**36.39**	**43**	P	**P**	**09 27 47.3**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=270,slow=6.8,SNR=18						
MKAR	**Makanchi Array**	**38.23**	**286**	P	**P**	**09 28 03.2**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**38.23**	**286**	P	**P**	**09 28 03.2**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=60,slow=7.2,SNR=5.6						
BRVK	**Borovoye**	**41.68**	**300**	*e*P	**P**	**09 28 35.2**	**+2.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ARU	**Arti**	**45.74**	**310**	*c i*P	**P**	**09 29 07.3**	**+2.1**
ARU						09 30 52.3	
ARU				S	S	09 35 56.6	+8.9
ARU				SS	**SS**	**09 39 17.0**	**+5.6**
ARU				pmax	pmax		
	comp=Z,12nm,2.5s						
YKA	**Yellowknife Ar**	**50.06**	**36**	P	**P**	**09 29 37.6**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=306,slow=7.4,SNR=4.2						
NVAR	**Mina Array Bea**	**65.42**	**58**	P	**P**	**09 31 26.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=302,slow=5.1,SNR=4.5						
PDAR	**Pinedale Array**	**66.38**	**50**	P	**P**	**09 31 32.7**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=358,slow=2.7,SNR=3.1						
WRA	**Warramunga Arr**	**72.92**	**188**	P	**P**	**09 32 12.3**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=2.4,slow=6.9,SNR=3.7						
ASAR	**Alice Springs**	**76.64**	**188**	P	**P**	**09 32 34.5**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=358,slow=5.2,SNR=4.2						
TXAR	**Lajitas Array**	**80.00**	**54**	P	**P**	**09 32 53.6**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=308,slow=3.0,SNR=3.7						

*ISCJB **03** 09:26:39.5±0.5, 39°.23N±0°.04×15°.32E±0°.08, h264km±3km, mb3.2/5, Error ellipse: s-maj=9.4km s-min=6.9km az=179.4*
*ROM **03** 09:26:39.2±0.3, 39°.17N×15°.54E, h270km±3km, Ml3.3/14, Error ellipse: s-maj=6.1km s-min=3.0km az=95.0*
*CSEM **03** 09:26:39.2, 39°.17N×15°.54E, h270km, ML3.3/14*
*IDC **03** 09:26:47.4±3.4, 39°.86N×15°.35E, h302km±25km, mb2.9/6, mb1 3.0/12, mb1mx2.8/56, mbtmp3.6/12, Error ellipse: s-maj=40.4km s-min=19.1km az=12.0*

ISC 03 09:26:40.0±0.8, 39°.21N±0°.05×15°.44E±0°.07, h262km±6km, n68, σ1°.14/92, mb3.1/5, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMN	**Mormanno**	**0.81**	**32**	Pn	**Pn**	**09 27 16.1**	**+0.8**
MMN	**Mormanno**	**0.81**	**32**	Pn	**Pn**	**09 27 16.1**	**+0.8**
TDS	**Terranova Siba**	**0.83**	**57**	Pn	**Pn**	**09 27 16.7**	**+1.2**
TDS				Sn	**S**	**09 27 43.7**	**+0.2**
TDS	**Terranova Siba**	**0.83**	**57**	Pn	**Pn**	**09 27 16.7**	**+1.2**
TDS				Sn	**S**	**09 27 43.7**	**+0.2**
GRI	**Girifalco**	**0.86**	**116**	Pn	**Pn**	**09 27 16.6**	**+0.9**
GRI				Sn	**S**	**09 27 43.5**	**-0.3**
GRI	**Girifalco**	**0.86**	**116**	Pn	**Pn**	**09 27 16.6**	**+0.9**
GRI				Sn	**S**	**09 27 43.5**	**-0.3**
VPL	**Vulcano Piano**	**0.90**	**203**	Pn	**Pn**	**09 27 16.9**	**+1.0**
	256nm,1.0s						
VPL	**Vulcano Piano**	**0.90**	**203**	Pn	**Pn**	**09 27 16.9**	**+1.0**
	256nm,1.0s						
MGR	**Morigerati**	**0.93**	**6**	Pn	**Pn**	**09 27 16.8**	**+0.9**
MGR				Sn	**S**	**09 27 44.6**	**+0.2**
	58nm,1.2s						
MGR	**Morigerati**	**0.93**	**6**	Pn	**Pn**	**09 27 16.8**	**+0.9**
MGR				Sn	**S**	**09 27 44.6**	**+0.2**
	58nm,1.2s						
MSRU	**Castanea**	**0.94**	**177**	Pn	**Pn**	**09 27 16.3**	**+0.2**
	381nm,0.4s						
MSRU	**Castanea**	**0.94**	**177**	Pn	**Pn**	**09 27 16.3**	**+0.2**
	381nm,0.4s						
MILZ	**Milazzo**	**0.95**	**190**	Pn	**Pn**	**09 27 16.5**	**+0.4**
MILZ				Sn	**S**	**09 27 44.6**	**0.0**
MILZ	**Milazzo**	**0.95**	**190**	Pn	**Pn**	**09 27 16.5**	**+0.4**
MILZ				Sn	**S**	**09 27 44.6**	**0.0**
SALB	**San Lorenzo Be**	**0.97**	**46**	Pn	**Pn**	**09 27 17.3**	**+1.0**
SALB				Sn	**S**	**09 27 44.5**	**-0.4**
SALB	**San Lorenzo Be**	**0.97**	**46**	Pn	**Pn**	**09 27 17.3**	**+1.0**
SALB				Sn	**S**	**09 27 44.5**	**-0.4**
SERS	**Sersale**	**0.99**	**100**	Pn	**Pn**	**09 27 17.2**	**+0.8**
SERS				Sn	**S**	**09 27 44.0**	**-1.1**
SERS	**Sersale**	**0.99**	**100**	Pn	**Pn**	**09 27 17.2**	**+0.8**
SERS				Sn	**S**	**09 27 44.0**	**-1.1**
SIRI	**Monte Sirino -**	**1.03**	**19**	Pn	**Pn**	**09 27 17.3**	**+0.8**
	73nm,0.5s						
SIRI	**Monte Sirino -**	**1.03**	**19**	Pn	**Pn**	**09 27 17.3**	**+0.8**
	73nm,0.5s						
PLAC	**Placanica**	**1.09**	**134**	Pn	**Pn**	**09 27 17.4**	**+0.5**
PLAC				Sn	**S**	**09 27 44.6**	**-1.4**
	82nm,0.4s						
PLAC	**Placanica**	**1.09**	**134**	Pn	**Pn**	**09 27 17.4**	**+0.5**
PLAC				Sn	**S**	**09 27 44.6**	**-1.4**
	82nm,0.4s						
SCHR	**S. Chirico Rap**	**1.11**	**26**	Pn	**Pn**	**09 27 18.6**	**+1.6**
CMPR	**Campora**	**1.11**	**355**	Pn	**Pn**	**09 27 18.1**	**+1.1**
	21nm,0.8s						
CMPR	**Campora**	**1.11**	**355**	Pn	**Pn**	**09 27 18.1**	**+1.1**
	21nm,0.8s						
ORI	**Oriolo Calabro**	**1.16**	**42**	Pn	**Pn**	**09 27 18.4**	**+1.2**
ORI				Sn	**S**	**09 27 47.3**	**+0.7**
ORI	**Oriolo Calabro**	**1.16**	**42**	Pn	**Pn**	**09 27 18.4**	**+1.2**
ORI				Sn	**S**	**09 27 47.3**	**+0.7**
MTTG	**Motta San Giov**	**1.22**	**170**	Pn	**Pn**	**09 27 18.5**	**+0.8**
MTTG				Sn	**S**	**09 27 46.5**	**-1.0**
	389nm,0.7s						
MTTG	**Motta San Giov**	**1.22**	**170**	Pn	**Pn**	**09 27 18.5**	**+0.8**
MTTG				Sn	**S**	**09 27 46.5**	**-1.0**
	389nm,0.7s						
SOI	**Samo**	**1.23**	**157**	Pn	**Pn**	**09 27 18.1**	**+0.3**
SOI				Sn	**S**	**09 27 46.2**	**-1.3**
	129nm,0.5s						
SOI	**Samo**	**1.23**	**157**	Pn	**Pn**	**09 27 18.1**	**+0.3**
SOI				Sn	**S**	**09 27 46.2**	**-1.3**
	129nm,0.5s						
MMME	**Mongiuffi-Meli**	**1.28**	**186**	Pn	**Pn**	**09 27 19.0**	**+0.8**
MMME				Sn	**S**	**09 27 48.4**	**+0.1**
	106nm,0.6s						
MMME	**Mongiuffi-Meli**	**1.28**	**186**	Pn	**Pn**	**09 27 19.0**	**+0.8**
MMME				Sn	**S**	**09 27 48.4**	**+0.1**
	106nm,0.6s						
MPAZ	**Palizzi**	**1.33**	**160**	Pn	**Pn**	**09 27 18.9**	**+0.5**
MPAZ				Sn	**S**	**09 27 47.0**	**-1.7**
	209nm,0.5s						
MPAZ	**Palizzi**	**1.33**	**160**	Pn	**Pn**	**09 27 18.9**	**+0.5**
MPAZ				Sn	**S**	**09 27 47.0**	**-1.7**
	209nm,0.5s						
CRAC	**Craco**	**1.39**	**33**	Pn	**Pn**	**09 27 19.7**	**+1.1**
	252nm,0.8s						
CRAC	**Craco**	**1.39**	**33**	Pn	**Pn**	**09 27 19.7**	**+1.1**
	252nm,0.8s						
LTRZ	**Laterza**	**1.75**	**37**	Pn	**Pn**	**09 27 21.0**	**-0.4**
LTRZ				Sn	**S**	**09 27 52.7**	**-1.4**
	799nm,2.4s						
LTRZ	**Laterza**	**1.75**	**37**	Pn	**Pn**	**09 27 21.0**	**-0.4**
LTRZ				Sn	**S**	**09 27 52.7**	**-1.4**
	799nm,2.4s						
AMUR	**Altamura**	**1.92**	**27**	Pn	**Pn**	**09 27 22.9**	**+0.2**
	28nm,0.6s						
AMUR	**Altamura**	**1.92**	**27**	Pn	**Pn**	**09 27 22.9**	**+0.2**
	28nm,0.6s						
NOCI	**Noci**	**2.01**	**38**	Pn	**Pn**	**09 27 23.5**	**-0.1**
	106nm,0.9s						
NOCI	**Noci**	**2.01**	**38**	Pn	**Pn**	**09 27 23.5**	**-0.1**
	106nm,0.9s						
SSY	**Sortino**	**2.07**	**188**	Pn	**Pn**	**09 27 24.5**	**+0.3**
SSY	**Sortino**	**2.07**	**188**	Pn	**Pn**	**09 27 24.5**	**+0.3**
HAVL	**Avola**	**2.26**	**186**	Pn	**Pn**	**09 27 26.5**	**+0.6**
HAVL	**Avola**	**2.26**	**186**	Pn	**Pn**	**09 27 26.5**	**+0.6**
SCTE	**Santa Cesarea**	**2.49**	**69**	Pn	**Pn**	**09 27 28.6**	**+0.6**
SCTE	**Santa Cesarea**	**2.49**	**69**	Pn	**Pn**	**09 27 28.6**	**+0.6**
KEK	**Kerkira**	**3.41**	**80**	*e*P	**Pn**	**09 27 38.9**	**+1.2**
VLS	**Valsamata**	**4.16**	**103**	*e*P	**Pn**	**09 27 47.7**	**+1.5**
PDO	**Prodromos**	**4.52**	**96**	*e*P	**Pn**	**09 27 52.7**	**+2.3**
LAKA	**Lakka**	**5.21**	**99**	*e*P	**Pn**	**09 28 00.9**	**+2.2**
KALE	**Kalithea**	**5.30**	**97**	*e*P	Pn	09 28 03.1	+3.3
PYL	**PYLOS**	**5.49**	**113**	*e*P	**Pn**	**09 28 03.5**	**+1.4**
ITM	**Ithomi**	**5.50**	**110**	*e*P	**Pn**	**09 28 03.3**	**+1.1**
DAVOX	**Davos/Dischmat**	**8.59**	**334**	P	**Pn**	**09 28 41.8**	**+1.0**
	0.5nm,0.3s,baz=151,slow=13,SNR=4.5						
GERES	**GERESS Array B**	**9.71**	**353**	P	**Pn**	**09 28 54.2**	**-0.5**
	0.1nm,0.3s,baz=170,slow=14,SNR=2.6						
MLR	**Muntele Rosu**	**9.99**	**48**	P	**Pn**	**09 29 00.7**	**+2.4**
	0.1nm,0.3s,baz=325,slow=24,SNR=4.1						
BRTR	**Keskin Array B**	**14.07**	**82**	P	P	09 29 53.6	+4.6
	0.1nm,0.3s,baz=284,slow=13,SNR=3.7						
ESDC	**Sonseca Array**	**15.00**	**278**	P	**Pn**	**09 30 04.0**	**+4.3**
	0.4nm,0.3s,baz=74,slow=11,SNR=5.5						
EKA	**Eskdalemuir Ar**	**20.37**	**328**	P	**P**	**09 30 54.4**	**-2.5**
	baz=141,slow=11,SNR=14						
HFS	**Hagfors**	**20.98**	**358**	P	**P**	**09 31 00.8**	**-2.3**
	3.4nm,0.8s,baz=170,slow=11,SNR=6.3						
NOA	**NORSAR Array B**	**22.01**	**355**	P	**P**	**09 31 11.2**	**-1.5**
	0.5nm,0.7s,baz=171,slow=10,SNR=3.3						
FINES	**FINESS Array B**	**23.21**	**13**	P	**P**	**09 31 22.8**	**-0.8**
	1.5nm,0.5s,baz=191,slow=9.5,SNR=12						
ARCES	**ARCESS Array B**	**30.86**	**7**	P	**P**	**09 32 30.3**	**-1.3**
	1.6nm,0.7s,baz=194,slow=9.6,SNR=5.8						
MKAR	**Makanchi Array**	**48.14**	**58**	P	**P**	**09 34 54.7**	**+0.9**
	0.4nm,0.6s,baz=279,slow=6.2,SNR=6.6						
YKA	**Yellowknife Ar**	**71.00**	**338**	P	**P**	**09 37 28.8**	**0.0**
	0.1nm,0.3s,baz=37,slow=5.7,SNR=7.8						

IDC 03 09:30:18.3±1.8, 36°.70S×73°.57W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.6/16, mbtmp3.4/4, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/12, Error ellipse: s-maj=69.3km s-min=18.8km az=66.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.67**	**151**	Pn	Pn	09 31 31.7	+1.5
	0.9nm,0.3s,baz=333,slow=11,SNR=13						
PLCA				Pg	Pb	09 31 44.1	+2.9
	1.5nm,0.3s,baz=328,slow=15,SNR=13						
PLCA				Lg	Lg	09 32 45.8	
	1.4nm,0.3s,baz=356,slow=13,SNR=4.7						
LPAZ	**La Paz**	**20.89**	**15**	P	Pn	09 35 04.5	-1.0
	0.4nm,0.4s,baz=196,slow=7.4,SNR=3.0						
JTS	**JuntasAbangare**	**47.95**	**345**	LR	LR	09 54 30.9	
	comp=Z,42nm,18.0s,baz=193,slow=30						
TXAR	**Lajitas Array**	**71.51**	**332**	P	P	09 41 40.9	-0.1
	0.3nm,0.6s,baz=151,slow=9.4,SNR=5.7						
TORD	**Torodi Ar. Bea**	**86.29**	**71**	P	P	09 43 01.0	-1.3
	0.2nm,0.6s,baz=214,slow=4.0,SNR=2.6						

*ISCJB **03** 09:33:18.7±1.2, 33°.4S±0°.1×72°.4W±0°.4, h12km, mb3.6/2, MS3.3/1, Error ellipse: s-maj=51.8km s-min=15.5km az=176.7*
*IDC **03** 09:33:18.9±1.6, 33°.36S×72°.32W, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.7/21, mbtmp3.7/4, ML3.9/2, MS3.1/2, Ms1 3.1/2, ms1mx2.8/20, Error ellipse: s-maj=60.7km s-min=33.1km az=77.0*

ISC 03 09:33:20.7±1.3, 33°.4S±0°.1×72°.3W±0°.4, h12km, n8, σ0°.82/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.86**	**64**	Lg	Lg	09 35 23.0	
	0.4nm,0.3s,baz=162,slow=20,SNR=2.0						
PLCA	**Paso Flores**	**7.47**	**170**	Pn	**Pn**	**09 35 09.5**	**-0.1**
	0.6nm,0.3s,baz=352,slow=18,SNR=6.8						
PLCA				LR	LR	09 38 09.0	
	comp=Z,59nm,19.5s,baz=269,slow=39						
LPAZ	**La Paz**	**17.43**	**13**	P	**Pn**	**09 37 24.1**	**-0.2**
	0.1nm,0.3s,baz=206,slow=12,SNR=4.7						
SIV	**San Ignacio**	**20.07**	**33**	LR	LR	09 45 54.7	
	comp=Z,123nm,19.4s,baz=152,slow=38						
TXAR	**Lajitas Array**	**69.08**	**331**	P	**P**	**09 44 26.9**	**+0.2**
	0.2nm,0.6s,baz=148,slow=7.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**84.21**	**70**	P	**P**	**09 45 52.6**	**+0.3**
	1.2nm,0.8s,baz=220,slow=4.7,SNR=6.2						
ZALV	**Zalesovo Beam**	**153.81**	**31**	PKPab	**PKPab**	**09 53 31.0**	**-1.2**
	0.3nm,0.3s,baz=349,slow=1.5,SNR=2.5						
MKAR	**Makanchi Array**	**156.51**	**48**	PKPab	**PKPab**	**09 53 44.7**	**+0.7**
	0.2nm,0.6s,baz=298,slow=3.1,SNR=3.1						

*IDC **03** 09:38:30.1±0.9, 25°.95N×128°.29E, h0km, mb3.5/8, mb1 3.7/9, mb1mx3.6/31, mbtmp3.6/9, ML3.6/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/21, Error ellipse: s-maj=34.7km s-min=16.9km az=84.0*
*JMA **03** 09:38:32.0±0.2, 25°.94N×128°.63E, h35km, M3.3*

ISC 03 09:38:33.0±1.1, 26°.00N±0°.07×128°.52E±0°.07, h20km±7km, n27, σ1°.13/38, mb3.5/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.68**	**319**	P	**Pb**	**09 38 46.4**	**+0.2**
JNTH				S	**Sn**	**09 38 57.5**	**0.0**
JJT2	**Tamagusuku 2**	**0.71**	**281**	P	**Pb**	**09 38 47.2**	**+0.6**
JJT2				S	**Sn**	**09 38 58.0**	**-0.1**
JOW	**Kunigami**	**0.86**	**345**	P	**Pb**	**09 38 49.3**	**+0.1**
JOW				S	**Sn**	**09 39 01.4**	**-0.4**
JOW	**Kunigami**	**0.86**	**345**	Pn	**Pb**	**09 38 49.4**	**+0.3**
	11nm,0.3s,baz=100,slow=19,SNR=104						
JOW				Sn	**Sn**	**09 39 01.1**	**-0.7**
	16nm,0.3s,baz=150,slow=20,SNR=27						
JOW				LR	LR	09 39 06.3	
	comp=Z,7.7nm,18.0s,baz=162,slow=41						
JIH	**Iheya**	**1.14**	**334**	P	**Pn**	**09 38 53.9**	**+0.1**
JIH				S	**Sb**	**09 39 08.5**	**+0.1**
JAGN	**Aguni-jima**	**1.29**	**297**	P	**Pn**	**09 38 55.9**	**+0.1**
JAGN				S	**Sb**	**09 39 13.0**	**+0.4**
JOKE	**Okinoerabujima**	**1.35**	**2**	P	**Pn**	**09 38 56.4**	**-0.3**
JOKE				S	**Sn**	**09 39 13.2**	**-0.9**
JKE	**Kume jima 2**	**1.59**	**282**	P	**Pn**	**09 38 59.3**	**-0.7**
JKE				S	**Sn**	**09 39 18.5**	**-1.5**
JTK	**Tokunoshima**	**1.82**	**12**	P	**Pn**	**09 39 02.4**	**-0.7**
JTK				S	**Sn**	**09 39 23.6**	**-1.9**
JAMN	**Amaminishikomi**	**2.31**	**14**	P	**Pn**	**09 39 09.4**	**-0.4**
JMZ	**Minamidaito 2**	**2.44**	**94**	P	Pn	09 39 08.6	-3.0
JMZ				S	Sn	09 39 34.2	-6.6
JAM	**Amami Oshima**	**2.59**	**22**	P	**Pn**	**09 39 12.3**	**-1.3**
JAM				S	**Sn**	**09 39 43.4**	**-1.1**
JOGS	**Gusukube**	**3.08**	**247**	P	**Pn**	**09 39 19.9**	**-0.5**
JOGS				*e*S	**Sn**	**09 39 56.1**	**-0.5**
JTJ	**Tarama**	**3.71**	**249**	P	**Pn**	**09 39 27.8**	**-1.4**
JTJ				*e*S	**Sn**	**09 40 09.7**	**-2.6**
JNN	**Nakanoshima**	**4.01**	**17**	P	**Pn**	**09 39 33.7**	**+0.5**
JISG	**Ishigakijimahi**	**4.07**	**251**	P	**Pn**	**09 39 32.3**	**-1.7**
JISG				*e*S	**Sn**	**09 40 20.2**	**-0.8**
JNU	**Nakatsue**	**7.38**	**16**	Pn	**Pn**	**09 40 20.5**	**+0.8**
	0.8nm,0.3s,baz=190,slow=6.1,SNR=11						
JNU				Sn	**Sn**	**09 41 39.9**	**-3.0**
	0.1nm,0.3s,baz=210,slow=8.1,SNR=3.0						
SONM	**Songino Array**	**27.89**	**327**	P	**P**	**09 44 22.4**	**+0.8**
	0.4nm,0.4s,baz=144,slow=10,SNR=7.5						
MKAR	**Makanchi Array**	**41.88**	**312**	P	**P**	**09 46 20.9**	**-0.9**
	0.2nm,0.5s,baz=95,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**46.02**	**172**	P	**P**	**09 46 54.2**	**-1.0**
	0.2nm,0.3s,baz=354,slow=9.1,SNR=4.8						
ASAR	**Alice Springs**	**49.65**	**174**	P	**P**	**09 47 24.0**	**+0.6**
	0.1nm,0.4s,baz=356,slow=12,SNR=3.0						
DZM	**Mont Dzumac**	**60.29**	**139**	LR	LR	10 12 04.9	
	comp=Z,91nm,18.9s,baz=86,slow=33						
ILAR	**Eielson Array**	**64.51**	**28**	P	**P**	**09 49 10.2**	**+2.2**
	0.3nm,0.8s,baz=249,slow=4.6,SNR=3.7						
FINES	**FINESS Array B**	**73.19**	**331**	P	**P**	**09 50 01.6**	**-0.5**
	0.8nm,0.5s,baz=37,slow=12,SNR=3.0						
AKASG	**Malin Array Be**	**75.87**	**320**	P	**P**	**09 50 17.7**	**-0.1**
	0.6nm,0.4s,baz=58,slow=6.3,SNR=2.5						
BRTR	**Keskin Array B**	**77.38**	**308**	LR	LR	10 27 33.9	
	comp=Z,13nm,19.5s,baz=276,slow=38						
YKA	**Yellowknife Ar**	**78.62**	**25**	P	**P**	**09 50 33.7**	**+0.7**
	0.1nm,0.6s,baz=299,slow=5.3,SNR=4.3						

*IDC **03** 10:01:39.5±1.7, 23°.58S×175°.91W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.1/28, mbtmp4.0/8, Error ellipse: s-maj=82.8km s-min=22.5km az=153.0*

**ISC 03 10:01:45.5±1.8, 23°.1S±0°.6×176

QSPA South Pole Qui 52.99 180 P P 10 19 43.3 +1.5
3.9nm,0.8s,baz=326,slow=2.8,SNR=22
QSPA pP pP 10 19 54.6 -6.7
2.4nm,0.8s,baz=326,slow=1.5,SNR=2.7
QSPA South Pole Qui 52.99 180 *eP* **P 10 19 42.9 +1.1**
2.9nm,0.8s
QSPA pP pP 10 19 54.6 -6.7
SDDR Presa de Saban 55.94 2 *eP* **P 10 20 04.3 +0.8**
JCT Junction City 72.03 335 *eP* **P 10 21 49.5 +0.7**
5.0nm,1.0s
TXAR Lajitas Array 72.36 332 P **P 10 21 51.7 +0.8**
0.4nm,0.5s,baz=154,slow=8.7,SNR=13
TXAR pP **PcP 10 22 03.5 -4.9**
1.5nm,0.7s,baz=152,slow=9.1,SNR=13
TXAR LR LR 10 48 43.6
comp=Z,37nm,18.3s,baz=0.0,slow=32
BBTS Babate 73.77 57 LR LR 10 53 05.7
comp=Z,60nm,19.7s,baz=117,slow=35
DBIC Dimbokro 76.67 71 P **P 10 22 17.0 +0.9**
5.8nm,0.5s,baz=197,slow=5.1,SNR=11
DBIC pP **PcP 10 22 29.9 +2.7**
8.0nm,0.7s,baz=210,slow=5.9,SNR=5.4
ANMO Albuquerque 78.42 332 *eP* **P 10 22 26.2 +0.6**
42nm,2.5s
BOSA Boshof 78.98 117 P **P 10 22 29.6 +0.6**
5.6nm,1.0s,baz=268,slow=6.6,SNR=4.6
PFO Pinyon Flats O 81.48 324 LR LR 10 49 46.1
comp=Z,50nm,21.7s,baz=293,slow=29
TORD Torodi Ar. Bea 85.75 70 P **P 10 23 04.8 +0.6**
2.3nm,0.9s,baz=245,slow=3.7,SNR=9.4
NVAR Mina Array Bea 86.30 326 P **P 10 23 07.7 +1.1**
0.4nm,0.7s,baz=133,slow=5.3,SNR=3.9
NVAR pP pP 10 23 20.2 -7.4
0.9nm,0.7s,baz=148,slow=6.6,SNR=6.7
PDAR Pinedale Array 86.46 334 P **P 10 23 08.0 +0.7**
1.1nm,1.1s,baz=128,slow=7.0,SNR=3.5
PDAR pP pP 10 23 20.6 -7.7
0.9nm,1.0s,baz=148,slow=5.5,SNR=4.2
ULM Lac du Bonnet 89.51 345 P **P 10 23 21.3 0.0**
1.4nm,0.8s,baz=179,slow=12,SNR=4.3
WRA Warramunga Arr 117.70 209 PKP **PKPdf 10 29 10.6 -0.4**
0.3nm,0.6s,baz=157,slow=1.6,SNR=6.3
BRTR Keskin Array B 123.76 63 PKP **PKPdf 10 29 21.9 -0.1**
0.8nm,0.7s,baz=222,slow=1.7,SNR=3.7
TIXI Tiksi 143.79 349 *e*PKPdf PKPbc 10 29 55.0 -1.1
ABKAR Akbulak array 143.98 55 *e*PKPdf **PKPdf 10 29 57.1 -2.1**
AAK Ala-Archa 154.31 65 *e*PKPab **PKPab 10 30 39.8 +0.9**
ZALV Zalesovo Beam 157.17 36 PKP **PKPdf 10 30 19.8 +0.4**
0.5nm,0.5s,baz=289,slow=4.5,SNR=3.9
ZALV PKPab **PKPab 10 30 50.6 +0.1**
1.2nm,0.6s,baz=323,slow=4.7,SNR=4.5
MKAR Makanchi Array 159.13 55 PKP **PKPdf 10 30 22.3 +0.3**
0.8nm,0.8s,baz=294,slow=1.2,SNR=5.1
MKAR PKPab **PKPab 10 30 59.9 +0.6**
2.2nm,0.8s,baz=283,slow=3.8,SNR=12

*IDC **03** 10:25:26.4±1.0,25°.96N×128°.46E,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.5/31,mbtmp3.5/7,ML3.4/1,Error ellipse: s-maj=44.2km s-min=16.7km az=79.0*
*ISCJB **03** 10:25:28.4±1.0,25°.96N±0°.04×128°.61E±0°.04,h30km±6km, mb3.4/6,Error ellipse: s-maj=7.1km s-min=5.5km az=44.6*
*JMA **03** 10:25:28.8±0.3,25°.96N×128°.60E,h35km,M3.2*
ISC 03 10:25:27.8±1.6,25°.95N±0°.05×128°.63E±0°.04,h16km±9km, n20,σ1§37/33,mb3.4/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.79**	**316**	P	**Pg**	**10 25 42.8**	**-0.3**
JNTH				S	**Sg**	**10 25 53.4**	**-0.2**
JJT2	**Tamagusuku 2**	**0.81**	**284**	P	**Pg**	**10 25 43.7**	**+0.1**
JJT2				S	**Sb**	**10 25 54.7**	**+0.3**
JOW	**Kunigami**	**0.94**	**340**	P	**Pb**	**10 25 45.8**	**+0.1**
JOW				S	**Sb**	**10 25 57.4**	**-0.5**
JOW	**Kunigami**	**0.94**	**340**	Pn	**Pb**	**10 25 45.8**	**+0.1**
11nm,0.3s,baz=154,slow=24,SNR=108							
JOW				Sn	**Sb**	**10 25 57.6**	**-0.3**
10nm,0.3s,baz=115,slow=19,SNR=27							
JIH	**Iheya**	**1.23**	**331**	P	**Pn**	**10 25 50.4**	**0.0**
JIH				S	**Sb**	**10 26 04.8**	**-1.7**
JAGN	**Aguni-jima**	**1.40**	**297**	P	**Pn**	**10 25 52.2**	**-0.5**
JAGN				S	**Sn**	**10 26 09.6**	**-1.3**
JOKE	**Okinoerabujima**	**1.41**	**358**	P	**Pn**	**10 25 52.8**	**0.0**
JOKE				S	**Sn**	**10 26 10.2**	**-0.9**
JKE	**Kume jima 2**	**1.70**	**283**	P	**Pn**	**10 25 55.6**	**-1.2**
JKE				S	**Sn**	**10 26 15.3**	**-3.0**
JTK	**Tokunoshima**	**1.85**	**9**	P	**Pn**	**10 25 59.0**	**+0.1**
JTK				S	**Sn**	**10 26 20.1**	**-2.0**
JAMN	**Amaminishikomi**	**2.34**	**12**	P	**Pn**	**10 26 05.8**	**+0.2**
JMZ	**Minamidaito 2**	**2.34**	**93**	P	**Pn**	**10 26 04.6**	**-1.0**
JMZ				S	**Sn**	**10 26 30.3**	**-3.7**
JAM	**Amami Oshima**	**2.60**	**19**	P	**Pn**	**10 26 09.2**	**0.0**
JAM				S	**Sn**	**10 26 39.7**	**-0.9**
JOGS	**Gusukube**	**3.15**	**249**	P	**Pn**	**10 26 17.1**	**+0.4**
JOGS				*e*S	**Sn**	**10 26 52.9**	**-1.1**
JNU	**Nakatsue**	**7.41**	**15**	Pn	**Pn**	**10 27 16.9**	**+1.5**
0.6nm,0.3s,baz=176,slow=20,SNR=6.2							
JNU				Sn	**Sn**	**10 28 36.5**	**-2.7**
baz=131,slow=20,SNR=3.3							
SONM	**Songino Array**	**27.98**	**327**	P	**P**	**10 31 19.1**	**+1.2**
0.5nm,0.4s,baz=145,slow=12,SNR=8.0							
MKAR	**Makanchi Array**	**41.99**	**312**	P	**P**	**10 33 17.6**	**-0.6**
0.4nm,0.7s,baz=87,slow=11,SNR=5.7							
WRA	**Warramunga Arr**	**45.95**	**173**	P	**P**	**10 33 50.9**	**+0.7**
0.4nm,0.7s,baz=353,slow=8.3,SNR=6.8							
ASAR	**Alice Springs**	**49.59**	**174**	P	**P**	**10 34 20.1**	**+1.7**
0.1nm,0.3s,baz=12,slow=7.7,SNR=3.9							
BRTR	**Keskin Array B**	**77.49**	**308**	P	**P**	**10 37 23.7**	**+0.7**
1.6nm,1.0s,baz=123,slow=9.0,SNR=3.8							
YKA	**Yellowknife Ar**	**78.63**	**25**	P	**P**	**10 37 30.1**	**+1.5**
0.2nm,0.8s,baz=298,slow=5.6,SNR=4.2							

*IDC **03** 10:36:21.6±1.0,25°.71N×128°.52E,h0km,mb3.8/8, mb1 3.9/10,mb1mx3.7/57,mbtmp3.8/10,ML2.9/2,MS3.4/1, Ms1 3.5/1,ms1mx2.4/36,Error ellipse: s-maj=38.8km s-min=16.8km az=79.0*
*JMA **03** 10:36:24.8±0.3,25°.77N×128°.53E,h43km,M3.3*
ISC 03 10:36:21.7±1.8,25°.70N±0°.05×128°.52E±0°.04,h6km±11km, n29,σ2§04/45,mb3.8/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.82**	**303**	P	**Pn**	**10 36 39.7**	**-0.1**
JJT2				S	**Sn**	**10 36 51.2**	**-1.0**
JNTH	**Nagotoyohara**	**0.93**	**332**	P	**Pb**	**10 36 40.6**	**+0.3**
JNTH				S	**Sg**	**10 36 51.7**	**-0.1**
JOW	**Kunigami**	**1.15**	**349**	P	**Pg**	**10 36 44.1**	**+0.3**
JOW				S	**Sg**	**10 36 57.3**	**-1.5**
JOW	**Kunigami**	**1.15**	**349**	Pn	**Pn**	**10 36 44.3**	**0.0**
14nm,0.3s,baz=114,slow=25,SNR=338							
JOW				Sn	**Sg**	**10 36 57.6**	**-1.2**
15nm,0.3s,baz=126,slow=19,SNR=38							
JOW				LR	LR	10 37 21.6	
comp=Z,16nm,20.0s,baz=76,slow=52							
JIH	**Iheya**	**1.42**	**340**	P	**Pb**	**10 36 48.4**	**-0.2**
JIH				*e*S	**Sb**	**10 37 05.2**	**-1.8**
JAGN	**Aguni-jima**	**1.45**	**308**	P	**Pn**	**10 36 48.7**	**+0.3**
JAGN				*e*S	**Sn**	**10 37 06.3**	**-1.5**
JOKE	**Okinoerabujima**	**1.66**	**2**	P	**Pn**	**10 36 51.3**	**0.0**
JOKE				*e*S	**Sn**	**10 37 10.6**	**-2.4**
JKE	**Kume jima 2**	**1.68**	**292**	P	**Pn**	**10 36 51.4**	**-0.2**
JKE				S	**Sn**	**10 37 09.6**	**-3.8**
JTK	**Tokunoshima**	**2.12**	**10**	P	**Pn**	**10 36 57.7**	**+0.1**
JTK				S	**Sn**	**10 37 20.7**	**-3.5**
JMZ	**Minamidaito 2**	**2.44**	**87**	P	**Pn**	**10 37 00.9**	**-1.1**
JMZ				S	**Sn**	**10 37 28.3**	**-3.8**
JAMN	**Amaminishikomi**	**2.60**	**13**	P	**Pn**	**10 37 03.9**	**-0.4**
JAMN				S	**Sn**	**10 37 33.9**	**-2.3**
JAM	**Amami Oshima**	**2.87**	**19**	P	**Pn**	**10 37 08.6**	**+0.6**
JAM				S	**Sn**	**10 37 39.5**	**-3.4**
JOGS	**Gusukube**	**2.97**	**252**	P	**Pn**	**10 37 09.5**	**+0.2**
JOGS				*e*S	**Sn**	**10 37 43.1**	**-2.1**
JIKM	**Ikemajima**	**3.06**	**256**	P	**Pn**	**10 37 10.6**	**+0.1**
JIKM				*e*S	**Sn**	**10 37 44.3**	**-3.1**
JTJ	**Tarama**	**3.62**	**254**	P	**Pn**	**10 37 17.5**	**-0.7**
JTJ				S	**Sn**	**10 37 55.9**	**-5.3**
JISG	**Ishigakijimahi**	**3.97**	**255**	P	**Pn**	**10 37 21.3**	**-1.8**
JISG				S	**Sn**	**10 38 04.6**	**-5.3**
JIJ	**Ishigaki jima**	**4.18**	**252**	P	**Pn**	**10 37 24.9**	**-1.1**
JIJ				*e*S	Sn	10 38 08.5	-6.8
IRIF	**Iriomote-Funau**	**4.55**	**254**	P	**Pn**	**10 37 30.6**	**-0.5**
JNU	**Nakatsue**	**7.68**	**15**	Pn	**Pn**	**10 38 15.3**	**+1.2**
0.4nm,0.3s,baz=231,slow=6.6,SNR=9.1							
JNU				Sn	**Sn**	**10 39 38.8**	**-2.7**
0.1nm,0.3s,baz=22,slow=19,SNR=2.4							
USRK Ussuriysk Ar.		**18.68**	**8**	P	**Pn**	**10 40 41.0**	**+0.3**
0.1nm,0.3s,baz=177,slow=14,SNR=4.1							
SONM Songino Array		**28.14**	**327**	P	**P**	**10 42 16.6**	**+2.0**
0.6nm,0.4s,baz=144,slow=10,SNR=8.1							
MKAR Makanchi Array		**42.09**	**312**	P	**P**	**10 44 14.5**	**+0.1**
0.5nm,0.6s,baz=99,slow=10,SNR=8.6							
WRA Warramunga Arr		**45.72**	**172**	P	**P**	**10 44 43.9**	**+0.2**
0.9nm,0.8s,baz=352,slow=8.2,SNR=6.2							
ASAR Alice Springs		**49.35**	**173**	P	**P**	**10 45 13.4**	**+1.5**
0.2nm,0.4s,baz=6.3,slow=9.7,SNR=6.8							
BVAR Borovoye Array		**50.85**	**319**	P	**P**	**10 45 23.6**	**+0.6**
0.7nm,0.5s,baz=75,slow=6.3,SNR=3.8							
KBZ Khabaz		**69.70**	**310**	P	**P**	**10 47 33.8**	**+1.5**
2.7nm,0.8s,baz=151,slow=4.0,SNR=5.6							
ARCES ARCESS Array B		**70.60**	**339**	LR	LR	11 23 48.6	
comp=Z,27nm,19.4s,baz=62,slow=40							
FINES FINESS Array B		**73.45**	**331**	P	**P**	**10 47 55.1**	**+0.5**
2.9nm,1.0s,baz=71,slow=6.7,SNR=3.3							
YKA Yellowknife Ar		**78.90**	**25**	P	**P**	**10 48 26.5**	**+0.9**
0.0nm,0.4s,baz=298,slow=5.7,SNR=4.1							

*IDC **03** 10:37:37.4±0.7,35°.18S×73°.98W,h0km,mb4.2/9, mb1 4.3/13,mb1mx4.1/34,mbtmp4.1/13,ML4.2/4,MS3.0/3, Ms1 3.0/3,ms1mx2.9/17,Error ellipse: s-maj=24.2km s-min=16.8km az=96.0*
*ISCJB **03** 10:37:40.8±0.6,35°.17S±0°.06×73°.89W±0°.09,h33km, mb4.2/10,Error ellipse: s-maj=11.0km s-min=8.9km az=25.7*
*NEIC **03** 10:37:42.6±0.4,35°.18S×73°.96W,h35km,mb4.4/3,Error ellipse: s-maj=11.4km s-min=8.3km az=80.0*
ISC 03 10:37:42.6±0.6,35°.16S±0°.08×73°.97W±0°.10,h35km,n30, σ0§79/34,mb4.4/10,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.96**	**55**	Pn	**Pn**	**10 39 07.7**	**-0.7**
0.8nm,0.3s,baz=230,slow=12,SNR=17							
CFAA				Sn	**Sn**	**10 40 15.7**	**+0.2**
0.4nm,0.3s,baz=312,slow=22,SNR=9.5							
CFAA				LR	LR	10 41 35.2	
comp=Z,26nm,19.9s,baz=216,slow=40							
PLCA Paso Flores		**6.18**	**155**	Pn	**Pn**	**10 39 11.2**	**-0.2**
3.9nm,0.3s,baz=317,slow=10,SNR=20							
PLCA				LR	LR	10 41 47.4	
comp=Z,256nm,18.7s,baz=320,slow=40							
PLCA Paso Flores		**6.18**	**155**	*e*Pn	**Pn**	**10 39 11.6**	**+0.2**
TRQA Tornquist		**10.06**	**110**	Pn	**Pn**	**10 40 05.2**	**+0.5**
18nm,1.0s							
CPUP Villa Florida		**16.78**	**63**	Pn	**Pn**	**10 41 35.4**	**+0.5**
0.4nm,0.3s,baz=232,slow=13,SNR=3.3							
CPUP				LR	LR	10 48 32.5	
comp=Z,96nm,19.7s,baz=222,slow=39							
LPAZ La Paz		**19.51**	**17**	P	**P**	**10 42 07.8**	**+0.3**
0.1nm,0.3s,baz=194,slow=7.8,SNR=9.0							
LPAZ La Paz		**19.51**	**17**	*e*P	**Pn**	**10 42 08.5**	**-0.4**
3.3nm,0.8s							
USHA Ushuaia		**20.04**	**171**	P	**P**	**10 42 09.7**	**-2.7**
5.9nm,0.8s,baz=322,slow=6.5,SNR=1.7							
EFI East Falkland		**20.07**	**150**	*e*P	**P**	**10 42 13.8**	**+1.0**
39nm,0.8s							
SIV San Ignacio		**22.31**	**34**	P	**P**	**10 42 36.6**	**-0.6**
6.9nm,1.2s,baz=230,slow=12,SNR=7.4							
BDFB Brasilia		**30.30**	**57**	P	**P**	**10 43 49.6**	**-1.3**
4.4nm,0.7s,baz=236,slow=6.2,SNR=5.8							
QSPA South Pole Qui		**55.08**	**180**	P	**P**	**10 47 11.0**	**+0.2**
3.3nm,0.8s,baz=263,slow=1.0,SNR=18							
JCT Junction City		**69.68**	**336**	*e*P	**P**	**10 48 47.7**	**-0.9**
1.9nm,0.4s							
TXAR Lajitas Array		**70.00**	**333**	P	**P**	**10 48 50.5**	**-0.2**
1.0nm,0.7s,baz=154,slow=8.3,SNR=15							
SDCO Great Sand Dun		**78.22**	**335**	*e*P	**P**	**10 49 40.4**	**+1.6**
17nm,2.0s							
BOSA Boshof		**80.93**	**118**	P	**P**	**10 49 54.0**	**+0.2**
5.6nm,0.8s,baz=240,slow=5.3,SNR=7.4							
NVAR Mina Array Bea		**83.95**	**326**	P	**P**	**10 50 09.7**	**+0.5**
0.2nm,0.7s,baz=156,slow=7.8,SNR=4.2							
TORD Torodi Ar. Bea		**86.10**	**71**	P	**P**	**10 50 20.4**	**+0.3**
1.9nm,1.0s,baz=230,slow=3.5,SNR=8.0							
ULM Lac du Bonnet		**87.22**	**346**	P	**P**	**10 50 24.6**	**-0.3**
2.6nm,0.9s,baz=345,slow=4.6,SNR=4.1							
BRTR Keskin Array B		**123.78**	**62**	PKP	**PKPdf**	**10 56 37.0**	**+0.3**
0.5nm,0.7s,baz=172,slow=2.9,SNR=2.4							
RAYN Ar Rayn		**126.69**	**85**	*e*PKPdf	**PKPdf**	**10 56 42.3**	**-0.4**
AKTO Aktyubinsk		**142.30**	**51**	PKP	**PKPdf**	**10 57 11.3**	**+0.4**
1.0nm,0.6s,baz=223,slow=2.5,SNR=3.5							
ABKAR Akbulak array		**143.65**	**53**	*e*PKPdf	PKPbc	10 57 10.8	-0.1
BRVK Borovoye		**149.14**	**43**	*e*PKPbc	**PKPbc**	**10 57 27.7**	**+1.1**
BVAR Borovoye Array		**149.22**	**43**	PKPbc	**PKPbc**	**10 57 27.6**	**+0.8**
1.6nm,0.7s,baz=318,slow=2.0,SNR=9.5							
YAK Yakutsk		**149.25**	**338**	*e*PKPbc	**PKPbc**	**10 57 26.5**	**-0.1**
YAK				*e*PKPab	**PKPab**	**10 57 31.1**	**-0.2**
KKAR Karatay Array		**151.49**	**63**	*e*PKPbc	**PKPbc**	**10 57 32.9**	**+0.2**
KKAR				*e*PKPab	**PKPab**	**10 57 40.4**	**-0.8**
ZALV Zalesovo Beam		**156.05**	**32**	PKP	**PKPdf**	**10 57 33.0**	**+0.4**
0.5nm,0.6s,baz=299,slow=4.6,SNR=4.5							
ZALV				PKPab	**PKPab**	**10 58 01.0**	**+0.9**
0.5nm,0.5s,baz=295,slow=4.6,SNR=4.4							
MKAR Makanchi Array		**158.73**	**50**	PKP	**PKPdf**	**10 57 36.4**	**+0.2**
0.7nm,0.9s,baz=242,slow=2.6,SNR=5.2							
MKAR				PKPab	**PKPab**	**10 58 12.3**	**+0.4**
1.0nm,0.6s,baz=293,slow=4.3,SNR=11							
SONM Songino Array		**167.34**	**359**	PKPab	**PKPab**	**10 58 49.9**	**+0.3**
0.3nm,0.5s,baz=318,slow=2.0,SNR=3.6							

*IDC **03** 10:44:55.8±1.8,15°.18S×173°.67W,h0km,mb4.0/7, mb1 4.4/7,mb1mx4.0/31,mbtmp4.0/7,MS3.5/4,Ms1 3.5/4, ms1mx3.1/29,Error ellipse: s-maj=103.7km s-min=21.8km az=151.0*
*ISCJB **03** 10:44:58.8±1.0,15°.2S±0°.4×173°.7W±0°.2,h30km,mb4.3/12, MS3.4/4,Error ellipse: s-maj=61.0km s-min=10.7km az=149.7*
*NEIC **03** 10:45:01.2±0.8,15°.24S×173°.60W,h35km,mb4.6/5,Error ellipse: s-maj=47.3km s-min=8.7km az=150.0*
ISC 03 10:45:00.4±1.5,15°.2S±0°.5×173°.6W±0°.3,h30km,n28, σ0§77/18,mb4.2/12,MS3.3/4,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.18**	**53**	*e*Pn	Pn	10 45 25.8	-8.9
MSVF	**Nonsavu**	**8.41**	**252**	*e*Pn	**Pn**	**10 47 00.8**	**+0.5**
27nm,1.2s							
DZM	**Mont Dzumac**	**20.11**	**247**	LR	LR	10 56 15.7	
comp=Z,146nm,18.3s,baz=36,slow=34							
DZM	**Mont Dzumac**	**20.11**	**247**	*e*P	**P**	**10 49 32.8**	**+0.8**
26nm,1.4s							
PPT	**Papeete**	**23.13**	**99**	LR	LR	10 56 45.9	
comp=Z,76nm,20.6s,baz=268,slow=31							
HNR	**Honiara**	**26.49**	**279**	LR	LR	10 59 16.4	
comp=Z,62nm,18.9s,baz=92,slow=33							
H11S2 WAKE ISLAND Hy		**38.74**	**329**	T	T	11 33 14.8	
baz=149,slow=76,SNR=104							
H11S3 WAKE ISLAND Hy		**38.75**	**329**	T	T	11 33 13.6	
baz=149,slow=76,SNR=88							
H11S1 WAKE ISLAND Hy		**38.76**	**329**	T	T	11 33 14.8	
baz=149,slow=76,SNR=96							
H11N3 WAKE ISLAND Hy		**39.69**	**330**	T	T	11 34 28.0	
baz=150,slow=76,SNR=37							
H11N1 WAKE ISLAND Hy		**39.69**	**330**	T	T	11 34 24.7	
baz=150,slow=76,SNR=59							
H11N2 WAKE ISLAND Hy		**39.70**	**330**	T	T	11 34 28.3	
baz=150,slow=76,SNR=48							
WRA Warramunga Arr		**49.72**	**257**	P	**P**	**10 53 48.7**	**-1.6**
0.7nm,0.8s,baz=91,slow=7.3,SNR=6.8							
AS31 Alice Springs		**50.00**	**252**	*e*P	**P**	**10 53 51.9**	**-0.5**
ASAR Alice Springs		**50.00**	**252**	P	**P**	**10 53 51.6**	**-0.8**
5.7nm,0.8s,baz=85,slow=8.4,SNR=60							
ASAR				LR	LR	11 13 27.8	
comp=Z,101nm,19.2s,baz=54,slow=34							
NVAR Mina Array Bea		**74.32**	**42**	P	**P**	**10 56 35.4**	**-0.1**
0.6nm,0.8s,baz=235,slow=6.3,SNR=3.6							
TCUT Toone Canyon		**80.24**	**43**	*e*P	**P**	**10 57 09.7**	**+1.1**
8.3nm,0.9s							
TXAR Lajitas Array		**80.66**	**56**	P	**P**	**10 57 11.9**	**+1.0**
1.1nm,1.1s,baz=230,slow=5.9,SNR=7.4							
TNA Tin City		**80.67**	**2**	*e*P	**P**	**10 57 10.8**	**+0.8**
9.4nm,1.4s							
COLA College		**82.23**	**11**	*e*P	**P**	**10 57 18.3**	**0.0**
12nm,0.9s							
PDAR Pinedale Array		**82.25**	**42**	P	**P**	**10 57 19.2**	**0.0**
1.2nm,0.8s,baz=222,slow=2.8,SNR=10							
ILAR Eielson Array		**82.32**	**11**	P	**P**	**10 57 18.4**	**-0.3**
1.5nm,0.9s,baz=232,slow=7.1,SNR=10							
HRY Holter Researc		**82.82**	**38**	*e*P	**P**	**10 57 21.7**	**-0.3**
2.0nm,0.7s							
ABTX Abilene, Hawle		**85.10**	**54**	*e*P	**P**	**10 57 33.4**	**-0.5**
17nm,1.1s							
YKA Yellowknife Ar		**90.01**	**23**	P	**P**	**10 57 55.7**	**-1.0**
1.1nm,0.9s,baz=241,slow=4.9,SNR=16							
KHC Kasperske Hory		**145.69**	**352**	*e*PKPdf	**PKPab**	**11 04 37.2**	**+0.5**
BRTR Keskin Array B		**145.93**	**321**	PKPbc	**PKPab**	**11 04 38.4**	**+0.4**
1.2nm,0.6s,baz=111,slow=3.1,SNR=5.8							
GERES GERESS Array B		**145.96**	**351**	PKPbc	**PKPab**	**11 04 37.6**	**-0.1**
1.2nm,0.7s,baz=2.5,slow=6.0,SNR=7.5							

GUC 03 10:55:02.2±0.4,34°.23S×72°.41W,h39km±2km,ML3.9, 1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.87**	**72**	⇓*i*P	Pn	10 55 17.6	-0.4
LNV				*i* S	Sn	10 55 29.4	0.0
IHA	**Instituto Hidr**	**1.36**	**28**	⇓*i*P	Pn	10 55 25.3	+0.6
IHA				*i* S	Sn	10 55 42.7	+1.2
CHCH	**Chadas Angostu**	**1.49**	**79**	*i* P	Pn	10 55 27.0	+0.5
CHCH				*i* S	Sn	10 55 46.2	+1.4
CACH	**El Canelo**	**1.50**	**86**	⇑*i*P	Pn	10 55 27.8	+1.0
CACH				*i* S	Sn	10 55 47.7	+2.4
ANTU	**Antumapu**	**1.62**	**66**	*i* P	Pn	10 55 29.2	+0.9
ANTU				*i* S	Sn	10 55 49.2	+1.3
ANTU				IAML		10 55 57.8	
comp=E,2μm,0.6s							
PEL	**Peldehue**	**1.80**	**53**	*e*P	Pn	10 55 31.6	+0.8
PEL				*i* S	Sn	10 55 53.6	+1.1
PEL				IAML		10 56 07.2	
comp=N,2μm,0.5s							

MEX 03 10:55:51.6±0.3,16°.81N×95°.64W,h88km±5km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.78**	**69**	*e*P	Pn	10 56 07.4	-1.3
CMIG				*i* S	Sn	10 56 19.9	-1.6
VHO	**Vista Hermosa**	**1.07**	**284**	*e*P	Pn	10 56 05.1	-7.3
VHO				*i* S	Sn	10 56 19.9	-8.0
HUIG	**Huatulco**	**1.13**	**203**	*e*P	Pn	10 56 11.3	-1.4
HUIG				*e*S	Sn	10 56 26.8	-1.7
TPIG	**Tehuac#an**	**2.29**	**315**	*e*P	Pn	10 56 26.6	-1.3
TPIG				*i* S	Sn	10 56 53.9	-1.7
TLIG	**Tlapa**	**2.89**	**285**	*e*P	Pn	10 56 35.3	-0.6
TLIG				*i* S	Sn	10 57 08.3	-1.6

*NIED **03** 10:56:00,34°.60N×142°.10E,h11km,Mw3.7 Best double couple: Mo3.51000×10^14 NP1:φ§251.00000°,δ60.00000°, λ153.00000°. NP2:φ§355.00000°,δ67.00000°,λ33.00000°.*
*JMA **03** 10:56:22.3±0.3,34°.61N×142°.06E,h44km,M3.5*
ISC 03 10:56:23.1±3.5,34°.60N±0°.08×142°.0E±0°.2,h67km±22km, n13,σ1§11/21,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.86**	**274**	P	**Pn**	**10 56 38.5**	**-0.6**
BSO1				S	**Sn**	**10 56 51.0**	**-0.1**
BSO2	**Boso 2**	**1.05**	**279**	S	**Sn**	**10 56 56.3**	**+0.5**
BSO3	**Boso 3**	**1.26**	**280**	P	**Pn**	**10 56 44.9**	**+0.4**
BSO4	**Boso 4**	**1.44**	**286**	P	**Pn**	**10 56 47.5**	**+0.5**
BSO4				S	**Sn**	**10 57 06.3**	**+1.3**
CHOJ	**Chosi**	**1.46**	**320**	P	**Pn**	**10 56 47.1**	**-0.3**
CHOJ				*e*S	**Sn**	**10 57 05.9**	**+0.3**
KTR	**Katsuura**	**1.50**	**292**	S	**Sn**	**10 57 06.4**	**-0.3**
JCN	**Nagara**	**1.70**	**299**	P	**Pn**	**10 56 51.5**	**+0.9**
JIM2	**Oshima 3**	**2.13**	**274**	P	**Pn**	**10 56 56.2**	**-0.3**
JIM2				*e*S	**Sn**	**10 57 20.6**	**-1.4**
JHJ2	**Mitsune**	**2.35**	**232**	*e*S	**Sn**	**10 57 28.1**	**+0.8**
JOD2	**Odawara 2**	**2.50**	**286**	P	**Pn**	**10 57 01.4**	**0.0**
JOD2				S	**Sn**	**10 57 29.9**	**-0.9**
JIZS	**Izushimoda**	**2.59**	**274**	P	**Pn**	**10 57 02.7**	**0.0**
JIZS				*e*S	**Sn**	**10 57 31.3**	**-1.7**
JAG	**Ashikaga**	**2.77**	**312**	P	**Pn**	**10 57 03.2**	**-2.0**
JAG				S	**Sn**	**10 57 37.0**	**-0.6**
MAT	**Matsushiro**	**3.66**	**303**	P	**Pn**	**10 57 18.4**	**+1.1**
MAT				S	**Sn**	**10 58 01.6**	**+2.3**

*IDC **03** 10:58:20.1±0.9,3°.37N×126°.86E,h0km,mb4.0/8, mb1 4.2/8,mb1mx3.8/35,mbtmp4.0/8,Error ellipse: s-maj=53.9km s-min=15.6km az=68.0*
*ISCJB **03** 10:58:24.6±0.8,3°.4N±0°.1×126

CONE	**Cono NE Rev Vo**	**1.29 38**	⇑P	Pn	11 11 28.0	+0.3
OTAV	**Otavalo**	**1.32 360**	⇑P	Pg	11 11 27.7	-0.3
PECV	**Mancha de Ca P**	**1.64 281**	P	Pg	11 11 37.2	+3.7
LITE	**Lita**	**1.89 2**	⇓P	Pn	11 11 36.5	+0.8

*BJI **03** 11:11:39.8, 44°.96N×94°.89E, h5km, ML3.7/7*
*NNC **03** 11:11:47.7±12.0, 43°.76N×93°.34E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=131.7km s-min=91.6km az=44.0*
ISC 03 11:11:43.8±4.3, 43°.2N±0°.4×93°.4E±0°.2, h10km, n6, σ1§66/4, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**4.16**	**280**	Pn	**Pb**	**11 12 58.0**	**+0.8**
WMQ				Sn	**Sg**	**11 13 56.7**	**-0.8**
WMQ				SMN			
	63nm,0.7s						
WMQ				SME			
	110nm,0.6s						
GTA	**Gaotai**	**6.18**	**126**	*e*Pn	Pn	11 13 14.6	-0.6
MK31	**Makanchi Array**	**8.61**	**298**	Pn	**Pn**	**11 13 47.6**	**-0.8**
	0.2nm,0.5s,baz=104,slow=14,SNR=8.1						
MK31				⇑Sn	**Sn**	**11 15 26.6**	**+0.9**
	1.3nm,0.5s,baz=113,slow=20						
MK31				⇓Lg	Lg	11 16 17.1	
	11nm,0.9s,baz=79,slow=33,SNR=4.5						
PDGK	**Podgornoye**	**10.12**	**275**	⇑Pn	Pn	11 14 16.5	+7.3
PDGK				⇓Lg	Lg	11 17 06.0	
KURK	**Kurchatov**	**12.53**	**312**	⇓Lg	Lg	11 18 11.4	
	10nm,1.3s						
HHC	**Hu-ho-hao-te**	**13.74**	**94**	*e*P	Pn	11 14 48.2	-11

*IDC **03** 11:13:50.2±0.4, 3°.08N×126°.83E, h0km, mb4.8/23, mb1 4.9/23, mb1mx4.7/30, mbtmp4.8/23, MS3.4/11, Ms1 3.4/11, ms1mx3.2/34, Error ellipse: s-maj=20.0km s-min=11.5km az=79.0*
*MOS **03** 11:13:53.7±1.0, 3°.11N×126°.75E, h33km, mb5.3/36, Error ellipse: s-maj=13.1km s-min=5.8km az=114.8*
*DJA **03** 11:13:57.0±0.7, 3°N±6°×12°7E±°, h10km, M5.0/22, mb5.1/22, mB5.5/13, MLv5.1/13, Mw(mB)4.9/13*
*ISCJB **03** 11:13:57.4±0.4, 3°.13N±0°.02×126°.96E±0°.03, h71km±3km, mb4.8/90, Error ellipse: s-maj=5.0km s-min=3.0km az=157.9*
*KLM **03** 11:13:58.5, 3°.10N×127°.10E, h78km, mb5.0, ML4.3, MS6.1*
*BJI **03** 11:13:58.4, 3°.32N×126°.65E, h64km, mB5.0/42, mb4.9/59, Ms4.5/30, Ms7 4.0/31*
*NEIC **03** 11:13:59.5±0.8, 3°.05N×126°.93E, h74km±7km, mb5.0/30, Error ellipse: s-maj=8.1km s-min=4.6km az=66.0*
ISC 03 11:13:58.4±0.4, 3°.13N±0°.03×126°.92E±0°.04, h61km±3km, n445, σ1§36/470, mb4.9/88, 13C-7D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.49**	**292**	P	**Pn**	**11 14 23.2**	**+0.2**
SGSI				S	**Sn**	**11 14 42.1**	**+0.6**
TNTI	**Ternate**	**2.38**	**169**	P	**Pn**	**11 14 34.5**	**-0.6**
TNTI	**Ternate**	**2.38**	**169**	*e*Pn	**Pn**	**11 14 34.5**	**-0.6**
TNTI				*e*Sn	**Sn**	**11 15 03.0**	**-0.2**
GSPH	**General Santos**	**3.53**	**326**	⇑*i*P	**Pn**	**11 14 49.9**	**-1.0**
LBMI	**Labuha**	**3.79**	**171**	P	**Pn**	**11 14 54.8**	**+0.5**
MATI	**Mati**	**3.85**	**350**	*e*P	**Pn**	**11 14 56.8**	**+1.6**
MATI				*e*S	Sn	11 15 29.3	-10
KMSI	**Cibinong**	**3.88**	**229**	P	**Pn**	**11 14 56.6**	**+1.1**
DMPH	**Davao City--Mi**	**4.17**	**340**	*e*P	**Pn**	**11 15 02.5**	**+2.9**
DMPH				*e*S	**Sn**	**11 15 46.7**	**-0.4**
CTBH	**Cotabato--PC H**	**4.86**	**327**	⇑*i*P	**Pn**	**11 15 08.7**	**-0.3**
BIPH	**Bislig**	**5.05**	**354**	*e*P	Pn	11 15 15.7	+4.0
BIPH				*e*S	**Sn**	**11 16 07.0**	**-1.7**
BUKP	**Musuan**	**5.07**	**339**	*e*P	**Pn**	**11 15 13.1**	**+1.2**
SANI	**Sanana**	**5.23**	**190**	P	**Pn**	**11 15 11.5**	**-2.5**
	75nm,0.8s,5μm0.9nm						
MRSI	**Marisa**	**5.63**	**242**	P	**Pn**	**11 15 21.6**	**+2.1**
	450nm,0.8s,6μm1.8nm						
LUWI	**Luwuk**	**5.86**	**225**	P	**Pn**	**11 15 25.8**	**+3.1**
	587nm,1.0s,6μm2.7nm						
LUWI	**Luwuk**	**5.86**	**225**	P	**Pn**	**11 15 25.7**	**+3.1**
	baz=5.9,SNR=6.3						
LUWI	**Luwuk**	**5.86**	**225**	*e*Pn	**Pn**	**11 15 23.5**	**+0.9**
LUWI				Sn	**Sn**	**11 16 34.0**	**+5.5**
PAGZ	**Pagadian**	**5.86**	**323**	*e*P	**Pn**	**11 15 22.8**	**+0.1**
SWI	**Sorong**	**5.88**	**132**	P	**Pn**	**11 15 24.8**	**+1.8**
	88nm,0.9s,1μm0.5nm						
SWI	**Sorong**	**5.88**	**132**	P	**Pn**	**11 15 24.2**	**+1.2**
	baz=5.7,SNR=9.3						
SWI				S	**Sn**	**11 16 30.7**	**+1.7**
	baz=5.7,SNR=4.8						
BUTP	**Butuan**	**5.94**	**348**	*e*P	**Pn**	**11 15 26.4**	**+2.5**
NLAI	**Namlea**	**6.33**	**178**	P	**Pn**	**11 15 30.3**	**+1.2**
	104nm,0.9s,3μm0.9nm						
TOLI	**Toli-Toli**	**6.43**	**252**	*e*Pn	**Pn**	**11 15 31.2**	**+0.6**
TOLI				*e*Sn	**Sn**	**11 16 38.7**	**-4.0**
APSI	**Ampana**	**6.62**	**233**	P	Pn	11 15 36.7	+3.6
	899nm,0.8s,10μm3.6nm						
MPSI	**Mapaga**	**7.54**	**249**	P	**Pn**	**11 15 47.0**	**+1.2**
	100nm,0.8s,1μm						
FAKI	**Fak Fak**	**8.03**	**138**	P	**Pn**	**11 15 53.4**	**+0.9**
	baz=7.9,SNR=11						
FAKI	**Fak Fak**	**8.03**	**138**	*e*Pn	**Pn**	**11 15 53.1**	**+0.6**
PALU	**Palau**	**8.61**	**61**	P	**Pn**	**11 15 59.4**	**-1.0**
	baz=8.6,SNR=20						
PALU				S	Sn	11 17 29.6	-6.6
	baz=8.6,SNR=5.4						
MYLDM	**Lahad Datu**	**8.64**	**284**	⇓P	Pn	11 16 05.3	+4.5
MYLDM	**Lahad Datu**	**8.64**	**284**	*e*Pn	Pn	11 16 04.3	+3.5
TTSI	**Tana Toraja**	**9.38**	**229**	P	**Pn**	**11 16 11.2**	**+0.3**
	137nm,1.0s						
SDKM	**Sandakan**	**10.01**	**285**	⇑P	**Pn**	**11 16 21.1**	**+1.5**
SPSI	**Sidrap Palu**	**10.03**	**225**	P	**Pn**	**11 16 21.2**	**+1.4**
	50nm,0.7s						
BNSI	**Bone**	**10.11**	**222**	P	**Pn**	**11 16 22.3**	**+1.4**
	59nm,0.8s						
KDM	**Kudat**	**10.72**	**291**	⇓P	Pn	11 16 32.7	+3.4
BKSI	**Bulukumba**	**10.79**	**219**	P	Pn	11 16 33.5	+3.3
	49nm,0.7s,738nm						
KAPI	**Kappang**	**10.80**	**222**	Pn	**Pn**	**11 16 30.9**	**+0.6**
	225nm,0.7s,SNR=5.3						
KAPI	**Kappang**	**10.80**	**222**	*e*Pn	**Pn**	**11 16 29.8**	**-0.5**
KKM	**Kota Kinabalu**	**11.05**	**286**	P	Pn	11 16 38.2	+4.3
	baz=11,SNR=4.8						
KKM	**Kota Kinabalu**	**11.05**	**286**	⇓P	Pn	11 16 37.7	+3.8
KKM	**Kota Kinabalu**	**11.05**	**286**	*e*Pn	Pn	11 16 37.4	+3.5
	14nm,0.6s						
KKM				*e*Sn	**Sn**	**11 18 37.2**	**+1.2**
MMRI	**Maumere**	**12.58**	**202**	*e*Pn	**Pn**	**11 16 54.9**	**+0.2**
BATI	**Baumata**	**13.64**	**194**	P	**P**	**11 17 15.5**	**-0.4**
BATI	**Baumata**	**13.64**	**194**	Pn	**Pn**	**11 17 10.8**	**+1.7**
	1.6nm,0.3s,baz=275,slow=12,SNR=4.9						
BATI				Sn	**S**	**11 19 59.8**	**+1.1**
	1.3nm,0.3s,baz=310,slow=16,SNR=3.3						
BBKI	**Banjar Baru**	**13.73**	**242**	P	P	11 17 21.1	+4.1
SBUM	**Sibu**	**14.69**	**268**	⇑P	**Pn**	**11 17 25.2**	**+2.2**
WBSI	**Waikabubak, Su**	**14.73**	**211**	P	**P**	**11 17 28.2**	**0.0**
	92nm,0.8s						
SZP	**Santa**	**15.67**	**337**	*e*Pn	**Pn**	**11 17 36.8**	**+1.3**
	31nm,0.6s						
SZP				*e*Sn	**Sn**	**11 20 22.1**	**-6.3**
STKI	**Sintang**	**15.73**	**259**	P	**P**	**11 17 42.6**	**+3.4**
	89nm,0.8s,16μm						
SRBI	**Singaraja**	**16.14**	**226**	P	**P**	**11 17 44.2**	**+0.5**
	97nm,0.7s,1μm						
MTN	**Manton Dam**	**16.41**	**165**	P	**Pn**	**11 17 41.5**	**-3.4**
	baz=16,SNR=34						
KDU	**Kakadu**	**16.65**	**161**	P	**Pn**	**11 17 46.6**	**-1.3**
	baz=17,SNR=21						
KSM	**Kuching**	**16.68**	**265**	P	**P**	**11 17 51.1**	**+1.3**
	baz=17,SNR=11						
KSM	**Kuching**	**16.68**	**265**	*e*P	**P**	**11 17 51.0**	**+1.3**
BLJI	**Banyuglugur**	**17.13**	**231**	P	P	11 18 09.7	+15
JAGI	**Jajag, Banyuwa**	**17.17**	**228**	P	**P**	**11 17 57.7**	**+2.5**
	69nm,1.4s						
JAGI	**Jajag, Banyuwa**	**17.17**	**228**	P	**P**	**11 17 58.1**	**+3.0**
	baz=17,SNR=3.7						
JAGI	**Jajag, Banyuwa**	**17.17**	**228**	*e*P	**Pn**	**11 17 54.0**	**-0.4**
	81nm,1.0s						
GMJI	**Gumukmas**	**17.57**	**230**	P	P	11 18 05.6	+6.0
	48nm,0.8s						
KNRA	**Kununurra**	**18.77**	**174**	P	**P**	**11 18 11.4**	**-1.4**
	baz=19,SNR=62						
TPI	**Tanjungpandan**	**20.12**	**253**	P	Pn	11 18 31.3	+1.4
	28nm,1.1s						
DLV	**T Lat**	**20.25**	**297**	*e*P	**P**	**11 18 29.8**	**+0.7**
	30nm,0.7s						
TWG	**Pinlang**	**20.38**	**344**	*e*P	**P**	**11 18 27.8**	**-2.4**
	173nm,0.5s						
YULB	**Yu-li**	**20.87**	**345**	*e*P	**P**	**11 18 32.3**	**-3.2**
	12nm,0.4s						
TPUB	**Ta-pu**	**20.96**	**344**	*e*P	**P**	**11 18 34.0**	**-2.5**
	39nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.13**	**183**	P	**P**	**11 18 36.3**	**-2.0**
	baz=21,SNR=55						
FITZ				S	**S**	**11 22 27.6**	**-2.7**
	baz=21,SNR=3.9						
FITZ	**Fitzroy Crossi**	**21.13**	**183**	*e*P	**P**	**11 18 36.5**	**-1.9**
	13nm,0.5s						
SSLB	**Suanglung**	**21.33**	**345**	P	**P**	**11 18 39.5**	**-1.0**
	16nm,0.6s						
NACB	**Ninganchiao**	**21.55**	**347**	P	**P**	**11 18 39.1**	**-3.7**
	15nm,0.6s						
QIZ	**Qiongzhong**	**22.99**	**315**	P	**P**	**11 18 58.5**	**+0.3**
QIZ				pP	**pP**	**11 19 12.6**	**+0.9**
QIZ				sP	**sP**	**11 19 19.4**	**+0.2**
QIZ				PMZ			
	19nm,0.9s						
QIZ				LZ			
	170nm,27.1s						
COEN	**Coen**	**23.41**	**137**	P	**P**	**11 19 01.4**	**-0.9**
	baz=23,SNR=4.3						
COEN	**Coen**	**23.41**	**137**	*e*P	**P**	**11 19 01.1**	**-1.2**
	51nm,0.8s						
KASI	**Kota Agung**	**23.99**	**249**	P	P	11 19 13.4	+5.8
WRAB	**Tennant Creek**	**24.05**	**163**	P	**P**	**11 19 06.6**	**-1.5**
	421nm,0.5s						
WRAB	**Tennant Creek**	**24.05**	**163**	*d i*P	**P**	**11 19 06.6**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,216nm,1.7s						
WRAB	**Tennant Creek**	**24.05**	**163**	*e*P	**P**	**11 19 06.2**	**-1.8**
	comp=Z,40nm,0.6s						
WRA	**Warramunga Arr**	**24.06**	**163**	P	**P**	**11 19 06.7**	**-1.5**
	comp=Z,44nm,0.5s,baz=338,slow=11,SNR=199						
WRA				S	**S**	**11 23 21.1**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=347,slow=18,SNR=5.4						
WB2	**Warramunga Arr**	**24.06**	**163**	*e*P	**P**	**11 19 06.3**	**-1.9**
UBPT	**Khong Chiam**	**24.34**	**301**	P	**P**	**11 19 10.2**	**-0.5**
	comp=Z,34nm,0.8s						
MBWA	**Marble Bar**	**25.14**	**196**	*e*P	**P**	**11 19 16.8**	**-1.2**
BKNI	**Bangkinang**	**26.01**	**264**	P	**P**	**11 19 21.4**	**-4.6**
	comp=Z,35nm,1.0s						
CHBT	**CHBT**	**26.13**	**293**	P	**P**	**11 19 28.0**	**+1.0**
	comp=Z,29nm,1.1s,comp=Z,2μm						
QIS	**Mount Isa**	**26.63**	**153**	P	**P**	**11 19 31.0**	**-0.4**
	baz=27,SNR=24						
AS31	**Alice Springs**	**27.49**	**166**	*e*P	**P**	**11 19 37.8**	**-1.4**
ASAR	**Alice Springs**	**27.49**	**166**	P	**P**	**11 19 37.9**	**-1.3**
	comp=Z,5.3nm,0.6s,baz=345,slow=6.9,SNR=95						
ASAR				PcP	**PcP**	**11 22 56.9**	**+0.4**
	comp=Z,4.6nm,0.7s,baz=348,slow=2.0,SNR=13						
ASAR				S	**S**	**11 24 21.3**	**+5.4**
	comp=Z,2.0nm,1.0s,baz=345,slow=21,SNR=5.2						
PSI	**Prapat**	**27.96**	**270**	P	**P**	**11 19 41.7**	**-1.9**
	comp=Z,3.0nm,0.5s,baz=172,slow=17,SNR=1.8						
PSI				PcP	**PcP**	**11 22 57.1**	**-0.7**
	comp=Z,3.0nm,0.4s,baz=276,slow=1.7,SNR=4.2						
WRKA	**Warakurna**	**28.03**	**177**	P	**P**	**11 19 42.9**	**-1.1**
	baz=28,SNR=15						
PBKT	**Sadao Pong**	**28.79**	**299**	P	**P**	**11 19 52.2**	**+1.4**
	comp=Z,15nm,1.0s,comp=Z,972nm						
LOEI	**Loei**	**28.94**	**301**	P	P	11 19 48.2	-4.0
	comp=Z,23nm,0.8s,comp=Z,604nm						
UTTA	**Uttaradit**	**29.65**	**301**	P	**P**	**11 19 58.2**	**-0.2**
	comp=Z,4.8nm,0.4s						
NJ2	**Nanjing**	**29.75**	**346**	*e*P	**P**	**11 19 59.2**	**0.0**
NJ2				PMZ			
	comp=Z,10.0nm,0.8s						
NANT	**Nan**	**30.01**	**303**	P	**P**	**11 20 01.6**	**0.0**
	comp=Z,85nm,0.7s,comp=Z,1μm						
GYA	**Guiyang**	**30.25**	**322**	P	**P**	**11 20 06.2**	**+2.4**
GYA				pP	**pP**	**11 20 23.2**	**+4.4**
GYA				S	**S**	**11 25 01.0**	**+1.5**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,4.9s						
GYA				LN			
	comp=Z,560nm,16.9s						
GYA				LE			
	comp=Z,480nm,17.6s						
GYA				LZ			
	comp=Z,520nm,16.8s						
MEEK	**Meekatharra**	**30.66**	**195**	P	**P**	**11 20 06.3**	**-1.0**
	baz=31,SNR=6.5						
LAMP	**Lampang**	**30.78**	**302**	P	**P**	**11 20 09.5**	**+1.1**
	comp=Z,5.0nm,0.9s						
CRAI	**Chiangrai**	**30.96**	**305**	P	**P**	**11 20 08.9**	**-1.2**
	comp=Z,5.9nm,1.2s,comp=Z,630nm						
CMAR	**Chiang Mai Arr**	**31.34**	**301**	P	**P**	**11 20 13.2**	**-0.2**
	comp=Z,4.6nm,0.6s,baz=113,slow=6.8,SNR=23						
CMAR				PcP	**PcP**	**11 23 07.3**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=139,slow=1.1,SNR=9.8						
CMMT	**Chiang Mai**	**31.49**	**302**	P	**P**	**11 20 13.8**	**-0.9**
	comp=Z,21nm,1.0s						
CHTO	**Chiang Mai**	**31.49**	**302**	*e*P	**P**	**11 20 13.9**	**-0.8**
CHTO				*e*		11 23 08.1	
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CHTO	**Chiang Mai**	**31.49**	**302**	P	**P**	**11 20 13.8**	**-0.9**
	comp=Z,69nm,1.0s						
CHTO	**Chiang Mai**	**31.49**	**302**	*e*P	**P**	**11 20 13.9**	**-0.8**
	comp=Z,7.6nm,0.6s						
CHTO				*e*PcP	**PcP**	**11 23 08.1**	**+1.3**
CMAI	**Chiengmai2**	**31.91**	**304**	P	**P**	**11 20 18.7**	**+0.1**
	comp=Z,11nm,1.1s,comp=Z,1μm						
KMI	**Kunming**	**31.93**	**315**	P	P	11 20 25.1	+6.3
KMI				pP	pP	11 20 37.8	+4.0
KMI				sP	sP	11 20 46.3	+5.3
KMI				S	**S**	**11 25 29.1**	**+3.0**
MHMT	**Maesarieng**	**32.09**	**300**	P	**P**	**11 20 20.0**	**0.0**
	comp=Z,14nm,0.6s,comp=Z,272nm						
FORT	**Forrest**	**33.73**	**178**	P	**P**	**11 20 33.0**	**-1.1**
	baz=34,SNR=36						
FORT	**Forrest**	**33.73**	**178**	*e*P	**P**	**11 20 33.0**	**-1.1**
	comp=Z,47nm,0.6s						
FORT				*e*PcP	**PcP**	**11 23 13.1**	**+0.4**
QLP	**Quilpie**	**33.95**	**151**	P	**P**	**11 20 34.6**	**-1.5**
	baz=34,SNR=13						
KSAR	**Wonju Array Be**	**34.16**	**1**	P	**P**	**11 20 38.8**	**+1.0**
KSAR						11 23 14.7	
KSAR	**Wonju Array Be**	**34.16**	**1**	P	**P**	**11 20 38.8**	**+1.0**
KSAR				PcP	**PcP**	**11 23 14.7**	**+1.0**
KSRS	**Korea Array**	**34.17**	**1**	P	**P**	**11 20 38.8**	**+0.9**
	comp=Z,3.9nm,0.7s,baz=181,slow=10,SNR=15						
KSRS				PcP	**PcP**	**11 23 14.7**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=177,slow=2.5,SNR=5.9						
KSRS				LR	LR	11 33 25.4	
	comp=Z,42nm,21.7s,baz=177,slow=34						
MAT	**Matsushiro**	**34.84**	**16**	P	**P**	**11 20 42.5**	**-1.2**
MJAR	**Matsushiro Arr**	**34.84**	**16**	P	**P**	**11 20 42.8**	**-0.9**
	comp=Z,4.9nm,0.7s,baz=183,slow=9.6,SNR=18						
MJAR				PcP	**PcP**	**11 23 17.2**	**+1.4**
	comp=Z,4.9nm,1.0s,baz=173,slow=2.9,SNR=7.9						
MJAR				LR	LR	11 33 10.7	
	comp=Z,76nm,21.1s,baz=195,slow=33						
BLDU	**Ballidu**	**34.94**	**195**	P	**P**	**11 20 43.9**	**-0.7**
	baz=35,SNR=9.7						
XAN	**Xi'an**	**35.03**	**333**	P	**P**	**11 20 44.3**	**-1.1**
XAN				PMZ			
	comp=Z,3.0nm,1.0s						
HNR	**Honiara**	**35.20**	**111**	LR	LR	11 35 57.2	
	comp=Z,26nm,19.9s,baz=270,slow=38						
CD2	**Chengdu**	**35.24**	**324**	*e*P	**P**	**11 20 47.2**	**0.0**
CD2				pP	**pP**	**11 21 04.2**	**+1.8**
CD2				sP	**sP**	**11 21 11.6**	**+2.1**
CD2				PP	**PP**	**11 22 07.8**	**-0.4**
CD2				S	**S**	**11 26 16.5**	**-0.2**
CD2				PMZ			
	comp=Z,10.0nm,0.9s						
CD2				PMZ			
	comp=Z,40nm,5.9s						
CD2				LN			
	comp=Z,110nm,14.3s						
CD2				LZ			
	comp=Z,240nm,16.7s						
KLBR	**Kellerberrin**	**35.61**	**193**	P	**P**	**11 20 49.8**	**-0.6**
	baz=36,SNR=5.5						
EIDS	**Eidsvold**	**36.77**	**142**	P	**P**	**11 20 59.1**	**-1.2**
	baz=37,SNR=4.1						
BBOO	**Buckleboo**	**36.78**	**167**	P	**P**	**11 20 59.2**	**-1.1**
	baz=37,SNR=7.2						
BBOO	**Buckleboo**	**36.78**	**167**	*e*P	**P**	**11 20 58.7**	**-1.6**
	comp=Z,311nm,0.7s						
BBOO				*e*PcP	**PcP**	**11 23 21.6**	**+0.1**
NWAO	**Narrogin (SRO)**	**37.01**	**194**	P	**P**	**11 21 01.8**	**-0.5**
	comp=Z,5.7nm,0.5s,baz=17,slow=5.7,SNR=10.0						
STKA	**Stephens Creek**	**37.51**	**159**	P	**P**	**11 21 05.8**	**-0.7**
	comp=Z,96nm,0.9s,baz=335,slow=8.2,SNR=237						
STKA				PcP	**PcP**	**11 23 24.2**	**+0.5**
	comp=Z,11nm,0.5s,baz=338,slow=4.3,SNR=5.4						
STKA	**Stephens Creek**	**37.51**	**159**	P	**P**	**11 21 05.5**	**-0.9**
	baz=38,SNR=148						
BJT	**Baijiatuau**	**37.99**	**347**	*e*P	**P**	**11 21 11.5**	**+1.0**
BJT				pmax	pmax		
	comp=Z,36nm,0.6s						
BJT	**Baijiatuau**	**37.99**	**347**	*e*P	**P**	**11 21 11.5**	**+1.0**
	comp=Z,36nm,0.6s						
BJI	**Beijing**	**38.01**	**347**	P	**P**	**11 21 10.9**	**+0.3**
BJI				PMZ			
	comp=Z,67nm,1.0s						
BJI				PMZ			
	comp=Z,150nm,3.6s						
SNY	**Shenyang**	**38.65**	**356**	⇑P	**P**	**11 21 17.1**	**+1.2**
SNY				PMZ			
	comp=Z,64nm,0.7s						
LZH	**Lanzhou**	**39.11**	**330**	*e*P	**P**	**11 21 21.1**	**+0.9**
LZH				pP	**pP**	**11 21 32.4**	**-3.1**
LZH				sP	**sP**	**11 21 45.2**	**+2.6**
LZH				PP	**PnPn**	**11 22 57.6**	**+3.7**
LZH				*e*S	**S**	**11 27 16.1**	**+0.4**
LZH				sS	**sS**	**11 27 40.5**	**-1.2**
LZH				PMZ			
	comp=Z,43nm,1.3s						
LZH				PMZ			
	comp=Z,180nm,5.5s						
LZH				LN			
	comp=Z,880nm,13.2s						
LZH				LE			
	comp=Z,1μm,15.2s						
LZH				LZ			
	comp=Z,1μm,16.0s						
HHC	**Hu-ho-hao-te**	**40.02**	**342**	*e*P	**P**	**11 21 28.1**	**+0.5**
HHC				pP	**pP**	**11 21 45.1**	**+2.1**
HHC				sP	**sP**	**11 21 49.8**	**-0.2**
HHC				PP	**PP**	**11 23 01.7**	**+1.0**
HHC				S	**S**	**11 27 29.1**	**0.0**
HHC				sS	**sS**	**11 27 52.2**	**-3.0**
HHC				PMZ			
	comp=Z,44nm,0.8s						
HHC				PMZ			
	comp=Z,240nm,5.6s						
HHC				LN			
	comp=Z,240nm,14.8s						
HHC				LE			
	comp=Z,250nm,14.6s						
HHC				LZ			
	comp=Z,140nm,14.0s						
CN2	**Changchun**	**40.52**	**358**	*e*P	**P**	**11 21 32.1**	**+0.6**
CN2				PMZ			
	comp=Z,10.0nm,0.8s						
ARMA	**Armidale**	**40.87**	**146**	P	**P**	**11 21 34.6**	**-0.1**
	baz=41,SNR=11						
USRK	**Ussuriysk Ar.**	**41.15**	**6**	P	**P**	**11 21 37.7**	**+1.0**
	comp=Z,12nm,0.7s,baz=190,slow=7.8,SNR=30						
USRK				LR	LR	11 37 07.8	
	comp=Z,46nm,20.7s,baz=150,slow=34						
MDJ	**Mudanjiang**	**41.38**	**3**	P	**P**	**11 21 39.2**	**+0.6**
MDJ				PMZ			
	comp=Z,21nm,0.9s						
MDJ				PMZ			
	comp=Z,23nm,3.6s						
MDJ	**Mudanjiang**	**41.38**	**3**	P	**P**	**11 21 37.1**	**-1.5**
	comp=Z,64nm,1.5s						
ARPS	**Mount Arapiles**	**42.06**	**162**	P	**P**	**11 21 44.0**	**-0.2**
	baz=42,SNR=51						
LSA	**Lhasa**	**42.98**	**312**	*e*P	**P**	**11 21 52.5**	**+0.1**
LSA				pmax	pmax		
	comp=Z,25nm,0.8s						
LSA	**Lhasa**	**42.98**	**312**	*e*P	**P**	**11 21 52.5**	**+0.1**
	comp=Z,26nm,0.8s						
CNB	**Canberra Magne**	**43.65**	**153**	P	**P**	**11 21 57.6**	**+0.3**
	baz=44,SNR=4.6						
GTA	**Gaotai**	**43.71**	**329**	*e*P	**P**	**11 21 57.5**	**-0.2**
GTA				PMZ			
	comp=Z,4.0nm,0.9s						
TOO	**Toolangi**	**44.02**	**159**	P	**P**	**11 22 00.7**	**+0.7**
	baz=44,SNR=9.2						
TAPN	**Taplejung**	**44.52**	**307**	*e*P	**P**	**11 22 04.0**	**-0.6**
	comp=Z,24nm,0.5s						
RAMN	**Ramite**	**45.25**	**306**	*e*P	**P**	**11 22 09.9**	**-0.5**
YSS	**Yuzh-Sakhalins**	**45.77**	**15**	*e*P	**P**	**11 22 14.0**	**+0.2**
YSS				pmax	pmax		
	comp=Z,40nm,1.2s						
JIRN	**Jiri**	**45.87**	**306**	*e*P	**P**	**11 22 14.6**	**-0.9**
	comp=Z,34nm,0.6s						
KLR	**Kul'dur**	**46.12**	**4**	*e*P	**P**	**11 22 13.7**	**-2.8**
PALK	**Pallekele**	**46.19**	**277**	LR	LR	11 45 11.3	
	comp=Z,68nm,18.0s,baz=110,slow=41						
GUN	**Gumba**	**46.23**	**306**	*e*P	**P**	**11 22 17.2**	**-1.0**
	comp=Z,54nm,0.5s						
HIA	**Hailar**	**46.38**	**354**	*e*P	**P**	**11 22 19.6**	**+1.0**
HIA				pmax	pmax		
	comp=Z,32nm,1.1s						
HIA	**Hailar**	**46.38**	**354**	*e*P	**P**	**11 22 19.6**	**+1.0**
	comp=Z,32nm,1.1s						
PKI	**Pulchoki**	**46.47**	**306**	*e*P	**P**	**11 22 18.6**	**-1.5**
PKIN	**Phulchoki**	**46.48**	**306**	*e*P	**P**	**11 22 18.9**	**-1.2**
KKN	**Kakani**	**46.66**	**306**	*e*P	**P**	**11 22

MK31 pmax pmax
comp=Z,14nm,0.5s
MKAR Makanchi Array 58.15 325 P **P 11 23 45.7 -0.3**
comp=Z,17nm,0.4s,baz=119,slow=8.0,SNR=513
MKAR LR LR 11 51 01.7
comp=Z,55nm,20.3s,baz=40,slow=38
KSH Kashi 58.60 315 P **P 11 23 50.2 +0.8**
KSH sP **sP 11 24 14.0 +1.6**
KSH PP **PP 11 26 01.3 +1.7**
KSH S **S 11 31 46.2 -3.1**
KSH sS **sS 11 32 14.0 -2.6**
KSH ScS **ScS 11 33 28.3 -5.9**
KSH SS **SS 11 35 42.2 -0.7**
KSH PMZ
comp=Z,5.0nm,0.8s
KSH PMZ
comp=Z,71nm,4.4s
KSH LN
comp=Z,110nm,6.9s
KSH LE
comp=Z,90nm,5.6s
KSH LZ
comp=Z,79nm,6.1s
YAK Yakutsk 58.80 2 *c iP* **P 11 23 50.6 +0.5**
YAK *e* 11 24 37.2
YAK *e* 11 25 58.6
YAK *e*S **S 11 31 52.0 +1.2**
YAK *e* 11 33 32.9
YAK pmax pmax
comp=Z,42nm,0.8s
YAK pmax pmax
comp=N,9.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,208nm,5.3s
YAK pmax pmax
comp=N,123nm,4.4s
YAK pmax pmax
comp=E,57nm,4.2s
YAK smax smax
comp=E,41nm,2.3s
YAK smax smax
comp=N,25nm,2.1s
YAK Yakutsk 58.80 2 *e*P **P 11 23 51.0 +0.8**
comp=N,47nm,0.8s
KZA Kyzart 60.18 318 P **P 11 24 00.8 +0.2**
SNR=12
KZA Kyzart 60.18 318 *i* P **P 11 24 00.8 +0.2**
TKM2 Tokmak 2 60.32 319 P **P 11 24 01.0 -0.3**
SNR=12
TKM2 Tokmak 2 60.32 319 P **P 11 24 00.5 -0.8**
TKM2 pmax pmax
comp=Z,5.0nm,0.6s
TKM2 Tokmak 2 60.32 319 *e*P **P 11 24 00.8 -0.5**
comp=Z,5.0nm,0.6s
UCH Uchtor 60.74 318 P **P 11 24 04.7 +0.2**
SNR=11
UCH Uchtor 60.74 318 *i* P **P 11 24 04.6 +0.2**
AAK Ala-Archa 60.92 318 *e*P **P 11 24 05.1 -0.3**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 60.92 318 LR LR 11 54 01.7
comp=Z,48nm,20.7s,baz=78,slow=40
AAK Ala-Archa 60.92 318 *e*P **P 11 24 05.3 -0.1**
comp=Z,2.3nm,0.6s
USP Ospenovka 61.19 319 P **P 11 24 06.5 -0.5**
SNR=11
USP Ospenovka 61.19 319 *i* P **P 11 24 06.5 -0.5**
ZALV Zalesovo Beam 61.20 333 P **P 11 24 06.0 -0.8**
comp=Z,7.4nm,0.5s,baz=132,slow=6.1,SNR=37
AML Almayashu 61.25 317 P **P 11 24 07.9 0.0**
SNR=17
AML Almayashu 61.25 317 *i* P **P 11 24 07.9 0.0**
EKS2 Erkin-Say 61.42 318 P **P 11 24 08.7 +0.1**
SNR=11
EKS2 Erkin-Say 61.42 318 *e*P **P 11 24 08.5 -0.1**
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 61.42 318 *e*P **P 11 24 08.5 -0.1**
comp=Z,6.8nm,0.8s
KBL Kabul 62.03 308 *e*P **P 11 24 12.0 -1.1**
KBL pmax pmax
comp=Z,8.0nm,0.6s
KBL Kabul 62.03 308 P **P 11 24 12.3 -0.8**
baz=62,SNR=4.8
KBL Kabul 62.03 308 *e*P **P 11 24 12.0 -1.1**
comp=Z,8.0nm,0.6s
KURK Kurchatov 62.34 328 P **P 11 24 14.6 +0.1**
comp=Z,263nm,0.5s,SNR=46
KURK Kurchatov 62.34 328 P **P 11 24 14.0 -0.5**
KURK pmax pmax
comp=Z,19nm,0.6s
KURK Kurchatov 62.34 328 *e*P **P 11 24 14.4 -0.1**
comp=Z,21nm,0.6s
NVS Novosibirsk 62.49 333 *e*P **P 11 24 13.7 -1.7**
NVS *e*S **S 11 32 35.4 -2.7**
NVS pmax pmax
comp=N,9.0nm,0.6s
NVS pmax pmax
comp=E,9.0nm,0.6s
NVS pmax pmax
comp=Z,13nm,0.6s
NVS smax smax
comp=N,17nm,2.7s
NVS smax smax
comp=E,8.0nm,2.2s
KK31 Karatay Array 63.80 317 P **P 11 24 23.5 -0.9**
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 63.80 317 *e*P **P 11 24 23.9 -0.5**
KKAR pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 63.80 317 *e*P **P 11 24 23.9 -0.5**
comp=Z,8.9nm,0.7s
VOSK Vostochnaya 67.47 327 P **P 11 24 46.5 -1.3**
VOSK pmax pmax
comp=Z,11nm,0.5s
BRVK Borovoye 67.99 327 P **P 11 24 51.0 -0.1**
comp=Z,119nm,0.5s,SNR=9.7
BRVK Borovoye 67.99 327 P **P 11 24 50.6 -0.5**
BRVK pmax pmax
comp=Z,12nm,0.5s
BRVK Borovoye 67.99 327 *e*P **P 11 24 50.8 -0.3**
comp=Z,9.7nm,0.6s
TIXI Tiksi 68.44 1 *e*P **P 11 24 53.4 -0.1**
TIXI pmax pmax
comp=Z,20nm,1.0s
TIXI Tiksi 68.44 1 *e*P **P 11 24 53.6 +0.1**
comp=Z,25nm,0.9s
IMYA Miami 69.55 308 *e*P **P 11 25 01.3 0.0**
BILL Bilibino 70.08 15⇑ *e*P **P 11 25 04.1 +0.3**
BILL *e*S **S 11 34 15.4 +5.6**
BILL pmax pmax
comp=Z,2.0nm,1.0s
GEYT Alibeck 71.41 309 P **P 11 25 12.4 -0.1**
comp=Z,5.5nm,0.7s,baz=130,slow=6.0,SNR=12
AB31 Akbulak array 72.73 321 P **P 11 25 19.3 -0.8**
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 72.73 321 *e*P **P 11 25 19.8 -0.3**
comp=Z,4.8nm,0.4s
SVE Sverdlovsk 74.57 329⇓ *e*P **P 11 25 30.7 0.0**
SVE pmax pmax
comp=Z,61nm,0.8s
ARU Arti 75.54 328 P **P 11 25 35.8 -0.5**
comp=Z,414nm,0.6s,SNR=12
ARU Arti 75.54 328 *c iP* **P 11 25 35.7 -0.5**
ARU 11 28 22.5
ARU S **S 11 35 13.4 +1.1**
ARU SS **SS 11 40 03.5 -0.6**
ARU pmax pmax
comp=Z,64nm,1.0s
ARU Arti 75.54 328 *e*P **P 11 25 35.8 -0.5**
comp=Z,36nm,0.6s
RAYN Ar Rayn 80.89 293 P **P 11 26 06.9 +0.2**
comp=Z,63nm,0.7s,SNR=5.0
RAYN Ar Rayn 80.89 293 *e*P **P 11 26 06.0 -0.6**
comp=Z,10nm,0.6s
ABPO Ambohimpanom 81.28 250 *e*P **P 11 26 08.9 -0.1**
ABPO Ambohimpanom 81.28 250 *e*P **P 11 26 08.9 -0.1**
DUS Dusheti 82.13 312 P **P 11 26 13.8 +0.9**
KDAK Kodiak Island 82.30 32 *ce*P **P 11 26 14.6 +1.4**
GUDG Gudauri 82.32 312 P **P 11 26 14.4 +0.3**
ZEI Tsey 82.76 313 *e*P **P 11 26 15.9 -0.4**
ZEI pmax pmax
comp=Z,26nm,1.2s
VNDA Vanda 82.81 173 P **P 11 26 15.7 +0.1**
comp=Z,4.0nm,0.7s,baz=317,slow=7.1,SNR=6.7
PPLA Purkeypile 83.08 27 *e*P **P 11 26 18.7 +1.2**
comp=Z,7.7nm,0.7s
ONI Oni 83.08 312 P **P 11 26 14.9 -2.9**
PRGR Permogore 83.12 332⇓ *iP* **P 11 26 17.8 +0.4**
PRGR pmax pmax
comp=Z,34nm,0.7s
KBZ Khabaz 83.53 313 P **P 11 26 19.8 -0.2**
comp=Z,2.8nm,0.7s,baz=184,slow=3.0,SNR=6.4
KIV Kislovodsk 83.69 314 *e*P **P 11 26 21.4 +0.5**
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,30nm,19.0s
TRF Thorofare Moun 83.99 27 *e*P **P 11 26 22.8 +0.6**
comp=Z,13nm,1.2s
COLD Coldfoot 84.37 23 *e*P **P 11 26 25.5 +1.7**
comp=Z,17nm,1.1s
MCK McKinley 84.62 26 *e*P **P 11 26 25.3 +0.2**
MCK pmax pmax
comp=Z,6.0nm,0.9s
MCK McKinley 84.62 26 *e*P **P 11 26 25.3 +0.2**
comp=Z,6.1nm,0.9s
VRHR Novokhopersk 84.62 321 *e*P **P 11 26 24.0 -1.3**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=E,50nm,1.6s
ILAR Eielson Array 85.56 25 P **P 11 26 29.0 -0.8**
ILAR Eielson Array 85.56 25 P **P 11 26 28.9 -0.8**
comp=E,0.7nm,0.6s,baz=248,slow=5.4,SNR=15
KLMR Klimovskoe 86.02 331 *e*P **P 11 26 30.5 -1.6**
KLMR pmax pmax
comp=Z,16nm,0.8s
VORD Divnogorie 86.09 321 *e*P **P 11 26 31.1 -1.6**
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=Z,20nm,0.7s
VORD pmax pmax
comp=E,30nm,1.9s
VSR Storozhevoye 86.17 321 *e*P **P 11 26 32.2 -0.9**
VSR pmax pmax
comp=Z,20nm,0.8s
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
OBN Obninsk 87.66 325⇑ *e*P **P 11 26 38.7 -1.5**
OBN *e*S **S 11 37 11.7 -5.5**
OBN pmax pmax
comp=Z,42nm,1.7s
OBN MLR MLR
comp=Z,31nm,16.0s
KMBO Kilima Mbogo 89.72 269 P **P 11 26 52.1 +0.9**
comp=Z,2.5nm,0.5s,baz=58,slow=5.3,SNR=8.0
JOF Joensuu 89.80 333 *e*P **P 11 26 48.7 -1.4**
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 89.80 333 *e*p **P 11 26 48.7 -1.4**
comp=Z,5.7nm,0.6s
KEV Kevo 90.52 340 *e*P **P 11 26 51.8 -1.5**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 90.52 340 *e*p **P 11 26 51.8 -1.5**
comp=Z,0.8nm,0.4s
BRTR Keskin Array B 90.55 310 P **P 11 26 54.3 0.0**
comp=Z,4.4nm,0.8s,baz=116,slow=5.4,SNR=15
BRTR LR LR 12 13 06.0
comp=Z,12nm,19.0s,baz=92,slow=39
ARCES ARCESS Array B 91.07 340 P **P 11 26 55.4 -0.6**
comp=Z,11nm,0.8s,baz=81,slow=6.4,SNR=30
ARCES LR LR 12 14 00.1
comp=Z,23nm,18.3s,baz=28,slow=40
SYO Syowa Base 91.94 201⇓ *e*PcP **PcP 11 27 01.6 +0.9**
KAF Kangasniemi 92.21 332 *e*P **P 11 26 59.7 -1.7**
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 92.21 332 *e*p **P 11 26 59.7 -1.7**
comp=Z,2.9nm,0.5s
FINES FINESS Array B 92.45 332 P **P 11 27 01.7 -0.8**
comp=Z,1.6nm,0.5s,baz=46,slow=5.5,SNR=10
AKASG Malin Array Be 92.47 321 P **P 11 27 01.7 -1.1**
comp=Z,2.1nm,0.5s,baz=71,slow=4.5,SNR=6.5
KIEV Kiev 92.48 321 *e*P **P 11 27 01.9 -1.0**
QSPA South Pole Qui 93.04 180 *e*P **P 11 27 06.2 +1.0**
comp=Z,5.3nm,1.2s
CRVS Cervenica-Dubn 97.75 320 *e*P Pdif 11 27 27.1 +0.1
CRVS Cervenica-Dubn 97.75 320 *e*P Pdif 11 27 27.1 +0.1
NB2 NORSAR Subarra 99.41 334 P **Pdif 11 27 32.5 -1.7**
comp=Z,2.5nm,0.7s,baz=67,slow=4.6
NB2 NORSAR Subarra 99.41 334 P **Pdif 11 27 32.5 -1.7**
baz=67,slow=4.6
NOA NORSAR Array B 99.41 334 P **Pdif 11 27 32.3 -1.8**
comp=Z,2.6nm,0.7s,baz=66,slow=4.5,SNR=7.8
YKA Yellowknife Ar 99.97 24 P **Pdif 11 27 37.0 +0.5**
YKA Yellowknife Ar 99.97 24 P **Pdif 11 27 37.0 +0.5**
comp=Z,0.5nm,0.6s,baz=299,slow=4.4,SNR=15
YKA PKiKP **PKiKP 11 32 05.4 +1.1**
comp=Z,0.3nm,0.6s,baz=304,slow=1.9,SNR=8.8
YKA PKKPbc **PKKPbc 11 43 54.6 -3.5**
comp=Z,0.1nm,0.4s,baz=132,slow=4.0,SNR=5.2
NVAR Mina Array Bea 107.17 48 PKiKP **PKiKP 11 32 19.6 +1.1**
comp=Z,0.3nm,0.5s,baz=250,slow=1.6,SNR=4.6
B20A Solberg Farm, 109.97 35 P **PKiKP 11 32 23.5 +0.3**
baz=110
DUG Dugway, Tooele 110.53 45 P **PKiKP 11 32 25.4 +0.7**
baz=110
C21A Desert Coulee 110.81 36 P **PKiKP 11 32 26.0 +1.2**
baz=111
E20A Meyer Farm, Mu 110.85 37 P **PKiKP 11 32 25.6 +0.7**
baz=111
E21A Keefer Ranch, 111.47 37 P **PKiKP 11 32 26.6 +0.5**
baz=111
PDAR Pinedale Array 111.68 41 PKiKP **PKiKP 11 32 27.8 +0.9**
comp=Z,0.3nm,0.4s,baz=99,slow=1.4,SNR=6.3
D22A Cohagen 111.69 36 P **PKiKP 11 32 26.8 +0.3**
baz=112
H20A Greybull 111.90 39 P **PKiKP 11 32 27.0 0.0**
baz=112
A24A Westby 111.99 34 P **PKiKP 11 32 27.6 +0.6**
baz=112
I20A Worland 112.07 40 P **PKiKP 11 32 27.9 +0.5**
baz=112
J20A Shoshoni 112.38 40 P **PKiKP 11 32 28.2 +0.2**
baz=112
F23A Volborg 112.89 37 P **PKiKP 11 32 28.4 -0.4**
baz=113
K21A Alcova 113.25 41 P **PKiKP 11 32 29.8 -0.1**
baz=113
J22A Midwest 113.38 40 P **PKiKP 11 32 29.7 -0.2**
baz=113
WUAZ Wupatki 113.38 49 P **PKiKP 11 32 30.4 +0.2**
baz=113
N20A Spence Gulch, 113.41 43 P **PKiKP 11 32 30.1 -0.2**
baz=113
A28A Rude Farm, Bot 114.02 32 P PKPdf 11 32 31.0 +0.1
baz=114
B28A Dugan Ranch, T 114.24 32 P PKPdf 11 32 31.4 +0.1
baz=114
G25A Newell 114.35 37 P PKPdf 11 32 31.4 -0.3
baz=114
RSSD Black Hills 114.55 38 *e*PKIKP PKPdf 11 32 32.7 +0.4
RSSD Black Hills 114.55 38 *e*PKPdf PKPdf 11 32 32.7 +0.4
H25A Fruitdale 114.55 37 P PKPdf 11 32 32.3 +0.3
baz=114
A29A Manning Farm, 114.55 32 P PKPdf 11 32 32.2 +0.3
baz=114
E27A Carson 114.75 35 P PKPdf 11 32 32.8 +0.4
baz=115
B29A Wagenman Farm, 114.77 32 P PKPdf 11 32 32.7 +0.5
baz=115
G26A Maurine 114.78 36 P PKPdf 11 32 32.5 0.0
baz=115
I25A Rochford 114.79 38 P PKPdf 11 32 32.4 -0.3
baz=115
D28A Regan 114.87 34 P PKPdf 11 32 32.9 +0.3
baz=115
MDND Maddock 115.01 33 P **PKPdf 11 32 32.6 -0.1**
baz=115
A30A Hoffart Farm, 115.03 31 P **PKPdf 11 32 32.9 +0.1**
baz=115
J25A Sunshine Ranch 115.07 39 P **PKPdf 11 32 33.3 +0.2**
baz=115
G27A Dupree 115.13 36 P **PKPdf 11 32 33.4 +0.3**
baz=115
O23A Lake Granby, G 115.28 42 P **PKPdf 11 32 34.8 +0.9**
baz=115
I26A New Underwood 115.31 38 P **PKPdf 11 32 34.0 +0.4**
baz=115
B30A Myrvik Farm, E 115.32 32 P **PKPdf 11 32 33.2 -0.1**
baz=115
ULM Lac du Bonnet 115.39 29 PKP **PKPdf 11 32 33.2 -0.2**
comp=Z,2.3nm,0.6s,baz=202,slow=1.2,SNR=5.6
H27A Howes 115.46 37 P **PKPdf 11 32 33.9 +0.1**
baz=115
D29A Pettibone, Tap 115.48 33 P **PKPdf 11 32 33.9 +0.2**
baz=115
C30A Mose, Pekin 115.70 32 P **PKPdf 11 32 34.3 +0.2**
baz=116
I27A Quinn 115.78 37 P **PKPdf 11 32 34.8 +0.4**
baz=116
K26A Motz Farm, Whi 115.82 39 P **PKPdf 11 32 34.4 -0.2**
baz=116
G28A Parade 115.89 36 P **PKPdf 11 32 35.0 +0.4**
baz=116
D30A Buchanan 115.91 33 P **PKPdf 11 32 34.8 +0.3**
baz=116
H28A Mission Ridge 116.06 36 P **PKPdf 11 32 35.0 +0.1**
baz=116
F29A Eureka 116.08 35 P **PKPdf 11 32 35.3 +0.4**
baz=116
E30A Jud 116.20 34 P **PKPdf 11 32 35.3 +0.2**
baz=116
I28A Midland 116.35 37 P **PKPdf 11 32 35.7 +0.2**
baz=116
U22A Llaves 116.38 47 P **PKPdf 11 32 37.6 +1.6**
baz=116
F30A Leola 116.53 34 P **PKPdf 11 32 35.5 -0.2**
baz=116
J28A Allard Ranch, 116.63 37 P **PKPdf 11 32 36.0 -0.1**
baz=117
T23A Casias Ranch, 116.67 46 P **PKPdf 11 32 38.9 +2.2**
baz=117
I29A Vivian Onida 116.85 36 P **PKPdf 11 32 36.3 -0.2**
baz=117
G30A Faulkton 116.89 35 P **PKPdf 11 32 36.8 +0.3**
baz=117
Q25A Bedland, Calha 117.04 43 P **PKPdf 11 32 38.1 +0.9**
baz=117
J29A Okreek 117.19 37 P **PKPdf 11 32 37.1 0.0**
baz=117
121A Cookes Peak, D 117.28 51 P **PKPdf 11 32 39.5 +1.7**
baz=117
ANMO Albuquerque 117.29 48 *c iP*KIKP **PKPdf 11 32 37.9 +0.1**
ANMO pmax pmax
comp=Z,9.0nm,1.0s
P26A Davis Ranch, A 117.33 42 P **PKPdf 11 32 38.2 +0.6**
baz=117
I30A Oacoma 117.43 36 P **PKPdf 11 32 37.2 -0.4**
baz=117
Q26A Hugo 117.53 43 P **PKPdf 11 32 39.1 +1.0**
baz=118
K29A Lazy Trails An 117.56 38 P **PKPdf 11 32 38.0 +0.1**
baz=118
Z22A Elephant Butte 117.62 50 P **PKPdf 11 32 39.6 +1.2**
baz=118
J30A Dallas 117.74 37 P **PKPdf 11 32 38.6 +0.4**
baz=118
T25A Trinidad 117.78 45 P **PKPdf 11 32 39.9 +1.2**
baz=118
V24A Rampart Ranch, 117.81 47 P **PKPdf 11 32 40.5 +1.7**
baz=118
R26A Arlington 117.89 43 P **PKPdf 11 32 39.8 +1.1**
baz=118
W24A Lazy S Ranch, 117.95 47 P **PKPdf 11 32 40.3 +1.3**
baz=118
K30A Basset 118.04 37 P **PKPdf 11 32 39.1 +0.3**
baz=118
U25A Circle Dot Ran 118.13 46 P **PKPdf 11 32 39.8 +0.4**
baz=118
S26A Kim 118.20 44 P **PKPdf 11 32 40.1 +0.7**
baz=118
V25A Rancho No Teng 118.24 46 P **PKPdf 11 32 40.6 +1.0**
baz=118
T26A Comanche Natio 118.33 44 P **PKPdf 11 32 40.8 +1.0**
baz=118
P28A Saint Francis 118.38 41 P **PKPdf 11 32 39.8 +0.2**
baz=118
Y24A Capitan 118.49 49 P **PKPdf 11 32 41.1 +0.9**
baz=118
Q28A Sharon Springs 118.59 42 P **PKPdf 11 32 40.9 +0.8**
baz=118
U26A Atchley Ranch, 118.60 45 P **PKPdf 11 32 40.4 +0.2**
baz=118
L31A Butterfield Fa 118.79 37 P **PKPdf 11 32 40.3 +0.1**
baz=119
Z24A Sheeppen Canyo 118.80 49 P **PKPdf 11 32 42.3 +1.5**
baz=119
V26A Tequesquite Ra 118.85 46 P **PKPdf 11 32 41.4 +0.7**
baz=119
P29A Atwood 118.90 41 P **PKPdf 11 32 40.6 0.0**
baz=119
R28A Tribune 118.98 42 P **PKPdf 11 32 40.6 -0.2**
baz=119
T27A Campo 119.00 44 P **PKPdf 11 32 41.5 +0.6**
baz=119
Y25A Mesa, Roswell 119.05 48 P **PKPdf 11 32 42.2 +1.1**
baz=119
ECSD EROS Data Cent 119.17 35 P **PKPdf 11 32 41.2 +0.3**
baz=119
ECSD EROS Data Cent 119.17 35 *e*PKPdf **PKPdf 11 32 41.2 +0.3**
M31A Lambtecht Ranc 119.18 38 P **PKPdf 11 32 40.9 -0.2**
baz=119
U27A Thompson Grove 119.24 45 P **PKPdf 11 32 42.7 +1.3**
baz=119
Q29A Oakley 119.25 42 P **PKPdf 11 32 42.1 +0.8**
baz=119
Z25A Roswell 119.31 49 P **PKPdf 11 32 42.2 +0.6**
baz=119
R29A Marienthal 119.39 42 P **PKPdf 11 32 41.9 +0.3**
baz=119
T28A Walsh 119.39 44 P **PKPdf 11 32 42.4 +0.8**
baz=119
X26A CR and CF Fran 119.42 47 P **PKPdf 11 32 42.4 +0.6**
baz=119
MNTX Cornudas Mount 119.48 51 *e*PKPdf **PKPdf 11 32 43.0 +1.2**
V27A Dan Oppiter Fa 119.55 46 P **PKPdf 11 32 43.0 +1.0**
baz=120
BGNE Belgrade 119.66 38 P **PKPdf 11 32 41.9 0.0**
baz=120
Q30A Quinter 119.70 41 P **PKPdf 11 32 42.6 +0.5**
baz=120
Z26A Caprock 119.87 49 P **PKPdf 11 32 42.0 -0.7**
baz=120
X27A F and S Farms, 119.89 47 P **PKPdf 11 32 43.0 +0.3**
baz=120
P31A Stockton 119.95 40 P **PKPdf 11 32 43.1 +0.5**
baz=120
V28A Channing 119.99 45 P **PKPdf 11 32 44.2 +1.4**
baz=120
R30A Dighton 120.04 42 P **PKPdf 11 32 43.3 +0.5**
baz=120
Y27A Causey 120.20 48 P **PKPdf 11 32 44.2 +0.9**
baz=120
P32A Huiting Farm, 120.40 40 P **PKPdf 11 32 43.9 +0.5**
baz=120
Z27A Tatum 120.42 48 P **PKPdf 11 32 44.6 +0.8**
baz=120
127A Arkansas Junct 120.60 49 P **PKPdf 11 32 44.5 +0.4**
baz=121
X28A Dimmitt 120.61 46 P **PKPdf 11 32 45.3 +1.2**
baz=120
U30A WK&E Inc. Balk 120.70 44 P **PKPdf 11 32 45.3 +1.1**
baz=121
Q32A Meitler Ranch, 120.78 40 P **PKPdf 11 32 44.8 +0.6**
baz=121
Y28A McKinney Farm, 120.86 47 P **PKPdf 11 32 45.3 +0.7**
baz=121
R32A Long Quarter, 120.99 41 P **PKPdf 11 32 44.7 +0.1**
baz=121
X29A Tulia 121.00 46 P **PKPdf 11 32 45.8 +1.0**
baz=121
P33A Williams Farm, 121.08 39 P **PKPdf 11 32 44.9 +0.2**
baz=121
SCHQ Schefferville 121.13 9 PKP **PKPdf 11 32 44.8 +0.5**
comp=Z,1.8nm,0.5s,baz=39,slow=2.6,SNR=7.8
128A Castleberry Fa 121.28 49 P **PKPdf 11 32 45.6 +0.2**
baz=121
Y29A Porterfield Fa 121.30 47 P **PKPdf 11 32 46.5 +1.1**
baz=121

R33A	Olander Ranch, baz=122	121.53	41	P	PKPdf	11 32 46.1 +0.5
T32A	Huddler Ranch, baz=122	121.53	42	P	PKPdf	11 32 46.5 +0.9
Z29A	Hungry Hill Ra baz=122	121.56	48	P	PKPdf	11 32 46.7 +0.8
X30A	Coker Ranch, T baz=122	121.59	46	P	PKPdf	11 32 46.2 +0.3
V31A	Spring Creek L baz=122	121.65	44	P	PKPdf	11 32 47.0 +1.0
129A	Stewart Farms, baz=122	121.74	48	P	PKPdf	11 32 47.0 +0.8
TXAR	Lajitas Array comp=Z,1.6nm,0.7s,baz=203,slow=0.4,SNR=24	121.82	53	PKP	PKPdf	11 32 47.7 +1.2
Y30A	Stafford Cattl baz=122	121.86	47	P	PKPdf	11 32 47.4 +1.0
W31A	Holland Ranch, baz=122	121.88	45	P	PKPdf	11 32 47.0 +0.5
U32A	Winter Ranch, baz=122	121.91	43	P	PKPdf	11 32 47.6 +1.2
KSU1	Kansas State U baz=122	121.96	39	P	PKPdf	11 32 47.1 +0.7
Z30A	Sanderson Ranc baz=122	121.98	47	P	PKPdf	11 32 47.5 +0.9
T33A	Patterson Ranc baz=122	122.04	42	P	PKPdf	11 32 47.8 +1.1
X31A	McDonald Ranch baz=122	122.14	45	P	PKPdf	11 32 47.8 +0.9
329A	Wagon Wheel Ra baz=122	122.18	50	P	PKPdf	11 32 47.9 +0.7
Y31A	Rekieta Farm, baz=122	122.28	46	P	PKPdf	11 32 47.6 +0.5
W32A	Sentinel baz=122	122.40	44	P	PKPdf	11 32 47.8 +0.4
U33A	Lingo Farm, Me baz=122	122.48	43	P	PKPdf	11 32 48.0 +0.5
529A	Stev Forest Ra baz=123	122.61	51	P	PKPdf	11 32 49.1 +1.1
429A	Davenport Ranc baz=123	122.64	50	P	PKPdf	11 32 49.0 +1.0
U34A	Anderson Ranch baz=123	122.87	42	P	PKPdf	11 32 48.8 +0.6
430A	Baggett Ranch, baz=123	123.07	50	P	PKPdf	11 32 49.8 +0.9
Z32A	Haskell baz=123	123.17	46	P	PKPdf	11 32 50.1 +1.2
V34A	Guthrie baz=123	123.22	43	P	PKPdf	11 32 50.1 +1.2
231A	Bronte baz=123	123.23	48	P	PKPdf	11 32 50.1 +1.0
X33A	Lawton baz=123	123.23	45	P	PKPdf	11 32 50.2 +1.2
TORD	Torodi Ar. Bea comp=Z,7.4nm,0.7s,baz=87,slow=1.7,SNR=61	123.28	288	PKP	PKPdf	11 32 49.9 +0.3
530A	J-C Ranch, Com baz=123	123.28	51	P	PKPdf	11 32 50.7 +1.5
ABTX	Abilene, Hawle baz=123	123.39	47	P	PKPdf	11 32 50.2 +0.8
331A	San Angelo baz=123	123.44	49	P	PKPdf	11 32 50.0 +0.5
431A	Sonora baz=124	123.60	50	P	PKPdf	11 32 50.6 +0.7
X34A	Smith Ranch, M baz=124	123.67	44	P	PKPdf	11 32 51.2 +1.4
Z33A	Whitaker Ranch baz=124	123.69	46	P	PKPdf	11 32 51.0 +1.1
232A	Coleman baz=124	123.75	48	P	PKPdf	11 32 51.3 +1.2
531A	Rocksprings baz=124	123.89	50	P	PKPdf	11 32 51.4 +1.0
332A	Millersview baz=124	123.92	49	P	PKPdf	11 32 51.3 +0.9
133A	Hamilton Ranch baz=124	123.93	47	P	PKPdf	11 32 51.7 +1.3
Y34A	Reagan Ranch, baz=124	124.06	45	P	PKPdf	11 32 51.6 +1.0
432A	Menard baz=124	124.13	49	P	PKPdf	11 32 51.5 +0.7
631A	Perdido Creek baz=124	124.21	51	P	PKPdf	11 32 52.1 +1.1
JCT	Junction City	124.31	50	*e*PKIKP	PKPdf	11 32 52.0 +0.8
JCT	Junction City baz=124	124.31	50	P	PKPdf	11 32 52.2 +1.0
JCT	Junction City	124.31	50	*e*PKPdf	PKPdf	11 32 52.0 +0.8
532A	Rocksprings baz=124	124.39	50	P	PKPdf	11 32 51.9 +0.5
333A	Richland Sprin baz=124	124.52	48	P	PKPdf	11 32 52.3 +0.8
134A	White-Moore Ra baz=124	124.55	46	P	PKPdf	11 32 52.6 +1.0
433A	Art baz=125	124.71	49	P	PKPdf	11 32 52.7 +0.8
Z35A	Perchaven, San baz=125	124.75	45	P	PKPdf	11 32 52.5 +0.6
632A	Uvalde baz=125	124.78	51	P	PKPdf	11 32 53.5 +1.4
234A	Clairette baz=125	124.80	47	P	PKPdf	11 32 53.1 +1.0
732A	Laxson Ranch, baz=125	124.99	51	P	PKPdf	11 32 53.7 +1.2
334A	Lometa baz=125	125.07	48	P	PKPdf	11 32 53.3 +0.7
832A	Faith Ranch, C baz=125	125.19	52	P	PKPdf	11 32 54.5 +1.6
434A	Burnet baz=125	125.30	48	P	PKPdf	11 32 53.9 +0.9
534A	Blanco baz=126	125.53	49	P	PKPdf	11 32 54.2 +0.7
535A	Dale baz=126	126.21	49	P	PKPdf	11 32 55.7 +0.9
635A	Leesville baz=126	126.38	50	P	PKPdf	11 32 56.4 +1.3
834A	Tilden baz=126	126.38	51	P	PKPdf	11 32 57.0 +1.9
536A	Bastrop baz=126	126.57	49	P	PKPdf	11 32 56.8 +1.4
034A	Hebbronville baz=127	126.76	53	P	PKPdf	11 32 58.3 +2.4
636A	Smothers Creek baz=127	126.87	49	P	PKPdf	11 32 57.9 +1.9
DBIC	Dimbokro comp=Z,3.6nm,0.7s,baz=243,slow=0.7,SNR=5.3	130.88	282	PKP	PKPdf	11 33 04.7 +0.6
JTS	JuntasAbangare	145.58	67	*e*PKP2	PKPab	11 33 32.4 +0.9
JTS	JuntasAbangare	145.58	67	*e*PKPdf	PKPab	11 33 32.4 +0.9

*ISCJB **03** 11:15:30.3±0.6, 7.°86S±0.°06×106.°87E±0.°04, h46km±60km, Error ellipse: s-maj=10.5km s-min=6.8km az=163.4*
*DJA **03** 11:15:30.5±0.9, 8.°S±6.°×10.°7E±.°, h33km±7km, M4.1/8, MLv4.1/8*

ISC 03 11:15:30.6±1.5, 7.°79S±0.°06×106.°87E±0.°04, h52km±27km, n13, σ1°22/19, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	0.54	28	P	Pn	11 15 42.8	+0.3
CNJI				S	Sn	11 15 50.7	-0.3
SKJI	Sukabumi	0.84	338	P	Pn	11 15 47.1	+0.8
SKJI				S	Sn	11 15 58.8	+1.0
CISI	Cisompet, Garu	0.96	76	P	Pn	11 15 48.4	+0.5
CISI				S	Sn	11 15 59.4	-1.3
CISI	Cisompet, Garu baz=1.0,SNR=28	0.96	76	P	Pn	11 15 47.9	0.0
CISI	baz=1.0,SNR=13			S	Sn	11 15 59.3	-1.4
LEM	Lembang	1.21	38	P	Pn	11 15 51.5	+0.1
LEM	Lembang baz=1.3,SNR=49	1.21	38	P	Pn	11 15 52.5	+1.1
CMJI	Cimerak	1.56	90	P	Pn	11 15 56.4	+0.5
CMJI				S	Sn	11 16 14.5	-0.6
CGJI	Cibinong	1.66	315	P	Pn	11 15 56.2	-1.0
KPJI	Karang Pucung	2.09	78	P	Pn	11 16 03.6	+0.4
XMI	Christmas Isla baz=2.8,SNR=9.1	2.89	204	P	Pn	11 16 15.8	+1.7
XMI				S	Sn	11 16 45.3	-2.3
XMIS	Christmas Isla baz=2.9,SNR=31	2.93	204	P	Pn	11 16 16.1	+1.3
XMIS	baz=2.9,SNR=6.4			S	Sn	11 16 47.5	-1.2
UGM	Wanagama baz=3.6,SNR=3.7	3.62	92	P	Pn	11 16 25.5	+1.3
JAGI	Jajag, Banyuwa baz=7.2,SNR=3.7	7.24	96	P	Pn	11 17 17.7	+3.8

*IDC **03** 11:28:51.5±1.5, 35.°01S×73.°93W, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.9/26, mbtmp3.9/6, ML4.0/2, MS3.7/2, Ms1 3.7/2, ms1mx3.1/21, Error ellipse: s-maj=40.2km s-min=23.9km az=75.0*
*ISCJB **03** 11:28:54.7±1.2, 34.°98S±0.°07×73.°9W±0.°2, h33km, mb3.9/4, MS3.8/2, Error ellipse: s-maj=27.0km s-min=9.6km az=171.2*

ISC 03 11:28:56.6±1.3, 34.°98S±0.°09×73.°9W±0.°2, h35km, n10, σ1°21/9, mb3.9/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.82	56	Pn	Pn	11 30 20.6	+0.1
	0.1nm,0.3s,baz=234,slow=12,SNR=3.8						
PLCA	Paso Flores	6.33	156	Pn	Pn	11 30 25.5	-2.0
	1.3nm,0.3s,baz=329,slow=11,SNR=3.2						
PLCA				Sn	Sn	11 31 40.4	+1.9
	4.8nm,0.3s,baz=61,slow=19,SNR=2.8						
LPAZ	La Paz	19.32	17	P	P	11 33 18.9	-0.6
	0.1nm,0.3s,baz=138,slow=13,SNR=2.3						
SIV	San Ignacio	22.14	35	P	P	11 33 48.9	-0.5
	2.8nm,1.0s,baz=225,slow=7.1,SNR=3.9						
BDFB	Brasília	30.16	57	LR	LR	11 49 25.6	
	comp=Z,129nm,18.8s,baz=220,slow=41						
TXAR	Lajitas Array	69.86	333	P	P	11 40 04.5	+0.6
	0.6nm,0.7s,baz=158,slow=8.2,SNR=8.4						
BOSA	Boshof	80.97	118	P	P	11 41 08.3	+0.4
	3.6nm,0.8s,baz=205,slow=4.4,SNR=3.7						
TORD	Torodi Ar. Bea	85.99	71	P	P	11 41 33.9	+0.2
	0.9nm,0.9s,baz=241,slow=2.7,SNR=4.4						
ULM	Lac du Bonnet	87.06	346	LR	LR	12 20 06.1	
	comp=Z,44nm,18.1s,baz=26,slow=35						
MKAR	Makanchi Array	158.57	49	PKPab	PKPab	11 49 25.5	+0.2
	0.4nm,0.7s,baz=320,slow=3.0,SNR=4.1						

*IDC **03** 11:29:25.9±1.7, 37.°07S×73.°15W, h0km, mb4.0/5, mb1 4.1/6, mb1mx4.0/25, mbtmp4.0/6, ML3.4/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/20, Error ellipse: s-maj=42.1km s-min=39.4km az=52.0*
*ISCJB **03** 11:29:29.8±0.9, 37.°0S±0.°1×73.°2W±0.°2, h35km, mb4.0/7, MS3.4/4, Error ellipse: s-maj=29.3km s-min=17.4km az=21.0*
*NEIC **03** 11:29:31.2±0.7, 36.°99S×73.°16W, h35km, mb4.2/2, Error ellipse: s-maj=23.3km s-min=13.7km az=109.0*

ISC 03 11:29:31.5±1.1, 37.°0S±0.°2×73.°2W±0.°2, h35km, n14, σ0°54/10, mb4.0/7, MS3.3/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	6.73	39	Pn	Pn	11 31 08.2	+0.3
	0.7nm,0.3s,baz=203,slow=3.8,SNR=13						
CFAA				LR	LR	11 33 55.7	
	comp=Z,40nm,19.2s,baz=220,slow=40						
LPAZ	La Paz	21.08	14	P	P	11 34 14.0	+0.5
	5.5nm,0.8s,baz=138,slow=7.3,SNR=8.0						
SIV	San Ignacio	23.49	30	P	P	11 34 37.1	-1.1
	3.9nm,0.9s,baz=237,slow=13,SNR=6.3						
SIV				LR	LR	11 45 31.5	
	comp=Z,98nm,20.2s,baz=176,slow=41						
NNA	Nana	25.11	351	LR	LR	11 42 33.2	
	comp=Z,80nm,18.7s,baz=180,slow=31						
ATAH	Atahualpa	30.09	350	LR	LR	11 45 42.8	
	comp=Z,49nm,18.9s,baz=169,slow=32						
QSPA	South Pole Qui	53.26	180	*e*P	P	11 38 46.6	+0.1
	2.3nm,0.8s						
JCT	Junction City	71.61	336	*e*P	P	11 40 48.7	-0.5
	0.9nm,0.3s						
TXAR	Lajitas Array	71.91	332	P	P	11 40 51.5	+0.3
	0.9nm,0.8s,baz=155,slow=8.5,SNR=8.1						
DBIC	Dimbokro	76.99	71	P	P	11 41 21.1	+0.1
	2.0nm,0.7s,baz=192,slow=9.7,SNR=2.9						
TORD	Torodi Ar. Bea	86.07	70	P	P	11 42 08.9	0.0
	0.8nm,1.0s,baz=244,slow=5.7,SNR=2.7						
SCHQ	Schefferville	91.61	4	LR	LR	12 23 47.0	
	comp=Z,35nm,21.0s,baz=298,slow=36						
ABKAR	Abkulak array	144.19	55	*e*PKPdf	PKPbc	11 49 01.4	0.0
BVAR	Borovoye Array	150.04	46	PKPbc	PKPbc	11 49 17.8	+0.1
	1.1nm,0.7s,baz=289,slow=4.5,SNR=4.2						
MKAR	Makanchi Array	159.32	54	PKPab	PKPab	11 50 03.2	-0.3
	0.5nm,0.7s,baz=316,slow=3.3,SNR=5.3						

*DDA **03** 11:30:42.8, 35.°08N×32.°43E, h22km, MD3.3*
*ISK **03** 11:30:47.1, 35.°42N×32.°30E, h30km, MD3.4, ML3.3*
*NSSC **03** 11:30:48.5±1.5, 35.°26N×32.°72E, h4km±30km, ML2.7*
*CSEM **03** 11:30:48.2±0.1, 35.°40N×32.°38E, h30km, ML3.4, Error ellipse: s-maj=4.0km s-min=2.9km az=76.0*
*NIC **03** 11:30:48.5, 35.°59N×32.°39E, h25km, ML3.4*
*HLW **03** 11:30:49.0, 35.°23N×32.°41E, h28km±13km, Md3.2, Ml3.2*
*GII **03** 11:30:51.7±0.0, 35.°09N×32.°57E, h15km±2km, MD2.3/3*

ISC 03 11:30:47.8±1.3, 35.°38N±0.°03×32.°42E±0.°03, h32km±13km, n108, σ1°46/138, 6C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	Alevga	0.26	146	P	Pn	11 30 58.2	+2.7
	baz=338						
ALFC				S	Sb	11 31 04.6	+4.8
ALFC	Alevga	0.26	146	P	Pn	11 30 58.2	+2.7
ALFC				S	Sb	11 31 04.6	+4.8
AKMC	Akamas	0.36	192⇑	*i*P	Pn	11 30 59.3	+2.5
	baz=4.0						
AKMC	Akamas	0.36	192⇑	*i*P	Pn	11 30 59.3	+2.5
LEF	Lefka	0.46	124	*e*PG	Pn	11 30 59.6	+1.4
LEF				*e*SG	Sn	11 31 07.1	+1.8
LEF	Lefka	0.46	124	*e*Pg	Pn	11 30 59.6	+1.4
LEF				*e*Sg	Sn	11 31 07.1	+1.8
PPCY	Paphos	0.49	187⇑	*i*P	Pn	11 31 00.8	+2.1
	baz=2.0						
PPCY	Paphos	0.49	187⇑	*i*P	Pn	11 31 00.8	+2.1
MAMC	Mammari	0.68	107	P	Pn	11 31 02.6	+1.3
	baz=302						
MAMC	Mammari	0.68	107	P	Pn	11 31 02.6	+1.3
SZAC	Souni-Zanaja	0.72	148⇑	*i*P	Pn	11 31 04.2	+2.3
	baz=334						
SZAC				S	Sn	11 31 16.8	+4.9
SZAC	Souni-Zanaja	0.72	148⇑	*i*P	Pn	11 31 04.2	+2.3
CSS	Prodhromos	0.85	119	P	Pn	11 31 04.6	+1.0
	baz=309						
CSS	Prodhromos	0.85	119	*e*PG	Pn	11 31 04.6	+1.0
CSS				*e*SG	Sn	11 31 17.5	+2.5
CSS	Prodhromos	0.85	119	P	Pn	11 31 04.6	+1.0
CSS				*e*Sg	Sn	11 31 17.5	+2.5
GAZI	Gazipasa	0.86	354	*i*P	Pn	11 31 03.3	-0.5
GAZI				*i*S	Sb	11 31 14.7	-0.9
GAZI	Gazipasa	0.86	354	*i*P	Pn	11 31 03.3	-0.5
GAZI				*i*S	Sb	11 31 14.7	-0.9
LFK	Lefkose	0.91	96	*e*PG	Pb	11 31 05.5	+0.3
LFK	Lefkose	0.91	96	*e*Pg	Pb	11 31 05.5	+0.3
ERMK	Ermenek	1.32	17	*i*P	Pn	11 31 11.6	+1.3
ERMK				*i*S	Sn	11 31 30.0	+3.0
ERMK	Ermenek	1.32	17	*i*P	Pn	11 31 11.6	+1.3
ERMK				*i*S	Sn	11 31 30.0	+3.0
KIZK	Mersin	1.78	51	*i*P	Pn	11 31 17.1	+0.7
KIZK				*i*S	Sn	11 31 38.7	+0.8
KIZK	Mersin	1.78	51	*i*P	Pn	11 31 17.1	+0.7
KIZK				*i*S	Sn	11 31 38.7	+0.8
MERS	Mersin	2.26	48	*e*PN	Pn	11 31 24.1	+1.1
MERS	Mersin	2.26	48	*e*Pn	Pn	11 31 24.2	+1.1
BCK	Bucak	2.55	325	*e*PN	Pn	11 31 26.4	-0.7
BCK	Bucak	2.55	325	*e*Pn	Pn	11 31 26.4	-0.7
KONT	Konya--Tatoy	2.56	359	*e*PN	Pn	11 31 27.3	+0.1
KONT	Konya--Tatoy	2.56	359	*e*Pn	Pn	11 31 27.3	+0.1
LADK	Ladik-KONYA	2.82	359	*e*PN	Pn	11 31 31.0	+0.2
LADK	Ladik-KONYA	2.82	359	*e*Pn	Pn	11 31 31.0	+0.2
KARA	Karaisali	2.84	48	*e*PN	Pn	11 31 32.2	+1.3
KARA	Karaisali	2.84	48	*e*Pn	Pn	11 31 32.2	+1.3
ARNB	Al Arnab	2.93	79	*e*P	Pn	11 31 33.6	+1.3
	SNR=45						
ARNB				*e*S	Sn	11 32 04.8	-1.7
	37nm,0.7s,SNR=40						
ARNB	Al Arnab	2.93	79	*e*P	Pn	11 31 33.6	+1.3
ARNB				*e*S	Sn	11 32 04.8	-1.7
ARNB				AML	AML	11 32 08.9	
	comp=E,57nm,0.2s						
ARNB				AML	AML	11 32 15.8	
	comp=N,37nm,0.7s						
SULT	Sultanhani-AKS	2.95	17	*e*PN	Pn	11 31 33.5	+0.9
SULT	Sultanhani-AKS	2.95	17	*e*Pn	Pn	11 31 33.5	+0.9
GOLH	Golhisar	2.96	310	*i*P	Pn	11 31 33.9	+1.1
GOLH				*i*S	Sn	11 32 07.5	+0.2
GOLH	Golhisar	2.96	310	*i*P	Pn	11 31 33.9	+1.1
GOLH				*i*S	Sn	11 32 07.5	+0.2
HWQ	Hawqa	3.10	110	*e*P	Pn	11 31 35.8	+1.1
HWQ	Hawqa	3.10	110	*e*P	Pn	11 31 35.8	+1.1
CEYT	Ceyhan	3.15	58	*e*PN	Pn	11 31 36.1	+0.9
CEYT	Ceyhan	3.15	58	*e*Pn	Pn	11 31 36.1	+0.9
BIDA	Albida	3.21	95	*e*P	Pn	11 31 36.6	+0.4
	SNR=45						
BIDA				*e*S	Sn	11 32 10.5	-2.9
	comp=N,134nm,0.2s,SNR=40						
BIDA	Albida	3.21	95	*e*P	Pn	11 31 36.6	+0.4
BIDA				*e*S	Sn	11 32 10.5	-2.9
BIDA				AML	AML	11 32 14.2	
	comp=N,341nm,0.4s						
BIDA				AML	AML	11 32 14.3	
	comp=E,134nm,0.2s						
WRDH	Warideh	3.26	87	*e*P	Pn	11 31 38.0	+1.2
	SNR=45						
WRDH				*e*S	Sn	11 32 13.1	-1.4
	comp=E,82nm,0.2s,SNR=40						
WRDH	Warideh	3.26	87	*e*P	Pn	11 31 38.0	+1.2
WRDH				*e*S	Sn	11 32 13.1	-1.4
WRDH				AML	AML	11 32 16.5	
	comp=E,38nm,0.2s						
WRDH				AML	AML	11 32 16.8	
	comp=N,82nm,0.2s						
BTCH	Batrach	3.35	77	*e*P	Pn	11 31 38.5	+0.5
	SNR=45						
BTCH				*e*S	Sn	11 32 16.3	-0.5
	comp=N,72nm,0.5s,SNR=40						
BTCH	Batrach	3.35	77	*e*P	Pn	11 31 38.5	+0.5
BTCH				*e*S	Sn	11 32 16.3	-0.5
BTCH				AML	AML	11 32 25.1	
	comp=N,85nm,0.4s						
BTCH				AML	AML	11 32 27.2	
	comp=E,72nm,0.5s						
DALY	Dalyan (Mu¨la	3.37	296	*e*PN	Pn	11 31 37.4	-0.8
DALY	Dalyan (Mu¨la	3.37	296	*e*Pn	Pn	11 31 37.4	-0.8
HAWK	Haweek	3.38	103	*e*P	Pn	11 31 39.3	+0.8
	SNR=45						
HAWK				*e*S	Sn	11 32 15.9	-1.7
	comp=E,79nm,0.5s,SNR=40						
HAWK	Haweek	3.38	103	*e*P	Pn	11 31 39.3	+0.8
HAWK				*e*S	Sn	11 32 15.9	-1.7
HAWK				AML	AML	11 32 19.4	
	comp=N,114nm,0.6s						
HAWK				AML	AML	11 32 19.8	
	comp=E,79nm,0.5s						
RCY	Rachaya	3.39	123	*e*P	Pn	11 31 39.2	+0.6
RCY	Rachaya	3.39	123	*e*P	Pn	11 31 39.2	+0.6
MMA0B	Mount Meron ar	3.41	133	Pn	Pn	11 31 39.9	+1.0
MMA0B	Mount Meron ar	3.41	133	Pn	Pn	11 31 39.9	+1.0
KSDI	Kefar Szold	3.45	128	Pn	Pn	11 31 40.5	+1.1
KSDI				Sn	Sn	11 32 19.0	-0.2
KSDI	Kefar Szold	3.45	128	Pn	Pn	11 31 40.5	+1.1
KSDI				Sn	Sn	11 32 19.0	-0.2
KOZT	Kozan	3.46	52	*e*PN	Pn	11 31 40.3	+0.8
KOZT	Kozan	3.46	52	*e*Pn	Pn	11 31 40.3	+0.8
OFRI	'Ofer	3.48	142	Pn	Pn	11 31 39.9	+0.2
OFRI	'Ofer	3.48	142	Pn	Pn	11 31 39.9	+0.2
SHUT	Suhut-Afyon	3.51	335	*e*PN	Pn	11 31 39.4	-0.8
SHUT	Suhut-Afyon	3.51	335	*e*Pn	Pn	11 31 39.4	-0.8
ARG	Arkhangelos	3.59	285	*e*PN	Pn	11 31 40.2	-1.0
ARG	Arkhangelos	3.59	285	*e*Pn	Pn	11 31 40.3	-1.0
MMLI	Mount Malkishu	3.85	139	Pn	Pn	11 31 45.6	+0.7
MMLI				Sn	Sn	11 32 27.3	-1.7
MMLI	Mount Malkishu	3.85	139	Pn	Pn	11 31 45.6	+0.7
MMLI				Sn	Sn	11 32 27.3	-1.7
TCHB	Talchebab	4.00	132	*e*P	Pn	11 31 47.1	+0.2
	SNR=45						
TCHB				*e*S	Sn	11 32 30.5	-2.1
	comp=E,31nm,0.3s,SNR=40						
TCHB	Talchebab	4.00	132	*e*P	Pn	11 31 47.1	+0.2
TCHB				*e*S	Sn	11 32 30.5	-2.1
TCHB				AML	AML	11 32 35.8	
	comp=N,60nm,0.3s						
TCHB				AML	AML	11 32 39.8	
	comp=E,31nm,0.3s						
HMDT	Nahal Hemdat	4.05	139	Pn	Pn	11 31 49.0	+1.5
HMDT				Sn	Sn	11 32 33.6	-0.2
HMDT	Nahal Hemdat	4.05	139	Pn	Pn	11 31 49.0	+1.5
HMDT				Sn	Sn	11 32 33.6	-0.2
DSI	Dead Sea	4.53	146	Pn	Pn	11 31 55.0	+0.8
DSI	Dead Sea	4.53	146	Pn	Pn	11 31 55.0	+0.8
YTIR	Yattir	4.59	150	Pn	Pn	11 31 56.8	+1.7
YTIR	Yattir	4.59	150	Pn	Pn	11 31 56.8	+1.7
MZDA	Masada	4.74	148	Pn	Pn	11 31 58.7	+1.6
MZDA	Masada	4.74	148	Pn	Pn	11 31 58.7	+1.6
ZALF	Zalf	4.75	120	*e*P	Pn	11 31 57.8	+0.5
	SNR=45						
ZALF				*e*S	Sn	11 32 47.1	-4.2
	comp=E,12nm,0.5s,SNR=40						
ZALF	Zalf	4.75	120	*e*P	Pn	11 31 57.8	+0.5
ZALF				*e*S	Sn	11 32 47.1	-4.2
ZALF				AML	AML	11 32 58.4	
	comp=E,11nm,0.5s						
ZALF				AML	AML	11 32 59.8	
	comp=N,12nm,0.5s						
KZIT	Kziot	4.75	159	Pn	Pn	11 31 58.0	+0.7
KZIT	Kziot	4.75	159	Pn	Pn	11 31 58.0	+0.7
HBRG	Burj al 'Arab	5.26	205	P	Pn	11 32 04.9	+0.7
	baz=206						
HBRG	Burj al 'Arab	5.26	205	P	Pn	11 32 04.9	+0.7
HHAG	Hagoal	5.41	183	P	Pn	11 32 06.6	+0.2
	baz=183						
HHAG	Hagoal	5.41	183	P	Pn	11 32 06.6	+0.2
KOT	Kottamia	5.46	185	P	Pn	11 32 07.3	+0.3
	baz=186						
KOT				S	Sn	11 33 04.4	-4.2
	baz=186						
KOT	Kottamia	5.46	185	P	Pn	11 32 07.3	+0.3
PRNI	Paran	5.46	156	Pn	Pn	11 32 07.3	+0.3
PRNI	Paran	5.46	156	Pn	Pn	11 32 07.3	+0.3
SUZ		5.53	176	P	Pn	11 32 08.5	+0.6
	baz=176						
SUZ		5.53	176	P	Pn	11 32 08.5	+0.6
HNKL	Nakhl	5.59	166	P	Pn	11 32 09.5	+0.7
	baz=165						
HNKL	Nakhl	5.59	166	P	Pn	11 32 09.5	+0.7
KRMI	Paran Flat	5.59	159	Pn	Pn	11 32 09.2	+0.4
KRMI	Paran Flat	5.59	159	Pn	Pn	11 32 09.2	+0.4
HRFI	Mount Harif	5.76	157	Pn	Pn	11 32 11.6	+0.4
HRFI	Mount Harif	5.76	157	Pn	Pn	11 32 11.6	+0.4
HSAF	As Saff	5.79	188	P	Pn	11 32 11.8	+0.3
	baz=188						
HSAF	As Saff	5.79	188	P	Pn	11 32 11.8	+0.3
GLL	Jalalah	5.81	186	P	Pn	11 32 12.1	+0.2
	baz=187						
GLL	Jalalah	5.81	186	P	Pn	11 32 12.1	+0.2
AQBJ	Aqaba	6.05	158	Pn	Pn	11 32 16.4	+1.3
EIL	Elat	6.08	159	Pn	Pn	11 32 15.8	+0.3
EIL	Elat	6.08	159	Pn	Pn	11 32 15.8	+0.3
HKAT	Jabal Katrina	6.96	169	P	Pn	11 32 27.9	+0.1
	baz=168						
HKAT	Jabal Katrina	6.96	169	P	Pn	11 32 27.9	+0.1

*IDC **03** 11:37:38.4±1.1, 35.°13S×74.°01W, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.8/27, mbtmp3.8/7, ML4.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/28, Error ellipse: s-maj=37.

0.3nm,0.6s,baz=289,slow=4.4,SNR=6.4

*IDC **03** 11:38:23.9±1.8, 1°.52S×99°.74E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/55, mbtmp3.9/9, ML4.3/1, Error ellipse: s-maj=72.7km s-min=16.8km az=58.0*
*ISCJB **03** 11:38:26.5±1.6, 1°.6S±0°.2×99°.7E±0°.4, h33km, mb4.0/8, Error ellipse: s-maj=60.7km s-min=12.8km az=151.4*
ISC 03 11:38:28.7±1.8, 1°.6S±0°.2×99°.7E±0°.4, h33km, n14, σ0ˢ98/11, mb4.0/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.40**	**349**	**Pn**	**Pn**	**11 39 34.7**	**+1.4**
	1.5nm,0.3s,baz=192,slow=12,SNR=3.9						
CMAR	**Chiang Mai Arr**	**19.90**	**358**	**P**	**P**	**11 42 55.5**	**-2.1**
	0.4nm,0.3s,baz=186,slow=11,SNR=7.0						
H08S2	**Diego Garcia H**	**27.81**	**257**	T	T	12 12 08.9	
	baz=78,slow=76,SNR=75						
H08S3	**Diego Garcia H**	**27.82**	**257**	T	T	12 12 17.1	
	baz=78,slow=76,SNR=55						
H08S1	**Diego Carcia H**	**27.83**	**257**	T	T	12 12 09.9	
	baz=78,slow=76,SNR=43						
WRA	**Warramunga Arr**	**38.44**	**121**	P	**P**	**11 45 47.4**	**-0.4**
	0.9nm,0.4s,baz=302,slow=9.5,SNR=18						
ASAR	**Alice Springs**	**39.72**	**126**	P	**P**	**11 45 58.4**	**-0.1**
	0.4nm,0.5s,baz=293,slow=7.3,SNR=7.8						
SONM	**Songino Array**	**49.53**	**6**	P	**P**	**11 47 16.2**	**-0.2**
	0.7nm,0.5s,baz=187,slow=8.0,SNR=5.8						
STKA	**Stephens Creek**	**49.64**	**132**	P	**P**	**11 47 18.1**	**+0.7**
	1.4nm,0.8s,baz=324,slow=7.5,SNR=4.6						
MKAR	**Makanchi Array**	**50.53**	**345**	P	**P**	**11 47 23.8**	**-0.1**
	1.3nm,0.5s,baz=155,slow=8.3,SNR=29						
USRK	**Ussuriysk Ar.**	**53.88**	**28**	P	**P**	**11 47 49.4**	**+0.6**
	1.7nm,0.8s,baz=251,slow=7.2,SNR=5.0						
ZALV	**Zalesovo Beam**	**56.68**	**350**	P	**P**	**11 48 08.6**	**-0.2**
	1.3nm,0.3s,baz=158,slow=5.6,SNR=9.6						
BVAR	**Borovoye Array**	**59.68**	**340**	P	**P**	**11 48 29.9**	**0.0**
	0.8nm,0.6s,baz=134,slow=10,SNR=4.0						
TXAR	**Lajitas Array**	**144.50**	**37**	PKP	**PKPdf**	**11 58 02.2**	**-0.5**
	0.4nm,0.6s,baz=277,slow=0.4,SNR=8.3						

*IDC **03** 11:39:54.1±1.1, 36°.05S×72°.84W, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/25, mbtmp3.7/6, ML3.1/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/28, Error ellipse: s-maj=34.3km s-min=16.7km az=90.0*
*ISCJB **03** 11:39:56.6±1.0, 36°.01S±0°.09×72°.9W±0°.2, h28km, mb3.7/4, Error ellipse: s-maj=22.9km s-min=10.0km az=22.2*
ISC 03 11:39:58.3±1.1, 36°.0S±0°.1×72°.9W±0°.2, h28km, n9, σ0ˢ98/9, mb3.9/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.07**	**159**	Pn	**Pn**	**11 41 12.7**	**+0.1**
	0.3nm,0.3s,baz=333,slow=15,SNR=2.6						
PLCA				Lg	Lg	11 42 31.7	
	3.6nm,0.3s,baz=258,slow=19,SNR=4.6						
CFAA	**Coronel Fontan**	**5.89**	**43**	Pn	**Pn**	**11 41 23.5**	**-0.2**
	0.1nm,0.3s,baz=216,slow=14,SNR=3.8						
CFAA				Sn	**Sn**	**11 42 31.0**	**+0.7**
	0.1nm,0.3s,baz=53,slow=20,SNR=1.7						
CPUP	**Villa Florida**	**16.46**	**58**	LR	LR	11 50 36.5	
	comp=Z,133nm,19.2s,baz=203,slow=39						
LPAZ	**La Paz**	**20.11**	**14**	P	**P**	**11 44 29.3**	**-1.3**
	1.7nm,0.3s,baz=170,slow=0.5,SNR=1.9						
SIV	**San Ignacio**	**22.58**	**31**	P	**P**	**11 44 56.7**	**+0.2**
	4.0nm,0.8s,baz=242,slow=16,SNR=9.2						
QSPA	**South Pole Qui**	**54.23**	**180**	P	**P**	**11 49 21.2**	**-0.1**
	1.0nm,0.8s,baz=15,slow=19,SNR=4.5						
TXAR	**Lajitas Array**	**71.14**	**332**	P	**P**	**11 51 15.7**	**+1.4**
	0.2nm,0.7s,baz=151,slow=6.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	**85.59**	**70**	P	**P**	**11 52 34.2**	**-0.2**
	1.0nm,1.1s,baz=229,slow=3.7,SNR=3.3						
SONM	**Songino Array**	**168.18**	**2**	PKPab	**PKPab**	**12 01 08.8**	**-1.3**
	0.1nm,0.3s,baz=22,slow=5.5,SNR=2.4						

*IDC **03** 11:45:03.7±1.1, 25°.91N×128°.44E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.7/45, mbtmp3.8/11, ML3.3/2, MS3.2/2, Ms1 3.3/2, ms1mx2.6/37, Error ellipse: s-maj=37.9km s-min=20.0km az=82.0*
*ISCJB **03** 11:45:05.3±0.5, 25°.92N±0°.03×128°.64E±0°.03, h27km, mb3.7/9, MS3.2/2, Error ellipse: s-maj=5.0km s-min=4.3km az=147.7*
*JMA **03** 11:45:06.5±0.3, 25°.95N×128°.62E, h34km, M3.3*
ISC 03 11:45:06.9±0.7, 25°.92N±0°.05×128°.61E±0°.04, h27km, n28, σ1ˢ48/40, mb3.8/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.79**	**319**	P	**Pb**	**11 45 20.8**	**-1.3**
JNTH				S	**Sb**	**11 45 31.6**	**-0.8**
JJT2	**Tamagusuku 2**	**0.80**	**286**	P	**Pn**	**11 45 21.7**	**-0.7**
JJT2				S	**Sn**	**11 45 32.6**	**-0.8**
JOW	**Kunigami**	**0.95**	**342**	P	**Pb**	**11 45 23.7**	**-1.1**
JOW				S	**Sb**	**11 45 35.3**	**-1.7**
JOW	**Kunigami**	**0.95**	**342**	Pn	**Pb**	**11 45 23.8**	**-1.1**
	8.5nm,0.3s,baz=172,slow=16,SNR=36						
JOW				Sn	**Sb**	**11 45 35.4**	**-1.6**
	11nm,0.3s,baz=112,slow=19,SNR=19						
JIH	**Iheya**	**1.25**	**333**	P	**Pb**	**11 45 28.3**	**-1.5**
JIH				S	**Sn**	**11 45 43.5**	**-0.9**
JAGN	**Aguni-jima**	**1.39**	**299**	P	**Pn**	**11 45 30.2**	**-0.3**
JAGN				S	**Sn**	**11 45 47.4**	**-0.7**
JOKE	**Okinoerabujima**	**1.43**	**359**	P	**Pn**	**11 45 30.8**	**-0.3**
JOKE				S	**Sb**	**11 45 49.1**	**-1.7**
JKE	**Kume jima 2**	**1.69**	**284**	P	**Pn**	**11 45 33.7**	**-0.9**
JKE				S	**Sn**	**11 45 53.8**	**-1.5**
JTK	**Tokunoshima**	**1.88**	**9**	P	**Pn**	**11 45 37.0**	**-0.3**
JTK				S	**Sn**	**11 45 58.7**	**-1.4**
JMZ	**Minamidaito 2**	**2.36**	**92**	P	**Pn**	**11 45 43.0**	**-0.8**
JMZ				S	**Sn**	**11 46 08.1**	**-3.8**
JAMN	**Amaminishikomi**	**2.37**	**12**	P	**Pn**	**11 45 43.8**	**-0.1**
JAM	**Amami Oshima**	**2.63**	**20**	P	**Pn**	**11 45 47.1**	**-0.5**
JAM				S	**Sn**	**11 46 16.6**	**-2.1**
JOGS	**Gusukube**	**3.12**	**249**	P	**Pn**	**11 45 54.3**	**0.0**
JOGS				*e*S	**Sn**	**11 46 31.2**	**+0.5**
JTJ	**Tarama**	**3.76**	**251**	P	**Pn**	**11 46 02.1**	**-1.0**
JTJ				S	**Sn**	**11 46 43.3**	**-3.1**
JISG	**Ishigakijimahi**	**4.11**	**252**	P	**Pn**	**11 46 06.5**	**-1.4**
JISG				S	**Sn**	**11 46 51.3**	**-3.9**
JNU	**Nakatsue**	**7.44**	**15**	Pn	**Pn**	**11 46 55.0**	**+1.2**
	0.7nm,0.3s,baz=201,slow=22,SNR=6.4						
KSRS	**Korea Array**	**11.51**	**357**	Pn	**Pn**	**11 47 50.9**	**+1.5**
	0.1nm,0.3s,baz=172,slow=13,SNR=3.3						
SONM	**Songino Array**	**27.99**	**327**	P	**P**	**11 50 56.7**	**+1.2**
	1.0nm,0.5s,baz=140,slow=12,SNR=5.8						
CMAR	**Chiang Mai Arr**	**28.41**	**261**	LR	LR	12 04 18.8	
	comp=Z,17nm,18.1s,baz=185,slow=41						
MKAR	**Makanchi Array**	**41.99**	**312**	P	**P**	**11 52 55.8**	**0.0**
	0.6nm,0.7s,baz=99,slow=9.6,SNR=8.5						
WRA	**Warramunga Arr**	**45.93**	**172**	P	**P**	**11 53 28.7**	**+1.2**
	0.6nm,0.9s,baz=353,slow=8.4,SNR=4.3						
BVAR	**Borovoye Array**	**50.73**	**318**	P	**P**	**11 54 05.2**	**+1.0**
	0.6nm,0.5s,baz=106,slow=14,SNR=3.1						
FINES	**FINESS Array B**	**73.30**	**331**	P	**P**	**11 56 36.2**	**+0.6**
	2.0nm,0.8s,baz=88,slow=4.4,SNR=3.3						
AKASG	**Malin Array Be**	**75.98**	**320**	P	**P**	**11 56 51.8**	**+0.3**
	1.2nm,0.5s,baz=57,slow=6.1,SNR=4.1						
BRTR	**Keskin Array B**	**77.49**	**308**	P	**P**	**11 57 00.5**	**+0.2**
	1.5nm,0.9s,baz=135,slow=6.8,SNR=4.2						
YKA	**Yellowknife Ar**	**78.66**	**25**	P	**P**	**11 57 07.8**	**+1.7**
	0.4nm,0.9s,baz=297,slow=5.8,SNR=7.0						
NOA	**NORSAR Array B**	**79.74**	**334**	P	**P**	**11 57 11.9**	**-0.3**
	0.7nm,0.7s,baz=52,slow=5.6,SNR=3.3						
VRAC	**Vranov**	**83.81**	**322**	LR	LR	12 37 56.3	
	comp=Z,33nm,18.5s,baz=222,slow=38						

*IDC **03** 11:46:10.8±1.2, 25°.86N×128°.47E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/40, mbtmp3.7/7, ML3.4/1, Error ellipse: s-maj=42.1km s-min=21.2km az=78.0*
*ISCJB **03** 11:46:12.5±0.5, 25°.87N±0°.03×128°.63E±0°.03, h27km, mb3.6/6, Error ellipse: s-maj=4.9km s-min=4.1km az=153.3*
*JMA **03** 11:46:14.1±0.3, 25°.94N×128°.64E, h29km, M3.1*
ISC 03 11:46:14.0±0.8, 25°.89N±0°.04×128°.59E±0°.04, h27km, n22, σ1ˢ17/34, mb3.6/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.80**	**288**	P	**Pn**	**11 46 29.5**	**0.0**
JJT2				S	**Sn**	**11 46 40.4**	**-0.1**
JNTH	**Nagotoyohara**	**0.81**	**321**	P	**Pb**	**11 46 28.6**	**-0.9**
JNTH				*e*S	**Sn**	**11 46 39.4**	**-1.4**
JOW	**Kunigami**	**0.98**	**343**	P	**Pn**	**11 46 31.4**	**-0.7**
JOW				*e*S	**Sb**	**11 46 43.8**	**-1.2**
JOW	**Kunigami**	**0.98**	**343**	Pn	**Pn**	**11 46 31.6**	**-0.5**
	baz=159,slow=15						
JOW				Sn	**Sb**	**11 46 43.9**	**-1.0**
	baz=87,slow=18						
JIH	**Iheya**	**1.27**	**334**	P	**Pb**	**11 46 36.7**	**-0.6**
JIH				S	**Sn**	**11 46 51.3**	**-0.9**
JAGN	**Aguni-jima**	**1.40**	**300**	P	**Pb**	**11 46 38.4**	**-1.0**
JAGN				S	**Sn**	**11 46 54.7**	**-0.6**
JOKE	**Okinoerabujima**	**1.47**	**359**	S	**Sn**	**11 46 56.5**	**-0.5**
JKE	**Kume jima 2**	**1.68**	**285**	P	**Pn**	**11 46 41.3**	**-0.3**
JKE				S	**Sn**	**11 47 02.0**	**-0.3**
JTK	**Tokunoshima**	**1.92**	**10**	P	**Pn**	**11 46 44.7**	**-0.2**
JTK				S	**Sn**	**11 47 05.8**	**-2.3**
JMZ	**Minamidaito 2**	**2.37**	**91**	P	**Pn**	**11 46 50.7**	**-0.5**
JMZ				S	**Sn**	**11 47 16.7**	**-2.7**
JAMN	**Amaminishikomi**	**2.40**	**12**	P	**Pn**	**11 46 52.4**	**+0.8**
JAMN				S	**Sn**	**11 47 19.7**	**-0.4**
JAM	**Amami Oshima**	**2.67**	**20**	*e*S	**Sn**	**11 47 26.1**	**-0.6**
JTJ	**Tarama**	**3.73**	**251**	P	**Pn**	**11 47 10.0**	**+0.1**
JTJ				*e*S	**Sn**	**11 47 51.4**	**-1.6**
JISG	**Ishigakijimahi**	**4.09**	**252**	P	**Pn**	**11 47 14.5**	**-0.2**
JISG				*e*S	**Sn**	**11 47 58.5**	**-3.2**
JKRS	**Kuro-shima**	**4.47**	**249**	*e*S	**Sn**	**11 48 11.2**	**+0.1**
JNU	**Nakatsue**	**7.48**	**15**	Pn	**Pn**	**11 48 02.2**	**+0.9**
	0.5nm,0.3s,baz=56,slow=15,SNR=4.1						
SONM	**Songino Array**	**28.01**	**327**	P	**P**	**11 52 04.3**	**+1.5**
	0.9nm,0.5s,baz=137,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**42.00**	**312**	P	**P**	**11 54 02.8**	**-0.2**
	0.4nm,0.5s,baz=91,slow=9.5,SNR=5.1						
WRA	**Warramunga Arr**	**45.90**	**172**	P	**P**	**11 54 35.0**	**+0.6**
	0.6nm,1.0s,baz=353,slow=8.5,SNR=3.5						
BVAR	**Borovoye Array**	**50.74**	**318**	P	**P**	**11 55 12.0**	**+0.6**
	0.6nm,0.4s,baz=105,slow=8.4,SNR=2.3						
YKA	**Yellowknife Ar**	**78.70**	**25**	P	**P**	**11 58 15.3**	**+1.7**
	0.2nm,0.9s,baz=304,slow=6.0,SNR=3.3						
NOA	**NORSAR Array B**	**79.76**	**334**	P	**P**	**11 58 19.7**	**+0.2**
	1.5nm,0.8s,baz=52,slow=5.6,SNR=3.5						

*IDC **03** 12:02:20.6±1.1, 34°.70S×71°.63W, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.9/29, mbtmp3.9/7, ML4.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/25, Error ellipse: s-maj=38.7km s-min=20.2km az=95.0*
*ISCJB **03** 12:02:23.3±1.0, 34°.73S±0°.09×71°.5W±0°.3, h35km, mb3.8/4, MS3.3/1, Error ellipse: s-maj=32.6km s-min=12.3km az=10.1*
ISC 03 12:02:25.6±1.1, 34°.7S±0°.1×71°.5W±0°.2, h35km, n9, σ1ˢ78/8, mb3.9/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.16**	**42**	Pn	**Pn**	**12 03 26.6**	**-0.1**
	0.1nm,0.3s,baz=225,slow=13,SNR=2.3						
PLCA	**Paso Flores**	**6.04**	**173**	Pn	**Pn**	**12 03 51.3**	**-1.2**
	2.7nm,0.3s,baz=344,slow=11,SNR=15						
LPAZ	**La Paz**	**18.61**	**10**	P	**P**	**12 06 38.8**	**-1.9**
	0.2nm,0.3s,baz=188,slow=7.0,SNR=13						
SIV	**San Ignacio**	**20.89**	**29**	P	**P**	**12 07 02.9**	**-2.0**
	2.9nm,0.7s,baz=231,slow=12,SNR=5.8						
JTS	**JuntasAbangare**	**46.55**	**342**	LR	LR	12 27 14.4	
	comp=Z,34nm,19.4s,baz=352,slow=32						
QSPA	**South Pole Qui**	**55.51**	**180**	P	**P**	**12 11 56.4**	**-0.5**
	1.7nm,0.9s,baz=341,slow=1.0,SNR=9.8						
TXAR	**Lajitas Array**	**70.57**	**330**	P	**P**	**12 13 38.2**	**+1.1**
	0.2nm,0.5s,baz=163,slow=8.4,SNR=6.5						
BOSA	**Boshof**	**79.36**	**117**	P	**P**	**12 14 30.4**	**+2.2**
	1.5nm,0.7s,baz=315,slow=17,SNR=3.1						
TORD	**Torodi Ar. Bea**	**84.06**	**70**	P	**P**	**12 14 53.7**	**+0.7**
	0.5nm,0.7s,baz=228,slow=5.2,SNR=2.9						

IDC 03 12:08:08.3±1.6, 35°.60S×70°.55W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/35, mbtmp3.5/4, ML2.8/2, MS1.6/1, Ms1 1.6/1, ms1mx1.6/19, Error ellipse: s-maj=54.4km s-min=29.1km az=93.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.43**	**26**	Pn	Pn	12 09 18.9	+2.1
	0.1nm,0.3s,baz=207,slow=9.0,SNR=5.3						
CFAA				Lg	Lg	12 10 24.0	
	2.1nm,0.3s,baz=117,slow=20,SNR=7.6						
CFAA				LR	LR	12 10 55.9	
	comp=Z,7.0nm,19.9s,baz=224,slow=38						
PLCA	**Paso Flores**	**5.12**	**180**	Pn	Pn	12 09 27.7	+1.2
	baz=311,slow=20,SNR=0.7						
LPAZ	**La Paz**	**19.35**	**7**	P	P	12 12 36.0	-0.3
	0.0nm,0.3s,baz=158,slow=19,SNR=2.1						
TXAR	**Lajitas Array**	**71.73**	**330**	P	P	12 19 32.3	-0.1
	0.1nm,0.5s,baz=150,slow=9.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**83.62**	**69**	P	P	12 20 38.3	-0.7
	0.5nm,0.8s,baz=233,slow=4.3,SNR=3.5						

*IDC **03** 12:12:44.0±1.2, 35°.47S×74°.16W, h0km, mb3.9/4, mb1 3.9/7, mb1mx3.8/40, mbtmp3.8/7, ML3.9/3, Error ellipse: s-maj=40.2km s-min=21.3km az=98.0*
*ISCJB **03** 12:12:47.9±1.1, 35°.42S±0°.10×73°.9W±0°.2, h33km, mb3.9/4, Error ellipse: s-maj=27.8km s-min=14.0km az=3.5*
ISC 03 12:12:49.4±1.1, 35°.4S±0°.1×74°.0W±0°.2, h35km, n9, σ1ˢ37/9, mb3.8/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.97**	**154**	Pn	**Pn**	**12 14 16.0**	**+0.6**
	2.6nm,0.3s,baz=322,slow=10,SNR=12						
CFAA	**Coronel Fontan**	**6.11**	**53**	Pn	**Pn**	**12 14 16.2**	**-1.1**
	0.3nm,0.3s,baz=226,slow=11,SNR=7.0						
LPAZ	**La Paz**	**19.74**	**17**	P	**Pn**	**12 17 18.1**	**-0.3**
	0.1nm,0.3s,baz=132,slow=6.6,SNR=4.1						
SIV	**San Ignacio**	**22.52**	**34**	P	**P**	**12 17 48.8**	**+2.6**
	3.6nm,1.0s,baz=229,slow=9.3,SNR=2.4						
QSPA	**South Pole Qui**	**54.84**	**180**	P	**P**	**12 22 15.9**	**+0.1**
	4.1nm,0.9s,baz=309,slow=1.6,SNR=5.6						
TXAR	**Lajitas Array**	**70.20**	**333**	P	**P**	**12 23 58.8**	**0.0**
	0.4nm,0.7s,baz=156,slow=8.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**86.19**	**71**	P	**P**	**12 25 27.6**	**+0.2**
	0.5nm,0.8s,baz=238,slow=3.6,SNR=3.1						
MKAR	**Makanchi Array**	**158.89**	**50**	PKPab	**PKPab**	**12 33 18.8**	**-0.6**
	0.5nm,0.7s,baz=295,slow=3.0,SNR=5.2						
CMAR	**Chiang Mai Arr**	**162.00**	**158**	PKPab	**PKPab**	**12 33 32.0**	**-1.5**
	0.7nm,0.3s,baz=194,slow=5.9,SNR=5.7						

*ISCJB **03** 12:12:59.5±0.6, 58°.82S±0°.08×148°.7E±0°.3, h10km, mb4.5/11, MS4.0/12, Error ellipse: s-maj=19.7km s-min=11.0km az=174.8*
*IDC **03** 12:13:00.3±0.9, 58°.75S×148°.71E, h0km, mb4.4/7, mb1 4.5/8, mb1mx4.2/26, mbtmp4.3/8, ML3.2/1, MS3.9/13, Ms1 4.0/13, ms1mx3.9/21, Error ellipse: s-maj=52.1km s-min=16.7km az=85.0*
*NEIC **03** 12:13:01.6±0.4, 58°.74S×148°.72E, h10km, mb4.9/5, Error ellipse: s-maj=16.1km s-min=8.5km az=86.0*
*GCMT **03** 12:13:01.6±0.3, 58°.73S×148°.79E, h15km±2km, MW5.0/79, Moment Tensor Solution. s31,c34; s79,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.03±.15; $M_{\theta\theta}$1.91±.12; $M_{\phi\phi}$-1.88±.15; $M_{r\theta}$-1.28±.32; $M_{\theta\phi}$-3.69±.12; $M_{\phi r}$0.34±.28; Best double couple: $M_0$4.34400×10^{16} NP1:ϕ_s347.00000°, δ75.00000°, λ7.00000°. Principal axes: T 4.5190, Plg16.0000°, Azm211.0000°; N -0.3500, Plg73.0000°, Azm51.0000°; P -4.1690, Plg5.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 03 12:13:01.7±0.7, 58°.74S±0°.10×148°.7E±0°.2, h10km, n33, σ0ˢ85/21, mb4.4/11, MS3.8/12, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRV	**Dumont d'Urvil**	**8.90**	**203**	P	Pn	12 14 58.0	-12
DRV				R		12 16 00.0	
TAU	**Tasmania Unive**	**15.87**	**356**	*e*P	**P**	**12 16 48.8**	**+0.1**
	119nm,0.9s						
WHZ	**Wether Hill Ro**	**17.33**	**51**	*e*Pn	**Pn**	**12 17 03.3**	**-0.2**
	219nm,2.0s						
VNDA	**Vanda**	**19.39**	**171**	P	**P**	**12 17 26.0**	**-1.3**
	0.1nm,0.3s,baz=332,slow=10,SNR=3.4						
VNDA				LR	LR	12 23 47.2	
	comp=Z,583nm,21.8s,baz=344,slow=33						
CAN	**Canberra**	**23.43**	**1**	*e*P	**P**	**12 18 11.2**	**+0.4**
	28nm,1.1s						
STKA	**Stephens Creek**	**27.29**	**347**	P	**P**	**12 18 47.2**	**+1.1**
	4.7nm,0.9s,baz=168,slow=10,SNR=9.0						
STKA				LR	LR	12 26 57.9	
	comp=Z,272nm,18.6s,baz=180,slow=31						
BBOO	**Buckleboo**	**27.30**	**336**	*e*P	**P**	**12 18 44.5**	**-1.8**
	112nm,0.9s						
URZ	**Urewera**	**27.46**	**54**	LR	LR	12 29 01.8	
	comp=Z,593nm,18.2s,baz=212,slow=35						
FORT	**Forrest**	**31.30**	**324**	*e*P	**P**	**12 19 22.0**	**+0.3**
	19nm,0.8s						
QSPA	**South Pole Qui**	**31.36**	**180**	P	**P**	**12 19 23.9**	**+1.7**
	3.6nm,1.0s,baz=25,slow=2.3,SNR=5.0						
ASAR	**Alice Springs**	**36.60**	**337**	P	**P**	**12 20 08.2**	**+0.4**
	3.4nm,0.7s,baz=164,slow=9.6,SNR=56						
ASAR				PcP	**PcP**	**12 22 30.2**	**-0.6**
	1.2nm,0.9s,baz=139,slow=2.3,SNR=4.9						
ASAR				LR	LR	12 33 01.5	
	comp=Z,110nm,20.5s,baz=160,slow=33						
AS31	**Alice Springs**	**36.60**	**337**	*e*P	**P**	**12 20 08.2**	**+0.3**
MAW	**Mawson**	**36.63**	**220**	LR	LR	12 35 05.0	
	comp=Z,621nm,18.3s,baz=69,slow=36						
RAO	**Raoul Island**	**37.30**	**52**	LR	LR	12 33 50.6	
	comp=Z,410nm,21.6s,baz=140,slow=34						
DZM	**Mont Dzumac**	**38.78**	**27**	P	**P**	**12 20 26.5**	**+0.2**
	11nm,1.0s,baz=132,slow=5.5,SNR=4.7						
WB2	**Warramunga Arr**	**40.13**	**339**	*e*P	**P**	**12 20 37.1**	**-0.4**
WRA	**Warramunga Arr**	**40.13**	**339**	P	**P**	**12 20 36.5**	**-1.0**
	4.4nm,0.7s,baz=166,slow=7.5,SNR=40						
WRAB	**Tennant Creek**	**40.14**	**339**	*e*P	**P**	**12 20 37.4**	**-0.3**
	16nm,0.9s						
SNAA	**Sanae**	**48.37**	**192**	P	**P**	**12 21 42.0**	**-1.0**
	3.3nm,0.9s,baz=198,slow=16,SNR=3.3						
BATI	**Baumata**	**52.03**	**328**	LR	LR	12 42 20.8	
	comp=Z,97nm,19.9s,baz=192,slow=34						
PPT	**Papeete**	**60.54**	**75**	LR	LR	12 43 54.4	
	comp=Z,43nm,20.7s,baz=224,slow=31						
H08S2	**Diego Garcia H**	**76.36**	**278**	T	T	13 48 54.7	
	baz=148,slow=76,SNR=126						
H08S1	**Diego Carcia H**	**76.37**	**278**	T	T	13 48 55.6	
	baz=148,slow=76,SNR=133						
H08S3	**Diego Garcia H**	**76.38**	**278**	T	T	13 49 00.1	
	baz=148,slow=76,SNR=175						
BOSA	**Boshof**	**81.16**	**228**	LR	LR	12 56 54.8	
	comp=Z,134nm,18.6s,baz=164,slow=32						
JCJ	**Chichijima**	**85.68**	**354**	LR	LR	13 04 35.0	
	comp=Z,34nm,18.4s,baz=82,slow=36						
CMAR	**Chiang Mai Arr**	**87.07**	**313**	P	**P**	**12 25 47.8**	**+0.5**
	0.8nm,0.5s,baz=176,slow=4.5,SNR=6.4						
CMAR				LR	LR	13 02 52.2	
	comp=Z,81nm,19.6s,baz=154,slow=34						
MJAR	**Matsushiro Arr**	**95.33**	**352**	LR	LR	13 07 07.8	
	comp=Z,33nm,20.6s,baz=185,slow=34						
KSRS	**Korea Array**	**97.39**	**343**	LR	LR	13 10 53.5	
	comp=Z,22nm,19.4s,baz=171,slow=36						
YKA	**Yellowknife Ar**	**141.61**	**48**	PKP	**PKPdf**	**12 32 31.5**	**0.0**
	0.2nm,0.6s,baz=224,slow=2.9,SNR=4.5						
AKASG	**Malin Array Be**	**145.27**	**284**	PKPbc	**PKPbc**	**12 32 37.8**	**-0.3**
	1.7nm,0.7s,baz=100,slow=2.2,SNR=4.3						
FINES	**FINESS Array B**	**152.06**	**300**	PKPbc	**PKPbc**	**12 32 55.7**	**+0.1**
	1.7nm,0.7s,baz=108,slow=6.2,SNR=4.9						
GERES	**GERESS Array B**	**152.16**	**269**	PKPbc	**PKPbc**	**12 32 57.2**	**+0.9**
	0.2nm,0.3s,baz=80,slow=2.2,SNR=2.5						

*ISCJB **03** 12:14:47.5±1.1, 35°.5S±0°.1×73°.0W±0°.2, h17km, mb3.6/4, Error ellipse: s-maj=25.9km s-min=14.8km az=1.9*
*IDC **03** 12:14:47.5±1.2, 35°.41S×73°.30W, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.7/40, mbtmp3.7/7, ML3.5/3, Error ellipse: s-maj=34.9km s-min=20.8km az=76.0*
ISC 03 12:14:50.4±1.3, 35°.5S±0°.1×73°.0W±0°.2, h17km, n8, σ1ˢ96/7, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.54**	**47**	Pn	**Pn**	**12 16 11.4**	**-0.8**
	0.5nm,0.3s,baz=221,slow=12,SNR=5.3						
PLCA	**Paso Flores**	**5.57**	**161**	Pn	**Pn**	**12 16 11.8**	**-0.8**
	0.2nm,0.3s,baz=342,slow=16,SNR=1.2						
PLCA				Lg	Lg	12 17 50.4	
	1.3nm,0.3s,baz=313,slow=11,SNR=

*ISCJB **03** 12:42:34.0±0.7, 35°.23N±0°.04×140°.79E±0°.08, h49km±5km, mb3.2/3, Error ellipse: s-maj=10.4km s-min=7.3km az=165.3*
*JMA **03** 12:42:34.7±0.1, 35°.26N×140°.70E, h45km±2km, M2.7*
*IDC **03** 12:42:36.0±1.9, 34°.42N×138°.99E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/31, mbtmp3.1/4, ML3.0/1, Error ellipse: s-maj=77.2km s-min=20.3km az=76.0*

ISC 03 12:42:35.1±1.5, 35°.25N±0°.04×140°.78E±0°.07, h38km±2km, n13, σ0s92/20, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	Katsuura	0.39	256	P	Pn	12 42 43.7	-0.3
KTR				eS	Sn	12 42 49.5	-1.3
BSO4	Boso 4	0.44	235	P	Pn	12 42 44.8	+0.1
BSO4				eS	Sn	12 42 52.7	+1.1
CHOJ	Chosi	0.46	8	P	Pn	12 42 45.3	+0.2
CHOJ				eS	Sn	12 42 52.6	+0.4
BSO3	Boso 3	0.49	207	P	Pn	12 42 45.3	-0.1
BSO3				eS	Sn	12 42 53.8	+1.2
JCN	Nagara	0.50	290	P	Pn	12 42 45.4	-0.4
JCN				S	Sn	12 42 53.7	+0.5
BSO1	Boso 1	0.61	164	P	Pn	12 42 46.8	-0.1
JYT	Yasato	1.09	334	P	Pn	12 42 53.0	-0.8
JOD2	Odawara 2	1.38	271	P	Pn	12 42 56.4	-1.5
MJAR	Matsushiro Arr 4.4nm,0.3s,baz=162,slow=12,SNR=37	2.46	303	Pn	Pn	12 43 13.2	+0.6
MJAR				Sn	Sn	12 43 43.3	+2.0
	1.3nm,0.3s,baz=146,slow=26,SNR=4.5						
MAT	Matsushiro	2.46	303	P	Pn	12 43 13.0	+0.4
MAT				S	Sn	12 43 41.0	-0.4
MKAR	Makanchi Array 0.1nm,0.4s,baz=87,slow=9.7,SNR=4.6	44.65	304	P	P	12 50 44.2	+0.3
WRA	Warramunga Arr 0.2nm,0.4s,baz=1.5,slow=7.6,SNR=7.6	55.22	187	P	P	12 52 03.3	-1.0
ASAR	Alice Springs 0.2nm,0.9s,baz=23,slow=11,SNR=2.9	58.95	187	P	P	12 52 30.6	0.0

MAN 03 12:46:07, 11°.22N×125°.54E, h22km, mb4.1, ML2.9, MS2.6, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.39	345	eP	Pn	12 46 16.9	-0.4
BESP				eS	Sb	12 46 20.6	-0.2
PLP	Palo	0.55	264	eP	Pn	12 46 19.2	-0.3
PLP				i S	Sn	12 46 30.0	+1.9
OCLP	Ormoc	0.93	259	eP	Pb	12 46 20.9	-3.5
OCLP				eS	Sb	12 46 28.5	-7.9
MSLP	Maasin	1.27	212	eP	Pb	12 46 30.1	-0.2
MSLP				eS	Sn	12 46 45.4	-0.5

*IDC **03** 12:49:56.2±0.7, 34°.75S×72°.42W, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.2/34, mbtmp4.2/10, ML4.1/2, MS3.7/6, Ms1 3.7/6, ms1mx3.5/25, Error ellipse: s-maj=27.0km s-min=19.2km az=100.0*
*GUC **03** 12:49:59.2±0.5, 34°.77S×72°.50W, h18km±3km, ML4.7*
*BJI **03** 12:50:00.8, 35°.32S×72°.71W, h35km, mB5.0/4, Ms5.0/4, Ms7 5.0/4*
*ISCJB **03** 12:50:01.1±1.2, 34°.85S±0°.06×72°.4W±0°.1, h42km±11km, mb4.5/26, MS3.6/4, Error ellipse: s-maj=14.7km s-min=8.7km az=20.0*
*NEIC **03** 12:50:02.0±0.3, 34°.77S×72°.31W, h35km, mb4.8/21, Error ellipse: s-maj=9.9km s-min=8.2km az=49.0*
NEIC Felt at Santiago.

ISC 03 12:50:02.5±0.9, 34°.75S±0°.07×72°.40W±0°.09, h41km±7km, n62, σ1s44/81, mb4.6/30, MS3.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	1.14	46	eP	Pn	12 50 20.0	-1.9
LNV				i S	Sn	12 50 36.1	-0.2
CACH	El Canelo	1.62	68	eP	Pn	12 50 28.4	-0.2
CACH				i S	Sn	12 50 51.0	+2.7
CHCH	Chadas Angostu	1.66	61	eP	Pn	12 50 28.5	-0.6
CHCH				i S	Sn	12 50 50.9	+1.6
ANTU	Antumapu	1.88	52	i P	Pn	12 50 31.9	-0.3
ANTU				i S	Sn	12 50 57.0	+2.3
ANTU				IAML		12 51 04.3	
	comp=E,9μm,0.5s						
PEL	Peldehue	2.15	42	eP	Pn	12 50 36.3	+0.5
PEL				eS	Sn	12 51 04.2	+3.0
PEL				IAML		12 51 11.3	
	comp=N,11μm,0.5s						
FCH	Farellones	2.25	52	i P	Pn	12 50 38.5	+0.9
FCH				i S	Sn	12 51 07.8	+3.5
FCH				IAML		12 51 15.1	
	comp=E,5μm,0.6s						
CFAA	Coronel Fontan comp=E,0.3nm,0.3s,baz=223,slow=12,SNR=18	4.69	49	Pn	Pn	12 51 10.4	-0.4
CFAA				Sn	Sn	12 52 05.2	+1.1
	comp=E,1.3nm,0.3s,baz=249,slow=13,SNR=3.6						
CFAA				LR	LR	12 53 14.8	
	comp=E,65nm,20.6s,baz=226,slow=42						
PLCA	Paso Flores comp=E,1.4nm,0.3s,baz=342,slow=12,SNR=12	6.15	167	Pn	Pn	12 51 30.3	-0.5
PLCA				Lg	Lg	12 53 07.2	
	comp=E,0.4nm,0.3s,baz=275,slow=14,SNR=3.6						
PLCA				LR	LR	12 53 56.8	
	comp=E,716nm,18.5s,baz=312,slow=39						
TRQA	Tornquist	9.03	114	ePn	Pn	12 52 11.2	+1.0
CPUP	Villa Florida comp=E,353nm,19.7s,baz=196,slow=39	15.45	61	LR	LR	13 00 00.4	
CPUP	Villa Florida	15.45	61	ePn	Pn	12 53 36.0	-1.5
LPAZ	La Paz comp=E,0.2nm,0.3s,baz=186,slow=8.9,SNR=14	18.78	13	P	P	12 54 19.3	+0.3
LPAZ	La Paz comp=E,11nm,1.0s	18.78	13	eP	P	12 54 19.8	+0.9
SIV	San Ignacio comp=E,9.4nm,0.8s,baz=225,slow=12,SNR=24	21.27	31	P	P	12 54 44.3	-1.1
SIV				LR	LR	13 04 19.3	
	comp=E,148nm,21.3s,baz=190,slow=41						
NNA	Nana comp=E,116nm,19.0s,baz=168,slow=32	23.02	349	LR	LR	13 02 23.2	
SAML	Samuel comp=E,2.1nm,0.7s	27.04	20	P	P	12 55 41.6	+0.6
PMSA	Palmer Station comp=E,203nm,18.3s,baz=317,slow=36	30.48	173	LR	LR	13 08 05.3	
RPN	Rapa Nui comp=E,221nm,18.0s,baz=101,slow=30	32.44	273	LR	LR	13 06 04.2	
QSPA	South Pole Qui comp=E,2.5nm,1.0s,baz=213,slow=2.5,SNR=3.3	55.49	180	P	P	12 59 33.4	+0.4
JCT	Junction City comp=E,20nm,1.4s	69.83	335	eP	P	13 01 09.5	+0.7
TX31	Lajitas Ar. Si	70.24	331	eP	P	13 01 11.8	+0.3
TXAR	Lajitas Array comp=E,1.0nm,0.6s,baz=152,slow=8.2,SNR=13	70.24	331	P	P	13 01 11.7	+0.3
ABTX	Abilene, Hawle comp=E,2.0nm,0.5s	71.74	336	eP	P	13 01 19.5	-0.8
MNTX	Cornudas Mount comp=E,51nm,3.0s	73.02	331	eP	P	13 01 27.1	-0.9
MSTX	Muleshoe comp=E,40nm,2.0s	74.05	334	eP	P	13 01 34.6	+0.5
121A	Cookes Peak, D comp=E,14nm,1.5s	74.73	330	eP	P	13 01 39.4	+1.2
DBIC	Dimbokro comp=E,4.2nm,1.0s,baz=193,slow=11,SNR=3.1	75.70	71	P	P	13 01 43.5	-0.5
TUC	Tucson comp=E,70nm,3.0s	75.83	327	eP	P	13 01 45.7	+1.3
ANMO	Albuquerque comp=E,4.7nm,1.0s	76.30	332	eP	P	13 01 48.3	+1.2
W18A	Petrified Fore comp=E,12nm,1.3s	77.77	329	eP	P	13 01 57.3	+1.9
SDCO	Great Sand Dun comp=E,2.2nm,1.0s	78.41	334	eP	P	13 01 58.8	-0.2
WUAZ	Wupatki comp=E,9.9nm,1.3s	78.81	328	eP	P	13 02 02.5	+1.4
MVCO	Mesa Verde comp=E,7.7nm,1.1s	79.08	331	eP	P	13 02 03.7	+1.1
CRY	Cary Ranch	79.66	324	eP	P	13 02 11.7	+6.0
SMCO	Snowmass comp=E,57nm,2.6s	80.21	333	eP	P	13 02 10.3	+1.4
KNB	Kanab comp=E,7.8nm,1.1s	80.70	328	eP	P	13 02 12.9	+1.6
KNB				epP	PcP	13 02 21.3	+3.3
ECSD	EROS Data Cent comp=E,157nm,3.0s	81.17	342	eP	P	13 02 13.1	-0.3
SHPR	Sheep Range comp=E,5.6nm,1.3s	81.31	326	eP	P	13 02 15.7	+1.1
CCUT	Cedar City comp=E,109nm,3.0s	81.38	328	eP	P	13 02 16.9	+1.9
R11A	Troy Canyon, C comp=E,65nm,2.9s	83.02	327	eP	P	13 02 24.7	+1.2
DUG	Dugway, Tooele comp=E,8.5nm,1.4s	83.37	330	eP	P	13 02 26.9	+1.6
TPH	Tonopah comp=E,9.0nm,1.3s	83.54	326	eP	P	13 02 27.1	+0.9
HWUT	Hardware Ranch comp=E,53nm,2.4s	84.06	332	eP	P	13 02 29.3	+0.5
PDAR	Pinedale Array comp=E,0.9nm,0.9s,baz=172,slow=4.5,SNR=5.7	84.30	333	P	P	13 02 29.4	-0.7
NVAR	Mina Array Bea comp=E,1.0nm,0.8s,baz=154,slow=6.2,SNR=6.3	84.33	325	P	P	13 02 31.5	+1.2
TOA0	Torodi Ar. Sit	84.75	70	eP	P	13 02 31.8	-0.8
TORD	Torodi Ar. Bea comp=E,2.2nm,1.1s,baz=265,slow=3.9,SNR=6.6	84.75	70	P	P	13 02 31.7	-0.9
ULM	Lac du Bonnet comp=E,3.8nm,0.9s,baz=105,slow=3.0,SNR=6.3	87.14	345	P	P	13 02 42.4	-1.2
DGMT	Dagmar comp=E,221nm,2.8s	87.58	339	eP	P	13 02 46.4	+0.5
WRA	Warramunga Arr comp=E,0.2nm,0.8s,baz=159,slow=1.8,SNR=5.0	119.96	209	PKP	PKPdf	13 08 47.4	-1.7
KKAR	Karatay Array	150.16	63	ePKPbc	PKPbc	13 09 48.2	-0.5
AAK	Ala-Archa	153.12	63	ePKPdf	PKPdf	13 09 47.8	-0.5
AAK				ePKPbc	PKPbc	13 09 56.0	+0.3
AAK				ePKPab	PKPab	13 10 07.2	-0.3
KSH	Kashi	154.42	70	PKPbc	PKPdf	13 09 50.3	+0.1
KSH				sPKP		13 10 03.4	
KSH				PKS	PKSdf	13 13 23.3	-1.1
KSH				PP	PP	13 13 47.3	-1.5
KSH				SKS	SKSdf	13 16 54.2	+0.5
KSH				SS	SS	13 33 23.2	-3.4
KSH				PPMZ			
	comp=E,73nm,3.7s						
KSH				LN			
	comp=E,29nm,4.3s						
KSH				LE			
	comp=E,23nm,4.6s						
KSH				LZ			
	comp=E,120nm,6.6s						
ZALV	Zalesovo Beam comp=E,0.5nm,0.3s,baz=333,slow=1.4,SNR=3.1	155.02	33	PKP	PKPdf	13 09 49.1	-1.2
ZALV				PKPab	PKPab	13 10 14.7	-0.2
	comp=E,1.3nm,0.7s,baz=289,slow=5.5,SNR=4.3						
MKAR	Makanchi Array comp=E,0.4nm,0.8s,baz=66,slow=1.5,SNR=3.9	157.48	50	PKP	PKPdf	13 09 52.7	-1.1
MKAR				PKPab	PKPab	13 10 25.2	-0.6
	comp=E,0.9nm,0.8s,baz=308,slow=4.0,SNR=8.2						
CN2	Changchun	163.51	309	ePKP	PKPdf	13 10 00.3	-0.2
SONM	Songino Array	166.90	4	PKPab	PKPab	13 11 06.9	0.0
	comp=E,0.9nm,0.9s,baz=339,slow=3.8,SNR=6.1						
NJ2	Nanjing	170.21	257	ePKP	PKPdf	13 10 04.8	-1.1
GYA	Guiyang	171.70	174	ePKP	PKPdf	13 10 06.2	-0.8
GYA				pPKP	pPKPdf	13 10 18.0	-2.0
GYA				PKPab	PKPab	13 11 29.8	+1.2
GYA				PKS	PKSdf	13 13 37.5	-2.1
GYA				PP	PP	13 15 21.4	+2.8
GYA				SKKS		13 22 03.6	
GYA				SS	SS	13 36 21.9	-0.5
GYA				PPMZ			
	comp=E,120nm,8.3s						
GYA				LN			
	comp=E,130nm,21.4s						
GYA				LE			
	comp=E,110nm,22.2s						
GYA				LZ			
	comp=E,120nm,21.6s						
HHC	Hu-ho-hao-te	173.15	334	ePKP	PKPdf	13 10 11.5	+4.3
HHC				pPKP	pPKPdf	13 10 20.8	+0.6
HHC				sPKP		13 10 25.6	
HHC				PKS	PKSdf	13 13 40.1	+0.6
HHC				PP	PP	13 15 34.7	+8.6
HHC				SS	SS	13 36 39.7	+2.4
HHC				PPMZ			
	comp=E,110nm,10.3s						
HHC				LN			
	comp=E,110nm,22.1s						
HHC				LE			
	comp=E,120nm,22.3s						
HHC				LZ			
	comp=E,150nm,22.7s						
CD2	Chengdu	174.99	139	ePKP	PKPdf	13 10 08.3	+0.2
LZH	Lanzhou	176.66	65	ePKP	PKPdf	13 10 08.5	0.0
LZH				pPKP	pPKPdf	13 10 19.4	-2.0
LZH				sPKP		13 10 22.7	

*IDC **03** 12:54:29.6±2.4, 37°.73S×73°.36W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.8/28, mbtmp3.8/4, Error ellipse: s-maj=127.9km s-min=26.2km az=102.0*
*ISCJB **03** 12:54:31.2±2.1, 37°.75S±0°.2×73°.6W±0°.9, h23km, mb3.8/4, Error ellipse: s-maj=107.2km s-min=22.2km az=11.5*

ISC 03 12:54:32.9±2.2, 37°.75S±0°.2×73°.5W±0°.7, h23km, n6, σ0s39/6, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz 3.0nm,0.8s,baz=191,slow=11,SNR=5.8	21.84	14	P	P	12 59 24.5	+0.1
SIV	San Ignacio 1.1nm,0.7s,baz=221,slow=11,SNR=2.9	24.24	30	P	P	12 59 48.2	+0.1
QSPA	South Pole Qui 3.1nm,1.0s,baz=255,slow=1.0,SNR=6.3	52.55	180	P	P	13 03 44.3	0.0
TORD	Torodi Ar. Bea 0.3nm,0.5s,baz=217,slow=4.6,SNR=4.9	86.55	71	P	P	13 07 14.6	+0.2
ZALV	Zalesovo Beam 0.7nm,0.5s,baz=305,slow=5.2,SNR=3.9	157.94	36	PKPab	PKPab	13 15 00.2	0.0
MKAR	Makanchi Array 0.4nm,0.8s,baz=289,slow=3.7,SNR=3.6	159.95	55	PKPab	PKPab	13 15 08.7	-0.6

IDC 03 13:01:20.1±1.4, 16°.13S×177°.62E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/31, mbtmp3.8/5, MS3.6/4, Ms1 3.6/4, ms1mx3.1/26, Error ellipse: s-maj=44.0km s-min=31.6km az=143.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara comp=Z,105nm,21.5s,baz=110,slow=32	18.46	289	LR	LR	13 11 16.9	
URZ	Urewera comp=Z,79nm,18.5s,baz=26,slow=36	22.05	181	LR	LR	13 14 36.6	
STKA	Stephens Creek 2.1nm,0.8s,baz=63,slow=7.5,SNR=6.4	36.25	238	P	P	13 08 25.8	+0.6
WRA	Warramunga Arr 0.4nm,0.8s,baz=92,slow=8.8,SNR=3.5	41.25	258	P	P	13 09 06.9	-0.4
ASAR	Alice Springs 0.7nm,0.8s,baz=81,slow=7.8,SNR=9.1	41.66	252	P	P	13 09 10.2	-0.4
BATI	Baumata comp=Z,53nm,18.8s,slow=35	52.75	269	LR	LR	13 32 06.2	
QSPA	South Pole Qui 1.7nm,0.9s,baz=1.3,slow=2.8,SNR=8.8	73.91	180	P	P	13 12 56.8	-0.1
ILAR	Eielson Array 0.5nm,1.0s,baz=224,slow=5.0,SNR=2.8	85.07	14	P	P	13 13 57.5	+0.1
PDAR	Pinedale Array comp=Z,96nm,18.7s,baz=152,slow=33	88.73	45	LR	LR	13 49 30.1	

*ISCJB **03** 13:04:02.3±2.3, 33°.37S±0°.06×72°.49W±0°.05, h14km±15km, mb4.3/8, MS4.3/9, Error ellipse: s-maj=10.6km s-min=7.4km az=1.5*
*IDC **03** 13:04:02.8±0.8, 33°.39S×72°.20W, h0km, mb4.3/7, mb1 4.4/10, mb1mx4.2/27, mbtmp4.3/10, ML4.5/3, MS4.3/11, Ms1 4.3/11, ms1mx4.1/22, Error ellipse: s-maj=26.3km s-min=16.9km az=127.0*
*GUC **03** 13:04:04.6±0.7, 33°.48S×72°.34W, h25km±22km, ML4.7*
*NEIC **03** 13:04:06.4±3.0, 33°.33S×72°.24W, h25km±20km, mb4.7/2, Error ellipse: s-maj=16.6km s-min=7.3km az=97.0*

ISC 03 13:04:05.1±2.3, 33°.34S±0°.07×72°.30W±0°.08, h17km±13km, n36, σ0s73/42, mb4.5/8, MS4.4/9, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.64	61	i P	Pn	13 04 18.8	-0.6
IHA				i S1	Sn	13 04 30.1	+0.9
TACH	Talagante	1.18	106	i P	Pn	13 04 26.5	-0.4
RCDM	Rinconada Maip	1.26	97	eP	Pn	13 04 27.8	-0.3
RCDM				i S	Sg	13 04 45.6	-0.4
PEL	Peldehue	1.37	82	i P	Pb	13 04 30.1	-0.3
PEL				i S	Sg	13 04 50.3	+0.8
PEL				AML	AML	13 04 53.8	
	comp=E,37μm,0.7s						
SAN	Santiago	1.38	95	i P	Pb	13 04 30.2	-0.3
SAN				eS4	Sg	13 04 49.3	-0.4
STL	Santa Lucia	1.40	94	eP9	Pn	13 04 29.4	-0.5
STL				eS	Sb	13 04 48.6	+0.3
ANTU	Antumapu	1.42	100	eP	Pb	13 04 30.6	-0.6
ANTU				eS	Sg	13 04 50.0	-0.9
ANTU				AML	AML	13 04 55.4	
	comp=E,18μm,0.6s						
FCH	Farellones	1.69	90	i P	Pg	13 04 37.8	+0.1
FCH				i S	Sg	13 05 01.7	+2.1
FCH				AML	AML	13 05 09.8	
	comp=E,12μm,0.4s						
CFAA	Coronel Fontan comp=E,0.9nm,0.3s,baz=223,slow=11,SNR=17	3.85	64	Pn	Pn	13 05 02.7	-0.9
CFAA				Lg	Lg	13 06 03.6	
	comp=E,7.2nm,0.3s,baz=346,slow=11,SNR=6.5						
CFAA				LR	LR	13 06 57.7	
	comp=E,800nm,18.1s,baz=303,slow=46						
PLCA	Paso Flores comp=E,1.7nm,0.3s,baz=336,slow=11,SNR=9.4	7.51	170	Pn	Pn	13 05 53.5	-0.5
PLCA	Paso Flores	7.51	170	eP	Pn	13 05 54.0	+0.1
TRQA	Tornquist comp=E,189nm,1.4s	9.62	122	eP	Pn	13 06 23.3	+0.4
CPUP	Villa Florida comp=E,0.4nm,0.3s,baz=232,slow=12,SNR=2.9	14.75	66	Pn	Pn	13 07 32.7	-0.3
CPUP				LR	LR	13 13 39.0	
	comp=E,2μm,18.7s,baz=228,slow=39						
CPUP	Villa Florida comp=E,0.4nm,0.8s	14.75	66	P	Pn	13 07 33.9	+1.0
LPAZ	La Paz comp=E,0.9nm,0.3s,baz=198,slow=7.5,SNR=37	17.39	14	P	Pn	13 08 07.8	+0.1
SIV	San Ignacio comp=E,9.2nm,0.7s,baz=223,slow=13,SNR=22	20.04	33	P	P	13 08 37.3	-0.1
SIV				LR	LR	13 17 38.8	
	comp=E,1μm,18.1s,baz=232,slow=41						
EFI	East Falkland comp=E,27nm,0.6s	21.05	155	eP	P	13 08 47.8	-0.3
NNA	Nana comp=E,273nm,18.1s,baz=180,slow=33	21.66	348	LR	LR	13 15 50.0	
SAML	Samuel comp=E,10nm,0.8s	25.69	21	eP	P	13 09 33.1	-1.4
ATAH	Atahualpa	26.68	346	LR	LR	13 19 12.9	
BDFB	Brasilia comp=E,5.6nm,0.6s,baz=213,slow=11,SNR=7.2	28.16	57	P	P	13 09 55.4	-1.4
BDFB				LR	LR	13 21 52.6	
	comp=E,729nm,20.4s,baz=224,slow=38						
SNAA	Sanae	52.28	158	eP	P	13 13 15.7	+0.5
QSPA	South Pole Qui comp=E,3.9nm,0.8s,baz=183,slow=1.1,SNR=17	56.89	180	P	P	13 13 49.1	+0.2
QSPA	South Pole Qui	56.89	180	eP	P	13 13 49.6	+0.7
TXAR	Lajitas Array comp=E,0.6nm,0.9s,baz=153,slow=8.4,SNR=5.0	69.05	331	P	P	13 15 11.4	+1.4
TXAR				LR	LR	13 41 20.6	
	comp=E,197nm,18.2s,baz=0.0,slow=32						
DBIC	Dimbokro comp=E,3.4nm,0.9s,baz=218,slow=8.1,SNR=3.1	75.18	72	P	P	13 15 47.3	+0.3
DBIC				LR	LR	13 47 06.2	
	comp=E,183nm,18.9s,baz=206,slow=34						
TSUM	Tsumeb	79.61	106	LR	LR	13 46 48.0	
	comp=E,262nm,20.3s,baz=167,slow=32						
BOSA	Boshof comp=E,3.1nm,0.9s,baz=188,slow=7.3,SNR=3.1	80.57	118	P	P	13 16 16.8	-0.3
LBTB	Lobatse comp=E,220nm,19.0s,baz=240,slow=33	82.78	115	LR	LR	13 49 42.3	
TORD	Torodi Ar. Bea comp=E,3.1nm,0.9s,baz=252,slow=4.5,SNR=15	84.19	70	P	P	13 16 36.0	+0.1
TORD				LR	LR	13 51 05.1	
	comp=E,215nm,21.4s,baz=235,slow=34						
WRA	Warramunga Arr comp=E,0.4nm,0.8s,baz=154,slow=2.1,SNR=5.0	121.23	210	PKP	PKPdf	13 22 57.1	-0.7
BVAR	Borovoye Array comp=E,0.6nm,0.4s,baz=79,slow=3.2,SNR=7.0	146.95	42	PKPbc	PKPbc	13 23 46.6	+0.4
HYB	Hyderabad	149.40	114	i PKP	PKPbc	13 23 53.0	-0.8
AAK	Ala-Archa comp=E,0.9nm,0.4s,baz=260,slow=4.1,SNR=5.2	152.38	61	PKPbc	PKPbc	13 24 00.9	+0.6
AAK				PKPab	PKPab	13 24 11.0	+0.5
	comp=E,1.5nm,0.4s,baz=172,slow=6.3,SNR=4.1						
ZALV	Zalesovo Beam comp=E,0.2nm,0.3s,baz=302,slow=8.2,SNR=3.3	153.78	31	PKP	PKPdf	13 23 54.1	-0.8
ZALV				PKPbc	PKiKP	13 24 03.0	+0.2
	comp=E,1.6nm,0.6s,baz=292,slow=3.3,SNR=9.2						
ZALV				PKPab	PKPab	13 24 15.8	+0.1
	comp=E,4.0nm,0.8s,baz=308,slow=3.6,SNR=5.0						
MKAR	Makanchi Array comp=E,1.1nm,0.8s,baz=295,slow=4.0,SNR=10	156.49	48	PKPab	PKPab	13 24 27.3	-0.3

GUC 03 13:31:54.7±0.6, 34°.50S×72°.26W, h31km±3km, ML3.9, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.89	52	i P	Pn	13 32 10.8	-0.3
LNV				i S	Sn	13 32 23.1	+0.1
CACH	El Canelo	1.43	75	i P	Pb	13 32 20.3	-0.6
CHCH	Chadas Angostu	1.45	67	i P	Pn	13 32 19.8	+0.9
RCDM	Rinconada Maip	1.58	50	i P	Pn	13 32 21.5	+1.0
RCDM				i S	Sb	13 32 42.1	-0.8
RCDM				IAML		13 32 47.1	
	comp=E,2μm,0.1s						
ANTU	Antumapu	1.64	56	IAML		13 32 50.5	
	comp=E,4μm,0.5s						
STL	Santa Lucia	1.72	52	i P	Pn	13 32 23.7	+1.2
STL				i S	Sb	13 32 46.1	-0.8
PEL	Peldehue	1.89	44	i P	Pb	13 32 27.1	-1.5
PEL				i S	Sb	13 32 51.4	-0.4
FCH	Farellones	2.02	55	i P	Pn	13 32 28.9	+2.0
FCH				i S	Sb	13 32 55.4	-0.7
FCH				IAML		13 32 58.8	
	comp=N,1μm,0.2s						

IDC 03 13:38:03.5±2.0, 9°.26S×126°.45E, h0km, mb3.3/1, mb1 3.6/3, mb1mx3.4/29, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=166.3km s-min=32.7km az=59.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.2nm,0.3s,baz=319,slow=13,SNR=16	13.07	145	Pn	Pn	13 41 10.1	-0.6
WRA				Sn	Sn	13 43 31.4	-5.5
	0.3nm,0.3s,baz=323,slow=24,SNR=10						
ASAR	Alice Springs 0.1nm,0.3s,baz=325,slow=10,SNR=13	16.00	154	Pn	Pn	13 41 50.8	+0.6
ASAR				Sn	Sn	13 44 37.0	-11
	0.0nm,0.3s,baz=325,slow=20,SNR=3.8						
MKAR	Makanchi Array 0.1nm,0.5s,baz=124,slow=7.3,SNR=4.3	68.26	329	P	P	13 49 06.3	0.0

IDC 03 13:38:08.7±3.4, 2°.80S×36°.44E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.4/35, mbtmp3.8/2, Error ellipse: s-maj=129.4km s-min=20.7km az=109.0, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo 106nm,0.3s,baz=218,slow=16,SNR=309	1.85	26	Pg	Pn	13 38 42.6	+0.5
KMBO				Lg	Lg	13 39 07.4	
	240nm,0.3s,baz=270,slow=23,SNR=18						
MKAR	Makanchi Array 1.2nm,0.9s,baz=226,slow=6.1,SNR=7.7	63.72	33	P	P	13 48 42.2	0.0
CMAR	Chiang Mai Arr 0.6nm,0.7s,baz=255,slow=7.6,SNR=4.2	65.01	68	P	P	13 48 51.3	0.0

*IDC **03** 13:43:27.3±1.4, 35°.04S×72°.43W, h0km, mb3.8/4, mb1 4.0/6, mb1

comp=Z,18nm,19.9s,baz=229,slow=44
PLCA Paso Flores 5.94 165 Pn **Pn 13 44 56.3 -0.5**
5.2nm,0.3s,baz=337,slow=11,SNR=21
PLCA Lg Lg 13 46 29.5
0.9nm,0.3s,baz=253,slow=17,SNR=2.2
PLCA LR LR 13 47 10.7
comp=Z,138nm,18.2s,baz=62,slow=38
PLCA Paso Flores 5.94 165 *e*P **Pn 13 44 56.5 -0.3**
18nm,0.4s
PLCA Lg Lg 13 46 29.5
TRQA Tornquist 9.08 113 *e*P **Pn 13 45 41.0 +1.1**
CPUP Villa Florida 15.72 61 LR LR 13 53 36.4
comp=Z,107nm,18.4s,baz=104,slow=39
LPAZ La Paz 19.07 13 P **P 13 47 50.7 -1.1**
0.0nm,0.3s,baz=197,slow=11,SNR=3.6
SIV San Ignacio 21.58 32 P **P 13 48 18.1 -0.3**
1.8nm,0.6s,baz=219,slow=11,SNR=7.4
QSPA South Pole Qui 55.23 180 *e*P **P 13 53 01.7 +0.4**
3.0nm,0.8s
TXAR Lajitas Array 70.39 331 P **P 13 54 44.3 +1.7**
0.2nm,0.5s,baz=148,slow=5.3,SNR=3.9
BOSA Boshof 80.02 118 P **P 13 55 37.8 -0.6**
3.6nm,0.8s,baz=230,slow=2.9,SNR=5.2
TORD Torodi Ar. Bea 85.00 70 P **P 13 56 04.0 -0.3**
0.4nm,0.7s,baz=249,slow=5.2,SNR=3.5

IDC 03 13:57:45.1±1.3, 0°.04N×126°.17E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/24, mbtmp3.5/4, Error ellipse: s-maj=132.2km s-min=22.0km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.42**	**159**	P	P	14 02 33.5	-1.3
	2.2nm,0.9s,baz=336,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**24.74**	**163**	P	P	14 03 09.3	+0.9
	0.8nm,0.8s,baz=340,slow=7.9,SNR=8.3						
SONM	**Songino Array**	**50.61**	**343**	P	P	14 06 45.0	-1.0
	0.5nm,0.8s,baz=154,slow=8.2,SNR=4.8						
MKAR	**Makanchi Array**	**60.28**	**327**	P	P	14 07 56.1	+0.6
	0.6nm,0.6s,baz=131,slow=8.6,SNR=6.4						

*ISCJB **03** 13:58:19.9±1.3, 33°.36S±0°.06×72°.39W±0°.06, h27km±9km, mb4.1/7, MS4.1/6, Error ellipse: s-maj=10.3km s-min=8.2km az=25.8*
*NEIC **03** 13:58:19.5, 33°.43S×72°.40W, h13km, mb4.5/2, ML4.5(GUC), After GUC.*
NEIC Felt [II] at Rancagua.
*GUC **03** 13:58:19.5±0.6, 33°.43S×72°.40W, h13km±27km, ML4.5*
*IDC **03** 13:58:25.4±2.7, 33°.22S×71°.91W, h44km±23km, mb3.8/5, mb1 4.0/9, mb1mx3.8/25, mbtmp4.0/9, ML4.2/4, MS4.0/9, Ms1 4.0/9, ms1mx3.8/20, Error ellipse: s-maj=28.6km s-min=24.9km az=77.0*
ISC 03 13:58:20.7±1.5, 33°.40S±0°.05×72°.20W±0°.06, h19km±5km, n38, σ0§89/44, mb4.3/7, MS4.1/6, 6C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.60**	**52**	↑*i*P	**Pb**	**13 58 33.3**	**+0.8**
IHA				*i* S1	**Sn**	**13 58 43.6**	**+0.2**
IHA	**Instituto Hidr**	**0.60**	**52**	↑*i*P	**Pb**	**13 58 33.3**	**+0.8**
IHA				*i* S	**Sn**	**13 58 43.6**	**+0.2**
LNV	**Longovilo**	**0.86**	**130**	↑*i*P	**Pg**	**13 58 37.0**	**-0.7**
LNV	**Longovilo**	**0.86**	**130**	↑*i*P	**Pg**	**13 58 37.0**	**-0.7**
RCDM	**Rinconada Maip**	**1.17**	**95**	↓*i*P	**Pn**	**13 58 42.4**	**+0.2**
RCDM				*i* S	**Sg**	**13 58 59.8**	**+1.0**
RCDM				AML	AML	13 59 02.9	
	comp=E,10μm,0.3s						
RCDM	**Rinconada Maip**	**1.17**	**95**	↓*i*P	**Pn**	**13 58 42.4**	**+0.2**
RCDM				*i* S	**Sg**	**13 58 59.8**	**+1.0**
PEL	**Peldehue**	**1.30**	**79**	↓*i*P	**Pn**	**13 58 44.5**	**+0.6**
PEL				*i* S	**Sg**	**13 59 03.9**	**+1.2**
PEL				AML	AML	13 59 13.1	
	comp=E,36μm,0.4s						
PEL	**Peldehue**	**1.30**	**79**	↓*i*P	**Pn**	**13 58 44.5**	**+0.6**
PEL				*i* S	**Sg**	**13 59 03.9**	**+1.2**
ANTU	**Antumapu**	**1.32**	**98**	*e*P1	**Pb**	**13 58 45.5**	**+0.5**
ANTU				*e*S1	**Sg**	**13 59 04.1**	**+0.5**
ANTU				AML	AML	13 59 11.6	
	comp=N,11μm,0.5s						
ANTU	**Antumapu**	**1.32**	**98**	*e*P	**Pb**	**13 58 45.5**	**+0.5**
ANTU				*e*S	**Sg**	**13 59 04.1**	**+0.5**
CHCH	**Chadas Angostu**	**1.40**	**113**	*e*P1	**Pn**	**13 58 45.5**	**+0.2**
CHCH	**Chadas Angostu**	**1.40**	**113**	*e*P	**Pn**	**13 58 45.5**	**+0.2**
CACH	**El Canelo**	**1.52**	**119**	↓*i*P	**Pb**	**13 58 48.8**	**+0.4**
CACH	**El Canelo**	**1.52**	**119**	↓*i*P	**Pb**	**13 58 48.8**	**+0.4**
FCH	**Farellones**	**1.60**	**88**	↑*i*P	**Pb**	**13 58 50.1**	**+0.2**
FCH				*i* S	**Sg**	**13 59 13.8**	**+1.2**
FCH				AML	AML	13 59 21.5	
	comp=N,7μm,0.4s						
FCH	**Farellones**	**1.60**	**88**	↑*i*P	**Pb**	**13 58 50.1**	**+0.2**
FCH				*i* S	**Sg**	**13 59 13.8**	**+1.2**
CFAA	**Coronel Fontan**	**3.80**	**63**	P	**Pn**	**13 59 19.1**	**+0.8**
	comp=N,1.1nm,0.3s,baz=228,slow=13,SNR=16						
CFAA				LR	LR	14 01 11.2	
	comp=N,326nm,18.7s,baz=282,slow=47						
PLCA	**Paso Flores**	**7.44**	**170**	P	Pn	14 00 12.6	+4.2
	comp=N,1.1nm,0.3s,baz=305,slow=16,SNR=2.7						
PLCA				S	Sn	14 01 41.0	+8.7
	comp=N,0.4nm,0.3s,baz=342,slow=19,SNR=1.4						
PLCA				LR	LR	14 03 29.0	
	comp=N,1μm,18.2s,baz=343,slow=40						
TRQA	**Tornquist**	**9.52**	**122**	*e*P	**Pn**	**14 00 38.3**	**+1.5**
	comp=N,77nm,1.4s						
LVC	**Limon Verde**	**11.13**	**16**	Pn	Pn	14 00 55.1	-4.0
	comp=N,32nm,1.3s						
CPUP	**Villa Florida**	**14.69**	**65**	P	**Pn**	**14 01 45.7**	**-1.9**
	comp=N,0.2nm,0.3s,baz=289,slow=18,SNR=1.7						
CPUP				LR	LR	14 07 52.2	
	comp=N,930nm,18.7s,baz=226,slow=39						
LPAZ	**La Paz**	**17.43**	**13**	P	**Pn**	**14 02 22.6**	**-0.9**
	comp=N,0.4nm,0.3s,baz=188,slow=8.2,SNR=17						
SIV	**San Ignacio**	**20.04**	**33**	P	**P**	**14 02 50.9**	**-1.9**
	comp=N,0.3nm,0.3s,baz=227,slow=13,SNR=17						
EFI	**East Falkland**	**20.96**	**155**	*e*P	**P**	**14 03 02.4**	**-0.1**
NNA	**Nana**	**21.73**	**348**	P	**P**	**14 03 11.4**	**+0.3**
	comp=N,4.0nm,0.3s,baz=222,slow=15,SNR=2.3						
SAML	**Samuel**	**25.71**	**21**	*e*P	**P**	**14 03 49.7**	**-0.3**
	comp=N,13nm,1.0s						
BDFB	**Brasilia**	**28.11**	**57**	P	**P**	**14 04 09.8**	**-1.9**
	comp=N,3.1nm,0.6s,baz=213,slow=7.7,SNR=4.2						
BDFB				LR	LR	14 17 09.4	
	comp=N,528nm,18.5s,baz=222,slow=40						
QSPA	**South Pole Qui**	**56.84**	**180**	*e*P	**P**	**14 08 04.6**	**+0.8**
	comp=N,6.0nm,1.2s						
VNDA	**Vanda**	**64.67**	**191**	LR	LR	14 33 04.6	
	comp=N,74nm,20.3s,baz=152,slow=32						
TXAR	**Lajitas Array**	**69.14**	**331**	P	**P**	**14 09 26.9**	**+1.0**
	comp=N,0.7nm,1.0s,baz=149,slow=7.2,SNR=3.1						
MAW	**Mawson**	**73.80**	**164**	LR	LR	14 44 07.7	
	comp=N,185nm,18.0s,baz=239,slow=37						
DBIC	**Dimbokro**	**75.12**	**72**	LR	LR	14 41 20.2	
	comp=N,78nm,19.0s,baz=200,slow=34						
PDAR	**Pinedale Array**	**83.16**	**333**	P	**P**	**14 10 47.0**	**+1.4**
	comp=N,0.2nm,0.6s,baz=152,slow=5.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**84.13**	**70**	P	**P**	**14 10 50.9**	**-0.1**
	comp=N,2.8nm,0.9s,baz=253,slow=4.4,SNR=12						
TORD				LR	LR	14 45 18.5	
	comp=N,92nm,21.6s,baz=215,slow=34						
ESDC	**Sonseca Array**	**96.26**	**46**	LR	LR	14 54 57.4	
	comp=N,67nm,18.4s,baz=200,slow=35						
ZALV	**Zalesovo Beam**	**153.79**	**31**	PKP	**PKPdf**	**14 18 09.7**	**-0.4**
	comp=N,0.6nm,0.6s,baz=356,slow=2.2,SNR=4.8						
ZALV				PKPbc	**PKiKP**	**14 18 18.2**	**+0.1**
	comp=N,1.6nm,0.7s,baz=278,slow=4.2,SNR=7.9						
ZALV				PKPab	**PKPab**	**14 18 30.2**	**-0.8**
	comp=N,1.5nm,0.8s,baz=298,slow=3.2,SNR=5.5						
MKAR	**Makanchi Array**	**156.47**	**48**	PKPab	**PKPab**	**14 18 42.4**	**-0.4**
	comp=N,1.3nm,0.8s,baz=290,slow=4.2,SNR=10						
SONM	**Songino Array**	**165.54**	**4**	PKPab	**PKPab**	**14 19 23.1**	**+0.8**
	comp=N,0.6nm,0.9s,baz=339,slow=6.3,SNR=4.0						

*KRNET **03** 14:04:17.5±0.1, 40°.97N×77°.76E, h3km, mb3.2*
*NNC **03** 14:04:18.4±7.1, 40°.76N×78°.02E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=55.7km s-min=30.6km az=170.0*
ISC 03 14:04:16.9±2.6, 40°.8N±0°.1×77°.98E±0°.07, h19km, n17, σ1§13/23, 7C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.64**	**295**	*i* P	**Pn**	**14 04 44.4**	**-0.6**
	baz=289						
NRN				*e*S	**Sn**	**14 05 05.6**	**-0.2**
	baz=289						
ULHL	**Ulahol**	**1.97**	**319**	P	**Pn**	**14 04 50.4**	**+0.9**
	SNR=37						
ANVS	**Anan'yevo**	**2.03**	**353**	↓*i*P	**Pb**	**14 04 53.5**	**+0.2**
	baz=358						
BOOM	**Boomskoye usch**	**2.30**	**319**	*e*P	**Pb**	**14 04 56.0**	**-2.0**
	baz=319						
BOOM				*e*S	**Sb**	**14 05 25.4**	**-0.7**
	baz=319						
KZA	**Kyzart**	**2.44**	**303**	P	**Pb**	**14 04 59.5**	**-0.9**
	SNR=51						
KNDC	**Almaty**	**2.56**	**343**	↑Pn	**Pn**	**14 04 58.4**	**+0.9**
	17nm,0.7s						
KNDC				↑Sn	**Sb**	**14 05 33.2**	**-0.3**
	13nm,0.3s						
PDGK	**Podgornoye**	**2.79**	**23**	↑Pn	**Pb**	**14 05 04.3**	**-1.9**
PDGK				↑Sn	**Sb**	**14 05 42.1**	**+2.1**
TKM2	**Tokmak 2**	**2.79**	**321**	↑Pn	**Pb**	**14 05 04.0**	**-2.3**
	1.6nm,0.3s						
TKM2				↑Sn	**Sb**	**14 05 41.3**	**+1.0**
	9.7nm,0.7s						
TKM2	**Tokmak 2**	**2.79**	**321**	P	**Pb**	**14 05 05.5**	**-0.8**
	SNR=7.2						
ARLS	**Aral**	**2.96**	**293**	↓*i*P	**Pb**	**14 05 08.6**	**-0.6**
	baz=290						
UCH	**Uchtor**	**2.98**	**300**	P	**Pb**	**14 05 09.6**	**-0.2**
	SNR=11						
AAK	**Ala-Archa**	**3.21**	**307**	↑Pn	**Pb**	**14 05 12.7**	**-0.7**
	5.5nm,0.7s						
AAK				↓Sn	**Sb**	**14 05 52.6**	**+0.4**
	9.4nm,0.9s						
AAK	**Ala-Archa**	**3.21**	**307**	P	**Pb**	**14 05 12.9**	**-0.5**
	SNR=6.9						
CHMS	**Chumysh**	**3.28**	**314**	P	**Pb**	**14 05 14.5**	**-0.1**
	SNR=6.0						
AML	**Almayashu**	**3.50**	**294**	P	**Pb**	**14 05 18.9**	**+0.4**
	SNR=9.8						
USP	**Ospenovka**	**3.60**	**315**	P	**Pb**	**14 05 19.6**	**-0.4**
	SNR=5.2						
EKS2	**Erkin-Say**	**3.67**	**302**	P	**Pb**	**14 05 22.4**	**+1.2**
	SNR=7.1						

*ISCJB **03** 14:21:00.6±1.5, 36°.94S±0°.05×72°.5W±0°.1, h43km±13km, mb4.8/30, MS3.7/4, Error ellipse: s-maj=14.6km s-min=8.1km az=2.5*
*NEIC **03** 14:21:00.7±0.2, 36°.99S×72°.66W, h35km, mb4.8/18, Error ellipse: s-maj=9.2km s-min=6.3km az=81.0*
NEIC Felt at Chillan and Los Angeles.
*IDC **03** 14:21:00.8±0.6, 37°.03S×72°.57W, h38km±4km, mb4.4/12, mb1 4.5/15, mb1mx4.4/24, mbtmp4.5/15, ML4.2/4, MS3.7/6, Ms1 3.6/6, ms1mx3.3/21, Error ellipse: s-maj=19.7km s-min=14.2km az=77.0*
*BJI **03** 14:21:00.8, 37°.10S×72°.80W, h35km, mB4.9/2, Ms4.9/2, Ms7 4.6/1*
ISC 03 14:21:00.8±0.6, 37°.02S±0°.06×72°.62W±0°.10, h40km±4km, h39km:pP-P, n285, σ1§15/295, mb4.7/31, MS3.8/4, 96C-115D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.04**	**157**	Pn	**Pn**	**14 22 02.0**	**+1.8**
	5.8nm,0.3s,baz=327,slow=12,SNR=36						
PLCA				Lg	Lg	14 23 07.3	
	12nm,0.3s,baz=96,slow=23,SNR=2.9						
PLCA				LR	LR	14 23 53.0	
	comp=Z,869nm,19.0s,baz=324,slow=43						
CFAA	**Coronel Fontan**	**6.50**	**35**	Pn	**Pn**	**14 22 34.6**	**+0.6**
	1.0nm,0.3s,baz=330,slow=1.8,SNR=20						
CFAA				Sn	**Sn**	**14 23 48.4**	**+1.4**
	0.8nm,0.3s,baz=144,slow=19,SNR=3.1						
TRQA	**Tornquist**	**8.52**	**100**	*e*P	Pn	14 23 04.9	+3.3
	32nm,0.6s						
LVC	**Limon Verde**	**14.71**	**14**	*e*P	**Pn**	**14 24 26.2**	**-0.2**
CPUP	**Villa Florida**	**16.80**	**55**	Pn	**Pn**	**14 24 52.4**	**-0.6**
	0.6nm,0.3s,baz=217,slow=8.2,SNR=4.0						
CPUP				LR	LR	14 31 58.8	
	comp=Z,281nm,21.9s,baz=210,slow=39						
USHA	**Ushuaia**	**18.05**	**172**	P	**P**	**14 25 09.8**	**+1.5**
	0.3nm,0.3s,baz=335,slow=7.7,SNR=3.6						
LPAZ	**La Paz**	**21.03**	**12**	P	**P**	**14 25 42.7**	**+0.9**
	20nm,1.0s,baz=180,slow=8.1,SNR=30						
LPAZ	**La Paz**	**21.03**	**12**	*e*P	**P**	**14 25 43.4**	**+1.5**
SIV	**San Ignacio**	**23.32**	**29**	P	**P**	**14 26 05.2**	**-0.2**
	20nm,0.8s,baz=222,slow=10,SNR=49						
NNA	**Nana**	**25.21**	**350**	P	**P**	**14 26 23.2**	**+0.3**
	10nm,0.6s,baz=235,slow=10,SNR=4.1						
SAML	**Samuel**	**29.23**	**19**	*e*P	**P**	**14 26 58.3**	**-0.5**
	14nm,0.7s						
BDFB	**Brasilia**	**30.49**	**52**	P	**P**	**14 27 09.4**	**-0.8**
	4.1nm,0.5s,baz=214,slow=7.7,SNR=5.9						
BDFB				LR	LR	14 40 43.5	
	comp=Z,173nm,18.1s,baz=204,slow=39						
SDV	**Santo Domingo**	**45.70**	**3**	*e*P	**P**	**14 29 17.0**	**-1.1**
	17nm,0.9s						
SNAA	**Sanae**	**48.99**	**157**	P	**P**	**14 29 42.5**	**-0.4**
	3.7nm,1.0s,baz=285,slow=9.3,SNR=3.9						
QSPA	**South Pole Qui**	**53.22**	**180**	*e*P	**P**	**14 30 16.7**	**+1.7**
	18nm,1.0s						
RKT	**Rikitea**	**54.83**	**266**	*e*T	T	15 28 42.0	
	1.3nm,0.2s						
SYO	**Syowa Base**	**63.24**	**158**	↓*e*P	**P**	**14 31 23.4**	**-1.2**
035A	**Encino**	**67.98**	**336**	↑P	**P**	**14 31 56.7**	**+1.1**
	baz=68						
MEH	**Mehetia**	**68.01**	**264**	*e*T	T	15 45 11.6	
	20nm,0.2s						
034A	**Hebbronville**	**68.30**	**335**	↓P	**P**	**14 31 58.8**	**+1.2**
	baz=69						
TIAR	**Tiarei**	**69.20**	**263**	*e*T	T	15 46 41.3	
	3.0nm,0.2s						
834A	**Tilden**	**69.23**	**336**	↓P	**P**	**14 32 05.4**	**+1.9**
	baz=70						
PPT2	**Papeete2**	**69.37**	**263**	*e*LR	LR	14 52 52.1	
	103nm,24.0s						
833A	**Chaparral WMA,**	**69.69**	**335**	↑P	**P**	**14 32 07.3**	**+1.0**
	baz=70						
832A	**Faith Ranch, C**	**69.86**	**334**	↑P	**P**	**14 32 08.2**	**+0.9**
	baz=70						
636A	**Smothers Creek**	**70.01**	**337**	↓P	**P**	**14 32 08.9**	**+0.7**
	baz=70						
LPIG	**La Paz**	**70.41**	**324**	LR	LR	14 56 42.4	
	comp=Z,56nm,21.3s,baz=202,slow=30						
632A	**Uvalde**	**70.92**	**335**	↓P	**P**	**14 32 14.4**	**+0.6**
	baz=71						
631A	**Perdido Creek**	**71.10**	**334**	↑P	**P**	**14 32 15.9**	**+1.1**
	baz=71						
533A	**Kerrville**	**71.19**	**336**	↓P	**P**	**14 32 16.3**	**+0.9**
	baz=72						
337A	**Centerville**	**71.38**	**339**	↑P	**P**	**14 32 17.7**	**+1.2**
	baz=72						
532A	**Rocksprings**	**71.53**	**335**	↓P	**P**	**14 32 18.6**	**+1.1**
	baz=72						
434A	**Burnet**	**71.63**	**337**	↓P	**P**	**14 32 18.6**	**+0.6**
	baz=72						
336A	**Riesel**	**71.73**	**338**	↑P	**P**	**14 32 19.3**	**+0.8**
	baz=72						
531A	**Rocksprings**	**71.78**	**335**	↓P	**P**	**14 32 20.0**	**+1.0**
	baz=72						
JCT	**Junction City**	**71.81**	**335**	↓P	**P**	**14 32 19.9**	**+0.7**
	baz=72						
JCT	**Junction City**	**71.81**	**335**	*e*P	**P**	**14 32 20.1**	**+0.9**
	8.7nm,0.9s						
433A	**Art**	**71.84**	**336**	↑P	**P**	**14 32 20.0**	**+0.7**
	baz=72						
530A	**J-C Ranch, Com**	**72.04**	**334**	↑P	**P**	**14 32 21.6**	**+1.1**
	baz=72,SNR=7.6						
334A	**Lometa**	**72.10**	**337**	↓P	**P**	**14 32 21.8**	**+1.0**
	baz=72						
TXAR	**Lajitas Array**	**72.15**	**332**	P	**P**	**14 32 22.2**	**+0.9**
	3.5nm,0.9s,baz=150,slow=9.0,SNR=23						
TXAR				pP	**pP**	**14 32 33.2**	**-0.1**
	1.4nm,0.6s,baz=151,slow=9.4,SNR=9.1						
TXAR				LR	LR	14 58 28.3	
	comp=Z,76nm,20.8s,baz=0.0,slow=31						
432A	**Menard**	**72.18**	**336**	↑P	**P**	**14 32 21.8**	**+0.4**
	baz=72						
KMSC	**Kings Mountain**	**72.25**	**353**	↓P	**P**	**14 32 21.7**	**+0.1**
	baz=73						
431A	**Sonora**	**72.27**	**335**	↑P	**P**	**14 32 22.6**	**+0.6**
	baz=73						
529A	**Stev Forest Ra**	**72.33**	**333**	↓P	**P**	**14 32 22.7**	**+0.4**
	baz=73,SNR=6.4						
333A	**Richland Sprin**	**72.33**	**336**	↓P	**P**	**14 32 22.6**	**+0.4**
	baz=73						
WHTX	**Lake Whitney,**	**72.47**	**338**	↓P	**P**	**14 32 23.3**	**+0.3**
	baz=73						
430A	**Baggett Ranch,**	**72.58**	**334**	↑P	**P**	**14 32 24.0**	**+0.2**
	baz=73,SNR=6.3						
332A	**Millersview**	**72.63**	**336**	↓P	**P**	**14 32 24.1**	**+0.1**
	baz=73						
429A	**Davenport Ranc**	**72.67**	**334**	↓P	**P**	**14 32 24.9**	**+0.6**
	baz=73,SNR=6.8						
234A	**Clairette**	**72.69**	**337**	↑P	**P**	**14 32 24.7**	**+0.3**
	baz=73						
331A	**San Angelo**	**72.78**	**335**	↓P	**P**	**14 32 25.4**	**+0.4**
	baz=73						
SWET	**Sewanee**	**72.93**	**349**	*e*P	**P**	**14 32 26.0**	**+0.3**
	41nm,0.9s						
233A	**Rising Star**	**72.94**	**337**	↓P	**P**	**14 32 26.4**	**+0.5**
	baz=73						
232A	**Coleman**	**73.06**	**336**	↑P	**P**	**14 32 27.0**	**+0.4**
	baz=73						
330A	**Mertzon**	**73.13**	**335**	↑P	**P**	**14 32 27.3**	**+0.3**
	baz=73						
231A	**Bronte**	**73.32**	**336**	↑P	**P**	**14 32 28.3**	**+0.1**
	baz=74						
329A	**Wagon Wheel Ra**	**73.48**	**334**	↓P	**P**	**14 32 29.3**	**+0.2**
	baz=74						
133A	**Hamilton Ranch**	**73.50**	**337**	↑P	**P**	**14 32 29.5**	**+0.4**
	baz=74						
131A	**Roby**	**74.03**	**336**	↓P	**P**	**14 32 32.9**	**+0.6**
	baz=74						
Z33A	**Whitaker Ranch**	**74.08**	**337**	↑P	**P**	**14 32 32.7**	**+0.3**
	baz=74						
WVT	**Waverly**	**74.14**	**347**	*e*P	**P**	**14 32 32.4**	**-0.3**
	26nm,1.0s						
130A	**Snyder**	**74.15**	**335**	↓P	**P**	**14 32 33.4**	**+0.4**
	baz=74						
228A	**UT Block 9, Go**	**74.27**	**334**	↑P	**P**	**14 32 34.3**	**+0.6**
	baz=75						
Z32A	**Haskell**	**74.32**	**337**	↓P	**P**	**14 32 34.3**	**+0.4**
	baz=75						
Y34A	**Reagan Ranch,**	**74.40**	**338**	↓P	**P**	**14 32 34.3**	**-0.1**
	baz=75						
Z31A	**Sharp Cattle R**	**74.54**	**336**	↓P	**P**	**14 32 35.3**	**+0.1**
	baz=75						
Y33A	**Hilltop Ranch,**	**74.70**	**338**	↓P	**P**	**14 32 36.4**	**+0.3**
	baz=75						
Z30A	**Sanderson Ranc**	**74.83**	**336**	↓P	**P**	**14 32 36.8**	**-0.1**
	baz=75						
MNTX	**Cornudas Mount**	**74.92**	**331**	*e*P	**P**	**14 32 37.0**	**-0.4**
	4.6nm,0.9s						
Y32A	**R-V Farms, Ver**	**74.95**	**337**	↓P	**P**	**14 32 37.6**	**+0.1**
	baz=75						
Z29A	**Hungry Hill Ra**	**75.00**	**335**	↓P	**P**	**14 32 37.7**	**-0.2**
	baz=75,SNR=5.5						
Y31A	**Rekieta Farm,**	**75.17**	**336**	↓P	**P**	**14 32 39.1**	**+0.2**
	baz=76						
Y29A	**Porterfield Fa**	**75.54**	**335**	↓P	**P**	**14 32 41.4**	**+0.4**
	baz=76						
Z27A	**Tatum**	**75.57**	**334**	↓P	**P**	**14 32 41.3**	**0.0**
	baz=76						
TUL1	**Leonard**	**75.69**	**341**	↑P	**P**	**14 32 41.6**	**-0.1**
	baz=76						
W33A	**Caddo, Fort Co**	**75.72**	**338**	↑P	**P**	**14 32 42.5**	**+0.6**
	baz=76						
Y28A	**McKinney Farm,**	**75.78**	**335**	↑P	**P**	**14 32 42.9**	**+0.5**
	baz=76						
X30A	**Coker Ranch, T**	**75.81**	**336**	↑P	**P**	**14 32 43.1**	**+0.6**
	baz=76						
W32A	**Sentinel**	**75.93**	**338**	↑P	**P**	**14 32 43.8**	**+0.6**
	baz=76						
319A	**Douglas**	**76.20**	**328**	↑P	**P**	**14 32 46.5**	**+1.6**
	baz=76						
W31A	**Holland Ranch,**	**76.20**	**337**	↑P	**P**	**14 32 44.8**	**0.0**
	baz=76						
V33A	**Lossen Ranch,**	**76.29**	**339**	↓P	**P**	**14 32 45.5**	**+0.3**
	baz=77						
Z24A	**Sheeppen Canyo**	**76.36**	**332**	↓P	**P**	**14 32 46.7**	**+0.8**
	baz=77						
V32A	**Arapaho**	**76.42**	**338**	↑P	**P**	**14 32 46.6**	**+0.6**
	baz=77						
AMTX	**Amarillo**	**76.48**	**336**	↓P	**P**	**14 32 47.0**	**+0.6**
	baz=77						
DBIC	**Dimbokro**	**76.61**	**71**	P	**P**	**14 32 48.4**	**+0.9**
	14nm,0.6s,baz=205,slow=5.4,SNR=30						
Y25A	**Mesa, Roswell**	**76.65**	**333**	↓P	**P**	**14 32 48.5**	**+1.1**
	baz=77						
W29A	**Amarillo**	**76.68**	**336**	↓P	**P**	**14 32 48.0**	**+0.5**
	baz=77						
X26A	**CR and CF Fran**	**76.90**	**334**	↓P	**P**	**14 32 49.4**	**+0.6**
	baz=77						
Z22A	**Elephant Butte**	**76.91**	**331**	↑P	**P**	**14 32 49.9**	**+1.0**
	baz=77						
Y24A	**Capitan**	**76.92**	**332**	↑P	**P**	**14 32 50.0**	**+0.9**
	baz=77						
W27A	**Bowe Ranch, En**	**77.10**	**335**	↓P	**P**	**14 32 50.2**	**+0.3**
	baz=77,SNR=5.7						
Y23A	**Lovelace Mesa,**	**77.16**	**332**	↓P	**P**	**14 32 51.6**	**+1.2**
	baz=77						
W26A	**Owens Ranch, T**	**77.37**	**334**	↓P	**P**	**14 32 52.5**	**+1.1**
	baz=78						
T33A	**Patterson Ranc**	**77.46**	**339**	↑P	**P**	**14 32 52.4**	**+0.7**
	baz=78						
X24A	**Lazy VL Ranch,**	**77.49**	**333**	↑P	**P**	**14 32 53.3**	**+1.0**
	baz=78						
V27A	**Dan Oppiter Fa**	**77.66**	**335**	↓P	**P**	**14 32 53.9**	**+0.9**
	baz=78						
U30A	**WK&E Inc. Balk**	**77.66**	**337**	↑P	**P**	**14 32 54.0**	**+1.0**
	baz=78						
LPM	**Los Pinos Moun**	**77.72**	**332**	*e*P	**P**	**14 32 54.7**	**+1.2**
	4.6nm,0.9s						
W25A	**X Bar L Ranch,**	**77.73**	**334**	↑P	**P**	**14 32 54.2**	**+0.8**
	baz=78						
T32A	**Huddler Ranch,**	**77.74**	**339**	↓P	**P**	**14 32 54.2**	**+0.8**
	baz=78						
LAZ	**Ladron**	**77.99**	**331**	*e*P

Y14A	Wickenburg baz=80	80.00 327	⇓P	P	14 33 07.8 +2.0
GLA	Glamis baz=80	80.07 325	⇓P	P	14 33 08.0 +1.8
R26A	Arlington baz=80	80.17 336	⇑P	P	14 33 07.8 +1.0
S24A	Houchin Ranch, baz=80	80.17 334	⇑P	P	14 33 08.0 +1.1
Q28A	Sharon Springs baz=81	80.35 337	⇑P	P	14 33 08.3 +0.7
Y12C	Blythe baz=81	80.51 326	⇓P	P	14 33 10.9 +2.4
WUAZ	Wupatki baz=81	80.65 329	⇓P	P	14 33 11.3 +1.9
R24A	Sanders Place, baz=81,SNR=6.2	80.66 335	⇑P	P	14 33 10.8 +1.3
S22A	4UR Ranch, Cre baz=81	80.84 333	⇑P	P	14 33 12.0 +1.4
BC3	Big Chuckawall baz=81	80.86 325	⇓P	P	14 33 12.7 +2.2
R23A	Moffat baz=81	80.88 334	⇑P	P	14 33 12.0 +1.2
MVCO	Mesa Verde baz=81	80.98 332	⇓P	P	14 33 12.5 +1.3
IRM	Iron Mountain baz=81	81.14 325	⇓P	P	14 33 13.9 +2.0
PFO	Pinyon Flats O baz=82	81.28 324	⇓P	P	14 33 15.3 +2.5
Q24A	Divide baz=82	81.34 335	⇓P	P	14 33 14.3 +1.1
W13A	Hualapai Mount baz=82	81.36 327	⇑P	P	14 33 15.2 +1.9
BELC	Belle Mtn. Jos baz=82	81.40 325	⇓P	P	14 33 15.3 +1.9
MURC	Murrieta baz=82	81.63 324	⇑P	P	14 33 16.6 +2.0
U15A	North Rim baz=82	81.81 329	⇓P	P	14 33 17.7 +2.0
GMRC	Granite Mounta baz=82	81.89 325	⇑P	P	14 33 18.3 +2.3
N27A	Anderson Farm, baz=82	82.16 338	⇓P	P	14 33 18.5 +1.2
HEC	Hector,Ludlow baz=82	82.24 325	⇑P	P	14 33 20.2 +2.5
ISCO	Idaho Springs baz=82	82.25 335	⇑P	P	14 33 19.2 +1.3
O23A	Lake Granby, G baz=83	82.72 335	⇓P	P	14 33 21.9 +1.6
GSC	Goldstone, Bar baz=83	82.84 325	⇑P	P	14 33 22.5 +1.6
O22A	Kremmling baz=83	82.89 334	⇓P	P	14 33 22.4 +1.1
SHPR	Sheep Range 5.4nm,1.0s	83.11 327	eP	P	14 33 23.9 +1.6
ECSD	EROS Data Cent baz=84	83.28 343	⇑P	P	14 33 23.3 +0.5
N23A	Red Feather La baz=84	83.34 335	⇓P	P	14 33 24.8 +1.2
N22A	Wattenberg Ran baz=84	83.43 335	⇓P	P	14 33 25.9 +1.9
ARUT	Antelope Range 91nm,1.0s	83.45 329	eP	P	14 33 26.2 +2.1
O20A	White River Ci baz=84	83.46 333	⇓P	P	14 33 26.1 +2.0
M24A	Cheyenne baz=84	83.48 336	⇓P	P	14 33 26.0 +1.9
M23A	Laramie baz=84	83.78 336	⇑P	P	14 33 27.2 +1.5
ISA	Isabella, Lake baz=84	83.92 324	⇑P	P	14 33 28.1 +1.7
J29A	Okreek baz=84	83.92 340	⇑P	P	14 33 27.3 +1.2
DAC	Darwin (Calif) 4.0nm,0.9s	84.01 325	eP	P	14 33 28.5 +1.5
M22A	Cedar Creek Ra baz=84	84.01 335	⇑P	P	14 33 27.7 +0.8
N20A	Spence Gulch, baz=84	84.08 334	⇑P	P	14 33 28.1 +0.8
J27A	Elkhorn Farm, baz=85	84.25 339	⇓P	P	14 33 28.6 +0.7
L23A	Garrett baz=85	84.35 336	⇓P	P	14 33 29.2 +0.6
L22A	Ellis Ranch, M baz=85	84.52 335	⇓P	P	14 33 30.3 +0.8
J26A	Sides Ranch, S baz=85	84.62 338	⇑P	P	14 33 30.9 +1.1
I28A	Midland baz=85	84.70 340	⇑P	P	14 33 31.3 +1.2
R11A	Troy Canyon, C baz=85	84.83 327	⇓P	P	14 33 33.0 +1.9
K23A	Bowen Ranch, D baz=85	84.90 336	⇓P	P	14 33 32.2 +0.9
J25A	Sunshine Ranch baz=85	84.91 338	⇓P	P	14 33 32.1 +0.9
TIN	Tinemaha, Big baz=85	84.94 325	⇓P	P	14 33 33.3 +1.7
H29A	Onida baz=85	85.02 341	⇓P	P	14 33 32.2 +0.5
JLU	Jordanelle 1.4nm,0.4s	85.06 331	eP	P	14 33 33.2 +0.9
K22A	Casper baz=85	85.10 336	⇓P	P	14 33 33.3 +1.0
K22A	Casper 4.3nm,0.4s	85.10 336	eP	P	14 33 33.3 +1.0
J24A	Dixon Ranch, L baz=85	85.11 337	⇓P	P	14 33 33.5 +1.2
G30A	Faulkton baz=86	85.21 342	⇓P	P	14 33 33.4 +0.7
DUG	Dugway, Tooele baz=86	85.24 330	⇑P	P	14 33 34.3 +1.2
H28A	Mission Ridge baz=86	85.28 340	⇑P	P	14 33 33.6 +0.6
K21A	Alcova baz=86,SNR=7.2	85.33 335	⇓P	P	14 33 34.2 +0.7
I25A	Rochford baz=86	85.46 338	⇓P	P	14 33 34.5 +0.4
H27A	Howes baz=86	85.54 339	⇓P	P	14 33 34.9 +0.6
I24A	Kuemmerle Ranc baz=86	85.58 337	⇑P	P	14 33 35.3 +0.7
G28A	Parade baz=86	85.62 340	⇓P	P	14 33 35.5 +0.8
RSSD	Black Hills 6.6nm,0.8s	85.64 338	eP	P	14 33 35.3 +0.2
TORD	Torodi Ar. Bea 5.5nm,0.9s,baz=238,slow=4.1,SNR=28	85.68 70	P	P	14 33 36.0 +0.3
TORD	2.7nm,0.8s,baz=220,slow=4.3,SNR=6.7		pP	pP	14 33 47.6 -0.3
J22A	Midwest baz=86	85.77 336	⇓P	P	14 33 35.6 0.0
H25A	Fruitdale baz=86	85.97 338	⇑P	P	14 33 37.0 +0.5
HWUT	Hardware Ranch 12nm,0.9s	85.97 332	eP	P	14 33 37.1 +0.4
F29A	Eureka baz=86	86.04 341	⇑P	P	14 33 36.9 +0.1
NVAR	Mina Array Bea 2.4nm,0.8s,baz=152,slow=5.7,SNR=14	86.10 326	P	P	14 33 38.9 +1.5
NVAR	1.4nm,0.8s,baz=160,slow=5.5,SNR=4.9		pP	pP	14 33 50.4 +0.7
G27A	Dupree baz=86	86.18 340	⇑P	P	14 33 38.2 +0.7
I22A	9 Mile Ranch, baz=86,SNR=5.5	86.20 336	⇑P	P	14 33 37.8 +0.1
PDAR	Pinedale Array 2.6nm,0.9s,baz=152,slow=5.2,SNR=18	86.25 334	P	P	14 33 38.5 +0.4
PDAR	comp=Z,9.3nm,18.1s,baz=170,slow=34		LR	LR	15 10 27.2
J20A	Shoshoni baz=86,SNR=8.9	86.25 335	⇑P	P	14 33 39.1 +1.1
G26A	Maurine baz=87,SNR=7.4	86.29 339	⇑P	P	14 33 38.3 +0.2
F28A	McLaughlin baz=87	86.31 341	⇓P	P	14 33 38.9 +0.8
H24A	Dirks Ranch, A baz=87	86.36 338	⇑P	P	14 33 38.6 +0.2
I21A	Big Trails, Te baz=87	86.39 336	⇓P	P	14 33 39.0 +0.3
G25A	Newell baz=87,SNR=7.5	86.43 339	⇑P	P	14 33 39.1 +0.4
J19A	Crowheart baz=87,SNR=5.7	86.50 334	⇑P	P	14 33 40.0 +0.7
HVU	Hansel Valley 6.9nm,0.9s	86.58 331	eP	P	14 33 40.2 +0.5
F27A	Lemmon baz=87	86.66 340	⇑P	P	14 33 40.3 +0.5
H22A	Clearmont baz=87	86.78 337	⇓P	P	14 33 40.9 +0.4
I20A	Worland baz=87	86.79 335	⇑P	P	14 33 41.3 +0.7
F26A	Lodgepole baz=87	86.82 339	⇑P	P	14 33 41.1 +0.5
G24A	Alzada baz=87	86.85 338	⇓P	P	14 33 41.2 +0.4
E28A	Huff baz=87	86.95 341	⇑P	P	14 33 41.9 +0.7
D30A	Buchanan baz=87	86.97 342	⇑P	P	14 33 41.7 +0.5
F25A	Bowman baz=87	87.11 339	⇑P	P	14 33 42.7 +0.7
D29A	Pettibone, Tap baz=87	87.12 342	⇓P	P	14 33 42.4 +0.4
G22A	Birney baz=88	87.33 337	⇓P	P	14 33 43.5 +0.4
F24A	Ekalaka baz=88	87.33 338	⇓P	P	14 33 43.5 +0.4
E26A	Carlson Angus baz=88	87.33 340	⇑P	P	14 33 43.3 +0.2
AGMN	Agassiz Nation baz=88	87.43 345	⇓P	P	14 33 43.6 +0.1
AGMN	Agassiz Nation 5.3nm,0.6s	87.43 345	eP	P	14 33 43.7 +0.3
C30A	Mose, Pekin baz=88,SNR=16	87.45 343	⇑P	P	14 33 44.1 +0.5
F23A	Volborg baz=88	87.50 338	⇓P	P	14 33 43.9 0.0
I17A	Pilgrim Ck. baz=88	87.61 334	⇑P	P	14 33 45.8 +1.1
E25A	Miller Ranch, baz=88	87.62 339	⇓P	P	14 33 44.8 +0.3
D27A	Center baz=88	87.67 341	⇑P	P	14 33 44.7 +0.1
F22A	Rosebud baz=88	87.82 337	⇓P	P	14 33 46.1 +0.7
D26A	Manning baz=88,SNR=7.1	87.84 340	⇓P	P	14 33 46.0 +0.5
MDND	Maddock baz=88	87.86 342	⇑P	P	14 33 46.1 +0.5
E24A	Baker baz=88	87.94 339	⇑P	P	14 33 46.3 +0.3
G20A	Bridger baz=88	87.94 336	⇓P	P	14 33 46.0 -0.2
H18A	Shoshone NF, C baz=88	87.95 335	⇑P	P	14 33 46.6 +0.3
B30A	Myrvik Farm, E baz=88,SNR=16	88.12 343	⇑P	P	14 33 47.0 +0.2
D25A	Fairfield baz=88	88.19 340	⇓P	P	14 33 47.8 +0.7
C27A	Sayler Ranch, baz=88,SNR=5.0	88.22 341	⇓P	P	14 33 47.7 +0.5
B29A	Wagenman Farm, baz=89,SNR=6.2	88.38 343	⇑P	P	14 33 48.3 +0.4
D24A	Glendive baz=89	88.44 339	⇓P	P	14 33 49.1 +0.7
C26A	Wahner Farm, P baz=89	88.48 341	⇓P	P	14 33 49.1 +0.6
A30A	Hoffart Farm, baz=89,SNR=9.7	88.58 343	⇑P	P	14 33 48.8 0.0
HLID	Hailey baz=89	88.73 331	⇑P	P	14 33 51.4 +1.4
A29A	Manning Farm, baz=89,SNR=10	88.78 343	⇓P	P	14 33 49.8 0.0
A28A	Rude Farm, Bot baz=89	89.01 342	⇓P	P	14 33 51.7 +0.8
MCMT	McKenzie Canyo 2.1nm,0.9s	89.22 333	eP	P	14 33 53.8 +1.4
E19A	Rath Farm, Rou baz=90	89.23 336	⇑P	P	14 33 52.7 +0.6
ULM	Lac du Bonnet 8.3nm,0.9s,baz=174,slow=5.0,SNR=14	89.29 345	P	P	14 33 52.1 0.0
A26A	Wade Farm, Ken baz=90	89.45 341	⇓P	P	14 33 54.2 +1.3
DGMT	Dagmar baz=90	89.64 340	⇑P	P	14 33 55.0 +1.1
C21A	Desert Coulee baz=90	89.91 338	⇓P	P	14 33 55.0 -0.2
B22A	Reddig Ranch S baz=90	90.00 338	⇑P	P	14 33 56.0 +0.4
A21A	Bergtoll Ranch baz=91	90.89 338	⇑P	P	14 33 59.3 -0.4
A20A	Cobblestone Ra baz=91	91.10 338	⇓P	P	14 34 00.4 -0.3
A19A	Klindworth Far baz=92	91.39 337	⇑P	P	14 34 01.7 -0.4
YKA	Yellowknife Ar 0.2nm,0.7s,baz=139,slow=4.3,SNR=6.4	104.76 341	Pdiff	Pdif	14 35 01.6 -0.3
GERES	GERESS Array B 0.2nm,0.3s,baz=258,slow=2.5,SNR=4.9	114.59 46	PKP	PKPdf	14 39 35.4 -0.8
ASAR	Alice Springs 0.6nm,0.6s,baz=133,slow=1.8,SNR=11	114.67 207	PKP	PKPdf	14 39 36.8 -0.5
ASAR	1.1nm,0.6s,baz=131,slow=1.7,SNR=8.1		pPKP	pPKiKP	14 39 48.6 -1.3
ILAR	Eielson Array 0.3nm,0.8s,baz=114,slow=3.1,SNR=2.9	116.66 333	PKP	PKPdf	14 39 39.4 -0.2
WRA	Warramunga Arr 1.4nm,0.5s,baz=158,slow=1.6,SNR=37	117.90 209	PKP	PKPdf	14 39 43.2 -0.3
WRA	2.8nm,0.5s,baz=164,slow=1.5,SNR=14		pPKP	pPKPdf	14 39 55.0 -1.2
BRTR	Keskin Array B 1.6nm,0.7s,baz=222,slow=3.8,SNR=6.7	123.67 63	PKP	PKPdf	14 39 54.0 0.0
BRTR	2.1nm,0.8s,baz=191,slow=3.5,SNR=6.0		pPKP	pPKPdf	14 40 06.2 -0.5
AKASG	Malin Array Be 0.4nm,0.4s,baz=278,slow=1.6,SNR=3.4	124.55 49	PKP	PKPdf	14 39 54.8 -0.3
AKASG	1.4nm,0.6s,baz=266,slow=2.7,SNR=3.0		pPKP	pPKPdf	14 40 06.6 -1.2
ARCES	ARCESS Array B 7.2nm,1.1s,baz=289,slow=2.8,SNR=3.1	126.94 26	PKP	PKPdf	14 39 59.3 +0.2
GEYT	Alibeck 1.6nm,0.7s,baz=245,slow=2.8,SNR=4.5	141.26 73	PKhKP	PKPpre	14 40 21.7
AKTO	Aktyubinsk 1.3nm,0.6s,baz=288,slow=3.9,SNR=8.1	142.58 53	PKhKP	PKPpre	14 40 24.3
AKTO	1.2nm,0.6s,baz=259,slow=2.5,SNR=5.3		PKP	PKPdf	14 40 28.7 -0.1
TIXI	Tiksi	143.56 349	ePKPpre	PKPpre	14 40 25.9
ABKAR	Abkulak array	143.86 55	ePKPpre	PKPpre	14 40 28.9
KSM	Kuching	144.53 185	ePKPdf	PKPbc	14 40 32.7 +0.6
PSI	Prapat 31nm,0.8s,baz=173,slow=3.5,SNR=32	145.07 165	PKP	PKPab	14 40 34.1 +0.2
IPM	Ipoh	147.09 168	ePKPbc	PKPbc	14 40 39.6 -0.3
HYB	Hyderabad	147.97 120	i PKP	PKPbc	14 40 41.5 -0.7
BVAR	Borovoye Array 5.1nm,0.9s,baz=252,slow=3.0,SNR=18	149.76 46	PKPbc	PKPdf	14 40 43.2 +2.2
KKAR	Karatay Array	151.30 66	ePKPbc	PKPbc	14 40 49.8 +0.1
YAK	Yakutsk	151.38 338	ePKPbc	PKPbc	14 40 49.1 -0.1
AAK	Ala-Archa 4.1nm,0.8s,baz=103,slow=1.4,SNR=13	154.23 67	PKPbc	PKPbc	14 40 56.8 +0.4
AAK	7.0nm,0.6s,baz=197,slow=2.6,SNR=15		PKPab	PKPab	14 41 09.5 -1.0
KSH	Kashi	155.28 75	PKP	PKPdf	14 40 49.5 -0.2
KSH			sPKP		14 41 04.5
KSH			PKS	PKSdf	14 44 23.5 -0.3
KSH			PP	PP	14 44 51.0 -1.0
KSH			SKS	SKSdf	14 47 53.2 +0.2
KSH			SS	SS	15 04 34.6 +0.2
KSH	60nm,5.8s		PPMZ		
KSH	19nm,4.0s		LN		
KSH	18nm,4.2s		LE		
ZALV	Zalesovo Beam 2.5nm,0.8s,baz=283,slow=2.6,SNR=9.3	156.99 35	PKP	PKPdf	14 40 51.2 0.0
ZALV	2.4nm,0.6s,baz=293,slow=4.8,SNR=5.1		PKPab	PKPab	14 41 21.6 -0.1
MKAR	Makanchi Array 2.4nm,0.9s,baz=253,slow=1.3,SNR=9.4	159.01 54	PKP	PKPdf	14 40 53.5 -0.5
MKAR	3.0nm,0.8s,baz=282,slow=3.5,SNR=8.2		PKPab	PKPab	14 41 30.6 -0.1
CMAR	Chiang Mai Arr 0.3nm,0.3s,baz=207,slow=1.2,SNR=3.6	160.08 156	PKP	PKPdf	14 40 55.5 -0.6
CMAR	0.9nm,0.9s,baz=222,slow=3.9,SNR=4.9		PKPab	PKPab	14 41 35.2 -0.6
CN2	Changchun	164.67 302	ePKP	PKPdf	14 41 00.3 +0.4
SONM	Songino Array 2.5nm,0.8s,baz=342,slow=4.9,SNR=12	169.17 4	PKPab	PKPab	14 42 15.7 +0.4
NJ2	Nanjing	169.32 246	ePKP	PKPdf	14 41 03.9 +0.2
BJI	Beijing	172.47 296	PKP	PKPdf	14 41 06.4 +1.3
CD2	Chengdu	173.21 153	ePKP	PKPdf	14 41 05.8 0.0
HHC	Hu-ho-hao-te	174.97 321	ePKP	PKPdf	14 41 04.6 -1.6
HHC			pPKP	pPKPdf	14 41 13.6 -5.3
HHC			sPKP		14 41 19.5
HHC			PKS	PKSdf	14 44 33.2 -5.2
HHC			PP	PP	14 46 37.3 +3.6
HHC			SKS	SKSdf	14 48 01.4 -4.6
HHC			SKKS	SKKSac	14 53 16.4 -0.5
HHC			SS	SS	15 07 49.8 -4.2
HHC	100nm,9.4s		PPMZ		
HHC	150nm,22.8s		LN		
HHC	140nm,22.9s		LE		
HHC	140nm,22.6s		LZ		
LZH	Lanzhou	177.01 107	ePKP	PKPdf	14 41 06.6 -0.3
LZH			pPKP	pPKPdf	14 41 17.2 -2.4
LZH			sPKP		14 41 20.5

ISCJB ***03*** *14:35:01.7±0.3,32°.76N±0°.03×105°.29E±0°.04, h14km, mb3.9/15, Error ellipse: s-maj=5.3km s-min=3.9km az=24.3*
IDC ***03*** *14:35:01.1±0.7,32°.77N×105°.23E, h0km, mb3.9/11, mb1 4.0/14, mb1mx3.8/44, mbtmp3.8/14, ML3.5/3, Error ellipse: s-maj=25.4km s-min=15.3km az=51.0*
BJI ***03*** *14:35:02.4,32°.85N×105°.30E, h5km, mb4.1/9, ML3.9/26, Ms3.6/11, Ms7 3.4/6*
NEIC ***03*** *14:35:03.3±3.5,32°.82N×105°.21E, h13km±23km, mb4.3/4, Error ellipse: s-maj=10.0km s-min=6.4km az=58.0*
ISC 03 14:35:03.3±0.5,32°.84N±0°.04×105°.27E±0°.04,h14km,n35, σ1°33/46,mb4.0/15,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	2.31	214	ePn	Pn	14 35 42.2	+1.2
CD2				Pg	Pb	14 35 45.3	+0.5
CD2				Sn	Sb	14 36 12.6	-0.6
CD2				Sg	Sg	14 36 16.6	-0.9
CD2	2μm,0.8s			SMN			
CD2	1μm,1.0s			SME			
XAN	Xi'an	3.28	68	Pn	Pn	14 35 54.3	-0.1
XAN				Pg	Pb	14 35 59.9	-1.5
XAN				Sn	Sn	14 36 34.2	+0.9
XAN				Sg	Sb	14 36 41.5	+0.2
XAN	700nm,0.9s			SMN			
XAN	370nm,1.1s			SME			
XAN	310nm,4.7s			LN			
XAN	210nm,7.6s			LE			
LZH	Lanzhou	3.45	340	Pn	Pn	14 35 58.7	+1.9
LZH				Pg	Pg	14 36 07.3	-2.1
LZH				Sn	Sn	14 36 40.1	+2.5
LZH				Sg	Sg	14 36 50.4	-3.8
LZH	660nm,0.6s			SMN			
LZH	490nm,0.8s			SME			
LZH	800nm,4.2s			LN			
LZH	690nm,4.6s			LE			
LZH	810nm,5.3s			LZ			
ENH	Enshi	4.42	124	P	Pn	14 36 10.9	+0.9
GYA	Guiyang	6.47	169	Pn	Pn	14 36 37.7	-0.6
GYA				Pg	Pb	14 36 59.1	+3.3
GYA				Sn	Sn	14 37 50.1	-1.9
GYA	80nm,0.7s			SMN			
GYA	70nm,0.7s			SME			
GTA	Gaotai	7.90	328	eP	Pn	14 36 58.1	+0.1
GTA				pP	pP	14 37 02.9	
GTA				sP		14 37 06.1	
HHC	Hu-ho-hao-te	9.46	30	eP	Pn	14 37 21.6	+2.4
HHC				sP		14 37 31.4	
HHC				S	Sn	14 39 08.9	+3.6
HHC	10.0nm,1.0s			PMZ			
HHC	260nm,6.9s			LN			
HHC	250nm,7.3s			LE			
HHC	210nm,7.9s			LZ			
SONM	Songino Array	15.01	3	Pn	Pn	14 38 34.9	-0.2
	0.1nm,0.3s,baz=183,slow=12,SNR=3.1						
ULN	Ulaanbaatar	15.07	5	eP	Pn	14 38 35.5	-0.5
CMAR	Chiang Mai Arr	15.40	203	Pn	Pn	14 38 39.9	-0.4
	0.1nm,0.3s,baz=5.1,slow=11,SNR=4.0						
TAPN	Taplejung	16.14	255	eP	P	14 38 52.5	-0.9
ODAN	Odare	16.61	254	eP	Pn	14 38 55.6	-0.4
GUN	Gumba	17.43	259	eP	P	14 39 09.0	+1.3
PKIN	Phulchoki	17.95	258	eP	P	14 39 13.5	+0.2
GKN	Gorkha	18.42	260	eP	Pn	14 39 19.7	+1.2
KSAR	Wonju Array Be	19.05	70	P	Pn	14 39 26.3	+0.4
KSRS	Korea Array	19.08	70	P	Pn	14 39 26.3	+0.1
	0.5nm,0.3s,baz=256,slow=8.9,SNR=15						
MKAR	Makanchi Array	22.38	315	P	P	14 40 01.2	0.0
	2.7nm,0.6s,baz=116,slow=13,SNR=32						
ZALV	Zalesovo Beam	25.64	331	P	P	14 40 32.8	+0.5
	1.6nm,0.5s,baz=126,slow=9.5,SNR=9.6						
AAK	Ala-Archa	26.10	301	P	P	14 40 36.5	-0.3
	5.7nm,1.0s						
KURK	Kurchatov	26.50	320	eP	P	14 40 40.7	+0.6
	1.5nm,0.6s						
EKS2	Erkin-Say	26.63	301	eP	P	14 40 43.0	+1.4
	7.7nm,0.8s						
ABKAR	Abkulak array	37.30	310	eP	P	14 42 14.2	-0.6
GEYT	Alibeck	38.45	291	P	P	14 42 26.6	+1.8
	1.5nm,0.5s,baz=94,slow=4.9,SNR=4.0						
AKTO	Aktyubinsk	38.71	311	P	P	14 42 27.9	+1.2
	1.2nm,0.8s,baz=111,slow=11,SNR=3.0						
FINES	FINESS Array B	56.69	326	P	P	14 44 45.6	-0.4
	1.2nm,0.6s,baz=107,slow=6.6,SNR=6.8						
BRTR	Keskin Array B	56.76	299	P	P	14 44 45.4	-1.6
	0.9nm,0.6s,baz=46,slow=6.2,SNR=3.2						
WRAB	Tennant Creek	59.38	148	eP	P	14 45 05.7	+0.4
	1.9nm,0.6s						
WRA	Warramunga Arr	59.39	148	P	P	14 45 04.7	-0.7
	1.6nm,0.8s,baz=339,slow=7.6,SNR=16						
WB2	Warramunga Arr	59.39	148	eP	P	14 45 05.9	+0.5
ASAR	Alice Springs	62.48	150	P	P	14 45 26.3	-0.1
	1.2nm,0.7s,baz=333,slow=6.6,SNR=26						
NB2	NORSAR Subarra	63.74	327	P	P	14 45 33.5	-0.9
	comp=Z,0.9nm,0.6s,baz=70,slow=6.9						
NOA	NORSAR Array B	63.74	327	P	P	14 45 33.7	-0.6
	comp=Z,1.2nm,0.7s,baz=71,slow=6.7,SNR=5.8						
ILAR	Eielson Array	67.85	26	P	P	14 46 01.4	+0.6
	comp=Z,0.5nm,1.0s,baz=290,slow=4.7,SNR=3.4						
YKA	Yellowknife Ar	79.75	18	P	P	14 47 11.3	+0.8
	comp=Z,0.3nm,0.7s,baz=331,slow=5.2,SNR=6.1						

VIE ***03*** *14:35:13.9±0.4,44°.80N±14°.83E, h9km±1km, mb1.9/1, ML2.5/1, Error ellipse: s-maj=2.7km s-min=2.0km az=6.0 69 km SSE of Rijeka*
ISCJB ***03*** *14:35:14.2±0.8,44°.83N±0°.03×14°.86E±0°.09, h9km, Error ellipse: s-maj=9.5km s-min=4.2km az=168.3*
ISC 03 14:35:14.6±1.2,44°.83N±0°.03×14°.84E±0°.07,h9km,n4, σ0°76/10,3C-1D,Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	Novalja	0.27	176	ePg	Pg	14 35 19.8	-0.1
NVLJ				Sg	Sg	14 35 23.8	+0.3
UDBI	Udbina	0.72	114	ePg	Pg	14 35 28.7	+0.1
UDBI				Sg	Sg	14 35 38.2	+0.2
BOJS	Bojanci	0.73	23	i Pg	Pg	14 35 28.2	-0.6
BOJS				i Sg	Sg	14 35 38.9	+0.6
BOJS	comp=Z,16nm,0.2s						
OBKA	Obir	1.69	353	⇓i Pn	Pn	14 35 44.2	-0.3
OBKA				⇑i Pg	Pg	14 35 46.6	-0.4
OBKA				⇑i Sn	Sb	14 36 07.2	-0.2
OBKA				⇑i Sg	Sg	14 36 10.7	+1.7
	comp=Z,19nm,0.6s						

IDC ***03*** *14:35:47.2±0.9,33°.66S×71°.63W, h0km, mb3.9/5, mb1 3.9/9, mb1mx3.8/29, mbtmp3.8/9, ML4.2/4, MS2.8/4, Ms1 2.9/4, ms1mx2.8/22, Error ellipse: s-maj=35.8km*

s-min=19.3km az=102.0
*ISCJB **03** 14:35:51.8±0.7, 33°.68S×0°.05×71°.64W±0°.07, h47km±7km, mb3.9/5, Error ellipse: s-maj=9.3km s-min=7.7km az=168.7*
*NEIC **03** 14:36:52.8, 33°.63S×71°.56W, h34km, mb4.1/2, ML4.2(GUC), After GUC.*
NEIC Felt [III] at Casablanca and San Antonio; [II] at Quillota.
*GUC **03** 14:35:52.8±0.5, 33°.63S×71°.56W, h34km±7km, ML4.2*

ISC 03 14:35:52.9±0.8, 33°.66S±0°.05×71°.62W±0°.06, h38km±2km, n43, σ0°76/58, mb4.1/5, 10C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.34**	**150**	⇓*i*P	**Pn**	**14 36 01.1**	**-0.3**
LNV	**Longovilo**	**0.34**	**150**	⇓*i*P	**Pn**	**14 36 01.1**	**-0.3**
TACH	**Talagante**	**0.56**	**90**	⇑*i*P	**Pn**	**14 36 03.6**	**-1.0**
TACH	**Talagante**	**0.56**	**90**	⇑*i*P	**Pn**	**14 36 03.6**	**-1.0**
IHA	**Instituto Hidr**	**0.63**	**358**	⇓*i*P	**Pn**	**14 36 04.8**	**-0.6**
IHA				*i* S1	**Sn**	**14 36 13.6**	**-0.7**
IHA	**Instituto Hidr**	**0.63**	**358**	⇓*i*P	**Pn**	**14 36 04.8**	**-0.6**
IHA				*i* S	**Sn**	**14 36 13.6**	**-0.7**
RCDM	**Rinconada Maip**	**0.69**	**76**	⇓*i*P	**Pn**	**14 36 05.4**	**-0.9**
RCDM				*i* S	**Sn**	**14 36 14.4**	**-1.4**
RCDM				AML	AML	14 36 14.9	
	comp=N,21μm,0.2s						
RCDM	**Rinconada Maip**	**0.69**	**76**	⇓*i*P	**Pn**	**14 36 05.4**	**-0.9**
RCDM				*i* S	**Sn**	**14 36 14.4**	**-1.4**
SAN	**Santiago**	**0.82**	**76**	⇑*i*P	**Pn**	**14 36 07.8**	**-0.3**
SAN				*i* S1	**Sn**	**14 36 18.7**	**-0.3**
SAN	**Santiago**	**0.82**	**76**	⇑*i*P	**Pn**	**14 36 07.8**	**-0.3**
SAN				*i* S	**Sn**	**14 36 18.7**	**-0.3**
ANTU	**Antumapu**	**0.82**	**84**	⇓*i*P	**Pn**	**14 36 07.7**	**-0.3**
ANTU				*i* S	**Sn**	**14 36 18.5**	**-0.5**
ANTU				AML	AML	14 36 19.1	
	comp=E,18μm,0.3s						
ANTU	**Antumapu**	**0.82**	**84**	⇓*i*P	**Pn**	**14 36 07.7**	**-0.3**
ANTU				*i* S	**Sn**	**14 36 18.5**	**-0.5**
CHCH	**Chadas Angostu**	**0.85**	**109**	⇑*i*P	**Pn**	**14 36 07.9**	**-0.5**
CHCH	**Chadas Angostu**	**0.85**	**109**	⇑*i*P	**Pn**	**14 36 07.9**	**-0.5**
PCH	**Pirque**	**0.92**	**88**	⇑*i*P	**Pn**	**14 36 09.0**	**-0.4**
PCH	**Pirque**	**0.92**	**88**	⇑*i*P	**Pn**	**14 36 09.0**	**-0.4**
FSR	**Penalolen**	**0.93**	**79**	*i* P9	**Pn**	**14 36 10.4**	**+0.9**
FSR				*i* S1	**Sn**	**14 36 22.5**	**+0.9**
FSR	**Penalolen**	**0.93**	**79**	*i* P	**Pn**	**14 36 10.4**	**+0.9**
FSR				*i* S	**Sn**	**14 36 22.5**	**+0.9**
PEL	**Peldehue**	**0.93**	**57**	⇑*i*P	**Pn**	**14 36 09.8**	**+0.3**
PEL				*i* S	**Sn**	**14 36 22.3**	**+0.6**
PEL				AML	AML	14 36 23.6	
	comp=N,22μm,0.6s						
PEL	**Peldehue**	**0.93**	**57**	⇑*i*P	**Pn**	**14 36 09.8**	**+0.3**
PEL				*i* S	**Sn**	**14 36 22.3**	**+0.6**
CACH	**El Canelo**	**0.96**	**119**	⇓*i*P	**Pn**	**14 36 10.5**	**+0.5**
CACH	**El Canelo**	**0.96**	**119**	⇓*i*P	**Pn**	**14 36 10.5**	**+0.5**
FCH	**Farellones**	**1.15**	**74**	⇓*i*P	**Pn**	**14 36 14.1**	**+1.2**
FCH				*i* S1	**Sn**	**14 36 28.3**	**+0.8**
FCH				AML	AML	14 36 30.1	
	comp=N,6μm,0.3s						
FCH	**Farellones**	**1.15**	**74**	P	**Pn**	**14 36 14.1**	**+1.2**
FCH				*i* S	**Sn**	**14 36 28.3**	**+0.8**
CFAA	**Coronel Fontan**	**3.51**	**55**	Pn	**Pn**	**14 36 45.0**	**+0.1**
	comp=N,2.8nm,0.3s,baz=225,slow=12,SNR=38						
CFAA				LR	LR	14 38 22.9	
	comp=N,39nm,19.2s,baz=244,slow=44						
PLCA	**Paso Flores**	**7.11**	**173**	**Pn**	**Pn**	**14 37 34.0**	**-0.5**
	comp=N,2.2nm,0.3s,baz=340,slow=11,SNR=36						
PLCA				LR	LR	14 39 56.2	
	comp=N,49nm,20.0s,baz=108,slow=35						
PLCA	**Paso Flores**	**7.11**	**173**	*e*P	**Pn**	**14 37 36.1**	**+1.6**
TRQA	**Tornquist**	**8.97**	**122**	*e*P	**Pn**	**14 37 59.6**	**-0.2**
	comp=N,7.9nm,0.6s						
CPUP	**Villa Florida**	**14.36**	**63**	Pn	**Pn**	**14 39 13.8**	**+0.2**
	comp=N,0.5nm,0.3s,baz=190,slow=19,SNR=2.4						
CPUP				LR	LR	14 45 20.0	
	comp=N,112nm,19.6s,baz=214,slow=40						
LPAZ	**La Paz**	**17.58**	**11**	Pn	**Pn**	**14 39 55.8**	**+0.2**
	comp=N,0.2nm,0.3s,baz=190,slow=11,SNR=4.3						
LPAZ				LR	LR	14 46 39.7	
	comp=N,62nm,18.9s,baz=108,slow=37						
SIV	**San Ignacio**	**20.00**	**31**	P	**P**	**14 40 21.3**	**-1.0**
	comp=N,1.2nm,0.6s,baz=210,slow=7.6,SNR=3.6						
EFI	**East Falkland**	**20.52**	**155**	*e*P	**P**	**14 40 26.8**	**-0.8**
SAML	**Samuel**	**25.79**	**19**	*e*P	**P**	**14 41 21.1**	**+0.8**
	comp=N,1.7nm,0.7s						
SNAA	**Sanae**	**51.77**	**158**	P	**P**	**14 44 55.7**	**-0.6**
	comp=N,2.1nm,0.9s,baz=112,slow=1.7,SNR=6.5						
SNAA	**Sanae**	**51.77**	**158**	*e*P	**P**	**14 44 56.2**	**-0.1**
QSPA	**South Pole Qui**	**56.58**	**180**	P	**P**	**14 45 32.5**	**+1.0**
	comp=N,1.4nm,0.8s,baz=151,slow=3.0,SNR=6.0						
QSPA	**South Pole Qui**	**56.58**	**180**	*e*P	**P**	**14 45 32.3**	**+0.8**
	comp=N,4.7nm,1.1s						
TXAR	**Lajitas Array**	**69.61**	**330**	P	**P**	**14 46 59.2**	**+0.9**
	comp=N,0.2nm,0.5s,baz=155,slow=10,SNR=3.8						
TORD	**Torodi Ar. Bea**	**83.76**	**70**	P	**P**	**14 48 17.5**	**-0.9**
	comp=N,2.7nm,0.8s,baz=281,slow=6.0,SNR=15						
WRA	**Warramunga Arr**	**121.23**	**209**	PKP	**PKPdf**	**14 54 41.4**	**-1.0**
	comp=N,0.2nm,0.5s,baz=164,slow=1.8,SNR=5.1						
AAK	**Ala-Archa**	**152.03**	**61**	*e*PKPbc	**PKPbc**	**14 55 44.2**	**+0.2**
ZALV	**Zalesovo Beam**	**153.75**	**32**	PKPbc	**PKPbc**	**14 55 47.1**	**-0.1**
	comp=N,0.6nm,0.5s,baz=335,slow=2.9,SNR=2.9						
ZALV				PKPab	**PKPab**	**14 56 00.4**	**+0.3**
	comp=N,0.4nm,0.4s,baz=314,slow=5.3,SNR=3.4						
MKAR	**Makanchi Array**	**156.27**	**49**	PKPab	**PKPab**	**14 56 10.6**	**-0.7**
	comp=N,0.4nm,0.7s,baz=286,slow=4.3,SNR=5.5						

MAN 03 14:37:36.7°.86N×124°.13E, h19km, mb4.3, ML3.1, MS2.9, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.65**	**169**	⇑*i*P	Pn	14 37 50.0	-0.1
CTBH				*i* S	Sn	14 38 00.9	+1.1
PAGZ	**Pagadian**	**0.74**	**269**	*e*P	Pb	14 37 49.9	-0.3
PAGZ				*e*S	Sg	14 38 00.4	+0.1
CGP	**Cagayan de Oro**	**0.82**	**43**	⇑*e*P	Pb	14 37 51.7	+0.1
CGP				*e*S	Sb	14 38 01.5	-0.7
BUKP	**Musuan**	**0.93**	**89**	*e*P	Pg	14 37 57.8	+3.6
IPIL	**Ipil**	**1.54**	**267**	*e*P	Pb	14 38 03.7	-0.3

*ISCJB **03** 14:51:28.1±0.7, 35°.12S±0°.08×72°.0W±0°.1, h29km, mb4.1/9, MS3.3/1, Error ellipse: s-maj=17.7km s-min=9.2km az=24.3*
*IDC **03** 14:51:31.5±0.8, 35°.12S×71°.86W, h41km±6km, mb3.9/9, mb1 4.1/12, mb1mx4.0/28, mbtmp4.1/12, ML4.1/3, MS3.1/3, Ms1 3.1/3, ms1mx2.8/32, Error ellipse: s-maj=22.0km s-min=16.5km az=96.0*

ISC 03 14:51:30.4±0.6, 35°.16S±0°.09×71°.9W±0°.1, h29km, n19, σ1°70/24, mb4.3/9, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.71**	**42**	P	**Pn**	**14 52 39.9**	**+0.4**
	1.6nm,0.3s,baz=28,slow=2.2,SNR=17						
CFAA				S	**Sn**	**14 53 36.0**	**+2.8**
	0.3nm,0.3s,baz=264,slow=18,SNR=1.8						
CFAA				LR	LR	14 54 40.7	
	comp=Z,36nm,18.9s,baz=228,slow=41						
PLCA	**Paso Flores**	**5.67**	**169**	P	**Pn**	**14 52 54.9**	**+2.1**
	1.9nm,0.3s,baz=342,slow=10,SNR=14						
CPUP	**Villa Florida**	**15.32**	**59**	LR	LR	15 01 34.0	
	comp=Z,154nm,19.2s,baz=208,slow=40						
LPAZ	**La Paz**	**19.10**	**11**	P	**P**	**14 55 51.0**	**-0.6**
	0.4nm,0.3s,baz=187,slow=7.0,SNR=16						
SIV	**San Ignacio**	**21.43**	**30**	P	**P**	**14 56 15.1**	**-1.1**
	7.7nm,0.7s,baz=224,slow=9.8,SNR=20						
SIV				pP	**pP**	**14 56 25.6**	**+1.5**
	8.2nm,0.9s,baz=238,slow=12,SNR=9.2						
BDFB	**Brasilia**	**28.93**	**54**	P	**P**	**14 57 25.3**	**-2.0**
	2.6nm,0.6s,baz=205,slow=9.1,SNR=3.6						
BDFB				LR	LR	15 10 13.1	
	comp=Z,68nm,19.9s,baz=237,slow=39						
QSPA	**South Pole Qui**	**55.08**	**180**	P	**P**	**15 00 59.3**	**-0.2**
	3.8nm,1.1s,baz=248,slow=1.3,SNR=9.9						
TXAR	**Lajitas Array**	**70.79**	**331**	P	**P**	**15 02 43.9**	**-0.3**
	0.2nm,0.5s,baz=145,slow=9.0,SNR=4.8						
TXAR				pP	**pP**	**15 02 55.7**	**+2.4**
	1.1nm,0.8s,baz=152,slow=8.2,SNR=6.6						
DBIC	**Dimbokro**	**75.47**	**71**	P	**P**	**15 03 10.8**	**-1.3**
	5.1nm,0.7s,baz=211,slow=3.9,SNR=7.1						
BOSA	**Boshof**	**79.46**	**117**	P	**P**	**15 03 33.8**	**-0.7**
	6.7nm,1.0s,baz=273,slow=3.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**84.53**	**70**	P	**P**	**15 04 00.0**	**-1.0**
	2.9nm,0.7s,baz=280,slow=5.5,SNR=29						
TORD				pP	**pP**	**15 04 12.6**	**+2.3**
	3.3nm,0.9s,baz=285,slow=4.3,SNR=4.8						
PDAR	**Pinedale Array**	**84.83**	**333**	P	**P**	**15 04 01.1**	**-1.2**
	0.4nm,0.7s,baz=148,slow=7.0,SNR=3.4						
NVAR	**Mina Array Bea**	**84.88**	**325**	P	**P**	**15 04 02.3**	**-0.3**
	0.3nm,0.5s,baz=153,slow=6.1,SNR=3.5						
NVAR				pP	**pP**	**15 04 15.4**	**+3.5**
	0.5nm,0.7s,baz=136,slow=5.9,SNR=2.7						
WRA	**Warramunga Arr**	**119.79**	**209**	PKP	**PKPdf**	**15 10 16.3**	**-2.1**
	0.2nm,0.7s,baz=146,slow=2.2,SNR=3.6						
WRA				pPKP	**pPKPdf**	**15 10 29.9**	**+2.0**
	0.4nm,1.0s,baz=160,slow=1.5,SNR=2.0						
BVAR	**Borovoye Array**	**148.06**	**44**	PKPbc	**PKPbc**	**15 11 11.8**	**-0.9**
	1.4nm,0.6s,baz=283,slow=3.7,SNR=8.4						
AAK	**Ala-Archa**	**152.96**	**64**	PKPbc	**PKPbc**	**15 11 24.6**	**-0.3**
	2.6nm,0.6s,baz=148,slow=1.3,SNR=16						
ZALV	**Zalesovo Beam**	**155.15**	**34**	PKPab	**PKPab**	**15 11 44.4**	**-0.5**
	1.1nm,0.7s,baz=289,slow=4.5,SNR=5.2						
MKAR	**Makanchi Array**	**157.44**	**51**	PKPab	**PKPab**	**15 11 53.8**	**-1.3**
	1.4nm,0.8s,baz=296,slow=3.3,SNR=11						
SONM	**Songino Array**	**167.28**	**5**	PKPab	**PKPab**	**15 12 37.1**	**-1.0**
	0.7nm,0.9s,baz=318,slow=2.0,SNR=4.5						

*IDC **03** 15:00:05.7±1.3, 35°.19N×91°.26E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.4/43, mbtmp3.5/7, ML3.0/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/42, Error ellipse: s-maj=37.0km s-min=24.3km az=53.0*
*ISCJB **03** 15:00:06.4±1.7, 35°.3N±0°.2×91°.18E±0°.09, h10km, mb3.5/4, MS3.4/1, Error ellipse: s-maj=27.7km s-min=10.6km az=178.2*

ISC 03 15:00:08.3±0.8, 35°.34N±0°.09×91°.31E±0°.09, h10km, n11, σ1°55/12, mb3.7/4, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.62**	**181**	P	**Pb**	**15 01 47.1**	**+0.2**
MKAR	**Makanchi Array**	**13.30**	**332**	Pn	**Pn**	**15 03 15.8**	**-1.4**
	0.1nm,0.3s,baz=141,slow=14,SNR=9.3						
AAK	**Ala-Archa**	**14.96**	**304**	Pn	**P**	**15 03 48.0**	**+2.4**
	0.2nm,0.3s,baz=98,slow=7.8,SNR=14						
AAK				LR	LR	15 10 29.9	
	comp=Z,97nm,18.1s,baz=97,slow=42						
SONM	**Songino Array**	**16.79**	**37**	Pn	**P**	**15 04 05.5**	**-0.3**
	0.1nm,0.3s,baz=227,slow=15,SNR=6.0						
HHC	**Hu-ho-hao-te**	**16.86**	**65**	*e*P	**P**	**15 04 06.5**	**-0.1**
HHC				sP	**sP**	**15 04 13.5**	**+2.8**
HHC				PP	PnPn	15 04 21.2	+7.3
HHC				S	**Sn**	**15 07 11.5**	**-0.3**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,190nm,5.2s						
HHC				LR	LR		
	comp=N,200nm,8.2s						
HHC				LR	LR		
	comp=E,180nm,8.9s						
HHC				LR	LR		
	comp=Z,130nm,9.6s						
ZALV	**Zalesovo Beam**	**19.16**	**348**	P	**P**	**15 04 31.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=154,slow=14,SNR=2.5						
BVAR	**Borovoye Array**	**23.05**	**327**	P	**P**	**15 05 14.6**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=144,slow=10.0,SNR=3.8						
GEYT	**Alibeck**	**26.68**	**285**	P	**P**	**15 05 46.0**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=106,slow=11,SNR=4.1						
PETK	**Petropavlovsk-**	**48.94**	**47**	LR	LR	15 31 29.5	
	comp=Z,33nm,18.3s,baz=87,slow=38						
ILAR	**Eielson Array**	**70.39**	**23**	P	**P**	**15 11 21.2**	**-1.0**
	comp=Z,0.5nm,1.0s,baz=304,slow=5.3,SNR=3.3						
ASAR	**Alice Springs**	**71.22**	**139**	P	**P**	**15 11 26.6**	**-1.1**
	comp=Z,0.9nm,1.1s,baz=332,slow=6.8,SNR=7.1						

MAN 03 15:03:31, 8°.73N×122°.83E, h32km, mb4.4, ML3.3, MS3.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.73**	**34**	*i* P	Pn	15 03 39.3	-5.9
SNPH				*i* S	Sb	15 03 52.3	-2.9
IPIL	**Ipil**	**0.97**	**195**	*e*P	Pb	15 03 49.0	-0.4
PAGZ	**Pagadian**	**1.04**	**148**	*e*P	Pb	15 03 50.7	+0.2
PAGZ				*e*S	Sn	15 04 01.9	-0.8
GUIM	**Jordan**	**1.90**	**353**	*e*P	Pn	15 04 02.0	+0.8

IDC 03 15:05:08.1±1.2, 34°.30S×72°.26W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.6/23, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=42.2km s-min=27.4km az=99.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.32**	**53**	Pn	Pn	15 06 16.4	+1.2
	0.2nm,0.3s,baz=226,slow=9.7,SNR=6.6						
CFAA				Lg	Lg	15 07 13.8	
	1.2nm,0.3s,baz=89,slow=14,SNR=7.3						
LPAZ	**La Paz**	**18.32**	**13**	P	P	15 09 24.9	+0.2
	0.1nm,0.3s,baz=181,slow=8.7,SNR=4.9						
QSPA	**South Pole Qui**	**55.94**	**180**	P	P	15 14 48.1	+0.3
	0.9nm,0.8s,baz=135,slow=4.0						
TXAR	**Lajitas Array**	**69.91**	**331**	P	P	15 16 21.1	0.0
	0.1nm,0.4s,baz=146,slow=6.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**84.48**	**70**	P	P	15 17 42.3	-0.8
	0.3nm,0.8s,baz=235,slow=5.1,SNR=2.1						

*IDC **03** 15:09:58.4±0.9, 3°.35N×126°.75E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/30, mbtmp3.9/8, Error ellipse: s-maj=55.9km s-min=15.5km az=69.0*
*NEIC **03** 15:10:00.3±0.5, 3°.15N×126°.35E, h10km, mb4.1/4, Error ellipse: s-maj=32.5km s-min=8.5km az=65.0*
*ISCJB **03** 15:10:03.0±0.5, 3°.45N±0°.09×126°.8E±0°.2, h48km, mb3.9/12, Error ellipse: s-maj=27.0km s-min=7.3km az=157.2*

ISC 03 15:10:05.1±0.7, 3°.4N±0°.1×126°.8E±0°.2, h48km, n19, σ0°99/19, mb3.9/12, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.71**	**169**	*e*Pg	**Pn**	**15 10 47.4**	**+1.3**
CTBH	**Cotabato--PC H**	**4.56**	**326**	⇑*i*P	**Pn**	**15 11 13.2**	**+1.6**
FAKI	**Fak Fak**	**8.32**	**139**	*e*P	**Pn**	**15 12 03.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**21.44**	**183**	*e*P	**P**	**15 14 50.5**	**+1.1**
WRAB	**Tennant Creek**	**24.37**	**163**	*e*P	**P**	**15 15 17.9**	**-1.1**
	4.3nm,0.8s						
WRA	**Warramunga Arr**	**24.38**	**163**	P	**P**	**15 15 17.5**	**-1.5**
	2.0nm,0.5s,baz=338,slow=10,SNR=18						
WB2	**Warramunga Arr**	**24.38**	**163**	*e*P	**P**	**15 15 18.2**	**-0.9**
AS31	**Alice Springs**	**27.81**	**166**	*e*P	**P**	**15 15 49.3**	**-0.7**
ASAR	**Alice Springs**	**27.81**	**166**	P	**P**	**15 15 48.9**	**-1.1**
	0.3nm,0.5s,baz=346,slow=6.6,SNR=12						
CMAR	**Chiang Mai Arr**	**31.11**	**301**	P	**P**	**15 16 19.1**	**-0.2**
	1.4nm,0.9s,baz=115,slow=7.0,SNR=6.5						
KSAR	**Wonju Array Be**	**33.85**	**1**	P	**P**	**15 16 43.7**	**+0.6**
KSRS	**Korea Array**	**33.86**	**2**	P	**P**	**15 16 43.7**	**+0.5**
	1.1nm,0.8s,baz=178,slow=9.4,SNR=3.8						
STKA	**Stephens Creek**	**37.82**	**159**	P	**P**	**15 17 16.8**	**-0.3**
	2.2nm,0.6s,baz=346,slow=4.6,SNR=6.1						
SONM	**Songino Array**	**47.60**	**341**	P	**P**	**15 18 36.8**	**+0.4**
	1.0nm,0.8s,baz=154,slow=9.3,SNR=7.8						
MKAR	**Makanchi Array**	**57.85**	**325**	P	**P**	**15 19 51.9**	**-0.1**
	1.3nm,0.4s,baz=118,slow=7.9,SNR=26						
ZALV	**Zalesovo Beam**	**60.89**	**333**	P	**P**	**15 20 12.6**	**-0.2**
	0.4nm,0.4s,baz=116,slow=6.6,SNR=3.1						
KURK	**Kurchatov**	**62.04**	**328**	*e*P	**P**	**15 20 19.3**	**-1.3**
	2.6nm,0.6s						
KKAR	**Karatay Array**	**63.52**	**317**	*e*P	**P**	**15 20 29.5**	**-1.1**
	0.4nm,0.6s						
ABKAR	**Akbulak array**	**72.44**	**321**	*e*P	**P**	**15 21 26.0**	**-0.5**
	1.0nm,0.6s						

IDC 03 15:10:46.3±1.0, 35°.63S×71°.74W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/27, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=40.4km s-min=23.5km az=91.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.97**	**37**	Pn	Pn	15 12 05.3	+3.0
	0.4nm,0.3s,baz=213,slow=12,SNR=12						
CFAA				Sn	Sn	15 13 03.7	+3.2
	0.2nm,0.3s,baz=180,slow=20,SNR=2.1						
LPAZ	**La Paz**	**19.53**	**10**	P	P	15 15 16.8	+0.5
	0.1nm,0.3s,baz=177,slow=6.9,SNR=7.6						
SIV	**San Ignacio**	**21.76**	**29**	P	P	15 15 38.4	-1.2
	2.8nm,0.7s,baz=234,slow=9.6,SNR=6.1						
QSPA	**South Pole Qui**	**54.61**	**180**	P	P	15 20 16.2	-0.3
	0.9nm,0.9s,baz=138,slow=0.7,SNR=2.4						
TXAR	**Lajitas Array**	**71.28**	**331**	P	P	15 22 07.4	-0.2
	0.2nm,0.5s,baz=141,slow=5.8,SNR=2.8						
BOSA	**Boshof**	**79.10**	**117**	P	P	15 22 52.6	-0.5
	2.5nm,1.0s,baz=234,slow=17,SNR=2.4						
TORD	**Torodi Ar. Bea**	**84.54**	**70**	P	P	15 23 22.7	+1.0
	0.7nm,0.7s,baz=265,slow=4.3,SNR=7.2						
WRA	**Warramunga Arr**	**119.45**	**208**	PKP	PKPdf	15 29 38.5	+0.1
	0.7nm,1.2s,baz=165,slow=1.7,SNR=2.6						
MKAR	**Makanchi Array**	**157.61**	**52**	PKPab	PKPab	15 31 16.1	-0.3
	0.3nm,0.7s,baz=330,slow=3.5,SNR=4.1						

IDC 03 15:11:19.3±1.4, 37°.87S×73°.30W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/30, mbtmp3.8/4, ML3.4/1, MS4.0/1, Ms1 3.9/1, ms1mx3.0/29, Error ellipse: s-maj=110.3km s-min=26.3km az=68.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.57**	**144**	Pn	Pn	15 12 16.1	0.0
	0.7nm,0.3s,baz=339,slow=9.7,SNR=10						
BDFB	**Brasilia**	**31.43**	**52**	LR	LR	15 32 35.1	
	comp=Z,238nm,19.2s,baz=224,slow=41						
QSPA	**South Pole Qui**	**52.38**	**180**	P	P	15 20 32.9	-0.2
	2.3nm,0.8s,baz=161,slow=3.0,SNR=6.4						
TXAR	**Lajitas Array**	**72.64**	**332**	P	P	15 22 48.5	-0.3
	0.5nm,0.6s,baz=148,slow=9.2,SNR=5.6						
PDAR	**Pinedale Array**	**86.77**	**334**	P	P	15 24 05.7	+0.4
	1.2nm,1.0s,baz=148,slow=7.2,SNR=5.8						

*IDC **03** 15:14:46.7±0.8, 33°.32S×72°.13W, h0km, mb4.2/5, mb1 4.3/8, mb1mx4.0/33, mbtmp4.2/8, ML4.3/3, Error ellipse: s-maj=31.5km s-min=21.9km az=107.0*
*ISCJB **03** 15:14:47.8±1.7, 33°.35S±0°.09×72°.46W±0°.06, h26km±12km, mb4.2/6, Error ellipse: s-maj=14.5km s-min=7.7km az=12.8*
*GUC **03** 15:14:48.6±0.8, 33°.43S×72°.39W, h35km±14km, ML4.1*
*NEIC **03** 15:14:51.8±0.5, 33°.36S×72°.20W, h35km, mb4.4/3, Error ellipse: s-maj=13.5km s-min=10.3km az=98.0*

ISC 03 15:14:48.7±2.3, 33°.40S±0°.07×72°.29W±0°.08, h16km±12km, n29, σ0°89/37, mb4.4/6, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.66**	**56**	⇓*i*P	**Pb**	**15 15 02.3**	**+0.4**
IHA				*i* S1	**Sn**	**15 15 13.1**	**-0.4**
RCDM	**Rinconada Maip**	**1.25**	**94**	⇓*i*P	**Pn**	**15 15 11.6**	**0.0**
RCDM				*i* S	**Sg**	**15 15 29.0**	**0.0**
RCDM				AML	AML	15 15 35.0	
	comp=N,4μm,0.4s						
PEL	**Peldehue**	**1.37**	**80**	⇓*i*P	**Pn**	**15 15 13.6**	**+0.4**
PEL				*i* S	**Sg**	**15 15 33.2**	**+0.3**
PEL				AML	AML	15 15 40.1	
	comp=E,9μm,0.5s						
STL	**Santa Lucia**	**1.38**	**92**	⇑*i*P	**Pn**	**15 15 13.2**	**-0.2**
STL				*i* S	**Sn**	**15 15 32.2**	**+0.8**
ANTU	**Antumapu**	**1.40**	**97**	⇑*i*P	**Pb**	**15 15 14.5**	**+0.1**
ANTU				*e*S	**Sg**	**15 15 33.5**	**-0.3**
ANTU				AML	AML	15 15 37.7	
	comp=N,5μm,0.5s						
FSR	**Penalolen**	**1.48**	**93**	⇓*i*P	**Pg**	**15 15 17.0**	**-0.1**
FSR				*i* S	**Sg**	**15 15 36.9**	**+0.5**
FCH	**Farellones**	**1.68**	**88**	*e*P9	**Sn**	**15 15 16.5**	**-1.2**
FCH				*e*S	**Sn**	**15 15 40.4**	**+1.3**
FCH				AML	AML	15 15 49.6	
	comp=N,4μm,0.3s						
CFAA	**Coronel Fontan**	**3.87**	**63**	Pn	**Pn**	**15 15 50.0**	**+2.4**
	comp=N,0.4nm,0.3s,baz=241,slow=16,SNR=13						
CFAA				Lg	Lg	15 16 45.9	
	comp=N,0.9nm,0.3s,baz=296,slow=16,SNR=3.3						
PLCA	**Paso Flores**	**7.45**	**170**	*e*P	Pn	15 16 29.7	-7.1
	comp=N,71nm,0.6s						
TRQA	**Tornquist**	**9.58**	**122**	*e*P	**Pn**	**15 17 05.8**	**-0.3**
	comp=N,66nm,1.2s						
CPUP	**Villa Florida**	**14.76**	**65**	Pn	**Pn**	**15 18 16.6**	**-0.2**
	comp=N,0.3nm,0.3s,baz=210,slow=8.1,SNR=3.2						
LPAZ	**La Paz

CFAA **Coronel Fontan** 3.74 63 LR LR 15 17 41.4
comp=Z,224nm,19.6s,baz=312,slow=43
TRQA **Tornquist** 9.48 122 *e*P **Pn** **15 17 12.9 -1.4**
CPUP **Villa Florida** 14.63 65 LR LR 15 24 22.0
comp=Z,687nm,18.5s,baz=228,slow=38
SIV **San Ignacio** 19.99 33 LR LR 15 27 57.6
comp=Z,133nm,21.1s,baz=232,slow=39
EFI **East Falkland** 20.95 155 *e*P **P** **15 19 38.9 -1.5**
BDFB **Brasilia** 28.05 57 P **P** **15 20 49.8 +0.5**
8.6nm,0.9s,baz=197,slow=8.7,SNR=6.1
SNAA **Sanae** 52.19 158 P **P** **15 24 07.3 -0.6**
3.0nm,0.8s,baz=340,slow=13,SNR=5.4
SNAA **Sanae** 52.19 158 *e*P **P** **15 24 07.7 -0.3**
QSPA **South Pole Qui** 56.85 180 P **P** **15 24 44.0 +2.0**
10nm,0.8s,baz=138,slow=2.9,SNR=14
QSPA **South Pole Qui** 56.85 180 *e*P **P** **15 24 43.8 +1.8**
11nm,0.8s
TXAR **Lajitas Array** 69.16 331 P **P** **15 26 03.2 -0.9**
1.0nm,0.9s,baz=148,slow=7.4,SNR=7.6
BBTS **Babate** 71.35 57 LR LR 15 57 18.4
comp=Z,186nm,18.4s,baz=74,slow=36
TSUM **Tsumeb** 79.46 106 P **P** **15 27 06.5 +2.0**
1.8nm,0.5s,baz=280,slow=3.9,SNR=8.3
NVAR **Mina Array Bea** 83.33 325 P **P** **15 27 24.0 -0.6**
0.2nm,0.3s,baz=154,slow=3.9,SNR=3.9
TORD **Torodi Ar. Bea** 84.07 70 P **P** **15 27 30.1 +1.5**
4.1nm,0.8s,baz=259,slow=4.5,SNR=12
WRA **Warramunga Arr** 121.26 209 PKP **PKPdf** **15 33 50.2 -1.0**
0.6nm,1.0s,baz=158,slow=1.6,SNR=4.5
ZALV **Zalesovo Beam** 153.74 32 PKPbc **PKPbc** **15 34 55.8 -0.1**
2.7nm,0.9s,baz=298,slow=3.2,SNR=6.6
MKAR **Makanchi Array** 156.41 48 PKPab **PKPab** **15 35 19.2 -1.4**
1.7nm,0.8s,baz=319,slow=3.5,SNR=11

IDC 03 15:16:59.8±1.9, 2.56N×125.17E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/32, mbtmp3.3/3, Error ellipse: s-maj=187.1km s-min=24.5km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.11**	**158**	P	P	15 22 16.8	-0.6
0.4nm,0.4s,baz=337,slow=10,SNR=6.3							
ASAR	**Alice Springs**	**27.42**	**162**	P	P	15 22 48.2	+0.8
0.2nm,0.7s,baz=335,slow=8.6,SNR=4.7							
MKAR	**Makanchi Array**	**57.64**	**326**	P	P	15 26 51.6	-0.3
0.3nm,0.4s,baz=125,slow=7.5,SNR=10							

*IDC **03** 15:25:30.9±0.5, 34.68S×72.57W, h0km, mb4.7/24, mb1 4.8/28, mb1mx4.7/44, mbtmp4.7/28, ML4.6/4, MS4.2/17, Ms1 4.1/17, ms1mx4.0/24, Error ellipse: s-maj=18.0km s-min=11.9km az=69.0*
*ISCJB **03** 15:25:31.2±0.2, 34.71S±0.04×72.56W±0.04, h10km, mb4.9/68, MS4.2/16, Error ellipse: s-maj=5.5km s-min=4.4km az=166.5*
*BJI **03** 15:25:35.3, 34.60S×72.40W, h33km, mB4.9/9, Ms5.2/6, Ms7 4.8/7*
*MOS **03** 15:25:35.1±1.1, 34.66S×72.55W, h33km, mb5.2/19, Error ellipse: s-maj=20.9km s-min=9.1km az=102.7*
*NEIC **03** 15:25:36.8±0.8, 34.66S×72.47W, h39km±7km, mb4.9/45, Error ellipse: s-maj=7.8km s-min=4.2km az=74.0*
NEIC Felt at Santiago and Talca.
*GUC **03** 15:25:36.4±0.3, 34.43S×72.52W, h27km±2km, ML4.9*
ISC 03 15:25:32.5±0.3, 34.68S±0.05×72.53W±0.06, h10km, n429, σ1§16/437, mb4.9/68, MS4.2/16, 127C-114D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**1.67**	**53**	⇓*i*P	**Pb**	**15 26 02.5**	**-0.8**
IHA	**Instituto Hidr**	**1.81**	**25**	⇓*i*P	**Pn**	**15 26 03.4**	**-0.2**
RCDM	**Rinconada Maip**	**1.86**	**51**	*e*P	**Pn**	**15 26 05.0**	**+0.7**
RCDM				*i* S	**Sn**	**15 26 27.3**	**-0.7**
RCDM				AML	AML	15 26 40.0	
comp=N,10μm,0.5s							
ANTU	**Antumapu**	**1.92**	**56**	⇑*i*P	**Pb**	**15 26 06.9**	**-0.8**
ANTU				*i* S	**Sn**	**15 26 29.9**	**+0.3**
ANTU				AML	AML	15 26 39.0	
comp=N,21μm,0.4s							
SAN	**Santiago**	**1.98**	**52**	⇓*i*P	**Pb**	**15 26 07.4**	**-1.1**
PCH	**Pirque**	**1.98**	**58**	*e*P1	**Pn**	**15 26 08.1**	**+2.0**
STL	**Santa Lucia**	**2.00**	**52**	*e*P9	**Pn**	**15 26 07.0**	**+0.7**
STL				*i* S	**Sn**	**15 26 30.7**	**-0.8**
FSR	**Penalolen**	**2.05**	**55**	*e*P9	**Pg**	**15 26 10.2**	**-1.5**
FSR				*e*S1	**Sn**	**15 26 34.7**	**+2.0**
PEL	**Peldehue**	**2.17**	**46**	⇑*i*P	**Pn**	**15 26 09.8**	**+1.2**
PEL				*e*S1	**Sn**	**15 26 35.1**	**-0.5**
PEL				AML	AML	15 26 49.7	
comp=N,29μm,0.8s							
CFAA	**Coronel Fontan**	**4.73**	**51**	Pn	**Pn**	**15 26 45.8**	**+1.9**
comp=N,5.3nm,0.3s,baz=227,slow=12,SNR=106							
CFAA				Lg	Lg	15 27 51.6	
comp=N,3.4nm,0.3s,baz=101,slow=19,SNR=3.7							
PLCA	**Paso Flores**	**6.25**	**166**	*e*P	**Pn**	**15 27 06.3**	**+1.6**
PLCA	**Paso Flores**	**6.25**	**166**	Pn	**Pn**	**15 27 05.9**	**+1.1**
comp=N,4.3nm,0.3s,baz=339,slow=14,SNR=18							
PLCA				Lg	Lg	15 28 44.0	
comp=N,4.9nm,0.3s,baz=64,slow=22,SNR=4.7							
PLCA				LR	LR	15 29 04.9	
comp=N,382nm,19.3s,baz=1.0,slow=34							
PLCA	**Paso Flores**	**6.25**	**166**	*e*P	**Pn**	**15 27 06.3**	**+1.6**
PLCA				Lg	Lg	15 28 44.0	
TRQA	**Tornquist**	**9.15**	**115**	*e*P	**Pn**	**15 27 46.0**	**+1.4**
comp=N,80nm,0.8s							
LVC	**Limon Verde**	**12.43**	**16**	*e*P	Pn	15 28 25.1	-4.6
comp=N,43nm,0.9s							
CPUP	**Villa Florida**	**15.51**	**62**	*e*P	Pn	15 29 05.7	-5.6
CPUP	**Villa Florida**	**15.51**	**62**	Pn	**Pn**	**15 29 12.4**	**+1.2**
comp=N,1.6nm,0.3s,baz=219,slow=9.8,SNR=8.8							
CPUP				LR	LR	15 35 42.5	
comp=N,1μm,18.9s,baz=222,slow=39							
CPUP	**Villa Florida**	**15.51**	**62**	*e*P	Pn	15 29 05.7	-5.6
LPAZ	**La Paz**	**18.73**	**13**	*e*P	**Pn**	**15 29 52.8**	**+0.4**
LPAZ				pmax	pmax		
comp=Z,31nm,0.8s							
LPAZ	**La Paz**	**18.73**	**13**	P	**Pn**	**15 29 53.5**	**+1.1**
comp=Z,0.8nm,0.3s,baz=187,slow=7.0,SNR=43							
LPAZ	**La Paz**	**18.73**	**13**	*e*P	**Pn**	**15 29 52.8**	**+0.4**
comp=Z,30nm,0.8s							
EFI	**East Falkland**	**19.94**	**153**	*e*P	**P**	**15 30 03.7**	**-0.6**
EFI				pmax	pmax		
comp=Z,31nm,0.6s							
EFI	**East Falkland**	**19.94**	**153**	*e*P	**P**	**15 30 03.7**	**-0.6**
comp=Z,31nm,0.6s							
USHA	**Ushuaia**	**20.36**	**173**	P	Pn	15 30 10.0	-0.9
comp=Z,18nm,0.8s,baz=344,slow=7.3,SNR=5.8							
USHA				LR	LR	15 38 22.8	
comp=Z,1μm,19.1s,baz=329,slow=38							
SIV	**San Ignacio**	**21.26**	**32**	P	**P**	**15 30 18.9**	**-0.1**
comp=Z,18nm,0.8s,baz=232,slow=12,SNR=26							
SIV				LR	LR	15 40 07.1	
comp=Z,2μm,18.8s,baz=228,slow=41							
NNA	**Nana**	**22.93**	**349**	*e*P	**P**	**15 30 37.2**	**+0.4**
NNA				*e**PP	pP	15 30 45.5	+5.9
NNA				pmax	pmax		
comp=Z,61nm,1.3s							
NNA	**Nana**	**22.93**	**349**	P	**P**	**15 30 37.5**	**+0.8**
comp=Z,23nm,0.9s,baz=184,slow=11,SNR=7.1							
NNA				LR	LR	15 37 22.5	
comp=Z,590nm,20.5s,baz=166,slow=31							
NNA	**Nana**	**22.93**	**349**	*e*P	**P**	**15 30 37.2**	**+0.4**
comp=Z,61nm,1.3s							
NNA				*e*pP	pP	15 30 45.5	+5.9
SAML	**Samuel**	**27.00**	**21**	*e*P	**P**	**15 31 13.8**	**-0.9**
comp=Z,17nm,0.9s							
ATAH	**Atahualpa**	**27.94**	**348**	P	**P**	**15 31 25.0**	**+1.5**
comp=Z,2.4nm,0.3s,baz=143,slow=5.1,SNR=3.7							
ATAH				LR	LR	15 40 07.8	
comp=Z,234nm,21.1s,baz=186,slow=31							
BDFB	**Brasilia**	**29.05**	**55**	P	**P**	**15 31 32.3**	**-0.9**
comp=Z,12nm,1.0s,baz=211,slow=12,SNR=6.9							
BDFB				LR	LR	15 44 01.4	
comp=Z,666nm,19.1s,baz=223,slow=38							
PMSA	**Palmer Station**	**30.57**	**173**	*e*P	**P**	**15 31 46.9**	**+1.0**
OTAV	**Otavalo**	**35.17**	**350**	P	**P**	**15 32 29.5**	**+2.3**
comp=Z,12nm,0.6s							
ROSC	**El Rosal**	**39.36**	**357**	LR	LR	15 49 55.9	
comp=Z,206nm,18.3s,baz=202,slow=37							
SDV	**Santo Domingo**	**43.36**	**3**	*e*P	**P**	**15 33 33.6**	**-1.7**
comp=Z,30nm,0.8s							
JTS	**JuntasAbangare**	**46.24**	**343**	*e*P	**P**	**15 33 59.2**	**+1.2**
JTS				pmax	pmax		
comp=Z,15nm,1.4s							
JTS	**JuntasAbangare**	**46.24**	**343**	LR	LR	15 49 09.4	
comp=Z,115nm,21.2s,baz=114,slow=31							
SNAA	**Sanae**	**51.12**	**158**	*e*P	**P**	**15 34 34.5**	**-0.5**
SNAA				pmax	pmax		
comp=Z,24nm,1.0s							
SNAA	**Sanae**	**51.12**	**158**	P	**P**	**15 34 35.0**	**0.0**
comp=Z,8.4nm,0.9s,baz=262,slow=7.2,SNR=13							
SNAA	**Sanae**	**51.12**	**158**	*e*P	**P**	**15 34 35.0**	**0.0**
comp=Z,23nm,0.9s							
CELP	**Cerrillos**	**52.76**	**7**	*e*P	**P**	**15 34 47.4**	**-0.3**
QSPA	**South Pole Qui**	**55.56**	**180**	P	**P**	**15 35 08.4**	**+0.6**
comp=Z,9.6nm,1.0s,baz=140,slow=1.5,SNR=14							
QSPA	**South Pole Qui**	**55.56**	**180**	*e*P	**P**	**15 35 08.6**	**+0.8**
NVL	**N'lazarevskaya**	**55.86**	**157**	*e*P	**P**	**15 35 09.2**	**-0.5**
NVL				pmax	pmax		
comp=Z,39nm,1.2s							
TEIG	**Tepich**	**56.61**	**342**	P	**P**	**15 35 15.5**	**-0.1**
comp=Z,15nm,0.6s,baz=71,slow=2.3,SNR=6.9							
SHEL	**Horse Pasture**	**62.15**	**91**	*i* P	**P**	**15 35 56.7**	**+2.5**
SYO	**Syowa Base**	**65.39**	**158**	⇓*e*P	**P**	**15 36 11.9**	**-2.8**
SYO	**Syowa Base**	**65.39**	**158**	⇓*i*pP	pP	15 36 21.3	+3.4
034A	**Hebbronville**	**66.21**	**335**	⇓P	**P**	**15 36 21.3**	**+0.8**
baz=66							
933A	**Laredo**	**66.92**	**334**	⇓P	**P**	**15 36 26.4**	**+1.5**
baz=67							
834A	**Tilden**	**67.14**	**335**	⇓P	**P**	**15 36 28.3**	**+2.0**
baz=68							
735A	**Kenedy**	**67.55**	**336**	⇑P	**P**	**15 36 30.7**	**+1.7**
baz=68							
833A	**Chaparral WMA,**	**67.61**	**334**	⇑P	**P**	**15 36 30.4**	**+1.1**
baz=68							
832A	**Faith Ranch, C**	**67.78**	**334**	⇓P	**P**	**15 36 31.3**	**+0.8**
baz=68							
636A	**Smothers Creek**	**67.88**	**337**	⇑P	**P**	**15 36 32.4**	**+1.4**
baz=68							
732A	**Laxson Ranch,**	**68.19**	**334**	⇑P	**P**	**15 36 33.7**	**+0.7**
baz=68							
MEH	**Mehetia**	**68.36**	**263**	*e*T	T	16 50 43.6	
comp=Z,20nm,0.2s							
632A	**Uvalde**	**68.83**	**335**	⇓P	**P**	**15 36 37.4**	**+0.5**
baz=69,SNR=5.5							
631A	**Perdido Creek**	**69.03**	**334**	⇑P	**P**	**15 36 38.8**	**+0.6**
baz=69							
533A	**Kerrville**	**69.08**	**336**	⇓P	**P**	**15 36 39.5**	**+0.9**
baz=69							
532A	**Rocksprings**	**69.44**	**335**	⇓P	**P**	**15 36 41.3**	**+0.5**
baz=70,SNR=11							
434A	**Burnet**	**69.51**	**336**	⇑P	**P**	**15 36 41.7**	**+0.5**
baz=70							
TIAR	**Tiarei**	**69.56**	**262**	*e*T	T	16 52 14.1	
comp=Z,4.6nm,0.3s							
336A	**Riesel**	**69.58**	**338**	⇓P	**P**	**15 36 42.4**	**+0.8**
baz=70							
335A	**Moody**	**69.67**	**337**	⇑P	**P**	**15 36 42.8**	**+0.6**
baz=70							
531A	**Rocksprings**	**69.70**	**334**	⇓P	**P**	**15 36 43.3**	**+0.9**
baz=70							
JCT	**Junction City**	**69.72**	**335**	*e*P	**P**	**15 36 42.7**	**+0.2**
JCT				pmax	pmax		
comp=Z,11nm,1.2s							
JCT	**Junction City**	**69.72**	**335**	⇑P	**P**	**15 36 43.2**	**+0.7**
baz=70							
JCT	**Junction City**	**69.72**	**335**	*e*P	**P**	**15 36 42.7**	**+0.2**
comp=Z,11nm,1.2s							
433A	**Art**	**69.73**	**336**	⇓P	**P**	**15 36 42.8**	**+0.2**
baz=70,SNR=8.0							
PPT2	**Papeete2**	**69.73**	**262**	*e*S	**S**	**15 45 49.1**	**-3.3**
comp=Z,102nm,22.8s							
PPT2	**Papeete2**	**69.73**	**262**	*e*LR	LR	15 57 49.6	
comp=Z,192nm,24.0s							
530A	**J-C Ranch, Com**	**69.97**	**334**	⇑P	**P**	**15 36 44.6**	**+0.5**
baz=70,SNR=7.8							
334A	**Lometa**	**69.98**	**337**	⇓P	**P**	**15 36 44.5**	**+0.5**
baz=70							
432A	**Menard**	**70.08**	**335**	⇑P	**P**	**15 36 45.3**	**+0.6**
baz=70							
TXAR	**Lajitas Array**	**70.13**	**331**	P	**P**	**15 36 45.5**	**+0.4**
comp=Z,2.5nm,0.7s,baz=156,slow=8.7,SNR=26							
TXAR				LR	LR	16 02 12.6	
comp=Z,168nm,20.5s,baz=0.0,slow=31							
431A	**Sonora**	**70.19**	**334**	⇓P	**P**	**15 36 46.0**	**+0.5**
baz=70							
333A	**Richland Sprin**	**70.22**	**336**	⇑P	**P**	**15 36 46.0**	**+0.5**
baz=70							
529A	**Stev Forest Ra**	**70.28**	**333**	⇑P	**P**	**15 36 46.4**	**+0.4**
baz=71,SNR=9.8							
WHTX	**Lake Whitney,**	**70.34**	**338**	⇑P	**P**	**15 36 46.7**	**+0.5**
baz=71							
430A	**Baggett Ranch,**	**70.51**	**334**	⇑P	**P**	**15 36 47.5**	**+0.2**
baz=71,SNR=5.6							
332A	**Millersview**	**70.53**	**335**	⇓P	**P**	**15 36 47.6**	**+0.2**
baz=71							
234A	**Clairette**	**70.56**	**337**	⇑P	**P**	**15 36 48.1**	**+0.5**
baz=71							
429A	**Davenport Ranc**	**70.60**	**333**	⇑P	**P**	**15 36 48.5**	**+0.5**
baz=71							
331A	**San Angelo**	**70.69**	**335**	⇑P	**P**	**15 36 48.7**	**+0.2**
baz=71							
TKL	**Tuckaleechee C**	**70.76**	**350**	P	**P**	**15 36 48.0**	**-0.6**
comp=Z,7.3nm,0.7s,baz=167,slow=7.2,SNR=4.9							
233A	**Rising Star**	**70.83**	**336**	⇓P	**P**	**15 36 49.5**	**+0.2**
baz=71							
232A	**Coleman**	**70.95**	**336**	⇓P	**P**	**15 36 50.5**	**+0.4**
baz=71							
330A	**Mertzon**	**71.05**	**334**	⇓P	**P**	**15 36 50.7**	**0.0**
baz=71							
231A	**Bronte**	**71.23**	**335**	⇑P	**P**	**15 36 51.8**	**+0.1**
baz=72							
133A	**Hamilton Ranch**	**71.37**	**337**	⇑P	**P**	**15 36 53.0**	**+0.5**
baz=72							
230A	**Sterling City**	**71.46**	**335**	⇑P	**P**	**15 36 53.4**	**+0.3**
baz=72							
Z35A	**Perchaven, San**	**71.52**	**338**	⇑P	**P**	**15 36 53.6**	**+0.3**
baz=72							
ABTX	**Abilene, Hawle**	**71.63**	**336**	⇓P	**P**	**15 36 54.3**	**+0.2**
baz=72							
ABTX	**Abilene, Hawle**	**71.63**	**336**	P	**P**	**15 36 53.4**	**-0.7**
comp=Z,18nm,0.9s							
229A	**Bryant Ranch,**	**71.78**	**334**	⇑P	**P**	**15 36 55.4**	**+0.3**
baz=72							
WVT	**Waverly**	**71.87**	**347**	*e*P	**P**	**15 36 54.8**	**-0.6**
WVT				pmax	pmax		
comp=Z,24nm,0.8s							
WVT	**Waverly**	**71.87**	**347**	*e*P	**P**	**15 36 54.8**	**-0.6**
comp=Z,24nm,0.8s							
131A	**Roby**	**71.92**	**336**	⇑P	**P**	**15 36 56.0**	**+0.1**
baz=72							
Z33A	**Whitaker Ranch**	**71.95**	**337**	⇓P	**P**	**15 36 56.1**	**+0.1**
baz=72							
130A	**Snyder**	**72.05**	**335**	⇑P	**P**	**15 36 56.4**	**-0.3**
baz=72							
Z32A	**Haskell**	**72.20**	**337**	⇓P	**P**	**15 36 57.5**	**0.0**
baz=72							
228A	**UT Block 9, Go**	**72.20**	**333**	⇑P	**P**	**15 36 57.8**	**+0.1**
baz=72							
Y34A	**Reagan Ranch,**	**72.25**	**338**	⇓P	**P**	**15 36 57.8**	**0.0**
baz=73							
BBTS	**Babate**	**72.33**	**57**	P	**P**	**15 36 58.0**	**-0.5**
comp=Z,28nm,0.9s,baz=265,slow=4.4,SNR=4.0							
129A	**Stewart Farms,**	**72.40**	**334**	⇓P	**P**	**15 36 58.7**	**-0.1**
baz=73							
Z31A	**Sharp Cattle R**	**72.43**	**336**	⇑P	**P**	**15 36 59.0**	**+0.1**
baz=73							
Y33A	**Hilltop Ranch,**	**72.57**	**337**	⇑P	**P**	**15 36 59.8**	**+0.1**
baz=73							
128A	**Castleberry Fa**	**72.62**	**334**	⇑P	**P**	**15 37 00.1**	**0.0**
baz=73,SNR=5.9							
MAW	**Mawson**	**72.65**	**164**	LR	LR	16 09 09.2	
comp=Z,364nm,19.3s,baz=239,slow=36							
Z30A	**Sanderson Ranc**	**72.74**	**335**	⇑P	**P**	**15 37 00.2**	**-0.6**
baz=73							
Y32A	**R-V Farms, Ver**	**72.83**	**337**	⇑P	**P**	**15 37 01.0**	**-0.3**
baz=73							
MNTX	**Cornudas Mount**	**72.90**	**331**	*e*P	**P**	**15 37 00.6**	**-1.1**
comp=Z,6.9nm,0.8s							
Z29A	**Hungry Hill Ra**	**72.91**	**335**	⇓P	**P**	**15 37 01.6**	**-0.2**
baz=73,SNR=6.0							
Y31A	**Rekieta Farm,**	**73.06**	**336**	⇓P	**P**	**15 37 02.7**	**+0.1**
baz=73							
Y29A	**Porterfield Fa**	**73.45**	**335**	⇓P	**P**	**15 37 05.1**	**+0.1**
baz=74							
CPRX	**Cap Rock**	**73.50**	**333**	*e*P	**P**	**15 37 06.1**	**+0.8**
comp=Z,3.7nm,0.8s							
Z27A	**Tatum**	**73.51**	**334**	⇓P	**P**	**15 37 05.8**	**+0.5**
baz=74							
W33A	**Caddo, Fort Co**	**73.58**	**338**	⇑P	**P**	**15 37 06.0**	**+0.4**
baz=74							
X31A	**McDonald Ranch**	**73.58**	**337**	⇓P	**P**	**15 37 05.9**	**+0.2**
baz=74							
Y28A	**McKinney Farm,**	**73.69**	**335**	⇓P	**P**	**15 37 07.1**	**+0.6**
baz=74							
Z26A	**Caprock**	**73.75**	**333**	⇑P	**P**	**15 37 07.3**	**+0.5**
baz=74							
W32A	**Sentinel**	**73.79**	**337**	⇓P	**P**	**15 37 07.6**	**+0.7**
baz=74							
MSTX	**Muleshoe**	**73.93**	**334**	⇓P	**P**	**15 37 08.3**	**+0.5**
baz=74							
MSTX	**Muleshoe**	**73.93**	**334**	*e*P	**P**	**15 37 07.8**	**0.0**
comp=Z,16nm,0.8s							
X29A	**Tulia**	**73.99**	**335**	⇑P	**P**	**15 37 08.8**	**+0.6**
baz=74							
Y27A	**Causey**	**74.00**	**334**	⇓P	**P**	**15 37 08.6**	**+0.3**
baz=74							
Z25A	**Roswell**	**74.04**	**332**	⇓P	**P**	**15 37 08.7**	**+0.2**
baz=74							
V33A	**Lossen Ranch,**	**74.14**	**338**	⇓P	**P**	**15 37 09.9**	**+1.0**
baz=74							
319A	**Douglas**	**74.25**	**328**	⇑P	**P**	**15 37 10.8**	**+1.0**
baz=75							
Z24A	**Sheeppen Canyo**	**74.33**	**332**	⇑P	**P**	**15 37 11.1**	**+0.7**
baz=75,SNR=7.4							
AMTX	**Amarillo**	**74.38**	**335**	⇓P	**P**	**15 37 10.9**	**+0.5**
baz=75							
AMTX	**Amarillo**	**74.38**	**335**	*e*P	**P**	**15 37 10.5**	**+0.1**
comp=Z,24nm,1.0s							
U34A	**Anderson Ranch**	**74.49**	**339**	⇓P	**P**	**15 37 11.5**	**+0.6**
baz=75							
W29A	**Amarillo**	**74.58**	**336**	⇑P	**P**	**15 37 12.0**	**+0.4**
baz=75							
121A	**Cookes Peak, D**	**74.61**	**330**	⇑P	**P**	**15 37 13.3**	**+1.4**
baz=75							
121A	**Cookes Peak, D**	**74.61**	**330**	*e*P	**P**	**15 37 12.4**	**+0.5**
comp=Z,20nm,1.0s							
X26A	**CR and CF Fran**	**74.83**	**334**	⇓P	**P**	**15 37 13.6**	**+0.4**
baz=75							
Y24A	**Capitan**	**74.89**	**332**	⇑P	**P**	**15 37 14.0**	**+0.5**
baz=75,SNR=5.8							
W27A	**Bowe Ranch, En**	**75.02**	**334**	⇓P	**P**	**15 37 14.5**	**+0.3**
baz=75,SNR=5.9							
Y23A	**Lovelace Mesa,**	**75.13**	**332**	⇓P	**P**	**15 37 15.7**	**+0.7**
baz=76							
ACSO	**Alum Creek Sta**	**75.16**	**352**	*e*P	**P**	**15 37 14.0**	**-0.7**
comp=Z,21nm,0.8s							
W26A	**Owens Ranch, T**	**75.30**	**334**	⇑P	**P**	**15 37 16.9**	**+1.1**
baz=76							
LIC	**Lamto**	**75.38**	**72**	*e*P	**P**	**15 37 16.8**	**+0.2**
comp=Z,31nm,0.6s							
X24A	**Lazy VL Ranch,**	**75.45**	**332**	⇓P	**P**	**15 37 17.6**	**+0.8**
baz=76,SNR=6.5							
TIC	**Toumodi**	**75.64**	**71**	*e*P	**P**	**15 37 18.1**	**0.0**
comp=Z,9.4nm,0.2s							
W25A	**X Bar L Ranch,**	**75.67**	**333**	⇑P	**P**	**15 37 18.5**	**+0.6**
baz=76							
KIC	**Kosan Boka**	**75.68**	**72**	*e*P	**P**	**15 37 18.8**	**+0.4**
comp=Z,61nm,0.9s							
TUC	**Tucson**	**75.71**	**327**	*e*P	**P**	**15 37 18.6**	**+0.4**
TUC				pmax	pmax		
comp=Z,7.0nm,1.0s							
TUC	**Tucson**	**75.71**	**327**	*e*P	**P**	**15 37 18.6**	**+0.4**
comp=Z,6.9nm,1.0s							
DBIC	**Dimbokro**	**75.78**	**71**	P	**P**	**15 37 19.4**	**+0.5**
comp=Z,25nm,0.7s,baz=204,slow=5.4,SNR=26							
DBIC				LR	LR	16 08 40.4	
comp=Z,127nm,19.9s,baz=199,slow=34							
U28A	**Mallet**	**75.92**	**336**	⇑P	**P**	**15 37 19.6**	**+0.4**
baz=76							
V26A	**Tequesquite Ra**	**75.94**	**334**	⇓P	**P**	**15 37 20.3**	**+0.8**
baz=76							
W24A	**Lazy 6 Ranch,**	**76.01**	**333**	⇓P	**P**	**15 37 20.4**	**+0.5**
baz=76							
U27A	**Thompson Grove**	**76.16**	**335**	⇓P	**P**	**15 37 21.3**	**+0.6**
baz=76							
ANMO	**Albuquerque**	**76.18**	**332**	⇓*i*P	**P**	**15 37 21.1**	**+0.2**
ANMO				pmax	pmax		
comp=Z,29nm,1.1s							
ANMO	**Albuquerque**	**76.18**	**332**	P	**P**	**15 37 21.4**	**+0.4**
comp=Z,6.0nm,0.9s,baz=151,slow=8.2,SNR=11							
ANMO	**Albuquerque**	**76.18**	**332**	*e*P	**P**	**15 37 20.9**	**0.0**
comp=Z,7.8nm,0.9s							
W23A	**Werner Place,**	**76.25**	**332**	⇓P	**P**	**15 37 22.1**	**+0.7**
baz=77,SNR=5.3							
V25A	**Rancho No Teng**	**76.28**	**334**	⇑P	**P**	**15 37 21.9**	**+0.5**
baz=77,SNR=5.3							
214A	**Organ Pipe Nat**	**76.34**	**326**	⇑P	**P**	**15 37 22.4**	**+0.7**
baz=77							
214A	**Organ Pipe Nat**	**76.34**	**326**	*e*P	**P**	**15 37 22.6**	**+0.9**
comp=Z,7.5nm,0.9s							
V24A	**Rampart Ranch,**	**76.42**	**333**	⇑P	**P**	**15 37 22.5**	**+0.2**
baz=77							
U26A	**Atchley Ranch,**	**76.46**	**335**	⇑P	**P**	**15 37 23.1**	**+0.6**
baz=77							
T28A	**Walsh**	**76.55**	**336**	⇑P	**P**	**15 37 23.5**	**+0.6**
baz=77							
R32A	**Long Quarter,**	**76.68**	**339**	⇓P	**P**	**15 37 24.0**	**+0.6**
baz=77							
S29A	**Ulysses**	**76.68**	**337**	⇑P	**P**	**15 37 24.1**	**+0.5**
baz=77							
U25A	**Circle Dot Ran**	**76.70**	**334**	⇑P	**P**	**15 37 24.3**	**+0.5**
baz=77,SNR=5.0							
T27A	**Campo**	**76.70**	**336**	⇓P	**P**	**15 37 24.3**	**+0.6**
baz=77							
R30A	**Dighton**	**77.02**	**338**	⇑P	**P**	**15 37 25.5**	**+0.1**

O28A Krutsinger Ran 79.17 338 ⇑P P 15 37 38.5 +1.1
baz=80
Q24A Divide 79.25 335 ⇑P P 15 37 38.9 +0.8
baz=80,SNR=5.6
IRM Iron Mountain 79.26 325 ⇑P P 15 37 39.0 +1.1
baz=80
SADO Sadowa 79.30 355 P P 15 37 37.6 -0.2
comp=Z,2.0nm,0.3s,baz=218,slow=3.6,SNR=2.9
P25A Willow Gulch B 79.40 336 ⇑P P 15 37 40.0 +1.2
baz=80
TSUM Tsumeb 79.42 106 P P 15 37 39.9 +0.5
comp=Z,8.6nm,1.2s,baz=225,slow=10,SNR=11
PFO Pinyon Flats O 79.43 324 *eP* **P 15 37 40.5 +1.5**
PFO Pinyon Flats O 79.43 324 P P 15 37 40.3 +1.3
comp=Z,5.6nm,0.8s,baz=82,slow=2.6,SNR=5.2
PFO Pinyon Flats O 79.43 324 ⇑P P 15 37 40.6 +1.5
baz=80
PFO Pinyon Flats O 79.43 324 *eP* **P 15 37 40.5 +1.5**
W13A Hualapai Mount 79.45 327 ⇑P P 15 37 40.0 +0.9
baz=80
O27A Beecher Island 79.45 337 ⇓P P 15 37 39.6 +0.7
baz=80
BELC Belle Mtn. Jos 79.53 324 ⇓P P 15 37 40.9 +1.3
baz=80
PV01 Paradox Valley 79.79 332 P P 15 37 41.0 0.0
comp=Z,731nm,0.9s
U15A North Rim 79.86 328 ⇑P P 15 37 42.8 +1.4
baz=80
GMRC Granite Mounta 80.01 325 ⇑P P 15 37 43.1 +1.0
baz=80
N27A Anderson Farm, 80.03 337 ⇓P P 15 37 43.2 +1.2
baz=80
BOSA Boshof 80.12 118 *eP* **P 15 37 43.2 +0.1**
BOSA pmax pmax
comp=Z,15nm,0.8s
BOSA Boshof 80.12 118 P P 15 37 43.4 +0.3
comp=Z,19nm,0.9s,baz=239,slow=4.7,SNR=7.5
BOSA LR LR 16 10 59.6
comp=Z,76nm,18.3s,baz=218,slow=34
BOSA Boshof 80.12 118 *eP* **P 15 37 43.2 +0.1**
comp=Z,15nm,0.8s
ISCO Idaho Springs 80.16 335 ⇑P P 15 37 43.8 +0.8
baz=80
HEC Hector,Ludlow 80.36 325 ⇑P P 15 37 45.6 +1.6
baz=81
BFSC Mount Baldy Ra 80.53 323 ⇓P P 15 37 46.0 +1.0
baz=81
O23A Lake Granby, G 80.63 335 ⇑P P 15 37 46.5 +0.9
baz=81,SNR=10
TUQ Turquoise Moun 80.67 325 ⇑P P 15 37 47.1 +1.4
baz=81
O22A Kremmling 80.81 334 ⇑P P 15 37 46.9 +0.4
baz=81
GSC Goldstone, Bar 80.97 325 ⇑P P 15 37 47.8 +0.6
baz=81
ECSD EROS Data Cent 81.07 343 ⇓P P 15 37 47.5 +0.1
baz=81
ECSD EROS Data Cent 81.07 343 *eP* **P 15 37 47.1 -0.3**
comp=Z,22nm,1.1s
M25A Palm-Egli Farm 81.09 337 ⇑P P 15 37 48.6 +0.9
baz=81
SHPR Sheep Range 81.19 326 *eP* **P 15 37 49.5 +1.1**
comp=Z,12nm,1.0s
EDW2 Edwards Air Fo 81.21 324 ⇓P P 15 37 49.1 +0.6
baz=82
N23A Red Feather La 81.25 335 ⇓P P 15 37 49.6 +0.8
baz=82
N22A Wattenberg Ran 81.34 335 ⇑P P 15 37 50.1 +0.8
baz=82
M24A Cheyenne 81.38 336 ⇓P P 15 37 50.0 +0.7
baz=82
O20A White River Ci 81.41 333 ⇓P P 15 37 50.1 +0.5
baz=82
K28A Ten Mile Ranch 81.41 339 ⇓P P 15 37 50.3 +1.0
baz=82
J30A Dallas 81.44 340 ⇑P P 15 37 50.1 +0.7
baz=82
ARUT Antelope Range 81.49 328 *eP* **P 15 37 51.2 +1.2**
ARUT pmax pmax
comp=Z,78nm,0.5s
ARUT Antelope Range 81.49 328 *eP* **P 15 37 51.2 +1.2**
comp=Z,78nm,0.5s
J29A Okreek 81.75 340 ⇓P P 15 37 51.9 +0.9
baz=82
M22A Cedar Creek Ra 81.92 335 ⇑P P 15 37 53.3 +1.0
baz=82
I30A Oacoma 81.97 341 ⇑P P 15 37 52.6 +0.4
baz=82
J28A Allard Ranch, 82.02 339 ⇓P P 15 37 53.6 +1.1
baz=82
N20A Spence Gulch, 82.02 333 ⇓P P 15 37 53.6 +0.7
baz=82
ISA Isabella, Lake 82.07 324 *eP* **P 15 37 54.1 +1.1**
ISA pmax pmax
comp=Z,6.0nm,0.8s
ISA Isabella, Lake 82.07 324 ⇑P P 15 37 54.1 +1.1
baz=82
ISA Isabella, Lake 82.07 324 *eP* **P 15 37 54.1 +1.1**
comp=Z,5.8nm,0.8s
J27A Elkhorn Farm, 82.09 339 ⇑P P 15 37 53.8 +0.8
baz=82
DAC Darwin (Calif) 82.14 325 *eP* **P 15 37 54.0 +0.5**
DAC pmax pmax
comp=Z,10.0nm,0.9s
DAC Darwin (Calif) 82.14 325 *eP* **P 15 37 54.0 +0.5**
comp=Z,10.0nm,0.9s
J26A Sides Ranch, S 82.47 338 ⇑P P 15 37 56.1 +1.2
baz=83
VES Vestal, Richgr 82.51 323 ⇑P P 15 37 56.3 +1.1
baz=83
J25A Sunshine Ranch 82.77 338 ⇓P P 15 37 57.0 +0.5
baz=83
K23A Bowen Ranch, D 82.79 336 ⇓P P 15 37 57.4 +0.7
baz=83
H29A Onida 82.84 340 ⇑P P 15 37 56.9 +0.1
baz=83
R11A Troy Canyon, C 82.90 327 ⇓P P 15 37 58.4 +1.0
baz=83
R11A Troy Canyon, C 82.90 327 *eP* **P 15 37 58.2 +0.8**
comp=Z,7.2nm,0.9s
J24A Dixon Ranch, L 82.99 337 ⇑P P 15 37 58.4 +0.8
baz=83
JLU Jordanelle 83.05 331 *eP* **P 15 37 58.7 +0.5**
comp=Z,5.5nm,0.8s
H28A Mission Ridge 83.11 340 ⇑P P 15 37 58.6 +0.5
baz=84
K21A Alcova 83.24 335 ⇓P P 15 37 59.5 +0.4
baz=84,SNR=6.3
DUG Dugway, Tooele 83.25 330 *eP* **P 15 38 00.0 +0.9**
DUG pmax pmax
comp=Z,11nm,1.0s
DUG Dugway, Tooele 83.25 330 ⇑P P 15 37 59.8 +0.7
baz=84
DUG Dugway, Tooele 83.25 330 *eP* **P 15 37 60.0 +0.9**
comp=Z,11nm,1.0s
I25A Rochford 83.32 338 ⇓P P 15 37 59.8 +0.4
baz=84
H27A Howes 83.38 339 ⇓P P 15 37 59.5 0.0
baz=84
TPH Tonopah 83.42 326 *eP* **P 15 38 00.3 +0.2**
TPH pmax pmax
comp=Z,9.0nm,1.0s
TPH Tonopah 83.42 326 *eP* **P 15 38 00.3 +0.2**
comp=Z,9.4nm,1.0s
G28A Parade 83.45 340 ⇑P P 15 38 00.1 +0.2
baz=84
I24A Kuemmerle Ranc 83.45 337 ⇓P P 15 38 00.2 +0.1
baz=84
RSSD Black Hills 83.50 338 *eP* **P 15 38 00.3 -0.1**
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 83.50 338 *eP* **P 15 38 00.3 -0.1**
comp=Z,6.9nm,0.9s
F30A Leola 83.64 342 ⇑P P 15 38 01.2 +0.4
baz=84
J22A Midwest 83.66 336 ⇑P P 15 38 01.1 -0.1
baz=84
J21A Lysite 83.93 335 ⇓P P 15 38 03.0 +0.4
baz=84
HWUT Hardware Ranch 83.95 332 *eP* **P 15 38 02.6 -0.1**
comp=Z,17nm,0.9s
SPUT South Promonto 84.04 331 *eP* **P 15 38 02.9 -0.3**
comp=Z,13nm,1.0s
I22A 9 Mile Ranch, 84.09 336 ⇑P P 15 38 02.9 -0.4
baz=84
G26A Maurine 84.13 339 ⇑P P 15 38 03.6 +0.2
baz=84
J20A Shoshoni 84.16 335 ⇓P P 15 38 04.4 +0.7
baz=84,SNR=8.9
PDAR Pinedale Array 84.18 334 P P 15 38 03.8 -0.2
comp=Z,1.5nm,0.7s,baz=166,slow=4.7,SNR=14
PDAR LR LR 16 12 08.5
comp=Z,79nm,19.5s,baz=162,slow=33
NVAR Mina Array Bea 84.21 326 P P 15 38 04.9 +0.7
comp=Z,3.1nm,0.7s,baz=156,slow=6.3,SNR=22
H24A Dirks Ranch, A 84.23 338 ⇓P P 15 38 04.2 +0.2
baz=85
E30A Jud 84.23 342 ⇑P P 15 38 04.2 +0.4
baz=85
I21A Big Trails, Te 84.29 335 ⇓P P 15 38 04.9 +0.5
baz=85
J19A Crowheart 84.43 334 ⇑P P 15 38 05.3 +0.1
baz=85,SNR=7.1
F27A Lemmon 84.49 340 ⇑P P 15 38 05.6 +0.4
baz=85
HVU Hansel Valley 84.57 331 *eP* **P 15 38 05.6 -0.3**
HVU pmax pmax
comp=Z,14nm,0.8s
HVU Hansel Valley 84.57 331 *eP* **P 15 38 05.6 -0.3**
comp=Z,14nm,0.8s
H22A Clearmont 84.67 336 ⇑P P 15 38 06.7 +0.5
baz=85
I20A Worland 84.70 335 ⇑P P 15 38 06.6 +0.2
baz=85,SNR=6.9
ELK Elko 84.73 329 P P 15 38 07.0 +0.2
comp=Z,3.9nm,0.8s,baz=215,slow=3.8,SNR=20
D30A Buchanan 84.76 342 ⇑P P 15 38 06.8 +0.4
baz=85
E28A Huff 84.77 341 ⇑P P 15 38 06.9 +0.3
baz=85
TORD Torodi Ar. Bea 84.82 70 P P 15 38 07.7 +0.1
comp=Z,18nm,0.7s,baz=268,slow=3.9,SNR=91
TORD LR LR 16 15 01.7
comp=Z,164nm,18.2s,baz=215,slow=35
D29A Pettibone, Tap 84.93 342 ⇓P P 15 38 07.2 -0.2
baz=85
F25A Bowman 84.96 339 ⇑P P 15 38 07.4 -0.2
baz=85
I19A Meeteetse 85.08 335 ⇓P P 15 38 08.4 0.0
baz=85
H20A Greybull 85.13 335 ⇑P P 15 38 08.9 +0.3
baz=86
AGMN Agassiz Nation 85.20 345 ⇑P P 15 38 08.2 -0.4
baz=86,SNR=5.1
AGMN Agassiz Nation 85.20 345 *eP* **P 15 38 08.0 -0.7**
comp=Z,6.6nm,0.7s
C30A Mose, Pekin 85.24 343 ⇓P P 15 38 09.2 +0.3
baz=86,SNR=10
F23A Volborg 85.37 338 ⇓P P 15 38 09.9 +0.3
baz=86
G21A Lodge Grass 85.51 336 ⇑P P 15 38 10.5 +0.1
baz=86
I17A Pilgrim Ck. 85.55 333 ⇓P P 15 38 11.3 +0.5
baz=86
H19A Powell 85.63 335 ⇑P P 15 38 11.3 +0.3
baz=86
G20A Bridger 85.84 336 ⇓P P 15 38 11.8 -0.3
baz=86,SNR=11
H18A Shoshone NF, C 85.88 334 ⇑P P 15 38 12.6 +0.1
baz=86,SNR=34
B30A Myrvik Farm, E 85.90 343 ⇓P P 15 38 12.2 +0.1
baz=86,SNR=6.7
C27A Sayler Ranch, 86.03 341 ⇓P P 15 38 13.0 +0.2
baz=86
RLMT Red Lodge 86.12 335 *eP* **P 15 38 13.3 -0.3**
comp=Z,6.8nm,0.5s
B29A Wagenman Farm, 86.17 342 ⇓P P 15 38 13.9 +0.5
baz=86
E22A Miles City 86.18 338 ⇑P P 15 38 13.8 +0.1
baz=86
D24A Glendive 86.29 339 ⇑P P 15 38 14.5 +0.4
baz=87
C26A Wahner Farm, P 86.30 341 ⇓P P 15 38 14.6 +0.4
baz=87
F20A Billings 86.33 336 ⇓P P 15 38 14.2 -0.3
baz=87
YMR Madison River 86.34 334 *eP* **P 15 38 15.1 +0.5**
comp=Z,20nm,0.9s
A30A Hoffart Farm, 86.36 343 ⇓P P 15 38 14.1 -0.3
baz=87,SNR=5.7
B28A Dugan Ranch, T 86.41 342 ⇓P P 15 38 15.1 +0.5
baz=87
A29A Manning Farm, 86.56 343 ⇓P P 15 38 15.5 +0.1
baz=87
F19A Roth Farm, Mol 86.65 335 ⇓P P 15 38 15.8 -0.2
baz=87
QLMT Earthquake Lak 86.65 333 *eP* **P 15 38 16.8 +0.6**
comp=Z,0.6nm,0.7s
C24A Savage 86.69 339 ⇑P P 15 38 16.8 +0.6
baz=87
HLID Hailey 86.72 331 ⇑P P 15 38 16.9 +0.3
baz=87
A28A Rude Farm, Bot 86.81 342 ⇓P P 15 38 17.2 +0.5
baz=87
GCMT Greycliff 86.84 335 *eP* **P 15 38 17.1 +0.1**
comp=Z,5.7nm,1.0s
D22A Cohagen 86.88 338 ⇓P P 15 38 17.4 +0.4
baz=87
E20A Meyer Farm, Mu 86.94 336 ⇓P P 15 38 17.4 0.0
baz=87,SNR=5.8
ULM Lac du Bonnet 87.05 345 P P 15 38 16.6 -1.0
comp=Z,3.2nm,0.7s,baz=172,slow=3.6,SNR=7.8
D21A La Casta Ranch 87.07 337 ⇑P P 15 38 18.3 +0.3
baz=87
A27A Ledoux Ranch, 87.10 342 ⇑P P 15 38 18.6 +0.6
baz=87
E19A Rath Farm, Rou 87.12 336 ⇓P P 15 38 18.4 +0.1
baz=88,SNR=6.4
C23A Lambert 87.16 339 ⇑P P 15 38 18.4 0.0
baz=88
MCMT McKenzie Canyo 87.18 333 *eP* **P 15 38 19.3 +0.5**
comp=Z,6.4nm,1.1s
A26A Wade Farm, Ken 87.26 341 ⇑P P 15 38 18.5 -0.3
baz=88
C22A Vida 87.32 338 ⇓P P 15 38 19.4 +0.2
baz=88
DGMT Dagmar 87.47 340 ⇑P P 15 38 20.5 +0.6
baz=88
DGMT Dagmar 87.47 340 *eP* **P 15 38 20.1 +0.2**
comp=Z,29nm,0.8s
D19A Cripps Ranch, 87.77 336 ⇓P P 15 38 21.5 +0.2
baz=88
C21A Desert Coulee 87.77 338 ⇑P P 15 38 21.1 -0.3
baz=88,SNR=7.6
A24A Westby 87.83 340 ⇓P P 15 38 22.2 +0.6
baz=88
B22A Reddig Ranch S 87.85 338 ⇓P P 15 38 22.0 +0.3
baz=88
LRM Limekiln Ridge 87.87 333 *eP* **P 15 38 22.3 +0.2**
comp=Z,46nm,1.0s
MOD Modoc Plateau 87.90 326 *eP* **P 15 38 22.9 +0.6**
comp=Z,13nm,1.0s
C20A Veseth Ranch, 87.96 337 ⇑P P 15 38 22.4 +0.2
baz=88
B21A Ellsworth Farm 88.28 338 ⇑P P 15 38 24.1 +0.3
baz=89
C19A Slack Wire Ran 88.32 336 ⇓P P 15 38 24.5 +0.5
baz=89
A22A Carney Farms, 88.44 339 ⇑P P 15 38 24.7 +0.2
baz=89
M04C Macdoel 88.51 325 ⇑P P 15 38 25.2 +0.1
baz=89
A21A Bergtoll Ranch 88.75 338 ⇑P P 15 38 26.3 +0.3
baz=89
YBH Yreka Blue Hor 88.88 325 P P 15 38 25.7 -1.2
comp=Z,4.6nm,0.8s,baz=101,slow=6.2,SNR=7.7
B19A Brinkman Farms 88.92 337 ⇓P P 15 38 27.2 +0.4
baz=89
A19A Klindworth Far 89.27 337 ⇑P P 15 38 28.4 0.0
baz=90
SCHQ Schefferville 89.28 3 LR LR 16 21 05.0
comp=Z,57nm,18.8s,baz=197,slow=37
LSZ Lusaka 89.98 109 P P 15 38 34.5 +1.8
comp=Z,3.8nm,0.9s,baz=70,slow=1.5,SNR=5.5
TAM Tamanrasset 93.48 65 *eP* **P 15 38 49.6 +0.9**
TAM pmax pmax
comp=Z,6.0nm,0.9s
TAM Tamanrasset 93.48 65 *eP* **P 15 38 49.6 +0.9**
comp=Z,5.8nm,0.9s
ESDC Sonseca Array 97.34 46 LR LR 16 20 54.1
comp=Z,113nm,20.6s,baz=205,slow=34
YKA Yellowknife Ar 102.57 341 P Pdif 15 39 27.7 -0.7
comp=Z,0.4nm,0.7s,baz=146,slow=4.6,SNR=10
VYHS Vyhne 115.85 48 *ePKIKP* **PKPdf 15 44 12.1 -2.8**
VYHS Vyhne 115.85 48 *ePKP* **PKPdf 15 44 12.1 -2.8**
ASAR Alice Springs 116.78 207 PKP PKPdf 15 44 16.1 -1.5
comp=Z,0.5nm,0.8s,baz=134,slow=1.9,SNR=8.1
ASAR PKKPbc **PKKPbc 15 54 43.7 +0.4**
comp=Z,0.6nm,0.5s,baz=337,slow=3.2,SNR=13
WRA Warramunga Arr 119.97 209 PKP PKPdf 15 44 22.6 -1.2
comp=Z,1.7nm,0.6s,baz=164,slow=1.4,SNR=15
BRTR Keskin Array B 122.52 61 PKP PKPdf 15 44 27.9 -0.3
comp=Z,1.5nm,0.8s,baz=196,slow=1.8,SNR=5.4
KIEV Kiev 122.94 48 *ePKIKP* **PKPdf 15 44 27.9 -0.5**
SPITS Spitsbergen Ar 123.43 14 PKP PKPdf 15 44 27.8 -0.8
comp=Z,9.5nm,1.0s,baz=151,slow=3.3,SNR=4.1
ARCES ARCESS Array B 124.80 25 PKP PKPdf 15 44 31.4 -0.1
comp=Z,1.8nm,0.8s,baz=270,slow=4.7,SNR=4.1
H11S2 WAKE ISLAND Hyl 25.35 269 T T 18 02 14.8
baz=119,slow=75,SNR=18
H11S1 WAKE ISLAND Hyl 25.36 269 T T 18 02 08.4
baz=119,slow=75,SNR=20
H11S3 WAKE ISLAND Hyl 25.37 269 T T 18 02 08.6
baz=119,slow=75,SNR=15
H11N3 WAKE ISLAND Hyl 25.78 270 T T 18 02 39.0
baz=115,slow=78,SNR=13
H11N1 WAKE ISLAND Hyl 25.79 270 T T 18 02 41.1
baz=115,slow=78,SNR=15
H11N2 WAKE ISLAND Hyl 25.80 270 T T 18 02 40.4
baz=115,slow=78,SNR=16
ANN Anapa 126.73 57 *i PKIKP* **PKPdf 15 44 36.3 +0.5**
ANN pmax pmax
comp=Z,71nm,1.0s
KLMR Klimovskoe 130.19 36 *ePKIKP* **PKPdf 15 44 41.9 0.0**
KLMR pmax pmax
comp=Z,18nm,1.3s
KIV Kislovodsk 130.19 59 *i PKIKP* **PKPdf 15 44 42.2 -0.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 133.26 334⇑ *ePKIKP* **PKPdf 15 44 49.0 +1.4**
BILL *e* 15 47 17.9
BILL pmax pmax
comp=Z,5.0nm,1.6s
BILL MLR MLR
comp=Z,78nm,22.0s
GEYT Alibeck 140.47 70 PKhKP PKPpre 15 44 53.7
comp=Z,1.3nm,0.7s,baz=249,slow=7.6,SNR=3.1
ARU Arti 140.52 41 *i PKIKP* **PKPdf 15 45 04.0 +2.7**
ARU 15 48 01.7
AKTO Aktyubinsk 141.08 51 PKhKP PKPpre 15 44 55.8
comp=Z,0.8nm,0.6s,baz=321,slow=3.2,SNR=4.3
TIXI Tiksi 141.28 349 *ePKIHKP* PKPpre 15 44 53.7
TIXI Tiksi 141.28 349 *ePKPpre* PKPpre 15 44 53.6
ABKAR Akbulak array 142.42 52 *ePKPpre* PKPpre 15 44 60.0
GSI Gunungsitoli 145.54 162 *ePKP* **PKPab 15 45 12.1 +0.3**
BRVK Borovoye 147.98 43 *g i PKP2* **PKPbc 15 45 17.7 +0.2**
BRVK Borovoye 147.98 43 *ePKPbc* **PKPbc 15 45 17.9 +0.4**
HYB Hyderabad 149.01 116 *i PKP* **PKPbc 15 45 20.0 -1.3**
YAK Yakutsk 149.22 340 *ePKP2* **PKPbc 15 45 22.1 +1.7**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
IPM Ipoh 149.37 167 *ePKPdf* **PKPdf 15 45 17.5 -0.5**
IPM *ePKPbc* **PKPbc 15 45 21.4 -0.8**
KULM Kulim 150.09 166 *ePKPbc* **PKPbc 15 45 23.4 -0.6**
KKAR Karatay Array 150.22 62 *ePKIKP* **PKPbc 15 45 23.5 0.0**
KKAR Karatay Array 150.22 62 *ePKPbc* **PKPbc 15 45 23.5 0.0**
YSS Yuzh-Sakhalins 150.86 306 *ePKIKP* **PKPbc 15 45 28.0 +3.2**
EKS2 Erkin-Say 152.65 63 *ePKIKP* **PKPdf 15 45 22.7 +0.4**
EKS2 *e* 15 45 29.3
EKS2 Erkin-Say 152.65 63 *ePKPdf* **PKPdf 15 45 22.7 +0.4**
EKS2 *ePKPbc* **PKPbc 15 45 29.3 0.0**
AAK Ala-Archa 153.18 63 *ePKIKP* **PKPdf 15 45 22.7 -0.4**
AAK *e* 15 45 30.7
AAK Ala-Archa 153.18 63 *ePKPdf* **PKPdf 15 45 22.7 -0.4**
AAK *ePKPbc* **PKPbc 15 45 30.7 +0.2**
KURK Kurchatov 153.65 44 *ePKIKP* **PKPdf 15 45 23.4 +0.1**
KURK *e* 15 45 30.7
KURK Kurchatov 153.65 44 *ePKPdf* **PKPdf 15 45 23.4 +0.1**
KURK *ePKPbc* **PKPbc 15 45 30.7 -0.3**
NVS Novosibirsk 153.73 32 *ePKIKP* **PKPdf 15 45 21.2 -2.0**
NVS pmax pmax
comp=Z,9.0nm,1.0s
NVS pmax pmax
comp=N,1.0nm,0.8s
NVS pmax pmax
comp=E,2.0nm,0.8s
TKM2 Tokmak 2 153.95 62 *ePKIKP* **PKPdf 15 45 24.2 0.0**
TKM2 *e* 15 45 32.3
TKM2 Tokmak 2 153.95 62 *ePKPdf* **PKPdf 15 45 24.2 0.0**
TKM2 *ePKPbc* **PKPbc 15 45 32.2 0.0**
KSH Kashi 154.49 70 PKPbc **PKPdf 15 45 25.0 0.0**
KSH sPKP 15 45 38.0
KSH PKS **PKSdf 15 48 57.6 -1.7**
KSH PP **PP 15 49 21.4 -2.3**
KSH SKS **SKSdf 15 52 27.4 -4.4**
KSH SKKS **SKKSac 15 56 08.8 -4.7**
KSH PPMZ
comp=E,82nm,4.0s
KSH LN
comp=E,20nm,3.8s
KSH LE
comp=E,52nm,4.0s
KSH LZ
comp=E,140nm,4.7s
ZALV Zalesovo Beam 155.01 33 PKP **PKPdf 15 45 24.4 -0.6**
comp=E,1.6nm,0.8s,baz=270,slow=3.0,SNR=8.4
ZALV PKPbc PKPbc 15 45 33.7
comp=E,5.3nm,0.8s,baz=285,slow=2.9,SNR=14
ZALV PKPab **PKPab 15 45 48.0 -1.4**
comp=E,12nm,0.8s,baz=302,slow=3.3,SNR=9.9
BOD Bodaibo 156.44 351 *ePKIKP* **PKPdf 15 45 31.6 +4.8**
BOD pmax pmax
comp=Z,6.0nm,0.9s
MKAR Makanchi Array 157.51 50 PKP **PKPdf 15 45 27.9 -0.8**
comp=Z,0.6nm,0.7s,baz=17,slow=1.0,SNR=9.3
MKAR PKPab **PKPab 15 46 00.5 0.0**
comp=Z,2.6nm,0.8s,baz=286,slow=4.4,SNR=8.7
KOLN Koldanda 158.49 102 *eP* **PKPdf 15 45 30.1 -0.6**
DANN Dangsing 158.85 101 *eP* **PKPdf 15 45 31.1 -0.1**
GKN Gorkha 159.42 103 *eP* **PKPdf 15 45 30.8 -0.9**
PKIN Phulchoki 159.85 105 *eP* **PKPdf 15 45 32.1 -0.2**
JIRN Jiri 160.51 105 *eP* **PKPdf 15 45 32.4 -0.8**
ODAN Odare 161.09 109 *eP* **PKPdf 15 45 33.2 -0.5**
TAPN Taplejung 161.57 108 *eP* **PKPdf 15 45 33.6 -0.6**
CMAR Chiang Mai Arr 162.15 153 PKP **PKPdf 15 45 34.6 -0.1**
comp=Z,1.2nm,1.0s,baz=261,slow=3.0,SNR=6.5
WMQ Urumqi 162.21 53 *ePKP* **PKPdf 15 45 34.1 0.0**
WMQ PKPab **PKPab 15 46 22.9 +1.8**
WMQ PP **PP 15 50 07.7 +2.3**
WMQ SKS **SKSdf 15 52 33.6 -5.3**
WMQ PPMZ
comp=Z,110nm,4.5s
WMQ LN
comp=Z,37nm,19.0s
WMQ LE
comp=Z,54nm,20.0s
WMQ LZ
comp=Z,62nm,24.0s
TLY Talaya 162.78 8 *ePKP2* **PKPab 15 46 25.2 +2.1**
TLY pmax pmax
comp=Z,8.0nm,1.8s
CN2 Changchun 163.38 309 *ePKP* **PKPdf 15 45 35.8 +0.7**
ZAK Zakamensk 164.01 10 *ePKP2* **PKPab 15 46 29.5 +0.8**
ZAK pmax pmax
comp=Z,3.0nm,1.5s
SONM Songino Array 166.83 3 PKP **PKPdf 15 45 37.3 -0.8**
comp=Z,0.4nm,0.7s,baz=321,slow=1.8,SNR=3.3
SONM PKPab **PKPab 15 46 40.1 -1.1**
comp=Z,1.0nm,0.8s,baz=359,slow=2.5,SNR=4.6
SONM PP **PP 15 50 30.1 +1.5**
comp=Z,0.3nm,0.7s,baz=334,slow=9.6,SNR=3.3
KMI Kunming 169.64 155 PKP **PKPdf 15 45 37.1 -3.7**
NJ2 Nanjing 170.12 258 *ePKP* **PKPdf 15 45 38.7 -1.9**
BJI Beijing 171.24 310 PKP **PKPdf 15 45 40.9 0.0**
GYA Guiyang 171.78 175 *ePKP* **PKPdf 15 45 40.2 -1.6**
GYA *p*PKP **pPKPdf 15 45 51.0 +5.7**
GYA PKPab **PKPab 15 47 03.8 +0.2**
GYA PKS **PKSdf 15 49 11.0 -3.3**
GYA PP **PP 15 50 56.4 +2.9**
GYA SKKS 15 57 38.9
GYA PPMZ
comp=Z,120nm,8.5s
GYA LN
comp=Z,130nm,21.5s
GYA LE
comp=Z,110nm,22.6s
GYA LZ
comp=Z,120nm,21.4s

HHC	**Hu-ho-hao-te**	**173.04**	**333**	*e*PKP	**PKPdf**	**15 45 41.9 0.0**
HHC				pPKP	**pPKPdf**	**15 45 52.4 +7.1**
HHC				sPKP		15 45 56.0
HHC				PKS	**PKSdf**	**15 49 13.1 -1.1**
HHC				PP	**PP**	**15 51 03.2 +3.1**
HHC				SKS	**SKSdf**	**15 52 38.4 -6.8**
HHC				SKKS	**SKKSac**	**15 57 43.1 -4.0**
HHC				SS	**SS**	**16 12 12.8 -1.0**
HHC				PPMZ		
	comp=Z,120nm,10.0s					
HHC				LN		
	comp=Z,130nm,22.4s					
HHC				LE		
	comp=Z,190nm,22.2s					
HHC				LZ		
	comp=Z,130nm,22.8s					
CD2	**Chengdu**	**175.12**	**139**	*e*PKP	**PKPdf**	**15 45 42.8 0.0**
LZH	**Lanzhou**	**176.72**	**64**	*e*PKP	**PKPdf**	**15 45 43.6 +0.4**
LZH				pPKP	pPKPdf	15 45 54.1 +7.4
LZH				sPKP		15 45 58.2

IDC 03 15:37:38.2±26.0, 12°18S×65°35E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/44, mbtmp3.6/3, Error ellipse: s-maj=785.9km s-min=45.6km az=67.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**8.04**	**44**	T	T	15 46 39.1	
	baz=222,slow=75,SNR=1536						
H08N1	**Diego Garcia H**	**8.05**	**44**	T	T	15 46 38.7	
	baz=222,slow=75,SNR=801						
H08N2	**Diego Garcia H**	**8.06**	**44**	T	T	15 46 42.9	
	baz=222,slow=75,SNR=1254						
H08S1	**Diego Garcia H**	**8.34**	**58**	Pn	Pn	15 39 27.4	-13
H08S1				T	T	15 46 57.5	
	baz=237,slow=76,SNR=23						
H08S2	**Diego Garcia H**	**8.35**	**58**	Pn	Pn	15 39 27.4	-13
H08S2				T	T	15 47 01.7	
	baz=237,slow=76,SNR=24						
H08S3	**Diego Garcia H**	**8.36**	**58**	Pn	Pn	15 39 27.4	-13
H08S3				T	T	15 47 03.3	
	baz=237,slow=76,SNR=25						
ASAR	**Alice Springs**	**65.70**	**111**	P	P	15 48 25.2	+0.1
	0.4nm,0.8s,baz=269,slow=6.1,SNR=4.7						
WRA	**Warramunga Arr**	**66.36**	**107**	P	P	15 48 29.3	-0.2
	0.6nm,0.8s,baz=274,slow=5.5,SNR=5.7						
SONM	**Songino Array**	**70.00**	**28**	P	P	15 48 51.9	+0.1
	0.4nm,0.6s,baz=212,slow=5.1,SNR=2.7						

*IDC **03** 15:38:05.2±0.7, 33°36S×72°27W, h0km, mb4.0/5, mb1 4.3/7, mb1mx4.0/27, mbtmp4.0/7, ML4.3/2, Error ellipse: s-maj=29.6km s-min=20.3km az=100.0*
*ISCJB **03** 15:38:06.3±1.4, 33°44S±0°06×72°51W±0°07, h21km±10km, mb4.1/5, Error ellipse: s-maj=11.0km s-min=9.0km az=17.4*
*GUC **03** 15:38:07.2±0.5, 33°40S×72°40W, h41km±5km, ML3.7*
*NEIC **03** 15:38:10.7±1.6, 33°36S×72°34W, h39km±14km, mb4.6/2, Error ellipse: s-maj=21.1km s-min=9.0km az=97.0*

ISC 03 15:38:06.7±2.4, 33°41S±0°06×72°37W±0°08, h11km±14km, n24, σ0°95/33, mb4.5/5, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.72**	**58**	⇑*i*P	**Pb**	**15 38 21.8**	**+0.6**
IHA				*i* S1	**Sn**	**15 38 32.9**	**-0.9**
LNV	**Longovilo**	**0.97**	**125**	⇑*i*P	**Pb**	**15 38 25.9**	**+0.4**
RCDM	**Rinconada Maip**	**1.31**	**94**	*e*P	**Pn**	**15 38 31.1**	**+0.2**
RCDM				*i* S	**Sg**	**15 38 49.5**	**+0.6**
RCDM				AML	AML	15 38 53.5	
	comp=N,2μm,0.4s						
STL	**Santa Lucia**	**1.45**	**92**	*e*P9	**Pn**	**15 38 32.8**	**0.0**
STL				*i* S	**Sg**	**15 38 53.4**	**+0.1**
ANTU	**Antumapu**	**1.46**	**97**	*e*P1	**Pn**	**15 38 33.8**	**+0.7**
ANTU				*e*S	**Sb**	**15 38 53.4**	**+0.8**
ANTU				AML	AML	15 39 00.3	
	comp=N,3μm,0.6s						
CHCH	**Chadas Angostu**	**1.53**	**111**	⇑*i*P	**Pn**	**15 38 34.3**	**+0.4**
CHCH				*e*S1	**Sg**	**15 38 55.1**	**-0.7**
CACH	**El Canelo**	**1.64**	**116**	*e*P1	**Pg**	**15 38 37.3**	**-0.8**
CFAA	**Coronel Fontan**	**3.93**	**64**	Pn	**Pn**	**15 39 09.0**	**+2.1**
	comp=N,0.2nm,0.3s,baz=236,slow=12,SNR=3.6						
CFAA				Pg	**Pb**	**15 39 15.6**	**-0.4**
	comp=N,1.1nm,0.3s,baz=229,slow=13,SNR=10						
CFAA				Lg	Lg	15 40 07.5	
	comp=N,0.9nm,0.3s,baz=44,slow=12,SNR=5.6						
PLCA	**Paso Flores**	**7.46**	**169**	Pn	**Pn**	**15 39 56.8**	**+1.3**
	comp=N,1.9nm,0.3s,baz=334,slow=11,SNR=13						
PLCA				Sn	**Sn**	**15 41 18.1**	**-1.9**
	comp=N,1.0nm,0.3s,baz=292,slow=12,SNR=4.7						
PLCA				Lg	Lg	15 42 01.9	
	comp=N,0.1nm,0.3s,baz=286,slow=20,SNR=1.5						
TRQA	**Tornquist**	**9.64**	**122**	*e*P	**Pn**	**15 40 27.4**	**+2.1**
	comp=N,104nm,1.5s						
LPAZ	**La Paz**	**17.47**	**14**	P	**Pn**	**15 42 11.1**	**+0.2**
	comp=N,0.2nm,0.3s,baz=176,slow=7.5,SNR=13						
SIV	**San Ignacio**	**20.12**	**33**	P	**P**	**15 42 39.2**	**-1.5**
	comp=N,5.4nm,0.8s,baz=224,slow=11,SNR=9.6						
SAML	**Samuel**	**25.77**	**21**	*e*P	**P**	**15 43 37.0**	**-0.6**
	comp=N,16nm,1.4s						
QSPA	**South Pole Qui**	**56.83**	**180**	P	**P**	**15 47 51.7**	**+0.8**
	comp=N,2.8nm,0.8s,baz=147,slow=5.1,SNR=7.5						
QSPA	**South Pole Qui**	**56.83**	**180**	*e*P	**P**	**15 47 52.1**	**+1.2**
	comp=N,9.7nm,1.0s						
TXAR	**Lajitas Array**	**69.08**	**331**	P	**P**	**15 49 13.0**	**+0.3**
	comp=N,0.7nm,0.8s,baz=149,slow=8.3,SNR=7.9						
NVAR	**Mina Array Bea**	**83.24**	**325**	P	**P**	**15 50 33.7**	**+0.4**
	comp=N,0.3nm,0.6s,baz=133,slow=6.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	**84.27**	**70**	P	**P**	**15 50 38.1**	**-0.7**
	comp=N,2.5nm,0.9s,baz=255,slow=4.7,SNR=12						
WRA	**Warramunga Arr**	**121.14**	**210**	PKP	**PKPdf**	**15 56 59.7**	**-0.4**
	comp=N,0.5nm,0.9s,baz=144,slow=1.8,SNR=3.4						
PSI	**Prapat**	**148.48**	**163**	PKPbc	**PKPbc**	**15 57 53.1**	**-1.1**
	comp=N,2.0nm,0.4s,baz=204,slow=12,SNR=3.9						
AAK	**Ala-Archa**	**152.47**	**61**	*e*PKPbc	**PKPbc**	**15 58 02.4**	**-0.6**
ZALV	**Zalesovo Beam**	**153.87**	**31**	PKP	**PKPdf**	**15 57 57.4**	**-0.1**
	comp=N,1.0nm,0.7s,baz=278,slow=4.0,SNR=4.2						
ZALV				PKPbc	**PKiKP**	**15 58 05.6**	**+0.1**
	comp=N,1.5nm,0.8s,baz=301,slow=3.1,SNR=7.1						
MKAR	**Makanchi Array**	**156.58**	**48**	PKP	**PKPdf**	**15 58 01.7**	**+0.2**
	comp=N,0.3nm,0.8s,baz=248,slow=1.3,SNR=4.0						
MKAR				PKPab	**PKPab**	**15 58 30.4**	**-0.1**
	comp=N,1.1nm,0.9s,baz=302,slow=3.7,SNR=6.8						
SONM	**Songino Array**	**165.56**	**3**	PKPab	**PKPab**	**15 59 10.3**	**+0.6**
	comp=N,0.2nm,0.7s,baz=345,slow=5.1,SNR=3.9						

VIE 03 15:42:12.7±0.4, 46°64N×9°90E, h11km±4km, ML1.3/1, 2C, Error ellipse: s-maj=1.9km s-min=1.3km az=128.0 19 km SSE of Davos, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETA	**Feichten**	**0.68**	**56**	⇑*i*Pg	Pg	15 42 26.1	-0.1
FETA				⇑*i*Sg	Sg	15 42 35.4	0.0
	1.1nm,0.1s						

*IDC **03** 15:42:14.2±0.6, 33°74S×71°87W, h0km, mb4.2/10, mb1 4.4/12, mb1mx4.3/26, mbtmp4.3/12, ML4.2/2, MS3.9/2, Ms1 3.9/2, ms1mx3.2/23, Error ellipse: s-maj=26.4km s-min=16.7km az=86.0*
*NEIC **03** 15:42:18.8±3.7, 33°70S×72°06W, h31km±26km, mb4.4/2, Error ellipse: s-maj=20.1km s-min=9.4km az=88.0*
*GUC **03** 15:42:19.0±0.8, 33°76S×71°87W, h30km±14km, ML4.2*

ISC 03 15:42:17.0±1.5, 33°73S±0°05×71°98W±0°06, h18km±6km, n44, σ0°97/50, mb4.5/10, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.53**	**116**	⇓*i*P	**Pn**	**15 42 29.1**	**-0.5**
IHA	**Instituto Hidr**	**0.76**	**22**	⇓*i*P	**Pn**	**15 42 33.6**	**+0.9**
IHA				*i* S	**Sn**	**15 42 44.8**	**+1.1**
RCDM	**Rinconada Maip**	**1.01**	**77**	*e*P	**Pn**	**15 42 36.3**	**0.0**
RCDM				*i* S	**Sn**	**15 42 49.7**	**-0.3**
RCDM				AML	AML	15 42 53.3	
	comp=E,7μm,0.4s						
CHCH	**Chadas Angostu**	**1.13**	**101**	⇑*i*P	**Pb**	**15 42 38.3**	**+0.3**
ANTU	**Antumapu**	**1.14**	**82**	⇑*i*P	**Pg**	**15 42 39.0**	**-0.1**
ANTU				*e*S	**Sg**	**15 42 53.9**	**-0.1**
ANTU				AML	AML	15 42 55.6	
	comp=E,10μm,0.5s						
STL	**Santa Lucia**	**1.16**	**76**	*e*P9	**Pn**	**15 42 38.1**	**-0.2**
STL				*i* S	**Sn**	**15 42 54.0**	**+0.3**
CACH	**El Canelo**	**1.22**	**109**	⇓*i*P	**Pg**	**15 42 40.2**	**-0.3**
PEL	**Peldehue**	**1.23**	**62**	⇑*i*P	**Pg**	**15 42 40.8**	**0.0**
PEL				*i* S	**Sg**	**15 42 57.1**	**+0.1**
PEL				AML	AML	15 43 03.8	
	comp=N,28μm,0.5s						
FSR	**Penalolen**	**1.24**	**79**	*e*P9	**Pg**	**15 42 41.1**	**+0.1**
FSR				*e*S	**Sg**	**15 42 57.4**	**+0.2**
FCH	**Farellones**	**1.47**	**75**	*i* P9	**Pg**	**15 42 46.2**	**+0.9**
FCH				*i* S	**Sg**	**15 43 05.6**	**+1.0**
CFAA	**Coronel Fontan**	**3.80**	**57**	Pn	**Pn**	**15 43 17.8**	**+3.1**
	comp=N,2.5nm,0.3s,baz=226,slow=12,SNR=18						
CFAA				Lg	Lg	15 44 09.9	
	comp=N,3.9nm,0.3s,baz=16,slow=16,SNR=7.5						
CFAA				LR	LR	15 44 20.3	
	comp=N,33nm,20.5s,baz=230,slow=34						
PLCA	**Paso Flores**	**7.09**	**171**	Pn	**Pn**	**15 44 00.7**	**+0.9**
	comp=N,1.2nm,0.3s,baz=332,slow=11,SNR=6.5						
PLCA				Lg	Lg	15 45 52.0	
	comp=N,0.1nm,0.3s,baz=90,slow=20,SNR=3.1						
TRQA	**Tornquist**	**9.19**	**121**	*e*P	**Pn**	**15 44 30.4**	**+1.7**
LVC	**Limon Verde**	**11.40**	**15**	*e*P	**Pn**	**15 44 56.8**	**-2.3**
CPUP	**Villa Florida**	**14.67**	**64**	Pn	**P**	**15 45 46.9**	**-2.8**
	comp=N,0.8nm,0.3s,baz=227,slow=8.6,SNR=4.2						
LPAZ	**La Paz**	**17.71**	**12**	P	**P**	**15 46 24.0**	**-0.2**
	comp=N,0.3nm,0.3s,baz=182,slow=7.3,SNR=17						
LPAZ	**La Paz**	**17.71**	**12**	*e*P	**P**	**15 46 23.9**	**-0.2**
	comp=N,14nm,0.9s						
SIV	**San Ignacio**	**20.22**	**32**	P	**P**	**15 46 50.8**	**-0.3**
	comp=N,4.6nm,0.6s,baz=204,slow=14,SNR=13						
EFI	**East Falkland**	**20.59**	**155**	*e*P	**P**	**15 46 54.3**	**-0.4**
SAML	**Samuel**	**25.96**	**20**	*e*P	**P**	**15 47 47.2**	**-1.2**
	comp=N,16nm,0.8s						
BDFB	**Brasilia**	**28.14**	**56**	P	**P**	**15 48 07.3**	**-1.0**
	comp=N,4.1nm,0.4s,baz=213,slow=6.2,SNR=6.3						
BDFB				LR	LR	16 00 25.4	
	comp=N,334nm,18.5s,baz=215,slow=39						
ROSC	**El Rosal**	**38.44**	**356**	LR	LR	16 03 48.8	
	comp=N,124nm,18.6s,baz=210,slow=34						
SNAA	**Sanae**	**51.82**	**158**	P	**P**	**15 51 23.8**	**+0.3**
	comp=N,5.6nm,0.9s,baz=329,slow=7.8,SNR=6.2						
SNAA	**Sanae**	**51.82**	**158**	*e*P	**P**	**15 51 24.5**	**+1.1**
TEIG	**Tepich**	**55.86**	**341**	P	**P**	**15 51 54.3**	**+0.9**
	baz=190,slow=6.1						
QSPA	**South Pole Qui**	**56.51**	**180**	P	**P**	**15 51 58.5**	**+0.7**
	comp=N,3.4nm,0.8s,baz=106,slow=3.9,SNR=10						
QSPA	**South Pole Qui**	**56.51**	**180**	*e*P	**P**	**15 51 58.8**	**+1.0**
TXAR	**Lajitas Array**	**69.52**	**331**	P	**P**	**15 53 25.3**	**+0.7**
	comp=N,0.5nm,0.6s,baz=156,slow=8.3,SNR=6.2						
DBIC	**Dimbokro**	**75.05**	**71**	P	**P**	**15 53 57.5**	**-0.3**
	comp=N,4.2nm,0.7s,baz=226,slow=6.3,SNR=6.8						
PDAR	**Pinedale Array**	**83.54**	**333**	P	**P**	**15 54 44.0**	**+0.2**
	comp=N,0.6nm,1.0s,baz=152,slow=6.6,SNR=3.8						
NVAR	**Mina Array Bea**	**83.69**	**325**	P	**P**	**15 54 46.2**	**+1.6**
	comp=N,0.5nm,0.7s,baz=132,slow=6.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**84.07**	**70**	P	**P**	**15 54 47.0**	**+0.1**
	comp=N,7.6nm,0.8s,baz=256,slow=4.4,SNR=32						
ULM	**Lac du Bonnet**	**86.25**	**345**	P	**P**	**15 54 56.9**	**-0.1**
	comp=N,1.5nm,0.7s,baz=101,slow=3.9,SNR=3.2						
YKA	**Yellowknife Ar**	**101.81**	**341**	P	**Pdif**	**15 56 07.7**	**-0.5**
	comp=N,0.5nm,1.0s,baz=146,slow=3.8,SNR=3.8						
WRA	**Warramunga Arr**	**121.02**	**209**	PKP	**PKPdf**	**16 01 08.1**	**-0.9**
	comp=N,0.4nm,0.7s,baz=160,slow=1.7,SNR=14						
H11S2	**WAKE ISLAND Hy**	**25.82**	**269**	T	T	18 20 17.2	
	baz=118,slow=75,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**25.83**	**269**	T	T	18 20 13.8	
	baz=118,slow=75,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**25.84**	**269**	T	T	18 20 18.5	
	baz=118,slow=75,SNR=3.6						
GEYT	**Alibeck**	**139.71**	**69**	PKP	**PKPdf**	**16 01 42.9**	**-0.7**
	comp=N,1.0nm,0.7s,baz=184,slow=4.3,SNR=2.9						
PSI	**Prapat**	**148.08**	**163**	PKPbc	**PKPdf**	**16 01 59.5**	**+0.4**
	comp=N,2.4nm,0.6s,baz=252,slow=9.6,SNR=3.9						
AAK	**Ala-Archa**	**152.34**	**61**	*e*PKPbc	**PKPbc**	**16 02 12.4**	**+0.6**
ZALV	**Zalesovo Beam**	**153.97**	**32**	PKP	**PKPdf**	**16 02 06.8**	**+0.1**
	comp=N,1.3nm,0.8s,baz=298,slow=3.2,SNR=4.7						
ZALV				PKPbc	**PKPbc**	**16 02 14.7**	**-0.1**
	comp=N,3.3nm,0.7s,baz=299,slow=2.6,SNR=14						
ZALV				PKPab	**PKPab**	**16 02 27.9**	**-0.2**
	comp=N,2.7nm,0.8s,baz=305,slow=5.2,SNR=6.3						
MKAR	**Makanchi Array**	**156.55**	**49**	PKP	**PKPdf**	**16 02 10.6**	**+0.1**
	comp=N,0.4nm,0.8s,baz=318,slow=1.6,SNR=4.3						
MKAR				PKPab	**PKPab**	**16 02 39.2**	**-0.2**
	comp=N,0.4nm,0.3s,baz=294,slow=3.4,SNR=6.9						
SONM	**Songino Array**	**165.85**	**4**	PKPab	**PKPab**	**16 03 20.1**	**+0.1**
	comp=N,0.2nm,0.4s,baz=336,slow=3.2,SNR=3.6						

*IDC **03** 15:49:57.7±2.9, 33°59S×72°66W, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.7/27, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=78.0km s-min=31.1km az=98.0*
*GUC **03** 15:50:02.8±0.4, 33°40S×72°39W, h36km±2km, ML3.9*

ISC 03 15:49:59.4±2.2, 33°56S±0°07×72°49W±0°09, h7km±11km, n14, σ0°93/19, 4C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.89**	**53**	⇑*i*P	**Pg**	**15 50 16.7**	**+0.3**
IHA				*i* S1	**Sg**	**15 50 27.0**	**-1.0**
LNV	**Longovilo**	**0.98**	**114**	⇑*i*P	**Pn**	**15 50 20.5**	**+0.9**
LNV				*i* S1	**Sn**	**15 50 34.1**	**+0.4**
RCDM	**Rinconada Maip**	**1.41**	**88**	⇑*i*P	**Pn**	**15 50 25.7**	**+0.2**
RCDM				*i* S	**Sn**	**15 50 43.0**	**-1.3**
RCDM				AML	AML	15 50 44.3	
	comp=N,2μm,0.2s						
ANTU	**Antumapu**	**1.55**	**91**	*e*P	**Pb**	**15 50 28.6**	**+0.2**
ANTU				*i* S	**Sn**	**15 50 47.8**	**0.0**
ANTU				AML	AML	15 50 52.3	
	comp=E,3μm,0.4s						
PEL	**Peldehue**	**1.56**	**75**	⇓*i*P	**Pn**	**15 50 27.8**	**+0.1**
PEL				*i* S	**Sn**	**15 50 47.1**	**-1.1**
PEL				AML	AML	15 50 56.1	
	comp=E,4μm,0.3s						
CHCH	**Chadas Angostu**	**1.57**	**104**	*e*P1	**Pn**	**15 50 28.9**	**+1.1**
CACH	**El Canelo**	**1.67**	**110**	⇑*i*P	**Pg**	**15 50 31.5**	**+0.2**
FCH	**Farellones**	**1.85**	**83**	AML	AML	15 50 54.2	
	comp=N,2μm,0.3s						
CFAA	**Coronel Fontan**	**4.08**	**63**	Pn	**Pn**	**15 51 04.0**	**+1.6**
	comp=N,0.1nm,0.3s,baz=239,slow=15,SNR=9.7						
CFAA				Sn	**Sb**	**15 52 01.1**	**-0.2**
	comp=N,1.9nm,0.3s,baz=93,slow=11,SNR=8.3						
PLCA	**Paso Flores**	**7.33**	**168**	Pn	**Pn**	**15 51 45.1**	**-1.8**
	comp=N,0.2nm,0.3s,baz=6.3,slow=9.2,SNR=2.2						
PLCA				Lg	Lg	15 53 53.3	
	comp=N,0.1nm,0.3s,baz=301,slow=18,SNR=1.8						
LPAZ	**La Paz**	**17.64**	**14**	P	**Pn**	**15 54 06.3**	**0.0**
	comp=N,0.1nm,0.3s,baz=184,slow=9.4,SNR=4.3						
SIV	**San Ignacio**	**20.30**	**33**	P	**P**	**15 54 35.3**	**-0.7**
	comp=N,2.9nm,0.9s,baz=209,slow=13,SNR=3.1						
TORD	**Torodi Ar. Bea**	**84.41**	**70**	P	**P**	**16 02 33.6**	**+0.7**
	comp=N,0.8nm,0.8s,baz=250,slow=6.7,SNR=3.9						
MKAR	**Makanchi Array**	**156.75**	**48**	PKPab	**PKPab**	**16 10 24.6**	**-0.1**
	comp=N,0.1nm,0.7s,baz=289,slow=5.3,SNR=2.6						

KRSC 03 15:50:49.0±0.6, 54°96N×162°40E, h49km±14km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.56**	**224**	*e*P	Pn	15 51 01.7	+0.8
MKZ				*e*S	Sn	15 51 09.4	0.0
KBTR	**Krutoberegovo**	**1.27**	**11**	*e*P	Pn	15 51 12.7	+2.3
KBTR				*e*S	Sn	15 51 29.3	+2.9
TUMR	**Tumrok**	**1.33**	**285**	*e*P	Pn	15 51 13.3	+1.9
TUMR				*e*S	Sn	15 51 30.4	+2.3
KMNR	**Kamenistaya**	**1.47**	**304**	*e*P	Pn	15 51 15.7	+2.5
KMNR				*e*S	Sn	15 51 33.9	+2.5
KLY	**Klyuchi**	**1.68**	**325**	*e*P	Pn	15 51 16.9	+1.0
KLY				*e*S	Sn	15 51 36.5	+0.2
SMKR	**Semkarok**	**1.71**	**342**	*e*P	Pn	15 51 18.4	+1.9
SMKR				*e*S	Sn	15 51 39.1	+1.9
BDR	**Baidarnaya**	**1.75**	**338**	*e*P	Pn	15 51 19.4	+2.4
BDR				*e*S	Sn	15 51 40.7	+2.5
KOZ	**Kozyrevsk**	**1.81**	**308**	*e*P	Pn	15 51 20.7	+2.9
KOZ				*e*S	Sn	15 51 42.4	+2.8
SRKR	**Sorokina**	**1.84**	**338**	*e*P	Pn	15 51 20.1	+1.9
SRKR				*e*S	Sn	15 51 42.4	+2.1
KII	**Karymskiy**	**1.95**	**243**	*e*P	Pn	15 51 22.2	+2.4
KII				*e*S	Sn	15 51 45.8	+2.6
SRDR	**Sredinnyy**	**2.04**	**313**	*e*P	Pn	15 51 23.5	+2.5
SRDR				*e*S	Sn	15 51 47.1	+1.8
BKI	**Bering**	**2.07**	**82**	*e*P	Pn	15 51 23.4	+2.2
BKI				*e*S	Sn	15 51 47.0	+1.3
ESO	**Esso**	**2.32**	**296**	*e*P	Pn	15 51 27.2	+2.5
ESO				*e*S	Sn	15 51 53.6	+1.6
SDLR	**Sedlovina**	**2.67**	**232**	*e*P	Pn	15 51 32.9	+3.3
SDLR				*e*S	Sn	15 52 03.8	+3.0
KRER	**Koryakskii**	**2.71**	**234**	*e*P	Pn	15 51 34.0	+3.6
SMAR	**Somma**	**2.72**	**233**	*e*P	Pn	15 51 33.7	+3.3
KRX	**Arik**	**2.73**	**236**	*e*P	Pn	15 51 33.9	+3.4
UGLR	**Uglovaya**	**2.74**	**232**	*e*P	Pn	15 51 34.0	+3.4
UGLR				*e*S	Sn	15 52 05.3	+2.7
AVH	**Avacha**	**2.74**	**233**	*e*P	Pn	15 51 34.5	+3.9
AVH				*e*S	Sn	15 52 07.0	+4.4
KOK	**Koryaka**	**2.77**	**235**	*e*P	Pn	15 51 34.3	+3.2
GNL	**Ganaly**	**2.90**	**246**	*e*P	Pn	15 51 36.0	+3.2
PET	**Petropavlovsk**	**2.94**	**230**	*e*P	Pn	15 51 36.3	+3.1
PET				*e*S	Sn	15 52 10.5	+3.3
RUS	**Russkaya**	**3.43**	**224**	*e*P	Pn	15 51 43.1	+3.3
RUS				S	Sn	15 52 21.7	+2.6
MTVR	**Mutnovka**	**3.52**	**227**	*e*P	Pn	15 51 44.5	+3.1
MTVR				*e*S	Sn	15 52 24.1	+2.1
ASAK	**Asacha**	**3.72**	**228**	*e*P	Pn	15 51 48.9	+4.9
ASAK				S	Sn	15 52 32.0	+5.5
OSSR	**Ossora**	**4.32**	**5**	P	Pn	15 51 54.9	+2.9

KRSC 03 15:53:56.7±0.8, 55°28N×162°55E, h38km±20km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.86**	**213**	*e*P	Pn	15 54 13.3	+1.1
MKZ				*e*S	Sn	15 54 25.3	+1.7
KBTR	**Krutoberegovo**	**0.94**	**9**	*e*P	Pn	15 54 15.5	+2.1
KBTR				*e*S	Sn	15 54 29.1	+3.5
TUMR	**Tumrok**	**1.37**	**271**	*e*P	Pn	15 54 21.2	+1.8
TUMR				*e*S	Sn	15 54 38.4	+1.9
KMNR	**Kamenistaya**	**1.40**	**291**	*e*P	Pn	15 54 22.1	+2.4
KMNR				*e*S	Sn	15 54 39.9	+2.9
SMKR	**Semkarok**	**1.44**	**336**	*e*P	Pn	15 54 21.6	+1.3
SMKR				*e*S	Sn	15 54 39.5	+1.5
KLY	**Klyuchi**	**1.49**	**315**	*e*P	Pn	15 54 21.2	+0.4
KLY				*e*S	Sn	15 54 38.8	-0.2
BDR	**Baidarnaya**	**1.50**	**330**	*e*P	Pn	15 54 22.4	+1.3
BDR				*e*S	Sn	15 54 41.1	+1.7
SRKR	**Sorokina**	**1.58**	**331**	*e*P	Pn	15 54 23.1	+0.9
SRKR				*e*S	Sn	15 54 41.6	+0.1
KOZ	**Kozyrevsk**	**1.70**	**298**	P	Pn	15 54 26.9	+3.1
KOZ				S	Sn	15 54 48.1	+3.7
SRDR	**Sredinnyy**	**1.91**	**304**	P	Pn	15 54 29.1	+2.4
SRDR				S	Sn	15 54 51.7	+2.2
BKI	**Bering**	**1.96**	**91**	*e*P	Pn	15 54 29.7	+2.4
BKI				*e*S	Sn	15 54 53.2	+2.6
KII	**Karymskiy**	**2.19**	**237**	*e*P	Pn	15 54 33.1	+2.5
KII				*e*S	Sn	15 54 59.7	+3.3
ESO	**Esso**	**2.28**	**288**	P	Pn	15 54 34.2	+2.5
ESO				S	Sn	15 55 00.9	+2.4
NLC	**Nalytchevo**	**2.83**	**223**	*e*S	Sn	15 55 14.4	+2.5
SDLR	**Sedlovina**	**2.94**	**228**	*e*P	Pn	15 54 44.0	+3.1
SDLR				*e*S	Sn	15 55 17.9	+2.9
KRER	**Koryakskii**	**2.98**	**230**	*e*P	Pn	15 54 44.7	+3.1
KRER				*e*S	Sn	15 55 19.8	+3.6
SMAR	**Somma**	**2.98**	**229**	*e*P	Pn	15 54 44.0	+2.3
KRX	**Arik**	**2.98**	**231**	P	Pn	15 54 45.5	+3.9
KRX				S	Sn	15 55 20.1	+3.9
AVH	**Avacha**	**3.01**	**229**	*e*P	Pn	15 54 45.3	+3.5
AVH				*i* S	Sn	15 55 19.9	+3.2
UGLR	**Uglovaya**	**3.01**	**228**	*e*P	Pn	15 54 45.3	+3.4
KOK	**Koryaka**	**3.04**	**231**	*e*P	Pn	15 54 46.3	+4.1
GNL	**Ganaly**	**3.12**	**241**	*e*P	Pn	15 54 46.3	+2.9
PET	**Petropavlovsk**	**3.22**	**227**	*e*P	Pn	15 54 47.9	+3.4
PET				*e*S	Sn	15 55 24.1	+2.6
RUS	**Russkaya**	**

WRA Warramunga Arr 147.87 245 PKPbc **PKPab 16 16 04.6 +0.2**
0.4nm,0.8s,baz=102,slow=2.7,SNR=3.9

*ISCJB **03** 15:58:49.0±0.8, 8°.03S±0°.09×74°.40W±0°.06, h151km, mb3.9/2, Error ellipse: s-maj=12.3km s-min=8.1km az=3.1*
*NEIC **03** 15:58:49.8±1.0, 7°.95S×74°.32W, h142km±12km, mb4.0/2, Error ellipse: s-maj=19.2km s-min=10.3km az=197.0*
*IDC **03** 15:58:50.5±3.4, 8°.02S×74°.35W, h150km±47km, mb3.8/2, mb1 3.5/6, mb1mx3.2/33, mbtmp4.0/6, Error ellipse: s-maj=64.0km s-min=27.2km az=38.0*
ISC 03 15:58:49.9±0.9, 8°.03S±0°.09×74°.38W±0°.08, h151km, n9, σ1§15/11, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.08**	**282**	P	**Pn**	**15 59 52.5**	**+0.9**
ATAH				S	**Sn**	**16 00 37.8**	**-1.7**
28nm,0.3s,baz=233,slow=20,SNR=20							
NNA	**Nana**	**4.62**	**211**	P	**Pn**	**15 59 59.1**	**+0.6**
NNA				S	**Sn**	**16 00 50.2**	**-1.7**
36nm,0.3s,baz=162,slow=19,SNR=14							
LPAZ	**La Paz**	**10.23**	**144**	P	**Pn**	**16 01 13.9**	**+0.3**
0.2nm,0.3s,baz=331,slow=13,SNR=6.3							
LPAZ	**La Paz**	**10.23**	**144**	*eP*	**Pn**	**16 01 13.9**	**+0.3**
1.1nm,0.5s							
SAML	**Samuel**	**11.11**	**96**	*eP*	**Pn**	**16 01 23.4**	**-1.3**
3.4nm,0.5s							
SIV	**San Ignacio**	**15.23**	**123**	P	**P**	**16 02 18.2**	**-0.5**
0.2nm,0.3s,baz=307,slow=12,SNR=4.0							
DBIC	**Dimbokro**	**70.84**	**80**	P	**P**	**16 09 51.6**	**+0.6**
1.8nm,0.4s,baz=235,slow=6.8,SNR=2.4							
TORD	**Torodi Ar. Bea**	**78.42**	**75**	P	**P**	**16 10 34.8**	**+0.2**
1.0nm,0.6s,baz=262,slow=6.1,SNR=6.9							
WRA	**Warramunga Arr**	**140.36**	**225**	PKP	**PKPdf**	**16 18 02.9**	**+0.8**
0.2nm,0.6s,baz=138,slow=1.7,SNR=4.5							

SJA 03 16:04:59.4±0.9, 32°.41S×69°.39W, h8km±4km, MD4.0, ML3.9, MW3.7, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.19**	**360**	*eP*	Pg	16 05 04.5	+0.8
AUSP				*eS*	Sg	16 05 08.3	+1.7
ASAL	**Salagasta**	**0.50**	**111**	*eP*	Pg	16 05 09.5	+0.3
ARCO	**CERRO ARCO**	**0.57**	**138**	*i P*	Pg	16 05 11.0	+0.3
ARCO				AML	AML	16 05 19.0	
comp=Z,5μm,0.2s							
RTLS	**Leoncito**	**0.62**	**7**	*eP*	Pb	16 05 12.3	-0.5
AAGR	**Agrelo**	**0.82**	**145**	*eP*	Pb	16 05 16.2	+0.1
AAGR				*i P*	Pg	16 05 16.2	+0.9
RTCV	**Cerro Valdivia**	**0.90**	**53**	*eP*	Pb	16 05 17.3	-0.1
CFAA	**Coronel Fontan**	**1.27**	**51**	*i P*	Pb	16 05 23.7	+0.1
RTLL	**Cerro Villicun**	**1.33**	**36**	*eP*	Pn	16 05 24.4	0.0
AMOG	**MOGNA**	**1.66**	**28**	*eP*	Pg	16 05 31.1	-0.3
ACAN	**Cantantal**	**1.86**	**86**	*eP*	Pb	16 05 34.4	+0.5
AVFE	**Valle Fertil**	**2.40**	**44**	AML	AML	16 06 15.7	
comp=Z,1μm,0.4s							

IDC 03 16:14:47.9±1.2, 19°.05N×146°.24E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.4/35, mbtmp3.4/6, Error ellipse: s-maj=47.9km s-min=23.1km az=89.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**24.34**	**323**	P	P	16 20 08.2	+0.8
0.4nm,0.5s,baz=139,slow=11,SNR=3.5							
WRA	**Warramunga Arr**	**40.47**	**197**	P	P	16 22 28.4	-0.2
0.4nm,0.9s,baz=21,slow=8.8,SNR=5.5							
ASAR	**Alice Springs**	**44.13**	**196**	P	P	16 22 58.5	+0.1
0.2nm,0.8s,baz=13,slow=8.6,SNR=5.0							
MKAR	**Makanchi Array**	**58.59**	**314**	P	P	16 24 46.8	+0.2
0.1nm,0.5s,baz=96,slow=10,SNR=3.1							
YKA	**Yellowknife Ar**	**77.44**	**28**	P	P	16 26 45.3	+0.5
0.2nm,0.6s,baz=285,slow=5.7,SNR=3.7							
FINES	**FINESS Array B**	**86.78**	**335**	P	P	16 27 32.0	-1.8
2.2nm,1.0s,baz=124,slow=9.5,SNR=4.3							

MAN 03 16:16:39, 9°.46N×124°.75E, h52km, mb4.4, ML3.2, MS3.1, 1C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.68**	**9**	*eP*	Pn	16 16 53.1	+0.5
TBP	**Tagbilaran**	**0.91**	**285**	⇓*iP*	Pn	16 16 55.7	+0.1
TBP				*i S*	Sn	16 17 08.7	+0.9
BUTP	**Butuan**	**0.98**	**119**	*eP*	Pn	16 16 56.5	0.0
BUTP				*eS*	Sn	16 17 12.6	+3.0
CGP	**Cagayan de Oro**	**1.00**	**183**	⇑*iP*	Pn	16 16 56.1	-0.6
CGP				*i S*	Sn	16 17 09.1	-0.7
LLP	**Lapu-Lapu**	**1.16**	**318**	⇓*iP*	Pn	16 17 00.1	+1.2
LLP				*i S*	Sn	16 17 16.7	+3.0
SNPH	**Sibulan**	**1.50**	**266**	⇓*iP*	Pn	16 16 59.0	-4.7
SNPH				*i S*	Sn	16 17 19.0	-3.2
OCLP	**Ormoc**	**1.59**	**355**	*eP*	Pn	16 17 06.7	+1.9
BUKP	**Musuan**	**1.59**	**169**	*eP*	Pn	16 17 06.3	+1.4
BIPH	**Bislig**	**2.03**	**128**	⇓*eP*	Pn	16 17 11.6	+0.8
BIPH				*eS*	Sn	16 17 37.3	+2.4
PAGZ	**Pagadian**	**2.10**	**220**	*eP*	Pn	16 17 12.8	+1.1
GUIM	**Jordan**	**2.43**	**299**	*eP*	Pn	16 17 18.0	+1.8

*IDC **03** 16:17:53.3±0.8, 34°.34S×72°.49W, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.9/31, mbtmp3.8/8, ML3.6/3, MS2.8/2, Ms1 2.8/2, ms1mx2.7/33, Error ellipse: s-maj=34.3km s-min=21.1km az=96.0*
*ISCJB **03** 16:17:55.3±1.7, 34°.35S±0°.08×72°.51W±0°.09, h24km±12km, mb3.8/4, MS3.7/1, Error ellipse: s-maj=16.9km s-min=8.3km az=140.3*
*GUC **03** 16:17:56.0±0.6, 34°.25S×72°.50W, h33km±2km, ML4.2*
ISC 03 16:17:54.9±2.2, 34°.34S±0°.09×72°.47W±0°.09, h11km±12km, n24, σ0§64/29, mb4.0/4, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.95**	**67**	⇑*iP*	**Pb**	**16 18 13.5**	**0.0**
LNV				*i S1*	**Sg**	**16 18 26.1**	**+0.4**
TACH	**Talagante**	**1.44**	**62**	⇑*iP*	**Pn**	**16 18 20.6**	**-0.4**
IHA	**Instituto Hidr**	**1.48**	**28**	*eP1*	**Pn**	**16 18 20.6**	**-0.9**
CHCH	**Chadas Angostu**	**1.56**	**76**	⇓*iP*	**Pn**	**16 18 22.9**	**+0.2**
CACH	**El Canelo**	**1.56**	**82**	⇑*iP*	**Pb**	**16 18 23.8**	**-0.1**
RCDM	**Rinconada Maip**	**1.62**	**59**	⇑*iP*	**Pn**	**16 18 23.2**	**-0.2**
RCDM				*i S*	**Sn**	**16 18 43.8**	**-0.6**
RCDM				AML	AML	16 18 52.9	
comp=E,2μm,0.2s							
ANTU	**Antumapu**	**1.71**	**64**	*eP1*	**Pn**	**16 18 24.4**	**-0.3**
ANTU				*i S*	**Sn**	**16 18 46.6**	**+0.1**
ANTU				AML	AML	16 18 53.4	
comp=N,4μm,0.3s							
SAN	**Santiago**	**1.74**	**60**	*eP*	**Pn**	**16 18 25.2**	**+0.1**
SAN				*i S*	**Sn**	**16 18 47.2**	**-0.1**
PCH	**Pirque**	**1.77**	**67**	*eP1*	**Pn**	**16 18 26.1**	**+0.5**
PEL	**Peldehue**	**1.90**	**52**	⇑*iP*	**Pn**	**16 18 27.5**	**+0.1**
PEL				*i S*	**Sn**	**16 18 50.7**	**-0.7**
PEL				AML	AML	16 19 01.6	
comp=N,5μm,0.5s							
FCH	**Farellones**	**2.07**	**62**	*eP9*	**Pg**	**16 18 34.5**	**-0.2**
FCH				*eS*	**Sg**	**16 19 01.2**	**-0.4**
FCH				AML	AML	16 19 13.6	
comp=N,3μm,0.6s							
CFAA	**Coronel Fontan**	**4.48**	**54**	Pn	**Pn**	**16 19 04.8**	**+2.0**
comp=N,0.3nm,0.3s,baz=234,slow=9.4,SNR=5.1							
CFAA				Lg	Lg	16 20 03.9	
comp=N,0.8nm,0.3s,baz=252,slow=21,SNR=3.7							
CFAA				LR	LR	16 21 14.3	
comp=N,16nm,20.8s,baz=163,slow=45							
PLCA	**Paso Flores**	**6.56**	**167**	Pn	**Pn**	**16 19 31.8**	**+0.3**
comp=N,0.8nm,0.3s,baz=339,slow=14,SNR=2.2							
LPAZ	**La Paz**	**18.39**	**13**	P	**Pn**	**16 22 11.2**	**+0.7**
comp=N,0.1nm,0.3s,baz=180,slow=7.9,SNR=5.8							
SIV	**San Ignacio**	**20.95**	**32**	P	**P**	**16 22 37.6**	**-0.3**
comp=N,4.2nm,0.8s,baz=227,slow=11,SNR=6.8							
RCBR	**Riachuelo**	**44.12**	**58**	LR	LR	16 44 59.7	
comp=N,98nm,19.2s,baz=220,slow=37							
QSPA	**South Pole Qui**	**55.90**	**180**	P	**P**	**16 27 33.6**	**+1.0**
comp=N,2.1nm,0.9s,baz=156,slow=2.4,SNR=5.5							
TXAR	**Lajitas Array**	**69.86**	**331**	P	**P**	**16 29 05.8**	**+0.1**
comp=N,0.2nm,0.6s,baz=135,slow=10,SNR=3.2							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**83.90**	**333**	P	**P**	**16 30 25.4**	**+0.5**
comp=N,0.5nm,0.9s,baz=146,slow=7.3,SNR=3.5							
TORD	**Torodi Ar. Bea**	**84.66**	**70**	P	**P**	**16 30 28.3**	**-0.7**
comp=N,1.9nm,0.9s,baz=256,slow=6.7,SNR=7.8							
WRA	**Warramunga Arr**	**120.30**	**209**	PKP	**PKPdf**	**16 36 45.9**	**-0.9**
comp=N,0.3nm,0.7s,baz=160,slow=1.5,SNR=7.4							
ZALV	**Zalesovo Beam**	**154.70**	**32**	PKPbc	**PKPbc**	**16 37 55.3**	**-0.1**
comp=N,2.2nm,0.8s,baz=336,slow=3.3,SNR=10							
MKAR	**Makanchi Array**	**157.25**	**49**	PKPab	**PKPab**	**16 38 21.3**	**-0.4**
comp=N,0.5nm,0.7s,baz=300,slow=4.1,SNR=5.7							
SONM	**Songino Array**	**166.49**	**3**	PKPab	**PKPab**	**16 39 02.5**	**+0.5**
comp=N,0.6nm,0.9s,baz=300,slow=3.2,SNR=3.1							

*IDC **03** 16:22:27.4±2.0, 1°.89N×126°.47E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/38, mbtmp3.6/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/27, Error ellipse: s-maj=170.7km s-min=23.9km az=66.0*
*ISCJB **03** 16:22:32.8±1.3, 2°.2N±0°.2×127°.0E±0°.2, h63km, mb3.5/3, Error ellipse: s-maj=36.2km s-min=17.2km az=152.3*
*DJA **03** 16:22:48.4±0.5, 1°.N±5°×12°.8E±1°.7, h14km±16km, M3.0/4, MLv3.0/4*
ISC 03 16:22:34.8±1.5, 2°.1N±0°.2×127°.0E±0°.2, h63km, n7, σ1§00/6, mb3.8/3, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.38**	**163**	P	**Pn**	**16 22 59.0**	**+1.0**
TNTI				S	Sn	16 23 03.3	-12
LBMI	**Labuha**	**2.77**	**169**	P	**Pn**	**16 23 17.0**	**+0.1**
SWI	**Sorong**	**5.21**	**124**	P	**Pn**	**16 23 50.6**	**+0.3**
WRA	**Warramunga Arr**	**23.07**	**162**	P	**P**	**16 27 33.9**	**-1.4**
1.3nm,0.3s,baz=340,slow=11,SNR=48							
ASAR	**Alice Springs**	**26.49**	**166**	P	**P**	**16 28 06.3**	**-0.2**
0.4nm,0.8s,baz=340,slow=10,SNR=9.3							
JNU	**Nakatsue**	**31.08**	**6**	LR	LR	16 39 56.6	
comp=Z,78nm,21.4s,baz=51,slow=34							
MKAR	**Makanchi Array**	**59.02**	**326**	P	**P**	**16 32 28.3**	**+0.1**
0.3nm,0.3s,baz=121,slow=7.4,SNR=9.8							

*ISCJB **03** 16:22:50.0±1.0, 34°.84S±0°.08×72°.8W±0°.1, h18km, mb3.9/3, Error ellipse: s-maj=18.7km s-min=7.8km az=33.5*
*IDC **03** 16:22:49.8±2.1, 34°.81S×72°.52W, h0km, mb3.8/3, mb1 3.8/6, mb1mx3.7/34, mbtmp3.7/6, ML3.8/3, Error ellipse: s-maj=79.9km s-min=21.7km az=105.0*
*GUC **03** 16:22:50.1±0.8, 34°.93S×72°.69W, h32km±9km, ML4.1*
ISC 03 16:22:52.2±1.2, 34°.80S±0°.10×72°.6W±0°.1, h18km, n14, σ0§77/17, mb3.9/3, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.29**	**49**	⇑*iP*	**Pn**	**16 23 14.8**	**-0.5**
CACH	**El Canelo**	**1.78**	**68**	⇑*iP*	**Pn**	**16 23 22.6**	**+0.4**
CHCH	**Chadas Angostu**	**1.82**	**62**	⇑*iP*	**Pn**	**16 23 23.4**	**+0.6**
CHCH				*i S4*	**Sn**	**16 23 45.9**	**+0.4**
IHA	**Instituto Hidr**	**1.94**	**24**	⇓*iP*	**Pn**	**16 23 24.4**	**+0.2**
RCDM	**Rinconada Maip**	**1.98**	**49**	*eP1*	**Pn**	**16 23 25.4**	**+0.6**
RCDM				*eS*	**Sb**	**16 23 52.1**	**+0.1**
RCDM				AML	AML	16 23 56.9	
comp=E,1μm,0.4s							
ANTU	**Antumapu**	**2.04**	**53**	*i S*	**Sb**	**16 23 53.2**	**-0.6**
ANTU				AML	AML	16 24 02.7	
comp=N,2μm,0.4s							
PEL	**Peldehue**	**2.29**	**44**	⇑*iP*	**Pn**	**16 23 30.2**	**+1.0**
PEL				*i S*	**Sb**	**16 24 00.2**	**-0.9**
PEL				AML	AML	16 24 04.0	
comp=N,2μm,0.6s							
CFAA	**Coronel Fontan**	**4.85**	**50**	Pn	**Pn**	**16 24 05.5**	**+1.1**
comp=N,0.5nm,0.3s,baz=217,slow=14,SNR=9.7							
CFAA				Lg	Lg	16 25 10.8	
comp=N,0.4nm,0.3s,baz=299,slow=18,SNR=4.7							
PLCA	**Paso Flores**	**6.14**	**165**	Pn	**Pn**	**16 24 22.5**	**+0.5**
comp=N,1.2nm,0.3s,baz=339,slow=12,SNR=5.3							
PLCA				Sn	Sn	16 25 18.6	-13
comp=N,3.5nm,0.3s,baz=25,slow=23,SNR=6.0							
LPAZ	**La Paz**	**18.87**	**13**	P	**Pn**	**16 27 13.8**	**+1.1**
comp=N,0.2nm,0.3s,baz=198,slow=9.6,SNR=5.9							
SIV	**San Ignacio**	**21.40**	**32**	P	**P**	**16 27 38.0**	**-1.1**
comp=N,3.3nm,0.7s,baz=206,slow=12,SNR=7.7							
QSPA	**South Pole Qui**	**55.44**	**180**	P	**P**	**16 32 25.9**	**+0.5**
comp=N,1.4nm,1.1s,baz=169,slow=6.7,SNR=2.8							
TORD	**Torodi Ar. Bea**	**84.91**	**70**	P	**P**	**16 35 25.6**	**-0.8**
comp=N,0.5nm,0.7s,baz=234,slow=6.2,SNR=4.5							
MKAR	**Makanchi Array**	**157.63**	**50**	PKPab	**PKPab**	**16 43 19.1**	**-0.4**
comp=N,0.2nm,0.5s,baz=281,slow=4.2,SNR=3.8							

*IDC **03** 16:24:06.7±2.2, 6°.31N×93°.54E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.4/48, mbtmp3.5/7, ML3.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/25, Error ellipse: s-maj=86.5km s-min=19.7km az=61.0*
*ISCJB **03** 16:24:10.5±1.3, 6°.5N±0°.1×93°.9E±0°.2, h32km, mb3.6/5, MS3.5/1, Error ellipse: s-maj=32.3km s-min=9.8km az=144.8*
ISC 03 16:24:12.3±1.6, 6°.4N±0°.2×93°.8E±0°.2, h32km, n10, σ0§78/8, mb3.7/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.29**	**125**	Pn	**Pn**	**16 25 44.0**	**+1.1**
0.9nm,0.3s,baz=312,slow=12,SNR=5.2							
PSI				Sn	**Sn**	**16 26 52.7**	**-1.1**
0.7nm,0.3s,baz=159,slow=17,SNR=2.0							
CMAR	**Chiang Mai Arr**	**13.00**	**22**	Pn	**Pn**	**16 27 14.9**	**+0.1**
0.3nm,0.3s,baz=217,slow=14,SNR=5.7							
H08S3	**Diego Garcia H**	**25.39**	**237**	T	T	16 56 05.7	
baz=56,slow=75,SNR=49							
H08S2	**Diego Garcia H**	**25.39**	**237**	T	T	16 56 10.8	
baz=56,slow=75,SNR=46							
H08S1	**Diego Garcia H**	**25.40**	**237**	T	T	16 56 12.0	
baz=56,slow=75,SNR=34							
MKAR	**Makanchi Array**	**41.42**	**348**	P	**P**	**16 31 55.1**	**-0.7**
0.2nm,0.6s,baz=174,slow=6.1,SNR=3.2							
WRA	**Warramunga Arr**	**47.75**	**124**	P	**P**	**16 32 46.4**	**-0.3**
0.7nm,0.6s,baz=306,slow=8.8,SNR=8.2							
WRA				LR	LR	16 54 59.0	
comp=Z,43nm,18.5s,baz=170,slow=39							
ZALV	**Zalesovo Beam**	**47.94**	**353**	P	**P**	**16 32 47.8**	**+0.2**
0.3nm,0.4s,baz=190,slow=7.2,SNR=3.0							
ASAR	**Alice Springs**	**49.30**	**129**	P	**P**	**16 32 58.5**	**-0.1**
0.2nm,0.6s,baz=303,slow=6.8,SNR=5.3							
STKA	**Stephens Creek**	**59.40**	**133**	P	**P**	**16 34 11.9**	**0.0**
1.6nm,0.7s,baz=359,slow=8.6,SNR=4.4							

*IDC **03** 16:25:21.2±0.7, 37°.35S×73°.79W, h0km, mb4.4/11, mb1 4.5/13, mb1mx4.3/34, mbtmp4.3/13, ML4.5/2, MS4.0/7, Ms1 4.0/7, ms1mx3.6/29, Error ellipse: s-maj=24.9km s-min=17.4km az=95.0*
*ISCJB **03** 16:25:25.1±0.6, 37°.26S±0°.05×73°.7W±0°.1, h33km, mb4.4/12, MS4.0/6, Error ellipse: s-maj=12.5km s-min=7.2km az=5.2*
*NEIC **03** 16:25:26.1±2.9, 37°.28S×73°.76W, h32km±19km, mb4.7/5, Error ellipse: s-maj=15.8km s-min=6.6km az=85.0*
ISC 03 16:25:26.6±0.6, 37°.28S±0°.07×73°.8W±0°.1, h35km, n58, σ0§64/52, mb4.5/12, MS3.9/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.26**	**145**	Pn	**Pn**	**16 26 30.3**	**+1.3**
1.4nm,0.3s,baz=306,slow=16,SNR=3.9							
PLCA				Lg	Lg	16 27 39.3	
2.7nm,0.3s,baz=49,slow=20,SNR=2.0							
PLCA	**Paso Flores**	**4.26**	**145**	*eP*	**Pn**	**16 26 28.8**	**-0.2**
PLCA				Lg	Lg	16 27 39.3	
CFAA	**Coronel Fontan**	**7.27**	**40**	Pn	**Pn**	**16 27 09.6**	**-0.8**
1.3nm,0.3s,baz=208,slow=14,SNR=15							
CFAA				Sn	**Sn**	**16 28 32.5**	**+0.8**
0.3nm,0.3s,baz=266,slow=18,SNR=2.8							
TRQA	**Tornquist**	**9.38**	**98**	*eP*	**Pn**	**16 27 40.5**	**+1.3**
14nm,0.6s							
LVC	**Limon Verde**	**15.21**	**17**	*eP*	**Pn**	**16 28 57.9**	**-1.1**
9.4nm,0.8s							
CPUP	**Villa Florida**	**17.70**	**57**	P	**Pn**	**16 29 30.4**	**+0.1**
1.1nm,0.3s,baz=217,slow=11,SNR=6.6							
CPUP				LR	LR	16 36 17.9	
comp=Z,396nm,18.4s,baz=216,slow=37							
CPUP	**Villa Florida**	**17.70**	**57**	*eP*	**Pn**	**16 29 28.8**	**-1.5**
0.6nm,0.8s							
EFI	**East Falkland**	**18.18**	**147**	*eP*	**Pn**	**16 29 35.5**	**-0.5**
84nm,1.0s							
LPAZ	**La Paz**	**21.50**	**15**	P	**P**	**16 30 14.5**	**+1.5**
7.6nm,0.8s,baz=156,slow=9.1,SNR=10							
LPAZ	**La Paz**	**21.50**	**15**	*eP*	**P**	**16 30 13.7**	**+0.7**
71nm,0.6s							
SIV	**San Ignacio**	**24.00**	**31**	P	**P**	**16 30 38.2**	**+0.1**
3.6nm,0.7s,baz=232,slow=11,SNR=9.2							
PMSA	**Palmer Station**	**28.13**	**171**	LR	LR	16 41 13.3	
comp=Z,215nm,19.5s,baz=350,slow=34							
SAML	**Samuel**	**29.79**	**21**	*eP*	**P**	**16 31 29.6**	**-0.5**
4.3nm,0.9s							
BDFB	**Brasilia**	**31.38**	**54**	P	**P**	**16 31 43.6**	**-0.7**
5.0nm,0.8s,baz=111,slow=7.7,SNR=4.5							
BDFB				LR	LR	16 44 30.2	
comp=Z,458nm,18.1s,baz=227,slow=37							
RPN	**Rapa Nui**	**31.59**	**278**	LR	LR	16 40 44.2	
comp=Z,230nm,19.3s,baz=157,slow=29							
SNAA	**Sanae**	**49.11**	**157**	P	**P**	**16 34 09.9**	**-0.3**
8.3nm,1.0s,baz=266,slow=6.1,SNR=8.5							
SNAA	**Sanae**	**49.11**	**157**	*eP*	**P**	**16 34 10.7**	**+0.4**
QSPA	**South Pole Qui**	**52.96**	**180**	P	**P**	**16 34 39.2**	**-0.1**
12nm,1.0s,baz=157,slow=6.1,SNR=17							
QSPA	**South Pole Qui**	**52.96**	**180**	*eP*	**P**	**16 34 38.8**	**-0.5**
15nm,1.0s							
VNDA	**Vanda**	**60.61**	**192**	LR	LR	16 59 25.6	
comp=Z,78nm,18.1s,baz=152,slow=34							
PPT	**Papeete**	**68.44**	**264**	LR	LR	16 59 47.8	
comp=Z,230nm,18.3s,baz=102,slow=30							
TXAR	**Lajitas Array**	**71.95**	**333**	P	**P**	**16 36 46.9**	**+0.4**
1.3nm,0.8s,baz=145,slow=6.1,SNR=12							
DBIC	**Dimbokro**	**77.55**	**72**	P	**P**	**16 37 20.0**	**+0.9**
13nm,1.0s,baz=208,slow=6.8,SNR=8.4							
DBIC	**Dimbokro**	**77.55**	**72**	*eP*	**P**	**16 37 19.5**	**+0.4**
BOSA	**Boshof**	**79.78**	**118**	P	**P**	**16 37 31.6**	**+0.1**
8.0nm,0.9s,baz=238,slow=6.6,SNR=8.5							
NVAR	**Mina Array Bea**	**85.80**	**326**	P	**P**	**16 38 02.9**	**+0.6**
0.8nm,0.6s,baz=168,slow=4.6,SNR=3.4							
PDAR	**Pinedale Array**	**86.08**	**334**	P	**P**	**16 38 04.1**	**+0.5**
0.9nm,1.1s,baz=143,slow=6.2,SNR=4.0							
TORD	**Torodi Ar. Bea**	**86.63**	**71**	P	**P**	**16 38 06.8**	**+0.1**
4.3nm,0.9s,baz=235,slow=3.9,SNR=14							
NEW	**Newport**	**93.51**	**333**	LR	LR	17 17 37.3	
comp=Z,49nm,21.8s,baz=146,slow=34							
WRA	**Warramunga Arr**	**117.22**	**210**	PKP	**PKPdf**	**16 44 07.5**	**-1.1**
0.3nm,0.7s,baz=176,slow=1.9,SNR=3.3							
BRTR	**Keskin Array B**	**124.61**	**63**	PKP	**PKPdf**	**16 44 21.9**	**-0.4**
0.7nm,0.8s,baz=204,slow=3.2,SNR=3.3							
H11N3	**WAKE ISLAND Hyl**	**24.77**	**269**	T	T	19 00 31.6	
baz=121,slow=76,SNR=6.8							
H11N1	**WAKE ISLAND Hyl**	**24.78**	**269**	T	T	19 00 33.1	
baz=121,slow=76,SNR=11							
H11N2	**WAKE ISLAND Hyl**	**24.79**	**269**	T	T	19 00 33.2	
baz=121,slow=76,SNR=9.8							
GEYT	**Alibeck**	**142.21**	**74**	PKhKP	PKPpre	16 44 51.1	
1.9nm,0.7s,baz=270,slow=7.3,SNR=5.5							
ARU	**Arti**	**143.12**	**43**	PKPpre	PKPpre	16 44 52.3	
KSM	**Kuching**	**144.17**	**187**	*ePKP*	**PKPab**	**16 44 56.6**	**-0.2**
ABKAR	**Akbulak array**	**144.76**	**55**	*ePKP*	PKPbc	16 44 58.4	+0.3
IPM	**Ipoh**	**147.01**	**170**	*ePKPbc*	**PKPdf**	**16 45 04.9**	**+0.8**
HYB	**Hyderabad**	**148.63**	**122**	*i PKP*	**PKPbc**	**16 45 09.5**	**-0.9**
KKAR	**Karatay Array**	**152.24**	**67**	*ePKPbc*	**PKPbc**	**16 45 18.1**	**-0.1**
KKAR				*ePKPab*	**PKPab**	**16 45 28.2**	**-0.1**
EKS2	**Erkin-Say**	**154.65**	**68**	*ePKPdf*	**PKPdf**	**16 45 15.8**	**+0.7**
EKS2				*ePKPbc*	**PKiKP**	**16 45 24.5**	**+0.8**
AAK	**Ala-Archa**	**155.18**	**68**	*ePKPdf*	**PKPdf**	**16 45 16.0**	**+0.1**
AAK				*ePKPbc*	PKPab	16 45 25.6	-15
ZALV	**Zalesovo Beam**	**157.73**	**35**	PKP	**PKPdf**	**16 45 17.7**	**-0.9**
1.5nm,0.8s,baz=256,slow=2.4,SNR=6.3							
ZALV				PKPbc	PKPab	16 45 29.1	-22
1.6nm,0.8s,baz=327,slow=2.5,SNR=6.2							
ZALV				PKPab	PKPab	16 45 52.1	+0.8
1.9nm,0.6s,baz=305,slow=5.2,SNR=8.3							
KOLN	**Koldanda**	**158.73**	**110**	*eP*	**PKPab**	**16 45 56.7**	**0.0**
DANN	**Dangsing**	**159.16**	**109**	*eP*	**PKPab**	**16 45 58.6**	**0.0**
35nm,0.8s							
GKN	**Gorkha**	**159.63**	**111**	*eP*	**PKPab**	**16 46 00.4**	**-0.1**
DMN	**Daman**	**159.77**	**112**	*eP*	**PKPab**	**16 46 01.2**	**0.0**
MKAR	**Makanchi Array**	**159.90**	**54**	PKP	**PKPdf**	**16 45 21.1**	**-0.3**
0.5nm,0.9s,baz=299,slow=2.5,SNR=4.9							
MKAR				PKPab	**PKPab**	**16 46 00

LPAZ	La Paz	17.86	10	P	Pn	16 32 10.3	-1.4
SIV	San Ignacio	20.19	30	P	P	16 32 35.9	-1.0
	comp=N,2.4nm,0.6s,baz=201,slow=9.8,SNR=5.5						
SIV	San Ignacio	20.19	30	P	P	16 32 35.9	-1.0
SAML	Samuel	26.04	19	eP	P	16 33 36.8	+2.0
PMSA	Palmer Station	31.16	174	eP	P	16 34 17.5	-2.5
	comp=N,30nm,0.4s						
QSPA	South Pole Qui	56.27	180	eP	P	16 37 43.5	+2.0
TXAR	Lajitas Array	69.95	330	P	P	16 39 12.7	+0.2
	comp=N,0.3nm,0.5s,baz=160,slow=8.6,SNR=4.7						
TXAR	Lajitas Array	69.95	330	P	P	16 39 12.7	+0.2
BOSA	Boshof	79.64	117	P	P	16 40 09.4	+0.6
	comp=N,2.8nm,0.8s,baz=257,slow=7.5,SNR=3.4						
BOSA	Boshof	79.64	117	P	P	16 40 09.4	+0.6
TORD	Torodi Ar. Bea	83.73	70	P	P	16 40 30.2	-0.1
	comp=N,1.2nm,0.8s,baz=246,slow=4.6,SNR=0.1						
TORD	Torodi Ar. Bea	83.73	70	P	P	16 40 30.2	-0.1
WRA	Warramunga Arr	121.03	209	PKP	PKPdf	16 46 53.5	-0.4
	comp=N,0.2nm,0.7s,baz=154,slow=1.6,SNR=4.2						
WRA	Warramunga Arr	121.03	209	PKP	PKPdf	16 46 53.5	-0.4
ZALV	Zalesovo Beam	153.93	33	PKPbc	PKPbc	16 47 59.4	-0.2
	comp=N,1.4nm,0.6s,baz=263,slow=3.0,SNR=6.2						
ZALV	Zalesovo Beam	153.93	33	PKPbc	PKPbc	16 47 59.4	-0.2
MKAR	Makanchi Array	156.37	49	PKPab	PKPab	16 48 23.4	-0.3
	comp=N,0.3nm,0.7s,baz=315,slow=3.1,SNR=3.2						
MKAR	Makanchi Array	156.37	49	PKPab	PKPab	16 48 23.4	-0.3

IDC 03 16:28:12.7±0.8, 33°.87S×71°.47W, h0km, mb3.9/6, mb1 4.1/7, mb1mx4.0/32, mbtmp4.0/7, ML3.8/1, Error ellipse: s-maj=36.5km s-min=23.2km az=85.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	17.76	11	P	P	16 32 22.9	-0.1
	0.1nm,0.3s,baz=202,slow=5.4,SNR=3.2						
SIV	San Ignacio	20.12	30	P	P	16 32 47.8	-0.5
	2.5nm,0.6s,baz=206,slow=8.8,SNR=3.6						
QSPA	South Pole Qui	56.37	180	P	P	16 37 55.6	+0.1
	3.9nm,0.8s,baz=284,slow=1.2,SNR=9.5						
TXAR	Lajitas Array	69.85	330	P	P	16 39 25.5	+0.2
	0.6nm,0.6s,baz=150,slow=8.3,SNR=6.9						
BOSA	Boshof	79.71	117	P	P	16 40 23.5	+0.7
	1.9nm,0.7s,baz=242,slow=2.0,SNR=3.3						
TORD	Torodi Ar. Bea	83.72	70	P	P	16 40 43.7	-0.1
	0.7nm,0.8s,baz=258,slow=4.9,SNR=0.3						
PDAR	Pinedale Array	83.86	333	P	P	16 40 44.8	+0.5
	0.3nm,0.6s,baz=146,slow=8.3,SNR=2.5						
WRA	Warramunga Arr	121.11	209	PKP	PKPdf	16 47 06.8	-1.2
	0.2nm,0.6s,baz=151,slow=1.6,SNR=5.7						
ZALV	Zalesovo Beam	153.86	33	PKPbc	PKPbc	16 48 12.9	-0.4
	1.2nm,0.5s,baz=298,slow=3.2,SNR=5.9						
MKAR	Makanchi Array	156.32	49	PKPab	PKPab	16 48 36.5	-0.8
	0.2nm,0.4s,baz=288,slow=2.7,SNR=4.3						

IDC 03 16:28:59.0±3.0, 16°.53S×178°.41W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/40, mbtmp3.5/4, Error ellipse: s-maj=172.3km s-min=28.2km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.90	258	P	P	16 37 15.6	-0.3
	0.2nm,0.6s,baz=95,slow=7.7,SNR=7.3						
ASAR	Alice Springs	45.18	253	P	P	16 37 18.2	+0.1
	0.3nm,0.5s,baz=90,slow=8.1,SNR=8.6						
ILAR	Eielson Array	84.55	13	P	P	16 41 33.1	-0.6
	0.2nm,0.4s,baz=219,slow=5.4,SNR=6.3						
PDAR	Pinedale Array	86.35	43	P	P	16 41 44.0	+0.5
	0.3nm,0.6s,baz=243,slow=6.8,SNR=2.8						

*IDC **03** 16:43:49.2±0.8, 34°.23S×72°.01W, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.1/34, mbtmp4.2/11, ML3.9/1, MS4.1/3, Ms1 4.1/3, ms1mx3.5/18, Error ellipse: s-maj=28.8km s-min=18.8km az=86.0*

*ISCJB **03** 16:43:51.4±1.6, 34°.28S±0°.06×72°.23W±0°.08, h24km±11km, mb4.2/10, MS4.1/3, Error ellipse: s-maj=13.2km s-min=7.5km az=38.7*

*GUC **03** 16:43:52.2±0.5, 34°.21S×72°.21W, h36km±22km, ML4.7*

*NEIC **03** 16:43:55.0±1.7, 34°.27S×72°.13W, h42km±14km, mb4.4/2, Error ellipse: s-maj=20.7km s-min=10.0km az=97.0*

ISC 03 16:43:52.1±1.7, 34°.20S±0°.07×72°.20W±0°.08, h20km±8km, n34, σ1§07/37, mb4.3/10, MS4.1/3, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.69	70	‖iP	Pg	16 44 05.6	-0.2
IHA	Instituto Hidr	1.26	22	‖iP	Pn	16 44 14.3	-0.3
IHA				iS1	Sn	16 44 30.9	0.0
CACH	El Canelo	1.33	87	‖iP	Pn	16 44 16.1	+0.4
RCDM	Rinconada Maip	1.35	59	‖iP	Pn	16 44 15.6	-0.4
RCDM				iS	Sb	16 44 33.7	-0.1
RCDM				AML	AML	16 44 41.5	
	comp=E,11μm,0.6s						
ANTU	Antumapu	1.44	65	‖iP	Pn	16 44 17.3	+0.1
ANTU				iS	Sb	16 44 36.7	+0.4
STL	Santa Lucia	1.50	60	eP9	Pn	16 44 17.8	-0.2
STL				iS	Sb	16 44 37.6	-0.4
PEL	Peldehue	1.64	51	‖iP	Pb	16 44 21.0	-0.8
PEL				iS	Sb	16 44 42.3	+0.3
PEL				AML	AML	16 44 50.8	
	comp=E,27μm,0.5s						
CFAA	Coronel Fontan	4.21	53	Pn	Pn	16 44 57.6	+2.3
	comp=E,0.6nm,0.3s,baz=249,slow=10.0,SNR=9.6						
CFAA				Lg	Lg	16 45 57.8	
	comp=E,4.7nm,0.3s,baz=35,slow=14,SNR=9.6						
CFAA				LR	LR	16 46 53.9	
	comp=E,81nm,18.3s,baz=278,slow=45						
PLCA	Paso Flores	6.66	169	Pn	Pn	16 45 30.6	+1.8
	comp=E,1.8nm,0.3s,baz=343,slow=11,SNR=5.7						
PLCA				Lg	Lg	16 47 09.5	
	baz=252,slow=20,SNR=1.2						
PLCA	Paso Flores	6.66	169	eP	Pn	16 45 27.7	-1.2
	comp=E,25nm,0.6s						
PLCA				Lg	Lg	16 47 09.5	
TRQA	Tornquist	9.12	118	P	Pn	16 46 04.4	+1.8
	comp=E,36nm,1.2s						
CPUP	Villa Florida	15.04	63	Pn	Pn	16 47 25.4	+1.9
	comp=E,0.4nm,0.3s,baz=211,slow=9.0,SNR=5.9						
CPUP	Villa Florida	15.04	63	eP	Pn	16 47 23.6	+0.1
	comp=E,0.5nm,0.8s						
LPAZ	La Paz	18.20	13	P	P	16 48 05.6	+1.0
	comp=E,0.2nm,0.3s,baz=180,slow=4.7,SNR=9.0						
SIV	San Ignacio	20.71	32	P	P	16 48 30.8	-0.6
	comp=E,4.5nm,0.8s,baz=228,slow=12,SNR=8.1						
SAML	Samuel	26.46	20	eP	P	16 49 30.0	+2.1
	comp=E,7.8nm,1.0s						
BDFB	Brasilia	28.55	56	P	P	16 49 45.1	-1.8
	comp=E,2.4nm,0.5s,baz=211,slow=12,SNR=3.6						
PCRV	Puerto La Cruz	44.71	11	LR	LR	17 14 19.2	
	comp=E,135nm,18.6s,baz=174,slow=41						
SNAA	Sanae	51.45	158	P	P	16 52 55.8	+0.1
	comp=E,2.7nm,0.9s,baz=318,slow=12,SNR=3.1						
SNAA	Sanae	51.45	158	P	P	16 52 56.2	+0.5
QSPA	South Pole Qui	56.04	180	P	P	16 53 29.6	+0.2
	comp=E,5.2nm,0.9s,baz=159,slow=3.0,SNR=12						
QSPA	South Pole Qui	56.04	180	eP	P	16 53 28.8	-0.6
	comp=E,6.7nm,1.0s						
TXAR	Lajitas Array	69.84	331	P	P	16 55 02.3	+0.8
	comp=E,0.2nm,0.5s,baz=163,slow=9.4,SNR=3.0						
TSUM	Tsumeb	79.29	106	P	P	16 55 56.7	-0.1
	comp=E,2.7nm,1.0s,baz=287,slow=4.5,SNR=5.3						
BOSA	Boshof	80.09	118	P	P	16 56 00.7	-0.3
	comp=E,5.8nm,0.9s,baz=244,slow=7.0,SNR=5.9						
LBTB	Lobatse	82.34	115	P	P	16 56 13.1	+0.1
	comp=E,3.3nm,0.6s,baz=267,slow=5.3,SNR=7.6						
PDAR	Pinedale Array	83.88	333	P	P	16 56 22.6	+2.1
	comp=E,0.2nm,0.4s,baz=133,slow=9.1,SNR=2.4						
TORD	Torodi Ar. Bea	84.40	70	P	P	16 56 23.0	-0.5
	comp=E,2.8nm,0.8s,baz=259,slow=4.0,SNR=12						
MSKU	Masuku	85.61	89	LR	LR	17 30 59.6	
	comp=E,132nm,19.8s,baz=164,slow=33						
MDT	Midelt	92.04	51	LR	LR	17 40 24.9	
	comp=E,73nm,19.8s,slow=37						
WRA	Warramunga Arr	120.53	209	PKP	PKPdf	17 02 41.2	-1.7
	comp=E,0.5nm,0.8s,baz=152,slow=1.5,SNR=5.3						
AAK	Ala-Archa	152.71	62	ePKPbc	PKPbc	17 03 46.6	-1.0
ZALV	Zalesovo Beam	154.46	32	PKPbc	PKPbc	17 03 50.0	-0.7
	comp=E,1.6nm,0.6s,baz=306,slow=3.5,SNR=8.9						
ZALV				PKPab	PKPab	17 04 05.2	+0.1
	comp=E,2.1nm,0.7s,baz=294,slow=4.7,SNR=6.7						
MKAR	Makanchi Array	156.99	49	PKPab	PKPab	17 04 15.6	-0.7
	comp=E,0.5nm,0.7s,baz=278,slow=4.4,SNR=5.7						

*IDC **03** 16:49:36.2±1.2, 34°.76S×72°.80W, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.6/40, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=41.2km s-min=24.7km az=106.0*

*ISCJB **03** 16:49:39.3±1.2, 34°.8S±0°.2×72°.5W±0°.3, h33km, mb3.5/4, Error ellipse: s-maj=34.0km s-min=18.8km az=24.9*

ISC 03 16:49:41.7±1.2, 34°.7S±0°.2×72°.6W±0°.2, h35km, n7, σ1§35/7, mb3.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.79	51	Pn	Pn	16 50 50.2	-1.1
	0.3nm,0.3s,baz=223,slow=12,SNR=6.6						
LPAZ	La Paz	18.78	13	P	Pn	16 53 59.8	+0.5
	0.1nm,0.3s,baz=183,slow=11,SNR=4.1						
SIV	San Ignacio	21.32	32	P	P	16 54 25.3	-0.3
	2.0nm,0.8s,baz=222,slow=11,SNR=3.3						
QSPA	South Pole Qui	55.52	180	P	P	16 59 12.2	-0.9
	0.7nm,0.7s,baz=158,slow=7.6,SNR=4.8						
TXAR	Lajitas Array	70.14	331	P	P	17 00 50.0	-0.6
	0.1nm,0.6s,baz=146,slow=8.3,SNR=1.8						
TORD	Torodi Ar. Bea	84.88	70	P	P	17 02 14.9	+1.8
	0.3nm,0.5s,baz=231,slow=5.8,SNR=2.2						
MKAR	Makanchi Array	157.57	50	PKPab	PKPab	17 10 07.2	+1.2
	0.1nm,0.4s,baz=307,slow=3.0,SNR=5.6						

*IDC **03** 16:51:04.5±0.9, 35°.24S×73°.15W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/38, mbtmp4.0/7, ML4.1/1, Error ellipse: s-maj=40.5km s-min=22.7km az=84.0*

*ISCJB **03** 16:51:08.1±0.9, 35°.3S±0°.1×73°.2W±0°.3, h33km, mb3.9/6, Error ellipse: s-maj=35.6km s-min=15.2km az=172.8*

ISC 03 16:51:10.0±0.9, 35°.2S±0°.1×73°.1W±0°.3, h35km, n9, σ0§49/9, mb4.0/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.85	160	Pn	Pn	16 52 34.7	+0.5
	1.2nm,0.3s,baz=341,slow=14,SNR=2.6						
PLCA				Lg	Lg	16 54 01.9	
	2.5nm,0.3s,baz=269,slow=21,SNR=3.7						
SIV	San Ignacio	21.99	32	P	P	16 56 01.4	+0.2
	2.7nm,0.8s,baz=222,slow=9.7,SNR=3.5						
QSPA	South Pole Qui	55.00	180	P	P	17 00 37.4	-0.3
	1.7nm,1.0s,baz=156,slow=0.8,SNR=3.3						
TXAR	Lajitas Array	70.39	332	P	P	17 02 20.6	+0.2
	0.2nm,0.5s,baz=146,slow=8.3,SNR=3.5						
BOSA	Boshof	80.28	118	P	P	17 03 17.6	-0.1
	1.7nm,0.8s,baz=260,slow=6.1,SNR=3.1						
TORD	Torodi Ar. Bea	85.46	71	P	P	17 03 44.1	-0.3
	0.7nm,0.8s,baz=240,slow=4.1,SNR=3.2						
ULM	Lac du Bonnet	87.47	346	P	P	17 03 53.9	+0.5
	2.2nm,0.8s,baz=168,slow=7.5,SNR=4.4						
WRA	Warramunga Arr	119.25	210	PKP	PKPdf	17 09 55.3	-0.7
	0.3nm,0.7s,baz=168,slow=1.5,SNR=3.6						
ZALV	Zalesovo Beam	155.75	33	PKPbc	PKPdf	17 11 09.3	+10
	0.8nm,0.6s,baz=262,slow=4.5,SNR=3.9						
ZALV				PKPab	PKPab	17 11 25.7	-0.4
	0.4nm,0.4s,baz=316,slow=6.2,SNR=4.0						

CASC 03 16:53:50.7±1.9, 13°.28N×89°.98W, h33km±4km, MD3.6, 3C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.66	32	‖eP	Pn	16 54 03.9	-0.2
SNJE	San Jose	0.69	32	eP	Pn	16 54 04.3	-0.2
RTR	El Retiro	0.70	28	eP	Pn	16 54 04.6	0.0
BOQS	Boqueron	0.82	56	‖iP	Pn	16 54 06.1	-0.2
BOQS				eS	Sb	16 54 18.1	+0.2
RBDL	Robledal	0.88	19	eP	Pn	16 54 07.3	+0.3
RBDL				eS	Sb	16 54 19.5	0.0
LFRS	El Faro	0.96	69	eP	Pn	16 54 07.7	-0.3
IXG	Ixpaco	1.00	333	‖iP	Pn	16 54 08.4	-0.2
IXG				eS	Sn	16 54 22.0	+0.1
LBRS	Las Brisas	1.02	63	eP	Pn	16 54 08.9	0.0
SNVI	San Vicente	1.16	73	eP	Pn	16 54 11.6	+0.7
SNVI				eS	Sn	16 54 25.8	0.0
NBG	Las Nubes	1.35	345	eP	Pb	16 54 15.2	-0.7
MRL	Marmol	1.80	9	eP	Pb	16 54 21.6	-1.7
MRL				eS	Sb	16 54 44.4	-1.4

*IDC **03** 16:56:07.7±1.8, 35°.16S×74°.00W, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.6/39, mbtmp3.4/5, ML3.6/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/13, Error ellipse: s-maj=37.9km s-min=31.0km az=102.0*

*ISCJB **03** 16:56:10.4±1.2, 35°.2S±0°.1×73°.9W±0°.2, h33km, mb3.4/2, Error ellipse: s-maj=19.4km s-min=12.9km az=30.3*

ISC 03 16:56:12.4±1.3, 35°.2S±0°.1×74°.0W±0°.2, h35km, n7, σ0§91/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.98	55	Pn	Pn	16 57 37.4	-1.1
	0.3nm,0.3s,baz=228,slow=12,SNR=8.4						
CFAA				Sn	Sn	16 58 47.1	+1.3
	0.1nm,0.3s,baz=131,slow=19,SNR=4.5						
PLCA	Paso Flores	6.17	155	Pn	Pn	16 57 41.2	+0.1
	0.9nm,0.3s,baz=326,slow=14,SNR=10						
CPUP	Villa Florida	16.80	63	LR	LR	17 07 10.9	
	comp=Z,70nm,20.6s,baz=225,slow=40						
LPAZ	La Paz	19.53	17	P	Pn	17 00 38.8	-0.1
	0.1nm,0.3s,baz=211,slow=9.9,SNR=4.2						
SIV	San Ignacio	22.33	34	P	P	17 01 06.9	-0.3
	0.7nm,0.4s,baz=228,slow=12,SNR=4.9						
TXAR	Lajitas Array	70.01	333	P	P	17 07 20.9	+0.5
	0.4nm,0.8s,baz=146,slow=7.3,SNR=4.0						
MKAR	Makanchi Array	158.75	50	PKPab	PKPab	17 16 42.0	+0.2
	0.2nm,0.6s,baz=297,slow=4.9,SNR=3.4						

*DJA **03** 17:02:26.6±0.6, 4°.S±5°.×12°.3E±°, h10km, M3.8/1, mb3.8/1, MLv3.7/1*

*IDC **03** 17:02:27.1±1.6, 4°.23S×123°.16E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/25, mbtmp3.3/3, ML3.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/11, Error ellipse: s-maj=229.0km s-min=25.3km az=60.0*

*ISCJB **03** 17:02:28.8±0.7, 4°.27S±0°.06×123°.12E±0°.06, h33km, mb3.3/2, MS3.4/1, Error ellipse: s-maj=9.2km s-min=7.6km az=136.7*

ISC 03 17:02:30.9±1.0, 4°.31S±0°.07×123°.11E±0°.07, h35km, n11, σ1§48/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNSI	Bone	3.00	268	P	Pn	17 03 14.7	-1.2
BKSI	Bulukumba	3.14	251	P	Pn	17 03 16.2	-1.8
LUWI	Luwuk	3.26	354	P	Pn	17 03 18.4	-1.2
LUWI				S	Sn	17 03 56.9	-0.3
SPSI	Sidrap Palu	3.35	276	P	Pn	17 03 20.6	-0.2
SANI	Sanana	3.64	52	P	Pn	17 03 24.6	-0.2
SANI				S	Sn	17 04 04.3	-2.3
APSI	Ampana	3.67	337	P	Pn	17 03 21.4	-3.9
MPSI	Mapaga	5.62	325	P	Pn	17 03 52.3	+0.3
WRA	Warramunga Arr	19.01	146	P	Pn	17 06 50.3	-0.4
	0.1nm,0.3s,baz=318,slow=13,SNR=6.7						
ASAR	Alice Springs	21.89	153	P	P	17 07 23.1	+2.1
	0.6nm,0.7s,baz=328,slow=10.0,SNR=9.8						
SONM	Songino Array	53.96	346	LR	LR	17 35 57.9	
	comp=Z,31nm,20.2s,baz=225,slow=37						
MKAR	Makanchi Array	62.34	330	P	P	17 12 51.0	+1.1
	0.3nm,0.8s,baz=134,slow=6.5,SNR=3.2						

IDC 03 17:23:27.8±6.5, 1°.70S×150°.50E, h0km, mb3.2/2, mb1 3.4/2, mb1mx3.2/25, mbtmp3.2/2, Error ellipse: s-maj=304.2km s-min=47.9km az=109.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.05	220	P	P	17 28 44.2	-0.7
	0.2nm,0.4s,baz=44,slow=9.7,SNR=11						
H11S3	WAKE ISLAND Hy	25.62	38	T	T	17 56 03.6	
	baz=221,slow=76,SNR=620						
H11S2	WAKE ISLAND Hy	25.63	38	T	T	17 56 02.1	
	baz=221,slow=76,SNR=305						
H11S1	WAKE ISLAND Hy	25.64	38	T	T	17 56 02.3	
	baz=221,slow=76,SNR=219						
H11N1	WAKE ISLAND Hy	26.68	36	T	T	17 57 18.0	
	baz=220,slow=76,SNR=45						
H11N3	WAKE ISLAND Hy	26.69	36	T	T	17 57 23.2	
	baz=220,slow=76,SNR=133						
H11N2	WAKE ISLAND Hy	26.70	36	T	T	17 57 22.0	
	baz=220,slow=76,SNR=101						
ASAR	Alice Springs	27.12	215	P	P	17 29 13.5	+0.7
	0.3nm,0.6s,baz=53,slow=8.0,SNR=10						
TORD	Torodi Ar. Bea	147.09	292	PKPbc	PKPbc	17 43 13.1	-0.9
	0.3nm,0.7s,baz=67,slow=1.1,SNR=3.0						

IDC 03 17:28:46.7±1.9, 37°.74S×72°.97W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/22, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=81.3km s-min=20.2km az=60.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.53	149	Pn	Pn	17 29 44.3	+1.3
	1.1nm,0.3s,baz=308,slow=12,SNR=7.6						
PLCA				Lg	Lg	17 30 37.9	
	4.8nm,0.3s,baz=196,slow=22,SNR=5.6						
TXAR	Lajitas Array	72.65	332	P	P	17 40 16.0	-0.3
	0.2nm,0.7s,baz=158,slow=6.7,SNR=2.9						
TORD	Torodi Ar. Bea	86.19	70	P	P	17 41 28.9	-1.3
	0.2nm,0.5s,baz=212,slow=5.1,SNR=2.1						
MKAR	Makanchi Array	159.65	56	PKPab	PKPab	17 49 27.5	+1.9
	0.3nm,0.7s,baz=286,slow=3.0,SNR=4.0						

*IDC **03** 17:31:39.7±2.3, 10°.77S×161°.00E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/29, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=50.2km s-min=21.8km az=91.0*

*NEIC **03** 17:31:44.3±1.7, 10°.78S×161°.11E, h35km, mb4.1/2, Error ellipse: s-maj=33.9km s-min=14.7km az=107.0*

ISC 03 17:31:44.2±1.9, 10°.8S±0°.1×161°.1E±0°.2, h35km, n14, σ1§28/15, mb3.7/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.80	320	Pn	Pn	17 32 11.8	-0.9
	34nm,0.3s,baz=164,slow=8.5,SNR=29						
HNR				Sn	Sn	17 32 34.0	-0.2
	103nm,0.3s,baz=349,slow=23,SNR=15						
HNR				LR	LR	17 33 05.1	
	comp=Z,206nm,20.0s,baz=58,slow=51						
HNR	Honiara	1.80	320	eP	Pn	17 32 13.0	+0.3
HNR				eS	Sn	17 32 35.0	+0.7
CTA	Charters Tower	17.02	235	Pn	P	17 35 39.5	-1.7
	0.3nm,0.3s,baz=67,slow=16,SNR=4.0						
CTAO	Charters Tower	17.02	235	P	P	17 35 39.6	-1.7
COEN	Coen	17.80	258	eP	P	17 35 52.1	+2.3
WRAB	Tennant Creek	27.32	247	eP	P	17 37 25.6	-0.3
	2.3nm,0.6s						
WB2	Warramunga Arr	27.32	247	eP	P	17 37 25.5	-0.5
WRA	Warramunga Arr	27.33	247	P	P	17 37 25.3	-0.7
	1.4nm,0.8s,baz=75,slow=9.8,SNR=12						
STKA	Stephens Creek	27.65	218	P	P	17 37 30.6	+1.8
	1.4nm,0.7s,baz=45,slow=13,SNR=5.1						
AS31	Alice Springs	28.89	240	P	P	17 37 40.7	+0.7
ASAR	Alice Springs	28.89	240	P	P	17 37 38.8	-1.2
	0.8nm,0.8s,baz=68,slow=9.5,SNR=10						
ULN	Ulaanbaatar	75.50	326	eP	P	17 43 25.8	+0.7
	2.2nm,0.8s						
SONM	Songino Array	75.85	325	P	P	17 43 27.7	+0.6
	0.8nm,0.7s,baz=137,slow=5.7,SNR=7.0						
MKAR	Makanchi Array	90.27	318	P	P	17 44 40.9	-0.6
	0.2nm,0.4s,baz=94,slow=4.3,SNR=6.5						

*IDC **03** 17:44:21.9±0.4, 36°.62S×73°.38W, h0km, mb5.2/20, mb1 5.2/24, mb1mx5.2/31, mbtmp5.1/24, ML4.9/4, MS5.8/25, Ms1 5.8/25, ms1mx5.6/38, Error ellipse: s-maj=16.6km s-min=11.6km az=89.0*

*ISCJB **03** 17:44:25.0±0.1, 36°.57S±0°.03×73°.23W±0°.04, h27km, mb5.5/156, MS5.9/177, Error ellipse: s-maj=4.2km s-min=3.8km az=156.7*

*NEIC **03** 17:44:25.0±0.0, 36°.45S×73°.07W, h19km Best double couple: NP1:φs184.00000°, δ80.00000°, λ82.00000°. NP2:φs44.00000°, δ12.00000°, λ129.00000°. Principal axes: T 1.4800, Plg53.0000°, Azm84.0000°; N -0.0100, Plg7.0000°, Azm185.0000°; P -1.4800, Plg35.0000°, Azm280.0000°;*

*NEIC **03** 17:44:25.0±0.1, 36°.61S×73°.36W, h20km, mb5.6/134, ME5.9, MS5.9/122, MW6.1, MW6.0, MW6.1, ML6.1(GUC) Error ellipse: s-maj=5.2km s-min=4.0km az=75.0 Best double couple: NP1:φs179.00000°, δ76.00000°, λ97.00000°. NP2:φs334.00000°, δ16.00000°, λ66.00000°. Principal axes: T 1.1100, Plg58.0000°, Azm97.0000°; N -0.0500, Plg6.0000°, Azm357.0000°; P -1.0600, Plg30.0000°, Azm263.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [VI] at Concepcion and [III] at Chillan, Parral, Santiago and Talca. Also felt at Cauquenes, Curico, Puerto Montt, San Carlos, Talagante, Temuco, Tome, Valparaiso and Villarrica. Felt at San Carlos de Bariloche, Argentina.

*GCMT **03** 17:44:25.0±0.1, 36°.70S×73°.69W, h16km, MW6.1/123, Moment Tensor Solution. s119,c239; s123,c383; Duration: 2s7 Moment tensor: Scale 10^18Nm; Mrr0.70±.01; Mθθ0.04±.01; Mθφ-0.73±.01; Mrθ-0.04±.02; Mθφ-0.11±.01; Mφr-1.64±.05; Best double couple: M0 1.79400×10^18 NP1:φs182.00000°, δ78.00000°, λ87.00000°. NP2:φs15.00000°, δ12.00000°, λ103.00000°. Principal axes: T 1.7710, Plg57.0000°, Azm88.0000°; N 0.0460, Plg3.0000°, Azm182.0000°; P -1.8170, Plg33.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **03** 17:44:26.4±1.1, 36°.47S×73°.34W, h33km, mb5.7/50, MS6.0/36 Error ellipse: s-maj=12.8km s-min=6.8km az=94.1*

*BJI **03** 17:44:26.3, 36°.50S×73°.10

OSCH **Osorno** 4.01 178 P Pn 17 45 23.4 -2.2
PEL **Peldehue** 4.03 33⇓iP Pn 17 45 26.7 +0.6
PEL eS Sn 17 46 11.3 -1.1
PEL **Peldehue** 4.03 33⇓iP Pn 17 45 26.7 +0.6
PEL eS Sn 17 46 11.3 -1.1
PEL **Peldehue** 4.03 33⇓iP Pn 17 45 26.7 +0.6
PEL eS Sn 17 46 11.3 -1.1
FCH **Farellones** 4.06 38⇑iP Pn 17 45 29.0 +2.2
FCH **Farellones** 4.06 38 P Pn 17 45 29.0 +2.2
PLCA **Paso Flores** 4.68 154 eP Pn 17 45 35.7 +0.6
PLCA **Paso Flores** 4.68 154 Pn Pn 17 45 35.6 +0.5
comp=E,27nm,0.3s,baz=328,slow=12,SNR=53
PLCA Lg Lg 17 46 47.7
comp=E,63nm,0.3s,baz=258,slow=14,SNR=3.6
CFAA **Coronel Fontan** 6.49 42 Pn Pn 17 46 00.7 +0.9
comp=E,14nm,0.3s,baz=212,slow=12,SNR=117
CFAA Sn Sn 17 47 17.0 +4.1
comp=E,5.4nm,0.3s,baz=168,slow=14,SNR=4.7
CFAA Lg Lg 17 47 48.9
comp=E,10nm,0.3s,baz=339,slow=22,SNR=5.1
CFAA LR LR 17 48 55.3
comp=E,21µm,18.5s,baz=226,slow=42
TRQA **Tornquist** 9.14 103 eP Pn 17 46 38.4 +2.3
comp=E,264nm,0.8s
LVC **Limon Verde** 14.41 16 eP Pn 17 47 43.8 -4.8
comp=E,195nm,1.0s
CPUP **Villa Florida** 17.00 58 eP Pn 17 48 17.5 -4.4
CPUP pmax pmax
comp=Z,3.0nm,0.6s
CPUP **Villa Florida** 17.00 58 P Pn 17 48 20.5 -1.4
comp=Z,1.4nm,0.3s,baz=218,slow=11,SNR=13
CPUP LR LR 17 56 10.4
comp=Z,53µm,20.6s,baz=220,slow=42
CPUP **Villa Florida** 17.00 58 eP Pn 17 48 17.5 -4.4
comp=Z,2.8nm,0.6s
USHA **Ushuaia** 18.57 171 P P 17 48 40.6 -0.1
comp=Z,0.6nm,0.3s,baz=323,slow=7.5,SNR=8.6
USHA LR LR 17 55 36.7
comp=Z,26µm,20.5s,baz=328,slow=36
EFI **East Falkland** 18.59 149 P P 17 48 41.0 +0.1
comp=Z,745nm,0.8s,SNR=20
EFI **East Falkland** 18.59 149 eP P 17 48 39.3 -1.6
EFI **East Falkland** 18.59 149 eP P 17 48 40.2 -0.7
comp=Z,106nm,0.8s
LPAZ **La Paz** 20.71 14 eP Pn 17 49 06.8 -0.8
LPAZ **La Paz** 20.71 14 P Pn 17 49 07.0 -0.7
comp=Z,34nm,0.6s,baz=176,slow=9.9,SNR=70
SIV **San Ignacio** 23.19 31 P P 17 49 31.0 +0.2
comp=Z,83nm,0.9s,baz=231,slow=12,SNR=77
SIV LR LR 18 00 26.5
comp=Z,74µm,19.1s,baz=226,slow=41
NNA **Nana** 24.68 352 eP P 17 49 42.3 -2.6
NNA **Nana** 24.68 352 P P 17 49 45.5 +0.6
comp=Z,42nm,0.9s,baz=179,slow=11,SNR=10
NNA **Nana** 24.68 352 eP P 17 49 43.2 -1.7
comp=Z,93nm,0.9s
NNA LR LR
comp=Z,18µm,20.0s
PMSA **Palmer Station** 28.78 172 P P 17 50 22.9 +1.6
SAML **Samuel** 28.99 21 eP P 17 50 23.7 +0.2
comp=Z,0.8nm,1.0s
ATAH **Atahualpa** 29.66 350 P P 17 50 31.9 +1.9
comp=Z,20nm,1.1s,baz=122,slow=3.2,SNR=7.8
ATAH LR LR 18 00 02.7
comp=Z,11µm,20.9s,baz=186,slow=32
BDFB **Brasilia** 30.65 54 P P 17 50 38.3 -0.2
comp=Z,45nm,0.9s,baz=222,slow=8.2,SNR=17
BDFB LR LR 18 04 10.6
comp=Z,53µm,20.7s,baz=222,slow=39
HOPE **Hope Point** 30.86 137 PFAKE 17 50 50.0 +10
HOPE LR LR
comp=Z,3µm,19.0s
OTAV **Otavalo** 36.93 351 eP P 17 51 35.7 +2.4
comp=Z,182nm,1.6s
OTAV LR LR
comp=Z,8µm,20.0s
ROSC **El Rosal** 41.22 358 P P 17 52 11.9 +2.7
comp=Z,36nm,0.9s,baz=239,slow=4.0,SNR=15
SDV **Santo Domingo** 45.28 4 eP P 17 52 41.1 -0.6
comp=Z,96nm,0.8s
RCBR **Riachuelo** 45.88 57 P P 17 52 47.4 +1.1
comp=Z,20nm,0.6s,baz=212,slow=9.1,SNR=18
RCBR **Riachuelo** 45.88 57 eP P 17 52 47.3 +1.0
comp=Z,98nm,1.4s
BCIP **Isla Barro Col** 45.90 351 eP P 17 52 48.2 +1.8
comp=Z,182nm,1.5s
BCIP LR LR
comp=Z,8µm,20.0s
PCRV **Puerto La Cruz** 47.20 12 P P 17 52 57.0 +0.3
comp=Z,66nm,0.9s,baz=203,slow=5.1,SNR=14
VNA3 **Neumayer Olymp** 47.39 157 P P 17 52 58.7 +1.1
JTS **JuntasAbangare** 47.88 344 eP P 17 53 02.9 +1.0
JTS pmax pmax
comp=Z,259nm,1.9s
JTS **JuntasAbangare** 47.88 344 P P 17 53 03.2 +1.3
comp=Z,6.7nm,0.9s,baz=99,slow=19,SNR=4.9
JTS LR LR 18 08 49.7
comp=Z,5µm,18.6s,baz=140,slow=31
JTS **JuntasAbangare** 47.88 344 eP P 17 53 02.9 +1.0
comp=Z,259nm,1.9s
VNA2 **Neumayer--Watz** 48.07 156 P P 17 53 03.3 +0.5
SNAA **Sanae** 49.62 157 P P 17 53 15.5 +0.8
SNAA **Sanae** 49.62 157 eP P 17 53 14.5 -0.3
SNAA **Sanae** 49.62 157⇓iP P 17 53 15.4 +0.7
SNAA pmax pmax
comp=Z,185nm,1.2s
SNAA **Sanae** 49.62 157 P P 17 53 15.0 +0.3
comp=Z,34nm,1.0s,baz=280,slow=5.5,SNR=20
SNAA **Sanae** 49.62 157 eP P 17 53 14.4 -0.3
comp=Z,200nm,1.3s
GRGR **Grenville** 49.66 15 eP P 17 53 15.6 0.0
comp=Z,560nm,0.8s
GRGR LR LR
comp=Z,18µm,19.0s
BBGH **Gun Hill** 51.11 17 PFAKE 17 53 40.0 +14
BBGH LR LR
comp=Z,13µm,22.0s
FDF **Fort de France** 52.29 15 eP P 17 53 34.2 -1.2
FDF pmax pmax
comp=Z,167nm,1.0s
FDF MLR MLR
comp=Z,12µm,21.0s
FDF **Fort de France** 52.29 15 eP P 17 53 34.2 -1.2
comp=Z,167nm,1.0s
FDF LR LR
comp=Z,12µm,21.0s
QSPA **South Pole Qui** 53.68 180 P P 17 53 44.9 -0.3
comp=Z,74nm,0.9s,baz=144,slow=2.2,SNR=81
RKT **Rikitea** 54.33 266 eS S 18 01 27.0 +0.3
comp=Z,6µm,26.2s
RKT eLR LR 18 09 39.7
comp=Z,16µm,29.2s,baz=124
RKT **Rikitea** 54.33 266 eT T 18 51 53.4
comp=Z,4.5nm,0.2s
NVL **N'lazarevskaya** 54.39 156⇓iP P 17 53 49.4 -0.7
NVL e 17 55 50.9
NVL eS S 18 01 23.4 -2.9
NVL e 18 03 40.2
NVL eSS SS 18 05 16.7 +8.6
NVL pmax pmax
comp=Z,72nm,1.0s
CRPR **Cabo Rojo, PR** 54.59 7 eP P 17 53 51.1 -1.0
comp=Z,81nm,0.8s
MTDJ **Mount Denham** 54.64 355 PFAKE 17 54 10.0 +17
MTDJ LR LR
comp=Z,5µm,19.0s
OBIP **Obispado Ponce** 54.68 8 eP P 17 53 51.1 -1.6
comp=Z,144nm,0.9s
CELP **Cerrillos** 54.71 8 eP P 17 53 51.8 -1.2
LSP **Las Mesas** 54.76 7 eP P 17 53 52.5 -0.9
LRS **Lares** 54.90 7 eP P 17 53 52.6 -1.8
ANWB **Willy Bob** 55.02 13 eP P 17 53 53.4 -1.8
comp=Z,86nm,0.9s
ANWB LR LR
comp=Z,12µm,20.0s
SDDR **Presa de Saban** 55.28 2 eP P 17 53 57.4 +0.2
comp=Z,93nm,1.4s
SMN1 **Samana, DR** 55.58 5 eP P 17 53 58.7 -0.6
GTBY **Guantanamo Bay** 56.21 358 PFAKE 17 54 20.0 +16
GTBY LR LR
comp=Z,4µm,19.0s
GRTK **Grand Turk** 57.80 2 PFAKE 17 54 30.0 +15
GRTK LR LR
comp=Z,6µm,20.0s
TEIG **Tepich** 58.23 343 LR LR 18 15 29.4
comp=Z,4µm,20.3s,baz=152,slow=32

ASCN **Ascension** 60.47 77 eP P 17 54 35.1 +1.3
comp=Z,208nm,0.8s
ASCN LR LR
comp=Z,14µm,19.0s
VNDA **Vanda** 61.39 192 P P 17 54 39.8 +0.7
comp=Z,6.2nm,1.1s,baz=90,slow=6.1,SNR=3.4
VNDA LR LR 18 17 56.5
comp=Z,5µm,19.0s,baz=126,slow=33
SHEL **Horse Pasture** 62.75 90 eP P 17 54 51.2 +2.0
SHEL pmax pmax
comp=Z,184nm,0.9s
SHEL MLR MLR
comp=Z,16µm,21.0s
SHEL **Horse Pasture** 62.75 90 eP P 17 54 51.2 +2.0
comp=Z,184nm,0.9s
SHEL LR LR
comp=Z,16µm,21.0s
SYO **Syowa Base** 63.87 158⇓eP P 17 54 53.9 -1.8
SYO **Syowa Base** 63.87 158⇑/PcP PcP 17 55 29.6 -1.7
TBI **Tubuai** 65.75 258 eT T 19 06 12.2
comp=Z,7.9nm,0.3s
035Z **Hargill** 66.90 336 ⇑P P 17 55 16.9 +1.1
baz=67
035Z ⇓S S 18 04 10.3 +3.3
baz=67
035A **Encino** 67.35 336 ⇑P P 17 55 19.8 +1.1
baz=68
MEH **Mehetia** 67.52 264 eT T 19 08 23.6
comp=Z,99nm,0.2s
034A **Hebbronville** 67.66 336 ⇓P P 17 55 22.1 +1.5
baz=68,SNR=11
KVTX **Kingsville** 67.85 336 PFAKE 17 55 30.0 +8.2
KVTX LR LR
comp=Z,3µm,20.0s
934A **Benavides** 68.10 336 ⇑P P 17 55 25.1 +1.7
baz=68
TIGA **Tifton** 68.33 351 eP P 17 55 24.3 -0.5
comp=Z,54nm,0.8s
933A **Laredo** 68.36 335 ⇓P P 17 55 26.4 +1.3
baz=69,SNR=6.4
BRAL **Brewton** 68.45 347 PFAKE 17 55 40.0 +14
BRAL LR LR
comp=Z,5µm,19.0s
835A **Beeville** 68.51 337 ⇑P P 17 55 27.8 +1.9
baz=69
834A **Tilden** 68.60 336 ⇓P P 17 55 27.9 +1.4
baz=69,SNR=7.4
TIAR **Tiarei** 68.72 264 eT T 19 09 53.3
comp=Z,16nm,0.2s
PPT2 **Papeete2** 68.89 263 eS S 18 04 29.7 -1.9
comp=Z,7µm,23.0s
PPT2 **Papeete2** 68.89 263 eLR LR 18 16 27.9
comp=Z,25µm,24.2s,baz=123
PPT **Papeete** 68.90 263 LR LR 18 17 49.1
comp=Z,15µm,19.5s,baz=106,slow=29
735A **Kenedy** 69.04 337 ⇓P P 17 55 30.7 +1.5
baz=69
BBSR **BB Station** 69.05 8 PFAKE 17 55 40.0 +11
BBSR LR LR
comp=Z,3µm,21.0s
833A **Chaparral WMA,** 69.06 335 ⇓P P 17 55 30.4 +1.0
baz=69,SNR=8.7
832A **Faith Ranch, C** 69.22 335 ⇓P P 17 55 31.2 +0.9
baz=70,SNR=13
734A **La Parita Cree** 69.27 336 ⇑P P 17 55 31.3 +0.6
baz=70
636A **Smothers Creek** 69.39 338 ⇓P P 17 55 32.7 +1.3
baz=70,SNR=10
733A **Divot King Ran** 69.39 336 ⇑P P 17 55 32.0 +0.6
baz=70
SACV **Santiago Islan** 69.44 52 eP P 17 55 31.0 -1.0
comp=Z,74nm,0.8s
SACV LR LR
comp=Z,5µm,22.0s
HKT **Hockley** 69.47 339 eP P 17 55 32.8 +1.0
HKT pmax pmax
comp=Z,150nm,1.8s
HKT **Hockley** 69.47 339 eP P 17 55 32.8 +1.0
comp=Z,150nm,1.8s
635A **Leesville** 69.52 337 ⇑P P 17 55 32.6 +0.4
baz=70
NHSC **New Hope** 69.61 354 PFAKE 17 55 40.0 +7.4
NHSC LR LR
comp=Z,7µm,20.0s
732A **Laxson Ranch,** 69.62 335 ⇓P P 17 55 33.6 +0.8
baz=70,SNR=11
634A **China Grove, S** 69.70 337 ⇓P P 17 55 33.7 +0.4
baz=70
LPIG **La Paz** 69.72 324 LR LR 18 19 50.3
comp=Z,12µm,18.8s,baz=134,slow=30
537A **Green Hill Far** 69.73 339 ⇑P P 17 55 34.8 +1.3
baz=70
536A **Bastrop** 69.95 338 ⇑P P 17 55 36.1 +1.3
baz=70
633A **Saathoff Ranch** 70.03 336 ⇑P P 17 55 36.1 +0.8
baz=70,SNR=5.3
535A **Dale** 70.06 338 ⇓P P 17 55 36.2 +0.7
baz=70
438A **Sam Houston St** 70.12 340 P P 17 55 37.5 +1.7
baz=70
GOGA **Godfrey** 70.26 351 eP P 17 55 35.8 -0.9
GOGA pmax pmax
comp=Z,81nm,1.4s
GOGA MLR MLR
comp=Z,4µm,22.0s
GOGA **Godfrey** 70.26 351 eP P 17 55 35.8 -0.9
comp=Z,81nm,1.4s
GOGA LR LR
comp=Z,4µm,22.0s
632A **Uvalde** 70.28 336 ⇓P P 17 55 37.5 +0.6
baz=71,SNR=11
340A **Bronson** 70.33 341 ⇑P P 17 55 38.1 +1.0
baz=71
534A **Blanco** 70.34 337 ⇑P P 17 55 37.9 +0.6
baz=71
LRAL **Lakeview Retre** 70.42 348 eP P 17 55 35.6 -2.0
comp=Z,47nm,1.1s
339A **Huntington** 70.42 341 ⇑P P 17 55 38.8 +1.1
baz=71,SNR=9.5
631A **Perdido Creek** 70.46 335 ⇑P P 17 55 38.5 +0.5
baz=71,SNR=9.8
436A **Wall Ranch, Ga** 70.52 339 ⇑P P 17 55 39.2 +0.9
baz=71
533A **Kerrville** 70.56 336 ⇓P P 17 55 39.5 +0.9
baz=71,SNR=11
338A **Crockett** 70.65 340 ⇓P P 17 55 39.5 +0.5
baz=71
435B **Jarrell** 70.76 338 ⇓P P 17 55 40.7 +0.9
baz=71
337A **Centerville** 70.77 340 ⇓P P 17 55 41.5 +1.7
baz=71,SNR=9.3
NATX **Nacogdoches** 70.85 341 eP P 17 55 39.4 -0.9
comp=Z,158nm,1.3s
NATX LR LR
comp=Z,2µm,20.0s
532A **Rocksprings** 70.89 336 ⇓P P 17 55 41.4 +0.7
baz=71,SNR=32
434A **Burnet** 71.00 337 ⇑P P 17 55 42.4 +1.1
baz=71,SNR=22
MAW **Mawson** 71.01 164 LR LR 18 26 47.6
comp=Z,9µm,20.5s,baz=228,slow=36
239A **Gary** 71.05 341 P P 17 55 42.6 +1.1
baz=71
336A **Riesel** 71.11 339 ⇓P P 17 55 42.7 +0.8
baz=72,SNR=14
531A **Rocksprings** 71.14 335 ⇓P P 17 55 43.4 +1.2
baz=72,SNR=20
JCT **Junction City** 71.18 336 eP P 17 55 42.2 -0.2
JCT pmax pmax
comp=Z,75nm,1.1s
JCT MLR MLR
comp=Z,2µm,19.0s
JCT **Junction City** 71.18 336 ⇑P P 17 55 43.4 +1.0
baz=72,SNR=17
JCT **Junction City** 71.18 336 eP P 17 55 42.1 -0.2
comp=Z,75nm,1.1s
JCT LR LR
comp=Z,2µm,19.0s
335A **Moody** 71.18 338 ⇑P P 17 55 43.0 +0.7
baz=72,SNR=7.3
433A **Art** 71.20 337 ⇓P P 17 55 43.0 +0.5
baz=72,SNR=26
237A **Washetta, Mont** 71.39 340 P P 17 55 45.1 +1.5
baz=72
530A **J-C Ranch, Com** 71.39 335 ⇓P P 17 55 44.9 +1.2
baz=72,SNR=35
334A **Lometa** 71.47 338 ⇑P P 17 55 44.7 +0.5
baz=72,SNR=39

TXAR **Lajitas Array** 71.49 332 P P 17 55 44.5 +0.1
comp=Z,11nm,0.8s,baz=151,slow=8.4,SNR=47
TXAR LR LR 18 22 37.6
comp=Z,12µm,18.4s,baz=0.0,slow=32
432A **Menard** 71.54 336 ⇓P P 17 55 45.0 +0.4
baz=72
CNNC **Cliffs of the** 71.57 356 PFAKE 17 56 00.0 +15
CNNC LR LR
comp=Z,5µm,20.0s
431A **Sonora** 71.63 335 ⇑P P 17 55 45.5 +0.3
baz=72,SNR=16
529A **Stev Forest Ra** 71.68 334 ⇑P P 17 55 46.0 +0.6
baz=72,SNR=18
333A **Richland Sprin** 71.70 337 ⇑P P 17 55 45.9 +0.4
baz=72,SNR=23
KMSC **Kings Mountain** 71.73 353 eP P 17 55 44.5 -1.1
comp=Z,44nm,0.9s
138A **Matatall Enter** 71.82 341 P P 17 55 47.4 +1.3
baz=72
WHTX **Lake Whitney,** 71.85 339 ⇓P P 17 55 47.0 +0.6
baz=72,SNR=18
WHTX **Lake Whitney,** 71.85 339 eP P 17 55 46.0 -0.4
comp=Z,130nm,1.1s
137A **Heron Place, G** 71.94 340 P P 17 55 48.0 +1.2
baz=72
430A **Baggett Ranch,** 71.94 335 P P 17 55 47.6 +0.5
baz=72
332A **Millersview** 71.99 336 ⇓P P 17 55 47.7 +0.4
baz=72,SNR=22
429A **Davenport Ranc** 72.02 334 ⇑P P 17 55 48.1 +0.6
baz=72,SNR=30
234A **Clairette** 72.07 338 ⇑P P 17 55 48.0 +0.3
baz=72,SNR=15
331A **San Angelo** 72.15 336 ⇓P P 17 55 48.4 +0.1
baz=72,SNR=20
OXF **Oxford** 72.29 346 eP P 17 55 45.1 -3.8
OXF pmax pmax
comp=Z,130nm,1.1s
OXF **Oxford** 72.29 346 eP P 17 55 45.1 -3.8
comp=Z,130nm,1.1s
233A **Rising Star** 72.32 337 ⇓P P 17 55 49.9 +0.7
baz=73,SNR=18
135A **Vickery Place,** 72.37 339 ⇓P P 17 55 49.7 +0.2
baz=73
SWET **Sewanee** 72.38 349 eP P 17 55 49.2 -0.3
comp=Z,103nm,0.8s
CPCT **Cooper Cave** 72.41 350 eP P 17 55 51.4 +1.8
232A **Coleman** 72.43 337 ⇓P P 17 55 50.2 +0.3
baz=73,SNR=16
330A **Mertzon** 72.49 335 ⇑P P 17 55 50.4 +0.1
baz=73,SNR=12
TKL **Tuckaleechee C** 72.52 351 eP P 17 55 49.5 -0.8
TKL **Tuckaleechee C** 72.52 351 eP P 17 55 49.5 -0.8
134A **White-Moore Ra** 72.58 338 ⇓P P 17 55 51.4 +0.7
baz=73
231A **Bronte** 72.69 336 ⇑P P 17 55 51.5 0.0
baz=73,SNR=19
329A **Wagon Wheel Ra** 72.84 335 ⇓P P 17 55 53.1 +0.7
baz=73,SNR=12
133A **Hamilton Ranch** 72.87 338 ⇓P P 17 55 53.3 +0.8
baz=73,SNR=17
CER **Ceres** 72.89 119 eP P 17 55 52.2 -0.7
CER AMB AMB 17 55 54.2
comp=Z,177nm,4.1s
CER **Ceres** 72.89 119 P P 17 55 52.2 -0.7
comp=Z,177nm,4.1s
230A **Sterling City** 72.91 335 ⇑P P 17 55 52.9 +0.1
baz=73,SNR=7.9
Z35A **Perchaven, San** 73.05 339 ⇓P P 17 55 54.2 +0.7
baz=73,SNR=22
ABTX **Abilene, Hawle** 73.11 337 ⇓P P 17 55 54.4 +0.6
baz=74,SNR=18
ABTX **Abilene, Hawle** 73.11 337 eP P 17 55 53.5 -0.4
comp=Z,313nm,1.7s
UALR **University of** 73.16 344 eP P 17 55 53.8 -0.3
comp=Z,30nm,1.0s
229A **Bryant Ranch,** 73.22 335 ⇓P P 17 55 54.7 +0.1
baz=74,SNR=7.6
MIAR **Mount Ida** 73.23 343 eP P 17 55 53.9 -0.6
MIAR pmax pmax
comp=Z,64nm,1.4s
MIAR MLR MLR
comp=Z,2µm,19.0s
MIAR **Mount Ida** 73.23 343 eP P 17 55 53.9 -0.6
comp=Z,64nm,1.4s
MIAR LR LR
comp=Z,2µm,19.0s
Z34A **Collier Ranch,** 73.28 339 ⇓P P 17 55 55.0 +0.1
baz=74,SNR=5.3
131A **Roby** 73.39 336 ⇓P P 17 55 56.2 +0.7
baz=74,SNR=14
Z33A **Whitaker Ranch** 73.45 338 ⇓P P 17 55 56.2 +0.3
baz=74,SNR=14
130A **Snyder** 73.51 336 ⇓P P 17 55 56.4 +0.1
baz=74
KOMG **Komaggas** 73.51 115 eP P 17 55 57.9 +1.3
KOMG AMB AMB 17 55 59.8
comp=Z,158nm,3.6s
KOMG **Komaggas** 73.51 115 P P 17 55 57.9 +1.3
comp=Z,158nm,3.6s
WVT **Waverly** 73.58 348 eP P 17 55 55.7 -0.8
WVT pmax pmax
comp=Z,153nm,1.3s
WVT **Waverly** 73.58 348 eP P 17 55 55.7 -0.8
comp=Z,153nm,1.3s
228A **UT Block 9, Go** 73.62 334 ⇓P P 17 55 57.7 +0.7
baz=74,SNR=14
Z32A **Haskell** 73.69 337 ⇑P P 17 55 57.7 +0.5
baz=74,SNR=30
VWCC **Virginia Weste** 73.70 354 eP P 17 55 56.8 -0.5
BLA **Blacksburg** 73.70 354 PFAKE 17 56 10.0 +13
BLA LR LR
comp=Z,4µm,21.0s
Y34A **Reagan Ranch,** 73.78 339 ⇑P P 17 55 57.8 0.0
baz=74,SNR=11
129A **Stewart Farms,** 73.84 335 ⇑P P 17 55 58.1 -0.1
baz=74
Z31A **Sharp Cattle R** 73.91 337 ⇓P P 17 55 58.7 +0.1
baz=74,SNR=20
DRV **Dumont d'Urvil** 73.98 193 P P 17 55 40.0 -19
DRV S SKiKP 18 04 56.0 -29
DRV SS SS 18 10 24.0 +12
DRV L L 18 15 00.0
DRV R 18 19 00.0
JSRW **J. Sargeant Re** 74.01 356 eP P 17 55 59.2 +0.2
128A **Castleberry Fa** 74.05 335 ⇓P P 17 55 59.6 +0.1
baz=74,SNR=13
Y33A **Hilltop Ranch,** 74.08 338 ⇑P P 17 55 59.8 +0.2
baz=74,SNR=9.2
Z30A **Sanderson Ranc** 74.20 336 ⇓P P 17 56 00.3 0.0
baz=74,SNR=18
MNTX **Cornudas Mount** 74.26 332 eP P 17 55 59.5 -1.2
comp=Z,16nm,0.9s
MNTX LR LR
comp=Z,8µm,19.0s
Y32A **R-V Farms, Ver** 74.33 338 ⇓P P 17 56 01.6 +0.6
baz=75,SNR=8.9
Z29A **Hungry Hill Ra** 74.36 336 ⇓P P 17 56 01.3 0.0
baz=75,SNR=33
X34A **Smith Ranch, M** 74.41 339 ⇑P P 17 56 02.2 +0.7
baz=75,SNR=12
SUR **Sutherland** 74.49 119 P P 17 56 04.6 +2.1
comp=Z,512nm,0.9s,SNR=12
SUR **Sutherland** 74.49 119 eP P 17 56 03.0 +0.4
comp=Z,72nm,0.8s
SUR LR LR
comp=Z,7µm,19.0s
CBN **Corbin Frederi** 74.49 357 PFAKE 17 56 10.0 +8.2
CBN LR LR
comp=Z,4µm,20.0s
Y31A **Rekieta Farm,** 74.54 337 ⇑P P 17 56 02.6 +0.3
baz=75,SNR=13
X33A **Lawton** 74.54 339 ⇑P P 17 56 02.0 -0.2
baz=75
Z28A **Tucker Farm, M** 74.62 335 ⇓P P 17 56 03.0 +0.2
baz=75,SNR=7.4
X32A **Elmer** 74.67 338 ⇑P P 17 56 03.4 +0.5
baz=75,SNR=6.0
Y30A **Stafford Cattl** 74.67 336 ⇑P P 17 56 03.4 +0.4
baz=75
Y29A **Porterfield Fa** 74.90 336 ⇓P P 17 56 04.9 +0.5
baz=75,SNR=14
Z27A **Tatum** 74.93 334 ⇓P P 17 56 04.8 +0.2
baz=75,SNR=8.4
W34A **Bridge Creek,** 74.98 339 ⇑P P 17 56 05.1 +0.4
baz=75,SNR=5.3
W34A **Bridge Creek,** 74.98 339 eP P 17 56 04.8 +0.1

comp=Z,146nm,1.3s
X31A McDonald Ranch 75.07 337 ⇓P P 17 56 05.5 +0.2
baz=75,SNR=15
TUL1 Leonard 75.08 341 ⇓P P 17 56 05.5 +0.2
baz=76,SNR=18
TUL1 Leonard 75.08 341 eP P 17 56 04.0 -1.2
comp=Z,82nm,0.9s
W33A Caddo, Fort Co 75.10 339 ⇓P P 17 56 06.5 +1.0
baz=76,SNR=20
Y28A McKinney Farm, 75.14 335 ⇑P P 17 56 06.0 +0.2
baz=76,SNR=6.2
Z26A Caprock 75.16 334 ⇑P P 17 56 06.1 +0.2
baz=76,SNR=40
X30A Coker Ranch, T 75.18 337 ⇓P P 17 56 06.8 +0.8
baz=76
W32A Sentinel 75.31 338 ⇓P P 17 56 06.6 0.0
baz=76,SNR=39
USIN University of 75.34 348 eP P 17 56 06.3 -0.4
comp=Z,108nm,0.9s
MSTX Muleshoe 75.37 335 ⇓P P 17 56 07.6 +0.5
baz=76,SNR=9.6
MSTX Muleshoe 75.37 335 eP P 17 56 06.9 -0.2
comp=Z,64nm,1.1s
Y27A Causey 75.43 335 ⇑P P 17 56 07.7 +0.2
baz=76
Z25A Roswell 75.43 333 ⇓P P 17 56 07.8 +0.3
baz=76,SNR=8.9
X29A Tulia 75.45 336 ⇓P P 17 56 08.6 +1.0
baz=76,SNR=7.7
V34A Guthrie 75.47 340 ⇑P P 17 56 08.0 +0.4
baz=76,SNR=5.8
V34A Guthrie 75.47 340 eP P 17 56 07.6 0.0
comp=Z,54nm,0.9s
319A Douglas 75.53 329 ⇓P P 17 56 09.5 +1.4
baz=76,SNR=8.9
W31A Holland Ranch, 75.57 338 ⇑P P 17 56 08.5 +0.3
baz=76,SNR=7.7
V33A Lossen Ranch, 75.67 339 ⇑P P 17 56 09.1 +0.4
baz=76,SNR=16
X28A Dimmitt 75.68 336 ⇓P P 17 56 09.4 +0.5
baz=76
Y26A Elida 75.69 334 P P 17 56 08.9 -0.1
baz=76
Z24A Sheeppen Canyo 75.71 333 ⇓P P 17 56 10.1 +0.8
baz=76,SNR=16
W30A Crocket Farms 75.77 337 ⇑P P 17 56 09.8 +0.4
baz=76
V32A Arapaho 75.80 339 ⇑P P 17 56 09.6 +0.1
baz=76,SNR=7.2
AMTX Amarillo 75.84 336 ⇑P P 17 56 10.6 +0.8
baz=76
AMTX Amarillo 75.84 336 eP P 17 56 09.4 -0.4
comp=Z,158nm,1.3s
121A Cookes Peak, D 75.93 330 ⇓P P 17 56 11.4 +0.9
baz=76,SNR=12
121A Cookes Peak, D 75.93 330 eP P 17 56 11.0 +0.5
comp=Z,54nm,1.2s
Y25A Mesa, Roswell 76.00 333 ⇓P P 17 56 10.7 -0.1
baz=76,SNR=9.8
U34A Anderson Ranch 76.04 340 ⇑P P 17 56 10.7 -0.1
baz=76,SNR=6.6
U34A Anderson Ranch 76.04 340 eP P 17 56 10.4 -0.4
comp=Z,234nm,1.6s
W29A Amarillo 76.05 336 ⇑P P 17 56 11.4 +0.4
baz=76,SNR=9.4
V31A Spring Creek L 76.09 338 ⇑P P 17 56 11.8 +0.7
baz=76,SNR=9.9
X27A F and S Farms, 76.10 335 ⇓P P 17 56 11.1 -0.2
baz=76,SNR=5.2
OLIL Olney 76.16 348 eP P 17 56 10.8 -0.6
comp=Z,25nm,0.7s
U33A Lingo Farm, Me 76.20 340 ⇑P P 17 56 11.9 +0.2
baz=77,SNR=6.7
Z22A Elephant Butte 76.25 331 ⇓P P 17 56 13.0 +0.7
baz=77,SNR=20
X26A CR and CF Fran 76.25 334 ⇑P P 17 56 12.8 +0.6
baz=77,SNR=25
Y24A Capitan 76.27 333 ⇑P P 17 56 13.1 +0.7
baz=77,SNR=27
V30A Spur Ranch, Mi 76.34 337 ⇓P P 17 56 13.8 +1.2
baz=77
BLO Bloomington 76.35 349 eP P 17 56 11.5 -1.0
BLO pmax pmax
comp=Z,40nm,0.6s
BLO Bloomington 76.35 349 eP P 17 56 11.5 -1.0
comp=Z,40nm,0.6s
W28A Vega 76.36 336 ⇑P P 17 56 13.6 +0.9
baz=77
U32A Winter Ranch, 76.40 339 ⇑P P 17 56 13.6 +0.8
baz=77,SNR=6.2
SLM Saint Louis 76.45 346 eP P 17 56 12.5 -0.5
SLM pmax pmax
comp=Z,58nm,0.7s
SLM Saint Louis 76.45 346 eP P 17 56 12.5 -0.5
comp=Z,58nm,0.7s
W27A Bowe Ranch, En 76.46 335 ⇑P P 17 56 14.1 +0.7
baz=77,SNR=28
Y23A Lovelace Mesa, 76.51 332 ⇓P P 17 56 14.7 +1.0
baz=77,SNR=14
X25A Clemmons Ranch 76.53 334 ⇓P P 17 56 14.6 +0.8
baz=77
LIC Lamto 76.56 72 eP P 17 56 15.0 +0.7
comp=Z,258nm,0.9s
U31A Nine Bar Ranch 76.64 338 ⇑P P 17 56 15.0 +0.7
baz=77
V29A Stinnett 76.70 337 ⇓P P 17 56 15.4 +0.8
baz=77
W26A Owens Ranch, T 76.73 335 ⇑P P 17 56 15.6 +0.7
baz=77,SNR=6.8
V28A Channing 76.81 336 ⇓P P 17 56 16.2 +0.9
baz=77
TIC Toumodi 76.83 71 eP P 17 56 16.7 +0.9
comp=Z,137nm,0.8s
T33A Patterson Ranc 76.84 340 ⇓P P 17 56 16.1 +0.8
baz=77,SNR=24
X24A Lazy VL Ranch, 76.84 333 ⇓P P 17 56 16.7 +1.1
baz=77
KIC Kosan Boka 76.86 72 eP P 17 56 16.9 +0.9
comp=Z,238nm,0.8s
ACSO Alum Creek Sta 76.94 352 eP P 17 56 14.9 -0.8
comp=Z,71nm,0.9s
ACSO LR LR
comp=Z,4μm,20.0s
SSPA Standing Stone 76.94 356 eP P 17 56 15.7 -0.1
comp=Z,53nm,1.4s
Y22D IRIS PASSCAL I 76.96 332 ⇑P P 17 56 17.7 +1.5
baz=77
DBIC Dimbokro 76.97 71 ⇑/P P 17 56 17.5 +0.9
DBIC Dimbokro 76.97 71 eP P 17 56 17.5 +0.9
DBIC pmax pmax
comp=Z,99nm,0.8s
DBIC Dimbokro 76.97 71 P P 17 56 17.6 +0.9
comp=Z,98nm,0.8s,baz=201,slow=6.1,SNR=51
DBIC LR LR 18 26 32.0
comp=Z,10μm,20.3s,baz=212,slow=33
DBIC Dimbokro 76.97 71 eP P 17 56 17.5 +0.9
comp=Z,99nm,0.8s
TUC Tucson 76.97 328 eP P 17 56 17.0 +0.7
TUC pmax pmax
comp=Z,123nm,1.9s
TUC Tucson 76.97 328 eP P 17 56 16.9 +0.7
comp=Z,123nm,1.9s
V27A Dan Oppiter Fa 77.02 336 ⇑P P 17 56 17.2 +0.7
baz=77
U30A WK&E Inc. Balk 77.03 338 ⇓P P 17 56 17.3 +0.8
baz=77,SNR=10
LENM Lemitar 77.06 332 eP P 17 56 19.1 +2.3
comp=Z,55nm,1.7s
LPM Los Pinos Moun 77.06 332 eP P 17 56 17.5 +0.6
comp=Z,19nm,1.0s
W25A X Bar L Ranch, 77.08 334 ⇓P P 17 56 17.3 +0.4
baz=77,SNR=17
T32A Huddler Ranch, 77.12 339 ⇓P P 17 56 17.7 +0.8
baz=78,SNR=6.7
X23A Hourglass Bar 77.14 333 ⇑P P 17 56 17.9 +0.6
baz=78,SNR=17
U29A Oasis Ranch, S 77.15 337 ⇑P P 17 56 17.9 +0.7
baz=78
WIN Windhoek 77.22 109 eP P 17 56 19.4 +1.2
WIN AMB AMB 17 56 21.1
comp=Z,33nm,3.8s
WIN Windhoek 77.22 109 P P 17 56 19.4 +1.2
WIN pmax pmax
comp=Z,33nm,3.8s
WIN Windhoek 77.22 109 P P 17 56 19.4 +1.2
comp=Z,33nm,3.8s
S33A Kaszmaul Farm, 77.25 340 ⇑P P 17 56 18.4 +0.8
baz=78,SNR=5.6

T31A Randall Ranch, 77.27 339 ⇑P P 17 56 18.9 +1.1
baz=78
LAZ Ladron 77.33 332 eP P 17 56 19.8 +1.4
comp=Z,25nm,1.3s
V26A Tequesquite Ra 77.38 335 ⇑P P 17 56 19.1 +0.6
baz=78,SNR=8.1
U28A Mallet 77.39 336 ⇓P P 17 56 19.3 +0.8
baz=78,SNR=7.2
W24A Lazy 6 Ranch, 77.41 334 ⇓P P 17 56 19.9 +1.1
baz=78,SNR=17
T30A Plains 77.48 338 ⇓P P 17 56 19.9 +1.0
baz=78
214A Organ Pipe Nat 77.55 326 ⇑P P 17 56 20.7 +1.2
baz=78,SNR=13
214A Organ Pipe Nat 77.55 326 eP P 17 56 19.6 +0.1
comp=Z,147nm,1.9s
ANMO Albuquerque 77.56 333 ceP P 17 56 20.5 +0.9
ANMO pmax pmax
comp=Z,139nm,1.0s
ANMO Albuquerque 77.56 333 eP P 17 56 19.9 +0.2
comp=Z,36nm,1.0s
ANMO LR LR
comp=Z,7μm,20.0s
S32A Newby Ranch, P 77.61 339 ⇓P P 17 56 20.8 +1.1
baz=78,SNR=9.9
SFIN Lafayette 77.61 349 ⇑P P 17 56 21.4 +1.9
baz=78
U27A Thompson Grove 77.62 336 ⇓P P 17 56 21.0 +1.1
baz=78,SNR=11
W23A Werner Place, 77.64 333 ⇓P P 17 56 21.6 +1.4
baz=78,SNR=6.1
S31A Mullinville 77.69 339 ⇓P P 17 56 21.1 +1.0
baz=78
V25A Rancho No Teng 77.70 334 ⇑P P 17 56 21.5 +1.1
baz=78,SNR=29
T29A Hugoton 77.81 337 ⇑P P 17 56 21.8 +0.9
baz=78
V24A Rampart Ranch, 77.83 334 ⇑P P 17 56 22.1 +0.9
baz=78,SNR=12
U26A Atchley Ranch, 77.90 335 ⇑P P 17 56 22.3 +0.8
baz=78,SNR=6.9
GRM Grahamstown 77.91 122 eP P 17 56 21.8 +0.1
GRM AMB AMB 17 56 23.8
comp=Z,114nm,3.9s
GRM Grahamstown 77.91 122 P P 17 56 21.8 +0.1
GRM pmax pmax
comp=Z,114nm,3.9s
GRM Grahamstown 77.91 122 P P 17 56 21.8 +0.1
comp=Z,114nm,3.9s
R33A Olander Ranch, 77.92 340 ⇓P P 17 56 22.0 +0.7
baz=78,SNR=8.2
S30A Montezuma 78.00 338 ⇑P P 17 56 22.7 +0.8
baz=78,SNR=12
T28A Walsh 78.03 337 ⇑P P 17 56 22.8 +0.7
baz=78,SNR=26
U25A Circle Dot Ran 78.13 335 ⇓P P 17 56 23.8 +1.0
baz=78,SNR=18
T27A Campo 78.17 336 ⇓P P 17 56 23.8 +0.9
baz=78,SNR=14
V23A Ortiz Mt. (NFS 78.17 333 ⇓P P 17 56 24.3 +1.2
baz=78
S29A Ulysses 78.18 338 ⇑P P 17 56 23.6 +0.7
baz=78,SNR=6.7
R32A Long Quarter, 78.22 340 ⇑P P 17 56 23.8 +0.8
baz=78,SNR=7.4
KSU1 Kansas State U 78.31 342 ⇑P P 17 56 23.9 +0.5
baz=79
KSU1 Kansas State U 78.31 342 eP P 17 56 23.4 -0.1
comp=Z,38nm,0.9s
KSU1 LR LR
comp=Z,2μm,21.0s
R31A Burdett 78.33 339 ⇓P P 17 56 24.5 +0.9
baz=79,SNR=6.2
S28A Manter 78.39 337 ⇑P P 17 56 25.0 +0.9
baz=79,SNR=7.5
BINY Binghamton 78.43 358 PFAKE 17 56 40.0 +16
BINY LR LR
comp=Z,5μm,19.0s
U24A Moreno Valley 78.44 334 P P 17 56 26.3 +1.7
baz=79
Q33A Connelly Farm, 78.53 341 ⇑P P 17 56 25.7 +1.1
baz=79
R30A Dighton 78.54 339 ⇓P P 17 56 25.6 +0.7
baz=79
ERPA Erie 78.55 355 eP P 17 56 24.7 0.0
comp=Z,22nm,0.8s
ERPA LR LR
comp=Z,4μm,20.0s
X18A Snowflake 78.55 330 ⇑P P 17 56 26.9 +1.8
baz=79,SNR=6.5
T26A Comanche Natio 78.56 336 ⇑P P 17 56 26.4 +1.3
baz=79,SNR=22
V22A San Miguel Ran 78.59 333 ⇑P P 17 56 26.8 +1.4
baz=79,SNR=36
113A Mohawk Valley, 78.67 326 ⇑P P 17 56 26.5 +0.9
baz=79,SNR=8.0
U23A El Rito 78.70 333 ⇓P P 17 56 27.0 +1.1
baz=79,SNR=7.9
Q32A Meitler Ranch, 78.71 340 ⇑P P 17 56 26.6 +0.9
baz=79,SNR=14
HVD Gariep Dam 78.79 120 eP P 17 56 27.4 +0.7
HVD AMB AMB 17 56 29.1
comp=Z,135nm,4.0s
HVD Gariep Dam 78.79 120 P P 17 56 27.5 +0.7
HVD pmax pmax
comp=Z,135nm,4.0s
HVD Gariep Dam 78.79 120 P P 17 56 27.4 +0.7
comp=Z,135nm,4.0s
S27A Las Animas 78.80 336 ⇑P P 17 56 27.3 +1.0
baz=79
T25A Trinidad 78.80 335 ⇓P P 17 56 28.1 +1.6
baz=79,SNR=33
Z14A Wintersburg 78.81 327 ⇑P P 17 56 27.4 +1.0
baz=79
P33A Williams Farm, 78.90 341 ⇑P P 17 56 27.8 +1.1
baz=79
S26A Kim 78.93 336 ⇓P P 17 56 28.2 +1.1
baz=79,SNR=29
R29A Marienthal 78.93 338 ⇑P P 17 56 27.7 +0.7
baz=79
Q31A Ellis 78.96 340 ⇓P P 17 56 28.0 +0.9
baz=79,SNR=7.9
W18A Petrified Fore 78.97 330 ⇑P P 17 56 28.5 +1.1
baz=79,SNR=10
W18A Petrified Fore 78.97 330 eP P 17 56 28.8 +1.3
comp=Z,65nm,1.2s
U22A Llaves 78.98 333 ⇑P P 17 56 28.6 +1.1
baz=79
R28A Tribune 79.06 338 ⇓P P 17 56 28.4 +0.7
baz=79,SNR=16
AAM Ann Arbor 79.06 352 eP P 17 56 27.0 -0.5
AAM MLR MLR
comp=Z,5μm,21.0s
AAM Ann Arbor 79.06 352 eP P 17 56 27.0 -0.5
AAM LR LR
comp=Z,5μm,21.0s
X16A Lo Mia Camp, P 79.07 329 ⇓P P 17 56 29.4 +1.4
baz=79,SNR=14
T24B San Luis 79.07 334 ⇑P P 17 56 29.3 +1.3
baz=79,SNR=11
Q30A Quinter 79.17 339 ⇑P P 17 56 29.4 +1.1
baz=80,SNR=6.6
T23A Casias Ranch, 79.27 334 ⇓P P 17 56 30.1 +0.9
baz=80
S25A Robets Cordova 79.28 335 P P 17 56 30.5 +1.4
baz=80
Q29A Oakley 79.31 338 ⇓P P 17 56 29.5 +0.5
baz=80,SNR=6.6
R27A Eads 79.31 337 ⇓P P 17 56 30.0 +0.9
baz=80,SNR=17
P32A Huiting Farm, 79.32 340 ⇓P P 17 56 29.7 +0.7
baz=80,SNR=6.2
Y14A Wickenburg 79.32 327 ⇓P P 17 56 29.9 +0.7
baz=80
GLA Glamis 79.39 325 eP P 17 56 29.7 +0.1
GLA pmax pmax
comp=Z,99nm,1.7s
GLA Glamis 79.39 325 ⇓P P 17 56 30.5 +0.9
baz=80
GLA Glamis 79.39 325 eP P 17 56 29.7 +0.1
comp=Z,99nm,1.7s
P31A Stockton 79.44 340 ⇑P P 17 56 30.6 +0.9
baz=80,SNR=6.4
S24A Houchin Ranch, 79.53 335 ⇓P P 17 56 31.9 +1.4
baz=80,SNR=30
R26A Arlington 79.54 336 ⇓P P 17 56 31.1 +0.8
baz=80,SNR=21
ACCN Adirondack Com 79.57 360 eP P 17 56 31.0 +0.7

comp=Z,105nm,1.5s
R25A Fountain Ranch 79.67 336 ⇑P P 17 56 32.2 +1.1
baz=80,SNR=5.7
P30A Selden 79.70 339 ⇓P P 17 56 32.3 +1.1
baz=80
SDCO Great Sand Dun 79.72 335 eP P 17 56 31.6 0.0
comp=Z,20nm,1.0s
SDCO LR LR
comp=Z,5μm,20.0s
Q28A Sharon Springs 79.73 338 ⇓P P 17 56 32.2 +0.8
baz=80
SWSC Sam W. Stewart 79.74 325 ⇓P P 17 56 33.2 +1.8
baz=80
BOSA Boshof 79.78 118 eP P 17 56 32.5 +0.3
BOSA AMB AMB 17 56 34.3
comp=Z,140nm,3.8s
BOSA Boshof 79.78 118 eP P 17 56 32.2 0.0
BOSA pmax pmax
comp=Z,86nm,1.1s
BOSA Boshof 79.78 118 P P 17 56 32.4 +0.2
comp=Z,47nm,0.9s,baz=232,slow=5.6,SNR=20
BOSA LR LR 18 30 21.1
comp=Z,6μm,18.6s,baz=232,slow=35
BOSA Boshof 79.78 118 eP P 17 56 32.2 0.0
comp=Z,86nm,1.1s
O32A Brockman Farm, 79.83 341 ⇑P P 17 56 32.3 +0.5
baz=80
Y12C Blythe 79.84 326 ⇑P P 17 56 33.8 +1.9
baz=80,SNR=8.3
S23A Nye Farm, Mont 79.86 334 ⇓P P 17 56 33.7 +1.4
baz=80
KSCO Kaye Shedlock' 79.92 337 ⇑P P 17 56 33.1 +0.7
baz=80
KSCO Kaye Shedlock' 79.92 337 eP P 17 56 33.2 +0.7
comp=Z,116nm,1.4s
BAR Barrett 79.94 324 eP P 17 56 33.6 +1.0
comp=Z,96nm,1.4s
P29A Atwood 79.95 339 ⇑P P 17 56 33.8 +1.2
baz=80,SNR=10
WUAZ Wupatki 79.98 329 ⇓P P 17 56 34.6 +1.7
baz=80,SNR=13
WUAZ Wupatki 79.98 329 eP P 17 56 34.4 +1.5
comp=Z,45nm,1.1s
MONP Monument Peak, 79.99 324 ⇑P P 17 56 33.8 +0.7
baz=80
O31A Woolen Ranch, 80.01 340 ⇓P P 17 56 33.6 +0.8
baz=80
R24A Sanders Place, 80.02 335 ⇑P P 17 56 34.4 +1.2
baz=80,SNR=30
Q26A Hugo 80.13 337 ⇓P P 17 56 34.9 +1.3
baz=80,SNR=12
PDMCI Parker Dam,Lak 80.13 327 ⇑P P 17 56 34.8 +1.3
baz=80
NCB Newcomb 80.16 359 PFAKE 17 56 50.0 +17
NCB LR LR
comp=Z,4μm,20.0s
P28A Saint Francis 80.17 338 ⇑P P 17 56 34.9 +1.2
baz=80
BC3 Big Chuckawall 80.18 325 ⇓P P 17 56 35.4 +1.5
baz=80,SNR=12
MDV Middlebury 80.19 0 eP P 17 56 33.9 +0.4
S22A 4UR Ranch, Cre 80.19 334 ⇓P P 17 56 35.8 +1.6
baz=80,SNR=16
SCIA State Center 80.19 345 eP P 17 56 33.0 -0.6
comp=Z,141nm,1.4s
R23A Moffat 80.23 335 ⇓P P 17 56 35.6 +1.3
baz=81,SNR=11
O30A MW Ranch, Wils 80.24 340 ⇓P P 17 56 35.3 +1.3
baz=81,SNR=7.0
N32A Stulken Farm, 80.30 341 ⇑P P 17 56 35.0 +0.7
baz=81
MVCO Mesa Verde 80.33 332 ⇓P P 17 56 35.9 +1.1
baz=81,SNR=18
MVCO Mesa Verde 80.33 332 eP P 17 56 35.3 +0.5
comp=Z,46nm,1.2s
MVCO LR LR
comp=Z,13μm,19.0s
Q25A Bedland, Calha 80.35 336 ⇓P P 17 56 36.4 +1.5
baz=81,SNR=5.1
O29A 4D Ranch, Culb 80.40 339 ⇓P P 17 56 36.4 +1.5
baz=81
P27A Ficken Ranch, 80.41 337 ⇑P P 17 56 36.2 +1.1
baz=81
LBNH Lisbon 80.44 1 PFAKE 17 56 50.0 +15
LBNH LR LR
comp=Z,3μm,21.0s
IRM Iron Mountain 80.46 326 ⇓P P 17 56 36.7 +1.3
baz=81,SNR=14
N31A Bailey Ranch, 80.53 341 ⇑P P 17 56 36.8 +1.2
baz=81
JFWS Jewell Farm 80.60 347 eP P 17 56 35.5 -0.3
JFWS pmax pmax
comp=Z,53nm,0.9s
JFWS MLR MLR
comp=Z,4μm,19.0s
JFWS Jewell Farm 80.60 347 eP P 17 56 35.5 -0.3
comp=Z,53nm,0.9s
JFWS LR LR
comp=Z,4μm,19.0s
PFO Pinyon Flats O 80.60 325 P P 17 56 39.2 +3.0
comp=Z,148nm,1.3s,SNR=5.8
PFO Pinyon Flats O 80.60 325 eP P 17 56 37.2 +0.9
PFO pmax pmax
comp=Z,45nm,1.3s
PFO Pinyon Flats O 80.60 325 LR LR 18 25 49.7
comp=Z,6μm,18.1s,baz=152,slow=31
PFO Pinyon Flats O 80.60 325 ⇓P P 17 56 37.2 +0.9
baz=81
PFO Pinyon Flats O 80.60 325 eP P 17 56 37.2 +0.9
comp=Z,45nm,1.3s
P26A Davis Ranch, A 80.65 337 ⇑P P 17 56 37.6 +1.2
baz=81
SWZ Schweizer 80.68 117 eP P 17 56 36.5 -0.6
SWZ AMB AMB 17 56 38.6
comp=Z,145nm,3.8s
SWZ Schweizer 80.68 117 P P 17 56 36.5 -0.6
comp=Z,145nm,3.8s
O28A Krutsinger Ran 80.69 338 ⇑P P 17 56 37.2 +0.7
baz=81
W13A Hualapai Mount 80.69 327 ⇑P P 17 56 38.1 +1.2
baz=81,SNR=11
Q24A Divide 80.70 335 ⇓P P 17 56 38.0 +1.1
baz=81,SNR=12
BELC Belle Mtn. Jos 80.72 325 ⇓P P 17 56 37.6 +0.7
baz=81,SNR=5.7
LONY Lake Ozonia 80.82 359 eP P 17 56 37.0 0.0
comp=Z,65nm,1.3s
LONY LR LR
comp=Z,3μm,20.0s
N30A Hueftle Ranch, 80.82 340 ⇓P P 17 56 38.2 +1.0
baz=81
BGNE Belgrade 80.87 341 ⇑P P 17 56 38.2 +0.8
baz=81,SNR=6.0
BGNE Belgrade 80.87 341 eP P 17 56 37.2 -0.2
comp=Z,78nm,1.0s
P25A Willow Gulch B 80.87 336 ⇓P P 17 56 38.4 +0.8
baz=81
Q23A Hartsel 80.88 335 ⇓P P 17 56 39.9 +2.1
baz=81
MURC Murrieta 80.94 324 ⇓P P 17 56 39.9 +1.9
baz=81
O27A Beecher Island 80.96 338 ⇑P P 17 56 39.8 +1.8
baz=81
N29A Votaw Ranch, W 80.99 339 ⇑P P 17 56 38.9 +0.9
baz=81,SNR=6.5
M31A Lambtecht Ranc 81.03 341 ⇓P P 17 56 39.5 +1.3
baz=81
SCI San Clemente I 81.08 323 P P 17 56 40.1 +1.5
baz=81
P24A Kohler Place, 81.11 336 ⇑P P 17 56 40.5 +1.5
baz=82
N28A Pribbeno Ranch 81.14 339 ⇓P P 17 56 39.8 +1.0
baz=82
U15A North Rim 81.14 329 ⇑P P 17 56 40.8 +1.6
baz=82,SNR=23
PV01 Paradox Valley 81.17 333 eP P 17 56 40.1 +0.8
comp=Z,2μm,0.9s
URZ Urewera 81.19 229 LR LR 18 25 07.2
comp=Z,9μm,18.8s,baz=144,slow=30
GMRC Granite Mounta 81.21 326 ⇑P P 17 56 41.1 +1.6
baz=82,SNR=14
O26A Horse Wrangler 81.26 337 ⇑P P 17 56 41.0 +1.4
baz=82,SNR=9.8
P23A Jefferson 81.30 335 ⇓P P 17 56 40.7 +0.6
baz=82
BBRC Big Bear Solar 81.36 325 ⇓P P 17 56 42.3 +1.9
baz=82
CIS Catalina Islan 81.36 323 ⇓P P 17 56 41.5 +1.3

baz=82
O25A Wiggins 81.40 337 ⇑P P 17 56 41.7 +1.4
baz=82
M30A Dale-Ortello V 81.45 340 ⇑P P 17 56 41.4 +0.9
baz=82
OGNE Ogallala 81.52 338 ⇓P P 17 56 42.0 +1.1
baz=82
OGNE Ogallala 81.52 338 PFAKE 17 56 50.0 +9.1
OGNE LR LR
comp=Z,3μm,19.0s
PV04 Paradox Valley 81.52 332 eP P 17 56 41.4 +0.3
N27A Anderson Farm, 81.54 338 ⇓P P 17 56 42.3 +1.3
baz=82
HEC Hector,Ludlow 81.56 325 ⇑P P 17 56 42.8 +1.5
baz=82,SNR=8.7
FMP Fort Macarthur 81.56 323 ⇓P P 17 56 42.2 +1.1
baz=82
M29A Burnside Ranch 81.59 340 ⇑P P 17 56 42.5 +1.2
baz=82
ISCO Idaho Springs 81.61 335 eP P 17 56 42.2 +0.5
ISCO pmax pmax
comp=Z,77nm,1.7s
ISCO MLR MLR
comp=Z,4μm,19.0s
ISCO Idaho Springs 81.61 335 ⇑P P 17 56 42.2 +0.5
baz=82,SNR=10
ISCO Idaho Springs 81.61 335 eP P 17 56 42.2 +0.5
comp=Z,77nm,1.7s
ISCO LR LR
comp=Z,4μm,19.0s
SEK Senekal 81.63 119 eP P 17 56 41.3 -0.8
SEK AMB AMB 17 56 46.0
comp=Z,135nm,2.6s
SEK Senekal 81.63 119 P P 17 56 41.3 -0.8
comp=Z,135nm,2.6s
BFSC Mount Baldy Ra 81.69 324 ⇑P P 17 56 43.4 +1.4
baz=82,SNR=8.9
O24A Longmont 81.72 336 ⇓P P 17 56 43.4 +1.3
baz=82
M28A Bar X Bar Ranc 81.74 339 ⇑P P 17 56 43.3 +1.2
baz=82
L31A Butterfield Fa 81.77 341 ⇑P P 17 56 42.9 +0.8
baz=82,SNR=10
N26A Koester Ranch, 81.77 338 ⇓P P 17 56 42.8 +0.5
baz=82
L30A Spencer Herefo 81.79 340 ⇓P P 17 56 43.4 +1.1
baz=82,SNR=6.0
P22A Eagle 81.81 335 ⇓P P 17 56 43.6 +1.0
baz=82,SNR=8.7
MWC Mount Wilson 81.86 324 eP P 17 56 45.6 +2.6
MWC pmax pmax
comp=Z,190nm,2.0s
MWC Mount Wilson 81.86 324 eP P 17 56 45.6 +2.6
comp=Z,190nm,2.0s
TUQ Turquoise Moun 81.88 326 ⇓P P 17 56 43.9 +1.0
baz=82
RUDU RUNDU 81.89 106 eP P 17 56 44.7 +1.1
RUDU AMB AMB 17 56 48.6
comp=Z,175nm,2.9s
RUDU RUNDU 81.89 106 P P 17 56 44.7 +1.1
comp=Z,175nm,2.9s
RRX Edison Barstow 81.91 325 ⇓P P 17 56 44.2 +1.2
baz=82
BFSD Buffelsfontein 81.91 117 eP P 17 56 43.9 +0.3
BFSD AMB AMB 17 56 45.4
comp=Z,140nm,3.6s
BFSD Buffelsfontein 81.91 117 P P 17 56 43.9 +0.3
comp=Z,140nm,3.6s
DECC Green Verdugo 82.01 324 ⇑P P 17 56 44.5 +1.0
baz=82
N25A Grover 82.03 337 ⇓P P 17 56 44.9 +1.2
baz=82
O23A Lake Granby, G 82.08 335 ⇓P P 17 56 45.2 +1.0
baz=82,SNR=24
L29A Maesberg Ranch 82.11 340 ⇓P P 17 56 44.8 +0.9
baz=82
LBTB Lobatse 82.15 115 ⇑iP P 17 56 45.0 +0.1
LBTB AMB AMB 17 56 48.5
comp=Z,124nm,2.2s
LBTB Lobatse 82.15 115 P P 17 56 45.0 +0.1
LBTB pmax pmax
comp=Z,125nm,2.3s
LBTB Lobatse 82.15 115 P P 17 56 45.0 +0.1
comp=Z,124nm,2.3s
M27A Reverse DX Ran 82.16 338 ⇓P P 17 56 45.1 +0.8
baz=82
GSC Goldstone, Bar 82.16 325 eP P 17 56 45.9 +1.4
GSC pmax pmax
comp=Z,135nm,2.0s
GSC Goldstone, Bar 82.16 325 ⇑P P 17 56 45.8 +1.4
baz=82,SNR=5.9
GSC Goldstone, Bar 82.16 325 eP P 17 56 45.9 +1.4
comp=Z,135nm,2.0s
O22A Kremmling 82.25 335 ⇓P P 17 56 46.3 +1.2
baz=83,SNR=26
PRYS Parys 82.28 118 eP P 17 56 44.9 -0.7
PRYS AMB AMB 17 56 47.0
comp=Z,57nm,3.9s
PRYS Parys 82.28 118 P P 17 56 44.9 -0.7
comp=Z,57nm,3.9s
N24A Carr 82.29 336 ⇓P P 17 56 46.5 +1.4
baz=83
M26A McRoberts Ranc 82.33 338 ⇓P P 17 56 45.7 +0.5
baz=83
L28A Connealy Angus 82.35 339 ⇑P P 17 56 46.7 +1.4
baz=83
EDW2 Edwards Air Fo 82.37 324 ⇑P P 17 56 46.8 +1.3
baz=83,SNR=5.5
SHPR Sheep Range 82.43 327 eP P 17 56 46.6 +0.7
comp=Z,50nm,1.2s
BSC Santa Cruz Isl 82.43 323 ⇑P P 17 56 46.0 +0.2
baz=83
K30A Basset 82.44 341 ⇓P P 17 56 46.7 +1.0
baz=83,SNR=11
OSI Osito Audit: C 82.50 324 ⇑P P 17 56 47.4 +1.3
baz=83
OSI Osito Audit: C 82.50 324 eP P 17 56 46.5 +0.4
comp=Z,7.8nm,0.4s
CCUT Cedar City 82.55 329 eP P 17 56 47.7 +1.1
comp=Z,60nm,1.3s
M25A Palm-Egli Farm 82.58 337 ⇑P P 17 56 47.5 +1.0
baz=83
KSR Koster 82.59 117 eP P 17 56 46.8 -0.4
KSR AMB AMB 17 56 49.2
comp=Z,50nm,3.4s
KSR Koster 82.59 117 P P 17 56 46.8 -0.4
comp=Z,50nm,3.4s
WDLM Western Deep L 82.63 117 eP P 17 56 47.6 +0.2
WDLM AMB AMB 17 56 49.3
comp=Z,74nm,3.6s
L27A T5 Ranch, Ells 82.65 339 ⇑P P 17 56 47.9 +1.1
baz=83
ECSD EROS Data Cent 82.69 343 ⇓P P 17 56 47.7 +0.8
baz=83,SNR=41
ECSD EROS Data Cent 82.69 343 eP P 17 56 46.1 -0.7
comp=Z,66nm,0.9s
ECSD LR LR
comp=Z,3μm,19.0s
N23A Red Feather La 82.70 336 ⇑P P 17 56 49.1 +1.8
baz=83,SNR=11
K29A Lazy Trails An 82.71 340 ⇑P P 17 56 47.6 +0.5
baz=83
SRU San Rafael Swe 82.76 332 eP P 17 56 47.2 -0.4
SRU pmax pmax
comp=Z,28nm,0.9s
SRU San Rafael Swe 82.76 332 eP P 17 56 47.2 -0.4
comp=Z,28nm,0.9s
ARUT Antelope Range 82.78 329 eP P 17 56 49.0 +1.3
ARUT pmax pmax
comp=Z,2μm,1.5s
ARUT Antelope Range 82.78 329 eP P 17 56 49.0 +1.3
comp=Z,2μm,1.5s
N22A Wattenberg Ran 82.79 335 ⇓P P 17 56 49.7 +1.9
baz=83,SNR=20
O20A White River Ci 82.81 334 ⇑P P 17 56 48.9 +1.0
baz=83,SNR=11
O20A White River Ci 82.81 334 eP P 17 56 48.2 +0.4
comp=Z,79nm,1.4s
L26A Underwood Farm 82.83 338 ⇓P P 17 56 48.6 +0.8
baz=83
SBC Santa Barbara 82.83 323 ⇑P P 17 56 48.9 +1.1
baz=83
M24A Cheyenne 82.85 337 ⇑P P 17 56 49.2 +1.2
baz=83,SNR=12
K28A Ten Mile Ranch 82.95 340 ⇓P P 17 56 49.8 +1.5
baz=83,SNR=12
ARVC Arvin 82.97 324 ⇓P P 17 56 49.8 +1.3
baz=83

J30A Dallas 83.01 341 ⇓P P 17 56 49.1 +0.6
baz=83
M23A Laramie 83.14 336 ⇓P P 17 56 50.2 +0.6
baz=84,SNR=10
CRWM Crown Mines 83.16 117 eP P 17 56 49.4 -0.8
CRWM AMB AMB 17 56 51.9
comp=Z,114nm,3.7s
K27A Flueckinger Fa 83.19 339 ⇑P P 17 56 50.3 +0.7
baz=84
L25A Engebretsen Ra 83.21 338 ⇑P P 17 56 50.8 +1.0
baz=84
ISA Isabella, Lake 83.23 324 ⇑P P 17 56 51.7 +1.8
baz=84,SNR=7.4
OBSV Observatory 83.24 117 eP P 17 56 50.9 +0.2
OBSV AMB AMB 17 56 52.2
comp=Z,85nm,3.9s
ERPM east rand prop 83.26 118 eP P 17 56 51.3 +0.6
ERPM AMB AMB 17 56 54.8
comp=Z,94nm,2.3s
ERPM east rand prop 83.26 118 P P 17 56 51.3 +0.6
comp=Z,94nm,2.3s
SPMN Marine on St. 83.30 346 eP P 17 56 49.7 -0.3
comp=Z,21nm,0.7s
J29A Okreek 83.31 341 ⇑P P 17 56 50.9 +0.8
baz=84,SNR=12
DAC Darwin (Calif) 83.33 325 eP P 17 56 50.5 -0.1
DAC pmax pmax
comp=Z,31nm,1.1s
DAC Darwin (Calif) 83.33 325 eP P 17 56 50.5 -0.1
comp=Z,30nm,1.1s
M22A Cedar Creek Ra 83.37 335 ⇑P P 17 56 52.0 +1.2
baz=84,SNR=9.6
L24A Wheatland 83.41 337 ⇑P P 17 56 51.5 +0.7
baz=84
N20A Spence Gulch, 83.44 334 ⇓P P 17 56 52.1 +1.0
baz=84,SNR=7.5
K26A Motz Farm, Whi 83.47 338 ⇑P P 17 56 51.8 +0.8
baz=84
COWI Conover 83.52 349 eP P 17 56 47.7 -3.4
COWI LR LR
comp=Z,29nm,1.1s
comp=Z,3μm,20.0s
I30A Oacoma 83.55 341 ⇑P P 17 56 51.7 +0.4
baz=84
J28A Allard Ranch, 83.57 340 ⇑P P 17 56 52.6 +1.1
baz=84,SNR=7.9
K25A Mack Ranch, Ha 83.59 338 ⇑P P 17 56 52.7 +1.0
baz=84
J27A Elkhorn Farm, 83.63 339 ⇓P P 17 56 52.8 +1.0
baz=84,SNR=12
RAO Raoul Island 83.64 238 LR LR 18 25 20.0
comp=Z,2μm,21.9s,baz=130,slow=29
VES Vestal, Richgr 83.67 324 ⇑P P 17 56 53.2 +1.1
baz=84
SMMC Simmler 83.67 323 ⇑P P 17 56 53.7 +1.5
baz=84
L23A Garrett 83.72 336 ⇑P P 17 56 53.2 +0.7
baz=84,SNR=6.1
GRAC Grapevine Rang 83.82 326 ⇑P P 17 56 54.6 +1.7
baz=84
I29A Vivian Onida 83.88 341 ⇑P P 17 56 53.7 +0.7
baz=84
L22A Ellis Ranch, M 83.88 336 ⇑P P 17 56 54.7 +1.4
baz=84
BRSD Miller 83.92 342 ⇑P P 17 56 53.5 +0.3
baz=84
BRSD Miller 83.92 342 eP P 17 56 52.7 -0.5
comp=Z,67nm,0.8s
MPU Maple Canyon 83.97 331 eP P 17 56 54.0 +0.2
comp=Z,52nm,1.0s
K24A Anderson Ranch 83.99 337 ⇑P P 17 56 54.9 +1.1
baz=84,SNR=6.7
J26A Sides Ranch, S 84.00 339 ⇓P P 17 56 54.8 +1.1
baz=84,SNR=14
NLU North Lily Min 84.09 331 eP P 17 56 55.7 +1.3
comp=Z,126nm,1.7s
I28A Midland 84.09 340 ⇑P P 17 56 54.8 +0.7
baz=84,SNR=8.1
RCTC Rector, Farmer 84.12 324 ⇑P P 17 56 55.9 +1.5
baz=84
R11A Troy Canyon, C 84.16 328 ⇑P P 17 56 56.1 +1.3
baz=84,SNR=35
R11A Troy Canyon, C 84.16 328 eP P 17 56 55.6 +0.8
comp=Z,40nm,1.2s
DAU Daniels Canyon 84.17 332 eP P 17 56 55.3 +0.3
DAU pmax pmax
comp=Z,32nm,1.0s
DAU Daniels Canyon 84.17 332 eP P 17 56 55.3 +0.3
comp=Z,32nm,1.0s
TIN Tinemaha, Big 84.26 325 ⇓P P 17 56 56.6 +1.3
baz=85
K23A Bowen Ranch, D 84.27 337 ⇓P P 17 56 56.0 +0.8
baz=85,SNR=8.1
J25A Sunshine Ranch 84.28 338 ⇓P P 17 56 56.2 +1.0
baz=85,SNR=12
I27A Quinn 84.40 340 ⇓P P 17 56 56.6 +0.9
baz=85
JLU Jordanelle 84.41 332 eP P 17 56 56.4 +0.3
comp=Z,24nm,0.8s
H29A Onida 84.41 341 ⇓P P 17 56 56.1 +0.4
baz=85,SNR=9.3
K22A Casper 84.47 336 ⇓P P 17 56 56.9 +0.7
baz=85,SNR=16
K22A Casper 84.47 336 eP P 17 56 56.4 +0.1
comp=Z,151nm,1.5s
J24A Dixon Ranch, L 84.49 338 ⇓P P 17 56 57.4 +1.1
baz=85,SNR=6.3
DUG Dugway, Tooele 84.58 331 eP P 17 56 57.2 +0.4
DUG pmax pmax
comp=Z,87nm,1.3s
DUG MLR MLR
comp=Z,5μm,19.0s
DUG Dugway, Tooele 84.58 331 ⇓P P 17 56 58.4 +1.5
baz=85,SNR=34
DUG Dugway, Tooele 84.58 331 eP P 17 56 57.2 +0.4
comp=Z,87nm,1.3s
DUG LR LR
comp=Z,5μm,19.0s
I26A New Underwood 84.59 339 ⇑P P 17 56 57.4 +0.7
baz=85
CTU Camp Tracy 84.60 332 eP P 17 56 56.9 -0.1
comp=Z,16nm,0.8s
G30A Faulkton 84.61 342 ⇓P P 17 56 57.3 +0.6
baz=85
TPH Tonopah 84.64 327 eP P 17 56 58.5 +1.2
TPH pmax pmax
comp=Z,31nm,1.0s
TPH Tonopah 84.64 327 eP P 17 56 58.5 +1.2
comp=Z,31nm,1.0s
H28A Mission Ridge 84.67 341 ⇑P P 17 56 57.7 +0.7
baz=85,SNR=10
K21A Alcova 84.69 336 ⇑P P 17 56 58.0 +0.6
baz=85,SNR=23
J23A Dilts Ranch, B 84.83 337 ⇑P P 17 56 58.2 +0.2
baz=85
I25A Rochford 84.84 338 ⇑P P 17 56 59.0 +0.9
baz=85,SNR=29
TCUT Toone Canyon 84.84 332 eP P 17 56 59.1 +0.9
comp=Z,62nm,1.0s
G29A Hoven 84.87 341 ⇓P P 17 56 58.3 +0.3
baz=85
H27A Howes 84.92 340 ⇓P P 17 56 58.9 +0.6
baz=85
I24A Kuemmerle Ranc 84.96 338 ⇓P P 17 56 59.1 +0.5
baz=85,SNR=9.2
MLAC Mammoth, Mammo 85.01 325 ⇓P P 17 56 59.3 +0.2
baz=85
G28A Parade 85.02 341 ⇑P P 17 56 59.0 +0.3
baz=85,SNR=5.5
RSSD Black Hills 85.02 338 eP P 17 56 59.1 0.0
RSSD pmax pmax
comp=Z,33nm,0.9s
RSSD Black Hills 85.02 338 eP P 17 56 59.0 0.0
comp=Z,33nm,0.9s
H26A Fairpoint 85.10 339 ⇓P P 17 56 59.5 +0.2
baz=86
J22A Midwest 85.14 336 ⇓P P 17 56 59.4 -0.2
baz=86,SNR=13
F30A Leola 85.24 342 ⇓P P 17 57 00.3 +0.4
baz=86,SNR=6.1
BGU Big Grassy Mou 85.29 331 eP P 17 57 00.1 -0.3
comp=Z,35nm,1.6s
I23A Meade Ranch, G 85.31 337 ⇓P P 17 57 00.2 -0.1
baz=86
HWUT Hardware Ranch 85.32 332 eP P 17 57 00.2 -0.4
comp=Z,71nm,1.0s
HWUT LR LR
comp=Z,5μm,20.0s

H25A Fruitdale 85.35 339 ⇑P P 17 57 00.8 +0.3
baz=86,SNR=6.8
NV11 Mina Array Sit 85.35 326 eP P 17 57 02.1 +1.3
J21A Lysite 85.39 336 ⇓P P 17 57 01.2 +0.3
baz=86,SNR=8.8
SPUT South Promonto 85.40 331 eP P 17 57 01.0 +0.1
comp=Z,64nm,1.1s
NVAR Mina Array Bea 85.42 326 P P 17 57 02.2 +1.0
comp=Z,9.4nm,0.9s,baz=154,slow=5.2,SNR=19
NVAR LR LR 18 28 58.3
comp=Z,2μm,20.1s,baz=226,slow=31
F29A Eureka 85.44 342 ⇑P P 17 57 00.4 -0.4
baz=86,SNR=5.5
I22A 9 Mile Ranch, 85.57 337 ⇑P P 17 57 02.0 +0.4
baz=86,SNR=29
G27A Dupree 85.57 340 ⇑P P 17 57 01.0 -0.5
baz=86
BW06 Boulder Array 85.60 334 eP P 17 57 00.7 -1.3
comp=Z,40nm,1.3s
BW06 LR LR
comp=Z,10μm,19.0s
PDAR Pinedale Array 85.60 334 P P 17 57 02.0 +0.1
comp=Z,24nm,1.1s,baz=155,slow=4.9,SNR=34
J20A Shoshoni 85.61 335 ⇓P P 17 57 02.7 +0.8
baz=86,SNR=24
G26A Maurine 85.68 340 ⇓P P 17 57 01.9 -0.1
baz=86,SNR=19
EYMN Ely 85.69 348 eP P 17 57 00.9 -1.1
comp=Z,54nm,1.4s
EYMN LR LR
comp=Z,2μm,20.0s
F28A McLaughlin 85.70 341 ⇑P P 17 57 02.6 +0.4
baz=86
H24A Dirks Ranch, A 85.74 338 ⇑P P 17 57 02.3 -0.2
baz=86,SNR=15
I21A Big Trails, Te 85.76 336 ⇓P P 17 57 02.2 -0.4
baz=86,SNR=30
G25A Newell 85.82 339 ⇑P P 17 57 02.9 +0.1
baz=86,SNR=14
H23A Clabaugh Cattl 85.83 338 ⇑P P 17 57 02.2 -0.7
baz=86
E30A Jud 85.84 343 ⇓P P 17 57 03.0 +0.2
baz=86,SNR=6.9
J19A Crowheart 85.86 335 ⇓P P 17 57 03.5 +0.3
baz=86,SNR=34
HVU Hansel Valley 85.93 332 eP P 17 57 03.1 -0.4
HVU pmax pmax
comp=Z,40nm,0.9s
HVU Hansel Valley 85.93 332 eP P 17 57 03.1 -0.4
comp=Z,40nm,0.9s
WAKR Walker 85.99 325 eP P 17 57 06.2 +2.1
comp=Z,62nm,1.4s
TORD Torodi Ar. Bea 86.04 71 P P 17 57 04.7 +0.2
comp=Z,25nm,0.8s,baz=230,slow=3.5,SNR=66
TORD PP PP 18 00 28.4 +3.3
comp=Z,5.1nm,0.9s,baz=229,slow=9.3,SNR=4.5
TORD LR LR 18 34 40.6
comp=Z,10μm,18.0s,baz=240,slow=35
F27A Lemmon 86.05 340 ⇓P P 17 57 04.4 +0.5
baz=86,SNR=29
CMB Columbia Colle 86.05 325 eP P 17 57 04.9 +0.8
CMB pmax pmax
comp=Z,12nm,0.8s
CMB Columbia Colle 86.05 325 eP P 17 57 04.8 +0.8
comp=Z,12nm,0.8s
E29A Napoleon 86.08 342 ⇓P P 17 57 04.1 0.0
baz=86
AHID Auburn Hatcher 86.15 333 PFAKE 17 57 20.0 +15
AHID LR LR
comp=Z,8μm,19.0s
H22A Clearmont 86.16 337 ⇓P P 17 57 04.2 -0.4
baz=86,SNR=18
I20A Worland 86.16 336 ⇑P P 17 57 04.7 +0.1
baz=86,SNR=21
F26A Lodgepole 86.21 340 ⇑P P 17 57 04.4 -0.3
baz=87,SNR=14
G24A Alzada 86.23 339 ⇓P P 17 57 04.7 -0.2
baz=87
E28A Huff 86.35 341 ⇑P P 17 57 05.9 +0.5
baz=87
D30A Buchanan 86.37 343 ⇑P P 17 57 06.0 +0.6
baz=87,SNR=8.3
H21A Big Horn, Sher 86.40 337 ⇓P P 17 57 05.9 +0.1
baz=87
E27A Carson 86.44 341 ⇓P P 17 57 06.2 +0.4
baz=87
F25A Bowman 86.50 339 ⇑P P 17 57 06.1 0.0
baz=87,SNR=9.1
I19A Meeteetse 86.52 335 ⇑P P 17 57 06.3 -0.1
baz=87,SNR=10
D29A Pettibone, Tap 86.53 342 ⇓P P 17 57 06.2 +0.1
baz=87,SNR=14
H20A Greybull 86.59 336 ⇑P P 17 57 07.0 +0.4
baz=87,SNR=7.6
BMN Battle Mountai 86.59 328 eP P 17 57 08.4 +1.5
BMN pmax pmax
comp=Z,20nm,1.4s
BMN Battle Mountai 86.59 328 eP P 17 57 08.4 +1.5
comp=Z,20nm,1.4s
PMOZ Porto Moniz, M 86.67 44 eP P 17 57 11.2 +3.9
PMOZ Porto Moniz, M 86.67 44 ePP PP 18 00 40.5 +10
PMOZ eS S 18 07 50.7 +7.9
PMOZ Porto Moniz, M 86.67 44 eLQ LQ 18 25 42.8
PMOZ eLR LR 18 28 13.6
comp=Z,6μm,20.0s
G22A Birney 86.70 337 ⇑P P 17 57 06.7 -0.5
baz=87
F24A Ekalaka 86.71 339 ⇓P P 17 57 07.2 +0.1
baz=87
E26A Carlson Angus 86.72 340 ⇑P P 17 57 07.1 -0.1
baz=87,SNR=16
AGMN Agassiz Nation 86.85 345 ⇑P P 17 57 07.7 0.0
baz=87
AGMN Agassiz Nation 86.85 345 eP P 17 57 07.1 -0.6
comp=Z,24nm,0.7s
AGMN LR LR
comp=Z,4μm,19.0s
C30A Mose, Pekin 86.86 343 ⇑P P 17 57 07.8 -0.1
baz=87,SNR=27
F23A Volborg 86.88 338 ⇑P P 17 57 08.2 +0.2
baz=87,SNR=25
D28A Regan 86.89 342 ⇑P P 17 57 08.0 0.0
baz=87
I17A Pilgrim Ck. 86.97 334 ⇓P P 17 57 09.0 +0.3
baz=87,SNR=25
MSNA Messina 86.99 116 eP P 17 57 09.8 +0.5
MSNA AMB AMB 17 57 13.7
comp=Z,95nm,3.9s
MSNA Messina 86.99 116 P P 17 57 09.8 +0.5
comp=Z,95nm,3.9s
G21A Lodge Grass 86.99 337 ⇓P P 17 57 08.6 0.0
baz=87,SNR=6.0
E25A Miller Ranch, 87.01 340 ⇓P P 17 57 08.6 0.0
baz=87,SNR=6.0
D27A Center 87.06 341 ⇓P P 17 57 08.9 +0.1
baz=87
H19A Powell 87.08 335 ⇓P P 17 57 09.5 +0.4
baz=87
F22A Rosebud 87.19 338 ⇓P P 17 57 09.5 -0.1
baz=88,SNR=5.8
D26A Manning 87.23 341 ⇑P P 17 57 09.8 +0.1
baz=88,SNR=40
MDND Maddock 87.27 343 ⇓P P 17 57 09.8 +0.1
baz=88,SNR=7.6
MDND Maddock 87.27 343 eP P 17 57 09.3 -0.4
comp=Z,65nm,1.3s
G20A Bridger 87.31 336 ⇑P P 17 57 10.2 0.0
baz=88,SNR=14
H18A Shoshone NF, C 87.31 335 ⇑P P 17 57 10.2 -0.2
baz=88,SNR=24
E24A Baker 87.32 339 ⇑P P 17 57 09.7 -0.4
baz=88,SNR=8.9
C28A Hausauer Farms 87.33 342 ⇑P P 17 57 10.1 0.0
baz=88
H17A Grant Village 87.38 334 ⇓P P 17 57 11.7 +1.0
baz=88
F21A Absaloka Mine, 87.50 337 ⇑P P 17 57 11.2 +0.2
baz=88
YFT Old Faithful 87.52 334 eP P 17 57 14.1 +2.7
comp=Z,51nm,1.1s
B30A Myrvik Farm, E 87.53 344 ⇑P P 17 57 11.1 +0.1
baz=88,SNR=14
E23A Ismay 87.55 338 ⇓P P 17 57 11.3 +0.1
baz=88
RLMT Red Lodge 87.57 335 eP P 17 57 10.9 -0.7
comp=Z,60nm,1.6s
RLMT LR LR
comp=Z,4μm,19.0s

D25A	Fairfield	87.58 340	⇑P		P	17 57 12.2	+0.8
	baz=88						
C27A	Sayler Ranch,	87.61 341	⇑P		P	17 57 10.8	-0.6
	baz=88,SNR=25						
E22A	Miles City	87.69 338	⇓P		P	17 57 11.8	0.0
	baz=88						
YNR	Norris Junctio	87.70 334	eP		P	17 57 12.3	+0.1
	comp=Z,37nm,1.4s						
YMR	Madison River	87.76 334	eP		P	17 57 13.7	+1.2
	comp=Z,77nm,1.1s						
B29A	Wagenman Farm,	87.78 343	⇑P		P	17 57 11.8	-0.4
	baz=88,SNR=22						
F20A	Billings	87.80 336	⇓P		P	17 57 12.8	+0.2
	baz=88						
D24A	Glendive	87.83 339	⇑P		P	17 57 12.6	+0.1
	baz=88,SNR=15						
C26A	Wahner Farm, P	87.87 341	⇑P		P	17 57 12.9	+0.2
	baz=88,SNR=12						
A30A	Hoffart Farm,	87.99 344	⇓P		P	17 57 13.2	0.0
	baz=88,SNR=16						
LAO	LASA Array	88.00 338	eP		P	17 57 12.9	-0.4
	comp=Z,29nm,1.1s						
LAO			LR	LR			
	comp=Z,2μm,19.0s						
B28A	Dugan Ranch, T	88.01 342	⇓P		P	17 57 13.8	+0.5
	baz=88,SNR=14						
QLMT	Earthquake Lak	88.06 334	eP		P	17 57 15.1	+1.2
	comp=Z,4.6nm,1.2s						
C25A	Freed Ranch, W	88.08 340	⇑P		P	17 57 13.8	+0.1
	baz=88						
HLID	Hailey	88.08 331	⇓P		P	17 57 15.2	+1.2
	baz=88,SNR=20						
HLID	Hailey	88.08 331	eP		P	17 57 14.4	+0.4
	comp=Z,47nm,1.5s						
HLID			LR	LR			
	comp=Z,3μm,19.0s						
F19A	Roth Farm, Mol	88.11 336	⇓P		P	17 57 13.9	0.0
	baz=88						
E21A	Keefer Ranch,	88.12 337	⇑P		P	17 57 14.5	+0.6
	baz=88						
A29A	Manning Farm,	88.18 343	⇓P		P	17 57 13.9	-0.2
	baz=89,SNR=19						
B27A	Peters Farms,	88.19 342	⇑P		P	17 57 14.7	+0.5
	baz=89						
C24A	Savage	88.23 339	⇑P		P	17 57 15.1	+0.7
	baz=89						
GCMT	Greycliff	88.29 335	eP		P	17 57 16.1	+1.2
	comp=Z,51nm,1.8s						
D22A	Cohagen	88.40 338	⇑P		P	17 57 15.9	+0.7
	baz=89						
B26A	Jensen Ranch,	88.42 341	⇓P		P	17 57 16.1	+0.9
	baz=89						
A28A	Rude Farm, Bot	88.42 343	⇑P		P	17 57 15.3	0.0
	baz=89,SNR=6.7						
E20A	Meyer Farm, Mu	88.42 337	⇓P		P	17 57 15.8	+0.4
	baz=89,SNR=15						
AFI	Afiamalu	88.49 254	PFAKE			17 57 30.0	+13
AFI			LR	LR			
	comp=Z,10μm,19.0s						
MFID	Camas Ranch	88.51 330	eP		P	17 57 16.6	+0.7
	comp=Z,55nm,1.4s						
PAF	Port-aux-Franc	88.54 157	P	P		17 57 03.0	-13
PAF			PP	PP		18 00 31.0	-13
PAF			S	SKSac		18 07 46.0	+2.7
PAF			SS	SS		18 13 52.0	+2.5
PAF			L	L		18 20 00.0	
PAF			R			18 28 00.0	
B25A	Knox Farm, Ray	88.56 341	⇑P		P	17 57 16.7	+0.7
	baz=89						
D21A	La Casta Ranch	88.57 338	⇑P		P	17 57 16.4	+0.3
	baz=89						
MCMT	McKenzie Canyo	88.57 333	eP		P	17 57 16.8	+0.5
	comp=Z,21nm,1.1s						
E19A	Rath Farm, Rou	88.59 336	⇑P		P	17 57 15.9	-0.4
	baz=89,SNR=15						
A27A	Ledoux Ranch,	88.69 342	⇑P		P	17 57 17.1	+0.5
	baz=89						
C23A	Lambert	88.70 339	⇑P		P	17 57 16.8	+0.2
	baz=89,SNR=5.6						
ULM	Lac du Bonnet	88.71 346	P		P	17 57 15.4	-1.1
	comp=Z,20nm,0.9s,baz=173,slow=2.7,SNR=24						
BOZ	Bozeman (W)	88.84 334	PFAKE			17 57 30.0	+13
BOZ			LR	LR			
	comp=Z,7μm,20.0s						
A26A	Wade Farm, Ken	88.84 341	⇓P		P	17 57 18.0	+0.8
	baz=89						
WVOR	Wild Horse Val	88.84 328	eP		P	17 57 18.7	+1.1
WVOR			pmax	pmax			
	comp=Z,76nm,1.5s						
WVOR	Wild Horse Val	88.84 328	eP		P	17 57 18.7	+1.1
	comp=Z,76nm,1.5s						
C22A	Vida	88.85 339	⇑P		P	17 57 17.7	+0.3
	baz=89						
DGMT	Dagmar	89.03 340	⇑P		P	17 57 18.4	+0.2
	baz=89						
DGMT	Dagmar	89.03 340	eP		P	17 57 18.3	+0.1
	comp=Z,80nm,1.1s						
DGMT			LR	LR			
	comp=Z,2μm,21.0s						
WDC	Whiskeytown Da	89.09 325	eP		P	17 57 18.5	-0.1
WDC			pmax	pmax			
	comp=Z,44nm,1.6s						
WDC	Whiskeytown Da	89.09 325	eP		P	17 57 18.5	-0.1
	comp=Z,44nm,1.6s						
MOD	Modoc Plateau	89.13 327	eP		P	17 57 21.5	+2.6
	comp=Z,50nm,1.1s						
A25A	Svangstu Ranch	89.16 341	⇑P		P	17 57 19.5	+0.8
	baz=90						
B23A	Brockton	89.24 340	⇑P		P	17 57 20.1	+1.0
	baz=90						
D19A	Cripps Ranch,	89.25 337	⇑P		P	17 57 19.8	+0.5
	baz=90						
C21A	Desert Coulee	89.28 338	⇑P		P	17 57 19.9	+0.6
	baz=90						
LRM	Limekiln Ridge	89.28 334	eP		P	17 57 19.9	+0.2
	comp=Z,161nm,1.2s						
B22A	Reddig Ranch S	89.38 339	⇓P		P	17 57 20.0	+0.2
	baz=90,SNR=8.3						
A24A	Westby	89.39 340	⇓P		P	17 57 20.4	+0.6
	baz=90						
C20A	Veseth Ranch,	89.46 337	⇓P		P	17 57 20.6	+0.4
	baz=90						
N02D	Trinity Center	89.47 325	⇓P		P	17 57 21.3	+0.8
	baz=90						
A23A	Redstone	89.66 340	⇓P		P	17 57 22.2	+1.1
	baz=90						
M04C	Macdoel	89.72 326	⇑P		P	17 57 22.7	+1.0
	baz=90						
B21A	Ellsworth Farm	89.80 338	⇑P		P	17 57 22.8	+1.1
	baz=90						
C19A	Slack Wire Ran	89.80 337	⇓P		P	17 57 22.5	+0.7
	baz=90						
M02C	Callahan	89.87 325	⇓P		P	17 57 23.3	+1.0
	baz=90						
LSZ	Lusaka	89.96 109	PFAKE			17 57 30.0	+6.4
LSZ			LR	LR			
	comp=Z,19μm,19.0s						
A22A	Carney Farms,	89.98 339	⇑P		P	17 57 22.8	+0.2
	baz=90,SNR=5.7						
YBH	Yreka Blue Hor	90.08 325	LR	LR		18 32 05.8	
	comp=Z,2μm,18.2s,baz=154,slow=32						
B20A	Solberg Farm,	90.11 338	⇓P		P	17 57 23.5	+0.3
	baz=90						
A21A	Bergtoll Ranch	90.27 339	⇑P		P	17 57 22.9	-1.0
	baz=91,SNR=9.8						
EGMT	Eagleton	90.28 336	⇓P		P	17 57 25.0	+0.9
	baz=91						
EGMT	Eagleton	90.28 336	eP		P	17 57 25.1	+1.0
	comp=Z,33nm,1.5s						
EGMT			LR	LR			
	comp=Z,2μm,20.0s						
BMO	Blue Mountains	90.29 330	eP		P	17 57 24.5	+0.2
	comp=Z,21nm,1.3s						
BMO			LR	LR			
	comp=Z,2μm,20.0s						
B19A	Brinkman Farms	90.41 337	⇑P		P	17 57 24.3	-0.3
	baz=91						
A20A	Cobblestone Ra	90.47 338	⇑P		P	17 57 24.6	-0.3
	baz=91,SNR=5.9						
CHMT	Chamberlain Mo	90.50 334	eP		P	17 57 25.5	+0.2
	comp=Z,17nm,1.6s						
J05D	Fort Rock, OR	90.65 327	⇓P		P	17 57 27.2	+1.2
	baz=91						
MSO	Missoula	90.68 333	⇓P		P	17 57 26.4	+0.4
	baz=91						
A19A	Klindworth Far	90.76 338	⇓P		P	17 57 25.8	-0.5
	baz=91						
SLMT	Seeley Lake	90.87 334	eP		P	17 57 27.5	+0.5
	comp=Z,13nm,1.1s						
PINOR	Pine Mountain	90.92 328	eP		P	17 57 29.2	+2.3
	comp=Z,55nm,1.6s						
SCHQ	Schefferville	91.20 4	P		P	17 57 26.9	-1.2
	comp=Z,6.5nm,0.8s,baz=154,slow=4.4,SNR=6.0						
SCHQ			LR	LR		18 37 55.4	
	comp=Z,2μm,21.6s,baz=176,slow=35						
SWMT	Swartz Lake	91.28 334	eP		P	17 57 28.1	-0.7
	comp=Z,27nm,1.5s						
JTMT	Jette	91.58 334	eP		P	17 57 30.4	+0.2
	comp=Z,15nm,1.2s						
YBMT	Yellow Bay	91.58 334	eP		P	17 57 29.9	-0.3
	comp=Z,16nm,1.2s						
BLMT	Blacktail Moun	91.83 334	eP		P	17 57 30.1	-1.4
	comp=Z,26nm,1.1s						
BSMT	Bassoo Peak	91.85 333	eP		P	17 57 30.9	-0.7
	comp=Z,14nm,1.1s						
HAWA	Hanford	92.45 330	PFAKE			17 57 50.0	+16
HAWA			LR	LR			
	comp=Z,2μm,20.0s						
WALA	Waterton Lakes	92.57 335	eP		P	17 57 35.1	+0.4
	comp=Z,0.4nm,0.9s						
TAU	Tasmania Unive	92.67 209	PFAKE			17 57 50.0	+14
TAU			LR	LR			
	comp=Z,2μm,21.0s						
NEW	Newport	93.05 332	LR	LR		18 35 29.0	
	comp=Z,2μm,20.6s,baz=146,slow=33						
NEW	Newport	93.05 332	⇑P		P	17 57 36.1	-0.8
	baz=93						
RTC	Rabat Centre	93.59 50	PFAKE			17 57 50.0	+10
RTC			LR	LR			
	comp=Z,15μm,20.0s						
LON	Longmire	93.67 329	eP		P	17 57 39.8	0.0
LON			pmax	pmax			
	comp=Z,16nm,1.4s						
LON	Longmire	93.67 329	eP		P	17 57 39.8	0.0
	comp=Z,16nm,1.4s						
MSVF	Nonsavu	93.78 245	PFAKE			17 57 50.0	+8.9
MSVF			LR	LR			
	comp=Z,4μm,19.0s						
FFC	Flin Flon	94.21 344	PFAKE			17 57 50.0	+8.0
FFC			LR	LR			
	comp=Z,4μm,20.0s						
PFVI	Vila Bisbo	94.54 46	eP		P	17 57 49.5	+5.6
PFVI	Vila Bisbo	94.54 46	ePP		PP	18 01 33.6	+1.2
PFVI			eS		SKSac	18 07 59.4	-18
MORF	Marmelete	94.76 46	eP		P	17 57 44.5	-0.6
MORF			eS		SKSac	18 08 18.2	-0.3
MORF			AMS		AMS	18 42 11.1	
	comp=Z,11μm,18.9s						
MORF	Marmelete	94.76 46	eP		P	17 57 50.7	+5.7
MORF	Marmelete	94.76 46	eS		S	18 09 13.4	+17
MORF	Marmelete	94.76 46	eP		P	17 57 44.4	-0.6
MORF			eS		SKSac	18 08 18.2	-0.3
TAM	Tamanrasset	94.84 65	eP		P	17 57 46.8	+0.9
TAM			pmax	pmax			
	comp=Z,24nm,1.0s						
TAM			MLR	MLR			
	comp=Z,10μm,20.0s						
TAM	Tamanrasset	94.84 65	eP		P	17 57 46.8	+0.9
	comp=Z,24nm,1.0s						
TAM			LR	LR			
	comp=Z,10μm,20.0s						
NLWA	Neilton Lookou	95.04 328	PFAKE			17 58 00.0	+14
NLWA			LR	LR			
	comp=Z,4μm,19.0s						
PBDV	Barranco-do-Ve	95.14 47	eP		P	17 57 51.5	+4.8
PBDV	Barranco-do-Ve	95.14 47	eS		SKSac	18 08 28.0	+7.5
PVAQ	Vaqueiros	95.37 47	eP		P	17 57 54.4	+6.6
PVAQ	Vaqueiros	95.37 47	ePP		PP	18 01 40.9	+2.0
PVAQ			eS		SKSac	18 08 28.4	+6.7
PVAQ	Vaqueiros	95.37 47	eLQ		LQ	18 27 49.3	
PVAQ			eLR		LR	18 33 52.5	
	comp=Z,7μm,18.0s						
MESJ	Messejana	95.38 46	eP		P	17 57 47.1	-0.6
MESJ			eS		SKSac	18 08 21.5	-0.2
MESJ			AMS		AMS	18 42 38.6	
	comp=Z,11μm,17.0s						
MESJ	Messejana	95.38 46	eP		P	17 57 47.1	-0.6
MESJ			eS		SKSac	18 08 21.4	-0.2
PNCL	Nicolau / Gran	95.38 46	eP		P	17 57 55.5	+7.7
PNCL	Nicolau / Gran	95.38 46	ePP		PP	18 01 40.9	+1.9
PNCL			eS		SKSac	18 08 32.4	+11
LIS	Lisbon	95.44 45	eP		P	17 57 47.3	-0.7
LIS			ePP		PP	18 01 37.3	-2.1
LIS			eS		SKSac	18 08 21.8	-0.2
LIS			AMS		AMS	18 39 14.5	
	comp=Z,7μm,20.8s						
LIS	Lisbon	95.44 45	eP		P	17 57 47.3	-0.7
LIS	Lisbon	95.44 45	ePP		PP	18 01 37.3	-2.1
LIS			eS		SKSac	18 08 21.8	-0.2
LIS			A		A	18 39 14.5	
	comp=Z,7μm,20.8s						
LIS	Lisbon	95.44 45	eP		P	17 57 47.3	-0.7
LIS			e			18 01 37.2	
LIS			eS		SKSac	18 08 21.7	-0.2
PMAFR	Mafra	95.53 45	eP		P	17 57 55.7	+7.3
PMAFR	Mafra	95.53 45	ePP		PP	18 01 42.2	+2.1
PMAFR			eS		SKSac	18 08 30.3	+7.9
EDM	Edmonton	95.94 337	eP		P	17 57 47.8	-2.2
EDM	Edmonton	95.94 337	eP		P	17 57 47.8	-2.2
PMTG	Montargil	96.21 45	eP		P	17 57 56.8	+5.3
PMTG	Montargil	96.21 45	ePP		PP	18 01 48.5	+3.2
PMTG			eS		SKSac	18 08 34.9	+8.9
PBAR	Barrancos	96.29 47	eP		P	17 57 52.3	+0.4
PBAR	Barrancos	96.29 47	ePP		PP	18 01 48.7	+2.7
PBAR			eS		SKSac	18 08 33.4	+6.9
PESTR	Estremoz	96.44 46	eP		P	17 57 56.4	+3.8
PESTR	Estremoz	96.44 46	ePP		PP	18 01 50.0	+2.8
PESTR			eS		SKSac	18 08 28.0	+0.8
PCAS	Casmilo, Conde	96.72 44	eP		P	17 57 58.6	+4.8
PCAS	Casmilo, Conde	96.72 44	ePP		PP	18 01 50.3	+1.0
PCAS			eS		SKSac	18 08 38.7	+10
PMRV	Marv??o	96.93 45	eP		P	17 58 01.0	+6.2
PMRV	Marv??o	96.93 45	ePP		PP	18 01 53.3	+2.4
PMRV			eS		SKSac	18 08 35.1	+5.3
PMRV	Marv??o	96.93 45	eLQ		LQ	18 29 21.9	
PMRV			eLR		LR	18 33 16.1	
	comp=Z,7μm,18.0s						
MTE	Manteigas	97.49 45	eP		Pdif	17 58 02.2	+4.7
MTE	Manteigas	97.49 45	ePP		PP	18 01 56.0	+0.7
MTE			eS		SKSac	18 08 38.1	+5.4
MTE	Manteigas	97.49 45	eLQ		LQ	18 29 15.7	
MTE			eLR		LR	18 32 00.6	
	comp=Z,7μm,20.0s						
MTE	Manteigas	97.49 45	PFAKE			17 58 10.0	+13
MTE			LR	LR			
	comp=Z,8μm,20.0s						
POLO	Lamas de Olo	98.01 44	eP		Pdif	17 58 05.9	+6.1
POLO	Lamas de Olo	98.01 44	ePP		PP	18 02 02.0	+2.7
POLO			eS		SKSac	18 08 41.4	+6.0
PGAV	Gavieira, Arco	98.14 43	eP		P	17 57 58.4	-1.9
PGAV	Gavieira, Arco	98.14 43	ePP		PP	18 02 02.4	+2.1
PGAV			eS		SKSac	18 08 44.8	+8.7
PGAV	Gavieira, Arco	98.14 43	eLQ		LQ	18 30 04.9	
PGAV			eLR		LR	18 33 28.9	
	comp=Z,7μm,20.0s						
MVO	Moncorvo	98.29 44	eP		Pdif	17 58 05.9	+4.9
MVO	Moncorvo	98.29 44	ePP		PP	18 02 02.9	+1.4
MVO			eS		SKSac	18 08 46.8	+10
MVO	Moncorvo	98.29 44	eLQ		LQ	18 29 47.6	
MVO			eLR		LR	18 32 20.0	
	comp=Z,8μm,18.0s						
CAN	Canberra	98.37 214	PFAKE			17 58 10.0	+8.2
CAN			LR	LR			
	comp=Z,4μm,19.0s						
KIP	Kipapa	98.42 290	PFAKE			17 58 10.0	+8.1
KIP			LR	LR			
	comp=Z,4μm,19.0s						
PAB	San Pablo	98.77 47	PFAKE			17 58 10.0	+6.8
PAB			LR	LR			
	comp=Z,7μm,20.0s						
PBRG	Braganca	98.88 44	eP		Pdif	17 58 07.1	+3.5
PBRG	Braganca	98.88 44	ePP		PP	18 02 04.5	-1.4
PBRG			eS		SKSac	18 08 57.9	+18
DZM	Mont Dzumac	98.90 234	LR	LR		18 33 17.9	
	comp=Z,3μm,19.8s,baz=142,slow=30						
ESDC	Sonseca Array	99.08 47	P		Pdif	17 58 05.0	+0.4
	comp=Z,1.6nm,0.7s,baz=232,slow=3.3,SNR=7.2						
ESDC			LR	LR		18 41 43.5	
	comp=Z,5μm,19.9s,baz=235,slow=35						
ABPO	Ambohimpanom	101.23 124	PFAKE			17 58 30.0	+15
ABPO			LR	LR			
	comp=Z,6μm,21.0s						
AIS	Amsterdam Isla	101.25 157	PP	PP		18 02 12.0	-10
AIS			SP	SP		18 11 23.0	+0.8
AIS			L	L		18 26 00.0	
AIS			R			18 31 00.0	
YKA	Yellowknife Ar	104.16 342	Pdiff		Pdif	17 58 25.5	-0.9
	comp=Z,0.7nm,0.9s,baz=143,slow=4.5,SNR=9.1						
YKA			PP		PKiKP	18 02 43.3	+0.1
	comp=Z,1.1nm,1.0s,baz=142,slow=8.4,SNR=5.6						
SFJD	Kangerlussuaq	104.68 9	eP		Pdif	17 58 22.5	-6.1
SFJD			MLR	MLR			
	comp=Z,2μm,17.0s						
SFJD	Kangerlussuaq	104.68 9	iP		Pdif	17 58 22.5	-6.1
RER	Riviere de l'E	105.10 131	PFAKE			18 03 00.0	
RER			LR	LR			
	comp=Z,5μm,20.0s						
KMBO	Kilima Mbogo	105.72 103	PFAKE			18 03 00.0	
KMBO			LR	LR			
	comp=Z,15μm,19.0s						
ILULI	Ilulissat	106.73 8	eP		Pdif	17 58 30.2	-7.5
ILULI			MLR	MLR			
	comp=Z,4μm,19.0s						
ILULI	Ilulissat	106.73 8	iP		Pdif	17 58 30.2	-7.5
SSB	Saint Sauveur	107.47 46	PFAKE			18 03 00.0	
SSB			LR	LR			
	comp=Z,6μm,22.0s						
BNI	Bardonecchia	108.60 47	PFAKE			18 03 00.0	
BNI			LR	LR			
	comp=Z,10μm,20.0s						
BORG	Borgarnes	108.85 21	PFAKE			18 03 00.0	
BORG			LR	LR			
	comp=Z,5μm,19.0s						
ESK	Eskdalemuir	109.27 35	PFAKE			18 03 00.0	
ESK			LR	LR			
	comp=Z,4μm,19.0s						
ECH	Echery	110.59 45	PFAKE			18 03 10.0	
ECH			LR	LR			
	comp=Z,6μm,20.0s						
CEL	Celeste	110.90 57	PFAKE			18 03 10.0	
CEL			LR	LR			
	comp=Z,14μm,21.0s						
BFO	Black Forest	111.31 45	PFAKE			18 03 10.0	
BFO			LR	LR			
	comp=Z,5μm,21.0s						
AQU	L'Aquila	111.33 53	PFAKE			18 03 10.0	
AQU			LR	LR			
	comp=Z,8μm,19.0s						
SUMG	Summit	111.50 11	eP		Pdif	17 58 53.1	-6.3
SUMG			MLR	MLR			
	comp=Z,2μm,17.0s						
SUMG	Summit	111.50 11	iP		Pdif	17 58 53.1	-6.3
CUC	Castrocucco	111.72 56	PFAKE			18 03 10.0	
CUC			LR	LR			
	comp=Z,6μm,19.0s						
TIP	Timpagrande	111.95 57	PFAKE			18 03 10.0	
TIP			LR	LR			
	comp=Z,7μm,20.0s						
HNR	Honiara	112.26 239	PFAKE			18 03 10.0	
HNR			LR	LR			
	comp=Z,370nm,19.0s						
CTAO	Charters Tower	112.39 220	PFAKE			18 03 10.0	
CTAO			LR	LR			
	comp=Z,3μm,20.0s						
EGAK	Eagle	113.95 334	PFAKE			18 03 10.0	
EGAK			LR	LR			
	comp=Z,3μm,20.0s						
GERES	GERESS Array B	114.67 47	PKP		PKPdf	18 03 02.6	-0.9
	comp=Z,3.3nm,0.8s,baz=207,slow=2.4,SNR=18						
KHC	Kasperske Hory	114.73 46	ePKIKP		PKPdf	18 03 06.4	+2.9
KHC			e			18 03 17.9	
KHC			e			18 04 01.4	
KHC			e			18 13 29.9	
KHC			MLR	MLR			
	comp=Z,8μm,17.3s						
KHC	Kasperske Hory	114.73 46	ePKP		PKPdf	18 03 06.4	+2.9
KHC			ex		x	18 03 17.9	
KHC			ePP		PP	18 04 01.4	-0.9
KHC			eXS			18 11 53.9	
KHC			eSP		SP	18 13 29.9	-7.2
KHC			AMS		AMS	18 54 30.0	
	comp=Z,8μm,17.3s						
ASAR	Alice Springs	114.82 207	PKP		PKPdf	18 03 02.8	-1.9
	comp=Z,0.6nm,0.7s,baz=155,slow=1.8,SNR=10.0						
ASAR			PKKPbc		PKKPbc	18 13 40.9	+0.1
	comp=Z,1.1nm,0.8s,baz=339,slow=3.2,SNR=14						
KDAK	Kodiak Island	114.88 325	PFAKE			18 03 20.0	+17
KDAK			LR	LR			
	comp=Z,3μm,20.0s						
CLL	Collm	115.41 44	eP		Pdif	17 59 20.0	+3.2
CLL	Collm	115.41 44	ePdif		Pdif	17 59 20.0	+3.2
CLL			ePP		PP	18 04 06.0	-0.9
CLL			eSKSac		SKSac	18 09 54.0	+2.5
CLL			eSKKSac		SKKSac	18 11 07.0	+1.5
CLL			eSdif		Sdif	18 11 56.0	+6.8
CLL			ePS		PS	18 13 49.0	+2.2
CLL			ePPS		PPS	18 15 08.0	
CLL			eSS		SS	18 20 07.0	+3.2
CLL			eSSS		SSS	18 24 30.0	
CLL			eSSSS			18 27 42.0	
CLL			e			18 31 06.0	
CLL			Lm		MLR	18 49 00.0	
	comp=N,2μm,21.2s						
CLL			Lm		MLR	18 49 00.0	
	comp=E,4μm,20.6s						
CLL			Lm		MLR	18 49 00.0	
	comp=Z,6μm,20.6s						
CSNA	Conrad Observa	115.53 48	iPKPdif		PKPdf	18 03 04.6	-0.6
	comp=Z,3.0nm,0.7s						
PRA	Prague	115.66 46	PKP		PKPdf	18 03 07.0	+1.8
PRU	Pruhonice	115.68 46	ePKIKP		PKPdf	18 03 07.2	+1.9
PRU			e			18 09 53.7	
PRU			e			18 13 49.0	
PRU			MLR	MLR			
	comp=Z,8μm,17.7s						
PRU	Pruhonice	115.68 46	ePKP		PKPdf	18 03 07.2	+1.9
PRU			eSKS		SKSac	18 09 53.7	+1.1
PRU			eXS		x	18 12 02.0	
PRU			eSP		SP	18 13 49.0	+3.3
PRU			AMS		AMS	18 55 00.0	
	comp=Z,8μm,17.7s						
BRG	Berggiesshubel	115.74 45	PDIFF		Pdif	17 59 12.0	-6.2
BRG	Berggiesshubel	115.74 45	ePKP		PKPdf	18 03 05.0	-0.3
	comp=Z,4.1nm,1.0s						
BRG			PP		PP	18 04 01.0	-8.3
BRG			SKS			18 12 02.0	
BRG			PS		PKKPab	18 13 43.0	+2.6
BRG			SS		SS	18 19 59.0	-9.2
BRG	Berggiesshubel	115.74 45	ePKIKP		PKPdf	18 03 05.0	-0.3
BRG			PS		PKKPab	18 13 43.0	+2.6
BRG			pmax		pmax		
	comp=Z,4.0nm,1.0s						
BRG			MLR		MLR		
	comp=N,4μm,18.7s						
BRG			MLR		MLR		
	comp=E,4μm,16.8s						
BRG			MLR		MLR		
	comp=Z,8μm,17.3s						
MUD	Monsted U'grnd	115.77 38	eP		Pdif	17 59 13.7	-4.5
MUD			MLR		MLR		
	comp=Z,4μm,16.0s						
MUD	Monsted U'grnd	115.77 38	iP		Pdif	17 59 13.7	-4.5
TREC	Trest	115.92 47	eXS			18 12 03.3	
TREC			eSP		SP	18 13 52.5	+4.6
TREC			AMS		AMS	18 57 00.0	
	comp=Z,4μm,16.8s						
SUE	Sulen	115.92 32	ePP		PP	18 04 10.7	+0.5
SUE			IAMs_20		IAMs_20	18 49 11.6	
	comp=Z,4μm,20.0s						
PVCC	Panska Ves	115.94 45	ePKIKP		PKPdf	18 03 05.9	+0.1
PVCC			MLR		MLR		
	comp=Z,5μm,17.6s						
PVCC	Panska Ves	115.94 45	ePKP		PKPdf	18 03 05.9	+0.1
PVCC			AMS		AMS	18 56 20.0	
	comp=Z,5μm,17.6s						
ILAR	Eielson Array	116.01 333	PKP		PKPdf	18 03 05.5	0.0
	comp=Z,0.4nm,0.7s,baz=183,slow=3.1,SNR=4.7						
HOMB	Homborsund	116.29 36	ePP		PP	18 04 15.5	+2.7
HOM

JMIC	Jan Mayen	116.61	19	ePP	PP	18 04 14.2	-0.6
MIDW	Midway	116.86	286	PFAKE		18 03 20.0	+12
MIDW				LR	LR		
comp=Z,6μm,20.0s							
DPC	Dobruska-Polom	116.87	46	ePKIKP	PKPdf	18 03 08.4	+0.8
DPC				e		18 13 55.4	
DPC	Dobruska-Polom	116.87	46	ePKP	PKPdf	18 03 08.4	+0.8
DPC				eXS		18 12 13.5	
DPC				eSP	SP	18 13 55.4	-1.1
DPC				AMS	AMS	18 56 00.0	
KRLC	Kraliky	117.02	46	ePKIKP	PKPdf	18 03 08.3	+0.4
KRLC	Kraliky	117.02	46	ePKP	PKPdf	18 03 08.3	+0.4
MSEY	Mahe Island	117.03	119	PFAKE		18 03 20.0	+11
MSEY				LR	LR		
comp=Z,5μm,19.0s							
COP	Copenhagen	117.06	39	eP	Pdif	17 59 18.7	-5.2
COP				MLR	MLR		
comp=Z,2μm,19.0s							
COP	Copenhagen	117.06	39	i P	Pdif	17 59 18.7	-5.2
MORC	Moravsky Berou	117.34	47	⇑PKIKP	PKPdf	18 03 09.0	+0.4
MORC	Moravsky Berou	117.34	47	⇑iP	PKPdf	18 03 09.0	+0.4
KONO	Kongsberg	117.41	35	ePP	PP	18 04 21.9	+1.2
KONO	Kongsberg	117.41	35	PFAKE		18 03 20.0	+12
KONO				LR	LR		
comp=Z,4μm,20.0s							
VYHS	Vyhne	117.57	49	ePKIKP	PKPdf	18 03 08.8	-0.2
VYHS	Vyhne	117.57	49	ePKP	PKPdf	18 03 08.8	-0.2
OKC	Ostrava-Krasne	117.72	47	ePKIKP	PKPdf	18 03 11.7	+2.5
OKC				e		18 10 01.9	
OKC				e		18 14 03.4	
OKC				MLR	MLR		
comp=Z,3μm,17.1s							
OKC	Ostrava-Krasne	117.72	47	ePKP	PKPdf	18 03 11.7	+2.5
OKC				eSKS	SKSac	18 10 01.9	+1.8
OKC				eXS		18 12 24.2	
OKC				eSP	SP	18 14 03.4	-0.8
OKC				AMS	AMS	18 57 30.0	
comp=Z,3μm,17.1s							
MOL	Molde	117.80	31	e	PP	18 04 26.7	+3.4
MOL				IAMs_20	IAMs_20	18 52 02.9	
comp=Z,6μm,22.0s							
PSZ	Piszkesteto	117.97	50	PFAKE		18 03 20.0	+10
PSZ				LR	LR		
comp=Z,3μm,21.0s							
WRA	Warramunga Arr	118.03	210	PKP	PKPdf	18 03 09.1	-1.8
comp=Z,1.2nm,0.8s,baz=162,slow=1.6,SNR=12							
WRA				PKKPbc	PKKPbc	18 13 30.9	+1.4
comp=Z,1.1nm,0.8s,baz=343,slow=4.6,SNR=6.8							
BZS	Buzias	118.09	52	⇑PKIKP	PKPdf	18 03 09.7	-0.4
BZS	Buzias	118.09	52	⇑iP	PKPdf	18 03 09.7	-0.4
BSD	Bornholm Skovb	118.10	41	eP	Pdif	17 59 24.2	-4.4
BSD				MLR	MLR		
comp=Z,5μm,21.0s							
BSD	Bornholm Skovb	118.10	41	i P	Pdif	17 59 24.2	-4.4
NB2	NORSAR Subarra	118.73	34	PKPdf	PKPdf	18 03 11.7	+0.8
comp=Z,5.1nm,1.2s,baz=248,slow=1.9							
NB2	NORSAR Subarra	118.73	34	PKPdf	PKPdf	18 03 11.7	+0.8
baz=248,slow=1.9							
NOA	NORSAR Array B	118.73	34	PKP	PKPdf	18 03 10.2	-0.7
comp=Z,1.1nm,0.8s,baz=213,slow=3.8,SNR=4.1							
NOA				PKKPbc	PKKPbc	18 13 34.7	+7.0
comp=Z,1.0nm,0.7s,baz=66,slow=4.4,SNR=3.8							
NC602	NORSAR Array S	118.75	34	ePP	PP	18 04 30.5	+0.6
CRVS	Cervenica-Dubn	119.32	49	ePKIKP	PKPdf	18 03 12.9	+0.5
CRVS	Cervenica-Dubn	119.32	49	ePKP	PKPdf	18 03 12.9	+0.5
STHS	Stebnicka Huta	119.39	48	ePKIKP	PKPdf	18 03 12.7	+0.2
STHS	Stebnicka Huta	119.39	48	ePKP	PKPdf	18 03 12.7	+0.2
TRPA	Tarpa	119.68	50	⇓iP	PKPdf	18 03 13.0	0.0
UZH	Uzhgorod	119.72	49	i PKIKP	PKPdf	18 03 17.6	+4.5
UZH				e		18 03 24.2	
UZH				ePPP	PPP	18 07 15.4	
UZH				i PS	PS	18 14 26.0	0.0
UZH				MLR	MLR		
comp=N,3μm,18.0s							
UZH				MLR	MLR		
comp=E,2μm,18.0s							
UZH				MLR	MLR		
comp=Z,2μm,18.0s							
HUMR	Humele	119.83	55	⇓iP	PKPdf	18 03 15.8	+2.4
KOLS	Kolonicke sedl	119.83	49	ePKIKP	PKPdf	18 03 14.4	+1.1
KOLS	Kolonicke sedl	119.83	49	ePKP	PKPdf	18 03 14.4	+1.1
JMB	Yambol	120.08	57	⇓PKIKP	PKPdf	18 03 16.6	+2.6
JMB	Yambol	120.08	57	⇓iP	PKPdf	18 03 16.6	+2.6
VOIR		120.23	54	⇓PKIKP	PKPdf	18 03 16.8	+2.5
VOIR		120.23	54	⇓iP	PKPdf	18 03 16.8	+2.5
KWP	Kalwaria Pacla	120.36	49	⇓PKIKP	PKPdf	18 03 14.6	+0.3
KWP	Kalwaria Pacla	120.36	49	ePKP	PKPdf	18 03 15.0	+0.7
KWP	Kalwaria Pacla	120.36	49	⇓iP	PKPdf	18 03 14.6	+0.3
KWP	Kalwaria Pacla	120.36	49	ePKPdf	PKPdf	18 03 13.7	-0.6
KWP				LR	LR		
comp=Z,7μm,19.0s							
NSS	Namsos	120.40	30	ePP	PP	18 04 42.8	+1.6
NSS				IAMs_20	IAMs_20	19 03 02.5	
comp=Z,6μm,18.4s							
DOPR	Dopca	120.65	53	⇑iP	PKPdf	18 03 16.8	+1.8
MLR	Muntele Rosu	120.83	54	⇓PKIKP	PKPdf	18 03 14.9	-0.6
MLR	Muntele Rosu	120.83	54	⇓iP	PKPdf	18 03 14.9	-0.6
ISP	Isparta	120.96	64	PFAKE		18 03 30.0	+14
ISP				LR	LR		
comp=Z,7μm,21.0s							
BURAR	Bucovina Array	121.16	51	⇓PKIKP	PKPdf	18 03 17.2	+1.2
BURAR	Bucovina Array	121.16	51	⇓iP	PKPdf	18 03 17.2	+1.2
MBWA	Marble Bar	121.28	194	PFAKE		18 03 30.0	+13
MBWA				LR	LR		
comp=Z,4μm,19.0s							
PLOR	Plostina	121.42	54	⇓PKIKP	PKPdf	18 03 16.1	-0.5
PLOR	Plostina	121.42	54	⇓iP	PKPdf	18 03 16.0	-0.5
VRI	Vrincioaia	121.48	54	⇓PKIKP	PKPdf	18 03 15.1	-1.5
VRI	Vrincioaia	121.48	54	⇓iP	PKPdf	18 03 15.1	-1.5
TESR	Tescani	121.67	53	⇑iP	PKPdf	18 03 16.7	-0.2
CSS	Prodhromos	121.84	68	PFAKE		18 03 30.0	+12
CSS				LR	LR		
comp=Z,850nm,19.0s							
TIRR	Tirgusor	122.07	56	⇓PKIKP	PKPdf	18 03 18.0	+0.3
TIRR	Tirgusor	122.07	56	⇓iP	PKPdf	18 03 18.0	+0.3
CFR	Carcaliu	122.15	55	⇓PKIKP	PKPdf	18 03 17.5	-0.4
CFR	Carcaliu	122.15	55	⇓iP	PKPdf	18 03 17.5	-0.4
SUW	Suwalki	122.17	44	ePKIKP	PKPdf	18 03 17.2	-0.4
SUW	Suwalki	122.17	44	ePKP	PKPdf	18 03 17.5	-0.1
SUW	Suwalki	122.17	44	ePKPdf	PKPdf	18 03 17.1	-0.4
STEI	Steigen	122.78	27	e	PKPdf	18 03 18.0	-0.4
KIS	Kishinev	123.23	53	ePKIKP	PKPdf	18 03 20.0	+0.1
KIS				e		18 03 32.0	
KIS				e		18 05 00.0	
KIS				ePPP	PPP	18 07 40.0	
KIS				e		18 10 20.0	
KIS				ePS	PS	18 15 00.0	+2.7
KIS				MLR	MLR		
comp=N,2μm,23.0s							
KIS				MLR	MLR		
comp=E,2μm,23.0s							
KIS				MLR	MLR		
comp=Z,4μm,23.0s							
KIS				MLR	MLR		
comp=Z,4μm,24.0s							
KIS	Kishinev	123.23	53	ePKP	PKPdf	18 03 20.0	+0.1
KIS	Kishinev	123.23	53	ePP	PP	18 05 00.0	-1.0
KIS	Kishinev	123.23	53	ePPP	PPP	18 07 40.0	
KIS				eSKS	SKSdf	18 10 20.0	-10
KIS				eSKKS	SKKSac	18 12 10.0	+13
KIS	Kishinev	123.23	53	ePS	PS	18 15 00.0	+2.7
KIS				LRM	MLR	18 53 32.0	
comp=Z,2μm,23.0s							
ANTO	Ankara	123.39	62	PFAKE		18 03 30.0	+9.4
ANTO				LR	LR		
comp=Z,4μm,22.0s							
BRTR	Keskin Array B	123.94	63	PKP	PKPdf	18 03 21.4	-0.4
comp=Z,5.0nm,0.7s,baz=184,slow=3.0,SNR=19							
BRTR				PP	PP	18 05 04.3	-1.8
comp=Z,3.7nm,1.1s,baz=234,slow=4.3,SNR=4.1							
NACGM	Naroch	124.44	44	e	PKPdf	18 03 20.0	-1.9
TRO	Tromso	124.51	25	e	PKPdf	18 03 25.2	+3.6
TRO				ePP	PP	18 05 08.9	0.0
TRO				eSS	SS	18 22 00.5	+0.6
KIEV	Kiev	124.65	49	ePKIKP	PKPdf	18 03 20.3	-2.1
KIEV	Kiev	124.65	49	ePKPdf	PKPdf	18 03 20.4	-2.1
KIEV				LR	LR		
comp=Z,2μm,19.0s							
AKASG	Malin Array Be	124.66	49	PKP	PKPdf	18 03 21.4	-1.1
comp=Z,5.8nm,0.7s,baz=263,slow=2.9,SNR=12							
AKASG				PP	PP	18 05 09.2	-1.3
comp=Z,2.3nm,0.8s,baz=252,slow=8.4,SNR=6.2							
H11S2	WAKE ISLAND Hyl	124.68	268	T	T	20 20 38.0	
baz=118							
KBS	Kingsbay	124.68	14	ePP	PP	18 05 07.7	-2.2
KBS				eSS	SS	18 22 02.3	+0.6
KBS	Kingsbay	124.68	14	PFAKE		18 03 30.0	+8.2
KBS				LR	LR		
comp=Z,2μm,20.0s							
H11S1	WAKE ISLAND Hyl	124.70	268	T	T	20 20 25.3	
baz=118							
H11S3	WAKE ISLAND Hyl	124.70	268	T	T	20 20 38.4	
baz=118							
MNK	Minsk	124.92	44	eP	Pdif	18 00 00.0	+1.0
MNK				e		18 03 22.0	
MNK				e		18 10 23.0	
MNK				ePS	PS	18 15 05.0	-7.0
MNK				eSS	SS	18 22 06.0	+0.2
MNK				MLR	MLR		
comp=Z,7μm,20.0s							
MNK				MLR	MLR		
comp=E,8μm,20.0s							
MNK				MLR	MLR		
comp=Z,6μm,20.0s							
MICGM	Minsk	124.94	44	eP	Pdif	18 00 00.0	+0.9
HSPB	Hornsund (broa	125.03	16	e	PKPdf	18 03 24.7	+2.2
HSPB				ePP	PP	18 05 11.3	-0.9
H11N3	WAKE ISLAND Hyl	125.16	269	T	T	20 21 06.2	
baz=123							
H11N1	WAKE ISLAND Hyl	125.17	269	T	T	20 20 53.3	
baz=123							
H11N2	WAKE ISLAND Hyl	125.18	269	T	T	20 21 04.2	
baz=123							
SPA0	Spitsbergen Ar	125.41	15	ePP	PP	18 05 14.9	+0.2
SPA0				eSS	SS	18 22 08.8	-2.1
ADK	Adak	125.52	312	PFAKE		18 03 40.0	+16
ADK				LR	LR		
comp=Z,3μm,19.0s							
FINES	FINESS Array B	125.67	36	PKP	PKPdf	18 03 25.6	+1.5
comp=Z,2.5nm,0.8s,baz=150,slow=4.2,SNR=5.9							
DGAR	Diego Garcia	125.73	137	PFAKE		18 03 40.0	+14
DGAR				LR	LR		
comp=Z,5μm,19.0s							
SIM	Simferopol'	126.06	57	PKIKP	PKPdf	18 03 24.8	-0.6
SIM				e		18 05 19.4	
SIM				PS	PS	18 15 25.4	+3.0
SIM				PPS	PPS	18 17 00.1	
SIM				SS	SS	18 22 24.0	+3.3
SIM				pmax	pmax		
comp=Z,63nm,8.4s							
RAYN	Ar Rayn	126.25	86	ePKPdf	PKPdf	18 03 25.4	-1.1
ARCES	ARCESS Array B	126.77	26	PKP	PKPdf	18 03 26.3	+0.2
comp=Z,1.0nm,0.3s,baz=321,slow=1.7,SNR=4.5							
ARE0	ARCESS Array S	126.77	26	ePP	PP	18 05 23.5	-0.5
ARE0				eSS	SS	18 22 29.5	+1.3
MALT	Malatya	126.91	66	⇑PKIKP	PKPdf	18 03 27.9	+0.5
MALT	Malatya	126.91	66	⇑iP	PKPdf	18 03 27.9	+0.5
HOPEN	Hopen	127.15	17	ePP	PP	18 05 25.9	-0.3
HOPEN				eSS	SS	18 22 35.8	+3.2
KEV	Kevo	127.31	26	PFAKE		18 03 40.0	+13
KEV				LR	LR		
comp=Z,5μm,22.0s							
ANN	Anapa	128.27	58	i PKIKP	PKPdf	18 03 30.7	+1.1
ANN				e		18 05 33.0	
ANN				ePPP	PPP	18 08 16.7	
ANN				e		18 10 40.1	
ANN				eSP	SP	18 15 37.4	-0.7
ANN				pmax	pmax		
comp=Z,93nm,1.1s							
ANN				MLR	MLR		
comp=Z,3μm,24.0s							
SOC	Sochi	129.51	60	i PKIKP	PKPdf	18 03 32.8	+0.8
SOC				i		18 05 39.4	
SOC				ePPP	PPP	18 08 28.0	
SOC				e		18 10 28.6	
SOC				ePS	PS	18 15 40.4	-12
SOC				eSS	SS	18 23 00.6	-3.0
OBN	Obninsk	129.99	45	⇑iPKIKP	PKPdf	18 03 32.3	-0.2
OBN				e		18 05 45.4	
OBN				pmax	pmax		
comp=Z,22nm,1.2s							
OBN	Obninsk	129.99	45	PFAKE		18 03 40.0	+7.5
OBN				LR	LR		
comp=Z,5μm,20.0s							
LVZ	Lovozero	130.01	28	PFAKE		18 03 40.0	+7.7
LVZ				LR	LR		
comp=Z,5μm,22.0s							
COCO	West Island	130.62	167	PFAKE		18 03 50.0	+15
COCO				LR	LR		
comp=Z,3μm,19.0s							
MOS	Moscow	130.67	44	ePKIKP	PKPdf	18 03 33.9	+0.1
MOS				e		18 05 48.6	
MOS				e		18 08 45.5	
VSR	Storozhevoye	130.89	50	ePKIKP	PKPdf	18 03 33.4	-1.0
VSR				pmax	pmax		
comp=N,7.0nm,0.8s							
VSR				pmax	pmax		
comp=E,6.0nm,0.8s							
VSR				pmax	pmax		
comp=Z,10.0nm,0.8s							
VSR				MLR	MLR		
comp=Z,3μm,20.0s							
VSR				MLR	MLR		
comp=N,2μm,19.0s							
VSR				MLR	MLR		
comp=E,2μm,22.0s							
VORD	Divnogorie	130.92	51	ePKIKP	PKPdf	18 03 33.1	-1.3
VORD				pmax	pmax		
comp=Z,6.0nm,0.9s							
VORD				pmax	pmax		
comp=N,10.0nm,0.8s							
VORD				pmax	pmax		
comp=E,6.0nm,0.8s							
VORD				MLR	MLR		
comp=N,2μm,19.0s							
VORD				MLR	MLR		
comp=Z,3μm,19.0s							
VORD				MLR	MLR		
comp=E,2μm,21.0s							
TMCR	Tamitsa	131.41	33	ePKIKP	PKPdf	18 03 34.8	-0.1
TMCR				pmax	pmax		
comp=Z,32nm,1.5s							
AKH	Akhalkalaki	131.59	64	P	PP	18 05 55.1	-1.4
KIV	Kislovodsk	131.68	60	i PKIKP	PKPdf	18 03 35.4	-0.9
KIV				e		18 05 54.9	
KIV				ePPP	PPP	18 08 45.9	
KIV				ePS	PS	18 16 09.9	-1.7
KIV				eSS	SS	18 23 28.6	-1.9
KIV				pmax	pmax		
comp=Z,16nm,1.0s							
KIV				MLR	MLR		
comp=Z,3μm,21.0s							
KIV	Kislovodsk	131.68	60	PFAKE		18 03 50.0	+14
KIV				LR	LR		
comp=Z,2μm,19.0s							
ONI	Oni	131.88	62	P	PP	18 05 56.5	-1.7
KLMR	Klimovskoe	132.07	37	ePKIKP	PKPdf	18 03 34.8	-1.5
KLMR				pmax	pmax		
comp=Z,18nm,0.8s							
KLMR				MLR	MLR		
comp=Z,5μm,21.0s							
GNI	Garni	132.14	66	PKIKP	PKPdf	18 03 36.9	-0.5
GNI				MLR	MLR		
comp=Z,3μm,20.0s							
GNI	Garni	132.14	66	PKP	PKPdf	18 03 36.9	-0.5
comp=Z,3.4nm,0.6s,baz=172,slow=14,SNR=3.3							
GNI	Garni	132.14	66	PKP	PKPdf	18 03 36.9	-0.5
GNI				LR	LR		
comp=Z,3μm,20.0s							
GOF	Gofitskoye	132.19	59	ePKIKP	PKPdf	18 03 38.0	+0.9
GOF				pmax	pmax		
comp=Z,20nm,0.8s							
NCK	Nalchik	132.21	61	ePKIKP	PKPdf	18 03 39.3	+2.1
ZEI	Tsey	132.25	62	i PKIKP	PKPdf	18 03 37.8	+0.3
ZEI				pmax	pmax		
comp=Z,12nm,1.3s							
VRHR	Novokhopersk	132.40	51	ePKIKP	PKPdf	18 03 36.6	-0.6
VRHR				pmax	pmax		
comp=N,6.0nm,0.8s							
VRHR				pmax	pmax		
comp=Z,10.0nm,0.8s							
VRHR				pmax	pmax		
comp=E,7.0nm,0.7s							
VRHR				MLR	MLR		
comp=Z,2μm,21.0s							
VRHR				MLR	MLR		
comp=N,770nm,19.0s							
VRHR				MLR	MLR		
comp=E,2μm,20.0s							
TBLG	Delisi	132.57	64	P	PP	18 05 56.9	-5.8
DGRG	David-gareji	132.96	64	P	PP	18 06 02.8	-2.4
BILL	Bilibino	134.67	333	⇑ePKIKP	PKPdf	18 03 39.8	-1.2
BILL				e		18 06 23.3	
BILL				eSS	SS	18 24 03.1	-1.8
BILL				pmax	pmax		
comp=Z,22nm,3.5s							
BILL	Bilibino	134.67	333	PFAKE		18 03 50.0	+9.0
BILL				LR	LR		
comp=Z,3μm,20.0s							
MAK	Makhachkala	134.86	63	ePKIKP	PKPdf	18 03 42.2	+0.1
MAK				e		18 06 14.2	
MAK				ePPP	PPP	18 09 24.2	
MAK				eSP	SP	18 16 28.3	-6.7
MAK				ePS	PS	18 16 36.6	-2.0
MAK				pmax	pmax		
comp=Z,24nm,0.8s							
PRGR	Permogore	135.00	36	ePKIKP	PKPdf	18 03 41.4	-0.4
PRGR						18 06 13.5	
PRGR				pmax	pmax		
comp=Z,28nm,0.9s							
KAPI	Kappang	136.88	199	PFAKE		18 04 00.0	+13
KAPI				LR	LR		
comp=Z,2μm,19.0s							
GUMO	Guam	138.94	246	PFAKE		18 04 00.0	+9.5
GUMO				LR	LR		
comp=Z,2μm,19.0s							
PET	Petropavlovsk	140.58	311	ePKIKP	PKPdf	18 03 52.8	+0.5
PET				e		18 07 02.6	
PET				ePPS	PPS	18 19 10.7	
PET				eSS	SS	18 25 18.4	+2.5
PET				eSSS	SSS	18 30 28.1	
PET				pmax	pmax		
comp=Z,300nm,10.3s							
PET				pmax	pmax		
comp=Z,1μm,14.8s							
PET				MLR	MLR		
comp=Z,2μm,19.0s							
PET	Petropavlovsk	140.58	311	PFAKE		18 04 00.0	+7.7
PET				LR	LR		
comp=Z,2μm,20.0s							
SOKR	Solikamsk	140.75	38	PKHKP	PKPpre	18 03 41.3	
TRD	Trivandrum	141.13	129	eP	PKPdf	18 03 52.5	-2.0
PETK	Petropavlovsk-	141.15	312	PKhKP	PKPpre	18 03 46.9	
comp=Z,4.6nm,1.1s,baz=116,slow=8.9,SNR=4.6							
GEYT	Alibeck	141.65	73	PKhKP	PKPpre	18 03 48.2	
comp=Z,10.0nm,0.9s,baz=262,slow=5.2,SNR=11							
SEY	Seymchan	141.70	328	PKhKP	PKPpre	18 03 48.2	
comp=Z,1.6nm,0.7s,baz=72,slow=23,SNR=12							
ARU	Arti	142.34	43	i PKIKP	PKPdf	18 03 58.3	+2.9
ARU						18 06 59.1	
ARU				MLR	MLR		
comp=Z,7μm,21.0s							
ARU	Arti	142.34	43	ePKPpre	PKPpre	18 03 50.4	
ARU				LR	LR		
comp=Z,7μm,21.0s							
PALK	Pallekele	142.41	135	PKIKP	PKPdf	18 03 56.0	-0.9
PALK	Pallekele	142.41	135	PKP	PKPdf	18 03 56.0	-0.9
comp=Z,4.6nm,0.7s,baz=350,slow=2.6,SNR=4.2							
AKTO	Aktyubinsk	142.74	53	PKhKP	PKPpre	18 03 51.4	
comp=Z,3.9nm,0.8s,baz=296,slow=4.0,SNR=14							
TIXI	Tiksi	143.01	349	ePKIKP	PKPdf	18 03 55.6	-0.5
TIXI				MLR	MLR		
comp=Z,2μm,25.0s							
TIXI	Tiksi	143.01	349	ePKPpre	PKPpre	18 03 50.6	
SVE	Sverdlovsk	143.37	42	ePKIKP	PKPbc	18 03 55.7	+1.3
GSI	Gunungsitoli	143.91	164	ePKPpre	PKPpre	18 03 57.2	
GOA	Goa	144.03	117	eP	PKPbc	18 03 57.3	-0.2
GOA				AMS	AMS	19 06 19.2	
comp=Z,3μm,17.9s							
AB31	Akbulak array	144.04	54	i PKIKP	PKPab	18 03 56.0	-0.1
AB31				pmax	pmax		
comp=Z,58nm,0.9s							
ABKAR	Akbulak array	144.04	54	ePKPpre	PKPab	18 03 56.4	+0.2
KSM	Kuching	144.92	186	ePKPdf	PKPab	18 03 59.8	-0.7
KSM				LR	LR		
comp=Z,2μm,20.0s							
BHJ	Bhuj	145.47	102	eP	PKPdf	18 04 00.4	-1.5
PSI	Prapat	145.64	166	PKPbc	PKPdf	18 04 01.9	-0.8
comp=Z,62nm,0.8s,baz=176,slow=5.0,SNR=34							
DAV	Davao City (W)	145.96	215	PFAKE		18 04 10.0	+5.8
DAV				LR	LR		
comp=Z,2μm,19.0s							
POO	Poona	146.00	113	⇑iP	PKPdf	18 04 02.0	-1.0
comp=Z,136nm,1.2s							
POO				eP	PKPbc	18 04 03.3	-0.5
MDRS	Chennai	146.68	128	eP	PKPdf	18 04 02.2	-2.0
CTBH	Cotabato--PC H	146.69	213	⇓iP	PKPdf	18 04 05.0	+0.7
MYLDM	Lahad Datu	146.94	202	⇑P	PKPdf	18 04 03.4	-1.3
LHMI	Lhok Sumawe	147.55	162	ePKPdf	PKPbc	18 04 07.7	-0.6
IPM	Ipoh	147.64	169	ePKPdf	PKPdf	18 04 05.0	-1.0
KUR	Kuril'sk	148.00	299	d iPKHKP	PKPpre	18 03 56.8	
KUR				pmax	pmax		
comp=E,20nm,0.8s							
KUR				pmax	pmax		
comp=N,25nm,1.5s							
KUR				pmax	pmax		
comp=Z,184nm,1.5s							
KUR				MLR	MLR		
comp=E,1μm,17.0s							
KUR				MLR	MLR		
comp=Z,621nm,17.0s							
KUR				MLR	MLR		
comp=N,1μm,18.0s							
CMBY	CAMPBELL BAY	148.35	155	eP	PKPdf	18 04 04.4	-2.6
KULM	Kulim	148.38	168	⇓P	PKPdf	18 04 08.5	+1.4
KULM	Kulim	148.38	168	ePKPdf	PKPbc	18 04 09.2	-1.4
KULM				LR	LR		
comp=Z,2μm,20.0s							
KKM	Kota Kinabalu	148.40	198	PFAKE		18 04 20.0	+6.1
KKM				LR	LR		
comp=Z,2μm,19.0s							
HYB	Hyderabad	148.67	120	i PKP	PKPbc	18 04 10.0	-1.2
comp=Z,100nm,1.0s							
HYB	Hyderabad	148.67	120	eP	PKPdf	18 04 07.9	+0.5
HYB				AMS	AMS	19 06 55.5	
comp=Z,3μm,25.1s							
KBL	Kabul	149.42	82	ePKPdf	PKPdf	18 04 08.8	+0.3
YUK	Yuzh-Kuril'sk	149.44	296	d iPKHKP	PKPpre	18 04 07.6	
YUK				i		18 07 51.7	
YUK				i		18 11 13.0	
YUK				i SS	SS	18 27 00.0	+2.1
YUK				i SSS	SSS	18 32 37.0	
BRVK	Borovoye	149.76	45	ePKPdf	PKPdf	18 04 08.2	+0.1
BRVK				LR	LR		
comp=Z,8μm,20.0s							
BVAR	Borovoye Array	149.83	45	PKP	PKPdf	18 04 08.3	+0.1
comp=Z,7.4nm,0.7s,baz=276,slow=2.7,SNR=16							
BVAR				PKPbc	PKPbc	18 04 13.0	-0.1
comp=Z,8.1nm,0.7s,baz=287,slow=3.0,SNR=30							
VOSK	Vostochnaya	150.27	46	PKIKP	PKPdf	18 04 09.7	+0.8
VOSK				pmax	pmax		
comp=Z,62nm,1.1s							
YAK	Yakutsk	150.76	338	ePKIKP	PKPdf	18 04 06.7	-2.6
YAK				e		18 04 22.0	
YAK				e		18 07 50.4	
YAK				pmax	pmax		

NGP				*ex*	x	18 14 58.3	
BHPL	**Bhopal**	**151.48**	**110**	*eP*	**PKPdf**	**18 04 10.7**	**-1.1**
BHPL				AMS	AMS	19 07 18.1	
comp=Z,3μm,19.9s							
KK31	**Karatay Array**	**151.61**	**65**	*i* PKIKP	**PKPdf**	**18 04 11.6**	**+0.3**
KK31				pmax	pmax		
comp=Z,51nm,1.0s							
KKAR	**Karatay Array**	**151.61**	**65**	*e*PKIKP	**PKPdf**	**18 04 11.6**	**+0.3**
KKAR	**Karatay Array**	**151.61**	**65**	*e*PKPdf	**PKPdf**	**18 04 11.6**	**+0.3**
ASAJ	**Asahikawa**	**151.79**	**297**	PKPbc	**PKPbc**	**18 04 17.4**	**-0.5**
comp=Z,18nm,0.9s,baz=106,slow=7.0,SNR=8.3							
ASAJ	**Asahikawa**	**151.79**	**297**	*e*PKPdf	**PKPdf**	**18 04 09.4**	**-2.2**
ASAJ				PKPbc	**PKPbc**	**18 04 17.4**	**-0.5**
VIS	**Vishakhapatnam**	**152.11**	**126**	*eP*	**PKPdf**	**18 04 12.4**	**-0.3**
PBA	**Port Blair**	**152.19**	**150**	*eP*	PKPdf	18 04 14.3	+1.4
PBA				AMS	AMS	19 00 55.6	
comp=Z,2μm,15.7s							
DGPR	**DIGLIPUR**	**153.63**	**149**	*eP*	**PKPdf**	**18 04 16.0**	**+0.9**
DGPR				AMS	AMS	19 00 47.5	
comp=Z,2μm,23.7s							
EKS2	**Erkin-Say**	**154.02**	**66**	*e*PKIKP	**PKPdf**	**18 04 16.1**	**+1.1**
EKS2				MLR	MLR		
comp=Z,4μm,19.0s							
EKS2	**Erkin-Say**	**154.02**	**66**	*e*PKPdf	**PKPdf**	**18 04 16.1**	**+1.1**
EKS2				LR	LR		
comp=Z,4μm,19.0s							
NDI	**New Delhi**	**154.02**	**99**	*eP*	**PKPdf**	**18 04 15.0**	**-0.3**
NDI				*ex*	x	18 08 17.0	
BHK	**Bhakra**	**154.42**	**93**	*ex*	**PKPdf**	**18 04 12.0**	**-3.8**
AAK	**Ala-Archa**	**154.55**	**66***c*	*i* PKIKP	**PKPdf**	**18 04 16.7**	**+0.9**
AAK				pmax	pmax		
comp=Z,84nm,2.5s							
AAK	**Ala-Archa**	**154.55**	**66**	PKP	**PKPdf**	**18 04 16.1**	**+0.2**
comp=Z,4.1nm,0.9s,baz=161,slow=1.9,SNR=15							
AAK				PKPab	**PKPab**	**18 04 41.2**	**+2.2**
comp=Z,51nm,1.0s,baz=237,slow=4.8,SNR=18							
AAK	**Ala-Archa**	**154.55**	**66**	*e*PKPdf	**PKPdf**	**18 04 16.0**	**+0.2**
AAK				PKPab	**PKPab**	**18 04 41.2**	**+2.2**
AAK				LR	LR		
comp=Z,4μm,19.0s							
DHRM	**DHARAMSHALA**	**154.60**	**91**	*eP*	**PKPdf**	**18 04 16.4**	**+0.1**
DHRM				AMS	AMS	19 11 02.8	
comp=Z,3μm,22.6s							
FRU	**Bishkek**	**154.63**	**66**	*e*PKIKP	**PKPdf**	**18 04 18.0**	**+2.3**
FRU				*i*		18 04 40.0	
FRU				*i*		18 08 16.5	
FRU				pmax	pmax		
comp=Z,310nm,3.0s							
MJAR	**Matsushiro Arr**	**154.75**	**279**	PKPab	**PKPab**	**18 04 39.4**	**-0.5**
comp=Z,8.1nm,1.1s,baz=145,slow=2.9,SNR=4.9							
MAJO	**Matsushiro**	**154.75**	**279**	PFAKE		18 04 30.0	+5.3
MAJO				LR	LR		
comp=Z,4μm,20.0s							
MAT	**Matsushiro**	**154.75**	**279**	*e*PKP	**PKPdf**	**18 04 16.0**	**-0.1**
SMLA	**Simla**	**154.93**	**94**	*eP*	**PKPdf**	**18 04 16.0**	**-0.4**
TKM2	**Tokmak 2**	**155.34**	**65**	PKIKP	**PKPdf**	**18 04 15.3**	**-1.7**
TKM2				pmax	pmax		
comp=Z,30nm,1.7s							
TKM2	**Tokmak 2**	**155.34**	**65**	*e*PKPdf	**PKPdf**	**18 04 16.7**	**-0.3**
TKM2				LR	LR		
comp=Z,4μm,20.0s							
DDI	**Dehra Dun**	**155.35**	**96**	*eP*	**PKPdf**	**18 04 18.2**	**+1.1**
DDI				AMS	AMS	19 08 13.3	
comp=Z,2μm,10.9s							
KURK	**Kurchatov**	**155.42**	**46**	*e*PKIKP	**PKPdf**	**18 04 14.0**	**-2.5**
KURK				MLR	MLR		
comp=Z,2μm,21.0s							
KURK	**Kurchatov**	**155.42**	**46**	*e*PKPdf	**PKPdf**	**18 04 14.0**	**-2.5**
KURK				LR	LR		
comp=Z,2μm,21.0s							
NVS	**Novosibirsk**	**155.65**	**34**	*e*PKIKP	**PKPdf**	**18 04 15.0**	**-1.6**
NVS				*e*		18 08 18.6	
NVS				pmax	pmax		
comp=Z,59nm,1.5s							
NVS				pmax	pmax		
comp=N,9.0nm,1.3s							
NVS				pmax	pmax		
comp=E,13nm,1.3s							
KSH	**Kashi**	**155.67**	**74⇑**	*i* PKP	**PKPdf**	**18 04 17.5**	**+0.1**
KSH				PKS	**PKSdf**	**18 07 51.4**	**-0.1**
KSH				PP	**PP**	**18 08 19.2**	**-2.1**
KSH				SKS	**SKSdf**	**18 11 22.2**	**+0.2**
KSH				SKKS	**SKKSac**	**18 15 05.6**	**-3.1**
KSH				SS	**SS**	**18 28 05.4**	**-1.6**
KSH				PPMZ			
comp=E,2μm,5.4s							
KSH				LN			
comp=E,2μm,18.0s							
KSH				LE			
comp=E,520nm,15.0s							
KSH				LZ			
comp=E,3μm,24.8s							
ZALV	**Zalesovo Beam**	**156.93**	**34**	PKP	**PKPdf**	**18 04 17.3**	**-1.1**
comp=E,9.7nm,0.8s,baz=285,slow=2.3,SNR=27							
ZALV				PKPab	**PKPab**	**18 04 48.6**	**+0.1**
comp=E,17nm,0.8s,baz=309,slow=4.8,SNR=9.4							
KLR	**Kul'dur**	**157.83**	**313**	*e*PKIKP	PKPdf	18 04 14.2	-5.5
KLR				*e*		18 21 52.0	
KLR				pmax	pmax		
comp=Z,2μm,13.0s							
KLR				MLR	MLR		
comp=N,900nm,20.0s							
KLR				MLR	MLR		
comp=E,2μm,20.0s							
BOK	**Bokaro**	**158.01**	**120**	*eP*	**PKPdf**	**18 04 19.3**	**-1.5**
BOD	**Bodaibo**	**158.19**	**349**	*e*PKIKP	**PKPdf**	**18 04 23.3**	**+3.5**
BOD				*e*		18 04 52.5	
BOD				*e*		18 08 31.2	
BOD				pmax	pmax		
comp=Z,4.0nm,1.1s							
BOD				pmax	pmax		
comp=Z,22nm,1.3s							
KOLN	**Koldanda**	**158.60**	**108**	*eP*	**PKPdf**	**18 04 20.5**	**-1.1**
DANN	**Dangsing**	**159.01**	**106**	*eP*	**PKPdf**	**18 04 21.6**	**-0.6**
comp=Z,49nm,1.1s							
MK31	**Makanchi Array**	**159.17**	**53**	*i* PKIKP	**PKPdf**	**18 04 20.5**	**-0.9**
MK31				pmax	pmax		
comp=Z,7.0nm,0.7s							
MKAR	**Makanchi Array**	**159.17**	**53**	PKP	**PKPdf**	**18 04 20.9**	**-0.6**
comp=Z,6.8nm,1.0s,baz=301,slow=0.5,SNR=28							
MKAR				PKPab	**PKPab**	**18 04 58.6**	**0.0**
comp=Z,12nm,0.8s,baz=316,slow=2.9,SNR=15							
MKAR				PP	**PP**	**18 08 40.1**	**+0.1**
comp=Z,5.4nm,0.8s,baz=276,slow=3.9,SNR=6.1							
USRK	**Ussuriysk Ar.**	**159.34**	**299**	PKPab	**PKPab**	**18 04 59.2**	**-0.1**
comp=Z,1.7nm,0.7s,baz=99,slow=8.9,SNR=3.1							
GKN	**Gorkha**	**159.51**	**108**	*eP*	**PKPdf**	**18 04 21.6**	**-1.0**
DMN	**Daman**	**159.67**	**110**	*eP*	**PKPdf**	**18 04 22.0**	**-0.9**
PKIN	**Phulchoki**	**159.87**	**110**	*eP*	**PKPdf**	**18 04 22.1**	**-1.0**
PKI	**Pulchoki**	**159.88**	**110**	*eP*	**PKPdf**	**18 04 22.1**	**-1.1**
KKN	**Kakani**	**159.90**	**110**	*eP*	**PKPdf**	**18 04 22.9**	**-0.2**
GUN	**Gumba**	**160.41**	**110**	*eP*	**PKPdf**	**18 04 22.9**	**-0.9**
RAMN	**Ramite**	**160.43**	**114**	*eP*	**PKPdf**	**18 04 23.8**	**0.0**
JIRN	**Jiri**	**160.51**	**111**	*eP*	**PKPdf**	**18 04 23.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**160.71**	**157**	PKP	**PKPdf**	**18 04 23.5**	**-0.5**
comp=Z,0.7nm,0.6s,baz=224,slow=2.4,SNR=8.2							
MDJ	**Mudanjiang**	**160.89**	**302**	PKP	**PKPdf**	**18 04 19.7**	**-3.7**
MDJ				PP	**PP**	**18 08 49.9**	**+0.5**
MDJ				LN			
comp=Z,1μm,31.6s							
MDJ				LE			
comp=Z,2μm,20.1s							
MDJ				LZ			
comp=Z,3μm,20.1s							
MDJ	**Mudanjiang**	**160.89**	**302**	PFAKE		18 04 30.0	+6.6
MDJ				LR	LR		
comp=Z,3μm,20.0s							
ODAN	**Odare**	**160.96**	**115**	*eP*	**PKPdf**	**18 04 23.8**	**-0.5**
CHTO	**Chiang Mai**	**161.04**	**157**	PFAKE		18 04 40.0	+16
CHTO				LR	LR		
comp=Z,3μm,20.0s							
TAPN	**Taplejung**	**161.47**	**114**	*eP*	**PKPdf**	**18 04 24.5**	**-0.4**
comp=Z,57nm,1.7s							
QIZ	**Qiongzhong**	**162.31**	**190**	PKP	**PKPdf**	**18 04 26.3**	**+0.7**
QIZ				PP	**PP**	**18 08 58.1**	**+2.4**
QIZ				LN			
comp=Z,1μm,17.1s							
QIZ				LE			
comp=Z,650nm,18.8s							
QIZ				LZ			
comp=Z,3μm,17.8s							
KSRS	**Korea Array**	**163.03**	**279**	PKPab	**PKPab**	**18 05 16.9**	**+1.2**
comp=Z,3.7nm,1.0s,baz=81,slow=3.8,SNR=4.6							
KSAR	**Wonju Array Be**	**163.06**	**279**	PKP2	**PKPab**	**18 05 16.9**	**+1.1**
KSAR	**Wonju Array Be**	**163.06**	**279**	PKPab	**PKPab**	**18 05 16.9**	**+1.1**
SHL	**Shillong**	**163.25**	**127**	*e*PKP	**PKPdf**	**18 04 26.0**	**-0.6**
SHL				*e*PP	**PP**	**18 09 00.0**	**-2.0**
WMQ	**Urumqi**	**163.78**	**58**	PKP	**PKPdf**	**18 04 26.9**	**+0.5**
WMQ				pPKP	**pPKPdf**	**18 04 37.5**	**+2.1**
WMQ				PKPab	**PKPab**	**18 05 21.0**	**+2.1**
WMQ				PKS	**PKSdf**	**18 07 58.9**	**-0.4**
WMQ				PP	**PP**	**18 09 07.4**	**+2.6**
WMQ				SKS	**SKSdf**	**18 11 26.0**	**-3.0**
WMQ				SKKS	**SKKSac**	**18 15 49.8**	**-0.8**
WMQ				SS	**SS**	**18 29 29.5**	**-2.3**
WMQ				PPMZ			
comp=Z,2μm,9.0s							
WMQ				LN			
comp=Z,4μm,22.0s							
WMQ				LE			
comp=Z,2μm,23.0s							
WMQ				LZ			
comp=Z,3μm,23.0s							
CIT	**Chita**	**163.80**	**345**	*e*PKIKP	**PKPdf**	**18 04 25.9**	**-0.2**
CIT				*e*		18 09 01.4	
CN2	**Changchun**	**163.98**	**303**	*e*PKP	**PKPdf**	**18 04 24.9**	**-1.6**
CN2				SKKS		18 15 49.2	
CN2				PPMZ			
comp=Z,400nm,8.0s							
CN2				LN			
comp=Z,2μm,18.0s							
CN2				LE			
comp=Z,2μm,18.0s							
CN2				LZ			
comp=Z,700nm,16.0s							
INCN	**Inchon**	**164.06**	**279**	PFAKE		18 04 40.0	+13
INCN				LR	LR		
comp=Z,3μm,19.0s							
HIA	**Hailar**	**164.15**	**327**	PFAKE		18 04 40.0	+14
HIA				LR	LR		
comp=Z,4μm,19.0s							
IRK	**Irkutsk**	**164.23**	**6**	*e*PKIKP	**PKPdf**	**18 04 27.1**	**+0.7**
IRK				*e*		18 05 20.6	
IRK				*e*		18 09 06.8	
IRK				pmax	pmax		
comp=Z,36nm,2.6s							
MOY	**Mondy**	**164.36**	**13**	*e*PKIKP	**PKPdf**	**18 04 30.0**	**+3.3**
QZH	**Quanzhou**	**164.57**	**225**	*i* PKP	**PKPdf**	**18 04 28.0**	**+0.4**
QZH				PKPab	**PKPab**	**18 05 25.6**	**+3.0**
QZH				PP	**PP**	**18 09 13.4**	**+5.0**
QZH				SKKS		18 15 56.6	
QZH				SS	**SS**	**18 29 41.0**	**+2.0**
QZH				LN			
comp=Z,3μm,22.2s							
QZH				LE			
comp=Z,3μm,19.8s							
QZH				LZ			
comp=Z,6μm,19.3s							
TLY	**Talaya**	**164.73**	**7**	*i* PKIKP	**PKPdf**	**18 04 26.2**	**-0.7**
TLY				*e*		18 09 10.7	
TLY				*e*PPS	PPS	18 22 46.9	
TLY				*e*SS	SS	18 29 32.4	-6.9
TLY				pmax	pmax		
comp=Z,9.0nm,2.3s							
TLY	**Talaya**	**164.73**	**7**	PKPab	**PKPab**	**18 05 22.9**	**+0.3**
comp=Z,1.4nm,0.4s,baz=326,slow=5.6,SNR=5.0							
TLY	**Talaya**	**164.73**	**7**	PKPab	**PKPab**	**18 05 22.9**	**+0.3**
TLY				LR	LR		
comp=Z,5μm,21.0s							
LSA	**Lhasa**	**165.29**	**113**	PKP	**PKPdf**	**18 04 26.4**	**-2.3**
LSA	**Lhasa**	**165.29**	**113**	*e*PKIKP	**PKPdf**	**18 04 28.7**	**0.0**
LSA				MLR	MLR		
comp=Z,4μm,21.0s							
LSA	**Lhasa**	**165.29**	**113**	*e*PKPdf	**PKPdf**	**18 04 28.7**	**0.0**
LSA				LR	LR		
comp=Z,4μm,21.0s							
ZAK	**Zakamensk**	**165.97**	**9**	*e*PKIKP	**PKPdf**	**18 04 24.8**	**-3.3**
ZAK				*e*		18 05 28.2	
ZAK				pmax	pmax		
comp=Z,4.0nm,3.2s							
ZAK				pmax	pmax		
comp=Z,12nm,1.5s							
SSE	**Sheshan**	**166.79**	**250**	PKP	**PKPdf**	**18 04 29.9**	**+0.7**
SSE				PP	**PP**	**18 09 24.6**	**+4.0**
SSE				SKKS		18 16 06.5	
SSE				SS	**SS**	**18 30 01.5**	**-1.3**
SSE				PPMZ			
comp=Z,610nm,9.6s							
SSE				LN			
comp=Z,640nm,19.5s							
SSE				LE			
comp=Z,1μm,19.5s							
SSE				LZ			
comp=Z,2μm,18.4s							
DL2	**Dalian**	**167.96**	**286⇑**	*i* PKP	**PKPdf**	**18 04 28.4**	**-1.4**
DL2				SKKS		18 16 08.2	
DL2				LN			
comp=Z,600nm,22.9s							
DL2				LE			
comp=Z,1μm,21.0s							
DL2				LZ			
comp=Z,1μm,19.9s							
KMI	**Kunming**	**168.10**	**162**	PKP	**PKPdf**	**18 04 30.1**	**-0.5**
KMI				pPKP	**pPKPdf**	**18 04 39.4**	**-0.3**
KMI				sPKP		18 04 43.9	
ULN	**Ulaanbaatar**	**168.70**	**359**	*e*PKIKP	**PKPdf**	**18 04 28.6**	**-1.6**
ULN	**Ulaanbaatar**	**168.70**	**359**	*e*PKPdf	**PKPdf**	**18 04 28.6**	**-1.6**
SONM	**Songino Array**	**168.74**	**1**	PKP	**PKPdf**	**18 04 28.6**	**-1.6**
comp=Z,1.4nm,0.8s,baz=191,slow=1.3,SNR=7.2							
SONM				PKPab	**PKPab**	**18 05 40.9**	**+0.4**
comp=Z,6.2nm,0.8s,baz=344,slow=3.3,SNR=14							
SONM				PP	**PP**	**18 09 31.7**	**+2.4**
comp=Z,1.5nm,0.9s,baz=336,slow=3.3,SNR=3.8							
NJ2	**Nanjing**	**169.00**	**249**	*e*PKP	**PKPdf**	**18 04 31.9**	**+1.2**
NJ2				PKPab	**PKPab**	**18 05 46.2**	**+4.1**
NJ2				PP	**PP**	**18 09 30.0**	**-1.9**
NJ2				SKKS		18 16 14.0	
NJ2				PPMZ			
comp=Z,870nm,10.4s							
NJ2				LN			
comp=Z,3μm,22.0s							
NJ2				LE			
comp=Z,1μm,20.6s							
NJ2				LZ			
comp=Z,1μm,20.3s							
GYA	**Guiyang**	**169.93**	**180**	PKP	**PKPdf**	**18 04 31.6**	**0.0**
GYA				PKPab	**PKPab**	**18 05 47.0**	**+0.8**
GYA				PKS	**PKSdf**	**18 08 02.5**	**-1.8**
GYA				PP	**PP**	**18 09 39.8**	**+4.6**
GYA				SKKS		18 16 22.4	
GYA				PPMZ			
comp=Z,240nm,10.5s							
GYA				LN			
comp=Z,8μm,21.2s							
GYA				LE			
comp=Z,4μm,22.0s							
GYA				LZ			
comp=Z,7μm,21.5s							
TIA	**Tai'an**	**171.59**	**271**	PKP	**PKPdf**	**18 04 32.2**	**+0.1**
TIA				pPKP	**pPKPdf**	**18 04 42.9**	**+1.8**
TIA				PPMZ			
comp=Z,1μm,6.0s							
TIA				LN			
comp=Z,1μm,21.9s							
TIA				LE			
comp=Z,2μm,18.0s							
TIA				LZ			
comp=Z,3μm,18.7s							
BJI	**Beijing**	**171.79**	**298**	PKP	**PKPdf**	**18 04 32.5**	**+0.5**
BJI				LN			
comp=Z,2μm,18.6s							
BJI				LE			
comp=Z,3μm,19.5s							
BJI				LZ			
comp=Z,3μm,24.0s							
BJT	**Baijiatuau**	**171.80**	**298**	PFAKE		18 04 40.0	+8.0
BJT				LR	LR		
comp=Z,4μm,22.0s							
ENH	**Enshi**	**173.31**	**201**	PFAKE		18 04 40.0	+7.0
ENH				LR	LR		
comp=Z,2μm,22.0s							
CD2	**Chengdu**	**173.85**	**156**	*e*PKP	**PKPdf**	**18 04 33.8**	**+0.6**
CD2				PKS	**PKSdf**	**18 08 05.2**	**-0.3**
CD2				SKS	**SKSdf**	**18 11 32.2**	**-2.4**
CD2				SKKS	**SKKSac**	**18 16 39.1**	**-1.0**
CD2				LN			
comp=Z,3μm,17.8s							
CD2				LE			
comp=Z,2μm,16.7s							
CD2				LZ			
comp=Z,4μm,19.1s							
GTA	**Gaotai**	**173.86**	**60**	*e*PKP	**PKPdf**	**18 04 33.1**	**0.0**
GTA				pPKP	**pPKPdf**	**18 04 41.1**	**-1.0**
GTA				sPKP		18 04 45.9	
GTA				PKPab	**PKPab**	**18 06 05.1**	**+1.4**
GTA				PP	**PP**	**18 09 57.0**	**+0.9**
GTA				SKS	**SKSdf**	**18 11 30.3**	**-4.1**
GTA				SKKS	**SKKSac**	**18 16 39.6**	**-0.9**
GTA				SS	**SS**	**18 31 07.3**	**-5.5**
GTA				PPMZ			
comp=Z,2μm,5.7s							
GTA				LN			
comp=Z,3μm,20.2s							
GTA				LE			
comp=Z,4μm,18.5s							
GTA				LZ			
comp=Z,5μm,21.4s							
HHC	**Hu-ho-hao-te**	**174.28**	**320**	*e*PKP	**PKPdf**	**18 04 33.4**	**+0.3**
HHC				pPKP	**pPKPdf**	**18 04 42.3**	**+0.1**
HHC				sPKP		18 04 48.8	
HHC				PKS	**PKSdf**	**18 08 05.8**	**+0.4**
HHC				SKS	**SKSdf**	**18 11 32.2**	**-2.2**
HHC				PPMZ			
comp=Z,1μm,9.4s							
HHC				LN			
comp=Z,2μm,22.1s							
HHC				LE			
comp=Z,3μm,21.5s							
HHC				LZ			
comp=Z,2μm,21.5s							
BTO	**Baotou**	**175.20**	**328**	*e*PKP	**PKPdf**	**18 04 31.5**	**-1.9**
TIY	**Taiyuan**	**175.28**	**286**	*e*PKP	**PKPdf**	**18 04 33.1**	**-0.4**
TIY				PPMZ			
comp=Z,950nm,5.2s							
TIY				LN			
comp=Z,2μm,21.0s							
TIY				LE			
comp=Z,2μm,23.5s							
TIY				LZ			
comp=Z,2μm,22.1s							
XAN	**Xi'an**	**176.90**	**216**	PKP	**PKPdf**	**18 04 31.8**	**-2.1**
XAN				PKS	**PKSdf**	**18 08 02.4**	**-3.7**
XAN				SKS	**SKSdf**	**18 11 29.3**	**-5.8**
XAN				LN			
comp=Z,2μm,20.5s							
XAN				LE			
comp=Z,730nm,20.5s							
XAN				LZ			
comp=Z,750nm,20.5s							
LZH	**Lanzhou**	**177.64**	**101**	*e*PKP	**PKPdf**	**18 04 34.5**	**+0.3**
LZH				pPKP	**pPKPdf**	**18 04 45.1**	**+1.9**
LZH				sPKP		18 04 48.7	
LZH				PP	**PP**	**18 10 18.1**	**+3.6**
LZH				SKKS		18 17 00.3	
LZH				PPMZ			
comp=Z,2μm,6.4s							
LZH				LN			
comp=Z,3μm,17.1s							
LZH				LE			
comp=Z,3μm,18.8s							
LZH				LZ			
comp=Z,4μm,19.7s							

CSEM ***03*** *17:45:03.6, 35.°13N×27.°03E, h8km, MD3.1*
ATH 03 17:45:03.6, 35.°13N×27.°03E, h8km, MD3.1/5,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.43**	**14**	*e*PG	Pg	17 45 11.6	-0.5
KARP				*e*SB	Sg	17 45 18.1	+0.3
KARP	**Karpathos**	**0.43**	**14**	*e*Pg	Pg	17 45 11.6	-0.5
KARP				*e*Sb	Sg	17 45 18.1	+0.3
ZKR	**Zakros**	**0.67**	**269**	*e*PB	Pg	17 45 14.5	-2.0
ZKR				*e*SB	Sg	17 45 25.8	+0.6
ZKR	**Zakros**	**0.67**	**269**	*e*Pb	Pg	17 45 14.5	-2.0
ZKR				*e*Sb	Sg	17 45 25.8	+0.6
NPS	**Neapolis**	**1.17**	**277**	*e*PN	Pg	17 45 25.3	-0.8
NPS				*e*SB	Sg	17 45 41.3	0.0
NPS	**Neapolis**	**1.17**	**277**	*e*Pn	Pg	17 45 25.3	-0.8
NPS				*e*Sb	Sg	17 45 41.3	0.0
LAST	**Lasithi**	**1.27**	**272**	*e*PB	Pn	17 45 27.5	-0.3
LAST	**Lasithi**	**1.27**	**272**	*e*Pb	Pn	17 45 27.5	-0.3
ARG	**Arkhangelos**	**1.40**	**39**	*e*PB	Pg	17 45 30.4	-0.2
ARG	**Arkhangelos**	**1.40**	**39**	*e*Pb	Pg	17 45 30.4	-0.2

ISCJB ***03*** *18:02:04.0±0.4, 67.°08N±0.°02×20.°83E±0.°09, h0km, Error ellipse: s-maj=5.1km s-min=2.8km az=3.3*
CSEM ***03*** *18:02:05.2±0.2, 67.°09N×20.°87E, h2km, ML2.1, Error ellipse: s-maj=5.7km s-min=3.6km az=92.0, Mining explosion.*
UPP ***03*** *18:02:05.1, 67.°07N×20.°96E, h0km, ML2.1, Mining explosion.*
HEL ***03*** *18:02:05.8±0.1, 67.°09N×20.°97E, h0km, ML2.1, ML2.1(UPP), Explosion*
NAO ***03*** *18:02:06.1±0.9, 67.°01N×21.°41E, ML2.4*
BER ***03*** *18:02:07.9±3.4, 67.°01N×20.°89E, h0km, ML1.8, ML2.4(NAO), Suspected explosion*
ISC 03 18:02:04.9±0.7, 67.°07N±0.°02×20.°94E±0.°03, h0km, n73,
σ1§19/103, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.72**	**136**	*eP*	**Pg**	**18 02 18.4**	**-0.1**
baz=323							
ERTU				*e*S	**Sg**	**18 02 28.4**	**+0.6**
ERTU	**Ertsjaerv**	**0.72**	**136**	P	**Pg**	**18 02 18.5**	**-0.1**
ERTU				S	**Sg**	**18 02 28.4**	**+0.6**
ERTU	**Ertsjaerv**	**0.72**	**136**	P	**Pg**	**18 02 18.5**	**-0.1**
HARU	**Harads**	**0.91**	**179**	*eP*	**Pg**	**18 02 22.1**	**-0.1**
HARU	**Harads**	**0.91**	**179**	P	**Pg**	**18 02 22.1**	**-0.1**
HARU	**Harads**	**0.91**	**179**	P	**Pg**	**18 02 22.1**	**-0.1**
KUA	**Kurravaara**	**0.92**	**346**	*eP*	**Pg**	**18 02 22.1**	**-0.3**
KUA	**Kurravaara**	**0.92**	**346**	P	**Pg**	**18 02 22.1**	**-0.3**
KUA	**Kurravaara**	**0.92**	**346**	P	**Pg**	**18 02 22.1**	**-0.3**
SALU	**Saltoluokta**	**1.00**	**289**	*eP*	**Pg**	**18 02 24.0**	**0.0**
SALU	**Saltoluokta**	**1.00**	**289**	P	**Pg**	**18 02 23.9**	**0.0**
SALU	**Saltoluokta**	**1.00**	**289**	P	**Pg**	**18 02 24.0**	**0.0**
LANU	**Lannavaara**	**1.06**	**22**	*eP*	**Pg**	**18 02 24.7**	**-0.6**
LANU				*e*SB	**Sb**	**18 02 40.5**	**-0.1**
LANU	**Lannavaara**	**1.06**	**22**	P	**Pg**	**18 02 25.0**	**-0.2**
LANU				Sb	**Sb**	**18 02 40.5**	**-0.1**
LANU	**Lannavaara**	**1.06**	**22**	P	**Pg**	**18 02 25.0**	**-0.2**
NIKU	**Nikkaluokta**	**1.09**	**318**	*eP*	**Pg**	**18 02 25.3**	**-0.4**
NIKU	**Nikkaluokta**	**1.09**	**318**	P	**Pg**	**18 02 25.3**	**-0.4**
NIKU	**Nikkaluokta**	**1.09**	**318**	P	**Pg**	**18 02 25.3**	**-0.4**
KALU	**Kalix**	**1.56**	**140**	*e*PG	**Pn**	**18 02 33.8**	**+0.1**
KALU				*e*SN	**Sn**	**18 02 54.9**	**+0.4**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**18 02 33.7**	**0.0**
KALU				Sn	**Sn**	**18 02 54.9**	**+0.4**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**18 02 33.7**	**0.0**
SJUU	**Sjulsmark**	**1.59**	**170**	*eP*	**Pn**	**18 02 34.2**	**0.0**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**18 02 34.2**	**0.0**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**18 02 34.2**	**0.0**
HEF	**Hetta**	**1.70**	**36**	*e*PG	**Pn**	**18 02 35.7**	**0.0**
baz=217							
HEF				*

SGF				*e*SG	**Sg**	**18 03 14.2**	**-1.4**
SGF	**Sodankyl**	**2.20**	**78**	Sg	**Sg**	**18 03 14.2**	**-1.4**
BURU	**Burvik**	**2.50**	**176**	*e*P	**Pn**	**18 02 48.1**	**+1.4**
BURU	**Burvik**	**2.50**	**176**	P	**Pn**	**18 02 48.1**	**+1.4**
BURU	**Burvik**	**2.50**	**176**	P	**Pn**	**18 02 48.1**	**+1.4**
MOR8	**Moi Rana**	**2.74**	**254**	*e*Sg	**Sb**	**18 03 26.4**	**-2.5**
MOR8				IAML		18 03 29.9	
	comp=Z,7.5nm,0.3s						
OUL	**Oulu**	**2.84**	**132**	*e*P	**Pn**	**18 02 53.4**	**+2.1**
OUL				MSG	**Sb**	**18 03 32.8**	**+1.3**
	comp=Z,4.4nm,0.3s						
OUL				*e*SG	**Sb**	**18 03 32.8**	**+1.3**
OUL	**Oulu**	**2.84**	**132**	P	**Pn**	**18 02 53.4**	**+2.1**
OUL				Sg	**Sb**	**18 03 32.8**	**+1.3**
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**18 02 54.2**	**+0.6**
	baz=210,slow=16						
ARA0				Sn	**Sn**	**18 03 32.0**	**+1.7**
	baz=215,slow=28						
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**18 02 54.2**	**+0.6**
	baz=210,slow=16						
ARA0				Sn	**Sn**	**18 03 32.0**	**+1.7**
	baz=215,slow=28						
ARA0	**ARCESS Array S**	**3.00**	**32**	*e*P	**Pn**	**18 02 54.0**	**+0.4**
ARA0				MSG	**Sb**	**18 03 34.7**	**-1.6**
	comp=Z,5.9nm,0.1s						
ARA0				*e*SB	**Sb**	**18 03 34.7**	**-1.6**
ARA0	**ARCESS Array S**	**3.00**	**32**	P	**Pn**	**18 02 54.0**	**+0.4**
ARA0				Sn	**Sn**	**18 03 32.0**	**+1.7**
	SNR=50						
ARA0				Sb	**Sb**	**18 03 34.7**	**-1.6**
UMAU	**Umeaa**	**3.20**	**182**	*e*P	**Pn**	**18 02 57.5**	**+1.2**
UMAU	**Umeaa**	**3.20**	**182**	P	**Pn**	**18 02 57.5**	**+1.2**
UMAU	**Umeaa**	**3.20**	**182**	P	**Pn**	**18 02 57.5**	**+1.2**
STOK	**Stokkvaagen**	**3.23**	**260**	*e*	**Sn**	**18 03 39.9**	**+4.0**
VRF	**Varrio**	**3.42**	**75**	*e*P	**Pn**	**18 03 01.3**	**+2.0**
VRF	**Varrio**	**3.42**	**75**	P	**Pn**	**18 03 01.3**	**+2.0**
MSF	**Maaselka**	**3.45**	**106**	*e*P	**Pn**	**18 03 01.6**	**+1.9**
	baz=292						
MSF	**Maaselka**	**3.45**	**106**	P	**Pn**	**18 03 01.6**	**+1.9**
KEV	**Kevo**	**3.51**	**37**	*e*P	**Pn**	**18 03 01.1**	**+0.5**
KEV				*e*S	**Sn**	**18 03 44.7**	**+2.1**
KEV				MSG		18 03 44.7	
	comp=Z,4.0nm,0.2s						
KEV	**Kevo**	**3.51**	**37**	P	**Pn**	**18 03 01.0**	**+0.5**
KEV				S	**Sn**	**18 03 44.7**	**+2.1**
	comp=Z,4.0nm,0.2s						
KU6	**Riekki**	**3.73**	**102**	*e*P	**Pn**	**18 03 04.3**	**+0.7**
	baz=287						
KU6	**Riekki**	**3.73**	**102**	P	**Pn**	**18 03 04.3**	**+0.7**
HUSU	**Husum**	**3.81**	**192**	*e*P	**Pn**	**18 03 06.3**	**+1.6**
HUSU				*e*S	**Sn**	**18 03 50.7**	**+0.6**
HUSU	**Husum**	**3.81**	**192**	P	**Pn**	**18 03 06.3**	**+1.6**
HUSU				S	**Sn**	**18 03 50.7**	**+0.6**
VAF	**Ylistaro**	**4.11**	**169**	*e*P	**Pn**	**18 03 10.9**	**+2.1**
VAF	**Ylistaro**	**4.11**	**169**	P	**Pn**	**18 03 10.8**	**+2.1**
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	**Pn**	**18 03 35.8**	**+0.1**
	baz=348,slow=14						
FIA0				Sn	**Sn**	**18 04 44.1**	**-1.8**
	baz=344,slow=28						
FIA0				Lg	Lg	18 05 11.7	
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	**Pn**	**18 03 35.8**	**+0.1**
	baz=348,slow=14						
FIA0				Sn	**Sn**	**18 04 44.1**	**-1.8**
	baz=344,slow=28						
FIA0				Lg	Lg	18 05 11.7	
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	**Pn**	**18 03 35.8**	**+0.1**
	SNR=50						
FIA0				Sn	**Sn**	**18 04 44.1**	**-1.8**
	SNR=50						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**18 03 53.8**	**-0.1**
	baz=27,slow=14						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**18 03 53.8**	**-0.1**
	baz=27,slow=14						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**18 03 53.8**	**-0.1**
	SNR=50						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 03 57.7**	**+0.1**
	baz=14,slow=11						
HFS				Sn	**Sn**	**18 05 22.7**	**-2.4**
	baz=34,slow=37						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 03 57.7**	**+0.1**
	baz=14,slow=11						
HFS				Sn	**Sn**	**18 05 22.7**	**-2.4**
	baz=34,slow=37						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 03 57.7**	**+0.1**
	SNR=50						
HFS				Sn	**Sn**	**18 05 22.7**	**-2.4**
	SNR=3.9						
SPA0	**Spitsbergen Ar**	**11.25**	**355**	Pn	**Pn**	**18 04 46.3**	**-0.2**
	baz=164,slow=6.9						
SPA0	**Spitsbergen Ar**	**11.25**	**355**	P	**Pn**	**18 04 46.3**	**-0.2**
	baz=164,slow=6.9						
SPA0	**Spitsbergen Ar**	**11.25**	**355**	P	**Pn**	**18 04 46.3**	**-0.2**
	SNR=47						

*IDC **03** 18:02:18.4±1.1,36.°91S×73.°56W,h0km,mb3.9/7, mb1 4.1/9,mb1mx3.9/31,mbtmp3.8/9,ML3.5/2,Error ellipse: s-maj=33.4km s-min=27.8km az=65.0*
*ISCJB **03** 18:02:19.6±0.9,36.°9S±0.°1×73.°5W±0.°2,h14km,mb3.8/7, Error ellipse: s-maj=22.1km s-min=14.9km az=169.0*
ISC 03 18:02:20.7±1.0,36.°9S±0.°1×73.°6W±0.°2,h14km,n12, σ1§38/12,mb3.9/7,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.54**	**149**	Pn	**Pn**	**18 03 29.7**	**+0.7**
	0.6nm,0.3s,baz=301,slow=13,SNR=5.4						
CFAA	**Coronel Fontan**	**6.89**	**42**	Pn	**Pn**	**18 04 01.8**	**+0.4**
	0.7nm,0.3s,baz=216,slow=9.1,SNR=13						
LPAZ	**La Paz**	**21.08**	**15**	P	**P**	**18 07 05.7**	**+0.4**
	1.8nm,0.8s,baz=194,slow=8.3,SNR=2.8						
SIV	**San Ignacio**	**23.60**	**31**	P	**P**	**18 07 30.5**	**-0.7**
	3.2nm,1.1s,baz=246,slow=13,SNR=4.1						
TXAR	**Lajitas Array**	**71.65**	**333**	P	**P**	**18 13 43.5**	**+1.7**
	0.9nm,0.8s,baz=150,slow=7.9,SNR=10						
ANMO	**Albuquerque**	**77.71**	**333**	P	**P**	**18 14 18.4**	**+1.3**
	1.7nm,0.8s,baz=173,slow=7.4,SNR=4.3						
NVAR	**Mina Array Bea**	**85.53**	**326**	P	**P**	**18 14 57.2**	**-1.1**
	0.3nm,0.3s,baz=143,slow=12,SNR=3.0						
PDAR	**Pinedale Array**	**85.76**	**334**	P	**P**	**18 14 59.0**	**-0.4**
	1.1nm,1.0s,baz=110,slow=8.2,SNR=5.0						
TORD	**Torodi Ar. Bea**	**86.39**	**71**	P	**P**	**18 15 02.1**	**-0.8**
	0.4nm,0.8s,baz=238,slow=8.3,SNR=2.2						
GERES	**GERESS Array B**	**115.08**	**47**	PKP	**PKPdf**	**18 21 00.4**	**-0.6**
	0.1nm,0.3s,baz=321,slow=3.4,SNR=3.4						
ZALV	**Zalesovo Beam**	**157.34**	**34**	PKP	**PKPdf**	**18 22 16.7**	**+1.2**
	0.2nm,0.3s,baz=203,slow=1.1,SNR=2.5						
MKAR	**Makanchi Array**	**159.57**	**53**	PKP	**PKPdf**	**18 22 15.8**	**-2.8**
	0.2nm,0.9s,baz=294,slow=1.4,SNR=2.6						

GUC 03 18:10:56.6±0.8,33.°31S×72.°47W,h20km±7km,ML3.5, 3C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.75**	**68**	⇑*i*P	Pb	18 11 10.4	-0.5
IHA				*i* S1	Sg	18 11 20.4	
LNV	**Longovilo**	**1.09**	**126**	⇑*i*P	Pn	18 11 15.9	-0.8
LNV				*i* S1	Sg	18 11 30.1	
TACH	**Talagante**	**1.32**	**105**	*e*P1	Pn	18 11 19.6	-0.4
RCDM	**Rinconada Maip**	**1.40**	**98**	*e*P	Pn	18 11 20.7	-0.3
RCDM				*e*S	Sn	18 11 38.9	-0.1
PEL	**Peldehue**	**1.50**	**84**	⇓*i*P	Pn	18 11 22.4	-0.1
PEL				*i* S	Sn	18 11 41.7	+0.1
PEL				AML	AML	18 11 52.6	
	comp=N,1μm,0.4s						
ANTU	**Antumapu**	**1.55**	**100**	*i* S	Sn	18 11 43.4	+0.6
ANTU				AML	AML	18 11 55.1	
	comp=N,778nm,0.6s						
CHCH	**Chadas Angostu**	**1.64**	**113**	⇓*i*P	Pn	18 11 23.8	-0.5
FCH	**Farellones**	**1.82**	**91**	⇑*i*P	Pb	18 11 28.7	-1.0
FCH				*i* S	Sb	18 11 53.2	+0.8
FCH				AML	AML	18 12 03.7	
	comp=E,820nm,0.5s						

*IDC **03** 18:14:06.7±0.6,34.°66S×72.°73W,h0km,mb4.5/11, mb1 4.5/15,mb1mx4.4/40,mbtmp4.5/15,ML4.9/3,Error ellipse: s-maj=23.9km s-min=16.6km az=94.0*
*ISCJB **03** 18:14:07.2±0.6,34.°69S±0.°07×72.°6W±0.°1,h10km, mb4.5/13,Error ellipse: s-maj=14.3km s-min=9.6km az=173.4*
*NEIC **03** 18:14:12.2±1.6,34.°69S×72.°59W,h37km±14km,mb4.7/2, Error ellipse: s-maj=18.3km s-min=9.3km az=92.0*
ISC 03 18:14:08.4±0.6,34.°68S±0.°08×72.°7W±0.°1,h10km,n33, σ1§14/30,mb4.5/13,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.82**	**52**	Pn	**Pn**	**18 15 22.1**	**+1.0**
	1.8nm,0.3s,baz=226,slow=11,SNR=21						
CFAA				Lg	Lg	18 16 35.2	
	1.1nm,0.3s,baz=192,slow=21,SNR=3.1						
PLCA	**Paso Flores**	**6.27**	**165**	Pn	**Pn**	**18 15 41.5**	**+0.5**
	8.8nm,0.3s,baz=342,slow=11,SNR=9.2						
TRQA	**Tornquist**	**9.26**	**114**	*e*P	**Pn**	**18 16 21.4**	**-0.6**
	13nm,0.6s						
CPUP	**Villa Florida**	**15.61**	**62**	Pn	**Pn**	**18 17 49.4**	**+0.8**
	5.0nm,0.3s,baz=25,slow=20,SNR=17						
LPAZ	**La Paz**	**18.77**	**14**	P	**P**	**18 18 28.4**	**0.0**
	0.3nm,0.3s,baz=185,slow=5.4,SNR=29						
SIV	**San Ignacio**	**21.33**	**32**	P	**P**	**18 18 55.4**	**-0.3**
	17nm,0.9s,baz=218,slow=12,SNR=17						
BDFB	**Brasilia**	**29.15**	**56**	P	**P**	**18 20 08.8**	**-1.2**
	3.9nm,0.6s,baz=206,slow=8.1,SNR=3.6						
OTAV	**Otavalo**	**35.16**	**350**	*e*P	**P**	**18 21 05.5**	**+2.6**
	9.5nm,1.1s						
ROSC	**El Rosal**	**39.36**	**357**	P	**P**	**18 21 39.6**	**+1.1**
	9.6nm,0.6s,baz=90,slow=12,SNR=4.9						
SDV	**Santo Domingo**	**43.37**	**3**	*e*P	**P**	**18 22 11.0**	**-0.3**
	13nm,0.8s						
SNAA	**Sanae**	**51.16**	**158**	P	**P**	**18 23 13.0**	**+1.8**
	3.5nm,0.9s,baz=313,slow=9.1,SNR=3.6						
QSPA	**South Pole Qui**	**55.56**	**180**	P	**P**	**18 23 45.5**	**+1.8**
	5.6nm,0.9s,baz=78,slow=1.6,SNR=6.1						
DBIC	**Dimbokro**	**75.89**	**72**	P	**P**	**18 25 55.6**	**+0.1**
	7.8nm,0.7s,baz=223,slow=6.0,SNR=12						
ANMO	**Albuquerque**	**76.13**	**332**	P	**P**	**18 25 56.8**	**+0.2**
	3.6nm,1.0s,baz=170,slow=7.3,SNR=5.8						
BOSA	**Boshof**	**80.22**	**118**	P	**P**	**18 26 18.6**	**-1.0**
	3.2nm,0.8s,baz=195,slow=6.5,SNR=4.9						
NVAR	**Mina Array Bea**	**84.14**	**326**	P	**P**	**18 26 39.4**	**-0.4**
	2.8nm,0.9s,baz=168,slow=6.4,SNR=6.3						
TORD	**Torodi Ar. Bea**	**84.94**	**70**	P	**P**	**18 26 43.9**	**-0.2**
	6.5nm,0.7s,baz=268,slow=3.8,SNR=35						
ULM	**Lac du Bonnet**	**87.02**	**345**	P	**P**	**18 26 52.2**	**-1.3**
	2.2nm,0.7s,baz=179,slow=4.5,SNR=4.3						
YKA	**Yellowknife Ar**	**102.53**	**341**	P	**Pdif**	**18 28 03.0**	**-1.3**
	0.2nm,0.7s,baz=138,slow=5.5,SNR=4.1						
YKA	**Yellowknife Ar**	**102.53**	**341**	P	**Pdif**	**18 28 03.0**	**-1.3**
ASAR	**Alice Springs**	**116.72**	**207**	PKP	**PKPdf**	**18 32 50.9**	**-2.6**
	0.4nm,0.8s,baz=137,slow=1.7,SNR=7.5						
WRA	**Warramunga Arr**	**119.91**	**210**	PKP	**PKPdf**	**18 32 58.3**	**-1.4**
	0.7nm,0.6s,baz=163,slow=1.6,SNR=19						
BRTR	**Keskin Array B**	**122.62**	**62**	PKP	**PKPdf**	**18 33 04.5**	**+0.2**
	0.8nm,0.7s,baz=170,slow=3.8,SNR=4.8						
ARCES	**ARCESS Array B**	**124.85**	**25**	PKP	**PKPdf**	**18 33 07.4**	**-0.1**
	1.6nm,0.7s,baz=214,slow=1.3,SNR=4.2						
H11S2	**WAKE ISLAND Hyl**	**25.23**	**269**	T	T	20 50 50.9	
	baz=118,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hyl**	**25.25**	**269**	T	T	20 50 49.9	
	baz=118,slow=74,SNR=11						
H11S3	**WAKE ISLAND Hyl**	**25.25**	**269**	T	T	20 50 49.8	
	baz=118,slow=74,SNR=6.6						
H11N3	**WAKE ISLAND Hyl**	**25.66**	**270**	T	T	20 51 17.2	
	baz=121,slow=76,SNR=6.8						
H11N1	**WAKE ISLAND Hyl**	**25.68**	**270**	T	T	20 51 17.9	
	baz=121,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hyl**	**25.68**	**270**	T	T	20 51 22.5	
	baz=121,slow=76,SNR=11						
ZALV	**Zalesovo Beam**	**155.08**	**32**	PKP	**PKPdf**	**18 34 00.8**	**-0.2**
	1.0nm,0.7s,baz=299,slow=3.1,SNR=6.9						
ZALV				PKPab	**PKPab**	**18 34 25.1**	**-0.5**
	6.3nm,0.8s,baz=308,slow=4.7,SNR=13						
MKAR	**Makanchi Array**	**157.61**	**50**	PKP	**PKPdf**	**18 34 04.0**	**-0.7**
	0.6nm,0.8s,baz=309,slow=0.9,SNR=6.7						
MKAR				PKPab	**PKPab**	**18 34 36.8**	**0.0**
	1.2nm,0.7s,baz=300,slow=4.6,SNR=10.0						
SONM	**Songino Array**	**166.84**	**3**	PKP	**PKPdf**	**18 34 13.1**	**-0.9**
	0.2nm,0.5s,baz=189,slow=3.9,SNR=4.1						
SONM				PKPab	**PKPab**	**18 35 17.8**	**+0.7**
	1.3nm,0.9s,baz=339,slow=3.3,SNR=7.1						

*IDC **03** 18:27:36.6±1.9,22.°44S×177.°65W,h0km,mb4.1/7, mb1 4.2/7,mb1mx4.0/32,mbtmp4.0/7,Error ellipse: s-maj=82.0km s-min=27.7km az=154.0*
*NEIC **03** 18:27:46.1±1.4,23.°85S×177.°17W,h100km,mb4.0/1, Error ellipse: s-maj=28.2km s-min=23.6km az=135.0*
ISC 03 18:27:40.8±1.8,23.°1S±0.°6×177.°4W±0.°3,h35km,n14, σ1§42/12,mb4.1/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.83**	**320**	*e*Pg	Pn	18 29 34.3	+16
	29nm,0.9s						
CTA	**Charters Tower**	**33.90**	**268**	P	**P**	**18 34 20.8**	**+0.2**
	1.7nm,0.3s,baz=94,slow=10,SNR=9.2						
CTAO	**Charters Tower**	**33.90**	**268**	*e*P	**P**	**18 34 21.9**	**+1.3**
STKA	**Stephens Creek**	**37.26**	**247**	P	**P**	**18 34 50.0**	**+0.6**
	0.5nm,0.6s,baz=90,slow=14,SNR=3.0						
AS31	**Alice Springs**	**44.55**	**259**	*e*P	**P**	**18 35 48.9**	**-0.7**
ASAR	**Alice Springs**	**44.55**	**259**	P	**P**	**18 35 49.0**	**-0.6**
	1.2nm,0.9s,baz=93,slow=8.5,SNR=13						
WB2	**Warramunga Arr**	**44.86**	**264**	*e*P	**P**	**18 35 50.6**	**-1.5**
WRAB	**Tennant Creek**	**44.87**	**264**	*e*P	**P**	**18 35 51.0**	**-1.1**
	2.1nm,0.7s						
WRA	**Warramunga Arr**	**44.87**	**264**	P	**P**	**18 35 50.5**	**-1.6**
	1.8nm,0.7s,baz=92,slow=8.4,SNR=29						
USRK	**Ussuriysk Ar.**	**81.41**	**326**	P	P	18 39 51.1	-2.9
	3.0nm,0.8s,baz=142,slow=5.1,SNR=6.0						
TXAR	**Lajitas Array**	**87.96**	**57**	P	**P**	**18 40 26.9**	**-0.6**
	0.4nm,0.8s,baz=225,slow=8.9,SNR=4.0						
CMAR	**Chiang Mai Arr**	**91.51**	**289**	P	**P**	**18 40 42.8**	**-1.5**
	1.5nm,0.9s,baz=132,slow=3.9,SNR=10						
AKASG	**Malin Array Be**	**145.53**	**330**	PKP	**PKPab**	**18 47 17.2**	**+1.8**
	3.2nm,0.8s,baz=36,slow=3.6,SNR=4.7						
BRTR	**Keskin Array B**	**148.95**	**310**	PKPbc	**PKPbc**	**18 47 27.1**	**+1.8**
	1.1nm,0.7s,baz=138,slow=4.2,SNR=4.7						

*IDC **03** 18:46:39.0±1.1,37.°77S×73.°50W,h0km,mb4.1/7, mb1 4.1/10,mb1mx4.0/33,mbtmp4.0/10,ML3.9/3,Error ellipse: s-maj=31.3km s-min=18.5km az=79.0*
*ISCJB **03** 18:46:42.4±0.9,37.°55S±0.°08×73.°5W±0.°2,h23km,mb4.3/8, Error ellipse: s-maj=18.5km s-min=11.6km az=165.5*
*NEIC **03** 18:46:45.1±2.0,37.°60S×73.°55W,h37km±17km,mb4.2/2, Error ellipse: s-maj=24.8km s-min=9.5km az=87.0*
ISC 03 18:46:42.9±0.9,37.°69S±0.°08×73.°5W±0.°1,h23km,n20, σ1§45/20,mb4.0/8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.83**	**144**	Pn	Pn	18 47 36.7	-3.7
	0.8nm,0.3s,baz=297,slow=13,SNR=4.1						
PLCA				Pg	**Pb**	**18 47 47.2**	**-2.5**
	2.3nm,0.3s,baz=306,slow=15,SNR=12						
PLCA	**Paso Flores**	**3.83**	**144**	*e*P	**Pn**	**18 47 42.8**	**+2.4**
PLCA				Pg	**Pb**	**18 47 47.2**	**-2.5**
CFAA	**Coronel Fontan**	**7.48**	**37**	Pn	**Pn**	**18 48 29.1**	**-1.5**
	0.9nm,0.3s,baz=181,slow=11,SNR=21						
TRQA	**Tornquist**	**9.15**	**96**	P	**Pn**	**18 48 55.1**	**+1.6**
	10nm,0.8s						
LVC	**Limon Verde**	**15.54**	**16**	P	**Pn**	**18 50 21.3**	**+0.4**
EFI	**East Falkland**	**17.74**	**147**	*e*P	**P**	**18 50 51.5**	**+2.6**
	12nm,0.6s						
CPUP	**Villa Florida**	**17.78**	**55**	P	**Pn**	**18 50 49.1**	**+0.3**
	0.5nm,0.3s,baz=196,slow=10,SNR=3.0						
LPAZ	**La Paz**	**21.85**	**14**	P	**P**	**18 51 35.4**	**+0.9**
	3.2nm,1.0s,baz=156,slow=9.8,SNR=7.6						
LPAZ	**La Paz**	**21.85**	**14**	*e*P	**P**	**18 51 35.0**	**+0.6**
	10nm,1.0s						
SIV	**San Ignacio**	**24.26**	**30**	P	**P**	**18 51 57.9**	**-0.4**
	3.4nm,0.8s,baz=224,slow=12,SNR=7.2						
PMSA	**Palmer Station**	**27.70**	**171**	P	**P**	**18 52 28.0**	**-0.9**
	24nm,0.9s,baz=59,slow=11,SNR=7.1						
SAML	**Samuel**	**30.11**	**21**	P	**P**	**18 52 50.7**	**-0.1**
HOPE	**Hope Point**	**30.19**	**135**	*e*P	P	18 52 56.8	+5.6
	133nm,0.8s						
TXAR	**Lajitas Array**	**72.40**	**333**	P	**P**	**18 58 06.4**	**-0.7**
	0.3nm,0.7s,baz=158,slow=8.7,SNR=4.3						
DBIC	**Dimbokro**	**77.51**	**71**	P	**P**	**18 58 37.5**	**+0.5**
	5.5nm,0.9s,baz=185,slow=6.6,SNR=6.3						
NVAR	**Mina Array Bea**	**86.24**	**326**	P	**P**	**18 59 23.7**	**+1.1**
	0.4nm,0.4s,baz=151,slow=5.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**86.60**	**71**	P	**P**	**18 59 24.1**	**-0.5**
	0.7nm,0.7s,baz=233,slow=3.4,SNR=4.4						
ABKAR	**Akbulak array**	**144.85**	**56**	*e*PKPdf	**PKPdf**	**19 06 17.0**	**-0.4**
ABKAR				*e*		19 06 25.3	
ZALV	**Zalesovo Beam**	**157.96**	**36**	PKPab	**PKPab**	**19 07 09.7**	**-0.6**
	1.3nm,0.8s,baz=305,slow=5.2,SNR=4.1						
MKAR	**Makanchi Array**	**159.99**	**55**	PKPab	**PKPab**	**19 07 19.0**	**-0.5**
	0.5nm,0.9s,baz=268,slow=3.6,SNR=5.3						

IDC 03 19:00:37.4±1.7,7.°16N×92.°57E,h0km,mb3.4/2,mb1 3.8/4, mb1mx3.4/41,mbtmp3.6/4,ML3.8/2,Error ellipse: s-maj=43.2km s-min=30.1km az=48.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.78**	**271**	Pn	Pn	19 03 27.7	+0.9
	1.0nm,0.3s,baz=92,slow=15,SNR=6.1						
PALK				Sn	Sn	19 05 22.5	-17
	0.6nm,0.3s,baz=174,slow=19,SNR=6.0						
CMAR	**Chiang Mai Arr**	**12.83**	**28**	Pn	Pn	19 03 43.4	+2.1
	0.1nm,0.3s,baz=232,slow=14,SNR=11						
H08S3	**Diego Garcia H**	**24.84**	**234**	T	T	19 31 55.1	
	baz=54,slow=75,SNR=10						
H08S2	**Diego Garcia H**	**24.84**	**234**	T	T	19 31 57.8	
	baz=54,slow=75,SNR=9.9						
H08S1	**Diego Carcia H**	**24.86**	**234**	T	T	19 31 55.7	
	baz=54,slow=75,SNR=6.4						
MKAR	**Makanchi Array**	**40.47**	**349**	P	P	19 08 17.0	-0.8
	0.2nm,0.7s,baz=172,slow=9.7,SNR=5.6						
WRA	**Warramunga Arr**	**49.13**	**124**	P	P	19 09 27.2	-0.2
	0.8nm,0.8s,baz=305,slow=9.0,SNR=8.9						

*ISCJB **03** 19:01:27.6±0.2,43.°77N±0.°01×105.°31W±0.°02,h0km,Error ellipse: s-maj=2.2km s-min=2.1km az=167.9*
*IDC **03** 19:01:27.5±1.8,43.°77N×105.°34W,h0km,mb1 3.6/4, mb1mx3.4/45,mbtmp3.4/4,ML3.1/3,Error ellipse: s-maj=46.3km s-min=8.4km az=149.0*
*NEIC **03** 19:01:28.1±0.4,43.°81N×105.°19W,h0km,ML3.2,Error ellipse: s-maj=5.7km s-min=4.4km az=128.0,Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
ISC 03 19:01:27.9±0.7,43.°77N±0.°02×105.°27W±0.°02,h0km,n125, σ0§86/134,53C-39D,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.24**	**324**	P	**Pg**	**19 01 33.6**	**+1.1**
	baz=0.2,SNR=529						
J23A	**Dilts Ranch, B**	**0.42**	**209**	⇑P	**Pg**	**19 01 36.7**	**+0.7**
	baz=0.5,SNR=162						
J23A				⇓S	**Sg**	**19 01 41.0**	**-0.4**
	baz=0.5						
I24A	**Kuemmerle Ranc**	**0.47**	**79**	P	**Pg**	**19 01 37.5**	**+0.5**
	baz=0.4,SNR=216						
I24A				⇑S	**Sb**	**19 01 45.7**	**-1.2**
	baz=0.4						
J24A	**Dixon Ranch, L**	**0.62**	**135**	P	**Pg**	**19 01 40.3**	**+0.5**
	baz=0.6,SNR=173						
H23A	**Clabaugh Cattl**	**0.80**	**353**	⇓P	**Pg**	**19 01 43.3**	**0.0**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.89**	**278**	⇓P	**Pg**	**19 01 45.3**	**+0.3**
	baz=0.9,SNR=871						
J22A	**Midwest**	**0.95**	**248**	⇑P	**Pg**	**19 01 45.7**	**-0.3**
	baz=1.0,SNR=46						
RSSD	**Black Hills**	**0.96**	**68**	*e*Pg	**Pg**	**19 01 45.6**	**-0.7**
K23A	**Bowen Ranch, D**	**1.05**	**194**	⇑P	**Pg**	**19 01 47.8**	**-0.2**
	baz=1.1						
K24A	**Anderson Ranch**	**1.10**	**162**	⇓P	**Pg**	**19 01 48.5**	**-0.5**
	baz=1.1,SNR=56						
H24A	**Dirks Ranch, A**	**1.11**	**28**	⇑P	**Pg**	**19 01 48.5**	**-0.6**
	baz=1.0						
J25A	**Sunshine Ranch**	**1.13**	**109**	P	**Pg**	**19 01 49.2**	**-0.4**
	baz=1.1,SNR=614						
H22A	**Clearmont**	**1.13**	**317**	P	**Pg**	**19 01 49.8**	**+0.1**
	baz=1.1,SNR=227						
I25A	**Rochford**	**1.14**	**77**	⇑P	**Pg**	**19 01 49.4**	**-0.4**
	baz=1.1						
K22A	**Casper**	**1.45**	**220**	⇓P	**Pn**	**19 01 54.7**	**-0.8**
	baz=1.5,SNR=56						
K22A	**Casper**	**1.45**	**220**	*e*Pn	**Pn**	**19 01 54.5**	**-1.1**
I21A	**Big Trails, Te**	**1.47**	**272**	P	**Pn**	**19 01 54.5**	**-1.3**
	baz=1.5,SNR=504						
H25A	**Fruitdale**	**1.47**	**54**	⇓P	**

I19A	Meeteetse	2.71	277	⇑P	Pn	19 02 13.7 +0.9
	baz=2.7					
E22A	Miles City	2.71	350	⇑P	Pn	19 02 12.8 -0.1
	baz=2.7					
E23A	Ismay	2.73	359	⇓P	Pn	19 02 13.3 +0.2
	baz=2.7					
M26A	McRoberts Ranc	2.79	145	⇓P	Pn	19 02 15.2 +1.2
	baz=2.8					
J19A	Crowheart	2.80	261	⇑P	Pn	19 02 16.0 +1.9
	baz=2.8					
H19A	Powell	2.82	290	⇓P	Pn	19 02 15.1 +0.7
	baz=2.9,SNR=35					
E24A	Baker	2.87	13	⇑P	Pn	19 02 15.5 +0.5
	baz=2.8,SNR=27					
G27A	Dupree	2.88	55	P	Pn	19 02 15.9 +0.8
	baz=2.8,SNR=16					
F20A	Billings	2.89	316	⇑P	Pn	19 02 15.1 -0.2
	baz=2.9,SNR=50					
J28A	Allard Ranch,	2.95	95	⇑P	Pn	19 02 17.9 +1.7
	baz=2.9,SNR=20					
LAO	LASA Array	3.00	347	*e*Pn	Pn	19 02 16.4 -0.4
RLMT	Red Lodge	3.17	297	*e*Pn	Pn	19 02 19.8 +0.6
H18A	Shoshone NF, C	3.29	288	⇓P	Pn	19 02 21.0 +0.1
	baz=3.3,SNR=48					
BW06	Boulder Array	3.29	254	*e*Pn	Pn	19 02 21.9 +1.0
PDAR	Pinedale Array	3.29	254	Pn	Pn	19 02 21.5 +0.6
	6.8nm,0.3s,baz=73,slow=16,SNR=100					
PDAR				Lg	Lg	19 03 09.2
	11nm,0.3s,baz=74,slow=34,SNR=16					
F19A	Roth Farm, Mol	3.34	310	P	Pn	19 02 22.2 +0.6
	baz=3.4,SNR=129					
E26A	Carlson Angus	3.35	35	⇑P	Pn	19 02 22.5 +0.8
	baz=3.3,SNR=7.4					
D24A	Glendive	3.41	11	⇓P	Pn	19 02 23.6 +1.2
	baz=3.4,SNR=16					
D22A	Cohagen	3.44	350	⇑P	Pn	19 02 23.1 +0.3
	baz=3.4,SNR=12					
D21A	La Casta Ranch	3.51	340	⇑P	Pn	19 02 23.8 0.0
	baz=3.5,SNR=7.1					
N27A	Anderson Farm,	3.59	145	⇑P	Pn	19 02 25.5 +0.5
	baz=3.6,SNR=7.9					
D25A	Fairfield	3.65	21	⇑P	Pn	19 02 26.6 +0.8
	baz=3.6,SNR=5.9					
E19A	Rath Farm, Rou	3.67	318	⇑P	Pn	19 02 25.8 -0.2
	baz=3.7,SNR=5.6					
OGNE	Ogallala	3.70	139	*e*Pn	Pn	19 02 27.0 +0.5
GCMT	Greycliff	3.73	304	*e*Pn	Pn	19 02 27.5 +0.6
C24A	Savage	3.81	9	⇑P	Pn	19 02 29.2 +1.3
	baz=3.8,SNR=13					
D26A	Manning	3.82	30	⇑P	Pn	19 02 29.3 +1.2
	baz=3.8,SNR=5.5					
H17A	Grant Village	3.87	281	*e*P	Pn	19 02 30.9 +1.9
C22A	Vida	4.00	354	⇓P	Pn	19 02 31.7 +1.1
	baz=4.0,SNR=29					
C23A	Lambert	4.03	1	⇑P	Pn	19 02 32.1 +1.1
	baz=4.0,SNR=142					
G29A	Hoven	4.08	68	⇓P	Pn	19 02 32.2 +0.6
	baz=4.0,SNR=5.1					
O27A	Beecher Island	4.14	149	⇓P	Pn	19 02 33.1 +0.7
	baz=4.1,SNR=6.1					
C25A	Freed Ranch, W	4.19	19	⇑P	Pn	19 02 34.2 +1.1
	baz=4.1,SNR=10					
YMR	Madison River	4.19	284	*e*Pn	Pn	19 02 33.5 +0.2
O20A	White River Ci	4.25	212	*e*Pn	Pn	19 02 35.0 +0.8
P25A	Willow Gulch B	4.33	169	⇑P	Pn	19 02 35.8 +0.6
	baz=4.4,SNR=9.5					
AHID	Auburn Hatcher	4.37	259	*e*Pn	Pn	19 02 36.4 +0.6
P26A	Davis Ranch, A	4.45	160	⇓P	Pn	19 02 37.3 +0.6
	baz=4.5,SNR=29					
O28A	Krutsinger Ran	4.48	143	⇑P	Pn	19 02 37.4 +0.3
	baz=4.5,SNR=7.2					
P27A	Ficken Ranch,	4.67	154	⇑P	Pn	19 02 40.2 +0.4
	baz=4.7,SNR=19					
B23A	Brockton	4.70	2	⇑P	Pn	19 02 41.2 +1.1
	baz=4.7,SNR=15					
B25A	Knox Farm, Ray	4.74	17	⇑P	Pn	19 02 41.6 +1.0
	baz=4.7,SNR=5.8					
DGMT	Dagmar	4.76	9	⇑P	Pn	19 02 41.9 +0.9
	baz=4.7,SNR=9.4					
DGMT	Dagmar	4.76	9	*e*Pn	Pn	19 02 41.4 +0.5
C19A	Slack Wire Ran	4.77	328	P	Pn	19 02 41.5 +0.5
	baz=4.8,SNR=22					
P28A	Saint Francis	4.95	147	⇓P	Pn	19 02 43.9 +0.3
	baz=4.9,SNR=12					
HWUT	Hardware Ranch	5.12	247	*e*Pn	Pn	19 02 47.1 +1.1
	11nm,0.5s					
KSCO	Kaye Shedlock'	5.15	156	⇑P	Pn	19 02 46.6 +0.2
	baz=5.2,SNR=6.5					
TCUT	Toone Canyon	5.26	242	*e*Pn	Pn	19 02 48.4 +0.4
	20nm,0.6s					
EGMT	Eagleton	5.28	325	⇓P	Pn	19 02 48.1 -0.1
	baz=5.3,SNR=11					
EGMT	Eagleton	5.28	325	*e*Pn	Pn	19 02 47.5 -0.7
	11nm,0.3s					
A21A	Bergtoll Ranch	5.35	348	⇑P	Pn	19 02 48.9 -0.1
	baz=5.3,SNR=8.5					
HRY	Holter Researc	5.49	305	*e*Pn	Pn	19 02 51.3 +0.3
	11nm,0.3s					
LRM	Limekiln Ridge	5.51	294	*e*Pn	Pn	19 02 51.8 +0.4
	28nm,0.3s					
DAU	Daniels Canyon	5.58	235	*e*Pn	Pn	19 02 54.9 +2.5
	0.3nm,0.3s					
R27A	Eads	5.79	160	⇑P	Pn	19 02 55.5 +0.3
	baz=5.8,SNR=13					
HVU	Hansel Valley	5.87	253	*e*Pn	Pn	19 02 56.3 0.0
	3.5nm,0.4s					
R28A	Tribune	6.02	153	⇑P	Pn	19 02 58.1 -0.2
	baz=6.0,SNR=12					
PV04	Paradox Valley	6.03	208	*e*Pn	Pn	19 03 00.1 +1.5
SRU	San Rafael Swe	6.10	222	*e*Pn	Pn	19 02 59.5 0.0
	9.1nm,0.6s					
S26A	Kim	6.29	167	⇑P	Pn	19 03 02.2 +0.1
	baz=6.3,SNR=7.8					
BGU	Big Grassy Mou	6.41	246	*e*Pn	Pn	19 03 05.1 +1.3
	1.9nm,0.3s					
CHMT	Chamberlain Mo	6.44	302	*e*Pn	Pn	19 03 04.6 +0.3
	2.6nm,0.3s					
DUG	Dugway, Tooele	6.66	240	⇑P	Pn	19 03 07.4 +0.3
	baz=6.7,SNR=13					
DUG	Dugway, Tooele	6.66	240	*e*Pn	Pn	19 03 07.2 +0.1
	2.3nm,0.3s					
T28A	Walsh	7.06	159	⇓P	Pn	19 03 12.2 -0.4
	baz=7.1,SNR=8.8					
SWMT	Swartz Lake	7.17	304	*e*Pn	Pn	19 03 14.5 +0.4
	2.5nm,0.3s					
YBMT	Yellow Bay	7.35	307	*e*Pn	Pn	19 03 17.1 +0.5
	4.7nm,0.3s					
U28A	Mallet	7.74	161	⇓P	Pn	19 03 21.5 -0.4
	baz=7.8,SNR=6.8					
ELK	Elko	7.99	251	Pn	Pn	19 03 28.2 +2.8
	0.6nm,0.3s,baz=352,slow=3.2,SNR=7.5					
ULM	Lac du Bonnet	9.12	41	Pn	Pn	19 03 38.8 -1.9
	1.7nm,0.3s,baz=233,slow=13,SNR=14					
ULM				Pg		19 04 13.9
	1.2nm,0.3s,baz=243,slow=12,SNR=4.8					
ULM				Lg	Lg	19 06 08.3
	0.3nm,0.3s,baz=145,slow=19,SNR=2.1					
YKA	Yellowknife Ar	19.54	347	P	P	19 05 55.8 -0.9
	0.1nm,0.3s,baz=157,slow=11,SNR=4.3					

*IDC **03** 19:17:43.9±2.3, 38°.90S×74°.31W, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.7/26, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=72.3km s-min=17.6km az=44.0*

ISC 03 19:17:49.8±2.3, 38°.9S±0°.3×74°.2W±0°.4, h35km, n6, σ1§31/6, mb3.6/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.35	125	Pn	Pn	19 18 40.7	+0.9
	1.2nm,0.3s,baz=318,slow=15,SNR=11						
PLCA				Pg		19 18 45.4	
	8.5nm,0.3s,baz=286,slow=12,SNR=14						
PLCA				Lg	Lg	19 19 35.7	
	12nm,0.3s,baz=30,slow=21,SNR=5.8						
LPAZ	La Paz	23.09	15	P	P	19 22 54.2	+1.1
	1.0nm,0.8s,baz=180,slow=6.9,SNR=3.8						
TXAR	Lajitas Array	73.21	333	P	P	19 29 17.8	+0.6
	0.2nm,0.6s,baz=168,slow=9.2,SNR=3.0						
DBIC	Dimbokro	78.34	72	P	P	19 29 46.2	-0.5
	2.0nm,0.6s,baz=182,slow=9.0,SNR=4.7						
TORD	Torodi Ar. Bea	87.44	71	P	P	19 30 32.3	-1.5
	0.5nm,0.9s,baz=214,slow=3.3,SNR=3.3						
MKAR	Makanchi Array	161.03	58	PKPab	PKPab	19 38 28.6	-0.5
	0.2nm,0.6s,baz=265,slow=3.7,SNR=2.6						

IDC 03 19:22:39.6±3.6, 19°.87S×173°.07W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/39, mbtmp4.0/5, Error ellipse: s-maj=118.6km s-min=32.4km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.23	244	P	P	19 30 35.6	+0.9
	1.7nm,0.6s,baz=74,slow=12,SNR=3.7						
ASAR	Alice Springs	49.16	256	P	P	19 31 28.8	-1.0
	2.1nm,0.6s,baz=97,slow=7.5,SNR=32						
WRA	Warramunga Arr	49.27	260	P	P	19 31 30.3	-0.3
	2.3nm,0.7s,baz=98,slow=8.3,SNR=36						
MJAR	Matsushiro Arr	72.56	321	P	P	19 34 09.2	+0.5
	0.9nm,0.6s,baz=141,slow=6.2,SNR=5.0						
ILAR	Eielson Array	86.75	11	P	P	19 35 24.6	-0.5
	0.3nm,0.7s,baz=222,slow=4.8,SNR=6.2						

*IDC **03** 19:28:39.4±1.0, 34°.27S×72°.38W, h0km, mb3.9/4, mb1 4.0/8, mb1mx3.8/36, mbtmp3.8/8, ML4.2/3, Error ellipse: s-maj=35.2km s-min=22.8km az=93.0*

*ISCJB **03** 19:28:40.6±0.7, 34°.29S±0°.07×72°.35W±0°.08, h17km, mb3.9/5, Error ellipse: s-maj=11.6km s-min=6.6km az=135.2*

*GUC **03** 19:28:42.7±0.7, 34°.28S×72°.17W, h39km±7km, ML4.4*

*NEIC **03** 19:28:42.9±4.7, 34°.26S×72°.44W, h24km±34km, mb4.0/1, Error ellipse: s-maj=25.1km s-min=10.3km az=91.0*

ISC 03 19:28:42.0±0.8, 34°.28S±0°.09×72°.26W±0°.09, h17km, n18, σ1§13/22, mb4.0/5, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	Rinconada Maip	1.44	57	*e*P	Pb	19 29 07.4	-1.0
RCDM				*e*S	Sb	19 29 26.2	-0.3
RCDM				AML	AML	19 29 32.0	
	comp=N,6μm,0.6s						
ANTU	Antumapu	1.52	63	⇑*i*P	Pb	19 29 08.9	-0.9
ANTU				*i* S	Sb	19 29 28.3	-0.6
ANTU				AML	AML	19 29 35.4	
	comp=N,10μm,0.5s						
STL	Santa Lucia	1.59	58	*e*P9	Pn	19 29 08.8	-0.6
STL				*e*S	Sn	19 29 28.9	-0.6
FSR	Penalolen	1.65	61	*e*P9	Pn	19 29 11.6	+1.4
FSR				*e*S1	Sn	19 29 32.4	+1.4
PEL	Peldehue	1.73	50	⇑*i*P	Pb	19 29 11.8	-1.6
PEL				*i* S	Sb	19 29 34.3	-0.6
PEL				AML	AML	19 29 40.4	
	comp=N,11μm,0.4s						
CFAA	Coronel Fontan	4.30	53	Pn	Pn	19 29 48.9	+2.1
	comp=N,0.6nm,0.3s,baz=222,slow=12,SNR=25						
CFAA				Lg	Lg	19 30 50.0	
	comp=N,2.4nm,0.3s,baz=12,slow=6.9,SNR=5.4						
PLCA	Paso Flores	6.58	169	Pn	Pn	19 30 19.3	+1.2
	comp=N,0.9nm,0.3s,baz=343,slow=8.8,SNR=5.5						
TRQA	Tornquist	9.12	117	*e*P	Pn	19 30 56.8	+3.9
	comp=N,5.1nm,0.6s						
LVC	Limon Verde	11.99	15	P	Pn	19 31 31.2	-1.2
CPUP	Villa Florida	15.12	62	Pn	Pn	19 32 16.5	+1.7
	comp=N,0.8nm,0.3s,baz=170,slow=3.9,SNR=4.0						
LPAZ	La Paz	18.30	13	P	P	19 32 56.1	+0.3
	comp=N,0.1nm,0.3s,baz=180,slow=5.0,SNR=6.1						
EFI	East Falkland	20.19	154	*e*P	P	19 33 14.5	-1.1
SAML	Samuel	26.55	20	P	P	19 34 20.5	+1.4
	comp=N,2.9nm,0.8s						
QSPA	South Pole Qui	55.96	180	P	P	19 38 19.5	+0.4
	comp=N,4.4nm,0.9s,baz=130,slow=0.9,SNR=8.2						
TXAR	Lajitas Array	69.89	331	P	P	19 39 52.2	+0.2
	comp=N,0.3nm,0.5s,baz=158,slow=9.8,SNR=5.2						
PDAR	Pinedale Array	83.93	333	P	P	19 41 11.2	+0.2
	comp=N,0.5nm,0.9s,baz=147,slow=5.1,SNR=3.3						
TORD	Torodi Ar. Bea	84.47	70	P	P	19 41 13.4	-0.8
	comp=N,0.8nm,0.8s,baz=248,slow=4.4,SNR=4.1						
ZALV	Zalesovo Beam	154.56	32	PKPbc	PKPbc	19 48 40.8	-0.5
	comp=N,1.5nm,0.7s,baz=293,slow=2.9,SNR=3.8						

*IDC **03** 19:30:40.0±1.1, 37°.38S×72°.07W, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/35, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=40.9km s-min=15.4km az=75.0*

*ISCJB **03** 19:30:40.3±1.0, 37°.41S±0°.10×72°.1W±0°.3, h10km, mb3.9/7, Error ellipse: s-maj=35.5km s-min=12.2km az=166.8*

*NEIC **03** 19:30:44.2±4.5, 37°.43S×72°.04W, h27km±32km, mb4.1/1, Error ellipse: s-maj=30.1km s-min=13.1km az=80.0*

ISC 03 19:30:41.6±1.1, 37°.4S±0°.1×72°.1W±0°.3, h10km, n13, σ0§88/12, mb4.0/7, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.50	161	Pn	Pn	19 31 36.9	+0.6
	2.2nm,0.3s,baz=326,slow=10,SNR=5.4						
PLCA				Pg	Pb	19 31 43.4	-0.4
	10nm,0.3s,baz=316,slow=14,SNR=14						
PLCA				Lg	Lg	19 32 34.8	
	7.4nm,0.3s,baz=300,slow=12,SNR=5.1						
EFI	East Falkland	17.35	150	*e*P	Pn	19 34 43.9	+0.2
LPAZ	La Paz	21.34	10	P	P	19 35 30.1	+0.5
	1.2nm,0.7s,baz=180,slow=4.0,SNR=3.4						
LPAZ	La Paz	21.34	10	*e*P	P	19 35 31.0	+1.4
	8.1nm,1.1s						
SIV	San Ignacio	23.46	27	P	P	19 35 49.9	-1.5
	0.7nm,0.4s,baz=212,slow=15,SNR=2.2						
TXAR	Lajitas Array	72.72	331	P	P	19 42 09.6	-0.3
	0.3nm,0.6s,baz=150,slow=9.3,SNR=3.0						
DBIC	Dimbokro	76.31	70	P	P	19 42 32.0	+0.9
	3.2nm,0.7s,baz=235,slow=9.8,SNR=3.3						
BOSA	Boshof	78.51	117	P	P	19 42 43.1	-0.3
	3.7nm,0.9s,baz=166,slow=8.3,SNR=3.1						
TORD	Torodi Ar. Bea	85.40	70	P	P	19 43 19.7	+0.1
	0.9nm,0.8s,baz=259,slow=3.9,SNR=4.0						
PDAR	Pinedale Array	86.81	333	P	P	19 43 26.1	-0.1
	1.0nm,1.1s,baz=190,slow=4.5,SNR=4.2						
ABKAR	Akbulak array	143.73	55	*e*PKPpre	PKPpre	19 50 11.6	
PSI	Prapat	144.56	164	PKP	PKPbc	19 50 18.7	+1.0
	3.4nm,0.4s,baz=29,slow=2.6,SNR=4.4						
MKAR	Makanchi Array	158.87	56	PKPab	PKPab	19 51 14.5	-1.0
	0.7nm,0.8s,baz=296,slow=3.9,SNR=5.5						

*IDC **03** 19:34:27.1±3.6, 18°.30N×147°.12E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/52, mbtmp3.9/8, ML3.8/1, MS3.7/1, Ms1 3.7/1, ms1mx3.1/56, Error ellipse: s-maj=89.1km s-min=34.5km az=12.0*

*ISCJB **03** 19:34:33.9±0.8, 18°.6N±0°.1×147°.2E±0°.2, h52km, mb4.3/14, Error ellipse: s-maj=25.4km s-min=16.7km az=155.2*

*NEIC **03** 19:34:33.5±0.8, 18°.46N×147°.00E, h35km, mb4.8/6, Error ellipse: s-maj=23.5km s-min=16.0km az=89.0*

ISC 03 19:34:35.3±1.0, 18°.5N±0°.1×147°.0E±0°.2, h52km, n18, σ1§16/17, mb4.4/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	19.16	299	LR	LR	19 44 20.4	
	comp=Z,209nm,19.9s,baz=308,slow=31						
MJAR	Matsushiro Arr	19.59	338	P	P	19 38 59.0	-0.2
	0.3nm,0.3s,baz=168,slow=11,SNR=4.6						
KSRS	Korea Array	25.23	322	P	P	19 39 57.3	+1.0
	2.7nm,0.7s,baz=144,slow=8.7,SNR=11						
KSAR	Wonju Array Be	25.25	322	P	P	19 39 57.3	+0.8
TNTI	Ternate	26.09	230	*e*P	P	19 40 02.0	-2.4
	90nm,1.0s						
PMG	Port Moresby	27.71	180	*e*P	P	19 40 20.4	+1.6
	38nm,0.7s						
USRK	Ussuriysk Ar.	28.57	337	P	P	19 40 26.5	+0.2
	1.3nm,0.7s,baz=172,slow=14,SNR=3.9						
HIA	Hailar	37.75	331	*e*P	P	19 41 46.5	+0.4
	3.0nm,0.6s						
ULN	Ulaanbaatar	43.71	321	*e*P	P	19 42 36.3	+0.9
	3.0nm,0.8s						
SONM	Songino Array	44.09	321	P	P	19 42 39.5	+1.1
	2.3nm,0.8s,baz=138,slow=9.1,SNR=20						
CHGN	Chignik	55.39	34	*e*P	P	19 44 03.1	-0.8
ZALV	Zalesovo Beam	58.94	322	P	P	19 44 28.8	-0.3
	2.1nm,0.6s,baz=104,slow=5.8,SNR=11						
KURK	Kurchatov	62.26	318	P	P	19 44 50.1	-1.7
	5.4nm,0.6s						
ILAR	Eielson Array	63.30	26	P	P	19 44 57.8	-0.7
	0.5nm,0.8s,baz=320,slow=33,SNR=3.8						
BRVK	Borovoye	67.49	321	*e*P	P	19 45 27.1	+1.4
	6.0nm,0.5s						
YKA	Yellowknife Ar	77.61	28	P	P	19 46 26.4	+0.7
	0.2nm,0.7s,baz=289,slow=5.3,SNR=3.2						
JOF	Joensuu	84.73	336	*ep*	P	19 47 03.4	-0.1
	2.0nm,0.6s						
FINES	FINESS Array B	87.60	336	P	P	19 47 17.9	+0.2
	1.2nm,0.4s,baz=84,slow=5.5,SNR=15						

*BJI **03** 19:34:47.4, 7°.40S×104°.50E, h40km, mB5.4/9, mb5.3/44, Ms5.2/4, Ms7 4.8/4*

*KLM **03** 19:34:49.5, 7°.61S×104°.35E, h52km, mb5.0, ML4.7, MS5.3*

*NEIC **03** 19:34:50.6±0.3, 7°.38S×104°.61E, h35km, mb5.0/27, Error ellipse: s-maj=7.4km s-min=4.7km az=47.0*

*MOS **03** 19:34:51.7±1.0, 7°.07S×104°.92E, h48km, mb5.2/29, Error ellipse: s-maj=12.7km s-min=6.1km az=114.3*

*ISCJB **03** 19:34:52.2±0.6, 7°.32S±0°.04×104°.71E±0°.03, h61km±4km, mb4.8/75, Error ellipse: s-maj=7.9km s-min=3.4km az=40.8*

*DJA **03** 19:34:52.7±0.9, 7°°S±3°×10°5E±°, h26km±9km, M5.1/36, mB5.6/27, mb5.3/36, MLv5.3/34, Mw(mB)5.1/27*

*IDC **03** 19:34:55.1±0.7, 7°.18S×104°.80E, h67km±5km, mb4.4/23, mb1 4.4/25, mb1mx4.3/43, mbtmp4.7/25, MS4.7/1, Ms1 4.7/1, ms1mx3.4/50, Error ellipse: s-maj=19.4km s-min=10.0km az=51.0*

ISC 03 19:34:53.8±0.5, 7°.36S±0°.05×104°.69E±0°.04, h63km±4km, h63km: pP-P, n356, σ1§23/348, mb4.9/75, 55C-57D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	1.24	53	P	Pn	19 35 12.8	-2.3
CGJI				S	Sn	19 35 29.0	-2.1
KASI	Kota Agung	1.84	354	P	Pn	19 35 21.9	-1.2
KASI				S	Sn	19 35 44.5	-0.9
SKJI	Sukabumi	1.89	79	P	Pn	19 35 22.5	-1.2
SBJI	Serang	1.89	49	P	Pn	19 35 23.1	-0.7
BLSI	Bandar Lampung	2.06	16	P	Pn	19 35 25.5	-0.6
TNG	Tangerang	2.27	59	P	Pn	19 35 29.3	+0.3
LWLI	Liwa	2.41	345	P	Pn	19 35 30.4	-0.6
CNJI	Cibinong	2.42	89	P	Pn	19 35 29.3	-1.7
KLI	Kotabumi	2.49	4	P	Pn	19 35 31.4	-0.6
MDSI	Maura Dua	2.90	350	P	Pn	19 35 36.5	-1.1
LEM	Lembang	2.95	80	P	Pn	19 35 39.3	+0.9
LEM	Lembang	2.95	80	P	Pn	19 35 39.0	+0.5
	baz=3.1,SNR=152						
CISI	Cisompet, Garu	3.10	94	P	Pn	19 35 38.8	-1.6
CISI	Cisompet, Garu	3.10	94	P	Pn	19 35 38.6	-1.8
	baz=3.3,SNR=668						
CISI				S	Sn	19 36 12.7	-3.7
	baz=3.3,SNR=6.1						
CISI	Cisompet, Garu	3.10	94	*e*Pn	Pn	19 35 38.3	-2.1
XMI	Christmas Isla	3.22	162	P	Pn	19 35 36.3	-5.6
	baz=3.2,SNR=32						
XMI				S	Sn	19 36 09.3	-10
	baz=3.2,SNR=8.5						
XMIS	Christmas Isla	3.24	163	P	Pn	19 35 36.4	-5.8
	baz=3.3,SNR=24						
XMIS				S	Sn	19 36 09.1	-11
	baz=3.3,SNR=15						
XMIS	Christmas Isla	3.24	163	*e*Pn	Pn	19 35 36.0	-6.2
MNAI	Manna	3.45	330	P	Pn	19 35 43.1	-2.0
MNAI				S	Sn	19 36 22.8	-1.9
MNAI	Manna	3.45	330	P	Pn	19 35 43.1	-2.0
	baz=3.4,SNR=142						
MNAI				S	Sn	19 36 22.3	-2.4
	baz=3.4,SNR=6.0						
MNAI	Manna	3.45	330	*e*Pn	Pn	19 35 42.9	-2.2
JCJI	Jatiwangi	3.66	76	P	Pn	19 35 47.6	-0.3
JCJI				S	Sn	19 36 28.0	-1.9
LHSI	Lahat	3.70	342	P	Pn	19 35 48.4	-0.1
CMJI	Cimerak	3.75	97	P	Pn	19 35 47.6	-1.6
CMJI				S	Sn	19 36 27.5	-4.6
KPJI	Karang Pucung	4.21	90	P	Pn	19 35 55.7	+0.3
PMBI	Palembang	4.41	1	P	Pn	19 35 58.4	+0.2
PMBI	Palembang	4.41	1	P	Pn	19 35 54.2	-4.0
	baz=4.5,SNR=4.1						
TPI	Tanjungpandan	5.45	33	P	Pn	19 36 11.8	-0.6
	167nm,0.9s,1μm0.5nm						
SMRI	Semarang	5.71	87	P	Pn	19 36 17.7	+1.6
	427nm,0.9s,4μm1.4nm						
SMRI	Semarang	5.71	87	P	Pn	19 36 17.9	+1.8
	baz=5.9,SNR=13						
SMRI	Semarang	5.71	87	*e*Pn	Pn	19 36 16.7	+0.6
	256nm,0.5s						
UGM	Wanagama	5.81	96	P	Pn	19 36 17.0	-0.4
	866nm,0.8s,12μm3.6nm						
UGM	Wanagama	5.81	96	P	Pn	19 36 16.5	-0.9
	baz=6.0,SNR=277						
UGM				S	Sn	19 37 20.0	-2.7
	baz=6.0,SNR=8.8						
WOJI	Wonogiri, Jawa	6.20	95	P	Pn	19 36 22.7	0.0
	348nm,0.6s,6μm2.1nm						
NGJI	Ngawi	6.72	90	P	Pn	19 36 33.9	+4.1
	229nm,0.7s,3μm1.2nm						
PWJI	Pagerwojo	7.08	96	P	Pn	19 36 34.2	-0.6
	504nm,1.0s,6μm4.1nm						
TBJI	Tambak Boyo	7.12	86	P	Pn	19 36 38.2	+2.8
	173nm,1.0s,2μm0.6nm						
PDSI	Padang	7.67	326	P	Pn	19 36 39.6	-3.3
	52nm,0.6s,2μm2.0nm						
GRJI	Gresik	7.74	87	P	Pn	19 36 46.1	+2.2
	429nm,0.6s,5μm1.7nm						
TPRI	Tanjung Pinang	8.23	359	P	Pn	19 36 50.2	-0.3
	64nm,0.9s,876nm0.6nm						
PBKI	Pangkalan Bun	8.35	57	P	Pn	19 36 52.4	+0.2
	125nm,0.9s,1μm0.4nm						
BKNI	Bangkinang	8.46	334	*e*Pn	Pn	19 36 50.1	-3.7
BTDF	Bukit Timah Da	8.71	354	P	Pn	19 36 56.5	-0.7
	baz=8.8,SNR=5.7						
GMJI	Gumukmas	8.72	97	P	Pn	19 36 58.3	+1.1
	88nm,0.8s,2μm0.6nm						
BLJI	Banyuglugur	8.84	93

GIRL S Sn 19 41 58.1 -16
baz=18,SNR=5.4
SDKM Sandakan 17.96 44 ⇓P **Pn 19 38 59.1 -0.2**
MYLDM Lahad Datu 18.58 48 ⇑P **Pn 19 39 08.6 +1.8**
KDM Kudat 18.65 41 ⇑P **Pn 19 39 07.9 +0.3**
BATI Baumata 18.96 100 P **Pn 19 39 13.4 +2.0**
comp=Z,49nm,1.1s
BATI Baumata 18.96 100 P **P 19 39 09.2 -1.0**
comp=Z,11nm,0.3s,baz=285,slow=15,SNR=25
DLV T Lat 19.55 11 *e*P **P 19 39 16.0 -0.6**
comp=Z,78nm,1.0s
MBWA Marble Bar 19.99 135 *e*P **P 19 39 21.6 +0.4**
comp=Z,46nm,0.8s
SANI Sanana 21.86 77 P **P 19 39 42.0 +0.5**
comp=Z,32nm,1.0s
UBPT Khong Chiam 22.51 2 P **P 19 39 50.4 +2.0**
comp=Z,18nm,1.5s
NLAI Namlea 22.68 81 P **P 19 39 50.3 0.0**
comp=Z,62nm,0.9s
KHLT Khaolaem Dam 22.83 345 P **P 19 39 52.1 +0.3**
comp=Z,19nm,1.1s
LBMI Labuha 23.70 75 P **P 19 40 01.7 +1.5**
comp=Z,59nm,1.0s
PBKT Sadao Pong 24.06 351 P **P 19 40 01.9 -1.4**
comp=Z,29nm,1.1s
CTBH Cotabato--PC H 24.30 54 ⇓*i*P **P 19 40 06.1 +0.6**
LOEI Loei 24.95 352 P **P 19 40 10.2 -1.2**
comp=Z,90nm,0.8s,comp=Z,4µm
KNRA Kununurra 24.97 111 P **P 19 40 12.0 +0.3**
baz=25,SNR=14
UTTA Uttaradit 25.28 351 P **P 19 40 14.5 +0.1**
comp=Z,7.1nm,0.7s,comp=Z,61nm
LAMP Lampang 26.20 349 P **P 19 40 22.5 -0.2**
comp=Z,15nm,0.7s,comp=Z,142nm
MHMT Maesarieng 26.24 345 P **P 19 40 23.3 +0.2**
comp=Z,20nm,1.0s,comp=Z,386nm
CMAR Chiang Mai Arr 26.28 348 *c e*P **P 19 40 22.2 -1.2**
CMAR pmax pmax
comp=Z,23nm,0.6s
CMAR Chiang Mai Arr 26.28 348 P **P 19 40 22.2 -1.2**
comp=Z,23nm,0.7s,baz=181,slow=8.2,SNR=105
MTN Manton Dam 26.58 104 P P 19 40 32.7 +6.4
baz=27,SNR=11
MTN S S 19 45 31.9 +35
baz=27,SNR=4.2
CMMT Chiang Mai 26.62 348 P **P 19 40 25.4 -1.1**
comp=Z,98nm,0.8s
CHTO Chiang Mai 26.62 348 *e*P **P 19 40 25.1 -1.4**
CHTO pmax pmax
comp=Z,49nm,0.8s
CHTO Chiang Mai 26.62 348 P **P 19 40 25.5 -1.0**
comp=Z,330nm,0.8s
CHTO Chiang Mai 26.62 348 *e*P **P 19 40 25.1 -1.4**
comp=Z,49nm,0.8s
SWI Sorong 27.26 78 P **P 19 40 31.7 -0.7**
baz=27,SNR=3.4
CRAI Chiangrai 27.75 351 P **P 19 40 34.8 -1.8**
comp=Z,73nm,0.7s
FAKI Fak Fak 27.79 82 P **P 19 40 37.3 +0.1**
baz=28,SNR=3.8
KDU Kakadu 27.85 103 P **P 19 40 37.5 -0.2**
baz=28,SNR=11
SLVN Son La 28.53 358 *e*P **P 19 40 43.5 -0.2**
comp=Z,6.0nm,0.8s
WRA Warramunga Arr 31.34 117 P **P 19 41 09.0 +0.5**
comp=Z,2.5nm,0.8s,baz=294,slow=9.6,SNR=29
WRA pP **pP 19 41 26.4 +2.4**
comp=Z,4.2nm,0.6s,baz=289,slow=10,SNR=9.1
WRAB Tennant Creek 31.34 116 *e*P **P 19 41 08.3 -0.3**
WRAB pmax pmax
comp=Z,7.0nm,0.7s
WRAB Tennant Creek 31.34 116 *e*P **P 19 41 08.3 -0.3**
comp=Z,7.3nm,0.7s
WB2 Warramunga Arr 31.35 117 *e*P **P 19 41 08.5 -0.1**
KMI Kunming 32.35 357 P **P 19 41 19.0 +1.5**
KMI PMZ
comp=Z,45nm,0.9s
ASAR Alice Springs 32.37 123 P **P 19 41 18.1 +0.5**
comp=Z,3.6nm,0.9s,baz=293,slow=7.5,SNR=26
ASAR PcP **PcP 19 44 05.2 +1.1**
comp=Z,1.9nm,0.5s,baz=302,slow=2.0,SNR=5.0
TPUB Ta-pu 34.23 27 *e*P **P 19 41 33.5 -0.2**
comp=Z,18nm,0.8s
YULB Yu-li 34.61 28 *e*P **P 19 41 37.0 0.0**
comp=Z,26nm,0.9s
SSLB Suanglung 34.80 27 *e*P **P 19 41 38.8 +0.2**
comp=Z,32nm,1.0s
YHNB Yeheng 35.75 27 *e*P **P 19 41 47.0 +0.2**
comp=Z,19nm,0.8s
QIS Mount Isa 36.23 115 P **P 19 41 52.1 +1.1**
baz=36,SNR=9.3
ENH Enshi 37.70 7 *e*P **P 19 42 03.0 -0.3**
comp=Z,8.4nm,0.8s
ODAN Odare 37.93 334 ⇑*i*P **P 19 42 06.0 +0.5**
comp=Z,57nm,0.6s
TAPN Taplejung 38.23 335 ⇑*i*P **P 19 42 09.0 +0.9**
comp=Z,69nm,0.7s
COEN Coen 38.34 103 P **P 19 42 09.1 +0.1**
baz=38,SNR=10
RAMN Ramite 38.35 333 ⇑*i*P **P 19 42 10.0 +0.9**
comp=Z,45nm,0.5s
LSA Lhasa 39.08 341 P **P 19 42 16.0 +0.5**
LSA Lhasa 39.08 341 *e*P **P 19 42 15.9 +0.5**
LSA pmax pmax
comp=Z,33nm,0.5s
LSA Lhasa 39.08 341 *e*P **P 19 42 15.9 +0.4**
comp=Z,34nm,0.5s
JIRN Jiri 39.15 334 ⇑*i*P **P 19 42 16.8 +0.9**
comp=Z,101nm,0.6s
PKI Pulchoki 39.42 333 ⇑*i*P **P 19 42 18.5 +0.3**
comp=Z,14nm,0.4s
PKIN Phulchoki 39.43 333 ⇑*i*P **P 19 42 18.4 +0.2**
comp=Z,14nm,0.4s
GUN Gumba 39.50 333 ⇑*i*P **P 19 42 19.7 +0.9**
comp=Z,81nm,0.4s
DMN Daman 39.59 332 ⇑*i*P **P 19 42 20.1 +0.6**
comp=Z,61nm,0.8s
KKN Kakani 39.67 333 ⇑*i*P **P 19 42 20.7 +0.6**
comp=Z,74nm,0.7s
GKN Gorkha 40.15 332 ⇑*i*P **P 19 42 24.6 +0.6**
comp=Z,50nm,0.4s
KOLN Koldanda 40.45 331 ⇑*i*P **P 19 42 27.4 +0.9**
comp=Z,97nm,0.7s
DANN Dangsing 40.85 331 ⇑*i*P **P 19 42 30.6 +0.6**
comp=Z,136nm,0.7s
JOW Kunigami 40.97 33 P **P 19 42 30.3 -0.2**
comp=Z,1.6nm,0.7s,baz=143,slow=3.2,SNR=5.3
XAN Xi'an 41.37 5 P **P 19 42 33.6 -0.2**
XAN pP pP 19 42 43.2 -6.5
XAN PMZ
comp=Z,28nm,0.8s
PMG Port Moresby 42.05 96 *d i*P **P 19 42 40.1 +0.5**
PMG pmax pmax
comp=Z,27nm,1.0s
PMG Port Moresby 42.05 96 P **P 19 42 40.2 +0.6**
baz=42,SNR=4.6
PMG Port Moresby 42.05 96 *e*P **P 19 42 38.7 -0.9**
STKA Stephens Creek 42.12 130 P **P 19 42 41.2 +1.2**
comp=Z,16nm,0.6s,baz=304,slow=7.6,SNR=80
STKA pP **pP 19 42 58.6 +2.7**
comp=Z,9.3nm,0.6s,baz=312,slow=6.7,SNR=3.7
STKA Stephens Creek 42.12 130 P **P 19 42 41.1 +1.0**
baz=42,SNR=15
QLP Quilpie 42.13 122 P **P 19 42 42.3 +2.1**
baz=42,SNR=10
CTA Charters Tower 42.18 112 P **P 19 42 41.4 +0.7**
comp=Z,6.7nm,0.8s,baz=268,slow=8.6,SNR=7.6
CTAO Charters Tower 42.18 112 *e*P **P 19 42 40.9 +0.2**
CTAO *e* 19 42 50.8
CTAO Charters Tower 42.18 112 *e*P **P 19 42 40.9 +0.2**
CTAO *e* 19 42 50.8
TIA Tai'an 44.89 14 ⇑P **P 19 43 01.9 -0.3**
TIA PMZ
comp=Z,110nm,0.6s
CMSA Cobar Meteorol 45.14 128 P **P 19 43 05.9 +1.6**
baz=45,SNR=6.6
RMQ Roma 45.96 120 P P 19 43 14.6 +3.8
baz=46,SNR=4.9
GTA Gaotai 46.76 355 P **P 19 43 17.8 +0.9**
GTA pP pP 19 43 27.1 -6.0
GTA sP sP 19 43 31.6 -8.8
GTA PMZ
comp=Z,30nm,0.8s
JNU Nakatsue 47.34 30 P **P 19 43 20.2 -1.2**
comp=Z,14nm,0.9s,baz=306,slow=3.2,SNR=11
BTO Baotou 47.98 5 *e*P **P 19 43 26.5 +0.1**
BJT Baijiatuau 48.32 12 *e*P **P 19 43 29.3 +0.4**
BJT pmax pmax
comp=Z,73nm,0.8s
BJT Baijiatuau 48.32 12 *e*P **P 19 43 29.3 +0.4**
comp=Z,73nm,0.8s
KSAR Wonju Array Be 49.57 24 P **P 19 43 37.6 -0.9**
KSAR Wonju Array Be 49.57 24 P **P 19 43 37.6 -0.9**
KSRS Korea Array 49.59 24 P **P 19 43 37.6 -1.1**
comp=Z,8.4nm,0.8s,baz=223,slow=7.9,SNR=47
KBL Kabul 53.59 323 *e*P **P 19 44 08.7 -0.2**
KBL pmax pmax
comp=Z,6.0nm,0.6s
KBL Kabul 53.59 323 P P 19 44 12.8 +3.9
baz=54,SNR=9.5
KBL Kabul 53.59 323 *e*P **P 19 44 08.7 -0.2**
comp=Z,5.7nm,0.6s
MJAR Matsushiro Arr 53.81 33 P **P 19 44 07.6 -2.6**
comp=Z,4.0nm,0.6s,baz=206,slow=8.4,SNR=18
MJAR pP **pP 19 44 26.9 +0.2**
comp=Z,1.9nm,0.5s,baz=213,slow=8.0,SNR=3.9
MJAR PcP **PcP 19 45 15.8 +0.5**
comp=Z,1.8nm,0.7s,baz=202,slow=6.6,SNR=3.1
CN2 Changchun 54.29 18 *e*P **P 19 44 12.8 -0.7**
CN2 PMZ
comp=Z,40nm,0.7s
HNR Honiara 54.66 96 LR LR 20 10 22.8
comp=Z,647nm,19.6s,baz=324,slow=39
SONM Songino Array 54.98 1 P **P 19 44 19.5 +0.9**
comp=Z,21nm,0.7s,baz=175,slow=7.3,SNR=83
SONM PcP **PcP 19 45 20.6 +0.9**
comp=Z,4.8nm,0.6s,baz=169,slow=3.9,SNR=6.0
ULN Ulaanbaatar 55.03 2 *c i*P **P 19 44 19.7 +0.7**
ULN pmax pmax
comp=Z,26nm,1.0s
ULN Ulaanbaatar 55.03 2 *e*P **P 19 44 19.4 +0.4**
comp=Z,18nm,0.7s
ULHL Ulahol 55.79 335 P **P 19 44 27.3 +2.7**
SNR=8.8
ULHL Ulahol 55.79 335 *i*P **P 19 44 27.3 +2.7**
VLA Vladivostok 56.00 24 P **P 19 44 23.3 -2.5**
VLA 19 45 22.0
VLA S **S 19 52 09.2 -0.2**
VLA pmax pmax
comp=Z,22nm,1.1s
KZA Kyzart 56.08 334 P **P 19 44 27.4 +0.4**
SNR=19
KZA Kyzart 56.08 334 *i*P **P 19 44 27.3 +0.4**
MDJ Mudanjiang 56.40 21 P **P 19 44 28.1 -0.6**
MDJ PMZ
comp=Z,11nm,0.9s
MDJ PMZ
comp=Z,1µm,8.7s
MDJ Mudanjiang 56.40 21 *e*P **P 19 44 28.1 -0.6**
comp=Z,11nm,0.9s
UCH Uchtor 56.52 333 P **P 19 44 30.4 +0.2**
SNR=6.0
UCH Uchtor 56.52 333 *i*P **P 19 44 30.4 +0.2**
TKM2 Tokmak 2 56.62 335 P **P 19 44 30.7 +0.1**
SNR=72
TKM2 Tokmak 2 56.62 335 *i*P **P 19 44 30.6 +0.1**
TKM2 Tokmak 2 56.62 335 *e*P **P 19 44 30.3 -0.2**
comp=Z,34nm,0.5s
KBK Karagaybulak 56.68 334 P **P 19 44 31.5 +0.5**
SNR=24
KBK Karagaybulak 56.68 334 *i*P **P 19 44 31.5 +0.5**
AML Almayashu 56.81 333 P **P 19 44 32.4 +0.2**
SNR=25
AML Almayashu 56.81 333 *i*P **P 19 44 32.4 +0.2**
AAK Ala-Archa 56.86 334 *c i*P **P 19 44 32.5 +0.3**
AAK pmax pmax
comp=Z,14nm,1.0s
AAK Ala-Archa 56.86 334 P **P 19 44 32.7 +0.5**
comp=Z,4.0nm,0.6s,baz=124,slow=8.3,SNR=24
AAK Ala-Archa 56.86 334 *e*P **P 19 44 32.3 +0.1**
comp=Z,4.7nm,0.7s
USRK Ussuriysk Ar. 56.94 23 P **P 19 44 32.3 -0.2**
comp=Z,26nm,0.7s,baz=208,slow=6.1,SNR=66
EKS2 Erkin-Say 57.20 333 P **P 19 44 35.0 +0.4**
SNR=48
EKS2 Erkin-Say 57.20 333 *i*P **P 19 44 34.9 +0.4**
EKS2 Erkin-Say 57.20 333 *e*P **P 19 44 34.5 -0.1**
comp=Z,24nm,0.7s
USP Ospenovka 57.37 334 P **P 19 44 38.4 +2.8**
SNR=6.3
USP Ospenovka 57.37 334 *i*P **P 19 44 38.4 +2.8**
MKAR Makanchi Array 57.48 342 P **P 19 44 35.0 -1.4**
comp=Z,14nm,0.5s,baz=145,slow=6.8,SNR=98
MKAR pP **pP 19 44 53.8 +0.8**
comp=Z,6.4nm,0.7s,baz=150,slow=8.1,SNR=5.6
HIA Hailar 57.91 12 *e*P **P 19 44 38.6 -0.7**
HIA pmax pmax
comp=Z,19nm,0.7s
HIA Hailar 57.91 12 *e*P **P 19 44 38.6 -0.7**
comp=Z,19nm,0.7s
IDAH Dahanechah 58.37 316 *e*P P 19 44 49.8 +6.6
IKOO Kooshah 58.80 315 *e*P P 19 44 52.4 +6.3
TLY Talaya 58.82 359 *e*P **P 19 44 46.7 +1.1**
TLY pmax pmax
comp=Z,8.0nm,0.8s
TLY Talaya 58.82 359 *e*P **P 19 44 46.7 +1.1**
comp=Z,7.6nm,0.8s
MOY Mondy 58.88 357 *e*P **P 19 44 47.1 +1.0**
HVS Khovu-Aksy 59.03 352 *e*P **P 19 44 46.2 -0.9**
HVS pmax pmax
comp=Z,10.0nm,0.4s
KKAR Karatay Array 59.05 331 *e*P **P 19 44 46.5 -0.9**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 59.05 331 *e*P **P 19 44 46.5 -0.9**
comp=Z,2.8nm,0.6s
ITEG Tejag 59.24 315 *e*P P 19 44 55.5 +6.5
IBAF Bafgh 60.82 312 *e*P P 19 45 07.1 +7.2
IMEH Mehriz 61.42 312 *e*P P 19 45 10.1 +6.0
ISRV Sarvestan 61.59 309 *e*P P 19 45 14.8 +9.4
IKRD Kardeh 61.60 319 *e*P P 19 45 01.6 -3.7
ASAJ Asahikawa 61.62 30 P **P 19 45 03.8 -1.0**
comp=Z,8.0nm,0.6s,baz=241,slow=9.3,SNR=20
IPAR Pars 61.85 309 *e*P P 19 45 15.8 +8.7
GEYT Alibeck 62.53 320 P **P 19 45 11.9 +0.8**
comp=Z,3.2nm,0.8s,baz=149,slow=6.1,SNR=12
ZALV Zalesovo Beam 63.34 347 P **P 19 45 15.9 -0.2**
comp=Z,18nm,0.5s,baz=134,slow=4.3,SNR=64
ZALV pP **pP 19 45 33.6 +0.6**
comp=Z,5.4nm,0.4s,baz=164,slow=5.5,SNR=4.2
YSS Yuzh-Sakhalins 63.76 28 *e*P **P 19 45 18.5 -0.5**
YSS pmax pmax
comp=Z,28nm,0.8s
YSS Yuzh-Sakhalins 63.76 28 *e*P **P 19 45 18.5 -0.5**
comp=Z,28nm,0.8s
NVS Novosibirsk 64.53 346 *e*P **P 19 45 21.3 -2.6**
NVS *e*S **S 19 53 56.2 -2.0**
NVS pmax pmax
comp=N,7.0nm,1.3s
NVS pmax pmax
comp=E,7.0nm,1.3s
NVS pmax pmax
comp=Z,12nm,1.3s
NVS smax smax
comp=N,10.0nm,2.2s
NVS smax smax
comp=E,13nm,2.2s
IPIR Pirpir 64.81 311 *e*P P 19 45 32.4 +5.8
MAW Mawson 66.37 196 P P 19 45 50.9 +15
baz=66,SNR=12
IRAZ Razeghan 66.79 313 *e*P P 19 45 47.2 +8.0
BRVK Borovoye 66.90 338 *e*P **P 19 45 39.2 0.0**
BRVK Borovoye 66.90 338 *e*P **P 19 45 39.2 0.0**
IGZV Ghazvin 67.05 315 *e*P P 19 45 48.3 +7.4
ABKAR Akbulak array 68.57 330 *e*P **P 19 45 49.8 0.0**
comp=E,13nm,0.5s
YAK Yakutsk 71.85 12 *c i*P **P 19 46 08.9 -0.7**
YAK *e**PP pP 19 46 19.0 -7.7
YAK *e* 19 46 29.0
YAK *e* 19 48 45.3
YAK *e*PPP PPP 19 50 36.7
YAK *e**SS Sx 19 55 52.4
YAK *e* 19 56 13.6
YAK pmax pmax
comp=Z,57nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=Z,187nm,7.6s
YAK pmax pmax
comp=E,100nm,4.1s
YAK pmax pmax
comp=N,82nm,7.6s
YAK MLR MLR
comp=Z,366nm,12.0s
YAK MLR MLR
comp=N,199nm,16.0s
YAK MLR MLR
comp=E,198nm,15.0s
YAK Yakutsk 71.85 12 *e*P **P 19 46 08.8 -0.7**
comp=E,84nm,0.9s
SVE Sverdlovsk 73.41 336 ⇑*e*P **P 19 46 20.1 +1.1**
SVE pmax pmax
comp=Z,15nm,0.9s
ARU Arti 73.98 335 *c i*P **P 19 46 22.6 +0.3**
ARU S **S 19 55 53.6 +4.0**
ARU SS **SS 20 00 35.5 0.0**
ARU pmax pmax
comp=Z,11nm,1.2s
ARU Arti 73.98 335 *e*P **P 19 46 22.6 +0.3**
comp=Z,4.0nm,0.5s
ZEI Tsey 74.33 318 *e*P **P 19 46 24.4 -0.5**
ZEI pmax pmax
comp=Z,8.0nm,0.5s
PETK Petropavlovsk- 75.04 30 P **P 19 46 27.4 -1.1**
comp=Z,7.9nm,0.7s,baz=193,slow=6.1,SNR=7.4
KBZ Khabaz 75.39 319 P **P 19 46 31.0 +0.2**
KBZ Khabaz 75.39 319 P **P 19 46 30.9 +0.2**
comp=Z,3.9nm,0.8s,baz=136,slow=3.6,SNR=4.9
PET Petropavlovsk 75.46 30 *e*P **P 19 46 30.1 -0.8**
PET pmax pmax
comp=Z,27nm,0.7s
BOSA Boshof 77.26 242 pP pP 19 47 00.8 +1.5
comp=Z,4.2nm,0.7s,baz=111,slow=4.2,SNR=3.8
SEY Seymchan 78.92 20 P **P 19 46 50.5 +0.3**
comp=Z,4.5nm,0.7s,baz=230,slow=5.2,SNR=31
VRHR Novokhopersk 79.37 325 *e*P **P 19 46 52.4 -0.4**
VRHR pmax pmax
comp=N,5.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.9s
BRTR Keskin Array B 80.37 312 *i*P **P 19 46 59.0 +0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 80.37 312 P **P 19 46 59.0 +0.3**
comp=Z,1.7nm,0.7s,baz=126,slow=7.5,SNR=6.0
TIXI Tiksi 80.45 8 *c i*P **P 19 46 57.4 -0.8**
TIXI pmax pmax
comp=Z,15nm,0.6s
TIXI Tiksi 80.45 8 *e*P **P 19 46 57.3 -0.9**
comp=Z,16nm,0.6s
VSR Storozhevoye 80.82 325 *e*P **P 19 47 00.2 -0.5**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.8s
PRGR Permogore 82.44 336 P **P 19 47 08.1 -0.8**
PRGR pmax pmax
comp=Z,8.0nm,0.5s
QSPA South Pole Qui 82.63 180 P **P 19 47 10.8 +0.7**
comp=Z,1.5nm,0.8s,baz=256,slow=4.6,SNR=4.1
QSPA South Pole Qui 82.63 180 *e*P **P 19 47 10.1 -0.1**
OBN Obninsk 83.79 328 *c e*P **P 19 47 16.9 +0.9**
OBN *i* *PP **pP 19 47 35.2 +1.6**
OBN *e* 19 50 30.4
OBN pmax pmax
comp=Z,26nm,2.5s
KLMR Klimovskoe 84.67 333 *e*P **P 19 47 18.1 -2.3**
KLMR pmax pmax
comp=Z,23nm,1.5s
AKASG Malin Array Be 86.56 322 P **P 19 47 30.0 0.0**
comp=Z,0.5nm,0.5s,baz=91,slow=4.2,SNR=4.7
BILL Bilibino 86.58 19 ⇓*i*P **P 19 47 29.6 -0.2**
BILL *e**PP **pP 19 47 48.8 +1.4**
BILL *e* 19 50 53.3
BILL pmax pmax
comp=Z,6.0nm,1.2s
VRI Vrincioaia 86.94 317 ⇓P **P 19 47 33.9 +1.9**
VRI Vrincioaia 86.94 317 ⇓*i*P **P 19 47 33.9 +1.9**
PLOR Plostina 86.98 317 ⇓P **P 19 47 33.8 +1.5**
PLOR Plostina 86.98 317 ⇓*i*P **P 19 47 33.8 +1.5**
TESR Tescani 87.14 317 ⇑*i*P **P 19 47 34.7 +1.7**
MLR Muntele Rosu 87.38 316 ⇓P **P 19 47 36.0 +1.7**
MLR Muntele Rosu 87.38 316 ⇓*i*P **P 19 47 36.0 +1.7**
HUMR Humele 87.84 315 ⇓*i*P P 19 47 46.6 +10
VOIR 87.98 316 ⇓P **P 19 47 37.9 +0.8**
VOIR 87.98 316 ⇓*i*P **P 19 47 37.9 +0.8**
ARR Arges 88.26 316 ⇓*i*P **P 19 47 39.7 +1.3**
BURAR Bucovina Array 88.35 318 ⇓P **P 19 47 40.8 +2.0**
BURAR Bucovina Array 88.35 318 ⇓*i*P **P 19 47 40.8 +2.0**
JOF Joensuu 89.05 334 *e*P **P 19 47 41.9 +0.3**
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 89.05 334 *e*p **P 19 47 41.9 +0.3**
comp=Z,3.6nm,0.6s
KOLS Kolonicke sedl 90.54 319 *e*P **P 19 47 50.0 +1.0**
KOLS pmax pmax
comp=Z,4.0nm,1.0s
KOLS Kolonicke sedl 90.54 319 *e*P **P 19 47 50.0 +1.0**
FINES FINESS Array B 91.01 332 P **P 19 47 50.8 0.0**
comp=Z,3.7nm,1.1s,baz=131,slow=6.2,SNR=5.7
KAF Kangasniemi 91.06 333 *e*P **P 19 47 50.2 -0.8**
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 91.06 333 *e*p **P 19 47 50.2 -0.8**
comp=Z,4.2nm,0.7s
STHS Stebnicka Huta 91.29 320 *e*P **P 19 47 53.4 +1.0**
STHS pmax pmax
comp=Z,1.0nm,0.6s
STHS Stebnicka Huta 91.29 320 *e*P **P 19 47 53.4 +1.0**
VYHS Vyhne 92.72 318 *e*P **P 19 48 00.7 +1.6**
VYHS Vyhne 92.72 318 *e*P **P 19 48 00.7 +1.6**
ARCES ARCESS Array B 93.08 340 P **P 19 48 00.1 -0.2**
comp=Z,3.3nm,1.1s,baz=145,slow=2.5,SNR=4.0
YKA Yellowknife Ar 117.98 19 PKP **PKPdf 19 53 32.5 -0.5**
comp=Z,0.1nm,0.5s,baz=305,slow=1.2,SNR=5.4
YKA pPKP **pPKPdf 19 53 51.1 -0.3**
comp=Z,0.4nm,0.8s,baz=343,slow=2.3,SNR=3.1
ELK Elko 131.35 41 PKP **PKPdf 19 54 00.6 +0.9**
comp=Z,0.5nm,0.4s,baz=0.1,slow=4.8,SNR=3.2
Z27A Tatum 143.47 41 ⇓P **PKPdf 19 54 20.8 -1.2**
baz=144
T33A Patterson Ranc 143.80 32 ⇓P PKPbc 19 54 20.8 +0.8
baz=144
U33A Lingo Farm, Me 144.36 32 ⇓P PKPbc 19 54 22.3 +0.6
baz=144
Z29A Hungry Hill Ra 144.48 40 ⇑P **PKPdf 19 54 23.4 -0.3**
baz=144
Y30A Stafford Cattl 144.58 38 ⇑P **PKPdf 19 54 24.2 +0.4**
baz=145
X31A McDonald Ranch 144.62 36 ⇑P **PKPdf 19 54 23.8 0.0**
baz=145
228A UT Block 9, Go 144.63 42 ⇓P **PKPdf 19 54 24.2 +0.2**
baz=145
U34A Anderson Ranch 144.66 32 ⇑P **PKPdf 19 54 23.3 -0.5**
baz=145,SNR=12
U34A Anderson Ranch 144.66 32 *e*P **PKPdf 19 54 23.4 -0.5**
W32A Sentinel 144.69 35 ⇑P **PKPdf 19 54 23.6 -0.3**
baz=145
V33A Lossen Ranch, 144.72 33 ⇓P **PKPdf 19 54 24.0 +0.1**
baz=145
Z30A Sanderson Ranc 144.83 39 ⇓P **PKPdf 19 54 23.9 -0.3**
baz=145,SNR=9.8
Y31A Rekieta Farm, 144.91 38 ⇓P **PKPdf 19 54 24.1 -0.2**
baz=145,SNR=7.3
W33A Caddo, Fort Co 145.11 34 ⇓P **PKPdf 19 54 25.2 +0.5**
baz=145,SNR=6.1
V34A Guthrie 145.12 32 ⇑P **PKPdf 19 54 24.8 +0.2**
baz=145,SNR=9.9
V34A Guthrie 145.12 32 *e*P **PKPdf 19 54 24.8 +0.2**
X32A Elmer 145.17 36 ⇑P **PKPdf 19 54 24.8 0.0**
baz=145,SNR=8.2
WMOK Wichita Mounta 145.23 35 *e*PKIKP **PKPbc 19 54 24.3 -0.3**
WMOK Wichita Mounta 145.23 35 *e*PKPdf **PKPbc 19 54 24.3 -0.3**
Y32A R-V Farms, Ver 145.37 37 ⇓P **PKPab 19 54 25.7 +0.4**
baz=145,SNR=14
130A Snyder 145.38 40 ⇑P **PKPab 19 54 25.9 +0.4**
baz=145,SNR=6.8
Z31A Sharp Cattle R 145.42 38 ⇑P **PKPab 19 54 26.2 +0.7**
baz=145,SNR=36
329A Wagon Wheel Ra 145.43 43 ⇓P **PKPab 19 54 26.4 +0.8**
baz=145,SNR=15
TXAR Lajitas Array 145.51 47 PKPbc **PKPab 19 54 27.2 +1.1**

comp=Z,14nm,0.8s,baz=295,slow=2.1,SNR=131
131A Roby 145.70 39 ⇓P PKPab 19 54 27.5 +0.9
baz=146
230A Sterling City 145.75 41 ⇓P PKPab 19 54 27.3 +0.5
baz=146,SNR=11
Z32A Haskell 145.83 38 ⇓P PKPab 19 54 27.6 +0.5
baz=146,SNR=19
429A Davenport Ranc 146.01 44 ⇓P PKPab 19 54 28.4 +0.5
baz=146,SNR=9.2
330A Mertzon 146.01 42 ⇑P PKPab 19 54 27.9 +0.1
baz=146,SNR=5.2
529A Stev Forest Ra 146.09 45 ⇓P PKPab 19 54 28.4 +0.3
baz=146,SNR=8.6
ABTX Abilene, Hawle 146.20 39 ⇓P PKPab 19 54 28.7 +0.3
baz=146,SNR=5.1
ABTX Abilene, Hawle 146.20 39 ePKPdf PKPab 19 54 28.8 +0.3
231A Bronte 146.23 40 ⇑P PKPab 19 54 28.7 +0.1
baz=146
Z33A Whitaker Ranch 146.28 37 ⇓P PKPab 19 54 29.0 +0.3
baz=146
430A Baggett Ranch, 146.36 43 ⇓P PKPab 19 54 29.0 -0.2
baz=146,SNR=6.3
Y34A Reagan Ranch, 146.38 35 ⇑P PKPab 19 54 28.9 -0.1
baz=146,SNR=11
ACSO Alum Creek Sta 146.56 11 ePKPdf PKPbc 19 54 28.4 0.0
331A San Angelo 146.57 41 ⇑P PKPbc 19 54 29.3 +0.4
baz=147,SNR=6.6
133A Hamilton Ranch 146.66 38 ⇓P PKPab 19 54 30.2 0.0
baz=147,SNR=12
530A J-C Ranch, Com 146.68 44 ⇑P PKPab 19 54 30.7 +0.3
baz=147,SNR=31
232A Coleman 146.69 40 ⇓P PKPab 19 54 30.3 -0.1
baz=147,SNR=7.2
OLIL Olney 146.70 18 ePKPdf PKPbc 19 54 29.2 +0.3
431A Sonora 146.84 42 ⇑P PKPab 19 54 30.5 -0.6
baz=147,SNR=9.5
332A Millersview 146.96 40 ⇑P PKPab 19 54 31.0 -0.5
baz=147,SNR=14
233A Rising Star 147.07 39 ⇑P PKPab 19 54 31.7 -0.1
baz=147
134A White-Moore Ra 147.19 37 ⇓P PKPab 19 54 31.9 -0.4
baz=147
531A Rocksprings 147.21 43 ⇑P PKPab 19 54 31.7 -0.8
baz=147,SNR=11
432A Menard 147.26 41 ⇑P PKPab 19 54 31.9 -0.8
baz=147
333A Richland Sprin 147.49 40 ⇓P PKPbc 19 54 32.1 +0.7
baz=148,SNR=10
JCT Junction City 147.51 42 ePKP2 PKPbc 19 54 32.5 +1.0
JCT Junction City 147.51 42 ⇓P PKPbc 19 54 32.5 +1.0
baz=148,SNR=14
JCT Junction City 147.51 42 ePKPbc PKPbc 19 54 32.5 +1.0
234A Clairette 147.55 38 ⇓P PKPab 19 54 32.6 -1.1
baz=148,SNR=7.2
631A Perdido Creek 147.65 44 ⇓P PKPbc 19 54 32.6 +0.7
baz=148,SNR=6.8
532A Rocksprings 147.66 42 ⇑P PKPbc 19 54 32.7 +0.7
baz=148,SNR=5.4
433A Art 147.79 41 ⇓P PKPbc 19 54 32.5 +0.3
baz=148,SNR=10.0
WHTX Lake Whitney, 147.97 37 ⇑P PKPab 19 54 34.0 -1.3
baz=148
632A Uvalde 148.14 43 ⇑P PKPbc 19 54 34.2 +1.0
baz=148,SNR=10
MIAR Mount Ida 148.14 29 ePKP2 PKPbc 19 54 33.5 +0.5
MIAR Mount Ida 148.14 29 ePKPbc PKPbc 19 54 33.5 +0.5
533A Kerrville 148.28 42 ⇓P PKPbc 19 54 34.5 +1.0
baz=148
434A Burnet 148.28 40 ⇓P PKPbc 19 54 34.3 +0.8
baz=148
732A Laxson Ranch, 148.49 45 ⇓P PKPbc 19 54 35.4 +1.3
baz=148
633A Saathoff Ranch 148.58 43 ⇑P PKPbc 19 54 35.8 +1.5
baz=149
534A Blanco 148.67 41 ⇑P PKPbc 19 54 35.5 +0.9
baz=149
832A Faith Ranch, C 148.76 45 ⇓P PKPbc 19 54 36.5 +1.7
baz=149
138A Matatall Enter 148.84 33 ⇓P PKPab 19 54 36.9 -1.9
baz=149
237A Washetta, Mont 148.93 35 ⇑P PKPbc 19 54 37.1 +2.0
baz=149
833A Chaparral WMA, 149.14 45 ⇓P PKPbc 19 54 37.8 +2.0
baz=149
WVT Waverly 149.16 20 ePKP2 PKPbc 19 54 36.0 +0.4
WVT Waverly 149.16 20 ePKPbc PKPbc 19 54 36.0 +0.4
436A Wall Ranch, Ga 149.23 38 ⇑P PKPbc 19 54 37.7 +1.8
baz=149
337A Centerville 149.38 36 ⇓P PKPbc 19 54 38.6 +2.4
baz=149
635A Leesville 149.55 41 ⇓P PKPbc 19 54 38.7 +1.9
baz=150
933A Laredo 149.65 46 ⇓P PKPbc 19 54 39.3 +2.3
baz=150
636A Smothers Creek 149.95 40 ⇓P PKPbc 19 54 40.4 +2.7
baz=150
537A Green Hill Far 150.01 38 ⇓P PKPbc 19 54 40.2 +2.4
baz=150
HKT Hockley 150.40 38 ePKIKP PKPbc 19 54 40.0 +1.3
HKT Hockley 150.40 38 ePKPbc PKPbc 19 54 40.0 +1.3
034A Hebbronville 150.40 46 ⇓P PKPbc 19 54 41.5 +2.6
baz=150
TKL Tuckaleechee C 150.79 14 ePKIKP PKPbc 19 54 40.1 +0.6
TKL Tuckaleechee C 150.79 14 PKPbc PKPbc 19 54 39.6 +0.1
comp=Z,7.6nm,0.5s,baz=134,slow=4.6,SNR=8.3
TKL Tuckaleechee C 150.79 14 ePKPbc PKPbc 19 54 40.1 +0.6
035A Encino 150.89 45 ⇑P PKPbc 19 54 43.2 +3.2
baz=151

DJA 03 19:35:19.7±0.5, 0°S±4°×12°0E±°, h10km, M3.8/7, MLv3.8/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.82**	**2**	P	Pg	19 35 34.4	-1.2
APSI	**Ampana**	**1.83**	**103**	P	Pn	19 35 51.2	0.0
MRSI	**Marisa**	**2.28**	**65**	P	Pn	19 35 55.6	-1.9
TTSI	**Tana Toraja**	**2.54**	**181**	P	Pn	19 36 01.9	+0.9
SPSI	**Sidrap Palu**	**3.45**	**182**	P	Pn	19 36 13.2	-0.4

IDC 03 19:36:27.3±5.0, 8°61S×110°63E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/40, mbtmp4.1/3, Error ellipse: s-maj=288.6km s-min=26.8km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.55**	**119**	P	P	19 41 57.1	-1.0
	2.6nm,0.5s,baz=288,slow=13,SNR=7.6						
ASAR	**Alice Springs**	**26.84**	**127**	P	P	19 42 11.1	+1.2
	3.7nm,0.7s,baz=300,slow=8.8,SNR=4.2						
MKAR	**Makanchi Array**	**60.66**	**338**	P	P	19 46 40.2	-0.1
	0.6nm,0.6s,baz=139,slow=9.5,SNR=2.6						

WEL 03 19:43:07.9±0.3, 36°91S×177°41E, h136km±3km, ML3.7/14, 7C, Error ellipse: s-maj=3.5km s-min=3.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.90**	**161**	PN	Pn	19 43 30.5	+0.2
HAZ				SN	Sn	19 43 47.3	-0.3
MXZ	**Matakaoa Point**	**0.97**	**133**	PN	Pn	19 43 31.0	0.0
WMGZ	**Waiomatatini S**	**1.21**	**139**	⇑PN	Pn	19 43 33.2	-0.1
WMGZ				SN	Sn	19 43 52.7	0.0
PUZ	**Puketiti**	**1.34**	**150**	PN	Pn	19 43 34.2	-0.5
PUZ				SN	Sn	19 43 54.4	-0.9
TWGZ	**Tauwhareparae**	**1.35**	**160**	⇑PN	Pn	19 43 35.2	+0.4
TWGZ				SN	Sn	19 43 55.4	+0.1
URZ	**Urewera**	**1.37**	**190**	⇑PN	Pn	19 43 35.2	+0.3
URZ				SN	Sn	19 43 55.8	+0.2
URZ				AML	AML	19 43 56.8	
MWZ	**Matawai**	**1.43**	**176**	⇑PN	Pn	19 43 35.6	-0.1
MWZ				SN	Sn	19 43 56.4	-0.5
MWZ				AML	AML	19 43 57.4	
MWZ				AML	AML	19 44 04.1	
MWZ				AML	AML	19 44 04.1	
CNGZ	**Carnagh Statio**	**1.70**	**158**	⇑PN	Pn	19 43 38.5	-0.1
RIGZ	**Rimuhau**	**1.82**	**171**	⇑PN	Pn	19 43 39.5	-0.5
SNGZ	**Shannon Statio**	**1.87**	**182**	PN	Pn	19 43 40.2	-0.5
RAHZ	**Arahi**	**2.02**	**187**	PN	Pn	19 43 42.1	-0.3
PRGZ	**Paritu Road**	**2.05**	**170**	PN	Pn	19 43 41.9	-0.8
KNZ	**Kokohu**	**2.12**	**174**	⇑PN	Pn	19 43 42.6	-1.0
WHHZ	**Waihua**	**2.17**	**184**	PN	Pn	19 43 43.7	-0.5
NMHZ	**Naumai**	**2.24**	**192**	PN	Pn	19 43 45.1	-0.1
MHGZ	**Mahia Peninsul**	**2.28**	**170**	PN	Pn	19 43 44.5	-1.0
BKZ	**Black Stump Fm**	**2.37**	**198**	PN	Pn	19 43 46.4	-0.4
MCHZ	**McNeill Hill**	**2.59**	**192**	PN	Pn	19 43 49.0	-0.5
CKHZ	**Cape Kidnapper**	**2.76**	**185**	PN	Pn	19 43 49.9	-1.6
BHHZ	**Black Hill Sta**	**2.79**	**202**	ePN	Pn	19 43 51.0	-1.0
KRHZ	**Kereru**	**2.85**	**196**	PN	Pn	19 43 51.1	-1.7
KAHZ	**Kahuranaki**	**2.91**	**188**	PN	Pn	19 43 52.1	-1.5
PNHZ	**Pukenui**	**3.15**	**197**	PN	Pn	19 43 54.7	-1.9
PXZ	**Pawanui**	**3.15**	**188**	PN	Pn	19 43 54.4	-2.2
TSZ	**Takapari Road**	**3.35**	**199**	PN	Pn	19 43 56.7	-2.4
PRHZ	**Porangahau**	**3.41**	**190**	PN	Pn	19 43 57.9	-2.1
DVHZ	**Dannevirke**	**3.52**	**196**	PN	Pn	19 43 59.1	-2.4
BFZ	**Birch Farm**	**3.88**	**193**	PN	Pn	19 44 03.2	-2.9
MRZ	**Mangatainoka R**	**4.01**	**200**	PN	Pn	19 44 04.7	-3.2
TIWZ	**Tintock**	**4.04**	**197**	PN	Pn	19 44 05.2	-3.1
HOWZ	**Holdsworth Sta**	**4.25**	**200**	PN	Pn	19 44 07.4	-3.6
OGWZ	**Otaki Gorge**	**4.28**	**203**	PN	Pn	19 44 08.2	-3.2
TMWZ	**Te Maipa**	**4.36**	**195**	PN	Pn	19 44 09.2	-3.3
KIW	**Kapiti Island**	**4.40**	**206**	AML	AML	19 45 01.5	
MTW	**Mount Morrison**	**4.50**	**199**	ePN	Pn	19 44 10.2	-4.1
PAWZ	**Paruwai Farm**	**4.73**	**198**	AML	AML	19 45 07.7	
TCW	**Tory Channel**	**4.94**	**209**	ePN	Pn	19 44 16.0	-4.1
PLWZ	**Palliser**	**4.95**	**199**	PN	Pn	19 44 15.4	-4.9
TUWZ	**Tuamarina**	**5.26**	**210**	AML	AML	19 45 21.7	

GUC 03 19:46:53.4±0.5, 33°96S×71°38W, h44km±1km, ML3.6, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.02**	**283**	⇑iP	Pn	19 47 00.5	+0.2
CHCH	**Chadas Angostu**	**0.61**	**88**	⇑iP	Pn	19 47 06.2	+0.3
CACH	**El Canelo**	**0.67**	**104**	⇓iP	Pn	19 47 07.4	+0.7
RCDM	**Rinconada Maip**	**0.67**	**46**	ePg	Pn	19 47 06.3	-0.3
RCDM				iS	Sn	19 47 16.7	+0.6
RCDM				AML	AML	19 47 17.8	
	comp=N,10μm,0.1s						
ANTU	**Antumapu**	**0.74**	**58**	⇓iP	Pn	19 47 08.0	+0.5
ANTU				iS	Sn	19 47 18.9	+1.2
ANTU				AML	AML	19 47 24.4	
	comp=E,2μm,0.5s						
STL	**Santa Lucia**	**0.81**	**50**	⇑iP	Pn	19 47 08.1	-0.4
STL				iS	Sn	19 47 19.6	+0.1
FSR	**Penalolen**	**0.86**	**56**	ePg	Pn	19 47 10.7	+1.4
FSR				eS	Sn	19 47 23.2	+2.4
IHA	**Instituto Hidr**	**0.96**	**347**	⇑iP	Pn	19 47 10.9	+0.5
IHA				iS1	Sn	19 47 24.2	+1.3
PEL	**Peldehue**	**1.00**	**36**	⇑iP	Pn	19 47 12.0	+0.8
PEL				iS	Sn	19 47 25.9	+1.8
PEL				AML	AML	19 47 30.3	
	comp=N,4μm,0.2s						
FCH	**Farellones**	**1.11**	**56**	⇓iP	Pn	19 47 16.8	+3.9
FCH				iS	Sn	19 47 32.3	+4.9
FCH				AML	AML	19 47 36.7	
	comp=N,2μm,0.2s						

*IDC **03** 19:56:27.9±0.9, 38°44S×73°93W, h0km, mb4.1/8, mb1 4.2/11, mb1mx4.0/38, mbtmp4.0/11, ML3.5/3, Error ellipse: s-maj=25.8km s-min=14.9km az=63.0*
*ISCJB **03** 19:56:31.7±0.8, 38°43S±0°08×73°8W±0°1, h33km, mb4.1/9, Error ellipse: s-maj=17.4km s-min=11.0km az=157.3*
*NEIC **03** 19:56:33.7±0.5, 38°39S×73°80W, h35km, mb4.4/3, Error ellipse: s-maj=13.6km s-min=8.8km az=72.0*

ISC 03 19:56:33.4±0.8, 38°38S±0°09×73°8W±0°1, h35km, n24, σ1§01/24, mb4.2/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.46**	**134**	Pn	**Pn**	**19 57 24.1**	**-0.8**
	0.6nm,0.3s,baz=297,slow=18,SNR=9.2						
PLCA				Pg		19 57 29.3	
	4.0nm,0.3s,baz=298,slow=12,SNR=33						
PLCA				Lg	Lg	19 58 18.6	
	4.4nm,0.3s,baz=208,slow=23,SNR=4.6						
PLCA	**Paso Flores**	**3.46**	**134**	ePn	**Pn**	**19 57 24.7**	**-0.1**
PLCA				Pg		19 57 29.3	
PLCA				Lg	Lg	19 58 18.6	
CFAA	**Coronel Fontan**	**8.17**	**36**	Pn	**Pn**	**19 58 27.1**	**-2.4**
	3.0nm,0.3s,baz=27,slow=2.9,SNR=8.1						
TRQA	**Tornquist**	**9.34**	**92**	eP	**Pn**	**19 58 45.8**	**+0.3**
	14nm,1.0s						
EFI	**East Falkland**	**17.30**	**145**	eP	**P**	**20 00 31.7**	**-1.4**
CPUP	**Villa Florida**	**18.38**	**54**	P	**P**	**20 00 45.3**	**+0.1**
	0.1nm,0.3s,baz=185,slow=11,SNR=2.2						
LPAZ	**La Paz**	**22.57**	**14**	P	**P**	**20 01 30.1**	**-1.2**
	7.2nm,1.2s,baz=163,slow=10,SNR=9.0						
LPAZ	**La Paz**	**22.57**	**14**	eP	**P**	**20 01 32.8**	**+1.4**
	7.5nm,0.7s						
SIV	**San Ignacio**	**24.98**	**30**	P	**P**	**20 01 54.8**	**+1.0**
	2.4nm,1.0s,baz=228,slow=14,SNR=3.3						
OTAV	**Otavalo**	**38.66**	**353**	P	**P**	**20 03 54.8**	**+0.6**
	8.5nm,1.2s						
QSPA	**South Pole Qui**	**51.86**	**180**	P	**P**	**20 05 36.8**	**-1.1**
	4.2nm,0.9s,baz=323,slow=4.1,SNR=12						
QSPA	**South Pole Qui**	**51.86**	**180**	eP	**P**	**20 05 37.0**	**-0.9**
	7.1nm,1.0s						
TXAR	**Lajitas Array**	**72.90**	**333**	P	**P**	**20 07 58.6**	**-0.2**
	1.3nm,0.9s,baz=157,slow=8.1,SNR=9.0						
DBIC	**Dimbokro**	**77.96**	**71**	P	**P**	**20 08 28.1**	**-0.1**
	3.5nm,0.9s,baz=211,slow=3.1,SNR=3.7						
LBTB	**Lobatse**	**81.77**	**115**	P	**P**	**20 08 49.5**	**+0.6**
	2.4nm,0.9s,baz=90,slow=1.0						
PDAR	**Pinedale Array**	**87.04**	**335**	P	**P**	**20 09 14.9**	**-0.2**
	1.9nm,1.1s,baz=158,slow=4.8,SNR=5.6						
TORD	**Torodi Ar. Bea**	**87.05**	**71**	P	**P**	**20 09 15.9**	**+0.4**
	0.5nm,0.6s,baz=214,slow=5.4,SNR=4.3						
AKTO	**Aktyubinsk**	**144.17**	**54**	PKP	**PKPdf**	**20 16 05.3**	**+0.5**
	1.0nm,0.6s,baz=283,slow=16,SNR=3.5						
ABKAR	**Akbulak array**	**145.43**	**56**	ePKP	**PKPdf**	**20 16 06.7**	**-0.3**
BVAR	**Borovoye Array**	**151.40**	**48**	PKPbc	**PKPbc**	**20 16 23.1**	**+0.4**
	0.7nm,0.7s,baz=299,slow=1.5,SNR=5.0						
AAK	**Ala-Archa**	**155.63**	**70**	PKPab	**PKPab**	**20 16 51.0**	**+1.4**
	0.7nm,0.6s,baz=270,slow=6.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**158.66**	**36**	PKPab	**PKPab**	**20 17 03.0**	**+1.0**
	1.0nm,0.8s,baz=314,slow=5.3,SNR=4.9						
MKAR	**Makanchi Array**	**160.57**	**57**	PKPab	**PKPab**	**20 17 10.3**	**-0.3**
	0.3nm,0.6s,baz=292,slow=3.8,SNR=4.3						
SONM	**Songino Array**	**170.55**	**359**	PKPab	**PKPab**	**20 17 55.9**	**+1.4**
	0.7nm,0.9s,baz=90,slow=1.5,SNR=3.8						

KRSC 03 19:57:35.8±1.1, 56°20N×164°45E, h54km±20km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.91**	**271**	eP	Pn	19 57 52.8	+0.3
KBTR				eS	Sn	19 58 03.0	-1.7
BKI	**Bering**	**1.31**	**139**	iP	Pn	19 58 00.1	+2.3
BKI				eS	Sn	19 58 16.2	+2.0
SMKR	**Semkarok**	**1.71**	**284**	eP	Pn	19 58 05.9	+2.7
SMKR				eS	Sn	19 58 25.9	+1.9
BDR	**Baidarnaya**	**1.84**	**283**	eP	Pn	19 58 08.2	+3.1
BDR				eS	Sn	19 58 30.5	+3.1
SRKR	**Sorokina**	**1.88**	**285**	eP	Pn	19 58 08.7	+3.1
SRKR				eS	Sn	19 58 30.2	+1.9
KLY	**Klyuchi**	**2.12**	**275**	eP	Pn	19 58 10.7	+1.9
KLY				eS	Sn	19 58 34.4	+0.4
MKZ	**Mys Kozlova**	**2.26**	**225**	eP	Pn	19 58 12.9	+2.2
MKZ				eS	Sn	19 58 37.8	+0.4
KMNR	**Kamenistaya**	**2.41**	**261**	P	Pn	19 58 16.8	+3.9
KMNR				eS	Sn	19 58 45.2	+3.9
KOZ	**Kozyrevsk**	**2.57**	**269**	eP	Pn	19 58 19.1	+4.2
KOZ				eS	Sn	19 58 49.0	+4.0
TUMR	**Tumrok**	**2.60**	**251**	eP	Pn	19 58 19.5	+4.0
TUMR				eS	Sn	19 58 49.6	+3.6
SRDR	**Sredinnyy**	**2.65**	**275**	eP	Pn	19 58 20.1	+4.0
SRDR				eS	Sn	19 58 50.9	+3.9
OSSR	**Ossora**	**3.15**	**347**	iP	Pn	19 58 25.7	+2.9
OSSR				eS	Sn	19 58 59.7	+0.5
ESO	**Esso**	**3.24**	**268**	P	Pn	19 58 28.1	+4.0
ESO				S	Sn	19 59 05.1	+3.7
KII	**Karymskiy**	**3.60**	**235**	P	Pn	19 58 32.8	+3.7
KII				S	Sn	19 59 12.5	+2.1
PALN	**Palana**	**3.77**	**322**	P	Pn	19 58 36.0	+4.7
NLC	**Nalytchevo**	**4.24**	**226**	S	Sn	19 59 27.5	+1.6
TILK	**Tilichiki**	**4.35**	**11**	P	Pn	19 58 43.6	+4.3
TILK				eS	Sn	19 59 31.0	+2.3
SDLR	**Sedlovina**	**4.36**	**230**	eP	Pn	19 58 43.5	+3.9
SDLR				S	Sn	19 59 31.6	+2.5
KRER	**Koryakskii**	**4.39**	**231**	eP	Pn	19 58 44.3	+4.1
SMAR	**Somma**	**4.40**	**230**	eP	Pn	19 58 43.4	+3.1
KRX	**Arik**	**4.40**	**232**	P	Pn	19 58 44.1	+3.9
AVH	**Avacha**	**4.43**	**231**	eP	Pn	19 58 44.5	+4.0
KOK	**Koryaka**	**4.45**	**232**	eP	Pn	19 58 45.0	+4.1
GNL	**Ganaly**	**4.51**	**239**	eP	Pn	19 58 46.0	+4.3
MTVR	**Mutnovka**	**5.22**	**227**	P	Pn	19 58 55.8	+4.3

*IDC **03** 19:58:23.6±0.3, 33°43S×72°05W, h0km, mb5.1/28, mb1 5.2/32, mb1mx5.1/41, mbtmp5.1/32, ML5.3/4, MS5.5/14, Ms1 5.5/14, ms1mx5.2/26, Error ellipse: s-maj=13.1km s-min=10.0km az=81.0*
*GUC **03** 19:58:26.0±0.9, 33°43S×72°22W, h39km±5km, ML5.5*
*BJI **03** 19:58:27.8, 33°50S×71°80W, h28km, mB5.6/32, Ms5.8/44, Ms7 5.7/44*
*MOS **03** 19:58:28.5±1.4, 33°44S×71°93W, h33km, mb5.5/63, MS5.5/31, Error ellipse: s-maj=13.2km s-min=6.8km az=102.8*
*ISCJB **03** 19:58:29.9±0.7, 33°38S±0°04×71°79W±0°06, h46km±5km, mb5.2/137, MS5.5/153, Error ellipse: s-maj=9.5km s-min=4.9km az=145.3*
*NEIC **03** 19:58:30.0±0.7, 33°41S×71°87W, h39km±5km, mb5.3/107, MS5.5/138, MW5.6, Error ellipse: s-maj=7.9km s-min=4.0km az=65.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}2.39; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-2.05; $M_{r\theta}$-0.56; $M_{\theta\phi}$0.26; $M_{\phi r}$-2.72; Best double couple: $M_0$3.60000×10^{17} NP1:ϕ_s186.00000°, δ71.00000°, λ98.00000°. NP2:ϕ_s343.00000°, δ21.00000°, λ68.00000°. Principal axes: T 3.7800, Plg63.0000°, Azm109.0000°; N -0.4300, Plg7.0000°, Azm3.0000°; P -3.3400, Plg25.0000°, Azm270.0000°;*
NEIC Felt [V] at San Antonio and Santiago; [IV] at Los Andes, Quillota, Rancagua, San Felipe, Valparaiso and Vina del Mar; [III] at Cauquenes, Concepcion and Parral; [II] at Curico, Puente Alto and Talca. Also felt at Calera, Melipilla, Quilpue and San Bernardo. Felt at Mendoza and San Martin, Argentina.
*GCMT **03** 19:58:30.0±0.1, 33°59S×72°36W, h19km, MW5.8/110, Moment Tensor Solution. s95,c176; s110,c280; Duration: 1§9 Moment tensor: Scale 10^{17}Nm; M_{rr}3.37±.06; $M_{\theta\theta}$0.02±.04; $M_{\phi\phi}$-3.39±.04; $M_{r\theta}$0.18±.09; $M_{\theta\phi}$-0.02±.03; $M_{\phi r}$-4.91±.16; Best double couple: $M_0$5.96400×10^{17} NP1:ϕ_s178.00000°, δ73.00000°, λ89.00000°. NP2:ϕ_s2.00000°, δ17.00000°, λ94.00000°. Principal axes: T 5.9560, Plg62.0000°, Azm87.0000°; N 0.0180, Plg1.0000°, Azm179.0000°; P -5.9720, Plg28.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 03 19:58:29.4±0.2, 33°46S±0°04×72°04W±0°06, h36km±3km, h36km:pP-P, n831, σ1§40/763, mb5.3/137, MS5.5/155, 150C-141D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.54**	**37**	⇓iP	**Pn**	**19 58 38.8**	**-1.9**
IHA	**Instituto Hidr**	**0.54**	**37**	⇓iP	**Pn**	**19 58 38.8**	**-1.9**
LNV	**Longovilo**	**0.72**	**134**	⇓iP	**Pn**	**19 58 41.6**	**-1.4**
LNV	**Longovilo**	**0.72**	**134**	⇓iP	**Pn**	**19 58 41.6**	**-1.4**
TACH	**Talagante**	**0.94**	**102**	⇑iP	**Pn**	**19 58 45.5**	**-0.6**
TACH	**Talagante**	**0.94**	**102**	⇑iP	**Pn**	**19 58 45.5**	**-0.6**
RCDM	**Rinconada Maip**	**1.03**	**92**	⇓iP	**Pn**	**19 58 45.6**	**-1.7**
RCDM				iS	**Sn**	**19 59 00.8**	**+0.3**
RCDM				AML	AML	19 59 09.1	
	comp=N,115μm,0.4s						
RCDM	**Rinconada Maip**	**1.03**	**92**	⇓iP	**Pn**	**19 58 45.6**	**-1.7**
RCDM				iS	**Sn**	**19 59 00.8**	**+0.3**
ANTU	**Antumapu**	**1.18**	**96**	⇓iP	**Pn**	**19 58 49.7**	**+0.4**
ANTU				iS	**Sn**	**19 59 07.1**	**+2.9**
ANTU				AML	AML	19 59 13.8	
	comp=N,227μm,0.5s						
ANTU	**Antumapu**	**1.18**	**96**	⇓iP	**Pn**	**19 58 49.7**	**+0.4**
ANTU				iS	**Sn**	**19 59 07.1**	**+2.9**
PCH	**Pirque**	**1.28**	**98**	eP1	**Pn**	**19 58 51.3**	**+0.5**
PCH	**Pirque**	**1.28**	**98**	eP	**Pn**	**19 58 51.3**	**+0.5**
CACH	**El Canelo**	**1.36**	**119**	⇑iP	**Pn**	**19 58 52.9**	**+0.9**
CACH	**El Canelo**	**1.36**	**119**	⇑iP	**Pn**	**19 58 52.9**	**+0.9**
JACH	**Jahuel**	**1.44**	**58**	eP4	Pn	19 58 49.5	-3.5
JACH	**Jahuel**	**1.44**	**58**	P	Pn	19 58 49.5	-3.5
FCH	**Farellones**	**1.47**	**85**	⇓iP	Pn	19 58 58.2	+4.6
FCH				iS	Sn	19 59 19.3	+7.6
FCH	**Farellones**	**1.47**	**85**	⇓iP	Pn	19 58 58.2	+4.6
FCH				iS	Sn	19 59 19.3	+7.6
CMCH	**Combarbala**	**2.44**	**21**	⇑iP	**Pn**	**19 59 04.7**	**-2.1**
CMCH	**Combarbala**	**2.44**	**21**	⇑iP	**Pn**	**19 59 04.7**	**-2.1**
CFAA	**Coronel Fontan**	**3.70**	**61**	Pn	**Pn**	**19 59 24.3**	**+0.2**
	comp=N,4.1nm,0.3s,baz=232,slow=9.9,SNR=41						
CFAA				Lg	Lg	20 00 23.2	
	comp=N,210nm,0.3s,baz=137,slow=16,SNR=9.0						
PLCA	**Paso Flores**	**7.36**	**171**	eP	**Pn**	**20 00 13.7**	**-0.6**
PLCA				pmax	pmax		
	comp=Z,253nm,0.8s						
PLCA	**Paso Flores**	**7.36**	**171**	Pn	**Pn**	**20 00 13.9**	**-0.4**
	comp=Z,14nm,0.3s,baz=336,slow=11,SNR=12						
PLCA	**Paso Flores**	**7.36**	**171**	eP	**Pn**	**20 00 13.7**	**-0.6**
	comp=Z,252nm,0.8s						
TRQA	**Tornquist**	**9.37**	**122**	eP	**Pn**	**20 00 42.6**	**+0.7**
LVC	**Limon Verde**	**11.15**	**15**	eP	Pn	20 01 00.2	-6.4
	comp=Z,157nm,0.8s						
CPUP	**Villa Florida**	**14.59**	**65**	P	**Pn**	**20 01 52.1**	**-1.2**
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CPUP				MLR	MLR		
	comp=Z,44μm,18.6s						
CPUP	**Villa Florida**	**14.59**	**65**	Pn	**Pn**	**20 01 52.1**	**-1.2**
	comp=Z,3.0nm,0.3s,baz=219,slow=9.7,SNR=13						
CPUP				LR	LR	20 07 57.4	
	comp=Z,44μm,18.6s,baz=226,slow=39						
CPUP	**Villa Florida**	**14.59**	**65**	eP	**Pn**	**20 01 52.1**	**-1.2**
	comp=Z,9.6nm,0.7s						
LPAZ	**La Paz**	**17.46**	**13**	P	**Pn**	**20 02 30.1**	**-0.7**
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
LPAZ	**La

HOPE	Hope Point	32.50	141	eP		P	20 04 53.5	-3.0
HOPE				LR		LR		
	comp=Z,9µm,19.0s							
RPN	Rapa Nui	32.70	271	LR		LR	20 14 38.5	
	comp=Z,9µm,18.8s,baz=84,slow=30							
OTAV	Otavalo	34.06	348	eP		P	20 05 11.0	+0.1
	comp=Z,48nm,1.5s							
ROSC	El Rosal	38.17	356	P		P	20 05 45.0	-1.0
	comp=Z,5.0nm,0.4s,baz=86,slow=19,SNR=1.7							
SDV	Santo Domingo	42.13	2	eP		P	20 06 15.3	-3.2
	comp=Z,78nm,0.8s							
SDV				LR		LR		
	comp=Z,7µm,21.0s							
BCIP	Isla Barro Col	43.03	349	PFAKE			20 06 40.0	+14
BCIP				LR		LR		
	comp=Z,3µm,20.0s							
RCBR	Riachuelo	43.36	59	P		P	20 06 28.0	-0.4
	comp=Z,30nm,0.9s,baz=221,slow=9.7,SNR=19							
RCBR	Riachuelo	43.36	59	eP		P	20 06 28.1	-0.4
	comp=Z,129nm,1.4s							
RCBR				LR		LR		
	comp=Z,26µm,19.0s							
PCRV	Puerto La Cruz	43.96	11	P		P	20 06 33.1	0.0
	comp=Z,28nm,1.1s,baz=292,slow=2.5,SNR=5.2							
JTS	JuntasAbangare	45.21	342	eP		P	20 06 42.0	-1.2
JTS				pmax		pmax		
	comp=Z,135nm,2.0s							
JTS	JuntasAbangare	45.21	342	LR		LR	20 22 57.4	
	comp=Z,1µm,18.2s,baz=162,slow=33							
JTS	JuntasAbangare	45.21	342	eP		P	20 06 42.0	-1.2
	comp=Z,135nm,2.0s							
GRGR	Grenville	46.40	14	PFAKE			20 07 00.0	+7.5
GRGR				LR		LR		
	comp=Z,4µm,20.0s							
BBGH	Gun Hill	47.84	16	PFAKE			20 07 20.0	+16
BBGH				LR		LR		
	comp=Z,5µm,20.0s							
FDF	Fort de France	49.03	14	PFAKE			20 07 20.0	+7.0
FDF				LR		LR		
	comp=Z,6µm,21.0s							
VNA3	Neumayer Olymp	49.86	158	P		P	20 07 19.4	+0.8
VNA2	Neumayer--Watz	50.51	157	P		P	20 07 24.2	+0.6
APG	El Apazote	51.30	337	P		P	20 07 26.5	-3.8
	comp=Z,8.4nm,1.0s,baz=180,slow=23,SNR=5.1							
CRPR	Cabo Rojo, PR	51.39	6	eP		P	20 07 29.1	-1.6
	comp=Z,94nm,1.1s							
OBIP	Obispado Ponce	51.47	7	eP		P	20 07 30.1	-1.2
	comp=Z,103nm,1.1s							
CELP	Cerrillos	51.51	7	eP		P	20 07 30.4	-1.2
MTDJ	Mount Denham	51.66	353	PFAKE			20 07 50.0	+17
MTDJ				LR		LR		
	comp=Z,2µm,20.0s							
LRS	Lares	51.70	6	eP		P	20 07 33.1	0.0
ANWB	Willy Bob	51.77	12	PFAKE			20 07 50.0	+16
ANWB				LR		LR		
	comp=Z,3µm,22.0s							
SNAA	Sanae	52.08	158	P		P	20 07 35.8	+0.4
SNAA	Sanae	52.08	158	eP		P	20 07 34.8	-0.6
SNAA				pmax		pmax		
	comp=Z,82nm,0.9s							
SNAA	Sanae	52.08	158	P		P	20 07 35.8	+0.4
	comp=Z,24nm,0.8s,baz=276,slow=8.3,SNR=33							
SNAA				LR		LR	20 29 30.3	
	comp=Z,943nm,18.5s,baz=294,slow=36							
SNAA	Sanae	52.08	158	eP		P	20 07 34.8	-0.6
	comp=Z,82nm,0.9s							
SDDR	Presa de Saban	52.15	1	PFAKE			20 07 50.0	+14
SDDR				LR		LR		
	comp=Z,2µm,20.0s							
GTBY	Guantanamo Bay	53.17	356	PFAKE			20 08 00.0	+16
GTBY				LR		LR		
	comp=Z,2µm,22.0s							
GRTK	Grand Turk	54.67	1	PFAKE			20 08 10.0	+15
GRTK				LR		LR		
	comp=Z,3µm,19.0s							
TEIG	Tepich	55.59	341	P		P	20 08 01.2	-0.2
	comp=Z,25nm,0.8s,baz=189,slow=3.3,SNR=7.5							
RKT	Rikitea	55.64	263	eS		S	20 15 45.4	-0.4
	comp=Z,3µm,27.5s							
RKT				eSS		SS	20 19 33.7	+2.5
	comp=Z,719nm,28.2s							
RKT				eLR		LR	20 24 12.7	
	comp=Z,4µm,28.0s,baz=134							
RKT	Rikitea	55.64	263	eT		T	21 07 54.5	
	comp=Z,3.2nm,0.3s							
QSPA	South Pole Qui	56.78	180	P		P	20 08 10.1	+0.5
	comp=Z,62nm,1.1s,baz=143,slow=2.1,SNR=57							
QSPA	South Pole Qui	56.78	180	eP		P	20 08 09.5	-0.2
	comp=Z,62nm,1.0s							
NVL	N'lazarevskaya	56.81	157	eP		P	20 08 09.5	-0.2
NVL				e			20 10 20.3	
NVL				eS		S	20 16 02.7	+2.6
NVL				pmax		pmax		
	comp=Z,41nm,0.9s							
NVL				MLR		MLR		
	comp=Z,3µm,15.0s							
H10S3	ASCENSION HYDR	57.98	79	P		P	20 08 18.5	0.0
	baz=249,slow=13,SNR=5.0							
H10S2	ASCENSION HYDR	57.99	79	P		P	20 08 19.8	+1.3
	baz=249,slow=13,SNR=5.3							
H10S1	ASCENSION HYDR	58.00	79	P		P	20 08 19.9	+1.3
	baz=249,slow=13,SNR=7.9							
ASCN	Ascension	58.80	78	PFAKE			20 08 40.0	+16
ASCN				LR		LR		
	comp=Z,7µm,22.0s							
SHEL	Horse Pasture	61.75	91	eP		P	20 08 43.5	-1.2
SHEL				pmax		pmax		
	comp=Z,58nm,0.8s							
SHEL				MLR		MLR		
	comp=Z,2µm,19.0s							
SHEL	Horse Pasture	61.75	91	eP		P	20 08 43.5	-1.2
	comp=Z,58nm,0.8s							
SHEL				LR		LR		
	comp=Z,2µm,19.0s							
SBA	Scott Base	63.60	192	PFAKE			20 09 10.0	+14
SBA				LR		LR		
	comp=Z,3µm,20.0s							
VNDA	Vanda	64.63	191	P		P	20 09 02.6	-0.2
VNDA				pmax		pmax		
	comp=Z,5.0nm,1.1s							
VNDA				MLR		MLR		
	comp=Z,2µm,21.0s							
VNDA	Vanda	64.63	191	P		P	20 09 02.6	-0.2
	comp=Z,5.2nm,1.1s,baz=180,slow=2.0,SNR=2.8							
VNDA				LR		LR	20 33 10.4	
	comp=Z,2µm,21.0s,baz=136,slow=32							
KVTX	Kingsville	65.45	335	PFAKE			20 09 20.0	+11
KVTX				LR		LR		
	comp=Z,2µm,22.0s							
BRAL	Brewton	65.68	346	PFAKE			20 09 20.0	+10
BRAL				LR		LR		
	comp=Z,840nm,20.0s							
BBSR	BB Station	65.84	7	PFAKE			20 09 20.0	+8.9
BBSR				LR		LR		
	comp=Z,2µm,21.0s							
SYO	Syowa Base	66.37	159⇑	eP		P	20 09 11.6	-2.5
SYO	Syowa Base	66.37	159⇓	eP		P	20 09 13.2	-0.9
735A	Kenedy	66.61	335	P		P	20 09 18.7	+2.6
	baz=67							
NHSC	New Hope	66.66	353	PFAKE			20 09 30.0	+14
NHSC				LR		LR		
	comp=Z,2µm,19.0s							
833A	Chaparral WMA,	66.70	334	P		P	20 09 18.6	+2.0
	baz=67							
SACV	Santiago Islan	66.72	52	PFAKE			20 09 30.0	+13
SACV				LR		LR		
	comp=Z,3µm,19.0s							
832A	Faith Ranch, C	66.88	333	⇓P		P	20 09 19.7	+1.9
	baz=67,SNR=7.6							
636A	Smothers Creek	66.93	336	⇑P		P	20 09 20.3	+2.2
	baz=67,SNR=6.1							
HKT	Hockley	66.97	338	eP		P	20 09 19.7	+1.5
HKT				pmax		pmax		
	comp=Z,91nm,1.8s							
HKT	Hockley	66.97	338	eP		P	20 09 19.7	+1.5
	comp=Z,91nm,1.8s							
733A	Divot King Ran	67.02	334	P		P	20 09 20.9	+2.2
	baz=67							
537A	Green Hill Far	67.24	337	P		P	20 09 22.8	+2.8
	baz=68							
732A	Laxson Ranch,	67.28	334	⇓P		P	20 09 21.9	+1.5
	baz=68,SNR=7.9							
GOGA	Godfrey	67.38	350	PFAKE			20 09 30.0	+9.1
GOGA				LR		LR		
	comp=Z,2µm,19.0s							
TBI	Tubuai	67.45	256	eT		T	21 22 39.6	
	comp=Z,22nm,0.3s							
632A	Uvalde	67.91	334	⇓P		P	20 09 25.6	+1.3
	baz=68,SNR=7.2							
631A	Perdido Creek	68.12	333	P		P	20 09 27.3	+1.6
	baz=68							
533A	Kerrville	68.16	335	P		P	20 09 27.5	+1.6
	baz=68							
532A	Rocksprings	68.52	334	⇑P		P	20 09 29.2	+1.0
	baz=69,SNR=15							
434A	Burnet	68.57	336	⇑P		P	20 09 29.7	+1.3
	baz=69,SNR=6.4							
335A	Moody	68.71	337	P		P	20 09 30.6	+1.2
	baz=69							
531A	Rocksprings	68.79	334	⇑P		P	20 09 30.6	+0.7
	baz=69,SNR=8.3							
433A	Art	68.80	335	⇓P		P	20 09 30.2	+0.3
	baz=69,SNR=19							
JCT	Junction City	68.80	334	eP		P	20 09 30.0	0.0
JCT				pmax		pmax		
	comp=Z,61nm,1.1s							
JCT				MLR		MLR		
	comp=Z,1µm,21.0s							
JCT	Junction City	68.80	334	⇑P		P	20 09 30.6	+0.6
	baz=69,SNR=7.6							
JCT	Junction City	68.80	334	eP		P	20 09 30.0	0.0
JCT				LR		LR		
	comp=Z,61nm,1.1s							
JCT				LR		LR		
	comp=Z,1µm,21.0s							
MEH	Mehetia	68.92	262	eT		T	21 24 29.9	
	comp=Z,26nm,0.2s							
334A	Lometa	69.03	336	⇓P		P	20 09 32.0	+0.7
	baz=69,SNR=5.4							
530A	J-C Ranch, Com	69.07	333	⇑P		P	20 09 32.7	+1.1
	baz=69,SNR=14							
432A	Menard	69.16	335	⇓P		P	20 09 33.1	+1.0
	baz=70,SNR=7.0							
TXAR	Lajitas Array	69.27	331	P		P	20 09 32.8	-0.2
TXAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
TXAR				MLR		MLR		
	comp=Z,4µm,18.2s							
TXAR	Lajitas Array	69.27	331	P		P	20 09 32.8	-0.2
	comp=Z,1.6nm,0.7s,baz=147,slow=7.5,SNR=13							
TXAR				LR		LR	20 35 47.4	
	comp=Z,4µm,18.2s,baz=0.0,slow=32							
333A	Richland Sprin	69.28	336	⇓P		P	20 09 33.4	+0.5
	baz=70,SNR=6.5							
WHTX	Lake Whitney,	69.38	337	eP		P	20 09 32.0	-1.4
	comp=Z,105nm,1.4s							
529A	Stev Forest Ra	69.39	332	⇑P		P	20 09 34.4	+0.8
	baz=70,SNR=11							
SWET	Sewanee	69.55	348	eP		P	20 09 33.2	-1.3
	comp=Z,104nm,1.4s							
OXF	Oxford	69.55	345	eP		P	20 09 34.2	-0.3
OXF				pmax		pmax		
	comp=Z,114nm,1.1s							
OXF	Oxford	69.55	345	eP		P	20 09 34.1	-0.3
	comp=Z,114nm,1.1s							
332A	Millersview	69.60	335	⇓P		P	20 09 35.6	+0.8
	baz=70,SNR=6.8							
430A	Baggett Ranch,	69.60	333	⇑P		P	20 09 36.2	+1.2
	baz=70,SNR=6.7							
234A	Clairette	69.61	336	⇓P		P	20 09 36.3	+1.4
	baz=70,SNR=5.9							
TKL	Tuckaleechee C	69.63	350	eP		P	20 09 34.1	-0.8
TKL	Tuckaleechee C	69.63	350	P		P	20 09 34.2	-0.7
	comp=Z,18nm,0.9s,baz=172,slow=10,SNR=6.9							
TKL	Tuckaleechee C	69.63	350	eP		P	20 09 34.1	-0.8
429A	Davenport Ranc	69.71	333	⇓P		P	20 09 36.9	+1.3
	baz=70,SNR=8.6							
331A	San Angelo	69.78	334	⇓P		P	20 09 37.1	+1.1
	baz=70,SNR=6.1							
233A	Rising Star	69.88	336	⇑P		P	20 09 37.8	+1.2
	baz=70,SNR=5.5							
TVO	Taravao	69.95	262	eT		T	21 25 46.8	
	comp=Z,1.5nm,0.3s							
TIAR	Tiarei	70.14	262	eT		T	21 26 01.2	
	comp=Z,4.3nm,0.2s							
PPT2	Papeete2	70.31	262	eS		S	20 18 48.0	-1.8
	comp=Z,3µm,23.8s							
PPT2	Papeete2	70.31	262	eLR		LR	20 31 06.9	
	comp=Z,5µm,29.0s,baz=120							
PPT	Papeete	70.33	262	LR		LR	20 33 31.2	
	comp=Z,3µm,18.2s,baz=135,slow=30							
133A	Hamilton Ranch	70.43	336	⇑P		P	20 09 41.1	+1.2
	baz=71,SNR=6.2							
329A	Wagon Wheel Ra	70.51	333	⇓P		P	20 09 42.0	+1.4
	baz=71,SNR=5.8							
MIAR	Mount Ida	70.60	341	eP		P	20 09 42.6	+1.7
MIAR				pmax		pmax		
	comp=Z,17nm,0.9s							
MIAR				MLR		MLR		
	comp=Z,961nm,20.0s							
MIAR	Mount Ida	70.60	341	eP		P	20 09 42.6	+1.7
	comp=Z,17nm,0.9s							
MIAR				LR		LR		
	comp=Z,961nm,20.0s							
ABTX	Abilene, Hawle	70.69	336	⇑P		P	20 09 42.8	+1.3
	baz=71,SNR=6.3							
ABTX	Abilene, Hawle	70.69	336	eP		P	20 09 41.2	-0.3
	comp=Z,100nm,1.4s							
BLA	Blacksburg	70.74	353	PFAKE			20 09 50.0	+8.3
BLA				LR		LR		
	comp=Z,2µm,20.0s							
WVT	Waverly	70.79	347	eP		P	20 09 40.7	-1.3
WVT				pmax		pmax		
	comp=Z,77nm,0.9s							
WVT	Waverly	70.79	347	eP		P	20 09 40.7	-1.3
	comp=Z,77nm,0.9s							
Z33A	Whitaker Ranch	71.00	337	⇓P		P	20 09 44.7	+1.3
	baz=71,SNR=6.8							
JSRW	J. Sargeant Re	71.00	355	eP		P	20 09 44.9	+1.7
Z32A	Haskell	71.25	336	⇑P		P	20 09 46.2	+1.3
	baz=72,SNR=12							
Y34A	Reagan Ranch,	71.28	338	P		P	20 09 45.5	+0.4
	baz=72							
228A	UT Block 9, Go	71.31	333	⇑P		P	20 09 45.7	+0.3
	baz=72,SNR=7.2							
CBN	Corbin Frederi	71.47	356	PFAKE			20 10 00.0	+14
CBN				LR		LR		
	comp=Z,2µm,20.0s							
Z31A	Sharp Cattle R	71.49	335	⇑P		P	20 09 47.3	+0.9
	baz=72,SNR=10							
128A	Castleberry Fa	71.72	333	⇑P		P	20 09 48.5	+0.7
	baz=72,SNR=11							
Z30A	Sanderson Ranc	71.81	335	⇓P		P	20 09 49.1	+0.8
	baz=72,SNR=6.9							
Y32A	R-V Farms, Ver	71.88	336	⇓P		P	20 09 50.0	+1.3
	baz=72,SNR=5.5							
X34A	Smith Ranch, M	71.90	338	⇑P		P	20 09 50.1	+1.4
	baz=72,SNR=6.8							
Z29A	Hungry Hill Ra	72.00	334	⇓P		P	20 09 50.3	+0.8
	baz=72,SNR=5.8							
MNTX	Cornudas Mount	72.04	330	eP		P	20 09 48.1	-1.6
	comp=Z,18nm,0.9s							
MNTX				LR		LR		
	comp=Z,3µm,19.0s							
Y31A	Rekieta Farm,	72.12	336	⇓P		P	20 09 51.0	+0.9
	baz=72							
X32A	Elmer	72.21	337	⇓P		P	20 09 51.3	+0.7
	baz=73							
Y30A	Stafford Cattl	72.26	335	⇑P		P	20 09 51.9	+0.9
	baz=73							
Z28A	Tucker Farm, M	72.27	334	⇑P		P	20 09 51.5	+0.3
	baz=73							
WMOK	Wichita Mounta	72.33	337	eP		P	20 09 53.0	+1.7
WMOK				pmax		pmax		
	comp=Z,19nm,1.1s							
WMOK	Wichita Mounta	72.33	337	eP		P	20 09 53.0	+1.7
	comp=Z,19nm,1.1s							
W34A	Bridge Creek,	72.47	338	⇑P		P	20 09 52.9	+0.7
	baz=73							
TUL1	Leonard	72.50	340	eP		P	20 09 53.3	+1.0
	comp=Z,22nm,0.8s							
Y29A	Porterfield Fa	72.53	334	⇑P		P	20 09 53.0	+0.3
	baz=73							
USIN	University of	72.53	347	eP		P	20 09 53.2	+0.8
SIUC	Southern Illin	72.60	346	eP		P	20 09 52.4	-0.5
SIUC				epP		pP	20 10 04.6	+0.8
W33A	Caddo, Fort Co	72.61	338	⇓P		P	20 09 53.5	+0.5
	baz=73							
Z27A	Tatum	72.61	333	⇑P		P	20 09 53.9	+0.8
	baz=73,SNR=7.5							
X31A	McDonald Ranch	72.63	336	⇑P		P	20 09 53.6	+0.4
	baz=73							
X30A	Coker Ranch, T	72.77	335	⇓P		P	20 09 54.5	+0.5
	baz=73							
Y28A	McKinney Farm,	72.78	334	⇓P		P	20 09 54.7	+0.6
	baz=73							
W32A	Sentinel	72.83	337	⇑P		P	20 09 55.1	+0.7
	baz=73,SNR=14							
Z26A	Caprock	72.86	332	⇓P		P	20 09 55.5	+0.8
	baz=73,SNR=22							
V34A	Guthrie	72.94	339	⇓P		P	20 09 55.8	+0.9
	baz=73							
V34A	Guthrie	72.94	339	eP		P	20 09 56.7	+1.8
	comp=Z,75nm,1.3s							
MSTX	Muleshoe	73.03	334	⇓P		P	20 09 56.0	+0.4
	baz=73							
MSTX	Muleshoe	73.03	334	eP		P	20 09 55.3	-0.3
	comp=Z,47nm,1.0s							
X29A	Tulia	73.06	335	⇓P		P	20 09 56.6	+0.8
	baz=73							
Y27A	Causey	73.09	333	⇑P		P	20 09 56.8	+0.8
	baz=73							
W31A	Holland Ranch,	73.12	336	⇑P		P	20 09 57.1	+1.0
	baz=74							
Z25A	Roswell	73.16	332	⇑P		P	20 09 57.4	+1.0
	baz=74							
V33A	Lossen Ranch,	73.17	338	⇑P		P	20 09 58.3	+2.0
	baz=74,SNR=5.9							
V32A	Arapaho	73.31	337	⇑P		P	20 09 59.1	+1.9
	baz=74							
Y26A	Elida	73.38	333	P		P	20 09 59.5	+1.7
	baz=74							
319A	Douglas	73.45	327	⇑P		P	20 09 59.7	+1.5
	baz=74							
AMTX	Amarillo	73.45	335	⇓P		P	20 09 59.9	+1.8
	baz=74							
AMTX	Amarillo	73.45	335	eP		P	20 09 58.6	+0.5
	comp=Z,48nm,1.0s							
Z24A	Sheeppen Canyo	73.46	331	⇑P		P	20 09 59.3	+1.0
	baz=74,SNR=7.1							
CER	Ceres	73.49	119	P		P	20 09 58.5	0.0
	comp=Z,86nm,1.4s							
U34A	Anderson Ranch	73.50	339	⇑P		P	20 09 59.4	+1.1
	baz=74							
U34A	Anderson Ranch	73.50	339	eP		P	20 09 58.4	+0.1
	comp=Z,57nm,1.2s							
V31A	Spring Creek L	73.62	337	⇑P		P	20 10 00.4	+1.4
	baz=74,SNR=5.4							
W29A	Amarillo	73.65	335	⇑P		P	20 10 00.6	+1.3
	baz=74							
U33A	Lingo Farm, Me	73.68	338	⇑P		P	20 10 01.2	+2.0
	baz=74							
MAW	Mawson	73.70	164	P		P	20 09 59.7	+0.7
MAW				pmax		pmax		
	comp=Z,36nm,0.8s							
MAW				MLR		MLR		
	comp=Z,5µm,18.3s							
MAW	Mawson	73.70	164	P		P	20 09 59.7	+0.7
	comp=Z,36nm,0.8s,baz=229,slow=6.5,SNR=5.1							
MAW				LR		LR	20 45 13.4	
	comp=Z,5µm,18.3s,baz=232,slow=38							
Y25A	Mesa, Roswell	73.72	332	⇑P		P	20 10 01.1	+1.4
	baz=74,SNR=5.3							
X27A	F and S Farms,	73.75	334	⇓P		P	20 10 01.7	+1.8
	baz=74							
121A	Cookes Peak, D	73.78	329	⇓P		P	20 10 01.7	+1.5
	baz=74,SNR=8.2							
121A	Cookes Peak, D	73.78	329	eP		P	20 10 01.1	+1.0
	comp=Z,85nm,1.4s							
KOMG	Komaggas	73.89	115	P		P	20 10 02.1	+1.2
	comp=Z,58nm,3.6s							
V30A	Spur Ranch, Mi	73.90	336	⇑P		P	20 10 02.4	+1.7
	baz=74,SNR=6.1							
X26A	CR and CF Fran	73.93	333	⇓P		P	20 10 02.4	+1.4
	baz=74,SNR=13							
Y24A	Capitan	74.01	332	⇑P		P	20 10 03.2	+1.6
	baz=74,SNR=6.6							
ACSO	Alum Creek Sta	74.02	351	eP		P	20 10 00.4	-0.7
	comp=Z,39nm,0.8s							
ACSO				LR		LR		
	comp=Z,2µm,19.0s							
Z22A	Elephant Butte	74.05	330	⇓P		P	20 10 02.9	+1.2
	baz=74							
W27A	Bowe Ranch, En	74.11	334	⇓P		P	20 10 03.5	+1.5
	baz=74,SNR=6.0							
X25A	Clemmons Ranch	74.24	332	⇑P		P	20 10 04.0	+1.2
	baz=75							
Y23A	Lovelace Mesa,	74.27	331	⇓P		P	20 10 04.8	+1.8
	baz=75,SNR=9.9							
T33A	Patterson Ranc	74.32	338	⇑P		P	20 10 04.6	+1.6
	baz=75,SNR=11							
W26A	Owens Ranch, T	74.39	333	⇑P		P	20 10 05.4	+1.8
	baz=75							
U30A	WK&E Inc. Balk	74.58	336	⇑P		P	20 10 06.1	+1.5
	baz=75							
LIC	Lamto	74.60	72	eP		P	20 10 04.9	-0.3
	comp=Z,161nm,1.3s							
T32A	Huddler Ranch,	74.62	338	⇑P		P	20 10 06.2	+1.4
	baz=75							
V27A	Dan Oppiter Fa	74.64	334	⇓P		P	20 10 06.5	+1.4
	baz=75							
S33A	Kaszmaul Farm,	74.71	339	⇓P		P	20 10 07.0	+1.7
	baz=75							
W25A	X Bar L Ranch,	74.77	333	⇓P		P	20 10 07.3	+1.5
	baz=75,SNR=8.5							
T31A	Randall Ranch,	74.78	337	⇑P		P	20 10 07.4	+1.7
	baz=75							
LPM	Los Pinos Moun	74.83	331	eP		P	20 10 07.0	+0.8
	comp=Z,17nm,1.0s							
LENM	Lemitar	74.84	331	eP		P	20 10 08.5	+2.1
	comp=Z,9.8nm,1.3s							
TIC	Toumodi	74.86	71	eP		P	20 10 06.7	0.0
	comp=Z,17nm,0.2s							
X23A	Hourglass Bar	74.89	331	⇓P		P	20 10 08.4	+1.8
	baz=75							
KIC	Kosan Boka	74.91	72	eP		P	20 10 06.8	-0.2
	comp=Z,340nm,1.4s							
TUC	Tucson	74.92	327	eP		P	20 10 09.7	+3.0
TUC				pmax		pmax		
	comp=Z,44nm,1.5s							
TUC				MLR		MLR		
	comp=Z,2µm,19.0s							
TUC	Tucson	74.92	327	eP		P	20 10 09.7	+3.0
	comp=Z,44nm,1.5s							
TUC				LR		LR		
	comp=Z,2µm,19.0s							
U28A	Mallet	74.98	335	⇓P		P	20 10 09.1	+2.1
	baz=75							
DBIC	Dimbokro	75.00	71	eP		P	20 10 07.3	-0.2
DBIC				pmax		pmax		
	comp=Z,87nm,1.1s							
DBIC	Dimbokro	75.00	71	P		P	20 10 07.4	-0.1
	comp=Z,33nm,0.7s,baz=216,slow=5.5,SNR=43							
DBIC	Dimbokro	75.00	71	eP		P	20 10 07.2	-0.2
	comp=Z,88nm,1.1s							
V26A	Tequesquite Ra	75.03	334	⇑P		P	20 10 08.8	+1.5
	baz=75							
SUR	Sutherland	75.09	119	eP		P	20 10 09.0	+0.9
	comp=Z,67nm,1.1s							
SUR				LR		LR		
	comp=Z,2µm,20.0s							
S32A	Newby Ranch, P	75.10	338	⇑P		P	20 10 09.5	+2.0
	baz=75							
W24A	Lazy 6 Ranch,	75.13	332	⇓P		P	20 10 10.1	+2.1
	baz=

comp=Z,2µm,20.0s
214A Organ Pipe Nat 75.58 325 ⇑P P 20 10 12.3 +1.8
baz=76,SNR=8.5
214A Organ Pipe Nat 75.58 325 eP P 20 10 12.8 +2.4
comp=Z,56nm,1.6s
T28A Walsh 75.61 336 ⇓P P 20 10 12.1 +1.5
baz=76,SNR=8.8
R32A Long Quarter, 75.69 339 ⇑P P 20 10 12.8 +1.8
baz=76
KSU1 Kansas State U 75.71 340 PFAKE 20 10 20.0 +9.0
KSU1 LR LR
comp=Z,1µm,21.0s
S29A Ulysses 75.73 337 ⇓P P 20 10 13.1 +1.9
baz=76
T27A Campo 75.77 335 ⇑P P 20 10 13.0 +1.4
baz=76,SNR=10
U25A Circle Dot Ran 75.79 334 ⇓P P 20 10 13.1 +1.3
baz=76,SNR=9.7
R31A Burdett 75.82 338 ⇓P P 20 10 13.4 +1.7
baz=76
V23A Ortiz Mt. (NFS 75.90 332 ⇓P P 20 10 14.0 +1.6
baz=76
Q33A Connelly Farm, 75.96 340 ⇑P P 20 10 14.2 +1.7
baz=76
S28A Manter 75.96 336 ⇑P P 20 10 14.4 +1.8
baz=76
R30A Dighton 76.06 337 ⇑P P 20 10 14.5 +1.4
baz=76
AAM Ann Arbor 76.14 351 PFAKE 20 10 30.0 +17
AAM LR LR
comp=Z,2µm,20.0s
Q32A Meitler Ranch, 76.17 339 ⇓P P 20 10 15.0 +1.3
baz=76,SNR=8.0
T26A Comanche Natio 76.18 335 ⇓P P 20 10 15.3 +1.3
baz=76,SNR=6.6
P33A Williams Farm, 76.33 340 ⇓P P 20 10 16.4 +1.9
baz=77
V22A San Miguel Ran 76.33 331 ⇓P P 20 10 16.8 +1.8
baz=77,SNR=20
X18A Snowflake 76.42 329 ⇓P P 20 10 17.0 +1.6
baz=77
Q31A Ellis 76.44 338 ⇑P P 20 10 16.6 +1.4
baz=77,SNR=6.6
T25A Trinidad 76.45 334 ⇑P P 20 10 17.2 +1.7
baz=77,SNR=17
R29A Marienthal 76.46 337 ⇑P P 20 10 17.4 +2.0
baz=77
S26A Kim 76.54 335 ⇑P P 20 10 17.7 +1.8
baz=77,SNR=16
R28A Tribune 76.61 336 ⇑P P 20 10 17.7 +1.5
baz=77,SNR=8.5
Q30A Quinter 76.67 338 ⇓P P 20 10 17.9 +1.4
baz=77,SNR=6.2
113A Mohawk Valley, 76.70 325 ⇓P P 20 10 18.5 +1.8
baz=77
T24B San Luis 76.74 333 ⇓P P 20 10 19.6 +2.3
baz=77
P32A Huiting Farm, 76.77 339 ⇑P P 20 10 19.1 +2.1
baz=77
W18A Petrified Fore 76.82 329 ⇑P P 20 10 19.4 +1.7
baz=77
W18A Petrified Fore 76.82 329 eP P 20 10 20.2 +2.6
comp=Z,66nm,1.3s
Q29A Oakley 76.83 337 ⇓P P 20 10 19.3 +1.9
baz=77
R27A Eads 76.90 336 ⇑P P 20 10 19.3 +1.4
baz=77,SNR=14
P31A Stockton 76.91 339 ⇓P P 20 10 19.4 +1.6
baz=77,SNR=7.7
S25A Robets Cordova 76.92 334 P P 20 10 18.3 +0.1
baz=77
T23A Casias Ranch, 76.97 333 ⇓P P 20 10 20.2 +1.7
baz=77
X16A Lo Mia Camp, P 76.98 327 ⇓P P 20 10 20.4 +1.8
baz=77,SNR=15
NCB Newcomb 77.09 358 PFAKE 20 10 30.0 +11
NCB LR LR
comp=Z,2µm,19.0s
MDV Middlebury 77.10 359 eP P 20 10 18.7 0.0
comp=Z,62µm,0.6s
R26A Arlington 77.14 335 ⇓P P 20 10 21.2 +1.9
baz=78,SNR=8.0
S24A Houchin Ranch, 77.19 334 ⇑P P 20 10 21.7 +1.9
baz=78,SNR=18
DRV Dumont d'Urvil 77.23 193 S SKiKP 20 19 48.0 +17
DRV SS **SS** **20 24 57.0 -6.0**
DRV R 20 37 00.0
WIN Windhoek 77.23 109 P P 20 10 21.2 +0.8
WIN pmax pmax
comp=Z,14nm,1.3s
WIN Windhoek 77.23 109 P P 20 10 21.2 +0.8
comp=Z,14nm,1.3s
O32A Brockman Farm, 77.26 340 ⇓P P 20 10 21.6 +1.8
baz=78
Q28A Sharon Springs 77.27 337 ⇑P P 20 10 21.9 +2.0
baz=78
R25A Fountain Ranch 77.30 334 ⇑P P 20 10 22.1 +1.9
baz=78
Y14A Wickenburg 77.30 326 ⇓P P 20 10 22.2 +2.0
baz=78
LBNH Lisbon 77.33 0 PFAKE 20 10 30.0 +10
LBNH LR LR
comp=Z,1µm,20.0s
SDCO Great Sand Dun 77.39 333 eP P 20 10 21.4 +0.5
comp=Z,13nm,1.0s
SDCO LR LR
comp=Z,2µm,20.0s
GLA Glamis 77.45 324 eP P 20 10 23.4 +2.4
GLA pmax pmax
comp=Z,59nm,1.6s
GLA Glamis 77.45 324 ⇑P P 20 10 23.2 +2.2
baz=78
GLA Glamis 77.45 324 eP P 20 10 23.4 +2.4
comp=Z,59nm,1.6s
P29A Atwood 77.47 338 ⇑P P 20 10 23.0 +2.0
baz=78
O31A Woolen Ranch, 77.47 339 ⇑P P 20 10 23.1 +2.2
baz=78
SCIA State Center 77.48 344 eP P 20 10 21.8 +0.8
comp=Z,62nm,1.1s
SCIA LR LR
comp=Z,956nm,19.0s
R24A Sanders Place, 77.67 334 ⇓P P 20 10 23.9 +1.5
baz=78,SNR=13
P28A Saint Francis 77.70 337 ⇓P P 20 10 24.5 +2.1
baz=78
O30A MW Ranch, Wils 77.72 338 ⇑P P 20 10 24.5 +2.2
baz=78
N32A Stulken Farm, 77.73 340 ⇑P P 20 10 24.8 +2.5
baz=78
LONY Lake Ozonia 77.74 358 eP P 20 10 21.8 -0.6
comp=Z,26nm,1.0s
LONY LR LR
comp=Z,1µm,20.0s
JFWS Jewell Farm 77.81 346 eP P 20 10 22.9 +0.1
JFWS pmax pmax
comp=Z,48nm,1.0s
JFWS MLR MLR
comp=Z,2µm,22.0s
JFWS Jewell Farm 77.81 346 eP P 20 10 22.9 +0.1
comp=Z,48nm,1.0s
JFWS LR LR
comp=Z,2µm,22.0s
SWSC Sam W. Stewart 77.84 323 ⇓P P 20 10 25.5 +2.4
baz=78
Y12C Blythe 77.87 325 ⇓P P 20 10 25.5 +2.3
baz=78
WUAZ Wupatki 77.87 328 ⇓P P 20 10 25.3 +1.9
baz=78,SNR=7.7
WUAZ Wupatki 77.87 328 eP P 20 10 25.6 +2.1
comp=Z,24nm,1.0s
S22A 4UR Ranch, Cre 77.90 332 ⇑P P 20 10 25.7 +2.0
baz=78,SNR=8.7
O29A 4D Ranch, Culb 77.90 338 ⇓P P 20 10 25.5 +2.1
baz=78
R23A Moffat 77.90 333 ⇑P P 20 10 25.5 +1.8
baz=78
Q25A Bedland, Calha 77.97 335 ⇑P P 20 10 26.0 +2.0
baz=78
MVCO Mesa Verde 78.09 331 PFAKE 20 10 40.0 +15
MVCO LR LR
comp=Z,4µm,19.0s
SADO Sadowa 78.13 355 P P 20 10 24.5 +0.1
comp=Z,23nm,0.9s,baz=234,slow=2.3,SNR=9.8
PDMCI Parker Dam,Lak 78.13 325 ⇑P P 20 10 26.3 +1.6
baz=78
P26A Davis Ranch, A 78.23 336 ⇓P P 20 10 27.2 +1.9
baz=79,SNR=5.7
BC3 Big Chuckawall 78.24 324 ⇓P P 20 10 27.3 +1.8
baz=79,SNR=9.2
BGNE Belgrade 78.28 340 ⇑P P 20 10 27.2 +1.7
baz=79
BGNE Belgrade 78.28 340 eP P 20 10 27.0 +1.5
comp=Z,50nm,1.0s
Q24A Divide 78.33 334 ⇓P P 20 10 27.4 +1.3
baz=79,SNR=5.8
PKME Peaks-Kenny Pk 78.39 2 PFAKE 20 10 40.0 +14
PKME LR LR
comp=Z,2µm,20.0s
M31A Lambtecht Ranc 78.46 340 ⇑P P 20 10 28.8 +2.3
baz=79
P25A Willow Gulch B 78.47 335 ⇑P P 20 10 28.5 +1.8
baz=79,SNR=12
O27A Beecher Island 78.50 337 ⇓P P 20 10 28.6 +1.8
baz=79
IRM Iron Mountain 78.50 325 ⇓P P 20 10 28.6 +1.8
baz=79,SNR=7.4
W13A Hualapai Mount 78.67 326 ⇓P P 20 10 29.7 +1.7
baz=79,SNR=7.0
PFO Pinyon Flats O 78.70 323 P P 20 10 28.7 +0.6
PFO pmax pmax
comp=Z,8.0nm,0.9s
PFO Pinyon Flats O 78.70 323 P P 20 10 28.7 +0.6
comp=Z,8.4nm,0.9s,baz=119,slow=3.4
PFO Pinyon Flats O 78.70 323 ⇓P P 20 10 30.0 +1.9
baz=79
PFO Pinyon Flats O 78.70 323 eP P 20 10 30.0 +1.9
comp=Z,52nm,1.4s
PFO LR LR
comp=Z,2µm,22.0s
BELC Belle Mtn. Jos 78.79 324 ⇓P P 20 10 30.1 +1.5
baz=79
O26A Horse Wrangler 78.83 336 ⇓P P 20 10 30.1 +1.5
baz=79,SNR=5.6
PV01 Paradox Valley 78.92 331 eP P 20 10 30.9 +1.6
comp=Z,432nm,0.4s
P23A Jefferson 78.95 334 ⇓P P 20 10 31.3 +1.7
baz=79
O25A Wiggins 78.99 335 ⇑P P 20 10 31.6 +2.1
baz=79
U15A North Rim 79.04 328 ⇑P P 20 10 32.0 +1.9
baz=79
MURC Murrieta 79.07 323 ⇑P P 20 10 32.1 +2.1
baz=79
N27A Anderson Farm, 79.08 337 ⇑P P 20 10 32.0 +2.1
baz=79
L31A Butterfield Fa 79.19 340 ⇑P P 20 10 32.5 +2.1
baz=80
L30A Spencer Herefo 79.24 339 ⇑P P 20 10 32.4 +1.7
baz=80
ISCO Idaho Springs 79.24 334 eP P 20 10 32.4 +1.3
ISCO pmax pmax
comp=Z,25nm,1.3s
ISCO MLR MLR
comp=Z,1µm,19.0s
ISCO Idaho Springs 79.24 334 ⇓P P 20 10 33.2 +2.1
baz=80
ISCO Idaho Springs 79.24 334 eP P 20 10 32.4 +1.3
comp=Z,25nm,1.3s
ISCO LR LR
comp=Z,1µm,19.0s
GMRC Granite Mounta 79.25 325 ⇓P P 20 10 32.6 +1.6
baz=80,SNR=7.5
PV04 Paradox Valley 79.27 331 eP P 20 10 33.4 +2.2
N26A Koester Ranch, 79.32 336 ⇓P P 20 10 33.3 +2.0
baz=80
TSUM Tsumeb 79.36 106 P P 20 10 32.5 +0.4
comp=Z,44nm,1.1s,baz=39,slow=16,SNR=66
HVD Gariep Dam 79.42 120 P P 20 10 32.8 +0.4
HVD pmax pmax
comp=Z,82nm,1.6s
HVD Gariep Dam 79.42 120 P P 20 10 32.8 +0.4
comp=Z,82nm,1.6s
P22A Eagle 79.48 333 ⇓P P 20 10 34.1 +1.7
baz=80
O23A Lake Granby, G 79.71 334 ⇑P P 20 10 35.0 +1.4
baz=80,SNR=15
BFSC Mount Baldy Ra 79.80 323 ⇓P P 20 10 35.8 +1.8
baz=80
K30A Basset 79.87 340 ⇓P P 20 10 35.9 +1.8
baz=80,SNR=6.8
N24A Carr 79.89 335 ⇑P P 20 10 36.5 +2.1
baz=80
O22A Kremmling 79.90 334 ⇓P P 20 10 35.9 +1.3
baz=80,SNR=12
TUQ Turquoise Moun 79.91 325 ⇓P P 20 10 36.3 +1.7
baz=80,SNR=8.3
MWC Mount Wilson 79.99 323 eP P 20 10 36.1 +0.9
MWC pmax pmax
comp=Z,19nm,0.9s
MWC Mount Wilson 79.99 323 eP P 20 10 36.0 +0.9
comp=Z,19nm,0.9s
ECSD EROS Data Cent 80.03 342 ⇑P P 20 10 35.9 +1.0
baz=80,SNR=25
ECSD EROS Data Cent 80.03 342 eP P 20 10 34.0 -0.9
comp=Z,42nm,1.0s
ECSD LR LR
comp=Z,1µm,20.0s
GSC Goldstone, Bar 80.23 324 ⇑P P 20 10 38.5 +2.2
baz=81
BOSA Boshof 80.32 118 P P 20 10 36.6 -0.6
BOSA pmax pmax
comp=Z,41nm,1.0s
BOSA Boshof 80.32 118 P P 20 10 36.6 -0.6
comp=Z,41nm,0.9s,baz=240,slow=3.8,SNR=40
BOSA Boshof 80.32 118 eP P 20 10 36.9 -0.3
comp=Z,60nm,1.0s
N23A Red Feather La 80.32 335 ⇑P P 20 10 39.0 +2.1
baz=81
SHPR Sheep Range 80.41 326 eP P 20 10 38.8 +1.4
comp=Z,39nm,1.3s
N22A Wattenberg Ran 80.43 334 ⇓P P 20 10 39.4 +1.9
baz=81,SNR=9.6
K28A Ten Mile Ranch 80.43 339 ⇑P P 20 10 39.3 +2.1
baz=81
J30A Dallas 80.44 340 ⇓P P 20 10 38.9 +1.8
baz=81
M24A Cheyenne 80.44 336 ⇓P P 20 10 39.2 +1.8
baz=81,SNR=18
EDW2 Edwards Air Fo 80.48 323 ⇓P P 20 10 38.8 +1.2
baz=81
O20A White River Ci 80.51 333 ⇓P P 20 10 39.2 +1.3
baz=81
O20A White River Ci 80.51 333 eP P 20 10 39.2 +1.3
comp=Z,30nm,1.2s
SRU San Rafael Swe 80.54 331 eP P 20 10 39.0 +1.0
SRU pmax pmax
comp=Z,23nm,1.1s
SRU San Rafael Swe 80.54 331 eP P 20 10 39.0 +1.0
comp=Z,23nm,1.1s
SPMN Marine on St. 80.55 345 eP P 20 10 37.1 -0.5
comp=Z,17nm,0.7s
ARUT Antelope Range 80.68 328 eP P 20 10 40.4 +1.6
ARUT pmax pmax
comp=Z,454nm,1.2s
ARUT Antelope Range 80.68 328 eP P 20 10 40.4 +1.6
comp=Z,454nm,1.2s
COWI Conover 80.69 348 eP P 20 10 39.5 +1.2
comp=Z,26nm,1.2s
COWI LR LR
comp=Z,1µm,19.0s
K27A Flueckinger Fa 80.69 338 ⇑P P 20 10 40.3 +1.7
baz=81
J29A Okreek 80.75 340 ⇑P P 20 10 40.0 +1.2
baz=81,SNR=15
M23A Laramie 80.75 335 ⇓P P 20 10 40.5 +1.4
baz=81,SNR=11
I30A Oacoma 80.96 340 ⇓P P 20 10 41.2 +1.3
baz=81
M22A Cedar Creek Ra 81.00 334 ⇓P P 20 10 42.4 +1.9
baz=81
J28A Allard Ranch, 81.04 339 ⇑P P 20 10 42.0 +1.6
baz=81
J27A Elkhorn Farm, 81.12 338 ⇑P P 20 10 41.8 +1.0
baz=82
SWZ Schweizer 81.15 117 P P 20 10 40.9 -0.8
comp=Z,66nm,3.7s
FURC Fuace Creek, 81.19 325 ⇓P P 20 10 43.2 +2.0
baz=82
I29A Vivian Onida 81.31 340 ⇑P P 20 10 43.8 +2.0
baz=82
ISA Isabella, Lake 81.34 323 eP P 20 10 44.6 +2.4
ISA pmax pmax
comp=Z,31nm,1.3s
ISA Isabella, Lake 81.34 323 ⇑P P 20 10 44.3 +2.1
baz=82
ISA Isabella, Lake 81.34 323 eP P 20 10 44.6 +2.4
comp=Z,31nm,1.3s
DAC Darwin (Calif) 81.39 324 eP P 20 10 43.9 +1.3
DAC pmax pmax
comp=Z,38nm,1.3s
DAC Darwin (Calif) 81.39 324 eP P 20 10 43.9 +1.3
comp=Z,38nm,1.3s
I28A Midland 81.54 339 ⇑P P 20 10 44.2 +1.1
baz=82
RUDU RUNDU 81.76 106 P P 20 10 46.4 +1.4
comp=Z,116nm,1.1s
H29A Onida 81.84 340 ⇓P P 20 10 45.7 +1.2
baz=82,SNR=10
DAU Daniels Canyon 81.94 331 eP P 20 10 47.4 +1.8
DAU pmax pmax
comp=Z,13nm,0.8s
DAU Daniels Canyon 81.94 331 eP P 20 10 47.4 +1.8
comp=Z,13nm,0.8s
G30A Faulkton 82.00 341 ⇓P P 20 10 47.2 +1.8
baz=82
R11A Troy Canyon, C 82.11 327 ⇑P P 20 10 47.7 +1.4
baz=82,SNR=17
R11A Troy Canyon, C 82.11 327 eP P 20 10 47.4 +1.1
comp=Z,19nm,1.1s
H28A Mission Ridge 82.11 340 ⇑P P 20 10 47.0 +1.0
baz=82
SEK Senekal 82.22 119 P P 20 10 46.7 -0.7
comp=Z,60nm,1.2s
J23A Dilts Ranch, B 82.40 336 ⇑P P 20 10 49.6 +2.0
baz=83
DUG Dugway, Tooele 82.41 330 eP P 20 10 48.9 +1.1
DUG pmax pmax
comp=Z,21nm,1.0s
DUG MLR MLR
comp=Z,2µm,19.0s
DUG Dugway, Tooele 82.41 330 ⇓P P 20 10 49.3 +1.5
baz=83,SNR=11
DUG Dugway, Tooele 82.41 330 eP P 20 10 48.9 +1.1
comp=Z,21nm,1.0s
DUG LR LR
comp=Z,2µm,19.0s
G28A Parade 82.45 340 ⇑P P 20 10 49.0 +1.3
baz=83
LBTB Lobatse 82.53 115 eP P 20 10 48.1 -0.8
LBTB pmax pmax
comp=Z,118nm,1.1s
LBTB Lobatse 82.53 115 P P 20 10 48.8 -0.2
comp=Z,72nm,1.0s,baz=252,slow=5.5,SNR=46
LBTB Lobatse 82.53 115 eP P 20 10 48.1 -0.8
comp=Z,118nm,1.1s
TCUT Toone Canyon 82.60 331 eP P 20 10 51.3 +2.4
comp=Z,12nm,0.4s
TPH Tonopah 82.65 326 eP P 20 10 49.3 +0.1
TPH pmax pmax
comp=Z,37nm,1.3s
TPH Tonopah 82.65 326 eP P 20 10 49.3 +0.1
comp=Z,37nm,1.3s
PRYS Parys 82.80 117 P P 20 10 50.7 +0.3
comp=Z,27nm,1.7s
F29A Eureka 82.84 341 ⇑P P 20 10 49.6 -0.1
baz=83,SNR=8.4
EYMN Ely 82.89 347 eP P 20 10 49.7 -0.3
comp=Z,25nm,1.1s
EYMN LR LR
comp=Z,1µm,21.0s
KSR Koster 83.05 116 P P 20 10 52.1 +0.3
comp=Z,42nm,1.4s
HWUT Hardware Ranch 83.08 331 eP P 20 10 52.0 +0.6
comp=Z,41nm,1.3s
HWUT LR LR
comp=Z,3µm,20.0s
BGU Big Grassy Mou 83.11 330 eP P 20 10 53.7 +2.3
comp=Z,7.7nm,1.2s
SPUT South Promonto 83.19 331 eP P 20 10 51.2 -0.6
comp=Z,26nm,1.1s
E30A Jud 83.21 342 ⇑P P 20 10 52.3 +0.7
baz=84,SNR=7.9
BW06 Boulder Array 83.28 333 eP P 20 10 53.3 +0.9
comp=Z,29nm,0.8s
BW06 LR LR
comp=Z,2µm,19.0s
PDAR Pinedale Array 83.28 333 P P 20 10 52.1 -0.3
comp=Z,7.8nm,0.9s,baz=108,slow=4.8,SNR=29
NVAR Mina Array Bea 83.44 325 P P 20 10 53.5 +0.2
comp=Z,5.2nm,0.8s,baz=153,slow=5.5,SNR=15
E29A Napoleon 83.46 341 ⇑P P 20 10 53.8 +0.9
baz=84
SNZO South Karori 83.56 224 PFAKE 20 11 10.0 +16
SNZO LR LR
comp=Z,2µm,19.0s
HVU Hansel Valley 83.71 331 eP P 20 10 53.8 -0.7
HVU pmax pmax
comp=Z,27nm,0.9s
HVU Hansel Valley 83.71 331 eP P 20 10 53.8 -0.7
comp=Z,27nm,0.9s
D30A Buchanan 83.73 342 ⇓P P 20 10 55.1 +0.8
baz=84,SNR=9.9
ERPM east rand prop 83.78 117 P P 20 10 55.3 -0.1
comp=Z,41nm,1.7s
AHID Auburn Hatcher 83.87 332 PFAKE 20 11 10.0 +15
AHID LR LR
comp=Z,3µm,19.0s
D29A Pettibone, Tap 83.90 341 ⇓P P 20 10 55.8 +0.6
baz=84,SNR=7.8
TORD Torodi Ar. Bea 84.02 70 P P 20 10 56.3 -0.3
comp=Z,38nm,0.8s,baz=280,slow=4.7,SNR=110
WAKR Walker 84.05 325 eP P 20 10 59.4 +3.0
comp=Z,47nm,1.5s
AGMN Agassiz Nation 84.14 344 ⇓P P 20 10 55.8 -0.6
baz=84,SNR=9.9
AGMN Agassiz Nation 84.14 344 eP P 20 10 55.3 -1.0
comp=Z,23nm,0.9s
AGMN LR LR
comp=Z,1µm,22.0s
CMB Columbia Colle 84.15 324 eP P 20 10 57.7 +1.0
CMB pmax pmax
comp=Z,20nm,1.3s
CMB Columbia Colle 84.15 324 eP P 20 10 57.7 +1.0
comp=Z,20nm,1.3s
C30A Mose, Pekin 84.21 342 ⇓P P 20 10 57.4 +0.7
baz=85,SNR=14
BMN Battle Mountai 84.53 327 eP P 20 10 59.9 +1.1
BMN pmax pmax
comp=Z,5.0nm,1.0s
BMN Battle Mountai 84.53 327 eP P 20 10 59.9 +1.1
comp=Z,4.5nm,1.0s
MDND Maddock 84.63 342 ⇑P P 20 11 00.1 +1.3
baz=85
MDND Maddock 84.63 342 eP P 20 10 58.6 -0.2
comp=Z,20nm,0.9s
I17A Pilgrim Ck. 84.65 333 ⇓P P 20 11 00.6 +1.3
baz=85
D26A Manning 84.67 340 ⇑P P 20 11 01.0 +1.9
baz=85
B30A Myrvik Farm, E 84.86 343 ⇓P P 20 11 00.1 +0.1
baz=85,SNR=41
C27A Sayler Ranch, 85.02 341 ⇓P P 20 11 02.2 +1.3
baz=85
H17A Grant Village 85.06 333 eP P 20 11 00.2 -1.2
comp=Z,18nm,1.1s
B29A Wagenman Farm, 85.14 342 ⇓P P 20 11 01.4 0.0
baz=86,SNR=11
RLMT Red Lodge 85.20 335 PFAKE 20 11 10.0 +7.9
RLMT LR LR
comp=Z,909nm,19.0s
YFT Old Faithful 85.20 333 eP P 20 11 04.1 +2.0
comp=Z,18nm,0.9s
A30A Hoffart Farm, 85.31 343 ⇓P P 20 11 01.6 -0.6
baz=86,SNR=7.0
B28A Dugan Ranch, T 85.39 342 ⇑P P 20 11 02.1 -0.5
baz=86,SNR=12
YMR Madison River 85.44 333 eP P 20 11 03.6 +0.4
comp=Z,40nm,0.9s
LAO LASA Array 85.53 337 PFAKE 20 11 20.0 +17
LAO LR LR
comp=Z,1µm,19.0s
A29A Manning Farm, 85.53 342 ⇑P P 20 11 03.8 +0.5
baz=86,SNR=24
QLMT Earthquake Lak 85.75 333 eP P 20 11 07.0 +2.2
comp=Z,2.1nm,0.9s
CRZF Crozet Islands 85.76 145 P P 20 10 50.0 -15
CRZF Crozet Islands 85.76 145 S S 20 21 27.0 -8.0
CRZF SS SS 20 26 25.0 -46
CRZF R 20 38 00.0
HLID Hailey 85.87 331 ⇑P P 20 11 06.0 +0.6
baz=86,SNR=15
HLID Hailey 85.87 331 eP P 20 11 05.2 -0.2
comp=Z,20nm,1.1s

HLID LR LR
comp=Z,1µm,22.0s
ULM Lac du Bonnet 85.98 345 P **P 20 11 04.5 -1.0**
ULM pmax pmax
comp=Z,18nm,0.9s
ULM Lac du Bonnet 85.98 345 P **P 20 11 04.5 -1.0**
comp=Z,18nm,0.9s,baz=160,slow=4.0,SNR=30
RAO Raoul Island 86.17 237 LR LR 20 39 44.8
comp=Z,1µm,20.8s,baz=121,slow=29
MCMT McKenzie Canyo 86.29 332 *e*P **P 20 11 07.8 +0.3**
comp=Z,7.0nm,0.8s
MFID Camas Ranch 86.34 330 *e*P **P 20 11 08.5 +0.9**
comp=Z,11nm,1.0s
DGMT Dagmar 86.48 339 ⇑P **P 20 11 09.0 +0.9**
baz=87
DGMT Dagmar 86.48 339 *e*P **P 20 11 07.8 -0.2**
comp=Z,50nm,0.7s
DGMT LR LR
comp=Z,1µm,20.0s
BOZ Bozeman (W) 86.52 333 *e*P **P 20 11 08.7 +0.2**
BOZ pmax pmax
comp=Z,5.0nm,0.6s
BOZ MLR MLR
comp=Z,2µm,21.0s
BOZ Bozeman (W) 86.52 333 *e*P **P 20 11 08.7 +0.2**
comp=Z,5.3nm,0.6s
BOZ LR LR
comp=Z,2µm,21.0s
A25A Svangstu Ranch 86.59 340 ⇓P **P 20 11 09.1 +0.6**
baz=87
WVOR Wild Horse Val 86.77 327 *e*P **P 20 11 10.7 +0.9**
WVOR pmax pmax
comp=Z,21nm,1.3s
WVOR Wild Horse Val 86.77 327 *e*P **P 20 11 10.7 +0.9**
comp=Z,20nm,1.3s
D19A Cripps Ranch, 86.83 336 ⇑P **P 20 11 10.4 +0.6**
baz=87
A24A Westby 86.83 340 ⇓P **P 20 11 10.4 +0.7**
baz=87
B22A Reddig Ranch S 86.88 338 ⇑P **P 20 11 10.5 +0.5**
baz=87
LRM Limekiln Ridge 86.97 333 *e*P **P 20 11 11.2 +0.4**
comp=Z,123nm,1.0s
C20A Veseth Ranch, 87.01 337 ⇓P **P 20 11 11.2 +0.5**
baz=87
MOD Modoc Plateau 87.12 326 *e*P **P 20 11 11.9 +0.4**
comp=Z,12nm,0.9s
A23A Redstone 87.12 339 ⇓P **P 20 11 11.9 +0.8**
baz=88
WDC Whiskeytown Da 87.17 324 *e*P **P 20 11 10.8 -0.8**
WDC pmax pmax
comp=Z,24nm,1.1s
WDC Whiskeytown Da 87.17 324 *e*P **P 20 11 10.8 -0.8**
comp=Z,24nm,1.1s
B21A Ellsworth Farm 87.31 338 ⇓P **P 20 11 12.2 +0.1**
baz=88
MSNA Messina 87.38 115 P **P 20 11 12.7 -0.6**
comp=Z,54nm,1.3s
C19A Slack Wire Ran 87.38 336 ⇑P **P 20 11 13.1 +0.5**
baz=88
A22A Carney Farms, 87.47 338 ⇓P **P 20 11 12.8 0.0**
baz=88,SNR=30
HRY Holter Researc 87.49 334 *e*P **P 20 11 14.5 +1.3**
comp=Z,4.2nm,0.6s
N02D Trinity Center 87.55 324 ⇓P **P 20 11 13.6 +0.1**
baz=88
B20A Solberg Farm, 87.65 337 ⇓P **P 20 11 14.1 +0.3**
baz=88
M04C Macdoel 87.75 325 ⇓P **P 20 11 15.0 +0.5**
baz=88
A21A Bergtoll Ranch 87.78 338 ⇓P **P 20 11 14.3 0.0**
baz=88,SNR=16
EGMT Eagleton 87.87 336 ⇑P **P 20 11 14.8 -0.1**
baz=88,SNR=9.7
EGMT Eagleton 87.87 336 *e*P **P 20 11 14.8 -0.1**
comp=Z,21nm,1.1s
EGMT LR LR
comp=Z,779nm,20.0s
M02C Callahan 87.94 324 ⇑P **P 20 11 15.4 +0.1**
baz=88
B19A Brinkman Farms 87.97 336 ⇓P **P 20 11 15.1 -0.2**
baz=88,SNR=10
A20A Cobblestone Ra 88.00 337 ⇓P **P 20 11 15.1 -0.3**
baz=88,SNR=25
SCHQ Schefferville 88.05 3 P **P 20 11 14.0 -1.4**
comp=Z,11nm,0.7s,baz=186,slow=4.4,SNR=16
BMO Blue Mountains 88.12 330 *e*P **P 20 11 15.7 -0.5**
BMO LR LR
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 88.13 325 P **P 20 11 15.8 -0.5**
YBH pmax pmax
comp=Z,11nm,0.8s
YBH Yreka Blue Hor 88.13 325 P **P 20 11 15.8 -0.5**
comp=Z,11nm,0.8s,baz=120,slow=4.0,SNR=4.1
CHMT Chamberlain Mo 88.19 333 *e*P **P 20 11 17.2 +0.6**
comp=Z,14nm,1.3s
A19A Klindworth Far 88.31 337 ⇓P **P 20 11 17.2 +0.3**
baz=89
SLMT Seeley Lake 88.56 333 *e*P **P 20 11 18.9 +0.6**
comp=Z,14nm,1.0s
J05D Fort Rock, OR 88.62 326 ⇑P **P 20 11 19.5 +0.9**
baz=89
SWMT Swartz Lake 88.97 333 *e*P **P 20 11 20.7 +0.6**
comp=Z,7.7nm,1.1s
YBMT Yellow Bay 89.27 333 *e*P **P 20 11 21.5 -0.1**
JTMT Jette 89.27 333 *e*P **P 20 11 21.1 -0.5**
comp=Z,8.2nm,1.0s
BLMT Blacktail Moun 89.52 333 *e*P **P 20 11 22.4 -0.4**
comp=Z,25nm,1.1s
BSMT Bassoo Peak 89.55 333 *e*P **P 20 11 23.4 +0.4**
comp=Z,5.9nm,0.9s
LSZ Lusaka 89.97 108 P **P 20 11 24.9 -0.8**
LSZ pmax pmax
comp=Z,5.0nm,0.9s
LSZ Lusaka 89.97 108 P **P 20 11 24.9 -0.8**
comp=Z,5.4nm,0.9s,baz=158,slow=5.4,SNR=4.4
LSZ Lusaka 89.97 108 P **P 20 11 24.9 -0.8**
LSZ LR LR
comp=Z,6µm,20.0s
WALA Waterton Lakes 90.22 334 *e*P **P 20 11 26.1 +0.1**
comp=Z,0.3nm,1.1s
HAWA Hanford 90.30 329 PFAKE 20 11 40.0 +14
HAWA LR LR
comp=Z,2µm,20.0s
AFI Afiamalu 90.36 253 PFAKE 20 11 40.0 +13
AFI LR LR
comp=Z,5µm,19.0s
RTC Rabat Centre 90.79 49 PFAKE 20 11 40.0 +11
RTC LR LR
comp=Z,4µm,21.0s
NEW Newport 90.80 332 *e*P **P 20 11 28.7 +0.1**
NEW pmax pmax
comp=Z,115nm,0.7s
NEW MLR MLR
comp=Z,2µm,19.0s
NEW Newport 90.80 332 ⇑P **P 20 11 29.8 +1.2**
baz=91
NEW Newport 90.80 332 *e*P **P 20 11 28.7 +0.1**
comp=Z,115nm,0.7s
NEW LR LR
comp=Z,2µm,19.0s
PAF Port-aux-Franc 90.98 156 S SKSac 20 21 45.0 -14
PAF SS **SS 20 28 20.0 -6.3**
PAF R 20 42 00.0
FFC Flin Flon 91.53 343 PFAKE 20 11 40.0 +8.3
FFC LR LR
comp=Z,1µm,21.0s
TAM Tamanrasset 92.59 64 *e*P **P 20 11 38.1 +0.5**
TAM pmax pmax
comp=Z,26nm,1.4s
TAM MLR MLR
comp=Z,7µm,21.0s
TAM Tamanrasset 92.59 64 *e*P **P 20 11 38.1 +0.5**
comp=Z,26nm,1.4s
TAM LR LR
comp=Z,7µm,21.0s
NLWA Neilton Lookou 92.96 328 PFAKE 20 11 50.0 +11
NLWA LR LR
comp=Z,1µm,20.0s
EDM Edmonton 93.49 337 *e*P **P 20 11 40.0 -0.9**
EDM Edmonton 93.49 337 *e*P **P 20 11 40.0 -0.9**
FCC Fort Churchill 93.70 349 *e*P **P 20 11 40.4 -1.2**
FCC Fort Churchill 93.70 349 *e*P **P 20 11 40.4 -1.2**
comp=Z,0.3nm,0.9s
MTE Manteigas 94.55 44 PFAKE 20 12 00.0 +14
MTE LR LR
comp=Z,3µm,19.0s
PAB San Pablo 95.89 46 PFAKE 20 12 00.0 +7.7
PAB LR LR
comp=Z,2µm,19.0s
TAU Tasmania Unive 95.89 208 PFAKE 20 12 00.0 +7.6
TAU LR LR
comp=Z,1µm,19.0s
MSVF Nonsavu 96.04 244 PFAKE 20 12 10.0 +16
MSVF LR LR
comp=Z,2µm,19.0s
ESDC Sonseca Array 96.20 46 P **P 20 11 52.4 -1.3**
comp=Z,4.1nm,0.9s,baz=240,slow=4.6,SNR=11
ESDC LR LR 20 54 38.0
comp=Z,2µm,18.6s,baz=220,slow=35
SFJD Kangerlussuaq 101.46 8 PFAKE 20 12 30.0 +14
SFJD LR LR
comp=Z,1µm,22.0s
CAN Canberra 101.53 213 PFAKE 20 12 30.0 +12
CAN LR LR
comp=Z,1µm,20.0s
YKA Yellowknife Ar 101.55 341 P **Pdif 20 12 15.2 -1.7**
comp=Z,1.1nm,0.7s,baz=140,slow=4.3,SNR=13
YKA PKKPbc **PKKPbc 20 28 24.3 -2.0**
comp=Z,0.3nm,0.7s,baz=332,slow=2.9,SNR=5.3
ABPO Ambohimpanom 102.06 122 PFAKE 20 12 30.0 +9.3
ABPO LR LR
comp=Z,2µm,19.0s
WRAK Wrangell Islan 103.07 330 PFAKE 20 12 30.0 +6.2
WRAK LR LR
comp=Z,711nm,19.0s
VSL Villasalto 104.54 52 PFAKE 20 12 40.0 +9.1
VSL LR LR
comp=Z,3µm,20.0s
SSB Saint Sauveur 104.57 45 PFAKE 20 12 40.0 +9.1
SSB LR LR
comp=Z,3µm,19.0s
KMBO Kilima Mbogo 105.39 102 PFAKE 20 17 00.0
KMBO LR LR
comp=Z,3µm,20.0s
BNI Bardonecchia 105.73 46 PFAKE 20 17 00.0
BNI LR LR
comp=Z,3µm,20.0s
ESK Eskdalemuir 106.12 34 PFAKE 20 17 00.0
ESK LR LR
comp=Z,2µm,20.0s
WDD Wield Dalam 106.22 58 PFAKE 20 17 00.0
WDD LR LR
comp=Z,7µm,19.0s
RER Riviere de l'E 106.33 130 PFAKE 20 17 00.0
RER LR LR
comp=Z,1µm,20.0s
VLC Villacollemand 107.56 48 PFAKE 20 17 00.0
VLC LR LR
comp=Z,2µm,20.0s
ECH Echery 107.65 44 PFAKE 20 17 00.0
ECH LR LR
comp=Z,2µm,22.0s
WLF Walferdange 107.81 42 PFAKE 20 17 00.0
WLF LR LR
comp=Z,5µm,19.0s
TUE Stuetta 108.06 46 PFAKE 20 17 00.0
TUE LR LR
comp=Z,2µm,19.0s
CEL Celeste 108.34 56 PFAKE 20 17 10.0
CEL LR LR
comp=Z,5µm,19.0s
BFO Black Forest 108.38 44 PFAKE 20 17 10.0
BFO LR LR
comp=Z,2µm,22.0s
AQU L'Aquila 108.61 51 PFAKE 20 17 10.0
AQU LR LR
comp=Z,3µm,19.0s
CUC Castrocucco 109.10 54 PFAKE 20 17 10.0
CUC LR LR
comp=Z,2µm,19.0s
TIP Timpagrande 109.36 55 PFAKE 20 17 10.0
TIP LR LR
comp=Z,4µm,21.0s
EGAK Eagle 111.60 334 PFAKE 20 17 10.0
EGAK LR LR
comp=Z,1µm,19.0s
GERES GERESS Array B 111.77 45 *i* PKIKP **PKiKP 20 16 59.9 -0.2**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 111.77 45 PKiKP **PKiKP 20 16 59.9 -0.2**
comp=Z,1.4nm,0.8s,baz=222,slow=1.8,SNR=7.0
CLL Collm 112.44 43 *e*PKIKP **PKiKP 20 17 03.0 +1.9**
CLL *e* 20 17 14.0
CLL MLR MLR
comp=Z,3µm,20.0s
CLL Collm 112.44 43 *e*PKiKP **PKiKP 20 17 03.0 +1.9**
CLL *ep*PKiKP **pPKiKP 20 17 14.0 +1.3**
CLL *e*SKSac SKSac 20 23 54.0 +13
CLL *e*Sdif **Sdif 20 25 25.0 -0.8**
CLL *e*PS **PS 20 27 26.0 +4.0**
CLL *e*PPS PPS 20 28 36.0
CLL *e* 20 32 30.0
CLL *e*SS **SS 20 33 24.0 -2.1**
CLL *e* 20 34 06.0
CLL *e*SSS SSS 20 37 36.0
CLL *e*SSSS 20 41 06.0
CLL *e* 20 44 36.0
CLL Lm MLR 21 03 00.0
comp=N,700nm,22.0s
CLL Lm MLR 21 03 00.0
comp=E,2µm,19.4s
CLL Lm MLR 21 03 00.0
comp=Z,3µm,20.0s
KDAK Kodiak Island 112.94 325 PFAKE 20 17 10.0
KDAK LR LR
comp=Z,2µm,20.0s
PKSM Moragy 113.69 49 ⇑PKIKP **PKiKP 20 17 03.8 +0.1**
PKSM Moragy 113.69 49 ⇑*i*P **PKiKP 20 17 03.8 +0.1**
ILAR Eielson Array 113.72 333 *i* PKIKP **PKiKP 20 17 02.4 -0.8**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 113.72 333 PKiKP **PKiKP 20 17 02.4 -0.8**
comp=Z,0.8nm,0.9s,baz=181,slow=1.5,SNR=6.0
COLA College 114.13 333 PFAKE 20 17 20.0 +16
COLA LR LR
comp=Z,1µm,20.0s
KONO Kongsberg 114.27 33 PFAKE 20 17 20.0 +16
KONO LR LR
comp=Z,2µm,20.0s
VYHS Vyhne 114.72 47 *e*PKIKP PKPdf 20 17 05.7 +0.1
VYHS *e* 20 18 03.0
VYHS Vyhne 114.72 47 *e*PKP PKPdf 20 17 05.7 +0.1
VYHS *e*PP **PP 20 18 03.0 -1.3**
HNR Honiara 114.75 239 PFAKE 20 17 20.0 +13
HNR LR LR
comp=Z,355nm,19.0s
PSZ Piszkesteto 115.15 48 PFAKE 20 17 20.0 +13
PSZ LR LR
comp=Z,2µm,19.0s
BZS Buzias 115.36 51 ⇑PKIKP **PKPdf 20 17 07.0 +0.1**
BZS Buzias 115.36 51 ⇑*i*P **PKPdf 20 17 07.0 +0.1**
CTAO Charters Tower 115.43 220 PFAKE 20 17 20.0 +12
CTAO LR LR
comp=Z,1µm,19.0s
NOA NORSAR Array B 115.57 32 PKIKP **PKPdf 20 17 06.5 -0.4**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 115.57 32 PKP **PKPdf 20 17 06.5 -0.4**
comp=Z,1.3nm,0.8s,baz=254,slow=2.2,SNR=4.4
HFS Hagfors 116.36 34 PKIKP **PKPdf 20 17 07.8 -0.6**
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS pmax pmax
comp=Z,4.0nm,1.0s
HFS Hagfors 116.36 34 PKP **PKPdf 20 17 07.8 -0.6**
comp=Z,2.1nm,0.7s,baz=149,slow=3.5,SNR=5.4
HFS PKKPbc **PKKPab 20 27 40.8 +1.3**
comp=Z,4.0nm,0.9s,baz=197,slow=4.6,SNR=3.9
CRVS Cervenica-Dubn 116.49 47 *e*PP PP 20 18 14.5 -2.2
DRGR 116.50 50 ⇑PKIKP **PKPdf 20 17 09.1 -0.1**
DRGR 116.50 50 ⇑*i*P **PKPdf 20 17 09.1 -0.1**
STHS Stebnicka Huta 116.54 47 *e*PKIKP **PKPdf 20 17 09.4 +0.3**
STHS Stebnicka Huta 116.54 47 *e*PKP **PKPdf 20 17 09.4 +0.3**
UZH Uzhgorod 116.90 48 *i* PKIKP PKPdf 20 17 03.6 -6.2
UZH *e* 20 17 20.3
UZH MLR MLR
comp=N,1µm,19.0s
UZH MLR MLR
comp=E,650nm,19.0s
UZH MLR MLR
comp=Z,2µm,19.0s
KOLS Kolonicke sedl 117.00 48 *e*PKIKP **PKPdf 20 17 10.9 +0.9**
KOLS Kolonicke sedl 117.00 48 *e*PKP **PKPdf 20 17 10.9 +0.9**
HUMR Humele 117.16 53 ⇑*i*P **PKPdf 20 17 10.2 -0.2**
ARR Arges 117.24 52 ⇓*i*P **PKPdf 20 17 11.4 +0.8**
KWP Kalwaria Pacla 117.51 47 ⇑PKIKP **PKPdf 20 17 10.7 -0.2**
KWP Kalwaria Pacla 117.51 47 *e*PKP **PKPdf 20 17 13.0 +2.1**
KWP Kalwaria Pacla 117.51 47 ⇑*i*P **PKPdf 20 17 10.7 -0.2**
KWP Kalwaria Pacla 117.51 47 PFAKE 20 17 20.0 +9.1
KWP LR LR
comp=Z,2µm,19.0s
VOIR 117.53 52 ⇑PKIKP **PKPdf 20 17 12.1 +0.9**
VOIR 117.53 52 ⇑*i*P **PKPdf 20 17 12.1 +0.9**
MSEY Mahe Island 117.58 117 PFAKE 20 17 20.0 +7.7
MSEY LR LR
comp=Z,1µm,19.0s
ASAR Alice Springs 118.05 207 PKIKP **PKPdf 20 17 11.3 -1.7**
ASAR pmax pmax
comp=Z,2.0nm,0.9s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 118.05 207 PKP **PKPdf 20 17 11.2 -1.7**
comp=Z,2.1nm,0.8s,baz=150,slow=2.3,SNR=18
ASAR PKKPbc **PKKPbc 20 27 33.4 +1.6**
comp=Z,0.7nm,0.8s,baz=325,slow=2.9,SNR=5.3
MLR Muntele Rosu 118.14 52 ⇑PKIKP **PKPdf 20 17 13.0 +0.5**
MLR Muntele Rosu 118.14 52 ⇑*i*P **PKPdf 20 17 13.0 +0.5**
MLR Muntele Rosu 118.14 52 PKP **PKPdf 20 17 11.4 -1.0**
comp=Z,2.1nm,1.1s,baz=104,slow=4.1,SNR=7.8
BURAR Bucovina Array 118.39 50 ⇓PKIKP **PKPdf 20 17 13.9 +1.1**
BURAR Bucovina Array 118.39 50 ⇓*i*P **PKPdf 20 17 13.9 +1.1**
ISP Isparta 118.62 62 PFAKE 20 17 30.0 +16
ISP LR LR
comp=Z,3µm,20.0s
PLOR Plostina 118.73 52 ⇓PKIKP **PKPdf 20 17 13.4 -0.1**
PLOR Plostina 118.73 52 ⇓*i*P **PKPdf 20 17 13.4 -0.1**
VRI Vrincioaia 118.79 52 ⇑PKIKP **PKPdf 20 17 12.6 -0.9**
VRI Vrincioaia 118.79 52 ⇑*i*P **PKPdf 20 17 12.6 -0.9**
EIL Elat 118.87 72 PKP **PKPdf 20 17 13.5 -0.7**
comp=Z,4.5nm,0.8s,baz=344,slow=6.3,SNR=4.4
SUW Suwalki 119.20 42 *e*PKIKP **PKPdf 20 17 13.3 -0.7**
SUW Suwalki 119.20 42 *e*PKP **PKPdf 20 17 13.3 -0.7**
SUW Suwalki 119.20 42 *e*PKPdf **PKPdf 20 17 13.3 -0.7**
TIRR Tirgusor 119.44 54 ⇑PKIKP **PKPdf 20 17 14.7 -0.1**
TIRR Tirgusor 119.44 54 ⇑*i*P **PKPdf 20 17 14.7 -0.1**
CFR Carcaliu 119.50 53 ⇑PKIKP **PKPdf 20 17 14.6 -0.2**
CFR Carcaliu 119.50 53 ⇑*i*P **PKPdf 20 17 14.6 -0.2**
CSS Prodhromos 119.67 66 PFAKE 20 17 30.0 +14
CSS LR LR
comp=Z,486nm,21.0s
TLCR 119.95 53 ⇑PKIKP **PKPdf 20 17 15.2 -0.5**
TLCR 119.95 53 ⇑*i*P **PKPdf 20 17 15.2 -0.5**
LEOM Leova 119.98 52 ⇑PKIKP **PKPdf 20 17 15.5 -0.3**
LEOM Leova 119.98 52 ⇑*i*P **PKPdf 20 17 15.4 -0.3**
ANTO Ankara 121.00 60 PFAKE 20 17 30.0 +12
ANTO LR LR
comp=Z,2µm,20.0s
WB2 Warramunga Arr 121.23 209 *e*PKPdf **PKPdf 20 17 17.7 -1.5**
WRA Warramunga Arr 121.23 209 PKP **PKPdf 20 17 17.8 -1.4**
comp=Z,4.9nm,0.8s,baz=157,slow=1.7,SNR=37
WRA PKKPbc **PKKPbc 20 27 20.3 +0.2**
comp=Z,0.3nm,0.6s,baz=342,slow=4.1,SNR=5.6
WRAB Tennant Creek 121.24 209 *e*PKIKP **PKPdf 20 17 17.6 -1.6**
WRAB MLR MLR
comp=Z,2µm,22.0s
WRAB Tennant Creek 121.24 209 *e*PKPdf **PKPdf 20 17 17.6 -1.6**
WRAB LR LR
comp=Z,2µm,22.0s
KBS Kingsbay 121.43 13 PFAKE 20 17 30.0 +12
KBS LR LR
comp=Z,1µm,20.0s
BRTR Keskin Array B 121.57 61 PKIKP **PKPdf 20 17 18.0 -1.3**
BRTR 20 18 58.2
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 121.57 61 PKP **PKPdf 20 17 18.0 -1.3**
comp=Z,3.8nm,0.8s,baz=207,slow=2.9,SNR=14
BRTR PP PP 20 18 58.2 +6.0
comp=Z,3.9nm,1.0s,baz=223,slow=4.7,SNR=5.5
KIEV Kiev 121.81 47 *e*PKIKP **PKPdf 20 17 17.6 -1.5**
KIEV MLR MLR
comp=Z,1µm,20.0s
KIEV Kiev 121.81 47 *e*PKPdf **PKPdf 20 17 17.6 -1.5**
KIEV LR LR
comp=Z,1µm,20.0s
AKASG Malin Array Be 121.82 47 PKIKP **PKPdf 20 17 17.4 -1.8**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 121.82 47 PKP **PKPdf 20 17 17.4 -1.8**
comp=Z,5.8nm,0.7s,baz=264,slow=2.7,SNR=15
MNK Minsk 121.96 43 *e*PKIKP PKPdf 20 17 14.0 -5.3
MICGM Minsk 121.98 43 *e* PKPdf 20 17 14.0 -5.3
SPITS Spitsbergen Ar 122.15 14 PKIKP **PKPdf 20 17 18.2 -0.9**
SPITS pmax pmax
comp=Z,9.0nm,0.9s
SPITS Spitsbergen Ar 122.15 14 PKP **PKPdf 20 17 18.1 -0.9**
comp=Z,8.7nm,0.9s,baz=171,slow=6.8,SNR=6.3
FINES FINESS Array B 122.54 34 PKIKP **PKPdf 20 17 19.6 -0.6**
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 122.54 34 PKP **PKPdf 20 17 19.6 -0.6**
comp=Z,4.0nm,0.8s,baz=167,slow=2.7,SNR=12
KAF Kangasniemi 122.78 34 *e*PKIKP **PKPdf 20 17 19.1 -1.5**
KAF pmax pmax
comp=Z,6.0nm,0.5s
KAF Kangasniemi 122.78 34 *e*pkp **PKPdf 20 17 19.1 -1.5**
comp=Z,6.4nm,0.5s
PMG Port Moresby 123.38 228 PFAKE 20 17 40.0 +17
PMG LR LR
comp=Z,1µm,19.0s
ARCES ARCESS Array B 123.52 25 PKIKP **PKPdf 20 17 21.2 -0.7**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 123.52 25 PKP **PKPdf 20 17 21.2 -0.7**
comp=Z,2.3nm,0.7s,baz=236,slow=3.5,SNR=12
KEV Kevo 124.07 25 PFAKE 20 17 30.0 +7.1
KEV LR LR
comp=Z,2µm,21.0s
MBWA Marble Bar 124.54 193 *e*PKPdf **PKPdf 20 17 26.0 +0.5**
MBWA LR LR
comp=Z,1µm,21.0s
MALT Malatya 124.66 64 ⇑PKIKP **PKPdf 20 17 26.6 +1.4**
MALT Malatya 124.66 64 ⇑*i*P **PKPdf 20 17 26.5 +1.4**
RAYN Ar Rayn 124.93 83 *e*PKPdf **PKPdf 20 17 25.9 -0.2**
JOF Joensuu 125.19 33 *e*PKIKP **PKPdf 20 17 24.1 -1.1**
JOF pmax pmax
comp=Z,7.0nm,0.8s
JOF Joensuu 125.19 33 *e*pkp **PKPdf 20 17 24.1 -1.1**
comp=Z,7.0nm,0.8s
H11S2 WAKE ISLAND Hyl 125.78 270 T T 22 36 16.6
baz=118,slow=75,SNR=259
H11S1 WAKE ISLAND Hyl 125.79 270 T T 22 36 17.4
baz=118,slow=75,SNR=264
H11S3 WAKE ISLAND Hyl 125.80 270 T T 22 36 17.7
baz=118,slow=75,SNR=221
LVZ Lovozero 126.78 27 PFAKE 20 17 40.0 +12
LVZ LR LR
comp=Z,2µm,21.0s
OBN Obninsk 127.04 43 ⇑*e*PKIKP **PKPdf 20 17 28.4 -0.6**
OBN *i* 20 19 26.9
OBN *i* SS SS 20 36 38.7 +5.1
OBN pmax pmax
comp=Z,39nm,1.6s
OBN Obninsk 127.04 43 PKP **PKPdf 20 17 28.3 -0.7**
comp=Z,5.9nm,0.5s,baz=118,slow=2.9,SNR=7.4
OBN Obninsk 127.04 43 PKP **PKPdf 20 17 28.3 -0.7**
OBN LR LR
comp=Z,2µm,19.0s
DGAR Diego Garcia 127.19 134 PFAKE 20 17 40.0 +9.3
DGAR LR LR
comp=Z,2µm,19.0s
MOS Moscow 127.71 42 *e*PKIKP **PKPdf 20 17 31.9 +1.6**
MOS *e* 20 19 41.5
MOS *e* 20 31 08.8
MOS pmax pmax
comp=Z,39nm,1.1s
MOS MLR MLR
comp=N,800nm,19.0s
MOS MLR MLR
comp=E,2µm,19.0s
MOS MLR MLR
comp=Z,2µm,19.0s

VSR Storozhevoye 128.08 48 *e*PKIKP **PKPdf 20 17 31.3 +0.2**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR pmax pmax
comp=N,6.0nm,1.6s
VSR pmax pmax
comp=E,7.0nm,0.9s
VORD Divnogorie 128.12 48 *e*PKIKP **PKPdf 20 17 31.5 +0.3**
VORD pmax pmax
comp=Z,6.0nm,0.8s
VORD pmax pmax
comp=N,7.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
TMCR Tamitsa 128.24 32 *e*PKIKP **PKPdf 20 17 32.3 +1.3**
TMCR pmax pmax
comp=Z,40nm,1.5s
KLMR Klimovskoe 128.97 36 *e*PKIKP **PKPdf 20 17 33.4 +0.9**
KLMR pmax pmax
comp=Z,78nm,1.5s
KIV Kislovodsk 129.20 58 *i* PKIKP **PKPdf 20 17 32.7 -1.0**
KIV *e* 20 19 39.6
KIV *e*PS **PS 20 29 51.1 -1.3**
KIV *e*SS SS 20 36 59.8 -1.6
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,1μm,21.0s
KIV Kislovodsk 129.20 58 PFAKE 20 17 50.0 +16
KIV LR LR
comp=Z,1μm,22.0s
VRHR Novokhopersk 129.60 49 *e*PKIKP **PKPdf 20 17 34.8 +0.8**
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.9s
GOF Gofitskoye 129.66 57 *e*PKIKP **PKPdf 20 17 36.5 +2.1**
GOF pmax pmax
comp=Z,30nm,1.0s
NCK Nalchik 129.76 59 *e*PKIKP **PKPdf 20 17 35.1 +0.5**
GNI Garni 129.88 63 PFAKE 20 17 50.0 +15
GNI LR LR
comp=Z,1μm,20.0s
PRGR Permogore 131.87 35⇓ *i*PKIKP **PKPdf 20 17 40.4 +2.4**
PRGR *e* 20 17 50.7
PRGR pmax pmax
comp=Z,44nm,1.3s
BILL Bilibino 132.35 334⇓ *e*PKIKP **PKPdf 20 17 40.2 +1.4**
BILL *e* 20 24 51.9
BILL *e*SS SS 20 37 47.6 +9.4
BILL pmax pmax
comp=Z,11nm,1.5s
BILL MLR MLR
comp=Z,790nm,18.0s
BILL Bilibino 132.35 334 *e*PKPdf **PKPdf 20 17 39.4 +0.7**
BILL LR LR
comp=Z,864nm,19.0s
MAK Makhachkala 132.47 60 *e*PKIKP **PKPdf 20 17 34.8 -4.9**
MAK *e* 20 20 00.4
MAK *e*PPP PPP 20 22 54.6
MAK *e* 20 24 46.3
MAK *e*PS PS 20 30 10.2 -10
MAK *e*SS SS 20 37 39.7 -1.5
MAK pmax pmax
comp=Z,18nm,0.4s
COCO West Island 133.38 165 PFAKE 20 17 50.0 +7.7
COCO LR LR
comp=Z,2μm,20.0s
BATI Baumata 134.08 202 PKP **PKPdf 20 17 44.9 +1.1**
comp=Z,8.1nm,0.6s,baz=254,slow=22,SNR=3.5
SOKR Solikamsk 137.65 36⇓ *i*PKIKP **PKPdf 20 17 51.2 +2.4**
SOKR pmax pmax
comp=Z,20nm,0.9s
CISI Cisompet, Garu 139.21 180 *e*PKPdf **PKPdf 20 17 53.9 +0.6**
PET Petropavlovsk 139.22 314 PFAKE 20 18 00.0 +8.1
PET LR LR
comp=Z,523nm,20.0s
ARU Arti 139.33 40 *i* PKIKP **PKPdf 20 17 51.8 -0.3**
ARU 20 20 44.1
ARU MLR MLR
comp=Z,2μm,21.0s
ARU Arti 139.33 40 *e*PKPpre PKPpre 20 17 43.1
ARU LR LR
comp=Z,2μm,21.0s
SEY Seymchan 139.56 330 *i* PKHKP PKPpre 20 17 46.8
SEY 20 17 53.8
SEY pmax pmax
comp=Z,6.0nm,0.8s
SEY pmax pmax
comp=Z,12nm,1.0s
SEY Seymchan 139.56 330 PKhKP PKPpre 20 17 46.8
comp=Z,5.6nm,0.8s,baz=147,slow=6.2,SNR=11
SEY PKP **PKiKP 20 17 53.8 -0.9**
comp=Z,12nm,1.0s,baz=66,slow=20,SNR=16
GEYT Alibeck 139.66 69 PKhKP PKPpre 20 17 46.1
comp=Z,1.0nm,0.6s,baz=259,slow=5.4,SNR=3.5
GEYT PKP **PKPdf 20 17 54.4 +1.0**
comp=Z,9.0nm,0.8s,baz=270,slow=3.0,SNR=16
GEYT PP PP 20 20 55.3 +5.9
comp=Z,1.6nm,0.8s,baz=255,slow=12,SNR=5.5
PETK Petropavlovsk- 139.78 315 PKIKP **PKPdf 20 17 54.6 +1.6**
PETK pmax pmax
comp=Z,6.0nm,0.8s
PETK Petropavlovsk- 139.78 315 PKP **PKPdf 20 17 54.6 +1.6**
comp=Z,6.0nm,0.8s,baz=160,slow=4.7,SNR=3.9
AKTO Aktyubinsk 139.99 50 *i* PKHKP PKPpre 20 17 45.3
AKTO 20 17 54.6
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO pmax pmax
comp=Z,7.0nm,0.9s
AKTO Aktyubinsk 139.99 50 PKhKP PKPpre 20 17 45.3
comp=Z,2.0nm,0.6s,baz=292,slow=3.8,SNR=7.2
AKTO PKP **PKPdf 20 17 54.6 +1.1**
comp=Z,7.1nm,0.9s,baz=163,slow=6.2,SNR=13
KAPI Kappang 140.14 199 PFAKE 20 18 10.0 +15
KAPI LR LR
comp=Z,1μm,21.0s
TIXI Tiksi 140.16 350⇑ *i*PKIKP **PKPdf 20 17 53.3 +0.2**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 140.16 350 *e*PKPpre PKPpre 20 17 43.6
TIXI LR LR
comp=Z,842nm,20.0s
SVE Sverdlovsk 140.34 39 *i* PKIKP **PKPdf 20 17 52.9 -1.0**
SVE pmax pmax
comp=Z,16nm,1.6s
GUMO Guam 141.09 248 PFAKE 20 18 10.0 +13
GUMO LR LR
comp=Z,598nm,20.0s
ABKAR Akbulak array 141.34 51 *e*PKPpre PKPpre 20 17 48.9
PALK Pallekele 143.73 130 *e*PKHKP PKPpre 20 17 57.7
PALK 20 17 59.1
PALK Pallekele 143.73 130 PKP PKPbc 20 17 59.1 +0.2
comp=Z,64nm,1.1s,baz=214,slow=4.0,SNR=17
PALK Pallekele 143.73 130 *e*PKPpre PKPpre 20 17 57.7
PALK PKP PKPbc 20 17 59.1 +0.2
POO Poona 146.10 107⇑ *i*P **PKPdf 20 18 04.0 -1.3**
comp=Z,160nm,1.0s
BKNI Bangkinang 146.41 167 *e*PKPdf **PKPdf 20 18 05.4 -0.6**
GSI Gunungsitoli 146.56 161 *e*PKPdf **PKPbc 20 18 07.8 +0.1**
BRVK Borovoye 146.81 42 *c i*PKIKP **PKPdf 20 18 05.9 +0.5**
BRVK pmax pmax
comp=Z,45nm,1.0s
BRVK Borovoye 146.81 42 *e*PKPdf **PKPdf 20 18 04.2 -1.1**
BRVK LR LR
comp=Z,3μm,20.0s
BVAR Borovoye Array 146.88 42 PKIKP **PKPdf 20 18 06.0 +0.5**
BVAR pmax pmax
comp=Z,27nm,0.7s
BVAR Borovoye Array 146.88 42 PKPbc **PKPdf 20 18 06.0 +0.5**
comp=Z,27nm,0.7s,baz=282,slow=2.0,SNR=40
KSM Kuching 148.10 184 *e*PKPdf **PKPdf 20 18 10.2 +1.4**
KSM LR LR
comp=Z,1μm,20.0s
YAK Yakutsk 148.22 341 *e*PKP2 **PKPbc 20 18 11.1 +0.3**
YAK *e* 20 21 46.1
YAK *e*PPP PPP 20 25 01.6
YAK pmax pmax
comp=Z,67nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=Z,209nm,4.4s
YAK pmax pmax
comp=N,106nm,4.6s
YAK pmax pmax
comp=E,75nm,4.6s
YAK Yakutsk 148.22 341 *e*PKPdf **PKPdf 20 18 08.2 +0.8**
PSI Prapat 148.35 163 PKP2 **PKPbc 20 18 11.5 -1.3**
PSI pmax pmax
comp=Z,80nm,0.9s
PSI Prapat 148.35 163 PKPbc **PKPbc 20 18 11.4 -1.3**
comp=Z,80nm,0.9s,baz=130,slow=1.0,SNR=50
DAV Davao City (W) 149.08 216 PFAKE 20 18 20.0 +1.3
DAV LR LR
comp=Z,2μm,19.0s
HYB Hyderabad 149.15 114 *i* PKP **PKPbc 20 18 13.0 -1.6**
comp=Z,100nm,1.0s
KKAR Karatay Array 149.28 61 *e*PKPdf **PKPdf 20 18 10.6 +0.7**
LHMI Lhok Sumawe 150.10 158 *e*PKPbc **PKPbc 20 18 16.3 -0.6**
AJM Ajmer 150.40 95 *ex* **PKPbc 20 18 18.0 +0.6**
IPM Ipoh 150.45 166 *e*PKPdf **PKPdf 20 18 14.4 +1.9**
YSS Yuzh-Sakhalins 150.47 308 *e*PKIKP **PKPbc 20 18 17.0 +0.2**
YSS *e* 20 18 25.6
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 150.47 308 *e*PKPbc **PKPbc 20 18 17.2 +0.4**
YSS LR LR
comp=Z,297nm,19.0s
ERM Erimo 151.05 297 PFAKE 20 18 20.0 +1.6
ERM LR LR
comp=Z,814nm,20.0s
KULM Kulim 151.16 165 *e*PKPbc **PKPbc 20 18 18.3 -1.2**
KULM LR LR
comp=Z,2μm,21.0s
ASAJ Asahikawa 151.18 302 PKIKP **PKPbc 20 18 18.5 -0.1**
ASAJ pmax pmax
comp=Z,26nm,1.0s
ASAJ Asahikawa 151.18 302 PKPbc **PKPbc 20 18 18.4 -0.1**
comp=Z,26nm,1.0s,baz=246,slow=10,SNR=8.1
ASAJ Asahikawa 151.18 302 *e*PKPbc **PKPbc 20 18 17.1 -1.5**
KKM Kota Kinabalu 151.66 197 PFAKE 20 18 30.0 +0.6
KKM LR LR
comp=Z,916nm,20.0s
EKS2 Erkin-Say 151.72 61 P **PKPdf 20 18 15.8 +2.1**
SNR=19
EKS2 Erkin-Say 151.72 61 *e*PKIKP **PKPdf 20 18 14.5 +0.7**
EKS2 MLR MLR
comp=Z,1μm,21.0s
EKS2 Erkin-Say 151.72 61 *e*PKPdf **PKPdf 20 18 14.4 +0.7**
EKS2 LR LR
comp=Z,1μm,21.0s
AML Almayashu 151.72 62 P **PKPdf 20 18 15.7 +1.5**
SNR=10.0
USP Ospenovka 152.15 60 P **PKPdf 20 18 15.7 +1.4**
SNR=11
AAK Ala-Archa 152.24 61 P **PKPdf 20 18 16.4 +1.8**
SNR=6.3
AAK Ala-Archa 152.24 61 PKIKP **PKPdf 20 18 14.8 +0.2**
AAK 20 18 21.7
AAK pmax pmax
comp=Z,6.0nm,0.9s
AAK pmax pmax
comp=Z,43nm,0.9s
AAK Ala-Archa 152.24 61 PKP **PKPdf 20 18 14.8 +0.2**
comp=Z,6.0nm,0.9s,baz=158,slow=2.8,SNR=20
AAK PKPbc **PKiKP 20 18 21.7 +0.1**
comp=Z,43nm,0.9s,baz=197,slow=2.4,SNR=53
AAK Ala-Archa 152.24 61 PKP **PKPdf 20 18 14.8 +0.2**
AAK *e*PKPdf **PKPdf 20 18 14.9 +0.3**
AAK *e*PKPbc **PKiKP 20 18 21.6 -0.1**
AAK PKPbc **PKiKP 20 18 21.7 +0.1**
AAK LR LR
comp=Z,1μm,22.0s
FRU Bishkek 152.31 60 *i* PKIKP **PKPdf 20 18 10.0 -4.5**
FRU pmax pmax
comp=Z,120nm,1.6s
UCH Uchtor 152.31 62 P **PKPdf 20 18 15.8 +0.7**
SNR=11
CHMS Chumysh 152.38 60 P **PKPbc 20 18 23.3 +1.8**
SNR=12
CHMS Chumysh 152.38 60 *i* PKIKP **PKPbc 20 18 23.2 +1.8**
NVS Novosibirsk 152.48 32 *e*PKIKP **PKPdf 20 18 12.9 -1.4**
NVS *e* 20 22 09.5
NVS pmax pmax
comp=Z,89nm,1.3s
NVS pmax pmax
comp=N,8.0nm,0.8s
NVS pmax pmax
comp=E,14nm,0.8s
KURK Kurchatov 152.48 42 *e*PKIKP **PKPdf 20 18 14.2 -0.2**
KURK MLR MLR
comp=Z,918nm,19.0s
KURK Kurchatov 152.48 42 *e*PKPdf **PKPdf 20 18 14.2 -0.2**
KURK LR LR
comp=Z,918nm,19.0s
KBK Karagaybulak 152.57 61 P **PKPbc 20 18 23.1 +1.0**
SNR=10
KBK Karagaybulak 152.57 61 *i* PKIKP **PKPbc 20 18 23.1 +1.0**
KZA Kyzart 152.88 62 P **PKPbc 20 18 25.7 +2.5**
SNR=6.0
KZA Kyzart 152.88 62 *i* PKIKP **PKPbc 20 18 25.6 +2.5**
TKM2 Tokmak 2 153.00 60 P **PKPdf 20 18 15.7 -0.1**
SNR=17
TKM2 Tokmak 2 153.00 60 *e*PKIKP **PKPdf 20 18 15.4 -0.3**
TKM2 MLR MLR
comp=Z,1μm,20.0s
TKM2 Tokmak 2 153.00 60 *e*PKPdf **PKPdf 20 18 15.4 -0.3**
TKM2 LR LR
comp=Z,1μm,20.0s
PKDT Phuket 153.04 159 P **PKPbc 20 18 23.9 +0.2**
comp=Z,46nm,0.9s
NDI New Delhi 153.29 92 *ex* **PKPdf 20 18 16.0 -0.3**
BHK Bhakra 153.35 86 *eP* **PKPab 20 18 41.0 +4.9**
ULHL Ulahol 153.58 61 P **PKPdf 20 18 18.8 +2.1**
SNR=8.7
KSH Kashi 153.67 67 PKPbc **PKPdf 20 18 17.3 +0.6**
KSH sPKP 20 18 25.7
KSH PKS **PKSdf 20 21 50.5 -0.6**
KSH SKS **SKSdf 20 25 22.5 +1.5**
KSH SKKS **SKKSac 20 28 56.5 -2.7**
KSH PPMZ
comp=Z,800nm,5.1s
KSH LN
comp=Z,580nm,18.4s
KSH LE
comp=Z,350nm,15.1s
KSH LZ
comp=Z,450nm,17.9s
ZALV Zalesovo Beam 153.77 32 PKIKP **PKPdf 20 18 15.6 -0.6**
ZALV 20 18 23.6
ZALV 20 18 35.6
ZALV pmax pmax
comp=Z,13nm,0.9s
ZALV pmax pmax
comp=Z,38nm,0.7s
ZALV pmax pmax
comp=Z,20nm,0.8s
ZALV Zalesovo Beam 153.77 32 PKP **PKPdf 20 18 15.6 -0.6**
comp=Z,14nm,0.9s,baz=277,slow=2.4,SNR=27
ZALV PKPbc **PKPbc 20 18 23.6 -0.4**
comp=Z,38nm,0.7s,baz=310,slow=2.7,SNR=52
ZALV PKPab **PKPab 20 18 35.5 -1.5**
comp=Z,20nm,0.8s,baz=298,slow=3.2,SNR=7.4
SMLA Simla 153.91 87 *i* P **PKPdf 20 18 18.9 +1.8**
SMLA *i* x x 20 18 18.9
baz=88,slow=28
MJAR Matsushiro Arr 155.08 286 PKPbc PKPdf 20 18 27.9 +9.2
comp=Z,2.3nm,0.9s,baz=115,slow=3.7,SNR=7.0
MJAR PKPab **PKPab 20 18 41.8 -1.6**
comp=Z,3.2nm,1.0s,baz=121,slow=0.8,SNR=4.6
MAJO Matsushiro 155.09 286 PFAKE 20 18 30.0 +11
MAJO LR LR
comp=Z,922nm,20.0s
BOD Bodaibo 155.29 352 *e*PKIKP **PKPdf 20 18 16.8 -1.4**
BOD pmax pmax
comp=Z,23nm,1.0s
KLR Kul'dur 156.33 319 *e*PKIKP **PKPdf 20 18 16.2 -3.7**
MKAR Makanchi Array 156.40 48 PKIKP **PKPdf 20 18 19.6 -0.5**
MKAR 20 18 30.7
MKAR pmax pmax
comp=Z,6.0nm,0.9s
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR pmax pmax
comp=Z,18nm,0.5s
MKAR Makanchi Array 156.40 48 PKP **PKPdf 20 18 19.6 -0.5**
comp=Z,5.7nm,0.9s,baz=49,slow=0.7,SNR=37
MKAR PKPbc PKPbc 20 18 30.7
comp=Z,6.1nm,0.8s,baz=311,slow=1.8,SNR=15
MKAR PKPab **PKPab 20 18 48.5 -0.1**
comp=Z,18nm,0.5s,baz=285,slow=3.5,SNR=58
KOLN Koldanda 158.30 99 *eP* **PKPdf 20 18 22.6 -0.7**
comp=Z,6Snm,1.4s
USRK Ussuriysk Ar. 158.50 307 PKPbc PKPdf 20 18 31.9 +9.2
comp=Z,1.9nm,0.8s,baz=0.0,slow=4.4,SNR=4.5
USRK PKPab **PKPab 20 18 56.2 -1.5**
comp=Z,3.7nm,1.0s,baz=324,slow=0.6,SNR=4.9
DANN Dangsing 158.63 97 *eP* **PKPdf 20 18 23.4 -0.4**
comp=Z,79nm,0.9s
GKN Gorkha 159.24 99 *eP* **PKPdf 20 18 23.5 -0.9**
comp=Z,62nm,1.3s
DMN Daman 159.48 100 *eP* **PKPdf 20 18 24.0 -0.8**
comp=Z,51nm,1.4s
KKN Kakani 159.69 100 *eP* **PKPdf 20 18 24.0 -1.0**
comp=Z,39nm,1.3s
PKIN Phulchoki 159.71 101 *eP* **PKPdf 20 18 23.9 -1.2**
comp=Z,38nm,1.2s
PKI Pulchoki 159.72 101 *eP* **PKPdf 20 18 25.0 -0.1**
comp=Z,49nm,1.4s
MDJ Mudanjiang 159.91 310 PKP **PKPdf 20 18 24.3 -0.1**
MDJ Mudanjiang 159.91 310 *e*PKPdf **PKPdf 20 18 24.3 -0.1**
MDJ LR LR
comp=Z,742nm,19.0s
GUN Gumba 160.23 100 *eP* **PKPdf 20 18 25.3 -0.4**
comp=Z,80nm,1.3s
JIRN Jiri 160.39 101 *eP* **PKPdf 20 18 25.0 -0.9**
comp=Z,32nm,1.2s
RAMN Ramite 160.44 104 *eP* **PKPdf 20 18 25.4 -0.5**
CIT Chita 161.01 349 *e*PKIKP **PKPdf 20 18 26.1 +0.7**
CIT *e* 20 18 36.3
CIT *e* 20 19 07.4
IRK Irkutsk 161.04 7 *e*PKIKP **PKPdf 20 18 27.0 +1.6**
IRK *e* 20 19 08.1
IRK *e* 20 22 51.2
IRK pmax pmax
comp=Z,23nm,1.8s
ODAN Odare 161.05 105 *eP* **PKPdf 20 18 25.6 -0.9**
MOY Mondy 161.11 14 *e*PKIKP **PKPdf 20 18 27.5 +1.9**
WMQ Urumqi 161.13 51 PKP **PKPdf 20 18 25.8 0.0**
WMQ PKPab **PKPab 20 19 11.5 +2.2**
WMQ PKS **PKSdf 20 21 57.8 -1.3**
WMQ PP **PP 20 22 55.4 +2.7**
WMQ SKS **SKSdf 20 25 25.2 -2.9**
WMQ SKKS **SKKSac 20 29 38.0 -0.2**
WMQ PPMZ
comp=Z,390nm,6.0s
WMQ LN
comp=Z,1μm,22.0s
WMQ LE
comp=Z,680nm,17.0s
WMQ LZ
comp=Z,1μm,20.0s
TAPN Taplejung 161.51 104 *eP* **PKPdf 20 18 27.3 +0.2**
TLY Talaya 161.52 9 *i* PKIKP **PKPdf 20 18 27.7 +1.8**
TLY pmax pmax
comp=Z,13nm,1.4s
TLY Talaya 161.52 9 PKP **PKPdf 20 18 26.9 +1.0**
comp=Z,3.3nm,0.5s,baz=214,slow=9.5,SNR=3.2
TLY PKPab **PKPab 20 19 11.8 +1.3**
comp=Z,5.3nm,0.6s,baz=313,slow=5.4,SNR=6.8
TLY Talaya 161.52 9 PKP **PKPdf 20 18 26.9 +1.0**
TLY PKPab **PKPab 20 19 11.8 +1.3**
TLY LR LR
comp=Z,2μm,19.0s
HIA Hailar 161.94 334 PFAKE 20 18 40.0 +14
HIA LR LR
comp=Z,1μm,20.0s
ZAK Zakamensk 162.74 10 *e*PKIKP **PKPdf 20 18 27.9 +0.6**
ZAK *e* 20 19 16.9
ZAK pmax pmax
comp=Z,4.0nm,1.4s
ZAK pmax pmax
comp=Z,10.0nm,1.6s
CN2 Changchun 162.91 312 *e*PKP **PKPdf 20 18 29.1 +1.6**
CN2 PPMZ
comp=Z,200nm,8.0s
CN2 LN
comp=Z,500nm,20.0s
CN2 LE
comp=Z,600nm,20.0s
CN2 LZ
comp=Z,400nm,20.0s
CMAR Chiang Mai Arr 163.01 149 PKIKP **PKPdf 20 18 28.3 -0.1**
CMAR 20 19 19.6
CMAR pmax pmax
comp=Z,4.0nm,1.0s
CMAR pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 163.01 149 PKP **PKPdf 20 18 28.2 -0.1**
comp=Z,3.7nm,1.0s,baz=248,slow=2.3,SNR=16
CMAR PKPab **PKPab 20 19 19.6 +1.6**
comp=Z,5.1nm,1.0s,baz=223,slow=4.7,SNR=5.9
KSRS Korea Array 163.26 289 PKIKP **PKPdf 20 18 28.2 +0.1**
KSRS 20 19 19.9
KSRS pmax pmax
comp=Z,4.0nm,0.9s
KSRS pmax pmax
comp=Z,2.0nm,1.0s
KSRS Korea Array 163.26 289 PKP **PKPdf 20 18 28.1 +0.1**
comp=Z,3.3nm,0.9s,baz=154,slow=1.0,SNR=8.3
KSRS PKPab **PKPab 20 19 19.9 +1.1**
comp=Z,2.3nm,1.0s,baz=100,slow=4.3,SNR=3.1
KSAR Wonju Array Be 163.29 289 PKIKP **PKPdf 20 18 28.2 +0.1**
KSAR 20 19 19.9
KSAR Wonju Array Be 163.29 289 PKP **PKPdf 20 18 28.1 +0.1**
KSAR PKPab **PKPab 20 19 19.9 +0.9**
CHTO Chiang Mai 163.33 149 *e*PKIKP **PKPdf 20 18 30.0 +1.3**
CHTO MLR MLR
comp=Z,876nm,19.0s
CHTO Chiang Mai 163.33 149 *e*PKPdf **PKPdf 20 18 30.0 +1.3**
CHTO LR LR
comp=Z,876nm,19.0s
INCN Inchon 164.27 290 PFAKE 20 18 40.0 +11
INCN LR LR
comp=Z,832nm,19.0s
LSA Lhasa 165.19 100 PKP **PKPdf 20 18 31.8 +1.1**
LSA Lhasa 165.19 100 *e*PKIKP **PKPdf 20 18 31.2 +0.5**
LSA MLR MLR
comp=Z,1μm,21.0s
LSA Lhasa 165.19 100 *e*PKPdf **PKPdf 20 18 31.2 +0.5**
LSA LR LR
comp=Z,1μm,21.0s
YHNB Yeheng 165.38 237 PFAKE 20 18 40.0 +10
YHNB LR LR
comp=Z,1μm,19.0s
TATO Taipei 165.49 238 PFAKE 20 18 40.0 +10
TATO LR LR
comp=Z,991nm,20.0s
QIZ Qiongzhong 165.53 187 PKP **PKPdf 20 18 31.5 +0.8**
QIZ PP **PP 20 23 18.6 +3.9**
QIZ LN
comp=Z,680nm,17.7s
QIZ LE
comp=Z,330nm,21.0s
QIZ LZ
comp=Z,1μm,19.1s
SONM Songino Array 165.59 4 PKIKP **PKPdf 20 18 29.2 -0.8**
SONM 20 19 29.0
SONM 20 23 17.6
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM pmax pmax
comp=Z,6.0nm,0.9s
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 165.59 4 PKP **PKPdf 20 18 29.2 -0.8**
comp=Z,1.8nm,0.8s,baz=215,slow=1.6,SNR=13
SONM PKPab **PKPab 20 19 29.0 +0.3**
comp=Z,6.3nm,0.9s,baz=334,slow=4.5,SNR=13
SONM PP **PP 20 23 17.6 +2.4**
comp=Z,2.1nm,0.9s,baz=322,slow=5.3,SNR=5.6
ULN Ulaanbaatar 165.59 2 *e*PKIKP **PKPdf 20 18 29.6 -0.4**
ULN MLR MLR
comp=Z,1μm,21.0s
ULN Ulaanbaatar 165.59 2 *e*PKPdf **PKPdf 20 18 29.6 -0.4**
ULN LR LR
comp=Z,1μm,21.0s
SLVN Son La 167.40 162 *e*PKPdf **PKPdf 20 18 35.0 +2.9**
DL2 Dalian 167.70 300 *e*PKP **PKPdf 20 18 28.8 -2.9**
DL2 *e*PP **PP 20 23 29.9 +2.7**

DL2				LE			
	comp=Z,500nm,19.3s						
DL2				LZ			
	comp=Z,580nm,19.5s						
SSE	**Sheshan**	**168.56**	**262**	PKP	**PKPdf**	**20 18 32.6**	**+0.1**
SSE				PP	**PP**	**20 23 34.1**	**+2.0**
SSE				SS	SS	20 44 22.7	+0.3
SSE				PPMZ			
	comp=Z,280nm,11.5s						
SSE				LN			
	comp=Z,560nm,20.3s						
SSE				LE			
	comp=Z,490nm,20.3s						
SSE				LZ			
	comp=Z,840nm,17.8s						
KMI	**Kunming**	**170.53**	**150**	PKP	**PKPdf**	**20 18 33.9**	**-0.3**
KMI				pPKP	**pPKPdf**	**20 18 43.2**	**-2.7**
KMI				sPKP		20 18 46.4	
BJI	**Beijing**	**170.70**	**317**	PKP	**PKPdf**	**20 18 34.9**	**+1.4**
BJI				LN			
	comp=Z,710nm,21.6s						
BJI				LE			
	comp=Z,1μm,21.6s						
BJI				LZ			
	comp=Z,1μm,23.9s						
BJT	**Baijiatuau**	**170.72**	**317**	PFAKE		20 18 40.0	+6.4
BJT				LR	LR		
	comp=Z,2μm,20.0s						
NJ2	**Nanjing**	**170.72**	**264**	*e*PKP	**PKPdf**	**20 18 33.9**	**+0.1**
GTA	**Gaotai**	**171.15**	**46**	*e*PKP	**PKPdf**	**20 18 34.9**	**+0.9**
GTA				pPKP	**pPKPdf**	**20 18 45.3**	**-0.4**
GTA				sPKP		20 18 49.8	
GTA				PKPab	**PKPab**	**20 19 56.2**	**+2.5**
GTA				PP	**PP**	**20 23 47.4**	**+3.0**
GTA				SKS	**SKSdf**	**20 25 33.4**	**-1.3**
GTA				SKKS	**SKKSac**	**20 30 29.3**	**+0.8**
GTA				PPMZ			
	comp=Z,410nm,10.9s						
GTA				LN			
	comp=Z,960nm,23.3s						
GTA				LE			
	comp=Z,1μm,19.5s						
GTA				LZ			
	comp=Z,2μm,22.8s						
HHC	**Hu-ho-hao-te**	**172.09**	**340**	*e*PKP	**PKPdf**	**20 18 36.2**	**+1.8**
HHC				pPKP	**pPKPdf**	**20 18 46.8**	**+0.8**
HHC				SKS	**SKSdf**	**20 25 31.8**	**-3.2**
HHC				SKKS	**SKKSac**	**20 30 34.5**	**+1.8**
HHC				PPMZ			
	comp=Z,390nm,9.1s						
HHC				LN			
	comp=Z,430nm,22.3s						
HHC				LE			
	comp=Z,530nm,22.3s						
HHC				LZ			
	comp=Z,380nm,22.2s						
GYA	**Guiyang**	**172.93**	**170**	PKP	**PKPdf**	**20 18 35.0**	**-0.2**
GYA				PKPab	**PKPab**	**20 20 03.4**	**+1.7**
GYA				PKS	**PKSdf**	**20 22 06.8**	**-0.9**
GYA				PP	**PP**	**20 23 55.0**	**+2.8**
GYA				SKKS		20 30 38.2	
GYA				PPMZ			
	comp=Z,190nm,9.8s						
GYA				LN			
	comp=Z,370nm,21.5s						
GYA				LE			
	comp=Z,280nm,22.3s						
GYA				LZ			
	comp=Z,340nm,21.6s						
CD2	**Chengdu**	**175.62**	**124**	*e*PKP	**PKPdf**	**20 18 37.5**	**+1.6**
CD2				sPKP		20 18 52.6	
CD2				PKPab	**PKPab**	**20 20 13.4**	**-0.3**
CD2				PP	**PP**	**20 24 05.9**	**-0.5**
CD2				SKS	**SKSdf**	**20 25 36.8**	**+0.5**
CD2				SKKS	**SKKSac**	**20 30 52.5**	**+2.4**
CD2				SS	**SS**	**20 45 28.6**	**-2.0**
CD2				PPMZ			
	comp=Z,840nm,11.8s						
CD2				LN			
	comp=Z,1μm,16.7s						
CD2				LE			
	comp=Z,790nm,20.2s						
CD2				LZ			
	comp=Z,1μm,19.1s						
LZH	**Lanzhou**	**175.71**	**51**	*e*PKP	**PKPdf**	**20 18 35.8**	**-0.1**
LZH				pPKP	**pPKPdf**	**20 18 45.7**	**-1.9**
LZH				sPKP		20 18 48.7	
LZH				PP	**PP**	**20 24 09.1**	**+2.2**
LZH				SS	SS	20 45 24.1	-7.4
LZH				PPMZ			
	comp=Z,580nm,6.2s						
LZH				LN			
	comp=Z,690nm,16.3s						
LZH				LE			
	comp=Z,890nm,17.8s						
LZH				LZ			
	comp=Z,2μm,18.8s						
ENH	**Enshi**	**176.57**	**203**	PFAKE		20 18 50.0	+14
ENH				LR	LR		
	comp=Z,672nm,20.0s						
XAN	**Xi'an**	**179.01**	**306**	PKP	PKPdf	20 18 30.0	-6.3
XAN				PP	**PP**	**20 24 21.5**	**-0.9**
XAN				SKKS		20 31 02.5	
XAN				SS	**SS**	**20 45 59.2**	**-3.4**
XAN				PPMZ			
	comp=Z,180nm,11.0s						
XAN				LN			
	comp=Z,620nm,18.2s						
XAN				LE			
	comp=Z,340nm,19.7s						
XAN				LZ			
	comp=Z,330nm,17.9s						

*IDC **03** 20:11:05.2±0.8, 34°.03S×72°.18W, h0km, mb4.2/8, mb1 4.3/10, mb1mx4.1/31, mbtmp4.2/10, ML4.2/2, Error ellipse: s-maj=24.7km s-min=15.3km az=102.0*
*ISCJB **03** 20:11:06.6±1.5, 33°.98S±0°.06×72°.41W±0°.07, h24km±11km, mb4.3/8, Error ellipse: s-maj=12.3km s-min=7.7km az=140.8*
*GUC **03** 20:11:07.6±0.4, 33°.93S×72°.36W, h37km±2km, ML4.1*
*NEIC **03** 20:11:10.8±1.2, 33°.95S×72°.26W, h37km±9km, mb4.4/4, Error ellipse: s-maj=15.1km s-min=6.7km az=93.0*

ISC 03 20:11:08.0±1.9, 33°.92S±0°.06×72°.25W±0°.06, h18km±8km, n36, σ0s68/40, mb4.4/8, 8C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.69**	**93**	*i*P	**Pn**	**20 11 22.5**	**-0.5**
IHA	**Instituto Hidr**	**1.02**	**30**	⇑*i*P	**Pb**	**20 11 26.9**	**-0.3**
TACH	**Talagante**	**1.12**	**77**	⇑*i*P	**Pn**	**20 11 28.8**	**-0.1**
RCDM	**Rinconada Maip**	**1.27**	**71**	⇑*i*P	**Pn**	**20 11 31.3**	**+0.3**
RCDM				*i* S	**Sg**	**20 11 49.4**	**+0.1**
RCDM				AML	AML	20 11 52.3	
	comp=N,5μm,0.4s						
CHCH	**Chadas Angostu**	**1.32**	**91**	⇑*i*P	**Pb**	**20 11 32.4**	**0.0**
CACH	**El Canelo**	**1.38**	**99**	⇓*i*P	**Pb**	**20 11 33.7**	**+0.3**
ANTU	**Antumapu**	**1.39**	**76**	⇑*i*P	**Pb**	**20 11 33.4**	**-0.1**
ANTU				*i* S	**Sg**	**20 11 52.8**	**-0.1**
ANTU				AML	AML	20 11 55.4	
	comp=N,5μm,0.3s						
SAN	**Santiago**	**1.40**	**71**	⇑*i*P	**Pb**	**20 11 33.4**	**-0.3**
SAN				*i* S	**Sg**	**20 11 52.9**	**-0.5**
STL	**Santa Lucia**	**1.42**	**71**	⇑*i*P	**Pn**	**20 11 32.8**	**-0.2**
STL				*e*S	**Sb**	**20 11 52.3**	**+0.5**
FCH	**Farellones**	**1.73**	**71**	⇑*i*P	Pn	20 11 33.2	-4.3
FCH				*i* S4	**Sn**	**20 11 58.3**	**-1.1**
FCH				AML	AML	20 12 05.5	
	comp=N,3μm,0.4s						
CFAA	**Coronel Fontan**	**4.09**	**57**	Pn	**Pn**	**20 12 11.2**	**+1.5**
	comp=N,0.5nm,0.3s,baz=226,slow=20,SNR=7.6						
CFAA				Lg	Lg	20 13 13.6	
	comp=N,1.4nm,0.3s,baz=352,slow=14,SNR=2.7						
PLCA	**Paso Flores**	**6.94**	**169**	Pn	**Pn**	**20 12 48.4**	**-0.4**
	comp=N,1.5nm,0.3s,baz=342,slow=10,SNR=7.6						
PLCA				Lg	Lg	20 14 40.1	
	baz=243,slow=2.0,SNR=2.9						
PLCA	**Paso Flores**	**6.94**	**169**	*e*P	**Pn**	**20 12 49.2**	**+0.4**
PLCA				Lg	Lg	20 14 40.1	
TRQA	**Tornquist**	**9.29**	**119**	*e*P	**Pn**	**20 13 23.1**	**+2.0**
LPAZ	**La Paz**	**17.94**	**13**	P	**Pn**	**20 15 17.4**	**+0.1**
	comp=N,0.2nm,0.3s,baz=190,slow=6.0,SNR=8.0						
LPAZ	**La Paz**	**17.94**	**13**	*e*P	**P**	**20 15 17.9**	**+0.1**
	comp=N,10nm,0.9s						
SIV	**San Ignacio**	**20.50**	**32**	P	**P**	**20 15 46.1**	**+0.9**
	comp=N,5.3nm,0.8s,baz=225,slow=14,SNR=3.7						
EFI	**East Falkland**	**20.51**	**154**	*e*P	**P**	**20 15 44.5**	**-0.4**
	comp=N,6.8nm,0.6s						
SNAA	**Sanae**	**51.73**	**158**	P	**P**	**20 20 12.9**	**-1.0**
	comp=N,2.4nm,0.8s,baz=290,slow=8.4,SNR=5.8						
QSPA	**South Pole Qui**	**56.32**	**180**	P	**P**	**20 20 46.3**	**-1.3**
	comp=N,3.1nm,0.9s,baz=233,slow=2.3,SNR=5.3						
QSPA	**South Pole Qui**	**56.32**	**180**	*e*P	**P**	**20 20 48.5**	**+0.9**
	comp=N,7.2nm,1.2s						
TXAR	**Lajitas Array**	**69.58**	**331**	P	**P**	**20 22 16.7**	**+0.7**
	comp=N,0.8nm,0.6s,baz=147,slow=8.6,SNR=6.9						
DBIC	**Dimbokro**	**75.32**	**71**	P	**P**	**20 22 50.8**	**+0.3**
	comp=N,3.7nm,0.9s,baz=203,slow=7.7,SNR=3.1						
TSUM	**Tsumeb**	**79.40**	**106**	*e*P	**P**	**20 23 13.3**	**-0.3**
	comp=N,12nm,1.6s						
BOSA	**Boshof**	**80.26**	**118**	P	**P**	**20 23 17.9**	**-0.2**
	comp=N,2.1nm,0.8s,baz=231,slow=6.5,SNR=2.5						
BOSA	**Boshof**	**80.26**	**118**	*e*P	**P**	**20 23 18.6**	**+0.4**
LBTB	**Lobatse**	**82.50**	**115**	P	**P**	**20 23 29.4**	**-0.6**
	comp=N,3.1nm,0.9s,baz=23,slow=3.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**84.34**	**70**	P	**P**	**20 23 39.0**	**-0.4**
	comp=N,2.9nm,0.8s,baz=261,slow=4.3,SNR=13						
WRA	**Warramunga Arr**	**120.75**	**209**	PKP	**PKPdf**	**20 29 58.9**	**-0.6**
	comp=N,0.3nm,0.5s,baz=183,slow=2.0,SNR=5.1						
KKAR	**Karatay Array**	**149.66**	**61**	*e*PKPbc	**PKPbc**	**20 30 56.2**	**-0.2**
EKS2	**Erkin-Say**	**152.09**	**62**	*e*PKPbc	**PKPbc**	**20 31 02.6**	**+0.4**
AAK	**Ala-Archa**	**152.62**	**62**	PKPbc	**PKPbc**	**20 31 04.4**	**+0.9**
	comp=N,2.9nm,0.7s,baz=189,slow=3.1,SNR=5.5						
AAK	**Ala-Archa**	**152.62**	**62**	*e*PKPbc	**PKPbc**	**20 31 03.9**	**+0.4**
ZALV	**Zalesovo Beam**	**154.25**	**32**	PKPbc	**PKPbc**	**20 31 06.5**	**+0.1**
	comp=N,1.9nm,0.6s,baz=305,slow=3.0,SNR=11						
MKAR	**Makanchi Array**	**156.84**	**49**	PKPab	**PKPab**	**20 31 31.7**	**-0.1**
	comp=N,0.6nm,0.6s,baz=304,slow=4.6,SNR=6.3						
SONM	**Songino Array**	**166.06**	**4**	PKPab	**PKPab**	**20 32 12.7**	**+0.6**
	comp=N,0.5nm,0.8s,baz=316,slow=4.0,SNR=3.5						

*CSEM **03** 20:14:56.9, 37°.92N×14°.93E, h36km, ML2.8/12*

ROM 03 20:14:56.9±0.1, 37°.92N×14°.93E, h36km±1km, Ml2.8/12, 2D, Error ellipse: s-maj=2.9km s-min=2.3km az=69.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.23**	**171**	Pg	Pn	20 15 04.3	-1.6
ESLN				Sg	Sn	20 15 09.8	-4.5
	836nm,0.4s						
ESLN	**Serra La Nave**	**0.23**	**171**	Pg	Pn	20 15 04.3	-1.6
ESLN				Sg	Sn	20 15 09.8	-4.5
	836nm,0.4s						
MMME	**Mongiuffi-Meli**	**0.26**	**86**	⇓*i*Pg	Pn	20 15 04.5	-0.8
MMME				Sg	Sn	20 15 10.0	-3.0
	598nm,0.3s						
MMME	**Mongiuffi-Meli**	**0.26**	**86**	⇓*i*Pg	Pn	20 15 04.5	-0.8
MMME				Sg	Sn	20 15 10.0	-3.0
	598nm,0.3s						
ECNV	**Catenanuova**	**0.36**	**208**	Pg	Pn	20 15 07.0	+1.5
ECNV				Sg	Sn	20 15 13.4	+1.2
	881nm,0.8s						
ECNV	**Catenanuova**	**0.36**	**208**	Pg	Pn	20 15 07.0	+1.5
ECNV				Sg	Sn	20 15 13.4	+1.2
	881nm,0.8s						
MILZ	**Milazzo**	**0.43**	**34**	Pg	Pn	20 15 06.8	+0.5
MILZ				Sg	Sn	20 15 14.3	+1.2
	886nm,0.4s						
MILZ	**Milazzo**	**0.43**	**34**	Pg	Pn	20 15 06.8	+0.5
MILZ				Sg	Sn	20 15 14.3	+1.2
	886nm,0.4s						
VPL	**Vulcano Piano**	**0.46**	**5**	Pg	Pn	20 15 06.7	-0.2
VPL				Sg	Sn	20 15 14.4	+0.3
	674nm,0.4s						
VPL	**Vulcano Piano**	**0.46**	**5**	Pg	Pn	20 15 06.7	-0.2
VPL				Sg	Sn	20 15 14.4	+0.3
	674nm,0.4s						
LLI	**Lipari**	**0.53**	**2**	Pg	Pn	20 15 07.8	-0.2
LLI	**Lipari**	**0.53**	**2**	Pg	Pn	20 15 07.8	-0.2
MSRU	**Castanea**	**0.57**	**53**	Pg	Pn	20 15 09.2	+0.5
MSRU				Sg	Sn	20 15 19.0	+2.1
	542nm,0.4s						
MSRU	**Castanea**	**0.57**	**53**	Pg	Pn	20 15 09.2	+0.5
MSRU				Sg	Sn	20 15 19.0	+2.1
	542nm,0.4s						
MTTG	**Motta San Giov**	**0.61**	**82**	Pg	Pn	20 15 10.3	+1.0
	171nm,0.6s						
MTTG	**Motta San Giov**	**0.61**	**82**	Pg	Pn	20 15 10.3	+1.0
	171nm,0.6s						
PLLN	**Pollina**	**0.62**	**277**	Pg	Pn	20 15 10.0	+0.5
PLLN				Sg	Sn	20 15 20.3	+2.0
	900nm,0.9s						
PLLN	**Pollina**	**0.62**	**277**	Pg	Pn	20 15 10.0	+0.5
PLLN				Sg	Sn	20 15 20.3	+2.0
	900nm,0.9s						
HCRL	**Carlentini**	**0.64**	**173**	Pg	Pn	20 15 09.3	-0.3
HCRL				Sg	Sn	20 15 19.2	+0.8
	890nm,0.2s						
HCRL	**Carlentini**	**0.64**	**173**	Pg	Pn	20 15 09.3	-0.3
HCRL				Sg	Sn	20 15 19.2	+0.8
	890nm,0.2s						
CSLB	**Castelbuono**	**0.69**	**272**	Pg	Pn	20 15 10.2	0.0
	86nm,0.4s						
CSLB	**Castelbuono**	**0.69**	**272**	Pg	Pn	20 15 10.2	0.0
	86nm,0.4s						
AGST	**Augusta-Monte**	**0.70**	**160**	Pg	Pn	20 15 10.5	+0.2
AGST				Sg	Sn	20 15 21.2	+1.3
	6μm,4.6s						
AGST	**Augusta-Monte**	**0.70**	**160**	Pg	Pn	20 15 10.5	+0.2
AGST				Sg	Sn	20 15 21.2	+1.3
	6μm,4.6s						
GIB	**Gibilmanna**	**0.72**	**276**	Pg	Pn	20 15 11.1	+0.4
GIB	**Gibilmanna**	**0.72**	**276**	Pg	Pn	20 15 11.1	+0.4
RESU	**Resuttano**	**0.74**	**249**	Pg	Pn	20 15 13.1	+2.2
RESU	**Resuttano**	**0.74**	**249**	Pg	Pn	20 15 13.1	+2.2
IACL	**Alicudi**	**0.76**	**324**	Pg	Pn	20 15 11.1	0.0
IACL	**Alicudi**	**0.76**	**324**	Pg	Pn	20 15 11.1	0.0
SSY	**Sortino**	**0.77**	**171**	Pg	Pn	20 15 11.5	+0.2
SSY				Sg	Sn	20 15 22.6	+0.9
	324nm,0.3s						
SSY	**Sortino**	**0.77**	**171**	Pg	Pn	20 15 11.5	+0.2
SSY				Sg	Sn	20 15 22.6	+0.9
	324nm,0.3s						
MPAZ	**Palizzi**	**0.85**	**87**	Pg	Pn	20 15 14.3	+1.9
MPAZ	**Palizzi**	**0.85**	**87**	Pg	Pn	20 15 14.3	+1.9
SOI	**Samo**	**0.90**	**80**	Pg	Pn	20 15 14.8	+1.7
	79nm,0.4s						
SOI	**Samo**	**0.90**	**80**	Pg	Pn	20 15 14.8	+1.7
	79nm,0.4s						
ALJA	**Alia**	**0.94**	**260**	Pg	Pn	20 15 15.9	+2.2
	161nm,0.6s						
ALJA	**Alia**	**0.94**	**260**	Pg	Pn	20 15 15.9	+2.2
	161nm,0.6s						
HMDC	**Modica**	**0.96**	**187**	Pg	Pn	20 15 14.1	+0.2
HMDC	**Modica**	**0.96**	**187**	Pg	Pn	20 15 14.1	+0.2
HAVL	**Avola**	**0.97**	**171**	Pg	Pn	20 15 14.2	+0.2
HAVL	**Avola**	**0.97**	**171**	Pg	Pn	20 15 14.2	+0.2

*ISCJB **03** 20:16:49.6±0.4, 42°.90N±0°.02×18°.71E±0°.03, h9km±3km, Error ellipse: s-maj=3.2km s-min=3.0km az=28.3*
*CSEM **03** 20:16:49.6±0.2, 42°.88N×18°.72E, h15km, ML2.5, Error ellipse: s-maj=3.5km s-min=3.1km az=116.0*
*PDG **03** 20:16:49.4±0.2, 42°.89N×18°.72E, h20km, MD2.5/5, ML2.5/11, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
*BEO **03** 20:16:50.5±0.3, 42°.79N×18°.76E, h6km±2km, ML2.3/9*
*SKO **03** 20:16:50.3, 42°.88N×18°.97E, h34km, M2.0, ML2.4*

ISC 03 20:16:50.3±0.8, 42°.87N±0°.02×18°.71E±0°.02, h14km±5km, n57, σ1s24/102, 11C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.13**	**283**	*e*Pg	**Pg**	**20 16 53.6**	**-0.4**
BRY	**Bratogost**	**0.13**	**283**	*e*Pg	**Pg**	**20 16 53.6**	**-0.4**
NKME	**Niksic**	**0.21**	**121**	*e*Pg	**Pg**	**20 16 54.4**	**-0.6**
NKME				*e*Sg	**Sg**	**20 16 58.9**	**+0.7**
NKME	**Niksic**	**0.21**	**121**	*e*Pg	**Pg**	**20 16 54.4**	**-0.6**
NKME				*e*Sg	**Sg**	**20 16 58.9**	**+0.7**
NKY	**Niksic**	**0.22**	**106**	⇑*i*Pg	**Pg**	**20 16 54.8**	**-0.4**
NKY				*e*Sg	**Sg**	**20 16 59.4**	**+0.9**
NKY	**Niksic**	**0.22**	**106**	⇑*i*Pg	**Pg**	**20 16 54.8**	**-0.4**
NKY				*e*Sg	**Sg**	**20 16 59.4**	**+0.9**
UPM	**Unac-Piva**	**0.36**	**23**	⇓*i*Pg	**Pg**	**20 16 56.7**	**-1.0**
UPM				*e*Sg	**Sg**	**20 17 02.7**	**0.0**
UPM	**Unac-Piva**	**0.36**	**23**	⇓*i*Pg	**Pg**	**20 16 56.7**	**-1.0**
UPM				*e*Sg	**Sg**	**20 17 02.7**	**0.0**
HCY	**Herceg Novi**	**0.46**	**201**	⇑*i*Pg	**Pg**	**20 16 58.3**	**-1.0**
HCY				*e*Sg	**Sb**	**20 17 06.7**	**0.0**
HCY	**Herceg Novi**	**0.46**	**201**	⇑*i*Pg	**Pg**	**20 16 58.3**	**-1.0**
HCY				*e*Sg	**Sb**	**20 17 06.7**	**0.0**
BUM	**Brajici-Budva**	**0.59**	**167**	⇑*i*Pg	**Pg**	**20 17 01.3**	**-0.6**
BUM				*e*Sg	**Sb**	**20 17 11.1**	**+0.5**
BUM	**Brajici-Budva**	**0.59**	**167**	⇑*i*Pg	**Pg**	**20 17 01.3**	**-0.6**
BUM				*e*Sg	**Sb**	**20 17 11.1**	**+0.5**
PDG	**Podgorica**	**0.60**	**138**	*e*Pg	**Pg**	**20 17 00.3**	**-1.7**
PDG				*e*Sg	**Sg**	**20 17 08.8**	**-1.1**
PDG	**Podgorica**	**0.60**	**138**	⇓*i*Pg	**Pg**	**20 17 00.5**	**-1.5**
PDG				*e*Sg	**Sg**	**20 17 08.8**	**-1.1**
TTG	**Podgorica**	**0.60**	**138**	⇓*i*Pg	**Pg**	**20 17 00.5**	**-1.5**
TTG				*e*Sg	**Sg**	**20 17 10.8**	**+0.9**
PLE	**Pljevlja**	**0.68**	**47**	⇑*i*Pg	**Pb**	**20 17 02.2**	**-1.7**
PLE				*e*Sg	**Sg**	**20 17 12.5**	**+0.1**
PLE	**Pljevlja**	**0.68**	**47**	⇑*i*Pg	**Pb**	**20 17 02.2**	**-1.7**
PLE				*e*Sg	**Sg**	**20 17 12.5**	**+0.1**
STON	**Ston**	**0.74**	**270**	*i* Pg	**Pb**	**20 17 03.0**	**-2.0**
STON				Sg	**Sb**	**20 17 14.2**	**-0.8**
STON	**Ston**	**0.74**	**270**	*e*Pg	**Pb**	**20 17 04.3**	**-0.7**
STON				*e*Sg	**Sg**	**20 17 15.6**	**+1.1**
STON	**Ston**	**0.74**	**270**	*e*Pg	**Pb**	**20 17 04.3**	**-0.7**
STON				*e*Sg	**Sg**	**20 17 15.6**	**+1.1**
DRME	**Dracevica, Mon**	**0.77**	**153**	⇓*i*Pg	**Pb**	**20 17 04.4**	**-1.1**
DRME				*e*Sg	**Sg**	**20 17 16.8**	**+1.4**
DRME	**Dracevica, Mon**	**0.77**	**153**	⇓*i*Pg	**Pb**	**20 17 04.4**	**-1.1**
DRME				*e*Sg	**Sg**	**20 17 16.8**	**+1.4**
BEY	**Berane**	**0.87**	**90**	⇓*i*Pg	**Pb**	**20 17 05.8**	**-1.4**
BEY				*e*Sg	**Sb**	**20 17 19.3**	**+0.5**
IVA	**Berane**	**0.87**	**90**	⇓*i*Pg	**Pb**	**20 17 05.8**	**-1.4**
IVA				*e*Sg	**Sb**	**20 17 19.3**	**+0.5**
PVY	**Plav**	**0.96**	**106**	⇑*i*Pg	**Pb**	**20 17 07.4**	**-1.4**
PVY				*e*Sg	**Sn**	**20 17 22.9**	**-0.1**
ULC	**Ulcinj**	**0.99**	**156**	⇑*i*Pg	**Pb**	**20 17 08.0**	**-1.3**
ULC				*e*Sg	**Sn**	**20 17 23.9**	**+0.3**
ULC	**Ulcinj**	**0.99**	**156**	⇑*i*Pg	**Pb**	**20 17 08.0**	**-1.3**
ULC				*e*Sg	**Sn**	**20 17 23.9**	**+0.3**
SJES	**Sjenica**	**1.00**	**67**	*e*Pg	**Pb**	**20 17 08.6**	**-0.9**
SJES				*e*Sg	**Sb**	**20 17 22.1**	**-0.6**
BBLS	**Lazići**	**1.11**	**27**	*e*Pg	**Pn**	**20 17 10.6**	**-1.0**
BBLS	**Lazići**	**1.11**	**27**	*e*Pg	**Pn**	**20 17 10.6**	**-1.0**
BCI	**Bajram Curri**	**1.12**	**116**	*i* PN	**Pn**	**20 17 10.2**	**-1.5**
BCI				*i* SN	**Sg**	**20 17 28.9**	**+2.4**
BCI	**Bajram Curri**	**1.12**	**116**	*i* Pn	**Pn**	**20 17 10.1**	**-1.5**
PUK	**Puka**	**1.21**	**133**	*i* PN	**Pn**	**20 17 11.9**	**-0.9**
PUK				*i* SN	**Sg**	**20 17 32.0**	**+2.8**
PUK	**Puka**	**1.21**	**133**	*i* Pn	**Pn**	**20 17 11.9**	**-0.9**
PUK				*i* Sn	**Sg**	**20 17 32.0**	**+2.8**
IVAS	**Ivanjica**	**1.27**	**56**	*e*Pg	**Pn**	**20 17 13.0**	**-0.7**
IVAS				*e*Sg	**Sn**	**20 17 30.8**	**+0.3**
IVAS	**Ivanjica**	**1.27**	**56**	*e*Pg	**Pn**	**20 17 13.0**	**-0.7**
IVAS				*e*Sg	**Sn**	**20 17 30.8**	**+0.3**
DIVS	**Divibare**	**1.54**	**37**	*e*Sg	**Sg**	**20 17 42.5**	**+2.6**
DIVS	**Divibare**	**1.54**	**37**	*e*Sg	**Sg**	**20 17 42.5**	**+2.6**
PHP	**Peshkopia**	**1.75**	**132**	*i* PN	**Pb**	**20 17 23.5**	**+1.3**
PHP				*i* SN	**Sg**	**20 17 47.4**	**+0.8**
PHP	**Peshkopia**	**1.75**	**132**	*i* Pn	**Pb**	**20 17 23.5**	**+1.3**
GRUS	**Gruza**	**1.78**	**55**	*e*Sg	**Sg**	**20 17 48.5**	**+0.9**
GRUS	**Gruza**	**1.78**	**55**	*e*Sg	**Sg**	**20 17 48.5**	**+0.9**
TRUS	**Trudelj**	**1.83**	**42**	*e*Pg	**Pb**	**20 17 23.3**	**-0.2**
TRUS				*e*Sg	**Sg**	**20 17 50.7**	**+1.6**
TRUS	**Trudelj**	**1.83**	**42**	*e*Pg	**Pb**	**20 17 23.3**	**-0.2**
TRUS				*e*Sg	**Sg**	**20 17 50.7**	**+1.6**
BLY	**Banja Luka**	**2.18**	**330**	*e*Pn	**Pb**	**20 17 29.5**	**0.0**
BLY				*e*Sn	**Sb**	**20 17 58.5**	**+2.2**
BLY	**Banja Luka**	**2.18**	**330**	*e*Pn	**Pb**	**20 17 29.5**	**0.0**
SKO	**Skopje**	**2.21**	**113**	*i* Pg	**Pn**	**20 17 28.2**	**+1.6**
SKO				*i* Sg	**Sn**	**20 17 55.4**	**+1.7**
SKO				*i* Lg	Lg	20 17 58.1	
	comp=N,20nm,0.4s						
SKO				*i* Lg	Lg	20 18 02.5	
	comp=E,12nm,0.5s						
SKO	**Skopje**	**2.21**	**113**	*i* Pg	**Pn**	**20 17 28.2**	**+1.6**
SKO				*i* Lg	Lg	20 18 02.5	
	comp=E,12nm,0.5s						
BARS	**Barje**	**2.28**	**90**	*e*Pn	**Pn**	**20 17 28.4**	**+0.8**
BARS				*e*Sn	**Sn**	**20 17 57.2**	**+1.7**
OHR	**Ohrid**	**2.35**	**138**	*i* Pg	**Pb**	**20 17 31.0**	**-1.5**
OHR				*i* Sg	**Sb**	**20 18 02.1**	**+0.7**
OHR				*i* Lg	Lg	20 18 09.3	
	comp=E,26nm,0.6s						
OHR				*i* Lg	Lg	20 18 10.3	
	comp=N,22nm,0.7s						
OHR	**Ohrid**	**2.35**	**138**	*i* Pg	**Pb**	**20 17 30.9**	**-1.5**
OHR				*i* Sg	**Sb**	**20 18 02.0**	**+0.7**
OHR				*i* Lg	Lg	20 18 10.3	
	comp=N,22nm,0.7s						
UDBI	**Udbina**	**2.70**	**309**	*e*Pn	**Pn**	**20 17 35.8**	**+2.4**
UDBI				Sn	**Sb**	**20 18 09.4**	**-2.2**
UDBI	**Udbina**	**2.70**	**309**	*e*Pn	**Pn**	**20 17 35.8**	**+2.4**
UDBI				Sn	**Sb**	**20 18 09.3**	**-2

ALFC			S		Sn	20 33 45.2	-1.0
MAMC	**Mammari**	**0.79 30**	P		Pn	20 33 35.7	-0.8
baz=208							
MAMC	**Mammari**	**0.79 30**	P		Pn	20 33 35.7	-0.8
AKDN	**Akdeniz- K¨–br**	**0.83 13**	*e*PN		Pn	20 33 36.9	-0.2
AKDN	**Akdeniz- K¨–br**	**0.83 13**	*e*Pn		Pn	20 33 36.9	-0.2
LFK	**Lefkose**	**1.02 39**	*e*PN		Pb	20 33 38.8	-0.1
LFK	**Lefkose**	**1.02 39**	*e*Pn		Pb	20 33 38.8	-0.1
EREN	**Erenkoy**	**1.57 48**	*e*PN		Pn	20 33 46.0	-1.2
EREN	**Erenkoy**	**1.57 48**	*e*Pn		Pn	20 33 46.0	-1.2
GAZI	**Gazipasa**	**1.78 349**	*i* P		Pn	20 33 50.7	+0.5
GAZI			*i* S		Sb	20 34 15.1	+0.6
GAZI	**Gazipasa**	**1.78 349**	*i* P		Pn	20 33 50.7	+0.5
GAZI			*i* S		Sb	20 34 15.1	+0.6
ERMK	**Ermenek**	**2.15 4**	*i* P		Pb	20 33 57.9	-0.4
ERMK	**Ermenek**	**2.15 4**	*i* P		Pb	20 33 57.9	-0.4
ERMK			*i* S		Sg	20 34 29.1	+1.2
KIZK	**Mersin**	**2.29 29**	*i* P		Pb	20 33 59.7	-0.9
KIZK	**Mersin**	**2.29 29**	*i* P		Pb	20 33 59.7	-0.9
KIZK			*i* S		Sg	20 34 32.1	-0.2
HNTI	**Hanita**	**2.46 124**	Pn		Pn	20 34 00.2	+0.7
HNTI	**Hanita**	**2.46 124**	Pn		Pn	20 34 00.2	+0.7
BHL	**Bhannes**	**2.48 103**	*e*P		Pn	20 34 01.5	+1.6
BHL	**Bhannes**	**2.48 103**	*e*P		Pn	20 34 01.5	+1.6
OFRI	**'Ofer**	**2.64 134**	Pn		Pn	20 34 02.4	+0.4
OFRI	**'Ofer**	**2.64 134**	Pn		Pn	20 34 02.4	+0.4
HWQ	**Hawqa**	**2.66 94**	*e*P		Pn	20 34 03.7	+1.4
HWQ	**Hawqa**	**2.66 94**	*e*P		Pn	20 34 03.7	+1.4
MMA0B	**Mount Meron ar**	**2.66 123**	Pn		Pn	20 34 02.6	+0.3
MMA0B			Sn		Sn	20 34 34.6	-0.4
MMA0B	**Mount Meron ar**	**2.66 123**	Pn		Pn	20 34 02.6	+0.3
MMA0B			Sn		Sn	20 34 34.6	-0.4
MMAI	**Mount Meron Ar**	**2.66 123**	Pn		Pn	20 34 01.3	-1.0
18nm,0.3s,baz=295,slow=12,SNR=54							
MMAI			Sn		Sn	20 34 34.5	-0.5
85nm,0.3s,baz=289,slow=23,SNR=23							
BLGI	**Bet Lehem HaGe**	**2.69 130**	Pn		Pn	20 34 03.7	+1.1
BLGI	**Bet Lehem HaGe**	**2.69 130**	Pn		Pn	20 34 03.7	+1.1
KSDI	**Kefar Szold**	**2.75 117**	Pn		Pn	20 34 04.0	+0.5
KSDI			Sn		Sn	20 34 36.5	-0.6
KSDI	**Kefar Szold**	**2.75 117**	Pn		Pn	20 34 04.0	+0.5
KSDI			Sn		Sn	20 34 36.5	-0.6
RCY	**Rachaya**	**2.75 110**	*e*P		Pn	20 34 03.7	+0.1
RCY	**Rachaya**	**2.75 110**	*e*P		Pn	20 34 03.7	+0.1
MERS	**Mersin**	**2.78 31**	*e*PN		Pn	20 34 04.5	+0.5
MERS	**Mersin**	**2.78 31**	*e*Pn		Pn	20 34 04.5	+0.5
BRBR	**Barbar**	**2.87 111**	*e*P		Pn	20 34 05.8	+0.4
SNR=45							
BRBR			*e*S		Sn	20 34 39.4	-1.1
53nm,0.6s,SNR=40							
BRBR	**Barbar**	**2.87 111**	*e*P		Pn	20 34 05.8	+0.4
BRBR			*e*S		Sn	20 34 39.4	-1.1
BRBR			AML		AML	20 34 44.0	
comp=N,113nm,0.3s							
BRBR			AML		AML	20 34 44.3	
comp=E,226nm,0.4s							
ANTB	**Antalya**	**2.95 325**	*e*PN		Pn	20 34 07.4	+1.2
ANTB	**Antalya**	**2.95 325**	*e*Pn		Pn	20 34 07.4	+1.2
SLTI	**Sal'it**	**2.95 139**	Pn		Pn	20 34 06.9	+0.6
SLTI			Sn		Sn	20 34 42.0	-0.2
SLTI	**Sal'it**	**2.95 139**	Pn		Pn	20 34 06.9	+0.6
SLTI			Sn		Sn	20 34 42.0	-0.2
ARNB	**Al Arnab**	**2.98 62**	*e*P		Pn	20 34 07.7	+0.9
SNR=45							
ARNB			*e*S		Sn	20 34 41.6	-1.4
SNR=40							
ARNB	**Al Arnab**	**2.98 62**	*e*P		Pn	20 34 07.7	+0.9
ARNB			*e*S		Sn	20 34 41.6	-1.4
ARNB			AML		AML	20 34 46.3	
comp=E,59nm,0.3s							
ARNB			AML		AML	20 34 54.0	
comp=N,38nm,0.5s							
BIDA	**Albida**	**2.99 79**	*e*P		Pn	20 34 07.4	+0.5
SNR=45							
BIDA			*e*S		Sn	20 34 42.2	-1.1
comp=N,170nm,0.3s,SNR=40							
BIDA	**Albida**	**2.99 79**	*e*P		Pn	20 34 07.4	+0.5
BIDA			*e*S		Sn	20 34 42.2	-1.1
BIDA			AML		AML	20 34 50.4	
comp=E,53nm,0.6s							
BIDA			AML		AML	20 34 54.7	
comp=N,170nm,0.3s							
HAWK	**Haweek**	**3.02 88**	*e*P		Pn	20 34 07.6	+0.2
SNR=45							
HAWK			*e*S		Sn	20 34 42.5	-1.6
comp=N,58nm,0.5s,SNR=40							
HAWK	**Haweek**	**3.02 88**	*e*P		Pn	20 34 07.6	+0.2
HAWK			*e*S		Sn	20 34 42.5	-1.6
HAWK			AML		AML	20 34 51.2	
comp=N,73nm,0.6s							
HAWK			AML		AML	20 34 54.9	
comp=E,58nm,0.5s							
MMLI	**Mount Malkishu**	**3.03 132**	Pn		Pn	20 34 07.5	+0.1
MMLI	**Mount Malkishu**	**3.03 132**	Pn		Pn	20 34 07.5	+0.1
QASN	**Qassioun**	**3.08 107**	*e*P		Pn	20 34 08.0	-0.2
SNR=45							
QASN			*e*S		Sn	20 34 43.8	-1.8
comp=E,286nm,0.4s,SNR=40							
QASN	**Qassioun**	**3.08 107**	*e*P		Pn	20 34 08.0	-0.2
QASN			*e*S		Sn	20 34 43.8	-1.8
QASN			AML		AML	20 34 48.3	
comp=E,445nm,0.6s							
QASN			AML		AML	20 34 49.9	
comp=N,286nm,0.4s							
AKAS	**Kas**	**3.10 305**	*i* P		Pn	20 34 09.9	+1.4
AKAS			*i* S		Sn	20 34 48.4	+2.3
AKAS	**Kas**	**3.10 305**	*i* P		Pn	20 34 09.9	+1.4
AKAS			*i* S		Sn	20 34 48.4	+2.3
MARH	**Ras Al Marh**	**3.13 97**	*e*P		Pn	20 34 09.4	+0.4
SNR=45							
MARH			*e*S		Sn	20 34 45.4	-1.6
comp=N,42nm,0.4s,SNR=40							
MARH	**Ras Al Marh**	**3.13 97**	*e*P		Pn	20 34 09.4	+0.4
MARH			*e*S		Sn	20 34 45.4	-1.6
MARH			AML		AML	20 34 51.5	
comp=E,78nm,0.3s							
MARH			AML		AML	20 34 52.0	
comp=N,42nm,0.4s							
KORT	**Korkueli**	**3.18 323**	*i* P		Pb	20 34 13.8	-1.9
KORT	**Korkueli**	**3.18 323**	*i* P		Pb	20 34 13.8	-1.9
KORT			*i* S		Sg	20 34 59.3	-1.4
HMDT	**Nahal Hemdat**	**3.22 133**	Pn		Pn	20 34 10.6	+0.6
HMDT			Sn		Sn	20 34 49.4	+0.6
HMDT	**Nahal Hemdat**	**3.22 133**	Pn		Pn	20 34 10.6	+0.6
HMDT			Sn		Sn	20 34 49.4	+0.6
ELL	**Elmali**	**3.23 315**	*e*PN		Pn	20 34 10.9	+0.7
ELL	**Elmali**	**3.23 315**	*e*Pn		Pn	20 34 10.9	+0.7
TCHB	**Talchebab**	**3.25 123**	*e*P		Pn	20 34 11.1	+0.7
SNR=45							
TCHB			*e*S		Sn	20 34 47.8	-1.6
comp=N,152nm,0.6s,SNR=40							
TCHB	**Talchebab**	**3.25 123**	*e*P		Pn	20 34 11.1	+0.7
TCHB			*e*S		Sn	20 34 47.8	-1.6
TCHB			AML		AML	20 34 53.6	
comp=N,326nm,0.4s							
TCHB			AML		AML	20 35 02.8	
comp=E,152nm,0.6s							
KARA	**Karaisali**	**3.34 33**	*e*PN		Pn	20 34 11.9	+0.2
KARA	**Karaisali**	**3.34 33**	*e*Pn		Pn	20 34 11.9	+0.2
BCK	**Bucak**	**3.44 330**	*e*PN		Pn	20 34 14.5	+1.4
BCK	**Bucak**	**3.44 330**	*e*Pn		Pn	20 34 14.5	+1.4
KONT	**Konya--Tatoy**	**3.47 355**	*e*PN		Pn	20 34 15.1	+1.7
KONT	**Konya--Tatoy**	**3.47 355**	*e*Pn		Pn	20 34 15.1	+1.7
CEYT	**Ceyhan**	**3.51 43**	*e*PN		Pn	20 34 13.5	-0.4
CEYT	**Ceyhan**	**3.51 43**	*e*Pn		Pn	20 34 13.5	-0.4
RSH		**3.61 167**	P		Pn	20 34 15.2	-0.1
baz=163							
RSH		**3.61 167**	P		Pn	20 34 15.2	-0.1
DSI	**Dead Sea**	**3.66 142**	Pn		Pn	20 34 16.9	+1.0
DSI			Sn		Sn	20 34 59.7	+0.2
DSI	**Dead Sea**	**3.66 142**	Pn		Pn	20 34 16.9	+1.0
DSI			Sn		Sn	20 34 59.7	+0.2
RABH	**Abou Rabah**	**3.69 90**	*e*P		Pn	20 34 17.0	+0.5
SNR=45							
RABH			*e*S		Sn	20 34 58.4	-2.0
comp=E,44nm,0.3s,SNR=40							
RABH	**Abou Rabah**	**3.69 90**	*e*P		Pn	20 34 17.0	+0.5
RABH			*e*S		Sn	20 34 58.4	-2.0
RABH			AML		AML	20 35 02.2	
comp=E,30nm,0.4s							
RABH			AML		AML	20 35 05.8	
comp=N,44nm,0.3s							
YTIR	**Yattir**	**3.70 147**	Pn		Pn	20 34 16.6	0.0
YTIR	**Yattir**	**3.70 147**	Pn		Pn	20 34 16.6	0.0
LADK	**Ladik-KONYA**	**3.72 355**	*e*PN		Pn	20 34 18.3	+1.4
LADK	**Ladik-KONYA**	**3.72 355**	*e*Pn		Pn	20 34 18.3	+1.4
SALA	**Sala**	**3.77 117**	*e*P		Pn	20 34 18.3	+0.6
SNR=45							
SALA			*e*S		Sn	20 35 00.6	-2.0
comp=N,105nm,0.3s,SNR=40							
SALA	**Sala**	**3.77 117**	*e*P		Pn	20 34 18.3	+0.6
SALA			*e*S		Sn	20 35 00.6	-2.0
SALA			AML		AML	20 35 07.4	
comp=E,8.7nm,0.7s							
SALA			AML		AML	20 35 08.8	
comp=N,105nm,0.3s							
KZIT	**Kziot**	**3.83 158**	Pn		Pn	20 34 18.7	+0.3
KZIT	**Kziot**	**3.83 158**	Pn		Pn	20 34 18.7	+0.3
AMAG	**Maghara**	**3.85 174**	P		Pn	20 34 18.4	-0.3
baz=170							
AMAG	**Maghara**	**3.85 174**	P		Pn	20 34 18.4	-0.3
MZDA	**Masada**	**3.86 144**	Pn		Pn	20 34 19.9	+1.2
MZDA			Sn		Sn	20 35 05.0	+0.5
MZDA	**Masada**	**3.86 144**	Pn		Pn	20 34 19.9	+1.2
MZDA			Sn		Sn	20 35 05.0	+0.5
KOZT	**Kozan**	**3.90 39**	*e*PN		Pn	20 34 19.4	+0.1
KOZT	**Kozan**	**3.90 39**	*e*Pn		Pn	20 34 19.4	+0.1
DALY	**Dalyan (Mu¨la**	**4.06 306**	*e*PN		Pn	20 34 21.3	-0.2
DALY	**Dalyan (Mu¨la**	**4.06 306**	*e*Pn		Pn	20 34 21.3	-0.2
ZALF	**Zalf**	**4.13 111**	*e*P		Pn	20 34 23.7	+1.2
SNR=45							
ZALF			*e*S		Sn	20 35 09.1	-2.3
comp=N,36nm,0.7s,SNR=40							
ZALF	**Zalf**	**4.13 111**	*e*P		Pn	20 34 23.7	+1.2
ZALF			*e*S		Sn	20 35 09.1	-2.3
ZALF			AML		AML	20 35 19.9	
comp=E,32nm,0.5s							
ZALF			AML		AML	20 35 32.0	
comp=N,36nm,0.7s							
ARG	**Arkhangelos**	**4.15 296**	*e*PN		Pn	20 34 22.3	-0.5
ARG	**Arkhangelos**	**4.15 296**	*e*Pn		Pn	20 34 22.3	-0.5
ASF	**Jabal al Asfar**	**4.17 122**	Pn		Pn	20 34 22.3	-0.8
comp=N,2.5nm,0.3s,baz=264,slow=5.5,SNR=15							
ASF			Sn		Sn	20 35 12.4	-0.1
comp=N,1.1nm,0.3s,baz=72,slow=20,SNR=3.8							
KUZU	**Kuzuini**	**4.20 56**	*i* P		Pn	20 34 23.3	-0.2
KUZU			*i* S		Sn	20 35 14.9	+1.8
KUZU	**Kuzuini**	**4.20 56**	*i* P		Pn	20 34 23.3	-0.2
KUZU			*i* S		Sn	20 35 14.9	+1.8
ANDN	**Andirin**	**4.25 42**	*i* P		Pn	20 34 27.4	+3.2
ANDN	**Andirin**	**4.25 42**	*i* P		Pn	20 34 27.4	+3.2
ANDN			*i* S		Sb	20 35 21.8	-3.8
KIZT	**Kizilcal**	**4.44 351**	*e*PN		Pn	20 34 28.7	+1.9
KIZT	**Kizilcal**	**4.44 351**	*e*Pn		Pn	20 34 28.7	+1.9
YER	**Yerkesik**	**4.49 307**	*e*Pn		Pn	20 34 28.1	+0.6
YER	**Yerkesik**	**4.49 307**	*e*Pn		Pn	20 34 28.1	+0.6
KMRS	**Kahramanmaras**	**4.52 47**	*e*PN		Pn	20 34 27.9	+0.1
KMRS	**Kahramanmaras**	**4.52 47**	*e*Pn		Pn	20 34 28.0	+0.1
PRNI	**Paran**	**4.54 155**	Pn		Pn	20 34 28.5	+0.3
PRNI	**Paran**	**4.54 155**	Pn		Pn	20 34 28.5	+0.3
HHAG	**Hagoal**	**4.55 187**	P		Pn	20 34 27.7	-0.6
baz=185							
HHAG	**Hagoal**	**4.55 187**	P		Pn	20 34 27.7	-0.6
KOT	**Kottamia**	**4.61 190**	P		Pn	20 34 28.1	-1.0
baz=187							
KOT	**Kottamia**	**4.61 190**	P		Pn	20 34 28.1	-1.0
KHL	**Karahalli**	**4.63 327**	*e*PN		Pn	20 34 30.0	+0.6
KHL	**Karahalli**	**4.63 327**	*e*Pn		Pn	20 34 30.0	+0.6
SUZ		**4.63 179**	P		Pn	20 34 29.3	-0.1
baz=176							
SUZ		**4.63 179**	P		Pn	20 34 29.3	-0.1
HNKL	**Nakhl**	**4.66 167**	P		Pn	20 34 30.1	+0.3
baz=164							
HNKL			S		Sn	20 35 23.1	-1.3
baz=164							
HNKL	**Nakhl**	**4.66 167**	P		Pn	20 34 30.1	+0.3
HNKL			S		Sn	20 35 23.1	-1.3
KRMI	**Paran Flat**	**4.67 158**	Pn		Pn	20 34 29.7	-0.2
KRMI	**Paran Flat**	**4.67 158**	Pn		Pn	20 34 29.7	-0.2
HRFI	**Mount Harif**	**4.84 156**	Pn		Pn	20 34 32.6	+0.3
HRFI			Sn		Sn	20 35 28.0	-0.9
HRFI	**Mount Harif**	**4.84 156**	Pn		Pn	20 34 32.6	+0.3
HRFI			Sn		Sn	20 35 28.0	-0.9
GLL	**Jalalah**	**4.97 190**	P		Pn	20 34 33.4	-0.7
baz=188							
GLL	**Jalalah**	**4.97 190**	P		Pn	20 34 33.4	-0.7
BDRM	**Kayabasi**	**5.02 302**	*i* P		Pn	20 34 34.1	-0.6
BDRM			*i* S		Sn	20 35 29.7	-3.5
BDRM	**Kayabasi**	**5.02 302**	*i* P		Pn	20 34 34.1	-0.6
BDRM			*i* S		Sn	20 35 29.7	-3.5
BNN	**Bunyan**	**5.02 29**	*e*PN		Pn	20 34 35.9	+1.0
BNN	**Bunyan**	**5.02 29**	*e*Pn		Pn	20 34 35.9	+1.0
BODT	**Bodrum**	**5.11 302**	*e*PN		Pn	20 34 36.0	+0.1
BODT	**Bodrum**	**5.11 302**	*e*Pn		Pn	20 34 36.1	+0.1
AQBJ	**Aqaba**	**5.13 157**	Pn		Pn	20 34 37.0	+0.8
EIL	**Elat**	**5.15 158**	Pn		Pn	20 34 35.2	-1.3
comp=N,5.2nm,0.3s,baz=308,slow=2.4,SNR=36							
EIL			Sn		Sn	20 35 35.0	-1.6
comp=N,13nm,0.3s,baz=132,slow=19,SNR=13							
EIL	**Elat**	**5.15 158**	Pn		Pn	20 34 36.4	-0.2
EIL	**Elat**	**5.15 158**	Pn		Pn	20 34 36.4	-0.2
KULA	**Kula-Manisa**	**5.19 322**	*e*PN		Pn	20 34 38.6	+1.4
KULA	**Kula-Manisa**	**5.19 322**	*e*Pn		Pn	20 34 38.6	+1.4
BRTR	**Keskin Array B**	**5.28 8**	Pn		Pn	20 34 40.5	+2.2
comp=N,0.5nm,0.3s,baz=190,slow=15,SNR=13							
HBST	**Basata**	**5.52 162**	P		Pn	20 34 42.1	+0.5
baz=159							
HBST	**Basata**	**5.52 162**	P		Pn	20 34 42.1	+0.5
DARE	**Darende-Malaty**	**5.58 42**	*e*PN		Pn	20 34 43.3	+0.7
DARE	**Darende-Malaty**	**5.58 42**	*e*Pn		Pn	20 34 43.3	+0.7
TVSB	**Tavsanli**	**5.61 333**	*e*PN		Pn	20 34 45.0	+2.1
TVSB	**Tavsanli**	**5.61 333**	*e*Pn		Pn	20 34 45.0	+2.1
HDHB	**Dhahab**	**5.96 164**	P		Pn	20 34 48.4	+0.7
baz=162							
HDHB	**Dhahab**	**5.96 164**	P		Pn	20 34 48.4	+0.7
MALT	**Malatya**	**5.96 49**	*e*PN		Pn	20 34 47.9	+0.1
MALT	**Malatya**	**5.96 49**	*e*Pn		Pn	20 34 47.9	+0.1
HKAT	**Jabal Katrina**	**6.04 170**	P		Pn	20 34 49.1	+0.2
baz=167							
HKAT	**Jabal Katrina**	**6.04 170**	P		Pn	20 34 49.1	+0.2
SVSK	**Karacayir**	**6.39 31**	*e*PN		Pn	20 34 54.4	+0.8
SVSK	**Karacayir**	**6.39 31**	*e*Pn		Pn	20 34 54.4	+0.8
IDI	**Anoyia**	**6.50 279**	Pn		Pn	20 34 54.1	-1.1
comp=N,1.0nm,0.3s,baz=69,slow=16,SNR=8.3							
IDI			Sn		Sn	20 36 07.6	-2.3
comp=N,2.2nm,0.3s,baz=348,slow=13,SNR=6.7							
CHOS	**Chios island**	**6.65 308**	*e*PN		Pn	20 34 57.5	+0.4
CHOS	**Chios island**	**6.65 308**	*e*Pn		Pn	20 34 57.5	+0.4
ILIC	**ilic-Erzincan**	**6.80 42**	*e*PN		Pn	20 34 59.6	+0.3
ILIC	**ilic-Erzincan**	**6.80 42**	*e*Pn		Pn	20 34 59.6	+0.3
AWBH		**6.97 209**	P		Pn	20 34 59.7	-1.8
baz=207							
AWBH		**6.97 209**	P		Pn	20 34 59.7	-1.8
HFRF	**Wahat Farafira**	**8.25 209**	P		Pn	20 35 17.4	-1.6
baz=207							
HFRF	**Wahat Farafira**	**8.25 209**	P		Pn	20 35 17.4	-1.6
AKASG	**Malin Array Be**	**16.41 352**	Pn		Pn	20 37 10.0	+0.4
comp=N,1.2nm,0.3s,baz=175,slow=10,SNR=5.2							
GERES	**GERESS Array B**	**20.12 321**	P		**P**	20 37 53.3	-0.3
comp=N,0.9nm,0.5s,baz=135,slow=13,SNR=4.7							
GEYT	**Alibeck**	**20.74 73**	P		**P**	20 38 01.0	+0.7
comp=N,0.5nm,0.5s,baz=314,slow=11,SNR=3.5							
FINES	**FINESS Array B**	**27.31 353**	P		**P**	20 39 02.6	-1.5
comp=N,2.4nm,1.0s,baz=162,slow=13,SNR=4.6							
MKAR	**Makanchi Array**	**38.94 56**	P		**P**	20 40 46.6	+1.0
comp=N,0.2nm,0.5s,baz=259,slow=8.8,SNR=4.1							
ZALV	**Zalesovo Beam**	**41.00 45**	P		**P**	20 41 04.2	+1.6
comp=N,0.4nm,0.5s,baz=280,slow=8.6,SNR=2.8							

GUC 03 20:40:40.4±0.7, 33°.91S×72°.28W, h33km±8km, ML3.6, 2C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.72**	**94**	⇓*i*P	Pb	20 40 54.7	+0.1
LNV				*i* S1	Sn	20 41 05.3	+1.1
RCDM	**Rinconada Maip**	**1.30**	**71**	⇓*i*P	Pb	20 41 03.8	-0.5
RCDM				*i* S	Sb	20 41 21.8	+1.2
RCDM				AML	AML	20 41 25.0	
comp=N,2μm,0.2s							
CHCH	**Chadas Angostu**	**1.35**	**91**	⇓*i*P	Pb	20 41 04.7	-0.5
CHCH				*i* S	Sb	20 41 23.4	+1.2
CACH	**El Canelo**	**1.41**	**99**	⇑*i*P	Pb	20 41 06.5	+0.2
ANTU	**Antumapu**	**1.41**	**76**	*e*P	Pb	20 41 05.4	-0.9
ANTU				*i* S	Sb	20 41 25.0	+1.1
ANTU				AML	AML	20 41 33.0	
comp=E,1μm,0.5s							
SAN	**Santiago**	**1.42**	**72**	*e*P1	Pn	20 41 05.5	+1.6
SAN				*i* S	Sb	20 41 24.7	+0.4
STL	**Santa Lucia**	**1.44**	**71**	*e*P9	Pn	20 41 05.5	+1.2
STL				*e*S	Sb	20 41 24.9	0.0
PEL	**Peldehue**	**1.53**	**60**	⇑*i*P	Pb	20 41 07.6	-0.7
PEL				*e*S	Sb	20 41 28.6	+1.1
PEL				AML	AML	20 41 37.5	
comp=N,3μm,0.6s							

MAN 03 20:45:20, 18°.11N×121°.17E, h23km, mb4.5, ML3.4, MS3.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.26**	**165**	*e*P	Pn	20 45 27.5	-0.9
APYP				*e*S	Sn	20 45 32.2	-1.4
PIP	**Pasuquin**	**0.57**	**292**	⇑*i*P	Pn	20 45 33.1	+0.4
PIP				*i* S	Sn	20 45 42.7	+1.4
ABRA	**Dolores**	**0.64**	**224**	*e*P	Pn	20 45 33.7	+0.1
ABRA				*e*S	Sn	20 45 42.9	-0.2
SGCP	**Mt. Cagua**	**0.84**	**81**	*e*P	Pb	20 45 35.9	-0.1
CAUP	**Cauayan**	**1.32**	**152**	*e*P	Pb	20 45 45.8	+1.7
CAUP				*e*S	Sb	20 46 02.2	+1.6

IDC 03 20:53:14.9±4.3, 38°.29S×73°.25W, h0km, mb3.8/3, mb1 3.7/5, mb1mx3.6/25, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=109.2km s-min=23.4km az=76.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.21**	**140**	Pn	Pn	20 54 08.7	+2.0
0.9nm,0.3s,baz=304,slow=14,SNR=3.6							
PLCA				Pg	Pb	20 54 12.9	0.0
1.5nm,0.3s,baz=302,slow=13,SNR=17							
CFAA	**Coronel Fontan**	**7.83**	**33**	Pn	Pn	20 55 09.4	-0.8
0.1nm,0.3s,baz=207,slow=11,SNR=4.2							
LPAZ	**La Paz**	**22.38**	**13**	P	P	20 58 15.7	+0.2
1.9nm,0.8s,baz=177,slow=9.2,SNR=6.4							
BOSA	**Boshof**	**78.95**	**118**	P	P	21 05 19.5	-1.3
2.6nm,0.9s,baz=225,slow=5.7,SNR=3.1							
TORD	**Torodi Ar. Bea**	**86.58**	**70**	P	P	21 06 01.0	+0.7
0.4nm,0.9s,baz=212,slow=5.6,SNR=2.5							

IDC 03 20:54:34.5±6.6, 37°.76S×72°.91W, h0km, mb4.2/2, mb1 4.2/3, mb1mx3.7/28, mbtmp4.1/3, ML3.5/1, Error ellipse: s-maj=196.5km s-min=23.8km az=71.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.49**	**149**	Pn	Pn	20 55 31.3	+1.1
0.9nm,0.3s,baz=304,slow=15,SNR=1.8							
PLCA				Lg	Lg	20 56 24.4	
14nm,0.3s,baz=40,slow=23,SNR=3.1							
DBIC	**Dimbokro**	**77.06**	**71**	P	P	21 06 30.8	+1.1
3.0nm,0.6s,baz=208,slow=7.4,SNR=5.4							
TORD	**Torodi Ar. Bea**	**86.14**	**70**	P	P	21 07 17.0	-0.8
0.6nm,0.6s,baz=229,slow=3.5,SNR=8.0							
AAK	**Ala-Archa**	**154.72**	**69**	PKPab	PKPab	21 14 51.9	-0.6
0.7nm,0.5s,baz=272,slow=8.7,SNR=5.4							
MKAR	**Makanchi Array**	**159.61**	**56**	PKPab	PKPab	21 15 12.3	-0.9
0.2nm,0.7s,baz=291,slow=5.2,SNR=3.6							

*IDC **03** 20:55:43.2±2.4, 36°.62S×73°.31W, h0km, mb3.9/3, ML3.1/1, Error ellipse: s-maj=76.8km s-min=47.8km az=105.0*

ISC 03 20:55:47.7±2.2, 36°.5S±0°.3×73°.3W±0°.4, h27km, n7, σ0°.21/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**6.44**	**42**	Pn	**Pn**	**20 57 20.8**	**-0.1**
0.4nm,0.3s,baz=207,slow=13,SNR=3.0							
CFAA				Lg	Lg	20 58 55.2	
0.2nm,0.3s,baz=111,slow=18,SNR=6.4							
LPAZ	**La Paz**	**20.67**	**14**	P	**P**	**21 00 26.2**	**0.0**
1.7nm,0.7s,baz=174,slow=6.2,SNR=3.3							
SIV	**San

TBP eS Sn 21 12 53.0 -1.5
LLP Lapu-Lapu 2.49 293 eP Pn 21 12 27.7 +1.1
LLP eS Sn 21 12 56.2 +0.2
PAGZ Pagadian 3.25 243 eP Pn 21 12 38.3 +1.1
GUIM Jordan 3.86 289 eP Pn 21 12 46.7 +1.3
WRA Warramunga Arr 30.18 165 P P 21 17 52.4 -0.3
0.1nm,0.4s,baz=344,slow=9.5,SNR=5.3
ASAR Alice Springs 33.66 167 P P 21 18 23.3 +0.1
0.2nm,0.3s,baz=358,slow=7.6,SNR=5.7
STKA Stephens Creek 43.54 161 P P 21 19 46.0 +0.2
0.5nm,0.3s,baz=336,slow=12,SNR=2.9
MKAR Makanchi Array 52.76 323 P P 21 20 56.0 -0.9
0.2nm,0.6s,baz=118,slow=7.2,SNR=4.9

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*IDC **03** 21:23:55.9±0.5,38°.47S×73°.71W,h0km,mb4.6/16, mb1 4.7/19,mb1mx4.6/33,mbtmp4.6/19,ML4.5/3,MS4.3/12, Ms1 4.3/12,ms1mx4.2/23,Error ellipse: s-maj=16.7km s-min=12.2km az=74.0*
*ISCJB **03** 21:23:57.9±0.2,38°.42S±0°.05×73°.60W±0°.06,h18km, mb4.9/42,MS4.3/11,Error ellipse: s-maj=7.8km s-min=5.1km az=135.2*
*BJI **03** 21:24:00.7,38°.50S×73°.70W,h35km,mB5.2/8,Ms5.4/9, Ms7 5.3/9*
*MOS **03** 21:24:00.2±1.2,38°.43S×73°.69W,h33km,mb5.3/14,Error ellipse: s-maj=18.4km s-min=9.5km az=103.8*
*NEIC **03** 21:24:01.5±0.2,38°.45S×73°.55W,h35km,mb5.0/26,Error ellipse: s-maj=10.7km s-min=6.6km az=73.0*
NEIC Felt at Temuco, Valdivia and Villarrica.
ISC 03 21:23:58.9±0.3,38°.45S±0°.06×73°.64W±0°.07,h18km,n288, σ1°35/292,mb5.0/42,MS4.3/11,58C-66D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.30**	**135**	eP	**Pn**	**21 24 52.3**	**+2.6**
PLCA	**Paso Flores**	**3.30**	**135**	Pn	**Pn**	**21 24 50.4**	**+0.6**
8.8nm,0.3s,baz=306,slow=13,SNR=25							
PLCA				Lg	Lg	21 25 43.4	
25nm,0.3s,baz=35,slow=20,SNR=4.4							
PLCA	**Paso Flores**	**3.30**	**135**	ePn	**Pn**	**21 24 52.3**	**+2.6**
PLCA				eSn	**Sg**	**21 25 42.0**	**-3.0**
PLCA				Lg	Lg	21 25 43.4	
CFAA	**Coronel Fontan**	**8.14**	**35**	Pn	**Pn**	**21 25 56.3**	**0.0**
0.4nm,0.3s,baz=212,slow=13,SNR=5.7							
CFAA				Lg	Lg	21 28 18.0	
baz=169,slow=10,SNR=2.3							
TRQA	**Tornquist**	**9.18**	**91**	ePn	**Pn**	**21 26 13.4**	**+2.9**
TRQA				eSn	**Sn**	**21 27 54.6**	**+1.2**
LVC	**Limon Verde**	**16.30**	**16**	ePn	**Pn**	**21 27 48.2**	**+1.0**
23nm,1.1s							
USHA	**Ushuaia**	**16.76**	**170**	Pn	**Pn**	**21 27 52.1**	**-0.4**
0.7nm,0.3s,baz=311,slow=8.6,SNR=15							
USHA				LR	LR	21 34 11.2	
comp=Z,1μm,19.8s,baz=318,slow=37							
EFI	**East Falkland**	**17.15**	**145**	Pn	**P**	**21 28 00.8**	**+1.8**
358nm,0.7s,SNR=6.8							
EFI	**East Falkland**	**17.15**	**145**	eP	**P**	**21 27 58.8**	**-0.2**
EFI				pmax	pmax		
comp=Z,255nm,1.8s							
EFI	**East Falkland**	**17.15**	**145**	ePn	**P**	**21 27 58.8**	**-0.2**
comp=Z,256nm,1.8s							
CPUP	**Villa Florida**	**18.29**	**53**	P	**P**	**21 28 12.4**	**+0.6**
comp=Z,1.1nm,0.3s,baz=224,slow=8.8,SNR=14							
CPUP				LR	LR	21 36 14.4	
comp=Z,2μm,20.2s,baz=214,slow=40							
LPAZ	**La Paz**	**22.61**	**14**	eP	**P**	**21 29 00.6**	**+1.3**
LPAZ	**La Paz**	**22.61**	**14**	P	**P**	**21 29 00.7**	**+1.3**
comp=Z,21nm,0.9s,baz=172,slow=7.2,SNR=48							
LPAZ	**La Paz**	**22.61**	**14**	eP	**P**	**21 29 00.7**	**+1.3**
comp=Z,24nm,0.9s							
SIV	**San Ignacio**	**24.96**	**30**	P	**P**	**21 29 20.9**	**-0.6**
comp=Z,4.9nm,0.8s,baz=228,slow=9.5,SNR=10							
SIV				LR	LR	21 41 16.4	
comp=Z,986nm,19.8s,baz=210,slow=42							
NNA	**Nana**	**26.51**	**353**	P	**P**	**21 29 34.6**	**-0.9**
comp=Z,5.1nm,0.4s,baz=225,slow=7.1,SNR=3.2							
NNA				LR	LR	21 37 37.8	
comp=Z,280nm,19.7s,baz=173,slow=31							
PMSA	**Palmer Station**	**26.96**	**171**	LR	LR	21 40 32.1	
comp=Z,925nm,18.9s,baz=314,slow=37							
SAML	**Samuel**	**30.85**	**20**	eP	**P**	**21 30 13.1**	**-1.0**
comp=Z,2.5nm,0.6s							
ATAH	**Atahualpa**	**31.47**	**351**	LR	LR	21 40 27.6	
comp=Z,414nm,18.3s,baz=190,slow=32							
RPN	**Rapa Nui**	**31.88**	**280**	LR	LR	21 39 09.4	
comp=Z,567nm,20.7s,baz=136,slow=29							
BDFB	**Brasilia**	**32.01**	**52**	P	**P**	**21 30 24.2**	**-0.3**
comp=Z,2.2nm,0.5s,baz=226,slow=6.5,SNR=4.3							
BDFB				LR	LR	21 44 59.6	
comp=Z,1μm,19.6s,baz=212,slow=39							
OTAV	**Otavalo**	**38.76**	**352**	eP	**P**	**21 31 22.6**	**-0.2**
comp=Z,25nm,1.4s							
VNA1	**Neumayer--Stat**	**46.14**	**155**	P	**P**	**21 32 22.6**	**+0.9**
VNA2	**Neumayer--Watz**	**46.46**	**155**	P	**P**	**21 32 25.1**	**+0.8**
SDV	**Santo Domingo**	**47.18**	**4**	eP	**P**	**21 32 30.6**	**-0.1**
SNAA	**Sanae**	**48.00**	**156**	P	**P**	**21 32 37.0**	**+0.7**
SNAA	**Sanae**	**48.00**	**156**	⇑P	**P**	**21 32 36.2**	**-0.2**
SNAA				pmax	pmax		
comp=Z,77nm,1.2s							
SNAA	**Sanae**	**48.00**	**156**	LR	LR	21 50 25.8	
comp=Z,125nm,21.3s,baz=18,slow=33							
SNAA	**Sanae**	**48.00**	**156**	eP	**P**	**21 32 36.4**	**+0.1**
comp=Z,109nm,1.4s							
JTS	**JuntasAbangare**	**49.63**	**345**	eP	**P**	**21 32 49.4**	**0.0**
JTS				pmax	pmax		
comp=Z,16nm,1.0s							
QSPA	**South Pole Qui**	**51.79**	**180**	P	**P**	**21 33 05.4**	**0.0**
comp=Z,40nm,1.0s,baz=146,slow=3.2,SNR=57							
NVL	**N'lazarevskaya**	**52.78**	**155**	*i* P	**P**	**21 33 12.1**	**-0.3**
NVL				pmax	pmax		
comp=Z,25nm,0.8s							
RKT	**Rikitea**	**53.95**	**268**	eLR	LR	21 49 03.2	
comp=Z,457nm,24.2s							
RKT	**Rikitea**	**53.95**	**268**	eT	T	22 30 52.7	
comp=Z,2.4nm,0.3s							
VNDA	**Vanda**	**59.49**	**192**	eP	**P**	**21 34 01.2**	**+0.9**
VNDA	**Vanda**	**59.49**	**192**	P	**P**	**21 34 00.2**	**0.0**
comp=Z,7.8nm,1.1s,baz=130,slow=7.5,SNR=6.1							
VNDA				LR	LR	21 55 54.8	
comp=Z,202nm,19.5s,baz=166,slow=32							
VNDA	**Vanda**	**59.49**	**192**	eP	**P**	**21 34 01.2**	**+0.9**
SYO	**Syowa Base**	**62.22**	**158**	⇓eP	**P**	**21 34 17.4**	**-1.5**
TBI	**Tubuai**	**65.11**	**259**	eT	T	22 44 55.8	
comp=Z,9.9nm,0.3s							
MEH	**Mehetia**	**67.06**	**265**	eT	T	22 47 17.9	
comp=Z,24nm,0.3s							
TIAR	**Tiarei**	**68.25**	**264**	eT	T	22 48 46.7	
comp=Z,9.1nm,0.3s							
PPT2	**Papeete2**	**68.41**	**264**	eLR	LR	21 55 39.7	
comp=Z,149nm,23.8s							
035A	**Encino**	**68.97**	**337**	⇓P	**P**	**21 35 03.5**	**+0.6**
baz=69							
034A	**Hebbronville**	**69.27**	**336**	⇑P	**P**	**21 35 04.7**	**-0.1**
baz=70							
MAW	**Mawson**	**69.28**	**164**	LR	LR	22 06 14.7	
comp=Z,632nm,18.2s,baz=232,slow=37							
933A	**Laredo**	**69.96**	**336**	⇓P	**P**	**21 35 09.9**	**+0.8**
baz=70							
834A	**Tilden**	**70.21**	**337**	⇑P	**P**	**21 35 11.0**	**+0.4**
baz=71							
833A	**Chaparral WMA,**	**70.66**	**336**	⇑P	**P**	**21 35 13.7**	**+0.4**
baz=71							
832A	**Faith Ranch, C**	**70.81**	**336**	⇑P	**P**	**21 35 14.2**	**-0.1**
baz=71							
HKT	**Hockley**	**71.14**	**340**	eP	**P**	**21 35 18.6**	**+2.5**
HKT				pmax	pmax		
comp=Z,134nm,2.9s							
HKT	**Hockley**	**71.14**	**340**	eP	**P**	**21 35 18.6**	**+2.5**
comp=Z,134nm,2.9s							
732A	**Laxson Ranch,**	**71.22**	**336**	⇓P	**P**	**21 35 16.4**	**-0.3**
baz=72							
633A	**Saathoff Ranch**	**71.65**	**337**	⇑P	**P**	**21 35 19.0**	**-0.3**
baz=72							
438A	**Sam Houston St**	**71.80**	**340**	⇓P	**P**	**21 35 21.6**	**+1.4**
baz=72							
632A	**Uvalde**	**71.89**	**336**	⇓P	**P**	**21 35 21.6**	**+0.8**
baz=72							
533A	**Kerrville**	**72.18**	**337**	⇓P	**P**	**21 35 22.9**	**+0.3**
baz=72							
337A	**Centerville**	**72.44**	**340**	⇑P	**P**	**21 35 25.2**	**+1.2**
baz=73							
532A	**Rocksprings**	**72.50**	**336**	⇓P	**P**	**21 35 24.1**	**-0.4**
baz=73,SNR=12							
434A	**Burnet**	**72.64**	**338**	⇓P	**P**	**21 35 24.9**	**-0.4**
baz=73,SNR=7.0							
531A	**Rocksprings**	**72.74**	**336**	⇑P	**P**	**21 35 25.7**	**-0.2**
baz=73,SNR=7.9							
239A	**Gary**	**72.75**	**342**	⇑P	**P**	**21 35 25.2**	**-0.6**
baz=73							
336A	**Riesel**	**72.77**	**339**	⇑P	**P**	**21 35 26.2**	**+0.3**
baz=73							
JCT	**Junction City**	**72.79**	**337**	eP	**P**	**21 35 26.7**	**+0.5**
JCT				pmax	pmax		
comp=Z,18nm,1.0s							
JCT	**Junction City**	**72.79**	**337**	⇓P	**P**	**21 35 26.1**	**-0.1**
baz=73							
JCT	**Junction City**	**72.79**	**337**	eP	**P**	**21 35 26.7**	**+0.5**
comp=Z,18nm,1.0s							
433A	**Art**	**72.83**	**337**	⇓P	**P**	**21 35 25.6**	**-0.8**
baz=73,SNR=9.7							
530A	**J-C Ranch, Com**	**72.98**	**335**	⇑P	**P**	**21 35 26.6**	**-0.8**
baz=73,SNR=12							
TXAR	**Lajitas Array**	**73.04**	**333**	P	**P**	**21 35 27.0**	**-0.8**
TXAR	**Lajitas Array**	**73.04**	**333**	P	**P**	**21 35 27.0**	**-0.8**
comp=Z,5.0nm,0.9s,baz=152,slow=6.3,SNR=22							
TXAR				LR	LR	22 01 34.6	
comp=Z,154nm,19.8s,baz=0.0,slow=31							
334A	**Lometa**	**73.12**	**338**	⇑P	**P**	**21 35 27.2**	**-0.8**
baz=74,SNR=12							
432A	**Menard**	**73.16**	**337**	⇑P	**P**	**21 35 28.5**	**+0.1**
baz=74							
431A	**Sonora**	**73.24**	**336**	⇑P	**P**	**21 35 28.9**	**+0.1**
baz=74							
529A	**Stev Forest Ra**	**73.25**	**334**	⇑P	**P**	**21 35 29.2**	**+0.2**
baz=74							
333A	**Richland Sprin**	**73.33**	**338**	⇓P	**P**	**21 35 29.5**	**+0.2**
baz=74							
WHTX	**Lake Whitney,**	**73.51**	**339**	⇓P	**P**	**21 35 30.6**	**+0.3**
baz=74							
WHTX	**Lake Whitney,**	**73.51**	**339**	eP	**P**	**21 35 30.9**	**+0.5**
comp=Z,22nm,1.0s							
430A	**Baggett Ranch,**	**73.54**	**335**	⇓P	**P**	**21 35 30.1**	**-0.5**
baz=74,SNR=7.4							
429A	**Davenport Ranc**	**73.60**	**335**	⇓P	**P**	**21 35 30.9**	**-0.2**
baz=74,SNR=8.7							
332A	**Millersview**	**73.61**	**337**	⇓P	**P**	**21 35 29.6**	**-1.4**
baz=74,SNR=8.9							
234A	**Clairette**	**73.72**	**338**	⇓P	**P**	**21 35 31.6**	**0.0**
baz=74							
331A	**San Angelo**	**73.76**	**336**	⇓P	**P**	**21 35 31.8**	**-0.1**
baz=74							
233A	**Rising Star**	**73.95**	**338**	⇑P	**P**	**21 35 33.2**	**+0.2**
baz=74							
232A	**Coleman**	**74.06**	**337**	⇑P	**P**	**21 35 34.0**	**+0.4**
baz=74							
330A	**Mertzon**	**74.09**	**336**	⇓P	**P**	**21 35 34.1**	**+0.3**
baz=74							
231A	**Bronte**	**74.31**	**337**	⇓P	**P**	**21 35 35.4**	**+0.4**
baz=75							
329A	**Wagon Wheel Ra**	**74.43**	**335**	⇑P	**P**	**21 35 36.1**	**+0.3**
baz=75							
133A	**Hamilton Ranch**	**74.51**	**338**	⇓P	**P**	**21 35 37.3**	**+1.1**
baz=75							
230A	**Sterling City**	**74.51**	**336**	⇓P	**P**	**21 35 36.8**	**+0.5**
baz=75							
Z35A	**Perchaven, San**	**74.72**	**340**	⇓P	**P**	**21 35 37.9**	**+0.5**
baz=75							
ABTX	**Abilene, Hawle**	**74.74**	**337**	⇑P	**P**	**21 35 37.5**	**-0.1**
baz=75							
ABTX	**Abilene, Hawle**	**74.74**	**337**	eP	**P**	**21 35 38.0**	**+0.5**
comp=Z,18nm,1.0s							
229A	**Bryant Ranch,**	**74.81**	**335**	⇑P	**P**	**21 35 38.8**	**+0.7**
baz=75							
131A	**Roby**	**75.01**	**337**	⇑P	**P**	**21 35 40.0**	**+0.8**
baz=75							
Z33A	**Whitaker Ranch**	**75.10**	**338**	⇑P	**P**	**21 35 40.5**	**+0.9**
baz=76							
130A	**Snyder**	**75.12**	**336**	⇓P	**P**	**21 35 40.8**	**+1.0**
baz=76							
228A	**UT Block 9, Go**	**75.21**	**335**	⇓P	**P**	**21 35 41.3**	**+0.9**
baz=76							
Z32A	**Haskell**	**75.33**	**338**	⇓P	**P**	**21 35 40.9**	**0.0**
baz=76							
Y34A	**Reagan Ranch,**	**75.44**	**339**	⇓P	**P**	**21 35 41.8**	**+0.3**
baz=76							
Z31A	**Sharp Cattle R**	**75.54**	**337**	⇓P	**P**	**21 35 43.0**	**+0.8**
baz=76							
128A	**Castleberry Fa**	**75.63**	**335**	⇓P	**P**	**21 35 44.0**	**+1.2**
baz=76							
Y33A	**Hilltop Ranch,**	**75.73**	**339**	⇑P	**P**	**21 35 43.7**	**+0.5**
baz=76							
Z30A	**Sanderson Ranc**	**75.81**	**336**	⇑P	**P**	**21 35 44.5**	**+0.8**
baz=76							
Y32A	**R-V Farms, Ver**	**75.97**	**338**	⇑P	**P**	**21 35 45.7**	**+1.1**
baz=76							
Z29A	**Hungry Hill Ra**	**75.97**	**336**	⇓P	**P**	**21 35 45.9**	**+1.2**
baz=76							
X34A	**Smith Ranch, M**	**76.07**	**340**	⇑P	**P**	**21 35 46.5**	**+1.4**
baz=76							
Y30A	**Stafford Cattl**	**76.29**	**337**	⇑P	**P**	**21 35 46.8**	**+0.3**
baz=77							
X32A	**Elmer**	**76.31**	**338**	⇓P	**P**	**21 35 47.0**	**+0.5**
baz=77							
Y29A	**Porterfield Fa**	**76.51**	**336**	⇑P	**P**	**21 35 48.1**	**+0.3**
baz=77							
Z27A	**Tatum**	**76.51**	**335**	⇑P	**P**	**21 35 47.8**	**0.0**
baz=77							
X31A	**McDonald Ranch**	**76.71**	**338**	⇓P	**P**	**21 35 49.7**	**+0.9**
baz=77							
Z26A	**Caprock**	**76.73**	**334**	⇓P	**P**	**21 35 49.9**	**+0.9**
baz=77							
Y28A	**McKinney Farm,**	**76.74**	**336**	⇓P	**P**	**21 35 50.7**	**+1.6**
baz=77							
W33A	**Caddo, Fort Co**	**76.76**	**339**	⇓P	**P**	**21 35 50.5**	**+1.4**
baz=77							
TUL1	**Leonard**	**76.78**	**342**	⇑P	**P**	**21 35 50.4**	**+1.3**
baz=77							
TUL1	**Leonard**	**76.78**	**342**	eP	**P**	**21 35 49.6**	**+0.5**
comp=Z,16nm,0.9s							
X30A	**Coker Ranch, T**	**76.81**	**337**	⇑P	**P**	**21 35 50.6**	**+1.3**
baz=77							
W32A	**Sentinel**	**76.96**	**339**	⇓P	**P**	**21 35 51.5**	**+1.4**
baz=77							
MSTX	**Muleshoe**	**76.97**	**335**	⇑P	**P**	**21 35 51.5**	**+1.2**
baz=77							
MSTX	**Muleshoe**	**76.97**	**335**	eP	**P**	**21 35 50.7**	**+0.4**
319A	**Douglas**	**77.00**	**329**	⇓P	**P**	**21 35 51.6**	**+0.9**
baz=77							
Y27A	**Causey**	**77.02**	**335**	⇓P	**P**	**21 35 51.5**	**+0.9**
baz=77							
X29A	**Tulia**	**77.06**	**336**	⇓P	**P**	**21 35 52.5**	**+1.7**
baz=77							
Z24A	**Sheeppen Canyo**	**77.27**	**333**	⇑P	**P**	**21 35 52.9**	**+0.7**
baz=78							
Y26A	**Elida**	**77.27**	**335**	⇑P	**P**	**21 35 53.0**	**+0.9**
baz=78							
V33A	**Lossen Ranch,**	**77.34**	**340**	⇓P	**P**	**21 35 53.5**	**+1.2**
baz=78							
LIC	**Lamto**	**77.41**	**72**	eP	**P**	**21 35 53.5**	**+0.3**
comp=Z,96nm,1.6s							
121A	**Cookes Peak, D**	**77.44**	**331**	⇑P	**P**	**21 35 54.3**	**+1.1**
baz=78							
V32A	**Arapaho**	**77.46**	**339**	⇑P	**P**	**21 35 54.1**	**+1.1**
baz=78							
AMTX	**Amarillo**	**77.46**	**337**	⇑P	**P**	**21 35 53.6**	**+0.5**
baz=78							
AMTX	**Amarillo**	**77.46**	**337**	eP	**P**	**21 35 55.7**	**+2.6**
comp=Z,17nm,0.9s							
SDMD	**Soldier's Deli**	**77.54**	**357**	eP	P	21 36 00.5	+7.2
comp=Z,100nm,1.3s							
Y25A	**Mesa, Roswell**	**77.57**	**334**	⇑P	**P**	**21 35 54.1**	**+0.4**
baz=78							
W29A	**Amarillo**	**77.67**	**337**	⇓P	**P**	**21 35 54.5**	**+0.3**
baz=78							
TIC	**Toumodi**	**77.69**	**71**	eP	**P**	**21 35 55.4**	**+0.6**
comp=Z,9.3nm,0.2s							
KIC	**Kosan Boka**	**77.72**	**72**	eP	**P**	**21 35 55.6**	**+0.7**
comp=Z,48nm,1.0s							
V31A	**Spring Creek L**	**77.73**	**338**	⇑P	**P**	**21 35 55.9**	**+1.3**
baz=78							
Z22A	**Elephant Butte**	**77.78**	**332**	⇓P	**P**	**21 35 55.5**	**+0.5**
baz=78							
Y24A	**Capitan**	**77.83**	**333**	⇓P	**P**	**21 35 55.8**	**+0.5**
baz=78							
DBIC	**Dimbokro**	**77.83**	**71**	eP	**P**	**21 35 56.9**	**+1.3**
DBIC	**Dimbokro**	**77.83**	**71**	P	**P**	**21 35 56.4**	**+0.9**
comp=Z,13nm,0.9s,baz=190,slow=7.4,SNR=12							
DBIC	**Dimbokro**	**77.83**	**71**	eP	**P**	**21 35 56.9**	**+1.3**
W27A	**Bowe Ranch, En**	**78.06**	**336**	⇑P	**P**	**21 35 56.3**	**-0.2**
baz=78							
TUC	**Tucson**	**78.43**	**329**	eP	**P**	**21 35 59.5**	**+1.0**
TUC				pmax	pmax		
comp=Z,12nm,1.3s							
TUC	**Tucson**	**78.43**	**329**	eP	**P**	**21 35 59.5**	**+1.0**
comp=Z,12nm,1.3s							
T33A	**Patterson Ranc**	**78.52**	**340**	⇓P	**P**	**21 35 58.6**	**-0.2**
baz=79							
W25A	**X Bar L Ranch,**	**78.67**	**335**	⇓P	**P**	**21 35 59.3**	**-0.5**
baz=79							
U30A	**WK&E Inc. Balk**	**78.67**	**338**	⇓P	**P**	**21 36 00.1**	**+0.4**
baz=79							
214A	**Organ Pipe Nat**	**78.97**	**327**	⇓P	**P**	**21 36 03.3**	**+1.9**
baz=79							
214A	**Organ Pipe Nat**	**78.97**	**327**	eP	**P**	**21 36 02.1**	**+0.6**
comp=Z,10nm,1.0s							
W24A	**Lazy 6 Ranch,**	**78.98**	**334**	⇑P	**P**	**21 36 02.9**	**+1.2**
baz=79							
ANMO	**Albuquerque**	**79.11**	**333**	eP	**P**	**21 36 02.1**	**-0.3**
ANMO				pmax	pmax		
comp=Z,34nm,1.2s							
ANMO	**Albuquerque**	**79.11**	**333**	P	**P**	**21 36 03.9**	**+1.5**
comp=Z,4.1nm,0.8s,baz=147,slow=9.0,SNR=7.3							
ANMO	**Albuquerque**	**79.11**	**333**	eP	**P**	**21 36 03.5**	**+1.2**
comp=Z,10nm,1.1s							
BOSA	**Boshof**	**79.15**	**118**	P	**P**	**21 36 02.7**	**-0.2**
comp=Z,20nm,0.9s,baz=236,slow=1.9,SNR=20							
V25A	**Rancho No Teng**	**79.28**	**335**	⇓P	**P**	**21 36 02.5**	**-0.8**
baz=80							
U26A	**Atchley Ranch,**	**79.50**	**336**	⇑P	**P**	**21 36 05.3**	**+0.8**
baz=80							
T28A	**Walsh**	**79.66**	**337**	⇑P	**P**	**21 36 06.1**	**+1.0**
baz=80							
U25A	**Circle Dot Ran**	**79.72**	**335**	⇑P	**P**	**21 36 06.7**	**+1.0**
baz=80							
113A	**Mohawk Valley,**	**80.08**	**327**	⇓P	**P**	**21 36 07.0**	**-0.4**
baz=80							
T26A	**Comanche Natio**	**80.17**	**336**	⇑P	**P**	**21 36 08.6**	**+0.6**
baz=80							
T25A	**Trinidad**	**80.40**	**336**	⇓P	**P**	**21 36 10.5**	**+1.2**
baz=81							
X16A	**Lo Mia Camp, P**	**80.54**	**329**	⇑P	**P**	**21 36 11.6**	**+1.5**
baz=81							
S26A	**Kim**	**80.54**	**336**	⇓P	**P**	**21 36 11.3**	**+1.4**
baz=81							
R28A	**Tribune**	**80.70**	**338**	⇑P	**P**	**21 36 12.0**	**+1.2**
baz=81							
Q30A	**Quinter**	**80.83**	**339**	⇓P	**P**	**21 36 13.2**	**+1.8**
baz=81							
S24A	**Houchin Ranch,**	**81.12**	**335**	⇑P	**P**	**21 36 14.6**	**+1.3**
baz=82							
R26A	**Arlington**	**81.15**	**337**	⇓P	**P**	**21 36 13.9**	**+0.7**
baz=82							
WUAZ	**Wupatki**	**81.47**	**330**	⇓P	**P**	**21 36 16.8**	**+1.7**
baz=82							
WUAZ	**Wupatki**	**81.47**	**330**	eP	**P**	**21 36 16.7**	**+1.7**
comp=Z,9.6nm,1.1s							
LBTB	**Lobatse**	**81.60**	**115**	eP	**P**	**21 36 16.8**	**+0.7**
LBTB	**Lobatse**	**81.60**	**115**	eP	**P**	**21 36 16.8**	**+0.7**
R24A	**Sanders Place,**	**81.62**	**335**	⇑P	**P**	**21 36 17.5**	**+1.7**
baz=82							
IRM	**Iron Mountain**	**81.87**	**326**	⇓P	**P**	**21 36 16.3**	**-0.7**
baz=82							
PFO	**Pinyon Flats O**	**81.98**	**325**	P	**P**	**21 36 17.8**	**+0.1**
comp=Z,4.3nm,0.8s,baz=132,slow=15,SNR=3.0							
W13A	**Hualapai Mount**	**82.13**	**328**	⇑P	**P**	**21 36 20.9**	**+2.3**
baz=82							
U15A	**North Rim**	**82.62**	**329**	⇑P	**P**	**21 36 22.6**	**+1.4**
baz=83							
SMCO	**Snowmass**	**83.09**	**335**	eP	**P**	**21 36 25.5**	**+1.7**
comp=Z,70nm,2.3s							
O23A	**Lake Granby, G**	**83.68**	**336**	⇓P	**P**	**21 36 27.9**	**+1.3**
baz=84							
O22A	**Kremmling**	**83.84**	**335**	⇓P	**P**	**21 36 28.0**	**+0.6**
baz=84							
SHPR	**Sheep Range**	**83.87**	**328**	eP	**P**	**21 36 26.0**	**-1.4**
comp=Z,18nm,1.6s							
CCUT	**Cedar City**	**84.02**	**329**	eP	**P**	**21 36 30.6**	**+2.3**
comp=Z,46nm,2.3s							
N23A	**Red Feather La**	**84.31**	**336**	⇓P	**P**	**21 36 30.4**	**+0.7**
baz=85							
ECSD	**EROS Data Cent**	**84.41**	**343**	⇓P	**P**	**21 36 29.9**	**0.0**
baz=85							
ECSD	**EROS Data Cent**	**84.41**	**343**	eP	**P**	**21 36 29.4**	**-0.5**
comp=Z,15nm,0.9s							
TMUT	**Trail Mountain**	**84.71**	**332**	eP	**P**	**21 36 33.7**	**+1.9**
J29A	**Okreek**	**85.00**	**341**	⇓P	**P**	**21 36 34.2**	**+1.3**
baz=85							
J28A	**Allard Ranch,**	**85.25**	**340**	⇓P	**P**	**21 36 35.2**	**+1.0**
baz=86							
J27A	**Elkhorn Farm,**	**85.30**	**340**	⇓P	**P**	**21 36 35.9**	**+1.4**
baz=86							
R11A	**Troy Canyon, C**	**85.61**	**328**	⇑P	**P**	**21 36 36.5**	**+0.3**
baz=86							
R11A	**Troy Canyon, C**	**85.61**	**328**	eP	**P**	**21 36 37.0**	**+0.8**
comp=Z,32nm,2.3s							
TPH	**Tonopah**	**86.07**	**327**	eP	**P**	**21 36 40.8**	**+2.2**
TPH	**Tonopah**	**86.07**	**327**	eP	**P**	**21 36 40.8**	**+2.2**
DUG	**Dugway, Tooele**	**86.09**	**331**	eP	**P**	**21 36 39.9**	**+1.4**
DUG				pmax	pmax		
comp=Z,62nm,2.5s							
DUG	**Dugway, Tooele**	**86.09**	**331**	⇑P	**P**	**21 36 38.7**	**+0.2**
baz=86							
DUG	**Dugway, Tooele**	**86.09**	**331**	eP	**P**	**21 36 39.9**	**+1.4**
comp=Z,62nm,2.5s							
NVAR	**Mina Array Bea**	**86.83**	**326**	P	**P**	**21 36 43.2**	**+0.9**
comp=Z,0.8nm,0.6s,baz=148,slow=8.7,SNR=3.7							
HWUT	**Hardware Ranch**	**86.86**	**333**	eP	**P**	**21 36 42.9**	**+0.5**

PRGR					pmax	pmax		
	comp=Z,10.0nm,0.7s							
PETK	**Petropavlovsk-**	**142.17**	**310**		PKP	**PKPdf**	**21 43 27.2**	**-2.2**
	comp=Z,2.0nm,0.5s,baz=50,slow=2.3,SNR=3.2							
GEYT	**Alibeck**	**142.43**	**75**		PKhKP	PKPpre	21 43 24.6	
	comp=Z,2.7nm,0.9s,baz=293,slow=4.2,SNR=7.2							
SEY	**Seymchan**	**143.14**	**327**		PKHKP	PKPpre	21 43 26.0	
SEY	**Seymchan**	**143.14**	**327**		PKhKP	PKPpre	21 43 26.0	
	comp=Z,2.8nm,0.8s,baz=90,slow=4.9,SNR=7.0							
PSI	**Prapat**	**143.87**	**167**		PKhKP	PKPpre	21 43 30.0	
	comp=Z,14nm,0.8s,baz=184,slow=4.4,SNR=14							
ARU	**Arti**	**143.90**	**44**	*i*	PKIKP	PKPab	21 43 29.8	+0.3
ARU	**Arti**	**143.90**	**44**	*e*	PKPdf	PKPab	21 43 28.9	-0.7
TIXI	**Tiksi**	**144.80**	**348**	⇑	*i*PKIKP	**PKPab**	**21 43 30.2**	**-2.3**
TIXI	**Tiksi**	**144.80**	**348**	*e*	PKPdf	**PKPab**	**21 43 29.8**	**-2.6**
SVE	**Sverdlovsk**	**144.95**	**43**	*e*	PKIKP	PKPbc	21 43 33.7	+0.2
SVE					pmax	pmax		
	comp=Z,34nm,1.3s							
ABKAR	**Akbulak array**	**145.34**	**57**	*e*	**P**	**PKPbc**	**21 43 34.5**	**-0.5**
IPM	**Ipoh**	**145.84**	**171**	*e*	**P**	**PKPdf**	**21 43 35.4**	**-1.7**
LHMI	**Lhok Sumawe**	**145.84**	**163**	*e*	PKPdf	**PKPdf**	**21 43 36.4**	**-0.6**
KULM	**Kulim**	**146.58**	**170**	*e*	PKPdf	**PKPdf**	**21 43 38.4**	**+0.1**
HYB	**Hyderabad**	**147.92**	**123**	*i*	**P**	**PKPbc**	**21 43 42.0**	**-1.4**
YSS	**Yuzh-Sakhalins**	**152.14**	**300**	*e*	PKIKP	**PKPbc**	**21 43 50.8**	**-2.0**
ASAJ	**Asahikawa**	**152.34**	**293**		PKPbc	**PKPbc**	**21 43 51.9**	**-1.5**
	comp=Z,13nm,0.9s,baz=210,slow=4.0,SNR=5.5							
YAK	**Yakutsk**	**152.38**	**336**	*d*	*i*PKIKP	**PKPbc**	**21 43 51.0**	**-1.8**
YAK					*e**PP	**PKPab**	**21 44 00.6**	**-2.4**
YAK					pmax	pmax		
	comp=Z,23nm,0.9s							
YAK					pmax	pmax		
	comp=E,2.0nm,1.1s							
YAK					pmax	pmax		
	comp=Z,117nm,4.3s							
YAK					pmax	pmax		
	comp=N,124nm,5.3s							
YAK					pmax	pmax		
	comp=E,65nm,4.0s							
YAK	**Yakutsk**	**152.38**	**336**	*e*	PKPdf	**PKPdf**	**21 43 45.9**	**-0.1**
KKAR	**Karatay Array**	**152.60**	**69**	*e*	PKIKP	**PKPdf**	**21 43 48.2**	**+1.2**
KKAR	**Karatay Array**	**152.60**	**69**	*e*	PKPdf	**PKPdf**	**21 43 48.2**	**+1.2**
MJAR	**Matsushiro Arr**	**154.72**	**276**		PKPab	**PKPab**	**21 44 15.5**	**+1.6**
	comp=E,1.7nm,0.8s,baz=151,slow=2.5,SNR=4.5							
EKS2	**Erkin-Say**	**154.98**	**70**	*e*	PKIKP	**PKPdf**	**21 43 49.6**	**-0.9**
EKS2	**Erkin-Say**	**154.98**	**70**	*e*	**P**	**PKPdf**	**21 43 49.6**	**-0.9**
AAK	**Ala-Archa**	**155.51**	**70**	*e*	PKIKP	**PKPdf**	**21 43 50.0**	**-1.3**
AAK	**Ala-Archa**	**155.51**	**70**	*e*	PKPdf	**PKPdf**	**21 43 50.0**	**-1.3**
TKM2	**Tokmak 2**	**156.32**	**69**	*e*	PKIKP	**PKPdf**	**21 43 52.0**	**-0.4**
TKM2	**Tokmak 2**	**156.32**	**69**	*e*	PKPdf	**PKPdf**	**21 43 52.0**	**-0.4**
KSH	**Kashi**	**156.41**	**78**		PKP	**PKPdf**	**21 43 52.5**	**-0.1**
KSH					sPKP		21 44 07.6	
KSH					PKS	**PKSdf**	**21 47 26.5**	**0.0**
KSH					PP	**PP**	**21 47 59.3**	**-0.2**
KSH					SKS	**SKSdf**	**21 50 56.2**	**-1.7**
KSH					SKKS	**SKKSac**	**21 54 46.1**	**-1.6**
KSH					SS	**SS**	**22 07 47.6**	**-2.3**
KSH					PPMZ			
	comp=E,160nm,6.0s							
KSH					LN			
	comp=E,51nm,5.6s							
KSH					LE			
	comp=E,59nm,4.7s							
KSH					LZ			
	comp=E,170nm,7.9s							
KURK	**Kurchatov**	**156.90**	**49**	*e*	PKIKP	**PKPdf**	**21 43 52.0**	**-0.6**
KURK	**Kurchatov**	**156.90**	**49**	*e*	PKPdf	**PKPdf**	**21 43 52.0**	**-0.6**
NVS	**Novosibirsk**	**157.35**	**36**	*e*	PKIKP	PKPdf	21 43 46.2	-6.8
KOLN	**Koldanda**	**158.22**	**113**	*e*	**P**	**PKPdf**	**21 43 54.5**	**-0.8**
ZALV	**Zalesovo Beam**	**158.63**	**37**		PKP	**PKPdf**	**21 43 53.3**	**-1.3**
	comp=E,1.8nm,0.9s,baz=270,slow=1.5,SNR=7.7							
ZALV					PKPab	**PKPab**	**21 44 30.4**	**+0.3**
	comp=E,3.4nm,0.8s,baz=298,slow=5.6,SNR=9.1							
DANN	**Dangsing**	**158.66**	**111**	*e*	**P**	**PKPdf**	**21 43 55.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**159.05**	**160**		PKP	**PKPdf**	**21 43 55.8**	**-0.5**
	comp=E,0.8nm,0.7s,baz=259,slow=3.6,SNR=5.0							
CMAR					PKPab	**PKPab**	**21 44 31.3**	**-1.4**
	comp=E,2.5nm,1.0s,baz=209,slow=5.3,SNR=7.0							
GKN	**Gorkha**	**159.10**	**113**	*e*	**P**	**PKPdf**	**21 43 55.4**	**-0.9**
PKIN	**Phulchoki**	**159.39**	**116**	*e*	**P**	**PKPdf**	**21 43 55.5**	**-1.3**
PKI	**Pulchoki**	**159.40**	**116**	*e*	**P**	**PKPdf**	**21 43 56.2**	**-0.7**
KKN	**Kakani**	**159.44**	**115**	*e*	**P**	**PKPdf**	**21 43 54.9**	**-1.9**
RAMN	**Ramite**	**159.84**	**119**	*e*	**P**	**PKPdf**	**21 43 56.5**	**-0.8**
GUN	**Gumba**	**159.93**	**116**	*e*	**P**	**PKPdf**	**21 43 56.1**	**-1.4**
JIRN	**Jiri**	**160.00**	**117**	*e*	**P**	**PKPdf**	**21 43 56.5**	**-1.1**
ODAN	**Odare**	**160.33**	**120**	*e*	**P**	**PKPdf**	**21 43 57.0**	**-0.8**
MKAR	**Makanchi Array**	**160.48**	**57**		PKP	**PKPdf**	**21 43 57.0**	**-0.1**
	comp=E,2.7nm,1.0s,baz=302,slow=2.3,SNR=17							
MKAR					PKPab	**PKPab**	**21 44 38.2**	**-0.3**
	comp=E,2.2nm,0.8s,baz=283,slow=3.7,SNR=12							
TAPN	**Taplejung**	**160.86**	**120**	*e*	**P**	**PKPdf**	**21 43 58.8**	**+0.3**
CN2	**Changchun**	**164.66**	**296**	*e*	PKP	**PKPdf**	**21 44 02.9**	**+1.6**
CN2					PP	**PP**	**21 48 43.1**	**-0.5**
CN2					PPMZ			
	comp=E,200nm,8.0s							
CN2					LN			
	comp=E,300nm,20.0s							
CN2					LE			
	comp=E,300nm,20.0s							
CN2					LZ			
	comp=E,200nm,20.0s							
LSA	**Lhasa**	**164.69**	**120**	*e*	PKIKP	**PKPdf**	**21 44 01.2**	**-1.2**
LSA				*e*			21 44 54.4	
LSA	**Lhasa**	**164.69**	**120**	*e*	PKPdf	**PKPdf**	**21 44 01.1**	**-1.2**
LSA				*e*	PKPab	**PKPab**	**21 44 54.4**	**-3.5**
WMQ	**Urumqi**	**164.96**	**63**		PKP	**PKPdf**	**21 44 02.6**	**+1.0**
WMQ					PKPab	**PKPab**	**21 44 58.7**	**+0.5**
WMQ					LN			
	comp=E,73nm,19.0s							
WMQ					LE			
	comp=E,56nm,22.0s							
WMQ					LZ			
	comp=E,84nm,19.0s							
KMI	**Kunming**	**166.36**	**166**		PKP	**PKPdf**	**21 44 03.5**	**-0.1**
KMI					pPKP	**pPKPdf**	**21 44 15.6**	**+5.8**
KMI					sPKP		21 44 19.7	
ZAK	**Zakamensk**	**167.87**	**9**	*e*	PKP2	**PKPab**	**21 45 09.7**	**-1.0**
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.2s							
NJ2	**Nanjing**	**167.96**	**242**	*e*	PKP	**PKPdf**	**21 44 04.9**	**+0.7**
GYA	**Guiyang**	**168.04**	**181**	*e*	PKP	**PKPdf**	**21 44 05.2**	**+0.6**
GYA					pPKP	**pPKPdf**	**21 44 16.0**	**+5.2**
GYA					PKPab	**PKPab**	**21 45 14.8**	**+2.8**
GYA					PKS	**PKSdf**	**21 47 36.0**	**-1.4**
GYA					PP	**PP**	**21 49 03.6**	**+3.7**
GYA					SKKS		21 55 46.2	
GYA					SS	**SS**	**22 09 48.8**	**+0.8**
GYA					PPMZ			
	comp=Z,120nm,8.2s							
GYA					LN			
	comp=Z,130nm,21.7s							
GYA					LE			
	comp=Z,110nm,22.3s							
GYA					LZ			
	comp=Z,120nm,21.6s							
ULN	**Ulaanbaatar**	**170.58**	**357**	*e*	PKIKP	**PKPdf**	**21 44 03.7**	**-1.9**
ULN	**Ulaanbaatar**	**170.58**	**357**	*e*	PKPdf	**PKPdf**	**21 44 03.7**	**-1.9**
SONM	**Songino Array**	**170.62**	**360**		PKP	**PKPdf**	**21 44 03.9**	**-1.7**
	comp=Z,1.1nm,0.9s,baz=70,slow=0.7,SNR=8.7							
SONM					PKPab	**PKPab**	**21 45 22.5**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=346,slow=3.5,SNR=5.6							
CD2	**Chengdu**	**172.18**	**163**	*e*	PKP	**PKPdf**	**21 44 06.5**	**-0.2**
BJT	**Baijiatuau**	**172.23**	**285**	*e*	PKPdf	**PKPdf**	**21 44 07.3**	**+0.9**
GTA	**Gaotai**	**174.81**	**77**	*e*	PKP	**PKPdf**	**21 44 07.3**	**-0.3**
LZH	**Lanzhou**	**176.90**	**139**	*e*	PKP	**PKPdf**	**21 44 08.6**	**+0.4**
LZH					pPKP	**pPKPdf**	**21 44 18.3**	**+3.9**
LZH					PP	**PP**	**21 49 47.1**	**+2.9**
LZH					SKKS		21 56 28.3	
LZH					SS	**SS**	**22 11 11.2**	**-4.7**
LZH					PPMZ			
	comp=Z,210nm,5.5s							
LZH					LN			
	comp=Z,600nm,15.0s							
LZH					LE			
	comp=Z,660nm,16.2s							
LZH					LZ			
	comp=Z,930nm,17.2s							

IDC 03 21:26:07.2±26.0, 17°38S×174°50W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.8/52, mbtmp4.3/4, Error ellipse: s-maj=475.1km s-min=151.1km az=73.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.21**	**260**	P	P	21 33 21.6	+1.0
	4.9nm,0.7s,baz=95,slow=11,SNR=6.0						
STKA	**Stephens Creek**	**42.16**	**242**	P	P	21 34 02.3	+0.6
	0.5nm,0.4s,baz=94,slow=9.2,SNR=4.6						
WRA	**Warramunga Arr**	**48.39**	**259**	P	P	21 34 50.6	-0.8
	2.7nm,0.6s,baz=96,slow=7.7,SNR=64						
ASAR	**Alice Springs**	**48.52**	**254**	P	P	21 34 51.5	-0.8
	2.6nm,0.5s,baz=89,slow=7.9,SNR=51						

*ISCJB **03** 21:30:51.9±0.3, 59°.36N±0°.02×152°.78W±0°.06, h91km±4km, mb3.8/1, Error ellipse: s-maj=5.3km s-min=3.2km az=31.0*
*IDC **03** 21:30:53.3±6.1, 59°.45N×152°.73W, h78km±61km, mb3.4/1, mb1 3.5/5, mb1mx3.1/58, mbtmp3.6/5, ML3.4/4, Error ellipse: s-maj=48.6km s-min=33.3km az=49.0*
*NEIC **03** 21:30:54.1, 59°.37N×152°.85W, h78km, MG3.0(AEIC), After AEIC.*

ISC 03 21:30:52.5±0.9, 59°.34N±0°.03×152°.79W±0°.04, h82km±7km, n73, σ0°89/92, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**0.33**	**277**	P	**Pn**	**21 31 06.3**	**+1.1**
OPT	**Oil Point**	**0.38**	**324**	P	**Pn**	**21 31 05.9**	**+0.3**
OPT				S	**Sn**	**21 31 14.8**	**-0.5**
ILS	**Iliamna Low So**	**0.63**	**347**	P	**Pn**	**21 31 07.8**	**0.0**
ILS				S	**Sn**	**21 31 19.1**	**0.0**
HOM	**Homer**	**0.67**	**61**	P	**Pn**	**21 31 09.0**	**+1.1**
HOM				S	**Sn**	**21 31 21.0**	**+1.6**
IVE	**Iliamna Volcan**	**0.69**	**350**	P	**Pn**	**21 31 08.4**	**+0.1**
IVE				S	**Sn**	**21 31 19.6**	**-0.5**
INE	**Iliamna NE**	**0.73**	**349**	P	**Pn**	**21 31 09.2**	**+0.3**
INE				S	**Sn**	**21 31 20.7**	**-0.3**
ILW	**Iliamna West**	**0.74**	**346**	P	**Pn**	**21 31 09.1**	**+0.1**
BRLK	**Bradley Lake**	**1.06**	**66**	P	**Pn**	**21 31 12.7**	**+0.3**
KAPH	**Katmai Pasha**	**1.10**	**228**	P	**Pn**	**21 31 13.5**	**+0.6**
KAPH				S	**Sn**	**21 31 28.8**	**+0.6**
RSO	**Redoubt South**	**1.12**	**1**	*e*Pn	**Pn**	**21 31 13.7**	**+0.3**
RSO				*e*Sn	**Sn**	**21 31 29.8**	**+0.9**
RDWB	**Redoubt West**	**1.15**	**359**	P	**Pn**	**21 31 13.8**	**+0.2**
RDWB				S	**Sn**	**21 31 29.5**	**+0.1**
RDN	**Redoubt North**	**1.18**	**1**	P	**Pn**	**21 31 14.6**	**+0.6**
NCT	**North Crescent**	**1.23**	**357**	P	**Pn**	**21 31 14.9**	**+0.4**
DFR	**Drift River**	**1.25**	**2**	P	**Pn**	**21 31 15.3**	**+0.4**
KAHC	**Katmai Hardscr**	**1.34**	**240**	P	**Pn**	**21 31 16.3**	**+0.3**
KAHC				S	**Sn**	**21 31 33.3**	**-0.3**
KDAK	**Kodiak Island**	**1.57**	**176**	P	**Pn**	**21 31 18.9**	**+0.2**
KAKN	**Katmai Knife C**	**1.58**	**229**	P	**Pn**	**21 31 19.5**	**+0.6**
KAKN				S	**Sn**	**21 31 39.3**	**+0.3**
KVTA	**Katmai Vly 10**	**1.62**	**235**	P	**Pn**	**21 31 20.1**	**+0.7**
KABR	**Katmai Barrier**	**1.66**	**224**	P	**Pn**	**21 31 20.7**	**+0.6**
KCE	**Katmai Mt Cerb**	**1.66**	**230**	P	**Pn**	**21 31 21.4**	**+1.4**
SLKM	**Skilak Lake**	**1.74**	**47**	P	**Pn**	**21 31 22.0**	**+0.9**
KELA	**Mount Kelaz**	**1.78**	**241**	P	**Pn**	**21 31 22.0**	**+0.4**
SEW	**Seward**	**1.86**	**64**	*e*Pn	**Pn**	**21 31 22.9**	**+0.4**
SEW				*e*Sn	**Sn**	**21 31 45.1**	**-0.2**
CKL	**Chakachamna La**	**1.87**	**7**	P	**Pn**	**21 31 23.6**	**+0.8**
SPBG	**Spurr Blockage**	**1.94**	**6**	P	**Pn**	**21 31 24.5**	**+0.9**
BGL	**Barrier Glacie**	**1.94**	**6**	P	**Pn**	**21 31 24.9**	**+1.2**
CGLM	**Capps Glacier**	**2.01**	**11**	P	**Pn**	**21 31 25.7**	**+1.1**
OHAK	**Old Harbor**	**2.14**	**187**	*e*Pn	**Pn**	**21 31 26.3**	**0.0**
OHAK				*e*Sn	**Sn**	**21 31 53.2**	**+1.2**
STLK	**Strandline Lak**	**2.22**	**12**	P	**Pn**	**21 31 28.3**	**+1.0**
SVW2	**Sparrevohn**	**2.25**	**323**	P	**Pn**	**21 31 28.0**	**+0.3**
SVW2				S	**Sn**	**21 31 53.7**	**-0.9**
FIB	**Fire Island**	**2.25**	**34**	P	**Pn**	**21 31 29.4**	**+1.7**
RC01	**Rabbit Creek A**	**2.32**	**40**	P	**Pn**	**21 31 29.3**	**+0.6**
SUA	**Susitna One**	**2.36**	**25**	P	**Pn**	**21 31 30.5**	**+1.2**
PTE	**Portage**	**2.43**	**49**	P	**Pn**	**21 31 30.5**	**+0.4**
PLK1	**Peulik 1**	**2.53**	**234**	P	**Pn**	**21 31 32.6**	**+1.2**
PWL	**Port Wells**	**2.70**	**54**	P	**Pn**	**21 31 33.8**	**0.0**
SKT	**Skwentna**	**2.72**	**13**	P	**Pn**	**21 31 34.8**	**+0.7**
SII	**Sitkinak Islan**	**2.89**	**195**	P	**Pn**	**21 31 36.4**	**+0.1**
JPK	**Jack Peak**	**3.54**	**58**	P	**Pn**	**21 31 44.9**	**-0.3**
PPLA	**Purkeypile**	**3.58**	**4**	P	**Pn**	**21 31 47.4**	**+1.6**
SCM	**Sheep Creek Mo**	**3.67**	**45**	P	**Pn**	**21 31 47.4**	**+0.4**
VLZ	**Valdez**	**3.69**	**58**	P	**Pn**	**21 31 46.9**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.74**	**68**	P	**Pn**	**21 31 48.5**	**+0.6**
TT01	**Tatalina**	**3.91**	**338**	P	**Pn**	**21 31 50.7**	**+0.6**
TT01				S	**Sn**	**21 32 33.4**	**-1.3**
KLU	**Klutina**	**4.03**	**55**	P	**Pn**	**21 31 51.8**	**-0.1**
KLU				S	**Sn**	**21 32 35.6**	**-2.3**
GOAT	**Goat Mountain**	**4.24**	**70**	P	**Pn**	**21 31 55.7**	**+1.0**
TRF	**Thorofare Moun**	**4.29**	**15**	P	**Pn**	**21 31 56.8**	**+1.2**
KTH	**Kantishna Hill**	**4.32**	**11**	*e*Pn	**Pn**	**21 31 56.5**	**+0.7**
KTH				*e*Sn	**Sn**	**21 32 45.5**	**+0.6**
BMRM	**Bremner River**	**4.41**	**65**	P	**Pn**	**21 31 57.3**	**+0.4**
RND	**Reindeer**	**4.50**	**23**	P	**Pn**	**21 31 59.0**	**+0.8**
PS11	**TAPS Pump St11**	**4.52**	**49**	P	**Pn**	**21 31 59.8**	**+1.4**
MCK	**McKinley**	**4.78**	**21**	P	**Pn**	**21 32 03.5**	**+1.6**
HARP	**HAARP**	**4.83**	**47**	P	**Pn**	**21 32 03.2**	**+0.5**
PAX	**Paxson**	**5.08**	**41**	P	**Pn**	**21 32 06.5**	**+0.4**
PAX				*e*Sn	**Sn**	**21 33 02.0**	**-1.4**
BWN	**Browne**	**5.10**	**17**	P	**Pn**	**21 32 07.4**	**+1.1**
PS10	**TAPS Pump St10**	**5.30**	**36**	P	**Pn**	**21 32 10.7**	**+1.5**
DDM	**Donnelly Dome**	**5.55**	**34**	P	**Pn**	**21 32 14.9**	**+2.3**
WRH	**Wood River Hil**	**5.61**	**21**	P	**Pn**	**21 32 13.4**	**+0.2**
HDA	**Harding Lake**	**5.78**	**26**	P	**Pn**	**21 32 16.1**	**+0.5**
MLY	**Manley**	**5.79**	**9**	P	**Pn**	**21 32 17.1**	**+1.4**
CCB	**Clear Creek Bu**	**5.82**	**22**	P	**Pn**	**21 32 16.1**	**+0.1**
COLA	**College**	**6.01**	**21**	*e*Pn	**Pn**	**21 32 18.7**	**-0.1**
	8.6nm,0.6s						
COLA				*e*Sn	**Sn**	**21 33 27.5**	**+1.5**
MDM	**Murphy Dome**	**6.03**	**19**	P	**Pn**	**21 32 19.4**	**+0.4**
ILAR	**Eielson Array**	**6.11**	**24**	P	**Pn**	**21 32 20.2**	**+0.2**
	1.5nm,0.3s,baz=208,slow=14,SNR=157						
ILAR				S	**Sn**	**21 33 26.6**	**-1.9**
	0.7nm,0.3s,baz=209,slow=24,SNR=7.0						
ILB	**Eielson Array**	**6.11**	**24**	P	**Pn**	**21 32 20.1**	**0.0**
SCRK	**Sand Creek**	**6.26**	**38**	P	**Pn**	**21 32 21.9**	**-0.3**
BCA3	**Beaver Creek A**	**6.50**	**50**	P	**Pn**	**21 32 26.8**	**+1.4**
IM3	**Indian Mountai**	**6.68**	**357**	P	**Pn**	**21 32 29.0**	**+1.2**
EGAK	**Eagle**	**7.71**	**40**	*e*Pn	**Pn**	**21 32 42.0**	**+0.1**
DLBC	**Dease Lake**	**11.80**	**85**	P	**Pn**	**21 33 37.0**	**-0.6**
	0.3nm,0.3s,baz=276,slow=9.2,SNR=2.9						
INK	**Inuvik**	**12.31**	**35**	P	**Pn**	**21 33 43.3**	**-1.0**
	0.1nm,0.3s,baz=223,slow=8.3,SNR=4.3						
YKA	**Yellowknife Ar**	**18.64**	**64**	P	**Pn**	**21 35 04.5**	**0.0**
	0.1nm,0.3s,baz=277,slow=11,SNR=5.7						
SONM	**Songino Array**	**55.27**	**306**	P	**P**	**21 40 17.6**	**+0.6**
	0.6nm,0.6s,baz=43,slow=6.8,SNR=6.1						

KRSC 03 21:32:30.1±1.0, 55°.00N×162°.75E, h46km±20km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.74**	**233**	*e*P	Pn	21 32 44.3	+0.1
MKZ				*e*S	Sn	21 32 53.1	-1.2
KBTR	**Krutoberegovo**	**1.21**	**2**	*e*P	Pn	21 32 52.8	+2.2
KBTR				*e*S	Sn	21 33 08.0	+2.1
TUMR	**Tumrok**	**1.52**	**282**	*e*P	Pn	21 32 57.1	+2.1
TUMR				*e*S	Sn	21 33 15.0	+1.3
KMNR	**Kamenistaya**	**1.62**	**299**	*e*P	Pn	21 32 58.9	+2.5
KMNR				*e*S	Sn	21 33 18.9	+2.8
SMKR	**Semkarok**	**1.74**	**336**	*e*P	Pn	21 33 00.6	+2.6
SMKR				*e*S	Sn	21 33 21.6	+2.5
KLY	**Klyuchi**	**1.77**	**319**	*e*P	Pn	21 32 59.8	+1.5
KLY				*e*S	Sn	21 33 20.1	+0.5
BDR	**Baidarnaya**	**1.80**	**332**	*e*P	Pn	21 33 00.7	+2.0
BDR				*e*S	Sn	21 33 21.9	+1.5
BKI	**Bering**	**1.86**	**82**	*e*P	Pn	21 33 01.8	+2.3
BKI				*e*S	Sn	21 33 23.0	+1.2
SRKR	**Sorokina**	**1.88**	**332**	*e*P	Pn	21 33 02.7	+2.8
SRKR				*e*S	Sn	21 33 25.0	+2.5
KOZ	**Kozyrevsk**	**1.95**	**304**	P	Pn	21 33 04.2	+3.5
KII	**Karymskiy**	**2.15**	**245**	P	Pn	21 33 08.0	+4.4
KII				*e*S	Sn	21 33 34.1	+5.0
SRDR	**Sredinnyy**	**2.17**	**309**	*e*P	Pn	21 33 06.5	+2.7
SRDR				*e*S	Sn	21 33 31.6	+2.2
ESO	**Esso**	**2.48**	**294**	*e*P	Pn	21 33 10.0	+1.9
ESO				*e*S	Sn	21 33 37.9	+0.7
SPN	**Mys Shipunski**	**2.49**	**221**	S	Sn	21 33 39.1	+1.8
NLC	**Nalytchevo**	**2.71**	**229**	*e*S	Sn	21 33 46.4	+3.7
SDLR	**Sedlovina**	**2.85**	**234**	*e*P	Pn	21 33 16.5	+3.2
SDLR				*e*S	Sn	21 33 49.8	+3.3
KRER	**Koryakskii**	**2.90**	**236**	*e*P	Pn	21 33 18.1	+4.1
KRER				*e*S	Sn	21 33 52.6	+4.8
SMAR	**Somma**	**2.90**	**235**	*e*P	Pn	21 33 17.3	+3.2
KRX	**Arik**	**2.92**	**237**	*e*P	Pn	21 33 18.1	+3.9
KRX				*e*S	Sn	21 33 52.1	+4.0
UGLR	**Uglovaya**	**2.92**	**234**	*e*P	Pn	21 33 17.8	+3.6
AVH	**Avacha**	**2.93**	**235**	*e*P	Pn	21 33 18.8	+4.5
AVH				*e*S	Sn	21 33 52.9	+4.6
KOK	**Koryaka**	**2.96**	**236**	*e*P	Pn	21 33 18.6	+3.9
GNL	**Ganaly**	**3.10**	**247**	*e*P	Pn	21 33 19.9	+3.2
PET	**Petropavlovsk**	**3.12**	**232**	P	Pn	21 33 20.6	+3.8
PET				*e*S	Sn	21 33 55.6	+2.8
RUS	**Russkaya**	**3.60**	**226**	P	Pn	21 33 27.8	+4.5
RUS				*e*S	Sn	21 34 07.9	+3.5
MTVR	**Mutnovka**	**3.70**	**229**	*e*P	Pn	21 33 28.1	+3.2
MTVR				*e*S	Sn	21 34 08.6	+1.2
ASAK	**Asacha**	**3.89**	**230**	*e*P	Pn	21 33 32.1	+4.6
ASAK				*e*S	Sn	21 34 15.6	+3.6
APC	**Apacha**	**3.90**	**240**	P	Pn	21 33 31.8	+4.4
OSSR	**Ossora**	**4.27**	**2**	P	Pn	21 33 35.2	+2.8

*IDC **03** 21:34:21.3±1.3, 38°.14S×72°.00W, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.6/31, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=45.6km s-min=16.2km az=75.0*
*ISCJB **03** 21:34:24.6±1.1, 38°.2S±0°.1×71°.7W±0°.3, h33km, mb3.4/4, Error ellipse: s-maj=37.5km s-min=14.4km az=178.4*

ISC 03 21:34:26.0±1.2, 38°.2S±0°.1×71°.7W±0°.3, h35km, n6, σ0°33/6, mb3.4/4, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.68**	**161**	Pn	**Pn**	**21 35 06.7**	**-0.1**
	0.4nm,0.3s,baz=353,slow=0.5,SNR=3.7						
PLCA				Lg	Lg	21 35 52.1	
	0.8nm,0.3s,baz=166,slow=8.3,SNR=3.6						
CFAA	**Coronel Fontan**	**7.17**	**24**	Pn	**Pn**	**21 36 08.3**	**-0.2**
	0.9nm,0.3s,baz=216,slow=11,SNR=17						
LPAZ	**La Paz**	**22.06**	**9**	P	**P**	**21 39 18.3**	**-0.1**
	1.4nm,0.9s,baz=186,slow=6.1,SNR=4.6						
SIV	**San Ignacio**	**24.03**	**26**	P	**P**	**21 39 38.3**	**+0.5**
	1.7nm,0.5s,baz=272,slow=18,SNR=4.1						
TXAR	**Lajitas Array**	**73.53**	**331**	P	**P**	**21 45 55.4**	**+0.2**
	0.1nm,0.5s,baz=153,slow=8.1,SNR=2.4						
PDAR	**Pinedale Array**	**87.62**	**333**	P	**P**	**21 47 10.4**	**-0.1**
	0.2nm,0.8s,baz=142,slow=4.6,SNR=1.9						

*IDC **03** 21:36:55.0±0.5, 3°.41N×126°.85E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.1/44, mbtmp4.1/18, MS4.0/4, Ms1 4.0/4, ms1mx3.5/49, Error ellipse: s-maj=29.2km s-min=9.8km az=71.0*
*MOS **03** 21:36:59.0±1.3, 3°.48N×126°.95E, h33km, mb4.9/10, Error ellipse: s-maj=20.4km s-min=8.7km az=109.8*
*BJI **03** 21:37:00.0, 3°.70N×127°.30E, h35km, mB5.1/15, mb4.4/31, Ms4.8/11, Ms7 4.6/11*
*ISCJB **03** 21:37:00.9±0.2, 3°.58N±0°.03×126°.98E±0°.03, h48km, mb4.4/37, MS4.1/4, Error ellipse: s-maj=5.2km s-min=3.4km az=156.5*
*NEIC **03** 21:37:02.7±1.2, 3°.54N×127°.09E, h58km±12km, mb4.8/7, Error ellipse: s-maj=12.9km s-

GYA pP **pP** **21 43 18.0 -0.5**
GYA PP **PnPn** **21 44 06.2 +2.5**
GYA PcP **PcP** **21 46 08.6 +0.4**
GYA S **S** **21 48 03.7 +3.5**
GYA sS **sS** **21 48 20.4 -0.9**
GYA SS **ScP** **21 49 41.6 -5.0**
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,90nm,4.8s
GYA LN
comp=Z,530nm,16.9s
GYA LE
comp=Z,480nm,17.3s
GYA LZ
comp=Z,500nm,17.6s
CMAR Chiang Mai Arr 31.07 301 P **P** **21 43 16.6 +0.2**
comp=Z,1.6nm,0.8s,baz=124,slow=8.0,SNR=9.1
CMMT Chiang Mai 31.22 301 P **P** **21 43 19.0 +1.3**
CHTO Chiang Mai 31.22 301 *eP* **P** **21 43 18.9 +1.2**
CHTO pmax pmax
comp=Z,52nm,2.6s
CHTO Chiang Mai 31.22 301 *eP* **P** **21 43 18.9 +1.2**
comp=Z,52nm,2.6s
KMI Kunming 31.60 315 P **P** **21 43 24.3 +3.1**
KMI pP **pP** **21 43 33.9 +0.1**
KMI PMZ
comp=Z,5.0nm,0.7s
KSAR Wonju Array Be 33.75 1 P **P** **21 43 40.1 +0.5**
KSAR Wonju Array Be 33.75 1 P **P** **21 43 40.0 +0.5**
KSRS Korea Array 33.76 2 P **P** **21 43 40.0 +0.4**
comp=Z,1.3nm,0.8s,baz=179,slow=10,SNR=3.9
FORT Forrest 34.15 178 *eP* **P** **21 43 44.8 +1.7**
baz=34,SNR=6.7
FORT Forrest 34.15 178 *eP* **P** **21 43 43.0 -0.1**
comp=Z,28nm,0.9s
XAN Xi'an 34.64 333 P P 21 43 52.2 +4.8
XAN PMZ
comp=Z,2.0nm,1.2s
CD2 Chengdu 34.87 324 *eP* **P** **21 43 50.9 +1.5**
CD2 PMZ
comp=Z,20nm,1.0s
BBOO Buckleboo 37.19 167 P **P** **21 44 08.1 -1.1**
baz=37,SNR=25
BBOO Buckleboo 37.19 167 *eP* **P** **21 44 08.4 -0.8**
comp=Z,2μm,2.6s
BJI Beijing 37.60 347 P **P** **21 44 12.7 +0.2**
BJI PMZ
comp=Z,19nm,1.1s
STKA Stephens Creek 37.91 159 *eP* **P** **21 44 14.4 -0.9**
STKA Stephens Creek 37.91 159 P **P** **21 44 14.6 -0.7**
comp=Z,22nm,0.8s,baz=335,slow=9.7,SNR=48
STKA Stephens Creek 37.91 159 P **P** **21 44 14.4 -0.9**
baz=38,SNR=38
STKA Stephens Creek 37.91 159 *eP* **P** **21 44 14.4 -0.9**
HTT Hallett 38.50 164 P **P** **21 44 21.8 +1.5**
baz=39,SNR=3.1
LZH Lanzhou 38.73 330 *eP* **P** **21 44 23.2 +0.9**
LZH pP **pP** **21 44 33.0 -2.1**
LZH sP **sP** **21 44 37.2 -3.6**
LZH PMZ
comp=Z,17nm,1.0s
HHC Hu-ho-hao-te 39.61 342 *eP* **P** **21 44 29.1 -0.5**
HHC sP sP 21 44 41.6 -6.5
HHC PP **PnPn** **21 46 04.5 -0.2**
HHC PcP **PcP** **21 46 35.9 -0.1**
HHC ScP **ScP** **21 50 21.5 +0.5**
HHC S **S** **21 50 29.0 -0.4**
HHC sS **sS** **21 50 46.2 -4.7**
HHC PMZ
comp=Z,16nm,0.9s
HHC LN
comp=Z,530nm,14.3s
HHC LE
comp=Z,230nm,15.2s
HHC LZ
comp=Z,410nm,15.3s
CN2 Changchun 40.11 358 *eP* **P** **21 44 31.3 -2.2**
MDJ Mudanjiang 40.98 3 P **P** **21 44 40.0 -0.7**
MDJ pP **pP** **21 44 48.9 -4.6**
MDJ sP sP 21 44 52.7 -6.5
MDJ PMZ
comp=Z,5.0nm,1.1s
MDJ PMZ
comp=Z,280nm,6.5s
ERM Erimo 40.99 19 *eP* **P** **21 44 42.4 +1.6**
ERM pmax pmax
comp=Z,94nm,2.5s
ARMA Armidale 41.24 147 P **P** **21 44 43.3 +0.1**
baz=41,SNR=4.4
H11S3 WAKE ISLAND Hy 41.69 66 T T 22 29 15.8
baz=253,slow=74,SNR=19
H11S2 WAKE ISLAND Hy 41.71 66 T T 22 29 18.2
baz=253,slow=74,SNR=9.8
H11S1 WAKE ISLAND Hy 41.71 66 T T 22 29 20.0
baz=253,slow=74,SNR=3.2
ARPS Mount Arapiles 42.47 162 P **P** **21 44 53.7 +0.8**
baz=43,SNR=8.2
HIA Hailar 45.96 354 *eP* **P** **21 45 23.5 +2.7**
HIA pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 47.51 341 P **P** **21 45 34.0 +1.0**
comp=Z,1.8nm,0.7s,baz=161,slow=6.8,SNR=5.5
HYB Hyderabad 49.30 290 *i* P **P** **21 45 46.0 -1.2**
TLY Talaya 51.74 342 *eP* **P** **21 46 06.7 +1.6**
TLY pmax pmax
comp=Z,9.0nm,1.5s
WMQ Urumqi 52.95 325 *eP* **P** **21 46 16.0 +1.8**
WMQ PMZ
comp=Z,5.0nm,1.6s
WMQ PMZ
comp=Z,200nm,8.0s
WMQ LN
comp=Z,350nm,22.0s
WMQ LE
comp=Z,160nm,20.0s
WMQ LZ
comp=Z,240nm,18.0s
PETK Petropavlovsk- 55.56 22 P **P** **21 46 33.5 +0.6**
comp=Z,1.9nm,0.5s,baz=188,slow=4.3,SNR=4.3
MKAR Makanchi Array 57.78 325 P **P** **21 46 48.8 -0.1**
comp=Z,1.8nm,0.7s,baz=123,slow=7.5,SNR=20
KSH Kashi 58.26 315 P **P** **21 46 54.0 +1.5**
KSH sP **sP** **21 47 06.9 -4.6**
KSH PP **PP** **21 49 03.9 +1.9**
KSH S **S** **21 54 51.5 +0.1**
KSH SS **SS** **21 58 47.1 +3.1**
KSH PMZ
comp=Z,5.0nm,1.1s
KSH PMZ
comp=Z,120nm,5.3s
KSH LN
comp=Z,79nm,5.8s
KSH LE
comp=Z,86nm,4.9s
KSH LZ
comp=Z,180nm,13.2s
AAK Ala-Archa 60.58 318 *eP* P 21 47 12.3 +3.8
AAK pmax pmax
comp=Z,10.0nm,1.7s
ZALV Zalesovo Beam 60.81 333 P **P** **21 47 09.2 -0.4**
comp=Z,0.5nm,0.4s,baz=123,slow=5.5,SNR=3.5
SEY Seymchan 62.19 13 P **P** **21 47 20.1 +1.4**
comp=Z,0.5nm,0.3s,baz=185,slow=12,SNR=3.6
BVAR Borovoye Array 67.54 327 P **P** **21 47 53.5 -0.4**
comp=Z,1.8nm,0.6s,baz=131,slow=7.7,SNR=4.3
BRVK Borovoye 67.61 327 *eP* **P** **21 47 54.9 +0.6**
BRVK pmax pmax
comp=Z,9.0nm,1.2s
TIXI Tiksi 68.03 1 *eP* **P** **21 47 56.3 -0.2**
TIXI Tiksi 68.03 1 *eP* **P** **21 47 56.3 -0.2**
BILL Bilibino 69.70 15 *eP* **P** **21 48 07.4 +0.4**
BILL pmax pmax
comp=Z,2.0nm,1.2s
GEYT Alibeck 71.11 309 P **P** **21 48 15.9 -0.4**
comp=Z,0.6nm,0.6s,baz=102,slow=7.5,SNR=2.8
ABKAR Akbulak array 72.37 321 *eP* **P** **21 48 23.0 -0.5**
AKTO Aktyubinsk 73.88 322 P **P** **21 48 32.1 -0.3**
comp=Z,2.2nm,0.7s,baz=100,slow=7.8,SNR=9.1
SVE Sverdlovsk 74.18 328 *eP* **P** **21 48 34.5 +0.5**
ARU Arti 75.16 328 *d iP* **P** **21 48 42.6 +2.9**
ARU 21 51 27.5
ARU S **S** **21 58 20.2 +5.5**
ARU SS **SS** **22 03 02.2 -2.5**
ARU pmax pmax

comp=Z,6.0nm,1.2s
ILAR Eielson Array 85.22 25 P **P** **21 49 32.1 -1.6**
comp=Z,0.4nm,0.9s,baz=249,slow=3.5,SNR=4.4
KLMR Klimovskoe 85.63 331 *eP* **P** **21 49 35.9 +0.1**
KLMR pmax pmax
comp=Z,11nm,1.0s
OBN Obninsk 87.28 325 *eP* **P** **21 49 44.8 +0.8**
OBN pmax pmax
comp=Z,6.0nm,1.2s
MMAI Mount Meron Ar 89.31 303 LR LR 22 37 18.5
comp=Z,85nm,18.4s,baz=330,slow=40
KMBO Kilima Mbogo 89.67 269 *cePP* **P** **21 49 58.7 +2.2**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 89.67 269 P **P** **21 49 56.4 -0.1**
comp=Z,0.7nm,0.3s,baz=190,slow=11,SNR=6.1
BRTR Keskin Array B 90.23 310 P **P** **21 49 58.3 -0.2**
comp=Z,1.6nm,1.1s,baz=69,slow=7.9,SNR=3.2
SPITS Spitsbergen Ar 90.69 349 LR LR 22 37 42.7
comp=Z,85nm,18.0s,baz=145,slow=40
AKASG Malin Array Be 92.11 321 P **P** **21 50 06.5 -0.3**
comp=Z,0.3nm,0.3s,baz=64,slow=5.3,SNR=2.7
SYO Syowa Base 92.30 201 ⇓*eX* P 21 50 12.0 +4.8
MLR Muntele Rosu 95.12 316 LR LR 22 35 57.4
comp=Z,34nm,21.7s,baz=246,slow=37
KOLS Kolonicke sedl 96.87 320 *eP* **P** **21 50 26.6 -2.0**
KOLS Kolonicke sedl 96.87 320 *eP* **P** **21 50 26.6 -2.0**
YKA Yellowknife Ar 99.62 24 P **Pdif** **21 50 38.6 -2.0**
comp=Z,0.1nm,0.3s,baz=298,slow=4.4,SNR=2.7
TORD Torodi Ar. Bea 123.09 288 PKP **PKPdf** **21 55 53.9 -1.0**
comp=Z,0.5nm,0.6s,baz=68,slow=1.5,SNR=4.4

*ISCJB **03** 21:38:01.6±0.7, 33°.43S±0°.08×73°.05W±0°.10, h6km, mb4.0/9, Error ellipse: s-maj=13.3km s-min=9.5km az=42.3*
*IDC **03** 21:38:02.3±0.8, 33°.38S×73°.02W, h0km, mb4.1/10, mb1 4.1/13, mb1mx4.1/27, mbtmp4.0/13, ML4.1/3, Error ellipse: s-maj=23.6km s-min=18.4km az=96.0*
ISC 03 21:38:03.3±0.7, 33°.40S±0°.09×73°.1W±0°.1, h6km, n17, σ0°59/18, mb4.2/9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.46**	**68**	Pn		**Pn**		**21 39 12.1**	**+0.6**
	0.3nm,0.3s,baz=230,slow=14,SNR=7.9								
CFAA				Sn		**Sn**		**21 40 04.5**	**+0.7**
	0.9nm,0.3s,baz=116,slow=18,SNR=8.0								
PLCA	**Paso Flores**	**7.59**	**165**	Pn		**Pn**		**21 39 54.8**	**+0.2**
	0.8nm,0.3s,baz=338,slow=12,SNR=2.9								
CPUP	**Villa Florida**	**15.36**	**67**	Pn		**Pn**		**21 41 40.5**	**-0.1**
	0.3nm,0.3s,baz=180,slow=2.0,SNR=2.2								
LPAZ	**La Paz**	**17.61**	**16**	P		**Pn**		**21 42 10.1**	**+0.1**
	0.1nm,0.3s,baz=157,slow=7.2,SNR=4.1								
SIV	**San Ignacio**	**20.45**	**35**	P		**P**		**21 42 42.2**	**+0.6**
	5.9nm,1.0s,baz=225,slow=11,SNR=7.4								
BDFB	**Brasilia**	**28.73**	**58**	P		**P**		**21 44 00.4**	**-1.3**
	1.8nm,0.5s,baz=238,slow=9.5,SNR=2.9								
SNAA	**Sanae**	**52.47**	**158**	P		**P**		**21 47 17.1**	**+0.5**
	2.3nm,1.1s,baz=257,slow=14,SNR=2.9								
QSPA	**South Pole Qui**	**56.84**	**180**	P		**P**		**21 47 48.7**	**+0.2**
	2.0nm,0.8s,baz=153,slow=4.8,SNR=5.0								
TXAR	**Lajitas Array**	**68.79**	**332**	P		**P**		**21 49 09.1**	**+0.6**
	0.3nm,0.6s,baz=153,slow=8.9,SNR=4.4								
DBIC	**Dimbokro**	**75.81**	**72**	P		**P**		**21 49 50.7**	**0.0**
	2.2nm,0.6s,baz=197,slow=7.7,SNR=6.5								
BOSA	**Boshof**	**81.11**	**118**	P		**P**		**21 50 19.3**	**-0.7**
	2.8nm,0.9s,baz=202,slow=4.5,SNR=3.8								
PDAR	**Pinedale Array**	**82.84**	**334**	P		**P**		**21 50 28.9**	**+0.3**
	0.3nm,0.8s,baz=140,slow=5.7,SNR=2.3								
TORD	**Torodi Ar. Bea**	**84.82**	**71**	P		**P**		**21 50 38.4**	**-0.7**
	1.7nm,0.7s,baz=261,slow=4.7,SNR=8.7								
ULM	**Lac du Bonnet**	**85.70**	**346**	P		**P**		**21 50 42.3**	**-0.3**
	1.1nm,0.5s,baz=166,slow=8.3,SNR=3.2								
BRTR	**Keskin Array B**	**122.30**	**61**	PKP		**PKPdf**		**21 56 58.8**	**-0.6**
	1.6nm,1.0s,baz=43,slow=9.3,SNR=2.7								
BVAR	**Borovoye Array**	**147.42**	**42**	PKPbc		**PKPdf**		**21 57 45.3**	**+0.2**
	0.7nm,0.6s,baz=289,slow=4.5,SNR=4.7								
ZALV	**Zalesovo Beam**	**154.16**	**31**	PKPbc		**PKPbc**		**21 58 03.9**	**+0.3**
	0.7nm,0.6s,baz=270,slow=1.5,SNR=4.1								

*IDC **03** 21:49:12.8±1.3, 3°.31N×126°.27E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/24, mbtmp4.0/6, Error ellipse: s-maj=184.9km s-min=17.1km az=67.0*
ISC 03 21:49:19.6±1.3, 3°.4N±0°.5×126°.6E±°, h53km, n7, σ0°58/7, mb3.9/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.41**	**162**	P		**P**		**21 54 33.1**	**-0.3**
	3.3nm,0.5s,baz=336,slow=11,SNR=40								
ASAR	**Alice Springs**	**27.82**	**165**	P		**P**		**21 55 04.2**	**0.0**
	0.5nm,0.3s,baz=343,slow=10,SNR=14								
STKA	**Stephens Creek**	**37.88**	**159**	P		**P**		**21 56 31.7**	**0.0**
	4.9nm,0.6s,baz=337,slow=8.5,SNR=17								
SONM	**Songino Array**	**47.56**	**342**	P		**P**		**21 57 50.3**	**+0.2**
	0.6nm,0.6s,baz=148,slow=8.3,SNR=5.5								
MKAR	**Makanchi Array**	**57.70**	**326**	P		**P**		**21 59 05.1**	**+0.2**
	0.6nm,0.4s,baz=120,slow=7.7,SNR=16								
BVAR	**Borovoye Array**	**67.48**	**327**	P		**P**		**22 00 09.2**	**-0.7**
	0.4nm,0.5s,baz=116,slow=6.6,SNR=3.0								
TORD	**Torodi Ar. Bea**	**122.77**	**288**	PKP		**PKPdf**		**22 08 11.6**	**+0.8**
	0.8nm,1.2s,baz=48,slow=2.1,SNR=2.7								

*ISCJB **03** 21:53:32.3±1.9, 33°.2S±0°.1×72°.45W±0°.08, h5km±12km, mb3.6/2, Error ellipse: s-maj=18.3km s-min=8.7km az=23.1*
*IDC **03** 21:53:33.2±2.8, 33°.22S×72°.12W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.8/15, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=85.3km s-min=47.3km az=31.0*
*GUC **03** 21:53:33.8±0.6, 33°.22S×72°.35W, h21km±12km, ML3.8*
ISC 03 21:53:33.6±3.2, 33°.30S±0°.08×72°.4W±0°.1, h8km±16km, n12, σ0°59/20, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.66**	**66**	⇓*iP*		**Pg**		**21 53 46.1**	**-0.3**
IHA				*i* S1		**Sg**		**21 53 56.2**	**+1.1**
LNV	**Longovilo**	**1.03**	**130**	*eP*		**Pn**		**21 53 54.3**	**0.0**
LNV				*e*S1		**Sn**		**21 54 09.3**	**+0.4**
RCDM	**Rinconada Maip**	**1.31**	**99**	*eP*1		**Pn**		**21 53 58.0**	**-0.3**
RCDM				*e*S		**Sg**		**21 54 16.4**	**+0.4**
RCDM				AML		AML		21 54 17.5	
	comp=E,2μm,0.4s								
PEL	**Peldehue**	**1.41**	**84**	⇑*iP*		**Pn**		**21 53 59.5**	**-0.2**
PEL				*i* S		**Sg**		**21 54 19.2**	**+0.1**
PEL				AML		AML		21 54 20.8	
	comp=N,5μm,0.3s								
ANTU	**Antumapu**	**1.47**	**101**	⇑*iP*		**Pb**		**21 54 00.8**	**-0.4**
ANTU				*i* S		**Sg**		**21 54 20.9**	**0.0**
FSR	**Penalolen**	**1.54**	**97**	*e*P9		**Pg**		**21 54 03.0**	**-0.3**
FSR				*e*S		**Sg**		**21 54 24.4**	**+1.0**
CHCH	**Chadas Angostu**	**1.56**	**114**	⇓*iP*		**Pb**		**21 54 02.7**	**-0.1**
CHCH				*i* S1		**Sg**		**21 54 24.4**	**+0.6**
CACH	**El Canelo**	**1.68**	**120**	⇑*iP*		**Pb**		**21 54 05.0**	**+0.1**
CACH				*i* S4		**Sg**		**21 54 27.4**	**-0.3**
LPAZ	**La Paz**	**17.36**	**14**	P		**Pn**		**21 57 36.1**	**-0.9**
	comp=N,0.1nm,0.3s,baz=180,slow=6.3,SNR=7.1								
TXAR	**Lajitas Array**	**68.99**	**331**	P		**P**		**22 04 40.6**	**+1.0**
	comp=N,0.2nm,0.4s,baz=150,slow=9.3,SNR=3.8								
TORD	**Torodi Ar. Bea**	**84.23**	**70**	P		**P**		**22 06 05.7**	**-0.4**
	comp=N,0.5nm,0.7s,baz=253,slow=5.5,SNR=7.6								
MKAR	**Makanchi Array**	**156.50**	**48**	PKPab		**PKPab**		**22 13 57.6**	**0.0**
	comp=N,0.1nm,0.4s,baz=288,slow=5.5,SNR=4.0								

*ISCJB **03** 21:57:08.0±1.2, 25°.32N±0°.05×125°.07E±0°.05, h0km±8km, mb3.8/11, MS3.8/1, Error ellipse: s-maj=10.6km s-min=3.7km az=142.0*
*JMA **03** 21:57:10.4±0.1, 24°.72N×125°.41E, h46km±1km, M3.7*
JMA Felt I J1.
*IDC **03** 21:57:10.6±0.8, 25°.57N×124°.95E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.7/40, mbtmp3.7/12, ML1.9/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/46, Error ellipse: s-maj=26.3km s-min=17.8km az=61.0*
ISC 03 21:57:09.0±1.4, 25°.17N±0°.04×125°.17E±0°.03, h7km±10km, n31, σ1°32/46, mb3.7/11, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.26**	**164**	P		**Pn**		**21 57 18.7**	**-0.4**
JIKM				S		**Sb**		**21 57 24.8**	**+4.3**
JIRB	**Irabujima**	**0.34**	**180**	P		**Pb**		**21 57 18.6**	**+1.2**
JIRB				S		**Sb**		**21 57 24.3**	**+1.3**
JMJ	**Miyako jima 2**	**0.37**	**163**	P		**Pb**		**21 57 17.9**	**0.0**
JMJ				S		**Sb**		**21 57 23.4**	**-0.4**
JOGS	**Gusukube**	**0.46**	**153**	P		**Pg**		**21 57 17.6**	**-0.3**
JOGS				S		**Sg**		**21 57 22.8**	**-1.2**
JTJ	**Tarama**	**0.68**	**219**	P		**Pb**		**21 57 23.0**	**-0.1**
JTJ				S		**Sb**		**21 57 33.1**	**+0.4**
JISG	**Ishigakijimahi**	**0.97**	**234**	P		**Pb**		**21 57 28.5**	**+0.3**
JISG				*e*S		**Sn**		**21 57 42.4**	**-0.7**
JIJ	**Ishigaki jima**	**1.23**	**230**	P		**Pn**		**21 57 31.8**	**-0.8**
JIJ				S		**Sb**		**21 57 48.7**	**0.0**
JKRS	**Kuro-shima**	**1.41**	**229**	P		**Pn**		**21 57 35.1**	**+0.1**
JKRS				S		**Sn**		**21 57 53.9**	**+0.1**
IRIF	**Iriomote-Funau**	**1.55**	**238**	P		**Pb**		**21 57 38.1**	**+0.1**
IRIF				S		**Sg**		**21 57 59.5**	**+0.6**
HATJ	**Hateruma jima**	**1.67**	**229**	P		**Pn**		**21 57 39.1**	**+0.5**
HATJ				*e*S		**Sn**		**21 57 55.9**	**-4.3**
JKE	**Kume jima 2**	**1.85**	**51**	P		**Pb**		**21 57 43.5**	**+0.3**
JKE				*e*S		**Sb**		**21 58 07.4**	**+0.8**
YOJ	**Yonaguni jima**	**2.09**	**251**	P		**Pn**		**21 57 45.5**	**+1.2**
YOJ				*e*S		**Sn**		**21 58 10.7**	**+0.1**
JYNG	**Yonagunijimaku**	**2.15**	**251**	P		**Pn**		**21 57 46.6**	**+1.4**
JYNG				S		**Sn**		**21 58 12.7**	**+0.7**
JAGN	**Aguni-jima**	**2.34**	**52**	P		**Pn**		**21 57 49.4**	**+1.6**
JAGN				*e*S		**Sb**		**21 58 20.4**	**-0.1**
JIH	**Iheya**	**3.12**	**53**	P		**Pn**		**21 57 59.6**	**+1.0**
JOW	**Kunigami**	**3.25**	**59**	P		**Pn**		**21 58 01.1**	**+0.8**
JOW				*e*S		**Sn**		**21 58 40.2**	**+1.0**
JOW	**Kunigami**	**3.25**	**59**	Pn		**Pn**		**21 58 00.8**	**+0.5**
	0.2nm,0.3s,baz=123,slow=24,SNR=7.6								
JOW				Sn		**Sn**		**21 58 37.1**	**-2.1**
	0.3nm,0.3s,baz=114,slow=20,SNR=3.0								
JAMN	**Amaminishikomi**	**4.71**	**49**	P		**Pn**		**21 58 20.1**	**-0.3**
JAMN				*e*S		**Sn**		**21 59 13.3**	**-2.0**
MJAR	**Matsushiro Arr**	**15.91**	**42**	Pn		**P**		**22 00 56.0**	**-1.0**
	0.2nm,0.3s,baz=225,slow=11,SNR=4.0								
SONM	**Songino Array**	**27.05**	**332**	P		**P**		**22 02 51.6**	**-0.5**
	0.2nm,0.5s,baz=148,slow=8.4,SNR=3.3								
MKAR	**Makanchi Array**	**40.22**	**314**	P		**P**		**22 04 46.0**	**-0.2**
	0.6nm,0.5s,baz=101,slow=10,SNR=18								
MKAR				PcP		**PcP**		**22 06 50.4**	**+0.2**
	0.1nm,0.4s,baz=75,slow=1.6,SNR=4.9								
PMG	**Port Moresby**	**40.50**	**145**	LR		LR		22 21 60.0	
	comp=Z,122nm,18.1s,baz=286,slow=36								
ZALV	**Zalesovo Beam**	**41.47**	**325**	P		**P**		**22 04 55.4**	**-0.8**
	0.8nm,0.6s,baz=99,slow=8.6,SNR=4.3								
WRA	**Warramunga Arr**	**45.72**	**168**	P		P		22 05 36.8	+5.9
	2.3nm,0.9s,baz=349,slow=8.6,SNR=10								
BVAR	**Borovoye Array**	**49.25**	**319**	P		**P**		**22 05 57.6**	**-0.5**
	0.2nm,0.4s,baz=60,slow=3.8,SNR=3.7								
ASAR	**Alice Springs**	**49.28**	**169**	P		P		22 06 05.3	+6.7
	0.5nm,0.7s,baz=355,slow=14,SNR=6.6								
GEYT	**Alibeck**	**57.44**	**300**	P		**P**		**22 06 59.3**	**+0.7**
	1.6nm,0.5s,baz=29,slow=3.4,SNR=5.5								
ILAR	**Eielson Array**	**66.66**	**28**	P		**P**		**22 08 02.4**	**+2.3**
	0.3nm,0.6s,baz=295,slow=9.3,SNR=7.7								
ARCES	**ARCESS Array B**	**69.97**	**338**	P		**P**		**22 08 19.8**	**-0.9**
	3.3nm,1.1s,baz=90,slow=13,SNR=2.5								
FINES	**FINESS Array B**	**72.41**	**330**	P		**P**		**22 08 34.8**	**-0.8**
	0.5nm,0.5s,baz=69,slow=6.3,SNR=5.4								
BRTR	**Keskin Array B**	**75.49**	**307**	P		**P**		**22 08 53.5**	**-0.7**
	2.0nm,1.1s,baz=83,slow=10,SNR=3.8								

*IDC **03** 22:01:59.4±2.1, 34°.88S×72°.59W, h0km, mb3.9/3, mb1 3.8/6, mb1mx3.7/25, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=73.9km s-min=21.9km az=98.0*
*ISCJB **03** 22:02:02.5±1.6, 34°.85S±0°.10×72°.6W±0°.4, h35km, mb4.3/4, Error ellipse: s-maj=45.0km s-min=12.8km az=8.4*
ISC 03 22:02:04.2±1.8, 34°.8S±0°.1×72°.7W±0°.3, h35km, n9, σ0°63/9, mb4.0/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.91**	**50**	Pn		**Pn**		**22 03 15.8**	**+0.3**
	baz=245,slow=14								
CFAA				Lg		Lg		22 04 25.3	
	0.5nm,0.3s,baz=84,slow=19,SNR=4.1								
PLCA	**Paso Flores**	**6.12**	**165**	Pn		**Pn**		**22 03 31.9**	**-0.3**
	0.7nm,0.3s,baz=345,slow=12,SNR=5.2								
PLCA				Lg		Lg		22 05 08.4	
	0.2nm,0.3s,baz=295,slow=12,SNR=3.9								
LPAZ	**La Paz**	**18.91**	**14**	P		**Pn**		**22 06 22.9**	**-0.4**
	0.1nm,0.3s,baz=199,slow=11,SNR=2.3								
SIV	**San Ignacio**	**21.45**	**32**	P		**P**		**22 06 48.7**	**-0.8**
	2.1nm,0.6s,baz=220,slow=13,SNR=4.0								
MAW	**Mawson**	**72.53**	**164**	P		**P**		**22 13 27.3**	**+0.3**
	22nm,0.3s,baz=50,slow=7.9,SNR=34								
BOSA	**Boshof**	**80.13**	**118**	P		**P**		**22 14 10.7**	**-0.4**
	2.9nm,1.0s,baz=141,slow=6.5,SNR=3.2								
TORD	**Torodi Ar. Bea**	**84.97**	**70**	P		**P**		**22 14 36.5**	**+0.3**
	0.4nm,0.5s,baz=232,slow=4.9,SNR=13								
ZALV	**Zalesovo Beam**	**155.20**	**33**	PKPab		**PKPab**		**22 22 18.9**	**+0.8**
	0.4nm,0.5s,baz=285,slow=5.7,SNR=2.4								
MKAR	**Makanchi Array**	**157.69**	**50**	PKPab		**PKPab**		**22 22 29.6**	**+0.5**
	0.1nm,0.4s,baz=274,slow=4.0,SNR=4.2								

*ISCJB **03** 22:05:51.3±0.5, 18°.9S±0°.1×65°.57E±0°.07, h10km, mb4.2/22, MS4.1/7, Error ellipse: s-maj=15.1km s-min=10.0km az=169.5*
*IDC **03** 22:05:51.5±0.7, 18°.91S×65°.58E, h0km, mb4.1/15, mb1 4.2/16, mb1mx4.0/44, mbtmp4.1/16, ML3.7/1, MS4.1/8, Ms1 4.1/8, ms1mx3.5/53, Error ellipse: s-maj=24.5km s-min=17.2km az=36.0*
*NEIC **03** 22:05:52.8±0.4, 18°.94S×65°.56E, h10km, mb4.6/9, Error ellipse: s-maj=13.2km s-min=7.5km az=163.0*
ISC 03 22:05:53.0±0.6, 18°.9S±0°.1×65°.49E±0°.09, h10km, n41, σ0°88/31, mb4.4/22, MS4.1/7, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**7.66**	**258**	*e*Pn		**Pn**		**22 07 42.8**	**-1.9**
RER	**Riviere de l'E**	**9.43**	**255**	*e*Pn		**Pn**		**22 08 10.0**	**+0.9**
H08S1	**Diego Carcia H**	**13.09**	**32**	T		T		22 22 20.1	
	baz=210,slow=75,SNR=45								
H08S2	**Diego Garcia H**	**13.10**	**32**	T		T		22 22 28.3	
	baz=210,slow=75,SNR=68								
H08S3	**Diego Garcia H**	**13.11**	**32**	T		T		22 22 24.1	
	baz=210,slow=75,SNR=185								
H08N3	**Diego Garcia H**	**13.59**	**24**	T		T		22 23 13.4	
	baz=204,slow=76,SNR=216								
H08N1	**Diego Carcia H**	**13.60**	**24**	T		T		22 23 06.4	
	baz=204,slow=76,SNR=93								
H08N2	**Diego Garcia H**	**13.61**	**24**	T		T		22 23 15.0	
	baz=204,slow=76,SNR=138								
ABPO	**Ambohimpanom**	**17.27**	**267**	*e*Pn		**Pn**		**22 09 55.4**	**+0.7**
	2.5nm,0.5s								
OPO	**Ambohidratompo**	**17.34**	**268**	P		**P**		**22 09 57.8**	**+0.9**
	0.2nm,0.3s,baz=87,slow=12,SNR=2.1								
OPO				LR		LR		22 15 02.6	
	comp=Z,668nm,19.8s,baz=121,slow=32								
PALK	**Pallekele**	**30.03**	**31**	LR		LR		22 20 47.3	
	comp=Z,336nm,20.7s,baz=205,slow=30								
BOSA	**Boshof**	**37.92**	**248**	LR		LR		22 26 26.4	
	comp=Z,214nm,18.5s,baz=70,slow=32								
MAW	**Mawson**	**48.71**	**181**	LR

TORD	**Torodi Ar. Bea**	70.46	292	P	P	22 17 08.5	+0.3
	0.4nm,0.8s,baz=93,slow=4.1,SNR=6.4						
TORD				LR	LR	22 48 33.9	
	comp=Z,85nm,18.9s,baz=135,slow=36						
QSPA	**South Pole Qui**	71.20	180	P	P	22 17 12.1	0.0
	2.7nm,1.0s,baz=307,slow=2.3,SNR=5.0						
QSPA	**South Pole Qui**	71.20	180	*e*P	P	22 17 12.1	0.0
	6.6nm,1.0s						
BRVK	**Borovoye**	71.78	3	*e*P	P	22 17 14.2	-1.2
	5.0nm,1.0s						
ZALV	**Zalesovo Beam**	74.44	12	P	P	22 17 30.9	-0.3
	2.8nm,0.6s,baz=210,slow=5.1,SNR=18						
ARU	**Arti**	75.27	356	*e*P	P	22 17 35.5	-0.4
	11nm,1.5s						
CTA	**Charters Tower**	75.36	106	LR	LR	22 48 20.4	
	comp=Z,213nm,21.1s,slow=34						
SONM	**Songino Array**	75.88	27	P	P	22 17 40.0	+0.2
	2.9nm,0.9s,baz=219,slow=4.5,SNR=18						
ULN	**Ulaanbaatar**	76.18	27	*e*P	P	22 17 41.3	-0.3
	2.9nm,0.8s						
AKASG	**Malin Array Be**	76.30	337	P	P	22 17 42.0	+0.1
	0.7nm,0.4s,baz=129,slow=5.1,SNR=3.2						
FINES	**FINESS Array B**	86.05	342	P	P	22 18 33.4	0.0
	3.8nm,0.9s,baz=116,slow=4.4,SNR=7.3						
ESDC	**Sonseca Array**	87.04	314	P	P	22 18 40.0	+1.0
	0.3nm,0.6s,baz=118,slow=11,SNR=3.4						
MJAR	**Matsushiro Arr**	87.97	50	P	P	22 18 43.2	-0.3
	0.4nm,0.3s,baz=257,slow=20,SNR=4.7						
ARCES	**ARCESS Array B**	92.66	347	P	P	22 19 04.7	+0.1
	2.7nm,0.9s,baz=73,slow=5.4,SNR=5.6						
ILAR	**Eielson Array**	129.32	17	PKP	PKPdf	22 25 00.5	-0.8
	0.6nm,1.0s,baz=298,slow=1.9,SNR=4.2						
YKA	**Yellowknife Ar**	136.46	0	PKP	PKPdf	22 25 13.9	-0.8
	0.3nm,0.8s,baz=0.1,slow=2.0,SNR=5.1						
ULM	**Lac du Bonnet**	145.37	339	PKPbc	PKPbc	22 25 29.6	-1.5
	4.2nm,0.9s,baz=75,slow=1.9,SNR=8.1						
TXAR	**Lajitas Array**	165.67	318	PKPab	PKPab	22 26 58.6	+1.0
	0.3nm,0.7s,baz=90,slow=2.5,SNR=3.7						

*IDC **03** 22:08:19.1±1.4, 33.°40S×72.°63W, h0km, mb3.9/5, mb1 3.9/7, mb1mx3.8/32, mbtmp3.8/7, ML3.5/2, MS2.4/1, Ms1 2.4/1, ms1mx2.3/23, Error ellipse: s-maj=47.7km s-min=28.6km az=31.0*
*ISCJB **03** 22:08:21.7±1.4, 33.°08S±0.°06×72.°29W±0.°08, h15km±8km, mb3.8/5, Error ellipse: s-maj=12.1km s-min=8.6km az=136.4*
*GUC **03** 22:08:24.9±0.4, 33.°15S×72.°09W, h7km±2km, ML3.9*
ISC 03 22:08:22.3±1.9,**33.°11S**±0.°07×**72.°24W**±0.°07,**h13**km±11km, **n16**,σ1°**80**/23,**mb4.0**/5,**5C-3D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	0.51	80	⇓*i*P	**Pb**	**22 08 33.1**	**+0.1**
IHA				*i* S	**Sg**	**22 08 39.1**	**+0.1**
LNV	**Longovilo**	1.09	141	⇑*i*P	**Pg**	**22 08 43.1**	**-0.1**
LNV				*i* S	**Sb**	**22 08 56.9**	**-0.1**
RCDM	**Rinconada Maip**	1.25	108	⇓*i*P	**Pn**	**22 08 45.3**	**-0.2**
RCDM				*i* S	**Sb**	**22 09 00.7**	**-1.2**
RCDM				IAML		22 09 08.3	
	comp=N,4μm,0.3s						
PEL	**Peldehue**	1.30	92	⇑*i*P	**Pn**	**22 08 46.4**	**+0.2**
PEL				*i* S	**Sb**	**22 09 02.5**	**-0.7**
PEL				IAML		22 09 07.1	
	comp=N,6μm,0.5s						
ANTU	**Antumapu**	1.42	109	⇑*i*P	**Pn**	**22 08 48.2**	**+0.5**
ANTU				*i* S	**Sn**	**22 09 05.6**	**-0.7**
ANTU				IAML		22 09 09.0	
	comp=N,4μm,0.3s						
CHCH	**Chadas Angostu**	1.56	122	⇓*i*P	**Pb**	**22 08 50.5**	**-0.5**
CHCH				*i* S	**Sn**	**22 09 09.8**	**+0.1**
FCH	**Farellones**	1.65	98	⇑*i*P	**Pn**	**22 08 52.1**	**+1.0**
FCH				IAML		22 09 09.5	
	comp=N,4μm,0.3s						
FCH				*i* S	**Sb**	**22 09 13.5**	**+0.1**
CACH	**El Canelo**	1.69	127	⇑*i*P	**Pb**	**22 08 53.6**	**+0.2**
CACH				*i* S	**Sb**	**22 09 15.4**	**+0.8**
CFAA	**Coronel Fontan**	3.70	67	Pn	Pb	22 09 24.4	-3.2
	comp=N,1.9nm,0.3s,baz=245,slow=13,SNR=22						
CFAA				Lg	Lg	22 10 13.6	
	comp=N,2.3nm,0.3s,baz=54,slow=12,SNR=6.8						
CFAA				LR	LR	22 11 00.4	
	comp=N,47nm,21.9s,baz=293,slow=39						
LPAZ	**La Paz**	17.16	13	P	P	22 12 24.4	+0.4
	comp=N,0.1nm,0.3s,baz=193,slow=1.9,SNR=4.0						
TXAR	**Lajitas Array**	68.88	331	P	P	22 19 27.4	+0.6
	comp=N,0.2nm,0.8s,baz=123,slow=6.6,SNR=2.7						
DBIC	**Dimbokro**	75.05	72	P	P	22 20 04.5	+0.5
	comp=N,1.3nm,0.8s,baz=132,slow=15,SNR=2.4						
BOSA	**Boshof**	80.63	118	P	P	22 20 34.9	-0.2
	comp=N,1.4nm,0.8s,baz=286,slow=7.4,SNR=3.0						
PDAR	**Pinedale Array**	82.90	333	P	P	22 20 44.5	-2.2
	comp=N,0.6nm,0.6s,baz=142,slow=15,SNR=5.0						
TORD	**Torodi Ar. Bea**	84.06	70	P	P	22 20 54.4	+1.4
	comp=N,1.3nm,0.8s,baz=289,slow=4.6,SNR=9.2						
BVAR	**Borovoye Array**	146.74	42	PKPbc	PKPab	22 28 04.4	-0.3
	comp=N,0.5nm,0.6s,baz=308,slow=5.5,SNR=4.2						

*IDC **03** 22:17:17.3±0.6, 3.°39N×126.°67E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.0/52, mbtmp4.2/14, MS3.6/1, Ms1 3.6/1, ms1mx2.7/44, Error ellipse: s-maj=36.0km s-min=14.1km az=75.0*
*BJI **03** 22:17:20.0, 3.°16N×127.°19E, h60km, mB5.0/14, mb4.6/20, Ms4.4/7, Ms7 4.3/9*
*ISCJB **03** 22:17:22.0±0.2, 3.°63N±0.°03×127.°10E±0.°04, h48km, mb4.4/31, MS3.4/1, Error ellipse: s-maj=6.4km s-min=3.7km az=159.8*
*NEIC **03** 22:17:24.0±0.8, 3.°59N×127.°19E, h55km±8km, mb4.5/19, Error ellipse: s-maj=9.3km s-min=4.9km az=62.0*
*DJA **03** 22:17:33.7±0.6, 3.°N±6.°×12.°7E±.°, h30km, M4.5/10, mB5.5/4, mb4.6/10, MLv4.2/6, Mw(mB)5.0/4*
ISC 03 22:17:24.8±0.4,**3.°49N**±0.°05×**126.°94E**±0.°07,**h48**km,**n99**, σ1°**86**/104,**mb4.4**/31,**1C**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	2.73	171	P	**Pn**	**22 18 08.9**	**+2.7**
TNTI				S	**Sn**	**22 18 39.6**	**+1.6**
TNTI	**Ternate**	2.73	171	*e*Pn	**Pn**	**22 18 04.8**	**-1.4**
TNTI				*e*Sn	**Sn**	**22 18 39.5**	**+1.6**
LBMI	**Labuha**	4.13	172	P	Pn	22 18 29.8	+4.3
KMSI	**Cibinong**	4.14	226	P	Sn	22 19 00.9	-12
KMSI	**Cibinong**	4.14	226	P	**Pn**	**22 18 27.3**	**+1.8**
CTBH	**Cotabato--PC H**	4.58	324	⇑*i*P	**Pn**	**22 18 33.9**	**+2.3**
MRSI	**Marisa**	5.82	239	P	**Pn**	**22 18 49.7**	**+1.0**
MRSI	**Marisa**	5.82	239	P	**Pn**	**22 18 50.5**	**+1.8**
	72nm,0.7s,778nm0.2nm						
SWI	**Sorong**	6.11	135	P	**Pn**	**22 18 53.0**	**+0.4**
	baz=6.1,SNR=4.4						
SWI				S	**Sn**	**22 20 03.8**	**+2.6**
	baz=6.1,SNR=5.4						
LUWI	**Luwuk**	6.13	223	P	Pn	22 19 04.8	+12
LUWI	**Luwuk**	6.13	223	P	Pn	22 19 07.3	+14
	baz=6.8,SNR=3.0						
LUWI	**Luwuk**	6.13	223	*e*Pn	Pn	22 18 56.4	+3.5
TOLI	**Toli-Toli**	6.58	249	*e*Pn	**Pn**	**22 19 01.9**	**+2.9**
APSI	**Ampana**	6.86	231	P	Pn	22 19 07.7	+4.8
APSI				S	Sn	22 19 30.2	-49
APSI	**Ampana**	6.86	231	P	Pn	22 19 06.9	+4.0
	140nm,0.6s,1μm0.5nm						
MPSI	**Mapaga**	7.70	246	P	Pn	22 19 03.1	-11
MPSI	**Mapaga**	7.70	246	P	Pn	22 19 28.9	+14
FAKI	**Fak Fak**	8.28	140	P	**Pn**	**22 19 22.7**	**+0.2**
	baz=8.3,SNR=11						
FAKI	**Fak Fak**	8.28	140	*e*Pn	**Pn**	**22 19 21.3**	**-1.2**
PALU	**Palau**	8.42	63	P	Pn	22 19 17.1	-7.2
	baz=7.8,SNR=4.0						
PALU				S	Sn	22 20 27.0	-31
	baz=7.8,SNR=5.4						
MYLDM	**Lahad Datu**	8.58	282	*e*Pn	**Pn**	**22 19 28.9**	**+2.4**
TTSI	**Tana Toraja**	9.63	228	P	Pn	22 19 56.4	+16
GENI	**Genyem**	14.53	114	P	**P**	**22 20 55.6**	**+2.3**
	82nm,1.6s						
SBUM	**Sibu**	14.74	266	*e*Pn	**P**	**22 20 53.7**	**-1.8**
STKI	**Sintang**	15.82	258	P	**P**	**22 21 08.1**	**+0.5**
KSM	**Kuching**	16.74	264	*e*Pn	**P**	**22 21 18.2**	**+0.5**
	8.0nm,0.7s						
MTN	**Manton Dam**	16.75	166	P	**P**	**22 21 18.7**	**+0.8**
	baz=17,SNR=4.6						
KDU	**Kakadu**	16.98	161	P	**P**	**22 21 20.1**	**-0.3**
	baz=17,SNR=4.9						
JAGI	**Jajag, Banyuwa**	17.43	227	P	**P**	**22 21 27.1**	**+1.7**
	baz=18,SNR=3.4						
KNRA	**Kununurra**	19.12	175	P	**P**	**22 21 43.9**	**-0.1**
	baz=20,SNR=5.6						
YULB	**Yu-li**	20.53	345	*e*P	**P**	**22 21 56.4**	**-2.9**
	34nm,1.5s						
TPUB	**Ta-pu**	20.62	343	*e*P	**P**	**22 21 57.7**	**-2.7**
	45nm,1.2s						
SSLB	**Suanglung**	21.00	345	*e*P	**P**	**22 22 02.1**	**-2.2**
	12nm,0.7s						
YOJ	**Yonaguni jima**	21.20	350	*e*P	**P**	**22 22 05.2**	**-1.2**
	74nm,1.2s						
YHNB	**Yeheng**	21.73	346	*e*P	**P**	**22 22 09.8**	**-2.4**
	110nm,1.9s						
CISI	**Cisompet, Garu**	22.01	240	*e*P	P	22 22 09.4	-6.0
	45nm,1.4s						
QIZ	**Qiongzhong**	22.76	314	P	**P**	**22 22 22.2**	**-1.1**
QIZ				S	**S**	**22 26 28.0**	**-0.9**
QIZ				LZ			
	250nm,17.3s						
CGJI	**Cibinong**	23.46	245	P	**P**	**22 22 30.1**	**-0.2**
COEN	**Coen**	23.66	137	*e*P	**P**	**22 22 29.3**	**-2.9**
	471nm,2.0s						
PMG	**Port Moresby**	23.88	123	LR	LR	22 33 00.7	
	comp=Z,148nm,20.7s,baz=296,slow=39						
MDSI	**Maura Dua**	24.08	251	P	P	22 22 44.1	+8.0
	6.6nm,0.7s						
LWLI	**Liwa**	24.37	250	P	P	22 22 46.5	+7.7
WRAB	**Tennant Creek**	24.39	163	*e*P	**P**	**22 22 37.0**	**-1.7**
	14nm,0.7s						
WRA	**Warramunga Arr**	24.39	163	P	**P**	**22 22 37.0**	**-1.8**
	8.2nm,0.6s,baz=339,slow=11,SNR=107						
IPM	**Ipoh**	25.87	273	*e*P	**P**	**22 22 53.2**	**+0.8**
	5.0nm,0.7s						
QIS	**Mount Isa**	26.93	153	P	**P**	**22 23 01.2**	**-0.7**
	baz=27,SNR=7.0						
ASAR	**Alice Springs**	27.83	166	P	**P**	**22 23 08.0**	**-1.9**
	2.3nm,0.7s,baz=347,slow=7.4,SNR=33						
WRKA	**Warakurna**	28.38	177	P	**P**	**22 23 14.3**	**-0.5**
	baz=29,SNR=17						
NJ2	**Nanjing**	29.41	346	*e*P	**P**	**22 23 20.8**	**-3.0**
NJ2				PMZ			
	20nm,1.0s						
GYA	**Guiyang**	29.99	322	*e*P	**P**	**22 23 30.0**	**+0.8**
GYA				pP	**pP**	**22 23 45.2**	**+3.5**
GYA				sP	sP	22 23 52.8	+5.4
GYA				PP	**PnPn**	**22 24 29.0**	**+1.7**
GYA				S	**S**	**22 28 22.1**	**-1.9**
GYA				sS	**sS**	**22 28 48.6**	**+3.5**
GYA				PMZ			
	10.0nm,0.8s						
CHTO	**Chiang Mai**	31.33	301	*e*P	**P**	**22 23 39.1**	**-1.8**
	31nm,2.3s						
KMI	**Kunming**	31.70	315	P	**P**	**22 23 44.1**	**-0.3**
KMI				PMZ			
	5.0nm,0.7s						
KSAR	**Wonju Array Be**	33.80	1	P	**P**	**22 24 01.9**	**-0.4**
KSRS	**Korea Array**	33.82	1	P	**P**	**22 24 01.9**	**-0.5**
	1.1nm,0.6s,baz=185,slow=9.2,SNR=4.2						
FORT	**Forrest**	34.09	178	P	**P**	**22 24 04.3**	**-0.6**
	baz=35,SNR=11						
FORT	**Forrest**	34.09	178	*e*P	**P**	**22 24 04.0**	**-0.9**
	12nm,0.9s						
QLP	**Quilpie**	34.25	152	P	**P**	**22 24 05.6**	**-0.8**
	baz=34,SNR=5.4						
BBOO	**Buckleboo**	37.12	167	P	**P**	**22 24 29.8**	**-1.1**
	baz=38,SNR=27						
BBOO	**Buckleboo**	37.12	167	*e*P	**P**	**22 24 30.1**	**-0.8**
	500nm,1.8s						
BJT	**Baijiatuau**	37.65	346	*e*P	**P**	**22 24 33.1**	**-2.1**
	13nm,0.6s						
BJI	**Beijing**	37.67	346	P	**P**	**22 24 34.1**	**-1.3**
BJI				PMZ			
	18nm,1.1s						
BJI				PMZ			
	94nm,4.8s						
STKA	**Stephens Creek**	37.83	159	P	**P**	**22 24 35.9**	**-1.0**
	13nm,0.6s,baz=335,slow=8.0,SNR=47						
STKA	**Stephens Creek**	37.83	159	P	**P**	**22 24 36.2**	**-0.7**
	baz=38,SNR=51						
STKA	**Stephens Creek**	37.83	159	*e*P	**P**	**22 24 36.1**	**-0.7**
	2.9nm,0.7s						
LZH	**Lanzhou**	38.82	330	*e*P	**P**	**22 24 48.0**	**+2.6**
LZH				pP	**pP**	**22 25 02.9**	**+4.7**
LZH				sP	sP	22 25 09.5	+5.6
LZH				PP	**PnPn**	**22 26 20.2**	**+2.6**
LZH				*e*S	**ScP**	**22 30 42.0**	**+1.5**
LZH				sS	**sS**	**22 31 06.1**	**+4.6**
LZH				PMZ			
	27nm,1.2s						
LZH				PMZ			
	100nm,5.2s						
LZH				LN			
	700nm,12.8s						
LZH				LE			
	620nm,13.3s						
LZH				LZ			
	850nm,15.2s						
HHC	**Hu-ho-hao-te**	39.69	342	*e*P	**P**	**22 24 52.0**	**-0.6**
HHC				pP	**pP**	**22 25 08.4**	**+3.0**
HHC				sP	**sP**	**22 25 13.8**	**+2.8**
HHC				PP	**PnPn**	**22 26 28.3**	**+0.4**
HHC				S	**S**	**22 30 51.9**	**-1.0**
HHC				PMZ			
	18nm,0.9s						
HHC				PMZ			
	140nm,6.2s						
HHC				LN			
	220nm,14.9s						
HHC				LE			
	160nm,14.3s						
HHC				LZ			
	180nm,14.7s						
CN2	**Changchun**	40.17	358	*e*P	**P**	**22 24 55.1**	**-1.2**
USRK	**Ussuriysk Ar.**	40.79	6	P	**P**	**22 25 00.8**	**-0.6**
	1.5nm,0.8s,baz=190,slow=10.0,SNR=6.0						
MDJ	**Mudanjiang**	41.03	3	P	**P**	**22 25 01.5**	**-1.9**
MDJ				PMZ			
	3.0nm,0.8s						
MDJ				PMZ			
	84nm,3.8s						
ARMA	**Armidale**	41.15	147	P	**P**	**22 25 05.2**	**+0.4**
	baz=41,SNR=7.2						
ARMA	**Armidale**	41.15	147	*e*P	**P**	**22 25 04.2**	**-0.5**
	74nm,1.8s						
LSA	**Lhasa**	42.76	311	*e*P	**P**	**22 25 17.0**	**-1.3**
	4.6nm,0.8s						
TAPN	**Taplejung**	44.33	306	*e*P	**P**	**22 25 28.5**	**-2.3**
ODAN	**Odare**	44.38	306	*e*P	**P**	**22 25 29.2**	**-2.0**
	7.4nm,0.7s						
RAMN	**Ramite**	45.06	305	*e*P	**P**	**22 25 34.5**	**-2.1**
GUN	**Gumba**	46.04	306	*e*P	**P**	**22 25 42.7**	**-1.8**
	5.7nm,0.5s						
DMN	**Daman**	46.54	305	*e*P	**P**	**22 25 45.8**	**-2.5**
GKN	**Gorkha**	47.08	306	*e*P	**P**	**22 25 50.1**	**-2.3**
	2.6nm,0.5s						
ULN	**Ulaanbaatar**	47.41	342	*e*P	**P**	**22 25 54.0**	**-0.7**
	2.1nm,0.8s						
SONM	**Songino Array**	47.59	341	P	**P**	**22 25 55.4**	**-0.6**
	1.6nm,0.7s,baz=158,slow=8.5,SNR=14						
KOLN	**Koldanda**	47.84	305	*e*P	**P**	**22 25 56.7**	**-1.6**
	16nm,0.8s						
DANN	**Dangsing**	47.93	306	*e*P	**P**	**22 25 56.8**	**-2.3**
	9.8nm,0.5s						
WMQ	**Urumqi**	53.04	325	*e*P	**P**	**22 26 36.8**	**-0.4**
WMQ				PMZ			
	170nm,5.5s						
WMQ				LN			
	100nm,20.0s						
WMQ				LE			
	40nm,19.0s						
WMQ				LZ			
	100nm,21.0s						
PETK	**Petropavlovsk-**	55.58	22	P	**P**	**22 26 56.1**	**+0.7**
	1.5nm,0.5s,baz=191,slow=4.4,SNR=3.1						
MKAR	**Makanchi Array**	57.87	325	P	**P**	**22 27 10.3**	**-1.6**
	1.9nm,0.4s,baz=120,slow=7.6,SNR=19						
MKAR	**Makanchi Array**	57.87	325	*e*P	**P**	**22 27 10.5**	**-1.4**
KSH	**Kashi**	58.36	315	*e*P	**P**	**22 27 15.5**	**-0.1**
KSH				sP	**sP**	**22 27 37.2**	**+2.7**
KSH				PP	**PP**	**22 29 26.1**	**+0.9**
KSH				S	**S**	**22 35 10.5**	**-4.6**
KSH				sS	**sS**	**22 35 37.4**	**-0.1**
KSH				SS	**SS**	**22 39 05.8**	**-2.1**
KSH				PMZ			
	4.0nm,1.3s						
KSH				PMZ			
	80nm,5.5s						
KSH				LN			
	49nm,5.3s						
KSH				LE			
	49nm,4.5s						
KSH				LZ			
	71nm,5.5s						
ZALV	**Zalesovo Beam**	60.90	333	P	**P**	**22 27 30.9**	**-1.7**
	0.5nm,0.4s,baz=112,slow=9.5,SNR=3.4						
KBL	**Kabul**	61.84	308	P	P	22 27 35.8	-3.8
	baz=62,SNR=4.5						
KURK	**Kurchatov**	62.06	327	*e*P	**P**	**22 27 39.0**	**-1.4**
	2.8nm,0.7s						
KKAR	**Karatay Array**	63.55	317	*e*P	**P**	**22 27 48.5**	**-2.1**
	1.6nm,0.8s						
BVAR	**Borovoye Array**	67.64	327	P	**P**	**22 28 15.6**	**-1.2**
	0.8nm,0.5s,baz=97,slow=4.6,SNR=9.8						
BRVK	**Borovoye**	67.71	327	*e*P	**P**	**22 28 15.9**	**-1.2**
	4.4nm,1.0s						
ABKAR	**Akbulak array**	72.47	321	*e*P	**P**	**22 28 44.9**	**-1.5**
AKTO	**Aktyubinsk**	73.98	322	P	**P**	**22 28 53.8**	**-1.6**
	1.6nm,0.6s,baz=100,slow=9.5,SNR=10.0						
ILAR	**Eielson Array**	85.23	25	P	**P**	**22 29 57.1**	**+1.0**
	0.1nm,0.4s,baz=258,slow=4.8,SNR=4.3						
KMBO	**Kilima Mbogo**	89.76	269	P	**P**	**22 30 18.7**	**-0.5**
	1.3nm,0.8s,baz=41,slow=4.3,SNR=4.3						
FINES	**FINESS Array B**	92.14	332	P	**P**	**22 30 28.3**	**-0.7**
	2.2nm,1.0s,baz=20,slow=6.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	123.19	288	PKP	PKPdf	22 36 16.6	-0.8
	0.3nm,0.6s,baz=66,slow=1.8,SNR=6.0						

*ISCJB **03** 22:22:06.8±0.5, 67.°12N±0.°03×20.°50E±0.°08, h0km, Error ellipse: s-maj=4.4km s-min=3.6km az=13.6*
*CSEM **03** 22:22:09.7±0.3, 67.°18N×20.°63E, h2km, ML2.3, Error ellipse: s-maj=7.8km s-min=4.9km az=94.0, Mining explosion.*
*HEL **03** 22:22:09.6±0.3, 67.°17N×20.°56E, h0km, ML2.3, Explosion*
*NAO **03** 22:22:10.4±0.8, 67.°12N×20.°99E, ML2.6*
*IDC **03** 22:22:10.4±0.8, 67.°12N×21.°05E, h0km, mb1 3.2/5, mb1mx3.0/61, mbtmp3.2/5, ML2.5/5, Error ellipse: s-maj=13.9km s-min=6.7km az=111.0*
*BER **03** 22:22:11.9±3.7, 67.°15N×20.°57E, h0km, ML2.0, ML2.6(NAO), Suspected explosion*
ISC 03 22:22:09.1±0.7,**67.°12N**±0.°03×**20.°71E**±0.°04,**h0**km,**n41**, σ1°**29**/65,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEF	**Hetta**	1.71	40	*e*P	**Pn**	**22 22 39.8**	**-0.4**
HEF				*e*S	**Sn**	**22 23 01.7**	**-1.1**
HEF	**Hetta**	1.71	40	P	**Pn**	**22 22 39.7**	**-0.4**
HEF				S	**Sn**	**22 23 01.6**	**-1.1**
KIF	**Kilpisjarvi**	1.89	1	Pn	**Pn**	**22 22 43.7**	**+1.1**
KIF				Sn	**Sb**	**22 23 09.3**	**+0.7**
KIF	**Kilpisjarvi**	1.89	1	Pn	**Pn**	**22 22 43.7**	**+1.1**
KIF				Sn	**Sb**	**22 23 09.3**	**+0.7**
KIF	**Kilpisjarvi**	1.89	1	*e*PG	**Pn**	**22 22 43.4**	**+0.8**
KIF				*e*SG	**Sb**	**22 23 08.2**	**-0.4**
KIF				MSG		22 23 12.3	
	comp=Z,24nm,0.3s						
KIF	**Kilpisjarvi**	1.89	1	Pg	**Pn**	**22 22 43.4**	**+0.8**
KIF	**Kilpisjarvi**	1.89	1	Pn	**Pn**	**22 22 43.7**	**+1.1**
	SNR=50						
KIF				Sg	**Sb**	**22 23 08.2**	**-0.4**
KIF				Sn	**Sb**	**22 23 09.3**	**+0.7**
	SNR=50						
KTK1	**Kautokeino**	2.12	25	*e*P	**Pn**	**22 22 47.2**	**+1.4**
KTK1				*e*Sg	**Sb**	**22 23 15.1**	**-0.2**
KTK1				IAML		22 23 16.8	
	comp=N,22nm,0.7s						
KTK1	**Kautokeino**	2.12	25	*e*P	**Pn**	**22 22 47.2**	**+1.4**
	SNR=50						
KTK1				*e*Sg	**Sb**	**22 23 15.1**	**-0.2**
	SNR=90						
STEI	**Steigen**	2.25	294	*e*Sg	**Sg**	**22 23 20.6**	**-0.8**
STEI				IAML		22 23 21.8	
	comp=Z,8.0nm,0.4s						
STEI	**Steigen**	2.25	294	*e*Sg	**Sg**	**22 23 20.6**	**-0.8**
	SNR=90						
SGF	**Sodankyl**	2.28	79	*e*PB	**Pn**	**22 22 49.8**	**+1.8**
SGF				*e*SB	**Sb**	**22 23 20.1**	**+0.4**
TRO	**Tromso**	2.61	346	*e*Sg	**Sg**	**22 23 31.4**	**-1.4**
TRO				IAML		22 23 32.2	
	comp=Z,16nm,0.5s						
TRO	**Tromso**	2.61	346	*e*Sg	**Sg**	**22 23 31.4**	**-1.4**
	SNR=90						
MOR8	**Moi Rana**	2.67	252	*e*Sg	**Sn**	**22 23 27.9**	**+1.5**
MOR8				IAML		22 23 33.2	
	comp=Z,39nm,0.4s						
ARA0	**ARCESS Array S**	3.01	34	Pn	**Pn**	**22 22 58.2**	**+0.3**
	baz=212,slow=14						
ARA0				Sn	**Sn**	**22 23 36.1**	**+1.4**
	baz=208,slow=22						
ARA0	**ARCESS Array S**	3.01	34	Pn	**Pn**	**22 22 58.2**	**+0.3**
	baz=212,slow=14						
ARA0				Sn	**Sn**	**22 23 36.1**	**+1.4**
	baz=208,slow=22						
ARA0	**ARCESS Array S**	3.01	34	Pn	**Pn**	**22 22 58.2**	**+0.3**
	SNR=50						
ARA0				Sn	**Sn**	**22 23 36.1**	**+1.4**
	SNR=50						
ARCES	**ARCESS Array B**	3.01	34	Pn	**Pn**	**22 22 57.8**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=218,slow=13,SNR=24						
ARCES				Sn	**Sn**	**22 23 35.2**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=207,slow=20,SNR=9.9						
KEV	**Kevo**	3.52	38	*e*PG	**Pb**	**22 23 12.9**	**+0.7**
KEV				*e*S	**Sn**	**22 23 46.9**	**-0.4**
KEV				MSG		22 24 03.9	
	comp=Z,9.7nm,0.3s						
MSF	**Maaselka**	3.55	106	*e*PG	**Pb**	**22 23 13.6**	**+0.9**
MSF				*e*S	**Sn**	**22 23 49.3**	**+1.4**
MSF				*e*SG	**Sg**	**22 24 01.0**	**-1.9**
KU6	**Riekki**	3.83	102	MSG		22 24 15.4	
	comp=Z,3.5nm,0.3s						
VAF	**Ylistaro**	4.18

comp=Z,0.4nm,0.3s,baz=28,slow=28,SNR=3.7
HFS Hagfors 7.67 207 Pn Pn 22 24 02.4 +0.5
SNR=50
SPA0 Spitsbergen Ar 11.19 355 Pn Pn 22 24 49.5 -0.5
baz=179,slow=16
SPA0 Spitsbergen Ar 11.19 355 Pn Pn 22 24 49.5 -0.5
baz=179,slow=16
SPA0 Spitsbergen Ar 11.19 355 Pn Pn 22 24 49.5 -0.5
SNR=6.2
SPITS Spitsbergen Ar 11.19 355 Pn Pn 22 24 49.8 -0.2
baz=156,slow=18,SNR=4.9

IDC 03 22:27:35.4±0.9, 9.65N×57.80E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.6/53, mbtmp3.8/11, Error ellipse: s-maj=26.7km s-min=18.2km az=138.0
ISCJB 03 22:27:36.3±0.8, 9.7N±0.1×57.8E±0.1, h17km, mb3.6/11, Error ellipse: s-maj=22.3km s-min=14.1km az=43.0
ISC 03 22:27:38.0±0.8, 9.7N±0.2×57.8E±0.1, h17km, n15, σ§90/12, mb3.8/11, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	20.61	140	T	T	22 54 43.7	
baz=322,slow=74							
H08N3	Diego Garcia H	20.62	140	T	T	22 54 36.1	
baz=322,slow=74							
H08N1	Diego Carcia H	20.64	140	T	T	22 54 45.4	
baz=322							
KMBO	Kilima Mbogo	23.09	243	P	P	22 32 42.2	-1.3
0.4nm,0.4s,baz=45,slow=20,SNR=2.9							
GEYT	Alibeck	28.16	1	P	P	22 33 30.0	+0.4
0.8nm,0.6s,baz=187,slow=12,SNR=3.9							
AKTO	Aktyubinsk	40.66	0	P	P	22 35 17.1	-0.2
1.4nm,0.5s,baz=194,slow=4.2,SNR=4.5							
CMAR	Chiang Mai Arr	40.78	73	P	P	22 35 17.2	-1.5
0.7nm,0.3s,baz=260,slow=10.0,SNR=2.9							
MKAR	Makanchi Array	42.48	25	P	P	22 35 33.2	+0.9
0.2nm,0.4s,baz=218,slow=7.7,SNR=3.9							
BVAR	Borovoye Array	44.44	11	P	P	22 35 47.7	-0.2
0.3nm,0.4s,baz=198,slow=4.2,SNR=3.7							
ZALV	Zalesovo Beam	49.19	21	P	P	22 36 25.0	-0.1
0.4nm,0.4s,baz=218,slow=9.0,SNR=5.8							
BOSA	Boshof	49.34	219	P	P	22 36 27.4	+0.6
1.7nm,0.7s,baz=60,slow=5.3,SNR=3.9							
TORD	Torodi Ar. Bea	55.02	279	P	P	22 37 09.5	+0.4
1.2nm,0.9s,baz=90,slow=5.2,SNR=6.7							
ESDC	Sonseca Array	62.23	310	P	P	22 37 58.3	-0.8
1.2nm,0.8s,baz=106,slow=6.5,SNR=5.5							
ASAR	Alice Springs	81.34	116	P	P	22 39 55.0	+0.8
0.4nm,0.8s,baz=282,slow=5.9,SNR=4.3							
PDAR	Pinedale Array	126.57	348	PKP	PKPdf	22 46 41.8	+0.7
0.4nm,0.7s,baz=39,slow=7.4,SNR=2.9							

ISCJB 03 22:28:23.6±1.0, 9.8N±0.2×57.6E±0.1, h10km, mb3.6/8, Error ellipse: s-maj=28.0km s-min=18.3km az=153.1
IDC 03 22:28:23.4±1.1, 9.73N×57.63E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.5/53, mbtmp3.7/8, Error ellipse: s-maj=31.9km s-min=21.0km az=159.0
ISC 03 22:28:25.0±1.0, 9.7N±0.2×57.6E±0.1, h10km, n8, σ1§88/8, mb3.7/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	22.98	243	P	P	22 33 31.9	+1.6
1.7nm,0.9s,baz=42,slow=17,SNR=4.5							
GEYT	Alibeck	28.08	1	P	P	22 34 18.7	+1.8
0.8nm,0.6s,baz=181,slow=7.2,SNR=3.1							
CMAR	Chiang Mai Arr	40.91	73	P	P	22 36 09.4	+1.4
1.3nm,0.8s,baz=265,slow=9.6							
MKAR	Makanchi Array	42.48	25	P	P	22 36 20.4	+0.1
0.3nm,0.5s,baz=210,slow=8.3,SNR=2.7							
ZALV	Zalesovo Beam	49.17	21	P	P	22 37 11.1	-2.0
1.6nm,0.9s,baz=232,slow=7.3,SNR=3.5							
TORD	Torodi Ar. Bea	54.84	279	P	P	22 37 56.3	+0.3
0.6nm,0.6s,baz=91,slow=5.8,SNR=10							
ESDC	Sonseca Array	62.05	310	P	P	22 38 44.1	-1.9
0.9nm,0.7s,baz=92,slow=5.4,SNR=4.4							
ASAR	Alice Springs	81.52	116	P	P	22 40 42.0	-1.4
0.5nm,0.8s,baz=278,slow=5.5,SNR=4.2							

ISCJB 03 22:36:47.9±1.5, 34.12S±0.06×72.21W±0.06, h23km±10km, mb4.6/22, MS4.1/13, Error ellipse: s-maj=10.2km s-min=6.8km az=147.4
GUC 03 22:36:48.7±0.6, 34.01S×72.25W, h27km±26km, ML4.5
IDC 03 22:36:49.9±0.9, 34.04S×72.08W, h30km±5km, mb4.3/12, mb1 4.3/15, mb1mx4.2/29, mbtmp4.4/15, ML4.1/3, MS4.1/16, Ms1 4.1/16, ms1mx3.9/26, Error ellipse: s-maj=21.5km s-min=13.8km az=100.0
NEIC 03 22:36:50.2±2.7, 34.01S×71.79W, h27km±18km, mb4.7/16, Error ellipse: s-maj=12.6km s-min=6.8km az=78.0
ISC 03 22:36:50.6±0.9, 34.07S±0.05×72.01W±0.06, h33km±5km, n78, σ1§18/84, mb4.7/22, MS4.2/13, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LNV	Longovilo	0.51	77	↓iP	Pn	22 37 02.0	+0.4
IHA	Instituto Hidr	1.08	17	↑iP	Pn	22 37 08.0	-1.5
IHA				i S1	Sn	22 37 22.7	-0.7
CHCH	Chadas Angostu	1.14	84	↑iP	Pb	22 37 11.8	0.0
RCDM	Rinconada Maip	1.16	60	↑iP	Pn	22 37 10.4	-0.2
RCDM				i S	Sb	22 37 27.5	+0.7
RCDM				AML	AML	22 37 30.8	
comp=E,8μm,0.4s							
CACH	El Canelo	1.17	93	↓iP	Pb	22 37 13.0	+0.6
ANTU	Antumapu	1.25	67	↑iP	Pb	22 37 13.2	-0.5
ANTU				i S	Sb	22 37 31.9	+2.4
ANTU				AML	AML	22 37 32.8	
comp=N,14μm,0.4s							
STL	Santa Lucia	1.30	61	eP9	Pn	22 37 13.0	+0.4
STL				i S	Sb	22 37 31.9	+0.9
FSR	Penalolen	1.37	65	eP9	Pg	22 37 16.2	+2.7
FSR				eS	Sb	22 37 35.7	+2.8
PEL	Peldehue	1.44	51	↓iP	Pb	22 37 15.5	-1.4
PEL				i S	Sb	22 37 36.3	+1.3
PEL				AML	AML	22 37 43.4	
comp=E,22μm,0.5s							
FCH	Farellones	1.61	63	AML	AML	22 38 00.4	
comp=E,9μm,0.4s							
CFAA	Coronel Fontan	4.01	53	Pn	Pn	22 37 50.6	+0.7
comp=E,2.1nm,0.3s,baz=242,slow=13,SNR=27							
CFAA				Lg	Lg	22 38 48.3	
comp=E,3.8nm,0.3s,baz=290,slow=19,SNR=6.5							
CFAA				LR	LR	22 39 48.2	
comp=E,352nm,19.7s,baz=240,slow=44							
PLCA	Paso Flores	6.75	171	LR	LR	22 41 31.1	
comp=E,2μm,19.3s,baz=350,slow=41							
TRQA	Tornquist	9.04	119	ePn	Pn	22 38 56.3	-2.6
TRQA				eSn	Sn	22 40 37.5	-2.0
LVC	Limon Verde	11.73	14	ePn	Pn	22 39 30.6	-5.4
CPUP	Villa Florida	14.84	63	Pn	Pn	22 40 18.3	+0.1
comp=E,0.5nm,0.3s,baz=194,slow=8.3,SNR=2.3							
CPUP				LR	LR	22 46 54.3	
comp=E,1μm,18.5s,baz=223,slow=41							
CPUP	Villa Florida	14.84	63	ePn	Pn	22 40 16.0	-2.1
LPAZ	La Paz	18.05	12	P	Pn	22 40 58.9	-0.6
comp=E,0.4nm,0.3s,baz=176,slow=8.7,SNR=14							
LPAZ	La Paz	18.05	12	ePn	Pn	22 40 57.9	-1.6
comp=E,16nm,0.9s							
EFI	East Falkland	20.29	154	eP	P	22 41 23.7	+0.3
comp=E,188nm,1.9s							
SIV	San Ignacio	20.52	31	P	P	22 41 25.3	-0.9
comp=E,5.8nm,0.7s,baz=231,slow=9.6,SNR=19							
SIV				LR	LR	22 51 15.5	
comp=E,1μm,18.3s,baz=231,slow=42							
USHA	Ushuaia	20.91	174	P	P	22 41 30.4	+0.3
comp=E,18nm,1.1s,baz=22,slow=11,SNR=2.5							
USHA				LR	LR	22 49 09.5	
comp=E,431nm,21.6s,baz=349,slow=35							
NNA	Nana	22.42	348	LR	LR	22 48 47.7	
comp=E,333nm,18.8s,baz=164,slow=32							
NNA	Nana	22.42	348	eP	P	22 41 46.6	0.0
comp=E,8.8nm,0.6s							
SAML	Samuel	26.29	20	eP	P	22 42 22.6	-0.6
comp=E,8.2nm,1.2s							
ATAH	Atahualpa	27.44	346	LR	LR	22 52 34.4	
comp=E,243nm,18.2s,baz=199,slow=34							
BDFB	Brasilia	28.35	56	P	P	22 42 41.4	-0.5
comp=E,5.4nm,0.6s,baz=216,slow=6.9,SNR=11							
BDFB				LR	LR	22 55 48.4	
comp=E,593nm,18.8s,baz=216,slow=40							

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BDFB	Brasilia	28.35	56	eP	P	22 42 40.8	-1.1
PMSA	Palmer Station	31.12	173	LR	LR	22 55 32.2	
comp=E,616nm,19.0s,baz=334,slow=36							
ROSC	El Rosal	38.78	356	LR	LR	23 00 28.3	
comp=E,170nm,19.5s,baz=271,slow=37							
RCBR	Riachuelo	43.66	58	P	P	22 44 52.4	-0.1
comp=E,3.7nm,0.7s,baz=206,slow=10,SNR=4.2							
RCBR	Riachuelo	43.66	58	eP	P	22 44 50.5	-2.0
comp=E,5.9nm,0.9s							
SNAA	Sanae	51.51	158	P	P	22 45 52.7	-0.1
comp=E,9.1nm,1.1s,baz=305,slow=8.1,SNR=6.3							
SNAA	Sanae	51.51	158	eP	P	22 45 54.0	+1.3
comp=E,31nm,1.1s							
QSPA	South Pole Qui	56.17	180	P	P	22 46 27.6	+0.6
comp=E,14nm,1.0s,baz=157,slow=3.8,SNR=21							
QSPA				pP	pP	22 46 36.1	-0.9
comp=E,7.3nm,0.9s,baz=355,slow=4.1,SNR=5.3							
QSPA	South Pole Qui	56.17	180	eP	P	22 46 28.2	+1.2
comp=E,13nm,0.9s							
MEH	Mehetia	68.86	262	eT	T	00 02 41.7	
comp=E,17nm,0.2s							
JCT	Junction City	69.36	335	eP	P	22 47 57.6	+2.6
comp=E,21nm,1.4s							
TXAR	Lajitas Array	69.81	331	P	P	22 47 58.1	+0.2
comp=E,0.5nm,0.5s,baz=158,slow=8.0,SNR=13							
PPT2	Papeete2	70.25	262	eLR	LR	23 09 17.1	
comp=E,225nm,26.0s							
PPT	Papeete	70.26	262	LR	LR	23 11 42.9	
comp=E,120nm,18.6s,baz=168,slow=30							
WVT	Waverly	71.38	347	eP	P	22 48 07.0	-0.2
comp=E,36nm,1.2s							
MAW	Mawson	73.11	164	P	P	22 48 17.3	+0.1
comp=E,14nm,0.8s,baz=236,slow=19,SNR=2.5							
MAW				LR	LR	23 23 09.5	
comp=E,298nm,18.6s,baz=239,slow=38							
MSTX	Muleshoe	73.58	344	eP	P	22 48 23.3	+2.8
comp=E,163nm,2.9s							
DBIC	Dimbokro	75.18	71	P	P	22 48 29.8	-0.3
comp=E,5.8nm,0.9s,baz=213,slow=6.6,SNR=5.9							
DBIC				LR	LR	23 20 16.1	
comp=E,164nm,18.7s,baz=198,slow=35							
ANMO	Albuquerque	75.85	331	eP	P	22 48 39.2	+5.4
comp=E,13nm,1.5s							
WUAZ	Wupatki	78.40	328	eP	P	22 48 49.8	+1.7
comp=E,9.4nm,1.4s							
TSUM	Tsumeb	79.17	106	eP	P	22 48 53.6	+0.9
comp=E,13nm,1.5s							
BOSA	Boshof	80.02	118	P	P	22 48 57.0	-0.2
comp=E,2.9nm,0.5s,baz=268,slow=3.0,SNR=9.9							
BOSA				pP	pP	22 49 06.8	-0.7
comp=E,4.7nm,0.7s,baz=270,slow=2.2,SNR=4.1							
BOSA				LR	LR	23 20 53.2	
comp=E,72nm,18.2s,baz=189,slow=33							
ECSD	EROS Data Cent	80.62	342	eP	P	22 48 59.8	+0.1
comp=E,8.2nm,0.8s							
SHPR	Sheep Range	80.93	326	eP	P	22 49 03.6	+1.9
CCUT	Cedar City	80.97	328	eP	P	22 49 10.2	+8.1
comp=E,4.8nm,1.2s							
ARUT	Antelope Range	81.21	328	eP	P	22 49 05.4	+2.2
comp=E,91nm,0.6s							
R11A	Troy Canyon, C	82.63	327	eP	P	22 49 12.3	+1.6
comp=E,6.0nm,1.3s							
PDAR	Pinedale Array	83.83	333	P	P	22 49 15.9	-0.9
comp=E,1.0nm,1.0s,baz=135,slow=9.0,SNR=3.8							
PDAR				LR	LR	23 23 19.7	
comp=E,129nm,19.2s,baz=164,slow=33							
TORD	Torodi Ar. Bea	84.21	70	P	P	22 49 19.7	+0.6
comp=E,9.5nm,0.8s,baz=286,slow=7.2,SNR=47							
TORD				LR	LR	23 26 18.7	
comp=E,124nm,18.6s,baz=245,slow=35							
YKA	Yellowknife Ar	102.13	341	P	Pdif	22 50 39.6	-1.6
comp=E,0.1nm,0.5s,baz=143,slow=4.4,SNR=2.8							
YKA				pP		22 50 49.3	
comp=E,0.2nm,0.6s,baz=139,slow=4.3,SNR=3.7							
ASAR	Alice Springs	117.52	207	PKP	PKPdf	22 55 31.4	-2.2
comp=E,0.4nm,0.6s,baz=138,slow=2.1,SNR=5.1							
WRA	Warramunga Arr	120.71	209	PKP	PKPdf	22 55 38.0	-1.8
comp=E,0.6nm,0.4s,baz=160,slow=1.7,SNR=20							
BRTR	Keskin Array B	121.85	61	PKP	PKPdf	22 55 40.7	-0.7
comp=E,0.9nm,0.8s,baz=198,slow=6.5,SNR=4.7							
FINES	FINESS Array B	123.03	35	PKP	PKPdf	22 55 41.9	-0.9
comp=E,2.3nm,1.0s,baz=0,0,slow=2.5,SNR=4.2							
ARCES	ARCESS Array B	124.07	25	PKP	PKPdf	22 55 43.9	-0.7
comp=E,1.8nm,0.7s,baz=254,slow=3.4,SNR=7.3							
AKTO	Aktyubinsk	140.36	50	PKP	PKPdf	22 56 16.0	+0.2
comp=E,1.5nm,0.7s,baz=308,slow=1.6,SNR=4.5							
POO	Poona	145.90	108	↓iP	PKPdf	22 56 26.0	-0.6
comp=E,179nm,1.5s							
BRVK	Borovoye	147.24	43	ePKPdf	PKPdf	22 56 28.1	+0.4
BRVK				ePKPbc	PKPbc	22 56 30.7	+0.6
BRVK				ePKPab	PKiKP	22 56 32.9	+0.5
BVAR	Borovoye Array	147.31	43	PKPbc	PKPdf	22 56 28.7	+0.8
comp=E,4.0nm,0.4s,baz=294,slow=1.8,SNR=41							
PSI	Prapat	147.76	163	PKPbc	PKPdf	22 56 31.1	+1.1
comp=E,3.8nm,0.4s,baz=126,slow=11,SNR=5.8							
HYB	Hyderabad	148.88	115	i PKP	PKPbc	22 56 35.0	-0.5
KKAR	Karatay Array	149.56	62	ePKPbc	PKPbc	22 56 36.7	+0.2
IPM	Ipoh	149.86	166	ePKPdf	PKPbc	22 56 37.1	-1.0
EKS2	Erkin-Say	151.99	62	ePKPdf	PKPdf	22 56 36.2	+0.4
EKS2				ePKPbc	PKPbc	22 56 42.6	+0.2
EKS2				ePKPab	PKPab	22 56 51.5	-0.3
AAK	Ala-Archa	152.52	62	PKPbc	PKPbc	22 56 44.2	+0.6
comp=E,4.6nm,0.7s,baz=165,slow=1.6,SNR=27							
AAK	Ala-Archa	152.52	62	ePKPbc	PKPbc	22 56 44.5	+0.9
KURK	Kurchatov	152.91	43	ePKPbc	PKPbc	22 56 44.5	+0.5
TKM2	Tokmak 2	153.28	61	ePKPbc	PKPbc	22 56 45.9	+0.6
ZALV	Zalesovo Beam	154.27	32	PKP	PKPdf	22 56 38.2	-0.4
comp=E,1.8nm,0.9s,baz=276,slow=2.8,SNR=8.4							
ZALV				PKPbc	PKPbc	22 56 46.8	0.0
comp=E,6.5nm,0.5s,baz=293,slow=3.2,SNR=32							
MKAR	Makanchi Array	156.79	49	PKP	PKPdf	22 56 41.8	-0.4
comp=E,0.9nm,0.8s,baz=253,slow=1.3,SNR=7.8							
MKAR				PKPab	PKPab	22 57 11.2	-0.8
comp=E,1.8nm,0.7s,baz=291,slow=3.1,SNR=12							
MKAR	Makanchi Array	156.79	49	PKPdf	PKPdf	22 56 41.8	-0.4
MKAR				ePKPdf	PKPdf	22 56 42.6	+0.4
MKAR				PKPab	PKPab	22 57 11.2	-0.8
SONM	Songino Array	166.19	5	PKP	PKPdf	22 56 51.4	-0.7
comp=E,0.5nm,0.9s,baz=5.7,slow=1.4,SNR=3.1							
SONM				PKPab	PKPab	22 57 53.2	+0.2
comp=E,1.1nm,1.0s,baz=318,slow=4.0,SNR=5.5							

IDC 03 22:39:22.4±1.8, 7.21S×130.88E, h0km, mb3.6/2, mb1 4.2/5, mb1mx3.6/37, mbtmp4.1/5, ML4.3/3, Error ellipse: s-maj=49.4km s-min=26.8km az=64.0
ISCJB 03 22:39:25.9±0.7, 7.35S±0.04×130.76E±0.06, h33km, mb3.2/2, Error ellipse: s-maj=7.9km s-min=6.2km az=11.8
ISC 03 22:39:27.4±0.8, 7.43S±0.05×130.83E±0.07, h35km, n14, σ§82/19, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
FAKI	Fak Fak	4.70	18	P	Pn	22 40 38.9	+3.1
baz=5.3,SNR=14							
FAKI				S	Sn	22 41 29.2	+0.1
baz=5.3,SNR=21							
MTN	Manton Dam	5.39	177	P	Pn	22 40 50.8	+5.5
baz=4.8,SNR=22							
MTN				S	Sn	22 41 49.9	+3.7
baz=4.8,SNR=7.8							
KDU	Kakadu	5.47	163	P	Pn	22 40 51.5	+5.1
baz=4.9,SNR=178							
KDU				S	Sn	22 41 52.0	+3.8
baz=4.9,SNR=5.8							
SWI	Sorong	6.54	4	S	Sn	22 42 10.2	-4.2
baz=7.2,SNR=5.3							
BATI	Baumata	7.60	248	Pn	Pn	22 41 17.6	+1.8
13nm,0.3s,baz=108,slow=13,SNR=20							
BATI				Sn	Sn	22 42 39.9	-0.8
2.3nm,0.3s,baz=282,slow=20,SNR=2.3							
KNRA	Kununurra	8.45	194	P	Pn	22 41 31.0	+3.7
baz=7.9,SNR=13							
KNRA				S	Sn	22 42 59.0	-2.4
baz=7.9,SNR=7.4							
WRA	Warramunga Arr	12.90	165	Pn	Pn	22 42 28.6	+0.2
1.2nm,0.3s,baz=346,slow=14,SNR=24							
WRA				Sn	Sn	22 44 46.5	-4.2
1.5nm,0.3s,baz=330,slow=23,SNR=13							
COEN	Coen	13.75	119	P	P	22 42 45.0	-3.1
baz=13,SNR=7.1							
COEN				S	Sn	22 45 10.9	-0.7
baz=13,SNR=4.6							
QIS	Mount Isa	15.57	148	P	P	22 43 06.7	-1.6
baz=15,SNR=3.8							
PMG	Port Moresby	16.27	98	S	Sn	22 46 12.9	-0.1
baz=16,SNR=4.0							

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	16.41	170	Pn	Pn	22 43 16.0	+0.8
0.9nm,0.3s,baz=352,slow=9.8,SNR=45							
ASAR				Sn	Sn	22 46 11.6	-4.9
0.3nm,0.3s,baz=351,slow=26,SNR=8.6							
WRKA	Warakurna	17.68	188	P	P	22 43 32.9	+1.3
baz=17,SNR=7.2							
WRKA				S	Sn	22 46 36.2	-11
baz=17,SNR=4.2							
STKA	Stephens Creek	26.32	159	P	P	22 45 02.2	+2.3
0.9nm,0.6s,baz=320,slow=10,SNR=4.1							
MKAR	Makanchi Array	69.03	327	P	P	22 50 28.8	-0.8
0.1nm,0.5s,baz=118,slow=7.9,SNR=5.1							

IDC 03 22:44:16.1±4.4, 15.42S×174.03W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/39, mbtmp3.7/3, Error ellipse: s-maj=201.9km s-min=40.0km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
H11S2	WAKE ISLAND Hy 38.67	330		T	T	23 32 30.7	
baz=149,slow=76,SNR=15							
H11S3	WAKE ISLAND Hy 38.69	330		T	T	23 32 32.8	
baz=149,slow=76,SNR=16							
H11S1	WAKE ISLAND Hy 38.69	330		T	T	23 32 33.3	
baz=149,slow=76,SNR=23							
H11N3	WAKE ISLAND Hy 39.63	331		T	T	23 33 42.0	
baz=147,slow=74							
H11N1	WAKE ISLAND Hy 39.64	331		T	T	23 33 42.3	
baz=147,slow=74							
H11N2	WAKE ISLAND Hy 39.65	331		T	T	23 33 43.3	
baz=147							
STKA	Stephens Creek	43.49	240	P	P	22 52 20.5	-0.9
0.5nm,0.3s,baz=75,slow=12,SNR=2.7							
WRA	Warramunga Arr	49.24	257	P	P	22 53 06.3	-0.6
0.3nm,0.6s,baz=90,slow=7.7,SNR=5.2							
ASAR	Alice Springs	49.52	252	P	P	22 53 09.8	+0.9
1.2nm,0.6s,baz=86,slow=7.7,SNR=13							
BRTR	Keskin Array B	145.79	320	PKPbc	PKPbc	23 03 57.8	+0.1
0.5nm,0.6s,baz=128,slow=2.4,SNR=3.1							
GERES	GERESS Array B	146.07	351	PKPbc	PKPdf	23 03 56.3	-1.1
0.4nm,0.7s,baz=324,slow=5.6,SNR=4.1							

IDC 03 22:51:53.3±1.0, 36.90S×73.54W, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.9/22, mbtmp3.8/10, ML3.9/3, Error ellipse: s-maj=26.7km s-min=17.7km az=74.0
ISCJB 03 22:51:54.7±1.0, 36.86S±0.10×73.4W±0.2, h14km, mb3.8/7, Error ellipse: s-maj=22.8km s-min=14.0km az=174.7
ISC 03 22:51:55.7±1.0, 36.9S±0.1×73.5W±0.2, h14km, n13, σ1§02/14, mb3.9/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.48	150	Pn	Pn	22 53 03.6	+0.3
1.2nm,0.3s,baz=336,slow=12,SNR=11							
PLCA				Lg	Lg	22 54 16.6	
2.9nm,0.3s,baz=220,slow=14,SNR=3.9							
CFAA	Coronel Fontan	6.79	41	Pn	Pn	22 53 34.0	-1.0
0.5nm,0.3s,baz=198,slow=14,SNR=5.5							
CFAA				Lg	Lg	22 55 32.5	
0.1nm,0.3s,baz=293,slow=16,SNR=4.5							
CPUP	Villa Florida	17.27	57	Pn	Pn	22 55 57.4	+0.9
0.4nm,0.3s,baz=226,slow=8.4,SNR=3.3							
LPAZ	La Paz	21.03	14	P	P	22 56 40.6	+0.8
1.0nm,0.5s,baz=161,slow=5.2,SNR=7.5							
SIV	San Ignacio	23.52	31	P	P	22 57 07.2	+1.8
2.3nm,0.8s,baz=226,slow=3.2,SNR=4.1							
TXAR	Lajitas Array	71.69	332	P	P	23 03 16.6	-0.6
0.2nm,0.8s,baz=141,slow=5.8,SNR=2.6							
DBIC	Dimbokro	77.19	72	P	P	23 03 49.6	+0.1
2.4nm,0.8s,baz=238,slow=9.9,SNR=2.8							
BOSA	Boshof	79.76	118	P	P	23 04 04.2	+0.5
3.7nm,1.1s,baz=260,slow=11,SNR=2.1							
PDAR	Pinedale Array	85.81	334	P	P	23 04 35.9	+1.2
0.3nm,0.3s,baz=165,slow=12,SNR=3.5							
TORD	Torodi Ar. Bea	86.26	71	P	P	23 04 36.3	-1.0
0.5nm,0.6s,baz=210,slow=6.3,SNR=7.5							
BVAR	Borovoye Array	150.13	46	PKPbc	PKPbc	23 11 45.0	-0.5
1.3nm,0.8s,baz=291,slow=4.1,SNR=7.4							
ZALV	Zalesovo Beam	157.25	34	PKP	PKPdf	23 11 49.7	-0.8
0.6nm,0.6s,baz=28,slow=6.5,SNR=3.5							
ZALV				PKPab	PKPab	23 12 21.4	-0.1
0.5nm,0.6s,baz=4.3,slow=5.8,SNR=2.9							
MKAR	Makanchi Array	159.46	54	PKPab	PKPab	23 12 30.2	-1.3
0.7nm,0.8s,baz=270,slow=3.6,SNR=6.5							

MOS 03 22:54:09.4±1.0, 3.61N×126.69E, h33km, mb5.2/22, Error ellipse: s-maj=16.3km s-min=6.1km az=118.2
IDC 03 22:54:12.6±2.5, 3.56N×126.56E, h43km±22km, mb4.3/27, mb1 4.4/28, mb1mx4.3/40, mbtmp4.6/28, ML4.2/1, MS3.7/11, Ms1 3.8/11, ms1mx3.4/37, Error ellipse: s-maj=18.6km s-min=8.5km az=77.0
BJI 03 22:54:12.4, 3.58N×126.72E, h66km, mB4.9/32, mb4.8/44, Ms4.5/25, Ms7 4.1/26
NEIC 03 22:54:13.4±0.8, 3.75N×126.99E, h66km±8km, mb4.9/31, Error ellipse: s-maj=8.5km s-min=4.6km az=59.0
KLM 03 22:54:13.4, 3.72N×127.12E, h78km, mb4.9, MS5.6
*ISCJB 03 22:54:13.5±0.4, 3.64N±0.02×126.87E±0.03, h74km±4km, mb4.7/78, Error ellipse

BNSI	Bone	10.48 220	P	Pn	22 56 43.0	+1.2
	37nm,1.2s					
KKM	Kota Kinabalu	10.84 283	⇑P	Pn	22 56 50.1	+3.3
SMPI	Sarmi	13.14 115	P	Pn	22 57 17.1	-1.1
	78nm,1.4s					
SOEI	Soe	13.60 191	*e*Pn	Pn	22 57 24.1	-0.3
	59nm,1.0s					
BBKI	Banjar Baru	13.93 239	P	P	22 57 33.0	-1.9
	50nm,1.6s					
BATI	Baumata	14.16 193	P	Pn	22 57 32.0	+0.2
	32nm,0.8s					
BATI	Baumata	14.16 193	P	Pn	22 57 29.1	-2.7
	1.1nm,0.3s,baz=27,slow=18,SNR=1.7					
SBUM	Sibu	14.65 266	⇑P	P	22 57 40.6	-2.2
SBUM	Sibu	14.65 266	*e*Pn	Pn	22 57 40.3	+2.1
GENI	Genyem	14.71 115	P	Pn	22 57 40.2	+1.2
	1μm,1.0s,9μm					
JAY	Jayapura	15.17 114	P	P	22 57 50.3	+1.6
JAY	Jayapura	15.17 114	P	P	22 57 49.6	+0.9
	baz=15,SNR=39					
WBSI	Waikabubak, Su	15.18 209	P	P	22 57 47.8	-1.0
	109nm,0.8s,3μm					
STKI	Sintang	15.76 257	P	P	22 57 56.9	+1.6
KSM	Kuching	16.66 263	P	P	22 58 08.7	+3.5
	baz=16,SNR=4.9					
KSM	Kuching	16.66 263	*e*Pn	P	22 58 06.0	+0.8
	19nm,0.8s					
MTN	Manton Dam	16.97 166	P	Pn	22 58 03.9	-3.7
	baz=17,SNR=47					
KDU	Kakadu	17.21 161	P	Pn	22 58 07.8	-2.6
	baz=17,SNR=13					
JAGI	Jajag, Banyuwa	17.49 226	P	P	22 58 16.6	+2.2
	42nm,1.2s					
NGJI	Ngawi	18.87 234	P	Pn	22 58 50.4	+20
KNRA	Kununurra	19.34 174	P	P	22 58 33.4	-1.2
	baz=19,SNR=67					
TWG	Pinlang	19.82 344	*e*P	P	22 58 37.7	-2.2
	76nm,0.4s					
DLV	T Lat	19.93 295	*e*P	P	22 58 42.2	+0.9
YULB	Yu-li	20.31 345	*e*P	P	22 58 42.4	-2.7
	32nm,1.1s					
TPUB	Ta-pu	20.40 343	*e*P	P	22 58 44.0	-2.2
	67nm,0.8s					
SSLB	Suanglung	20.77 345	*e*P	P	22 58 48.4	-1.8
	38nm,0.9s					
KPJI	Karang Pucung	20.96 239	P	Pn	22 58 55.6	+0.2
	22nm,0.9s,1μm					
YHNB	Yeheng	21.51 346	*e*P	P	22 58 56.2	-1.9
	18nm,0.6s					
MYKOM	Kota Tinggi	23.04 266	⇑P	P	22 59 14.2	-0.1
MYKOM	Kota Tinggi	23.04 266	*e*P	P	22 59 14.1	-0.3
	16nm,1.1s					
JOW	Kunigami	23.05 3	P	P	22 59 16.2	+1.8
	1.4nm,0.6s,baz=189,slow=10,SNR=4.1					
JOW			LR	LR	23 07 34.1	
	comp=Z,23nm,20.1s,baz=96,slow=34					
CGJI	Cibinong	23.46 244	P	P	22 59 16.3	-2.1
KGM	Kluang	23.55 267	⇑P	P	22 59 18.5	-0.7
KTGM	Kuala Trenggan	23.68 275	⇑P	P	22 59 20.2	-0.3
COEN	Coen	23.88 138	P	P	22 59 21.7	-0.4
	baz=24,SNR=7.1					
COEN	Coen	23.88 138	*e*P	P	22 59 20.3	-1.9
	287nm,1.4s					
UBPT	Khong Chiam	23.98 300	P	P	22 59 22.5	-0.6
	60nm,1.2s,952nm					
MDSI	Maura Dua	24.05 250	P	P	22 59 27.5	+3.8
	15nm,0.9s					
PMG	Port Moresby	24.07 123	LR	LR	23 09 44.9	
	comp=Z,209nm,20.1s,baz=306,slow=38					
KASI	Kota Agung	24.12 248	P	P	22 59 29.8	+5.5
WRAB	Tennant Creek	24.61 163	*d i*P	P	22 59 27.6	-1.1
WRAB			pmax	pmax		
	comp=Z,489nm,1.5s					
WRAB	Tennant Creek	24.61 163	*e*P	P	22 59 27.6	-1.1
	comp=Z,142nm,0.8s					
WRA	Warramunga Arr	24.61 163	P	P	22 59 27.6	-1.2
	comp=Z,116nm,0.9s,baz=344,slow=10,SNR=411					
WRA			PcP	PcP	23 03 06.8	+1.4
	comp=Z,0.6nm,0.4s,baz=330,slow=1.7,SNR=2.9					
WRA			S	S	23 03 47.1	+1.4
	comp=Z,6.0nm,1.2s,baz=342,slow=14,SNR=6.8					
IPM	Ipoh	25.76 273	⇑P	P	22 59 39.3	0.0
IPM	Ipoh	25.76 273	*e*P	P	22 59 38.6	-0.7
	comp=Z,32nm,1.2s					
BKNI	Bangkinang	25.99 263	*e*P	P	22 59 40.5	-1.0
KULM	Kulim	26.15 274	⇑P	P	22 59 43.3	+0.4
QIS	Mount Isa	27.16 153	P	P	22 59 51.8	0.0
	baz=27,SNR=15					
PSI	Prapat	27.88 269	LR	LR	23 12 52.4	
	comp=Z,201nm,19.1s,baz=82,slow=41					
ASAR	Alice Springs	28.05 166	P	P	22 59 58.9	-0.9
	comp=Z,3.1nm,0.4s,baz=345,slow=7.4,SNR=66					
ASAR			PcP	PcP	23 03 14.8	+1.6
	comp=Z,1.7nm,0.4s,baz=355,slow=2.3,SNR=4.2					
ASAR			S	S	23 04 41.9	+1.9
	comp=Z,1.0nm,0.8s,baz=340,slow=16,SNR=4.9					
SURT	Suratani	28.35 282	P	P	23 00 02.8	+0.3
	comp=Z,7.9nm,0.7s					
PBKT	Sadao Pong	28.45 299	P	P	23 00 03.7	+0.4
	comp=Z,16nm,1.1s					
LOEI	Loei	28.58 301	P	P	23 00 01.1	-3.5
	comp=Z,35nm,0.9s					
WRKA	Warakurna	28.59 177	P	P	23 00 04.1	-0.5
	baz=29,SNR=14					
PKDT	Phuket	28.65 280	P	P	23 00 05.8	+0.5
	comp=Z,22nm,0.6s,comp=Z,2μm					
NJ2	Nanjing	29.19 346	*e*P	P	23 00 08.1	-1.7
NJ2			PMZ			
	comp=Z,20nm,1.0s					
UTTA	Uttaradit	29.30 300	P	P	23 00 11.7	+0.8
	comp=Z,4.1nm,1.0s,comp=Z,51nm					
JNU	Nakatsue	29.52 7	LR	LR	23 11 27.5	
	comp=Z,121nm,21.8s,baz=172,slow=35					
GYA	Guiyang	29.77 321	*e*P	P	23 00 16.8	+1.7
GYA			pP	pP	23 00 32.6	+1.8
GYA			sP	sP	23 00 40.2	+1.8
GYA			S	S	23 05 09.4	+2.2
GYA			PMZ			
	comp=Z,10.0nm,0.8s					
LAMP	Lampang	30.42 301	P	P	23 00 21.9	+1.0
	comp=Z,4.9nm,1.1s					
CRAI	Chiangrai	30.58 305	P	P	23 00 20.9	-1.4
	comp=Z,45nm,0.9s,comp=Z,7μm					
CMAR	Chiang Mai Arr	30.98 300	P	P	23 00 25.1	-0.8
	comp=Z,5.1nm,0.7s,baz=122,slow=7.5,SNR=24					
CMMT	Chiang Mai	31.13 301	P	P	23 00 26.8	-0.3
	comp=Z,20nm,0.9s					
CHTO	Chiang Mai	31.13 301	*e*P	P	23 00 26.8	-0.4
CHTO			pmax	pmax		
	comp=Z,10.0nm,0.8s					
CHTO	Chiang Mai	31.13 301	P	P	23 00 27.1	-0.1
	comp=Z,66nm,0.8s					
CHTO	Chiang Mai	31.13 301	*e*P	P	23 00 26.8	-0.4
	comp=Z,9.6nm,0.8s					
KMI	Kunming	31.48 315	P	P	23 00 33.4	+3.0
KMI			pP	pP	23 00 48.6	+2.4
KMI			S	S	23 05 36.0	+1.7
KMI			PMZ			
	comp=Z,4.0nm,0.6s					
KMI			PMZ			
	comp=Z,120nm,5.5s					
KMI			LN			
	comp=Z,160nm,23.1s					
KMI			LE			
	comp=Z,160nm,23.8s					
KMI			LZ			
	comp=Z,280nm,24.5s					
MHMT	Maesariang	31.75 299	P	P	23 00 34.1	+1.6
	comp=Z,9.7nm,0.6s,comp=Z,268nm					
KSAR	Wonju Array Be	33.61 2	P	P	23 00 50.7	+2.1
KSAR	Wonju Array Be	33.61 2	P	P	23 00 50.6	+2.1
KSRS	Korea Array	33.62 2	P	P	23 00 50.6	+2.0
	comp=Z,6.8nm,0.8s,baz=180,slow=9.5,SNR=18					
KSRS			LR	LR	23 16 50.8	
	comp=Z,118nm,19.1s,baz=191,slow=40					
MORW	Morawa	34.18 197	P	P	23 00 54.1	+0.5
	baz=34,SNR=3.9					
FORT	Forrest	34.29 178	P	P	23 00 54.1	-0.5
	baz=34,SNR=31					
FORT	Forrest	34.29 178	*e*P	P	23 00 53.6	-0.9
	comp=Z,32nm,0.7s					
MJAR	Matsushiro Arr	34.33 16	P	P	23 00 56.0	+1.1
MJAR	Matsushiro Arr	34.33 16	P	P	23 00 56.0	+1.1
	comp=Z,1.3nm,0.6s,baz=187,slow=10,SNR=4.2					
MJAR	Matsushiro Arr	34.33 16	P	P	23 00 56.0	+1.1
QLP	Quilpie	34.48 152	P	P	23 00 56.1	-0.1
	baz=35,SNR=5.6					
QLP			S	S	23 06 11.6	-8.6
	baz=35,SNR=4.6					
XAN	Xi'an	34.50 333	P	P	23 00 55.2	-1.2
XAN			pP	pP	23 01 10.3	-2.0
XAN			sP	sP	23 01 17.5	-2.3
XAN			PP	PnPn	23 02 11.5	-2.0
XAN			S	S	23 06 17.2	-3.4
XAN			sS	sS	23 06 43.8	-3.8
XAN			SS	SnSn	23 08 30.0	-7.5
XAN			PMZ			
	comp=Z,5.0nm,0.8s					
XAN			PMZ			
	comp=Z,22nm,7.1s					
XAN			LN			
	comp=Z,220nm,20.8s					
XAN			LE			
	comp=Z,63nm,20.8s					
XAN			LZ			
	comp=Z,85nm,22.7s					
CD2	Chengdu	34.74 324	*e*P	P	23 00 58.0	-0.5
CD2			sP	sP	23 01 21.8	-0.2
CD2			PP	PP	23 02 18.1	-0.3
CD2			S	S	23 06 24.2	-0.1
CD2			sS	sS	23 06 51.2	-0.2
CD2			SS	SnSn	23 08 42.1	-1.2
CD2			PMZ			
	comp=Z,10.0nm,1.0s					
CD2			LN			
	comp=Z,280nm,17.8s					
CD2			LE			
	comp=Z,280nm,17.8s					
CD2			LZ			
	comp=Z,440nm,15.5s					
KLBR	Kellerberrin	36.13 193	P	P	23 01 10.2	-0.3
	baz=36,SNR=12					
EIDS	Eidsvold	37.25 142	P	P	23 01 20.3	+0.2
	baz=37,SNR=4.0					
BBOO	Buckleboo	37.34 167	P	P	23 01 20.2	-0.4
	baz=37,SNR=26					
BBOO	Buckleboo	37.34 167	*e*P	P	23 01 19.3	-1.3
	comp=Z,189nm,0.6s					
BJT	Baijiatuau	37.43 346	*e*P	P	23 01 19.6	-1.7
BJT			pmax	pmax		
	comp=Z,45nm,0.6s					
BJT	Baijiatuau	37.43 346	*e*P	P	23 01 19.6	-1.7
	comp=Z,45nm,0.6s					
BJI	Beijing	37.45 346	P	P	23 01 22.0	+0.5
BJI			PMZ			
	comp=Z,63nm,1.2s					
NWAO	Narrogin (SRO)	37.54 193	P	P	23 01 20.6	-1.7
	comp=Z,4.0nm,0.5s,baz=14,slow=6.0,SNR=7.6					
STKA	Stephens Creek	38.05 159	P	P	23 01 26.9	+0.2
	comp=Z,39nm,0.6s,baz=332,slow=7.8,SNR=140					
STKA	Stephens Creek	38.05 159	P	P	23 01 26.9	+0.2
	baz=38,SNR=133					
LZH	Lanzhou	38.59 330	*e*P	P	23 01 32.3	+0.9
LZH			pP	pP	23 01 48.5	+1.1
LZH			sP	sP	23 01 54.2	-0.7
LZH			PP	PnPn	23 03 06.0	+2.6
LZH			*e*S	S	23 07 22.1	-1.1
LZH			SS	SS	23 10 06.1	-9.4
LZH			PMZ			
	comp=Z,33nm,1.2s					
LZH			PMZ			
	comp=Z,120nm,5.0s					
LZH			LN			
	comp=Z,650nm,11.7s					
LZH			LE			
	comp=Z,710nm,12.4s					
LZH			LZ			
	comp=Z,950nm,14.0s					
HTT	Hallett	38.65 164	P	P	23 01 32.0	+0.3
	baz=39,SNR=7.6					
RKGY	Rocky Gully	39.21 193	P	P	23 01 37.5	+1.2
	baz=39,SNR=4.7					
CMSA	Cobar Meteorol	39.37 154	P	P	23 01 37.9	+0.3
	baz=40,SNR=11					
HHC	Hu-ho-hao-te	39.47 342	*e*P	P	23 01 40.1	+1.5
HHC			pP	pP	23 01 55.2	+0.5
HHC			sP	sP	23 02 04.4	+2.2
HHC			PP	PnPn	23 03 14.4	+0.7
HHC			S	S	23 07 37.8	+1.7
HHC			sS	sS	23 08 00.5	-3.0
HHC			PMZ			
	comp=Z,19nm,0.8s					
HHC			PMZ			
	comp=Z,92nm,4.5s					
HHC			LN			
	comp=Z,310nm,17.1s					
HHC			LE			
	comp=Z,380nm,13.7s					
HHC			LZ			
	comp=Z,220nm,15.9s					
SHL	Shillong	39.98 306	*e*P	P	23 01 43.0	-0.2
USRK	Ussuriysk Ar.	40.60 6	P	P	23 01 49.6	+1.9
	comp=Z,4.0nm,0.8s,baz=194,slow=8.2,SNR=13					
USRK			LR	LR	23 16 55.7	
	comp=Z,88nm,21.9s,baz=192,slow=33					
MDJ	Mudanjiang	40.83 3	P	P	23 01 51.3	+1.7
MDJ			pP	pP	23 02 06.5	+0.7
MDJ			sP	sP	23 02 13.8	+0.5
MDJ			PP	PnPn	23 03 27.3	-2.3
MDJ			S	S	23 08 01.2	+5.1
MDJ			sS	sS	23 08 26.8	+3.2
MDJ			PMZ			
	comp=Z,16nm,1.0s					
MDJ			PMZ			
	comp=Z,59nm,4.1s					
MDJ			LN			
	comp=Z,110nm,27.9s					
MDJ			LE			
	comp=Z,64nm,30.6s					
MDJ			LZ			
	comp=Z,120nm,20.8s					
MDJ	Mudanjiang	40.83 3	*e*P	P	23 01 46.8	-2.9
	comp=Z,17nm,0.9s					
ARMA	Armidale	41.37 147	P	P	23 01 55.8	+1.4
	baz=42,SNR=7.8					
ARMA	Armidale	41.37 147	*e*P	P	23 01 52.6	-1.8
	comp=Z,13nm,0.7s					
LSA	Lhasa	42.55 311	*e*P	P	23 02 03.9	-0.6
LSA			pmax	pmax		
	comp=Z,9.0nm,0.7s					
LSA	Lhasa	42.55 311	*e*P	P	23 02 03.9	-0.6
	comp=Z,8.8nm,0.7s					
ASAJ	Asahikawa	42.60 17	P	P	23 02 06.3	+2.2
	comp=Z,8.3nm,0.8s,baz=325,slow=24,SNR=5.0					
ARPS	Mount Arapiles	42.62 162	P	P	23 02 05.3	+1.0
	baz=43,SNR=12					
GTA	Gaotai	43.19 329	*e*P	P	23 02 09.1	0.0
GTA			pP	pP	23 02 24.4	-1.0
GTA			sP	sP	23 02 31.9	-0.9
GTA			S	S	23 08 30.9	-0.4
GTA			sS	sS	23 08 58.3	-0.6
GTA			SS	SS	23 11 40.7	-5.7
GTA			PMZ			
	comp=Z,3.0nm,1.1s					
GTA			PMZ			
	comp=Z,140nm,5.0s					
GTA			LN			
	comp=Z,180nm,17.8s					
GTA			LE			
	comp=Z,270nm,22.6s					
GTA			LZ			
	comp=Z,360nm,18.8s					
TAPN	Taplejung	44.13 306	*e*P	P	23 02 16.4	-0.6
	comp=Z,19nm,0.7s					
ODAN	Odare	44.18 305	*e*P	P	23 02 16.9	-0.5
	comp=Z,17nm,0.7s					
TOO	Toolangi	44.56 159	P	P	23 02 23.4	+3.4
	baz=45,SNR=4.4					
RAMN	Ramite	44.86 305	*e*P	P	23 02 22.5	-0.3
	comp=Z,20nm,0.8s					
JIRN	Jiri	45.48 306	*e*P	P	23 02 27.1	-0.8
	comp=Z,19nm,0.7s					
KLR	Kul'dur	45.57 5	*e*P	P	23 02 25.7	-2.1
HIA	Hailar	45.81 354	*e*P	P	23 02 23.5	-6.3
HIA			pmax	pmax		
	comp=Z,9.0nm,0.6s					
HIA	Hailar	45.81 354	*e*P	P	23 02 23.5	-6.3
	comp=Z,8.9nm,0.6s					
GUN	Gumba	45.84 306	*e*P	P	23 02 30.0	-0.7
	comp=Z,36nm,0.8s					
PALK	Pallekele	46.04 277	P	P	23 02 31.2	-0.9
	comp=Z,6.9nm,0.6s,baz=131,slow=3.4,SNR=6.0					
PKI	Pulchoki	46.08 305	*e*P	P	23 02 31.3	-1.3
PKIN	Phulchoki	46.09 305	*e*P	P	23 02 31.4	-1.2
KKN	Kakani	46.27 306	*e*P	P	23 02 33.0	-1.0
	comp=Z,16nm,1.0s					
DMN	Daman	46.34 305	*e*P	P	23 02 33.5	-1.1
	comp=Z,35nm,1.2s					
DZM	Mont Dzumac	46.42 125	*e*P	P	23 02 32.6	-2.5
	comp=Z,22nm,0.6s					
GKN	Gorkha	46.88 306	*e*P	P	23 02 37.5	-1.1
	comp=Z,16nm,0.8s					
ULN	Ulaanbaatar	47.19 342	*e*P	P	23 02 42.3	+1.6
ULN			pmax	pmax		
	comp=Z,11nm,1.0s					
ULN	Ulaanbaatar	47.19 342	*e*P	P	23 02 39.3	-1.4
	comp=Z,8.9nm,0.8s					
SONM	Songino Array	47.37 341	P	P	23 02 42.5	+0.5
	comp=Z,4.8nm,0.7s,baz=159,slow=8.1,SNR=28					
SONM			PcP	PcP	23 04 13.7	+1.7
	comp=Z,1.6nm,0.7s,baz=160,slow=4.6,SNR=3.1					
SONM			LR	LR	23 25 32.0	
	comp=Z,158nm,19.2s,baz=163,slow=40					
KOLN	Koldanda	47.63 305	*e*P	P	23 02 44.3	-0.3
	comp=Z,28nm,0.7s					
DANN	Dangsing	47.73 306	*e*P	P	23 02 44.9	-0.5
	comp=Z,21nm,0.5s					
HYB	Hyderabad	49.23 290	*i*P	P	23 02 55.5	-1.3
TLY	Talaya	51.60 342	*e*P	P	23 03 15.5	+1.4
TLY			pmax	pmax		
	comp=Z,7.0nm,1.0s					
TLY			MLR	MLR		
	comp=Z,117nm,20.0s					
TLY	Talaya	51.60 342	P	P	23 03 15.3	+1.2
	comp=Z,3.4nm,0.7s,baz=167,slow=6.2,SNR=8.6					
WMQ	Urumqi	52.82 325	P	P	23 03 24.5	+1.2
WMQ			sP	sP	23 03 48.2	+0.8
WMQ			PP	PP	23 05 27.1	+3.7
WMQ			S	S	23 10 47.2	-0.1
WMQ			sS	sS	23 11 13.8	-1.8
WMQ			ScS	ScS	23 13 05.0	-2.3
WMQ			SS	SS	23 14 25.0	-1.9
WMQ			PMZ			
	comp=Z,12nm,1.2s					
WMQ			PMZ			
	comp=Z,180nm,3.5s					
WMQ			LN			
	comp=Z,67nm,24.0s					
WMQ			LE			
	comp=Z,130nm,23.0s					
WMQ			LZ			
	comp=Z,170nm,21.0s					
MSVF	Nonsavu	54.80 115	*e*P	P	23 03 35.2	-3.0
MSVF			pmax	pmax		
	comp=Z,71nm,1.4s					
MSVF	Nonsavu	54.80 115	*e*P	P	23 03 35.2	-3.0
	comp=Z,71nm,1.4s					
HVS	Khovu-Aksy	54.82 335	*e*P	P	23 03 38.7	+0.8
BOD	Bodaibo	54.92 352	*e*P	P	23 03 39.6	+1.3
BOD			pmax	pmax		
	comp=Z,7.0nm,1.6s					
PETK	Petropavlovsk-	55.43 22	P	P	23 03 44.4	+2.3
	comp=Z,5.7nm,0.8s,baz=187,slow=7.5,SNR=9.5					
MKAR	Makanchi Array	57.65 325	P	P	23 03 57.8	-0.3
	comp=Z,9.6nm,0.6s,baz=124,slow=8.4,SNR=102					
MKAR			PcP	PcP	23 04 52.2	+1.7
	comp=Z,2.5nm,0.6s,baz=114,slow=4.0,SNR=3.8					
MKAR			LR	LR	23 30 16.0	
	comp=Z,156nm,21.1s,baz=64,slow=38					
KSH	Kashi	58.15 315	P	P	23 04 02.8	+1.0
KSH			sP	sP	23 04 25.9	-0.1
KSH			PP	PP	23 06 12.4	+1.2
KSH			S	S	23 11 56.0	-2.6
KSH			sS	sS	23 12 25.1	-2.2
KSH			SS	SS	23 15 51.1	0.0
KSH			PMZ			
	comp=Z,14nm,1.1s					
KSH			PMZ			
	comp=Z,62nm,4.7s					
KSH			LN			
	comp=Z,84nm,5.6s					
KSH			LE			
	comp=Z,79nm,7.4s					
KSH			LZ			
	comp=Z,140nm,5.4s					
YAK	Yakutsk	58.25 2	*e*P	P	23 04 08.6	+6.8
YAK			*e*		23 04 26.3	
YAK			pmax	pmax		
	comp=Z,24nm,1.0s					
YAK			pmax	pmax		
	comp=N,7.0nm,1.5s					
KZA	Kyzart	59.72 318	P	P	23 04 14.7	+1.7
	SNR=15					
KZA	Kyzart	59.72 318	*i*P	P	23 04 14.6	+1.7
TKM2	Tokmak 2	59.85 319	P	P	23 04 14.5	+0.9
	SNR=16					
TKM2	Tokmak 2	59.85 319	*i*P	P	23 04 14.5	+0.9
TKM2	Tokmak 2	59.85 319	*e*P	P	23 04 12.3	-1.3
	comp=N,9.9nm,0.8s					
KBK	Karagaybulak	60.16 318	P	P	23 04 17.2	+1.5
	SNR=9.0					
KBK	Karagaybulak	60.16 318	*i*P	P	23 04 17.2	+1.5
UCH	Uchtor	60.28 317	P	P	23 04 18.6	+1.7
	SNR=18					
UCH	Uchtor	60.28 317	*i*P	P	23 04 18.5	+1.7
CHMS	Chumysh	60.44 318	P	P	23 04 18.1	+0.7
	SNR=5.5					
CHMS	Chumysh	60.44 318	*i*P	P	23 04 18.1	+0.7
AAK	Ala-Archa	60.46 318	*ce*P	P	23 04 19.0	+1.3
AAK			pmax	pmax		
	comp=Z,28nm,1.7s					
AAK	Ala-Archa	60.46 318	*e*P	P	23 04 16.8	-0.9
	comp=Z,8.1nm,1.1s					
ZALV	Zalesovo Beam	60.67 333	P	P	23 04 18.2	-0.5
	comp=Z,1.5nm,0.5s,baz=121,slow=7.1,SNR=15					
ZALV			LR	LR	23 33 23.3	
	comp=Z,80nm,18.6s,baz=70,slow=39					
USP	Ospenovka	60.72 318	P	P	23 04 19.4	0.0
	SNR=18					
USP	Ospenovka	60.72 318	*i*P	P	23 04 19.3	0.0
AML	Almayashu	60.79 317	P	P	23 04 21.5	+1.2
	SNR=29					
AML	Almayashu	60.79 317	*i*P	P	23 04 21.5	+1.2
EKS2	Erkin-Say	60.95 318	P	P	23 04 21.5	+0.5
	SNR=19					
EKS2	Erkin-Say	60.95 318	*e*P	P	23 04 21.6	+0.5
EKS2			pmax	pmax		
	comp=Z,12nm,0.8s					
EKS2	Erkin-Say	60.95 318	*e*P	P	23 04 21.6	+0.5
	comp=Z,12nm,0.8s					
KBL	Kabul	61.63 307	P	P	23 04 25.4	-0.5
	baz=62,SNR=5.0					
KURK	Kurchatov	61.83 327	*e*P	P	23 04 26.5	-0.1
KURK			pmax	pmax		
	comp=Z,19nm,0.8s					
KURK	Kurchatov	61.83 327	*e*P	P	23 04 26.5	-0.1
	comp=Z,19nm,0.8s					
NVS	Novosibirsk	61.96 333	*e*P	P	23 04 25.9	-1.5
NVS			pmax	pmax		
	comp=N,4.0nm,1.0s					
NVS			pmax	pmax		
	comp=E,3.0nm,1.0s					
NVS			pmax	pmax		
	comp=Z,7.0nm,1.0s					
KKAR	Karatay Array	63.33 317	*e*P	P	23 04 35.4	-1.5
KKAR			pmax	pmax		
	comp=Z,7.0nm,0.7s					
KKAR	Karatay Array	63.33 317	*e*P	P	23 04 35.4	-1.5
	comp=Z,7.5nm,0.7s					
BVAR	Borovoye Array	67.41 327	P	P	23 05 03.0	0.0
BVAR	Borovoye Array	67.41 327	P	P	23 05 03.0	0.0
	comp=Z,22nm,1.0s,baz=126,slow=7.5,SNR=64					
BRVK	Borovoye	67.48 327	*e*P	P	23 05 03.6	+0.2
BRVK			pmax	pmax		
	comp=Z,36nm,1.2s					
BRVK	Borovoye	67.48 327	*e*P	P	23 05 02.9	-0.5
	comp=Z,29nm,0.9s					
TIXI	Tiksi	67.88 1	*e*P	P	23 05 07.1	+1.6
TIXI			pmax	pmax		
	comp=Z,7.0nm,1.0s					
TIXI	Tiksi	67.88 1	*e*P	P	23 05 03.4	-2.1
	comp=Z,4.3nm,0.4s					
BILL	Bilibino	69.57 15	⇑*e*P	P	23 05 16.9	+0.8
BILL			*e*		23 07 56.9	
BILL			pmax	pmax		
	comp=Z,2.0nm,1.2s					
BILL			MLR	MLR		
	comp=Z,199nm,25.0s					
GEYT	Alibeck	71.00 309	P	P	23 05 25.2	-0.3

comp=Z,1.5nm,0.4s,baz=131,slow=4.1,SNR=8.5
ABKAR Akbulak array 72.25 321 *e*P **P 23 05 31.6 -1.1**
comp=Z,8.1nm,0.9s
AKTO Aktyubinsk 73.76 322 P **P 23 05 41.8 +0.1**
comp=Z,7.0nm,0.6s,baz=104,slow=9.3,SNR=30
SVE Sverdlovsk 74.05 328 *e*P **P 23 05 43.4 +0.2**
SVE pmax pmax
comp=Z,26nm,1.1s
ARU Arti 75.03 328*d i*P **P 23 05 48.7 -0.2**
ARU 23 08 36.4
ARU S **S 23 15 25.5 +3.8**
ARU SS **SS 23 20 10.7 -0.9**
ARU pmax pmax
comp=Z,9.0nm,0.6s
ARU Arti 75.03 328 *e*P **P 23 05 47.5 -1.3**
comp=Z,9.5nm,0.6s
RAYN Ar Rayn 80.60 293 *e*P **P 23 06 19.0 -1.6**
comp=Z,13nm,0.7s
OPO Ambohidratompo 81.38 251 P **P 23 06 24.8 -0.1**
comp=Z,2.9nm,0.8s,baz=75,slow=15
PRGR Permogore 82.59 332 *e*P **P 23 06 30.2 0.0**
PRGR pmax pmax
comp=Z,20nm,0.6s
VNDA Vanda 83.37 173 P **P 23 06 34.2 +0.2**
comp=Z,2.9nm,0.9s,baz=338,slow=7.9,SNR=10
VRHR Novokhopersk 84.14 321 *e*P **P 23 06 37.9 -0.5**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.8s
ILAR Eielson Array 85.09 25 P **P 23 06 44.5 +1.6**
comp=E,0.8nm,0.8s,baz=248,slow=4.7,SNR=14
KLMR Klimovskoe 85.49 331 *e*P **P 23 06 43.9 -1.1**
KLMR pmax pmax
comp=Z,21nm,0.7s
VORD Divnogorie 85.61 321 *e*P **P 23 06 45.0 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 85.69 321 *e*P **P 23 06 44.7 -1.5**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,3.0nm,1.0s
VSR pmax pmax
comp=E,9.0nm,0.9s
OBN Obninsk 87.16 325*de*P **P 23 06 54.1 +0.8**
OBN *i* 23 10 22.4
OBN *e*S **S 23 17 24.7 -2.9**
OBN pmax pmax
comp=Z,16nm,0.6s
OBN MLR MLR
comp=Z,71nm,20.0s
OBN Obninsk 87.16 325 *e*P **P 23 06 51.4 -1.9**
comp=Z,14nm,0.6s
ASF Jabal al Asfar 88.01 302 P **P 23 06 58.4 +0.4**
comp=Z,6.7nm,0.9s,baz=66,slow=6.2,SNR=5.1
EIL Elat 89.83 300 P **P 23 07 07.5 +0.9**
baz=90,SNR=3.1
BRTR Keskin Array B 90.13 310 P **P 23 07 07.0 -0.9**
comp=Z,4.9nm,0.9s,baz=87,slow=3.3,SNR=13
ARCES ARCESS Array B 90.52 340 P **P 23 07 08.7 -0.3**
comp=Z,3.5nm,0.6s,baz=77,slow=6.6,SNR=24
FINES FINESS Array B 91.92 332 P **P 23 07 16.2 +0.7**
comp=Z,1.0nm,0.6s,baz=48,slow=4.6,SNR=9.5
AKASG Malin Array Be 91.99 321 P **P 23 07 15.7 -0.4**
AKASG LR LR 23 53 22.9
comp=Z,56nm,19.1s,baz=190,slow=39
SYO Syowa Base 92.43 201⇑*e*X P 23 07 21.9 +4.3
QSPA South Pole Qui 93.59 180 P **P 23 07 24.0 +0.8**
comp=Z,1.4nm,0.9s,baz=308,slow=0.8,SNR=8.0
TESR Tescani 94.34 317⇑*i*P **P 23 07 26.9 -0.1**
PLOR Plostina 94.45 316⇓P **P 23 07 28.4 +0.8**
PLOR Plostina 94.45 316⇓*i*P **P 23 07 28.4 +0.8**
MLR Muntele Rosu 95.00 316⇑P **P 23 07 30.9 +0.6**
MLR Muntele Rosu 95.00 316⇑*i*P **P 23 07 30.9 +0.6**
BURAR Bucovina Array 95.10 318⇑P **P 23 07 31.1 +0.5**
BURAR Bucovina Array 95.10 318⇑*i*P **P 23 07 31.1 +0.5**
HUMR Humele 95.85 315⇓*i*P **P 23 07 34.0 0.0**
KWP Kalwaria Pacla 96.31 321⇓P **P 23 07 37.5 +1.6**
KWP Kalwaria Pacla 96.31 321⇓*i*P **P 23 07 37.5 +1.6**
KOLS Kolonicke sedl 96.74 320 *e*P **P 23 07 38.0 +0.1**
KOLS Kolonicke sedl 96.74 320 *e*P **P 23 07 38.0 +0.1**
DRGR 96.94 318⇑P **P 23 07 39.9 +0.9**
DRGR 96.94 318⇑*i*P **P 23 07 39.9 +0.9**
CRVS Cervenica-Dubn 97.27 320 *e*P Pdif 23 07 41.1 +0.7
CRVS Cervenica-Dubn 97.27 320 *e*P Pdif 23 07 41.0 +0.6
STHS Stebnicka Huta 97.28 321 *e*P Pdif 23 07 41.8 +1.3
STHS Stebnicka Huta 97.28 321 *e*P Pdif 23 07 41.8 +1.3
DAG Danmarks Havn 97.31 352 *i*P **P 23 07 39.9 0.0**
DAG pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 97.31 352 *i*P **P 23 07 39.9 0.0**
comp=Z,2.6nm,0.9s
NOA NORSAR Array B 98.87 334 P **P 23 07 46.7 -0.6**
comp=Z,0.8nm,0.7s,baz=66,slow=4.4,SNR=2.8
NOA LR LR 23 57 16.4
comp=Z,67nm,19.9s,baz=65,slow=38
GERES GERESS Array B 102.18 322 P **Pdif 23 08 02.8 +0.5**
comp=Z,0.4nm,0.6s,baz=73,slow=6.6,SNR=3.2
TORD Torodi Ar. Bea 123.03 288 PKP **PKPdf 23 13 04.4 -0.1**
comp=Z,1.0nm,0.8s,baz=73,slow=1.5,SNR=7.9
JTS JuntasAbangare 145.43 66 PKPbc **PKPab 23 13 48.9 +2.4**
comp=Z,3.1nm,0.4s,baz=266,slow=15,SNR=4.0
CFAA Coronel Fontan 148.82 155 PKPbc **PKPbc 23 13 56.4 +1.1**
comp=Z,0.6nm,0.6s,baz=253,slow=1.8,SNR=6.0

IDC 03 22:59:40.9±1.3, 3°.18N×126°.53E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/36, mbtmp3.7/5, Error ellipse: s-maj=169.2km s-min=20.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.22**	**162**	P	P	23 04 59.2	-0.4
	1.4nm,0.6s,baz=340,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**37.69**	**159**	P	P	23 06 58.8	+0.6
	1.4nm,0.6s,baz=342,slow=6.4,SNR=2.9						
SONM	**Songino Array**	**47.76**	**342**	P	P	23 08 19.4	-0.6
	0.3nm,0.5s,baz=161,slow=9.2,SNR=3.3						
MKAR	**Makanchi Array**	**57.89**	**326**	P	P	23 09 34.9	+0.1
	0.7nm,0.5s,baz=122,slow=7.7,SNR=9.9						
BVAR	**Borovoye Array**	**67.67**	**327**	P	P	23 10 39.9	0.0
	0.6nm,0.6s,baz=120,slow=8.8,SNR=5.8						

*IDC **03** 23:00:21.9±2.2, 34°.28S×72°.95W, h0km, mb4.2/2, mb1 4.1/4, mb1mx3.8/25, mbtmp4.0/4, ML3.4/2, Error ellipse: s-maj=67.7km s-min=44.0km az=99.0*
*GUC **03** 23:00:31.2±0.5, 33°.98S×71°.90W, h16km±34km, ML3.9*
ISC 03 23:00:27.9±2.0, 34°.1S±0°.2×72°.0W±0°.1, h18km±9km, n12, σ0°94/16, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.17**	**61**⇓*i*P		**Pb**	**23 00 49.8**	**+0.2**
RCDM				*i* S	**Sb**	**23 01 04.0**	**-0.5**
ANTU	**Antumapu**	**1.26**	**68**	*e*P	**Pb**	**23 00 51.8**	**+0.5**
ANTU				*e*S	**Sb**	**23 01 07.3**	**+0.1**
ANTU				AML	AML	23 01 11.6	
	comp=E,3μm,0.6s						
STL	**Santa Lucia**	**1.32**	**62**	*e*P9	**Pn**	**23 00 51.6**	**+0.2**
STL				*i* S	**Sn**	**23 01 07.2**	**-1.3**
FSR	**Penalolen**	**1.38**	**66**	*e*P9	**Pg**	**23 00 54.4**	**-0.2**
FSR				*e*S	**Sb**	**23 01 11.4**	**+0.8**
PEL	**Peldehue**	**1.45**	**51**⇑*i*P		**Pb**	**23 00 54.6**	**+0.2**
PEL				*i* S	**Sn**	**23 01 12.4**	**+0.5**
PEL				AML	AML	23 01 17.5	
	comp=N,7μm,0.5s						
FCH	**Farellones**	**1.63**	**64**	AML	AML	23 01 44.4	
	comp=E,3μm,0.3s						
CFAA	**Coronel Fontan**	**4.03**	**54**	Pn	Pb	23 01 34.9	-3.5
	comp=E,0.5nm,0.3s,baz=253,slow=1.1,SNR=23						
CFAA				Sn	**Sb**	**23 02 26.0**	**-0.7**
	comp=E,1.0nm,0.3s,baz=84,slow=20,SNR=6.8						
LPAZ	**La Paz**	**18.04**	**12**	P	**Pn**	**23 04 38.7**	**+0.3**
	comp=E,0.1nm,0.3s,baz=180,slow=10,SNR=11						
BOSA	**Boshof**	**80.04**	**118**	P	**P**	**23 12 36.4**	**-0.5**
	comp=E,2.0nm,0.7s,baz=229,slow=1.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**84.23**	**70**	P	**P**	**23 13 00.1**	**+1.4**
	comp=E,1.6nm,0.8s,baz=246,slow=4.4,SNR=7.7						
ZALV	**Zalesovo Beam**	**154.28**	**32**	PKPbc	**PKPbc**	**23 20 24.3**	**-2.1**
	comp=E,1.5nm,0.8s,baz=321,slow=3.8,SNR=6.7						
MKAR	**Makanchi Array**	**156.80**	**49**	PKPab	**PKPab**	**23 20 51.9**	**+0.3**
	comp=E,0.5nm,0.7s,baz=294,slow=4.1,SNR=6.5						

*IDC **03** 23:06:01.7±1.2, 2°.99N×125°.85E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/34, mbtmp3.6/6, Error ellipse: s-maj=142.2km s-min=18.5km az=67.0*
ISC 03 23:06:10.4±1.3, 3°.2N±0°.5×12°.6E±°, h72km, n6, σ0°61/6, mb3.5/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.29**	**161**	P	**P**	**23 11 20.6**	**-0.6**
	0.8nm,0.7s,baz=338,slow=11,SNR=16						
ASAR	**Alice Springs**	**27.68**	**165**	P	**P**	**23 11 51.6**	**-0.2**
	0.4nm,0.6s,baz=352,slow=7.8,SNR=5.8						
STKA	**Stephens Creek**	**37.77**	**158**	P	**P**	**23 13 20.1**	**+0.4**
	0.8nm,0.5s,baz=344,slow=7.4,SNR=2.9						
SONM	**Songino Array**	**47.69**	**342**	P	**P**	**23 14 39.8**	**-0.2**
	0.2nm,0.3s,baz=160,slow=7.9,SNR=3.5						
MKAR	**Makanchi Array**	**57.76**	**326**	P	**P**	**23 15 53.7**	**-0.4**
	0.3nm,0.4s,baz=125,slow=7.4,SNR=7.3						
BVAR	**Borovoye Array**	**67.54**	**327**	P	**P**	**23 16 59.7**	**+0.6**
	0.2nm,0.3s,baz=132,slow=6.6,SNR=4.4						

*ISCJB **03** 23:06:27.4±0.6, 38°.24N±0°.02×27°.26E±0°.03, h4km±5km, Error ellipse: s-maj=4.1km s-min=3.5km az=155.6*
*DDA **03** 23:06:27.5, 38°.26N×27°.25E, h5km, ML3.1*
*CSEM **03** 23:06:27.8±0.1, 38°.22N×27°.25E, h8km, MD3.2, Error ellipse: s-maj=2.6km s-min=2.3km az=143.0*
*ISK **03** 23:06:27.0, 38°.24N×27°.24E, h7km, MD3.2*
*THE **03** 23:06:29.7, 38°.13N×27°.26E, h29km±5km, ML2.3/4, Error ellipse: s-maj=6.3km s-min=1.0km az=185.0*
ISC 03 23:06:27.6±1.0, 38°.23N±0°.02×27°.25E±0°.02, h6km±9km, n58, σ0°50/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.23**	**314**	*e*PG	**Pg**	**23 06 31.6**	**-0.5**
BLCB				*e*SG	**Sg**	**23 06 34.9**	**-0.2**
BLCB	**Balcova**	**0.23**	**314**	*e*Pg	**Pg**	**23 06 31.6**	**-0.5**
BLCB				*e*Sg	**Sg**	**23 06 34.9**	**-0.2**
URLA	**Izmir**	**0.53**	**284**	*i* P	**Pg**	**23 06 38.4**	**+0.6**
URLA				*i* S	**Sg**	**23 06 45.5**	**+0.8**
URLA	**Izmir**	**0.53**	**284**	*i* P	**Pg**	**23 06 38.4**	**+0.6**
URLA				*i* S	**Sg**	**23 06 45.5**	**+0.8**
SMG	**Samos**	**0.61**	**212**	P	**Pg**	**23 06 40.1**	**+0.7**
SMG				S	**Sb**	**23 06 48.9**	**-0.7**
SMG	**Samos**	**0.61**	**212**	P	**Pg**	**23 06 40.1**	**+0.7**
SMG				S	**Sb**	**23 06 48.9**	**-0.7**
AKS	**Akhisar**	**0.79**	**34**	*e*PG	**Pg**	**23 06 42.6**	**-0.1**
AKS				*e*SG	**Sb**	**23 06 54.3**	**-0.3**
AKS	**Akhisar**	**0.79**	**34**	*e*Pg	**Pg**	**23 06 42.6**	**-0.1**
AKS				*e*Sg	**Sb**	**23 06 54.3**	**-0.3**
AKHS	**Akhisar**	**0.79**	**34**	*i* P	**Pg**	**23 06 42.6**	**-0.1**
AKHS				*i* S	**Sg**	**23 06 53.3**	**+0.4**
AKHS	**Akhisar**	**0.79**	**34**	*i* P	**Pg**	**23 06 42.6**	**-0.1**
AKHS				*i* S	**Sg**	**23 06 53.3**	**+0.4**
CHOS	**Chios island**	**0.95**	**280**	P	**Pg**	**23 06 46.0**	**+0.1**
CHOS				S	**Sb**	**23 06 59.4**	**0.0**
CHOS	**Chios island**	**0.95**	**280**	*e*PG	**Pg**	**23 06 45.7**	**-0.2**
CHOS				*e*SG	**Sb**	**23 06 59.3**	**-0.1**
CHOS	**Chios island**	**0.95**	**280**	*e*Pg	**Pg**	**23 06 45.7**	**-0.2**
CHOS	**Chios island**	**0.95**	**280**	P	**Pg**	**23 06 46.0**	**+0.1**
CHOS				*e*Sg	**Sb**	**23 06 59.3**	**-0.1**
KULA	**Kula-Manisa**	**1.15**	**75**	P	**Pg**	**23 06 49.6**	**0.0**
KULA				S	**Sg**	**23 07 03.7**	**-0.8**
KULA	**Kula-Manisa**	**1.15**	**75**	*e*PN	**Pg**	**23 06 49.2**	**-0.4**
KULA	**Kula-Manisa**	**1.15**	**75**	*e*Pn	**Pg**	**23 06 49.2**	**-0.4**
KULA	**Kula-Manisa**	**1.15**	**75**	P	**Pg**	**23 06 49.6**	**0.0**
KULA				S	**Sg**	**23 07 03.7**	**-0.8**
BODT	**Bodrum**	**1.17**	**178**	*e*PN	**Pb**	**23 06 50.3**	**+0.2**
BODT	**Bodrum**	**1.17**	**178**	*e*Pn	**Pb**	**23 06 50.3**	**+0.2**
BDRM	**Kayabasi**	**1.17**	**172**	*i* P	**Pb**	**23 06 50.2**	**0.0**
BDRM				*i* S	**Sn**	**23 07 07.3**	**+0.5**
BDRM	**Kayabasi**	**1.17**	**172**	*i* P	**Pb**	**23 06 50.2**	**0.0**
BDRM				*i* S	**Sn**	**23 07 07.3**	**+0.5**
PRK	**Paraskevi**	**1.27**	**323**	P	**Pn**	**23 06 51.4**	**-0.5**
PRK				S	**Sn**	**23 07 09.2**	**0.0**
PRK	**Paraskevi**	**1.27**	**323**	P	**Pn**	**23 06 51.4**	**-0.5**
PRK				S	**Sn**	**23 07 09.2**	**0.0**
YER	**Yerkesik**	**1.37**	**143**	*e*PN	**Pn**	**23 06 52.8**	**-0.4**
YER	**Yerkesik**	**1.37**	**143**	*e*Pn	**Pn**	**23 06 52.8**	**-0.4**
SIGR	**SIGRI**	**1.47**	**312**	P	**Pn**	**23 06 54.5**	**0.0**
SIGR				S	**Sn**	**23 07 13.8**	**-0.2**
SIGR	**SIGRI**	**1.47**	**312**	*e*PN	**Pn**	**23 06 54.6**	**0.0**
SIGR	**SIGRI**	**1.47**	**312**	*e*Pn	**Pn**	**23 06 54.6**	**0.0**
SIGR				S	**Sn**	**23 07 13.8**	**-0.2**
BALB	**Balikesir**	**1.49**	**19**	*e*PN	**Pn**	**23 06 54.9**	**0.0**
BALB	**Balikesir**	**1.49**	**19**	*e*Pn	**Pn**	**23 06 54.9**	**0.0**
EZN	**Ezine**	**1.75**	**336**	*e*PN	**Pn**	**23 06 58.5**	**0.0**
EZN	**Ezine**	**1.75**	**336**	*e*Pn	**Pn**	**23 06 58.5**	**0.0**
APE	**Apeiranthos**	**1.79**	**230**	P	**Pn**	**23 06 57.6**	**-1.4**
APE	**Apeiranthos**	**1.79**	**230**	*e*PN	**Pn**	**23 06 58.7**	**-0.3**
APE	**Apeiranthos**	**1.79**	**230**	P	**Pn**	**23 06 57.6**	**-1.4**
APE	**Apeiranthos**	**1.79**	**230**	*e*Pn	**Pn**	**23 06 58.7**	**-0.3**
GDZ	**Gediz**	**1.95**	**63**	*i* P	**Pg**	**23 07 05.5**	**+0.6**
GDZ				*i* S	**Sg**	**23 07 30.6**	**+0.4**
GDZ	**Gediz**	**1.95**	**63**	*i* P	**Pg**	**23 07 05.5**	**+0.6**
GDZ				*i* S	**Sg**	**23 07 30.6**	**+0.4**
TVSB	**Tavsanli**	**2.12**	**54**	*e*PN	**Pn**	**23 07 03.9**	**+0.3**
TVSB	**Tavsanli**	**2.12**	**54**	*e*Pn	**Pn**	**23 07 03.9**	**+0.3**
KRBG	**Karabiga-Canak**	**2.16**	**1**	*e*PN	**Pn**	**23 07 04.5**	**+0.4**
KRBG	**Karabiga-Canak**	**2.16**	**1**	*e*Pn	**Pn**	**23 07 04.5**	**+0.4**
LPK	**Lapseki**	**2.17**	**350**	*e*PN	**Pn**	**23 07 04.5**	**+0.2**
LPK	**Lapseki**	**2.17**	**350**	*e*Pn	**Pn**	**23 07 04.5**	**+0.2**
GELI	**Tayfur-Gelibol**	**2.25**	**345**	*e*PN	**Pn**	**23 07 05.5**	**+0.2**
GELI	**Tayfur-Gelibol**	**2.25**	**345**	*e*Pn	**Pn**	**23 07 05.5**	**+0.2**
MRMT	**Marmara Adasi**	**2.39**	**6**	*e*PN	**Pn**	**23 07 07.6**	**+0.3**
MRMT	**Marmara Adasi**	**2.39**	**6**	*e*Pn	**Pn**	**23 07 07.6**	**+0.3**
ALT	**Altintas**	**2.39**	**69**	*e*PN	**Pn**	**23 07 07.9**	**+0.6**
ALT	**Altintas**	**2.39**	**69**	*e*Pn	**Pn**	**23 07 07.9**	**+0.6**
ULDT	**Uludag**	**2.41**	**37**	*i* P	**Pg**	**23 07 13.4**	**-0.4**
ULDT				*i* S	**Sg**	**23 07 43.7**	**-1.3**
RKY	**Sarkoy-Tekirda**	**2.46**	**359**	*e*PN	**Pn**	**23 07 08.8**	**+0.6**
RKY	**Sarkoy-Tekirda**	**2.46**	**359**	*e*Pn	**Pn**	**23 07 08.8**	**+0.6**
ARMT	**Armutlu**	**2.65**	**28**	*e*PN	**Pn**	**23 07 11.7**	**+0.9**
ARMT	**Armutlu**	**2.65**	**28**	*e*Pn	**Pn**	**23 07 11.7**	**+0.9**
ALN	**Alexandroupoli**	**2.82**	**341**	*e*PN	**Pn**	**23 07 13.7**	**+0.5**
ALN	**Alexandroupoli**	**2.82**	**341**	*e*Pn	**Pn**	**23 07 13.7**	**+0.5**

*JMA **03** 23:13:13.9±0.1, 22°.82N×121°.13E, h49km±1km, M3.4*
*ISCJB **03** 23:13:15.0±0.3, 22°.71N±0°.02×121°.38E±0°.02, h28km±2km, Error ellipse: s-maj=2.9km s-min=2.6km az=40.3*
*TAP **03** 23:13:15.9, 22°.75N×121°.25E, h38km, ML3.7, B*
ISC 03 23:13:14.0±1.1, 22°.73N±0°.02×121°.35E±0°.02, h20km±3km, n67, σ0°91/121, 5C-9D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.19**	**278**	*e*P	Pb	23 13 22.6	+4.2
	baz=282						
TWG	**Pinlang**	**0.28**	**290**⇑*i*P		**Pn**	**23 13 22.7**	**-0.4**
	baz=293						
TWG				*i* S	**Sn**	**23 13 27.5**	**-1.2**
	baz=293						
CHKT	**Chengkung**	**0.37**	**2**⇓*i*P		**Pn**	**23 13 24.7**	**+0.4**
	baz=16						
CHKT				*i* S	**Sn**	**23 13 31.4**	**+0.3**
	baz=16						
ECL	**Taimali**	**0.39**	**251**⇑*i*P		**Pn**	**23 13 23.6**	**-1.0**
	baz=245						
ECL				*e*S	**Sb**	**23 13 29.1**	**+1.1**
	baz=245						
ELDTW	**Lidau**	**0.55**	**326**⇓*i*P		**Pb**	**23 13 26.1**	**+0.9**
	baz=334						
ELDTW				*e*S	**Sg**	**23 13 32.3**	**-0.5**
	baz=334						
TAW	**Tawu**	**0.56**	**229**	*e*P	**Pn**	**23 13 26.0**	**-0.9**
	baz=223						
TAW				*e*S	**Sb**	**23 13 33.6**	**+0.9**
	baz=223						
EAST	**Anshuo**	**0.58**	**234**⇓*e*P		**Pn**	**23 13 26.3**	**-1.0**
	baz=225						
EAST				*e*S	**Sb**	**23 13 33.8**	**+0.5**
	baz=225						
TWF1	**Yuli**	**0.62**	**355**⇓*i*P		**Pn**	**23 13 27.0**	**-0.9**
	baz=357						
TWF1				*e*S	**Sg**	**23 13 34.4**	**-0.5**
	baz=357						
SSD	**Sandimen**	**0.67**	**272**⇑P		**Pn**	**23 13 27.9**	**-0.5**
	baz=270						
SSD				*e*S	**Sn**	**23 13 37.7**	**-0.6**
	baz=270						
STYT	**Tauyuan**	**0.70**	**308**	*i* P	**Pn**	**23 13 28.7**	**-0.2**
	baz=317						
STYT				S	**Sg**	**23 13 37.9**	**+0.6**
	baz=317						
LAY	**Lan-yu**	**0.71**	**165**	*e*P	**Pn**	**23 13 29.1**	**+0.1**
	baz=159						
LAY				*e*S	**Sn**	**23 13 39.5**	**+0.1**
	baz=159						
SCZT	**Fangliau**	**0.76**	**243**	*e*P	**Pn**	**23 13 29.5**	**-0.3**
	baz=244						
SCZT				S	**Sg**	**23 13 39.4**	**+0.1**
	baz=244						
EHY	**Hungye**	**0.78**	**358**⇓*i*P		**Pg**	**23 13 29.1**	**-0.3**
	baz=6.0						
SGST	**Jiashian**	**0.79**	**297**	P	**Pn**	**23 13 30.6**	**+0.4**
	baz=303						
SGST				*i* S	**Sn**	**23 13 41.9**	**+0.5**
	baz=303						
SGLT	**Jiouru**	**0.80**	**270**	*e*P	**Pn**	**23 13 30.9**	**+0.7**
	baz=264						
YUS	**Yu-Shan**	**0.84**	**334**	P	**Pn**	**23 13 31.3**	**0.0**
	baz=345						
YUS				*e*S	**Sb**	**23 13 41.8**	**+0.3**
	baz=345						
WTP	**Ta-pu**	**0.85**	**307**	P	**Pn**	**23 13 31.6**	**+0.6**
	baz=318						
WTP				S	**Sn**	**23 13 43.5**	**+0.5**
	baz=318						
TWM1	**Shoushan**	**0.86**	**277**	*e*P	Pn	23 13 32.9	+1.7
	baz=276						
CHN1	**Nanshi**	**0.89**	**301**⇑*i*P		**Pn**	**23 13 32.5**	**+1.0**
	baz=303						
CHN1				S	**Sn**	**23 13 44.6**	**+0.8**
	baz=303						
HEN	**Hengchun**	**0.92**	**219**	*e*P	**Pn**	**23 13 32.2**	**+0.3**
	baz=203						
HEN				*e*S	**Sn**	**23 13 44.2**	**-0.2**
	baz=203						
TSEB	**Hengchuen, Pin**	**0.92**	**207**	P	**Pn**	**23 13 32.2**	**+0.3**
	baz=195						
TSEB				S	**Sn**	**23 13 44.4**	**-0.2**
	baz=195						
ALS	**Alishan**	**0.93**	**327**⇓*i*P		**Pg**	**23 13 32.9**	**+0.6**
	baz=337						
ALS				*e*S	**Sg**	**23 13 44.9**	**+0.3**
	baz=337						
TWK1	**Hengchun**	**0.93**	**213**⇓*e*P		**Pn**	**23 13 31.7**	**-0.3**
	baz=198						
TWK1				S	**Sg**	**23 13 43.8**	**-0.8**
	baz=198						
CHN4	**Tsaushan**	**0.94**	**312**	P	**Pg**	**23 13 32.9**	**+0.6**
	baz=315						
CHN4				*i* S	**Sn**	**23 13 46.0**	**+1.1**
	baz=315						
TWK	**Hsinying**	**0.96**	**304**⇑*i*P		**Pg**	**23 13 33.4**	**+0.6**
	baz=307						
TWK				S	**Sn**	**23 13 46.2**	**+0.5**
	baz=307						
CHN3	**Shinhua**	**0.97**	**291**	*e*P	**Pg**	**23 13 34.3**	**+1.2**
	baz=292						
CHN3				*e*S	**Sn**	**23 13 47.9**	**+2.0**
	baz=292						
KAU	**Kaohsiung**	**0.98**	**261**	*e*P	**Pg**	**23 13 34.5**	**+1.4**
	baz=259						
KAU				*e*S	**Sn**	**23 13 48.0**	**+2.0**
	baz=259						
TWP	**Hsiaoliuchiu**	**0.99**	**248**	*e*P	**Pg**	**23 13 33.4**	**0.0**
	baz=230						
TEGC	**Jichi Village**	**0.99**	**10**	*e*P	**Pg**	**23 13 34.2**	**+0.9**
	baz=14						
TEGC				*e*S	**Sn**	**23 13 48.0**	**+1.7**
	baz=14						
CHN5	**Tsauling**	**1.06**	**324**	*e*P	**Pg**	**23 13 34.9**	**+0.1**
	baz=338						
CHN5				*e*S	**Sg**	**23 13 49.5**	**+0.7**
	baz=338						
TAI1	**Yung-k'ang**	**1.08**	**287**	*e*P	**Pg**	**23 13 35.1**	**0.0**
	baz=288						
TAI1				*e*S	**Sn**	**23 13 48.9**	**+0.4**
	baz=288						
ESL	**Shilin**	**1.08**	**4**	*e*P	**Pb**	**23 13 33.1**	**-1.0**
	baz=8.0						
ESL				*e*S	**Sb**	**23 13 45.7**	**-2.3**
	baz=8.0						
CHN2	**Minshiung**	**1.14**	**315**	*e*P	**Pg**	**23 13 36.0**	**-0.1**
	baz=317						
CHN2				*e*S	**Sg**	**23 13 51.0**	**-0.1**
	baz=317						
CHY	**Chiayi**	**1.15**	**312**	*e*P	**Pg**	**23 13 35.7**	**-0.6**
	baz=315						
CHY				*e*S	**Sn**	**23 13 50.9**	**+0.7**
	baz=315						
SCLT	**Jiali**	**1.16**	**293**	*e*P	**Pg**	**23 13 36.0**	**-0.5**
	baz=294						
SCLT				*e*S	**Sn**	**23 13 51.0**	**+0.6**
	baz=294						
WGK	**Gukeng**	**1.20**	**323**	*e*P	**Pg**	**23 13 36.8**	**-0.5**
	baz=326						
WGK				*e*S	**Sg**	**23 13 52.8**	**-0.3**
	baz=326						
SMLT	**Sun Moon Lake**	**1.22**	**340**⇓*i*P		**Pg**	**23 13 37.5**	**-0.2**
	baz=343						
SMLT				*i* S	**Sg**	**23 13 53.5**	**-0.4**
	baz=343						
TYC	**Yuchr**	**1.26**	**339**⇓*e*P		**Pg**	**23 13 37.9**	**-0.5**
	baz=342						
TYC				*e*S	**Sn**	**23 13 54.1**	**+1.2**
	baz=342						
HWA	**Hwalien**	**1.27**	**11**	*e*P	**Pn**	**23 13 36.7**	**0.0**
	baz=15						
WNT	**Mingjian**	**1.30**	**332**	*e*P	**Pg**	**23 13 38.6**	**-0.6**
	baz=335						
WNT				*e*S	**Sg**	**23 13 55.9**	**-0.4**
	baz=335						
TWD	**Chiawan**	**1.36**	**9**	*e*P	**Pn**	**23 13 37.5**	**-0.5**
	baz=11						
TWD				*e*S	**Sb**	**23 13 56.2**	**+0.2**
	baz=11						
WSF	**Szhu**	**1.38**	**311**	*e*P	**Pn**	**23 13 37.8**	**-0.4**
	baz=313						
WSF				*e*S	**Sn**	**23 13 56.1**	**+0.2**
	baz=313						
WHF	**Hehuan Shan**	**1.41**	**357**	*e*P	**Pn**	**23 13 39.1**	**+0.1**
	baz=9.0						
WHF				S	**Sb**	**23

NSTT *e*S **Sn** **23 14 10.9 +1.5**
baz=339
TWC Suao 1.93 14 P **Pn** **23 13 46.6 +0.9**
baz=5.0
TWC *e*S **Sb** **23 14 10.9 -1.3**
baz=5.0
NSK Sanguang 1.94 0 *e*P **Pn** **23 13 46.9 +0.9**
baz=12
NSK *e*S **Sn** **23 14 09.9 0.0**
baz=12
EGS 2.17 14 *e*P **Pb** **23 13 51.4 -1.4**
baz=16
JYNG Yonagunijimaku 2.25 40 P **Pb** **23 13 51.9 -2.2**
JYNG *e*S **Sn** **23 14 18.9 +1.4**
YOJ Yonaguni jima 2.30 41 P **Pb** **23 13 52.7 -2.2**
YOJ *e*S **Sn** **23 14 19.7 +1.0**
YOJ Yonaguni jima 2.30 41 *e*P **Pn** **23 13 51.8 +1.0**
baz=43
NWF Wu-fen Shan 2.37 9 *e*P **Pn** **23 13 51.8 -0.1**
baz=8.0
NWF *e*S **Sn** **23 14 20.4 0.0**
baz=8.0
HATJ Hateruma jima 2.61 59 P **Pn** **23 13 56.2 +1.0**
HATJ *e*S **Sn** **23 14 26.1 -0.3**
IRIF Iriomote-Funau 2.71 53 P **Pn** **23 13 57.8 +1.3**
IRIF *e*S **Sn** **23 14 30.5 +1.9**
JKRS Kuro-shima 2.87 58 P **Pn** **23 14 00.1 +1.5**
JKRS *e*S **Sn** **23 14 34.0 +1.4**
JIJ Ishigaki jima 3.03 57 P **Pn** **23 14 02.4 +1.4**
JIJ *e*S **Sn** **23 14 36.5 -0.3**
JISG Ishigakijimahi 3.28 55 P **Pn** **23 14 05.3 +0.9**
JISG *e*S **Sn** **23 14 42.0 -0.9**
JTJ Tarama 3.61 58 P **Pn** **23 14 10.3 +1.4**
JTJ *e*S **Sn** **23 14 51.4 +0.4**
JIRB Irabujima 4.08 58 P **Pn** **23 14 16.3 +1.0**

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*ISCJB **03** 23:16:06.0±1.5, 33°.34S±0°.07×72°.57W±0°.06, h17km±10km, mb4.3/8, MS4.1/9, Error ellipse: s-maj=11.0km s-min=8.3km az=9.3*
*IDC **03** 23:16:06.0±0.8, 33°.31S×72°.44W, h0km, mb4.3/7, mb1 4.3/10, mb1mx4.2/19, mbtmp4.2/10, ML4.2/3, MS4.0/11, Ms1 4.0/11, ms1mx3.8/24, Error ellipse: s-maj=23.5km s-min=16.6km az=113.0*
*GUC **03** 23:16:07.1±0.6, 33°.35S×72°.52W, h28km±4km, ML4.2*
*NEIC **03** 23:16:11.2±0.6, 33°.29S×72°.34W, h35km, mb4.6/4, Error ellipse: s-maj=13.6km s-min=11.0km az=97.0*
ISC 03 23:16:07.8±2.7, 33°.31S±0°.07×72°.40W±0°.07, h13km±15km, n36, σ0ˢ77/38, mb4.4/8, MS4.1/9, 4C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.70**	**66**	⇑*i*P	**Pb**	**23 16 21.9**	**-0.1**
IHA				*i* S1	**Sn**	**23 16 32.8**	**-1.4**
RCDM	**Rinconada Maip**	**1.35**	**98**	*e*P	**Pn**	**23 16 31.5**	**-0.9**
RCDM				*e*S	**Sg**	**23 16 50.9**	**-0.3**
RCDM				AML	AML	23 16 52.8	
	comp=N,3μm,0.5s						
PEL	**Peldehue**	**1.45**	**84**	⇓⇓*i*P	**Pn**	**23 16 33.7**	**-0.2**
PEL				*i* S	**Sg**	**23 16 54.1**	**-0.4**
PEL				AML	AML	23 17 01.7	
	comp=E,9μm,0.3s						
STL	**Santa Lucia**	**1.48**	**95**	*e*P9	**Pn**	**23 16 33.0**	**-1.2**
STL				*e*S	**Sn**	**23 16 53.3**	**-0.2**
ANTU	**Antumapu**	**1.50**	**100**	*e*P	**Pn**	**23 16 34.8**	**+0.3**
ANTU				*i* S	**Sb**	**23 16 54.9**	**+0.2**
CHCH	**Chadas Angostu**	**1.59**	**113**	⇑*i*P	**Pn**	**23 16 35.4**	**-0.3**
CACH	**El Canelo**	**1.70**	**119**	⇑*i*P	**Pn**	**23 16 37.9**	**+0.5**
FCH	**Farellones**	**1.77**	**91**	⇑*i*P	**Pn**	**23 16 39.3**	**+0.8**
FCH				*e*S	**Sb**	**23 17 03.7**	**+1.1**
FCH				AML	AML	23 17 16.5	
	comp=N,4μm,0.1s						
CFAA	**Coronel Fontan**	**3.91**	**65**	Pn	**Pn**	**23 17 09.7**	**+2.0**
	comp=N,0.7nm,0.3s,baz=237,slow=12,SNR=24						
CFAA				LR	LR	23 18 05.1	
	comp=N,43nm,21.7s,baz=316,slow=30						
CFAA				Lg	Lg	23 18 11.4	
	comp=N,2.2nm,0.3s,baz=354,slow=5.2,SNR=5.3						
PLCA	**Paso Flores**	**7.55**	**169**	Pn	**Pn**	**23 17 58.0**	**+0.3**
	comp=N,1.6nm,0.3s,baz=336,slow=11,SNR=8.6						
PLCA				Lg	Lg	23 20 06.7	
	comp=N,0.1nm,0.3s,baz=278,slow=13,SNR=3.3						
PLCA				LR	LR	23 20 43.9	
	comp=N,371nm,20.6s,baz=352,slow=37						
TRQA	**Tornquist**	**9.71**	**122**	*e*Pn	**Pn**	**23 18 27.8**	**+0.5**
	comp=N,41nm,1.3s						
CPUP	**Villa Florida**	**14.81**	**66**	Pn	**Pn**	**23 19 38.6**	**+1.5**
	comp=N,0.3nm,0.3s,baz=229,slow=14,SNR=2.1						
CPUP				LR	LR	23 25 19.2	
	comp=N,253nm,21.1s,baz=228,slow=37						
CPUP	**Villa Florida**	**14.81**	**66**	*e*Pn	**Pn**	**23 19 36.3**	**-0.7**
LPAZ	**La Paz**	**17.39**	**14**	P	**Pn**	**23 20 11.2**	**+0.3**
	comp=N,0.1nm,0.3s,baz=180,slow=8.9,SNR=9.2						
LPAZ	**La Paz**	**17.39**	**14**	*e*P	**Pn**	**23 20 10.0**	**-0.8**
	comp=N,5.5nm,0.8s						
SIV	**San Ignacio**	**20.06**	**33**	P	**P**	**23 20 40.3**	**-0.7**
	comp=N,8.8nm,0.9s,baz=228,slow=11,SNR=14						
SIV				LR	LR	23 29 39.4	
	comp=N,443nm,20.5s,baz=232,slow=40						
NNA	**Nana**	**21.61**	**348**	LR	LR	23 27 49.8	
	comp=N,252nm,18.2s,baz=166,slow=33						
USHA	**Ushuaia**	**21.69**	**174**	LR	LR	23 28 52.5	
	comp=N,622nm,21.8s,baz=328,slow=35						
SAML	**Samuel**	**25.70**	**21**	*e*P	**P**	**23 21 37.4**	**-0.4**
	comp=N,6.5nm,0.8s						
ATAH	**Atahualpa**	**26.64**	**347**	LR	LR	23 30 53.0	
	comp=N,269nm,18.1s,baz=189,slow=33						
BDFB	**Brasilia**	**28.21**	**57**	P	**P**	**23 22 01.5**	**+0.9**
	comp=N,2.2nm,0.6s,baz=191,slow=3.8,SNR=3.5						
BDFB				LR	LR	23 34 19.0	
	comp=N,474nm,19.4s,baz=226,slow=39						
RCBR	**Riachuelo**	**43.55**	**59**	LR	LR	23 43 30.0	
	comp=N,462nm,19.0s,baz=214,slow=38						
PCRV	**Puerto La Cruz**	**43.88**	**11**	LR	LR	23 43 44.5	
	comp=N,369nm,18.1s,slow=38						
SNAA	**Sanae**	**52.33**	**158**	*e*P	**P**	**23 25 18.1**	**-1.0**
	comp=N,19nm,1.3s						
QSPA	**South Pole Qui**	**56.92**	**180**	P	**P**	**23 25 53.2**	**+0.7**
	comp=N,4.3nm,1.0s,baz=139,slow=2.4,SNR=12						
QSPA	**South Pole Qui**	**56.92**	**180**	*e*P	**P**	**23 25 52.8**	**+0.2**
	comp=N,30nm,1.6s						
TXAR	**Lajitas Array**	**68.99**	**331**	P	**P**	**23 27 13.5**	**+0.4**
	comp=N,0.4nm,0.7s,baz=152,slow=8.2,SNR=4.9						
TXAR				LR	LR	23 53 27.5	
	comp=N,98nm,18.6s,baz=0.0,slow=32						
MAW	**Mawson**	**73.92**	**164**	LR	LR	00 01 51.7	
	comp=N,207nm,18.9s,baz=242,slow=37						
DBIC	**Dimbokro**	**75.25**	**72**	P	**P**	**23 27 50.3**	**-0.5**
	comp=N,3.0nm,0.8s,baz=222,slow=5.0,SNR=3.6						
BOSA	**Boshof**	**80.66**	**118**	P	**P**	**23 28 20.9**	**0.0**
	comp=N,3.6nm,0.9s,baz=240,slow=4.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**84.26**	**70**	P	**P**	**23 28 39.5**	**-0.2**
	comp=N,4.1nm,0.8s,baz=256,slow=4.5,SNR=22						
H11S2	**WAKE ISLAND Hyl**	**25.47**	**270**	T	T	01 54 04.0	
	SNR=3.1						
EKS2	**Erkin-Say**	**151.91**	**61**	*e*PKPdf	**PKPdf**	**23 35 56.2**	**+0.1**
ZALV	**Zalesovo Beam**	**153.80**	**31**	PKP	**PKPdf**	**23 35 58.1**	**-0.2**
	comp=N,0.4nm,0.5s,baz=306,slow=3.5,SNR=4.0						
ZALV				PKPbc	**PKPbc**	**23 36 05.8**	**-0.4**
	comp=N,2.1nm,0.9s,baz=316,slow=4.1,SNR=6.3						
ZALV				PKPab	**PKPab**	**23 36 18.7**	**-0.5**
	comp=N,1.5nm,0.6s,baz=301,slow=3.3,SNR=5.6						
MKAR	**Makanchi Array**	**156.53**	**48**	PKP	**PKPdf**	**23 36 02.3**	**0.0**
	comp=N,0.5nm,0.9s,baz=264,slow=4.5,SNR=4.5						
MKAR				PKPab	**PKPab**	**23 36 31.4**	**+0.2**
	comp=N,0.7nm,0.6s,baz=310,slow=3.6,SNR=9.0						
SONM	**Songino Array**	**165.47**	**3**	PKPab	**PKPab**	**23 37 11.3**	**+1.2**
	comp=N,0.4nm,0.9s,baz=5.7,slow=4.5,SNR=3.5						

IDC 03 23:47:46.3±1.6, 0°.29N×123°.69E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/34, mbtmp3.4/4, Error ellipse: s-maj=195.1km s-min=24.7km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.66**	**153**	P	P	23 52 50.2	+0.8
	0.7nm,1.0s,baz=331,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.80**	**158**	P	P	23 53 20.5	+1.1
	0.1nm,0.3s,baz=338,slow=9.2,SNR=3.1						
STKA	**Stephens Creek**	**36.21**	**154**	P	P	23 54 49.0	-2.1
	0.7nm,0.3s,baz=321,slow=7.7,SNR=4.8						
MKAR	**Makanchi Array**	**58.73**	**328**	P	P	23 57 46.1	0.0
	0.2nm,0.5s,baz=116,slow=8.5,SNR=4.8						

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*IDC **03** 23:54:22.2±1.2, 37°.85S×73°.82W, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/33, mbtmp3.8/7, ML2.6/2, Error ellipse: s-maj=40.1km s-min=18.0km az=52.0*
*ISCJB **03** 23:54:23.6±1.0, 37°.8S±0°.1×73°.6W±0°.2, h18km, mb3.8/6, Error ellipse: s-maj=22.7km s-min=15.0km az=157.6*
ISC 03 23:54:25.1±1.1, 37°.95±0°.1×73°.6W±0°.2, h18km, n11, σ1ˢ24/11, mb3.8/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.70**	**142**	Pn	**Pn**	**23 55 21.7**	**+0.2**
	0.1nm,0.3s,baz=315,slow=20,SNR=2.2						
PLCA				Lg	Lg	23 56 27.0	
	7.5nm,0.3s,baz=246,slow=23,SNR=5.9						
CFAA	**Coronel Fontan**	**7.63**	**37**	Pn	**Pn**	**23 56 16.6**	**+1.1**
	0.2nm,0.3s,baz=203,slow=15,SNR=3.9						
CPUP	**Villa Florida**	**17.91**	**55**	P	**Pn**	**23 58 30.4**	**-2.8**
	0.8nm,0.3s,baz=316,slow=2.7,SNR=5.7						
LPAZ	**La Paz**	**22.02**	**14**	P	**P**	**23 59 20.0**	**+0.7**
	2.0nm,0.6s,baz=182,slow=7.9,SNR=8.2						
APG	**El Apazote**	**54.93**	**340**	P	**P**	**00 03 55.4**	**+0.2**
	1.6nm,0.5s,baz=107,slow=23,SNR=4.4						
TXAR	**Lajitas Array**	**72.54**	**333**	P	**P**	**00 05 51.1**	**+0.1**
	0.1nm,0.4s,baz=156,slow=8.9,SNR=2.8						
DBIC	**Dimbokro**	**77.59**	**71**	P	**P**	**00 06 21.2**	**+0.8**
	4.4nm,1.0s,baz=224,slow=14,SNR=2.5						
NVAR	**Mina Array Bea**	**86.37**	**326**	P	**P**	**00 07 05.1**	**-1.2**
	0.3nm,0.6s,baz=144,slow=8.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**86.68**	**71**	P	**P**	**00 07 08.3**	**+0.3**
	0.6nm,0.9s,baz=246,slow=3.8,SNR=3.4						
BVAR	**Borovoye Array**	**150.89**	**47**	PKPbc	**PKPbc**	**00 14 16.4**	**+0.5**
	1.5nm,0.6s,baz=289,slow=3.2,SNR=14						
MKAR	**Makanchi Array**	**160.11**	**56**	PKPab	**PKPab**	**00 15 02.4**	**-0.6**
	0.5nm,0.7s,baz=316,slow=3.3,SNR=6.5						

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*IDC **03** 23:56:43.4±0.9, 34°.24S×73°.32W, h0km, mb4.0/8, mb1 4.1/11, mb1mx3.9/37, mbtmp3.9/11, ML3.8/3, MS3.4/4, Ms1 3.4/4, ms1mx3.1/27, Error ellipse: s-maj=29.2km s-min=23.5km az=172.0*
*ISCJB **03** 23:56:46.2±0.8, 34°.2S±0°.1×73°.3W±0°.1, h33km, mb4.0/10, MS3.5/3, Error ellipse: s-maj=16.1km s-min=11.1km az=147.0*
*NEIC **03** 23:56:48.9±0.6, 34°.15S×73°.28W, h35km, mb4.1/2, Error ellipse: s-maj=19.1km s-min=13.9km az=121.0*
ISC 03 23:56:48.5±0.8, 34°.2S±0°.1×73°.3W±0°.1, h35km, n23, σ1ˢ32/21, mb4.0/10, MS3.6/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.99**	**60**	Pn	**Pn**	**23 58 01.2**	**+0.1**
	0.8nm,0.3s,baz=218,slow=14,SNR=13						
CFAA				Sn	**Sn**	**23 58 59.6**	**+2.1**
	1.5nm,0.3s,baz=7.6,slow=13,SNR=7.3						
PLCA	**Paso Flores**	**6.91**	**162**	LR	LR	00 00 54.0	
	comp=Z,97nm,18.9s,baz=328,slow=37						
LVC	**Limon Verde**	**12.16**	**20**	*e*Pn	**Pn**	**23 59 38.0**	**-1.5**
CPUP	**Villa Florida**	**15.87**	**65**	Pn	**Pn**	**00 00 26.4**	**-2.9**
	0.3nm,0.3s,baz=198,slow=13,SNR=1.8						
LPAZ	**La Paz**	**18.42**	**16**	P	**P**	**00 01 01.0**	**-0.5**
	0.1nm,0.3s,baz=189,slow=7.6,SNR=5.0						
SIV	**San Ignacio**	**21.20**	**34**	P	**P**	**00 01 31.6**	**+0.3**
	2.5nm,0.7s,baz=227,slow=10,SNR=4.3						
NNA	**Nana**	**22.32**	**351**	LR	LR	00 08 08.6	
	comp=Z,62nm,20.6s,baz=189,slow=31						
SAML	**Samuel**	**26.79**	**23**	*e*P	**P**	**00 02 24.5**	**-0.8**
	1.1nm,0.7s						
BDFB	**Brasilia**	**29.32**	**57**	P	**P**	**00 02 47.3**	**-0.8**
	1.0nm,0.5s,baz=221,slow=20,SNR=1.3						
BDFB				LR	LR	00 16 17.0	
	comp=Z,143nm,20.4s,baz=222,slow=40						
PMSA	**Palmer Station**	**31.15**	**172**	LR	LR	00 15 12.2	
	comp=Z,238nm,18.2s,baz=322,slow=36						
SNAA	**Sanae**	**51.83**	**158**	*e*P	**P**	**00 05 51.4**	**-1.3**
	7.2nm,0.9s						
H06S1	**SOCORRO T**	**63.66**	**320**	T	T	01 14 42.8	
	SNR=15						
TXAR	**Lajitas Array**	**69.38**	**332**	P	**P**	**00 07 52.7**	**-0.1**
	0.5nm,0.6s,baz=153,slow=7.9,SNR=6.9						
DBIC	**Dimbokro**	**76.25**	**72**	P	**P**	**00 08 34.1**	**+0.3**
	3.4nm,0.8s,baz=224,slow=8.3,SNR=3.9						
BOSA	**Boshof**	**80.93**	**118**	P	**P**	**00 08 58.9**	**-0.8**
	2.8nm,1.0s,baz=90,slow=3.0,SNR=2.6						
PDAR	**Pinedale Array**	**83.44**	**334**	P	**P**	**00 09 13.2**	**+0.8**
	0.5nm,1.0s,baz=107,slow=3.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**85.28**	**71**	P	**P**	**00 09 23.6**	**+1.6**
	1.5nm,0.7s,baz=244,slow=5.9,SNR=12						
ULM	**Lac du Bonnet**	**86.40**	**346**	P	**P**	**00 09 26.5**	**-0.2**
	1.5nm,0.8s,baz=167,slow=6.8,SNR=3.5						
WRA	**Warramunga Arr**	**120.08**	**210**	PKP	**PKPdf**	**00 15 37.1**	**+1.0**
	0.6nm,0.8s,baz=158,slow=1.6,SNR=9.7						
BVAR	**Borovoye Array**	**148.14**	**43**	PKPbc	**PKPbc**	**00 16 29.5**	**-0.6**
	0.8nm,0.4s,baz=277,slow=2.0,SNR=9.9						
ZALV	**Zalesovo Beam**	**154.94**	**31**	PKPbc	**PKPbc**	**00 16 46.3**	**+0.5**
	0.7nm,0.6s,baz=321,slow=2.1,SNR=4.4						
ZALV				PKPab	**PKPab**	**00 17 03.2**	**+1.9**
	2.2nm,0.8s,baz=319,slow=4.3,SNR=6.8						
MKAR	**Makanchi Array**	**157.69**	**48**	PKPab	**PKPab**	**00 17 14.8**	**+1.3**
	0.5nm,0.7s,baz=316,slow=3.3,SNR=5.1						
SONM	**Songino Array**	**166.35**	**1**	PKPab	**PKPab**	**00 17 52.5**	**+1.2**
	0.5nm,0.8s,baz=344,slow=4.8,SNR=5.0						

IDC 04 00:04:50.0±1.9, 37°.39S×74°.85W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/27, mbtmp3.6/5, ML3.8/2, Error ellipse: s-maj=55.1km s-min=32.9km az=43.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.72**	**136**	Pn	Pn	00 06 00.6	-2.1
	1.3nm,0.3s,baz=296,slow=12,SNR=6.6						
PLCA				Sn	Sn	00 07 02.3	+4.1
	1.8nm,0.3s,baz=52,slow=12,SNR=2.3						
CFAA	**Coronel Fontan**	**7.94**	**45**	Pn	Pn	00 06 45.0	-1.8
	0.7nm,0.3s,baz=225,slow=2.9,SNR=20						
CFAA				Sn	Sn	00 08 11.7	-5.7
	0.2nm,0.3s,baz=286,slow=15,SNR=3.2						
TXAR	**Lajitas Array**	**71.67**	**334**	P	P	00 16 13.2	-0.5
	0.2nm,0.8s,baz=143,slow=9.1,SNR=2.5						
DBIC	**Dimbokro**	**78.41**	**72**	P	P	00 16 53.9	+1.0
	2.5nm,0.9s,baz=192,slow=9.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**87.48**	**71**	P	P	00 17 40.8	+0.9
	0.2nm,0.6s,baz=213,slow=4.3,SNR=4.8						

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*IDC **04** 00:11:39.5±0.9, 0°.62N×92°.91E, h0km, mb4.1/13, mb1 4.2/16, mb1mx4.0/41, mbtmp4.1/16, ML4.5/3, MS3.7/2, Ms1 3.7/2, ms1mx3.5/47, Error ellipse: s-maj=27.7km s-min=15.5km az=46.0*
*NEIC **04** 00:11:40.8±3.0, 0°.64N×92°.90E, h11km±18km, mb4.3/11, Error ellipse: s-maj=10.3km s-min=6.0km az=216.0*
*ISCJB **04** 00:11:42.6±0.4, 0°.70N±0°.04×92°.97E±0°.04, h33km, mb4.2/20, MS3.8/1, Error ellipse: s-maj=6.6km s-min=4.9km az=22.9*
*BJI **04** 00:11:44.6, 0°.84N×92°.80E, h35km, mB4.6/7, mb4.5/9*
*DJA **04** 00:11:53.6±2.1, 1°.1N±4°.9×9°.4E±°, h32km±23km, M5.0/13, mB5.4/5, mb4.8/13, MLv5.1/5, Mw(mB)4.9/5*
*KLM **04** 00:11:54.0, 1°.13N×93°.45E, h56km, mb4.8, ML4.7, MS5.7*
ISC 04 00:11:44.3±0.6, 0°.62N±0°.07×92°.95E±0°.06, h35km, n92, σ1ˢ57/85, mb4.1/20, 6C-8D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**3.82**	**62**	P	**Pn**	**00 12 40.4**	**-0.3**
GSI	**Gunungsitoli**	**4.68**	**82**	P	**Pn**	**00 12 52.6**	**+0.1**
GSI	**Gunungsitoli**	**4.68**	**82**	*e*Pn	**Pn**	**00 12 52.1**	**-0.4**
GSI				*e*Sn	**Sn**	**00 13 40.5**	**-5.2**
KCSI	**Kotacane, Aceh**	**5.62**	**59**	P	**Pn**	**00 13 06.3**	**+0.9**
KCSI				S	**Sn**	**00 14 06.3**	**-2.5**
LHMI	**Lhok Sumawe**	**6.08**	**41**	P	**Pn**	**00 13 13.2**	**+1.5**
	310nm,1.0s,4μm1.9nm						
LHMI	**Lhok Sumawe**	**6.08**	**41**	P	**Pn**	**00 13 13.2**	**+1.5**
	baz=6.1,SNR=13						
LHMI				S	**Sn**	**00 14 17.2**	**-2.9**
	baz=6.1,SNR=5.5						
LHMI	**Lhok Sumawe**	**6.08**	**41**	*e*Pn	**Pn**	**00 13 11.5**	**-0.2**
	302nm,0.9s						
LHMI				*e*Sn	**Sn**	**00 14 21.3**	**+1.2**
PSI	**Prapat**	**6.36**	**70**	Pn	**Pn**	**00 13 15.5**	**-0.2**
	8.2nm,0.3s,baz=287,slow=4.4,SNR=26						
PSI				Sn	Sn	00 14 20.1	-7.1
	6.3nm,0.3s,baz=286,slow=18,SNR=3.2						
PSI	**Prapat**	**6.36**	**70**	P	**Pn**	**00 13 15.7**	**0.0**
	baz=6.3,SNR=17						
PDSI	**Padang**	**7.67**	**101**	P	Pn	00 13 43.9	+10
PDSI				S	**Sn**	**00 14 54.8**	**-4.6**
IPM	**Ipoh**	**8.94**	**64**	⇓P	**Pn**	**00 13 51.2**	**+0.2**
IPM	**Ipoh**	**8.94**	**64**	*e*Pn	**Pn**	**00 13 50.5**	**-0.6**
	58nm,0.7s						
IPM				*e*Sn	Sn	00 15 23.6	-6.9
KULM	**Kulim**	**8.98**	**59**	⇑P	**Pn**	**00 13 51.4**	**-0.2**
KULM	**Kulim**	**8.98**	**59**	*e*Pn	**Pn**	**00 13 50.7**	**-0.9**
	47nm,0.6s						
KULM				*e*Sn	Sn	00 15 22.0	-10
PKDT	**Phuket**	**9.00**	**36**	P	**Pn**	**00 13 50.7**	**-1.2**
	98nm,0.7s,0.5nm						
FRIM	**Kepong**	**9.05**	**73**	⇓P	**Pn**	**00 13 53.5**	**+0.8**
SURT	**Suratani**	**10.13**	**35**	P	**Pn**	**00 14 05.9**	**-1.4**
	15nm,0.6s,253nm						
KGM	**Kluang**	**10.46**	**82**	⇑P	**Pn**	**00 14 13.0**	**+1.0**
MYKOM	**Kota Tinggi**	**10.96**	**84**	⇓P	**Pn**	**00 14 19.5**	**+0.7**
MNAI	**Manna**	**11.16**	**116**	P	**Pn**	**00 14 21.6**	**+0.1**
	baz=11,SNR=6.9						
MNAI				S	Sn	00 16 18.4	-6.7
	baz=11,SNR=5.8						
KTGM	**Kuala Trenggan**	**11.20**	**65**	⇓P	**Pn**	**00 14 22.1**	**+0.1**
MDSI	**Maura Dua**	**12.31**	**114**	P	**Pn**	**00 14 39.5**	**+2.2**
	21nm,0.9s						
KASI	**Kota Agung**	**13.05**	**118**	P	**Pn**	**00 14 48.0**	**+0.7**
	33nm,0.7s						
PALK	**Pallekele**	**13.88**	**299**	Pn	**Pn**	**00 14 56.4**	**-2.3**
	1.7nm,0.3s,baz=114,slow=15,SNR=8.3						
PALK				Sn	Sn	00 17 18.2	-14
	6.7nm,0.3s,baz=82,slow=12,SNR=7.1						
PALK				LR	LR	00 19 55.9	
	comp=Z,241nm,19.5s,baz=117,slow=36						
PALK	**Pallekele**	**13.88**	**299**	*e*Pn	**Pn**	**00 14 56.6**	**-2.1**
	20nm,0.6s						
PALK				Sn	Sn	00 17 17.0	-15
CGJI	**Cibinong**	**14.61**	**120**	P	**Pn**	**00 15 07.3**	**-1.3**
	29nm,0.7s,2μm						
CISI	**Cisompet, Garu**	**16.91**	**119**	P	**P**	**00 15 41.2**	**+1.0**
	67nm,0.7s						
CISI	**Cisompet, Garu**	**16.91**	**119**	*e*Pn	**Pn**	**00 15 38.1**	**-0.3**
	36nm,0.6s						
KSM	**Kuching**	**17.38**	**87**	P	**P**	**00 15 48.5**	**+3.2**
	baz=17,SNR=10						
KSM	**Kuching**	**17.38**	**87**	⇓P	**P**	**00 15 48.1**	**+2.8**
KSM	**Kuching**	**17.38**	**87**	*e*Pn	**Pn**	**00 15 43.5**	**-0.8**
	26nm,1.1s						
PBKT	**Sadao Pong**	**17.71**	**26**	P	**P**	**00 15 49.1**	**+0.1**
	19nm,0.8s,3μm						
MHMT	**Maesariang**	**18.12**	**15**	P	P	00 16 02.4	+8.9
STKI	**Sintang**	**18.54**	**92**	P	**Pn**	**00 16 00.3**	**+1.8**
UTTA	**Uttaradit**	**18.59**	**23**	P	**Pn**	**00 16 02.4**	**+3.3**
	3.7nm,0.8s						
LOEI	**Loei**	**18.67**	**26**	P	**Pn**	**00 16 03.1**	**+3.0**
	58nm,1.3s						
CMAR	**Chiang Mai Arr**	**18.68**	**18**	P	**Pn**	**00 15 59.8**	**-0.4**
	0.8nm,0.3s,baz=217,slow=13,SNR=13						
LAMP	**Lampang**	**18.96**	**20**	P	Pn	00 16 08.4	+4.8
	4.1nm,0.8s,259nm						
CHTO	**Chiang Mai**	**19.02**	**18**	P	**Pn**	**00 16 05.2**	**+1.0**
	47nm,1.2s						
CHTO	**Chiang Mai**	**19.02**	**18**	*e*P	**P**	**00 16 03.0**	**-0.3**
	11nm,1.0s						
CMMT	**Chiang Mai**	**19.02**	**18**	P	**Pn**	**00 16 05.2**	**+0.9**
	14nm,1.1s						
DLV	**T Lat**	**19.09**	**53**	*e*P	**P**	**00 16 03.6**	**-0.8**
	21nm,1.0s						
UBPT	**Khong Chiam**	**19.11**	**40**	P	**Pn**	**00 16 07.3**	**+1.9**
	16nm,0.8s						
SBUM	**Sibu**	**19.35**	**84**	⇓P	**Pn**	**00 16 09.4**	**+1.0**
BTM	**Bintulu**	**20.29**	**82**	⇓P	Pn	00 16 19.9	+0.5
CRAI	**Chiangrai**	**20.80**	**20**	P	**P**	**00 16 22.8**	**0.0**
HYB	**Hyderabad**	**21.89**	**320**	*i* P	**P**	**00 16 34.5**	**0.0**
H08S2	**Diego Garcia H**	**21.99**	**248**	T	T	00 38 55.8	
	baz=67						
H08S3	**Diego Garcia H**	**21.99**	**248**	T	T	00 38 38.8	
	baz=67						
H08S1	**Diego Carcia H**	**22.00**	**248**	T	T	00 38 43.5	
	baz=67						
SLVN	**Son La**	**23.20**	**27**	*e*P	**P**	**00 16 47.2**	**-1.1**
	9.3nm,1.1s						
SDKM	**Sandakan**	**24.71**	**78**	⇓P	**P**	**00 17 04.1**	**+1.5**
MYLDM	**Lahad Datu**	**25.91**	**79**	⇑P	**P**	**00 17 15.5**	**+2.1**
ODAN	**Odare**	**26.63**	**349**	*e*P	**P**	**00 17 22.1**	**+2.1**
TAPN	**Taplejung**	**27.05**	**350**	*e*P	P	00 17 17.6	-6.3
JIRN	**Jiri**	**27.66**	**347**	*e*P	P	00 17 23.9

SZGRF **04** *00:18:48.4,22°.50N×121°.50E,h30km,mb6.0,MS6.6, Taiwan region*

JMA **04** *00:18:49.7±0.2,23°.00N×120°.60E,h0km,M6.4*

GCMT **04** *00:18:51.3±0.1,22°.86N×120°.56E,h29km,MW6.3/129, Moment Tensor Solution. s126,c307; s129,c461; Duration: 3*3 Moment tensor: Scale 10^18^Nm; M_{rr}1.73±.01; $M_{\theta\theta}$0.37±.01; $M_{\phi\phi}$-2.11±.01; $M_{r\theta}$-0.34±.03; $M_{r\phi}$1.02±.01; $M_{\theta\phi}$-2.07±.04; Best double couple: $M_0$3.02300×10^18^ NP1:ϕ_s183.00000°,δ69.00000°, λ112.00000°. NP2:ϕ_s313.00000°,δ30.00000°,λ45.00000°. Principal axes: T 2.8490, Plg59.0000°, Azm125.0000°; N 0.3410, Plg21.0000°, Azm355.0000°; P -3.1980, Plg21.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC **04** *00:18:51.3±0.1,22°.92N×120°.80E,h21km,mb6.2/175, ME6.2,MS6.2/156,MW6.2,MW6.2,MW6.1,MW6.2, ML6.4(TAP) Error ellipse: s-maj=2.9km s-min=2.4km az=102.0,Moment Tensor Solution. s7 Moment tensor: Scale 10^18^Nm; M_{rr}1.44; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-1.37; $M_{r\theta}$-0.41; $M_{\theta\phi}$0.84; $M_{\phi r}$-0.88; Best double couple: $M_0$1.90000×10^18^ NP1:ϕ_s310.00000°,δ40.00000°,λ50.00000°. NP2: ϕ_s178.00000°,δ61.00000°,λ118.00000°. Principal axes: T 1.9100, Plg62.0000°, Azm134.0000°; N 0.0000, Plg24.0000°, Azm342.0000°; P -1.9100, Plg11.0000°, Azm247.0000°; Moment Tensor Solution. s110 Moment tensor: Scale 10^18^ Nm; M_{rr}1.32; $M_{\theta\theta}$0.51; $M_{\phi\phi}$-1.83; $M_{r\theta}$-0.46; $M_{\theta\phi}$0.39; $M_{\phi r}$-1.28; Best double couple: $M_0$2.20000×10^18^ NP1:ϕ_s192.00000°,δ67.00000°, λ113.00000°. NP2:ϕ_s325.00000°,δ32.00000°,λ47.00000°. Principal axes: T 1.9900, Plg60.0000°, Azm137.0000°; N 0.3100, Plg21.0000°, Azm2.0000°; P -2.3000, Plg18.0000°, Azm265.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s323.00000°,δ28.00000°, λ47.00000°. NP2:ϕ_s190.00000°,δ70.00000°,λ110.00000°. Principal axes: T Plg60.0000°, Azm129.0000°; N Plg0.0000°, Azm0.0000°; P Plg22.0000°, Azm265.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Ninety-six people injured and one bridge damaged in Kao-hsiung. At least 340 buildings, including historical sites, damaged throughout the island. Felt [VI] at Yung-kang; [V] at Chao-chou, Chia-i, Hsin-ying, Kao-hsiung and Tai-nan; [IV] at Chang-hua, Hsin-chu, P'ing-tung and T'ai-chung; [III] at Hsin-tien, Tao-yuan and Taipei; [II] at Chung-liao. Also felt at Chih-shan, Chu-pei, Kang-shan, Kincheng, Ma-kung, Pan-chiao, Pu-li, San-hsia, Shu-lin, Tan-shui, Tou-liu and Yung-ho. Felt [III] at Fuzhou and [II] at Xiamen, Fujian. Also felt at Jiaocheng. Felt in Hong Kong and [II] at Ningbo, Zhejiang. Felt at Basco, Philippines. Recorded [6 TAP] in Chia-i and Tai-nan; [5 TAP] in Kao-hsiung, Ping-tung, Tai-tung and Yun-lin; [4 TAP] in Chang-hua, Nan-tou and Tai-chung; [3 TAP] in Hua-lien, I-lan, Miao-li and P'eng-hu; [2 TAP] in Hsin-chu, Tai-pei and Tao-yuan; [1 TAP] in Chin-men and Lien-chiang, Taiwan.

MOS **04** *00:18:51.6±1.0,22°.94N×120°.86E,h33km,mb6.4/117, MS6.3/74 Error ellipse: s-maj=6.0km s-min=3.4km az=115.6*

BKK **04** *00:18:51.2±0.2,23°N±3°×12°1E±°,h10km,M6.4/51, mb5.9/51,mB6.6/49,MLv7.0/1,Mw(mB)6.4/49,Mwp6.4/24*

ISCJB **04** *00:18:52.7±0.1,22°.91N±0°.01×120°.77E±0°.01,h39km±1km, mb6.0/369,MS6.3/260,Error ellipse: s-maj=2.0km s-min=1.7km az=28.1*

TAP **04** *00:18:52.1,22°.97N×120°.71E,h23km,ML6.4,B*

NEIC **04** *00:18:53.0±0.0,22°.90N×120°.91E,h35km Best double couple: NP1:ϕ_s181.00000°,δ72.00000°,λ110.00000°. NP2:ϕ_s310.00000°,δ26.00000°,λ42.00000°. Principal axes: T 2.5100, Plg57.0000°, Azm118.0000°; N 0.2200, Plg19.0000°, Azm354.0000°; P -2.7400, Plg25.0000°, Azm255.0000°;*

IDC **04** *00:18:54.8±1.4,22°.95N×120°.91E,h45km±12km,mb5.3/38, mb1 5.4/42,mb1mx5.4/45,mbtmp5.5/42,ML4.5/5,MS6.0/42, Ms1 6.1/42,ms1mx6.0/47 Error ellipse: s-maj=9.0km s-min=7.2km az=99.0*

NEIC **04** *00:19:10.0±0.0,22°.65N×121°.09E,h24km,Moment Tensor Solution. s120 Moment tensor: Scale 10^18^Nm; M_{rr}1.85; $M_{\theta\theta}$0.21; $M_{\phi\phi}$-2.06; $M_{r\theta}$-0.48; $M_{\theta\phi}$0.83; $M_{\phi r}$-0.76; Best double couple: $M_0$2.30000×10^18^ NP1:ϕ_s182.00000°, δ56.00000°,λ116.00000°. NP2:ϕ_s321.00000°,δ41.00000°, λ57.00000°. Principal axes: T 2.2000, Plg67.0000°, Azm144.0000°; N 0.2100, Plg21.0000°, Azm346.0000°; P -2.4100, Plg8.0000°, Azm253.0000°;*

ISC 04 00:18:52.3±0.2,22°.93N±0°.02×120°.80E±0°.02,h27km±1km, h27km:pP-P,n1993,σ1°43/2141,mb6.1/371,MS6.3/267, 322C-227D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
STYT	**Tauyuan** baz=16	**0.23**	**350**	↓*i*P	**Pb**	**00 18 58.1**		**-0.6**
SSD	**Sandimen** baz=196	**0.24**	**220**	↓*i*P	**Pb**	**00 18 58.3**		**-0.4**
SSD	baz=196			*e*S	**Sb**	**00 19 03.3**		**+0.3**
SGST	**Jiashian** baz=316	**0.25**	**307**	↓*i*P	**Pb**	**00 18 57.7**		**-1.1**
TWG	**Pinlang** baz=107	**0.27**	**113**	↑*i*P	**Pn**	**00 19 00.8**		**+0.2**
TWG	baz=107			S	**Sn**	**00 19 07.5**		**+1.7**
TWG	**Pinlang**	**0.27**	**113**	↓*i*P	**Pn**	**00 19 00.7**		**+0.1**
ELDTW	**Lidau** baz=53	**0.33**	**38**	↑*i*P	**Pb**	**00 19 00.6**		**+0.6**
SGLT	**Jiouru** baz=214	**0.35**	**234**	↑*i*P	**Pb**	**00 19 00.5**		**+0.3**
CHN1	**Nanshi** baz=323	**0.36**	**315**	↓*i*P	**Pb**	**00 18 59.4**		**-1.0**
WTP	**Ta-pu** baz=344	**0.36**	**331**	↓*i*P	**Pb**	**00 18 59.5**		**-0.9**
ECL	**Taimali** baz=149	**0.36**	**157**	↑*i*P	**Pn**	**00 19 01.6**		**-0.2**
TWM1	**Shoushan** baz=240	**0.36**	**253**	↑*i*P	**Pb**	**00 19 00.2**		**-0.3**
TTN	**Taitung** baz=118	**0.36**	**119**	↑*i*P	**Pn**	**00 19 02.9**		**+1.1**
TPUB	**Ta-pu**	**0.40**	**337**	↑*i*P	**Pb**	**00 18 59.7**		**-1.3**
TPUB				*e*S	**Sb**	**00 19 05.7**		**-1.3**
CHN3	**Shinhua** baz=289	**0.43**	**290**	↑*i*P	**Pb**	**00 19 01.3**		**-0.1**
TWK	**Hsinying** baz=327	**0.44**	**319**	↓*i*P	**Pb**	**00 19 00.4**		**-1.3**
TWK	baz=327			*e*S	**Sb**	**00 19 08.1**		**0.0**
CHN4	**Tsaushan** baz=344	**0.46**	**336**	↓*i*P	**Pb**	**00 19 01.1**		**-0.9**
TAI1	**Yung-k'ang** baz=279	**0.54**	**282**	↑*i*P	**Pb**	**00 19 02.7**		**-0.5**
EAST	**Anshuo** baz=167	**0.55**	**175**	*i* P	**Pn**	**00 19 04.6**		**+0.2**
CHKT	**Chengkung** baz=91	**0.55**	**72**	↑*i*P	**Pn**	**00 19 05.3**		**+1.0**
YUS	**Yu-Shan** baz=24	**0.57**	**14**	↑*i*P	**Pb**	**00 19 04.5**		**+0.3**
TAW	**Tawu** baz=164	**0.58**	**171**	↑*i*P	**Pn**	**00 19 05.1**		**+0.4**
ALS	**Alishan** baz=2.0	**0.58**	**0**	↓*i*P	**Pb**	**00 19 03.9**		**-0.3**
ALS	baz=2.0			*e*S	**Sn**	**00 19 15.3**		**+1.5**
KAU	**Kaohsiung** baz=241	**0.58**	**232**	↑*i*P	**Pn**	**00 19 04.7**		**0.0**
SCZT	**Fangliau** baz=187	**0.58**	**197**	↑*i*P	**Pb**	**00 19 04.3**		**+0.4**
SCLT	**Jiali** baz=293	**0.61**	**294**	↑*i*P	**Pb**	**00 19 03.5**		**-0.9**
TWF1	**Yuli** baz=60	**0.62**	**47**	↑*i*P	**Pn**	**00 19 05.7**		**+0.3**
TWF1	baz=60			*e*S	**Sn**	**00 19 16.1**		**+1.6**
YULB	**Yu-li**	**0.65**	**45**	↓*i*P	**Pn**	**00 19 05.6**		**-0.2**
YULB				*e*S	**Sb**	**00 19 13.2**		**-0.6**
CHY	**Chiayi** baz=334	**0.66**	**329**	↓*i*P	**Pb**	**00 19 04.6**		**-0.7**
CHN2	**Minshiung** baz=339	**0.67**	**334**	↓*i*P	**Pb**	**00 19 05.0**		**-0.4**
CHN5	**Tsauling** baz=357	**0.67**	**350**	↓*i*P	**Pb**	**00 19 05.0**		**-0.6**
TWP	**Hsiaoliuchiu** baz=226	**0.71**	**215**	↑*i*P	**Pn**	**00 19 07.8**		**+1.3**
EHY	**Hungye** baz=54	**0.75**	**40**	↑*i*P	**Pn**	**00 19 07.6**		**+0.5**
WGK	**Gukeng** baz=349	**0.78**	**344**	↓*i*P	**Pb**	**00 19 07.1**		**-0.2**
SSLB	**Suanglung**	**0.86**	**9**	*e*Pg	**Pn**	**00 19 08.6**		**-0.1**
WSF	**Szhu** baz=326	**0.88**	**323**	↑*i*P	**Pn**	**00 19 07.7**		**-1.2**
HEN	**Hengchun** baz=178	**0.92**	**184**	↓*i*P	**Pb**	**00 19 10.8**		**+1.2**
WNT	**Mingjian** baz=347	**0.95**	**354**	↓P	**Pn**	**00 19 09.8**		**0.0**
SMLT	**Sun Moon Lake** baz=11	**0.95**	**6**	↑P	**Pb**	**00 19 10.3**		**0.0**
SMLT	baz=11			S	**Sn**	**00 19 24.8**		**+2.0**
TYC	**Yuchr** baz=9.0	**0.97**	**3**	↑P	**Pb**	**00 19 10.4**		**-0.1**
TWK1	**Hengchun** baz=190	**0.98**	**180**	↓*i*P	**Pb**	**00 19 11.7**		**+1.0**
TSEB	**Hengchuen, Pin** baz=170	**1.03**	**175**	↓*i*P	**Pb**	**00 19 12.4**		**+0.9**
TEGC	**Jichi Village** baz=46	**1.03**	**41**	↓P	**Pb**	**00 19 13.5**		**+2.0**
TEGC	baz=46			*e*S	Sb	00 19 31.1		+6.5
WTCT	**Ta-ch'eng** baz=336	**1.04**	**333**	*e*P	**Pn**	**00 19 10.3**		**-0.9**
ESL	**Shilin** baz=46	**1.05**	**33**	↑*i*P	**Pb**	**00 19 12.5**		**+0.5**
WDGT	**Dungji** baz=267	**1.10**	**288**	↑*i*P	**Pn**	**00 19 09.9**		**-2.0**
LAY	**Lan-yu** baz=129	**1.13**	**142**	↑P	**Pb**	**00 19 13.0**		**-0.1**
ESF	**Shoufeng Towns** baz=30	**1.14**	**35**	*e*P	**Pb**	**00 19 15.0**		**+1.6**
ESF	baz=30			*e*S	**Sb**	**00 19 31.7**		**+4.0**
TCU	**Taichung** baz=344	**1.22**	**355**	↓*e*P	**Pn**	**00 19 14.0**		**+0.4**
HWA	**Hwalien** baz=53	**1.28**	**35**	↑*i*P	**Pb**	**00 19 16.1**		**+0.4**
WHF	**Hehuan Shan** baz=33	**1.28**	**19**	↑P	**Pb**	**00 19 16.1**		**+0.1**
PNG	**Penghu** baz=299	**1.31**	**299**	↑*i*P	**Pn**	**00 19 12.9**		**-1.9**
TWD	**Chiawan** baz=36	**1.36**	**32**	↑P	**Pb**	**00 19 16.9**		**-0.2**
TWD	baz=36			*e*S	**Sb**	**00 19 37.4**		**+3.4**
TWT	**Tachien** baz=17	**1.36**	**15**	P	**Pb**	**00 19 16.9**		**-0.4**
TWQ1	**Liyutan** baz=347	**1.41**	**359**	↓P	**Pn**	**00 19 17.1**		**+0.8**
TWQ1	baz=347			*e*S	**Sb**	**00 19 37.9**		**+2.3**
NACB	**Ninganchiao**	**1.44**	**30**	↓*i*Pn	**Pb**	**00 19 17.6**		**-0.8**
NSY	**Sanyi** baz=346	**1.48**	**359**	*e*P	**Pn**	**00 19 18.1**		**+0.9**
NNS	**Nan Shan** baz=22	**1.59**	**19**	P	**Pb**	**00 19 21.1**		**0.0**
EHP	**Heping Village** baz=36	**1.62**	**32**	*e*P	**Pb**	**00 19 22.8**		**+1.2**
EHP	baz=36			*e*S	**Sb**	**00 19 45.1**		**+3.5**
NSTT	**Nanjuang** baz=352	**1.70**	**6**	↓*e*P	**Pn**	**00 19 20.9**		**+0.7**
ENA	**Nanau** baz=33	**1.72**	**30**	↑*e*P	**Pb**	**00 19 22.2**		**-1.0**
YHNB	**Yeheng**	**1.81**	**17**	*e*Pn	**Pn**	**00 19 23.2**		**+1.4**
NSK	**Sanguang** baz=19	**1.81**	**16**	*e*P	**Pb**	**00 19 23.4**		**-1.4**
ENTT	**Nioudou** baz=10.0	**1.84**	**22**	*e*P	**Pb**	**00 19 24.8**		**-0.5**
HSN	**Hsinchu** baz=352	**1.87**	**5**	*e*P	**Pn**	**00 19 24.1**		**+1.5**
HSN	baz=352			*e*S	**Sb**	**00 19 48.7**		**-0.1**
TWC	**Suao** baz=32	**1.93**	**30**	*e*P	**Pb**	**00 19 25.4**		**-1.3**
ILA	**Ilan** baz=43	**2.02**	**25**	*e*P	**Pb**	**00 19 27.8**		**-0.6**
NCU	**National Centr** baz=354	**2.06**	**10**	*e*P	**Pn**	**00 19 26.5**		**+1.3**
TATO	**Taipei**	**2.13**	**17**	*e*Pn	**Pn**	**00 19 26.8**		**+0.6**
TWA	**Mucha** baz=22	**2.16**	**19**	*e*P	**Pn**	**00 19 28.3**		**+1.7**
TWA	baz=22			*e*S	**Sb**	**00 19 59.5**		**+2.3**
EGS	baz=30	**2.17**	**28**	*e*P	**Pb**	**00 19 29.6**		**-1.3**
TAP	**Taipei** baz=19	**2.20**	**17**	*e*P	**Pn**	**00 19 29.5**		**-1.9**
TAP1	**Taipei** baz=19	**2.20**	**17**	*e*P	**Pn**	**00 19 28.8**		**+1.7**
TWS1	**Kuangyinshan** baz=16	**2.23**	**15**	*e*P	**Pn**	**00 19 29.1**		**+1.5**
NWF	**Wu-fen Shan** baz=7.0	**2.31**	**23**	*e*P	**Pn**	**00 19 30.4**		**+1.7**
TWB1	**Santiao Chiao** baz=29	**2.34**	**27**	↑*e*P	**Pb**	**00 19 32.1**		**-1.6**
TWY	**Chenhua** baz=19	**2.45**	**17**	*e*P	**Pn**	**00 19 32.4**		**+2.0**
JYNG	**Yonagunijimaku**	**2.48**	**52**	P	**Pn**	**00 19 33.3**		**+2.4**
JYNG				*e*S	**Sb**	**00 20 04.5**		**-1.9**
YOJ	**Yonaguni jima**	**2.54**	**53**	*e*P	**Pn**	**00 19 34.1**		**+2.4**
YOJ	**Yonaguni jima**	**2.54**	**53**	↓P	**Pn**	**00 19 34.1**		**+2.4**
YOJ				*e*S	**Sb**	**00 20 06.5**		**-1.4**
YOJ	**Yonaguni jima** baz=66	**2.54**	**53**	↓*i*P	**Pn**	**00 19 34.3**		**+2.6**
YOJ	baz=66			*i* S	**Sb**	**00 20 06.8**		**-1.1**
YOJ	**Yonaguni jima**	**2.54**	**53**	*e*Pn	**Pn**	**00 19 34.1**		**+2.4**
KNM	**Kinmen** baz=303	**2.63**	**305**	↑*e*P	**Pn**	**00 19 32.5**		**-0.4**
QZH	**Quanzhou**	**2.84**	**315**	↓*i*Pn	**Pn**	**00 19 34.0**		**-1.9**
QZH				Sn	**Sn**	**00 20 09.6**		**+0.3**
QZH	323μm,1.3s			SMN				
QZH	318μm,1.0s			SME				
PCYT	**Pengchaiyu** baz=11	**2.93**	**23**	*e*P	**Pn**	**00 19 39.4**		**+2.3**
HATJ	**Hateruma jima**	**2.98**	**67**	P	**Pn**	**00 19 39.8**		**+2.0**
HATJ				*e*S	**Sn**	**00 20 16.2**		**+3.6**
IRIF	**Iriomote-Funau**	**3.03**	**62**	↓P	**Pn**	**00 19 40.9**		**+2.4**
IRIF				*e*S	**Sn**	**00 20 17.8**		**+3.9**
JKRS	**Kuro-shima**	**3.22**	**66**	P	**Pn**	**00 19 43.4**		**+2.3**
JKRS				*e*S	**Sn**	**00 20 22.3**		**+3.7**
JIJ	**Ishigaki jima**	**3.38**	**64**	↓P	**Pn**	**00 19 45.1**		**+1.8**
JIJ				*e*S	**Sn**	**00 20 25.1**		**+2.5**
JISG	**Ishigakijimahi**	**3.62**	**62**	P	**Pn**	**00 19 48.2**		**+1.7**
JISG				*e*S	**Sn**	**00 20 31.3**		**+3.0**
JTJ	**Tarama**	**3.96**	**64**	↓P	**Pn**	**00 19 53.0**		**+1.7**
JTJ				*e*S	**Sn**	**00 20 38.2**		**+1.4**
JIRB	**Irabujima**	**4.43**	**64**	P	**Pn**	**00 19 59.7**		**+2.0**
JIRB				*e*S	**Sn**	**00 20 50.2**		**+1.9**
JMJ	**Miyako jima 2**	**4.52**	**65**	P	**Pn**	**00 20 01.7**		**+2.7**
JMJ				*e*S	**Sn**	**00 20 54.0**		**+3.3**
JMJ	**Miyako jima 2** baz=65	**4.52**	**65**	*e*P	**Pn**	**00 20 00.8**		**+1.8**
JMJ	baz=65			*e*S	**Sn**	**00 20 54.9**		**+4.2**
JIKM	**Ikemajima**	**4.53**	**63**	P	**Pn**	**00 20 01.4**		**+2.3**
JIKM				*e*S	**Sn**	**00 20 53.9**		**+3.1**
JOGS	**Gusukube**	**4.59**	**66**	P	**Pn**	**00 20 02.4**		**+2.4**
JOGS				*e*S	**Sn**	**00 20 57.2**		**+4.7**
SGCP	**Mt. Cagua**	**4.81**	**166**	*e*P	**Pn**	**00 20 03.9**		**+0.9**
APYP	**Conner**	**5.06**	**175**	*e*P	**Pn**	**00 20 08.0**		**+1.6**
ABRA	**Dolores**	**5.25**	**181**	*e*P	**Pn**	**00 20 09.7**		**+0.5**
SZP	**Santa**	**5.36**	**184**	*e*Pn	**Pn**	**00 20 10.7**		**+0.1**
CAUP	**Cauayan**	**6.03**	**171**	*e*P	Pn	00 20 23.5		+3.7
HKC	**Hong Kong Obse**	**6.15**	**265**	↓*i*P	**Pn**	**00 20 22.0**		**+0.6**
JKE	**Kume jima 2**	**6.41**	**57**	↓P	**Pn**	**00 20 26.1**		**+1.1**
JKE				*e*S	**Sn**	**00 21 39.5**		**+2.2**
GZH	**Guangzhou**	**6.87**	**273**	P	Pn	00 20 26.7		-4.6
GZH	71μm,1.0s			SMN				
GZH	41μm,0.9s			SME				
JAGN	**Aguni-jima**	**6.89**	**57**	P	**Pn**	**00 20 33.2**		**+1.6**
JJT2	**Tamagusuku 2**	**7.09**	**62**	P	Pn	00 20 39.2		+4.9
SCZP	**Santa Cruz**	**7.17**	**187**	*e*P	Pn	00 20 38.7		+3.3
BALP	**Baler**	**7.19**	**174**	*e*P	**Pn**	**00 20 37.4**		**+1.7**
JNTH	**Nagotoyohara**	**7.47**	**60**	P	**Pn**	**00 20 40.3**		**+0.7**
JIH	**Iheya**	**7.68**	**56**	P	**Pn**	**00 20 43.0**		**+0.6**
JIH				*e*S	**Sn**	**00 22 09.6**		**+1.1**
JOW	**Kunigami**	**7.82**	**59**	P	**Pn**	**00 20 44.1**		**-0.2**
JOW				*e*S	**Sn**	**00 22 12.2**		**+0.2**
JOW	**Kunigami** 7.3nm,0.3s,baz=159,slow=11,SNR=47	**7.82**	**59**	P	**Pn**	**00 20 44.7**		**+0.4**
JOW	0.9nm,0.3s,baz=149,slow=19,SNR=3.6			S	**Sn**	**00 22 11.5**		**-0.5**
JOW	**Kunigami** baz=64	**7.82**	**59**	↓*e*P	**Pn**	**00 20 44.3**		**0.0**
JOW	**Kunigami**	**7.82**	**59**	*e*Pn	**Pn**	**00 20 44.3**		**0.0**
JOW				S	**Sn**	**00 22 11.5**		**-0.5**
SSE	**Sheshan**	**8.14**	**2**	P	**Pn**	**00 20 49.8**		**+1.1**
SSE				S	**Sn**	**00 22 22.9**		**+3.1**
SSE	144μm,13.3s			LN				
SSE	209μm,13.3s			LE				
SSE	334μm,11.3s			LZ				
JOKE	**Okinoerabujima**	**8.31**	**56**	P	**Pn**	**00 20 51.3**		**+0.3**
JOKE				*e*S	**Sn**	**00 22 23.5**		**-0.5**
TGY	**Tagaytay City**	**8.78**	**179**	P	**Pn**	**00 20 59.5**		**+1.8**
TGY	**Tagaytay City** 49nm,0.3s,baz=153,slow=4.5,SNR=3.7	**8.78**	**179**	P	**Pn**	**00 20 59.5**		**+1.8**
TGY	comp=Z,5μm,19.5s,baz=293,slow=42			LR	LR	00 25 03.3		
TGY	**Tagaytay City**	**8.78**	**179**	P	**Pn**	**00 20 59.5**		**+1.8**
JTK	**Tokunoshima**	**8.81**	**55**	P	**Pn**	**00 20 57.1**		**-0.9**
JTK				*e*S	**Sn**	**00 22 34.8**		**-1.6**
JAMN	**Amaminishikomi**	**9.22**	**53**	P	**Pn**	**00 21 03.4**		**-0.2**
JAMN				*e*S	**Sn**	**00 22 43.8**		**-2.7**
NJ2	**Nanjing**	**9.25**	**350**	*e*P	**Pn**	**00 21 02.2**		**-1.7**
NJ2				S	**Sn**	**00 22 42.8**		**-4.3**
NJ2	19μm,0.8s			SMN				
NJ2	16μm,0.8s			SME				
NJ2	186μm,12.0s			LN				
NJ2	322μm,9.6s			LE				
NJ2	381μm,11.5s			LZ				
JAM	**Amami Oshima**	**9.63**	**54**	P	**Pn**	**00 21 08.7**		**-0.5**
JAM				*e*S	**Sn**	**00 22 51.7**		**-4.9**
JMZ	**Minamidaito 2**	**9.93**	**71**	P	**Pn**	**00 21 11.7**		**-1.5**
JMZ				*e*S	**Sn**	**00 22 57.9**		**-5.8**
QIZ	**Qiongzhong**	**10.95**	**251**	P	**Pn**	**00 21 27.5**		**+0.3**
QIZ				S	**Sn**	**00 23 29.5**		**+0.6**
QIZ	9μm,10.0s			PMZ				
QIZ	343μm,17.2s			LN				
QIZ	122μm,17.8s			LE				
QIZ	316μm,15.4s			LZ				
QIZ	**Qiongzhong** 3μm,1.2s	**10.95**	**251**	↓*i*Pn	**Pn**	**00 21 25.7**		**-1.6**
QIZ				*e*Sn	**Sn**	**00 23 25.5**		**-3.3**
PLP	**Palo**	**12.36**	**160**	↑*e*P	**Pn**	**00 21 47.1**		**+0.5**
KSHUK	**Heuksando** SNR=14	**12.40**	**18**	P	Pn	00 21 42.5		-4.5
KSJDO	**Jindo** SNR=19	**12.47**	**22**	P	P	00 21 54.1		-5.5
ENH	**Enshi** 0.1nm,0.6s	**12.48**	**308**	↑*e*Pn	**Pn**	**00 21 48.5**		**+0.3**
ENH				Sn	**Sn**	**00 24 06.1**		**-0.3**
KSWAN	**Wando** SNR=9.5	**12.53**	**23**	P	**P**	**00 22 02.9**		**+2.7**
KSHAN	**Haenam** SNR=16	**12.65**	**22**	P	**P**	**00 22 03.3**		**+1.8**
KSMOK	**Mokpo** SNR=5.6	**12.88**	**22**	P	**P**	**00 22 06.1**		**+1.9**
LLP	**Lapu-Lapu**	**12.90**	**166**	*e*P	**Pn**	**00 21 54.4**		**+0.3**
MSLP	**Maasin**	**13.30**	**162**	*e*P	**Pn**	**00 22 00.9**		**+1.5**
GYA	**Guiyang**	**13.32**	**288**	↑*i*P	**Pn**	**00 21 58.4**		**-1.4**
GYA				pP	P	00 22 05.7		-3.5
GYA				PP	**PnPn**	**00 22 12.0**		**+4.3**
GYA				S	**Sn**	**00 24 24.3**		**-2.8**
GYA				sS	sS	00 24 38.6		
GYA				SS	**S**	**00 24 47.2**		**-3.6**
GYA	790nm,1.0s			PMZ				
GYA	5μm,8.5s			PMZ				
GYA	92μm,12.1s			LN				
GYA	214μm,17.7s			LE				
KSKWJ	**Gwangju** SNR=14	**13.33**	**23**	P	P	00 22 12.3		+3.2
JNU	**Nakatsue** 0.8nm,0.3s,baz=189,slow=5.8,SNR=9.4	**13.49**	**39**	P	**Pn**	**00 22 04.4**		**+2.4**
JNU	0.4nm,0.3s,baz=283,slow=0.8,SNR=1.2			S	Sn	00 24 38.0		+6.9
JNU	comp=Z,127μm,18.3s,baz=222,slow=42			LR	LR	00 28 20.2		
JNU	**Nakatsue**	**13.49**	**39**	*e*Pn	**Pn**	**00 22 03.1**		**+1.1**
JNU				S	Sn	00 24 38.0		+6.9
KSJEU	**Jeongeup** SNR=18	**13.61**	**22**	P	**P**	**00 22 09.5**		**-2.7**
TIA	**Tai'an**	**13.61**	**347**	↓P	**Pn**	**00 22 05.8**		**+2.2**
TIA				pP	pP	00 22 09.4		
TIA				S	Sn	00 24 43.1		+9.1
TIA	110nm,0.9s			PMZ				
TIA	5μm,5.7s			PMZ				
TIA	201μm,13.6s			LN				
TIA	136μm,11.8s			LE				
TIA	289μm,16.6s			LZ				
SNPH	**Sibulan**	**13.71**	**170**	*e*P	P	00 22 10.2		-3.3
KSGUS	**GUNSAN** SNR=56	**14.06**	**20**	P	**P**	**00 22 14.7**		**-2.5**
KSJEO	**Jeonju** SNR=13	**14.14**	**22**	P	P	00 22 21.9		+3.8
KSBUS	**Busan** SNR=8.9	**14.26**	**29**	P	**P**	**00 22 20.9**		**+1.6**
TJN	**Taejon**	**14.56**	**22**	*e*P	**Pn**	**00 22 18.2**		**+1.7**
KSDAG	**Daegu** SNR=11	**14.60**	**27**	P	P	00 22 28.0		+4.7
KSCPR	**CHUPUNGNYEONG** SNR=27	**14.63**	**24**	P	**P**	**00 22 21.1**		**-2.5**
KSSES	**Seosan** SNR=27	**14.65**	**18**	P	**P**	**00 22 21.7**		**-2.1**
KSBON	**Boeun** SNR=28	**14.82**	**23**	P	**P**	**00 22 26.0**		**+0.4**
CGP	**Cagayan de Oro**	**14.87**	**165**	↓*e*P	**P**	**00 22 24.1**		**-2.2**
KSCEA	**Cheonan** SNR=45	**14.93**	**21**	P	**P**	**00 22 25.2**		**-1.7**
XAN	**Xi'an**	**15.20**	**319**	P	**Pn**	**00 22 24.8**		**-0.4**
XAN				pP	**P**	**00 22 30.0**		**0.0**
XAN				sP	sP	00 22 35.0		-5.7
XAN				S	**Sn**	**00 25 12.3**		**-0.5**
XAN				sS	S	00 25 20.8		-8.4
XAN	1μm,6.3s			PMZ				
XAN	134μm,14.5s			LN				
XAN	67μm,15.6s			LE				
XAN	106μm,13.4s			LZ				
KSSWO	**Suwon** SNR=53	**15.25**	**19**	P	**P**	**00 22 29.3**		**-1.1**
INCN	**Inchon** 3μm,1.9s	**15.35**	**18**	*e*Pn	**Pn**	**00 22 27.0**		**-0.1**
KSBAR	**Backryungdo** SNR=30	**15.37**	**12**	P	**P**	**00 22 30.5**		**-1.2**
KSSEO	**Seoul** SNR=38	**15.44**	**19**	P	**P**	**00 22 32.0**		**-0.4**
BUKP	**Musuan**	**15.52**	**164**	*e*P	**Pn**	**00 22 29.8**		**+0.4**
KSYOW	**Yeongwol** SNR=39	**15.66**	**23**	P	**P**	**00 22 34.0**		**-0.9**
KSAR	**Wonju Array Be**	**15.70**	**21**	P	**Pn**	**00 22 32.9**		**+1.3**
KSAR	**Wonju Array Be**	**15.70**	**21**	P	**Pn**	**00 22 32.9**		**+1.3**

KSRS Korea Array 15.72 21 P **Pn 00 22 32.9 +1.0**
0.8nm,0.3s,baz=198,slow=12,SNR=45
KSRS LR LR 00 29 10.0
comp=Z,94μm,19.4s,baz=182,slow=39
SLVN Son La 15.74 267 *e*Pn **Pn 00 22 31.0 -1.3**
1μm,1.1s
ZMPH Zamboanga City 15.93 175⇓*e*P **Pn 00 22 36.4 +1.7**
DL2 Dalian 15.94 2 P **P 00 22 37.9 -0.2**
DL2 S **S 00 25 37.5 -6.6**
DL2 PMZ
4μm,4.5s
DL2 LN
59μm,13.2s
DL2 LE
101μm,13.8s
DL2 LZ
152μm,12.7s
CTBH Cotabato--PC H 15.97 167⇓*e*P **P 00 22 37.7 -0.8**
DLV T Lat 16.03 229 *e*Pn **Pn 00 22 37.4 +1.3**
UBPT Khong Chiam 16.36 245 P **Pn 00 22 41.4 +1.3**
791nm,0.9s,24μm
KDM Kudat 16.37 194 ⇑P **P 00 22 42.3 -0.7**
TIY Taiyuan 16.40 336 *e*P **P 00 22 43.7 +0.5**
TIY PP PP 00 22 57.0
TIY S **S 00 25 50.0 -3.6**
TIY PMZ
12μm,8.3s
TIY LN
299μm,11.3s
TIY LE
151μm,10.6s
TIY LZ
331μm,12.0s
KMI Kunming 16.64 281 P **Pn 00 22 42.1 -1.9**
KMI pP pP 00 22 47.9 -5.6
KMI S **Sn 00 25 49.3 +1.1**
KMI PMZ
430nm,1.4s
KMI PMZ
11μm,4.7s
KMI LN
82μm,14.5s
KMI LE
139μm,16.2s
KMI LZ
182μm,16.2s
CD2 Chengdu 17.14 301⇓*i*P **Pn 00 22 48.5 -1.5**
CD2 pP **pP 00 22 56.8 -2.0**
CD2 sP **sP 00 23 01.5 -0.7**
CD2 PP **PnPn 00 23 03.6 +3.6**
CD2 S **Sn 00 26 01.1 +1.2**
CD2 PMZ
1μm,1.3s
CD2 PMZ
9μm,6.5s
CD2 LZ
380μm,14.9s
GSPH General Santos 17.22 166⇑*i*P **P 00 22 53.3 +0.8**
KKM Kota Kinabalu 17.36 195 ⇑P **P 00 22 54.7 +0.6**
KKM Kota Kinabalu 17.36 195 *e*P **P 00 22 54.5 +0.4**
2μm,1.4s
BJT Baijiatuau 17.48 348 *e*P **P 00 22 55.8 +0.6**
BJT *e* 00 26 08.4
BJT pmax pmax
comp=Z,4μm,1.5s
BJT Baijiatuau 17.48 348 *e*Pn **P 00 22 55.8 +0.6**
comp=Z,4μm,1.5s
BJT *e*Sn **Sn 00 26 08.4 +0.4**
BJI Beijing 17.50 348 P **P 00 22 55.7 +0.3**
BJI S **Sn 00 26 11.9 +3.4**
BJI PMZ
comp=Z,10μm,7.6s
BJI LN
comp=Z,182μm,16.4s
BJI LE
comp=Z,108μm,16.0s
BJI LZ
comp=Z,83μm,15.2s
SDKM Sandakan 17.54 192 ⇑P **P 00 22 56.5 +0.5**
MYLDM Lahad Datu 17.79 188 *e*P **P 00 23 01.3 +2.6**
SNY Shenyang 18.99 6 ⇑P **Pn 00 23 12.7 +0.2**
SNY PP **PnPn 00 23 25.9 +0.6**
SNY S **S 00 26 49.6 +4.0**
SNY SS SnSn 00 27 10.8 +12
SNY PMZ
comp=Z,2μm,2.5s
SNY LN
comp=Z,117μm,15.0s
SNY LE
comp=Z,72μm,18.7s
SNY LZ
comp=Z,153μm,15.7s
LOEI Loei 19.10 257 P **P 00 23 10.5 -2.7**
comp=Z,686nm,1.9s,comp=Z,29μm
CRAI Chiangrai 19.18 266 P **P 00 23 14.3 +0.2**
comp=Z,544nm,1.7s,comp=Z,18μm
HHC Hu-ho-hao-te 19.49 339 ⇑P **Pn 00 23 19.6 +0.9**
HHC pP **pP 00 23 27.0 +2.3**
HHC sP **sP 00 23 29.2 +1.1**
HHC S **S 00 26 56.0 -0.1**
HHC SS **SnSn 00 27 18.0 +6.8**
HHC LZ
comp=Z,318μm,13.7s
JHJ2 Mitsune 19.59 55 *e*Pn **Pn 00 23 24.1 +4.3**
comp=Z,2μm,1.2s
UTTA Uttaradit 19.67 258 P **Pn 00 23 21.3 +0.5**
comp=Z,86nm,1.5s,comp=Z,1μm
SGSI Sangihe 19.67 166 P **Pn 00 23 25.2 +4.3**
comp=Z,826nm,1.7s,comp=Z,16μm
PBKT Sadao Pong 19.70 255 P **Pn 00 23 20.8 -0.4**
comp=Z,1μm,1.5s,comp=Z,21μm
LZH Lanzhou 19.70 316 ⇑P **Pn 00 23 22.6 +1.3**
LZH pP **pP 00 23 26.9 -0.2**
LZH sP **sP 00 23 29.8 -0.8**
LZH PP **PnPn 00 23 40.5 +5.2**
LZH S **Sn 00 27 02.0 +0.1**
LZH PMZ
comp=Z,2μm,1.3s
LZH PMZ
comp=Z,13μm,6.3s
LZH LN
comp=Z,113μm,11.2s
LZH LE
comp=Z,163μm,11.9s
LZH LZ
comp=Z,187μm,14.3s
CBIJ Chichi jima 19.81 74 P **P 00 23 21.4 +0.5**
CBIJ *e*Pn **Pn 00 23 21.6 -1.0**
CBIJ S **Sn 00 27 08.8 +4.3**
JCJ Chichijima 19.81 74 P **P 00 23 21.4 +0.5**
comp=Z,13nm,0.3s,baz=252,slow=1.8,SNR=10.0
JCJ S **Sn 00 27 08.8 +4.3**
comp=Z,2.4nm,0.3s,baz=247,slow=16,SNR=2.5
JCJ LR LR 00 29 53.5
comp=Z,27μm,20.5s,baz=274,slow=33
BTO Baotou 19.83 335 *e*P **Pn 00 23 22.3 -0.5**
BTO S **S 00 26 58.1 -5.0**
BTO LN
comp=Z,80μm,13.6s
BTO LE
comp=Z,29μm,14.6s
I39PW PALAU INFRASON20.23 137 *i* 02 18 00.0
baz=324,slow=317,SNR=0.3
MAJO Matsushiro 20.27 44 *c i*P **P 00 23 25.2 -0.5**
MAJO Matsushiro 20.27 44 *e*P **P 00 23 25.4 -0.4**
MAJO LR LR
comp=Z,54μm,22.0s
MAT Matsushiro 20.27 44 P **P 00 23 25.1 -0.6**
MAT S **S 00 27 09.0 -2.8**
MJAR Matsushiro Arr 20.27 44 P **P 00 23 25.0 -0.7**
MJAR S **S 00 27 08.8 -3.0**
MJAR Matsushiro Arr 20.27 44 P **P 00 23 25.0 -0.7**
comp=Z,318nm,0.9s,baz=232,slow=9.0,SNR=74
MJAR S **S 00 27 08.8 -3.0**
comp=Z,11nm,0.9s,baz=249,slow=12,SNR=2.2
MJAR LR LR 00 31 53.7
comp=Z,36μm,21.6s,baz=230,slow=39
MJAR Matsushiro Arr 20.27 44 P **P 00 23 25.0 -0.7**
MJAR S **S 00 27 08.8 -3.0**
LAMP Lampang 20.27 261 P Pn 00 23 27.6 -0.4
comp=Z,126nm,1.2s,comp=Z,1μm
CMAI Chiengmai2 20.47 266 P Pn 00 23 30.2 -0.3
comp=Z,684nm,1.5s,comp=Z,28μm
CMMT Chiang Mai 20.82 263 P **P 00 23 32.5 +0.6**
comp=Z,1μm,2.9s,comp=Z,27μm
CHTO Chiang Mai 20.82 263 *e*P **P 00 23 33.0 +1.0**
CHTO MLR MLR
comp=Z,110μm,20.0s
CHTO Chiang Mai 20.82 263 P **P 00 23 32.6 +0.7**
comp=Z,3μm,1.2s,comp=Z,91μm
CHTO Chiang Mai 20.82 263 *e*P **P 00 23 33.0 +1.0**
CHTO LR LR
comp=Z,110μm,20.0s
CMAR Chiang Mai Arr 20.92 262 LR LR 00 33 04.8
comp=Z,110μm,18.4s,baz=77,slow=40
BTM Bintulu 20.99 202 ⇑P **P 00 23 35.0 +1.3**
CN2 Changchun 21.17 9 *e*P **P 00 23 35.6 +0.2**
CN2 *es*P **sP 00 23 46.1 -0.1**
CN2 *e*S **S 00 27 25.1 -4.3**
TOLI Toli-Toli 21.68 180 *e*P **P 00 23 43.3 +2.3**
comp=Z,930nm,1.0s
MHMT Maesarieng 21.92 262 P **P 00 23 45.2 +1.5**
comp=Z,500nm,1.9s,comp=Z,10μm
SBUM Sibu 21.99 203 ⇑P **P 00 23 45.5 +1.1**
SBUM Sibu 21.99 203 *e*P **P 00 23 44.8 +0.3**
comp=Z,1μm,1.2s
VLA Vladivostok 22.14 22⇑*i*P **P 00 23 46.3 +0.5**
VLA *e* 00 24 06.5
VLA *i* S **S 00 27 45.7 -2.6**
VLA pmax pmax
comp=Z,791nm,1.6s
SRDT SRDT 22.22 251 P **P 00 23 48.3 +1.3**
comp=Z,2μm,1.4s,comp=Z,32μm
MRSI Marisa 22.35 177 P **P 00 23 49.4 +1.2**
comp=Z,1μm,1.2s,comp=Z,22μmcomp=Z,67μm
KMSI Cibinong 22.44 172 P **P 00 23 50.1 +0.9**
comp=Z,7μm,1.3s,comp=Z,76μmcomp=Z,58μm
MPSI Mapaga 22.47 182 P **P 00 23 49.5 -0.1**
comp=Z,441nm,1.7s,comp=Z,13μmcomp=Z,65μm
KHLT Khaolaem Dam 22.50 253 P **P 00 23 52.4 +2.5**
comp=Z,322nm,0.7s,comp=Z,7μm
MDJ Mudanjiang 22.80 16 P **P 00 23 52.9 0.0**
MDJ pP **pP 00 23 57.2 -3.1**
MDJ sP **sP 00 24 01.4 -2.4**
MDJ S **S 00 27 59.9 -0.5**
MDJ PMZ
comp=Z,4μm,7.0s
MDJ LN
comp=Z,135μm,13.5s
MDJ LE
comp=Z,54μm,11.7s
MDJ LZ
comp=Z,184μm,13.5s
MDJ Mudanjiang 22.80 16⇑*e*P **P 00 23 51.3 -1.6**
comp=Z,646nm,1.4s
MDJ *e*S **S 00 28 01.0 +0.6**
MDJ LR LR
comp=Z,104μm,19.0s
TNTI Ternate 22.93 163 P **P 00 23 52.2 -2.3**
comp=Z,2μm,1.3s,comp=Z,34μmcomp=Z,80μm
TNTI Ternate 22.93 163 *e*P **P 00 23 52.9 -1.6**
comp=Z,3μm,1.2s
USRK Ussuriysk Ar. 23.13 21 P **P 00 23 56.0 -0.3**
comp=Z,25nm,0.7s,baz=208,slow=10,SNR=50
USRK S **S 00 28 04.7 -1.2**
comp=Z,15nm,1.0s,baz=219,slow=8.9,SNR=2.4
USRK LR LR 00 33 41.6
comp=Z,69μm,18.9s,baz=186,slow=38
SGKI Sangatta, Kali 23.52 188 P P 00 23 54.4 -6.0
comp=Z,2μm,1.5s,comp=Z,27μmcomp=Z,87μm
KSM Kuching 23.64 207⇑*i*P **P 00 24 00.8 -0.6**
comp=Z,329nm,1.1s
KSM *e*S **S 00 28 14.0 -0.6**
KSM LR LR
comp=Z,40μm,20.0s
APSI Ampana 23.71 178 P **P 00 24 03.8 +1.6**
comp=Z,2μm,1.6s,comp=Z,40μmcomp=Z,56μm
LUWI Luwuk 23.90 175 P **P 00 24 03.3 -0.7**
comp=Z,4μm,1.3s,comp=Z,54μmcomp=Z,72μm
LUWI Luwuk 23.90 175 *e*P **P 00 24 02.9 -1.2**
comp=Z,7μm,1.3s
GTA Gaotai 24.25 317 ⇓P **P 00 24 08.2 +1.0**
GTA pP **pP 00 24 12.4 -2.7**
GTA sP **sP 00 24 15.2 -3.3**
GTA S **S 00 28 27.4 +3.1**
GTA sS **sS 00 28 33.5 -3.8**
GTA PMZ
comp=Z,11μm,6.7s
GTA LN
comp=Z,89μm,15.4s
GTA LE
comp=Z,100μm,17.8s
GTA LZ
comp=Z,150μm,17.1s
LBMI Labuha 24.32 164 P **P 00 24 06.9 -0.9**
comp=Z,3μm,1.3s,comp=Z,36μmcomp=Z,36μm
BKB Balikpapan 24.34 190 P **P 00 24 10.2 +2.1**
comp=Z,4μm,1.6s,comp=Z,51μmcomp=Z,110μm
MTKI Muara Teweh, K 24.41 194 P **P 00 24 09.4 +0.7**
comp=Z,2μm,1.2s,comp=Z,27μm
KTGM Kuala Trenggan 24.44 227 ⇑P **P 00 24 09.7 +0.7**
STKI Sintang 24.47 203 P **P 00 24 10.4 +1.2**
comp=Z,717nm,1.5s,comp=Z,22μmcomp=Z,34μm
GUMO Guam 24.64 108 *e*P **P 00 24 10.8 0.0**
GUMO pmax pmax
comp=Z,5μm,1.3s
GUMO MLR MLR
comp=Z,44μm,19.0s
GUMO Guam 24.64 108 *e*P **P 00 24 10.8 0.0**
comp=Z,5μm,1.3s
GUMO LR LR
comp=Z,44μm,19.0s
SURT Suratani 25.26 240 P **P 00 24 18.2 +1.8**
comp=Z,151nm,1.4s,comp=Z,5μm
SANI Sanana 25.34 168 P **P 00 24 15.2 -1.9**
comp=Z,1μm,1.1s,comp=Z,23μmcomp=Z,52μm
SWI Sorong 25.75 155 P **P 00 24 20.5 -0.3**
comp=Z,448nm,0.9s,comp=Z,7μm
TTSI Tana Toraja 25.84 182 P **P 00 24 22.2 +0.6**
comp=Z,418nm,0.7s,comp=Z,9μm
KULM Kulim 26.19 231 ⇑P **P 00 24 25.5 +0.7**
KULM Kulim 26.19 231 *e*P **P 00 24 25.6 +0.7**
comp=Z,387nm,1.2s
KULM LR LR
comp=Z,58μm,20.0s
PKDT Phuket 26.25 239 P **P 00 24 28.6 +3.1**
comp=Z,257nm,1.8s,comp=Z,8μm
HIA Hailar 26.30 358⇑*e*P **P 00 24 24.0 -1.6**
HIA *e*S **S 00 28 55.2 -1.4**
HIA pmax pmax
comp=Z,344nm,1.1s
HIA MLR MLR
comp=Z,66μm,22.0s
HIA Hailar 26.30 358⇑*e*P **P 00 24 24.0 -1.6**
comp=Z,344nm,1.1s
HIA *e*S **S 00 28 55.2 -1.4**
HIA LR LR
comp=Z,66μm,22.0s
SHL Shillong 26.47 282⇓*i*P **P 00 24 29.0 +1.4**
SHL AMB AMB 00 24 38.6
comp=Z,1μm,2.4s
SHL *i* x x 00 29 05.0
IPM Ipoh 26.49 229 ⇓P **P 00 24 27.9 +0.2**
IPM Ipoh 26.49 229 *e*P **P 00 24 27.4 -0.2**
comp=Z,375nm,1.1s
ERM Erimo 26.66 39 *e*P **P 00 24 28.8 0.0**
ERM pmax pmax
comp=Z,257nm,1.7s
ERM Erimo 26.66 39 *e*P **P 00 24 29.3 +0.4**
ERM LR LR
comp=Z,98μm,21.0s
MYKOM Kota Tinggi 26.69 220 ⇑P **P 00 24 30.2 +0.9**
MYKOM Kota Tinggi 26.69 220 *e*P **P 00 24 30.0 +0.7**
comp=Z,346nm,1.0s
NLAI Namlea 26.73 166 P **P 00 24 30.8 +1.1**
comp=Z,3μm,1.0s,comp=Z,28μmcomp=Z,40μm
SPSI Sidrap Palu 26.75 182 P **P 00 24 31.5 +1.6**
comp=Z,332nm,1.1s,comp=Z,7μmcomp=Z,32μm
KGM Kluang 26.83 222 ⇑P **P 00 24 31.6 +0.9**
BBKI Banjar Baru 26.87 193 P **P 00 24 31.7 +0.7**
comp=Z,914nm,1.8s,comp=Z,17μm
PBKI Pangkalan Bun 26.99 200 P **P 00 24 33.4 +1.3**
comp=Z,455nm,1.3s,comp=Z,13μm
TPRI Tanjung Pinang 27.00 218 P **P 00 24 33.5 +1.4**
comp=Z,521nm,1.4s
BNSI Bone 27.17 182 P **P 00 24 34.1 +0.4**
comp=Z,385nm,1.6s,comp=Z,12μmcomp=Z,35μm
ULN Ulaanbaatar 27.20 340*c i*P **P 00 24 33.9 0.0**
ULN pmax pmax
comp=Z,178nm,1.7s
ULN Ulaanbaatar 27.20 340 *e*P **P 00 24 34.0 +0.1**
comp=Z,555nm,1.3s
ULN LR LR
comp=Z,141μm,20.0s
LSA Lhasa 27.37 291 P **P 00 24 37.2 +1.3**
LSA S **S 00 29 17.2 +2.4**
LSA LN
comp=Z,21μm,18.4s
LSA LE
comp=Z,90μm,18.4s
LSA LZ
comp=Z,100μm,19.7s
LSA Lhasa 27.37 291⇓*e*P **P 00 24 37.3 +1.3**
LSA *e*S **S 00 29 15.8 +1.0**
LSA pmax pmax
comp=Z,497nm,0.7s
LSA MLR MLR
comp=Z,131μm,19.0s
LSA Lhasa 27.37 291⇓*e*P **P 00 24 37.3 +1.3**
comp=Z,497nm,0.7s
LSA *e*S **S 00 29 15.8 +1.0**
LSA LR LR
comp=Z,131μm,19.0s
SONM Songino Array 27.39 339 P **P 00 24 35.5 -0.1**
SONM 00 27 55.2
SONM Songino Array 27.39 339 P **P 00 24 35.5 -0.1**
comp=Z,23nm,0.7s,baz=160,slow=6.5,SNR=67
SONM PcP **PcP 00 27 55.2 +1.1**
comp=Z,29nm,1.0s,baz=154,slow=3.2,SNR=5.8
SONM LR LR 00 36 46.2
comp=Z,122μm,18.1s,baz=153,slow=39
SONM Songino Array 27.39 339 P **P 00 24 35.5 -0.1**
SONM PcP **PcP 00 27 55.2 +1.1**
KLR Kul'dur 27.64 16 *e*P **P 00 24 32.8 -4.8**
KLR *e*S **S 00 29 11.0 -6.7**
KLR pmax pmax
comp=N,3μm,12.0s
KLR pmax pmax
comp=Z,7μm,12.0s
ASAJ Asahikawa 27.71 35 P **P 00 24 38.4 +0.1**
comp=Z,289nm,1.2s,baz=244,slow=13,SNR=18
ASAJ S **S 00 29 16.9 -2.1**
comp=Z,22nm,1.2s,baz=112,slow=2.3,SNR=2.1
ASAJ LR LR 00 36 21.5
comp=Z,134μm,19.2s,baz=242,slow=38
ASAJ Asahikawa 27.71 35 *e*P **P 00 24 37.7 -0.6**
comp=Z,82nm,1.0s
ASAJ S **S 00 29 16.9 -2.1**
KAPI Kappang 27.79 182 *e*P **P 00 24 39.5 +0.3**
KAPI LR LR
comp=Z,28μm,19.0s
FAKI Fak Fak 28.02 155 P **P 00 24 39.9 -1.4**
comp=Z,434nm,1.0s,comp=Z,5μmcomp=Z,34μm
FAKI Fak Fak 28.02 155 *e*P **P 00 24 39.0 -2.2**
BKSI Bulukumba 28.09 181 P **P 00 24 42.1 +0.3**
comp=Z,78nm,1.8s,comp=Z,3μmcomp=Z,24μm
DGPR DIGLIPUR 28.17 255 *e*P **P 00 24 41.6 -1.1**
TPI Tanjungpandan 28.57 208 P **P 00 24 47.6 +1.4**
comp=Z,163nm,1.2s,comp=Z,6μmcomp=Z,36μm
BNDI Bandanaira 28.70 161 P **P 00 24 48.2 +0.9**
comp=Z,650nm,1.4s,comp=Z,13μm
LHMI Lhok Sumawe 28.98 236 P P 00 24 54.5 +4.6
comp=Z,394nm,0.8s,comp=Z,8μmcomp=Z,43μm
LHMI Lhok Sumawe 28.98 236 *e*P P 00 24 53.4 +3.5
PBA Port Blair 28.98 252 *e*P P 00 24 49.8 -0.1
PBA AMB AMB 00 25 19.7
comp=Z,257nm,1.5s
PSI Prapat 29.15 230 P **P 00 24 52.4 +0.8**
PSI 00 28 00.0
PSI S **S 00 29 42.9 +0.6**
PSI Prapat 29.15 230 P **P 00 24 52.4 +0.8**
comp=Z,135nm,1.0s,baz=24,slow=5.2,SNR=100
PSI PcP **PcP 00 27 60.0 +1.0**
comp=Z,69nm,1.3s,baz=352,slow=1.4,SNR=4.0
PSI S **S 00 29 42.9 +0.6**
comp=Z,6.2nm,0.5s,baz=250,slow=5.8,SNR=4.2
PSI LR LR 00 37 15.1
comp=Z,48μm,18.1s,baz=60,slow=38
PSI Prapat 29.15 230 P **P 00 24 52.4 +0.8**
PSI PcP **PcP 00 27 60.0 +1.0**
PSI S **S 00 29 42.9 +0.6**
YUK Yuzh-Kuril'sk 29.46 38 *i* PPP PPP 00 25 45.1
YUK *i* S S 00 29 39.2 -7.3
YUK *i* SS **SnSn 00 31 12.3 -2.4**
YUK pmax pmax
comp=Z,4μm,2.1s
YUK pmax pmax
comp=N,1μm,1.3s
YUK pmax pmax
comp=E,953nm,1.3s
YUK pmax pmax
comp=Z,1μm,1.3s
YUK MLR MLR
comp=N,17μm,21.0s
YUK MLR MLR
comp=E,57μm,21.0s
YUK MLR MLR
comp=Z,39μm,21.0s
KCSI Kotacane, Aceh 29.48 233 P **P 00 24 55.0 +0.6**
comp=Z,236nm,1.5s,comp=Z,4μm
BKNI Bangkinang 29.56 223 P **P 00 24 57.1 +2.1**
comp=Z,352nm,1.2s,comp=Z,7μmcomp=Z,27μm
BKNI Bangkinang 29.56 223 *e*P **P 00 24 55.8 +0.7**
comp=Z,552nm,1.3s
CIT Chita 29.57 351 *e*P **P 00 24 54.0 -0.8**
CIT *e* 00 25 53.2
CIT *e* 00 26 08.6
CIT *e* 00 27 58.7
CIT pmax pmax
comp=Z,1μm,2.5s
YSS Yuzh-Sakhalins 29.78 31*oe*P **P 00 24 57.0 +0.4**
YSS *e**SP **sP 00 25 10.0 +2.1**
YSS *e*PPP PPP 00 26 12.0
YSS *e*S **S 00 29 50.0 -1.3**
YSS pmax pmax
comp=Z,140nm,1.3s
YSS pmax pmax
comp=Z,2μm,8.0s
YSS MLR MLR
comp=Z,53μm,16.0s
YSS MLR MLR
comp=E,36μm,14.0s
PMBI Palembang 30.09 213 P P 00 25 04.4 +4.8
comp=E,511nm,1.5s,comp=E,9μm
TAPN Taplejung 30.23 285 *e*P **P 00 25 02.5 +1.3**
comp=E,2μm,1.1s
SMPI Sarmi 30.30 142 P **P 00 25 01.1 -0.5**
comp=E,268nm,2.2s,comp=E,6μm
SDSI Sungai Dareh 30.31 221 P P 00 25 14.0 +12
comp=E,262nm,0.7s
CMBY CAMPBELL BAY 30.32 243 *e*P **P 00 24 59.8 -1.9**
CMBY AMB AMB 00 25 11.3
comp=Z,217nm,7.9s
ODAN Odare 30.51 284 *e*P **P 00 25 04.9 +1.3**
comp=Z,2μm,1.2s
KMMI Kalianget 30.54 193 P **P 00 25 05.6 +2.0**
comp=Z,178nm,1.6s,comp=Z,7μm
ZAK Zakamensk 30.64 338 *e*P **P 00 25 03.8 -0.5**
ZAK pmax pmax
comp=Z,76nm,1.4s
GRJI Gresik 30.76 196 P **P 00 25 07.7 +2.2**
comp=Z,263nm,1.0s,comp=Z,3μm
TBJI Tambak Boyo 30.84 198 P **P 00 25 08.5 +2.3**
comp=Z,669nm,2.0s,comp=Z,12μm
PDSI Padang 30.88 223 P **P 00 25 07.8 +1.1**
comp=Z,127nm,1.2s,comp=Z,17μm
GSI Gunungsitoli 31.16 230 P **P 00 25 10.3 +1.2**
comp=Z,121nm,0.7s,comp=Z,5μm
GSI Gunungsitoli 31.16 230 *e*P **P 00 25 08.7 -0.4**
comp=Z,160nm,1.1s
ABJI Asem Bagus 31.21 193 P P 00 25 15.2 +5.7
comp=Z,396nm,1.4s,comp=Z,7μm
RAMN Ramite 31.21 284 *e*P **P 00 25 10.8 +0.9**
comp=Z,2μm,1.1s
BLJI Banyuglugur 31.29 194 P **P 00 25 11.5 +1.3**
comp=Z,279nm,1.4s,comp=Z,7μm
SNSI Sinabang, Aceh 31.29 233 P **P 00 25 11.2 +0.9**
comp=Z,343nm,1.2s,comp=Z,15μm
SRBI Singaraja 31.30 191 P **P 00 25 12.0 +1.6**
comp=Z,188nm,1.3s,comp=Z,5μm
KUR Kuril'sk 31.33 38*d i*P **P 00 25 08.6 -1.7**
KUR *i* PPP PPP 00 26 22.1
KUR *i* S **S 00 30 17.1 +1.4**
KUR MLR MLR
comp=E,69μm,22.0s
KUR MLR MLR
comp=Z,18μm,22.0s

KUR MLR MLR
comp=N,47μm,21.0s
MMRI Maumere 31.40 177⇑ eP P 00 25 10.3 -1.0
comp=N,614nm,1.0s
MMRI eP cP **PcP 00 28 04.6 0.0**
MMRI eS **S 00 30 17.8 +0.5**
SMRI Semarang 31.47 200 P **P 00 25 14.5 +2.6**
comp=N,572nm,2.2s,comp=N,13μm
SMRI Semarang 31.47 200⇑ eP P 00 25 12.5 +0.6
comp=N,3μm,2.0s
SMRI PcP **PcP 00 28 04.3 -0.5**
SMRI eS **S 00 30 20.9 +2.4**
LHSI Lahat 31.49 215 P **P 00 25 14.1 +2.0**
comp=N,303nm,1.3s,comp=N,6μm
JIRN Jiri 31.58 286 eP **P 00 25 14.2 +1.0**
comp=N,851nm,0.9s
TLY Talaya 31.61 339c i P **P 00 25 12.7 -0.1**
TLY e 00 26 24.0
TLY eS **S 00 30 21.4 +1.3**
TLY pmax pmax
comp=Z,210nm,1.4s
TLY MLR MLR
comp=Z,98μm,16.0s
TLY Talaya 31.61 339 P **P 00 25 12.9 +0.1**
comp=Z,17nm,0.7s,baz=230,slow=1.8,SNR=32
TLY LR LR 00 39 33.3
comp=Z,59μm,19.1s,baz=139,slow=39
TLY Talaya 31.61 339 eP **P 00 25 12.1 -0.7**
comp=Z,788nm,2.0s
GENI Genyem 31.63 141 P **P 00 25 13.0 -0.3**
comp=Z,288nm,1.1s,comp=Z,6μmcomp=Z,29μm
KLI Kotabumi 31.71 211 P **P 00 25 16.2 +2.2**
comp=Z,228nm,1.2s,comp=Z,6μm
MDSI Maura Dua 31.72 213 P **P 00 25 14.7 +0.6**
comp=Z,384nm,1.3s,comp=Z,6μm
GMJI Gumukmas 31.84 194 P **P 00 25 15.7 +0.7**
comp=Z,189nm,2.2s,comp=Z,5μm
GUN Gumba 31.86 286 eP **P 00 25 16.7 +1.0**
comp=Z,2μm,1.1s
JAGI Jajag, Banyuwa 31.88 193 P **P 00 25 16.6 +1.2**
comp=Z,132nm,2.0s,comp=Z,5μmcomp=Z,29μm
JAGI Jajag, Banyuwa 31.88 193⇑ eP P 00 25 14.6 -0.8
comp=Z,162nm,1.2s
JAGI eS **S 00 30 25.1 +0.3**
DNP Denpasar 31.89 191 P P 00 25 19.3 +3.8
comp=Z,701nm,1.8s
IRK Irkutsk 31.90 341 eP **P 00 25 15.3 0.0**
IRK pmax pmax
comp=Z,522nm,2.8s
BLSI Bandar Lampung 31.97 210 P P 00 25 20.4 +4.1
comp=Z,313nm,1.2s,comp=Z,7μmcomp=Z,19μm
BOK Bokaro 32.02 279 eP **P 00 25 17.7 +1.0**
BOK AMB AMB 00 25 28.1
comp=Z,451nm,0.8s
IGBI Denpasar 32.03 191 P P 00 25 21.0 +4.2
comp=Z,298nm,1.7s
WOJI Wonogiri, Jawa 32.07 199 P **P 00 25 18.1 +1.0**
comp=Z,1μm,1.4s,comp=Z,14μm
LWLI Liwa 32.24 213 P **P 00 25 21.5 +2.8**
comp=Z,692nm,0.8s,comp=Z,11μm
SBJI Serang 32.24 208 P **P 00 25 21.4 +2.8**
comp=Z,752nm,1.5s,comp=Z,22μm
KPJI Karang Pucung 32.24 202 P **P 00 25 20.5 +1.9**
comp=Z,708nm,1.7s,comp=Z,13μm
MNAI Manna 32.24 215 P P 00 25 30.5 +12
comp=Z,719nm,1.5s,comp=Z,10μm
UGM Wanagama 32.26 199 P **P 00 25 20.5 +1.7**
comp=Z,1μm,1.3s,comp=Z,18μmcomp=Z,38μm
UGM Wanagama 32.26 199 ⇑P **P 00 25 20.6 +1.7**
UGM Wanagama 32.26 199 eP **P 00 25 19.1 +0.3**
comp=Z,2μm,1.4s
LEM Lembang 32.26 205 P **P 00 25 21.5 +2.5**
comp=Z,636nm,1.2s,comp=Z,18μm
PKI Pulchoki 32.27 286 eP **P 00 25 19.5 +0.2**
comp=Z,920nm,1.2s
PKIN Phulchoki 32.28 286 eP **P 00 25 20.0 +0.7**
comp=Z,661nm,1.3s
KKN Kakani 32.39 286 eP **P 00 25 20.7 +0.5**
comp=Z,1μm,1.2s
SAUI Saumlaki 32.40 160 P **P 00 25 19.1 -0.9**
comp=Z,566nm,1.2s,comp=Z,10μmcomp=Z,25μm
SAUI Saumlaki 32.40 160 eP **P 00 25 18.5 -1.5**
WBSI Waikabubak, Su 32.40 183 P **P 00 25 19.9 -0.1**
comp=Z,132nm,1.3s,comp=Z,5μm
KASI Kota Agung 32.46 211 P **P 00 25 22.5 +1.9**
comp=Z,382nm,1.0s,comp=Z,7μm
MOY Mondy 32.51 337 eP **P 00 25 21.3 +0.5**
MOY e 00 35 52.8
MOY pmax pmax
comp=Z,686nm,2.9s
DMN Daman 32.54 286 eP **P 00 25 22.1 +0.6**
comp=Z,1μm,1.2s
SOEI Soe 32.66 174⇑ i P **P 00 25 20.2 -2.2**
comp=Z,692nm,1.1s
SOEI eS S 00 30 19.6 -18
CMJI Cimerak 32.83 203 P **P 00 25 25.8 +2.0**
comp=Z,134nm,1.1s,comp=Z,4μmcomp=Z,19μm
CISI Cisompet, Garu 32.85 204 P **P 00 25 24.8 +0.7**
comp=Z,350nm,1.5s,comp=Z,8μmcomp=Z,28μm
CISI Cisompet, Garu 32.85 204 eP **P 00 25 24.0 -0.1**
comp=Z,437nm,1.2s
CGJI Cibinong 32.87 208 P **P 00 25 23.8 -0.3**
comp=Z,184nm,1.1s,comp=Z,4μm
CNJI Cibinong 32.90 206 P **P 00 25 25.6 +1.3**
comp=Z,336nm,1.2s,comp=Z,6μm
BASI Baing, Sumba 32.95 180 P **P 00 25 24.9 +0.1**
comp=Z,596nm,1.0s,comp=Z,7μm
GKN Gorkha 32.96 286 eP **P 00 25 25.4 +0.3**
comp=Z,1μm,1.3s
BATI Baumata 33.05 175 P **P 00 25 23.8 -1.9**
comp=Z,256nm,1.0s,comp=Z,3μm
BATI Baumata 33.05 175 PcP **PcP 00 28 10.5 +1.4**
comp=Z,140nm,0.8s,baz=243,slow=2.2,SNR=3.7
BATI LR LR 00 40 54.5
comp=Z,24μm,19.6s,baz=338,slow=40
BATI Baumata 33.05 175 PcP **PcP 00 28 10.5 +1.4**
DANN Dangsing 33.74 287 eP **P 00 25 31.8 -0.2**
comp=Z,2μm,1.3s
KOLN Koldanda 33.88 286 eP **P 00 25 33.6 +0.5**
comp=Z,1μm,1.2s
CLNS Chul'man 34.00 4 eP **P 00 25 32.3 -1.3**
CLNS e*PP **pP 00 25 42.4 +0.7**
CLNS e PPP PPP 00 26 51.1
CLNS eS **S 00 30 52.7 -4.4**
CLNS e SSS SSS 00 33 28.0
CLNS smax smax
comp=N,1μm,11.4s
CLNS smax smax
comp=E,2μm,15.1s
CLNS MLR MLR
comp=E,12μm,15.0s
CLNS MLR MLR
comp=Z,49μm,11.0s
CLNS MLR MLR
comp=N,38μm,11.0s
WMQ Urumqi 34.28 315 P **P 00 25 37.8 +1.5**
WMQ pP **pP 00 25 45.0 +0.7**
WMQ PP **PP 00 26 53.3 -0.8**
WMQ PcP **PcP 00 28 14.1 +1.8**
WMQ S **S 00 31 02.2 +0.3**
WMQ sS **sS 00 31 12.8 -2.3**
WMQ ScS **ScS 00 35 57.0 -1.0**
WMQ PMZ
comp=N,370nm,1.4s
WMQ PMZ
comp=N,8μm,5.0s
WMQ LN
comp=N,58μm,14.0s
WMQ LE
comp=N,56μm,17.0s
WMQ LZ
comp=N,38μm,18.0s
HVS Khovu-Aksy 35.12 330 eP **P 00 25 44.3 +0.8**
BOD Bodaibo 35.20 354 eP **P 00 25 42.3 -1.6**
VIS Vishakhapatnam 35.45 269 i P **P 00 25 45.8 -0.8**
VIS AMB AMB 00 25 57.9
comp=Z,393nm,1.5s
VIS i S **S 00 31 21.3 +1.1**
XMIS Christmas Isla 36.37 206 eP **P 00 25 53.8 -0.6**
comp=Z,710nm,1.0s
LGTI Lohaghat 36.83 289 eP **P 00 26 00.8 +2.6**
PTH Pithoragarh 36.85 289 ex P 00 26 05.8 +7.1
NGP Nagpur 38.65 276 eP **P 00 26 13.1 -0.6**
NGP eS **S 00 32 10.8 +1.9**
DDI Dehra Dun 38.74 290 eP **P 00 26 14.6 +0.1**
SKR Severo-Kuril's 38.97 36 eP P 00 26 10.5 -5.5
SKR i 00 26 22.0
SKR e PPP PPP 00 27 56.0
SKR e 00 28 18.0
SKR eS S 00 32 06.0 -7.0
SKR e SSS SSS 00 35 02.0
SKR pmax pmax
comp=E,2μm,2.0s
SKR pmax pmax
comp=Z,3μm,2.0s
SKR pmax pmax
comp=Z,400nm,1.0s
SKR smax smax
comp=N,3μm,8.0s
SKR smax smax
comp=E,4μm,8.0s
SKR MLR MLR
comp=N,26μm,18.0s
SKR MLR MLR
comp=Z,50μm,18.0s
SKR MLR MLR
comp=E,15μm,20.0s
MK31 Makanchi Array 39.00 317 P **P 00 26 17.1 +0.7**
MK31 pmax pmax
comp=Z,1μm,1.3s
MKAR Makanchi Array 39.00 317 P **P 00 26 17.0 +0.5**
MKAR 00 28 26.2
MKAR S **S 00 32 10.4 -3.4**
MKAR Makanchi Array 39.00 317 P **P 00 26 17.0 +0.5**
comp=Z,65nm,0.8s,baz=113,slow=9.5,SNR=207
MKAR PcP **PcP 00 28 26.2 -0.2**
comp=Z,32nm,1.0s,baz=118,slow=5.5,SNR=3.4
MKAR S **S 00 32 10.4 -3.4**
comp=Z,3.3nm,1.0s,baz=338,slow=1.6,SNR=2.1
MKAR LR LR 00 43 36.8
comp=Z,60μm,18.7s,baz=106,slow=38
MKAR Makanchi Array 39.00 317 P **P 00 26 17.0 +0.5**
MKAR PcP **PcP 00 28 26.2 -0.2**
MKAR S **S 00 32 10.3 -3.4**
NDI New Delhi 39.49 288 eP **P 00 26 22.0 +1.3**
NDI ex x 00 32 05.0
SMLA Simla 39.51 292⇓ i P **P 00 26 22.4 +1.5**
SMLA AMB AMB 00 26 31.7
comp=Z,2μm,0.8s
SMLA i x x 00 32 11.0
YAK Yakutsk 39.55 7⇑ i P **P 00 26 19.3 -1.4**
YAK e*PP **pP 00 26 32.3 +3.5**
YAK e 00 28 02.0
YAK e PPP PPP 00 28 16.9
YAK e 00 28 28.3
YAK eS S 00 32 15.0 -6.4
YAK e*SS **sS 00 32 34.9 +0.1**
YAK e 00 36 27.0
YAK pmax pmax
comp=Z,84nm,1.4s
YAK pmax pmax
comp=N,84nm,1.7s
YAK pmax pmax
comp=Z,1μm,3.3s
YAK pmax pmax
comp=E,472nm,3.2s
YAK pmax pmax
comp=N,991nm,2.8s
YAK smax smax
comp=N,328nm,2.1s
YAK smax smax
comp=E,332nm,3.0s
YAK MLR MLR
comp=Z,122μm,18.0s
YAK MLR MLR
comp=E,15μm,13.0s
YAK MLR MLR
comp=N,87μm,15.0s
YAK Yakutsk 39.55 7 eP **P 00 26 20.6 -0.1**
comp=N,206nm,1.1s
YAK LR LR
comp=Z,92μm,19.0s
MDRS Chennai 39.68 263 eP **P 00 26 23.1 +0.7**
MDRS ⇓ex x 00 26 28.2
MDRS ex x 00 28 04.2
SDNR Sundarnagar 39.69 292 eP **P 00 26 24.0 +1.6**
BHPL Bhopal 39.79 279 eP **P 00 26 22.6 -0.7**
BHPL AMB AMB 00 26 33.6
comp=Z,226nm,1.1s
HYB Hyderabad 39.93 270⇑ i P **P 00 26 24.0 -0.6**
comp=Z,214nm,1.2s
HYB e PP **PnPn 00 28 00.0 0.0**
HYB eS **S 00 32 28.0 -0.3**
HYB LR LR 00 42 08.0
comp=Z,14nm,20.0s
HYB Hyderabad 39.93 270 eP **P 00 26 24.2 -0.3**
BHK Bhakra 40.16 292 ex P 00 26 31.5 +5.2
BHK ex x 00 26 53.0
DHRM DHARAMSHALA 40.28 293 eP **P 00 26 28.4 +0.8**
DHRM AMB AMB 00 26 38.1
comp=Z,1μm,0.9s
PETK Petropavlovsk- 41.10 33 P **P 00 26 33.5 -0.2**
PETK 00 28 32.8
PETK Petropavlovsk- 41.10 33 P **P 00 26 33.5 -0.2**
comp=Z,31nm,0.8s,baz=206,slow=5.5,SNR=28
PETK PcP **PcP 00 28 32.8 -0.1**
comp=Z,9.1nm,0.7s,baz=213,slow=2.4,SNR=3.2
PETK LR LR 00 44 31.9
comp=Z,34μm,19.4s,baz=229,slow=38
PETK Petropavlovsk- 41.10 33 P **P 00 26 33.5 -0.2**
PETK PcP **PcP 00 28 32.8 -0.1**
ZALV Zalesovo Beam 41.11 328 i P **P 00 26 33.5 -0.2**
ZALV pmax pmax
comp=Z,120nm,0.9s
ZALV Zalesovo Beam 41.11 328 P **P 00 26 33.5 -0.2**
comp=Z,120nm,0.9s,baz=117,slow=7.8,SNR=108
ZALV S S 00 32 29.0 -16
comp=Z,5.6nm,0.9s,baz=158,slow=4.2,SNR=3.3
ZALV LR LR 00 44 33.1
comp=Z,28μm,19.5s,baz=132,slow=37
ZALV Zalesovo Beam 41.11 328 P **P 00 26 33.5 -0.2**
ZALV S S 00 32 29.0 -16
PMG Port Moresby 41.22 138c i P **P 00 26 34.4 -0.7**
PMG pmax pmax
comp=Z,426nm,1.7s
PMG Port Moresby 41.22 138 P **P 00 26 35.4 +0.3**
comp=Z,103nm,0.8s,baz=359,slow=7.7,SNR=3.4
PMG LR LR 00 41 37.0
comp=Z,11μm,21.5s,baz=276,slow=33
PMG Port Moresby 41.22 138 eP **P 00 26 34.3 -0.7**
comp=Z,504nm,1.5s
KSH Kashi 41.30 304 P P 00 26 39.1 +3.4
KSH sP sP 00 26 46.6 -0.5
KSH PP **PnPn 00 28 14.1 -1.8**
KSH PcS **PcS 00 32 25.6 +0.3**
KSH S **S 00 32 52.6 +4.2**
KSH sS sS 00 33 04.6 +2.8
KSH SS **SS 00 35 54.8 +2.5**
KSH PMZ
comp=Z,980nm,4.8s
KSH LN
comp=Z,21μm,11.6s
KSH LE
comp=Z,16μm,12.6s
KSH LZ
comp=Z,45μm,26.4s
AAA Alma-Ata 41.40 310 i P **P 00 26 38.6 +2.2**
AAA i S **S 00 32 54.4 +4.8**
AAA pmax pmax
comp=Z,9μm,8.6s
AAA smax smax
comp=E,6μm,9.1s
AAA MLR MLR
comp=Z,52μm,18.0s
LATR Latur 41.52 272 ex **P 00 26 38.0 +0.4**
PET Petropavlovsk 41.54 34 eP **P 00 26 35.6 -1.7**
PET e*SP **sP 00 26 49.6 +0.9**
PET pmax pmax
comp=Z,2μm,8.4s
PET pmax pmax
comp=Z,3μm,19.7s
PET pmax pmax
comp=Z,334nm,1.0s
PET MLR MLR
comp=Z,32μm,16.0s
PET MLR MLR
comp=Z,31μm,16.0s
PET Petropavlovsk 41.54 34 eP **P 00 26 36.8 -0.6**
PET LR LR
comp=Z,50μm,22.0s
PALK Pallekele 41.55 254 eP **P 00 26 40.0 +2.0**
PALK pmax pmax
comp=Z,122nm,1.3s
PALK Pallekele 41.55 254 S S 00 32 35.2 -17
comp=Z,10nm,1.0s,baz=70,slow=18,SNR=1.8
PALK Pallekele 41.55 254⇑ i P **P 00 26 39.9 +1.9**
SNR=17
PALK Pallekele 41.55 254 eP **P 00 26 40.0 +2.0**
comp=Z,122nm,1.3s
PALK S S 00 32 35.2 -17
ULHL Ulahol 41.65 308 P **P 00 26 40.6 +2.0**
SNR=22
ULHL Ulahol 41.65 308 i P **P 00 26 40.6 +2.0**
AJM Ajmer 41.91 285 i x **P 00 26 41.0 +0.2**
COCO West Island 42.06 216 eP **P 00 26 41.9 0.0**
COCO pmax pmax
comp=Z,933nm,1.7s
COCO MLR MLR
comp=Z,12μm,21.0s
COCO West Island 42.06 216 eP **P 00 26 41.9 0.0**
comp=Z,933nm,1.7s
COCO LR LR
comp=Z,12μm,21.0s
TKM2 Tokmak 2 42.27 309 P **P 00 26 45.0 +1.2**
SNR=88
TKM2 Tokmak 2 42.27 309 i P **P 00 26 44.9 +1.2**
TKM2 Tokmak 2 42.27 309 eP **P 00 26 44.5 +0.8**
comp=Z,710nm,1.2s
TKM2 LR LR
comp=Z,51μm,19.0s
KZA Kyzart 42.33 308 P **P 00 26 46.9 +2.4**
SNR=48
KZA Kyzart 42.33 308 i P **P 00 26 46.8 +2.4**
NVS Novosibirsk 42.38 328⇑ i P **P 00 26 43.0 -1.1**
NVS e 00 28 32.8
NVS eS **S 00 33 04.8 +1.1**
NVS pmax pmax
comp=E,1μm,2.3s
NVS pmax pmax
comp=Z,1μm,2.3s
NVS pmax pmax
comp=N,438nm,1.8s
NVS smax smax
comp=N,117nm,2.7s
NVS smax smax
comp=E,270nm,2.7s
KBK Karagaybulak 42.67 309 P **P 00 26 49.2 +2.2**
SNR=48
KBK Karagaybulak 42.67 309 i P **P 00 26 49.2 +2.2**
COEN Coen 42.71 147 eP **P 00 26 46.4 -0.8**
comp=E,4μm,1.0s
WAKE Wake Island 42.80 86 PFAKE 00 27 00.0 +12
WAKE LR LR
comp=Z,13μm,19.0s
KURK Kurchatov 42.83 321 eP **P 00 26 48.1 +0.2**
KURK pmax pmax
comp=Z,682nm,1.6s
KURK MLR MLR
comp=Z,11μm,19.0s
KURK Kurchatov 42.83 321 eP **P 00 26 48.1 +0.2**
comp=Z,682nm,1.6s
KURK LR LR
comp=Z,11μm,19.0s
CHMS Chumysh 42.89 309 P **P 00 26 50.2 +1.7**
SNR=22
CHMS Chumysh 42.89 309 i P **P 00 26 50.2 +1.7**
UCH Uchtor 42.90 308 P **P 00 26 51.2 +2.0**
SNR=52
UCH Uchtor 42.90 308 i P **P 00 26 51.1 +2.0**
H11N1 WAKE ISLAND Hy 42.92 85 T T 01 12 16.7
baz=283,slow=74,SNR=294
H11N2 WAKE ISLAND Hy 42.93 85 T T 01 12 15.1
baz=283,slow=74,SNR=472
H11N3 WAKE ISLAND Hy 42.94 85 T T 01 12 15.3
baz=283,slow=74,SNR=516
FRU Bishkek 42.95 309 i P **P 00 26 50.5 +1.5**
FRU i S **S 00 33 16.5 +3.9**
FRU i S **ScS 00 36 43.0 -5.1**
FRU pmax pmax
comp=Z,500nm,1.7s
FRU smax smax
comp=E,4μm,6.0s
FRU MLR MLR
comp=Z,63μm,17.3s
FRU MLR MLR
comp=E,55μm,16.8s
AAK Ala-Archa 42.99 309 P **P 00 26 50.5 +1.0**
SNR=21
AAK Ala-Archa 42.99 309 P **P 00 26 50.2 +0.6**
AAK pmax pmax
comp=Z,189nm,1.1s
AAK Ala-Archa 42.99 309 eP **P 00 26 50.6 +1.0**
comp=Z,353nm,1.4s
AAK LR LR
comp=Z,58μm,19.0s
H11S3 WAKE ISLAND Hy 43.02 87 T T 01 12 35.4
baz=284,slow=75,SNR=1117
H11S1 WAKE ISLAND Hy 43.03 87 T T 01 12 15.5
baz=284,slow=75,SNR=293
H11S2 WAKE ISLAND Hy 43.04 87 T T 01 12 16.6
baz=284,slow=75,SNR=266
USP Ospenovka 43.13 309 P **P 00 26 52.0 +1.5**
SNR=24
AML Almayashu 43.48 308 P **P 00 26 55.6 +1.9**
SNR=86
AML Almayashu 43.48 308 i P **P 00 26 55.6 +1.9**
EKS2 Erkin-Say 43.52 308 P **P 00 26 55.4 +1.7**
SNR=40
EKS2 Erkin-Say 43.52 308 i P **P 00 26 55.4 +1.7**
EKS2 Erkin-Say 43.52 308 eP **P 00 26 55.6 +1.8**
comp=Z,163nm,1.0s
EKS2 LR LR
comp=Z,58μm,20.0s
MBWA Marble Bar 43.84 181 eP **P 00 26 54.3 -2.0**
comp=Z,191nm,1.2s
MBWA LR LR
comp=Z,7μm,20.0s
POO Poona 43.99 273 eP **P 00 26 56.4 -1.3**
POO ⇑ i P **P 00 26 58.0 +0.3**
comp=Z,540nm,1.0s
TRD Trivandrum 44.38 258 eP **P 00 26 60.0 -0.9**
WRAB Tennant Creek 44.61 162 eP **P 00 27 00.7 -1.8**
WRAB pmax pmax
comp=Z,969nm,1.7s
WRAB MLR MLR
comp=Z,11μm,21.0s
WRAB Tennant Creek 44.61 162 eP **P 00 27 00.7 -1.8**
comp=Z,969nm,1.7s
WRAB LR LR
comp=Z,11μm,21.0s
WRA Warramunga Arr 44.61 162 P **P 00 27 01.0 -1.5**
WRA S **S 00 33 34.4 -2.7**
WRA Warramunga Arr 44.61 162 P **P 00 27 00.9 -1.5**
comp=Z,141nm,0.7s,baz=344,slow=8.6,SNR=523
WRA S **S 00 33 34.4 -2.7**
comp=Z,7.3nm,1.1s,baz=342,slow=13,SNR=4.0
WRA LR LR 00 48 08.2
comp=Z,9μm,19.9s,baz=340,slow=39
WRA PKPPKP P'P'df 00 58 29.5 -8.8
comp=Z,4.1nm,1.1s,baz=112,slow=2.7,SNR=7.0
WRA Warramunga Arr 44.61 162 P **P 00 27 00.9 -1.5**
WRA S **S 00 33 34.4 -2.7**
WRA P'P' 00 58 29.5
MNGI Mangalore 44.70 265 ex P 00 26 57.0 -6.4
MNGI ex **S 00 33 34.0 -4.6**
GOA Goa 44.82 269 eP **P 00 27 04.7 +0.4**
SEY Seymchan 45.27 20 P **P 00 27 06.7 -0.5**
SEY 00 28 46.3
SEY Seymchan 45.27 20 P **P 00 27 06.7 -0.5**
comp=Z,17nm,0.8s,baz=231,slow=6.0,SNR=36
SEY PcP **PcP 00 28 46.3 -0.4**
comp=Z,27nm,0.8s,baz=207,slow=4.7,SNR=6.8
SEY LR LR 00 46 28.4
comp=Z,22μm,20.5s,baz=216,slow=37
SEY Seymchan 45.27 20 P **P 00 27 06.7 -0.5**
SEY PcP **PcP 00 28 46.3 -0.4**
KK31 Karatay Array 45.96 308 P **P 00 27 13.1 0.0**
KK31 pmax pmax
comp=Z,346nm,1.1s
KKAR Karatay Array 45.96 308 eP **P 00 27 13.9 +0.8**
KKAR e 00 28 49.8
KKAR pmax pmax
comp=Z,263nm,1.0s
KKAR Karatay Array 45.96 308 eP **P 00 27 13.8 +0.8**
comp=Z,263nm,1.0s
KKAR e PcP **PcP 00 28 49.8 +0.2**
BHJ Bhuj 46.84 281 eP **P 00 27 20.1 -0.2**

BHJ				AMB	AMB	00 27 32.6
	comp=Z,402nm,1.4s					
ASAR	**Alice Springs**	**48.04 164**		P	**P**	**00 27 28.7 -0.7**
ASAR						00 28 57.3
ASAR				S	**S**	**00 34 25.5 -0.7**
ASAR	**Alice Springs**	**48.04 164**		P	**P**	**00 27 28.6 -0.7**
	comp=Z,87nm,0.8s,baz=341,slow=6.7,SNR=323					
ASAR				PcP	**PcP**	**00 28 57.2 +0.1**
	comp=Z,36nm,0.8s,baz=338,slow=2.9,SNR=3.7					
ASAR				ScP	**ScP**	**00 32 48.4 -1.4**
	comp=Z,12nm,1.1s,baz=334,slow=5.6,SNR=5.9					
ASAR				S	**S**	**00 34 25.4 -0.7**
	comp=Z,2.6nm,0.9s,baz=359,slow=17,SNR=4.5					
ASAR				LR	LR	00 48 27.8
	comp=Z,9μm,20.9s,baz=348,slow=37					
ASAR	**Alice Springs**	**48.04 164**		P	**P**	**00 27 28.6 -0.7**
ASAR				PcP	**PcP**	**00 28 57.2 +0.1**
ASAR				ScP	**ScP**	**00 32 48.4 -1.4**
ASAR				S	**S**	**00 34 25.4 -0.7**
BVA0	**Borovoye Array**	**48.42 322**		P	**P**	**00 27 32.5 +0.4**
BVA0				pmax	pmax	
	comp=Z,550nm,1.3s					
BVAR	**Borovoye Array**	**48.42 322**		P	**P**	**00 27 32.6 +0.5**
BVAR	**Borovoye Array**	**48.42 322**		P	**P**	**00 27 32.6 +0.5**
	comp=Z,39nm,0.7s,baz=110,slow=8.5,SNR=59					
BVAR				LR	LR	00 49 35.9
	comp=Z,12μm,18.8s,baz=112,slow=38					
BVAR	**Borovoye Array**	**48.42 322**		P	**P**	**00 27 32.6 +0.5**
BRVK	**Borovoye**	**48.49 322**	*ce*	P	**P**	**00 27 33.3 +0.7**
BRVK				pmax	pmax	
	comp=Z,176nm,1.2s					
BRVK	**Borovoye**	**48.49 322**		*e*P	**P**	**00 27 33.4 +0.8**
BRVK				LR	LR	
	comp=Z,25μm,20.0s					
TIXI	**Tiksi**	**48.96 3**	*c*	*i*P	**P**	**00 27 34.5 -1.4**
TIXI				pmax	pmax	
	comp=Z,333nm,1.2s					
TIXI				MLR	MLR	
	comp=Z,64μm,16.0s					
TIXI	**Tiksi**	**48.96 3**		*e*P	**P**	**00 27 34.2 -1.7**
	comp=Z,286nm,1.1s					
TIXI				*e*PP	**PP**	**00 29 28.7 -0.6**
TIXI				*e*S	**S**	**00 34 34.5 -3.6**
TIXI				LR	LR	
	comp=Z,50μm,22.0s					
CTA	**Charters Tower**	**49.45 148**		P	**P**	**00 27 40.2 -0.1**
CTA	**Charters Tower**	**49.45 148**		P	**P**	**00 27 40.2 -0.1**
	comp=Z,108nm,0.9s,baz=329,slow=11					
CTA				LR	LR	00 47 33.8
	comp=Z,26μm,21.7s,baz=334,slow=35					
CTA	**Charters Tower**	**49.45 148**		P	**P**	**00 27 40.2 -0.1**
CTAO	**Charters Tower**	**49.45 148**	⇑	*e*P	**P**	**00 27 39.9 -0.4**
CTAO				*e*S	**S**	**00 34 49.2 +3.1**
CTAO				pmax	pmax	
	comp=Z,385nm,1.3s					
CTAO				MLR	MLR	
	comp=Z,36μm,22.0s					
CTAO	**Charters Tower**	**49.45 148**	⇑	*e*P	**P**	**00 27 39.9 -0.4**
	comp=Z,385nm,1.3s					
CTAO				*e*S	**S**	**00 34 49.2 +3.1**
CTAO				LR	LR	
	comp=Z,36μm,22.0s					
FX1	**Attu Island--F**	**49.51 39**		P	**P**	**00 27 40.6 +0.2**
FX1	**Attu Island--F**	**49.51 39**		P	**P**	**00 27 40.5 +0.2**
	comp=Z,9.9nm,0.3s,baz=291,slow=2.9,SNR=28					
FX1				LR	LR	00 50 05.2
	comp=Z,12μm,19.7s,baz=267,slow=38					
FX1	**Attu Island--F**	**49.51 39**		P	**P**	**00 27 40.5 +0.2**
HNR	**Honiara**	**50.03 126**		LR	LR	00 48 00.1
	comp=Z,11μm,19.4s,baz=296,slow=35					
BILL	**Bilibino**	**52.98 20**	*c*	*i*P	**P**	**00 28 04.9 -1.3**
BILL				*i*		00 28 23.7
BILL				*i*		00 30 05.4
BILL				*i* S	**S**	**00 35 31.1 -2.7**
BILL				*i* SS	SS	00 39 04.8 -7.9
BILL				pmax	pmax	
	comp=Z,36nm,1.0s					
BILL				MLR	MLR	
	comp=Z,47μm,17.0s					
BILL	**Bilibino**	**52.98 20**		*e*P	**P**	**00 28 05.1 -1.1**
	comp=Z,96nm,1.0s					
BILL				LR	LR	
	comp=Z,15μm,20.0s					
FORT	**Forrest**	**53.85 172**	⇑	*e*P	**P**	**00 28 12.2 -0.7**
	comp=Z,1μm,1.2s					
FORT				*e*S	**S**	**00 35 45.7 -0.7**
AB31	**Akbulak array**	**54.07 315**		*i* P	**P**	**00 28 15.2 +0.7**
AB31				pmax	pmax	
	comp=Z,910nm,1.2s					
ABKAR	**Akbulak array**	**54.07 315**		*e*P	**P**	**00 28 14.9 +0.5**
	comp=Z,646nm,1.1s					
ABKAR				*e*S	**S**	**00 35 49.7 +0.6**
IDAH	**Dahanechah**	**54.13 295**		*e*P	**P**	**00 28 17.2 +1.7**
SVE	**Sverdlovsk**	**54.85 324**	*d*	*i*P	**P**	**00 28 20.8 +0.8**
SVE				*e*		00 29 24.8
SVE				*e*		00 30 24.2
SVE				*e*PPP	PPP	00 31 40.7
SVE				*e*S	**S**	**00 36 01.6 +2.2**
SVE				*e*		00 38 03.7
SVE				*e*SS	**SS**	**00 39 47.2 +4.7**
SVE				pmax	pmax	
	comp=Z,2μm,1.4s					
SVE				pmax	pmax	
	comp=Z,4μm,9.6s					
SVE				smax	smax	
	comp=E,4μm,12.1s					
SVE				smax	smax	
	comp=N,4μm,11.0s					
SVE				MLR	MLR	
	comp=E,36μm,16.0s					
SVE				MLR	MLR	
	comp=Z,47μm,16.0s					
IKOO	**Kooshah**	**54.88 294**		*e*P	**P**	**00 28 22.2 +1.2**
TARA	**Tarawa**	**54.90 105**		PFAKE		00 28 30.0 +9.0
TARA				LR	LR	
	comp=Z,10μm,20.0s					
ABKT	**Ailbek**	**55.13 301**		P	**P**	**00 28 24.5 +2.0**
	comp=Z,3μm,0.9s,SNR=72					
GEYT	**Alibeck**	**55.13 301**		P	**P**	**00 28 23.9 +1.4**
	comp=Z,74nm,0.9s,baz=62,slow=3.5,SNR=90					
GEYT				LR	LR	00 56 35.8
	comp=Z,33μm,18.9s,baz=80,slow=41					
GEYT				PKPPKP	P'P'df	00 58 22.9 -11
	comp=Z,0.9nm,0.8s,baz=251,slow=4.5,SNR=3.9					
ISFR	**Sfrayin**	**55.28 300**		*e*P	**P**	**00 28 25.6 +1.8**
ADK	**Adak**	**55.41 42**		PFAKE		00 28 40.0 +16
ADK				LR	LR	
	comp=Z,23μm,21.0s					
AKTO	**Aktyubinsk**	**55.43 316**		P	**P**	**00 28 25.0 +0.7**
AKTO				pmax	pmax	
	comp=Z,907nm,1.3s					
ISHV	**Shirvan**	**55.48 301**		*e*P	**P**	**00 28 27.5 +2.3**
MIDW	**Midway**	**55.51 71**		PFAKE		00 28 40.0 +15
MIDW				LR	LR	
	comp=Z,7μm,21.0s					
NWAO	**Narrogin (SRO)**	**55.65 184**		LR	LR	00 53 46.1
	comp=Z,3μm,21.6s,baz=1.0,slow=38					
ARU	**Arti**	**55.90 324**		P	**P**	**00 28 27.7 +0.2**
	comp=Z,7μm,1.4s,SNR=61					
ARU	**Arti**	**55.90 324**	*c*	*i*P	**P**	**00 28 27.6 0.0**
ARU						00 30 32.0
ARU				PPP	PPP	00 31 53.3
ARU				S	**S**	**00 36 14.6 +1.2**
ARU						00 38 10.9
ARU				SS	**SS**	**00 40 02.6 +3.5**
ARU				SSS	SSS	00 42 04.7
ARU				pmax	pmax	
	comp=Z,244nm,1.7s					
ARU				MLR	MLR	
	comp=Z,16μm,14.0s					
ARU	**Arti**	**55.90 324**		*e*P	**P**	**00 28 27.7 +0.2**
	comp=Z,2μm,1.3s					
ARU				*e*S	**S**	**00 36 10.1 -3.3**
ARU				LR	LR	
	comp=Z,20μm,19.0s					
DGAR	**Diego Garcia**	**56.08 243**		PFAKE		00 28 40.0 +11
DGAR				LR	LR	
	comp=Z,21μm,19.0s					
EIDS	**Eidsvold**	**56.28 147**		*e*P	**P**	**00 28 29.3 -1.3**
	comp=Z,460nm,1.8s					
WBK	**Wadi Bani Khal**	**56.62 283**		P	**P**	**00 28 35.2 +1.9**
	SNR=31					
BBOO	**Buckleboo**	**57.31 165**	⇑	*i*P	**P**	**00 28 37.4 -0.4**
	comp=Z,5μm,0.8s					
BBOO				*e*S	**S**	**00 36 28.7 -3.8**
SMDO	**Samad**	**57.34 283**		P	**P**	**00 28 40.6 +2.1**
	SNR=45					
SOKR	**Solikamsk**	**57.38 327**	*c*	*i*P	**P**	**00 28 38.1 +0.1**
SOKR						00 30 44.2
SOKR				S	**S**	**00 36 33.7 +0.9**
SOKR				SS	SS	00 40 30.3 +8.1
SOKR				pmax	pmax	
	comp=Z,200nm,2.2s					
SOKR				MLR	MLR	
	comp=Z,69μm,16.0s					
JMDO	**Jabal Madar**	**57.45 283**		P	**P**	**00 28 41.8 +2.6**
	SNR=16					
IBND	**Bandar-abas**	**57.76 289**		*e*P	**P**	**00 28 43.9 +2.6**
IBND				*e*P	pP	00 28 44.0 -5.6
HOQ	**Hoqain**	**57.88 284**		P	**P**	**00 28 44.3 +2.0**
	SNR=36					
IBAF	**Bafgh**	**57.89 294**		*e*P	**P**	**00 28 42.7 +0.3**
STKA	**Stephens Creek**	**58.02 159**		P	**P**	**00 28 42.3 -0.5**
STKA	**Stephens Creek**	**58.02 159**		P	**P**	**00 28 42.2 -0.5**
	comp=Z,79nm,0.6s,baz=332,slow=6.9,SNR=155					
STKA				LR	LR	00 54 21.7
	comp=Z,7μm,21.8s,baz=334,slow=37					
STKA	**Stephens Creek**	**58.02 159**		P	**P**	**00 28 42.2 -0.5**
BANOM	**Banah**	**58.27 287**		P	P	00 28 55.2 +10
	SNR=8.2					
ARQ	**Araqi**	**58.64 284**		P	**P**	**00 28 49.7 +2.2**
	SNR=32					
HATD	**Hatta, Dubai**	**58.66 286**	⇑	*i*P	**P**	**00 28 49.3 +1.7**
	SNR=7.8					
IANJ	**Anjilo**	**58.72 299**		*e*P	**P**	**00 28 49.2 +1.0**
IMEH	**Mehriz**	**58.73 294**		*e*P	**P**	**00 28 48.5 +0.2**
ASHO	**Ashiyiah**	**58.75 286**		P	**P**	**00 28 50.3 +1.9**
	SNR=36					
ICHK	**Chekchek**	**58.77 295**		*e*P	**P**	**00 28 48.5 0.0**
NAZ	**Nazwa, Dubai**	**59.04 286**	⇓	*i*P	**P**	**00 28 51.0 +0.8**
	SNR=15					
ASUD	**Al Ashush, Dub**	**59.41 286**	⇓	*i*P	**P**	**00 28 53.6 +0.8**
	SNR=5.6					
ISAD	**Sadrabad**	**59.42 294**		*e*P	P	00 28 58.2 +5.1
ILAS	**Lasjerd**	**59.51 299**		*e*P	**P**	**00 28 54.7 +1.1**
IFIR	**Firoozkooh**	**59.64 299**		*e*P	**P**	**00 28 56.0 +1.5**
GAMB	**Gambell**	**59.75 28**		*e*P	**P**	**00 28 53.8 -0.7**
	comp=Z,254nm,1.4s					
IDMV	**Damavand**	**60.23 299**		*e*P	**P**	**00 28 59.5 +0.8**
IVRN	**Varamin**	**60.56 298**		*e*P	**P**	**00 29 01.4 +0.8**
ARMA	**Armidale**	**60.75 150**		*e*P	**P**	**00 29 01.8 -0.1**
	comp=Z,188nm,1.1s					
IMHD	**Mahdasht**	**61.31 299**		*e*P	**P**	**00 29 07.0 +1.1**
IGZV	**Ghazvin**	**61.57 300**		*e*P	**P**	**00 29 08.9 +1.2**
TNA	**Tin City**	**61.62 27**		*e*P	**P**	**00 29 07.0 -0.1**
	comp=Z,396nm,1.7s					
TNA				*e*S	**S**	**00 37 30.1 +2.8**
IRAZ	**Razeghan**	**61.95 299**		*e*P	**P**	**00 29 11.2 +1.0**
RBK	**Rabkut**	**62.27 278**		P	**P**	**00 29 13.2 +0.7**
	SNR=30					
MAK	**Makhachkala**	**62.77 308**		*e*P	**P**	**00 29 15.6 +0.3**
MAK				*e*		00 31 39.8
MAK				*e*PPP	PPP	00 33 13.2
MAK				*e*S	**S**	**00 37 44.9 +2.3**
MAK				*e*		00 39 03.3
MAK				*e*SS	**SS**	**00 41 51.7 +4.3**
MAK				pmax	pmax	
	comp=Z,717nm,1.4s					
MAK				pmax	pmax	
	comp=Z,4μm,2.7s					
MAK				pmax	pmax	
	comp=E,833nm,1.4s					
MAK				pmax	pmax	
	comp=N,1μm,1.5s					
MAK				smax	smax	
	comp=N,4μm,5.4s					
MAK				smax	smax	
	comp=E,6μm,6.1s					
MAK				MLR	MLR	
	comp=E,23μm,16.0s					
MAK				MLR	MLR	
	comp=N,28μm,18.0s					
MAK				MLR	MLR	
	comp=Z,18μm,14.0s					
DZM	**Mont Dzumac**	**63.05 132**		P	**P**	**00 29 17.5 -0.1**
	comp=Z,154nm,1.1s,baz=4.7,slow=7.6					
DZM				LR	LR	00 53 24.5
	comp=Z,17μm,21.1s,baz=307,slow=33					
DZM	**Mont Dzumac**	**63.05 132**		P	**P**	**00 29 17.5 -0.1**
PRGR	**Permogore**	**63.06 329**	⇑	*i*P	**P**	**00 29 16.5 -0.4**
PRGR				*e**SP	**sP**	**00 29 30.8 +2.2**
PRGR				*e*		00 29 53.9
PRGR				*i* S	**S**	**00 37 46.8 +1.1**
PRGR				*e**SS	**sS**	**00 38 04.6 +5.0**
PRGR				pmax	pmax	
	comp=Z,525nm,1.3s					
ABTO	**Aybut**	**63.15 278**		P	**P**	**00 29 18.8 +0.5**
	SNR=30					
CAN	**Canberra**	**63.80 154**		*e*P	**P**	**00 29 22.2 0.0**
CAN				pmax	pmax	
	comp=Z,267nm,1.4s					
CAN				MLR	MLR	
	comp=Z,11μm,19.0s					
CAN	**Canberra**	**63.80 154**		*e*P	**P**	**00 29 22.1 0.0**
	comp=Z,267nm,1.4s					
CAN				LR	LR	
	comp=Z,11μm,19.0s					
DGRG	**David-gareji**	**64.54 306**		P	**P**	**00 29 28.9 +1.8**
SEAG	**Tbilisi Sea**	**64.92 307**		P	P	00 29 36.0 +6.5
DUS	**Dusheti**	**64.94 307**		P	P	00 29 33.4 +3.7
TBLG	**Delisi**	**64.97 307**		*e*P	P	00 29 33.6 +3.7
TBLG	**Delisi**	**64.97 307**		P	**P**	**00 29 30.7 +0.9**
GUDG	**Gudauri**	**65.05 308**		P	**P**	**00 29 32.1 +1.5**
GNI	**Garni**	**65.22 305**		PFAKE		00 29 40.0 +8.2
GNI				LR	LR	
	comp=Z,14μm,21.0s					
ZEI	**Tsey**	**65.42 308**		*e*P	**P**	**00 29 33.4 +0.4**
ZEI				*e*S	**S**	**00 38 17.9 +1.9**
ZEI				pmax	pmax	
	comp=Z,729nm,1.3s					
ZEI				pmax	pmax	
	comp=Z,3μm,7.9s					
ZEI				pmax	pmax	
	comp=N,807nm,1.7s					
ZEI				pmax	pmax	
	comp=E,763nm,1.5s					
ZEI				MLR	MLR	
	comp=Z,22μm,18.0s					
ZEI				MLR	MLR	
	comp=E,10μm,15.0s					
ZEI				MLR	MLR	
	comp=N,4μm,12.0s					
NCK	**Nalchik**	**65.53 309**		*e*P	**P**	**00 29 33.4 0.0**
GOF	**Gofitskoye**	**65.68 311**	⇑	*i*P	**P**	**00 29 35.0 +0.6**
GOF				*e*S	**S**	**00 38 24.4 +5.7**
GOF				pmax	pmax	
	comp=Z,710nm,1.3s					
ONI	**Oni**	**65.77 308**		P	**P**	**00 29 37.1 +2.0**
VRHR	**Novokhopersk**	**65.81 317**		*e*P	**P**	**00 29 34.2 -0.8**
VRHR				*e**PP	**pP**	**00 29 42.9 -0.6**
VRHR				*e**SP	**sP**	**00 29 46.4 -0.3**
VRHR				*e*		00 31 59.5
VRHR				*e*PPP	PPP	00 33 33.3
VRHR				*e*S	**S**	**00 38 19.1 -0.8**
VRHR				*e**SS	**sS**	**00 38 33.5 -0.5**
VRHR				*e*		00 39 28.3
VRHR				*e*SS	**SS**	**00 42 37.4 +3.0**
VRHR				pmax	pmax	
	comp=N,400nm,1.1s					
VRHR				pmax	pmax	
	comp=E,770nm,1.1s					
VRHR				pmax	pmax	
	comp=Z,920nm,1.1s					
VRHR				pmax	pmax	
	comp=N,1μm,2.0s					
VRHR				pmax	pmax	
	comp=Z,3μm,2.0s					
VRHR				pmax	pmax	
	comp=E,2μm,1.8s					
VRHR				pmax	pmax	
	comp=E,560nm,2.3s					
VRHR				pmax	pmax	
	comp=Z,310nm,2.3s					
VRHR				pmax	pmax	
	comp=N,80nm,1.1s					
VRHR				smax	smax	
	comp=N,2μm,4.7s					
VRHR				smax	smax	
	comp=E,3μm,4.7s					
VRHR				smax	smax	
	comp=Z,1μm,4.7s					
VRHR				MLR	MLR	
	comp=N,4μm,16.0s					
VRHR				MLR	MLR	
	comp=E,6μm,16.0s					
VRHR				MLR	MLR	
	comp=Z,12μm,16.0s					
AKH	**Akhalkalaki**	**65.94 307**		*e*P	**P**	**00 29 36.8 +0.4**
AKH	**Akhalkalaki**	**65.94 307**		P	**P**	**00 29 38.4 +2.1**
EAK	**Akyaka**	**65.98 306**		*i* P	**P**	**00 29 38.9 +2.2**
KBZ	**Khabaz**	**65.99 309**		P	**P**	**00 29 37.1 +0.7**
KBZ	**Khabaz**	**65.99 309**		P	**P**	**00 29 37.1 +0.7**
	comp=Z,64nm,1.1s,baz=85,slow=6.1,SNR=25					
KBZ				LR	LR	01 02 43.2
	comp=Z,17μm,18.3s,baz=77,slow=40					
KBZ	**Khabaz**	**65.99 309**		P	**P**	**00 29 37.1 +0.7**
CLDR	**Caldiran**	**66.03 304**		*e*P	**P**	**00 29 38.3 +1.3**
KLMR	**Klimovskoe**	**66.03 328**	*c*	*i*P	**P**	**00 29 35.9 -0.4**
KLMR				*i* S	**S**	**00 38 21.0 -1.4**
KLMR				SS	**SKSac**	**00 39 23.8 -6.5**
KLMR				pmax	pmax	
	comp=Z,3μm,2.0s					
KLMR				pmax	pmax	
	comp=Z,1μm,1.6s					
KLMR				MLR	MLR	
	comp=Z,72μm,17.0s					
KIV	**Kislovodsk**	**66.10 309**		*e*P	**P**	**00 29 38.1 +0.9**
KIV				*e*		00 32 03.1
KIV				*e*S	**S**	**00 38 24.9 +0.8**
KIV				pmax	pmax	
	comp=Z,614nm,6.3s					
KIV				pmax	pmax	
	comp=Z,1μm,1.0s					
KIV				MLR	MLR	
	comp=Z,16μm,17.0s					
KIV	**Kislovodsk**	**66.10 309**	⇓	*i*P	**P**	**00 29 38.3 +1.0**
	SNR=33					
KIV	**Kislovodsk**	**66.10 309**		*e*P	**P**	**00 29 38.2 +0.9**
	comp=Z,2μm,1.3s					
KIV				*e*		00 29 46.9
KIV				*e*PP	**PP**	**00 31 59.0 -3.7**
KIV				*e*S	**S**	**00 38 25.0 +1.0**
KIV				LR	LR	
	comp=Z,20μm,21.0s					
KARS	**Kars**	**66.39 306**		*e*P	**P**	**00 29 41.7 +2.5**
HKR	**Hakkari**	**66.47 302**		*e*P	**P**	**00 29 39.6 -0.2**
TMCR	**Tamitsa**	**66.48 332**		*e*P	**P**	**00 29 38.8 -0.3**
TMCR				*e*		00 30 07.4
TMCR				pmax	pmax	
	comp=Z,261nm,1.2s					
VANB	**Van**	**66.54 304**		*e*P	P	00 29 46.4 +6.3
CUKT	**Cukurca**	**66.64 302**		*e*P	P	00 29 50.1 +9.2
AGRB	**Hanur-Agry**	**66.65 305**		*e*P	**P**	**00 29 43.8 +2.8**
ARTV	**Artvin**	**67.14 307**		*i* P	**P**	**00 29 46.0 +1.9**
DAGI	**Agillar**	**67.17 306**		*i* P	**P**	**00 29 44.8 +0.7**
VOR	**Voronezh**	**67.22 318**		*e*P	**P**	**00 29 43.0 -1.1**
VOR				pmax	pmax	
	comp=Z,1μm,1.6s					
VORD	**Divnogorie**	**67.28 317**		*e*P	**P**	**00 29 43.4 -1.1**
VORD				*e**PP	**pP**	**00 29 52.2 -0.8**
VORD				*e*		00 32 11.8
VORD				*e*PPP	PPP	00 33 52.1
VORD				*e*S	**S**	**00 38 37.1 -0.7**
VORD				*e*SS	**SS**	**00 43 00.1 +2.8**
VORD				pmax	pmax	
	comp=E,270nm,1.4s					
VORD				pmax	pmax	
	comp=Z,320nm,1.4s					
VORD				pmax	pmax	
	comp=N,50nm,0.7s					
VORD				pmax	pmax	
	comp=E,990nm,2.2s					
VORD				pmax	pmax	
	comp=Z,2μm,2.2s					
VORD				pmax	pmax	
	comp=E,160nm,1.5s					
VORD				pmax	pmax	
	comp=Z,120nm,1.5s					
VORD				pmax	pmax	
	comp=N,90nm,1.1s					
VORD				smax	smax	
	comp=N,3μm,5.4s					
VORD				smax	smax	
	comp=E,2μm,5.4s					
VORD				smax	smax	
	comp=Z,970nm,5.4s					
VORD				MLR	MLR	
	comp=N,6μm,16.0s					
VORD				MLR	MLR	
	comp=E,12μm,16.0s					
VORD				MLR	MLR	
	comp=Z,17μm,16.0s					
VSR	**Storozhevoye**	**67.32 318**		*e*P	**P**	**00 29 44.5 -0.2**
VSR				*e**PP	**pP**	**00 29 53.2 -0.1**
VSR				*e**SP	**sP**	**00 29 56.7 +0.2**
VSR				*e*		00 32 19.8
VSR				*e*PPP	PPP	00 33 49.6
VSR				*e*S	**S**	**00 38 38.4 +0.1**
VSR				*e**SS	**sS**	**00 38 55.6 +3.2**
VSR				*e*SS	**SS**	**00 42 58.9 +1.0**
VSR				pmax	pmax	
	comp=N,140nm,1.3s					
VSR				pmax	pmax	
	comp=E,490nm,1.3s					
VSR				pmax	pmax	
	comp=Z,610nm,1.3s					
VSR				pmax	pmax	
	comp=Z,2μm,1.8s					
VSR				pmax	pmax	
	comp=N,410nm,1.6s					
VSR				pmax	pmax	
	comp=E,1μm,1.6s					
VSR				pmax	pmax	
	comp=N,520nm,3.5s					
VSR				pmax	pmax	
	comp=Z,640nm,3.5s					
VSR				pmax	pmax	
	comp=E,390nm,3.1s					
VSR				smax	smax	
	comp=N,2μm,4.7s					
VSR				smax	smax	
	comp=E,2μm,4.7s					
VSR				smax	smax	
	comp=Z,780nm,4.7s					
VSR				MLR	MLR	
	comp=N,7μm,16.0s					
VSR				MLR	MLR	
	comp=E,5μm,16.0s					
VSR				MLR	MLR	
	comp=Z,14μm,16.0s					
DDEM	**Demirkent**	**67.33 306**		*i* P	**P**	**00 29 46.8 +1.7**
DBAD	**Bademkaya**	**67.35 306**		*i* P	**P**	**00 29 47.3 +2.0**
SIRT	**Sirnak**	**67.50 303**		*e*P	**P**	**00 29 44.9 -1.4**
SIRN	**S¨–rnak**	**67.52 303**		*i* P	**P**	**00 29 47.2 +0.9**
LVZ	**Lovozero**	**67.54 336**		*e*P	**P**	**00 29 45.4 -0.5**
LVZ				pmax	pmax	
	comp=Z,151nm,1.7s					
LVZ	**Lovozero**	**67.54 336**		*e*P	**P**	**00 29 45.2 -0.6**
	comp=Z,1μm,2.0s					
LVZ				LR	LR	
	comp=Z,29μm,19.0s					
MOS	**Moscow**	**67.58 323**	α	*i*P	**P**	**00 29 46.3 +0.1**
MOS				*e*		00 30 14.6
MOS				*e*		00 32 16.9
MOS				*i* S	**S**	**00 38 42.5 +1.3**
MOS				*e*SS	**SS**	**00 43 01.2 -0.4**
MOS				*e*SSS	SSS	00 46 00.7
MOS				pmax	pmax	
	comp=Z,800nm,2.0s					
MOS				pmax	pmax	
	comp=Z,404nm,2.0s					
MOS				smax	smax	
	comp=N,4μm,6.3s					
MOS				smax	smax	
	comp=E,5μm,6.3s					
MOS				MLR	MLR	
	comp=Z,20μm,20.0s					
MOS				MLR	MLR	
	comp=E,12μm,19.0s					
APA	**Apatity**	**68.05 336**	⇑	*i*P	**P**	**00 29 49.8 +0.8**
APA				*i* S	**S**	**00 38 46.0 -0.5**
APA				*i*		00 39 40.0
APA				pmax	pmax	
	comp=Z,126nm,1.2s					
APA				MLR	MLR	

comp=Z,31µm,14.0s
OBN Obninsk 68.27 322c *i*P **P 00 29 50.2 -0.4**
OBN *i* 00 29 57.9
OBN *i* 00 32 22.7
OBN *i* S **S 00 38 49.2 -0.2**
OBN pmax pmax
comp=Z,286nm,1.7s
OBN MLR MLR
comp=Z,19µm,17.0s
OBN Obninsk 68.27 322 *e*P **P 00 29 50.5 -0.1**
comp=Z,1µm,1.4s
OBN *e*PP **S 00 38 44.1 -5.3**
OBN LR LR
comp=Z,25µm,19.0s
SOC Sochi 68.29 309 *e*P **P 00 29 51.7 +0.7**
SOC *e**PP **pP 00 30 00.7 +1.2**
SOC *e**SP **sP 00 30 05.6 +2.9**
SOC *e* 00 32 26.0
SOC *i* S **S 00 38 52.6 +2.5**
SOC *e* 00 39 42.7
SOC *e*SS **SS 00 43 15.0 +1.8**
SOC pmax pmax
comp=Z,54nm,0.5s
SOC MLR MLR
comp=E,12µm,15.0s
SOC MLR MLR
comp=Z,18µm,15.0s
SOC MLR MLR
comp=N,12µm,15.0s
SVAN Silvan-Diyarba 68.31 303 *e*P **P 00 29 53.7 +2.4**
RAYN Ar Rayn 68.38 287 *e*P **P 00 29 52.0 +0.1**
comp=N,1µm,1.4s
RAYN *e*PP PP 00 32 16.0 -6.9
RAYN *e*S **S 00 38 51.7 -0.3**
PPLA Purkeypile 68.51 29 *e*P **P 00 29 52.1 -0.1**
comp=N,574nm,1.6s
BNGB Bing¨¶l 68.53 304 *e*P **P 00 29 54.2 +1.5**
RSO Redoubt South 68.60 32 *e*P **P 00 29 52.6 -0.3**
comp=N,192nm,0.9s
BAYT Ayd¯–ntepe-Bay 68.63 306 *e*P **P 00 29 54.2 +0.8**
COLD Coldfoot 68.71 25 *e*P **P 00 29 53.2 0.0**
comp=N,256nm,1.5s
KTUT Trabzon 68.78 307 *e*P P 00 30 02.6 +8.5
OHAK Old Harbor 68.85 36 *e*P **P 00 29 53.4 -0.8**
comp=N,95nm,0.9s
KTH Kantishna Hill 68.97 29 *e*P **P 00 29 54.3 -0.7**
comp=N,100nm,0.9s
MSVF Nonsavu 69.02 121 *e*P **P 00 29 56.4 +0.5**
MSVF pmax pmax
comp=Z,395nm,1.0s
MSVF MLR MLR
comp=Z,12µm,21.0s
MSVF Nonsavu 69.02 121 *e*P **P 00 29 56.4 +0.5**
comp=Z,395nm,1.0s
MSVF LR LR
comp=Z,12µm,21.0s
MAZI Mazidag 69.05 303 *e*P **P 00 29 56.3 +0.3**
ERZN Erzincan 69.12 305 *e*P P 00 30 06.8 +10
KDAK Kodiak Island 69.13 35c*e*P **P 00 29 55.6 -0.3**
KDAK Kodiak Island 69.13 35 *e*P **P 00 29 55.8 -0.1**
comp=Z,336nm,1.3s
KDAK LR LR
comp=Z,23µm,21.0s
DYBB Diyarbakir 69.17 303 *e*P **P 00 29 57.9 +1.2**
HOPEN Hopen 69.22 346 *e*P **P 00 29 58.1 +1.9**
HOPEN IVmB_BB 00 30 09.7
comp=Z,5µm,2.3s
HOPEN *e*S **S 00 39 01.7 +1.5**
HOPEN IVMs_BB IVMs_BB 01 05 49.0
comp=Z,18µm,14.1s
TRF Thorofare Moun 69.27 29 *e*P **P 00 29 57.5 +0.6**
comp=Z,90nm,0.9s
MSEY Mahe Island 69.37 255 *e*P **P 00 29 58.5 +0.3**
MSEY pmax pmax
comp=Z,78nm,1.1s
MSEY MLR MLR
comp=Z,14µm,19.0s
MSEY Mahe Island 69.37 255 *e*P **P 00 29 58.5 +0.3**
comp=Z,78nm,1.1s
MSEY LR LR
comp=Z,14µm,19.0s
ESPY Espiye-Giresun 69.57 307 *e*P P 00 30 06.8 +7.8
JOF Joensuu 69.62 331 *e*P **P 00 29 57.7 -1.2**
JOF pmax pmax
comp=Z,53nm,0.7s
JOF Joensuu 69.62 331 *e*p **P 00 29 57.7 -1.2**
comp=Z,53nm,0.7s
ANN Anapa 69.64 311 *e*P **P 00 29 58.9 -0.4**
ANN *e*S **S 00 39 06.8 +0.7**
ANN pmax pmax
comp=Z,2µm,1.3s
ANN MLR MLR
comp=E,19µm,19.0s
ANN MLR MLR
comp=Z,21µm,19.0s
ANN MLR MLR
comp=N,12µm,19.0s
MCK McKinley 69.82 28 *e*P P 00 30 08.4 +8.3
MCK pmax pmax
comp=Z,432nm,1.4s
MCK McKinley 69.82 28 *e*P P 00 30 08.4 +8.3
comp=Z,432nm,1.4s
TAU Tasmania Unive 69.92 160 *e*P **P 00 30 00.3 -0.6**
TAU pmax pmax
comp=Z,426nm,1.4s
TAU MLR MLR
comp=Z,11µm,21.0s
TAU Tasmania Unive 69.92 160 *e*P **P 00 30 00.3 -0.6**
comp=Z,426nm,1.4s
TAU LR LR
comp=Z,11µm,21.0s
RC01 Rabbit Creek A 69.95 31 *e*P **P 00 30 00.3 -0.7**
comp=Z,420nm,1.6s
KEV Kevo 70.00 338 *e*P **P 00 30 01.2 +0.1**
KEV pmax pmax
comp=Z,327nm,1.4s
KEV MLR MLR
comp=Z,16µm,20.0s
KEV Kevo 70.00 338 *e*p **P 00 30 00.3 -0.8**
comp=Z,80nm,0.7s
KEV Kevo 70.00 338 *e*P **P 00 30 01.1 +0.1**
comp=Z,327nm,1.4s
KEV LR LR
comp=Z,16µm,20.0s
ILIC ilic-Erzincan 70.02 305 *e*P P 00 30 12.0 +10
COLA College 70.06 27c *i*P **P 00 30 01.0 -0.5**
COLA College 70.06 27 *e*P **P 00 30 01.5 0.0**
comp=Z,78nm,0.8s
COLA LR LR
comp=Z,10µm,19.0s
SEW Seward 70.29 32 *e*P **P 00 30 01.7 -1.3**
comp=Z,368nm,1.3s
URFA Urfa 70.31 303 *e*P P 00 30 12.0 +8.2
MALT Malatya 70.40 304 *e*P **P 00 30 05.3 +1.0**
MALT Malatya 70.40 304⇑ *i*P **P 00 30 05.5 +1.2**
ILAR Eielson Array 70.48 27 P **P 00 30 03.3 -0.9**
ILAR Eielson Array 70.48 27 P **P 00 30 03.3 -0.9**
comp=Z,14nm,0.7s,baz=272,slow=4.7,SNR=65
ILAR PKPPKP P'P'df 00 58 02.7 -6.1
comp=Z,2.0nm,1.0s,baz=124,slow=1.5,SNR=7.3
ILAR LR LR 01 04 24.7
comp=Z,13µm,18.5s,baz=290,slow=39
ILAR Eielson Array 70.48 27 P **P 00 30 03.3 -0.9**
ILAR P'P' 00 58 02.7
ARCES ARCESS Array B 70.57 338 P **P 00 30 05.0 +0.4**
ARCES ARCESS Array B 70.57 338 P **P 00 30 05.0 +0.4**
comp=Z,49nm,0.7s,baz=70,slow=5.3,SNR=35
ARCES LR LR 01 04 22.2
comp=Z,15µm,18.5s,baz=66,slow=39
ARCES ARCESS Array B 70.57 338 P **P 00 30 05.0 +0.4**
ARE0 ARCESS Array S 70.57 338 *e*P **P 00 30 04.7 +0.1**
ARE0 IVmB_BB 00 30 14.9
comp=Z,6µm,3.1s
ARE0 *e*S **S 00 39 17.6 +1.4**
ARE0 IVMs_BB IVMs_BB 01 05 54.0
comp=Z,10µm,10.1s
ARE0 ARCESS Array S 70.57 338 *e* **S 00 39 17.4 +1.2**
SPA0 Spitsbergen Ar 70.63 348 *e*P **P 00 30 05.2 +0.3**
SPA0 IVmB_BB 00 30 15.7
comp=Z,7µm,1.7s
SPA0 *e*S **S 00 39 18.6 +1.9**
SPA0 IVMs_BB IVMs_BB 01 05 25.9
comp=Z,19µm,15.7s
SPITS Spitsbergen Ar 70.63 348 P **P 00 30 04.9 0.0**
SPITS Spitsbergen Ar 70.63 348 P **P 00 30 04.9 0.0**
comp=Z,245nm,1.1s,baz=96,slow=13,SNR=2.7
SPITS Spitsbergen Ar 70.63 348 P **P 00 30 04.9 0.0**
PUL Pulkovo 70.72 328 *e*P **P 00 30 06.9 +1.3**
PUL pmax pmax
comp=Z,463nm,2.5s
RSDY Resadiye-TOKAT 70.72 307 *e*P **P 00 30 08.3 +2.2**
DARE Darende-Malaty 71.06 305 *e*P **P 00 30 08.3 +0.1**
SVSK Karacayir 71.09 306 *e*P P 00 30 16.2 +7.9
BJO Bjornoya 71.14 344 *e*P **P 00 30 08.3 +0.4**
BJO *e*S **S 00 39 26.4 +3.7**
HSP Hornsund 71.19 347 *e*P **P 00 30 08.9 +0.7**
KBS Kingsbay 71.19 349 *e*P **P 00 30 08.2 -0.1**
KBS IVmB_BB 00 30 18.8
comp=Z,3µm,3.2s
KBS *e*S **S 00 39 24.8 +1.6**
KBS IVMs_BB IVMs_BB 01 05 04.8
comp=Z,22µm,17.7s
KBS Kingsbay 71.19 349 *e*P **P 00 30 08.2 -0.1**
KBS pmax pmax
comp=Z,122nm,1.1s
KBS MLR MLR
comp=Z,42µm,19.0s
KBS Kingsbay 71.19 349 *e*P **P 00 30 08.2 -0.1**
comp=Z,122nm,1.1s
KBS LR LR
comp=Z,42µm,19.0s
HSPB Hornsund (broa 71.19 347 *e*P **P 00 30 08.8 +0.5**
HSPB IVmB_BB 00 30 20.3
comp=Z,6µm,2.6s
HSPB *e*S **S 00 39 24.1 +0.8**
HSPB IVMs_BB IVMs_BB 01 05 33.5
comp=Z,13µm,18.5s
KTK1 Kautokeino 71.48 338 *e*P **P 00 30 10.8 +0.7**
KTK1 *e*S **S 00 39 29.2 +2.4**
PAX Paxson 71.51 29 *e*P **P 00 30 10.5 -0.1**
PAX pmax pmax
comp=Z,157nm,1.3s
PAX Paxson 71.51 29 *e*P **P 00 30 10.5 -0.1**
comp=Z,157nm,1.3s
KMRS Kahramanmaras 71.77 304 *e*P **P 00 30 12.0 -0.6**
DIV Divide 71.82 31 *e*P **P 00 30 12.4 0.0**
comp=Z,312nm,1.3s
SIM Simferopol' 71.90 312c*e*P **P 00 30 12.9 -0.2**
SIM *e*S **S 00 39 34.1 +1.6**
SIM 00 40 14.4
SIM pmax pmax
comp=Z,407nm,1.2s
SIM pmax pmax
comp=Z,2µm,9.4s
SIM MLR MLR
comp=Z,3µm,14.0s
DIKM Dikmen 71.93 308 *e*P P 00 30 22.4 +9.1
DOT Dot Lake 71.95 28 *e*P **P 00 30 12.3 -0.8**
comp=Z,180nm,1.2s
KAF Kangasniemi 72.06 330 *e*P **P 00 30 12.9 -0.9**
KAF pmax pmax
comp=Z,35nm,0.7s
KAF Kangasniemi 72.06 330 *e*p **P 00 30 12.9 -0.9**
comp=Z,35nm,0.7s
BNN Bunyan 72.22 305 *e*P **P 00 30 17.7 +2.4**
FINES FINESS Array B 72.35 330c*e*P **P 00 30 15.5 +0.1**
FINES pmax pmax
comp=Z,68nm,1.0s
FINES FINESS Array B 72.35 330 P **P 00 30 15.5 +0.1**
comp=Z,68nm,1.0s,baz=90,slow=6.1,SNR=63
FINES LR LR 01 03 44.2
comp=Z,8µm,19.4s,baz=75,slow=37
FINES FINESS Array B 72.35 330 P **P 00 30 15.5 +0.1**
KOZT Kozan 72.60 304 *e*P **P 00 30 16.7 -0.8**
BZK Bozkurt 72.75 309 *e*P P 00 30 24.5 +6.3
TRO Tromso 72.75 339 *e*P **P 00 30 19.0 +1.3**
TRO IVmB_BB 00 30 28.6
comp=Z,5µm,2.2s
TRO *e*S **S 00 39 42.4 +1.1**
TRO IVMs_BB IVMs_BB 01 08 56.3
comp=Z,13µm,19.6s
CORM Corum 72.77 307 *e*P **P 00 30 18.2 -0.3**
CEYT Ceyhan 72.79 303 *e*P **P 00 30 19.3 +0.7**
AIS Amsterdam Isla 72.80 215 P P 00 29 57.0 -21
AIS S S 00 39 27.0 -16
AIS L L 00 49 00.0
AIS R 00 53 00.0
VSU Vasula 72.83 327c *i*P **P 00 30 18.6 +0.2**
EGAK Eagle 72.86 26 PFAKE 00 30 30.0 +12
EGAK LR LR
comp=Z,14µm,19.0s
KARA Karaisali 73.25 304 *e*P **P 00 30 22.9 +1.6**
MICGM Minsk 73.31 323⇑ *i*P **P 00 30 20.0 -1.3**
MNK Minsk 73.33 323 *e*P **P 00 30 20.0 -1.4**
MNK *e* 00 30 44.0
MNK *e* 00 33 00.0
MNK *e*PPP PPP 00 34 56.0
MNK *e*S **S 00 39 46.0 -2.4**
MNK *e*PS **PnS 00 40 24.0 +1.6**
MNK pmax pmax
comp=Z,380nm,1.5s
MNK pmax pmax
comp=E,490nm,1.8s
MNK pmax pmax
comp=Z,10µm,7.0s
MNK smax smax
comp=E,10µm,12.0s
MNK MLR MLR
comp=Z,38µm,16.0s
MNK MLR MLR
comp=N,35µm,16.0s
MNK MLR MLR
comp=E,34µm,16.0s
CANT Cankiri 73.40 307 *e*P P 00 30 30.2 +8.0
HWQ Hawqa 73.40 301 *e*P P 00 30 31.0 +8.6
AKASG Malin Array Be 73.57 318 P **P 00 30 22.3 -0.6**
AKASG Malin Array Be 73.57 318 P **P 00 30 22.3 -0.6**
comp=E,8.6nm,0.6s,baz=63,slow=5.4,SNR=71
AKASG LR LR 01 04 42.6
comp=E,12µm,18.7s,baz=105,slow=37
AKASG Malin Array Be 73.57 318 P **P 00 30 22.3 -0.6**
KIEV Kiev 73.58 318 *i* P **P 00 30 22.1 -0.9**
KIEV Kiev 73.58 318 *e*P **P 00 30 22.1 -0.9**
comp=E,630nm,1.5s
KIEV *e*PP **PP 00 33 06.5 -0.4**
KIEV *e*S **S 00 39 49.8 -1.6**
KIEV LR LR
comp=Z,8µm,19.0s
BRTR Keskin Array B 73.63 307c*e*P **P 00 30 24.2 +0.5**
BRTR pmax pmax
comp=Z,48nm,1.1s
BRTR Keskin Array B 73.63 307 P **P 00 30 23.6 -0.1**
comp=Z,27nm,1.0s,baz=102,slow=3.0,SNR=37
BRTR LR LR 01 07 57.4
comp=Z,4µm,18.8s,baz=46,slow=40
BRTR Keskin Array B 73.63 307 P **P 00 30 23.6 -0.1**
IDID Didziasalis 73.71 324 *e*P **P 00 30 23.7 +0.1**
IDID AMB AMB 00 30 35.4
comp=Z,163nm,1.6s
RCY Rachaya 73.72 300 *e*P **P 00 30 25.7 +1.4**
BHL Bhannes 73.74 300 *e*P P 00 30 32.6 +8.2
MERS Mersin 73.77 304 *e*P **P 00 30 25.0 +0.5**
NACGM Naroch 73.81 323 *e*P P 00 30 20.0 -4.2
DAWY Dawson 73.81 27 *e*P **P 00 30 24.2 +0.1**
ISAL Salakas 73.97 324 *e*P **P 00 30 25.2 +0.1**
ISAL AMB AMB 00 30 36.9
comp=Z,119nm,1.5s
IIGN Ignalina 73.98 324 *e*P **P 00 30 25.2 0.0**
IIGN AMB AMB 00 30 36.5
comp=Z,127nm,1.6s
AFSR Af´ar-Bala (A 74.13 306 *e*P **P 00 30 26.6 0.0**
KIP Kipapa 74.20 73 *e*P **P 00 30 28.0 +0.9**
KIP pmax pmax
comp=Z,139nm,1.0s
KIP Kipapa 74.20 73 PFAKE 00 30 40.0 +13
KIP LR LR
comp=Z,12µm,21.0s
ANTO Ankara 74.22 307 *e*P **P 00 30 25.4 -1.6**
ANTO Ankara 74.22 307 *e*P **P 00 30 27.1 +0.1**
ANTO pmax pmax
comp=Z,374nm,1.3s
ANTO MLR MLR
comp=Z,7µm,21.0s
ANTO Ankara 74.22 307⇓ *i*P **P 00 30 27.4 +0.4**
ANTO Ankara 74.22 307 *e*P **P 00 30 27.1 +0.1**
comp=Z,374nm,1.3s
ANTO LR LR
comp=Z,7µm,21.0s
LOD Lodumlu 74.23 307 *e*P P 00 30 32.9 +5.7
INK Inuvik 74.52 22 *e*P **P 00 30 29.2 +1.1**
INK pmax pmax
comp=Z,324nm,1.2s
INK Inuvik 74.52 22 P **P 00 30 27.4 -0.6**
comp=Z,133nm,0.9s,baz=301,slow=6.5,SNR=253
INK Inuvik 74.52 22 *e*P **P 00 30 29.2 +1.1**
comp=Z,324nm,1.2s
STEI Steigen 74.62 338 *e*P **P 00 30 28.8 +0.1**
KIS Kishinev 74.89 315α *i*P **P 00 30 30.0 -0.7**
KIS *i* 00 30 48.0
KIS *e* 00 33 28.0
KIS *i* S **S 00 40 05.0 -1.2**
KIS *i* PS **PnS 00 40 42.0 -1.0**
KIS *e*SS **SS 00 45 00.0 +5.8**
KIS pmax pmax
comp=E,300nm,2.0s
KIS pmax pmax
comp=Z,400nm,2.0s
KIS pmax pmax
comp=E,2µm,7.0s
KIS pmax pmax
comp=Z,4µm,7.0s
KIS smax smax
comp=N,3µm,10.0s
KIS smax smax
comp=E,4µm,15.0s
KIS MLR MLR
comp=N,8µm,15.0s
KIS MLR MLR
comp=E,11µm,15.0s
KIS MLR MLR
comp=Z,16µm,15.0s
KIS MLR MLR
comp=Z,16µm,16.0s
KIS Kishinev 74.89 315⇑ *i*P **P 00 30 29.8 -0.9**
KIS Kishinev 74.89 315⇑ *i*P **P 00 30 30.0 -0.7**
comp=Z,400nm,2.0s
KIS Kishinev 74.89 315 *i* PcP **PcP 00 30 48.0 +3.5**
KIS Kishinev 74.89 315 *e*PP PP 00 33 28.0 +10
KIS Kishinev 74.89 315 *e*PPP PPP 00 35 18.0
KIS Kishinev 74.89 315 *e*PsP 00 36 50.0
KIS *i* S **S 00 40 05.0 -1.2**
comp=Z,3µm,10.0s
KIS *i* ScS sS 00 40 20.0 -0.5
LFK Lefkose 75.01 302 *e*P P 00 30 34.9 +3.3
LADK Ladik-KONYA 75.02 305 *e*P **P 00 30 30.8 -1.0**
KONT Konya--Tatoy 75.10 305 *e*P P 00 30 38.6 +6.4
LOF Lofoten 75.12 338 *e*P **P 00 30 31.3 -0.3**
LOF *e*S **S 00 40 09.2 +1.2**
KIZT Kizilcal 75.18 306 *e*P **P 00 30 31.3 -1.4**
MDUB Mudurnu 75.21 308 *e*P **P 00 30 32.9 +0.1**
MRIV Mauritius Mete 75.22 240 *e*P **P 00 30 33.1 +0.2**
CSS Prodhromos 75.26 302 P P 00 30 41.4 +8.3
CSS Prodhromos 75.26 302 *e*P **P 00 30 33.2 +0.1**
CSS Prodhromos 75.26 302 *e*P **P 00 30 32.3 -0.8**
comp=Z,99nm,1.2s
CSS LR LR
comp=Z,3µm,20.0s
SVRH Sivrihisar-ESK 75.28 307 *e*P **P 00 30 31.3 -1.9**
LEOM Leova 75.43 314⇑ *i*P **P 00 30 33.7 -0.1**
TLCR 75.44 313⇓ *i*P **P 00 30 35.0 +1.1**
AFI Afiamalu 75.45 112 *e*P **P 00 30 34.3 -0.2**
AFI pmax pmax
comp=Z,3µm,1.3s
AFI MLR MLR
comp=Z,9µm,19.0s
AFI Afiamalu 75.45 112 *e*P **P 00 30 34.3 -0.2**
comp=Z,3µm,1.3s
AFI LR LR
comp=Z,9µm,19.0s
LEF Lefka 75.56 302 *e*P **P 00 30 32.9 -1.9**
MOR8 Moi Rana 75.61 336⇑ *i*P **P 00 30 33.1 -1.4**
MOR8 IAmb IAmb 00 30 47.5
comp=Z,560nm,1.7s
IAS Iasi 75.65 315⇑ *i*P **P 00 30 35.3 +0.3**
GULT Gulveren 75.71 308 *e*P **P 00 30 36.3 +0.6**
HYT Haines Junctio 75.75 30 *e*P **P 00 30 35.5 -0.1**
GIUM Giurgiulesti 75.76 314⇑ *i*P **P 00 30 36.5 +0.8**
CFR Carcaliu 75.90 313⇑ *i*P **P 00 30 36.2 -0.3**
FLOS Flostrand 75.94 337 *e*P **P 00 30 36.7 +0.4**
TIRR Tirgusor 75.94 312 *e*P **P 00 30 34.8 -2.0**
TIRR pmax pmax
comp=Z,434nm,1.5s
TIRR Tirgusor 75.94 312⇑ *i*P **P 00 30 37.6 +0.8**
TIRR Tirgusor 75.94 312 *e*P **P 00 30 34.8 -2.0**
comp=Z,434nm,1.5s
KONS Konsvik 75.96 337 *e*P **P 00 30 36.1 -0.3**
KONS *e*S **S 00 40 20.6 +3.3**
STOK Stokkvaagen 76.07 337 *e*P **P 00 30 37.0 0.0**
STOK *e*P **P 00 30 38.3 +1.3**
STOK *e*S **S 00 40 21.1 +2.5**
SUW Suwalki 76.08 323 *e*P **P 00 30 37.3 -0.1**
SUW *e* 00 30 47.7
SUW *e*S **S 00 40 22.6 +3.5**
SUW *e* 00 40 55.0
SUW MLR MLR
comp=Z,29µm,18.7s
SUW Suwalki 76.08 323 *e*P **P 00 30 37.3 -0.1**
SUW *e*PcP **pP 00 30 47.6 +1.6**
SUW *e*S **S 00 40 22.5 +3.5**
SUW *e*ScS **ScS 00 40 55.0 +4.7**
SUW LMZ LR 01 06 24.4
SUW Suwalki 76.08 323 *e*P **P 00 30 37.2 -0.1**
comp=Z,445nm,0.9s
SUW *e*PP PP 00 33 14.9 -13
SILT Sile 76.12 309 *e*P P 00 30 44.9 +7.0
TLB Topalu 76.15 313⇑ *i*P **P 00 30 38.2 +0.2**
HRT Hereke 76.20 309 *e*P **P 00 30 37.5 -0.9**
SHUT Suhut-Afyon 76.27 306 *e*P **P 00 30 38.1 -0.9**
CAVI Cavuskoy 76.27 308 *e*P **P 00 30 37.0 -1.8**
ADVT Abdulvahap 76.28 308 *e*P P 00 30 46.4 +7.7
PETR Petresti 76.33 314⇓ *i*P **P 00 30 39.5 +0.5**
PSN Preselentsi 76.34 312⇑ *i*P **P 00 30 39.8 +0.7**
PSN Preselentsi 76.34 312 P **P 00 30 41.7 +2.6**
ALT Altintas 76.44 307 P **P 00 30 40.1 +0.2**
ALT Altintas 76.44 307 *e*P **P 00 30 38.6 -1.3**
ALT Altintas 76.44 307 P **P 00 30 40.1 +0.2**
PRAR RASCA 76.46 316⇓ *i*P **P 00 30 39.5 -0.2**
TESR Tescani 76.46 315⇑ *i*P **P 00 30 39.7 0.0**
KLYT Kilyos 76.52 309 *e*P P 00 30 48.0 +7.9
ISP Isparta 76.53 305 P P 00 30 47.6 +7.2
ISP Isparta 76.53 305 *e*P **P 00 30 38.4 -2.0**
ISP Isparta 76.53 305 *e*P **P 00 30 39.3 -1.1**
ISP pmax pmax
comp=Z,424nm,1.3s
ISP MLR MLR
comp=Z,7µm,19.0s
ISP Isparta 76.53 305⇑ *i*P **P 00 30 42.0 +1.6**
ISP Isparta 76.53 305 *e*P **P 00 30 39.3 -1.1**
comp=Z,424nm,1.3s
ISP LR LR
comp=Z,7µm,19.0s
ISK Istanbul-Kandi 76.56 309 P **P 00 30 42.4 +2.0**
ISK Istanbul-Kandi 76.56 309 *e*P **P 00 30 41.2 +0.8**
ISK Istanbul-Kandi 76.56 309 P **P 00 30 42.4 +2.0**
ISK Istanbul-Kandi 76.56 309 P **P 00 30 42.4 +2.0**
BCK Bucak 76.59 305 *e*P P 00 30 45.9 +5.2
GRER 76.62 314⇑ *i*P **P 00 30 42.2 +1.6**
VRI Vrincioaia 76.62 314⇓ *i*P **P 00 30 41.3 +0.7**
AMRR Amara 76.62 313⇑ *i*P **P 00 30 41.3 +0.7**
GEMT Gemlik 76.67 308 *e*P P 00 30 48.5 +7.5
PLOR Plostina 76.68 314⇑ *i*P **P 00 30 41.5 +0.5**
ANTB Antalya 76.72 305 *e*P P 00 30 48.5 +7.2
BGKT Bogazkoy 76.73 309 *e*P P 00 30 49.0 +7.7
PGOR Pogoanele 76.76 313⇓ *i*P **P 00 30 43.2 +1.8**
TVSB Tavsanli 76.79 307 *e*P **P 00 30 42.4 +0.5**
ARMT Armutlu 76.87 309 *e*P **P 00 30 42.2 +0.1**
CTKS Kestanelik-??a 76.91 309 *e*P **P 00 30 43.3 +1.0**
MDNY Mudanya-Bursa 76.92 308 *e*P P 00 30 50.1 +7.7
POHA Pohakuloa 76.94 74 PFAKE 00 30 50.0 +6.8
POHA LR LR
comp=Z,8µm,20.0s
CTYL Yal??k??y-??at 76.98 310 *e*P **P 00 30 41.7 -1.0**
LVV L'vov 77.01 319 *e*P **P 00 30 42.9 +0.2**
LVV *e* 00 35 23.5
LVV *e*S **S 00 40 29.3 -0.2**
LVV *e* 00 40 53.7
LVV *i* 00 41 04.7
LVV smax smax
comp=N,300nm,3.0s
LVV smax smax
comp=E,400nm,3.0s
BURAR Bucovina Array 77.02 316⇑ *i*P **P 00 30 43.3 +0.3**
PRD Provadia 77.04 311 P **P 00 30 44.9 +1.9**

RER	**Riviere de l'E**	**77.06 240**	*eP*	**P**		**00 30 42.9**	**-0.7**
	comp=E,163nm,0.9s						
RER			LR	LR			
	comp=Z,8μm,19.0s						
SLVT	**Silivri**	**77.12 309**	*eP*	**P**		**00 30 45.9**	**+2.4**
NSS	**Namsos**	**77.25 335**	*eP*	**P**		**00 30 44.4**	**+0.6**
NSS			IVmB_BB			00 30 56.5	
	comp=Z,5μm,2.5s						
NSS			*eS*	**S**		**00 40 33.3**	**+1.8**
NSS			IVMs_BB	IVMs_BB		01 08 06.2	
	comp=Z,23μm,14.0s						
MLR	**Muntele Rosu**	**77.26 314**	⇑*iP*	**P**		**00 30 44.7**	**+0.3**
KCTX	**Karacabey (Bur**	**77.33 308**	*eP*	**P**		**00 30 46.4**	**+1.7**
SULR		**77.33 313**	⇓*iP*	**P**		**00 30 45.4**	**+0.8**
ELL	**Elmali**	**77.33 305**	*eP*	**P**		**00 30 42.2**	**-2.7**
SECR		**77.33 314**	⇓*iP*	**P**		**00 30 45.6**	**+0.9**
DOPR	**Dopca**	**77.47 315**	⇑*iP*	**P**		**00 30 46.0**	**+0.6**
PHSR	**Pinarhisar**	**77.47 310**	*eP*	**P**		**00 30 46.4**	**+0.9**
CRLT	**Corlu**	**77.49 309**	*eP*	**P**		**00 30 46.9**	**+1.4**
DAG	**Danmarks Havn**	**77.55 351**	⇑*iP*	**P**		**00 30 44.7**	**-0.5**
DAG			*i* S	**S**		**00 40 31.0**	**-3.4**
DAG			pmax	pmax			
	comp=Z,110nm,1.2s						
DAG			MLR	MLR			
	comp=Z,6μm,17.0s						
DAG	**Danmarks Havn**	**77.55 351**	⇑*iP*	**P**		**00 30 44.7**	**-0.5**
	comp=Z,68nm,1.2s						
DAG			*i* S	**S**		**00 40 31.0**	**-3.4**
EDC	**Edincik**	**77.66 309**	*eP*	**P**		**00 30 44.3**	**-2.2**
TKR	**Tekirdag**	**77.68 309**	*eP*	P		00 30 53.2	+6.6
KULA	**Kula-Manisa**	**77.69 307**	P	**P**		**00 30 46.7**	**-0.2**
KULA	**Kula-Manisa**	**77.69 307**	*eP*	P		00 30 52.2	+5.3
KULA	**Kula-Manisa**	**77.69 307**	P	**P**		**00 30 46.7**	**-0.2**
MRMT	**Marmara Adasi**	**77.77 309**	*eP*	**P**		**00 30 45.4**	**-1.9**
JMB	**Yambol**	**77.85 311**	P	**P**		**00 30 49.9**	**+2.3**
JMB	**Yambol**	**77.85 311**	P	**P**		**00 30 49.9**	**+2.3**
JMB	**Yambol**	**77.85 311**	⇑*iP*	**P**		**00 30 49.8**	**+2.2**
JMB	**Yambol**	**77.85 311**	P	**P**		**00 30 50.1**	**+2.5**
JMB	**Yambol**	**77.85 311**	P	**P**		**00 30 49.9**	**+2.3**
VOIR		**77.87 314**	⇑*iP*	**P**		**00 30 47.4**	**-0.4**
KWP	**Kalwaria Pacla**	**77.88 319**	*eP*	**P**		**00 30 47.8**	**+0.2**
KWP			*eS*	**S**		**00 40 42.2**	**+3.2**
KWP			pmax	pmax			
	comp=Z,2μm,1.7s						
KWP			MLR	MLR			
	comp=Z,15μm,20.0s						
KWP	**Kalwaria Pacla**	**77.88 319**	*eP*	**P**		**00 30 48.1**	**+0.5**
KWP			*e*PcP	**PcP**		**00 30 58.9**	**+1.5**
KWP			*eS*	**S**		**00 40 40.0**	**+1.0**
KWP			LMZ	LR		01 10 22.1	
KWP	**Kalwaria Pacla**	**77.88 319**	⇑*iP*	**P**		**00 30 48.2**	**+0.6**
KWP	**Kalwaria Pacla**	**77.88 319**	*eP*	**P**		**00 30 47.8**	**+0.2**
	comp=Z,2μm,1.7s						
KWP			*e*PP	PP		00 33 35.6	-7.6
KWP			*eS*	**S**		**00 40 42.2**	**+3.2**
KWP			LR	LR			
	comp=Z,15μm,20.0s						
BALB	**Balikesir**	**77.88 308**	*eP*	**P**		**00 30 46.4**	**-1.4**
EDRB	**Edirne**	**77.95 310**	P	**P**		**00 30 48.5**	**+0.4**
EDRB	**Edirne**	**77.95 310**	*eP*	**P**		**00 30 47.5**	**-0.7**
EDRB	**Edirne**	**77.95 310**	P	**P**		**00 30 48.5**	**+0.4**
SZH	**Strazhica**	**78.03 312**	P	**P**		**00 30 48.8**	**+0.2**
RKY	**Sarkoy-Tekirda**	**78.04 309**	*eP*	**P**		**00 30 48.5**	**-0.2**
KRBG	**Karabiga-Canak**	**78.05 309**	*eP*	P		00 30 54.8	+6.1
BMR	**Baia Mare**	**78.09 317**	⇑*iP*	**P**		**00 30 49.8**	**+1.0**
GOLR		**78.14 314**	⇓*iP*	**P**		**00 30 49.8**	**+0.5**
ARR	**Arges**	**78.17 314**	⇓*iP*	**P**		**00 30 49.5**	**+0.1**
BEL	**Belsk**	**78.21 321**	*eP*	**P**		**00 30 49.9**	**+0.6**
BEL			*e*			00 31 00.4	
BEL			*eS*	**S**		**00 40 44.2**	**+1.9**
BEL			MLR	MLR			
	comp=Z,17μm,21.1s						
BEL	**Belsk**	**78.21 321**	*eP*	**P**		**00 30 49.9**	**+0.6**
BEL			*e*PcP	**PcP**		**00 31 00.4**	**+1.6**
BEL			*e*PP	PP		00 34 00.6	+15
BEL			*eS*	**S**		**00 40 44.2**	**+1.9**
BEL			LMZ	LR		01 06 31.4	
HUMR	**Humele**	**78.24 313**	⇑*iP*	**P**		**00 30 49.5**	**-0.2**
DALY	**Dalyan (Mu¨la**	**78.26 305**	*eP*	P		00 30 57.9	+8.0
ZIMR		**78.28 312**	⇑*iP*	**P**		**00 30 50.9**	**+1.0**
CJR	**Cluj-Napoca**	**78.37 316**	⇓*iP*	**P**		**00 30 51.5**	**+1.0**
KOLS	**Kolonicke sedl**	**78.40 318**	*eP*	**P**		**00 30 50.4**	**-0.1**
KOLS			pmax	pmax			
	comp=Z,70nm,1.5s						
KOLS	**Kolonicke sedl**	**78.40 318**	*eP*	**P**		**00 30 50.4**	**-0.1**
KOLS			*eS*	**S**		**00 40 41.6**	**-3.0**
KOLS			*e*SS	SS		00 46 15.2	+28
YER	**Yerkesik**	**78.43 305**	*eP*	**P**		**00 30 51.6**	**+0.6**
LPK	**Lapseki**	**78.44 309**	*eP*	**P**		**00 30 51.4**	**+0.5**
PVL	**Pavlikeni**	**78.46 312**	P	**P**		**00 30 51.6**	**+0.7**
UZH	**Uzhgorod**	**78.50 318**	*d iP*	**P**		**00 30 51.0**	**0.0**
UZH			*e*			00 30 57.6	
UZH			*i*			00 31 00.8	
UZH			*i*			00 31 04.4	
UZH			*e*			00 33 43.6	
UZH			*i* S	**S**		**00 40 42.4**	**-3.2**
UZH			*e*			00 41 03.0	
UZH			*i* PS	**PnS**		**00 41 24.0**	**-5.0**
UZH			*i* SSS	SSS		00 49 15.0	
TBLU	**Trondheim**	**78.52 334**	*eP*	**P**		**00 30 50.2**	**-0.7**
TBLU			IVmB_BB			00 31 00.3	
	comp=Z,8μm,2.4s						
TBLU			*eS*	**S**		**00 40 45.6**	**+0.4**
TRPA	**Tarpa**	**78.53 317**	⇑*iP*	**P**		**00 30 51.7**	**+0.5**
TRPA	**Tarpa**	**78.53 317**	⇓*eP*	**P**		**00 30 52.7**	**+1.5**
GELI	**Tayfur-Gelibol**	**78.64 309**	*eP*	**P**		**00 30 50.6**	**-1.4**
LOT	**Lotru**	**78.71 315**	⇓*iP*	**P**		**00 30 52.6**	**+0.1**
DIM	**Dimitrovgrad**	**78.73 311**	P	**P**		**00 30 54.5**	**+2.1**
ENEZ	**Enez**	**78.75 309**	*eP*	**P**		**00 30 53.2**	**+0.6**
ALN	**Alexandroupoli**	**78.77 310**	P	**P**		**00 30 52.5**	**-0.2**
ALN	**Alexandroupoli**	**78.77 310**	*eP*	**P**		**00 30 53.4**	**+0.7**
ALN	**Alexandroupoli**	**78.77 310**	P	**P**		**00 30 52.5**	**-0.2**
ALN	**Alexandroupoli**	**78.77 310**	*eP*	**P**		**00 30 54.0**	**+1.3**
ALN	**Alexandroupoli**	**78.77 310**	P	**P**		**00 30 52.5**	**-0.2**
STHS	**Stebnicka Huta**	**78.85 319**	*eP*	**P**		**00 30 53.3**	**+0.3**
STHS			pmax	pmax			
	comp=Z,42nm,1.3s						
STHS	**Stebnicka Huta**	**78.85 319**	*eP*	**P**		**00 30 53.3**	**+0.3**
STHS			*e*PP	**PP**		**00 33 50.4**	**-0.9**
ARG	**Arkhangelos**	**78.87 305**	P	P		00 31 00.8	+7.5
ARG	**Arkhangelos**	**78.87 305**	*eP*	P		00 31 01.6	+8.3
ARG	**Arkhangelos**	**78.87 305**	P	P		00 31 00.8	+7.5
ARG	**Arkhangelos**	**78.87 305**	P	P		00 31 00.8	+7.5
CRVS	**Cervenica-Dubn**	**78.91 318**	*eP*	**P**		**00 30 53.9**	**+0.6**
CRVS			pmax	pmax			
	comp=Z,262nm,2.1s						
CRVS	**Cervenica-Dubn**	**78.91 318**	*eP*	**P**		**00 30 53.9**	**+0.6**
CRVS			*es*P	**sP**		**00 31 02.5**	**-2.7**
CRVS			*eS*	**S**		**00 40 47.7**	**-2.3**
CRVS			*e*SS	SS		00 46 07.9	+13
DRGR		**78.91 316**	⇑*iP*	**P**		**00 30 54.0**	**+0.5**
BLCB	**Balcova**	**78.93 307**	*eP*	**P**		**00 30 54.0**	**+0.4**
EZN	**Ezine**	**78.95 309**	*eP*	**P**		**00 30 53.2**	**-0.5**
KDZ	**Kurdzhali**	**78.95 311**	⇑*iP*	**P**		**00 30 55.1**	**+1.4**
KDZ	**Kurdzhali**	**78.95 311**	P	**P**		**00 30 54.7**	**+1.0**
CRAR	**CRAIOVA**	**79.10 313**	⇑*iP*	**P**		**00 30 55.3**	**+0.9**
DEV	**Deva**	**79.12 315**	⇓*iP*	**P**		**00 30 55.3**	**+0.8**
NB2	**NORSAR Subarra**	**79.16 332**	P	**P**		**00 30 54.2**	**-0.3**
	comp=Z,333nm,1.2s,baz=63,slow=5.6						
NB2	**NORSAR Subarra**	**79.16 332**	P	**P**		**00 30 54.2**	**-0.3**
	baz=63,slow=5.6						
NOA	**NORSAR Array B**	**79.16 332**	P	**P**		**00 30 54.0**	**-0.5**
NOA	**NORSAR Array B**	**79.16 332**	P	**P**		**00 30 54.0**	**-0.5**
	comp=Z,77nm,1.0s,baz=60,slow=5.5,SNR=57						
NOA			LR	LR		01 09 48.4	
	comp=Z,26μm,19.2s,baz=60,slow=39						
NOA	**NORSAR Array B**	**79.16 332**	P	**P**		**00 30 54.0**	**-0.5**
NC602	**NORSAR Array S**	**79.16 332**	*eP*	**P**		**00 30 52.9**	**-1.6**
NC602			IVmB_BB			00 31 04.0	
	comp=Z,4μm,2.8s						
NC602			*eS*	**S**		**00 40 53.8**	**+1.5**
NC602			IVMs_BB	IVMs_BB		01 09 10.7	
	comp=Z,32μm,13.9s						
BODT	**Bodrum**	**79.19 306**	*eP*	P		00 30 50.6	-4.5
PRK	**Paraskevi**	**79.19 308**	P	**P**		**00 30 54.9**	**-0.1**
PRK	**Paraskevi**	**79.19 308**	P	**P**		**00 30 54.9**	**-0.1**
PRK	**Paraskevi**	**79.19 308**	*eP*	P		00 30 45.9	-9.1
PRK	**Paraskevi**	**79.19 308**	P	**P**		**00 30 54.9**	**-0.1**
PLD	**Plovdiv**	**79.28 311**	P	**P**		**00 30 55.7**	**+0.2**
PLD	**Plovdiv**	**79.28 311**	P	**P**		**00 30 55.7**	**+0.2**
PLD	**Plovdiv**	**79.28 311**	P	**P**		**00 30 55.6**	**+0.1**
PLD	**Plovdiv**	**79.28 311**	P	**P**		**00 30 55.7**	**+0.2**
SMTH	**Samothraki Isl**	**79.29 309**	P	**P**		**00 30 55.1**	**-0.5**
SMTH	**Samothraki Isl**	**79.29 309**	*eP*	P		00 30 50.9	-4.7
SMTH	**Samothraki Isl**	**79.29 309**	P	**P**		**00 30 55.1**	**-0.5**
SMG	**Samos**	**79.31 306**	P	**P**		**00 30 55.8**	**0.0**
SMG	**Samos**	**79.31 306**	*eP*	**P**		**00 30 55.6**	**-0.2**
SMG	**Samos**	**79.31 306**	P	**P**		**00 30 55.8**	**0.0**
FURI	**Furi**	**79.38 275**	P	**P**		**00 30 58.1**	**+1.2**
FURI			S	**PP**		**00 33 54.0**	**-3.0**
GZR	**Gura Zlata**	**79.38 315**	⇓*iP*	**P**		**00 30 55.9**	**-0.2**
NIE	**Niedzica**	**79.41 319**	⇑*iP*	**P**		**00 30 57.1**	**+1.0**
NIE			*i*			00 31 05.0	
NIE			*i* *PP	**pP**		**00 31 07.4**	**+2.7**
NIE			*i* S	**S**		**00 40 57.2**	**+1.8**
NIE			*i*			00 41 12.4	
NIE			*i* SS	**SS**		**00 46 07.0**	**+4.8**
NIE	**Niedzica**	**79.41 319**	*i* P	**P**		**00 30 57.1**	**+1.0**
NIE			*i* PcP	**pP**		**00 31 05.0**	**+0.3**
NIE			*i* pP	**pP**		**00 31 07.4**	**+2.7**
NIE			*i* S	**S**		**00 40 57.2**	**+1.8**
NIE			*i* SKKSac	**SKKSac**		**00 41 12.4**	**+0.2**
NIE			*i* SS	**SS**		**00 46 07.0**	**+4.8**
NIE			L	L		01 11 06.0	
	comp=Z,18μm,18.4s						
RZN	**Rozhen**	**79.43 311**	P	**P**		**00 30 57.1**	**+0.6**
NIS1	**Nisyros Isl.**	**79.45 305**	*eP*	**P**		**00 30 57.8**	**+1.3**
MPEP	**Malo Peshtene**	**79.49 313**	P	**P**		**00 30 57.3**	**+0.7**
PGB	**Panagyurishte**	**79.50 312**	P	**P**		**00 30 57.5**	**+0.8**
SIGR	**SIGRI**	**79.50 308**	P	**P**		**00 30 56.5**	**-0.2**
SIGR	**SIGRI**	**79.50 308**	*eP*	**P**		**00 30 56.9**	**+0.2**
SIGR	**SIGRI**	**79.50 308**	*eP*	**P**		**00 30 57.5**	**+0.8**
SIGR	**SIGRI**	**79.50 308**	P	**P**		**00 30 56.5**	**-0.2**
GKP	**Gorka Klasztor**	**79.64 324**	*eP*	**P**		**00 30 57.5**	**+0.3**
GKP			*e*			00 31 08.2	
GKP			*eS*	**S**		**00 40 58.6**	**+1.0**
GKP			MLR	MLR			
	comp=Z,21μm,20.1s						
GKP	**Gorka Klasztor**	**79.64 324**	*eP*	**P**		**00 30 57.5**	**+0.3**
GKP			*e*PcP	**pP**		**00 31 08.2**	**+2.4**
GKP			*eS*	**S**		**00 40 58.5**	**+1.0**
GKP			LMZ	LR		01 08 46.0	
CHOS	**Chios island**	**79.65 307**	P	**P**		**00 30 58.2**	**+0.5**
CHOS	**Chios island**	**79.65 307**	*eP*	**P**		**00 30 58.7**	**+1.1**
CHOS	**Chios island**	**79.65 307**	*eP*	P		00 30 48.9	-8.8
CHOS	**Chios island**	**79.65 307**	P	**P**		**00 30 58.2**	**+0.5**
LIA	**Limnos Island**	**79.74 309**	P	P		00 31 03.6	+5.6
LIA	**Limnos Island**	**79.74 309**	P	P		00 31 03.6	+5.6
KAVA	**Kavala**	**79.82 310**	P	**P**		**00 30 58.1**	**-0.3**
KAVA	**Kavala**	**79.82 310**	*eP*	P		00 31 06.8	+8.4
KAVA	**Kavala**	**79.82 310**	P	**P**		**00 30 58.1**	**-0.3**
KARP	**Karpathos**	**79.83 304**	P	**P**		**00 30 58.4**	**-0.3**
KARP	**Karpathos**	**79.83 304**	*eP*	**P**		**00 31 00.5**	**+1.8**
KARP	**Karpathos**	**79.83 304**	P	**P**		**00 30 58.4**	**-0.3**
OSL	**Oslo**	**79.90 331**	*eP*	**P**		**00 30 58.2**	**-0.2**
OSL			IAmb	IAmb		00 31 10.6	
	comp=Z,623nm,1.7s						
OSL			*eS*	**S**		**00 41 01.3**	**+1.3**
MOL	**Molde**	**79.93 334**	⇑*iP*	**P**		**00 30 58.7**	**+0.1**
MOL			IVmB_BB			00 31 09.3	
	comp=Z,6μm,2.7s						
MOL			*eS*	**S**		**00 41 04.8**	**+4.5**
MOL			IVMs_BB	IVMs_BB		01 09 51.6	
	comp=Z,13μm,14.2s						
JMIC	**Jan Mayen**	**79.94 345**	*eP*	**P**		**00 31 01.6**	**+3.1**
JMIC			IVmB_BB			00 31 12.2	
	comp=Z,7μm,2.1s						
JMIC			*eS*	**S**		**00 41 02.3**	**+2.1**
JMIC			IAMs_20	IAMs_20		01 09 19.3	
	comp=Z,17μm,19.5s						
RES	**Resolute Bay**	**79.95 9**	P	**P**		**00 30 58.3**	**-0.2**
RES	**Resolute Bay**	**79.95 9**	P	**P**		**00 30 58.3**	**-0.2**
	comp=Z,138nm,1.1s,baz=327,slow=5.7,SNR=110						
RES	**Resolute Bay**	**79.95**	P	**P**		**00 30 58.3**	**-0.2**
WRAK	**Wrangell Islan**	**80.01 33**	PFAKE			00 31 10.0	+11
WRAK			LR	LR			
	comp=Z,7μm,19.0s						
BZS	**Buzias**	**80.06 315**	⇓*iP*	**P**		**00 30 59.4**	**-0.2**
BSD	**Bornholm Skovb**	**80.09 326**	⇑*iP*	**P**		**00 30 59.2**	**-0.4**
BSD			*i* S	**S**		**00 41 02.6**	**+0.4**
BSD			pmax	pmax			
	comp=Z,130nm,1.1s						
BSD			MLR	MLR			
	comp=Z,27μm,17.0s						
BSD	**Bornholm Skovb**	**80.09 326**	⇑*iP*	**P**		**00 30 59.2**	**-0.4**
	comp=Z,127nm,1.0s						
BSD	**Bornholm Skovb**	**80.09 326**	*i* S	**S**		**00 41 02.6**	**+0.4**
NVR	**Nevrokopi**	**80.15 311**	P	**P**		**00 30 59.6**	**-0.6**
NVR	**Nevrokopi**	**80.15 311**	*eP*	**P**		**00 31 00.3**	**+0.1**
NVR	**Nevrokopi**	**80.15 311**	P	**P**		**00 30 59.6**	**-0.6**
MMB	**Musomiste**	**80.15 311**	⇑*iP*	**P**		**00 30 59.9**	**-0.4**
MMB	**Musomiste**	**80.15 311**	P	**P**		**00 31 00.3**	**0.0**
DLBC	**Dease Lake**	**80.20 30**	P	**P**		**00 31 01.1**	**+0.8**
	comp=Z,106nm,1.2s,baz=312,slow=5.4,SNR=23						
DLBC	**Dease Lake**	**80.20 30**	P	**P**		**00 31 01.1**	**+0.8**
PSZ	**Piszkesteto**	**80.25 318**	*eP*	**P**		**00 31 01.0**	**+0.3**
PSZ			*e*			00 34 03.2	
PSZ			*eS*	**S**		**00 41 01.8**	**-2.6**
PSZ			pmax	pmax			
	comp=Z,1μm,1.9s						
PSZ			MLR	MLR			
	comp=Z,23μm,19.0s						
PSZ	**Piszkesteto**	**80.25 318**	⇑*iP*	**P**		**00 31 01.1**	**+0.3**
PSZ	**Piszkesteto**	**80.25 318**	⇓*eP*	**P**		**00 31 01.1**	**+0.3**
PSZ	**Piszkesteto**	**80.25 318**	*eP*	**P**		**00 31 01.0**	**+0.3**
	comp=Z,1μm,1.9s						
PSZ			*e*PP	**PP**		**00 34 03.2**	**+0.2**
PSZ			*eS*	**S**		**00 41 01.8**	**-2.6**
PSZ			LR	LR			
	comp=Z,23μm,19.0s						
RAC	**Raciborz**	**80.41 320**	*eP*	**P**		**00 31 02.1**	**+0.7**
RAC			*eS*	**S**		**00 41 06.4**	**+0.7**
RAC			MLR	MLR			
	comp=Z,15μm,22.0s						
SRS	**Serrai**	**80.42 311**	P	**P**		**00 31 00.7**	**-1.0**
SRS	**Serrai**	**80.42 311**	P	**P**		**00 31 00.7**	**-1.0**
SRS	**Serrai**	**80.42 311**	*eP*	**P**		**00 31 02.1**	**+0.4**
SRS	**Serrai**	**80.42 311**	P	**P**		**00 31 00.7**	**-1.0**
OUR	**Ouranopolis**	**80.44 310**	P	**P**		**00 31 01.4**	**-0.4**
OUR	**Ouranopolis**	**80.44 310**	*eP*	**P**		**00 31 01.8**	**+0.1**
OUR	**Ouranopolis**	**80.44 310**	P	**P**		**00 31 01.4**	**-0.4**
OUR	**Ouranopolis**	**80.44 310**	*eP*	**P**		**00 31 02.4**	**+0.6**
OUR	**Ouranopolis**	**80.44 310**	P	**P**		**00 31 01.4**	**-0.4**
KKB	**Krupnik**	**80.50 311**	P	**P**		**00 31 02.7**	**+0.6**
APE	**Apeiranthos**	**80.52 306**	*eP*	P		00 30 55.3	-7.0
APE	**Apeiranthos**	**80.52 306**	*eP*	P		00 30 56.5	-5.8
APE	**Apeiranthos**	**80.52 306**	⇓*iP*	**P**		**00 31 03.8**	**+1.5**
OKC	**Ostrava-Krasne**	**80.53 320**	*eP*	**P**		**00 31 02.5**	**+0.4**
OKC			*e*			00 31 11.2	
OKC			*e*			00 31 17.7	
OKC			*e*			00 34 05.6	
OKC			*eS*	**S**		**00 41 06.2**	**-0.9**
OKC			MLR	MLR			
	comp=Z,16μm,14.3s						
OKC	**Ostrava-Krasne**	**80.53 320**	*eP*	**P**		**00 31 02.5**	**+0.4**
OKC			*e*pP	**pP**		**00 31 11.2**	**+0.4**
OKC			*ex*	x		00 31 17.7	
OKC			*ex*	x		00 31 21.6	
OKC			*e*PP	**PP**		**00 34 05.6**	**+0.4**
OKC			*eS*	**S**		**00 41 06.2**	**-0.9**
OKC			AMS	AMS		01 09 30.0	
	comp=Z,16μm,14.3s						
KONO	**Kongsberg**	**80.54 331**	*eP*	**P**		**00 31 04.4**	**-1.5**
KONO			IVmB_BB			00 31 11.9	
	comp=Z,4μm,3.1s						
KONO			*eS*	**S**		**00 41 06.9**	**+0.1**
KONO			*e*SS	**SS**		**00 46 20.2**	**+1.8**
KONO			IVMs_BB	IVMs_BB		01 09 54.9	
	comp=Z,19μm,17.2s						
KONO	**Kongsberg**	**80.54 331**	*eP*	**P**		**00 31 01.3**	**-0.6**
KONO			pmax	pmax			
	comp=Z,634nm,2.1s						
KONO			MLR	MLR			
	comp=Z,34μm,21.0s						
KONO	**Kongsberg**	**80.54 331**	*eP*	**P**		**00 31 01.3**	**-0.6**
	comp=Z,634nm,2.1s						
KONO			LR	LR			
	comp=Z,34μm,21.0s						
URZ	**Urewera**	**80.58 138**	*eP*	**P**		**00 31 01.6**	**-0.8**
	comp=Z,561nm,2.2s						
VYHS	**Vyhne**	**80.67 319**	*eP*	**P**		**00 31 03.6**	**+0.7**
VYHS			pmax	pmax			
	comp=Z,89nm,1.4s						
VYHS	**Vyhne**	**80.67 319**	*eP*	**P**		**00 31 03.6**	**+0.7**
VYHS			*es*P	**sP**		**00 31 12.1**	**-2.6**
VYHS			*eS*	**S**		**00 41 04.9**	**-3.7**
VYHS			*e*SS	SS		00 46 13.3	-7.8
PKSN	**Nyarlorinc**	**80.67 317**	⇓*eP*	**P**		**00 31 03.7**	**+0.8**
SOH	**Sokhos**	**80.70 310**	P	**P**		**00 31 02.5**	**-0.7**
SOH	**Sokhos**	**80.70 310**	P	**P**		**00 31 02.5**	**-0.7**
SOH	**Sokhos**	**80.70 310**	P	**P**		**00 31 02.5**	**-0.7**
ZKR	**Zakros**	**80.71 304**	P	P		00 31 10.6	+7.3
ZKR	**Zakros**	**80.71 304**	*eP*	**P**		**00 31 04.4**	**+1.1**
ZKR	**Zakros**	**80.71 304**	P	P		00 31 10.6	+7.3
RPZ	**Rata Peaks**	**80.76 146**	*eP*	**P**		**00 31 04.1**	**+0.9**
	comp=Z,171nm,1.0s						
PLG	**Polygyros**	**80.80 310**	P	**P**		**00 31 03.1**	**-0.7**
PLG	**Polygyros**	**80.80 310**	P	**P**		**00 31 03.1**	**-0.7**
PLG	**Polygyros**	**80.80 310**	*eP*	**P**		**00 31 02.8**	**-1.0**
PLG	**Polygyros**	**80.80 310**	P	**P**		**00 31 03.1**	**-0.7**
PAIG	**Paliouri**	**80.81 309**	P	**P**		**00 31 03.1**	**-0.6**
PAIG	**Paliouri**	**80.81 309**	P	**P**		**00 31 03.1**	**-0.6**
PAIG	**Paliouri**	**80.81 309**	*eP*	**P**		**00 31 04.8**	**+1.1**
PAIG	**Paliouri**	**80.81 309**	P	**P**		**00 31 03.1**	**-0.6**
KNT	**Kendrikon**	**80.89 311**	P	**P**		**00 31 03.6**	**-0.6**
KNT	**Kendrikon**	**80.89 311**	P	**P**		**00 31 03.6**	**-0.6**
KNT	**Kendrikon**	**80.89 311**	*eP*	**P**		**00 31 05.4**	**+1.2**
KNT	**Kendrikon**	**80.89 311**	P	**P**		**00 31 03.6**	**-0.6**
MORC	**Moravsky Berou**	**80.92 320**	*eP*	**P**		**00 31 04.5**	**+0.3**
MORC			*e*			00 34 04.6	
MORC			pmax	pmax			
	comp=Z,369nm,1.6s						
MORC	**Moravsky Berou**	**80.92 320**	⇑*iP*	**P**		**00 31 04.6**	**+0.3**
MORC	**Moravsky Berou**	**80.92 320**	*eP*	**P**		**00 31 04.5**	**+0.3**
	comp=Z,368nm,1.6s						
MORC			*e*PP	**PP**		**00 34 04.6**	**-3.8**
AOS	**Alonnisos**	**80.95 309**	P	P		00 31 11.9	+7.4
AOS	**Alonnisos**	**80.95 309**	*eP*	P		00 30 59.7	-4.8
AOS	**Alonnisos**	**80.95 309**	P	P		00 31 11.9	+7.4
HORT	**Hortiatis**	**80.96 310**	P	P		00 31 12.5	+7.8
HORT	**Hortiatis**	**80.96 310**	*eP*	P		00 31 12.8	+8.1
HORT	**Hortiatis**	**80.96 310**	P	P		00 31 12.5	+7.8
BUD	**Budapest**	**80.97 318**	⇑*eP*	**P**		**00 31 05.2**	**+0.8**
PKS6	**Bocsa**	**80.98 317**	⇓*eP*	**P**		**00 31 05.6**	**+1.1**
THE	**Thessaloniki**	**81.05 310**	P	P		00 31 12.1	+7.1
THE	**Thessaloniki**	**81.05 310**	P	P		00 31 12.1	+7.1
THE	**Thessaloniki**	**81.05 310**	P	P		00 31 12.1	+7.1
VAY	**Valandovo**	**81.06 311**	P	**P**		**00 31 04.2**	**-0.9**
VAY	**Valandovo**	**81.06 311**	P	**P**		**00 31 04.2**	**-0.9**
VAY	**Valandovo**	**81.06 311**	*i P*	**P**		**00 31 04.7**	**-0.4**
	comp=Z,684nm,1.6s						
VAY	**Valandovo**	**81.06 311**	P	**P**		**00 31 04.2**	**-0.9**
COP	**Copenhagen**	**81.10 327**	⇑*iP*	**P**		**00 31 05.4**	**+0.5**
COP			*i* S	**S**		**00 41 14.1**	**+1.4**
COP			pmax	pmax			
	comp=Z,88nm,1.0s						
COP			MLR	MLR			
	comp=Z,20μm,17.0s						
COP	**Copenhagen**	**81.10 327**	⇑*iP*	**P**		**00 31 05.4**	**+0.5**
	comp=Z,88nm,0.9s						
COP	**Copenhagen**	**81.10 327**	*i* S	**S**		**00 41 14.1**	**+1.4**
NPS	**Neapolis**	**81.12 304**	P	P		00 31 12.9	+7.4
NPS	**Neapolis**	**81.12 304**	P	P		00 31 12.9	+7.4
NPS	**Neapolis**	**81.12 304**	*eP*	**P**		**00 31 05.3**	**-0.2**
NPS	**Neapolis**	**81.12 304**	P	P		00 31 12.9	+7.4
SNZO	**South Karori**	**81.12 142**	PFAKE			00 31 20.0	+15
SNZO			LR	LR			
	comp=Z,5μm,21.0s						
RGN	**Rugen**	**81.17 326**	*eS*	**S**		**00 41 15.9**	**+2.4**
KSP	**

SUE eS S 00 41 21.2 +0.8
SUE IVMs_BB IVMs_BB 01 11 04.9
comp=Z,22µm,16.1s
AXAR Agios Charalam 81.98 309 P P 00 31 16.5 +6.5
AXAR Agios Charalam 81.98 309 P P 00 31 16.5 +6.5
BER Bergen 81.99 333 eP P 00 31 06.8 -2.8
BER IVmB_BB 00 31 21.8
comp=Z,5µm,2.9s
BER eS S 00 41 21.9 +0.1
BER IVMs_BB IVMs_BB 01 10 55.5
comp=Z,19µm,15.6s
BER IAMs_20 IAMs_20 01 10 59.2
comp=Z,50µm,18.1s
KZN Kozani 82.01 310 P P 00 31 08.9 -1.3
KZN Kozani 82.01 310 P P 00 31 08.9 -1.3
KZN Kozani 82.01 310 eP P 00 31 10.1 -0.1
KZN Kozani 82.01 310 P P 00 31 08.9 -1.3
LTK Loutraki 82.05 308 P P 00 31 15.8 +5.4
LTK Loutraki 82.05 308 eP P 00 31 09.0 -1.4
LTK Loutraki 82.05 308 P P 00 31 15.8 +5.4
DID Didima 82.05 307 P P 00 31 09.9 -0.5
DID Didima 82.05 307 eP P 00 31 10.5 +0.1
DID Didima 82.05 307 P P 00 31 09.9 -0.5
FNA Florina 82.10 311 P P 00 31 09.1 -1.6
FNA Florina 82.10 311 P P 00 31 09.1 -1.6
FNA Florina 82.10 311 eP P 00 31 11.3 +0.6
FNA Florina 82.10 311 P P 00 31 09.1 -1.6
AGG Agios Georgios 82.12 309 P P 00 31 08.7 -2.1
AGG Agios Georgios 82.12 309 P P 00 31 08.7 -2.1
AGG Agios Georgios 82.12 309 eP P 00 31 10.1 -0.7
AGG Agios Georgios 82.12 309 P P 00 31 08.7 -2.1
THL Klokotos Trika 82.13 310 P P 00 31 09.2 -1.6
THL Klokotos Trika 82.13 310 eP P 00 31 10.2 -0.6
VAM Vamos 82.13 305 P P 00 31 09.6 -1.3
VAM Vamos 82.13 305 P P 00 31 09.6 -1.3
VAM Vamos 82.13 305 eP P 00 31 11.1 +0.2
VAM Vamos 82.13 305 P P 00 31 09.6 -1.3
MAKR Makrakomi, Fth 82.26 309 P P 00 31 16.2 +4.7
MAKR Makrakomi, Fth 82.26 309 eP P 00 31 12.6 +1.1
MAKR Makrakomi, Fth 82.26 309 P P 00 31 16.2 +4.7
SNART Snartemo 82.27 331 eP P 00 31 11.3 +0.2
SNART eS S 00 41 27.2 +2.5
IVA Berane 82.28 313 ⇓iP P 00 31 11.8 +0.2
PVCC Panska Ves 82.31 322 eP P 00 31 12.9 +1.4
PVCC e 00 31 20.3
PVCC e 00 31 31.3
PVCC e 00 34 20.9
PVCC eS S 00 41 24.5 -1.0
PVCC MLR MLR
comp=Z,18µm,16.7s
PVCC Panska Ves 82.31 322 eP P 00 31 12.9 +1.4
PVCC epP pP 00 31 20.3 +0.1
PVCC ex x 00 31 31.3
PVCC ePP PP 00 34 20.9 +1.0
PVCC eS S 00 41 24.5 -1.0
PVCC AMS AMS 01 12 30.0
comp=Z,18µm,16.7s
MUD Monsted U'grnd 82.32 329 iP P 00 31 11.1 -0.3
MUD iS S 00 41 26.8 +1.5
MUD pmax pmax
comp=Z,100nm,1.0s
MUD MLR MLR
comp=Z,50µm,15.0s
MUD Monsted U'grnd 82.32 329 iP P 00 31 11.1 -0.3
comp=Z,104nm,1.0s
MUD Monsted U'grnd 82.32 329 iS S 00 41 26.8 +1.5
TREC Trest 82.33 320 eP P 00 31 12.2 +0.5
TREC e 00 31 20.2
TREC e 00 31 30.8
TREC e 00 34 20.9
TREC eS S 00 41 26.6 +0.8
TREC MLR MLR
comp=Z,16µm,14.8s
TREC Trest 82.33 320 eP P 00 31 12.2 +0.5
TREC epP pP 00 31 20.2 -0.2
TREC ex x 00 31 30.8
TREC ePP PP 00 34 20.9 +0.8
TREC eS S 00 41 26.6 +0.8
TREC AMS AMS 01 10 30.0
comp=Z,16µm,14.8s
PVY Plav 82.35 313 ⇓iP P 00 31 09.5 -2.5
OHR Ohrid 82.37 311 iP P 00 31 10.0 -2.1
comp=Z,1µm,3.4s
SOP Sopron 82.40 319⇑eP P 00 31 12.3 +0.3
PLE Pljevlja 82.43 314 ⇓iP P 00 31 13.3 +0.9
NEST Nestorio 82.47 311 P P 00 31 11.7 -1.0
NEST Nestorio 82.47 311 eP P 00 31 12.5 -0.2
BRG Berggiesshubel 82.51 322 iP P 00 31 12.9 +0.4
comp=Z,77nm,1.6s
BRG i 00 31 21.9
comp=Z,810nm,2.2s
BRG ePP PP 00 34 09.8 -12
comp=Z,93nm,1.8s
BRG S S 00 41 29.0 +1.4
BRG PS PnS 00 42 12.0 -7.0
BRG SS SS 00 46 52.0 +3.7
BRG ePKKP PKKPbc 00 49 40.3 +1.3
comp=Z,3.4nm,1.0s
BRG ePKPPKP P'P'df 00 57 41.4 -5.8
comp=Z,1.4nm,0.4s
BRG Berggiesshubel 82.51 322 iP P 00 31 12.9 +0.4
BRG i 00 31 21.9
BRG S S 00 41 29.0 +1.4
BRG PS PnS 00 42 12.0 -7.0
BRG SS SS 00 46 52.0 +3.7
BRG pmax pmax
comp=Z,77nm,1.6s
BRG MLR MLR
comp=N,18µm,16.5s
BRG MLR MLR
comp=E,14µm,16.5s
BRG MLR MLR
comp=Z,20µm,14.4s
BRG Berggiesshubel 82.51 322 eP P 00 31 12.5 0.0
comp=Z,242nm,2.0s
BRG epP pP 00 31 21.1 -0.1
BRG ePP PP 00 34 29.2 +7.7
BRG eS S 00 41 30.5 +2.9
EVR Evrytania 82.53 309 P P 00 31 13.8 +0.8
EVR Evrytania 82.53 309 eP P 00 31 12.2 -0.8
EVR Evrytania 82.53 309 P P 00 31 13.8 +0.8
GUR Goura 82.53 308 P P 00 31 16.5 +3.4
GUR Goura 82.53 308 eP P 00 31 13.5 +0.4
GUR Goura 82.53 308 P P 00 31 16.5 +3.4
PRU Pruhonice 82.57 321 eP P 00 31 12.6 -0.3
PRU e 00 31 21.4
PRU e 00 34 26.6
PRU eS S 00 41 30.5 +2.3
PRU MLR MLR
comp=Z,16µm,16.3s
PRU Pruhonice 82.57 321 eP P 00 31 12.6 -0.3
PRU epP pP 00 31 21.4 -0.2
PRU ex x 00 31 33.0
PRU ePP PP 00 34 26.6 +4.6
PRU eS S 00 41 30.5 +2.3
PRU AMS AMS 01 09 20.0
comp=Z,16µm,16.3s
VLI Veliai 82.57 307 P P 00 31 11.0 -2.1
VLI Veliai 82.57 307 eP P 00 31 11.9 -1.2
VLI Veliai 82.57 307 P P 00 31 11.0 -2.1
PRA Prague 82.60 321 P P 00 31 13.0 0.0
PRA PP PP 00 34 27.0 +4.8
KLV Kalavryta, Ach 82.63 308 P P 00 31 14.4 +0.9
KLV Kalavryta, Ach 82.63 308 eP P 00 31 15.3 +1.8
KLV Kalavryta, Ach 82.63 308 P P 00 31 14.4 +0.9
ANKY Antikythira Is 82.63 306 eP P 00 31 13.2 -0.3
EFP Efpalio 82.66 309 P P 00 31 17.2 +3.7
KMY Karmoy 82.67 332 eP P 00 31 13.6 +0.5
KMY IAmb IAmb 00 31 27.8
comp=Z,328nm,1.4s
KMY eS S 00 41 31.1 +2.4
LAKA Lakka 82.68 308 P P 00 31 15.8 +2.1
LAKA Lakka 82.68 308 eP P 00 31 13.2 -0.5
LAKA Lakka 82.68 308 P P 00 31 15.8 +2.1
CONA Conrad Observa 82.71 319 iP P 00 31 14.7 +0.9
comp=Z,288nm,1.8s,SNR=26
KULLO Kullorsuaq 82.72 359⇑iP P 00 31 13.0 -0.1
KULLO pmax pmax
comp=Z,130nm,1.1s
KULLO MLR MLR
comp=Z,13µm,17.0s
KULLO Kullorsuaq 82.72 359⇑iP P 00 31 13.0 -0.1
comp=Z,131nm,1.0s
VLX Vlachokerasia 82.73 307 P P 00 31 15.2 +1.1
VLX Vlachokerasia 82.73 307 P P 00 31 15.2 +1.1
UPM Unac-Piva 82.80 314 ⇓iP P 00 31 13.8 -0.7
FBE Freiberg 82.82 323 eP P 00 31 14.1 0.0
comp=Z,195nm,1.5s
FBE epP pP 00 31 22.9 +0.1
CLL Collm 82.84 323⇑iP P 00 31 14.3 +0.1
CLL i 00 31 22.2
CLL i 00 31 28.2
CLL e 00 34 22.0
CLL eS S 00 41 33.0 +2.2
CLL pmax pmax
comp=Z,96nm,1.3s
CLL MLR MLR
comp=Z,34µm,19.0s
CLL Collm 82.84 323 eP P 00 31 13.8 -0.4
comp=Z,96nm,1.3s
CLL epP pP 00 31 22.4 -0.5
CLL ePP PP 00 34 32.7 +8.6
CLL eS S 00 41 30.9 +0.1
CLL Collm 82.84 323⇑iP P 00 31 14.3 +0.1
comp=Z,96nm,1.3s
CLL ePmax 00 31 20.0
CLL iP pP pP 00 31 22.2 -0.7
CLL i 00 31 28.2
CLL ePP PP 00 34 22.0 -2.1
comp=Z,64nm,1.3s
CLL epPP 00 34 32.0
CLL eS S 00 41 33.0 +2.2
CLL eSS SS 00 46 50.0 -3.0
CLL ePKKPbc PKKPbc 00 49 37.0 -1.3
CLL eSSS SSS 00 50 36.0
CLL eSSSS 00 52 54.0
CLL Lm MLR 01 13 00.0
comp=Z,34µm,19.0s
OPO Ambohidratompo 82.87 247 LR LR 01 06 42.5
comp=Z,4µm,18.2s,baz=61,slow=35
PDG Podgorica 82.89 313 P P 00 31 14.8 +0.1
TTG Podgorica 82.89 313 ⇓iP P 00 31 14.7 +0.1
TTG Podgorica 82.89 313 P P 00 31 14.8 +0.1
TTG Podgorica 82.89 313 P P 00 31 14.8 +0.1
NKY Niksic 82.91 313 ⇓iP P 00 31 13.8 -1.1
JAN Janina 82.92 310 P P 00 31 15.5 +0.6
JAN Janina 82.92 310 P P 00 31 15.5 +0.6
JAN Janina 82.92 310 P P 00 31 15.5 +0.6
DSL Palaion Diasel 82.95 309 P P 00 31 14.4 -0.7
DSL Palaion Diasel 82.95 309 P P 00 31 14.4 -0.7
DRO Drossia 82.99 308 P P 00 31 13.4 -1.9
DRO Drossia 82.99 308 eP P 00 31 18.0 +2.7
BSEG Bad Segeberg 83.01 326 eP P 00 31 15.1 +0.1
comp=Z,124nm,1.5s
BSEG epP pP 00 31 23.6 -0.1
BSEG ePP PP 00 34 33.7 +8.3
BSEG eS S 00 41 35.0 +2.5
ABPO Ambohimpanom 83.04 246 eP P 00 31 16.1 +0.1
ABPO pmax pmax
comp=Z,205nm,1.1s
ABPO MLR MLR
comp=Z,5µm,20.0s
ABPO Ambohimpanom 83.04 246 eP P 00 31 16.1 +0.1
comp=Z,205nm,1.1s
ABPO LR LR
comp=Z,5µm,20.0s
ULC Ulcinj 83.09 313 ⇓iP P 00 31 16.1 +0.3
PDO Prodromos 83.11 309 P P 00 31 14.8 -1.1
PDO Prodromos 83.11 309 eP P 00 31 15.8 -0.1
RLS Riolos of Patr 83.12 308 P P 00 31 15.2 -0.7
RLS Riolos of Patr 83.12 308 eP P 00 31 18.2 +2.3
RLS Riolos of Patr 83.12 308 P P 00 31 15.2 -0.7
ITM Ithomi 83.14 307 P P 00 31 14.8 -1.3
ITM Ithomi 83.14 307 eP P 00 31 15.1 -1.0
ITM Ithomi 83.14 307 P P 00 31 14.8 -1.3
AMT Artemida-Makis 83.15 308 P P 00 31 20.0 +3.8
AMT Artemida-Makis 83.15 308 eP P 00 31 16.8 +0.6
BRY Bratogost 83.17 314 ⇓iP P 00 31 13.9 -2.4
BUM Brajici-Budva 83.19 313 ⇓iP P 00 31 16.6 +0.3
ARSA Arzberg 83.22 319⇑iP P 00 31 16.5 +0.1
comp=Z,132nm,1.9s,SNR=13
PYL PYLOS 83.38 307 P P 00 31 18.6 +1.3
PYL PYLOS 83.38 307 eP P 00 31 18.3 +1.0
PYL PYLOS 83.38 307 P P 00 31 18.6 +1.3
HCY Herceg Novi 83.39 313 ⇓iP P 00 31 14.4 -2.9
LKD2 Lefkada island 83.41 309 P P 00 31 28.5 +11
LKD2 Lefkada island 83.41 309 eP P 00 31 18.0 +0.5
LKD2 Lefkada island 83.41 309 P P 00 31 28.5 +11
KHC Kasperske Hory 83.52 321 eP P 00 31 17.7 -0.2
KHC e 00 31 26.4
KHC e 00 34 33.1
KHC eS S 00 41 35.5 -2.5
KHC MLR MLR
comp=Z,18µm,15.3s
KHC Kasperske Hory 83.52 321 eP P 00 31 17.7 -0.2
KHC epP pP 00 31 26.4 -0.2
KHC ex x 00 31 37.7
KHC ePP PP 00 34 33.1 +3.2
KHC eS S 00 41 35.5 -2.5
KHC AMS AMS 01 11 40.0
comp=Z,18µm,15.3s
KHC Kasperske Hory 83.52 321 eP P 00 31 17.3 -0.6
comp=Z,479nm,1.8s
KHC ePP PP 00 34 36.7 +6.8
TANN Tannenbergstha 83.56 322 eP P 00 31 17.8 -0.3
comp=Z,95nm,1.6s
TANN epP pP 00 31 26.5 -0.3
TANN ePP PP 00 34 36.6 +6.5
TANN eS S 00 41 40.1 +1.7
NEUB Neuenburg 83.56 323 eP P 00 31 17.7 -0.3
comp=Z,139nm,1.3s
NEUB epP pP 00 31 26.3 -0.4
NEUB ePP PP 00 34 38.2 +8.1
NEUB eS S 00 41 40.7 +2.5
GERES GERESS Array B 83.58 321 P P 00 31 18.6 +0.3
GERES GERESS Array B 83.58 321 P P 00 31 18.6 +0.3
comp=Z,18nm,0.8s,baz=57,slow=4.9,SNR=62
GERES LR LR 01 12 16.9
comp=Z,19µm,18.9s,baz=58,slow=38
GERES GERESS Array B 83.58 321 P P 00 31 18.6 +0.3
WERD Werda 83.63 322 eP P 00 31 18.2 -0.2
comp=Z,104nm,1.6s
WERD epP pP 00 31 26.9 -0.2
KEK Kerkira 83.64 310 P P 00 31 22.1 +3.5
KEK Kerkira 83.64 310 eP P 00 31 18.1 -0.5
KEK Kerkira 83.64 310 P P 00 31 22.1 +3.5
GUNZ Gunzen 83.66 322 eP P 00 31 18.3 -0.2
comp=Z,132nm,1.5s
GUNZ epP pP 00 31 27.1 -0.2
WERN Wernitzgruen 83.67 322 eP P 00 31 18.5 -0.1
comp=Z,80nm,1.4s
WERN epP pP 00 31 27.1 -0.2
PLN Plauen 83.70 322 eP P 00 31 18.6 -0.1
comp=Z,144nm,1.7s
PLN epP pP 00 31 27.3 -0.1
SUMG Summit 83.70 354⇑iP P 00 31 19.0 +0.2
SUMG iS S 00 41 41.0 +1.2
SUMG pmax pmax
comp=Z,150nm,1.0s
SUMG MLR MLR
comp=Z,12µm,16.0s
SUMG Summit 83.70 354⇑iP P 00 31 19.0 +0.2
comp=Z,149nm,1.0s
SUMG Summit 83.70 354 iS S 00 41 41.0 +1.2
SUMG Summit 83.70 354 eP P 00 31 18.7 -0.1
comp=Z,263nm,0.9s
VLS Valsamata 83.70 309 P P 00 31 22.4 +3.4
VLS Valsamata 83.70 309 P P 00 31 22.4 +3.4
VLS Valsamata 83.70 309 eP P 00 31 17.5 -1.5
VLS Valsamata 83.70 309 P P 00 31 22.4 +3.4
MOA Molln 83.71 319⇑iP P 00 31 19.5 +0.7
comp=Z,337nm,1.7s,SNR=20
PERS Pernice 83.74 318 iP P 00 31 19.2 +0.1
PERS i 00 31 27.4
SOKA Soboth 83.77 318⇑iP P 00 31 19.6 +0.3
comp=Z,197nm,1.8s,SNR=12
CRES Cresnjev 83.89 317 iP P 00 31 19.9 +0.1
WET Wettzell 83.92 321 eP P 00 31 19.8 -0.1
comp=Z,134nm,1.7s
WET epP pP 00 31 28.7 +0.1
WET ePP PP 00 34 41.7 +8.6
WET eS S 00 41 45.5 +3.5
MOX Moxa 83.92 323 eP P 00 31 19.6 -0.3
comp=Z,99nm,1.5s
MOX epP pP 00 31 28.2 -0.4
MOX ePP PP 00 34 41.4 +8.3
MOX eS S 00 41 45.5 +3.6
MOX eL L 01 13 37.8
comp=Z,27µm,18.0s
ROTZ Rotzenmuhle 84.01 322 eP P 00 31 20.5 +0.2
comp=Z,112nm,1.4s
ROTZ epP pP 00 31 29.3 +0.3
ROTZ ePP PP 00 34 43.3 +9.5
ROTZ eS S 00 41 47.2 +4.4
CLZ Clausthal 84.02 324 eP P 00 31 20.5 +0.1
comp=Z,124nm,1.3s
CLZ epP pP 00 31 29.1 0.0
HLG Helgoland 84.12 327 ePP PP 00 34 43.3 +8.8
HLG eS S 00 41 45.8 +2.2
OBKA Obir 84.15 318 iP P 00 31 21.3 +0.1
comp=Z,190nm,1.8s,SNR=6.5
BOJS Bojanci 84.17 317 eP P 00 31 21.9 +0.7
BOJS i 00 31 29.1
BOJS eS S 00 41 44.7 +0.2
BBB Bella Bella 84.20 35 P P 00 31 20.4 -0.8
comp=Z,62nm,1.1s,baz=298,slow=6.0,SNR=5.6
BBB Bella Bella 84.20 35 P P 00 31 20.4 -0.8
YKA Yellowknife Ar 84.26 23 P P 00 31 20.7 -0.6
YKA Yellowknife Ar 84.26 23 P P 00 31 20.7 -0.6
comp=Z,43nm,0.7s,baz=315,slow=4.8,SNR=442
YKA PKPPKP P'P'df 00 57 28.3 -16
comp=Z,0.8nm,1.1s,baz=139,slow=2.4,SNR=4.6
YKA Yellowknife Ar 84.26 23 P P 00 31 20.7 -0.6
YKA P'P' 00 57 28.3
VISS Visnje 84.29 317 eS S 00 41 44.6 -1.2
LJU Ljubljana 84.37 318 iP P 00 31 22.4 +0.2
LJU i 00 31 30.5
LJU eS S 00 41 46.3 -0.3
KMBO Kilima Mbogo 84.49 266 eP P 00 31 25.2 +1.6
KMBO Kilima Mbogo 84.49 266 P P 00 31 25.3 +1.6
comp=Z,20nm,1.1s,baz=46,slow=6.1,SNR=74
KMBO LR LR 01 10 11.4
comp=Z,6µm,18.6s,baz=62,slow=36
KMBO Kilima Mbogo 84.49 266 eP P 00 31 25.0 +1.4
comp=Z,574nm,1.8s
GRF Grafenberg Arr 84.61 322 eP P 00 31 23.5 +0.1
comp=Z,632nm,2.4s
GRF epP pP 00 31 32.0 -0.1
GRF ePP PP 00 34 47.1 +8.4
GRF eS S 00 41 49.9 +1.1
GRF eL L 01 14 21.7
comp=Z,20µm,19.5s
GRFO Grafenberg 84.61 322 eP P 00 31 23.7 +0.3
GRFO pmax pmax
comp=Z,294nm,1.4s
GRFO Grafenberg 84.61 322 eP P 00 31 23.7 +0.3
comp=Z,294nm,1.4s
KBA Koelnbreinsper 84.62 319 iP P 00 31 23.7 +0.1
comp=Z,168nm,1.3s,SNR=14
MYKA Terra Mystica 84.65 319⇑iP P 00 31 23.0 -0.7
comp=Z,123nm,2.0s,SNR=10
JAVS Javornik 84.73 318 iP P 00 31 23.6 -0.6
JAVS i 00 31 32.2
JAVS eS S 00 41 47.3 -3.1
LRW Lerwick 84.78 335 eP P 00 31 22.9 -1.1
LRW AMB AMB 00 31 29.1
comp=Z,131nm,1.3s
LRW AMS AMS 01 13 34.9
comp=Z,24µm,13.8s
PAF Port-aux-Franc 84.85 210 P P 00 31 05.0 -19
PAF Port-aux-Franc 84.85 210 S S 00 41 44.0 -6.7
PAF SS SS 00 47 19.0 -5.1
PAF L L 00 55 00.0
PAF R 00 59 00.0
IBBN Ibbenburen 85.17 325 eP P 00 31 25.9 -0.2
comp=Z,236nm,1.7s
IBBN epP pP 00 31 34.4 -0.4
IBBN ePP PP 00 34 51.3 +8.2
IBBN eS S 00 41 53.0 -1.2
ABTA Abfaltersbach 85.28 319⇑iP P 00 31 25.9 -1.0
comp=Z,150nm,1.4s,SNR=18
FUR Furstenfeldbru 85.33 321 eP P 00 31 27.1 +0.1
comp=Z,2µm,2.9s
FUR epP pP 00 31 35.9 +0.2
FUR ePP PP 00 34 52.6 +8.1
FUR eS S 00 41 55.0 -1.0
WATA Walderalm 85.55 320⇑iP P 00 31 28.0 -0.3
comp=Z,269nm,1.6s,SNR=11
MAUS Longido 85.63 265 iP P 00 31 30.7 +1.4
MOTA Moosalm 85.83 320⇑iP P 00 31 29.3 -0.4
comp=Z,77nm,1.0s,SNR=16
WTSB Winterswijk 85.85 325 eP P 00 31 29.3 -0.2
comp=Z,414nm,2.6s
WTSB ePP PP 00 34 48.3 -0.3
BUG Bochum--Univer 85.89 325 eP P 00 31 29.3 -0.3
comp=Z,154nm,1.5s
BUG epP pP 00 31 37.9 -0.5
BUG ePP PP 00 34 58.0 +9.1
BUG eS S 00 41 57.7 -3.5
TNS Taunus Mts 85.89 323 eP P 00 31 29.8 0.0
comp=Z,454nm,2.9s
TNS epP pP 00 31 38.4 -0.1
TNS ePP PP 00 34 57.4 +8.3
TNS eS S 00 41 58.7 -2.8
RETA Reutte 85.96 320⇑iPcP PcP 00 31 32.4 -0.6
comp=Z,103nm,1.4s,SNR=5.6
TIP Timpagrande 85.99 311 P P 00 31 29.8 -0.8
TIP Timpagrande 85.99 311 eP P 00 31 30.1 -0.4
comp=Z,214nm,1.5s
TIP LR LR
comp=Z,5µm,19.0s
FETA Feichten 86.21 320⇑iPcP P 00 31 31.6 0.0
comp=Z,191nm,1.3s,SNR=15
STU Stuttgart 86.22 322 eP P 00 31 31.0 -0.4
comp=Z,466nm,2.8s
STU epP pP 00 31 39.7 -0.4
STU ePP PP 00 34 58.6 +6.9
STU eS S 00 41 59.1 -5.6
CUC Castrocucco 86.28 312 PFAKE 00 31 40.0 +8.1
CUC LR LR
comp=Z,5µm,20.0s
DAVA Damuels 86.58 320⇑iPcP P 00 31 33.2 -0.2
comp=Z,98nm,1.2s,SNR=7.3
AQU L'Aquila 86.81 315 eP P 00 31 34.7 +0.2
AQU e 00 34 56.5
AQU pmax pmax
comp=Z,253nm,1.2s
AQU MLR MLR
comp=Z,12µm,20.0s
AQU L'Aquila 86.81 315 eP P 00 31 34.7 +0.2
comp=Z,253nm,1.2s
AQU ePP PP 00 34 56.5 -0.2
AQU LR LR
comp=Z,12µm,20.0s
LANF Langenberg 86.89 323⇑eP P 00 31 36.5 +1.8
BIGH Upper Bighouse 86.91 334 eP P 00 31 34.0 -0.5
BIGH AMS AMS 01 14 54.3
comp=Z,34µm,14.8s
BFO Black Forest 86.94 322 eP P 00 31 34.3 -0.7
BFO pmax pmax
comp=Z,230nm,1.8s
BFO MLR MLR
comp=Z,17µm,19.0s
BFO Black Forest 86.94 322 eP P 00 31 34.4 -0.6
comp=Z,364nm,2.8s
BFO epP pP 00 31 43.0 -0.7
BFO ePP PP 00 35 05.4 +7.8
BFO eS S 00 42 04.2 -7.6
BFO Black Forest 86.94 322 eP P 00 31 34.3 -0.7
comp=Z,230nm,1.8s
BFO LR LR
comp=Z,17µm,19.0s
HGN Heimansgroave 86.96 325 eP P 00 31 34.9 0.0
comp=Z,347nm,2.4s
HGN ePP PP 00 34 54.0 -3.6
HGN eSKS SKSac 00 41 47.2 -13
HGN eSS SS 00 48 04.1 +10
MEM Membach 87.00 325 P P 00 31 35.5 +0.3
CEL Celeste 87.01 310 eP P 00 31 35.9 +0.4
comp=Z,1µm,1.6s
CEL ePP PP 00 34 58.1 -0.4
CEL LR LR
comp=Z,8µm,20.0s
BEBN Eben Emael 87.08 325 P P 00 31 36.3 +0.8
comp=Z,86nm,2.9s
BEBN AP pP 00 31 43.6 -0.7
MCD Coleburn Disti 87.23 333 eP P 00 31 35.4 -0.7
MME1 Meikle Cairn 87.28 333 eP P 00 31 35.8 -0.6
TUE Stuetta 87.31 320 eP P 00 31 37.2 +0.1

	comp=Z,340nm,1.5s						
TUE				*e*PP	PP	00 34 54.5	-6.3
TUE				LR	LR		
	comp=Z,20µm,20.0s						
DRUM	**Mains of Drumt**	**87.34**	**333**	*e*P	**P**	**00 31 35.3**	**-1.4**
DRUM				AMS	AMS	01 14 43.0	
	comp=Z,34µm,16.5s						
MVH1	**Achvaich**	**87.39**	**334**	*e*P	**P**	**00 31 35.2**	**-1.7**
WLF	**Walferdange**	**87.44**	**324**	P	**P**	**00 31 37.7**	**+0.3**
	comp=Z,122nm,1.7s						
WLF	**Walferdange**	**87.44**	**324**	*e*P	**P**	**00 31 36.9**	**-0.4**
WLF				*e*		00 34 58.6	
WLF				pmax	pmax		
	comp=Z,256nm,1.4s						
WLF				MLR	MLR		
	comp=Z,16µm,19.0s						
WLF	**Walferdange**	**87.44**	**324**	*e*P	**P**	**00 31 37.5**	**+0.2**
	comp=Z,203nm,1.7s						
WLF				*e*pP	**pP**	**00 31 46.0**	**-0.1**
WLF				*e*PP	PP	00 35 10.5	+9.0
WLF				*e*S	S	00 42 09.6	-6.9
WLF	**Walferdange**	**87.44**	**324**	*e*P	**P**	**00 31 36.9**	**-0.4**
	comp=Z,256nm,1.4s						
WLF				*e*PP	**PP**	**00 34 58.6**	**-2.9**
WLF				LR	LR		
	comp=Z,16µm,19.0s						
BCLA	**Clavier**	**87.48**	**325**	P	**P**	**00 31 37.6**	**+0.1**
	comp=Z,84nm,2.1s						
BCLA				AP	**pP**	**00 31 44.6**	**-1.7**
CDF	**Champ du Feu**	**87.49**	**322**	*e*P	**P**	**00 31 37.3**	**-0.4**
	comp=Z,523nm,1.6s						
CDF	**Champ du Feu**	**87.49**	**322**	*e*P	**P**	**00 31 37.3**	**-0.4**
CDF				pmax	pmax		
	comp=Z,523nm,1.6s						
CDF	**Champ du Feu**	**87.49**	**322**	*e*P	**P**	**00 31 37.3**	**-0.4**
	comp=Z,523nm,1.6s						
ECH	**Echery**	**87.67**	**322**	PFAKE		00 31 50.0	+12
ECH				LR	LR		
	comp=Z,10µm,19.0s						
UCC	**Uccle**	**87.77**	**325**	P	**P**	**00 31 38.6**	**-0.2**
	comp=Z,196nm,2.3s						
UCC				AP	**pP**	**00 31 46.3**	**-1.3**
MDO	**Dochfour**	**87.78**	**334**	*e*P	**P**	**00 31 37.4**	**-1.4**
BORG	**Borgarnes**	**87.83**	**345**	PFAKE		00 31 50.0	+11
BORG				LR	LR		
	comp=Z,16µm,19.0s						
DODT	**Dodoma, Tanzan**	**87.84**	**262**	*i* P	**P**	**00 31 40.9**	**+0.8**
VLC	**Villacollemand**	**87.85**	**318**	PFAKE		00 31 50.0	+11
VLC				LR	LR		
	comp=Z,14µm,20.0s						
MOF	**Molkenrain**	**87.87**	**322⇑**	*e*P	**P**	**00 31 39.1**	**-0.5**
GIVF	**Givet**	**87.92**	**325**	*e*P	**P**	**00 31 39.3**	**-0.3**
	comp=Z,378nm,1.4s						
GIVF	**Givet**	**87.92**	**325**	*e*P	**P**	**00 31 39.3**	**-0.3**
GIVF				pmax	pmax		
	comp=Z,378nm,1.4s						
GIVF	**Givet**	**87.92**	**325**	*e*P	**P**	**00 31 39.3**	**-0.3**
	comp=Z,378nm,1.4s						
ILULI	**Ilulissat**	**87.94**	**357**	*i* P	**P**	**00 31 38.7**	**-0.6**
ILULI				pmax	pmax		
	comp=Z,67nm,0.9s						
ILULI				MLR	MLR		
	comp=Z,11µm,16.0s						
ILULI	**Ilulissat**	**87.94**	**357**	*i* P	**P**	**00 31 38.7**	**-0.6**
	comp=Z,67nm,0.9s						
SNF	**Seneffe**	**87.97**	**325**	P	**P**	**00 31 40.4**	**+0.6**
SNF				AP	**pP**	**00 31 48.5**	**-0.1**
SNF				XP	**sP**	**00 31 51.4**	**-0.3**
ESY	**Stoneypath**	**88.03**	**332**	*e*P	**P**	**00 31 39.2**	**-0.8**
DOU	**Dourbes**	**88.04**	**325**	P	**P**	**00 31 40.7**	**+0.6**
HINF	**Hinteralfeld**	**88.05**	**322**	*e*P	**P**	**00 31 39.5**	**-0.9**
	comp=Z,105nm,1.3s						
HINF	**Hinteralfeld**	**88.05**	**322**	*e*P	**P**	**00 31 39.5**	**-0.9**
HINF				pmax	pmax		
	comp=Z,105nm,1.3s						
HINF	**Hinteralfeld**	**88.05**	**322**	*e*P	**P**	**00 31 39.5**	**-0.9**
	comp=Z,105nm,1.3s						
KAC	**Achnashellach**	**88.12**	**334**	*e*P	**P**	**00 31 39.4**	**-1.0**
HAU	**Haudompre**	**88.24**	**322**	*e*P	**P**	**00 31 40.5**	**-0.7**
	comp=Z,352nm,1.7s						
HAU				*e*R			
	comp=Z,21µm,19.0s						
HAU	**Haudompre**	**88.24**	**322**	*e*P	**P**	**00 31 40.5**	**-0.7**
HAU				pmax	pmax		
	comp=Z,352nm,1.7s						
HAU	**Haudompre**	**88.24**	**322**	*e*P	**P**	**00 31 40.5**	**-0.7**
	comp=Z,352nm,1.7s						
BAIF	**Baives**	**88.27**	**325**	*e*P	**P**	**00 31 41.1**	**-0.2**
	comp=Z,219nm,1.5s						
BAIF	**Baives**	**88.27**	**325**	*e*P	**P**	**00 31 41.1**	**-0.2**
BAIF				pmax	pmax		
	comp=Z,219nm,1.5s						
BAIF	**Baives**	**88.27**	**325**	*e*P	**P**	**00 31 41.1**	**-0.2**
	comp=Z,219nm,1.5s						
PAGF	**Fort de Pagny**	**88.28**	**323**	*e*P	**P**	**00 31 41.2**	**-0.2**
	comp=Z,95nm,1.5s						
PAGF	**Fort de Pagny**	**88.28**	**323**	*e*P	**P**	**00 31 41.2**	**-0.2**
	comp=Z,95nm,1.5s						
EBL	**Broad Law**	**88.31**	**332**	*e*P	**P**	**00 31 41.0**	**-0.4**
LOMF	**Lomont**	**88.32**	**322⇑**	*e*P	**P**	**00 31 41.5**	**-0.2**
THEF	**They Montfort**	**88.32**	**323⇑**	*e*P	**P**	**00 31 41.3**	**-0.3**
KSB	**Sheil Bridge**	**88.36**	**334**	*e*P	**P**	**00 31 40.9**	**-0.6**
KPL	**Plockton**	**88.37**	**334**	*e*P	**P**	**00 31 41.3**	**-0.2**
KPL				AMB	AMB	00 31 52.1	
	comp=Z,130nm,1.6s						
KPL				AMS	AMS	01 15 13.4	
	comp=Z,16µm,16.4s						
XAL	**Allendale**	**88.53**	**331**	*e*P	**P**	**00 31 41.7**	**-0.8**
LMK	**Market Rasen**	**88.54**	**329**	*e*P	**P**	**00 31 42.0**	**-0.5**
LMK				AMS	AMS	01 15 24.2	
	comp=Z,28µm,16.1s						
EAB	**Aberfoyle**	**88.59**	**333**	*e*P	**P**	**00 31 42.2**	**-0.5**
PGC	**Sidney**	**88.60**	**37**	*e*P	**P**	**00 31 41.4**	**-1.4**
	comp=Z,24nm,1.5s						
ESK	**Eskdalemuir**	**88.67**	**332**	*e*P	**P**	**00 31 42.8**	**-0.2**
ESK				AMB	AMB	00 31 45.8	
	comp=Z,96nm,2.1s						
ESK				AMS	AMS	01 15 45.7	
	comp=Z,45µm,16.6s						
ESK	**Eskdalemuir**	**88.67**	**332**	*e*P	**P**	**00 31 42.5**	**-0.5**
ESK				MLR	MLR		
	comp=Z,36µm,19.0s						
ESK	**Eskdalemuir**	**88.67**	**332**	*e*P	**P**	**00 31 42.5**	**-0.5**
	comp=Z,4µm,2.1s						
ESK				LR	LR		
	comp=Z,36µm,19.0s						
MEZF	**Maizieres J'vi**	**88.69**	**323**	*e*P	**P**	**00 31 43.1**	**-0.2**
	comp=Z,218nm,1.2s						
MEZF	**Maizieres J'vi**	**88.69**	**323**	*e*P	**P**	**00 31 43.1**	**-0.2**
	comp=Z,218nm,1.3s						
ECK	**Cauldkaine Hil**	**88.73**	**332**	*e*P	**P**	**00 31 43.1**	**-0.2**
HPK	**Haverah Park**	**88.83**	**330**	AMS	AMS	01 15 41.4	
	comp=Z,25µm,15.1s						
SFTF	**Sexfontaines**	**88.86**	**323**	*e*P	**P**	**00 31 43.6**	**-0.5**
	comp=Z,292nm,1.3s						
SFTF	**Sexfontaines**	**88.86**	**323**	*e*P	**P**	**00 31 43.6**	**-0.5**
	comp=Z,292nm,1.3s						
PGBU	**Glenifferbraes**	**88.90**	**333**	*e*P	**P**	**00 31 42.2**	**-1.9**
PGBU				AMB	AMB	00 31 48.1	
	comp=Z,135nm,2.3s						
PGBU				AMS	AMS	01 15 32.0	
	comp=Z,30µm,17.4s						
RAR	**Rarotonga**	**88.94**	**113**	PFAKE		00 32 00.0	+15
RAR				LR	LR		
	comp=Z,2.0nm,20.0s						
NLWA	**Neilton Lookou**	**89.07**	**38**	*e*P	**P**	**00 31 46.1**	**+1.0**
	comp=Z,224nm,1.2s						
NLWA				LR	LR		
	comp=Z,7µm,20.0s						
WDD	**Wield Dalam**	**89.08**	**309**	PFAKE		00 32 00.0	+15
WDD				LR	LR		
	comp=Z,5µm,20.0s						
KESW	**Keswick, Cumbr**	**89.10**	**331**	*e*P	**P**	**00 31 44.8**	**-0.3**
KESW				AMB	AMB	00 31 58.3	
	comp=Z,308nm,3.0s						
KESW				AMS	AMS	01 16 19.6	
	comp=Z,38µm,16.2s						
CABF	**La Chapelle**	**89.14**	**321**	*e*P	**P**	**00 31 45.4**	**-0.2**
	comp=Z,120nm,1.3s						
CABF	**La Chapelle**	**89.14**	**321**	*e*P	**P**	**00 31 45.4**	**-0.2**
CABF				pmax	pmax		
	comp=Z,120nm,1.3s						
CABF	**La Chapelle**	**89.14**	**321**	*e*P	**P**	**00 31 45.4**	**-0.2**
	comp=Z,120nm,1.3s						
LPG	**La Plagne**	**89.36**	**320**	*e*P	**P**	**00 31 46.9**	**0.0**
	comp=Z,165nm,0.8s						
LPG	**La Plagne**	**89.36**	**320**	*e*P	**P**	**00 31 46.9**	**0.0**
LPG				pmax	pmax		
	comp=Z,165nm,0.8s						
LPG	**La Plagne**	**89.36**	**320**	*e*P	**P**	**00 31 46.9**	**0.0**
	comp=Z,165nm,0.8s						
LPL	**La Plagne**	**89.36**	**320**	*e*P	**P**	**00 31 46.7**	**-0.1**
	comp=Z,305nm,1.3s						
LPL	**La Plagne**	**89.36**	**320**	*e*P	**P**	**00 31 46.7**	**-0.1**
LPL				pmax	pmax		
	comp=Z,305nm,1.3s						
LPL	**La Plagne**	**89.36**	**320**	*e*P	**P**	**00 31 46.7**	**-0.1**
	comp=Z,305nm,1.3s						
MBW	**Mount Baker**	**89.38**	**36**	P	**P**	**00 31 47.0**	**+0.3**
PGF	**Pioggiola**	**89.54**	**317**	*e*P	**P**	**00 31 47.4**	**-0.2**
	comp=Z,652nm,1.4s						
PGF	**Pioggiola**	**89.54**	**317**	*e*P	**P**	**00 31 47.4**	**-0.2**
PGF				pmax	pmax		
	comp=Z,652nm,1.4s						
PGF	**Pioggiola**	**89.54**	**317**	*e*P	**P**	**00 31 47.4**	**-0.2**
	comp=Z,652nm,1.4s						
GAL1	**Galloway**	**89.62**	**332**	AMS	AMS	01 16 13.2	
	comp=Z,41µm,16.9s						
BNI	**Bardonecchia**	**89.64**	**320**	*e*P	**P**	**00 31 48.1**	**0.0**
BNI				*e*		00 35 19.1	
BNI				pmax	pmax		
	comp=Z,110nm,1.1s						
BNI				MLR	MLR		
	comp=Z,31µm,19.0s						
BNI	**Bardonecchia**	**89.64**	**320**	*e*P	**P**	**00 31 48.1**	**0.0**
	comp=Z,110nm,1.1s						
BNI				*e*PP	**PP**	**00 35 19.1**	**-0.4**
BNI				LR	LR		
	comp=Z,31µm,19.0s						
STNC	**Stoke**	**89.65**	**330**	AMS	AMS	01 16 09.7	
	comp=Z,26µm,16.3s						
JCW	**Jim Creek**	**89.70**	**36**	P	**P**	**00 31 48.8**	**+0.7**
B06A	**Marblemount**	**89.75**	**36**	P	**P**	**00 31 48.8**	**+0.5**
AUTN	**L'Aution**	**89.76**	**319**	*e*P	**P**	**00 31 46.6**	**-2.1**
MBDF	**Montbardon**	**89.77**	**319**	*e*P	**P**	**00 31 47.5**	**-1.1**
	comp=Z,57nm,0.8s						
MBDF	**Montbardon**	**89.77**	**319**	*e*P	**P**	**00 31 47.5**	**-1.1**
MBDF				pmax	pmax		
	comp=Z,57nm,0.8s						
MBDF	**Montbardon**	**89.77**	**319**	*e*P	**P**	**00 31 47.5**	**-1.1**
	comp=Z,57nm,0.8s						
HMNX	**Herstmonceux**	**89.80**	**327**	AMS	AMS	01 15 53.4	
	comp=Z,29µm,18.1s						
SBF	**Sospel**	**89.83**	**318**	*e*P	**P**	**00 31 48.0**	**-0.8**
	comp=Z,156nm,0.8s						
SBF	**Sospel**	**89.83**	**318**	*e*P	**P**	**00 31 48.0**	**-0.8**
SBF				pmax	pmax		
	comp=Z,156nm,0.8s						
SBF	**Sospel**	**89.83**	**318**	*e*P	**P**	**00 31 48.0**	**-0.8**
	comp=Z,156nm,0.8s						
TOUF	**Mont Tournerai**	**89.86**	**319⇑**	*e*P	**P**	**00 31 50.6**	**+1.5**
LOR	**Lormes**	**90.05**	**323**	*e*P	**P**	**00 31 49.0**	**-0.7**
	comp=Z,169nm,1.1s						
LOR				*e*R			
	comp=Z,15µm,17.8s						
LOR	**Lormes**	**90.05**	**323**	*e*P	**P**	**00 31 49.0**	**-0.7**
	comp=Z,169nm,1.1s						
SFJD	**Kangerlussuaq**	**90.12**	**357**	*e*P	**P**	**00 31 48.6**	**-0.9**
SFJD				*e*		00 35 18.5	
SFJD				pmax	pmax		
	comp=Z,555nm,1.7s						
SFJD				MLR	MLR		
	comp=Z,15µm,20.0s						
SFJD	**Kangerlussuaq**	**90.12**	**357⇑**	*i* P	**P**	**00 31 48.7**	**-0.9**
	comp=Z,47nm,0.9s						
SFJD	**Kangerlussuaq**	**90.12**	**357**	*e*P	**P**	**00 31 48.6**	**-0.9**
	comp=Z,555nm,1.7s						
SFJD				*e*PP	**PP**	**00 35 18.5**	**-3.7**
SFJD				LR	LR		
	comp=Z,15µm,20.0s						
ORIF	**Oris-en-Rattie**	**90.19**	**320**	*e*P	**P**	**00 31 50.4**	**-0.1**
	comp=Z,187nm,1.2s						
ORIF				*e*R			
	comp=Z,21µm,18.2s						
ORIF	**Oris-en-Rattie**	**90.19**	**320**	*e*P	**P**	**00 31 50.4**	**-0.1**
ORIF				pmax	pmax		
	comp=Z,187nm,1.2s						
ORIF	**Oris-en-Rattie**	**90.19**	**320**	*e*P	**P**	**00 31 50.4**	**-0.1**
	comp=Z,187nm,1.2s						
FOEL	**Foel Wylfa**	**90.24**	**330**	*e*P	**P**	**00 31 50.4**	**-0.1**
FOEL				AMB	AMB	00 31 59.4	
	comp=Z,128nm,1.8s						
F04D	**Rainier, OR**	**90.29**	**39**	⇑P	**P**	**00 31 51.4**	**+0.6**
	baz=90						
WOL	**Wolverton**	**90.30**	**328**	AMS	AMS	01 16 25.5	
	comp=Z,34µm,17.5s						
SSF	**Saint Saulge**	**90.36**	**323**	*e*P	**P**	**00 31 50.7**	**-0.5**
	comp=Z,139nm,1.1s						
SSF	**Saint Saulge**	**90.36**	**323**	*e*P	**P**	**00 31 50.7**	**-0.5**
SSF				pmax	pmax		
	comp=Z,139nm,1.1s						
SSF	**Saint Saulge**	**90.36**	**323**	*e*P	**P**	**00 31 50.7**	**-0.5**
	comp=Z,139nm,1.1s						
SMF	**Signal de Mont**	**90.41**	**322**	*e*P	**P**	**00 31 50.9**	**-0.5**
	comp=Z,204nm,1.0s						
SMF	**Signal de Mont**	**90.41**	**322**	*e*P	**P**	**00 31 50.9**	**-0.5**
SMF				pmax	pmax		
	comp=Z,204nm,1.0s						
SMF	**Signal de Mont**	**90.41**	**322**	*e*P	**P**	**00 31 50.9**	**-0.5**
	comp=Z,204nm,1.0s						
SWN1	**Swindon**	**90.45**	**328**	AMS	AMS	01 16 31.5	
	comp=Z,33µm,16.9s						
STRD	**Stroud**	**90.46**	**329**	AMS	AMS	01 16 31.5	
	comp=Z,28µm,17.8s						
WRW	**Wenatchee Ridg**	**90.47**	**36**	P	**P**	**00 31 52.8**	**+1.0**
FRF	**La Foret Royal**	**90.47**	**318**	*e*P	**P**	**00 31 51.1**	**-0.6**
	comp=Z,249nm,1.3s						
FRF	**La Foret Royal**	**90.47**	**318**	*e*P	**P**	**00 31 51.1**	**-0.6**
FRF				pmax	pmax		
	comp=Z,249nm,1.3s						
FRF	**La Foret Royal**	**90.47**	**318**	*e*P	**P**	**00 31 51.1**	**-0.6**
	comp=Z,249nm,1.3s						
DRV	**Dumont d'Urvil**	**90.49**	**172**	P	P	00 31 37.0	-14
DRV				PP	PP	00 35 10.0	-16
DRV				S	**SKSac**	**00 42 19.0**	**-1.0**
DRV				SS	SS	00 49 11.0	+25
DRV				L	L	00 55 00.0	
DRV				R		01 03 00.0	
WLF1	**Llynfaes**	**90.53**	**331**	AMS	AMS	01 17 30.9	
	comp=Z,33µm,15.1s						
RCS	**Mount Rainier-**	**90.57**	**38**	P	**P**	**00 31 53.3**	**+0.7**
TDL	**Tradedollar La**	**90.59**	**38**	P	**P**	**00 31 53.1**	**+0.6**
LON	**Longmire**	**90.59**	**38**	*e*P	**P**	**00 31 52.8**	**+0.4**
LON				pmax	pmax		
	comp=Z,125nm,1.0s						
LON	**Longmire**	**90.59**	**38**	*e*P	**P**	**00 31 52.8**	**+0.4**
	comp=Z,125nm,1.0s						
AVF	**Avril sur Loir**	**90.60**	**322**	*e*P	**P**	**00 31 51.7**	**-0.6**
	comp=Z,176nm,1.0s						
AVF	**Avril sur Loir**	**90.60**	**322**	*e*P	**P**	**00 31 51.7**	**-0.6**
AVF				pmax	pmax		
	comp=Z,176nm,1.0s						
AVF	**Avril sur Loir**	**90.60**	**322**	*e*P	**P**	**00 31 51.7**	**-0.6**
	comp=Z,176nm,1.0s						
G03D	**McMinnville, O**	**90.63**	**39**	⇓P	**P**	**00 31 53.0**	**+0.6**
	baz=90						
NLW	**Nelson Butte**	**90.63**	**36**	P	**P**	**00 31 53.0**	**+0.4**
LMR	**La Mourre**	**90.68**	**318**	*e*P	**P**	**00 31 52.4**	**-0.3**
	comp=Z,570nm,1.7s						
LMR	**La Mourre**	**90.68**	**318**	*e*P	**P**	**00 31 52.4**	**-0.3**
LMR				pmax	pmax		
	comp=Z,570nm,1.7s						
LMR	**La Mourre**	**90.68**	**318**	*e*P	**P**	**00 31 52.4**	**-0.3**
	comp=Z,570nm,1.7s						
MCH1	**Michaelchurch**	**90.72**	**329**	*e*P	**P**	**00 31 51.3**	**-1.4**
MCH1				AMB	AMB	00 31 53.9	
	comp=Z,112nm,2.0s						
MCH1				AMS	AMS	01 16 41.4	
	comp=Z,33µm,16.4s						
HYF	**Humbligny**	**90.72**	**323**	*e*P	**P**	**00 31 53.0**	**+0.2**
HYF	**Humbligny**	**90.72**	**323**	*e*P	**P**	**00 31 53.0**	**+0.2**
OLDB	**Oldbury-Upon-S**	**90.72**	**329**	AMS	AMS	01 16 49.6	
	comp=Z,27µm,15.9s						
MONM	**Monmouth**	**90.73**	**329**	AMS	AMS	01 16 32.9	
	comp=Z,31µm,17.2s						
BATH	**Bath**	**90.76**	**328**	AMS	AMS	01 16 40.3	
	comp=Z,29µm,18.3s						
SSB	**Saint Sauveur**	**90.78**	**321**	PFAKE		00 32 00.0	+6.8
SSB				LR	LR		
	comp=Z,10µm,20.0s						
EDM	**Edmonton**	**90.87**	**29**	*e*P	**P**	**00 31 53.3**	**-0.1**
EDM	**Edmonton**	**90.87**	**29**	*e*P	**P**	**00 31 53.3**	**-0.1**
VSL	**Villasalto**	**90.87**	**314**	PFAKE		00 32 00.0	+6.3
VSL				LR	LR		
	comp=Z,7µm,20.0s						
SMRF	**Simiane la Rot**	**90.89**	**319**	*e*P	**P**	**00 31 53.7**	**-0.1**
	comp=Z,187nm,1.3s						
SMRF	**Simiane la Rot**	**90.89**	**319**	*e*P	**P**	**00 31 53.7**	**-0.1**
	comp=Z,187nm,1.3s						
ETW	**Entiat**	**90.92**	**36**	P	**P**	**00 31 54.2**	**+0.3**
PLDF	**La Plantade**	**90.92**	**322⇑**	*e*P	**P**	**00 31 54.3**	**+0.4**
VIVF	**Saint-Julien-l**	**90.94**	**320**	*e*P	**P**	**00 31 53.6**	**-0.3**
	comp=Z,160nm,1.3s						
VIVF	**Saint-Julien-l**	**90.94**	**320**	*e*P	**P**	**00 31 53.6**	**-0.3**
VIVF				pmax	pmax		
	comp=Z,160nm,1.3s						
VIVF	**Saint-Julien-l**	**90.94**	**320**	*e*P	**P**	**00 31 53.6**	**-0.3**
	comp=Z,160nm,1.3s						
COR	**Corvallis**	**90.96**	**40**	*e*P	**P**	**00 31 53.7**	**-0.2**
COR				pmax	pmax		
	comp=Z,329nm,1.2s						
COR	**Corvallis**	**90.96**	**40**	*e*P	**P**	**00 31 53.7**	**-0.2**
	comp=Z,329nm,1.2s						
BGF	**Bois d'Agland**	**91.02**	**322**	*e*P	**P**	**00 31 53.8**	**-0.4**
	comp=Z,153nm,1.3s						
BGF	**Bois d'Agland**	**91.02**	**322**	*e*P	**P**	**00 31 53.8**	**-0.4**
BGF				pmax	pmax		
	comp=Z,153nm,1.3s						
BGF	**Bois d'Agland**	**91.02**	**322**	*e*P	**P**	**00 31 53.8**	**-0.4**
	comp=Z,153nm,1.3s						
WTV	**Waterville**	**91.07**	**36**	P	**P**	**00 31 54.8**	**+0.3**
LPW	**Lampeter**	**91.15**	**330**	*e*P	**P**	**00 31 54.3**	**-0.4**
LPW				AMS	AMS	01 17 12.3	
	comp=Z,31µm,15.4s						
AGO	**Saint Agoulin**	**91.15**	**322**	*e*P	**P**	**00 31 55.5**	**+0.6**
KEBM	**Edson Butte**	**91.28**	**42**	*e*P	**P**	**00 31 55.2**	**-0.4**
	comp=Z,376nm,1.1s						
LDF	**La Druitiere**	**91.42**	**325**	*e*P	**P**	**00 31 55.2**	**-0.8**
	comp=Z,225nm,1.5s						
LDF	**La Druitiere**	**91.42**	**325**	*e*P	**P**	**00 31 55.2**	**-0.8**
LDF				pmax	pmax		
	comp=Z,225nm,1.5s						
LDF	**La Druitiere**	**91.42**	**325**	*e*P	**P**	**00 31 55.2**	**-0.8**
	comp=Z,225nm,1.5s						
I03D	**Drain, OR**	**91.43**	**41**	⇑P	**P**	**00 31 56.7**	**+0.6**
	baz=91						
MZM	**Mzuzu**	**91.47**	**258**	*i* P	P	00 32 03.3	+6.5
FLN	**La Foliniere**	**91.51**	**326**	*e*P	**P**	**00 31 55.7**	**-0.7**
	comp=Z,236nm,1.6s						
FLN				*e*R			
	comp=Z,23µm,22.8s						
FLN	**La Foliniere**	**91.51**	**326**	*e*P	**P**	**00 31 55.7**	**-0.7**
FLN				pmax	pmax		
	comp=Z,236nm,1.6s						
FLN	**La Foliniere**	**91.51**	**326**	*e*P	**P**	**00 31 55.7**	**-0.7**
	comp=Z,236nm,1.6s						
TCF	**Toulx Ste Croi**	**91.54**	**322**	*e*P	**P**	**00 31 56.5**	**-0.2**
	comp=Z,324nm,1.4s						
TCF	**Toulx Ste Croi**	**91.54**	**322**	*e*P	**P**	**00 31 56.5**	**-0.2**
TCF				pmax	pmax		
	comp=Z,324nm,1.4s						
TCF	**Toulx Ste Croi**	**91.54**	**322**	*e*P	**P**	**00 31 56.5**	**-0.2**
	comp=Z,324nm,1.4s						
LBL	**Lubilhac**	**91.56**	**321**	*e*P	**P**	**00 31 58.7**	**+1.8**
VFP	**Flag Point**	**91.61**	**39**	P	**P**	**00 31 57.9**	**+0.7**
KBO	**Bosley Butte**	**91.71**	**42**	*e*P	**P**	**00 31 58.5**	**+0.8**
	comp=Z,242nm,1.2s						
G05D	**Wamic, OR**	**91.74**	**39**	⇓P	**P**	**00 31 58.3**	**+0.6**
	baz=92						
LASF	**Ste Croix**	**91.86**	**320**	*e*P	**P**	**00 31 57.8**	**-0.4**
	comp=Z,259nm,1.7s						
LASF	**Ste Croix**	**91.86**	**320**	*e*P	**P**	**00 31 57.8**	**-0.4**
	comp=Z,259nm,1.7s						
I04A	**Tendick Farm,**	**91.93**	**40**	⇓P	**P**	**00 31 58.8**	**+0.2**
	baz=92						
GRR	**Gorron**	**91.93**	**325**	*e*P	**P**	**00 31 57.7**	**-0.7**
	comp=Z,279nm,1.6s						
GRR	**Gorron**	**91.93**	**325**	*e*P	**P**	**00 31 57.7**	**-0.7**
GRR				pmax	pmax		
	comp=Z,279nm,1.6s						
GRR	**Gorron**	**91.93**	**325**	*e*P	**P**	**00 31 57.7**	**-0.7**
	comp=Z,279nm,1.6s						
HAWA	**Hanford**	**92.08**	**37**	*e*P	**P**	**00 31 59.3**	**+0.2**
	comp=Z,236nm,1.4s						
HAWA				LR	LR		
	comp=Z,6µm,20.0s						
HTL	**Hartland**	**92.08**	**329**	AMS	AMS	01 17 32.9	
	comp=Z,33µm,17.5s						
JSA	**Saint Aubin**	**92.11**	**327**	AMS	AMS	01 17 15.5	
	comp=Z,20µm,18.6s						
L02D	**Cave Junction,**	**92.13**	**42**	⇑P	**P**	**00 31 59.7**	**+0.2**
	baz=92						
DYA	**Yadsworthy**	**92.18**	**328**	AMS	AMS	01 17 35.6	
	comp=Z,24µm,16.7s						
NEW	**Newport**	**92.23**	**35**	*e*P	**P**	**00 32 00.3**	**+0.4**
NEW				pmax	pmax		
	comp=Z,100nm,0.9s						
NEW				MLR	MLR		
	comp=Z,6µm,20.0s						
NEW	**Newport**	**92.23**	**35**	P	**P**	**00 32 00.4**	**+0.4**
	comp=Z,80nm,0.9s,baz=301,slow=3.9,SNR=146						
NEW	**Newport**	**92.23**	**35**	⇑P	**P**	**00 32 00.2**	**+0.4**
	baz=92						
NEW	**Newport**	**92.23**	**35**	*e*P	**P**	**00 32 00.2**	**+0.4**
	comp=Z,100nm,0.9s						
NEW				LR	LR		
	comp=Z,6µm,20.0s						
I05D	**Terrebonne, OR**	**92.25**	**39**	⇑P	**P**	**00 32 00.6**	**+0.6**
	baz=92						
HUMO	**Hull Mountain**	**92.27**	**42**	*e*P	**P**	**00 31 60.0**	**-0.2**
	comp=Z,47nm,0.9s						
CAF	**Calviac**	**92.42**	**321**	*e*P	**P**	**00 32 01.1**	**+0.3**
	comp=Z,155nm,1.3s						
CAF	**Calviac**	**92.42**	**321**	*e*P	**P**	**00 32 01.1**	**+0.3**
CAF				pmax	pmax		
	comp=Z,155nm,1.3s						
CAF	**Calviac**	**92.42**	**321**	*e*P	**P**	**00 32 01.1**	**+0.3**
	comp=Z,155nm,1.3s						
J04D	**Umpqua Nationa**

	comp=Z,533nm,1.7s						
LFF	La Frestale	93.17	322	eP	P	00 32 04.5	+0.3
	comp=Z,533nm,1.7s						
ROSF	Rostrenen	93.22	326	eP	P	00 32 03.5	-0.8
	comp=Z,125nm,1.3s						
ROSF	Rostrenen	93.22	326	eP	P	00 32 03.5	-0.8
ROSF				pmax	pmax		
	comp=Z,125nm,1.3s						
ROSF	Rostrenen	93.22	326	eP	P	00 32 03.5	-0.8
	comp=Z,125nm,1.3s						
MTLF	Montolieu	93.26	320	eP	P	00 32 04.2	-0.5
	comp=Z,272nm,1.9s						
MTLF	Montolieu	93.26	320	eP	P	00 32 04.2	-0.5
MTLF				pmax	pmax		
	comp=Z,272nm,1.9s						
MTLF	Montolieu	93.26	320	eP	P	00 32 04.2	-0.5
	comp=Z,272nm,1.9s						
N02D	Trinity Center	93.35	43	⇑P	P	00 32 05.3	+0.1
	baz=93						
WALA	Waterton Lakes	93.36	33	eP	P	00 32 05.6	+0.5
	comp=Z,0.7nm,2.1s						
M04C	Macdoel	93.42	42	⇑P	P	00 32 05.8	+0.2
	baz=93						
QUIF	Quistinic	93.43	326	eP	P	00 32 04.8	-0.5
	comp=Z,164nm,1.6s						
QUIF	Quistinic	93.43	326	eP	P	00 32 04.8	-0.5
QUIF				pmax	pmax		
	comp=Z,164nm,1.6s						
QUIF	Quistinic	93.43	326	eP	P	00 32 04.8	-0.5
	comp=Z,164nm,1.6s						
FCC	Fort Churchill	93.64	17	eP	P	00 32 05.0	-1.0
FCC	Fort Churchill	93.64	17	eP	P	00 32 05.0	-1.0
	comp=Z,4.9nm,1.4s						
WDC	Whiskeytown Da	93.67	43	eP	P	00 32 06.0	-0.6
WDC				pmax	pmax		
	comp=Z,120nm,1.5s						
WDC	Whiskeytown Da	93.67	43	eP	P	00 32 06.0	-0.6
	comp=Z,120nm,1.5s						
CMAH	Djebel Manchou	93.68	312	P	P	00 32 06.4	-0.4
BSMT	Bassoo Peak	93.70	34	P	P	00 32 07.6	+0.7
BLMT	Blacktail Moun	93.82	34	eP	P	00 32 07.4	0.0
	comp=Z,159nm,1.5s						
ABSA	Djebel Ababsia	93.83	312	P	P	00 32 08.9	+1.4
CAEH	'Ain El Ouahch	93.99	313	P	P	00 32 08.7	+0.5
JTMT	Jette	94.03	34	eP	P	00 32 07.4	-0.9
	comp=Z,47nm,1.0s						
VAL	Valentia	94.04	332	eP	P	00 32 08.9	+0.9
VAL				ePP	PP	00 36 00.0	+6.4
VAL				ePS	PS	00 44 35.9	+1.9
YBMT	Yellow Bay	94.09	33	eP	P	00 32 08.4	-0.2
	comp=Z,53nm,1.0s						
BMO	Blue Mountains	94.25	37	eP	P	00 32 08.5	-0.8
	comp=Z,58nm,0.9s						
BMO				LR	LR		
	comp=Z,6μm,22.0s						
CKFL	Kef-Lekhel	94.28	312	P	P	00 32 07.0	-2.6
MOD	Modoc Plateau	94.29	41	eP	P	00 32 08.8	-0.9
	comp=Z,209nm,1.4s						
FFC	Flin Flon	94.42	23	eP	P	00 32 09.4	-0.3
FFC				pmax	pmax		
	comp=Z,103nm,1.2s						
FFC				MLR	MLR		
	comp=Z,8μm,19.0s						
FFC	Flin Flon	94.42	23	eP	P	00 32 09.4	-0.3
	comp=Z,103nm,1.2s						
FFC				LR	LR		
	comp=Z,8μm,19.0s						
CASM	Ain Smara	94.51	312	P	P	00 32 11.1	+0.5
CTEI	Djebel Teioual	94.67	312	P	P	00 32 10.7	-0.8
DFRA	Djebel Bou Aff	94.77	313	P	P	00 32 11.7	-0.2
MSO	Missoula	94.81	34	⇑P	P	00 32 11.6	-0.2
	baz=95						
WVOR	Wild Horse Val	94.97	40	eP	P	00 32 12.4	-0.3
WVOR				pmax	pmax		
	comp=Z,147nm,1.5s						
WVOR				MLR	MLR		
	comp=Z,5μm,21.0s						
WVOR	Wild Horse Val	94.97	40	eP	P	00 32 12.4	-0.3
	comp=Z,147nm,1.5s						
WVOR				LR	LR		
	comp=Z,5μm,21.0s						
SET	Setif	95.28	313	P	P	00 32 15.0	+0.8
CKHR	Kef el Ahmar	95.31	313	P	P	00 32 14.4	0.0
SJPF	Ste Jean	95.41	321	eP	P	00 32 14.9	+0.4
	comp=Z,128nm,1.5s						
SJPF	Ste Jean	95.41	321	eP	P	00 32 14.9	+0.4
SJPF				pmax	pmax		
	comp=Z,128nm,1.5s						
SJPF	Ste Jean	95.41	321	eP	P	00 32 14.9	+0.4
	comp=Z,128nm,1.5s						
A19A	Klindworth Far	95.93	30	⇑P	P	00 32 16.4	-0.4
	baz=96,SNR=29						
MFID	Camas Ranch	95.98	38	eP	P	00 32 17.4	+0.1
	comp=Z,39nm,1.0s						
MFID				ePP	PP	00 36 09.7	+0.6
EGMT	Eagleton	96.09	31	⇓P	P	00 32 16.9	-0.7
	baz=96,SNR=18						
EGMT	Eagleton	96.09	31	PFAKE		00 32 30.0	+12
EGMT				LR	LR		
	comp=Z,7μm,20.0s						
B19A	Brinkman Farms	96.17	31	⇓P	P	00 32 17.3	-0.7
	baz=96,SNR=17						
PPT	Papeete	96.34	106	LR	LR	01 10 36.0	
	comp=Z,5μm,19.6s,baz=282,slow=32						
A20A	Cobblestone Ra	96.34	30	⇑P	P	00 32 17.8	-0.9
	baz=96,SNR=24						
PPT2	Papeete2	96.35	106	ePP	PP	00 36 05.7	-7.6
	comp=Z,1μm,25.2s						
PPT2				eSKSac	SKSac	00 42 49.6	-5.0
	comp=Z,3μm,30.0s						
PPT2	Papeete2	96.35	106	ePS	PS	00 44 55.9	-5.3
	comp=Z,7μm,27.0s						
PPT2				eSS	SS	00 50 08.1	-3.5
	comp=Z,2μm,28.8s						
PPT2				eLQ	LQ	00 59 24.5	
	comp=Z,7μm,29.0s						
PPT2				eLR	LR	01 03 15.5	
	comp=Z,13μm,27.5s						
B20A	Solberg Farm,	96.61	30	⇑P	P	00 32 19.3	-0.7
	baz=96,SNR=9.0						
ADJB	Djebel Djouab	96.62	314	P	P	00 32 21.8	+1.5
C19A	Slack Wire Ran	96.63	31	⇑P	P	00 32 20.0	-0.1
	baz=96,SNR=30						
HLID	Hailey	96.68	37	⇓P	P	00 32 20.6	+0.1
	baz=96,SNR=62						
HLID	Hailey	96.68	37	PFAKE		00 32 30.0	+9.5
HLID				LR	LR		
	comp=Z,9μm,20.0s						
A21A	Bergtoll Ranch	96.72	29	⇑P	P	00 32 20.0	-0.4
	baz=96,SNR=37						
BOZ	Bozeman (W)	96.79	34	eP	P	00 32 20.4	-0.5
BOZ				pmax	pmax		
	comp=Z,36nm,1.4s						
BOZ				MLR	MLR		
	comp=Z,9μm,19.0s						
BOZ	Bozeman (W)	96.79	34	eP	P	00 32 20.4	-0.5
	comp=Z,36nm,1.4s						
BOZ				LR	LR		
	comp=Z,9μm,19.0s						
BMN	Battle Mountai	97.03	41	eP	Pdif	00 32 22.6	+0.3
BMN				e		00 36 17.2	
BMN				pmax	pmax		
	comp=Z,72nm,1.4s						
BMN	Battle Mountai	97.03	41	eP	Pdif	00 32 22.6	+0.3
	comp=Z,72nm,1.4s						
BMN				ePP	PP	00 36 17.2	-0.3
B21A	Ellsworth Farm	97.09	30	⇓P	P	00 32 21.6	-0.4
	baz=97						
D19A	Cripps Ranch,	97.11	32	⇓P	P	00 32 22.0	-0.3
	baz=97,SNR=34						
C20A	Veseth Ranch,	97.14	31	⇓P	P	00 32 21.9	-0.5
	baz=97,SNR=11						
A22A	Carney Farms,	97.17	29	⇑P	P	00 32 21.4	-1.1
	baz=97,SNR=24						
C21A	Desert Coulee	97.49	30	⇓P	P	00 32 23.1	-0.9
	baz=97,SNR=7.7						
NVAR	Mina Array Bea	97.59	43	P	P	00 32 24.4	-0.3
	comp=Z,8.6nm,0.7s,baz=292,slow=4.7,SNR=31						
NVAR				LR	LR	01 12 56.0	
	comp=Z,3μm,21.1s,baz=50,slow=33						
NVAR	Mina Array Bea	97.59	43	P	P	00 32 24.4	-0.3
B22A	Reddig Ranch S	97.64	29	⇑P	P	00 32 24.1	-0.5
	baz=97						
A23A	Redstone	97.66	28	⇓P	P	00 32 23.7	-1.0
	baz=97,SNR=7.3						
E19A	Rath Farm, Rou	97.66	32	⇓P	P	00 32 24.3	-0.4
	baz=97,SNR=14						
NV11	Mina Array Sit	97.68	43	eP	P	00 32 24.9	-0.3
MLAC	Mammoth, Mammo	97.73	44	⇓P	P	00 32 25.1	-0.4
	baz=98						
E20A	Meyer Farm, Mu	97.95	32	⇑P	P	00 32 25.6	-0.4
	baz=98,SNR=12						
B23A	Brockton	97.97	29	⇑P	P	00 32 25.7	-0.4
	baz=98,SNR=19						
F19A	Roth Farm, Mol	98.01	33	⇓P	P	00 32 26.0	-0.3
	baz=98						
A24A	Westby	98.06	28	⇑P	P	00 32 25.9	-0.6
	baz=98,SNR=7.3						
D21A	La Casta Ranch	98.08	31	⇓P	P	00 32 25.9	-0.8
	baz=98,SNR=15						
C22A	Vida	98.10	30	⇓P	P	00 32 26.2	-0.5
	baz=98,SNR=6.7						
LSZ	Lusaka	98.16	257	eP	P	00 32 27.3	-0.3
LSZ				pmax	pmax		
	comp=Z,38nm,1.2s						
LSZ	Lusaka	98.16	257	LR	LR	01 13 57.5	
	comp=Z,9μm,21.4s,baz=134,slow=34						
LSZ	Lusaka	98.16	257	eP	P	00 32 27.3	-0.3
	comp=Z,38nm,1.2s						
LKWY	Lake	98.16	34	PFAKE		00 32 40.0	+13
LKWY				LR	LR		
	comp=Z,17μm,20.0s						
H17A	Grant Village	98.19	34	⇓P	Pdif	00 32 27.6	+0.1
	baz=98						
H17A	Grant Village	98.19	34	eP	Pdif	00 32 28.0	+0.5
	comp=Z,71nm,1.4s						
RCTC	Rector, Farmer	98.25	45	⇑P	Pdif	00 32 27.5	0.0
	baz=98						
DGMT	Dagmar	98.32	28	⇓P	P	00 32 27.1	-0.5
	baz=98,SNR=10.0						
DGMT	Dagmar	98.32	28	PFAKE		00 32 40.0	+12
DGMT				LR	LR		
	comp=Z,10μm,19.0s						
RLMT	Red Lodge	98.36	33	PFAKE		00 32 40.0	+12
RLMT				LR	LR		
	comp=Z,9μm,20.0s						
C23A	Lambert	98.38	29	⇑P	P	00 32 27.6	-0.3
	baz=98,SNR=8.9						
D22A	Cohagen	98.41	30	⇑P	P	00 32 27.4	-0.7
	baz=98,SNR=13						
E21A	Keefer Ranch,	98.43	31	⇑P	P	00 32 28.1	0.0
	baz=98						
A25A	Svangstu Ranch	98.43	28	⇓P	P	00 32 27.7	-0.4
	baz=98						
F20A	Billings	98.44	32	⇑P	P	00 32 28.2	-0.1
	baz=98						
TIN	Tinemaha, Big	98.46	44	⇑P	P	00 32 28.3	-0.3
	baz=98						
H18A	Shoshone NF, C	98.47	34	⇓P	P	00 32 28.2	-0.4
	baz=98,SNR=7.4						
TPH	Tonopah	98.48	43	eP	Pdif	00 32 29.0	+0.2
TPH				pmax	pmax		
	comp=Z,69nm,1.4s						
TPH	Tonopah	98.48	43	eP	Pdif	00 32 29.0	+0.2
	comp=Z,69nm,1.4s						
I17A	Pilgrim Ck.	98.52	35	⇑P	Pdif	00 32 28.9	+0.1
	baz=98						
VES	Vestal, Richgr	98.63	45	⇑Pdiff	P	00 32 28.5	-0.7
	baz=98						
LAO	LASA Array	98.72	31	eP	P	00 32 28.4	-1.1
	comp=Z,66nm,1.4s						
LAO				LR	LR		
	comp=Z,10μm,20.0s						
HVU	Hansel Valley	98.76	38	eP	P	00 32 28.7	-1.2
HVU				pmax	pmax		
	comp=Z,24nm,1.1s						
HVU	Hansel Valley	98.76	38	eP	P	00 32 28.7	-1.2
	comp=Z,24nm,1.1s						
G20A	Bridger	98.82	33	⇓Pdiff	P	00 32 29.3	-0.8
	baz=99						
H19A	Powell	98.82	33	⇑Pdiff	P	00 32 29.6	-0.4
	baz=99						
D23A	Lindsay	98.84	30	⇓Pdiff	P	00 32 29.4	-0.6
	baz=99						
A26A	Wade Farm, Ken	98.92	27	⇑Pdiff	P	00 32 30.1	-0.1
	baz=99						
B25A	Knox Farm, Ray	98.92	28	⇑Pdiff	P	00 32 30.3	0.0
	baz=99						
F21A	Absaloka Mine,	98.92	32	⇓Pdiff	P	00 32 30.0	-0.5
	baz=99						
C24A	Savage	98.92	29	⇑Pdiff	P	00 32 30.3	0.0
	baz=99						
AHID	Auburn Hatcher	99.02	36	PFAKE		00 32 40.0	+8.9
AHID				LR	LR		
	comp=Z,7μm,22.0s						
E22A	Miles City	99.03	31	⇑Pdiff	Pdif	00 32 30.6	-0.3
	baz=99						
ISA	Isabella, Lake	99.13	45	⇓Pdiff	Pdif	00 32 31.2	-0.4
	baz=99						
ESDC	Sonseca Array	99.17	320	P	Pdif	00 32 33.4	+1.7
	comp=Z,0.4nm,0.7s,baz=51,slow=6.8,SNR=2.5						
ESDC				LR	LR	01 22 50.2	
	comp=Z,8μm,18.4s,baz=45,slow=39						
ESDC	Sonseca Array	99.17	320	P	Pdif	00 32 33.4	+1.7
A27A	Ledoux Ranch,	99.21	27	⇑Pdiff	Pdif	00 32 31.3	-0.3
	baz=99						
ARVC	Arvin	99.22	46	⇑Pdiff	Pdif	00 32 31.5	-0.4
	baz=99						
B26A	Jensen Ranch,	99.24	27	⇓Pdiff	Pdif	00 32 31.3	-0.4
	baz=99						
I19A	Meeteetse	99.26	34	⇑Pdiff	Pdif	00 32 32.1	-0.1
	baz=99						
D24A	Glendive	99.28	29	⇑Pdiff	Pdif	00 32 31.9	-0.1
	baz=99						
E23A	Ismay	99.29	30	⇓Pdiff	Pdif	00 32 31.6	-0.5
	baz=99						
C25A	Freed Ranch, W	99.31	28	⇓Pdiff	Pdif	00 32 31.6	-0.4
	baz=99						
G21A	Lodge Grass	99.31	32	⇓Pdiff	Pdif	00 32 31.8	-0.4
	baz=99						
R11A	Troy Canyon, C	99.32	42	⇓Pdiff	Pdif	00 32 32.7	+0.2
	baz=99						
R11A	Troy Canyon, C	99.32	42	eP	Pdif	00 32 31.8	-0.7
	comp=Z,26nm,1.4s						
DAC	Darwin (Calif)	99.33	44	eP	Pdif	00 32 31.6	-1.1
DAC				pmax	pmax		
	comp=Z,22nm,1.2s						
DAC	Darwin (Calif)	99.33	44	eP	Pdif	00 32 31.6	-1.1
	comp=Z,22nm,1.2s						
BSC	Santa Cruz Isl	99.34	47	⇓Pdiff	Pdif	00 32 32.0	-0.5
	baz=99						
PBRG	Braganca	99.36	323	ePP	PP	00 36 44.6	+10
PBRG				eSKS	SKSac	00 43 15.4	+6.0
F22A	Rosebud	99.37	31	⇑Pdiff	Pdif	00 32 32.7	+0.3
	baz=99						
H20A	Greybull	99.45	33	⇓Pdiff	Pdif	00 32 32.2	-0.7
	baz=99						
PAB	San Pablo	99.48	320	PFAKE		00 32 40.0	+6.9
PAB				LR	LR		
	comp=Z,12μm,19.0s						
MPMC	Manual Prospec	99.53	44	⇓Pdiff	Pdif	00 32 33.1	-0.4
	baz=99						
HWUT	Hardware Ranch	99.55	37	PFAKE		00 32 40.0	+6.5
HWUT				LR	LR		
	comp=Z,4μm,19.0s						
A28A	Rude Farm, Bot	99.64	26	⇓Pdiff	Pdif	00 32 33.1	-0.4
	baz=99						
FURC	Furnace Creek,	99.69	44	⇓Pdiff	Pdif	00 32 33.9	0.0
	baz=100						
D25A	Fairfield	99.70	29	⇓Pdiff	Pdif	00 32 34.0	+0.1
	baz=100						
E24A	Baker	99.70	30	⇑Pdiff	Pdif	00 32 33.9	0.0
	baz=100						
C26A	Wahner Farm, P	99.72	28	⇓Pdiff	Pdif	00 32 34.1	+0.2
	baz=100						
G22A	Birney	99.76	32	⇑Pdiff	Pdif	00 32 34.5	+0.3
	baz=100						
I20A	Worland	99.76	34	⇑Pdiff	Pdif	00 32 34.6	+0.3
	baz=100						
J19A	Crowheart	99.77	35	⇓Pdiff	Pdif	00 32 35.0	+0.6
	baz=100						
DUG	Dugway, Tooele	99.78	39	⇓Pdiff	Pdif	00 32 35.5	+1.0
	baz=100						
DUG	Dugway, Tooele	99.78	39	PFAKE		00 32 50.0	+16
DUG				LR	LR		
	comp=Z,6μm,20.0s						
MAW	Mawson	99.80	199	LR	LR	01 14 25.3	
	comp=Z,3μm,19.7s,baz=44,slow=33						
F23A	Volborg	99.82	31	⇑Pdiff	Pdif	00 32 34.8	+0.4
	baz=100						
H21A	Big Horn, Sher	99.82	32	⇑Pdiff	Pdif	00 32 34.3	-0.2
	baz=100						
BW06	Boulder Array	99.85	35	PFAKE		00 32 50.0	+15
BW06				LR	LR		
	comp=Z,8μm,19.0s						
PDAR	Pinedale Array	99.85	35	P	Pdif	00 32 33.7	-1.1
	comp=Z,2.5nm,0.8s,baz=281,slow=0.8,SNR=16						
PDAR	Pinedale Array	99.85	35	P	Pdif	00 32 33.7	-1.1
EDW2	Edwards Air Fo	99.92	46	⇓Pdiff	Pdif	00 32 35.3	+0.2
	baz=100						
MVO	Moncorvo	99.95	323	ePP	PP	00 36 45.6	+6.0
MVO				eSKS	SKSac	00 43 10.7	-1.7
MVO	Moncorvo	99.95	323	eLQ	LQ	01 08 09.5	
MVO				eLR	LR	01 12 30.1	
	comp=Z,11μm,20.0s						
B28A	Dugan Ranch, T	99.97	26	⇓Pdiff	Pdif	00 32 35.1	+0.2
	baz=100						
A29A	Manning Farm,	100.05	26	⇓Pdiff	Pdif	00 32 35.7	+0.5
	baz=100						
C27A	Sayler Ranch,	100.06	27	⇑Pdiff	Pdif	00 32 36.2	+0.8
	baz=100						
DECC	Green Verdugo	100.07	46	⇓Pdiff	Pdif	00 32 35.7	0.0
	baz=100						
PGAV	Gavieira, Arco	100.09	324	ePP	PP	00 36 51.1	+10
PGAV				eSKS	SKSac	00 43 14.2	+1.1
PGAV	Gavieira, Arco	100.09	324	eLQ	LQ	01 07 39.5	
PGAV				eLR	LR	01 11 53.9	
	comp=Z,11μm,18.0s						
PCAB	Cabril	100.14	324	ePP	PP	00 36 50.8	+10
E25A	Miller Ranch,	100.16	29	⇑Pdiff	Pdif	00 32 36.8	+0.9
	baz=100						
F24A	Ekalaka	100.18	30	⇓Pdiff	Pdif	00 32 36.7	+0.7
	baz=100						
D26A	Manning	100.19	28	⇑Pdiff	Pdif	00 32 36.4	+0.4
	baz=100						
H22A	Clearmont	100.19	32	⇑Pdiff	Pdif	00 32 36.4	+0.3
	baz=100						
J20A	Shoshoni	100.21	34	⇓Pdiff	Pdif	00 32 36.8	+0.5
	baz=100						
G23A	Biddle	100.21	31	⇑Pdiff	Pdif	00 32 36.8	+0.6
	baz=100						
ULM	Lac du Bonnet	100.23	23	P	Pdif	00 32 34.8	-1.2
ULM	Lac du Bonnet	100.23	23	P	Pdif	00 32 34.8	-1.2
	comp=Z,5.0nm,0.7s,baz=334,slow=4.4,SNR=12						
ULM	Lac du Bonnet	100.23	23	P	Pdif	00 32 34.8	-1.2
POLO	Lamas de Olo	100.24	323	ePP	PP	00 36 49.7	+8.0
POLO				eSKS	SKiKP	00 41 35.3	+58
PVRL	Vila Real	100.26	323	ePP	PP	00 36 50.4	+8.6
I21A	Big Trails, Te	100.28	33	⇑Pdiff	Pdif	00 32 37.1	+0.5
	baz=100						
ITZ	Itezhi-Tezhi	100.28	257	i P	PP	00 36 50.0	+6.5
B29A	Wagenman Farm,	100.36	26	⇑Pdiff	Pdif	00 32 37.0	+0.3
	baz=100						
A30A	Hoffart Farm,	100.40	25	⇑Pdiff	Pdif	00 32 37.2	+0.3
	baz=100						
GSC	Goldstone, Bar	100.44	45	eP	Pdif	00 32 37.3	-0.1
GSC				pmax	pmax		
	comp=Z,74nm,1.8s						
GSC	Goldstone, Bar	100.44	45	⇓Pdiff	Pdif	00 32 37.8	+0.4
	baz=100						
GSC	Goldstone, Bar	100.44	45	ePdif	Pdif	00 32 37.3	-0.1
	comp=Z,74nm,1.8s						
BFSC	Mount Baldy Ra	100.52	46	⇑Pdiff	Pdif	00 32 38.0	+0.1
	baz=100						
D27A	Center	100.52	28	⇑Pdiff	Pdif	00 32 38.0	+0.5
	baz=100						
C28A	Hausauer Farms	100.53	27	⇓Pdiff	Pdif	00 32 37.5	0.0
	baz=100						
J21A	Lysite	100.54	34	⇓Pdiff	Pdif	00 32 37.9	0.0
	baz=100						
F25A	Bowman	100.57	30	⇓Pdiff	Pdif	00 32 38.2	+0.5
	baz=100						
G24A	Alzada	100.58	31	⇓Pdiff	Pdif	00 32 38.1	+0.3
	baz=100						
E26A	Carlson Angus	100.61	29	⇓Pdiff	Pdif	00 32 38.0	+0.1
	baz=100						
I22A	9 Mile Ranch,	100.63	33	⇓Pdiff	Pdif	00 32 37.8	-0.4
	baz=100						
PVIS	Viseu	100.74	323	ePP	PP	00 36 53.9	+8.4
MDND	Maddock	100.75	26	⇓Pdiff	Pdif	00 32 38.2	-0.2
	baz=100						
MTE	Manteigas	100.76	322	ePP	PP	00 36 47.8	+2.1
MTE				eSKS	SKSac	00 43 19.3	+3.0
MTE	Manteigas	100.76	322	eLQ	LQ	01 09 37.5	
MTE				eLR	LR	01 12 51.3	
	comp=Z,10μm,18.0s						
MTE	Manteigas	100.76	322	PFAKE		00 32 50.0	+11
MTE				LR	LR		
	comp=Z,11μm,19.0s						
B30A	Myrvik Farm, E	100.78	25	⇑Pdiff	Pdif	00 32 37.7	-0.8
	baz=100						
D28A	Regan	100.87	27	⇓Pdiff	Pdif	00 32 39.4	+0.4
	baz=101						
TUQ	Turquoise Moun	100.92	44	⇑Pdiff	Pdif	00 32 39.7	+0.1
	baz=101						
H24A	Dirks Ranch, A	100.94	31	⇓Pdiff	Pdif	00 32 39.9	+0.4
	baz=101						
J22A	Midwest	100.98	33	⇑Pdiff	Pdif	00 32 40.0	+0.2
	baz=101						
F26A	Lodgepole	100.99	29	⇑Pdiff	Pdif	00 32 39.8	+0.2
	baz=101						
HEC	Hector,Ludlow	101.03	45	⇓Pdiff	Pdif	00 32 40.2	+0.2
	baz=101						
E27A	Carson	101.03	28	⇑Pdiff	Pdif	00 32 40.5	+0.7
	baz=101						
PCBR	Castelo Branco	101.10	322	ePP	PP	00 36 53.9	+5.8
G25A	Newell	101.14	30	⇑Pdiff	Pdif	00 32 40.8	+0.4
	baz=101						
K21A	Alcova	101.15	34	⇑Pdiff	Pdif	00 32 41.0	+0.4
	baz=101						
MURC	Murrieta	101.21	46	⇓Pdiff	Pdif	00 32 41.3	+0.5
	baz=101						
F27A	Lemmon	101.26	29	⇓Pdiff	Pdif	00 32 41.4	+0.6
	baz=101						
E28A	Huff	101.30	28	⇑Pdiff	Pdif	00 32 40.6	-0.4
	baz=101						
C30A	Mose, Pekin	101.32	26	⇑Pdiff	Pdif	00 32 41.4	+0.4
	baz=101						
PMRV	Marv??o	101.33	322	ePP	PP	00 36 55.9	+6.0
PMRV				eSKS	SKSac	00 43 17.8	-1.2
PMRV	Marv??o	101.33	322	eLQ	LQ	01 10 31.6	
PMRV				eLR	LR	01 15 14.2	
	comp=Z,11μm,18.0s						
D29A	Pettibone, Tap	101.38	27	⇓Pdiff	Pdif	00 32 41.8	+0.5
	baz=101						
G26A	Maurine	101.44	30	⇓Pdiff	Pdif	00 32 42.2	+0.6
	baz=101						
H25A	Fruitdale	101.49	31	⇓Pdiff	Pdif	00 32 42.1	+0.2
	baz=101						
GMRC	Granite Mounta	101.50	44	⇓Pdiff	Pdif	00 32 42.3	+0.1
	baz=101						
K22A	Casper	101.51	34	⇑Pdiff	Pdif	00 32 42.3	+0.2
	baz=101						
PCAS	Casmilo, Conde	101.53	323	ePP	PP	00 36 57.5	+6.1
PCAS				eSKS	SKSac	00 43 19.6	-0.3
I24A	Kuemmerle Ranc	101.57	32	⇓Pdiff	Pdif	00 32 42.4	+0.1
	baz=101						
RSSD	Black Hills	101.66	31	eP	Pdif	00 32 42.2	-0.6

PBAR	Barrancos	101.96	320	*e*PP	PP	00 36 55.4	+0.7
PBAR				*e*SKS	SKSac	00 43 26.8	+4.8
L22A	Ellis Ranch, M	102.00	34	⇑Pdiff	Pdif	00 32 43.9	-0.5
	baz=102						
PMTG	Montargil	102.05	322	*e*PP	PP	00 37 04.0	+8.7
PMTG				*e*SKS	SKSac	00 43 31.2	+8.8
E30A	Jud	102.11	27	⇑Pdiff	Pdif	00 32 44.0	-0.5
	baz=102						
MONP	Monument Peak,	102.16	46	⇑Pdiff	Pdif	00 32 44.5	-0.8
	baz=102						
NEE2	Needles Airpor	102.17	44	⇓Pdiff	Pdif	00 32 44.5	-0.5
	baz=102						
H27A	Howes	102.19	30	⇓Pdiff	Pdif	00 32 44.4	-0.6
	baz=102						
IRM	Iron Mountain	102.21	45	⇑Pdiff	Pdif	00 32 45.0	-0.3
	baz=102						
F29A	Eureka	102.25	28	⇑Pdiff	Pdif	00 32 44.8	-0.4
	baz=102						
I26A	New Underwood	102.28	31	⇑Pdiff	Pdif	00 32 45.0	-0.5
	baz=102						
J25A	Sunshine Ranch	102.32	32	⇓Pdiff	Pdif	00 32 45.4	-0.3
	baz=102						
K24A	Anderson Ranch	102.32	33	⇓Pdiff	Pdif	00 32 45.5	-0.2
	baz=102						
L23A	Garrett	102.32	34	⇑Pdiff	Pdif	00 32 45.2	-0.7
	baz=102						
BC3	Big Chuckawall	102.33	45	⇓Pdiff	Pdif	00 32 45.6	-0.3
	baz=102						
TAM	Tamanrasset	102.36	301	*e*P	Pdif	00 32 45.4	-0.9
TAM				pmax	pmax		
	comp=Z,19nm,2.0s						
TAM				MLR	MLR		
	comp=Z,5μm,19.0s						
TAM	Tamanrasset	102.36	301	*e*Pdif	Pdif	00 32 45.4	-0.9
	comp=Z,19nm,2.0s						
TAM				LR	LR		
	comp=Z,5μm,19.0s						
G28A	Parade	102.37	29	⇓Pdiff	Pdif	00 32 45.7	-0.1
	baz=102						
M22A	Cedar Creek Ra	102.37	35	⇑Pdiff	Pdif	00 32 45.6	-0.5
	baz=102						
O20A	White River Ci	102.39	36	⇓Pdiff	Pdif	00 32 45.9	-0.3
	baz=102						
W13A	Hualapai Mount	102.43	43	⇑Pdiff	Pdif	00 32 45.7	-0.8
	baz=102						
U15A	North Rim	102.56	41	⇑Pdiff	Pdif	00 32 46.5	-0.6
	baz=102						
F30A	Leola	102.59	27	⇑Pdiff	Pdif	00 32 46.2	-0.5
	baz=102						
I27A	Quinn	102.63	30	⇑Pdiff	Pdif	00 32 47.0	0.0
	baz=102						
H28A	Mission Ridge	102.64	29	⇑Pdiff	Pdif	00 32 46.8	-0.2
	baz=102						
G29A	Hoven	102.72	28	⇓Pdiff	Pdif	00 32 46.7	-0.5
	baz=102						
J26A	Sides Ranch, S	102.72	31	⇓Pdiff	Pdif	00 32 47.2	-0.2
	baz=102						
PMAFR	Mafra	102.72	322	*e*SKS	SKSac	00 43 29.0	+3.4
L24A	Wheatland	102.76	33	⇑Pdiff	Pdif	00 32 47.1	-0.6
	baz=102						
PDMCI	Parker Dam,Lak	102.77	44	⇓Pdiff	Pdif	00 32 47.7	0.0
	baz=103						
M23A	Laramie	102.78	34	⇑Pdiff	Pdif	00 32 47.3	-0.6
	baz=102						
LIS	Lisbon	102.81	322	*e*P	Pdif	00 32 48.0	+0.2
LIS				*e*S	SKSac	00 43 27.2	+1.2
LIS				AMS	AMS	01 31 37.7	
	comp=N,12μm,14.1s						
LIS	Lisbon	102.81	322	*e*P	Pdif	00 32 48.0	+0.2
K25A	Mack Ranch, Ha	102.87	32	⇑Pdiff	Pdif	00 32 47.4	-0.7
	baz=103						
PNCL	Nicolau / Gran	102.87	321	*e*SKS	SKSac	00 43 36.3	+10
Y12C	Blythe	102.87	45	⇑Pdiff	Pdif	00 32 48.9	+0.7
	baz=103						
N22A	Wattenberg Ran	102.88	35	⇑Pdiff	Pdif	00 32 48.6	+0.2
	baz=103						
MESJ	Messejana	102.88	321	*e*P	Pdif	00 32 48.4	+0.4
MESJ				*e*PP	PP	00 37 02.6	+1.0
MESJ				*e*S	SKSac	00 43 26.2	-0.1
MESJ				*e*SS	SS	00 51 43.8	+3.5
MESJ				AMS	AMS	01 29 09.4	
	comp=Z,10μm,22.5s						
MESJ	Messejana	102.88	321	*e*PP	PP	00 37 09.5	+7.9
PVAQ	Vaqueiros	102.88	320	*e*PP	PP	00 37 09.4	+7.8
PVAQ				*e*SKS	SKSac	00 43 26.1	-0.3
PVAQ	Vaqueiros	102.88	320	*e*LQ	LQ	01 10 13.8	
PVAQ				*e*LR	LR	01 16 37.7	
	comp=Z,9μm,20.0s						
H29A	Onida	103.03	29	⇓Pdiff	Pdif	00 32 48.5	-0.2
	baz=103						
N23A	Red Feather La	103.08	35	⇓Pdiff	Pdif	00 32 49.5	+0.2
	baz=103						
I28A	Midland	103.09	30	⇓Pdiff	Pdif	00 32 48.8	-0.2
	baz=103						
G30A	Faulkton	103.10	28	⇑Pdiff	Pdif	00 32 49.7	+0.7
	baz=103						
GLA	Glamis	103.11	45	⇑Pdiff	Pdif	00 32 50.3	+1.0
	baz=103						
PBDV	Barranco-do-Ve	103.11	320	*e*SKS	SKSac	00 43 34.2	+6.7
VNDA	Vanda	103.11	172	P	Pdif	00 32 47.2	-0.9
VNDA						00 36 59.4	
VNDA	Vanda	103.11	172	Pdiff	Pdif	00 32 47.2	-0.9
	comp=Z,6.8nm,1.0s,baz=299,slow=4.4,SNR=9.3						
VNDA				PP	PP	00 36 59.4	-3.9
	comp=Z,32nm,1.3s,baz=302,slow=7.0,SNR=5.7						
VNDA				PKKPbc	PKKPbc	00 48 45.3	-1.6
	comp=Z,6.5nm,1.1s,baz=117,slow=5.6,SNR=4.7						
VNDA	Vanda	103.11	172	Pdif	Pdif	00 32 47.2	-0.9
VNDA				PP	PP	00 36 59.4	-3.9
VNDA				PKKPbc	PKKPbc	00 48 45.3	-1.6
K26A	Motz Farm, Whi	103.14	32	⇑Pdiff	Pdif	00 32 49.9	+0.6
	baz=103						
M24A	Cheyenne	103.24	33	⇑Pdiff	Pdif	00 32 50.0	+0.1
	baz=103						
J27A	Elkhorn Farm,	103.28	31	⇓Pdiff	Pdif	00 32 50.1	+0.2
	baz=103						
O22A	Kremmling	103.29	35	⇑Pdiff	Pdif	00 32 50.1	-0.2
	baz=103						
I29A	Vivian Onida	103.47	29	⇓Pdiff	Pdif	00 32 51.2	+0.5
	baz=103						
MORF	Marmelete	103.49	321	*e*P	Pdif	00 32 50.8	-0.1
MORF				*e*S	SKSac	00 43 30.1	+0.8
MORF				AMS	AMS	01 27 12.6	
	comp=Z,10μm,18.9s						
MORF	Marmelete	103.49	321	*e*SKS	SKSac	00 43 34.3	+4.9
J28A	Allard Ranch,	103.51	30	⇑Pdiff	Pdif	00 32 51.5	+0.6
	baz=103						
P22A	Eagle	103.58	36	⇓Pdiff	Pdif	00 32 50.9	-0.6
	baz=103						
O23A	Lake Granby, G	103.59	35	⇓Pdiff	Pdif	00 32 51.0	-0.6
	baz=103						
N24A	Carr	103.68	34	⇓Pdiff	Pdif	00 32 51.7	-0.1
	baz=103						
PFVI	Vila Bisbo	103.71	321	*e*SKS	SKSac	00 43 33.9	+3.7
EYMN	Ely	103.72	22	PFAKE		00 33 00.0	+8.4
EYMN				LR	LR		
	comp=Z,11μm,20.0s						
WUAZ	Wupatki	103.72	42	⇓Pdiff	Pdif	00 32 51.5	-0.6
	baz=104						
WUAZ	Wupatki	103.72	42	*e*Pdif	Pdif	00 32 51.7	-0.4
	comp=Z,21nm,1.3s						
WUAZ				LR	LR		
	comp=Z,5μm,22.0s						
Y14A	Wickenburg	103.73	44	⇓Pdiff	Pdif	00 32 51.9	-0.1
	baz=104						
J29A	Okreek	103.94	30	⇑Pdiff	Pdif	00 32 52.5	-0.2
	baz=104						
I30A	Oacoma	103.94	29	⇓Pdiff	Pdif	00 32 52.8	0.0
	baz=104						
ISCO	Idaho Springs	104.05	35	⇓Pdiff	Pdif	00 32 53.1	-0.6
	baz=104						
ISCO	Idaho Springs	104.05	35	PFAKE		00 33 00.0	+6.3
ISCO				LR	LR		
	comp=Z,9μm,21.0s						
SBA	Scott Base	104.05	171	PFAKE		00 33 00.0	+7.8
SBA				LR	LR		
	comp=Z,3μm,19.0s						
M26A	McRoberts Ranc	104.08	33	⇓Pdiff	Pdif	00 32 53.5	-0.1
	baz=104						
P23A	Jefferson	104.23	36	⇑Pdiff	Pdif	00 32 53.4	-1.1
	baz=104						
MVCO	Mesa Verde	104.28	39	⇓Pdiff	Pdif	00 32 54.2	-0.5
	baz=104						
MVCO	Mesa Verde	104.28	39	*e*Pdif	Pdif	00 32 54.6	-0.1
	comp=Z,16nm,1.3s						
MVCO				LR	LR		
	comp=Z,5μm,20.0s						
J30A	Dallas	104.38	29	⇑Pdiff	Pdif	00 32 55.0	+0.3
	baz=104						
X16A	Lo Mia Camp, P	104.40	42	⇓Pdiff	Pdif	00 32 55.2	-0.1
	baz=104						
RTC	Rabat Centre	104.62	317	PFAKE		00 33 10.0	+14
RTC				LR	LR		
	comp=Z,6μm,21.0s						
S22A	4UR Ranch, Cre	104.85	37	⇓Pdiff	Pdif	00 32 56.7	-0.6
OGNE	Ogallala	105.03	32	PFAKE		00 37 20.0	
OGNE				LR	LR		
	comp=Z,9μm,19.0s						
R23A	Moffat	105.09	36	⇑Pdiff	Pdif	00 32 55.9	-2.4
	baz=105						
214A	Organ Pipe Nat	105.12	45	⇑Pdiff	Pdif	00 32 56.5	-1.7
	baz=105						
X18A	Snowflake	105.25	42	⇑Pdiff	PKiKP	00 37 11.7	-1.4
	baz=105						
ECSD	EROS Data Cent	105.30	27	⇓PKiKP	PKiKP	00 37 12.4	-0.3
	baz=105						
ECSD	EROS Data Cent	105.30	27	PFAKE		00 37 20.0	
ECSD				LR	LR		
	comp=Z,13μm,19.0s						
SDCO	Great Sand Dun	105.59	37	PFAKE		00 37 30.0	
SDCO				LR	LR		
	comp=Z,6μm,19.0s						
COWI	Conover	106.12	21	PFAKE		00 37 30.0	
COWI				LR	LR		
	comp=Z,11μm,20.0s						
TUC	Tucson	106.20	44	PFAKE		00 37 30.0	
TUC				LR	LR		
	comp=Z,5μm,20.0s						
MSKU	Masuku	106.47	275	PFAKE		00 37 30.0	
MSKU				LR	LR		
	comp=Z,2.0nm,22.0s						
T25A	Trinidad	106.63	36	⇑PKiKP	PKiKP	00 37 15.9	+0.3
	baz=106						
P30A	Selden	106.97	32	⇑PKiKP	PKiKP	00 37 15.8	-0.2
	baz=107						
ANMO	Albuquerque	107.05	39	PFAKE		00 37 30.0	
ANMO				LR	LR		
	comp=Z,6μm,22.0s						
W23A	Werner Place,	107.07	39	⇑PKiKP	PKiKP	00 37 16.5	0.0
	baz=107						
Q29A	Oakley	107.11	33	⇑PKiKP	PKiKP	00 37 16.3	0.0
	baz=107						
U25A	Circle Dot Ran	107.17	37	⇑PKiKP	PKiKP	00 37 16.4	-0.2
	baz=107						
V24A	Rampart Ranch,	107.17	38	⇓PKiKP	PKiKP	00 37 16.7	0.0
	baz=107						
V25A	Rancho No Teng	107.46	37	⇑PKiKP	PKiKP	00 37 17.0	-0.2
	baz=107						
W24A	Lazy 6 Ranch,	107.46	38	⇓PKiKP	PKiKP	00 37 16.8	-0.4
	baz=107						
Z22A	Elephant Butte	107.93	41	⇓PKiKP	PKiKP	00 37 18.9	+0.8
	baz=108						
R30A	Dighton	107.93	33	⇑PKiKP	PKiKP	00 37 17.6	-0.2
	baz=108						
V26A	Tequesquite Ra	107.95	37	⇑PKiKP	PKiKP	00 37 18.9	+0.9
	baz=108						
U27A	Thompson Grove	108.02	36	⇑PKiKP	PKiKP	00 37 18.3	+0.2
	baz=108						
SCIA	State Center	108.22	26	PFAKE		00 37 30.0	
SCIA				LR	LR		
	comp=Z,10μm,20.0s						
P33A	Williams Farm,	108.28	31	⇓PKiKP	PKiKP	00 37 17.6	-0.8
	baz=108						
R31A	Burdett	108.30	32	⇑PKiKP	PKiKP	00 37 19.0	+0.6
	baz=108						
Y24A	Capitan	108.36	39	⇑PKiKP	PKiKP	00 37 19.3	+0.4
	baz=108						
JFWS	Jewell Farm	108.51	24	PFAKE		00 37 30.0	
JFWS				LR	LR		
	comp=Z,10μm,20.0s						
R32A	Long Quarter,	108.60	32	⇓PKiKP	PKiKP	00 37 19.5	+0.5
	baz=108						
Y25A	Mesa, Roswell	108.80	39	⇑PKiKP	PKiKP	00 37 20.2	+0.6
	baz=109						
X26A	CR and CF Fran	108.84	38	⇓PKiKP	PKiKP	00 37 20.1	+0.4
	baz=109						
W27A	Bowe Ranch, En	108.89	37	⇓PKiKP	PKiKP	00 37 19.5	-0.2
	baz=109						
TSUM	Tsumeb	109.02	257	PKKPbc	PKKPbc	00 48 28.0	+0.8
	comp=Z,2.0nm,0.8s,baz=256,slow=4.4,SNR=7.6						
TSUM				PKKPab	PKKPab	00 48 38.1	-1.2
	comp=Z,4.3nm,0.9s,baz=249,slow=1.9,SNR=6.3						
TSUM	Tsumeb	109.02	257	PKKPbc	PKKPbc	00 48 28.0	+0.8
TSUM				PKKPab	PKKPab	00 48 38.1	-1.2
TSUM				LR	LR		
	comp=Z,8μm,22.0s						
R33A	Olander Ranch,	109.04	31	⇑PKiKP	PKiKP	00 37 19.5	-0.3
	baz=109						
KSU1	Kansas State U	109.05	30	PFAKE		00 37 30.0	
KSU1				LR	LR		
	comp=Z,11μm,20.0s						
Z26A	Caprock	109.68	39	⇑PKiKP	PKiKP	00 37 21.7	+0.4
	baz=110						
Y27A	Causey	109.70	38	⇑PKiKP	PKiKP	00 37 21.7	+0.4
	baz=110						
T33A	Patterson Ranc	109.88	32	⇓PKiKP	PKiKP	00 37 21.0	-0.4
	baz=110						
MNTX	Cornudas Mount	109.97	41	PFAKE		00 37 30.0	
MNTX				LR	LR		
	comp=Z,4μm,20.0s						
SUR	Sutherland	109.98	242	PFAKE		00 37 30.0	
SUR				LR	LR		
	comp=Z,7μm,20.0s						
V31A	Spring Creek L	110.08	34	⇑PKiKP	PKiKP	00 37 22.4	+0.5
	baz=110						
Z27A	Tatum	110.08	38	⇑PKiKP	PKiKP	00 37 22.5	+0.5
	baz=110						
X29A	Tulia	110.10	36	⇑PKiKP	PKiKP	00 37 22.7	+0.7
	baz=110						
TORD	Torodi Ar. Bea	110.44	295	PKiKP	PKiKP	00 37 23.9	+0.9
	comp=Z,5.5nm,1.1s,baz=18,slow=2.4,SNR=14						
TORD				PKKPbc	PKKPbc	00 48 20.5	-1.8
	comp=Z,2.9nm,0.8s,baz=236,slow=2.2,SNR=11						
TORD				PKKPab	PKKPab	00 48 33.4	-1.2
	comp=Z,10nm,0.7s,baz=265,slow=4.0,SNR=22						
TORD	Torodi Ar. Bea	110.44	295	PKiKP	PKiKP	00 37 23.9	+0.9
TORD				PKKPbc	PKKPbc	00 48 20.5	-1.8
TORD				PKKPab	PKKPab	00 48 33.4	-1.2
W31A	Holland Ranch,	110.48	35	⇑PKiKP	PKiKP	00 37 23.3	+0.6
	baz=110						
X30A	Coker Ranch, T	110.55	36	⇑PKiKP	PKiKP	00 37 22.9	+0.1
	baz=110						
Y29A	Porterfield Fa	110.55	37	⇓PKiKP	PKiKP	00 37 23.5	+0.7
	baz=110						
U34A	Anderson Ranch	110.74	32	⇑PKiKP	PKiKP	00 37 22.2	-0.8
	baz=110						
V33A	Lossen Ranch,	110.84	33	⇑PKiKP	PKiKP	00 37 22.6	-0.7
	baz=111						
X31A	McDonald Ranch	110.89	35	⇑PKiKP	PKiKP	00 37 24.0	+0.6
	baz=111						
Y30A	Stafford Cattl	110.96	36	⇓PKiKP	PKiKP	00 37 24.4	+0.8
	baz=111						
Z29A	Hungry Hill Ra	110.98	37	⇓PKiKP	PKiKP	00 37 24.5	+0.8
	baz=111						
128A	Castleberry Fa	111.01	38	⇓PKiKP	PKiKP	00 37 24.0	+0.3
	baz=111						
RKT	Rikitea	111.09	107	*e*Pdif	Pdif	00 33 23.6	-1.1
	comp=Z,384nm,25.2s						
RKT	Rikitea	111.09	107	*e*PP	PP	00 38 00.7	-2.5
	comp=Z,1μm,27.8s						
RKT				*e*SKSac	SKSac	00 43 58.4	-4.1
	comp=Z,2μm,28.5s						
RKT	Rikitea	111.09	107	*e*PS	PS	00 47 29.7	-5.1
	comp=Z,6μm,32.8s						
RKT				*e*SS	SS	00 53 31.0	-3.2
	comp=Z,2μm,34.0s						
RKT	Rikitea	111.09	107	*e*LR	LR	01 10 05.8	
	comp=Z,8μm,24.5s						
Y31A	Rekieta Farm,	111.24	36	⇓PKiKP	PKiKP	00 37 24.3	+0.2
	baz=111						
AAM	Ann Arbor	111.27	19	PFAKE		00 37 40.0	
AAM				LR	LR		
	comp=Z,10μm,20.0s						
LONY	Lake Ozonia	111.32	12	PFAKE		00 37 40.0	
LONY				LR	LR		
	comp=Z,10μm,20.0s						
WMOK	Wichita Mounta	111.43	34	PFAKE		00 37 40.0	
WMOK				LR	LR		
	comp=Z,8μm,21.0s						
PKME	Peaks-Kenny Pk	111.51	8	PFAKE		00 37 40.0	
PKME				LR	LR		
	comp=Z,11μm,19.0s						
PMOZ	Porto Moniz, M	111.58	323	*e*SKS	SP	00 47 30.9	-3.8
PMOZ	Porto Moniz, M	111.58	323	*e*LR	LR	01 20 09.2	
	comp=Z,7μm,20.0s						
SFIN	Lafayette	111.87	23	⇑PKiKP	PKiKP	00 37 25.6	+0.5
	baz=112						
229A	Bryant Ranch,	111.88	38	⇑PKiKP	PKiKP	00 37 24.6	-0.8
	baz=112						
TUL1	Leonard	112.00	31	⇓PKiKP	PKiKP	00 37 25.9	+0.4
	baz=112						
NCB	Newcomb	112.02	12	PFAKE		00 37 40.0	
NCB				LR	LR		
	comp=Z,8μm,20.0s						
X34A	Smith Ranch, M	112.03	34	⇑PKiKP	PKiKP	00 37 25.2	-0.4
	baz=112						
Y33A	Hilltop Ranch,	112.08	35	⇓PKiKP	PKiKP	00 37 25.9	+0.3
	baz=112						
329A	Wagon Wheel Ra	112.13	39	⇓PKiKP	PKiKP	00 37 26.2	+0.3
	baz=112						
131A	Roby	112.15	37	⇓PKiKP	PKiKP	00 37 26.7	+0.8
	baz=112						
LBNH	Lisbon	112.15	10	PFAKE		00 37 40.0	
LBNH				LR	LR		
	comp=Z,14μm,19.0s						
Z32A	Haskell	112.17	36	⇑PKiKP	PKiKP	00 37 26.6	+0.7
	baz=112						
230A	Sterling City	112.33	38	⇑PKiKP	PKiKP	00 37 26.6	+0.3
	baz=112						
ERPA	Erie	112.48	17	PFAKE		00 37 40.0	
ERPA				LR	LR		
	comp=Z,9μm,20.0s						
Z33A	Whitaker Ranch	112.56	35	⇓PKiKP	PKiKP	00 37 27.0	+0.4
	baz=112						
Y34A	Reagan Ranch,	112.57	34	⇓PKiKP	PKiKP	00 37 26.7	+0.1
	baz=112						
ABTX	Abilene, Hawle	112.59	36	⇓PKiKP	PKiKP	00 37 26.8	+0.1
	baz=112						
ABTX	Abilene, Hawle	112.59	36	*e*PKiKP	PKiKP	00 37 26.5	-0.2
TXAR	Lajitas Array	112.69	42	P	Pdif	00 33 34.2	+2.2
TXAR				*i*		00 37 27.6	
TXAR	Lajitas Array	112.69	42	Pdiff	Pdif	00 33 34.2	+2.2
	comp=Z,0.9nm,0.8s,baz=287,slow=3.3,SNR=6.8						
TXAR				PKiKP	PKiKP	00 37 27.6	+0.5
	comp=Z,4.0nm,0.8s,baz=247,slow=0.7,SNR=13						
TXAR	Lajitas Array	112.69	42	Pdif	Pdif	00 33 34.2	+2.2
TXAR				PKiKP	PKiKP	00 37 27.6	+0.5
QSPA	South Pole Qui	112.73	180	*e*PKiKP	PKiKP	00 37 23.9	-2.0
QSPA				*e*PP	PP	00 38 12.8	-0.9
QSPA				LR	LR		
	comp=Z,6μm,21.0s						
231A	Bronte	112.74	37	⇑PKiKP	PKiKP	00 37 27.1	+0.1
	baz=112						
429A	Davenport Ranc	112.81	39	⇑PKiKP	PKiKP	00 37 27.1	-0.1
	baz=113						
529A	Stev Forest Ra	112.99	40	⇑PKiKP	PKiKP	00 37 27.2	-0.4
	baz=113						
133A	Hamilton Ranch	113.00	36	⇑PKiKP	PKiKP	00 37 27.6	+0.1
	baz=113						
430A	Baggett Ranch,	113.08	39	⇓PKiKP	PKiKP	00 37 27.7	0.0
	baz=113						
232A	Coleman	113.15	37	⇓PKiKP	PKiKP	00 37 28.1	+0.3
	baz=113						
331A	San Angelo	113.15	38	⇓PKiKP	PKiKP	00 37 28.0	+0.2
	baz=113						
BINY	Binghamton	113.36	14	PFAKE		00 37 40.0	
BINY				LR	LR		
	comp=Z,12μm,19.0s						
ACSO	Alum Creek Sta	113.37	20	PFAKE		00 37 40.0	
ACSO				LR	LR		
	comp=Z,7μm,20.0s						
233A	Rising Star	113.46	36	⇑PKiKP	PKiKP	00 37 28.6	+0.2
	baz=113						
134A	White-Moore Ra	113.48	35	⇓PKiKP	PKiKP	00 37 28.6	+0.2
	baz=113						
332A	Millersview	113.48	37	⇑PKiKP	PKiKP	00 37 28.5	0.0
	baz=113						
530A	J-C Ranch, Com	113.49	39	⇑PKiKP	PKiKP	00 37 28.5	0.0
	baz=113						
431A	Sonora	113.52	38	⇓PKiKP	PKiKP	00 37 28.8	+0.3
	baz=113						
432A	Menard	113.83	38	⇓PKiKP	PKiKP	00 37 29.2	0.0
	baz=114						
234A	Clairette	113.89	36	⇑PKiKP	PKiKP	00 37 29.4	+0.2
	baz=114						
531A	Rocksprings	113.94	39	⇓PKiKP	PKiKP	00 37 29.3	-0.1
	baz=114						
333A	Richland Sprin	113.94	37	⇓PKiKP	PKiKP	00 37 29.4	+0.1
	baz=114						
JCT	Junction City	114.13	38	*e*PKIKP	PKPdf	00 37 29.0	-0.7
JCT				MLR	MLR		
	comp=Z,10μm,19.0s						
JCT	Junction City	114.13	38	⇑PKiKP	PKPdf	00 37 30.0	+0.3
	baz=114						
JCT	Junction City	114.13	38	*e*PKiKP	PKiKP	00 37 29.0	-0.8
JCT				LR	LR		
	comp=Z,10μm,19.0s						
MIAR	Mount Ida	114.17	31	*e*PKIKP	PKPdf	00 37 28.5	-1.1
MIAR				MLR	MLR		
	comp=Z,6μm,20.0s						
MIAR	Mount Ida	114.17	31	*e*PKiKP	PKiKP	00 37 28.5	-1.1
MIAR				LR	LR		
	comp=Z,6μm,20.0s						
WHTX	Lake Whitney,	114.26	35	⇑PKiKP	PKPdf	00 37 30.1	+0.2
	baz=114						
433A	Art	114.32	37	⇓PKiKP	PKPdf	00 37 30.1	0.0
	baz=114						
532A	Rocksprings	114.33	38	⇑PKiKP	PKiKP	00 37 30.0	-0.1
	baz=114						
334A	Lometa	114.35	36	⇑PKiKP	PKiKP	00 37 30.0	-0.1
	baz=114						
631A	Perdido Creek	114.48	39	⇓PKiKP	PKPdf	00 37 30.4	0.0
	baz=114						
137A	Heron Place, G	114.67	34	⇑PKiKP	PKPdf	00 37 31.1	+0.5
	baz=114						
434A	Burnet	114.73	37	⇓PKiKP	PKiKP	00 37 30.5	-0.3
	baz=114						
335A	Moody	114.83	36	⇑PKiKP	PKiKP	00 37 30.7	-0.3
	baz=115						
632A	Uvalde	114.86	39	⇓PKiKP	PKPdf	00 37 31.4	+0.3
	baz=115						
533A	Kerrville	114.87	38	⇓PKiKP	PKiKP	00 37 30.8	-0.4
	baz=115						
138A	Matatall Enter	114.96	33	⇑PKiKP	PKPdf	00 37 31.4	+0.2
	baz=115						
336A	Riesel	115.06	35	⇓PKiKP	PKPdf	00 37 31.6	+0.2
	baz=115						
534A	Blanco	115.22	37	⇑PKiKP	PKiKP	00 37 31.4	-0.4
	baz=115						
633A	Saathoff Ranch	115.25	38	⇑PKiKP	PKiKP

340A	Bronson	116.56	33	⇓PKiKP	PKiKP	00 37 34.7	+0.4
	baz=116						
933A	Laredo	116.58	40	⇑PKiKP	PKiKP	00 37 34.9	+0.5
	baz=116						
834A	Tilden	116.61	39	⇓PKiKP	PKiKP	00 37 35.4	+0.9
	baz=116						
CBN	Corbin Frederi	116.84	16	PFAKE		00 37 50.0	+15
CBN				LR	LR		
	comp=Z,10μm,22.0s						
BLA	Blacksburg	116.93	19	PFAKE		00 37 50.0	+15
BLA				LR	LR		
	comp=Z,12μm,22.0s						
034A	Hebbronville	117.33	40	⇑PKiKP	PKiKP	00 37 36.6	+0.7
	baz=117						
KVTX	Kingsville	117.43	39	PFAKE		00 37 50.0	+14
KVTX				LR	LR		
	comp=Z,5μm,20.0s						
NVL	N'lazarevskaya	117.70	201	*e*P	Pdif	00 34 05.2	+12
NVL				*e*		00 37 34.4	
NVL				*e*SP	SP	00 48 34.1	+5.0
NVL				*e*PS	PS	00 48 35.1	+1.5
NVL				*e*		00 55 06.3	
035A	Encino	117.77	39	⇑PKiKP	PKiKP	00 37 37.6	+0.9
	baz=118						
035Z	Hargill	118.15	40	⇑PKiKP	PKiKP	00 37 38.5	+1.0
	baz=118						
KMSC	Kings Mountain	118.55	21	⇑PKiKP	PKPdf	00 37 37.7	-0.3
	baz=118						
DBIC	Dimbokro	119.28	292	PKIKP	PKPdf	00 37 40.5	+0.5
DBIC	Dimbokro	119.28	292	PKP	PKPdf	00 37 40.5	+0.5
	comp=Z,5.9nm,0.6s,baz=29,slow=1.3,SNR=12						
DBIC				PKKPab	PKKPbc	00 47 52.6	+0.8
	comp=Z,7.4nm,0.9s,baz=220,slow=5.5,SNR=5.1						
DBIC	Dimbokro	119.28	292	PKP	PKPdf	00 37 40.5	+0.5
DBIC				PKKPab	PKKPbc	00 47 52.6	+0.8
KIC	Kosan Boka	119.34	292	*e*P	PKPdf	00 37 39.7	-0.4
	comp=Z,162nm,1.4s						
GOGA	Godfrey	119.39	23	PFAKE		00 37 50.0	+10
GOGA				LR	LR		
	comp=Z,16μm,19.0s						
TIC	Toumodi	119.44	292	*e*P	PKPdf	00 37 41.0	+0.7
	comp=Z,33nm,0.8s						
CNNC	Cliffs of the	119.49	18	PFAKE		00 37 50.0	+10
CNNC				LR	LR		
	comp=Z,11μm,20.0s						
LIC	Lamto	119.66	292	⇓*i*PKIKP	PKPdf	00 37 40.7	0.0
LIC				*e*R			
	comp=Z,12μm,21.8s						
LIC	Lamto	119.66	292	*e*P	PKPdf	00 37 41.5	+0.8
	comp=Z,122nm,1.3s						
LIC	Lamto	119.66	292	⇓*i*PKPdf	PKPdf	00 37 40.7	0.0
BRAL	Brewton	120.08	28	PFAKE		00 37 50.0	+8.9
BRAL				LR	LR		
	comp=Z,9μm,22.0s						
NHSC	New Hope	120.79	20	PFAKE		00 37 50.0	+7.6
NHSC				LR	LR		
	comp=Z,13μm,20.0s						
TIGA	Tifton	121.11	24	⇑PKiKP	PKPdf	00 37 42.8	-0.3
	baz=121						
BBSR	BB Station	124.76	6	PFAKE		00 38 00.0	+10
BBSR				LR	LR		
	comp=Z,8μm,19.0s						
SACV	Santiago Islan	128.69	314	PFAKE		00 38 10.0	+12
SACV				LR	LR		
	comp=Z,4μm,20.0s						
SHEL	Horse Pasture	129.34	268	PFAKE		00 38 10.0	+11
SHEL				LR	LR		
	comp=Z,4μm,20.0s						
APG	El Apazote	131.44	42	PKhKP	PKPpre	00 37 55.1	
	comp=Z,6.1nm,0.7s,baz=339,slow=8.6,SNR=3.5						
APG	El Apazote	131.44	42	PKPpre	PKPpre	00 37 55.1	
GRTK	Grand Turk	134.32	16	PFAKE		00 38 20.0	+12
GRTK				LR	LR		
	comp=Z,6μm,20.0s						
ASCN	Ascension	134.48	282	PFAKE		00 38 20.0	+11
ASCN				LR	LR		
	comp=Z,3μm,19.0s						
GTBY	Guantanamo Bay	134.66	21	PFAKE		00 38 20.0	+11
GTBY				LR	LR		
	comp=Z,6μm,19.0s						
MTDJ	Mount Denham	135.34	25	PFAKE		00 38 20.0	+9.4
MTDJ				LR	LR		
	comp=Z,10μm,22.0s						
SDDR	Presa de Saban	136.70	17	PFAKE		00 38 20.0	+7.0
SDDR				LR	LR		
	comp=Z,10μm,19.0s						
PMSA	Palmer Station	138.05	177	PFAKE		00 38 30.0	+16
PMSA				LR	LR		
	comp=Z,6μm,19.0s						
JTS	JuntasAbangare	138.45	40	PKIKP	PKPdf	00 38 16.0	-0.3
JTS				MLR	MLR		
	comp=Z,4μm,19.0s						
JTS	JuntasAbangare	138.45	40	PKhKP	PKPpre	00 38 06.9	
	comp=Z,6.8nm,0.7s,baz=321,slow=11,SNR=3.9						
JTS				PKP	PKPdf	00 38 16.0	-0.3
	comp=Z,14nm,1.0s,baz=322,slow=13,SNR=3.8						
JTS	JuntasAbangare	138.45	40	PKP	PKPdf	00 38 16.0	-0.3
JTS				LR	LR		
	comp=Z,4μm,19.0s						
OBIP	Obispado Ponce	138.64	11	*e*PKPdf	PKPdf	00 38 16.7	+0.2
ANWB	Willy Bob	139.57	4	PFAKE		00 38 30.0	+12
ANWB				LR	LR		
	comp=Z,5μm,22.0s						
BCIP	Isla Barro Col	142.24	35	PFAKE		00 38 30.0	+6.8
BCIP				LR	LR		
	comp=Z,4μm,21.0s						
FDF	Fort de France	142.52	3	PFAKE		00 38 40.0	+16
FDF				LR	LR		
	comp=Z,5μm,21.0s						
PAYG	Puerto Ayora	142.56	58	PFAKE		00 38 40.0	+16
PAYG				LR	LR		
	comp=Z,4μm,19.0s						
BBGH	Gun Hill	144.15	1	PFAKE		00 38 40.0	+14
BBGH				LR	LR		
	comp=Z,10μm,21.0s						
HOPE	Hope Point	144.34	203	PFAKE		00 38 40.0	+14
HOPE				LR	LR		
	comp=Z,3μm,20.0s						
GRGR	Grenville	145.07	4	PFAKE		00 38 40.0	+12
GRGR				LR	LR		
	comp=Z,5μm,22.0s						
TOSP	Speyside	145.96	2	*e*	PKPab	00 38 32.1	+1.4
TPR	Prospect	146.06	3	*e*P	PKPab	00 38 31.5	+0.4
BOT	Bacolet	146.08	3	*e*P	PKPab	00 38 31.8	+0.6
SDV	Santo Domingo	146.46	21	*e*PKPdf	PKPdf	00 38 30.6	-0.2
SDV				LR	LR		
	comp=Z,6μm,20.0s						
PCRV	Puerto La Cruz	146.67	10	PKPbc	PKPdf	00 38 31.5	+0.6
	comp=Z,70nm,0.6s,baz=156,slow=2.0,SNR=30						
PCRV	Puerto La Cruz	146.67	10	PKPbc	PKPdf	00 38 31.5	+0.6
TBH	Brigand Hill	146.74	3	*e*P	PKPbc	00 38 32.9	+0.3
TPP	Pointe-a-Pierr	146.88	4	*e*P	PKPbc	00 38 32.2	-0.8
USHA	Ushuaia	147.40	170	PKPbc	PKPbc	00 38 33.0	-0.3
	comp=Z,216nm,1.0s,baz=194,slow=2.9,SNR=41						
USHA	Ushuaia	147.40	170	PKPbc	PKPbc	00 38 33.0	-0.3
ROSC	El Rosal	148.67	30	PKPbc	PKPdf	00 38 36.2	+1.5
	comp=Z,21nm,0.7s,baz=112,slow=1.3,SNR=23						
ROSC	El Rosal	148.67	30	PKPbc	PKPdf	00 38 36.2	+1.5
OTAV	Otavalo	150.31	42	*e*PKPdf	PKPdf	00 38 38.1	+0.7
OTAV				LR	LR		
	comp=Z,3μm,21.0s						
EFI	East Falkland	151.29	181	*e*PKIKP	PKPdf	00 38 37.6	+0.5
EFI				*e*		00 38 42.7	
EFI				*e*		00 38 52.9	
EFI	East Falkland	151.29	181	*e*PKPdf	PKPdf	00 38 37.6	+0.5
EFI				*e*PKPbc	PKPbc	00 38 42.7	-0.4
EFI				*e*PKPab	PKPab	00 38 52.9	+1.8
EFI				LR	LR		
	comp=Z,75μm,19.0s						
RCBR	Riachuelo	151.82	304	PKP	PKPdf	00 38 39.5	+0.3
	comp=Z,22nm,1.1s,baz=46,slow=4.5,SNR=7.9						
RCBR				PKPbc	PKiKP	00 38 46.8	+0.9
	comp=Z,76nm,1.1s,baz=15,slow=3.4,SNR=15						
RCBR	Riachuelo	151.82	304	*e*PKPdf	PKPdf	00 38 39.4	+0.3
RCBR				PKPbc	PKiKP	00 38 46.8	+0.9
RCBR				LR	LR		
	comp=Z,11μm,19.0s						
ATAH	Atahualpa	155.76	53	PKP	PKPdf	00 38 46.6	+1.4
	comp=Z,57nm,1.3s,baz=329,slow=2.1,SNR=28						
ATAH	Atahualpa	155.76	53	PKP	PKPdf	00 38 46.6	+1.4
PLCA	Paso Flores	159.83	154	PKIKP	PKPdf	00 38 49.0	-0.1
PLCA	Paso Flores	159.83	154	PKP	PKPdf	00 38 49.0	-0.1
	comp=Z,24nm,1.3s,baz=288,slow=2.5,SNR=5.7						
PLCA				PKPab	PKPab	00 39 28.8	+0.7
	comp=Z,13nm,0.8s,baz=255,slow=2.4,SNR=6.6						
PLCA	Paso Flores	159.83	154	PKP	PKPdf	00 38 49.0	-0.1
PLCA				PKPab	PKPab	00 39 28.8	+0.7
NNA	Nana	159.98	60	PKIKP	PKPdf	00 38 49.8	-0.1
NNA				MLR	MLR		
	comp=Z,23μm,19.0s						
NNA	Nana	159.98	60	PKP	PKPdf	00 38 49.8	-0.1
	comp=Z,20nm,0.8s,baz=344,slow=1.2,SNR=6.5						
NNA	Nana	159.98	60	PKP	PKPdf	00 38 49.8	-0.1
NNA				*e*PKPdf	PKPdf	00 38 51.9	+1.9
NNA				LR	LR		
	comp=Z,23μm,19.0s						
TRQA	Tornquist	164.74	172	*e*PKPdf	PKPdf	00 38 53.0	-0.9
TRQA				*e*PKPab	PKPab	00 39 48.3	-1.1
TRQA				LR	LR		
	comp=Z,50μm,21.0s						
SAML	Samuel	165.58	16	*e*PKPdf	PKPdf	00 38 54.9	-0.5
SAML				*e*PKPab	PKPab	00 39 51.2	-2.4
SAML				LR	LR		
	comp=Z,35μm,19.0s						
BDFB	Brasilia	167.19	303	PKIKP	PKPdf	00 38 56.5	-0.2
BDFB						00 40 00.1	
BDFB	Brasilia	167.19	303	PKP	PKPdf	00 38 56.5	-0.2
	comp=Z,26nm,1.0s,baz=50,slow=1.4,SNR=29						
BDFB				PKPab	PKPab	00 40 00.1	-1.0
	comp=Z,9.8nm,0.9s,baz=63,slow=11,SNR=2.1						
BDFB	Brasilia	167.19	303	PKP	PKPdf	00 38 56.5	-0.2
BDFB				PKPab	PKPab	00 40 00.1	-1.0
CFAA	Coronel Fontan	168.21	139	PKP	PKPdf	00 38 57.9	+1.0
	comp=Z,2.9nm,0.4s,baz=171,slow=0.9,SNR=11						
CFAA	Coronel Fontan	168.21	139	PKP	PKPdf	00 38 57.9	+1.0
LPAZ	La Paz	169.30	53	PKIKP	PKPdf	00 38 59.4	+0.7
LPAZ						00 40 08.8	
LPAZ	La Paz	169.30	53	PKP	PKPdf	00 38 59.4	+0.7
	comp=Z,135nm,1.4s,baz=18,slow=2.3,SNR=90						
LPAZ				PKPab	PKPab	00 40 08.8	-2.2
	comp=Z,31nm,1.0s,baz=353,slow=9.9,SNR=4.6						
LPAZ	La Paz	169.30	53	PKP	PKPdf	00 38 59.4	+0.7
LPAZ				PKPab	PKPab	00 40 08.8	-2.2
LVC	Limon Verde	171.03	90	*e*PKPdf	PKPdf	00 38 59.4	+0.3
LVC				LR	LR		
	comp=Z,52μm,22.0s						
SIV	San Ignacio	172.88	15	PKP	PKPdf	00 39 00.2	+0.4
	comp=Z,32nm,1.2s,baz=349,slow=0.8,SNR=37						
SIV	San Ignacio	172.88	15	PKP	PKPdf	00 39 00.2	+0.4
CPUP	Villa Florida	176.21	206	PKIKP	PKPdf	00 39 00.3	-0.3
CPUP						00 40 38.8	
CPUP	Villa Florida	176.21	206	PKP	PKPdf	00 39 00.2	-0.3
	comp=Z,9.5nm,0.8s,baz=6.1,slow=1.5,SNR=17						
CPUP				PKPab	PKPab	00 40 38.8	-1.8
	comp=Z,8.0nm,0.7s,baz=118,slow=8.8,SNR=5.9						
CPUP	Villa Florida	176.21	206	PKP	PKPdf	00 39 00.2	-0.3
CPUP				PKPab	PKPab	00 40 38.8	-1.8

TAP 04 00:21:02.6, 22.°94N×120.°65E, h15km±1km, ML3.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	Sandimen	0.20	184	P	Pb	00 21 08.0	0.0
SSD	baz=181			S	Sb	00 21 11.6	0.0
STYT	Tauyuan	0.24	25	*e*P	Pb	00 21 08.5	-0.3
STYT	baz=27			*e*S	Sb	00 21 13.1	+0.1
CHN1	Nanshi	0.26	336	*e*P	Pb	00 21 09.1	0.0
WTP	baz=336 Ta-pu	0.30	355	*e*P	Pb	00 21 09.6	-0.3
TWG	baz=356 Pinlang	0.41	107	*e*P	Pb	00 21 11.8	+0.2
ELDTW	baz=107 Lidau	0.42	54	P	Pb	00 21 11.7	-0.3
ELDTW	baz=55			*e*S	Sb	00 21 18.9	+0.6
ECL	Taimali	0.45	140	*e*P	Pb	00 21 12.5	+0.3
SCZT	baz=140 Fangliau	0.57	182	*e*P	Pb	00 21 14.2	-0.1
TAW	baz=182 Tawu	0.63	158	*e*P	Pb	00 21 15.7	+0.4
TAW	baz=158			*e*S	Sb	00 21 24.9	+1.0
TWF1	baz=158 Yuli	0.72	56	*e*P	Pb	00 21 17.0	0.0
	baz=56						

NEIC ***04*** *00:24:44.8±1.0, 22.°83N×120.°46E, h10km, mb4.8/1, Error ellipse: s-maj=17.0km s-min=10.4km az=105.0*
IDC ***04*** *00:24:44.3±1.2, 23.°01N×121.°42E, h0km, mb4.3/5, mb1 4.6/5, mb1mx4.1/44, mbtmp4.3/5, Error ellipse: s-maj=85.3km s-min=23.5km az=81.0*
TAP ***04*** *00:24:47.3, 22.°98N×120.°62E, h20km, ML4.7, B*
ISCJB ***04*** *00:24:48.6±0.2, 22.°97N±0.°01×120.°59E±0.°02, h19km±3km, mb4.4/6, Error ellipse: s-maj=3.0km s-min=2.1km az=174.7*

ISC 04 00:24:46.8±0.9, 22.°99N±0.°01×120.°65E±0.°02, h18km±2km, n77, σ1§11/122, mb4.5/6, 18C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	Tauyuan	0.20	30	⇑*i*P	Pg	00 24 53.4	+1.6
CHN1	baz=37 Nanshi	0.22	330	⇓*i*P	Pg	00 24 53.5	+1.4
SSD	baz=337 Sandimen	0.24	184	⇑*i*P	Pg	00 24 53.4	+0.9
SSD	baz=176			*e*S	Sg	00 24 58.5	+2.2
WTP	Ta-pu	0.26	353	⇑*i*P	Pb	00 24 54.1	+1.4
TWM1	baz=222 Shoushan	0.27	231	⇑P	Pb	00 24 54.2	+1.3
CHN3	baz=291 Shinhua	0.28	288	*e*P	Pn	00 24 54.9	-0.9
SGLT	baz=199 Jiouru	0.30	209	⇑*i*P	Pn	00 24 55.1	-1.1
SGLT	baz=199			*e*S	Sn	00 25 01.5	-0.8
TPUB	Ta-pu	0.31	357	*e*Pg	Pb	00 24 54.4	+0.6
TPUB				*e*Sg	Sb	00 24 59.6	+1.2
TWK	Hsinying	0.31	332	⇓P	Pb	00 24 54.8	+1.0
CHN4	baz=347 Tsaushan	0.36	352	⇑*i*P	Pb	00 24 55.7	+0.9
ELDTW	baz=356 Lidau	0.39	60	⇑*i*P	Pn	00 24 56.7	-0.9
ELDTW	baz=61			*e*S	Sn	00 25 03.5	-1.2
TAI1	baz=61 Yung-k'ang	0.39	277	P	Pn	00 24 56.5	-0.9
TWG	baz=279 Pinlang	0.42	113	⇑*i*P	Pn	00 24 57.4	-0.5
TWG	baz=103			S	Sn	00 25 04.3	-1.0
TWG	Pinlang	0.42	113	*e*Pg	Pn	00 24 57.3	-0.6
TWG				*e*Sg	Sn	00 25 05.5	+0.2
SCLT	Jiali	0.46	294	⇑*i*P	Pn	00 24 57.4	-1.0
SCLT	baz=296			S	Sn	00 25 05.7	-0.4
ECL	baz=296 Taimali	0.48	144	⇓*i*P	Pn	00 24 58.0	-0.7
TTN	baz=141 Taitung	0.52	117	⇓*i*P	Pn	00 24 59.5	+0.4
TTN	baz=115			*e*S	Sn	00 25 09.1	+1.6
KAU	baz=115 Kaohsiung	0.53	217	*e*P	Pn	00 24 59.4	+0.1
ALS	baz=224 Alishan	0.54	15	⇑*i*P	Pb	00 24 58.9	+1.2
ALS	baz=19			S	Sn	00 25 07.4	-1.1
CHY	baz=19 Chiayi	0.55	338	⇓*e*P	Pn	00 24 59.1	-0.5
CHN2	baz=341 Minshiung	0.56	343	P	Pn	00 24 59.6	-0.3
CHN2	baz=346			S	Sn	00 25 08.7	0.0
YUS	baz=346 Yu-Shan	0.57	29	⇑*i*P	Pn	00 24 59.9	-0.5
YUS	baz=41			*i*S	Sn	00 25 08.8	-0.7
CHN5	baz=41 Tsauling	0.60	2	⇑*i*P	Pn	00 24 59.9	-0.6
	baz=5.0						
SCZT	Fangliau	0.62	183	⇑*i*P	Pg	00 24 59.6	+0.6
	baz=175						
EAST	Anshuo	0.63	163	⇓*i*P	Pn	00 25 00.5	-0.4
EAST	baz=155			*e*S	Sn	00 25 09.6	-0.8
	baz=155						
CHKT	Chengkung	0.67	81	⇑*i*P	Pn	00 25 01.9	+0.7
CHKT	baz=81			*e*S	Sn	00 25 12.8	+1.6
	baz=81						
TAW	Tawu	0.67	160	*i*P	Pn	00 25 01.1	-0.2
TAW	baz=157			*i*S	Sn	00 25 10.6	-0.7
	baz=157						
TWP	Hsiaoliuchiu	0.69	202	P	Pn	00 25 02.8	+1.1
TWP	baz=200			*e*S	Sn	00 25 15.2	+3.3
	baz=200						
TWF1	Yuli	0.70	59	⇑*i*P	Pn	00 25 02.0	+0.3
TWF1	baz=66			*e*S	Sn	00 25 11.8	-0.1
	baz=66						
WGK	Gukeng	0.70	353	⇓P	Pn	00 25 01.7	0.0
WGK	baz=356			*i*S	Sn	00 25 13.3	+1.3
	baz=356						
YULB	Yu-li	0.72	56	*i*Pg	Pg	00 25 01.6	+0.7
YULB				*e*Sg	Sn	00 25 12.5	0.0
WSF	Szhu	0.75	329	P	Pn	00 25 02.1	-0.3
WSF	baz=331			*e*S	Sn	00 25 13.8	+0.4
	baz=331						
SSLB	Suanglung	0.84	19	*e*Pg	Pn	00 25 03.6	-0.1
SSLB				*e*Sg	Sn	00 25 15.3	-0.3
WNT	Mingjian	0.88	2	⇑*i*P	Pn	00 25 04.8	+0.6
WNT	baz=351			S	Sn	00 25 18.3	+1.7
	baz=351						
SMLT	Sun Moon Lake	0.92	14	P	Pn	00 25 05.7	+0.8
SMLT	baz=16			*e*S	Sn	00 25 20.0	+2.4
	baz=16						
TYC	Yuchr	0.93	12	⇑P	Pg	00 25 05.5	+0.6
TYC	baz=14			S	Sn	00 25 20.1	+2.4
	baz=14						
WTCT	Ta-ch'eng	0.93	339	*e*P	Pn	00 25 04.9	-0.1
WTCT	baz=341			*e*S	Sn	00 25 18.2	+0.4
	baz=341						
WDGT	Dungji	0.95	287	⇑*i*P	Pb	00 25 04.1	-0.6
WDGT	baz=287			*e*S	Sb	00 25 16.7	-0.1
	baz=287						
HEN	Hengchun	0.98	175	*e*P	Pg	00 25 06.8	+0.9
TWK1	baz=173 Hengchun	1.05	172	⇓P	Pg	00 25 07.6	+0.4
TWK1	baz=170			S	Sg	00 25 23.1	+2.1
	baz=170						
TEGC	Jichi Village	1.09	49	*e*P	Pg	00 25 10.1	+2.2
ESL	baz=50 Shilin	1.09	41	*i*P	Pg	00 25 08.7	+0.7
ESL	baz=42			*e*S	Sg	00 25 24.1	+1.8
	baz=42						
TSEB	Hengchuen, Pin	1.11	168	*e*P	Pg	00 25 08.5	+0.2
TSEB	baz=169			*e*S	Sg	00 25 23.8	+0.9
	baz=169						
PNG	Penghu	1.16	300	P	Pn	00 25 07.1	-0.9
PNG	baz=301			*e*S	Sb	00 25 22.2	-0.7
	baz=301						
ESF	Shoufeng Towns	1.18	42	*e*P	Pg	00 25 10.7	+1.1
ESF	baz=43			*e*S	Sg	00 25 27.1	+2.1
	baz=43						
LAY	Lan-yu	1.26	139	P	Pb	00 25 10.2	+0.2
LAY	baz=138			*e*S	Sg	00 25 27.5	-0.2
	baz=138						
WHF	Hehuan Shan	1.28	26	*e*P	Pg	00 25 11.9	+0.3
WHF	baz=18			*e*S	Sg	00 25 30.4	+1.9
	baz=18						
HWA	Hwalien	1.32	42	P	Pg	00 25 12.7	+0.5
HWA	baz=36			*e*S	Sg	00 25 31.3	+1.9
	baz=36						
TWT	Tachien	1.35	21	P	Pg	00 25 12.5	-0.3
TWT	baz=22			*e*S	Sg	00 25 30.7	+0.3
	baz=22						
TWQ1	Liyutan	1.35	5	*e*P	Pg	00 25 12.5	-0.5
TWQ1	baz=6.0			*e*S	Sg	00 25 31.6	+0.9
	baz=6.0						
TWD	Chiawan	1.39	39	P	Pg	00 25 13.4	-0.2
TWD	baz=40			S	Sg	00 25 32.1	+0.4
	baz=40						
NSY	Sanyi	1.42	4	*e*P	Pb	00 25 13.5	+0.8
NSY	baz=6.0			*e*S	Sg	00 25 33.6	+0.8
	baz=6.0						
NACB	Ninganchiao	1.46	36	*e*P	Pb	00 25 14.0	+0.6
NACB				*e*Sg	Sg	00 25 34.8	+0.7
NNS	Nan Shan	1.59	25	*e*P	Pb	00 25 16.6	+0.9
NNS	baz=14			*e*S	Sg	00 25 38.2	+0.2
	baz=14						
NSTT	Nanjuang	1.66	11	*e*P	Pb	00 25 16.8	-0.1
NSTT	baz=356			*e*S	Sg	00 25 39.3	-1.2
	baz=356						
ENA	Nanau	1.75	35	*e*P	Pb	00 25 18.4	+0.1
ENA	baz=36			*e*S	Sg	00 25 42.0	-1.1
	baz=36						
NSK	Sanguang	1.80	21	*e*P	Pb	00 25 19.6	+0.4
NSK	baz=36			*e*S	Sg	00 25 44.1	-0.7
	baz=36						
YHNB	Yeheng	1.80	22	*e*Pn	Pb	00 25 19.6	+0.4
HSN	Hsinchu	1.83	9	*e*P	Pb	00 25 20.6	+1.0
	baz=356						
ENTT	Nioudou	1.84	27	*e*P	Pb	00 25 20.7	+0.8
ENTT	baz=28			*e*S	Sg	00 25 45.5	-0.8
	baz=28						
TWC	Suao	1.95	34	*e*P	Pb	00 25 21.7	-0.1
TWC	baz=45			*e*S	Sb	00 25 47.5	+1.9
	baz=45						
NCU	National Centr	2.03	14	*e*P	Pb	00 25 21.7	-1.4
TATO	baz=360 Taipei	2.12	21	*e*Pn	Pb	00 25 25.3	+0.7
TWA	Mucha	2.16	23	*e*P	Pb	00 25 24.8	-0.5
EGS	baz=23	2.19	32	*e*P	Pb	00 25 26.4	+0.6
	baz=33						
TWS1	Kuangyinshan	2.21	18	*e*P	Pb	00 25 25.2	-1.0
NWF	baz=19 Wu-fen Shan	2.31	26	*e*P	Pb	00 25 26.9	-1.1
NWF	baz=10.0			*e*S	Sb	00 25 57.3	+1.0
	baz=10.0						
TWB1	Santiao Chiao	2.35	31	*e*P	Pb	00 25 27.5	-1.1
YOJ	baz=31 Yonaguni jima	2.61	55	*e*P	Pb	00 25 31.4	-1.7
	baz=56						
YOJ	Yonaguni jima	2.61	55	*e*Pn	Pb	00 25 30.9	-2.1
JOW	Kunigami	7.91	60	Pn	Pn	00 26 39.7	-1.1
	0.5nm,0.3s,baz=101,slow=16,SNR=8.3						
JOW				Sn	Sn	00 28 00.6	-9.3
	baz=100,slow=19,SNR=1.5						
WRAB	Tennant Creek	44.71	162	P	P	00 32 56.0	-3.0
	10nm,0.8s						
WRA	Warramunga Arr	44.72	162	P	P	00 32 57.4	-1.6
	4.2nm,0.7s,baz=343,slow=7.9,SNR=7.4						
ASAR	Alice Springs	48.13	164	P	P	00 33 25.1	-0.7
	3.8nm,0.7s,baz=340,slow=6.9,SNR=4.8						
ARCES	ARCESS Array B	70.46	338	P	P	00 36 01.7	+2.1
	4.0nm,0.8s,baz=84,slow=8.4,SNR=4.8						
INK	Inuvik	74.51	22	P	P	00 36 22.2	-1.5
	3.4nm,0.9s,baz=311,slow=9.3,SNR=3.7						

YKA Yellowknife Ar 84.25 23 P **P 00 37 16.9 -0.1**
0.6nm,0.5s,baz=309,slow=4.9,SNR=5.5

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*CSEM **04** 00:27:50.2±0.9,50°.06N×18°.44E,h0km, Error ellipse: s-maj=14.2km s-min=8.1km az=61.0*
PRU 04 00:27:52.4,50°.06N×18°.44E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.16**	**278**	*e*Sg	Sg	00 27 59.7	+2.1
OKC	**Ostrava-Krasne**	**0.29**	**220**	*e*PG	Pg	00 27 58.3	+0.3
OKC				*e*SG	Sg	00 28 01.9	+0.1
	comp=Z,10nm,0.5s						
OKC	**Ostrava-Krasne**	**0.29**	**220**	Pg	Pg	00 27 58.3	+0.3
OKC				Sg	Sg	00 28 01.9	+0.1
	10nm,0.5s						
MORC	**Moravsky Berou**	**0.65**	**244**	*e*Pg	Pg	00 28 04.6	-0.3
MORC				*e*Sg	Sg	00 28 13.6	+0.3
KRLC	**Kraliky**	**1.07**	**271**	*e*PG	Pg	00 28 11.8	-1.2
KRLC				*e*SG	Sg	00 28 25.6	-1.3
KRLC	**Kraliky**	**1.07**	**271**	Pg	Pg	00 28 11.8	-1.2
KRLC				Sg	Sg	00 28 25.6	-1.3
DPC	**Dobruska-Polom**	**1.39**	**283**	*e*PG	Pn	00 28 17.8	-1.4
DPC				*e*SG	Sg	00 28 35.9	-1.4
DPC	**Dobruska-Polom**	**1.39**	**283**	Pg	Pn	00 28 17.8	-1.4
DPC				Sg	Sg	00 28 35.9	-1.4
VRAC	**Vranov**	**1.42**	**239**	*e*Pg	Pn	00 28 18.5	-0.9
UPC	**Upice**	**1.62**	**287**	*e*SG	Sn	00 28 43.3	-0.6
	comp=Z,0.9nm,0.3s						
UPC	**Upice**	**1.62**	**287**	Sg	Sn	00 28 43.3	-0.6
	0.9nm,0.3s						

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*ISCJB **04** 00:36:02.4±0.1,47°.85N±0°.03×152°.61E±0°.03,h117km, mb4.8/165, Error ellipse: s-maj=4.6km s-min=2.2km az=159.2*
*BJI **04** 00:36:03.9,48°.20N×152°.73E,h142km,mb4.7/12*
*SKHL **04** 00:36:05.1±0.7,47°.81N×152°.54E,h131km±7km,mb5.6/6, msh5.8/6*
*SZGRF **04** 00:36:05.2,49°.41N×151°.78E,h33km,mb5.2,Northwest of Kuril Islands, Russia*
*MOS **04** 00:36:06.1±1.0,47°.88N×152°.52E,h149km,mb4.7/76, Error ellipse: s-maj=8.3km s-min=4.7km az=89.3*
*NEIC **04** 00:36:07.9±0.5,47°.86N×152°.50E,h153km±4km,mb4.8/70, Error ellipse: s-maj=5.4km s-min=3.0km az=157.0*
*IDC **04** 00:36:08.3±1.6,47°.77N×152°.51E,h163km±14km, mb4.1/35,mb1 4.2/41,mb1mx4.1/59,mbtmp4.5/41,Error ellipse: s-maj=11.3km s-min=7.4km az=155.0*
ISC 04 00:36:03.9±0.4,**47°.84N**±0°.06×**152°.48E**±0°.05,**h117**km, **n719**,$_{c0}$**89**/730,**mb4.8**/167,**215C-135D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.71**	**39**	*e*PN	**Pn**	**00 36 57.9**	**-1.6**
SKR				*e*S	**Sn**	**00 37 40.0**	**-2.5**
SKR				pmax	pmax		
	comp=Z,220nm,0.5s						
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=E,50nm,0.4s						
SKR				smax	smax		
	comp=N,460nm,0.5s						
SKR				smax	smax		
	comp=E,360nm,0.9s						
SKR	**Severo-Kuril's**	**3.71**	**39**	*e*P	**Pn**	**00 37 01.8**	**+2.3**
SKR				AMB	AMB	00 37 05.3	
	comp=E,332nm,0.5s						
SKR				*e*S	**Sn**	**00 37 44.8**	**+2.3**
SKR				A	A	00 37 49.8	
	comp=E,554nm,0.7s						
KUR	**Kuril'sk**	**4.11**	**232**	*c i*PN	Pn	00 37 08.9	+4.1
KUR				*i* S	**Sn**	**00 37 56.8**	**+4.7**
KUR				pmax	pmax		
	comp=Z,156nm,0.7s						
KUR				pmax	pmax		
	comp=E,27nm,0.8s						
KUR				pmax	pmax		
	comp=N,57nm,0.4s						
KUR				smax	smax		
	comp=N,391nm,0.6s						
KUR				smax	smax		
	comp=E,196nm,0.6s						
KUR	**Kuril'sk**	**4.11**	**232**	*e*P	Pn	00 37 08.9	+4.1
KUR				AMB	AMB	00 37 10.4	
	comp=E,156nm,0.7s						
KUR				*e*S	**Sn**	**00 37 56.8**	**+4.7**
KUR				A	A	00 38 07.1	
	comp=E,196nm,0.6s						
KUR				A	A	00 38 07.1	
	comp=E,391nm,0.6s						
PAU	**Pauzhetka**	**4.59**	**36**	*e*P	Pn	00 37 14.9	+3.6
PAU				AMB	AMB	00 37 16.1	
	comp=E,480nm,0.6s						
PAU				*e*S	**Sn**	**00 38 06.7**	**+3.1**
PAU				A	A	00 38 07.9	
	comp=E,291nm,0.4s						
SHO	**Shikotan**	**5.59**	**227**	*e*P	**Pn**	**00 37 27.0**	**+2.2**
SHO				AMB	AMB	00 37 27.6	
	comp=E,182nm,0.7s						
SHO				*e*S	**Sn**	**00 38 29.0**	**+1.2**
SHO				A	A	00 38 30.4	
	comp=E,338nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.98**	**233**	⇑*i*PN	**Pn**	**00 37 32.3**	**+2.3**
YUK				*i* S	**Sn**	**00 38 39.7**	**+2.6**
YUK				pmax	pmax		
	comp=N,25nm,0.1s						
YUK				pmax	pmax		
	comp=E,35nm,0.1s						
YUK				pmax	pmax		
	comp=Z,334nm,0.1s						
YUK				smax	smax		
	comp=N,77nm,0.3s						
YUK				smax	smax		
	comp=E,237nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.98**	**233**	*e*P	**Pn**	**00 37 32.3**	**+2.3**
YUK				AMB	AMB	00 37 34.7	
	comp=E,334nm,0.1s						
YUK				*e*S	**Sn**	**00 38 39.7**	**+2.6**
YUK				A	A	00 38 47.0	
	comp=E,77nm,0.3s						
YUK				A	A	00 38 47.0	
	comp=E,237nm,0.3s						
PETK	**Petropavlovsk-**	**6.24**	**30**	PN	Pn	00 37 37.3	+3.8
PETK				S	Sn	00 38 50.3	+7.0
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK				smax	smax		
	comp=N,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**6.24**	**30**	P	Pn	00 37 37.2	+3.8
	comp=N,4.9nm,0.3s,baz=200,slow=16,SNR=22						
PETK				S	Sn	00 38 50.3	+7.0
	comp=N,1.6nm,0.3s,baz=155,slow=18,SNR=2.5						
NEM2	**Nemuro 2**	**6.50**	**229**	P	**Pn**	**00 37 36.7**	**-0.4**
NEM2				*e*S	**Sn**	**00 38 45.0**	**-4.8**
PET	**Petropavlovsk**	**6.52**	**35**	*e*PN	**Pn**	**00 37 40.0**	**+2.8**
PET				*e*S	**Sn**	**00 38 48.8**	**-1.3**
PET				smax	smax		
	comp=N,144nm,0.6s						
PET				smax	smax		
	comp=E,136nm,0.5s						
PET	**Petropavlovsk**	**6.52**	**35**	*e*P	**Pn**	**00 37 39.3**	**+2.1**
PET				AMB	AMB	00 37 41.5	
	comp=E,230nm,0.5s						
PET				A	A	00 37 51.3	
	comp=E,143nm,0.5s						
PET				*e*S	**Sn**	**00 38 48.7**	**-1.3**
PET	**Petropavlovsk**	**6.52**	**35**	*e*Sn	**Sn**	**00 38 51.2**	**+1.2**
YSS	**Yuzh-Sakhalins**	**6.66**	**266**	*e*PN	Pn	00 37 46.9	+7.8
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**6.66**	**266**	*e*rx	rx	00 37 46.9	
JNK	**Nakash**	**6.90**	**235**	P	**Pn**	**00 37 44.2**	**+1.8**
JTKR	**Abashiri--Toko**	**7.12**	**240**	P	Pn	00 37 48.6	+3.2
JAK	**Akkeshi**	**7.31**	**231**	P	**Pn**	**00 37 47.8**	**-0.1**
JAK				*e*S	**Sn**	**00 39 05.2**	**-4.1**
JAR	**Ashorobuto**	**7.61**	**237**	P	**Pn**	**00 37 55.0**	**+2.9**
ASAJ	**Asahikawa**	**7.82**	**245**	PN	Pn	00 38 00.1	+5.2
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ	**Asahikawa**	**7.82**	**245**	P	Pn	00 37 59.1	+4.2
ASAJ	**Asahikawa**	**7.82**	**245**	P	Pn	00 38 00.1	+5.2
	comp=Z,6.4nm,0.3s,baz=78,slow=11,SNR=21						
ASAJ	**Asahikawa**	**7.82**	**245**	*e*Pn	Pn	00 37 59.2	+4.2
JOB	**Onbets**	**7.83**	**234**	P	**Pn**	**00 37 55.8**	**+0.8**
JOB				*e*S	**Sn**	**00 39 18.8**	**-3.2**
JKK2	**Kamakawa 2**	**7.86**	**243**	P	Pn	00 37 59.6	+4.1
JCH	**Churui**	**8.28**	**234**	P	**Pn**	**00 38 01.9**	**+0.7**
JCH				*e*S	**Sn**	**00 39 29.2**	**-3.8**
ERM	**Erimo**	**8.81**	**232**	*e*PN	Pn	00 38 13.5	+5.3
ERM	**Erimo**	**8.81**	**232**	*e*P	**Pn**	**00 38 09.9**	**+1.7**
ERM	**Erimo**	**8.81**	**232**	*e*Pn	Pn	00 38 13.5	+5.3
JNBK	**Urakawa-nobuka**	**8.84**	**235**	P	**Pn**	**00 38 08.5**	**-0.2**
JNBK				*e*S	Sn	00 39 40.1	-6.4
JNB	**Noboribetsu**	**9.70**	**241**	P	**Pn**	**00 38 21.0**	**+0.7**
JNB				*e*S	**Sn**	**00 40 03.6**	**-3.7**
JKB	**Kayabe**	**10.06**	**238**	P	**Pn**	**00 38 24.5**	**-0.7**
JKB				*e*S	Sn	00 40 08.2	-8.0
JTM	**Tenmabayashi**	**10.79**	**233**	*e*S	Sn	00 40 22.9	-11
JANG	**Nango**	**10.85**	**231**	P	Pn	00 38 32.0	-3.8
JANG				*e*S	Sn	00 40 22.4	-13
FX1	**Attu Island--F**	**14.12**	**61**	P	**P**	**00 39 22.5**	**+0.1**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1	**Attu Island--F**	**14.12**	**61**	P	**P**	**00 39 22.5**	**+0.1**
	comp=Z,2.5nm,0.3s,baz=246,slow=4.3,SNR=5.8						
USRK	**Ussuriysk Ar.**	**14.69**	**263**	P	**P**	**00 39 29.6**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=65,slow=12,SNR=16						
SEY	**Seymchan**	**15.13**	**360**	P	**P**	**00 39 34.7**	**+1.1**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SEY	**Seymchan**	**15.13**	**360**	P	**P**	**00 39 34.7**	**+1.1**
	comp=Z,2.4nm,0.3s,baz=174,slow=9.7,SNR=30						
MAJO	**Matsushiro**	**15.44**	**228**	*e*P	**Pn**	**00 39 34.8**	**-0.5**
MAJO	**Matsushiro**	**15.44**	**228**	*e*P	**Pn**	**00 39 34.8**	**-0.5**
MJAR	**Matsushiro Arr**	**15.44**	**228**	P	**P**	**00 39 38.5**	**+1.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.44**	**228**	P	**P**	**00 39 38.5**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=349,slow=16,SNR=5.1						
MDJ	**Mudanjiang**	**16.15**	**267**	P	**P**	**00 39 46.2**	**+1.2**
MDJ				sP	sP	00 40 29.2	+8.4
MDJ				S	**S**	**00 42 45.8**	**-1.5**
MDJ				ScP	**ScP**	**00 47 54.1**	**-1.1**
MDJ				PcS	**PcS**	**00 48 08.1**	**+0.8**
MDJ				PMZ			
	comp=Z,18nm,1.4s						
MDJ				LN			
	comp=Z,8μm,13.2s						
MDJ				LE			
	comp=Z,6μm,14.0s						
MDJ				LZ			
	comp=Z,9μm,13.2s						
ATKR	**Artyk**	**16.87**	**349**	*e*S	**P**	**00 39 54.5**	**+1.7**
ATKR				Sm		00 39 54.5	
	comp=N,10.0nm,0.2s						
YAK	**Yakutsk**	**19.17**	**326**	*e*P	**Pn**	**00 40 19.4**	**-0.7**
YAK	**Yakutsk**	**19.17**	**326**	*e*P	**Pn**	**00 40 19.4**	**-0.7**
YAK	**Yakutsk**	**19.17**	**326**	*e*S	**P**	**00 40 16.2**	**-1.8**
YAK				Sm		00 40 16.2	
	comp=N,12nm,0.7s						
KSRS	**Korea Array**	**20.75**	**249**	P	**P**	**00 40 36.9**	**+1.7**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSRS	**Korea Array**	**20.75**	**249**	P	**P**	**00 40 36.9**	**+1.7**
	comp=Z,3.3nm,0.8s,baz=50,slow=10,SNR=5.7						
KSAR	**Wonju Array Be**	**20.78**	**249**	P	**P**	**00 40 36.9**	**+1.4**
KSAR	**Wonju Array Be**	**20.78**	**249**	P	**P**	**00 40 36.9**	**+1.4**
BILL	**Bilibino**	**21.43**	**14**	⇑*i*P	**P**	**00 40 42.9**	**+0.6**
BILL				*i*		00 41 18.3	
BILL				*i* S	**S**	**00 44 34.1**	**+1.2**
BILL				pmax	pmax		
	comp=Z,18nm,0.8s						
BILL	**Bilibino**	**21.43**	**14**	*e*P	**P**	**00 40 43.3**	**+1.0**
BILL	**Bilibino**	**21.43**	**14**	*e*Pn	**P**	**00 40 42.5**	**+0.2**
	comp=Z,17nm,0.6s						
HIA	**Hailar**	**21.63**	**286**	*e*P	**P**	**00 40 45.9**	**+1.3**
HIA				pmax	pmax		
	comp=Z,13nm,2.5s						
HIA	**Hailar**	**21.63**	**286**	*e*P	**P**	**00 40 45.9**	**+1.3**
DEPR	**Deputatskiy**	**22.49**	**348**	*e*S	**P**	**00 40 53.3**	**+0.1**
GAMB	**Gambell**	**25.21**	**38**	*e*P	**P**	**00 41 19.4**	**+1.1**
	comp=Z,14nm,0.6s						
TIXI	**Tiksi**	**26.30**	**343**	⇓*i*P	**P**	**00 41 27.6**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,14nm,1.3s						
TIXI	**Tiksi**	**26.30**	**343**	*e*P	**P**	**00 41 27.1**	**-0.9**
	comp=Z,121nm,2.6s						
TNA	**Tin City**	**27.38**	**35**	*e*P	**P**	**00 41 37.7**	**-0.1**
	comp=Z,15nm,0.5s						
ULN	**Ulaanbaatar**	**30.15**	**287**	*e*P	**P**	**00 42 02.5**	**-0.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ULN	**Ulaanbaatar**	**30.15**	**287**	*e*P	**P**	**00 42 02.5**	**-0.2**
SONM	**Songino Array**	**30.58**	**287**	P	**P**	**00 42 06.9**	**+0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**30.58**	**287**	P	**P**	**00 42 06.9**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=76,slow=7.9,SNR=5.1						
TLY	**Talaya**	**31.31**	**296**	P	**P**	**00 42 12.3**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=65,slow=9.5,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**31.48**	**153**	T	T	01 15 10.1	
	baz=344,slow=74,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**31.48**	**154**	T	T	01 15 23.2	
	baz=344,slow=74,SNR=7.3						
H11S2	**WAKE ISLAND Hy**	**31.49**	**153**	T	T	01 15 21.8	
	baz=344						
KDAK	**Kodiak Island**	**33.76**	**52**	*c e*P	**P**	**00 42 33.0**	**-1.0**
KTH	**Kantishna Hill**	**34.23**	**42**	*e*P	**P**	**00 42 39.0**	**+1.0**
	comp=Z,47nm,1.1s						
SSLB	**Suanglung**	**34.67**	**237**	*e*P	**P**	**00 42 43.7**	**+1.5**
	comp=Z,60nm,0.5s						
COLD	**Coldfoot**	**34.68**	**35**	*e*P	**P**	**00 42 42.7**	**+0.8**
	comp=Z,14nm,0.8s						
RC01	**Rabbit Creek A**	**34.88**	**46**	*e*P	**P**	**00 42 43.1**	**-0.5**
MCK	**McKinley**	**35.11**	**41**	*e*P	**P**	**00 42 46.1**	**+0.5**
MCK				pmax	pmax		
	comp=Z,22nm,1.1s						
MCK	**McKinley**	**35.11**	**41**	*e*P	**P**	**00 42 46.1**	**+0.5**
	comp=Z,22nm,1.1s						
COLA	**College**	**35.56**	**39**	*c i*P	**P**	**00 42 50.2**	**+0.8**
COLA				pmax	pmax		
	comp=Z,126nm,1.0s						
COLA	**College**	**35.56**	**39**	*e*P	**P**	**00 42 50.2**	**+0.8**
COLA	**College**	**35.56**	**39**	*e*P	**P**	**00 42 50.0**	**+0.6**
	comp=Z,48nm,1.1s						
ILAR	**Eielson Array**	**35.98**	**39**	P	**P**	**00 42 52.9**	**-0.1**
ILAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ILAR	**Eielson Array**	**35.98**	**39**	P	**P**	**00 42 52.9**	**-0.1**
	comp=Z,10nm,0.9s,baz=263,slow=6.4,SNR=82						
LZH	**Lanzhou**	**37.44**	**270**	*e*P	**P**	**00 43 07.8**	**+1.9**
LZH				PMZ			
	comp=Z,15nm,1.0s						
EGAK	**Eagle**	**38.42**	**39**	*e*P	**P**	**00 43 13.4**	**-0.2**
	comp=Z,21nm,1.0s						
CD2	**Chengdu**	**40.56**	**263**	*e*P	**P**	**00 43 32.1**	**+0.3**
CD2				PMZ			
	comp=Z,40nm,0.9s						
HYT	**Haines Junctio**	**40.80**	**45**	*e*P	**P**	**00 43 35.2**	**+1.7**
INK	**Inuvik**	**40.97**	**33**	P	**P**	**00 43 35.2**	**+0.6**
INK				pmax	pmax		
	comp=Z,12nm,0.6s						
INK	**Inuvik**	**40.97**	**33**	P	**P**	**00 43 35.2**	**+0.6**
	comp=Z,12nm,0.6s,baz=303,slow=7.3,SNR=94						
INK	**Inuvik**	**40.97**	**33**	*e*P	**P**	**00 43 34.8**	**+0.2**
	comp=Z,16nm,0.7s						
GYA	**Guiyang**	**41.55**	**256**	*e*P	**P**	**00 43 41.9**	**+1.9**
GYA				pP	pP	00 44 14.7	+8.2
GYA				sP	sP	00 44 32.0	+12
GYA				PP	**PnPn**	**00 45 22.3**	**-1.7**
GYA				S	**S**	**00 49 46.2**	**-1.0**
GYA				PMZ			
	comp=Z,10.0nm,0.9s						
ZALV	**Zalesovo Beam**	**41.63**	**305**	P	**P**	**00 43 40.0**	**-0.2**
ZALV						00 45 34.2	
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**41.63**	**305**	P	**P**	**00 43 40.0**	**-0.2**
	comp=Z,6.6nm,0.5s,baz=63,slow=6.6,SNR=29						
ZALV				PcP	**PcP**	**00 45 34.2**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=75,slow=3.5,SNR=6.7						
DLBC	**Dease Lake**	**45.15**	**46**	*e*P	**P**	**00 44 10.3**	**+1.9**
MKAR	**Makanchi Array**	**46.06**	**296**	P	**P**	**00 44 15.6**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=71,slow=7.3,SNR=27						
MKAR				PcP	**PcP**	**00 45 49.2**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=72,slow=3.1,SNR=3.6						
KURK	**Kurchatov**	**46.41**	**303**	*e*P	**P**	**00 44 18.3**	**0.0**
KURK				pmax	pmax		
	comp=Z,12nm,0.7s						
KURK	**Kurchatov**	**46.41**	**303**	*e*P	**P**	**00 44 18.3**	**0.0**
KURK	**Kurchatov**	**46.41**	**303**	*e*P	**P**	**00 44 18.3**	**0.0**
	comp=Z,12nm,0.7s						
LSA	**Lhasa**	**49.79**	**272**	*e*P	**P**	**00 44 45.6**	**+0.4**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LSA	**Lhasa**	**49.79**	**272**	*e*P	**P**	**00 44 45.6**	**+0.4**
	comp=Z,5.4nm,0.6s						
BVAR	**Borovoye Array**	**49.84**	**308**	P	**P**	**00 44 45.0**	**+0.3**
BVAR						00 46 02.8	
BVAR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR	**Borovoye Array**	**49.84**	**308**	P	**P**	**00 44 45.0**	**+0.3**
	comp=Z,5.8nm,0.4s,baz=57,slow=7.5,SNR=66						
BVAR				PcP	**PcP**	**00 46 02.8**	**-0.8**
	comp=Z,1.9nm,0.4s,baz=82,slow=3.6,SNR=7.3						
BRVK	**Borovoye**	**49.88**	**309**	*e*P	**P**	**00 44 45.4**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	**Borovoye**	**49.88**	**309**	*e*P	**P**	**00 44 45.4**	**+0.4**
RES	**Resolute Bay**	**49.94**	**19**	P	**P**	**00 44 45.6**	**+0.5**
RES				pmax	pmax		
	comp=Z,7.0nm,0.5s						
RES	**Resolute Bay**	**49.94**	**19**	P	**P**	**00 44 45.6**	**+0.5**
	comp=Z,6.6nm,0.5s,baz=313,slow=5.8,SNR=34						
YKA	**Yellowknife Ar**	**50.31**	**37**	P	**P**	**00 44 48.4**	**+0.3**
	comp=Z,4.9nm,0.5s,baz=299,slow=7.0,SNR=92						
YKA				PcP	**PcP**	**00 46 04.0**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=302,slow=3.6,SNR=7.9						
SPA0	**Spitsbergen Ar**	**51.46**	**349**	*e*		00 39 19.2	
SPA0				*e*P	**P**	**00 44 56.3**	**-0.2**
HOPEN	**Hopen**	**51.53**	**346**	*e*P	**P**	**00 44 57.0**	**0.0**
HSPB	**Hornsund (broa**	**52.53**	**349**	*e*P	**P**	**00 45 04.0**	**-0.3**
AAK	**Ala-Archa**	**52.97**	**295**	*e*P	**P**	**00 45 08.7**	**+0.3**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
AAK	**Ala-Archa**	**52.97**	**295**	*e*P	**P**	**00 45 08.7**	**+0.3**
TAPN	**Taplejung**	**53.62**	**272**	*e*P	**P**	**00 45 14.3**	**+0.8**
KSH	**Kashi**	**53.84**	**291**	*e*P	P	00 45 20.0	+5.2
KSH				PP	PP	00 47 24.7	+8.0
KSH				S	**S**	**00 52 42.3**	**+1.6**
KSH				SS	**SS**	**00 56 25.3**	**+2.6**
KSH				LN			
	comp=Z,690nm,8.7s						
KSH				LE			
	comp=Z,780nm,12.1s						
KSH				LZ			
	comp=Z,4μm,18.1s						
ARU	**Arti**	**53.92**	**317**	*c i*P	**P**	**00 45 14.2**	**-0.7**
ARU				*PP	pP	00 45 52.5	+10
ARU				S	**S**	**00 52 40.1**	**-0.8**
ARU				SS	**SKiKP**	**00 56 18.7**	**+3.8**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ARU	**Arti**	**53.92**	**317**	*e*P	**P**	**00 45 14.2**	**-0.7**
ARU	**Arti**	**53.92**	**317**	*e*P	**P**	**00 45 14.3**	**-0.6**
	comp=Z,19nm,0.4s						
ODAN	**Odare**	**54.15**	**272**	*e*P	**P**	**00 45 17.2**	**-0.1**
JIRN	**Jiri**	**54.44**	**273**	*e*P	**P**	**00 45 20.2**	**+0.7**
GUN	**Gumba**	**54.48**	**274**	*e*P	**P**	**00 45 20.3**	**+0.5**
	comp=Z,8.2nm,0.4s						
RAMN	**Ramite**	**54.63**	**272**	*e*P	**P**	**00 45 21.2**	**+0.5**
	comp=Z,42nm,0.8s						
KKN	**Kakani**	**54.97**	**274**	*e*P	**P**	**00 45 24.3**	**+1.2**
	comp=Z,8.8nm,0.5s						
PKI	**Pulchoki**	**55.02**	**274**	*e*P	**P**	**00 45 24.2**	**+0.5**
PKIN	**Phulchoki**	**55.03**	**274**	*e*P	**P**	**00 45 24.8**	**+1.2**
KKAR	**Karatay Array**	**55.10**	**298**	*e*P	**P**	**00 45 23.5**	**-0.2**
KKAR	**Karatay Array**	**55.10**	**298**	*e*P	**P**	**00 45 23.5**	**-0.2**
DMN	**Daman**	**55.20**	**274**	*e*P	**P**	**00 45 25.9**	**+1.0**
	comp=Z,16nm,0.5s						
GKN	**Gorkha**	**55.26**	**275**	*e*P	**P**	**00 45 25.7**	**+0.5**
	comp=Z,18nm,0.5s						
LTY	**Liberty**	**55.51**	**56**	*e*P	**P**	**00 45 26.4**	**-0.3**
	comp=Z,32nm,1.9s						
DAG	**Danmarks Havn**	**55.54**	**358**	*i* P	**P**	**00 45 25.7**	**-0.6**
DAG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DAG	**Danmarks Havn**	**55.54**	**358**	*i* P	**P**	**00 45 25.7**	**-0.6**
	comp=Z,1.8nm,0.7s						
B08A	**Colville Reser**	**55.61**	**54**	*e*P	**P**	**00 45 27.0**	**-0.3**
	comp=Z,114nm,3.0s						
DANN	**Dangsing**	**55.62**	**276**	*e*P	**P**	**00 45 28.9**	**+1.0**
	comp=Z,27nm,0.5s						
EDM	**Edmonton**	**55.88**	**46**	*e*P	**P**	**00 45 29.2**	**+0.1**
EDM	**Edmonton**	**55.88**	**46**	*e*P	**P**	**00 45 29.2**	**+0.1**
EDM	**Edmonton**	**55.88**	**46**	*e*P	**P**	**00 45 29.1**	**+0.1**
KOLN	**Koldanda**	**56.11**	**275**	*e*P	**P**	**00 45 32.0**	**+0.7**
KEV	**Kevo**	**56.17**	**340**	*e*P	**P**	**00 45 29.0**	**-1.8**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KEV	**Kevo**	**56.17**	**340**	*e*p	**P**	**00 45 29.0**	**-1.8**
	comp=Z,1.4nm,0.3s						
PRGR	**Permogore**	**56.22**	**327**	*e*P	**P**	**00 45 29.7**	**-1.6**
PRGR						00 46 24.9	
PRGR				pmax	pmax		
	comp=Z,14nm,0.5s						
KULLO	**Kullorsuaq**	**56.26**	**9**	⇑*i*P	**P**	**00 45 30.8**	**-0.6**
KULLO				pmax	pmax		
	comp=Z,56nm,0.7s						
KULLO	**Kullorsuaq**	**56.26**	**9**	⇑*i*P	**P**	**00 45 30.8**	**-0.6**
	comp=Z,56nm,0.7s						
I04A	**Tendick Farm,**	**56.55**	**60**	⇑P	**P**	**00 45 34.0**	**0.0**
	baz=56						
ARCES	**ARCESS Array B**	**56.68**	**340**	P	**P**	**00 45 34.2**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**56.68**	**340**	P	**P**	**00 45 34.2**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=32,slow=6.4,SNR=

comp=Z,8.0nm,1.0s
WVOR Wild Horse Val 59.57 59 eP P 00 45 55.5 +0.3
comp=Z,7.6nm,1.0s
SUMG Summit 59.64 4⇑iP P 00 45 56.2 +0.7
SUMG pmax pmax
comp=Z,70nm,0.8s
SUMG Summit 59.64 4⇑iP P 00 45 56.2 +0.7
comp=Z,70nm,0.8s
SUMG Summit 59.64 4 eP P 00 45 56.0 +0.5
comp=Z,122nm,1.0s
JOF Joensuu 60.17 333 eP P 00 45 56.6 -2.1
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 60.17 333 ep P 00 45 56.6 -2.1
comp=Z,6.2nm,0.6s
STEI Steigen 60.18 343 eP P 00 45 58.5 -0.3
FFC Flin Flon 60.18 40 eP P 00 45 59.1 +0.1
FFC pmax pmax
comp=Z,15nm,0.7s
FFC Flin Flon 60.18 40 eP P 00 45 59.3 +0.3
FFC Flin Flon 60.18 40 eP P 00 45 59.1 +0.1
comp=Z,15nm,0.7s
LOF Lofoten 60.34 344 eP P 00 45 59.2 -0.6
FCC Fort Churchill 60.59 33 eP P 00 46 01.4 -0.2
FCC Fort Churchill 60.59 33 eP P 00 46 01.4 -0.2
HRY Holter Researc 60.64 52 eP P 00 46 02.4 0.0
comp=Z,12nm,0.6s
A19A Klindworth Far 60.81 48 ⇑P P 00 46 03.1 -0.4
baz=60
LRM Limekiln Ridge 60.88 53 eP P 00 46 04.3 +0.1
comp=Z,126nm,0.9s
EGMT Eagleton 60.88 50 ⇓P P 00 46 03.7 -0.3
baz=61
EGMT Eagleton 60.88 50 eP P 00 46 04.2 +0.2
comp=Z,29nm,1.3s
B19A Brinkman Farms 61.02 49 ⇓P P 00 46 04.7 -0.2
baz=61,SNR=8.7
A20A Cobblestone Ra 61.25 48 ⇓P P 00 46 06.2 -0.2
baz=61,SNR=9.5
HLID Hailey 61.25 56 ⇑P P 00 46 06.5 -0.2
baz=61
C19A Slack Wire Ran 61.43 49 ⇑P P 00 46 07.7 0.0
baz=61,SNR=9.6
BOZ Bozeman (W) 61.44 53 eP P 00 46 08.3 +0.5
BOZ pmax pmax
comp=Z,8.0nm,0.7s
BOZ Bozeman (W) 61.44 53 eP P 00 46 08.3 +0.5
BOZ Bozeman (W) 61.44 53 eP P 00 46 08.3 +0.5
comp=Z,7.5nm,0.7s
B20A Solberg Farm, 61.49 48 ⇓P P 00 46 08.2 +0.2
baz=61
BMN Battle Mountai 61.66 60 eP P 00 46 09.5 +0.1
BMN pmax pmax
comp=Z,5.0nm,0.6s
BMN Battle Mountai 61.66 60 eP P 00 46 09.5 +0.1
comp=Z,4.5nm,0.6s
A21A Bergtoll Ranch 61.68 47 ⇓P P 00 46 09.2 0.0
baz=61,SNR=17
MOR8 Moi Rana 61.85 342 eP P 00 46 08.1 -2.0
MOR8 IAmb IAmb 00 46 09.6
comp=Z,14nm,0.4s
D19A Cripps Ranch, 61.89 50 ⇓P P 00 46 10.6 -0.1
baz=62
C20A Veseth Ranch, 61.98 49 ⇓P P 00 46 11.3 0.0
baz=62,SNR=12
STOK Stokkvaagen 62.00 343 eP P 00 46 10.9 -0.1
QLMT Earthquake Lak 62.07 53 eP P 00 46 13.2 +1.0
A22A Carney Farms, 62.17 47 ⇓P P 00 46 12.4 -0.2
baz=62,SNR=25
KAF Kangasniemi 62.27 335 eP P 00 46 11.4 -1.5
KAF pmax pmax
comp=Z,3.0nm,0.4s
KAF Kangasniemi 62.27 335 ep P 00 46 11.4 -1.5
comp=Z,3.2nm,0.4s
NVAR Mina Array Bea 62.31 62 P P 00 46 13.6 -0.3
comp=Z,4.3nm,0.8s,baz=294,slow=7.2,SNR=17
C21A Desert Coulee 62.36 48 ⇑P P 00 46 13.8 0.0
baz=62,SNR=8.5
E19A Rath Farm, Rou 62.40 50 ⇓P P 00 46 14.2 0.0
baz=62
ELK Elko 62.61 59 P P 00 46 14.6 -1.2
ELK pmax pmax
comp=Z,1.0nm,0.5s
ELK Elko 62.61 59 P P 00 46 14.6 -1.2
comp=Z,0.7nm,0.5s,baz=310,slow=12,SNR=5.0
E20A Meyer Farm, Mu 62.71 50 ⇑P P 00 46 15.9 -0.4
baz=62
F19A Roth Farm, Mol 62.72 51 ⇑P P 00 46 16.4 +0.1
baz=62,SNR=8.9
H17A Grant Village 62.82 53 ⇑P P 00 46 18.3 +1.1
baz=62,SNR=6.3
FINES FINESS Array B 62.87 334ceP P 00 46 16.2 -0.7
FINES pmax pmax
comp=Z,7.0nm,0.4s
FINES FINESS Array B 62.87 334 P P 00 46 16.2 -0.7
comp=Z,7.1nm,0.4s,baz=41,slow=6.4,SNR=176
D21A La Casta Ranch 62.92 49 ⇓P P 00 46 17.7 +0.1
baz=63,SNR=6.7
IMW Indian Meadow 62.95 54 eP P 00 46 19.0 +0.9
comp=Z,5.8nm,1.1s
B23A Brockton 62.98 47 ⇓P P 00 46 17.8 -0.2
baz=63,SNR=9.6
C22A Vida 63.02 48 ⇑P P 00 46 17.9 -0.3
baz=63
FXWY Fox Creek 63.07 54 eP P 00 46 19.7 +0.8
comp=Z,67nm,2.8s
H18A Shoshone NF, C 63.12 52 ⇓P P 00 46 19.2 0.0
baz=63,SNR=5.0
I17A Pilgrim Ck. 63.13 54 ⇑P P 00 46 20.4 +1.2
baz=63
A24A Westby 63.16 46 ⇑P P 00 46 18.8 -0.3
baz=63,SNR=5.4
F20A Billings 63.17 51 ⇓P P 00 46 19.5 +0.2
baz=63
TPAW Teton Pass 63.21 54 eP P 00 46 21.0 +1.1
comp=Z,14nm,1.3s
D22A Cohagen 63.28 49 ⇓P P 00 46 20.0 0.0
baz=63
LOHW Long Hollow 63.32 54 eP P 00 46 21.3 +0.8
comp=Z,12nm,1.3s
C23A Lambert 63.34 47 ⇑P P 00 46 20.0 -0.3
baz=63
REDW Red Top Meadow 63.35 54 eP P 00 46 21.5 +0.8
comp=Z,14nm,1.3s
DGMT Dagmar 63.37 46 ⇓P P 00 46 20.1 -0.4
baz=63,SNR=6.1
DGMT Dagmar 63.37 46 eP P 00 46 20.8 +0.3
comp=Z,30nm,0.6s
H19A Powell 63.49 52 ⇓P P 00 46 21.6 +0.1
baz=63
G20A Bridger 63.53 51 ⇑P P 00 46 20.9 -0.8
baz=63,SNR=6.6
LAO LASA Array 63.57 49 eP P 00 46 21.6 -0.3
comp=Z,15nm,0.8s
A25A Svangstu Ranch 63.57 45 ⇓P P 00 46 21.7 -0.1
baz=63
F21A Absaloka Mine, 63.69 50 ⇓P P 00 46 22.2 -0.5
baz=63,SNR=7.2
D23A Lindsay 63.75 48 ⇑P P 00 46 23.2 +0.2
baz=64
NSS Namsos 63.80 342 eP P 00 46 22.9 -0.1
C24A Savage 63.90 47 ⇓P P 00 46 24.3 +0.3
baz=64
I19A Meeteetse 63.91 53 ⇑P P 00 46 24.7 +0.3
baz=64
R11A Troy Canyon, C 63.98 61 ⇑P P 00 46 24.0 -0.9
baz=64,SNR=5.9
R11A Troy Canyon, C 63.98 61 eP P 00 46 24.3 -0.5
comp=Z,54nm,2.7s
B25A Knox Farm, Ray 64.01 46 ⇑P P 00 46 24.6 -0.1
baz=64
A26A Wade Farm, Ken 64.12 45 ⇑P P 00 46 25.4 0.0
baz=64
SFJD Kangerlussuaq 64.15 10 iP P 00 46 24.7 -0.5
SFJD pmax pmax
comp=Z,10.0nm,0.8s
SFJD Kangerlussuaq 64.15 10 iP P 00 46 24.7 -0.5
comp=Z,9.5nm,0.7s
SFJD Kangerlussuaq 64.15 10 P P 00 46 24.7 -0.5
comp=Z,11nm,0.7s,baz=341,slow=7.3,SNR=5.6
FRB Frobisher Bay 64.16 19 P P 00 46 24.5 -0.8
FRB pmax pmax
comp=Z,10.0nm,0.6s
FRB Frobisher Bay 64.16 19 P P 00 46 24.5 -0.8
comp=Z,9.9nm,0.6s,baz=329,slow=7.7,SNR=37
E23A Ismay 64.16 49 ⇓P P 00 46 25.6 -0.1
baz=64
F22A Rosebud 64.17 50 ⇓P P 00 46 25.1 -0.7
baz=64,SNR=9.8
OBN Obninsk 64.17 325⇓eP P 00 46 24.8 -0.7
OBN i 00 48 53.4
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN Obninsk 64.17 325 eP P 00 46 24.8 -0.7
D24A Glendive 64.23 48 ⇓P P 00 46 25.9 -0.3
baz=64,SNR=5.8
C25A Freed Ranch, W 64.35 47 ⇑P P 00 46 27.6 +0.7
baz=64
DUG Dugway, Tooele 64.36 58 eP P 00 46 27.5 +0.2
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG Dugway, Tooele 64.36 58 ⇑P P 00 46 27.0 -0.3
baz=64
DUG Dugway, Tooele 64.36 58 eP P 00 46 27.5 +0.2
comp=Z,4.9nm,0.8s
I20A Worland 64.43 52 ⇑P P 00 46 28.3 +0.7
baz=64
PDAR Pinedale Array 64.45 54 P P 00 46 27.5 -0.5
comp=Z,3.0nm,0.8s,baz=55,slow=0.4,SNR=21
A27A Ledoux Ranch, 64.45 45 ⇑P P 00 46 27.6 0.0
baz=64
G22A Birney 64.53 50 ⇑P P 00 46 27.7 -0.5
baz=64,SNR=7.0
H21A Big Horn, Sher 64.54 51 ⇓P P 00 46 27.9 -0.4
baz=64,SNR=9.7
E24A Baker 64.62 48 ⇓P P 00 46 28.3 -0.4
baz=64
F23A Volborg 64.64 49 ⇓P P 00 46 28.5 -0.4
baz=64,SNR=9.3
D25A Fairfield 64.70 47 ⇑P P 00 46 29.3 0.0
baz=64
C26A Wahner Farm, P 64.83 46 ⇑P P 00 46 29.9 -0.1
baz=64,SNR=9.1
J20A Shoshoni 64.85 53 ⇑P P 00 46 30.7 +0.3
baz=65
A28A Rude Farm, Bot 64.94 44 ⇓P P 00 46 30.5 -0.3
baz=65
I21A Big Trails, Te 64.96 52 ⇓P P 00 46 30.7 -0.5
baz=65,SNR=15
G23A Biddle 65.00 50 ⇓P P 00 46 31.3 0.0
baz=65
VRHR Novokhopersk 65.02 319 eP P 00 46 28.7 -2.4
VRHR pmax pmax
comp=N,5.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
F24A Ekalaka 65.04 49 ⇓P P 00 46 31.3 -0.3
baz=65,SNR=5.4
E25A Miller Ranch, 65.11 48 ⇓P P 00 46 32.1 +0.1
baz=65
C27A Sayler Ranch, 65.20 46 ⇓P P 00 46 32.7 +0.3
baz=65
D26A Manning 65.22 47 ⇑P P 00 46 32.9 +0.3
baz=65
B28A Dugan Ranch, T 65.22 44 ⇑P P 00 46 32.1 -0.5
baz=65,SNR=8.0
GSC Goldstone, Bar 65.28 64 ⇓P P 00 46 32.6 -0.6
baz=65
I22A 9 Mile Ranch, 65.33 51 ⇓P P 00 46 33.2 -0.3
baz=65,SNR=7.8
G24A Alzada 65.42 49 ⇓P P 00 46 33.2 -0.8
baz=65,SNR=5.7
A29A Manning Farm, 65.42 44 ⇓P P 00 46 33.3 -0.5
baz=65,SNR=8.1
F25A Bowman 65.49 48 ⇑P P 00 46 34.4 0.0
baz=65
D27A Center 65.61 46 ⇑P P 00 46 35.0 -0.1
baz=65
J22A Midwest 65.67 52 ⇓P P 00 46 35.0 -0.7
baz=65,SNR=9.3
GEYT Alibeck 65.68 300 P P 00 46 35.7 0.0
comp=Z,3.2nm,0.6s,baz=32,slow=3.7,SNR=15
B29A Wagenman Farm, 65.69 44 ⇓P P 00 46 35.0 -0.5
baz=65,SNR=6.3
H24A Dirks Ranch, A 65.75 50 ⇑P P 00 46 35.1 -1.0
baz=66,SNR=11
K21A Alcova 65.79 53 ⇓P P 00 46 35.7 -0.8
baz=66,SNR=5.6
A30A Hoffart Farm, 65.83 43 ⇑P P 00 46 36.2 -0.3
baz=66
HEC Hector,Ludlow 65.88 64 ⇓P P 00 46 36.6 -0.5
baz=66
F26A Lodgepole 65.93 48 ⇓P P 00 46 37.1 -0.1
baz=66
ULM Lac du Bonnet 65.98 41 P P 00 46 36.5 -0.9
ULM pmax pmax
comp=Z,7.0nm,0.6s
ULM Lac du Bonnet 65.98 41 P P 00 46 36.5 -0.9
comp=Z,7.0nm,0.6s,baz=314,slow=7.1,SNR=20
VSR Storozhevoye 65.99 321 eP P 00 46 36.3 -1.1
VSR pmax pmax
comp=N,9.0nm,0.8s
VSR pmax pmax
comp=E,7.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
MDND Maddock 66.01 45 ⇑P P 00 46 37.8 +0.2
baz=66
D28A Regan 66.01 46 ⇑P P 00 46 38.0 +0.3
baz=66
G25A Newell 66.02 49 ⇑P P 00 46 37.5 -0.3
baz=66
E27A Carson 66.07 47 ⇑P P 00 46 37.8 -0.3
baz=66
VORD Divnogorie 66.12 321 eP P 00 46 37.3 -0.9
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,30nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
K22A Casper 66.17 52 ⇓P P 00 46 38.9 0.0
baz=66
K22A Casper 66.17 52 eP P 00 46 38.4 -0.5
comp=Z,5.9nm,0.8s
B30A Myrvik Farm, E 66.17 43 ⇑P P 00 46 38.3 -0.4
baz=66,SNR=8.6
GMRC Granite Mounta 66.32 64 ⇓P P 00 46 39.5 -0.4
baz=66
H25A Fruitdale 66.33 49 ⇓P P 00 46 38.9 -0.8
baz=66
I24A Kuemmerle Ranc 66.33 50 ⇓P P 00 46 39.1 -0.7
baz=66
G26A Maurine 66.36 48 ⇓P P 00 46 39.2 -0.7
baz=66,SNR=12
E28A Huff 66.39 46 ⇓P P 00 46 39.7 -0.4
baz=66
SRU San Rafael Swe 66.39 57 eP P 00 46 40.3 -0.1
SRU pmax pmax
comp=Z,10.0nm,0.6s
SRU San Rafael Swe 66.39 57 eP P 00 46 40.3 -0.1
comp=Z,10nm,0.6s
RSSD Black Hills 66.45 50 eP P 00 46 39.4 -1.4
RSSD pmax pmax
comp=Z,15nm,0.8s
RSSD Black Hills 66.45 50 eP P 00 46 39.4 -1.4
comp=Z,15nm,0.8s
N20A Spence Gulch, 66.48 55 ⇓P P 00 46 40.6 -0.5
baz=66,SNR=5.4
D29A Pettibone, Tap 66.58 45 ⇓P P 00 46 40.7 -0.6
baz=66
BELC Belle Mtn. Jos 66.64 65 ⇓P P 00 46 41.0 -1.1
baz=66
C30A Mose, Pekin 66.64 44 ⇓P P 00 46 41.1 -0.6
baz=66
L22A Ellis Ranch, M 66.65 53 ⇓P P 00 46 41.5 -0.5
baz=66
I25A Rochford 66.68 50 ⇓P P 00 46 41.3 -0.9
baz=66,SNR=6.1
J24A Dixon Ranch, L 66.68 51 ⇓P P 00 46 41.4 -0.7
baz=66
D30A Buchanan 66.94 45 ⇓P P 00 46 43.4 -0.1
baz=67
O20A White River Ci 66.97 55 ⇓P P 00 46 43.3 -0.9
baz=67
L23A Garrett 66.98 52 ⇓P P 00 46 43.5 -0.7
baz=67
M22A Cedar Creek Ra 66.99 53 ⇑P P 00 46 44.0 -0.3
baz=67
NB2 NORSAR Subarra 67.06 341 P P 00 46 43.8 -0.3
comp=Z,4.9nm,0.5s,baz=29,slow=6.5
NB2 NORSAR Subarra 67.06 341 P P 00 46 43.8 -0.3
baz=29,slow=6.5
NOA NORSAR Array B 67.06 341 P P 00 46 43.8 -0.3
NOA pmax pmax
comp=Z,5.0nm,0.6s
NOA NORSAR Array B 67.06 341 P P 00 46 43.8 -0.3
comp=Z,5.0nm,0.6s,baz=28,slow=6.0,SNR=35
J25A Sunshine Ranch 67.08 50 ⇑P P 00 46 44.5 -0.1
baz=67
H27A Howes 67.09 48 ⇑P P 00 46 43.8 -0.8
baz=67
I26A New Underwood 67.12 49 ⇓P P 00 46 45.0 +0.2
baz=67
W13A Hualapai Mount 67.17 63 ⇑P P 00 46 45.1 -0.4
baz=67
U15A North Rim 67.21 61 ⇓P P 00 46 45.4 -0.4
baz=67
NC602 NORSAR Array S 67.25 340 eP P 00 46 44.9 -0.4
E30A Jud 67.31 45 ⇑P P 00 46 45.2 -0.7
baz=67
G28A Parade 67.35 47 ⇑P P 00 46 45.7 -0.5
baz=67
M23A Laramie 67.42 53 ⇑P P 00 46 46.7 -0.2
baz=67
N22A Wattenberg Ran 67.49 54 ⇓P P 00 46 47.3 -0.1
baz=67
I27A Quinn 67.50 49 ⇑P P 00 46 47.1 -0.1
baz=67
J26A Sides Ranch, S 67.52 50 ⇑P P 00 46 47.1 -0.3
baz=67
PDMCI Parker Dam,Lak 67.56 63 ⇓P P 00 46 47.4 -0.2
baz=67
H28A Mission Ridge 67.59 48 ⇓P P 00 46 47.0 -0.7
baz=67,SNR=9.4
N23A Red Feather La 67.70 53 ⇑P P 00 46 48.9 +0.1
baz=67
PV04 Paradox Valley 67.81 57 eP P 00 46 49.1 -0.2
O22A Kremmling 67.89 54 ⇓P P 00 46 50.1 +0.1
baz=68
HYA Hoyanger 67.99 343 eP P 00 46 50.5 +0.6
I28A Midland 68.00 48 ⇓P P 00 46 49.9 -0.4
baz=68
GLA Glamis 68.00 65 ⇑P P 00 46 50.1 -0.4
baz=68
H29A Onida 68.02 47 ⇓P P 00 46 50.0 -0.4
baz=68
J27A Elkhorn Farm, 68.11 49 ⇑P P 00 46 49.4 -1.7
baz=68
G30A Faulkton 68.19 46 ⇓P P 00 46 50.1 -1.3
baz=68,SNR=6.5
O23A Lake Granby, G 68.19 54 ⇑P P 00 46 52.5 +0.5
baz=68
SUE Sulen 68.37 344 eP P 00 46 52.3 +0.1
SUE eP P 00 46 52.8 +0.6
WUAZ Wupatki 68.37 61 ⇑P P 00 46 52.6 -0.4
baz=68
J28A Allard Ranch, 68.38 49 ⇓P P 00 46 51.9 -0.8
baz=68,SNR=5.7
I29A Vivian Onida 68.41 48 ⇓P P 00 46 52.4 -0.5
baz=68
Y14A Wickenburg 68.50 63 ⇓P P 00 46 53.1 -0.5
baz=68
ISCO Idaho Springs 68.65 54 ⇑P P 00 46 54.6 -0.2
baz=68
KONO Kongsberg 68.66 341 eP P 00 46 54.8 +0.7
GOF Gofitskoye 68.75 314 eP P 00 46 55.1 +0.2
ASK Askoy 68.82 343 eP P 00 46 55.6 +0.6
ASK eP P 00 46 56.7 +1.7
RUND Rundenannen 68.85 343 eP P 00 46 54.5 -0.8
RUND eP P 00 46 54.9 -0.4
J29A Okreek 68.85 48 ⇓P P 00 46 54.8 -0.8
baz=69
MVCO Mesa Verde 68.86 58 ⇑P P 00 46 55.3 -0.7
baz=69
MVCO Mesa Verde 68.86 58 eP P 00 46 55.7 -0.3
comp=Z,35nm,2.0s
BER Bergen 68.88 343 eP P 00 46 55.3 -0.1
I30A Oacoma 68.93 47 ⇓P P 00 46 55.7 -0.4
baz=69
ODD1 Odda 69.06 342 eP P 00 46 57.0 +0.4
ODD1 eP P 00 46 57.1 +0.5
X16A Lo Mia Camp, P 69.10 62 ⇓P P 00 46 57.8 +0.3
baz=69
K29A Lazy Trails An 69.32 49 ⇑P P 00 46 58.6 0.0
baz=69
J30A Dallas 69.33 48 ⇓P P 00 46 57.5 -1.0
baz=69,SNR=5.9
WRA Warramunga Arr 69.41 198 P P 00 46 57.2 -1.9
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 69.41 198 P P 00 46 57.1 -1.9
comp=Z,1.3nm,0.6s,baz=20,slow=6.8,SNR=28
S22A 4UR Ranch, Cre 69.43 56 ⇑P P 00 46 59.8 +0.2
baz=69
BLS5 Blasjo 69.54 342 eP P 00 46 56.9 -2.7
BLS5 eP P 00 47 00.0 +0.5
N27A Anderson Farm, 69.58 51 ⇑P P 00 47 00.3 0.0
baz=69
EYMN Ely 69.62 40 eP P 00 46 59.4 -0.9
comp=Z,11nm,1.0s
NCK Nalchik 69.62 313 eP P 00 47 00.9 +0.6
R23A Moffat 69.67 55 ⇓P P 00 47 01.0 -0.1
baz=69
KIV Kislovodsk 69.73 314 eP P 00 47 01.6 +0.5
KIV pmax pmax
comp=Z,13nm,0.7s
KIV Kislovodsk 69.73 314 eP P 00 47 01.6 +0.5
M28A Bar X Bar Ranc 69.77 50 ⇑P P 00 47 01.2 -0.1
baz=70
KBZ Khabaz 69.80 313 P P 00 47 00.4 -0.9
KBZ pmax pmax
comp=Z,8.0nm,0.7s
KBZ Khabaz 69.80 313 P P 00 47 00.4 -0.9
comp=Z,8.0nm,0.7s,baz=108,slow=3.3,SNR=24
X18A Snowflake 69.90 61 ⇓P P 00 47 02.0 -0.4
baz=70
KMY Karmoy 69.98 343 eP P 00 47 03.3 +1.1
Q25A Bedland, Calha 70.02 54 ⇓P P 00 47 02.5 -0.6
baz=70
R24A Sanders Place, 70.04 55 ⇑P P 00 47 02.8 -0.4
baz=70
HOMB Homborsund 70.16 341 eP P 00 47 03.7 +0.4
SNART Snartemo 70.38 341 eP P 00 47 04.5 -0.2
AKASG Malin Array Be 70.40 326 P P 00 47 03.9 -1.0
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG Malin Array Be 70.40 326 P P 00 47 03.9 -1.0
comp=Z,3.8nm,0.4s,baz=33,slow=6.1,SNR=14
KIEV Kiev 70.41 326 eP P 00 47 04.2 -0.8
KIEV Kiev 70.41 326 eP P 00 47 03.8 -1.1
comp=Z,6.4nm,0.6s
ECSD EROS Data Cent 70.44 46 ⇓P P 00 47 04.2 -1.2
baz=70,SNR=13
ECSD EROS Data Cent 70.44 46 eP P 00 47 04.3 -1.0
comp=Z,18nm,0.7s
L31A Butterfield Fa 70.49 48 ⇓P P 00 47 05.2 -0.5
baz=70
R25A Fountain Ranch 70.55 54 ⇓P P 00 47 05.5 -0.8
baz=70
U23A El Rito 70.79 57 ⇓P P 00 47 07.9 0.0
baz=70
S25A Robets Cordova 70.82 55 ⇓P P 00 47 07.8 -0.1
baz=70
R26A Arlington 70.90 54 ⇓P P 00 47 07.7 -0.6
baz=71
SPMN Marine on St. 71.11 43 ⇑P P 00 47 08.8 -0.6
baz=71
T25A Trinidad 71.21 55 ⇓P P 00 47 09.6 -0.7
baz=71
V23A Ortiz Mt. (NFS 71.21 57 ⇓P P 00 47 10.3 -0.1
baz=71
R27A Eads 71.26 53 ⇓P P 00 47 09.6 -0.9
baz=71
O30A MW Ranch, Wils 71.34 50 ⇓P P 00 47 09.4 -1.5
baz=71
BGNE Belgrade 71.41 48 ⇑P P 00 47 10.7 -0.5
baz=71
ANMO Albuquerque 71.63 58 P P 00 47 11.6 -1.3
ANMO pmax pmax
comp=Z,1.0nm,0.5s
ANMO Albuquerque 71.63 58 P P 00 47 11.6 -1.3
comp=Z,1.0nm,0.5s,baz=342,slow=9.2,SNR=4.7
T26A Comanche Natio 71.63 55 ⇑P P 00 47 11.9 -1.0
baz=71
P30A Selden 71.70 51 ⇓P P 00 47 12.3 -0.8
baz=71
U25A Circle Dot Ran 71.74 56 ⇓P P 00 47 12.6 -1.0
baz=72
Q29A Oakley 71.80 52 ⇑P P 00 47 12.8 -0.9

baz=72
W24A Lazy 6 Ranch, 72.04 57 ⇑P P 00 47 14.8 -0.5
baz=72
R29A Marienthal 72.05 52 ⇓P P 00 47 14.5 -0.8
baz=72
U26A Atchley Ranch, 72.11 55 ⇑P P 00 47 14.4 -1.4
baz=72
Q30A Quinter 72.14 51 ⇑P P 00 47 14.5 -1.2
baz=72
P31A Stockton 72.17 51 ⇑P P 00 47 14.1 -1.7
baz=72
S28A Manter 72.26 53 ⇑P P 00 47 15.1 -1.3
baz=72
SCHQ Schefferville 72.47 23 P P 00 47 17.1 -0.3
comp=Z,4.0nm,0.4s,baz=328,slow=5.5,SNR=37
T28A Walsh 72.48 54 ⇑P P 00 47 16.9 -0.9
baz=72
P32A Huiting Farm, 72.50 50 ⇓P P 00 47 16.1 -1.7
baz=72
V26A Tequesquite Ra 72.53 56 ⇑P P 00 47 17.7 -0.5
baz=72
319A Douglas 72.53 63 ⇓P P 00 47 17.9 -0.2
baz=72
Z22A Elephant Butte 72.55 60 ⇑P P 00 47 17.9 -0.4
baz=72
W25A X Bar L Ranch, 72.57 57 ⇓P P 00 47 17.9 -0.4
baz=72
121A Cookes Peak, D 72.59 61 ⇑P P 00 47 18.2 -0.4
baz=72
Y23A Lovelace Mesa, 72.59 59 ⇓P P 00 47 18.3 -0.3
baz=72
U27A Thompson Grove 72.60 55 ⇓P P 00 47 17.8 -0.8
baz=72
R30A Dighton 72.62 52 ⇑P P 00 47 17.8 -0.7
baz=72
Q32A Meitler Ranch, 72.99 50 ⇓P P 00 47 19.3 -1.4
baz=73
AS31 Alice Springs 73.11 198 *e*P P 00 47 19.7 -1.6
ASAR Alice Springs 73.11 198 P P 00 47 20.8 -0.6
ASAR pmax pmax
comp=Z,5.0nm,0.7s
ASAR Alice Springs 73.11 198 P P 00 47 20.8 -0.6
comp=Z,4.9nm,0.7s,baz=9.7,slow=5.3,SNR=53
Y25A Mesa, Roswell 73.37 58 ⇓P P 00 47 22.3 -0.8
baz=73
Z24A Sheeppen Canyo 73.42 59 ⇓P P 00 47 22.5 -1.0
baz=73
SCIA State Center 73.46 45 *e*P P 00 47 23.0 -0.4
comp=Z,46nm,0.7s
KWP Kalwaria Pacla 73.67 329 ⇓*i*P P 00 47 24.8 +0.4
R33A Olander Ranch, 73.80 51 ⇑P P 00 47 23.7 -1.7
baz=74
T31A Randall Ranch, 73.81 52 ⇓P P 00 47 24.4 -1.1
baz=74
Z25A Roswell 73.83 58 ⇑P P 00 47 25.6 -0.2
baz=74
Y26A Elida 73.87 57 ⇑P P 00 47 25.5 -0.6
baz=74
T32A Huddler Ranch, 74.15 52 ⇑P P 00 47 27.0 -0.6
baz=74
Y27A Causey 74.27 57 ⇑P P 00 47 27.5 -0.8
baz=74
STHS Stebnicka Huta 74.36 329 *e*P P 00 47 29.1 +0.6
STHS pmax pmax
comp=Z,7.0nm,1.0s
STHS Stebnicka Huta 74.36 329 *e*P P 00 47 29.0 +0.6
AMTX Amarillo 74.36 55 ⇑P P 00 47 28.3 -0.5
baz=74
AMTX Amarillo 74.36 55 *e*P P 00 47 28.4 -0.4
comp=Z,10nm,0.7s
KOLS Kolonicke sedl 74.41 328 *e*P P 00 47 28.6 -0.2
KOLS pmax pmax
comp=Z,8.0nm,1.1s
KOLS Kolonicke sedl 74.41 328 *e*P P 00 47 28.6 -0.2
MSTX Muleshoe 74.43 57 ⇑P P 00 47 28.6 -0.7
baz=74
BURAR Bucovina Array 74.44 326 ⇓*i*P P 00 47 29.1 0.0
Z27A Tatum 74.66 57 ⇑P P 00 47 29.7 -0.9
baz=74
X29A Tulia 74.68 56 ⇑P P 00 47 30.1 -0.5
baz=74
U32A Winter Ranch, 74.71 52 ⇓P P 00 47 29.9 -0.8
baz=74
V31A Spring Creek L 74.71 53 ⇓P P 00 47 30.2 -0.5
baz=74
CRVS Cervenica-Dubn 74.72 329 *e*P P 00 47 30.8 +0.2
CRVS pmax pmax
comp=Z,20nm,2.1s
CRVS Cervenica-Dubn 74.72 329 *e*P P 00 47 30.8 +0.2
TESR Tescani 74.81 325 ⇑*i*P P 00 47 30.9 -0.2
TRPA Tarpa 74.99 328 ⇓*i*P P 00 47 32.6 +0.5
OKC Ostrava-Krasne 75.03 331 *e*P P 00 47 32.4 +0.1
OKC Ostrava-Krasne 75.03 331 ⇑*e*P P 00 47 32.4 +0.1
W31A Holland Ranch, 75.09 54 ⇓P P 00 47 32.5 -0.5
baz=75
UPC Upice 75.11 333 *e*P P 00 47 33.2 +0.4
UPC Upice 75.11 333 ⇑*e*P P 00 47 33.2 +0.4
Y29A Porterfield Fa 75.12 56 ⇑P P 00 47 32.2 -1.1
baz=75
X30A Coker Ranch, T 75.13 55 ⇓P P 00 47 32.6 -0.6
baz=75
DPC Dobruska-Polom 75.16 333 *i* P P 00 47 33.5 +0.4
DPC Dobruska-Polom 75.16 333 *i* P P 00 47 33.5 +0.4
DPC *ex* x 00 47 38.5
DPC Dobruska-Polom 75.16 333 *e*P P 00 47 33.5 +0.4
KRLC Kraliky 75.25 332 *e*P P 00 47 33.8 +0.1
KRLC *e* 00 47 39.5
KRLC Kraliky 75.25 332 ⇑*e*P P 00 47 33.8 +0.1
KRLC *ex* x 00 47 39.5
MORC Moravsky Berou 75.27 332 ⇑*i*P P 00 47 33.8 0.0
CLL Collm 75.30 335 ⇑*i*P P 00 47 33.4 -0.4
CLL pmax pmax
comp=Z,38nm,1.0s
CLL Collm 75.30 335 *e*P P 00 47 33.4 -0.4
comp=Z,35nm,0.5s
CLL Collm 75.30 335 ⇑*i*P P 00 47 33.4 -0.4
comp=Z,38nm,1.0s
CLL Collm 75.30 335 *e*P P 00 47 33.3 -0.5
comp=Z,39nm,0.6s
VRI Vrincioaia 75.31 324 ⇓*i*P P 00 47 34.2 +0.2
CFR Carcaliu 75.31 323 ⇑*i*P P 00 47 33.7 -0.2
PLOR Plostina 75.35 324 ⇑*i*P P 00 47 34.3 0.0
BRG Berggiesshubel 75.41 334 *i* P P 00 47 34.2 -0.3
comp=Z,7.5nm,0.6s
BRG Berggiesshubel 75.41 334 *i* P P 00 47 34.2 -0.3
BRG pmax pmax
comp=Z,8.0nm,0.6s
BRG Berggiesshubel 75.41 334 *e*P P 00 47 34.1 -0.3
comp=Z,9.0nm,1.0s
U34A Anderson Ranch 75.44 52 ⇑P P 00 47 34.1 -0.8
baz=75
PVCC Panska Ves 75.53 334 *e*P P 00 47 35.3 +0.1
PVCC Panska Ves 75.53 334 ⇑*e*P P 00 47 35.3 +0.1
FBE Freiberg 75.54 335 *e*P P 00 47 35.2 0.0
comp=Z,17nm,0.9s
Z29A Hungry Hill Ra 75.55 56 ⇑P P 00 47 34.9 -0.8
baz=75
128A Castleberry Fa 75.58 57 ⇓P P 00 47 35.0 -0.9
baz=75
NEUB Neuenburg 75.73 336 *e*P P 00 47 36.1 -0.1
comp=Z,20nm,0.6s
IBBN Ibbenburen 75.78 339 *e*P P 00 47 36.6 +0.1
comp=Z,22nm,0.9s
CJR Cluj-Napoca 75.80 326 ⇓*i*P P 00 47 37.2 +0.4
TLB Topalu 75.83 323 ⇓*i*P P 00 47 37.9 +1.0
V34A Guthrie 75.91 52 ⇑P P 00 47 36.5 -1.1
baz=76
VYHS Vyhne 75.97 330 *e*P P 00 47 38.1 +0.4
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 75.97 330 *e*P P 00 47 38.1 +0.4
VRAC Vranov 75.98 332 ⇑*i*P P 00 47 38.3 +0.5
ISR Istrita 76.00 324 ⇑*i*P P 00 47 38.6 +0.6
PRU Pruhonice 76.02 334 ⇑*i*P P 00 47 38.1 +0.2
PRU Pruhonice 76.02 334 ⇑*i*P P 00 47 38.1 +0.2
WMOK Wichita Mounta 76.06 53 *e*P P 00 47 37.6 -0.9
WMOK pmax pmax
comp=Z,16nm,1.5s
WMOK Wichita Mounta 76.06 53 *e*P P 00 47 37.6 -0.9
comp=Z,16nm,1.5s
DRGR 76.06 327 ⇑*i*P P 00 47 38.2 -0.1
MALT Malatya 76.10 312 ⇓*i*P P 00 47 39.7 +1.0
PSZ Piszkesteto 76.10 329 *e*P P 00 47 39.2 +0.7
PSZ pmax pmax
comp=Z,11nm,1.0s
PSZ Piszkesteto 76.10 329 ⇓*i*P P 00 47 39.1 +0.5

PSZ Piszkesteto 76.10 329 *e*P P 00 47 39.2 +0.7
comp=Z,11nm,1.0s
TANN Tannenbergstha 76.25 335 *e*P P 00 47 39.2 -0.1
comp=Z,26nm,1.8s
Y32A R-V Farms, Ver 76.25 54 ⇑P P 00 47 38.7 -0.9
baz=76
WERD Werda 76.26 335 *e*P P 00 47 39.4 +0.1
comp=Z,18nm,1.4s
PLN Plauen 76.27 335 *e*P P 00 47 39.3 -0.1
comp=Z,9.0nm,0.7s
MOX Moxa 76.28 336 *e*P P 00 47 39.4 0.0
comp=Z,20nm,1.1s
VOIR 76.32 325 ⇓*i*P P 00 47 40.5 +0.7
GUNZ Gunzen 76.33 335 *e*P P 00 47 39.9 +0.2
comp=Z,17nm,0.9s
TREC Trest 76.34 333 *e*P P 00 47 39.9 +0.1
TREC Trest 76.34 333 ⇑*e*P P 00 47 39.9 +0.1
Z31A Sharp Cattle R 76.38 55 ⇑P P 00 47 39.3 -1.0
baz=76
WERN Wernitzgruen 76.39 335 *e*P P 00 47 40.2 +0.1
comp=Z,25nm,1.1s
SMOL Smolenice 76.41 331 *e*P P 00 47 40.9 +0.7
SMOL Smolenice 76.41 331 *e*P P 00 47 40.9 +0.7
ARR Arges 76.54 325 ⇑*i*P P 00 47 42.0 +0.9
BUG Bochum--Univer 76.70 338 *e*P P 00 47 41.7 0.0
comp=Z,25nm,1.1s
329A Wagon Wheel Ra 76.71 58 ⇑P P 00 47 41.7 -0.6
baz=76
131A Roby 76.72 56 ⇑P P 00 47 42.1 -0.2
baz=76
Z32A Haskell 76.75 55 ⇑P P 00 47 41.1 -1.3
baz=76
TUL1 Leonard 76.76 51 ⇑P P 00 47 41.0 -1.4
baz=76
ROTZ Rotzenmuhle 76.90 335 *e*P P 00 47 43.5 +0.6
comp=Z,16nm,0.9s
230A Sterling City 76.90 57 ⇑P P 00 47 42.2 -1.1
baz=77
KHC Kasperske Hory 77.07 334 ⇑*i*P P 00 47 44.4 +0.5
KHC *e* 00 47 48.5
KHC Kasperske Hory 77.07 334 ⇑*i*P P 00 47 44.4 +0.5
KHC *ex* x 00 47 48.5
KHC Kasperske Hory 77.07 334 *e*P P 00 47 44.4 +0.5
comp=Z,15nm,0.8s
ABTX Abilene, Hawle 77.17 55 ⇓P P 00 47 43.9 -0.9
baz=77
Y34A Reagan Ranch, 77.20 53 ⇓P P 00 47 44.0 -0.9
baz=77
GZR Gura Zlata 77.22 326 ⇑*i*P P 00 47 44.8 -0.1
330A Mertzon 77.23 57 ⇓P P 00 47 44.2 -1.0
baz=77
GRF Grafenberg Arr 77.25 335 *e*P P 00 47 45.4 +0.5
comp=Z,38nm,0.6s
GRFO Grafenberg 77.25 335 *e*P P 00 47 45.5 +0.6
GRFO pmax pmax
comp=Z,31nm,0.7s
GRFO Grafenberg 77.25 335 *e*P P 00 47 45.5 +0.6
comp=Z,31nm,0.7s
WET Wettzell 77.27 334 *e*P P 00 47 45.4 +0.4
comp=Z,26nm,1.2s
GERES GERESS Array B 77.29 333 P P 00 47 45.1 -0.1
GERES pmax pmax
comp=Z,7.0nm,0.6s
GERES GERESS Array B 77.29 333 P P 00 47 45.1 -0.1
comp=Z,7.3nm,0.6s,baz=37,slow=5.4,SNR=58
BRTR Keskin Array B 77.30 316 *ce*P P 00 47 45.7 +0.2
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 77.30 316 P P 00 47 46.2 +0.7
comp=Z,5.2nm,0.9s,baz=67,slow=4.9,SNR=17
231A Bronte 77.32 56 ⇓P P 00 47 44.5 -1.1
baz=77
TXAR Lajitas Array 77.33 60 P P 00 47 44.8 -1.0
TXAR pmax pmax
comp=Z,4.0nm,0.6s
TXAR Lajitas Array 77.33 60 P P 00 47 44.8 -1.0
comp=Z,3.8nm,0.6s,baz=296,slow=4.7,SNR=56
429A Davenport Ranc 77.40 58 ⇓P P 00 47 45.2 -1.0
baz=77
CONA Conrad Observa 77.43 332 ⇑*i*P P 00 47 46.7 +0.7
comp=Z,15nm,0.6s,SNR=6.4
BZS Buzias 77.46 327 ⇑*i*P P 00 47 45.7 -0.4
SFIN Lafayette 77.51 42 ⇑P P 00 47 45.5 -0.9
baz=77
TNS Taunus Mts 77.52 337 *e*P P 00 47 46.6 +0.2
comp=Z,22nm,0.7s
ANTO Ankara 77.58 317 *e*P P 00 47 48.0 +1.0
ANTO pmax pmax
comp=Z,109nm,2.2s
ANTO Ankara 77.58 317 ⇓*i*P P 00 47 47.1 +0.1
ANTO Ankara 77.58 317 *e*P P 00 47 48.0 +1.0
comp=Z,109nm,2.2s
529A Stev Forest Ra 77.58 59 ⇑P P 00 47 46.5 -0.7
baz=77
133A Hamilton Ranch 77.59 55 ⇑P P 00 47 46.5 -0.6
baz=77
430A Baggett Ranch, 77.66 58 ⇑P P 00 47 46.6 -1.0
baz=77
BEBN Eben Emael 77.68 339 P P 00 47 47.6 +0.4
232A Coleman 77.73 56 ⇑P P 00 47 47.2 -0.7
baz=78
MEM Membach 77.78 339 P P 00 47 48.1 +0.4
comp=Z,23nm,1.2s
MEM Membach 77.78 339 *e*P P 00 47 48.2 +0.4
MEM pmax pmax
comp=Z,32nm,0.8s
MEM Membach 77.78 339 *e*P P 00 47 48.2 +0.4
comp=Z,32nm,0.8s
MOA Molln 78.00 333 ⇑*i*P P 00 47 49.4 +0.2
comp=Z,12nm,0.9s
PKSM Moragy 78.01 329 ⇑*i*P P 00 47 48.5 -0.6
332A Millersview 78.05 56 ⇓P P 00 47 49.3 -0.4
baz=78
530A J-C Ranch, Com 78.07 58 ⇑P P 00 47 49.2 -0.7
baz=78
431A Sonora 78.09 57 ⇓P P 00 47 49.1 -0.8
baz=78
BCLA Clavier 78.12 339 P P 00 47 49.4 -0.3
ARSA Arzberg 78.14 332 ⇑*i*P P 00 47 50.2 +0.3
comp=Z,8.1nm,0.5s
JMB Yambol 78.18 322 ⇑*i*P P 00 47 49.7 -0.4
432A Menard 78.41 57 ⇓P P 00 47 50.8 -0.8
baz=78
531A Rocksprings 78.52 58 ⇓P P 00 47 51.5 -0.8
baz=78
GIVF Givet 78.53 339 ⇑*i*P P 00 47 51.7 -0.2
GIVF Givet 78.53 339 ⇑*i*P P 00 47 51.7 -0.2
GIVF Givet 78.53 339 ⇑*i*P P 00 47 51.7 -0.2
FUR Furstenfeldbru 78.61 335 *e*P P 00 47 52.8 +0.3
comp=Z,33nm,1.0s
STU Stuttgart 78.64 336 *e*P P 00 47 52.7 +0.1
comp=Z,39nm,1.5s
JCT Junction City 78.70 57 ⇑P P 00 47 52.2 -1.1
baz=78
BAIF Baives 78.71 340 ⇑*i*P P 00 47 53.0 +0.1
comp=Z,7.4nm,0.4s
BAIF Baives 78.71 340 ⇑*i*P P 00 47 53.0 +0.1
BAIF pmax pmax
comp=Z,7.0nm,0.4s
BAIF Baives 78.71 340 ⇑*i*P P 00 47 53.0 +0.1
comp=Z,7.4nm,0.4s
SOKA Soboth 78.80 332 ⇑*i*P P 00 47 53.7 +0.1
comp=Z,14nm,0.6s,SNR=5.1
GROS Grobnik 78.84 331 *e*P P 00 47 53.7 -0.2
WHTX Lake Whitney, 78.86 54 ⇓P P 00 47 52.8 -1.3
baz=79
532A Rocksprings 78.91 57 ⇑P P 00 47 53.2 -1.3
baz=79
334A Lometa 78.93 55 ⇓P P 00 47 53.5 -1.0
baz=79
KBA Koelnbreinsper 78.97 333 ⇑*i*P P 00 47 55.4 +0.7
comp=Z,33nm,0.7s,SNR=12
631A Perdido Creek 79.06 58 ⇑P P 00 47 54.6 -0.6
baz=79
OBKA Obir 79.10 332 ⇑*i*P P 00 47 55.0 -0.3
comp=Z,10nm,0.7s
WATA Walderalm 79.27 334 ⇓*i*P P 00 47 56.6 +0.4
comp=Z,13nm,0.5s,SNR=13
BFO Black Forest 79.28 337 *ce*P P 00 47 56.6 +0.5
BFO Black Forest 79.28 337 *e*P P 00 47 56.1 0.0
comp=Z,14nm,0.9s
RETA Reutte 79.37 335 ⇓*i*P P 00 47 57.0 +0.3
comp=Z,10nm,0.7s
MOTA Moosalm 79.40 334 ⇑*i*P P 00 47 57.2 +0.2
comp=Z,17nm,0.7s,SNR=13
533A Kerrville 79.44 57 ⇓P P 00 47 56.3 -1.0
baz=79

632A Uvalde 79.44 58 ⇓P P 00 47 56.5 -0.8
baz=79
CDF Champ du Feu 79.48 337 ⇑*i*P P 00 47 57.2 -0.1
comp=Z,47nm,1.0s
CDF Champ du Feu 79.48 337 ⇑*i*P P 00 47 57.2 -0.1
CDF pmax pmax
comp=Z,47nm,1.0s
CDF Champ du Feu 79.48 337 ⇑*i*P P 00 47 57.2 -0.1
comp=Z,47nm,1.0s
WCI Wyandotte Cave 79.61 43 *e*P P 00 47 57.3 -0.8
WCI pmax pmax
comp=Z,15nm,0.7s
WCI Wyandotte Cave 79.61 43 *e*P P 00 47 57.3 -0.8
comp=Z,15nm,0.7s
PAGF Fort de Pagny 79.75 338 ⇑*i*P P 00 47 59.0 +0.4
comp=Z,16nm,0.8s
PAGF Fort de Pagny 79.75 338 ⇑*i*P P 00 47 59.0 +0.4
comp=Z,16nm,0.8s
FETA Feichten 79.81 335 ⇑*i*P P 00 47 59.6 +0.4
comp=Z,11nm,0.9s
DAVA Damuels 79.81 335 ⇑*i*P P 00 47 59.2 0.0
comp=Z,20nm,0.9s
732A Laxson Ranch, 79.92 58 ⇓P P 00 47 59.6 -0.3
baz=80
STKA Stephens Creek 79.95 189 P P 00 48 00.5 +0.8
STKA pmax pmax
comp=Z,1.0nm,0.4s
STKA Stephens Creek 79.95 189 P P 00 48 00.5 +0.8
comp=Z,0.6nm,0.4s,baz=336,slow=7.0,SNR=4.4
MEZF Maizieres J'vi 79.96 339 ⇑*i*P P 00 48 00.1 +0.4
comp=Z,16nm,0.5s
MEZF Maizieres J'vi 79.96 339 ⇑*i*P P 00 48 00.1 +0.4
comp=Z,16nm,0.5s
HAU Haudompre 80.10 338 ⇑*i*P P 00 48 00.3 -0.2
comp=Z,10nm,0.5s
HAU Haudompre 80.10 338 ⇑*i*P P 00 48 00.3 -0.2
HAU pmax pmax
comp=Z,10.0nm,0.5s
HAU Haudompre 80.10 338 ⇑*i*P P 00 48 00.3 -0.2
comp=Z,10nm,0.5s
HINF Hinteralfeld 80.14 337 ⇑*i*P P 00 48 00.3 -0.5
comp=Z,9.9nm,0.7s
HINF Hinteralfeld 80.14 337 ⇑*i*P P 00 48 00.3 -0.5
HINF pmax pmax
comp=Z,10.0nm,0.7s
HINF Hinteralfeld 80.14 337 ⇑*i*P P 00 48 00.3 -0.5
comp=Z,9.9nm,0.7s
SFTF Sexfontaines 80.24 339 ⇑*i*P P 00 48 01.3 0.0
comp=Z,38nm,0.4s
SFTF Sexfontaines 80.24 339 ⇑*i*P P 00 48 01.3 0.0
comp=Z,38nm,0.4s
FUORN Ofenpass-Fuorn 80.30 335 *e*P P 00 48 02.8 +0.9
comp=Z,16nm,1.0s
TUE Stuetta 80.70 335 *e*P P 00 48 04.7 +0.6
comp=Z,17nm,0.8s
FLN La Foliniere 80.96 342 *e*P P 00 48 04.8 -0.3
FLN La Foliniere 80.96 342 *e*P P 00 48 04.8 -0.3
FLN La Foliniere 80.96 342 *e*P P 00 48 04.8 -0.3
LDF La Druitiere 81.05 342 *e*P P 00 48 05.0 -0.6
comp=Z,13nm,0.8s
LDF La Druitiere 81.05 342 *e*P P 00 48 05.0 -0.6
LDF pmax pmax
comp=Z,13nm,0.8s
LDF La Druitiere 81.05 342 *e*P P 00 48 05.0 -0.6
comp=Z,13nm,0.8s
GRR Gorron 81.40 342 *e*P P 00 48 07.2 -0.2
comp=Z,48nm,1.0s
GRR Gorron 81.40 342 *e*P P 00 48 07.2 -0.2
GRR pmax pmax
comp=Z,48nm,1.0s
GRR Gorron 81.40 342 *e*P P 00 48 07.2 -0.2
comp=Z,48nm,1.0s
LOR Lormes 81.41 339 ⇑*i*P P 00 48 07.3 -0.2
comp=Z,12nm,0.5s
LOR Lormes 81.41 339 ⇑*i*P P 00 48 07.3 -0.2
LOR pmax pmax
comp=Z,12nm,0.4s
LOR Lormes 81.41 339 ⇑*i*P P 00 48 07.3 -0.2
comp=Z,12nm,0.4s
CABF La Chapelle 81.46 337 ⇑*i*P P 00 48 07.9 0.0
comp=Z,33nm,1.2s
CABF La Chapelle 81.46 337 ⇑*i*P P 00 48 07.9 0.0
CABF pmax pmax
comp=Z,33nm,1.2s
CABF La Chapelle 81.46 337 ⇑*i*P P 00 48 07.9 0.0
comp=Z,33nm,1.2s
SSF Saint Saulge 81.68 339 ⇑*i*P P 00 48 08.8 -0.1
comp=Z,8.3nm,0.6s
SSF Saint Saulge 81.68 339 ⇑*i*P P 00 48 08.8 -0.1
SSF pmax pmax
comp=Z,8.0nm,0.6s
SSF Saint Saulge 81.68 339 ⇑*i*P P 00 48 08.8 -0.1
comp=Z,8.3nm,0.6s
HYF Humbligny 81.69 340 *e*P P 00 48 09.3 +0.3
HYF Humbligny 81.69 340 *e*P P 00 48 09.3 +0.3
SGMF Saint Gilles 81.86 343 ⇑*i*P P 00 48 09.9 +0.1
comp=Z,29nm,0.6s
SGMF Saint Gilles 81.86 343 ⇑*i*P P 00 48 09.9 +0.1
SGMF pmax pmax
comp=Z,29nm,0.6s
SGMF Saint Gilles 81.86 343 ⇑*i*P P 00 48 09.9 +0.1
comp=Z,29nm,0.6s
ROSF Rostrenen 81.92 344 *e*P P 00 48 10.1 0.0
comp=Z,33nm,0.9s
ROSF Rostrenen 81.92 344 *e*P P 00 48 10.1 0.0
ROSF pmax pmax
comp=Z,33nm,0.9s
ROSF Rostrenen 81.92 344 *e*P P 00 48 10.1 0.0
comp=Z,33nm,0.9s
034A Hebbronville 81.93 58 ⇑P P 00 48 09.8 -0.7
baz=82
AVF Avril sur Loir 81.97 339 ⇑*i*P P 00 48 10.4 0.0
comp=Z,8.7nm,0.5s
AVF Avril sur Loir 81.97 339 ⇑*i*P P 00 48 10.4 0.0
AVF pmax pmax
comp=Z,9.0nm,0.5s
AVF Avril sur Loir 81.97 339 ⇑*i*P P 00 48 10.4 0.0
comp=Z,8.7nm,0.5s
SMF Signal de Mont 81.99 339 ⇑*i*P P 00 48 10.6 0.0
comp=Z,17nm,0.7s
SMF Signal de Mont 81.99 339 ⇑*i*P P 00 48 10.6 0.0
SMF pmax pmax
comp=Z,17nm,0.7s
SMF Signal de Mont 81.99 339 ⇑*i*P P 00 48 10.6 0.0
comp=Z,17nm,0.7s
738A Farr-Stevens R 82.28 55 ⇓P P 00 48 11.4 -0.9
baz=82
LPL La Plagne 82.30 336 ⇑*i*P P 00 48 13.0 +0.5
comp=Z,8.2nm,0.5s
LPL La Plagne 82.30 336 ⇑*i*P P 00 48 13.0 +0.5
LPL pmax pmax
comp=Z,8.0nm,0.5s
LPL La Plagne 82.30 336 ⇑*i*P P 00 48 13.0 +0.5
comp=Z,8.2nm,0.5s
QUIF Quistinic 82.30 344 *e*P P 00 48 12.3 +0.2
QUIF Quistinic 82.30 344 *e*P P 00 48 12.3 +0.2
QUIF Quistinic 82.30 344 *e*P P 00 48 12.3 +0.2
LPG La Plagne 82.31 336 ⇑*i*P P 00 48 13.2 +0.6
comp=Z,7.3nm,0.5s
LPG La Plagne 82.31 336 ⇑*i*P P 00 48 13.2 +0.6
LPG pmax pmax
comp=Z,7.0nm,0.5s
LPG La Plagne 82.31 336 ⇑*i*P P 00 48 13.2 +0.6
comp=Z,7.3nm,0.5s
BGF Bois d'Agland 82.31 339 ⇑*i*P P 00 48 12.0 -0.2
comp=Z,7.7nm,0.5s
BGF Bois d'Agland 82.31 339 ⇑*i*P P 00 48 12.0 -0.2
BGF pmax pmax
comp=Z,8.0nm,0.5s
BGF Bois d'Agland 82.31 339 ⇑*i*P P 00 48 12.0 -0.2
comp=Z,7.7nm,0.5s
TCF Toulx Ste Croi 82.72 340 *e*P P 00 48 14.5 +0.1
comp=Z,23nm,0.9s
TCF Toulx Ste Croi 82.72 340 *e*P P 00 48 14.5 +0.1
TCF pmax pmax
comp=Z,23nm,0.9s
TCF Toulx Ste Croi 82.72 340 *e*P P 00 48 14.5 +0.1
comp=Z,23nm,0.9s
TKL Tuckaleechee C 82.87 43 P P 00 48 14.4 -1.0
TKL pmax pmax
comp=Z,11nm,0.9s
TKL Tuckaleechee C 82.87 43 P P 00 48 14.3 -1.0
comp=Z,11nm,1.0s,baz=107,slow=2.1,SNR=6.9
MFF Saint Martin d 82.95 341 ⇑*i*P P 00 48 15.6 +0.1
comp=Z,20nm,0.7s
MFF Saint Martin d 82.95 341 ⇑*i*P P 00 48 15.6 +0.1
MFF pmax pmax

comp=Z,20nm,0.7s
MFF Saint Martin d 82.95 341⇑iP P 00 48 15.6 +0.1
comp=Z,20nm,0.7s
MBDF Montbardon 83.02 336⇑iP P 00 48 16.0 -0.1
MBDF Montbardon 83.02 336⇑iP P 00 48 16.0 -0.1
MBDF Montbardon 83.02 336⇑iP P 00 48 16.0 -0.1
ORIF Oris-en-Rattie 83.08 337⇑iP P 00 48 16.9 +0.5
comp=Z,11nm,0.6s
ORIF Oris-en-Rattie 83.08 337⇑iP P 00 48 16.9 +0.5
ORIF pmax pmax
comp=Z,11nm,0.6s
ORIF Oris-en-Rattie 83.08 337⇑iP P 00 48 16.9 +0.5
comp=Z,11nm,0.6s
APE Apeiranthos 83.13 320⇑iP P 00 48 15.3 -1.4
VIVF Saint-Julien-l 83.45 338 eP P 00 48 18.6 +0.4
comp=Z,8.8nm,0.7s
VIVF Saint-Julien-l 83.45 338 eP P 00 48 18.6 +0.4
VIVF pmax pmax
comp=Z,9.0nm,0.7s
VIVF Saint-Julien-l 83.45 338 eP P 00 48 18.6 +0.4
comp=Z,8.8nm,0.7s
RAYN Ar Rayn 83.53 298 eP P 00 48 18.4 -0.5
comp=Z,13nm,0.8s
SBF Sospel 83.63 335 eP P 00 48 18.8 -0.4
SBF Sospel 83.63 335 eP P 00 48 18.8 -0.4
SBF Sospel 83.63 335 eP P 00 48 18.8 -0.4
RJF Les Rejaudoux 83.81 340⇑iP P 00 48 20.1 +0.1
comp=Z,9.5nm,0.8s
RJF Les Rejaudoux 83.81 340⇑iP P 00 48 20.1 +0.1
RJF pmax pmax
comp=Z,10.0nm,0.8s
RJF Les Rejaudoux 83.81 340⇑iP P 00 48 20.1 +0.1
comp=Z,9.5nm,0.8s
CAF Calviac 84.03 339⇑iP P 00 48 21.6 +0.4
comp=Z,15nm,0.8s
CAF Calviac 84.03 339⇑iP P 00 48 21.6 +0.4
CAF pmax pmax
comp=Z,15nm,0.8s
CAF Calviac 84.03 339⇑iP P 00 48 21.6 +0.4
comp=Z,15nm,0.8s
FRF La Foret Royal 84.13 336 eP P 00 48 21.8 +0.2
FRF La Foret Royal 84.13 336 eP P 00 48 21.8 +0.2
FRF La Foret Royal 84.13 336 eP P 00 48 21.8 +0.2
LFF La Frestale 84.33 340 eP P 00 48 22.7 +0.1
comp=Z,12nm,0.6s
LFF La Frestale 84.33 340 eP P 00 48 22.7 +0.1
LFF pmax pmax
comp=Z,13nm,0.6s
LFF La Frestale 84.33 340 eP P 00 48 22.7 +0.1
comp=Z,12nm,0.6s
LMR La Mourre 84.38 336 eP P 00 48 22.4 -0.5
LMR La Mourre 84.38 336 eP P 00 48 22.4 -0.5
LMR La Mourre 84.38 336 eP P 00 48 22.4 -0.5
KMSC Kings Mountain 84.41 42 ⇓P P 00 48 21.8 -1.4
baz=84
MTLF Montolieu 85.49 339 eP P 00 48 29.6 +1.2
MTLF Montolieu 85.49 339 eP P 00 48 29.6 +1.2
MTLF Montolieu 85.49 339 eP P 00 48 29.6 +1.2
EPF Esparros 86.23 340 eP P 00 48 32.3 +0.1
comp=Z,8.2nm,0.7s
EPF Esparros 86.23 340 eP P 00 48 32.3 +0.1
EPF pmax pmax
comp=Z,8.0nm,0.7s
EPF Esparros 86.23 340 eP P 00 48 32.3 +0.1
comp=Z,8.2nm,0.7s
ESDC Sonseca Array 90.38 342 P P 00 48 50.3 -1.6
comp=Z,0.3nm,0.4s,baz=1.8,slow=3.5,SNR=3.5
KEST Kesra 90.51 331 P P 00 48 52.0 -0.6
comp=Z,2.2nm,0.7s,baz=299,slow=2.8,SNR=8.1
TORD Torodi Ar. Bea 113.94 329 PKP PKiKP 00 54 27.1 -2.2
comp=Z,0.2nm,0.4s,baz=17,slow=2.4,SNR=11
BDFB Brasilia 143.71 35 PKIKP PKPab 00 55 21.5 -0.8
BDFB pmax pmax
comp=Z,5.0nm,0.6s
BDFB Brasilia 143.71 35 PKP PKPab 00 55 21.5 -0.8
comp=Z,4.5nm,0.6s,baz=286,slow=3.8,SNR=6.9
CPUP Villa Florida 148.28 58 PKP2 PKPdf 00 55 34.0 +1.3
CPUP pmax pmax
comp=Z,1.0nm,0.4s
CPUP Villa Florida 148.28 58 PKPbc PKPdf 00 55 34.0 +1.3
comp=Z,1.4nm,0.4s,baz=294,slow=1.0,SNR=7.1

TAP 04 00:43:25.9, 22°.96N×120°.64E, h17km, ML3.7, 11C-3D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.13**	**338**	⇓iP	Pb	00 43 30.7	+0.7
	baz=341						
SGST				*i* S	Sb	00 43 34.1	+1.4
	baz=341						
SSD	**Sandimen**	**0.21**	**181**	⇑iP	Pb	00 43 31.6	+0.2
	baz=179						
SSD				S	Sb	00 43 35.2	+0.2
	baz=179						
STYT	**Tauyuan**	**0.23**	**29**	⇑iP	Pb	00 43 32.1	+0.3
	baz=36						
STYT				S	Sb	00 43 36.6	+0.9
	baz=36						
TWM1	**Shoushan**	**0.24**	**235**	P	Pb	00 43 32.7	+0.9
	baz=235						
CHN1	**Nanshi**	**0.24**	**336**	⇑P	Pb	00 43 32.4	+0.4
	baz=346						
CHN1				*i* S	Sb	00 43 37.5	+1.4
	baz=346						
SGLT	**Jiouru**	**0.27**	**210**	P	Pb	00 43 33.1	+0.8
	baz=203						
SGLT				S	Sn	00 43 39.8	-1.1
	baz=203						
CHN3	**Shinhua**	**0.28**	**295**	*e*P	Pb	00 43 33.7	+1.2
	baz=295						
WTP	**Ta-pu**	**0.28**	**356**	⇑iP	Pb	00 43 33.1	+0.4
	baz=358						
WTP				*i* S	Sb	00 43 38.3	+1.0
	baz=358						
TWK	**Hsinying**	**0.33**	**336**	*e*P	Pb	00 43 34.2	+0.6
	baz=338						
TWK				*e*S	Sb	00 43 39.7	+1.0
	baz=338						
TAI1	**Yung-k'ang**	**0.38**	**282**	*e*P	Pn	00 43 36.0	-0.7
	baz=283						
CHN4	**Tsaushan**	**0.39**	**354**	*e*P	Pb	00 43 34.9	+0.4
	baz=355						
CHN4				*e*S	Sb	00 43 41.5	+1.2
	baz=355						
ELDTW	**Lidau**	**0.42**	**57**	⇑iP	Pb	00 43 35.4	+0.3
	baz=48						
ELDTW				*e*S	Sb	00 43 42.4	+1.2
	baz=48						
TWG	**Pinlang**	**0.42**	**109**	P	Pb	00 43 35.8	+0.7
	baz=99						
TWG				*e*S	Sb	00 43 42.4	+1.2
	baz=99						
SCLT	**Jiali**	**0.46**	**298**	*e*P	Pb	00 43 36.4	+0.8
	baz=299						
SCLT				*e*S	Sn	00 43 45.1	-0.4
	baz=299						
ECL	**Taimali**	**0.47**	**141**	⇓P	Pb	00 43 36.2	+0.5
	baz=140						
ECL				*e*S	Sb	00 43 42.8	+0.5
	baz=140						
KAU	**Kaohsiung**	**0.49**	**218**	*e*P	Pn	00 43 37.7	-0.5
	baz=232						
TTN	**Taitung**	**0.51**	**113**	*e*P	Pb	00 43 37.5	+1.0
	baz=113						
TTN				*e*S	Sn	00 43 46.8	-0.1
	baz=113						
ALS	**Alishan**	**0.57**	**16**	⇑P	Pg	00 43 37.7	0.0
	baz=17						
ALS				*e*S	Sb	00 43 46.9	+0.9
	baz=17						
CHY	**Chiayi**	**0.57**	**340**	⇑iP	Pn	00 43 38.5	-0.7
	baz=341						
CHY				*e*S	Sn	00 43 47.1	-1.2
	baz=341						
SCZT	**Fangliau**	**0.58**	**181**	*e*P	Pb	00 43 37.7	0.0
	baz=175						
SCZT				*e*S	Sn	00 43 49.2	+0.6
	baz=175						
CHN2	**Minshiung**	**0.59**	**345**	*e*P	Pb	00 43 38.6	+0.8
	baz=346						
CHN2				*e*S	Sn	00 43 48.3	-0.5
	baz=346						
YUS	**Yu-Shan**	**0.60**	**29**	⇑P	Pb	00 43 38.8	+0.1
	baz=39						
YUS				*e*S	Sb	00 43 48.1	+0.8
	baz=39						
EAST	**Anshuo**	**0.61**	**161**	P	Pb	00 43 38.5	+0.3
	baz=155						
EAST				*e*S	Sn	00 43 48.1	-1.2
	baz=155						
CHN5	**Tsauling**	**0.64**	**3**	*e*P	Pn	00 43 39.6	-0.7
	baz=4.0						
CHN5				*e*S	Sn	00 43 50.6	+0.4
	baz=4.0						
TAW	**Tawu**	**0.65**	**158**	⇓P	Pb	00 43 39.2	+0.4
	baz=157						
TAW				*e*S	Sb	00 43 48.2	+0.7
	baz=157						
TWP	**Hsiaoliuchiu**	**0.66**	**203**	⇑P	Pn	00 43 41.2	+0.7
	baz=202						
TWP				*i* S	Sn	00 43 53.7	+3.2
	baz=202						
CHKT	**Chengkung**	**0.69**	**78**	*e*P	Pg	00 43 39.3	-0.2
	baz=92						
TWF1	**Yuli**	**0.72**	**57**	⇑iP	Pg	00 43 40.6	+0.4
	baz=64						
TWF1				S	Sg	00 43 50.5	+0.7
	baz=64						
WGK	**Gukeng**	**0.73**	**355**	*e*P	Pg	00 43 40.8	+0.6
	baz=356						
WGK				*e*S	Sn	00 43 52.5	+0.3
	baz=356						
EHY	**Hungye**	**0.83**	**49**	*i* P	Pb	00 43 42.1	+0.1
	baz=49						
EHY				*e*S	Sn	00 43 55.8	+1.0
	baz=49						
WNT	**Mingjian**	**0.92**	**3**	*e*P	Pg	00 43 43.6	-0.2
	baz=4.0						
WNT				*e*S	Sn	00 43 58.3	+1.5
	baz=4.0						
WDGT	**Dungji**	**0.95**	**289**	⇑P	Pb	00 43 43.1	-0.8
	baz=289						
WDGT				*e*S	Sb	00 43 55.9	-0.3
	baz=289						
SMLT	**Sun Moon Lake**	**0.95**	**15**	P	Pn	00 43 44.9	+0.2
	baz=15						
SMLT				S	Sn	00 43 59.6	+1.6
	baz=15						
HEN	**Hengchun**	**0.95**	**174**	*e*P	Pn	00 43 44.8	+0.3
	baz=174						
TYC	**Yuchr**	**0.96**	**12**	*e*P	Pn	00 43 45.0	+0.3
	baz=13						
TYC				S	Sn	00 43 59.9	+1.9
	baz=13						
TWK1	**Hengchun**	**1.02**	**171**	P	Pg	00 43 46.4	+0.6
	baz=170						
TWK1				*e*S	Sn	00 44 00.3	+0.8
	baz=170						
TSEB	**Hengchuen, Pin**	**1.08**	**167**	*e*P	Pg	00 43 47.5	+0.6
	baz=169						
TSEB				*e*S	Sg	00 44 02.6	+1.4
	baz=169						
ESL	**Shilin**	**1.12**	**41**	*e*P	Pn	00 43 46.9	0.0
	baz=41						
ESL				*e*S	Sg	00 44 02.5	0.0
	baz=41						
PNG	**Penghu**	**1.16**	**302**	*e*P	Pn	00 43 46.1	-1.3
	baz=302						
TCU	**Taichung**	**1.18**	**2**	*e*P	Pg	00 43 48.5	-0.4
	baz=350						
LAY	**Lan-yu**	**1.25**	**137**	*e*P	Pn	00 43 48.5	-0.1
	baz=125						
WHF	**Hehuan Shan**	**1.31**	**26**	*e*P	Pb	00 43 50.9	+0.2
	baz=16						
WHF				*e*S	Sg	00 44 10.6	+1.2
	baz=16						
TWT	**Tachien**	**1.38**	**21**	*e*P	Pb	00 43 51.8	+0.2
	baz=9.0						
TWQ1	**Liyutan**	**1.39**	**5**	*e*P	Pb	00 43 51.7	+0.2
	baz=6.0						
TWQ1				*e*S	Sg	00 44 11.4	+0.4
	baz=6.0						
TWD	**Chiawan**	**1.42**	**38**	*e*P	Pb	00 43 52.6	+0.6
	baz=38						
TWD				*e*S	Sg	00 44 11.6	-0.4
	baz=38						
NSY	**Sanyi**	**1.45**	**4**	*e*P	Pb	00 43 53.2	+0.5
	baz=4.0						
NNS	**Nan Shan**	**1.62**	**24**	*e*P	Pn	00 43 53.7	-0.3
	baz=10.0						
NSTT	**Nanjuang**	**1.70**	**11**	*e*P	Pn	00 43 54.5	-0.3
	baz=355						
NSK	**Sanguang**	**1.83**	**21**	*e*P	Pb	00 43 58.7	-0.4
	baz=21						
ENTT	**Nioudou**	**1.88**	**27**	*e*P	Pb	00 43 59.8	0.0
	baz=10.0						
TWA	**Mucha**	**2.19**	**23**	*e*P	Pb	00 44 05.4	+0.2
	baz=22						
NWF	**Wu-fen Shan**	**2.35**	**26**	*e*P	Pb	00 44 08.2	+0.2
	baz=9.0						
YOJ	**Yonaguni jima**	**2.64**	**55**	*e*P	Pn	00 44 09.6	+1.8
	baz=54						

GUC 04 00:45:24.7±0.5, 33°.15S×72°.03W, h8km±5km, MD3.5, ML3.0, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.35**	**69**	⇓iP	Pg	00 45 31.9	+0.4
IHA				*i* S1	Sg	00 45 37.3	+1.2
LNV	**Longovilo**	**0.95**	**146**	⇓iP	Pg	00 45 42.4	-0.7
LNV				*i* S1	Sg	00 45 55.8	+0.3
RCDM	**Rinconada Maip**	**1.08**	**109**	⇓iP	Pg	00 45 44.1	-1.4
RCDM				AML	AML	00 46 03.3	
	comp=E,545nm,0.1s						
PEL	**Peldehue**	**1.13**	**90**	⇑iP	Pg	00 45 45.2	-1.3
PEL				AML	AML	00 46 06.2	
	comp=N,885nm,0.4s						
ANTU	**Antumapu**	**1.24**	**110**	*e*P1	Pg	00 45 47.5	-1.1
ANTU				AML	AML	00 46 13.4	
	comp=E,522nm,0.3s						
CHCH	**Chadas Angostu**	**1.39**	**125**	⇓iP	Pn	00 45 49.3	-1.2
CHCH				*i* S1	Sg	00 46 08.1	-1.4
CACH	**El Canelo**	**1.53**	**129**	⇑iP	Pn	00 45 52.1	-0.4

*ISK **04** 00:47:13.4, 39°.31N×26°.04E, h9km, MD3.2*
*DDA **04** 00:47:14.4, 39°.32N×25°.93E, h7km, MD3.0*
*CSEM **04** 00:47:14.6±0.1, 39°.34N×26°.01E, h10km, MD3.1, Error ellipse: s-maj=3.7km s-min=3.1km az=67.0*
*ISCJB **04** 00:47:14.5±0.4, 39°.33N±0°.02×26°.00E±0°.03, h10km±3km, Error ellipse: s-maj=4.2km s-min=3.2km az=175.5*
*ATH **04** 00:47:14.7, 39°.33N×25°.95E, h11km, MD3.1/9*
*THE **04** 00:47:15.0, 39°.33N×25°.95E, h8km±1km, ML2.4/4, Error ellipse: s-maj=1.8km s-min=0.5km az=195.0*
ISC 04 00:47:14.7±0.8, 39°.33N±0°.02×25°.98E±0°.02, h11km±6km, n80, σ0°68/109, 4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.15**	**219**	P	**Pg**	**00 47 18.0**	**-0.2**
SIGR				S	**Sg**	**00 47 20.4**	**-0.3**
SIGR	**SIGRI**	**0.15**	**219**	*e*PG	**Pg**	**00 47 17.6**	**-0.6**
SIGR				*e*SG	**Sg**	**00 47 20.3**	**-0.4**
SIGR	**SIGRI**	**0.15**	**219**	*e*PG	**Pg**	**00 47 18.1**	**-0.2**
SIGR				*e*SG	**Sg**	**00 47 20.4**	**-0.3**
SIGR	**SIGRI**	**0.15**	**219**	*e*Pg	**Pg**	**00 47 18.1**	**-0.2**
SIGR				S	**Sg**	**00 47 20.4**	**-0.3**
PRK	**Paraskevi**	**0.24**	**110**	P	**Pg**	**00 47 20.1**	**+0.4**
PRK				S	**Sg**	**00 47 24.0**	**+0.9**
PRK	**Paraskevi**	**0.24**	**110**	*e*PG	**Pg**	**00 47 20.1**	**+0.4**
PRK				*e*SG	**Sg**	**00 47 24.2**	**+1.1**
PRK	**Paraskevi**	**0.24**	**110**	P	**Pg**	**00 47 20.1**	**+0.4**
PRK				*e*Sg	**Sg**	**00 47 24.2**	**+1.1**
BOZC	**Bozcaada**	**0.51**	**6**	*i* P	**Pg**	**00 47 25.1**	**+0.3**
BOZC				*i* S	**Sb**	**00 47 32.9**	**-0.4**
AYVA	**Ayvalik**	**0.55**	**92**	*i* P	**Pg**	**00 47 26.0**	**+0.5**
AYVA				*i* S	**Sb**	**00 47 34.7**	**+0.4**
AYVA	**Ayvalik**	**0.55**	**92**	*i* P	**Pg**	**00 47 26.0**	**+0.5**
AYVA				*i* S	**Sb**	**00 47 34.7**	**+0.4**
EZN	**Ezine**	**0.56**	**28**	*e*PG	**Pg**	**00 47 24.7**	**-1.0**
EZN				*e*SG	**Sg**	**00 47 33.1**	**0.0**
EZN	**Ezine**	**0.56**	**28**	*e*Pg	**Pg**	**00 47 24.7**	**-1.0**
EZN				*e*Sg	**Sg**	**00 47 33.1**	**0.0**
LIA	**Limnos Island**	**0.84**	**313**	P	**Pb**	**00 47 30.9**	**-0.4**
LIA				S	**Sb**	**00 47 42.3**	**-0.2**
LIA	**Limnos Island**	**0.84**	**313**	*e*PB	**Pg**	**00 47 30.6**	**-0.3**
LIA				*e*SB	**Sg**	**00 47 41.7**	**-0.1**
LIA	**Limnos Island**	**0.84**	**313**	*e*Pb	**Pg**	**00 47 30.6**	**-0.3**
LIA	**Limnos Island**	**0.84**	**313**	P	**Pb**	**00 47 30.9**	**-0.4**
LIA				*e*Sb	**Sg**	**00 47 41.7**	**-0.1**
LIA				S	**Sb**	**00 47 42.3**	**-0.2**
CHOS	**Chios island**	**0.94**	**176**	P	**Pg**	**00 47 32.7**	**-0.2**
CHOS				S	**Sb**	**00 47 46.1**	**+0.3**
CHOS	**Chios island**	**0.94**	**176**	*e*PG	**Pg**	**00 47 31.8**	**-1.1**
CHOS				*e*SG	**Sg**	**00 47 44.8**	**-0.5**
CHOS	**Chios island**	**0.94**	**176**	*e*PB	**Pg**	**00 47 32.7**	**-0.2**
CHOS				*e*SB	**Sb**	**00 47 46.0**	**+0.3**
CHOS	**Chios island**	**0.94**	**176**	*e*Pg	**Pg**	**00 47 31.8**	**-1.1**
CHOS	**Chios island**	**0.94**	**176**	P	**Pg**	**00 47 32.7**	**-0.2**
CHOS				*e*Sg	**Sg**	**00 47 44.8**	**-0.5**
CHOS				*e*Sb	**Sb**	**00 47 46.0**	**+0.3**
URLA	**Izmir**	**1.08**	**153**	*i* P	**Pg**	**00 47 35.4**	**-0.2**
URLA				*i* S	**Sb**	**00 47 50.5**	**+0.9**
URLA	**Izmir**	**1.08**	**153**	*i* P	**Pg**	**00 47 35.4**	**-0.2**
URLA				*i* S	**Sb**	**00 47 50.5**	**+0.9**
GELI	**Tayfur-Gelibol**	**1.13**	**19**	*e*PN	**Pb**	**00 47 35.5**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.13**	**19**	*e*Pn	**Pb**	**00 47 35.5**	**-0.8**
SMTH	**Samothraki Isl**	**1.19**	**343**	P	**Pb**	**00 47 37.1**	**-0.2**
SMTH	**Samothraki Isl**	**1.19**	**343**	*e*PB	**Pb**	**00 47 37.1**	**-0.2**
SMTH				*e*SB	**Sg**	**00 47 53.2**	**+0.1**
SMTH	**Samothraki Isl**	**1.19**	**343**	P	**Pb**	**00 47 37.1**	**-0.2**
SMTH				*e*Sb	**Sg**	**00 47 53.2**	**+0.1**
LPK	**Lapseki**	**1.20**	**30**	*e*PN	**Pn**	**00 47 36.7**	**-0.8**
LPK	**Lapseki**	**1.20**	**30**	*e*Pn	**Pn**	**00 47 36.7**	**-0.8**
BLCB	**Balcova**	**1.26**	**138**	*e*PN	**Pn**	**00 47 37.0**	**-1.2**
BLCB	**Balcova**	**1.26**	**138**	*e*Pn	**Pn**	**00 47 37.0**	**-1.2**
ENEZ	**Enez**	**1.41**	**5**	*e*PN	**Pn**	**00 47 40.0**	**-0.3**
ENEZ	**Enez**	**1.41**	**5**	*e*Pn	**Pn**	**00 47 40.0**	**-0.3**
KRBG	**Karabiga-Canak**	**1.47**	**43**	*e*PN	**Pn**	**00 47 40.2**	**-0.9**
KRBG	**Karabiga-Canak**	**1.47**	**43**	*e*Pn	**Pn**	**00 47 40.2**	**-0.9**
BALB	**Balikesir**	**1.50**	**78**	*e*PN	**Pn**	**00 47 40.6**	**-0.9**
BALB	**Balikesir**	**1.50**	**78**	*e*Pn	**Pn**	**00 47 40.7**	**-0.9**
ALN	**Alexandroupoli**	**1.56**	**2**	*e*PN	**Pn**	**00 47 42.6**	**+0.2**
ALN	**Alexandroupoli**	**1.56**	**2**	*e*PB	**Pb**	**00 47 43.8**	**+0.1**
ALN				*e*SB	**Sg**	**00 48 04.8**	**-0.3**
ALN	**Alexandroupoli**	**1.56**	**2**	*e*Pn	**Pn**	**00 47 42.6**	**+0.2**
ALN	**Alexandroupoli**	**1.56**	**2**	*e*Pb	**Pb**	**00 47 43.8**	**+0.1**
ALN				*e*Sb	**Sg**	**00 48 04.8**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.64**	**34**	*e*PN	**Pn**	**00 47 42.9**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.64**	**34**	*e*Pn	**Pn**	**00 47 42.9**	**-0.6**
SART	**Tekirdag**	**1.64**	**34**	*i* P	**Pb**	**00 47 45.1**	**+0.1**
SART				*i* S	**Sg**	**00 48 08.7**	**+1.2**
SART	**Tekirdag**	**1.64**	**34**	*i* P	**Pb**	**00 47 45.1**	**+0.1**
SART				*i* S	**Sg**	**00 48 08.7**	**+1.2**
SMG	**Samos**	**1.75**	**157**	*e*PN	**Pb**	**00 47 47.2**	**+0.3**
SMG	**Samos**	**1.75**	**157**	*e*Pn	**Pb**	**00 47 47.2**	**+0.3**
EDC	**Edincik**	**1.77**	**54**	*e*PN	**Pn**	**00 47 44.5**	**-0.8**
EDC	**Edincik**	**1.77**	**54**	*e*Pn	**Pn**	**00 47 44.5**	**-0.8**
MRMT	**Marmara Adasi**	**1.78**	**44**	*e*PN	**Pn**	**00 47 44.9**	**-0.5**
MRMT	**Marmara Adasi**	**1.78**	**44**	*e*Pn	**Pn**	**00 47 44.9**	**-0.5**
OUR	**Ouranopolis**	**1.84**	**304**	*e*PN	**Pn**	**00 47 46.7**	**+0.5**
OUR	**Ouranopolis**	**1.84**	**304**	*e*PG	**Pb**	**00 47 48.6**	**+0.3**
OUR	**Ouranopolis**	**1.84**	**304**	*e*Pn	**Pn**	**00 47 46.7**	**+0.5**
OUR	**Ouranopolis**	**1.84**	**304**	*e*Pg	**Pb**	**00 47 48.6**	**+0.3**
MRKA	**Markates**	**1.97**	**252**	*e*PN	**Pb**	**00 47 49.7**	**-0.8**
MRKA	**Markates**	**1.97**	**252**	*e*Pn	**Pb**	**00 47 49.7**	**-0.8**
KCTX	**Karacabey (Bur**	**2.06**	**62**	*e*PN	**Pn**	**00 47 48.3**	**-0.9**
KCTX	**Karacabey (Bur**	**2.06**	**62**	*e*Pn	**Pn**	**00 47 48.3**	**-0.9**
PLG	**Polygyros**	**2.21**	**299**	*e*PN	**Pn**	**00 47 52.6**	**+1.2**
PLG	**Polygyros**	**2.21**	**299**	*e*Pn	**Pn**	**00 47 52.6**	**+1.2**
CRLT	**Corlu**	**2.24**	**36**	*e*PN	**Pn**	**00 47 51.4**	**-0.4**
CRLT	**Corlu**	**2.24**	**36**	*e*Pn	**Pn**	**00 47 51.4**	**-0.4**
KDZ	**Kurdzhali**	**2.36**	**350**	⇓iP	**Pb**	**00 47 57.7**	**+0.5**
KDZ	**Kurdzhali**	**2.36**	**350**	⇓iP	**Pb**	**00 47 57.7**	**+0.5**
LKR	**Lokris**	**2.42**	**255**	*e*PN	**Pn**	**00 47 55.9**	**+1.7**
LKR	**Lokris**	**2.42**	**255**	*e*Pn	**Pn**	**00 47 55.9**	**+1.7**
MDNY	**Mudanya-Bursa**	**2.46**	**64**	*e*PN	**Pn**	**00 47 54.0**	**-0.8**
MDNY	**Mudanya-Bursa**	**2.46**	**64**	*e*Pn	**Pn**	**00 47 54.0**	**-0.8**
ARMT	**Armutlu**	**2.54**	**60**	*e*PN	**Pn**	**00 47 55.6**	**-0.2**
ARMT	**Armutlu**	**2.54**	**60**	*e*Pn	**Pn**	**00 47 55.6**	**-0.2**
SLVT	**Silivri**	**2.55**	**41**	*e*PN	**Pn**	**00 47 55.9**	**-0.1**
SLVT	**Silivri**	**2.55**	**41**	*e*Pn	**Pn**	**00 47 55.9**	**-0.1**
TVSB	**Tavsanli**	**2.70**	**86**	*e*PN	**Pn**	**00 47 56.6**	**-1.6**
TVSB	**Tavsanli**	**2.70**	**86**	*e*Pn	**Pn**	**00 47 56.6**	**-1.6**
MMB	**Musomiste**	**2.84**	**323**	⇓iP	**Pn**	**00 48 00.5**	**+0.5**
MMB	**Musomiste**	**2.84**	**323**	⇓iP	**Pn**	**00 48 00.5**	**+0.5**
KHL	**Karahalli**	**2.94**	**109**	*e*PN	**Pn**	**00 48 01.2**	**-0.3**
KHL	**Karahalli**	**2.94**	**109**	*e*Pn	**Pn**	**00 48 01.2**	**-0.3**

*ISCJB **04** 00:47:46.0±0.4, 26°.42S±0°.03×27°.61E±0°.03, h11km±3km, mb3.8/5, Error ellipse: s-maj=5.1km s-min=3.4km az=143.1*
*PRE **04** 00:47:46.3±4.8, 26°.43S×27°.59E, h2km, ML3.6*
*IDC **04** 00:47:47.0±1.1, 26°.44S×27°.50E, h0km, mb3.8/5, mb1 4.0/10, mb1mx3.7/44, mbtmp4.0/10, ML3.4/4, Error ellipse: s-maj=17.7km s-min=15.0km az=102.0*
ISC 04 00:47:46.7±0.9, 26°.41S±0°.03×27°.60E±0°.02, h9km±6km, n32, σ1°71/54, mb4.0/5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.16**	**266**	*e*P	**Pg**	**00 47 50.9**	**+0.6**
WDLM				*e*S	**Sg**	**00 47 51.7**	**-1.0**
WDLM				AML	AML	00 47 53.3	
	comp=Z,649μm,0.1s						
CRWM	**Crown Mines**	**0.41**	**65**	*i* P	**Pg**	**00 47 55.6**	**+0.7**
CRWM				*e*S	**Sg**	**00 47 59.2**	**-1.2**
CRWM				AML	AML	00 48 01.3	
	comp=Z,9μm,0.1s						
OBSV	**Observatory**	**0.48**	**62**	*e*P	**Pg**	**00 47 56.8**	**+0.6**
OBSV				*e*S	**Sg**	**00 48 01.0**	**-1.6**
OBSV				AML	AML	00 48 03.8	
	comp=Z,6μm,0.1s						
PRYS	**Parys**	**0.55**	**202**	*e*P	**Pg**	**00 47 58.0**	**+0.5**
PRYS				*e*S	**Sg**	**00 48 03.8**	**-1.1**
PRYS				AML	AML	00 48 08.5	
	comp=Z,795nm,0.5s						
ERPM	**east rand prop**	**0.58**	**83**	*e*P	**Pb**	**00 47 59.0**	**-0.2**
ERPM				*e*S	**Sg**	**00 48 04.9**	**-0.9**
ERPM				AML	AML	00 48 06.3	
	comp=Z,3μm,0.1s						
KSR	**Koster**	**0.84**	**311**	*e*P	**Pg**	**00 48 03.4**	**+0.4**
KSR				*e*S	**Sg**	**00 48 13.3**	**-0.7**
KSR				AML	AML	00 48 23.1	
	comp=Z,204nm,0.5s						
BFSD	**Buffelsfontein**	**0.85**	**238**	*e*P	**Pb**	**00 48 03.8**	**-0.1**
BFSD				*e*S	**Sg**	**00 48 12.7**	**-1.7**
BFSD				AML	AML	00 48 20.1	
	comp=Z,454nm,0.7s						
MOAB	**Moab Khotsong**	**0.92**	**231**	*e*P	**

comp=Z,31nm,0.8s
HVD Gariep Dam 4.57 203 *e*P **Pn 00 48 55.3 -0.8**
HVD *e*S **Sn 00 49 47.7 -1.7**
HVD AML AML 00 49 48.8
comp=Z,26nm,0.7s
MSNA Messina 4.61 29 *e*P **Pn 00 48 55.9 -0.8**
MSNA *e*S **Sn 00 49 46.8 -3.6**
MSNA AML AML 00 50 11.9
comp=Z,41nm,0.5s
GRM Grahamstown 6.94 188 *e*P **Pn 00 49 29.5 +0.8**
GRM *e*S **Sn 00 50 45.0 -2.7**
GRM AML AML 00 51 32.6
comp=Z,20nm,0.7s
GRM Grahamstown 6.94 188 *i*P **Pn 00 49 30.1 +1.5**
SUR Sutherland 8.39 223 Pn **Pn 00 49 50.0 +1.4**
comp=Z,2.2nm,0.3s,baz=61,slow=13,SNR=19
SUR Sn **Sn 00 51 18.8 -4.8**
comp=Z,2.4nm,0.3s,baz=158,slow=22,SNR=7.0
SUR Lg Lg 00 52 04.9
comp=Z,2.2nm,0.3s,baz=332,slow=21,SNR=4.2
KOMG Komaggas 9.54 247 *e*P **Pn 00 50 04.5 +0.1**
KOMG *e*S **Sn 00 51 47.0 -4.7**
KOMG AML AML 00 52 50.4
comp=Z,15nm,0.6s
CER Ceres 9.99 224 *e*P **Pn 00 50 10.6 +0.2**
CER *e*S Sn 00 51 56.6 -6.1
CER AML AML 00 53 04.9
comp=Z,23nm,0.6s
LSZ Lusaka 11.09 3 Pn **Pn 00 50 25.8 +0.1**
comp=Z,1.5nm,0.3s,baz=179,slow=15,SNR=20
LSZ Sn **Sn 00 52 25.6 -4.4**
comp=Z,0.5nm,0.3s,baz=90,slow=19,SNR=3.2
LSZ Lg Lg 00 53 29.4
comp=Z,0.4nm,0.3s,baz=99,slow=19,SNR=3.1
TSUM Tsumeb 11.69 306 Pn **Pn 00 50 34.5 +0.6**
comp=Z,1.6nm,0.3s,baz=124,slow=9.9,SNR=50
TSUM Lg Lg 00 53 47.2
comp=Z,0.4nm,0.3s,baz=35,slow=18,SNR=3.9
DBIC Dimbokro 45.52 312 P **P 00 56 06.8 0.0**
comp=Z,1.9nm,0.9s,baz=170,slow=11,SNR=2.4
TORD Torodi Ar. Bea 46.70 324 P **P 00 56 17.1 +1.0**
comp=Z,0.8nm,0.4s,baz=136,slow=6.2,SNR=28
ESDC Sonseca Array 72.03 335 P **P 00 59 12.9 +1.9**
comp=Z,0.3nm,0.4s,baz=153,slow=6.3,SNR=5.3
FINES FINESS Array B 87.55 359 P **P 01 00 36.4 +2.0**
comp=Z,0.5nm,0.4s,baz=162,slow=6.5,SNR=6.2
MKAR Makanchi Array 88.02 34 P **P 01 00 38.8 +1.7**
comp=Z,0.1nm,0.5s,baz=196,slow=2.1,SNR=3.5
TXAR Lajitas Array 137.06 286 PKP **PKPdf 01 07 12.8 +2.2**
comp=Z,0.2nm,0.7s,baz=140,slow=9.9,SNR=3.6
NVAR Mina Array Bea 148.99 301 PKPbc **PKPab 01 07 38.3 -1.3**
comp=Z,0.2nm,0.4s,baz=90,slow=1.8,SNR=2.5

*IDC **04** 00:54:47.9±4.8, 23°.17N×121°.48E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/41, mbtmp3.4/3, Error ellipse: s-maj=348.4km s-min=26.9km az=60.0*
*TAP **04** 00:54:52.1, 22°.96N×120°.63E, h17km, ML3.7, B*
*ISCJB **04** 00:54:53.5±0.3, 22°.95N±0°.01×120°.61E±0°.02, h22km±3km, mb3.3/3, Error ellipse: s-maj=3.3km s-min=2.2km az=173.8*
ISC 04 00:54:52.9±0.8, 22°.95N±0°.01×120°.63E±0°.02, h18km±2km, n51, σ0°93/85, mb3.6/3, 8C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.13**	**342**	⇓*i*P	**Pg**	**00 54 56.9**	**-0.1**
SGST	baz=344			*i* S	**Sg**	**00 55 00.1**	**+0.3**
SSD	**Sandimen**	**0.21**	**179**	⇑*i*P	**Pb**	**00 54 57.7**	**0.0**
SSD	baz=177			*i* S	**Sb**	**00 55 01.4**	**+0.6**
TWM1	**Shoushan**	**0.23**	**236**	⇑*i*P	**Pg**	**00 54 58.8**	**+0.5**
STYT	baz=233 **Tauyuan**	**0.24**	**30**	⇑*i*P	**Pb**	**00 54 58.3**	**-0.2**
STYT	baz=38			*i* S	**Sg**	**00 55 03.1**	**+0.7**
CHN1	**Nanshi**	**0.25**	**338**	⇓*i*P	**Pb**	**00 54 58.6**	**-0.1**
CHN1	baz=343			*i* S	**Sg**	**00 55 03.4**	**+0.9**
SGLT	**Jiouru**	**0.26**	**209**	P	**Pg**	**00 54 59.2**	**+0.5**
SGLT	baz=202			*i* S	**Sn**	**00 55 05.3**	**-2.0**
CHN3	**Shinhua**	**0.27**	**297**	*e*P	**Pg**	**00 55 00.5**	**+1.5**
WTP	baz=295 **Ta-pu**	**0.29**	**358**	*i* P	**Pg**	**00 54 59.3**	**0.0**
WTP	baz=359			*i* S	**Sb**	**00 55 04.3**	**+0.3**
TWK	**Hsinying**	**0.34**	**338**	P	**Pg**	**00 55 00.4**	**+0.3**
TWK	baz=339			S	**Sb**	**00 55 05.8**	**+0.3**
TAI1	**Yung-k'ang**	**0.38**	**283**	*e*P	**Pb**	**00 55 01.8**	**+0.7**
CHN4	baz=283 **Tsaushan**	**0.40**	**355**	⇑P	**Pg**	**00 55 00.9**	**-0.2**
CHN4	baz=356			*e*S	**Sb**	**00 55 07.5**	**+0.3**
ELDTW	baz=356 **Lidau**	**0.43**	**57**	⇑*i*P	**Pg**	**00 55 01.5**	**-0.2**
ELDTW	baz=49			*e*S	**Sg**	**00 55 08.1**	**+0.4**
TWG	baz=49 **Pinlang**	**0.43**	**108**	P	**Pg**	**00 55 01.9**	**+0.2**
TWG	baz=99			*i* S	**Sb**	**00 55 09.6**	**+1.5**
SCLT	**Jiali**	**0.46**	**299**	*e*P	**Pg**	**00 55 02.3**	**+0.1**
SCLT	baz=300			*e*S	**Sn**	**00 55 10.9**	**-1.2**
ECL	**Taimali**	**0.47**	**140**	⇓*i*P	**Pg**	**00 55 02.2**	**-0.1**
ECL	baz=139			*e*S	**Sg**	**00 55 08.9**	**+0.2**
KAU	**Kaohsiung**	**0.48**	**218**	*e*P	**Pb**	**00 55 03.5**	**+0.7**
KAU	baz=216			*e*S	**Sn**	**00 55 13.7**	**+0.8**
TTN	**Taitung**	**0.52**	**112**	*e*P	**Pg**	**00 55 03.9**	**+0.5**
TTN	baz=112			*e*S	**Sn**	**00 55 13.8**	**+0.1**
CHY	**Chiayi**	**0.57**	**341**	*e*P	**Pb**	**00 55 04.0**	**-0.3**
CHY	baz=342			*e*S	**Sg**	**00 55 13.5**	**+1.4**
ALS	**Alishan**	**0.58**	**16**	⇑P	**Pb**	**00 55 04.1**	**-0.5**
ALS	baz=17			S	**Sb**	**00 55 12.9**	**+0.4**
SCZT	**Fangliau**	**0.58**	**181**	⇓*i*P	**Pb**	**00 55 03.9**	**-0.5**
SCZT	baz=172			*e*S	**Sn**	**00 55 14.5**	**-0.7**
CHN2	**Minshiung**	**0.59**	**346**	*e*P	**Pb**	**00 55 04.7**	**+0.1**
CHN2	baz=347			*e*S	**Sg**	**00 55 14.2**	**+1.6**
EAST	**Anshuo**	**0.60**	**160**	⇓*i*P	**Pb**	**00 55 04.8**	**-0.1**
EAST	baz=155			*e*S	**Sg**	**00 55 14.5**	**+1.5**
YUS	**Yu-Shan**	**0.61**	**29**	P	**Pb**	**00 55 04.8**	**-0.4**
YUS	baz=39			S	**Sg**	**00 55 14.2**	**+0.7**
CHN5	**Tsauling**	**0.64**	**4**	*e*P	**Pb**	**00 55 05.5**	**0.0**
CHN5	baz=4.0			*e*S	**Sg**	**00 55 15.9**	**+1.7**
TAW	**Tawu**	**0.64**	**157**	P	**Pb**	**00 55 05.2**	**-0.3**
TAW	baz=157			*e*S	**Sg**	**00 55 14.8**	**+0.6**
TWP	**Hsiaoliuchiu**	**0.65**	**202**	*i* P	**Pn**	**00 55 07.7**	**+0.5**
TWP	baz=201			*i* S	**Sn**	**00 55 19.9**	**+2.9**
CHKT	**Chengkung**	**0.69**	**78**	*e*P	**Pb**	**00 55 06.4**	**0.0**
CHKT	baz=70			*e*S	**Sn**	**00 55 17.4**	**-0.7**
WGK	**Gukeng**	**0.73**	**355**	*e*P	**Pb**	**00 55 07.0**	**0.0**
WGK	baz=356			*e*S	**Sn**	**00 55 18.6**	**-0.4**
TWF1	**Yuli**	**0.73**	**57**	⇑*i*P	**Pb**	**00 55 06.8**	**-0.3**
TWF1	baz=65			*i* S	**Sb**	**00 55 16.9**	**+0.2**
EHY	**Hungye**	**0.84**	**49**	⇑*i*P	**Pb**	**00 55 08.6**	**-0.4**
EHY	baz=49			*e*S	**Sn**	**00 55 21.9**	**+0.2**
WNT	**Mingjian**	**0.92**	**3**	*e*P	**Pb**	**00 55 10.2**	**-0.1**
WDGT	baz=351 **Dungji**	**0.94**	**289**	*i* P	**Pb**	**00 55 09.1**	**-1.6**
WDGT	baz=290			*e*S	**Sb**	**00 55 21.4**	**-1.3**
HEN	**Hengchun**	**0.95**	**174**	*e*P	**Pb**	**00 55 10.6**	**-0.2**
SMLT	baz=174 **Sun Moon Lake**	**0.96**	**15**	*e*P	**Pb**	**00 55 11.0**	**0.0**
SMLT	baz=16			*i* S	**Sn**	**00 55 26.2**	**+1.5**
TYC	**Yuchr**	**0.97**	**13**	*e*P	**Pb**	**00 55 11.5**	**+0.4**
TYC	baz=13			*e*S	**Sn**	**00 55 26.5**	**+1.6**
TWK1	**Hengchun**	**1.02**	**171**	*e*P	**Pb**	**00 55 11.6**	**-0.3**
TWK1	baz=170			S	**Sg**	**00 55 27.1**	**+1.0**
TSEB	**Hengchuen, Pin**	**1.08**	**166**	*e*P	**Pn**	**00 55 13.7**	**+0.7**
TSEB	baz=168			S	**Sg**	**00 55 29.8**	**+1.8**
ESL	**Shilin**	**1.13**	**41**	P	**Pn**	**00 55 13.5**	**-0.3**
ESL	baz=41			*e*S	**Sn**	**00 55 28.9**	**0.0**
PNG	**Penghu**	**1.16**	**302**	*e*P	**Pn**	**00 55 12.8**	**-1.4**
TCU	baz=303 **Taichung**	**1.19**	**2**	*e*P	**Pn**	**00 55 14.6**	**0.0**
LAY	baz=351 **Lan-yu**	**1.25**	**137**	*e*P	**Pn**	**00 55 14.5**	**-0.9**
WHF	baz=125 **Hehuan Shan**	**1.32**	**26**	*e*P	**Pn**	**00 55 16.9**	**+0.1**
TWQ1	baz=25 **Liyutan**	**1.39**	**5**	*e*P	**Pn**	**00 55 18.0**	**+0.5**
TWQ1	baz=6.0			*e*S	**Sb**	**00 55 36.9**	**+1.1**
TWD	baz=6.0 **Chiawan**	**1.43**	**38**	*e*P	**Pn**	**00 55 18.3**	**+0.4**
NSY	baz=37 **Sanyi**	**1.46**	**5**	*e*P	**Pn**	**00 55 18.9**	**+0.6**
NSTT	baz=4.0 **Nanjuang**	**1.70**	**12**	*e*P	**Pb**	**00 55 24.0**	**+0.3**
NSK	baz=355 **Sanguang**	**1.84**	**21**	*e*P	**Pb**	**00 55 25.3**	**-0.7**
ENTT	baz=21 **Nioudou**	**1.89**	**27**	*e*P	**Pn**	**00 55 25.6**	**+1.4**
MKAR	baz=10.0 **Makanchi Array**	**38.88**	**317**	P	**P**	**01 02 18.1**	**+0.9**
WRA	0.1nm,0.5s,baz=114,slow=7.0,SNR=2.7 **Warramunga Arr**	**44.69**	**162**	P	**P**	**01 03 02.0**	**-2.8**
ASAR	0.6nm,0.6s,baz=344,slow=8.7,SNR=5.5 **Alice Springs**	**48.10**	**164**	P	**P**	**01 03 29.8**	**-1.9**
	0.2nm,0.4s,baz=344,slow=7.4,SNR=4.1						

GUC 04 00:58:42.2±0.8, 33°.36S×72°.51W, h15km±40km, MD3.7, ML3.2, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.80**	**65**	⇑*i*P	Pg	00 58 56.7	-1.1
IHA				*i* S1	Sg	00 59 07.1	-1.3
LNV	**Longovilo**	**1.09**	**123**	*e*P1	Pg	00 59 01.6	-1.6
LNV				*i* S1	Sn	00 59 15.4	-2.3
RCDM	**Rinconada Maip**	**1.43**	**96**	*e*P1	Pn	00 59 06.5	-1.1
RCDM				*i* S1	Sn	00 59 25.6	-0.7
RCDM				AML	AML	00 59 28.0	
	comp=E,338nm,0.2s						
PEL	**Peldehue**	**1.54**	**82**	⇑*i*P	Pn	00 59 08.9	-0.3
PEL				*e*S1	Sn	00 59 28.6	-0.5
PEL				AML	AML	00 59 32.6	
	comp=N,1μm,0.5s						
CHCH	**Chadas Angostu**	**1.65**	**111**	⇑*i*P	Pn	00 59 09.8	-0.9
CHCH				*i* S4	Sn	00 59 30.5	-1.2
CACH	**El Canelo**	**1.76**	**116**	⇓*i*P	Pn	00 59 12.5	+0.2

IDC 04 01:00:47.2±1.3, 7°.24N×92°.61E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/44, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=53.9km s-min=22.3km az=45.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.81**	**271**	Pn	Pn	01 03 36.2	-0.9
PALK	1.2nm,0.3s,baz=84,slow=16,SNR=5.4			Sn	Sn	01 05 32.3	-18
H08S3	1.6nm,0.3s,baz=173,slow=16,SNR=5.6 **Diego Garcia H**	**24.91**	**234**	T	T	01 32 02.0	
H08S2	baz=53,slow=75,SNR=36 **Diego Garcia H**	**24.91**	**234**	T	T	01 32 08.7	
H08S1	baz=53,slow=75,SNR=36 **Diego Carcia H**	**24.93**	**234**	T	T	01 32 08.0	
MKAR	baz=53,slow=75,SNR=8.0 **Makanchi Array**	**40.40**	**349**	P	P	01 08 26.6	-0.4
GEYT	0.5nm,0.5s,baz=167,slow=8.5,SNR=9.4 **Alibeck**	**43.68**	**320**	P	P	01 08 54.5	+0.5
WRA	0.8nm,0.4s,baz=142,slow=7.3,SNR=3.5 **Warramunga Arr**	**49.15**	**124**	P	P	01 09 37.0	-0.2
ASAR	0.8nm,0.7s,baz=304,slow=9.3,SNR=7.9 **Alice Springs**	**50.69**	**129**	P	P	01 09 49.0	0.0
	0.7nm,0.9s,baz=314,slow=7.8,SNR=5.4						

*ISCJB **04** 01:13:28.9±0.5, 31°.93N±0°.05×56°.20E±0°.04, h13km, mb3.3/2, Error ellipse: s-maj=7.0km s-min=4.1km az=154.2*
*IDC **04** 01:13:28.6±2.2, 31°.95N×56°.20E, h0km, mb3.3/2, mb1 3.3/4, mb1mx3.1/32, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=44.9km s-min=23.3km az=136.0*
*TEH **04** 01:13:29.9, 31°.96N×56°.21E, h1km, ML3.6*
*THR **04** 01:13:29.2±1.1, 32°.09N×56°.18E, h15km, ML3.5*
*CSEM **04** 01:13:29.0±0.2, 31°.95N×56°.20E, h2km, ML3.6, Error ellipse: s-maj=5.0km s-min=3.4km az=165.0*
ISC 04 01:13:29.6±0.8, 31°.97N±0°.06×56°.20E±0°.03, h13km, n50, σ1°10/54, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.66**	**235**	*e*Pg	**Pg**	**01 13 41.5**	**-0.9**
IBAF				*e*Sg	**Sg**	**01 13 50.4**	**-0.9**
IBAF				*e*		01 13 51.3	
	comp=Z,25μm,0.1s						
IBAF	**Bafgh**	**0.66**	**235**	*e*Pg	**Pg**	**01 13 41.6**	**-0.9**
IBAF				*e*Sg	**Sg**	**01 13 50.4**	**-0.9**
IMEH	**Mehriz**	**1.47**	**247**	*e*Pg	**Pb**	**01 13 56.6**	**-0.3**
IMEH				*e*Sg	**Sb**	**01 14 15.8**	**0.0**
IMEH				*e*		01 14 21.1	
	comp=Z,5μm,0.2s						
IMEH	**Mehriz**	**1.47**	**247**	*e*Pg	**Pb**	**01 13 56.7**	**-0.3**
IMEH				*e*Sg	**Sb**	**01 14 15.8**	**0.0**
ICHK	**Chekchek**	**1.55**	**281**	*e*Pn	**Pn**	**01 13 56.2**	**-0.9**
ICHK				*e*		01 14 18.1	
	comp=Z,13μm,0.1s						
ICHK	**Chekchek**	**1.55**	**281**	*e*Pn	**Pn**	**01 13 56.2**	**-0.9**
TABS	**Tabas**	**1.84**	**25**	*e*Pg	**Pn**	**01 14 00.8**	**-0.3**
TABS				AML	AML	01 14 39.6	
	comp=N,312nm,0.6s						
TABS	**Tabas**	**1.84**	**25**	*e*Pg	**Pn**	**01 14 00.8**	**-0.3**
	comp=N,312nm,0.6s						
KRBR	**Kerman**	**2.04**	**166**	*e*Pg	**Pg**	**01 14 08.3**	**-0.4**
KRBR				AML	AML	01 14 40.0	
	comp=E,427nm,0.7s						
KRBR				AML	AML	01 14 40.7	
	comp=N,615nm,0.6s						
KRBR	**Kerman**	**2.04**	**166**	*e*Pg	**Pg**	**01 14 08.4**	**-0.4**
	comp=N,615nm,0.6s						
ISAD	**Sadrabad**	**2.14**	**269**	*e*Sn	**Sb**	**01 14 34.0**	**-0.9**
ISAD				*e*Pn	**Pn**	**01 14 06.4**	**+1.1**
ISAD				*e*		01 14 40.9	
	comp=Z,8μm,0.2s						
IKOO	**Kooshah**	**2.42**	**79**	*e*Sg	**Sg**	**01 14 45.4**	**-2.0**
IKOO				*e*Pn	**Pn**	**01 14 10.0**	**+0.9**
IKOO				*e*		01 14 49.2	
	comp=Z,7μm,0.2s						
IKOO	**Kooshah**	**2.42**	**79**	*e*Pn	**Pn**	**01 14 10.0**	**+0.9**
IKOO				*e*Sg	**Sg**	**01 14 45.4**	**-2.0**
NASN	**Na'in**	**2.99**	**287**	*e*Pn	**Pn**	**01 14 17.9**	**+0.9**
NASN				AML	AML	01 15 02.2	
	comp=N,166nm,0.4s						
NASN				AML	AML	01 15 05.1	
	comp=E,85nm,0.8s						
NASN	**Na'in**	**2.99**	**287**	*e*Pn	**Pn**	**01 14 17.9**	**+0.9**
	comp=E,85nm,0.8s						
IDAH	**Dahanechah**	**3.20**	**75**	*e*Pn	**Pn**	**01 14 20.7**	**+0.9**
IDAH				*e*		01 14 32.5	
	comp=Z,2μm,0.2s						
IDAH	**Dahanechah**	**3.20**	**75**	*e*Pn	**Pn**	**01 14 20.7**	**+0.9**
IZEF	**Zefreh**	**3.40**	**287**	*e*Pn	**Pn**	**01 14 23.7**	**+1.1**
IZEF				*e*		01 15 21.2	
	comp=Z,836nm,0.2s						
IZEF	**Zefreh**	**3.40**	**287**	*e*Pn	**Pn**	**01 14 23.7**	**+1.1**
ISRV	**Sarvestan**	**3.71**	**227**	*e*Pn	Pn	01 14 30.3	+3.5
ISRV				*e*		01 15 42.0	
	comp=Z,510nm,0.3s						
SHRT	**Shahrakht**	**3.83**	**63**	*e*Pn	**Pn**	**01 14 29.8**	**+1.5**
SHRT				AML	AML	01 15 37.2	
	comp=E,52nm,0.6s						
SHRT				AML	AML	01 15 38.0	
	comp=N,61nm,0.6s						
SHRT	**Shahrakht**	**3.83**	**63**	*e*Pn	**Pn**	**01 14 29.8**	**+1.5**
	comp=N,61nm,0.6s						
IANJ	**Anjilo**	**3.97**	**332**	*e*		01 15 51.9	
	comp=Z,638nm,0.4s						
IKLH	**Kolahrood**	**4.12**	**290**	*e*Pn	**Pn**	**01 14 33.9**	**+1.3**
IKLH				*e*		01 15 46.1	
	comp=Z,596nm,0.2s						
IKLH	**Kolahrood**	**4.12**	**290**	*e*Pn	**Pn**	**01 14 33.9**	**+1.3**
ILAS	**Lasjerd**	**4.34**	**322**	*e*Pn	**Pn**	**01 14 37.0**	**+1.4**
ILAS				*e*		01 15 59.9	
	comp=Z,657nm,0.3s						
ILAS	**Lasjerd**	**4.34**	**322**	*e*Pn	**Pn**	**01 14 37.0**	**+1.4**
QAM	**Ghamsar**	**4.38**	**295**	*e*Pn	**Pn**	**01 14 37.1**	**+1.0**
QAM				*e*		01 15 51.1	
	comp=Z,777nm,0.2s						
IPIR	**Pirpir**	**4.55**	**280**	*e*Pn	**Pn**	**01 14 40.1**	**+1.7**
IPIR				*e*		01 15 56.1	
	comp=Z,300nm,0.2s						
IPIR	**Pirpir**	**4.55**	**280**	*e*Pn	**Pn**	**01 14 40.1**	**+1.7**
IFIR	**Firoozkooh**	**4.65**	**323**	*e*Pn	**Pn**	**01 14 40.1**	**+0.3**
IFIR				*e*		01 14 41.7	
	comp=Z,426nm,0.1s						
IFIR	**Firoozkooh**	**4.65**	**323**	*e*Pn	**Pn**	**01 14 40.1**	**+0.3**
IVRN	**Varamin**	**4.80**	**310**	*e*Pn	**Pn**	**01 14 42.1**	**+0.4**
IVRN				*e*		01 14 44.5	
	comp=Z,304nm,0.1s						
IVRN	**Varamin**	**4.80**	**310**	*e*Pn	**Pn**	**01 14 42.1**	**+0.4**
IDMV	**Damavand**	**5.00**	**317**	*e*Pn	**Pn**	**01 14 45.7**	**+1.1**
IDMV				*e*		01 16 14.0	
	comp=Z,536nm,0.3s						
IDMV	**Damavand**	**5.00**	**317**	*e*Pn	**Pn**	**01 14 45.7**	**+1.1**
IKRD	**Kardeh**	**5.16**	**21**	*e*Pn	Pn	01 14 53.2	+6.4
IKRD				*e*		01 15 21.8	
	comp=Z,166nm,0.3s						
ISFR	**Sfrayin**	**5.28**	**16**	*e*Pn	**Pn**	**01 14 49.0**	**+0.5**
ISFR				*e*		01 16 42.3	
	comp=Z,280nm,0.2s						
ISFR	**Sfrayin**	**5.28**	**16**	*e*Pn	**Pn**	**01 14 49.0**	**+0.5**
IMYA	**Miami**	**5.43**	**36**	*e*Pn	**Pn**	**01 14 52.2**	**+1.8**
IMYA				*e*		01 14 54.5	
	comp=Z,219nm,0.2s						
IMYA	**Miami**	**5.43**	**36**	*e*Pn	**Pn**	**01 14 52.2**	**+1.8**
IMHD	**Mahdasht**	**5.91**	**310**	*e*Pn	**Pn**	**01 14 58.2**	**+1.3**
IMHD				*e*		01 14 59.7	
	comp=Z,157nm,0.1s						
IMHD	**Mahdasht**	**5.91**	**310**	*e*Pn	**Pn**	**01 14 58.2**	**+1.3**
GEYT	**Alibeck**	**6.15**	**14**	Pn	**Pn**	**01 15 00.7**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=199,slow=14,SNR=15						
GEYT				Lg	Lg	01 16 45.4	
	comp=Z,0.1nm,0.3s,baz=208,slow=21,SNR=3.5						
IRAZ	**Razeghan**	**6.25**	**305**	*e*Pn	**Pn**	**01 15 02.7**	**+1.0**
IRAZ				*e*		01 17 00.1	
	comp=Z,231nm,0.4s						
IRAZ	**Razeghan**	**6.25**	**305**	*e*Pn	**Pn**	**01 15 02.7**	**+1.0**
IGZV	**Ghazvin**	**6.63**	**313**	*e*		01 15 10.9	
	comp=Z,264nm,0.2s						
IGZV				*e*Pn	**Pn**	**01 15 08.8**	**+1.9**
BRTR	**Keskin Array B**	**19.82**	**299**	P	**Pn**	**01 18 02.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=128,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**24.86**	**46**	P	**P**	**01 18 52.6**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=231,slow=8.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**53.15**	**262**	P	**P**	**01 22 48.3**	**+0.8**
	comp=Z,1.5nm,1.2s,baz=49,slow=7.3,SNR=3.0						

NNC 04 01:18:57.6±2.5, 42°.18N×85°.10E, h0km, mb3.6, mpv3.2, 6C-4D, Error ellipse: s-maj=21.6km s-min=13.0km az=143.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**4.29**	**287**	⇑Pn	Pn	01 20 03.5	-0.6
PDGK				Pg	Pg	01 20 17.9	-1.9
PDGK				⇓Lg	Lg	01 21 12.7	
MK31	**Makanchi Array**	**5.03**	**337**	⇓Pn	Pn	01 20 14.5	+0.1
	0.5nm,0.4s,baz=146,slow=14,SNR=21						
MK31				Pg	Pg	01 20 30.5	-3.6
	2.0nm,0.5s,baz=147,slow=16,SNR=5.8						
MK31				⇑Lg	Lg	01 21 34.4	
	4.2nm,0.5s,baz=149,slow=29,SNR=3.6						
TKM2	**Tokmak 2**	**7.05**	**279**	Pn	Pn	01 20 41.7	-0.7
	1.7nm,0.5s						
TKM2				⇑Sn	Sn	01 22 03.8	+0.3
	2.2nm,0.6s						
TKM2				⇓Lg	Lg	01 22 43.1	
	6.9nm,0.8s						
AAK	**Ala-Archa**	**7.86**	**277**	⇓Lg	Lg	01 23 09.2	
	7.5nm,1.3s						
KURBB	**Kurchatov Arra**	**9.58**	**334**	⇑Lg	Lg	01 24 01.9	
	9.1nm,0.8s						
KURK	**Kurchatov**	**9.64**	**335**	⇑Lg	Lg	01 24 05.5	
	3.5nm,1.0s						
KK31	**Karatay Array**	**10.79**	**280**	Lg	Lg	01 24 43.0	
	1.7nm,0.8s,baz=92,slow=27,SNR=3.9						
OTUK	**Ortayu**	**10.85**	**308**	⇑Lg	Lg	01 24 43.9	

*IDC **04** 01:24:06.9±0.8, 7°.23N×92°.59E, h0km, mb4.1/12, mb1 4.3/14, mb1mx4.0/40, mbtmp4.2/14, ML4.1/2, Error ellipse: s-maj=37.3km s-min=13.2km az=50.0*
*ISCJB **04** 01:24:08.1±0.5, 7°.10N±0°.10×92°.55E±0°.09, h23km, mb4.1/15, Error ellipse: s-maj=18.0km s-min=7.3km az=42.9*
*NEIC **04** 01:24:11.7±0.5, 7°.19N×92°.59E, h35km, mb4.1/3, Error ellipse: s-maj=18.1km s-min=7.6km az=39.0*
ISC 04 01:24:10.3±0.6, 7°.2N±0°.1×92°.6E±0°.1, h23km, n31, σ1°07/27, mb4.1/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.66**	**124**	Pn	**Pn**	**01 26 01.8**	**+1.1**
	0.5nm,0.3s,baz=336,slow=12,SNR=8.0						
KULM	**Kulim**	**8.22**	**103**	*e*Pn	**Pn**	**01 26 06.9**	**-1.4**
PALK	**Pallekele**	**11.81**	**271**	Pn	**Pn**	**01 26 56.9**	**-0.6**
	5.9nm,0.3s,baz=89,slow=14,SNR=13						
PALK	**Pallekele**	**11.81**	**271**	*e*Pn	**Pn**	**01 26 56.4**	**-1.1**
	31nm,0.9s						
KSM	**Kuching**	**18.54**	**107**	*e*P	**Pn**	**01 28 25.5**	**-0.3**
TAPN	**Taplejung**	**20.58**	**348**	*e*P	**P**	**01 28 48.9**	**+0.9**
	49nm,0.9s						
JIRN	**Jiri**	**21.25**	**344**	*e*P	**P**	**01 28 58.0**	**+2.7**
	45nm,0.8s						
PKI	**Pulchoki**	**21.39**	**342**	*e*P	P	01 29 04.8	+8.0
PKIN	**Phulchoki**	**21.39**	**342**	*e*P	P	01 29 04.5	+7.7
GUN	**Gumba**	**21.57**	**344**	*e*P	**P**	**01 28 58.6**	**-0.2**
KOLN	**Koldanda**	**22.17**	**338**	*e*P	P	01 29 17.7	+13
DANN	**Dangsing**	**22.64**	**339**	*e*P	**P**	**01 29 11.3**	**+1.1**
H08S3	**Diego Garcia H**	**24.88**	**234**	T	T	01 55 20.3	
	baz=53,slow=76,SNR=131						
H08S2	**Diego Garcia H**	**24.89**	**234**	T	T	01 55 24.5	
	baz=53,slow=76,SNR=112						
H08S1	**Diego Carcia H**	**24.90**	**234**	T	T	01 55 30.2	
	baz=53,slow=76,SNR=27						
BATI	**Baumata**	**35.43**	**119**	P	**P**	**01 31 03.3**	**-1.8**

7.7nm,0.4s,baz=34,slow=3.4,SNR=4.3
AAK Ala-Archa 38.75 339 P **P 01 31 33.8 +0.7**
2.4nm,0.9s,baz=152,slow=9.4,SNR=7.1
MKAR Makanchi Array 40.44 349 P **P 01 31 46.5 -0.5**
2.3nm,0.6s,baz=165,slow=8.6,SNR=36
MKAR PcP **PcP 01 33 49.5 -0.1**
0.4nm,0.7s,baz=193,slow=4.4,SNR=2.6
KKAR Karatay Array 40.71 335 *e*P **P 01 31 48.9 -0.3**
1.0nm,0.5s
SONM Songino Array 42.17 14 P **P 01 32 01.5 +0.2**
0.8nm,0.6s,baz=193,slow=9.1,SNR=7.7
SONM PcP **PcP 01 33 56.1 +0.7**
0.4nm,0.7s,baz=193,slow=3.2,SNR=3.2
GEYT Alibeck 43.71 320 P **P 01 32 14.8 +1.0**
2.4nm,0.7s,baz=152,slow=9.9,SNR=8.8
ZALV Zalesovo Beam 47.05 354 P **P 01 32 39.6 -0.3**
0.6nm,0.3s,baz=166,slow=9.0,SNR=7.9
WRA Warramunga Arr 49.13 124 P **P 01 32 57.1 +0.5**
5.6nm,0.7s,baz=306,slow=8.8,SNR=48
WRAB Tennant Creek 49.13 124 *e*P **P 01 32 57.2 +0.6**
6.3nm,0.7s
BVAR Borovoye Array 49.16 342 P **P 01 32 55.8 -0.5**
1.2nm,0.7s,baz=152,slow=6.7,SNR=7.3
ABKAR Akbulak array 50.11 333 *e*P **P 01 33 03.5 -0.2**
1.0nm,0.6s
ASAR Alice Springs 50.67 129 P **P 01 33 09.1 +0.7**
3.4nm,0.9s,baz=309,slow=7.5,SNR=30
STKA Stephens Creek 60.76 133 P **P 01 34 21.5 +1.0**
2.9nm,0.7s,baz=319,slow=6.8,SNR=9.3
FINES FINESS Array B 72.60 332 P **P 01 35 34.2 -1.4**
1.0nm,0.7s,baz=127,slow=8.8,SNR=2.8
GERES GERESS Array B 77.32 318 P **P 01 36 02.4 -0.9**
0.8nm,0.7s,baz=100,slow=7.3,SNR=3.7
TXAR Lajitas Array 140.45 23 PKP **PKPdf 01 43 40.3 +1.7**
0.1nm,0.6s,baz=329,slow=3.4,SNR=3.1

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*IDC **04** 01:45:36.8±3.4, 33°.57S×72°.59W, h0km, mb3.1/1, mb1 3.6/3, mb1mx3.4/27, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=82.1km s-min=34.6km az=172.0*

ISC 04 01:45:34.2±2.3, 34°.25±0°.3×72°.1W±0°.1, h12km, n7, σ3§25/7, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.33**	**57**	⇑*i*P	**Pn**	**01 45 56.5**	**-2.2**
RCDM				*i* S	Sn	01 46 11.8	-4.5
STL	**Santa Lucia**	**1.47**	**58**	⇑*i*P	Pn	01 45 58.0	-2.6
STL				*e*S	Sn	01 46 15.6	-4.2
SJCH	**San Jose de Ma**	**1.59**	**69**	*e*P	**Pb**	**01 46 04.0**	**+0.4**
SJCH				*e*S	**Sn**	**01 46 21.4**	**-1.6**
CFAA	**Coronel Fontan**	**4.19**	**53**	Pn	Pn	01 46 42.0	+3.9
0.5nm,0.3s,baz=224,slow=12,SNR=16							
CFAA				Sn	**Sn**	**01 47 31.1**	**+4.1**
0.3nm,0.3s,baz=335,slow=17,SNR=3.6							
LPAZ	**La Paz**	**18.21**	**12**	P	**Pn**	**01 49 45.5**	**-2.1**
0.1nm,0.3s,baz=184,slow=8.3,SNR=7.0							
TXAR	**Lajitas Array**	**69.88**	**331**	P	**P**	**01 56 45.0**	**-0.1**
0.1nm,0.5s,baz=155,slow=7.0,SNR=3.2							
MKAR	**Makanchi Array**	**156.97**	**49**	PKPab	**PKPab**	**02 06 03.2**	**+3.7**
0.2nm,0.8s,baz=318,slow=1.9,SNR=3.9							

LJU 04 01:48:56.9, 46°.39N×15°.07E, h0km Rockburst, Northwestern Balkan Peninsula

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TAP 04 01:57:55.6, 22°.96N×120°.64E, h17km, ML3.6, 5C-8D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.13**	**336**	⇓*i*P	Pb	01 58 00.3	+0.6
baz=339							
SGST				*i* S	Sb	01 58 03.6	+1.2
baz=339							
SSD	**Sandimen**	**0.21**	**182**	⇓*i*P	Pb	01 58 01.2	+0.1
baz=180							
SSD				S	Sb	01 58 04.8	0.0
baz=180							
STYT	**Tauyuan**	**0.23**	**28**	⇑*i*P	Pb	01 58 01.7	+0.3
baz=35							
STYT				*i* S	Sb	01 58 06.1	+0.9
baz=35							
TWM1	**Shoushan**	**0.24**	**236**	⇑*i*P	Pb	01 58 02.4	+0.8
baz=235							
CHN1	**Nanshi**	**0.24**	**335**	⇓*i*P	Pb	01 58 02.2	+0.5
baz=341							
CHN1				S	Sb	01 58 07.0	+1.3
baz=341							
SGLT	**Jiouru**	**0.27**	**210**	P	Pb	01 58 03.1	+1.0
baz=204							
SGLT				*e*S	Sn	01 58 08.9	-1.7
baz=204							
CHN3	**Shinhua**	**0.28**	**294**	*e*P	Pn	01 58 04.2	-0.7
baz=294							
WTP	**Ta-pu**	**0.28**	**355**	⇓*i*P	Pb	01 58 02.7	+0.4
baz=357							
WTP				S	Sb	01 58 07.8	+0.9
baz=357							
TWK	**Hsinying**	**0.33**	**335**	⇓*i*P	Pb	01 58 03.5	+0.3
baz=337							
TWK				S	Sb	01 58 09.7	+1.4
baz=337							
TAI1	**Yung-k'ang**	**0.39**	**282**	*e*P	Pn	01 58 05.3	-1.1
baz=282							
CHN4	**Tsaushan**	**0.39**	**354**	⇓*i*P	Pb	01 58 04.3	+0.2
baz=354							
CHN4				*i* S	Sb	01 58 10.9	+1.1
baz=354							
ELDTW	**Lidau**	**0.41**	**57**	⇑*i*P	Pb	01 58 04.9	+0.2
baz=48							
ELDTW				S	Sb	01 58 11.7	+1.0
baz=48							
TWG	**Pinlang**	**0.42**	**109**	⇓*i*P	Pb	01 58 05.2	+0.6
baz=112							
TWG				*i* S	Sb	01 58 12.0	+1.3
baz=112							
SCLT	**Jiali**	**0.46**	**297**	*e*P	Pb	01 58 06.2	+0.9
baz=299							
SCLT				S	Sn	01 58 14.9	-0.3
baz=299							
ECL	**Taimali**	**0.46**	**141**	*e*P	Pb	01 58 05.6	+0.3
baz=140							
ECL				S	Sb	01 58 12.4	+0.5
baz=140							
KAU	**Kaohsiung**	**0.50**	**218**	*e*P	Pn	01 58 07.3	-0.6
baz=233							
TTN	**Taitung**	**0.51**	**114**	*e*P	Pn	01 58 07.2	-0.9
baz=113							
TTN				S	Sn	01 58 16.5	+0.1
baz=113							
ALS	**Alishan**	**0.57**	**15**	P	Pb	01 58 07.5	+0.1
baz=16							
ALS				*i* S	Sb	01 58 16.2	+0.6
baz=16							
CHY	**Chiayi**	**0.57**	**340**	*e*P	Pg	01 58 07.0	+0.1
baz=341							
CHY				S	Sn	01 58 16.9	-1.1
baz=341							
CHN2	**Minshiung**	**0.59**	**345**	*e*P	Pb	01 58 07.9	+0.5
baz=345							
CHN2				*e*S	Sn	01 58 17.7	-0.6
baz=345							
SCZT	**Fangliau**	**0.59**	**182**	*i* P	Pb	01 58 07.5	+0.1
baz=176							
SCZT				*e*S	Sb	01 58 15.5	0.0
baz=176							
YUS	**Yu-Shan**	**0.60**	**29**	P	Pg	01 58 08.1	0.0
baz=38							
YUS				S	Sb	01 58 17.7	+0.8
baz=38							
EAST	**Anshuo**	**0.61**	**162**	⇓*i*P	Pb	01 58 08.1	+0.3
baz=156							
EAST				*e*S	Sb	01 58 16.2	0.0
baz=156							
CHN5	**Tsauling**	**0.63**	**3**	*e*P	Pb	01 58 08.5	+0.1
baz=3.0							
CHN5				S	Sn	01 58 18.4	-1.3
baz=3.0							
TAW	**Tawu**	**0.65**	**159**	*i* P	Pb	01 58 08.9	+0.5
baz=158							
TAW				S	Sb	01 58 17.3	+0.1
baz=158							
TWP	**Hsiaoliuchiu**	**0.67**	**203**	P	Pn	01 58 10.7	+0.5
baz=202							
TWP				*i* S	Sn	01 58 23.5	+3.2
baz=202							
CHKT	**Chengkung**	**0.68**	**78**	*e*P	Pb	01 58 09.3	+0.3
baz=92							
TWF1	**Yuli**	**0.72**	**57**	⇑*i*P	Pg	01 58 10.1	+0.4
baz=65							
TWF1				*i* S	Sb	01 58 19.7	+0.4
baz=65							
WGK	**Gukeng**	**0.72**	**354**	*e*P	Pg	01 58 10.4	+0.6
baz=355							
WGK				S	Sn	01 58 22.1	+0.3
baz=355							
EHY	**Hungye**	**0.83**	**49**	⇑*i*P	Pg	01 58 11.8	0.0
baz=49							
EHY				S	Sg	01 58 22.6	-0.1
baz=49							
WNT	**Mingjian**	**0.91**	**2**	*e*P	Pg	01 58 13.3	-0.1
baz=350							
SMLT	**Sun Moon Lake**	**0.95**	**14**	P	Pn	01 58 14.4	+0.1
baz=15							
SMLT				*e*S	Sn	01 58 29.0	+1.5
baz=15							
WDGT	**Dungji**	**0.95**	**288**	*e*P	Pb	01 58 12.7	-0.9
baz=289							
WDGT				*e*S	Sb	01 58 25.6	-0.3
baz=289							
HEN	**Hengchun**	**0.96**	**175**	*e*P	Pn	01 58 14.4	+0.2
baz=171							
HEN				S	Sn	01 58 29.1	+1.7
baz=171							
TYC	**Yuchr**	**0.96**	**12**	*e*P	Pn	01 58 14.6	+0.3
baz=13							
TYC				*e*S	Sn	01 58 29.4	+1.8
baz=13							
TWK1	**Hengchun**	**1.02**	**171**	*e*P	Pg	01 58 15.7	+0.3
baz=171							
TWK1				S	Sn	01 58 30.6	+1.4
baz=171							
TSEB	**Hengchuen, Pin**	**1.08**	**167**	*e*P	Pg	01 58 16.4	-0.2
baz=169							
TSEB				*i* S	Sg	01 58 33.6	+2.8
baz=169							
ESL	**Shilin**	**1.12**	**40**	*e*P	Pg	01 58 16.9	-0.4
baz=40							
ESL				*e*S	Sg	01 58 32.1	+0.2
baz=40							
PNG	**Penghu**	**1.17**	**301**	*e*P	Pn	01 58 15.8	-1.3
baz=302							
PNG				S	Sb	01 58 31.4	-0.7
baz=302							
TCU	**Taichung**	**1.18**	**2**	*e*P	Pg	01 58 18.7	+0.2
baz=350							
LAY	**Lan-yu**	**1.25**	**137**	*e*P	Pn	01 58 17.8	-0.5
baz=125							
WHF	**Hehuan Shan**	**1.31**	**26**	*e*P	Pb	01 58 20.7	+0.4
baz=29							
TWQ1	**Liyutan**	**1.39**	**5**	*e*P	Pb	01 58 21.2	+0.1
baz=6.0							
TWQ1				*e*S	Sg	01 58 40.6	+0.1
baz=6.0							
NSY	**Sanyi**	**1.45**	**4**	*e*P	Pb	01 58 22.8	+0.6
baz=4.0							
NNS	**Nan Shan**	**1.62**	**24**	*e*P	Pb	01 58 24.9	-0.2
baz=10.0							
NSTT	**Nanjuang**	**1.69**	**11**	*e*P	Pn	01 58 24.7	+0.3
baz=354							
NSK	**Sanguang**	**1.83**	**21**	*e*P	Pb	01 58 28.3	-0.4
baz=20							
ENTT	**Nioudou**	**1.87**	**27**	*e*P	Pb	01 58 30.4	+1.0
baz=10.0							
TWC	**Suao**	**1.98**	**34**	*e*P	Pg	01 58 33.2	-0.4
baz=42							

MEX 04 01:59:14.1±0.9, 18°.34N×101°.08W, h70km±20km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.70**	**95**	*e*P	Pn	01 59 27.0	-2.1
ARIG				*i* S	Sn	01 59 38.4	-1.8
ZIIG	**Zihuatanejo**	**0.82**	**206**	*e*P	Pn	01 59 28.3	-2.1
ZIIG				*i* S	Sn	01 59 41.1	-1.3
PLIG	**Platanillo**	**1.50**	**88**	*e*P	Pn	01 59 38.3	-0.9
PLIG				*i* S	Sn	01 59 56.6	-1.6
MMIG	**Aquila**	**2.15**	**269**	*e*P	Pn	01 59 46.7	-1.1
MMIG				*i* S	Sn	02 00 12.7	-0.8

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*GUC **04** 01:59:44.1±0.5, 33°.22S×72°.57W, h26km±5km, ML5.8*

*IDC **04** 01:59:44.6±0.4, 33°.28S×72°.14W, h0km, mb5.1/20, mb1 5.2/24, mb1mx5.2/27, mbtmp5.1/24, ML5.1/4, MS5.8/26, Ms1 5.8/26, ms1mx5.6/33, Error ellipse: s-maj=17.6km s-min=11.7km az=84.0*

*BJI **04** 01:59:47.5, 32°.97S×72°.34W, h25km, mB5.8/33, Ms6.2/41, Ms7 6.1/47*

*NEIC **04** 01:59:48.7±0.1, 33°.22S×72°.13W, mb5.6/160, MS5.9/264, MW6.0, MW6.0, MW6.0, ML5.8(GUC), Error ellipse: s-maj=4.3km s-min=3.1km az=57.0 Best double couple: NP1:ϕ_s178.00000°, δ65.00000°, λ71.00000°. NP2: ϕ_s37.00000°, δ31.00000°, λ125.00000°. Principal axes: T 1.1700, Plg64.0000°, Azm54.0000°; N 0.0300, Plg17.0000°, Azm186.0000°; P -1.2000, Plg17.0000°, Azm281.0000°;*

NEIC Felt [IV] at Buin, Casablanca, Los Andes, Maipo, Quillota, San Antonio, San Felipe, Santiago and Valparaiso; [III] at Casas de Chacabuco, Quilpue, Villa Alemana and Vina del Mar; [II] at La Ligua and Rancagua. Also felt at Cabildo, Calera, Colina, Lampa, Limache, Penaflor, Puente Alto, San Bernardo, San Fernando and Talagante.

*GCMT **04** 01:59:48.7±0.1, 33°.45S×72°.55W, h13km, MW6.0/123, Moment Tensor Solution. s107,c198; s123,c406; Duration: 2s5 Moment tensor: Scale 10^{18}Nm; M_{rr}0.83±.01; $M_{\theta\theta}$-0.01±.01; $M_{\phi\phi}$-0.82±.01; $M_{r\theta}$-0.04±.02; $M_{\theta\phi}$-0.09±.01; $M_{\phi r}$-1.06±.03; Best double couple: $M_0$1.34800×10^{18} NP1:ϕ_s183.00000°, δ71.00000°, λ88.00000°. NP2:ϕ_s10.00000°, δ19.00000°, λ97.00000°. Principal axes: T 1.3500, Plg64.0000°, Azm89.0000°; N -0.0040, Plg2.0000°, Azm184.0000°; P -1.3460, Plg26.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*ISCJB **04** 01:59:49.7±0.8, 33°.09S±0°.04×72°.01W±0°.06, h39km±6km, mb5.5/196, MS5.9/299 Error ellipse: s-maj=9.1km s-min=4.3km az=147.5*

*MOS **04** 01:59:49.6±1.0, 33°.01S×72°.12W, h33km, mb5.7/65, MS5.9/43, Error ellipse: s-maj=11.9km s-min=7.0km az=103.3*

*NEIC **04** 01:59:50.0±0.0, 33°.15S×72°.06W, h34km Best double couple: NP1:ϕ_s183.00000°, δ69.00000°, λ97.00000°. NP2:ϕ_s342.00000°, δ21.00000°, λ70.00000°. Principal axes: T 1.2100, Plg64.0000°, Azm105.0000°; N -0.2800, Plg7.0000°, Azm0.0000°; P -0.9400, Plg24.0000°, Azm267.0000°;*

*NEIC **04** 02:00:08.6±0.0, 33°.28S×71°.60W, h10km Best double couple: NP1:ϕ_s191.00000°, δ72.00000°, λ96.00000°. NP2:ϕ_s353.00000°, δ19.00000°, λ73.00000°. Principal axes: T 1.1900, Plg62.0000°, Azm109.0000°; N -0.0400, Plg5.0000°, Azm8.0000°; P -1.1500, Plg26.0000°, Azm276.0000°;*

ISC 04 01:59:49.3±0.5, 33°.22S±0°.04×72°.19W±0°.04, h30km±2km, h30km:pP-P, n1174, σ1§19/1078, mb5.5/196, MS5.9/299, 224C-236D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.50**	**68**	*e*P1	**Pb**	**01 59 58.9**	**-0.8**
IHA	**Instituto Hidr**	**0.50**	**68**	*e*P	**Pb**	**01 59 58.9**	**-0.8**
RCDM	**Rinconada Maip**	**1.19**	**104**	⇑*i*P	**Pn**	**02 00 09.3**	**-0.7**
RCDM				*i* S	**Sb**	**02 00 28.9**	**+2.5**
RCDM				AML	AML	02 00 36.6	
comp=N,98μm,0.8s							
RCDM	**Rinconada Maip**	**1.19**	**104**	⇑*i*P	**Pn**	**02 00 09.3**	**-0.7**
RCDM				*i* S	**Sb**	**02 00 28.9**	**+2.5**
PEL	**Peldehue**	**1.27**	**87**	⇓*i*P	**Pn**	**02 00 11.4**	**+0.4**
PEL				*i* S	**Sb**	**02 00 31.5**	**+2.9**
PEL	**Peldehue**	**1.27**	**87**	⇓*i*P	**Pn**	**02 00 11.4**	**+0.4**
PEL				*i* S	**Sb**	**02 00 31.5**	**+2.9**
PEL				AML	AML	02 00 41.6	
comp=N,463μm,0.5s							
PEL	**Peldehue**	**1.27**	**87**	⇓*i*P	**Pn**	**02 00 11.4**	**+0.4**
PEL				*i* S	**Sb**	**02 00 31.5**	**+2.9**
ANTU	**Antumapu**	**1.35**	**105**	⇑*i*P	**Pn**	**02 00 12.4**	**+0.3**
ANTU				*i* S	**Sb**	**02 00 33.8**	**+2.8**
ANTU				AML	AML	02 00 41.4	
comp=N,209μm,0.5s							
ANTU	**Antumapu**	**1.35**	**105**	⇑*i*P	**Pn**	**02 00 12.4**	**+0.3**
ANTU				*i* S	**Sb**	**02 00 33.8**	**+2.8**
FSR	**Penalolen**	**1.42**	**101**	*e*P4	**Pb**	**02 00 14.8**	**-0.4**
FSR				*i* S	**Sb**	**02 00 35.9**	**+3.0**
FSR	**Penalolen**	**1.42**	**101**	P	**Pb**	**02 00 14.8**	**-0.4**
FSR				*i* S	**Sb**	**02 00 35.9**	**+3.0**
CMCH	**Combarbala**	**2.27**	**27**	*e*P	**Pn**	**02 00 23.5**	**-1.4**
CMCH	**Combarbala**	**2.27**	**27**	*e*P	**Pn**	**02 00 23.5**	**-1.4**
CCSP	**San Pedro de C**	**3.70**	**191**	⇑*i*P	Pn	02 00 39.9	-4.5
CCSP	**San Pedro de C**	**3.70**	**191**	⇑*i*P	Pn	02 00 39.9	-4.5
CFAA	**Coronel Fontan**	**3.71**	**65**	Pn	**Pn**	**02 00 45.9**	**+1.2**
comp=N,3.2nm,0.3s,baz=242,slow=12,SNR=132							
CFAA				Lg	Lg	02 01 44.5	
comp=N,47nm,0.3s,baz=323,slow=20,SNR=6.0							
CFAA				LR	LR	02 01 44.6	
comp=N,6μm,18.8s,baz=295,slow=32							
CFAA	**Coronel Fontan**	**3.71**	**65**	*e*Pn	**Pn**	**02 00 45.9**	**+1.2**
CFAA				Lg	Lg	02 01 44.5	
VACH	**Vallenar**	**4.79**	**15**	*e*P1	**Pn**	**02 00 57.0**	**-2.4**
VACH				*i* S	**Sn**	**02 01 52.5**	**-1.4**
VACH	**Vallenar**	**4.79**	**15**	*e*P	**Pn**	**02 00 57.0**	**-2.4**
VACH				*i* S	**Sn**	**02 01 52.5**	**-1.4**
CPCH	**Copiapo**	**6.05**	**16**	*e*P	**Pn**	**02 01 14.1**	**-2.7**
CPCH	**Copiapo**	**6.05**	**16**	*e*P	**Pn**	**02 01 14.1**	**-2.7**
VLCH	**Valdivia**	**6.63**	**187**	*e*P	Pn	02 01 20.7	-3.9
VLCH	**Valdivia**	**6.63**	**187**	*e*P	Pn	02 01 20.7	-3.9
PLCA	**Paso Flores**	**7.62**	**171**	*e*P	**Pn**	**02 01 36.7**	**-1.5**
PLCA	**Paso Flores**	**7.62**	**171**	Pn	**Pn**	**02 01 36.6**	**-1.7**
comp=N,14nm,0.3s,baz=334,slow=11,SNR=90							
PLCA				Lg	Lg	02 03 34.8	
comp=N,0.6nm,0.3s,baz=308,slow=19,SNR=1.7							
PLCA				LR	LR	02 04 24.5	
comp=N,35μm,20.0s,baz=350,slow=37							
TRQA	**Tornquist**	**9.61**	**123**	*e*Pn	**Pn**	**02 02 06.4**	**+0.8**
LVC	**Limon Verde**	**10.95**	**16**	*e*Pn	**Pn**	**02 02 21.4**	**-2.8**
CPUP	**Villa Florida**	**14.61**	**66**	P	**Pn**	**02 03 13.5**	**-0.4**
CPUP						02 06 03.1	
CPUP				pmax	pmax		
comp=Z,1.0nm,0.3s							
CPUP				MLR	MLR		
comp=Z,60μm,19.7s							
CPUP	**Villa Florida**	**14.61**	**66**	Pn	**Pn**	**02 03 13.5**	**-0.4**
comp=Z,1.1nm,0.3s,baz=222,slow=11,SNR=9.3							
CPUP				Sn	Sn	02 06 03.1	+8.3
baz=17,slow=19,SNR=1.9							
CPUP				LR	LR	02 09 20.6	
comp=Z,60μm,19.6s,baz=232,slow=40							
LPAZ	**La Paz**	**17.25**	**13**	P	**Pn**	**02 03 49.4**	**+0.8**
LPAZ				pmax	pmax		
comp=Z,3.0nm,0.3s							
LPAZ	**La Paz**	**17.25**	**13**	P	**Pn**	**02 03 49.4**	**+0.8**
comp=Z,2.6nm,0.3s,baz=182,slow=6.7,SNR=212							
SIV	**San Ignacio**	**19.88**	**33**	P	**P**	**02 04 18.2**	**0.0**
comp=Z,3.8nm,0.3s,baz=232,slow=13,SNR=122							
SIV				Lg	Lg	02 10 23.1	
comp=Z,0.1nm,0.3s,baz=292,slow=18,SNR=1.8							
SIV				LR	LR	02 13 19.0	
comp=Z,43μm,19.0s,baz=230,slow=41							
EFI	**East Falkland**	**21.12**	**155**	P	**P**	**02 04 30.0**	**-1.3**
comp=Z,3μm,0.6s,SNR=23							
EFI	**East Falkland**	**21.12**	**155**	*e*P	**P**	**02 04 29.5**	**-1.8**
EFI	**East Falkland**	**21.12**	**155**	*e*P	**P**	**02 04 29.9**	**-1.5**
comp=Z,310nm,0.8s							
EFI				LR	LR		
comp=Z,73μm,19.0s							
NNA	**Nana**	**21.56**	**348**	*e*P	**P**	**02 04 36.8**	**+0.4**
NNA				pmax	pmax		
comp=Z,152nm,1.0s							
NNA	**Nana**	**21.56**	**348**	P	**P**	**02 04 37.9**	**+1.5**
comp=Z,97nm,1.0s,baz=177,slow=11,SNR=24							
NNA				LR	LR	02 11 21.9	
comp=Z,19μm,19.2s,baz=164,slow=32							
NNA	**Nana**	**21.56**	**348**	*e*P	**P**	**02 04 36.8**	**+0.4**
comp=Z,152nm,1.0s							
USHA	**Ushuaia**	**21.77**	**174**	P	**P**	**02 04 37.7**	**-0.6**
comp=Z,71nm,0.9s,baz=289,slow=6.9,SNR=10							
USHA				LR	LR	02 12 42.3	
comp=Z,36μm,20.8s,baz=330,slow=36							
SAML	**Samuel**	**25.54**	**21**	*e*P	**P**	**02 05 16.1**	**+0.6**
comp=Z,146nm,0.8s							
SAML				LR	LR		
comp=Z,13μm,22.0s							
ATAH	**Atahualpa**	**26.58**	**346**	P	**P**	**02 05 26.9**	**+1.6**
comp=Z,20nm,1.1s,baz=176,slow=9.4,SNR=4.7							
ATAH				LR	LR	02 14 43.8	
comp=Z,19μm,18.8s,baz=190,slow=34							
BDFB	**Brasilia**	**28.01**	**57**	P	**P**	**02 05 37.3**	**-0.5**
BDFB				pmax	pmax		
comp=Z,82nm,0.9s							
BDFB	**Brasilia**	**28.01**	**57**	P	**P**	**02 05 37.3**	**-0.5**
comp=Z,82nm,0.9s,baz=229,slow=8.3,SNR=56							
BDFB				LR	LR	02 17 23.5	
comp=Z,24μm,21.4s,baz=225,slow=38							
PMSA	**Palmer Station**	**31.98**	**173**	LR	LR	02 19 13.3	
comp=Z,36μm,18.5s,baz=340,slow=37							
RPN	**Rapa Nui**	**32.56**	**271**	LR	LR	02 16 09.5	
comp=Z,13μm,18.6s,baz=94,slow=30							
HOPE	**Hope Point**	**32.77**	**141**	*e*P	**P**	**02 06 20.6**	**+1.2**
comp=Z,188nm,1.1s							
HOPE				LR	LR		
comp=Z,20μm,20.0s							
OTAV	**Otavalo**	**33.80**	**349**	*e*P	**P**	**02 06 27.2**	**-2.0**
comp=Z,481nm,2.5s							
OTAV				LR	LR		
comp=Z,10μm,19.0s							
ROSC	**El Rosal**	**37.92**	**357**	P	**P**	**02 07 06.8**	**+2.4**
comp=Z,8.0nm,0.5s,baz=164,slow=15,SNR=10							
SDV	**Santo Domingo**	**41.90**	**2**	*e*P	**P**	**02 07 38.1**	**+0.8**
comp=Z,49nm,0.8s							
SDV				LR	LR		
comp=Z,15μm,20.0s							
RCBR	**Riachuelo**	**43.35**	**59**	P	**P**	**02 07 48.4**	**-0.5**
comp=Z,38nm,1.2s,baz=218,slow=8.9,SNR=13							
RCBR				LR	LR	02 26 35.1	
comp=Z,27μm,18.4s,baz=214,slow=37							
RCBR	**Riachuelo**	**43.35**	**59**	*e*P	**P**	**02 07 48.9**	**-0.1**
comp=Z,197nm,1.4s							
PCRV	**Puerto La Cruz**	**43.75**	**11**	P	**P**	**02 07 52.0**	**-0.1**
comp=Z,36nm,0.9s,baz=194,slow=3.1,SNR=5.0							
PCRV				LR	LR	02 27 24.3	
comp=Z,32μm,19.1s,slow=38							
JTS	**JuntasAbangare**	**44.94**	**342**	*e*P	**P**	**02 08 02.2**	**+0.6**
JTS				pmax	pmax		
comp=Z,39nm,1.0s							
JTS				MLR	MLR		
comp=Z,6μm,21.0s							
JTS	**JuntasAbangare**	**44.94**	**342**	P	**P**	**02 08 01.4**	**-0.2**
comp=Z,18nm,0.9s,baz=156,slow=5.8,SNR=6.9							
JTS	**JuntasAbangare**	**44.94**	**342**	*e*P	**P**	**02 08 02.2**	**+0.6**
comp=Z,40nm,1.0s							
JTS				LR	LR		
comp=Z,6μm,21.0s							
GRGR	**Grenville**	**46.20**	**14**	PFAKE		02 08 20.0	+8.4
GRGR				LR	LR		
comp=Z,14μm,19.0s							
BBGH	**Gun Hill**	**47.65**	**17**	PFAKE		02 08 30.0	+7.1
BBGH				LR	LR		
comp=Z,22μm,22.0s							
TRIS	**Tristan da Cun**	**48.41**	**112**	PFAKE		02 08 40.0	+11
TRIS				LR	LR		
comp=Z,11μm,18.0s							
FDF	**Fort de France**	**48.83**	**14**	*e*P	**P**	**02 08 30.9**	**-1.1**
FDF				pmax	pmax		
comp=Z,54nm,0.8s							
FDF	**Fort de France**	**48.83**	**14**	*e*P	**P**	**02 08 30.9**	**-1.1**
comp=Z,54nm,0.8s							
VNA3	**Neumayer Olymp**	**50.13**	**158**	P	**P**	**02 08 42.1**	**+0.7**
VNA1

comp=Z,14µm,18.2s
SEUS St. Eustatius 51.19 11 PFAKE 02 09 00.0 +10
SEUS LR LR
comp=Z,16µm,18.2s
OBIP Obispado Ponce 51.25 7 *e*P **P 02 08 49.5 -0.8**
comp=Z,83nm,0.8s
SABA Saba 51.27 11 *e*P **P 02 08 50.5 0.0**
comp=Z,292nm,0.8s
SABA LR LR
comp=Z,15µm,19.3s
CELP Cerrillos 51.28 7 *e*P **P 02 08 50.5 0.0**
CPD Cerro la Pandu 51.32 8 *e*P **P 02 08 50.6 -0.2**
CPD pmax pmax
comp=Z,63nm,1.1s
CPD Cerro la Pandu 51.32 8 *e*P **P 02 08 50.6 -0.2**
comp=Z,63nm,1.1s
LSP Las Mesas 51.34 6 *e*P **P 02 08 50.8 -0.2**
MPR Mayaguez 51.37 6 *e*P **P 02 08 49.8 -1.3**
comp=Z,51nm,1.2s
MPR LR LR
comp=Z,5µm,18.7s
MTDJ Mount Denham 51.41 354 PFAKE 02 09 00.0 +8.4
MTDJ LR LR
comp=Z,8µm,19.0s
HUMP Col San Antoni 51.43 8 *e*P **P 02 08 51.2 -0.4**
comp=Z,56nm,1.0s
HUMP LR LR
comp=Z,12µm,19.4s
LGNH L0ogne 51.44 360 PFAKE 02 09 00.0 +8.3
LGNH LR LR
comp=Z,5µm,19.9s
PAPH Port-au-Prince 51.45 360 PFAKE 02 09 00.0 +8.2
PAPH LR LR
comp=Z,8µm,18.6s
LRS Lares 51.47 7 *e*P **P 02 08 51.7 -0.2**
AOPR Arecibo Observ 51.54 7 *e*P **P 02 08 51.7 -0.7**
comp=Z,61nm,0.9s
CBYP Canovanas 51.55 8 *e*P **P 02 08 52.3 -0.3**
comp=Z,126nm,1.3s
CBYP LR LR
comp=Z,10µm,19.8s
AGP Aguadilla 51.56 6 PFAKE 02 09 00.0 +7.4
AGP LR LR
comp=Z,13µm,19.8s
ANWB Willy Bob 51.57 13 *e*P **P 02 08 51.1 -1.5**
comp=Z,125nm,0.8s
ANWB LR LR
comp=Z,12µm,18.0s
SMRT St. Maarten 51.72 11 *e*P **P 02 08 53.0 -0.8**
comp=Z,116nm,1.1s
SMRT LR LR
comp=Z,16µm,18.5s
STVI Saint Thomas 51.74 9 PFAKE 02 09 10.0 +16
STVI LR LR
comp=Z,13µm,19.1s
SDDR Presa de Saban 51.91 1 *e*P **P 02 08 57.0 +1.7**
comp=Z,42nm,0.9s
SDDR LR LR
comp=Z,7µm,18.0s
SMN1 Samana, DR 52.18 3 *e*P **P 02 08 56.6 -0.7**
SNAA Sanae 52.36 158 P **P 02 08 58.0 0.0**
SNAA Sanae 52.36 158⇑*i*P **P 02 08 57.9 -0.2**
SNAA Sanae 52.36 158⇓*i*P **P 02 08 58.4 +0.3**
SNAA pmax pmax
comp=Z,147nm,1.4s
SNAA Sanae 52.36 158 P **P 02 08 58.1 0.0**
comp=Z,25nm,1.0s,baz=282,slow=7.1,SNR=30
SNAA LR LR 02 32 12.2
comp=Z,4µm,18.2s,baz=294,slow=37
SNAA Sanae 52.36 158 *e*P **P 02 08 58.5 +0.4**
comp=Z,153nm,0.9s
GTBY Guantanamo Bay 52.92 357 PFAKE 02 09 20.0 +17
GTBY LR LR
comp=Z,7µm,18.0s
GRTK Grand Turk 54.43 1 PFAKE 02 09 30.0 +16
GRTK LR LR
comp=Z,7µm,19.0s
TEIG Tepich 55.32 342 LR LR 02 29 32.8
comp=Z,2µm,21.1s,baz=152,slow=32
RKT Rikitea 55.54 263 *e*S **S 02 17 07.2 +1.7**
comp=Z,5µm,27.8s
RKT *e*LQ LQ 02 23 15.6
comp=Z,2µm,29.2s
RKT *e*LR LR 02 25 25.6
comp=Z,8µm,28.2s,baz=116
RKT Rikitea 55.54 263 *e*T T 03 09 05.1
comp=Z,1.7nm,0.3s
QSPA South Pole Qui 57.02 180 P **P 02 09 32.0 0.0**
comp=Z,57nm,0.9s,baz=115,slow=1.0,SNR=3.4
QSPA LR LR 02 32 58.6
comp=Z,10µm,19.1s,baz=170,slow=35
NVL N'lazarevskaya 57.09 157 *e*P **P 02 09 31.3 -0.9**
NVL *e*S **S 02 17 24.8 0.0**
NVL *e* 02 19 18.2
NVL *e*SS **SS 02 21 13.5 +0.3**
NVL pmax pmax
comp=Z,79nm,0.9s
ASCN Ascension 58.88 78 *e*P **P 02 09 46.0 +0.4**
comp=Z,116nm,0.8s
ASCN LR LR
comp=Z,14µm,21.0s
SHEL Horse Pasture 61.89 91 P **P 02 10 07.6 +1.3**
comp=Z,656nm,1.0s,SNR=7.5
SHEL Horse Pasture 61.89 91 *e*P **P 02 10 07.5 +1.3**
SHEL pmax pmax
comp=Z,112nm,0.9s
SHEL MLR MLR
comp=Z,5µm,18.0s
SHEL Horse Pasture 61.89 91 *e*P **P 02 10 07.5 +1.3**
comp=Z,112nm,0.9s
SHEL LR LR
comp=Z,5µm,18.0s
SBA Scott Base 63.81 192 *e*P **P 02 10 20.5 +2.4**
SBA pmax pmax
comp=Z,336nm,2.3s
SBA MLR MLR
comp=Z,8µm,19.0s
SBA Scott Base 63.81 192 *e*P **P 02 10 20.5 +2.4**
comp=Z,336nm,2.3s
SBA LR LR
comp=Z,8µm,19.0s
035Z Hargill 64.25 334⇓P **P 02 10 23.0 +1.5**
baz=65
035A Encino 64.69 334⇑P **P 02 10 25.8 +1.4**
baz=65,SNR=18
VNDA Vanda 64.84 191 P **P 02 10 24.9 +0.1**
VNDA pmax pmax
comp=Z,3.0nm,0.9s
VNDA Vanda 64.84 191 P **P 02 10 24.9 +0.1**
comp=Z,4.2nm,1.1s,baz=164,slow=2.8,SNR=5.0
034A Hebbronville 65.02 334⇑P **P 02 10 27.8 +1.2**
baz=65,SNR=23
TIGA Tifton 65.20 349⇑P **P 02 10 27.4 -0.2**
baz=66
TIGA Tifton 65.20 349 *e*P **P 02 10 27.3 -0.3**
comp=Z,623nm,2.3s
934A Benavides 65.45 334⇑P **P 02 10 30.6 +1.3**
baz=66,SNR=9.4
933A Laredo 65.74 334⇑P **P 02 10 32.3 +1.1**
baz=66,SNR=11
835A Beeville 65.83 335⇓P **P 02 10 33.3 +1.6**
baz=66,SNR=8.3
834A Tilden 65.94 335⇓P **P 02 10 33.7 +1.3**
baz=66,SNR=37
735A Kenedy 66.34 336⇓P **P 02 10 36.4 +1.4**
baz=67,SNR=9.6
NHSC New Hope 66.40 353 *e*P **P 02 10 35.1 -0.1**
comp=Z,439nm,1.8s
833A Chaparral WMA, 66.42 334⇓P **P 02 10 36.3 +0.8**
baz=67,SNR=39
734A La Parita Cree 66.60 335⇓P **P 02 10 37.7 +1.0**
baz=67
832A Faith Ranch, C 66.60 333⇑P **P 02 10 37.5 +0.8**
baz=67,SNR=41
SYO Syowa Base 66.64 159⇓*e*P **P 02 10 33.7 -2.8**
636A Smothers Creek 66.66 336⇓P **P 02 10 37.9 +0.8**
baz=67,SNR=22
SACV Santiago Islan 66.67 52 PFAKE 02 10 50.0 +13
SACV LR LR
comp=Z,9µm,18.0s
HKT Hockley 66.69 338 *e*P **P 02 10 38.0 +0.9**
HKT pmax pmax
comp=Z,129nm,1.7s
HKT MLR MLR
comp=Z,4µm,21.0s
HKT Hockley 66.69 338 *e*P **P 02 10 38.0 +0.9**
comp=Z,129nm,1.7s
HKT LR LR
comp=Z,4µm,21.0s
733A Divot King Ran 66.75 334⇑P **P 02 10 38.3 +0.7**
baz=67,SNR=7.2
635A Leesville 66.82 336⇑P **P 02 10 38.6 +0.6**
baz=67,SNR=6.4
538A Harpers Horsep 66.84 338⇑P **P 02 10 39.8 +1.6**
baz=67
537A Green Hill Far 66.97 337⇑P **P 02 10 40.1 +1.1**
baz=67,SNR=6.0
732A Laxson Ranch, 67.00 334⇓P **P 02 10 39.8 +0.5**
baz=67,SNR=52
634A China Grove, S 67.01 335⇓P **P 02 10 40.1 +0.8**
baz=67
GOGA Godfrey 67.12 350 *e*P **P 02 10 39.8 -0.1**
GOGA pmax pmax
comp=Z,496nm,2.8s
GOGA MLR MLR
comp=Z,4µm,21.0s
GOGA Godfrey 67.12 350 *e*P **P 02 10 39.8 -0.1**
comp=Z,496nm,2.8s
GOGA LR LR
comp=Z,4µm,21.0s
536A Bastrop 67.21 337⇑P **P 02 10 41.5 +1.0**
baz=68,SNR=8.4
438A Sam Houston St 67.32 338⇑P **P 02 10 42.3 +1.1**
baz=68,SNR=9.8
535A Dale 67.33 336⇑P **P 02 10 42.3 +1.0**
baz=68
VBMS Vicksburg 67.34 343 *e*P **P 02 10 42.3 +1.0**
comp=Z,66nm,0.9s
LRAL Lakeview Retre 67.36 347 *e*P **P 02 10 41.4 0.0**
comp=Z,310nm,2.6s
633A Saathoff Ranch 67.37 335⇓P **P 02 10 42.4 +0.8**
baz=68,SNR=23
TBI Tubuai 67.38 256 *e*T T 03 23 51.3
comp=Z,18nm,0.3s
340A Bronson 67.47 340⇓P **P 02 10 42.8 +0.7**
baz=68,SNR=9.3
LPIG La Paz 67.58 322 LR LR 02 34 51.3
comp=Z,1µm,19.1s,baz=142,slow=31
339A Huntington 67.59 339⇓P **P 02 10 43.5 +0.6**
baz=68,SNR=16
437A Phantom Ranch, 67.61 338⇑P **P 02 10 43.7 +0.7**
baz=68
632A Uvalde 67.64 334⇑P **P 02 10 44.1 +0.7**
baz=68,SNR=43
534A Blanco 67.64 335⇓P **P 02 10 44.0 +0.6**
baz=68
436A Wall Ranch, Ga 67.76 337⇑P **P 02 10 45.0 +1.0**
baz=68
338A Crockett 67.84 339⇓P **P 02 10 45.5 +1.0**
baz=68,SNR=5.6
631A Perdido Creek 67.85 333⇓P **P 02 10 45.1 +0.5**
baz=68,SNR=19
533A Kerrville 67.88 335⇑P **P 02 10 45.3 +0.5**
baz=68,SNR=15
337A Centerville 67.98 338⇑P **P 02 10 46.6 +1.2**
baz=68,SNR=7.3
NATX Nacogdoches 68.02 339 *e*P **P 02 10 46.8 +1.2**
comp=Z,64nm,0.8s
435B Jarrell 68.03 337⇑P **P 02 10 46.9 +1.2**
baz=68
239A Gary 68.21 340⇑P **P 02 10 48.2 +1.4**
baz=69
532A Rocksprings 68.24 334⇑P **P 02 10 47.9 +0.7**
baz=69,SNR=84
434A Burnet 68.29 336⇓P **P 02 10 48.0 +0.7**
baz=69,SNR=30
CNNC Cliffs of the 68.31 355 *e*P **P 02 10 47.3 0.0**
comp=Z,49nm,0.8s
336A Riesel 68.35 337⇑P **P 02 10 48.4 +0.7**
baz=69,SNR=18
238A Jacksonville 68.38 339⇓P **P 02 10 48.8 +0.9**
baz=69,SNR=6.5
335A Moody 68.44 337⇑P **P 02 10 48.5 +0.2**
baz=69,SNR=7.8
531A Rocksprings 68.51 334⇓P **P 02 10 49.2 +0.3**
baz=69,SNR=33
433A Art 68.52 335⇓P **P 02 10 49.0 +0.2**
baz=69,SNR=60
JCT Junction City 68.53 335 *e*P **P 02 10 49.3 +0.4**
JCT pmax pmax
comp=Z,85nm,0.9s
JCT Junction City 68.53 335⇑P **P 02 10 49.2 +0.4**
baz=69,SNR=33
JCT Junction City 68.53 335 *e*P **P 02 10 49.3 +0.4**
comp=Z,85nm,0.9s
KMSC Kings Mountain 68.54 352⇑P **P 02 10 48.8 0.0**
baz=69,SNR=7.2
KMSC Kings Mountain 68.54 352 *e*P **P 02 10 48.8 0.0**
comp=Z,32nm,0.9s
KMSC LR LR
comp=Z,7µm,18.3s
237A Washetta, Mont 68.59 339⇓P **P 02 10 50.1 +0.9**
baz=69,SNR=9.6
334A Lometa 68.75 336⇓P **P 02 10 50.8 +0.6**
baz=69,SNR=29
530A J-C Ranch, Com 68.80 333⇑P **P 02 10 51.4 +0.8**
baz=69,SNR=55
MEH Mehetia 68.83 262 *e*T T 03 25 41.9
comp=Z,38nm,0.2s
432A Menard 68.88 335⇑P **P 02 10 51.5 +0.4**
baz=69,SNR=17
138A Matatall Enter 68.99 339⇓P **P 02 10 52.5 +0.9**
baz=69
LTX Lajitas 68.99 331 *e*P **P 02 10 52.4 +0.5**
LTX Lajitas 68.99 331 *e*P **P 02 10 52.4 +0.5**
TXAR Lajitas Array 68.99 331 P **P 02 10 52.4 +0.5**
TXAR pmax pmax
comp=Z,9.0nm,0.8s
TXAR Lajitas Array 68.99 331 P **P 02 10 52.4 +0.5**
comp=Z,8.5nm,0.8s,baz=152,slow=8.2,SNR=62
TXAR LR LR 02 37 08.8
comp=Z,8µm,18.3s,baz=0.0,slow=32
431A Sonora 69.00 334⇑P **P 02 10 52.3 +0.5**
baz=69
333A Richland Sprin 69.00 336⇑P **P 02 10 52.0 +0.2**
baz=69,SNR=36
WHTX Lake Whitney, 69.10 337⇑P **P 02 10 52.7 +0.4**
baz=69,SNR=19
WHTX Lake Whitney, 69.10 337 *e*P **P 02 10 52.9 +0.6**
comp=Z,55nm,0.8s
WHTX LR LR
comp=Z,2µm,19.6s
529A Stev Forest Ra 69.11 332⇑P **P 02 10 53.4 +0.8**
baz=69,SNR=33
137A Heron Place, G 69.13 339⇓P **P 02 10 53.5 +1.0**
baz=70,SNR=5.7
SWET Sewanee 69.28 348 *e*P **P 02 10 53.3 -0.2**
comp=Z,54nm,0.8s
OXF Oxford 69.28 345 *e*P **P 02 10 53.3 -0.1**
OXF pmax pmax
comp=Z,91nm,0.9s
OXF Oxford 69.28 345 *e*P **P 02 10 53.3 -0.1**
comp=Z,92nm,0.9s
332A Millersview 69.32 335⇓P **P 02 10 53.9 +0.1**
baz=70,SNR=25
430A Baggett Ranch, 69.33 333⇑P **P 02 10 54.2 +0.3**
baz=70,SNR=29
234A Clairette 69.34 337⇑P **P 02 10 54.2 +0.3**
baz=70,SNR=32
429A Davenport Ranc 69.43 333⇓P **P 02 10 55.2 +0.7**
baz=70,SNR=33
331A San Angelo 69.50 334⇓P **P 02 10 55.2 +0.2**
baz=70,SNR=34
233A Rising Star 69.61 336⇓P **P 02 10 56.0 +0.4**
baz=70,SNR=25
135A Vickery Place, 69.61 337⇓P **P 02 10 56.0 +0.5**
baz=70
232A Coleman 69.75 335⇑P **P 02 10 56.6 +0.1**
baz=70,SNR=18
134A White-Moore Ra 69.84 337⇓P **P 02 10 57.4 +0.5**
baz=70
TVO Taravao 69.86 262 *e*T T 03 26 58.9
comp=Z,1.4nm,0.3s
330A Mertzon 69.86 334⇑P **P 02 10 57.3 +0.1**
baz=70,SNR=27
231A Bronte 70.03 335⇑P **P 02 10 58.2 0.0**
baz=70,SNR=20
TIAR Tiarei 70.04 262 *e*T T 03 27 13.3
comp=Z,3.5nm,0.2s
133A Hamilton Ranch 70.15 336⇓P **P 02 10 59.2 +0.3**
baz=70,SNR=13
TZTN Tazewell 70.21 350 PFAKE 02 11 10.0 +11
TZTN LR LR
comp=Z,5µm,18.9s
PPT2 Papeete2 70.22 262 *e*S **S 02 20 11.1 +1.3**
comp=Z,6µm,22.8s
PPT2 Papeete2 70.22 262 *e*LR LR 02 32 07.4
comp=Z,11µm,28.5s,baz=115
UALR University of 70.23 342 *e*P **P 02 10 59.7 +0.5**
comp=Z,32nm,0.9s
PPT Papeete 70.23 262 LR LR 02 34 35.4
comp=Z,4µm,18.4s,baz=120,slow=30
329A Wagon Wheel Ra 70.24 333⇓P **P 02 11 00.0 +0.6**
baz=71,SNR=34
230A Sterling City 70.27 334⇑P **P 02 10 59.7 0.0**
baz=71,SNR=8.7
Z35A Perchaven, San 70.27 338⇑P **P 02 11 00.1 +0.5**
baz=71,SNR=18
MIAR Mount Ida 70.33 341 *e*P **P 02 11 00.6 +0.7**
MIAR pmax pmax
comp=Z,91nm,1.4s
MIAR Mount Ida 70.33 341 *e*P **P 02 11 00.6 +0.7**
comp=Z,91nm,1.4s
ABTX Abilene, Hawle 70.42 336⇑P **P 02 11 00.8 +0.3**
baz=71,SNR=21
ABTX Abilene, Hawle 70.42 336 *e*P **P 02 11 01.0 +0.5**
comp=Z,84nm,0.8s
VWCC Virginia Weste 70.48 353 *e*P **P 02 11 00.9 +0.2**
BLA Blacksburg 70.49 353 PFAKE 02 11 10.0 +9.2
BLA LR LR
comp=Z,3µm,20.0s
WVT Waverly 70.52 347 *e*P **P 02 11 01.0 0.0**
WVT pmax pmax
comp=Z,103nm,0.9s
WVT Waverly 70.52 347 *e*P **P 02 11 01.0 0.0**
comp=Z,103nm,0.9s
Z34A Collier Ranch, 70.52 337⇓P **P 02 11 01.2 +0.1**
baz=71,SNR=12
229A Bryant Ranch, 70.60 334⇓P **P 02 11 01.9 +0.2**
baz=71,SNR=14
URVA University of 70.60 356 *e*P **P 02 11 02.3 +0.8**
131A Roby 70.72 335⇑P **P 02 11 02.6 +0.3**
baz=71,SNR=16
Z33A Whitaker Ranch 70.72 337⇓P **P 02 11 02.7 +0.3**
baz=71,SNR=23
JSRW J. Sargeant Re 70.75 355 *e*P **P 02 11 02.9 +0.6**
130A Snyder 70.86 335⇓P **P 02 11 03.6 +0.4**
baz=71,SNR=8.1
Z32A Haskell 70.98 336⇓P **P 02 11 04.3 +0.4**
baz=71,SNR=36
Y34A Reagan Ranch, 71.01 338⇑P **P 02 11 04.2 +0.1**
baz=71,SNR=16
228A UT Block 9, Go 71.03 333⇓P **P 02 11 04.5 +0.2**
baz=71,SNR=25
129A Stewart Farms, 71.22 334⇑P **P 02 11 05.6 +0.2**
baz=72,SNR=8.3
Z31A Sharp Cattle R 71.22 336⇑P **P 02 11 05.8 +0.4**
baz=72,SNR=29
Y33A Hilltop Ranch, 71.34 337⇓P **P 02 11 06.1 +0.1**
baz=72,SNR=14
PARMO Parma 71.43 345 *e*P **P 02 11 07.0 +0.5**
128A Castleberry Fa 71.44 333⇓P **P 02 11 07.1 +0.3**
baz=72,SNR=26
Z30A Sanderson Ranc 71.54 335⇑P **P 02 11 07.1 -0.2**
baz=72,SNR=23
Y32A R-V Farms, Ver 71.60 336⇓P **P 02 11 07.9 +0.2**
baz=72,SNR=11
X34A Smith Ranch, M 71.63 338⇓P **P 02 11 08.0 +0.2**
baz=72,SNR=20
CLNB Carlsbad 71.66 332 *e*P **P 02 11 09.1 +0.9**
comp=Z,1.4nm,0.3s
PBMO Poplar Bluff 71.69 345 *e*P **P 02 11 07.8 -0.2**
comp=Z,46nm,0.8s
Z29A Hungry Hill Ra 71.72 334⇑P **P 02 11 08.2 -0.3**
baz=72,SNR=35
MNTX Cornudas Mount 71.77 331 *e*P **P 02 11 08.3 -0.4**
comp=Z,36nm,0.9s
MNTX LR LR
comp=Z,6µm,20.0s
X33A Lawton 71.78 337⇓P **P 02 11 08.1 -0.6**
baz=72,SNR=6.4
GDL2 Guadalupe Moun 71.79 332 *e*P **P 02 11 09.2 +0.3**
comp=Z,26nm,0.6s
Y31A Rekieta Farm, 71.84 336⇑P **P 02 11 09.4 +0.3**
baz=72,SNR=14
X32A Elmer 71.93 337⇑P **P 02 11 09.6 0.0**
baz=72,SNR=10
Y30A Stafford Cattl 71.99 335⇑P **P 02 11 10.0 0.0**
baz=72
Z28A Tucker Farm, M 72.00 334⇓P **P 02 11 10.0 -0.2**
baz=72,SNR=20
WMOK Wichita Mounta 72.06 337 *e*P **P 02 11 10.3 -0.1**
WMOK pmax pmax
comp=Z,85nm,1.6s
WMOK Wichita Mounta 72.06 337 *e*P **P 02 11 10.3 -0.1**
comp=Z,85nm,1.6s
W34A Bridge Creek, 72.19 338⇑P **P 02 11 11.0 -0.1**
baz=72,SNR=7.3
W34A Bridge Creek, 72.19 338 *e*P **P 02 11 11.4 +0.3**
comp=Z,398nm,2.0s
TUL1 Leonard 72.23 340⇑P **P 02 11 11.3 -0.1**
baz=73,SNR=14
TUL1 Leonard 72.23 340 *e*P **P 02 11 11.5 +0.1**
comp=Z,53nm,0.9s
Y29A Porterfield Fa 72.25 335⇑P **P 02 11 11.8 +0.2**
baz=73,SNR=16
USIN University of 72.27 347 *e*P **P 02 11 10.8 -0.7**
comp=Z,58nm,0.8s
WCI Wyandotte Cave 72.28 348 *e*P **P 02 11 10.6 -1.0**
WCI pmax pmax
comp=Z,22nm,0.8s
WCI Wyandotte Cave 72.28 348 *e*P **P 02 11 10.6 -1.0**
comp=Z,22nm,0.8s
SIUC Southern Illin 72.33 346 *e*P **P 02 11 12.0 +0.1**
comp=Z,49nm,0.9s
Z27A Tatum 72.33 333⇓P **P 02 11 12.2 0.0**
baz=73,SNR=23
W33A Caddo, Fort Co 72.33 338⇑P **P 02 11 12.4 +0.4**
baz=73,SNR=17
X31A McDonald Ranch 72.36 336⇑P **P 02 11 12.4 +0.2**
baz=73,SNR=23
SDMD Soldier's Deli 72.39 356 *e*P **P 02 11 13.2 +1.0**
comp=Z,60nm,1.1s
SDMD *e*pP **pP 02 11 22.1 +0.4**
X30A Coker Ranch, T 72.50 335⇑P **P 02 11 13.2 +0.1**
baz=73
Y28A McKinney Farm, 72.50 334⇓P **P 02 11 13.3 +0.2**
baz=73,SNR=8.6
W32A Sentinel 72.56 337⇓P **P 02 11 13.7 +0.3**
baz=73,SNR=53
Z26A Caprock 72.59 332⇓P **P 02 11 13.8 +0.1**
baz=73,SNR=82
V34A Guthrie 72.67 339⇑P **P 02 11 14.1 +0.1**
baz=73
V34A Guthrie 72.67 339 *e*P **P 02 11 14.0 0.0**
comp=Z,67nm,0.9s
MSTX Muleshoe 72.75 334⇓P **P 02 11 14.8 +0.2**
baz=73,SNR=26
MSTX Muleshoe 72.75 334 *e*P **P 02 11 14.8 +0.2**
comp=Z,116nm,0.9s
X29A Tulia 72.79 335⇑P **P 02 11 14.8 0.0**
baz=73,SNR=16
Y27A Causey 72.82 333⇑P **P 02 11 15.0 -0.1**
baz=73,SNR=13
W31A Holland Ranch, 72.85 336⇑P **P 02 11 15.4 +0.3**
baz=73,SNR=9.9
Z25A Roswell 72.88 332⇓P **P 02 11 15.7 +0.2**
baz=73,SNR=12
V33A Lossen Ranch, 72.89 338⇑P **P 02 11 15.4 +0.1**
baz=73,SNR=20
MVL Millersville 72.95 357 *e*P **P 02 11 16.7 +1.2**
comp=Z,53nm,1.3s
X28A Dimmitt 73.03 334⇑P **P 02 11 16.6 +0.3**
baz=73
V32A Arapaho 73.04 337⇑P **P 02 11 16.9 +0.7**
baz=73,SNR=7.2
W30A Crocket Farms 73.06 336⇑P **P 02 11 16.9 +0.5**
baz=73
OLIL Olney 73.10 347 *e*P **P 02 11 16.0 -0.4**
comp=Z,63nm,1.1s
OLIL LR LR
comp=Z,4µm,20.2s
Y26A Elida 73.11 333⇑P **P 02 11 17.1 +0.4**
baz=73,SNR=10
319A Douglas 73.17 327⇑P **P 02 11 18.0 +0.8**
baz=74,SNR=18
AMTX Amarillo 73.17 335⇓P **P 02 11 17.7 +0.6**
baz=74
AMTX Amarillo 73.17 335 *e*P **P 02 11 17.6 +0.6**
comp=Z,132nm,1.2s
Z24A Sheeppen Canyo 73.19 331⇑P **P 02 11 17.7 +0.4**
baz=74,SNR=27
U34A Anderson Ranch 73.23 339⇓P **P 02 11 17.6 +0.3**

baz=74,SNR=12
U34A Anderson Ranch 73.23 339 *e*P **P 02 11 17.8 +0.6**
comp=Z,291nm,1.9s
BLO Bloomington 73.24 348 *e*P **P 02 11 16.7 -0.6**
BLO pmax pmax
comp=Z,37nm,0.8s
BLO MLR MLR
comp=Z,6µm,18.5s
BLO Bloomington 73.24 348 *e*P **P 02 11 16.7 -0.6**
comp=Z,37nm,0.8s
BLO LR LR
comp=Z,6µm,18.5s
V31A Spring Creek L 73.35 337 ⇑P **P 02 11 18.9 +0.8**
baz=74,SNR=13
W29A Amarillo 73.38 335 ⇓P **P 02 11 18.4 +0.1**
baz=74,SNR=10
U33A Lingo Farm, Me 73.40 338 ⇑P **P 02 11 18.3 0.0**
baz=74,SNR=5.7
SLM Saint Louis 73.43 345 *e*P **P 02 11 18.3 -0.1**
SLM pmax pmax
comp=Z,53nm,0.7s
SLM Saint Louis 73.43 345 *e*P **P 02 11 18.3 -0.1**
comp=Z,53nm,0.7s
Y25A Mesa, Roswell 73.44 332 ⇓P **P 02 11 18.9 +0.1**
baz=74,SNR=12
X27A F and S Farms, 73.47 334 ⇓P **P 02 11 19.8 +0.9**
baz=74,SNR=6.1
121A Cookes Peak, D 73.50 329 ⇓P **P 02 11 20.2 +1.0**
baz=74,SNR=31
121A Cookes Peak, D 73.50 329 *e*P **P 02 11 20.2 +1.0**
comp=Z,98nm,1.0s
LUPA Lehigh Univers 73.51 357 PFAKE 02 11 30.0 +11
LUPA LR LR
comp=Z,800nm,21.5s
V30A Spur Ranch, Mi 73.62 336 ⇓P **P 02 11 20.6 +0.9**
baz=74,SNR=5.5
U32A Winter Ranch, 73.63 338 ⇑P **P 02 11 20.3 +0.6**
baz=74,SNR=14
X26A CR and CF Fran 73.66 333 ⇑P **P 02 11 20.6 +0.6**
baz=74,SNR=32
SSPA Standing Stone 73.67 355 *e*P **P 02 11 19.9 +0.1**
comp=Z,36nm,0.9s
SSPA LR LR
comp=Z,4µm,21.0s
W28A Vega 73.70 335 ⇑P **P 02 11 21.0 +0.8**
baz=74
Y24A Capitan 73.74 332 ⇓P **P 02 11 21.1 +0.5**
baz=74,SNR=24
ACSO Alum Creek Sta 73.76 351 *e*P **P 02 11 20.1 -0.2**
comp=Z,69nm,0.9s
ACSO LR LR
comp=Z,5µm,20.0s
Z22A Elephant Butte 73.78 330 ⇑P **P 02 11 21.9 +1.1**
baz=74,SNR=15
W27A Bowe Ranch, En 73.83 334 ⇓P **P 02 11 21.3 +0.3**
baz=74,SNR=18
U31A Nine Bar Ranch 73.90 337 ⇑P **P 02 11 22.3 +1.0**
baz=74
X25A Clemmons Ranch 73.96 333 ⇑P **P 02 11 22.7 +0.8**
baz=74
MAW Mawson 73.97 164 P **P 02 11 20.4 -0.9**
MAW pmax pmax
comp=Z,37nm,0.9s
MAW Mawson 73.97 164 P **P 02 11 20.4 -0.9**
comp=Z,37nm,0.9s,baz=256,slow=8.5,SNR=5.0
MAW LR LR 02 45 30.8
comp=Z,20µm,18.9s,baz=232,slow=37
Y23A Lovelace Mesa, 73.99 331 ⇓P **P 02 11 22.8 +0.8**
baz=74,SNR=13
V29A Stinnett 74.01 336 ⇓P **P 02 11 22.6 +0.6**
baz=74
T33A Patterson Ranc 74.04 339 ⇓P **P 02 11 22.4 +0.4**
baz=74,SNR=11
KOMG Komaggas 74.12 115 *e*P **P 02 11 23.6 +0.7**
KOMG AMB AMB 02 11 24.4
comp=Z,103nm,1.5s
W26A Owens Ranch, T 74.12 333 ⇓P **P 02 11 23.3 +0.6**
baz=74,SNR=20
V28A Channing 74.15 335 ⇑P **P 02 11 23.4 +0.6**
baz=74,SNR=10
X24A Lazy VL Ranch, 74.30 332 ⇓P **P 02 11 24.6 +0.8**
baz=75
U30A WK&E Inc. Balk 74.31 337 ⇑P **P 02 11 24.3 +0.6**
baz=75,SNR=8.4
T32A Huddler Ranch, 74.34 338 ⇓P **P 02 11 24.4 +0.6**
baz=75,SNR=7.1
BNM Barren Site 74.41 331 *e*P **P 02 11 25.8 +1.2**
S33A Kaszmaul Farm, 74.44 339 ⇑P **P 02 11 25.5 +1.1**
baz=75
U29A Oasis Ranch, S 74.45 336 ⇓P **P 02 11 24.8 +0.3**
baz=75
W25A X Bar L Ranch, 74.49 333 ⇓P **P 02 11 25.0 +0.1**
baz=75,SNR=14
T31A Randall Ranch, 74.51 337 ⇓P **P 02 11 25.4 +0.6**
baz=75
SFIN Lafayette 74.52 348 ⇑P **P 02 11 24.4 -0.2**
baz=75
SFIN Lafayette 74.52 348 *e*P **P 02 11 23.9 -0.8**
comp=Z,45nm,1.2s
SFIN LR LR
comp=Z,7µm,19.1s
LPM Los Pinos Moun 74.55 331 *e*P **P 02 11 26.7 +1.4**
LENM Lemitar 74.57 331 *e*P **P 02 11 26.9 +1.6**
X23A Hourglass Bar 74.61 331 ⇓P **P 02 11 26.8 +1.1**
baz=75,SNR=13
TUC Tucson 74.64 327 *e*P **P 02 11 27.0 +1.2**
TUC pmax pmax
comp=Z,34nm,1.1s
TUC MLR MLR
comp=Z,4µm,18.0s
TUC Tucson 74.64 327 *e*P **P 02 11 27.0 +1.2**
comp=Z,34nm,1.1s
TUC LR LR
comp=Z,4µm,18.0s
U28A Mallet 74.71 335 ⇑P **P 02 11 27.4 +1.3**
baz=75
T30A Plains 74.74 337 ⇑P **P 02 11 27.0 +0.8**
baz=75
V26A Tequesquite Ra 74.75 334 ⇑P **P 02 11 27.0 +0.6**
baz=75,SNR=17
BRYW Bryant College 74.77 1 PFAKE 02 11 40.0 +14
BRYW LR LR
comp=Z,6µm,21.5s
S32A Newby Ranch, P 74.82 338 ⇓P **P 02 11 27.1 +0.5**
baz=75,SNR=6.1
LAZ Ladron 74.84 331 *e*P **P 02 11 28.8 +1.8**
W24A Lazy 6 Ranch, 74.85 332 ⇑P **P 02 11 27.6 +0.5**
baz=75,SNR=13
ALLY Alegheny Colle 74.86 354 PFAKE 02 11 40.0 +13
ALLY LR LR
comp=Z,5µm,19.9s
S31A Mullinville 74.92 338 ⇓P **P 02 11 28.1 +0.9**
baz=75
U27A Thompson Grove 74.96 335 ⇓P **P 02 11 28.2 +0.7**
baz=75,SNR=7.3
ANMO Albuquerque 75.03 331 *c i*P **P 02 11 29.2 +1.1**
ANMO pmax pmax
comp=Z,88nm,1.2s
ANMO Albuquerque 75.03 331 *e*P **P 02 11 28.8 +0.7**
comp=Z,45nm,1.1s
ANMO LR LR
comp=Z,7µm,20.0s
DBIC Dimbokro 75.05 72 ⇑*i*P **P 02 11 28.6 +0.1**
DBIC Dimbokro 75.05 72 P **P 02 11 28.4 -0.1**
DBIC pmax pmax
comp=Z,47nm,0.9s
DBIC Dimbokro 75.05 72 P **P 02 11 28.4 -0.1**
comp=Z,47nm,0.9s,baz=210,slow=6.6,SNR=45
T29A Hugoton 75.09 336 ⇑P **P 02 11 29.0 +0.8**
baz=75
R33A Olander Ranch, 75.10 339 ⇓P **P 02 11 29.1 +1.0**
baz=76
W23A Werner Place, 75.10 332 ⇓P **P 02 11 29.5 +1.0**
baz=75,SNR=16
V25A Rancho No Teng 75.10 333 ⇑P **P 02 11 28.8 +0.3**
baz=75,SNR=16
V24A Rampart Ranch, 75.25 333 ⇓P **P 02 11 29.7 +0.4**
baz=76,SNR=8.0
S30A Montezuma 75.25 337 ⇓P **P 02 11 29.7 +0.5**
baz=76
U26A Atchley Ranch, 75.27 334 ⇓P **P 02 11 30.0 +0.6**
baz=76,SNR=9.1
214A Organ Pipe Nat 75.30 325 ⇓P **P 02 11 30.3 +0.8**
baz=76,SNR=18
214A Organ Pipe Nat 75.30 325 *e*P **P 02 11 30.5 +1.0**
comp=Z,51nm,1.0s
ERPA Erie 75.31 354 *e*P **P 02 11 28.8 -0.4**
comp=Z,51nm,1.0s
ERPA LR LR
comp=Z,4µm,20.0s
SUR Sutherland 75.32 119 *e*P **P 02 11 30.8 +0.7**
comp=Z,68nm,0.9s
SUR LR LR
comp=Z,6µm,20.0s
T28A Walsh 75.34 336 ⇑P **P 02 11 30.1 +0.5**
baz=76,SNR=17
R32A Long Quarter, 75.42 339 ⇑P **P 02 11 30.4 +0.4**
baz=76,SNR=12
KSU1 Kansas State U 75.44 341 ⇓P **P 02 11 30.5 +0.4**
baz=76,SNR=5.3
KSU1 Kansas State U 75.44 341 *e*P **P 02 11 29.9 -0.2**
comp=Z,29nm,0.9s
S29A Ulysses 75.45 337 ⇓P **P 02 11 30.8 +0.5**
baz=76,SNR=9.1
T27A Campo 75.50 335 ⇓P **P 02 11 31.2 +0.5**
baz=76,SNR=21
U25A Circle Dot Ran 75.52 334 ⇓P **P 02 11 31.7 +0.8**
baz=76,SNR=10
R31A Burdett 75.55 338 ⇑P **P 02 11 31.2 +0.5**
baz=76,SNR=8.5
V23A Ortiz Mt. (NFS 75.62 332 ⇓P **P 02 11 32.1 +0.6**
baz=76
S28A Manter 75.69 336 ⇑P **P 02 11 32.1 +0.5**
baz=76,SNR=18
Q33A Connelly Farm, 75.69 340 ⇑P **P 02 11 32.2 +0.6**
baz=76
MMNY Mt. Morris Dam 75.76 356 *e*P **P 02 11 31.9 +0.1**
comp=Z,134nm,1.1s
R30A Dighton 75.78 338 ⇑P **P 02 11 32.7 +0.6**
baz=76,SNR=6.6
U24A Moreno Valley 75.86 333 ⇑P **P 02 11 33.8 +0.9**
baz=76
AAM Ann Arbor 75.89 351 PFAKE 02 11 40.0 +7.5
AAM LR LR
comp=Z,5µm,19.0s
Q32A Meitler Ranch, 75.90 339 ⇑P **P 02 11 33.4 +0.6**
baz=76,SNR=6.1
T26A Comanche Natio 75.91 335 ⇑P **P 02 11 34.0 +0.9**
baz=76,SNR=14
P33A Williams Farm, 76.06 340 ⇓P **P 02 11 34.6 +1.0**
baz=76
V22A San Miguel Ran 76.06 332 ⇓P **P 02 11 35.2 +1.2**
baz=76,SNR=25
U23A El Rito 76.14 332 ⇑P **P 02 11 35.7 +1.2**
baz=76,SNR=11
X18A Snowflake 76.14 329 ⇓P **P 02 11 35.5 +1.1**
baz=76,SNR=9.2
Q31A Ellis 76.16 338 ⇑P **P 02 11 34.9 +0.6**
baz=76,SNR=12
T25A Trinidad 76.17 334 ⇓P **P 02 11 35.6 +1.0**
baz=76,SNR=33
T25A Trinidad 76.17 334 PFAKE 02 11 50.0 +15
T25A LR LR
comp=Z,3µm,19.0s
R29A Marienthal 76.19 337 ⇓P **P 02 11 35.4 +0.9**
baz=76
ACCN Adirondack Com 76.25 359 *e*P **P 02 11 34.6 +0.1**
comp=Z,561nm,2.7s
ACCN LR LR
comp=Z,4µm,19.6s
S26A Kim 76.26 335 ⇓P **P 02 11 35.8 +0.8**
baz=77,SNR=30
R28A Tribune 76.34 336 ⇓P **P 02 11 36.1 +0.7**
baz=77,SNR=9.1
Q30A Quinter 76.40 338 ⇓P **P 02 11 36.2 +0.6**
baz=77,SNR=10
113A Mohawk Valley, 76.43 325 ⇓P **P 02 11 36.8 +1.0**
baz=77,SNR=9.1
U22A Llaves 76.44 332 ⇑P **P 02 11 37.6 +1.5**
baz=77
T24B San Luis 76.47 333 ⇑P **P 02 11 37.4 +1.0**
baz=77,SNR=12
P32A Huiting Farm, 76.49 339 ⇓P **P 02 11 37.0 +0.9**
baz=77,SNR=7.9
Z14A Wintersburg 76.53 326 ⇓P **P 02 11 37.5 +1.1**
baz=77
W18A Petrified Fore 76.55 329 ⇑P **P 02 11 38.1 +1.3**
baz=77
W18A Petrified Fore 76.55 329 *e*P **P 02 11 38.3 +1.6**
comp=Z,124nm,1.4s
W18A LR LR
comp=Z,4µm,18.7s
HNH Hanover 76.55 360 PFAKE 02 11 50.0 +14
HNH LR LR
comp=Z,4µm,18.3s
Q29A Oakley 76.56 337 ⇓P **P 02 11 37.8 +1.3**
baz=77
R27A Eads 76.62 336 ⇑P **P 02 11 37.8 +0.8**
baz=77,SNR=16
P31A Stockton 76.63 339 ⇑P **P 02 11 37.5 +0.6**
baz=77,SNR=13
S25A Robets Cordova 76.65 334 ⇑P **P 02 11 38.1 +0.8**
baz=77,SNR=12
T23A Casias Ranch, 76.69 333 ⇑P **P 02 11 38.6 +0.9**
baz=77,SNR=9.6
X16A Lo Mia Camp, P 76.71 327 ⇓P **P 02 11 38.7 +1.0**
baz=77,SNR=26
NCB Newcomb 76.84 358 PFAKE 02 11 50.0 +12
NCB LR LR
comp=Z,4µm,22.0s
MDV Middlebury 76.85 359 *e*P **P 02 11 38.0 0.0**
R26A Arlington 76.86 335 ⇓P **P 02 11 39.1 +0.8**
baz=77,SNR=14
S24A Houchin Ranch, 76.92 334 ⇓P **P 02 11 40.1 +1.2**
baz=77,SNR=21
P30A Selden 76.92 338 ⇓P **P 02 11 39.3 +0.7**
baz=77
O32A Brockman Farm, 76.99 340 ⇑P **P 02 11 39.6 +0.7**
baz=77
Q28A Sharon Springs 76.99 337 ⇓P **P 02 11 39.8 +0.7**
baz=77,SNR=6.0
R25A Fountain Ranch 77.02 335 ⇓P **P 02 11 40.0 +0.8**
baz=77,SNR=5.7
Y14A Wickenburg 77.03 326 ⇑P **P 02 11 40.2 +0.9**
baz=77,SNR=7.9
LBNH Lisbon 77.09 0 PFAKE 02 11 50.0 +11
LBNH LR LR
comp=Z,4µm,20.0s
SDCO Great Sand Dun 77.11 333 *e*P **P 02 11 40.8 +0.8**
comp=Z,208nm,2.2s
SDCO LR LR
comp=Z,4µm,18.0s
GLA Glamis 77.17 324 *e*P **P 02 11 41.3 +1.2**
GLA pmax pmax
comp=Z,237nm,2.3s
GLA MLR MLR
comp=Z,3µm,18.7s
GLA Glamis 77.17 324 ⇓P **P 02 11 41.3 +1.2**
baz=78,SNR=10
GLA Glamis 77.17 324 *e*P **P 02 11 41.3 +1.2**
comp=Z,237nm,2.3s
GLA LR LR
comp=Z,3µm,18.7s
P29A Atwood 77.19 338 ⇓P **P 02 11 41.3 +1.1**
baz=78,SNR=5.4
O31A Woolen Ranch, 77.20 339 ⇑P **P 02 11 40.7 +0.6**
baz=78,SNR=7.4
KSCO Kaye Shedlock' 77.22 336 ⇓P **P 02 11 41.5 +1.2**
baz=78
KSCO Kaye Shedlock' 77.22 336 *e*P **P 02 11 41.3 +1.0**
comp=Z,318nm,1.8s
SCIA State Center 77.22 344 *e*P **P 02 11 40.2 +0.1**
comp=Z,221nm,1.8s
S23A Nye Farm, Mont 77.27 333 ⇑P **P 02 11 42.0 +1.2**
baz=78
R24A Sanders Place, 77.40 334 ⇑P **P 02 11 42.8 +1.3**
baz=78,SNR=25
P28A Saint Francis 77.43 337 ⇓P **P 02 11 42.5 +1.0**
baz=78,SNR=5.5
WIN Windhoek 77.43 109 *e*P **P 02 11 42.4 +0.2**
WIN AMB AMB 02 11 43.4
comp=Z,17nm,1.4s
DRV Dumont d'Urvil 77.44 193 S S 02 21 19.0 -10
DRV SS **SS 02 26 33.0 +5.8**
DRV R 02 38 00.0
O30A MW Ranch, Wils 77.44 338 ⇑P **P 02 11 42.3 +0.8**
baz=78
Q26A Hugo 77.44 335 ⇑P **P 02 11 42.8 +1.1**
baz=78
WVL Waterville 77.45 2 PFAKE 02 11 50.0 +8.7
WVL LR LR
comp=Z,3µm,21.1s
N32A Stulken Farm, 77.46 340 ⇓P **P 02 11 42.9 +1.4**
baz=78
LONY Lake Ozonia 77.50 358 *e*P **P 02 11 41.6 0.0**
comp=Z,368nm,2.6s
LONY *e*pP **PcP 02 11 51.6 -0.3**
LONY LR LR
comp=Z,4µm,21.0s
JFWS Jewell Farm 77.55 347 *e*P **P 02 11 41.4 -0.5**
JFWS pmax pmax
comp=Z,38nm,0.8s
JFWS MLR MLR
comp=Z,6µm,19.0s
JFWS Jewell Farm 77.55 347 *e*P **P 02 11 41.4 -0.5**
comp=Z,38nm,0.8s
JFWS LR LR
comp=Z,6µm,19.0s
SWSC Sam W. Stewart 77.56 324 ⇓P **P 02 11 43.7 +1.4**
baz=78
Y12C Blythe 77.59 325 ⇓P **P 02 11 43.9 +1.5**
baz=78
WUAZ Wupatki 77.60 328 ⇓P **P 02 11 43.9 +1.3**
baz=78,SNR=25
WUAZ Wupatki 77.60 328 *e*P **P 02 11 43.9 +1.3**
comp=Z,61nm,1.1s
WUAZ LR LR
comp=Z,4µm,18.0s
S22A 4UR Ranch, Cre 77.62 333 ⇑P **P 02 11 44.0 +1.1**
baz=78,SNR=7.9
O29A 4D Ranch, Culb 77.62 338 ⇓P **P 02 11 43.9 +1.4**
baz=78
R23A Moffat 77.63 333 ⇑P **P 02 11 43.9 +1.0**
baz=78,SNR=8.3
EMMW East Machias 77.68 3 PFAKE 02 11 50.0 +7.4
EMMW LR LR
comp=Z,4µm,22.0s
P27A Ficken Ranch, 77.69 336 ⇑P **P 02 11 44.3 +1.3**
baz=78
Q25A Bedland, Calha 77.69 335 ⇓P **P 02 11 44.0 +0.9**
baz=78,SNR=7.3
BAR Barrett 77.79 323 *e*P **P 02 11 43.0 -0.6**
BAR LR LR
comp=Z,4µm,19.6s
MVCO Mesa Verde 77.82 331 ⇓P **P 02 11 45.1 +1.2**
baz=78,SNR=24
MVCO Mesa Verde 77.82 331 *e*P **P 02 11 45.4 +1.5**
comp=Z,66nm,1.1s
MVCO LR LR
comp=Z,8µm,20.0s
MONP Monument Peak, 77.83 323 ⇑P **P 02 11 45.7 +1.6**
baz=78
PDMCI Parker Dam,Lak 77.86 326 ⇑P **P 02 11 45.0 +1.1**
baz=78
O28A Krutsinger Ran 77.94 337 ⇓P **P 02 11 45.7 +1.4**
baz=78
P26A Davis Ranch, A 77.95 336 ⇑P **P 02 11 45.6 +1.1**
baz=78,SNR=7.5
BC3 Big Chuckawall 77.97 324 ⇑P **P 02 11 45.7 +1.0**
baz=78,SNR=8.8
BGNE Belgrade 78.01 340 ⇓P **P 02 11 45.8 +1.2**
baz=78
BGNE Belgrade 78.01 340 *e*P **P 02 11 44.9 +0.3**
comp=Z,68nm,1.0s
Q24A Divide 78.06 334 ⇑P **P 02 11 46.3 +1.0**
baz=78,SNR=9.6
Q24A Divide 78.06 334 PFAKE 02 12 00.0 +15
Q24A LR LR
comp=Z,3µm,18.0s
BORC Borrego Spring 78.14 323 *e*P **P 02 11 43.4 -2.0**
BORC *e*PcP PcP 02 11 47.5 -7.4
M31A Lambtecht Ranc 78.19 340 ⇓P **P 02 11 47.2 +1.6**
baz=78
P25A Willow Gulch B 78.19 335 ⇓P **P 02 11 47.1 +1.2**
baz=78,SNR=6.7
N29A Votaw Ranch, W 78.20 338 ⇓P **P 02 11 47.4 +1.7**
baz=79
O27A Beecher Island 78.23 337 ⇑P **P 02 11 47.2 +1.3**
baz=79,SNR=6.7
IRM Iron Mountain 78.23 325 ⇓P **P 02 11 47.1 +1.1**
baz=78
N28A Pribbeno Ranch 78.37 338 ⇓P **P 02 11 48.0 +1.4**
baz=79
W13A Hualapai Mount 78.39 326 ⇓P **P 02 11 48.1 +1.0**
baz=79,SNR=7.2
PFO Pinyon Flats O 78.43 324 *e*P **P 02 11 49.3 +2.1**
PFO pmax pmax
comp=Z,58nm,1.1s
PFO MLR MLR
comp=Z,4µm,21.0s
PFO Pinyon Flats O 78.43 324 ⇑P **P 02 11 49.0 +1.8**
baz=79
PFO Pinyon Flats O 78.43 324 *e*P **P 02 11 49.3 +2.1**
comp=Z,58nm,1.1s
PFO LR LR
comp=Z,4µm,21.0s
BELC Belle Mtn. Jos 78.52 324 ⇑P **P 02 11 49.3 +1.6**
baz=79
O26A Horse Wrangler 78.55 336 ⇓P **P 02 11 48.9 +1.2**
baz=79,SNR=7.0
PV01 Paradox Valley 78.64 332 *e*P **P 02 11 49.2 +0.8**
P23A Jefferson 78.67 334 ⇓P **P 02 11 50.3 +1.6**
baz=79
O25A Wiggins 78.71 336 ⇑P **P 02 11 50.8 +2.1**
baz=79
OGNE Ogallala 78.76 337 ⇑P **P 02 11 50.3 +1.5**
baz=79
U15A North Rim 78.77 328 ⇑P **P 02 11 50.6 +1.4**
baz=79,SNR=12
M29A Burnside Ranch 78.79 339 ⇓P **P 02 11 50.4 +1.4**
baz=79
MURC Murrieta 78.79 323 ⇑P **P 02 11 50.4 +1.3**
baz=79
N27A Anderson Farm, 78.80 337 ⇑P **P 02 11 50.5 +1.4**
baz=79
PV05 Paradox Valley 78.81 331 *e*P **P 02 11 50.5 +1.1**
L31A Butterfield Fa 78.92 340 ⇓P **P 02 11 50.5 +1.0**
baz=79,SNR=12
SMCO Snowmass 78.92 333 *e*P **P 02 11 51.4 +1.2**
comp=Z,48nm,0.9s
GRM Grahamstown 78.94 122 *e*P **P 02 11 49.8 -0.4**
GRM AMB AMB 02 11 51.0
comp=Z,117nm,1.5s
LDFC Landfair 78.95 325 *e*P **P 02 11 51.8 +1.7**
comp=Z,59nm,1.1s
LDFC LR LR
comp=Z,3µm,19.8s
M28A Bar X Bar Ranc 78.96 338 ⇓P **P 02 11 51.6 +1.7**
baz=79
L30A Spencer Herefo 78.96 339 ⇓P **P 02 11 51.5 +1.7**
baz=79
ISCO Idaho Springs 78.97 334 *e*P **P 02 11 51.1 +0.8**
ISCO pmax pmax
comp=Z,52nm,1.4s
ISCO Idaho Springs 78.97 334 ⇑P **P 02 11 51.3 +1.0**
baz=79,SNR=8.5
ISCO Idaho Springs 78.97 334 *e*P **P 02 11 51.1 +0.8**
comp=Z,52nm,1.4s
GMRC Granite Mounta 78.98 325 ⇓P **P 02 11 51.4 +1.2**
baz=79,SNR=7.0
PV04 Paradox Valley 79.00 331 *e*P **P 02 11 51.8 +1.5**
PV10 Paradox Valley 79.04 331 *e*P **P 02 11 51.1 +0.5**
N26A Koester Ranch, 79.05 337 ⇑P **P 02 11 52.2 +1.8**
baz=79
O24A Longmont 79.06 335 ⇑P **P 02 11 52.5 +2.0**
baz=79
PV09 Paradox Valley 79.18 331 *e*P **P 02 11 52.3 +0.8**
P22A Eagle 79.21 333 ⇑P **P 02 11 52.8 +1.3**
baz=80,SNR=9.5
CIS Catalina Islan 79.25 322 ⇑P **P 02 11 53.0 +1.3**
baz=80
L29A Maesberg Ranch 79.30 339 ⇓P **P 02 11 53.5 +1.8**
baz=80
HEC Hector,Ludlow 79.34 324 ⇓P **P 02 11 53.7 +1.6**
baz=80,SNR=9.2
O23A Lake Granby, G 79.44 334 ⇑P **P 02 11 53.8 +1.0**
baz=80,SNR=13
KNB Kanab 79.49 328 *e*P **P 02 11 54.5 +1.4**
KNB pmax pmax
comp=Z,78nm,1.1s
KNB MLR MLR
comp=Z,2µm,18.7s
KNB Kanab 79.49 328 *e*P **P 02 11 54.5 +1.4**
comp=Z,78nm,1.1s
KNB LR LR
comp=Z,2µm,18.7s
BFSC Mount Baldy Ra 79.53 323 ⇑P **P 02 11 54.8 +1.6**
baz=80
TSUM Tsumeb 79.55 106 *e*P **P 02 11 54.7 +0.8**
comp=Z,64nm,1.0s
TSUM LR LR
comp=Z,10µm,21.0s
K30A Basset 79.60 340 ⇑P **P 02 11 54.5 +1.2**
baz=80,SNR=10

N24A	Carr	79.61	335	⇓P	P	02 11 54.8 +1.2
	baz=80					
O22A	Kremmling	79.62	334	⇑P	P	02 11 54.6 +0.8
	baz=80,SNR=9.1					
TUQ	Turquoise Moun	79.63	325	⇑P	P	02 11 55.3 +1.5
	baz=80					
MWC	Mount Wilson	79.72	323	eP	P	02 11 56.1 +1.7
MWC				pmax	pmax	
	comp=Z,48nm,1.1s					
MWC				MLR	MLR	
	comp=Z,2μm,18.0s					
MWC	Mount Wilson	79.72	323	eP	P	02 11 56.0 +1.7
	comp=Z,48nm,1.1s					
MWC				LR	LR	
	comp=Z,2μm,18.0s					
PASC	Pasadena Art C	79.74	323	eP	P	02 11 56.2 +2.0
	comp=Z,39nm,1.1s					
PASC				LR	LR	
	comp=Z,2μm,20.0s					
ECSD	EROS Data Cent	79.77	342	⇓P	P	02 11 54.2 0.0
	baz=80,SNR=17					
ECSD	EROS Data Cent	79.77	342	eP	P	02 11 54.3 +0.2
	comp=Z,47nm,0.9s					
M25A	Palm-Egli Farm	79.87	336	⇑P	P	02 11 56.4 +1.5
	baz=80					
L27A	T5 Ranch, Ells	79.88	338	⇓P	P	02 11 56.5 +1.6
	baz=80					
K29A	Lazy Trails An	79.89	339	⇓P	P	02 11 56.2 +1.3
	baz=80					
GSC	Goldstone, Bar	79.95	324	eP	P	02 11 56.8 +1.3
GSC				pmax	pmax	
	comp=Z,40nm,1.3s					
GSC	Goldstone, Bar	79.95	324	⇑P	P	02 11 56.8 +1.3
	baz=80,SNR=8.3					
GSC	Goldstone, Bar	79.95	324	eP	P	02 11 56.8 +1.3
	comp=Z,40nm,1.3s					
N23A	Red Feather La	80.05	335	⇓P	P	02 11 57.5 +1.4
	baz=80					
SHPR	Sheep Range	80.14	326	eP	P	02 11 57.8 +1.2
N22A	Wattenberg Ran	80.15	334	⇑P	P	02 11 57.9 +1.3
	baz=80,SNR=8.6					
K28A	Ten Mile Ranch	80.16	339	⇓P	P	02 11 57.7 +1.4
	baz=80,SNR=6.8					
M24A	Cheyenne	80.16	336	⇑P	P	02 11 57.5 +0.9
	baz=80					
J30A	Dallas	80.16	340	⇓P	P	02 11 57.5 +1.2
	baz=80					
CCUT	Cedar City	80.17	328	eP	P	02 11 58.1 +1.3
	comp=Z,74nm,1.3s					
CCUT				LR	LR	
	comp=Z,2μm,18.2s					
SHOC	Shoshone, Teco	80.18	325	⇓P	P	02 11 57.5 +0.9
	baz=80					
EDW2	Edwards Air Fo	80.20	323	⇑P	P	02 11 57.9 +1.1
	baz=80					
PHWY	Pilot Hill	80.23	335	eP	P	02 11 58.1 +1.0
	comp=Z,76nm,1.5s					
O20A	White River Ci	80.24	333	⇑P	P	02 11 58.3 +1.2
	baz=81					
O20A	White River Ci	80.24	333	eP	P	02 11 57.7 +0.7
	comp=Z,139nm,1.8s					
O20A				LR	LR	
	comp=Z,3μm,18.9s					
SRU	San Rafael Swe	80.27	331	eP	P	02 11 57.7 +0.5
SRU				pmax	pmax	
	comp=Z,70nm,1.5s					
SRU				MLR	MLR	
	comp=Z,6μm,18.3s					
SRU	San Rafael Swe	80.27	331	eP	P	02 11 57.6 +0.5
	comp=Z,70nm,1.5s					
SRU				LR	LR	
	comp=Z,6μm,18.3s					
SPMN	Marine on St.	80.28	345	⇓P	P	02 11 56.9 +0.1
	baz=81,SNR=5.7					
SPMN	Marine on St.	80.28	345	eP	P	02 11 55.9 -1.0
	comp=Z,21nm,0.8s					
SPMN				LR	LR	
	comp=Z,4μm,18.1s					
OSI	Osito Audit: C	80.37	323	PFAKE		02 12 10.0 +12
OSI				LR	LR	
	comp=Z,3μm,20.9s					
ARUT	Antelope Range	80.41	328	eP	P	02 12 00.0 +2.0
ARUT	Antelope Range	80.41	328	eP	P	02 11 60.0 +2.0
K27A	Flueckinger Fa	80.42	338	⇓P	P	02 11 59.1 +1.3
	baz=81					
COWI	Conover	80.42	348	eP	P	02 11 58.0 +0.4
	comp=Z,49nm,1.5s					
COWI				LR	LR	
	comp=Z,3μm,18.4s					
M23A	Laramie	80.47	335	⇓P	P	02 11 59.2 +0.9
	baz=81					
J29A	Okreek	80.48	340	⇓P	P	02 11 58.7 +0.7
	baz=81,SNR=16					
BOSA	Boshof	80.55	118	⇑iP	P	02 11 59.2 +0.2
BOSA				AMB	AMB	02 12 19.4
	comp=Z,107nm,3.9s					
BOSA	Boshof	80.55	118	P	P	02 11 59.3 +0.2
BOSA				pmax	pmax	
	comp=Z,54nm,1.0s					
BOSA	Boshof	80.55	118	P	P	02 11 59.3 +0.2
	comp=Z,54nm,1.0s,baz=232,slow=5.6,SNR=42					
BOSA				LR	LR	02 43 10.6
	comp=Z,3μm,21.9s,baz=234,slow=32					
I30A	Oacoma	80.69	340	⇓P	P	02 11 59.8 +0.7
	baz=81					
TMUT	Trail Mountain	80.71	330	eP	P	02 12 00.5 +0.8
	comp=Z,36nm,1.2s					
L24A	Wheatland	80.71	336	⇓P	P	02 12 00.8 +1.4
	baz=81					
K26A	Motz Farm, Whi	80.72	337	⇓P	P	02 12 00.2 +0.8
	baz=81					
M22A	Cedar Creek Ra	80.73	334	⇓P	P	02 12 00.5 +0.8
	baz=81					
SBC	Santa Barbara	80.74	322	⇑P	P	02 12 00.8 +1.2
	baz=81					
J28A	Allard Ranch,	80.76	339	⇑P	P	02 12 00.4 +0.8
	baz=81,SNR=9.7					
WCU	Willow Creek	80.80	330	ePKiKP	PKiKP	02 17 30.9 +3.6
ARVC	Arvin	80.82	323	⇓P	P	02 12 01.1 +1.1
	baz=81					
J27A	Elkhorn Farm,	80.84	338	⇑P	P	02 12 01.1 +1.1
	baz=81,SNR=10					
N20A	Spence Gulch,	80.85	333	⇑P	P	02 12 01.4 +1.1
	baz=81					
I29A	Vivian Onida	81.03	340	⇓P	P	02 12 02.4 +1.4
	baz=81					
L23A	Garrett	81.04	335	⇓P	P	02 12 02.4 +1.1
	baz=81					
ISA	Isabella, Lake	81.06	323	PFAKE		02 12 10.0 +8.6
ISA				LR	LR	
	comp=Z,2μm,21.5s					
DAC	Darwin (Calif)	81.12	324	eP	P	02 12 02.2 +0.4
DAC				pmax	pmax	
	comp=Z,50nm,1.1s					
DAC				MLR	MLR	
	comp=Z,4μm,22.0s					
DAC	Darwin (Calif)	81.12	324	eP	P	02 12 02.2 +0.4
	comp=Z,50nm,1.1s					
DAC				LR	LR	
	comp=Z,4μm,22.0s					
RWWY	Rawlins	81.20	334	PFAKE		02 12 10.0 +7.8
RWWY				LR	LR	
	comp=Z,4μm,19.0s					
J26A	Sides Ranch, S	81.23	338	⇑P	P	02 12 03.1 +1.0
	baz=82,SNR=11					
I28A	Midland	81.27	339	⇓P	P	02 12 02.6 +0.4
	baz=82,SNR=9.7					
K24A	Anderson Ranch	81.27	336	⇓P	P	02 12 03.5 +1.1
	baz=82					
SWZ	Schweizer	81.38	117	⇑iP	P	02 12 03.2 -0.3
SWZ				AMB	AMB	02 12 07.6
	comp=Z,91nm,2.9s					
MPU	Maple Canyon	81.49	330	eP	P	02 12 04.7 +1.0
	comp=Z,42nm,1.1s					
VES	Vestal, Richgr	81.51	323	⇑P	P	02 12 04.9 +1.3
	baz=82					
J25A	Sunshine Ranch	81.53	337	⇓P	P	02 12 05.2 +1.4
	baz=82					
H29A	Onida	81.56	340	⇑P	P	02 12 04.0 +0.2
	baz=82,SNR=9.1					
K23A	Bowen Ranch, D	81.58	336	⇑P	P	02 12 05.1 +1.1
	baz=82					
GRAC	Grapevine Rang	81.58	325	⇓P	P	02 12 05.4 +1.3
	baz=82					
I27A	Quinn	81.60	339	⇓P	P	02 12 04.7 +0.7
	baz=82,SNR=6.5					
NLU	North Lily Min	81.62	330	eP	P	02 12 05.2 +0.7
	comp=Z,65nm,1.4s					
NLU				LR	LR	
	comp=Z,6μm,20.4s					
DAU	Daniels Canyon	81.67	331	eP	P	02 12 06.0 +1.2
DAU	Daniels Canyon	81.67	331	eP	P	02 12 06.0 +1.2
G30A	Faulkton	81.73	341	⇑P	P	02 12 04.8 +0.2
	baz=82					
J24A	Dixon Ranch, L	81.76	337	⇓P	P	02 12 06.5 +1.5
	baz=82					
K22A	Casper	81.80	335	⇑P	P	02 12 06.0 +0.8
	baz=82,SNR=6.6					
K22A	Casper	81.80	335	eP	P	02 12 06.3 +1.1
	comp=Z,164nm,1.6s					
I26A	New Underwood	81.81	338	⇑P	P	02 12 06.7 +1.6
	baz=82					
R11A	Troy Canyon, C	81.83	327	⇑P	P	02 12 06.5 +1.0
	baz=82,SNR=12					
R11A	Troy Canyon, C	81.83	327	eP	P	02 12 06.8 +1.3
	comp=Z,41nm,1.2s					
R11A				LR	LR	
	comp=Z,3μm,18.9s					
H28A	Mission Ridge	81.84	340	⇓P	P	02 12 05.5 +0.3
	baz=82,SNR=8.5					
JLU	Jordanelle	81.91	331	eP	P	02 12 06.6 +0.7
	comp=Z,27nm,1.2s					
JLU				LR	LR	
	comp=Z,6μm,19.2s					
RUDU	RUNDU	81.95	106	eP	P	02 12 06.8 +0.1
RUDU				AMB	AMB	02 12 13.5
	comp=Z,103nm,1.2s					
K21A	Alcova	82.04	335	⇓P	P	02 12 06.9 +0.4
	baz=82,SNR=11					
I25A	Rochford	82.08	338	⇑P	P	02 12 07.1 +0.4
	baz=82,SNR=5.1					
CTU	Camp Tracy	82.11	331	PFAKE		02 12 20.0 +13
CTU				LR	LR	
	comp=Z,4μm,18.8s					
H27A	Howes	82.11	339	⇓P	P	02 12 07.0 +0.3
	baz=82,SNR=7.8					
DUG	Dugway, Tooele	82.13	330	eP	P	02 12 08.0 +1.0
DUG				pmax	pmax	
	comp=Z,81nm,1.5s					
DUG				MLR	MLR	
	comp=Z,5μm,20.0s					
DUG	Dugway, Tooele	82.13	330	⇑P	P	02 12 07.5 +0.5
	baz=82,SNR=24					
DUG	Dugway, Tooele	82.13	330	eP	P	02 12 08.0 +1.0
	comp=Z,81nm,1.5s					
DUG				LR	LR	
	comp=Z,5μm,20.0s					
G28A	Parade	82.18	340	⇑P	P	02 12 07.0 0.0
	baz=82,SNR=7.3					
RSSD	Black Hills	82.26	337	eP	P	02 12 08.2 +0.5
RSSD				pmax	pmax	
	comp=Z,17nm,0.9s					
RSSD	Black Hills	82.26	337	eP	P	02 12 08.2 +0.5
	comp=Z,17nm,0.9s					
TCUT	Toone Canyon	82.33	331	eP	P	02 12 08.8 +0.7
	comp=Z,34nm,0.9s					
TCUT				LR	LR	
	comp=Z,7μm,19.2s					
F30A	Leola	82.35	341	⇓P	P	02 12 08.3 +0.4
	baz=83					
TPH	Tonopah	82.37	326	eP	P	02 12 09.4 +1.0
TPH				pmax	pmax	
	comp=Z,42nm,1.0s					
TPH	Tonopah	82.37	326	eP	P	02 12 09.4 +1.0
	comp=Z,42nm,1.0s					
J22A	Midwest	82.45	336	⇓P	P	02 12 09.3 +0.7
	baz=83					
SEK	Senekal	82.45	119	eP	P	02 12 09.4 +0.1
SEK				AMB	AMB	02 12 10.5
	comp=Z,98nm,2.6s					
KSD	Kokstad	82.52	122	eP	P	02 12 10.5 +0.9
KSD				AMB	AMB	02 12 10.9
	comp=Z,29nm,1.8s					
F29A	Eureka	82.56	341	⇓P	P	02 12 08.9 -0.1
	baz=83,SNR=6.6					
H25A	Fruitdale	82.57	338	⇑P	P	02 12 10.2 +1.1
	baz=83					
EYMN	Ely	82.63	347	eP	P	02 12 08.8 -0.4
	comp=Z,28nm,1.1s					
EYMN				LR	LR	
	comp=Z,3μm,19.0s					
BFSD	Buffelsfontein	82.64	117	eP	P	02 12 09.8 -0.4
BFSD				AMB	AMB	02 12 14.5
	comp=Z,100nm,2.9s					
J21A	Lysite	82.73	335	⇓P	P	02 12 11.1 +1.0
	baz=83					
G27A	Dupree	82.75	339	⇑P	P	02 12 09.7 -0.2
	baz=83,SNR=6.8					
LBTB	Lobatse	82.75	115	⇑iP	P	02 12 10.2 -0.6
LBTB				AMB	AMB	02 12 11.4
	comp=Z,124nm,1.4s					
MLAC	Mammoth, Mammo	82.79	324	⇓P	P	02 12 11.8 +1.2
	baz=83					
HWUT	Hardware Ranch	82.80	331	eP	P	02 12 10.8 +0.3
	comp=Z,188nm,1.9s					
HWUT				LR	LR	
	comp=Z,6μm,19.0s					
BGU	Big Grassy Mou	82.83	330	eP	P	02 12 11.3 +0.6
	comp=Z,25nm,1.5s					
BGU				LR	LR	
	comp=Z,2μm,19.6s					
F28A	McLaughlin	82.85	340	⇓P	P	02 12 11.8 +1.3
	baz=83					
G26A	Maurine	82.87	339	⇑P	P	02 12 10.4 -0.3
	baz=83,SNR=8.6					
I22A	9 Mile Ranch,	82.88	336	⇓P	P	02 12 11.3 +0.5
	baz=83					
SPUT	South Promonto	82.91	331	eP	P	02 12 10.7 -0.4
	comp=Z,226nm,2.0s					
SPUT				LR	LR	
	comp=Z,4μm,19.9s					
E30A	Jud	82.94	342	⇑P	P	02 12 11.6 +0.7
	baz=83					
J20A	Shoshoni	82.97	334	⇑P	P	02 12 12.1 +0.8
	baz=83					
H24A	Dirks Ranch, A	82.99	337	⇓P	P	02 12 12.1 +0.8
	baz=83					
BW06	Boulder Array	83.01	333	eP	P	02 12 12.2 +0.6
	comp=Z,42nm,1.5s					
BW06				LR	LR	
	comp=Z,6μm,20.0s					
PD31	Pinedale Array	83.01	333	eP	P	02 12 11.8 +0.1
PD31				ePKKPbc	PKKPbc	02 30 32.4 -2.9
PDAR	Pinedale Array	83.01	333	P	P	02 12 11.8 +0.1
	comp=Z,2.4nm,1.0s,baz=152,slow=5.3,SNR=12					
PDAR				PKKPbc	PKKPbc	02 30 32.4 -2.9
	comp=Z,0.5nm,0.7s,baz=150,slow=3.3,SNR=3.6					
PDAR				LR	LR	02 45 49.6
	comp=Z,5μm,18.7s,baz=148,slow=33					
PRYS	Parys	83.03	118	eP	P	02 12 12.0 -0.2
PRYS				AMB	AMB	02 12 12.4
	comp=Z,36nm,1.3s					
G25A	Newell	83.03	338	⇑P	P	02 12 12.6 +1.1
	baz=83					
I21A	Big Trails, Te	83.09	335	⇑P	P	02 12 11.7 -0.2
	baz=83,SNR=9.2					
NV11	Mina Array Sit	83.10	325	eP	P	02 12 12.5 +0.4
BFZ	Birch Farm	83.12	225	PFAKE		02 12 20.0 +7.7
BFZ				LR	LR	
	comp=Z,6μm,18.0s					
DRLN	Deer Lake	83.14	10	eP	P	02 12 12.2 +0.4
	comp=Z,60nm,0.9s					
DRLN				epP	pP	02 12 21.6 +0.1
DRLN				LR	LR	
	comp=Z,7μm,19.4s					
NV01	Mina Array Sit	83.17	325	eP	P	02 12 13.9 +1.3
NVAR	Mina Array Bea	83.17	325	P	P	02 12 13.9 +1.3
	comp=Z,2.7nm,0.7s,baz=157,slow=6.4,SNR=17					
E29A	Napoleon	83.19	341	⇓P	P	02 12 13.0 +0.8
	baz=84					
F27A	Lemmon	83.22	340	⇓P	P	02 12 12.6 +0.1
	baz=84,SNR=12					
J19A	Crowheart	83.25	334	⇑P	P	02 12 12.9 +0.1
	baz=84,SNR=12					
KSR	Koster	83.28	116	eP	P	02 12 13.6 +0.1
KSR				AMB	AMB	02 12 14.1
	comp=Z,57nm,1.3s					
WDLM	Western Deep L	83.35	117	eP	P	02 12 13.7 -0.2
WDLM				AMB	AMB	02 12 14.4
	comp=Z,52nm,1.2s					
F26A	Lodgepole	83.40	339	⇓P	P	02 12 13.4 +0.1
	baz=84,SNR=6.6					
SAO	San Andreas Ge	83.43	322	PFAKE		02 12 30.0 +16
SAO				LR	LR	
	comp=Z,4μm,18.0s					
HVU	Hansel Valley	83.44	331	eP	P	02 12 14.2 +0.4
HVU				pmax	pmax	
	comp=Z,48nm,1.0s					
HVU				MLR	MLR	
	comp=Z,6μm,19.5s					
HVU	Hansel Valley	83.44	331	eP	P	02 12 14.2 +0.4
	comp=Z,48nm,1.0s					
HVU				LR	LR	
	comp=Z,6μm,19.5s					
H22A	Clearmont	83.45	336	⇑P	P	02 12 14.2 +0.5
	baz=84					
D30A	Buchanan	83.46	342	⇑P	P	02 12 13.8 +0.2
	baz=84,SNR=11					
G24A	Alzada	83.46	338	⇓P	P	02 12 14.8 +1.0
	baz=84					
E28A	Huff	83.48	341	⇓P	P	02 12 14.9 +1.2
	baz=84					
I20A	Worland	83.50	335	⇑P	P	02 12 14.7 +0.7
	baz=84					
KLOF	Kloof	83.53	117	eP	P	02 12 14.3 -0.6
KLOF				AMB	AMB	02 12 15.3
	comp=Z,67nm,1.1s					
E27A	Carson	83.60	340	⇑P	P	02 12 15.1 +0.7
	baz=84					
AHID	Auburn Hatcher	83.60	332	eP	P	02 12 14.8 +0.2
	comp=Z,56nm,1.4s					
AHID				LR	LR	
	comp=Z,4μm,20.0s					
KHZ	Kahutara	83.61	223	PFAKE		02 12 30.0 +15
KHZ				LR	LR	
	comp=Z,3μm,18.7s					
ELK	Elko	83.63	329	eP	P	02 12 14.1 -0.8
ELK				pmax	pmax	
	comp=Z,28nm,1.2s					
ELK				MLR	MLR	
	comp=Z,3μm,18.4s					
ELK	Elko	83.63	329	eP	P	02 12 14.1 -0.8
	comp=Z,28nm,1.2s					
ELK				LR	LR	
	comp=Z,3μm,18.4s					
D29A	Pettibone, Tap	83.63	342	⇑P	P	02 12 15.4 +0.9
	baz=84					
SNZO	South Karori	83.64	224	PFAKE		02 12 30.0 +15
SNZO				LR	LR	
	comp=Z,3μm,20.0s					
PMOZ	Porto Moniz, M	83.64	44	eLR	LR	02 42 16.8
	comp=Z,5μm,16.0s					
G23A	Biddle	83.67	337	⇓P	P	02 12 15.4 +0.6
	baz=84					
F25A	Bowman	83.70	339	⇑P	P	02 12 15.6 +0.7
	baz=84					
H21A	Big Horn, Sher	83.71	336	⇓P	P	02 12 15.7 +0.6
	baz=84					
WAKR	Walker	83.77	325	eP	P	02 12 17.2 +1.6
AGMN	Agassiz Nation	83.87	344	⇓P	P	02 12 15.5 -0.1
	baz=84,SNR=7.5					
AGMN	Agassiz Nation	83.87	344	eP	P	02 12 15.0 -0.6
	comp=Z,26nm,1.0s					
AGMN				LR	LR	
	comp=Z,5μm,19.0s					
CMB	Columbia Colle	83.87	324	eP	P	02 12 17.5 +1.5
CMB				pmax	pmax	
	comp=Z,36nm,1.3s					
CMB	Columbia Colle	83.87	324	eP	P	02 12 17.5 +1.5
	comp=Z,36nm,1.3s					
I19A	Meeteetse	83.89	334	⇑P	P	02 12 16.3 +0.2
	baz=84					
E26A	Carlson Angus	83.89	339	⇓P	P	02 12 16.6 +0.7
	baz=84					
CRWM	Crown Mines	83.90	117	eP	P	02 12 16.6 -0.1
CRWM				AMB	AMB	02 12 17.1
	comp=Z,82nm,1.2s					
BKZ	Black Stump Fm	83.91	227	PFAKE		02 12 30.0 +14
BKZ				LR	LR	
	comp=Z,6μm,21.0s					
H20A	Greybull	83.92	335	⇓P	P	02 12 16.1 0.0
	baz=84,SNR=7.8					
F24A	Ekalaka	83.94	338	⇓P	P	02 12 16.5 +0.4
	baz=84					
C30A	Mose, Pekin	83.94	342	⇑P	P	02 12 16.2 +0.2
	baz=84,SNR=18					
OBSV	Observatory	83.97	117	eP	P	02 12 16.3 -0.9
OBSV				AMB	AMB	02 12 37.1
	comp=Z,69nm,4.0s					
G22A	Birney	83.98	337	⇓P	P	02 12 16.5 +0.1
	baz=84					
ERPM	east rand prop	84.01	117	eP	P	02 12 17.5 +0.2
ERPM				AMB	AMB	02 12 18.7
	comp=Z,72nm,4.0s					
REDW	Red Top Meadow	84.01	333	eP	P	02 12 17.0 +0.2
	comp=Z,37nm,1.3s					
REDW				LR	LR	
	comp=Z,4μm,20.8s					
D28A	Regan	84.02	341	⇓P	P	02 12 16.8 +0.4
	baz=84					
SNOW	Snow King Moun	84.06	333	eP	P	02 12 17.6 +0.6
	comp=Z,34nm,1.2s					
TOA0	Torodi Ar. Sit	84.07	70	eP	P	02 12 16.8 -0.6
TORD	Torodi Ar. Bea	84.07	70	P	P	02 12 16.8 -0.6
	comp=Z,62nm,0.9s,baz=248,slow=3.2,SNR=227					
TORD				LR	LR	02 49 42.5
	comp=Z,6μm,18.4s,baz=240,slow=36					
URZ	Urewera	84.09	228	LR	LR	02 43 10.4
	comp=Z,4μm,18.3s,baz=166,slow=31					
LOHW	Long Hollow	84.13	333	eP	P	02 12 17.5 +0.1
	comp=Z,244nm,2.8s					
LOHW				LR	LR	
	comp=Z,6μm,20.1s					
F23A	Volborg	84.13	337	⇓P	P	02 12 17.4 +0.3
	baz=84					
RPZ	Rata Peaks	84.15	221	PFAKE		02 12 30.0 +12
RPZ				LR	LR	
	comp=Z,5μm,20.0s					
TPAW	Teton Pass	84.16	333	eP	P	02 12 17.9 +0.3
	comp=Z,22nm,0.9s					
TPAW				LR	LR	
	comp=Z,4μm,21.1s					
E25A	Miller Ranch,	84.20	339	⇓P	P	02 12 17.9 +0.4
	baz=85					
BMN	Battle Mountai	84.26	327	eP	P	02 12 18.9 +0.9
BMN				e*PP	pP	02 12 26.9 -0.8
BMN				pmax	pmax	
	comp=Z,15nm,1.2s					
BMN				MLR	MLR	
	comp=Z,3μm,18.0s					
BMN	Battle Mountai	84.26	327	eP	P	02 12 18.9 +0.9
	comp=Z,15nm,1.2s					
BMN				epP	pP	02 12 26.9 -0.8
BMN				LR	LR	
	comp=Z,3μm,18.0s					
G21A	Lodge Grass	84.29	336	⇑P	P	02 12 18.3 +0.3
	baz=85					
FXWY	Fox Creek	84.31	333	eP	P	02 12 18.1 -0.2
	comp=Z,10nm,0.9s					
FXWY				LR	LR	
	comp=Z,3μm,20.6s					
MDND	Maddock	84.36	342	⇓P	P	02 12 18.2 0.0
	baz=85,SNR=11					
MDND	Maddock	84.36	342	eP	P	02 12 18.5 +0.3
	comp=Z,48nm,1.3s					
SLR	Silverton	84.38	117	eP	P	02 12 18.6 -0.5
SLR				AMB	AMB	02 12 19.3
	comp=Z,88nm,1.2s					
I17A	Pilgrim Ck.	84.38	333	⇓P	P	02 12 18.7 +0.1
	baz=85					
D26A	Manning	84.39	340	⇑P	P	02 12 18.5 +0.1
	baz=85,SNR=6.4					
H19A	Powell	84.44	335	⇓P	P	02 12 19.0 +0.3
	baz=85					
F22A	Rosebud	84.46	337	⇓P	P	02 12 19.1 +0.3
	baz=85					
IMW	Indian Meadow	84.50	333	eP	P	02 12 19.5 +0.2
	comp=Z,24nm,1.0s					
E24A	Baker	84.53	338	⇑P	P	02 12 19.5 +0.4
	baz=85					
FLWY	Flagg Ranch	84.56	333	eP	P	02 12 19.8 +0.2
	comp=Z,34nm,0.9s					
FLWY				LR	LR	
	comp=Z,6μm,19.3s					
B30A	Myrvik Farm, E	84.59	343	⇓P	P	02 12 19.5 +0.2
	baz=85,SNR=25					
G20A	Bridger	84.64	335	⇑P	P	02 12 19.6 -0.2
	baz=85,SNR=9.0					
H18A	Shoshone NF, C	84.69	334	⇑P	P	02 12 20.2 0.0
	baz=85,SNR=15					
C27A	Sayler Ranch,	84.75	341	⇑P	P	02 12 20.5 +0.4
	baz=85,SNR=6.6					

D25A	Fairfield	84.76	339	⇑P		P	02 12 21.0 +0.7
	baz=85						
H17A	Grant Village	84.78	333	⇑P		P	02 12 21.5 +0.8
	baz=85						
H17A	Grant Village	84.78	333	eP		P	02 12 21.9 +1.2
	comp=Z,195nm,2.8s						
H17A				epP		pP	02 12 30.4 0.0
H17A				LR		LR	
	comp=Z,9μm,19.4s						
LKWY	Lake	84.86	334	eP		P	02 12 21.6 +0.5
LKWY				pmax		pmax	
	comp=Z,14nm,1.0s						
LKWY				MLR		MLR	
	comp=Z,6μm,20.0s						
LKWY	Lake	84.86	334	eP		P	02 12 21.6 +0.5
	comp=Z,14nm,1.0s						
LKWY				LR		LR	
	comp=Z,6μm,20.0s						
B29A	Wagenman Farm,	84.87	342	⇓P		P	02 12 20.7 0.0
	baz=85,SNR=8.3						
RLMT	Red Lodge	84.93	335	eP		P	02 12 21.8 +0.5
	comp=Z,36nm,1.3s						
YFT	Old Faithful	84.93	333	eP		P	02 12 23.2 +1.8
	comp=Z,20nm,0.9s						
YFT				epP		pP	02 12 28.9 -2.1
YFT				LR		LR	
	comp=Z,9μm,20.8s						
E22A	Miles City	84.94	337	⇓P		P	02 12 22.0 +0.8
	baz=85						
C26A	Wahner Farm, P	85.02	340	⇑P		P	02 12 22.1 +0.6
	baz=85						
D24A	Glendive	85.03	339	⇓P		P	02 12 22.6 +0.9
	baz=85						
A30A	Hoffart Farm,	85.04	343	⇓P		P	02 12 21.1 -0.5
	baz=85,SNR=7.7						
B28A	Dugan Ranch, T	85.11	342	⇑P		P	02 12 22.1 +0.2
	baz=86,SNR=7.8						
F20A	Billings	85.12	336	⇓P		P	02 12 22.1 -0.1
	baz=86						
YMR	Madison River	85.16	333	eP		P	02 12 23.7 +1.1
	comp=Z,50nm,0.9s						
MCCM	Marconi Confer	85.22	322	PFAKE			02 12 30.0 +7.4
MCCM				LR		LR	
	comp=Z,3μm,19.3s						
LAO	LASA Array	85.25	337	eP		P	02 12 22.4 -0.3
	comp=Z,31nm,1.0s						
LAO				LR		LR	
	comp=Z,3μm,20.0s						
A29A	Manning Farm,	85.26	342	⇓P		P	02 12 22.8 +0.2
	baz=86,SNR=13						
D23A	Lindsay	85.36	338	⇓P		P	02 12 23.9 +0.7
	baz=86,SNR=9.5						
C24A	Savage	85.44	339	⇓P		P	02 12 24.2 +0.6
	baz=86,SNR=7.6						
F19A	Roth Farm, Mol	85.44	335	⇑P		P	02 12 23.4 -0.3
	baz=86,SNR=6.9						
QLMT	Earthquake Lak	85.47	333	eP		P	02 12 25.1 +1.0
A28A	Rude Farm, Bot	85.51	342	⇑P		P	02 12 24.4 +0.5
	baz=86						
HLID	Hailey	85.59	331	⇑P		P	02 12 25.6 +1.0
	baz=86,SNR=12						
HLID	Hailey	85.59	331	eP		P	02 12 25.8 +1.1
	comp=Z,39nm,1.3s						
HLID				LR		LR	
	comp=Z,2μm,20.0s						
D22A	Cohagen	85.64	338	⇑P		P	02 12 25.1 +0.4
	baz=86,SNR=9.9						
GCMT	Greycliff	85.64	335	eP		P	02 12 25.3 +0.4
ULM	Lac du Bonnet	85.71	345	P		P	02 12 24.6 -0.2
ULM				pmax		pmax	
	comp=Z,8.0nm,0.8s						
ULM	Lac du Bonnet	85.71	345	P		P	02 12 24.6 -0.2
	comp=Z,8.1nm,0.8s,baz=171,slow=3.5,SNR=16						
E20A	Meyer Farm, Mu	85.72	336	⇓P		P	02 12 25.6 +0.5
	baz=86,SNR=12						
D21A	La Casta Ranch	85.83	337	⇓P		P	02 12 26.1 +0.5
	baz=86						
C23A	Lambert	85.91	338	⇓P		P	02 12 26.0 +0.1
	baz=86,SNR=9.1						
E19A	Rath Farm, Rou	85.91	336	⇑P		P	02 12 26.1 +0.1
	baz=86,SNR=9.9						
A26A	Wade Farm, Ken	85.98	341	⇑P		P	02 12 26.5 +0.2
	baz=86						
MCMT	McKenzie Canyo	86.02	332	eP		P	02 12 28.0 +1.2
MFID	Camas Ranch	86.06	330	eP		P	02 12 27.8 +0.8
	comp=Z,38nm,1.3s						
MFID				LR		LR	
	comp=Z,3μm,19.0s						
C22A	Vida	86.08	338	⇓P		P	02 12 27.0 +0.2
	baz=86,SNR=7.3						
RAO	Raoul Island	86.19	237	LR		LR	02 41 10.9
	comp=Z,1μm,20.5s,baz=144,slow=29						
DGMT	Dagmar	86.21	339	⇓P		P	02 12 27.7 +0.3
	baz=87,SNR=6.8						
DGMT	Dagmar	86.21	339	eP		P	02 12 27.7 +0.3
	comp=Z,83nm,1.1s						
BOZ	Bozeman (W)	86.24	333	eP		P	02 12 27.9 +0.1
BOZ				pmax		pmax	
	comp=Z,13nm,1.0s						
BOZ				MLR		MLR	
	comp=Z,5μm,21.0s						
BOZ	Bozeman (W)	86.24	333	eP		P	02 12 27.9 +0.1
	comp=Z,12nm,1.0s						
BOZ				LR		LR	
	comp=Z,5μm,21.0s						
DLMT	Dillon	86.37	333	eP		P	02 12 29.7 +1.3
	comp=Z,51nm,1.3s						
B23A	Brockton	86.44	339	⇑P		P	02 12 29.0 +0.4
	baz=87						
WVOR	Wild Horse Val	86.50	327	eP		P	02 12 29.7 +0.6
WVOR				e*PP		pP	02 12 36.3 -2.5
WVOR				MLR		MLR	
	comp=Z,3μm,18.0s						
WVOR	Wild Horse Val	86.50	327	eP		P	02 12 29.7 +0.6
WVOR				epP		pP	02 12 36.3 -2.5
WVOR				LR		LR	
	comp=Z,3μm,18.0s						
C21A	Desert Coulee	86.54	337	⇓P		P	02 12 28.8 -0.2
	baz=87,SNR=11						
D19A	Cripps Ranch,	86.55	336	⇓P		P	02 12 29.1 -0.1
	baz=87,SNR=7.8						
A24A	Westby	86.56	340	⇓P		P	02 12 29.4 +0.3
	baz=87						
B22A	Reddig Ranch S	86.61	338	⇑P		P	02 12 29.5 +0.1
	baz=87						
LRM	Limekiln Ridge	86.70	333	eP		P	02 12 30.6 +0.4
C20A	Veseth Ranch,	86.73	337	⇑P		P	02 12 30.0 0.0
	baz=87						
MOD	Modoc Plateau	86.84	326	eP		P	02 12 31.7 +0.9
	comp=Z,24nm,0.9s						
MOD				LR		LR	
	comp=Z,3μm,22.0s						
A23A	Redstone	86.85	339	⇓P		P	02 12 30.9 +0.4
	baz=87						
WDC	Whiskeytown Da	86.90	324	eP		P	02 12 33.2 +2.3
WDC				pmax		pmax	
	comp=Z,31nm,1.1s						
WDC	Whiskeytown Da	86.90	324	eP		P	02 12 33.2 +2.3
	comp=Z,31nm,1.1s						
B21A	Ellsworth Farm	87.04	338	⇓P		P	02 12 31.5 0.0
	baz=87,SNR=6.1						
C19A	Slack Wire Ran	87.10	336	⇑P		P	02 12 32.2 +0.3
	baz=88						
A22A	Carney Farms,	87.19	339	⇓P		P	02 12 32.2 0.0
	baz=88,SNR=16						
KMRM	Mail Ridge	87.21	323	epP		pP	02 12 41.5 -0.7
HRY	Holter Researc	87.22	334	eP		P	02 12 33.4 +0.9
N02D	Trinity Center	87.28	324	⇑P		P	02 12 32.9 0.0
	baz=88						
B20A	Solberg Farm,	87.37	337	⇓P		P	02 12 32.6 -0.5
	baz=88,SNR=14						
M04C	Macdoel	87.48	325	⇓P		P	02 12 34.0 +0.1
	baz=88						
A21A	Bergtoll Ranch	87.50	338	⇓P		P	02 12 33.3 -0.4
	baz=88,SNR=8.4						
EGMT	Eagleton	87.59	336	⇑P		P	02 12 34.6 +0.4
	baz=88						
EGMT	Eagleton	87.59	336	eP		P	02 12 34.1 -0.2
	comp=Z,38nm,1.4s						
EGMT				LR		LR	
	comp=Z,2μm,21.0s						
MSNA	Messina	87.60	115	eP		P	02 12 35.9 +0.8
MSNA				AMB		AMB	02 12 36.3
	comp=Z,58nm,1.3s						
M02C	Callahan	87.67	324	⇓P		P	02 12 35.0 +0.3
	baz=88						
B19A	Brinkman Farms	87.69	337	⇓P		P	02 12 35.2 +0.6
	baz=88						
A20A	Cobblestone Ra	87.73	337	⇑P		P	02 12 34.4 -0.4
	baz=88,SNR=14						
K05A	Summer Lake	87.76	326	eP		P	02 12 36.9 +1.6
	comp=Z,60nm,1.1s						
SCHQ	Schefferville	87.81	3	P		P	02 12 35.5 +0.5
	comp=Z,3.8nm,0.6s,baz=216,slow=6.5,SNR=9.3						
SCHQ				LR		LR	02 54 25.7
	comp=Z,1μm,18.4s,baz=182,slow=37						
BMO	Blue Mountains	87.85	330	eP		P	02 12 35.8 +0.2
	comp=Z,14nm,1.0s						
BMO				LR		LR	
	comp=Z,4μm,20.0s						
YBH	Yreka Blue Hor	87.86	325	eP		P	02 12 35.6 -0.1
YBH				pmax		pmax	
	comp=Z,27nm,0.9s						
YBH	Yreka Blue Hor	87.86	325	eP		P	02 12 35.6 -0.1
	comp=Z,27nm,0.9s						
CHMT	Chamberlain Mo	87.92	333	eP		P	02 12 35.8 -0.2
CHMT				epP		PcP	02 12 41.4 +3.6
A19A	Klindworth Far	88.04	337	⇓P		P	02 12 35.8 -0.5
	baz=88,SNR=8.8						
MSO	Missoula	88.11	333	⇓P		P	02 12 37.1 +0.4
	baz=88						
MSO	Missoula	88.11	333	eP		P	02 12 37.5 +0.8
	comp=Z,28nm,1.4s						
MSO				LR		LR	
	comp=Z,4μm,19.0s						
I07A	Izee	88.19	328	eP		P	02 12 37.8 +0.6
	comp=Z,84nm,1.7s						
I07A				LR		LR	
	comp=Z,3μm,18.5s						
OUZ	Omahuta	88.19	228	PFAKE			02 12 50.0 +12
OUZ				LR		LR	
	comp=Z,14μm,18.0s						
SLMT	Seeley Lake	88.28	333	eP		P	02 12 38.4 +0.8
J05D	Fort Rock, OR	88.35	327	⇑P		P	02 12 38.2 +0.2
	baz=89						
PINOR	Pine Mountain	88.59	327	eP		P	02 12 40.2 +1.3
	comp=Z,174nm,2.0s						
PINOR				LR		LR	
	comp=Z,4μm,18.0s						
HUMO	Hull Mountain	88.64	325	PFAKE			02 12 50.0 +11
HUMO				LR		LR	
	comp=Z,2μm,20.0s						
SWMT	Swartz Lake	88.69	333	eP		P	02 12 40.1 +0.7
F10A	Beach Ranch, E	88.72	330	eP		P	02 12 40.0 +0.4
	comp=Z,45nm,1.4s						
F10A				LR		LR	
	comp=Z,2μm,18.0s						
J04D	Umpqua Nationa	88.72	326	⇓P		P	02 12 41.2 +1.4
	baz=89						
G08A	Pilot Rock	88.90	329	eP		P	02 12 40.8 +0.2
	comp=Z,21nm,1.3s						
G08A				LR		LR	
	comp=Z,4μm,19.1s						
YBMT	Yellow Bay	88.99	333	eP		P	02 12 41.2 +0.3
JTMT	Jette	89.00	333	eP		P	02 12 41.6 +0.6
BLMT	Blacktail Moun	89.25	333	eP		P	02 12 42.7 +0.5
BSMT	Bassoo Peak	89.28	333	eP		P	02 12 42.6 +0.2
I04A	Tendick Farm,	89.29	326	⇑P		P	02 12 43.9 +1.6
	baz=90						
G06A	Carlson Farm,	89.59	328	eP		P	02 12 45.2 +1.5
	comp=Z,156nm,2.0s						
G06A				epP		pP	02 12 51.5 -2.0
G06A				LR		LR	
	comp=Z,4μm,19.1s						
WALA	Waterton Lakes	89.95	334	eP		P	02 12 45.7 +0.4
HAWA	Hanford	90.02	329	eP		P	02 12 46.4 +0.8
	comp=Z,73nm,1.7s						
HAWA				LR		LR	
	comp=Z,4μm,19.0s						
LSZ	Lusaka	90.17	108	eP		P	02 12 48.6 +1.3
LSZ				pmax		pmax	
	comp=Z,136nm,2.2s						
LSZ				MLR		MLR	
	comp=Z,13μm,20.0s						
LSZ	Lusaka	90.17	108	eP		P	02 12 48.6 +1.3
	comp=Z,136nm,2.2s						
LSZ				LR		LR	
	comp=Z,13μm,20.0s						
D08A	Wollman Farm,	90.29	330	eP		P	02 12 47.7 +0.9
	comp=Z,173nm,2.6s						
D08A				LR		LR	
	comp=Z,3μm,20.4s						
AFI	Afiamalu	90.30	253	PFAKE			02 13 00.0 +12
AFI				LR		LR	
	comp=Z,9μm,19.0s						
NEW	Newport	90.52	332	PFAKE			02 13 00.0 +12
NEW				LR		LR	
	comp=Z,4μm,20.0s						
C09A	Chrisman Ranch	90.61	331	eP		P	02 12 48.6 +0.3
	comp=Z,15nm,0.8s						
C09A				LR		LR	
	comp=Z,3μm,19.6s						
RTC	Rabat Centre	90.73	49	PFAKE			02 13 00.0 +11
RTC				LR		LR	
	comp=Z,8μm,21.0s						
F04A	Amboy	90.93	328	PFAKE			02 13 00.0 +10
F04A				LR		LR	
	comp=Z,3μm,18.8s						
LTY	Liberty	91.18	329	eP		P	02 12 51.6 +0.5
	comp=Z,32nm,1.6s						
LTY				LR		LR	
	comp=Z,4μm,19.6s						
PAF	Port-aux-Franc	91.25	156	P		x	02 12 15.0
PAF	Port-aux-Franc	91.25	156	S		SKSac	02 23 25.0 +3.4
PAF				SS		SS	02 29 39.0 -12
PAF				L		L	02 36 00.0
PAF				R			02 42 00.0
FFC	Flin Flon	91.27	343	eP		P	02 12 50.8 -0.4
FFC				pmax		pmax	
	comp=Z,73nm,1.9s						
FFC				MLR		MLR	
	comp=Z,3μm,19.0s						
FFC	Flin Flon	91.27	343	eP		P	02 12 50.8 -0.4
	comp=Z,74nm,1.9s						
FFC				LR		LR	
	comp=Z,3μm,19.0s						
LON	Longmire	91.28	328	eP		P	02 12 53.7 +2.1
LON				pmax		pmax	
	comp=Z,136nm,2.9s						
LON				MLR		MLR	
	comp=Z,2μm,19.0s						
LON	Longmire	91.28	328	eP		P	02 12 53.7 +2.1
	comp=Z,136nm,2.9s						
LON				LR		LR	
	comp=Z,2μm,19.0s						
B08A	Colville Reser	91.49	331	eP		P	02 12 53.7 +1.2
B08A				LR		LR	
	comp=Z,3μm,18.1s						
PFVI	Vila Bisbo	91.57	46	eSKS		SKKSac	02 23 34.1 -5.2
D05A	Enumclaw	91.70	329	PFAKE			02 13 10.0 +17
D05A				LR		LR	
	comp=Z,3μm,20.6s						
MORF	Marmelete	91.79	46	eSKS		S	02 23 57.3 +4.3
E03A	Lebam	91.91	327	PFAKE			02 13 10.0 +16
E03A				LR		LR	
	comp=Z,3μm,18.1s						
PIER	Pier 30 Seattl	92.16	329	ePKiKP		PKiKP	02 17 48.2 +3.1
PBDV	Barranco-do-Ve	92.18	46	eSKS		SKKSac	02 23 35.9 -8.1
PNCL	Nicolau / Gran	92.39	45	eSKS		SKSac	02 23 07.7 -20
PVAQ	Vaqueiros	92.42	46	eSKS		SKKSac	02 23 36.6 -9.0
PVAQ	Vaqueiros	92.42	46	eLQ		LQ	02 44 42.6
PVAQ				eLR		LR	02 50 38.9
	comp=Z,10μm,20.0s						
B06A	Marblemount	92.51	330	PFAKE			02 13 10.0 +13
B06A				LR		LR	
	comp=Z,3μm,18.1s						
PMAFR	Mafra	92.51	44	eSKS		S	02 23 58.3 -1.0
TAM	Tamanrasset	92.60	65	eP		P	02 12 58.5 +0.1
TAM				pmax		pmax	
	comp=Z,75nm,1.7s						
TAM	Tamanrasset	92.60	65	eP		P	02 12 58.5 +0.1
	comp=Z,75nm,1.7s						
NLWA	Neilton Lookou	92.69	328	PFAKE			02 13 10.0 +12
NLWA				LR		LR	
	comp=Z,3μm,19.0s						
A05A	Maple Falls	93.13	330	PFAKE			02 13 10.0 +10
A05A				LR		LR	
	comp=Z,3μm,21.1s						
PMTG	Montargil	93.20	44	eP		P	02 13 01.5 +1.0
PMTG	Montargil	93.20	44	eSKS		SKSac	02 23 29.4 -2.9
EDM	Edmonton	93.22	337	eP		P	02 12 58.9 -1.4
EDM	Edmonton	93.22	337	eP		P	02 12 58.9 -1.4
FCC	Fort Churchill	93.44	349	eP		P	02 13 00.5 -0.6
FCC				pmax		pmax	
	comp=Z,13nm,0.8s						
FCC				MLR		MLR	
	comp=Z,5μm,20.3s						
FCC	Fort Churchill	93.44	349	eP		P	02 13 00.5 -0.6
	comp=Z,13nm,0.8s						
FCC				LR		LR	
	comp=Z,5μm,20.3s						
PESTR	Estremoz	93.44	45	eSKS		SKKSac	02 23 42.2 -11
PGC	Sidney	93.45	329	PFAKE			02 13 10.0 +8.6
PGC				LR		LR	
	comp=Z,3μm,18.9s						
PCAS	Casmilo, Conde	93.69	44	eSKS		SKKSac	02 23 44.3 -11
PMRV	Marv??o	93.93	45	eSKS		SKKSac	02 23 46.0 -11
PMRV	Marv??o	93.93	45	eLQ		LQ	02 43 05.4
PMRV				eLR		LR	02 47 29.1
	comp=Z,5μm,18.0s						
MTE	Manteigas	94.47	44	eSKS		S	02 24 23.6 +7.0
MTE	Manteigas	94.47	44	eLQ		LQ	02 43 20.5
MTE				eLR		LR	02 50 22.8
	comp=Z,5μm,22.0s						
MTE	Manteigas	94.47	44	PFAKE			02 13 20.0 +14
MTE				LR		LR	
	comp=Z,5μm,21.0s						
POLO	Lamas de Olo	94.96	43	eSKS		SKKSac	02 24 00.5 -4.0
PGAV	Gavieira, Arco	95.07	42	eSKS		SKKSac	02 23 54.4 -11
PGAV	Gavieira, Arco	95.07	42	eLQ		LQ	02 44 32.3
PGAV				eLR		LR	02 49 20.3
	comp=Z,8μm,20.0s						
MVO	Moncorvo	95.26	43	eSKS		SKSac	02 23 52.1 +8.5
MVO	Moncorvo	95.26	43	eLQ		LQ	02 43 37.1
MVO				eLR		LR	02 52 08.2
	comp=Z,7μm,20.0s						
PAB	San Pablo	95.82	46	PFAKE			02 13 20.0 +7.4
PAB				LR		LR	
	comp=Z,7μm,20.0s						
PBRG	Braganca	95.84	43	eSKS		SKSac	02 23 54.5 +7.9
MSVF	Nonsavu	96.03	244	PFAKE			02 13 30.0 +16
MSVF				LR		LR	
	comp=Z,3μm,18.0s						
TAU	Tasmania Unive	96.04	208	PFAKE			02 13 30.0 +16
TAU				LR		LR	
	comp=Z,4μm,20.0s						
ESDC	Sonseca Array	96.13	46	P		P	02 13 14.2 +0.2
	comp=Z,2.4nm,0.9s,baz=256,slow=4.5,SNR=8.5						
ESDC				LR		LR	02 56 24.3
	comp=Z,6μm,18.7s,baz=220,slow=35						
SFJD	Kangerlussuaq	101.24	8	PFAKE			02 13 50.0 +14
SFJD				LR		LR	
	comp=Z,3μm,19.0s						
YKA	Yellowknife Ar	101.28	341	P		Pdif	02 13 35.9 -0.5
YKA				pmax		pmax	
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	101.28	341	P		Pdif	02 13 35.9 -0.5
	comp=Z,0.7nm,0.8s,baz=140,slow=4.3,SNR=10.0						
YKA				PKKPbc		PKKPbc	02 29 44.0 -3.8
	comp=Z,0.3nm,0.7s,baz=331,slow=3.6,SNR=4.8						
YKB5	Yellowknife Ar	101.28	341	ePdif		Pdif	02 13 35.9 -0.5
YKB5				ePKKPbc		PKKPbc	02 29 44.0 -3.8
ABPO	Ambohimpanom	102.30	122	PFAKE			02 13 50.0 +7.6
ABPO				LR		LR	
	comp=Z,6μm,18.0s						
DLBC	Dease Lake	103.24	333	PFAKE			02 14 00.0 +15
DLBC				LR		LR	
	comp=Z,5μm,20.1s						
DSB	Dublin	103.26	34	PFAKE			02 14 00.0 +15
DSB				LR		LR	
	comp=Z,4μm,22.0s						
ARMA	Armidale	104.35	218	PFAKE			02 14 00.0 +8.7
ARMA				LR		LR	
	comp=Z,3μm,19.4s						
VSL	Villasalto	104.50	52	PFAKE			02 14 00.0 +8.6
VSL				LR		LR	
	comp=Z,6μm,18.5s						
KMBO	Kilima Mbogo	105.57	102	PFAKE			02 18 20.0
KMBO				LR		LR	
	comp=Z,6μm,19.0s						
BNI	Bardonecchia	105.66	46	PFAKE			02 18 20.0
BNI				LR		LR	
	comp=Z,10μm,20.0s						
ESK	Eskdalemuir	106.00	34	PFAKE			02 18 20.0
ESK				LR		LR	
	comp=Z,5μm,20.0s						
WDD	Wield Dalam	106.20	58	PFAKE			02 18 20.0
WDD				LR		LR	
	comp=Z,20μm,19.0s						
EDI	Edinburgh	106.36	33	PFAKE			02 18 20.0
EDI				LR		LR	
	comp=Z,3μm,20.0s						
WLF	Walferdange	107.72	42	PFAKE			02 18 20.0
WLF				LR		LR	
	comp=Z,12μm,20.0s						
STKA	Stephens Creek	107.83	210	PKKPbc		PKKPbc	02 29 33.5 +6.7
	comp=Z,0.7nm,0.3s,baz=256,slow=4.2,SNR=2.3						
TUE	Stuetta	107.99	46	PFAKE			02 18 30.0
TUE				LR		LR	
	comp=Z,7μm,21.0s						
SUMG	Summit	108.05	10	iP		PP	02 18 39.0 +2.1
	comp=Z,5.6nm,0.9s						
SUMG	Summit	108.05	10	PFAKE			02 18 30.0
SUMG				LR		LR	
	comp=Z,5μm,20.0s						
BFO	Black Forest	108.30	44	PFAKE			02 18 30.0
BFO				LR		LR	
	comp=Z,5μm,20.0s						
CEL	Celeste	108.31	56	PFAKE			02 18 30.0
CEL				LR		LR	
	comp=Z,6μm,20.0s						
AQU	L'Aquila	108.56	51	PFAKE			02 18 30.0
AQU				LR		LR	
	comp=Z,6μm,21.0s						
FUORN	Ofenpass-Fuorn	108.61	46	PFAKE			02 18 30.0
FUORN				LR		LR	
	comp=Z,8μm,21.5s						
EIDS	Eidsvold	108.65	221	PFAKE			02 18 30.0
EIDS				LR		LR	
	comp=Z,3μm,21.2s						
DAVA	Damuels	108.70	45	⇑iPP		PP	02 18 43.0 +1.0
	comp=Z,19nm,1.9s						
STU	Stuttgart	109.02	44	PFAKE			02 18 30.0
STU				LR		LR	
	comp=Z,5μm,21.0s						
CUC	Castrocucco	109.07	54	PFAKE			02 18 30.0
CUC				LR		LR	
	comp=Z,5μm,19.0s						
BBOO	Buckleboo	109.14	205	PFAKE			02 18 30.0
BBOO				LR		LR	
	comp=Z,25μm,21.3s						
TIP	Timpagrande	109.34	55	PFAKE			02 18 30.0
TIP				LR		LR	
	comp=Z,8μm,20.0s						
RAGM	Ragged Mountai	110.36	330	PFAKE			02 18 30.0
RAGM				LR		LR	
	comp=Z,3μm,19.9s						
GRFO	Grafenberg	110.62	44	PFAKE			02 18 30.0
GRFO				LR		LR	
	comp=Z,4μm,20.0s						
BMRM	Bremner River	110.63	330	PFAKE			02 18 30.0
BMRM				LR		LR	
	comp=Z,3μm,19.8s						
INK	Inuvik	110.89	340	PKKPbc		PKKPbc	02 29 15.8 -2.2
	comp=Z,2.3nm,1.0s,baz=352,slow=3.6,SNR=4.4						
INK	Inuvik	110.89	340	PKKPbc		PKKPbc	02 29 15.8 -2.2
INK				LR		LR	
	comp=Z,5μm,20.4s						
DIV	Divide	111.20	330	PFAKE			02 18 30.0
DIV				LR		LR	
	comp=Z,3μm,18.7s						
EGAK	Eagle	111.33	335	PFAKE			02 18 30.0
EGAK				LR		LR	
	comp=Z,3μm,20.0s						
GEC2	GERESS Array S	111.70	45	ePKIKP		PKiKP	02 18 20.8 +0.2
GEC2	GERESS Array S	111.70	45	ePKiKP		PKiKP	02 18 20.8 +0.2
GERES	GERESS Array B	111.70	45	iPKIKP		PKiKP	02 18 20.8 +0.2
GERES				pmax		pmax	
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	111.70	45	PKiKP		PKiKP	02 18 20.8 +0.2
	comp=Z,0.7nm,0.7s,baz=258,slow=4.0,SNR=4.2						
KHC	Kasperske Hory	111.75	45	ex		x	02 18 40.4
KHC				ePP		PP	02 19 02.2 -1.6
KHC				eSP		SP	02 28 34.0 +1.8
KHC				ex		x	02 29 53.4
KHC				eSS		SS	02 34 36.0 -2.1
KHC				AMS		AMS	03 10 00.0
	comp=Z,4μm,20.5s						

KHC	**Kasperske Hory**	**111.75**	**45**	PFAKE		02 18 30.0		
KHC				LR	LR			
	comp=Z,4μm,18.4s							
PAX	**Paxson**	**112.01**	**332**	PFAKE		02 18 30.0		
PAX				LR	LR			
	comp=Z,4μm,20.1s							
FURI	**Furi**	**112.27**	**94**	PFAKE		02 18 30.0		
FURI				LR	LR			
	comp=Z,6μm,18.0s							
SEW	**Seward**	**112.29**	**328**	PFAKE		02 18 30.0		
SEW				LR	LR			
	comp=Z,4μm,19.9s							
CLL	**Collm**	**112.36**	**43**	PFAKE		02 18 30.0		
CLL				LR	LR			
	comp=Z,9μm,20.0s							
SML	**Sawmill**	**112.61**	**330**	PFAKE		02 18 30.0		
SML				LR	LR			
	comp=Z,600nm,20.0s							
PRA	**Prague**	**112.65**	**44**	PP	PP	02 19 08.0		-2.2
PRU	**Pruhonice**	**112.68**	**44**	*e*PP	PP	02 19 07.6		-2.8
PRU				*e*SP	SP	02 28 43.0		+2.3
PRU				*ex*	x	02 30 09.1		
PRU				*e*SS	**SS**	**02 34 50.8**		**+0.4**
PRU				AMS	AMS	03 06 20.0		
	comp=Z,5μm,19.3s							
BRG	**Berggiesshubel**	**112.71**	**43**	P	**Pdif**	**02 14 21.0**		**-6.6**
BRG						02 19 09.0		
BRG				PS	**PS**	**02 28 50.0**		**+5.0**
BRG				MLR	MLR			
	comp=N,3μm,19.6s							
BRG				MLR	MLR			
	comp=E,2μm,17.8s							
BRG				MLR	MLR			
	comp=Z,6μm,19.2s							
PMR	**Palmer**	**112.84**	**330**	PFAKE		02 18 30.0		
PMR				LR	LR			
	comp=Z,4μm,19.6s							
PVCC	**Panska Ves**	**112.92**	**44**	*e*PP	PP	02 19 08.5		-3.6
PVCC				*e*SP	SP	02 28 45.8		+2.9
PVCC				*ex*	x	02 30 05.2		
PVCC				*e*SS	**SS**	**02 34 53.9**		**+0.3**
PVCC				AMS	AMS	03 05 00.0		
	comp=Z,6μm,19.1s							
TREC	**Trest**	**112.95**	**45**	*e*PP	PP	02 19 09.3		-3.1
TREC				*e*SP	SP	02 28 39.9		-3.3
TREC				*e*SS	**SS**	**02 34 54.8**		**+0.8**
TREC				AMS	AMS	03 06 30.0		
	comp=Z,5μm,18.6s							
ILAR	**Eielson Array**	**113.44**	**333**	*i* PKIKP	**PKiKP**	**02 18 23.5**		**+0.1**
ILAR				pmax	pmax			
	comp=Z,2.0nm,1.2s							
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**113.44**	**333**	PKiKP	**PKiKP**	**02 18 23.4**		**+0.1**
	comp=Z,2.4nm,1.2s,baz=156,slow=2.4,SNR=7.4							
ILAR				PKKPbc	**PKKPbc**	**02 29 05.3**		**-4.1**
	comp=Z,0.5nm,0.8s,baz=269,slow=3.6,SNR=4.1							
ILB	**Eielson Array**	**113.44**	**333**	*e*PKiKP	**PKiKP**	**02 18 23.4**		**+0.1**
ILB				*e*PKKPbc	**PKKPbc**	**02 29 05.3**		**-4.1**
FORT	**Forrest**	**113.53**	**199**	PFAKE		02 18 40.0		
FORT				LR	LR			
	comp=Z,4μm,19.1s							
MCK	**McKinley**	**113.75**	**332**	PFAKE		02 18 40.0		
MCK				LR	LR			
	comp=Z,2μm,19.6s							
UPC	**Upice**	**113.76**	**44**	*e*PP	PP	02 19 18.7		+0.6
COLA	**College**	**113.85**	**333**	PFAKE		02 18 40.0		
COLA				LR	LR			
	comp=Z,3μm,20.0s							
DPC	**Dobruska-Polom**	**113.88**	**44**	PFAKE		02 18 40.0		
DPC				LR	LR			
	comp=Z,22μm,20.0s							
RGN	**Rugen**	**113.89**	**39**	PFAKE		02 18 40.0		
RGN				LR	LR			
	comp=Z,6μm,21.0s							
KRLC	**Kraliky**	**114.04**	**45**	*e*PP	**PP**	**02 19 22.1**		**+2.0**
KONO	**Kongsberg**	**114.14**	**33**	PFAKE		02 18 40.0		+15
KONO				LR	LR			
	comp=Z,5μm,20.0s							
TRF	**Thorofare Moun**	**114.17**	**331**	PFAKE		02 18 40.0		+15
TRF				LR	LR			
	comp=Z,3μm,19.3s							
SANT	**Santorini**	**114.33**	**61**	PFAKE		02 18 40.0		+14
SANT				LR	LR			
	comp=Z,4μm,20.0s							
MORC	**Moravsky Berou**	**114.37**	**45**	PFAKE		02 18 40.0		+14
MORC				LR	LR			
	comp=Z,5μm,19.0s							
KTH	**Kantishna Hill**	**114.47**	**331**	PFAKE		02 18 40.0		+15
KTH				LR	LR			
	comp=Z,3μm,18.4s							
VYHS	**Vyhne**	**114.65**	**47**	*e*PKIKP	PKPdf	02 18 26.3		+0.1
VYHS	**Vyhne**	**114.65**	**47**	*e*PKP	PKPdf	02 18 26.3		+0.1
APE	**Apeiranthos**	**114.67**	**61**	⇓PKIKP	PKPdf	02 18 34.0		+7.4
APE	**Apeiranthos**	**114.67**	**61**	⇓*i*P	PKPdf	02 18 34.0		+7.4
PPLA	**Purkeypile**	**114.71**	**330**	PFAKE		02 18 40.0		+14
PPLA				LR	LR			
	comp=Z,2μm,20.6s							
OKC	**Ostrava-Krasne**	**114.75**	**45**	*e*PP	PP	02 19 16.2		-8.9
OKC				*e*SP	SP	02 28 59.8		+0.1
OKC				*ex*	x	02 30 24.3		
OKC				*e*SS	**SS**	**02 35 13.8**		**-4.0**
OKC				AMS	AMS	03 08 00.0		
	comp=Z,4μm,18.2s							
CAST	**Castle Rocks**	**114.88**	**331**	PFAKE		02 18 40.0		+14
CAST				LR	LR			
	comp=Z,3μm,19.2s							
PSZ	**Piszkesteto**	**115.09**	**48**	PFAKE		02 18 40.0		+13
PSZ				LR	LR			
	comp=Z,6μm,20.0s							
BZS	**Buzias**	**115.31**	**51**	⇑PKIKP	**PKPdf**	**02 18 27.8**		**+0.3**
BZS	**Buzias**	**115.31**	**51**	⇑*i*P	**PKPdf**	**02 18 27.8**		**+0.3**
NB200	**NORSAR Array S**	**115.43**	**32**	*e*PKPdf	**PKPdf**	**02 18 27.9**		**+0.5**
NOA	**NORSAR Array B**	**115.43**	**32**	PKIKP	**PKPdf**	**02 18 27.9**		**+0.5**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
NOA	**NORSAR Array B**	**115.43**	**32**	PKP	**PKPdf**	**02 18 27.9**		**+0.5**
	comp=Z,0.9nm,0.9s,baz=248,slow=0.5,SNR=3.7							
SVW2	**Sparrevohn**	**115.45**	**328**	PFAKE		02 18 40.0		+13
SVW2				LR	LR			
	comp=Z,2μm,20.0s							
CTAO	**Charters Tower**	**115.53**	**220**	PFAKE		02 18 40.0		+11
CTAO				LR	LR			
	comp=Z,3μm,19.0s							
COLD	**Coldfoot**	**115.75**	**335**	PFAKE		02 18 40.0		+12
COLD				LR	LR			
	comp=Z,2μm,19.5s							
HFS	**Hagfors**	**116.23**	**34**	PKKPab	PKKPab	02 29 02.0		+1.3
	comp=Z,2.0nm,0.8s,baz=147,slow=3.4,SNR=3.0							
KDZ	**Kurdzhali**	**116.37**	**56**	⇑PKIKP	PKPdf	02 18 38.2		+8.5
KDZ	**Kurdzhali**	**116.37**	**56**	⇑*i*P	PKPdf	02 18 38.2		+8.5
CRVS	**Cervenica-Dubn**	**116.42**	**47**	*e*PP	PP	02 19 33.8		-3.1
DRGR		**116.45**	**50**	⇓PKIKP	**PKPdf**	**02 18 30.1**		**+0.3**
DRGR		**116.45**	**50**	⇓*i*P	**PKPdf**	**02 18 30.1**		**+0.3**
TRPA	**Tarpa**	**116.82**	**48**	⇓*i*P	**PKPdf**	**02 18 30.5**		**+0.2**
UZH	**Uzhgorod**	**116.84**	**48**	*i* PKIKP	PKPdf	02 18 35.8		+5.5
UZH				*e*PPP	PPP	02 22 16.4		
UZH				*e*		02 25 14.2		
UZH				*i*		02 29 25.6		
UZH				*i* SS	SS	02 35 49.2		+4.1
UZH				MLR	MLR			
	comp=N,2μm,19.0s							
UZH				MLR	MLR			
	comp=E,2μm,19.0s							
UZH				MLR	MLR			
	comp=Z,2μm,19.0s							
KOLS	**Kolonicke sedl**	**116.93**	**48**	*e*PKIKP	PKPdf	02 18 38.4		+7.8
KOLS				*e*		02 19 42.0		
KOLS	**Kolonicke sedl**	**116.93**	**48**	*e*PKP	PKPdf	02 18 38.3		+7.7
KOLS				*e*PP	**PP**	**02 19 42.0**		**+1.5**
ARR	**Arges**	**117.19**	**52**	⇑*i*P	**PKPdf**	**02 18 31.6**		**+0.4**
KWP	**Kalwaria Pacla**	**117.44**	**47**	⇑PKIKP	**PKPdf**	**02 18 32.2**		**+0.7**
KWP	**Kalwaria Pacla**	**117.44**	**47**	*e*PKP	**PKPdf**	**02 18 31.0**		**-0.5**
KWP	**Kalwaria Pacla**	**117.44**	**47**	⇑*i*P	**PKPdf**	**02 18 32.2**		**+0.7**
KWP	**Kalwaria Pacla**	**117.44**	**47**	*e*P	**PKPdf**	**02 18 31.5**		**0.0**
KWP				LR	LR			
	comp=Z,5μm,20.0s							
MSEY	**Mahe Island**	**117.81**	**117**	PFAKE		02 18 50.0		+17
MSEY				LR	LR			
	comp=Z,4μm,20.0s							
MLR	**Muntele Rosu**	**118.10**	**52**	⇑PKIKP	**PKPdf**	**02 18 31.4**		**-1.7**
MLR	**Muntele Rosu**	**118.10**	**52**	⇑*i*P	**PKPdf**	**02 18 31.4**		**-1.7**
AS12	**Alice Springs**	**118.20**	**207**	*e*PKPdf	**PKPdf**	**02 18 32.8**		**-1.2**
AS12				*e*PKKPbc	**PKKPbc**	**02 28 52.4**		**+0.4**
ASAR	**Alice Springs**	**118.20**	**207**	PKIKP	**PKPdf**	**02 18 32.8**		**-1.2**
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**118.20**	**207**	PKP	**PKPdf**	**02 18 32.8**		**-1.2**
	comp=Z,2.0nm,0.8s,baz=144,slow=2.0,SNR=5.5							
ASAR				PKKPbc	**PKKPbc**	**02 28 52.4**		**+0.4**
	comp=Z,1.4nm,0.9s,baz=341,slow=3.1,SNR=7.3							
BURAR	**Bucovina Array**	**118.34**	**50**	⇑PKIKP	**PKPdf**	**02 18 34.1**		**+0.7**
BURAR	**Bucovina Array**	**118.34**	**50**	⇑*i*P	**PKPdf**	**02 18 34.1**		**+0.7**
ISP	**Isparta**	**118.62**	**62**	PFAKE		02 18 50.0		+16
ISP				LR	LR			
	comp=Z,5μm,21.0s							
PLOR	**Plostina**	**118.69**	**52**	⇓PKIKP	PKPdf	02 18 43.9		+10
PLOR	**Plostina**	**118.69**	**52**	⇓*i*P	PKPdf	02 18 43.9		+10
VRI	**Vrincioaia**	**118.74**	**52**	⇓PKIKP	**PKPdf**	**02 18 33.3**		**-0.8**
VRI	**Vrincioaia**	**118.74**	**52**	⇓*i*P	**PKPdf**	**02 18 33.3**		**-0.8**
SUW	**Suwalki**	**119.11**	**42**	*e*PKIKP	**PKPdf**	**02 18 34.3**		**-0.2**
SUW				MLR	MLR			
	comp=Z,6μm,19.0s							
SUW	**Suwalki**	**119.11**	**42**	*e*PKP	**PKPdf**	**02 18 34.4**		**-0.2**
SUW	**Suwalki**	**119.11**	**42**	*e*PKPdf	**PKPdf**	**02 18 34.3**		**-0.2**
SUW				LR	LR			
	comp=Z,6μm,19.0s							
HARR	**Harsova**	**119.16**	**54**	⇓PKIKP	**PKPdf**	**02 18 33.4**		**-1.5**
HARR	**Harsova**	**119.16**	**54**	⇓*i*P	**PKPdf**	**02 18 33.4**		**-1.5**
TLB	**Topalu**	**119.20**	**54**	⇑PKIKP	**PKPdf**	**02 18 35.6**		**+0.6**
TLB	**Topalu**	**119.20**	**54**	⇑*i*P	**PKPdf**	**02 18 35.6**		**+0.6**
TIRR	**Tirgusor**	**119.41**	**54**	PFAKE		02 18 50.0		+15
TIRR				LR	LR			
	comp=Z,5μm,20.0s							
CFR	**Carcaliu**	**119.46**	**53**	⇓PKIKP	**PKPdf**	**02 18 35.3**		**-0.2**
CFR	**Carcaliu**	**119.46**	**53**	⇓*i*P	**PKPdf**	**02 18 35.3**		**-0.2**
CSS	**Prodhromos**	**119.69**	**66**	PFAKE		02 18 50.0		+14
CSS				LR	LR			
	comp=Z,1μm,22.0s							
KWAJ	**Kwajalein Atol**	**119.97**	**260**	PFAKE		02 18 50.0		+13
KWAJ				LR	LR			
	comp=Z,2μm,19.0s							
ANTO	**Ankara**	**121.00**	**60**	PFAKE		02 18 50.0		+11
ANTO				LR	LR			
	comp=Z,3μm,19.0s							
KBS	**Kingsbay**	**121.22**	**13**	PFAKE		02 18 50.0		+12
KBS				LR	LR			
	comp=Z,3μm,18.0s							
WRA	**Warramunga Arr**	**121.38**	**209**	PKIKP	**PKPdf**	**02 18 39.2**		**-0.9**
WRA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
WRA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**121.38**	**209**	PKP	**PKPdf**	**02 18 39.2**		**-0.9**
	comp=Z,5.3nm,0.9s,baz=164,slow=1.6,SNR=14							
WRA				PKKPab	**PKKPbc**	**02 28 41.4**		**+1.1**
	comp=Z,0.5nm,0.6s,baz=342,slow=4.7,SNR=6.6							
WRAB	**Tennant Creek**	**121.38**	**210**	⇑*i*PKIKP	**PKPdf**	**02 18 39.8**		**-0.3**
WRAB				pmax	pmax			
	comp=Z,24nm,1.0s							
WRAB	**Tennant Creek**	**121.38**	**210**	*e*PKPdf	**PKPdf**	**02 18 39.5**		**-0.7**
WRAB				LR	LR			
	comp=Z,5μm,22.0s							
BR101	**Keskin Array S**	**121.56**	**61**	*e*PKPdf	**PKPdf**	**02 18 40.0**		**0.0**
BR101				*e*PP	**PP**	**02 20 08.0**		**-4.9**
BRTR	**Keskin Array B**	**121.56**	**61**	PKIKP	**PKPdf**	**02 18 40.0**		**0.0**
BRTR						02 20 08.0		
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BRTR	**Keskin Array B**	**121.56**	**61**	PKP	**PKPdf**	**02 18 40.0**		**0.0**
	comp=Z,2.5nm,0.8s,baz=189,slow=2.7,SNR=11							
BRTR				PP	**PP**	**02 20 08.0**		**-4.9**
	comp=Z,1.1nm,0.8s,baz=216,slow=7.1,SNR=3.8							
KIEV	**Kiev**	**121.75**	**47**	*e*PKIKP	**PKPdf**	**02 18 38.5**		**-1.2**
KIEV				*e*		02 18 47.5		
KIEV				MLR	MLR			
	comp=Z,4μm,20.0s							
KIEV	**Kiev**	**121.75**	**47**	*e*PKPdf	**PKPdf**	**02 18 38.5**		**-1.2**
KIEV				*ep*PKPdf	**pPKPdf**	**02 18 47.5**		**-2.3**
KIEV				LR	LR			
	comp=Z,4μm,20.0s							
AKASG	**Malin Array Be**	**121.76**	**47**	PKIKP	**PKPdf**	**02 18 38.6**		**-1.1**
AKASG				pmax	pmax			
	comp=Z,5.0nm,0.9s							
AKASG	**Malin Array Be**	**121.76**	**47**	PKP	**PKPdf**	**02 18 38.6**		**-1.1**
	comp=Z,5.3nm,0.8s,baz=271,slow=2.1,SNR=9.9							
AKBB	**Malin Array Si**	**121.76**	**47**	*e*PKIKP	**PKPdf**	**02 18 38.6**		**-1.1**
AKBB	**Malin Array Si**	**121.76**	**47**	*e*PKPdf	**PKPdf**	**02 18 38.6**		**-1.1**
MNK	**Minsk**	**121.87**	**43**	*e*PKIKP	**PKPdf**	**02 18 39.0**		**-0.8**
MNK				*e*SS	SS	02 36 46.0		-3.7
MNK				*e*SSS	SSS	02 41 23.0		
MNK				MLR	MLR			
	comp=Z,7μm,17.0s							
MICGM	**Minsk**	**121.90**	**43**	*e*PKP	**PKPdf**	**02 18 39.0**		**-0.9**
TNA	**Tin City**	**122.05**	**331**	PFAKE		02 18 50.0		+10
TNA				LR	LR			
	comp=Z,2μm,19.4s							
COEN	**Coen**	**122.21**	**222**	PFAKE		02 18 50.0		+8.2
COEN				LR	LR			
	comp=Z,16μm,18.2s							
FIA0	**FINESS Array S**	**122.42**	**34**	*e*PKIKP	**PKPdf**	**02 18 39.9**		**-0.8**
FIA0	**FINESS Array S**	**122.42**	**34**	*e*PKPdf	**PKPdf**	**02 18 39.9**		**-0.8**
FINES	**FINESS Array B**	**122.42**	**34**	PKIKP	**PKPdf**	**02 18 39.9**		**-0.8**
FINES				pmax	pmax			
	comp=Z,4.0nm,0.9s							
FINES	**FINESS Array B**	**122.42**	**34**	PKP	**PKPdf**	**02 18 39.9**		**-0.8**
	comp=Z,4.3nm,0.9s,baz=174,slow=5.7,SNR=8.6							
KAF	**Kangasniemi**	**122.65**	**34**	*e*PKIKP	**PKPdf**	**02 18 39.2**		**-1.9**
KAF				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KAF	**Kangasniemi**	**122.65**	**34**	*ep*	**PKPdf**	**02 18 39.2**		**-1.9**
	comp=Z,5.2nm,0.8s							
ARA0	**ARCESS Array S**	**123.36**	**25**	*e*PKPdf	**PKPdf**	**02 18 41.5**		**-0.9**
ARCES	**ARCESS Array B**	**123.36**	**25**	PKIKP	**PKPdf**	**02 18 41.5**		**-0.8**
ARCES				pmax	pmax			
	comp=Z,8.0nm,1.1s							
ARCES	**ARCESS Array B**	**123.36**	**25**	PKP	**PKPdf**	**02 18 41.5**		**-0.8**
	comp=Z,8.0nm,1.1s,baz=208,slow=3.1,SNR=3.0							
GAMB	**Gambell**	**123.37**	**328**	PFAKE		02 18 50.0		+7.6
GAMB				LR	LR			
	comp=Z,3μm,20.4s							
SIM	**Simferopol'**	**123.44**	**55**	PKIKP	**PKPdf**	**02 18 47.9**		**+4.7**
SIM				*e*		02 20 25.7		
SIM				PS	**PS**	**02 30 19.5**		**-2.7**
SIM				pmax	pmax			
	comp=Z,55nm,10.0s							
PMG	**Port Moresby**	**123.44**	**229**	PFAKE		02 19 00.0		+16
PMG				LR	LR			
	comp=Z,2μm,22.0s							
KEV	**Kevo**	**123.90**	**24**	PFAKE		02 19 00.0		+17
KEV				LR	LR			
	comp=Z,3μm,19.0s							
MALT	**Malatya**	**124.67**	**64**	⇓PKIKP	**PKPdf**	**02 18 46.5**		**+0.6**
MALT	**Malatya**	**124.67**	**64**	⇓*i*P	**PKPdf**	**02 18 46.5**		**+0.6**
MBWA	**Marble Bar**	**124.74**	**194**	PFAKE		02 19 00.0		+13
MBWA				LR	LR			
	comp=Z,4μm,20.0s							
RAYN	**Ar Rayn**	**125.03**	**83**	*e*PKPdf	**PKPdf**	**02 18 47.0**		**0.0**
RAYN				LR	LR			
	comp=Z,5μm,18.0s							
JOF	**Joensuu**	**125.06**	**33**	*e*PKIKP	**PKPdf**	**02 18 44.3**		**-1.4**
JOF				pmax	pmax			
	comp=Z,6.0nm,0.8s							
JOF	**Joensuu**	**125.06**	**33**	*ep*	**PKPdf**	**02 18 44.3**		**-1.4**
	comp=Z,5.6nm,0.8s							
H11S2	**WAKE ISLAND Hyd**	**125.65**	**270**	T	T	04 37 45.0		
	baz=118,slow=75,SNR=130							
H11S1	**WAKE ISLAND Hyd**	**125.66**	**270**	T	T	04 37 46.4		
	baz=118,slow=75,SNR=123							
H11S3	**WAKE ISLAND Hyd**	**125.67**	**270**	T	T	04 37 47.0		
	baz=118,slow=75,SNR=93							
ANN	**Anapa**	**125.69**	**56**	*e*PKIKP	**PKPdf**	**02 18 47.4**		**0.0**
ANN				*e*PS	**PS**	**02 30 39.4**		**-2.5**
ANN				MLR	MLR			
	comp=E,1μm,20.0s							
ANN				MLR	MLR			
	comp=N,1μm,20.0s							
ANN				MLR	MLR			
	comp=Z,3μm,20.0s							
H11N3	**WAKE ISLAND Hyd**	**126.04**	**271**	T	T	04 37 23.2		
	baz=144							
H11N1	**WAKE ISLAND Hyd**	**126.06**	**271**	T	T	04 37 25.1		
	baz=144,SNR=5.8							
H11N2	**WAKE ISLAND Hyd**	**126.06**	**271**	T	T	04 37 25.3		
	baz=144							
APA	**Apatity**	**126.16**	**27**	⇓*i*PKIKP	**PKPdf**	**02 18 49.4**		**+1.7**
APA				*i*		02 25 50.0		
APA				*i*		02 30 44.0		
APA				*i* SS	SS	02 37 48.0		+5.0
APA				MLR	MLR			
	comp=Z,4μm,20.0s							
LVZ	**Lovozero**	**126.63**	**27**	PFAKE		02 19 00.0		+11
LVZ				LR	LR			
	comp=Z,3μm,20.0s							
OBN	**Obninsk**	**126.95**	**43**	*i* PKIKP	**PKPdf**	**02 18 50.1**		**+0.6**
OBN				*i*		02 18 58.6		
OBN				*i*		02 20 55.0		
OBN				*i* SS	SS	02 38 15.5		+22
OBN				pmax	pmax			
	comp=Z,55nm,2.4s							
OBN				MLR	MLR			
	comp=Z,4μm,20.0s							
OBN	**Obninsk**	**126.95**	**43**	*e*PKPdf	**PKPdf**	**02 18 49.7**		**+0.2**
OBN				LR	LR			
	comp=Z,4μm,21.0s							
DGAR	**Diego Garcia**	**127.46**	**134**	PFAKE		02 19 00.0		+8.1
DGAR				LR	LR			
	comp=Z,5μm,19.0s							
MOS	**Moscow**	**127.62**	**42**	*e*PKIKP	PKPdf	02 18 57.3		+6.5
MOS				pmax	pmax			
	comp=Z,71nm,1.5s							
MOS				MLR	MLR			
	comp=E,6μm,19.0s							
MOS				MLR	MLR			
	comp=Z,5μm,19.0s							
VSR	**Storozhevoye**	**128.02**	**48**	*e*PKIKP	**PKPdf**	**02 18 51.2**		**-0.5**
VSR				pmax	pmax			
	comp=N,7.0nm,1.3s							
VSR				pmax	pmax			
	comp=E,7.0nm,1.3s							
VSR				pmax	pmax			
	comp=Z,10.0nm,1.3s							
VSR				MLR	MLR			
	comp=N,2μm,23.0s							
VSR				MLR	MLR			
	comp=E,3μm,23.0s							
VSR				MLR	MLR			
	comp=Z,6μm,23.0s							
TMCR	**Tamitsa**	**128.11**	**32**	*e*PKIKP	**PKPdf**	**02 18 51.8**		**+0.3**
TMCR				pmax	pmax			
	comp=Z,27nm,1.0s							
KLMR	**Klimovskoe**	**128.85**	**36**	*e*PKIKP	**PKPdf**	**02 18 50.6**		**-2.4**
KLMR				pmax	pmax			
	comp=Z,58nm,1.4s							
KIV	**Kislovodsk**	**129.19**	**58**	*i* PKIKP	**PKPdf**	**02 18 54.4**		**+0.1**
KIV				*e*		02 21 01.3		
KIV				*e*PS	**PS**	**02 31 12.0**		**-0.9**
KIV				*e*SS	SS	02 38 21.5		-0.8
KIV				*e*SSS	SSS	02 43 11.4		
KIV				pmax	pmax			
	comp=Z,19nm,1.0s							
KIV	**Kislovodsk**	**129.19**	**58**	*e*PKPdf	**PKPdf**	**02 18 55.0**		**+0.7**
KIV				LR	LR			
	comp=Z,2μm,19.0s							
VRHR	**Novokhopersk**	**129.54**	**48**	*e*PKIKP	**PKPdf**	**02 18 52.1**		**-2.5**
VRHR				pmax	pmax			
	comp=N,4.0nm,0.8s							
VRHR				pmax	pmax			
	comp=E,6.0nm,0.8s							
VRHR				pmax	pmax			
	comp=Z,9.0nm,0.8s							
VRHR				MLR	MLR			
	comp=N,590nm,22.0s							
VRHR				MLR	MLR			
	comp=E,2μm,22.0s							
VRHR				MLR	MLR			
	comp=Z,4μm,22.0s							
GNI	**Garni**	**129.88**	**63**	PFAKE		02 19 10.0		+14
GNI				LR	LR			
	comp=Z,3μm,20.0s							
PRGR	**Permogore**	**131.75**	**34**	⇓*i*PKIKP	**PKPdf**	**02 18 59.2**		**+0.7**
PRGR						02 19 10.0		
PRGR						02 21 17.1		
PRGR				pmax	pmax			
	comp=Z,39nm,1.5s							
BILL	**Bilibino**	**132.08**	**334**	*d i* PKIKP	**PKPdf**	**02 18 59.5**		**+0.6**
BILL				*i*		02 19 11.5		
BILL				pmax	pmax			
	comp=Z,18nm,1.6s							
BILL	**Bilibino**	**132.08**	**334**	PFAKE		02 19 10.0		+11
BILL				LR	LR			
	comp=Z,2μm,22.0s							
SAUI	**Saumlaki**	**133.33**	**213**	PFAKE		02 19 10.0		+7.0
SAUI				LR	LR			
	comp=Z,4μm,18.0s							
COCO	**West Island**	**133.65**	**165**	PFAKE		02 19 20.0		+16
COCO				LR	LR			
	comp=Z,5μm,20.0s							
SOEI	**Soe**	**134.48**	**203**	PFAKE		02 19 20.0		+15
SOEI				LR	LR			
	comp=Z,9μm,20.0s							
MMRI	**Maumere**	**136.17**	**201**	PFAKE		02 19 20.0		+12
MMRI				LR	LR			
	comp=Z,2μm,20.0s							
XMIS	**Christmas Isla**	**136.50**	**177**	PFAKE		02 19 20.0		+11
XMIS				LR	LR			
	comp=Z,17μm,20.1s							
SOKR	**Solikamsk**	**137.53**	**36**	⇓*i*PKIKP	**PKPdf**	**02 19 09.9**		**+0.6**
SOKR				pmax	pmax			
	comp=Z,30nm,1.1s							
JAGI	**Jajag, Banyuwa**	**138.11**	**189**	PFAKE		02 19 20.0		+8.1
JAGI				LR	LR			
	comp=Z,3μm,20.0s							
UGM	**Wanagama**	**139.02**	**184**	PFAKE		02 19 30.0		+16
UGM				LR	LR			
	comp=Z,3μm,20.0s							
ARU	**Arti**	**139.23**	**40**	*i* PKIKP	**PKPdf**

TOLI				LR	LR		
	comp=Z,2μm,20.0s						
BKNI	**Bangkinang**	**146.67**	**168**	PFAKE		02 19 40.0	+10
BKNI				LR	LR		
	comp=Z,4μm,20.0s						
BRVK	**Borovoye**	**146.72**	**42**	*c iPKIKP*	**PKPdf**	**02 19 25.7**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,104nm,2.5s						
BRVK	**Borovoye**	**146.72**	**42**	*e*PKPdf	**PKPdf**	**02 19 26.0**	**+0.1**
BRVK				LR	LR		
	comp=Z,6μm,20.0s						
BVA0	**Borovoye Array**	**146.79**	**42**	PKIKP	**PKPdf**	**02 19 26.6**	**+0.5**
BVA0				pmax	pmax		
	comp=Z,75nm,1.0s						
GSI	**Gunungsitoli**	**146.83**	**161**	*e*PKPbc	**PKPab**	**02 19 29.8**	**-0.6**
VOSK	**Vostochnaya**	**147.24**	**42**	*e*PKIKP	**PKPdf**	**02 19 27.9**	**+1.1**
VOSK				*e*		02 19 30.4	
VOSK				MLR	MLR		
	comp=Z,5μm,20.4s						
VOSK	**Vostochnaya**	**147.24**	**42**	*e*PKPdf	**PKPdf**	**02 19 27.9**	**+1.1**
VOSK				*e*PKPbc	**PKPab**	**02 19 30.4**	**-0.6**
VOSK				LR	LR		
	comp=Z,5μm,20.4s						
YAK	**Yakutsk**	**147.95**	**341**	*e*PKIKP	**PKPbc**	**02 19 29.4**	**-1.3**
YAK				*e*		02 19 34.4	
YAK				*e*		02 22 55.9	
YAK				pmax	pmax		
	comp=Z,119nm,1.0s						
YAK				pmax	pmax		
	comp=E,15nm,1.4s						
YAK				pmax	pmax		
	comp=N,14nm,1.4s						
YAK				pmax	pmax		
	comp=Z,88nm,2.3s						
YAK				pmax	pmax		
	comp=N,57nm,3.3s						
YAK				pmax	pmax		
	comp=E,41nm,2.5s						
YAK	**Yakutsk**	**147.95**	**341**	*e*PKPdf	**PKPdf**	**02 19 28.1**	**+0.5**
YAK				*e*PKPbc	**PKPbc**	**02 19 30.7**	**0.0**
YAK				LR	LR		
	comp=Z,2μm,19.0s						
KSM	**Kuching**	**148.34**	**185**	*e*PKPdf	**PKPdf**	**02 19 29.8**	**-0.1**
KSM				*e*PKPbc	**PKPbc**	**02 19 33.4**	**+0.1**
KSM				LR	LR		
	comp=Z,4μm,20.0s						
MYKOM	**Kota Tinggi**	**148.52**	**172**	*e*PKPdf	**PKPdf**	**02 19 28.4**	**-1.7**
MYKOM				*e*PKPbc	**PKPbc**	**02 19 32.8**	**-0.9**
PSI	**Prapat**	**148.62**	**163**	PKP	**PKPdf**	**02 19 29.3**	**-1.1**
	comp=Z,59nm,0.8s,baz=180,slow=11,SNR=6.8						
PSI				PKPbc	**PKPbc**	**02 19 33.0**	**-1.1**
	comp=Z,59nm,0.8s,baz=197,slow=3.0,SNR=54						
YUK	**Yuzh-Kuril'sk**	**148.62**	**301**	*i* PKIKP	**PKPdf**	**02 19 29.3**	**0.0**
YUK				*i*		02 19 35.7	
YUK				*i*		02 23 07.0	
YUK				*i*		02 35 45.3	
YUK				*i* SS	SS	02 42 14.0	+3.0
YUK				*i* SSS	SSS	02 47 46.5	
SBUM	**Sibu**	**149.12**	**189**	*e*PKPdf	**PKPdf**	**02 19 31.4**	**+0.3**
SBUM				*e*PKPbc	**PKPbc**	**02 19 35.3**	**+0.1**
SBUM				LR	LR		
	comp=Z,3μm,20.0s						
KKAR	**Karatay Array**	**149.28**	**60**	*e*PKIKP	**PKPdf**	**02 19 31.4**	**+0.9**
KKAR	**Karatay Array**	**149.28**	**60**	*e*PKPdf	**PKPdf**	**02 19 31.4**	**+0.9**
KKAR				*e*PKPbc	**PKPbc**	**02 19 35.1**	**+0.2**
HYB	**Hyderabad**	**149.37**	**114**	*i* PKP	**PKPdf**	**02 19 30.0**	**-1.4**
HYB				*e*pP	**PKPbc**	**02 19 34.5**	**-1.3**
YSS	**Yuzh-Sakhalins**	**150.22**	**308**	*e*PKIKP	**PKPdf**	**02 19 31.9**	**+0.1**
YSS				*e*		02 19 37.0	
YSS				*e*		02 19 45.0	
LHMI	**Lhok Sumawe**	**150.37**	**158**	*e*PKPbc	**PKPbc**	**02 19 38.0**	**-0.3**
LHMI				LR	LR		
	comp=Z,3μm,20.0s						
MYLDM	**Lahad Datu**	**150.38**	**202**	*e*PKPbc	**PKPbc**	**02 19 39.5**	**+1.1**
IPM	**Ipoh**	**150.72**	**166**	*e*PKPdf	**PKPdf**	**02 19 33.6**	**-0.1**
IPM				*e*PKPbc	**PKPbc**	**02 19 38.2**	**-0.9**
IPM				LR	LR		
	comp=Z,3μm,20.0s						
ERM	**Erimo**	**150.82**	**298**	PFAKE		02 19 40.0	+1.5
ERM				LR	LR		
	comp=Z,2μm,19.0s						
ASAJ	**Asahikawa**	**150.94**	**302**	PKIKP	**PKPdf**	**02 19 33.3**	**+0.3**
ASAJ						02 19 39.4	
ASAJ				pmax	pmax		
	comp=Z,16nm,1.2s						
ASAJ				pmax	pmax		
	comp=Z,16nm,0.8s						
ASAJ	**Asahikawa**	**150.94**	**302**	PKP	**PKPdf**	**02 19 33.3**	**+0.3**
	comp=Z,16nm,1.2s,baz=115,slow=16,SNR=3.9						
ASAJ				PKPbc	**PKiKP**	**02 19 39.4**	**+0.1**
	comp=Z,16nm,0.8s,baz=90,slow=10,SNR=8.0						
ASAJ	**Asahikawa**	**150.94**	**302**	*e*PKPdf	**PKPdf**	**02 19 32.2**	**-0.8**
ASAJ				*e*PKPbc	**PKPbc**	**02 19 38.6**	**-0.2**
ASAJ				LR	LR		
	comp=Z,2μm,21.6s						
KULM	**Kulim**	**151.43**	**165**	*e*PKPbc	**PKPbc**	**02 19 40.2**	**-0.6**
EKS2	**Erkin-Say**	**151.72**	**61**	P	**PKPdf**	**02 19 35.8**	**+1.3**
	SNR=12						
EKS2	**Erkin-Say**	**151.72**	**61**	*e*PKIKP	**PKPdf**	**02 19 35.3**	**+0.8**
EKS2				*e*		02 19 41.6	
EKS2				MLR	MLR		
	comp=Z,4μm,20.0s						
EKS2	**Erkin-Say**	**151.72**	**61**	*e*PKPdf	**PKPdf**	**02 19 35.2**	**+0.8**
EKS2				*e*PKPbc	**PKiKP**	**02 19 41.6**	**+0.4**
EKS2				LR	LR		
	comp=Z,4μm,20.0s						
AML	**Almayashu**	**151.72**	**62**	P	**PKPdf**	**02 19 36.0**	**+1.2**
	SNR=6.5						
NGP	**Nagpur**	**151.83**	**108**	*ex*	**PKPbc**	**02 19 42.0**	**+0.5**
NGP				*ex*	x	02 23 31.5	
KKM	**Kota Kinabalu**	**151.85**	**198**	*e*PKPbc	**PKPbc**	**02 19 41.3**	**-0.6**
KKM				LR	LR		
	comp=Z,2μm,20.0s						
USP	**Ospenovka**	**152.14**	**59**	P	**PKPdf**	**02 19 36.0**	**+1.0**
	SNR=8.1						
AAK	**Ala-Archa**	**152.24**	**60**	P	**PKPbc**	**02 19 43.3**	**+1.2**
	SNR=13						
AAK	**Ala-Archa**	**152.24**	**60**	*e*PKIKP	**PKPdf**	**02 19 36.3**	**+1.0**
AAK				*e*		02 19 43.0	
AAK				*e*		02 19 51.5	
AAK				MLR	MLR		
	comp=Z,3μm,20.0s						
AAK	**Ala-Archa**	**152.24**	**60**	PKP	**PKPdf**	**02 19 36.4**	**+1.0**
	comp=Z,5.1nm,0.9s,baz=214,slow=1.3,SNR=11						
AAK				PKPbc	**PKPbc**	**02 19 43.2**	**+1.2**
	comp=Z,28nm,0.9s,baz=194,slow=1.7,SNR=42						
AAK	**Ala-Archa**	**152.24**	**60**	*e*PKPdf	**PKPdf**	**02 19 36.3**	**+1.0**
AAK				*e*PKPbc	**PKiKP**	**02 19 43.0**	**+0.7**
AAK				*e*PKPab	**PKPab**	**02 19 51.5**	**-0.5**
AAK				LR	LR		
	comp=Z,3μm,20.0s						
FRU	**Bishkek**	**152.30**	**60**	*e*PKIKP	**PKPdf**	**02 19 36.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,300nm,2.2s						
UCH	**Uchtor**	**152.31**	**61**	P	**PKPdf**	**02 19 37.3**	**+1.5**
	SNR=7.6						
NVS	**Novosibirsk**	**152.34**	**31**	*e*PKIKP	**PKPdf**	**02 19 34.2**	**-0.6**
NVS				*e*		02 23 26.0	
NVS				pmax	pmax		
	comp=Z,122nm,1.2s						
NVS				pmax	pmax		
	comp=N,14nm,1.0s						
NVS				pmax	pmax		
	comp=E,32nm,1.6s						
CHMS	**Chumysh**	**152.37**	**60**	P	**PKPbc**	**02 19 43.1**	**+0.9**
	SNR=7.3						
CHMS	**Chumysh**	**152.37**	**60**	*i* PKIKP	**PKPbc**	**02 19 43.0**	**+0.9**
KURK	**Kurchatov**	**152.39**	**42**	*e*PKIKP	**PKPdf**	**02 19 35.6**	**+0.6**
KURK				*e*		02 19 42.6	
KURK				MLR	MLR		
	comp=Z,3μm,20.0s						
KURK	**Kurchatov**	**152.39**	**42**	*e*PKPdf	**PKPdf**	**02 19 35.6**	**+0.6**
KURK				*e*PKPbc	**PKiKP**	**02 19 42.6**	**+0.5**
KURK				LR	LR		
	comp=Z,3μm,20.0s						
KBK	**Karagaybulak**	**152.57**	**60**	P	**PKPbc**	**02 19 44.0**	**+1.1**
	SNR=7.2						
KBK	**Karagaybulak**	**152.57**	**60**	*i* PKIKP	**PKPbc**	**02 19 43.9**	**+1.1**
KZA	**Kyzart**	**152.88**	**61**	P	**PKPbc**	**02 19 41.8**	**-2.1**
	SNR=7.2						
KZA	**Kyzart**	**152.88**	**61**	*i* PKIKP	**PKPbc**	**02 19 41.7**	**-2.1**
TKM2	**Tokmak 2**	**153.00**	**60**	P	**PKPdf**	**02 19 37.1**	**+0.6**
	SNR=10						
TKM2	**Tokmak 2**	**153.00**	**60**	*e*PKIKP	**PKPdf**	**02 19 37.1**	**+0.6**
TKM2				*e*		02 19 44.5	
TKM2				MLR	MLR		
	comp=Z,4μm,21.0s						
TKM2	**Tokmak 2**	**153.00**	**60**	*e*PKPdf	**PKPdf**	**02 19 37.1**	**+0.6**
TKM2				*e*PKPbc	**PKiKP**	**02 19 44.5**	**+0.6**
TKM2				LR	LR		
	comp=Z,4μm,21.0s						
NDI	**New Delhi**	**153.43**	**92**	*ex*	**PKPdf**	**02 19 38.0**	**+0.8**
NDI				*ex*	x	02 23 23.0	
CLNS	**Chul'man**	**153.62**	**339**	*e*PKIKP	**PKPdf**	**02 19 39.1**	**+2.4**
CLNS				pmax	pmax		
	comp=Z,13nm,0.9s						
CLNS				pmax	pmax		
	comp=N,5.0nm,1.2s						
ZAA1	**Zalesovo Array**	**153.63**	**31**	*e*PKPdf	**PKPdf**	**02 19 36.6**	**0.0**
ZAA1				*e*PKPbc	**PKiKP**	**02 19 44.9**	**+0.3**
ZAA1				*e*PKPab	**PKPab**	**02 19 55.0**	**-2.2**
ZALV	**Zalesovo Beam**	**153.63**	**31**	PKIKP	**PKPdf**	**02 19 36.7**	**0.0**
ZALV						02 19 44.9	
ZALV				pmax	pmax		
	comp=Z,13nm,0.9s						
ZALV				pmax	pmax		
	comp=Z,41nm,0.9s						
ZALV	**Zalesovo Beam**	**153.63**	**31**	PKP	**PKPdf**	**02 19 36.6**	**0.0**
	comp=Z,13nm,0.9s,baz=285,slow=2.9,SNR=28						
ZALV				PKPbc	**PKiKP**	**02 19 44.9**	**+0.3**
	comp=Z,41nm,0.9s,baz=296,slow=3.0,SNR=36						
ZALV				PKPab	**PKPab**	**02 19 55.0**	**-2.2**
	comp=Z,72nm,1.0s,baz=298,slow=3.2,SNR=14						
KSH	**Kashi**	**153.69**	**67**	PKPbc	**PKPdf**	**02 19 37.8**	**+0.3**
KSH				PKS	**PKSdf**	**02 23 12.3**	**+0.5**
KSH				PP	**PP**	**02 23 31.6**	**-1.3**
KSH				SKS	**SKSdf**	**02 26 42.6**	**+0.3**
KSH				SKKS	**SKKSac**	**02 30 19.4**	**-1.2**
KSH				SS	**SS**	**02 43 04.4**	**-3.5**
KSH				PPMZ			
	comp=Z,870nm,8.3s						
KSH				LN			
	comp=Z,2μm,20.2s						
KSH				LE			
	comp=Z,2μm,19.9s						
KSH				LZ			
	comp=Z,1μm,22.2s						
MJAR	**Matsushiro Arr**	**154.89**	**286**	PKIKP	**PKPdf**	**02 19 38.4**	**-0.7**
MJAR						02 19 47.6	
MJAR						02 20 03.3	
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MJAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MJAR	**Matsushiro Arr**	**154.89**	**286**	PKP	**PKPdf**	**02 19 38.4**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=132,slow=3.4,SNR=4.0						
MJAR				PKPbc	**PKPbc**	**02 19 47.5**	**-0.2**
	comp=Z,3.4nm,1.0s,baz=130,slow=1.0,SNR=5.2						
MJAR				PKPab	**PKPab**	**02 20 03.3**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=125,slow=1.7,SNR=6.0						
MAJO	**Matsushiro**	**154.89**	**286**	*e*PKIKP	**PKPdf**	**02 19 38.3**	**-0.8**
MAJO				*e*		02 19 47.5	
MAJO				*e*		02 20 03.3	
MAJO				MLR	MLR		
	comp=Z,2μm,20.0s						
MAJO	**Matsushiro**	**154.89**	**286**	*e*PKPdf	**PKPdf**	**02 19 38.3**	**-0.8**
MAJO				*e*PKPbc	**PKPbc**	**02 19 47.5**	**-0.2**
MAJO				*e*PKPab	**PKPab**	**02 20 03.3**	**+0.1**
MAJO				LR	LR		
	comp=Z,2μm,20.0s						
BOD	**Bodaibo**	**155.04**	**352**	*e*PKIKP	**PKPdf**	**02 19 36.6**	**-1.9**
BOD				*e*		02 20 02.8	
BOD				pmax	pmax		
	comp=Z,11nm,2.0s						
MK31	**Makanchi Array**	**156.34**	**48**	*i* PKIKP	**PKPdf**	**02 19 39.3**	**-1.4**
MK31				pmax	pmax		
	comp=Z,23nm,0.9s						
MK32	**Makanchi Array**	**156.34**	**48**	*e*PKPdf	**PKPdf**	**02 19 40.7**	**0.0**
MK32				*e*PKPab	**PKPab**	**02 20 09.4**	**+0.3**
MKAR	**Makanchi Array**	**156.34**	**48**	PKP	**PKPdf**	**02 19 40.7**	**0.0**
	comp=Z,6.3nm,0.9s,baz=297,slow=1.6,SNR=25						
MKAR				PKPab	**PKPab**	**02 20 09.4**	**+0.3**
	comp=Z,15nm,0.9s,baz=292,slow=1.4,SNR=16						
KOLN	**Koldanda**	**158.47**	**98**	*e*P	**PKPdf**	**02 19 44.0**	**-0.2**
	comp=Z,46nm,1.3s						
DANN	**Dangsing**	**158.80**	**97**	*e*P	**PKPdf**	**02 19 44.8**	**+0.1**
	comp=Z,80nm,1.0s						
DLV	**T Lat**	**158.82**	**182**	PFAKE		02 20 00.0	+15
DLV				LR	LR		
	comp=Z,3μm,22.0s						
GKN	**Gorkha**	**159.41**	**98**	*e*P	**PKPdf**	**02 19 45.0**	**-0.3**
MDJ	**Mudanjiang**	**159.65**	**310**	PKP	**PKPdf**	**02 19 44.0**	**-0.8**
MDJ				pPKP	**pPKPdf**	**02 19 55.1**	**+0.3**
MDJ				PKS	**PKSdf**	**02 23 15.9**	**-2.2**
MDJ				SKS	**SKSdf**	**02 26 46.3**	**-1.6**
MDJ				LN			
	comp=Z,2μm,16.5s						
MDJ				LE			
	comp=Z,520nm,17.6s						
MDJ				LZ			
	comp=Z,2μm,16.5s						
MDJ	**Mudanjiang**	**159.65**	**310**	PFAKE		02 20 00.0	+15
MDJ				LR	LR		
	comp=Z,2μm,19.0s						
DMN	**Daman**	**159.66**	**100**	*e*P	**PKPdf**	**02 19 45.3**	**-0.4**
KKN	**Kakani**	**159.87**	**100**	*e*P	**PKPdf**	**02 19 45.5**	**-0.4**
PKIN	**Phulchoki**	**159.88**	**100**	*e*P	**PKPdf**	**02 19 45.8**	**-0.2**
PKI	**Pulchoki**	**159.89**	**100**	*e*P	**PKPdf**	**02 19 45.6**	**-0.4**
GUN	**Gumba**	**160.40**	**100**	*e*P	**PKPdf**	**02 19 46.1**	**-0.5**
JIRN	**Jiri**	**160.57**	**101**	*e*P	**PKPdf**	**02 19 46.5**	**-0.3**
RAMN	**Ramite**	**160.63**	**103**	*e*P	**PKPdf**	**02 19 46.9**	**+0.1**
IRK	**Irkutsk**	**160.81**	**7**	*e*PKP2	**PKPab**	**02 20 28.8**	**+0.7**
IRK				pmax	pmax		
	comp=Z,52nm,1.2s						
WMQ	**Urumqi**	**161.08**	**50**	PKP	**PKPdf**	**02 19 46.1**	**-0.4**
WMQ				pPKP	**pPKPdf**	**02 19 56.1**	**-0.5**
WMQ				PKPab	**PKPab**	**02 20 31.5**	**+1.7**
WMQ				PKS	**PKSdf**	**02 23 18.3**	**-1.5**
WMQ				PP	**PP**	**02 24 15.7**	**+2.7**
WMQ				SKS	**SKSdf**	**02 26 46.3**	**-3.0**
WMQ				SKKS	**SKKSac**	**02 30 59.0**	**-0.2**
WMQ				SS	**SS**	**02 44 23.7**	**-2.2**
WMQ				PPMZ			
	comp=Z,260nm,7.0s						
WMQ				LZ			
	comp=Z,3μm,20.0s						
ODAN	**Odare**	**161.24**	**104**	*e*P	**PKPdf**	**02 19 47.3**	**-0.1**
TLY	**Talaya**	**161.30**	**8**	*e*PKIKP	**PKPdf**	**02 19 47.0**	**+0.6**
TLY	**Talaya**	**161.30**	**8**	*e*PKPdf	**PKPdf**	**02 19 47.0**	**+0.6**
TLY				*e*PKPab	**PKPab**	**02 20 32.0**	**+1.7**
TAPN	**Taplejung**	**161.69**	**103**	*e*P	**PKPdf**	**02 19 47.7**	**-0.3**
ZAK	**Zakamensk**	**162.53**	**10**	*e*PKIKP	**PKPdf**	**02 19 46.7**	**-1.1**
ZAK				*e*		02 20 35.5	
ZAK				pmax	pmax		
	comp=Z,11nm,1.2s						
CN2	**Changchun**	**162.65**	**313**	*e*PKP	**PKPdf**	**02 19 49.2**	**+1.2**
CN2				PP	**PP**	**02 24 26.0**	**+4.8**
CN2				PPMZ			
	comp=Z,200nm,3.0s						
CN2				LN			
	comp=Z,600nm,20.0s						
CN2				LE			
	comp=Z,800nm,20.0s						
CN2				LZ			
	comp=Z,400nm,20.0s						
KSRS	**Korea Array**	**163.05**	**290**	PKIKP	**PKPdf**	**02 19 48.2**	**-0.4**
KSRS				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KSRS	**Korea Array**	**163.05**	**290**	PKP	**PKPdf**	**02 19 48.1**	**-0.4**
	comp=Z,2.3nm,0.4s,baz=254,slow=1.3,SNR=6.0						
KS15	**Wonju Array Si**	**163.09**	**290**	*e*PKPdf	**PKPdf**	**02 19 48.1**	**-0.5**
KSAR	**Wonju Array Be**	**163.09**	**290**	PKIKP	**PKPdf**	**02 19 48.2**	**-0.4**
KSAR	**Wonju Array Be**	**163.09**	**290**	PKP	**PKPdf**	**02 19 48.1**	**-0.4**
SHL	**Shillong**	**164.18**	**115**	*ex*	**PKPdf**	**02 19 50.0**	**-0.3**
SHL				*ex*	**PKPab**	**02 20 45.0**	**+1.0**
ULN	**Ulaanbaatar**	**165.36**	**2**	*e*PKIKP	**PKPdf**	**02 19 50.0**	**-0.6**
ULN				*e*		02 20 49.2	
ULN	**Ulaanbaatar**	**165.36**	**2**	*e*PKPdf	**PKPdf**	**02 19 50.0**	**-0.6**
ULN				*e*PKPab	**PKPab**	**02 20 49.2**	**+0.8**
LSA	**Lhasa**	**165.36**	**99**	*e*PKIKP	**PKPdf**	**02 19 51.8**	**+0.3**
LSA				*e*		02 20 49.3	
LSA	**Lhasa**	**165.36**	**99**	*e*PKPdf	**PKPdf**	**02 19 51.8**	**+0.3**
LSA				*e*PKPab	**PKPab**	**02 20 49.3**	**-0.2**
SONA0	**Songino Array**	**165.36**	**4**	*e*PKPdf	**PKPdf**	**02 19 50.2**	**-0.4**
SONA0				*e*PKPab	**PKPab**	**02 20 49.7**	**+1.4**
SONM	**Songino Array**	**165.36**	**4**	PKIKP	**PKPdf**	**02 19 50.2**	**-0.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SONM	**Songino Array**	**165.36**	**4**	PKP	**PKPdf**	**02 19 50.2**	**-0.3**
	comp=Z,2.0nm,0.9s,baz=279,slow=0.7,SNR=11						
SONM				PKPab	**PKPab**	**02 20 49.7**	**+1.4**
	comp=Z,7.9nm,0.9s,baz=338,slow=3.2,SNR=13						
QIZ	**Qiongzhong**	**165.75**	**188**	PKP	**PKPdf**	**02 19 51.9**	**+0.4**
QIZ				PP	**PP**	**02 24 38.9**	**+2.4**
QIZ				SS	SS	02 45 16.6	+4.6
QIZ				PPMZ			
	comp=Z,320nm,13.3s						
QIZ				LN			
	comp=Z,2μm,19.9s						
QIZ				LE			
	comp=Z,750nm,21.1s						
QIZ				LZ			
	comp=Z,3μm,20.6s						
QZH	**Quanzhou**	**167.48**	**232**	PKPbc	PKPdf	02 20 01.2	+8.5
QZH				PP	PP	02 24 58.5	+12
SSE	**Sheshan**	**168.46**	**263**	PKP	**PKPdf**	**02 19 52.8**	**-0.4**
SSE				PP	**PP**	**02 24 54.1**	**+1.9**
SSE				SS	SS	02 45 42.5	-0.2
SSE				PPMZ			
	comp=Z,970nm,11.9s						
SSE				LN			
	comp=Z,1μm,18.7s						
SSE				LE			
	comp=Z,2μm,18.7s						
SSE				LZ			
	comp=Z,3μm,18.9s						
BJI	**Beijing**	**170.43**	**318**	PKP	**PKPdf**	**02 19 55.4**	**+1.3**
BJI				LN			
	comp=Z,3μm,20.4s						
BJI				LE			
	comp=Z,3μm,22.2s						
BJI				LZ			
	comp=Z,3μm,23.0s						
NJ2	**Nanjing**	**170.61**	**266**	*e*PKP	**PKPdf**	**02 19 55.1**	**+0.7**
NJ2				PP	**PP**	**02 25 05.0**	**+1.9**
NJ2				PPMZ			
	comp=Z,1μm,11.5s						
NJ2				LN			
	comp=Z,2μm,24.6s						
NJ2				LE			
	comp=Z,2μm,21.2s						
NJ2				LZ			
	comp=Z,2μm,22.4s						
KMI	**Kunming**	**170.80**	**150**	PKP	**PKPdf**	**02 19 53.8**	**-1.3**
GTA	**Gaotai**	**171.07**	**44**	⇓PKP	**PKPdf**	**02 19 55.5**	**+0.8**
GTA				PKPab	**PKPab**	**02 21 15.7**	**+1.7**
GTA				PP	**PP**	**02 25 08.7**	**+4.1**
GTA				SKS	**SKSdf**	**02 26 54.1**	**-1.9**
GTA				SKKS	**SKKSac**	**02 31 51.3**	**+1.9**
GTA				SS	**SS**	**02 46 08.1**	**+0.9**
GTA				PPMZ			
	comp=Z,940nm,9.5s						
GTA				LN			
	comp=Z,2μm,18.5s						
GTA				LE			
	comp=Z,2μm,18.5s						
GTA				LZ			
	comp=Z,3μm,20.0s						
HHC	**Hu-ho-hao-te**	**171.81**	**340**	*e*PKP	**PKPdf**	**02 19 55.5**	**+0.6**
HHC				PP	**PP**	**02 25 12.2**	**+4.6**
HHC				SKS	**SKSdf**	**02 26 55.4**	**-0.7**
HHC				SKKS	**SKKSac**	**02 31 55.1**	**+2.5**
HHC				SS	**SS**	**02 46 14.0**	**+0.8**
HHC				PPMZ			
	comp=Z,560nm,8.7s						
HHC				LN			
	comp=Z,9μm,19.9s						
HHC				LE			
	comp=Z,6μm,22.4s						
HHC				LZ			
	comp=Z,10μm,19.9s						
LZH	**Lanzhou**	**175.66**	**48**	*e*PKP	**PKPdf**	**02 19 57.6**	**+1.0**
LZH				pPKP	**pPKPdf**	**02 20 05.5**	**-1.1**
LZH				PP	PP	02 25 34.0	+6.8
LZH				SKKS		02 32 11.4	
LZH				SS	**SS**	**02 46 52.4**	**+0.4**
LZH				PPMZ			
	comp=Z,1μm,6.0s						
LZH				LN			
	comp=Z,2μm,16.3s						
LZH				LE			
	comp=Z,3μm,18.7s						
LZH				LZ			
	comp=Z,3μm,19.2s						
CD2	**Chengdu**	**175.87**	**123**	*e*PKP	**PKPdf**	**02 19 56.9**	**+0.3**
CD2				PKPab	**PKPab**	**02 21 35.1**	**-0.4**
CD2				PP	**PP**	**02 25 26.7**	**-1.6**
CD2				SKS	**SKSdf**	**02 26 52.7**	**-4.9**
CD2				SKKS	**SKKSac**	**02 32 12.6**	**0.0**
CD2				SS	**SS**	**02 46 51.3**	**-2.9**
CD2				PPMZ			
	comp=Z,2μm,12.2s						
CD2				LN			
	comp=Z,3μm,20.2s						
CD2				LE			
	comp=Z,3μm,15.5s						
CD2				LZ			
	comp=Z,4μm,17.8s						
XAN	**Xi'an**	**178.76**	**312**	PKP	**PKPdf**	**02 19 55.8**	**-1.2**
XAN				PKPab		02 21 52.6	
XAN				PKS	**PKSdf**	**02 23 26.5**	**-2.6**
XAN				PP	PP	02 25 47.2	+5.5
XAN				SKS	**SKSdf**	**02 26 53.3**	**-4.5**
XAN				SKKS	**SKKSac**	**02 32 28.3**	**+2.5**
XAN				PPMZ			
	comp=Z,570nm,13.7s						
XAN				LN			
	comp=Z,2μm,21.1s						
XAN				LE			
	comp=Z,660nm,21.1s						
XAN				LZ			
	comp=Z,1μm,18.2s						

*JMA **04** 02:01:39.6±0.1,23°.05N×120°.59E,h0km,M3.7*
*TAP **04** 02:01:40.5,22°.98N×120°.63E,h18km,ML3.8,B*
*ISCJB **04** 02:01:41.3±0.2,22°.95N±0°.01×120°.61E±0°.02,h25km±2km,*
Error ellipse: s-maj=3.4km s-min=2.4km az=168.6

ISC 04 02:01:41.1±0.9,22°.99N±0°.02×120°.61E±0°.02,h17km±2km,
n69,σ0s90/105,14C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.10**	**346**	⇓*i*P	**Pg**	**02 01 45.1**	**+0.5**
	baz=340						
SGST				*i* S	**Sg**	**02 01 48.3**	**+1.3**
	baz=340						
CHN1	**Nanshi**	**0.21**	**340**	⇓*i*P	**Pb**	**02 01 46.8**	**+0.3**
	baz=345						
CHN1				*i* S	**Sb**	**02 01 51.7**	**+1.6**

	baz=355						
SCLT	**Jiali**	**0.42**	**296**	*e*P	**Pb**	**02 01 50.7**	**+0.5**
SCLT	baz=297			*e*S	**Sn**	**02 01 58.7**	**-1.1**
ELDTW	**Lidau**	**0.43**	**62**	⇑*i*P	**Pg**	**02 01 49.8**	**-0.1**
	baz=59						
TWG	**Pinlang**	**0.46**	**111**	P	**Pg**	**02 01 50.2**	**-0.1**
TWG	baz=102			S	**Sb**	**02 01 57.2**	**-0.1**
	baz=102						
KAU	**Kaohsiung**	**0.50**	**214**	*e*P	**Pb**	**02 01 52.1**	**+0.6**
	baz=228						
ECL	**Taimali**	**0.50**	**140**	⇓*i*P	**Pg**	**02 01 50.9**	**-0.2**
	baz=146						
ECL				S	**Sg**	**02 01 57.8**	**-0.1**
	baz=146						
CHY	**Chiayi**	**0.54**	**342**	P	**Pb**	**02 01 52.3**	**+0.3**
	baz=341						
CHY				S	**Sn**	**02 02 01.1**	**-1.5**
	baz=341						
TTN	**Taitung**	**0.55**	**115**	P	**Pb**	**02 01 52.5**	**+0.3**
	baz=115						
ALS	**Alishan**	**0.55**	**19**	⇑*i*P	**Pg**	**02 01 52.1**	**-0.1**
	baz=17						
ALS				S	**Sb**	**02 02 01.2**	**+1.0**
	baz=17						
CHN2	**Minshiung**	**0.56**	**347**	*e*P	**Pb**	**02 01 52.6**	**+0.2**
	baz=346						
CHN2				*e*S	**Sn**	**02 02 02.1**	**-1.1**
	baz=346						
YUS	**Yu-Shan**	**0.59**	**32**	⇑*i*P	**Pg**	**02 01 53.1**	**+0.1**
	baz=40						
YUS				*e*S	**Sb**	**02 02 01.9**	**+0.3**
	baz=40						
CHN5	**Tsauling**	**0.61**	**6**	⇑*i*P	**Pg**	**02 01 53.1**	**-0.1**
	baz=4.0						
CHN5				*e*S	**Sb**	**02 02 03.1**	**+1.3**
	baz=4.0						
SCZT	**Fangliau**	**0.61**	**179**	⇑*i*P	**Pg**	**02 01 52.6**	**-0.5**
	baz=175						
SCZT				*e*S	**Sn**	**02 02 04.1**	**-0.3**
	baz=175						
EAST	**Anshuo**	**0.64**	**160**	⇑*i*P	**Pg**	**02 01 53.4**	**-0.3**
	baz=158						
TWP	**Hsiaoliuchiu**	**0.68**	**200**	*e*P	**Pn**	**02 01 55.5**	**-0.4**
	baz=201						
TWP				*e*S	**Sn**	**02 02 08.1**	**+2.1**
	baz=201						
TAW	**Tawu**	**0.68**	**157**	*e*P	**Pg**	**02 01 53.8**	**-0.7**
	baz=158						
TAW				S	**Sg**	**02 02 03.2**	**-0.2**
	baz=158						
WGK	**Gukeng**	**0.70**	**357**	*e*P	**Pb**	**02 01 54.9**	**+0.1**
	baz=356						
WGK				S	**Sn**	**02 02 06.4**	**-0.2**
	baz=356						
CHKT	**Chengkung**	**0.71**	**81**	P	**Pg**	**02 01 54.7**	**-0.3**
	baz=80						
CHKT				S	**Sb**	**02 02 05.5**	**+1.2**
	baz=80						
TWF1	**Yuli**	**0.73**	**60**	⇑*i*P	**Pg**	**02 01 55.0**	**-0.4**
	baz=58						
WSF	**Szhu**	**0.74**	**331**	*e*P	**Pb**	**02 01 55.6**	**+0.1**
	baz=331						
WSF				*e*S	**Sn**	**02 02 07.3**	**-0.3**
	baz=331						
EHY	**Hungye**	**0.84**	**52**	⇑*i*P	**Pb**	**02 01 56.8**	**-0.4**
	baz=57						
WNT	**Mingjian**	**0.89**	**4**	*e*P	**Pb**	**02 01 57.8**	**-0.3**
	baz=351						
WNT				*e*S	**Sn**	**02 02 11.3**	**0.0**
	baz=351						
WDGT	**Dungji**	**0.91**	**288**	*e*P	**Pb**	**02 01 57.4**	**-1.1**
	baz=288						
WDGT				*e*S	**Sb**	**02 02 09.6**	**-0.7**
	baz=288						
WTCT	**Ta-ch'eng**	**0.92**	**341**	*e*P	**Pb**	**02 01 57.7**	**-1.0**
	baz=340						
SMLT	**Sun Moon Lake**	**0.93**	**17**	P	**Pb**	**02 01 58.9**	**0.0**
	baz=16						
SMLT				*i*S	**Sn**	**02 02 13.9**	**+1.3**
	baz=16						
TYC	**Yuchr**	**0.94**	**14**	P	**Pb**	**02 01 58.7**	**-0.3**
	baz=13						
TYC				*e*S	**Sn**	**02 02 13.8**	**+1.2**
	baz=13						
HEN	**Hengchun**	**0.98**	**173**	*e*P	**Pb**	**02 01 59.4**	**-0.3**
	baz=174						
TWK1	**Hengchun**	**1.05**	**170**	*e*P	**Pb**	**02 02 00.2**	**-0.7**
	baz=170						
TWK1				*e*S	**Sn**	**02 02 16.3**	**+0.9**
	baz=170						
TSEB	**Hengchuen, Pin**	**1.11**	**166**	*e*P	**Pb**	**02 02 01.2**	**-0.7**
	baz=186						
TSEB				*e*S	**Sg**	**02 02 18.2**	**+1.0**
	baz=186						
ESL	**Shilin**	**1.12**	**42**	⇑P	**Pb**	**02 02 01.7**	**-0.3**
	baz=41						
ESL				*e*S	**Sg**	**02 02 18.0**	**+0.6**
	baz=41						
PNG	**Penghu**	**1.13**	**301**	*e*P	**Pb**	**02 01 60.0**	**-2.1**
	baz=301						
TCU	**Taichung**	**1.16**	**3**	*e*P	**Pn**	**02 02 02.3**	**-0.2**
	baz=3.0						
TCU				*e*S	**Sg**	**02 02 18.9**	**+0.2**
	baz=3.0						
LAY	**Lan-yu**	**1.28**	**137**	*e*P	**Pn**	**02 02 02.9**	**-1.4**
	baz=126						
WHF	**Hehuan Shan**	**1.30**	**27**	*e*P	**Pn**	**02 02 05.0**	**+0.1**
	baz=26						
TWQ1	**Liyutan**	**1.36**	**6**	*e*P	**Pn**	**02 02 05.3**	**0.0**
	baz=5.0						
TWT	**Tachien**	**1.36**	**22**	*e*P	**Pn**	**02 02 05.7**	**+0.2**
	baz=20						
TWD	**Chiawan**	**1.42**	**40**	*e*P	**Pn**	**02 02 06.1**	**+0.1**
	baz=39						
TWD				*e*S	**Sg**	**02 02 26.0**	**-0.9**
	baz=39						
NSY	**Sanyi**	**1.43**	**6**	*e*P	**Pn**	**02 02 05.8**	**-0.5**
	baz=5.0						
NNS	**Nan Shan**	**1.61**	**26**	*e*P	**Pb**	**02 02 09.7**	**-0.8**
	baz=12						
NSTT	**Nanjuang**	**1.68**	**12**	*e*P	**Pn**	**02 02 08.9**	**-0.7**
	baz=355						
ENA	**Nanau**	**1.77**	**36**	*e*P	**Pn**	**02 02 10.9**	**0.0**
	baz=35						
NSK	**Sanguang**	**1.82**	**22**	*e*P	**Pn**	**02 02 12.0**	**+0.3**
	baz=21						
ENTT	**Nioudou**	**1.86**	**28**	*e*P	**Pb**	**02 02 13.8**	**-0.9**
	baz=28						
ENTT				*e*S	**Sb**	**02 02 39.0**	**+1.2**
	baz=28						
TWC	**Suao**	**1.98**	**35**	*e*P	**Pb**	**02 02 15.3**	**-1.3**
	baz=34						
TWE	**Neicheng**	**1.98**	**29**	*e*P	**Pb**	**02 02 16.5**	**-0.2**
	baz=28						
TWA	**Mucha**	**2.18**	**24**	*e*P	**Pn**	**02 02 16.6**	**+0.1**
	baz=23						
EGS		**2.21**	**33**	*e*P	**Pn**	**02 02 17.6**	**+0.6**
	baz=32						
NWF	**Wu-fen Shan**	**2.34**	**27**	*e*P	**Pn**	**02 02 19.7**	**+0.9**
	baz=9.0						
TWB1	**Santiao Chiao**	**2.38**	**32**	*e*P	**Pn**	**02 02 18.6**	**-0.7**
	baz=31						
KNM	**Kinmen**	**2.45**	**306**	*e*P	**Pn**	**02 02 20.0**	**-0.3**
	baz=304						
JYNG	**Yonagunijimaku**	**2.59**	**55**	P	**Pn**	**02 02 23.3**	**+1.1**
YOJ	**Yonaguni jima**	**2.65**	**56**	P	**Pn**	**02 02 24.1**	**+1.1**
YOJ				*e*S	**Sn**	**02 02 56.5**	**+1.8**
YOJ	**Yonaguni jima**	**2.65**	**56**	*e*P	**Pn**	**02 02 24.2**	**+1.2**
	baz=56						
HATJ	**Hateruma jima**	**3.12**	**69**	*e*S	**Sn**	**02 03 06.7**	**+0.3**
IRIF	**Iriomote-Funau**	**3.16**	**64**	P	**Pn**	**02 02 31.1**	**+1.0**
IRIF				*e*S	**Sn**	**02 03 10.1**	**+2.7**
JKRS	**Kuro-shima**	**3.36**	**68**	*e*S	**Sn**	**02 03 13.4**	**+1.1**
JIJ	**Ishigaki jima**	**3.52**	**66**	P	**Pn**	**02 02 35.2**	**+0.2**
JIJ				*e*S	**Sn**	**02 03 16.1**	**-0.1**
JISG	**Ishigakijimahi**	**3.75**	**64**	P	**Pn**	**02 02 37.9**	**-0.2**
JISG				*e*S	**Sn**	**02 03 21.6**	**-0.3**
JTJ	**Tarama**	**4.09**	**65**	P	**Pn**	**02 02 44.3**	**+1.4**

ISCJB ***04*** *02:04:28.6±0.8, 50°.29N±0°.06×19°.19E±0°.04, h0km, Error ellipse: s-maj=8.4km s-min=2.8km az=15.7*
CSEM ***04*** *02:04:29.7±0.5, 50°.29N×19°.20E, h2km, ML2.5/5, Error ellipse: s-maj=12.2km s-min=3.9km az=15.0*

PRU ***04*** *02:04:31.1, 50°.22N×19°.18E, h0km*
ISC 04 02:04:30.1±1.0, **50°.23N**±0°.06×**19°.19E**±0°.03, **h0km, n28,** σ**0**§**96**/49, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.14**	**298**	*e*Pg	Pg	02 04 36.4	+3.6
CHZP				*e*Sg	Sg	02 04 40.7	+6.0
OKC	**Ostrava-Krasne**	**0.78**	**240**	*e*PG	**Pg**	**02 04 45.6**	**+0.6**
OKC				*e*SG	**Sg**	**02 04 56.4**	**+1.4**
	comp=Z,12nm,0.6s						
OKC	**Ostrava-Krasne**	**0.78**	**240**	Pg	**Pg**	**02 04 45.6**	**+0.6**
OKC				Sg	**Sg**	**02 04 56.4**	**+1.4**
	12nm,0.6s						
NIE	**Niedzica**	**1.09**	**138**	*e*Pg	**Pb**	**02 04 51.6**	**-0.2**
NIE				*e*Sg	**Sg**	**02 05 05.8**	**+0.8**
NIE	**Niedzica**	**1.09**	**138**	*e*Pg	**Pb**	**02 04 51.6**	**-0.2**
NIE				*e*Sg	**Sg**	**02 05 05.8**	**+0.8**
MORC	**Moravsky Berou**	**1.15**	**248**	*e*Pg	**Pn**	**02 04 53.8**	**+0.2**
MORC				*e*Sg	**Sb**	**02 05 09.5**	**+1.0**
KRLC	**Kraliky**	**1.56**	**265**	*e*PG	**Pb**	**02 04 59.6**	**-0.2**
KRLC				*e*SG	**Sg**	**02 05 21.4**	**+1.4**
KRLC	**Kraliky**	**1.56**	**265**	Pg	**Pb**	**02 04 59.6**	**-0.2**
KRLC				Sg	**Sg**	**02 05 21.4**	**+1.4**
STHS	**Stebnicka Huta**	**1.56**	**121**	*e*Pn	**Pb**	**02 04 59.5**	**-0.4**
STHS				*e*Sn	**Sg**	**02 05 20.9**	**+0.7**
STHS	**Stebnicka Huta**	**1.56**	**121**	*e*PN	**Pb**	**02 04 59.5**	**-0.4**
STHS				*e*SN	**Sg**	**02 05 20.9**	**+0.7**
STHS				*e*LG	Lg	02 05 23.2	
VYHS	**Vyhne**	**1.75**	**188**	*e*Pn	**Pn**	**02 05 01.4**	**-0.3**
VYHS				*e*Sn	**Sn**	**02 05 24.3**	**-0.4**
VYHS	**Vyhne**	**1.75**	**188**	*e*PN	**Pn**	**02 05 01.4**	**-0.3**
VYHS				*e*SN	**Sn**	**02 05 24.3**	**-0.4**
VYHS				*e*LG	Lg	02 05 26.8	
DPC	**Dobruska-Polom**	**1.84**	**275**	*e*PG	**Pb**	**02 05 04.2**	**-0.5**
DPC				*e*SG	**Sg**	**02 05 30.5**	**+1.2**
DPC	**Dobruska-Polom**	**1.84**	**275**	Pg	**Pb**	**02 05 04.2**	**-0.5**
DPC				Sg	**Sg**	**02 05 30.5**	**+1.2**
VRAC	**Vranov**	**1.92**	**242**	*e*Pn	**Pb**	**02 05 05.9**	**0.0**
VRAC				*e*Sg	**Sb**	**02 05 31.5**	**+1.1**
CRVS	**Cervenica-Dubn**	**1.99**	**131**	*e*Pn	**Pn**	**02 05 05.0**	**0.0**
CRVS				*e*Sn	**Sn**	**02 05 28.5**	**-2.1**
CRVS	**Cervenica-Dubn**	**1.99**	**131**	*e*PN	**Pn**	**02 05 05.0**	**0.0**
CRVS				*e*SN	**Sn**	**02 05 28.5**	**-2.1**
UPC	**Upice**	**2.05**	**279**	*e*PG	**Pb**	**02 05 08.6**	**+0.3**
UPC				*e*SG	**Sg**	**02 05 37.4**	**+1.4**
	comp=Z,3.3nm,0.5s						
UPC	**Upice**	**2.05**	**279**	Pg	**Pb**	**02 05 08.6**	**+0.3**
UPC				Sg	**Sg**	**02 05 37.4**	**+1.4**
	3.3nm,0.5s						
KOLS	**Kolonicke sedl**	**2.39**	**122**	*e*Sn	**Sn**	**02 05 40.1**	**-0.4**
KOLS	**Kolonicke sedl**	**2.39**	**122**	*e*	**Pg**	**02 05 17.0**	**+1.1**
KOLS	**Kolonicke sedl**	**2.39**	**122**	*e*SN	**Sn**	**02 05 40.1**	**-0.4**
PVCC	**Panska Ves**	**2.97**	**278**	*e*SG	**Sg**	**02 06 06.3**	**+0.7**
	comp=Z,7.6nm,0.4s						
PVCC	**Panska Ves**	**2.97**	**278**	Sg	**Sg**	**02 06 06.3**	**+0.7**
	7.6nm,0.4s						
PRU	**Pruhonice**	**3.00**	**267**	*e*PG	**Pg**	**02 05 26.8**	**-0.8**
PRU				*e*SG	**Sg**	**02 06 06.6**	**+0.1**
	comp=Z,1.8nm,0.3s						
PRU	**Pruhonice**	**3.00**	**267**	Pg	**Pg**	**02 05 26.8**	**-0.8**
PRU				Sg	**Sg**	**02 06 06.6**	**+0.1**
	1.8nm,0.3s						
KHC	**Kasperske Hory**	**3.80**	**255**	*e*PG	**Pg**	**02 05 41.3**	**-1.7**
KHC				*e*SG	**Sg**	**02 06 31.2**	**-1.1**
	comp=Z,3.6nm,0.7s						
KHC	**Kasperske Hory**	**3.80**	**255**	Pg	**Pg**	**02 05 41.3**	**-1.7**
KHC				Sg	**Sg**	**02 06 31.2**	**-1.1**
	3.6nm,0.7s						

IDC ***04*** *02:07:20.0±2.7, 7°.07S×117°.11E, h590km±34km, mb3.2/8, mb1 3.4/9, mb1mx3.1/42, mbtmp4.2/9, Error ellipse: s-maj=44.5km s-min=12.2km az=70.0*
ISCJB ***04*** *02:07:20.1±0.5, 7°.14S±0°.10×117°.13E±0°.08, h600km, mb3.8/7, Error ellipse: s-maj=14.0km s-min=9.0km az=34.4*
DJA ***04*** *02:07:45.0±0.4, 7°.5S±4°×11°.7E±°, h300km, M3.9/7, MLv3.9/7*
ISC 04 02:07:20.8±0.7, **7°.21S**±0°.09×**117°.14E**±0°.09, **h600km, n17,** σ**1**§**62**/20, **mb3.8/7, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**2.40**	**232**	P	**S**	**02 09 40.9**	**+2.2**
JAGI	**Jajag, Banyuwa**	**3.21**	**247**	P	**P**	**02 08 41.5**	**+0.3**
JAGI				S	**S**	**02 09 45.1**	**-1.6**
WBSI	**Waikabubak, Su**	**3.29**	**137**	P	**P**	**02 08 42.7**	**+1.0**
WBSI				S	**S**	**02 09 45.8**	**-1.8**
GMJI	**Gumukmas**	**3.81**	**254**	P	**P**	**02 08 46.1**	**+1.1**
WSI	**Waingapu**	**3.97**	**128**	P	**S**	**02 09 56.8**	**+1.3**
BNSI	**Bone**	**4.06**	**47**	P	**P**	**02 08 48.6**	**+1.8**
SPSI	**Sidrap Palu**	**4.15**	**39**	P	**P**	**02 08 49.1**	**+1.7**
BBKI	**Banjar Baru**	**4.37**	**328**	P	**P**	**02 08 51.5**	**+2.5**
BATI	**Baumata**	**7.11**	**115**	P	**P**	**02 09 13.2**	**+1.4**
	6.9nm,0.3s,baz=269,slow=3.0,SNR=9.4						
BATI				S	**S**	**02 10 39.7**	**-3.0**
	6.4nm,0.3s,baz=121,slow=23,SNR=8.1						
WRA	**Warramunga Arr**	**20.94**	**129**	P	**P**	**02 11 24.0**	**+0.9**
	0.8nm,0.4s,baz=313,slow=9.4,SNR=35						
ASAR	**Alice Springs**	**22.95**	**137**	P	**P**	**02 11 41.9**	**+0.8**
	1.0nm,0.3s,baz=315,slow=8.3,SNR=21						
STKA	**Stephens Creek**	**33.50**	**140**	P	**P**	**02 13 13.0**	**+0.8**
	2.0nm,0.4s,baz=320,slow=8.5,SNR=12						
USRK	**Ussuriysk Ar.**	**52.90**	**13**	P	**P**	**02 15 41.1**	**-1.0**
	3.5nm,0.6s,baz=185,slow=6.3,SNR=13						
SONM	**Songino Array**	**55.62**	**351**	P	**P**	**02 15 59.8**	**-1.4**
	2.0nm,0.5s,baz=170,slow=8.0,SNR=9.8						
MKAR	**Makanchi Array**	**62.04**	**334**	P	**P**	**02 16 43.0**	**-1.0**
	1.8nm,0.3s,baz=139,slow=6.0,SNR=9.9						
AAK	**Ala-Archa**	**62.97**	**326**	P	**P**	**02 16 49.5**	**-0.8**
	1.6nm,0.7s,baz=346,slow=4.2,SNR=4.7						
VNDA	**Vanda**	**74.03**	**171**	P	**P**	**02 17 56.5**	**+0.5**
	1.3nm,0.5s,baz=302,slow=8.3,SNR=8.0						

IDC ***04*** *02:08:15.2±0.6, 20°.17N×122°.16E, h0km, mb4.3/20, mb1 4.4/23, mb1mx4.3/40, mbtmp4.3/23, ML3.8/3, MS5.0/4, Ms1 5.0/4, ms1mx4.0/41, Error ellipse: s-maj=19.5km s-min=12.1km az=85.0*
NEIC ***04*** *02:08:16.6±2.9, 20°.17N×122°.14E, h6km±5km, mb4.7/22, Error ellipse: s-maj=11.3km s-min=9.6km az=136.0*
NEIC Felt [III PIVS] at Basco.
BKK ***04*** *02:08:18.4±0.6, 20°.N±5°×12°.2E±°, h10km, M5.3/9, mB5.9/2, mb4.8/9, MLv5.6/1, Mw(mB)5.5/2*
MOS ***04*** *02:08:18.9±1.5, 20°.17N×122°.10E, h33km, mb4.7/23, Error ellipse: s-maj=12.9km s-min=6.8km az=107.0*
JMA ***04*** *02:08:19.7±0.7, 20°.35N×122°.06E, h121km, M4.1*
ISCJB ***04*** *02:08:19.3±0.2, 20°.28N±0°.02×122°.18E±0°.03, h40km, mb4.4/45, MS5.4/3, Error ellipse: s-maj=4.3km s-min=2.4km az=13.7*
MAN ***04*** *02:08:20, 20°.17N×122°.01E, h40km, mb5.9, ML4.9, MS4.9*
MAN INTENSITY III - BASCO BATANES.
BJI ***04*** *02:08:25.4, 20°.65N×121°.69E, h40km, mB4.9/28, mb4.4/40, Ms4.6/30, Ms7 4.3/29*
ISC 04 02:08:21.6±0.4, **20°.27N**±0°.04×**122°.12E**±0°.04, **h40km, n172,** σ**1**§**67**/181, **mb4.4**/45, **MS5.8**/3, **14C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**2.02**	**182**	*e*P	**Pn**	**02 08 50.5**	**-2.7**
SGCP				*e*S	Sn	02 09 01.0	-16
TWG	**Pinlang**	**2.72**	**339**	*e*Pn	**Pn**	**02 09 01.6**	**-1.2**
TWG				*e*Sn	**Sn**	**02 09 32.3**	**-2.3**
ABRA	**Dolores**	**2.92**	**207**	*e*P	**Pn**	**02 09 03.8**	**-1.9**
SZP	**Santa**	**3.13**	**211**	*e*Pn	**Pn**	**02 09 07.1**	**-1.3**
YULB	**Yu-li**	**3.20**	**346**	*e*Pn	**Pn**	**02 09 07.2**	**-2.3**
YULB				*e*Sn	**Sn**	**02 09 43.1**	**-3.4**
CAUP	**Cauayan**	**3.32**	**185**	*e*P	**Pn**	**02 09 11.2**	**+0.2**
TPUB	**Ta-pu**	**3.32**	**336**	*e*Pn	**Pn**	**02 09 11.7**	**+0.5**
TPUB				*e*Sn	**Sn**	**02 09 48.3**	**-1.1**
SSLB	**Suanglung**	**3.67**	**343**	*e*Pn	**Pn**	**02 09 15.6**	**-0.3**
SSLB				*e*Sn	**Sn**	**02 09 56.1**	**-1.8**
NACB	**Ninganchiao**	**3.92**	**353**	*e*Pn	**Pn**	**02 09 16.9**	**-2.4**
NACB				*e*Sn	**Sn**	**02 10 01.2**	**-2.9**
HATJ	**Hateruma jima**	**4.08**	**22**	P	**Pn**	**02 09 20.4**	**-1.1**
HATJ				*e*S	**Sn**	**02 10 06.0**	**-2.1**
JYNG	**Yonagunijimaku**	**4.23**	**10**	P	**Pn**	**02 09 23.0**	**-0.6**
JYNG				*e*S	**Sn**	**02 10 11.7**	**-0.1**
YOJ	**Yonaguni jima**	**4.26**	**11**	*e*P	**Pn**	**02 09 23.3**	**-0.6**
YOJ				*e*		02 10 10.0	
YOJ	**Yonaguni jima**	**4.26**	**11**	P	**Pn**	**02 09 23.4**	**-0.5**
YOJ				*e*S	**Sn**	**02 10 12.9**	**+0.5**
YOJ	**Yonaguni jima**	**4.26**	**11**	*e*Pn	**Pn**	**02 09 23.3**	**-0.6**
YOJ				*e*Sn	**Sn**	**02 10 10.0**	**-2.4**
IRIF	**Iriomote-Funau**	**4.31**	**20**	P	**Pn**	**02 09 23.7**	**-1.0**
IRIF				*e*S	**Sn**	**02 10 12.5**	**-1.3**
JKRS	**Kuro-shima**	**4.32**	**24**	P	**Pn**	**02 09 24.0**	**-0.8**
JKRS				*e*S	**Sn**	**02 10 12.3**	**-1.7**
BOLP	**Bolinao**	**4.40**	**209**	*e*P	**Pn**	**02 09 25.5**	**-0.4**
YHNB	**Yeheng**	**4.44**	**351**	*e*Pn	**Pn**	**02 09 25.9**	**-0.6**
YHNB				*e*Sn	**Sn**	**02 10 15.3**	**-1.6**
JIJ	**Ishigaki jima**	**4.49**	**24**	P	**Pn**	**02 09 25.7**	**-1.4**
JIJ				*e*S	**Sn**	**02 10 15.3**	**-2.8**
BALP	**Baler**	**4.53**	**187**	*e*P	**Pn**	**02 09 27.7**	**0.0**
TATO	**Taipei**	**4.72**	**353**	*e*Pn	**Pn**	**02 09 30.7**	**+0.3**
TATO				*e*Sn	**Sn**	**02 10 19.9**	**-4.0**
JISG	**Ishigakijimahi**	**4.75**	**25**	P	**Pn**	**02 09 29.0**	**-1.8**
JISG				S	**Sn**	**02 10 21.2**	**-3.4**
JTJ	**Tarama**	**4.96**	**28**	P	**Pn**	**02 09 33.7**	**0.0**
JTJ				*e*S	**Sn**	**02 10 27.7**	**-2.1**
JOGS	**Gusukube**	**5.41**	**34**	P	**Pn**	**02 09 39.7**	**0.0**
QZH	**Quanzhou**	**5.68**	**326**	P	**Pn**	**02 09 41.2**	**-2.3**
QZH				S	**Sn**	**02 10 47.6**	**+0.1**
QZH				LN			
	3μm,11.4s						
QZH				LE			
	3μm,11.5s						
QZH				LZ			
	3μm,16.2s						
TGY	**Tagaytay City**	**6.23**	**191**	Pn	Pn	02 09 47.3	-3.9
	70nm,0.3s,baz=228,slow=12,SNR=2.7						
JOW	**Kunigami**	**8.63**	**40**	Pn	**Pn**	**02 10 22.3**	**-1.7**
	1.0nm,0.3s,baz=203,slow=14,SNR=12						
JOW	**Kunigami**	**8.63**	**40**	*e*Pn	**Pn**	**02 10 21.6**	**-2.5**
JOW				*e*Sn	**Sn**	**02 11 59.6**	**-0.6**
KDM	**Kudat**	**14.23**	**202**	⇑P	**Pn**	**02 11 40.7**	**+0.1**
JNU	**Nakatsue**	**14.99**	**30**	Pn	**Pn**	**02 11 50.3**	**-0.5**
	0.4nm,0.3s,baz=195,slow=12,SNR=2.7						
JNU	**Nakatsue**	**14.99**	**30**	*e*Pn	**Pn**	**02 11 50.2**	**-0.7**
	50nm,1.0s						
KKM	**Kota Kinabalu**	**15.26**	**203**	⇑P	**Pn**	**02 11 54.0**	**-0.4**
KKM	**Kota Kinabalu**	**15.26**	**203**	*e*Pn	Pn	02 11 49.0	-5.4
	61nm,1.4s						
SDKM	**Sandakan**	**15.31**	**199**	⇓P	**Pn**	**02 11 54.8**	**-0.2**
MYLDM	**Lahad Datu**	**15.40**	**194**	⇑P	**Pn**	**02 11 56.1**	**-0.1**
MYLDM	**Lahad Datu**	**15.40**	**194**	*e*Pn	**Pn**	**02 11 54.2**	**-2.1**
	48nm,1.2s						
GYA	**Guiyang**	**15.47**	**296**	⇑*i*P	**Pn**	**02 11 55.0**	**-2.1**
GYA				pP	**P**	**02 12 05.2**	**+4.1**
GYA				PP	PP	02 12 11.0	
GYA				S	**Sn**	**02 14 48.5**	**+1.0**
GYA				PMZ			
	20nm,0.8s						
GYA				PMZ			
	110nm,4.7s						
GYA				LN			
	520nm,16.8s						
GYA				LE			
	460nm,17.0s						
GYA				LZ			
	490nm,17.4s						
KS15	**Wonju Array Si**	**17.84**	**15**	*e*Pn	**P**	**02 12 27.9**	**+0.8**
KSRS	**Korea Array**	**17.86**	**15**	P	**P**	**02 12 27.9**	**+0.6**
	1.2nm,0.3s,baz=195,slow=12,SNR=37						
KSRS				LR	LR	02 19 49.1	
	comp=Z,498nm,20.2s,baz=273,slow=39						
XAN	**Xi'an**	**18.03**	**322**	P	**Pn**	**02 12 28.1**	**-1.2**
XAN				PMZ			
	96nm,9.8s						
KMI	**Kunming**	**18.52**	**289**	P	**Pn**	**02 12 36.8**	**+1.4**
KMI				PMZ			
	10.0nm,0.8s						
BTM	**Bintulu**	**19.12**	**209**	⇑P	**P**	**02 12 41.2**	**-0.1**
CD2	**Chengdu**	**19.64**	**306**	*e*P	**P**	**02 12 46.9**	**-0.1**
CD2				PP	**PnPn**	**02 13 05.2**	**+2.4**
CD2				S	**S**	**02 16 21.7**	**-4.8**
CD2				PMZ			
	30nm,0.5s						
LOEI	**Loei**	**19.92**	**266**	P	**P**	**02 12 49.2**	**-1.0**
	9.7nm,1.2s						
SBUM	**Sibu**	**20.17**	**210**	⇑P	**P**	**02 12 52.3**	**-0.6**
SBUM	**Sibu**	**20.17**	**210**	*e*P	**P**	**02 12 51.3**	**-1.6**
	35nm,1.2s						
BJT	**Baijiatuau**	**20.34**	**347**	*e*P	**P**	**02 12 53.8**	**-0.7**
BJT				pmax	pmax		
	comp=Z,23nm,0.6s						
BJT	**Baijiatuau**	**20.34**	**347**	*e*P	**P**	**02 12 53.8**	**-0.7**
	comp=Z,22nm,0.6s						
BJI	**Beijing**	**20.36**	**347**	P	**P**	**02 12 55.5**	**+0.9**
BJI				PMZ			
	comp=Z,22nm,0.8s						
BJI				PMZ			
	comp=Z,240nm,10.3s						
BJI				LN			
	comp=Z,370nm,23.6s						
BJI				LE			
	comp=Z,700nm,17.4s						
BJI				LZ			
	comp=Z,450nm,22.9s						
CRAI	**Chiangrai**	**20.41**	**274**	P	Pn	02 12 59.4	+1.7
	comp=Z,111nm,1.1s,comp=Z,36μm						
MAJO	**Matsushiro**	**21.47**	**38**	*e*P	**P**	**02 13 09.7**	**+2.9**
MAJO				pmax	pmax		
	comp=Z,40nm,1.1s						
MAJO	**Matsushiro**	**21.47**	**38**	*e*P	**P**	**02 13 09.7**	**+2.9**
	comp=Z,40nm,1.1s						
MAT	**

GTA sP **sP** **02 14 15.3 -0.9**
GTA S **S** **02 18 38.8 +3.2**
GTA PMZ
comp=Z,4.0nm,1.3s
GTA PMZ
comp=Z,190nm,5.9s
GTA LN
comp=Z,350nm,16.2s
GTA LE
comp=Z,860nm,16.1s
GTA LZ
comp=Z,1μm,16.1s
PSI Prapat 28.52 235 P **P** **02 14 13.4 -0.4**
comp=Z,4.9nm,0.8s,baz=28,slow=7.5,SNR=6.2
ASAJ Asahikawa 29.27 31 P P 02 14 25.9 +6.0
comp=Z,9.6nm,0.8s,baz=240,slow=18,SNR=4.9
ASAJ Asahikawa 29.27 31 *eP* P 02 14 25.5 +5.6
comp=Z,48nm,1.5s
KLR Kul'dur 29.91 13 *eP* **P** **02 14 24.6 -1.0**
ULN Ulaanbaatar 30.11 340⇑ *iP* **P** **02 14 25.9 -1.7**
ULN pmax pmax
comp=Z,5.0nm,1.2s
ULN Ulaanbaatar 30.11 340 *eP* **P** **02 14 27.3 -0.3**
comp=Z,6.6nm,1.0s
SONA0 Songino Array 30.31 339 *eP* **P** **02 14 28.6 -0.7**
SONM Songino Array 30.31 339 P **P** **02 14 28.6 -0.7**
comp=Z,1.9nm,0.5s,baz=158,slow=9.9,SNR=17
YSS Yuzh-Sakhalins 31.49 28 *eP* P 02 14 43.0 +3.5
TAPN Taplejung 32.19 289 *eP* P 02 14 39.9 -6.4
ODAN Odare 32.43 288 *eP* P 02 14 39.6 -8.8
RAMN Ramite 33.14 288 *eP* P 02 14 44.6 -10
comp=Z,9.5nm,0.5s
ZAK Zakamensk 33.55 338 *eP* **P** **02 14 59.9 +2.2**
ZAK pmax pmax
comp=Z,2.0nm,1.6s
JIRN Jiri 33.56 290 *eP* P 02 14 50.3 -8.1
GUN Gumba 33.85 290 *eP* P 02 14 52.9 -8.0
WMQ Urumqi 37.05 317 *eP* **P** **02 15 28.7 +0.9**
WMQ PMZ
comp=Z,5.0nm,1.0s
WMQ LN
comp=Z,490nm,24.0s
WMQ LE
comp=Z,830nm,23.0s
WMQ LZ
comp=Z,590nm,22.0s
PMG Port Moresby 38.42 138 *eP* **P** **02 15 41.4 +1.8**
PMG pmax pmax
comp=Z,19nm,1.2s
WRAB Tennant Creek 41.71 163 *eP* **P** **02 16 05.2 -1.6**
WRAB pmax pmax
comp=Z,63nm,1.3s
WRAB Tennant Creek 41.71 163 *eP* **P** **02 16 04.4 -2.4**
comp=Z,19nm,0.9s
WRA Warramunga Arr 41.71 163 P **P** **02 16 04.1 -2.7**
comp=Z,12nm,0.7s,baz=343,slow=9.1,SNR=38
MK32 Makanchi Array 41.79 319 *eP* **P** **02 16 07.9 +0.6**
MKAR Makanchi Array 41.79 319 *iP* **P** **02 16 07.9 +0.6**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 41.79 319 P **P** **02 16 07.9 +0.6**
comp=Z,4.3nm,0.6s,baz=114,slow=9.7,SNR=79
MKAR Makanchi Array 41.79 319 *eP* **P** **02 16 07.8 +0.6**
H11N1 WAKE ISLAND Hy 41.98 83 T T 03 01 11.1
baz=278,slow=75,SNR=513
H11N2 WAKE ISLAND Hy 41.98 83 T T 03 01 11.3
baz=278,slow=75,SNR=313
H11S3 WAKE ISLAND Hy 41.98 85 T T 03 01 08.3
baz=280,slow=75,SNR=902
H11N3 WAKE ISLAND Hy 41.99 83 T T 03 01 22.8
baz=278,slow=75,SNR=289
H11S1 WAKE ISLAND Hy 41.99 85 T T 03 01 11.3
baz=280,slow=75,SNR=1579
H11S2 WAKE ISLAND Hy 42.00 85 T T 03 01 13.2
baz=280,slow=75,SNR=984
YAK Yakutsk 42.06 5 *eP* **P** **02 16 09.0 -0.1**
PETK Petropavlovsk- 42.69 31 P **P** **02 16 15.6 +1.2**
comp=Z,4.3nm,0.8s,baz=195,slow=2.9,SNR=5.3
PEA2 Petropavlovsk- 42.69 31 *eP* **P** **02 16 15.6 +1.2**
KSH Kashi 43.83 306 P P 02 16 27.2 +3.1
KSH sP sP 02 16 41.2 +1.1
KSH PP **PcP** **02 18 11.3 +1.3**
KSH S **S** **02 22 55.9 +3.5**
KSH SS **SS** **02 26 04.8 -4.6**
KSH PMZ
comp=Z,4.0nm,0.7s
KSH PMZ
comp=Z,190nm,9.0s
KSH LN
comp=Z,120nm,9.3s
KSH LE
comp=Z,170nm,4.9s
KSH LZ
comp=Z,470nm,17.1s
ZALV Zalesovo Beam 44.01 329 *iP* **P** **02 16 24.5 -0.6**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 44.01 329 P **P** **02 16 24.5 -0.6**
comp=Z,5.4nm,0.6s,baz=118,slow=7.7,SNR=30
ZAA1 Zalesovo Array 44.02 329 *eP* **P** **02 16 24.5 -0.6**
TKM2 Tokmak 2 44.91 311 *eP* **P** **02 16 33.9 +1.1**
TKM2 pmax pmax
comp=Z,6.0nm,1.1s
TKM2 Tokmak 2 44.91 311 *eP* **P** **02 16 33.9 +1.1**
comp=Z,6.5nm,1.1s
AS12 Alice Springs 45.15 165 *eP* **P** **02 16 32.9 -1.7**
ASAR Alice Springs 45.15 165 P **P** **02 16 32.9 -1.7**
comp=Z,6.2nm,0.7s,baz=344,slow=6.9,SNR=31
NVS Novosibirsk 45.28 329 *eP* **P** **02 16 36.0 +0.8**
NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=Z,6.0nm,1.2s
NVS pmax pmax
comp=E,5.0nm,1.3s
AAK Ala-Archa 45.63 310 *eP* **P** **02 16 39.7 +1.3**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 45.63 310 P **P** **02 16 39.6 +1.2**
comp=Z,1.9nm,0.7s,baz=144,slow=6.9,SNR=11
AAK Ala-Archa 45.63 310 *eP* **P** **02 16 39.7 +1.3**
comp=Z,2.7nm,0.8s
KURK Kurchatov 45.67 322 *eP* **P** **02 16 38.8 +0.4**
KURK pmax pmax
comp=Z,7.0nm,1.1s
KURK Kurchatov 45.67 322 *eP* **P** **02 16 38.8 +0.4**
comp=Z,7.4nm,1.1s
EKS2 Erkin-Say 46.15 310 *eP* **P** **02 16 43.6 +1.2**
EKS2 pmax pmax
comp=Z,33nm,2.3s
EKS2 Erkin-Say 46.15 310 *eP* **P** **02 16 43.6 +1.2**
comp=Z,33nm,2.3s
KKAR Karatay Array 48.59 310 *eP* **P** **02 17 02.0 +0.7**
KKAR Karatay Array 48.59 310 *eP* **P** **02 17 02.0 +0.7**
VOSK Vostochnaya 50.83 322 *eP* **P** **02 17 19.6 +1.4**
VOSK pmax pmax
comp=Z,5.0nm,0.9s
VOSK Vostochnaya 50.83 322 *eP* **P** **02 17 19.6 +1.4**
comp=Z,4.9nm,0.9s
FORT Forrest 51.07 173 *eP* **P** **02 17 17.6 -2.5**
comp=Z,16nm,0.8s
BVAR Borovoye Array 51.27 323 LR LR 02 38 06.8
comp=Z,501nm,20.6s,baz=330,slow=35
BRVK Borovoye 51.34 323 *eP* **P** **02 17 22.8 +0.9**
BRVK *e* 02 19 27.1
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 51.34 323 *eP* **P** **02 17 22.8 +0.9**
comp=Z,11nm,1.0s
BRVK *e*PP PP 02 19 27.1 +7.9
TIXI Tiksi 51.54 3 *eP* **P** **02 17 22.1 -1.1**
TIXI pmax pmax
comp=Z,13nm,1.3s
TIXI Tiksi 51.54 3 *eP* **P** **02 17 22.1 -1.1**
comp=Z,12nm,1.3s
NWAO Narrogin (SRO) 53.10 185 P **P** **02 17 34.0 -1.2**
comp=Z,5.2nm,0.6s,baz=15,slow=12,SNR=3.4
BILL Bilibino 55.08 19⇑ *eP* **P** **02 17 50.7 +1.5**
BILL *i* 02 18 05.0
BILL pmax pmax
comp=Z,3.0nm,1.0s
STKA Stephens Creek 55.10 160 P **P** **02 17 49.9 +0.1**
comp=Z,0.6nm,0.3s,baz=326,slow=4.7,SNR=3.9
ABKAR Akbulak array 56.82 316 *eP* **P** **02 18 01.2 -0.8**
GEYT Alibeck 57.58 303 P **P** **02 18 08.8 +1.3**
comp=Z,2.2nm,0.8s,baz=74,slow=11,SNR=7.6

SVE Sverdlovsk 57.72 325 *eP* **P** **02 18 09.1 +0.9**
SVE pmax pmax
comp=Z,13nm,1.0s
ARU Arti 58.77 324*c iP* **P** **02 18 14.9 -0.6**
ARU 02 20 27.8
ARU S **S** **02 26 19.2 +1.5**
ARU SS **SS** **02 30 16.8 +5.8**
ARU pmax pmax
comp=Z,3.0nm,0.5s
ARU Arti 58.77 324 *eP* **P** **02 18 14.8 -0.6**
comp=Z,38nm,1.5s
KIV Kislovodsk 68.75 310 *eP* **P** **02 19 20.7 -0.9**
KIV pmax pmax
comp=Z,26nm,1.0s
OBN Obninsk 71.11 323 *eP* **P** **02 19 35.4 -0.4**
OBN pmax pmax
comp=Z,11nm,1.2s
ILAR Eielson Array 72.29 27 P **P** **02 19 41.6 -1.1**
comp=Z,0.7nm,0.5s,baz=272,slow=4.2,SNR=13
ILB Eielson Array 72.29 27 *eP* **P** **02 19 41.6 -1.1**
ARA0 ARCESS Array S 73.48 339 *eP* **P** **02 19 49.1 -0.6**
ARCES ARCESS Array B 73.48 339 P **P** **02 19 49.1 -0.6**
comp=Z,2.9nm,0.7s,baz=66,slow=9.0,SNR=4.2
FIA0 FINESS Array S 75.26 330 *eP* **P** **02 19 59.2 -0.9**
FIA0 FINESS Array S 75.26 330 *eP* **P** **02 19 59.2 -0.9**
FINES FINESS Array B 75.26 330 *iP* **P** **02 20 03.0 +2.9**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 75.26 330 P **P** **02 19 59.2 -0.9**
comp=Z,3.1nm,0.7s,baz=45,slow=5.9,SNR=7.4
AKASG Malin Array Be 76.37 319 *iP* **P** **02 20 08.8 +2.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 76.37 319 P **P** **02 20 05.8 -0.9**
comp=Z,1.0nm,0.4s,baz=61,slow=6.2,SNR=6.9
AKBB Malin Array Si 76.37 319 *eP* **P** **02 20 05.9 -0.8**
AKBB Malin Array Si 76.37 319 *eP* **P** **02 20 05.8 -0.8**
KIEV Kiev 76.39 319 *eP* **P** **02 20 05.6 -1.2**
STHS Stebnicka Huta 81.66 320 *eP* P 02 20 39.0 +3.3
STHS pmax pmax
comp=Z,4.0nm,1.5s
STHS Stebnicka Huta 81.66 320 *ep*P P 02 20 39.0 +3.3
NB2 NORSAR Subarra 82.08 333 P **P** **02 20 37.0 -0.7**
comp=Z,4.2nm,1.1s,baz=62,slow=5.3
NB200 NORSAR Array S 82.08 333 *eP* **P** **02 20 38.6 +0.9**
NOA NORSAR Array B 82.08 333 P **P** **02 20 38.6 +0.9**
comp=Z,1.4nm,0.7s,baz=61,slow=5.1,SNR=4.7
VYHS Vyhne 83.48 319 *eP* **P** **02 20 46.7 +1.5**
VYHS pmax pmax
comp=Z,12nm,1.9s
VYHS Vyhne 83.48 319 *eP* **P** **02 20 46.7 +1.5**
KRLC Kraliky 84.07 321 *eP* P 02 20 53.2 +4.9
KRLC *e* 02 20 59.7
KRLC Kraliky 84.07 321 *eP* P 02 20 53.2 +4.9
KRLC *ex* x 02 20 59.7
DPC Dobruska-Polom 84.22 322 *eP* P 02 20 55.3 +6.3
DPC *e* 02 21 00.5
DPC Dobruska-Polom 84.22 322 *eP* P 02 20 55.3 +6.3
DPC *ex* x 02 21 00.5
KMBO Kilima Mbogo 85.57 267 P **P** **02 20 57.3 +0.6**
comp=Z,1.1nm,0.8s,baz=39,slow=11,SNR=4.4
KMBO LR LR 02 58 40.1
comp=Z,5μm,19.5s,baz=201,slow=35
YKA Yellowknife Ar 86.23 23 P **P** **02 20 58.5 -0.2**
comp=Z,1.0nm,0.6s,baz=310,slow=4.7,SNR=20
YKB5 Yellowknife Ar 86.23 23 *eP* **P** **02 20 58.5 -0.1**
GEC2 GERESS Array S 86.41 321 *eP* **P** **02 20 58.5 -1.6**
GEC2 GERESS Array S 86.41 321 *eP* **P** **02 20 58.5 -1.6**
GERES GERESS Array B 86.41 321 P **P** **02 20 58.5 -1.6**
comp=Z,0.4nm,0.5s,baz=60,slow=5.9,SNR=3.3
GERES LR LR 03 04 05.3
comp=Z,4μm,20.7s,baz=244,slow=39

*ISCJB **04** 02:10:05.3±0.7,33°.43S±0°.07×72°.53W±0°.07,h12km, mb4.4/7,Error ellipse: s-maj=10.0km s-min=8.0km az=160.4*
*IDC **04** 02:10:05.5±0.7,33°.42S×72°.41W,h0km,mb4.4/6, mb1 4.4/8,mb1mx4.1/35,mbtmp4.4/8,ML4.5/2,Error ellipse: s-maj=27.0km s-min=19.6km az=76.0*
*GUC **04** 02:10:07.6±0.5,33°.45S×72°.49W,h34km±9km,ML4.3*
*NEIC **04** 02:10:10.8±0.4,33°.39S×72°.37W,h35km,mb4.6/2,Error ellipse: s-maj=11.8km s-min=7.2km az=81.0*
ISC 04 02:10:07.2±0.7,33°.39S±0°.08×72°.46W±0°.08,h12km,n25, σ0°84/31,mb4.5/7,1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.39**	**94**	⇓*iP*	**Pn**	**02 10 31.9**	**-0.6**
RCDM				*i* S	**Sn**	**02 10 50.1**	**-0.7**
STL	**Santa Lucia**	**1.53**	**92**	*e*P9	**Pn**	**02 10 33.2**	**-1.1**
STL				*i* S1	**Sn**	**02 10 53.0**	**-1.1**
ANTU	**Antumapu**	**1.54**	**97**	*i* P1	**Pn**	**02 10 34.3**	**-0.3**
ANTU				*i* S1	**Sn**	**02 10 54.9**	**+0.3**
ANTU				AML	AML	02 11 02.6	
	comp=E,6μm,0.6s						
FSR	**Penalolen**	**1.62**	**94**	*i* P9	**Pn**	**02 10 36.7**	**+1.0**
FSR				*i* S1	**Sn**	**02 10 57.9**	**+1.3**
CACH	**El Canelo**	**1.71**	**115**	*i* S1	**Sn**	**02 10 59.7**	**+0.8**
CFAA	**Coronel Fontan**	**3.99**	**65**	Pn	**Pn**	**02 11 09.1**	**+0.8**
	comp=E,0.9nm,0.3s,baz=225,slow=11,SNR=3.4						
CFAA				Sn	**Sn**	**02 11 56.9**	**+1.9**
	comp=E,2.2nm,0.3s,baz=302,slow=13,SNR=2.1						
PLCA	**Paso Flores**	**7.49**	**169**	Pn	**Pn**	**02 11 57.1**	**+0.8**
	comp=E,2.1nm,0.3s,baz=348,slow=12,SNR=12						
TRQA	**Tornquist**	**9.71**	**122**	*e*Pn	**Pn**	**02 12 27.2**	**+0.4**
LPAZ	**La Paz**	**17.48**	**14**	P	**Pn**	**02 14 10.6**	**-0.9**
	comp=E,0.6nm,0.3s,baz=182,slow=10,SNR=12						
EFI	**East Falkland**	**21.06**	**154**	*e*P	**P**	**02 14 50.9**	**-0.1**
SNAA	**Sanae**	**52.28**	**158**	P	**P**	**02 19 18.1**	**0.0**
	comp=E,2.4nm,0.8s,baz=289,slow=8.5,SNR=7.3						
SNAA	**Sanae**	**52.28**	**158**	*e*P	**P**	**02 19 18.3**	**+0.2**
	comp=E,5.6nm,0.9s						
TEIG	**Tepich**	**55.41**	**342**	P	**P**	**02 19 41.6**	**+0.2**
	comp=E,7.2nm,0.5s,baz=206,slow=3.0,SNR=9.9						
QSPA	**South Pole Qui**	**56.84**	**180**	*e*P	**P**	**02 19 52.3**	**+0.8**
	comp=E,6.0nm,0.9s						
TXAR	**Lajitas Array**	**69.03**	**331**	P	**P**	**02 21 14.1**	**+1.2**
	comp=E,0.8nm,0.7s,baz=152,slow=7.8,SNR=9.6						
DBIC	**Dimbokro**	**75.32**	**72**	P	**P**	**02 21 50.9**	**+0.1**
	comp=E,3.3nm,0.7s,baz=180,slow=1.1,SNR=4.5						
BOSA	**Boshof**	**80.67**	**118**	P	**P**	**02 22 20.2**	**-0.3**
	comp=E,3.1nm,0.8s,baz=264,slow=5.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**84.34**	**70**	P	**P**	**02 22 38.8**	**-0.8**
	comp=E,2.8nm,0.9s,baz=292,slow=6.5,SNR=16						
WRA	**Warramunga Arr**	**121.11**	**210**	PKP	**PKPdf**	**02 29 00.0**	**-0.5**
	comp=E,0.5nm,0.6s,baz=162,slow=1.6,SNR=9.5						
BVAR	**Borovoye Array**	**147.07**	**42**	PKPbc	**PKPbc**	**02 29 49.8**	**+0.3**
	comp=E,0.5nm,0.5s,baz=270,slow=4.3,SNR=4.3						
PSI	**Prapat**	**148.52**	**163**	PKPbc	**PKPbc**	**02 29 53.8**	**-1.0**
	comp=E,5.2nm,0.7s,baz=262,slow=2.5,SNR=9.5						
HYB	**Hyderabad**	**149.50**	**114**	*i* PKP	**PKPbc**	**02 29 55.5**	**-1.5**
ZALV	**Zalvo Beam**	**153.90**	**31**	PKPbc	**PKPbc**	**02 30 06.0**	**+0.1**
	comp=E,3.2nm,0.8s,baz=300,slow=3.8,SNR=7.1						
MKAR	**Makanchi Array**	**156.63**	**48**	PKP	**PKPdf**	**02 30 01.8**	**-0.2**
	comp=E,0.6nm,0.8s,baz=329,slow=2.1,SNR=3.8						
MKAR				PKPab	**PKPab**	**02 30 30.9**	**-0.2**
	comp=E,0.7nm,0.6s,baz=274,slow=3.6,SNR=8.7						
SONM	**Songino Array**	**165.55**	**3**	PKPab	**PKPab**	**02 31 10.7**	**+0.7**
	comp=E,0.5nm,0.9s,baz=349,slow=5.9,SNR=2.9						

*IDC **04** 02:12:50.9±0.9,33°.32S×72°.29W,h0km,mb4.1/4, mb1 4.3/6,mb1mx4.0/35,mbtmp4.1/6,ML4.1/2,Error ellipse: s-maj=46.9km s-min=23.3km az=80.0*
ISC 04 02:12:53.0±0.8,33°.3S±0°.1×72°.0W±0°.2,h12km,n11, σ0°95/13,mb4.2/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.57**	**63**	Pn	**Pb**	**02 13 55.4**	**-0.8**
	0.6nm,0.3s,baz=231,slow=16,SNR=2.7						
PLCA	**Paso Flores**	**7.53**	**172**	Pn	**Pn**	**02 14 42.0**	**-0.7**
	1.2nm,0.3s,baz=115,slow=19,SNR=5.3						
LPAZ	**La Paz**	**17.27**	**13**	P	**P**	**02 16 56.4**	**+0.2**
	0.1nm,0.3s,baz=179,slow=14,SNR=5.1						
SNAA	**Sanae**	**52.23**	**158**	P	**P**	**02 22 04.6**	**+1.0**
	3.2nm,1.1s,baz=235,slow=12,SNR=2.4						
TXAR	**Lajitas Array**	**69.13**	**331**	P	**P**	**02 23 59.0**	**-0.2**
	0.3nm,0.6s,baz=144,slow=8.5,SNR=4.6						
BOSA	**Boshof**	**80.36**	**118**	P	**P**	**02 25 05.6**	**+1.0**
	3.0nm,0.9s,baz=291,slow=8.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**83.92**	**70**	P	**P**	**02 25 24.5**	**+1.3**
	2.6nm,0.9s,baz=254,slow=4.8,SNR=7.0						
WRA	**Warramunga Arr**	**121.42**	**209**	PKP	**PKPdf**	**02 31 45.7**	**-1.1**
	0.7nm,1.0s,baz=160,slow=1.7,SNR=3.5						
PSI	**Prapat**	**148.51**	**162**	PKPbc	**PKPbc**	**02 32 38.9**	**-1.6**
	2.7nm,0.4s,baz=327,slow=18,SNR=5.0						
ZALV	**Zalesovo Beam**	**153.59**	**32**	PKPbc	**PKPbc**	**02 32 51.3**	**+0.2**
	1.1nm,0.7s,baz=318,slow=1.9,SNR=3.8						
ZALV				PKPab	**PKPab**	**02 33 03.9**	**+0.3**
	1.0nm,0.7s,baz=297,slow=4.5,SNR=2.7						
MKAR	**Makanchi Array**	**156.25**	**48**	PKP	**PKPdf**	**02 32 47.3**	**0.0**
	0.5nm,1.0s,baz=330,slow=2.0,SNR=3.4						
MKAR				PKPab	**PKPab**	**02 33 14.9**	**-0.4**
	0.5nm,0.8s,baz=291,slow=4.4,SNR=3.7						

JMA 04 02:14:02.0±0.1,38°.69N×142°.26E,h38km±2km,M3.6,5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.60**	**310**	⇓P	Pn	02 14 14.2	0.0
OFUJ				S	Sn	02 14 22.4	-0.3
JIO	**Ouri**	**0.75**	**252**	⇓P	Pn	02 14 16.0	0.0
JIO				S	Sn	02 14 25.7	-0.5
JMK	**Ichinoseki**	**0.85**	**288**	⇓P	Pn	02 14 17.8	+0.3
JMK				S	Sn	02 14 29.1	+0.3
MIYJ	**Miyakonagasawa**	**0.95**	**339**	⇓P	Pn	02 14 18.7	-0.1
MIYJ				*e*S	Sn	02 14 30.9	-0.3
JOM	**Ohasama**	**1.09**	**316**	⇓P	Pn	02 14 21.3	+0.6
JOM				S	Sn	02 14 35.2	+0.7
JTH	**Tanohata**	**1.28**	**346**	P	Pn	02 14 23.6	+0.2
JOU	**Okura**	**1.29**	**256**	P	Pn	02 14 24.2	+0.7
JOU				S	Sn	02 14 40.6	+1.0
JMM	**Marumori**	**1.42**	**235**	P	Pn	02 14 25.4	+0.2
JMM				S	Sn	02 14 42.4	-0.2
JRG	**Rokugo**	**1.45**	**300**	P	Pn	02 14 26.5	+0.8
JYK	**Kaneyama**	**1.50**	**279**	P	Pn	02 14 27.8	+1.4

*IDC **04** 02:14:34.0±0.7,33°.34S×72°.30W,h0km,mb4.5/12, mb1 4.6/14,mb1mx4.4/33,mbtmp4.5/14,ML5.0/2,Error ellipse: s-maj=26.5km s-min=16.3km az=71.0*
*GUC **04** 02:14:35.2±0.6,33°.50S×72°.56W,h34km±4km,ML4.9*
*ISCJB **04** 02:14:37.5±0.3,33°.41S±0°.06×72°.40W±0°.06,h33km, mb4.6/24,Error ellipse: s-maj=9.9km s-min=5.7km az=35.7*
*NEIC **04** 02:14:39.7±1.1,33°.37S×72°.25W,h38km±10km,mb5.0/13, Error ellipse: s-maj=12.4km s-min=6.5km az=82.0*
ISC 04 02:14:37.4±0.8,33°.31S±0°.07×72°.37W±0°.08,h22km±8km, n128,σ1°16/133,mb4.8/24,2C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**1.25**	**106**	⇑*iP*	**Pn**	**02 14 58.9**	**-0.7**
RCDM	**Rinconada Maip**	**1.32**	**98**	⇓*iP*	**Pb**	**02 15 00.7**	**-0.9**
RCDM				*i* S1	**Sg**	**02 15 19.2**	**+1.7**
SAN	**Santiago**	**1.44**	**96**	⇓*iP*	**Pn**	**02 15 02.1**	**-0.1**
SAN				*i* S1	**Sg**	**02 15 23.5**	**+3.0**
STL	**Santa Lucia**	**1.45**	**95**	*e*P9	**Pn**	**02 15 01.7**	**-0.8**
STL				*e*S1	**Sg**	**02 15 22.1**	**+1.2**
ANTU	**Antumapu**	**1.48**	**100**	⇑*iP*	**Pn**	**02 15 02.9**	**+0.1**
ANTU				*i* S1	**Sg**	**02 15 23.6**	**+2.2**
ANTU				AML	AML	02 15 30.2	
	comp=E,23μm,0.6s						
FSR	**Penalolen**	**1.55**	**97**	*e*P9	**Pg**	**02 15 04.8**	**+1.0**
FSR				*i* S1	**Sg**	**02 15 27.1**	**+3.7**
CFAA	**Coronel Fontan**	**3.89**	**65**	Pn	Pn	02 15 38.2	+2.2
	comp=E,0.7nm,0.3s,baz=232,slow=17,SNR=2.6						
CFAA				Lg	Lg	02 16 38.2	
	comp=E,4.3nm,0.3s,baz=39,slow=18,SNR=3.7						
PLCA	**Paso Flores**	**7.55**	**169**	Pn	**Pn**	**02 16 25.7**	**-0.5**
	comp=E,8.5nm,0.3s,baz=337,slow=11,SNR=19						
TRQA	**Tornquist**	**9.69**	**122**	*e*Pn	**Pn**	**02 16 53.9**	**-1.6**
CPUP	**Villa Florida**	**14.79**	**66**	Pn	**P**	**02 18 09.6**	**-1.5**
	comp=E,1.5nm,0.3s,baz=194,slow=15,SNR=4.6						
LPAZ	**La Paz**	**17.38**	**14**	P	**P**	**02 18 40.2**	**-0.4**
	comp=E,0.9nm,0.3s,baz=194,slow=7.1,SNR=17						
SIV	**San Ignacio**	**20.05**	**33**	P	**P**	**02 19 08.4**	**-0.8**
	comp=E,18nm,0.9s,baz=240,slow=12,SNR=9.0						
EFI	**East Falkland**	**21.10**	**155**	*e*P	**P**	**02 19 19.1**	**-1.2**
	comp=E,68nm,0.8s						
NNA	**Nana**	**21.62**	**348**	P	**P**	**02 19 28.0**	**+1.8**
	comp=E,8.8nm,0.6s,baz=190,slow=12,SNR=4.7						
NNA	**Nana**	**21.62**	**348**	*e*P	**P**	**02 19 27.6**	**+1.4**
	comp=E,86nm,1.5s						
USHA	**Ushuaia**	**21.69**	**174**	P	**P**	**02 19 30.1**	**+3.5**
	comp=E,15nm,1.0s,baz=322,slow=12,SNR=2.5						
SAML	**Samuel**	**25.69**	**21**	*e*P	**P**	**02 20 06.4**	**+0.4**
	comp=E,27nm,1.0s						
BDFB	**Brasilia**	**28.19**	**57**	P	**P**	**02 20 27.6**	**-1.2**
	comp=E,7.7nm,0.8s,baz=224,slow=6.5,SNR=5.2						
SNAA	**Sanae**	**52.32**	**158**	P	**P**	**02 23 47.0**	**-0.2**
	comp=E,5.1nm,1.1s,baz=281,slow=8.8,SNR=11						
SNAA	**Sanae**	**52.32**	**158**	*e*P	**P**	**02 23 47.2**	**0.0**
	comp=E,9.0nm,0.8s						
TEIG	**Tepich**	**55.36**	**342**	P	**P**	**02 24 10.0**	**+0.2**
	comp=E,6.3nm,0.4s,baz=9.2,slow=2.6,SNR=7.2						
QSPA	**South Pole Qui**	**56.92**	**180**	*e*P	**P**	**02 24 21.2**	**+0.5**
	comp=E,24nm,0.9s						
034A	**Hebbronville**	**65.04**	**334**	P	**P**	**02 25 18.3**	**+2.2**
baz=65							
933A	**Laredo**	**65.76**	**334**	P	**P**	**02 25 22.6**	**+1.9**
baz=66							
834A	**Tilden**	**65.96**	**335**	P	**P**	**02 25 24.3**	**+2.3**
baz=66							
833A	**Chaparral WMA,**	**66.44**	**334**	P	**P**	**02 25 26.4**	**+1.4**
baz=67							
832A	**Faith Ranch, C**	**66.62**	**334**	P	**P**	**02 25 27.5**	**+1.3**
baz=67							
636A	**Smothers Creek**	**66.69**	**337**	P	**P**	**02 25 28.2**	**+1.6**
baz=67							
635A	**Leesville**	**66.84**	**336**	P	**P**	**02 25 28.8**	**+1.2**
baz=67							
732A	**Laxson Ranch,**	**67.03**	**334**	P	**P**	**02 25 30.1**	**+1.4**
baz=67							
633A	**Saathoff Ranch**	**67.40**	**335**	P	**P**	**02 25 32.8**	**+1.7**
baz=68							
632A	**Uvalde**	**67.66**	**334**	P	**P**	**02 25 34.2**	**+1.4**
baz=68							
631A	**Perdido Creek**	**67.87**	**334**	P	**P**	**02 25 35.0**	**+0.9**
baz=68							
533A	**Kerrville**	**67.91**	**335**	P	**P**	**02 25 35.7**	**+1.3**
baz=68							
532A	**Rocksprings**	**68.27**	**334**	P	**P**	**02 25 38.0**	**+1.3**
baz=69							
434A	**Burnet**	**68.32**	**336**	P	**P**	**02 25 37.8**	**+0.8**
baz=69							
336A	**Riesel**	**68.38**	**338**	P	**P**	**02 25 38.0**	**+0.8**
baz=69							
531A	**Rocksprings**	**68.53**	**334**	P	**P**	**02 25 39.4**	**+1.1**
baz=69							
433A	**Art**	**68.55**	**335**	P	**P**	**02 25 39.1**	**+0.8**
baz=69							
JCT	**Junction City**	**68.55**	**335**	P	**P**	**02 25 39.1**	**+0.8**
baz=69							
JCT	**Junction City**	**68.55**	**335**	*e*P	**P**	**02 25 39.2**	**+0.8**
	comp=E,32nm,1.2s						
334A	**Lometa**	**68.78**	**336**	P	**P**	**02 25 40.6**	**+0.7**
baz=69							
530A	**J-C Ranch, Com**	**68.81**	**333**	P	**P**	**02 25 40.7**	**+0.6**
baz=69							
432A	**Menard**	**68.90**	**335**	P	**P**	**02 25 40.0**	**-0.6**
baz=69							
TXAR	**Lajitas Array**	**69.00**	**331**	P	**P**	**02 25 42.3**	**+1.0**
	comp=E,1.0nm,0.6s,baz=158,slow=8.9,SNR=10						
333A	**Richland Sprin**	**69.03**	**336**	P	**P**	**02 25 41.8**	**+0.4**
baz=69							
WHTX	**Lake Whitney,**	**69.13**	**337**	P	**P**	**02 25 42.8**	**+0.8**
baz=70							
332A	**Millersview**	**69.35**	**335**	P	**P**	**02 25 44.2**	**+0.9**
baz=70							
SWET	**Sewanee**	**69.35**	**348**	*e*P	**P**	**02 25 43.5**	**+0.3**
	comp=E,7.2nm,0.7s						
430A	**Baggett Ranch,**	**69.35**	**334**	P	**P**	**02 25 44.4**	**+1.0**
baz=70							

231A	Bronte	70.05 335	P	P	02 25 48.0	+0.3
	baz=70					
133A	Hamilton Ranch	70.18 336	P	P	02 25 49.2	+0.7
	baz=71					
329A	Wagon Wheel Ra	70.25 333	P	P	02 25 49.9	+0.9
	baz=71					
ABTX	Abilene, Hawle	70.44 336	P	P	02 25 50.7	+0.7
	baz=71					
ABTX	Abilene, Hawle	70.44 336	*e*P	P	02 25 50.8	+0.7
	comp=E,30nm,1.3s					
WVT	Waverly	70.58 347	*e*P	P	02 25 50.4	-0.4
	comp=E,27nm,1.3s					
229A	Bryant Ranch,	70.62 334	P	P	02 25 51.5	+0.3
	baz=71					
Z33A	Whitaker Ranch	70.75 337	P	P	02 25 52.3	+0.4
	baz=71					
130A	Snyder	70.88 335	P	P	02 25 53.4	+0.6
	baz=71					
Z32A	Haskell	71.01 336	P	P	02 25 54.2	+0.7
	baz=71					
Y34A	Reagan Ranch,	71.04 338	P	P	02 25 54.6	+0.9
	baz=72					
228A	UT Block 9, Go	71.05 333	P	P	02 25 55.0	+1.2
	baz=72					
Z31A	Sharp Cattle R	71.25 336	P	P	02 25 55.4	+0.4
	baz=72					
128A	Castleberry Fa	71.46 333	P	P	02 25 56.6	+0.3
	baz=72					
Z30A	Sanderson Ranc	71.56 335	P	P	02 25 57.2	+0.4
	baz=72					
Y32A	R-V Farms, Ver	71.63 337	P	P	02 25 56.8	-0.4
	baz=72					
X34A	Smith Ranch, M	71.66 338	P	P	02 25 57.8	+0.4
	baz=72					
Z29A	Hungry Hill Ra	71.75 334	P	P	02 25 57.8	-0.2
	baz=72					
Y31A	Rekieta Farm,	71.87 336	P	P	02 25 59.8	+1.1
	baz=72					
Z28A	Tucker Farm, M	72.02 334	P	P	02 25 59.8	+0.2
	baz=72					
Y29A	Porterfield Fa	72.27 335	P	P	02 26 01.7	+0.5
	baz=73					
Z27A	Tatum	72.35 333	P	P	02 26 02.1	+0.5
	baz=73					
W33A	Caddo, Fort Co	72.37 338	P	P	02 26 02.9	+1.3
	baz=73					
W32A	Sentinel	72.59 337	P	P	02 26 03.8	+0.8
	baz=73					
Z26A	Caprock	72.61 333	P	P	02 26 03.6	+0.4
	baz=73					
MSTX	Muleshoe	72.77 334	P	P	02 26 04.6	+0.5
	baz=73					
MSTX	Muleshoe	72.77 334	*e*P	P	02 26 04.3	+0.1
	comp=E,14nm,0.9s					
Z25A	Roswell	72.90 332	P	P	02 26 05.7	+0.7
	baz=73					
V33A	Lossen Ranch,	72.93 338	P	P	02 26 05.2	+0.3
	baz=73					
Z24A	Sheeppen Canyo	73.20 332	P	P	02 26 08.2	+1.4
	baz=74					
U34A	Anderson Ranch	73.27 339	P	P	02 26 08.0	+1.1
	baz=74					
Y25A	Mesa, Roswell	73.46 332	P	P	02 26 09.7	+1.4
	baz=74					
121A	Cookes Peak, D	73.51 329	P	P	02 26 10.1	+1.5
	baz=74					
121A	Cookes Peak, D	73.51 329	*e*P	P	02 26 10.1	+1.5
	comp=E,19nm,1.3s					
X26A	CR and CF Fran	73.67 333	P	P	02 26 10.0	+0.5
	baz=74					
Y24A	Capitan	73.75 332	P	P	02 26 11.1	+1.0
	baz=74					
Z22A	Elephant Butte	73.78 330	P	P	02 26 11.1	+0.9
	baz=74					
W27A	Bowe Ranch, En	73.86 334	P	P	02 26 11.2	+0.7
	baz=74					
T33A	Patterson Ranc	74.08 339	P	P	02 26 12.3	+0.6
	baz=74					
W25A	X Bar L Ranch,	74.51 333	P	P	02 26 15.5	+1.1
	baz=75					
X23A	Hourglass Bar	74.62 332	P	P	02 26 16.4	+1.3
	baz=75					
W24A	Lazy 6 Ranch,	74.87 332	P	P	02 26 17.7	+1.2
	baz=75					
V25A	Rancho No Teng	75.12 333	P	P	02 26 19.1	+1.1
	baz=76					
DBIC	Dimbokro	75.22 72	P	P	02 26 18.8	-0.1
	comp=E,6.5nm,0.9s,baz=216,slow=7.6,SNR=6.6					
T25A	Trinidad	76.20 334	P	P	02 26 25.8	+1.6
	baz=77					
S26A	Kim	76.29 335	P	P	02 26 25.3	+0.7
	baz=77					
T24B	San Luis	76.49 333	P	P	02 26 27.0	+1.1
	baz=77					
R27A	Eads	76.65 336	P	P	02 26 27.7	+1.1
	baz=77					
X16A	Lo Mia Camp, P	76.71 328	P	P	02 26 28.2	+1.2
	baz=77					
S24A	Houchin Ranch,	76.94 334	P	P	02 26 29.8	+1.4
	baz=77					
P25A	Willow Gulch B	78.22 335	P	P	02 26 36.8	+1.4
	baz=79					
W13A	Hualapai Mount	78.39 326	P	P	02 26 37.6	+1.1
	baz=79					
SHPR	Sheep Range	80.14 326	*e*P	P	02 26 47.4	+1.5
	comp=E,28nm,1.6s					
BOSA	Boshof	80.64 118	P	P	02 26 49.0	0.0
	comp=E,6.4nm,0.8s,baz=245,slow=5.8,SNR=8.8					
PDAR	Pinedale Array	83.03 333	P	P	02 27 04.6	+3.4
	comp=E,0.4nm,0.8s,baz=146,slow=8.7,SNR=2.8					
NVAR	Mina Array Bea	83.16 325	P	P	02 27 02.9	+0.9
	comp=E,0.6nm,0.8s,baz=152,slow=4.1,SNR=3.4					
TORD	Torodi Ar. Bea	84.24 70	P	P	02 27 07.5	-0.2
	comp=E,7.4nm,0.8s,baz=255,slow=4.3,SNR=24					
ULM	Lac du Bonnet	85.77 345	P	P	02 27 13.6	-1.0
	comp=E,1.4nm,0.7s,baz=220,slow=5.6,SNR=3.2					
MCMT	McKenzie Canyo	86.03 332	*e*P	P	02 27 17.3	+1.0
	comp=E,1.0nm,0.6s					
WRA	Warramunga Arr	121.22 210	PKP	PKPdf	02 33 28.8	-0.6
	comp=E,0.9nm,0.8s,baz=160,slow=1.7,SNR=3.4					
H11S2	WAKE ISLAND Hyl	25.50 270	T	T	04 52 25.1	
	baz=118,slow=74,SNR=5.9					
H11S1	WAKE ISLAND Hyl	25.51 270	T	T	04 52 28.0	
	baz=118,slow=74,SNR=4.9					
H11S3	WAKE ISLAND Hyl	25.52 270	T	T	04 52 39.4	
	baz=118,slow=74,SNR=5.0					
ABKAR	Akbulak array	141.47 51	*e*PKPdf	PKPdf	02 34 02.9	-3.5
BVAR	Borovoye Array	146.96 42	PKPbc	PKPdf	02 34 16.7	+0.8
	comp=E,2.4nm,0.8s,baz=305,slow=3.2,SNR=7.3					
YAK	Yakutsk	147.99 340	*e*PKPdf	PKPdf	02 34 18.3	+1.1
PSI	Prapat	148.57 163	PKPbc	PKPbc	02 34 22.4	-1.1
	comp=E,8.9nm,0.8s,baz=154,slow=0.4,SNR=11					
HYB	Hyderabad	149.47 114	*i* PKP	PKPbc	02 34 24.0	-1.5
AAK	Ala-Archa	152.42 61	*e*PKPbc	PKPbc	02 34 32.5	+0.6
TKM2	Tokmak 2	153.17 60	*e*PKPdf	PKPdf	02 34 24.9	-1.2
TKM2			*e*PKPbc	PKiKP	02 34 34.3	+0.5
ZALV	Zalesovo Beam	153.79 31	PKP	PKPdf	02 34 26.2	-0.2
	comp=E,1.0nm,0.6s,baz=302,slow=2.8,SNR=4.5					
ZALV			PKPbc	PKPbc	02 34 33.9	-0.4
	comp=E,4.0nm,0.7s,baz=302,slow=3.3,SNR=11					
ZALV			PKPab	PKPab	02 34 48.0	+0.7
	comp=E,3.8nm,0.7s,baz=301,slow=3.4,SNR=6.0					
MKAR	Makanchi Array	156.52 48	PKP	PKPdf	02 34 30.6	+0.1
	comp=E,0.7nm,0.7s,baz=307,slow=1.9,SNR=5.8					
MKAR			PKPab	PKPab	02 34 59.4	+0.1
	comp=E,2.3nm,0.8s,baz=290,slow=3.6,SNR=9.4					
SONM	Songino Array	165.46 3	PKP	PKPdf	02 34 39.7	-0.4
	comp=E,0.3nm,0.7s,baz=355,slow=5.1,SNR=3.0					
SONM			PKPab	PKPab	02 35 37.9	-0.4
	comp=E,1.0nm,0.9s,baz=319,slow=2.3,SNR=4.5					

*ISCJB **04** 02:18:10.2±0.7, 10°.22N±0°.08×72°.53W±0°.06, h150km, mb3.7/5, Error ellipse: s-maj=11.6km s-min=7.6km az=12.6*

*IDC **04** 02:18:12.2±3.2, 10°.05N×72°.44W, h168km±30km, mb3.5/5, mb1 3.6/6, mb1mx3.2/48, mbtmp3.9/6, Error ellipse: s-maj=30.6km s-min=22.5km az=68.0*

*FUNV **04** 02:18:13.7, 10°.23N×72°.43W, h2km, MW3.1*

ISC 04 02:18:10.6±0.8, 10°.10N±0°.08×72°.57W±0°.07, h150km, n12, σ1§53/17, mb3.7/5, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIGV	El Vigia	1.72	136	*e*P	Pn	02 18 44.8	+2.2
VIGV				*e*S	Sn	02 19 07.0	-0.2
CURV	Curarigua	2.57	92	*e*P	Pn	02 18 54.3	+1.5
CURV				*e*S	Sn	02 19 23.8	-1.3
SIQV	Siquisique	2.77	78	*e*P	Pn	02 18 55.9	+0.7
SIQV				*e*S	Sn	02 19 27.8	-1.8
MAPV	Macapo	4.06	93	*e*P	Pn	02 19 13.4	+1.7
MAPV				*e*S	Sn	02 19 58.5	-0.7
ROSC	El Rosal	5.49	199	P	Pn	02 19 32.9	+1.9
	0.9nm,0.3s,baz=342,slow=20,SNR=6.9						
ROSC				S	Sn	02 20 30.5	-3.2
	2.8nm,0.3s,baz=90,slow=20,SNR=2.7						
ULM	Lac du Bonnet	44.43	339	P	P	02 26 06.3	-0.1
	1.3nm,0.5s,baz=134,slow=5.7,SNR=4.2						
PDAR	Pinedale Array	45.81	322	P	P	02 26 18.8	+1.0
	0.6nm,0.5s,baz=115,slow=9.7,SNR=5.4						
YKA	Yellowknife Ar	60.41	339	P	P	02 28 03.9	+0.1
	0.6nm,0.7s,baz=128,slow=6.9,SNR=12						
TORD	Torodi Ar. Bea	72.57	79	P	P	02 29 21.0	-1.1
	1.4nm,0.8s,baz=272,slow=5.0,SNR=4.1						
ARCES	ARCESS Array B	83.43	21	P	P	02 30 20.7	-0.2
	3.5nm,1.0s,baz=294,slow=6.8,SNR=4.0						
ASAR	Alice Springs	151.37	239	PKPbc	PKPbc	02 37 46.9	-0.7
	0.5nm,0.5s,baz=121,slow=2.4,SNR=7.9						
WRA	Warramunga Arr	152.27	246	PKPbc	PKPbc	02 37 49.0	-0.6
	0.9nm,0.3s,baz=104,slow=2.9,SNR=45						

*TAP **04** 02:18:54.6, 22°.99N×120°.53E, h21km, ML3.5, B*

*ISCJB **04** 02:18:55.7±0.3, 22°.98N±0°.01×120°.49E±0°.02, h23km±3km, Error ellipse: s-maj=3.5km s-min=2.5km az=170.5*

ISC 04 02:18:55.4±0.9, 22°.98N±0°.02×120°.51E±0°.02, h23km±5km, n48, σ0§73/79, 9C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	Jiashian	0.12	34	⇑*i*P	Pb	02 18 59.5	-0.5
	baz=34						
SGST				*i* S	Sb	02 19 03.2	0.0
	baz=34						
CHN3	Shinhua	0.16	306	*e*P	Pb	02 19 00.9	+0.5
	baz=300						
CHN3				*e*S	Sb	02 19 05.8	+2.0
	baz=300						
CHN1	Nanshi	0.21	5	⇑*i*P	Pb	02 19 00.5	-0.4
	baz=1.0						
CHN1				*e*S	Sb	02 19 04.2	-0.5
	baz=1.0						
SGLT	Jiouru	0.25	184	*e*P	Pn	02 19 02.4	-1.3
	baz=180						
SSD	Sandimen	0.26	154	P	Pb	02 19 01.2	-0.4
	baz=151						
SSD				S	Sb	02 19 06.1	+0.2
	baz=151						
TAI1	Yung-k'ang	0.27	283	*e*P	Pb	02 19 01.4	-0.3
	baz=280						
WTP	Ta-pu	0.28	20	⇑*i*P	Pb	02 19 01.6	-0.5
	baz=20						
WTP				*i* S	Sb	02 19 06.7	+0.1
	baz=20						
TWK	Hsinying	0.29	356	P	Pb	02 19 01.9	-0.2
	baz=5.0						
TWK				*e*S	Sb	02 19 07.5	+0.8
	baz=5.0						
STYT	Tauyuan	0.29	51	⇑*i*P	Pb	02 19 01.9	-0.3
	baz=52						
STYT				*i* S	Sb	02 19 06.7	-0.2
	baz=52						
SCLT	Jiali	0.35	304	*e*P	Pb	02 19 03.1	+0.1
	baz=302						
CHN4	Tsaushan	0.38	12	⇑*i*P	Pb	02 19 03.1	-0.4
	baz=21						
CHN4				*i* S	Sb	02 19 09.3	+0.3
	baz=21						
KAU	Kaohsiung	0.45	204	*e*P	Pn	02 19 05.6	-0.8
	baz=215						
ELDTW	Lidau	0.51	66	⇑*i*P	Pb	02 19 05.5	-0.3
	baz=66						
CHY	Chiayi	0.52	351	*e*P	Pb	02 19 05.7	-0.2
	baz=351						
CHY				S	Sn	02 19 14.6	-1.0
	baz=351						
TWG	Pinlang	0.54	107	P	Pb	02 19 06.4	+0.1
	baz=109						
TWG				S	Sn	02 19 14.8	-1.3
	baz=109						
CHN2	Minshiung	0.55	357	*e*P	Pb	02 19 06.6	+0.1
	baz=356						
CHN2				*e*S	Sn	02 19 15.8	-0.5
	baz=356						
ALS	Alishan	0.59	27	⇑*i*P	Pb	02 19 06.9	-0.4
	baz=27						
ALS				S	Sb	02 19 15.6	+0.1
	baz=27						
SCZT	Fangliau	0.61	170	*e*P	Pb	02 19 07.7	+0.2
	baz=162						
SCZT				*e*S	Sn	02 19 18.2	+0.5
	baz=162						
TTN	Taitung	0.63	111	*e*P	Pb	02 19 07.9	+0.2
	baz=112						
TTN				*e*S	Sn	02 19 18.4	+0.2
	baz=112						
CHN5	Tsauling	0.64	14	⇑P	Pb	02 19 07.5	-0.4
	baz=13						
CHN5				S	Sn	02 19 18.0	-0.5
	baz=13						
TWP	Hsiaoliuchiu	0.64	192	*e*P	Pn	02 19 09.6	+0.5
	baz=213						
YUS	Yu-Shan	0.65	39	P	Pb	02 19 08.2	-0.2
	baz=39						
YUS				S	Sb	02 19 17.5	+0.2
	baz=39						
EAST	Anshuo	0.67	152	*e*P	Pb	02 19 08.6	+0.1
	baz=149						
EAST				*e*S	Sn	02 19 19.2	-0.1
	baz=149						
WGK	Gukeng	0.71	4	*e*P	Pn	02 19 09.4	-0.6
	baz=4.0						
WGK				S	Sn	02 19 20.3	+0.2
	baz=4.0						
WSF	Szhu	0.71	338	*e*P	Pb	02 19 08.8	-0.2
	baz=338						
WSF				*e*S	Sn	02 19 19.8	-0.3
	baz=338						
TAW	Tawu	0.71	150	*e*P	Pn	02 19 09.7	-0.4
	baz=151						
TAW				*e*S	Sn	02 19 20.1	-0.1
	baz=151						
CHKT	Chengkung	0.80	81	*e*P	Pb	02 19 10.4	-0.2
	baz=82						
TWF1	Yuli	0.81	63	P	Pb	02 19 10.7	-0.2
	baz=63						
TWF1				S	Sb	02 19 21.2	-0.3
	baz=63						
WDGT	Dungji	0.83	290	⇑*i*P	Pb	02 19 10.3	-0.8
	baz=288						
WDGT				S	Sb	02 19 21.3	-0.6
	baz=288						
WNT	Mingjian	0.91	10	P	Pb	02 19 12.0	-0.5
	baz=11						
WNT				*e*S	Sn	02 19 25.8	+0.6
	baz=11						
EHY	Hungye	0.91	55	P	Pb	02 19 12.2	-0.3
	baz=55						
EHY				*e*S	Sn	02 19 25.5	+0.2
	baz=55						
SMLT	Sun Moon Lake	0.97	22	*e*P	Pb	02 19 13.2	-0.4
	baz=12						
SMLT				*e*S	Sn	02 19 27.7	+0.9
	baz=12						
TYC	Yuchr	0.97	19	*e*P	Pn	02 19 13.7	+0.1
	baz=9.0						
TYC				*e*S	Sn	02 19 27.7	+1.0
	baz=9.0						
HEN	Hengchun	0.99	168	*e*P	Pb	02 19 14.9	+1.0
	baz=168						
PNG	Penghu	1.05	304	P	Pn	02 19 13.2	-1.5
	baz=303						
PNG				*e*S	Sb	02 19 27.6	-0.7
	baz=303						
TWK1	Hengchun	1.07	165	*e*P	Pb	02 19 15.3	+0.1
	baz=165						
TSEB	Hengchuen, Pin	1.13	161	*e*P	Pn	02 19 15.2	-0.6
	baz=164						
TCU	Taichung	1.17	7	*e*P	Pb	02 19 17.0	0.0
	baz=359						
ESL	Shilin	1.19	45	*e*P	Pb	02 19 16.9	-0.3
	baz=45						
ESL				*e*S	Sb	02 19 34.4	+2.2
	baz=45						
LAY	Lan-yu	1.34	134	*e*P	Pn	02 19 17.6	-1.1
	baz=134						
WHF	Hehuan Shan	1.35	31	*e*P	Pb	02 19 20.0	-0.3
	baz=30						
WHF				*e*S	Sb	02 19 39.2	+1.8
	baz=30						
TWQ1	Liyutan	1.38	10	*e*P	Pb	02 19 20.0	-0.6
	baz=10.0						
TWQ1				*e*S	Sb	02 19 38.4	+0.5
	baz=10.0						
NSY	Sanyi	1.45	9	*e*P	Pb	02 19 21.3	-0.4
	baz=9.0						
TWD	Chiawan	1.48	42	*e*P	Pb	02 19 21.3	-1.0
	baz=42						
NNS	Nan Shan	1.66	28	*e*P	Pn	02 19 23.8	+0.7
	baz=17						
NSTT	Nanjuang	1.71	15	*e*P	Pn	02 19 23.7	0.0
	baz=15						
KNM	Kinmen	2.38	307	*e*P	Pn	02 19 34.0	+1.1
	baz=305						
QZH	Quanzhou	2.63	318	Pn	Pb	02 19 41.1	-0.6
QZH				Sn	Sb	02 20 15.7	+2.1
QZH				smax	smax		
	comp=N,120nm,0.3s						
QZH				smax	smax		
	comp=E,100nm,0.8s						

LJU 04 02:19:27.5, 46°.54N×15°.04E, h6km, ML0.0, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	Pernice	0.11	28	⇓*i*Pg	Pg	02 19 30.2	+0.2
PERS				*i* Sg	Sg	02 19 31.9	+0.2
	comp=Z,1.0nm,0.0s						
GROS	Grobnik	0.33	103	*i* Sg	Sg	02 19 38.7	+0.2

NNC 04 02:22:20.3±2.4, 37°.84N×71°.81E, h0km, mb3.6, mpv3.2, 4C-1D, Error ellipse: s-maj=21.4km s-min=7.8km az=157.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.54	293	⇓Pn	Pn	02 23 02.4	-0.6
DZET				⇑Sn	Sn	02 23 35.7	+1.0
AAK	Ala-Archa	5.21	22	⇑Pn	Pn	02 23 40.3	+0.6
	1.7nm,0.7s						
AAK				⇑Sn	Sn	02 24 41.5	+0.8
	15nm,1.0s						
KK31	Karatay Array	5.35	350	⇑Pn	Pn	02 23 42.3	+0.8
	1.5nm,0.3s,baz=165,slow=12						
KK31				Sn	Sn	02 24 44.5	+0.7
	4.6nm,0.5s,baz=168,slow=22,SNR=7.3						

*IDC **04** 02:23:38.7±0.5, 33°.23S×72°.19W, h0km, mb4.6/15, mb1 4.7/18, mb1mx4.5/31, mbtmp4.6/18, ML4.3/3, MS5.1/1, Ms1 5.1/1, ms1mx4.3/25, Error ellipse: s-maj=23.0km s-min=12.9km az=77.0*

*GUC **04** 02:23:39.8±0.4, 33°.27S×72°.41W, h31km±3km, ML5.0*

*ISCJB **04** 02:23:40.1±1.2, 33°.30S±0°.05×72°.37W±0°.05, h17km±9km, mb4.8/62, MS5.1/1, Error ellipse: s-maj=9.2km s-min=6.4km az=37.3*

*NEIC **04** 02:23:41.9±1.5, 33°.30S×72°.28W, h21km±10km, mb5.0/46, ML5.0(GUC), Error ellipse: s-maj=8.2km s-min=5.4km az=65.0*

NEIC Felt [III] at San Felipe, Valparaiso and Vina del Mar; [II] at Casablanca, Los Andes, San Antonio and Santiago. Also felt at Cabildo, Puente Alto, Quilpue, Rancagua, San Bernardo and Villa Alemana.

*BJI **04** 02:23:46.7, 33°.20S×72°.10W, h43km, mB5.2/8, Ms4.8/1, Ms7 4.6/1*

ISC 04 02:23:45.1±0.9, 33°.28S±0°.06×72°.22W±0°.07, h43km±7km, n312, σ0§97/326, mb4.9/63, 98C-89D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.95	135	⇑*i*P	Pn	02 23 58.8	-3.3
LNV	Longovilo	0.95	135	⇓*i*P	Pn	02 23 59.1	-3.0
TACH	Talagante	1.14	110	*i* P	Pn	02 24 02.0	-2.6
TACH				*i* S	Sn	02 24 19.3	+0.3
TACH	Talagante	1.14	110	*e*P	Pn	02 24 02.0	-2.6
TACH				*e*S	Sn	02 24 19.7	+0.6
RCDM	Rinconada Maip	1.20	100	*i* P	Pn	02 24 03.1	-2.4
RCDM				*i* S	Sn	02 24 20.8	+0.1
RCDM				AML	AML	02 24 23.9	
	comp=E,38μm,0.5s						
RCDM	Rinconada Maip	1.20	100	⇑*i*P	Pn	02 24 03.2	-2.3
RCDM				*i* S	Sn	02 24 20.8	+0.1
SAN	Santiago	1.32	98	*e*P	Pn	02 24 05.4	-1.7
SAN				*i* S	Sn	02 24 24.5	+1.0
SAN	Santiago	1.32	98	⇓*i*P	Pn	02 24 05.7	-1.4
SAN				*i* S	Sn	02 24 24.5	+1.0
STL	Santa Lucia	1.33	97	*i* P9		02 24 04.9	
STL				*i* S	Sn	02 24 24.2	+0.4
ANTU	Antumapu	1.36	103	*i* P	Pn	02 24 05.8	-1.9
ANTU				*i* S	Sn	02 24 25.7	+1.2
ANTU				AML	AML	02 24 36.1	
	comp=N,43μm,0.7s						
ANTU	Antumapu	1.36	103	⇓*i*P	Pn	02 24 06.1	-1.6
ANTU				*i* S	Sn	02 24 26.3	+1.8
FSR	Penalolen	1.43	98	*i* P9		02 24 08.5	
FSR				*i* S	Sn	02 24 29.3	+3.0
FSR	Penalolen	1.43	98	⇓*i*P	Pn	02 24 09.1	+0.4
FSR				*i* S	Sn	02 24 29.6	+3.3
CHCH	Chadas Angostu	1.46	117	⇓*i*P	Pn	02 24 07.3	-1.8
CHCH	Chadas Angostu	1.46	117	*e*P	Pn	02 24 07.3	-1.8
CACH	El Canelo	1.59	122	⇑*i*P	Pn	02 24 10.0	-0.9
CACH	El Canelo	1.59	122	*e*P	Pn	02 24 10.0	-0.9
FCH	Farellones	1.62	92	⇓*i*P	Pn	02 24 10.4	-1.1
CFAA	Coronel Fontan	3.76	65	Pn	Pn	02 24 42.0	+1.4
	comp=N,1.0nm,0.3s,baz=239,slow=15,SNR=4.5						
CFAA				Lg	Lg	02 25 38.8	
	comp=N,12nm,0.3s,baz=340,slow=22,SNR=6.2						
PLCA	Paso Flores	7.56	170	Pn	Pn	02 25 30.9	-1.9
	comp=N,1.3nm,0.3s,baz=336,slow=12,SNR=9.7						
TRQA	Tornquist	9.60	123	*e*Pn	Pn	02 25 59.9	-0.8
LVC	Limon Verde	11.02	16	*e*Pn	Pn	02 26 14.4	-6.0
CPUP	Villa Florida	14.66	66	Pn	Pn	02 27 09.6	-0.1
	comp=N,1.6nm,0.3s,baz=239,slow=14,SNR=11						
LPAZ	La Paz	17.32	13	P	Pn	02 27 42.5	-1.9
	comp=N,0.8nm,0.3s,baz=195,slow=5.4,SNR=45						
SIV	San Ignacio	19.95	33	P	P	02 28 12.1	-1.5
	comp=N,0.4nm,0.3s,baz=231,slow=13,SNR=14						
EFI	East Falkland	21.07	155	*e*P	P	02 28 24.6	-0.8
	comp=N,61nm,0.8s						
NNA	Nana	21.61	348	P	P	02 28 31.3	-0.3
	comp=N,21nm,0.9s,baz=184,slow=11,SNR=8.0						
NNA	Nana	21.61	348	*e*P	P	02 28 31.3	-0.3
	comp=N,44nm,1.3s						
USHA	Ushuaia	21.71	174	P	P	02 28 32.8	+0.5
	comp=N,23nm,1.1s,baz=337,slow=3.9,SNR=3.5						
SAML	Samuel	25.61	21	*e*P	P	02 29 10.3	-0.2
	comp=N,21nm,0.9s						
ATAH	Atahualpa	26.64	346	P	P	02 29 17.9	-2.3
	comp=N,2.9nm,0.6s,baz=155,slow=12,SNR=2.2						
BDFB	Brasilia	28.06	57	P	P	02 29 31.4	-1.4
	comp=N,17nm,0.9s,baz=224,slow=10.0,SNR=10.0						
OTAV	Otavalo	33.85	349	*e*P	P	02 30 24.9	+0.8
	comp=N,4.3nm,1.0s						
SDV	Santo Domingo	41.96	2	*e*P	P	02 31 31.4	-0.8
	comp=N,12nm,0.9s						
APG	El Apazote	51.08	337	P	P	02 32 39.1	-4.5
	comp=N,4.6nm,0.8s,baz=163,slow=3.7,SNR=6.2						
CELP	Cerrillos	51.35	7	*e*P	P	02 32 45.1	-0.2
SNAA	Sanae	52.31	158	P	P	02 32 52.5	+0.4
	comp=N,4.7nm,0.8s,baz=285,slow=2.8,SNR=8.3						
SNAA	Sanae	52.31	158	*e*P	P	02 32 52.2	+0.2
	comp=N,133nm,2.2s						
TEIG	Tepich	55.37	342	P	P	02 33 14.4	-0.5
	comp=N,16nm,0.6s,baz=208,slow=1

934A **Benavides** 65.50 334 ⇑P P 02 34 25.0 +1.1
baz=66
933A **Laredo** 65.78 334 ⇑P P 02 34 27.0 +1.2
baz=66
834A **Tilden** 65.98 335 ⇓P P 02 34 28.3 +1.3
baz=66
833A **Chaparral WMA,** 66.47 334 ⇓P P 02 34 30.0 -0.1
baz=67,SNR=8.9
832A **Faith Ranch, C** 66.65 333 ⇑P P 02 34 31.8 +0.5
baz=67
636A **Smothers Creek** 66.71 337 ⇓P P 02 34 31.9 +0.3
baz=67,SNR=6.2
635A **Leesville** 66.86 336 ⇑P P 02 34 33.2 +0.6
baz=67
732A **Laxson Ranch,** 67.05 334 ⇓P P 02 34 33.7 -0.1
baz=67,SNR=11
536A **Bastrop** 67.26 337 ⇑P P 02 34 35.8 +0.7
baz=68
438A **Sam Houston St** 67.37 338 ⇑P P 02 34 36.9 +1.1
baz=68
535A **Dale** 67.38 336 ⇑P P 02 34 36.5 +0.6
baz=68
633A **Saathoff Ranch** 67.42 335 ⇑P P 02 34 36.7 +0.5
baz=68
340A **Bronson** 67.53 340 ⇑P P 02 34 37.6 +0.9
baz=68
339A **Huntington** 67.64 339 ⇑P P 02 34 37.9 +0.4
baz=68
632A **Uvalde** 67.69 334 ⇑P P 02 34 38.0 +0.1
baz=68,SNR=5.3
534A **Blanco** 67.69 336 ⇓P P 02 34 38.0 +0.1
baz=68
533A **Kerrville** 67.93 335 ⇑P P 02 34 39.6 +0.2
baz=68
532A **Rocksprings** 68.29 334 ⇓P P 02 34 41.8 +0.1
baz=69,SNR=14
434A **Burnet** 68.34 336 ⇓P P 02 34 41.7 -0.2
baz=69,SNR=7.1
336A **Riesel** 68.39 337 ⇑P P 02 34 42.6 +0.4
baz=69
335A **Moody** 68.49 337 ⇓P P 02 34 43.0 +0.2
baz=69
531A **Rocksprings** 68.56 334 ⇑P P 02 34 43.6 +0.2
baz=69,SNR=5.2
433A **Art** 68.57 335 ⇑P P 02 34 43.1 -0.2
baz=69,SNR=8.4
JCT **Junction City** 68.57 335 ⇑P P 02 34 43.5 +0.1
baz=69,SNR=5.9
JCT **Junction City** 68.57 335 *e*P P 02 34 43.2 -0.2
comp=N,27nm,0.9s
KMSC **Kings Mountain** 68.60 352 ⇑P P 02 34 43.8 +0.4
baz=69
237A **Washetta, Mont** 68.64 339 ⇑P P 02 34 44.5 +0.8
baz=69
334A **Lometa** 68.80 336 ⇑P P 02 34 45.0 +0.2
baz=69,SNR=6.6
530A **J-C Ranch, Com** 68.84 333 ⇑P P 02 34 45.7 +0.6
baz=69,SNR=7.6
432A **Menard** 68.93 335 ⇑P P 02 34 45.5 -0.1
baz=69
LTX **Lajitas** 69.03 331 *e*P P 02 34 45.9 -0.5
LTX *e*PP PP 02 37 08.8 -11
TXAR **Lajitas Array** 69.03 331 P P 02 34 45.9 -0.5
comp=N,2.0nm,0.7s,baz=152,slow=7.5,SNR=33
431A **Sonora** 69.05 334 ⇓P P 02 34 46.2 -0.2
baz=69
333A **Richland Sprin** 69.05 336 ⇓P P 02 34 46.1 -0.2
baz=69,SNR=5.0
WHTX **Lake Whitney,** 69.15 337 ⇑P P 02 34 47.1 +0.2
baz=70
WHTX **Lake Whitney,** 69.15 337 *e*P P 02 34 47.6 +0.6
comp=N,22nm,1.0s
529A **Stev Forest Ra** 69.16 332 ⇑P P 02 34 47.1 0.0
baz=70
137A **Heron Place, G** 69.18 339 ⇑P P 02 34 47.6 +0.5
baz=70
332A **Millersview** 69.37 335 ⇓P P 02 34 48.6 +0.3
baz=70
430A **Baggett Ranch,** 69.37 334 ⇑P P 02 34 48.2 -0.2
baz=70,SNR=6.8
234A **Clairette** 69.39 337 ⇓P P 02 34 48.2 -0.2
baz=70,SNR=5.4
TKL **Tuckaleechee C** 69.43 350 P P 02 34 48.0 -0.6
comp=N,5.7nm,0.7s,baz=171,slow=6.6,SNR=6.0
429A **Davenport Ranc** 69.48 333 ⇓P P 02 34 48.9 -0.2
baz=70,SNR=5.5
331A **San Angelo** 69.55 334 ⇓P P 02 34 48.9 -0.5
baz=70,SNR=5.9
233A **Rising Star** 69.66 336 ⇓P P 02 34 49.9 -0.2
baz=70
232A **Coleman** 69.79 335 ⇑P P 02 34 50.7 -0.2
baz=70
330A **Mertzon** 69.91 334 ⇓P P 02 34 51.3 -0.4
baz=70,SNR=5.5
231A **Bronte** 70.07 335 ⇓P P 02 34 52.2 -0.5
baz=70,SNR=6.1
133A **Hamilton Ranch** 70.20 336 ⇓P P 02 34 53.3 -0.1
baz=70
329A **Wagon Wheel Ra** 70.28 333 ⇓P P 02 34 54.1 +0.1
baz=71
230A **Sterling City** 70.32 334 ⇑P P 02 34 53.9 -0.3
baz=71
Z35A **Perchaven, San** 70.32 338 ⇑P P 02 34 54.3 +0.2
baz=71
ABTX **Abilene, Hawle** 70.46 336 ⇓P P 02 34 55.1 0.0
baz=71
ABTX **Abilene, Hawle** 70.46 336 *e*P P 02 34 54.5 -0.5
comp=N,24nm,0.9s
Z34A **Collier Ranch,** 70.57 337 ⇑P P 02 34 55.6 0.0
baz=71
WVT **Waverly** 70.58 347 *e*P P 02 34 54.8 -0.8
comp=N,23nm,1.0s
229A **Bryant Ranch,** 70.65 334 ⇓P P 02 34 56.2 -0.1
baz=71
131A **Roby** 70.77 335 ⇑P P 02 34 57.0 +0.1
baz=71
Z33A **Whitaker Ranch** 70.77 337 ⇓P P 02 34 56.8 0.0
baz=71
130A **Snyder** 70.90 335 ⇓P P 02 34 57.5 -0.3
baz=71
Z32A **Haskell** 71.03 336 ⇓P P 02 34 58.9 +0.4
baz=71
Y34A **Reagan Ranch,** 71.06 338 ⇓P P 02 34 58.9 +0.4
baz=71
228A **UT Block 9, Go** 71.08 333 ⇓P P 02 34 59.3 +0.4
baz=71
129A **Stewart Farms,** 71.26 334 ⇑P P 02 35 00.0 +0.1
baz=72
Z31A **Sharp Cattle R** 71.27 336 ⇓P P 02 35 00.1 +0.2
baz=72
128A **Castleberry Fa** 71.48 333 ⇓P P 02 35 01.3 0.0
baz=72,SNR=5.9
Z30A **Sanderson Ranc** 71.58 335 ⇓P P 02 35 01.5 -0.4
baz=72
Y32A **R-V Farms, Ver** 71.65 336 ⇓P P 02 35 02.3 +0.1
baz=72
X34A **Smith Ranch, M** 71.68 338 ⇑P P 02 35 02.4 +0.1
baz=72
Z29A **Hungry Hill Ra** 71.77 334 ⇑P P 02 35 02.9 -0.1
baz=72
MNTX **Cornudas Mount** 71.81 331 *e*P P 02 35 02.4 -0.8
comp=N,9.2nm,1.0s
Y31A **Rekieta Farm,** 71.89 336 ⇓P P 02 35 03.6 -0.1
baz=72
X32A **Elmer** 71.98 337 ⇓P P 02 35 04.1 0.0
baz=72
Z28A **Tucker Farm, M** 72.04 334 ⇑P P 02 35 04.2 -0.5
baz=72
WMOK **Wichita Mounta** 72.10 337 *e*P P 02 35 03.5 -1.4
comp=N,11nm,1.3s
TUL1 **Leonard** 72.28 340 *e*P P 02 35 05.6 -0.3
comp=N,9.3nm,0.8s
Y29A **Porterfield Fa** 72.30 335 ⇓P P 02 35 05.8 -0.3
baz=73,SNR=5.4
Z27A **Tatum** 72.38 333 ⇑P P 02 35 06.7 0.0
baz=73
W33A **Caddo, Fort Co** 72.38 338 ⇑P P 02 35 06.3 -0.3
baz=73
X31A **McDonald Ranch** 72.40 336 ⇑P P 02 35 06.4 -0.3
baz=73
Y28A **McKinney Farm,** 72.55 334 ⇑P P 02 35 07.6 -0.1
baz=73
W32A **Sentinel** 72.61 337 ⇓P P 02 35 08.0 +0.1
baz=73
Z26A **Caprock** 72.63 332 ⇓P P 02 35 08.2 0.0
baz=73,SNR=13
V34A **Guthrie** 72.72 339 ⇓P P 02 35 08.8 +0.3
baz=73

MSTX **Muleshoe** 72.80 334 ⇑P P 02 35 09.2 0.0
baz=73,SNR=5.3
MSTX **Muleshoe** 72.80 334 *e*P P 02 35 09.0 -0.1
comp=N,31nm,0.9s
X29A **Tulia** 72.83 335 ⇓P P 02 35 09.4 +0.1
baz=73
Y27A **Causey** 72.86 333 ⇓P P 02 35 09.3 -0.2
baz=73
Z25A **Roswell** 72.93 332 ⇓P P 02 35 09.9 0.0
baz=73
V33A **Lossen Ranch,** 72.94 338 ⇑P P 02 35 10.1 +0.2
baz=73
V32A **Arapaho** 73.09 337 ⇑P P 02 35 10.8 +0.1
baz=73
Y26A **Elida** 73.15 333 ⇓P P 02 35 11.6 +0.3
baz=74
AMTX **Amarillo** 73.22 335 ⇑P P 02 35 12.2 +0.6
baz=74
AMTX **Amarillo** 73.22 335 *e*P P 02 35 10.9 -0.8
comp=N,25nm,1.1s
Z24A **Sheeppen Canyo** 73.23 331 ⇓P P 02 35 12.0 +0.1
baz=74
U34A **Anderson Ranch** 73.28 339 ⇑P P 02 35 12.7 +0.9
baz=74
Y25A **Mesa, Roswell** 73.48 332 ⇑P P 02 35 13.8 +0.6
baz=74
121A **Cookes Peak, D** 73.54 329 ⇓P P 02 35 14.5 +0.8
baz=74,SNR=5.3
121A **Cookes Peak, D** 73.54 329 *e*P P 02 35 14.3 +0.6
comp=N,15nm,1.0s
121A *e* 02 35 24.7
X26A **CR and CF Fran** 73.70 333 ⇓P P 02 35 14.7 +0.2
baz=74
Y24A **Capitan** 73.78 332 ⇑P P 02 35 15.4 +0.4
baz=74
Z22A **Elephant Butte** 73.82 330 ⇑P P 02 35 16.0 +0.8
baz=74
ACSO **Alum Creek Sta** 73.82 351 *e*P P 02 35 14.5 -0.4
comp=N,16nm,0.9s
W27A **Bowe Ranch, En** 73.88 334 ⇓P P 02 35 16.2 +0.6
baz=74
Y23A **Lovelace Mesa,** 74.03 331 ⇑P P 02 35 17.3 +0.7
baz=74
T33A **Patterson Ranc** 74.09 339 ⇓P P 02 35 17.2 +0.6
baz=74
V28A **Channing** 74.19 335 ⇓P P 02 35 18.7 +1.4
baz=74
W25A **X Bar L Ranch,** 74.54 333 ⇑P P 02 35 19.9 +0.5
baz=75
X23A **Hourglass Bar** 74.65 331 ⇓P P 02 35 21.0 +0.8
baz=75
TUC **Tucson** 74.68 327 *e*P P 02 35 20.1 -0.1
comp=N,54nm,2.7s
LIC **Lamto** 74.69 72 *e*P P 02 35 20.3 -0.3
comp=N,57nm,1.2s
V26A **Tequesquite Ra** 74.80 334 ⇓P P 02 35 21.5 +0.6
baz=75
W24A **Lazy 6 Ranch,** 74.90 332 ⇑P P 02 35 22.5 +1.0
baz=75
TIC **Toumodi** 74.95 71 *e*P P 02 35 21.7 -0.4
comp=N,5.2nm,0.3s
KIC **Kosan Boka** 75.00 72 *e*P P 02 35 22.0 -0.4
comp=N,70nm,1.1s
ANMO **Albuquerque** 75.08 331 *e*P P 02 35 23.6 +1.0
comp=N,9.1nm,1.2s
DBIC **Dimbokro** 75.09 72 P P 02 35 22.6 -0.3
comp=N,8.2nm,0.9s,baz=177,slow=6.3,SNR=8.5
W23A **Werner Place,** 75.14 332 ⇓P P 02 35 24.1 +1.1
baz=76
V25A **Rancho No Teng** 75.14 333 ⇓P P 02 35 24.0 +1.0
baz=76
U26A **Atchley Ranch,** 75.31 334 ⇑P P 02 35 25.1 +1.2
baz=76
214A **Organ Pipe Nat** 75.34 325 ⇑P P 02 35 25.4 +1.4
baz=76
T28A **Walsh** 75.39 336 ⇑P P 02 35 25.6 +1.4
baz=76
S29A **Ulysses** 75.50 337 ⇑P P 02 35 25.9 +1.1
baz=76
U25A **Circle Dot Ran** 75.56 334 ⇑P P 02 35 26.1 +0.8
baz=76
R31A **Burdett** 75.60 338 ⇓P P 02 35 26.6 +1.3
baz=76
V23A **Ortiz Mt. (NFS** 75.67 332 ⇑P P 02 35 26.8 +0.9
baz=76
S28A **Manter** 75.73 336 ⇓P P 02 35 27.3 +1.1
baz=76
Q32A **Meitler Ranch,** 75.95 339 ⇑P P 02 35 27.9 +0.6
baz=76
V22A **San Miguel Ran** 76.10 332 ⇑P P 02 35 29.3 +0.8
baz=76
U23A **El Rito** 76.18 332 ⇑P P 02 35 29.9 +1.0
baz=76
Q31A **Ellis** 76.21 339 ⇑P P 02 35 29.6 +0.8
baz=76
T25A **Trinidad** 76.22 334 ⇑P P 02 35 29.1 0.0
baz=76
S26A **Kim** 76.31 335 ⇓P P 02 35 29.9 +0.4
baz=77
R28A **Tribune** 76.39 336 ⇓P P 02 35 30.6 +0.7
baz=77
113A **Mohawk Valley,** 76.47 325 ⇓P P 02 35 30.6 +0.4
baz=77
T24B **San Luis** 76.51 333 ⇑P P 02 35 32.3 +1.4
baz=77
R27A **Eads** 76.67 336 ⇓P P 02 35 32.7 +1.2
baz=77
P31A **Stockton** 76.68 339 ⇑P P 02 35 33.0 +1.6
baz=77
S25A **Robets Cordova** 76.69 334 ⇑P P 02 35 32.6 +0.9
baz=77
X16A **Lo Mia Camp, P** 76.75 328 ⇓P P 02 35 33.0 +0.9
baz=77
R26A **Arlington** 76.91 335 ⇑P P 02 35 34.2 +1.4
baz=77
S24A **Houchin Ranch,** 76.96 334 ⇑P P 02 35 34.5 +1.1
baz=77
SDCO **Great Sand Dun** 77.16 334 *e*P P 02 35 34.8 +0.3
comp=N,96nm,2.8s
R24A **Sanders Place,** 77.44 334 ⇓P P 02 35 37.3 +1.4
baz=78
WUAZ **Wupatki** 77.64 328 ⇑P P 02 35 38.2 +1.2
baz=78
WUAZ **Wupatki** 77.64 328 *e*P P 02 35 36.6 -0.5
comp=N,11nm,1.1s
R23A **Moffat** 77.67 333 ⇓P P 02 35 38.5 +1.2
baz=78
MVCO **Mesa Verde** 77.86 331 ⇑P P 02 35 39.5 +1.2
baz=78
MVCO **Mesa Verde** 77.86 331 *e*P P 02 35 38.0 -0.3
comp=N,8.5nm,1.0s
P26A **Davis Ranch, A** 78.00 336 ⇓P P 02 35 40.6 +1.6
baz=78
Q24A **Divide** 78.11 334 ⇓P P 02 35 40.9 +1.1
baz=78
BORC **Borrego Spring** 78.17 323 *e*P P 02 35 36.9 -2.9
P25A **Willow Gulch B** 78.24 335 ⇑P P 02 35 42.0 +1.7
baz=79
W13A **Hualapai Mount** 78.43 326 ⇓P P 02 35 42.6 +1.1
baz=79
U15A **North Rim** 78.81 328 ⇑P P 02 35 44.6 +0.9
baz=79
SMCO **Snowmass** 78.97 333 *e*P P 02 35 45.8 +1.2
comp=N,13nm,1.2s
GMRC **Granite Mounta** 79.02 325 ⇑P P 02 35 45.5 +0.9
baz=79
KNB **Kanab** 79.53 328 *e*P P 02 35 48.6 +1.1
comp=N,14nm,1.2s
TSUM **Tsumeb** 79.56 106 *e*P P 02 35 48.7 +0.6
comp=N,16nm,0.9s
ECSD **EROS Data Cent** 79.82 342 ⇓P P 02 35 48.8 +0.1
baz=80
ECSD **EROS Data Cent** 79.82 342 *e*P P 02 35 48.5 -0.2
comp=N,13nm,0.9s
GSC **Goldstone, Bar** 79.99 324 ⇑P P 02 35 50.3 +0.4
baz=80
SHPR **Sheep Range** 80.18 326 *e*P P 02 35 50.9 0.0
CCUT **Cedar City** 80.22 328 *e*P P 02 35 52.5 +1.3
comp=N,11nm,1.2s
SRU **San Rafael Swe** 80.31 331 *e*P P 02 35 51.4 -0.3
comp=N,69nm,2.7s
J29A **Okreek** 80.53 340 ⇓P P 02 35 52.3 -0.2
baz=81
BOSA **Boshof** 80.54 118 P P 02 35 52.5 -0.8
comp=N,12nm,0.9s,baz=211,slow=4.8,SNR=9.7
I30A **Oacoma** 80.74 340 ⇑P P 02 35 53.3 -0.3
baz=81
ARVC **Arvin** 80.86 323 *e*P P 02 35 52.9 -1.5

ISA **Isabella, Lake** 81.10 323 *e*P P 02 35 55.5 -0.3
comp=N,6.9nm,1.1s
DAC **Darwin (Calif)** 81.15 324 *e*P P 02 35 56.6 +0.4
comp=N,98nm,2.6s
BAKC **Calstate** 81.17 323 *e*P P 02 35 53.8 -2.2
R11A **Troy Canyon, C** 81.87 327 ⇑P P 02 36 00.4 +0.5
baz=82
R11A **Troy Canyon, C** 81.87 327 *e*P P 02 36 00.4 +0.5
comp=N,5.2nm,1.1s
H28A **Mission Ridge** 81.89 340 ⇓P P 02 35 60.0 +0.3
baz=82
DUG **Dugway, Tooele** 82.17 330 ⇓P P 02 36 01.3 -0.2
baz=82
DUG **Dugway, Tooele** 82.17 330 *e*P P 02 36 00.3 -1.1
comp=N,42nm,2.3s
G28A **Parade** 82.23 340 ⇓P P 02 36 01.9 +0.4
baz=83
RSSD **Black Hills** 82.31 337 *e*P P 02 36 04.5 +2.3
comp=N,9.6nm,1.3s
TPH **Tonopah** 82.41 326 *e*P P 02 36 03.9 +1.1
comp=N,11nm,1.4s
J22A **Midwest** 82.50 336 ⇑P P 02 36 03.5 +0.4
baz=83
F29A **Eureka** 82.62 341 ⇓P P 02 36 03.8 +0.3
baz=83
HWUT **Hardware Ranch** 82.85 331 *e*P P 02 36 04.8 -0.2
comp=N,6.6nm,0.9s
G26A **Maurine** 82.92 339 ⇑P P 02 36 05.1 0.0
baz=83
PD31 **Pinedale Array** 83.05 333 *e*P P 02 36 05.8 -0.3
PDAR **Pinedale Array** 83.05 333 P P 02 36 05.8 -0.3
comp=N,0.5nm,0.8s,baz=209,slow=2.7,SNR=4.1
G25A **Newell** 83.08 338 ⇓P P 02 36 06.0 +0.1
baz=83
NV01 **Mina Array Sit** 83.21 325 *e*P P 02 36 07.1 +0.1
NVAR **Mina Array Bea** 83.21 325 P P 02 36 07.1 +0.1
comp=N,1.2nm,0.8s,baz=140,slow=7.7,SNR=8.5
F27A **Lemmon** 83.27 340 ⇓P P 02 36 06.9 0.0
baz=84
J19A **Crowheart** 83.29 334 ⇓P P 02 36 07.4 +0.2
baz=84
HVU **Hansel Valley** 83.48 331 *e*P P 02 36 06.6 -1.6
comp=N,104nm,2.9s
D30A **Buchanan** 83.51 342 ⇑P P 02 36 08.3 +0.3
baz=84
I20A **Worland** 83.55 335 ⇓P P 02 36 09.5 +1.1
baz=84
H20A **Greybull** 83.97 335 ⇓P P 02 36 10.7 +0.1
baz=84
C30A **Mose, Pekin** 83.99 343 ⇓P P 02 36 10.8 +0.3
baz=84
TOA0 **Torodi Ar. Sit** 84.11 70 *e*P P 02 36 11.2 -0.7
TORD **Torodi Ar. Bea** 84.11 70 P P 02 36 11.2 -0.7
comp=N,12nm,0.9s,baz=248,slow=4.4,SNR=53
TPAW **Teton Pass** 84.20 333 *e*P P 02 36 06.3 -5.7
comp=N,113nm,3.0s
MDND **Maddock** 84.41 342 ⇓P P 02 36 12.7 +0.1
baz=85
MDND **Maddock** 84.41 342 *e*P P 02 36 12.7 +0.1
comp=N,6.2nm,0.9s
I17A **Pilgrim Ck.** 84.42 333 ⇑P P 02 36 12.7 -0.4
baz=85
D26A **Manning** 84.44 340 ⇓P P 02 36 12.7 -0.1
baz=85
IMW **Indian Meadow** 84.54 333 *e*P P 02 36 12.0 -1.7
comp=N,83nm,2.8s
FLWY **Flagg Ranch** 84.61 333 *e*P P 02 36 14.5 +0.5
comp=N,40nm,1.8s
B30A **Myrvik Farm, E** 84.65 343 ⇑P P 02 36 13.7 -0.1
baz=85
H18A **Shoshone NF, C** 84.73 334 ⇑P P 02 36 14.5 -0.1
baz=85
C27A **Sayler Ranch,** 84.80 341 ⇓P P 02 36 13.4 -1.2
baz=85
B29A **Wagenman Farm,** 84.92 342 ⇑P P 02 36 14.2 -0.9
baz=85
A30A **Hoffart Farm,** 85.10 343 ⇑P P 02 36 15.0 -1.1
baz=85
B28A **Dugan Ranch, T** 85.17 342 ⇑P P 02 36 15.5 -0.8
baz=86
YMR **Madison River** 85.21 333 *e*P P 02 36 17.9 +0.9
comp=N,8.8nm,0.8s
A29A **Manning Farm,** 85.31 343 ⇑P P 02 36 16.3 -0.8
baz=86
HLID **Hailey** 85.64 331 ⇑P P 02 36 19.3 +0.2
baz=86
HLID **Hailey** 85.64 331 *e*P P 02 36 19.8 +0.8
comp=N,51nm,2.5s
ULM **Lac du Bonnet** 85.76 345 P P 02 36 18.6 -0.7
comp=N,1.8nm,0.7s,baz=186,slow=3.4,SNR=4.5
E20A **Meyer Farm, Mu** 85.77 336 ⇓P P 02 36 19.5 0.0
baz=86
E19A **Rath Farm, Rou** 85.96 336 ⇑P P 02 36 20.6 +0.1
baz=86
MCMT **McKenzie Canyo** 86.06 332 *e*P P 02 36 20.7 -0.6
DGMT **Dagmar** 86.26 339 *e*P P 02 36 22.5 +0.6
comp=N,18nm,1.0s
C21A **Desert Coulee** 86.58 337 ⇑P P 02 36 23.6 +0.1
baz=87
D19A **Cripps Ranch,** 86.60 336 ⇓P P 02 36 23.3 -0.3
baz=87
A24A **Westby** 86.61 340 ⇑P P 02 36 24.1 +0.6
baz=87
B22A **Reddig Ranch S** 86.65 338 ⇓P P 02 36 24.2 +0.4
baz=87
C20A **Veseth Ranch,** 86.78 337 ⇓P P 02 36 24.1 -0.4
baz=87
C19A **Slack Wire Ran** 87.15 336 ⇑P P 02 36 25.3 -0.9
baz=88
A22A **Carney Farms,** 87.24 339 ⇑P P 02 36 26.3 -0.4
baz=88
B20A **Solberg Farm,** 87.42 337 ⇑P P 02 36 27.1 -0.4
baz=88
M04C **Macdoel** 87.52 325 ⇑P P 02 36 28.0 -0.3
baz=88
A21A **Bergtoll Ranch** 87.55 338 ⇓P P 02 36 27.8 -0.4
baz=88
A20A **Cobblestone Ra** 87.78 337 ⇑P P 02 36 28.7 -0.6
baz=88
A19A **Klindworth Far** 88.08 337 ⇑P P 02 36 30.6 -0.1
baz=88
I07A **Izee** 88.23 328 *e*P P 02 36 31.3 -0.3
comp=N,18nm,1.5s
HAWA **Hanford** 90.06 329 *e*P P 02 36 41.7 +1.8
comp=N,39nm,2.1s
C09A **Chrisman Ranch** 90.66 331 *e*P P 02 36 42.9 +0.2
comp=N,19nm,0.3s
YKA **Yellowknife Ar** 101.33 341 P Pdif 02 37 30.1 -0.7
comp=N,0.1nm,0.7s,baz=144,slow=5.0,SNR=4.0
YKB5 **Yellowknife Ar** 101.33 341 *e*Pdif Pdif 02 37 30.1 -0.7
AS12 **Alice Springs** 118.14 207 *e*PKPdf PKPdf 02 42 27.4 -0.5
ASAR **Alice Springs** 118.14 207 PKP PKPdf 02 42 27.4 -0.5
comp=N,0.5nm,0.8s,baz=162,slow=2.9,SNR=4.9
H11S2 **WAKE ISLAND Hyl** 25.62 270 T T 05 01 35.8
baz=118,slow=74,SNR=30
H11S1 **WAKE ISLAND Hyl** 25.64 270 T T 05 01 34.5
baz=118,slow=74,SNR=24
H11S3 **WAKE ISLAND Hyl** 25.64 270 T T 05 01 35.9
baz=118,slow=74,SNR=23
ABKAR **Akbulak array** 141.35 51 *e*PKPdf PKPdf 02 43 09.6 -1.1
PALK **Pallekele** 143.96 130 PKP PKPab 02 43 14.1 +0.3
comp=N,11nm,0.9s,baz=187,slow=6.3,SNR=3.8
PALK **Pallekele** 143.96 130 *e*PKPdf PKPab 02 43 14.0 +0.2
POO **Poona** 146.30 107 ⇑*i*P PKPab 02 43 29.0 +6.5
comp=N,167nm,2.0s
BRVK **Borovoye** 146.78 42 *e*PKPbc PKPab 02 43 22.8 -0.5
BVAR **Borovoye Array** 146.85 42 PKPbc PKPbc 02 43 21.6 -0.6
comp=N,3.1nm,0.8s,baz=279,slow=3.8,SNR=16
VOSK **Vostochnaya** 147.30 42 *e*PKPbc PKPbc 02 43 24.3 +0.9
PSI **Prapat** 148.57 163 PKPbc PKPbc 02 43 27.5 -0.7
comp=N,7.1nm,0.5s,baz=204,slow=1.2,SNR=14
KKAR **Karatay Array** 149.33 60 *e*PKPbc PKPbc 02 43 28.8 -0.3
HYB **Hyderabad** 149.37 114 *i*PKP PKPbc 02 43 29.0 -0.9
EKS2 **Erkin-Say** 151.76 61 *e*PKPbc PKPbc 02 43 35.6 +0.5
AAK **Ala-Archa** 152.29 61 PKPbc PKPbc 02 43 37.1 +0.9
comp=N,4.4nm,0.9s,baz=206,slow=1.7,SNR=13
AAK PKPab PKPab 02 43 46.2 -0.1
comp=N,8.8nm,0.9s,baz=231,slow=2.6,SNR=15
KURK **Kurchatov** 152.45 42 *e*PKPbc PKPbc 02 43 36.5 +0.4
KURK *e*PKPab PKPab 02 43 46.5 0.0
TKM2 **Tokmak 2** 153.05 60 *e*PKPdf PKPdf 02 43 30.2 -0.5
TKM2 *e*PKPbc PKPbc 02 43 37.8 -0.2
ZAA1 **Zalesovo Array** 153.69 31 *e*PKPdf PKPdf 02 43 31.2 +0.3
ZAA1 *e*PKPbc PKiKP 02 43 39.1 +0.3
ZAA1 *e*PKPab PKPab 02 43 50.3 -1.3
ZALV **Zalesovo Beam** 153.70 31 PKP PKPdf 02 43 31.2 +0.3
comp=N,1.6nm,0.8s,baz=285,slow=2.9,SNR=7.1

ZALV				PKPbc	**PKiKP**	**02 43 39.1**	**+0.3**
	comp=N,4.5nm,0.7s,baz=298,slow=3.2,SNR=16						
ZALV				PKPab	**PKPab**	**02 43 50.3**	**-1.3**
	comp=N,10.0nm,0.9s,baz=306,slow=1.3,SNR=14						
MK32	**Makanchi Array**	**156.40**	**48**	*e*PKPab	**PKPab**	**02 44 04.2**	**+0.7**
MKAR	**Makanchi Array**	**156.40**	**48**	PKPab	**PKPab**	**02 44 04.2**	**+0.7**
	comp=N,3.0nm,0.9s,baz=282,slow=3.9,SNR=12						
WMQ	**Urumqi**	**161.14**	**50**	*e*PKP	**PKPdf**	**02 43 40.6**	**-0.1**
WMQ				PPMZ			
	comp=N,120nm,5.5s						
ULN	**Ulaanbaatar**	**165.42**	**2**	*e*PKPdf	**PKPdf**	**02 43 44.2**	**-0.4**
ULN				*e*PKPab	**PKPab**	**02 44 43.2**	**+0.3**
SONA0	**Songino Array**	**165.42**	**4**	*e*PKPdf	**PKPdf**	**02 43 44.3**	**-0.3**
SONA0				*e*PKPab	**PKPab**	**02 44 43.1**	**+0.3**
SONM	**Songino Array**	**165.42**	**4**	PKP	**PKPdf**	**02 43 44.3**	**-0.3**
	comp=N,0.3nm,0.5s,baz=20,slow=1.5,SNR=3.3						
SONM				PKPab	**PKPab**	**02 44 43.1**	**+0.3**
	comp=N,1.4nm,0.9s,baz=339,slow=3.4,SNR=7.6						
GTA	**Gaotai**	**171.13**	**44**	*e*PKP	**PKPdf**	**02 43 52.3**	**+3.5**
GTA				pPKP	**pPKPdf**	**02 44 03.2**	**+0.9**
GTA				sPKP		02 44 06.7	
HHC	**Hu-ho-hao-te**	**171.86**	**339**	*e*PKP	**PKPdf**	**02 43 52.9**	**+3.8**
HHC				PP	PP	02 49 10.1	+8.1
HHC				SKKS		02 55 51.7	
HHC				PPMZ			
	comp=N,310nm,7.5s						
GYA	**Guiyang**	**173.13**	**172**	*e*PKP	**PKPdf**	**02 43 50.3**	**+0.2**
GYA				pPKP	**pPKPdf**	**02 44 06.8**	**+3.2**
GYA				PKPab	**PKPab**	**02 45 20.0**	**+2.6**
GYA				PKS	**PKSdf**	**02 47 21.2**	**-1.3**
GYA				PP	**PP**	**02 49 11.8**	**+3.7**
GYA				SKKS		02 55 52.5	
GYA				SS	**SS**	**03 10 19.4**	**+0.7**
GYA				PPMZ			
	comp=N,120nm,8.5s						
GYA				LN			
	comp=N,120nm,22.2s						
GYA				LE			
	comp=N,90nm,22.5s						
GYA				LZ			
	comp=N,110nm,21.3s						
LZH	**Lanzhou**	**175.72**	**48**	*e*PKP	**PKPdf**	**02 43 53.2**	**+2.5**
LZH				pPKP	**pPKPdf**	**02 44 04.1**	**-0.1**
LZH				sPKP		02 44 09.5	
CD2	**Chengdu**	**175.85**	**124**	*e*PKP	**PKPdf**	**02 43 51.3**	**+0.6**

IDC 04 02:26:45.9±1.2, 2°.99N×125°.93E, h0^{km}, mb3.7/5, mb1 3.9/5, mb1mx3.6/40, mbtmp3.7/5, MS4.0/1, Ms1 4.0/1, ms1mx3.1/44, Error ellipse: s-maj=133.7km s-min=18.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.24**	**160**	P	P	02 32 04.3	-0.5
	0.9nm,0.5s,baz=338,slow=11,SNR=18						
ASAR	**Alice Springs**	**27.61**	**164**	P	P	02 32 35.8	+0.5
	1.1nm,0.9s,baz=344,slow=6.4,SNR=6.5						
MJAR	**Matsushiro Arr**	**35.25**	**17**	LR	LR	02 51 29.5	
	comp=Z,198nm,18.3s,baz=0.0,slow=42						
STKA	**Stephens Creek**	**37.74**	**158**	P	P	02 34 03.9	+0.3
	1.2nm,0.5s,baz=332,slow=7.2,SNR=4.0						
SONM	**Songino Array**	**47.74**	**342**	P	P	02 35 24.0	-0.8
	0.2nm,0.4s,baz=147,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**57.71**	**326**	P	P	02 36 38.7	+0.2
	0.8nm,0.5s,baz=120,slow=7.1,SNR=11						

TAP 04 02:30:42.8, 22°.97N×120°.61E, h16^{km}, ML3.8, 9C-11D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.11**	**347**	⇓*i*P	Pb	02 30 47.2	+0.6
	baz=351						
SGST				S	Sb	02 30 50.2	+1.1
	baz=351						
CHN1	**Nanshi**	**0.22**	**340**	⇓*i*P	Pb	02 30 49.0	+0.4
	baz=346						
CHN1				*e*S	Sb	02 30 53.6	+1.2
	baz=346						
SSD	**Sandimen**	**0.23**	**175**	⇓*i*P	Pb	02 30 48.6	0.0
	baz=168						
SSD				S	Sb	02 30 52.4	+0.1
	baz=168						
TWM1	**Shoushan**	**0.23**	**229**	⇑*i*P	Pb	02 30 49.4	+0.8
	baz=223						
STYT	**Tauyuan**	**0.23**	**36**	⇑*i*P	Pb	02 30 49.0	+0.3
	baz=46						
STYT				*i* S	Sb	02 30 53.4	+0.7
	baz=46						
CHN3	**Shinhua**	**0.25**	**294**	*e*P	Pb	02 30 50.3	+1.4
	baz=295						
CHN3				*e*S	Sb	02 30 56.4	+3.4
	baz=295						
SGLT	**Jiouru**	**0.27**	**204**	*e*P	Pb	02 30 50.0	+0.7
	baz=197						
SGLT				*e*S	Sn	02 30 56.1	-1.7
	baz=197						
WTP	**Ta-pu**	**0.27**	**1**	⇓*i*P	Pb	02 30 49.7	+0.3
	baz=3.0						
WTP				S	Sb	02 30 54.8	+0.9
	baz=3.0						
TWK	**Hsinying**	**0.31**	**339**	⇓*i*P	Pb	02 30 50.4	+0.3
	baz=341						
TWK				*i* S	Sb	02 30 56.0	+1.0
	baz=341						
TAI1	**Yung-k'ang**	**0.36**	**281**	*e*P	Pb	02 30 51.6	+0.9
	baz=282						
TAI1				*e*S	Sn	02 30 58.7	-1.3
	baz=282						
CHN4	**Tsaushan**	**0.38**	**358**	⇓P	Pb	02 30 51.3	+0.2
	baz=358						
CHN4				S	Sb	02 30 57.9	+1.1
	baz=358						
ELDTW	**Lidau**	**0.43**	**60**	⇑*i*P	Pb	02 30 52.4	+0.1
	baz=60						
ELDTW				*e*S	Sb	02 30 59.2	+0.7
	baz=60						
SCLT	**Jiali**	**0.43**	**298**	*e*P	Pb	02 30 52.9	+0.9
	baz=299						
SCLT				*e*S	Sn	02 31 00.8	-1.0
	baz=299						
TWG	**Pinlang**	**0.45**	**109**	⇑P	Pb	02 30 53.0	+0.6
	baz=97						
TWG				*e*S	Sb	02 31 00.5	+1.6
	baz=97						
KAU	**Kaohsiung**	**0.49**	**215**	*e*P	Pn	02 30 54.7	-0.4
	baz=228						
ECL	**Taimali**	**0.49**	**140**	⇓P	Pb	02 30 53.2	+0.2
	baz=142						
ECL				S	Sb	02 31 00.3	+0.4
	baz=142						
CHN8	**Yiju**	**0.52**	**315**	P	Pb	02 30 54.1	+0.5
	baz=330						
CHN8				S	Sn	02 31 03.2	-0.8
	baz=330						
TTN	**Taitung**	**0.54**	**114**	*e*P	Pn	02 30 55.3	-0.5
	baz=112						
TTN				S	Sn	02 31 04.8	+0.3
	baz=112						
CHY	**Chiayi**	**0.55**	**342**	P	Pb	02 30 54.5	+0.5
	baz=344						
CHY				*e*S	Sn	02 31 03.5	-1.3
	baz=344						
ALS	**Alishan**	**0.56**	**18**	⇑P	Pb	02 30 54.6	-0.1
	baz=19						
ALS				S	Sb	02 31 03.5	+0.7
	baz=19						
CHN2	**Minshiung**	**0.57**	**347**	*e*P	Pb	02 30 55.0	+0.7
	baz=348						
CHN2				*e*S	Sn	02 31 04.6	-0.7
	baz=348						
SCZT	**Fangliau**	**0.60**	**179**	⇓*i*P	Pb	02 30 54.9	+0.1
	baz=171						
SCZT				*e*S	Sb	02 31 04.2	+1.1
	baz=171						
YUS	**Yu-Shan**	**0.60**	**31**	⇑P	Pb	02 30 55.6	0.0
	baz=41						
YUS				S	Sb	02 31 04.6	+0.3
	baz=41						
CHN5	**Tsauling**	**0.62**	**6**	*e*P	Pb	02 30 55.8	+0.4
	baz=6.0						
CHN5				*e*S	Sn	02 31 05.7	-1.2
	baz=6.0						
EAST	**Anshuo**	**0.63**	**159**	⇓*i*P	Pb	02 30 55.7	+0.3
	baz=154						
EAST				S	Sb	02 31 05.0	+1.0
	baz=154						
TWP	**Hsiaoliuchiu**	**0.67**	**200**	*e*P	Pn	02 30 58.4	+0.9
	baz=200						
TWP				*e*S	Sn	02 31 10.6	+3.0
	baz=200						
TAW	**Tawu**	**0.67**	**157**	⇓*i*P	Pb	02 30 56.5	+0.4
	baz=151						
TAW				*e*S	Sb	02 31 05.8	+0.8
	baz=151						
CHKT	**Chengkung**	**0.71**	**80**	P	Pn	02 30 57.6	-0.5
	baz=71						
CHKT				S	Sn	02 31 09.0	+0.4
	baz=71						
WGK	**Gukeng**	**0.71**	**356**	*e*P	Pn	02 30 57.8	-0.4
	baz=357						
WGK				*e*S	Sn	02 31 09.1	+0.3
	baz=357						
TWF1	**Yuli**	**0.74**	**59**	⇑*i*P	Pb	02 30 57.7	+0.5
	baz=68						
TWF1				*e*S	Sb	02 31 07.9	+0.8
	baz=68						
WSF	**Szhu**	**0.75**	**332**	*e*P	Pn	02 30 59.4	+0.7
	baz=333						
WSF				*e*S	Sn	02 31 09.8	0.0
	baz=333						
EHY	**Hungye**	**0.84**	**51**	⇑*i*P	Pg	02 30 59.4	+0.1
	baz=51						
EHY				S	Sg	02 31 10.7	+0.3
	baz=51						
WNT	**Mingjian**	**0.90**	**4**	*e*P	Pn	02 31 00.6	-0.2
	baz=353						
WNT				*e*S	Sn	02 31 14.1	+0.6
	baz=353						
WDGT	**Dungji**	**0.92**	**288**	*e*P	Pb	02 30 59.8	-0.5
	baz=289						
WDGT				*e*S	Sb	02 31 12.3	0.0
	baz=289						
WTCT	**Ta-ch'eng**	**0.94**	**341**	*e*P	Pn	02 31 01.4	+0.1
	baz=342						
WTCT				*e*S	Sn	02 31 14.5	+0.1
	baz=342						
SMLT	**Sun Moon Lake**	**0.94**	**16**	*e*P	Pn	02 31 01.8	+0.3
	baz=17						
SMLT				S	Sn	02 31 15.9	+1.1
	baz=17						
TYC	**Yuchr**	**0.95**	**14**	*e*P	Pn	02 31 01.6	+0.1
	baz=14						
TYC				*e*S	Sn	02 31 16.3	+1.5
	baz=14						
HEN	**Hengchun**	**0.97**	**173**	*e*P	Pn	02 31 02.1	+0.4
	baz=169						
HEN				*e*S	Sn	02 31 17.3	+2.2
	baz=169						
TWK1	**Hengchun**	**1.04**	**170**	⇓P	Pg	02 31 03.0	0.0
	baz=169						
TWK1				S	Sn	02 31 18.6	+1.7
	baz=169						
TSEB	**Hengchuen, Pin**	**1.10**	**166**	*e*P	Pn	02 31 03.8	+0.3
	baz=167						
TSEB				*e*S	Sg	02 31 20.5	+2.0
	baz=167						
ESL	**Shilin**	**1.13**	**42**	⇑P	Pg	02 31 04.4	-0.2
	baz=42						
ESL				*e*S	Sg	02 31 19.9	+0.5
	baz=42						
PNG	**Penghu**	**1.14**	**302**	*e*P	Pn	02 31 03.4	-0.6
	baz=303						
PNG				*e*S	Sb	02 31 18.1	-0.5
	baz=303						
TCU	**Taichung**	**1.17**	**3**	*e*P	Pb	02 31 05.0	+0.4
	baz=353						
TCU				*e*S	Sg	02 31 21.5	+0.7
	baz=353						
LAY	**Lan-yu**	**1.27**	**137**	*e*P	Pn	02 31 05.6	-0.3
	baz=136						
LAY				*e*S	Sg	02 31 24.1	0.0
	baz=136						
WHF	**Hehuan Shan**	**1.31**	**27**	*e*P	Pb	02 31 07.8	+0.2
	baz=17						
WHF				*e*S	Sg	02 31 26.7	+0.5
	baz=17						
TWT	**Tachien**	**1.38**	**22**	*e*P	Pb	02 31 08.6	+0.2
	baz=21						
TWT				*e*S	Sg	02 31 26.9	-0.8
	baz=21						
TWQ1	**Liyutan**	**1.38**	**6**	*e*P	Pb	02 31 08.5	+0.3
	baz=7.0						
TWQ1				*e*S	Sg	02 31 27.0	-0.4
	baz=7.0						
TWD	**Chiawan**	**1.43**	**39**	*e*P	Pb	02 31 09.6	+0.6
	baz=39						
TWD				*e*S	Sg	02 31 28.8	-0.1
	baz=39						
NSY	**Sanyi**	**1.44**	**5**	*e*P	Pb	02 31 09.3	-0.1
	baz=6.0						
NSY				*e*S	Sg	02 31 28.6	-1.0
	baz=6.0						
NNS	**Nan Shan**	**1.62**	**25**	*e*P	Pb	02 31 12.8	+0.3
	baz=13						
NNS				*e*S	Sg	02 31 35.1	-0.3
	baz=13						
NSTT	**Nanjuang**	**1.69**	**12**	*e*P	Pb	02 31 12.9	-0.6
	baz=355						
NSTT				*e*S	Sb	02 31 35.7	+1.1
	baz=355						
ENA	**Nanau**	**1.78**	**35**	*e*P	Pb	02 31 15.4	+0.3
	baz=34						
NSK	**Sanguang**	**1.83**	**22**	*e*P	Pb	02 31 15.6	-0.4
	baz=22						
NSK				*e*S	Sb	02 31 39.6	+0.9
	baz=22						
ENTT	**Nioudou**	**1.88**	**28**	*e*P	Pb	02 31 16.9	+0.2
	baz=11						
TWC	**Suao**	**1.98**	**35**	*e*P	Pb	02 31 17.9	-0.6
	baz=43						
TWE	**Neicheng**	**1.99**	**29**	*e*P	Pb	02 31 18.0	-0.6
	baz=29						
TWE				*e*S	Sb	02 31 45.0	+1.8
	baz=29						
TWA	**Mucha**	**2.19**	**24**	*e*P	Pb	02 31 21.6	-0.4
	baz=22						
EGS		**2.22**	**33**	*e*P	Pb	02 31 22.9	+0.3
	baz=31						
NWF	**Wu-fen Shan**	**2.35**	**27**	*e*P	Pb	02 31 23.6	-1.2
	baz=11						
NWF				*e*S	Sb	02 31 53.2	-0.4
	baz=11						
KNM	**Kinmen**	**2.46**	**306**	*e*P	Pb	02 31 25.9	-0.7
	baz=306						

*IDC **04** 02:32:35.2±5.0, 22°.96N×122°.57E, h0^{km}, mb3.7/4, mb1 3.9/4, mb1mx3.4/42, mbtmp3.6/4, Error ellipse: s-maj=319.8km s-min=30.8km az=91.0*
*TAP **04** 02:32:36.5, 22°.96N×120°.67E, h20^{km}, ML3.9, A*
*ISCJB **04** 02:32:38.1±0.2, 22°.96N±0°.01×120°.66E±0°.02, h19^{km}±3^{km}, mb3.5/4, Error ellipse: s-maj=2.7km s-min=1.9km az=175.0*

ISC 04 02:32:36.9±0.8, 22°.96N±0°.02×120°.65E±0°.02, h25^{km}±5^{km}, n65, σ1=05/117, mb3.5/3, 8C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.14**	**332**	⇓*i*P	**Pb**	**02 32 41.7**	**-0.2**
	baz=337						
SGST				*i* S	**Sb**	**02 32 45.3**	**+0.1**
	baz=337						
SSD	**Sandimen**	**0.21**	**185**	⇓*i*P	**Pb**	**02 32 42.5**	**-0.2**
	baz=186						
SSD				S	**Sb**	**02 32 46.2**	**-0.5**
	baz=186						
STYT	**Tauyuan**	**0.22**	**25**	⇑*i*P	**Pb**	**02 32 42.6**	**-0.3**
	baz=31						
STYT				S	**Sb**	**02 32 46.7**	**-0.3**
	baz=31						
CHN1	**Nanshi**	**0.25**	**333**	⇓*i*P	**Pb**	**02 32 43.3**	**+0.1**
	baz=340						
CHN1				*i* S	**Sb**	**02 32 48.5**	**+0.8**
	baz=340						
TWM1	**Shoushan**	**0.25**	**237**	⇑*i*P	**Pb**	**02 32 43.9**	**+0.6**
	baz=242						
TWM1				*e*S	**Sn**	**02 32 49.8**	**-0.5**
	baz=242						
SGLT	**Jiouru**	**0.28**	**213**	*i* P	**Pb**	**02 32 44.3**	**+0.7**
	baz=208						
SGLT				*e*S	**Sn**	**02 32 50.0**	**-0.8**
	baz=208						
WTP	**Ta-pu**	**0.29**	**353**	⇓*i*P	**Pb**	**02 32 43.8**	**0.0**
	baz=352						
WTP				S	**Sb**	**02 32 49.0**	**+0.5**
	baz=352						
CHN3	**Shinhua**	**0.29**	**293**	*e*P	**Pb**	**02 32 45.0**	**+1.3**
	baz=292						
CHN3				*e*S	**Sn**	**02 32 51.8**	**+0.7**
	baz=292						
TWK	**Hsinying**	**0.34**	**334**	⇓*i*P	**Pb**	**02 32 44.6**	**0.0**
	baz=333						
TWK				S	**Sb**	**02 32 50.7**	**+0.9**
	baz=333						
CHN4	**Tsaushan**	**0.39**	**352**	⇓*i*P	**Pb**	**02 32 45.4**	**0.0**
	baz=350						
CHN4				S	**Sb**	**02 32 51.8**	**+0.7**
	baz=350						
TAI1	**Yung-k'ang**	**0.40**	**281**	P	**Pb**	**02 32 46.4**	**+0.9**
	baz=280						
TAI1				*e*S	**Sn**	**02 32 53.7**	**-0.1**
	baz=280						
ELDTW	**Lidau**	**0.41**	**56**	⇑*i*P	**Pb**	**02 32 45.6**	**-0.1**
	baz=49						
ELDTW				*e*S	**Sb**	**02 32 51.7**	**+0.1**
	baz=49						
TWG	**Pinlang**	**0.41**	**110**	⇑*i*P	**Pb**	**02 32 45.9**	**+0.2**
	baz=101						
TWG				*i* S	**Sb**	**02 32 52.2**	**+0.5**
	baz=101						
ECL	**Taimali**	**0.46**	**142**	⇓*i*P	**Pb**	**02 32 46.4**	**0.0**
	baz=144						
ECL				S	**Sb**	**02 32 53.1**	**+0.3**
	baz=144						
SCLT	**Jiali**	**0.47**	**297**	P	**Pb**	**02 32 47.5**	**+0.8**
	baz=296						
SCLT				S	**Sn**	**02 32 56.1**	**+0.4**
	baz=296						
TTN	**Taitung**	**0.50**	**114**	*e*P	**Pb**	**02 32 47.7**	**+0.6**
	baz=116						
TTN				*e*S	**Sn**	**02 32 55.6**	**-0.7**
	baz=116						
KAU	**Kaohsiung**	**0.50**	**219**	*e*P	**Pn**	**02 32 49.0**	**+0.4**
	baz=229						
KAU				*e*S	**Sn**	**02 32 58.0**	**+1.6**
	baz=229						
ALS	**Alishan**	**0.56**	**14**	P	**Pb**	**02 32 48.4**	**0.0**
	baz=14						
ALS				*e*S	**Sb**	**02 32 56.7**	**+0.4**
	baz=14						
CHY	**Chiayi**	**0.57**	**339**	⇓*i*P	**Pb**	**02 32 48.8**	**+0.4**
	baz=338						
CHY				*i* S	**Sn**	**02 32 58.0**	**-0.2**
	baz=338						
SCZT	**Fangliau**	**0.59**	**183**	⇓P	**Pb**	**02 32 48.6**	**0.0**
	baz=178						
SCZT				*e*S	**Sn**	**02 32 58.2**	**-0.2**
	baz=178						
CHN2	**Minshiung**	**0.59**	**344**	⇓*i*P	**Pb**	**02 32 49.3**	**+0.6**
	baz=343						
CHN2				S	**Sn**	**02 32 59.0**	**+0.4**
	baz=343						
YUS	**Yu-Shan**	**0.59**	**28**	⇑*i*P	**Pb**	**02 32 49.2**	**+0.1**
	baz=35						
YUS				S	**Sb**	**02 32 58.0**	**+0.7**
	baz=35						
EAST	**Anshuo**	**0.60**	**163**	⇓P	**Pb**	**02 32 49.1**	**+0.2**
	baz=163						
EAST				*e*S	**Sb**	**02 32 57.5**	**+0.5**
	baz=163						
CHN5	**Tsauling**	**0.63**	**2**	⇓*i*P	**Pb**	**02 32 49.4**	**-0.1**
	baz=10.0						
CHN5				S	**Sn**	**02 32 59.4**	**-0.4**
	baz=10.0						
TAW	**Tawu**	**0.64**	**159**	P	**Pb**	**02 32 49.8**	**+0.3**
	baz=161						
TAW				S	**Sb**	**02 32 58.5**	**+0.5**
	baz=161						
TWP	**Hsiaoliuchiu**	**0.67**	**204**	*e*P	**Pn**	**02 32 52.0**	**+1.2**
	baz=204						
TWP				*e*S	**Sn**	**02 33 04.2**	**+3.7**
	baz=204						
CHKT	**Chengkung**	**0.67**	**78**	*i* P	**Pb**	**02 32 50.4**	**+0.4**
	baz=79						
CHKT				S	**Sn**	**02 33 00.9**	**+0.3**
	baz=79						
TWF1	**Yuli**	**0.71**	**57**	⇑*i*P	**Pb**	**02 32 50.8**	**+0.1**
	baz=63						
TWF1				*i* S	**Sb**	**02 33 00.1**	**+0.1**
	baz=63						
WGK	**Gukeng**	**0.73**	**353**	*e*P	**Pb**	**02 32 51.6**	**+0.7**
	baz=353						
WGK				S	**Sn**	**02 33 02.9**	**+1.0**
	baz=353						
WSF	**Szhu**	**0.78**	**330**	*i* P	**Pb**	**02 32 52.2**	**+0.3**
	baz=329						
WSF				*e*S	**Sn**	**02 33 04.2**	**+0.8**
	baz=329						
EHY	**Hungye**	**0.82**	**48**	⇑*i*P	**Pb**	**02 32 52.5**	**0.0**
	baz=54						
EHY				*i* S	**Sb**	**02 33 03.5**	**+0.3**
	baz=54						
WNT	**Mingjian**	**0.91**	**2**	*e*P	**Pb**	**02 32 54.5**	**+0.3**
	baz=349						
WNT				*e*S	**Sn**	**02 33 07.9**	**+1.3**
	baz=349						
SMLT	**Sun Moon Lake**	**0.95**	**14**	P	**Pn**	**02 32 55.5**	**+0.7**
	baz=14						
SMLT				*e*S	**Sn**	**02 33 09.2**	**+1.6**
	baz=14						
HEN	**Hengchun**	**0.95**	**175**	*i* P	**Pn**	**02 32 55.5**	**+0.8**
	baz=169						
HEN				*e*S	**Sn**	**02 33 09.9**	**+2.4**
	baz=169						
TYC	**Yuchr**	**0.96**	**11**	*e*P	**Pb**	**02 32 55.2**	**+0.3**
	baz=11						
TYC				*e*S	**Sn**	**02 33 09.5**	**+1.8**
	baz=11						
WDGT	**Dungji**	**0.96**	**288**	*i* P	**Pb**	**02 32 54.0**	**-0.9**
	baz=287						
WDGT				*e*S	**Sb**	**02 33 06.8**	**-0.4**
	baz=287						
WTCT	**Ta-ch'eng**	**0.96**	**339**	*e*P	**Pb**	**02 32 54.6**	**-0.3**
	baz=339						
WTCT				*e*S	**Sn**	**02 33 08.7**	**+1.0**
	baz=339						
TWK1	**Hengchun**	**1.02**	**172**	⇓*i*P	**Pb**	**02 32 56.3**	**+0.3**
	baz=173						
TWK1				S	**Sn**	**02 33 10.7**	**+1.5**
	baz=173						
TSEB	**Hengchuen, Pin**	**1.08**	**168**	*e*P	**Pb**	**02 32 57.3**	**+0.3**
	baz=171						
TSEB				S	**Sn**	**02 33 13.6**	**+2.9**
	baz=171						
ESL	**Shilin**	**1.11**	**40**	⇑*i*P	**Pb**	**02 32 57.7**	**+0.2**
	baz=33						
ESL				*e*S	**Sn**	**02 33 12.4**	**+1.0**
	baz=33						
PNG	**Penghu**	**1.18**	**301**	*e*P	**Pn**	**02 32 57.1**	**-0.7**
	baz=300						
PNG				*e*S	**Sn**	**02 33 12.4**	**-0.7**
	baz=300						
TCU	**Taichung**	**1.18**	**1**	*e*P	**Pb**	**02 32 59.0**	**+0.3**
	baz=1.0						
TCU				*e*S	**Sb**	**02 33 15.2**	**+1.6**
	baz=1.0						
LAY	**Lan-yu**	**1.24**	**138**	P	**Pn**	**02 32 58.7**	**0.0**
	baz=128						
WHF	**Hehuan Shan**	**1.31**	**25**	*e*P	**Pb**	**02 33 01.1**	**0.0**
	baz=16						
WHF				*e*S	**Sb**	**02 33 19.6**	**+2.0**
	baz=16						
HWA	**Hwalien**	**1.34**	**41**	*e*P	**Pb**	**02 33 01.8**	**+0.5**
	baz=33						
HWA				*e*S	**Sb**	**02 33 20.8**	**+2.7**
	baz=33						
TWT	**Tachien**	**1.37**	**20**	*e*P	**Pb**	**02 33 02.2**	**+0.1**
	baz=20						
TWT				*e*S	**Sb**	**02 33 20.4**	**+1.1**
	baz=20						
TWQ1	**Liyutan**	**1.39**	**5**	*e*P	**Pb**	**02 33 02.1**	**-0.1**
	baz=5.0						
TWQ1				*e*S	**Sb**	**02 33 21.1**	**+1.6**
	baz=5.0						
TWD	**Chiawan**	**1.41**	**38**	*e*P	**Pb**	**02 33 02.5**	**-0.1**
	baz=37						
TWD				*e*S	**Sb**	**02 33 21.3**	**+1.1**
	baz=37						
NSY	**Sanyi**	**1.45**	**4**	*e*P	**Pb**	**02 33 03.0**	**-0.3**
	baz=4.0						

NSY					eS		Sb	02 33 23.2	+1.9
	baz=4.0								
NNS	**Nan Shan**	**1.61**	**24**	*eP*			**Pb**	**02 33 06.0**	**-0.1**
	baz=24								
NSTT	**Nanjuang**	**1.69**	**11**	*eP*			**Pn**	**02 33 05.9**	**+0.9**
	baz=354								
NSTT					eS		**Sb**	**02 33 28.8**	**+0.5**
	baz=354								
ENA	**Nanau**	**1.77**	**34**	*eP*			**Pb**	**02 33 08.9**	**+0.2**
	baz=34								
NSK	**Sanguang**	**1.83**	**21**	*eP*			**Pb**	**02 33 08.8**	**-0.9**
	baz=9.0								
ENTT	**Nioudou**	**1.87**	**26**	*eP*			**Pb**	**02 33 09.7**	**-0.7**
	baz=27								
ENTT					eS		**Sb**	**02 33 34.5**	**+1.1**
	baz=27								
TWC	**Suao**	**1.97**	**33**	*eP*			**Pb**	**02 33 11.2**	**-1.0**
	baz=42								
TWC					eS		**Sb**	**02 33 37.6**	**+1.3**
	baz=42								
TWE	**Neicheng**	**1.98**	**28**	*eP*			**Pb**	**02 33 12.6**	**+0.3**
	baz=28								
TWE					eS		**Sb**	**02 33 37.6**	**+1.0**
	baz=28								
TWA	**Mucha**	**2.18**	**23**	*eP*			**Pb**	**02 33 15.1**	**-0.7**
	baz=22								
EGS		**2.21**	**32**	*eP*			**Pb**	**02 33 14.7**	**-1.6**
	baz=31								
NWF	**Wu-fen Shan**	**2.34**	**26**	*eP*			**Pb**	**02 33 17.0**	**-1.5**
	baz=8.0								
KNM	**Kinmen**	**2.50**	**306**	*eP*			**Pn**	**02 33 17.8**	**+1.7**
	baz=303								
YOJ	**Yonaguni jima**	**2.63**	**55**	*eP*			**Pn**	**02 33 18.7**	**+0.9**
	baz=53								
WRA	**Warramunga Arr**	**44.69**	**162**	P			**P**	**02 40 45.6**	**-2.4**
	0.4nm,0.6s,baz=343,slow=8.8,SNR=8.6								
ASAR	**Alice Springs**	**48.10**	**164**	P			**P**	**02 41 13.5**	**-1.3**
	0.4nm,0.7s,baz=355,slow=10,SNR=4.3								
YKA	**Yellowknife Ar**	**84.28**	**23**	P			**P**	**02 45 06.0**	**-0.3**
	0.1nm,0.5s,baz=308,slow=4.8,SNR=4.3								
PDAR	**Pinedale Array**	**99.90**	**35**	P			**Pdif**	**02 46 16.0**	**-4.0**
	0.4nm,0.9s,baz=283,slow=1.6,SNR=3.6								

TAP 04 02:34:20.0, 22.°97N×120.°65E, h17km, ML3.6, 5C-8D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.13**	**334**	⇓*iP*		**Pb**	02 34 24.8 +0.7
	baz=337						
SGST				*i* S		Sb	02 34 28.0 +1.3
	baz=337						
SSD	**Sandimen**	**0.22**	**183**	⇓*iP*		**Pb**	02 34 25.7 +0.2
	baz=181						
SSD				*i* S		Sb	02 34 29.4 +0.1
	baz=181						
STYT	**Tauyuan**	**0.22**	**28**	⇓*iP*		**Pb**	02 34 26.0 +0.3
	baz=35						
STYT				*i* S		Sb	02 34 30.3 +0.8
	baz=35						
CHN1	**Nanshi**	**0.24**	**334**	⇓*iP*		**Pb**	02 34 26.6 +0.5
	baz=344						
CHN1				*i* S		Sb	02 34 31.4 +1.3
	baz=344						
TWM1	**Shoushan**	**0.25**	**236**	⇑*iP*		**Pb**	02 34 27.0 +0.9
	baz=235						
TWM1				eS		Sb	02 34 32.7 +2.5
	baz=235						
SGLT	**Jiouru**	**0.28**	**211**	P		**Pb**	02 34 27.3 +0.7
	baz=205						
SGLT				eS		Sn	02 34 33.3 -1.8
	baz=205						
CHN3	**Shinhua**	**0.28**	**293**	*eP*		**Pb**	02 34 27.9 +1.3
	baz=293						
WTP	**Ta-pu**	**0.28**	**354**	⇓*iP*		**Pb**	02 34 27.1 +0.4
	baz=356						
WTP				S		Sb	02 34 32.2 +1.0
	baz=356						
TWK	**Hsinying**	**0.33**	**334**	P		**Pb**	02 34 27.9 +0.3
	baz=337						
TWK				S		Sb	02 34 33.8 +1.1
	baz=337						
CHN4	**Tsaushan**	**0.39**	**353**	⇓P		**Pb**	02 34 28.7 +0.3
	baz=354						
CHN4				S		Sb	02 34 35.2 +1.1
	baz=354						
TAI1	**Yung-k'ang**	**0.39**	**281**	*eP*		**Pb**	02 34 29.6 +1.2
	baz=282						
TAI1				eS		Sn	02 34 37.0 -0.8
	baz=282						
ELDTW	**Lidau**	**0.41**	**57**	⇑*iP*		**Pb**	02 34 29.2 +0.3
	baz=57						
ELDTW				*i* S		Sb	02 34 35.2 +0.2
	baz=57						
TWG	**Pinlang**	**0.42**	**110**	⇑*iP*		**Pb**	02 34 29.6 +0.6
	baz=100						
TWG				S		Sb	02 34 36.4 +1.4
	baz=100						
ECL	**Taimali**	**0.46**	**142**	P		**Pb**	02 34 30.1 +0.4
	baz=141						
ECL				*i* S		Sb	02 34 36.9 +0.6
	baz=141						
SCLT	**Jiali**	**0.47**	**297**	*eP*		**Pb**	02 34 30.7 +1.0
	baz=298						
SCLT				eS		Sn	02 34 39.4 -0.3
	baz=298						
KAU	**Kaohsiung**	**0.50**	**218**	*eP*		**Pn**	02 34 31.6 -0.8
	baz=233						
TTN	**Taitung**	**0.51**	**114**	⇑P		**Pn**	02 34 31.7 -0.7
	baz=113						
TTN				S		Sn	02 34 40.6 -0.2
	baz=113						
CHN8	**Yiju**	**0.55**	**314**	*eP*		**Pb**	02 34 32.1 +0.9
	baz=327						
CHN8				eS		Sn	02 34 41.5 -0.3
	baz=327						
ALS	**Alishan**	**0.56**	**15**	⇓P		**Pb**	02 34 31.8 0.0
	baz=16						
ALS				S		Sb	02 34 40.2 +0.4
	baz=16						
CHY	**Chiayi**	**0.57**	**339**	P		**Pb**	02 34 32.1 +0.6
	baz=340						
CHY				S		Sn	02 34 41.3 -1.0
	baz=340						
CHN2	**Minshiung**	**0.59**	**345**	P		**Pb**	02 34 32.7 +0.9
	baz=345						
CHN2				eS		Sn	02 34 41.9 -0.9
	baz=345						
SCZT	**Fangliau**	**0.59**	**182**	⇓*iP*		**Pb**	02 34 32.1 +0.2
	baz=176						
SCZT				eS		Sb	02 34 40.1 +0.2
	baz=176						
YUS	**Yu-Shan**	**0.59**	**28**	*eP*		**Pb**	02 34 32.6 0.0
	baz=38						
YUS				S		Sb	02 34 41.4 +0.2
	baz=38						
EAST	**Anshuo**	**0.61**	**162**	*i* P		**Pb**	02 34 32.6 +0.4
	baz=156						
EAST				eS		Sb	02 34 41.7 +1.1
	baz=156						
CHN5	**Tsauling**	**0.63**	**3**	P		**Pb**	02 34 32.9 +0.2
	baz=3.0						
CHN5				S		Sb	02 34 42.6 +1.3
	baz=3.0						
TAW	**Tawu**	**0.65**	**159**	*eP*		**Pb**	02 34 33.3 +0.4
	baz=158						
TAW				eS		Sb	02 34 42.3 +0.7
	baz=158						
TWP	**Hsiaoliuchiu**	**0.67**	**203**	P		**Pn**	02 34 35.6 +0.9
	baz=202						
TWP				S		Sn	02 34 47.7 +2.9
	baz=202						
CHKT	**Chengkung**	**0.68**	**78**	P		**Pn**	02 34 34.2 -0.5
	baz=71						
CHKT				S		Sn	02 34 45.3 +0.4
	baz=71						
TWF1	**Yuli**	**0.71**	**57**	⇑P		**Pg**	02 34 34.4 +0.4
	baz=63						
TWF1				S		Sg	02 34 44.1 +0.6
	baz=63						
WGK	**Gukeng**	**0.72**	**354**	P		**Pn**	02 34 35.0 -0.4
	baz=355						
WGK				eS		Sn	02 34 46.5 +0.4
	baz=355						
WSF	**Szhu**	**0.78**	**330**	*eP*		**Pn**	02 34 35.8 -0.4
	baz=331						
WSF				eS		Sn	02 34 47.5 +0.1
	baz=331						
EHY	**Hungye**	**0.82**	**49**	P		**Pg**	02 34 36.3 +0.2
	baz=49						
EHY				S		Sg	02 34 47.2 +0.2
	baz=49						
WNT	**Mingjian**	**0.91**	**2**	*eP*		**Pn**	02 34 37.9 -0.1
	baz=3.0						
WNT				eS		Sn	02 34 51.6 +0.9
	baz=3.0						
SMLT	**Sun Moon Lake**	**0.94**	**14**	*eP*		**Pn**	02 34 38.8 +0.1
	baz=15						
SMLT				S		Sn	02 34 52.9 +1.0
	baz=15						
WDGT	**Dungji**	**0.95**	**288**	*eP*		**Pb**	02 34 37.3 -0.8
	baz=289						
WDGT				eS		Sb	02 34 50.0 -0.4
	baz=289						
TYC	**Yuchr**	**0.95**	**12**	*eP*		**Pn**	02 34 38.8 +0.2
	baz=12						
TYC				S		Sn	02 34 53.4 +1.6
	baz=12						
HEN	**Hengchun**	**0.96**	**175**	*eP*		**Pn**	02 34 38.7 +0.1
	baz=165						
HEN				eS		Sn	02 34 53.9 +2.0
	baz=165						
TWK1	**Hengchun**	**1.03**	**172**	P		**Pg**	02 34 40.0 0.0
	baz=171						
TWK1				S		Sn	02 34 55.5 +1.9
	baz=171						
TSEB	**Hengchuen, Pin**	**1.09**	**167**	*eP*		**Pg**	02 34 41.3 +0.3
	baz=169						
TSEB				eS		Sg	02 34 58.0 +2.7
	baz=169						
ESL	**Shilin**	**1.11**	**40**	*eP*		**Pg**	02 34 41.3 -0.2
	baz=32						
ESL				eS		Sg	02 34 56.1 -0.1
	baz=32						
PNG	**Penghu**	**1.17**	**301**	*eP*		**Pn**	02 34 40.2 -1.3
	baz=302						
PNG				eS		Sb	02 34 55.9 -0.7
	baz=302						
TCU	**Taichung**	**1.18**	**1**	*eP*		**Pb**	02 34 42.1 +0.2
	baz=2.0						
TCU				eS		Sg	02 34 59.2 +1.0
	baz=2.0						
LAY	**Lan-yu**	**1.25**	**138**	*eP*		**Pn**	02 34 42.2 -0.4
	baz=137						
LAY				eS		Sn	02 34 59.4 +0.4
	baz=137						
WHF	**Hehuan Shan**	**1.30**	**26**	*eP*		**Pb**	02 34 45.2 +0.5
	baz=16						
WHF				eS		Sg	02 35 03.4 +0.1
	baz=16						
TWT	**Tachien**	**1.37**	**21**	*eP*		**Pb**	02 34 45.6 +0.1
	baz=20						
TWT				eS		Sg	02 35 03.9 -0.9
	baz=20						
TWQ1	**Liyutan**	**1.38**	**5**	*eP*		**Pb**	02 34 45.7 +0.3
	baz=4.0						
TWD	**Chiawan**	**1.41**	**38**	*eP*		**Pb**	02 34 45.9 0.0
	baz=38						
TWD				eS		Sg	02 35 05.6 0.0
	baz=38						
NNS	**Nan Shan**	**1.61**	**24**	*eP*		**Pb**	02 34 50.1 +0.6
	baz=12						
NNS				eS		Sb	02 35 10.3 +0.6
	baz=12						
NSTT	**Nanjuang**	**1.69**	**11**	*eP*		**Pb**	02 34 49.9 -0.7
	baz=354						
NSTT				eS		Sb	02 35 12.5 +0.8
	baz=354						
NSK	**Sanguang**	**1.82**	**21**	*eP*		**Pb**	02 34 53.0 0.0
	baz=21						
NSK				eS		Sb	02 35 16.9 +1.2
	baz=21						
ENTT	**Nioudou**	**1.87**	**27**	*eP*		**Pb**	02 34 54.6 +0.9
	baz=10.0						
TWE	**Neicheng**	**1.98**	**28**	*eP*		**Pb**	02 34 56.5 +0.9
	baz=28						
TWE				eS		Sb	02 35 21.9 +1.9
	baz=28						
NWF	**Wu-fen Shan**	**2.34**	**26**	*eP*		**Pb**	02 35 01.9 0.0
	baz=8.0						

IDC 04 02:35:36.8±1.1, 19.°96N×122.°07E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/39, mbtmp3.6/5, Error ellipse: s-maj=71.8km s-min=21.1km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**30.57**	**339**	P		P	02 41 53.1 +0.8
	0.2nm,0.4s,baz=163,slow=7.9,SNR=3.0						
WRA	**Warramunga Arr**	**41.44**	**162**	P		P	02 43 25.0 -0.4
	1.4nm,0.8s,baz=343,slow=9.0,SNR=6.0						
MKAR	**Makanchi Array**	**41.99**	**319**	P		P	02 43 28.9 -0.8
	0.6nm,0.7s,baz=113,slow=9.2,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**42.06**	**84**	T		T	03 28 29.0
	baz=280,slow=75,SNR=93						
H11N1	**WAKE ISLAND Hy**	**42.07**	**82**	T		T	03 28 31.3
	baz=279,slow=75,SNR=55						
H11N2	**WAKE ISLAND Hy**	**42.07**	**82**	T		T	03 28 30.0
	baz=279,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**42.07**	**84**	T		T	03 28 29.8
	baz=280,slow=75,SNR=123						
H11S2	**WAKE ISLAND Hy**	**42.08**	**84**	T		T	03 28 30.4
	baz=280,slow=75,SNR=85						
H11N3	**WAKE ISLAND Hy**	**42.08**	**82**	T		T	03 28 31.1
	baz=279,slow=75,SNR=10						
ASAR	**Alice Springs**	**44.87**	**165**	P		P	02 43 53.5 +0.4
	0.5nm,0.5s,baz=356,slow=8.7,SNR=6.3						
YKA	**Yellowknife Ar**	**86.52**	**23**	P		P	02 48 21.1 -0.3
	0.2nm,0.7s,baz=308,slow=4.6,SNR=4.3						

*TAP **04** 02:43:36.1, 22.°97N×120.°60E, h16km, ML3.7, B*
*ISCJB **04** 02:43:37.6±0.2, 22.°97N±0.°01×120.°61E±0.°02, h12km±1km, Error ellipse: s-maj=2.6km s-min=1.8km az=171.8*
ISC 04 02:43:37.0±0.8, 22.°98N±0.°01×120.°59E±0.°02, h16km±4km, n61, σ0=83/114, 8C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.10**	**354**	*i* P		**Pg**	**02 43 40.4** **0.0**
	baz=354						
SGST				S		**Sb**	**02 43 43.3** **+0.6**
	baz=354						
CHN1	**Nanshi**	**0.21**	**343**	⇓*iP*		**Pb**	**02 43 42.2** **-0.3**
	baz=348						
CHN1				*i* S		**Sb**	**02 43 47.0** **+0.9**
	baz=348						
TWM1	**Shoushan**	**0.22**	**225**	⇑*iP*		**Pb**	**02 43 42.5** **-0.1**
	baz=222						
CHN3	**Shinhua**	**0.23**	**294**	*eP*		**Pb**	**02 43 43.5** **+0.7**
	baz=295						
CHN3				eS		**Sb**	**02 43 49.4** **+2.8**
	baz=295						
STYT	**Tauyuan**	**0.23**	**40**	⇑*iP*		**Pg**	**02 43 42.4** **+0.1**
	baz=47						
STYT				*i* S		**Sb**	**02 43 46.8** **0.0**
	baz=47						
SSD	**Sandimen**	**0.24**	**171**	⇓*iP*		**Pg**	**02 43 41.9** **-0.5**
	baz=166						
SSD				*i* S		**Sg**	**02 43 45.8** **-0.2**
	baz=166						
WTP	**Ta-pu**	**0.26**	**4**	⇓*iP*		**Pg**	**02 43 43.0** **+0.2**
	baz=4.0						
WTP				S		**Sb**	**02 43 48.1** **+0.4**
	baz=4.0						
SGLT	**Jiouru**	**0.27**	**200**	*eP*		**Pg**	**02 43 43.1** **+0.2**
	baz=196						
SGLT				eS		**Sb**	**02 43 49.4** **+1.5**
	baz=196						
TWK	**Hsinying**	**0.30**	**341**	⇓*iP*		**Pb**	**02 43 43.7** **-0.3**
	baz=355						
TWK				*i* S		**Sb**	**02 43 49.3** **+0.6**
	baz=355						
TAI1	**Yung-k'ang**	**0.34**	**280**	*eP*		**Pb**	**02 43 44.9** **+0.2**
	baz=282						
TAI1				eS		**Sb**	**02 43 51.1** **+1.3**
	baz=282						
CHN4	**Tsaushan**	**0.37**	**360**	⇓*iP*		**Pg**	**02 43 44.6** **0.0**
	baz=359						
CHN4				S		**Sb**	**02 43 51.0** **+0.4**
	baz=359						
SCLT	**Jiali**	**0.41**	**298**	P		**Pb**	**02 43 46.0** **+0.1**
	baz=299						
SCLT				S		**Sn**	**02 43 53.9** **-1.7**
	baz=299						
ELDTW	**Lidau**	**0.44**	**62**	⇑*iP*		**Pg**	**02 43 45.8** **-0.1**
	baz=60						
ELDTW				eS		**Sg**	**02 43 52.4** **+0.4**
	baz=60						
TWG	**Pinlang**	**0.47**	**110**	⇑*iP*		**Pg**	**02 43 46.5** **+0.1**
	baz=97						
TWG				S		**Sg**	**02 43 53.6** **+0.8**
	baz=97						
KAU	**Kaohsiung**	**0.49**	**213**	*eP*		**Pb**	**02 43 48.0** **+0.8**
	baz=214						
KAU				eS		**Sn**	**02 43 56.0** **-1.5**
	baz=214						
CHN8	**Yiju**	**0.51**	**316**	*eP*		**Pb**	**02 43 47.1** **-0.4**
	baz=330						
CHN8				S		**Sn**	**02 43 56.6** **-1.2**
	baz=330						
ECL	**Taimali**	**0.51**	**139**	*eP*		**Pg**	**02 43 46.7** **-0.4**
	baz=141						
ECL				eS		**Sg**	**02 43 53.5** **-0.4**
	baz=141						
CHY	**Chiayi**	**0.54**	**343**	⇓*iP*		**Pb**	**02 43 47.9** **-0.1**
	baz=344						
CHY				S		**Sb**	**02 43 56.6** **+1.1**
	baz=344						
CHN2	**Minshiung**	**0.56**	**349**	P		**Pb**	**02 43 48.5** **+0.1**
	baz=349						
CHN2				eS		**Sn**	**02 43 57.7** **-1.4**
	baz=349						
TTN	**Taitung**	**0.56**	**114**	⇓P		**Pb**	**02 43 48.7** **+0.3**
	baz=112						
TTN				S		**Sn**	**02 43 58.2** **-1.0**
	baz=112						
ALS	**Alishan**	**0.56**	**20**	⇑P		**Pg**	**02 43 48.0** **-0.2**
	baz=20						
ALS				S		**Sb**	**02 43 56.7** **+0.2**
	baz=20						
YUS	**Yu-Shan**	**0.60**	**33**	⇑*iP*		**Pg**	**02 43 49.1** **0.0**
	baz=42						
YUS				*i* S		**Sg**	**02 43 57.9** **+0.7**
	baz=42						
SCZT	**Fangliau**	**0.61**	**178**	⇓*iP*		**Pg**	**02 43 48.3** **-0.7**
	baz=170						
SCZT				eS		**Sb**	**02 43 58.7** **+1.1**
	baz=170						
CHN5	**Tsauling**	**0.62**	**7**	⇓P		**Pg**	**02 43 48.9** **-0.3**
	baz=6.0						
CHN5				eS		**Sb**	**02 43 58.9** **+1.0**
	baz=6.0						
EAST	**Anshuo**	**0.64**	**158**	⇓*iP*		**Pg**	**02 43 49.1** **-0.6**
	baz=153						
EAST				eS		**Sg**	**02 43 58.3** **+0.2**
	baz=153						
TWP	**Hsiaoliuchiu**	**0.67**	**199**	P		**Pn**	**02 43 51.8** **0.0**
	baz=199						
TWP				S		**Sn**	**02 44 03.9** **+2.1**
	baz=199						
TAW	**Tawu**	**0.68**	**156**	⇓*iP*		**Pg**	**02 43 49.8** **-0.6**
	baz=151						
TAW				S		**Sg**	**02 43 59.2** **-0.3**
	baz=151						
WGK	**Gukeng**	**0.70**	**358**	*eP*		**Pb**	**02 43 51.0** **+0.2**
	baz=358						
WGK				eS		**Sn**	**02 44 02.4** **-0.3**
	baz=358						
CHKT	**Chengkung**	**0.72**	**81**	*eP*		**Pg**	**02 43 51.1** **0.0**
	baz=71						
CHKT				eS		**Sn**	**02 44 03.0** **-0.2**
	baz=71						
WSF	**Szhu**	**0.74**	**332**	*eP*		**Pb**	**02 43 51.3** **-0.1**
	baz=334						
WSF				S		**Sn**	**02 44 02.7** **-0.9**
	baz=334						
TWF1	**Yuli**	**0.74**	**60**	P		**Pb**	**02 43 51.1** **-0.5**
	baz=68						
TWF1				S		**Sg**	**02 44 01.1** **-0.3**
	baz=68						
EHY	**Hungye**	**0.85**	**52**	⇑*iP*		**Pb**	**02 43 52.8** **-0.6**
	baz=51						
EHY				eS		**Sb**	**02 44 04.0** **-0.5**
	baz=51						
WNT	**Mingjian**	**0.90**	**5**	P		**Pb**	**02 43 54.0** **-0.1**
	baz=353						
WNT				eS		**Sn**	**02 44 07.6** **+0.1**
	baz=353						
WDGT	**Dungji**	**0.90**	**288**	*eP*		**Pb**	**02 43 53.1** **-1.2**
	baz=289						
WDGT				eS		**Sb**	**02 44 05.5** **-0.5**
	baz=289						
WTCT	**Ta-ch'eng**	**0.92**	**342**	*eP*		**Pb**	**02 43 54.0** **-0.6**
	baz=343						
WTCT				eS		**Sn**	**02 44 07.6** **-0.5**
	baz=343						
SMLT	**Sun Moon Lake**	**0.94**	**17**	*eP*		**Pb**	**02 43 55.0** **0.0**
	baz=17						
SMLT				eS		**Sn**	**02 44 09.4** **+0.7**
	baz=17						
TYC	**Yuchr**	**0.95**	**15**	P		**Pb**	**02 43 55.0** **0.0**
	baz=15						
TYC				S		**Sn**	**02 44 09.2** **+0.4**
	baz=15						
HEN	**Hengchun**	**0.98**	**172**	P		**Pb**	**02 43 55.1** **-0.5**
	baz=169						
HEN				eS		**Sn**	**02 44 10.7** **+1.1**
	baz=169						
TWK1	**Hengchun**	**1.05**	**169**	*eP*		**Pb**	**02 43 55.6** **-1.2**
	baz=168						
TWK1				eS		**Sn**	**02 44 12.1** **+0.7**
	baz=168						
TSEB	**Hengchuen, Pin**	**1.11**	**165**	*eP*		**Pb**	**02 43 56.5** **-1.4**
	baz=167						
TSEB				eS		**Sg**	**02 44 13.6** **+0.5**
	baz=167						
PNG	**Penghu**	**1.12**	**302**	*eP*		**Pb**	**02 43 56.4** **-1.6**
	baz=303						
PNG				eS		**Sb**	**02 44 10.9** **-1.3**
	baz=303						
ESL	**Shilin**	**1.13**	**43**	⇑P		**Pn**	**02 43 57.9** **-0.3**
	baz=42						
ESL				eS		**Sb**	**02 44 13.2** **+0.6**
	baz=42						
TCU	**Taichung**	**1.16**	**4**	*eP*		**Pn**	**02 43 57.6** **-0.9**
	baz=353						
TCU				eS		**Sn**	**02 44 14.3** **+0.2**
	baz=353						
LAY	**Lan-yu**	**1.29**	**137**	*eP*		**Pn**	**02 43 59.1** **-1.3**
	baz=135						
LAY				eS		**Sn**	**02 44 17.9** **+0.5**
	baz=135						
WHF	**Hehuan Shan**	**1.31**	**28**	⇓P		**Pn**	**02 44 01.2** **+0.2**
	baz=17						
WHF				eS		**Sg**	**02 44 19.5** **-0.1**
	baz=17						
TWQ1	**Liyutan**	**1.37**	**7**	*eP*		**Pn**	**02 44 01.8** **+0.3**
	baz=7.0						
TWQ1				eS		**Sg**	**02 44 20.6** **-0.6**
	baz=7.0						
TWT	**Tachien**	**1.37**	**23**	*eP*		**Pn**	**02 44 02.0** **+0.3**
	baz=22						
TWT				eS		**Sb**	**02 44 20.2** **+0.4**
	baz=22						
TWD	**Chiawan**	**1.43**	**40**	*eP*		**Pn**	**02 44 02.2** **0.0**
	baz=39						
TWD				eS		**Sb**	**02 44 22.4** **+1.2**
	baz=39						
NSY	**Sanyi**	**1.44**	**6**	P		**Pn**	**02 44 02.6** **+0.2**
	baz=6.0						
NSY				S		**Sb**	**02 44 22.3** **+0.9**
	baz=6.0						
NNS	**Nan Shan**	**1.62**	**26**	*eP*		**Pn**	**02 44 05.8** **+0.8**
	baz=13						
NNS				eS		**Sb**	**02 44 27.7** **+0.9**
	baz=13						
NSTT	**Nanjuang**	**1.68**	**13**	*eP*		**Pn**	**02 44 05.5** **-0.2**
	baz=356						
NSTT				eS		**Sb**	**02 44 29.4** **+0.9**
	baz=356						
ENA	**Nanau**	**1.78**	**36**	*eP*		**Pn**	**02 44 07.4** **+0.3**
	baz=34						
NSK	**Sanguang**	**1.82**	**22**	*eP*		**Pn**	**02 44 08.8** **+1.0**
	baz=5.0						
NSK				eS		**Sb**	**02 44 33.0** **+0.3**
	baz=5.0						
ENTT	**Nioudou**	**1.88**	**28**	*eP*		**Pb**	**02 44 09.8** **-1.0**
	baz=28						
ENTT				eS		**Sb**	**02 44 34.7** **+0.7**
	baz=28						
TWC	**Suao**	**1.99**	**35**	*eP*		**Pb**	**02 44 12.0** **-0.7**
	baz=43						

TWE	Neicheng	1.99	29	eP		Pb	02 44 12.2 -0.5
	baz=10.0						
EGS		2.22	33	eP		Pb	02 44 15.1 -1.6
	baz=31						
NWF	Wu-fen Shan	2.34	27	eP		Pn	02 44 16.5 +1.6
	baz=10.0						
KNM	Kinmen	2.44	306	eP		Pb	02 44 19.3 -1.1
	baz=306						
YOJ	Yonaguni jima	2.66	56	eP		Pn	02 44 20.4 +1.2
	baz=54						
QZH	Quanzhou	2.68	317	Pn		Pb	02 44 24.1 -0.4
QZH				Sn		Sb	02 44 59.1 +2.0
QZH				smax		smax	
	comp=N,120nm,0.6s						
QZH				smax		smax	
	comp=E,120nm,0.7s						

*DJA **04** 02:43:57.7±2.0, 0°N±13°×12°3E±°, h289km±22km, M3.9/5, MLv3.9/5*
*IDC **04** 02:44:01.2±2.4, 0°46N×122°97E, h288km±24km, mb3.6/12, mb1 3.7/12, mb1mx3.5/35, mbtmp4.2/12, Error ellipse: s-maj=27.5km s-min=11.9km az=77.0*
ISC 04 02:44:02.2±0.5, 0°40N±0°08×122°8E±0°1, h300km, n44, σ1°38/41, mb3.7/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.89	275	P	Pn	02 44 36.5	-5.5
KMSI	Cibinong	1.17	82	P	Pn	02 44 37.3	-6.1
LUWI	Luwuk	1.43	182	P	Pn	02 44 38.7	-6.2
APSI	Ampana	1.75	222	P	Pn	02 44 43.0	-4.1
MPSI	Mapaga	2.93	269	P	Pn	02 44 54.7	-2.5
SANI	Sanana	3.99	128	P	Pn	02 45 01.0	-7.3
BATI	Baumata	10.57	175	P	Pn	02 46 27.8	+0.4
	6.2nm,0.3s,baz=358,slow=1.4,SNR=9.2						
MTN	Manton Dam	15.53	148	P	P	02 47 24.0	-1.1
	baz=14,SNR=35						
KDU	Kakadu	16.15	144	P	P	02 47 31.0	-0.9
	baz=14,SNR=16						
KDU				S	S	02 50 07.0	-19
	baz=14,SNR=3.5						
KNRA	Kununurra	17.02	160	P	P	02 47 39.1	-2.3
	baz=15,SNR=11						
WRA	Warramunga Arr	23.15	151	P	P	02 48 42.2	-0.6
	9.0nm,0.5s,baz=339,slow=10,SNR=212						
COEN	Coen	24.69	126	P	P	02 48 58.7	+1.9
	baz=23,SNR=6.6						
WRKA	Warakurna	25.84	169	P	P	02 49 07.3	+0.3
	baz=24,SNR=28						
QIS	Mount Isa	26.53	143	P	P	02 49 12.7	-0.5
	baz=25,SNR=12						
MEEK	Meekatharra	27.19	188	P	P	02 49 19.3	+0.4
	baz=25,SNR=8.4						
BLDU	Ballidu	31.39	190	P	P	02 49 56.2	+0.4
	baz=29,SNR=7.1						
FORT	Forrest	31.41	171	P	P	02 49 56.4	+0.5
	baz=29,SNR=14						
BBOO	Buckleboo	35.31	161	P	P	02 50 29.5	0.0
	baz=33,SNR=24						
STKA	Stephens Creek	36.69	153	P	P	02 50 41.4	+0.2
	2.1nm,0.4s,baz=326,slow=12,SNR=11						
STKA	Stephens Creek	36.69	153	P	P	02 50 41.5	+0.2
	baz=35,SNR=5.7						
HTT	Hallett	36.91	157	P	P	02 50 43.8	+0.8
	baz=35,SNR=13						
CMSA	Cobar Meteorol	38.45	148	P	P	02 50 56.7	+0.9
	baz=36,SNR=6.0						
MJAR	Matsushiro Arr	38.69	20	P	P	02 50 55.4	-2.3
	2.9nm,0.8s,baz=194,slow=9.2,SNR=7.1						
ARPS	Mount Arapiles	40.98	156	P	P	02 51 17.4	+1.0
	baz=39,SNR=5.3						
TAPN	Taplejung	43.05	311	eP	P	02 51 35.4	+1.8
	11nm,0.5s						
RAMN	Ramite	43.68	310	eP	P	02 51 41.1	+2.5
	20nm,0.5s						
JIRN	Jiri	44.36	311	eP	P	02 51 46.2	+2.1
	16nm,0.4s						
USRK	Ussuriysk Ar.	44.37	9	P	P	02 51 43.0	-0.4
	1.2nm,0.5s,baz=188,slow=5.7,SNR=7.5						
MILA	Mila	44.54	150	P	P	02 51 34.8	-10
	baz=42,SNR=5.9						
GUN	Gumba	44.72	311	eP	P	02 51 48.8	+1.9
	22nm,0.5s						
PKI	Pulchoki	44.91	310	eP	P	02 51 49.9	+1.6
GKN	Gorkha	45.72	310	eP	P	02 51 56.1	+1.7
	9.2nm,0.3s						
KOLN	Koldanda	46.40	309	eP	P	02 52 01.8	+2.0
DANN	Dangsing	46.56	310	eP	P	02 52 02.9	+1.8
ASAJ	Asahikawa	46.95	19	P	P	02 52 03.0	-0.5
	1.3nm,0.3s,baz=197,slow=14,SNR=4.5						
PYUN	Piuthan	47.03	309	eP	P	02 52 06.7	+2.1
	44nm,0.6s						
SONM	Songino Array	49.36	345	P	P	02 52 22.4	+0.5
	2.6nm,0.6s,baz=162,slow=9.3,SNR=25						
SONM				PcP	PcP	02 53 39.9	+0.4
	0.6nm,0.5s,baz=175,slow=4.6,SNR=5.2						
MKAR	Makanchi Array	58.18	328	P	P	02 53 26.1	+0.7
	0.9nm,0.3s,baz=124,slow=8.6,SNR=26						
MKAR				PcP	PcP	02 54 13.0	-0.2
	0.9nm,0.5s,baz=152,slow=2.8,SNR=9.6						
MKAR				ScP	ScP	02 57 46.5	+2.3
	0.1nm,0.5s,baz=145,slow=5.0,SNR=2.8						
PETK	Petropavlovsk-	59.99	23	P	P	02 53 37.9	+0.4
	1.6nm,0.6s,baz=197,slow=4.5,SNR=2.7						
ZALV	Zalesovo Beam	61.88	336	P	P	02 53 49.0	-1.0
	0.7nm,0.5s,baz=161,slow=9.4,SNR=4.0						
ILAR	Eielson Array	89.77	25	P	P	02 56 25.6	-1.0
	0.3nm,0.6s,baz=238,slow=5.5,SNR=6.8						
ARCES	ARCESS Array B	92.19	340	P	P	02 56 36.5	-1.2
	2.4nm,0.9s,baz=126,slow=1.6,SNR=3.4						
FINES	FINESS Array B	92.89	331	P	P	02 56 40.2	-0.8
	1.6nm,0.9s,baz=174,slow=3.8,SNR=3.7						
TORD	Torodi Ar. Bea	120.13	285	PKP	PKPdf	03 02 18.7	+0.2
	0.1nm,0.4s,baz=110,slow=1.7,SNR=8.5						

*IDC **04** 02:46:25.4±5.3, 34°15S×73°53W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.8/22, mbtmp3.9/3, Error ellipse: s-maj=224.8km s-min=46.7km az=24.0*
ISC 04 02:46:29.3±2.1, 34°6S±0°4×73°8W±0°3, h35km, n7, σ0°77/6, mb3.7/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	San Ignacio	21.73	35	P	P	02 51 17.9	+0.2
	1.2nm,0.6s,baz=203,slow=12,SNR=3.4						
TXAR	Lajitas Array	69.56	332	P	P	02 57 34.6	-0.1
	0.2nm,0.6s,baz=156,slow=8.8,SNR=4.2						
DBIC	Dimbokro	76.71	72	P	P	02 58 17.1	-0.1
	2.5nm,0.7s,baz=232,slow=5.4,SNR=3.9						
TORD	Torodi Ar. Bea	85.75	71	P	P	02 59 05.2	+0.1
	0.9nm,1.0s,baz=242,slow=5.1,SNR=6.0						
BVAR	Borovoye Array	148.67	43	PKPbc	PKPbc	03 06 13.1	+0.9
	0.9nm,0.4s,baz=279,slow=3.3,SNR=5.8						
ZALV	Zalesovo Beam	155.47	31	PKPbc		03 06 27.2	
	0.9nm,0.6s,baz=285,slow=2.8,SNR=4.0						
MKAR	Makanchi Array	158.22	49	PKPab	PKPab	03 06 55.5	-0.9
	0.4nm,0.7s,baz=324,slow=4.3,SNR=4.2						

TAP 04 02:48:34.8, 22°98N×120°60E, h17km, ML3.9, 11C-8D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	Jiashian	0.10	350	⇓iP	Pb	02 48 39.1	+0.7
	baz=354						
SGST				S	Sb	02 48 42.1	+1.3
	baz=354						
CHN1	Nanshi	0.21	341	⇓iP	Pb	02 48 40.8	+0.4
	baz=348						
CHN1				S	Sb	02 48 45.0	+1.0
	baz=348						
TWM1	Shoushan	0.23	227	⇑iP	Pb	02 48 41.3	+0.8
	baz=220						
STYT	Tauyuan	0.23	38	⇑iP	Pb	02 48 41.0	+0.3
	baz=49						
STYT				S	Sb	02 48 45.3	+0.7
	baz=49						
SSD	Sandimen	0.24	173	⇓iP	Pb	02 48 40.7	+0.1
	baz=166						
SSD				iS	Sb	02 48 44.7	+0.1
	baz=166						
CHN3	Shinhua	0.24	293	P	Pb	02 48 42.0	+1.4
	baz=294						
CHN3				eS	Sb	02 48 48.3	+3.6
	baz=294						
WTP	Ta-pu	0.26	2	⇑iP	Pb	02 48 41.5	+0.3
	baz=4.0						
WTP				S	Sb	02 48 46.4	+0.9
	baz=4.0						
SGLT	Jiouru	0.28	202	iP	Pb	02 48 42.2	+1.0
	baz=195						
SGLT				S	Sn	02 48 48.1	-1.7
	baz=195						
TWK	Hsinying	0.30	340	⇓iP	Pb	02 48 42.2	+0.4
	baz=355						
TWK				S	Sb	02 48 47.8	+1.1
	baz=355						
TAI1	Yung-k'ang	0.35	280	P	Pb	02 48 43.7	+1.2
	baz=280						
TAI1				eS	Sn	02 48 50.6	-1.1
	baz=280						
CHN4	Tsaushan	0.37	359	⇑iP	Pb	02 48 43.1	+0.2
	baz=359						
CHN4				iS	Sb	02 48 49.5	+1.0
	baz=359						
SCLT	Jiali	0.42	297	P	Pb	02 48 44.5	+0.7
	baz=299						
SCLT				eS	Sn	02 48 52.3	-1.2
	baz=299						
ELDTW	Lidau	0.43	61	⇑iP	Pb	02 48 44.5	+0.3
	baz=61						
TWG	Pinlang	0.46	110	⇑iP	Pb	02 48 45.2	+0.7
	baz=98						
TWG				iS	Sn	02 48 52.9	-1.6
	baz=98						
KAU	Kaohsiung	0.49	213	eP	Pb	02 48 46.4	-0.6
	baz=213						
KAU				eS	Sn	02 48 55.7	+0.5
	baz=213						
ECL	Taimali	0.50	140	P	Pb	02 48 45.3	+0.1
	baz=141						
ECL				eS	Sb	02 48 52.4	+0.2
	baz=141						
CHN8	Yiju	0.51	315	eP	Pb	02 48 46.0	+0.7
	baz=330						
CHN8				eS	Sn	02 48 55.0	-0.7
	baz=330						
CHY	Chiayi	0.54	342	⇓P	Pb	02 48 46.4	+0.6
	baz=344						
CHY				S	Sb	02 48 54.7	+1.4
	baz=344						
TTN	Taitung	0.55	114	P	Pb	02 48 46.9	+0.9
	baz=113						
TTN				eS	Sn	02 48 57.5	+0.8
	baz=113						
ALS	Alishan	0.56	19	⇑iP	Pb	02 48 46.5	0.0
	baz=20						
ALS				S	Sb	02 48 55.3	+0.8
	baz=20						
CHN2	Minshiung	0.56	348	P	Pb	02 48 46.9	+0.7
	baz=349						
CHN2				iS	Sn	02 48 55.8	-1.1
	baz=349						
YUS	Yu-Shan	0.60	32	iP	Pb	02 48 47.6	+0.1
	baz=33						
YUS				S	Sb	02 48 56.4	+0.3
	baz=33						
SCZT	Fangliau	0.61	178	⇓iP	Pb	02 48 46.9	0.0
	baz=170						
SCZT				eS	Sn	02 48 58.7	+0.6
	baz=170						
CHN5	Tsauling	0.62	6	⇑iP	Pb	02 48 47.4	+0.1
	baz=7.0						
CHN5				S	Sb	02 48 57.1	+1.3
	baz=7.0						
EAST	Anshuo	0.64	159	⇓iP	Pb	02 48 47.8	+0.2
	baz=153						
EAST				eS	Sn	02 48 58.8	-0.1
	baz=153						
TWP	Hsiaoliuchiu	0.67	199	eP	Pn	02 48 50.2	+0.7
	baz=199						
TWP				eS	Sn	02 49 01.4	+1.8
	baz=199						
TAW	Tawu	0.68	156	P	Pb	02 48 48.4	+0.3
	baz=151						
TAW				eS	Sn	02 49 59.8	0.0
	baz=151						
WGK	Gukeng	0.70	357	eP	Pb	02 48 49.2	+0.6
	baz=358						
WGK				S	Sn	02 49 00.6	+0.1
	baz=358						
CHKT	Chengkung	0.71	80	eP	Pb	02 48 49.0	+0.2
	baz=80						
TWF1	Yuli	0.74	60	P	Pg	02 48 49.4	+0.2
	baz=60						
TWF1				iS	Sg	02 48 60.0	+0.9
	baz=60						
WSF	Szhu	0.74	332	eP	Pg	02 48 49.6	+0.3
	baz=333						
WSF				eS	Sn	02 49 01.1	-0.3
	baz=333						
EHY	Hungye	0.84	52	⇑iP	Pg	02 48 51.4	+0.2
	baz=57						
EHY				eS	Sn	02 49 04.0	0.0
	baz=57						
WNT	Mingjian	0.90	5	P	Pb	02 48 52.0	+0.1
	baz=353						
WNT				S	Sn	02 49 05.7	+0.4
	baz=353						
WDGT	Dungji	0.91	288	P	Pb	02 48 51.2	-0.9
	baz=289						
WDGT				S	Sb	02 49 04.1	+0.1
	baz=289						
WTCT	Ta-ch'eng	0.93	342	eP	Pb	02 48 52.4	0.0
	baz=343						
WTCT				eS	Sn	02 49 06.1	+0.2
	baz=343						
SMLT	Sun Moon Lake	0.94	17	eP	Pg	02 48 53.2	0.0
	baz=17						
SMLT				S	Sn	02 49 07.9	+1.3
	baz=17						
TYC	Yuchr	0.95	14	P	Pb	02 48 53.0	+0.2
	baz=15						
TYC				eS	Sn	02 49 07.6	+1.1
	baz=15						
HEN	Hengchun	0.98	173	eP	Pg	02 48 53.8	+0.1
	baz=161						
HEN				eS	Sn	02 49 08.6	+1.4
	baz=161						
TWK1	Hengchun	1.05	170	⇓iP	Pg	02 48 55.0	-0.1
	baz=169						
TWK1				eS	Sn	02 49 10.3	+1.3
	baz=169						
TSEB	Hengchuen, Pin	1.11	166	eP	Pn	02 48 55.6	+0.1
	baz=167						
TSEB				eS	Sg	02 49 12.8	+2.0
	baz=167						
PNG	Penghu	1.13	301	eP	Pn	02 48 54.4	-1.4
	baz=302						
PNG				eS	Sb	02 49 08.9	-1.3
	baz=302						
ESL	Shilin	1.13	42	⇑iP	Pg	02 48 56.4	-0.2
	baz=42						
ESL				S	Sg	02 49 11.9	+0.5
	baz=42						
TCU	Taichung	1.16	3	eP	Pb	02 48 56.8	+0.3
	baz=353						
LAY	Lan-yu	1.28	137	eP	Pn	02 48 57.4	-0.6
	baz=124						
WHF	Hehuan Shan	1.31	28	eP	Pb	02 48 59.3	-0.2
	baz=18						
WHF				eS	Sg	02 49 18.2	+0.1
	baz=18						
TWQ1	Liyutan	1.37	7	eP	Pb	02 48 60.0	0.0
	baz=7.0						
TWQ1				eS	Sg	02 49 19.5	+0.3
	baz=7.0						
TWT	Tachien	1.37	22	P	Pb	02 48 60.0	-0.3
	baz=22						
TWT				eS	Sg	02 49 20.1	+0.5
	baz=22						
TWD	Chiawan	1.42	40	eP	Pb	02 49 01.0	+0.1
	baz=40						
TWD				eS	Sg	02 49 20.4	-0.4
	baz=40						
NSY	Sanyi	1.44	6	eP	Pb	02 49 00.7	-0.4
	baz=6.0						
NSY				eS	Sg	02 49 20.8	-0.5
	baz=6.0						
NNS	Nan Shan	1.61	26	eP	Pb	02 49 03.6	-0.8
	baz=12						
NSTT	Nanjuang	1.68	12	eP	Pb	02 49 04.5	-0.9
	baz=356						
NSTT				eS	Sg	02 49 28.2	-0.9
	baz=356						
ENA	Nanau	1.78	36	eP	Pb	02 49 06.0	-1.0
	baz=34						
NSK	Sanguang	1.82	22	eP	Pb	02 49 07.0	-0.9
	baz=21						
ENTT	Nioudou	1.87	28	eP	Pb	02 49 08.0	-0.6
	baz=28						
ENTT				eS	Sb	02 49 33.1	+1.4
	baz=28						
TWC	Suao	1.98	35	eP	Pb	02 49 09.2	-1.3
	baz=43						
TWE	Neicheng	1.99	29	eP	Pb	02 49 09.6	-0.9
	baz=11						
TWA	Mucha	2.18	24	eP	Pb	02 49 13.4	-0.5
	baz=23						
EGS		2.22	33	eP	Pb	02 49 14.6	+0.1
	baz=32						
NWF	Wu-fen Shan	2.34	27	eP	Pb	02 49 15.4	-1.3
	baz=11						
TWB1	Santiao Chiao	2.38	32	eP	Pb	02 49 15.8	-1.5
	baz=30						
KNM	Kinmen	2.45	306	eP	Pn	02 49 15.3	+1.4
	baz=305						
YOJ	Yonaguni jima	2.65	56	eP	Pn	02 49 18.5	+1.7
	baz=55						

GUC 04 02:56:37.5±0.9, 33°44S×72°42W, h37km±12km, ML3.6, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.77	58	eP1	Pn	02 56 52.4	+0.6
IHA				iS1	Sn	02 57 03.9	+1.7
LNV	Longovilo	0.98	122	⇑iP	Pn	02 56 55.8	+1.0
LNV				iS1	Sn	02 57 09.7	+2.3
PEL	Peldehue	1.48	79	⇑iP	Pn	02 57 04.0	+2.3
PEL				iS	Sn	02 57 23.8	+4.0
PEL				AML	AML	02 57 36.8	
	comp=N,2μm,0.5s						
ANTU	Antumapu	1.50	95	eP1	Pn	02 57 04.0	+2.2
ANTU				iS	Sn	02 57 24.3	+4.1
ANTU				AML	AML	02 57 30.6	
	comp=N,1μm,0.5s						
CHCH	Chadas Angostu	1.55	109	⇑iP	Pn	02 57 05.2	+2.5
CACH	El Canelo	1.66	115	⇓iP	Pn	02 57 07.0	+2.8
FCH	Farellones	1.78	87	eP9	Pn	02 57 09.6	+3.4
FCH				iS	Sn	02 57 32.6	+4.7
FCH				AML	AML	02 57 38.9	
	comp=N,892nm,0.4s						

IDC 04 02:57:59.4±4.0, 38°66S×74°56W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/24, mbtmp3.8/3, ML4.5/1, Error ellipse: s-maj=176.5km s-min=29.4km az=41.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.72	125	Pn	Pn	02 58 58.8	+0.5
	8.2nm,0.3s,baz=302,slow=14,SNR=34						
PLCA				Sn	Sn	02 59 42.1	-0.9
	5.0nm,0.3s,baz=225,slow=16,SNR=3.2						
TXAR	Lajitas Array	72.90	334	P	P	03 09 30.2	-0.2
	0.4nm,0.9s,baz=153,slow=8.4,SNR=4.1						
TORD	Torodi Ar. Bea	87.67	71	P	P	03 10 50.3	+0.1
	0.6nm,0.6s,baz=218,slow=5.3,SNR=7.1						

*IDC **04** 03:03:22.1±0.9, 37°79S×75°14W, h0km, mb4.1/7, mb1 4.1/10, mb1mx4.0/30, mbtmp3.9/10, ML3.8/2, Error ellipse: s-maj=28.1km s-min=22.0km az=77.0*
*ISCJB **04** 03:03:25.8±0.8, 37°7S±0°1×74°9W±0°2, h33km, mb4.0/7, Error ellipse: s-maj=18.7km s-min=14.8km az=171.6*
ISC 04 03:03:27.6±0.9, 37°8S±0°1×75°0W±0°2, h35km, n14, σ0°74/13, mb3.9/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.56	132	Pn	Pn	03 04 34.4	+0.2
	1.3nm,0.3s,baz=293,slow=6.3,SNR=9.4						
PLCA				Sn	Sn	03 05 32.9	+6.8
	3.1nm,0.3s,baz=262,slow=22,SNR=3.8						
CFAA	Coronel Fontan	8.28	44	Pn	Pn	03 05 24.2	-1.0
	0.5nm,0.3s,baz=237,slow=10,SNR=6.6						
CPUP	Villa Florida	18.78	58	P	P	03 07 43.3	-0.5
	baz=175,slow=11,SNR=1.9						
LPAZ	La Paz	22.22	18	P	P	03 08 23.1	+1.3
	2.2nm,0.7s,baz=185,slow=6.4,SNR=8.6						
QSPA	South Pole Qui	52.49	180	P	P	03 12 36.3	-0.6
	2.7nm,0.9s,baz=19,slow=0.3,SNR=9.0						
TXAR	Lajitas Array	71.93	334	P	P	03 14 47.2	-0.2
	0.9nm,0.6s,baz=155,slow=9.0,SNR=18						
DBIC	Dimbokro	78.63	72	P	P	03 15 26.7	+0.5
	2.2nm,0.6s,baz=200,slow=6.6,SNR=5.7						
PDAR	Pinedale Array	86.08	335	P	P	03 16 04.6	-0.1
	0.4nm,0.8s,baz=123,slow=11,SNR=3.7						
TORD	Torodi Ar. Bea	87.71	72	P	P	03 16 13.2	+0.2
	0.4nm,0.8s,baz=278,slow=4.2,SNR=7.7						
ULM	Lac du Bonnet	89.54	347	P	P	03 16 19.9	-0.8
	2.1nm,0.6s,baz=190,slow=4.5,SNR=6.1						
AKTO	Aktyubinsk	144.53	54	PKP	PKPbc	03 22 58.8	+0.3
	2.2nm,0.8s,baz=298,slow=1.8,SNR=8.1						
AAK	Ala-Archa	156.26	69	PKPab	PKPab	03 23 47.4	+0.8
	0.6nm,0.5s,baz=212,slow=13,SNR=2.5						
ZALV	Zalesovo Beam	158.67	34	PKPab	PKPab	03 23 56.7	+0.4
	2.0nm,0.6s,baz=331,slow=4.5,SNR=8.6						
SONM	Songino Array	169.87	355	PKPab	PKPab	03 24 46.5	+0.7
	0.3nm,0.6s,baz=19,slow=5.3,SNR=2.9						

*IDC **04** 03:04:05.5±2.9, 24°43S×179°89E, h496km±29km, mb3.3/6, mb1 3.5/7, mb1mx3.2/29, mbtmp4.2/7, Error ellipse: s-maj=26.3km s-min=19.5km az=27.0*
*ISCJB **04** 03:04:06.9±1.2, 24°6S±0°2×179°9E±0°2, h517km, mb3.8/6, Error ellipse: s-maj=25.5km s-min=18.5km az=27.0*
ISC 04 03:04:07.4±0.8, 24°5S±0°2×179°9E±0°1, h517km, n15, σ1°08/17, mb3.9/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.63	279	P	P	03 06 53.6	+0.9
	1.0nm,0.3s,baz=135,slow=18,SNR=14						
URZ	Urewera	13.88	189	P	P	03 07 05.1	-0.3
	1.2nm,0.3s,baz=16,slow=4.7,SNR=7.9						
CTA	Charters Tower	31.42	271	P	P	03 09 46.1	0.0
	4.1nm,0.4s,baz=86,slow=12,SNR=7.9						
STKA	Stephens Creek	34.42	249	P	P	03 10 11.7	+0.3
	0.6nm,0.3s,baz=84,slow=9.1,SNR=3.9						
ASAR	Alice Springs	41.87	261	P	P	03 11 11.4	-0.8
	0.5nm,0.6s,baz=96,slow=7.3,SNR=8.2						
WRA	Warramunga Arr	42.30	267	P	P	03 11 14.2	-1.4
	2.2nm,0.6s,baz=97,slow=8.5,SNR=60						
WRA				ScP	ScP	03 16 01.4	+2.6
	1.9nm,0.9s,baz=102,slow=4.2,SNR=11						
QSPA	South Pole Qui	65.54	180	P	P	03 14 00.1	+0.8
	4.6nm,0.8s,baz=1.2,slow=0.8,SNR=15						
TXAR	Lajitas Array	90.83	58	P	P	03 16 16.3	+0.6
	1.2nm,0.8s,baz=217,slow=6.6,SNR=15						
ARCES	ARCESS Array B	132.50	348	PKP	PKPdf	03 22 21.8	-0.3
	1.9nm,0.9s,baz=62,slow=2.1,SNR=4.5						
FINES	FINESS Array B	139.03	341	PKhKP	PKPpre	03 22 24.5	
	1.1nm,0.8s,baz=329,slow=4.9,SNR=4.9						
FINES				PKP	PKPdf	03 22 35.0	+0.6
	2.4nm,1.0s,baz=168,slow=2.7,SNR=4.1						
AKASG	Malin Array Be	145.47	327	PKPbc	PKPdf	03 22 46.0	-0.1
	1.0nm,0.5s,baz=46,slow=3.7,SNR=2.9						
MMAI	Mount Meron Ar	147.90	293	PKPbc	PKPbc	03 22 55.1	+0.5
	2.2nm,0.5s,baz=62,slow=7.0,SNR=5.5						
BRTR	Keskin Array B	147.91	306	PKPbc	PKPbc	03 22 52.9	-1.7
	0.9nm,0.7s,baz=159,slow=4.0,SNR=5.2						
BRG	Berggiesshubel	151.57	341	eP	PKPbc	03 23 02.0	-0.6
	1.7nm,0.5s						
TORD	Torodi Ar. Bea	168.54	189	PKP	PKPdf	03 23 14.3	-1.1
	0.4nm,0.8s,baz=242,slow=2.8,SNR=3.2						
TORD				PKPab	PKPab	03 24 28.2	-0.1
	1.3nm,0.9s,baz=169,slow=4.8,SNR=4.8						

GUC 04 03:05:19.6±0.7, 33°36S×72°39W, h20km±22km, ML3.6, 1C-1D, Off coast of central Chile

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

IHA					*i* S1	Sn	03 05 44.1	-0.8
RCDM	**Rinconada Maip**	**1.33**	**96**	*e*P		Pb	03 05 43.6	-0.4
RCDM				*i* S		Sb	03 06 02.7	+2.0
RCDM				AML		AML	03 06 06.7	
	comp=E,908nm,0.4s							
PEL	**Peldehue**	**1.45**	**82**	⇓*i*P		Pb	03 05 45.9	-0.1
PEL				*i* S1		Sn	03 06 06.4	+3.1
PEL				AML		AML	03 06 13.9	
	comp=N,5μm,0.5s							
ANTU	**Antumapu**	**1.49**	**99**	*e*P		Pb	03 05 46.9	+0.3
ANTU				*e*S		Sb	03 06 07.3	+2.2
ANTU				AML		AML	03 06 15.9	
	comp=N,1μm,0.5s							
FCH	**Farellones**	**1.76**	**90**	*e*P9		Pn	03 05 48.9	-0.5
FCH				*e*S		Sb	03 06 12.9	-0.7

*IDC **04** 03:07:39.1±0.7, 33°.28S×72°.27W, h0km, mb4.1/8, mb1 4.3/11, mb1mx4.1/29, mbtmp4.1/11, ML4.0/3, MS3.9/1, Ms1 3.9/1, ms1mx3.4/28, Error ellipse: s-maj=19.7km s-min=16.1km az=103.0*
*ISCJB **04** 03:07:41.2±2.1, 33°.30S±0°.06×72°.3W±0°.1, h25km±14km, mb4.1/11, MS3.7/1, Error ellipse: s-maj=15.3km s-min=7.9km az=156.2*
*GUC **04** 03:07:41.7±0.5, 33°.30S×72°.31W, h38km±2km, ML4.4*
*NEIC **04** 03:07:44.4±0.3, 33°.26S×72°.19W, h35km, mb4.2/3, Error ellipse: s-maj=10.5km s-min=6.0km az=85.0*
ISC 04 03:07:42.1±1.6, 33°.27S±0°.05×72°.16W±0°.06, h18km±6km, n129, σ0°72/133, mb4.2/11, 47C-48D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.50**	**60**	⇓*i*P	**Pn**	**03 07 53.6**	**-0.6**
IHA				*i* S1	Sg	03 08 03.5	+4.6
LNV	**Longovilo**	**0.92**	**138**	*e*P1	**Pg**	**03 07 59.4**	**-0.7**
LNV				*i* S1	**Sn**	**03 08 13.4**	**+0.4**
RCDM	**Rinconada Maip**	**1.15**	**101**	*i* P	**Pg**	**03 08 03.9**	**-0.5**
PEL	**Peldehue**	**1.24**	**84**	⇓*i*P	**Pg**	**03 08 05.8**	**-0.3**
PEL				*i* S1	**Sg**	**03 08 23.9**	**+1.6**
PEL				AML	AML	03 08 31.1	
	comp=E,14μm,0.4s						
STL	**Santa Lucia**	**1.28**	**98**	*e*P9	**Pn**	**03 08 04.8**	**-0.3**
STL				*e*S1	**Sg**	**03 08 23.0**	**-0.5**
ANTU	**Antumapu**	**1.31**	**104**	*e*P1	**Pg**	**03 08 06.6**	**-0.8**
ANTU				*e*S1	**Sg**	**03 08 25.1**	**+0.6**
ANTU				AML	AML	03 08 38.1	
	comp=N,8μm,0.5s						
FSR	**Penalolen**	**1.38**	**99**	*e*P9	**Pg**	**03 08 08.9**	**+0.2**
FSR				*i* S1	**Sg**	**03 08 28.7**	**+2.0**
CHCH	**Chadas Angostu**	**1.42**	**118**	⇓*i*P	**Pn**	**03 08 07.3**	**+0.3**
CHCH				*e*S1	**Sg**	**03 08 27.0**	**-0.9**
CACH	**El Canelo**	**1.55**	**123**	⇓*i*P	**Pb**	**03 08 10.4**	**+0.1**
FCH	**Farellones**	**1.56**	**93**	⇑*i*P	**Pn**	**03 08 06.8**	**-2.4**
FCH				*i* S1	**Sn**	**03 08 28.8**	**-0.4**
FCH				AML	AML	03 08 37.8	
	comp=E,8μm,0.5s						
CFAA	**Coronel Fontan**	**3.71**	**64**	Pn	**Pn**	**03 08 40.4**	**+1.8**
	comp=E,0.5nm,0.3s,baz=232,slow=13,SNR=6.7						
CFAA				Lg	Lg	03 09 40.8	
	comp=E,4.7nm,0.3s,baz=318,slow=9.9,SNR=7.5						
PLCA	**Paso Flores**	**7.56**	**171**	Pn	**Pn**	**03 09 31.8**	**+0.4**
	comp=E,0.7nm,0.3s,baz=336,slow=13,SNR=6.5						
TRQA	**Tornquist**	**9.55**	**123**	*e*Pn	**Pn**	**03 10 00.3**	**+1.5**
	comp=E,27nm,1.1s						
LVC	**Limon Verde**	**11.00**	**16**	*e*Pn	**Pn**	**03 10 18.8**	**0.0**
	comp=E,2.3nm,0.7s						
CPUP	**Villa Florida**	**14.60**	**66**	Pn	**P**	**03 11 13.2**	**-0.9**
	comp=E,0.9nm,0.3s,baz=222,slow=9.9,SNR=5.7						
LPAZ	**La Paz**	**17.30**	**13**	P	**Pn**	**03 11 43.8**	**+0.5**
	comp=E,0.2nm,0.3s,baz=184,slow=7.3,SNR=17						
SIV	**San Ignacio**	**19.91**	**33**	P	**P**	**03 12 11.8**	**-1.1**
	comp=E,0.3nm,0.3s,baz=230,slow=12,SNR=8.9						
EFI	**East Falkland**	**21.06**	**155**	*e*P	**P**	**03 12 24.6**	**-0.4**
	comp=E,6.4nm,0.7s						
NNA	**Nana**	**21.62**	**347**	P	**P**	**03 12 32.5**	**+1.1**
	comp=E,8.1nm,0.8s,baz=214,slow=10,SNR=3.7						
NNA				LR	LR	03 18 19.7	
	comp=E,329nm,19.5s,baz=340,slow=30						
SAML	**Samuel**	**25.58**	**21**	*e*P	**P**	**03 13 10.4**	**+0.1**
	comp=E,4.8nm,0.8s						
BDFB	**Brasilia**	**28.01**	**57**	P	**P**	**03 13 31.6**	**-0.7**
	comp=E,3.4nm,0.8s,baz=240,slow=14,SNR=4.4						
SNAA	**Sanae**	**52.29**	**158**	P	**P**	**03 16 52.1**	**-0.1**
	comp=E,1.5nm,0.9s,baz=281,slow=10,SNR=3.5						
QSPA	**South Pole Qui**	**56.96**	**180**	P	**P**	**03 17 26.4**	**+0.2**
	baz=141,slow=2.3						
035A	**Encino**	**64.76**	**334**	⇑P	**P**	**03 18 20.3**	**+1.0**
	baz=65						
034A	**Hebbronville**	**65.08**	**334**	⇑P	**P**	**03 18 22.5**	**+1.0**
	baz=65						
934A	**Benavides**	**65.51**	**334**	⇑P	**P**	**03 18 24.6**	**+0.3**
	baz=66						
933A	**Laredo**	**65.80**	**334**	⇓P	**P**	**03 18 26.4**	**+0.3**
	baz=66						
834A	**Tilden**	**66.00**	**335**	⇓P	**P**	**03 18 28.3**	**+0.9**
	baz=66,SNR=5.4						
735A	**Kenedy**	**66.40**	**336**	⇑P	**P**	**03 18 31.3**	**+1.3**
	baz=67						
833A	**Chaparral WMA,**	**66.49**	**334**	⇑P	**P**	**03 18 30.5**	**-0.1**
	baz=67						
832A	**Faith Ranch, C**	**66.67**	**333**	⇓P	**P**	**03 18 31.0**	**-0.7**
	baz=67,SNR=6.3						
636A	**Smothers Creek**	**66.72**	**336**	⇓P	**P**	**03 18 32.8**	**+0.8**
	baz=67						
732A	**Laxson Ranch,**	**67.07**	**334**	⇑P	**P**	**03 18 33.4**	**-0.8**
	baz=67,SNR=7.4						
535A	**Dale**	**67.40**	**336**	⇓P	**P**	**03 18 36.9**	**+0.6**
	baz=68						
633A	**Saathoff Ranch**	**67.44**	**335**	⇑P	**P**	**03 18 36.5**	**-0.1**
	baz=68						
632A	**Uvalde**	**67.70**	**334**	⇑P	**P**	**03 18 37.6**	**-0.7**
	baz=68,SNR=6.1						
436A	**Wall Ranch, Ga**	**67.82**	**337**	⇓P	**P**	**03 18 39.0**	**0.0**
	baz=68						
631A	**Perdido Creek**	**67.91**	**333**	⇑P	**P**	**03 18 38.7**	**-0.9**
	baz=68						
532A	**Rocksprings**	**68.31**	**334**	⇓P	**P**	**03 18 42.3**	**+0.2**
	baz=69,SNR=11						
434A	**Burnet**	**68.36**	**336**	⇓P	**P**	**03 18 42.5**	**+0.1**
	baz=69						
531A	**Rocksprings**	**68.58**	**334**	⇑P	**P**	**03 18 43.7**	**-0.1**
	baz=69						
433A	**Art**	**68.58**	**335**	⇑P	**P**	**03 18 43.3**	**-0.5**
	baz=69,SNR=6.4						
JCT	**Junction City**	**68.59**	**335**	⇓P	**P**	**03 18 44.3**	**+0.4**
	baz=69						
334A	**Lometa**	**68.82**	**336**	⇓P	**P**	**03 18 45.6**	**+0.4**
	baz=69						
530A	**J-C Ranch, Com**	**68.86**	**333**	⇓P	**P**	**03 18 44.1**	**-1.5**
	baz=69,SNR=7.9						
432A	**Menard**	**68.94**	**335**	⇑P	**P**	**03 18 46.4**	**+0.4**
	baz=69						
TXAR	**Lajitas Array**	**69.05**	**331**	P	**P**	**03 18 46.2**	**-0.6**
	comp=E,1.4nm,0.6s,baz=151,slow=8.2,SNR=23						
431A	**Sonora**	**69.06**	**334**	⇑P	**P**	**03 18 46.2**	**-0.6**
	baz=69						
333A	**Richland Sprin**	**69.07**	**336**	⇑P	**P**	**03 18 47.0**	**+0.2**
	baz=69						
WHTX	**Lake Whitney,**	**69.17**	**337**	⇑P	**P**	**03 18 48.0**	**+0.6**
	baz=70						
529A	**Stev Forest Ra**	**69.18**	**332**	⇓P	**P**	**03 18 47.5**	**-0.1**
	baz=70						
137A	**Heron Place, G**	**69.19**	**339**	⇓P	**P**	**03 18 48.3**	**+0.8**
	baz=70						
332A	**Millersview**	**69.39**	**335**	⇑P	**P**	**03 18 48.6**	**-0.2**
	baz=70						
430A	**Baggett Ranch,**	**69.39**	**333**	⇓P	**P**	**03 18 47.9**	**-0.9**
	baz=70,SNR=5.2						
234A	**Clairette**	**69.40**	**337**	⇑P	**P**	**03 18 49.6**	**+0.7**
	baz=70						
429A	**Davenport Ranc**	**69.50**	**333**	⇑P	**P**	**03 18 49.7**	**+0.2**
	baz=70						
331A	**San Angelo**	**69.56**	**334**	⇑P	**P**	**03 18 49.9**	**0.0**
	baz=70						
233A	**Rising Star**	**69.67**	**336**	⇓P	**P**	**03 18 50.4**	**-0.1**
	baz=70						
232A	**Coleman**	**69.81**	**335**	⇓P	**P**	**03 18 51.5**	**+0.1**
	baz=70						
330A	**Mertzon**	**69.93**	**334**	⇑P	**P**	**03 18 51.8**	**-0.4**
	baz=70						
231A	**Bronte**	**70.09**	**335**	⇓P	**P**	**03 18 52.9**	**-0.3**
	baz=70						
133A	**Hamilton Ranch**	**70.22**	**336**	⇓P	**P**	**03 18 53.5**	**-0.3**
	baz=70						
329A	**Wagon Wheel Ra**	**70.30**	**333**	⇓P	**P**	**03 18 53.8**	**-0.6**
	baz=71						
Z35A	**Perchaven, San**	**70.33**	**338**	⇑P	**P**	**03 18 55.1**	**+0.5**
	baz=71						
ABTX	**Abilene, Hawle**	**70.48**	**336**	⇓P	**P**	**03 18 54.8**	**-0.7**
	baz=71						
WVT	**Waverly**	**70.58**	**347**	*e*P	**P**	**03 18 54.9**	**-1.0**
	comp=E,5.2nm,0.7s						
Z34A	**Collier Ranch,**	**70.58**	**337**	⇓P	**P**	**03 18 56.1**	**0.0**
	baz=71						
131A	**Roby**	**70.78**	**335**	⇓P	**P**	**03 18 57.0**	**-0.3**
	baz=71						
Z33A	**Whitaker Ranch**	**70.78**	**337**	⇓P	**P**	**03 18 57.1**	**-0.2**
	baz=71						
130A	**Snyder**	**70.92**	**335**	⇑P	**P**	**03 18 57.5**	**-0.7**
	baz=71						
Z32A	**Haskell**	**71.04**	**336**	⇓P	**P**	**03 18 58.4**	**-0.4**
	baz=71						
Y34A	**Reagan Ranch,**	**71.07**	**338**	⇑P	**P**	**03 18 59.1**	**+0.1**
	baz=71						
228A	**UT Block 9, Go**	**71.09**	**333**	⇑P	**P**	**03 18 58.6**	**-0.7**
	baz=71						
Z31A	**Sharp Cattle R**	**71.28**	**335**	⇑P	**P**	**03 19 00.4**	**0.0**
	baz=72						
128A	**Castleberry Fa**	**71.50**	**333**	⇓P	**P**	**03 19 01.5**	**-0.3**
	baz=72						
Z30A	**Sanderson Ranc**	**71.60**	**335**	⇑P	**P**	**03 19 01.7**	**-0.6**
	baz=72						
Y32A	**R-V Farms, Ver**	**71.67**	**336**	⇓P	**P**	**03 19 02.8**	**+0.1**
	baz=72						
X34A	**Smith Ranch, M**	**71.69**	**338**	⇓P	**P**	**03 19 03.4**	**+0.6**
	baz=72						
Z29A	**Hungry Hill Ra**	**71.79**	**334**	⇑P	**P**	**03 19 02.6**	**-0.8**
	baz=72,SNR=5.5						
Y31A	**Rekieta Farm,**	**71.91**	**336**	⇑P	**P**	**03 19 04.0**	**-0.1**
	baz=72						
Y29A	**Porterfield Fa**	**72.31**	**335**	⇑P	**P**	**03 19 06.6**	**0.0**
	baz=73						
Z27A	**Tatum**	**72.40**	**333**	⇑P	**P**	**03 19 07.0**	**-0.2**
	baz=73						
W33A	**Caddo, Fort Co**	**72.40**	**338**	⇓P	**P**	**03 19 07.4**	**+0.4**
	baz=73						
X31A	**McDonald Ranch**	**72.42**	**336**	⇓P	**P**	**03 19 07.0**	**-0.2**
	baz=73						
Y28A	**McKinney Farm,**	**72.57**	**334**	⇓P	**P**	**03 19 07.2**	**-1.0**
	baz=73						
W32A	**Sentinel**	**72.62**	**337**	⇑P	**P**	**03 19 08.7**	**+0.3**
	baz=73						
Z26A	**Caprock**	**72.65**	**332**	⇓P	**P**	**03 19 08.0**	**-0.6**
	baz=73,SNR=17						
Y27A	**Causey**	**72.88**	**333**	⇑P	**P**	**03 19 09.1**	**-0.9**
	baz=73						
Z25A	**Roswell**	**72.95**	**332**	⇓P	**P**	**03 19 09.5**	**-0.9**
	baz=73						
Z24A	**Sheeppen Canyo**	**73.25**	**331**	⇓P	**P**	**03 19 12.3**	**-0.1**
	baz=74						
V31A	**Spring Creek L**	**73.41**	**337**	⇓P	**P**	**03 19 14.7**	**+1.6**
	baz=74						
W29A	**Amarillo**	**73.44**	**335**	⇓P	**P**	**03 19 13.6**	**+0.3**
	baz=74						
121A	**Cookes Peak, D**	**73.56**	**329**	⇓P	**P**	**03 19 14.9**	**+0.7**
	baz=74						
U32A	**Winter Ranch,**	**73.69**	**338**	⇓P	**P**	**03 19 15.4**	**+0.7**
	baz=74						
X26A	**CR and CF Fran**	**73.72**	**333**	⇑P	**P**	**03 19 14.7**	**-0.3**
	baz=74,SNR=5.1						
Y24A	**Capitan**	**73.80**	**332**	⇓P	**P**	**03 19 15.4**	**-0.2**
	baz=74						
W27A	**Bowe Ranch, En**	**73.90**	**334**	⇑P	**P**	**03 19 16.5**	**+0.5**
	baz=74						
Y23A	**Lovelace Mesa,**	**74.05**	**331**	⇑P	**P**	**03 19 17.9**	**+0.9**
	baz=74						
T33A	**Patterson Ranc**	**74.11**	**339**	⇑P	**P**	**03 19 18.3**	**+1.3**
	baz=74						
V28A	**Channing**	**74.21**	**335**	⇑P	**P**	**03 19 18.3**	**+0.5**
	baz=74						
W25A	**X Bar L Ranch,**	**74.56**	**333**	⇑P	**P**	**03 19 19.6**	**-0.3**
	baz=75						
V26A	**Tequesquite Ra**	**74.82**	**334**	⇑P	**P**	**03 19 21.7**	**+0.3**
	baz=75						
W24A	**Lazy 6 Ranch,**	**74.92**	**332**	⇓P	**P**	**03 19 22.0**	**0.0**
	baz=75						
V25A	**Rancho No Teng**	**75.16**	**333**	⇓P	**P**	**03 19 23.1**	**-0.4**
	baz=76						
U26A	**Atchley Ranch,**	**75.33**	**334**	⇑P	**P**	**03 19 24.4**	**0.0**
	baz=76						
T28A	**Walsh**	**75.40**	**336**	⇓P	**P**	**03 19 24.9**	**+0.2**
	baz=76						
T27A	**Campo**	**75.56**	**335**	⇑P	**P**	**03 19 25.7**	**+0.1**
	baz=76						
S28A	**Manter**	**75.75**	**336**	⇑P	**P**	**03 19 27.3**	**+0.7**
	baz=76						
Q32A	**Meitler Ranch,**	**75.96**	**339**	⇓P	**P**	**03 19 28.2**	**+0.5**
	baz=76						
T25A	**Trinidad**	**76.24**	**334**	⇑P	**P**	**03 19 30.7**	**+1.2**
	baz=76						
S26A	**Kim**	**76.33**	**335**	⇑P	**P**	**03 19 30.9**	**+0.9**
	baz=77						
T24B	**San Luis**	**76.53**	**333**	⇓P	**P**	**03 19 32.2**	**+0.9**
	baz=77						
R27A	**Eads**	**76.69**	**336**	⇓P	**P**	**03 19 32.2**	**+0.2**
	baz=77						
R26A	**Arlington**	**76.92**	**335**	⇑P	**P**	**03 19 34.7**	**+1.4**
	baz=77						
R24A	**Sanders Place,**	**77.46**	**334**	⇑P	**P**	**03 19 37.5**	**+1.0**
	baz=78						
BOSA	**Boshof**	**80.49**	**118**	P	**P**	**03 19 53.5**	**+0.1**
	comp=E,2.6nm,0.9s,baz=274,slow=9.7,SNR=3.0						
PDAR	**Pinedale Array**	**83.07**	**333**	P	**P**	**03 20 06.5**	**-0.1**
	comp=E,0.7nm,0.9s,baz=159,slow=9.5,SNR=3.8						
NVAR	**Mina Array Bea**	**83.23**	**325**	P	**P**	**03 20 07.7**	**+0.2**
	comp=E,0.6nm,0.6s,baz=145,slow=6.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**84.05**	**70**	P	**P**	**03 20 12.5**	**+0.5**
	comp=E,2.0nm,0.7s,baz=251,slow=4.3,SNR=11						
YKA	**Yellowknife Ar**	**101.34**	**341**	P	**Pdif**	**03 21 31.2**	**-0.1**
	comp=E,0.1nm,0.6s,baz=146,slow=3.7,SNR=2.7						
WRA	**Warramunga Arr**	**121.35**	**209**	PKP	**PKPdf**	**03 26 33.8**	**-1.0**
	comp=E,0.9nm,1.0s,baz=147,slow=1.7,SNR=4.8						
H11S2	**WAKE ISLAND Hyl**	**25.68**	**270**	T	T	05 45 34.3	
	baz=113,slow=74,SNR=15						
H11S1	**WAKE ISLAND Hyl**	**25.69**	**270**	T	T	05 44 43.0	
	SNR=14						
H11S3	**WAKE ISLAND Hyl**	**25.70**	**270**	T	T	05 45 35.6	
	baz=96,slow=74,SNR=9.1						
PSI	**Prapat**	**148.56**	**163**	PKPbc	**PKPbc**	**03 27 28.1**	**-0.6**
	comp=E,1.8nm,0.3s,baz=208,slow=7.3,SNR=5.5						
KKAR	**Karatay Array**	**149.28**	**60**	*e*PKPdf	**PKPdf**	**03 27 25.8**	**+0.6**
AAK	**Ala-Archa**	**152.24**	**61**	PKPbc	**PKPbc**	**03 27 38.0**	**+1.3**
	comp=E,0.6nm,0.4s,baz=161,slow=5.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**153.66**	**31**	PKPbc	**PKPbc**	**03 27 38.8**	**-0.4**
	comp=E,1.4nm,0.7s,baz=316,slow=3.9,SNR=7.3						
MKAR	**Makanchi Array**	**156.35**	**48**	PKPab	**PKPab**	**03 28 03.8**	**0.0**
	comp=E,0.8nm,0.8s,baz=320,slow=3.6,SNR=3.6						

IDC 04 03:14:30.9±11.0, 15°.73S×173°.75W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/39, mbtmp3.6/2, Error ellipse: s-maj=520.0km s-min=60.1km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.45**	**257**	P	P	03 23 23.7	+0.5
	0.3nm,0.7s,baz=88,slow=7.3,SNR=4.4						
ASAR	**Alice Springs**	**49.69**	**252**	P	P	03 23 24.4	-0.6
	1.1nm,0.6s,baz=85,slow=8.6,SNR=15						
BRTR	**Keskin Array B**	**146.20**	**320**	PKPbc	PKPdf	03 34 12.8	+0.1
	0.6nm,0.8s,baz=3.3,slow=4.9,SNR=3.1						

MAN 04 03:15:07, 15°.60N×121°.55E, h12km, mb4.1, ML2.9, MS2.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.15**	**8**	*e*P	Pb	03 15 12.1	+0.3
APYP	**Conner**	**2.27**	**353**	*e*P	Pb	03 15 46.8	-1.2
APYP				*e*S	Sn	03 16 07.7	-4.7

*IDC **04** 03:20:24.5±0.6, 36°.71S×73°.50W, h0km, mb4.2/11, mb1 4.3/14, mb1mx4.2/30, mbtmp4.1/14, ML4.4/3, Error ellipse: s-maj=22.3km s-min=14.9km az=81.0*
*ISCJB **04** 03:20:26.8±0.5, 36°.71S±0°.05×73°.45W±0°.09, h27km, mb4.2/12, Error ellipse: s-maj=10.2km s-min=6.1km az=19.1*
*GUC **04** 03:20:28.6±0.7, 36°.84S×73°.15W, h46km±3km, ML5.1*
*NEIC **04** 03:20:30.0±1.2, 36°.70S×73°.43W, h39km±9km, mb4.7/3, Error ellipse: s-maj=14.1km s-min=7.4km az=84.0*
*SJA **04** 03:21:16.7±0.6, 33°.95S×70°.44W, h138km±9km, ML3.0*
ISC 04 03:20:28.2±0.6, 36°.73S±0°.05×73°.50W±0°.08, h27km, n48, σ0°98/56, mb4.3/12, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.34**	**110**	⇓*i*P	**Pb**	**03 20 35.4**	**-0.5**
CCSP				*i* S1	**Sb**	**03 20 41.3**	**+0.2**
VLCH	**Valdivia**	**3.08**	**176**	⇓*i*P	**Pn**	**03 21 14.1**	**-0.9**
VLCH				*i* S1	**Sn**	**03 21 47.6**	**-3.3**
VLCH				AML	AML	03 22 20.6	
	comp=N,5μm,0.7s						
LNV	**Longovilo**	**3.25**	**32**	⇓*i*P	**Pn**	**03 21 16.8**	**-0.6**
CHCH	**Chadas Angostu**	**3.63**	**41**	*e*P4	**Pn**	**03 21 22.9**	**+0.2**
TACH	**Talagante**	**3.72**	**35**	⇑*i*P	**Pn**	**03 21 23.6**	**-0.3**
TACH				*i* S1	**Sn**	**03 22 05.5**	**-1.4**
SAN	**Santiago**	**4.01**	**36**	*e*P1	**Pn**	**03 21 27.6**	**-0.3**
PEL	**Peldehue**	**4.26**	**34**	⇓*i*P	**Pn**	**03 21 31.0**	**-0.3**
PEL				*e*S1	**Sn**	**03 22 17.9**	**-2.3**
PLCA	**Paso Flores**	**4.62**	**151**	Pn	**Pn**	**03 21 37.0**	**+0.8**
	comp=N,3.6nm,0.3s,baz=322,slow=11,SNR=13						
PLCA				Lg	Lg	03 22 51.7	
	comp=N,7.9nm,0.3s,baz=56,slow=21,SNR=5.2						
AAGR	**Agrelo**	**5.29**	**48**	*e*P	**Pn**	**03 21 47.2**	**+1.7**
ARCO	**CERRO ARCO**	**5.40**	**45**	*e*P	**Pn**	**03 21 48.4**	**+1.2**
ARCO				*e*S	Px	03 22 11.7	
ARCO				AML	AML	03 22 12.6	
	comp=Z,113nm,0.6s						
AUSP	**Uspallata**	**5.63**	**38**	*e*P	**Pn**	**03 21 51.7**	**+1.2**
ASAL	**Salagasta**	**5.64**	**44**	*e*P	**Pn**	**03 21 51.5**	**+1.1**
RTLS	**Leoncito**	**6.03**	**37**	*e*P	**Pn**	**03 21 56.8**	**+1.0**
RTCV	**Cerro Valdivia**	**6.36**	**42**	*e*P	**Pn**	**03 21 59.9**	**-0.3**
CFAA	**Coronel Fontan**	**6.72**	**42**	Pn	**Pn**	**03 22 04.8**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=207,slow=14,SNR=20						
CFAA				Sn	**Sn**	**03 23 22.8**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=227,slow=15,SNR=3.7						
CFAA	**Coronel Fontan**	**6.72**	**42**	*e*P	**Pn**	**03 22 04.7**	**-0.5**
RTLL	**Cerro Villicun**	**6.81**	**39**	*e*P	**Pn**	**03 22 06.1**	**-0.4**
ACAN	**Cantantal**	**6.85**	**51**	*e*P	**Pn**	**03 22 07.1**	**+0.2**
AMOG	**MOGNA**	**7.12**	**37**	*e*P	**Pn**	**03 22 10.3**	**-0.4**
AVFE	**Valle Fertil**	**7.88**	**42**	*e*P	**Pn**	**03 22 19.6**	**-1.4**
ACHE	**Chepes**	**7.94**	**48**	*e*P	**Pn**	**03 22 20.6**	**-1.4**
AGUA	**GUANDACOL**	**8.36**	**32**	*e*P	**Pn**	**03 22 27.6**	**0.0**
TRQA	**Tornquist**	**9.27**	**102**	*e*Pn	**Pn**	**03 22 41.3**	**+1.2**
	comp=Z,8.5nm,0.7s						
LVC	**Limon Verde**	**14.62**	**17**	*e*Pn	**Pn**	**03 23 53.7**	**+0.2**
	comp=Z,3.7nm,0.9s						
CPUP	**Villa Florida**	**17.23**	**58**	P	**Pn**	**03 24 26.1**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=234,slow=8.0,SNR=3.4						
LPAZ	**La Paz**	**20.91**	**15**	P	Pn	03 25 10.9	-1.1
	comp=Z,3.2nm,0.7s,baz=171,slow=6.6,SNR=15						
SIV	**San Ignacio**	**23.42**	**31**	P	**P**	**03 25 34.7**	**-0.5**
	comp=Z,5.9nm,0.8s,baz=232,slow=10,SNR=11						
BDFB	**Brasilia**	**30.88**	**54**	P	**P**	**03 26 41.9**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=195,slow=11,SNR=3.0						
BDFB				PcP	**PcP**	**03 29 41.3**	**+2.2**
	comp=Z,3.2nm,0.5s,baz=226,slow=7.4,SNR=5.5						
SDV	**Santo Domingo**	**45.45**	**4**	*e*P	**P**	**03 28 44.6**	**-0.6**
	comp=Z,7.9nm,0.8s						
QSPA	**South Pole Qui**	**53.51**	**180**	P	**P**	**03 29 47.1**	**+1.0**
	comp=Z,4.1nm,0.8s,baz=147,slow=1.3,SNR=21						
QSPA	**South Pole Qui**	**53.51**	**180**	*e*P	**P**	**03 29 46.5**	**+0.3**
	comp=Z,12nm,1.3s						
TXAR	**Lajitas Array**	**71.56**	**332**	P	**P**	**03 31 47.5**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=152,slow=8.8,SNR=14						
DBIC	**Dimbokro**	**77.18**	**72**	P	**P**	**03 32 20.6**	**+0.8**
	comp=Z,5.3nm,0.7s,baz=212,slow=5.7,SNR=9.3						
BOSA	**Boshof**	**79.86**	**118**	P	**P**	**03 32 34.5**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=297,slow=6.8,SNR=2.9						
SRU	**San Rafael Swe**	**82.82**	**332**	*e*P	**P**	**03 32 50.5**	**+0.5**
	comp=Z,2.9nm,0.6s						
NVAR	**Mina Array Bea**	**85.46**	**326**	P	**P**	**03 33 04.2**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=116,slow=6.1,SNR=3.0						
PDAR	**Pinedale Array**	**85.67**	**334**	P	**P**	**03 33 04.3**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=169,slow=3.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**86.25**	**71**	P	**P**	**03 33 08.0**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=217,slow=4.6,SNR=17						
ULM	**Lac du Bonnet**	**88.83**	**346**	P	**P**	**03 33 19.0**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=176,slow=10,SNR=3.3						
BRTR	**Keskin Array B**	**124.17**	**63**	PKP	**PKPdf**	**03 39 24.6**	**+0.3**
	comp=Z,

48nm,1.0s
TIC Toumodi 76.43 71 *e*P **P 03 35 07.3 +1.3**
25nm,1.0s
TUC Tucson 76.44 328 *e*P **P 03 35 06.8 +1.1**
2.3nm,0.9s
KIC Kosan Boka 76.46 72 *e*P **P 03 35 07.7 +1.5**
43nm,0.9s
DBIC Dimbokro 76.57 72 P **P 03 35 08.2 +1.4**
12nm,0.8s,baz=221,slow=6.6,SNR=11
ANMO Albuquerque 76.98 332 *e*P **P 03 35 11.2 +2.3**
6.3nm,1.1s
SDCO Great Sand Dun 79.12 334 *e*P **P 03 35 20.7 -0.1**
83nm,2.8s
BOSA Boshof 79.98 118 P **P 03 35 27.1 +1.3**
5.9nm,0.9s,baz=218,slow=5.5,SNR=6.7
SMCO Snowmass 80.92 334 *e*P **P 03 35 31.5 +0.9**
131nm,2.8s
PV10 Paradox Valley 80.98 332 *e*P **P 03 35 30.6 -0.1**
KNB Kanab 81.32 329 *e*P **P 03 35 30.6 -1.9**
11nm,1.1s
CCUT Cedar City 82.00 329 *e*P **P 03 35 37.0 +0.8**
6.0nm,0.6s
ECSD EROS Data Cent 82.03 343 *e*P **P 03 35 37.5 +1.6**
19nm,1.3s
WCU Willow Creek 82.68 330 *e*P **P 03 35 38.8 -1.0**
DAC Darwin (Calif) 82.82 325 *e*P **P 03 35 42.1 +1.7**
12nm,1.4s
R11A Troy Canyon, C 83.62 328 *e*P **P 03 35 44.6 +0.1**
3.5nm,1.0s
JLU Jordanelle 83.83 332 *e*P **P 03 35 45.6 0.0**
11nm,1.2s
DUG Dugway, Tooele 84.02 331 *e*P **P 03 35 47.3 +0.8**
10.0nm,1.1s
TPH Tonopah 84.12 326 *e*P **P 03 35 47.6 +0.5**
6.0nm,1.0s
HWUT Hardware Ranch 84.74 332 *e*P **P 03 35 51.9 +1.7**
86nm,2.5s
NV01 Mina Array Sit 84.90 326 *e*P **P 03 35 51.1 +0.1**
NVAR Mina Array Bea 84.90 326 P **P 03 35 51.1 +0.1**
0.9nm,0.7s,baz=164,slow=6.5,SNR=4.2
PD31 Pinedale Array 85.01 334 *e*P **P 03 35 52.3 +0.8**
PDAR Pinedale Array 85.01 334 P **P 03 35 52.3 +0.8**
0.4nm,0.7s,baz=180,slow=6.8,SNR=3.2
HVU Hansel Valley 85.36 331 *e*P **P 03 35 53.2 0.0**
96nm,2.6s
TOA0 Torodi Ar. Sit 85.63 71 *e*P **P 03 35 55.8 +0.8**
TORD Torodi Ar. Bea 85.63 71 P **P 03 35 55.8 +0.8**
3.6nm,1.0s,baz=244,slow=4.4,SNR=11
REDW Red Top Meadow 85.99 333 *e*P **P 03 35 57.9 +1.5**
51nm,2.1s
TPAW Teton Pass 86.14 333 *e*P **P 03 35 58.8 +1.6**
6.3nm,0.6s
IMW Indian Meadow 86.49 334 *e*P **P 03 36 01.7 +2.8**
33nm,0.3s
FLWY Flagg Ranch 86.56 334 *e*P P 03 36 02.9 +3.7
8.6nm,1.1s
MDND Maddock 86.61 342 *e*P **P 03 35 59.6 +0.6**
27nm,2.1s
HLID Hailey 87.51 331 *e*P **P 03 36 06.4 +2.6**
73nm,2.8s
MCMT McKenzie Canyo 87.99 333 *e*P **P 03 36 07.4 +1.3**
ULM Lac du Bonnet 88.04 346 P **P 03 36 04.9 -0.9**
2.4nm,0.7s,baz=181,slow=5.3,SNR=7.6
DGMT Dagmar 88.39 340 *e*P **P 03 36 08.3 +0.7**
216nm,2.8s
NEW Newport 92.47 332 LR LR 04 12 09.6
comp=Z,236nm,19.7s,baz=326,slow=32
BRTR Keskin Array B 123.45 62 PKP **PKPdf 03 42 13.9 +0.6**
0.4nm,0.6s,baz=214,slow=4.3,SNR=2.7
BR101 Keskin Array S 123.45 62 *e*PKPdf **PKPdf 03 42 13.9 +0.6**
ABKAR Akbulak array 143.46 54 *e*PKPpre PKPpre 03 42 47.4
PSI Prapat 146.32 165 PKPbc **PKPdf 03 42 56.8 +0.5**
7.9nm,0.8s,baz=251,slow=3.1,SNR=9.4
HYB Hyderabad 148.88 119 *i* PKP **PKPbc 03 43 03.5 -0.7**
BVAR Borovoye Array 149.18 45 PKPbc **PKPbc 03 43 04.4 +0.5**
2.3nm,0.7s,baz=219,slow=0.9,SNR=12
VOSK Vostochnaya 149.62 45 *e*PKPbc **PKPbc 03 43 05.6 +0.6**
KKAR Karatay Array 151.13 64 *e*PKPbc **PKPbc 03 43 08.3 -0.7**
AAK Ala-Archa 154.09 65 PKPbc **PKPbc 03 43 16.6 +0.8**
1.9nm,0.8s,baz=298,slow=3.1,SNR=4.5
AAK PKPab **PKPab 03 43 29.8 +0.4**
3.5nm,0.9s,baz=272,slow=3.7,SNR=3.7
KSH Kashi 155.29 72 *e*PKPbc **PKPdf 03 43 08.2 -1.1**
KSH sPKP 03 43 17.4
KSH PKS **PKSdf 03 46 42.6 -0.9**
KSH PP **PP 03 47 08.0 -3.6**
KSH SKS **SKSdf 03 50 13.6 -0.3**
KSH SS **SS 04 06 49.1 -6.1**
KSH PPMZ
610nm,14.4s
KSH LN
45nm,3.8s
KSH LE
36nm,4.8s
KSH LZ
140nm,7.4s
ZAA1 Zalesovo Array 156.21 33 *e*PKPdf **PKPdf 03 43 09.3 -0.6**
ZAA1 *e*PKPab **PKPab 03 43 38.8 +0.9**
ZALV Zalesovo Beam 156.22 33 PKP **PKPdf 03 43 09.3 -0.6**
1.5nm,0.8s,baz=273,slow=2.5,SNR=6.9
ZALV PKPab **PKPab 03 43 38.8 +0.9**
5.2nm,0.7s,baz=295,slow=4.9,SNR=11
MK32 Makanchi Array 158.58 52 *e*PKPdf **PKPdf 03 43 13.4 +0.3**
MK32 *e*PKPab **PKPab 03 43 48.3 -0.2**
MKAR Makanchi Array 158.58 52 PKP **PKPdf 03 43 13.4 +0.3**
1.2nm,0.8s,baz=239,slow=0.7,SNR=9.1
MKAR PKPab **PKPab 03 43 48.3 -0.2**
1.5nm,0.8s,baz=292,slow=3.8,SNR=7.1
MKAR Makanchi Array 158.58 52 *e*PKPdf **PKPdf 03 43 12.8 -0.4**
MKAR *e*PKPab **PKPab 03 43 49.2 +0.7**
SONA0 Songino Array 167.99 2 *e*PKPab **PKPab 03 44 30.0 +0.4**
SONM Songino Array 167.99 2 PKPab **PKPab 03 44 30.0 +0.4**
0.7nm,0.7s,baz=341,slow=4.3,SNR=7.1
GTA Gaotai 173.32 55 *e*PKP **PKPdf 03 43 24.1 -1.2**
GTA PKPab **PKPab 03 44 54.9 +1.2**
HHC Hu-ho-hao-te 173.79 325 *e*PKP **PKPdf 03 43 22.6 -2.8**
HHC PP **PP 03 48 49.3 +1.9**
HHC SKS **SKSdf 03 50 20.1 -6.5**
HHC SKKS **SKKSac 03 55 29.5 -2.6**
HHC LZ
560nm,21.1s
CD2 Chengdu 174.44 151 *e*PKP **PKPdf 03 43 25.4 -0.5**
LZH Lanzhou 177.49 83 *e*PKP **PKPdf 03 43 23.6 -3.0**
LZH pPKP **pPKPdf 03 43 33.0 -3.0**
LZH sPKP 03 43 37.2

BJI ***04*** *03:24:17.7, 37°.30N×54°.50E, h9km, mB4.4/1, mb4.5/7*
ISCJB ***04*** *03:24:19.2±0.7, 37°.47N±0°.02×54°.43E±0°.02, h15km±6km, mb4.3/49, Error ellipse: s-maj=3.6km s-min=2.6km az=23.3*
TEH ***04*** *03:24:20.7, 37°.40N×54°.43E, h8km, ML4.6*
IDC ***04*** *03:24:21.7±0.6, 37°.18N×54°.49E, h29km±3km, mb3.9/24, mb1 4.0/28, mb1mx3.9/48, mbtmp4.1/28, ML4.1/4, Error ellipse: s-maj=13.5km s-min=10.4km az=173.0*
NEIC ***04*** *03:24:22.8±0.8, 37°.39N×54°.41E, h28km±7km, mb4.7/10, ML4.5(THR), MN4.6(TEH), Error ellipse: s-maj=5.3km s-min=4.4km az=139.0*
CSEM ***04*** *03:24:22.5±0.1, 37°.41N×54°.43E, h29km, mb4.7/15, Error ellipse: s-maj=3.0km s-min=2.8km az=12.0*
AZER ***04*** *03:24:23.8±99.0, 37°.34N×53°.60E, h5km, Error ellipse: s-maj=36.2km s-min=2.0km az=302.0*
THR ***04*** *03:24:23.0±0.7, 37°.40N×54°.28E, h22km±12km, ML4.5*
MOS ***04*** *03:24:25.3±1.1, 37°.89N×54°.30E, h33km, mb4.5/21, Error ellipse: s-maj=6.9km s-min=4.8km az=110.2*
NNC ***04*** *03:24:29.8±1.7, 38°.21N×55°.37E, h0km, mb4.2, Error ellipse: s-maj=17.4km s-min=10.4km az=89.0*
ISC 04 03:24:22.9±0.4, 37°.40N±0°.04×54°.39E±0°.03, h35km±1km, h35km:pP-P, n369,σ1°43/427, mb4.3/49, 40C-39D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time (h m s)	Res
IGLO	**Ghaloghah**	**1.00**	**207**	*e*Pg	**Pn**	**03 24 39.0**		**-1.7**
IGLO				*e*Sg	**Sn**	**03 24 52.5**		**-1.3**
IGLO				*e*		03 24 55.4		
comp=Z,58μm,0.1s								
IKIA	**Kiasar**	**1.32**	**206**	*e*Pg	**Pn**	**03 24 44.6**		**-0.5**
IKIA				*e*		03 24 50.9		
comp=Z,49μm,0.1s								
IKIA				*e*Sg	**Sn**	**03 25 02.5**		**+0.8**
IKIA	**Kiasar**	**1.32**	**206**	*e*Pg	**Pn**	**03 24 44.6**		**-0.5**
IKIA				Sg	**Sn**	**03 25 02.4**		**+0.8**
IKIA	**Kiasar**	**1.32**	**206**	Pg	**Pn**	**03 24 44.6**		**-0.5**
IKIA				Sg	**Sn**	**03 25 02.4**		**+0.8**
MRVT	**Maraveh tapeh**	**1.38**	**79**	*e*Pg	**Pb**	**03 24 49.2**		**+1.0**
MRVT				*e*Sg	**Sb**	**03 25 08.8**		**+3.2**
MRVT				AML	AML	03 25 10.8		
comp=N,9μm,0.7s								
MRVT				AML	AML	03 25 11.8		
comp=E,8μm,0.6s								
MRVT	**Maraveh tapeh**	**1.38**	**79**	Pg	**Pb**	**03 24 49.0**		**+0.8**
MRVT				Sg	**Sb**	**03 25 08.0**		**+2.5**
MRVT	**Maraveh tapeh**	**1.38**	**79**	Pg	**Pb**	**03 24 49.0**		**+0.8**
MRVT				Sg	**Sb**	**03 25 08.0**		**+2.5**
IALA	**Alasht**	**1.83**	**224**	*e*Pn	**Pn**	**03 24 52.3**		**+0.1**
IALA				*e*		03 25 25.5		
comp=Z,28μm,0.2s								
IALA	**Alasht**	**1.83**	**224**	*e*Pn	**Pn**	**03 24 52.3**		**+0.1**
IALA	**Alasht**	**1.83**	**224**	Pn	**Pn**	**03 24 52.3**		**+0.1**
SHRO	**Shahrood**	**1.92**	**137**	*e*Pg	**Pb**	**03 24 58.2**		**+0.8**
IANJ	**Anjilo**	**1.97**	**191**	*e*Pn	**Pn**	**03 24 54.5**		**+0.4**
IANJ				*e*		03 25 21.7		
comp=Z,56μm,0.3s								
IANJ	**Anjilo**	**1.97**	**191**	Pn	**Pn**	**03 24 54.4**		**+0.4**
IANJ	**Anjilo**	**1.97**	**191**	Pn	**Pn**	**03 24 54.4**		**+0.4**
IPRN	**Peran**	**2.01**	**235**	*e*Pn	**Pn**	**03 24 54.6**		**+0.1**
IPRN				*e*Sn	**Sn**	**03 25 20.0**		**+1.4**
IPRN				*e*		03 25 30.3		
comp=Z,90μm,0.1s								
IPRN	**Peran**	**2.01**	**235**	Pn	**Pn**	**03 24 54.6**		**+0.1**
IPRN				Sn	**Sn**	**03 25 19.9**		**+1.4**
IFIR	**Firoozkooh**	**2.19**	**217**	*e*Pn	**Pn**	**03 24 58.0**		**+0.8**
IFIR				*e*		03 25 27.6		
comp=Z,65μm,0.2s								
IFIR	**Firoozkooh**	**2.19**	**217**	*e*Pn	**Pn**	**03 24 58.0**		**+0.8**
ILAS	**Lasjerd**	**2.32**	**210**	*e*Pn	**Pn**	**03 24 60.0**		**+1.0**
ILAS				*e*		03 25 36.7		
comp=Z,25μm,0.3s								
ILAS	**Lasjerd**	**2.32**	**210**	Pn	**Pn**	**03 24 59.9**		**+1.0**
ILAS	**Lasjerd**	**2.32**	**210**	Pn	**Pn**	**03 24 59.9**		**+1.0**
DAMV	**Damavand**	**2.63**	**228**	*e*Pn	**Pn**	**03 25 05.3**		**+2.1**
DAMV				Sn	**Sn**	**03 25 36.7**		**+2.7**
DAMV				AML	AML	03 26 06.2		
comp=E,2μm,0.6s								
DAMV				AML	AML	03 26 07.3		
comp=N,1μm,0.6s								
DAMV	**Damavand**	**2.63**	**228**	Pn	**Pn**	**03 25 05.0**		**+1.8**
DAMV				S	**Sn**	**03 25 36.0**		**+2.0**
DAMV	**Damavand**	**2.63**	**228**	Pn	**Pn**	**03 25 05.0**		**+1.8**
DAMV				S	**Sn**	**03 25 36.0**		**+2.0**
IDMV	**Damavand**	**2.63**	**227**	*e*Pn	**Pn**	**03 25 04.8**		**+1.6**
IDMV				*e*		03 25 49.6		
comp=Z,21μm,0.3s								
IDMV	**Damavand**	**2.63**	**227**	*e*Pn	**Pn**	**03 25 04.8**		**+1.6**
ISHV	**Shirvan**	**2.64**	**86**	*e*Pn	**Pn**	**03 25 02.8**		**-0.5**
ISHV				*e*		03 26 01.3		
comp=Z,64μm,0.4s								
ISHV	**Shirvan**	**2.64**	**86**	Pn	**Pn**	**03 25 02.7**		**-0.5**
ISHV	**Shirvan**	**2.64**	**86**	Pn	**Pn**	**03 25 02.7**		**-0.5**
ISFR	**Sfrayin**	**2.90**	**96**	*e*		03 25 59.7		
comp=Z,29μm,0.2s								
ISFR				*e*Pn	**Pn**	**03 25 06.6**		**-0.4**
GEYT	**Alibeck**	**3.00**	**79**	Pn	**Pn**	**03 25 07.8**		**-0.3**
comp=Z,28nm,0.3s,baz=259,slow=15,SNR=42								
CHTH	**Charan**	**3.02**	**241**	*e*Pn	**Pn**	**03 25 11.1**		**+2.5**
CHTH	**Charan**	**3.02**	**241**	P	**Pn**	**03 25 11.0**		**+2.5**
CHTH	**Charan**	**3.02**	**241**	P	**Pn**	**03 25 11.0**		**+2.5**
IVRN	**Varamin**	**3.22**	**223**	*e*Pn	**Pn**	**03 25 11.9**		**+0.7**
IVRN				*e*		03 26 08.1		
comp=Z,11μm,0.2s								
IVRN	**Varamin**	**3.22**	**223**	Pn	**Pn**	**03 25 11.8**		**+0.6**
IVRN	**Varamin**	**3.22**	**223**	Pn	**Pn**	**03 25 11.8**		**+0.6**
IKRD	**Kardeh**	**3.36**	**99**	*e*Pn	**Pb**	**03 25 23.9**		**+1.9**
IKRD				*e*		03 26 44.9		
comp=Z,7μm,0.5s								
IKRD	**Kardeh**	**3.36**	**99**	Pn	**Pb**	**03 25 23.8**		**+1.9**
IKRD	**Kardeh**	**3.36**	**99**	Pn	**Pb**	**03 25 23.8**		**+1.9**
IMHD	**Mahdasht**	**3.45**	**241**	*e*Pn	**Pn**	**03 25 16.3**		**+2.0**
IMHD				*e*		03 25 43.8		
comp=Z,6μm,0.3s								
IMHD	**Mahdasht**	**3.45**	**241**	*e*Pn	**Pn**	**03 25 16.3**		**+2.0**
IMHD	**Mahdasht**	**3.45**	**241**	Pn	**Pn**	**03 25 16.3**		**+2.0**
IGZV	**Ghazvin**	**3.49**	**254**	*e*Pn	**Pn**	**03 25 15.1**		**+0.1**
IGZV				*e*		03 26 26.8		
comp=Z,10μm,0.4s								
IGZV	**Ghazvin**	**3.49**	**254**	*e*Pn	**Pn**	**03 25 15.1**		**+0.1**
IGZV	**Ghazvin**	**3.49**	**254**	Pn	**Pn**	**03 25 15.0**		**+0.1**
IPAY	**Payeh**	**3.81**	**103**	*e*Pn	**Pn**	**03 25 18.1**		**-1.3**
IPAY				*e*		03 26 37.9		
comp=Z,7μm,0.3s								
IPAY	**Payeh**	**3.81**	**103**	*e*Pn	**Pn**	**03 25 18.1**		**-1.3**
IPAY	**Payeh**	**3.81**	**103**	Pn	**Pn**	**03 25 18.1**		**-1.3**
IRAZ	**Razeghan**	**4.11**	**242**	*e*Pn	**Pn**	**03 25 23.9**		**+0.4**
IRAZ				*e*		03 26 34.5		
comp=Z,5μm,0.3s								
IRAZ	**Razeghan**	**4.11**	**242**	*e*Pn	**Pn**	**03 25 23.9**		**+0.4**
IRAZ	**Razeghan**	**4.11**	**242**	Pn	**Pn**	**03 25 23.9**		**+0.4**
ISRO	**Mashad**	**4.22**	**103**	*e*Pn	**Pn**	**03 25 24.8**		**-0.1**
ISRO	**Mashad**	**4.22**	**103**	*e*Pn	**Pn**	**03 25 24.8**		**-0.1**
QAM	**Ghamsar**	**4.36**	**214**	*e*Pn	**Pn**	**03 25 26.6**		**-0.3**
QAM				*e*		03 26 43.1		
comp=Z,4μm,0.2s								
QAM	**Ghamsar**	**4.36**	**214**	Pn	**Pn**	**03 25 26.5**		**-0.3**
LKRN	**Lenkeran, Azer**	**4.62**	**288**	⇓P	**Pn**	**03 25 29.8**		**-0.4**
SNR=6.8								
LKRN				⇑S	**Sn**	**03 26 20.4**		**-2.2**
LKRN	**Lenkeran, Azer**	**4.62**	**288**	P	**Pn**	**03 25 29.8**		**-0.4**
SNR=6.8								
LKRN				S	**Sn**	**03 26 20.4**		**-2.2**
NDR	**Nardaran**	**4.67**	**314**	⇓P	**Pn**	**03 25 33.9**		**+3.0**
SNR=54								
NDR				⇓S	**Sn**	**03 26 28.1**		**+4.2**
IKLH	**Kolahrood**	**4.68**	**210**	*e*Pn	**Pn**	**03 25 31.1**		**-0.2**
IKLH				*e*		03 27 03.7		
comp=Z,5μm,0.5s								
IKLH	**Kolahrood**	**4.68**	**210**	*e*Pn	**Pn**	**03 25 31.1**		**-0.2**
IKLH	**Kolahrood**	**4.68**	**210**	Pn	**Pn**	**03 25 31.0**		**-0.2**
IMYA	**Miami**	**4.70**	**101**	*e*Pn	**Pn**	**03 25 31.2**		**-0.4**
IMYA	**Miami**	**4.70**	**101**	*e*Pn	**Pn**	**03 25 31.2**		**-0.4**
IMYA	**Miami**	**4.70**	**101**	Pn	**Pn**	**03 25 31.1**		**-0.4**
GOBA	**Gobu**	**4.71**	**311**	⇓P	Pn	03 25 34.9		+3.4
SNR=10								
IZEF	**Zefreh**	**4.80**	**201**	*e*Pn	**Pn**	**03 25 32.9**		**-0.2**
IZEF				*e*		03 27 04.3		
comp=Z,3μm,0.2s								
IZEF	**Zefreh**	**4.80**	**201**	Pn	**Pn**	**03 25 32.8**		**-0.2**
IZEF	**Zefreh**	**4.80**	**201**	Pn	**Pn**	**03 25 32.8**		**-0.2**
ALIB	**Äli-Bayra**	**4.92**	**303**	⇑P	**Pn**	**03 25 36.9**		**+2.5**
SNR=12								
LRK	**Lerik**	**4.93**	**286**	⇓P	**Pn**	**03 25 34.0**		**-0.7**
LRK				⇓S	**Sn**	**03 26 27.3**		**-3.4**
LRK	**Lerik**	**4.93**	**286**	P	**Pn**	**03 25 34.0**		**-0.7**
LRK				S	**Sn**	**03 26 27.3**		**-3.4**
GLBA	**Ciilabad**	**5.06**	**293**	⇓P	**Pn**	**03 25 36.4**		**+0.1**
SNR=26								
GLBA				⇓S	**Sn**	**03 26 32.5**		**-1.0**
GLBA	**Ciilabad**	**5.06**	**293**	P	**Pn**	**03 25 36.4**		**+0.1**
SNR=26								
GLBA				S	**Sn**	**03 26 32.5**		**-1.0**
ICHK	**Chekchek**	**5.15**	**180**	*e*Pn	**Pn**	**03 25 37.9**		**+0.1**
ICHK				*e*		03 25 38.2		
comp=Z,6μm,0.3s								
ICHK	**Chekchek**	**5.15**	**180**	*e*Pn	**Pn**	**03 25 37.9**		**+0.1**
ATGJ	**Altiaghaj**	**5.47**	**311**	⇓P	**Pn**	**03 25 43.1**		**+1.1**
SNR=45								
ATGJ				⇑S	**Sn**	**03 26 44.0**		**+0.3**
ATGJ	**Altiaghaj**	**5.47**	**311**	P	**Pn**	**03 25 43.1**		**+1.1**
SNR=45								
ATGJ				S	**Sn**	**03 26 44.0**		**+0.3**
ISAD	**Sadrabad**	**5.51**	**186**	*e*Pn	**Pn**	**03 25 42.6**		**-0.1**
ISAD				*e*		03 26 47.3		
comp=Z,3μm,0.2s								
ISAD	**Sadrabad**	**5.51**	**186**	*e*Pn	**Pn**	**03 25 42.6**		**-0.1**
ISAD	**Sadrabad**	**5.51**	**186**	Pn	**Pn**	**03 25 42.6**		**-0.1**
IPIR	**Pirpir**	**5.51**	**212**	*e*Pn	**Pn**	**03 25 43.6**		**+0.8**
IPIR				*e*		03 27 37.9		
comp=Z,1μm,0.3s								
IPIR	**Pirpir**	**5.51**	**212**	*e*Pn	**Pn**	**03 25 43.6**		**+0.8**
IPIR	**Pirpir**	**5.51**	**212**	Pn	**Pn**	**03 25 43.6**		**+0.8**
SIZA	**Siyzn**	**5.62**	**312**	⇓P	**Pn**	**03 25 45.3**		**+1.2**
SNR=38								
SIZA				⇑S	**Sn**	**03 26 48.7**		**+1.2**
SIZA	**Siyzn**	**5.62**	**312**	P	**Pn**	**03 25 45.3**		**+1.2**
SNR=38								
SIZA				S	**Sn**	**03 26 48.7**		**+1.2**
PQL	**Pirkuli**	**5.63**	**309**	⇑P	**Pn**	**03 25 45.2**		**+0.8**
SNR=2.7								
PQL				⇑S	**Sn**	**03 26 48.8**		**+0.9**
PQL	**Pirkuli**	**5.63**	**309**	P	**Pn**	**03 25 45.2**		**+0.8**
SNR=2.7								
PQL				S	**Sn**	**03 26 48.8**		**+0.9**
KDMR	**Kurdemir**	**5.68**	**303**	⇑P	**Pn**	**03 25 45.7**		**+0.9**
SNR=4.3								
KDMR				⇓S	**Sn**	**03 26 47.2**		**-1.5**
IBAF	**Bafgh**	**5.88**	**170**	*e*Pn	**Pn**	**03 25 47.5**		**-0.2**
IBAF				*e*		03 27 44.5		
comp=Z,3μm,0.5s								
IBAF	**Bafgh**	**5.88**	**170**	*e*Pn	**Pn**	**03 25 47.5**		**-0.2**
IBAF	**Bafgh**	**5.88**	**170**	Pn	**Pn**	**03 25 47.5**		**-0.2**
IML	**Ismayilli**	**5.90**	**307**	⇓P	**Pn**	**03 25 48.8**		**+1.0**
SNR=29								
IML				⇓S	**Sn**	**03 26 51.9**		**-2.3**
IML	**Ismayilli**	**5.90**	**307**	P	**Pn**	**03 25 48.8**		**+1.0**
SNR=29								
IMEH	**Mehriz**	**6.00**	**178**	*e*Pn	**Pn**	**03 25 49.3**		**-0.2**
IMEH				*e*		03 27 00.1		
comp=Z,2μm,0.2s								
IMEH	**Mehriz**	**6.00**	**178**	*e*Pn	**Pn**	**03 25 49.3**		**-0.2**
IMEH	**Mehriz**	**6.00**	**178**	Pn	**Pn**	**03 25 49.3**		**-0.2**
QUBA	**Quba, Azerbaij**	**6.04**	**313**	⇑P	**Pn**	**03 25 50.7**		**+1.0**
SNR=17								
QUBA				⇓S	**Sn**	**03 26 56.9**		**-0.8**
QUBA	**Quba, Azerbaij**	**6.04**	**313**	P	**Pn**	**03 25 50.7**		**+1.0**
SNR=17								
QUBA				S	**Sn**	**03 26 56.9**		**-0.8**
IKOO	**Kooshah**	**6.25**	**141**	*e*Pn	**Pn**	**03 25 52.2**		**-0.7**
IKOO				*e*		03 26 06.8		
comp=Z,1μm,0.2s								
IKOO	**Kooshah**	**6.25**	**141**	*e*Pn	**Pn**	**03 25 52.2**		**-0.7**
IKOO	**Kooshah**	**6.25**	**141**	Pn	**Pn**	**03 25 52.1**		**-0.7**
BRDA	**Brd**	**6.31**	**299**	⇓P	**Pn**	**03 25 54.0**		**+0.5**
SNR=5.2								
BRDA				⇑S	**Sn**	**03 27 04.7**		**+0.3**
BRDA	**Brd**	**6.31**	**299**	P	**Pn**	**03 25 54.0**		**+0.5**
SNR=5.2								
IDAH	**Dahanechah**	**6.47**	**134**	*e*Pn	**Pn**	**03 25 55.2**		**-0.6**
IDAH				*e*		03 26 14.8		
comp=Z,1μm,0.3s								
IDAH	**Dahanechah**	**6.47**	**134**	*e*Pn	**Pn**	**03 25 55.3**		**-0.6**
MNGR	**Mingechevir, A**	**6.60**	**303**	⇑P	**Pn**	**03 25 58.6**		**+1.2**
MNGR				⇓S	**Sn**	**03 27 09.2**		**-2.3**
MNGR	**Mingechevir, A**	**6.60**	**303**	P	**Pn**	**03 25 58.6**		**+1.2**
SEKA	**Sheki**	**6.75**	**307**	⇓P	**Pn**	**03 26 00.0**		**+0.5**
SNR=12								
SEKA				⇑S	**Sn**	**03 27 13.0**		**-2.2**
SEKA	**Sheki**	**6.75**	**307**	P	**Pn**	**03 26 00.0**		**+0.5**
SNR=12								
GANJ	**Ganja**	**7.07**	**300**	⇑P	**Pn**	**03 26 02.6**		**-1.3**
SNR=4.9								
GANJ				⇓S	**Sn**	**03 27 19.5**		**-3.5**
GANJ	**Ganja**	**7.07**	**300**	P	**Pn**	**03 26 02.6**		**-1.3**
SNR=4.9								
NAX	**Nakhchivan**	**7.21**	**287**	⇓P	**Pn**	**03 26 06.9**		**+0.9**
NAX	**Nakhchivan**	**7.21**	**287**	P	**Pn**	**03 26 06.9**		**+0.9**
ZKTA	**Zakatala**	**7.34**	**308**	⇓P	**Pn**	**03 26 08.2**		**+0.6**
SNR=34								
ZKTA				⇑S	**Sn**	**03 27 27.0**		**-2.8**
IPAR	**Pars**	**7.62**	**189**	*e*Pn	**Pn**	**03 26 13.4**		**+1.5**
IPAR				*e*		03 26 26.4		
comp=Z,368nm,0.3s								
IPAR	**Pars**	**7.62**	**189**	Pn	**Pn**	**03 26 13.3**		**+1.5**
IPAR	**Pars**	**7.62**	**189**	Pn	**Pn**	**03 26 13.3**		**+1.5**
MAK	**Makhachkala**	**7.65**	**319**	*e*P	**Pn**	**03 26 14.8**		**+2.9**
MAK				*e*S	**Sn**	**03 27 36.8**		**-0.5**
MAK				pmax	pmax			
comp=Z,80nm,0.5s								
MAK				smax	smax			
comp=N,325nm,0.6s								
MAK				smax	smax			
comp=E,267nm,0.7s								
MAK				MLR	MLR			
comp=Z,2μm,14.0s								
QZX	**Qazax, Azerbai**	**7.89**	**300**	⇓P	**Pn**	**03 26 15.6**		**+0.4**
QZX				⇓S	**Sn**	**03 27 42.3**		**-1.0**
QZX	**Qazax, Azerbai**	**7.89**	**300**	P	**Pn**	**03 26 15.6**		**+0.4**
QZX				S	**Sn**	**03 27 42.3**		**-1.0**
GNI	**Garni**	**8.02**	**293**	P	**Pn**	**03 26 17.3**		**+0.2**
GNI						03 27 49.8		
GNI				pmax	pmax			
comp=Z,1.0nm,0.3s								
GNI				smax	smax			
comp=N,1.0nm,0.3s								
GNI	**Garni**	**8.02**	**293**	Pn	**Pn**	**03 26 17.3**		**+0.2**
comp=N,1.2nm,0.3s,baz=59,slow=5.9,SNR=5.3								
GNI				Sn	**Sn**	**03 27 49.8**		**+3.2**
comp=N,0.5nm,0.3s,baz=117,slow=18,SNR=1.7								
DGRG	**David-gareji**	**8.06**	**303**	P	**Pn**	**03 26 18.0**		**+0.4**
DGRG				S	**Sn**	**03 27 50.3**		**+2.8**
DGRG	**David-gareji**	**8.06**	**303**	P	**Pn**	**03 26 18.0**		**+0.4**
DGRG				S	**Sn**	**03 27 50.3**		**+2.8**
ISRV	**Sarvestan**	**8.07**	**188**	*e*Pn	**Pn**	**03 26 17.2**		**-0.8**
ISRV				*e*		03 26 49.1		
comp=Z,557nm,0.3s								
ISRV	**Sarvestan**	**8.07**	**188**	*e*Pn	**Pn**	**03 26 17.2**		**-0.8**
ISRV	**Sarvestan**	**8.07**	**188**	Pn	**Pn**	**03 26 17.2**		**-0.8**
TBLG	**Delisi**	**8.61**	**303**	P	**Pn**	**03 26 26.5**		**+1.4**
TBLG				S	**Sn**	**03 28 00.2**		**-0.8**
TBLG	**Delisi**	**8.61**	**303**	P	**Pn**	**03 26 26.5**		**

comp=N,15nm,0.6s
AKTO ⇓Sn Sn 03 29 47.3 -8.0
comp=N,7.4nm,0.6s
AKTO Aktyubinsk 13.29 10 P Pn 03 27 27.5 -1.4
AKTO 03 29 47.3
AKTO pmax pmax
comp=Z,15nm,0.6s
AKTO smax smax
comp=N,7.0nm,0.6s
AKTO Aktyubinsk 13.29 10 Pn Pn 03 27 27.3 -1.6
comp=N,1.6nm,0.3s,baz=187,slow=14,SNR=32
AKTO Sn Sn 03 29 47.7 -7.6
comp=N,1.0nm,0.3s,baz=41,slow=19,SNR=4.5
AKTO Aktyubinsk 13.29 10 Pn Pn 03 27 27.5 -1.4
comp=N,15nm,0.6s
AKTO Sn Sn 03 29 47.7 -7.6
KK31 Karatay Array 13.56 60 ⇓Pn Pn 03 27 28.2 -4.6
comp=N,1.0nm,0.4s,baz=267,slow=5.6,SNR=8.7
KK31 ⇑Sn Sn 03 29 51.4 -11
comp=N,5.0nm,0.7s,baz=287,slow=11,SNR=4.6
KK31 Karatay Array 13.56 60 P Pn 03 27 28.1 -4.6
KK31 03 29 54.8
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KK31 smax smax
comp=N,5.0nm,0.7s
EKS2 Erkin-Say 15.74 64 P P 03 28 07.3 +1.6
SNR=5.7
EKS2 Erkin-Say 15.74 64 *e*P **P 03 28 05.2 -0.5**
EKS2 *e*S **Sn 03 30 50.8 -4.7**
EKS2 pmax pmax
comp=Z,11nm,0.9s
EKS2 Erkin-Say 15.74 64 *e*P **P 03 28 05.2 -0.5**
comp=Z,11nm,0.9s
EKS2 *e*S **Sn 03 30 50.8 -4.7**
EKS2 Erkin-Say 15.74 64 *e*Pn **P 03 28 05.2 -0.5**
comp=Z,10nm,0.9s
EKS2 *e*S **Sn 03 30 50.8 -4.7**
AAK Ala-Archa 16.25 65 P P 03 28 12.3 +0.9
SNR=5.3
AAK Ala-Archa 16.25 65 P Pn 03 28 09.7 +1.0
AAK pmax pmax
comp=Z,8.0nm,0.7s
AAK Ala-Archa 16.25 65 Pn Pn 03 28 10.2 +1.6
comp=Z,0.6nm,0.3s,baz=207,slow=5.7,SNR=16
AAK Ala-Archa 16.25 65 P Pn 03 28 09.7 +1.0
comp=Z,8.0nm,0.7s
FRU Bishkek 16.39 64 *e*P P 03 28 19.0 +6.3
FRU pmax pmax
comp=E,70nm,1.8s
BRTR Keskin Array B 16.39 285 *ce*P **P 03 28 14.8 +1.8**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 16.39 285 Pn **P 03 28 13.2 +0.2**
comp=Z,0.1nm,0.3s,baz=118,slow=10.0,SNR=9.7
BRTR Keskin Array B 16.39 285 *e*P **P 03 28 14.8 +1.8**
comp=Z,2.0nm,0.7s
USP Ospenovka 16.40 63 P **P 03 28 13.3 +0.4**
SNR=13
USP Ospenovka 16.40 63 *i* P **P 03 28 13.3 +0.4**
USP Ospenovka 16.40 63 *i* P **P 03 28 13.3 +0.4**
VRHR Novokhopersk 16.43 330 *e*P **Pn 03 28 08.6 -2.0**
VRHR *e*S **Sn 03 31 07.6 -4.1**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=Z,50nm,0.8s
VRHR pmax pmax
comp=E,40nm,0.7s
VRHR smax smax
comp=E,60nm,0.9s
VRHR smax smax
comp=Z,7.0nm,0.7s
VRHR smax smax
comp=N,30nm,0.9s
KBK Karagaybulak 16.59 65 P **P 03 28 16.1 +1.0**
SNR=5.7
KBK Karagaybulak 16.59 65 *i* P **P 03 28 16.1 +1.0**
KBK Karagaybulak 16.59 65 *i* P **P 03 28 16.1 +1.0**
KZA Kyzart 16.70 67 P **P 03 28 17.8 +1.1**
SNR=6.0
KZA Kyzart 16.70 67 *i* P **P 03 28 17.7 +1.1**
KZA Kyzart 16.70 67 *i* P **P 03 28 17.7 +1.1**
TKM2 Tokmak 2 17.11 65 ⇓Pn **Pn 03 28 17.8 -1.7**
TKM2 Tokmak 2 17.11 65 P **P 03 28 21.5 +0.5**
SNR=8.7
TKM2 Tokmak 2 17.11 65 *e*P **P 03 28 21.0 +0.1**
TKM2 pmax pmax
comp=Z,15nm,1.0s
TKM2 Tokmak 2 17.11 65 *e*P **P 03 28 21.0 +0.1**
comp=Z,15nm,1.0s
TKM2 Tokmak 2 17.11 65 *e*Pn **P 03 28 20.9 +0.1**
comp=Z,15nm,1.0s
VORD Divnogorie 17.30 326 *e*P **Pn 03 28 18.7 -2.9**
VORD pmax pmax
comp=N,40nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s
ULHL Ulahol 17.46 67 P **P 03 28 26.1 +1.3**
SNR=5.7
ULHL Ulahol 17.46 67 *i* P **P 03 28 26.1 +1.3**
ULHL Ulahol 17.46 67 *i* P **P 03 28 26.1 +1.3**
VSR Storozhevoye 17.54 327 *e*P **Pn 03 28 21.0 -3.5**
VSR *e*S **Sn 03 31 36.9 -1.7**
VSR pmax pmax
comp=N,9.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR smax smax
comp=E,30nm,1.1s
VSR smax smax
comp=Z,10.0nm,1.1s
VSR smax smax
comp=N,10.0nm,0.8s
VOR Voronezh 17.90 328 *e*P **Pn 03 28 27.0 -1.9**
VOR pmax pmax
comp=Z,250nm,1.2s
BRVK Borovoye 19.18 30 ⇑Pn **P 03 28 44.0 +0.7**
comp=Z,11nm,0.9s
BRVK ⇑Sn Sn 03 32 05.7 -13
comp=Z,4.4nm,0.9s
BRVK Borovoye 19.18 30 *e*P **Pn 03 28 44.7 +0.3**
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BRVK Borovoye 19.18 30 Pn **P 03 28 44.0 +0.7**
comp=Z,11nm,0.9s
BRVK Borovoye 19.18 30 *e*P **Pn 03 28 44.7 +0.3**
comp=Z,4.0nm,1.2s
BVA0 Borovoye Array 19.19 30 Pn **P 03 28 44.4 +0.8**
comp=Z,6.0nm,0.7s,baz=214,slow=12,SNR=17
BVA0 ⇑Sn Sn 03 32 05.7 -13
comp=Z,3.9nm,1.1s,baz=239,slow=22,SNR=4.4
BVA0 Borovoye Array 19.19 30 *i* P **P 03 28 44.3 +0.8**
BVA0 pmax pmax
comp=Z,6.0nm,0.7s
BVA0 Borovoye Array 19.19 30 Pn **P 03 28 44.4 +0.8**
comp=Z,6.0nm,0.7s,SNR=17
BVAR Borovoye Array 19.19 30 P **Pn 03 28 45.0 +0.3**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 19.19 30 P **Pn 03 28 45.0 +0.3**
comp=Z,1.4nm,0.3s,baz=219,slow=12,SNR=16
BVAR Borovoye Array 19.19 30 P **Pn 03 28 45.0 +0.3**
comp=Z,1.0nm,0.3s
VOSK Vostochnaya 19.21 32 ⇓Pn **P 03 28 43.7 -0.2**
comp=Z,7.0nm,1.1s
VOSK Vostochnaya 19.21 32 P **P 03 28 43.6 -0.2**
VOSK pmax pmax
comp=Z,7.0nm,0.8s
VOSK Vostochnaya 19.21 32 P **P 03 28 43.6 -0.2**
comp=Z,7.0nm,0.8s
ARU Arti 19.24 7 *d i*P **Pn 03 28 45.0 -0.2**
ARU pmax pmax
comp=Z,26nm,1.2s
ARU Arti 19.24 7 *i* P **Pn 03 28 45.0 -0.2**
comp=Z,26nm,1.2s
SVE Sverdlovsk 19.88 10 *e*P **Pn 03 28 54.5 +1.8**
SVE pmax pmax
comp=Z,11nm,0.6s
PDGK Podgornoye 19.98 65 ⇑Pn **P 03 28 52.5 +0.3**
TLCR 20.67 300 ⇑*i*P **P 03 29 00.9 +1.2**
TIRR Tirgusor 20.80 298 ⇓*i*P Pn 03 29 02.7 -0.9

TLB Topalu 21.08 298 ⇑*i*P **P 03 29 05.6 +1.5**
CFR Carcaliu 21.14 300 ⇑*i*P **P 03 29 05.3 +0.6**
LEOM Leova 21.38 303 ⇓*i*P **P 03 29 08.1 +0.9**
OBN Obninsk 21.47 331 *e*P **P 03 29 08.5 +0.4**
OBN *i* 03 29 20.7
OBN *e* 03 29 28.4
OBN pmax pmax
comp=Z,76nm,1.2s
OBN Obninsk 21.47 331 P **P 03 29 08.5 +0.4**
comp=Z,22nm,0.5s,baz=149,slow=20,SNR=12
OBN Obninsk 21.47 331 *e*P **P 03 29 08.5 +0.4**
comp=Z,76nm,1.2s
MOS Moscow 21.56 334 *e*P **P 03 29 09.5 +0.4**
MOS *e* 03 29 19.9
MOS *e* 03 29 39.7
MOS *e*S **S 03 33 05.1 -0.9**
MOS pmax pmax
comp=Z,93nm,0.9s
MOS Moscow 21.56 334 *e*P **P 03 29 09.5 +0.4**
comp=Z,93nm,0.9s
KURBB Kurchatov Arra 21.70 45 ⇑Pn **P 03 29 11.4 +0.7**
comp=Z,6.4nm,0.8s
KURBB Kurchatov Arra 21.70 45 Pn **P 03 29 11.4 +0.7**
comp=Z,6.4nm,0.8s
KURK Kurchatov 21.79 45 ⇑Pn **P 03 29 12.2 +0.5**
comp=Z,8.6nm,0.9s
KURK Kurchatov 21.79 45 Pn **P 03 29 12.2 +0.5**
comp=Z,8.6nm,0.9s
JMB Yambol 21.86 292 ⇑*i*P P 03 29 23.4 +11
ISR Istrita 22.23 299 ⇓*i*P **P 03 29 18.9 +2.4**
VRI Vrinciioaia 22.25 301 ⇓*i*P **P 03 29 19.1 +2.4**
SOKR Solikamsk 22.27 3 ⇑*i*P **P 03 29 19.8 +3.2**
SOKR pmax pmax
comp=Z,10.0nm,1.1s
PLOR Plostina 22.30 301 ⇑*i*P **P 03 29 18.9 +1.6**
AKASG Malin Array Be 22.31 315 P **P 03 29 17.5 +0.2**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 22.31 315 P **P 03 29 17.4 +0.2**
comp=Z,5.1nm,0.5s,baz=124,slow=8.8,SNR=18
KIEV Kiev 22.32 315 *de*P **P 03 29 17.1 -0.2**
KIEV Kiev 22.32 315 *e*P **P 03 29 17.2 -0.1**
comp=Z,17nm,0.4s
KIEV Kiev 22.32 315 *e*P **P 03 29 17.2 -0.1**
comp=Z,17nm,0.4s
TESR Tescani 22.45 303 ⇑*i*P **P 03 29 19.6 +0.8**
MK31 Makanchi Array 22.63 57 Pn **P 03 29 21.1 +0.3**
comp=Z,13nm,1.2s,baz=246,slow=11,SNR=16
MKAR Makanchi Array 22.63 57 P **P 03 29 21.4 +0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 22.63 57 P **P 03 29 21.4 +0.6**
comp=Z,2.7nm,0.7s,baz=246,slow=12,SNR=14
KDZ Kurdzhali 22.70 290 ⇓*i*P P 03 29 29.2 +7.7
MLR Muntele Rosu 22.71 300 P **P 03 29 24.0 +2.3**
MLR pmax pmax
comp=Z,2.0nm,0.7s
MLR Muntele Rosu 22.71 300 ⇓*i*P **P 03 29 23.8 +2.0**
MLR Muntele Rosu 22.71 300 P **P 03 29 24.0 +2.3**
comp=Z,2.0nm,0.7s,baz=122,slow=9.5
APE Apeiranthos 22.94 278 ⇑*i*P **P 03 29 23.0 -1.1**
DOPR Dopca 23.19 301 ⇑*i*P **P 03 29 27.6 +1.1**
VOIR 23.32 299 ⇑*i*P **P 03 29 28.9 +1.0**
ARR Arges 23.60 299 ⇑*i*P **P 03 29 32.5 +1.9**
BURAR Bucovina Array 23.68 305 ⇓*i*P **P 03 29 32.9 +1.6**
IDI Anoyia 23.81 274 P **P 03 29 33.6 +0.9**
comp=Z,5.9nm,0.7s,baz=106,slow=20,SNR=5.9
NVR Nevrokopi 23.86 289 *e*P **P 03 29 33.3 +0.2**
MMB Musomiste 23.96 290 ⇓*i*P **P 03 29 35.7 +1.7**
SRS Serrai 24.07 288 *e*P **P 03 29 35.7 +0.7**
SOH Sokhos 24.26 288 *e*P **P 03 29 38.4 +1.7**
KNT Kendrikon 24.59 289 *e*P **P 03 29 41.4 +1.7**
PRGR Permogore 24.87 350 *e*P **P 03 29 42.6 +0.6**
PRGR pmax pmax
comp=Z,5.0nm,0.7s
GZR Gura Zlata 24.90 299 ⇑*i*P **P 03 29 44.6 +2.0**
MICGM Minsk 24.91 322 *e* **P 03 29 43.0 +0.5**
MNK Minsk 24.94 322 *e*P **P 03 29 43.0 +0.3**
LVV L'vov 25.05 309 *e*P **P 03 29 45.9 +2.1**
DRGR 25.16 302 ⇓*i*P **P 03 29 48.0 +3.1**
KLMR Klimovskoe 25.29 343 *e*P **P 03 29 44.4 -1.4**
KLMR pmax pmax
comp=Z,40nm,0.9s
POO Poona 25.38 132 *e*P **P 03 29 45.0 -2.1**
TRPA Tarpa 25.55 305 ⇑*i*P **P 03 29 51.4 +3.1**
PYUN Piuthan 25.70 103 *e*P **P 03 29 49.9 -0.2**
comp=Z,74nm,0.5s
KWP Kalwaria Pacla 25.82 308 *e*P **P 03 29 53.1 +2.3**
KWP pmax pmax
comp=Z,28nm,1.1s
KWP Kalwaria Pacla 25.82 308 ⇑*i*P **P 03 29 53.4 +2.6**
KWP Kalwaria Pacla 25.82 308 *e*P **P 03 29 53.0 +2.3**
comp=Z,28nm,1.1s
KWP Kalwaria Pacla 25.82 308 *e*P **P 03 29 53.0 +2.3**
comp=Z,28nm,1.1s
UZH Uzhgorod 25.82 306 *e*P **P 03 29 52.2 +1.4**
UZH *i* 03 29 58.2
UZH *i* 03 30 31.6
IDID Didziasalis 25.91 323 *e*P **P 03 29 52.5 +1.0**
IDID AMB AMB 03 30 04.8
comp=Z,19nm,1.1s
IDID Didziasalis 25.91 323 *e*P **P 03 29 51.1 -0.3**
IDID AMB AMB 03 30 04.8
comp=Z,19nm,1.0s
IDID Didziasalis 25.91 323 *e*P **P 03 29 52.5 +1.0**
comp=Z,19nm,1.1s,SNR=28
KOLS Kolonicke sedl 25.91 307 *e*P **P 03 29 53.9 +2.3**
KOLS Kolonicke sedl 25.91 307 *e*P **P 03 29 53.9 +2.3**
IIGN Ignalina 26.18 322 *e*P **P 03 29 54.9 +1.0**
IIGN AMB AMB 03 30 07.6
comp=Z,11nm,1.3s
IIGN Ignalina 26.18 322 *e*P **P 03 29 53.7 -0.2**
IIGN AMB AMB 03 30 07.5
comp=Z,11nm,1.2s
IIGN Ignalina 26.18 322 *e*P **P 03 29 54.9 +1.0**
comp=Z,11nm,1.3s,SNR=28
DANN Dangsing 26.18 102 *e*P **P 03 29 54.8 +0.2**
comp=Z,113nm,0.7s
KOLN Koldanda 26.33 103 *e*P **P 03 29 55.7 -0.1**
comp=Z,36nm,0.8s
ISAL Salakas 26.34 323 *e*P **P 03 29 56.4 +1.0**
ISAL AMB AMB 03 30 08.2
comp=Z,10nm,1.0s
ISAL Salakas 26.34 323 *e*P **P 03 29 55.1 -0.3**
ISAL AMB AMB 03 30 08.1
comp=Z,10nm,0.9s
ISAL Salakas 26.34 323 *e*P **P 03 29 56.4 +1.0**
comp=Z,10nm,1.0s,SNR=28
CRVS Cervenica-Dubn 26.42 306 *e*P **P 03 29 58.7 +2.4**
CRVS Cervenica-Dubn 26.42 306 *e*P **P 03 29 58.7 +2.4**
LKD2 Lefkada island 26.50 283 *e*P **P 03 30 00.2 +3.1**
ZALV Zalesovo Beam 26.65 42 P **P 03 29 59.0 +0.8**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 26.65 42 P **P 03 29 59.0 +0.8**
comp=Z,1.8nm,0.6s,baz=251,slow=12,SNR=6.1
ZALV Zalesovo Beam 26.65 42 P **P 03 29 59.0 +0.8**
GKN Gorkha 27.03 101 *e*P **P 03 30 01.8 -0.3**
comp=Z,41nm,0.6s
DMN Daman 27.58 102 *e*P **P 03 30 07.0 -0.1**
comp=Z,44nm,0.8s
KKN Kakani 27.63 101 *e*P **P 03 30 08.0 +0.5**
VSU Vasula 27.71 328 *e*P **P 03 30 09.3 +1.7**
PKI Pulchoki 27.84 102 *e*P **P 03 30 09.2 -0.3**
GUN Gumba 28.04 100 *e*P **P 03 30 11.0 -0.4**
comp=Z,66nm,1.0s
VYHS Vyhne 28.04 305 *e*P **P 03 30 12.1 +1.3**
VYHS Vyhne 28.04 305 *e*P **P 03 30 12.1 +1.3**
JIRN Jiri 28.40 101 *e*P **P 03 30 14.4 -0.2**
TMCR Tamitsa 28.54 345 *e*P P 03 30 21.3 +6.4
TMCR *e* 03 31 09.7
TMCR pmax pmax
comp=Z,21nm,1.4s
RAMN Ramite 29.06 102 *e*P **P 03 30 19.9 -0.4**
JOF Joensuu 29.18 338 *e*P **P 03 30 21.0 +0.3**
JOF pmax pmax
comp=Z,8.0nm,0.4s
JOF Joensuu 29.18 338 *e*p **P 03 30 21.0 +0.3**
comp=Z,7.8nm,0.4s
JOF Joensuu 29.18 338 *e*P **P 03 30 21.0 +0.3**
comp=Z,8.0nm,0.4s
ODAN Odare 29.72 101 *e*P **P 03 30 26.3 +0.1**
TAPN Taplejung 29.74 100 *e*P **P 03 30 27.0 +0.6**
FINES FINESS Array B 29.85 333 *ce*P **P 03 30 29.5 +2.9**

FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 29.85 333 P **P 03 30 28.9 +2.2**
comp=Z,1.3nm,0.7s,baz=137,slow=9.7,SNR=8.8
FINES pP **pP 03 30 36.9 +0.3**
comp=Z,3.2nm,0.5s,baz=144,slow=11,SNR=6.7
KAF Kangasniemi 30.21 334 *e*P **pP 03 30 38.4 -1.4**
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 30.21 334 *e*p pP 03 30 38.4 -1.4
comp=Z,1.6nm,0.4s
CLL Collm 32.23 309 *e*P **P 03 30 50.0 +2.2**
CLL Collm 32.23 309 *e*P **P 03 30 50.0 +2.2**
HFS Hagfors 34.33 325 P **P 03 31 08.1 +2.2**
HFS *PP **pP 03 31 15.7 -0.3**
HFS pmax pmax
comp=Z,2.0nm,0.6s
HFS pmax pmax
comp=Z,11nm,0.7s
HFS Hagfors 34.33 325 P **P 03 31 08.1 +2.2**
comp=Z,2.3nm,0.6s,baz=110,slow=11,SNR=7.1
HFS pP **pP 03 31 15.7 -0.3**
comp=Z,11nm,0.7s,baz=113,slow=11,SNR=14
GTA Gaotai 35.37 72 *e*P **P 03 31 16.4 +1.1**
GTA pP **pP 03 31 25.3 -0.1**
GTA sP **sP 03 31 29.0 -0.5**
KEV Kevo 35.60 344 *e*P **P 03 31 17.3 +0.6**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 35.60 344 *e*p **P 03 31 17.3 +0.6**
comp=Z,0.5nm,0.4s
ARCES ARCESS Array B 35.76 343 P **P 03 31 19.1 +0.9**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 35.76 343 P **P 03 31 19.1 +0.9**
comp=Z,3.5nm,0.8s,baz=8.0,slow=18,SNR=6.1
NB2 NORSAR Subarra 35.80 325 P **P 03 31 19.7 +1.0**
comp=Z,7.2nm,1.4s,baz=117,slow=9.3
NB2 NORSAR Subarra 35.80 325 P **P 03 31 19.7 +1.0**
comp=Z,7.2nm,1.4s,SNR=3.1
NOA NORSAR Array B 35.80 325 P **P 03 31 20.2 +1.5**
NOA *PP **pP 03 31 27.9 -0.8**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 35.80 325 P **P 03 31 20.2 +1.5**
comp=Z,0.9nm,0.8s,baz=112,slow=9.4,SNR=3.6
NOA pP **pP 03 31 27.9 -0.8**
comp=Z,3.1nm,0.8s,baz=116,slow=8.3,SNR=8.9
SBF Sospel 35.82 295 *e*P P 03 31 15.8 -3.3
comp=Z,74nm,1.1s
SBF Sospel 35.82 295 *e*P P 03 31 15.8 -3.3
SBF pmax pmax
comp=Z,74nm,1.1s
SBF Sospel 35.82 295 *e*P P 03 31 15.8 -3.3
comp=Z,74nm,1.1s
LPG La Plagne 36.16 298 *e*P **P 03 31 22.0 -0.2**
comp=Z,14nm,1.0s
LPG La Plagne 36.16 298 *e*P **P 03 31 22.0 -0.2**
LPG pmax pmax
comp=Z,14nm,1.0s
LPG La Plagne 36.16 298 *e*P **P 03 31 22.0 -0.2**
comp=Z,14nm,1.0s
LPG La Plagne 36.16 298 *e*P **P 03 31 22.0 -0.2**
comp=Z,14nm,1.0s
LPL La Plagne 36.17 298 *e*P **P 03 31 22.6 +0.3**
comp=Z,9.3nm,0.8s
LPL La Plagne 36.17 298 *e*P **P 03 31 22.6 +0.3**
LPL pmax pmax
comp=Z,9.0nm,0.8s
LPL La Plagne 36.17 298 *e*P **P 03 31 22.6 +0.3**
comp=Z,9.3nm,0.8s
LPL La Plagne 36.17 298 *e*P **P 03 31 22.6 +0.3**
comp=Z,9.3nm,0.8s
MBDF Montbardon 36.21 297 *e*P **P 03 31 23.1 +0.6**
MBDF Montbardon 36.21 297 *e*P **P 03 31 23.1 +0.6**
MBDF Montbardon 36.21 297 *e*P **P 03 31 23.1 +0.6**
MBDF Montbardon 36.21 297 *e*P **P 03 31 23.1 +0.6**
ZAK Zakamensk 36.89 53 *e*P P 03 31 22.6 -5.5
ZAK pmax pmax
comp=Z,2.0nm,1.6s
SONM Songino Array 38.99 58 P **P 03 31 47.0 +1.0**
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM Songino Array 38.99 58 P **P 03 31 47.0 +1.0**
comp=Z,1.5nm,0.6s,baz=273,slow=9.3,SNR=15
SONM Songino Array 38.99 58 P **P 03 31 47.0 +1.0**
ULN Ulaanbaatar 39.43 57 *e*P **P 03 31 50.6 +0.9**
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 39.43 57 *e*P **P 03 31 50.7 +1.0**
comp=Z,9.5nm,0.8s
ULN Ulaanbaatar 39.43 57 *e*P **P 03 31 50.7 +1.0**
comp=Z,9.5nm,0.8s
EKA Eskdalemuir Ar 42.22 314 P **P 03 32 13.5 +1.2**
EKA *PP **pP 03 32 22.2 -0.3**
EKA pmax pmax
comp=Z,1.0nm,0.5s
EKA pmax pmax
comp=Z,2.0nm,0.5s
EKA Eskdalemuir Ar 42.22 314 P **P 03 32 13.5 +1.2**
comp=Z,0.7nm,0.5s,baz=100,slow=8.6,SNR=7.5
EKA pP **pP 03 32 22.2 -0.3**
comp=Z,2.1nm,0.5s,baz=95,slow=8.4,SNR=9.5
BOD Bodaibo 43.41 42 *e*P **P 03 32 22.5 +0.6**
BOD pmax pmax
comp=Z,64nm,0.7s
SPITS Spitsbergen Ar 43.85 349 P **P 03 32 26.7 +1.5**
SPITS *PP **pP 03 32 35.9 +0.4**
SPITS pmax pmax
comp=Z,5.0nm,1.0s
SPITS pmax pmax
comp=Z,7.0nm,0.8s
SPITS Spitsbergen Ar 43.85 349 P **P 03 32 26.7 +1.5**
comp=Z,5.0nm,0.9s,baz=155,slow=11,SNR=6.9
SPITS pP **pP 03 32 35.9 +0.4**
comp=Z,6.7nm,0.8s,baz=136,slow=9.3,SNR=3.2
ESDC Sonseca Array 45.00 292 P **P 03 32 35.4 +0.4**
comp=Z,0.9nm,0.8s,baz=66,slow=7.5,SNR=3.6
ESDC pP **pP 03 32 44.7 -0.6**
comp=Z,3.2nm,1.0s,baz=64,slow=8.5,SNR=5.9
TIXI Tiksi 50.12 23 *e*P **P 03 33 15.6 +1.4**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
TORD Torodi Ar. Bea 52.64 257 P **P 03 33 33.3 -0.5**
comp=Z,1.4nm,0.8s,baz=50,slow=7.7,SNR=8.7
TORD pP **pP 03 33 42.7 -1.5**
comp=Z,2.1nm,0.9s,baz=47,slow=6.0,SNR=6.8
PSI Prapat 53.39 119 P **P 03 33 36.8 -2.7**
PSI pmax pmax
comp=Z,7.0nm,0.5s
PSI Prapat 53.39 119 P **P 03 33 36.8 -2.7**
comp=Z,7.1nm,0.5s,baz=327,slow=6.3,SNR=12
KSAR Wonju Array Be 56.89 66 P **P 03 34 04.2 -0.2**
KSAR Wonju Array Be 56.89 66 P **P 03 34 04.2 -0.2**
KSAR Wonju Array Be 56.89 66 P **P 03 34 04.2 -0.2**
KSRS Korea Array 56.91 66 P **P 03 34 04.2 -0.3**
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KSRS Korea Array 56.91 66 P **P 03 34 04.2 -0.3**
comp=Z,2.5nm,0.7s,baz=291,slow=7.2,SNR=6.9
USRK Ussuriysk Ar. 57.10 57 P **P 03 34 05.6 -0.1**
comp=Z,3.8nm,0.8s,baz=292,slow=5.1,SNR=12
DBIC Dimbokro 61.69 256 P **P 03 34 37.6 -0.2**
DBIC *PP **pP 03 34 46.7 -1.7**
DBIC pmax pmax
comp=Z,3.0nm,0.9s
DBIC pmax pmax
comp=Z,5.0nm,1.0s
DBIC Dimbokro 61.69 256 P **P 03 34 37.6 -0.2**
comp=Z,2.5nm,0.8s,baz=0.0,slow=8.1,SNR=2.0
DBIC pP **pP 03 34 46.6 -1.7**
comp=Z,4.6nm,1.0s,baz=21,slow=10,SNR=3.0
LIC Lamto 62.10 256 *e*P **P 03 34 40.2 -0.4**
comp=Z,8.5nm,0.6s
LIC Lamto 62.10 256 *e*P **P 03 34 40.2 -0.4**
comp=Z,8.5nm,0.6s
LIC Lamto 62.10 256 *e*P **P 03 34 40.2 -0.4**
comp=Z,8.5nm,0.6s
BILL Bilibino 63.34 23 ⇑*i*P **pP 03 34 58.4 -0.2**
BILL *i* 03 35 11.6
BILL pmax pmax
comp=Z,8.0nm,1.5s
INK Inuvik 74.44 3 P **P 03 35 58.0 +1.0**
comp=Z,0.7nm,0.9s,baz=0.0,slow=1.0,SNR=3.6

ILAR	**Eielson Array**	**76.80**	**9**	P	**P**	**03 36 11.7**	**+1.1**
ILAR				*PP	**pP**	**03 36 20.6**	**-0.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**76.80**	**9**	P	**P**	**03 36 11.7**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=331,slow=5.0,SNR=8.3						
ILAR				pP	**pP**	**03 36 20.6**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=322,slow=4.9,SNR=9.7						
YKA	**Yellowknife Ar**	**80.05**	**355**	P	**P**	**03 36 29.3**	**+0.8**
YKA				*PP	**pP**	**03 36 38.4**	**-1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**80.05**	**355**	P	**P**	**03 36 29.3**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=4.2,slow=6.4,SNR=18						
YKA				pP	**pP**	**03 36 38.4**	**-1.0**
	comp=Z,2.0nm,0.9s,baz=6.5,slow=6.0,SNR=15						
ULM	**Lac du Bonnet**	**88.86**	**341**	pP	pP	03 37 22.9	-1.4
	comp=Z,3.1nm,0.8s,baz=33,slow=3.5,SNR=3.3						
WRA	**Warramunga Arr**	**94.26**	**112**	P	**P**	**03 37 36.6**	**-2.2**
	comp=Z,0.3nm,0.8s,baz=320,slow=3.7,SNR=5.3						
ASAR	**Alice Springs**	**96.23**	**115**	P	**P**	**03 37 45.8**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=316,slow=5.2,SNR=3.9						

*IDC **04** 03:25:17.0±2.8, 20°.06N×121°.30E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/54, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=116.7km s-min=22.6km az=97.0*
*JMA **04** 03:25:21.7±0.5, 20°.32N×122°.15E, h26km, M4.0*
*ISCJB **04** 03:25:23.4±0.9, 20°.21N±0°.05×122°.6E±0°.2, h40km, mb3.5/4, Error ellipse: s-maj=28.7km s-min=6.4km az=8.9*

ISC 04 03:25:24.8±1.4, 20°.19N±0°.09×122°.5E±0°.2, h40km, n20, σ0§79/20, mb3.6/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**4.04**	**17**	P	**Pn**	**03 26 23.9**	**-0.3**
HATJ				*e*S	**Sn**	**03 27 09.5**	**-0.7**
JYNG	**Yonagunijimaku**	**4.27**	**6**	P	**Pn**	**03 26 27.8**	**+0.6**
JYNG				*e*S	**Sn**	**03 27 14.8**	**-1.0**
JKRS	**Kuro-shima**	**4.27**	**19**	P	**Pn**	**03 26 26.9**	**-0.4**
JKRS				*e*S	**Sn**	**03 27 15.8**	**-0.1**
YOJ	**Yonaguni jima**	**4.28**	**6**	P	**Pn**	**03 26 26.6**	**-0.9**
YOJ				*e*S	**Sn**	**03 27 16.3**	**+0.1**
IRIF	**Iriomote-Funau**	**4.29**	**15**	P	**Pn**	**03 26 26.9**	**-0.6**
IRIF				*e*S	**Sn**	**03 27 15.6**	**-0.7**
JIJ	**Ishigaki jima**	**4.43**	**20**	P	**Pn**	**03 26 29.0**	**-0.5**
JIJ				*e*S	**Sn**	**03 27 18.5**	**-1.4**
JISG	**Ishigakijimahi**	**4.69**	**21**	P	**Pn**	**03 26 32.8**	**-0.3**
JISG				S	**Sn**	**03 27 26.0**	**-0.3**
JTJ	**Tarama**	**4.88**	**24**	P	**Pn**	**03 26 36.5**	**+0.8**
JTJ				*e*S	**Sn**	**03 27 31.3**	**+0.3**
JNU	**Nakatsue**	**14.90**	**28**	Pn	P	03 29 02.3	+4.5
	0.2nm,0.3s,baz=197,slow=7.8,SNR=4.1						
KSRS	**Korea Array**	**17.85**	**14**	P	**P**	**03 29 32.0**	**+1.7**
	0.3nm,0.3s,baz=196,slow=11,SNR=4.1						
MJAR	**Matsushiro Arr**	**21.33**	**37**	P	P	03 30 14.6	+6.2
	1.5nm,0.8s,baz=244,slow=7.6,SNR=3.1						
WRA	**Warramunga Arr**	**41.54**	**163**	P	**P**	**03 33 07.6**	**-1.0**
	1.1nm,0.7s,baz=343,slow=9.0,SNR=14						
H11N1	**WAKE ISLAND Hy**	**41.65**	**83**	T	T	04 18 13.8	
	baz=278,slow=75,SNR=110						
H11N2	**WAKE ISLAND Hy**	**41.65**	**83**	T	T	04 18 15.1	
	baz=278,slow=75,SNR=65						
H11S3	**WAKE ISLAND Hy**	**41.65**	**85**	T	T	04 18 14.2	
	baz=280,slow=75,SNR=316						
H11S1	**WAKE ISLAND Hy**	**41.66**	**85**	T	T	04 18 15.8	
	baz=280,slow=75,SNR=388						
H11N3	**WAKE ISLAND Hy**	**41.67**	**83**	T	T	04 18 16.1	
	baz=278,slow=75,SNR=94						
H11S2	**WAKE ISLAND Hy**	**41.67**	**85**	T	T	04 18 12.3	
	baz=280,slow=75,SNR=309						
ASAR	**Alice Springs**	**44.99**	**165**	P	**P**	**03 33 36.3**	**-0.1**
	0.5nm,0.5s,baz=345,slow=7.1,SNR=8.1						
YKA	**Yellowknife Ar**	**86.17**	**23**	P	**P**	**03 38 02.1**	**+0.5**
	0.2nm,0.6s,baz=318,slow=5.6,SNR=3.6						

*PDG **04** 03:28:55.3±0.3, 43°.40N×17°.72E, h6km±1km, ML3.1/11, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*BEO **04** 03:28:55.1±0.4, 43°.42N×17°.66E, h5km±2km, ML3.0/9*
*CSEM **04** 03:28:55.8±0.2, 43°.43N×17°.83E, h2km, ML3.0, Ms3.8, Error ellipse: s-maj=5.1km s-min=2.9km az=44.0*
*PRU **04** 03:28:56.2, 43°.37N×17°.84E, h1km*
*VIE **04** 03:28:56.9±0.4, 43°.48N×17°.95E, h10km, mb2.9/6, ML2.8/7, Ms3.8/2, Error ellipse: s-maj=3.7km s-min=2.9km az=40.0*
54 km SW of Sarajevo

ISC 04 03:28:55.5±1.1, 43°.42N±0°.02×17°.77E±0°.02, h4km±10km, n97, σ1§49/150, 20C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.55**	**185**	*i* Pg	**Pg**	**03 29 04.8**	**-1.2**
STON				Sg	**Sg**	**03 29 13.3**	**+0.3**
STON	**Ston**	**0.55**	**185**	⇓*i*Pg	**Pg**	**03 29 05.0**	**-1.0**
STON	**Ston**	**0.55**	**185**	*i* Pg	**Pg**	**03 29 04.8**	**-1.2**
STON				Sg	**Sg**	**03 29 13.3**	**+0.3**
UPM	**Unac-Piva**	**0.86**	**104**	⇑*i*Pg	**Pg**	**03 29 11.7**	**-0.2**
UPM				*e*Sg	**Sb**	**03 29 25.5**	**+0.5**
UPM	**Unac-Piva**	**0.86**	**104**	⇑*i*Pg	**Pg**	**03 29 11.7**	**-0.2**
NKY	**Niksic**	**1.08**	**123**	⇑*i*Pg	**Pb**	**03 29 15.0**	**-1.8**
NKY				*e*Sg	**Sn**	**03 29 32.6**	**-0.4**
NKY	**Niksic**	**1.08**	**123**	⇑*i*Pg	**Pb**	**03 29 15.0**	**-1.8**
NKME	**Niksic**	**1.08**	**126**	⇓*i*Pg	**Pb**	**03 29 15.1**	**-1.7**
NKME				*e*Sg	**Sn**	**03 29 32.4**	**-0.6**
NKME	**Niksic**	**1.08**	**126**	⇓*i*Pg	**Pb**	**03 29 15.1**	**-1.7**
HCY	**Herceg Novi**	**1.10**	**151**	⇓*i*Pg	**Pb**	**03 29 15.0**	**-2.2**
HCY				*e*Sg	**Sn**	**03 29 33.3**	**-0.1**
HCY	**Herceg Novi**	**1.10**	**151**	⇓*i*Pg	**Pb**	**03 29 15.0**	**-2.2**
HCY				*e*Sg	**Sn**	**03 29 33.3**	**-0.1**
PLE	**Pljevlja**	**1.18**	**94**	⇑*i*Pg	**Pb**	**03 29 17.8**	**-0.8**
PLE				*e*Sg	**Sn**	**03 29 37.3**	**+1.7**
PLE	**Pljevlja**	**1.18**	**94**	⇑*i*Pg	**Pb**	**03 29 17.8**	**-0.8**
PLE				*e*Sg	**Sn**	**03 29 37.3**	**+1.7**
BBLS	**Lazići**	**1.27**	**69**	*e*Pg	**Pn**	**03 29 19.6**	**-0.5**
BBLS				*e*Sg	**Sn**	**03 29 38.4**	**+0.7**
BBLS	**Lazići**	**1.27**	**69**	*e*Pg	**Pn**	**03 29 19.6**	**-0.5**
BUM	**Brajici-Budva**	**1.39**	**143**	⇑*i*Pg	**Pn**	**03 29 21.7**	**0.0**
BUM				*e*Sg	**Sg**	**03 29 42.5**	**+2.4**
BUM	**Brajici-Budva**	**1.39**	**143**	⇑*i*Pg	**Pn**	**03 29 21.7**	**0.0**
BLY	**Banja Luka**	**1.40**	**343**	*e*Pg	**Pn**	**03 29 21.1**	**-0.7**
BLY				*e*Sg	**Sg**	**03 29 40.1**	**-0.4**
BLY	**Banja Luka**	**1.40**	**343**	*e*Pg	**Pn**	**03 29 21.1**	**-0.7**
BLY				*e*Sg	**Sg**	**03 29 40.1**	**-0.4**
PDG	**Podgorica**	**1.47**	**132**	*e*Pn	**Pn**	**03 29 21.8**	**-1.0**
PDG				*e*Sg	**Sg**	**03 29 44.4**	**+1.7**
PDG	**Podgorica**	**1.47**	**132**	*e*Pn	**Pn**	**03 29 21.8**	**-1.0**
PDG	**Podgorica**	**1.47**	**132**	⇑*i*Pg	**Pb**	**03 29 23.1**	**-0.3**
PDG				*e*Sg	**Sg**	**03 29 44.4**	**+1.7**
TTG	**Podgorica**	**1.47**	**132**	⇑*i*Pg	**Pb**	**03 29 23.1**	**-0.3**
TTG				*e*Sg	**Sg**	**03 29 45.8**	**+3.1**
DRME	**Dracevica, Mon**	**1.61**	**139**	⇑*i*Pn	**Pb**	**03 29 26.1**	**+0.3**
DRME				*e*Sn	**Sg**	**03 29 50.3**	**+3.1**
DRME	**Dracevica, Mon**	**1.61**	**139**	⇑*i*Pn	**Pb**	**03 29 26.1**	**+0.3**
DRME				*e*Sn	**Sg**	**03 29 50.3**	**+3.1**
SJES	**Sjenica**	**1.62**	**95**	*e*Pg	**Pb**	**03 29 26.3**	**+0.3**
SJES				*e*Sg	**Sg**	**03 29 49.2**	**+1.8**
BEY	**Berane**	**1.65**	**109**	*e*Pn	**Pb**	**03 29 26.1**	**-0.4**
BEY				*e*Sn	**Sg**	**03 29 52.3**	**+3.9**
IVA	**Berane**	**1.65**	**109**	*e*Pn	**Pb**	**03 29 26.1**	**-0.4**
IVA				*e*Sn	**Sg**	**03 29 52.3**	**+3.9**
TEKS	**Tekeris**	**1.70**	**48**	*e*Pg	**Pb**	**03 29 27.6**	**+0.2**
TEKS				*e*Sg	**Sg**	**03 29 49.8**	**-0.4**
TEKS	**Tekeris**	**1.70**	**48**	*e*Pg	**Pb**	**03 29 27.6**	**+0.2**
TEKS				*e*Sg	**Sg**	**03 29 49.8**	**-0.4**
IVAS	**Ivanjica**	**1.74**	**84**	*e*Pg	**Pb**	**03 29 27.4**	**-0.7**
IVAS				*e*Sg	**Sg**	**03 29 52.5**	**+1.0**
IVAS	**Ivanjica**	**1.74**	**84**	*e*Pg	**Pb**	**03 29 27.4**	**-0.7**
IVAS				*e*Sg	**Sg**	**03 29 52.5**	**+1.0**
DIVS	**Divibare**	**1.75**	**66**	*e*Pg	**Pb**	**03 29 27.3**	**-0.9**
DIVS				*e*Sg	**Sg**	**03 29 53.6**	**+1.9**
DIVS	**Divibare**	**1.75**	**66**	*e*Pg	**Pb**	**03 29 27.3**	**-0.9**
PVY	**Plav**	**1.80**	**116**	*e*Pn	**Pb**	**03 29 29.5**	**+0.3**
PVY				*e*Sn	**Sg**	**03 29 55.9**	**+2.4**
PVY	**Plav**	**1.80**	**116**	*e*Pn	**Pb**	**03 29 29.5**	**+0.3**
PVY				*e*Sn	**Sg**	**03 29 55.9**	**+2.4**
ULC	**Ulcinj**	**1.81**	**143**	⇓*i*Pn	**Pb**	**03 29 28.9**	**-0.4**
ULC				*e*Sn	**Sg**	**03 29 55.3**	**+1.6**
ULC	**Ulcinj**	**1.81**	**143**	⇓*i*Pn	**Pb**	**03 29 28.9**	**-0.4**
ULC				*e*Sn	**Sg**	**03 29 55.3**	**+1.6**
UDBI	**Udbina**	**1.83**	**308**	*e*Pn	**Pb**	**03 29 28.7**	**-0.9**
UDBI				Sn	**Sg**	**03 29 55.0**	**+0.8**
UDBI	**Udbina**	**1.83**	**308**	*e*Pn	**Pb**	**03 29 28.6**	**-0.9**
TRUS	**Trudelj**	**2.07**	**66**	*e*Pn	**Pn**	**03 29 30.5**	**-0.6**
TRUS	**Trudelj**	**2.07**	**66**	*e*Pn	**Pn**	**03 29 30.5**	**-0.6**
GRUS	**Gruza**	**2.19**	**77**	*e*Pg	**Pb**	**03 29 35.5**	**-0.2**
GRUS	**Gruza**	**2.19**	**77**	*e*Pg	**Pb**	**03 29 35.5**	**-0.2**
FGSL	**Fruska Gora**	**2.28**	**39**	*e*Pn	**Pn**	**03 29 33.5**	**-0.4**
FRGS	**Fruska Gora**	**2.28**	**39**	*e*Pn	**Pn**	**03 29 33.5**	**-0.4**
NVLJ	**Novalja**	**2.39**	**300**	*e*Pn	**Pn**	**03 29 36.8**	**+1.4**
NVLJ				Sn	**Sb**	**03 30 08.2**	**-0.6**
NVLJ	**Novalja**	**2.39**	**300**	*e*Pn	**Pn**	**03 29 36.7**	**+1.4**
SELS	**Selova**	**2.45**	**93**	*e*Pn	**Pn**	**03 29 36.8**	**+0.5**
SELS	**Selova**	**2.45**	**93**	*e*Pn	**Pn**	**03 29 36.8**	**+0.5**
BOJS	**Bojanci**	**2.76**	**320**	*i* Pn	**Pn**	**03 29 42.0**	**+1.5**
BOJS				*i* Sn	**Sb**	**03 30 18.8**	**-0.7**
BOJS	**Bojanci**	**2.76**	**320**	*i* Pn	**Pn**	**03 29 42.3**	**+1.8**
PKSM	**Moragy**	**2.87**	**12**	⇑*i*Pg	**Pg**	**03 29 49.2**	**-1.2**
BARS	**Barje**	**3.02**	**100**	*e*Pn	**Pn**	**03 29 44.8**	**+0.7**
BARS				*e*Sn	**Sn**	**03 30 22.7**	**+1.9**
BARS	**Barje**	**3.02**	**100**	*e*Pn	**Pn**	**03 29 44.8**	**+0.7**
BARS				*e*Sn	**Sn**	**03 30 22.7**	**+1.9**
BOLS	**Boljevac**	**3.07**	**81**	*e*Pn	**Pn**	**03 29 46.0**	**+1.3**
BOLS	**Boljevac**	**3.07**	**81**	*e*Pn	**Pn**	**03 29 46.0**	**+1.3**
SKO	**Skopje**	**3.07**	**117**	*i* Pn	**Pn**	**03 29 47.4**	**+2.7**
SKO				*i* Sn	**Sb**	**03 30 25.1**	**-3.3**
SKO				*e*Lg	Lg	03 30 28.0	
	comp=E,38nm,0.8s						
SKO				*e*Lg	Lg	03 30 32.4	
	comp=N,104nm,1.8s						
SKO	**Skopje**	**3.07**	**117**	*i* Pn	**Pn**	**03 29 47.4**	**+2.7**
SKO				*i* Sn	**Sb**	**03 30 25.1**	**-3.3**
SKO				*e*Lg	Lg	03 30 32.4	
	comp=N,104nm,1.8s						
VISS	**Visnje**	**3.17**	**320**	*i* Pn	**Pn**	**03 29 48.0**	**+1.8**
VISS				*i* Sn	**Sb**	**03 30 28.3**	**-3.2**
VISS	**Visnje**	**3.17**	**320**	*i* Pn	**Pn**	**03 29 48.0**	**+1.8**
OHR	**Ohrid**	**3.22**	**135**	*i* Pn	**Pn**	**03 29 48.8**	**+1.9**
OHR				*e*Sn	**Sb**	**03 30 29.4**	**-3.5**
OHR				*e*Lg	Lg	03 30 44.1	
	comp=E,77nm,0.9s						
OHR				*e*Lg	Lg	03 30 47.5	
	comp=N,81nm,1.0s						
OHR	**Ohrid**	**3.22**	**135**	*i* Pn	**Pn**	**03 29 48.7**	**+1.9**
OHR				*e*Sn	**Sb**	**03 30 29.3**	**-3.5**
OHR				*e*Lg	Lg	03 30 44.1	
	comp=N,77nm,0.9s						
BZS	**Buzias**	**3.52**	**50**	⇓*i*P	**Pn**	**03 29 51.0**	**0.0**
ZAPS	**Zavoj**	**3.55**	**91**	*e*Pn	**Pn**	**03 29 52.3**	**+0.9**
ZAPS				*e*Sn	**Sn**	**03 30 35.1**	**+1.2**
ZAPS	**Zavoj**	**3.55**	**91**	*e*Pn	**Pn**	**03 29 52.3**	**+0.9**
ZAPS				*e*Sn	**Sn**	**03 30 35.1**	**+1.2**
JAVS	**Javornik**	**3.62**	**314**	*i* Pn	**Pn**	**03 29 54.4**	**+1.9**
JAVS				*i* Sn	**Sn**	**03 30 39.2**	**+3.5**
PERS	**Pernice**	**3.73**	**331**	*i* Pn	**Pn**	**03 29 54.8**	**+0.9**
PERS				*i* Sn	**Sn**	**03 30 38.9**	**+0.6**
FNA	**Florina**	**3.76**	**133**	*e*P	**Pn**	**03 29 56.4**	**+2.1**
SOKA	**Soboth**	**3.80**	**330**	⇑*i*Pn	**Pn**	**03 29 55.6**	**+0.7**
	SNR=7.7						
SOKA				⇑*i*Sn	**Sn**	**03 30 42.0**	**+2.0**
SOKA	**Soboth**	**3.80**	**330**	Pn	**Pn**	**03 29 55.6**	**+0.7**
	SNR=7.7						
SOKA				Sn	**Sn**	**03 30 42.0**	**+2.0**
OBKA	**Obir**	**3.85**	**325**	⇑*i*Pn	**Pn**	**03 29 56.8**	**+1.2**
OBKA	**Obir**	**3.85**	**325**	Pn	**Pn**	**03 29 56.8**	**+1.2**
NEST	**Nestorio**	**3.87**	**140**	*e*P	**Pn**	**03 29 57.2**	**+1.3**
ARSA	**Arzberg**	**4.15**	**338**	⇓*i*Pn	**Pn**	**03 29 60.0**	**+0.3**
ARSA				⇓*i*Sn	**Sn**	**03 30 50.2**	**+1.6**
ARSA	**Arzberg**	**4.15**	**338**	Pn	**Pn**	**03 30 00.0**	**+0.3**
ARSA				Sn	**Sn**	**03 30 50.2**	**+1.6**
CSNA	**Conrad Observa**	**4.71**	**344**	⇓*i*Pn	**Pn**	**03 30 07.9**	**+0.5**
CSNA				⇑*i*Sn	**Sn**	**03 31 02.8**	**+0.4**
CSNA	**Conrad Observa**	**4.71**	**344**	Pn	**Pn**	**03 30 07.9**	**+0.5**
CSNA				Sn	**Sn**	**03 31 02.8**	**+0.4**
PSZ	**Piszkesteto**	**4.74**	**18**	*e*P	**Pn**	**03 30 06.3**	**-1.6**
PSZ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PSZ	**Piszkesteto**	**4.74**	**18**	⇓*i*P	**Pn**	**03 30 06.7**	**-1.2**
PSZ	**Piszkesteto**	**4.74**	**18**	*e*P	**Pn**	**03 30 06.3**	**-1.6**
	comp=Z,10nm,0.8s						
PSZ	**Piszkesteto**	**4.74**	**18**	*e*P	**Pn**	**03 30 06.3**	**-1.6**
	comp=Z,10nm,0.8s						
KBA	**Koelnbreinsper**	**4.81**	**321**	⇑*i*Pn	**Pn**	**03 30 10.0**	**+1.1**
KBA	**Koelnbreinsper**	**4.81**	**321**	Pn	**Pn**	**03 30 10.0**	**+1.1**
ABTA	**Abfaltersbach**	**5.00**	**314**	⇓*i*Pn	**Pn**	**03 30 12.7**	**+1.3**
	SNR=6.0						
ABTA	**Abfaltersbach**	**5.00**	**314**	Pn	**Pn**	**03 30 12.7**	**+1.3**
	SNR=6.0						
MOA	**Molln**	**5.07**	**332**	⇓*i*Pn	**Pn**	**03 30 13.2**	**+0.9**
	SNR=6.2						
MOA	**Molln**	**5.07**	**332**	Pn	**Pn**	**03 30 13.2**	**+0.9**
	SNR=6.2						
SMOL	**Smolenice**	**5.11**	**357**	*e*PN	**Pn**	**03 30 13.6**	**+0.8**
MOTA	**Moosalm**	**6.12**	**312**	⇑*i*Pn	**Pn**	**03 30 28.0**	**+1.2**
	SNR=18						
MOTA	**Moosalm**	**6.12**	**312**	Pn	**Pn**	**03 30 28.0**	**+1.2**
	SNR=18						
FETA	**Feichten**	**6.14**	**308**	⇑*i*Pn	**Pn**	**03 30 28.5**	**+1.4**
FETA	**Feichten**	**6.14**	**308**	Pn	**Pn**	**03 30 28.5**	**+1.4**
KHC	**Kasperske Hory**	**6.41**	**335**	*e*PN	**Pn**	**03 30 31.7**	**+1.0**
KHC				*ex*	x	03 30 42.9	
KHC				*e*PB	**Pb**	**03 30 49.0**	**+1.4**
KHC				*e*SN	**Sn**	**03 31 44.1**	**-0.2**
KHC	**Kasperske Hory**	**6.41**	**335**	Pn	**Pn**	**03 30 31.7**	**+1.0**
KHC				Sn	**Sn**	**03 31 44.1**	**-0.2**
KRLC	**Kraliky**	**6.70**	**355**	*e*SN	**Sn**	**03 31 50.6**	**-0.8**
KRLC	**Kraliky**	**6.70**	**355**	Sn	**Sn**	**03 31 50.6**	**-0.8**

*ISCJB **04** 03:33:51.3±1.6, 33°.35S±0°.09×72°.51W±0°.07, h21km±13km, mb3.7/2, Error ellipse: s-maj=15.1km s-min=8.8km az=12.6*
*IDC **04** 03:33:51.0±1.6, 33°.27S×72°.10W, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.7/24, mbtmp3.7/5, ML3.9/3, Error ellipse: s-maj=53.4km s-min=31.7km az=86.0*
*GUC **04** 03:33:52.6±0.5, 33°.41S×72°.34W, h24km±25km, ML3.9*

ISC 04 03:33:52.3±2.8, 33°.28S±0°.09×72°.3W±0°.1, h12km±16km, n19, σ0§55/22, 2C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.62**	**66**	⇑*i*P	**Pn**	**03 34 06.3**	**-0.6**
IHA				*i* S1	**Sn**	**03 34 17.0**	**+0.3**
TACH	**Talagante**	**1.21**	**108**	⇓*i*P	**Pn**	**03 34 14.7**	**-0.3**
TACH				*i* S1	**Sg**	**03 34 31.6**	**+0.3**
RCDM	**Rinconada Maip**	**1.28**	**100**	*e*P	**Pb**	**03 34 16.0**	**-0.3**
RCDM				*i* S	**Sg**	**03 34 33.7**	**+0.1**
PEL	**Peldehue**	**1.37**	**85**	⇓*i*P	**Pb**	**03 34 18.2**	**+0.3**
PEL				*i* S	**Sg**	**03 34 37.7**	**+1.2**
PEL				AML	AML	03 34 44.5	
	comp=E,5μm,0.4s						
SAN	**Santiago**	**1.39**	**98**	⇓*i*P	**Pb**	**03 34 18.1**	**-0.2**
SAN				*i* S	**Sg**	**03 34 37.5**	**+0.3**
STL	**Santa Lucia**	**1.41**	**97**	*e*P9	**Pn**	**03 34 17.6**	**-0.2**
STL				*e*S	**Sg**	**03 34 37.6**	**-0.1**
ANTU	**Antumapu**	**1.44**	**102**	⇑*i*P	**Pb**	**03 34 19.0**	**0.0**
ANTU				*i* S	**Sg**	**03 34 38.2**	**-0.3**
ANTU				AML	AML	03 34 48.2	
	comp=N,2μm,0.5s						
FSR	**Penalolen**	**1.51**	**98**	*e*P9	**Pg**	**03 34 21.1**	**-0.2**
FSR				*i* S	**Sg**	**03 34 41.7**	**+0.8**
FCH	**Farellones**	**1.70**	**92**	*e*P9	Pg	03 34 27.0	+1.8
FCH				*i* S1	Sg	03 34 51.0	+3.6
FCH				AML	AML	03 34 59.0	
	comp=N,2μm,1.0s						
CFAA	**Coronel Fontan**	**3.83**	**65**	Pn	Pn	03 34 54.7	+3.6
	comp=N,0.4nm,0.3s,baz=260,slow=11,SNR=9.3						
PLCA	**Paso Flores**	**7.58**	**170**	Pn	**Pn**	**03 35 42.4**	**-0.2**
	comp=N,0.7nm,0.3s,baz=325,slow=11,SNR=5.9						
LPAZ	**La Paz**	**17.33**	**14**	P	**Pn**	**03 37 54.0**	**-0.7**
	comp=N,0.1nm,0.3s,baz=181,slow=10,SNR=5.1						
SIV	**San Ignacio**	**19.99**	**33**	P	**P**	**03 38 24.1**	**-0.6**
	comp=N,0.2nm,0.3s,baz=239,slow=15,SNR=3.9						
TXAR	**Lajitas Array**	**68.99**	**331**	P	**P**	**03 44 58.7**	**+1.1**
	comp=N,0.2nm,0.6s,baz=150,slow=9.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**84.18**	**70**	P	**P**	**03 46 23.5**	**-0.2**
	comp=N,1.6nm,0.9s,baz=240,slow=5.2,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**125.55**	**270**	T	T	06 10 53.0	
	baz=118,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**125.56**	**270**	T	T	06 10 52.2	
	baz=118,slow=76,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**125.56**	**270**	T	T	06 10 53.9	
	baz=118,slow=76,SNR=7.4						
MKAR	**Makanchi Array**	**156.46**	**48**	PKPab	**PKPab**	**03 54 15.6**	**+0.2**
	comp=N,0.2nm,0.7s,baz=276,slow=5.0,SNR=3.3						

GUC 04 03:43:15.8±0.5, 33°.82S×72°.51W, h42km±2km, ML3.7, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.93**	**99**	*e*P	Pn	03 43 32.7	+0.3
LNV				*i* S	Sn	03 43 45.9	+1.4
IHA	**Instituto Hidr**	**1.08**	**43**	*i* P	Pn	03 43 35.2	+0.7
IHA				*i* S	Sn	03 43 49.8	+1.7
TACH	**Talagante**	**1.32**	**83**	⇑*i*P	Pn	03 43 38.4	+0.6
TACH				*i* S	Sn	03 43 56.0	+1.6
RCDM	**Rinconada Maip**	**1.46**	**77**	AML	AML	03 44 07.0	
	comp=E,929nm,0.4s						
CHCH	**Chadas Angostu**	**1.55**	**95**	⇓*i*P	Pn	03 43 42.3	+1.2
ANTU	**Antumapu**	**1.59**	**81**	*i* P	Pn	03 43 42.5	+0.9
ANTU				*i* S	Sn	03 44 02.9	+2.0
ANTU				AML	AML	03 44 08.5	
	comp=E,2μm,0.3s						
SAN	**Santiago**	**1.59**	**77**	*e*P	Pn	03 43 42.4	+0.9
SAN				*i* S	Sn	03 44 02.8	+2.0
CACH	**El Canelo**	**1.62**	**101**	*e*P	Pn	03 43 43.8	+1.7
PEL	**Peldehue**	**1.67**	**67**	*e*P	Pn	03 43 43.9	+1.2
PEL				*e*S	Sn	03 44 04.9	+2.0
PEL				AML	AML	03 44 17.1	
	comp=E,2μm,0.5s						

*IDC **04** 03:45:52.6±1.9, 37°.65S×73°.51W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.6/31, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=50.3km s-min=19.7km az=63.0*
*GUC **04** 03:46:05.9±0.4, 33°.35S×72°.28W, h29km±4km, ML3.6*

ISC 04 03:46:06.0±2.1, 33°.26S±0°.09×72°.3W±0°.1, h19km, n10, σ1§81/13, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.58**	**67**	*e*P	**Pb**	**03 46 18.5**	**+1.0**
IHA				*i* S1	**Sn**	**03 46 28.3**	**0.0**
LNV	**Longovilo**	**1.01**	**134**	*e*P1	**Pn**	**03 46 24.0**	**-1.2**
LNV				*i* S1	**Sn**	**03 46 37.3**	**-1.5**
RCDM	**Rinconada Maip**	**1.26**	**101**	*e*P	**Pn**	**03 46 28.6**	**0.0**
RCDM				*i* S	**Sn**	**03 46 45.7**	**+0.7**
RCDM				AML	AML	03 46 49.2	
	comp=E,1μm,0.6s						
PEL	**Peldehue**	**1.34**	**86**	⇓*i*P	**Pn**	**03 46 30.6**	**+0.8**
PEL				*i* S	**Sg**	**03 46 49.3**	**-0.3**
PEL				AML	AML	03 46 52.6	
	comp=N,4μm,0.3s						
ANTU	**Antumapu**	**1.41**	**103**	*e*P1	**Pn**	**03 46 31.3**	**+

	baz=294								
WTP	**Ta-pu**	**0.29**	**358**	⇓	*i*	P	**Pb**	**04 02 06.4**	**-0.4**
	baz=356								
WTP					*i*	S	**Sg**	**04 02 11.8**	**+1.0**
	baz=356								
TWK	**Hsinying**	**0.33**	**337**	⇓	*i*	P	**Pg**	**04 02 07.0**	**-0.2**
	baz=337								
TWK					*e*	S	**Sb**	**04 02 14.0**	**+1.4**
	baz=337								
TAI1	**Yung-k'ang**	**0.38**	**282**		*e*	P	**Pb**	**04 02 08.8**	**+0.5**
	baz=283								
TAI1					*e*	S	**Sn**	**04 02 17.4**	**0.0**
	baz=283								
CHN4	**Tsaushan**	**0.39**	**356**	⇓	*i*	P	**Pg**	**04 02 08.0**	**-0.3**
	baz=354								
CHN4					*e*	S	**Sb**	**04 02 14.5**	**+0.2**
	baz=354								
ELDTW	**Lidau**	**0.43**	**57**	⇑	*i*	P	**Pg**	**04 02 08.5**	**-0.4**
	baz=50								
ELDTW						S	**Sg**	**04 02 15.4**	**+0.6**
	baz=50								
TWG	**Pinlang**	**0.43**	**108**	⇑	*i*	P	**Pg**	**04 02 08.7**	**-0.3**
	baz=99								
TWG						S	**Sb**	**04 02 16.0**	**+0.5**
	baz=99								
SCLT	**Jiali**	**0.45**	**298**		*e*	P	**Pg**	**04 02 10.1**	**+0.8**
	baz=299								
SCLT						S	**Sn**	**04 02 18.6**	**-0.8**
	baz=299								
ECL	**Taimali**	**0.47**	**140**		*e*	P	**Pb**	**04 02 09.2**	**-0.7**
	baz=140								
ECL						S	**Sg**	**04 02 16.2**	**+0.1**
	baz=140								
KAU	**Kaohsiung**	**0.49**	**217**		*e*	P	**Pb**	**04 02 10.2**	**0.0**
	baz=233								
TTN	**Taitung**	**0.52**	**113**		*e*	P	**Pb**	**04 02 10.7**	**0.0**
	baz=113								
TTN						S	**Sn**	**04 02 20.0**	**-1.1**
	baz=113								
CHY	**Chiayi**	**0.57**	**341**		*e*	P	**Pb**	**04 02 10.9**	**-0.6**
	baz=341								
CHY					*e*	S	**Sg**	**04 02 20.4**	**+1.3**
	baz=341								
ALS	**Alishan**	**0.57**	**17**	⇑	*i*	P	**Pb**	**04 02 11.3**	**-0.5**
	baz=16								
ALS					*i*	S	**Sb**	**04 02 19.8**	**+0.1**
	baz=16								
SCZT	**Fangliau**	**0.58**	**181**	⇓	*i*	P	**Pb**	**04 02 11.2**	**-0.7**
	baz=176								
SCZT					*e*	S	**Sg**	**04 02 21.4**	**+1.8**
	baz=176								
CHN2	**Minshiung**	**0.59**	**346**		*e*	P	**Pb**	**04 02 11.3**	**-0.5**
	baz=345								
CHN2					*e*	S	**Sg**	**04 02 21.2**	**+1.5**
	baz=345								
YUS	**Yu-Shan**	**0.61**	**30**	⇑	*i*	P	**Pb**	**04 02 12.0**	**-0.5**
	baz=38								
YUS						S	**Sg**	**04 02 21.3**	**+0.7**
	baz=38								
EAST	**Anshuo**	**0.61**	**160**	⇓	*i*	P	**Pb**	**04 02 11.8**	**-0.4**
	baz=156								
EAST						S	**Sg**	**04 02 21.2**	**+0.8**
	baz=156								
CHN5	**Tsauling**	**0.64**	**4**		*e*	P	**Pb**	**04 02 12.3**	**-0.5**
	baz=12								
CHN5					*e*	S	**Sg**	**04 02 22.0**	**+0.7**
	baz=12								
TAW	**Tawu**	**0.65**	**157**			P	**Pb**	**04 02 12.2**	**-0.7**
	baz=156								
TWP	**Hsiaoliuchiu**	**0.66**	**202**			P	**Pn**	**04 02 14.8**	**+0.2**
	baz=202								
TWP						S	**Sn**	**04 02 27.1**	**+2.6**
	baz=202								
CHKT	**Chengkung**	**0.69**	**78**	⇑		P	**Pb**	**04 02 13.4**	**-0.3**
	baz=71								
CHKT					*e*	S	**Sg**	**04 02 24.4**	**+1.4**
	baz=71								
WGK	**Gukeng**	**0.73**	**355**			P	**Pb**	**04 02 14.2**	**-0.1**
	baz=355								
WGK						S	**Sn**	**04 02 25.9**	**-0.3**
	baz=355								
TWF1	**Yuli**	**0.73**	**58**			P	**Pb**	**04 02 13.6**	**-0.8**
	baz=63								
TWF1					*i*	S	**Sb**	**04 02 23.5**	**-0.6**
	baz=63								
EHY	**Hungye**	**0.84**	**49**	⇑	*i*	P	**Pb**	**04 02 15.4**	**-0.8**
	baz=45								
EHY						S	**Sb**	**04 02 26.4**	**-0.8**
	baz=45								
WNT	**Mingjian**	**0.92**	**3**		*e*	P	**Pb**	**04 02 17.3**	**-0.2**
	baz=351								
WNT					*e*	S	**Sg**	**04 02 30.6**	**+0.5**
	baz=351								
WDGT	**Dungji**	**0.94**	**289**		*e*	P	**Pb**	**04 02 16.1**	**-1.7**
	baz=289								
WDGT					*e*	S	**Sb**	**04 02 29.4**	**-0.6**
	baz=289								
SMLT	**Sun Moon Lake**	**0.95**	**15**	⇓		P	**Pb**	**04 02 18.6**	**+0.4**
	baz=15								
SMLT						S	**Sn**	**04 02 32.1**	**+0.2**
	baz=15								
HEN	**Hengchun**	**0.95**	**174**		*e*	P	**Pb**	**04 02 18.0**	**-0.2**
	baz=171								
HEN					*e*	S	**Sn**	**04 02 32.5**	**+0.7**
	baz=171								
TYC	**Yuchr**	**0.96**	**13**			P	**Pb**	**04 02 18.4**	**+0.1**
	baz=13								
TYC						S	**Sn**	**04 02 33.0**	**+0.9**
	baz=13								
TWK1	**Hengchun**	**1.02**	**171**	⇓		P	**Pb**	**04 02 19.0**	**-0.3**
	baz=171								
TWK1						S	**Sg**	**04 02 34.4**	**+0.9**
	baz=171								
TSEB	**Hengchuen, Pin**	**1.08**	**166**		*e*	P	**Pn**	**04 02 20.2**	**-0.2**
	baz=169								
TSEB						S	**Sg**	**04 02 37.2**	**+1.9**
	baz=169								
ESL	**Shilin**	**1.13**	**41**	⇑		P	**Pn**	**04 02 20.8**	**-0.3**
	baz=32								
ESL						S	**Sb**	**04 02 35.8**	**+0.3**
	baz=32								
PNG	**Penghu**	**1.16**	**302**			P	**Pn**	**04 02 19.5**	**-1.9**
	baz=302								
PNG					*e*	S	**Sb**	**04 02 34.6**	**-1.6**
	baz=302								
TCU	**Taichung**	**1.18**	**2**		*e*	P	**Pn**	**04 02 21.6**	**-0.2**
	baz=350								
LAY	**Lan-yu**	**1.25**	**137**		*e*	P	**Pn**	**04 02 21.3**	**-1.5**
	baz=126								
WHF	**Hehuan Shan**	**1.32**	**26**		*e*	P	**Pn**	**04 02 24.2**	**+0.2**
	baz=25								
TWT	**Tachien**	**1.38**	**21**		*e*	P	**Pn**	**04 02 25.0**	**+0.2**
	baz=20								
TWT						S	**Sb**	**04 02 42.9**	**-0.1**
	baz=20								
TWQ1	**Liyutan**	**1.39**	**6**		*e*	P	**Pn**	**04 02 24.2**	**-0.4**
	baz=5.0								
TWQ1					*e*	S	**Sb**	**04 02 43.9**	**+0.8**
	baz=5.0								
TWD	**Chiawan**	**1.43**	**38**		*e*	P	**Pn**	**04 02 25.6**	**+0.5**
	baz=38								
TWD					*e*	S	**Sb**	**04 02 44.5**	**+0.4**
	baz=38								
NSY	**Sanyi**	**1.46**	**5**		*e*	P	**Pn**	**04 02 25.3**	**-0.3**
	baz=4.0								
NNS	**Nan Shan**	**1.62**	**25**		*e*	P	**Pn**	**04 02 27.7**	**-0.3**
	baz=10.0								
NSTT	**Nanjuang**	**1.70**	**12**		*e*	P	**Pn**	**04 02 29.1**	**+0.2**
	baz=354								
NSK	**Sanguang**	**1.84**	**21**		*e*	P	**Pn**	**04 02 32.2**	**+1.3**
	baz=20								
ENTT	**Nioudou**	**1.88**	**27**		*e*	P	**Pn**	**04 02 32.2**	**+0.8**
	baz=10.0								
TWC	**Suao**	**1.99**	**34**		*e*	P	**Pb**	**04 02 34.9**	**-0.9**
	baz=43								
TWE	**Neicheng**	**2.00**	**28**		*e*	P	**Pn**	**04 02 34.6**	**+1.6**
	baz=28								
TWA	**Mucha**	**2.19**	**23**		*e*	P	**Pn**	**04 02 36.5**	**+0.8**
	baz=22								
EGS		**2.23**	**32**		*e*	P	**Pb**	**04 02 38.9**	**-1.0**
	baz=32								
NWF	**Wu-fen Shan**	**2.35**	**26**		*e*	P	**Pb**	**04 02 41.9**	**-0.2**
	baz=9.0								
KNM	**Kinmen**	**2.48**	**306**		*e*	P	**Pb**	**04 02 43.4**	**-0.8**
	baz=304								
JYNG	**Yonagunijimaku**	**2.59**	**55**		*e*	S	**Sn**	**04 03 13.9**	**+1.7**
YOJ	**Yonaguni jima**	**2.65**	**55**			P	**Pn**	**04 02 42.3**	**+0.4**
YOJ					*e*	S	**Sn**	**04 03 16.0**	**+2.4**
YOJ	**Yonaguni jima**	**2.65**	**55**		*e*	P	**Pn**	**04 02 43.0**	**+1.0**
	baz=54								
JIJ	**Ishigaki jima**	**3.51**	**66**			P	**Pn**	**04 02 53.6**	**-0.3**
MKAR	**Makanchi Array**	**38.87**	**317**			P	P	04 09 30.2	+5.8
	0.4nm,0.8s,baz=106,slow=11,SNR=4.2								
WRA	**Warramunga Arr**	**44.69**	**162**			P	P	04 10 08.9	-3.3
	0.5nm,0.6s,baz=352,slow=7.8,SNR=17								
ASAR	**Alice Springs**	**48.11**	**164**			P	**P**	**04 10 38.2**	**-0.9**
	0.3nm,0.5s,baz=356,slow=13,SNR=8.4								

GUC 04 04:05:59.5±0.6, 34°32S×71°92W, h33km±5km, ML3.5, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.55**	**50**	⇑ *i* P	Pn	04 06 11.0	0.0
LNV				*i* S1	Sn	04 06 20.2	+1.1
TACH	**Talagante**	**1.05**	**51**	⇑ *i* P	Pb	04 06 18.7	-0.6
CACH	**El Canelo**	**1.11**	**80**	⇑ *i* P	Pb	04 06 21.1	+0.6
CHCH	**Chadas Angostu**	**1.12**	**70**	*e* P1	Pn	04 06 20.1	+1.2
RCDM	**Rinconada Maip**	**1.24**	**49**	*e* P	Pb	04 06 21.8	-0.6
RCDM				*i* S4	Sn	04 06 38.0	+1.9
RCDM				AML	AML	04 06 43.3	
	comp=N,1μm,0.2s						
ANTU	**Antumapu**	**1.30**	**55**	*e* P1	Pn	04 06 23.1	+1.7
ANTU				*i* S	Sb	04 06 40.8	+0.8
ANTU				AML	AML	04 06 47.8	
	comp=N,2μm,0.2s						
SAN	**Santiago**	**1.35**	**51**	*e* P	Pb	04 06 24.0	-0.4
SAN				*i* S	Sb	04 06 42.5	+1.1
PEL	**Peldehue**	**1.56**	**42**	⇑ *i* P	Pb	04 06 27.5	-0.3
PEL				*i* S	Sb	04 06 48.1	+0.8
PEL				AML	AML	04 06 54.6	
	comp=N,2μm,0.4s						

GUC 04 04:17:32.3±0.6, 33°31S×72°37W, h38km±2km, ML3.9, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.67**	**66**	⇑ *i* P	Pn	04 17 45.2	-0.2
IHA				*i* S1	Sn	04 17 54.9	+0.3
LNV	**Longovilo**	**1.03**	**129**	⇑ *i* P	Pn	04 17 50.9	+0.7
LNV				*i* S1	Sn	04 18 04.7	+1.3
RCDM	**Rinconada Maip**	**1.32**	**98**	⇑ *i* P	Pn	04 17 55.3	+1.1
RCDM				*i* S	Sn	04 18 12.6	+2.0
RCDM				AML	AML	04 18 14.9	
	comp=N,2μm,0.4s						
PEL	**Peldehue**	**1.42**	**84**	⇓ *i* P	Pn	04 17 57.0	+1.4
PEL				*e* S1	Sn	04 18 15.8	+2.7
PEL				AML	AML	04 18 19.1	
	comp=N,6μm,0.3s						
ANTU	**Antumapu**	**1.47**	**101**	*e* P	Pn	04 17 58.1	+1.7
ANTU				*i* S	Sn	04 18 17.0	+2.5
ANTU				AML	AML	04 18 28.0	
	comp=N,3μm,0.5s						
FSR	**Penalolen**	**1.55**	**97**	*e* P9	Pn	04 18 00.0	+2.6
FSR				*i* S	Sn	04 18 20.6	+4.3
CHCH	**Chadas Angostu**	**1.56**	**114**	⇓ *i* P	Pn	04 17 58.5	+0.9
CHCH				*i* S1	Sn	04 18 19.0	+2.3
CACH	**El Canelo**	**1.68**	**119**	⇓ *i* P	Pn	04 18 01.5	+2.1
CACH				*i* S1	Sn	04 18 23.1	+3.3

*IDC **04** 04:23:24.1±0.5, 34°87S×71°70W, h0km, mb4.5/17, mb1 4.5/18, mb1mx4.5/23, mbtmp4.5/18, ML4.3/1, MS3.0/3, Ms1 3.1/3, ms1mx3.0/24, Error ellipse: s-maj=21.0km s-min=13.9km az=84.0*

*ISCJB **04** 04:23:26.8±0.3, 35°04S±0°04×72°05W±0°05, h29km, mb4.7/29, Error ellipse: s-maj=6.6km s-min=4.1km az=43.9*

*GUC **04** 04:23:27.7±0.8, 35°05S×71°98W, h39km±7km, ML5.2*

*NEIC **04** 04:23:29.4±0.2, 34°95S×71°99W, h35km, mb5.1/17, ML5.2(GUC), Error ellipse: s-maj=7.9km s-min=5.4km az=101.0*

NEIC Felt [III] at Curico, Rancagua and Talca; [II] at Concepcion, Llolleo, Quillota, San Antonio and Santiago. Also felt at Penaflor, Rengo, San Fernando and Valparaiso.

ISC 04 04:23:28.3±0.4, 34°90S±0°05×71°86W±0°07, h29km, n196, σ1s07/210, mb4.9/33, 4C-12D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**1.01**	**22**	⇓ *i* P	**Pb**	**04 23 48.5**	**+1.3**
LNV	**Longovilo**	**1.01**	**22**	⇓ *i* P	**Pb**	**04 23 48.5**	**+1.3**
CACH	**El Canelo**	**1.30**	**54**	⇓ *i* P	**Pb**	**04 23 53.0**	**+0.7**
CACH	**El Canelo**	**1.30**	**54**	⇓ *i* P	**Pb**	**04 23 53.0**	**+0.7**
CHCH	**Chadas Angostu**	**1.39**	**46**	⇑ *i* P	**Pb**	**04 23 54.3**	**+0.6**
CHCH	**Chadas Angostu**	**1.39**	**46**	⇑ *i* P	**Pb**	**04 23 54.3**	**+0.6**
RCDM	**Rinconada Maip**	**1.66**	**32**	⇓ *i* P	**Pn**	**04 23 56.9**	**+1.4**
RCDM				*e* S1	**Sb**	**04 24 19.5**	**+0.7**
RCDM				AML	AML	04 24 24.0	
	comp=E,19μm,0.2s						
RCDM	**Rinconada Maip**	**1.66**	**32**	⇓ *i* P	**Pn**	**04 23 56.9**	**+1.4**
RCDM				*e* S	**Sb**	**04 24 19.5**	**+0.7**
ANTU	**Antumapu**	**1.67**	**38**	⇓ *i* P	**Pb**	**04 23 58.4**	**-0.1**
ANTU				*i* S1	**Sb**	**04 24 21.2**	**+2.0**
ANTU				AML	AML	04 24 23.5	
	comp=E,64μm,0.5s						
ANTU	**Antumapu**	**1.67**	**38**	⇓ *i* P	**Pb**	**04 23 58.4**	**-0.1**
ANTU				*i* S	**Sb**	**04 24 21.2**	**+2.0**
FSR	**Penalolen**	**1.80**	**38**	⇓ *i* P	**Pb**	**04 24 01.3**	**+0.6**
FSR				*i* S2	**Sb**	**04 24 25.0**	**+2.2**
FSR	**Penalolen**	**1.80**	**38**	⇓ *i* P	**Pb**	**04 24 01.3**	**+0.6**
FSR				*i* S	**Sb**	**04 24 25.0**	**+2.2**
IHA	**Instituto Hidr**	**1.88**	**6**	⇑ *i* P	**Pn**	**04 24 00.3**	**+1.8**
IHA	**Instituto Hidr**	**1.88**	**6**	⇑ *i* P	**Pn**	**04 24 00.3**	**+1.8**
PEL	**Peldehue**	**2.01**	**30**	⇓ *i* P	**Pb**	**04 24 02.9**	**-1.3**
PEL				*i* S1	**Sb**	**04 24 29.4**	**+0.7**
PEL				AML	AML	04 24 37.1	
	comp=N,23μm,0.4s						
PEL	**Peldehue**	**2.01**	**30**	⇓ *i* P	**Pb**	**04 24 02.9**	**-1.3**
PEL				*i* S	**Sb**	**04 24 29.4**	**+0.7**
CMCH	**Combarbala**	**3.79**	**11**	*e* P4	**Pn**	**04 24 26.3**	**+1.4**
CMCH	**Combarbala**	**3.79**	**11**	P	**Pn**	**04 24 26.3**	**+1.4**
CFAA	**Coronel Fontan**	**4.47**	**44**	Pn	**Pn**	**04 24 37.3**	**+3.1**
	comp=N,2.6nm,0.3s,baz=212,slow=14,SNR=58						
CFAA				Sn	Sb	04 25 33.4	-6.4
	comp=N,10nm,0.3s,baz=107,slow=17,SNR=10						
CFAA				LR	LR	04 25 47.0	
	comp=N,31nm,19.8s,baz=230,slow=33						
PLCA	**Paso Flores**	**5.92**	**170**	Pn	**Pn**	**04 24 56.5**	**+2.5**
	comp=N,6.7nm,0.3s,baz=337,slow=11,SNR=58						
PLCA				Lg	Lg	04 26 33.4	
	comp=N,0.6nm,0.3s,baz=234,slow=19,SNR=2.0						
PLCA				LR	LR	04 26 58.3	
	comp=N,129nm,20.8s,baz=321,slow=36						
TRQA	**Tornquist**	**8.56**	**114**	*e* Pn	**Pn**	**04 25 32.8**	**+2.5**
LVC	**Limon Verde**	**12.51**	**13**	*e* Pn	**Pn**	**04 26 27.2**	**+2.5**
CPUP	**Villa Florida**	**15.14**	**60**	Pn	**Pn**	**04 26 57.9**	**-2.2**
	comp=N,0.3nm,0.3s,baz=205,slow=14,SNR=2.2						
CPUP				LR	LR	04 33 24.6	
	comp=N,425nm,19.3s,baz=197,slow=40						
LPAZ	**La Paz**	**18.84**	**11**	P	**Pn**	**04 27 48.3**	**+1.1**
	comp=N,0.6nm,0.3s,baz=186,slow=5.9,SNR=64						
USHA	**Ushuaia**	**20.07**	**174**	P	**P**	**04 27 59.5**	**+0.4**
	comp=N,9.6nm,0.9s,baz=331,slow=14,SNR=5.1						
SIV	**San Ignacio**	**21.17**	**30**	P	**P**	**04 28 10.5**	**-1.0**
	comp=N,26nm,0.7s,baz=292,slow=2.8,SNR=79						
NNA	**Nana**	**23.25**	**348**	P	**P**	**04 28 34.8**	**+1.3**
	comp=N,2.9nm,0.3s,baz=156,slow=12,SNR=2.8						
SAML	**Samuel**	**27.03**	**19**	*e* P	**P**	**04 29 07.5**	**-0.6**
	comp=N,5.0nm,0.9s						
BDFB	**Brasilia**	**28.73**	**54**	P	**P**	**04 29 22.2**	**-1.3**
	comp=N,7.0nm,0.7s,baz=219,slow=7.7,SNR=9.1						
ROSC	**El Rosal**	**39.61**	**356**	P	**P**	**04 30 57.6**	**-0.2**
	comp=N,4.7nm,0.6s,baz=246,slow=20,SNR=2.5						
SDV	**Santo Domingo**	**43.56**	**2**	*e* P	**P**	**04 31 29.4**	**-0.6**
	comp=N,7.6nm,0.9s						
RCBR	**Riachuelo**	**44.00**	**57**	P	**P**	**04 31 32.8**	**-0.6**
	comp=N,2.4nm,0.5s,baz=230,slow=11,SNR=5.0						
JTS	**JuntasAbangare**	**46.62**	**342**	P	**P**	**04 31 55.2**	**+1.1**
	comp=N,11nm,1.0s,baz=201,slow=8.6,SNR=1.9						
JTS	**JuntasAbangare**	**46.62**	**342**	*e* P	**P**	**04 31 55.2**	**+1.1**
	comp=N,27nm,1.4s						
VNA2	**Neumayer--Watz**	**49.13**	**157**	P	**P**	**04 32 13.5**	**+0.6**
SNAA	**Sanae**	**50.70**	**158**	P	**P**	**04 32 25.3**	**+0.4**
SNAA	**Sanae**	**50.70**	**158**	P	**P**	**04 32 25.1**	**+0.2**
	comp=N,3.4nm,1.0s,baz=263,slow=7.0,SNR=7.9						
SNAA	**Sanae**	**50.70**	**158**	*e* P	**P**	**04 32 25.1**	**+0.2**
	comp=N,240nm,2.8s						
CELP	**Cerrillos**	**52.92**	**6**	*e* P	**P**	**04 32 41.1**	**-0.8**
QSPA	**South Pole Qui**	**55.34**	**180**	P	**P**	**04 33 00.3**	**+1.0**
	comp=N,10nm,1.0s,baz=138,slow=3.8,SNR=20						
QSPA	**South Pole Qui**	**55.34**	**180**	*e* P	**P**	**04 33 00.2**	**+0.9**
	comp=N,11nm,0.9s						
QSPA				*e*		04 33 12.7	
TEIG	**Tepich**	**57.00**	**342**	P	**P**	**04 33 11.9**	**+0.5**
	comp=N,12nm,0.9s,baz=119,slow=13,SNR=4.4						
VNDA	**Vanda**	**63.25**	**191**	P	**P**	**04 33 55.4**	**+1.8**
	comp=N,1.5nm,0.9s,baz=93,slow=7.8,SNR=3.3						
732A	**Laxson Ranch,**	**68.63**	**334**	P	**P**	**04 34 29.2**	**+0.5**
	baz=69						
632A	**Uvalde**	**69.27**	**334**	P	**P**	**04 34 33.1**	**+0.4**
	baz=70						
532A	**Rocksprings**	**69.88**	**334**	P	**P**	**04 34 37.2**	**+0.7**
	baz=70						
434A	**Burnet**	**69.94**	**336**	P	**P**	**04 34 36.8**	**0.0**
	baz=70						
JCT	**Junction City**	**70.16**	**335**	P	**P**	**04 34 38.3**	**+0.1**
	baz=70						
433A	**Art**	**70.16**	**335**	P	**P**	**04 34 38.2**	**+0.1**
	baz=70						
334A	**Lometa**	**70.40**	**336**	P	**P**	**04 34 39.4**	**-0.2**
	baz=71						
530A	**J-C Ranch, Com**	**70.42**	**333**	P	**P**	**04 34 40.7**	**+1.0**
	baz=71						
LTX	**Lajitas**	**70.59**	**331**	*e* P	**P**	**04 34 41.7**	**+0.8**
TXAR	**Lajitas Array**	**70.59**	**331**	P	**P**	**04 34 41.7**	**+0.8**
	comp=N,0.6nm,0.6s,baz=160,slow=8.6,SNR=20						
529A	**Stev Forest Ra**	**70.73**	**332**	P	**P**	**04 34 42.6**	**+0.9**
	baz=71						
WHTX	**Lake Whitney,**	**70.75**	**337**	P	**P**	**04 34 42.2**	**+0.5**
	baz=71						
137A	**Heron Place, G**	**70.79**	**339**	P	**P**	**04 34 43.0**	**+1.1**
	baz=71						
430A	**Baggett Ranch,**	**70.95**	**333**	P	**P**	**04 34 43.7**	**+0.6**
	baz=71						
331A	**San Angelo**	**71.13**	**334**	P	**P**	**04 34 44.5**	**+0.3**
	baz=72						
133A	**Hamilton Ranch**	**71.80**	**336**	P	**P**	**04 34 48.7**	**+0.6**
	baz=72						
ABTX	**Abilene, Hawle**	**72.06**	**336**	P	**P**	**04 34 49.6**	**0.0**
	baz=72						
Z34A	**Collier Ranch,**	**72.18**	**337**	P	**P**	**04 34 50.7**	**+0.5**
	baz=72						
WVT	**Waverly**	**72.22**	**346**	*e* P	**P**	**04 34 50.1**	**-0.4**
	comp=N,19nm,0.8s						
Z31A	**Sharp Cattle R**	**72.86**	**335**	P	**P**	**04 34 54.5**	**+0.1**
	baz=73						
Y33A	**Hilltop Ranch,**	**72.99**	**337**	P	**P**	**04 34 55.3**	**+0.2**
	baz=73						
128A	**Castleberry Fa**	**73.06**	**333**	P	**P**	**04 34 55.1**	**-0.6**
	baz=73						
Z30A	**Sanderson Ranc**	**73.17**	**335**	P	**P**	**04 34 55.4**	**-0.8**
	baz=74						
X34A	**Smith Ranch, M**	**73.28**	**338**	P	**P**	**04 34 56.7**	**-0.1**
	baz=74						
Z29A	**Hungry Hill Ra**	**73.35**	**334**	P	**P**	**04 34 57.2**	**-0.2**
	baz=74						
Y31A	**Rekieta Farm,**	**73.49**	**336**	P	**P**	**04 34 58.5**	**+0.4**
	baz=74						
Y29A	**Porterfield Fa**	**73.88**	**334**	P	**P**	**04 35 00.7**	**+0.2**
	baz=74						
TUL1	**Leonard**	**73.90**	**340**	P	**P**	**04 35 00.3**	**-0.1**
	baz=74						
W33A	**Caddo, Fort Co**	**73.99**	**338**	P	**P**	**04 35 01.9**	**+0.9**
	baz=74						
X31A	**McDonald Ranch**	**74.00**	**336**	P	**P**	**04 35 01.6**	**+0.5**
	baz=74						
Z26A	**Caprock**	**74.20**	**332**	P	**P**	**04 35 02.7**	**+0.3**
	baz=74						
W32A	**Sentinel**	**74.21**	**337**	P	**P**	**04 35 02.7**	**+0.4**
	baz=74						
MSTX	**Muleshoe**	**74.38**	**334**	P	**P**	**04 35 03.2**	**-0.2**
	baz=75						
LIC	**Lamto**	**74.92**	**71**	*e* P	**P**	**04 35 06.3**	**-0.6**
	comp=N,22nm,0.6s						
TIC	**Toumodi**	**75.19**	**71**	*e* P	**P**	**04 35 08.0**	**-0.5**
	comp=N,5.9nm,0.4s						
KIC	**Kosan Boka**	**75.23**	**71**	*e* P	**P**	**04 35 08.5**	**-0.2**
	comp=N,24nm,0.5s						
X26A	**CR and CF Fran**	**75.28**	**333**	P	**P**	**04 35 09.0**	**+0.3**
	baz=76						
U32A	**Winter Ranch,**	**75.29**	**338**	P	**P**	**04 35 09.1**	**+0.6**
	baz=76						
DBIC	**Dimbokro**	**75.33**	**71**	P	**P**	**04 35 09.2**	**-0.1**
	comp=N,10.0nm,0.6s,baz=195,slow=5.1,SNR=23						
ACSO	**Alum Creek Sta**	**75.46**	**351**	*e* P	**P**	**04 35 09.3**	**0.0**
	comp=N,219nm,2.6s						
W24A	**Lazy 6 Ranch,**	**76.47**	**332**	P	**P**	**04 35 15.8**	**+0.4**
	baz=77						
U27A	**Thompson Grove**	**76.60**	**335**	P	**P**	**04 35 16.9**	**+0.8**
	baz=77						
V25A	**Rancho No Teng**	**76.72**	**333**	P	**P**	**04 35 17.7**	**+0.8**
	baz=77						
U26A	**Atchley Ranch,**	**76.90**	**334**	P	**P**	**04 35 18.7**	**+0.8**
	baz=77						
U25A	**Circle Dot Ran**	**77.14**	**334**	P	**P**	**04 35 20.4**	**+1.2**
	baz=78						
V22A	**San Miguel Ran**	**77.66**	**332**	P	**P**	**04 35 23.9**	**+1.7**
	baz=78						
T25A	**Trinidad**	**77.80**	**334**	P	**P**	**04 35 24.4**	**+1.5**
	baz=78						
S26A	**Kim**	**77.90**	**335**	P	**P**	**04 35 24.3**	**+0.9**
	baz=78						
R28A	**Tribune**	**77.98**	**336**	P	**P**	**04 35 24.4**	**+0.6**
	baz=78						
T24B	**San Luis**	**78.09**	**333**	P	**P**

G27A	Dupree	84.42	339	P	P	04 35 57.9	+0.2
	baz=85						
G26A	Maurine	84.54	339	P	P	04 35 58.7	+0.3
	baz=85						
J20A	Shoshoni	84.60	334	P	P	04 35 59.4	+0.6
	baz=85						
PD31	Pinedale Array	84.63	333	eP	P	04 35 59.5	+0.4
PDAR	Pinedale Array	84.63	333	P	P	04 35 59.5	+0.4
	comp=N,0.9nm,0.8s,baz=142,slow=7.5,SNR=7.0						
G25A	Newell	84.69	338	P	P	04 35 59.2	0.0
	baz=85						
NV01	Mina Array Sit	84.70	325	eP	P	04 36 00.4	+0.8
NVAR	Mina Array Bea	84.70	325	P	P	04 36 00.4	+0.8
	comp=N,0.5nm,0.5s,baz=148,slow=5.3,SNR=3.1						
J19A	Crowheart	84.87	334	P	P	04 36 00.7	+0.4
	baz=85						
F27A	Lemmon	84.89	339	P	P	04 36 00.2	+0.1
	baz=85						
HVU	Hansel Valley	85.04	331	eP	P	04 36 00.0	-1.1
	comp=N,62nm,2.6s						
D30A	Buchanan	85.14	342	P	P	04 36 00.7	-0.6
	baz=86						
I19A	Meeteetse	85.52	334	P	P	04 36 04.5	+1.0
	baz=86						
AGMN	Agassiz Nation	85.56	344	P	P	04 36 03.3	-0.1
	baz=86						
H20A	Greybull	85.56	335	P	P	04 36 03.3	-0.3
	baz=86						
F23A	Volborg	85.79	337	P	P	04 36 04.6	0.0
	baz=86						
I17A	Pilgrim Ck.	86.00	333	P	P	04 36 06.4	+0.5
	baz=86						
H19A	Powell	86.07	334	P	P	04 36 06.4	+0.3
	baz=86						
F22A	Rosebud	86.11	337	P	P	04 36 06.4	+0.2
	baz=86						
G20A	Bridger	86.28	335	P	P	04 36 06.8	-0.4
	baz=87						
B30A	Myrvik Farm, E	86.28	343	P	P	04 36 07.0	0.0
	baz=87						
H18A	Shoshone NF, C	86.32	334	P	P	04 36 07.6	+0.1
	baz=87						
RLMT	Red Lodge	86.56	334	eP	P	04 36 09.1	+0.4
	comp=N,117nm,3.0s						
E22A	Miles City	86.60	337	P	P	04 36 08.7	+0.1
	baz=87						
LAO	LASA Array	86.91	337	eP	P	04 36 09.7	-0.4
	comp=N,159nm,3.0s						
D23A	Lindsay	87.02	338	P	P	04 36 11.3	+0.7
	baz=87						
C24A	Savage	87.10	339	P	P	04 36 11.6	+0.6
	baz=87						
HLID	Hailey	87.19	331	P	P	04 36 12.4	+0.6
	baz=88						
HLID	Hailey	87.19	331	eP	P	04 36 12.8	+1.1
	comp=N,5.4nm,1.3s						
E20A	Meyer Farm, Mu	87.37	336	P	P	04 36 12.5	+0.1
	baz=88						
B25A	Knox Farm, Ray	87.40	340	P	P	04 36 13.1	+0.7
	baz=88						
D21A	La Casta Ranch	87.49	337	P	P	04 36 13.2	+0.3
	baz=88						
E19A	Rath Farm, Rou	87.55	335	P	P	04 36 13.0	-0.3
	baz=88						
C23A	Lambert	87.57	338	P	P	04 36 13.1	-0.2
	baz=88						
MCMT	McKenzie Canyo	87.63	332	eP	P	04 36 15.0	+1.1
DGMT	Dagmar	87.88	339	P	P	04 36 14.9	+0.2
	baz=88						
DGMT	Dagmar	87.88	339	eP	P	04 36 15.2	+0.5
	comp=N,194nm,3.0s						
C21A	Desert Coulee	88.19	337	P	P	04 36 16.4	+0.2
	baz=88						
YKA	Yellowknife Ar	102.95	341	P	Pdif	04 37 21.6	-1.5
	comp=N,0.1nm,0.5s,baz=144,slow=4.4,SNR=4.5						
YKB5	Yellowknife Ar	102.95	341	ePdif	Pdif	04 37 21.6	-1.5
ILAR	Eielson Array	115.06	333	PKP	PKPdf	04 42 04.0	-1.7
	comp=N,0.2nm,0.9s,baz=203,slow=5.9,SNR=3.1						
ILB	Eielson Array	115.06	333	ePKiKP	PKPdf	04 42 04.0	-1.7
WRA	Warramunga Arr	120.05	209	PKP	PKPdf	04 42 15.8	-0.9
	comp=N,0.3nm,0.5s,baz=158,slow=1.7,SNR=8.0						
BR101	Keskin Array S	122.14	61	ePKPdf	PKPdf	04 42 19.8	-0.5
BRTR	Keskin Array B	122.14	61	PKP	PKPdf	04 42 19.8	-0.5
	comp=N,1.0nm,0.8s,baz=195,slow=4.9,SNR=5.9						
FIA0	FINESS Array S	123.65	35	ePKPdf	PKPdf	04 42 21.4	-0.8
FINES	FINESS Array B	123.65	35	PKP	PKPdf	04 42 21.4	-0.8
	comp=N,1.7nm,1.0s,baz=320,slow=13,SNR=2.9						
H11S2	WAKE ISLAND Hy	125.90	268	T	T	07 02 02.4	
	baz=120,slow=74						
H11S1	WAKE ISLAND Hy	125.91	268	T	T	07 02 09.9	
	baz=120						
H11S3	WAKE ISLAND Hy	125.91	268	T	T	07 02 04.4	
	baz=120,slow=74						
H11N3	WAKE ISLAND Hy	126.33	270	T	T	07 01 31.6	
	baz=124,slow=77						
H11N1	WAKE ISLAND Hy	126.34	270	T	T	07 01 18.3	
	baz=124,slow=77						
H11N2	WAKE ISLAND Hy	126.35	270	T	T	07 01 23.4	
	baz=124,slow=77						
GSI	Gunungsitoli	145.15	161	ePKPdf	PKPdf	04 43 04.2	+0.5
PSI	Prapat	146.93	163	PKPbc	PKPbc	04 43 08.1	-0.7
	comp=N,7.6nm,0.6s,baz=226,slow=2.7,SNR=14						
VOSK	Vostochnaya	148.27	44	ePKPbc	PKPbc	04 43 10.9	-0.2
HYB	Hyderabad	148.42	116	i PKP	PKPbc	04 43 11.0	-1.6
KKAR	Karatay Array	149.84	65	ePKPbc	PKPbc	04 43 15.0	-0.4
EKS2	Erkin-Say	152.26	63	ePKPbc	PKPbc	04 43 20.7	-0.5
TKM2	Tokmak 2	153.57	63	ePKPbc	PKPbc	04 43 23.6	-0.6
KSH	Kashi	154.05	70	PKPbc	PKPdf	04 43 17.8	+0.6
KSH				PKS	PKSdf	04 46 50.7	-0.8
KSH				PP	PP	04 47 12.6	-1.6
KSH				SKS	SKSdf	04 50 20.4	-1.6
KSH				SKKS	SKKSac	04 53 58.9	-2.9
KSH				PPMZ			
	comp=N,170nm,4.9s						
KSH				LN			
	comp=N,18nm,4.7s						
KSH				LE			
	comp=N,20nm,3.7s						
KSH				LZ			
	comp=N,150nm,6.3s						
ZAA1	Zalesovo Array	154.90	33	ePKPbc	PKPbc	04 43 26.1	-0.2
ZAA1				ePKPab	PKPab	04 43 41.9	+0.1
ZALV	Zalesovo Beam	154.90	33	PKPbc	PKPbc	04 43 26.1	-0.2
	comp=N,0.7nm,0.3s,baz=0.0,slow=3.0,SNR=4.3						
ZALV				PKPab	PKPab	04 43 41.9	+0.1
	comp=N,1.5nm,0.5s,baz=310,slow=5.6,SNR=5.7						
MK32	Makanchi Array	157.23	51	ePKPdif	PKPdf	04 43 31.4	+10
MK32				ePKPab	PKPab	04 43 51.5	-0.7
MKAR	Makanchi Array	157.23	51	PKPbc	PKPdf	04 43 31.4	+10
	comp=N,0.7nm,0.7s,baz=29,slow=2.8,SNR=3.6						
MKAR				PKPab	PKPab	04 43 51.5	-0.7
	comp=N,2.0nm,0.8s,baz=298,slow=3.6,SNR=9.7						
SSLB	Suanglung	164.28	229	ePKPdf	PKPdf	04 43 28.4	-1.0
SONA0	Songino Array	167.01	5	ePKPab	PKPab	04 44 35.1	+0.2
SONM	Songino Array	167.01	5	PKPab	PKPab	04 44 35.1	+0.2
	comp=N,0.7nm,0.8s,baz=329,slow=5.0,SNR=5.2						
GYA	Guiyang	171.49	171	ePKP	PKPdf	04 43 34.0	-0.4
GYA				PKPab	PKPab	04 44 57.5	+2.3
GYA				PKS	PKSdf	04 47 05.8	-1.2
GYA				PP	PP	04 48 47.0	+2.0
GYA				SKKS		04 55 30.1	
GYA				SS	SS	05 09 49.7	+0.7
GYA				PPMZ			
	comp=N,120nm,8.3s						
GYA				LN			
	comp=N,120nm,22.0s						
GYA				LE			
	comp=N,90nm,22.7s						
GYA				LZ			
	comp=N,110nm,21.5s						
HHC	Hu-ho-hao-te	173.47	336	ePKP	PKPdf	04 43 33.2	-1.6
HHC				PP	PP	04 48 56.5	+1.5
HHC				SKS	SKSdf	04 50 29.8	-6.2
HHC				PPMZ			
	comp=N,180nm,11.2s						
HHC				LN			
	comp=N,240nm,24.9s						
HHC				LE			
	comp=N,380nm,23.6s						
HHC				LZ			
	comp=N,140nm,19.9s						
CD2	Chengdu	174.58	136	ePKP	PKPdf	04 43 35.1	-0.4
LZH	Lanzhou	176.30	70	ePKP	PKPdf	04 43 35.4	-0.5

*IDC **04** 04:30:55.8±0.6, 12.°06N×124.°11E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.1/36, mbtmp4.1/17, ML4.9/1, MS3.9/5, Ms1 3.9/5, ms1mx3.5/34, Error ellipse: s-maj=26.9km s-min=13.7km az=72.0*

*MAN **04** 04:30:55, 12.°05N×123.°93E, h2km, mb5.3, ML4.3, MS4.5*

MAN INTENSITY IV - CATAINGAN MASBATE; INTENSITY III - PALANAS MASBATE; INTENSITY II - MASBATE CITY; INTENSITY I - TABON JUBAN SORSOGON.

*ISCJB **04** 04:30:56.7±1.0, 12.°14N±0.°03×123.°96E±0.°05, h12km±6km, mb4.3/25, MS3.8/5, Error ellipse: s-maj=7.9km s-min=4.2km az=158.8*

*NEIC **04** 04:31:00.8±0.4, 12.°02N×124.°06E, h35km, mb4.5/8, Error ellipse: s-maj=15.5km s-min=8.1km az=62.0*

NEIC Felt [IV PIVS] at Cataingan, [III PIVS] at Palanas and [II PIVS] at Masbate, Masbate. Felt [I PIVS] at Juban and Tabontabon, Luzon.

ISC 04 04:30:56.1±1.3, 12.°11N±0.°04×124.°00E±0.°05, h2km±8km, n58, σ1§11/47, mb4.3/25, MS3.9/5, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.44	304	eP	Pg	04 31 04.5	0.0
MMPH				i S	Sg	04 31 10.8	+0.5
OCLP	Ormoc	1.21	150	eP	Pg	04 31 19.5	+0.3
OCLP				eS	Sn	04 31 36.2	-0.8
PLP	Palo	1.34	134⇓	eP	Pg	04 31 21.8	0.0
PLP				i S	Sg	04 31 41.4	+2.1
PVCP	Virac	1.49	6	eP	Pn	04 31 23.2	-0.6
PVCP				eS	Sn	04 31 40.6	-3.2
AUQP	San Andres	1.77	313	eP	Pb	04 31 28.3	-1.0
LLP	Lapu-Lapu	1.78	181⇑	eP	Pn	04 31 24.1	-3.8
LLP				i S	Sg	04 31 53.7	+0.4
OTRP	Odiongan	1.95	278	eP	Pn	04 31 28.4	-1.8
GUIM	Jordan	2.02	223	eP	Pn	04 31 30.3	-0.8
MSLP	Maasin	2.14	157	eP	Pb	04 31 33.2	-2.3
TBP	Tagbilaran	2.41	183	eP	Pn	04 31 36.4	-0.1
TBP				eS	Sn	04 32 05.5	-1.1
SNPH	Sibulan	2.85	195⇓	eP	Pn	04 31 37.5	-5.1
SNPH				eS	Sg	04 32 34.0	+6.4
CUYO	Cuyo Island	3.18	247	eP	Pn	04 31 47.0	-0.1
TGY	Tagaytay City	3.58	304	Pn	Pn	04 31 54.8	+2.1
	90nm,0.3s,baz=141,slow=15,SNR=3.0						
TGY				LR	LR	04 33 26.8	
	comp=Z,71nm,18.8s,baz=306,slow=41						
LUBP	Lubang	4.00	294	eP	Pn	04 31 58.7	+0.3
PAGZ	Pagadian	4.28	188	eP	Pn	04 32 02.2	0.0
BALP	Baler	4.31	327	eP	Pb	04 32 11.9	-0.7
BUKP	Musuan	4.33	166	eP	Pb	04 32 08.1	-4.9
ENPP	El Nido	4.57	259	eP	Pn	04 32 05.8	-0.5
SLVN	Son La	21.30	298	P	P	04 35 44.8	+0.5
	8.9nm,1.0s						
BATI	Baumata	22.17	181	LR	LR	04 45 21.5	
	comp=Z,336nm,21.5s,baz=342,slow=39						
KSAR	Wonju Array Be	25.47	7	P	P	04 36 25.9	+0.4
KSRS	Korea Array	25.48	7	P	P	04 36 25.9	+0.3
	2.4nm,0.8s,baz=181,slow=9.2,SNR=5.6						
PSI	Prapat	26.50	252	P	P	04 36 36.9	+1.6
	2.4nm,0.3s,baz=61,slow=9.9,SNR=4.4						
PSI				LR	LR	04 48 38.9	
	comp=Z,305nm,18.1s,baz=106,slow=40						
MJAR	Matsushiro Arr	27.49	25	LR	LR	04 45 47.4	
	comp=Z,99nm,21.5s,baz=220,slow=32						
USRK	Ussuriysk Ar.	32.71	11	P	P	04 37 30.8	+0.9
	4.1nm,0.9s,baz=180,slow=7.2,SNR=4.5						
WRAB	Tennant Creek	33.43	162	eP	P	04 37 34.4	-2.1
	1.9nm,0.5s						
WRA	Warramunga Arr	33.44	162	P	P	04 37 34.1	-2.5
	1.8nm,0.6s,baz=349,slow=11,SNR=17						
WRA				PcP	PcP	04 40 18.7	+0.6
	0.5nm,0.7s,baz=341,slow=3.4,SNR=3.2						
ASAR	Alice Springs	36.85	165	P	P	04 38 05.4	-0.6
	2.3nm,0.8s,baz=346,slow=7.4,SNR=19						
ASAR				PcP	PcP	04 40 28.0	-0.1
	0.7nm,0.9s,baz=349,slow=3.8,SNR=2.8						
WRKA	Warakurna	37.16	174	P	P	04 38 11.2	+2.6
	baz=19,SNR=5.0						
SONM	Songino Array	38.55	341	P	P	04 38 19.5	-0.8
	1.0nm,1.1s,baz=152,slow=6.7,SNR=5.2						
H11S3	WAKE ISLAND Hy	41.59	76	T	T	05 23 13.6	
	baz=263						
H11S1	WAKE ISLAND Hy	41.60	76	T	T	05 23 02.4	
	baz=263						
H11S2	WAKE ISLAND Hy	41.60	76	T	T	05 23 02.6	
	baz=263						
H11N1	WAKE ISLAND Hy	41.85	74	T	T	05 22 56.9	
	baz=267,slow=74,SNR=6.0						
H11N2	WAKE ISLAND Hy	41.85	74	T	T	05 23 01.5	
	baz=267,slow=74,SNR=41						
H11N3	WAKE ISLAND Hy	41.86	74	T	T	05 23 01.5	
	baz=267,slow=74,SNR=14						
BBOO	Buckleboo	46.13	166	P	P	04 39 24.8	+2.8
	baz=27,SNR=7.1						
BBOO	Buckleboo	46.13	166	eP	P	04 39 21.4	-0.6
	182nm,0.9s						
STKA	Stephens Creek	46.87	159	P	P	04 39 27.2	-0.6
	8.8nm,1.0s,baz=333,slow=8.3,SNR=13						
STKA	Stephens Creek	46.87	159	P	P	04 39 28.4	+0.5
	baz=27,SNR=8.3						
CMSA	Cobar Meteorol	48.13	155	P	P	04 39 39.7	+2.1
	baz=28,SNR=7.0						
MKAR	Makanchi Array	49.22	323	P	P	04 39 47.0	+1.0
	1.8nm,0.8s,baz=123,slow=8.1,SNR=22						
ZALV	Zalesovo Beam	51.96	332	P	P	04 40 05.2	-1.2
	0.5nm,0.4s,baz=129,slow=5.7,SNR=2.2						
EKS2	Erkin-Say	52.96	315	P	P	04 40 16.0	+1.7
	6.0nm,1.0s						
KURK	Kurchatov	53.30	326	eP	P	04 40 16.3	-0.2
	4.1nm,1.0s						
KKAR	Karatay Array	55.38	314	eP	P	04 40 32.0	+0.1
	13nm,1.1s						
GEYT	Alibeck	63.66	306	P	P	04 41 31.0	+1.9
	1.1nm,0.3s,baz=96,slow=13,SNR=4.0						
ABKAR	Akdulak array	64.04	319	eP	P	04 41 31.2	-0.1
	4.1nm,0.7s						
AKTO	Aktyubinsk	65.49	320	LR	LR	05 13 25.3	
	comp=Z,145nm,18.2s,slow=39						
RAYN	Ar Rayn	74.83	291	eP	P	04 42 40.0	+1.3
	21nm,1.4s						
OBN	Obninsk	78.71	324	LR	LR	05 20 49.3	
	comp=Z,63nm,18.8s,baz=86,slow=38						
ILAR	Eielson Array	78.77	26	P	P	04 42 60.0	-0.1
	0.5nm,0.8s,baz=263,slow=3.7,SNR=7.6						
ARCES	ARCESS Array B	81.70	339	P	P	04 43 16.6	+0.7
	3.7nm,0.8s,baz=49,slow=9.7,SNR=4.6						
FINES	FINESS Array B	83.22	331	P	P	04 43 24.3	+0.4
	2.9nm,0.9s,baz=104,slow=6.1,SNR=5.2						
INK	Inuvik	83.40	21	eP	P	04 43 24.9	+0.2
	6.3nm,1.4s						
AKASG	Malin Array Be	83.74	320	P	P	04 43 27.9	+1.1
	0.8nm,0.5s,baz=66,slow=5.1,SNR=3.4						
NOA	NORSAR Array B	90.13	333	P	P	04 43 57.6	-0.2
	0.9nm,0.8s,baz=69,slow=4.8,SNR=3.0						
YKA	Yellowknife Ar	92.98	23	P	P	04 44 12.3	+1.5
	0.4nm,0.9s,baz=299,slow=4.5,SNR=8.6						

*IDC **04** 04:31:51.7±0.9, 11.°96N×124.°11E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/35, mbtmp3.9/8, MS3.8/2, Ms1 3.8/2, ms1mx3.1/32, Error ellipse: s-maj=64.8km s-min=18.4km az=73.0*

*ISCJB **04** 04:31:52.1±0.6, 11.°96N±0.°07×123.°8E±0.°1, h13km, mb3.9/8, MS3.8/2, Error ellipse: s-maj=17.5km s-min=5.5km az=149.2*

ISC 04 04:31:53.2±0.7, 12.°03N±0.°07×123.°9E±0.°1, h13km, n12, σ1§03/13, mb4.0/8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.39	326	eP	Pg	04 31 59.6	-1.5
MMPH				i S	Sg	04 32 06.6	+0.2
PLP	Palo	1.40	128⇑	eP	Pn	04 32 17.9	-0.5
PLP				i S	Sn	04 32 36.5	-0.4
LLP	Lapu-Lapu	1.71	176	eP	Pn	04 32 22.5	-0.1
LLP				eS	Sg	04 32 48.8	+0.8
JNU	Nakatsue	21.96	16	LR	LR	04 45 26.1	
	comp=Z,173nm,19.8s,baz=192,slow=37						
WRA	Warramunga Arr	33.41	162	P	P	04 38 30.4	-1.3
	1.4nm,0.8s,baz=346,slow=8.8,SNR=4.7						
ASAR	Alice Springs	36.81	165	P	P	04 39 00.3	-0.7
	1.9nm,0.8s,baz=347,slow=6.7,SNR=5.6						
SONM	Songino Array	38.57	341	P	P	04 39 16.1	+0.3
	0.4nm,0.6s,baz=181,slow=9.8,SNR=3.3						
STKA	Stephens Creek	46.85	159	P	P	04 40 22.7	-0.3
	6.4nm,0.9s,baz=331,slow=7.0,SNR=5.6						
MKAR	Makanchi Array	49.20	323	P	P	04 40 44.6	+3.4
	1.3nm,0.8s,baz=129,slow=7.9,SNR=4.3						
ILAR	Eielson Array	79.80	26	P	P	04 43 57.5	+1.5
	0.4nm,0.8s,baz=274,slow=4.4,SNR=4.2						
FINES	FINESS Array B	83.22	331	P	P	04 44 20.8	+1.7
	1.5nm,0.9s,baz=67,slow=7.7,SNR=3.6						
FINES				LR	LR	05 25 16.2	
	comp=Z,63nm,18.0s,baz=38,slow=38						
YKA	Yellowknife Ar	93.11	23	P	P	04 45 06.6	0.0
	0.2nm,0.8s,baz=300,slow=4.5,SNR=2.6						

TAP 04 04:41:27.5, 22.°94N×120.°71E, h23km, ML2.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	Jiashian	0.18	321	i P	Pb	04 41 33.4	+0.6
	baz=329						
SSD	Sandimen	0.20	200	P	Pb	04 41 33.5	+0.5
	baz=198						
SSD				eS	Sb	04 41 37.8	+1.0
	baz=198						
STYT	Tauyuan	0.23	11	i P	Pb	04 41 33.9	+0.5
	baz=19						
CHN1	Nanshi	0.30	326	P	Pb	04 41 35.2	+0.9
	baz=334						
CHN1				eS	Sb	04 41 40.6	+1.6
	baz=334						
WTP	Ta-pu	0.32	344	P	Pb	04 41 35.5	+0.7
	baz=345						
WTP				S	Sn	04 41 41.9	-0.9
	baz=345						
TWG	Pinlang	0.35	109	i P	Pb	04 41 36.1	+0.8
	baz=109						
TWG				eS	Sn	04 41 42.1	-1.5
	baz=109						
TWK	Hsinying	0.38	328	eP	Pb	04 41 36.7	+0.9
	baz=329						
TWK				eS	Sn	04 41 43.1	-1.3
	baz=329						
ECL	Taimali	0.41	146	P	Pb	04 41 36.6	+0.5
	baz=140						
CHN4	Tsaushan	0.42	345	eP	Pb	04 41 37.0	+0.6
	baz=345						
CHN4				eS	Sn	04 41 44.5	-0.8
	baz=345						
SCZT	Fangliau	0.57	188	eP	Pb	04 41 38.4	-0.5
	baz=188						
ALS	Alishan	0.58	9	eP	Pb	04 41 39.9	+0.5
	baz=360						
ALS				eS	Sn	04 41 48.9	-0.8
	baz=360						
YUS	Yu-Shan	0.59	22	eP	Pb	04 41 40.5	+0.6
	baz=23						
YUS				eS	Sb	04 41 47.8	-0.5
	baz=23						
EHY	Hungye	0.80	45	eP	Pn	04 41 43.4	0.0
	baz=51						
EHY				eS	Sn	04 41 54.3	-0.3
	baz=51						
SMLT	Sun Moon Lake	0.96	11	eP	Pn	04 41 45.9	+0.2
	baz=360						
TYC	Yuchr	0.97	8	eP	Pn	04 41 46.5	+0.8
	baz=8.0						
WHF	Hehuan Shan	1.30	23	eP	Pn	04 41 49.7	-1.2
	baz=24						
WHF				eS	Sn	04 42 08.0	0.0
	baz=24						

IDC 04 04:50:03.1±2.3, 34.°74S×72.°96W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/15, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=80.2km s-min=38.8km az=5.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.04	53	Pn	Pn	04 51 19.6	-0.5
	1.0nm,0.3s,baz=238,slow=14,SNR=6.5						
CFAA				Sn	Sn	04 52 10.5	-8.6
	0.9nm,0.3s,baz=318,slow=20,SNR=4.2						
TXAR	Lajitas Array	70.01	332	P	P	05 01 18.4	+1.6
	0.3nm,0.7s,baz=144,slow=7.8,SNR=3.3						
NVAR	Mina Array Bea	84.06	326	P	P	05 02 34.8	-1.0
	0.4nm,0.6s,baz=141,slow=4.8,SNR=2.5						
TORD	Torodi Ar. Bea	85.17	71	P	P	05 02 42.7	+1.0
	1.1nm,0.8s,baz=241,slow=3.7,SNR=5.8						
MKAR	Makanchi Array	157.82	50	PKP	PKPdf	05 09 59.9	-1.5
	0.1nm,0.5s,baz=306,slow=1.7,SNR=3.1						
MKAR				PKPab	PKPab	05 10 32.5	-1.6
	0.2nm,0.7s,baz=292,slow=3.0,SNR=2.8						

IDC 04 04:54:05.5±5.2, 29.°09S×177.°00W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/16, mbtmp3.4/2, Error ellipse: s-maj=249.5km s-min=82.6km az=164.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.07	265	P	P	05 02 14.7	-0.8
	0.4nm,0.7s,baz=104,slow=7.6,SNR=4.3						
WRA	Warramunga Arr	44.94	270	P	P	05 02 22.9	+0.4
	0.3nm,0.5s,baz=111,slow=7.9,SNR=9.6						
FINES	FINESS Array B	144.20	341	PKP	PKPdf	05 13 41.8	-0.8
	0.7nm,0.5s,baz=34,slow=1.8,SNR=4.3						

*ISCJB **04** 04:54:14.0±0.6, 34.°63N±0.°07×138.°88E±0.°10, h186km±6km, mb3.2/3, Error ellipse: s-maj=14.4km s-min=10.3km az=145.0*

*JMA **04** 04:54:14.8±0.1, 34.°61N×138.°85E, h179km±1km, M3.0*

*IDC **04** 04:54:14.2±1.8, 34.°45N×138.°72E, h164km±29km, mb2.9/3, mb1 3.0/5, mb1mx2.8/27, mbtmp3.2/5, Error ellipse: s-maj=44.7km s-min=26.9km az=47.0*

ISC 04 04:54:15.2±1.0, 34.°65N±0.°07×138.°81E±0.°09, h180km±7km, n15, σ0§69/21, mb3.2/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZS	Izushimoda	0.09	38	P	Pn	04 54 38.6	-0.4
JIZS				eS	Sn	04 54 57.0	-0.3
KTJJ	Kamata 2	0.34	37	P	Pn	04 54 39.3	-0.1
KTJJ				eS	Sn	04 54 58.2	0.0
SHZ3	Shizuoka 3	0.65	310	P	Pn	04 54 40.6	-0.2
JOD2	Odawara 2	0.65	20	P	Pn	04 54 40.6	-0.1
JYN	Shimob	0.87	345	P	Pn	04 54 42.1	0.0
TK02	Tokai 2	1.12	232	P	Pn	04 54 43.9	+0.3
JRY	Ryogami san	1.36	3	P	Pn	04 54 46.6	+0.7
BSO1	Boso 1	1.78	89	P	Pn	04 54 49.5	+0.1
BSO1				eS	Sn	04 55 16.9	+1.0
JAG	Ashikaga	1.85	16	P	Pn	04 54 50.2	-0.4
JAG				eS	Sn	04 55 17.7	-0.5
MJAR	Matsushiro Arr	1.95	346	P	Pn	04 54 51.8	+0.1
	1.6nm,0.3s,baz=170,slow=13,SNR=11						
MJAR				S	Sn	04 55 20.

comp=N,2μm,0.5s
IHA Instituto Hidr 1.72 14⇓iP Pb 05 02 02.9 -0.3
PEL Peldehue 1.96 38⇓iP Pb 05 02 06.8 -0.7
PEL iS Sb 05 02 33.4 +1.6
PEL AML AML 05 02 39.4
comp=N,1μm,0.6s

IDC 04 05:06:33.6±50.0, 17°.37S×176°.16W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/18, mbtmp3.9/3, Error ellipse: s-maj=934.0km s-min=168.5km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.77**	**241**	P	P	05 14 16.5	-0.2
	2.7nm,1.1s,baz=76,slow=6.7,SNR=3.7						
WRA	**Warramunga Arr**	**46.84**	**259**	P	P	05 15 05.5	-0.2
	0.6nm,0.6s,baz=95,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**47.00**	**254**	P	P	05 15 06.9	-0.1
	2.0nm,0.6s,baz=88,slow=8.7,SNR=29						

IDC 04 05:09:54.9±1.3, 33°.75S×71°.65W, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.7/18, mbtmp3.6/6, ML3.7/3, MS3.4/2, Ms1 3.5/2, ms1mx2.9/26, Error ellipse: s-maj=36.9km s-min=29.2km az=105.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**3.59**	**54**	Pn	Pn	05 10 52.8	+1.0
	0.1nm,0.3s,baz=238,slow=13,SNR=3.4						
CFAA				Pg	Pg	05 11 04.2	+0.5
	0.5nm,0.3s,baz=238,slow=12,SNR=9.4						
PLCA	**Paso Flores**	**7.02**	**173**	Pn	Pn	05 11 38.9	-0.2
	0.2nm,0.3s,baz=324,slow=8.7,SNR=1.7						
CPUP	**Villa Florida**	**14.43**	**63**	Pn	Pn	05 13 21.0	+0.6
	0.2nm,0.3s,baz=214,slow=17,SNR=2.0						
LPAZ	**La Paz**	**17.68**	**11**	P	P	05 14 03.9	-0.5
	0.1nm,0.3s,baz=182,slow=7.0,SNR=4.2						
SIV	**San Ignacio**	**20.10**	**31**	P	P	05 14 29.4	-0.8
	1.0nm,0.6s,baz=222,slow=16,SNR=3.1						
SIV				LR	LR	05 23 16.3	
	comp=Z,60nm,21.3s,baz=212,slow=40						
TXAR	**Lajitas Array**	**69.68**	**330**	P	P	05 21 06.3	-0.1
	0.5nm,1.0s,baz=140,slow=7.1,SNR=2.2						
TXAR				LR	LR	05 47 01.4	
	comp=Z,54nm,19.4s,baz=0.0,slow=32						
TORD	**Torodi Ar. Bea**	**83.82**	**70**	P	P	05 22 25.3	-1.2
	0.8nm,0.8s,baz=250,slow=7.5,SNR=2.8						
ZALV	**Zalesovo Beam**	**153.84**	**32**	PKPbc	PKPbc	05 29 56.9	+1.4
	0.4nm,0.4s,baz=272,slow=5.6,SNR=2.2						
ZALV				PKPab	PKPab	05 30 06.6	-2.0
	0.5nm,0.6s,baz=240,slow=1.2,SNR=3.6						
MKAR	**Makanchi Array**	**156.36**	**49**	PKPab	PKPab	05 30 20.3	+0.7
	0.3nm,0.8s,baz=294,slow=1.4,SNR=2.8						

*IDC **04** 05:15:48.5±1.9, 36°.54S×73°.80W, h0km, mb3.4/4, mb1 3.5/6, mb1mx3.5/18, mbtmp3.3/6, ML3.2/2, Error ellipse: s-maj=45.9km s-min=31.0km az=78.0*
*ISCJB **04** 05:15:51.4±1.4, 36°.6S±0°.1×73°.6W±0°.3, h33km, mb3.5/3, Error ellipse: s-maj=32.5km s-min=15.8km az=174.9*
ISC 04 05:15:53.4±1.5, 36°.6S±0°.1×73°.7W±0°.2, h35km, n6, σ1§30/6, mb3.5/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.79**	**150**	Pn	**Pn**	**05 17 02.5**	**-0.6**
	0.6nm,0.3s,baz=324,slow=14,SNR=4.7						
PLCA				Lg	Lg	05 18 20.0	
	baz=28,slow=18,SNR=3.0						
CFAA	**Coronel Fontan**	**6.71**	**44**	Pn	**Pn**	**05 17 29.6**	**0.0**
	0.1nm,0.3s,baz=238,slow=19,SNR=2.0						
LPAZ	**La Paz**	**20.82**	**15**	P	**P**	**05 20 31.3**	**-1.3**
	0.5nm,0.6s,baz=219,slow=13,SNR=2.0						
SIV	**San Ignacio**	**23.38**	**32**	P	**P**	**05 20 58.5**	**-0.6**
	2.5nm,0.9s,baz=210,slow=12,SNR=3.5						
TXAR	**Lajitas Array**	**71.39**	**333**	P	**P**	**05 27 09.9**	**0.0**
	0.3nm,0.8s,baz=154,slow=6.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**86.33**	**71**	P	**P**	**05 28 33.8**	**+1.6**
	0.3nm,1.0s,baz=238,slow=5.3,SNR=2.5						

*ISCJB **04** 05:19:46.1±0.7, 35°.86S±0°.08×72°.6W±0°.2, h35km, mb3.9/9, Error ellipse: s-maj=17.9km s-min=11.7km az=6.1*
*IDC **04** 05:19:46.9±0.7, 35°.86S×72°.67W, h30km±4km, mb3.7/8, mb1 3.9/11, mb1mx3.7/29, mbtmp3.8/11, ML4.0/3, Error ellipse: s-maj=24.9km s-min=16.1km az=84.0*
*NEIC **04** 05:19:47.7±0.6, 35°.86S×72°.64W, h35km, mb4.6/1, Error ellipse: s-maj=15.7km s-min=10.4km az=96.0*
ISC 04 05:19:47.1±0.7, 35°.83S±0°.09×72°.7W±0°.1, h35km, n14, σ0§98/19, mb4.0/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**5.18**	**161**	Pn	**Pn**	**05 21 03.0**	**+0.7**
	1.8nm,0.3s,baz=335,slow=9.5,SNR=19						
PLCA				Lg	Lg	05 22 20.4	
	1.8nm,0.3s,baz=258,slow=18,SNR=3.1						
CFAA	**Coronel Fontan**	**5.64**	**43**	Pn	**Pn**	**05 21 09.4**	**+0.9**
	0.1nm,0.3s,baz=209,slow=15,SNR=7.0						
CPUP	**Villa Florida**	**16.22**	**59**	Pn	**Pn**	**05 23 31.3**	**-1.1**
	0.2nm,0.3s,baz=222,slow=14,SNR=2.7						
LPAZ	**La Paz**	**19.89**	**13**	P	**Pn**	**05 24 18.6**	**+0.5**
	0.1nm,0.3s,baz=191,slow=7.1,SNR=9.3						
SIV	**San Ignacio**	**22.33**	**31**	P	**P**	**05 24 42.1**	**+0.1**
	4.0nm,0.7s,baz=222,slow=12,SNR=9.6						
QSPA	**South Pole Qui**	**54.41**	**180**	P	**P**	**05 29 10.8**	**+0.4**
	0.9nm,0.6s,baz=141,slow=2.2,SNR=11						
QSPA				pP	**pP**	**05 29 19.8**	**-1.2**
	2.7nm,0.9s,baz=165,slow=2.4,SNR=4.1						
TXAR	**Lajitas Array**	**71.06**	**332**	P	**P**	**05 31 02.9**	**+1.2**
	0.2nm,0.5s,baz=157,slow=8.6,SNR=5.9						
TXAR				pP	**pP**	**05 31 12.2**	**-0.4**
	0.7nm,0.6s,baz=150,slow=8.7,SNR=11						
U34A	**Anderson Ranch**	**75.51**	**340**	*e*P	**P**	**05 31 28.3**	**+0.6**
	2.9nm,0.5s						
BOSA	**Boshof**	**79.72**	**118**	P	**P**	**05 31 51.7**	**-0.1**
	3.6nm,0.7s,baz=244,slow=4.8,SNR=6.1						
NVAR	**Mina Array Bea**	**85.07**	**326**	P	**P**	**05 32 21.2**	**+1.9**
	0.2nm,0.5s,baz=160,slow=5.6,SNR=2.2						
NVAR				pP	**pP**	**05 32 29.2**	**-1.2**
	0.7nm,0.8s,baz=148,slow=5.3,SNR=2.8						
PDAR	**Pinedale Array**	**85.14**	**334**	P	**P**	**05 32 19.6**	**0.0**
	0.3nm,0.9s,baz=109,slow=4.9,SNR=2.2						
TORD	**Torodi Ar. Bea**	**85.36**	**70**	P	**P**	**05 32 20.8**	**-0.3**
	0.4nm,0.8s,baz=271,slow=2.1,SNR=3.9						
TORD				pP	**pP**	**05 32 31.5**	**-0.6**
	0.8nm,0.8s,baz=243,slow=3.3,SNR=4.5						
ULM	**Lac du Bonnet**	**88.12**	**345**	P	**P**	**05 32 32.7**	**-1.0**
	1.2nm,0.7s,baz=185,slow=7.8,SNR=3.0						
ULM				pP	**pP**	**05 32 43.1**	**-1.7**
	1.2nm,0.8s,baz=173,slow=8.1,SNR=2.1						
MKAR	**Makanchi Array**	**158.37**	**52**	PKPab	**PKPab**	**05 40 15.3**	**+0.4**
	0.2nm,0.9s,baz=298,slow=2.6,SNR=3.5						

*IDC **04** 05:21:46.2±0.7, 35°.53S×73°.14W, h0km, mb4.2/14, mb1 4.3/17, mb1mx4.2/22, mbtmp4.2/17, ML4.0/3, MS3.8/3, Ms1 3.7/3, ms1mx3.3/25, Error ellipse: s-maj=22.9km s-min=16.0km az=92.0*
*ISCJB **04** 05:21:47.3±0.5, 35°.53S±0°.06×73°.08W±0°.09, h17km, mb4.1/15, MS3.7/2, Error ellipse: s-maj=11.3km s-min=8.6km az=21.2*
*NEIC **04** 05:21:51.4±0.3, 35°.54S×73°.13W, h35km, mb4.3/1, Error ellipse: s-maj=10.3km s-min=7.6km az=82.0*
ISC 04 05:21:48.7±0.6, 35°.52S±0°.08×73°.17W±0°.10, h17km, n29, σ0§97/31, mb4.3/15, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**5.60**	**159**	Pn	**Pn**	**05 23 11.4**	**+0.1**
	1.0nm,0.3s,baz=332,slow=13,SNR=1.6						
PLCA				Lg	Lg	05 24 39.3	
	3.7nm,0.3s,baz=269,slow=15,SNR=3.7						
CFAA	**Coronel Fontan**	**5.67**	**48**	Pn	**Pn**	**05 23 12.9**	**+0.6**
	1.9nm,0.3s,baz=232,slow=8.0,SNR=12						
CFAA				Sn	**Sn**	**05 24 17.7**	**+0.7**
	1.0nm,0.3s,baz=241,slow=18,SNR=2.6						
CFAA				Lg	Lg	05 24 38.3	
	1.0nm,0.3s,baz=79,slow=21,SNR=4.5						
TRQA	**Tornquist**	**9.32**	**109**	*e*Pn	**Pn**	**05 24 03.9**	**+1.6**
	37nm,0.8s						
CPUP	**Villa Florida**	**16.37**	**60**	Pn	**Pn**	**05 25 34.7**	**-3.0**
	0.4nm,0.3s,baz=183,slow=13,SNR=2.6						
CPUP				LR	LR	05 33 14.3	
	comp=Z,205nm,18.8s,baz=234,slow=42						
LPAZ	**La Paz**	**19.67**	**14**	P	**Pn**	**05 26 19.5**	**+0.4**
	0.4nm,0.3s,baz=207,slow=7.8,SNR=8.9						
SIV	**San Ignacio**	**22.25**	**32**	P	**P**	**05 26 44.6**	**-0.3**
	9.2nm,0.8s,baz=225,slow=13,SNR=16						
SIV				LR	LR	05 37 08.9	
	comp=Z,410nm,18.8s,baz=204,slow=42						
ATAH	**Atahualpa**	**28.66**	**349**	P	**P**	**05 27 43.9**	**-1.2**
	5.2nm,0.4s,baz=190,slow=12,SNR=5.0						
BDFB	**Brasilia**	**29.96**	**55**	P	**P**	**05 27 55.2**	**-1.1**
	2.3nm,0.7s,baz=209,slow=12,SNR=4.2						
BDFB				LR	LR	05 39 32.8	
	comp=Z,130nm,18.4s,baz=258,slow=36						
RCBR	**Riachuelo**	**45.23**	**58**	P	**P**	**05 30 05.5**	**+0.2**
	5.4nm,0.9s,baz=227,slow=9.8,SNR=4.7						
SNAA	**Sanae**	**50.54**	**157**	P	**P**	**05 30 45.4**	**-0.4**
	2.2nm,0.8s,baz=265,slow=15,SNR=4.2						
QSPA	**South Pole Qui**	**54.72**	**180**	P	**P**	**05 31 17.7**	**+0.8**
	3.3nm,0.8s,baz=122,slow=2.4,SNR=12						
TXAR	**Lajitas Array**	**70.62**	**332**	P	**P**	**05 33 04.5**	**+1.3**
	0.3nm,0.7s,baz=154,slow=10,SNR=5.1						
DBIC	**Dimbokro**	**76.54**	**72**	P	**P**	**05 33 38.4**	**0.0**
	4.4nm,0.7s,baz=200,slow=5.8,SNR=6.6						
SDCO	**Great Sand Dun**	**78.83**	**334**	*e*P	**P**	**05 33 51.3**	**+0.4**
	6.8nm,2.0s						
BOSA	**Boshof**	**80.18**	**118**	P	**P**	**05 33 58.3**	**-0.2**
	5.2nm,1.0s,baz=240,slow=4.4,SNR=6.7						
NVAR	**Mina Array Bea**	**84.61**	**326**	P	**P**	**05 34 21.7**	**+0.4**
	0.1nm,0.3s,baz=160,slow=5.8,SNR=2.5						
PDAR	**Pinedale Array**	**84.71**	**334**	P	**P**	**05 34 20.8**	**-0.9**
	0.4nm,1.0s,baz=169,slow=5.1,SNR=2.0						
TORD	**Torodi Ar. Bea**	**85.59**	**71**	P	**P**	**05 34 26.1**	**-0.4**
	0.9nm,0.6s,baz=253,slow=4.7,SNR=11						
ULM	**Lac du Bonnet**	**87.73**	**346**	P	**P**	**05 34 36.2**	**+0.2**
	1.5nm,0.8s,baz=196,slow=7.4,SNR=2.8						
SCHQ	**Schefferville**	**90.15**	**4**	P	**P**	**05 34 49.3**	**+1.9**
	1.3nm,0.8s,baz=238,slow=13,SNR=2.6						
STKA	**Stephens Creek**	**105.44**	**210**	Pdiff	**Pdif**	**05 35 56.9**	**-0.5**
	0.9nm,0.7s,baz=207,slow=2.3,SNR=2.6						
WRA	**Warramunga Arr**	**118.99**	**210**	PKP	**PKPdf**	**05 40 35.9**	**-1.1**
	0.3nm,0.5s,baz=160,slow=1.8,SNR=9.6						
ABKAR	**Akbulak array**	**143.34**	**53**	*e*PKPdf	PKPbc	05 41 18.2	-0.6
BVAR	**Borovoye Array**	**149.02**	**44**	PKPbc	**PKPbc**	**05 41 36.1**	**+0.8**
	2.9nm,0.5s,baz=316,slow=2.8,SNR=13						
KKAR	**Karatay Array**	**151.07**	**64**	*e*PKPbc	**PKPbc**	**05 41 40.5**	**-0.1**
AAK	**Ala-Archa**	**154.02**	**64**	PKPbc	**PKPbc**	**05 41 47.7**	**+0.4**
	0.6nm,0.4s,baz=248,slow=5.4,SNR=3.1						
AAK				PKPab	**PKPab**	**05 42 00.9**	**0.0**
	1.0nm,0.4s,baz=198,slow=6.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**156.00**	**33**	PKP	**PKPdf**	**05 41 40.6**	**-0.8**
	0.6nm,0.4s,baz=251,slow=8.5,SNR=2.3						
ZALV				PKPbc	PKPab	05 41 50.4	-18
	0.5nm,0.3s,baz=282,slow=2.9,SNR=3.9						
ZALV				PKPab	PKPab	05 42 09.2	+0.4
	1.8nm,0.6s,baz=296,slow=4.4,SNR=4.3						
MKAR	**Makanchi Array**	**158.45**	**51**	PKP	**PKPdf**	**05 41 44.1**	**-0.7**
	0.3nm,0.8s,baz=288,slow=1.9,SNR=2.6						
MKAR				PKPab	**PKPab**	**05 42 19.4**	**-0.3**
	0.5nm,0.5s,baz=308,slow=3.3,SNR=7.1						
SONM	**Songino Array**	**167.69**	**1**	PKPab	**PKPab**	**05 42 59.9**	**-0.1**
	0.4nm,0.8s,baz=2.7,slow=6.4,SNR=4.2						

*JMA **04** 05:24:08.1±0.1, 23°.03N×120°.49E, h0km, M3.8*
*TAP **04** 05:24:09.8, 23°.01N×120°.59E, h16km, ML3.8, B*
*ISCJB **04** 05:24:11.0±0.3, 22°.99N±0°.01×120°.56E±0°.02, h20km±2km, Error ellipse: s-maj=3.1km s-min=2.5km az=173.1*
ISC 04 05:24:10.6±0.8, 23°.02N±0°.02×120°.55E±0°.02, h17km±5km, n65, σ0§86/102, 12C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGST	**Jiashian**	**0.07**	**23**	⇓*i*P	**Pg**	**05 24 13.6**	**-0.2**
	baz=4.0						
SGST				*e*S	**Sg**	**05 24 16.2**	**+0.2**
	baz=4.0						
CHN1	**Nanshi**	**0.17**	**352**	⇓*i*P	**Pg**	**05 24 15.2**	**+0.2**
	baz=350						
CHN1				S	**Sb**	**05 24 19.6**	**+1.2**
	baz=350						
CHN3	**Shinhua**	**0.18**	**288**	*e*P	**Pb**	**05 24 16.4**	**+0.9**
	baz=287						
TWM1	**Shoushan**	**0.23**	**212**	⇑P	**Pb**	**05 24 16.7**	**+0.3**
	baz=212						
WTP	**Ta-pu**	**0.23**	**14**	⇓*i*P	**Pg**	**05 24 16.1**	**+0.1**
	baz=9.0						
WTP				*i*S	**Sb**	**05 24 20.5**	**+0.2**
	baz=9.0						
STYT	**Tauyuan**	**0.24**	**52**	⇑*i*P	**Pg**	**05 24 15.8**	**-0.2**
	baz=58						
STYT				*i*S	**Sg**	**05 24 20.0**	**+0.2**
	baz=58						
TWK	**Hsinying**	**0.25**	**346**	⇓*i*P	**Pg**	**05 24 16.6**	**+0.3**
	baz=343						
SSD	**Sandimen**	**0.28**	**165**	P	**Pg**	**05 24 16.4**	**-0.3**
	baz=164						
SSD				S	**Sg**	**05 24 20.9**	**0.0**
	baz=164						
SGLT	**Jiouru**	**0.30**	**191**	*e*P	**Pb**	**05 24 17.9**	**+0.4**
	baz=187						
TAI1	**Yung-k'ang**	**0.30**	**274**	*e*P	**Pb**	**05 24 18.2**	**+0.6**
	baz=275						
TAI1				*e*S	**Sn**	**05 24 25.4**	**-0.9**
	baz=275						
CHN4	**Tsaushan**	**0.33**	**6**	⇑*i*P	**Pg**	**05 24 17.7**	**0.0**
	baz=1.0						
CHN4				S	**Sb**	**05 24 23.8**	**+0.5**
	baz=1.0						
SCLT	**Jiali**	**0.37**	**295**	*e*P	**Pg**	**05 24 18.6**	**+0.4**
	baz=295						
SCLT				*e*S	**Sn**	**05 24 26.4**	**-1.5**
	baz=295						
CHN8	**Yiju**	**0.45**	**316**	*e*P	**Pg**	**05 24 20.0**	**+0.2**
	baz=327						
CHN8				*e*S	**Sn**	**05 24 28.8**	**-1.3**
	baz=327						
ELDTW	**Lidau**	**0.46**	**68**	⇑*i*P	**Pg**	**05 24 19.4**	**-0.5**
	baz=66						
ELDTW				*e*S	**Sb**	**05 24 26.8**	**-0.1**
	baz=66						
CHY	**Chiayi**	**0.49**	**346**	*e*P	**Pg**	**05 24 20.6**	**+0.2**
	baz=345						
CHY				S	**Sb**	**05 24 29.0**	**+1.3**
	baz=345						
KAU	**Kaohsiung**	**0.50**	**207**	*e*P	**Pb**	**05 24 21.6**	**+0.6**
	baz=222						
CHN2	**Minshiung**	**0.52**	**352**	*e*P	**Pb**	**05 24 21.4**	**+0.1**
	baz=350						
CHN2				*e*S	**Sn**	**05 24 30.4**	**-1.3**
	baz=350						
TWG	**Pinlang**	**0.52**	**112**	⇑*i*P	**Pg**	**05 24 20.6**	**-0.3**
	baz=102						
TWG				*i*S	**Sb**	**05 24 28.3**	**-0.2**
	baz=102						
ALS	**Alishan**	**0.54**	**25**	⇑*i*P	**Pg**	**05 24 21.2**	**-0.3**
	baz=24						
ALS				*i*S	**Sb**	**05 24 29.9**	**+0.4**
	baz=24						
ECL	**Taimali**	**0.56**	**139**	*e*P	**Pg**	**05 24 21.1**	**-0.7**
	baz=143						
CHN5	**Tsauling**	**0.59**	**11**	⇑*i*P	**Pg**	**05 24 22.0**	**-0.3**
	baz=9.0						
CHN5				*e*S	**Sb**	**05 24 31.3**	**+0.7**
	baz=9.0						
YUS	**Yu-Shan**	**0.59**	**38**	⇑*i*P	**Pg**	**05 24 22.3**	**-0.2**
	baz=36						
YUS				S	**Sg**	**05 24 31.1**	**+0.5**
	baz=36						
TTN	**Taitung**	**0.61**	**116**	*e*P	**Pg**	**05 24 22.7**	**+0.1**
	baz=116						
TTN				*e*S	**Sn**	**05 24 33.4**	**-0.5**
	baz=116						
SCZT	**Fangliau**	**0.65**	**175**	⇓P	**Pg**	**05 24 22.8**	**-0.5**
	baz=169						
WGK	**Gukeng**	**0.66**	**1**	*e*P	**Pg**	**05 24 23.8**	**+0.1**
	baz=360						
WGK				*e*S	**Sn**	**05 24 34.7**	**-0.7**
	baz=360						
EAST	**Anshuo**	**0.69**	**157**	⇓*i*P	**Pg**	**05 24 23.6**	**-0.5**
	baz=158						
WSF	**Szhu**	**0.69**	**334**	*e*P	**Pb**	**05 24 24.0**	**-0.2**
	baz=333						
WSF				*e*S	**Sn**	**05 24 35.2**	**-0.7**
	baz=333						
TWP	**Hsiaoliuchiu**	**0.69**	**195**	*e*P	**Pn**	**05 24 25.7**	**0.0**
	baz=197						
TWP				*e*S	**Sn**	**05 24 38.0**	**+2.0**
	baz=197						
TAW	**Tawu**	**0.73**	**154**	*e*P	**Pb**	**05 24 24.2**	**-0.7**
	baz=151						
TAW				*e*S	**Sn**	**05 24 37.1**	**+0.2**
	baz=151						
CHKT	**Chengkung**	**0.75**	**84**	⇑P	**Pb**	**05 24 25.0**	**-0.3**
	baz=82						
EHY	**Hungye**	**0.86**	**55**	⇑*i*P	**Pb**	**05 24 26.3**	**-0.8**
	baz=60						
EHY				*e*S	**Sn**	**05 24 40.5**	**+0.4**
	baz=60						
WDGT	**Dungji**	**0.86**	**286**	P	**Pb**	**05 24 26.4**	**-0.7**
	baz=286						
WDGT				*e*S	**Sb**	**05 24 38.2**	**0.0**
	baz=286						
WNT	**Mingjian**	**0.86**	**8**	*e*P	**Pb**	**05 24 26.9**	**-0.3**
	baz=353						
SMLT	**Sun Moon Lake**	**0.92**	**20**	*e*P	**Pb**	**05 24 27.7**	**-0.4**
	baz=20						
SMLT				S	**Sn**	**05 24 41.8**	**+0.1**
	baz=20						
TYC	**Yuchr**	**0.92**	**17**	⇑P	**Pb**	**05 24 27.7**	**-0.5**
	baz=17						
TYC				*e*S	**Sn**	**05 24 42.1**	**+0.3**
	baz=17						
HEN	**Hengchun**	**1.02**	**170**	*e*P	**Pb**	**05 24 29.9**	**0.0**
	baz=161						
HEN				*e*S	**Sn**	**05 24 45.9**	**+1.8**
	baz=161						
PNG	**Penghu**	**1.07**	**301**	P	**Pb**	**05 24 29.1**	**-1.5**
	baz=301						
PNG				*e*S	**Sb**	**05 24 43.4**	**-1.0**
	baz=301						
TWK1	**Hengchun**	**1.09**	**168**	⇓*i*P	**Pb**	**05 24 30.7**	**-0.4**
	baz=168						
TWK1				*e*S	**Sg**	**05 24 46.9**	**+0.8**
	baz=168						
TCU	**Taichung**	**1.13**	**6**	*e*P	**Pn**	**05 24 31.6**	**-0.1**
	baz=354						
ESL	**Shilin**	**1.13**	**45**	⇑P	**Pn**	**05 24 31.2**	**-0.5**
	baz=45						
ESL				*e*S	**Sg**	**05 24 47.2**	**-0.1**
	baz=45						
TSEB	**Hengchuen, Pin**	**1.16**	**164**	*e*P	**Pn**	**05 24 30.2**	**-1.8**
	baz=167						
WHF	**Hehuan Shan**	**1.30**	**30**	*e*P	**Pn**	**05 24 33.6**	**-0.8**
	baz=20						
WHF				*e*S	**Sg**	**05 24 53.2**	**+0.5**
	baz=20						
TWQ1	**Liyutan**	**1.34**	**9**	*e*P	**Pn**	**05 24 34.1**	**-0.4**
	baz=9.0						
TWQ1				*e*S	**Sg**	**05 24 53.6**	**-0.3**
	baz=9.0						
LAY	**Lan-yu**	**1.34**	**136**	*e*P	**Pn**	**05 24 33.5**	**-1.1**
	baz=124						
TWT	**Tachien**	**1.35**	**25**	*e*P	**Pn**	**05 24 34.7**	**-0.3**
	baz=24						
NSY	**Sanyi**	**1.40**	**8**	*e*P	**Pn**	**05 24 35.6**	**+0.1**
	baz=8.0						
TWD	**Chiawan**	**1.43**	**42**	*e*P	**Pn**	**05 24 36.1**	**+0.3**
	baz=42						
TWD				*e*S	**Sb**	**05 24 55.0**	**+0.4**
	baz=42						
NNS	**Nan Shan**	**1.60**	**28**	*e*P	**Pn**	**05 24 38.9**	**+0.6**
	baz=13						
NSTT	**Nanjuang**	**1.66**	**14**	*e*P	**Pn**	**05 24 38.4**	**-0.6**
	baz=14						
ENA	**Nanau**	**1.77**	**38**	*e*P	**Pn**	**05 24 41.1**	**+0.5**
	baz=37						
NSK	**Sanguang**	**1.81**	**24**	*e*P	**Pn**	**05 24 41.9**	**+0.8**
	baz=24						
ENTT	**Nioudou**	**1.86**	**30**	*e*P	**Pb**	**05 24 43.2**	**-1.0**
	baz=15						
TWC	**Suao**	**1.98**	**37**	*e*P	**Pn**	**05 24 43.0**	**-0.3**
	baz=36						
TWE	**Neicheng**	**1.98**	**31**	*e*P	**Pb**	**05 24 45.0**	**-1.1**
	baz=13						
TWA	**Mucha**	**2.17**	**26**	*e*P	**Pb**	**05 24 49.3**	**-0.1**
	baz=10.0						
EGS		**2.21**	**34**	*e*P	**Pb**	**05 24 49.1**	**-1.1**
	baz=34						
NWF	**Wu-fen Shan**	**2.33**	**29**	*e*P	**Pn**	**05 24 48.6**	**+0.3**
	baz=13						
JYNG	**Yonagunijimaku**	**2.61**	**56**	P	**Pn**	**05 24 53.3**	**+1.2**
JYNG				*e*S	**Sn**	**05 25 25.6**	**+2.1**
YOJ	**Yonaguni jima**	**2.67**	**57**	P	**Pn**	**05 24 53.9**	**+1.0**
YOJ				*e*S	**Sb**	**05 25 27.9**	**-2.6**
YOJ	**Yonaguni jima**	**2.67**	**57**	*e*P	**Pn**	**05 24 53.4**	**+0.6**
	baz=55						
HATJ	**Hateruma jima**	**3.16**	**70**	*e*S	**Sn**	**05 25 37.9**	**+1.0**
IRIF	**Iriomote-Funau**	**3.19**	**65**	P	**Pn**	**05 25 01.4**	**+1.4**
IRIF				*e*S	**Sn**	**05 25 40.1**	**+2.4**
JKRS	**Kuro-shima**	**3.39**	**68**	*e*S	**Sn**	**05 25 45.4**	**+2.7**
JIJ	**Ishigaki jima**	**3.55**	**67**	P	**Pn**	**05 25 05.5**	**+0.5**
JIJ				*e*S	**Sn**	**05 25 47.0**	**+0.4**
JISG	**Ishigakijimahi**	**3.78**	**65**	P	**Pn**	**05 25 08.7**	**+0.6**
JISG				*e*S	**Sn**	**05 25 51.8**	**-0.4**

*IDC **04** 05:38:20.4±1.0, 35°.71S×73°.05W, h0km, mb4.1/7, mb1 4.0/11, mb1mx3.9/20, mbtmp3.9/11, ML3.8/4, MS2.8/2, Ms1 2.9/2, ms1mx2.7/23, Error ellipse: s-maj=29.5km s-min=16.9km az=90.0*
*ISCJB **04** 05:38:21.3±0.7, 35°.70S±0°.08×73°.2W±0°.1, h17km, mb4.2/9, Error ellipse: s-maj=15.4km s-min=10.1km az=19.4*
*GUC **04** 05:38:21.4±0.4, 35°.65S×73°.43W, h23km, ML4.6*
*NEIC **04** 05:38:25.7±0.5, 35°.67S×73°.00W, h35km, mb4.6/2, Error ellipse: s-maj=14.5km s-min=9.6km az=95.

ULM Lac du Bonnet 87.98 346 P P 05 51 10.6 -0.7
comp=N,1.7nm,0.8s,baz=156,slow=4.1,SNR=4.1
KEST Kesra 104.47 56 Pdiff Pdif 05 52 27.4 +0.5
comp=N,3.0nm,1.1s,baz=270,slow=3.0,SNR=2.9
STKA Stephens Creek 105.31 210 Pdiff Pdif 05 52 29.3 -1.6
comp=N,1.0nm,0.8s,baz=169,slow=10,SNR=1.8
H11N3 WAKE ISLAND Hyl 25.41 270 T T 08 15 21.7
baz=117
H11N1 WAKE ISLAND Hyl 25.42 270 T T 08 15 17.7
baz=117
H11N2 WAKE ISLAND Hyl 25.43 270 T T 08 15 17.9
baz=117
ZALV Zalesovo Beam 156.11 33 PKPab **PKPab 05 58 43.9 +0.7**
comp=N,0.9nm,0.5s,baz=316,slow=8.1,SNR=3.1
MKAR Makanchi Array 158.48 52 PKPab **PKPab 05 58 52.2 -1.6**
comp=N,0.2nm,0.7s,baz=347,slow=1.9,SNR=2.5

DJA 04 05:40:15.7±0.8, 6°S±5°×10°4E±°, h27km±8km, M3.5/6, MLv3.5/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**0.73**	**40**	P	Pb	05 40 29.9	-0.2
LWLI				S	Sb	05 40 40.2	+0.3
KASI	**Kota Agung**	**0.91**	**87**	P	Pn	05 40 32.8	0.0
KASI				S	Sb	05 40 44.8	+0.1
MDSI	**Maura Dua**	**1.24**	**29**	P	Pn	05 40 37.2	-0.1
MDSI				S	Sn	05 40 53.2	+0.1
MNAI	**Manna**	**1.36**	**333**	P	Pn	05 40 38.2	-0.8
LHSI	**Lahat**	**1.74**	**358**	P	Pn	05 40 44.5	+0.3
CGJI	**Cibinong**	**2.34**	**116**	P	Pn	05 40 52.3	-0.1

*IDC **04** 05:43:41.9±0.8, 6°.89S×71°.76E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/26, mbtmp3.4/3, Error ellipse: s-maj=36.2km s-min=8.9km az=43.0*
ISC 04 05:43:44.4±0.9, 6°.9S±0°.2×71°.7E±0°.2, h18km, n9, σ0°61/12, mb3.4/3, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N1	**Diego Carcia H**	**0.89**	**310**	Pn	**Pn**	**05 44 01.8**	**0.0**
baz=131,slow=12							
H08N3	**Diego Garcia H**	**0.91**	**309**	Pn	**Pn**	**05 44 02.2**	**+0.1**
baz=131,slow=12							
H08N2	**Diego Garcia H**	**0.92**	**310**	Pn	**Pg**	**05 44 02.2**	**0.0**
baz=131,slow=12							
H08S3	**Diego Garcia H**	**1.04**	**133**	Pn	**Pb**	**05 44 03.3**	**-0.6**
baz=330,slow=20,SNR=6383							
H08S3				Sn	**Sg**	**05 44 18.1**	**-0.3**
H08S3				T	T	05 45 34.4	
baz=250							
H08S1	**Diego Carcia H**	**1.05**	**134**	Pn	**Pb**	**05 44 03.7**	**-0.3**
baz=330,slow=20,SNR=2640							
H08S1				Sn	**Sg**	**05 44 19.5**	**+0.9**
H08S1				T	T	05 45 34.3	
baz=250							
H08S2	**Diego Garcia H**	**1.06**	**133**	Pn	**Pb**	**05 44 03.8**	**-0.4**
baz=330,slow=20							
H08S2				Sn	**Sn**	**05 44 18.1**	**-0.4**
H08S2				T	T	05 45 34.6	
baz=250							
MKAR	**Makanchi Array**	**54.30**	**9**	P	**P**	**05 53 08.8**	**-0.9**
0.2nm,0.5s,baz=191,slow=7.6,SNR=5.4							
WRA	**Warramunga Arr**	**61.97**	**109**	P	**P**	**05 54 04.7**	**+0.7**
0.2nm,0.8s,baz=280,slow=6.7,SNR=2.8							
SONM	**Songino Array**	**62.51**	**26**	P	**P**	**05 54 07.7**	**+0.6**
0.6nm,0.8s,baz=211,slow=7.4,SNR=3.2							

*IDC **04** 05:43:54.4±1.2, 38°.04S×73°.93W, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.9/22, mbtmp3.9/7, ML4.0/1, MS3.1/2, Ms1 3.1/2, ms1mx2.9/22, Error ellipse: s-maj=40.5km s-min=18.4km az=61.0*
*ISCJB **04** 05:43:55.6±0.8, 38°.1S±0°.1×74°.0W±0°.2, h18km, mb4.0/10, MS3.4/1, Error ellipse: s-maj=30.0km s-min=13.8km az=151.6*
*NEIC **04** 05:43:59.7±0.5, 38°.07S×73°.85W, h35km, mb4.2/4, Error ellipse: s-maj=19.8km s-min=9.5km az=63.0*
ISC 04 05:43:57.3±1.0, 38°.0S±0°.1×73°.9W±0°.2, h18km, n15, σ0°66/13, mb4.1/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.74**	**137**	Pn	**Pn**	**05 44 55.1**	**+0.9**
2.6nm,0.3s,baz=302,slow=13,SNR=13							
PLCA				Lg	Lg	05 45 54.3	
7.0nm,0.3s,baz=15,slow=13,SNR=7.7							
PLCA				LR	LR	05 46 04.6	
comp=Z,95nm,19.5s,baz=212,slow=35							
PLCA	**Paso Flores**	**3.74**	**137**	*e*Pn	**Pn**	**05 44 54.5**	**+0.3**
PLCA				Lg	Lg	05 45 54.3	
LPAZ	**La Paz**	**22.26**	**15**	P	**P**	**05 48 54.8**	**+0.8**
1.2nm,0.7s,baz=166,slow=8.3,SNR=3.5							
PMSA	**Palmer Station**	**27.40**	**171**	LR	LR	06 01 41.0	
comp=Z,99nm,18.4s,baz=153,slow=39							
QSPA	**South Pole Qui**	**52.20**	**180**	P	**P**	**05 53 06.6**	**-0.2**
3.5nm,1.1s,baz=142,slow=2.3,SNR=3.3							
JCT	**Junction City**	**72.33**	**337**	*e*P	**P**	**05 55 22.0**	**+0.2**
7.1nm,1.6s							
TXAR	**Lajitas Array**	**72.57**	**333**	P	**P**	**05 55 23.5**	**+0.1**
0.3nm,0.6s,baz=163,slow=8.3,SNR=4.2							
U34A	**Anderson Ranch**	**77.26**	**341**	*e*P	**P**	**05 55 49.8**	**-0.4**
9.4nm,1.2s							
DBIC	**Dimbokro**	**77.90**	**72**	P	**P**	**05 55 54.3**	**0.0**
2.2nm,0.7s,baz=184,slow=7.1,SNR=3.1							
ANMO	**Albuquerque**	**78.64**	**333**	P	**P**	**05 55 58.6**	**+0.4**
0.5nm,0.7s							
SDCO	**Great Sand Dun**	**80.84**	**335**	*e*P	P	05 56 04.4	-5.8
2.7nm,1.4s							
TORD	**Torodi Ar. Bea**	**86.99**	**71**	P	**P**	**05 56 41.0**	**-0.7**
0.8nm,0.7s,baz=222,slow=4.2,SNR=4.4							
ULM	**Lac du Bonnet**	**90.02**	**346**	P	**P**	**05 56 55.7**	**+0.5**
1.1nm,1.0s,baz=198,slow=3.2,SNR=1.9							
ABKAR	**Akbulak array**	**145.28**	**56**	*e*PKPbc	**PKPbc**	**06 03 32.7**	**-0.5**
MKAR	**Makanchi Array**	**160.43**	**56**	PKPab	**PKPab**	**06 04 35.4**	**-1.2**
0.6nm,0.8s,baz=294,slow=3.4,SNR=5.7							

DJA 04 05:59:54.8±0.6, 8°S±10°×11°7E±°, h111km±7km, M3.6/9, mb3.6/1, MLv3.6/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**1.72**	**279**	P	Pn	06 00 24.7	+0.4
SRBI				S	Sn	06 00 49.2	+2.3
IGBI	**Denpasar**	**1.82**	**255**	P	Pn	06 00 27.2	+1.6
IGBI				S	Sn	06 00 49.1	0.0
WBSI	**Waikabubak, Su**	**2.74**	**118**	P	Pn	06 00 39.9	+2.4
WBSI				S	Sn	06 01 10.8	+0.4
JAGI	**Jajag, Banyuwa**	**2.75**	**268**	P	Pn	06 00 38.8	+1.2
JAGI				S	Sn	06 01 08.6	-1.9
BLJI	**Banyuglugur**	**3.36**	**280**	P	Pn	06 00 45.7	+0.1
GMJI	**Gumukmas**	**3.45**	**271**	P	Pn	06 00 47.5	+0.7
PWJI	**Pagerwojo**	**5.09**	**273**	P	Pn	06 01 06.6	-2.2

*IDC **04** 06:04:34.5±2.3, 34°.34S×72°.12W, h0km, mb3.8/4, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, ML3.4/3, MS2.8/2, Ms1 2.9/2, ms1mx2.7/25, Error ellipse: s-maj=52.0km s-min=38.3km az=172.0*
ISC 04 06:04:36.4±1.6, 34°.4S±0°.2×72°.2W±0°.2, h16km, n8, σ1°04/9, mb4.0/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.31**	**51**	Pn	**Pn**	**06 05 42.0**	**+0.7**
0.3nm,0.3s,baz=220,slow=15,SNR=9.3							
CFAA				Sn	**Sb**	**06 06 44.6**	**+1.0**
0.9nm,0.3s,baz=68,slow=7.7,SNR=3.4							
CFAA				LR	LR	06 07 42.4	
comp=Z,29nm,19.5s,baz=330,slow=44							
CPUP	**Villa Florida**	**15.10**	**62**	Pn	**Pn**	**06 08 07.5**	**-1.6**
0.1nm,0.3s,baz=191,slow=15,SNR=2.3							
CPUP				LR	LR	06 14 32.0	
comp=Z,160nm,21.2s,baz=256,slow=40							
LPAZ	**La Paz**	**18.39**	**12**	P	**Pn**	**06 08 50.5**	**-0.8**
0.1nm,0.3s,baz=203,slow=8.0,SNR=5.8							
SIV	**San Ignacio**	**20.86**	**31**	P	**P**	**06 09 16.9**	**-0.9**
2.2nm,0.7s,baz=231,slow=11,SNR=6.0							
BDFB	**Brasilia**	**28.64**	**55**	P	**P**	**06 10 32.3**	**-0.2**
1.7nm,0.7s,baz=225,slow=2.9,SNR=3.0							
TXAR	**Lajitas Array**	**70.03**	**331**	P	**P**	**06 15 48.2**	**+0.8**
0.3nm,0.7s,baz=159,slow=8.4,SNR=3.5							

TORD Torodi Ar. Bea 84.44 70 P **P 06 17 09.2 +0.6**
1.1nm,0.7s,baz=219,slow=4.2,SNR=9.5
MKAR Makanchi Array 157.09 50 PKPab **PKPab 06 25 01.4 -0.2**
0.5nm,0.7s,baz=275,slow=5.2,SNR=4.8

IDC 04 06:13:07.5±7.6, 32°.03N×48°.11E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/26, mbtmp3.6/5, Error ellipse: s-maj=161.5km s-min=38.5km az=9.0, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**29.97**	**51**	P	P	06 19 17.8	+0.3
0.4nm,0.7s,baz=248,slow=7.0,SNR=6.2							
ZALV	**Zalesovo Beam**	**34.08**	**39**	P	P	06 19 52.9	-0.6
0.4nm,0.3s,baz=232,slow=8.7,SNR=2.6							
HFS	**Hagfors**	**36.13**	**331**	P	P	06 20 11.0	-0.1
0.8nm,0.4s,baz=120,slow=8.9,SNR=6.6							
ARCES	**ARCESS Array B**	**39.66**	**348**	P	P	06 20 40.7	0.0
1.7nm,0.8s,baz=157,slow=9.4,SNR=3.9							
YKA	**Yellowknife Ar**	**84.78**	**352**	P	P	06 25 43.3	-0.1
0.1nm,0.7s,baz=32,slow=3.6,SNR=3.2							

*IDC **04** 06:15:12.6±0.7, 36°.67S×72°.93W, h0km, mb4.1/8, mb1 4.2/11, mb1mx4.1/19, mbtmp4.0/11, ML4.0/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/25, Error ellipse: s-maj=26.1km s-min=15.3km az=89.0*
*ISCJB **04** 06:15:15.5±0.4, 36°.59S±0°.05×72°.87W±0°.09, h25km, mb4.3/12, Error ellipse: s-maj=11.5km s-min=5.8km az=29.3*
*GUC **04** 06:15:16.6±0.7, 36°.59S×73°.01W, h34km±6km, ML5.2*
*NEIC **04** 06:15:17.6±0.5, 36°.65S×73°.02W, h35km, mb4.6/4, Error ellipse: s-maj=13.0km s-min=10.4km az=79.0*
ISC 04 06:15:16.1±0.6, 36°.59S±0°.05×73°.1W±0°.1, h25km, n31, σ0°97/36, mb4.3/12, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.25**	**184**	⇓*i*P	**Pn**	**06 15 24.3**	**0.0**
CCSP				*i* S	**Sn**	**06 15 28.9**	**-0.4**
LNV	**Longovilo**	**2.97**	**28**	*e*P1	**Pn**	**06 16 02.0**	**+0.4**
CACH	**El Canelo**	**3.20**	**40**	*e*P1	**Pn**	**06 16 05.6**	**+0.7**
VLCH	**Valdivia**	**3.21**	**182**	⇓*i*P	**Pn**	**06 16 05.7**	**+0.8**
VLCH				*i* S1	**Sn**	**06 16 43.5**	**+1.2**
CHCH	**Chadas Angostu**	**3.32**	**38**	*e*P1	**Pn**	**06 16 07.3**	**+0.8**
RCDM	**Rinconada Maip**	**3.62**	**32**	*e*P1	**Pn**	**06 16 10.8**	**+0.2**
RCDM				*e*S1	**Sn**	**06 16 51.9**	**-0.6**
ANTU	**Antumapu**	**3.63**	**34**	*e*P1	**Pn**	**06 16 11.3**	**+0.6**
ANTU				*i* S1	**Sn**	**06 16 53.0**	**+0.2**
ANTU				AML	AML	06 17 12.5	
comp=N,3μm,0.7s							
PLCA	**Paso Flores**	**4.58**	**155**	Pn	**Pn**	**06 16 22.7**	**-1.2**
comp=N,1.3nm,0.3s,baz=332,slow=14,SNR=10							
PLCA				Lg	Lg	06 17 34.5	
comp=N,6.6nm,0.3s,baz=252,slow=22,SNR=2.8							
PLCA				LR	LR	06 18 26.3	
comp=N,225nm,18.7s,baz=331,slow=43							
CFAA	**Coronel Fontan**	**6.40**	**40**	Pn	**Pn**	**06 16 49.0**	**+0.2**
comp=N,0.8nm,0.3s,baz=213,slow=14,SNR=14							
CFAA				Sn	**Sn**	**06 18 01.8**	**+0.8**
comp=N,0.8nm,0.3s,baz=236,slow=18,SNR=2.6							
TRQA	**Tornquist**	**8.97**	**103**	*e*Pn	**Pn**	**06 17 24.9**	**+0.9**
comp=N,28nm,0.9s							
CPUP	**Villa Florida**	**16.87**	**57**	Pn	**Pn**	**06 19 11.1**	**+0.5**
comp=N,0.5nm,0.3s,baz=223,slow=13,SNR=3.5							
LPAZ	**La Paz**	**20.70**	**14**	P	Pn	06 19 57.4	-0.3
comp=N,4.0nm,0.6s,baz=179,slow=7.8,SNR=22							
SIV	**San Ignacio**	**23.13**	**31**	P	**P**	**06 20 20.1**	**-0.4**
comp=N,6.3nm,0.7s,baz=214,slow=9.1,SNR=19							
QSPA	**South Pole Qui**	**53.65**	**180**	P	**P**	**06 24 36.1**	**+0.9**
comp=N,1.3nm,0.6s,baz=168,slow=2.0,SNR=10							
SDDR	**Presa de Saban**	**55.30**	**2**	*e*P	**P**	**06 24 45.7**	**-1.9**
comp=N,6.0nm,0.8s							
JCT	**Junction City**	**71.28**	**336**	*e*P	**P**	**06 26 34.6**	**+1.3**
comp=N,7.7nm,1.2s							
TXAR	**Lajitas Array**	**71.60**	**332**	P	**P**	**06 26 37.3**	**+2.0**
comp=N,0.9nm,0.7s,baz=152,slow=8.3,SNR=14							
WMOK	**Wichita Mounta**	**74.90**	**338**	*e*P	**P**	**06 26 52.4**	**-2.2**
comp=N,1.3nm,0.8s							
U34A	**Anderson Ranch**	**76.13**	**340**	*e*P	**P**	**06 27 02.4**	**+0.8**
comp=N,5.5nm,0.4s							
DBIC	**Dimbokro**	**76.82**	**71**	P	**P**	**06 27 05.5**	**-0.5**
comp=N,2.5nm,0.7s,baz=197,slow=8.0,SNR=5.8							
ANMO	**Albuquerque**	**77.66**	**332**	*e*P	**P**	**06 27 12.2**	**+1.7**
comp=N,12nm,2.3s							
SDCO	**Great Sand Dun**	**79.82**	**334**	*e*P	**P**	**06 27 22.9**	**+0.5**
PDAR	**Pinedale Array**	**85.70**	**334**	P	**P**	**06 27 54.2**	**+1.5**
comp=N,0.7nm,0.5s,baz=120,slow=5.6,SNR=7.8							
TORD	**Torodi Ar. Bea**	**85.89**	**70**	P	**P**	**06 27 53.2**	**-0.9**
comp=N,0.5nm,0.7s,baz=216,slow=3.5,SNR=2.8							
ULM	**Lac du Bonnet**	**88.78**	**346**	P	**P**	**06 28 06.9**	**-0.3**
comp=N,1.8nm,0.8s,baz=195,slow=12,SNR=3.5							
ASAR	**Alice Springs**	**114.87**	**207**	PKP	PKPdf	06 33 54.2	-0.9
comp=N,0.2nm,0.4s,baz=132,slow=1.4,SNR=3.1							
WRA	**Warramunga Arr**	**118.08**	**209**	PKP	**PKPdf**	**06 34 00.7**	**-0.7**
comp=N,0.2nm,0.6s,baz=157,slow=1.7,SNR=4.7							
PSI	**Prapat**	**145.57**	**166**	PKPbc	**PKPdf**	**06 34 52.5**	**-0.4**
comp=N,2.8nm,0.5s,baz=242,slow=4.1,SNR=5.1							
ZALV	**Zalesovo Beam**	**156.86**	**34**	PKP	**PKPdf**	**06 35 08.0**	**-0.6**
comp=N,0.9nm,0.7s,baz=274,slow=2.2,SNR=5.6							
ZALV				PKPbc	PKPbc	06 35 18.8	
comp=N,1.0nm,0.7s,baz=318,slow=2.0,SNR=5.0							
ZALV				PKPab	**PKPab**	**06 35 38.9**	**+0.4**
comp=N,0.5nm,0.4s,baz=353,slow=3.3,SNR=3.0							
MKAR	**Makanchi Array**	**159.06**	**53**	PKP	**PKPdf**	**06 35 11.7**	**+0.1**
comp=N,0.5nm,0.8s,baz=97,slow=0.9,SNR=4.3							
MKAR				PKPab	**PKPab**	**06 35 48.0**	**-0.4**
comp=N,0.4nm,0.8s,baz=291,slow=3.8,SNR=3.9							
SONM	**Songino Array**	**168.76**	**2**	PKPab	**PKPab**	**06 36 31.3**	**+0.4**
comp=N,0.6nm,1.0s,baz=357,slow=6.1,SNR=3.1							

*GUC **04** 06:18:42.2±0.7, 34°.78S×73°.14W, h21km±8km, ML4.7*
*IDC **04** 06:18:45.2±0.8, 34°.80S×72°.53W, h0km, mb4.1/8, mb1 4.2/11, mb1mx4.1/20, mbtmp4.1/11, ML4.6/3, MS3.8/8, Ms1 3.8/8, ms1mx3.5/25, Error ellipse: s-maj=26.4km s-min=13.4km az=104.0*
*ISCJB **04** 06:18:47.8±0.5, 34°.77S±0°.06×72°.73W±0°.09, h35km, mb4.1/11, MS3.9/7, Error ellipse: s-maj=11.4km s-min=6.0km az=33.0*
*NEIC **04** 06:18:50.0±0.4, 34°.76S×72°.67W, h35km, mb4.1/4, Error ellipse: s-maj=15.2km s-min=7.8km az=92.0*
*SJA **04** 06:19:30.1±1.1, 32°.50S×70°.09W, h80km±8km, ML2.9*
ISC 04 06:18:49.7±0.7, 34°.73S±0°.08×72°.8W±0°.1, h35km, n48, σ1°36/37, mb4.2/11, MS3.8/7, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.41**	**57**	⇓*i*P	**Pn**	**06 19 10.1**	**-2.7**
CACH	**El Canelo**	**1.94**	**72**	⇑*i*P	**Pn**	**06 19 19.2**	**-1.1**
IHA	**Instituto Hidr**	**1.97**	**31**	⇓*i*P	**Pn**	**06 19 17.8**	**-2.7**
CHCH	**Chadas Angostu**	**1.97**	**67**	⇓*i*P	**Pn**	**06 19 18.9**	**-1.7**
RCDM	**Rinconada Maip**	**2.09**	**54**	⇓*i*P	**Pn**	**06 19 20.4**	**-1.8**
ANTU	**Antumapu**	**2.16**	**58**	*e*P1	**Pn**	**06 19 21.5**	**-1.7**
ANTU				*i* S1	**Sn**	**06 19 52.1**	**+3.2**
ANTU				AML	AML	06 20 03.1	
comp=N,5μm,0.3s							
PEL	**Peldehue**	**2.38**	**49**	⇑*i*P	**Pn**	**06 19 24.7**	**-1.7**
PEL				*i* S1	Sb	06 19 56.0	
PEL				AML	AML	06 20 06.5	
comp=N,4μm,0.5s							
AAGR	**Agrelo**	**3.71**	**65**	*e*P	Pn	06 19 53.0	+8.4
ARCO	**CERRO ARCO**	**3.75**	**61**	*e*P	Pn	06 19 51.5	+6.2
ARCO				*e*S	Sn	06 20 06.1	-22
ARCO				AML	AML	06 20 15.6	
comp=Z,245nm,0.4s							
AUSP	**Uspallata**	**3.81**	**50**	*e*P	**Pn**	**06 19 46.5**	**+0.3**
RTLS	**Leoncito**	**4.16**	**46**	*e*P	**Pn**	**06 19 51.2**	**+0.3**
RTCV	**Cerro Valdivia**	**4.59**	**53**	*e*P	**Pn**	**06 19 56.6**	**-0.1**
CFAA	**Coronel Fontan**	**4.96**	**52**	Pn	**Pn**	**06 20 00.9**	**-0.8**
comp=Z,4.1nm,0.3s,baz=228,slow=11,SNR=19							
CFAA				Sn	**Sn**	**06 20 58.1**	**+0.4**
comp=Z,1.3nm,0.3s,baz=41,slow=20,SNR=2.1							
CFAA				Lg	Lg	06 21 14.7	
comp=Z,3.3nm,0.3s,baz=12,slow=15,SNR=5.1							
CFAA	**Coronel Fontan**	**4.96**	**52**	*e*P	**Pn**	**06 20 01.1**	**-0.6**
RTLL	**Cerro Villicun**	**4.99**	**48**	*e*P	**Pn**	**06 20 01.3**	**-0.9**
AMOG	**MOGNA**	**5.26**	**45**	*e*P	**Pn**	**06 20 04.8**	**-1.0**
AVFE	**Valle Fertil**	**6.08**	**50**	*e*P	**Pn**	**06 20 15.3**	**-1.9**
PLCA	**Paso Flores**	**6.26**	**164**	Pn	**Pn**	**06 20 18.1**	**-1.5**
comp=Z,9.6nm,0.3s,baz=335,slow=11,SNR=18							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA				Lg	Lg	06 21 56.4	
comp=Z,1.4nm,0.3s,baz=258,slow=18,SNR=2.9							
AGUA	**GUANDACOL**	**6.39**	**36**	*e*P	**Pn**	**06 20 20.7**	**-0.8**
CPUP	**Villa Florida**	**15.75**	**62**	LR	LR	06 28 06.6	
comp=Z,157nm,19.6s,baz=224,slow=36							
LPAZ	**La Paz**	**18.84**	**14**	P	**Pn**	**06 23 08.1**	**+0.1**
comp=Z,0.5nm,0.3s,baz=180,slow=7.2,SNR=11							
USHA	**Ushuaia**	**20.33**	**173**	P	**P**	**06 23 22.6**	**0.0**
comp=Z,5.6nm,0.5s,baz=324,slow=9.0,SNR=10							
SIV	**San Ignacio**	**21.44**	**32**	P	**P**	**06 23 34.4**	**-0.5**
comp=Z,2.3nm,0.6s,baz=215,slow=12,SNR=5.1							
SIV				LR	LR	06 33 25.4	
comp=Z,398nm,19.0s,baz=202,slow=41							
BDFB	**Brasilia**	**29.29**	**56**	LR	LR	06 36 45.9	
comp=Z,211nm,19.2s,baz=221,slow=37							
PMSA	**Palmer Station**	**30.55**	**173**	LR	LR	06 36 27.9	
comp=Z,276nm,19.7s,baz=340,slow=35							
SNAA	**Sanae**	**51.16**	**158**	P	**P**	**06 27 48.4**	**-0.5**
comp=Z,3.6nm,1.0s,baz=265,slow=9.5,SNR=8.7							
QSPA	**South Pole Qui**	**55.51**	**180**	P	**P**	**06 28 21.3**	**+0.4**
comp=Z,1.9nm,0.6s,baz=172,slow=1.3,SNR=16							
VNDA	**Vanda**	**63.26**	**191**	P	**P**	**06 29 15.9**	**+1.8**
comp=Z,1.6nm,0.8s,baz=143,slow=2.9,SNR=4.7							
SYO	**Syowa Base**	**65.43**	**159**	⇓*e*P	**P**	**06 29 27.0**	**-1.4**
JCT	**Junction City**	**69.67**	**335**	*e*P	**P**	**06 29 55.0**	**-0.7**
comp=Z,1.1nm,0.4s							
TXAR	**Lajitas Array**	**70.06**	**332**	P	**P**	**06 29 59.9**	**+1.7**
comp=Z,0.3nm,0.6s,baz=162,slow=8.9,SNR=6.4							
TXAR				LR	LR	06 56 05.0	
comp=Z,58nm,18.1s,baz=0.0,slow=32							
ABTX	**Abilene, Hawle**	**71.58**	**336**	*e*P	**P**	**06 30 07.5**	**+0.3**
comp=Z,3.2nm,0.4s							
WMOK	**Wichita Mounta**	**73.25**	**338**	*e*P	**P**	**06 30 16.8**	**-0.4**
comp=Z,1.0nm,0.7s							
DBIC	**Dimbokro**	**76.03**	**72**	LR	LR	07 02 47.3	
comp=Z,45nm,19.2s,baz=195,slow=35							
SDCO	**Great Sand Dun**	**78.23**	**334**	P	**P**	**06 30 47.7**	**+1.8**
comp=Z,1.0nm,1.0s							
PFO	**Pinyon Flats O**	**79.33**	**324**	LR	LR	06 59 42.9	
comp=Z,57nm,18.1s,baz=118,slow=31							
BOSA	**Boshof**	**80.31**	**118**	P	**P**	**06 30 57.1**	**-0.4**
comp=Z,3.1nm,0.7s,baz=228,slow=2.7,SNR=5.7							
TORD	**Torodi Ar. Bea**	**85.07**	**70**	P	**P**	**06 31 21.8**	**-0.4**
comp=Z,0.9nm,0.5s,baz=294,slow=6.0,SNR=11							
SCHQ	**Schefferville**	**89.35**	**3**	LR	LR	07 10 32.9	
comp=Z,41nm,21.1s,baz=6.0,slow=35							
WRA	**Warramunga Arr**	**119.81**	**210**	PKP	**PKPdf**	**06 37 35.9**	**-0.8**
comp=Z,0.4nm,0.5s,baz=170,slow=1.6,SNR=12							
H11S2	**WAKE ISLAND Hyl**	**25.10**	**269**	T	T	08 55 48.7	
baz=119							
H11S1	**WAKE ISLAND Hyl**	**25.12**	**269**	T	T	08 55 31.7	
baz=119							
H11S3	**WAKE ISLAND Hyl**	**25.12**	**269**	T	T	08 55 41.1	
baz=119							
H11N3	**WAKE ISLAND Hyl**	**25.53**	**270**	T	T	08 55 56.7	
baz=121,slow=75,SNR=5.4							
H11N1	**WAKE ISLAND Hyl**	**25.55**	**270**	T	T	08 55 57.2	
baz=121,slow=75,SNR=11							
H11N2	**WAKE ISLAND Hyl**	**25.55**	**271**	T	T	08 55 56.1	
baz=121,slow=75,SNR=6.3							
ZALV	**Zalesovo Beam**	**155.19**	**32**	PKPab	**PKPab**	**06 39 04.3**	**+0.8**
comp=Z,0.3nm,0.3s,baz=3.8,slow=2.2,SNR=2.8							
MKAR	**Makanchi Array**	**157.74**	**50**	PKP	**PKPdf**	**06 38 42.6**	**+0.5**
comp=Z,0.2nm,0.6s,baz=156,slow=1.5,SNR=2.7							
MKAR				PKPab	**PKPab**	**06 39 15.4**	**+0.6**
comp=Z,0.2nm,0.7s,baz=270,slow=4.2,SNR=2.6							

*ISCJB **04** 06:24:07.8±0.8, 51°.4N±0°.1×174°.3W±0°.1, h38km, mb3.7/14, Error ellipse: s-maj=20.4km s-min=10.7km az=170.5*
*IDC **04** 06:24:12.1±4.2, 51°.39N×174°.34W, h62km±37km, mb3.4/14, mb1 3.6/16, mb1mx3.5/30, mbtmp3.7/16, ML3.8/2, Error ellipse: s-maj=28.0km s-min=14.8km az=167.0*
ISC 04 06:24:09.5±0.9, 51°.3N±0°.2×174°.25W±0°.09, h38km, n23, σ1°08/17, mb3.7/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**7.91**	**286**	P	**Pn**	**06 26 03.6**	**+1.7**
1.8nm,0.3s,baz=133,slow=1.8,SNR=10							
ILAR	**Eielson Array**	**19.57**	**36**	P	**P**	**06 28 33.4**	**-0.4**
0.5nm,0.3s,baz=238,slow=8.9,SNR=60							
SEY	**Seymchan**	**21.25**	**316**	P	**P**	**06 28 52.8**	**+0.9**
0.6nm,0.3s,baz=100,slow=17,SNR=3

TORD	Torodi Ar. Bea	86.76	71	P		P	06 39 14.9	-0.7
	1.0nm,0.8s,baz=225,slow=5.3,SNR=6.5							
ELK	Elko	87.45	330	LR		LR	07 12 08.7	
	comp=Z,52nm,19.9s,baz=245,slow=31							
ABKAR	Akbulak array	145.15	56	ePKPbc		PKPbc	06 46 06.8	-1.0
MKAR	Makanchi Array	160.30	57	PKPab		PKPab	06 47 10.5	-0.5
	0.1nm,0.5s,baz=290,slow=3.3,SNR=2.9							
SONM	Songino Array	170.48	1	PKPab		PKPab	06 47 56.4	+0.7
	0.3nm,0.7s,baz=339,slow=3.6,SNR=2.9							

TAP 04 06:30:31.1,22°.96N×120°.65E,h18km,ML3.7,9C-7D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	Jiashian	0.14	332	⇓iP	Pg	06 30 36.0	+0.8
	baz=343						
SGST				i S	Sg	06 30 39.4	+1.4
	baz=343						
SSD	Sandimen	0.21	185	⇑iP	Pb	06 30 36.7	+0.3
	baz=183						
SSD				i S	Sb	06 30 40.3	+0.5
	baz=183						
STYT	Tauyuan	0.23	25	⇑iP	Pb	06 30 37.2	+0.5
	baz=33						
STYT				i S	Sb	06 30 41.3	+0.8
	baz=33						
TWM1	Shoushan	0.25	238	⇑iP	Pb	06 30 38.2	+1.1
	baz=237						
CHN1	Nanshi	0.25	333	⇓iP	Pb	06 30 37.8	+0.6
	baz=343						
CHN1				i S	Sb	06 30 42.8	+1.5
	baz=343						
SGLT	Jiouru	0.28	213	eP	Pb	06 30 38.6	+1.1
	baz=206						
WTP	Ta-pu	0.29	353	⇓iP	Pb	06 30 38.3	+0.5
	baz=354						
WTP				i S	Sb	06 30 43.5	+1.1
	baz=354						
CHN3	Shinhua	0.29	294	eP	Pn	06 30 39.5	-0.9
	baz=294						
CHN3				eS	Sn	06 30 44.5	-1.9
	baz=294						
TWK	Hsinying	0.34	334	eP	Pb	06 30 39.1	+0.3
	baz=336						
TWK				eS	Sb	06 30 45.2	+1.2
	baz=336						
CHN4	Tsaushan	0.40	352	⇓iP	Pb	06 30 39.9	+0.3
	baz=352						
CHN4				S	Sb	06 30 46.5	+1.1
	baz=352						
TAI1	Yung-k'ang	0.40	282	eP	Pb	06 30 40.3	+0.7
	baz=282						
TAI1				eS	Sn	06 30 47.3	-1.7
	baz=282						
ELDTW	Lidau	0.41	55	⇑iP	Pb	06 30 40.3	+0.4
	baz=49						
ELDTW				i S	Sb	06 30 46.7	+0.7
	baz=49						
TWG	Pinlang	0.41	109	⇑P	Pb	06 30 40.5	+0.6
	baz=100						
TWG				S	Sb	06 30 46.7	+0.9
	baz=100						
ECL	Taimali	0.45	142	⇓iP	Pb	06 30 41.0	+0.4
	baz=147						
ECL				i S	Sb	06 30 47.8	+0.8
	baz=147						
SCLT	Jiali	0.48	297	eP	Pn	06 30 42.1	-0.9
	baz=298						
SCLT				eS	Sn	06 30 50.4	-0.5
	baz=298						
TTN	Taitung	0.50	114	eP	Pn	06 30 42.4	-0.9
	baz=114						
TTN				eS	Sn	06 30 50.6	-0.9
	baz=114						
KAU	Kaohsiung	0.50	220	eP	Pn	06 30 42.6	-0.8
	baz=233						
CHN8	Yiju	0.56	314	eP	Pb	06 30 43.1	+0.7
	baz=327						
CHN8				eS	Sn	06 30 52.9	-0.2
	baz=327						
ALS	Alishan	0.57	14	⇑iP	Pb	06 30 43.0	+0.1
	baz=15						
ALS				S	Sb	06 30 52.0	+1.1
	baz=15						
CHY	Chiayi	0.58	339	eP	Pb	06 30 43.2	+0.6
	baz=340						
CHY				eS	Sn	06 30 52.6	-0.9
	baz=340						
SCZT	Fangliau	0.58	183	⇓iP	Pb	06 30 43.0	+0.2
	baz=177						
SCZT				eS	Sn	06 30 52.4	-1.2
	baz=177						
CHN2	Minshiung	0.59	344	eP	Pb	06 30 43.5	+0.6
	baz=344						
CHN2				eS	Sn	06 30 53.3	-0.6
	baz=344						
YUS	Yu-Shan	0.60	27	⇑iP	Pb	06 30 43.8	+0.2
	baz=37						
YUS				S	Sb	06 30 53.6	+1.4
	baz=37						
CHN5	Tsauling	0.64	2	P	Pb	06 30 44.5	+0.7
	baz=11						
CHN5				eS	Sn	06 30 54.3	-0.8
	baz=11						
TAW	Tawu	0.64	159	⇓iP	Pb	06 30 44.2	+0.6
	baz=159						
TAW				S	Sb	06 30 53.2	+1.0
	baz=159						
TWP	Hsiaoliuchiu	0.67	204	⇑iP	Pn	06 30 46.4	+0.8
	baz=204						
CHKT	Chengkung	0.67	78	eP	Pg	06 30 44.3	0.0
	baz=93						
CHKT				eS	Sn	06 30 55.4	-0.4
	baz=93						
WGK	Gukeng	0.73	353	eP	Pn	06 30 46.3	-0.2
	baz=354						
WGK				eS	Sn	06 30 57.7	+0.4
	baz=354						
WSF	Szhu	0.79	330	eP	Pg	06 30 46.5	+0.1
	baz=331						
WSF				eS	Sn	06 30 58.8	+0.3
	baz=331						
EHY	Hungye	0.82	48	⇑iP	Pg	06 30 47.3	+0.1
	baz=55						
EHY				i S	Sg	06 30 58.2	+0.1
	baz=55						
WNT	Mingjian	0.92	2	eP	Pn	06 30 49.4	+0.3
	baz=2.0						
WNT				eS	Sn	06 31 02.8	+0.9
	baz=2.0						
SMLT	Sun Moon Lake	0.95	14	P	Pn	06 30 50.0	+0.3
	baz=14						
SMLT				S	Sn	06 31 03.8	+0.9
	baz=14						
HEN	Hengchun	0.95	175	eP	Pg	06 30 50.0	+0.5
	baz=165						
HEN				S	Sn	06 31 04.0	+1.3
	baz=165						
TYC	Yuchr	0.96	11	P	Pg	06 30 50.1	+0.4
	baz=12						
TYC				eS	Sn	06 31 04.6	+1.7
	baz=12						
WDGT	Dungji	0.96	288	eP	Pb	06 30 48.6	-0.6
	baz=288						
TWK1	Hengchun	1.02	172	P	Pg	06 30 51.0	+0.1
	baz=172						
TWK1				eS	Sn	06 31 05.7	+1.3
	baz=172						
TSEB	Hengchuen, Pin	1.08	168	eP	Pg	06 30 52.1	+0.2
	baz=170						
TSEB				eS	Sg	06 31 07.4	+1.4
	baz=170						
ESL	Shilin	1.11	40	P	Pg	06 30 52.4	-0.3
	baz=32						
ESL				S	Sg	06 31 07.7	+0.4
	baz=32						
PNG	Penghu	1.18	301	eP	Pn	06 30 51.8	-0.9
	baz=301						
TCU	Taichung	1.18	1	eP	Pg	06 30 54.5	+0.5
	baz=2.0						
TCU				eS	Sg	06 31 10.3	+0.8
	baz=2.0						
WHF	Hehuan Shan	1.31	25	eP	Pb	06 30 55.8	+0.1
	baz=15						
WHF				eS	Sg	06 31 13.6	-0.8
	baz=15						
TWT	Tachien	1.38	20	eP	Pb	06 30 56.7	+0.1
	baz=8.0						
TWT				eS	Sb	06 31 14.9	+1.0
	baz=8.0						
TWQ1	Liyutan	1.39	4	eP	Pb	06 30 56.7	+0.2
	baz=5.0						
TWQ1				eS	Sg	06 31 15.7	-0.4
	baz=5.0						
TWD	Chiawan	1.41	38	eP	Pb	06 30 57.1	+0.2
	baz=38						
TWD				eS	Sg	06 31 15.9	-0.8
	baz=38						
NSY	Sanyi	1.46	4	eP	Pb	06 30 58.3	+0.6
	baz=4.0						
NSY				eS	Sg	06 31 17.8	-0.4
	baz=4.0						
NNS	Nan Shan	1.62	24	eP	Pb	06 31 00.2	-0.3
	baz=25						
NNS				eS	Sg	06 31 23.4	-0.2
	baz=25						
NSTT	Nanjuang	1.69	11	eP	Pb	06 31 02.6	+0.9
	baz=355						
NSTT				eS	Sg	06 31 24.6	-1.2
	baz=355						
ENA	Nanau	1.77	34	eP	Pb	06 31 02.2	-0.8
	baz=44						
ENA				eS	Sb	06 31 24.7	-0.2
	baz=44						
NSK	Sanguang	1.83	21	eP	Pb	06 31 03.8	-0.3
	baz=20						
ENTT	Nioudou	1.87	26	eP	Pb	06 31 04.5	-0.3
	baz=11						
TWC	Suao	1.98	33	eP	Pb	06 31 05.9	-0.6
	baz=42						
TWC				eS	Sb	06 31 30.1	-0.7
	baz=42						
TWA	Mucha	2.19	23	eP	Pn	06 31 08.0	+1.5
	baz=23						
TWA				eS	Sb	06 31 35.5	-1.4
	baz=23						
NWF	Wu-fen Shan	2.34	26	eP	Pb	06 31 11.7	-1.2
	baz=8.0						

IDC ***04*** *07:00:59.7±0.6,35°.03S×73°.57W,h0km,mb4.3/11, mb1 4.4/14,mb1mx4.2/29,mbtmp4.2/14,ML4.0/3,MS2.8/3, Ms1 2.8/3,ms1mx2.7/19,Error ellipse: s-maj=20.9km s-min=16.5km az=85.0*

GUC ***04*** *07:01:01.9±0.6,35°.16S×73°.30W,h11km±20km,ML4.7*

ISCJB ***04*** *07:01:03.5±0.4,35°.01S±0°.05×73°.55W±0°.06,h33km, mb4.3/19,Error ellipse: s-maj=7.5km s-min=6.4km az=14.3*

NEIC ***04*** *07:01:05.5±0.4,35°.01S×73°.65W,h35km,mb4.4/11,Error ellipse: s-maj=10.1km s-min=8.1km az=67.0*

ISC 04 07:01:05.5±0.5,34°.99S±0°.05×73°.60W±0°.08,h35km,n47, σ1§17/56,mb4.4/19,1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	1.89	168	eS1	Sn	07 01 52.8	-5.1
RCDM	Rinconada Maip	2.76	58	eP1	Pn	07 01 45.5	-1.8
RCDM				i S1	Sn	07 02 18.0	-1.4
ANTU	Antumapu	2.84	61	⇓iP	Pn	07 01 46.3	-2.1
ANTU				eS1	Sn	07 02 20.9	-0.5
ANTU				AML	AML	07 02 25.2	
	comp=E,1μm,0.3s						
PEL	Peldehue	3.04	54	eP1	Pn	07 01 50.1	-1.1
PEL				i S	Sn	07 02 26.4	-0.1
PEL				AML	AML	07 02 28.6	
	comp=N,6μm,0.3s						
CFAA	Coronel Fontan	5.62	55	Pn	Pn	07 02 25.4	-1.3
	comp=N,2.6nm,0.3s,baz=230,slow=14,SNR=40						
CFAA				Sn	Sn	07 03 31.1	+1.1
	comp=N,2.1nm,0.3s,baz=134,slow=20,SNR=8.7						
CFAA				LR	LR	07 04 46.0	
	comp=N,21nm,19.4s,baz=222,slow=40						
PLCA	Paso Flores	6.22	158	Pn	Pn	07 02 33.4	-1.4
	comp=N,0.8nm,0.3s,baz=330,slow=13,SNR=11						
PLCA				Sn	Sn	07 03 46.1	+1.4
	baz=281,slow=18,SNR=1.4						
PLCA				LR	LR	07 05 00.7	
	comp=N,113nm,20.8s,baz=36,slow=39						
PLCA	Paso Flores	6.22	158	ePn	Pn	07 02 34.9	+0.1
	comp=N,6.9nm,0.5s						
PLCA				Sn	Sn	07 03 46.1	+1.4
TRQA	Tornquist	9.84	111	ePn	Pn	07 03 25.6	+1.1
LVC	Limon Verde	13.00	20	ePn	Pn	07 04 07.8	-0.2
CPUP	Villa Florida	16.43	63	LR	LR	07 12 12.4	
	comp=N,87nm,19.8s,baz=197,slow=41						
CPUP	Villa Florida	16.43	63	eP	P	07 04 56.8	+1.0
LPAZ	La Paz	19.26	16	P	Pn	07 05 28.4	-0.4
	comp=N,0.4nm,0.3s,baz=198,slow=7.5,SNR=22						
LPAZ	La Paz	19.26	16	eP	Pn	07 05 28.8	-0.1
	comp=N,6.7nm,0.8s						
SIV	San Ignacio	22.01	34	P	P	07 05 55.9	-0.9
	comp=N,5.8nm,0.9s,baz=232,slow=10,SNR=15						
NNA	Nana	23.09	352	eP	P	07 06 10.5	+2.2
BDFB	Brasilia	29.96	56	P	P	07 07 10.0	-0.7
	comp=N,5.3nm,1.0s,baz=240,slow=8.1,SNR=4.7						
OTAV	Otavalo	35.34	352	eP	P	07 07 59.2	+1.0
	comp=N,9.9nm,1.4s						
QSPA	South Pole Qui	55.24	180	P	P	07 10 34.8	-0.1
	comp=N,3.2nm,0.9s,baz=150,slow=1.6,SNR=14						
QSPA	South Pole Qui	55.24	180	eP	P	07 10 35.3	+0.4
	comp=N,2.9nm,0.7s						
JCT	Junction City	69.64	336	eP	P	07 12 10.9	-0.4
	comp=N,6.2nm,0.8s						
TXAR	Lajitas Array	69.99	332	P	P	07 12 13.4	-0.1
	comp=N,2.5nm,0.6s,baz=156,slow=8.8,SNR=40						
SWET	Sewanee	70.79	349	eP	P	07 12 17.3	-0.9
	comp=N,7.5nm,0.8s						
WVT	Waverly	71.99	348	eP	P	07 12 25.1	-0.3
	comp=N,1.4nm,0.6s						
ANMO	Albuquerque	76.05	333	eP	P	07 12 49.4	0.0
	comp=N,1.5nm,0.8s						
DBIC	Dimbokro	76.72	72	P	P	07 12 52.6	-0.8
	comp=N,3.5nm,0.7s,baz=207,slow=4.4,SNR=5.9						
DBIC	Dimbokro	76.72	72	eP	P	07 12 54.1	+0.6
	comp=N,4.1nm,0.6s						
PFO	Pinyon Flats O	79.18	325	P	P	07 13 07.1	+0.3
	comp=N,4.1nm,0.9s,baz=136,slow=6.1,SNR=4.9						
BOSA	Boshof	80.75	118	P	P	07 13 14.9	-0.8
	comp=N,3.5nm,0.8s,baz=238,slow=3.3,SNR=4.8						
SRU	San Rafael Swe	81.26	332	eP	P	07 13 17.5	-0.5
DUG	Dugway, Tooele	83.09	331	eP	P	07 13 28.0	+0.5
	comp=N,2.4nm,1.0s						
HWUT	Hardware Ranch	83.81	332	eP	P	07 13 31.1	-0.1
	comp=N,2.8nm,0.8s						
NVAR	Mina Array Bea	83.97	326	P	P	07 13 32.5	+0.3
	comp=N,1.0nm,0.7s,baz=149,slow=9.0,SNR=4.0						
PDAR	Pinedale Array	84.08	334	P	P	07 13 32.9	+0.3
	comp=N,0.6nm,0.8s,baz=152,slow=4.1,SNR=9.6						
HVU	Hansel Valley	84.43	332	eP	P	07 13 34.1	-0.2
	comp=N,3.1nm,0.8s						
ELK	Elko	84.55	330	P	P	07 13 35.0	0.0
	comp=N,0.4nm,0.5s,baz=146,slow=3.6,SNR=6.2						
TORD	Torodi Ar. Bea	85.76	71	P	P	07 13 41.1	-0.4
	comp=N,1.9nm,0.8s,baz=229,slow=5.5,SNR=10						
WRA	Warramunga Arr	119.26	210	PKP	PKPdf	07 19 50.4	-1.1
	comp=N,0.3nm,0.6s,baz=157,slow=1.8,SNR=3.1						
BRTR	Keskin Array B	123.44	62	PKP	PKPdf	07 19 58.9	-0.1
	comp=N,1.1nm,0.7s,baz=216,slow=1.7,SNR=3.0						
PSI	Prapat	147.22	166	PKPbc	PKPdf	07 20 44.6	+1.0
	comp=N,6.6nm,0.8s,baz=194,slow=4.2,SNR=6.9						
BRVK	Borovoye	148.82	43	ePKPbc	PKPbc	07 20 49.7	+1.0
BVAR	Borovoye Array	148.89	43	PKPbc	PKPdf	07 20 45.9	+1.0
	comp=N,1.4nm,0.7s,baz=242,slow=3.2,SNR=6.0						
KKAR	Karatay Array	151.15	63	ePKPbc	PKPbc	07 20 54.7	-0.1
EKS2	Erkin-Say	153.58	63	ePKPdf	PKPdf	07 20 53.3	+0.7
EKS2				ePKPbc	PKiKP	07 21 01.0	+0.5
EKS2				ePKPab	PKPab	07 21 12.7	-0.4
AAK	Ala-Archa	154.11	63	ePKPdf	PKPdf	07 20 55.8	+2.3
AAK				ePKPbc	PKiKP	07 21 02.4	+0.8
ZALV	Zalesovo Beam	155.75	32	PKP	PKPdf	07 20 53.6	-1.5
	comp=N,0.8nm,0.6s,baz=318,slow=2.0,SNR=5.0						
ZALV				PKPbc	PKPbc	07 21 04.3	
	comp=N,1.9nm,0.8s,baz=321,slow=3.8,SNR=7.5						
ZALV				PKPab	PKPab	07 21 21.7	0.0
	comp=N,1.1nm,0.6s,baz=296,slow=4.6,SNR=4.7						
MKAR	Makanchi Array	158.39	50	PKPab	PKPab	07 21 33.1	-0.3
	comp=N,1.1nm,0.6s,baz=298,slow=4.0,SNR=11						
SONM	Songino Array	167.17	0	PKPab	PKPab	07 22 11.6	-0.2
	comp=N,1.7nm,0.9s,baz=329,slow=4.5,SNR=9.9						

NIED ***04*** *07:07:00,22°.80N×122°.10E,h35km,Mw4.7 Best double couple: M0 1.20000×10^16 NP1:φ=248.00000°,δ63.00000°, λ165.00000°. NP2:φ=345.00000°,δ77.00000°,λ28.00000°.*

ISCJB ***04*** *07:07:11.7±0.4,22°.81N±0°.01×122°.16E±0°.01,h15km±3km, mb4.2/30,MS3.8/10,Error ellipse: s-maj=2.5km s-min=2.1km az=156.1*

BJI ***04*** *07:07:13.6,22°.93N×122°.00E,h7km,mB4.7/30,mb4.4/42, ML4.6/6,Ms4.4/39,Ms7 3.9/30*

JMA ***04*** *07:07:13.4±0.1,22°.83N×122°.07E,h40km,M5.0*

TAP ***04*** *07:07:14.4,22°.80N×122°.06E,h35km,ML5.1,C*

IDC ***04*** *07:07:15.6±0.6,22°.77N×122°.46E,h35km±3km,mb3.7/20, mb1 3.9/23,mb1mx3.9/31,mbtmp4.0/23,ML3.5/3,MS3.7/12, Ms1 3.7/12,ms1mx3.5/30,Error ellipse: s-maj=16.1km s-min=14.5km az=71.0*

NEIC ***04*** *07:07:16.2±0.6,22°.91N×122°.02E,h35km,mb4.7/10, ML4.9(TAP),Error ellipse: s-maj=11.4km s-min=8.6km az=98.0*

NEIC Recorded [2 TAP] in T'ai-tung and [1 TAP] in Chia-i, Hua-lien, I-lan, Nan-t'ou, P'ing-tung and Yun-lin.

MAN ***04*** *07:08:21,17°.83N×121°.16E,h25km,mb4.7,ML3.6,MS3.6*

ISC 04 07:07:13.7±0.7,22°.81N±0°.02×122°.10E±0°.02,h16km±3km, n180,σ1§77/242,mb4.2/30,MS3.9/10,30C-10D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	Chengkung	0.74	293	⇑iP	Pg	07 07 26.9	-1.2
	baz=295						
CHKT				i S	Sg	07 07 35.7	-2.2
	baz=295						
TTN	Taitung	0.88	266	⇑iP	Pg	07 07 29.4	-1.5
	baz=267						
TTN				eS	Sg	07 07 40.2	-2.4
	baz=267						
TWF1	Yuli	0.92	306	⇑iP	Pg	07 07 29.8	-1.7
	baz=315						
TWF1				S	Sg	07 07 40.9	-2.7
	baz=315						
LAY	Lan-yu	0.92	214	⇓iP	Pg	07 07 29.3	-2.3
	baz=220						
YULB	Yu-li	0.94	308	ePn	Pg	07 07 30.0	-1.9
TWG	Pinlang	0.95	271	⇑P	Pg	07 07 30.1	-2.1
	baz=271						
TWG				S	Sg	07 07 42.0	-2.6
	baz=271						
TWG	Pinlang	0.95	271	ePn	Pg	07 07 29.9	-2.2
TWG				eSn	Sg	07 07 41.0	-3.7
EHY	Hungye	1.00	314	⇑iP	Pg	07 07 30.9	-2.1
	baz=321						
EHY				S	Sg	07 07 43.7	-2.4
	baz=321						
TEGC	Jichi Village	1.03	330	P	Pg	07 07 32.4	-1.2
	baz=324						
TEGC				eS	Sg	07 07 45.1	-2.1
	baz=324						
ELDTW	Lidau	1.07	291	⇑iP	Pg	07 07 31.9	-2.5
	baz=292						
ECL	Taimali	1.08	259	⇑P	Pg	07 07 31.8	-2.9
	baz=259						
ESL	Shilin	1.17	328	S	Sb	07 07 47.1	-3.3
	baz=340						
ESF	Shoufeng Towns	1.19	333	eP	Pb	07 07 34.0	-1.8
	baz=335						
TAW	Tawu	1.20	248	eP	Pb	07 07 33.9	-2.2
	baz=259						
TAW				eS	Sb	07 07 47.5	-3.9
	baz=259						
EAST	Anshuo	1.24	250	⇑P	Pb	07 07 34.4	-2.3
	baz=260						
EAST				eS	Sb	07 07 47.9	-4.5
	baz=260						
HWA	Hwalien	1.25	339	P	Pn	07 07 35.1	-1.3
	baz=350						
HWA				eS	Sb	07 07 49.4	-3.2
	baz=350						
YUS	Yu-Shan	1.25	303	⇑iP	Pn	07 07 35.8	-1.2
	baz=297						
YUS				eS	Sb	07 07 49.7	-3.7
	baz=297						
STYT	Tauyuan	1.29	286	⇑iP	Pn	07 07 35.8	-1.2
	baz=287						
STYT				eS	Sb	07 07 50.8	-3.1
	baz=287						
TWD	Chiawan	1.34	340	P	Pn	07 07 36.1	-1.7
	baz=342						
TWD				S	Sb	07 07 51.8	-3.7
	baz=342						
SSD	Sandimen	1.36	267	⇑P	Pn	07 07 36.3	-1.7
	baz=261						
ALS	Alishan	1.38	300	⇑iP	Pn	07 07 38.0	-0.5
	baz=295						
ALS				eS	Sb	07 07 55.4	-1.4
	baz=295						
SGST	Jiashian	1.43	281	⇑iP	Pn	07 07 38.8	-0.1
	baz=281						
SGST				i S	Sn	07 07 56.5	-0.9
	baz=281						
NACB	Ninganchiao	1.43	341	ePn	Pn	07 07 37.1	-1.8
NACB				eSn	Sn	07 07 46.9	-11
SSLB	Suanglung	1.43	313	ePn	Pn	07 07 37.7	-1.3
SSLB				eSn	Sn	07 07 56.2	-1.3
TSEB	Hengchuen, Pin	1.44	231	i P	Pn	07 07 38.4	-0.7
	baz=231						
TSEB				eS	Sn	07 07 55.0	-2.5
	baz=231						
WTP	Ta-pu	1.44	288	⇑iP	Pn	07 07 38.9	-0.2
	baz=289						
WTP				eS	Sn	07 07 57.4	-0.2
	baz=289						
SCZT	Fangliau	1.44	253	eP	Pn	07 07 37.8	-1.3
	baz=252						
TPUB	Ta-pu	1.44	290	ePn	Pn	07 07 38.5	-0.6
TWK1	Hengchun	1.48	234	⇓P	Pn	07 07 38.4	-1.2
	baz=225						
TWK1				eS	Sn	07 07 55.3	-3.4
	baz=225						
CHN4	Tsaushan	1.49	291	⇑iP	Pn	07 07 39.9	+0.1
	baz=293						
CHN4				eS	Sn	07 07 59.6	+0.7
	baz=293						
SGLT	Jiouru	1.49	267	eP	Pn	07 07 39.5	-0.3
	baz=263						
HEN	Hengchun	1.50	238	⇓iP	Pn	07 07 39.2	-0.7
	baz=230						
HEN				eS	Sn	07 07 55.9	-3.1
	baz=230						
CHN1	Nanshi	1.50	285	⇑iP	Pn	07 07 40.2	+0.3
	baz=294						
CHN1				eS	Sn	07 07 59.1	0.0
	baz=294						
CHN5	Tsauling	1.53	301	⇑iP	Pn	07 07 40.7	+0.3
	baz=302						
EHP	Heping Village	1.53	348	eP	Pn	07 07 39.9	-0.4
	baz=349						
WHF	Hehuan Shan	1.53	330	⇑iP	Pn	07 07 39.3	-1.5
	baz=332						
SMLT	Sun Moon Lake	1.54	314	⇑P	Pn	07 07 39.9	-0.6
	baz=322						
SMLT				eS	Sn	07 07 59.4	-0.8
	baz=322						
TWM1	Shoushan	1.55	271	P	Pn	07 07 41.4	+0.8
	baz=271						
TWM1				eS	Sg	07 08 02.8	-1.0
	baz=271						
TWK	Hsinying	1.56	287	⇑iP	Pn	07 07 41.0	+0.3
	baz=288						
TWK				eS	Sn	07 08 01.2	+0.7
	baz=288						
TYC	Yuchr	1.58	314	⇑iP	Pn	07 07 40.7	-0.3
	baz=322						
TYC				eS	Sn	07 07 59.6	-1.4
	baz=322						
CHN3	Shinhua	1.62	280	eP	Pn	07 07 43.2	+1.6
	baz=279						
ENA	Nanau	1.64	348	⇓P	Pn	07 07 40.9	-0.9
	baz=350						
ENA				eS	Sn	07 08 00.0	-2.6
	baz=350						
CHN2	Minshiung	1.66	296	⇑P	Pn	07 07 42.8	+0.7
	baz=297						
CHN2				eS	Sn	07 08 04.0	+0.9
	baz=297						
WGK	Gukeng	1.66	302	P	Pn	07 07 43.2	+1.0
	baz=315						
WGK				S	Sn	07 08 04.0	+0.8
	baz=315						

TWT	**Tachien**	**1.67 329**	P	**Pn**	**07 07 42.0**	**-0.4**
	baz=330					
TWT			*e*S	**Sn**	**07 08 00.8**	**-2.7**
	baz=330					
TWP	**Hsiaoliuchiu**	**1.67 254**	*e*P	**Pb**	**07 07 44.2**	**+0.1**
	baz=254					
KAU	**Kaohsiung**	**1.68 262**	*e*P	**Pn**	**07 07 42.9**	**+0.6**
	baz=262					
WNT	**Mingjian**	**1.68 309**	⇑P	**Pn**	**07 07 43.2**	**+0.8**
	baz=310					
WNT			*e*S	**Sn**	**07 08 03.4**	**-0.2**
	baz=310					
CHY	**Chiayi**	**1.69 294**	⇑*i*P	**Pn**	**07 07 43.1**	**+0.6**
	baz=295					
CHY			*e*S	**Sn**	**07 08 04.3**	**+0.5**
	baz=295					
TAI1	**Yung-k'ang**	**1.74 278**	*e*P	**Pn**	**07 07 43.9**	**+0.7**
	baz=277					
NNS	**Nan Shan**	**1.75 338**	⇑P	**Pn**	**07 07 43.0**	**-0.5**
	baz=339					
NNS			*e*S	**Sn**	**07 08 02.7**	**-2.9**
	baz=339					
SCLT	**Jiali**	**1.80 282**	*e*P	**Pn**	**07 07 44.5**	**+0.5**
	baz=283					
SCLT			*e*S	**Sn**	**07 08 06.7**	**+0.3**
	baz=283					
TWC	**Suao**	**1.80 353**	⇓P	**Pn**	**07 07 43.8**	**-0.3**
	baz=5.0					
TWC			*e*S	**Sn**	**07 08 05.0**	**-1.7**
	baz=5.0					
JYNG	**Yonagunijimaku**	**1.81 25**	P	**Pn**	**07 07 43.4**	**-0.7**
JYNG			*e*S	**Sn**	**07 08 04.7**	**-1.9**
CHN8	**Yiju**	**1.82 287**	*e*P	**Pn**	**07 07 44.3**	**0.0**
	baz=288					
CHN8			*e*S	**Sn**	**07 08 07.5**	**+0.5**
	baz=288					
YOJ	**Yonaguni jima**	**1.84 27**	P	**Pn**	**07 07 43.4**	**-1.2**
YOJ			*e*S	**Sn**	**07 08 06.9**	**-0.6**
YOJ	**Yonaguni jima**	**1.84 27**	⇑*i*P	**Pn**	**07 07 44.0**	**-0.6**
	baz=28					
YOJ			*e*S	**Sn**	**07 08 05.3**	**-2.2**
	baz=28					
YOJ	**Yonaguni jima**	**1.84 27**	*e*Pn	**Pn**	**07 07 43.9**	**-0.7**
TCU	**Taichung**	**1.87 316**	⇑*i*P	**Pn**	**07 07 46.1**	**+1.2**
	baz=317					
TCU			*e*S	**Sn**	**07 08 08.5**	**+0.3**
	baz=317					
ENTT	**Nioudou**	**1.88 345**	P	**Pn**	**07 07 44.7**	**-0.5**
	baz=346					
ENTT			*e*S	**Sn**	**07 08 06.4**	**-2.2**
	baz=346					
WSF	**Szhu**	**1.92 296**	*e*P	**Pn**	**07 07 45.5**	**-0.1**
	baz=296					
TWQ1	**Liyutan**	**1.96 322**	⇑*i*P	**Pn**	**07 07 47.6**	**+1.4**
	baz=333					
TWQ1			*e*S	**Sn**	**07 08 11.2**	**+0.8**
	baz=333					
YHNB	**Yeheng**	**1.96 340**	*e*Pn	**Pn**	**07 07 45.7**	**-0.7**
ILA	**Ilan**	**1.97 351**	*e*P	**Pn**	**07 07 46.4**	**0.0**
	baz=352					
ILA			*e*S	**Sn**	**07 08 09.7**	**-1.0**
	baz=352					
WTCT	**Ta-ch'eng**	**1.98 302**	*e*P	**Pn**	**07 07 46.5**	**+0.1**
	baz=303					
WTCT			*e*S	**Sn**	**07 08 10.2**	**-0.6**
	baz=303					
NSK	**Sanguang**	**1.98 340**	⇓P	**Pn**	**07 07 46.4**	**-0.2**
	baz=341					
NSK			*e*S	**Sn**	**07 08 07.8**	**-3.2**
	baz=341					
HATJ	**Hateruma jima**	**1.99 51**	P	**Pn**	**07 07 46.2**	**-0.5**
HATJ			*e*S	**Sn**	**07 08 09.5**	**-1.8**
NSY	**Sanyi**	**2.02 323**	P	**Pn**	**07 07 48.3**	**+1.3**
	baz=331					
NSY			S	**Sn**	**07 08 12.3**	**+0.4**
	baz=331					
EGS		**2.03 356**	⇓*i*P	**Pn**	**07 07 47.6**	**+0.4**
	baz=7.0					
EGS			S	**Sn**	**07 08 10.6**	**-1.6**
	baz=7.0					
NSTT	**Nanjuang**	**2.07 331**	P	**Pn**	**07 07 48.9**	**+1.1**
	baz=332					
NSTT			S	**Sn**	**07 08 12.6**	**-0.7**
	baz=332					
IRIF	**Iriomote-Funau**	**2.13 44**	P	**Pn**	**07 07 48.2**	**-0.3**
IRIF			*e*S	**Sn**	**07 08 13.0**	**-1.6**
TWB1	**Santiao Chiao**	**2.19 357**	*e*P	**Pn**	**07 07 49.2**	**-0.2**
	baz=359					
TWB1			*e*S	**Sn**	**07 08 16.3**	**+0.2**
	baz=359					
TWA	**Mucha**	**2.21 348**	⇓P	**Pn**	**07 07 50.3**	**+0.6**
	baz=339					
TWA			*e*S	**Sn**	**07 08 15.9**	**-0.8**
	baz=339					
TATO	**Taipei**	**2.23 345**	*e*Pn	**Pn**	**07 07 49.8**	**-0.1**
HSN	**Hsinchu**	**2.24 333**	*e*P	**Pn**	**07 07 51.2**	**+1.2**
	baz=323					
HSN			*e*S	**Sn**	**07 08 17.9**	**+0.6**
	baz=323					
JKRS	**Kuro-shima**	**2.25 51**	P	**Pn**	**07 07 50.0**	**-0.2**
JKRS			*e*S	**Sn**	**07 08 16.1**	**-1.6**
NWF	**Wu-fen Shan**	**2.27 353**	*e*P	**Pn**	**07 07 51.3**	**+0.7**
	baz=354					
NWF			*e*S	**Sn**	**07 08 17.0**	**-1.2**
	baz=354					
TAP1	**Taipei**	**2.28 347**	*e*P	**Pn**	**07 07 50.8**	**+0.2**
	baz=348					
TAP1			*e*S	**Sn**	**07 08 16.1**	**-2.3**
	baz=348					
TAP	**Taipei**	**2.28 346**	*e*P	**Pn**	**07 07 50.5**	**-0.2**
	baz=347					
WDGT	**Dungji**	**2.29 282**	*i* P	**Pn**	**07 07 50.2**	**-0.6**
	baz=282					
WDGT			*e*S	**Sn**	**07 08 15.5**	**-3.2**
	baz=282					
NCU	**National Centr**	**2.31 339**	*e*P	**Pn**	**07 07 51.9**	**+0.9**
	baz=349					
NCU			*e*S	**Sn**	**07 08 19.4**	**+0.4**
	baz=349					
TWS1	**Kuangyinshan**	**2.36 345**	*e*P	**Pn**	**07 07 52.4**	**+0.6**
	baz=346					
TWS1			*e*S	**Sn**	**07 08 20.4**	**0.0**
	baz=346					
JIJ	**Ishigaki jima**	**2.43 50**	P	**Pn**	**07 07 51.7**	**-0.9**
JIJ			*e*S	**Sn**	**07 08 19.4**	**-2.6**
PNG	**Penghu**	**2.46 288**	P	**Pn**	**07 07 52.1**	**-1.0**
	baz=289					
PNG			*e*S	**Sn**	**07 08 20.2**	**-2.6**
	baz=289					
TWY	**Chenhua**	**2.50 349**	*e*P	**Pn**	**07 07 53.7**	**+0.1**
	baz=338					
JISG	**Ishigakijimahi**	**2.69 48**	P	**Pn**	**07 07 55.2**	**-1.0**
JISG			*e*S	**Sn**	**07 08 25.9**	**-2.5**
JTJ	**Tarama**	**3.00 52**	P	**Pn**	**07 07 59.9**	**-0.6**
JTJ			*e*S	**Sn**	**07 08 34.1**	**-2.0**
JIRB	**Irabujima**	**3.45 54**	P	**Pn**	**07 08 06.7**	**-0.1**
JIRB			*e*S	**Sn**	**07 08 44.8**	**-2.5**
JMJ	**Miyako jima 2**	**3.54 55**	P	**Pn**	**07 08 07.6**	**-0.3**
JMJ			*e*S	**Sn**	**07 08 47.1**	**-2.3**
JMJ	**Miyako jima 2**	**3.54 55**	*e*P	**Pn**	**07 08 07.3**	**-0.6**
	baz=54					
JMJ			*e*S	**Sn**	**07 08 47.1**	**-2.3**
	baz=54					
JIKM	**Ikemajima**	**3.56 53**	P	**Pn**	**07 08 07.9**	**-0.4**
JIKM			*e*S	**Sn**	**07 08 48.4**	**-1.7**
JOGS	**Gusukube**	**3.59 57**	P	**Pn**	**07 08 08.4**	**-0.3**
JOGS			*e*S	**Sn**	**07 08 49.2**	**-1.6**
KNM	**Kinmen**	**3.73 296**	*e*P	**Pn**	**07 08 10.3**	**-0.2**
	baz=293					
QZH	**Quanzhou**	**3.85 304**	⇓*i*Pn	**Pn**	**07 08 11.0**	**-1.2**
QZH			Sn	Sn	07 08 52.4	-4.7
QZH			SMN			
	1μm,0.8s					
QZH			SME			
	1μm,0.8s					
APYP	**Conner**	**4.99 189**	*e*P	**Pn**	**07 08 27.1**	**-0.8**
APYP			*e*S	Sn	07 08 33.2	-52
ABRA	**Dolores**	**5.30 195**	*e*P	**Pn**	**07 08 32.6**	**+0.4**
SZP	**Santa**	**5.46 197**	*e*Pn	**Pn**	**07 08 34.9**	**+0.5**
JKE	**Kume jima 2**	**5.51 50**	P	Pn	07 08 33.5	-1.6
CAUP	**Cauayan**	**5.84 183**	*e*P	**Pn**	**07 08 41.4**	**+1.7**
JNTH	**Nagotoyohara**	**6.53 54**	P	Pn	07 08 47.1	-1.9
JNTH			*e*S	Sn	07 09 59.4	-3.7
BOLP	**Bolinao**	**6.72 198**	*e*P	**Pn**	**07 08 52.0**	**+0.3**
JIH	**Iheya**	**6.78 51**	P	Pn	07 08 50.8	-1.7
JOW	**Kunigami**	**6.89 53**	P	Pn	07 08 52.0	-2.0
JOW			*e*S	Sn	07 10 08.0	-4.1
JOW	**Kunigami**	**6.89 53**	*e*P	Pn	07 08 50.5	-3.5
	0.9nm,0.3s,baz=193,slow=14,SNR=17					
JOW			Sn	Sn	07 10 07.2	-4.9
	baz=150,slow=20					
JOW	**Kunigami**	**6.89 53**	*e*P	Pn	07 08 51.9	-2.0
	baz=49					
BALP	**Baler**	**7.05 184**	*e*P	**Pn**	**07 08 56.7**	**+0.4**
JOKE	**Okinoerabujima**	**7.41 51**	*e*S	Sn	07 10 18.9	-6.0
JTK	**Tokunoshima**	**7.93 50**	P	Pn	07 09 04.9	-3.4
JTK			*e*S	Sn	07 10 29.4	-8.3
GZH	**Guangzhou**	**8.08 274**	P	Pn	07 09 07.0	-3.3
GZH			S	Sn	07 10 27.2	-14
GZH			smax	smax		
	comp=N,670nm,0.8s					
GZH			smax	smax		
	comp=E,500nm,0.9s					
JAMN	**Amaminishikomi**	**8.37 48**	P	Pn	07 09 10.3	-4.0
JAMN			*e*S	Sn	07 10 39.5	-8.9
JAM	**Amami Oshima**	**8.77 49**	P	Pn	07 09 16.0	-3.8
JAM			*e*S	Sn	07 10 49.3	-9.0
JMZ	**Minamidaito 2**	**8.84 68**	P	Pn	07 09 17.5	-3.2
JMZ			*e*S	Sn	07 10 48.7	-1.1
NJ2	**Nanjing**	**9.64 343**	*e*P	**Pn**	**07 09 31.1**	**-0.7**
NJ2			S	**Sn**	**07 11 19.5**	**-0.3**
NJ2			PMZ			
	comp=E,30nm,0.8s					
NJ2			LN			
	comp=E,1μm,10.0s					
NJ2			LE			
	comp=E,600nm,9.5s					
NJ2			LZ			
	comp=E,620nm,11.9s					
QIZ	**Qiongzhong**	**12.06 254**	P	**Pn**	**07 10 03.7**	**-1.2**
QIZ			S	**Sn**	**07 12 17.6**	**-1.5**
QIZ			PMZ			
	comp=E,17nm,3.0s					
QIZ			LN			
	comp=E,960nm,19.7s					
QIZ			LZ			
	comp=E,590nm,14.0s					
GYA	**Guiyang**	**14.50 288**	⇑*i*P	**Pn**	**07 10 38.6**	**+0.2**
GYA			pP	**P**	**07 10 45.0**	**0.0**
GYA			PP	**PnPn**	**07 10 49.4**	**+3.0**
GYA			S	**Sn**	**07 13 16.8**	**-2.1**
GYA			sS	S	07 13 29.2	-9.3
GYA			SS	**SnSn**	**07 13 34.6**	**+3.1**
GYA			PMZ			
	comp=E,20nm,0.8s					
GYA			PMZ			
	comp=E,110nm,4.6s					
GYA			LN			
	comp=E,370nm,11.2s					
GYA			LE			
	comp=E,460nm,11.8s					
GYA			LZ			
	comp=E,600nm,9.9s					
KSRS	**Korea Array**	**15.43 18**	Pn	**Pn**	**07 10 49.3**	**-1.4**
	comp=E,0.4nm,0.3s,baz=198,slow=13,SNR=24					
KSRS			LR	LR	07 17 26.5	
	comp=E,107nm,18.6s,baz=179,slow=40					
XAN	**Xi'an**	**16.09 317**	P	**Pn**	**07 10 58.8**	**-0.5**
XAN			pP	**pP**	**07 11 06.5**	**-0.7**
XAN			LN			
	comp=E,810nm,14.9s					
XAN			LE			
	comp=E,280nm,15.8s					
DLV	**T Lat**	**16.89 232**	*e*P	**P**	**07 11 12.5**	**+0.8**
	comp=E,27nm,1.1s					
SLVN	**Son La**	**16.93 268**	*e*Pn	**Pn**	**07 11 10.6**	**+0.5**
	comp=E,29nm,1.6s					
KKM	**Kota Kinabalu**	**17.61 200**	*e*P	**Pn**	**07 11 19.9**	**+1.3**
	comp=E,26nm,0.8s					
KMI	**Kunming**	**17.85 281**	P	**P**	**07 11 24.2**	**+2.0**
KMI			pP	**pP**	**07 11 29.4**	**+2.5**
KMI			sP	sP	07 11 34.3	+5.3
KMI			S	**Sn**	**07 14 37.4**	**-3.0**
KMI			PMZ			
	comp=E,8.0nm,1.2s					
KMI			PMZ			
	comp=E,58nm,3.3s					
KMI			LN			
	comp=E,350nm,14.3s					
KMI			LE			
	comp=E,250nm,13.7s					
KMI			LZ			
	comp=E,300nm,13.7s					
BJI	**Beijing**	**17.90 345**	P	**Pn**	**07 11 22.1**	**+0.3**
BJI			S	**Sn**	**07 14 38.2**	**-2.8**
BJI			PMZ			
	comp=E,8.0nm,0.5s					
BJI			PMZ			
	comp=E,43nm,3.5s					
BJI			LN			
	comp=E,220nm,13.2s					
BJI			LE			
	comp=E,560nm,22.4s					
CD2	**Chengdu**	**18.23 300**	*e*P	**Pn**	**07 11 26.3**	**+0.2**
CD2			sP	sP	07 11 38.4	+5.4
CD2			PP	**PnPn**	**07 11 40.6**	**+3.1**
CD2			S	Sn	07 14 42.8	-6.6
CD2			sS	**S**	**07 14 56.0**	**+1.5**
CD2			SS	**SnSn**	**07 15 06.6**	**+3.4**
CD2			PMZ			
	comp=E,30nm,1.4s					
CD2			PMZ			
	comp=E,110nm,5.9s					
CD2			LN			
	comp=E,640nm,10.7s					
CD2			LE			
	comp=E,580nm,9.5s					
CD2			LZ			
	comp=E,520nm,13.1s					
JCJ	**Chichijima**	**18.70 73**	LR	LR	07 17 44.5	
	comp=E,179nm,21.1s,baz=89,slow=34					
SNY	**Shenyang**	**19.00 3**	⇓P	**P**	**07 11 33.4**	**-1.2**
SNY			S	**S**	**07 15 12.0**	**+2.3**
SNY			PMZ			
	comp=E,10.0nm,0.1s					
SNY			PMZ			
	comp=E,240nm,3.1s					
SNY			LN			
	comp=E,260nm,15.3s					
SNY			LE			
	comp=E,1μm,17.2s					
MJAR	**Matsushiro Arr**	**19.53 42**	P	**P**	**07 11 39.1**	**-1.3**
	comp=E,0.4nm,0.3s,baz=228,slow=10,SNR=8.0					
HHC	**Hu-ho-hao-te**	**20.06 336**	*e*P	Pn	07 11 49.2	+1.1
HHC			pP	pP	07 11 56.8	+5.9
HHC			PP	**PnPn**	**07 12 08.9**	**+6.3**
HHC			S	**S**	**07 15 28.2**	**-3.0**
HHC			sS	sS	07 15 40.6	+1.9
HHC			PMZ			
	comp=E,22nm,1.3s					
HHC			PMZ			
	comp=E,74nm,3.1s					
HHC			LN			
	comp=E,500nm,13.5s					
HHC			LE			
	comp=E,1μm,17.6s					
HHC			LZ			
	comp=E,390nm,13.5s					
LZH	**Lanzhou**	**20.64 314**	*e*P	**P**	**07 11 53.0**	**+0.3**
LZH			pP	**pP**	**07 11 59.7**	**+2.4**
LZH			sP	sP	07 12 05.0	+5.5
LZH			*e*S	**S**	**07 15 38.3**	**-4.6**
LZH			sS	**sS**	**07 15 51.6**	**+1.3**
LZH			SS	**SnSn**	**07 16 09.8**	**+7.4**
LZH			PMZ			
	comp=E,25nm,1.0s					
LZH			PMZ			
	comp=E,200nm,4.8s					
LZH			LN			
	comp=E,900nm,12.1s					
LZH			LE			
	comp=E,690nm,13.0s					
LZH			LZ			
	comp=E,990nm,14.2s					
CN2	**Changchun**	**21.11 7**	*e*P	**P**	**07 12 00.9**	**+3.3**
CN2			*e*sP	sP	07 12 14.1	+10
CN2			*e*S	**S**	**07 15 49.7**	**-2.2**
CN2			PMZ			
	comp=E,10.0nm,1.0s					
CN2			PMZ			
	comp=E,200nm,3.0s					
CN2			LN			
	comp=E,300nm,17.0s					
CN2			LE			
	comp=E,700nm,17.0s					
CN2			LZ			
	comp=E,400nm,15.0s					
MDJ	**Mudanjiang**	**22.60 14**	P	**P**	**07 12 12.4**	**-1.1**
MDJ			PMZ			
	comp=E,11nm,1.1s					
MDJ			PMZ			
	comp=E,76nm,4.6s					
USRK	**Ussuriysk Ar.**	**22.83 19**	P	**P**	**07 12 13.8**	**-2.1**
	comp=E,5.2nm,0.8s,baz=203,slow=8.9,SNR=11					
GTA	**Gaotai**	**25.15 316**	⇑P	**P**	**07 12 40.1**	**+1.8**
GTA			pP	pP	07 12 49.3	+6.1
GTA			sP	sP	07 12 53.4	+8.1
GTA			S	**S**	**07 17 02.5**	**-0.2**
GTA			SS	SnSn	07 18 04.7	+12
GTA			PMZ			
	comp=E,5.0nm,1.6s					
GTA			PMZ			
	comp=E,52nm,5.2s					
GTA			LN			
	comp=E,400nm,17.6s					
GTA			LE			
	comp=E,380nm,16.6s					
GTA			LZ			
	comp=E,310nm,16.2s					
ULN	**Ulaanbaatar**	**27.75 338**	*e*P	P	07 12 57.7	-3.9
	comp=E,31nm,2.1s					
SONM	**Songino Array**	**27.95 337**	P	**P**	**07 13 03.9**	**+0.5**
	comp=E,1.9nm,0.8s,baz=146,slow=9.3,SNR=12					
PSI	**Prapat**	**30.01 232**	LR	LR	07 25 11.4	
	comp=E,144nm,19.5s,slow=36					
WMQ	**Urumqi**	**35.21 315**	*e*P	**P**	**07 14 06.3**	**-0.9**
WMQ			PMZ			
	comp=E,110nm,4.0s					
WMQ			LN			
	comp=E,170nm,15.0s					
WMQ			LE			
	comp=E,26nm,15.0s					
MKAR	**Makanchi Array**	**39.91 317**	P	**P**	**07 14 47.6**	**+0.7**
	comp=E,3.6nm,0.7s,baz=105,slow=9.5,SNR=14					
MKAR			pP	pP	07 14 58.4	+6.4
	comp=E,2.9nm,0.7s,baz=110,slow=9.7,SNR=21					
PETK	**Petropavlovsk-**	**40.54 33**	LR	LR	07 32 17.4	
	comp=E,71nm,21.7s,baz=235,slow=37					
H11N1	**WAKE ISLAND Hy 41.74**	**86**	T	T	08 00 29.2	
	baz=282,slow=75,SNR=14					
H11N2	**WAKE ISLAND Hy 41.74**	**86**	T	T	08 00 25.8	
	baz=282,slow=75,SNR=14					
H11N3	**WAKE ISLAND Hy 41.75**	**86**	T	T	08 00 32.7	
	baz=282,slow=75,SNR=33					
H11S3	**WAKE ISLAND Hy 41.82**	**87**	T	T	08 00 32.1	
	baz=284,slow=75,SNR=22					
H11S1	**WAKE ISLAND Hy 41.83**	**87**	T	T	08 00 31.8	
	baz=284,slow=75,SNR=43					
H11S2	**WAKE ISLAND Hy 41.84**	**87**	T	T	08 00 31.8	
	baz=284,slow=75,SNR=23					
ZALV	**Zalesovo Beam**	**41.85 328**	P	**P**	**07 15 03.3**	**+0.6**
	comp=E,2.6nm,0.5s,baz=111,slow=8.0,SNR=1.8					
ZALV			pP	pP	07 15 13.2	+5.4
	comp=E,14nm,0.7s,baz=112,slow=8.2,SNR=8.6					
ZALV			LR	LR	07 32 18.0	
	comp=E,62nm,19.1s,baz=68,slow=36					
COEN	**Coen**	**41.97 149**	*e*P	**P**	**07 15 04.1**	**0.0**
	comp=E,472nm,1.8s					
KSH	**Kashi**	**42.36 304**	*e*P	**P**	**07 15 07.7**	**+0.4**
KSH			sP	sP	07 15 20.8	+6.4
KSH			S	**S**	**07 21 24.7**	**-3.3**
KSH			sS	sS	07 21 40.3	+3.9
KSH			PMZ			
	comp=E,7.0nm,1.4s					
KSH			PMZ			
	comp=E,74nm,5.9s					
KSH			LN			
	comp=E,100nm,4.7s					
KSH			LE			
	comp=E,78nm,4.9s					
KSH			LZ			
	comp=E,77nm,5.3s					
PALK	**Pallekele**	**42.68 255**	LR	LR	07 35 13.7	
	comp=E,152nm,18.1s,baz=33,slow=39					
KURK	**Kurchatov**	**43.68 321**	*e*P	**P**	**07 15 16.3**	**-1.3**
	comp=E,8.3nm,1.0s					
AAK	**Ala-Archa**	**44.01 308**	P	**P**	**07 15 21.4**	**+0.7**
	comp=E,0.4nm,0.3s,baz=80,slow=11,SNR=2.4					
AAK	**Ala-Archa**	**44.01 308**	*e*P	**P**	**07 15 23.3**	**+2.7**
	comp=E,2.1nm,0.6s					
WRAB	**Tennant Creek**	**44.14 163**	*e*P	**P**	**07 15 21.6**	**0.0**
	comp=E,3.9nm,0.8s					
WRA	**Warramunga Arr**	**44.14 163**	P	P	07 15 19.0	-2.6
	comp=E,1.3nm,0.9s,baz=345,slow=8.6,SNR=5.1					
SEY	**Seymchan**	**44.98 19**	P	**P**	**07 15 26.7**	**-1.1**
	comp=E,1.2nm,0.8s,baz=179,slow=4.2,SNR=3.8					
SEY			sP	sP	07 15 42.0	+7.0
	comp=E,4.5nm,0.7s,baz=220,slow=9.0,SNR=8.3					
ASAR	**Alice Springs**	**47.60 165**	P	P	07 15 47.0	-1.9
	comp=E,0.4nm,0.4s,baz=343,slow=7.1,SNR=3.5					
FX1	**Attu Island--F**	**48.84 39**	LR	LR	07 35 34.4	
	comp=E,42nm,21.5s,baz=5.0,slow=35					
TIXI	**Tiksi**	**49.01 3**	*e*P	**P**	**07 15 59.6**	**+0.4**
	comp=E,8.7nm,0.9s					
BVAR	**Borovoye Array**	**49.27 321**	P	**P**	**07 16 03.1**	**+1.6**
	comp=E,0.9nm,0.5s,baz=100,slow=7.7,SNR=6.5					
BVAR			pP	pP	07 16 12.8	+6.2
	comp=E,3.8nm,0.6s,baz=108,slow=9.5,SNR=13					
BILL	**Bilibino**	**52.69 19**	*e*P	**P**	**07 16 27.9**	**+1.0**
	comp=E,31nm,1.3s					
ABKAR	**Akbulak array**	**55.00 315**	*e*P	**P**	**07 16 45.8**	**+1.6**
GEYT	**Alibeck**	**56.22 301**	P	**P**	**07 16 54.5**	**+1.3**
	comp=E,1.0nm,0.4s,baz=72,slow=4.7,SNR=2.3					
GEYT			pP	pP	07 17 05.8	+7.4
	comp=E,10nm,0.8s,baz=73,slow=4.8,SNR=6.4					
GEYT			LR	LR	07 44 58.4	
	comp=E,100nm,18.3s,baz=65,slow=40					
AKTO	**Aktyubinsk**	**56.34 316**	P	**P**	**07 16 55.0**	**+1.2**
	comp=E,0.4nm,0.4s,baz=45,slow=7.1,SNR=2.0					
AKTO			pP	pP	07 17 05.6	+6.6
	comp=E,2.3nm,0.8s,baz=130,slow=7.3,SNR=5.8					
AKTO			LR	LR	07 42 48.5	
	comp=E,124nm,18.5s,baz=95,slow=38					
ARU	**Arti**	**56.71 323**	*e*P	**P**	**07 16 59.4**	**+3.1**
	comp=E,12nm,1.0s					
STKA	**Stephens Creek**	**57.49 160**	P	P	07 17 00.1	-2.0
	comp=E,1.8nm,0.8s,baz=336,slow=10.0,SNR=5.8					
GAMB	**Gambell**	**59.28 28**	*e*P	**P**	**07 17 16.9**	**+2.8**
	comp=E,8.8nm,1.0s					
RAYN	**Ar Rayn**	**69.56 288**	*e*P	**P**	**07 18 22.4**	**+0.1**
	comp=E,11nm,1.0s					
ILAR	**Eielson Array**	**70.04 27**	P	**P**	**07 18 23.5**	**-1.0**
	comp=E,0.3nm,0.8s,baz=269,slow=6.6,SNR=2.9					
ILAR			sP	sP	07 18 37.9	+6.2
	comp=E,1.5nm,0.7s,baz=282,slow=5.3,SNR=7.9					
ILAR			LR	LR	07 51 02.2	
	comp=E,53nm,19.3s,baz=146,slow=38					
ARCES	**ARCESS Array B**	**71.12 338**	P	**P**	**07 18 31.6**	**+0.7**
	comp=E,4.2nm,0.9s,baz=59,slow=7.5,SNR=3.1					
DOT	**Dot Lake**	**71.49 28**	*e*P	**P**	**07 18 32.4**	**-0.9**
	comp=E,4.7nm,0.8s					
FINES	**FINESS Array B**	**73.05 330**	P	**P**	**07 18 43.2**	**+0.6**
	comp=E,0.8nm,0.5s,baz=65,slow=6.6,SNR=2.3					
FINES			pP	pP	07 18 53.9	+5.9
	comp=E,4.1nm,0.8s,baz=74,slow=6.8,SNR=6.8					
FINES			LR	LR	07 53 06.5	
	comp=E,78nm,18.7s,baz=95,slow=38					
DAWY	**Dawson**	**73.37 27**	*e*P	**P**	**07 18 44.6**	**+0.1**
BRTR	**Keskin Array B**	**74.66 307**	P	**P**	**07 18 54.2**	**+1.5**
	comp=E,1.0nm,0.8s,baz=76,slow=6.1,SNR=2.3					
BRTR			pP	**PcP**	**07 19 04.5**	**-2.4**
	comp=E,1.9nm,0.7s,baz=102,slow=5.7,SNR=6.8					
NB2	**NORSAR Subarra**	**79.83 332**	P	P	07 19 27.5	+6.4
	comp=Z,3.2nm,0.9s,baz=57,slow=5.9					
NOA	**NORSAR Array B**	**79.83 332**	P	**P**	**07 19 21.7**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=63,slow=5.2,SNR=2.8					
NOA			pP	**PcP**	**07 19 32.3**	**+3.5**
	comp=Z,1.7nm,0.9s,baz=57,slow=5.7,SNR=4.5					
VYHS	**Vyhne**	**81.55 319**	*e*pP	pP	07 19 42.3	+6.3
CLL	**Collm**	**83.65 323**	*e*pP	pP	07 19 53.0	+6.1
CLL			LmV		08 05 00.0	
	comp=Z,100nm,20.5s					
YKA	**Yellowknife Ar**	**83.90 23**	P	**P**	**07 19 41.3**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=312,slow=4.9,SNR=23					
YKA			PKKPbc	**PKKPbc**	**07 38 00.1**	**+0.9**
	comp=Z,0.1nm,0.6s,baz=130,slow=2.6,SNR=2.7					
GERES	**GERESS Array B**	**84.43 321**	P	**P**	**07 19 46.1**	**+0.5**
	comp=Z

comp=Z,2.3nm,0.8s,baz=64,slow=6.1,SNR=6.0
GERES LR LR 07 59 18.5
comp=Z,47nm,18.4s,baz=32,slow=37
KMBO Kilima Mbogo 85.68 267 P **P 07 19 53.5 +0.8**
comp=Z,0.6nm,0.3s,baz=65,slow=14,SNR=2.8
KMBO pP pP 07 20 04.9 +6.8
comp=Z,1.1nm,0.3s,baz=8.4,slow=3.9,SNR=3.2
BSMT Bassoo Peak 93.12 34 *eP* **P 07 20 27.1 -0.1**

*IDC **04** 07:19:46.0±1.1, 14°.44N×93°.34E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/27, mbtmp3.6/7, MS2.9/1, Ms1 2.9/1, ms1mx2.5/35, Error ellipse: s-maj=75.9km s-min=22.3km az=51.0*
*ISCJB **04** 07:19:48.7±0.8, 14°.5N±0°.3×93°.5E±0°.3, h30km, mb3.7/7, MS2.8/1, Error ellipse: s-maj=58.8km s-min=18.0km az=140.8*
ISC 04 07:19:50.7±1.1, 14°.5N±0°.3×93°.4E±0°.4, h30km, n11, σ0°19/7, mb3.7/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**26.68**	**87**	LR	LR	07 35 10.2	
	comp=Z,29nm,21.1s,baz=122,slow=35						
H08S3	**Diego Garcia H**	**30.20**	**225**	T	T	07 57 04.6	
	baz=42,slow=75,SNR=5.7						
H08S2	**Diego Garcia H**	**30.21**	**225**	T	T	07 57 06.8	
	baz=42,slow=75,SNR=6.6						
H08S1	**Diego Garcia H**	**30.22**	**225**	T	T	07 57 03.8	
	baz=42,slow=75,SNR=4.4						
MKAR	**Makanchi Array**	**33.54**	**346**	P	**P**	**07 26 27.7**	**-0.1**
	0.4nm,0.5s,baz=165,slow=8.9,SNR=8.3						
WRA	**Warramunga Arr**	**52.83**	**129**	P	**P**	**07 29 03.8**	**+0.1**
	0.5nm,0.9s,baz=318,slow=7.3,SNR=4.8						
ASAR	**Alice Springs**	**54.82**	**133**	P	**P**	**07 29 18.2**	**-0.1**
	0.3nm,0.5s,baz=314,slow=6.7,SNR=4.0						
FINES	**FINESS Array B**	**66.60**	**331**	P	**P**	**07 30 37.8**	**-0.2**
	1.4nm,0.9s,baz=104,slow=5.9,SNR=5.5						
GERES	**GERESS Array B**	**72.49**	**317**	P	**P**	**07 31 15.0**	**+0.3**
	0.4nm,0.4s,baz=332,slow=4.5,SNR=4.0						
NOA	**NORSAR Array B**	**73.68**	**330**	P	**P**	**07 31 21.5**	**+0.1**
	0.5nm,0.7s,baz=94,slow=5.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**88.39**	**283**	P	**P**	**07 32 40.4**	**-0.2**
	0.3nm,0.5s,baz=88,slow=4.1,SNR=3.1						

*IDC **04** 07:32:14.6±0.6, 19°.05N×121°.50E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.0/36, mbtmp4.0/16, ML3.8/1, MS3.5/8, Ms1 3.5/8, ms1mx3.2/27, Error ellipse: s-maj=24.6km s-min=14.1km az=74.0*
*ISCJB **04** 07:32:20.2±0.3, 19°.23N±0°.02×121°.40E±0°.06, h46km, mb4.1/21, MS3.5/7, Error ellipse: s-maj=8.6km s-min=3.5km az=1.1*
*NEIC **04** 07:32:20.1±0.8, 19°.11N×121°.46E, h35km±8km, mb4.1/6, Error ellipse: s-maj=10.1km s-min=6.6km az=92.0*
*MAN **04** 07:32:24, 18°.91N×121°.22E, h18km, mb4.8, ML3.8, MS3.8*
ISC 04 07:32:22.0±0.5, 19°.22N±0°.03×121°.44E±0°.07, h46km, n55, σ1°59/53, mb4.0/21, MS3.7/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.13**	**149**	*eP*	**Pn**	**07 32 42.9**	**+1.5**
SGCP				*eS*	**Sn**	**07 32 58.2**	**+2.5**
APYP	**Conner**	**1.36**	**188**	*eP*	**Pn**	**07 32 43.6**	**-1.0**
ABRA	**Dolores**	**1.71**	**204**	*eP*	**Pn**	**07 32 47.4**	**-1.9**
SZP	**Santa**	**1.90**	**210**	*ePn*	Pn	07 32 48.4	-3.6
SZP				*eSn*	**Sn**	**07 33 15.9**	**+1.3**
CAUP	**Cauayan**	**2.29**	**171**	*eP*	Pn	07 33 00.6	+3.3
CAUP				*eS*	**Sn**	**07 33 25.3**	**+1.0**
BALP	**Baler**	**3.46**	**178**	*eP*	**Pn**	**07 33 14.6**	**+1.3**
TWG	**Pinlang**	**3.60**	**355**	*ePn*	**Pn**	**07 33 13.4**	**-1.9**
TWG				*eSn*	**Sn**	**07 33 58.3**	**+1.7**
SCZP	**Santa Cruz**	**3.72**	**203**	*eP*	**Pn**	**07 33 18.1**	**+1.2**
TPUB	**Ta-pu**	**4.13**	**350**	*ePn*	**Pn**	**07 33 20.7**	**-1.9**
YULB	**Yu-li**	**4.16**	**358**	*ePn*	**Pn**	**07 33 22.9**	**0.0**
YULB				*eSn*	**Sn**	**07 34 11.2**	**+0.9**
SSLB	**Suanglung**	**4.57**	**354**	*ePn*	**Pn**	**07 33 27.8**	**-0.8**
SSLB				*eSn*	**Sn**	**07 34 21.1**	**+0.6**
TGY	**Tagaytay City**	**5.11**	**185**	Pn	**Pn**	**07 33 34.7**	**-1.3**
	16nm,0.3s,baz=67,slow=13,SNR=1.7						
YHNB	**Yeheng**	**5.43**	**359**	*ePn*	**Pn**	**07 33 41.7**	**+1.3**
	35nm,0.5s						
YHNB				*eSn*	**Sn**	**07 34 45.7**	**+4.1**
JNU	**Nakatsue**	**16.22**	**30**	Pn	**P**	**07 36 08.6**	**-0.6**
	0.2nm,0.3s,baz=197,slow=11,SNR=2.0						
SLVN	**Son La**	**16.59**	**280**	*ePn*	**Pn**	**07 36 11.6**	**+0.2**
	10nm,1.0s						
SLVN				*eS*	**S**	**07 39 30.5**	**+6.0**
KSAR	**Wonju Array Be**	**19.01**	**16**	P	**P**	**07 36 40.1**	**+0.1**
KSRS	**Korea Array**	**19.04**	**16**	P	**P**	**07 36 40.1**	**-0.1**
	0.3nm,0.3s,baz=193,slow=12,SNR=5.2						
KSRS				LR	LR	07 45 05.8	
	comp=Z,87nm,19.2s,baz=196,slow=40						
JCJ	**Chichijima**	**20.61**	**64**	LR	LR	07 43 25.4	
	comp=Z,57nm,19.4s,baz=92,slow=32						
CHTO	**Chiang Mai**	**21.27**	**273**	*eP*	**P**	**07 37 02.6**	**-2.0**
	7.3nm,0.9s						
MAJO	**Matsushiro**	**22.69**	**37**	*eP*	**P**	**07 37 17.3**	**-2.3**
MJAR	**Matsushiro Arr**	**22.69**	**37**	P	**P**	**07 37 19.4**	**-0.3**
	0.8nm,0.3s,baz=222,slow=16,SNR=3.7						
MJAR				LR	LR	07 45 07.7	
	comp=Z,27nm,21.2s,baz=255,slow=34						
GUMO	**Guam**	**23.15**	**100**	*eP*	**P**	**07 37 23.5**	**-1.1**
USRK	**Ussuriysk Ar.**	**26.43**	**17**	P	**P**	**07 37 55.1**	**+0.8**
	1.5nm,0.7s,baz=185,slow=10,0,SNR=4.1						
SONM	**Songino Array**	**31.06**	**340**	P	**P**	**07 38 35.8**	**+0.1**
	0.8nm,0.8s,baz=150,slow=9.4,SNR=8.0						
WRAB	**Tennant Creek**	**40.91**	**161**	*eP*	**P**	**07 39 58.7**	**-1.3**
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**40.92**	**161**	P	**P**	**07 39 57.0**	**-3.1**
	1.4nm,0.5s,baz=344,slow=9.1,SNR=36						
WRA				PcP	**PcP**	**07 42 00.1**	**+0.2**
	0.2nm,0.6s,baz=345,slow=3.5,SNR=5.3						
MKAR	**Makanchi Array**	**42.16**	**320**	P	**P**	**07 40 09.8**	**-0.3**
	2.9nm,0.8s,baz=111,slow=7.7,SNR=36						
MKAR				PcP	**PcP**	**07 42 03.9**	**+0.1**
	0.4nm,0.8s,baz=104,slow=3.1,SNR=2.0						
MKAR				LR	LR	07 58 24.1	
	comp=Z,52nm,21.4s,baz=26,slow=37						
MKAR	**Makanchi Array**	**42.16**	**320**	*eP*	**P**	**07 40 10.2**	**+0.1**
MKAR				PcP	**PcP**	**07 42 03.9**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**42.73**	**83**	T	T	08 26 04.5	
	baz=277,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**42.74**	**83**	T	T	08 25 52.8	
	baz=277,slow=75,SNR=30						
H11S2	**WAKE ISLAND Hy**	**42.75**	**83**	T	T	08 25 52.2	
	baz=277,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**42.76**	**81**	T	T	08 25 52.5	
	baz=278,slow=75,SNR=56						
H11N2	**WAKE ISLAND Hy**	**42.76**	**81**	T	T	08 25 53.7	
	baz=278,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**42.78**	**81**	T	T	08 26 01.4	
	baz=278,slow=75,SNR=26						
PETK	**Petropavlovsk-**	**43.91**	**31**	P	**P**	**07 40 23.6**	**-0.4**
	3.4nm,1.0s,baz=243,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**44.32**	**164**	P	**P**	**07 40 25.7**	**-2.0**
	1.1nm,0.3s,baz=352,slow=8.1,SNR=29						
ZALV	**Zalesovo Beam**	**44.59**	**330**	P	**P**	**07 40 28.8**	**-0.6**
	1.4nm,0.6s,baz=129,slow=8.8,SNR=7.5						
ZALV				LR	LR	08 00 09.4	
	comp=Z,79nm,18.7s,baz=68,slow=37						
KURK	**Kurchatov**	**46.12**	**323**	*eP*	**P**	**07 40 41.2**	**-0.3**
	2.2nm,1.1s						
KKAR	**Karatay Array**	**48.78**	**311**	*eP*	**P**	**07 41 02.6**	**+0.1**
BVAR	**Borovoye Array**	**51.72**	**323**	P	**P**	**07 41 24.7**	**+0.3**
	0.3nm,0.3s,baz=129,slow=5.7,SNR=3.5						
BVAR				PcP	**PcP**	**07 42 37.0**	**-0.4**
	0.3nm,0.5s,baz=117,slow=5.0,SNR=2.3						
TIXI	**Tiksi**	**52.62**	**3**	*eP*	**P**	**07 41 30.5**	**-0.3**
	7.8nm,1.4s						
BBOO	**Buckleboo**	**53.59**	**165**	*eP*	**P**	**07 41 37.8**	**-0.7**
	126nm,0.7s						
STKA	**Stephens Creek**	**54.35**	**159**	P	P	07 41 40.0	-4.0
	1.8nm,0.7s,baz=333,slow=6.8,SNR=3.2						
BILL	**Bilibino**	**56.27**	**19**	*eP*	**P**	**07 41 58.1**	**+0.6**
ABKAR	**Akbulak array**	**57.14**	**317**	*eP*	**P**	**07 42 03.7**	**-0.2**
	2.5nm,0.5s						
GEYT	**Alibeck**	**57.60**	**303**	LR	LR	08 10 11.7	
	comp=Z,111nm,18.7s,baz=130,slow=39						
AKTO	**Aktyubinsk**	**58.54**	**318**	P	**P**	**07 42 13.6**	**-0.2**
	2.1nm,0.5s,baz=96,slow=8.7,SNR=7.2						
GAMB	**Gambell**	**62.74**	**27**	*eP*	**P**	**07 42 43.7**	**+1.6**
KBZ	**Khabaz**	**68.81**	**310**	LR	LR	08 17 33.0	
	comp=Z,54nm,18.2s,baz=60,slow=39						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**73.52**	**27**	P	**P**	**07 43 48.2**	**-1.5**
	0.5nm,0.6s,baz=272,slow=5.0,SNR=12						
FINES	**FINESS Array B**	**75.85**	**330**	P	**P**	**07 44 03.5**	**+0.3**
	1.5nm,0.9s,baz=70,slow=4.9,SNR=2.5						
NB2	**NORSAR Subarra**	**82.71**	**333**	P	P	07 44 46.9	+6.2
	comp=Z,0.9nm,0.7s,baz=60,slow=5.1						
NOA	**NORSAR Array B**	**82.71**	**333**	P	**P**	**07 44 42.9**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=63,slow=5.0,SNR=2.5						
NOA				LR	LR	08 24 21.6	
	comp=Z,65nm,19.8s,baz=90,slow=38						
YKA	**Yellowknife Ar**	**87.44**	**23**	P	**P**	**07 45 04.8**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=309,slow=4.6,SNR=99						
TXAR	**Lajitas Array**	**115.02**	**43**	PKP	PKPdf	07 50 59.2	+0.5
	comp=Z,0.3nm,0.5s,baz=275,slow=0.2,SNR=8.0						

IDC 04 07:44:39.4±2.2, 22°.58S×68°.52W, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.5/26, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=54.1km s-min=50.4km az=31.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.27**	**3**	Pn	Pn	07 46 14.5	+0.5
	0.2nm,0.3s,baz=195,slow=1.3,SNR=11						
SIV	**San Ignacio**	**9.61**	**48**	Pn	Pn	07 46 58.5	-0.7
	0.6nm,0.3s,baz=255,slow=15,SNR=15						
TORD	**Torodi Ar. Bea**	**77.38**	**70**	P	P	07 56 36.7	0.0
	0.2nm,0.5s,baz=258,slow=5.9,SNR=3.5						
YKA	**Yellowknife Ar**	**92.32**	**340**	P	P	07 57 50.5	-0.7
	0.2nm,0.5s,baz=133,slow=4.6,SNR=13						
MKAR	**Makanchi Array**	**146.28**	**37**	PKPbc	PKPbc	08 04 22.1	+0.1
	0.3nm,0.7s,baz=317,slow=3.8,SNR=3.7						

*IDC **04** 07:50:20.2±0.6, 35°.10S×72°.27W, h0km, mb4.4/12, mb1 4.5/15, mb1mx4.4/20, mbtmp4.4/15, ML4.5/3, MS3.3/4, Ms1 3.3/4, ms1mx3.1/21, Error ellipse: s-maj=26.2km s-min=14.8km az=84.0*
*GUC **04** 07:50:22.4±0.7, 35°.26S×72°.50W, h20km±5km, ML4.7*
*NEIC **04** 07:50:25.7±1.4, 35°.18S×72°.23W, h37km±12km, mb4.6/3, Error ellipse: s-maj=15.4km s-min=7.7km az=93.0*
ISC 04 07:50:22.5±1.4, 35°.14S±0°.06×72°.27W±0°.09, h15km±8km, n46, σ1°02/51, mb4.5/15, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.38**	**31**	*eP*1	**Pg**	**07 50 48.8**	**-0.2**
LNV				*i* S1	**Sg**	**07 51 10.0**	**+3.0**
CACH	**El Canelo**	**1.71**	**54**	*eP*1	**Pg**	**07 50 55.8**	**+0.4**
CACH				*i* S1	**Sg**	**07 51 20.4**	**+2.7**
CHCH	**Chadas Angostu**	**1.80**	**48**	*eP*1	**Pg**	**07 50 56.5**	**-0.5**
ANTU	**Antumapu**	**2.07**	**41**	*i*P	**Pb**	**07 50 59.9**	**+0.1**
ANTU				*i* S1	**Sg**	**07 51 29.4**	**+0.3**
ANTU				AML	AML	07 51 35.5	
	comp=E,6μm,0.7s						
SAN	**Santiago**	**2.15**	**39**	*i*P	**Pb**	**07 51 01.6**	**+0.5**
SAN				*i* S1	**Sg**	**07 51 30.4**	**-1.1**
FSR	**Penalolen**	**2.20**	**41**	*eP*9	**Pg**	**07 51 03.3**	**-1.3**
FSR				*i* S1	**Sg**	**07 51 33.5**	**+0.4**
CFAA	**Coronel Fontan**	**4.88**	**45**	Pn	**Pn**	**07 51 37.2**	**+1.9**
	comp=E,1.0nm,0.3s,baz=223,slow=14,SNR=33						
CFAA				Lg	Lg	07 52 47.0	
	comp=E,2.3nm,0.3s,baz=277,slow=23,SNR=3.0						
CFAA				LR	LR	07 53 31.2	
	comp=E,40nm,18.1s,baz=234,slow=39						
PLCA	**Paso Flores**	**5.74**	**167**	Pn	**Pn**	**07 51 49.0**	**+1.8**
	comp=E,7.9nm,0.3s,baz=338,slow=11,SNR=60						
PLCA				Lg	Lg	07 53 16.8	
	comp=E,1.4nm,0.3s,baz=265,slow=18,SNR=2.3						
PLCA	**Paso Flores**	**5.74**	**167**	*ePn*	**Pn**	**07 51 47.7**	**+0.5**
	comp=E,26nm,0.4s						
PLCA				*eSn*	**Sn**	**07 52 52.8**	**0.0**
PLCA				Lg	Lg	07 53 16.8	
TRQA	**Tornquist**	**8.77**	**112**	*ePn*	**Pn**	**07 52 27.5**	**-1.2**
	comp=E,29nm,0.9s						
TRQA				*eSg*	Sg	07 55 13.6	+10
CPUP	**Villa Florida**	**15.54**	**60**	Pn	**P**	**07 54 03.5**	**-1.9**
	comp=E,0.5nm,0.3s,baz=185,slow=11,SNR=3.2						
CPUP				LR	LR	08 00 34.3	
	comp=E,304nm,21.1s,baz=236,slow=40						
LPAZ	**La Paz**	**19.14**	**12**	P	**Pn**	**07 54 46.5**	**-0.2**
	comp=E,0.4nm,0.3s,baz=188,slow=7.1,SNR=21						
LPAZ	**La Paz**	**19.14**	**12**	P	**Pn**	**07 54 46.5**	**-0.2**
LPAZ				*eP*	**pP**	**07 54 48.4**	**-1.6**
USHA	**Ushuaia**	**19.87**	**173**	P	**Pn**	**07 54 54.0**	**-0.4**
	comp=E,0.3nm,0.3s,baz=335,slow=12,SNR=5.7						
SIV	**San Ignacio**	**21.55**	**31**	P	**P**	**07 55 11.2**	**-0.2**
	comp=E,19nm,0.7s,baz=222,slow=10,SNR=40						
BDFB	**Brasília**	**29.14**	**54**	P	**P**	**07 56 22.7**	**-0.5**
	comp=E,3.6nm,0.9s,baz=200,slow=12,SNR=3.3						
BDFB				LR	LR	08 08 12.8	
	comp=E,120nm,18.7s,baz=203,slow=37						
ROSC	**El Rosal**	**39.84**	**357**	P	**P**	**07 57 55.4**	**-0.4**
	comp=E,5.2nm,0.5s,baz=112,slow=19,SNR=5.2						
ROSC				LR	LR	08 12 22.9	
	comp=E,40nm,21.0s,baz=104,slow=33						
SNAA	**Sanae**	**50.60**	**157**	P	**P**	**07 59 20.6**	**+0.3**
	comp=E,2.4nm,0.9s,baz=302,slow=8.2,SNR=5.5						
QSPA	**South Pole Qui**	**55.09**	**180**	P	**P**	**07 59 54.3**	**+0.6**
	comp=E,6.8nm,0.9s,baz=166,slow=1.1,SNR=23						
CNNC	**Cliffs of the**	**70.22**	**355**	*eP*	**P**	**08 01 35.7**	**+1.1**
TXAR	**Lajitas Array**	**70.64**	**331**	P	**P**	**08 01 37.9**	**+0.4**
	comp=E,1.3nm,0.6s,baz=156,slow=8.7,SNR=31						
SWET	**Sewanee**	**71.15**	**348**	*eP*	**P**	**08 01 39.6**	**-0.8**
	comp=E,4.9nm,0.8s						
WVT	**Waverly**	**72.38**	**347**	*eP*	**P**	**08 01 47.3**	**-0.4**
	comp=E,47nm,2.0s						
DBIC	**Dimbokro**	**75.72**	**71**	P	**P**	**08 02 07.8**	**0.0**
	comp=E,5.5nm,0.7s,baz=209,slow=5.5,SNR=9.2						
ANMO	**Albuquerque**	**76.70**	**332**	*eP*	**P**	**08 02 13.9**	**+0.9**
	comp=E,2.1nm,1.0s						
BOSA	**Boshof**	**79.71**	**118**	P	**P**	**08 02 30.4**	**+0.4**
	comp=E,8.5nm,0.6s,baz=240,slow=4.2,SNR=23						
PDAR	**Pinedale Array**	**84.70**	**333**	P	**P**	**08 02 55.6**	**-0.1**
	comp=E,0.4nm,0.6s,baz=122,slow=7.2,SNR=3.8						
NVAR	**Mina Array Bea**	**84.72**	**325**	P	**P**	**08 02 56.4**	**+0.5**
	comp=E,0.4nm,0.5s,baz=141,slow=5.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**84.78**	**70**	P	**P**	**08 02 56.3**	**-0.2**
	comp=E,1.6nm,0.8s,baz=277,slow=5.1,SNR=12						
ULM	**Lac du Bonnet**	**87.55**	**345**	P	**P**	**08 03 08.0**	**-1.3**
	comp=E,2.6nm,0.9s,baz=146,slow=5.3,SNR=4.6						
YKA	**Yellowknife Ar**	**103.08**	**341**	Pdiff	**Pdif**	**08 04 19.0**	**-0.9**
	comp=E,0.1nm,0.5s,baz=145,slow=5.3,SNR=3.9						
ASAR	**Alice Springs**	**116.47**	**207**	PKKPbc	PKKPbc	08 19 33.0	-0.5
	comp=E,0.3nm,0.6s,baz=342,slow=3.2,SNR=4.7						
WRA	**Warramunga Arr**	**119.67**	**209**	PKP	**PKPdf**	**08 09 10.5**	**-1.9**
	comp=E,0.3nm,0.6s,baz=164,slow=1.5,SNR=9.6						
BRTR	**Keskin Array B**	**122.55**	**62**	PKP	**PKPdf**	**08 09 16.5**	**-0.9**
	comp=E,0.8nm,0.7s,baz=56,slow=3.6,SNR=3.5						
H11S2	**WAKE ISLAND Hy**	**125.56**	**268**	T	T	10 27 20.2	
	baz=128						
H11S1	**WAKE ISLAND Hy**	**125.57**	**268**	T	T	10 27 19.6	
	baz=128						
H11S3	**WAKE ISLAND Hy**	**125.58**	**268**	T	T	10 27 20.8	
	baz=128						
H11N3	**WAKE ISLAND Hy**	**126.00**	**270**	T	T	10 27 50.9	
	baz=121,slow=76,SNR=7.7						
H11N1	**WAKE ISLAND Hy**	**126.01**	**270**	T	T	10 27 52.1	
	baz=121,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**126.02**	**270**	T	T	10 27 50.8	
	baz=121,slow=76,SNR=6.9						
EKS2	**Erkin-Say**	**152.66**	**64**	*e*PKPdf	**PKPdf**	**08 10 11.9**	**+0.5**
EKS2				*e*PKPbc	**PKiKP**	**08 10 18.7**	**0.0**
EKS2				*e*PKPab	**PKPab**	**08 10 28.6**	**-0.6**
AAK	**Ala-Archa**	**153.19**	**64**	PKPbc	**PKPbc**	**08 10 20.1**	**+0.4**
	baz=180,slow=3.0						
AAK	**Ala-Archa**	**153.19**	**64**	*e*PKPbc	**PKPbc**	**08 10 20.3**	**+0.6**
AAK				*e*PKPab	**PKPab**	**08 10 32.0**	**+0.5**
ZALV	**Zalesovo Beam**	**155.29**	**33**	PKP	**PKPdf**	**08 10 13.9**	**-0.6**
	comp=E,0.7nm,0.5s,baz=318,slow=1.9,SNR=4.3						
ZALV				PKPbc	PKPbc	08 10 23.0	
	comp=E,1.0nm,0.7s,baz=298,slow=3.1,SNR=4.8						
ZALV				PKPab	**PKPab**	**08 10 39.5**	**-0.2**
	comp=E,1.9nm,0.8s,baz=307,slow=5.4,SNR=5.6						
MKAR	**Makanchi Array**	**157.64**	**51**	PKP	**PKPdf**	**08 10 19.0**	**+1.1**
	comp=E,0.2nm,0.6s,baz=349,slow=2.5,SNR=3.6						
MKAR				PKPab	**PKPab**	**08 10 49.9**	**-0.3**
	comp=E,0.8nm,0.8s,baz=276,slow=2.3,SNR=6.2						
MKAR				PP	PP	08 14 22.4	-7.4
	comp=E,0.2nm,0.7s,baz=311,slow=3.4,SNR=2.9						
SONM	**Songino Array**	**167.28**	**4**	PKPab	**PKPab**	**08 11 32.3**	**0.0**
	comp=E,0.6nm,0.7s,baz=335,slow=4.1,SNR=5.3						

CASC 04 08:02:16.7±2.2, 13°.14N×91°.15W, h20km±70km, MD3.8, ML3.1, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.27**	**338**	*eP*	Pb	08 02 40.6	+0.7
NBG	**Las Nubes**	**1.64**	**28**	*eP*	Pn	08 02 44.8	0.0
SBLS	**San Blas**	**1.64**	**65**	*eP*	Pn	08 02 43.7	-1.1
RTR	**El Retiro**	**1.65**	**63**	*eP*	Pn	08 02 43.6	-1.1
SNJE	**San Jose**	**1.67**	**64**	*eP*	Pn	08 02 44.5	-0.6
RBDL	**Robledal**	**1.72**	**56**	*eP*	Pn	08 02 45.0	-0.8
BOQS	**Boqueron**	**1.91**	**72**	*eP*	Pn	08 02 48.5	0.0
SNET	**Serv Nac Est T**	**1.94**	**73**	*eP*	Pn	08 02 49.4	+0.7
SNET				AML	AML	08 03 26.5	
	comp=Z,196nm,0.8s						
LFU	**La Fuente**	**2.07**	**73**	*eP*	Pn	08 02 50.0	-0.5
LFRS	**El Faro**	**2.09**	**76**	*eP*	Pn	08 02 51.5	+0.8
LBRS	**Las Brisas**	**2.13**	**74**	*eP*	Pn	08 02 51.0	-0.4
MTO2	**Montecristo 2**	**2.14**	**54**	*eP*	Pn	08 02 51.8	+0.2
SNVI	**San Vicente**	**2.30**	**78**	*eS*	Sn	08 03 23.6	+2.0
MRL	**Marmol**	**2.38**	**36**	*eP*	Pn	08 02 55.1	+0.2
VSM	**San Miguel**	**2.81**	**84**	*eP*	Pn	08 03 02.0	+1.1

MAN 04 08:02:26, 12°.19N×124°.19E, h31km, mb4.4, ML3.2, MS3.1, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataman**	**0.56**	**56**	*eP*	Pn	08 02 38.5	+0.6
CNP				*eS*	Sn	08 02 47.7	+1.5
OCLP	**Ormoc**	**1.21**	**160**	*eP*	Pn	08 02 46.4	-0.3
PLP	**Palo**	**1.28**	**143**	*eP*	Pn	08 02 48.3	+0.5
PLP				*eS*	Sb	08 03 07.3	+1.7
PVCP	**Virac**	**1.40**	**359**	*eP*	Pn	08 02 49.6	+0.2
LLP	**Lapu-Lapu**	**1.88**	**187**	*eP*	Pn	08 02 53.0	-2.9
LLP				*eS*	Sn	08 03 17.3	-1.3
MSLP	**Maasin**	**2.15**	**162**	*eP*	Sn	08 03 22.0	-3.3
GUIM	**Jordan**	**2.21**	**225**	*eP*	Pn	08 03 01.5	+0.9

*NIED **04** 08:07:00, 23°.00N×120°.50E, h17km, Mw4.0 Best double couple: M0 1.17000×10^15 NP1:φ0=211.00000°, δ59.00000°, λ172.00000°. NP2:φ0=306.00000°, δ83.00000°, λ32.00000°.*
*IDC **04** 08:07:57.3±0.9, 22°.84N×121°.54E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.8/36, mbtmp3.9/9, ML3.5/2, MS4.5/1, Ms1 4.5/1, ms1mx3.0/49, Error ellipse: s-maj=37.9km s-min=17.4km az=72.0*
*JMA **04** 08:07:58.3±0.2, 22°.99N×120°.52E, h5km±5km, M4.8*
*BJI **04** 08:07:59.4, 22°.98N×120°.53E, h4km, ML4.0/4*
*TAP **04** 08:07:59.7, 22°.97N×120°.62E, h17km, ML4.4, B*
*ISCJB **04** 08:08:00.7±0.3, 22°.97N±0°.01×120°.65E±0°.02, h14km±2km, mb3.9/9, MS4.5/1, Error ellipse: s-maj=2.8km s-min=2.2km az=176.0*
*NEIC **04** 08:08:02.4±0.6, 22°.79N×121°.42E, h35km, mb4.3/1, ML4.7(TAP), Error ellipse: s-maj=14.2km s-min=9.0km az=89.0*
NEIC Recorded [4 TAP] in Kao-hsiung; [3 TAP] in Chia-i and T'ai-nan; [2 TAP] in P'ing-tung and Yun-lin; [1 TAP] in Chang-hua, Nan-t'ou and T'ai-tung.
ISC 04 08:08:00.8±0.8, 22°.98N±0°.01×120°.63E±0°.02, h13km±5km, n105, σ1°09/138, mb4.1/9, 13C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.11**	**337**	*i*P	**Pg**	**08 08 04.1**	**+0.1**
	baz=347						
STYT	**Tauyuan**	**0.22**	**32**	*i*P	**Pg**	**08 08 05.9**	**+0.2**
	baz=41						
CHN1	**Nanshi**	**0.23**	**336**	*i*P	**Pg**	**08 08 05.8**	**0.0**
	baz=339						
SSD	**Sandimen**	**0.23**	**180**	*i*P	**Pg**	**08 08 05.4**	**-0.3**
	baz=170						
SSD				S	**Sg**	**08 08 09.3**

baz=50
EHY S Sg 08 08 27.7 0.0
baz=50
SSLB Suanglung 0.86 20 ePg Pb 08 08 16.3 -1.3
SSLB eSg Sg 08 08 28.0 -0.8
WNT Mingjian 0.90 3 P Pb 08 08 17.5 -0.8
baz=5.0
WNT eS Sb 08 08 29.9 -0.3
baz=5.0
SMLT Sun Moon Lake 0.94 15 ⇑P Pb 08 08 18.2 -0.8
baz=16
SMLT S Sg 08 08 32.4 +1.2
baz=16
WDGT Dungji 0.94 288 eP Pb 08 08 16.2 -2.8
baz=289
WDGT eS Sb 08 08 30.3 -1.0
baz=289
WTCT Ta-ch'eng 0.94 340 eP Pb 08 08 17.1 -1.9
baz=341
TYC Yuchr 0.95 13 eP Pb 08 08 18.2 -0.9
baz=14
TYC S Sn 08 08 32.9 -0.3
baz=14
HEN Hengchun 0.97 174⇓eP Pb 08 08 18.7 -0.8
baz=173
TWK1 Hengchun 1.04 171 ⇓iP Pb 08 08 19.8 -0.9
baz=170
TSEB Hengchuen, Pin 1.10 167 eP Pb 08 08 19.8 -1.9
baz=183
TEGC Jichi Village 1.11 49 eP Pn 08 08 22.1 0.0
baz=48
ESL Shilin 1.11 41⇑iP Pb 08 08 21.2 -0.8
baz=41
ESL eS Sb 08 08 35.9 -0.5
baz=41
PNG Penghu 1.15 301 eP Pb 08 08 19.0 -3.6
baz=302
TCU Taichung 1.17 2 eP Pn 08 08 21.5 -1.3
baz=351
ESF Shoufeng Towns 1.20 42 eP Pn 08 08 20.4 -2.9
baz=41
LAY Lan-yu 1.26 137 eP Pn 08 08 22.4 -1.7
baz=124
WHF Hehuan Shan 1.30 26 ⇑P Pn 08 08 24.2 -0.9
baz=17
WHF eS Sn 08 08 43.2 +0.6
baz=17
HWA Hwalien 1.34 42 eP Pn 08 08 23.0 -2.3
baz=26
TWT Tachien 1.37 21 eP Pn 08 08 24.7 -1.1
baz=20
TWQ1 Liyutan 1.37 5 eP Pn 08 08 25.2 -0.5
baz=6.0
TWQ1 eS Sn 08 08 43.2 -0.5
baz=6.0
TWD Chiawan 1.41 39 eP Pn 08 08 25.8 -0.5
baz=39
TWD eS Sb 08 08 45.5 +0.6
baz=39
NSY Sanyi 1.44 5 eP Pn 08 08 25.8 -0.8
baz=6.0
NSY eS Sb 08 08 45.9 +0.1
baz=6.0
NACB Ninganchiao 1.48 36 ePn Pn 08 08 25.8 -1.5
NACB eSg Sn 08 08 46.5 0.0
NNS Nan Shan 1.61 25 eP Pn 08 08 29.3 +0.3
baz=10.0
NSTT Nanjuang 1.68 12 eP Pn 08 08 29.2 -0.8
baz=355
ENA Nanau 1.77 35 eP Pn 08 08 30.8 -0.4
baz=34
NSK Sanguang 1.82 21 eP Pn 08 08 30.5 -1.4
baz=21
YHNB Yeheng 1.82 22 ePn Pn 08 08 31.3 -0.6
YHNB eSn Sn 08 08 52.6 -2.3
ENTT Nioudou 1.86 27 eP Pn 08 08 33.0 +0.5
baz=28
ENTT eS Sb 08 08 58.9 +0.9
baz=28
TWC Suao 1.97 34 eP Pn 08 08 34.3 +0.4
baz=33
TATO Taipei 2.14 21 ePn Pb 08 08 38.8 -0.7
TATO eSn Sb 08 09 07.1 +1.2
TWA Mucha 2.18 23 eP Pb 08 08 39.4 -0.7
baz=23
EGS 2.21 32 eP Pn 08 08 38.1 +1.0
baz=31
TAP1 Taipei 2.21 21 eP Pn 08 08 36.6 -0.6
baz=20
TWS1 Kuangyinshan 2.23 19 eP Pb 08 08 40.4 -0.7
baz=18
NWF Wu-fen Shan 2.34 27 eP Pn 08 08 40.6 +1.5
baz=9.0
TWB1 Santiao Chiao 2.37 31 eP Pn 08 08 39.4 -0.1
baz=30
KNM Kinmen 2.47 306 eP Pn 08 08 40.8 -0.1
baz=305
JYNG Yonagunijimaku 2.58 55 P Pn 08 08 42.7 +0.4
JYNG eS Sn 08 09 15.6 +2.1
YOJ Yonaguni jima 2.64 55 P Pn 08 08 43.5 +0.4
YOJ eS Sb 08 09 17.7 -2.5
YOJ Yonaguni jima 2.64 55 P Pn 08 08 42.6 -0.5
baz=55
YOJ eS Sn 08 09 16.1 +1.2
baz=55
YOJ Yonaguni jima 2.64 55 ePn Pn 08 08 43.2 +0.1
YOJ eSn Sb 08 09 17.7 -2.5
QZH Quanzhou 2.70 317 Pg Pb 08 08 48.4 -0.7
QZH Sg Sb 08 09 21.7 -0.5
QZH SMN
1μm,0.8s
QZH SME
800nm,0.6s
HATJ Hateruma jima 3.11 69 P Pn 08 08 48.5 -1.0
HATJ eS Sn 08 09 26.4 -0.1
IRIF Iriomote-Funau 3.15 64 P Pn 08 08 49.6 -0.5
IRIF eS Sn 08 09 28.6 +1.1
JKRS Kuro-shima 3.34 67 P Pn 08 08 52.2 -0.6
JKRS eS Sn 08 09 33.1 +0.7
JIJ Ishigaki jima 3.50 66 P Pn 08 08 54.3 -0.7
JIJ eS Sn 08 09 36.6 +0.3
JISG Ishigakijimahi 3.73 64 P Pn 08 08 57.6 -0.6
JISG eS Sn 08 09 41.3 -0.7
JTJ Tarama 4.08 65 P Pn 08 09 02.3 -0.6
JTJ eS Sn 08 09 51.1 +0.5
JIRB Irabujima 4.55 65 P Pn 08 09 08.7 -0.7
JIRB eS Sn 08 10 01.4 -0.7
JIKM Ikemajima 4.65 64 P Pn 08 09 10.1 -0.6
JIKM eS Sn 08 10 02.8 -1.8
KSAR Wonju Array Be 15.71 22 Pn Pn 08 11 39.3 -2.6
KSRS Korea Array 15.74 22 Pn Pn 08 11 39.3 -2.8
0.1nm,0.3s,baz=206,slow=11,SNR=2.7
HHC Hu-ho-hao-te 19.39 339 eP Pn 08 12 29.6 +1.9
HHC pmax pmax
comp=Z,33nm,0.9s
HHC pmax pmax
comp=Z,100nm,4.6s
MJAR Matsushiro Arr 20.34 44 P P 08 12 30.0 -6.9
comp=Z,0.2nm,0.3s,baz=220,slow=11,SNR=3.2
SONM Songino Array 27.29 339 P P 08 13 46.9 +1.7
comp=Z,2.0nm,1.1s,baz=163,slow=9.4,SNR=7.5
MKAR Makanchi Array 38.86 317 P P 08 15 24.9 -0.9
comp=Z,0.4nm,0.8s,baz=122,slow=9.4,SNR=4.3
ZALV Zalesovo Beam 40.99 328 P P 08 15 46.1 +2.8
comp=Z,2.0nm,0.6s,baz=120,slow=7.5,SNR=13
H11N1 WAKE ISLAND Hy 43.08 85 T T 09 01 14.0
baz=283,slow=74,SNR=7.4
H11N2 WAKE ISLAND Hy 43.08 85 T T 09 01 19.0
baz=283,slow=74,SNR=7.8
H11N3 WAKE ISLAND Hy 43.09 85 T T 09 01 20.6
baz=283,slow=74,SNR=9.1
H11S3 WAKE ISLAND Hy 43.17 87 T T 09 01 22.5
baz=281,slow=74,SNR=7.9
H11S1 WAKE ISLAND Hy 43.18 87 T T 09 01 22.8
baz=281,slow=74,SNR=5.5
H11S2 WAKE ISLAND Hy 43.19 87 T T 09 01 24.9
baz=281
WRAB Tennant Creek 44.70 162 eP P 08 16 09.6 -4.2
comp=Z,3.7nm,0.7s
WRA Warramunga Arr 44.71 162 P P 08 16 08.9 -4.9
comp=Z,3.2nm,0.7s,baz=345,slow=8.7,SNR=20
SEY Seymchan 45.28 20 LR LR 08 35 59.6
comp=Z,501nm,20.1s,baz=332,slow=37
ASAR Alice Springs 48.12 164 P P 08 16 36.6 -4.1
comp=Z,1.3nm,0.7s,baz=356,slow=14,SNR=27
BVAR Borovoye Array 48.29 322 P P 08 16 46.0 +4.3
comp=Z,1.6nm,0.6s,baz=102,slow=7.5,SNR=8.3
ABKAR Akbulak array 53.93 315 eP P 08 17 26.8 +2.7
FINES FINESS Array B 72.23 330 P P 08 19 26.9 +1.4
comp=Z,1.2nm,0.9s,baz=65,slow=6.6,SNR=2.3
YKA Yellowknife Ar 84.27 23 P P 08 20 29.8 -2.3
comp=Z,0.1nm,0.5s,baz=310,slow=4.8,SNR=8.4

IDC 04 08:10:29.7±1.7, 34.88S×72.58W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/28, mbtmp3.7/5, ML3.9/2, MS2.1/1, Ms1 2.1/1, ms1mx2.1/23, Error ellipse: s-maj=51.1km s-min=30.2km az=83.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.89	49	Pn	Pn	08 11 48.5	+3.8
	0.3nm,0.3s,baz=204,slow=8.8,SNR=16						
CFAA				Lg	Lg	08 13 05.0	
	0.6nm,0.3s,baz=346,slow=16,SNR=4.2						
CFAA				LR	LR	08 14 04.2	
	comp=Z,20nm,19.0s,baz=212,slow=44						
PLCA	Paso Flores	6.06	165	Pn	Pn	08 12 00.7	0.0
	0.9nm,0.3s,baz=346,slow=11,SNR=9.9						
LPAZ	La Paz	18.94	13	P	Pn	08 14 54.7	+1.0
	0.1nm,0.3s,baz=206,slow=5.6,SNR=4.2						
SIV	San Ignacio	21.46	32	P	P	08 15 18.7	-1.1
	1.2nm,0.5s,baz=221,slow=9.8,SNR=3.6						
TXAR	Lajitas Array	70.29	331	P	P	08 21 44.8	-0.2
	0.3nm,0.7s,baz=150,slow=7.3,SNR=5.8						
TORD	Torodi Ar. Bea	84.93	70	P	P	08 23 07.2	+0.2
	1.0nm,0.8s,baz=251,slow=4.4,SNR=8.7						

NIED **04** *08:16:00, 23.00N×120.50E, h32km, Mw5.2 Best double couple: M07.10000×10^16 NP1:φ0=302.00000°, δ57.00000°, λ27.00000°. NP2:φ0=197.00000°, δ68.00000°, λ144.00000°.*
JMA **04** *08:16:13.5±0.3, 23.04N×120.52E, h0km, M5.5*
BJI **04** *08:16:15.3, 22.98N×120.62E, h8km, mB5.1/41, mb4.9/66, ML5.4/8, Ms5.1/73, Ms7 5.0/71*
TAP **04** *08:16:16.3, 22.96N×120.64E, h19km, ML5.7, B*
NEIC **04** *08:16:16.9±0.1, 22.90N×120.77E, mb5.3/107, ML5.7(TAP), Error ellipse: s-maj=3.4km s-min=2.5km az=101.0*
NEIC Felt [V] at Kao-hsiung. Also felt at Hsin-chu, Hsin-chuang, P'ing-tung, Pu-li, Shan-hua, T'ai-chung, T'ai-nan, Taipei, T'ao-yuan and Yung-k'ang. Recorded [4 TAP] in Chia-i, Kao-hsiung, P'ing-tung and T'ai-nan; [3 TAP] in T'ai-tung and Yun-lin; [2 TAP] in Chang-hua, Hua-lien, Miao-li, Nan-t'ou and T'ai-chung; [1 TAP] in I-lan and P'eng-hu.
MOS **04** *08:16:16.4±1.0, 22.89N×120.78E, h33km, mb5.6/64, MS4.8/17, Error ellipse: s-maj=7.1km s-min=4.2km az=110.4*
GCMT **04** *08:16:16.9±0.2, 22.88N×120.55E, h27km, MW5.2/88, Moment Tensor Solution. s70,c87; s88,c143; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.77±.18; Mθθ1.02±.12; Mφφ-4.79±.14; Mrθ-0.03±.22; Mθφ3.11±.10; Mφr-4.31±.27; Best double couple: M06.73400×10^16 NP1:φ0=178.00000°, δ68.00000°, λ114.00000°. NP2: φ0=308.00000°, δ32.00000°, λ44.00000°. Principal axes: T 5.9180, Plg59.0000°, Azm123.0000°; N 1.6320, Plg22.0000°, Azm349.0000°; P -7.5500, Plg20.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB **04** *08:16:16.8±0.2, 22.91N±0.01×120.65E±0.01, h32km±1km, mb5.3/211, MS4.6/51 Error ellipse: s-maj=2.0km s-min=1.7km az=28.0*
IDC **04** *08:16:17.4±2.5, 22.85N×120.87E, h30km±16km, mb4.8/32, mb1 4.9/36, mb1mx4.9/40, mbtmp5.0/36, ML3.6/3, MS4.4/31, Ms1 4.4/31, ms1mx4.3/47, Error ellipse: s-maj=11.8km s-min=9.2km az=80.0*
SZGRF **04** *08:16:36.9, 26.30N×118.69E, h25km, mb4.8, MS4.9, Near coast of southeastern China*
ISC 04 08:16:17.2±0.3, 22.93N±0.02×120.66E±0.02, h27km±1km, h27km:pP-P, n782, σ1$39/945, mb5.3/213, MS4.7/54, 130C-117D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	Jiashian	0.17	336	⇓iP	Pb	08 16 21.3	-1.4
	baz=342						
SSD	Sandimen	0.18	187	i P	Pb	08 16 22.0	-0.8
	baz=178						
SSD				eS	Sb	08 16 26.6	-0.1
	baz=178						
TWM1	Shoushan	0.24	244	⇑iP	Pb	08 16 23.2	-0.3
	baz=234						
SGLT	Jiouru	0.25	217	⇑iP	Pb	08 16 23.8	+0.1
	baz=203						
STYT	Tauyuan	0.25	22	⇑iP	Pb	08 16 22.6	-1.1
	baz=31						
CHN1	Nanshi	0.28	335	⇓iP	Pb	08 16 22.9	-1.2
	baz=337						
CHN3	Shinhua	0.31	299	⇓iP	Pb	08 16 24.6	+0.1
	baz=295						
CHN3				eS	Sn	08 16 32.3	+0.8
	baz=295						
WTP	Ta-pu	0.32	353	⇓iP	Pb	08 16 23.6	-1.1
	baz=358						
TPUB	Ta-pu	0.37	356	ePg	Pb	08 16 24.1	-1.4
TPUB				eSg	Sb	08 16 30.1	-1.0
TWK	Hsinying	0.37	335	⇓iP	Pb	08 16 24.3	-1.2
	baz=349						
TWK				eS	Sn	08 16 32.2	-1.1
	baz=349						
TWG	Pinlang	0.40	105	⇑iP	Pb	08 16 26.0	+0.2
	baz=100						
TWG				eS	Sn	08 16 33.3	-0.5
	baz=100						
TWG	Pinlang	0.40	105	ePg	Pb	08 16 25.9	0.0
TWG				eSg	Sn	08 16 33.6	-0.2
TAI1	Yung-k'ang	0.41	286	⇑iP	Pb	08 16 25.7	-0.3
	baz=282						
ELDTW	Lidau	0.42	52	⇑iP	Pb	08 16 25.8	-0.5
	baz=51						
ELDTW				eS	Sb	08 16 32.2	-0.3
	baz=51						
CHN4	Tsaushan	0.43	352	⇓iP	Pb	08 16 25.1	-1.1
	baz=355						
ECL	Taimali	0.43	140	⇑iP	Pb	08 16 26.4	+0.2
	baz=140						
KAU	Kaohsiung	0.48	222	⇑iP	Pn	08 16 27.9	-0.4
	baz=229						
TTN	Taitung	0.48	111	⇑iP	Pn	08 16 28.1	-0.2
	baz=114						
SCLT	Jiali	0.49	300	⇑iP	Pb	08 16 26.8	-0.6
	baz=299						
SCLT				eS	Sb	08 16 35.0	+0.8
	baz=299						
SCZT	Fangliau	0.55	183	⇓iP	Pb	08 16 28.2	-0.1
	baz=175						
SCZT				eS	Sn	08 16 39.6	+2.0
	baz=175						
EAST	Anshuo	0.57	162	⇓iP	Pb	08 16 28.9	+0.3
	baz=158						
CHN8	Yiju	0.58	316	⇓iP	Pb	08 16 28.1	-0.8
	baz=316						
ALS	Alishan	0.60	13	⇑iP	Pb	08 16 28.3	-1.0
	baz=17						
CHY	Chiayi	0.61	339	⇓iP	Pb	08 16 28.5	-0.7
	baz=341						
TAW	Tawu	0.61	159	⇓iP	Pb	08 16 29.6	+0.4
	baz=157						
TAW				i S	Sn	08 16 38.8	-0.1
	baz=157						
YUS	Yu-Shan	0.62	26	⇑iP	Pb	08 16 29.2	-0.6
	baz=29						
CHN2	Minshiung	0.62	345	⇓iP	Pb	08 16 29.0	-0.5
	baz=346						
TWP	Hsiaoliuchiu	0.64	205	⇑iP	Pn	08 16 31.7	+1.2
	baz=202						
CHN5	Tsauling	0.67	2	⇓iP	Pb	08 16 29.3	-1.0
	baz=4.0						
CHKT	Chengkung	0.68	75	⇑iP	Pn	08 16 30.8	-0.2
	baz=79						
TWF1	Yuli	0.73	54	⇑iP	Pb	08 16 31.0	-0.3
	baz=64						
TWF1				S	Sb	08 16 41.4	+0.6
	baz=64						
YULB	Yu-li	0.75	52	ePg	Pb	08 16 30.9	-0.7
YULB				eSg	Sb	08 16 40.9	-0.6
WGK	Gukeng	0.76	353	⇓iP	Pb	08 16 31.4	-0.4
	baz=356						
WGK				eS	Sn	08 16 42.6	-0.2
	baz=356						
WSF	Szhu	0.81	331	⇓iP	Pb	08 16 31.6	-1.0
	baz=332						
WSF				eS	Sn	08 16 43.7	-0.3
	baz=332						
EHY	Hungye	0.84	47	⇑iP	Pb	08 16 32.8	-0.4
	baz=57						
SSLB	Suanglung	0.90	18	ePg	Pn	08 16 33.1	-1.0
SSLB				eSg	Sn	08 16 46.5	+0.2
HEN	Hengchun	0.92	175	⇓iP	Pb	08 16 35.3	+0.8
	baz=173						
WNT	Mingjian	0.95	2	⇓iP	Pn	08 16 34.2	-0.5
	baz=351						
WNT				eS	Sn	08 16 47.4	+0.1
	baz=351						
WDGT	Dungji	0.97	290	⇑iP	Pn	08 16 33.5	-1.6
	baz=289						
WDGT				eS	Sb	08 16 46.4	-1.5
	baz=289						
SMLT	Sun Moon Lake	0.98	13	⇑iP	Pn	08 16 34.9	-0.4
	baz=15						
SMLT				eS	Sn	08 16 50.4	+2.1
	baz=15						
TWK1	Hengchun	0.99	172	⇓iP	Pb	08 16 36.1	+0.4
	baz=170						
TYC	Yuchr	0.99	11	⇑P	Pn	08 16 35.0	-0.3
	baz=13						
WTCT	Ta-ch'eng	0.99	340	eP	Pn	08 16 34.2	-1.2
	baz=341						
WTCT				eS	Sb	08 16 48.4	-0.1
	baz=341						
TSEB	Hengchuen, Pin	1.05	168	⇓iP	Pb	08 16 36.8	+0.2
	baz=182						
TEGC	Jichi Village	1.12	46	eP	Pb	08 16 38.6	+0.6
	baz=49						
TEGC				eS	Sb	08 16 55.4	+3.2
	baz=49						
ESL	Shilin	1.14	39	⇑iP	Pn	08 16 37.7	+0.4
	baz=41						
ESL				eS	Sb	08 16 53.1	+0.5
	baz=41						
PNG	Penghu	1.20	302	⇑P	Pn	08 16 36.6	-1.6
	baz=302						
PNG				eS	Sn	08 16 51.8	-1.7
	baz=302						
LAY	Lan-yu	1.21	137	⇓P	Pn	08 16 38.3	-0.1
	baz=126						
TCU	Taichung	1.22	1	⇓P	Pn	08 16 38.4	0.0
	baz=2.0						
TCU				eS	Sb	08 16 55.7	+0.9
	baz=2.0						
ESF	Shoufeng Towns	1.22	40	P	Pb	08 16 39.9	+0.3
	baz=35						
ESF				eS	Sb	08 16 55.9	+0.9
	baz=35						
WHF	Hehuan Shan	1.33	25	⇑iP	Pn	08 16 40.9	+0.5
	baz=15						
HWA	Hwalien	1.36	40	⇑P	Pn	08 16 41.1	+0.7
	baz=27						
TWT	Tachien	1.40	20	⇑P	Pn	08 16 41.5	+0.4
	baz=10.0						
TWQ1	Liyutan	1.42	4	eP	Pn	08 16 41.7	+0.5
	baz=6.0						
TWQ1				eS	Sb	08 17 01.4	+0.7
	baz=6.0						
TWD	Chiawan	1.44	37	⇑P	Pn	08 16 41.9	+0.5
	baz=39						
TWD				eS	Sb	08 17 01.4	+0.3
	baz=39						
NSY	Sanyi	1.48	4	eP	Pn	08 16 42.7	+0.6
	baz=5.0						
NSY				eS	Sb	08 17 02.9	+0.3
	baz=5.0						
NNS	Nan Shan	1.64	23	⇑eP	Pn	08 16 45.5	+1.1
	baz=12						
EHP	Heping Village	1.70	36	eP	Pb	08 16 46.9	-0.9
	baz=38						
NSTT	Nanjuang	1.73	10	eP	Pn	08 16 45.7	+0.3
	baz=355						
ENA	Nanau	1.79	33	⇑eP	Pn	08 16 47.3	+1.0
	baz=35						
NSK	Sanguang	1.86	20	eP	Pn	08 16 47.9	+0.6
	baz=21						
YHNB	Yeheng	1.86	21	ePn	Pn	08 16 48.2	+0.9
YHNB				eSn	Sb	08 17 16.4	+3.1
HSN	Hsinchu	1.89	9	eP	Pn	08 16 48.4	+0.7
	baz=355						
HSN				eS	Sb	08 17 16.3	+2.1
	baz=355						
ENTT	Nioudou	1.90	26	eP	Pb	08 16 49.7	-1.5
	baz=27						
TWC	Suao	2.00	33	eP	Pn	08 16 50.5	+1.3
	baz=34						
TWE	Neicheng	2.01	27	eP	Pb	08 16 51.2	-1.8
	baz=29						
TWE				eS	Sb	08 17 18.1	+0.5
	baz=29						
ILA	Ilan	2.08	28	eP	Pb	08 16 53.0	-1.4
	baz=46						
ILA				eS	Sb	08 17 21.7	+1.9
	baz=46						
NCU	National Centr	2.09	13	eP	Pn	08 16 51.5	+1.1
	baz=358						
NCU				eS	Sb	08 17 21.9	+1.9
	baz=358						
TATO	Taipei	2.18	20	ePn	Pn	08 16 51.8	+0.1
TATO				eSn	Sn	08 17 16.4	-1.3
TWA	Mucha	2.21	22	eP	Pn	08 16 52.6	+0.4
	baz=23						
TWA				eS	Sb	08 17 24.9	+1.4
	baz=23						
EGS		2.24	31	eP	Pn	08 16 54.6	+2.1
	baz=33						
TAP	Taipei	2.24	20	eP	Pb	08 16 56.5	-0.5
	baz=21						
TAP				eS	Sb	08 17 27.5	+3.2
	baz=21						
TAP1	Taipei	2.25	20	eP	Pn	08 16 53.6	+1.0
	baz=21						
TWS1	Kuangyinshan	2.27	18	eP	Pn	08 16 53.6	+0.7
	baz=18						
NWF	Wu-fen Shan	2.37	26	eP	Pn	08 16 55.6	+1.2
	baz=10.0						
NWF				eS	Sb	08 17 28.2	+0.2
	baz=10.0						
TWB1	Santiao Chiao	2.40	30	eP	Pn	08 16 56.7	+2.0
	baz=31						
TWB1				eS	Sb	08 17 28.9	-0.1
	baz=31						
TWY	Chenhua	2.49	20	eP	Pn	08 16 57.0	+1.1
	baz=21						
TWY				eS	Sb	08 17 37.3	+5.8
	baz=21						
KNM	Kinmen	2.52	306	⇑eP	Pn	08 16 56.4	0.0
	baz=304						
JYNG	Yonagunijimaku	2.59	54	P	Pn	08 16 59.0	+1.7
JYNG				eS	Sn	08 17 30.9	+3.0
YOJ	Yonaguni jima	2.64	54	eP	Pn	08 16 59.5	+1.5
YOJ				e		08 17 26.6	
YOJ	Yonaguni jima	2.64	54	P	Pn	08 16 59.8	+1.7
YOJ				eS	Sn	08 17 32.3	+3.0
YOJ	Yonaguni jima	2.64	54	⇓iP	Pn	08 16 59.5	+1.5
	baz=56						
YOJ				eS	Sn	08 17 31.3	+2.1
	baz=56						
YOJ	Yonaguni jima	2.64	54	ePn	Pn	08 16 59.5	+1.5
YOJ				eSn	Sn	08 17 26.6	-2.7
QZH	Quanzhou	2.76	317	⇓iPn	Pn	08 16 57.9	-1.7
QZH				Sn	Sn	08 17 32.3	+0.3
QZH				SMN			
11μm,0.9s							
QZH				SME			
10μm,0.9s							
HATJ	Hateruma jima	3.10	68	P	Pn	08 17 05.5	+1.1
HATJ				eS	Sn	08 17 42.5	+1.9
IRIF	Iriomote-Funau	3.15	63	P	Pn	08 17 06.6	+1.6
IRIF				eS	Sn	08 17 44.4	+2.7
JKRS	Kuro-shima	3.34	66	P	Pn	08 17 08.9	+1.3
JKRS				eS	Sn	08 17 49.7	+3.2
JIJ	Ishigaki jima	3.50	65	P	Pn	08 17 10.6	+0.7
JIJ				eS	Sn	08 17 52.4	+1.9
JISG	Ishigakijimahi	3.73	63	P	Pn	08 17 13.9	+0.9
JISG				eS	Sn	08 17 58.0	+1.9
JTJ	Tarama	4.08	64	P	Pn	08 17 18.7	+0.9
JTJ				eS	Sn	08 18 07.0	+2.3
JIRB	Irabujima	4.55	65	P	Pn	08 17 25.0	+0.8

JIRB			*e*S		**Sn**	**08 18 16.9 +0.7**
JMJ	**Miyako jima 2**	**4.64 65**	P		**Pn**	**08 17 26.5 +1.0**
JMJ			*e*S		**Sn**	**08 18 20.4 +1.8**
JMJ	**Miyako jima 2**	**4.64 65**	*e*P		**Pn**	**08 17 26.4 +0.8**
	baz=68					
JIKM	**Ikemajima**	**4.65 64**	P		**Pn**	**08 17 26.3 +0.7**
JIKM			*e*S		**Sn**	**08 18 20.3 +1.6**
JOGS	**Gusukube**	**4.72 66**	P		**Pn**	**08 17 28.0 +1.4**
JOGS			*e*S		**Sn**	**08 18 22.5 +2.1**
SGCP	**Mt. Cagua**	**4.84 164**	*e*P		**Pn**	**08 17 28.3 0.0**
APYP	**Conner**	**5.07 174**	*e*P		**Pn**	**08 17 31.6 +0.2**
ABRA	**Dolores**	**5.25 179**	*e*P		**Pn**	**08 17 35.1 +1.2**
SZP	**Santa**	**5.35 182**	*e*Pn		**Pn**	**08 17 35.9 +0.6**
SZP			*e*Sn		**Sn**	**08 18 34.2 -1.9**
HKC	**Hong Kong Obse**	**6.02 265**	*i* Pn		**Pn**	**08 17 44.0 -0.5**
CAUP	**Cauayan**	**6.05 169**	*e*P		**Pn**	**08 17 47.5 +2.5**
JKE	**Kume jima 2**	**6.52 58**	P		**Pn**	**08 17 51.6 +0.2**
JKE			*e*S		**Sn**	**08 19 05.0 +0.1**
BOLP	**Bolinao**	**6.55 186**	*e*P		**Pn**	**08 17 54.5 +2.7**
GZH	**Guangzhou**	**6.74 273**	Pn		Pn	08 17 50.2 -4.2
GZH			Pg		Pb	08 17 58.6 -15
GZH			Sn		**Sn**	**08 19 10.4 +0.1**
GZH			Sg		Sb	08 19 19.4 -14
JAGN	**Aguni-jima**	**7.01 57**	P		**Pn**	**08 17 58.9 +0.8**
JAGN			*e*S		**Sn**	**08 19 18.3 +1.4**
SCZP	**Santa Cruz**	**7.15 186**	*e*P		**Pn**	**08 18 01.9 +1.9**
BALP	**Baler**	**7.20 173**	*e*P		**Pn**	**08 18 01.5 +0.8**
JNTH	**Nagotoyohara**	**7.59 60**	P		**Pn**	**08 18 05.8 -0.3**
JNTH			*e*S		**Sn**	**08 19 31.2 0.0**
JIH	**Iheya**	**7.79 57**	P		**Pn**	**08 18 08.9 +0.1**
JIH			*e*S		**Sn**	**08 19 36.2 0.0**
JOW	**Kunigami**	**7.93 59**	P		**Pn**	**08 18 09.7 -1.1**
JOW			*e*S		**Sn**	**08 19 39.2 -0.5**
JOW	**Kunigami**	**7.93 59**	Pn		**Pn**	**08 18 07.7 -3.1**
	0.6nm,0.3s,baz=229,slow=8.8,SNR=7.3					
JOW			Sn		**Sn**	**08 19 38.1 -1.6**
	1.8nm,0.3s,baz=314,slow=29,SNR=7.9					
JOW	**Kunigami**	**7.93 59**	*e*P		**Pn**	**08 18 10.5 -0.3**
	baz=61					
JOW	**Kunigami**	**7.93 59**	*e*Pn		Pn	08 18 06.2 -4.6
JOW			*e*Sn		**Sn**	**08 19 36.8 -2.9**
SSE	**Sheshan**	**8.15 3**	P		**Pn**	**08 18 14.4 +0.7**
SSE			S		**Sn**	**08 19 46.0 +1.1**
SSE			PMZ			
	100nm,0.8s					
SSE			PMZ			
	210nm,4.3s					
SSE			LN			
	4μm,13.5s					
SSE			LE			
	6μm,13.5s					
SSE			LZ			
	9μm,10.9s					
TGY	**Tagaytay City**	**8.78 178**	Pn		**Pn**	**08 18 22.2 -0.3**
	53nm,0.3s,baz=27,slow=9.0,SNR=2.0					
TGY			LR		LR	08 22 34.2
	comp=Z,97nm,18.5s,baz=292,slow=43					
NJ2	**Nanjing**	**9.23 350**	*e*P		**Pn**	**08 18 28.9 +0.4**
NJ2			S		**Sn**	**08 20 07.7 -3.8**
NJ2			PMZ			
	100nm,0.7s					
NJ2			LN			
	10μm,6.9s					
NJ2			LE			
	10μm,12.5s					
NJ2			LZ			
	8μm,11.6s					
JMZ	**Minamidaito 2**	**10.05 71**	P		**Pn**	**08 18 37.1 -2.7**
JMZ			*e*S		Sn	08 20 24.7 -7.0
QIZ	**Qiongzhong**	**10.82 251**	P		**Pn**	**08 18 49.6 -0.8**
QIZ			S		**Sn**	**08 20 50.2 -0.4**
QIZ			PMZ			
	54nm,1.7s					
QIZ			LN			
	6μm,16.1s					
QIZ			LE			
	3μm,14.2s					
QIZ			LZ			
	7μm,14.7s					
QIZ	**Qiongzhong**	**10.82 251**	*e*Pn		**Pn**	**08 18 51.2 +0.8**
	183nm,0.9s					
QIZ			*e*Sn		**Sn**	**08 20 47.3 -3.4**
ENH	**Enshi**	**12.38 309**	*e*Pn		**Pn**	**08 19 13.5 +1.8**
	36nm,1.1s					
ENH			*e*Sn		Sn	08 21 42.9 +14
GYA	**Guiyang**	**13.20 288**	⇑*i*P		**Pn**	**08 19 22.9 -0.1**
GYA			pP		**P**	**08 19 30.6 -2.1**
GYA			PP		**PnPn**	**08 19 35.2 +4.3**
GYA			S		**Sn**	**08 21 46.5 -2.4**
GYA			sS		sS	08 22 01.0
GYA			SS		**S**	**08 22 07.8 -5.4**
GYA			PMZ			
	80nm,0.7s					
GYA			PMZ			
	140nm,4.7s					
GYA			LN			
	6μm,6.9s					
GYA			LE			
	5μm,10.2s					
GYA			LZ			
	6μm,13.9s					
JNU	**Nakatsue**	**13.58 39**	Pn		**Pn**	**08 19 26.9 -1.1**
	0.3nm,0.3s,baz=215,slow=16,SNR=2.4					
JNU			LR		LR	08 25 43.5
	comp=Z,3μm,18.2s,baz=224,slow=42					
JNU	**Nakatsue**	**13.58 39**	*e*Pn		**Pn**	**08 19 27.5 -0.6**
JNU			*e*Sn		**Sn**	**08 21 56.1 -2.0**
TIA	**Tai'an**	**13.59 348**	*e*P		**P**	**08 19 34.1 -2.8**
TIA			S		**Sn**	**08 21 56.2 -2.1**
TIA			LN			
	4μm,15.6s					
TIA			LE			
	5μm,10.4s					
TIA			LZ			
	6μm,14.9s					
XAN	**Xi'an**	**15.12 320**	P		**Pn**	**08 19 48.1 -0.9**
XAN			pP		**P**	**08 19 56.1 +2.2**
XAN			sP		**sP**	**08 20 00.6 -4.0**
XAN			S		**Sn**	**08 22 36.7 +1.0**
XAN			sS		**S**	**08 22 48.8 -3.5**
XAN			LN			
	3μm,14.1s					
XAN			LE			
	2μm,14.1s					
XAN			LZ			
	2μm,14.1s					
INCN	**Inchon**	**15.39 18**	*e*Pn		**Pn**	**08 19 51.2 -1.3**
	330nm,1.8s					
INCN			*e*Sn		**Sn**	**08 22 36.0 -6.2**
SLVN	**Son La**	**15.60 267**	*e*Pn		Pn	08 19 49.5 -6.0
	85nm,1.1s					
SLVN			*e*Sn		**Sn**	**08 22 47.2 -0.4**
KSAR	**Wonju Array Be**	**15.75 22**	P		**Pn**	**08 19 58.5 +1.4**
KSAR	**Wonju Array Be**	**15.75 22**	Pn		**Pn**	**08 19 58.5 +1.4**
KSRS	**Korea Array**	**15.77 22**	Pn		**Pn**	**08 19 58.5 +1.1**
	1.9nm,0.3s,baz=207,slow=14,SNR=30					
KSRS			LR		LR	08 26 33.0
	comp=Z,2μm,19.1s,baz=203,slow=39					
DLV	**T Lat**	**15.93 229**	*e*P		**P**	**08 20 02.4 -0.8**
	128nm,1.3s					
DLV			*e*Sn		**Sn**	**08 22 56.8 +1.0**
CTBH	**Cotabato--PC H**	**15.99 167**	⇓*i*P		**P**	**08 20 05.2 +1.5**
KDM	**Kudat**	**16.34 194**	⇑P		**P**	**08 20 06.6 -0.9**
TIY	**Taiyuan**	**16.34 336**	*e*P		P	08 20 12.8 +5.2
TIY			pP		pP	08 20 16.2 +1.4
TIY			PP		PP	08 20 20.9
TIY			S		**Sn**	**08 23 10.8 +5.4**
KMI	**Kunming**	**16.52 281**	P		**P**	**08 20 12.2 +2.5**
KMI			S		**S**	**08 23 17.4 -3.9**
KMI			PMZ			
	35nm,1.1s					
KMI			PMZ			
	400nm,4.3s					
KMI			LN			
	2μm,12.6s					
KMI			LE			
	3μm,13.4s					
KMI			LZ			
	3μm,14.6s					
CD2	**Chengdu**	**17.03 301**	P		**Pn**	**08 20 13.4 -0.1**
CD2			pP		**pP**	**08 20 19.5 -2.9**
CD2			PP		**PnPn**	**08 20 27.2 +3.8**
CD2			S		**Sn**	**08 23 20.8 -1.2**
CD2			sS		**S**	**08 23 31.5 +0.1**
CD2			SS		**SnSn**	**08 23 43.7 +8.3**
CD2			PMZ			
	150nm,1.2s					
CD2			PMZ			
	260nm,5.6s					
CD2			LN			
	7μm,9.5s					
CD2			LE			
	7μm,13.1s					
CD2			LZ			
	7μm,13.1s					
KKM	**Kota Kinabalu**	**17.32 195**	⇑P		**P**	**08 20 19.1 +0.6**
KKM	**Kota Kinabalu**	**17.32 195**	*e*P		**P**	**08 20 19.3 +0.8**
	202nm,1.2s					
BJT	**Baijiatuau**	**17.46 348**	*e*P		**P**	**08 20 21.8 +2.0**
BJT			pmax		pmax	
	comp=Z,125nm,0.9s					
BJT	**Baijiatuau**	**17.46 348**	*e*P		**P**	**08 20 21.8 +2.0**
	comp=Z,125nm,0.9s					
BJI	**Beijing**	**17.48 348**	P		**Pn**	**08 20 19.4 +0.4**
BJI			S		**Sn**	**08 23 33.7 +0.9**
BJI			PMZ			
	comp=Z,44nm,0.8s					
BJI			PMZ			
	comp=Z,660nm,8.4s					
BJI			LN			
	comp=Z,4μm,16.0s					
BJI			LE			
	comp=Z,2μm,15.0s					
BJI			LZ			
	comp=Z,2μm,16.3s					
SDKM	**Sandakan**	**17.51 192**	⇓P		**P**	**08 20 21.3 +0.8**
MYLDM	**Lahad Datu**	**17.77 187**	⇑P		**P**	**08 20 26.3 +3.0**
MYLDM	**Lahad Datu**	**17.77 187**	*e*P		**P**	**08 20 24.8 +1.5**
	comp=Z,278nm,1.1s					
TSM	**Tawau**	**18.72 189**	⇑P		**Pn**	**08 20 35.5 +1.1**
LOEI	**Loei**	**18.97 257**	P		**P**	**08 20 34.9 -1.7**
	comp=Z,70nm,1.7s,comp=Z,2μm					
SNY	**Shenyang**	**19.00 7**	⇓P		**Pn**	**08 20 38.1 +0.5**
SNY			pP		**pP**	**08 20 45.9 +1.9**
SNY			sP		**sP**	**08 20 50.5 +3.0**
SNY			S		**S**	**08 24 10.3 -0.6**
SNY			SS		SnSn	08 24 34.2 +10
SNY			PMZ			
	comp=Z,40nm,0.8s					
SNY			PMZ			
	comp=Z,310nm,4.4s					
SNY			LN			
	comp=Z,3μm,14.2s					
SNY			LE			
	comp=Z,2μm,10.4s					
SNY			LZ			
	comp=Z,4μm,14.7s					
HHC	**Hu-ho-hao-te**	**19.44 339**	⇓P		**Pn**	**08 20 44.2 +1.2**
HHC			pP		**pP**	**08 20 52.4 +3.4**
HHC			PP		**PnPn**	**08 21 01.2 +4.6**
HHC			S		**Sn**	**08 24 22.6 +2.2**
HHC			sS		**sS**	**08 24 28.8 -3.1**
HHC			PMZ			
	comp=Z,83nm,1.2s					
HHC			PMZ			
	comp=Z,1μm,7.5s					
HHC			LN			
	comp=Z,8μm,14.0s					
HHC			LE			
	comp=Z,4μm,15.4s					
HHC			LZ			
	comp=Z,7μm,11.2s					
UTTA	**Uttaradit**	**19.54 258**	P		**Pn**	**08 20 46.3 +2.1**
	comp=Z,5.9nm,1.5s,comp=Z,86nm					
LZH	**Lanzhou**	**19.61 316**	*e*P		**Pn**	**08 20 45.5 +0.4**
LZH			pP		**pP**	**08 20 52.5 +1.6**
LZH			sP		**sP**	**08 20 56.6 +2.2**
LZH			S		**Sn**	**08 24 26.2 +1.6**
LZH			PMZ			
	comp=Z,150nm,1.4s					
LZH			PMZ			
	comp=Z,1μm,5.4s					
LZH			LN			
	comp=Z,4μm,13.0s					
LZH			LE			
	comp=Z,5μm,14.7s					
LZH			LZ			
	comp=Z,5μm,15.5s					
JHJ2	**Mitsune**	**19.70 55**	*e*P		**P**	**08 20 42.7 -1.7**
	comp=Z,269nm,0.8s					
SGSI	**Sangihe**	**19.70 165**	P		Pn	08 20 55.2 +9.1
BTO	**Baotou**	**19.78 335**	*e*P		**Pn**	**08 20 46.8 -0.2**
CBIJ	**Chichi jima**	**19.94 74**	P		**P**	**08 20 45.0 -2.2**
JCJ	**Chichijima**	**19.94 74**	P		**P**	**08 20 45.0 -2.2**
	comp=Z,10.0nm,0.3s,baz=287,slow=14,SNR=6.8					
JCJ			LR		LR	08 27 05.9
	comp=Z,790nm,21.9s,baz=239,slow=33					
LAMP	**Lampang**	**20.14 261**	P		Pn	08 20 51.8 +0.4
	comp=Z,14nm,1.1s,comp=Z,142nm					
CMAI	**Chiengmai2**	**20.34 266**	P		Pn	08 20 53.6 -0.3
	comp=Z,62nm,1.3s					
MAJO	**Matsushiro**	**20.36 44**	⇑*i*P		**P**	**08 20 51.1 -0.6**
MAJO	**Matsushiro**	**20.36 44**	*e*P		**P**	**08 20 51.3 -0.4**
	comp=Z,70nm,0.8s					
MAT	**Matsushiro**	**20.36 44**	P		**P**	**08 20 50.4 -1.3**
MAT			S		**S**	**08 24 39.7 +1.2**
MJAR	**Matsushiro Arr**	**20.36 44**	P		**P**	**08 20 50.5 -1.1**
	comp=Z,71nm,0.8s,baz=227,slow=7.7,SNR=43					
MJAR			LR		LR	08 30 31.5
	comp=Z,686nm,18.5s,baz=230,slow=42					
CHTO	**Chiang Mai**	**20.69 263**	*e*P		Pn	08 20 56.8 -1.0
CHTO			pmax		pmax	
	comp=Z,53nm,0.9s					
CHTO	**Chiang Mai**	**20.69 263**	P		Pn	08 20 57.0 -0.8
	comp=Z,279nm,1.3s,comp=Z,7μm					
CHTO	**Chiang Mai**	**20.69 263**	*e*P		Pn	08 20 56.8 -1.1
	comp=Z,52nm,0.9s					
BTM	**Bintulu**	**20.94 202**	⇑P		**P**	**08 20 58.8 +0.7**
CN2	**Changchun**	**21.19 10**	*e*P		**P**	**08 21 03.0 +2.5**
CN2			*e*sP		**sP**	**08 21 16.2 +4.9**
CN2			*e*S		**S**	**08 24 51.7 -3.1**
CN2			PMZ			
	comp=Z,10.0nm,0.7s					
CN2			PMZ			
	comp=Z,200nm,4.0s					
CN2			LN			
	comp=Z,6μm,14.0s					
CN2			LE			
	comp=Z,3μm,14.0s					
CN2			LZ			
	comp=Z,2μm,10.0s					
SBUM	**Sibu**	**21.94 203**	⇑P		**P**	**08 21 08.5 -0.2**
MRSI	**Marisa**	**22.35 177**	P		**P**	**08 21 16.6 +3.4**
	comp=Z,551nm,0.6s,comp=Z,5μm					
KMSI	**Cibinong**	**22.45 171**	P		**P**	**08 21 16.8 +2.5**
	comp=Z,946nm,1.1s,comp=Z,9μm					
MPSI	**Mapaga**	**22.47 182**	P		**P**	**08 21 15.4 +1.0**
	comp=Z,94nm,0.7s					
MDJ	**Mudanjiang**	**22.84 17**	P		**P**	**08 21 17.4 -0.8**
MDJ			pP		**pP**	**08 21 25.6 0.0**
MDJ			sP		**sP**	**08 21 30.0 +1.0**
MDJ			PcP		**PcP**	**08 25 09.4 +0.7**
MDJ			S		**S**	**08 25 24.3 -1.7**
MDJ			sS		**sS**	**08 25 38.8 +0.1**
MDJ			PMZ			
	comp=Z,17nm,0.9s					
MDJ			PMZ			
	comp=Z,120nm,3.9s					
MDJ			LN			
	comp=Z,3μm,14.2s					
MDJ			LE			
	comp=Z,1μm,12.0s					
MDJ			LZ			
	comp=Z,4μm,15.3s					
MDJ	**Mudanjiang**	**22.84 17**	*e*P		**P**	**08 21 17.6 -0.6**
	comp=Z,44nm,1.0s					
TNTI	**Ternate**	**22.97 163**	P		**P**	**08 21 18.4 -1.3**
	comp=Z,612nm,0.9s,comp=Z,6μm					
TNTI	**Ternate**	**22.97 163**	*e*P		**P**	**08 21 17.6 -2.1**
	comp=Z,472nm,0.9s					
USRK	**Ussuriysk Ar.**	**23.18 21**	P		**P**	**08 21 20.7 -0.9**
	comp=Z,12nm,0.6s,baz=211,slow=9.4,SNR=34					
USRK			PcP		**PcP**	**08 25 08.4 -1.0**
	comp=Z,1.7nm,0.7s,baz=241,slow=1.5,SNR=4.2					
USRK			LR		LR	08 31 04.5
	comp=Z,2μm,18.7s,baz=186,slow=38					
KSM	**Kuching**	**23.57 207**	*e*P		**P**	**08 21 25.7 -0.1**
PCI	**Palu**	**23.70 182**	P		P	08 21 21.9 -5.1
	comp=Z,1μm,1.4s,comp=Z,31μm					
APSI	**Ampana**	**23.71 178**	P		**P**	**08 21 28.2 +1.1**
	comp=Z,628nm,1.1s,comp=Z,5μm					
LUWI	**Luwuk**	**23.91 175**	P		**P**	**08 21 31.1 +2.1**
	comp=Z,980nm,1.2s,comp=Z,9μm					
LUWI	**Luwuk**	**23.91 175**	*e*P		**P**	**08 21 30.2 +1.2**
	comp=Z,1μm,1.2s					
GTA	**Gaotai**	**24.16 318**	⇓P		**P**	**08 21 31.8 +0.5**
GTA			pP		**pP**	**08 21 36.0 -3.2**
GTA			sP		**sP**	**08 21 38.8 -3.7**
GTA			PcP		**PcP**	**08 25 13.0 +1.2**
GTA			S		**S**	**08 25 50.9 +3.1**
GTA			sS		**sS**	**08 25 58.6 -2.1**
GTA			PMZ			
	comp=Z,24nm,1.7s					
GTA			PMZ			
	comp=Z,190nm,5.0s					
GTA			LN			
	comp=Z,2μm,15.7s					
GTA			LE			
	comp=Z,2μm,15.9s					
GTA			LZ			
	comp=Z,3μm,15.7s					
BKB	**Balikpapan**	**24.32 189**	P		**P**	**08 21 34.3 +1.6**
	comp=Z,2μm,1.0s,comp=Z,13μm					
KTGM	**Kuala Trenggan**	**24.34 227**	⇑P		**P**	**08 21 30.6 -2.3**
LBMI	**Labuha**	**24.35 163**	P		**P**	**08 21 33.0 -0.1**
	comp=Z,1μm,1.0s,comp=Z,9μm					
MTKI	**Muara Teweh, K**	**24.38 194**	P		**P**	**08 21 34.5 +1.2**
	comp=Z,368nm,0.8s,comp=Z,11μm					
STKI	**Sintang**	**24.42 203**	P		**P**	**08 21 35.6 +2.0**
	comp=Z,80nm,1.1s,comp=Z,16μm					
GUMO	**Guam**	**24.77 108**	*e*P		**P**	**08 21 35.7 -1.1**
GUMO			pmax		pmax	
	comp=Z,602nm,0.8s					
GUMO	**Guam**	**24.77 108**	*e*P		**P**	**08 21 35.7 -1.1**
	comp=Z,602nm,0.8s					
SANI	**Sanana**	**25.36 167**	P		**P**	**08 21 39.3 -2.9**
	comp=Z,482nm,0.8s,comp=Z,4μm					
SWI	**Sorong**	**25.80 155**	P		**P**	**08 21 45.5 -0.7**
	comp=Z,267nm,0.8s,comp=Z,2μm					
TTSI	**Tana Toraja**	**25.83 182**	P		**P**	**08 21 47.7 +1.3**
	comp=Z,129nm,0.8s,comp=Z,1μm					
KULM	**Kulim**	**26.09 231**	⇑P		**P**	**08 21 46.9 -1.9**
KULM	**Kulim**	**26.09 231**	*e*P		**P**	**08 21 50.6 +1.8**
	comp=Z,49nm,1.3s					
HIA	**Hailar**	**26.30 359**	*d i*P		**P**	**08 21 49.5 -0.9**
HIA			pmax		pmax	
	comp=Z,34nm,1.2s					
HIA	**Hailar**	**26.30 359**	*e*P		**P**	**08 21 49.6 -0.8**
	comp=Z,54nm,1.1s					
SHL	**Shillong**	**26.34 282**	*e*P		**P**	**08 21 53.0 +1.7**
SHL			*e*S		**S**	**08 26 24.0 +1.0**
IPM	**Ipoh**	**26.39 229**	⇓P		**P**	**08 21 51.5 -0.1**
IPM	**Ipoh**	**26.39 229**	*e*P		**P**	**08 21 52.2 +0.7**
	comp=Z,67nm,1.4s					
MYKOM	**Kota Tinggi**	**26.60 220**	⇓P		**P**	**08 21 53.1 -0.3**
MYKOM	**Kota Tinggi**	**26.60 220**	*e*P		**P**	**08 21 54.7 +1.3**
	comp=Z,22nm,0.8s					
KGM	**Kluang**	**26.74 221**	⇓P		**P**	**08 21 56.2 +1.4**
SPSI	**Sidrap Palu**	**26.74 182**	P		**P**	**08 21 57.0 +2.3**
	comp=Z,65nm,0.7s,comp=Z,733nm					
ERM	**Erimo**	**26.74 39**	P		**P**	**08 21 54.6 +0.1**
	comp=Z,235nm,0.8s,SNR=6.8					
ERM	**Erimo**	**26.74 39**	*d i*P		**P**	**08 21 54.7 +0.2**
ERM			pmax		pmax	
	comp=Z,22nm,0.8s					
ERM	**Erimo**	**26.74 39**	*e*P		**P**	**08 21 54.4 -0.1**
	comp=Z,45nm,0.9s					
NLAI	**Namlea**	**26.76 166**	P		**P**	**08 21 55.1 +0.3**
	comp=Z,3μm,0.7s,comp=Z,22μm					
BBKI	**Banjar Baru**	**26.84 193**	P		**P**	**08 21 56.3 +0.8**
	comp=Z,167nm,0.9s,comp=Z,4μm					
FRIM	**Kepong**	**26.89 226**	⇑P		**P**	**08 21 55.7 -0.4**
ULN	**Ulaanbaatar**	**27.16 340**	*d i*P		**P**	**08 21 58.8 +0.4**
ULN			pmax		pmax	
	comp=Z,18nm,1.7s					
ULN	**Ulaanbaatar**	**27.16 340**	*e*P		**P**	**08 21 58.5 +0.1**
	comp=Z,29nm,0.9s					
BNSI	**Bone**	**27.17 181**	P		**P**	**08 22 01.1 +2.6**
	comp=Z,76nm,1.1s,comp=Z,939nm					
LSA	**Lhasa**	**27.25 291**	P		**P**	**08 22 01.6 +1.9**
LSA	**Lhasa**	**27.25 291**	*e*P		**P**	**08 22 01.8 +2.0**
LSA			pmax		pmax	
	comp=Z,75nm,0.8s					
LSA	**Lhasa**	**27.25 291**	*e*P		**P**	**08 22 01.8 +2.0**
	comp=Z,75nm,0.8s					
SONM	**Songino Array**	**27.35 339**	P		**P**	**08 22 00.4 +0.3**
	comp=Z,7.2nm,0.7s,baz=160,slow=8.9,SNR=31					
SONM			PcP		**PcP**	**08 25 19.1 +0.3**
	comp=Z,1.2nm,0.4s,baz=147,slow=2.9,SNR=11					
SONM			LR		LR	08 33 06.1
	comp=Z,1μm,21.2s,baz=156,slow=37					
KLR	**Kul'dur**	**27.68 16**	*e*P		**P**	**08 21 58.8 -4.0**
KLR			MLR		MLR	
	comp=N,6μm,12.5s					
KLR			MLR		MLR	
	comp=E,2μm,12.5s					
KLR			MLR		MLR	
	comp=Z,14μm,12.5s					
KAPI	**Kappang**	**27.78 182**	*e*P		**P**	**08 22 05.2 +1.2**
	comp=Z,49nm,0.7s					
ASAJ	**Asahikawa**	**27.79 35**	P		**P**	**08 22 03.5 -0.4**
	comp=Z,16nm,0.6s,baz=251,slow=8.5,SNR=22					
ASAJ			LR		LR	08 33 44.4
	comp=Z,3μm,19.1s,baz=244,slow=38					
FAKI	**Fak Fak**	**28.07 155**	P		**P**	**08 22 07.1 +0.5**
	comp=Z,223nm,0.8s,comp=Z,2μm					
FAKI	**Fak Fak**	**28.07 155**	*e*P		**P**	**08 22 04.4 -2.2**
	comp=Z,146nm,0.6s					
PSI	**Prapat**	**29.05 230**	P		**P**	**08 22 16.4 +0.9**
	comp=Z,16nm,0.8s,baz=27,slow=8.7,SNR=10					
PSI			PcP		**PcP**	**08 25 23.9 +0.3**
	comp=Z,10.0nm,0.8s,baz=209,slow=2.6,SNR=6.4					
PSI			LR		LR	08 34 37.2
	comp=Z,1μm,18.2s,baz=50,slow=38					
KCSI	**Kotacane, Aceh**	**29.38 232**	P		P	08 22 26.4 +8.1
YUK	**Yuzh-Kuril'sk**	**29.55 39**	*e*P		**P**	**08 22 20.4 +0.9**
YUK			*i* S		**S**	**08 27 16.5 +3.8**
YUK			*i* SSS		SSS	08 28 48.8
YUK			MLR		MLR	
	comp=N,785nm,17.0s					
YUK			MLR		MLR	
	comp=E,699nm,17.0s					
YUK			MLR		MLR	
	comp=Z,1μm,17.0s					
YSS	**Yuzh-Sakhalins**	**29.85 31**	*e*P		**P**	**08 22 22.7 +0.6**
YSS			*e*			08 22 31.0
YSS			MLR		MLR	
	comp=Z,1μm,14.0s					
ZAK	**Zakamensk**	**30.59 338**	*e*P		**P**	**08 22 28.7 -0.1**
ZAK			*e*			08 25 22.2
ZAK			pmax		pmax	
	comp=Z,7.0nm,1.3s					
GRJI	**Gresik**	**30.72 196**	P		**P**	**08 22 32.5 +2.4**
	comp=Z,96nm,0.9s					
PDSI	**Padang**	**30.79 222**	P		P	08 22 41.7 +11
GSI	**Gunungsitoli**	**31.05 229**	*e*P		**P**	**08 22 33.3 +0.2**
	comp=Z,19nm,0.6s					
BLJI	**Banyuglugur**	**31.26 194**	P		**P**	**08 22 35.8 +1.0**
	comp=Z,114nm,0.9s,comp=Z,2μm					
MMRI	**Maumere**	**31.41 177**	*e*P		**P**	**08 22 34.8 -1.3**
	comp=Z,151nm,0.8s					
LHSI	**Lahat**	**31.42 214**	P		P	08 22 40.0 +3.7
	comp=Z,52nm,0.7s,comp=Z,3μm					
TLY	**Talaya**	**31.57 340**	*e*P		**P**	**08 22 38.2 +0.9**
TLY			*e*			08 22 50.7
TLY			*e*			08 23 52.1
TLY			*e*S		**S**	**08 27 39.1 -5.2**
TLY			pmax		pmax	
	comp=Z,20nm,1.5s					
TLY			MLR		MLR	
	comp=Z,2μm,17.0s					
TLY	**Talaya**	**31.57 340**	P		**P**	**08 22 38.2 +0.9**
	comp=Z,5.8nm,0.7s,baz=160,slow=9.2,SNR=7.3					
TLY			PcP		**PcP**	**08 25 30.8 +1.4**
	comp=Z,4.0nm,0.6s,baz=135,slow=1.4,SNR=4.1					
MDSI	**Maura Dua**	**31.65 213**	P		**P**	**08 22 39.3 +1.0**
	comp=Z,54nm,0.9s,comp=Z,626nm					
GENI	**Genyem**	**31.71 141**	P		**P**	**08 22 41.1 +2.2**
	comp=Z,70nm,0.7s					
GMJI	**Gumukmas**	**31.80 194**	P		**P**	**08 22 42.3 +2.7**
	comp=Z,49nm,0.9s					
IRK	**Irkutsk**	**31.86 341**	*e*P		P	08 22 43.7 +3.8
IRK			*e*			08 33 04.4
IRK			pmax		pmax	
	comp=Z,54nm,1.6s					
**W

comp=Z,224nm,1.0s
LWLI Liwa 32.16 212 P **P 08 22 44.7 +1.7**
comp=Z,88nm,0.8s,comp=Z,12μm
KPJI Karang Pucung 32.19 202 P **P 08 22 45.5 +2.5**
comp=Z,70nm,1.4s
LEM Lembang 32.20 205 P P 08 22 49.1 +5.7
comp=Z,77nm,1.0s
UGM Wanagama 32.22 199 P **P 08 22 45.9 +2.6**
comp=Z,123nm,1.2s
UGM Wanagama 32.22 199 *e*P **P 08 22 44.7 +1.4**
comp=Z,121nm,1.0s
KASI Kota Agung 32.39 211 P P 08 22 55.2 +10
WBSI Waikabubak, Su 32.39 182 P **P 08 22 44.9 +0.1**
comp=Z,63nm,0.7s,comp=Z,2μm
SOEI Soe 32.67 173 *e*PcP **PcP 08 25 33.2 +0.1**
CGJI Cibinong 32.81 208 P P 08 23 01.0 +13
BASI Baing, Sumba 32.94 180 P **P 08 22 51.4 +1.8**
comp=Z,224nm,0.6s,comp=Z,3μm
BATI Baumata 33.06 175 P **P 08 22 48.6 -2.1**
comp=Z,112nm,0.7s,comp=Z,959nm
BATI Baumata 33.06 175 P **P 08 22 48.4 -2.3**
comp=Z,128nm,0.6s,baz=333,slow=1.1,SNR=21
BATI PcP **PcP 08 25 34.9 +0.8**
comp=Z,36nm,0.7s,baz=144,slow=3.2,SNR=3.8
BATI LR LR 08 38 17.0
comp=Z,571nm,19.9s,baz=337,slow=40
CLNS Chul'man 34.01 4 *e*P P 08 23 03.3 +4.7
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=Z,5.0nm,0.9s
CLNS MLR MLR
comp=E,498nm,12.0s
CLNS MLR MLR
comp=Z,1μm,11.0s
CLNS MLR MLR
comp=N,915nm,11.0s
WMQ Urumqi 34.19 316 P **P 08 23 02.0 +1.6**
WMQ sP **sP 08 23 16.1 +4.4**
WMQ PP **PnPn 08 24 15.0 +0.4**
WMQ PcP **PcP 08 25 37.8 +0.9**
WMQ S **S 08 28 24.7 -0.7**
WMQ sS **sS 08 28 40.5 +2.0**
WMQ ScS **ScS 08 33 21.3 -1.1**
WMQ PMZ
comp=N,31nm,1.6s
WMQ PMZ
comp=N,200nm,5.0s
WMQ LN
comp=N,1μm,11.0s
WMQ LE
comp=N,1μm,11.0s
WMQ LZ
comp=N,850nm,17.0s
HVS Khovu-Aksy 35.06 330 *ce*P **P 08 23 09.1 +1.3**
BOD Bodaibo 35.19 354 *e*P **P 08 23 07.5 -1.2**
BOD pmax pmax
comp=Z,5.0nm,1.3s
MKAR Makanchi Array 38.91 317 P **P 08 23 41.1 +0.5**
comp=Z,16nm,0.8s,baz=112,slow=9.1,SNR=138
MKAR PcP **PcP 08 25 51.2 +0.2**
comp=Z,8.9nm,0.8s,baz=160,slow=1.5,SNR=5.0
MKAR LR LR 08 40 59.2
comp=Z,1μm,18.3s,baz=106,slow=38
SKR Severo-Kuril's 39.05 36 *e*P P 08 23 36.0 -5.6
SKR pmax pmax
comp=N,160nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s
NDI New Delhi 39.36 288 *ex* **P 08 23 45.0 +0.4**
SMLA Simla 39.39 292 *i* P **P 08 23 45.7 +1.0**
SMLA *i* x x 08 23 45.7
baz=232,slow=28
YAK Yakutsk 39.57 7 *e*P **P 08 23 44.7 -1.0**
YAK *e**PP **pP 08 23 49.8 -4.0**
YAK *e*PPP PPP 08 25 43.4
YAK *e* 08 25 51.5
YAK *e*S **S 08 29 45.4 -1.2**
YAK pmax pmax
comp=Z,8.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=Z,23nm,1.3s
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=N,13nm,1.3s
YAK smax smax
comp=N,33nm,1.6s
YAK smax smax
comp=E,28nm,2.1s
YAK MLR MLR
comp=Z,3μm,19.0s
YAK MLR MLR
comp=N,2μm,18.0s
YAK MLR MLR
comp=E,451nm,14.0s
HYB Hyderabad 39.80 270 *i* P **P 08 23 49.5 +1.2**
BHK Bhakra 40.04 292 *ex* x 08 24 02.1
ZALV Zalesovo Beam 41.04 328 P **P 08 23 58.3 +0.2**
comp=E,20nm,0.8s,baz=111,slow=8.1,SNR=66
ZALV PcP **PcP 08 25 57.3 -0.3**
comp=E,4.1nm,0.7s,baz=107,slow=4.7,SNR=3.4
ZALV LR LR 08 41 55.6
comp=E,543nm,18.6s,baz=72,slow=37
PETK Petropavlovsk- 41.18 33 P **P 08 23 57.9 -1.3**
comp=E,12nm,0.7s,baz=205,slow=6.1,SNR=13
PETK PcP **PcP 08 25 57.2 -0.9**
comp=E,2.6nm,0.6s,baz=325,slow=2.3,SNR=2.4
PETK LR LR 08 41 54.6
comp=E,768nm,19.4s,baz=229,slow=37
KSH Kashi 41.19 304 P P 08 24 03.4 +3.7
KSH sP sP 08 24 16.9 +5.8
KSH PP **PnPn 08 25 42.0 +2.5**
KSH PcS **PcS 08 29 51.7 +1.9**
KSH S **S 08 30 15.8 +4.1**
KSH sS sS 08 30 32.7 +7.7
KSH SS **SS 08 33 15.7 +0.6**
KSH PMZ
comp=E,56nm,1.5s
KSH PMZ
comp=E,260nm,4.4s
KSH LN
comp=E,1μm,12.9s
KSH LE
comp=E,580nm,13.1s
KSH LZ
comp=E,1μm,19.3s
PMG Port Moresby 41.30 138 *ce*P **P 08 23 59.1 -1.6**
PMG pmax pmax
comp=Z,158nm,1.7s
PMG Port Moresby 41.30 138 *e*P **P 08 23 59.6 -1.1**
comp=Z,75nm,0.9s
ULHL Ulahol 41.55 308 P P 08 24 11.3 +8.6
SNR=9.0
PET Petropavlovsk 41.62 34 *e*P **P 08 24 01.9 -0.9**
PET *e**PP **pP 08 24 11.5 +0.6**
PET *e*S S **08 30 14.7 -2.7**
PET pmax pmax
comp=Z,62nm,0.8s
PET MLR MLR
comp=Z,1μm,21.0s
PET MLR MLR
comp=Z,900nm,18.0s
PET Petropavlovsk 41.62 34 *e*P **P 08 24 02.3 -0.6**
comp=Z,102nm,0.9s
PET *e*pP **pP 08 24 10.3 -0.6**
TKM2 Tokmak 2 42.17 309 P **P 08 24 09.2 +1.5**
SNR=17
TKM2 Tokmak 2 42.17 309 *e*P **P 08 24 09.1 +1.3**
TKM2 pmax pmax
comp=Z,64nm,1.1s
TKM2 Tokmak 2 42.17 309 *e*P **P 08 24 09.1 +1.3**
comp=Z,64nm,1.1s
KZA Kyzart 42.23 308 P **P 08 24 10.5 +2.0**
SNR=8.3
KZA Kyzart 42.23 308 *i* P **P 08 24 10.5 +2.0**
NVS Novosibirsk 42.31 329 ⇓*i*P **P 08 24 08.0 -0.5**
NVS *e*S **S 08 30 31.5 +3.9**
NVS pmax pmax
comp=Z,44nm,1.2s
NVS pmax pmax
comp=N,30nm,1.6s
NVS pmax pmax
comp=E,42nm,1.6s
NVS smax smax
comp=N,7.0nm,1.8s
NVS smax smax
comp=E,18nm,1.8s
KBK Karagaybulak 42.57 309 P **P 08 24 12.6 +1.6**
SNR=6.0
KBK Karagaybulak 42.57 309 *i* P **P 08 24 10.5 -0.5**
KURK Kurchatov 42.75 321 P **P 08 24 13.0 +0.9**
comp=E,148nm,0.9s,SNR=8.6
KURK Kurchatov 42.75 321 *e*P **P 08 24 12.6 +0.5**
KURK *e**PP **pP 08 24 19.6 -0.6**
KURK pmax pmax
comp=Z,68nm,1.4s
KURK Kurchatov 42.75 321 *e*P **P 08 24 12.6 +0.5**
comp=Z,68nm,1.4s
KURK *e*pP **pP 08 24 19.6 -0.6**
COEN Coen 42.78 147 *e*P **P 08 24 11.3 -1.4**
comp=Z,1μm,0.7s
CHMS Chumysh 42.79 309 P P 08 24 21.0 +8.4
SNR=8.9
UCH Uchtor 42.79 308 P **P 08 24 15.9 +2.7**
SNR=9.8
FRU Bishkek 42.85 309 *e*P P 08 24 21.0 +7.9
FRU *e* 08 24 38.0
FRU pmax pmax
comp=Z,90nm,1.8s
AAK Ala-Archa 42.89 309 P P 08 24 22.2 +8.6
SNR=5.1
AAK Ala-Archa 42.89 309 *de*P **P 08 24 14.6 +1.0**
AAK pmax pmax
comp=Z,15nm,1.2s
AAK Ala-Archa 42.89 309 *e*P **P 08 24 14.8 +1.2**
comp=Z,25nm,1.2s
AAK *e*pP **pP 08 24 22.1 +0.4**
AAK *e*PP **PP 08 25 55.4 +2.0**
USP Ospenovka 43.03 309 P **P 08 24 16.9 +2.3**
SNR=5.2
USP Ospenovka 43.03 309 *i* P **P 08 24 16.8 +2.3**
H11N1 WAKE ISLAND Hy 43.06 85 T T 09 09 43.8
baz=283,slow=74,SNR=109
H11N2 WAKE ISLAND Hy 43.06 85 T T 09 09 42.1
baz=283,slow=74,SNR=167
H11N3 WAKE ISLAND Hy 43.07 85 T T 09 09 32.9
baz=283,slow=74,SNR=193
H11S3 WAKE ISLAND Hy 43.15 87 T T 09 09 50.2
baz=284,slow=75,SNR=197
H11S1 WAKE ISLAND Hy 43.16 87 T T 09 09 50.7
baz=284,slow=75,SNR=142
H11S2 WAKE ISLAND Hy 43.17 87 T T 09 09 54.1
baz=284,slow=75,SNR=120
AML Almayashu 43.37 308 P **P 08 24 19.9 +2.1**
SNR=13
AML Almayashu 43.37 308 *i* P **P 08 24 19.9 +2.1**
EKS2 Erkin-Say 43.42 308 P **P 08 24 18.9 +1.1**
SNR=5.7
EKS2 Erkin-Say 43.42 308 *e*P **P 08 24 19.3 +1.5**
EKS2 *e**PP **pP 08 24 26.2 +0.3**
EKS2 pmax pmax
comp=Z,17nm,1.0s
EKS2 Erkin-Say 43.42 308 *e*P **P 08 24 19.3 +1.5**
comp=Z,17nm,1.0s
EKS2 *e*pP **pP 08 24 26.2 +0.3**
MBWA Marble Bar 43.83 181 *e*P **P 08 24 20.0 -1.0**
comp=Z,28nm,0.6s
MBWA *e*PcP **PcP 08 26 07.4 +0.1**
WRAB Tennant Creek 44.65 162 P **P 08 24 26.6 -1.1**
comp=Z,1μm,0.5s
WRAB Tennant Creek 44.65 162 *c i*P **P 08 24 25.9 -1.7**
WRAB pmax pmax
comp=Z,310nm,0.7s
WRAB Tennant Creek 44.65 162 *e*P **P 08 24 26.0 -1.7**
comp=Z,130nm,0.7s
WRA Warramunga Arr 44.65 162 P **P 08 24 25.6 -2.1**
comp=Z,123nm,0.6s,baz=344,slow=8.7,SNR=702
WRA PcP **PcP 08 26 09.3 -0.8**
comp=Z,16nm,0.9s,baz=336,slow=4.3,SNR=7.1
WRA S **S 08 30 58.6 -3.9**
comp=Z,2.6nm,1.1s,baz=339,slow=14,SNR=4.7
WRA LR LR 08 45 40.1
comp=Z,217nm,18.8s,baz=300,slow=40
SEY Seymchan 45.32 20 P **P 08 24 31.8 -0.7**
comp=Z,3.6nm,0.6s,baz=235,slow=6.4,SNR=13
SEY PcP **PcP 08 26 11.8 0.0**
comp=Z,12nm,0.5s,baz=234,slow=5.6,SNR=15
KKAR Karatay Array 45.86 308 *e*P **P 08 24 38.2 +1.1**
KKAR *e**PP **pP 08 24 45.6 +0.3**
KKAR *e* 08 26 14.6
KKAR pmax pmax
comp=Z,21nm,1.0s
KKAR Karatay Array 45.86 308 *e*P **P 08 24 38.2 +1.1**
comp=Z,21nm,1.0s
KKAR *e*pP **pP 08 24 45.6 +0.3**
KKAR *e*PcP **PcP 08 26 14.6 +0.5**
KBL Kabul 46.27 296 *e*P **P 08 24 42.1 +1.3**
KBL *e**PP **pP 08 24 49.9 +1.0**
KBL pmax pmax
comp=Z,107nm,1.3s
KBL Kabul 46.27 296 *e*P **P 08 24 42.1 +1.3**
comp=Z,107nm,1.3s
KBL *e*pP **pP 08 24 49.9 +1.0**
ASAR Alice Springs 48.07 164 P **P 08 24 53.2 -1.4**
comp=Z,47nm,0.7s,baz=342,slow=7.0,SNR=695
ASAR PcP **PcP 08 26 21.6 -0.6**
comp=Z,20nm,0.8s,baz=349,slow=3.3,SNR=8.2
ASAR ScP **ScP 08 30 13.5 -1.4**
comp=Z,1.7nm,0.7s,baz=350,slow=4.6,SNR=4.6
ASAR S **S 08 31 49.5 -2.0**
comp=Z,0.4nm,0.7s,baz=352,slow=12,SNR=3.4
ASAR LR LR 08 45 50.4
comp=Z,190nm,20.3s,baz=350,slow=37
BVAR Borovoye Array 48.34 322 LR LR 08 47 46.9
comp=Z,361nm,21.3s,baz=116,slow=39
BRVK Borovoye 48.41 322 P **P 08 24 58.2 +1.3**
comp=Z,420nm,1.2s,SNR=7.2
BRVK Borovoye 48.41 322 *de*P **P 08 24 58.0 +1.1**
BRVK pmax pmax
comp=Z,28nm,1.0s
TIXI Tiksi 48.97 3 *c i*P **P 08 24 59.4 -1.4**
TIXI pmax pmax
comp=Z,54nm,1.7s
TIXI Tiksi 48.97 3 *e*P **P 08 24 59.5 -1.4**
comp=Z,24nm,0.8s
CTAO Charters Tower 49.52 148 *e*P **P 08 25 05.0 -0.7**
CTAO pmax pmax
comp=Z,64nm,0.8s
CTAO Charters Tower 49.52 148 *e*P **P 08 25 05.0 -0.7**
comp=Z,64nm,0.8s
FX1 Attu Island--F 49.60 39 P **P 08 25 05.3 -0.6**
comp=Z,9.5nm,0.4s,baz=293,slow=7.6,SNR=28
FX1 LR LR 08 47 27.8
comp=Z,276nm,19.8s,baz=267,slow=38
BILL Bilibino 53.02 20 ⇓*i*P **P 08 25 30.7 -0.7**
BILL *e* 08 27 31.4
BILL pmax pmax
comp=Z,13nm,1.0s
BILL MLR MLR
comp=Z,1μm,18.0s
BILL Bilibino 53.02 20 *e*P **P 08 25 30.4 -1.1**
comp=Z,15nm,0.8s
FORT Forrest 53.87 172 *e*P **P 08 25 36.8 -1.2**
comp=Z,169nm,0.9s
FORT *e*PcP **PcP 08 26 43.5 +0.1**
ABKAR Akbulak array 53.98 315 *e*P **P 08 25 39.7 +1.0**
comp=Z,59nm,1.0s
ABKAR *e*pP **pP 08 25 46.7 -0.3**
SVE Sverdlovsk 54.77 324 *e*P **P 08 25 46.0 +1.7**
SVE pmax pmax
comp=Z,49nm,1.2s
ABKT Ailbek 55.02 301 P **P 08 25 49.4 +2.9**
comp=Z,256nm,1.0s,SNR=7.5
GEYT Alibeck 55.02 301 P **P 08 25 48.2 +1.6**
comp=Z,12nm,0.8s,baz=92,slow=8.7,SNR=17
AKTO Aktyubinsk 55.34 316 LR LR 08 51 10.7
comp=Z,900nm,18.6s,baz=106,slow=38
ARU Arti 55.82 324 P **P 08 25 52.5 +0.5**
comp=Z,758nm,1.4s,SNR=6.5
ARU Arti 55.82 324 *d i*P **P 08 25 52.7 +0.8**
ARU S **S 08 33 39.6 +2.3**
ARU SS **SS 08 37 18.8 -4.0**
ARU pmax pmax
comp=Z,30nm,1.0s
ARU MLR MLR
comp=Z,414nm,17.0s
ARU Arti 55.82 324 *e*P **P 08 25 52.4 +0.5**
comp=Z,208nm,1.2s
ARU *e*pP **pP 08 25 59.7 -0.6**
EIDS Eidsvold 56.35 147 *e*P **P 08 25 54.7 -1.3**
comp=Z,14nm,0.6s
SOKR Solikamsk 57.31 327 *d i*P P 08 26 09.9 +7.5
SOKR pmax pmax
comp=Z,90nm,1.4s
SOKR MLR MLR
comp=Z,1μm,17.0s
BBOO Buckleboo 57.34 165 *e*P **P 08 26 02.4 -0.6**
comp=Z,4μm,0.8s
STKA Stephens Creek 58.06 159 P **P 08 26 06.9 -1.1**
comp=Z,47nm,0.6s,baz=338,slow=6.7,SNR=191
STKA LR LR 08 53 53.8
comp=Z,181nm,19.0s,baz=358,slow=39
GAMB Gambell 59.81 28 *e*P **P 08 26 19.8 0.0**
comp=Z,18nm,1.0s
ARMA Armidale 60.81 149 *e*P **P 08 26 27.0 -0.2**
comp=Z,21nm,0.8s
TNA Tin City 61.68 27 *e*P **P 08 26 32.7 +0.2**
comp=Z,23nm,1.3s
PRGR Permogore 63.00 329 *e*P **P 08 26 39.7 -1.6**
PRGR pmax pmax
comp=Z,51nm,0.9s
DZM Mont Dzumac 63.15 132 *e*P **P 08 26 42.4 -0.6**
comp=Z,83nm,1.2s
CAN Canberra 63.86 154 *e*P **P 08 26 47.4 0.0**
CAN pmax pmax
comp=Z,18nm,0.6s
CAN Canberra 63.86 154 *e*P **P 08 26 47.4 0.0**
comp=Z,18nm,0.6s
GNI Garni 65.12 305 LR LR 08 58 54.0
comp=Z,261nm,20.5s,baz=84,slow=39
ZEI Tsey 65.31 308 *e*P **P 08 26 57.4 +0.2**
ZEI pmax pmax
comp=Z,53nm,1.3s
GOF Gofitskoye 65.58 311 *e*P **P 08 27 00.2 +1.6**
GOF pmax pmax
comp=Z,50nm,1.2s
ONI Oni 65.67 308 P P 08 27 08.7 +9.3
VRHR Novokhopersk 65.72 317 *e*P **P 08 26 58.7 -0.7**
VRHR pmax pmax
comp=Z,90nm,1.2s
VRHR pmax pmax
comp=N,30nm,1.0s
VRHR pmax pmax
comp=E,70nm,1.2s
AKH Akhalkalaki 65.84 307 P P 08 27 09.7 +9.1
KBZ Khabaz 65.89 309 P **P 08 27 01.9 +1.3**
comp=E,17nm,0.8s,baz=83,slow=5.1,SNR=23
KBZ LR LR 09 00 05.4
comp=E,334nm,18.4s,baz=76,slow=40
KLMR Klimovskoe 65.97 328 *e*P **P 08 26 59.8 -1.0**
KLMR *e* 08 29 27.5
KLMR pmax pmax
comp=Z,80nm,1.3s
KLMR MLR MLR
comp=Z,1μm,16.0s
KIV Kislovodsk 66.00 309 P **P 08 27 03.6 +2.1**
comp=Z,430nm,1.6s,SNR=5.7
KIV Kislovodsk 66.00 309 *e*P **P 08 27 02.9 +1.4**
KIV *e**PP **pP 08 27 09.7 -0.2**
KIV pmax pmax
comp=Z,147nm,1.4s
KIV Kislovodsk 66.00 309 *e*P **P 08 27 02.9 +1.4**
comp=Z,147nm,1.4s
KIV *e*pP **pP 08 27 09.7 -0.2**
TMCR Tamitsa 66.42 332 *e*P **P 08 27 03.8 +0.2**
TMCR *e* 08 27 31.9
TMCR pmax pmax
comp=Z,21nm,0.4s
VSR Storozhevoye 67.23 318 *e*P **P 08 27 08.9 -0.2**
VSR pmax pmax
comp=N,20nm,1.2s
VSR pmax pmax
comp=E,60nm,1.2s
VSR pmax pmax
comp=Z,50nm,1.2s
MOS Moscow 67.50 323 *e*P P 08 27 17.2 +6.6
MOS *e* 08 29 41.4
MOS pmax pmax
comp=Z,124nm,1.3s
MOS pmax pmax
comp=Z,300nm,2.1s
APA Apatity 68.00 336 ⇓*i*P P 08 27 17.8 +4.2
APA *i* 08 27 31.0
APA *i* 08 29 52.6
APA *i* S **S 08 36 12.0 +1.2**
APA *i* 08 36 52.0
APA MLR MLR
comp=Z,1μm,15.0s
OBN Obninsk 68.19 322 ⇓*e*P **P 08 27 15.2 +0.2**
OBN *i* 08 27 22.3
OBN *e* 08 29 48.0
OBN *e*S **S 08 36 12.8 -0.6**
OBN pmax pmax
comp=Z,11nm,0.6s
OBN MLR MLR
comp=Z,515nm,21.0s
SOC Sochi 68.19 309 *e*P **P 08 27 15.3 +0.1**
SOC *e*PPP PPP 08 31 32.8
SOC *e*S **S 08 36 12.1 -1.8**
SOC *e*SS SS 08 40 44.4 +7.9
SOC MLR MLR
comp=Z,407nm,16.0s
RAYN Ar Rayn 68.25 287 P **P 08 27 17.0 +1.0**
comp=Z,105nm,1.3s,SNR=8.9
RAYN Ar Rayn 68.25 287 *e*P **P 08 27 16.8 +0.7**
comp=Z,110nm,1.6s
PPLA Purkeypile 68.58 29 *e*P **P 08 27 18.2 +0.7**
comp=Z,44nm,1.3s
COLD Coldfoot 68.77 25 *e*P **P 08 27 19.2 +0.8**
comp=Z,23nm,1.1s
KTH Kantishna Hill 69.04 29 *e*P **P 08 27 20.8 +0.5**
comp=Z,17nm,0.9s
MSVF Nonsavu 69.13 121 P **P 08 27 21.0 -0.5**
comp=Z,712nm,0.9s,SNR=14
MSVF Nonsavu 69.13 121 *e*P **P 08 27 21.6 +0.1**
MSVF pmax pmax
comp=Z,102nm,0.8s
MSVF Nonsavu 69.13 121 *e*P **P 08 27 21.6 +0.1**
comp=Z,102nm,0.8s
HOPEN Hopen 69.19 346 *e*P **P 08 27 21.9 +1.0**
HOPEN *e*S **S 08 36 26.9 +2.2**
KDAK Kodiak Island 69.21 35 P **P 08 27 21.0 -0.3**
comp=Z,362nm,0.6s,SNR=19
KDAK Kodiak Island 69.21 35 *e*P **P 08 27 20.9 -0.3**
KDAK pmax pmax
comp=Z,27nm,0.6s
KDAK Kodiak Island 69.21 35 *e*P **P 08 27 20.9 -0.4**
comp=Z,27nm,0.6s
TRF Thorofare Moun 69.34 29 *e*P **P 08 27 21.9 -0.4**
comp=Z,21nm,1.1s
ANN Anapa 69.55 311 *e*P **P 08 27 24.2 +0.6**
ANN *e* 08 27 46.9
ANN *e*S **S 08 36 34.3 +4.4**
ANN pmax pmax
comp=Z,129nm,1.6s
ANN MLR MLR
comp=E,439nm,18.0s
ANN MLR MLR
comp=Z,519nm,18.0s
JOF Joensuu 69.56 331 *e*P **P 08 27 23.1 -0.3**
JOF pmax pmax
comp=Z,10.0nm,0.5s
JOF Joensuu 69.56 331 *ep* **P 08 27 23.1 -0.3**
comp=Z,10.0nm,0.5s
MCK McKinley 69.88 28 *e*P **P 08 27 25.3 -0.1**
MCK pmax pmax
comp=Z,49nm,1.2s
MCK McKinley 69.88 28 *e*P **P 08 27 25.3 -0.1**
comp=Z,48nm,1.2s
KEV Kevo 69.96 338 *e*P **P 08 27 25.7 0.0**
KEV pmax pmax
comp=Z,34nm,0.5s
KEV Kevo 69.96 338 *ep* **P 08 27 25.7 0.0**
comp=Z,34nm,0.5s
TAU Tasmania Unive 69.97 159 P **P 08 27 27.2 +1.2**
comp=Z,276nm,0.7s,SNR=5.3
TAU Tasmania Unive 69.97 159 *e*P **P 08 27 26.4 +0.4**
TAU pmax pmax
comp=Z,77nm,1.0s
TAU Tasmania Unive 69.97 159 *e*P **P 08 27 26.4 +0.4**
comp=Z,77nm,1.0s

COLA College 70.12 27⇓ eP P 08 27 26.7 -0.1
COLA pmax pmax
comp=Z,67nm,0.7s
COLA College 70.12 27 eP P 08 27 27.4 +0.6
comp=Z,16nm,0.6s
PMR Palmer 70.21 31 eP P 08 27 26.5 -0.9
PMR pmax pmax
comp=Z,18nm,0.9s
PMR Palmer 70.21 31 eP P 08 27 26.5 -0.9
comp=Z,18nm,0.9s
MALT Malatya 70.29 304⇑ iP P 08 27 31.1 +2.6
ARCES ARCESS Array B 70.52 338 P P 08 27 29.6 +0.4
comp=Z,18nm,0.6s,baz=76,slow=7.5,SNR=77
ARCES LR LR 09 01 44.7
comp=Z,278nm,18.7s,baz=63,slow=39
ARE0 ARCESS Array S 70.52 338 eP P 08 27 30.5 +1.3
ILAR Eielson Array 70.55 27 P P 08 27 28.4 -1.1
comp=Z,6.0nm,0.6s,baz=278,slow=4.5,SNR=110
ILAR LR LR 09 01 38.3
comp=Z,260nm,18.5s,baz=301,slow=39
SPA0 Spitsbergen Ar 70.60 348 eP P 08 27 29.7 +0.1
HSPB Hornsund (broa 71.17 347 eP P 08 27 33.8 +0.8
HSPB IAmb IAmb 08 27 41.3
comp=Z,116nm,1.5s
HSPB eS S 08 36 48.9 +1.1
HSPB IAMs_20 IAMs_20 09 04 21.4
comp=Z,841nm,19.8s
KBS Kingsbay 71.17 349 eP P 08 27 34.0 +1.0
KBS pmax pmax
comp=Z,6.0nm,0.5s
KBS Kingsbay 71.17 349 eP P 08 27 34.0 +1.0
comp=Z,5.5nm,0.5s
KTK1 Kautokeino 71.43 338 eP P 08 27 35.8 +1.1
PAX Paxson 71.57 29 eP P 08 27 35.8 0.0
PAX pmax pmax
comp=Z,25nm,1.2s
PAX Paxson 71.57 29 eP P 08 27 35.8 0.0
comp=Z,25nm,1.2s
SIM Simferopol' 71.81 312 P P 08 27 37.6 +0.2
SIM pmax pmax
comp=Z,33nm,1.2s
SIM MLR MLR
comp=Z,98nm,17.0s
KAF Kangasniemi 72.00 330 eP P 08 27 37.3 -1.0
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 72.00 330 ep P 08 27 37.3 -1.0
comp=Z,4.8nm,0.5s
DOT Dot Lake 72.02 28 eP P 08 27 38.0 -0.4
comp=Z,13nm,0.7s
FINES FINESS Array B 72.28 330 P P 08 27 40.5 +0.5
comp=Z,13nm,0.8s,baz=64,slow=6.3,SNR=31
FINES LR LR 09 00 57.0
comp=Z,148nm,18.4s,baz=72,slow=37
MENT Mentasta 72.35 29 eP P 08 27 40.6 +0.2
TRO Tromso 72.71 339 eP P 08 27 45.6 +3.3
TRO eS S 08 37 09.2 +3.5
VSU Vasula 72.76 327⇓ eP P 08 27 44.4 +1.6
VSU pmax pmax
comp=Z,111nm,1.7s
EGAK Eagle 72.92 26 eP P 08 27 43.6 0.0
comp=Z,26nm,0.8s
AKASG Malin Array Be 73.48 318 P P 08 27 47.2 0.0
comp=Z,4.9nm,0.6s,baz=59,slow=6.0,SNR=7.5
KIEV Kiev 73.50 318c iP P 08 27 46.8 -0.5
KIEV Kiev 73.50 318 eP P 08 27 47.0 -0.3
comp=Z,50nm,1.5s
KIEV epP pP 08 27 54.5 -1.4
BRTR Keskin Array B 73.53 307ceP P 08 27 49.0 +1.0
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 73.53 307 P P 08 27 48.7 +0.7
comp=Z,5.5nm,0.8s,baz=109,slow=5.3,SNR=21
BRTR LR LR 09 04 44.9
comp=Z,75nm,19.2s,baz=46,slow=39
DAWY Dawson 73.87 27 eP P 08 27 49.7 +0.3
ANTO Ankara 74.11 307 eP P 08 27 52.1 +0.8
ANTO pmax pmax
comp=Z,26nm,0.8s
ANTO Ankara 74.11 307⇑ iP P 08 27 52.7 +1.4
ANTO Ankara 74.11 307 eP P 08 27 52.1 +0.8
comp=Z,26nm,0.8s
STEI Steigen 74.57 338 eP P 08 27 54.0 +0.7
KIS Kishinev 74.80 315 eP P 08 28 02.0 +6.9
KIS e 08 28 10.0
KIS MLR MLR
comp=Z,500nm,15.0s
KIS MLR MLR
comp=Z,500nm,16.0s
KIS Kishinev 74.80 315 eP P 08 28 02.0 +6.9
KIS LRM MLR 09 05 02.0
comp=Z,500nm,15.0s
CSS Prodhromos 75.15 302 eP P 08 27 57.9 +0.6
comp=Z,6.5nm,0.9s
EIL Elat 75.47 296 LR LR 09 02 37.2
comp=Z,167nm,20.4s,baz=80,slow=37
MOR8 Moi Rana 75.56 336 eP P 08 27 57.2 -1.9
MOR8 IAmb IAmb 08 28 02.8
comp=Z,16nm,0.8s
AFI Afiamalu 75.58 112 eP P 08 27 59.6 -0.5
AFI Afiamalu 75.58 112 eP P 08 27 59.6 -0.5
comp=Z,1μm,1.4s
CFR Carcaliu 75.81 313⇑ iP P 08 28 01.2 +0.3
HYT Haines Junctio 75.82 30 eP P 08 28 01.8 +1.0
SUW Suwalki 76.00 323 eP P 08 28 02.6 +0.8
SUW pmax pmax
comp=Z,70nm,0.8s
SUW Suwalki 76.00 323 eP P 08 28 02.1 +0.3
SUW Suwalki 76.00 323 eP P 08 28 02.5 +0.8
comp=Z,70nm,0.8s
STOK Stokkvaagen 76.02 337 eP P 08 28 02.7 +1.0
PSN Preselentsi 76.25 312⇓ iP P 08 28 04.7 +1.3
TESR Tescani 76.37 315⇓ iP P 08 28 04.7 +0.6
VRI Vrincioaia 76.53 314⇓ iP P 08 28 06.6 +1.6
PLOR Plostina 76.58 314⇓ iP P 08 28 07.3 +1.9
LVV L'vov 76.93 319 eP P 08 28 15.3 +8.2
BURAR Bucovina Array 76.93 316⇓ iP P 08 28 08.3 +0.9
MLR Muntele Rosu 77.17 314⇑ iP P 08 28 09.9 +1.1
DAG Danmarks Havn 77.53 351 i P P 08 28 09.6 -0.4
DAG pmax pmax
comp=Z,13nm,1.0s
DAG Danmarks Havn 77.53 351 i P P 08 28 09.6 -0.4
comp=Z,13nm,1.0s
JMB Yambol 77.75 311⇓ iP P 08 28 15.1 +3.2
VOIR 77.78 314⇑ iP P 08 28 12.9 +0.8
KWP Kalwaria Pacla 77.80 319 eP P 08 28 12.8 +0.8
KWP e*PP pP 08 28 20.0 -0.7
KWP pmax pmax
comp=Z,74nm,1.3s
KWP Kalwaria Pacla 77.80 319 eP P 08 28 12.8 +0.8
KWP Kalwaria Pacla 77.80 319⇓ iP P 08 28 13.2 +1.2
KWP Kalwaria Pacla 77.80 319 eP P 08 28 12.8 +0.8
comp=Z,74nm,1.3s
KWP epP pP 08 28 19.9 -0.7
ARR Arges 78.08 314⇑ iP P 08 28 15.1 +1.3
HUMR Humele 78.14 313⇓ iP P 08 28 14.5 +0.5
KOLS Kolonicke sedl 78.31 318 eP P 08 28 15.0 +0.1
KOLS pmax pmax
comp=Z,11nm,1.5s
KOLS Kolonicke sedl 78.31 318 eP P 08 28 15.0 +0.1
KOLS epP pP 08 28 22.3 -1.2
UZH Uzhgorod 78.41 318 eP P 08 28 14.8 -0.6
UZH i 08 28 22.2
UZH i 08 28 25.4
HFS Hagfors 78.42 331 LR LR 09 05 35.3
comp=Z,448nm,18.9s,baz=69,slow=38
STHS Stebnicka Huta 78.76 319 eP P 08 28 18.6 +1.2
STHS pmax pmax
comp=Z,7.0nm,1.3s
STHS Stebnicka Huta 78.76 319 eP P 08 28 18.6 +1.2
STHS epP pP 08 28 25.0 -1.0
DRGR 78.82 316⇓ iP P 08 28 18.9 +1.0
CRVS Cervenica-Dubn 78.82 318 eP P 08 28 22.8 +5.1
CRVS pmax pmax
comp=Z,39nm,1.8s
CRVS Cervenica-Dubn 78.82 318 e P 08 28 22.8 +5.1
CRVS epP pP 08 28 26.2 -0.2
NB2 NORSAR Subarra 79.10 332 P P 08 28 18.8 -0.3
comp=Z,9.5nm,0.8s,baz=59,slow=5.6
NB2 NORSAR Subarra 79.10 332 P P 08 28 18.8 -0.3
baz=59,slow=5.6
NOA NORSAR Array B 79.10 332 P P 08 28 19.1 0.0
comp=Z,7.6nm,0.7s,baz=60,slow=5.5,SNR=41
NOA PKKP PKKPbc 08 47 06.6 -5.3
comp=Z,0.4nm,0.7s,baz=230,slow=2.4,SNR=3.5
NOA LR LR 09 06 36.3
comp=Z,804nm,18.0s,baz=60,slow=38
OJC Ojcow 79.32 320 eP P 08 28 21.2 +0.8
OJC e 08 28 28.3
OJC Ojcow 79.32 320 eP P 08 28 21.2 +0.8
OJC ePcP PcP 08 28 28.3 -0.3
NIE Niedzica 79.32 319 eP P 08 28 21.6 +1.1
NIE e 08 28 28.9
NIE Niedzica 79.32 319 eP P 08 28 21.6 +1.1
NIE ePcP pP 08 28 28.9 -0.2
RES Resolute Bay 79.97 9 eP P 08 28 23.1 -0.4
RES pmax pmax
comp=Z,55nm,1.3s
RES Resolute Bay 79.97 9 P P 08 28 23.1 -0.4
comp=Z,15nm,0.7s,baz=328,slow=5.9,SNR=34
RES Resolute Bay 79.97 9 eP P 08 28 23.1 -0.4
comp=Z,55nm,1.3s
PSZ Piszkesteto 80.17 318 eP P 08 28 26.1 +1.0
PSZ e 08 28 32.8
PSZ pmax pmax
comp=Z,13nm,1.0s
PSZ Piszkesteto 80.17 318 eP P 08 28 26.1 +1.0
comp=Z,13nm,1.0s
PSZ ePcP PcP 08 28 32.8 +0.4
DLBC Dease Lake 80.27 30 P P 08 28 25.2 -0.3
comp=Z,8.5nm,0.7s,baz=294,slow=6.7,SNR=12
OKC Ostrava-Krasne 80.45 320 eP P 08 28 27.6 +1.1
OKC e 08 28 38.1
OKC MLR MLR
comp=Z,400nm,16.1s
OKC Ostrava-Krasne 80.45 320 eP P 08 28 27.6 +1.1
OKC epP PcP 08 28 34.3 +0.8
OKC esP sP 08 28 38.1 -0.2
OKC AMS AMS 09 06 50.0
comp=Z,400nm,16.1s
VYHS Vyhne 80.58 319 eP P 08 28 27.8 +0.5
VYHS pmax pmax
comp=Z,19nm,1.3s
VYHS Vyhne 80.58 319 eP P 08 28 27.8 +0.5
VYHS epP pP 08 28 35.2 -0.7
URZ Urewera 80.67 138 eP P 08 28 25.8 -1.9
comp=Z,10nm,0.5s
MORC Moravsky Berou 80.83 320 eP P 08 28 29.6 +0.9
MORC pmax pmax
comp=Z,4.0nm,1.0s
MORC Moravsky Berou 80.83 320⇓ iP P 08 28 29.7 +1.0
MORC Moravsky Berou 80.83 320 eP P 08 28 29.6 +0.9
comp=Z,4.2nm,1.0s
KSP Ksiaz 81.11 322 eP P 08 28 30.8 +0.8
KSP e*PP pP 08 28 37.8 -0.9
KSP Ksiaz 81.11 322 eP P 08 28 30.9 +0.9
KRLC Kraliky 81.15 321 eP P 08 28 38.6 +8.2
KRLC Kraliky 81.15 321 epP P 08 28 38.6 +8.2
DPC Dobruska-Polom 81.30 321 eP P 08 28 31.9 +0.7
DPC e 08 28 39.1
DPC Dobruska-Polom 81.30 321 eP P 08 28 31.9 +0.7
DPC epP pP 08 28 39.1 -0.7
UPC Upice 81.42 321 eP P 08 28 32.8 +1.1
UPC e 08 28 39.9
UPC e 08 28 45.7
UPC Upice 81.42 321 eP P 08 28 32.8 +1.1
UPC epP pP 08 28 39.9 -0.4
UPC ex x 08 28 45.7
VRAC Vranov 81.59 320 LR LR 09 05 52.2
comp=Z,46nm,20.9s,baz=37,slow=36
PVCC Panska Ves 82.23 322 eP P 08 28 37.2 +1.2
PVCC e 08 28 49.2
PVCC Panska Ves 82.23 322 eP P 08 28 37.2 +1.2
PVCC epP pP 08 28 44.4 -0.2
PVCC ex x 08 28 49.2
TREC Trest 82.25 320 eP P 08 28 36.7 +0.6
TREC e 08 28 48.0
TREC MLR MLR
comp=Z,400nm,12.6s
TREC Trest 82.25 320 eP P 08 28 36.7 +0.6
TREC epP pP 08 28 44.4 -0.4
TREC esP sP 08 28 48.0 +0.1
TREC AMS AMS 09 08 00.0
comp=Z,400nm,12.6s
BRG Berggiesshubel 82.43 322 eP P 08 28 33.0 -4.0
comp=Z,5.2nm,1.1s
BRG ePCP PcP 08 28 38.3 -3.8
comp=Z,4.7nm,1.1s
BRG e 08 28 45.0
comp=Z,10nm,1.3s
BRG ePP PP 08 31 36.3 -9.4
comp=Z,4.6nm,1.1s
BRG S S 08 38 47.0 -4.7
BRG ePKKP PKKPdf 08 46 52.6 -1.0
comp=Z,1.1nm,0.6s
BRG Berggiesshubel 82.43 322 eP P 08 28 33.0 -4.0
BRG e 08 28 45.0
BRG S S 08 38 47.0 -4.7
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG MLR MLR
comp=N,448nm,11.2s
BRG MLR MLR
comp=E,429nm,14.9s
BRG MLR MLR
comp=Z,432nm,13.7s
BRG Berggiesshubel 82.43 322 eP P 08 28 37.6 +0.6
comp=Z,48nm,2.6s
PRU Pruhonice 82.49 321 eP P 08 28 38.1 +0.8
PRU e 08 28 48.7
PRU MLR MLR
comp=Z,400nm,15.6s
PRU Pruhonice 82.49 321 eP P 08 28 38.1 +0.8
PRU epP pP 08 28 45.4 -0.6
PRU esP sP 08 28 48.7 -0.4
PRU AMS AMS 09 06 50.0
comp=Z,400nm,15.6s
PRA Prague 82.52 321 P P 08 28 38.0 +0.5
CONA Conrad Observa 82.63 319⇑ iP P 08 28 39.1 +0.8
comp=Z,20nm,1.2s
KULLO Kullorsuaq 82.72 359 i P P 08 28 38.2 +0.2
KULLO i 08 28 50.3
KULLO pmax pmax
comp=Z,19nm,0.8s
KULLO Kullorsuaq 82.72 359 i P P 08 28 38.2 +0.2
comp=Z,19nm,0.8s
KULLO i 08 28 50.3
FBE Freiberg 82.74 322 eP P 08 28 39.4 +0.8
comp=Z,14nm,1.0s
CLL Collm 82.76 323 eP P 08 28 39.0 +0.3
CLL i *PP pP 08 28 45.9 -1.4
CLL eS S 08 38 49.0 -6.0
CLL pmax pmax
comp=Z,12nm,1.0s
CLL MLR MLR
comp=Z,700nm,19.1s
CLL Collm 82.76 323 eP P 08 28 39.0 +0.3
comp=Z,12nm,1.0s
CLL Collm 82.76 323 eP P 08 28 39.0 +0.3
comp=Z,12nm,1.0s
CLL i pP pP 08 28 45.9 -1.4
CLL i sP sP 08 28 50.9 +0.4
CLL i 08 28 54.9
CLL ePP PP 08 31 53.0 +4.6
CLL ePPP PPP 08 33 54.0
CLL eS SKSac 08 38 57.0 -1.4
CLL e 08 39 30.0
CLL ePS PnS 08 39 54.0 +7.1
CLL eSS SS 08 44 18.0 +1.2
CLL Lm MLR 09 10 00.0
comp=Z,700nm,19.1s
ABPO Ambohimpanom 82.92 246 eP P 08 28 40.5 +0.3
ABPO pmax pmax
comp=Z,40nm,1.4s
ABPO Ambohimpanom 82.92 246 eP P 08 28 40.5 +0.3
comp=Z,40nm,1.4s
KHC Kasperske Hory 83.44 321 eP P 08 28 42.6 +0.3
KHC e 08 28 53.5
KHC MLR MLR
comp=Z,400nm,15.4s
KHC Kasperske Hory 83.44 321 eP P 08 28 42.6 +0.3
KHC epP pP 08 28 50.1 -0.9
KHC esP sP 08 28 53.5 -0.6
KHC AMS AMS 09 07 40.0
comp=Z,400nm,15.4s
KHC Kasperske Hory 83.44 321 eP P 08 28 43.0 +0.7
comp=Z,31nm,1.5s
TANN Tannenbergstha 83.48 322 eP P 08 28 43.0 +0.5
comp=Z,8.0nm,1.3s
TANN epP pP 08 28 50.1 -1.1
GEC2 GERESS Array S 83.50 321 eP P 08 28 43.1 +0.3
comp=Z,10.0nm,1.0s
GEC2 epP pP 08 28 50.3 -1.1
GERES GERESS Array B 83.50 321 P P 08 28 43.0 +0.3
comp=Z,3.5nm,0.7s,baz=69,slow=5.6,SNR=15
GERES LR LR 09 09 39.3
comp=Z,374nm,19.1s,baz=65,slow=38
WERD Werda 83.55 322 eP P 08 28 43.2 +0.3
comp=Z,172nm,3.6s
WERD epP pP 08 28 50.4 -1.1
GUNZ Gunzen 83.58 322 eP P 08 28 43.4 +0.4
comp=Z,16nm,1.3s
GUNZ epP pP 08 28 50.8 -0.9
WERN Wernitzgruen 83.59 322 eP P 08 28 43.8 +0.7
comp=Z,10.0nm,1.0s
WERN epP pP 08 28 50.7 -1.0
MOA Molln 83.62 319⇑ iPcP P 08 28 45.2 +1.9
comp=Z,29nm,0.9s
SUMG Summit 83.69 354 i P P 08 28 43.7 +0.1
SUMG pmax pmax
comp=Z,26nm,0.8s
SUMG Summit 83.69 354 i P P 08 28 43.7 +0.1
comp=Z,26nm,0.8s
SUMG Summit 83.69 354 eP P 08 28 43.9 +0.3
comp=Z,24nm,0.8s
NRDL Niedersach Rie 83.76 325 eP P 08 28 44.6 +0.9
comp=Z,13nm,1.1s
NRDL epP pP 08 28 51.7 -0.7
WET Wettzell 83.84 321 eP P 08 28 45.1 +0.7
comp=Z,44nm,2.4s
WET epP pP 08 28 52.3 -0.7
MOX Moxa 83.85 323 eP P 08 28 44.8 +0.5
comp=Z,5.0nm,0.8s
MOX epP pP 08 28 51.9 -1.1
MOX eL L 09 10 59.9
comp=Z,522nm,18.3s
ROTZ Rotzenmuhle 83.93 322 eP P 08 28 45.8 +1.0
comp=Z,10.0nm,1.0s
ROTZ epP pP 08 28 53.0 -0.5
CLZ Clausthal 83.94 324 eP P 08 28 45.6 +0.7
comp=Z,20nm,0.9s
CLZ epP pP 08 28 52.6 -0.9
YKA Yellowknife Ar 84.31 23 P P 08 28 46.0 -0.4
YKA Yellowknife Ar 84.31 23 P P 08 28 46.0 -0.4
comp=Z,16nm,0.5s,baz=310,slow=4.8,SNR=823
YKA PKKPbc PKKPbc 08 46 57.1 -3.0
comp=Z,0.6nm,0.4s,baz=135,slow=2.5,SNR=28
YKA PKPPKP P'P'df 08 55 02.1 -6.5
comp=Z,0.2nm,0.9s,baz=138,slow=2.2,SNR=4.0
KMBO Kilima Mbogo 84.36 266 eP P 08 28 50.2 +2.3
KMBO Kilima Mbogo 84.36 266 P P 08 28 49.7 +1.8
comp=Z,4.1nm,0.8s,baz=51,slow=7.2,SNR=11
KMBO LR LR 09 08 00.7
comp=Z,142nm,18.4s,baz=94,slow=37
KMBO Kilima Mbogo 84.36 266 eP P 08 28 50.2 +2.3
GRF Grafenberg Arr 84.53 322 eL L 09 11 44.0
comp=Z,424nm,18.9s
KBA Koelnbreinsper 84.53 319⇑ iP P 08 28 48.7 +0.6
comp=Z,29nm,1.4s
FETA Feichten 86.13 320⇓ iP P 08 28 55.4 -0.7
comp=Z,23nm,1.4s
CDF Champ du Feu 87.42 322 eP P 08 29 02.1 -0.1
CDF Champ du Feu 87.42 322 eP P 08 29 02.1 -0.1
CDF Champ du Feu 87.42 322 eP P 08 29 02.1 -0.1
BAIF Baives 88.19 325 eP P 08 29 06.6 +0.8
BAIF Baives 88.19 325 eP P 08 29 06.6 +0.8
BAIF Baives 88.19 325 eP P 08 29 06.6 +0.8
PGC Sidney 88.69 37 eP P 08 29 08.7 +0.6
comp=Z,1.1nm,0.7s
OSD Olympics--Snow 89.01 37 P P 08 29 11.1 +1.1
CABF La Chapelle 89.06 321 eP P 08 29 10.5 +0.4
CABF La Chapelle 89.06 321 eP P 08 29 10.5 +0.4
CABF La Chapelle 89.06 321 eP P 08 29 10.5 +0.4
LPG La Plagne 89.28 320⇑ iP P 08 29 11.8 +0.4
comp=Z,29nm,0.9s
LPG La Plagne 89.28 320⇑ iP P 08 29 11.8 +0.4
LPG pmax pmax
comp=Z,29nm,0.9s
LPG La Plagne 89.28 320⇑ iP P 08 29 11.8 +0.4
comp=Z,29nm,0.9s
LPL La Plagne 89.28 320 eP P 08 29 11.6 +0.3
LPL La Plagne 89.28 320 eP P 08 29 11.6 +0.3
LPL La Plagne 89.28 320 eP P 08 29 11.6 +0.3
PGF Pioggiola 89.45 317 eP P 08 29 12.1 +0.1
PGF Pioggiola 89.45 317 eP P 08 29 12.1 +0.1
PGF Pioggiola 89.45 317 eP P 08 29 12.1 +0.1
MBDF Montbardon 89.68 319 eP P 08 29 12.5 -0.6
comp=Z,23nm,1.1s
MBDF Montbardon 89.68 319 eP P 08 29 12.5 -0.6
MBDF pmax pmax
comp=Z,23nm,1.1s
MBDF Montbardon 89.68 319 eP P 08 29 12.5 -0.6
comp=Z,23nm,1.1s
SBF Sospel 89.74 318 eP P 08 29 13.2 -0.1
comp=Z,43nm,0.8s
SBF Sospel 89.74 318 eP P 08 29 13.2 -0.1
SBF pmax pmax
comp=Z,43nm,0.8s
SBF Sospel 89.74 318 eP P 08 29 13.2 -0.1
comp=Z,43nm,0.8s
LOR Lormes 89.97 323⇑ iP P 08 29 13.9 -0.3
comp=Z,13nm,0.9s
LOR eR
comp=Z,330nm,17.5s
LOR Lormes 89.97 323⇑ iP P 08 29 13.9 -0.3
LOR pmax pmax
comp=Z,13nm,0.9s
LOR Lormes 89.97 323⇑ iP P 08 29 13.9 -0.3
comp=Z,13nm,0.9s
ORIF Oris-en-Rattie 90.11 320 eP P 08 29 15.3 +0.3
comp=Z,14nm,0.7s
ORIF eR
comp=Z,455nm,18.2s
ORIF Oris-en-Rattie 90.11 320 eP P 08 29 15.3 +0.3
ORIF pmax pmax
comp=Z,14nm,0.7s
ORIF Oris-en-Rattie 90.11 320 eP P 08 29 15.3 +0.3
comp=Z,14nm,0.7s
SFJD Kangerlussuaq 90.11 357 P P 08 29 15.4 +1.0
comp=Z,12nm,0.7s,baz=3.8,slow=4.7,SNR=12
SSF Saint Saulge 90.28 323⇑ iP P 08 29 15.6 -0.1
comp=Z,23nm,1.1s
SSF Saint Saulge 90.28 323⇑ iP P 08 29 15.6 -0.1
SSF pmax pmax
comp=Z,23nm,1.1s
SSF Saint Saulge 90.28 323⇑ iP P 08 29 15.6 -0.1
comp=Z,23nm,1.1s
SMF Signal de Mont 90.33 322⇑ iP P 08 29 15.9 0.0
comp=Z,29nm,0.9s
SMF Signal de Mont 90.33 322⇑ iP P 08 29 15.9 0.0
SMF pmax pmax
comp=Z,29nm,0.9s
SMF Signal de Mont 90.33 322⇑ iP P 08 29 15.9 0.0
comp=Z,29nm,0.9s
F04D Rainier, OR 90.37 39 ⇑P P 08 29 16.4 +0.3
baz=90
AVF Avril sur Loir 90.52 322⇑ iP P 08 29 16.7 -0.1
comp=Z,19nm,0.8s
AVF Avril sur Loir 90.52 322⇑ iP P 08 29 16.7 -0.1
AVF pmax pmax
comp=Z,19nm,0.8s
AVF Avril sur Loir 90.52 322⇑ iP P 08 29 16.7 -0.1
comp=Z,19nm,0.8s
LMR La Mourre 90.59 318⇑ iP P 08 29 17.6 +0.4
LMR La Mourre 90.59 318⇑ iP P 08 29 17.6 +0.4
LMR La Mourre 90.59 318⇑ iP P 08 29 17.6 +0.4
LON Longmire 90.68 38 eP P 08 29 17.7 +0.1
LON pmax pmax
comp=Z,32nm,1.2s
LON Longmire 90.68 38 eP P 08 29 17.7 +0.1
comp=Z,32nm,1.2s
TDL Tradedollar La 90.68 38 P P 08 29 18.3 +0.6
FL2 Flat Top 2 90.69 38 P P 08 29 18.8 +1.0
G03D McMinnville, O 90.72 39 ⇓P P 08 29 18.1 +0.4
baz=90
SMRF Simiane la Rot 90.81 319 eP P 08 29 18.8 +0.5
SMRF Simiane la Rot 90.81 319 eP P 08 29 18.8 +0.5
VIVF Saint-Julien-l 90.86 320 eP P 08 29 18.6 +0.1
VIVF Saint-Julien-l 90.86 320 eP P 08 29 18.6 +0.1
VIVF Saint-Julien-l 90.86 320 eP P 08 29 18.6 +0.1
EDM Edmonton 90.93 29 eP P 08 29 18.2 -0.4
EDM Edmonton 90.93 29 eP P 08 29 18.2 -0.4
COR Corvallis 91.05 40 eP P 08 29 20.8 +1.6
COR pmax pmax

comp=Z,103nm,1.4s
COR Corvallis 91.05 40 *e*P **P 08 29 20.8 +1.6**
comp=Z,103nm,1.4s
WTV Waterville 91.15 36 P **P 08 29 19.6 -0.2**
KEBM Edson Butte 91.37 42 *e*P **P 08 29 22.1 +1.1**
comp=Z,74nm,1.0s
FLN La Foliniere 91.43 325 *e*P **P 08 29 20.4 -0.6**
FLN *e*R
comp=Z,442nm,19.2s
FLN La Foliniere 91.43 325 *e*P **P 08 29 20.4 -0.6**
FLN La Foliniere 91.43 325 *e*P **P 08 29 20.4 -0.6**
TCF Toulx Ste Croi 91.46 322 *e*P **P 08 29 21.4 +0.2**
comp=Z,13nm,0.9s
TCF Toulx Ste Croi 91.46 322 *e*P **P 08 29 21.4 +0.2**
TCF pmax pmax
comp=Z,13nm,0.9s
TCF Toulx Ste Croi 91.46 322 *e*P **P 08 29 21.4 +0.2**
comp=Z,13nm,0.9s
VLL Laurance Lake 91.49 39 P **P 08 29 22.4 +0.9**
I03D Drain, OR 91.51 41 ⇓P **P 08 29 21.9 +0.4**
baz=91
G05D Wamic, OR 91.83 39 ⇓P **P 08 29 23.2 +0.3**
baz=92
I04A Tendick Farm, 92.02 40 ⇓P **P 08 29 23.9 0.0**
baz=92
SNIWA Snively Ranch 92.05 37 P **P 08 29 24.8 +1.0**
HAWA Hanford 92.16 37 *e*P **P 08 29 24.8 +0.4**
comp=Z,17nm,0.9s
L02D Cave Junction, 92.22 42 ⇓P **P 08 29 25.0 +0.2**
baz=92
NEW Newport 92.31 34 *e*P **P 08 29 25.4 +0.3**
NEW Newport 92.31 34 P **P 08 29 25.1 0.0**
comp=Z,21nm,0.7s,baz=302,slow=3.8,SNR=82
NEW Newport 92.31 34 ⇑P **P 08 29 25.5 +0.3**
baz=92
NEW Newport 92.31 34 *e*P **P 08 29 25.4 +0.3**
CAF Calviac 92.34 321 *e*P **P 08 29 26.1 +0.8**
comp=Z,17nm,1.0s
CAF Calviac 92.34 321 *e*P **P 08 29 26.1 +0.8**
CAF pmax pmax
comp=Z,17nm,1.0s
CAF Calviac 92.34 321 *e*P **P 08 29 26.1 +0.8**
comp=Z,17nm,1.0s
I05D Terrebonne, OR 92.34 39 ⇓P **P 08 29 25.6 +0.2**
baz=92
HUMO Hull Mountain 92.36 41 *e*P **P 08 29 25.8 +0.4**
comp=Z,9.6nm,0.6s
RJF Les Rejaudoux 92.43 322 ⇑*i*P **P 08 29 26.5 +0.8**
comp=Z,19nm,0.8s
RJF *e*R
comp=Z,580nm,18.0s
RJF Les Rejaudoux 92.43 322 ⇑*i*P **P 08 29 26.5 +0.8**
RJF pmax pmax
comp=Z,19nm,0.8s
RJF Les Rejaudoux 92.43 322 ⇑*i*P **P 08 29 26.5 +0.8**
comp=Z,19nm,0.8s
J04D Umpqua Nationa 92.52 41 ⇑P **P 08 29 26.7 +0.3**
baz=92
PINOR Pine Mountain 92.92 40 *e*P **P 08 29 29.2 +1.3**
comp=Z,28nm,1.3s
YBH Yreka Blue Hor 93.01 42 *e*P **P 08 29 29.1 +0.5**
YBH Yreka Blue Hor 93.01 42 P **P 08 29 28.7 +0.2**
comp=Z,11nm,1.0s,baz=283,slow=4.2,SNR=16
YBH Yreka Blue Hor 93.01 42 *e*P **P 08 29 29.1 +0.5**
J05D Fort Rock, OR 93.01 40 ⇓P **P 08 29 29.0 +0.4**
baz=93
K04D Chiloquin, OR 93.08 41 ⇑P **P 08 29 29.1 +0.2**
baz=93
M02C Callahan 93.11 42 ⇓P **P 08 29 29.4 +0.4**
baz=93
WALA Waterton Lakes 93.43 32 *e*P **P 08 29 30.9 +0.5**
comp=Z,1.4nm,1.3s
N02D Trinity Center 93.44 43 ⇑P **P 08 29 30.6 +0.1**
baz=93
M04C Macdoel 93.52 42 ⇓P **P 08 29 31.0 +0.1**
baz=93
FCC Fort Churchill 93.68 17 *e*P **P 08 29 30.5 -0.6**
FCC Fort Churchill 93.68 17 *e*P **P 08 29 30.5 -0.6**
comp=Z,0.4nm,1.0s
BSMT Bassoo Peak 93.78 34 P **P 08 29 32.8 +0.7**
BLMT Blacktail Moun 93.89 33 *e*P **P 08 29 33.5 +0.9**
comp=Z,7.0nm,0.8s
JTMT Jette 94.11 34 *e*P **P 08 29 34.0 +0.5**
comp=Z,11nm,1.0s
YBMT Yellow Bay 94.17 33 *e*P **P 08 29 34.5 +0.7**
comp=Z,13nm,1.0s
BMO Blue Mountains 94.34 37 *e*P **P 08 29 34.4 -0.2**
comp=Z,13nm,0.8s
MOD Modoc Plateau 94.38 41 *e*P **P 08 29 35.1 +0.2**
comp=Z,31nm,1.3s
SWMT Swartz Lake 94.41 34 *e*P **P 08 29 35.2 +0.3**
comp=Z,7.8nm,0.9s
FFC Flin Flon 94.47 23 P **P 08 29 34.2 -0.7**
comp=Z,104nm,0.6s,SNR=6.5
FFC Flin Flon 94.47 23 *e*P **P 08 29 34.0 -0.8**
FFC pmax pmax
comp=Z,6.0nm,0.6s
FFC Flin Flon 94.47 23 *e*P **P 08 29 34.0 -0.8**
comp=Z,6.4nm,0.6s
SLMT Seeley Lake 94.84 34 *e*P **P 08 29 36.9 -0.1**
comp=Z,26nm,1.2s
MSO Missoula 94.88 34 ⇑P **P 08 29 36.6 -0.5**
baz=95
CHMT Chamberlain Mo 95.18 34 *e*P **P 08 29 38.4 -0.1**
comp=Z,5.3nm,1.3s
A19A Klindworth Far 96.00 30 ⇑P **P 08 29 41.5 -0.6**
baz=96,SNR=10
HRY Holter Researc 96.04 33 *e*P **P 08 29 42.5 +0.2**
comp=Z,2.0nm,0.4s
MFID Camas Ranch 96.07 38 *e*P **P 08 29 43.1 +0.5**
comp=Z,11nm,1.0s
EGMT Eagleton 96.16 31 ⇓P **P 08 29 42.1 -0.7**
baz=96,SNR=5.3
EGMT Eagleton 96.16 31 *e*P **P 08 29 42.6 -0.3**
comp=Z,4.9nm,0.8s
B19A Brinkman Farms 96.24 31 ⇓P **P 08 29 42.4 -0.8**
baz=96,SNR=5.1
LRM Limekiln Ridge 96.32 34 *e*P **P 08 29 43.9 +0.1**
comp=Z,70nm,1.0s
A20A Cobblestone Ra 96.41 30 ⇑P **P 08 29 43.3 -0.7**
baz=96,SNR=9.0
PPT2 Papeete2 96.47 106 *e*SP SP 08 42 18.9 -5.1
comp=Z,154nm,25.0s
PPT2 Papeete2 96.47 106 *e*LR LR 09 00 51.7
comp=Z,247nm,26.5s
B20A Solberg Farm, 96.69 30 ⇑P **P 08 29 44.4 -0.8**
baz=96,SNR=6.2
C19A Slack Wire Ran 96.70 31 ⇓P **P 08 29 45.0 -0.3**
baz=96
HLID Hailey 96.76 37 ⇑P **P 08 29 45.7 -0.1**
baz=96,SNR=18
HLID Hailey 96.76 37 *e*P **P 08 29 46.7 +0.9**
comp=Z,7.8nm,0.9s
MCMT McKenzie Canyo 96.78 35 *e*P **P 08 29 46.4 +0.4**
comp=Z,0.5nm,0.7s
A21A Bergtoll Ranch 96.79 29 ⇓P **P 08 29 45.0 -0.6**
baz=96,SNR=9.8
D19A Cripps Ranch, 97.19 32 ⇓P **P 08 29 46.9 -0.6**
baz=97,SNR=6.8
C20A Veseth Ranch, 97.21 31 ⇓P **P 08 29 47.1 -0.5**
baz=97,SNR=8.0
A22A Carney Farms, 97.24 29 ⇑P **P 08 29 46.8 -0.8**
baz=97,SNR=5.4
C21A Desert Coulee 97.56 30 ⇓P **P 08 29 48.4 -0.7**
baz=97
NVAR Mina Array Bea 97.68 43 P **P 08 29 49.9 -0.2**
comp=Z,3.8nm,0.8s,baz=297,slow=4.8,SNR=13
E19A Rath Farm, Rou 97.73 32 ⇓P **P 08 29 48.9 -1.0**
baz=97
B23A Brockton 98.04 29 ⇓P **P 08 29 50.2 -1.0**
baz=98
F19A Roth Farm, Mol 98.08 33 ⇑P **P 08 29 50.9 -0.7**
baz=98
ELK Elko 98.10 39 P **P 08 29 51.9 -0.1**
comp=Z,1.1nm,0.7s,baz=279,slow=13,SNR=5.7
A24A Westby 98.13 28 ⇓P **P 08 29 51.0 -0.6**
baz=98
D21A La Casta Ranch 98.16 31 ⇑P **P 08 29 50.9 -0.9**
baz=98,SNR=6.2
C22A Vida 98.17 30 ⇓P **P 08 29 51.1 -0.8**
baz=98
DGMT Dagmar 98.39 28 ⇓P **P 08 29 52.0 -0.8**
baz=98
C23A Lambert 98.45 29 ⇑P **P 08 29 52.7 -0.4**
baz=98
D22A Cohagen 98.47 30 ⇑P **P 08 29 52.8 -0.4**
baz=98
H18A Shoshone NF, C 98.54 34 ⇓P **P 08 29 53.6 -0.2**
baz=98
G20A Bridger 98.89 33 ⇑Pdiff **P 08 29 54.5 -0.8**
baz=99
D23A Lindsay 98.91 30 ⇑Pdiff **P 08 29 55.1 -0.1**
baz=99
D24A Glendive 99.35 29 ⇓Pdiff **Pdif 08 29 56.3 -0.9**
baz=99
R11A Troy Canyon, C 99.41 41 ⇑Pdiff **Pdif 08 29 57.2 -0.6**
baz=99
F23A Volborg 99.89 31 ⇓Pdiff **Pdif 08 29 59.7 +0.1**
baz=100
PDAR Pinedale Array 99.93 35 P **Pdif 08 29 58.7 -1.4**
comp=Z,0.8nm,0.7s,baz=126,slow=2.0,SNR=6.4
PDAR PP **PP 08 34 04.0 -0.4**
comp=Z,2.0nm,1.2s,baz=45,slow=2.3,SNR=4.8
PDAR LR LR 09 17 48.4
comp=Z,70nm,19.7s,baz=341,slow=37
EDW2 Edwards Air Fo 100.01 45 ⇑Pdiff **Pdif 08 29 59.8 -0.6**
baz=100
B28A Dugan Ranch, T 100.03 26 ⇓Pdiff **Pdif 08 29 59.4 -0.7**
baz=100
ULM Lac du Bonnet 100.29 23 P **Pdif 08 30 00.0 -1.2**
comp=Z,1.2nm,0.6s,baz=329,slow=6.7,SNR=3.2
I21A Big Trails, Te 100.36 33 ⇓Pdiff **Pdif 08 30 00.2 -1.7**
baz=100
BFSC Mount Baldy Ra 100.62 46 ⇑Pdiff **Pdif 08 30 03.1 -0.1**
baz=100
F25A Bowman 100.64 30 ⇓Pdiff **Pdif 08 30 02.8 -0.1**
baz=100
H24A Dirks Ranch, A 101.02 31 ⇓Pdiff **Pdif 08 30 04.3 -0.4**
baz=101
F26A Lodgepole 101.05 29 ⇓Pdiff **Pdif 08 30 04.9 +0.1**
baz=101
G25A Newell 101.21 30 ⇓Pdiff **Pdif 08 30 05.6 +0.1**
baz=101
G26A Maurine 101.51 30 ⇑Pdiff **Pdif 08 30 06.7 -0.2**
baz=101
PFO Pinyon Flats O 101.79 46 ⇓Pdiff **Pdif 08 30 08.5 +0.1**
baz=102
F28A McLaughlin 101.88 28 ⇑Pdiff **Pdif 08 30 08.5 +0.1**
baz=102
I25A Rochford 101.95 31 ⇓Pdiff **Pdif 08 30 08.5 -0.5**
baz=102
N20A Spence Gulch, 101.97 36 ⇑Pdiff **Pdif 08 30 08.4 -0.8**
baz=102
IRM Iron Mountain 102.31 45 ⇓Pdiff **Pdif 08 30 10.2 -0.4**
baz=102
L23A Garrett 102.39 33 ⇓Pdiff **Pdif 08 30 09.8 -1.2**
baz=102
G28A Parade 102.44 29 ⇑Pdiff **Pdif 08 30 10.8 -0.2**
baz=102
I27A Quinn 102.70 30 ⇑Pdiff **Pdif 08 30 12.0 -0.2**
baz=102
H28A Mission Ridge 102.70 29 ⇓Pdiff **Pdif 08 30 11.7 -0.4**
baz=102
J26A Sides Ranch, S 102.80 31 ⇓Pdiff **Pdif 08 30 12.6 0.0**
baz=102
VNDA Vanda 103.13 172 Pdiff **Pdif 08 30 12.9 -0.1**
comp=Z,2.6nm,0.9s,baz=312,slow=4.2,SNR=6.7
VNDA PP **PP 08 34 26.8 -1.6**
comp=Z,3.2nm,0.9s,baz=320,slow=12,SNR=5.2
VNDA PKKPbc **PKKPbc 08 46 08.9 -2.8**
comp=Z,1.6nm,0.7s,baz=110,slow=0.9,SNR=3.9
G30A Faulkton 103.17 28 ⇑Pdiff **Pdif 08 30 13.8 -0.4**
baz=103
PV01 Paradox Valley 103.69 38 *e*Pdif **Pdif 08 30 16.7 -0.2**
U25A Circle Dot Ran 107.25 37 ⇓PKiKP **PKiKP 08 34 41.4 -0.2**
baz=107
V24A Rampart Ranch, 107.25 38 ⇑PKiKP **PKiKP 08 34 41.3 -0.5**
baz=107
V25A Rancho No Teng 107.54 37 ⇓PKiKP **PKiKP 08 34 41.8 -0.4**
baz=107
W24A Lazy 6 Ranch, 107.55 38 ⇑PKiKP **PKiKP 08 34 41.8 -0.4**
baz=107
Z22A Elephant Butte 108.02 41 ⇑PKiKP **PKiKP 08 34 42.7 -0.4**
baz=108
R32A Long Quarter, 108.67 32 ⇓PKiKP **PKiKP 08 34 43.2 -0.8**
baz=108
Y25A Mesa, Roswell 108.88 39 ⇓PKiKP **PKiKP 08 34 44.5 -0.2**
baz=109
Z24A Sheeppen Canyo 108.91 40 ⇓PKiKP **PKiKP 08 34 44.6 -0.3**
baz=109
X26A CR and CF Fran 108.93 38 ⇑PKiKP **PKiKP 08 34 44.2 -0.6**
baz=109
W27A Bowe Ranch, En 108.97 37 ⇓PKiKP **PKiKP 08 34 44.0 -0.8**
baz=109
Z27A Tatum 110.17 38 ⇓PKiKP **PKiKP 08 34 46.7 -0.4**
baz=110
X29A Tulia 110.18 36 ⇑PKiKP **PKiKP 08 34 46.7 -0.3**
baz=110
TORD Torodi Ar. Bea 110.32 295 PKiKP **PKiKP 08 34 47.3 -0.4**
comp=Z,1.0nm,0.7s,baz=18,slow=2.0,SNR=6.9
TORD PKKPbc **PKKPbc 08 45 46.0 -1.5**
comp=Z,1.1nm,0.5s,baz=264,slow=1.7,SNR=19
RKT Rikitea 111.22 107 *e*LR LR 09 07 43.7
comp=Z,282nm,28.0s
V34A Guthrie 111.29 33 ⇑PKiKP **PKiKP 08 34 48.4 -0.6**
baz=111
Y31A Rekieta Farm, 111.32 36 ⇑PKiKP **PKiKP 08 34 48.5 -0.7**
baz=111
TUL1 Leonard 112.08 31 ⇓PKiKP **PKiKP 08 34 49.9 -0.6**
baz=112
Z32A Haskell 112.25 36 ⇑PKiKP **PKiKP 08 34 50.6 -0.3**
baz=112
ABTX Abilene, Hawle 112.68 36 ⇑PKiKP **PKiKP 08 34 51.5 -0.3**
baz=112
TXAR Lajitas Array 112.78 41 Pdiff **Pdif 08 30 58.6 +1.2**
comp=Z,0.3nm,0.8s,baz=259,slow=4.3,SNR=4.6
TXAR PKiKP **PKiKP 08 34 51.6 -0.6**
comp=Z,0.8nm,0.5s,baz=211,slow=1.2,SNR=20
231A Bronte 112.83 37 ⇓PKiKP **PKiKP 08 34 51.1 -0.9**
baz=112
429A Davenport Ranc 112.90 39 ⇓PKiKP **PKiKP 08 34 51.7 -0.6**
baz=113
529A Stev Forest Ra 113.07 40 ⇓PKiKP **PKiKP 08 34 52.1 -0.6**
baz=113
133A Hamilton Ranch 113.08 36 ⇑PKiKP **PKiKP 08 34 52.2 -0.3**
baz=113
430A Baggett Ranch, 113.16 39 ⇓PKiKP **PKiKP 08 34 52.4 -0.4**
baz=113
331A San Angelo 113.23 38 ⇑PKiKP **PKiKP 08 34 52.3 -0.5**
baz=113
Z35A Perchaven, San 113.40 34 ⇑PKiKP **PKiKP 08 34 52.4 -0.7**
baz=113
233A Rising Star 113.54 36 ⇑PKiKP **PKiKP 08 34 52.7 -0.7**
baz=113
134A White-Moore Ra 113.56 35 ⇑PKiKP **PKiKP 08 34 52.9 -0.5**
baz=113
332A Millersview 113.56 37 ⇑PKiKP **PKiKP 08 34 53.0 -0.5**
baz=113
530A J-C Ranch, Com 113.57 39 ⇓PKiKP **PKiKP 08 34 52.6 -1.0**
baz=113
431A Sonora 113.60 38 ⇓PKiKP **PKiKP 08 34 53.0 -0.6**
baz=113
432A Menard 113.92 38 ⇑PKiKP **PKiKP 08 34 53.2 -1.0**
baz=114
531A Rocksprings 114.02 39 ⇓PKiKP PKPdf 08 34 54.5 +0.1
baz=114
JCT Junction City 114.21 38 *e*PKiKP PKPdf 08 34 54.3 -0.5
JCT Junction City 114.21 38 ⇑PKiKP PKPdf 08 34 54.8 +0.1
baz=114
JCT Junction City 114.21 38 *e*PKPdf PKPdf 08 34 54.3 -0.5
433A Art 114.40 37 ⇑PKiKP **PKiKP 08 34 54.8 -0.3**
baz=114
532A Rocksprings 114.42 38 ⇓PKiKP **PKiKP 08 34 54.6 -0.6**
baz=114
334A Lometa 114.43 36 ⇑PKiKP **PKiKP 08 34 54.2 -0.9**
baz=114
631A Perdido Creek 114.56 39 ⇑PKiKP **PKiKP 08 34 54.9 -0.5**
baz=114
434A Burnet 114.81 37 ⇑PKiKP **PKiKP 08 34 54.7 -1.2**
baz=114
335A Moody 114.91 36 ⇓PKiKP **PKiKP 08 34 55.9 -0.1**
baz=115
632A Uvalde 114.95 39 ⇑PKiKP **PKiKP 08 34 55.8 -0.3**
baz=115
533A Kerrville 114.95 38 ⇓PKiKP **PKiKP 08 34 55.6 -0.6**
baz=115
534A Blanco 115.30 37 ⇓PKiKP **PKiKP 08 34 56.5 -0.4**
baz=115
633A Saathoff Ranch 115.33 38 ⇑PKiKP **PKiKP 08 34 56.6 -0.3**
baz=115
732A Laxson Ranch, 115.42 39 ⇓PKiKP **PKiKP 08 34 56.8 -0.3**
baz=115
832A Faith Ranch, C 115.75 40 ⇓PKiKP **PKPdf 08 34 57.8 +0.1**
baz=116
833A Chaparral WMA, 116.06 39 ⇑PKiKP **PKiKP 08 34 58.0 -0.3**
baz=116
635A Leesville 116.18 37 ⇓PKiKP **PKPdf 08 34 58.6 +0.1**
baz=116
340A Bronson 116.64 33 ⇑PKiKP **PKPdf 08 34 59.2 -0.1**
baz=116
933A Laredo 116.66 40 ⇑PKiKP **PKiKP 08 34 60.0 +0.5**
baz=116
834A Tilden 116.70 39 ⇓PKiKP **PKPdf 08 34 59.4 -0.1**
baz=116
835A Beeville 116.99 38 ⇓PKiKP **PKPdf 08 34 59.7 -0.3**
baz=117
TKL Tuckaleechee C 117.31 22 PKP **PKPdf 08 34 59.8 -0.8**
comp=Z,5.3nm,0.6s,baz=303,slow=1.3,SNR=14
034A Hebbronville 117.42 40 ⇑PKiKP **PKPdf 08 35 00.6 -0.4**
baz=117
035A Encino 117.86 39 ⇓PKiKP **PKiKP 08 35 02.0 +0.2**
baz=118
KMSC Kings Mountain 118.60 20 ⇓PKiKP **PKPdf 08 35 02.2 -0.8**
baz=118
DBIC Dimbokro 119.16 292 PKP **PKPdf 08 35 04.3 -0.3**
comp=Z,3.0nm,0.7s,baz=46,slow=3.5,SNR=5.1
KIC Kosan Boka 119.22 292 *e*P **PKPdf 08 35 03.7 -1.0**
comp=Z,64nm,1.7s
TIC Toumodi 119.31 292 *e*P **PKPdf 08 35 03.3 -1.6**
comp=Z,11nm,0.2s
LIC Lamto 119.53 292 ⇑*i*PKIKP **PKPdf 08 35 05.0 -0.4**
comp=Z,14nm,0.8s
LIC *e*R
comp=Z,256nm,21.2s
LIC Lamto 119.53 292 *e*P **PKPdf 08 35 04.9 -0.4**
comp=Z,21nm,0.8s
LIC Lamto 119.53 292 ⇑*i*PKPdf **PKPdf 08 35 05.0 -0.4**
CMIG Matias Romero 127.18 44 PKP **PKPdf 08 35 19.4 -0.5**
comp=Z,3.2nm,0.6s,baz=358,slow=3.3,SNR=5.8
SDV Santo Domingo 146.51 21 *e*PKPbc **PKPdf 08 35 55.6 -0.2**
ROSC El Rosal 148.74 30 PKPbc **PKPbc 08 36 03.5 0.0**
comp=Z,23nm,0.7s,baz=114,slow=2.6,SNR=20
OTAV Otavalo 150.41 42 *e*PKPdf **PKPdf 08 36 02.4 0.0**
OTAV *e*PKPbc **PKPbc 08 36 07.2 -0.5**
EFI East Falkland 151.28 182 *e*PKIKP **PKPdf 08 36 02.3 +0.3**
EFI *e* 08 36 08.0
EFI *e* 08 36 16.0
EFI East Falkland 151.28 182 *e*PKPdf **PKPdf 08 36 02.3 +0.3**
EFI *e*PKPbc **PKPbc 08 36 08.0 +0.1**
EFI *e*PKPab **PKPab 08 36 16.0 +0.1**
PLCA Paso Flores 159.89 155 PKP2 **PKPab 08 36 53.0 -0.2**
PLCA Paso Flores 159.89 155 PKPab **PKPab 08 36 53.0 -0.2**
comp=Z,3.8nm,0.7s,baz=240,slow=2.3,SNR=4.1
SAML Samuel 165.62 15 *e*PKPdf **PKPdf 08 36 20.1 -0.2**
BDFB Brasilia 167.09 302 PKP **PKPdf 08 36 21.4 0.0**
comp=Z,5.3nm,0.8s,baz=94,slow=4.0,SNR=5.8
BDFB PKPab **PKPab 08 37 26.1 +0.6**
comp=Z,2.2nm,0.6s,baz=121,slow=5.9,SNR=2.3
LPAZ La Paz 169.41 53 PKP **PKPdf 08 36 23.4 -0.3**
comp=Z,6.7nm,1.0s,baz=13,slow=1.8,SNR=18
LPAZ PKPab **PKPab 08 37 34.5 -2.0**
comp=Z,3.4nm,0.6s,baz=299,slow=3.1,SNR=7.1
LPAZ La Paz 169.41 53 PKP **PKPdf 08 36 23.4 -0.3**
LPAZ *e*PKPdf PKPdf 08 36 24.3 +0.6
LPAZ PKPab **PKPab 08 37 34.5 -2.0**
LPAZ *e*PKPab PKPab 08 37 34.8 -1.7
SIV San Ignacio 172.91 14 PKP **PKPdf 08 36 24.5 -0.2**
comp=Z,2.8nm,0.8s,baz=227,slow=1.2,SNR=7.1
CPUP Villa Florida 176.15 208 PKP **PKPdf 08 36 25.4 0.0**
comp=Z,1.8nm,0.6s,baz=180,slow=0.3,SNR=4.5
CPUP PKPab **PKPab 08 38 04.3 -0.8**
comp=Z,6.8nm,1.0s,baz=148,slow=5.4,SNR=4.6

GUC 04 08:22:48.5±0.7, 33°.80S×71°.78W, h32km±12km, ML3.6, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.35**	**117**	⇑*i*P	Pn	08 22 57.1	-0.3
IHA	**Instituto Hidr**	**0.78**	**9**	⇓*i*P	Pb	08 23 03.6	0.0
IHA				*i* S1	Sn	08 23 14.9	+1.0
ANTU	**Antumapu**	**0.98**	**77**	⇓*i*P	Pb	08 23 07.1	0.0
ANTU				*i* S	Sb	08 23 20.9	+1.1
ANTU				AML	AML	08 23 25.8	
comp=E,2μm,0.3s							
CACH	**El Canelo**	**1.03**	**108**	*e*P	Pb	08 23 08.7	+0.6
PEL	**Peldehue**	**1.13**	**55**	⇑*i*P	Pb	08 23 09.8	+0.3
PEL				*i* S	Sb	08 23 25.7	+1.7
PEL				AML	AML	08 23 32.5	
comp=N,4μm,0.3s							

*IDC **04** 08:27:15.1±1.0, 22°.43N×120°.03E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.7/40, mbtmp3.7/7, Error ellipse: s-maj=38.6km s-min=19.2km az=71.0*
*TAP **04** 08:27:18.1, 22°.96N×120°.66E, h18km, ML4.3, B*
*ISCJB **04** 08:27:19.4±0.3, 22°.95N±0°.01×120°.67E±0°.02, h13km±2km, mb3.5/7, Error ellipse: s-maj=2.8km s-min=2.1km az=168.3*

ISC 04 08:27:18.4±1.1, 22°.95N±0°.02×120°.64E±0°.02, h14km±8km, n77, σ0.97/115, mb3.5/7, 10C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.14**	**337**	⇓*i*P	Pb	08 27 23.1	+0.1
baz=333							
SSD	**Sandimen**	**0.20**	**183**	⇓*i*P	Pb	08 27 23.7	-0.3
baz=185							
STYT	**Tauyuan**	**0.24**	**26**	⇑*i*P	Pb	08 27 24.2	-0.4
baz=32							
STYT				S	Sb	08 27 28.3	-0.5
baz=32							
TWM1	**Shoushan**	**0.24**	**238**	⇑*i*P	Pb	08 27 25.3	+0.7
baz=237							
CHN1	**Nanshi**	**0.26**	**336**	⇓*i*P	Pb	08 27 24.8	-0.1
baz=342							
CHN1				*e*S	Sb	08 27 30.0	+0.7
baz=342							
SGLT	**Jiouru**	**0.26**	**212**	P	Pb	08 27 25.7	+0.7
baz=207							
CHN3	**Shinhua**	**0.29**	**296**	*e*P	Pn	08 27 26.8	-1.4
baz=293							
CHN3				*e*S	Sn	08 27 33.5	-0.9
baz=293							
WTP	**Ta-pu**	**0.30**	**355**	⇓*i*P	Pb	08 27 25.4	-0.3
baz=353							
TWK	**Hsinying**	**0.35**	**336**	⇓*i*P	Pb	08 27 26.1	-0.3
baz=335							
TWK				S	Sb	08 27 32.8	+0.9
baz=335							
TAI1	**Yung-k'ang**	**0.39**	**283**	⇑P	Pb	08 27 27.7	+0.6
baz=282							
TAI1				*e*S	Sn	08 27 35.9	-1.1
baz=282							
CHN4	**Tsaushan**	**0.40**	**353**	⇓*i*P	Pb	08 27 27.0	-0.4
baz=352							
CHN4				S	Sb	08 27 33.9	+0.4
baz=352							
TWG	**Pinlang**	**0.42**	**108**	⇑*i*P	Pb	08 27 27.4	-0.2
baz=100							
TWG				*e*S	Sb	08 27 33.9	+0.1
baz=100							
ELDTW	**Lidau**	**0.42**	**55**	⇑*i*P	Pb	08 27 27.3	-0.5
baz=49							
ELDTW				S	Sb	08 27 33.6	-0.4
baz=49							
ECL	**Taimali**	**0.45**	**141**	⇓*i*P	Pb	08 27 28.0	-0.3
baz=142							
ECL				*e*S	Sb	08 27 34.8	-0.1
baz=142							
SCLT	**Jiali**	**0.47**	**299**	*e*P	Pb	08 27 28.9	+0.4
baz=298							
SCLT				*e*S	Sn	08 27 38.0	-1.0
baz=298							
KAU	**Kaohsiung**	**0.49**	**219**	*e*P	Pn	08 27 30.0	-1.0
baz=231							
TTN	**Taitung**	**0.50**	**113**	⇑*i*P	Pb	08 27 29.5	+0.4
baz=114							
TTN				*e*S	Sn	08 27 39.1	-0.7
baz=114							
CHN8	**Yiju**	**0.56**	**315**	*e*P	Pb	08 27 29.9	-0.2
baz=327							
CHN8				*e*S	Sn	08 27 39.6	-1.5
baz=327							
SCZT	**Fangliau**	**0.57**	**182**	⇓P	Pb	08 27 29.9	-0.4
baz=178							
ALS	**Alishan**	**0.58**	**15**	⇓*i*P	Pg	08 27 30.1	+0.2
baz=15							
ALS				S	Sb	08 27 38.5	-0.3
baz=15							
CHY	**Chiayi**	**0.58**	**340**	*e*P	Pb	08 27 30.4	0.0

baz=339
CHY S **Sb** **08 27 40.0 +1.5**
baz=339
EAST Anshuo 0.59 161⇓*i*P Pb 08 27 30.6 -0.1
baz=162
EAST S **Sn** **08 27 39.9 -2.2**
baz=162
CHN2 Minshiung 0.60 345 *e*P Pb 08 27 30.9 +0.1
baz=344
CHN2 *e*S **Sb** **08 27 40.8 +1.7**
baz=344
YUS Yu-Shan 0.61 28⇓*i*P Pb 08 27 30.9 -0.3
baz=37
YUS *e*S **Sb** **08 27 39.8 -0.1**
baz=37
TAW Tawu 0.63 158⇓*i*P Pn 08 27 31.3 -1.8
baz=159
TAW *e*S **Sb** **08 27 40.1 +0.1**
baz=159
CHN5 Tsauling 0.65 3⇓*i*P Pg 08 27 31.0 -0.1
baz=2.0
TWP Hsiaoliuchiu 0.65 203⇑*e*P Pn 08 27 33.7 +0.4
baz=203
TWP *e*S **Sn** **08 27 46.0 +2.5**
baz=203
CHKT Chengkung 0.68 77 P Pb 08 27 32.2 +0.1
baz=92
TWF1 Yuli 0.72 56⇑*i*P Pg 08 27 32.5 -0.1
baz=63
TWF1 *i*S **Sg** **08 27 42.1 0.0**
baz=63
WGK Gukeng 0.74 354 *e*P Pg 08 27 32.5 -0.2
baz=354
WGK *e*S **Sb** **08 27 44.5 +1.4**
baz=354
WSF Szhu 0.79 331 *e*P Pg 08 27 33.6 -0.1
baz=330
WSF *e*S **Sn** **08 27 46.0 -0.8**
baz=330
EHY Hungye 0.83 48⇑*i*P Pg 08 27 34.3 -0.4
baz=55
EHY *i*S **Sg** **08 27 45.1 -0.6**
baz=55
WNT Mingjian 0.93 2 *e*P Pb 08 27 36.0 -0.3
baz=2.0
WNT *e*S **Sn** **08 27 50.0 -0.2**
baz=2.0
HEN Hengchun 0.94 175 P Pn 08 27 37.2 -0.1
baz=166
HEN S **Sn** **08 27 52.2 +1.6**
baz=166
WDGT Dungji 0.96 289 *e*P Pb 08 27 35.5 -1.3
baz=288
WDGT *e*S **Sn** **08 27 50.6 -0.3**
baz=288
SMLT Sun Moon Lake 0.96 14 *i*P Pb 08 27 37.0 0.0
baz=14
SMLT S **Sn** **08 27 51.2 0.0**
baz=14
WTCT Ta-ch'eng 0.97 340 *e*P Pb 08 27 36.5 -0.6
baz=340
WTCT *e*S **Sg** **08 27 50.5 +0.6**
baz=340
TYC Yuchr 0.97 12 ⇓P Pb 08 27 36.6 -0.5
baz=12
TYC S **Sn** **08 27 51.9 +0.6**
baz=12
TWK1 Hengchun 1.01 171 ⇓P Pn 08 27 37.7 -0.6
baz=172
TWK1 S **Sn** **08 27 53.4 +1.1**
baz=172
TSEB Hengchuen, Pin 1.07 167 *e*P Pn 08 27 38.7 -0.3
baz=170
TSEB S **Sn** **08 27 54.8 +1.0**
baz=170
ESL Shilin 1.13 40 *e*P Pb 08 27 39.4 -0.3
baz=32
ESL *e*S **Sb** **08 27 54.4 +0.1**
baz=32
PNG Penghu 1.18 302 *e*P Pn 08 27 38.6 -1.9
baz=301
PNG *e*S **Sb** **08 27 53.7 -1.9**
baz=301
TCU Taichung 1.19 1 *e*P Pn 08 27 40.5 -0.2
baz=1.0
LAY Lan-yu 1.23 137 *e*P Pn 08 27 40.0 -1.4
baz=127
WHF Hehuan Shan 1.32 25 *e*P Pn 08 27 42.7 -0.2
baz=34
WHF *e*S **Sg** **08 28 02.4 +1.2**
baz=34
HWA Hwalien 1.35 41 *e*P Pg 08 27 44.3 -0.2
baz=33
HWA *e*S **Sb** **08 28 01.3 +0.6**
baz=33
TWT Tachien 1.39 21 *e*P Pn 08 27 43.2 -0.4
baz=8.0
TWT *e*S **Sn** **08 28 01.8 0.0**
baz=8.0
TWQ1 Liyutan 1.40 5 *e*P Pn 08 27 43.7 +0.1
baz=4.0
TWD Chiawan 1.43 38 *e*P Pb 08 27 44.4 -0.4
baz=37
TWD *e*S **Sn** **08 28 02.8 +0.3**
baz=37
NSY Sanyi 1.46 4 *e*P Pn 08 27 44.5 0.0
baz=4.0
NSY *e*S **Sb** **08 28 04.9 +0.8**
baz=4.0
NNS Nan Shan 1.63 24 ⇑P Pb 08 27 47.9 -0.5
baz=24
NNS *e*S **Sb** **08 28 10.1 +1.2**
baz=24
NSTT Nanjuang 1.71 11 *e*P Pn 08 27 47.6 -0.2
baz=354
ENA Nanau 1.78 34 *e*P Pn 08 27 48.8 -0.1
baz=34
NSK Sanguang 1.84 21 *e*P Pn 08 27 50.7 +1.0
baz=20
HSN Hsinchu 1.87 9 *e*P Pb 08 27 52.8 +0.4
baz=354
ENTT Nioudou 1.88 26 *e*P Pb 08 27 52.6 -0.1
baz=27
ENTT *e*S **Sb** **08 28 16.5 +0.4**
baz=27
TWC Suao 1.99 34 *e*P Pb 08 27 53.0 -1.4
baz=41
TWE Neicheng 2.00 28 *e*P Pb 08 27 53.9 -0.7
baz=28
TWA Mucha 2.20 23 *e*P Pb 08 27 57.1 -0.9
baz=22
EGS 2.23 32 *e*P Pb 08 27 58.0 -0.5
baz=32
TAP1 Taipei 2.23 21 *e*P Pb 08 27 57.7 -0.9
baz=20
TWS1 Kuangyinshan 2.26 18 *e*P Pn 08 27 57.0 +1.6
baz=17
NWF Wu-fen Shan 2.35 26 *e*P Pb 08 27 59.1 -1.7
baz=8.0
TWB1 Santiao Chiao 2.39 31 *e*P Pb 08 27 59.6 -1.7
baz=30
TWY Chenhua 2.48 20 *e*P Pn 08 27 59.9 +1.5
baz=20
KNM Kinmen 2.50 306 *e*P Pn 08 27 57.7 -1.0
baz=304
YOJ Yonaguni jima 2.64 55 *e*P Pn 08 28 01.4 +0.8
baz=53
QZH Quanzhou 2.73 317 Pn **Pb** **08 28 08.4 +1.3**
QZH Sn **Sb** **08 28 41.6 +1.1**
QZH smax smax
comp=N,660nm,0.8s
QZH smax smax
comp=E,930nm,0.9s
HHC Hu-ho-hao-te 19.42 339 *e*P Pn 08 31 45.5 -0.1
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,1μm,8.0s
MJAR Matsushiro Arr 20.35 44 P Pn 08 32 01.9 +5.2
comp=Z,3.6nm,0.9s,baz=223,slow=8.6,SNR=5.4
SONM Songino Array 27.32 339 P **P** **08 33 04.4 +1.4**
comp=Z,0.8nm,0.8s,baz=154,slow=8.0,SNR=3.0
MKAR Makanchi Array 38.89 317 P **P** **08 34 40.7 -2.8**
comp=Z,0.4nm,0.6s,baz=110,slow=9.0,SNR=4.4
ZALV Zalesovo Beam 41.02 328 P **P** **08 35 02.4 +1.3**
comp=Z,1.7nm,0.7s,baz=118,slow=8.3,SNR=1.2
WRA Warramunga Arr 44.68 162 P P 08 35 27.2 -3.9
comp=Z,1.2nm,0.7s,baz=342,slow=9.1,SNR=9.9
ASAR Alice Springs 48.10 164 P P 08 35 54.4 -3.5
comp=Z,0.9nm,0.9s,baz=345,slow=6.7,SNR=5.9
ILAR Eielson Array 70.53 27 P **P** **08 38 35.5 +2.8**
comp=Z,0.2nm,0.7s,baz=280,slow=5.4,SNR=5.9
YKA Yellowknife Ar 84.30 23 P **P** **08 39 47.3 -2.4**
comp=Z,0.1nm,0.5s,baz=309,slow=4.9,SNR=7.0

MEX 04 08:28:49.2±0.5, 16°.16N×98°.82W, h16km±40km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.71**	**71**	*e*P	Pg	08 29 00.6	-2.5
PNIG				*i*S	Sg	08 29 09.5	-3.0
TLIG	**Tlapa**	**1.41**	**10**	*e*P	Pn	08 29 10.8	-3.6
TLIG				*i*S	Sn	08 29 27.1	-5.7
VHO	**Vista Hermosa**	**2.20**	**65**	*i*P	Pn	08 29 22.3	-3.0
VHO				*i*S	Sn	08 29 48.4	-4.0

*IDC **04** 09:03:27.4±0.8, 34°.69N×141°.42E, h0km, mb3.7/8, mb1 3.9/12, mb1mx3.8/36, mbtmp3.8/12, ML3.9/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/59, Error ellipse: s-maj=23.3km s-min=16.5km az=76.0*
*ISCJB **04** 09:03:29.2±0.6, 34°.61N±0°.06×141°.55E±0°.07, h27km, mb3.7/9, Error ellipse: s-maj=10.3km s-min=6.4km az=32.8*
*JMA **04** 09:03:30.2±0.3, 34°.68N×141°.52E, h29km±2km, M3.2*
ISC 04 09:03:30.8±0.7, 34°.60N±0°.07×141°.47E±0°.07, h27km, n28, σ1§32/26, mb3.7/9, 2C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.41**	**278**	P	**Pn**	**09 03 39.5**	**-0.9**
BSO1				S	**Sn**	**09 03 45.8**	**-1.1**
BSO3	**Boso 3**	**0.81**	**285**	P	**Pn**	**09 03 46.0**	**-0.3**
BSO4	**Boso 4**	**1.01**	**293**	P	**Pb**	**09 03 48.8**	**-0.8**
KTR	**Katsuura**	**1.09**	**300**	P	**Pb**	**09 03 50.3**	**-0.8**
CHOJ	**Chosi**	**1.21**	**336**	P	**Pn**	**09 03 50.7**	**-1.2**
JCN	**Nagara**	**1.32**	**309**	P	**Pn**	**09 03 52.9**	**-0.6**
JIM2	**Oshima 3**	**1.68**	**275**	P	**Pn**	**09 03 58.6**	**+0.1**
JYT	**Yasato**	**1.93**	**328**	P	**Pn**	**09 04 01.1**	**-0.7**
MJAR	**Matsushiro Arr**	**3.29**	**307**	Pn	**Pn**	**09 04 20.0**	**-0.6**
	3.9nm,0.3s,baz=104,slow=14,SNR=28						
MJAR				Sn	**Sn**	**09 04 59.3**	**+0.5**
	3.7nm,0.3s,baz=208,slow=7.3,SNR=5.4						
MJAR				LR	LR	09 06 04.0	
	comp=Z,189nm,18.4s,baz=120,slow=49						
MAT	**Matsushiro**	**3.29**	**307**	P	**Pn**	**09 04 21.2**	**+0.6**
MAT				S	**Sn**	**09 05 01.2**	**+2.4**
JCJ	**Chichijima**	**7.50**	**175**	Pn	**Pn**	**09 05 18.7**	**+0.2**
	8.5nm,0.3s,baz=12,slow=20,SNR=5.2						
JCJ				Sn	**Sn**	**09 06 39.7**	**-3.0**
	3.5nm,0.3s,baz=287,slow=19,SNR=2.7						
ASAJ	**Asahikawa**	**9.54**	**5**	Pn	**Pn**	**09 05 43.3**	**-3.1**
	1.2nm,0.3s,baz=180,slow=18,SNR=5.7						
USRK	**Ussuriysk Ar.**	**12.06**	**325**	Pn	**Pn**	**09 06 19.5**	**-1.3**
	0.2nm,0.3s,baz=120,slow=12,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**26.94**	**117**	T	T	09 37 17.9	
	baz=309,slow=75,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**26.95**	**117**	T	T	09 37 18.4	
	baz=309,slow=75,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**26.96**	**117**	T	T	09 37 28.1	
	baz=309,slow=75,SNR=7.5						
H11S3	**WAKE ISLAND Hy**	**27.57**	**119**	T	T	09 38 15.4	
	baz=312,slow=76,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**27.57**	**119**	T	T	09 38 12.9	
	baz=312,slow=76,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**27.59**	**119**	T	T	09 38 13.1	
	baz=312,slow=76,SNR=4.2						
SONM	**Songino Array**	**29.24**	**308**	P	**P**	**09 09 30.2**	**-0.3**
	0.4nm,0.5s,baz=112,slow=8.9,SNR=6.4						
MK31	**Makanchi Array**	**45.48**	**304**	⇑Pn	**P**	**09 11 48.3**	**+0.6**
	0.7nm,0.7s,baz=87,slow=10,SNR=8.4						
MK31				⇑Lg	Lg	09 12 53.7	
	0.3nm,0.6s,baz=89,slow=32,SNR=5.4						
MKAR	**Makanchi Array**	**45.48**	**304**	P	**P**	**09 11 47.3**	**-0.4**
	0.9nm,0.7s,baz=87,slow=9.2,SNR=8.7						
ILAR	**Eielson Array**	**51.53**	**31**	P	**P**	**09 12 34.4**	**+0.5**
	0.6nm,0.8s,baz=271,slow=7.0,SNR=5.2						
WRA	**Warramunga Arr**	**54.66**	**188**	P	**P**	**09 12 58.5**	**+1.1**
	1.0nm,0.6s,baz=3.0,slow=7.7,SNR=27						
ASAR	**Alice Springs**	**58.39**	**188**	P	**P**	**09 13 25.5**	**+1.6**
	0.4nm,0.7s,baz=13,slow=9.8,SNR=8.1						
YKA	**Yellowknife Ar**	**65.89**	**30**	P	**P**	**09 14 14.0**	**+0.2**
	0.4nm,0.9s,baz=295,slow=6.0,SNR=7.9						
AKASG	**Malin Array Be**	**76.25**	**323**	P	**P**	**09 15 16.9**	**+0.1**
	0.7nm,0.5s,baz=50,slow=4.8,SNR=3.6						
NVAR	**Mina Array Bea**	**76.42**	**53**	P	**P**	**09 15 20.0**	**+1.7**
	0.7nm,0.7s,baz=282,slow=6.8,SNR=4.7						

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*IDC **04** 09:03:35.7±0.5, 37°.65S×74°.72W, h0km, mb4.4/15, mb1 4.5/19, mb1mx4.5/22, mbtmp4.4/19, ML4.4/4, MS4.2/19, Ms1 4.2/19, ms1mx4.0/35, Error ellipse: s-maj=20.9km s-min=13.5km az=87.0*
*ISCJB **04** 09:03:39.8±0.2, 37°.55S±0°.04×74°.47W±0°.06, h33km, mb4.9/65, MS4.2/16, Error ellipse: s-maj=7.1km s-min=5.5km az=146.5*
*MOS **04** 09:03:39.9±1.1, 37°.65S×74°.67W, h33km, mb5.2/14, Error ellipse: s-maj=18.6km s-min=10.0km az=105.5*
*GCMT **04** 09:03:41.4±0.3, 37°.72S×74°.96W, h17km±1km, MW5.0/71, Moment Tensor Solution. s28,c31; s71,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.71±.22; $M_{\theta\theta}$-0.21±.12; $M_{\phi\phi}$3.92±.16; $M_{r\theta}$1.50±.42; $M_{\theta\phi}$1.21±.10; $M_{\phi r}$-0.99±.34; Best double couple: $M_0$4.38700×10^{16} NP1:ϕ_s353.00000°, δ54.00000°, λ-119.00000°. NP2: ϕ_s217.00000°, δ45.00000°, λ-56.00000°. Principal axes: T 4.2910, Plg4.0000°, Azm104.0000°; N 0.1920, Plg23.0000°, Azm12.0000°; P -4.4840, Plg66.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 09:03:41.4±0.2, 37°.65S×74°.58W, h35km, mb5.1/51 Error ellipse: s-maj=7.7km s-min=5.3km az=63.0*
ISC 04 09:03:41.4±0.3, 37°.57S±0°.06×74°.66W±0°.07, h35km, n464, σ0§81/463, mb5.0/66, MS4.3/16, 152C-155D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.49**	**136**	Pn	**Pn**	**09 04 44.8**	**-2.2**
	7.5nm,0.3s,baz=306,slow=14,SNR=100						
PLCA				Sn	**Sn**	**09 05 41.5**	**+3.6**
	35nm,0.3s,baz=199,slow=19,SNR=5.7						
PLCA				LR	LR	09 06 41.5	
	comp=Z,4μm,18.6s,baz=8.0,slow=42						
CFAA	**Coronel Fontan**	**7.96**	**44**	Pn	**Pn**	**09 05 33.0**	**-1.7**
	1.0nm,0.3s,baz=220,slow=12,SNR=20						
CFAA				Sn	**Sn**	**09 07 01.3**	**-2.2**
	1.6nm,0.3s,baz=100,slow=22,SNR=6.7						
TRQA	**Tornquist**	**10.04**	**97**	*e*Pn	**Pn**	**09 06 02.5**	**-0.6**
LVC	**Limon Verde**	**15.71**	**20**	*e*Pn	**Pn**	**09 07 20.7**	**+0.4**
	18nm,0.9s						
USHA	**Ushuaia**	**17.78**	**168**	P	**Pn**	**09 07 44.7**	**-1.2**
	0.8nm,0.3s,baz=332,slow=10,SNR=11						
USHA				LR	LR	09 14 46.6	
	comp=Z,888nm,18.9s,baz=329,slow=38						
EFI	**East Falkland**	**18.33**	**146**	P	**Pn**	**09 07 53.3**	**+0.7**
	186nm,0.6s,SNR=7.8						
EFI	**East Falkland**	**18.33**	**146**	*e*P	**Pn**	**09 07 53.9**	**+1.3**
EFI	**East Falkland**	**18.33**	**146**	*e*Pn	**Pn**	**09 07 53.9**	**+1.3**
	107nm,1.5s						
CPUP	**Villa Florida**	**18.45**	**58**	*e*P	**P**	**09 07 53.5**	**-0.6**
CPUP	**Villa Florida**	**18.45**	**58**	P	**P**	**09 07 53.4**	**-0.7**
	0.6nm,0.3s,baz=215,slow=11,SNR=25						
CPUP				LR	LR	09 16 01.4	
	comp=Z,922nm,19.5s,baz=219,slow=40						
CPUP	**Villa Florida**	**18.45**	**58**	*e*P	**P**	**09 07 53.5**	**-0.6**
LPAZ	**La Paz**	**21.97**	**17**	*e*P	**P**	**09 08 35.3**	**+2.4**
LPAZ				pmax	pmax		
	comp=Z,156nm,1.9s						
LPAZ	**La Paz**	**21.97**	**17**	P	**P**	**09 08 34.8**	**+1.8**
	comp=Z,4.1nm,0.8s,baz=196,slow=10.0,SNR=14						
LPAZ	**La Paz**	**21.97**	**17**	*e*P	**P**	**09 08 35.3**	**+2.4**
	comp=Z,156nm,1.9s						
SIV	**San Ignacio**	**24.62**	**33**	P	**P**	**09 08 58.2**	**-0.4**
	comp=Z,9.8nm,0.7s,baz=228,slow=10,SNR=20						
NNA	**Nana**	**25.55**	**355**	LR	LR	09 16 53.0	
	comp=Z,295nm,18.5s,baz=183,slow=31						
PMSA	**Palmer Station**	**27.96**	**170**	LR	LR	09 20 10.9	
	comp=Z,412nm,19.1s,baz=337,slow=36						
SAML	**Samuel**	**30.33**	**23**	*e*P	**P**	**09 09 49.8**	**+0.1**
	comp=Z,27nm,1.3s						
ATAH	**Atahualpa**	**30.49**	**353**	LR	LR	09 19 43.2	
	comp=Z,254nm,18.2s,baz=192,slow=32						
RPN	**Rapa Nui**	**30.94**	**279**	LR	LR	09 18 43.3	
	comp=Z,417nm,21.7s,baz=82,slow=29						
BDFB	**Brasilia**	**32.12**	**54**	*e*P	**P**	**09 10 08.5**	**+2.8**
BDFB	**Brasilia**	**32.12**	**54**	P	**P**	**09 10 07.4**	**+1.7**
	comp=Z,1.4nm,0.4s,baz=220,slow=9.3,SNR=3.0						
BDFB	**Brasilia**	**32.12**	**54**	*e*P	**P**	**09 10 08.5**	**+2.8**
OTAV	**Otavalo**	**37.79**	**354**	*e*P	**P**	**09 10 56.6**	**+1.8**
	comp=Z,22nm,1.5s						
ROSC	**El Rosal**	**42.21**	**0**	P	**P**	**09 11 32.8**	**+1.3**
	comp=Z,4.6nm,0.5s,baz=166,slow=5.4,SNR=4.9						
SDV	**Santo Domingo**	**46.37**	**5**	*e*P	**P**	**09 12 06.0**	**+1.5**
	comp=Z,14nm,1.0s						
VNA3	**Neumayer Olymp**	**46.90**	**156**	P	**P**	**09 12 08.5**	**+0.6**
RCBR	**Riachuelo**	**47.34**	**58**	LR	LR	09 33 33.8	
	comp=Z,725nm,19.6s,baz=202,slow=38						
VNA2	**Neumayer−Watz**	**47.59**	**156**	P	**P**	**09 12 13.3**	**+0.1**
JTS	**JuntasAbangare**	**48.58**	**346**	LR	LR	09 28 22.1	
	comp=Z,105nm,21.9s,baz=188,slow=31						
SNAA	**Sanae**	**49.12**	**157**	P	**P**	**09 12 25.2**	**+0.1**
SNAA	**Sanae**	**49.12**	**157⇓*e*P**		**P**	**09 12 25.6**	**+0.5**
SNAA				pmax	pmax		
	comp=Z,19nm,0.8s						
SNAA	**Sanae**	**49.12**	**157**	P	**P**	**09 12 24.5**	**-0.6**
	comp=Z,4.2nm,0.7s,baz=273,slow=8.9,SNR=14						
SNAA	**Sanae**	**49.12**	**157**	*e*P	**P**	**09 12 25.6**	**+0.5**
	comp=Z,187nm,2.3s						
QSPA	**South Pole Qui**	**52.67**	**180**	P	**P**	**09 12 51.6**	**-0.3**
	comp=Z,7.7nm,0.6s,baz=149,slow=1.4,SNR=90						
RKT	**Rikitea**	**53.18**	**268**	*e*LR	LR	09 28 23.8	
	comp=Z,852nm,31.8s						
APG	**El Apazote**	**54.37**	**341**	LR	LR	09 30 56.4	
	comp=Z,253nm,21.2s,slow=30						
TEIG	**Tepich**	**58.90**	**345**	P	**P**	**09 13 36.4**	**-0.5**
	comp=Z,13nm,1.1s,baz=135,slow=5.7,SNR=4.1						
VNDA	**Vanda**	**60.18**	**192**	P	**P**	**09 13 45.4**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=128,slow=5.5,SNR=4.2						
VNDA				LR	LR	09 36 23.3	
	comp=Z,106nm,19.1s,baz=153,slow=33						
SYO	**Syowa Base**	**63.33**	**158⇓*e*P**		**P**	**09 14 04.6**	**-1.8**
PPT2	**Papeete2**	**67.69**	**265**	*e*S	**S**	**09 23 31.9**	**+1.1**
	comp=Z,150nm,25.5s						
PPT2	**Papeete2**	**67.69**	**265**	*e*LR	LR	09 35 00.2	
	comp=Z,494nm,27.2s						
035A	**Encino**	**67.84**	**337**	⇑P	**P**	**09 14 37.1**	**+1.2**
	baz=68						
034A	**Hebboronville**	**68.14**	**337**	⇓P	**P**	**09 14 38.7**	**+0.9**
	baz=68						
934A	**Benavides**	**68.59**	**337**	⇓P	**P**	**09 14 41.4**	**+0.8**
	baz=69						
834A	**Tilden**	**69.09**	**337**	⇓P	**P**	**09 14 44.8**	**+1.1**
	baz=70						
833A	**Chaparral WMA,**	**69.54**	**337**	⇓P	**P**	**09 14 46.8**	**+0.3**
	baz=70						
735A	**Kenedy**	**69.55**	**338**	⇓P	**P**	**09 14 47.6**	**+1.1**
	baz=70						
832A	**Faith Ranch, C**	**69.68**	**336**	⇓P	**P**	**09 14 47.7**	**+0.3**
	baz=70						
LPIG	**La Paz**	**69.91**	**325**	LR	LR	09 38 37.9	
	comp=Z,183nm,18.9s,baz=182,slow=30						
636A	**Smothers Creek**	**69.93**	**339**	⇑P	**P**	**09 14 50.0**	**+1.1**
	baz=70						
732A	**Laxson Ranch,**	**70.09**	**336**	⇑P	**P**	**09 14 50.2**	**+0.3**
	baz=70,SNR=7.5						
MAW	**Mawson**	**70.35**	**164**	LR	LR	09 44 10.2	
	comp=Z,285nm,21.2s,baz=238,slow=35						
633A	**Saathoff Ranch**	**70.53**	**337**	⇑P	**P**	**09 14 52.5**	**-0.1**
	baz=71						
632A	**Uvalde**	**70.76**	**337**	⇑P	**P**	**09 14 54.3**	**+0.3**
	baz=71						
534A	**Blanco**	**70.85**	**338**	⇓P	**P**	**09 14 54.7**	**+0.2**
	baz=71						
631A	**Perdido Creek**	**70.92**	**336**	⇓P	**P**	**09 14 55.1**	**+0.2**
	baz=71						
340A	**Bronson**	**70.95**	**343**	⇑P	**P**	**09 14 55.7**	**+0.7**
	baz=71						
339A	**Huntington**	**71.03**	**342**	⇓P	**P**	**09 14 56.2**	**+0.7**
	baz=72						
533A	**Kerrville**	**71.06**	**338**	⇑P	**P**	**09 14 56.0**	**+0.2**
	baz=72						
436A	**Wall Ranch, Ga**	**71.07**	**340**	⇓P	**P**	**09 14 56.2**	**+0.4**
	baz=72						
GOGA	**Godfrey**	**71.10**	**352**	*e*P	**P**	**09 14 55.3**	**-0.6**
GOGA	**Godfrey**	**71.10**	**352**	*e*P	**P**	**09 14 55.3**	**-0.6**
532A	**Rocksprings**	**71.38**	**337**	⇓P	**P**	**09 14 58.1**	**+0.4**
	baz=72,SNR=9.0						
434A	**Burnet**	**71.53**	**339**	⇑P	**P**	**09 14 58.8**	**+0.2**
	baz=72						
531A	**Rocksprings**	**71.61**	**337**	⇓P	**P**	**09 14 59.3**	**+0.1**
	baz=72						
336A	**Riesel**	**71.67**	**340**	⇑P	**P**	**09 14 59.6**	**+0.1**
	baz=72						
JCT	**Junction City**	**71.67**	**337**	*e*P	**P**	**09 14 59.5**	**0.0**
JCT	**Junction City**	**71.67**	**337**	⇓P	**P**	**09 14 59.5**	**0.0**
	baz=72						
JCT	**Junction City**	**71.67**	**337**	*e*P	**P**	**09 14 59.5**	**0.0**
433A	**Art**	**71.71**	**338**	⇓P	**P**	**09 14 59.7**	**-0.1**
	baz=72						
530A	**J-C Ranch, Com**	**71.85**	**336**	⇓P	**P**	**09 15 00.9**	**+0.3**
	baz=72,SNR=6.1						
TXAR	**Lajitas Array**	**71.89**	**334**	P	**P**	**09 15 01.0**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=152,slow=8.6,SNR=36						
TXAR				LR	LR	09 40 49.8	
	comp=Z,126nm,20.2s,baz=0.0,slow=31						
334A	**Lometa**	**72.00**	**339**	⇑P	**P**	**09 15 01.6**	**+0.1**
	baz=72,SNR=9.5						
432A	**Menard**	**72.04**	**337**	⇑P	**P**	**09 15 01.9**	**+0.2**
	baz=72						
431A	**Sonora**	**72.11**	**337**	⇑P	**P**	**09 15 02.0**	**-0.1**
	baz=72						
529A	**Stev Forest Ra**	**72.12**	**335**	⇑P	**P**	**09 15 02.3**	**+0.1**
	baz=72						
333A	**Richland Sprin**	**72.22**	**338**	⇓P	**P**	**09 15 02.3**	**-0.4**
	baz=73						
430A	**Baggett Ranch,**	**72.41**	**336**	⇓P	**P**	**09 15 03.9**	**0.0**
	baz=73,SNR=7.2						
WHTX	**Lake Whitney,**	**72.41**	**340**	⇑P	**P**	**09 15 04.2**	**+0.4**
	baz=73						
WHTX	**Lake Whitney,**	**72.41**	**340**	*e*P	**P**	**09 15 04.1**	**+0.3**
429A	**Davenport Ranc**	**72.47**	**336**	⇓P	**P**	**09 15 04.6**	**+0.2**
	baz=73,SNR=7.6						
332A	**Millersview**	**72.50**	**338**	⇓P	**P**	**09 15 04.3**	**-0.1**
	baz=73						
137A	**Heron Place, G**	**72.53**	**341**	⇓P	**P**	**09 15 04.8**	**+0.3**
	baz=73						
234A	**Clairette**	**72.61**	**339**	⇑P	**P**	**09 15 05.3**	**+0.2**
	baz=73,SNR=5.8						
KMSC	**Kings Mountain**	**72.61**	**354**	⇑P	**P**	**09 15 04.7**	**-0.3**
	baz=73						
331A	**San Angelo**	**72.64**	**337**	⇓P	**P**	**09 15 05.2**	**-0.1**
	baz=73,SNR=8.6						
233A	**Rising Star**	**72.84**	**339**	⇓P	**P**	**09 15 06.5**	**+0.1**
	baz=73						
232A	**Coleman**	**72.94**	**338**	⇑P	**P**	**09 15 07.1**	**+0.1**
	baz=73,SNR=5.4						
330A	**Mertzon**	**72.96**	**336**	⇓P	**P**	**09 15 06.7**	**-0.5**
	baz=73						
134A	**White-Moore Ra**	**73.13**	**339**	⇓P	**P**	**09 15 07.9**	**-0.2**
	baz=74						
SWET	**Sewanee**	**73.17**	**350**	*e*P	**P**	**09 15 08.2**	**-0.2**
	comp=Z,17nm,0.6s						
231A	**Bronte**	**73.18**	**337**	⇑P	**P**	**09 15 08.3**	**-0.2**
	baz=74,SNR=5.7						
329A	**Wagon Wheel Ra**	**73.29**	**336**	⇓P	**P**	**09 15 09.3**	**+0.1**
	baz=74						
230A	**Sterling City**	**73.39**	**337**	⇓P	**P**	**09 15 09.7**	**0.0**
	baz=74						
133A	**Hamilton Ranch**	**73.40**	**339**	⇓P	**P**	**09 15 09.9**	**+0.2**
	baz=74						
Z35A	**Perchaven, San**	**73.62**	**340**	⇓P	**P**	**09 15 10.8**	**-0.2**
	baz=74						
ABTX	**Abilene, Hawle**	**73.62**	**338**	⇓P	**P**	**09 15 10.8**	**-0.3**
	baz=74						
ABTX	**Abilene, Hawle**	**73.62**	**338**	*e*P	**P**	**09 15 11.4**	**+0.3**
	comp=Z,36nm,1.7s						
229A	**Bryant Ranch,**	**73.68**	**336**	⇑P	**P**	**09 15 11.2**	**-0.2**
	baz=74						
Z34A	**Collier Ranch,**	**73.83**	**340**	⇓P	**P**	**09 15 12.1**	**-0.1**
	baz=74						
131A	**Roby**	**73.89**	**338**	⇓P	**P**	**09 15 12.8**	**+0.2**
	baz=74						
Z33A	**Whitaker Ranch**	**73.99**	**339**	⇓P	**P**	**09 15 13.3**	**+0.1**
	baz=74	

228A UT Block 9, Go 74.07 336 ⇑P P 09 15 13.9 +0.1
baz=74
Z32A Haskell 74.21 339 ⇑P P 09 15 14.7 +0.2
baz=75,SNR=5.4
Y34A Reagan Ranch, 74.34 340 ⇑P P 09 15 15.1 -0.1
baz=75
Z31A Sharp Cattle R 74.42 338 ⇓P P 09 15 15.7 0.0
baz=75,SNR=5.3
128A Castleberry Fa 74.50 336 ⇓P P 09 15 16.3 0.0
baz=75
Y33A Hilltop Ranch, 74.63 340 ⇓P P 09 15 16.9 0.0
baz=75
Z30A Sanderson Ranc 74.69 337 ⇓P P 09 15 17.3 +0.1
baz=75
Z29A Hungry Hill Ra 74.84 337 ⇓P P 09 15 18.2 0.0
baz=75
Y32A R-V Farms, Ver 74.86 339 ⇑P P 09 15 18.4 +0.3
baz=75
X34A Smith Ranch, M 74.97 340 ⇓P P 09 15 19.2 +0.4
baz=75
Y31A Rekieta Farm, 75.06 338 ⇓P P 09 15 19.5 +0.1
baz=76
X33A Lawton 75.10 340 ⇓P P 09 15 19.2 -0.3
baz=76
Y30A Stafford Cattl 75.17 338 ⇓P P 09 15 20.2 +0.2
baz=76
BBTS Babate 75.32 58 LR LR 09 48 29.1
comp=Z,218nm,18.5s,baz=236,slow=36
WMOK Wichita Mounta 75.36 340 eP P 09 15 21.9 +0.8
WMOK pmax pmax
comp=Z,57nm,2.1s
WMOK Wichita Mounta 75.36 340 eP P 09 15 21.9 +0.8
comp=Z,57nm,2.1s
Y29A Porterfield Fa 75.39 337 ⇓P P 09 15 21.2 -0.1
baz=76
Z26A Caprock 75.59 335 ⇑P P 09 15 22.8 +0.2
baz=76
X31A McDonald Ranch 75.60 339 ⇓P P 09 15 22.6 +0.1
baz=76
Y28A McKinney Farm, 75.61 337 ⇓P P 09 15 23.2 +0.5
baz=76
W33A Caddo, Fort Co 75.66 340 ⇑P P 09 15 23.5 +0.7
baz=76
X30A Coker Ranch, T 75.69 338 ⇑P P 09 15 23.8 +0.8
baz=76,SNR=5.8
TUL1 Leonard 75.70 342 ⇓P P 09 15 23.2 +0.2
baz=76
TUL1 Leonard 75.70 342 eP P 09 15 22.9 -0.1
comp=Z,17nm,0.8s
MSTX Muleshoe 75.84 336 ⇑P P 09 15 24.4 +0.5
baz=76
319A Douglas 75.84 330 ⇑P P 09 15 25.0 +1.0
baz=76
W32A Sentinel 75.85 339 ⇑P P 09 15 24.4 +0.5
baz=76
Z25A Roswell 75.85 334 ⇓P P 09 15 24.4 +0.3
baz=76
X29A Tulia 75.94 337 ⇑P P 09 15 24.9 +0.4
baz=76
V34A Guthrie 76.05 341 ⇑P P 09 15 25.2 +0.2
baz=76
W31A Holland Ranch, 76.11 339 ⇑P P 09 15 25.5 +0.1
baz=76
Z24A Sheeppen Canyo 76.12 334 ⇓P P 09 15 25.5 -0.2
baz=76
Y26A Elida 76.14 335 ⇓P P 09 15 26.0 +0.3
baz=77
V33A Lossen Ranch, 76.24 340 ⇑P P 09 15 26.5 +0.4
baz=77
AMTX Amarillo 76.34 337 ⇓P P 09 15 26.5 -0.2
baz=77
AMTX Amarillo 76.34 337 eP P 09 15 27.2 +0.5
comp=Z,101nm,2.3s
V32A Arapaho 76.35 340 ⇑P P 09 15 26.8 0.0
baz=77
Y25A Mesa, Roswell 76.43 335 ⇑P P 09 15 27.4 +0.1
baz=77
W29A Amarillo 76.55 338 ⇓P P 09 15 28.2 +0.3
baz=77
X27A F and S Farms, 76.56 336 ⇑P P 09 15 28.4 +0.3
baz=77
V31A Spring Creek L 76.63 339 ⇓P P 09 15 29.0 +0.7
baz=77
Z22A Elephant Butte 76.63 333 ⇑P P 09 15 28.4 -0.1
baz=77
U34A Anderson Ranch 76.63 341 ⇑P P 09 15 28.4 +0.2
baz=77
Y24A Capitan 76.69 334 ⇓P P 09 15 29.3 +0.5
baz=77
X26A CR and CF Fran 76.71 336 ⇓P P 09 15 29.5 +0.6
baz=77
U33A Lingo Farm, Me 76.77 341 ⇓P P 09 15 29.3 +0.2
baz=77
Y23A Lovelace Mesa, 76.91 334 ⇑P P 09 15 31.0 +0.8
baz=77
W27A Bowe Ranch, En 76.94 336 ⇑P P 09 15 30.3 +0.1
baz=77,SNR=8.4
U32A Winter Ranch, 76.96 340 ⇓P P 09 15 30.8 +0.7
baz=77
W26A Owens Ranch, T 77.19 336 ⇑P P 09 15 32.0 +0.5
baz=78
V28A Channing 77.31 337 ⇓P P 09 15 32.6 +0.4
baz=78
T33A Patterson Ranc 77.42 341 ⇓P P 09 15 33.5 +0.8
baz=78
V27A Dan Oppiter Fa 77.50 337 ⇓P P 09 15 33.9 +0.6
baz=78
W25A X Bar L Ranch, 77.53 335 ⇓P P 09 15 34.0 +0.4
baz=78
X23A Hourglass Bar 77.54 334 ⇓P P 09 15 35.0 +1.3
baz=78
U30A WK&E Inc. Balk 77.56 339 ⇓P P 09 15 34.3 +0.7
baz=78
U29A Oasis Ranch, S 77.67 338 ⇓P P 09 15 34.9 +0.7
baz=78
T32A Huddler Ranch, 77.69 340 ⇓P P 09 15 34.7 +0.4
baz=78
LAZ Ladron 77.72 333 eP P 09 15 34.6 -0.1
comp=Z,4.9nm,1.5s
214A Organ Pipe Nat 77.80 328 ⇑P P 09 15 36.3 +1.3
baz=78
T31A Randall Ranch, 77.82 340 ⇑P P 09 15 35.2 +0.3
baz=78
V26A Tequesquite Ra 77.84 336 ⇓P P 09 15 35.4 +0.2
baz=78
S33A Kaszmaul Farm, 77.84 341 ⇓P P 09 15 35.4 +0.3
baz=78
W24A Lazy 6 Ranch, 77.84 335 ⇓P P 09 15 36.2 +0.8
baz=78
LIC Lamto 77.90 72 eP P 09 15 36.3 +0.4
comp=Z,37nm,0.8s
ANMO Albuquerque 77.97 334c iP P 09 15 37.0 +1.0
ANMO pmax pmax
comp=Z,37nm,1.9s
ANMO Albuquerque 77.97 334 eP P 09 15 36.7 +0.7
W23A Werner Place, 78.05 334 ⇑P P 09 15 37.2 +0.7
baz=78
U27A Thompson Grove 78.11 337 ⇓P P 09 15 37.3 +0.6
baz=78
V25A Rancho No Teng 78.15 336 ⇑P P 09 15 37.3 +0.2
baz=79,SNR=5.5
TIC Toumodi 78.18 72 eP P 09 15 37.7 +0.2
comp=Z,6.7nm,0.2s
S32A Newby Ranch, P 78.19 341 ⇑P P 09 15 37.6 +0.7
baz=79
KIC Kosan Boka 78.21 72 eP P 09 15 38.1 +0.5
comp=Z,32nm,0.8s
S31A Mullinville 78.26 340 ⇓P P 09 15 37.8 +0.4
baz=79
V24A Rampart Ranch, 78.26 335 ⇓P P 09 15 38.1 +0.4
baz=79
DBIC Dimbokro 78.32 72 eP P 09 15 39.1 +0.9
DBIC pmax pmax
comp=Z,11nm,0.6s
DBIC Dimbokro 78.32 72 P P 09 15 38.5 +0.3
comp=Z,5.5nm,0.7s,baz=210,slow=5.3,SNR=8.8
DBIC LR LR 09 49 01.4
comp=Z,117nm,18.2s,baz=226,slow=35
DBIC Dimbokro 78.32 72 eP P 09 15 39.1 +0.9
comp=Z,11nm,0.6s
T29A Hugoton 78.33 339 ⇑P P 09 15 38.6 +0.7
baz=79
U26A Atchley Ranch, 78.37 336 ⇑P P 09 15 38.8 +0.5
baz=79
R33A Olander Ranch, 78.51 341 ⇓P P 09 15 39.2 +0.4
baz=79
T28A Walsh 78.54 338 ⇓P P 09 15 39.3 +0.3
baz=79,SNR=6.4

S30A Montezuma 78.55 339 ⇓P P 09 15 40.0 +1.0
baz=79
U25A Circle Dot Ran 78.59 336 ⇑P P 09 15 40.2 +0.7
baz=79
V23A Ortiz Mt. (NFS 78.59 334 ⇓P P 09 15 40.2 +0.7
baz=79
T27A Campo 78.67 337 ⇑P P 09 15 40.4 +0.6
baz=79
S29A Ulysses 78.71 339 ⇑P P 09 15 40.5 +0.6
baz=79
R32A Long Quarter, 78.81 341 ⇑P P 09 15 40.7 +0.3
baz=79
X18A Snowflake 78.88 331 ⇓P P 09 15 41.8 +0.7
baz=79
R31A Burdett 78.90 340 ⇑P P 09 15 41.2 +0.3
baz=79
S28A Manter 78.91 338 ⇑P P 09 15 41.1 0.0
baz=79
KSU1 Kansas State U 78.93 343 ⇑P P 09 15 41.0 0.0
baz=79
KSU1 Kansas State U 78.93 343 eP P 09 15 40.6 -0.4
comp=Z,192nm,2.8s
V22A San Miguel Ran 79.00 334 ⇑P P 09 15 43.0 +1.3
baz=79
T26A Comanche Natio 79.04 337 ⇑P P 09 15 42.4 +0.5
baz=80
U23A El Rito 79.12 335 ⇑P P 09 15 43.3 +0.9
baz=80
Q33A Connelly Farm, 79.13 342 ⇓P P 09 15 42.9 +0.8
baz=80
T25A Trinidad 79.27 336 ⇓P P 09 15 44.4 +1.2
baz=80,SNR=8.5
Q32A Meitler Ranch, 79.30 341 ⇑P P 09 15 43.3 +0.2
baz=80
X16A Lo Mia Camp, P 79.37 330 ⇑P P 09 15 44.8 +1.0
baz=80
U22A Llaves 79.39 334 ⇓P P 09 15 45.1 +1.2
baz=80
S26A Kim 79.42 337 ⇓P P 09 15 44.8 +1.0
baz=80,SNR=7.2
R29A Marienthal 79.47 339 ⇓P P 09 15 45.0 +0.9
baz=80
T24B San Luis 79.52 335 ⇑P P 09 15 45.7 +1.1
baz=80
Q31A Ellis 79.53 341 ⇓P P 09 15 44.8 +0.4
baz=80
R28A Tribune 79.58 339 ⇑P P 09 15 45.4 +0.7
baz=80
Y14A Wickenburg 79.59 328 ⇑P P 09 15 45.6 +0.8
baz=80
T23A Casias Ranch, 79.71 335 ⇑P P 09 15 46.3 +0.6
baz=80
S25A Robets Cordova 79.75 336 ⇓P P 09 15 46.5 +0.8
baz=80,SNR=7.6
R27A Eads 79.82 338 ⇑P P 09 15 46.7 +0.6
baz=80,SNR=6.8
Q29A Oakley 79.86 339 ⇑P P 09 15 46.9 +0.7
baz=80
P32A Huiting Farm, 79.91 341 ⇑P P 09 15 46.9 +0.6
baz=80
S24A Houchin Ranch, 79.99 336 ⇓P P 09 15 48.0 +0.9
baz=80,SNR=5.7
P31A Stockton 80.02 341 ⇑P P 09 15 47.5 +0.5
baz=80
R26A Arlington 80.03 337 ⇓P P 09 15 48.0 +0.9
baz=80,SNR=8.4
Y12C Blythe 80.08 327 ⇓P P 09 15 48.7 +1.3
baz=80
R25A Fountain Ranch 80.15 337 ⇓P P 09 15 48.4 +0.6
baz=81
MONP Monument Peak, 80.18 325 ⇑P P 09 15 47.9 -0.4
baz=81
Q28A Shon Springs 80.26 339 ⇓P P 09 15 49.0 +0.7
baz=81
P30A Selden 80.27 340 ⇓P P 09 15 49.1 +0.7
baz=81
BOSA Boshof 80.27 119 P P 09 15 49.0 0.0
BOSA Boshof 80.27 119 P P 09 15 49.0 0.0
comp=Z,2.7nm,0.7s,baz=223,slow=5.6,SNR=7.8
BOSA LR LR 09 47 38.8
comp=Z,148nm,20.0s,baz=238,slow=33
WUAZ Wupatki 80.31 330 ⇑P P 09 15 49.2 +0.4
baz=81
BC3 Big Chuckawall 80.40 326 ⇓P P 09 15 50.2 +0.9
baz=81
O32A Brockman Farm, 80.43 342 ⇑P P 09 15 49.3 +0.2
baz=81
KSCO Kaye Shedlock' 80.44 338 ⇓P P 09 15 50.2 +0.8
baz=81
KSCO Kaye Shedlock' 80.44 338 eP P 09 15 50.2 +0.8
comp=Z,76nm,2.1s
R24A Sanders Place, 80.49 336 ⇓P P 09 15 51.1 +1.3
baz=81,SNR=11
P29A Atwood 80.51 340 ⇑P P 09 15 50.7 +1.1
baz=81
O31A Woolen Ranch, 80.59 341 ⇑P P 09 15 50.7 +0.7
baz=81
S22A 4UR Ranch, Cre 80.62 335 ⇑P P 09 15 51.7 +1.1
baz=81
Q26A Hugo 80.63 338 ⇑P P 09 15 51.5 +1.1
baz=81
R23A Moffat 80.69 336 ⇑P P 09 15 51.8 +0.9
baz=81
IRM Iron Mountain 80.70 327 ⇑P P 09 15 52.2 +1.5
baz=81
P28A Saint Francis 80.71 339 ⇓P P 09 15 51.7 +0.9
baz=81
MVCO Mesa Verde 80.72 333 ⇓P P 09 15 52.1 +1.0
baz=81
MVCO Mesa Verde 80.72 333 eP P 09 15 51.9 +0.8
comp=Z,76nm,2.6s
PFO Pinyon Flats O 80.81 326 ⇓P P 09 15 52.1 +0.6
baz=81
O30A MW Ranch, Wils 80.81 341 ⇓P P 09 15 51.7 +0.5
baz=81
Q25A Bedland, Calha 80.84 337 ⇓P P 09 15 51.9 +0.2
baz=81
P27A Ficken Ranch, 80.93 338 ⇓P P 09 15 52.4 +0.4
baz=81
W13A Hualapai Mount 80.96 328 ⇑P P 09 15 53.3 +0.9
baz=81
MURC Murrieta 81.13 325 ⇓P P 09 15 54.4 +1.3
baz=82
P26A Davis Ranch, A 81.16 338 ⇓P P 09 15 54.4 +1.2
baz=82
Q24A Divide 81.17 336 ⇓P P 09 15 54.4 +0.8
baz=82
O28A Krutsinger Ran 81.23 339 ⇑P P 09 15 54.3 +0.8
baz=82
P25A Willow Gulch B 81.37 337 ⇓P P 09 15 55.4 +1.0
baz=82,SNR=6.8
GMRC Granite Mounta 81.44 327 ⇑P P 09 15 56.2 +1.4
baz=82
U15A North Rim 81.46 330 ⇓P P 09 15 56.3 +1.3
baz=82
BGNE Belgrade 81.49 342 ⇓P P 09 15 55.3 +0.6
baz=82
O27A Beecher Island 81.49 339 ⇑P P 09 15 55.9 +1.0
baz=82
N29A Votaw Ranch, W 81.56 340 ⇑P P 09 15 56.2 +1.0
baz=82
PV01 Paradox Valley 81.57 334 eP P 09 15 54.9 -0.6
comp=Z,222nm,0.7s
M31A Lambtecht Ranc 81.63 342 ⇓P P 09 15 56.5 +1.0
baz=82
P23A Jefferson 81.77 336 ⇑P P 09 15 58.0 +1.3
baz=82
HEC Hector,Ludlow 81.78 326 ⇓P P 09 15 57.6 +1.1
baz=82
O26A Horse Wrangler 81.78 338 ⇓P P 09 15 57.6 +1.1
baz=82,SNR=8.9
BFSC Mount Baldy Ra 81.88 325 ⇑P P 09 15 57.8 +0.7
baz=82
SMCO Snowmass 81.96 335 eP P 09 15 58.9 +1.1
N27A Anderson Farm, 82.08 339 ⇑P P 09 15 59.0 +1.0
baz=82
ISCO Idaho Springs 82.08 336 eP P 09 15 58.9 +0.6
ISCO pmax pmax
comp=Z,43nm,2.2s
ISCO Idaho Springs 82.08 336 ⇑P P 09 15 58.9 +0.6
baz=82,SNR=5.5
ISCO Idaho Springs 82.08 336 eP P 09 15 58.9 +0.6
comp=Z,43nm,2.2s
M29A Burnside Ranch 82.16 341 ⇑P P 09 15 59.3 +1.0
baz=83
P22A Eagle 82.27 336 ⇑P P 09 16 00.3 +1.2
baz=83,SNR=5.2
N26A Koester Ranch, 82.30 339 ⇓P P 09 15 59.5 +0.4
baz=83

L31A Butterfield Fa 82.38 342 ⇑P P 09 16 00.1 +0.7
baz=83
GSC Goldstone, Bar 82.39 326 ⇑P P 09 16 00.8 +1.0
baz=83
L30A Spencer Herefo 82.39 341 ⇑P P 09 16 00.5 +1.0
baz=83
N25A Grover 82.53 338 ⇑P P 09 16 01.5 +1.1
baz=83
O23A Lake Granby, G 82.55 336 ⇑P P 09 16 01.6 +0.9
baz=83,SNR=8.7
EDW2 Edwards Air Fo 82.56 325 ⇓P P 09 16 01.7 +1.1
baz=83
SHPR Sheep Range 82.70 328 eP P 09 16 01.5 +0.1
comp=Z,6.2nm,1.2s
O22A Kremmling 82.71 336 ⇑P P 09 16 02.1 +0.6
baz=83,SNR=7.2
N24A Carr 82.79 337 ⇓P P 09 16 01.8 0.0
baz=83
CCUT Cedar City 82.86 330 eP P 09 16 03.6 +1.3
comp=Z,5.9nm,0.7s
K30A Basset 83.04 342 ⇑P P 09 16 03.3 +0.4
baz=84
M25A Palm-Egli Farm 83.10 338 ⇑P P 09 16 03.8 +0.4
baz=84
SRU San Rafael Swe 83.14 333 eP P 09 16 04.5 +0.8
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael Swe 83.14 333 eP P 09 16 04.5 +0.8
comp=Z,6.4nm,0.8s
N23A Red Feather La 83.18 337 ⇑P P 09 16 04.1 +0.1
baz=84
O20A White River Ci 83.25 335 ⇓P P 09 16 04.3 +0.1
baz=84
O20A White River Ci 83.25 335 eP P 09 16 04.9 +0.7
comp=Z,6.6nm,0.8s
K29A Lazy Trails An 83.30 341 ⇑P P 09 16 04.5 +0.2
baz=84
ECSD EROS Data Cent 83.34 344 ⇑P P 09 16 04.3 0.0
baz=84
ECSD EROS Data Cent 83.34 344 eP P 09 16 04.2 -0.2
comp=Z,22nm,1.0s
M24A Cheyenne 83.36 338 ⇓P P 09 16 05.2 +0.5
baz=84
PHWY Pilot Hill 83.40 337 eP P 09 16 05.5 +0.4
comp=Z,115nm,3.0s
ISA Isabella, Lake 83.43 325 eP P 09 16 06.8 +1.7
ISA pmax pmax
comp=Z,22nm,1.8s
ISA Isabella, Lake 83.43 325 ⇓P P 09 16 05.6 +0.5
baz=84
ISA Isabella, Lake 83.43 325 eP P 09 16 06.8 +1.7
comp=Z,22nm,1.8s
K28A Ten Mile Ranch 83.53 341 ⇓P P 09 16 06.7 +1.3
baz=84
DAC Darwin (Calif) 83.55 326 eP P 09 16 07.4 +1.5
DAC pmax pmax
comp=Z,38nm,2.0s
DAC Darwin (Calif) 83.55 326 eP P 09 16 07.4 +1.5
comp=Z,38nm,2.0s
TMUT Trail Mountain 83.55 332 eP P 09 16 07.1 +1.1
comp=Z,6.6nm,0.7s
J30A Dallas 83.62 342 ⇓P P 09 16 06.5 +0.6
baz=84
M23A Laramie 83.63 337 ⇓P P 09 16 07.0 +0.8
baz=84
L25A Engebretsen Ra 83.73 339 ⇓P P 09 16 07.5 +1.0
baz=84
K27A Flueckinger Fa 83.75 340 ⇑P P 09 16 07.0 +0.4
baz=84
VES Vestal, Richgr 83.85 325 P P 09 16 07.7 +0.5
N20A Spence Gulch, 83.88 335 ⇑P P 09 16 07.9 +0.4
baz=84
J29A Okreek 83.91 341 ⇓P P 09 16 07.9 +0.6
baz=84
SPMN Marine on St. 84.03 347 eP P 09 16 04.3 -3.5
comp=Z,8.8nm,0.8s
K25A Mack Ranch, Ha 84.12 339 ⇑P P 09 16 08.5 0.0
baz=85
J28A Allard Ranch, 84.16 341 ⇑P P 09 16 08.9 +0.3
baz=85
I30A Oacoma 84.16 342 ⇓P P 09 16 08.7 +0.2
baz=85
J27A Elkhorn Farm, 84.20 340 ⇑P P 09 16 09.4 +0.5
baz=85
L23A Garrett 84.21 337 ⇑P P 09 16 09.5 +0.3
baz=85
MPU Maple Canyon 84.34 332 eP P 09 16 10.9 +1.1
comp=Z,8.4nm,1.0s
R11A Troy Canyon, C 84.44 329 ⇑P P 09 16 10.8 +0.5
baz=85
R11A Troy Canyon, C 84.44 329 eP P 09 16 11.5 +1.2
comp=Z,21nm,1.9s
NLU North Lily Min 84.45 332 eP P 09 16 12.0 +1.6
comp=Z,56nm,2.2s
J26A Sides Ranch, S 84.55 340 ⇓P P 09 16 11.0 +0.4
baz=85
I28A Midland 84.68 341 ⇑P P 09 16 11.4 +0.2
baz=85
K23A Bowen Ranch, D 84.77 338 ⇓P P 09 16 11.9 0.0
baz=85
JLU Jordanelle 84.79 333 eP P 09 16 13.1 +0.9
comp=Z,6.7nm,0.7s
J25A Sunshine Ranch 84.82 339 ⇑P P 09 16 12.8 +0.7
baz=85
DUG Dugway, Tooele 84.94 332 eP P 09 16 13.6 +0.9
DUG pmax pmax
comp=Z,43nm,1.9s
DUG Dugway, Tooele 84.94 332 ⇑P P 09 16 13.3 +0.6
baz=85
DUG Dugway, Tooele 84.94 332 eP P 09 16 13.6 +0.9
comp=Z,43nm,1.9s
K22A Casper 84.95 337 ⇓P P 09 16 13.1 +0.3
baz=85
K22A Casper 84.95 337 eP P 09 16 13.5 +0.7
comp=Z,63nm,1.9s
I27A Quinn 84.97 341 ⇑P P 09 16 12.7 -0.1
baz=85
CTU Camp Tracy 84.98 333 eP P 09 16 14.0 +1.1
comp=Z,3.1nm,0.7s
J24A Dixon Ranch, L 85.01 339 ⇑P P 09 16 12.9 -0.2
baz=86
H29A Onida 85.02 342 ⇓P P 09 16 13.2 +0.3
baz=86
I26A New Underwood 85.15 340 ⇓P P 09 16 13.7 0.0
baz=86
K21A Alcova 85.17 336 ⇑P P 09 16 14.2 +0.3
baz=86,SNR=7.3
TCUT Toone Canyon 85.23 333 eP P 09 16 14.7 +0.3
comp=Z,9.6nm,0.6s
H28A Mission Ridge 85.27 341 ⇓P P 09 16 14.1 0.0
baz=86,SNR=5.0
I25A Rochford 85.38 339 ⇑P P 09 16 15.2 +0.3
baz=86
G29A Hoven 85.48 342 ⇑P P 09 16 14.8 -0.4
baz=86
H27A Howes 85.50 341 ⇑P P 09 16 15.2 -0.2
baz=86
RSSD Black Hills 85.56 339 eP P 09 16 15.7 -0.2
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 85.56 339 eP P 09 16 15.7 -0.2
comp=Z,4.2nm,0.8s
G28A Parade 85.62 342 ⇑P P 09 16 16.0 +0.1
baz=86,SNR=6.6
BGU Big Grassy Mou 85.66 332 eP P 09 16 16.9 +0.5
comp=Z,6.3nm,1.6s
NVAR Mina Array Bea 85.66 327 P P 09 16 17.3 +0.8
comp=Z,1.7nm,0.7s,baz=157,slow=5.5,SNR=9.9
HWUT Hardware Ranch 85.71 333 eP P 09 16 16.9 +0.3
comp=Z,19nm,1.3s
H25A Fruitdale 85.90 340 ⇓P P 09 16 17.5 +0.2
baz=86
PDAR Pinedale Array 86.04 335 P P 09 16 18.3 0.0
comp=Z,2.1nm,0.8s,baz=156,slow=6.7,SNR=20
F29A Eureka 86.06 343 ⇓P P 09 16 17.8 -0.2
baz=86
I22A 9 Mile Ranch, 86.07 338 ⇓P P 09 16 18.3 +0.1
baz=86
J20A Shoshoni 86.08 336 ⇑P P 09 16 19.1 +0.8
baz=86,SNR=10
G27A Dupree 86.16 341 ⇓P P 09 16 18.4 -0.2
baz=87,SNR=5.2
I21A Big Trails, Te 86.24 337 ⇓P P 09 16 18.8 -0.4
baz=87
G26A Maurine 86.25 341 ⇑P P 09 16 18.9 -0.2
baz=87,SNR=6.0

H24A	Dirks Ranch, A	86.28	339	⇑P	P	09 16 18.3	-1.0
	baz=87						
HVU	Hansel Valley	86.30	332	eP	P	09 16 20.0	+0.5
HVU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HVU	Hansel Valley	86.30	332	eP	P	09 16 20.0	+0.5
	comp=Z,6.9nm,0.9s						
F28A	McLaughlin	86.31	342	⇑P	P	09 16 19.4	+0.1
	baz=87						
J19A	Crowheart	86.32	336	⇓P	P	09 16 20.0	+0.5
	baz=87,SNR=12						
ELK	Elko	86.35	330	eP	P	09 16 20.7	+0.9
ELK	Elko	86.35	330	eP	P	09 16 20.7	+0.9
G25A	Newell	86.38	340	⇑P	P	09 16 19.7	0.0
	baz=87,SNR=8.4						
E30A	Jud	86.48	343	⇑P	P	09 16 19.9	-0.2
	baz=87						
I20A	Worland	86.63	336	⇑P	P	09 16 21.4	+0.4
	baz=87,SNR=6.5						
F27A	Lemmon	86.64	341	⇑P	P	09 16 20.5	-0.4
	baz=87						
H22A	Clearmont	86.67	338	⇓P	P	09 16 20.5	-0.7
	baz=87						
E29A	Napoleon	86.71	343	⇓P	P	09 16 21.2	0.0
	baz=87						
G24A	Alzada	86.78	339	⇑P	P	09 16 21.8	+0.1
	baz=87						
F26A	Lodgepole	86.79	341	⇓P	P	09 16 21.5	-0.2
	baz=87						
H21A	Big Horn, Sher	86.91	337	⇑P	P	09 16 21.9	-0.5
	baz=87						
G23A	Biddle	86.94	339	⇓P	P	09 16 21.9	-0.5
	baz=87						
E28A	Huff	86.97	342	⇑P	P	09 16 22.5	0.0
	baz=87,SNR=5.5						
I19A	Meeteetse	86.99	336	⇑P	P	09 16 22.6	-0.2
	baz=87						
REDW	Red Top Meadow	87.01	334	eP	P	09 16 23.4	+0.4
	comp=Z,105nm,2.8s						
D30A	Buchanan	87.02	344	⇓P	P	09 16 22.7	0.0
	baz=88						
E27A	Carson	87.05	342	⇑P	P	09 16 22.5	-0.4
	baz=88						
F25A	Bowman	87.07	340	⇑P	P	09 16 22.6	-0.5
	baz=88						
H20A	Greybull	87.07	337	⇓P	P	09 16 22.9	-0.2
	baz=88						
LOHW	Long Hollow	87.14	335	eP	P	09 16 23.7	0.0
TPAW	Teton Pass	87.15	334	eP	P	09 16 24.4	+0.6
D29A	Pettibone, Tap	87.17	343	⇓P	P	09 16 23.4	0.0
	baz=88						
F24A	Ekalaka	87.26	340	⇑P	P	09 16 23.9	-0.1
	baz=88						
E26A	Carlson Angus	87.31	341	⇓P	P	09 16 24.2	+0.1
	baz=88,SNR=5.3						
TORD	Torodi Ar. Bea	87.40	71	P	P	09 16 24.7	-0.6
	comp=Z,1.5nm,0.7s,baz=219,slow=4.2,SNR=8.9						
TORD				LR	LR	09 52 53.0	
	comp=Z,117nm,18.8s,baz=215,slow=34						
I17A	Pilgrim Ck.	87.41	335	⇓P	P	09 16 25.6	+0.7
	baz=88,SNR=11						
F23A	Volborg	87.42	339	⇓P	P	09 16 24.2	-0.5
	baz=88						
IMW	Indian Meadow	87.51	335	eP	P	09 16 26.1	+0.6
	comp=Z,99nm,2.8s						
D28A	Regan	87.52	343	⇑P	P	09 16 24.8	-0.3
	baz=88,SNR=5.7						
C30A	Mose, Pekin	87.52	344	⇓P	P	09 16 25.6	+0.5
	baz=88						
H19A	Powell	87.55	336	⇑P	P	09 16 25.6	+0.1
	baz=88,SNR=5.4						
AGMN	Agassiz Nation	87.56	346	⇑P	P	09 16 25.3	0.0
	baz=88						
AGMN	Agassiz Nation	87.56	346	eP	P	09 16 24.6	-0.7
	comp=Z,83nm,2.2s						
E25A	Miller Ranch,	87.58	341	⇓P	P	09 16 25.8	+0.3
	baz=88						
FLWY	Flagg Ranch	87.59	335	eP	P	09 16 26.4	+0.6
	comp=Z,12nm,0.7s						
D27A	Center	87.67	342	⇑P	P	09 16 26.2	+0.3
	baz=88						
F22A	Rosebud	87.72	338	⇓P	P	09 16 26.0	-0.1
	baz=88						
H18A	Shoshone NF, C	87.77	336	⇑P	P	09 16 26.9	+0.2
	baz=88,SNR=11						
D26A	Manning	87.82	341	⇓P	P	09 16 26.8	+0.2
	baz=88						
H17A	Grant Village	87.83	335	⇑P	P	09 16 27.8	+0.8
	baz=88						
YFT	Old Faithful	87.96	335	eP	P	09 16 28.5	+0.9
	comp=Z,4.8nm,0.6s						
C28A	Hausauer Farms	87.97	343	⇑P	P	09 16 27.6	+0.3
	baz=88						
YMR	Madison River	88.20	335	eP	P	09 16 29.9	+1.3
	comp=Z,11nm,0.7s						
B30A	Myrvik Farm, E	88.20	344	⇑P	P	09 16 28.4	+0.1
	baz=89,SNR=12						
C27A	Sayler Ranch,	88.23	342	⇓P	P	09 16 28.9	+0.4
	baz=89,SNR=5.1						
B29A	Wagenman Farm,	88.44	344	⇑P	P	09 16 29.8	+0.4
	baz=89						
HLID	Hailey	88.45	332	⇓P	P	09 16 30.4	+0.6
	baz=89						
HLID	Hailey	88.45	332	eP	P	09 16 31.1	+1.3
	comp=Z,18nm,1.6s						
C26A	Wahner Farm, P	88.48	342	⇑P	P	09 16 30.0	+0.3
	baz=89						
QLMT	Earthquake Lak	88.50	335	eP	P	09 16 31.1	+1.1
	comp=Z,0.4nm,0.6s						
B28A	Dugan Ranch, T	88.65	343	⇑P	P	09 16 30.8	+0.4
	baz=89						
A30A	Hoffart Farm,	88.66	345	⇑P	P	09 16 30.3	-0.1
	baz=89,SNR=9.2						
D23A	Lindsay	88.69	340	⇓P	P	09 16 30.8	+0.1
	baz=89						
C24A	Savage	88.80	340	⇓P	P	09 16 31.4	+0.2
	baz=89						
A29A	Manning Farm,	88.84	344	⇑P	P	09 16 31.3	0.0
	baz=89,SNR=7.1						
MFID	Camas Ranch	88.85	331	eP	P	09 16 32.6	+0.9
	comp=Z,31nm,1.9s						
E20A	Meyer Farm, Mu	88.93	338	⇑P	P	09 16 31.8	0.0
	baz=89						
D22A	Cohagen	88.94	339	⇑P	P	09 16 32.5	+0.6
	baz=89						
MCMT	McKenzie Canyo	88.98	334	eP	P	09 16 33.4	+1.0
	comp=Z,1.5nm,0.6s						
E19A	Rath Farm, Rou	89.09	337	⇓P	P	09 16 33.3	+0.7
	baz=90						
D21A	La Casta Ranch	89.10	339	⇑P	P	09 16 33.0	+0.3
	baz=90						
WVOR	Wild Horse Val	89.14	329	eP	P	09 16 34.1	+1.1
WVOR				pmax	pmax		
	comp=Z,20nm,1.7s						
WVOR	Wild Horse Val	89.14	329	eP	P	09 16 34.1	+1.1
	comp=Z,20nm,1.7s						
ULM	Lac du Bonnet	89.43	347	P	P	09 16 33.5	-0.5
	comp=Z,3.5nm,0.7s,baz=196,slow=4.0,SNR=8.3						
DGMT	Dagmar	89.61	341	⇓P	P	09 16 35.1	+0.2
	baz=90						
YBH	Yreka Blue Hor	90.30	326	LR	LR	09 47 46.5	
	comp=Z,112nm,18.6s,baz=232,slow=29						
A22A	Carney Farms,	90.55	340	⇑P	P	09 16 39.0	-0.4
	baz=91						
A21A	Bergtoll Ranch	90.82	339	⇑P	P	09 16 40.0	-0.6
	baz=91						
A20A	Cobblestone Ra	91.00	339	⇓P	P	09 16 41.1	-0.4
	baz=91						
SWMT	Swartz Lake	91.71	335	eP	P	09 16 44.9	+0.1
	comp=Z,9.4nm,1.7s						
JTMT	Jette	92.01	334	P	P	09 16 46.8	+0.5
BSMT	Bassoo Peak	92.27	334	eP	P	09 16 45.5	-2.1
KIP	Kipapa	97.75	291	⇑eP	P	09 17 11.1	-1.9
YKA	Yellowknife Ar	104.77	342	Pdiff	Pdif	09 17 42.4	-0.9
	comp=Z,0.2nm,0.8s,baz=144,slow=4.8,SNR=5.9						
YKA				PKiKP	PKiKP	09 21 57.7	-0.6
	comp=Z,0.1nm,0.7s,baz=155,slow=2.6,SNR=5.4						
ASAR	Alice Springs	113.42	209	PKiKP	PKiKP	09 22 14.3	-1.8
	comp=Z,0.3nm,0.6s,baz=150,slow=2.0,SNR=7.1						
ASAR				PKKPbc	PKKPbc	09 32 58.4	-1.2
	comp=Z,0.5nm,0.8s,baz=344,slow=3.1,SNR=5.8						
GERES	GERESS Array B	116.15	47	PKIKP	PKPdf	09 22 20.0	-0.4
GERES	GERESS Array B	116.15	47	PKP	PKPdf	09 22 20.0	-0.4
	comp=Z,0.8nm,0.8s,baz=188,slow=4.0,SNR=2.9						
ILAR	Eielson Array	116.40	333	PKP	PKPdf	09 22 19.9	-0.4
	comp=Z,0.7nm,0.7s,baz=161,slow=2.5,SNR=14						
WRA	Warramunga Arr	116.61	211	PKP	PKPdf	09 22 20.8	-1.4
	comp=Z,1.0nm,0.7s,baz=167,slow=1.6,SNR=18						
VYHS	Vyhne	119.05	49	ePKIKP	PKPdf	09 22 25.1	-0.9
VYHS	Vyhne	119.05	49	ePKP	PKPdf	09 22 25.0	-0.9
KOLS	Kolonicke sedl	121.31	50	ePKIKP	PKPdf	09 22 30.7	+0.5
KOLS	Kolonicke sedl	121.31	50	ePKP	PKPdf	09 22 30.7	+0.5
BRTR	Keskin Array B	125.37	64	PKP	PKPdf	09 22 37.3	-1.2
	comp=Z,0.8nm,0.7s,baz=238,slow=3.7,SNR=4.6						
KIEV	Kiev	126.13	50	⇓ePKIKP	PKPdf	09 22 38.4	-1.0
BILL	Bilibino	135.06	332	⇓iPKIKP	PKPdf	09 22 57.1	+1.3
BILL				pmax	pmax		
	comp=Z,10.0nm,1.7s						
SEY	Seymchan	141.97	327	PKP	PKPdf	09 23 08.2	-0.4
	comp=Z,2.1nm,0.7s,baz=135,slow=2.9,SNR=6.3						
GEYT	Alibeck	142.97	75	PKhKP	PKPpre	09 23 07.8	
	comp=Z,2.7nm,0.6s,baz=266,slow=4.3,SNR=5.2						
ARU	Arti	143.82	43	iPKIKP	PKPbc	09 23 10.2	+0.4
AKTO	Aktyubinsk	144.21	54	PKP	PKPbc	09 23 11.2	-0.1
	comp=Z,2.7nm,0.8s,baz=301,slow=3.6,SNR=9.1						
PSI	Prapat	144.90	169	PKP	PKPab	09 23 13.1	-1.5
	comp=Z,21nm,0.7s,baz=216,slow=2.2,SNR=7.4						
HYB	Hyderabad	149.07	123	iPKP	PKPbc	09 23 25.0	-1.3
YSS	Yuzh-Sakhalins	151.01	301	ePKIKP	PKPbc	09 23 29.5	-0.6
YSS				e		09 23 38.0	
BRVK	Borovoye	151.24	46	⇑ePKIKP	PKPdf	09 23 25.4	+0.9
BRVK	Borovoye	151.24	46	ePKPdf	PKPdf	09 23 24.1	-0.4
BRVK				ePKPbc	PKPbc	09 23 30.0	-0.5
YAK	Yakutsk	151.26	336	ePKIKP	PKPdf	09 23 26.6	+2.4
YAK				pmax	pmax		
	comp=Z,18nm,0.8s						
YAK	Yakutsk	151.26	336	ePKPbc	PKPbc	09 23 29.6	-0.5
BVAR	Borovoye Array	151.31	46	PKPbc	PKPbc	09 23 30.7	+0.1
	comp=Z,4.3nm,0.6s,baz=280,slow=3.7,SNR=16						
KSH	Kashi	156.99	76	ePKP	PKPdf	09 23 33.4	+0.2
KSH				PP	PP	09 27 41.1	-1.6
KSH				PPMZ			
	comp=Z,82nm,5.4s						
KSH				LN			
	comp=Z,19nm,3.7s						
KSH				LE			
	comp=Z,29nm,4.3s						
KSH				LZ			
	comp=Z,130nm,4.6s						
ZALV	Zalesovo Beam	158.37	34	PKP	PKPdf	09 23 33.5	-0.7
	comp=Z,0.6nm,0.6s,baz=276,slow=4.3,SNR=3.6						
ZALV				PKPab	PKPab	09 24 09.0	+0.1
	comp=Z,1.1nm,0.6s,baz=302,slow=4.1,SNR=3.0						
MKAR	Makanchi Array	160.65	54	PKPab	PKPab	09 24 18.2	-0.9
	comp=Z,0.7nm,0.7s,baz=256,slow=4.9,SNR=3.7						
WMQ	Urumqi	165.24	59	ePKP	PKPdf	09 23 42.5	+0.8
WMQ				LN			
	comp=Z,40nm,23.0s						
WMQ				LE			
	comp=Z,53nm,19.0s						
WMQ				LZ			
	comp=Z,40nm,20.0s						
GYA	Guiyang	168.86	186	ePKP	PKPdf	09 23 45.2	+0.2
GYA				pPKP	pPKPdf	09 23 55.8	-0.7
GYA				PKPab	PKPab	09 24 57.0	+1.4
GYA				PKS	PKSdf	09 27 15.4	-2.3
GYA				PP	PP	09 28 47.0	+3.0
GYA				SKKS		09 35 30.6	
GYA				SS	SS	09 49 35.9	+1.3
GYA				PPMZ			
	comp=Z,120nm,8.2s						
GYA				LN			
	comp=Z,130nm,22.2s						
GYA				LE			
	comp=Z,110nm,22.5s						
GYA				LZ			
	comp=Z,120nm,21.4s						
SONM	Songino Array	169.72	356	PKP	PKPdf	09 23 43.8	-1.1
	comp=Z,0.5nm,0.7s,baz=216,slow=1.0,SNR=4.4						
SONM				PKPab	PKPab	09 24 58.7	-0.2
	comp=Z,0.9nm,0.8s,baz=353,slow=4.9,SNR=7.3						
CD2	Chengdu	173.23	168	ePKP	PKPdf	09 23 47.8	+0.8
HHC	Hu-ho-hao-te	174.17	306	ePKP	PKPdf	09 23 52.4	+5.2
HHC				SKS	SKSdf	09 30 49.2	+1.6
HHC				PPMZ			
	comp=Z,100nm,6.2s						
HHC				LN			
	comp=Z,440nm,18.7s						
HHC				LE			
	comp=Z,830nm,19.9s						
HHC				LZ			
	comp=Z,460nm,17.4s						
GTA	Gaotai	175.29	65	ePKP	PKPdf	09 23 47.8	+0.2
GTA				pPKP	pPKPdf	09 23 58.1	-1.0
GTA				sPKP		09 24 02.4	
GTA				PKPab	PKPab	09 25 26.0	+1.8
LZH	Lanzhou	178.09	140	ePKP	PKPdf	09 23 48.6	+0.3
LZH				pPKP	pPKPdf	09 23 59.5	-0.3
LZH				sPKP		09 24 03.8	

*IDC **04** 09:08:11.7±0.7, 35°.42S×72°.76W, h0km, mb4.4/13, mb1 4.5/17, mb1mx4.4/23, mbtmp4.3/17, ML4.3/4, MS4.1/1, Ms1 4.1/1, ms1mx3.3/27, Error ellipse: s-maj=24.1km s-min=15.4km az=87.0*
*ISCJB **04** 09:08:12.5±0.5, 35°.42S±0°.05×72°.8W±0°.1, h17km, mb4.3/18, MS4.0/1, Error ellipse: s-maj=12.3km s-min=7.4km az=171.0*
*NEIC **04** 09:08:16.9±0.3, 35°.40S×72°.77W, h35km, mb4.5/5, Error ellipse: s-maj=10.1km s-min=6.2km az=82.0*
ISC 04 09:08:14.1±0.5, 35°.41S±0°.07×72°.9W±0°.1, h17km, n42, σ0°78/40, mb4.5/18, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.41	47	Pn		Pn	Pn	09 09 35.8	+1.8
	1.0nm,0.3s,baz=210,slow=11,SNR=8.8								
CFAA				Lg			Lg	09 10 56.2	
	2.1nm,0.3s,baz=300,slow=22,SNR=12								
PLCA	Paso Flores	5.61	162	Pn		Pn	Pn	09 09 37.3	+0.4
	3.1nm,0.3s,baz=325,slow=14,SNR=7.6								
PLCA				Lg			Lg	09 11 03.4	
	8.5nm,0.3s,baz=240,slow=18,SNR=5.6								
PLCA	Paso Flores	5.61	162	ePn		Pn	Pn	09 09 37.0	+0.2
	93nm,0.6s								
PLCA				Lg			Lg	09 11 03.4	
TRQA	Tornquist	9.12	110	ePn		Pn	Pn	09 10 25.9	+1.0
	46nm,0.6s								
LVC	Limon Verde	13.21	16	ePn		Pn	Pn	09 11 20.4	-0.7
CPUP	Villa Florida	16.09	60	Pn		Pn	Pn	09 11 59.6	+0.1
	0.3nm,0.3s,baz=239,slow=18,SNR=1.7								
CPUP	Villa Florida	16.09	60	ePn		Pn	Pn	09 11 57.9	-1.6
EFI	East Falkland	19.41	151	eP		P	P	09 12 37.7	-1.5
LPAZ	La Paz	19.50	14	P		Pn	Pn	09 12 42.1	-0.3
	0.5nm,0.3s,baz=208,slow=6.0,SNR=13								
USHA	Ushuaia	19.66	172	P		Pn	Pn	09 12 43.7	+0.4
	0.4nm,0.3s,baz=0.7,slow=11,SNR=4.6								
SIV	San Ignacio	22.02	32	P		P	P	09 13 08.1	+0.3
	20nm,1.0s,baz=225,slow=12,SNR=15								
SIV				LR			LR	09 23 19.6	
	comp=Z,524nm,19.0s,baz=212,slow=41								
NNA	Nana	23.60	350	P		P	P	09 13 24.0	-0.2
SAML	Samuel	27.78	21	eP		P	P	09 14 02.6	+0.4
	3.5nm,0.8s								
BDFB	Brasilia	29.68	55	P		P	P	09 14 18.9	-0.3
	5.0nm,0.8s,baz=178,slow=12,SNR=3.9								
OTAV	Otavalo	35.85	350	eP		P	P	09 15 11.4	-2.1
	6.8nm,1.3s								
SDV	Santo Domingo	44.11	3	eP		P	P	09 16 21.7	-0.1
	19nm,1.1s								
RCBR	Riachuelo	44.95	58	P		P	P	09 16 28.3	-0.2
	6.6nm,0.8s,baz=219,slow=8.7,SNR=4.7								
SNAA	Sanae	50.54	157	P		P	P	09 17 11.2	0.0
	5.5nm,0.9s,baz=300,slow=6.2,SNR=6.8								
QSPA	South Pole Qui	54.83	180	P		P	P	09 17 43.3	+0.3
	0.9nm,0.6s,baz=105,slow=3.8,SNR=9.1								
QSPA	South Pole Qui	54.83	180	eP		P	P	09 17 43.5	+0.4
TEIG	Tepich	57.23	343	P		P	P	09 18 00.7	+0.2
	7.1nm,0.8s,baz=243,slow=9.0,SNR=2.8								
TXAR	Lajitas Array	70.65	332	P		P	P	09 19 29.8	+1.0
	0.4nm,0.6s,baz=151,slow=8.3,SNR=5.7								
WVT	Waverly	72.53	347	eP		P	P	09 19 40.6	+0.7
	10nm,0.9s								
DBIC	Dimbokro	76.26	71	P		P	P	09 20 01.5	-0.6
	12nm,0.8s,baz=200,slow=6.4,SNR=14								
DBIC	Dimbokro	76.26	71	eP		P	P	09 20 02.3	+0.2
ANMO	Albuquerque	76.71	332	eP		P	P	09 20 04.7	+0.4
TSUM	Tsumeb	79.47	106	eP		P	P	09 20 19.9	-0.2
	7.0nm,1.6s								
BOSA	Boshof	80.00	118	P		P	P	09 20 22.7	-0.3
	6.9nm,0.9s,baz=219,slow=6.0,SNR=6.8								
NVAR	Mina Array Bea	84.67	326	P		P	P	09 20 47.8	+0.9
	0.3nm,0.4s,baz=145,slow=6.5,SNR=2.8								
PDAR	Pinedale Array	84.72	334	P		P	P	09 20 47.7	+0.6
	0.4nm,0.9s,baz=141,slow=5.8,SNR=3.1								
TORD	Torodi Ar. Bea	85.31	70	P		P	P	09 20 50.4	0.0
	5.5nm,0.8s,baz=254,slow=4.1,SNR=22								
ULM	Lac du Bonnet	87.69	345	P		P	P	09 21 01.4	+0.1
	1.8nm,0.7s,baz=164,slow=1.7,SNR=5.6								
WRA	Warramunga Arr	119.21	210	PKP		PKPdf	PKPdf	09 27 01.5	-1.3
	0.1nm,0.3s,baz=157,slow=1.7,SNR=5.0								
H11N3	WAKE ISLAND Hyl	25.53	270	T		T	T	11 45 13.4	
	baz=122,slow=76,SNR=6.2								
H11N1	WAKE ISLAND Hyl	25.54	270	T		T	T	11 45 14.2	
	baz=122,slow=76,SNR=8.3								
H11N2	WAKE ISLAND Hyl	25.54	270	T		T	T	11 45 14.9	
	baz=122,slow=76,SNR=8.1								
ABKAR	Abkulak array	143.07	53	ePKPdf		PKPbc	PKPbc	09 27 42.7	-0.7
BVAR	Borovoye Array	148.76	44	PKPbc		PKPbc	PKPbc	09 28 00.5	+0.5
	2.6nm,0.7s,baz=276,slow=1.8,SNR=9.9								
AAK	Ala-Archa	153.74	64	ePKPdf		PKPdf	PKPdf	09 28 05.1	+0.8
AAK				ePKPbc		PKiKP	PKiKP	09 28 12.5	+0.2
AAK				ePKPab		PKPab	PKPab	09 28 24.4	-0.6
ZALV	Zalesovo Beam	155.77	33	PKPbc		PKPdf	PKPdf	09 28 15.5	+9.1
	1.4nm,0.8s,baz=283,slow=2.5,SNR=5.2								
ZALV				PKPab		PKPab	PKPab	09 28 33.7	+0.6
	1.8nm,0.8s,baz=305,slow=5.1,SNR=5.2								
MKAR	Makanchi Array	158.18	51	PKPab		PKPab	PKPab	09 28 43.4	-0.4
	0.3nm,0.5s,baz=280,slow=3.6,SNR=3.7								
SONM	Songino Array	167.57	2	PKPab		PKPab	PKPab	09 29 25.6	+0.7
	1.1nm,0.9s,baz=344,slow=4.2,SNR=6.2								

*IDC **04** 09:12:56.9±0.8, 25°.94N×128°.54E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.7/42, mbtmp3.7/10, ML3.6/1, Error ellipse: s-maj=35.7km s-min=15.9km az=78.0*
*JMA **04** 09:12:59.3±0.3, 25°.93N×128°.65E, h36km, M3.4*
ISC 04 09:12:58.3±2.3, 25°.90N±0°.05×128°.60E±0°.04, h14km±14km, n27, σ1°27/41, mb3.6/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.80	287	P			Pn	09 13 15.0	-0.2
JJT2				eS			Sn	09 13 26.1	-0.9
JNTH	Nagotoyohara	0.80	320	P			Pb	09 13 14.0	-0.1
JNTH				eS			Sb	09 13 25.4	+0.5
JOW	Kunigami	0.97	343	P			Pb	09 13 17.0	0.0
JOW				eS			Sg	09 13 29.4	-0.4
JOW	Kunigami	0.97	343	Pn			Pb	09 13 17.0	0.0
	11nm,0.3s,baz=172,slow=14,SNR=263								
JIH	Iheya	1.26	334	P			Pn	09 13 21.4	-0.2
JIH				eS			Sb	09 13 37.0	-1.1
JAGN	Aguni-jima	1.40	300	P			Pn	09 13 23.3	-0.2
JAGN				eS			Sb	09 13 41.9	-0.1
JOKE	Okinoerabujima	1.45	359	P			Pn	09 13 24.1	-0.2
JOKE				eS			Sn	09 13 41.1	-2.1
JKE	Kume jima 2	1.68	285	P			Pn	09 13 26.7	-0.7
JKE				eS			Sn	09 13 47.1	-1.7
JTK	Tokunoshima	1.90	9	P			Pn	09 13 30.3	-0.1
JTK				eS			Sn	09 13 51.7	-2.6
JMZ	Minamidaito 2	2.36	91	P			Pn	09 13 36.2	-0.6
JMZ				eS			Sn	09 14 02.2	-3.4
JAMN	Amaminishikomi	2.39	12	P			Pn	09 13 37.2	+0.1
JAM	Amami Oshima	2.66	20	P			Pn	09 13 40.0	-0.8
JAM				eS			Sn	09 14 10.4	-2.4
JZK	Kikaishima	2.70	27	P			Pn	09 13 42.2	+0.8
JZK				eS			Sn	09 14 13.4	-0.5
JOGS	Gusukube	3.10	249	eS			Sn	09 14 22.3	-1.6
JIKM	Ikemajima	3.18	253	P			Pn	09 13 48.4	+0.4
JIKM				eS			Sn	09 14 25.7	-0.1
JTJ	Tarama	3.74	251	P			Pn	09 13 55.0	-0.8
JTJ				eS			Sn	09 14 36.8	-2.9
JISG	Ishigakijimahi	4.10	252	P			Pn	09 13 59.7	-0.9
JISG				eS			Sn	09 14 46.0	-2.4
JNU	Nakatsue	7.46	15	Pn			Pn	09 14 48.2	+1.3
	0.9nm,0.3s,baz=198,slow=8.8,SNR=12								
SONM	Songino Array	28.01	327	P			P	09 18 49.5	+0.5
	0.5nm,0.4s,baz=132,slow=8.0,SNR=5.4								
MKAR	Makanchi Array	42.00	312	P			P	09 20 49.0	-0.2
	0.2nm,0.5s,baz=97,slow=9.4,SNR=4.6								
WRA	Warramunga Arr	45.91	172	P			P	09 21 21.5	+0.8
	1.1nm,0.6s,baz=353,slow=8.5,SNR=17								
ASAR	Alice Springs	49.54	174	P			P	09 21 50.2	+1.2
	0.7nm,0.8s,baz=5.4,slow=9.2,SNR=10								
ILAR	Eielson Array	64.57	28	P			P	09 23 35.1	+0.2
	0.3nm,0.7s,baz=276,slow=8.0,SNR=4.8								
FINES	FINESS Array B	73.31	331	P			P	09 24 29.7	+0.5
	1.4nm,0.8s,baz=54,slow=7.1,SNR=4.2								
BRTR	Keskin Array B	77.50	308	P			P	09 24 54.7	+0.8
	1.6nm,1.0s,baz=98,slow=5.0,SNR=4.6								
YKA	Yellowknife Ar	78.68	25	P			P	09 25 00.6	+0.8
	0.3nm,0.7s,baz=299,slow=5.7,SNR=7.9								
NOA	NORSAR Array B	79.75	334	P			P	09 25 05.8	0.0
	0.3nm,0.4s,baz=49,slow=6.0,SNR=2.5								

**IDC 04 09:13:48.2±3.1, 32°.18S×72°.35W, h0km, mb3.8/2, mb1 4.0/3, mb1mx

WRA	**Warramunga Arr**	**31.41 165**	P		**P**	**09 29 09.1**	**-1.0**
	0.5nm,1.0s,baz=332,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**34.89 167**	P		**P**	**09 29 39.5**	**-0.9**
	0.3nm,0.3s,baz=348,slow=7.0,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**40.11 74**	T		T	10 13 14.3	
	baz=276						
H11S1	**WAKE ISLAND Hy**	**40.12 74**	T		T	10 13 13.1	
	baz=276						
H11S2	**WAKE ISLAND Hy**	**40.12 74**	T		T	10 13 13.7	
	baz=276						
SONM	**Songino Array**	**40.65 340**	P		**P**	**09 30 29.3**	**+0.5**
	0.3nm,0.5s,baz=160,slow=8.8,SNR=3.1						
MKAR	**Makanchi Array**	**51.62 323**	P		**P**	**09 31 55.1**	**0.0**
	2.1nm,0.7s,baz=119,slow=8.2,SNR=19						
ZALV	**Zalesovo Beam**	**54.23 331**	P		**P**	**09 32 13.8**	**-0.3**
	0.5nm,0.4s,baz=103,slow=5.9,SNR=3.2						
ILAR	**Eielson Array**	**79.30 26**	P		**P**	**09 34 53.2**	**-0.3**
	0.4nm,0.7s,baz=254,slow=5.3,SNR=6.4						
FINES	**FINESS Array B**	**85.50 332**	P		**P**	**09 35 25.2**	**-0.7**
	0.4nm,0.4s,baz=77,slow=6.3,SNR=6.2						
YKA	**Yellowknife Ar**	**93.60 24**	P		**P**	**09 36 04.6**	**+0.5**
	0.2nm,0.7s,baz=298,slow=4.4,SNR=4.5						

IDC 04 09:25:00.7±5.0, 20°.03S×68°.77W, h128km±33km, mb3.4/2, mb1 3.6/5, mb1mx3.4/20, mbtmp3.9/5, Error ellipse: s-maj=59.0km s-min=23.4km az=58.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.77**	**9**	P	Pn	09 25 57.8	-0.5
	3.2nm,0.3s,baz=180,slow=8.1,SNR=108						
LPAZ				S	Sn	09 26 43.1	+0.5
	0.5nm,0.3s,baz=234,slow=19,SNR=2.6						
SIV	**San Ignacio**	**8.35**	**62**	P	Pn	09 26 57.7	-1.3
	3.6nm,0.3s,baz=269,slow=11,SNR=52						
CPUP	**Villa Florida**	**12.24**	**123**	P	Pn	09 27 51.8	+0.9
	0.4nm,0.3s,baz=293,slow=11,SNR=3.4						
TORD	**Torodi Ar. Bea**	**76.74**	**71**	P	P	09 36 38.7	+0.2
	0.6nm,0.5s,baz=254,slow=5.5,SNR=12						
YKA	**Yellowknife Ar**	**89.85**	**341**	P	P	09 37 44.3	-0.2
	0.2nm,0.6s,baz=130,slow=4.7,SNR=9.0						

*IDC **04** 09:28:24.3±1.6, 37°.50S×73°.74W, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.7/18, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=45.0km s-min=20.0km az=66.0*
*ISCJB **04** 09:28:26.4±1.4, 37°.5S±0°.1×73°.6W±0°.3, h23km, mb3.6/4, Error ellipse: s-maj=31.9km s-min=15.0km az=170.0*
ISC 04 09:28:28.0±1.4, 37°.5S±0°.1×73°.6W±0°.2, h23km, n15, σ0§44/9, mb3.7/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.05**	**145**	Pn	**Pn**	**09 29 28.7**	**0.0**
	0.4nm,0.3s,baz=322,slow=12,SNR=6.9						
PLCA				Lg	Lg	09 30 33.1	
	1.5nm,0.3s,baz=241,slow=8.7,SNR=6.2						
CFAA	**Coronel Fontan**	**7.35**	**39**	Pn	**Pn**	**09 30 13.7**	**-0.3**
	0.2nm,0.3s,baz=191,slow=12,SNR=17						
LPAZ	**La Paz**	**7.21**	**65**	**14**	P	**P**	**09 33 17.8**	**+0.3**
	2.2nm,1.0s,baz=181,slow=9.5,SNR=5.7						
SIV	**San Ignacio**	**24.10**	**31**	P	**P**	**09 33 42.7**	**+0.6**
	2.9nm,0.8s,baz=214,slow=11,SNR=6.7						
TXAR	**Lajitas Array**	**72.16**	**333**	P	**P**	**09 39 50.6**	**-0.3**
	0.2nm,0.6s,baz=155,slow=9.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**86.59**	**71**	P	**P**	**09 41 09.6**	**-0.2**
	0.4nm,0.6s,baz=224,slow=2.8,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**24.38**	**268**	T	T	12 03 37.7	
	baz=101,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hy**	**24.39**	**268**	T	T	12 03 34.2	
	baz=101,slow=75						
H11S3	**WAKE ISLAND Hy**	**24.39**	**268**	T	T	12 03 38.5	
	baz=101,slow=75						
H11N3	**WAKE ISLAND Hy**	**24.87**	**269**	T	T	12 03 45.5	
	baz=102,slow=74						
H11N1	**WAKE ISLAND Hy**	**24.89**	**269**	T	T	12 03 43.3	
	baz=102,slow=74						
H11N2	**WAKE ISLAND Hy**	**24.89**	**269**	T	T	12 03 40.9	
	baz=102,slow=74,SNR=82						
BVAR	**Borovoye Array**	**150.65**	**46**	PKPbc	**PKPbc**	**09 48 17.9**	**+0.4**
	0.7nm,0.6s,baz=12,slow=3.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**157.82**	**35**	PKPab	**PKPab**	**09 48 55.3**	**+0.5**
	0.8nm,0.6s,baz=308,slow=5.3,SNR=3.2						
MKAR	**Makanchi Array**	**159.92**	**55**	PKPab	**PKPab**	**09 49 04.0**	**-0.3**
	0.3nm,0.7s,baz=267,slow=2.9,SNR=3.8						

DJA 04 09:29:23.7±0.7, 8°S±6°×10°7E±°, h28km±11km, M3.7/9, MLv3.7/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.78**	**47**	P	Pb	09 29 38.1	-0.6
CNJI				S	Sb	09 29 47.9	-1.1
SKJI	**Sukabumi**	**0.83**	**0**	P	Pn	09 29 39.5	-0.1
CISI	**Cisompet, Garu**	**1.28**	**77**	P	Pn	09 29 45.8	-0.1
CISI				S	Sn	09 30 01.6	-0.7
LEM	**Lembang**	**1.46**	**47**	P	Pb	09 29 49.5	-1.0
CGJI	**Cibinong**	**1.49**	**325**	P	Pn	09 29 47.9	-0.7
CMJI	**Cimerak**	**1.88**	**88**	P	Pn	09 29 54.5	+0.5
KPJI	**Karang Pucung**	**2.41**	**78**	P	Pn	09 30 01.5	+0.2

NNC 04 09:34:22.4±4.2, 54°.16N×85°.64E, h0km, mb3.7, mpv3.3, 7C-3D, Error ellipse: s-maj=30.9km s-min=27.3km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.51**	**234**	⇑Pn	Pn	09 35 47.0	+1.5
	1.8nm,1.2s						
KURK				⇑Sn	Sn	09 36 51.4	+1.9
	0.5nm,0.7s						
KURK				⇑Lg	Lg	09 37 18.5	
	2.5nm,0.8s						
KURBB	**Kurchatov Arra**	**5.61**	**234**	⇓Pn	Pn	09 35 48.3	+1.3
	2.3nm,0.5s						
KURBB				⇑Sn	Sn	09 36 53.7	+1.6
	5.3nm,0.6s						
KURBB				⇑Lg	Lg	09 37 22.3	
	5.4nm,0.6s						
MK31	**Makanchi Array**	**7.68**	**197**	Pn	Pn	09 36 14.9	-0.5
	1.5nm,0.6s,baz=28,slow=13,SNR=42						
MK31				⇓Sn	Sn	09 37 42.0	-1.2
	0.6nm,0.6s,baz=21,slow=27,SNR=6.2						
MK31				⇑Lg	Lg	09 38 23.6	
	1.6nm,0.8s,baz=27,slow=30,SNR=5.4						
VOSK	**Vostochnaya**	**8.87**	**267**	⇑Pn	Pn	09 36 31.2	-0.5
	1.2nm,0.6s						
VOSK				⇓Sn	Sn	09 38 08.9	-3.4
	2.9nm,1.1s						

*IDC **04** 09:36:28.1±0.6, 11°.80S×166°.19E, h0km, mb4.4/20, mb1 4.6/22, mb1mx4.6/26, mbtmp4.4/22, ML4.0/2, MS4.4/6, Ms1 4.4/6, ms1mx3.8/25, Error ellipse: s-maj=19.4km s-min=14.6km az=122.0*
*ISCJB **04** 09:36:37.3±0.3, 12°.00S±0°.05×166°.16E±0°.05, h83km, mb4.7/35, Error ellipse: s-maj=7.9km s-min=6.4km az=28.4*
*NEIC **04** 09:36:37.7±1.4, 12°.00S×166°.22E, h77km±13km, mb5.0/17, Error ellipse: s-maj=9.6km s-min=7.7km az=146.0*
*BJI **04** 09:36:38.7, 12°.29S×165°.92E, h94km, mB5.0/21, mb4.6/33*
ISC 04 09:36:38.5±0.4, 12°.07S±0°.05×166°.25E±0°.06, h83km, n80, σ1§37/87, mb4.5/35, 7C-3D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.72**	**292**	LR	LR	09 41 04.9	
	comp=Z,3μm,18.9s,baz=134,slow=42						
HNR	**Honiara**	**6.72**	**292**	*e*P	Pn	09 38 10.0	-4.7
HNR				*e*S	Sn	09 39 19.0	-11
DZM	**Mont Dzumac**	**9.95**	**179**	Pn	Pn	09 38 57.0	-1.7
	4.5nm,0.3s,baz=348,slow=16,SNR=36						
DZM				Sn	**Sn**	**09 40 46.9**	**-1.8**
	baz=139,slow=19,SNR=2.7						
DZM	**Mont Dzumac**	**9.95**	**179**	*e*Pn	**Pn**	**09 38 57.2**	**-1.6**
	40nm,0.6s						
DZM				Sn	**Sn**	**09 40 46.9**	**-1.8**
MSVF	**Nonsavu**	**12.72**	**118**	*e*Pn	**Pn**	**09 39 38.3**	**+1.9**
TARA	**Tarawa**	**14.89**	**27**	*e*Pn	**Pn**	**09 40 03.1**	**-1.7**
PMG	**Port Moresby**	**18.94**	**276**	P	**P**	**09 40 51.8**	**-1.4**
	0.6nm,0.3s,baz=87,slow=8.5,SNR=13						
PMG				LR	LR	09 47 20.4	
	comp=Z,2μm,20.7s,baz=128,slow=35						
PMG	**Port Moresby**	**18.94**	**276**	⇑P	**Pn**	**09 40 53.5**	**-1.1**
	baz=19,SNR=8.4						
PMG	**Port Moresby**	**18.94**	**276**	*e*P	**Pn**	**09 40 53.5**	**-1.1**
	173nm,1.0s						
EIDS	**Eidsvold**	**19.50**	**225**	⇑P	**Pn**	**09 41 00.8**	**-0.4**
	baz=19,SNR=17						
EIDS	**Eidsvold**	**19.50**	**225**	*e*P	**Pn**	**09 41 01.3**	**+0.1**
	65nm,0.9s						
CTA	**Charters Tower**	**20.79**	**245**	P	**P**	**09 41 13.1**	**-0.1**
	21nm,0.9s,baz=77,slow=13,SNR=21						
CTAO	**Charters Tower**	**20.79**	**245**	*e*P	**P**	**09 41 12.7**	**-0.4**
	54nm,1.2s						
COEN	**Coen**	**22.56**	**263**	*e*P	**P**	**09 41 31.2**	**-0.9**
	114nm,1.0s						
ARMA	**Armidale**	**22.74**	**214**	⇓P	**P**	**09 41 34.8**	**+0.8**
	baz=23,SNR=18						
ARMA	**Armidale**	**22.74**	**214**	*e*P	**P**	**09 41 34.8**	**+0.8**
	51nm,0.9s						
MGCD	**Mangrove Creek**	**25.20**	**211**	⇓P	**P**	**09 41 58.8**	**+2.3**
	baz=25,SNR=5.2						
QLP	**Quilpie**	**25.24**	**232**	⇑P	**P**	**09 41 57.0**	**+0.1**
	baz=25,SNR=9.4						
QIS	**Mount Isa**	**26.89**	**248**	⇑P	**P**	**09 42 12.3**	**+0.4**
	baz=27,SNR=5.2						
CMSA	**Cobar Meteorol**	**27.10**	**221**	⇑P	**P**	**09 42 14.7**	**+1.0**
	baz=27,SNR=22						
CNB	**Canberra Magne**	**27.74**	**211**	⇑P	**P**	**09 42 20.8**	**+1.3**
	baz=28,SNR=4.8						
URZ	**Urewera**	**27.83**	**161**	P	**P**	**09 42 21.3**	**+1.3**
	4.3nm,0.6s,baz=342,slow=9.6,SNR=5.6						
BKZ	**Black Stump Fm**	**28.48**	**163**	*e*P	P	09 42 23.6	-2.3
	34nm,1.4s						
MILA	**Mila**	**29.23**	**209**	⇓P	**P**	**09 42 34.4**	**+1.7**
	baz=29,SNR=5.0						
STKA	**Stephens Creek**	**30.06**	**225**	P	**P**	**09 42 40.5**	**+0.6**
	9.9nm,0.8s,baz=32,slow=8.7,SNR=23						
STKA				LR	LR	09 53 58.2	
	comp=Z,1μm,21.3s,baz=12,slow=35						
STKA	**Stephens Creek**	**30.06**	**225**	⇑P	**P**	**09 42 41.0**	**+1.1**
	baz=30,SNR=9.1						
STKA	**Stephens Creek**	**30.06**	**225**	*e*P	**P**	**09 42 41.1**	**+1.1**
	2.0nm,0.8s						
WRAB	**Tennant Creek**	**31.60**	**252**	P	**P**	**09 42 52.0**	**-1.7**
	124nm,1.2s,SNR=6.2						
WRAB	**Tennant Creek**	**31.60**	**252**	*e*P	**P**	**09 42 52.8**	**-1.0**
	27nm,1.1s						
WRA	**Warramunga Arr**	**31.61**	**252**	P	**P**	**09 42 53.0**	**-0.8**
	16nm,0.9s,baz=84,slow=9.1,SNR=61						
RPZ	**Rata Peaks**	**31.81**	**173**	P	**P**	**09 42 57.3**	**+2.1**
ASAR	**Alice Springs**	**32.79**	**245**	P	**P**	**09 43 03.0**	**-1.1**
	20nm,0.8s,baz=74,slow=9.5,SNR=115						
WHZ	**Wether Hill Ro**	**33.74**	**178**	*e*P	P	09 43 09.8	-2.3
	255nm,1.5s						
BBOO	**Buckleboo**	**34.51**	**228**	*e*P	**P**	**09 43 19.0**	**+0.1**
	151nm,0.9s						
SAUI	**Saumlaki**	**34.63**	**273**	*e*P	**P**	**09 43 21.1**	**+0.9**
	177nm,0.7s						
FORT	**Forrest**	**39.87**	**236**	*e*P	**P**	**09 44 03.5**	**-0.8**
	38nm,0.9s						
PPT	**Papeete**	**42.98**	**103**	LR	LR	09 58 50.4	
	comp=Z,450nm,20.1s,baz=255,slow=31						
PPT2	**Papeete2**	**42.98**	**103**	*e*S	**S**	**09 50 46.6**	**-3.0**
	173nm,25.5s						
PPT2				*e*LR	LR	09 56 31.1	
	832nm,25.8s						
LUWI	**Luwuk**	**44.48**	**281**	P	**P**	**09 44 40.4**	**-1.6**
	648nm,1.4s						
KAPI	**Kappang**	**46.46**	**275**	*e*P	**P**	**09 44 57.3**	**-0.3**
	88nm,0.9s						
NWAO	**Narrogin (SRO)**	**49.31**	**237**	P	**P**	**09 45 19.8**	**+0.3**
	26nm,0.9s,baz=74,slow=8.7,SNR=7.1						
JAGI	**Jajag, Banyuwa**	**51.33**	**269**	*e*P	**P**	**09 45 33.6**	**-1.3**
	33nm,0.8s						
MJAR	**Matsushiro Arr**	**55.10**	**333**	P	P	09 45 58.0	-4.2
	1.2nm,0.3s,baz=89,slow=15,SNR=5.5						
MAJO	**Matsushiro**	**55.10**	**333**	P	**P**	**09 46 02.2**	**0.0**
RKT	**Rikitea**	**56.78**	**110**	*e*LR	LR	10 02 53.9	
	661nm,25.5s						
NJ2	**Nanjing**	**63.09**	**316**	*e*P	**P**	**09 46 57.1**	**-0.4**
NJ2				S	**S**	**09 55 20.0**	**-2.1**
NJ2				PMZ			
	20nm,0.8s						
NJ2				LN			
	340nm,16.1s						
NJ2				LE			
	460nm,25.6s						
NJ2				LZ			
	470nm,25.0s						
QIZ	**Qiongzhong**	**63.59**	**298**	P	**P**	**09 47 01.1**	**0.0**
QIZ				pP	**pP**	**09 47 23.4**	**+1.1**
QIZ				sP	**sP**	**09 47 33.7**	**+2.2**
QIZ				S	**S**	**09 55 28.6**	**-0.3**
QIZ				PMZ			
	82nm,3.0s						
QIZ				LZ			
	490nm,31.0s						
USRK	**Ussuriysk Ar.**	**64.08**	**333**	P	**P**	**09 47 02.3**	**-1.4**
	2.1nm,0.9s,baz=143,slow=5.0,SNR=3.1						
MDJ	**Mudanjiang**	**65.48**	**332**	P	P	09 47 16.0	+3.2
MDJ				PMZ			
	7.0nm,1.0s						
MDJ				PMZ			
	91nm,4.3s						
MDJ				LN			
	95nm,4.3s						
MDJ				LE			
	93nm,6.6s						
MDJ				LZ			
	100nm,5.5s						
VNDA	**Vanda**	**65.49**	**181**	P	**P**	**09 47 13.6**	**+1.2**
	4.0nm,1.0s,baz=350,slow=7.1,SNR=7.5						
GYA	**Guiyang**	**69.40**	**304**	P	**P**	**09 47 38.8**	**+0.7**
GYA				pP	**PcP**	**09 48 03.2**	**+2.2**
GYA				sP	sP	09 48 15.0	+6.3
GYA				PP	**PP**	**09 50 14.2**	**+1.6**
GYA				S	**S**	**09 56 37.8**	**-1.3**
GYA				sS	**SKiKP**	**09 57 21.4**	**+1.7**
GYA				SS	**SS**	**10 01 08.0**	**-0.1**
GYA				PMZ			
	20nm,1.0s						
GYA				PMZ			
	120nm,5.4s						
GYA				LN			
	460nm,19.0s						
GYA				LE			
	370nm,20.5s						
GYA				LZ			
	450nm,18.4s						
BJI	**Beijing**	**69.58**	**321**	P	**P**	**09 47 39.1**	**+0.3**
BJI				PMZ			
	13nm,0.5s						
XAN	**Xi'an**	**71.17**	**312**	P	**P**	**09 47 48.6**	**-0.1**
XAN				PMZ			
	2.0nm,0.8s						
XAN				PMZ			
	12nm,3.6s						
KMI	**Kunming**	**72.07**	**301**	P	**P**	**09 47 55.9**	**+1.4**
KMI				PMZ			
	13nm,1.8s						
KMI				LN			
	140nm,19.6s						
KMI				LE			
	150nm,21.2s						
KMI				LZ			
	180nm,19.3s						
HHC	**Hu-ho-hao-te**	**72.92**	**320**	*e*P	**P**	**09 48 01.3**	**+2.2**
HHC				PP	**PP**	**09 50 46.3**	**+3.7**
HHC				SKS	SKiKP	09 57 54.1	+30
HHC				SS	**SS**	**10 02 05.3**	**+3.6**
HHC				PMZ			
	17nm,1.0s						
HHC				PMZ			
	260nm,7.5s						
HHC				LN			
	470nm,18.7s						
HHC				LE			
	1μm,22.4s						
HHC				LZ			
	340nm,18.7s						
CMAR	**Chiang Mai Arr**	**72.97**	**294**	P	**P**	**09 47 59.6**	**-0.1**
	1.8nm,0.3s						
CD2	**Chengdu**	**73.61**	**307**	*e*P	**P**	**09 48 03.8**	**+0.5**
CD2				PP	**PP**	**09 50 51.7**	**+3.1**
CD2				PMZ			
	10.0nm,1.0s						
CD2				PMZ			
	240nm,6.6s						
CD2				LN			
	240nm,22.6s						
CD2				LZ			
	240nm,19.0s						
LZH	**Lanzhou**	**75.81**	**312**	*e*P	**P**	**09 48 16.5**	**+0.5**
LZH				PMZ			
	17nm,1.0s						
QSPA	**South Pole Qui**	**77.94**	**180**	*e*P	**P**	**09 48 28.1**	**+0.6**
	9.0nm,1.0s						
YAK	**Yakutsk**	**79.21**	**343**	P	**P**	**09 48 31.3**	**-2.8**
ULN	**Ulaanbaatar**	**79.41**	**324**	*e*P	**P**	**09 48 35.6**	**-0.3**
	6.2nm,0.9s						
SONM	**Songino Array**	**79.78**	**324**	P	**P**	**09 48 37.0**	**-0.8**
	0.9nm,0.5s,baz=124,slow=4.8,SNR=14						
GTA	**Gaotai**	**80.12**	**314**	*e*P	**P**	**09 48 40.3**	**+0.5**
GTA				SKS	S	09 58 44.0	+6.0
GTA				PMZ			
	8.0nm,1.3s						
GTA				PMZ			
	90nm,4.0s						
GTA				LN			
	120nm,18.1s						
GTA				LE			
	180nm,18.0s						
GTA				LZ			
	190nm,20.0s						
SML	**Sawmill**	**81.76**	**20**	*e*P	**P**	**09 48 45.9**	**-2.0**
	5.1nm,0.8s						
TLY	**Talaya**	**83.24**	**326**	P	**P**	**09 48 54.9**	**-0.9**
	1.6nm,0.5s,baz=124,slow=3.6,SNR=3.8						
ILAR	**Eielson Array**	**84.32**	**18**	P	**P**	**09 49 00.3**	**-0.7**
	1.8nm,0.8s,baz=235,slow=4.4,SNR=24						
EGAK	**Eagle**	**86.16**	**20**	*e*P	**P**	**09 49 09.6**	**-0.6**
	6.6nm,0.9s						
NVAR	**Mina Array Bea**	**86.31**	**50**	P	**P**	**09 49 12.4**	**+0.6**
	0.5nm,0.6s,baz=238,slow=8.4,SNR=4.4						
NV11	**Mina Array Sit**	**86.42**	**50**	P	**P**	**09 49 10.4**	**-1.8**
WMQ	**Urumqi**	**90.16**	**315**	*e*P	**P**	**09 49 29.8**	**0.0**
WMQ				LN			
	62nm,20.0s						
WMQ				LE			
	28nm,22.0s						
WMQ				LZ			
	86nm,20.0s						
NEW	**Newport**	**90.19**	**41**	P	**P**	**09 49 30.8**	**+1.0**
	1.6nm,0.8s,baz=252,slow=3.2,SNR=5.1						
BSMT	**Bassoo Peak**	**91.57**	**41**	P	**P**	**09 49 36.9**	**+0.4**
	1.9nm,0.8s						
PDAR	**Pinedale Array**	**93.88**	**47**	P	**P**	**09 49 47.7**	**+0.4**
	0.3nm,0.8s,baz=255,slow=3.5,SNR=7.3						
PDAR				LR	LR	10 27 11.7	
	comp=Z,111nm,18.0s,baz=314,slow=32						
MKAR	**Makanchi Array**	**94.60**	**317**	P	**P**	**09 49 49.9**	**-0.3**
	3.4nm,0.6s,baz=100,slow=5.6,SNR=32						
ZALV	**Zalesovo Beam**	**94.67**	**324**	P	**P**	**09 49 49.9**	**-0.4**
	0.4nm,0.4s,baz=103,slow=5.0,SNR=3.4						
YKA	**Yellowknife Ar**	**95.65**	**27**	P	**P**	**09 49 54.4**	**-0.1**
	0.6nm,0.7s,baz=256,slow=4.6,SNR=15						
TXAR	**Lajitas Array**	**95.89**	**61**	P	**P**	**09 49 57.5**	**+1.0**
	0.3nm,0.8s,baz=251,slow=5.6,SNR=3.1						
TXAR				LR	LR	10 25 19.2	
	comp=Z,189nm,20.5s,baz=0.0,slow=31						
KSH	**Kashi**	**97.77**	**309**	*e*P	Pdif	09 50 05.1	+0.1
KSH				PP	**PP**	**09 54 05.5**	**+1.3**
KSH				S	S	10 01 16.9	-7.2
KSH				sS	sS	10 02 02.0	-0.9
KSH				SS	**SS**	**10 08 06.1**	**-0.8**
KSH				PMZ			
	130nm,4.9s						
KSH				LN			
	44nm,4.4s						
KSH				LE			
	72nm,4.6s						
KSH				LZ			
	99nm,5.0s						
ARCES	**ARCESS Array B**	**117.44**	**345**	PKP	**PKPdf**	**09 55 13.0**	**-1.0**
	5.1nm,1.0s,baz=50,slow=1.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**164.88**	**276**	PKP	**PKPdf**	**09 56 34.4**	**+0.4**
	1.0nm,1.1s,baz=13,slow=2.1,SNR=3.9						
TORD				PKPab	**PKPab**	**09 57 31.2**	**+0.7**
	1.2nm,0.8s,baz=92,slow=4.1,SNR=5.1						

IDC 04 09:38:01.6±7.0, 7°.73S×127°.79E, h156km±80km, mb2.9/2, mb1 3.5/5, mb1mx3.3/21, mbtmp3.9/5, Error ellipse: s-maj=72.6km s-min=25.7km az=38.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.77**	**239**	P	Pn	09 39 12.8	+0.6
	25nm,0.3s,baz=83,slow=16,SNR=13						
BATI				S	Sn	09 40 07.4	+0.2
	21nm,0.3s,baz=62,slow=20,SNR=11						
WRA	**Warramunga Arr**	**13.70**	**153**	P	Pn	09 41 07.8	-1.9
	0.9nm,0.3s,baz=328,slow=13,SNR=51						
WRA				S	Sn	09 43 31.7	-10
	2.9nm,0.3s,baz=332,slow=22,SNR=12						
ASAR	**Alice Springs**	**16.90**	**160**	P	Pn	09 41 50.2	+1.1
	0.9nm,0.3s,baz=339,slow=11,SNR=87						
ASAR				S	S	09 44 49.1	-7.6
	0.4nm,0.3s,baz=340,slow=25,SNR=4.9						
SONM	**Songino Array**	**58.47**	**343**	P	P	09 47 41.4	0.0
	0.2nm,0.5s,baz=163,slow=6.1,SNR=4.1						
MKAR	**Makanchi Array**	**67.66**	**328**	P	P	09 48 41.6	-0.3
	0.2nm,0.4s,baz=122,slow=6.8,SNR=4.2						

*BJI **04** 09:39:34.1, 1°.78S×146°.30E, h48km, mB5.1/28, mb4.9/40, Ms4.7/25, Ms7 4.6/13*
*IDC **04** 09:39:34.2±0.4, 1°.38S×145°.66E, h0km, mb4.8/32, mb1 4.8/33, mb1mx4.8/34, mbtmp4.7/33, ML3.3/1, MS4.0/11, Ms1 4.1/11, ms1mx3.8/26, Error ellipse: s-maj=16.8km s-min=10.7km az=90.0*
*ISCJB **04** 09:39:37.9±0.3, 1°.37S±0°.03×145°.64E±0°.04, h33km, mb5.0/89, MS4.0/12, Error ellipse: s-maj=6.0km s-min=4.9km az=12.9*
*MOS **04** 09:39:38.1±0.8, 1°.36S×145°.61E, h35km, mb5.1/19, Error ellipse: s-maj=12.1km s-min=6.5km az=104.5*
*GCMT **04** 09:39:42.4±0.2, 1°.25S×145°.58E, h20km±1km, MW5.0/81, Moment Tensor Solution. s30,c37; s81,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.48±.21; $M_{\theta\theta}$-1.57±.14; $M_{\phi\phi}$3.06±.20; $M_{r\theta}$-0.79±.31; $M_{\theta\phi}$3.43±.11; $M_{\phi r}$0.51±.31; Best double couple: $M_0$4.32800×10^{16} NP1:ϕ_s165.00000°, δ75.00000°, λ-163.00000°. NP2: ϕ_s71.00000°, δ74.00000°, λ-16.00000°. Principal axes: T 4.8840, Plg1.0000°, Azm298.0000°; N -1.1010, Plg68.0000°, Azm206.0000°; P -3.7730, Plg22.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 09:39:42.4±1.0, 1°.39S×145°.55E, h60km±9km, mb5.0/27 Error ellipse: s-maj=6.9km s-min=4.6km az=67.0*
*DJA **04** 09:39:50.4±1.7, 1°.5±.8°×14°.6E±°, h125km±13km, M4.9/40, mB5.4/19, mb5.1/40, Mw(mB)4.9/19*
ISC 04 09:39:41.3±0.7, 1°.45S±0°.05×145°.58E±0°.07, h50km±6km, n208, σ1§24/207, mb5.0/89, MS4.0/13, 7C-6D, Admiralty Islands region

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

TNTI	**Ternate**	18.35 277	P	Pn	09 43 54.1	+1.7
	comp=Z,165nm,1.0s,comp=Z,2µm					
TNTI	**Ternate**	18.35 277	*e*P	Pn	09 43 52.3	-0.1
	comp=Z,244nm,1.2s					
CTA	**Charters Tower**	18.54 178	P	Pn	09 43 55.9	+1.3
	comp=Z,1.0nm,0.3s,baz=348,slow=13,SNR=10					
CTAO	**Charters Tower**	18.54 178	*e*P	Pn	09 43 56.1	+1.5
CTAO	**Charters Tower**	18.54 178	*e*Pn	Pn	09 43 56.1	+1.5
NLAI	**Namlea**	18.55 264	P	Pn	09 43 55.0	+0.2
	comp=Z,126nm,1.1s,comp=Z,1µm					
SANI	**Sanana**	19.59 268	P	Pn	09 44 08.5	+1.2
	comp=Z,78nm,1.2s,comp=Z,1µm					
WRAB	**Tennant Creek**	21.41 210	P	P	09 44 25.3	+0.1
	comp=Z,478nm,0.6s,SNR=6.8					
WRAB	**Tennant Creek**	21.41 210	*ce*P	P	09 44 24.8	-0.4
WRAB			pmax	pmax		
	comp=Z,276nm,1.2s					
WRAB	**Tennant Creek**	21.41 210	*e*P	P	09 44 24.9	-0.2
	comp=Z,84nm,0.7s					
WRA	**Warramunga Arr**	21.42 210	P	P	09 44 25.3	0.0
	comp=Z,27nm,0.5s,baz=30,slow=11,SNR=34					
WRA			PcP	PcP	09 48 28.1	+0.6
	comp=Z,4.6nm,0.8s,baz=26,slow=2.3,SNR=5.8					
KMSI	**Cibinong**	21.69 275	P	P	09 44 30.9	+2.6
	comp=Z,736nm,0.9s,comp=Z,36µm					
SOEI	**Soe**	22.75 248	P	P	09 44 40.2	+0.5
	comp=Z,188nm,1.1s,comp=Z,2µm					
SOEI	**Soe**	22.75 248	*e*P	P	09 44 39.2	-0.5
	comp=Z,308nm,1.1s					
BBSI	**Bau Bau**	23.31 260	P	P	09 44 53.7	+8.4
BATI	**Baumata**	23.46 247	P	P	09 44 49.1	+2.4
	comp=Z,102nm,1.1s,comp=Z,1µm					
BATI	**Baumata**	23.46 247	P	P	09 44 47.7	+1.0
	comp=Z,218nm,1.1s,baz=118,slow=3.4,SNR=10					
BATI			LR	LR	09 55 15.9	
	comp=Z,308nm,18.8s,baz=54,slow=40					
MRSI	**Marisa**	23.72 274	P	P	09 44 49.2	+0.1
	comp=Z,92nm,1.2s,comp=Z,994nm					
APSI	**Ampana**	23.94 271	P	P	09 44 52.3	+1.2
	comp=Z,199nm,1.2s,comp=Z,2µm					
MMRI	**Maumere**	24.31 252	P	P	09 45 00.2	+5.7
EIDS	**Eidsvold**	24.37 168	*e*P	P	09 44 56.5	+1.6
	comp=Z,88nm,1.6s					
EIDS			*e*pP	pP	09 45 05.6	-2.2
ASAR	**Alice Springs**	24.82 206	P	P	09 44 59.4	+0.3
	comp=Z,46nm,0.9s,baz=34,slow=8.2,SNR=96					
ASAR			PcP	PcP	09 48 35.8	+1.2
	comp=Z,3.6nm,0.8s,baz=50,slow=3.0,SNR=6.4					
BSSI	**Bau Bau, Buton**	25.46 259	P	P	09 45 09.4	+4.4
BKSI	**Bulukumba**	25.70 261	P	P	09 45 09.3	+2.1
	comp=Z,72nm,1.0s,comp=Z,733nm					
MPSI	**Mapaga**	25.74 274	P	P	09 45 21.5	+14
TTSI	**Tana Toraja**	25.79 266	P	P	09 45 13.9	+5.9
SPSI	**Sidrap Palu**	25.90 264	P	P	09 45 08.4	-0.6
	comp=Z,95nm,1.0s,comp=Z,689nm					
BASI	**Baing, Sumba**	26.33 250	P	P	09 45 14.9	+2.0
	comp=Z,133nm,1.3s,comp=Z,2µm					
WBSI	**Waikabubak, Su**	27.29 252	P	P	09 45 21.3	-0.2
	comp=Z,56nm,1.3s,comp=Z,1µm					
MYLDM	**Lahad Datu**	27.84 284	*e*P	P	09 45 27.3	+0.8
	comp=Z,56nm,1.0s					
MYLDM			*e*pP	pP	09 45 40.5	+1.2
H11S3	**WAKE ISLAND Hy**	28.70 45	T	T	10 15 25.7	
	baz=229,slow=75,SNR=32					
H11S2	**WAKE ISLAND Hy**	28.71 45	T	T	10 15 27.4	
	baz=229,slow=75,SNR=18					
H11S1	**WAKE ISLAND Hy**	28.72 45	T	T	10 15 17.4	
	baz=229,slow=75,SNR=21					
DZM	**Mont Dzumac**	28.85 137	LR	LR	09 55 44.1	
	comp=Z,1µm,19.0s,baz=320,slow=34					
TGY	**Tagaytay City**	28.90 303	P	P	09 45 35.3	-0.5
	comp=Z,78nm,0.3s,baz=27,slow=2.9,SNR=4.0					
ARMA	**Armidale**	29.38 169	*e*P	P	09 45 41.0	+1.0
	comp=Z,23nm,0.9s					
ARMA			*e*pP	pP	09 45 50.8	-2.1
H11N1	**WAKE ISLAND Hy**	29.66 44	T	T	10 16 49.6	
	baz=227,slow=76,SNR=30					
H11N2	**WAKE ISLAND Hy**	29.67 44	T	T	10 16 36.0	
	baz=227,slow=76,SNR=57					
H11N3	**WAKE ISLAND Hy**	29.67 44	T	T	10 16 29.9	
	baz=227,slow=76,SNR=25					
KKM	**Kota Kinabalu**	30.25 285	*e*P	P	09 45 47.5	-0.5
	comp=Z,21nm,0.9s					
STKA	**Stephens Creek**	30.50 187	*e*P	P	09 45 50.5	+0.7
STKA			pmax	pmax		
	comp=Z,3.0nm,1.3s					
STKA	**Stephens Creek**	30.50 187	P	P	09 45 49.8	0.0
	comp=Z,2.8nm,0.6s,baz=5.5,slow=9.4,SNR=4.7					
STKA	**Stephens Creek**	30.50 187	*e*P	P	09 45 50.5	+0.7
	comp=Z,3.4nm,1.3s					
BBKI	**Banjar Baru**	30.78 266	P	P	09 45 52.9	+0.4
	comp=Z,61nm,0.8s,comp=Z,2µm					
KMMI	**Kalianget**	32.00 259	P	P	09 46 06.2	+2.9
	comp=Z,52nm,1.5s					
BBOO	**Buckleboo**	32.46 195	*e*P	P	09 46 07.1	+0.1
	comp=Z,515nm,0.8s					
FORT	**Forrest**	33.57 208	*e*P	P	09 46 17.3	+0.5
	comp=Z,201nm,1.6s					
SSLB	**Suanglung**	34.68 318	*e*P	P	09 46 26.1	-0.4
	comp=Z,753nm,0.6s					
YHNB	**Yeheng**	35.01 319	*e*P	P	09 46 29.4	0.0
	comp=Z,77nm,1.1s					
JNU	**Nakatsue**	37.08 339	P	P	09 46 45.0	-1.9
	comp=Z,13nm,0.9s,baz=216,slow=8.7,SNR=3.5					
JNU			LR	LR	09 59 13.0	
	comp=Z,150nm,20.4s,baz=170,slow=32					
TPI	**Tanjungpandan**	37.92 267	P	P	09 46 55.3	+1.0
	comp=Z,42nm,1.1s,comp=Z,425nm					
MJAR	**Matsushiro Arr**	38.41 350	P	P	09 46 57.1	-1.1
	comp=Z,2.8nm,0.7s,baz=171,slow=9.3,SNR=7.2					
MAJO	**Matsushiro**	38.42 350‖	*e*P	P	09 46 58.5	+0.4
MAJO			pmax	pmax		
	comp=Z,118nm,1.2s					
DLV	**T Lat**	39.18 291	*e*P	P	09 47 04.2	-0.8
	comp=Z,43nm,1.1s					
MDSI	**Maura Dua**	41.45 265	P	P	09 47 23.0	-0.7
	comp=Z,40nm,1.2s					
KSRS	**Korea Array**	42.02 339	P	P	09 47 27.2	-0.8
	comp=Z,13nm,0.9s,baz=155,slow=8.9,SNR=20					
KSRS			PcP	PcP	09 49 23.5	+1.2
	comp=Z,2.0nm,0.8s,baz=155,slow=5.3,SNR=3.3					
KSRS			LR	LR	10 02 34.0	
	comp=Z,168nm,19.6s,baz=150,slow=33					
KSAR	**Wonju Array Be**	42.03 339	P	P	09 47 27.2	-0.8
KSAR					09 49 23.5	
KSAR	**Wonju Array Be**	42.03 339	P	P	09 47 27.2	-0.8
KSAR			PcP	PcP	09 49 23.5	+1.2
UBPT	**Khong Chiam**	43.01 294	P	P	09 47 37.1	+0.8
	comp=Z,25nm,1.6s					
ASAJ	**Asahikawa**	45.44 357	P	P	09 47 55.2	-0.1
	comp=Z,3.0nm,0.5s,baz=163,slow=19,SNR=3.1					
SLVN	**Son La**	46.60 301	*e*P	P	09 48 05.3	+0.3
	comp=Z,22nm,1.3s					
URZ	**Urewera**	46.66 146	P	P	09 48 05.3	+0.3
	comp=Z,6.1nm,0.6s,baz=129,slow=9.3,SNR=7.2					
PSI	**Prapat**	46.84 275	P	P	09 48 06.0	-0.9
	comp=Z,20nm,1.0s,baz=206,slow=2.0,SNR=11					
USRK	**Ussuriysk Ar.**	47.04 347	P	P	09 48 07.4	-0.5
	comp=Z,11nm,0.8s,baz=176,slow=7.9,SNR=32					
PBKT	**Sadao Pong**	47.52 294	P	P	09 48 13.5	+1.4
	comp=Z,14nm,1.4s					
LOEI	**Loei**	47.55 295	P	P	09 48 07.7	-4.6
	comp=Z,31nm,1.1s					
SURT	**Suratani**	47.75 283	P	P	09 48 15.2	+1.3
	comp=Z,5.2nm,1.3s					
MDJ	**Mudanjiang**	48.03 345	P	P	09 48 16.9	+1.3
MDJ			pP	pP	09 48 31.0	+1.9
MDJ			PP	PP	09 50 07.9	-0.2
MDJ			PcS	PcS	09 53 39.8	+1.3
MDJ			S	S	09 55 11.6	+1.4
MDJ			PMZ			
	comp=Z,10.0nm,1.5s					
MDJ			PMZ			
	comp=Z,88nm,5.4s					
MDJ			LN			
	comp=Z,230nm,13.3s					
MDJ			LE			
	comp=Z,80nm,9.7s					
KCSI	**Kotacane, Aceh**	48.04 276	P	P	09 48 14.6	-1.6
	comp=Z,32nm,1.0s					
GSI	**Gunungsitoli**	48.08 273	P	P	09 48 15.3	-1.2
	comp=Z,73nm,1.1s					
GSI	**Gunungsitoli**	48.08 273	*e*P	P	09 48 14.2	-2.3
	comp=Z,75nm,1.1s					
UTTA	**Uttaradit**	48.26 295	P	P	09 48 18.9	+1.1
	comp=Z,7.2nm,1.0s,comp=Z,66nm					
YSS	**Yuzh-Sakhalins**	48.26 357	*e*P	P	09 48 17.0	-0.3
YSS			pmax	pmax		
	comp=Z,20nm,0.9s					
NANT	**Nan**	48.47 297	P	P	09 48 19.9	+0.4
	comp=Z,62nm,0.8s,comp=Z,713nm					
SRDT	**SRDT**	48.61 291	P	P	09 48 21.7	+1.2
	comp=Z,106nm,1.2s,comp=Z,10µm					
KMI	**Kunming**	49.17 305	P	P	09 48 27.3	+2.3
KMI			PP	PP	09 50 21.1	+2.0
KMI			S	S	09 55 24.5	-2.9
KMI			PMZ			
	comp=Z,12nm,0.8s					
KMI			PMZ			
	comp=Z,110nm,5.8s					
KMI			LN			
	comp=Z,260nm,19.2s					
KMI			LE			
	comp=Z,200nm,20.4s					
KHLT	**Khaolaem Dam**	49.22 291	P	P	09 48 26.5	+1.3
	comp=Z,23nm,1.1s,comp=Z,264nm					
BJI	**Beijing**	49.27 330	P	P	09 48 27.2	+2.0
BJI			S	S	09 55 30.7	+2.9
BJI			PMZ			
	comp=Z,8.0nm,0.8s					
BJI			PMZ			
	comp=Z,130nm,4.3s					
BJI			LN			
	comp=Z,210nm,17.2s					
BJI			LE			
	comp=Z,260nm,15.5s					
XAN	**Xi'an**	49.31 319	P	P	09 48 24.9	-0.8
XAN			PMZ			
	comp=Z,6.0nm,1.2s					
LAMP	**Lampang**	49.34 296	P	P	09 48 27.5	+1.4
	comp=Z,20nm,0.8s,comp=Z,462nm					
CMAR	**Chiang Mai Arr**	49.94 296	P	P	09 48 31.8	+1.2
	comp=Z,13nm,0.8s					
CMAR			LR	LR	10 09 41.9	
	comp=Z,58nm,18.7s,baz=120,slow=36					
CHTO	**Chiang Mai**	50.05 296	*e*P	P	09 48 31.4	-0.1
CHTO			pmax	pmax		
	comp=Z,32nm,1.4s					
CHTO	**Chiang Mai**	50.05 296	P	P	09 48 32.7	+1.2
	comp=Z,66nm,1.7s					
CHTO	**Chiang Mai**	50.05 296	*e*P	P	09 48 31.4	-0.1
	comp=Z,32nm,1.4s					
CD2	**Chengdu**	51.14 313‖	*i*P	P	09 48 39.7	+0.1
CD2			PcP	PcP	09 49 54.9	+0.2
CD2			PMZ			
	comp=Z,20nm,0.9s					
CD2			PMZ			
	comp=Z,100nm,6.0s					
CD2			LN			
	comp=Z,340nm,17.8s					
CD2			LE			
	comp=Z,310nm,20.2s					
CD2			LZ			
	comp=Z,310nm,19.0s					
KLR	**Kul'dur**	51.88 349	*e*P	P	09 48 39.7	-5.0
LZH	**Lanzhou**	53.88 318	*e*P	P	09 49 00.8	+0.9
LZH			*e*S	S	09 56 33.1	+1.3
LZH			PMZ			
	comp=Z,98nm,1.4s					
LZH			PMZ			
	comp=Z,140nm,4.6s					
LZH			LN			
	comp=Z,400nm,14.4s					
LZH			LE			
	comp=Z,560nm,15.0s					
LZH			LZ			
	comp=Z,690nm,17.4s					
HIA	**Hailar**	55.22 340	*ce*P	P	09 49 08.4	-0.8
HIA			pmax	pmax		
	comp=Z,32nm,1.7s					
HIA	**Hailar**	55.22 340	*e*P	P	09 49 08.7	-0.6
	comp=Z,4.8nm,0.3s					
PETK	**Petropavlovsk-**	55.30 9	P	P	09 49 09.7	0.0
	comp=Z,25nm,1.1s,baz=174,slow=6.0,SNR=9.8					
GTA	**Gaotai**	58.38 319	P	P	09 49 32.2	+0.3
GTA			PMZ			
	comp=Z,15nm,1.4s					
GTA			PMZ			
	comp=Z,120nm,5.0s					
GTA			LN			
	comp=Z,120nm,17.6s					
GTA			LE			
	comp=Z,150nm,15.7s					
FX1	**Attu Island--F**	58.87 19	P	P	09 49 35.4	+0.5
	comp=Z,27nm,0.8s,baz=238,slow=9.5,SNR=3.3					
ULN	**Ulaanbaatar**	59.47 331	*de*P	P	09 49 39.2	-0.2
ULN			pmax	pmax		
	comp=Z,26nm,1.7s					
SONM	**Songino Array**	59.77 330	P	P	09 49 41.3	-0.1
	comp=Z,2.8nm,0.8s,baz=141,slow=6.9,SNR=9.1					
SONM			LR	LR	10 14 09.0	
	comp=Z,148nm,21.6s,baz=124,slow=35					
TAPN	**Taplejung**	62.52 302	*e*P	P	09 50 01.1	+0.4
ODAN	**Odare**	62.65 301	*e*P	P	09 50 02.0	+0.5
RAMN	**Ramite**	63.35 301	*e*P	P	09 50 06.6	+0.5
TLY	**Talaya**	63.68 332	*e*P	P	09 50 08.4	+0.8
TLY			*e*		09 58 29.2	
TLY			pmax	pmax		
	comp=Z,13nm,1.3s					
TLY			MLR	MLR		
	comp=Z,97nm,17.0s					
TLY	**Talaya**	63.68 332	P	P	09 50 07.3	-0.2
	comp=Z,1.0nm,0.3s,baz=134,slow=7.1,SNR=6.5					
TLY	**Talaya**	63.68 332	*e*P	P	09 50 07.2	-0.3
	comp=Z,7.2nm,1.0s					
JIRN	**Jiri**	63.90 302	*e*P	P	09 50 10.4	+0.5
	comp=Z,21nm,0.7s					
GUN	**Gumba**	64.24 302	*e*P	P	09 50 12.7	+0.6
BOD	**Bodaibo**	64.24 342	*e*P	P	09 50 10.7	-0.4
BOD			pmax	pmax		
	comp=Z,11nm,1.6s					
SEY	**Seymchan**	64.42 3	P	P	09 50 11.7	-0.4
	comp=Z,5.1nm,0.8s,baz=187,slow=8.1,SNR=14					
YAK	**Yakutsk**	64.46 352	*e*P	P	09 50 09.9	-2.5
YAK			pmax	pmax		
	comp=Z,11nm,0.9s					
YAK			pmax	pmax		
	comp=N,6.0nm,1.2s					
YAK			pmax	pmax		
	comp=E,3.0nm,1.2s					
KKN	**Kakani**	64.72 302	*e*P	P	09 50 15.4	+0.4
	comp=E,44nm,0.9s					
DMN	**Daman**	64.81 301	*e*P	P	09 50 16.4	+0.7
MOY	**Mondy**	64.93 331	*e*P	P	09 50 16.5	+0.7
MOY			pmax	pmax		
	comp=Z,31nm,1.9s					
PALK	**Pallekele**	65.30 279	P	P	09 50 19.2	+0.4
	comp=Z,16nm,0.7s,baz=106,slow=5.6,SNR=7.1					
GKN	**Gorkha**	65.32 302	*e*P	P	09 50 19.2	+0.3
	comp=Z,24nm,0.7s					
PPT	**Papeete**	65.61 109	LR	LR	10 14 39.1	
	comp=Z,80nm,20.3s,baz=253,slow=32					
KOLN	**Koldanda**	66.14 301	*e*P	P	09 50 24.4	+0.1
	comp=Z,50nm,1.1s					
DANN	**Dangsing**	66.16 302	*e*P	P	09 50 24.3	-0.2
PYUN	**Piuthan**	66.75 301	*e*P	P	09 50 27.5	-0.7
	comp=Z,30nm,0.8s					
HVS	**Khovu-Aksy**	68.33 328	*d*P	P	09 50 38.2	+0.7
WMQ	**Urumqi**	68.45 319	P	P	09 50 38.4	0.0
WMQ			PMZ			
	comp=Z,11nm,1.4s					
WMQ			PMZ			
	comp=Z,100nm,4.0s					
WMQ			LN			
	comp=Z,72nm,18.0s					
WMQ			LE			
	comp=Z,79nm,18.0s					
HYB	**Hyderabad**	68.59 289	*i*P	P	09 50 39.0	-0.7
BILL	**Bilibino**	70.82 8⇑	*e*P	P	09 50 52.5	+0.1
BILL			*i*		09 51 15.4	
BILL			pmax	pmax		
	comp=Z,5.0nm,1.2s					
MKAR	**Makanchi Array**	73.11 320	*ce*P	P	09 51 06.8	+0.2
MKAR			pmax	pmax		
	comp=Z,7.0nm,0.9s					
MKAR	**Makanchi Array**	73.11 320	P	P	09 51 06.7	0.0
	comp=Z,7.3nm,0.9s,baz=106,slow=7.3,SNR=16					
TIXI	**Tiksi**	73.77 355	*e*P	P	09 51 09.9	0.0
TIXI			pmax	pmax		
	comp=Z,4.0nm,0.8s					
TIXI	**Tiksi**	73.77 355	*e*P	P	09 51 09.9	0.0
	comp=Z,4.3nm,0.8s					
ZALV	**Zalesovo Beam**	74.43 328	P	P	09 51 13.2	-0.9
	comp=Z,3.6nm,0.5s,baz=106,slow=5.3,SNR=16					
ZALV			LR	LR	10 22 43.3	
	comp=Z,78nm,21.1s,baz=70,slow=35					
KSH	**Kashi**	75.31 311	P	P	09 51 21.6	+1.9
KSH			PP	PP	09 54 11.4	+2.4
KSH			S	S	10 00 52.9	-2.9
KSH			PMZ			
	comp=Z,8.0nm,1.0s					
KSH			PMZ			
	comp=Z,69nm,3.8s					
KSH			LN			
	comp=Z,86nm,4.3s					
KSH			LE			
	comp=Z,84nm,5.5s					
KSH			LZ			
	comp=Z,140nm,5.6s					
NVS	**Novosibirsk**	75.65 328	*e*P	P	09 51 19.7	-1.4
NVS			pmax	pmax		
	comp=N,8.0nm,1.4s					
NVS			pmax	pmax		
	comp=E,11nm,1.4s					
NVS			pmax	pmax		
	comp=Z,23nm,1.4s					
TKM2	**Tokmak 2**	76.45 315	P	P	09 51 26.8	+0.5
	SNR=9.9					
TKM2	**Tokmak 2**	76.45 315	*e*P	P	09 51 26.2	-0.1
TKM2			pmax	pmax		
	comp=Z,7.0nm,0.8s					
TKM2	**Tokmak 2**	76.45 315	*e*P	P	09 51 26.2	-0.1
	comp=Z,6.7nm,0.8s					
KZA	**Kyzart**	76.48 314	P	P	09 51 28.0	+1.3
	SNR=24					
KZA	**Kyzart**	76.48 314	*i*P	P	09 51 28.0	+1.3
VNDA	**Vanda**	76.51 176	P	P	09 51 25.8	+0.1
	comp=Z,5.3nm,0.9s,baz=327,slow=5.5,SNR=10					
KURK	**Kurchatov**	76.74 323	P	P	09 51 27.2	-0.2
	comp=Z,87nm,1.0s,SNR=17					
KURK	**Kurchatov**	76.74 323	*e*P	P	09 51 26.7	-0.7
KURK			pmax	pmax		
	comp=Z,17nm,1.0s					
KURK	**Kurchatov**	76.74 323	*e*P	P	09 51 26.7	-0.7
	comp=Z,18nm,1.0s					
KBK	**Karagaybulak**	76.84 314	P	P	09 51 29.4	+1.0
	SNR=5.8					
KBK	**Karagaybulak**	76.84 314	*i*P	P	09 51 29.4	+0.9
UCH	**Uchtor**	77.05 314	P	P	09 51 30.9	+0.9
	SNR=13					
UCH	**Uchtor**	77.05 314	*i*P	P	09 51 30.8	+0.8
CHMS	**Chumysh**	77.07 315	P	P	09 51 30.2	+0.7
	SNR=7.5					
CHMS	**Chumysh**	77.07 315	*i*P	P	09 51 30.2	+0.7
FRU	**Bishkek**	77.13 314	*e*P	P	09 51 29.0	-0.8
FRU			*e*		09 51 41.0	
AAK	**Ala-Archa**	77.16 314	P	P	09 51 31.0	+0.8
	comp=Z,48nm,0.9s,SNR=5.7					
AAK	**Ala-Archa**	77.16 314	P	P	09 51 30.9	+0.7
	SNR=5.1					
AAK	**Ala-Archa**	77.16 314	*c*P	P	09 51 30.5	+0.3
AAK			pmax	pmax		
	comp=Z,26nm,1.1s					
AAK	**Ala-Archa**	77.16 314	P	P	09 51 30.3	+0.1
	comp=Z,5.8nm,0.9s,baz=113,slow=3.8,SNR=15					
AAK			LR	LR	10 25 09.9	
	comp=Z,173nm,21.7s,baz=112,slow=36					
AAK	**Ala-Archa**	77.16 314	*e*P	P	09 51 30.0	-0.2
	comp=Z,8.0nm,0.9s					
USP	**Ospenovka**	77.31 315	P	P	09 51 31.3	+0.4
	SNR=15					
USP	**Ospenovka**	77.31 315	*i*P	P	09 51 31.3	+0.4
AML	**Almayashu**	77.62 314	P	P	09 51 34.1	+1.0
	SNR=14					
AML	**Almayashu**	77.62 314	*i*P	P	09 51 34.1	+1.0
EKS2	**Erkin-Say**	77.69 314	P	P	09 51 34.0	+0.9
	SNR=8.9					
EKS2	**Erkin-Say**	77.69 314	*e*P	P	09 51 32.9	-0.2
EKS2			pmax	pmax		
	comp=Z,12nm,1.0s					
EKS2	**Erkin-Say**	77.69 314	*e*P	P	09 51 32.9	-0.2
	comp=Z,12nm,1.0s					
KKAR	**Karatay Array**	80.12 314	*e*P	P	09 51 46.1	-0.2
KKAR			pmax	pmax		
	comp=Z,3.0nm,0.8s					
KKAR	**Karatay Array**	80.12 314	*e*P	P	09 51 46.1	-0.2
	comp=Z,3.3nm,0.8s					
COLA	**College**	81.54 23	*i*P	P	09 51 51.1	-2.2
COLA			pmax	pmax		
	comp=Z,24nm,1.4s					
COLD	**Coldfoot**	81.59 21	*e*P	P	09 51 54.2	+0.6
	comp=Z,4.7nm,1.1s					
ILAR	**Eielson Array**	81.89 24	P	P	09 51 53.9	-1.4
	comp=Z,3.8nm,0.8s,baz=254,slow=5.3,SNR=18					
ILAR			PKKPbc	PKKPbc	10 10 25.2	-3.5
	comp=Z,0.2nm,0.7s,baz=14,slow=1.5,SNR=5.2					
BVAR	**Borovoye Array**	82.28 324	P	P	09 51 57.7	+0.1
	comp=Z,19nm,0.7s,baz=110,slow=6.6,SNR=83					
BRVK	**Borovoye**	82.35 324	P	P	09 51 58.2	+0.3
	comp=Z,137nm,0.7s,SNR=8.9					
BRVK	**Borovoye**	82.35 324	*c*P	P	09 51 58.0	+0.1
BRVK			pmax	pmax		
	comp=Z,48nm,1.7s					
BRVK	**Borovoye**	82.35 324	*e*P	P	09 51 57.4	-0.5
	comp=Z,23nm,0.9s					
EGAK	**Eagle**	84.22 24	*e*P	P	09 52 07.3	0.0
	comp=Z,6.2nm,0.9s					
DAWY	**Dawson**	84.78 25	*e*P	P	09 52 10.0	-0.1
MAW	**Mawson**	85.88 202	P	P	09 52 16.3	+0.8
	comp=Z,8.3nm,0.9s,baz=91,slow=3.2,SNR=3.8					
INK	**Inuvik**	87.97 22	P	P	09 52 25.1	-0.5
	baz=360,slow=0.1					
ABKAR	**Akbulak array**	88.23 319	*e*P	P	09 52 25.8	-1.5
	comp=Z,4.3nm,0.7s					
DLBC	**Dease Lake**	88.28 32	P	P	09 52 27.3	-0.1
	comp=Z,3.5nm,0.8s,baz=284,slow=4.2,SNR=3.5					
QSPA	**South Pole Qui**	88.49 180	P	P	09 52 28.3	0.0
	comp=Z,6.3nm,1.0s,baz=329,slow=1.5,SNR=11					
GEYT	**Alibeck**	88.88 308	P	P	09 52 30.2	-0.4
	comp=Z,1.2nm,0.3s,baz=17,slow=1.5,SNR=4.9					
GEYT			LR	LR	10 32 59.1	
	comp=Z,100nm,21.9s,baz=110,slow=36					
ARU	**Arti**	89.54 326	*d*P	P	09 52 32.1	-1.2
ARU					09 55 59.4	
ARU			S	SKSac	10 02 56.3	-3.1
ARU			pmax	pmax		
	comp=Z,9.0nm,1.2s					
AKTO	**Aktyubinsk**	89.55 320	P	P	09 52 32.2	-1.3
	comp=Z,4.2nm,0.8s,baz=101,slow=7.3,SNR=16					
SYO	**Syowa Base**	94.35 200‖	*e*X	P	09 52 51.6	-3.7
NVAR	**Mina Array Bea**	95.69 52	P	P	09 53 00.9	-1.5
	comp=Z,0.3nm,0.6s,baz=248,slow=6.7,SNR=2.3					
YKA	**Yellowknife Ar**	95.81 27	P	P	09 53 01.7	-0.4
	comp=Z,1.3nm,0.8s,baz=277,slow=4.7,SNR=22					
YKA			PKKPbc	PKKPbc	10 09 51.5	-2.5
	comp=Z,0.4nm,0.8s,baz=100,slow=2.6,SNR=7.5					
NEW	**Newport**	95.94 42	P	P	09 53 02.8	-0.3
	comp=Z,1.6nm,0.8s,baz=200,slow=3.7,SNR=3.2					
BMO	**Blue Mountains**	96.06 45	*e*P	P	09 53 03.9	+0.1
BMO			pmax	pmax		
	comp=Z,7.0nm,1.1s					
BMO	**Blue Mountains**	96.06 45	*e*P	P	09 53 03.9	+0.1
	comp=Z,7.3nm,1.1s					
KIV	**Kislovodsk**	100.28 314	*e*P	Pdif	09 53 18.7	-4.1
KIV			pmax	pmax		
	comp=Z,11nm,1.0s					
KIV			MLR	MLR		
	comp=Z,84nm,19.0s					
TXAR	**Lajitas Array**	108.75 60	PKKPab	PKKPab	10 09 26.7	-0.8
	comp=Z,0.5

comp=Z,16nm,0.7s,baz=75,slow=2.4,SNR=19
TIC Toumodi 150.24 281 *e*PKP1 **PKPbc 09 59 28.3 +0.2**
comp=Z,27nm,0.7s
LIC Lamto 150.31 280 *e*PKP1 **PKPbc 09 59 28.5 +0.2**

WEL 04 09:42:36.2±0.7, 44°.30S×167°.03E, h5km, ML3.7/10, Error ellipse: s-maj=6.0km s-min=3.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.74**	**121**	P*	Pb	09 42 51.1	-0.6
MSZ				S*	Sg	09 43 00.0	-0.1
MSZ				AML	AML	09 43 00.9	
MSZ				AML	AML	09 43 00.9	
MSZ				AML	AML	09 43 01.3	
DCZ	**Deep Cove**	**1.18**	**176**	P*	Pg	09 42 57.9	-1.0
DCZ				S*	Sg	09 43 12.9	-1.4
DCZ				AML	AML	09 43 14.1	
DCZ				AML	AML	09 43 14.3	
DCZ				AML	AML	09 43 18.7	
JCZ	**Jackson Bay**	**1.26**	**80**	P*	Pg	09 42 59.4	-1.2
JCZ				AML	AML	09 43 20.4	
JCZ				AML	AML	09 43 21.1	
MLZ	**Mavora Lakes**	**1.33**	**143**	P*	Pn	09 43 00.6	-0.9
MLZ				AML	AML	09 43 19.6	
MLZ				AML	AML	09 43 21.6	
WKZ	**Wanaka**	**1.52**	**111**	PN	Pn	09 43 04.3	+0.3
WKZ				SN	Sn	09 43 23.9	-0.3
WKZ				AML	AML	09 43 27.7	
WKZ				AML	AML	09 43 27.7	
WKZ				AML	AML	09 43 31.3	
WHZ	**Wether Hill Ro**	**1.72**	**158**	PN	Pn	09 43 06.2	-0.7
WHZ				AML	AML	09 43 30.0	
WHZ				AML	AML	09 43 31.4	
EAZ	**Earnscleugh**	**1.87**	**121**	*e*PN	Pn	09 43 08.3	-0.6
EAZ				AML	AML	09 43 36.3	
EAZ				AML	AML	09 43 36.3	
EAZ				AML	AML	09 43 36.3	
EAZ				AML	AML	09 43 36.4	
FOZ	**Fox Glacier**	**2.05**	**70**	PN	Pn	09 43 10.7	-0.6
FOZ				AML	AML	09 43 45.8	
FOZ				AML	AML	09 43 45.8	
FOZ				AML	AML	09 43 46.3	
FOZ				AML	AML	09 43 46.3	
LBZ	**Lake Benmore**	**2.26**	**93**	*e*PN	Pn	09 43 15.1	+0.8
LBZ				SN	Sb	09 43 46.1	+0.2
LBZ				AML	AML	09 43 48.3	
TUZ	**Tuapeka**	**2.48**	**133**	*e*PN	Pb	09 43 19.9	-1.3
ODZ	**Otahua Downs**	**2.68**	**107**	PN	Pn	09 43 20.2	+0.2
SYZ	**Scrubby Hill**	**2.69**	**147**	PN	Pn	09 43 20.2	+0.1
WVZ	**Waitaha Valley**	**2.95**	**67**	*e*PN	Pn	09 43 21.4	-2.3
RPZ	**Rata Peaks**	**2.96**	**80**	PN	Pn	09 43 23.1	-0.8
RPZ				AML	AML	09 44 23.5	
OXZ	**Oxford**	**3.75**	**77**	PN	Pn	09 43 32.3	-2.4
LTZ	**Lake Taylor**	**4.10**	**70**	PN	Pn	09 43 36.9	-2.6
DSZ	**Denniston Nort**	**4.33**	**56**	PN	Pn	09 43 41.1	-1.7
THZ	**Tophouse**	**4.99**	**62**	*e*PN	Pn	09 43 51.3	-0.6
QRZ	**Quartz Range**	**5.34**	**51**	*e*PN	Pn	09 43 54.7	-1.8

*IDC **04** 09:46:59.9±0.7, 22°.83N×120°.60E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.7/52, mbtmp3.8/11, Error ellipse: s-maj=33.3km s-min=15.3km az=69.0*
*JMA **04** 09:47:00.8±0.2, 23°.00N×120°.48E, h0km, M4.4*
*NIED **04** 09:47:00, 23°.00N×120°.50E, h29km, Mw4.1 Best double couple: M0=1.88000×10^15 NP1:φ=189.00000°, δ60.00000°, λ156.00000°. NP2:φ=291.00000°, δ69.00000°, λ32.00000°.*
*NEIC **04** 09:47:01.3±1.6, 22°.82N×120°.49E, h8km±9km, ML4.6(TAP), Error ellipse: s-maj=13.7km s-min=8.8km az=68.0*
NEIC Recorded [3 TAP] in T'ai-nan and [2 TAP] in Chia-i, Kao-hsiung, P'ing-tung, T'ai-nan, T'ai-tung and Yun-lin.
*TAP **04** 09:47:03.5, 22°.96N×120°.63E, h19km, ML4.3, B*
*ISCJB **04** 09:47:04.4±0.2, 22°.93N±0°.01×120°.62E±0°.02, h27km±1km, mb3.7/10, Error ellipse: s-maj=2.8km s-min=2.2km az=169.6*
*BJI **04** 09:47:05.9, 22°.95N×120°.64E, h24km, ML3.7/5*
ISC 04 09:47:03.7±0.6, 22°.96N±0°.02×120°.61E±0°.02, h21km±1km, n103, σ1$25/149, mb3.8/10, 16C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.12**	**350**	⇓*i*P	Pb	09 47 08.4	-1.6
baz=345							
SSD	**Sandimen**	**0.21**	**174**	⇑*i*P	Pb	09 47 09.2	-0.5
baz=176							
SSD				*e*S	Sb	09 47 12.7	-1.1
baz=176							
TWM1	**Shoushan**	**0.22**	**231**	⇑*i*P	Pb	09 47 10.2	+0.5
baz=228							
CHN1	**Nanshi**	**0.23**	**342**	⇓*i*P	Pb	09 47 10.1	+0.3
baz=339							
STYT	**Tauyuan**	**0.24**	**34**	⇑*i*P	Pb	09 47 09.9	0.0
baz=32							
STYT				S	Sb	09 47 14.6	+0.4
baz=32							
CHN3	**Shinhua**	**0.25**	**297**	*e*P	Pb	09 47 11.6	+1.7
baz=296							
CHN3				*e*S	Sb	09 47 17.9	+3.7
baz=296							
SGLT	**Jiouru**	**0.26**	**205**	⇑*i*P	Pb	09 47 10.9	+1.0
baz=201							
SGLT				*e*S	Sn	09 47 16.7	-0.9
baz=201							
WTP	**Ta-pu**	**0.28**	**1**	⇓*i*P	Pb	09 47 10.8	+0.4
baz=359							
TWK	**Hsinying**	**0.32**	**340**	⇓*i*P	Pb	09 47 11.4	+0.6
baz=351							
TWK				*e*S	Sn	09 47 17.2	-2.1
baz=351							
TPUB	**Ta-pu**	**0.34**	**3**	*e*Pg	Pb	09 47 11.3	+0.2
TPUB				*e*Sg	Sb	09 47 15.1	-1.0
TAI1	**Yung-k'ang**	**0.36**	**283**	*e*P	Pn	09 47 12.5	-1.1
baz=283							
CHN4	**Tsaushan**	**0.39**	**358**	⇓P	Pb	09 47 12.4	+0.5
baz=356							
CHN4				*e*S	Sn	09 47 19.0	-1.9
baz=356							
SCLT	**Jiali**	**0.44**	**299**	*e*P	Pn	09 47 13.8	-0.9
baz=299							
SCLT				*e*S	Sn	09 47 22.3	+0.2
baz=299							
ELDTW	**Lidau**	**0.44**	**59**	⇑*i*P	Pb	09 47 13.1	+0.3
baz=52							
ELDTW				S	Sb	09 47 20.0	+0.9
baz=52							
TWG	**Pinlang**	**0.45**	**108**	⇑*i*P	Pb	09 47 13.4	+0.5
baz=99							
TWG				S	Sn	09 47 21.0	-1.4
baz=99							
TWG	**Pinlang**	**0.45**	**108**	*e*Pg	Pb	09 47 13.1	+0.1
TWG				*e*Sg	Sb	09 47 18.2	-1.0
KAU	**Kaohsiung**	**0.48**	**215**	*e*P	Pb	09 47 14.2	+0.7
baz=229							
ECL	**Taimali**	**0.48**	**138**	*e*P	Pb	09 47 13.5	0.0
baz=139							
CHN8	**Yiju**	**0.53**	**317**	P	Pn	09 47 15.3	-0.7
baz=329							
CHN8				S	Sn	09 47 24.6	+0.3
baz=329							
TTN	**Taitung**	**0.54**	**112**	*e*P	Pn	09 47 15.4	-0.7
baz=113							
TTN				*e*S	Sn	09 47 23.8	-0.7
baz=113							
CHY	**Chiayi**	**0.56**	**343**	*e*P	Pn	09 47 15.6	-0.9
baz=342							
CHY				*e*S	Sn	09 47 24.5	-0.6
baz=342							
ALS	**Alishan**	**0.58**	**18**	⇑*i*P	Pb	09 47 15.6	+0.1
baz=18							
ALS				*i* S	Sn	09 47 24.2	-1.7
baz=18							
CHN2	**Minshiung**	**0.58**	**348**	*e*P	Pn	09 47 16.0	-0.7
baz=347							
CHN2				S	Sn	09 47 25.7	+0.1
baz=347							
SCZT	**Fangliau**	**0.59**	**179**	⇓*i*P	Pb	09 47 15.4	0.0
baz=175							
YUS	**Yu-Shan**	**0.61**	**31**	⇑*i*P	Pb	09 47 16.5	+0.3
baz=39							
YUS				*i* S	Sn	09 47 25.8	-1.4
baz=39							
EAST	**Anshuo**	**0.62**	**159**	⇓*i*P	Pb	09 47 16.2	+0.2
baz=157							
EAST				*e*S	Sb	09 47 24.9	+0.7
baz=157							
CHN5	**Tsauling**	**0.64**	**6**	P	Pb	09 47 16.6	+0.2
baz=4.0							
CHN5				S	Sn	09 47 25.8	-1.3
baz=4.0							
TWP	**Hsiaoliuchiu**	**0.65**	**200**	*e*P	Pn	09 47 19.0	+1.3
baz=201							
TWP				*e*S	Sn	09 47 30.5	+3.1
baz=201							
TAW	**Tawu**	**0.66**	**156**	⇓*i*P	Pb	09 47 16.8	+0.3
baz=154							
TAW				S	Sb	09 47 25.6	+0.3
baz=154							
CHKT	**Chengkung**	**0.71**	**79**	⇑*i*P	Pn	09 47 18.1	-0.4
baz=78							
CHKT				*e*S	Sn	09 47 29.0	+0.2
baz=78							
WGK	**Gukeng**	**0.72**	**357**	*e*P	Pn	09 47 18.6	-0.1
baz=356							
WGK				S	Sn	09 47 30.3	+1.1
baz=356							
TWF1	**Yuli**	**0.74**	**58**	⇑*i*P	Pb	09 47 18.3	+0.3
baz=64							
TWF1				*i* S	Sb	09 47 28.3	+0.5
baz=64							
WSF	**Szhu**	**0.76**	**332**	*e*P	Pn	09 47 18.8	-0.4
baz=332							
WSF				*e*S	Sn	09 47 30.8	+0.8
baz=332							
YULB	**Yu-li**	**0.77**	**56**	*e*Pg	Pb	09 47 18.2	-0.2
YULB				*e*Sg	Sb	09 47 26.5	-1.9
EHY	**Hungye**	**0.85**	**50**	⇑*i*P	Pn	09 47 20.0	-0.5
baz=50							
EHY				*e*S	Sn	09 47 32.9	+0.6
baz=50							
SSLB	**Suanglung**	**0.88**	**21**	*e*Pg	Pb	09 47 20.2	-0.2
SSLB				*e*Sg	Sb	09 47 31.0	-0.8
WNT	**Mingjian**	**0.92**	**4**	*e*P	Pn	09 47 21.0	-0.4
baz=4.0							
WNT				*e*S	Sn	09 47 34.4	+0.4
baz=4.0							
WDGT	**Dungji**	**0.92**	**289**	*e*P	Pb	09 47 20.6	-0.4
baz=289							
WTCT	**Ta-ch'eng**	**0.95**	**342**	*e*P	Pb	09 47 21.2	-0.2
baz=341							
SMLT	**Sun Moon Lake**	**0.96**	**16**	⇑P	Pn	09 47 22.1	+0.1
baz=16							
SMLT				*i* S	Sn	09 47 37.4	+2.3
baz=16							
HEN	**Hengchun**	**0.96**	**173**	⇓*i*P	Pn	09 47 22.6	+0.6
baz=164							
HEN				*e*S	Sn	09 47 36.8	+1.9
baz=164							
TYC	**Yuchr**	**0.97**	**14**	⇑P	Pn	09 47 22.2	+0.2
baz=14							
TYC				*e*S	Sn	09 47 37.5	+2.3
baz=14							
TWK1	**Hengchun**	**1.03**	**170**	⇓*i*P	Pn	09 47 23.2	+0.3
baz=170							
TWK1				*e*S	Sn	09 47 38.6	+1.9
baz=170							
TSEB	**Hengchuen, Pin**	**1.09**	**166**	*e*P	Pn	09 47 23.5	-0.2
baz=168							
TSEB				*e*S	Sn	09 47 40.4	+2.2
baz=168							
ESL	**Shilin**	**1.14**	**42**	⇑*i*P	Pb	09 47 25.1	+0.4
baz=41							
ESL				*e*S	Sn	09 47 40.4	+1.0
baz=41							
PNG	**Penghu**	**1.14**	**302**	*e*P	Pn	09 47 23.7	-0.8
baz=302							
TCU	**Taichung**	**1.18**	**3**	*e*P	Pb	09 47 25.7	+0.2
baz=3.0							
LAY	**Lan-yu**	**1.27**	**136**	*e*P	Pn	09 47 25.4	-0.8
baz=126							
WHF	**Hehuan Shan**	**1.32**	**27**	⇑P	Pb	09 47 28.3	+0.1
baz=17							
WHF				*e*S	Sb	09 47 47.3	+2.5
baz=17							
HWA	**Hwalien**	**1.36**	**42**	*e*P	Pb	09 47 28.4	-0.2
baz=35							
HWA				*e*S	Sb	09 47 48.9	+3.3
baz=35							
TWT	**Tachien**	**1.39**	**22**	⇑P	Pb	09 47 28.8	-0.3
baz=10.0							
TWQ1	**Liyutan**	**1.39**	**6**	*e*P	Pb	09 47 29.0	0.0
baz=6.0							
TWQ1				*e*S	Sb	09 47 48.1	+1.8
baz=6.0							
TWD	**Chiawan**	**1.44**	**39**	*e*P	Pb	09 47 29.7	-0.1
baz=39							
TWD				*e*S	Sb	09 47 49.4	+1.7
baz=39							
NSY	**Sanyi**	**1.46**	**6**	*e*P	Pb	09 47 29.4	-0.7
baz=6.0							
NSY				*e*S	Sb	09 47 50.1	+1.9
baz=6.0							
NACB	**Ninganchiao**	**1.51**	**37**	*e*Pn	Pb	09 47 30.6	-0.5
NNS	**Nan Shan**	**1.63**	**25**	*e*P	Pb	09 47 33.1	-0.1
baz=12							
NSTT	**Nanjuang**	**1.70**	**12**	*e*P	Pb	09 47 33.1	-1.2
baz=356							
ENA	**Nanau**	**1.79**	**35**	*e*P	Pb	09 47 34.4	-1.5
baz=35							
NSK	**Sanguang**	**1.84**	**22**	*e*P	Pb	09 47 35.6	-1.1
baz=22							
YHNB	**Yeheng**	**1.84**	**22**	*e*Pn	Pb	09 47 35.3	-1.4
HSN	**Hsinchu**	**1.86**	**10**	*e*P	Pb	09 47 37.8	+0.7
baz=355							
ENTT	**Nioudou**	**1.89**	**28**	P	Pb	09 47 37.2	-0.3
baz=28							
ENTT				*e*S	Sb	09 48 02.5	+1.8
baz=28							
TWC	**Suao**	**2.00**	**34**	*e*P	Pn	09 47 37.4	+1.2
baz=35							
TWE	**Neicheng**	**2.00**	**29**	*e*P	Pb	09 47 37.9	-1.6
baz=29							
TWE				*e*S	Sb	09 48 05.9	+1.9
baz=29							
NCU	**National Centr**	**2.07**	**15**	*e*P	Pb	09 47 40.1	-0.5
baz=359							
TATO	**Taipei**	**2.16**	**22**	*e*Pn	Pb	09 47 42.0	-0.1
TWA	**Mucha**	**2.20**	**24**	*e*P	Pb	09 47 43.0	+0.1
baz=23							
TAP1	**Taipei**	**2.23**	**22**	*e*P	Pb	09 47 43.5	+0.1
baz=21							
EGS		**2.23**	**33**	*e*P	Pn	09 47 41.1	+1.6
baz=33							
TWS1	**Kuangyinshan**	**2.26**	**19**	*e*P	Pb	09 47 43.2	-0.6
baz=19							
NWF	**Wu-fen Shan**	**2.36**	**27**	*e*P	Pn	09 47 42.6	+1.4
baz=10.0							
TWB1	**Santiao Chiao**	**2.40**	**32**	*e*P	Pn	09 47 43.2	+1.4
baz=31							
KNM	**Kinmen**	**2.46**	**306**	*e*P	Pn	09 47 43.8	+1.2
baz=304							
TWY	**Chenhua**	**2.48**	**21**	*e*P	Pn	09 47 44.5	+1.6
baz=21							
JYNG	**Yonagunijimaku**	**2.61**	**55**	P	Pn	09 47 45.3	+0.7
JYNG				*e*S	Sb	09 48 18.4	-2.9
YOJ	**Yonaguni jima**	**2.66**	**55**	P	Pn	09 47 47.4	+2.0
YOJ				*e*S	Sb	09 48 20.5	-2.4
YOJ	**Yonaguni jima**	**2.66**	**55**	*e*P	Pn	09 47 47.1	+1.7
baz=56							
YOJ				*e*S	Sn	09 48 19.2	+2.3
baz=56							
YOJ	**Yonaguni jima**	**2.66**	**55**	*e*Pn	Pn	09 47 47.0	+1.7
QZH	**Quanzhou**	**2.70**	**317**	Pn	Pn	09 47 47.1	+1.2
QZH				Sn	Sb	09 48 22.7	-1.4
QZH				SMN			
550nm,1.0s							
QZH				SME			
490nm,0.7s							
HATJ	**Hateruma jima**	**3.13**	**69**	P	Pn	09 47 53.0	+1.2
HATJ				*e*S	Sn	09 48 30.2	+1.6
JKRS	**Kuro-shima**	**3.37**	**67**	P	Pn	09 47 56.2	+1.1
JKRS				*e*S	Sn	09 48 36.9	+2.5
JIJ	**Ishigaki jima**	**3.53**	**66**	P	Pn	09 47 58.0	+0.7
JIJ				*e*S	Sn	09 48 40.2	+1.8
JISG	**Ishigakijimahi**	**3.76**	**64**	P	Pn	09 48 00.4	-0.1
JISG				S	Sn	09 48 44.0	-0.1
JTJ	**Tarama**	**4.11**	**65**	P	Pn	09 48 07.5	+2.3
JTJ				*e*S	Sn	09 48 54.2	+1.6
JIRB	**Irabujima**	**4.57**	**65**	P	Pn	09 48 12.9	+1.3
JIRB				*e*S	Sn	09 49 05.9	+1.7
HHC	**Hu-ho-hao-te**	**19.40**	**339**	*e*P	Pn	09 51 30.7	+1.1
HHC				pmax	pmax		
comp=Z,28nm,0.9s							
HHC				pmax	pmax		
comp=Z,110nm,5.9s							
MJAR	**Matsushiro Arr**	**20.37**	**44**	P	Pn	09 51 40.2	-0.9
comp=Z,1.6nm,0.7s,baz=222,slow=8.7,SNR=4.1							
SONM	**Songino Array**	**27.30**	**339**	P	**P**	**09 52 47.4**	**+0.5**
comp=Z,0.4nm,0.8s,baz=160,slow=9.1,SNR=2.5							
MKAR	**Makanchi Array**	**38.86**	**317**	P	**P**	**09 54 28.0**	**+0.6**
comp=Z,0.9nm,0.8s,baz=114,slow=8.9,SNR=3.6							
ZALV	**Zalesovo Beam**	**40.99**	**328**	P	**P**	**09 54 45.5**	**+0.5**
comp=Z,0.5nm,0.6s,baz=127,slow=9.6,SNR=2.1							
H11N1	**WAKE ISLAND Hy**	**43.10**	**85**	T	T	10 40 26.3	
baz=273							
H11N2	**WAKE ISLAND Hy**	**43.10**	**85**	T	T	10 40 26.9	
baz=273							
H11N3	**WAKE ISLAND Hy**	**43.12**	**85**	T	T	10 40 27.5	
baz=273							
H11S3	**WAKE ISLAND Hy**	**43.19**	**87**	T	T	10 40 39.8	
baz=291,SNR=6.2							
H11S1	**WAKE ISLAND Hy**	**43.20**	**87**	T	T	10 40 38.6	
baz=291							
H11S2	**WAKE ISLAND Hy**	**43.21**	**87**	T	T	10 40 39.2	
baz=291							
WRA	**Warramunga Arr**	**44.70**	**161**	P	**P**	**09 55 13.4**	**-2.0**
comp=Z,2.9nm,0.6s,baz=345,slow=8.7,SNR=44							
ASAR	**Alice Springs**	**48.12**	**164**	P	**P**	**09 55 40.8**	**-1.4**
comp=Z,1.4nm,0.7s,baz=341,slow=7.3,SNR=54							
ASAR				PcP	**PcP**	**09 57 09.1**	**-0.6**
comp=Z,0.5nm,0.7s,baz=345,slow=2.6,SNR=4.7							
BVAR	**Borovoye Array**	**48.29**	**322**	P	**P**	**09 55 44.1**	**+0.9**
comp=Z,0.7nm,0.6s,baz=111,slow=8.2,SNR=3.4							
STKA	**Stephens Creek**	**58.11**	**159**	P	**P**	**09 56 54.8**	**-0.8**
comp=Z,1.3nm,0.5s,baz=333,slow=6.2,SNR=4.4							
ILAR	**Eielson Array**	**70.54**	**27**	P	**P**	**09 58 17.2**	**+0.4**
comp=Z,0.2nm,0.8s,baz=290,slow=6.3,SNR=4.6							
GERES	**GERESS Array B**	**83.45**	**320**	P	**P**	**09 59 28.2**	**-1.6**
comp=Z,1.0nm,0.7s,baz=37,slow=5.4,SNR=4.2							
YKA	**Yellowknife Ar**	**84.30**	**23**	P	**P**	**09 59 33.4**	**-0.4**
comp=Z,0.3nm,0.5s,baz=310,slow=4.8,SNR=12							

*NEIC **04** 10:07:50.7, 36°.98S×176°.83E, h220km, MG4.1(WEL), After WEL.*
WEL 04 10:07:50.3±0.4, 37°.06S×176°.90E, h230km±3km, ML4.1/18, 7C-8D, Error ellipse: s-maj=4.1km s-min=3.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.84**	**199**	PN	Pn	10 08 22.5	+0.3
OPRZ	**Ohinepanea**	**0.84**	**199**	Pn	Pn	10 08 22.6	+0.4
HAZ	**Te Kaha**	**0.99**	**135**	⇓PN	Pn	10 08 22.9	-0.1
HAZ				SN	S	10 08 47.6	-1.2
URZ	**Urewera**	**1.22**	**172**	⇑PN	Pn	10 08 24.2	-0.3
URZ				AML	AML	10 08 54.0	
URZ				AML	AML	10 08 55.7	
URZ	**Urewera**	**1.22**	**172**	Pn	Pn	10 08 24.2	-0.3
TARZ	**Mount Tarawera**	**1.22**	**195**	PN	Pn	10 08 25.2	+0.5
MXZ	**Matakaoa Point**	**1.23**	**115**	PN	Pn	10 08 24.9	+0.3
MXZ				AML	AML	10 08 53.6	
MXZ				AML	AML	10 08 53.6	
MXZ				AML	AML	10 08 53.7	
MXZ	**Matakaoa Point**	**1.23**	**115**	Pn	Pn	10 08 24.9	+0.3
MWZ	**Matawai**	**1.37**	**159**	PN	Pn	10 08 25.7	0.0
MWZ				SN	S	10 08 53.7	+0.2
MWZ				AML	AML	10 08 54.1	
MWZ				AML	AML	10 08 54.1	
MWZ				AML	AML	10 08 54.7	
MWZ	**Matawai**	**1.37**	**159**	Pn	Pn	10 08 25.7	0.0
MWZ				Sn	S	10 08 53.7	+0.2
TWGZ	**Tauwhareparae**	**1.41**	**143**	PN	Pn	10 08 26.8	+0.8
WMGZ	**Waiomatatini S**	**1.43**	**123**	PN	Pn	10 08 26.6	+0.5
WMGZ				SN	S	10 08 53.8	-0.2
PUZ	**Puketiti**	**1.48**	**134**	⇓PN	Pn	10 08 26.8	+0.3
PUZ				AML	AML	10 08 56.3	
PUZ				AML	AML	10 08 58.8	
PUZ	**Puketiti**	**1.48**	**134**	Pn	Pn	10 08 26.8	+0.3
RAGZ	**Rawiri**	**1.50**	**164**	PN	Pn	10 08 26.9	+0.1
PRRZ	**Plateau Road**	**1.50**	**195**	PN	Pn	10 08 27.0	+0.3
PRRZ	**Plateau Road**	**1.50**	**195**	Pn	Pn	10 08 27.0	+0.3
TLZ	**Tolley Road**	**1.67**	**220**	PN	Pn	10 08 28.5	+0.4
SNGZ	**Shannon Statio**	**1.76**	**169**	PN	Pn	10 08 28.6	-0.3
CNGZ	**Carnagh Statio**	**1.76**	**144**	PN	Pn	10 08 29.6	+0.7
CNGZ	**Carnagh Statio**	**1.76**	**144**	Pn	Pn	10 08 29.7	+0.8
RIGZ	**Rimuhau**	**1.78**	**158**	PN	Pn	10 08 29.5	+0.4
RAHZ	**Arahi**	**1.87**	**176**	PN	Pn	10 08 29.9	+0.1
RAHZ	**Arahi**	**1.87**	**176**	Pn	Pn	10 08 30.1	+0.3
PRGZ	**Paritu Road**	**2.02**	**158**	*e*PN	Pn	10 08 31.1	-0.1
PRGZ	**Paritu Road**	**2.02**	**158**	Pn	Pn	10 08 31.6	+0.4
WHHZ	**Waihua**	**2.04**	**173**	PN	Pn	10 08 31.6	+0.2
NMHZ	**Naumai**	**2.04**	**182**	PN	Pn	10 08 31.9	+0.3
NMHZ	**Naumai**	**2.04**	**182**	Pn	Pn	10 08 31.9	+0.3
KNZ	**Kokohu**	**2.06**	**163**	⇑PN	Pn	10 08 31.3	-0.2
KNZ	**Kokohu**	**2.06**	**163**	Pn	Pn	10 08 31.3	-0.2
BKZ	**Black Stump Fm**	**2.13**	**189**	⇑PN	Pn	10 08 31.6	-0.9
BKZ				AML	AML	10 09 06.3	
BKZ				AML	AML	10 09 06.4	
BKZ	**Black Stump Fm**	**2.13**	**189**	Pn	Pn	10 08 31.6	-0.9
HIZ	**Hauiti**	**2.18**	**227**	PN	Pn	10 08 33.1	+0.3
HIZ	**Hauiti**	**2.18**	**227**	Pn	Pn	10 08 33.1	+0.3
MHGZ	**Mahia Peninsul**	**2.24**	**160**	PN	Pn	10 08 33.8	+0.4
MHGZ	**Mahia Peninsul**	**2.24**	**160**	Pn	Pn	10 08 33.8	+0.4
WTVZ	**West Tongariro**	**2.30**	**206**	PN	Pn	10 08 33.9	-0.3
WTVZ	**West Tongariro**	**2.30**	**206**	Pn	Pn	10 08 33.9	-0.3
OTVZ	**Oturere**	**2.32**	**204**	⇓PN	Pn	10 08 34.3	-0.1
OTVZ	**Oturere**	**2.32**	**204**	Pn	Pn	10 08 34.3	-0.1
NGZ	**Ngauruhoe**	**2.35**	**205**	PN	Pn	10 08 34.8	+0.1
NGZ	**Ngauruhoe**	**2.35**	**205**	Pn	Pn	10 08 34.8	+0.1
MCHZ	**McNeill Hill**	**2.39**	**184**	PN	Pn	10 08 34.8	-0.2
MCHZ	**McNeill Hill**	**2.39**	**184**	Pn	Pn	10 08 34.8	-0.2
WPVZ	**Whakapapa**	**2.40**	**206**	PN	Pn	10 08 34.8	-0.3
WPVZ	**Whakapapa**	**2.40**	**206**	Pn	Pn	10 08 34.8	-0.3
TUVZ	**Tukino**	**2.42**	**204**	PN	Pn	10 08 34.9	-0.5
TUVZ	**Tukino**	**2.42**	**204**	Pn	Pn	10 08 34.9	-0.5
FWVZ	**Far West T-bar**	**2.44**	**205**	PN	Pn	10 08 35.1	-0.6
FWVZ	**Far West T-bar**	**2.44**	**205**	Pn	Pn	10 08 35.2	-0.5
DRZ	**Dome Shelter**	**2.46**	**205**	PN	Pn	10 08 35.7	-0.3
DRZ	**Dome Shelter**	**2.46**	**205**	Pn	Pn	10 08 35.7	-0.3
TRVZ	**Turoa

PRWZ	**Pori Road**	**3.57 191**	PN	Pn	10 08 46.5	-1.5
BFZ	**Birch Farm**	**3.66 188**	PN	Pn	10 08 47.0	-2.0
BFZ	**Birch Farm**	**3.66 188**	Pn	Pn	10 08 47.0	-2.0
MRZ	**Mangatainoka R**	**3.75 196**	⇑PN	Pn	10 08 47.6	-2.6
MRZ			AML	AML	10 09 36.1	
MRZ			AML	AML	10 09 36.2	
MRZ	**Mangatainoka R**	**3.75 196**	Pn	Pn	10 08 47.6	-2.6
TIWZ	**Tintock**	**3.80 192**	PN	Pn	10 08 48.5	-2.3
TIWZ			AML	AML	10 09 37.5	
TIWZ			AML	AML	10 09 38.3	
TIWZ	**Tintock**	**3.80 192**	Pn	Pn	10 08 48.8	-2.0
HOWZ	**Holdsworth Sta**	**3.99 195**	PN	Pn	10 08 50.2	-2.8
HOWZ	**Holdsworth Sta**	**3.99 195**	Pn	Pn	10 08 50.2	-2.8
OGWZ	**Otaki Gorge**	**3.99 199**	PN	Pn	10 08 50.4	-2.6
OGWZ	**Otaki Gorge**	**3.99 199**	Pn	Pn	10 08 50.5	-2.6
KIW	**Kapiti Island**	**4.11 202**	PN	Pn	10 08 51.7	-2.7
KIW			AML	AML	10 09 42.6	
KIW	**Kapiti Island**	**4.11 202**	Pn	Pn	10 08 51.7	-2.7
TMWZ	**Te Maipa**	**4.12 191**	PN	Pn	10 08 52.7	-1.9
TMWZ	**Te Maipa**	**4.12 191**	Pn	Pn	10 08 52.7	-1.9
MTW	**Mount Morrison**	**4.24 194**	PN	Pn	10 08 53.1	-2.9
MTW			AML	AML	10 09 46.3	
MTW	**Mount Morrison**	**4.24 194**	Pn	Pn	10 08 53.1	-2.9
CAW	**Cannon Point**	**4.29 199**	⇓PN	Pn	10 08 53.6	-3.0
CAW			AML	AML	10 09 48.7	
CAW			AML	AML	10 09 50.4	
CAW	**Cannon Point**	**4.29 199**	Pn	Pn	10 08 53.6	-3.0
DUWZ	**D'Urville Isla**	**4.41 211**	PN	Pn	10 08 55.0	-3.1
DUWZ	**D'Urville Isla**	**4.41 211**	Pn	Pn	10 08 55.0	-3.0
TRWZ	**Traveller**	**4.44 192**	PN	Pn	10 08 55.7	-2.7
TRWZ			AML	AML	10 09 51.3	
TRWZ	**Traveller**	**4.44 192**	Pn	Pn	10 08 55.7	-2.7
PAWZ	**Paruwai Farm**	**4.47 194**	SN	S	10 09 47.6	-5.6
WEL	**Wellington**	**4.54 201**	PN	Pn	10 08 56.6	-3.0
WEL	**Wellington**	**4.54 201**	Pn	Pn	10 08 56.6	-3.0
MSWZ	**Moikau Station**	**4.54 196**	⇑PN	Pn	10 08 56.5	-3.2
MSWZ			AML	AML	10 09 52.3	
MSWZ			AML	AML	10 09 52.9	
MSWZ	**Moikau Station**	**4.54 196**	Pn	Pn	10 08 56.5	-3.2
BHW	**Baring Head**	**4.62 199**	PN	Pn	10 08 57.3	-3.4
BHW			AML	AML	10 09 55.3	
BHW	**Baring Head**	**4.62 199**	Pn	Pn	10 08 57.3	-3.4
TCW	**Tory Channel**	**4.63 205**	PN	Pn	10 08 57.8	-2.9
TCW			AML	AML	10 09 53.5	
TCW			AML	AML	10 09 54.8	
TCW	**Tory Channel**	**4.63 205**	Pn	Pn	10 08 57.8	-2.9
PLWZ	**Palliser**	**4.69 195**	PN	Pn	10 08 58.2	-3.3
PLWZ	**Palliser**	**4.69 195**	Pn	Pn	10 08 58.2	-3.3
TUWZ	**Tuamarina**	**4.94 207**	PN	Pn	10 09 01.4	-3.2
TUWZ			AML	AML	10 10 00.1	
TUWZ			AML	AML	10 10 00.4	
TUWZ	**Tuamarina**	**4.94 207**	Pn	Pn	10 09 01.4	-3.2
NNZ	**Nelson**	**4.98 212**	PN	Pn	10 09 01.5	-3.6
NNZ	**Nelson**	**4.98 212**	Pn	Pn	10 09 01.5	-3.6
QRZ	**Quartz Range**	**5.08 221**	PN	Pn	10 09 02.8	-3.6
QRZ	**Quartz Range**	**5.08 221**	Pn	Pn	10 09 02.8	-3.6
BSWZ	**Blackbirch Sta**	**5.21 206**	PN	Pn	10 09 05.0	-3.0
BSWZ	**Blackbirch Sta**	**5.21 206**	Pn	Pn	10 09 05.0	-3.0
THZ	**Tophouse**	**5.63 212**	PN	Pn	10 09 09.4	-3.9
THZ	**Tophouse**	**5.63 212**	Pn	Pn	10 09 09.4	-3.9
KHZ	**Kahutara**	**5.95 205**	⇓PN	Pn	10 09 14.0	-3.3
KHZ	**Kahutara**	**5.95 205**	Pn	Pn	10 09 13.7	-3.5
DSZ	**Denniston Nort**	**6.13 219**	PN	Pn	10 09 14.9	-4.7
DSZ	**Denniston Nort**	**6.13 219**	Pn	Pn	10 09 14.9	-4.7
LTZ	**Lake Taylor**	**6.74 210**	PN	Pn	10 09 23.4	-4.0
LTZ	**Lake Taylor**	**6.74 210**	Pn	Pn	10 09 23.4	-4.0
OXZ	**Oxford**	**7.28 209**	⇓PN	Pn	10 09 29.3	-5.0
MQZ	**McQueen's Vall**	**7.39 205**	⇑PN	Pn	10 09 30.8	-4.8
MQZ	**McQueen's Vall**	**7.39 205**	Pn	Pn	10 09 30.8	-4.8
WVZ	**Waitaha Valley**	**7.65 216**	PN	Pn	10 09 34.8	-4.1
WVZ	**Waitaha Valley**	**7.65 216**	Pn	Pn	10 09 34.8	-4.1
RPZ	**Rata Peaks**	**8.01 212**	PN	Pn	10 09 39.2	-4.4
RPZ	**Rata Peaks**	**8.01 212**	Pn	Pn	10 09 39.2	-4.4
FOZ	**Fox Glacier**	**8.52 218**	PN	Pn	10 09 43.7	-6.3
FOZ	**Fox Glacier**	**8.52 218**	Pn	Pn	10 09 43.9	-6.1
ODZ	**Otahua Downs**	**9.27 209**	*e*PN	Pn	10 09 56.1	-3.6
ODZ	**Otahua Downs**	**9.27 209**	Pn	Pn	10 09 56.2	-3.5

*NNC **04** 10:17:43.0±5.7, 52°.96N×63°.11E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=71.2km s-min=14.9km az=146.0*
*IDC **04** 10:17:48.5±2.3, 53°.28N×63°.52E, h0km, mb1 2.9/3, mb1mx2.8/30, mbtmp2.9/3, ML2.9/2, Error ellipse: s-maj=51.0km s-min=9.4km az=163.0*
ISC 04 10:17:53.4±2.0, 52°.5N±0°.4×63°.9E±0°.1, h10km, n8, σ2§60/11, 5C-4D, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**3.95**	**80**	Pn	**Pn**	**10 18 53.3**	**-0.7**
	1.7nm,0.7s,baz=286,slow=13,SNR=19						
BVA0				⇑Pg	**Pb**	**10 19 01.3**	**-1.7**
	2.5nm,0.7s,baz=289,slow=14,SNR=4.1						
BVA0				⇑Sn	**Sn**	**10 19 45.4**	**+5.1**
	0.8nm,0.5s,baz=276,slow=23						
BVA0				⇓Lg	Lg	10 20 01.7	
	5.3nm,1.1s,baz=268,slow=28,SNR=4.8						
BVAR	**Borovoye Array**	**3.95**	**80**	Pn	**Pn**	**10 18 53.3**	**-0.7**
	0.6nm,0.3s,baz=281,slow=14,SNR=24						
BVAR				Sn	**Sn**	**10 19 43.4**	**+3.0**
	0.5nm,0.3s,baz=279,slow=22,SNR=4.2						
BVAR				Lg	Lg	10 20 01.7	
	0.9nm,0.3s,baz=273,slow=34,SNR=5.3						
AB31	**Akbulak array**	**4.13**	**219**	⇓Sn	Sn	10 19 38.6	-6.3
	0.5nm,0.3s						
AB31				⇑Lg	Lg	10 19 57.3	
	3.5nm,0.7s,baz=24,slow=25,SNR=7.7						
AKTO	**Aktyubinsk**	**4.25**	**243**	Pn	**Pn**	**10 18 58.1**	**0.0**
	baz=45,slow=12,SNR=0.7						
AKTO				Sn	**Sn**	**10 19 50.0**	**+2.2**
	0.4nm,0.3s,baz=137,slow=19,SNR=4.2						
I31KZ	**AKTYUBINSK IMP**	**4.25**	**242**	*i*		10 45 56.4	
	baz=50,slow=342,SNR=5.0						
VOSK	**Vostochnaya**	**4.30**	**85**	⇓Pn	**Pn**	**10 18 58.6**	**-0.2**
	1.1nm,0.8s						
VOSK				⇑Pg	**Pb**	**10 19 06.6**	**-2.4**
	1.1nm,0.7s						
VOSK				⇓Sn	**Sn**	**10 19 51.1**	**+2.2**
	0.5nm,0.5s						
VOSK				⇑Lg	Lg	10 20 13.8	
	0.9nm,0.5s						
I46RU	**ZALESOVO INFRA**	**12.59**	**75**	*i*		11 37 50.0	
	baz=272,slow=316,SNR=1.0						
MKAR	**Makanchi Array**	**13.19**	**108**	Pn	**Pn**	**10 21 00.1**	**-0.4**
	0.1nm,0.3s,baz=302,slow=14,SNR=3.0						

IDC 04 10:22:50.1±1.9, 36°.40S×73°.34W, h0km, mb3.3/2, mb1 3.7/5, mb1mx3.6/18, mbtmp3.4/5, ML3.6/3, Error ellipse: s-maj=42.8km s-min=26.9km az=76.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.84**	**154**	Pn	Pn	10 24 04.1	-0.3
	0.2nm,0.3s,baz=327,slow=18,SNR=4.7						
PLCA				Sn	Sn	10 25 03.5	+2.2
	0.8nm,0.3s,baz=35,slow=16,SNR=5.5						
CFAA	**Coronel Fontan**	**6.39**	**43**	Pn	Pn	10 24 26.0	+0.4
	0.4nm,0.3s,baz=216,slow=13,SNR=10.0						
CPUP	**Villa Florida**	**16.94**	**58**	Pn	Pn	10 26 47.6	-0.9
	0.4nm,0.3s,baz=200,slow=12,SNR=3.2						
LPAZ	**La Paz**	**20.56**	**14**	P	P	10 27 31.4	+0.2
	1.3nm,0.9s,baz=222,slow=12,SNR=3.1						
TXAR	**Lajitas Array**	**71.33**	**332**	P	P	10 34 11.7	0.0
	0.2nm,0.5s,baz=151,slow=8.6,SNR=6.3						

*IDC **04** 10:25:06.3±1.1, 34°.71S×73°.86W, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.9/17, mbtmp3.8/6, ML3.9/2, MS3.3/1, Ms1 3.4/1, ms1mx2.6/26, Error ellipse: s-maj=44.3km s-min=25.3km az=87.0*
*ISCJB **04** 10:25:09.5±1.1, 34°.8S±0°.1×73°.7W±0°.4, h33km, mb3.9/4, Error ellipse: s-maj=41.5km s-min=15.5km az=174.8*
ISC 04 10:25:11.6±1.1, 34°.8S±0°.1×73.7W±0°.3, h35km, n8, σ1§48/8, mb3.9/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.47**	**158**	Pn	**Pn**	**10 26 43.4**	**-1.1**
	0.8nm,0.3s,baz=334,slow=10,SNR=2.3						
LPAZ	**La Paz**	**19.07**	**17**	P	**P**	**10 29 30.6**	**-1.2**
	0.1nm,0.3s,baz=183,slow=8.9,SNR=5.6						
LPAZ				LR	LR	10 37 43.1	
	comp=Z,91nm,19.4s,baz=262,slow=40						
QSPA	**South Pole Qui**	**55.48**	**180**	P	**P**	**10 34 44.0**	**+1.3**
	1.1nm,0.9s,baz=149,slow=6.3,SNR=4.5						
TXAR	**Lajitas Array**	**69.73**	**332**	P	**P**	**10 36 17.9**	**-0.1**
	0.3nm,0.6s,baz=155,slow=9.0,SNR=6.5						
DBIC	**Dimbokro**	**76.75**	**72**	P	**P**	**10 37 01.4**	**+1.7**
	2.3nm,0.7s,baz=175,slow=6.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**85.79**	**71**	P	**P**	**10 37 46.7**	**-0.9**
	0.7nm,0.9s,baz=216,slow=7.1,SNR=3.5						
WRA	**Warramunga Arr**	**119.40**	**211**	PKP	**PKPdf**	**10 43 56.6**	**-1.2**
	0.2nm,0.4s,baz=150,slow=1.7,SNR=6.6						
MKAR	**Makanchi Array**	**158.32**	**49**	PKPab	**PKPab**	**10 45 40.4**	**+1.2**
	0.1nm,0.5s,baz=272,slow=2.9,SNR=2.9						

*JMA **04** 10:29:49.6±0.1, 34°.13N×136°.87E, h377km, M3.0*
*IDC **04** 10:29:50.8±6.8, 33°.53N×136°.69E, h287km±216km, mb2.5/2, mb1 2.7/4, mb1mx2.5/29, mbtmp3.1/4, Error ellipse: s-maj=272.7km s-min=42.1km az=12.0*
*ISCJB **04** 10:29:52.4±0.8, 34°.3N±0°.1×136°.92E±0°.09, h350km, mb2.6/2, Error ellipse: s-maj=17.3km s-min=8.9km az=163.3*
ISC 04 10:29:52.8±1.2, 34°.4N±0°.1×136°.9E±0°.1, h350km, n14, σ1§24/15, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.17**	**272**	P	**Pn**	**10 30 36.9**	**+0.3**
JHMK	**Hamakita**	**0.82**	**58**	P	**Pn**	**10 30 38.5**	**+0.8**
JWT	**Wachi**	**1.53**	**306**	P	**Pn**	**10 30 41.4**	**+0.4**
JRY	**Ryogami san**	**2.30**	**44**	P	**Pn**	**10 30 48.2**	**+1.9**
MJAR	**Matsushiro Arr**	**2.40**	**26**	P	**Pn**	**10 30 48.3**	**+1.3**
	0.5nm,0.3s,baz=201,slow=9.2,SNR=4.3						
JHU	**Hanno**	**2.43**	**52**	*e*S	**S**	**10 31 32.3**	**+1.2**
JAG	**Ashikaga**	**2.91**	**45**	P	**Pn**	**10 30 51.4**	**+0.2**
BSO3	**Boso 3**	**3.00**	**81**	*e*S	**S**	**10 31 39.8**	**+0.5**
BSO1	**Boso 1**	**3.37**	**84**	*e*S	**S**	**10 31 44.9**	**-0.1**
JHO	**Hitachi**	**3.72**	**52**	P	**Pn**	**10 30 59.0**	**+0.1**
JHO				S	**S**	**10 31 50.8**	**-1.4**
JFK	**Kawauchi**	**4.38**	**46**	P	**Pn**	**10 31 05.8**	**+0.1**
JFK				S	**S**	**10 32 01.8**	**-2.8**
KSRS	**Korea Array**	**7.91**	**295**	P	**Pn**	**10 31 46.1**	**+0.4**
	0.2nm,0.3s,baz=111,slow=13,SNR=4.9						
WRA	**Warramunga Arr**	**54.08**	**183**	P	P	10 38 39.2	-3.4
	0.2nm,0.3s,baz=360,slow=7.7,SNR=8.3						
ASAR	**Alice Springs**	**57.80**	**183**	P	**P**	**10 39 08.0**	**-0.7**
	0.1nm,0.7s,baz=356,slow=5.0,SNR=4.6						

*JMA **04** 10:31:25.5±0.2, 22°.98N×120°.58E, h0km, M3.5*
*TAP **04** 10:31:26.6, 22°.97N×120°.66E, h17km, ML3.7, B*
*ISCJB **04** 10:31:27.9±0.2, 22°.95N±0°.01×120°.66E±0°.02, h20km±3km, Error ellipse: s-maj=3.1km s-min=2.2km az=169.4*
ISC 04 10:31:27.4±0.8, 22°.97N±0°.02×120°.63E±0°.02, h17km±6km, n67, σ0§81/104, 10C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.12**	**341**	⇓*i*P	**Pb**	**10 31 31.5**	**+0.3**
	baz=341						
SGST				S	**Sb**	**10 31 34.7**	**+0.9**
	baz=341						
SSD	**Sandimen**	**0.22**	**179**	⇑*i*P	**Pg**	**10 31 32.3**	**-0.2**
	baz=184						
SSD				*i* S	**Sg**	**10 31 36.0**	**-0.1**
	baz=184						
STYT	**Tauyuan**	**0.23**	**32**	⇑*i*P	**Pg**	**10 31 32.6**	**-0.1**
	baz=33						
STYT				*i* S	**Sg**	**10 31 36.7**	**+0.4**
	baz=33						
CHN1	**Nanshi**	**0.23**	**337**	⇓*i*P	**Pb**	**10 31 33.2**	**+0.1**
	baz=342						
CHN1				*i* S	**Sb**	**10 31 38.2**	**+1.2**
	baz=342						
TWM1	**Shoushan**	**0.24**	**232**	⇑*i*P	**Pb**	**10 31 33.8**	**+0.5**
	baz=236						
CHN3	**Shinhua**	**0.26**	**294**	*e*P	**Pn**	**10 31 35.3**	**-1.2**
	baz=293						
SGLT	**Jiouru**	**0.27**	**207**	P	**Pb**	**10 31 34.2**	**+0.4**
	baz=206						
SGLT				*e*S	**Sn**	**10 31 41.0**	**-1.3**
	baz=206						
WTP	**Ta-pu**	**0.28**	**358**	⇓*i*P	**Pg**	**10 31 33.8**	**+0.3**
	baz=354						
WTP				S	**Sb**	**10 31 38.7**	**+0.4**
	baz=354						
TWK	**Hsinying**	**0.32**	**337**	⇓*i*P	**Pg**	**10 31 34.6**	**+0.3**
	baz=335						
TWK				*i* S	**Sb**	**10 31 40.5**	**+0.9**
	baz=335						
TAI1	**Yung-k'ang**	**0.37**	**281**	*e*P	**Pb**	**10 31 36.5**	**+1.0**
	baz=281						
CHN4	**Tsaushan**	**0.38**	**355**	⇓*i*P	**Pg**	**10 31 35.4**	**+0.1**
	baz=352						
CHN4				*i* S	**Sb**	**10 31 41.8**	**+0.5**
	baz=352						
ELDTW	**Lidau**	**0.42**	**59**	⇑*i*P	**Pg**	**10 31 35.8**	**-0.3**
	baz=50						
ELDTW				S	**Sg**	**10 31 42.2**	**+0.3**
	baz=50						
TWG	**Pinlang**	**0.44**	**110**	⇓P	**Pg**	**10 31 36.0**	**-0.2**
	baz=100						
TWG				S	**Sg**	**10 31 42.3**	**0.0**
	baz=100						
SCLT	**Jiali**	**0.45**	**297**	*e*P	**Pb**	**10 31 37.8**	**+1.0**
	baz=298						
SCLT				*e*S	**Sn**	**10 31 46.0**	**-0.6**
	baz=298						
ECL	**Taimali**	**0.48**	**141**	⇓*i*P	**Pg**	**10 31 36.6**	**-0.4**
	baz=148						
ECL				*i* S	**Sg**	**10 31 43.1**	**-0.4**
	baz=148						
KAU	**Kaohsiung**	**0.50**	**216**	*e*P	**Pb**	**10 31 38.4**	**+0.8**
	baz=233						
TTN	**Taitung**	**0.53**	**114**	*e*P	**Pg**	**10 31 37.3**	**-0.6**
	baz=115						
CHN8	**Yiju**	**0.54**	**315**	*e*P	**Pb**	**10 31 38.8**	**+0.5**
	baz=326						
CHN8				*e*S	**Sn**	**10 31 48.2**	**-0.6**
	baz=326						
CHY	**Chiayi**	**0.56**	**341**	*e*P	**Pg**	**10 31 38.1**	**-0.4**
	baz=339						
CHY				*e*S	**Sb**	**10 31 47.7**	**+1.3**
	baz=339						
ALS	**Alishan**	**0.56**	**17**	⇑P	**Pg**	**10 31 38.4**	**-0.3**
	baz=15						
ALS				*e*S	**Sg**	**10 31 46.6**	**+0.2**
	baz=15						
CHN2	**Minshiung**	**0.58**	**346**	*e*P	**Pg**	**10 31 38.7**	**-0.1**
	baz=344						
CHN2				*e*S	**Sn**	**10 31 48.7**	**-1.2**
	baz=344						
SCZT	**Fangliau**	**0.59**	**181**	⇓*i*P	**Pg**	**10 31 38.7**	**-0.4**
	baz=178						
YUS	**Yu-Shan**	**0.60**	**30**	⇑*i*P	**Pg**	**10 31 39.2**	**-0.2**
	baz=37						
YUS				S	**Sg**	**10 31 47.8**	**+0.3**
	baz=37						
EAST	**Anshuo**	**0.62**	**161**	⇓*i*P	**Pg**	**10 31 39.3**	**-0.3**
	baz=162						
EAST				*e*S	**Sg**	**10 31 48.0**	**+0.2**
	baz=162						
CHN5	**Tsauling**	**0.63**	**4**	*e*P	**Pg**	**10 31 39.6**	**-0.2**
	baz=11						
CHN5				*e*S	**Sb**	**10 31 49.1**	**+0.7**
	baz=11						
TAW	**Tawu**	**0.66**	**158**	*e*P	**Pg**	**10 31 39.8**	**-0.5**
	baz=159						
TAW				*e*S	**Sg**	**10 31 48.5**	**-0.6**
	baz=159						
TWP	**Hsiaoliuchiu**	**0.67**	**201**	⇑*e*P	**Pn**	**10 31 42.1**	**+0.1**
	baz=203						
TWP				*e*S	**Sn**	**10 31 54.2**	**+2.2**
	baz=203						
CHKT	**Chengkung**	**0.69**	**79**	⇑P	**Pb**	**10 31 40.8**	**-0.2**
	baz=78						
CHKT				*e*S	**Sb**	**10 31 51.6**	**+1.4**
	baz=78						
WGK	**Gukeng**	**0.72**	**355**	*e*P	**Pb**	**10 31 41.2**	**-0.2**
	baz=354						
WGK				*e*S	**Sn**	**10 31 53.2**	**0.0**
	baz=354						
WSF	**Szhu**	**0.76**	**331**	P	**Pb**	**10 31 42.0**	**-0.2**
	baz=330						
WSF				*e*S	**Sn**	**10 31 54.0**	**-0.4**
	baz=330						
EHY	**Hungye**	**0.83**	**50**	⇑*i*P	**Pb**	**10 31 42.7**	**-0.7**
	baz=45						
EHY				*e*S	**Sb**	**10 31 53.5**	**-0.9**
	baz=45						
WNT	**Mingjian**	**0.91**	**3**	*e*P	**Pb**	**10 31 43.9**	**-0.7**
	baz=348						
WDGT	**Dungji**	**0.94**	**288**	*e*P	**Pb**	**10 31 43.8**	**-1.3**
	baz=289						
WDGT				*e*S	**Sb**	**10 31 57.1**	**-0.1**
	baz=289						
SMLT	**Sun Moon Lake**	**0.94**	**15**	P	**Pb**	**10 31 45.5**	**+0.2**
	baz=14						
SMLT				*e*S	**Sn**	**10 31 59.0**	**-0.1**
	baz=14						
WTCT	**Ta-ch'eng**	**0.95**	**340**	*e*P	**Pb**	**10 31 44.9**	**-0.4**
	baz=340						
WTCT				*e*S	**Sn**	**10 31 58.8**	**-0.1**
	baz=340						
TYC	**Yuchr**	**0.95**	**13**	*e*P	**Pb**	**10 31 45.2**	**-0.3**
	baz=12						
TYC				*e*S	**Sn**	**10 31 59.7**	**+0.5**
	baz=12						
HEN	**Hengchun**	**0.96**	**174**	*e*P	**Pb**	**10 31 45.4**	**-0.2**
	baz=165						
HEN				*e*S	**Sn**	**10 31 59.8**	**+0.4**
	baz=165						
TWK1	**Hengchun**	**1.03**	**171**	*e*P	**Pb**	**10 31 46.5**	**-0.2**
	baz=173						
TSEB	**Hengchuen, Pin**	**1.09**	**167**	*e*P	**Pb**	**10 31 47.9**	**+0.1**
	baz=170						
TSEB				*e*S	**Sg**	**10 32 04.1**	**+1.2**
	baz=170						
ESL	**Shilin**	**1.12**	**41**	⇑P	**Pn**	**10 31 48.0**	**-0.3**
	baz=32						
ESL				*e*S	**Sb**	**10 32 03.0**	**+0.4**
	baz=32						
PNG	**Penghu**	**1.15**	**301**	*e*P	**Pn**	**10 31 46.6**	**-2.1**
	baz=301						
TCU	**Taichung**	**1.17**	**2**	*e*P	**Pn**	**10 31 49.2**	**+0.2**
	baz=349						
LAY	**Lan-yu**	**1.26**	**137**	*e*P	**Pn**	**10 31 48.6**	**-1.5**
	baz=126						
WHF	**Hehuan Shan**	**1.31**	**26**	*e*P	**Pn**	**10 31 51.0**	**-0.2**
	baz=34						
TWT	**Tachien**	**1.37**	**21**	*e*P	**Pn**	**10 31 50.9**	**-1.1**
	baz=19						
TWQ1	**Liyutan**	**1.38**	**6**	*e*P	**Pn**	**10 31 51.6**	**-0.3**
	baz=4.0						
TWD	**Chiawan**	**1.42**	**39**	*e*P	**Pb**	**10 31 53.0**	**-0.3**
	baz=38						
TWD				*e*S	**Sg**	**10 32 12.6**	**-0.7**
	baz=38						
NSY	**Sanyi**	**1.45**	**5**	*e*P	**Pn**	**10 31 51.9**	**-0.9**
	baz=3.0						
NNS	**Nan Shan**	**1.62**	**25**	*e*P	**Pn**	**10 31 56.1**	**+0.9**
	baz=23						
NSTT	**Nanjuang**	**1.69**	**12**	*e*P	**Pn**	**10 31 55.5**	**-0.6**
	baz=354						
ENA	**Nanau**	**1.78**	**35**	*e*P	**Pb**	**10 31 59.2**	**-0.3**
	baz=34						
NSK	**Sanguang**	**1.83**	**21**	*e*P	**Pb**	**10 32 00.1**	**-0.2**
	baz=20						
ENTT	**Nioudou**	**1.87**	**27**	*e*P	**Pb**	**10 32 00.8**	**-0.4**
	baz=10.0						
TWC	**Suao**	**1.98**	**34**	*e*P	**Pb**	**10 32 02.0**	**-0.9**
	baz=33						
TWE	**Neicheng**	**1.99**	**28**	*e*P	**Pn**	**10 32 01.6**	**+1.4**
	baz=27						
TWA	**Mucha**	**2.19**	**23**	*e*P	**Pb**	**10 32 05.6**	**-0.9**
	baz=22						
EGS		**2.22**	**32**	*e*P	**Pb**	**10 32 06.1**	**-0.8**
	baz=31						
NWF	**Wu-fen Shan**	**2.34**	**27**	*e*P	**Pn**	**10 32 06.9**	**+1.7**
	baz=8.0						
JYNG	**Yonagunijimaku**	**2.59**	**55**	*e*S	**Sb**	**10 32 42.5**	**-2.3**
YOJ	**Yonaguni jima**	**2.64**	**55**	*e*S	**Sn**	**10 32 43.2**	**+2.4**
YOJ	**Yonaguni jima**	**2.64**	**55**	*e*P	**Pn**	**10 32 09.8**	**+0.6**
	baz=53						
HATJ	**Hateruma jima**	**3.11**	**69**	*e*S	**Sn**	**10 32 53.0**	**+0.6**
IRIF	**Iriomote-Funau**	**3.15**	**64**	P	**Pn**	**10 32 18.1**	**+1.9**
IRIF				*e*S	**Sn**	**10 32 54.9**	**+1.4**
JKRS	**Kuro-shima**	**3.35**	**67**	P	**Pn**	**10 32 19.4**	**+0.5**
JKRS				*e*S	**Sn**	**10 32 57.8**	**-0.5**
JIJ	**Ishigaki jima**	**3.51**	**66**	P	**Pn**	**10 32 21.3**	**+0.2**
JIJ				*e*S	**Sn**	**10 33 03.1**	**+0.8**
JISG	**Ishigakijimahi**	**3.74**	**64**	P	**Pn**	**10 32 24.3**	**0.0**
JISG				*e*S	**Sn**	**10 33 08.0**	**+0.1**
JTJ	**Tarama**	**4.09**	**65**	*e*S	**Sn**	**10 33 17.0**	**+0.5**

*IDC **04** 10:32:24.5±1.2, 35°.02S×72°.24W, h0km, mb3.9/6, mb1 3.9/9, mb1mx3.9/19, mbtmp3.8/9, ML3.5/3, MS2.9/2, Ms1 2.9/2, ms1mx2.7/26, Error ellipse: s-maj=37.5km s-min=17.6km az=90.0*
*ISCJB **04** 10:32:27.4±1.0, 34°.9S±0°.1×72°.3W±0°.2, h29km, mb3.8/6, Error ellipse: s-maj=28.7km s-min=16.0km az=16.0*
ISC 04 10:32:28.8±1.1, 35°.1S±0°.1×72°.2W±0°.2, h29km, n17, σ1§44/10, mb4.0/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.79**	**45**	Pn	**Pn**	**10 33 39.4**	**+0.4**
	0.4nm,0.3s,baz=206,slow=7.8,SNR=20						
CFAA				Lg	Lg	10 34 51.7	
	0.7nm,0.3s,baz=222,slow=23,SNR=7.6						
CFAA				LR	LR	10 35 42.2	
	comp=Z,31nm,19.4s,baz=236,slow=41						
PLCA	**Paso Flores**	**5.80**	**167**	Pn	**Pn**	**10 33 50.9**	**-2.0**
	0.3nm,0.3s,baz=4.0,slow=7.9,SNR=7.2		

ISC 04 10:39:13.2±1.0, 34°.4S±0°.1×73°.6W±0°.1, h35km, n9, σ1°23/10, mb3.6/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.29**	**60**	**Pn**	**Pn**	**10 40 29.4**	**-0.4**
	0.2nm,0.3s,baz=237,slow=13,SNR=5.8						
CFAA				Sn	**Sn**	**10 41 30.3**	**+0.8**
	0.3nm,0.3s,baz=323,slow=20,SNR=8.1						
PLCA	**Paso Flores**	**6.83**	**160**	**Pn**	**Pn**	**10 40 50.5**	**-0.5**
	0.6nm,0.3s,baz=323,slow=10,SNR=10.0						
PLCA				Lg	Lg	10 42 32.9	
	0.4nm,0.3s,baz=247,slow=22,SNR=3.5						
LPAZ	**La Paz**	**18.65**	**17**	P	**P**	**10 43 27.5**	**-1.2**
	0.1nm,0.3s,baz=225,slow=11,SNR=2.7						
SIV	**San Ignacio**	**21.48**	**35**	P	**P**	**10 43 58.0**	**-0.9**
	2.6nm,0.9s,baz=241,slow=5.9,SNR=3.4						
TXAR	**Lajitas Array**	**69.41**	**332**	P	**P**	**10 50 18.8**	**+1.0**
	0.4nm,0.7s,baz=153,slow=7.3,SNR=5.9						
TORD	**Torodi Ar. Bea**	**85.56**	**71**	P	**P**	**10 51 48.8**	**+0.6**
	0.8nm,0.9s,baz=214,slow=4.9,SNR=3.6						
WRA	**Warramunga Arr**	**119.81**	**211**	PKP	**PKPdf**	**10 58 00.8**	**+0.5**
	0.3nm,0.8s,baz=170,slow=1.5,SNR=3.6						
MKAR	**Makanchi Array**	**157.98**	**48**	PKPab	**PKPab**	**10 59 40.6**	**+1.3**
	0.5nm,0.6s,baz=304,slow=2.8,SNR=5.3						
SONM	**Songino Array**	**166.52**	**360**	PKPab	**PKPab**	**11 00 14.8**	**-2.0**
	0.2nm,0.6s,baz=346,slow=3.0,SNR=2.7						

IDC 04 10:41:43.9±1.8, 8°.80S×126°.09E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/34, mbtmp3.5/4, ML3.5/3, MS3.3/1, Ms1 3.5/1, ms1mx2.6/22, Error ellipse: s-maj=34.2km s-min=30.6km az=92.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.77**	**240**	Pn	Pn	10 42 30.4	+0.8
	23nm,0.3s,baz=59,slow=5.6,SNR=15						
BATI				Sn	Sn	10 43 03.7	-0.1
	18nm,0.3s,baz=147,slow=24,SNR=7.4						
WRA	**Warramunga Arr**	**13.65**	**145**	Pn	Pn	10 44 58.2	-0.7
	0.2nm,0.3s,baz=318,slow=14,SNR=13						
WRA				Sn	Sn	10 47 25.5	-6.0
	0.2nm,0.3s,baz=316,slow=26,SNR=5.3						
ASAR	**Alice Springs**	**16.57**	**154**	Pn	Pn	10 45 38.0	+0.3
	0.1nm,0.3s,baz=322,slow=10,SNR=13						
ASAR				Sn	Sn	10 48 35.4	-7.1
	0.1nm,0.3s,baz=317,slow=22,SNR=3.5						
CMAR	**Chiang Mai Arr**	**38.10**	**315**	LR	LR	11 07 22.0	
	comp=Z,36nm,18.1s,baz=2.5,slow=40						
MKAR	**Makanchi Array**	**67.69**	**329**	P	P	10 52 42.9	-0.1
	0.2nm,0.4s,baz=115,slow=6.4,SNR=3.3						

IDC 04 10:49:19.1±1.5, 36°.72S×72°.96W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.6/17, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=53.5km s-min=20.1km az=77.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.43**	**156**	Pn	Pn	10 50 29.3	+1.6
	0.5nm,0.3s,baz=327,slow=11,SNR=2.9						
PLCA				Lg	Lg	10 51 40.1	
	3.4nm,0.3s,baz=258,slow=22,SNR=6.4						
LPAZ	**La Paz**	**20.79**	**13**	P	P	10 54 03.6	+0.9
	1.2nm,0.6s,baz=201,slow=8.6,SNR=5.2						
SIV	**San Ignacio**	**23.18**	**30**	P	P	10 54 26.4	-1.1
	2.8nm,0.9s,baz=232,slow=12,SNR=3.9						
TXAR	**Lajitas Array**	**71.75**	**332**	P	P	11 00 44.1	+0.9
	0.2nm,0.6s,baz=167,slow=8.2,SNR=3.5						
WRA	**Warramunga Arr**	**118.03**	**209**	PKP	PKPdf	11 08 06.3	-2.0
	0.2nm,1.0s,baz=152,slow=1.9,SNR=2.6						

*ISCJB **04** 10:51:13.2±0.5, 59°.37N±0°.04×14°.07E±0°.06, h0km, Error ellipse: s-maj=5.6km s-min=4.6km az=169.0*
*UPP **04** 10:51:14.0, 59°.36N×14°.08E, h0km, ML1.8, Mining explosion.*
*CSEM **04** 10:51:14.0, 59°.36N×14°.08E, h0km, ML1.8, Mining explosion.*
*IDC **04** 10:51:15.7±1.5, 59°.43N×14°.13E, h0km, mb1 3.5/2, mb1mx2.9/42, mbtmp3.4/2, ML2.4/3, Error ellipse: s-maj=11.7km s-min=7.6km az=16.0*

ISC 04 10:51:13.3±1.0, 59°.36N±0°.03×14°.08E±0°.03, h0km, n30, σ0°74/34, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRAU	**Nora**	**0.54**	**66**	P	**Pg**	**10 51 24.1**	**+0.6**
NRAU				S	**Sg**	**10 51 31.1**	**+0.6**
NRAU	**Nora**	**0.54**	**66**	P	**Pg**	**10 51 24.1**	**+0.6**
NRAU				S	**Sg**	**10 51 31.1**	**+0.6**
ASKU	**Askersund**	**0.60**	**140**	P	**Pg**	**10 51 25.5**	**+0.8**
ASKU	**Askersund**	**0.60**	**140**	P	**Pg**	**10 51 25.5**	**+0.8**
NASU	**Vaermlandsnaes**	**0.63**	**227**	P	**Pg**	**10 51 26.0**	**+0.7**
NASU	**Vaermlandsnaes**	**0.63**	**227**	P	**Pg**	**10 51 26.0**	**+0.7**
UDD	**Uddeholm**	**0.78**	**342**	P	**Pg**	**10 51 28.5**	**+0.4**
UDD	**Uddeholm**	**0.78**	**342**	P	**Pg**	**10 51 28.6**	**+0.4**
HFS	**Hagfors**	**0.81**	**346**	Pg	**Pg**	**10 51 29.1**	**+0.4**
	1.4nm,0.3s,baz=166,slow=18,SNR=29						
HFS				Lg	Lg	10 51 39.6	
	5.0nm,0.3s,baz=164,slow=33,SNR=35						
HFS				Rg	Rg	10 51 45.1	
	65nm,1.0s,baz=161,slow=40,SNR=22						
FINU	**Finntorp**	**0.82**	**274**	P	**Pg**	**10 51 29.4**	**+0.5**
FINU	**Finntorp**	**0.82**	**274**	P	**Pg**	**10 51 29.4**	**+0.5**
ESKU	**Eskilstuna**	**1.19**	**95**	P	**Pg**	**10 51 36.1**	**0.0**
ESKU	**Eskilstuna**	**1.19**	**95**	P	**Pg**	**10 51 36.1**	**0.0**
FKPU	**Falk**	**1.21**	**189**	P	**Pg**	**10 51 36.5**	**0.0**
FKPU	**Falk**	**1.21**	**189**	P	**Pg**	**10 51 36.5**	**0.0**
VANU	**Vaenersborg**	**1.35**	**231**	P	**Pg**	**10 51 39.0**	**-0.1**
VANU	**Vaenersborg**	**1.35**	**231**	P	**Pg**	**10 51 39.0**	**-0.1**
LNKU	**Linkoeping**	**1.36**	**146**	P	**Pg**	**10 51 39.5**	**+0.3**
LNKU	**Linkoeping**	**1.36**	**146**	P	**Pg**	**10 51 39.5**	**+0.3**
FALU	**Falun**	**1.44**	**37**	P	**Pn**	**10 51 40.5**	**-0.1**
FALU	**Falun**	**1.44**	**37**	P	**Pn**	**10 51 40.5**	**-0.1**
STRU	**Stroemstad**	**1.52**	**259**	P	**Pn**	**10 51 42.0**	**+0.3**
STRU	**Stroemstad**	**1.52**	**259**	P	**Pn**	**10 51 42.0**	**+0.3**
BACU	**Backbrunna**	**1.62**	**71**	P	**Pn**	**10 51 43.8**	**+0.8**
BACU	**Backbrunna**	**1.62**	**71**	P	**Pn**	**10 51 43.8**	**+0.8**
OSTU	**Oestervaala**	**1.78**	**59**	P	**Pn**	**10 51 46.2**	**+1.0**
OSTU	**Oestervaala**	**1.78**	**59**	P	**Pn**	**10 51 46.1**	**+1.0**
NOA	**NORSAR Array B**	**2.21**	**321**	Pn	**Pn**	**10 51 52.1**	**+0.9**
	0.6nm,0.3s,baz=136,slow=14,SNR=16						
NOA				Sn	**Sn**	**10 52 19.0**	**-0.3**
	2.0nm,0.3s,baz=134,slow=26,SNR=14						
FINES	**FINESS Array B**	**6.30**	**65**	Pn	**Pn**	**10 52 48.0**	**+0.6**
	0.1nm,0.3s,baz=253,slow=13,SNR=3.9						
FINES				Sn	**Sn**	**10 53 58.0**	**-1.9**
	0.5nm,0.3s,baz=262,slow=21,SNR=8.9						
FINES				Lg	Lg	10 54 27.9	
	0.8nm,0.3s,baz=259,slow=25,SNR=10						
ARCES	**ARCESS Array B**	**11.32**	**21**	Pn	**Pn**	**10 53 54.1**	**-1.9**
	0.1nm,0.3s,baz=212,slow=12,SNR=3.5						

*BJI **04** 10:53:49.5, 35°.50S×69°.80W, h10km, mB5.0/5, Ms5.2/3, Ms7 4.7/3*
*ISCJB **04** 10:53:51.8±0.2, 35°.93S±0°.04×70°.01W±0°.07, h33km, mb4.9/49, MS4.2/21, Error ellipse: s-maj=7.6km s-min=5.1km az=176.2*
*SJA **04** 10:53:51.0±0.7, 36°.09S×69°.58W, h47km±23km, ML3.8*
*MOS **04** 10:53:52.2±1.1, 35°.91S×70°.02W, h33km, mb5.0/12, Error ellipse: s-maj=22.8km s-min=11.4km az=101.6*
*NEIC **04** 10:53:53.7±0.2, 35°.87S×69°.92W, h35km, mb5.0/40, MS4.6/10, Error ellipse: s-maj=8.7km s-min=6.2km az=71.0*
NEIC Felt at San Rafael.
*IDC **04** 10:53:53.1±5.1, 35°.89S×70°.02W, h33km±37km, mb4.3/10, mb1 4.4/13, mb1mx4.3/20, mbtmp4.4/13, ML4.0/3, MS3.8/14, Ms1 3.8/14, ms1mx3.6/26, Error ellipse: s-maj=25.4km s-min=15.2km az=82.0*

ISC 04 10:53:53.6±0.4, 35°.94S±0°.05×70°.01W±0°.08, h35km, n436, σ0°81/432, mb4.9/51, MS4.3/21, 136C-168D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANA	**Caviahue**	**2.12**	**203**	*eP*	**Pn**	**10 54 26.5**	**-0.3**
CANA				AML	AML	10 55 16.8	
	comp=Z,478nm,0.7s						
AAGR	**Agrelo**	**3.00**	**19**	*eP*	**Pn**	**10 54 39.7**	**+0.9**
ARCO	**CERRO ARCO**	**3.21**	**16**	*eP*	**Pn**	**10 54 42.3**	**+0.6**
ARCO				AML	AML	10 55 46.2	
	comp=Z,230nm,0.6s						
ASAL	**Salagasta**	**3.47**	**17**	*eP*	**Pn**	**10 54 45.8**	**+0.5**
AUSP	**Uspallata**	**3.74**	**8**	*eP*	**Pn**	**10 54 50.9**	**+1.8**
RTLS	**Leoncito**	**4.17**	**8**	*eP*	Pn	10 54 57.9	+3.0
ACAN	**Cantantal**	**4.33**	**33**	*eP*	**Pn**	**10 54 56.8**	**-0.3**
CFAA	**Coronel Fontan**	**4.56**	**19**	Pn	**Pn**	**10 54 57.5**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=198,slow=16,SNR=3.1						
CFAA				Lg	Lg	10 56 11.6	
	comp=Z,1.0nm,0.3s,baz=202,slow=5.4,SNR=6.5						
CFAA				LR	LR	10 56 24.3	
	comp=Z,13nm,21.2s,baz=208,slow=33						
RTLL	**Cerro Villicun**	**4.77**	**16**	*eP*	**Pn**	**10 55 04.2**	**+1.2**
PLCA	**Paso Flores**	**4.81**	**185**	*eP*	Pn	10 55 10.1	+6.5
PLCA	**Paso Flores**	**4.81**	**185**	LR	LR	10 57 16.2	
	comp=Z,504nm,20.6s,baz=63,slow=42						
PLCA	**Paso Flores**	**4.81**	**185**	*e*Pn	Pn	10 55 10.1	+6.5
PLCA	**Paso Flores**	**4.81**	**185**	*eP*	**Pn**	**10 55 02.4**	**-1.2**
AVFE	**Valle Fertil**	**5.68**	**23**	*eP*	**Pn**	**10 55 15.6**	**0.0**
TRQA	**Tornquist**	**6.76**	**111**	*e*Pn	**Pn**	**10 55 30.8**	**+0.4**
LVC	**Limon Verde**	**13.31**	**4**	*e*Pn	**Pn**	**10 56 57.3**	**-3.0**
CPUP	**Villa Florida**	**14.46**	**52**	Pn	**Pn**	**10 57 16.8**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=178,slow=8.2,SNR=4.4						
CPUP				Lg	Lg	11 01 33.5	
	comp=Z,0.4nm,0.3s,baz=258,slow=19,SNR=2.5						
CPUP				LR	LR	11 03 27.9	
	comp=Z,370nm,18.0s,baz=208,slow=40						
EFI	**East Falkland**	**17.90**	**155**	*eP*	**Pn**	**10 58 00.3**	**+0.7**
USHA	**Ushuaia**	**18.93**	**177**	P	**P**	**10 58 11.9**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=6.1,slow=7.9,SNR=8.7						
USHA				LR	LR	11 04 39.9	
	comp=Z,472nm,20.4s,baz=345,slow=34						
LPAZ	**La Paz**	**19.64**	**5**	P	**P**	**10 58 19.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=185,slow=4.9,SNR=14						
LPAZ				LR	LR	11 07 32.9	
	comp=Z,31nm,20.4s,baz=138,slow=42						
LPAZ	**La Paz**	**19.64**	**5**	P	**P**	**10 58 19.4**	**-0.6**
LPAZ				*e*Pn	**Pn**	**10 58 20.6**	**-0.8**
SIV	**San Ignacio**	**21.40**	**24**	P	**P**	**10 58 37.6**	**-0.9**
	comp=Z,8.3nm,0.9s,baz=225,slow=11,SNR=19						
SIV				LR	LR	11 08 23.0	
	comp=Z,158nm,19.0s,baz=228,slow=41						
NNA	**Nana**	**24.63**	**344**	LR	LR	11 07 29.7	
	comp=Z,160nm,18.3s,baz=178,slow=33						
SAML	**Samuel**	**27.57**	**15**	*eP*	**P**	**10 59 35.0**	**-2.4**
	comp=Z,3.0nm,0.8s						
SAML				LR	LR		
	comp=Z,100nm,21.4s						
BDFB	**Brasilia**	**28.17**	**50**	LR	LR	11 13 11.0	
	comp=Z,108nm,18.5s,baz=214,slow=41						
RCBR	**Riachuelo**	**43.32**	**54**	LR	LR	11 21 27.3	
	comp=Z,299nm,19.2s,baz=191,slow=38						
VNA2	**Neumayer--Watz**	**47.58**	**157**	P	**P**	**11 02 26.4**	**+1.0**
SNAA	**Sanae**	**49.16**	**157**	P	**P**	**11 02 37.4**	**-0.3**
SNAA	**Sanae**	**49.16**	**157**	*eP*	**P**	**11 02 37.7**	**0.0**
SNAA				pmax	pmax		
	comp=Z,24nm,1.2s						
SNAA	**Sanae**	**49.16**	**157**	P	**P**	**11 02 37.3**	**-0.3**
	comp=Z,3.9nm,0.8s,baz=267,slow=9.4,SNR=6.0						
SEUS	**St. Eustatius**	**53.55**	**8**	PFAKE		11 03 20.0	+9.1
SEUS				LR	LR		
	comp=Z,500nm,22.0s						
CRPR	**Cabo Rojo, PR**	**53.72**	**3**	PFAKE		11 03 20.0	+7.9
CRPR				LR	LR		
	comp=Z,500nm,20.0s						
CPD	**Cerro la Pandu**	**53.82**	**5**	PFAKE		11 03 20.0	+7.1
CPD				LR	LR		
	comp=Z,4μm,21.1s						
NVL	**N'lazarevskaya**	**53.88**	**156**	*eP*	**P**	**11 03 12.8**	**0.0**
NVL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MPR	**Mayaguez**	**53.92**	**3**	PFAKE		11 03 30.0	+16
MPR				LR	LR		
	comp=Z,500nm,19.8s						
CBYP	**Canovanas**	**54.05**	**5**	PFAKE		11 03 30.0	+15
CBYP				LR	LR		
	comp=Z,300nm,20.3s						
SMRT	**St. Maarten**	**54.09**	**8**	PFAKE		11 03 30.0	+15
SMRT				LR	LR		
	comp=Z,400nm,20.5s						
AGP	**Aguadilla**	**54.11**	**3**	PFAKE		11 03 30.0	+15
AGP				LR	LR		
	comp=Z,500nm,20.6s						
STVI	**Saint Thomas**	**54.20**	**6**	PFAKE		11 03 30.0	+14
STVI				LR	LR		
	comp=Z,600nm,19.8s						
QSPA	**South Pole Qui**	**54.31**	**180**	P	**P**	**11 03 16.8**	**+0.6**
	comp=Z,5.7nm,0.8s,baz=137,slow=3.5,SNR=16						
QSPA	**South Pole Qui**	**54.31**	**180**	*eP*	**P**	**11 03 17.1**	**+0.9**
	comp=Z,24nm,1.4s						
QSPA				LR	LR		
	comp=Z,300nm,19.2s						
ASCN	**Ascension**	**57.74**	**75**	PFAKE		11 03 50.0	+8.7
ASCN				LR	LR		
	comp=Z,1μm,18.0s						
035A	**Encino**	**67.92**	**333**	⇑P	**P**	**11 04 49.3**	**+0.7**
	baz=68						
034A	**Hebbronville**	**68.26**	**333**	⇓P	**P**	**11 04 51.3**	**+0.5**
	baz=68						
934A	**Benavides**	**68.68**	**333**	⇑P	**P**	**11 04 53.8**	**+0.4**
	baz=69						
834A	**Tilden**	**69.17**	**333**	⇓P	**P**	**11 04 57.4**	**+1.0**
	baz=69,SNR=5.9						
735A	**Kenedy**	**69.56**	**334**	⇓P	**P**	**11 04 59.2**	**+0.4**
	baz=70						
833A	**Chaparral WMA,**	**69.66**	**333**	⇓P	**P**	**11 04 59.8**	**+0.4**
	baz=70						
832A	**Faith Ranch, C**	**69.84**	**332**	⇓P	**P**	**11 05 01.0**	**+0.4**
	baz=70,SNR=6.1						
636A	**Smothers Creek**	**69.87**	**335**	⇑P	**P**	**11 05 00.7**	**0.0**
	baz=70,SNR=5.2						
732A	**Laxson Ranch,**	**70.24**	**332**	⇓P	**P**	**11 05 02.9**	**-0.1**
	baz=70,SNR=11						
535A	**Dale**	**70.55**	**335**	⇓P	**P**	**11 05 04.7**	**-0.2**
	baz=71						
633A	**Saathoff Ranch**	**70.60**	**333**	⇑P	**P**	**11 05 04.7**	**-0.5**
	baz=71						
MAW	**Mawson**	**70.85**	**163**	LR	LR	11 36 32.0	
	comp=Z,56nm,18.6s,baz=240,slow=36						
632A	**Uvalde**	**70.87**	**333**	⇓P	**P**	**11 05 06.9**	**0.0**
	baz=71,SNR=7.5						
631A	**Perdido Creek**	**71.08**	**332**	⇑P	**P**	**11 05 07.8**	**-0.4**
	baz=71						
533A	**Kerrville**	**71.11**	**334**	⇑P	**P**	**11 05 08.3**	**0.0**
	baz=71						
532A	**Rocksprings**	**71.47**	**333**	⇓P	**P**	**11 05 10.3**	**-0.3**
	baz=72,SNR=8.2						
434A	**Burnet**	**71.51**	**335**	⇑P	**P**	**11 05 10.4**	**-0.4**
	baz=72,SNR=5.0						
336A	**Riesel**	**71.55**	**336**	⇓P	**P**	**11 05 10.8**	**-0.1**
	baz=72						
238A	**Jacksonville**	**71.57**	**338**	⇑P	**P**	**11 05 10.3**	**-0.7**
	baz=72						
PPT	**Papeete**	**71.61**	**261**	LR	LR	11 28 54.5	
	comp=Z,89nm,20.8s,baz=71,slow=29						
335A	**Moody**	**71.65**	**335**	⇑P	**P**	**11 05 11.4**	**-0.1**
	baz=72						
433A	**Art**	**71.75**	**334**	⇓P	**P**	**11 05 11.7**	**-0.5**
	baz=72,SNR=7.1						
531A	**Rocksprings**	**71.75**	**332**	⇑P	**P**	**11 05 12.2**	**0.0**
	baz=72						
JCT	**Junction City**	**71.75**	**333**	*eP*	**P**	**11 05 12.2**	**0.0**
JCT				pmax	pmax		
	comp=Z,12nm,1.0s						
JCT	**Junction City**	**71.75**	**333**	⇓P	**P**	**11 05 12.5**	**+0.2**
	baz=72						
JCT	**Junction City**	**71.75**	**333**	*eP*	**P**	**11 05 12.2**	**0.0**
	comp=Z,12nm,1.0s						
237A	**Washetta, Mont**	**71.78**	**337**	⇓P	**P**	**11 05 11.7**	**-0.6**
	baz=72						
334A	**Lometa**	**71.97**	**335**	⇑P	**P**	**11 05 13.0**	**-0.5**
	baz=72,SNR=10.0						
530A	**J-C Ranch, Com**	**72.03**	**332**	⇑P	**P**	**11 05 13.7**	**-0.2**
	baz=72,SNR=5.7						
432A	**Menard**	**72.11**	**333**	⇑P	**P**	**11 05 14.0**	**-0.4**
	baz=72						
333A	**Richland Sprin**	**72.23**	**334**	⇑P	**P**	**11 05 14.3**	**-0.7**
	baz=72,SNR=5.1						
431A	**Sonora**	**72.24**	**333**	⇑P	**P**	**11 05 15.5**	**+0.4**
	baz=72						
TXAR	**Lajitas Array**	**72.24**	**329**	P	**P**	**11 05 15.2**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=151,slow=8.6,SNR=22						
TXAR				LR	LR	11 32 46.8	
	comp=Z,86nm,18.0s,baz=0.0,slow=32						
WHTX	**Lake Whitney,**	**72.31**	**336**	⇑P	**P**	**11 05 15.2**	**-0.3**
	baz=73						
137A	**Heron Place, G**	**72.32**	**337**	⇑P	**P**	**11 05 15.9**	**+0.5**
	baz=73						
529A	**Stev Forest Ra**	**72.36**	**331**	⇓P	**P**	**11 05 15.8**	**-0.1**
	baz=73,SNR=8.9						
332A	**Millersview**	**72.55**	**334**	⇑P	**P**	**11 05 16.6**	**-0.3**
	baz=73						
234A	**Clairette**	**72.55**	**335**	⇑P	**P**	**11 05 16.7**	**-0.2**
	baz=73						
430A	**Baggett Ranch,**	**72.57**	**332**	⇑P	**P**	**11 05 17.0**	**-0.1**
	baz=73,SNR=8.6						
429A	**Davenport Ranc**	**72.67**	**332**	⇓P	**P**	**11 05 17.3**	**-0.5**
	baz=73,SNR=8.8						
331A	**San Angelo**	**72.73**	**333**	⇓P	**P**	**11 05 17.7**	**-0.3**
	baz=73,SNR=5.2						
233A	**Rising Star**	**72.83**	**335**	⇑P	**P**	**11 05 17.8**	**-0.8**
	baz=73,SNR=5.6						
232A	**Coleman**	**72.97**	**334**	⇑P	**P**	**11 05 19.0**	**-0.5**
	baz=73						
134A	**White-Moore Ra**	**73.05**	**335**	⇑P	**P**	**11 05 19.3**	**-0.5**
	baz=73						
330A	**Mertzon**	**73.10**	**332**	⇑P	**P**	**11 05 19.7**	**-0.6**
	baz=73						
231A	**Bronte**	**73.25**	**333**	⇑P	**P**	**11 05 20.5**	**-0.7**
	baz=74						
133A	**Hamilton Ranch**	**73.37**	**335**	⇑P	**P**	**11 05 21.6**	**-0.2**
	baz=74						
Z35A	**Perchaven, San**	**73.47**	**336**	⇑P	**P**	**11 05 21.9**	**-0.4**
	baz=74						
329A	**Wagon Wheel Ra**	**73.47**	**332**	⇑P	**P**	**11 05 21.8**	**-0.7**
	baz=74,SNR=5.5						
230A	**Sterling City**	**73.50**	**333**	⇓P	**P**	**11 05 21.9**	**-0.7**
	baz=74						
WVT	**Waverly**	**73.59**	**345**	*eP*	**P**	**11 05 21.5**	**-1.5**
WVT				pmax	pmax		
	comp=Z,13nm,1.0s						
WVT	**Waverly**	**73.59**	**345**	*eP*	**P**	**11 05 21.5**	**-1.5**
	comp=Z,13nm,1.0s						
ABTX	**Abilene, Hawle**	**73.64**	**334**	⇓P	**P**	**11 05 22.7**	**-0.7**
	baz=74						
ABTX	**Abilene, Hawle**	**73.64**	**334**	*eP*	**P**	**11 05 23.1**	**-0.3**
	comp=Z,13nm,1.1s						
Z34A	**Collier Ranch,**	**73.73**	**336**	⇑P	**P**	**11 05 23.4**	**-0.4**
	baz=74						
229A	**Bryant Ranch,**	**73.84**	**332**	⇑P	**P**	**11 05 23.9**	**-0.7**
	baz=74						
Z33A	**Whitaker Ranch**	**73.93**	**335**	⇑P	**P**	**11 05 24.4**	**-0.6**
	baz=74						
131A	**Roby**	**73.95**	**334**	⇑P	**P**	**11 05 24.5**	**-0.7**
	baz=74						
Z32A	**Haskell**	**74.20**	**335**	⇓P	**P**	**11 05 26.0**	**-0.6**
	baz=74,SNR=5.3						
Y34A	**Reagan Ranch,**	**74.21**	**336**	⇓P	**P**	**11 05 25.5**	**-1.1**
	baz=74						
DBIC	**Dimbokro**	**74.25**	**69**	P	**P**	**11 05 27.6**	**+0.2**
	comp=Z,9.6nm,0.9s,baz=185,slow=7.5,SNR=8.0						
228A	**UT Block 9, Go**	**74.27**	**332**	⇓P	**P**	**11 05 26.3**	**-0.8**
	baz=75						
Z31A	**Sharp Cattle R**	**74.44**	**334**	⇓P	**P**	**11 05 27.2**	**-0.9**
	baz=75						
Y33A	**Hilltop Ranch,**	**74.55**	**336**	⇓P	**P**	**11 05 27.5**	**-1.1**
	baz=75						
128A	**Castleberry Fa**	**74.68**	**332**	⇑P	**P**	**11 05 29.1**	**-0.4**
	baz=75						
Z30A	**Sanderson Ranc**	**74.77**	**333**	⇓P	**P**	**11 05 29.3**	**-0.7**
	baz=75						
Y32A	**R-V Farms, Ver**	**74.82**	**335**	⇓P	**P**	**11 05 29.5**	**-0.7**
	baz=75						
X34A	**Smith Ranch, M**	**74.83**	**336**	⇓P	**P**	**11 05 29.7**	**-0.5**
	baz=75						
Z29A	**Hungry Hill Ra**	**74.95**	**333**	⇓P	**P**	**11 05 30.3**	**-0.8**
	baz=75,SNR=8.3						
X33A	**Lawton**	**74.99**	**336**	⇓P	**P**	**11 05 30.2**	**-1.0**
	baz=75						
Y31A	**Rekieta Farm,**	**75.06**	**334**	⇑P	**P**	**11 05 31.4**	**-0.2**
	baz=75						
Z28A	**Tucker Farm, M**	**75.23**	**332**	⇓P	**P**	**11 05 31.9**	**-0.8**
	baz=76						
TUL1	**Leonard**	**75.40**	**339**	⇓P	**P**	**11 05 32.9**	**-0.6**
	baz=76						
Y29A	**Porterfield Fa**	**75.48**	**333**	⇑P	**P**	**11 05 33.6**	**-0.5**
	baz=76						
W33A	**Caddo, Fort Co**	**75.54**	**336**	⇓P	**P**	**11 05 33.9**	**-0.5**
	baz=76						
X31A	**McDonald Ranch**	**75.57**	**335**	⇑P	**P**	**11 05 33.9**	**-0.6**
	baz=76						
Z27A	**Tatum**	**75.57**	**332**	⇑P	**P**	**11 05 34.0**	**-0.7**
	baz=76						
X30A	**Coker Ranch, T**	**75.72**	**334**	⇑P	**P**	**11 05 34.8**	**-0.6**
	baz=76						
Y28A	**McKinney Farm,**	**75.73**	**333**	⇑P	**P**	**11 05 34.9**	**-0.7**
	baz=76						
W32A	**Sentinel**	**75.77**	**336**	⇑P	**P**	**11 05 35.1**	**-0.6**
	baz=76,SNR=7.2						
Z26A	**Caprock**	**75.83**	**331**	⇓P	**P**	**11 05 35.9**	**-0.3**
	baz=76						
V34A	**Guthrie**	**75.86**	**337**	⇓P	**P**	**11 05 35.8**	**-0.3**
	baz=76						
MSTX	**Muleshoe**	**75.99**	**332**	⇑P	**P**	**11 05 36.6**	**-0.5**
	baz=76						
MSTX	**Muleshoe**	**75.99**	**332**

baz=78
W24A Lazy 6 Ranch, 78.09 331 ⇑P P 11 05 49.1 +0.1
baz=78
U27A Thompson Grove 78.19 333 ⇓P P 11 05 49.3 0.0
baz=78
ANMO Albuquerque 78.28 330 ⇑iP P 11 05 49.6 -0.4
ANMO pmax pmax
comp=Z,20nm,1.0s
ANMO Albuquerque 78.28 330 eP P 11 05 50.1 +0.1
comp=Z,6.5nm,1.2s
T29A Hugoton 78.31 335 ⇓P P 11 05 50.4 +0.4
baz=79
V25A Rancho No Teng 78.34 332 ⇑P P 11 05 50.2 -0.1
baz=79,SNR=11
W23A Werner Place, 78.35 330 ⇓P P 11 05 50.8 +0.4
baz=79
V24A Rampart Ranch, 78.49 331 ⇓P P 11 05 51.1 -0.2
baz=79
U26A Atchley Ranch, 78.50 333 ⇓P P 11 05 51.2 0.0
baz=79
214A Organ Pipe Nat 78.56 324 ⇑P P 11 05 52.0 +0.6
baz=79
T28A Walsh 78.56 334 ⇑P P 11 05 51.0 -0.4
baz=79,SNR=9.5
KSU1 Kansas State U 78.60 339 ⇓P P 11 05 50.8 -0.6
baz=79
R32A Long Quarter, 78.61 337 ⇓P P 11 05 51.4 -0.1
baz=79
S29A Ulysses 78.66 335 ⇓P P 11 05 52.1 +0.2
baz=79
T27A Campo 78.72 334 ⇓P P 11 05 51.9 -0.4
baz=79
R31A Burdett 78.75 337 ⇓P P 11 05 52.1 -0.2
baz=79
U25A Circle Dot Ran 78.75 332 ⇑P P 11 05 52.7 +0.2
baz=79
S28A Manter 78.91 335 ⇓P P 11 05 53.2 -0.1
baz=79,SNR=5.2
R30A Dighton 78.98 336 ⇑P P 11 05 53.8 +0.2
baz=79
Q32A Meitler Ranch, 79.08 338 ⇓P P 11 05 53.7 -0.4
baz=79
U24A Moreno Valley 79.09 332 ⇑P P 11 05 55.1 +0.5
baz=79
T26A Comanche Natio 79.14 333 ⇓P P 11 05 55.0 +0.3
baz=79
V22A San Miguel Ran 79.31 330 ⇑P P 11 05 56.8 +1.1
baz=80
U23A El Rito 79.38 331 ⇓P P 11 05 56.8 +0.8
baz=80
X18A Snowflake 79.40 327 ⇑P P 11 05 56.2 +0.1
baz=80
T25A Trinidad 79.41 333 ⇑P P 11 05 56.7 +0.5
baz=80,SNR=9.1
S26A Kim 79.49 334 ⇓P P 11 05 56.9 +0.4
baz=80,SNR=5.7
P32A Huiting Farm, 79.68 338 ⇓P P 11 05 57.6 +0.3
baz=80
U22A Llaves 79.69 331 ⇑P P 11 05 57.8 +0.1
baz=80
T24B San Luis 79.71 332 ⇓P P 11 05 58.6 +0.7
baz=80,SNR=5.4
Q29A Oakley 79.77 336 ⇑P P 11 05 58.0 +0.1
baz=80
P31A Stockton 79.82 337 ⇓P P 11 05 58.3 +0.1
baz=80
R27A Eads 79.84 334 ⇓P P 11 05 58.3 -0.1
baz=80,SNR=5.6
S25A Robets Cordova 79.88 333 ⇑P P 11 05 59.0 +0.3
baz=80
T23A Casias Ranch, 79.94 331 ⇑P P 11 05 59.2 +0.1
baz=80
X16A Lo Mia Camp, P 79.97 326 ⇓P P 11 05 59.4 +0.2
baz=80
LBTB Lobatse 79.99 114 eP P 11 05 59.5 -0.2
LBTB pmax pmax
comp=Z,140nm,2.7s
LBTB Lobatse 79.99 114 eP P 11 05 59.5 -0.2
comp=Z,140nm,2.7s
R26A Arlington 80.09 334 ⇓P P 11 05 59.9 +0.1
baz=80
P30A Selden 80.12 337 ⇓P P 11 06 00.1 +0.4
baz=80
S24A Houchin Ranch, 80.15 332 ⇓P P 11 06 01.0 +0.7
baz=80,SNR=7.6
O32A Brockman Farm, 80.16 338 ⇑P P 11 06 00.1 +0.1
baz=80
Q28A Sharon Springs 80.21 335 ⇓P P 11 06 00.6 +0.3
baz=80
R25A Fountain Ranch 80.25 333 ⇑P P 11 06 00.5 -0.1
baz=81
Y14A Wickenburg 80.28 325 ⇑P P 11 06 01.2 +0.4
baz=81
SDCO Great Sand Dun 80.35 332 eP P 11 06 01.5 +0.1
comp=Z,3.9nm,0.9s
O31A Woolen Ranch, 80.38 338 ⇑P P 11 06 01.2 0.0
baz=81
P29A Atwood 80.39 336 ⇓P P 11 06 01.7 +0.5
baz=81
KSCO Kaye Shedlock' 80.43 335 ⇓P P 11 06 01.9 +0.4
baz=81
S23A Nye Farm, Mont 80.51 332 ⇑P P 11 06 02.6 +0.5
baz=81
R24A Sanders Place, 80.63 333 ⇓P P 11 06 03.3 +0.5
baz=81,SNR=6.8
O30A MW Ranch, Wils 80.64 337 ⇑P P 11 06 02.9 +0.4
baz=81
P28A Saint Francis 80.64 336 ⇑P P 11 06 03.3 +0.7
baz=81
Q26A Hugo 80.67 334 ⇓P P 11 06 03.5 +0.6
baz=81
Y12C Blythe 80.85 324 ⇑P P 11 06 04.6 +0.8
baz=81
WUAZ Wupatki 80.86 327 ⇑P P 11 06 04.6 +0.6
baz=81
S22A 4UR Ranch, Cre 80.86 331 ⇑P P 11 06 04.6 +0.4
baz=81,SNR=6.4
R23A Moffat 80.86 332 ⇓P P 11 06 04.2 +0.1
baz=81
MVCO Mesa Verde 81.07 330 ⇑P P 11 06 05.2 0.0
baz=81
MVCO Mesa Verde 81.07 330 eP P 11 06 05.5 +0.3
comp=Z,100nm,3.0s
O28A Krutsinger Ran 81.14 336 ⇑P P 11 06 05.5 +0.2
baz=81
P26A Davis Ranch, A 81.17 335 ⇑P P 11 06 05.4 -0.1
baz=82
Q24A Divide 81.29 333 ⇑P P 11 06 06.6 +0.2
baz=82
M31A Lambtecht Ranc 81.37 338 ⇓P P 11 06 07.0 +0.6
baz=82
N29A Votaw Ranch, W 81.40 337 ⇑P P 11 06 07.4 +0.9
baz=82
O27A Beecher Island 81.44 335 ⇑P P 11 06 07.7 +0.8
baz=82
IRM Iron Mountain 81.48 324 ⇓P P 11 06 08.2 +1.0
baz=82
N28A Pribbeno Ranch 81.57 336 ⇓P P 11 06 08.5 +1.0
baz=82
O26A Horse Wrangler 81.77 335 ⇑P P 11 06 09.2 +0.5
baz=82
PV01 Paradox Valley 81.89 330 eP P 11 06 09.8 +0.3
comp=Z,278nm,0.9s
P23A Jefferson 81.91 333 ⇓P P 11 06 10.3 +0.7
baz=82
O25A Wiggins 81.94 334 ⇑P P 11 06 10.4 +0.9
baz=82
U15A North Rim 82.02 327 ⇓P P 11 06 11.1 +0.9
baz=82
MURC Murrieta 82.04 322 ⇓P P 11 06 10.8 +0.6
baz=82
L31A Butterfield Fa 82.09 339 ⇓P P 11 06 10.6 +0.4
baz=82
L30A Spencer Herefo 82.15 338 ⇓P P 11 06 10.9 +0.4
baz=82
SMCO Snowmass 82.16 332 eP P 11 06 11.9 +0.8
comp=Z,10nm,1.1s
ISCO Idaho Springs 82.20 333 eP P 11 06 11.9 +0.8
ISCO pmax pmax
comp=Z,87nm,3.0s
ISCO Idaho Springs 82.20 333 ⇑P P 11 06 11.6 +0.5
baz=82
ISCO Idaho Springs 82.20 333 eP P 11 06 11.8 +0.8
comp=Z,86nm,3.0s
GMRC Granite Mounta 82.23 324 ⇓P P 11 06 11.7 +0.4
baz=82
N26A Koester Ranch, 82.26 335 ⇑P P 11 06 11.5 +0.3
baz=83
L29A Maesberg Ranch 82.48 338 ⇓P P 11 06 12.8 +0.5
baz=83
N25A Grover 82.55 335 ⇑P P 11 06 12.9 +0.1
baz=83
O23A Lake Granby, G 82.67 333 ⇓P P 11 06 14.3 +0.7
baz=83,SNR=6.0
K30A Basset 82.78 338 ⇓P P 11 06 13.7 -0.1
baz=83
O22A Kremmling 82.86 333 ⇓P P 11 06 14.2 -0.4
baz=83
ECSD EROS Data Cent 82.91 341 ⇓P P 11 06 14.1 -0.3
baz=83
ECSD EROS Data Cent 82.91 341 eP P 11 06 13.8 -0.5
comp=Z,9.3nm,1.0s
K29A Lazy Trails An 83.07 338 ⇓P P 11 06 15.5 +0.3
baz=83
M25A Palm-Egli Farm 83.08 335 ⇓P P 11 06 15.9 +0.4
baz=83
N23A Red Feather La 83.28 333 ⇑P P 11 06 17.1 +0.4
baz=84
TORD Torodi Ar. Bea 83.33 69 P P 11 06 17.0 -0.2
comp=Z,2.5nm,0.9s,baz=255,slow=3.8,SNR=10
TORD LR LR 11 39 57.9
comp=Z,64nm,19.6s,baz=230,slow=33
K28A Ten Mile Ranch 83.35 337 ⇑P P 11 06 17.5 +0.8
baz=84,SNR=8.1
SPMN Marine on St. 83.38 344 ⇓P P 11 06 15.8 -0.9
baz=84
M24A Cheyenne 83.38 334 ⇑P P 11 06 17.5 +0.4
baz=84
N22A Wattenberg Ran 83.38 333 ⇓P P 11 06 17.5 +0.3
baz=84
SHPR Sheep Range 83.39 325 eP P 11 06 17.3 +0.1
comp=Z,2.3nm,0.9s
CCUT Cedar City 83.43 327 eP P 11 06 19.2 +1.7
comp=Z,4.3nm,0.9s
PHWY Pilot Hill 83.46 334 eP P 11 06 17.8 +0.2
comp=Z,122nm,2.9s
O20A White River Ci 83.48 331 ⇓P P 11 06 18.2 +0.6
baz=84
SRU San Rafael Swe 83.52 329 eP P 11 06 17.9 +0.1
SRU pmax pmax
comp=Z,7.0nm,1.1s
SRU San Rafael Swe 83.52 329 eP P 11 06 17.9 +0.1
comp=Z,6.9nm,1.1s
K27A Flueckinger Fa 83.61 337 ⇓P P 11 06 19.0 +0.9
baz=84
J29A Okreek 83.66 338 ⇓P P 11 06 18.4 +0.2
baz=84,SNR=11
L25A Engebretsen Ra 83.69 335 ⇓P P 11 06 18.7 +0.1
baz=84
I30A Oacoma 83.86 339 ⇓P P 11 06 18.6 -0.7
baz=84,SNR=5.4
J28A Allard Ranch, 83.95 338 ⇑P P 11 06 19.8 0.0
baz=84
TMUT Trail Mountain 83.96 329 eP P 11 06 21.1 +0.9
comp=Z,101nm,2.9s
J27A Elkhorn Farm, 84.04 337 ⇑P P 11 06 20.9 +0.6
baz=84,SNR=6.1
K25A Mack Ranch, Ha 84.07 336 ⇑P P 11 06 20.8 +0.3
baz=84
N20A Spence Gulch, 84.09 332 ⇓P P 11 06 21.1 +0.3
baz=84
ISA Isabella, Lake 84.32 322 ⇑P P 11 06 22.3 +0.4
baz=85
DAC Darwin (Calif) 84.37 323 eP P 11 06 22.9 +0.6
DAC pmax pmax
comp=Z,10.0nm,1.3s
DAC Darwin (Calif) 84.37 323 eP P 11 06 22.9 +0.6
comp=Z,10nm,1.3s
J26A Sides Ranch, S 84.43 336 ⇑P P 11 06 22.7 +0.4
baz=85
I28A Midland 84.45 338 ⇓P P 11 06 22.1 -0.2
baz=85,SNR=5.1
H29A Onida 84.74 339 ⇓P P 11 06 23.5 -0.1
baz=85
J25A Sunshine Ranch 84.74 336 ⇑P P 11 06 24.2 +0.4
baz=85
VES Vestal, Richgr 84.76 322 ⇓P P 11 06 24.4 +0.4
baz=85
I27A Quinn 84.79 337 ⇑P P 11 06 23.8 -0.2
baz=85
K23A Bowen Ranch, D 84.80 334 ⇓P P 11 06 24.5 +0.3
baz=85
G30A Faulkton 84.89 340 ⇓P P 11 06 24.9 +0.5
baz=85
H28A Mission Ridge 85.02 338 ⇓P P 11 06 25.0 -0.2
baz=85,SNR=6.3
K22A Casper 85.02 334 ⇓P P 11 06 25.8 +0.4
baz=85
K22A Casper 85.02 334 eP P 11 06 26.1 +0.7
comp=Z,8.6nm,1.0s
R11A Troy Canyon, C 85.09 326 ⇓P P 11 06 25.7 -0.1
baz=85
R11A Troy Canyon, C 85.09 326 eP P 11 06 26.8 +0.9
comp=Z,51nm,2.5s
JLU Jordanelle 85.16 330 eP P 11 06 26.5 +0.3
comp=Z,67nm,2.7s
G29A Hoven 85.17 339 ⇓P P 11 06 25.9 +0.1
baz=86
K21A Alcova 85.27 333 ⇑P P 11 06 26.4 -0.2
baz=86,SNR=6.7
I25A Rochford 85.28 336 ⇓P P 11 06 26.0 -0.6
baz=86
H27A Howes 85.30 338 ⇑P P 11 06 26.3 -0.3
baz=86,SNR=5.1
G28A Parade 85.35 339 ⇓P P 11 06 26.2 -0.5
baz=86
DUG Dugway, Tooele 85.39 329 ⇓P P 11 06 27.4 +0.2
baz=86
I24A Kuemerle Ranc 85.43 336 ⇓P P 11 06 27.4 +0.1
baz=86
RSSD Black Hills 85.47 336 eP P 11 06 27.5 -0.1
RSSD pmax pmax
comp=Z,6.0nm,1.0s
RSSD Black Hills 85.47 336 eP P 11 06 27.5 -0.1
comp=Z,5.8nm,1.0s
F29A Eureka 85.73 340 ⇓P P 11 06 28.3 -0.3
baz=86
H25A Fruitdale 85.77 337 ⇓P P 11 06 28.9 -0.1
baz=86
G27A Dupree 85.93 338 ⇓P P 11 06 29.7 +0.1
baz=86
J21A Lysite 85.96 334 ⇓P P 11 06 30.3 +0.3
baz=86
F28A McLaughlin 86.02 339 ⇓P P 11 06 30.4 +0.4
baz=86
G26A Maurine 86.06 338 ⇓P P 11 06 30.0 -0.3
baz=86
I22A 9 Mile Ranch, 86.10 334 ⇓P P 11 06 29.9 -0.8
baz=86,SNR=6.0
H24A Dirks Ranch, A 86.19 336 ⇓P P 11 06 30.8 -0.2
baz=86,SNR=5.4
J20A Shoshoni 86.20 333 ⇑P P 11 06 31.5 +0.3
baz=86,SNR=14
G25A Newell 86.22 337 ⇓P P 11 06 31.2 +0.1
baz=86,SNR=10
PDAR Pinedale Array 86.25 332 P P 11 06 30.9 -0.6
comp=Z,2.9nm,0.9s,baz=152,slow=4.1,SNR=5.7
I21A Big Trails, Te 86.31 334 ⇑P P 11 06 31.2 -0.6
baz=87,SNR=6.4
E29A Napoleon 86.35 340 ⇓P P 11 06 31.2 -0.5
baz=87
F27A Lemmon 86.40 338 ⇓P P 11 06 31.7 -0.3
baz=87,SNR=5.2
NVAR Mina Array Bea 86.42 324 P P 11 06 32.9 +0.4
comp=Z,2.5nm,0.8s,baz=159,slow=6.3,SNR=9.6
NVAR LR LR 11 41 49.4
comp=Z,177nm,18.4s,baz=50,slow=33
J19A Crowheart 86.48 333 ⇓P P 11 06 32.0 -0.6
baz=87
F26A Lodgepole 86.58 338 ⇓P P 11 06 32.6 -0.3
baz=87
D30A Buchanan 86.60 341 ⇓P P 11 06 32.8 -0.1
baz=87
E28A Huff 86.65 339 ⇑P P 11 06 33.1 0.0
baz=87
H22A Clearmont 86.66 335 ⇑P P 11 06 33.1 -0.2
baz=87
G24A Alzada 86.67 336 ⇑P P 11 06 33.4 0.0
baz=87
HVU Hansel Valley 86.69 329 eP P 11 06 33.9 +0.2
HVU pmax pmax
comp=Z,10.0nm,0.9s
HVU Hansel Valley 86.69 329 eP P 11 06 33.9 +0.2
comp=Z,10nm,0.9s
I20A Worland 86.73 333 ⇑P P 11 06 33.5 -0.3
baz=87,SNR=9.4
E27A Carson 86.77 339 ⇓P P 11 06 33.9 +0.1
baz=87
D29A Pettibone, Tap 86.79 340 ⇓P P 11 06 33.8 0.0
baz=87
G23A Biddle 86.87 336 ⇓P P 11 06 34.3 -0.1
baz=87,SNR=7.8
ELK Elko 86.89 327 eP P 11 06 35.3 +0.6
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 86.89 327 eP P 11 06 35.3 +0.6
comp=Z,3.4nm,0.9s
F25A Bowman 86.89 337 ⇑P P 11 06 34.3 -0.1
baz=87
H21A Big Horn, Sher 86.93 334 ⇓P P 11 06 34.8 +0.1
baz=87
AGMN Agassiz Nation 86.98 343 ⇓P P 11 06 34.8 +0.2
baz=87
AGMN Agassiz Nation 86.98 343 eP P 11 06 34.1 -0.5
comp=Z,170nm,2.8s
E26A Carlson Angus 87.08 338 ⇓P P 11 06 35.2 0.0
baz=87
C30A Mose, Pekin 87.08 341 ⇓P P 11 06 35.1 -0.1
baz=87,SNR=5.2
I19A Meeteetse 87.12 333 ⇑P P 11 06 35.6 -0.1
baz=87
F24A Ekalaka 87.13 337 ⇓P P 11 06 35.0 -0.6
baz=87,SNR=7.5
H20A Greybull 87.15 334 ⇓P P 11 06 35.1 -0.6
baz=88
D28A Regan 87.18 340 ⇑P P 11 06 35.3 -0.4
baz=88
F23A Volborg 87.34 336 ⇓P P 11 06 36.1 -0.4
baz=88,SNR=9.0
LOHW Long Hollow 87.37 332 eP P 11 06 37.1 +0.1
comp=Z,33nm,2.3s
E25A Miller Ranch, 87.39 338 ⇓P P 11 06 36.7 0.0
baz=88
TPAW Teton Pass 87.40 331 eP P 11 06 37.4 +0.2
comp=Z,64nm,2.7s
MDND Maddock 87.51 341 ⇑P P 11 06 37.0 -0.2
baz=88
MDND Maddock 87.51 341 eP P 11 06 37.3 0.0
comp=Z,5.4nm,0.9s
G21A Lodge Grass 87.51 335 ⇑P P 11 06 37.1 -0.3
baz=88
D26A Manning 87.57 338 ⇓P P 11 06 37.4 -0.3
baz=88
C28A Hausauer Farms 87.60 340 ⇓P P 11 06 37.9 +0.1
baz=88
I17A Pilgrim Ck. 87.62 332 ⇑P P 11 06 37.7 -0.5
baz=88
H19A Powell 87.66 333 ⇑P P 11 06 37.9 -0.4
baz=88
F22A Rosebud 87.67 336 ⇑P P 11 06 37.9 -0.3
baz=88,SNR=6.2
E24A Baker 87.73 337 ⇑P P 11 06 38.1 -0.3
baz=88
B30A Myrvik Farm, E 87.73 342 ⇓P P 11 06 37.9 -0.4
baz=88,SNR=15
IMW Indian Meadow 87.74 332 eP P 11 06 38.8 0.0
comp=Z,4.0nm,0.8s
FLWY Flagg Ranch 87.80 332 eP P 11 06 39.2 +0.2
comp=Z,6.1nm,0.9s
G20A Bridger 87.86 334 ⇓P P 11 06 38.7 -0.5
baz=88,SNR=6.2
C27A Sayler Ranch, 87.92 339 ⇑P P 11 06 39.4 +0.1
baz=88,SNR=5.3
H18A Shoshone NF, C 87.92 333 ⇓P P 11 06 39.7 +0.1
baz=88
D25A Fairfield 87.95 338 ⇓P P 11 06 39.5 +0.1
baz=88,SNR=6.0
E23A Ismay 87.99 336 ⇓P P 11 06 39.6 0.0
baz=88,SNR=5.7
B29A Wagenman Farm, 88.01 341 ⇓P P 11 06 39.3 -0.4
baz=88
A30A Hoffart Farm, 88.17 342 ⇓P P 11 06 39.9 -0.5
baz=88
C26A Wahner Farm, P 88.19 339 ⇓P P 11 06 40.4 -0.1
baz=88
D24A Glendive 88.22 337 ⇓P P 11 06 41.1 +0.3
baz=88,SNR=5.1
B28A Dugan Ranch, T 88.27 340 ⇑P P 11 06 40.7 -0.1
baz=89,SNR=7.0
A29A Manning Farm, 88.40 341 ⇓P P 11 06 41.0 -0.5
baz=89,SNR=7.2
YMR Madison River 88.40 332 eP P 11 06 42.9 +1.1
comp=Z,10nm,1.0s
C25A Freed Ranch, W 88.43 338 ⇓P P 11 06 41.7 0.0
baz=89
LAO LASA Array 88.46 336 eP P 11 06 41.7 -0.2
comp=Z,83nm,2.2s
D23A Lindsay 88.55 337 ⇓P P 11 06 42.4 +0.1
baz=89,SNR=9.1
E21A Keefer Ranch, 88.61 335 ⇓P P 11 06 42.8 +0.2
baz=89
C24A Savage 88.62 337 ⇓P P 11 06 42.8 +0.2
baz=89
A28A Rude Farm, Bot 88.66 341 ⇑P P 11 06 43.0 +0.2
baz=89
F19A Roth Farm, Mol 88.67 334 ⇓P P 11 06 42.7 -0.2
baz=89
B26A Jensen Ranch, 88.73 339 ⇑P P 11 06 42.4 -0.6
baz=89
ULM Lac du Bonnet 88.81 344 eP P 11 06 42.7 -0.6
ULM Lac du Bonnet 88.81 344 P P 11 06 42.5 -0.8
comp=Z,7.3nm,0.8s,baz=168,slow=4.0,SNR=18
ULM Lac du Bonnet 88.81 344 eP P 11 06 42.7 -0.6
HLID Hailey 88.84 329 ⇓P P 11 06 44.1 +0.2
baz=89
HLID Hailey 88.84 329 eP P 11 06 44.5 +0.6
comp=Z,49nm,2.8s
D22A Cohagen 88.85 336 ⇓P P 11 06 43.8 +0.1
baz=89
B25A Knox Farm, Ray 88.90 339 ⇑P P 11 06 43.9 0.0
baz=89
E20A Meyer Farm, Mu 88.94 335 ⇑P P 11 06 44.4 +0.2
baz=89
D21A La Casta Ranch 89.04 336 ⇓P P 11 06 44.3 -0.3
baz=89
C23A Lambert 89.10 337 ⇑P P 11 06 44.7 -0.1
baz=89
E19A Rath Farm, Rou 89.13 334 ⇑P P 11 06 44.9 -0.2
baz=89
A26A Wade Farm, Ken 89.14 340 ⇑P P 11 06 44.7 -0.2
baz=89
C22A Vida 89.28 337 ⇑P P 11 06 45.3 -0.4
baz=90
DGMT Dagmar 89.39 338 ⇓P P 11 06 45.8 -0.4
baz=90
DGMT Dagmar 89.39 338 eP P 11 06 46.9 +0.7
comp=Z,24nm,1.1s
A25A Svangstu Ranch 89.49 339 ⇓P P 11 06 46.5 -0.1
baz=90
C21A Desert Coulee 89.74 336 ⇑P P 11 06 47.5 -0.4
baz=90
C20A Veseth Ranch, 89.95 335 ⇑P P 11 06 47.9 -0.9
baz=90
B21A Ellsworth Farm 90.24 336 ⇑P P 11 06 49.8 -0.4
baz=90
A22A Carney Farms, 90.38 337 ⇑P P 11 06 50.7 -0.1
baz=91
A21A Bergtoll Ranch 90.70 337 ⇑P P 11 06 51.8 -0.5
baz=91
EGMT Eagleton 90.81 335 ⇑P P 11 06 52.7 -0.2
baz=91
A20A Cobblestone Ra 90.93 336 ⇓P P 11 06 53.0 -0.4
baz=91
A19A Klindworth Far 91.25 336 ⇓P P 11 06 54.8 0.0
baz=92
I07A Izee 91.45 327 eP P 11 06 56.6 +0.6
comp=Z,67nm,2.7s
J05D Fort Rock, OR 91.61 325 ⇓P P 11 06 56.6 -0.2
baz=92
C09A Chrisman Ranch 93.86 330 eP P 11 07 06.9 0.0
comp=Z,86nm,2.9s
YKA Yellowknife Ar 104.43 340 Pdiff Pdif 11 07 52.6 -1.4
comp=Z,0.2nm,0.8s,baz=140,slow=4.7,SNR=5.4
ASAR Alice Springs 116.55 205 PKP PKPdf 11 12 32.8 -1.5
comp=Z,0.4nm,0.9s,baz=110,slow=1.1,SNR=4.5
ILAR Eielson Array 116.68 332 PKP PKPdf 11 12 32.9 -0.2
comp=Z,0.4nm,1.0s,baz=182,slow=4.3,SNR=4.6
WRA Warramunga Arr 119.83 207 PKP PKPdf 11 12 39.6 -1.0
comp=Z,0.9nm,0.9s,baz=167,slow=1.8,SNR=6.4
WRAB Tennant Creek 119.84 207 ⇑iPKIKP PKPdf 11 12 39.5 -1.2
WRAB Tennant Creek 119.84 207 ePKPdf PKPdf 11 12 40.0 -0.7
KIEV Kiev 122.24 48 ⇓iPKIKP PKPdf 11 12 43.2 -0.9
KIV Kislovodsk 129.07 59 iPKIKP PKPdf 11 12 55.7 -1.9
KIV pmax pmax

comp=Z,8.0nm,0.9s
GOF Gofitskoye 129.60 58 *e*PKHKP PKPpre 11 12 33.3
BILL Bilibino 135.31 334⇑ *i*PKIKP **PKPdf 11 13 10.7 +2.2**
BILL pmax pmax
comp=Z,6.0nm,2.7s
ARU Arti 140.08 43 *i* PKIKP **PKPdf 11 13 17.4 -0.2**
ABKAR Abkulak array 141.52 54 *e*PKIKP **PKPdf 11 13 21.7 +1.2**
TIXI Tiksi 142.89 350⇑ *e*PKIKP **PKPdf 11 13 23.0 +0.8**
TIXI Tiksi 142.89 350 *e*PKPdf **PKPdf 11 13 23.4 +1.2**
PSI Prapat 145.47 160 PKPbc **PKPdf 11 13 26.7 -2.0**
comp=Z,6.4nm,0.8s,baz=162,slow=13,SNR=3.9
HYB Hyderabad 146.60 115 *i* PKP **PKPdf 11 13 31.0 +0.7**
BRVK Borovoye 147.42 46⇓ *e*PKP2 **PKPdf 11 13 31.8 +1.2**
BVAR Borovoye Array 147.49 46 PKPbc **PKPbc 11 13 32.4 -0.9**
comp=Z,1.9nm,0.7s,baz=276,slow=4.0,SNR=8.4
YAK Yakutsk 151.11 341 *e*PKIKP **PKPdf 11 13 37.5 +1.3**
YAK Yakutsk 151.11 341 *e*PKPdf **PKPdf 11 13 37.5 +1.3**
EKS2 Erkin-Say 151.34 65 *e*PKIKP **PKPbc 11 13 44.2 +0.8**
EKS2 Erkin-Say 151.34 65 *e*PKPdf **PKPbc 11 13 44.2 +0.8**
AAK Ala-Archa 151.87 65 *e*PKIKP **PKPbc 11 13 45.0 +0.3**
AAK Ala-Archa 151.87 65 *e*PKPdf **PKPbc 11 13 45.0 +0.3**
KSH Kashi 152.95 72 PKPbc **PKPdf 11 13 39.8 -0.1**
KSH sPKP 11 13 45.5
KSH PKS **PKSdf 11 17 15.0 +0.6**
KSH PP **PP 11 17 30.6 -1.7**
KSH SKS **SKSdf 11 20 48.4 +4.0**
KSH SKKS **SKKSac 11 24 15.3 -4.3**
KSH PPMZ
comp=Z,92nm,6.2s
KSH LN
comp=Z,30nm,4.6s
KSH LE
comp=Z,43nm,4.7s
KSH LZ
comp=Z,94nm,5.4s
KURK Kurchatov 153.06 47 *e*PKIKP **PKPbc 11 13 46.5 -0.3**
KURK Kurchatov 153.06 47 *e*PKPdf **PKPbc 11 13 46.5 -0.3**
NVS Novosibirsk 153.61 36 *e*PKIKP **PKPdf 11 13 38.3 -1.8**
ZALV Zalesovo Beam 154.88 36 PKP **PKPdf 11 13 40.2 -1.7**
comp=Z,1.1nm,0.7s,baz=290,slow=6.0,SNR=5.2
ZALV PKPbc **PKPbc 11 13 50.2 -0.4**
comp=Z,1.5nm,0.7s,baz=320,slow=5.6,SNR=5.5
MKAR Makanchi Array 156.66 54 PKP **PKPdf 11 13 44.8 +0.2**
comp=Z,0.5nm,0.9s,baz=242,slow=2.5,SNR=3.8
MKAR PKPab **PKPab 11 14 13.3 -0.8**
comp=Z,1.6nm,0.9s,baz=284,slow=4.0,SNR=12
MDJ Mudanjiang 162.75 306 PKP **PKPdf 11 13 53.4 +1.8**
MDJ PPMZ
comp=Z,59nm,4.2s
SONM Songino Array 167.81 12 PKP **PKPdf 11 13 54.8 -1.1**
comp=Z,0.4nm,0.8s,baz=276,slow=1.8,SNR=3.6
GYA Guiyang 170.13 162 *e*PKP **PKPdf 11 13 59.4 +1.4**
GYA PKPab **PKPab 11 15 18.0 +4.5**
GYA PKS **PKSdf 11 17 30.6 -0.1**
GYA PP PP 11 19 09.8 +7.1
GYA SKKS 11 25 54.3
GYA SS SS 11 40 07.9 +8.3
GYA PPMZ
comp=Z,120nm,8.0s
GYA LN
comp=Z,130nm,22.4s
GYA LE
comp=Z,110nm,22.6s
GYA LZ
comp=Z,120nm,21.2s
GTA Gaotai 171.22 64 *e*PKP **PKPdf 11 13 58.6 +0.4**
GTA PKPab **PKPab 11 15 18.2 -0.1**
CD2 Chengdu 172.77 132 *e*PKP **PKPdf 11 14 01.2 +2.1**
HHC Hu-ho-hao-te 174.94 346 *e*PKP **PKPdf 11 14 02.1 +2.5**
HHC PP PP 11 19 29.3 +3.0
HHC SKS **SKSdf 11 21 00.7 +0.7**
HHC SKKS **SKKSac 11 26 11.6 +1.1**
HHC SS **SS 11 40 45.3 -1.1**
HHC PPMZ
comp=Z,78nm,7.5s
HHC LN
comp=Z,500nm,24.9s
HHC LE
comp=Z,1μm,22.4s
HHC LZ
comp=Z,130nm,17.4s
LZH Lanzhou 175.01 86 *e*PKP **PKPdf 11 13 57.0 -2.9**
LZH pPKP **pPKPdf 11 14 05.6 -5.8**
LZH sPKP 11 14 07.3

*IDC **04** 11:02:51.8±1.8, 38.°00S×73.°74W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.7/25, mbtmp3.5/5, ML3.5/2, MS2.8/2, Ms1 2.8/2, ms1mx2.7/21, Error ellipse: s-maj=51.6km s-min=25.5km az=62.0*

ISC 04 11:02:55.2±1.6, 38.°1S±0.°1×73.°4W±0.°2, h22km, n8, σ1§56/8, mb3.6/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.48**	**141**	Pn	**Pn**	**11 03 48.6**	**+0.6**
	1.4nm,0.3s,baz=325,slow=9.8,SNR=20						
PLCA				Sn	**Sb**	**11 04 36.4**	**-1.5**
	4.2nm,0.3s,baz=297,slow=9.7,SNR=6.8						
CFAA	**Coronel Fontan**	**7.74**	**35**	Pn	**Pn**	**11 04 46.4**	**-0.2**
	0.2nm,0.3s,baz=207,slow=14,SNR=2.5						
CFAA				LR	LR	11 08 06.9	
	comp=Z,15nm,21.2s,baz=228,slow=40						
LPAZ	**La Paz**	**22.20**	**14**	P	**P**	**11 07 49.8**	**-0.9**
	1.4nm,0.6s,baz=187,slow=4.8,SNR=5.7						
APG	**El Apazote**	**55.16**	**340**	LR	LR	11 30 12.0	
	comp=Z,48nm,19.4s,slow=30						
TXAR	**Lajitas Array**	**72.77**	**333**	P	**P**	**11 14 20.8**	**-1.0**
	0.2nm,0.5s,baz=153,slow=8.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**86.65**	**71**	P	**P**	**11 15 38.4**	**+1.1**
	0.7nm,0.8s,baz=230,slow=6.2,SNR=4.0						
ZALV	**Zalesovo Beam**	**158.23**	**36**	PKPab	**PKPab**	**11 23 23.5**	**-0.5**
	0.4nm,0.4s,baz=350,slow=5.0,SNR=2.7						
MKAR	**Makanchi Array**	**160.14**	**56**	PKPab	**PKPab**	**11 23 35.1**	**+2.5**
	0.2nm,0.6s,baz=316,slow=3.1,SNR=2.8						

IDC 04 11:05:35.5±2.2, 15.°42S×177.°11W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.6/31, mbtmp3.6/4, Error ellipse: s-maj=128.6km s-min=28.6km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.36**	**257**	P	P	11 14 03.5	-0.4
	0.1nm,0.4s,baz=96,slow=8.5,SNR=8.0						
ASAR	**Alice Springs**	**46.71**	**252**	P	P	11 14 06.8	+0.2
	2.6nm,0.6s,baz=85,slow=8.4,SNR=49						
ILAR	**Eielson Array**	**83.20**	**13**	P	P	11 18 02.7	-0.5
	0.6nm,1.1s,baz=228,slow=5.4,SNR=5.3						
TXAR	**Lajitas Array**	**83.61**	**57**	P	P	11 18 06.8	+0.5
	0.4nm,0.9s,baz=240,slow=7.2,SNR=3.5						

*JMA **04** 11:12:23.8±0.2, 23.°01N×120.°51E, h0km, M3.5*
*TAP **04** 11:12:25.6, 22.°97N×120.°60E, h18km, ML3.7, A*
*ISCJB **04** 11:12:26.7±0.3, 22.°96N±0.°01×120.°60E±0.°03, h20km±3km, Error ellipse: s-maj=4.0km s-min=2.4km az=171.9*

ISC 04 11:12:26.3±0.8, 22.°98N±0.°02×120.°60E±0.°02, h17km±5km, n57, σ0§99/94, 6C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.10**	**353⇓**	*i*P	**Pg**	**11 12 29.7**	**-0.2**
	baz=354						
SGST				*e*S	**Sg**	**11 12 32.8**	**+0.5**
	baz=354						
CHN1	**Nanshi**	**0.21**	**343⇓**	*i*P	**Pg**	**11 12 31.3**	**-0.1**
	baz=342						
CHN1				*e*S	**Sb**	**11 12 35.7**	**+0.3**
	baz=342						
TWM1	**Shoushan**	**0.23**	**225⇑**	*e*P	**Pb**	**11 12 32.0**	**0.0**
	baz=225						
CHN3	**Shinhua**	**0.23**	**294**	*e*P	**Pb**	**11 12 33.0**	**+0.9**
	baz=294						
CHN3				*e*S	**Sb**	**11 12 39.4**	**+3.4**
	baz=294						
STYT	**Tauyuan**	**0.23**	**39⇑**	*i*P	**Pg**	**11 12 31.6**	**-0.1**
	baz=39						
STYT				S	**Sb**	**11 12 36.1**	**0.0**
	baz=39						
SSD	**Sandimen**	**0.24**	**172⇓**	P	**Pg**	**11 12 31.4**	**-0.3**
	baz=171						
SSD				S	**Sg**	**11 12 35.7**	**+0.2**
	baz=171						
WTP	**Ta-pu**	**0.26**	**4⇑**	*i*P	**Pg**	**11 12 32.1**	**-0.1**
	baz=4.0						
WTP				S	**Sb**	**11 12 37.2**	**+0.3**
	baz=4.0						
SGLT	**Jiouru**	**0.27**	**201**	*e*P	**Pb**	**11 12 33.1**	**+0.3**
	baz=200						
SGLT				*e*S	**Sn**	**11 12 39.5**	**-1.8**
	baz=200						
TWK	**Hsinying**	**0.30**	**341**	P	**Pg**	**11 12 32.7**	**-0.1**
	baz=342						
TWK				*e*S	**Sb**	**11 12 38.3**	**+0.3**
	baz=342						
CHN4	**Tsaushan**	**0.37**	**360**	P	**Pg**	**11 12 33.7**	**-0.3**
	baz=359						
CHN4				*e*S	**Sb**	**11 12 40.2**	**+0.3**
	baz=359						
ELDTW	**Lidau**	**0.44**	**62⇑**	P	**Pg**	**11 12 35.1**	**-0.2**
	baz=61						
ELDTW				*e*S	**Sb**	**11 12 42.2**	**+0.2**
	baz=61						
TWG	**Pinlang**	**0.47**	**110**	P	**Pg**	**11 12 35.9**	**+0.1**
	baz=109						
TWG				*e*S	**Sb**	**11 12 43.8**	**+1.1**
	baz=109						
ECL	**Taimali**	**0.51**	**139**	*e*P	**Pg**	**11 12 36.2**	**-0.3**
	baz=138						
ECL				*e*S	**Sb**	**11 12 44.0**	**+0.1**
	baz=138						
CHY	**Chiayi**	**0.54**	**343**	*e*P	**Pg**	**11 12 37.0**	**-0.1**
	baz=343						
CHY				*e*S	**Sb**	**11 12 45.7**	**+0.9**
	baz=343						
TTN	**Taitung**	**0.56**	**114**	*e*P	**Pn**	**11 12 38.7**	**-0.8**
	baz=113						
TTN				*e*S	**Sn**	**11 12 48.4**	**+0.1**
	baz=113						
CHN2	**Minshiung**	**0.56**	**349**	*e*P	**Pb**	**11 12 37.6**	**-0.1**
	baz=348						
CHN2				*e*S	**Sn**	**11 12 46.9**	**-1.5**
	baz=348						
ALS	**Alishan**	**0.56**	**20⇑**	P	**Pg**	**11 12 37.1**	**-0.5**
	baz=20						
ALS				*e*S	**Sb**	**11 12 46.1**	**+0.3**
	baz=20						
YUS	**Yu-Shan**	**0.60**	**33⇑**	P	**Pg**	**11 12 38.2**	**-0.2**
	baz=32						
YUS				*e*S	**Sb**	**11 12 47.6**	**+0.5**
	baz=32						
SCZT	**Fangliau**	**0.61**	**178**	*e*P	**Pg**	**11 12 37.8**	**-0.5**
	baz=177						
SCZT				*e*S	**Sn**	**11 12 49.7**	**+0.2**
	baz=177						
CHN5	**Tsauling**	**0.62**	**7**	*e*P	**Pg**	**11 12 38.0**	**-0.6**
	baz=6.0						
CHN5				*e*S	**Sn**	**11 12 48.8**	**-1.2**
	baz=6.0						
EAST	**Anshuo**	**0.64**	**159**	*e*P	**Pg**	**11 12 38.5**	**-0.4**
	baz=158						
EAST				*e*S	**Sb**	**11 12 48.0**	**+0.3**
	baz=158						
TWP	**Hsiaoliuchiu**	**0.67**	**199**	*e*P	**Pn**	**11 12 41.2**	**+0.1**
	baz=198						
TWP				*e*S	**Sn**	**11 12 53.6**	**+2.5**
	baz=198						
TAW	**Tawu**	**0.68**	**156**	*e*P	**Pg**	**11 12 39.3**	**-0.4**
	baz=155						
WGK	**Gukeng**	**0.70**	**357**	*e*P	**Pb**	**11 12 39.8**	**-0.4**
	baz=357						
WGK				*e*S	**Sn**	**11 12 51.5**	**-0.4**
	baz=357						
CHKT	**Chengkung**	**0.72**	**80**	*e*P	**Pb**	**11 12 40.3**	**-0.1**
	baz=80						
WSF	**Szhu**	**0.74**	**332**	*e*S	**Sn**	**11 12 52.0**	**-0.8**
	baz=332						
EHY	**Hungye**	**0.85**	**52**	*e*P	**Pb**	**11 12 42.0**	**-0.6**
	baz=51						
EHY				*e*S	**Sg**	**11 12 54.5**	**+0.4**
	baz=51						
WNT	**Mingjian**	**0.90**	**5**	*e*P	**Pb**	**11 12 42.9**	**-0.5**
	baz=5.0						
WNT				*e*S	**Sn**	**11 12 56.7**	**0.0**
	baz=5.0						
WDGT	**Dungji**	**0.91**	**288**	*e*P	**Pb**	**11 12 42.1**	**-1.5**
	baz=288						
SMLT	**Sun Moon Lake**	**0.94**	**17**	*e*P	**Pb**	**11 12 44.3**	**0.0**
	baz=17						
SMLT				*e*S	**Sn**	**11 12 58.8**	**+0.8**
	baz=17						
TYC	**Yuchr**	**0.95**	**15**	*e*P	**Pb**	**11 12 44.4**	**+0.1**
	baz=14						
TYC				*e*S	**Sn**	**11 12 58.6**	**+0.6**
	baz=14						
HEN	**Hengchun**	**0.98**	**172**	*e*P	**Pb**	**11 12 44.9**	**0.0**
	baz=172						
TWK1	**Hengchun**	**1.05**	**169**	*e*P	**Pb**	**11 12 45.7**	**-0.4**
	baz=169						
TSEB	**Hengchuen, Pin**	**1.11**	**165**	*e*P	**Pn**	**11 12 46.5**	**-0.6**
	baz=167						
PNG	**Penghu**	**1.12**	**302**	*e*P	**Pn**	**11 12 45.6**	**-1.6**
	baz=301						
ESL	**Shilin**	**1.13**	**43**	*e*P	**Pn**	**11 12 47.1**	**-0.3**
	baz=42						
ESL				*e*S	**Sg**	**11 13 03.5**	**+0.5**
	baz=42						
LAY	**Lan-yu**	**1.29**	**137**	*e*P	**Pn**	**11 12 48.8**	**-0.8**
	baz=136						
WHF	**Hehuan Shan**	**1.31**	**28**	*e*P	**Pn**	**11 12 50.5**	**+0.2**
	baz=27						
TWQ1	**Liyutan**	**1.37**	**7**	*e*P	**Pb**	**11 12 51.1**	**-0.4**
	baz=6.0						
TWQ1				*e*S	**Sg**	**11 13 10.5**	**-0.1**
	baz=6.0						
TWT	**Tachien**	**1.37**	**23**	*e*P	**Pn**	**11 12 51.2**	**+0.3**
	baz=22						
TWD	**Chiawan**	**1.43**	**40**	*e*P	**Pb**	**11 12 52.1**	**-0.4**
	baz=39						
NSY	**Sanyi**	**1.44**	**6**	*e*P	**Pn**	**11 12 51.9**	**+0.2**
	baz=6.0						
NSY				*e*S	**Sg**	**11 13 12.4**	**-0.3**
	baz=6.0						
NNS	**Nan Shan**	**1.62**	**26**	*e*P	**Pb**	**11 12 55.5**	**-0.3**
	baz=26						
NSTT	**Nanjuang**	**1.68**	**13**	*e*P	**Pb**	**11 12 57.1**	**+0.2**
	baz=12						
ENA	**Nanau**	**1.78**	**36**	*e*P	**Pb**	**11 12 57.6**	**-0.9**
	baz=36						
NSK	**Sanguang**	**1.82**	**22**	*e*P	**Pn**	**11 12 58.1**	**+1.1**
	baz=22						
ENTT	**Nioudou**	**1.88**	**28**	*e*P	**Pb**	**11 12 59.8**	**-0.3**
	baz=28						
TWC	**Suao**	**1.98**	**35**	*e*P	**Pb**	**11 13 00.8**	**-1.2**
	baz=35						
TWE	**Neicheng**	**1.99**	**29**	*e*P	**Pb**	**11 13 01.4**	**-0.7**
	baz=29						
JYNG	**Yonagunijimaku**	**2.60**	**55**	P	**Pn**	**11 13 09.6**	**+2.0**
JYNG				*e*S	**Sn**	**11 13 41.2**	**+2.3**
YOJ	**Yonaguni jima**	**2.66**	**56**	P	**Pn**	**11 13 09.5**	**+1.1**
YOJ				*e*S	**Sb**	**11 13 43.4**	**-2.5**
HATJ	**Hateruma jima**	**3.13**	**69**	P	**Pn**	**11 13 13.0**	**-1.9**
HATJ				*e*S	**Sn**	**11 13 52.5**	**+0.5**
IRIF	**Iriomote-Funau**	**3.17**	**64**	P	**Pn**	**11 13 16.7**	**+1.2**
IRIF				*e*S	**Sn**	**11 13 56.0**	**+3.0**
JKRS	**Kuro-shima**	**3.37**	**68**	P	**Pn**	**11 13 18.9**	**+0.7**
JKRS				*e*S	**Sn**	**11 13 59.9**	**+2.1**
JIJ	**Ishigaki jima**	**3.53**	**66**	P	**Pn**	**11 13 20.3**	**-0.1**
JIJ				*e*S	**Sn**	**11 14 02.1**	**+0.3**
JISG	**Ishigakijimahi**	**3.76**	**64**	P	**Pn**	**11 13 23.7**	**+0.2**
JISG				*e*S	**Sn**	**11 14 07.4**	**0.0**
JTJ	**Tarama**	**4.11**	**65**	P	**Pn**	**11 13 26.0**	**-2.3**
JTJ				*e*S	**Sn**	**11 14 17.2**	**+1.2**

IDC 04 11:16:12.4±1.4, 35.°50S×74.°45W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.7/20, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=72.0km s-min=23.7km az=61.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.07**	**151**	Pn	Pn	11 17 44.9	+1.4
	0.5nm,0.3s,baz=324,slow=8.7,SNR=11						
PLCA				Lg	Lg	11 19 22.6	
	0.4nm,0.3s,baz=263,slow=22,SNR=3.8						
TXAR	**Lajitas Array**	**70.11**	**333**	P	P	11 27 26.2	-0.4
	0.2nm,0.5s,baz=161,slow=8.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**86.58**	**71**	P	P	11 28 57.9	+0.1
	0.5nm,0.7s,baz=251,slow=4.9,SNR=3.2						
WRA	**Warramunga Arr**	**118.48**	**211**	PKP	PKPdf	11 35 02.7	+0.1
	0.3nm,0.8s,baz=159,slow=1.9,SNR=4.9						

*ISCJB **04** 11:23:32.2±1.0, 33.°4S±0.°1×72.°4W±0.°2, h12km, mb3.7/3, Error ellipse: s-maj=25.8km s-min=14.0km az=9.7*
*IDC **04** 11:23:32.4±1.1, 33.°29S×72.°34W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/31, mbtmp3.6/5, ML3.7/2, Error ellipse: s-maj=29.8km s-min=20.9km az=128.0*

ISC 04 11:23:34.1±1.1, 33.°3S±0.°1×72.°4W±0.°2, h12km, n7, σ1§13/7, mb3.7/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.90**	**65**	Pn	**Pn**	**11 24 34.9**	**+1.0**
	0.1nm,0.3s,baz=235,slow=14,SNR=3.2						
CFAA				Lg	Lg	11 25 35.5	
	0.3nm,0.3s,baz=166,slow=17,SNR=3.1						
PLCA	**Paso Flores**	**7.56**	**169**	Pn	**Pn**	**11 25 23.8**	**-0.4**
	0.4nm,0.3s,baz=347,slow=14,SNR=3.7						
LPAZ	**La Paz**	**17.37**	**14**	P	**Pn**	**11 27 36.0**	**-1.1**
	0.1nm,0.3s,baz=207,slow=8.7,SNR=3.0						
QSPA	**South Pole Qui**	**56.93**	**180**	P	**P**	**11 33 19.5**	**+0.6**
	2.7nm,1.0s,baz=140,slow=1.5,SNR=8.3						
TXAR	**Lajitas Array**	**68.98**	**331**	P	**P**	**11 34 40.4**	**+1.0**
	0.3nm,0.6s,baz=152,slow=9.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**84.25**	**70**	P	**P**	**11 36 04.9**	**-1.0**
	0.3nm,0.9s,baz=228,slow=5.2,SNR=2.0						
MKAR	**Makanchi Array**	**156.52**	**48**	PKPab	**PKPab**	**11 43 56.9**	**-0.6**
	0.1nm,0.5s,baz=283,slow=2.5,SNR=3.1						

*IDC **04** 11:26:16.6±1.2, 36.°11S×73.°71W, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.7/19, mbtmp3.6/6, ML3.1/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/20, Error ellipse: s-maj=38.8km s-min=22.0km az=101.0*
*ISCJB **04** 11:26:19.7±1.0, 36.°15S±0.°09×73.°6W±0.°2, h33km, mb3.8/3, Error ellipse: s-maj=21.1km s-min=10.5km az=23.7*

ISC 04 11:26:21.6±1.1, 36.°1S±0.°1×73.°6W±0.°2, h35km, n9, σ0§78/9, mb3.8/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.18**	**153**	Pn	**Pn**	**11 27 36.6**	**-0.1**
	0.3nm,0.3s,baz=324,slow=11,SNR=2.9						
PLCA				Lg	Lg	11 29 00.1	
	0.7nm,0.3s,baz=52,slow=19,SNR=2.5						
CFAA	**Coronel Fontan**	**6.37**	**46**	Pn	**Pn**	**11 27 52.1**	**-0.9**
	0.1nm,0.3s,baz=222,slow=15,SNR=6.6						
CFAA				Sn	**Sn**	**11 29 05.8**	**+1.2**
	0.2nm,0.3s,baz=298,slow=18,SNR=3.7						
CPUP	**Villa Florida**	**17.01**	**59**	LR	LR	11 36 02.9	
	comp=Z,59nm,21.3s,baz=112,slow=34						
LPAZ	**La Paz**	**20.37**	**15**	P	**P**	**11 30 56.7**	**+0.8**
	1.9nm,0.8s,baz=198,slow=9.9,SNR=6.6						
SIV	**San Ignacio**	**22.98**	**32**	P	**P**	**11 31 22.7**	**-0.5**
	1.8nm,0.7s,baz=234,slow=12,SNR=3.5						
QSPA	**South Pole Qui**	**54.10**	**180**	P	**P**	**11 35 43.3**	**+0.6**
	2.7nm,1.0s,baz=144,slow=6.1,SNR=4.3						
TXAR	**Lajitas Array**	**70.99**	**332**	P	**P**	**11 37 35.7**	**-0.1**
	0.7nm,0.8s,baz=145,slow=9.5,SNR=8.0						
BVAR	**Borovoye Array**	**149.73**	**45**	PKPbc	**PKPbc**	**11 46 06.9**	**-0.2**
	0.3nm,0.4s,baz=318,slow=4.1,SNR=2.6						
ZALV	**Zalesovo Beam**	**156.73**	**33**	PKPab	**PKPab**	**11 46 41.8**	**-0.2**
	0.6nm,0.5s,baz=319,slow=5.7,SNR=3.6						

*IDC **04** 11:57:40.9±4.9, 41.°69N×138.°93E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.0/32, mbtmp3.1/3, ML3.1/1, Error ellipse: s-maj=148.3km s-min=31.7km az=63.0*
*ISCJB **04** 11:57:59.3±0.8, 39.°11N±0.°04×140.°96E±0.°06, h14km±6km, mb3.4/1, Error ellipse: s-maj=7.5km s-min=6.4km az=13.7*
*JMA **04** 11:57:59.8, 39.°10N×140.°95E, h7km±1km, M3.0*
JMA Felt I J1.

ISC 04 11:57:59.6±1.1, 39.°10N±0.°04×140.°96E±0.°04, h13km±10km, n8, σ0§28/13, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	**0.25**	**126**	P	**Pg**	**11 58 04.9**	**+0.1**
JMK				S	**Sg**	**11 58 08.5**	**+0.1**
JRG	**Rokugo**	**0.39**	**320**	P	**Pg**	**11 58 07.5**	**+0.1**
JOM	**Ohasama**	**0.46**	**34**	P	**Pg**	**11 58 08.6**	**0.0**
JOM				S	**Sg**	**11 58 14.8**	**+0.1**
JYK	**Kaneyama**	**0.50**	**249**	P	**Pg**	**11 58 09.6**	**+0.1**
JYK				S	**Sg**	**11 58 16.1**	**0.0**
JIO	**Ouri**	**0.71**	**155**	P	**Pg**	**11 58 13.2**	**-0.2**
JIO				*e*S	**Sg**	**11 58 23.0**	**+0.3**
JOU	**Okura**	**0.77**	**198**	P	**Pg**	**11 58 14.6**	**+0.1**
JOU				*e*S	**Sg**	**11 58 24.7**	**+0.2**
MJAR	**Matsushiro Arr**	**3.35**	**221**	Pn	**Pb**	**11 58 58.4**	**-0.6**
	0.6nm,0.3s,baz=12,slow=13,SNR=4.8						
WRA	**Warramunga Arr**	**59.05**	**187**	P	**P**	**12 07 59.9**	**+0.4**
	0.2nm,0.5s,baz=5.5,slow=7.3,SNR=5.1						

*MEX **04** 12:02:29.0±0.8, 16.°20N×91.°22W, h5km, MD4.0*
*NEIC **04** 12:02:29.0, 16.°20N×91.°22W, h5km, MD4.0(MEX), After MEX.*
*CASC **04** 12:02:32.8±2.6, 16.°05N×91.°20W, h36km±999km, MD3.8*

ISC 04 12:02:27.2±3.3, 16.°19N±0.°04×91.°29W±0.°04, h12km±23km, n15, σ0§81/28, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.82**	**277**	*e*P	**Pb**	**12 02 43.5**	**0.0**
CCIG				*i* S	**Sn**	**12 02 56.6**	**-0.2**
CCIG	**Comitan**	**0.82**	**277**	*e*P	**Pb**	**12 02 43.5**	**0.0**
CCIG				*i* S	**Sn**	**12 02 56.6**	**-0.2**
THIG		**1.58**	**217**	*e*P	**Pn**	**12 02 54.6**	**-0.4**
THIG				*i* S	**Sn**	**12 03 15.4**	**0.0**
THIG		**1.58**	**217**	*e*P	**Pn**	**12 02 54.6**	**-0.4**
THIG				*i* S	**Sn**	**12 03 15.4**	**0.0**
NBG	**Las Nubes**	**1.83**	**150**	*e*P	**Pn**	**12 02 58.9**	**0.0**
NBG				*e*S	**Sn**	**12 03 22.4**	**+0.3**
JAT	**Jato**	**1.89**	**190**	*e*P	**Pb**	**12 03 00.9**	**-0.7**
MRL	**Marmol**	**1.90**	**126**	*e*P	**Pn**	**12 03 00.5**	**+0.8**
MRL				*e*S	**Sn**	**12 03 22.1**	**-1.6**
PCIG		**1.91**	**256**	*i* P	**Pn**	**12 02 59.5**	**-0.1**
PCIG				*i* S	**Sn**	**12 03 24.1**	**+0.4**
PCIG		**1.91**	**256**	*i* P	**Pn**	**12 02 59.5**	**-0.1**
PCIG				*i* S	**Sn**	**12 03 24.1**	**+0.4**
MTO2	**Montecristo 2**	**2.58**	**133**	*e*P	**Pn**	**12 03 10.5**	**+1.5**
RBDL	**Robledal**	**2.58**	**143**	*e*P	**Pn**	**12 03 11.2**	**+2.2**
RBDL				*e*S	**Sn**	**12 03 39.3**	**-1.1**
SCIG	**Sabancuy**	**2.77**	**2**	*e*P	**Pn**	**12 03 11.6**	**+0.2**
SCIG				*i* S	**Sn**	**12 03 43.9**	**-0.8**
SCIG	**Sabancuy**	**2.77**	**2**	*e*P	**Pn**	**12 03 11.6**	**+0.2**
SCIG				*i* S	**Sn**	**12 03 43.9**	**-0.8**
CMIG	**Matias Romero**	**3.56**	**285**	*i* P	**Pn**	**12 03 22.4**	**+0.1**
CMIG				*i* S	**Sn**	**12 04 05.2**	**+0.9**
CMIG	**Matias Romero**	**3.56**	**285**	*i* P	**Pn**	**12 03 22.4**	**+0.1**
CMIG				*i* S	**Sn**	**12 04 05.2**	**+0.9**

*IDC **04** 12:03:26.2±0.9, 38.°43S×73.°66W, h0km, mb4.2/9, mb1 4.3/13, mb1mx4.2/20, mbtmp4.1/13, ML4.0/4, MS3.7/6, Ms1 3.6/6, ms1mx3.4/18, Error ellipse: s-maj=25.0km s-min=15.3km az=69.0*
*ISCJB **04** 12:03:27.5±0.6, 38.°37S±0.°06×73.°6

comp=Z,289nm,20.6s,baz=346,slow=40
EFI East Falkland 17.21 146 *e*Pn **Pn 12 07 27.8 -0.4**
CPUP Villa Florida 18.26 54 P **Pn 12 07 40.7 -0.8**
0.6nm,0.3s,baz=200,slow=13,SNR=6.5
CPUP LR LR 12 15 04.8
comp=Z,116nm,20.2s,baz=204,slow=38
LPAZ La Paz 22.55 14 P **P 12 08 30.9 +2.1**
1.6nm,0.8s,baz=171,slow=9.2,SNR=12
SIV San Ignacio 24.91 30 P **P 12 08 50.0 -1.1**
5.3nm,1.0s,baz=221,slow=8.9,SNR=8.6
SIV LR LR 12 19 49.6
comp=Z,111nm,19.5s,baz=218,slow=39
NNA Nana 26.45 353 P **P 12 09 04.9 -0.1**
PMSA Palmer Station 27.02 171 LR LR 12 19 20.1
comp=Z,203nm,18.1s,baz=312,slow=35
BDFB Brasilia 31.98 52 P **P 12 09 55.2 +0.9**
2.2nm,0.3s,baz=233,slow=8.7,SNR=4.6
BDFB LR LR 12 24 58.6
comp=Z,135nm,19.0s,baz=206,slow=40
OTAV Otavalo 38.69 352 *e*P **P 12 10 52.5 +0.1**
17nm,2.3s
RCBR Riachuelo 47.12 56 *e*P **P 12 11 59.3 -1.0**
13nm,1.1s
SDV Santo Domingo 47.12 4 *e*P **P 12 12 00.1 -0.2**
16nm,1.9s
QSPA South Pole Qui 51.85 180 P **P 12 12 35.2 -0.7**
1.8nm,0.9s,baz=177,slow=2.2,SNR=5.4
TXAR Lajitas Array 72.98 333 P **P 12 14 57.9 +0.4**
0.3nm,0.7s,baz=163,slow=8.3,SNR=4.7
LIC Lamto 77.40 72 *e*P **P 12 15 23.6 +0.4**
28nm,0.9s
TIC Toumodi 77.68 71 *e*P **P 12 15 25.1 +0.3**
5.5nm,0.2s
KIC Kosan Boka 77.70 72 *e*P **P 12 15 25.4 +0.5**
18nm,0.7s
DBIC Dimbokro 77.82 71 P **P 12 15 26.1 +0.6**
9.6nm,0.8s,baz=204,slow=3.7,SNR=12
BOSA Boshof 79.19 118 P **P 12 15 32.6 -0.6**
2.9nm,0.7s,baz=197,slow=7.2,SNR=4.5
BOSA LR LR 12 48 29.2
comp=Z,41nm,18.1s,baz=200,slow=34
TORD Torodi Ar. Bea 86.91 71 P **P 12 16 12.7 -0.4**
2.1nm,0.8s,baz=235,slow=3.9,SNR=12
PDAR Pinedale Array 87.12 334 P **P 12 16 14.4 +0.7**
0.6nm,0.3s,baz=170,slow=5.5,SNR=17
AKTO Aktyubinsk 144.05 54 PKP PKPbc 12 23 00.9 0.0
1.0nm,0.6s,baz=320,slow=3.0,SNR=5.4
ABKAR Akbulak array 145.31 56 *e*PKPdf **PKPbc 12 23 04.8 -0.1**
BRVK Borovoye 151.22 48 *e*PKPdf **PKPdf 12 23 15.3 +0.6**
BVAR Borovoye Array 151.29 48 PKPbc **PKPbc 12 23 21.4 +0.6**
1.9nm,0.6s,baz=289,slow=4.1,SNR=11
BVAR PKPab **PKPab 12 23 28.3 -0.6**
0.7nm,0.6s,baz=302,slow=2.8,SNR=3.9
AAK Ala-Archa 155.50 70 PKPab **PKPab 12 23 47.3 0.0**
1.9nm,0.6s,baz=226,slow=5.0,SNR=6.8
ZALV Zalesovo Beam 158.58 36 PKPab **PKPab 12 23 60.0 +0.1**
1.3nm,0.9s,baz=290,slow=5.8,SNR=4.6
MKAR Makanchi Array 160.46 57 PKPab **PKPab 12 24 08.1 -0.3**
0.4nm,0.7s,baz=291,slow=3.4,SNR=6.4
SONM Songino Array 170.56 360 PKPab **PKPab 12 24 53.4 +0.6**
0.4nm,0.8s,baz=318,slow=1.9,SNR=3.0

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*JMA **04** 12:09:13.0±0.1,22°.98N×120°.60E,h0km,M3.4*
*TAP **04** 12:09:14.8,22°.95N×120°.70E,h20km,ML3.6,B*
*ISCJB **04** 12:09:16.2±0.2,22°.93N±0°.01×120°.71E±0°.02,h23km±2km, Error ellipse: s-maj=2.7km s-min=1.9km az=167.5*
ISC 04 12:09:15.7±0.8,22°.95N±0°.01×120°.66E±0°.02,h17km±6km, n69,σ0§79/125,11C-9D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.15**	**330**	⇓*i*P	**Pb**	**12 09 20.5**	**+0.5**
SGST	baz=329			S	**Sb**	**12 09 24.1**	**+1.2**
SSD	**Sandimen**	**0.21**	**188**	⇑*i*P	**Pg**	**12 09 20.6**	**-0.1**
SSD	baz=196			*e*S	**Sg**	**12 09 24.2**	**+0.2**
STYT	**Tauyuan**	**0.23**	**23**	⇑*i*P	**Pg**	**12 09 21.0**	**0.0**
STYT	baz=22			*i*S	**Sb**	**12 09 25.2**	**0.0**
TWM1	**Shoushan**	**0.26**	**240**	⇑*i*P	**Pb**	**12 09 22.5**	**+0.6**
TWM1	baz=248			*e*S	**Sb**	**12 09 28.4**	**+2.4**
CHN1	**Nanshi**	**0.26**	**332**	⇓*i*P	**Pb**	**12 09 22.3**	**+0.3**
CHN1	baz=335			*i*S	**Sb**	**12 09 27.6**	**+1.4**
SGLT	**Jiouru**	**0.28**	**215**	⇑*i*P	**Pb**	**12 09 22.9**	**+0.7**
SGLT	baz=215			*e*S	**Sb**	**12 09 29.0**	**+2.4**
WTP	**Ta-pu**	**0.29**	**351**	⇓*i*P	**Pb**	**12 09 22.5**	**-0.1**
WTP	baz=346			*i*S	**Sb**	**12 09 27.8**	**+0.7**
CHN3	**Shinhua**	**0.30**	**294**	*e*P	**Pn**	**12 09 24.0**	**-1.3**
CHN3	baz=292			*e*S	**Sn**	**12 09 30.9**	**-0.4**
TWK	**Hsinying**	**0.35**	**333**	⇓*i*P	**Pb**	**12 09 23.4**	**-0.1**
TWK	baz=329			*e*S	**Sb**	**12 09 29.8**	**+1.0**
CHN4	**Tsaushan**	**0.40**	**351**	⇓P	**Pb**	**12 09 24.1**	**-0.2**
CHN4	baz=345			S	**Sb**	**12 09 31.1**	**+0.9**
TWG	**Pinlang**	**0.40**	**109**	⇓*i*P	**Pg**	**12 09 23.5**	**-0.4**
TWG	baz=103			S	**Sg**	**12 09 29.3**	**-0.2**
ELDTW	**Lidau**	**0.40**	**54**	⇑*i*P	**Pg**	**12 09 23.7**	**-0.3**
ELDTW	baz=44			S	**Sg**	**12 09 29.9**	**+0.3**
TAI1	**Yung-k'ang**	**0.41**	**282**	*e*P	**Pb**	**12 09 25.6**	**+1.1**
TAI1	baz=281			*e*S	**Sn**	**12 09 32.7**	**-1.3**
ECL	**Taimali**	**0.45**	**143**	⇓*i*P	**Pg**	**12 09 24.2**	**-0.6**
ECL	baz=146			*i*S	**Sg**	**12 09 30.3**	**-0.5**
SCLT	**Jiali**	**0.48**	**297**	*e*P	**Pb**	**12 09 26.3**	**+0.5**
SCLT	baz=295			*e*S	**Sn**	**12 09 35.2**	**-0.6**
TTN	**Taitung**	**0.49**	**114**	*e*P	**Pg**	**12 09 24.9**	**-0.6**
TTN	baz=116			*e*S	**Sg**	**12 09 33.3**	**+1.2**
KAU	**Kaohsiung**	**0.51**	**221**	*e*P	**Pb**	**12 09 27.1**	**+1.0**
KAU	baz=235			*e*S	**Sn**	**12 09 36.5**	**+0.1**
ALS	**Alishan**	**0.57**	**13**	⇑*i*P	**Pg**	**12 09 26.9**	**-0.2**
ALS	baz=5.0			S	**Sb**	**12 09 35.8**	**+0.5**
CHN8	**Yiju**	**0.57**	**313**	*e*P	**Pb**	**12 09 27.7**	**+0.5**
CHN8	baz=323			*e*S	**Sn**	**12 09 37.3**	**-0.7**
SCZT	**Fangliau**	**0.58**	**184**	⇑*i*P	**Pg**	**12 09 26.7**	**-0.6**
SCZT	baz=187			*e*S	**Sg**	**12 09 34.3**	**-0.7**
CHY	**Chiayi**	**0.58**	**338**	P	**Pb**	**12 09 27.6**	**+0.1**
CHY	baz=335			*e*S	**Sb**	**12 09 36.8**	**+1.4**
EAST	**Anshuo**	**0.59**	**163**	⇓*i*P	**Pg**	**12 09 27.0**	**-0.5**
EAST	baz=166			*i*S	**Sg**	**12 09 35.2**	**-0.3**
YUS	**Yu-Shan**	**0.60**	**26**	⇑*i*P	**Pg**	**12 09 27.5**	**-0.2**
YUS	baz=31			S	**Sg**	**12 09 36.3**	**+0.5**
CHN2	**Minshiung**	**0.60**	**343**	*e*P	**Pb**	**12 09 28.0**	**+0.3**
CHN2	baz=340			*e*S	**Sn**	**12 09 37.7**	**-1.1**
TAW	**Tawu**	**0.63**	**160**	⇓P	**Pg**	**12 09 27.6**	**-0.5**
TAW	baz=163			S	**Sg**	**12 09 36.1**	**-0.5**
CHN5	**Tsauling**	**0.64**	**1**	P	**Pg**	**12 09 28.2**	**-0.2**
CHN5	baz=358			S	**Sb**	**12 09 38.2**	**+1.0**
CHKT	**Chengkung**	**0.66**	**77**	P	**Pg**	**12 09 28.3**	**-0.5**
CHKT	baz=91			*e*S	**Sg**	**12 09 38.0**	**+0.4**
TWP	**Hsiaoliuchiu**	**0.67**	**205**	*e*P	**Pn**	**12 09 30.3**	**0.0**
TWF1	**Yuli**	**0.70**	**56**	⇑*i*P	**Pg**	**12 09 28.8**	**-0.8**
TWF1	baz=60			*i*S	**Sg**	**12 09 38.7**	**-0.3**
WGK	**Gukeng**	**0.73**	**353**	*e*P	**Pb**	**12 09 30.3**	**+0.2**
WGK	baz=350			*e*S	**Sn**	**12 09 41.5**	**-0.6**
WSF	**Szhu**	**0.79**	**329**	P	**Pb**	**12 09 31.0**	**0.0**
WSF	baz=327			*e*S	**Sn**	**12 09 43.2**	**-0.2**
EHY	**Hungye**	**0.82**	**48**	⇑*i*P	**Pg**	**12 09 30.7**	**-1.0**
EHY	baz=51			*e*S	**Sg**	**12 09 41.7**	**-0.8**
WNT	**Mingjian**	**0.92**	**1**	P	**Pg**	**12 09 33.3**	**-0.3**
WNT	baz=358			S	**Sn**	**12 09 46.7**	**+0.1**
HEN	**Hengchun**	**0.95**	**176**	*e*P	**Pb**	**12 09 33.5**	**-0.1**
HEN	baz=171			*e*S	**Sb**	**12 09 46.9**	**+1.1**
SMLT	**Sun Moon Lake**	**0.95**	**13**	P	**Pb**	**12 09 33.9**	**+0.1**
SMLT	baz=10.0			*e*S	**Sb**	**12 09 47.3**	**+1.2**
TYC	**Yuchr**	**0.96**	**11**	P	**Pb**	**12 09 34.0**	**+0.1**
TYC	baz=8.0			S	**Sn**	**12 09 47.8**	**+0.2**
WDGT	**Dungji**	**0.97**	**288**	*e*P	**Pb**	**12 09 33.3**	**-0.8**
WDGT	baz=287			*e*S	**Sb**	**12 09 46.7**	**0.0**
WTCT	**Ta-ch'eng**	**0.97**	**339**	*e*P	**Pg**	**12 09 34.3**	**-0.3**
WTCT	baz=336			*e*S	**Sn**	**12 09 48.0**	**+0.1**
TWK1	**Hengchun**	**1.01**	**173**	*e*P	**Pb**	**12 09 34.5**	**-0.3**
TWK1	baz=175			S	**Sb**	**12 09 48.6**	**+0.8**
TSEB	**Hengchuen, Pin**	**1.07**	**168**	*e*P	**Pb**	**12 09 35.1**	**-0.7**
TSEB	baz=173			*e*S	**Sb**	**12 09 50.0**	**+0.6**
ESL	**Shilin**	**1.11**	**39**	⇑P	**Pb**	**12 09 35.9**	**-0.5**
ESL	baz=30			*e*S	**Sb**	**12 09 51.3**	**+0.7**
PNG	**Penghu**	**1.19**	**301**	*e*P	**Pb**	**12 09 36.2**	**-1.5**
PNG	baz=300			*e*S	**Sb**	**12 09 52.2**	**-0.6**
TCU	**Taichung**	**1.19**	**1**	*e*P	**Pn**	**12 09 37.2**	**-0.3**
TCU	baz=344			*e*S	**Sg**	**12 09 53.6**	**-0.6**
LAY	**Lan-yu**	**1.23**	**138**	*e*P	**Pn**	**12 09 36.6**	**-1.4**
WHF	**Hehuan Shan**	**1.31**	**25**	*e*P	**Pn**	**12 09 38.8**	**-0.8**
WHF	baz=22			*e*S	**Sg**	**12 09 57.8**	**-0.4**
TWT	**Tachien**	**1.38**	**20**	*e*P	**Pn**	**12 09 40.5**	**+0.3**
TWQ1	**Liyutan**	**1.39**	**4**	P	**Pn**	**12 09 40.4**	**+0.1**
TWQ1	baz=2.0			*e*S	**Sb**	**12 09 59.5**	**+0.8**
TWD	**Chiawan**	**1.41**	**37**	*e*P	**Pn**	**12 09 40.4**	**-0.1**
NSY	**Sanyi**	**1.46**	**4**	*e*P	**Pn**	**12 09 41.3**	**+0.1**
NSY	baz=346			*e*S	**Sg**	**12 10 01.9**	**-0.9**
NNS	**Nan Shan**	**1.62**	**24**	*e*P	**Pn**	**12 09 43.7**	**+0.2**
NSTT	**Nanjuang**	**1.70**	**10**	*e*P	**Pn**	**12 09 44.5**	**0.0**
ENA	**Nanau**	**1.77**	**34**	*e*P	**Pn**	**12 09 45.5**	**0.0**
ENA	baz=32			*e*S	**Sn**	**12 10 08.8**	**+1.2**
NSK	**Sanguang**	**1.83**	**20**	*e*P	**Pn**	**12 09 47.4**	**+1.0**
NSK	baz=18			*e*S	**Sn**	**12 10 10.7**	**+1.5**
ENTT	**Nioudou**	**1.87**	**26**	P	**Pn**	**12 09 48.0**	**+1.1**
ENTT	baz=24			*e*S	**Sb**	**12 10 13.6**	**+1.0**
TWC	**Suao**	**1.97**	**33**	*e*P	**Pn**	**12 09 49.7**	**+1.4**
TWE	**Neicheng**	**1.98**	**27**	*e*P	**Pn**	**12 09 49.1**	**+0.6**
TWE	baz=13			*e*S	**Sb**	**12 10 15.5**	**-0.3**
TWA	**Mucha**	**2.19**	**22**	*e*P	**Pn**	**12 09 52.4**	**+1.2**
EGS	baz=2.0	**2.21**	**31**	*e*P	**Pn**	**12 09 51.0**	**-0.6**
NWF	baz=28 **Wu-fen Shan**	**2.34**	**26**	*e*P	**Pn**	**12 09 54.8**	**+1.3**
NWF	baz=9.0			*e*S	**Sb**	**12 10 25.9**	**-0.2**
TWB1	**Santiao Chiao**	**2.38**	**30**	*e*P	**Pn**	**12 09 54.1**	**+0.2**
JYNG	baz=27 **Yonagunijimaku**	**2.57**	**54**	P	**Pn**	**12 09 56.9**	**+0.4**
JYNG				*e*S	**Sn**	**12 10 29.1**	**+1.8**
YOJ	**Yonaguni jima**	**2.62**	**55**	P	**Pn**	**12 09 57.9**	**+0.6**
YOJ				*e*S	**Sn**	**12 10 29.8**	**+1.1**
YOJ	**Yonaguni jima**	**2.62**	**55**	*e*P	**Pn**	**12 09 57.9**	**+0.6**
HATJ	baz=53 **Hateruma jima**	**3.09**	**69**	*e*S	**Sn**	**12 10 39.6**	**-0.5**
IRIF	**Iriomote-Funau**	**3.13**	**63**	P	**Pn**	**12 10 04.2**	**0.0**
IRIF				*e*S	**Sn**	**12 10 42.3**	**+1.1**
JKRS	**Kuro-shima**	**3.33**	**67**	*e*S	**Sn**	**12 10 46.1**	**+0.1**
JIJ	**Ishigaki jima**	**3.48**	**66**	P	**Pn**	**12 10 08.7**	**-0.4**
JIJ				*e*S	**Sn**	**12 10 49.5**	**-0.5**
JISG	**Ishigakijimahi**	**3.72**	**63**	P	**Pn**	**12 10 11.5**	**-0.8**
JISG				*e*S	**Sn**	**12 10 54.5**	**-1.1**
JTJ	**Tarama**	**4.06**	**65**	P	**Pn**	**12 10 17.9**	**+0.9**
JTJ				*e*S	**Sn**	**12 11 02.9**	**-1.3**

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*NEIC **04** 12:22:30.6,40°.39N×124°.98W,h9km,MW3.9(BRK),After NCEDC.*
NEIC Felt at Arcata and Eureka.
*ISCJB **04** 12:22:31.2±1.2,40°.44N±0°.04×124°.8W±0°.1,h13km, mb3.1/2,Error ellipse: s-maj=14.4km s-min=5.4km az=176.5*
*IDC **04** 12:22:32.9±2.9,40°.53N×124°.54W,h0km,mb2.9/3, mb1 3.4/5,mb1mx3.3/28,mbtmp3.1/5,ML3.3/2,Error ellipse: s-maj=34.9km s-min=17.4km az=88.0*
ISC 04 12:22:31.5±1.9,40°.42N±0°.06×124°.9W±0°.1,h13km,n33, σ1§34/29,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**0.97**	**61**	*e*Pg	**Pb**	**12 22 49.9**	**-0.4**
KCPM	**Cahto Peak**	**1.22**	**126**	*e*Pn	**Pn**	**12 22 52.9**	**-1.5**
N02D	**Trinity Center**	**1.73**	**70**	P	**Pn**	**12 23 00.5**	**-0.8**
WDC	baz=1.8 **Whiskeytown Da**	**1.77**	**84**	*e*Pn	**Pn**	**12 23 00.9**	**-1.0**
M02C	**Callahan**	**1.80**	**57**	P	**Pn**	**12 23 01.4**	**-1.0**
KBO	baz=1.9 **Bosley Butte**	**1.86**	**15**	*e*Pn	**Pn**	**12 23 01.4**	**-1.8**
HOPS	**Hopland Field**	**1.98**	**135**	*e*Pn	**Pn**	**12 23 02.7**	**-2.0**
L02D	**Cave Junction,**	**1.98**	**28**	P	**Pn**	**12 23 04.0**	**-0.8**
L02D	baz=2.1			S	**Sn**	**12 23 27.1**	**-2.4**
LAMM	**Antelope Mount**	**2.07**	**54**	P	**Pn**	**12 23 05.3**	**-0.8**
YBH	**Yreka Blue Hor**	**2.09**	**50**	Pn	**Pn**	**12 23 05.6**	**-0.7**
YBH	9.9nm,0.3s,baz=225,slow=7.1,SNR=271			Sn	**Sn**	**12 23 30.6**	**-1.6**
YBH	41nm,0.3s,baz=329,slow=18,SNR=13			LR	LR	12 23 45.3	
HUMO	comp=Z,77nm,21.4s,baz=20,slow=40 **Hull Mountain**	**2.61**	**32**	*e*Pn	**Pn**	**12 23 12.7**	**-0.8**
HUMO				*e*Sn	**Sn**	**12 23 43.8**	**-1.3**
M04C	**Macdoel**	**2.66**	**58**	P	**Pn**	**12 23 14.2**	**0.0**
I03D	baz=2.7 **Drain, OR**	**3.47**	**18**	P	**Pn**	**12 23 26.1**	**+1.0**
I03D	baz=3.5			S	**Sn**	**12 24 03.6**	**-2.4**
J04D	**Umpqua Nationa**	**3.49**	**35**	Sb	**Sn**	**12 24 08.3**	**+1.3**
MOD	baz=3.6 **Modoc Plateau**	**3.75**	**65**	*e*Pn	**Pn**	**12 23 29.0**	**-0.2**
J05D	**Fort Rock, OR**	**3.94**	**42**	P	**Pn**	**12 23 33.0**	**+1.2**
CMB	baz=4.0 **Columbia Colle**	**4.21**	**123**	*e*Pn	**Pn**	**12 23 35.8**	**+0.4**
WAKR	**Walker**	**4.61**	**113**	*e*Pn	**Pn**	**12 23 42.0**	**+1.0**
WVOR	**Wild Horse Val**	**5.09**	**65**	*e*Pn	**Pn**	**12 23 46.9**	**-0.7**
NVAR	11nm,1.0s **Mina Array Bea**	**5.45**	**109**	Pn	**Pn**	**12 23 53.4**	**+0.7**
ISA	0.9nm,0.3s,baz=284,slow=14,SNR=22 **Isabella, Lake**	**6.92**	**131**	*e*Pn	**Pn**	**12 24 13.5**	**+0.8**
BMO	6.2nm,0.4s **Blue Mountains**	**7.12**	**49**	*e*Pn	**Pn**	**12 24 17.3**	**+1.9**
GSC	4.6nm,0.8s **Goldstone, Bar**	**8.16**	**126**	*e*Pn	**Pn**	**12 24 29.1**	**-0.6**
PDAR	4.6nm,0.3s **Pinedale Array**	**11.70**	**73**	Pn	Pn	12 25 21.6	+3.3
TXAR	0.0nm,0.3s,baz=260,slow=8.9,SNR=3.8 **Lajitas Array**	**20.55**	**116**	P	Pn	12 27 12.7	+0.5
ULM	0.3nm,0.7s,baz=300,slow=10.0,SNR=5.4 **Lac du Bonnet**	**22.49**	**54**	P	**P**	**12 27 32.5**	**+1.9**
YKA	0.7nm,0.5s,baz=265,slow=11,SNR=2.9 **Yellowknife Ar**	**22.95**	**12**	P	**P**	**12 27 36.6**	**+1.3**
H11N3	0.3nm,0.8s,baz=199,slow=10.0,SNR=4.2 **WAKE ISLAND Hy**	**61.10**	**272**	T	T	13 39 31.6	
H11N2	baz=59 **WAKE ISLAND Hy**	**61.10**	**272**	T	T	13 39 27.0	
H11N1	baz=59 **WAKE ISLAND Hy**	**61.11**	**272**	T	T	13 39 32.6	
H11S1	baz=59 **WAKE ISLAND Hy**	**61.97**	**271**	T	T	13 40 01.5	
H11S2	baz=52,slow=74,SNR=3.9 **WAKE ISLAND Hy**	**61.97**	**271**	T	T	13 40 04.0	
H11S3	baz=52 **WAKE ISLAND Hy**	**61.98**	**271**	T	T	13 40 02.9	
	baz=52,slow=74,SNR=2.7						

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*IDC **04** 12:31:14.3±1.0,35°.64S×73°.31W,h0km,mb3.9/5, mb1 3.9/7,mb1mx3.8/18,mbtmp3.8/7,ML3.3/2,MS3.1/2, Ms1 3.1/2,ms1mx2.9/22,Error ellipse: s-maj=40.0km s-min=23.6km az=108.0*
*ISCJB **04** 12:31:17.5±1.1,35°.6S±0°.1×73°.2W±0°.3,h33km,mb3.9/5, MS3.7/1,Error ellipse: s-maj=31.9km s-min=17.8km az=22.8*
ISC 04 12:31:19.6±1.0,35°.6S±0°.2×73°.2W±0°.2,h35km,n11, σ1§01/11,mb3.9/5,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.73**	**48**	Pn	**Pn**	**12 32 41.6**	**-0.6**
CFAA	0.3nm,0.3s,baz=222,slow=12,SNR=22			LR	LR	12 35 02.8	
LPAZ	comp=Z,33nm,21.0s,baz=232,slow=39 **La Paz**	**19.73**	**15**	P	**Pn**	**12 35 47.8**	**-0.8**
SIV	0.1nm,0.3s,baz=186,slow=5.5,SNR=7.3 **San Ignacio**	**22.31**	**32**	P	**P**	**12 36 15.4**	**+1.2**
SIV	4.4nm,0.9s,baz=240,slow=14,SNR=3.1			LR	LR	12 46 36.6	
QSPA	comp=Z,277nm,19.2s,baz=234,slow=41 **South Pole Qui**	**54.67**	**180**	P	**P**	**12 40 44.5**	**-0.3**
TXAR	2.8nm,1.1s,baz=156,slow=1.8,SNR=7.9 **Lajitas Array**	**70.65**	**332**	P	**P**	**12 42 31.4**	**-0.3**
DBIC	0.2nm,0.6s,baz=154,slow=7.6,SNR=7.0 **Dimbokro**	**76.58**	**72**	P	**P**	**12 43 07.7**	**+0.8**
TORD	3.6nm,0.7s,baz=219,slow=8.2,SNR=4.1 **Torodi Ar. Bea**	**85.64**	**71**	P	**P**	**12 43 54.0**	**-0.9**
WRA	0.2nm,0.6s,baz=242,slow=3.1,SNR=2.9 **Warramunga Arr**	**118.93**	**210**	PKP	**PKPdf**	**12 50 04.9**	**0.0**
BVAR	0.5nm,1.0s,baz=145,slow=6.5,SNR=2.7 **Borovoye Array**	**149.08**	**44**	PKPbc	**PKPbc**	**12 51 03.9**	**+0.4**
ZALV	0.6nm,0.5s,baz=301,slow=5.5,SNR=4.3 **Zalesovo Beam**	**156.06**	**33**	PKPbc	PKPdf	12 51 17.9	+8.3
ZALV	0.4nm,0.6s,baz=278,slow=2.2,SNR=2.9			PKPab	**PKPab**	**12 51 39.1**	**+2.0**
MKAR	0.4nm,0.6s,baz=318,slow=1.9,SNR=2.4 **Makanchi Array**	**158.50**	**51**	PKPab	**PKPab**	**12 51 47.6**	**-0.5**
	0.1nm,0.5s,baz=307,slow=5.2,SNR=2.5						

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*IDC **04** 12:32:06.1±1.4,37°.15S×73°.31W,h0km,mb3.8/4, mb1 4.0/5,mb1mx3.8/24,mbtmp3.8/5,ML3.0/1,MS3.7/3, Ms1 3.7/3,ms1mx3.3/23,Error ellipse: s-maj=42.0km s-min=31.3km az=132.0*
ISC 04 12:32:07.8±1.6,37°.1S±0°.2×73°.2W±0°.3,h10km,n10, σ1§21/8,mb3.8/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**6.90**	**38**	Pn	**Pn**	**12 33 47.9**	**-1.0**
CFAA	0.3nm,0.3s,baz=206,slow=10.0,SNR=4.3			Lg	Lg	12 35 44.8	
CPUP	0.1nm,0.3s,baz=287,slow=19,SNR=2.7 **Villa Florida**	**17.27**	**56**	LR	LR	12 43 15.3	
LPAZ	comp=Z,97nm,18.3s,baz=220,slow=39 **La Paz**	**21.26**	**14**	P	**P**	**12 36 56.8**	**+2.0**
LPAZ	3.6nm,0.9s,baz=182,slow=14,SNR=1.9			LR	LR	12 45 38.0	
BDFB	comp=Z,201nm,19.2s,baz=133,slow=38 **Brasilia**	**30.95**	**53**	LR	LR	12 50 45.6	
TXAR	comp=Z,268nm,19.8s,baz=218,slow=36 **Lajitas Array**	**72.03**	**332**	P	**P**	**12 43 31.2**	**-0.7**
DBIC	0.2nm,0.6s,baz=150,slow=7.3,SNR=2.1 **Dimbokro**	**77.11**	**71**	P	**P**	**12 44 02.4**	**+0.7**
TORD	3.0nm,0.9s,baz=194,slow=10,SNR=3.0 **Torodi Ar. Bea**	**86.19**	**71**	P	**P**	**12 44 49.4**	**-0.2**
BVAR	0.5nm,0.6s,baz=222,slow=4.6,SNR=5.3 **Borovoye Array**	**150.20**	**46**	PKPbc	**PKPbc**	**12 51 57.9**	**-0.4**
ZALV	1.0nm,0.6s,baz=296,slow=4.1,SNR=4.6 **Zalesovo Beam**	**157.38**	**35**	PKPab	**PKPab**	**12 52 34.1**	**-0.7**
MKAR	1.3nm,0.8s,baz=298,slow=6.2,SNR=3.6 **Makanchi Array**	**159.48**	**54**	PKPab	**PKPab**	**12 52 45.1**	**+0.8**
	0.3nm,0.8s,baz=292,slow=3.5,SNR=3.7						

IDC 04 12:36:10.3±3.2,28°.60N×86°.97E,h0km,mb3.4/3, mb1 3.4/4,mb1mx3.2/48,mbtmp3.2/4,ML2.9/1,MS2.5/1, Ms1 2.7/1,ms1mx2.3/30,Error ellipse: s-maj=106.7km s-min=28.1km az=79.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.90**	**130**	LR	LR	12 47 23.8	
MKAR	comp=Z,16nm,18.3s,baz=20,slow=45 **Makanchi Array**	**18.53**	**350**	P	P	12 40 28.2	-0.2
SONM	0.0nm,0.3s,baz=183,slow=12,SNR=2.6 **Songino Array**	**24.41**	**33**	P	P	12 41 30.6	0.0
WRA	0.6nm,0.6s,baz=226,slow=11,SNR=7.2 **Warramunga Arr**	**66.50**	**131**	P	P	12 47 01.8	-0.4
ASAR	0.3nm,1.0s,baz=324,slow=6.6,SNR=6.6 **Alice Springs**	**68.87**	**134**	P	P	12 47 17.4	+0.3
	0.1nm,0.3s,baz=308,slow=6.7,SNR=3.7						

IDC 04 12:46:37.7±2.6,36°.17S×73°.23W,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.7/16,mbtmp3.5/4,ML2.9/1,MS3.6/1, Ms1 3.6/1,ms1mx2.6/20,Error ellipse: s-maj=62.3km s-min=47.8km az=174.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**6.16**	**44**	Pn	Pn	12 48 08.9	-1.1
CFAA	0.3nm,0.3s,baz=217,slow=14,SNR=5.6			Sn	Sb	12 49 37.0	-3.3
USHA	0.1nm,0.3s,baz=150,slow=20,SNR=4.8 **Ushuaia**	**18.96**	**171**	LR	LR	12 57 36.5	
	comp=Z,195nm,22.0s,baz=113,slow=35						

LPAZ	La Paz	20.31	14	P	P	12 51 16.9	+0.8
	1.3nm,0.7s,baz=178,slow=6.9,SNR=4.0						
TXAR	Lajitas Array	71.16	332	P	P	12 57 58.0	-0.3
	0.5nm,0.6s,baz=153,slow=8.1,SNR=7.1						
TORD	Torodi Ar. Bea	85.86	71	P	P	12 59 19.6	0.0
	0.5nm,0.8s,baz=246,slow=4.4,SNR=2.8						
ZALV	Zalesovo Beam	156.57	34	PKPab	PKPab	13 07 03.1	+0.1
	0.4nm,0.4s,baz=316,slow=6.0,SNR=3.2						

BJI ***04*** *12:57:12.0, 1°.51S×133°.82E, h35km, mB4.9/26, mb4.6/39, Ms4.6/18, Ms7 4.6/6*
IDC ***04*** *12:57:15.5±0.5, 0°.68S×133°.24E, h0km, mb4.5/16, mb1 4.6/17, mb1mx4.5/26, mbtmp4.5/17, ML4.9/2, MS4.0/11, Ms1 4.0/11, ms1mx3.6/34, Error ellipse: s-maj=22.3km s-min=10.1km az=80.0*
MOS ***04*** *12:57:18.5±1.1, 0°.66S×133°.23E, h33km, mb5.0/21, Error ellipse: s-maj=15.7km s-min=6.7km az=111.5*
ISCJB ***04*** *12:57:19.8±0.6, 0°.68S±0°.03×133°.31E±0°.03, h40km±5km, mb4.8/61, MS4.0/9, Error ellipse: s-maj=5.0km s-min=4.3km az=16.3*
NEIC ***04*** *12:57:21.0±0.3, 0°.65S×133°.26E, h35km, mb4.9/24, Error ellipse: s-maj=7.6km s-min=5.7km az=80.0*
DJA ***04*** *12:57:22.5±0.2, 1°.5S±3°×13°.3E±°, h10km, M4.9/59, mb5.0/59, mB5.4/32, MLv5.2/16, Mw(mB)4.9/32, Mwp5.7/1*
ISC 04 12:57:21.5±0.4, 0°.65S±0°.04×133°.32E±0°.04, h36km±1km, n185, σ1$67/188, mb4.9/61, MS4.0/9, 12C-9D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	2.07	264	P	**Pn**	12 57 52.2	-1.5
SWI				S	**Sn**	12 58 17.5	-0.8
SWI	**Sorong**	2.07	264	P	**Pn**	12 57 51.0	-2.7
	baz=2.1,SNR=710						
SWI				S	**Sn**	12 58 17.5	-0.8
	baz=2.1,SNR=8.4						
FAKI	**Fak Fak**	2.50	205	P	**Pn**	12 57 57.7	-1.9
FAKI				S	**Sn**	12 58 28.6	-0.2
FAKI	**Fak Fak**	2.50	205	P	**Pn**	12 57 57.7	-1.9
	baz=2.4,SNR=528						
FAKI	**Fak Fak**	2.50	205	*e*Pg	**Pn**	12 57 57.7	-1.9
BAKI	**Biak**	2.84	101	P	**Pn**	12 58 05.0	+0.6
BAKI				S	**Sn**	12 58 37.6	+0.2
KMPI	**Kaimana, Papua**	3.02	173	P	**Pn**	12 58 06.3	-0.5
SRPI	**Serui, Papua**	3.16	113	P	**Pn**	12 58 10.8	+2.0
BNDI	**Bandanaira**	5.14	221	P	**Pn**	12 58 35.3	-0.7
SMPI	**Sarmi**	5.55	104	P	**Pn**	12 58 44.4	+2.7
	96nm,1.2s,3μm0.4nm						
LBMI	**Labuha**	5.82	270	P	**Pn**	12 58 45.3	0.0
	342nm,0.6s,3μm1.4nm						
TNTI	**Ternate**	6.12	283	P	**Pn**	12 58 49.2	-0.2
	161nm,1.2s,2μm0.7nm						
TNTI	**Ternate**	6.12	283	*e*Pn	**Pn**	12 58 49.3	-0.2
NLAI	**Namlea**	6.72	247	P	**Pn**	12 58 56.9	-0.9
	571nm,0.6s,5μm1.9nm						
GENI	**Genyem**	7.12	106	P	**Pn**	12 59 05.7	+2.5
	75nm,1.0s,0.3nm						
SANI	**Sanana**	7.46	259	P	**Pn**	12 59 05.2	-2.7
	78nm,1.1s,1μm0.3nm						
SAUI	**Saumlaki**	7.56	195	P	**Pn**	12 59 09.0	-0.2
	578nm,0.7s,5μm2.4nm						
SAUI	**Saumlaki**	7.56	195	*e*Pn	**Pn**	12 59 08.6	-0.7
PALU	**Palau**	8.02	8	P	**Pn**	12 59 16.1	+0.5
	baz=8.2,SNR=5.0						
PALU				S	**Sn**	13 00 39.6	-5.5
	baz=8.2,SNR=4.3						
MRSI	**Marisa**	11.43	276	P	**Pn**	13 00 03.6	+1.2
	44nm,0.8s,603nm						
APSI	**Ampana**	11.67	269	P	**Pn**	13 00 04.9	-0.7
	288nm,0.9s,3μm						
KDU	**Kakadu**	11.99	184	P	Pn	13 00 06.6	-3.4
	baz=12,SNR=162						
KDU				S	Sn	13 02 15.9	-6.6
	baz=12,SNR=11						
MTN	**Manton Dam**	12.31	190	P	Pn	13 00 10.5	-3.8
	baz=12,SNR=260						
MTN				S	Sn	13 02 19.7	-11
	baz=12,SNR=8.4						
SOEI	**Soe**	12.76	225	P	**Pn**	13 00 19.7	-1.0
	294nm,1.0s,3μm						
SOEI	**Soe**	12.76	225	P	**Pn**	13 00 19.8	-0.9
	baz=13,SNR=25						
SOEI				S	S	13 02 56.9	-10
	baz=13,SNR=4.0						
SOEI	**Soe**	12.76	225	*e*Pn	**Pn**	13 00 19.9	-0.9
MPSI	**Mapaga**	13.45	274	P	**Pn**	13 00 31.4	+1.4
	27nm,1.4s						
BATI	**Baumata**	13.50	225	P	**Pn**	13 00 28.9	-1.8
	354nm,1.0s,3μm						
BATI	**Baumata**	13.50	225	Pn	**Pn**	13 00 29.3	-1.4
	18nm,0.3s,baz=104,slow=19,SNR=116						
BATI				Sn	**Sn**	13 03 00.1	+0.6
	1.3nm,0.3s,baz=77,slow=18,SNR=2.8						
BATI				LR	LR	13 04 55.9	
	comp=Z,412nm,21.9s,baz=59,slow=34						
MMRI	**Maumere**	13.59	234	P	**Pn**	13 00 33.3	+1.4
	86nm,1.3s,2μm						
MMRI	**Maumere**	13.59	234	*e*Pn	**Pn**	13 00 33.2	+1.4
	172nm,1.4s						
BNSI	**Bone**	13.71	254	P	Pn	13 00 36.7	+3.2
	46nm,1.0s						
SPSI	**Sidrap Palu**	13.93	256	P	**Pn**	13 00 37.3	+0.8
	45nm,0.7s						
BKSI	**Bulukumba**	13.97	250	P	**Pn**	13 00 36.0	-1.0
	80nm,0.7s,798nm14μm						
KAPI	**Kappang**	14.22	252	*e*Pn	**Pn**	13 00 41.5	+1.0
KNRA	**Kununurra**	15.60	197	P	Pn	13 00 53.7	-5.1
	baz=16,SNR=352						
KNRA				S	Sn	13 03 36.7	-14
	baz=16,SNR=11						
WSI	**Waingapu**	15.75	235	S	**S**	13 04 06.2	-2.0
	baz=16,SNR=5.9						
BASI	**Baing, Sumba**	15.84	233	P	**Pn**	13 01 03.7	+1.8
	127nm,1.2s,2μm						
MYLDM	**Lahad Datu**	15.89	292	*e*P	**P**	13 01 10.1	+4.1
	102nm,1.2s						
TSM	**Tawau**	16.19	288	⇑P	**P**	13 01 09.6	+0.3
PMG	**Port Moresby**	16.29	123	⇑*e*P	**Pn**	13 01 07.5	-0.2
PMG				pmax	pmax		
	comp=Z,50nm,1.7s						
PMG	**Port Moresby**	16.29	123	LR	LR	13 08 48.6	
	comp=Z,488nm,19.8s,baz=330,slow=42						
PMG	**Port Moresby**	16.29	123	*e*Pn	**P**	13 01 10.4	0.0
	comp=Z,33nm,1.0s						
COEN	**Coen**	16.43	144	P	**Pn**	13 01 08.6	-1.0
	baz=16,SNR=9.3						
COEN	**Coen**	16.43	144	*e*Pn	**Pn**	13 01 09.3	-0.2
	comp=Z,82nm,0.8s						
WBSI	**Waikabubak, Su**	16.49	237	P	**Pn**	13 01 06.0	-4.2
	comp=Z,78nm,0.8s						
SDKM	**Sandakan**	17.27	291	⇓P	**P**	13 01 23.6	+2.3
KKM	**Kota Kinabalu**	18.32	292	⇑P	**Pn**	13 01 33.7	+0.6
KKM	**Kota Kinabalu**	18.32	292	*e*Pn	Pn	13 01 39.0	+5.9
	comp=Z,60nm,1.1s						
BBKI	**Banjar Baru**	18.67	261	P	**Pn**	13 01 37.6	+0.3
	comp=Z,65nm,1.0s,comp=Z,1μm						
WRAB	**Tennant Creek**	19.19	177	*de*P	**P**	13 01 40.3	-2.1
WRAB				pmax	pmax		
	comp=Z,75nm,1.0s						
WRAB	**Tennant Creek**	19.19	177	*e*P	**P**	13 01 39.9	-2.5
WRA	**Warramunga Arr**	19.20	177	P	**P**	13 01 40.1	-2.3
	comp=Z,2.0nm,0.3s,baz=355,slow=12,SNR=68						
WRA				S	Sn	13 05 08.3	-10
	comp=Z,1.2nm,0.3s,baz=1.1,slow=23,SNR=6.1						
WRA				LR	LR	13 10 09.5	
	comp=Z,739nm,18.6s,baz=355,slow=40						
SRBI	**Singaraja**	19.49	247	P	**P**	13 01 46.0	+0.3
	comp=Z,71nm,1.4s,comp=Z,1μm						
ABJI	**Asem Bagus**	20.30	249	P	**P**	13 01 55.6	+1.1
	comp=Z,183nm,1.0s,comp=Z,2μm						
KMMI	**Kalianget**	20.32	251	P	**P**	13 01 55.6	+0.9
	comp=Z,97nm,1.1s,comp=Z,1μm						
BTM	**Bintulu**	20.58	281	⇑P	Pn	13 01 59.8	-0.2
JAGI	**Jajag, Banyuwa**	20.61	247	P	Pn	13 02 05.5	+5.2
	comp=Z,94nm,1.1s						
JAGI	**Jajag, Banyuwa**	20.61	247	*e*P	**P**	13 01 57.1	-0.8
	comp=Z,134nm,1.2s						
QIS	**Mount Isa**	20.72	163	P	**P**	13 01 57.6	-1.4
	baz=21,SNR=15						
BLJI	**Banyuglugur**	20.88	250	P	Pn	13 02 04.3	+0.9
	comp=Z,71nm,1.0s						
GMJI	**Gumukmas**	21.20	249	P	**P**	13 02 07.5	+3.3
	comp=Z,69nm,1.1s						
SBUM	**Sibu**	21.32	278	⇑P	**P**	13 02 09.2	+3.8
SBUM	**Sibu**	21.32	278	*e*P	**P**	13 02 07.9	+2.4
STKI	**Sintang**	21.85	272	P	P	13 02 17.5	+6.3
	comp=Z,43nm,0.5s,comp=Z,9μm						
PWJI	**Pagerwojo**	22.65	251	P	**P**	13 02 22.6	+2.8
	comp=Z,40nm,1.6s						
NGJI	**Ngawi**	22.79	252	P	**P**	13 02 24.8	+3.5
	comp=Z,72nm,1.3s						
ASAR	**Alice Springs**	22.89	179	P	**P**	13 02 20.4	-1.8
	comp=Z,44nm,0.8s,baz=358,slow=11,SNR=185						
ASAR				S	**S**	13 06 32.9	+3.2
	comp=Z,16nm,1.0s,baz=357,slow=23,SNR=8.9						
ASAR				LR	LR	13 12 24.6	
	comp=Z,617nm,18.1s,baz=0.5,slow=40						
CTA	**Charters Tower**	23.10	148	P	**P**	13 02 24.8	+0.4
	comp=Z,10nm,0.7s,baz=326,slow=12,SNR=13						
CTA				LR	LR	13 12 38.4	
	comp=Z,640nm,21.3s,baz=332,slow=40						
CTAO	**Charters Tower**	23.10	148	*e*P	**P**	13 02 25.6	+1.2
CTAO				pmax	pmax		
	comp=Z,18nm,0.9s						
CTAO	**Charters Tower**	23.10	148	*e*P	**P**	13 02 25.6	+1.2
	comp=Z,18nm,0.9s						
KSM	**Kuching**	23.10	275	⇑P	**P**	13 02 25.3	+0.8
WOJI	**Wonogiri, Jawa**	23.43	252	P	**P**	13 02 31.7	+4.0
	comp=Z,57nm,1.4s,comp=Z,6μm						
SMRI	**Semarang**	23.68	254	P	P	13 02 37.7	+7.5
	comp=Z,101nm,0.9s						
SMRI	**Semarang**	23.68	254	*e*P	**P**	13 02 29.4	-0.8
	comp=Z,71nm,0.8s						
UGM	**Wanagama**	23.83	252	S	**S**	13 06 50.9	+5.5
	baz=24,SNR=3.5						
MBWA	**Marble Bar**	24.32	212	*e*P	**P**	13 02 35.3	-0.7
	comp=Z,80nm,1.0s						
WRKA	**Warakurna**	24.73	191	P	**P**	13 02 38.9	-0.8
	baz=25,SNR=37						
WRKA				S	S	13 07 17.8	+18
	baz=25,SNR=3.7						
KPJI	**Karang Pucung**	25.20	254	P	**P**	13 02 44.3	+0.2
	comp=Z,84nm,1.0s,comp=Z,850nm						
LEM	**Lembang**	26.36	256	P	P	13 03 02.6	+7.9
	comp=Z,38nm,0.9s						
QLP	**Quilpie**	27.84	159	P	**P**	13 03 06.5	-1.3
	baz=28,SNR=13						
HNR	**Honiara**	27.90	109	LR	LR	13 15 47.7	
	comp=Z,89nm,18.1s,baz=286,slow=40						
MDSI	**Maura Dua**	29.35	262	P	**P**	13 03 21.3	-0.1
	comp=Z,28nm,0.8s						
LWLI	**Liwa**	29.54	261	P	P	13 03 36.8	+14
KGM	**Kluang**	30.11	275	⇑P	**P**	13 03 27.7	-0.4
QIZ	**Qiongzhong**	30.23	312	P	**P**	13 03 30.9	+1.9
QIZ				pP	**pP**	13 03 39.8	+0.4
QIZ				sP	**sP**	13 03 43.0	-0.8
QIZ				S	**S**	13 08 29.5	+3.1
QIZ				sS	**sS**	13 08 45.1	+1.6
QIZ				PMZ			
	comp=Z,67nm,3.9s						
FORT	**Forrest**	30.38	189	P	**P**	13 03 30.4	+0.2
	baz=30,SNR=7.7						
KTGM	**Kuala Trenggan**	30.72	282	⇓P	**P**	13 03 33.3	-0.2
FRIM	**Kepong**	31.91	277	⇑P	**P**	13 03 44.2	+0.2
STKA	**Stephens Creek**	32.03	167	*e*P	**P**	13 03 43.7	-1.0
STKA	**Stephens Creek**	32.03	167	P	**P**	13 03 42.5	-2.2
	comp=Z,6.4nm,0.4s,baz=347,slow=8.1,SNR=19						
STKA				LR	LR	13 18 10.1	
	comp=Z,352nm,18.1s,baz=350,slow=39						
STKA	**Stephens Creek**	32.03	167	P	**P**	13 03 43.8	-1.0
	baz=32,SNR=11						
STKA	**Stephens Creek**	32.03	167	*e*P	**P**	13 03 43.7	-1.0
BBOO	**Buckleboo**	32.09	176	P	**P**	13 03 44.1	-1.2
	baz=32,SNR=16						
BBOO	**Buckleboo**	32.09	176	*e*P	**P**	13 03 44.3	-1.0
	comp=Z,390nm,0.8s						
IPM	**Ipoh**	32.66	279	⇓P	**P**	13 03 50.2	-0.4
CMSA	**Cobar Meteorol**	32.88	160	P	**P**	13 03 51.3	-0.9
	baz=33,SNR=7.2						
HTT	**Hallett**	33.03	171	P	**P**	13 03 53.0	-0.6
	baz=33,SNR=8.1						
KULM	**Kulim**	33.15	281	⇓P	**P**	13 03 52.1	-2.8
BLDU	**Ballidu**	33.72	206	P	**P**	13 03 58.4	-1.2
	baz=34,SNR=13						
ARMA	**Armidale**	34.34	151	P	**P**	13 04 05.7	+0.6
	baz=34,SNR=5.1						
ARMA	**Armidale**	34.34	151	*e*P	**P**	13 04 06.0	+0.9
	comp=Z,153nm,2.5s						
PSI	**Prapat**	34.55	276	P	P	13 04 03.6	-3.5
	comp=Z,2.2nm,0.4s,baz=72,slow=8.5,SNR=3.5						
PSI	**Prapat**	34.55	276	P	P	13 04 10.5	+3.3
	baz=35,SNR=4.1						
KCSI	**Kotacane, Aceh**	35.77	277	P	P	13 04 24.6	+7.1
	comp=Z,10.0nm,0.8s						
PBKT	**Sadao Pong**	36.20	300	P	P	13 04 31.0	+10
	comp=Z,5.2nm,1.3s						
ARPS	**Mount Arapiles**	36.80	169	P	**P**	13 04 25.7	-0.3
	baz=37,SNR=37						
GYA	**Guiyang**	37.23	318	*e*P	**P**	13 04 33.0	+3.0
GYA				pP	**pP**	13 04 42.7	+2.2
GYA				sP	**sP**	13 04 48.6	+3.8
GYA				PP	**PnPn**	13 06 01.2	+5.2
GYA				S	**S**	13 10 17.0	+2.1
GYA				sS	**ScP**	13 10 35.2	+1.3
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				PMZ			
	comp=Z,110nm,5.0s						
GYA				LN			
	comp=Z,460nm,17.8s						
GYA				LE			
	comp=Z,380nm,17.0s						
MJAR	**Matsushiro Arr**	37.28	7	P	**P**	13 04 27.5	-2.6
	comp=Z,1.9nm,0.7s,baz=189,slow=9.7,SNR=5.4						
NANT	**Nan**	37.41	303	P	P	13 04 39.3	+7.8
	comp=Z,18nm,1.1s,comp=Z,678nm						
KSRS	**Korea Array**	38.24	353	LR	LR	13 19 38.6	
	comp=Z,190nm,18.9s,baz=170,slow=35						
CRAI	**Chiangrai**	38.36	305	P	P	13 04 50.1	+11
	comp=Z,33nm,2.4s						
TOO	**Toolangi**	38.42	164	P	**P**	13 04 40.6	+0.9
	baz=38,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	38.64	57	T	T	13 45 44.9	
	baz=243,slow=75,SNR=160						
H11N2	**WAKE ISLAND Hy**	38.65	57	T	T	13 45 57.9	
	baz=243,slow=75,SNR=194						
H11N3	**WAKE ISLAND Hy**	38.66	57	T	T	13 45 45.8	
	baz=243,slow=75,SNR=140						
CMAR	**Chiang Mai Arr**	38.75	301	P	**P**	13 04 42.0	-0.8
CMAR	**Chiang Mai Arr**	38.75	301	P	**P**	13 04 42.0	-0.8
	comp=Z,0.6nm,0.4s,baz=119,slow=7.3,SNR=6.0						
CMAR	**Chiang Mai Arr**	38.75	301	P	**P**	13 04 42.0	-0.8
CHTO	**Chiang Mai**	38.91	302	*e*P	P	13 04 51.8	+7.7
CHTO				pmax	pmax		
	comp=Z,73nm,2.6s						
CHTO	**Chiang Mai**	38.91	302	P	P	13 04 51.9	+7.8
	comp=Z,32nm,0.8s,comp=Z,1μm						
CHTO	**Chiang Mai**	38.91	302	*e*P	P	13 04 51.8	+7.7
	comp=Z,73nm,2.6s						
CD2	**Chengdu**	42.11	321	*e*P	**P**	13 05 10.4	0.0
CD2				sP	**sP**	13 05 20.7	-4.7
CD2				PP	**PP**	13 06 51.8	+3.4
CD2				S	**S**	13 11 28.4	+0.6
CD2				PMZ			
	comp=Z,10.0nm,1.1s						
CD2				PMZ			
	comp=Z,110nm,8.2s						
CD2				LE			
	comp=Z,150nm,14.3s						
ERM	**Erimo**	43.39	11	*ce*P	**P**	13 05 17.7	-2.8
ERM				pmax	pmax		
	comp=Z,50nm,1.7s						
BJT	**Baijiatuau**	43.40	341	*e*P	**P**	13 05 20.8	+0.1
BJT				pmax	pmax		
	comp=Z,14nm,0.4s						
BJT	**Baijiatuau**	43.40	341	*e*P	**P**	13 05 20.8	+0.1
	comp=Z,14nm,0.4s						
MDJ	**Mudanjiang**	45.19	356	P	**P**	13 05 35.2	+0.3
MDJ				PMZ			
	comp=Z,9.0nm,1.1s						
MDJ				PMZ			
	comp=Z,52nm,4.5s						
MDJ				LN			
	comp=Z,100nm,7.1s						
MDJ				LE			
	comp=Z,330nm,10.8s						
MDJ				LZ			
	comp=Z,480nm,12.4s						
ASAJ	**Asahikawa**	45.33	9	P	**P**	13 05 36.3	+0.3
	comp=Z,8.6nm,1.1s,baz=203,slow=13,SNR=3.7						
LZH	**Lanzhou**	45.69	326	*e*P	**P**	13 05 41.6	+2.4
LZH				pP	**pP**	13 05 49.9	0.0
LZH				sP	**sP**	13 05 55.0	+0.8
LZH				PMZ			
	comp=Z,12nm,1.0s						
HHC	**Hu-ho-hao-te**	45.80	337	*e*P	**P**	13 05 40.3	+0.4
HHC				sP	**sP**	13 05 55.1	+0.2
HHC				PP	**PP**	13 07 27.1	-0.6
HHC				S	**S**	13 12 21.8	+0.4
HHC				PMZ			
	comp=Z,26nm,1.5s						
HHC				PMZ			
	comp=Z,180nm,6.2s						
HHC				LN			
	comp=Z,310nm,14.9s						
HHC				LE			
	comp=Z,550nm,18.7s						
YSS	**Yuzh-Sakhalins**	48.12	9	*e*P	**P**	13 05 57.6	-0.2
YSS				*e*		13 06 04.0	
HABR	**Khabarovsk**	48.95	2	*e*P	P	13 06 10.9	+6.8
HABR				*e*		13 07 24.8	
HABR				*e*		13 07 55.0	
HABR				*e*S	**S**	13 13 03.9	-1.8
HABR				*e**SS	sS	13 13 20.5	-2.9
HABR				*e*		13 15 50.9	
HABR				*e*SSS	SSS	13 17 53.7	
HABR				pmax	pmax		
	comp=Z,34nm,1.8s						
HABR				pmax	pmax		
	comp=E,20nm,1.3s						
HABR				MLR	MLR		
	comp=Z,193nm,16.0s						
LSA	**Lhasa**	50.26	311	*e*P	**P**	13 06 14.5	-0.6
LSA				pmax	pmax		
	comp=Z,21nm,1.3s						
LSA	**Lhasa**	50.26	311	*e*P	**P**	13 06 14.5	-0.6
	comp=Z,21nm,1.3s						
GTA	**Gaotai**	50.29	326	P	**P**	13 06 15.2	+0.4
GTA				pP	**pP**	13 06 24.8	-0.8
GTA				sP	**sP**	13 06 28.9	-0.9
GTA				S	**S**	13 13 25.0	-0.2
GTA				PMZ			
	comp=Z,5.0nm,1.4s						
GTA				PMZ			
	comp=Z,80nm,5.9s						
GTA				LN			
	comp=Z,71nm,15.2s						
GTA				LE			
	comp=Z,64nm,14.5s						
ULN	**Ulaanbaatar**	53.45	338	*d*P	**P**	13 06 37.8	-0.4
ULN				pmax	pmax		
	comp=Z,13nm,1.7s						
ULN	**Ulaanbaatar**	53.45	338	*e*P	**P**	13 06 37.7	-0.4
	comp=Z,5.8nm,1.0s						
SONM	**Songino Array**	53.67	338	P	**P**	13 06 40.1	+0.3
	comp=Z,1.6nm,0.8s,baz=155,slow=7.2,SNR=11						
URZ	**Urewera**	54.89	138	P	**P**	13 06 48.8	+0.2
	comp=Z,7.4nm,0.8s,baz=225,slow=1.4,SNR=4.1						
BKZ	**Black Stump Fm**	54.97	139	*e*P	**P**	13 06 51.3	+2.0
ZAK	**Zakamensk**	56.94	338	*e*P	**P**	13 07 02.6	-0.6
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
PETK	**Petropavlovsk-**	57.31	17	P	**P**	13 07 06.0	+0.4
	comp=Z,7.4nm,0.9s,baz=176,slow=2.5,SNR=7.5						
PETK				LR	LR	13 30 06.9	
	comp=Z,138nm,20.4s,baz=202,slow=34						
PET	**Petropavlovsk**	57.52	18	*e*P	**P**	13 07 04.9	-2.2
PET				pmax	pmax		
	comp=Z,254nm,2.1s						
PET	**Petropavlovsk**	57.52	18	*e*P	**P**	13 07 04.9	-2.2
	comp=Z,254nm,2.1s						
TLY	**Talaya**	57.85	339	*e*P	**P**	13 07 10.4	+0.9
TLY				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TLY				MLR	MLR		
	comp=Z,62nm,14.0s						
TLY	**Talaya**	57.85	339	LR	LR	13 32 57.2	
	comp=Z,61nm,18.8s,baz=138,slow=37						
MOY	**Mondy**	58.84	337	*e*P	**P**	13 07 17.4	+0.8
WMQ	**Urumqi**	60.10	323	P	**P**	13 07 26.1	+0.7
WMQ				PMZ			
	comp=Z,12nm,1.2s						
WMQ				PMZ			
	comp=Z,96nm,4.0s						
BOD	**Bodaibo**	60.30	348	*e*P	**P**	13 07 26.4	+0.1
BOD				pmax	pmax		
	comp=Z,8.0nm,1.4s						
HVS	**Khovu-Aksy**	61.54	333	*d*P	**P**	13 07 34.6	-0.4
HVS				pmax	pmax		
	comp=Z,56nm,1.2s						
YAK	**Yakutsk**	62.58	358	*e*P	**P**	13 07 39.7	-1.9
YAK				pmax	pmax		
	comp=Z,20nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.3s						
MK31	**Makanchi Array**	64.92	324	*e*P	**P**	13 07 56.9	-0.5
MK31				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MKAR	**Makanchi Array**	64.92	324	P	**P**	13 07 57.5	+0.1
	comp=Z,9.4nm,0.7s,baz=113,slow=8.0,SNR=111						
KSH	**Kashi**	65.78	314	P	**P**	13 08 04.6	+1.3
KSH				sP	**sP**	13 08 18.5	-0.1
KSH				S	**S**	13 16 44.6	-3.0
KSH				PMZ			
	comp=Z,7.0nm,1.0s						
KSH				PMZ			
	comp=Z,91nm,4.7s						
KSH				LN			
	comp=Z,77nm,4.9s						
KSH				LE			
	comp=Z,91nm,5.2s						
KSH				LZ			
	comp=Z,110nm,5.0s						
ZALV	**Zalesovo Beam**	67.50	331	P	**P**	13 08 13.2	-0.6
	comp=Z,5.3nm,1.0s,baz=118,slow=5.4,SNR=22						
AAK	**Ala-Archa**	68.01	317	⇑*e*P	**P**	13 08 17.7	+0.2
AAK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
EKS2	**Erkin-Say**	68.51	317	*e*P	**P**	13 08 20.3	-0.3
EKS2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
EKS2	**Erkin-Say**	68.51	317	*e*P	**P**	13 08 20.3	-0.3
	comp=Z,5.0nm,0.8s						
NVS	**Novosibirsk**	68.78	332	*e*P	**P**	13 08 20.3	-1.5
NVS				pmax	pmax		
	comp=N,7.0nm,1.2s						
NVS				pmax	pmax		
	comp=

comp=Z,6.6nm,1.2s
VNDA Vanda 78.34 174 P P 13 09 17.6 -0.1
comp=Z,1.1nm,0.6s,baz=332,slow=7.5,SNR=6.1
VNDA LR LR 13 42 59.8
comp=Z,69nm,19.5s,baz=334,slow=35
GEYT Alibeck 78.75 309 P **P 13 09 21.1 +0.3**
comp=Z,4.2nm,0.8s,baz=107,slow=7.9,SNR=6.6
AB31 Akbulak array 79.69 320 *i* P **P 13 09 24.4 -1.1**
ARU Arti 82.14 327 *d i* P **P 13 09 38.0 -0.4**
ARU 13 12 45.8
ARU S **S 13 19 53.1 +2.4**
ARU SS **SS 13 25 12.3 +1.5**
ARU pmax pmax
comp=Z,11nm,2.5s
ARU Arti 82.14 327 *e*P **P 13 09 38.7 +0.2**
comp=Z,4.6nm,0.7s
ILAR Eielson Array 86.23 25 P **P 13 09 58.0 -1.1**
comp=Z,4.6nm,0.8s,baz=252,slow=4.9,SNR=76
RAYN Ar Rayn 88.25 293 *e*P **P 13 10 08.7 -1.1**
comp=Z,9.1nm,0.7s
QSPA South Pole Qui 89.28 180 *e*P **P 13 10 13.4 -0.5**
comp=Z,15nm,1.0s
ARCES ARCESS Array B 96.78 340 P **P 13 10 47.1 -1.0**
comp=Z,4.8nm,0.8s,baz=85,slow=5.6,SNR=12
YKA Yellowknife Ar 100.63 26 P **Pdif 13 11 05.0 -0.5**
comp=Z,0.5nm,0.6s,baz=292,slow=4.6,SNR=15
TORD Torodi Ar. Bea 130.51 287 PKP **PKPdf 13 16 27.5 -2.0**
comp=Z,0.7nm,0.7s,baz=59,slow=2.0,SNR=5.0
CPUP Villa Florida 151.28 160 PKPbc **PKPbc 13 17 12.2 +0.2**
comp=Z,3.3nm,0.7s,baz=264,slow=1.7,SNR=8.3

*IDC **04** 13:00:56.2±2.0, 18°.01S×178°.62W, h564km±23km, mb3.3/10, mb1 3.6/11, mb1mx3.4/19, mbtmp4.2/11, Error ellipse: s-maj=16.8km s-min=11.1km az=137.0*
*ISCJB **04** 13:00:57.0±0.6, 17°.8S±0°.1×178°.7W±0°.1, h579km, mb3.8/10, Error ellipse: s-maj=19.5km s-min=9.6km az=138.0*
ISC 04 13:00:57.4±0.7, 18°.0S±0°.1×178°.6W±0°.1, h579km, n32, σ1§04/37, mb3.6/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.63**	**251**	P	**P**	**13 04 01.6**	**-1.2**
	1.1nm,0.3s,baz=89,slow=23,SNR=10						
URZ	**Urewera**	**20.56**	**190**	P	**P**	**13 04 54.1**	**-2.8**
	7.6nm,0.5s,baz=54,slow=19,SNR=13						
URZ				S	**S**	**13 08 12.3**	**+1.8**
	8.0nm,0.9s,baz=80,slow=17,SNR=2.7						
EIDS	**Eidsvold**	**29.07**	**250**	P	**P**	**13 06 12.5**	**+0.2**
	baz=29,SNR=3.3						
ARMA	**Armidale**	**29.75**	**240**	P	**P**	**13 06 19.7**	**+1.5**
	baz=30,SNR=14						
RMQ	**Roma**	**31.31**	**248**	P	**P**	**13 06 32.8**	**+1.3**
	baz=32,SNR=14						
CNB	**Canberra Magne**	**33.24**	**232**	P	**P**	**13 06 49.4**	**+1.6**
	baz=33,SNR=30						
CMSA	**Cobar Meteorol**	**34.96**	**240**	P	**P**	**13 07 03.0**	**+0.9**
	baz=35,SNR=7.7						
QLP	**Quilpie**	**35.34**	**249**	P	**P**	**13 07 05.7**	**+0.3**
	baz=36,SNR=17						
TOO	**Toolangi**	**36.98**	**231**	P	**P**	**13 07 20.1**	**+1.4**
	baz=37,SNR=23						
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**13 07 30.8**	**+0.1**
	14nm,0.5s,baz=93,slow=6.7,SNR=22						
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**13 07 32.1**	**+1.5**
	baz=39,SNR=17						
HTT	**Hallett**	**40.95**	**239**	P	**P**	**13 07 51.9**	**+1.2**
	baz=41,SNR=21						
BBOO	**Buckleboo**	**43.21**	**241**	P	**P**	**13 08 09.3**	**+0.8**
	baz=43,SNR=78						
WRA	**Warramunga Arr**	**44.44**	**260**	P	**P**	**13 08 17.6**	**-0.5**
	3.3nm,0.5s,baz=94,slow=7.1,SNR=17						
WRA				PcP	**PcP**	**13 09 48.7**	**-0.3**
	0.7nm,0.4s,baz=90,slow=3.6,SNR=5.3						
WRA				S	**S**	**13 14 12.2**	**+0.4**
	0.7nm,0.9s,baz=98,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**13 08 19.7**	**+0.4**
	47nm,0.6s,baz=89,slow=7.9,SNR=98						
ASAR				PcP	**PcP**	**13 09 50.1**	**+0.6**
	1.4nm,0.5s,baz=106,slow=3.8,SNR=4.1						
ASAR				S	**S**	**13 14 12.7**	**-1.4**
	1.5nm,0.8s,baz=91,slow=16,SNR=7.6						
KDU	**Kakadu**	**47.37**	**269**	P	**P**	**13 08 40.4**	**+0.1**
	baz=48,SNR=3.7						
WRKA	**Warakurna**	**49.65**	**252**	P	**P**	**13 08 57.6**	**+0.5**
	baz=50,SNR=4.4						
KNRA	**Kununurra**	**50.30**	**264**	P	**P**	**13 09 02.2**	**+0.3**
	baz=50,SNR=5.0						
MEEK	**Meekatharra**	**58.24**	**249**	P	**P**	**13 09 57.5**	**0.0**
	baz=58,SNR=3.8						
MJAR	**Matsushiro Arr**	**67.85**	**323**	P	**P**	**13 10 58.5**	**-0.3**
	1.2nm,0.6s,baz=155,slow=6.8,SNR=4.2						
UGM	**Wanagama**	**69.46**	**268**	P	**P**	**13 11 09.4**	**+0.4**
	baz=70,SNR=3.8						
PETK	**Petropavlovsk-**	**73.69**	**345**	P	**P**	**13 11 32.2**	**-0.5**
	2.0nm,0.7s,baz=169,slow=8.4,SNR=7.0						
NVAR	**Mina Array Bea**	**79.60**	**44**	P	**P**	**13 12 05.9**	**+0.3**
	0.5nm,0.7s,baz=225,slow=7.4,SNR=3.6						
ILAR	**Eielson Array**	**85.99**	**13**	P	**P**	**13 12 35.3**	**-1.3**
	0.3nm,0.3s,baz=220,slow=5.2,SNR=8.5						
TXAR	**Lajitas Array**	**86.19**	**58**	P	**P**	**13 12 39.7**	**+1.2**
	0.7nm,0.8s,baz=226,slow=5.8,SNR=9.0						
PDAR	**Pinedale Array**	**87.53**	**43**	P	**P**	**13 12 45.0**	**+0.3**
	0.3nm,0.5s,baz=243,slow=3.9,SNR=4.5						
SONM	**Songino Array**	**93.48**	**319**	P	**P**	**13 13 12.9**	**+1.0**
	0.4nm,0.9s,baz=90,slow=1.5,SNR=3.9						
MKAR	**Makanchi Array**	**109.05**	**314**	PKiKP	**PKiKP**	**13 18 20.6**	**-1.2**
	0.3nm,0.5s,baz=70,slow=1.7,SNR=7.9						
ARCES	**ARCESS Array B**	**126.34**	**350**	PKP	**PKPdf**	**13 18 54.9**	**+0.5**
	4.7nm,0.9s,baz=11,slow=3.1,SNR=5.0						
BRTR	**Keskin Array B**	**144.69**	**315**	PKP	PKPbc	13 19 30.1	+0.4
	1.3nm,0.8s,baz=97,slow=3.2,SNR=6.2						
GERES	**GERESS Array B**	**147.62**	**345**	PKPbc	**PKPbc**	**13 19 37.9**	**+0.4**
	1.0nm,0.5s,baz=44,slow=4.1,SNR=8.2						
TORD	**Torodi Ar. Bea**	**175.19**	**183**	PKP	**PKPdf**	**13 20 01.7**	**-0.6**
	0.4nm,0.8s,baz=131,slow=1.1,SNR=2.4						
TORD				PKPab	**PKPab**	**13 21 41.4**	**-0.8**
	0.4nm,0.7s,baz=176,slow=4.3,SNR=4.1						

*MOS **04** 13:06:33.9±2.6, 49°.54N×156°.57E, h5km, mb4.2/1, Error ellipse: s-maj=87.3km s-min=18.3km az=82.6*
KRSC 04 13:06:33.5±2.9, 49°.45N×156°.80E, h16km±44km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.31**	**341**	*e*P	Pn	13 06 50.7	-6.4
SKR				*e*		13 06 58.5	
SKR				*e*S	Sb	13 07 06.0	-8.2
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=N,120nm,0.2s						
SKR				pmax	pmax		
	comp=E,70nm,0.2s						
SKR	**Severo-Kuril's**	**1.31**	**341**	*e*PN	Pn	13 06 50.7	-6.4
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=N,120nm,0.2s						
SKR				pmax	pmax		
	comp=E,70nm,0.2s						
SKR	**Severo-Kuril's**	**1.31**	**341**	*e*P	Pn	13 06 56.0	-1.1
SKR				*e*S	Sb	13 07 11.5	-2.7
PAU	**Pauzhetka**	**2.02**	**0**	PN	Pn	13 07 08.3	+1.4
PAU				S	Sn	13 07 32.0	+0.2
PAU	**Pauzhetka**	**2.02**	**0**	*e*P	Pn	13 07 08.3	+1.4
PAU				*e*S	Sn	13 07 32.0	+0.2
MIPR	**Malaya Ipel'ka**	**2.83**	**360**	P	Pn	13 07 19.1	+1.0
MIPR				*e*S	Sn	13 07 53.2	+1.4
ASAK	**Asacha**	**3.02**	**13**	*e*P	Pn	13 07 23.5	+2.7
ASAK				*e*S	Sb	13 08 02.3	-1.4
MTVR	**Mutnovka**	**3.16**	**16**	P	Pb	13 07 26.6	-2.9
MTVR				*e*S	Sb	13 08 04.8	-3.1
RUS	**Russkaya**	**3.18**	**19**	PN	Pn	13 07 26.0	+3.2
RUS				S	Sb	13 08 04.5	-3.5
RUS	**Russkaya**	**3.18**	**19**	*e*P	Pn	13 07 26.0	+3.2
RUS				*e*S	Sb	13 08 04.5	-3.5
APC	**Apacha**	**3.49**	**4**	*e*P	Pn	13 07 30.1	+3.1
PET	**Petropavlovsk**	**3.76**	**17**	*e*S	Sn	13 08 19.0	+4.2
AVH	**Avacha**	**4.01**	**17**	*e*P	Pb	13 07 39.5	-4.3
KOK	**Koryaka**	**4.01**	**16**	*e*P	Pb	13 07 39.6	-4.4
SMAR	**Somma**	**4.02**	**17**	P	Pn	13 07 39.2	+4.5
KRER	**Koryakskii**	**4.05**	**17**	*e*P	Pb	13 07 39.9	-4.8
SDLR	**Sedlovina**	**4.05**	**18**	*e*P	Pn	13 07 38.6	+3.6
KRX	**Arik**	**4.08**	**16**	*e*P	Pb	13 07 40.4	-4.8
GNL	**Ganaly**	**4.31**	**9**	*e*P	Pn	13 07 43.4	+4.9
MKZ	**Mys Kozlova**	**5.95**	**29**	PN	Pn	13 08 04.0	+3.1
MKZ	**Mys Kozlova**	**5.95**	**29**	*e*P	Pn	13 08 04.0	+3.1
KBTR	**Krutoberegovo**	**7.69**	**26**	PN	Pn	13 08 28.0	+3.3
KBTR	**Krutoberegovo**	**7.69**	**26**	*e*P	Pn	13 08 28.0	+3.3

KRSC 04 13:19:47.5±0.8, 55°.14N×160°.38E, h-2km±5km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.06**	**242**	*i* P	Pg	13 19 50.6	+1.7
TUMR	**Tumrok**	**0.20**	**317**	*e*P	Pg	13 19 53.1	+1.6
TUMR				*e*S	Sg	13 19 56.8	+2.6
KMNR	**Kamenistaya**	**0.62**	**352**	*i* P	Pb	13 20 01.2	-0.3
KMNR				*e*S	Sb	13 20 11.2	+0.3
BZMR	**Bezymyannaya**	**0.80**	**4**	P	Pb	13 20 04.7	+0.2
BZMR				*e*S	Sb	13 20 17.2	+1.1
KIRR	**Kirishev**	**0.81**	**358**	*e*P	Pb	13 20 04.4	-0.4
KIRR				*e*S	Sb	13 20 16.6	+0.1
BZGR	**Bezymyannyi-Gr**	**0.82**	**12**	P	Pb	13 20 04.6	-0.3
BZGR				*e*S	Sb	13 20 17.0	+0.4
BZWR	**Bezymyannyi-We**	**0.83**	**4**	P	Pb	13 20 05.0	-0.1
BZWR				*e*S	Sb	13 20 17.6	+0.6
KPT	**Kopyto**	**0.83**	**354**	*i* P	Pb	13 20 05.0	0.0
ZLN	**Zelenaya**	**0.91**	**15**	P	Pn	13 20 07.5	-0.3
ZLN				S	Sn	13 20 22.8	+1.1
KOZ	**Kozyrevsk**	**0.96**	**343**	*i* P	Pb	13 20 07.1	-0.1
KOZ				*e*S	Sb	13 20 21.5	+1.0
MKZ	**Mys Kozlova**	**0.97**	**126**	*i* P	Pg	13 20 06.6	+0.4
MKZ				*e*S	Sb	13 20 20.5	-0.2
KRSR	**Krestovskiy**	**1.08**	**5**	P	Pb	13 20 09.3	0.0
KRSR				*e*S	Sb	13 20 25.0	+0.8
KLY	**Klyuchi**	**1.19**	**7**	*e*P	Pn	13 20 11.2	-0.2
KLY				*e*S	Sn	13 20 28.7	+0.5
KII	**Karymskiy**	**1.23**	**207**	*e*P	Pn	13 20 12.1	0.0
ESO	**Esso**	**1.24**	**310**	P	Pg	13 20 11.1	-0.2
ESO				S	Sb	13 20 28.4	0.0
BDR	**Baidarnaya**	**1.50**	**18**	P	Pb	13 20 16.5	0.0
BDR				*e*S	Sn	13 20 37.9	+1.6
SMKR	**Semkarok**	**1.57**	**23**	*e*P	Pg	13 20 18.3	+0.5
SMKR				*e*S	Sg	13 20 40.9	+2.7
KBTR	**Krutoberegovo**	**1.75**	**51**	*i* P	Pn	13 20 18.8	-0.3
KBTR				*e*S	Sn	13 20 41.8	-0.3
GNL	**Ganaly**	**2.03**	**226**	*e*P	Pn	13 20 24.0	+0.8
GNL				*e*S	Sn	13 20 50.0	+0.6
KRX	**Arik**	**2.05**	**210**	*e*P	Pb	13 20 25.0	-0.9
KRX				*e*S	Sb	13 20 52.3	+0.2
SDLR	**Sedlovina**	**2.06**	**206**	*e*P	Pb	13 20 25.3	-0.7
SDLR				*e*S	Sb	13 20 52.7	+0.4
KRER	**Koryakskii**	**2.08**	**208**	*e*P	Pb	13 20 26.0	-0.3
KRER				*e*S	Sg	13 20 54.4	-0.3
SMAR	**Somma**	**2.10**	**207**	*e*P	Pb	13 20 25.6	-1.1
SMAR				*e*S	Sb	13 20 53.6	+0.1
AVH	**Avacha**	**2.11**	**208**	P	Pb	13 20 26.6	-0.2
AVH				*e*S	Sg	13 20 55.0	-0.6
KOK	**Koryaka**	**2.12**	**210**	*e*P	Pb	13 20 26.3	-0.6
UGLR	**Uglovaya**	**2.14**	**206**	*e*P	Pb	13 20 26.7	-0.6
UGLR				S	Sg	13 20 55.7	-0.9
PET	**Petropavlovsk**	**2.35**	**206**	P	Pb	13 20 30.1	-0.7
PET				S	Sb	13 21 01.4	+1.1
APC	**Apacha**	**2.92**	**222**	P	Pn	13 20 36.8	+1.6
APC				S	Sn	13 21 12.2	+1.2
RUS	**Russkaya**	**2.93**	**203**	*e*P	Pn	13 20 37.4	+2.1
RUS				S	Sb	13 21 14.1	-2.8
MTVR	**Mutnovka**	**2.96**	**207**	*e*P	Pb	13 20 39.3	-2.1
MTVR				S	Sb	13 21 17.2	-1.1
ASAK	**Asacha**	**3.13**	**209**	P	Pn	13 20 41.1	+2.9
ASAK				S	Sb	13 21 20.5	-2.4
MIPR	**Malaya Ipel'ka**	**3.59**	**218**	P	Pn	13 20 46.2	+1.8

*NIED **04** 13:24:00, 45°.90N×151°.70E, h35km, Mw4.6 Best double couple: M0 7.99000×10^15 NP1:φ=235.00000°, δ=26.00000°, λ=172.00000°. NP2:φ=331.00000°, δ=87.00000°, λ=65.00000°.*
*BJI **04** 13:24:33.2, 45°.80N×152°.23E, h10km, mB4.8/17, mb4.7/27, Ms4.3/13, Ms7 4.1/9*
*ISCJB **04** 13:24:41.1±0.5, 45°.83N±0°.04×151°.63E±0°.05, h39km±4km, mb4.6/86, MS4.0/6, Error ellipse: s-maj=7.4km s-min=3.6km az=141.9*
*SKHL **04** 13:24:41.9±0.7, 45°.64N×151°.86E, h66km±5km, mb5.5/7, Ms3.9/1*
*JMA **04** 13:24:42.2±0.6, 45°.87N×151°.68E, h30km, M5.5*
*MOS **04** 13:24:43.3±1.1, 45°.87N×151°.53E, h59km, mb5.0/42, Error ellipse: s-maj=7.6km s-min=5.0km az=107.4*
*NEIC **04** 13:24:45.6±0.8, 45°.96N×151°.50E, h61km±6km, mb4.7/25, Error ellipse: s-maj=8.3km s-min=4.6km az=146.0*
*IDC **04** 13:24:45.4±1.8, 45°.96N×151°.54E, h57km±15km, mb4.0/24, mb1 4.3/30, mb1mx4.2/35, mbtmp4.4/30, MS3.9/8, Ms1 3.9/8, ms1mx3.6/35, Error ellipse: s-maj=15.4km s-min=9.6km az=151.0*
ISC 04 13:24:43.2±0.7, 45°.75N±0°.05×151°.71E±0°.05, h47km±5km, n334, σ1§33/359, mb4.7/91, MS4.1/7, 39C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.75**	**261**	*c i*PN	**Pn**	**13 25 24.8**	**0.0**
KUR				*i* S	**Sn**	**13 25 57.4**	**+0.6**
KUR				pmax	pmax		
	comp=Z,2μm,0.6s						
KUR				pmax	pmax		
	comp=E,330nm,0.2s						
KUR				pmax	pmax		
	comp=N,611nm,0.3s						
KUR				smax	smax		
	comp=N,7μm,0.4s						
KUR				smax	smax		
	comp=E,3μm,0.3s						
KUR	**Kuril'sk**	**2.75**	**261**	*e*P	**Pn**	**13 25 24.8**	**0.0**
KUR				AMB	AMB	13 25 27.0	
	comp=E,2μm,0.6s						
KUR				*e*S	**Sn**	**13 25 57.4**	**+0.6**
KUR				A	A	13 26 01.2	
	comp=E,7μm,0.4s						
KUR				A	A	13 26 01.2	
	comp=E,3μm,0.4s						
SHO	**Shikotan**	**3.95**	**243**	*e*P	**Pn**	**13 25 40.9**	**-0.3**
SHO				AMB	AMB	13 25 45.4	
	comp=E,432nm,0.4s						
SHO				*e*S	**Sn**	**13 26 24.6**	**-1.6**
SHO				A	A	13 26 33.2	
	comp=E,3μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.50**	**250**	*c i*PN	**Pn**	**13 25 49.2**	**+0.5**
YUK				*i* S	**Sn**	**13 26 39.9**	**+0.2**
YUK				pmax	pmax		
	comp=N,340nm,0.5s						
YUK				pmax	pmax		
	comp=E,501nm,0.5s						
YUK				pmax	pmax		
	comp=Z,1μm,0.5s						
YUK				smax	smax		
	comp=N,4μm,0.8s						
YUK				smax	smax		
	comp=E,2μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**4.50**	**250**	*e*P	**Pn**	**13 25 49.2**	**+0.5**
YUK				AMB	AMB	13 25 55.8	
	comp=E,1μm,0.5s						
YUK				*e*S	**Sn**	**13 26 39.9**	**+0.2**
YUK				A	A	13 27 02.8	
	comp=E,2μm,0.8s						
YUK				A	A	13 27 02.8	
	comp=E,4μm,0.8s						
NEM2	**Nemuro 2**	**4.88**	**243**	P	**Pn**	**13 25 53.5**	**-0.6**
NEM2				*e*S	**Sn**	**13 26 45.9**	**-3.4**
JRA	**Rausu**	**5.02**	**251**	P	**Pn**	**13 25 56.8**	**+0.8**
JRA				*e*S	**Sn**	**13 26 53.6**	**+0.9**
JNK	**Nakash**	**5.43**	**249**	P	**Pn**	**13 26 02.3**	**+0.7**
JNK				*e*S	**Sn**	**13 27 02.8**	**-0.1**
JAK	**Akkeshi**	**5.73**	**244**	P	**Pn**	**13 26 05.2**	**-0.5**
JAK				*e*S	**Sn**	**13 27 07.3**	**-2.8**
SKR	**Severo-Kuril's**	**5.75**	**29**	*e*PN	Pn	13 26 01.5	-4.4
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				pmax	pmax		
	comp=E,100nm,0.8s						
SKR	**Severo-Kuril's**	**5.75**	**29**	*e*P	**Pn**	**13 26 06.6**	**+0.7**
SKR				AMB	AMB	13 26 08.7	
	comp=E,372nm,0.6s						
SKR				*e*S	**Sn**	**13 27 08.1**	**-2.3**
SKR				A	A	13 27 18.4	
	comp=E,433nm,0.6s						
JTKR	**Abashiri--Toko**	**5.82**	**255**	P	**Pn**	**13 26 08.1**	**+1.2**
JAR	**Ashorobuto**	**6.18**	**249**	P	**Pn**	**13 26 13.2**	**+1.3**
JAR				*e*S	**Sn**	**13 27 21.8**	**+0.6**
JMP	**Maruseppu**	**6.18**	**257**	P	**Pn**	**13 26 13.5**	**+1.6**
YSS	**Yuzh-Sakhalins**	**6.31**	**284**	⇑*i*PN	**Pn**	**13 26 15.0**	**+1.3**
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.31**	**284**	*e*P	**Pn**	**13 26 15.0**	**+1.3**
YSS				AMB	AMB	13 26 19.5	
	comp=Z,200nm,0.5s						
YSS				*e*S	**Sn**	**13 27 23.0**	**-1.4**
YSS				A	A	13 27 26.8	
	comp=Z,1μm,0.6s						
YSS				AMS	AMS	13 28 36.0	
	comp=Z,700nm,15.0s						
YSS				AMS	AMS	13 28 36.0	
	comp=Z,1μm,15.0s						
JOB	**Onbets**	**6.32**	**246**	P	**Pn**	**13 26 13.9**	**+0.1**
JOB				*e*S	**Sn**	**13 27 22.5**	**-2.2**
PAU	**Pauzhetka**	**6.64**	**29**	*e*P	**Pn**	**13 26 18.4**	**+0.2**
PAU				AMB	AMB	13 26 21.6	
	comp=Z,623nm,0.8s						
PAU				*e*S	**Sn**	**13 27 30.8**	**-1.7**
PAU				A	A	13 27 40.0	
	comp=Z,843nm,0.8s						
JKK2	**Kamakawa 2**	**6.64**	**257**	P	**Pn**	**13 26 20.3**	**+2.1**
ASAJ	**Asahikawa**	**6.67**	**259**	PN	**Pn**	**13 26 21.1**	**+2.5**
ASAJ				S	**Sn**	**13 27 36.0**	**+2.8**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,4.0nm,0.3s						
ASAJ	**Asahikawa**	**6.67**	**259**	P	**Pn**	**13 26 21.1**	**+2.5**
	comp=N,7.6nm,0.3s,baz=70,slow=14,SNR=67						
ASAJ				S	**Sn**	**13 27 36.0**	**+2.8**
	comp=N,3.8nm,0.3s,baz=38,slow=32,SNR=1.9						
ASAJ				LR	LR	13 28 55.6	
	comp=N,1μm,20.0s,baz=104,slow=38						
JCH	**Churui**	**6.77**	**245**	P	**Pn**	**13 26 19.5**	**-0.4**
JCH				*e*S	**Sn**	**13 27 31.7**	**-4.0**
JWK2	**Keihoku**	**6.91**	**270**	P	Pn	13 26 26.0	+4.2
JFR	**Furan**	**7.02**	**252**	P	**Pn**	**13 26 24.9**	**+1.6**
JAB	**Ashibetsu**	**7.13**	**255**	P	**Pn**	**13 26 27.5**	**+2.6**
ERM	**Erimo**	**7.22**	**242**	‖*e*PN	**Pn**	**13 26 26.7**	**+0.6**
ERM	**Erimo**	**7.22**	**242**	*e*P	**Pn**	**13 26 26.7**	**+0.6**
ERM	**Erimo**	**7.22**	**242**	*e*Pn	**Pn**	**13 26 27.7**	**+1.6**
	comp=N,379nm,0.6s						
ERM				*e*Sn	**Sn**	**13 27 50.4**	**+3.7**
JEM	**Erimo**	**7.22**	**242**	P	**Pn**	**13 26 26.1**	**0.0**
JNBK	**Urakawa-nobuka**	**7.33**	**245**	P	**Pn**	**13 26 26.7**	**-0.9**
JBT2	**Biratori 2**	**7.34**	**249**	P	**Pn**	**13 26 27.7**	**0.0**
UGL	**Uglegorsk**	**7.34**	**300**	*e*PN	**Pn**	**13 26 29.7**	**+2.0**
UGL				*i*		13 27 54.0	
UGL				pmax	pmax		
	comp=Z,55nm,0.6s						
UGL				MLR	MLR		
	comp=N,700nm,17.0s						
UGL				MLR	MLR		
	comp=E,1μm,17.0s						
UGL	**Uglegorsk**	**7.34**	**300**	*e*P	**Pn**	**13 26 29.7**	**+2.0**
UGL				AMB	AMB	13 26 31.0	
	comp=E,55nm,0.6s						
UGL				*e*S	**Sn**	**13 27 47.7**	**-1.8**
UGL				A	A	13 27 51.5	
	comp=E,150nm,0.7s						
UGL				A	A	13 27 51.5	
	comp=E,170nm,0.7s						
UGL				AMS	AMS	13 29 28.0	
	comp=E,1μm,17.0s						
UGL				AMS	AMS	13 29 28.0	
	comp=E,1μm,17.0s						
JEW	**Eniwo**	**7.91**	**252**	P	**Pn**	**13 26 37.1**	**+1.5**
PETK	**Petropavlovsk-**	**8.33**	**26**	PN	**Pn**	**13 26 42.2**	**+0.9**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**8.33**	**26**	P	**Pn**	**13 26 42.2**	**+0.9**
	comp=Z,1.7nm,0.3s,baz=182,slow=13,SNR=23						
JNB	**Noboribetsu**	**8.35**	**251**	P	**Pn**	**13 26 41.4**	**-0.2**
JNB				*e*S	**Sn**	**13 28 11.3**	**-3.1**
PET	**Petropavlovsk**	**8.57**	**29**	*e*PN	**Pn**	**13 26 45.9**	**+1.4**
PET	**Petropavlovsk**	**8.57**	**29**	*e*P	**Pn**	**13 26 45.5**	**+1.0**
PET				*e*S	**Sn**	**13 28 16.3**	**-3.4**
PET				A	A	13 28 33.0	
	comp=Z,775nm,0.6s						
JKB	**Kayabe**	**8.63**	**247**	P	**Pn**	**13 26 44.7**	**-0.7**
JKB				*e*S	Sn	13 28 14.1	-7.2
JSH	**Shimam**	**8.94**	**254**	P	**Pn**	**13 26 50.7**	**+1.1**
JYM2	**Yakumo 2**	**8.95**	**250**	P	**Pn**	**13 26 49.5**	**-0.3**
JANG	**Nango**	**9.19**	**238**	P	**Pn**	**13 26 50.7**	**-2.4**
JANG				*e*S	Sn	13 28 24.6	-11
JTM	**Tenmabayashi**	**9.21**	**241**	P	**Pn**	**13 26 51.5**	**-1.9**
JTM				*e*S	Sn	13 28 26.7	-8.8
JTH	**Tanohata**	**9.27**	**235**	*e*S	Sn	13 28 26.9	-10
JOSM	**Okushiri--Mats**	**9.56**	**252**	P	**Pn**	**13 26 57.6**	**-0.5**
OKH	**Okha**	**9.65**	**327**	*e*PN	**Pn**	**13 27 01.6**	**+2.3**
OKH	**Okha**	**9.65**	**327**	*e*P	**Pn**	**13 27 01.6**	**+2.3**
OKH				*e*rx	rx	13 28 41.0	
OKH				AMS	AMS	13 28 46.0	
	comp=Z,1μm,11.0s						
OFUJ	**Ofunato**	**9.97**	**232**	P	**Pn**	**13 27 00.9**	**-2.9**
OFUJ				*e*S	Sn	13 28 41.5	-13
JRG	**Rokugo**	**10.34**	**236**	P	**Pn**	**13 27 06.7**	**-2.1**
JIO	**Ouri**	**10.60**	**230**	P	**Pn**	**13 27 09.7**	**-2.6**
JYA	**Atsumi**	**11.41**	**235**	P	**Pn**	**13 27 21.9**	**-1.6**
JFY	**Yanaizu**	**12.25**	**231**	P	**Pn**	**13 27 33.6**	**-1.3**
MAJO	**Matsushiro**	**13.70**	**233**	⇑*i*P	**Pn**	**13 27 52.7**	**-

JNU Nakatsue 20.37 239 P Pn 13 29 16.9 -1.3
comp=E,21nm,0.9s,baz=18,slow=3.2,SNR=5.4
JNU LR LR 13 37 29.2
comp=E,175nm,18.4s,baz=22,slow=38
INCN Inchon 20.43 255 *e*P **P** **13 29 17.4 +1.0**
comp=E,34nm,0.7s
YAK Yakutsk 20.67 330 *e*P **P** **13 29 19.5 +0.8**
YAK *e*S **S** **13 33 06.7 0.0**
YAK *e*SS **SnSn** **13 33 36.4 +7.9**
YAK pmax pmax
comp=Z,127nm,0.9s
YAK pmax pmax
comp=E,36nm,1.4s
YAK pmax pmax
comp=N,43nm,1.3s
YAK pmax pmax
comp=Z,125nm,1.6s
YAK pmax pmax
comp=E,85nm,1.5s
YAK pmax pmax
comp=N,72nm,1.5s
YAK smax smax
comp=N,48nm,1.6s
YAK smax smax
comp=E,35nm,2.1s
YAK MLR MLR
comp=E,229nm,20.0s
YAK MLR MLR
comp=N,238nm,18.0s
YAK Yakutsk 20.67 330 *e*P **P** **13 29 18.8 +0.1**
YAK Yakutsk 20.67 330 *e*P **P** **13 29 17.9 -0.8**
comp=N,186nm,0.6s
HIA Hailar 21.79 291 *e*P **P** **13 29 30.2 -0.7**
HIA pmax pmax
comp=Z,19nm,0.8s
HIA Hailar 21.79 291 *e*P **P** **13 29 30.2 -0.7**
comp=Z,19nm,0.8s
BILL Bilibino 23.59 14⇑ *e*P **P** **13 29 49.3 0.0**
BILL *i* 13 30 01.0
BILL *i* S **S** **13 33 59.3 -0.5**
BILL pmax pmax
comp=Z,2.0nm,0.6s
BILL Bilibino 23.59 14 *e*P **P** **13 29 49.3 0.0**
BILL Bilibino 23.59 14 *e*P **P** **13 29 48.0 -1.2**
comp=Z,6.6nm,1.0s
BOD Bodaibo 25.90 311 *e*P **P** **13 30 07.2 -3.2**
BOD pmax pmax
comp=Z,3.0nm,0.8s
BJT Baijiatuau 26.51 270 *e*P **P** **13 30 15.5 -0.6**
BJT pmax pmax
comp=Z,27nm,0.7s
BJT Baijiatuau 26.51 270 *e*P **P** **13 30 15.5 -0.6**
comp=Z,27nm,0.7s
TIXI Tiksi 28.16 345⇓ *e*P **P** **13 30 28.4 -2.2**
TIXI pmax pmax
comp=Z,5.0nm,1.3s
TIXI Tiksi 28.16 345 *e*P P 13 30 27.4 -3.2
comp=Z,2.6nm,0.4s
H11N2 WAKE ISLAND Hy 28.82 149 T T 14 01 07.6
baz=338,slow=76
H11N1 WAKE ISLAND Hy 28.83 149 T T 14 01 07.8
baz=338,slow=76,SNR=8688
H11N3 WAKE ISLAND Hy 28.84 149 T T 14 01 10.1
baz=338,slow=76,SNR=9730
H11S1 WAKE ISLAND Hy 29.88 150 T T 14 02 24.2
baz=339,slow=76,SNR=4912
H11S3 WAKE ISLAND Hy 29.89 151 T T 14 02 24.8
baz=339,slow=76,SNR=4213
H11S2 WAKE ISLAND Hy 29.90 150 T T 14 02 25.7
baz=339,slow=76,SNR=4656
ULN Ulaanbaatar 30.32 290⇑ *e*P **P** **13 30 50.3 +0.1**
ULN pmax pmax
comp=Z,6.0nm,1.7s
ULN Ulaanbaatar 30.32 290 *e*P **P** **13 30 50.3 +0.1**
SONM Songino Array 30.76 291 P **P** **13 30 52.9 -1.1**
comp=Z,2.1nm,0.6s,baz=81,slow=7.8,SNR=14
SONM PcP **PcP** **13 33 50.2 -0.2**
comp=Z,0.9nm,0.7s,baz=90,slow=2.0,SNR=3.8
SONM ScP **ScP** **13 37 29.5 +0.6**
comp=Z,1.2nm,1.0s,baz=85,slow=3.5,SNR=4.6
SONM LR LR 13 44 08.6
comp=Z,266nm,19.4s,baz=81,slow=38
TLY Talaya 31.78 298 *e*P **P** **13 31 03.2 +0.4**
ZAK Zakamensk 32.23 296 *e*P P 13 31 00.1 -6.8
ZAK *e* 13 33 54.5
ZAK pmax pmax
comp=Z,2.0nm,1.0s
XAN Xi'an 34.46 265 P **P** **13 31 26.2 -0.2**
XAN PMZ
comp=Z,6.0nm,0.9s
COLA College 37.52 38⇓ *e*P **P** **13 31 53.2 +1.1**
COLA *i* *PP **pP** **13 32 04.9 +0.2**
COLA pmax pmax
comp=Z,11nm,0.6s
COLA College 37.52 38 *e*P **P** **13 31 53.2 +1.1**
ILAR Eielson Array 37.94 38 P **P** **13 31 56.1 +0.5**
comp=Z,0.5nm,0.5s,baz=259,slow=7.2,SNR=9.0
HVS Khovu-Aksy 37.98 300*de*P **P** **13 31 56.9 +0.6**
HVS pmax pmax
comp=Z,30nm,0.7s
GTA Gaotai 38.17 279 *e*P **P** **13 31 58.7 +0.6**
GTA PcP **PcP** **13 34 13.9 +2.0**
GTA S **S** **13 37 51.2 +3.1**
GTA SS **SnSn** **13 40 29.2 -5.6**
GTA PMZ
comp=Z,6.0nm,1.3s
GTA LN
comp=Z,150nm,15.4s
GTA LE
comp=Z,170nm,16.4s
ZALV Zalesovo Beam 42.41 306 P **P** **13 32 32.3 -0.5**
ZALV 13 34 25.1
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV MLR MLR
comp=Z,440nm,18.3s
ZALV Zalesovo Beam 42.41 306 P **P** **13 32 32.2 -0.5**
comp=Z,1.5nm,0.6s,baz=72,slow=7.5,SNR=7.9
ZALV PcP **PcP** **13 34 25.1 0.0**
comp=Z,5.6nm,0.8s,baz=70,slow=3.3,SNR=18
ZALV LR LR 13 51 17.5
comp=Z,440nm,18.3s,baz=70,slow=38
NVS Novosibirsk 43.03 308 *e*P **P** **13 32 34.6 -3.2**
SLVN Son La 45.84 254 *e*P **P** **13 33 01.5 +0.8**
comp=Z,5.3nm,0.8s
MK31 Makanchi Array 46.54 298 *e*P **P** **13 33 04.3 -1.6**
MK31 pmax pmax
comp=Z,7.0nm,0.5s
MKAR Makanchi Array 46.54 298 P **P** **13 33 04.7 -1.2**
comp=Z,6.0nm,0.5s,baz=72,slow=7.3,SNR=61
MKAR PcP **PcP** **13 34 40.1 +0.6**
comp=Z,3.6nm,0.7s,baz=61,slow=4.1,SNR=7.3
MKAR ScP **ScP** **13 38 27.9 -0.9**
comp=Z,1.2nm,1.0s,baz=46,slow=5.2,SNR=5.1
MKAR LR LR 13 53 38.1
comp=Z,318nm,18.7s,baz=74,slow=37
DLBC Dease Lake 46.99 45 P **P** **13 33 10.0 +0.7**
comp=Z,2.5nm,0.8s,baz=343,slow=11,SNR=2.8
KURK Kurchatov 47.11 304 *e*P **P** **13 33 08.1 -2.1**
CRAI Chiangrai 48.99 256 P **P** **13 33 25.7 +0.6**
comp=Z,11nm,1.0s
LSA Lhasa 49.35 273 P **P** **13 33 31.0 +2.6**
LSA Lhasa 49.35 273 *e*P **P** **13 33 28.2 -0.2**
LSA pmax pmax
comp=Z,36nm,0.6s
LSA Lhasa 49.35 273 *e*P **P** **13 33 28.2 -0.2**
comp=Z,36nm,0.6s
CMAI Chiengmai2 50.10 257 P **P** **13 33 35.9 +2.1**
comp=Z,23nm,1.4s
UTTA Uttaradit 50.59 254 P **P** **13 33 39.2 +1.9**
comp=Z,2.7nm,1.0s
LAMP Lampang 50.67 255 P **P** **13 33 40.0 +2.1**
comp=Z,8.3nm,1.1s,comp=Z,81nm
BVA0 Borovoye Array 50.74 310 *i* P **P** **13 33 37.5 -0.5**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 50.78 310⇓ *e*P **P** **13 33 38.6 +0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 50.78 310 *e*P **P** **13 33 38.6 +0.3**
BRVK Borovoye 50.78 310 *e*P **P** **13 33 36.1 -2.2**
comp=Z,3.6nm,0.6s
CMMT Chiang Mai 50.94 256 P **P** **13 33 40.9 +1.0**
comp=Z,31nm,0.9s
CHTO Chiang Mai 50.94 256 *e*P **P** **13 33 39.5 -0.4**
CHTO pmax pmax
comp=Z,21nm,0.9s
CHTO Chiang Mai 50.94 256 P **P** **13 33 41.0 +1.1**
comp=Z,103nm,1.0s
CHTO Chiang Mai 50.94 256 *e*P **P** **13 33 39.5 -0.4**
comp=Z,21nm,0.9s
PBKT Sadao Pong 51.15 252 P **P** **13 33 43.6 +2.1**
comp=Z,8.3nm,1.2s,comp=Z,644nm
CMAR Chiang Mai Arr 51.18 256 P **P** **13 33 43.2 +1.4**
CMAR pmax pmax
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 51.18 256 P **P** **13 33 43.2 +1.4**
comp=Z,7.0nm,0.9s,baz=36,slow=7.7,SNR=47
MHMT Maesarieng 52.07 257 P **P** **13 33 50.2 +1.9**
comp=Z,11nm,1.2s
RES Resolute Bay 52.09 18 P **P** **13 33 47.6 -0.2**
RES pmax pmax
comp=Z,3.0nm,0.7s
RES Resolute Bay 52.09 18 P **P** **13 33 47.6 -0.2**
comp=Z,3.2nm,0.7s,baz=335,slow=9.3,SNR=9.6
YKA Yellowknife Ar 52.31 36 P **P** **13 33 50.5 +1.0**
comp=Z,0.8nm,0.6s,baz=299,slow=7.1,SNR=19
YKA Yellowknife Ar 52.31 36 *e*P **P** **13 33 51.0 +1.5**
TAPN Taplejung 53.18 273 *e*P **P** **13 33 57.6 +0.7**
comp=Z,57nm,0.7s
AAK Ala-Archa 53.40 296⇑ *e*P **P** **13 33 58.5 +0.3**
AAK *i* *PP **pP** **13 34 10.8 -0.5**
AAK pmax pmax
comp=Z,8.0nm,0.7s
AAK Ala-Archa 53.40 296 *e*P **P** **13 33 58.5 +0.3**
AAK Ala-Archa 53.40 296 *e*P **P** **13 33 57.7 -0.5**
comp=Z,3.3nm,0.6s
ODAN Odare 53.71 273 *e*P **P** **13 34 01.3 +0.6**
comp=Z,22nm,0.4s
EKS2 Erkin-Say 53.84 297 *e*P **P** **13 33 58.8 -2.5**
EKS2 pmax pmax
comp=Z,5.0nm,0.5s
EKS2 Erkin-Say 53.84 297 *e*P **P** **13 33 58.8 -2.5**
comp=Z,5.1nm,0.5s
JIRN Jiri 54.05 274 *e*P **P** **13 34 04.0 +0.7**
comp=Z,101nm,0.5s
GUN Gumba 54.11 275 *e*P **P** **13 34 04.1 +0.3**
comp=Z,54nm,0.5s
RAMN Ramite 54.20 273 *e*P **P** **13 34 04.6 +0.3**
comp=Z,133nm,0.5s
KKN Kakani 54.61 275 *e*P **P** **13 34 07.6 +0.4**
comp=Z,49nm,0.6s
PKI Pulchoki 54.65 275 *e*P **P** **13 34 07.8 +0.2**
comp=Z,29nm,0.5s
DMN Daman 54.84 275 *e*P **P** **13 34 09.5 +0.6**
GKN Gorkha 54.92 276 *e*P **P** **13 34 09.9 +0.5**
comp=Z,69nm,0.5s
ARU Arti 55.09 317 *d i*P **P** **13 34 10.3 +0.3**
ARU 13 35 09.7
ARU 13 36 12.5
ARU S **S** **13 41 49.1 +0.2**
ARU SS SS 13 45 22.2 -10
ARU pmax pmax
comp=Z,18nm,2.5s
ARU Arti 55.09 317 *e*P **P** **13 34 10.1 +0.1**
ARU Arti 55.09 317 *e*P P 13 34 06.1 -3.9
comp=Z,4.9nm,0.6s
DANN Dangsing 55.32 277 *e*P **P** **13 34 13.3 +0.9**
comp=Z,67nm,0.5s
KK31 Karatay Array 55.63 299 *e*P **P** **13 34 13.2 -0.9**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 55.63 299 *e*P **P** **13 34 11.9 -2.2**
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 55.63 299 *e*P **P** **13 34 11.9 -2.2**
comp=Z,1.5nm,0.4s
KOLN Koldanda 55.79 276 *e*P **P** **13 34 16.3 +0.6**
comp=Z,86nm,0.9s
PRGR Permogore 57.68 327 P **P** **13 34 27.3 -1.0**
PRGR pmax pmax
comp=Z,8.0nm,0.5s
EDM Edmonton 57.71 45 *e*P **P** **13 34 27.4 -1.3**
EDM Edmonton 57.71 45 *e*P **P** **13 34 27.4 -1.3**
KEV Kevo 57.96 340 *e*P **P** **13 34 28.7 -1.4**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 57.96 340 *e*p **P** **13 34 28.7 -1.4**
comp=Z,1.0nm,0.4s
AB31 Akbulak array 58.32 310 *e*P **P** **13 34 30.8 -2.2**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ARCES ARCESS Array B 58.47 341 P **P** **13 34 33.4 -0.4**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 58.47 341 P **P** **13 34 33.4 -0.4**
comp=Z,1.7nm,0.5s,baz=64,slow=6.9,SNR=10.0
YBH Yreka Blue Hor 59.08 60 P **P** **13 34 38.1 -0.5**
YBH pmax pmax
comp=Z,2.0nm,0.8s
YBH Yreka Blue Hor 59.08 60 P **P** **13 34 38.1 -0.5**
comp=Z,1.8nm,0.8s,baz=331,slow=8.8,SNR=4.4
KLMR Klimovskoe 60.45 329 *e*P P 13 34 43.4 -4.1
KLMR pmax pmax
comp=Z,23nm,2.0s
SLMT Seeley Lake 61.14 51 *e*P **P** **13 34 53.4 +0.8**
comp=Z,11nm,1.0s
CHMT Chamberlain Mo 61.47 51 *e*P **P** **13 34 56.2 +1.2**
comp=Z,2.3nm,0.8s
SUMG Summit 61.76 3 *e*P **P** **13 34 55.3 -1.4**
SUMG pmax pmax
comp=Z,34nm,0.8s
SUMG Summit 61.76 3 *e*P **P** **13 34 55.2 -1.4**
comp=Z,34nm,0.8s
JOF Joensuu 61.79 333 *e*P **P** **13 34 54.6 -2.0**
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 61.79 333 *e*p **P** **13 34 54.6 -2.0**
comp=Z,2.9nm,0.7s
LRM Limekiln Ridge 62.58 52 *e*P **P** **13 35 02.9 +0.5**
comp=Z,72nm,0.8s
NVAR Mina Array Bea 63.77 61 P **P** **13 35 12.7 +2.3**
comp=Z,1.7nm,0.7s,baz=288,slow=6.4,SNR=13
KAF Kangasniemi 63.93 335 *e*P **P** **13 35 08.7 -2.1**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 63.93 335 *e*p **P** **13 35 08.7 -2.1**
comp=Z,3.9nm,0.6s
FINES FINESS Array B 64.52 334 P **P** **13 35 13.2 -1.5**
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES FINESS Array B 64.52 334 P **P** **13 35 13.2 -1.5**
comp=Z,5.0nm,0.5s,baz=42,slow=6.8,SNR=22
PDAR Pinedale Array 66.12 53 P **P** **13 35 27.1 +1.4**
comp=Z,0.8nm,0.7s,baz=247,slow=2.0,SNR=6.4
GEYT Alibeck 66.28 300 P **P** **13 35 26.3 -0.1**
comp=Z,9.8nm,0.8s,baz=31,slow=3.5,SNR=19
WRAB Tennant Creek 67.25 198*de*P **P** **13 35 34.2 +1.6**
WRAB pmax pmax
comp=Z,10.0nm,0.6s
WRAB Tennant Creek 67.25 198 *e*P **P** **13 35 33.3 +0.7**
comp=Z,6.1nm,0.8s
WRA Warramunga Arr 67.26 198 P **P** **13 35 34.0 +1.3**
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 67.26 198 P **P** **13 35 34.0 +1.3**
comp=Z,4.9nm,0.7s,baz=17,slow=6.8,SNR=42
WRA Warramunga Arr 67.26 198 *e*P **P** **13 35 34.0 +1.3**
NB2 NORSAR Subarra 68.85 341 P **P** **13 35 41.2 -1.1**
comp=Z,7.9nm,0.9s,baz=28,slow=6.2
NOA NORSAR Array B 68.85 341 P **P** **13 35 41.7 -0.6**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 68.85 341 P **P** **13 35 41.7 -0.6**
comp=Z,3.3nm,0.7s,baz=30,slow=6.6,SNR=15
KIV Kislovodsk 70.79 314 *e*P **P** **13 35 54.7 +0.1**
KIV pmax pmax
comp=Z,9.0nm,0.7s
KIV MLR MLR
comp=Z,182nm,18.0s
KBZ Khabaz 70.84 313 P **P** **13 35 55.5 +0.7**
KBZ pmax pmax
comp=Z,4.0nm,0.6s
KBZ Khabaz 70.84 313 P **P** **13 35 55.5 +0.7**
comp=Z,3.9nm,0.6s,baz=114,slow=4.0,SNR=9.3
ASAR Alice Springs 70.96 197 P **P** **13 35 57.9 +2.3**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 70.96 197 P **P** **13 35 57.9 +2.3**
comp=Z,2.1nm,0.8s,baz=14,slow=5.9,SNR=30
AKASG Malin Array Be 71.83 326 P **P** **13 35 59.5 -1.1**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 71.83 326 P **P** **13 35 59.5 -1.1**
comp=Z,4.1nm,0.5s,baz=36,slow=6.3,SNR=9.1
KIEV Kiev 71.84 326 *d i*P **P** **13 35 59.5 -1.1**
KIEV Kiev 71.84 326 P **P** **13 35 58.0 -2.6**
comp=Z,3.6nm,0.6s
SCHQ Schefferville 74.60 22 P **P** **13 36 17.2 +0.3**
comp=Z,1.5nm,0.4s,baz=343,slow=4.3,SNR=6.0
KWP Kalwaria Pacla 75.17 328 *e*P **P** **13 36 19.0 -1.3**
KWP pmax pmax
comp=Z,37nm,1.1s
KWP Kalwaria Pacla 75.17 328⇓ *i*P **P** **13 36 20.6 +0.3**
KWP Kalwaria Pacla 75.17 328 *e*P **P** **13 36 19.0 -1.3**
comp=Z,37nm,1.1s
OJC Ojcow 75.72 330 *e*P **P** **13 36 23.2 -0.2**
OJC Ojcow 75.72 330 *e*P **P** **13 36 23.2 -0.2**
BURAR Bucovina Array 75.88 326⇑ *i*P **P** **13 36 24.2 -0.3**
STHS Stebnicka Huta 75.88 329 *e*P **P** **13 36 25.0 +0.6**
STHS pmax pmax
comp=Z,10.0nm,0.7s
STHS Stebnicka Huta 75.88 329 *e*P **P** **13 36 25.0 +0.6**
KOLS Kolonicke sedl 75.91 328 *e*P **P** **13 36 24.5 0.0**
KOLS pmax pmax
comp=Z,11nm,1.1s
KOLS Kolonicke sedl 75.91 328 *e*P **P** **13 36 24.5 0.0**
TESR Tescani 76.20 324⇑ *i*P **P** **13 36 25.7 -0.5**
NIE Niedzica 76.21 330 *e*P **P** **13 36 26.5 +0.2**
NIE Niedzica 76.21 330 *e*P **P** **13 36 26.5 +0.2**
CRVS Cervenica-Dubn 76.23 329 *e*P **P** **13 36 26.1 -0.3**
CRVS pmax pmax
comp=Z,6.0nm,0.9s
CRVS Cervenica-Dubn 76.23 329 *e*P **P** **13 36 26.1 -0.3**
TRPA Tarpa 76.48 328⇑ *i*P **P** **13 36 27.8 +0.1**
OKC Ostrava-Krasne 76.60 331 *e*P **P** **13 36 28.5 +0.1**
OKC Ostrava-Krasne 76.60 331 *e*P **P** **13 36 28.5 +0.1**
UPC Upice 76.73 333 *e*P **P** **13 36 29.4 +0.2**
UPC Upice 76.73 333 *e*P **P** **13 36 29.4 +0.2**
DPC Dobruska-Polom 76.77 332 *e*P **P** **13 36 29.6 +0.2**
DPC *e* 13 36 35.7
DPC Dobruska-Polom 76.77 332 *e*P **P** **13 36 29.6 +0.2**
DPC *ex* x 13 36 35.7
KRLC Kraliky 76.85 332 *e*P **P** **13 36 29.0 -0.9**
KRLC *e* 13 36 33.9
KRLC Kraliky 76.85 332 *e*P **P** **13 36 29.0 -0.9**
KRLC *ex* x 13 36 33.9
MORC Moravsky Berou 76.86 331 *e*P **P** **13 36 27.6 -2.3**
MORC pmax pmax
comp=Z,16nm,1.0s
MORC Moravsky Berou 76.86 331⇑ *i*P **P** **13 36 29.9 0.0**
MORC Moravsky Berou 76.86 331 *e*P **P** **13 36 27.6 -2.3**
comp=Z,16nm,1.0s
CLL Collm 76.96 335 *e*P **P** **13 36 30.0 -0.4**
CLL *e**PP **PcP** **13 36 42.0 +0.7**
CLL pmax pmax
comp=Z,16nm,1.0s
CLL Collm 76.96 335 *e*P **P** **13 36 30.0 -0.4**
comp=Z,16nm,1.0s
CLL *e*PcP **PcP** **13 36 42.0 +0.7**
CLL *e*pP **pP** **13 36 47.0 +2.8**
CLL Lm MLR 14 12 00.0
comp=Z,100nm,20.3s
BRG Berggiesshubel 77.06 334 *e*P **P** **13 36 30.2 -0.8**
comp=Z,4.4nm,1.0s
BRG Berggiesshubel 77.06 334 *e*P **P** **13 36 30.2 -0.8**
BRG pmax pmax
comp=Z,4.0nm,1.0s
MALT Malatya 77.11 312⇑ *i*P **P** **13 36 32.8 +1.2**
PVCC Panska Ves 77.17 334 *e*P **P** **13 36 31.9 +0.3**
PVCC Panska Ves 77.17 334 *e*P **P** **13 36 31.9 +0.3**
MLR Muntele Rosu 77.31 324⇓ *i*P **P** **13 36 32.6 -0.1**
VYHS Vyhne 77.51 330 *e*P **P** **13 36 33.6 0.0**
VYHS pmax pmax
comp=Z,7.0nm,1.1s
VYHS Vyhne 77.51 330 *e*P **P** **13 36 33.6 0.0**
DRGR 77.53 327⇑ *i*P **P** **13 36 33.8 0.0**
VRAC Vranov 77.58 332⇑ *i*P **P** **13 36 33.6 -0.3**
PRU Pruhonice 77.65 333 *e*P **P** **13 36 34.1 -0.2**
PRU Pruhonice 77.65 333 *e*P **P** **13 36 34.1 -0.2**
VOIR 77.72 325⇓ *i*P **P** **13 36 36.1 +1.2**
ARR Arges 77.95 325⇑ *i*P **P** **13 36 37.4 +1.3**
TREC Trest 77.95 332 *e*P **P** **13 36 35.8 -0.2**
TREC Trest 77.95 332 *e*P **P** **13 36 35.8 -0.2**
BRTR Keskin Array B 78.44 316 *i* P **P** **13 36 39.2 +0.2**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 78.44 316 P **P** **13 36 39.3 +0.2**
comp=Z,5.0nm,0.8s,baz=73,slow=4.3,SNR=17
KHC Kasperske Hory 78.70 333 *e*P **P** **13 36 40.2 0.0**
KHC *e* 13 36 44.9
KHC *e* 13 37 01.1
KHC Kasperske Hory 78.70 333 *e*P **P** **13 36 40.2 0.0**
KHC *ex* x 13 36 44.9
KHC *ex* x 13 37 01.1
KHC Kasperske Hory 78.70 333 *e*P **P** **13 36 39.1 -1.1**
comp=Z,16nm,1.0s
TXAR Lajitas Array 78.83 59 P **P** **13 36 42.6 +1.2**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 78.83 59 P **P** **13 36 42.5 +1.2**
comp=Z,0.7nm,0.7s,baz=296,slow=3.0,SNR=10
GERES GERESS Array B 78.92 333 P **P** **13 36 41.3 -0.2**
GERES pmax pmax
comp=Z,4.0nm,0.6s
GERES GERESS Array B 78.92 333 P **P** **13 36 41.2 -0.2**
comp=Z,3.6nm,0.6s,baz=35,slow=5.6,SNR=22
GRFO Grafenberg 78.92 335 *e*P **P** **13 36 39.5 -1.8**
GRFO pmax pmax
comp=Z,7.0nm,0.7s
GRFO Grafenberg 78.92 335 *e*P **P** **13 36 39.5 -1.8**
comp=Z,7.3nm,0.7s
BZS Buzias 78.92 327⇓ *i*P **P** **13 36 41.2 -0.2**
CONA Conrad Observa 79.02 331⇑ *i*pP **P** **13 36 42.4 +0.4**
comp=Z,9.6nm,0.7s
SOKA Soboth 80.38 331⇓ *i*pP **P** **13 36 49.5 0.0**
comp=Z,13nm,1.2s
BAIF Baives 80.49 339 *e*P **P** **13 36 49.7 -0.1**
BAIF Baives 80.49 339 *e*P **P** **13 36 49.7 -0.1**
BAIF Baives 80.49 339 *e*P **P** **13 36 49.7 -0.1**
KBA Koelnbreinsper 80.59 333⇑ *i*pP **P** **13 36 51.0 +0.3**
comp=Z,26nm,1.1s
BFO Black Forest 80.98 336 *e*P **P** **13 36 51.1 -1.4**
BFO pmax pmax
comp=Z,13nm,1.2s
BFO Black Forest 80.98 336 *e*P **P** **13 36 51.1 -1.4**
comp=Z,14nm,1.2s
CDF Champ du Feu 81.20 337⇑ *i*P **P** **13 36 53.6 -0.2**
comp=Z,23nm,1.0s
CDF Champ du Feu 81.20 337⇑ *i*P **P** **13 36 53.6 -0.2**
CDF pmax pmax
comp=Z,23nm,1.0s
CDF Champ du Feu 81.20 337⇑ *i*P **P** **13 36 53.6 -0.2**
comp=Z,23nm,1.0s
MMB Musomiste 81.44 323⇓ *i*P **P** **13 36 55.4 +0.3**
FETA Feichten 81.46 334⇑ *i*pP **P** **13 36 55.4 +0.2**
comp=Z,7.8nm,1.1s
DAVA Damuels 81.48 335⇑ *i*pP **P** **13 36 55.4 0.0**
comp=Z,12nm,1.0s
PAGF Fort de Pagny 81.49 338⇑ *i*P **P** **13 36 55.5 +0.3**
comp=Z,14nm,0.7s
PAGF Fort de Pagny 81.49 338⇑ *i*P **P** **13 36 55.5 +0.3**
comp=Z,14nm,0.7s
MEZF Maizieres J'vi 81.71 338 *e*P **P** **13 36 56.4 +0.1**
MEZF Maizieres J'vi 81.71 338 *e*P **P** **13 36 56.4 +0.1**
HAU Haudompre 81.83 337 *e*P **P** **13 36 56.7 -0.3**
HAU *e*R
comp=Z,106nm,20.0s
HAU Haudompre 81.83 337 *e*P **P** **13 36 56.7 -0.3**
HAU Haudompre 81.83 337 *e*P **P** **13 36 56.7 -0.3**
HINF Hinteralfeld 81.86 337 *e*P **P** **13 36 56.8 -0.4**
HINF Hinteralfeld 81.86 337 *e*P **P** **13 36 56.8 -0.4**
HINF Hinteralfeld 81.86 337 *e*P **P** **13 36 56.8 -0.4**
SFTF Sexfontaines 81.99 338 *e*P **P** **13 36 57.7 -0.1**
comp=Z,50nm,0.8s
SFTF Sexfontaines 81.99 338 *e*P **P** **13 36 57.7 -0.1**
comp=Z,50nm,0.8s
FLN La Foliniere 82.79 342 *e*P **P** **13 37 01.7 -0.3**
FLN *e*R
comp=Z,102nm,19.2s
FLN La Foliniere 82.79 342 *e*P **P** **13 37 01.7 -0.3**
FLN La Foliniere 82.79 342 *e*P **P** **13 37 01.7 -0.3**
LDF La Druitiere 82.87 342 *e*P **P** **13 37 02.1 -0.3**
LDF La Druitiere 82.87 342 *e*P **P** **13 37 02.1 -0.3**
LDF La Druitiere 82.87 342 *e*P **P** **13 37 02.1 -0.3**
LOR Lormes 83.16 339⇑ *i*P **P** **13 37 03.8 -0.2**

comp=Z,22nm,0.9s
LOR eR
comp=Z,137nm,22.0s
LOR Lormes 83.16 339⇑ i P P 13 37 03.8 -0.2
LOR pmax pmax
comp=Z,22nm,0.9s
LOR Lormes 83.16 339⇑ i P P 13 37 03.8 -0.2
comp=Z,22nm,0.9s
CABF La Chapelle 83.17 337 eP P 13 37 04.1 0.0
CABF La Chapelle 83.17 337 eP P 13 37 04.1 0.0
CABF La Chapelle 83.17 337 eP P 13 37 04.1 0.0
GRR Gorron 83.22 342 eP P 13 37 04.1 -0.1
GRR Gorron 83.22 342 eP P 13 37 04.1 -0.1
GRR Gorron 83.22 342 eP P 13 37 04.1 -0.1
SSF Saint Saulge 83.44 339⇑ i P P 13 37 05.3 -0.1
comp=Z,14nm,0.9s
SSF Saint Saulge 83.44 339⇑ i P P 13 37 05.3 -0.1
SSF pmax pmax
comp=Z,14nm,0.9s
SSF Saint Saulge 83.44 339⇑ i P P 13 37 05.3 -0.1
comp=Z,14nm,0.9s
AVF Avril sur Loir 83.73 339⇑ i P P 13 37 07.0 +0.1
comp=Z,25nm,1.0s
AVF Avril sur Loir 83.73 339⇑ i P P 13 37 07.0 +0.1
AVF pmax pmax
comp=Z,25nm,1.0s
AVF Avril sur Loir 83.73 339⇑ i P P 13 37 07.0 +0.1
comp=Z,25nm,1.0s
SMF Signal de Mont 83.74 338⇑ i P P 13 37 07.1 +0.1
comp=Z,60nm,1.1s
SMF Signal de Mont 83.74 338⇑ i P P 13 37 07.1 +0.1
SMF pmax pmax
comp=Z,60nm,1.1s
SMF Signal de Mont 83.74 338⇑ i P P 13 37 07.1 +0.1
comp=Z,60nm,1.1s
LPL La Plagne 84.00 336 eP P 13 37 09.0 +0.4
LPL La Plagne 84.00 336 eP P 13 37 09.0 +0.4
LPL La Plagne 84.00 336 eP P 13 37 09.0 +0.4
LPG La Plagne 84.01 336⇑ i P P 13 37 09.2 +0.5
comp=Z,19nm,0.9s
LPG La Plagne 84.01 336⇑ i P P 13 37 09.2 +0.5
LPG pmax pmax
comp=Z,19nm,0.9s
LPG La Plagne 84.01 336⇑ i P P 13 37 09.2 +0.5
comp=Z,19nm,0.9s
RAYN Ar Rayn 84.03 298 P P 13 37 07.7 -1.2
comp=Z,4.7nm,0.6s
MBDF Montbardon 84.71 336 eP P 13 37 12.0 -0.1
MBDF Montbardon 84.71 336 eP P 13 37 12.0 -0.1
MBDF Montbardon 84.71 336 eP P 13 37 12.0 -0.1
MFF Saint Martin d 84.75 341 eP P 13 37 12.3 +0.2
MFF Saint Martin d 84.75 341 eP P 13 37 12.3 +0.2
MFF Saint Martin d 84.75 341 eP P 13 37 12.3 +0.2
ORIF Oris-en-Rattie 84.79 336 eP P 13 37 12.1 -0.3
comp=Z,14nm,0.7s
ORIF eR
comp=Z,93nm,21.0s
ORIF Oris-en-Rattie 84.79 336 eP P 13 37 12.1 -0.3
ORIF pmax pmax
comp=Z,14nm,0.7s
ORIF Oris-en-Rattie 84.79 336 eP P 13 37 12.1 -0.3
comp=Z,14nm,0.7s
VIVF Saint-Julien-l 85.18 337 eP P 13 37 14.9 +0.6
comp=Z,14nm,0.8s
VIVF Saint-Julien-l 85.18 337 eP P 13 37 14.9 +0.6
VIVF pmax pmax
comp=Z,14nm,0.8s
VIVF Saint-Julien-l 85.18 337 eP P 13 37 14.9 +0.6
comp=Z,14nm,0.8s
CAF Calviac 85.80 339 eP P 13 37 17.3 -0.1
comp=Z,7.0nm,0.5s
CAF Calviac 85.80 339 eP P 13 37 17.3 -0.1
CAF pmax pmax
comp=Z,7.0nm,0.5s
CAF Calviac 85.80 339 eP P 13 37 17.3 -0.1
comp=Z,7.0nm,0.5s
LFF La Frestale 86.11 340 eP P 13 37 19.3 +0.5
LFF La Frestale 86.11 340 eP P 13 37 19.3 +0.5
LFF La Frestale 86.11 340 eP P 13 37 19.3 +0.5
LASF Ste Croix 86.12 337 eP P 13 37 18.9 -0.1
LASF Ste Croix 86.12 337 eP P 13 37 18.9 -0.1
CPUP Villa Florida 149.81 60 PKP2 PKPbc 13 44 28.3 +0.4
CPUP pmax pmax
comp=Z,1.0nm,0.4s
CPUP Villa Florida 149.81 60 PKPbc PKPbc 13 44 28.3 +0.4
comp=Z,0.7nm,0.4s,baz=349,slow=3.3,SNR=4.1

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*IDC **04** 13:31:27.2±1.0, 54.°11N×162.°40E, $h0^{km}$, mb3.3/5, mb1 3.7/8, mb1mx3.4/34, mbtmp3.5/8, ML3.2/3, Error ellipse: s-maj=39.1km s-min=15.1km az=162.0*
*KRSC **04** 13:31:31.1±0.9, 54.°58N×161.°81E, $h62^{km}$±9^{km}, ML3.9*
*ISCJB **04** 13:31:32.9±0.4, 54.°58N±0.°02×161.°80E±0.°05, $h62^{km}$±5^{km}, mb3.1/5, Error ellipse: s-maj=5.5km s-min=2.7km az=26.2*
ISC 04 13:31:33.7±0.8, 54.°58N±0.°03×161.°81E±0.°04, $h55^{km}$±7^{km}, n46, σ0°95/73, mb3.1/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.05**	**239**	*i* P	**Pn**	**13 31 42.1**	**+0.2**
MKZ				*e*S	**Sn**	**13 31 48.4**	**+0.6**
KZV	**Kizimen**	**1.02**	**302**	*e*P	**Pn**	**13 31 51.4**	**-0.6**
KZV				*e*S	**Sn**	**13 32 04.0**	**-1.5**
TUMR	**Tumrok**	**1.19**	**307**	*i* P	**Pn**	**13 31 53.8**	**-0.4**
TUMR				*e*S	**Sn**	**13 32 08.9**	**-0.5**
KMNR	**Kamenistaya**	**1.48**	**323**	*i* P	**Pn**	**13 31 58.7**	**+0.6**
KMNR				*e*S	**Sn**	**13 32 17.4**	**+1.0**
KII	**Karymskiy**	**1.49**	**249**	*i* P	**Pn**	**13 31 58.1**	**-0.1**
KII				*e*S	**Sn**	**13 32 15.8**	**-0.7**
KPT	**Kopyto**	**1.66**	**327**	P	**Pn**	**13 32 00.6**	**+0.1**
KPT				S	**Sn**	**13 32 20.1**	**-0.6**
KBTR	**Krutoberegovo**	**1.73**	**19**	*i* P	**Pn**	**13 32 01.8**	**+0.4**
KBTR				*e*S	**Sn**	**13 32 22.1**	**-0.2**
SPN	**Mys Shipunski**	**1.82**	**216**	*e*P	**Pn**	**13 32 01.9**	**-0.8**
SPN				*e*S	**Sn**	**13 32 23.1**	**-1.5**
KOZ	**Kozyrevsk**	**1.84**	**324**	*e*P	**Pn**	**13 32 03.5**	**+0.5**
KOZ				*e*S	**Sn**	**13 32 24.8**	**-0.4**
KLY	**Klyuchi**	**1.85**	**340**	*e*P	**Pn**	**13 32 02.9**	**-0.2**
KLY				*e*S	**Sn**	**13 32 24.0**	**-1.3**
SMKR	**Semkarok**	**2.01**	**355**	*e*P	**Pn**	**13 32 06.2**	**+0.9**
SMKR				*e*S	**Sn**	**13 32 30.3**	**+0.9**
BDR	**Baidarnaya**	**2.02**	**351**	*e*P	**Pn**	**13 32 06.0**	**+0.6**
BDR				*e*S	**Sn**	**13 32 29.3**	**-0.2**
NLC	**Nalytchevo**	**2.03**	**227**	S	**Sn**	**13 32 29.9**	**+0.3**
SRDR	**Sredinnyy**	**2.11**	**326**	*e*P	**Pn**	**13 32 06.5**	**-0.1**
SRDR				*e*S	**Sn**	**13 32 30.2**	**-1.4**
SRKR	**Sorokina**	**2.11**	**350**	*e*P	**Pn**	**13 32 07.5**	**+0.9**
SRKR				*e*S	**Sn**	**13 32 32.5**	**+0.8**
SDLR	**Sedlovina**	**2.17**	**234**	*i* P	**Pn**	**13 32 07.9**	**+0.4**
SDLR				*e*S	**Sn**	**13 32 33.2**	**0.0**
KRER	**Koryakskii**	**2.21**	**236**	*i* P	**Pn**	**13 32 08.8**	**+0.6**
KRER				*e*S	**Sn**	**13 32 34.2**	**-0.3**
SMAR	**Somma**	**2.21**	**235**	*i* P	**Pn**	**13 32 08.8**	**+0.6**
SMAR				*e*S	**Sn**	**13 32 34.3**	**-0.2**
ESO	**Esso**	**2.23**	**308**	*e*P	**Pn**	**13 32 08.2**	**0.0**
ESO				*e*S	**Sn**	**13 32 33.5**	**-1.1**
KRX	**Arik**	**2.23**	**238**	*e*P	**Pn**	**13 32 08.5**	**+0.1**
KRX				*e*S	**Sn**	**13 32 33.9**	**-0.9**
UGLR	**Uglovaya**	**2.24**	**233**	P	**Pn**	**13 32 09.1**	**+0.7**
UGLR				*e*S	**Sn**	**13 32 35.2**	**+0.3**
AVH	**Avacha**	**2.24**	**235**	*i* P	**Pn**	**13 32 09.3**	**+0.8**
AVH				*e*S	**Sn**	**13 32 35.2**	**+0.2**
KOK	**Koryaka**	**2.28**	**237**	*i* P	**Pn**	**13 32 09.4**	**+0.4**
KOK				*e*S	**Sn**	**13 32 35.8**	**-0.1**
PET	**Petropavlovsk**	**2.44**	**231**	*e*P	**Pn**	**13 32 11.5**	**+0.5**
PET				*e*S	**Sn**	**13 32 39.4**	**-0.2**
GNL	**Ganaly**	**2.44**	**250**	*i* P	**Pn**	**13 32 11.9**	**+0.7**
BKI	**Bering**	**2.48**	**74**	*i* P	**Pn**	**13 32 11.8**	**+0.1**
BKI				*e*S	**Sn**	**13 32 39.2**	**-1.6**
PETK	**Petropavlovsk-**	**2.85**	**240**	Pn	**Pn**	**13 32 17.1**	**+0.5**
	13nm,0.3s,baz=68,slow=16,SNR=44						
PETK				Sn	**Sn**	**13 32 53.2**	**+3.5**
	6.8nm,0.3s,baz=83,slow=26,SNR=6.6						
RUS	**Russkaya**	**2.92**	**224**	*i* P	**Pn**	**13 32 17.5**	**-0.1**
RUS				*e*S	**Sn**	**13 32 50.3**	**-1.1**
MTVR	**Mutnovka**	**3.02**	**227**	*e*P	**Pn**	**13 32 19.6**	**+0.5**
MTVR				*e*S	**Sn**	**13 32 53.8**	**-0.3**
ASAK	**Asacha**	**3.21**	**228**	*e*P	**Pn**	**13 32 22.9**	**+1.2**
ASAK				*e*S	**Sn**	**13 32 59.0**	**+0.3**
APC	**Apacha**	**3.22**	**241**	*i* P	**Pn**	**13 32 22.9**	**+1.2**
APC				*e*S	**Sn**	**13 32 59.4**	**+0.6**
MIPR	**Malaya Ipel'ka**	**3.80**	**235**	*e*P	**Pn**	**13 32 30.7**	**+1.0**
PAU	**Pauzhetka**	**4.34**	**226**	P	**Pn**	**13 32 38.3**	**+1.2**
OSSR	**Ossora**	**4.73**	**8**	*i* P	**Pn**	**13 32 42.5**	**+0.1**
OSSR				*e*S	**Sn**	**13 33 33.6**	**-2.2**
SKR	**Severo-Kuril's**	**5.22**	**224**	P	**Pn**	**13 32 49.4**	**+0.3**
SKR				S	**Sn**	**13 33 45.2**	**-2.7**
TILK	**Tilichiki**	**6.33**	**20**	P	**Pn**	**13 33 06.2**	**+2.0**
FX1	**Attu Island--F**	**6.95**	**100**	Pn	Pn	13 33 03.7	-9.2
	1.1nm,0.3s,baz=296,slow=18,SNR=2.2						
FX1				Sn	Sn	13 34 23.9	-6.6
	10.0nm,0.3s,baz=347,slow=6.1,SNR=9.9						
ASAJ	**Asahikawa**	**16.26**	**238**	Pn	**Pn**	**13 35 17.6**	**-0.7**
	0.2nm,0.3s,baz=41,slow=19,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**35.01**	**172**	T	T	14 15 36.5	
	baz=355,slow=76,SNR=48						
H11N3	**WAKE ISLAND Hy**	**35.02**	**172**	T	T	14 15 37.6	
	baz=355,slow=76,SNR=56						
H11N1	**WAKE ISLAND Hy**	**35.02**	**172**	T	T	14 15 37.8	
	baz=355,slow=76,SNR=56						
YKA	**Yellowknife Ar**	**41.38**	**44**	P	**P**	**13 39 14.3**	**+0.3**
	0.2nm,0.6s,baz=300,slow=8.0,SNR=3.9						
NVAR	**Mina Array Bea**	**54.30**	**72**	P	**P**	**13 40 54.7**	**+0.2**
	0.3nm,0.7s,baz=295,slow=6.5,SNR=2.4						
TXAR	**Lajitas Array**	**69.13**	**69**	P	**P**	**13 42 34.8**	**+0.6**
	0.1nm,0.4s,baz=306,slow=6.6,SNR=4.4						
WRA	**Warramunga Arr**	**77.87**	**206**	P	**P**	**13 43 24.4**	**-0.9**
	0.2nm,0.8s,baz=24,slow=6.5,SNR=3.8						
ASAR	**Alice Springs**	**81.54**	**206**	P	**P**	**13 43 44.9**	**-0.3**
	0.2nm,0.8s,baz=15,slow=5.8,SNR=4.1						

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*IDC **04** 13:36:10.4±1.6, 33.°33N×138.°17E, $h0^{km}$, mb3.3/2, mb1 3.5/3, mb1mx3. 1/28, mbtmp3.2/3, ML3. 1/1, Error ellipse: s-maj=109.4km s-min=24.0km az=92.0*
*ISCJB **04** 13:36:11.0±0.8, 33.°92N±0.°05×140.°70E±0.°09, $h64^{km}$±10^{km}, mb3.2/2, Error ellipse: s-maj=11.9km s-min=7.8km az=175.6*
*JMA **04** 13:36:11.5±0.1, 33.°95N×140.°71E, $h56^{km}$±3^{km}, M2.9*
ISC 04 13:36:11.8±1.4, 33.°91N±0.°05×140.°72E±0.°09, $h50^{km}$±17^{km}, n12, σ0°71/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.78**	**16**	P	**Pn**	**13 36 26.0**	**0.0**
BSO3	**Boso 3**	**0.91**	**349**	P	**Pn**	**13 36 28.2**	**+0.1**
BSO3				S	**Sn**	**13 36 40.1**	**+0.1**
JHJ2	**Mitsune**	**1.09**	**224**	P	**Pn**	**13 36 31.0**	**+0.2**
JHJ2				S	**Sn**	**13 36 45.3**	**+0.5**
BSO4	**Boso 4**	**1.12**	**344**	P	**Pn**	**13 36 31.3**	**+0.2**
JIM2	**Oshima 3**	**1.34**	**308**	P	**Pn**	**13 36 33.8**	**-0.3**
JIM2				S	**Sn**	**13 36 49.8**	**-1.0**
KTJJ	**Kamata 2**	**1.70**	**307**	P	**Pn**	**13 36 39.1**	**0.0**
KTJJ				S	**Sn**	**13 36 58.5**	**-1.2**
JIZS	**Izushimoda**	**1.72**	**298**	P	**Pn**	**13 36 39.8**	**+0.4**
JIZS				S	**Sn**	**13 37 00.2**	**0.0**
JOD2	**Odawara 2**	**1.91**	**316**	P	**Pn**	**13 36 41.9**	**0.0**
MJAR	**Matsushiro Arr**	**3.33**	**323**	Pn	**Pn**	**13 37 02.3**	**+0.8**
	1.9nm,0.3s,baz=185,slow=17,SNR=14						
MJAR				Sn	**Sn**	**13 37 40.5**	**+0.6**
	0.9nm,0.3s,baz=149,slow=24,SNR=5.1						
MAT	**Matsushiro**	**3.34**	**323**	P	**Pn**	**13 37 03.2**	**+1.7**
MAT				S	**Sn**	**13 37 40.2**	**+0.3**
WRA	**Warramunga Arr**	**53.89**	**187**	P	**P**	**13 45 29.5**	**-0.7**
	0.3nm,0.4s,baz=5.1,slow=7.7,SNR=8.5						
ASAR	**Alice Springs**	**57.62**	**187**	P	**P**	**13 45 56.8**	**0.0**
	0.1nm,0.8s,baz=8.7,slow=6.7,SNR=3.1						

NNC 04 13:40:18.7±3.4, 37.°15N×70.°86E, $h146^{km}$, mb2.6, mpv3.5, 6C-1D, Error ellipse: s-maj=30.7km s-min=19.5km az=178.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.30**	**316**	⇑Pn	Pn	13 40 57.6	+0.3
DZET				⇑Sn	Sn	13 41 27.3	+0.3
KK31	**Karatay Array**	**5.95**	**358**	⇑Pn	Pn	13 41 45.1	+0.5
	1.4nm,0.3s,baz=178,slow=12						
KK31				⇑Sn	Sn	13 42 53.1	+1.2
	0.7nm,0.3s,baz=178,slow=24						
TKM2	**Tokmak 2**	**6.81**	**31**	⇓Pn	Pn	13 41 54.7	-1.6
	1.8nm,0.5s						
AB31	**Akbulak array**	**14.46**	**330**	⇑Pn	P	13 43 38.1	-0.9
	0.1nm,0.3s,baz=152,slow=11,SNR=8.3						
AB31				⇑Sn	Sn	13 46 12.4	-4.1
	0.3nm,0.4s						

DDA 04 13:49:35.8, 36.°94N×37.°39E, $h7^{km}$, MD2.7, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.30**	**237**	*i* P	Pg	13 49 42.0	+0.3
KUZU				*i* S	Sb	13 50 07.5	+19
GZT	**Gaziantep**	**0.44**	**19**	*i* P	Pg	13 49 44.7	0.0
GZT				*i* S	Sb	13 49 58.6	+5.5

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*BJI **04** 14:02:27.6, 13.°43S×167.°42E, $h194^{km}$, mB6.6/58, mb6.3/82*
*ISCJB **04** 14:02:27.7±0.7, 13.°65S±0.°02×167.°18E±0.°02, $h189^{km}$±6^{km}, mb6.1/268, Error ellipse: s-maj=3.0km s-min=2.5km az=12.4*
*MOS **04** 14:02:27.3±1.1, 13.°52S×167.°14E, $h181^{km}$, mb6.3/64, MS5.6/47, Error ellipse: s-maj=7.2km s-min=6.2km az=89.4*
*GCMT **04** 14:02:27.5±0.1, 13.°65S×167.°00E, $h185^{km}$, MW6.5/135, Moment Tensor Solution. s135,c319; s135,c555; Duration: 4s1 Moment tensor: Scale 10^{18}Nm; M_{rr}5.77±.02; $M_{\theta\theta}$-0.83±.03; $M_{\phi\phi}$-4.93±.03; $M_{r\theta}$-0.07±.02; $M_{r\phi}$1.85±.03; $M_{\theta r}$-1.08±.02; Best double couple: $M_0$5.80700×10^{18} NP1:ϕ_s163.00000°, δ50.00000°, λ96.00000°. NP2:ϕ_s335.00000°, δ40.00000°, λ83.00000°. Principal axes: T 5.8880, Plg83.0000°, Azm111.0000°; N -0.1550, Plg4.0000°, Azm340.0000°; P -5.7260, Plg5.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **04** 14:02:27.6±0.1, 13.°57S×167.°23E, $h176^{km}$, mb6.0/152, ME6.4, MW6.4, MW6.4, MW6.5 Error ellipse: s-maj=3.5km s-min=2.8km az=110.0, Moment Tensor Solution. s59 Moment tensor: Scale 10^{18}Nm; M_{rr}6.35; $M_{\theta\theta}$0.39; $M_{\phi\phi}$-6.74; $M_{r\theta}$-0.53; $M_{r\phi}$1.28; $M_{\theta r}$-0.89; Best double couple: $M_0$6.80000×10^{18} NP1:ϕ_s177.00000°, δ49.00000°, λ99.00000°. NP2:ϕ_s343.00000°, δ42.00000°, λ80.00000°. Principal axes: T 6.4700, Plg82.0000°, Azm143.0000°; N 0.5300, Plg6.0000°, Azm350.0000°; P -7.0100, Plg3.0000°, Azm260.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s155.00000°, δ50.00000°, λ90.00000°. NP2: ϕ_s335.00000°, δ40.00000°, λ90.00000°. Principal axes: T Plg85.0000°, Azm65.0000°; N Plg0.0000°, Azm0.0000°; P Plg5.0000°, Azm245.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Luganville.
*IDC **04** 14:02:28.1±0.5, 13.°62S×167.°28E, $h179^{km}$±3^{km}, mb5.7/28, mb1 5.8/29, mb1mx5.8/30, mbtmp6.2/29, MS5.6/10, Ms1 5.6/10, ms1mx5.1/34 Error ellipse: s-maj=8.9km s-min=8.1km az=107.0*
*NEIC **04** 14:02:30.0±0.0, 13.°62S×167.°14E, $h200^{km}$ Best double couple: NP1:ϕ_s175.00000°, δ55.00000°, λ99.00000°. NP2:ϕ_s338.00000°, δ35.00000°, λ76.00000°. Principal axes: T 5.2900, Plg77.0000°, Azm117.0000°; N -0.0600, Plg8.0000°, Azm349.0000°; P -5.2200, Plg10.0000°, Azm258.0000°;*
*NEIC **04** 14:02:48.4±0.0, 13.°53S×166.°84E, $h187^{km}$, Moment Tensor Solution. s96 Moment tensor: Scale 10^{18}Nm; M_{rr}5.26; $M_{\theta\theta}$-0.77; $M_{\phi\phi}$-4.48; $M_{r\theta}$-0.37; $M_{r\phi}$1.63; $M_{\theta r}$-1.13; Best double couple: $M_0$5.30000×10^{18} NP1:ϕ_s167.00000°, δ51.00000°, λ100.00000°. NP2:ϕ_s332.00000°, δ40.00000°, λ79.00000°. Principal axes: T 5.4400, Plg80.0000°, Azm125.0000°; N -0.2600, Plg7.0000°, Azm340.0000°; P -5.1800, Plg5.0000°, Azm250.0000°;*
ISC 04 14:02:28.9±0.2, 13.°63S±0.°03×167.°23E±0.°03, $h190^{km}$±1^{km}, $h190^{km}$: pP-P, n2167, σ1°45/2391, mb6.1/268, 315C-270D,

Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.27**	**300**	LR	LR	14 07 49.7	
	comp=Z,32μm,21.9s,baz=130,slow=39						
DZM	**Mont Dzumac**	**8.43**	**185**	P	**Pn**	**14 04 28.1**	**+0.2**
	11nm,0.3s,baz=299,slow=8.4,SNR=86						
DZM				S	**Sn**	**14 06 02.7**	**+0.1**
	23nm,0.3s,baz=303,slow=21,SNR=3.8						
DZM				LR	LR	14 07 16.5	
	comp=Z,74μm,20.9s,baz=102,slow=34						
MSVF	**Nonsavu**	**11.19**	**113**	Pn	**P**	**14 05 08.0**	**-2.2**
	18μm,1.0s,SNR=72						
MSVF	**Nonsavu**	**11.19**	**113**	*e*P	**P**	**14 05 08.0**	**-2.2**
MSVF	**Nonsavu**	**11.19**	**113**	*e*Pn	**P**	**14 05 08.0**	**-2.2**
NFK	**Norfolk Island**	**15.36**	**178**	P	**P**	**14 05 59.5**	**+3.1**
	baz=16,SNR=5.3						
TARA	**Tarawa**	**15.92**	**21**	*e*P	**P**	**14 06 02.4**	**-0.2**
	560nm,1.3s						
RABL	**Rabaul**	**17.58**	**301**	⇑P	**P**	**14 06 20.7**	**-0.2**
	baz=18,SNR=60						
EIDS	**Eidsvold**	**19.17**	**230**	⇓P	**P**	**14 06 39.5**	**+1.5**
	baz=19,SNR=305						
EIDS	**Eidsvold**	**19.17**	**230**	*e*P	**P**	**14 06 39.6**	**+1.5**
	2μm,1.1s						
LHI	**Lord Howe Isla**	**19.33**	**202**	⇓P	**Pn**	**14 06 41.7**	**-1.4**
	baz=19,SNR=34						
PMG	**Port Moresby**	**20.11**	**280**	⇑*e*P	**P**	**14 06 48.6**	**+0.3**
PMG				pmax	pmax		
	comp=Z,3μm,2.5s						
PMG	**Port Moresby**	**20.11**	**280**	P	**P**	**14 06 48.8**	**+0.5**
	comp=Z,352nm,0.8s,baz=96,slow=10,SNR=83						
PMG				S	**S**	**14 10 27.6**	**+3.8**
	comp=Z,70nm,1.2s,baz=122,slow=20,SNR=6.9						
PMG	**Port Moresby**	**20.11**	**280**	P	**P**	**14 06 48.8**	**+0.5**
	baz=20,SNR=42						
PMG	**Port Moresby**	**20.11**	**280**	PFAKE		14 07 00.0	+7.3
PMG				LR	LR		
	comp=Z,81μm,19.0s						
AFI	**Afiamalu**	**20.39**	**93**	*e*P	**P**	**14 06 52.3**	**+0.9**
AFI				MLR	MLR		
	comp=Z,32μm,22.0s						
AFI	**Afiamalu**	**20.39**	**93**	*e*P	**P**	**14 06 52.3**	**+0.9**
	comp=Z,83μm,2.3s						
AFI				LR	LR		
	comp=Z,32μm,22.0s						
RAO	**Raoul Island**	**20.77**	**141**	P	**P**	**14 06 50.8**	**-4.3**
	comp=Z,235nm,0.4s,baz=9.0,slow=19,SNR=2.3						
CTA	**Charters Tower**	**21.07**	**249**	P	**P**	**14 06 58.4**	**-0.1**
CTA				S	**S**	**14 10 40.9**	**-1.1**
CTA						14 18 02.5	
CTA				pmax	pmax		
	comp=Z,269nm,0.6s						
CTA				smax	smax		
	comp=N,48nm,1.0s						
CTA				pmax	pmax		
	comp=N,79nm,1.1s						
CTA				pmax	pmax		
	comp=N,27nm,1.2s						
CTA	**Charters Tower**	**21.07**	**249**	P	**P**	**14 06 58.4**	**-0.1**
	comp=N,269nm,0.6s,baz=78,slow=12,SNR=150						
CTA				S	**S**	**14 10 40.9**	**-1.1**
	comp=N,48nm,1.0s,baz=37,slow=20,SNR=3.2						
CTA				ScP	**ScP**	**14 14 18.4**	**+2.2**
	comp=N,79nm,1.1s,baz=293,slow=1.2,SNR=5.9						
CTA				ScS	**ScS**	**14 18 02.5**	**+2.2**
	comp=N,27nm,1.2s,baz=250,slow=22,SNR=13						
CTAO	**Charters Tower**	**21.07**	**249**	PFAKE		14 07 10.0	+11
CTAO				LR	LR		
	comp=Z,62μm,19.0s						
RMQ	**Roma**	**21.52**	**231**	P	**P**	**14 07 04.2**	**+1.0**
	baz=22,SNR=622						
ARMA	**Armidale**	**22.06**	**218**	P	**P**	**14 07 09.5**	**+0.9**
	baz=22,SNR=259						
PATS	**Pohnpei**	**22.17**	**336**	P	**P**	**14 07 09.7**	**-0.1**
	baz=22,SNR=69						
OUZ	**Omahuta**	**22.26**	**166**	PN	**P**	**14 07 11.7**	**+1.4**
OUZ	**Omahuta**	**22.26**	**166**	*e*P	**P**	**14 07 12.5**	**+2.2**
	comp=Z,3μm,1.2s						
KWAJ	**Kwajalein Atol**	**22.28**	**1**	*e*P	**P**	**14 07 08.0**	**-2.7**
KWAJ				pmax	pmax		
	comp=Z,419nm,0.7s						
KWAJ	**Kwajalein Atol**	**22.28**	**1**	*e*P	**P**	**14 07 08.0**	**-2.7**
	comp=Z,419nm,0.7s						
NIUE	**Niue**	**22.57**	**107**	P	**P**	**14 07 15.3**	**+2.0**
	baz=23,SNR=43						
MANU	**Manus Island**	**22.77**	**299**	P	**P**	**14 07 16.1**	**+0.9**
	baz=23,SNR=14						
WCZ	**Waipu Caves**	**23.12**	**165**	PN	**P**	**14 07 20.3**	**+2.2**
COEN	**Coen**	**23.37**	**266**	P	**P**	**14 07 21.5**	**+0.9**
	baz=23,SNR=247						
COEN	**Coen**	**23.37**	**266**	*e*P	**P**	**14 07 20.5**	**-0.1**
	comp=Z,7μm,1.3s						
MGCD	**Mangrove Creek**	**24.41**	**214**	⇑P	**P**	**14 07 32.1**	**+2.2**
	baz=24,SNR=24						
MKAZ	**Moumakai**	**24.44**	**165**	PN	**P**	**14 07 30.9**	**+0.7**
MKAZ				PcP	**PcP**	**14 11 05.2**	**+1.4**
MKAZ	**Moumakai**	**24.44**	**165**	Pn	**P**	**14 07 30.9**	**+0.7**
QLP	**Quilpie**	**25.10**	**236**	⇓P	**P**	**14 07 36.5**	**+0.2**
	baz=25,SNR=196						
TOZ	**Tahuroa Road**	**25.11**	**164**	PN	**P**	**14 07 37.5**	**+1.3**
TOZ				PcP	**PcP**	**14 11 06.2**	**+0.9**
HAZ	**Te Kaha**	**25.80**	**161**	PN	**P**	**14 07 43.0**	**+0.5**
HAZ				SN	**S**	**14 11 56.6**	**-1.0**
URZ	**Urewera**	**26.06**	**162**	P	**P**	**14 07 45.2**	**+0.5**
	comp=Z,62nm,0.7s,baz=340,slow=2.2,SNR=22						
URZ				PcP	**PcP**	**14 11 06.7**	**-0.7**
	comp=Z,108nm,0.8s,baz=324,slow=5.0,SNR=6.4						
URZ	**Urewera**	**26.06**	**162**	PN	**P**	**14 07 44.4**	**-0.3**
URZ				SN	**S**	**14 12 02.6**	**+1.0**
URZ	**Urewera**	**26.06**	**162**	*e*P	**P**	**14 07 44.4**	**-0.3**
	comp=Z,1μm,1.9s						
URZ				PcP	**PcP**	**14 11 06.7**	**-0.7**
WMGZ	**Waiomatatini S**	**26.07**	**160**	PN	**P**	**14 07 44.7**	**-0.2**
PUZ	**Puketiti**	**26.25**	**160**	PN	**P**	**14 07 45.9**	**-0.6**
PUZ	**Puketiti**	**26.25**	**160**	Pn	**P**	**14 07 45.9**	**-0.6**
MWZ	**Matawai**	**26.25**	**161**	PN	**P**	**14 07 45.8**	**-0.8**
MWZ				PcP	**PcP**	**14 11 06.4**	**-1.6**
MWZ				SN	**S**	**14 12 03.3**	**-1.5**
MWZ	**Matawai**	**26.25**	**161**	Pn	**P**	**14 07 46.5**	**-0.1**
TUVZ	**Tukino**	**26.60**	**165**	PN	**P**	**14 07 52.0**	**+2.2**
TUVZ	**Tukino**	**26.60**	**165**	Pn	**P**	**14 07 51.8**	**+2.

KAHZ Kahuranaki 27.42 164 PN **P** **14 07 56.5 -0.4**
KAHZ SN **S** **14 12 24.3 +1.2**
KAHZ Kahuranaki 27.42 164 Pn **P** **14 07 56.5 -0.4**
QRZ Quartz Range 27.49 171 PN **P** **14 07 59.2 +1.7**
PXZ Pawanui 27.64 164 PN **P** **14 07 58.1 -0.7**
PRHZ Porangahau 27.80 164 *e*PN **P** **14 07 59.4 -0.8**
PRHZ Porangahau 27.80 164 Pn **P** **14 07 59.5 -0.7**
MRZ Mangatainoka R 27.91 166 PN **P** **14 08 00.4 -0.8**
MRZ PcP **PcP** **14 11 12.6 +0.7**
MRZ SN **S** **14 12 28.3 -2.5**
MRZ Mangatainoka R 27.91 166 Pn **P** **14 08 01.0 -0.2**
KIW Kapiti Island 27.95 168 *e*PN **P** **14 08 02.0 +0.4**
KIW Kapiti Island 27.95 168 *e*Pn **P** **14 08 02.0 +0.4**
OGWZ Otaki Gorge 27.97 167 *e*PN **P** **14 08 01.8 +0.1**
NNZ Nelson 28.01 170 Pn **P** **14 08 03.2 +1.1**
BFZ Birch Farm 28.09 165 PN **P** **14 08 01.5 -1.3**
BFZ Birch Farm 28.09 165 *e*P **P** **14 08 02.7 -0.1**
comp=Z,132nm,0.7s
BFZ *e*S **S** **14 12 35.9 +2.4**
HOWZ Holdsworth Sta 28.12 167 *e*PN **P** **14 08 02.5 -0.6**
HOWZ Holdsworth Sta 28.12 167 *e*Pn **P** **14 08 02.5 -0.6**
TCW Tory Channel 28.16 169 *e*PN **P** **14 08 04.2 +0.8**
TCW Tory Channel 28.16 169 *e*Pn **P** **14 08 04.2 +0.8**
CAW Cannon Point 28.22 167 *e*PN **P** **14 08 04.1 +0.1**
CAW Cannon Point 28.22 167 *e*Pn **P** **14 08 04.2 +0.1**
DSZ Denniston Nort 28.30 173 PN **P** **14 08 06.6 +1.9**
DSZ Denniston Nort 28.30 173 Pn **P** **14 08 06.6 +1.9**
TUWZ Tuamarina 28.31 169 PN **P** **14 08 05.5 +0.7**
TUWZ Tuamarina 28.31 169 Pn **P** **14 08 05.5 +0.7**
WEL Wellington 28.33 168 P **P** **14 08 06.2 +1.3**
WEL Wellington 28.33 168 Pn **P** **14 08 06.2 +1.3**
SNZO South Karori 28.34 168 *e*P **P** **14 08 05.3 +0.3**
comp=Z,353nm,1.4s
SNZO *e*S **S** **14 12 41.0 +3.5**
SNZO LR LR
comp=Z,11μm,22.0s
MTW Mount Morrison 28.37 167 *e*PN **P** **14 08 04.9 -0.3**
MTW Mount Morrison 28.37 167 *e*Pn **P** **14 08 05.0 -0.2**
MILA Mila 28.38 211 P **P** **14 08 06.5 +1.0**
baz=28,SNR=76
JAY Jayapura 28.45 291 P **P** **14 08 05.7 -0.7**
comp=Z,237nm,2.3s,comp=Z,9μm
JAY Jayapura 28.45 291 ⇓P **P** **14 08 06.1 -0.3**
baz=28,SNR=30
THZ Tophouse 28.47 171 PN **P** **14 08 06.6 +0.5**
THZ SN **S** **14 12 42.2 +2.6**
THZ ScP **ScP** **14 14 38.4 +1.8**
THZ Tophouse 28.47 171 Pn **P** **14 08 06.7 +0.5**
PLWZ Palliser 28.71 167 *e*PN **P** **14 08 08.1 -0.2**
PLWZ Palliser 28.71 167 *e*Pn **P** **14 08 08.1 -0.2**
GENI Genyem 28.91 290 P **P** **14 08 10.6 +0.2**
comp=Z,548nm,1.6s,comp=Z,17μmcomp=Z,56μm
KHZ Kahutara 29.20 170 PN **P** **14 08 11.9 -0.7**
KHZ Kahutara 29.20 170 *e*P **P** **14 08 12.7 +0.1**
comp=Z,147nm,1.1s
LTZ Lake Taylor 29.38 172 PN **P** **14 08 14.0 -0.2**
LTZ Lake Taylor 29.38 172 Pn **P** **14 08 14.0 -0.2**
WVZ Waitaha Valley 29.50 175 PN **P** **14 08 15.6 +0.3**
WVZ PcP **PcP** **14 11 15.8 0.0**
WVZ ScP **ScP** **14 14 41.3 +1.5**
WVZ Waitaha Valley 29.50 175 Pn **P** **14 08 15.8 +0.5**
STKA Stephens Creek 29.69 228 P **P** **14 08 17.9 +0.8**
STKA 14 11 16.3
STKA S **S** **14 12 59.7 +0.8**
STKA 14 18 37.1
STKA pmax pmax
comp=Z,311nm,0.5s
STKA pmax pmax
comp=Z,193nm,0.8s
STKA smax smax
comp=N,9.0nm,0.7s
STKA pmax pmax
comp=N,142nm,0.8s
STKA pmax pmax
comp=N,13nm,0.9s
STKA Stephens Creek 29.69 228 P **P** **14 08 17.9 +0.8**
comp=N,311nm,0.5s,baz=42,slow=7.7,SNR=206
STKA PcP **PcP** **14 11 16.3 -0.2**
comp=N,193nm,0.8s,baz=39,slow=2.2,SNR=9.3
STKA S **S** **14 12 59.7 +0.8**
comp=N,8.7nm,0.7s,baz=158,slow=19,SNR=3.3
STKA ScP **ScP** **14 14 41.7 +1.0**
comp=N,142nm,0.8s,baz=41,slow=3.7,SNR=16
STKA ScS **ScS** **14 18 37.1 +1.0**
comp=N,13nm,0.9s,baz=230,slow=22,SNR=9.2
STKA PKiKP **PKiKP** **14 18 48.7 -0.5**
comp=N,10.0nm,0.6s,baz=170,slow=0.5,SNR=5.4
STKA Stephens Creek 29.69 228 P **P** **14 08 17.9 +0.8**
baz=30,SNR=275
OXZ Oxford 29.89 173 PN **P** **14 08 18.6 0.0**
OXZ PcP **PcP** **14 11 17.6 +0.8**
FOZ Fox Glacier 29.91 176 PN **P** **14 08 19.1 +0.3**
FOZ PcP **PcP** **14 11 17.3 +0.5**
RPZ Rata Peaks 30.17 174 PN **P** **14 08 21.7 +0.5**
RPZ Rata Peaks 30.17 174 *e*P **P** **14 08 21.5 +0.3**
comp=N,259nm,0.7s
MQZ McQueen's Vall 30.34 172 PN **P** **14 08 22.0 -0.6**
MQZ McQueen's Vall 30.34 172 Pn **P** **14 08 23.2 +0.6**
JCZ Jackson Bay 30.37 178 PN **P** **14 08 24.6 +1.5**
SMPI Sarmi 30.48 290 P **P** **14 08 25.4 +1.1**
comp=N,2μm,1.7s,comp=N,30μm
TOO Toolangi 30.72 215 P **P** **14 08 27.2 +1.0**
baz=31,SNR=271
LBZ Lake Benmore 30.76 176 PN **P** **14 08 26.0 -0.3**
LBZ PcP **PcP** **14 11 20.3 +1.2**
LBZ ScP **ScP** **14 14 46.9 +3.0**
LBZ Lake Benmore 30.76 176 Pn **P** **14 08 26.4 +0.1**
WKZ Wanaka 31.14 178 PN **P** **14 08 30.8 +1.1**
WKZ Wanaka 31.14 178 Pn **P** **14 08 30.8 +1.1**
ODZ Otahua Downs 31.45 175 PN **P** **14 08 32.2 -0.2**
ODZ ScP **ScP** **14 14 50.3 +4.1**
ODZ Otahua Downs 31.45 175 *e*P **P** **14 08 30.6 -1.8**
ODZ *e*P **P** **14 08 32.4 +0.1**
ODZ *e*ScP **ScP** **14 14 51.1 +4.9**
DCZ Deep Cove 31.75 180 *e*P **P** **14 08 35.7 +0.8**
comp=N,759nm,1.0s
WR0 Warramunga Arr 31.89 254 ⇑P **P** **14 08 35.5 -1.1**
baz=32
WRAB Tennant Creek 32.06 254 P **P** **14 08 36.6 -1.5**
comp=N,782nm,0.6s
WRAB Tennant Creek 32.06 254 *c i*P **P** **14 08 37.0 -1.1**
WRAB pmax pmax
comp=Z,2μm,2.3s
WRAB Tennant Creek 32.06 254 *e*P **P** **14 08 36.8 -1.3**
comp=Z,827nm,1.7s
WRAB *e*ScS ScS 14 18 47.6 -0.6
WRAB LR LR
comp=Z,33μm,19.0s
WRA Warramunga Arr 32.07 254 P **P** **14 08 36.9 -1.3**
comp=Z,96nm,0.8s,baz=86,slow=9.4,SNR=374
WRA PcP **PcP** **14 11 23.6 +0.4**
comp=Z,311nm,1.0s,baz=80,slow=2.7,SNR=18
WRA S **S** **14 13 31.0 -5.4**
comp=Z,77nm,1.2s,baz=84,slow=15,SNR=8.2
WRA ScP **ScP** **14 14 50.6 +1.8**
comp=Z,172nm,0.9s,baz=84,slow=3.5,SNR=24
WRA PKiKP **PKiKP** **14 18 47.8 -3.3**
comp=Z,28nm,0.8s,baz=17,slow=0.8,SNR=26
WRA LR LR 14 21 09.2
comp=Z,33μm,20.1s,baz=80,slow=35
WRA P3KPbc 14 40 06.6
comp=Z,6.0nm,1.1s,baz=266,slow=2.7,SNR=20
WHZ Wether Hill Ro 32.17 179 *e*P **P** **14 08 38.7 +0.1**
comp=Z,888nm,1.9s
TUZ Tuapeka 32.29 177 PN **P** **14 08 40.4 +0.7**
TUZ Tuapeka 32.29 177 Pn **P** **14 08 40.4 +0.7**
RAR Rarotonga 32.32 108 PFAKE 14 08 50.0 +10
RAR LR LR
comp=Z,10.0nm,22.0s
ARPS Mount Arapiles 32.35 220 P **P** **14 08 41.2 +0.8**
baz=32,SNR=226
WAKE Wake Island 32.71 359 *e*P **P** **14 08 42.3 -1.2**
comp=Z,718nm,1.1s
WAKE LR LR
comp=Z,6μm,19.0s
SRPI Serui, Papua 32.80 288 P **P** **14 08 45.8 +1.2**
comp=Z,811nm,1.6s,comp=Z,12μmcomp=Z,25μm
AS01 Alice Springs 33.00 247 *e*P **P** **14 08 44.5 -1.7**
AS01 *e*ScS ScS 14 18 46.9 -6.1
ASAR Alice Springs 33.05 247 P **P** **14 08 45.4 -1.3**
ASAR *PP **pP** **14 09 25.1 -0.8**
ASAR 14 11 25.8
ASAR S **S** **14 13 48.8 -2.7**
ASAR 14 14 53.9
ASAR pmax pmax
comp=Z,296nm,0.5s
ASAR pmax pmax
comp=Z,57nm,0.7s
ASAR pmax pmax
comp=Z,163nm,0.7s
ASAR smax smax
comp=N,150nm,1.1s
ASAR pmax pmax
comp=N,304nm,0.9s
ASAR Alice Springs 33.05 247 P **P** **14 08 45.4 -1.3**
comp=N,296nm,0.5s,baz=74,slow=9.2,SNR=781
ASAR pP **pP** **14 09 25.1 -0.8**
comp=N,57nm,0.7s,baz=78,slow=9.4,SNR=1.8
ASAR PcP **PcP** **14 11 25.8 0.0**
comp=N,163nm,0.7s,baz=73,slow=2.4,SNR=19
ASAR S **S** **14 13 48.8 -2.7**
comp=N,150nm,1.1s,baz=79,slow=16,SNR=19
ASAR ScP **ScP** **14 14 53.9 +1.7**
comp=N,304nm,0.9s,baz=82,slow=3.1,SNR=43
ASAR PKiKP **PKiKP** **14 18 47.4 -4.4**
comp=N,15nm,0.9s,baz=38,slow=4.7,SNR=6.7
ASAR LR LR 14 21 46.9
comp=N,27μm,19.8s,baz=67,slow=35
ASAR P3KPbc 14 40 02.0
comp=N,2.0nm,0.9s,baz=264,slow=4.0,SNR=12
BAKI Biak 33.19 289 P **P** **14 08 49.7 +1.8**
comp=N,1μm,1.5s,comp=N,23μm
TAU Tasmania Unive 33.86 207 P **P** **14 08 55.2 +1.8**
comp=N,2μm,1.7s,SNR=19
TAU Tasmania Unive 33.86 207 *e*P **P** **14 08 53.5 +0.1**
TAU pmax pmax
comp=Z,1μm,1.7s
TAU MLR MLR
comp=Z,24μm,19.0s
TAU Tasmania Unive 33.86 207 *e*P **P** **14 08 53.5 +0.1**
comp=Z,1μm,1.7s
TAU *e*ScP **ScP** **14 14 58.4 +3.8**
TAU LR LR
comp=Z,24μm,19.0s
BBOO Buckleboo 34.23 231 *e*P **P** **14 08 56.4 -0.4**
comp=Z,5μm,0.8s
KMPI Kaimana, Papua 34.55 284 P **P** **14 09 02.3 +2.7**
GUMO Guam 34.96 320 *e*P **P** **14 09 02.0 -1.1**
GUMO pmax pmax
comp=Z,518nm,0.8s
GUMO MLR MLR
comp=Z,12μm,20.0s
GUMO Guam 34.96 320 *e*P **P** **14 09 02.0 -1.1**
comp=Z,518nm,0.8s
GUMO LR LR
comp=Z,12μm,20.0s
SAUI Saumlaki 35.71 275 P **P** **14 09 11.2 +1.6**
comp=Z,1μm,2.3s,comp=Z,35μmcomp=Z,55μm
SAUI Saumlaki 35.71 275 *e*P **P** **14 09 10.7 +1.1**
comp=Z,5μm,1.9s
FAKI Fak Fak 36.16 284 P **P** **14 09 13.6 +0.2**
comp=Z,738nm,2.0s,comp=Z,17μmcomp=Z,44μm
FAKI Fak Fak 36.16 284 *e*P **P** **14 09 13.4 0.0**
comp=Z,1μm,1.4s
SWI Sorong 37.79 287 P **P** **14 09 27.4 +0.2**
comp=Z,1μm,1.2s,comp=Z,15μm
BNDI Bandanaira 37.90 280 P **P** **14 09 28.4 +0.3**
comp=Z,3μm,1.8s,comp=Z,53μm
XMAS Kiritimati 38.33 69 *e*P **P** **14 09 32.3 +0.6**
comp=Z,962nm,1.0s
XMAS LR LR
comp=Z,10μm,22.0s
FORT Forrest 39.84 238 *e*P **P** **14 09 42.5 -1.5**
comp=Z,690nm,0.6s
NLAI Namlea 40.95 281 P **P** **14 09 55.0 +1.7**
comp=Z,2μm,1.8s,comp=Z,34μmcomp=Z,18μm
LBMI Labuha 41.39 285 P **P** **14 09 58.2 +1.3**
comp=Z,1μm,1.4s,comp=Z,19μm
PPT Papeete 41.72 101 P **P** **14 09 59.3 -0.3**
PPT pmax pmax
comp=Z,317nm,0.8s
PPT Papeete 41.72 101 P **P** **14 09 59.3 -0.3**
comp=Z,317nm,0.8s,baz=302,slow=0.9,SNR=26
PPT2 Papeete2 41.72 101 *e*S **S** **14 16 01.6 -1.0**
comp=Z,6μm,24.0s
PPT2 *e*LQ LQ 14 20 09.8
comp=Z,21μm,28.5s
PPT2 *e*LR LR 14 21 54.6
TNTI Ternate 42.01 287 P **P** **14 10 02.9 +1.0**
comp=Z,802nm,2.0s,comp=Z,20μmcomp=Z,32μm
TNTI Ternate 42.01 287 *e*P **P** **14 10 01.7 -0.2**
comp=Z,6μm,2.5s
SOEI Soe 42.21 270 P **P** **14 10 04.7 +1.0**
comp=Z,739nm,1.8s,comp=Z,14μm
SOEI Soe 42.21 270 *e*P **P** **14 10 03.8 +0.1**
comp=Z,3μm,1.9s
SANI Sanana 42.37 282 P **P** **14 10 04.7 -0.1**
comp=Z,1μm,1.2s,comp=Z,17μmcomp=Z,33μm
BATI Baumata 42.73 270 P **P** **14 10 09.2 +1.5**
comp=Z,1μm,1.5s,comp=Z,14μmcomp=Z,1μm
BATI Baumata 42.73 270 P **P** **14 10 09.1 +1.3**
comp=Z,904nm,0.6s,baz=144,slow=1.7,SNR=268
MIDW Midway 44.19 20 *e*P **P** **14 10 17.1 -2.0**
MMRI Maumere 44.38 272 P **P** **14 10 20.9 0.0**
comp=Z,1μm,1.6s,comp=Z,21μmcomp=Z,23μm
MMRI Maumere 44.38 272 *e*P **P** **14 10 19.3 -1.6**
comp=Z,2μm,1.2s
MMRI *e*ScP **ScP** **14 15 37.8 +2.1**
MMRI *e*S **S** **14 16 40.6 -0.6**
SGSI Sangihe 44.81 290 P **P** **14 10 25.8 +1.5**
comp=Z,2μm,1.6s,comp=Z,28μm
KMSI Cibinong 45.11 285 P **P** **14 10 27.4 +0.7**
comp=Z,2μm,1.3s,comp=Z,22μmcomp=Z,24μm
BASI Baing, Sumba 45.72 269 P **P** **14 10 32.9 +1.4**
comp=Z,2μm,1.4s,comp=Z,28μm
LUWI Luwuk 45.73 282 P **P** **14 10 33.2 +1.6**
comp=Z,1μm,1.6s,comp=Z,20μmcomp=Z,30μm
LUWI Luwuk 45.73 282 *e*P **P** **14 10 32.9 +1.3**
comp=Z,2μm,1.4s
MBWA Marble Bar 45.81 254 *e*P **P** **14 10 32.4 +0.3**
comp=Z,935nm,1.0s
MBWA *e*ScP **ScP** **14 15 44.4 +2.9**
MBWA LR LR
comp=Z,30μm,21.0s
WSI Waingapu 46.08 270 P **P** **14 10 35.4 +1.1**
comp=Z,2μm,1.3s,comp=Z,32μm
DAV Davao City (W) 46.18 294 PFAKE 14 10 50.0 +15
DAV LR LR
comp=Z,9μm,20.0s
BSSI Bau Bau, Buton 46.58 274 P **P** **14 10 39.0 +0.8**
comp=Z,715nm,2.0s,comp=Z,13μm
APSI Ampana 46.84 282 P **P** **14 10 41.2 +1.0**
comp=Z,1μm,1.5s,comp=Z,18μmcomp=Z,27μm
WBSI Waikabubak, Su 46.97 269 P **P** **14 10 41.3 0.0**
comp=Z,1μm,1.1s,comp=Z,16μm
MRSI Marisa 47.00 284 P **P** **14 10 40.9 -0.5**
comp=Z,428nm,0.7s,comp=Z,6μm
BUKP Musuan 47.00 295 *e*P **P** **14 10 42.3 +0.8**
BUTP Butuan 47.01 296 *e*P **P** **14 10 42.4 +0.9**
BKSI Bulukumba 47.12 275 P **P** **14 10 42.6 +0.2**
comp=Z,590nm,1.5s,comp=Z,8μm
CBIJ Chichi jima 47.22 329 *e*P **P** **14 10 42.5 -0.3**
JCJ Chichijima 47.22 329 P **P** **14 10 42.7 -0.2**
comp=Z,2μm,0.9s,baz=163,slow=4.7,SNR=50
BNSI Bone 47.36 277 P **P** **14 10 45.0 +0.8**
comp=Z,1μm,1.4s,comp=Z,15μmcomp=Z,19μm
CTBH Cotabato--PC H 47.44 293 ⇑*i*P **P** **14 10 45.2 +0.4**
KAPI Kappang 47.55 276 P **P** **14 10 46.0 +0.3**
comp=Z,3μm,1.0s,SNR=89
KAPI Kappang 47.55 276 *e*P **P** **14 10 46.0 +0.3**
comp=Z,3μm,2.0s
KAPI LR LR
comp=Z,9μm,22.0s
CGP Cagayan de Oro 47.59 295 ⇓*e*P **P** **14 10 45.6 -0.3**
SPSI Sidrap Palu 47.79 277 P **P** **14 10 47.3 -0.3**
comp=Z,438nm,1.2s,comp=Z,8μmcomp=Z,20μm
TTSI Tana Toraja 47.98 278 P **P** **14 10 50.2 +1.2**
comp=Z,445nm,1.4s,comp=Z,7μm
MSLP Maasin 48.22 297 *e*P **P** **14 10 51.6 +0.8**
TOLI Toli-Toli 48.29 284 *e*P **P** **14 10 52.0 +0.6**
comp=Z,342nm,0.6s
PAGZ Pagadian 48.48 294 *e*P **P** **14 10 53.4 +0.6**
PLP Palo 48.61 298 ⇑*e*P **P** **14 10 52.8 -1.0**
KIP Kipapa 48.76 45 *ce*P **P** **14 10 56.4 +1.7**
KIP pmax pmax
comp=Z,322nm,1.2s
KIP Kipapa 48.76 45 *e*P **P** **14 10 56.5 +1.8**
comp=Z,286nm,1.1s
KIP LR LR
comp=Z,5μm,19.0s
OCLP Ormoc 48.88 298 *e*P **P** **14 10 56.7 +1.0**
MPSI Mapaga 48.89 283 P **P** **14 10 55.4 -0.5**
comp=Z,956nm,1.1s,comp=Z,14μmcomp=Z,17μm
OPA Opana 48.94 45 *e*P **P** **14 10 58.5 +2.4**
OPA Opana 48.94 45 *e*P **P** **14 10 58.5 +2.4**
OPA *e*pP pP 14 11 45.3 +7.3
KKH Kailua Kona 49.01 48 *e*P **P** **14 10 59.1 +2.4**
KKH Kailua Kona 49.01 48 *e*P **P** **14 10 59.1 +2.4**
LLP Lapu-Lapu 49.08 297 *e*P **P** **14 10 56.5 -0.8**
NWAO Narrogin (SRO) 49.29 238 P **P** **14 10 58.0 -0.8**
NWAO S **S** **14 17 50.3 -0.2**
NWAO pmax pmax
comp=Z,379nm,0.9s
NWAO smax smax
comp=N,77nm,1.2s
NWAO Narrogin (SRO) 49.29 238 P **P** **14 10 58.0 -0.8**
comp=N,378nm,0.9s,baz=80,slow=6.7,SNR=119
NWAO S **S** **14 17 50.3 -0.2**
comp=N,77nm,1.2s,baz=262,slow=18,SNR=5.6
NWAO Narrogin (SRO) 49.29 238 P **P** **14 10 58.0 -0.8**
NWAO S **S** **14 17 50.3 -0.2**
NWAO LR LR
comp=Z,1.0nm,22.0s
POHA Pohakuloa 49.43 49 *e*P **P** **14 11 01.1 +1.0**
comp=Z,420nm,0.9s
POHA LR LR
comp=Z,8μm,20.0s
HKL Haleakala 49.51 47 *e*P **P** **14 11 02.4 +1.4**
HKL Haleakala 49.51 47 *e*P **P** **14 11 02.4 +1.4**
CNP Catarman 49.55 300 *e*P **P** **14 11 02.0 +1.2**
HLK Haleakala 49.55 47 *e*P **P** **14 11 02.5 +1.4**
GUIM Jordan 50.42 296 *e*P **P** **14 11 07.9 +0.5**
PVCP Virac 50.52 301 *e*P **P** **14 11 08.5 +0.4**
RCP Roxas 50.72 297 ⇑*e*P **P** **14 11 11.3 +1.6**
KALP Kalibo 51.13 297 *e*P **P** **14 11 14.7 +2.0**
DNP Denpasar 51.20 270 P **P** **14 11 14.5 +1.2**
comp=Z,3μm,1.1s,comp=Z,51μmcomp=Z,45μm
IGBI Denpasar 51.24 270 P **P** **14 11 14.0 +0.4**
comp=Z,3μm,1.1s,comp=Z,29μm
BKB Balikpapan 51.28 279 P **P** **14 11 17.1 +3.2**
SRBI Singaraja 51.31 270 P **P** **14 11 14.3 +0.2**
comp=Z,2μm,1.7s,comp=Z,25μm
AUQP San Andres 51.63 299 *e*P **P** **14 11 19.0 +2.6**
OTRP Odiongan 51.72 298 *e*P **P** **14 11 17.3 +0.2**
MYLDM Lahad Datu 51.85 288 *e*P **P** **14 11 19.6 +1.5**
comp=Z,1μm,1.3s
CUYO Cuyo Island 51.90 296 *e*P P 14 11 23.5 +5.0
TSM Tawau 52.12 287 ⇑P **P** **14 11 20.6 +0.5**
JAGI Jajag, Banyuwa 52.27 270 P **P** **14 11 20.9 -0.3**
comp=Z,905nm,1.8s,comp=Z,16μmcomp=Z,29μm
JAGI Jajag, Banyuwa 52.27 270 P P 14 11 17.5 -3.8
ABJI Asem Bagus 52.31 271 P **P** **14 11 22.1 +0.5**
comp=Z,1μm,1.0s,comp=Z,20μm
SJMP San Jose 52.55 298 *e*P **P** **14 11 23.8 +0.6**
BBKI Banjar Baru 52.68 276 P **P** **14 11 25.0 +0.7**
comp=Z,1μm,1.1s,comp=Z,25μm
KMMI Kalianget 52.72 271 P **P** **14 11 25.5 +0.9**
comp=Z,593nm,2.1s,comp=Z,13μmcomp=Z,49μm
BLJI Banyuglugur 52.95 271 P **P** **14 11 26.4 +0.2**
comp=Z,1μm,1.4s,comp=Z,15μm
GMJI Gumukmas 52.99 270 P **P** **14 11 26.6 +0.1**
comp=Z,427nm,2.1s,comp=Z,10μmcomp=Z,23μm
BUSP Coron 53.13 297 *e*P **P** **14 11 28.4 +0.9**
SDKM Sandakan 53.23 288 ⇓P **P** **14 11 28.5 +0.2**
MTKI Muara Teweh, K 53.29 279 P **P** **14 11 29.6 +0.9**
comp=Z,595nm,1.4s,comp=Z,11μm
JHJ2 Mitsune 53.34 331 *e*P **P** **14 11 28.6 0.0**
comp=Z,7μm,2.8s
ENPP El Nido 53.45 295 *e*P **P** **14 11 30.4 +0.6**
TGY Tagaytay City 53.48 299 P **P** **14 11 31.6 +1.5**
TGY pmax pmax
comp=Z,437nm,0.6s
TGY Tagaytay City 53.48 299 P **P** **14 11 31.6 +1.5**
comp=Z,437nm,0.6s,baz=207,slow=3.4,SNR=41
BALP Baler 53.75 301 *e*P **P** **14 11 31.5 -0.4**
BATP Bataraza 53.89 292 *e*P **P** **14 11 33.7 +0.7**
LUBP Lubang 53.89 298 *e*P **P** **14 11 31.7 -1.4**
KDM Kudat 54.04 289 ⇓P **P** **14 11 34.5 +0.4**
GRJI Gresik 54.20 271 P **P** **14 11 37.6 +2.3**
comp=Z,200nm,0.9s,comp=Z,3μm
KKM Kota Kinabalu 54.28 288 ⇓P **P** **14 11 36.5 +0.5**
KKM Kota Kinabalu 54.28 288 *e*P **P** **14 11 36.0 0.0**
comp=Z,2μm,1.2s
KKM LR LR
comp=Z,5μm,20.0s
PWJI Pagerwojo 54.63 270 P **P** **14 11 38.4 0.0**
comp=Z,564nm,1.2s,comp=Z,12μm
SGCP Mt. Cagua 54.66 304 *e*P **P** **14 11 39.4 +0.9**
TBJI Tambak Boyo 54.83 271 P **P** **14 11 40.9 +1.1**
comp=Z,611nm,2.4s,comp=Z,19μm
APYP Conner 55.11 303 *e*P **P** **14 11 41.0 -0.8**
SCZP Santa Cruz 55.16 300 *e*P **P** **14 11 40.0 -2.1**
JOW Kunigami 55.22 317 *e*P **P** **14 11 42.2 -0.2**
comp=Z,324nm,0.9s
RKT Rikitea 55.36 109 *e*S **S** **14 19 12.5 -0.7**
comp=Z,18μm,29.0s
RKT *e*LQ LQ 14 25 50.5
comp=Z,16μm,30.0s
RKT *e*LR LR 14 28 11.8
comp=Z,8μm,44.0s
ABRA Dolores 55.44 303 *e*P **P** **14 11 43.9 -0.2**
BOLP Bolinao 55.45 301 *e*P **P** **14 11 43.6 -0.6**
WOJI Wonogiri, Jawa 55.52 270 P **P** **14 11 45.2 +0.4**
comp=Z,2μm,1.1s,comp=Z,22μm
SZP Santa 55.59 303 *e*P **P** **14 11 44.2 -1.0**
UGM Wanagama 55.90 270 P **P** **14 11 48.3 +0.8**
comp=Z,2μm,1.1s,comp=Z,24μm
UGM Wanagama 55.90 270 *e*P **P** **14 11 47.5 -0.1**
comp=Z,2μm,1.0s
PBKI Pangkalan Bun 55.93 276 P **P** **14 11 49.4 +1.7**
comp=Z,833nm,1.1s,comp=Z,13μm
DRV Dumont d'Urvil 56.01 193 P x 14 11 10.0
DRV S S 14 18 59.0 -21
DRV SS SS 14 22 56.0 -13
DRV L L 14 25 00.0
DRV R 14 27 00.0
SMRI Semarang 56.15 271 P **P** **14 11 50.3 +1.0**
comp=Z,2μm,1.1s,comp=Z,28μm
SMRI Semarang 56.15 271 *e*P **P** **14 11 48.4 -0.9**
comp=Z,2μm,1.2s
BTM Bintulu 56.25 283 ⇑P **P** **14 11 51.0 +1.0**
SBUM Sibu 56.84 282 ⇑P **P** **14 11 55.4 +1.2**
SBUM Sibu 56.84 282 *e*P **P** **14 11 54.5 +0.3**
comp=Z,4μm,2.7s
STKI Sintang 56.85 279 P **P** **14 11 55.3 +1.1**
MJAR Matsushiro Arr 56.92 332 P **P** **14 11 53.5 -0.7**
MJAR pmax pmax
comp=Z,319nm,1.0s
MJAR pmax pmax
comp=Z,2.0nm,0.7s
MJAR pmax pmax
comp=Z,8.0nm,0.9s
MJAR Matsushiro Arr 56.92 332 P **P** **14 11 53.5 -0.7**
comp=Z,319nm,1.0s,baz=166,slow=8.1,SNR=260
MJAR PKPPKP **P'P'df** **14 41 41.4 -1.0**
comp=Z,1.7nm,0.7s,baz=339,slow=3.1,SNR=4.2
MJAR PKP2bc 14 41 54.9
comp=Z,8.4nm,0.9s,baz=310,slow=2.2,SNR=9.8
MAJO Matsushiro 56.92 332 *c i*P **P** **14 11 54.4 +0.2**
MAJO pmax pmax
comp=Z,4μm,1.2s
MAJO Matsushiro 56.92 332 *e*P **P** **14 11 53.9 -0.4**
comp=Z,640nm,1.1s
MAJO LR LR
comp=Z,5μm,21.0s
MAT Matsushiro 56.92 332 P **P** **14 11 53.6 -0.6**
MAT S **S** **14 19 33.0 -0.2**
YOJ Yonaguni jima 57.42 311 *e*P **P** **14 11 58.1 +0.2**
YOJ pmax pmax
comp=Z,501nm,1.3s
YOJ Yonaguni jima 57.42 311 *e*P **P** **14 11 58.1 +0.2**
comp=Z,501nm,1.3s
JNU Nakatsue 58.01 324 *e*P **P** **14 12 02.0 0.0**
comp=Z,378nm,1.1s
KSM Kuching 58.37 280 ⇑P **P** **14 12 05.3 +0.5**
KSM Kuching 58.37 280 *e*P **P** **14 12 04.7 -0.1**
comp=Z,3μm,2.4s
KSM LR LR
comp=Z,6μm,22.0s
SSLB Suanglung 58.56 309 *e*P **P** **14 12 05.1 -0.8**
comp=Z,380nm,1.0s
CISI Cisompet, Garu 58.60 269 *e*P **P** **14 12 05.3 -1.2**
comp=Z,4μm,1.6s
YHNB Yeheng 58.74 310 PFAKE 14 12 20.0 +13
YHNB LR LR
comp=Z,5μm,20.0s

TATO	**Taipei**	58.84	311	*e*P	**P**	**14 12 07.5 -0.3**
	comp=Z,1μm,1.3s					
TATO				LR	LR	
	comp=Z,8μm,22.0s					
ERM	**Erimo**	59.64	339	P	**P**	**14 12 14.0 +1.1**
	comp=Z,2μm,0.9s,SNR=35					
ERM	**Erimo**	59.64	339	*d i*P	**P**	**14 12 14.6 +1.7**
ERM				pmax	pmax	
	comp=Z,207nm,0.8s					
ERM	**Erimo**	59.64	339	*e*P	**P**	**14 12 13.8 +0.9**
ERM				LR	LR	
	comp=Z,4μm,22.0s					
PTCN	**Pitcairn Islan**	59.77	111	PFAKE		14 12 30.0 +16
PTCN				LR	LR	
	comp=Z,6μm,20.0s					
XMIS	**Christmas Isla**	60.17	266	*e*P	**P**	**14 12 17.8 +0.6**
	comp=Z,6μm,1.3s					
YUK	**Yuzh-Kuril'sk**	60.60	342	*d i*P	P	14 12 06.7 -13
YUK				*i* *PP	PcP	14 12 53.6 -8.2
YUK				*i* S	**S**	**14 20 15.9 -4.5**
YUK				*i* *SS	sS	14 21 43.7 +7.2
YUK				*i* SS	**SS**	**14 24 24.2 +1.6**
YUK				pmax	pmax	
	comp=N,111nm,1.0s					
YUK				pmax	pmax	
	comp=E,193nm,1.0s					
YUK				pmax	pmax	
	comp=Z,783nm,1.0s					
YUK				pmax	pmax	
	comp=Z,6μm,3.0s					
QZH	**Quanzhou**	60.99	309⇑	*i*P	**P**	**14 12 23.2 +0.8**
QZH				pP	**PcP**	**14 13 04.9 +1.1**
QZH				sP	**sP**	**14 13 24.6 -2.2**
QZH				S	**S**	**14 20 24.6 -1.3**
QZH				PMZ		
	comp=Z,90nm,0.8s					
QZH				PMZ		
	comp=Z,15μm,3.1s					
QZH				LN		
	comp=Z,5μm,14.2s					
QZH				LE		
	comp=Z,7μm,15.4s					
QZH				LZ		
	comp=Z,11μm,20.5s					
KSDAG	**Daegu**	61.05	325	P	**P**	**14 12 25.0 +2.3**
	SNR=6.7					
KSPHA	**Pohang**	61.10	325	P	**P**	**14 12 24.0 +1.1**
	SNR=11					
KUR	**Kuril'sk**	61.15	344	*c i*P	P	14 12 14.8 -8.3
KUR				*i*		14 14 39.0
KUR				*i* S	**S**	**14 20 22.3 -5.0**
KUR				*i* SS	**ScS**	**14 22 00.6 +5.2**
KUR				pmax	pmax	
	comp=N,458nm,1.5s					
KUR				pmax	pmax	
	comp=E,379nm,1.5s					
KUR				pmax	pmax	
	comp=Z,2μm,1.5s					
KUR				MLR	MLR	
	comp=Z,1μm,15.0s					
KUR				MLR	MLR	
	comp=N,479nm,15.0s					
KUR				MLR	MLR	
	comp=E,997nm,20.0s					
KSULL	**Ulleungdo**	61.23	327	P	**P**	**14 12 26.3 +2.5**
	SNR=6.3					
KSULJ	**Uljin**	61.45	326	P	**P**	**14 12 27.4 +2.1**
	SNR=8.6					
ASAJ	**Asahikawa**	61.70	340	LR	LR	14 35 33.2
	comp=E,3μm,20.9s,baz=139,slow=32					
KSCPR	**CHUPUNGNYEONG**	61.90	325	P	**P**	**14 12 29.8 +1.4**
	SNR=8.9					
KSJEU	**Jeongeup**	61.98	323	P	**P**	**14 12 30.2 +1.3**
	SNR=6.9					
KSTBA	**Taebaek**	62.01	326	P	**P**	**14 12 30.3 +1.2**
	SNR=29					
KSJEO	**Jeonju**	62.09	324	P	**P**	**14 12 31.4 +1.9**
	SNR=7.4					
KSBON	**Boeun**	62.20	325	P	**P**	**14 12 32.0 +1.7**
	SNR=7.4					
KSHUK	**Heuksando**	62.30	322	P	**P**	**14 12 32.8 +1.8**
	SNR=7.0					
KSYOW	**Yeongwol**	62.32	326	P	**P**	**14 12 33.0 +1.9**
	SNR=13					
KSGUS	**GUNSAN**	62.45	324	P	**P**	**14 12 33.4 +1.5**
	SNR=9.8					
PMBI	**Palembang**	62.56	274	*e*P	**P**	**14 12 35.4 +2.2**
	comp=E,6μm,2.2s					
KSDGY	**Daegwallyeong**	62.57	326	P	**P**	**14 12 35.0 +2.1**
	SNR=17					
KSJMJ	**Jumunjin**	62.67	326	P	**P**	**14 12 34.8 +1.4**
	SNR=24					
KSWJU	**Wonju**	62.70	326	P	**P**	**14 12 35.6 +1.9**
	SNR=12					
SSE	**Sheshan**	62.70	316	P	**P**	**14 12 34.6 +0.8**
SSE				PcP	**PcP**	**14 13 11.1 +0.4**
SSE				PP	**PP**	**14 14 54.1 -0.2**
SSE				S	**S**	**14 20 47.6 +0.3**
SSE				PMZ		
	comp=E,500nm,1.1s					
SSE				PMZ		
	comp=E,4μm,10.9s					
SSE				LN		
	comp=E,6μm,34.4s					
SSE				LE		
	comp=E,7μm,34.4s					
SSE				LZ		
	comp=E,6μm,22.8s					
KSCEA	**Cheonan**	62.73	325	P	**P**	**14 12 35.6 +1.7**
	SNR=5.3					
KSRS	**Korea Array**	62.81	325	P	**P**	**14 12 34.6 +0.3**
KSRS				pmax	pmax	
	comp=Z,118nm,0.9s					
KSRS				pmax	pmax	
	comp=Z,4.0nm,0.9s					
KSRS				pmax	pmax	
	comp=Z,7.0nm,0.9s					
KSRS	**Korea Array**	62.81	325	P	**P**	**14 12 34.6 +0.3**
	comp=Z,118nm,0.9s,baz=141,slow=6.9,SNR=187					
KSRS				PKiKP	**PKiKP**	**14 19 22.9 +1.4**
	comp=Z,3.8nm,0.9s,baz=156,slow=1.6,SNR=6.8					
KSRS				PKP2bc		14 41 38.7
	comp=Z,6.8nm,0.9s,baz=313,slow=2.9,SNR=9.8					
KSAR	**Wonju Array Be**	62.83	325	P	**P**	**14 12 34.6 +0.2**
KSAR	**Wonju Array Be**	62.83	325	P	**P**	**14 12 34.6 +0.2**
KSAR				PKiKP	**PKiKP**	**14 19 22.9 +1.4**
KSAR				⇑*e*		14 41 38.7
KS01	**Wonju Array Si**	62.84	325	*e*P	**P**	**14 12 34.0 -0.5**
KS01				*e*PKiKP	**PKiKP**	**14 19 25.7 +4.2**
KSICN	**Icheon**	62.98	325	P	**P**	**14 12 36.3 +0.8**
	SNR=5.7					
HKC	**Hong Kong Obse**	63.08	304	*i* P	**P**	**14 12 39.0 +2.6**
KSSKC	**Sokcho**	63.09	327	P	**P**	**14 12 38.1 +1.9**
	SNR=11					
KSIJA	**INJE**	63.09	326	P	**P**	**14 12 37.6 +1.4**
	SNR=17					
KSCHC	**Chuncheon**	63.11	326	P	**P**	**14 12 39.0 +2.7**
	SNR=6.2					
KSSES	**Seosan**	63.17	324	P	**P**	**14 12 38.7 +2.0**
	SNR=5.5					
KSSWO	**Suwon**	63.21	325	P	**P**	**14 12 38.7 +1.7**
	SNR=7.7					
SEHB	**SEOHWA**	63.22	326	P	**P**	**14 12 39.2 +2.2**
	SNR=6.6					
KSSEO	**Seoul**	63.40	325	P	**P**	**14 12 40.1 +1.9**
	SNR=11					
KSCWO	**Cheorwon**	63.49	326	P	**P**	**14 12 41.0 +2.1**
	SNR=20					
DLV	**T Lat**	63.54	291	*e*P	**P**	**14 12 39.5 -0.3**
INCN	**Inchon**	63.55	325	*e*P	**P**	**14 12 40.0 +0.7**
INCN				LR	LR	
	comp=Z,3μm,20.0s					
KSDDC	**Dongducheon**	63.61	325	P	**P**	**14 12 41.7 +2.1**
	SNR=8.2					
KSMUS	**Musan**	63.77	325	P	**P**	**14 12 42.3 +1.7**
	SNR=15					
YNCB	**YEONCHEON**	63.78	325	P	**P**	**14 12 42.8 +2.1**
	SNR=9.9					
KSGAH	**Ganghwa**	63.81	325	P	**P**	**14 12 43.3 +2.4**
	SNR=9.9					
VNDA	**Vanda**	63.96	181	P	**P**	**14 12 41.7 +0.4**
VNDA				S	**S**	**14 21 00.9 -0.7**
VNDA				pmax	pmax	
	comp=Z,183nm,1.1s					
VNDA				smax	smax	
	comp=N,2.0nm,0.8s					
VNDA				pmax	pmax	
	comp=Z,14nm,1.2s					
VNDA				pmax	pmax	
	comp=Z,12nm,1.2s					
VNDA	**Vanda**	63.96	181	P	**P**	**14 12 41.7 +0.4**
	comp=Z,183nm,1.1s,baz=356,slow=6.8,SNR=122					
VNDA				S	**S**	**14 21 00.9 -0.7**
	comp=Z,1.6nm,0.8s,baz=312,slow=12,SNR=2.0					
VNDA				PKPPKP	**P'P'df**	**14 41 32.2 +0.1**
	comp=Z,14nm,1.2s,baz=251,slow=2.2,SNR=6.6					
VNDA				PKP2ab		14 41 46.6
	comp=Z,12nm,1.2s,baz=200,slow=4.3,SNR=3.7					
MNAI	**Manna**	64.00	272	*e*P	**P**	**14 12 42.8 +0.1**
	comp=Z,2μm,1.5s					
GZH	**Guangzhou**	64.13	304	P	**P**	**14 12 44.4 +1.1**
GZH				S	**S**	**14 21 03.5 -1.7**
GZH				LN		
	comp=Z,5μm,18.9s					
GZH				LE		
	comp=Z,5μm,19.7s					
YSS	**Yuzh-Sakhalins**	64.17	342	*c i*P	**P**	**14 12 44.0 +0.9**
YSS				*e**PP	**pP**	**14 13 26.0 -1.3**
YSS				*e**SP	**sP**	**14 13 47.0 -0.8**
YSS				*e*		14 15 04.0
YSS				*e*S	**S**	**14 21 02.0 -2.9**
YSS				*e**SS	**SKSac**	**14 22 17.0 -1.3**
YSS				*e*SSS	SSS	14 28 04.0
YSS				pmax	pmax	
	comp=Z,1μm,1.1s					
YSS				pmax	pmax	
	comp=Z,12μm,7.0s					
YSS				smax	smax	
	comp=N,6μm,10.0s					
YSS				smax	smax	
	comp=E,2μm,10.0s					
YSS				MLR	MLR	
	comp=N,2μm,18.0s					
YSS				MLR	MLR	
	comp=Z,3μm,18.0s					
SBA	**Scott Base**	64.23	180	*e*P	**P**	**14 12 44.6 +1.5**
SBA				MLR	MLR	
	comp=Z,2μm,19.0s					
SBA	**Scott Base**	64.23	180	*e*P	**P**	**14 12 44.6 +1.5**
SBA				LR	LR	
	comp=Z,2μm,19.0s					
MYKOM	**Kota Tinggi**	64.65	279	⇓P	**P**	**14 12 47.9 +1.0**
MYKOM	**Kota Tinggi**	64.65	279	*e*P	**P**	**14 12 46.9 0.0**
	comp=Z,3μm,2.3s					
SKR	**Severo-Kuril's**	64.77	352	*c i*P	P	14 12 42.0 -4.8
SKR				*e*		14 13 22.0
SKR				*i* S	**S**	**14 21 08.0 -4.0**
SKR				*e*PS	**SPn**	**14 21 28.0 -2.0**
SKR				*e*		14 22 16.0
SKR				*e*SSS	SSS	14 28 18.0
SKR				pmax	pmax	
	comp=N,310nm,1.0s					
SKR				pmax	pmax	
	comp=Z,900nm,1.0s					
SKR				pmax	pmax	
	comp=E,800nm,1.5s					
SKR				pmax	pmax	
	comp=N,6μm,4.0s					
SKR				pmax	pmax	
	comp=E,10μm,4.0s					
SKR				pmax	pmax	
	comp=Z,11μm,4.0s					
SKR				smax	smax	
	comp=N,8μm,10.0s					
SKR				smax	smax	
	comp=E,5μm,10.0s					
SKR				MLR	MLR	
	comp=E,3μm,16.0s					
SKR				MLR	MLR	
	comp=Z,3μm,16.0s					
SKR				MLR	MLR	
	comp=N,3μm,18.0s					
NJ2	**Nanjing**	64.87	315	*e*P	**P**	**14 12 48.5 +0.6**
NJ2				pP	**pP**	**14 13 31.5 -0.7**
NJ2				sP	**sP**	**14 13 51.0 -1.7**
NJ2				S	**S**	**14 21 15.0 +1.1**
NJ2				LN		
	comp=N,3μm,21.9s					
NJ2				LE		
	comp=N,6μm,21.5s					
NJ2				LZ		
	comp=N,5μm,21.2s					
VLA	**Vladivostok**	65.09	332	*d i*P	**P**	**14 12 51.0 +1.9**
VLA				*i*		14 13 21.7
VLA				*i*		14 15 13.6
VLA				*e*S	**S**	**14 21 15.1 -1.1**
VLA				pmax	pmax	
	comp=Z,576nm,1.3s					
QIZ	**Qiongzhong**	65.18	299	P	**P**	**14 12 51.0 +0.8**
QIZ				pP	**pP**	**14 13 38.0 +3.5**
QIZ				sP	**sP**	**14 13 57.9 +2.9**
QIZ				S	**S**	**14 21 17.2 -1.0**
QIZ				sS	**SKiKP**	**14 22 40.5 +0.1**
QIZ				PMZ		
	comp=Z,400nm,1.4s					
QIZ				PMZ		
	comp=Z,4μm,12.3s					
QIZ	**Qiongzhong**	65.18	299	*e*P	**P**	**14 12 50.9 +0.7**
	comp=Z,3μm,2.2s					
QIZ				LR	LR	
	comp=Z,5μm,20.0s					
KGM	**Kluang**	65.22	279	⇑P	**P**	**14 12 51.7 +1.1**
USRK	**Ussuriysk Ar.**	65.89	333	P	**P**	**14 12 55.0 +0.8**
	comp=Z,649nm,1.1s,baz=136,slow=6.2,SNR=316					
USRK				S	**S**	**14 21 25.8 -0.1**
	comp=Z,1.1nm,0.8s,baz=126,slow=12,SNR=2.1					
USRK				PKPPKP	**P'P'df**	**14 41 26.6 -1.4**
	comp=Z,7.0nm,0.8s,baz=328,slow=2.4,SNR=12					
SMY	**Shemya**	66.35	5	*e*P	**P**	**14 12 57.1 +0.2**
SMY				pmax	pmax	
	comp=Z,1μm,1.5s					
SMY	**Shemya**	66.35	5	*e*P	**P**	**14 12 57.1 +0.2**
	comp=Z,1μm,1.5s					
FX1	**Attu Island--F**	66.43	4	P	**P**	**14 12 58.2 +0.8**
FX1				pmax	pmax	
	comp=Z,109nm,0.6s					
FX1	**Attu Island--F**	66.43	4	P	**P**	**14 12 58.2 +0.8**
	comp=Z,109nm,0.6s,baz=234,slow=3.0,SNR=38					
ADK	**Adak**	66.71	11	PFAKE		14 13 10.0 +11
ADK				LR	LR	
	comp=Z,4μm,21.0s					
PET	**Petropavlovsk**	66.79	354	*c i*P	**P**	**14 13 00.5 +0.8**
PET				*i* *PP	**pP**	**14 13 47.9 +3.7**
PET				*e*S	**S**	**14 21 34.6 -1.7**
PET				pmax	pmax	
	comp=Z,9μm,4.5s					
PET				pmax	pmax	
	comp=Z,720nm,1.0s					
PET				pmax	pmax	
	comp=Z,6μm,14.8s					
PET				MLR	MLR	
	comp=Z,2μm,17.0s					
PET				MLR	MLR	
	comp=Z,2μm,13.0s					
PET	**Petropavlovsk**	66.79	354	*e*P	**P**	**14 13 00.0 +0.3**
PET				LR	LR	
	comp=Z,3μm,19.0s					
PETK	**Petropavlovsk-**	66.97	354	P	**P**	**14 13 01.6 +0.7**
PETK				pmax	pmax	
	comp=Z,480nm,0.9s					
PETK				pmax	pmax	
	comp=Z,18nm,1.0s					
PETK	**Petropavlovsk-**	66.97	354	P	**P**	**14 13 01.6 +0.7**
	comp=Z,470nm,0.8s,baz=142,slow=6.5,SNR=228					
PETK				PKP2bc		14 41 27.0
	comp=Z,18nm,1.0s,baz=92,slow=4.5,SNR=8.3					
BKNI	**Bangkinang**	66.98	276	*e*P	**P**	**14 13 01.7 -0.1**
	comp=Z,2μm,1.0s					
MDJ	**Mudanjiang**	67.30	332	P	**P**	**14 13 04.0 +0.9**
MDJ				pP	**pP**	**14 13 44.2 -3.5**
MDJ				PP	**PP**	**14 15 34.8 +0.6**
MDJ				S	**S**	**14 21 45.6 +2.8**
MDJ				sS	**sS**	**14 22 57.3 -3.2**
MDJ				PMZ		
	comp=Z,660nm,1.3s					
MDJ				PMZ		
	comp=Z,7μm,6.3s					
MDJ				LN		
	comp=Z,3μm,18.3s					
MDJ				LE		
	comp=Z,2μm,18.3s					
MDJ				LZ		
	comp=Z,3μm,18.3s					
MDJ	**Mudanjiang**	67.30	332	*e*P	**P**	**14 13 03.9 +0.9**
	comp=Z,1μm,1.3s					
MDJ				LR	LR	
	comp=Z,3μm,19.0s					
DL2	**Dalian**	67.40	323⇑	*i*P	**P**	**14 13 04.2 +0.3**
DL2				S	**S**	**14 21 43.2 -1.1**
DL2				sS	**sS**	**14 23 00.8 -1.2**
DL2				*i*		14 41 27.5
DL2				PMZ		
	comp=Z,1μm,1.0s					
DL2				PMZ		
	comp=Z,4μm,9.0s					
UBPT	**Khong Chiam**	67.50	293	P	**P**	**14 13 05.4 +0.4**
	comp=Z,731nm,1.2s,comp=Z,12μm					
IPM	**Ipoh**	68.11	281	*e*P	**P**	**14 13 08.9 0.0**
IPM				*e*P'P'df	**P'P'df**	**14 41 27.2 -0.4**
HABR	**Khabarovsk**	68.11	338	*c i*P	**P**	**14 13 09.4 +1.3**
HABR				*e*		14 13 31.5
HABR				*e**PP	**pP**	**14 13 53.4 +0.6**
HABR				*e**SP	**sP**	**14 14 15.2 +2.0**
HABR				*e*		14 15 39.1
HABR				*e*PPP	PPP	14 17 20.2
HABR				*e*S	**S**	**14 21 53.3 +1.0**
HABR				*e*		14 22 45.8
HABR				*e*SS	**SS**	**14 26 17.5 -1.7**
HABR				pmax	pmax	
	comp=Z,9μm,3.0s					
HABR				pmax	pmax	
	comp=N,452nm,1.5s					
HABR				pmax	pmax	
	comp=Z,2μm,1.5s					
HABR				pmax	pmax	
	comp=E,225nm,1.0s					
SNY	**Shenyang**	68.27	326	⇓P	**P**	**14 13 09.7 +0.5**
SNY				S	**S**	**14 21 58.0 +3.5**
SNY				PMZ		
	comp=E,240nm,0.9s					
SNY				PMZ		
	comp=E,6μm,7.0s					
COCO	**West Island**	68.41	262	P	**P**	**14 13 13.6 +2.9**
	comp=E,3μm,1.0s,SNR=14					
COCO	**West Island**	68.41	262	PFAKE		14 13 20.0 +9.3
COCO				LR	LR	
	comp=Z,4μm,21.0s					
TIA	**Tai'an**	68.50	318	⇑P	**P**	**14 13 10.5 -0.3**
TIA				sP	**sP**	**14 14 13.1 -2.8**
TIA				S	S	14 21 48.5 -8.9
TIA				PMZ		
	comp=Z,950nm,1.0s					
TIA				PMZ		
	comp=Z,7μm,5.4s					
TIA				LN		
	comp=Z,6μm,18.2s					
TIA				LE		
	comp=Z,4μm,16.7s					
TIA				LZ		
	comp=Z,6μm,24.9s					
CN2	**Changchun**	68.69	329	*e*P	**P**	**14 13 11.7 -0.1**
CN2				*e*S	**S**	**14 21 56.0 -3.4**
CN2				SS	**SS**	**14 26 28.6 +0.3**
CN2				LN		
	comp=Z,1μm,19.0s					
CN2				LE		
	comp=Z,3μm,19.0s					
CN2				LZ		
	comp=Z,400nm,19.0s					
KULM	**Kulim**	68.70	281	PFAKE		14 13 20.0 +7.5
KULM				LR	LR	
	comp=Z,3μm,20.0s					
PSI	**Prapat**	69.66	278	S	**S**	**14 22 09.4 -2.8**
	comp=Z,1.8nm,0.3s,baz=137,slow=19,SNR=5.0					
PSI				PKP2bc		14 41 22.1
	comp=Z,4.2nm,0.5s,baz=265,slow=2.5,SNR=7.4					
KLR	**Kul'dur**	69.99	336	⇓*i*P	**P**	**14 13 17.0 -2.7**
KLR				*e*S	**S**	**14 22 13.0 -1.4**
KLR				pmax	pmax	
	comp=N,430nm,1.8s					
KLR				pmax	pmax	
	comp=E,560nm,1.8s					
KLR				pmax	pmax	
	comp=Z,2μm,1.8s					
KLR				pmax	pmax	
	comp=N,4μm,8.0s					
KLR				pmax	pmax	
	comp=E,2μm,8.0s					
KLR				pmax	pmax	
	comp=Z,12μm,8.0s					
KLR				smax	smax	
	comp=N,6μm,11.5s					
KLR				smax	smax	
	comp=E,2μm,11.5s					
NONG	**Nongkai**	70.61	295	P	**P**	**14 13 24.0 -0.1**
	comp=E,525nm,1.8s,comp=E,9μm					
ENH	**Enshi**	70.64	309	*e*P	**P**	**14 13 23.9 -0.2**
	comp=E,423nm,1.0s					
ENH				*e*P'P'df	**P'P'df**	**14 41 19.9 -1.7**
SURA	**Surathani**	70.81	285	P	**P**	**14 13 26.2 +0.8**
	comp=E,1μm,1.1s,comp=E,15μm					
UNV	**Unalaska Valle**	70.85	16	*e*P	**P**	**14 13 24.1 -0.6**
	comp=E,216nm,0.9s					
CHAI	**Chaiyaphum**	70.85	292	P	**P**	**14 13 25.2 -0.4**
	comp=E,138nm,1.1s,comp=E,1μm					
GYA	**Guiyang**	71.06	304⇑	*i*P	**P**	**14 13 26.9 +0.1**
GYA				PcP	**PcP**	**14 13 48.0 +2.1**
GYA				pP	pP	14 14 18.0 +6.1
GYA				sP	sP	14 14 38.4 +6.2
GYA				PP	**PP**	**14 16 11.3 +4.1**
GYA				S	**S**	**14 22 28.7 +0.7**
GYA				SKS	**SKSac**	**14 23 05.4 -6.3**
GYA				sS	**sS**	**14 23 51.0 +4.6**
GYA				SS	**SS**	**14 27 06.2 +0.5**
GYA				PMZ		
	comp=E,630nm,1.2s					
GYA				PMZ		
	comp=E,4μm,8.0s					
GYA				LN		
	comp=E,6μm,23.6s					
GYA				LE		
	comp=E,6μm,19.6s					
GYA				LZ		
	comp=E,3μm,20.2s					
AKUT	**Akutan**	71.31	16	*e*P	**P**	**14 13 25.8 -1.6**
	comp=E,288nm,1.3s					
BJT	**Baijiatuau**	71.38	321	*e*P	**P**	**14 13 28.9 +0.6**
BJT				pmax	pmax	
	comp=Z,606nm,0.9s					
BJT				MLR	MLR	
	comp=Z,3μm,21.0s					
BJT	**Baijiatuau**	71.38	321	*e*P	**P**	**14 13 28.9 +0.6**
	comp=Z,606nm,0.9s					
BJT				LR	LR	
	comp=Z,3μm,21.0s					
BJI	**Beijing**	71.39	321	P	**P**	**14 13 28.8 +0.5**
BJI				S	**S**	**14 22 29.5 -1.4**
BJI				SS	**SS**	**14 27 12.6 +2.7**
BJI				PMZ		
	comp=Z,750nm,1.2s					
BJI				PMZ		
	comp=Z,10μm,4.2s					
BJI				LN		
	comp=Z,4μm,29.6s					
BJI				LE		
	comp=Z,3μm,26.8s					
BJI				LZ		
	comp=Z,5μm,25.6s					
SURT	**Suratani**	71.53	284	P	**P**	**14 13 30.3 +0.6**
	comp=Z,544nm,1.4s,comp=Z,6μm					
PKDT	**Phuket**	71.65	283	P	**P**	**14 13 31.4 +1.0**
	comp=Z,612nm,0.8s,comp=Z,11μm					
PHET	**Kaeng Krachan**	71.99	289	P	**P**	**14 13 33.7 +1.3**
	comp=Z,1μm,1.2s,comp=Z,13μm					
PBKT	**Sadao Pong**	72.00	293	P	**P**	**14 13 32.8 +0.4**
	comp=Z,707nm,1.2s					
LOEI	**Loei**	72.07	294	P	**P**	**14 13 30.7 -2.2**
	comp=Z,801nm,0.9s,comp=Z,9μm					
TIY	**Taiyuan**	72.43	317	*e*P	**P**	**14 13 35.6 +0.9**
TIY				pP	**pP**	**14 14 19.0 -0.9**
TIY				sP	**sP**	**14 14 38.0 -2.2**
TIY				S	**S**	**14 22 43.4 +0.3**
TIY				sS	**sS**	**14 23 57.7 -4.1**
TIY				PMZ		
	comp=Z,1μm,0.9s					
TIY				PMZ		
	comp=Z,9μm,3.5s					
TIY				LN		
	comp=Z,2μm,13.1s					

TIY LE
comp=Z,2μm,17.7s
TIY LZ
comp=Z,2μm,19.0s
UTTA Uttaradit 72.79 294 P **P 14 13 37.4 +0.3**
comp=Z,156nm,1.0s,comp=Z,2μm
XAN Xi'an 72.92 312 P **P 14 13 38.0 +0.4**
XAN pP **pP 14 14 26.0 +3.1**
XAN sP sP 14 14 48.7 +5.5
XAN PP **PP 14 16 25.6 +2.8**
XAN S **S 14 22 47.2 -1.6**
XAN sS **sS 14 24 12.2 +4.6**
XAN SS **SS 14 27 35.0 +1.3**
XAN PMZ
comp=Z,260nm,1.1s
XAN PMZ
comp=Z,2μm,6.0s
SRDT SRDT 72.92 290 P **P 14 13 38.9 +1.0**
comp=Z,2μm,1.3s,comp=Z,29μm
SPIA Saint Paul Isl 72.97 13 *e*P **P 14 13 37.6 +0.3**
comp=Z,955nm,1.3s
UTHA Uthaitani 73.03 291 P **P 14 13 39.1 +0.6**
comp=Z,208nm,1.1s,comp=Z,2μm
NANT Nan 73.03 295 P **P 14 13 38.5 0.0**
comp=Z,2μm,1.0s,comp=Z,19μm
SUKH Sukhothai 73.52 293 P **P 14 13 42.0 +0.6**
comp=Z,253nm,0.9s,comp=Z,2μm
KHLT Khaolaem Dam 73.56 290 P **P 14 13 42.5 +0.9**
comp=Z,288nm,1.7s,comp=Z,5μm
KMI Kunming 73.70 302 P **P 14 13 43.8 +1.2**
KMI pP **pP 14 14 28.1 +0.1**
KMI sP **sP 14 14 46.4 -1.8**
KMI PP **PP 14 16 28.5 -1.3**
KMI S **S 14 22 58.8 +0.6**
KMI PMZ
comp=Z,1μm,1.3s
KMI PMZ
comp=Z,8μm,5.9s
KMI LN
comp=Z,1μm,19.7s
KMI LE
comp=Z,3μm,21.2s
KMI LZ
comp=Z,4μm,24.2s
CRAI Chiangrai 73.84 296 P **P 14 13 42.6 -0.6**
comp=Z,738nm,1.3s
LAMP Lampang 73.88 294 P **P 14 13 44.2 +0.7**
comp=Z,577nm,0.8s,comp=Z,4μm
SDPT Sand Point 73.90 19 *e*P **P 14 13 40.7 -2.0**
comp=Z,397nm,1.1s
CMAR Chiang Mai Arr 74.47 294 P **P 14 13 47.9 +1.0**
CMAR *PP **pP 14 14 31.6 -0.8**
CMAR pmax pmax
comp=Z,556nm,1.0s
CMAR pmax pmax
comp=Z,64nm,0.9s
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 74.47 294 P **P 14 13 47.9 +1.0**
comp=Z,556nm,1.0s,baz=123,slow=4.4,SNR=498
CMAR pP **pP 14 14 31.6 -0.8**
comp=Z,64nm,0.9s,baz=116,slow=3.1,SNR=2.6
CMAR PKiKP **PKiKP 14 19 38.0 -0.2**
comp=Z,2.8nm,0.7s,baz=215,slow=0.9,SNR=4.8
CMAR PKKPbc **PKKPbc 14 33 10.1 -3.4**
comp=Z,0.5nm,0.4s,baz=289,slow=4.4,SNR=4.4
CMAR PKPPKP **P'P'df 14 41 15.6 -0.3**
comp=Z,2.9nm,0.9s,baz=291,slow=4.7,SNR=7.6
CMMT Chiang Mai 74.59 294 P **P 14 13 47.8 +0.2**
comp=Z,1μm,1.4s,comp=Z,18μm
CHTO Chiang Mai 74.59 294 P **P 14 13 47.8 +0.2**
comp=Z,4μm,1.4s,comp=Z,65μm
CHTO Chiang Mai 74.59 294 PFAKE 14 14 00.0 +12
CHTO LR LR
comp=Z,4μm,20.0s
HHC Hu-ho-hao-te 74.73 320⇑ *i*P **P 14 13 49.0 +1.0**
HHC pP **pP 14 14 31.7 -1.9**
HHC sP **sP 14 14 52.0 -1.7**
HHC PP **PP 14 16 38.7 +0.6**
HHC S **S 14 23 05.3 -3.5**
HHC sS **sS 14 24 29.9 +1.9**
HHC SS **SS 14 28 02.5 +1.5**
HHC PMZ
comp=Z,1μm,1.4s
HHC PMZ
comp=Z,9μm,10.0s
HHC LN
comp=Z,6μm,17.4s
HHC LE
comp=Z,4μm,19.9s
HHC LZ
comp=Z,6μm,21.1s
CMAI Chiengmai2 74.90 295 P **P 14 13 49.9 +0.4**
comp=Z,944nm,1.2s,comp=Z,13μm
MHMT Maesarieng 75.28 293 P **P 14 13 52.1 +0.6**
comp=Z,296nm,1.6s,comp=Z,5μm
CD2 Chengdu 75.31 307⇑ *i*P **P 14 13 51.9 +0.4**
CD2 PP **PP 14 16 40.2 -2.9**
CD2 S **S 14 23 10.2 -5.4**
CD2 SKS SKSac 14 23 33.9 -9.4
CD2 SS **SS 14 28 10.1 0.0**
CD2 PMZ
comp=Z,1μm,1.2s
CD2 PMZ
comp=Z,8μm,11.8s
HIA Hailar 75.32 330 *e*P **P 14 13 51.4 +0.3**
HIA pmax pmax
comp=Z,1μm,1.3s
HIA MLR MLR
comp=Z,3μm,20.0s
HIA Hailar 75.32 330 *e*P **P 14 13 51.4 +0.3**
comp=Z,1μm,1.3s
HIA LR LR
comp=Z,3μm,20.0s
CHGN Chignik 75.34 19 *e*P **P 14 13 50.2 -0.7**
CMBY CAMPBELL BAY 75.59 281 *e*P **P 14 13 51.9 -1.5**
CMBY AMB AMB 14 13 54.3
comp=Z,592nm,1.2s
QSPA South Pole Qui 76.40 180 PKKPbc PKKPbc 14 33 07.6 -3.9
comp=Z,3.7nm,0.6s,baz=249,slow=1.2,SNR=15
QSPA South Pole Qui 76.40 180 PFAKE 14 14 10.0 +13
QSPA LR LR
comp=Z,3μm,21.0s
SII Sitkinak Islan 76.95 21 *e*P **P 14 14 01.7 +1.6**
comp=Z,348nm,1.0s
SII *e*pP **pP 14 14 46.3 +0.3**
SEY Seymchan 77.19 353 P **P 14 14 01.9 +0.6**
SEY pmax pmax
comp=Z,528nm,1.0s
SEY Seymchan 77.19 353 P **P 14 14 01.9 +0.6**
comp=Z,528nm,1.0s,baz=161,slow=5.3,SNR=469
LZH Lanzhou 77.56 312⇑ P **P 14 14 05.6 +1.4**
LZH pP **pP 14 14 50.1 +0.1**
LZH sP **sP 14 15 09.3 -0.8**
LZH PP **PP 14 17 01.0 -1.0**
LZH S **S 14 23 41.2 +1.2**
LZH sS **sS 14 24 58.6 -1.2**
LZH SS **SS 14 28 45.0 +1.0**
LZH PMZ
comp=Z,1μm,1.3s
LZH PMZ
comp=Z,7μm,9.2s
LZH LN
comp=Z,3μm,15.7s
LZH LE
comp=Z,3μm,17.6s
LZH LZ
comp=Z,5μm,19.8s
PBA Port Blair 78.01 285 *e*P P 14 14 04.9 -2.0
PBA AMB AMB 14 14 08.0
comp=Z,561nm,3.1s
DGPR DIGLIPUR 78.28 287 *e*P **P 14 14 07.5 -0.8**
DGPR AMB AMB 14 14 08.3
comp=Z,881nm,5.1s
KDAK Kodiak Island 78.45 21 P **P 14 14 09.0 +0.7**
comp=Z,744nm,1.1s,SNR=11
KDAK Kodiak Island 78.45 21 *e*P **P 14 14 07.5 -0.9**
KDAK pmax pmax
comp=Z,276nm,1.0s
KDAK MLR MLR
comp=Z,3μm,20.0s
KDAK Kodiak Island 78.45 21 *e*P **P 14 14 07.5 -0.9**
comp=Z,276nm,1.0s
KDAK LR LR
comp=Z,3μm,20.0s
CLNS Chul'man 78.50 338 *e*P **P 14 14 09.7 +1.0**
CLNS *e* 14 14 19.0
CLNS *e**PP **pP 14 14 55.8 +1.1**
CLNS *e* 14 17 08.4
CLNS *e*PPP PPP 14 18 54.2
CLNS *e*S **S 14 23 48.6 -0.3**
CLNS *e* 14 24 28.4
CLNS pmax pmax
comp=Z,834nm,1.1s
CLNS pmax pmax
comp=N,346nm,1.1s
CLNS pmax pmax
comp=E,109nm,1.0s
CLNS pmax pmax
comp=E,58nm,1.1s
CLNS pmax pmax
comp=Z,29nm,1.1s
CLNS pmax pmax
comp=N,40nm,0.9s
CLNS smax smax
comp=N,4μm,11.5s
CLNS smax smax
comp=E,1μm,11.8s
CIT Chita 80.11 330 *e*P **P 14 14 18.2 +0.6**
CIT *e* 14 15 02.1
CIT *e* 14 15 22.2
CIT *e* 14 17 17.6
CIT *e* 14 24 05.6
CIT *e* 14 25 21.9
CIT pmax pmax
comp=Z,3μm,2.7s
SVW2 Sparrevohn 80.11 17 *e*P **P 14 14 18.7 +1.4**
comp=Z,1μm,2.5s
RSO Redoubt South 80.47 19 *e*P **P 14 14 19.3 -0.2**
YAK Yakutsk 80.97 343*c i*P **P 14 14 21.9 +0.1**
YAK *e**PP **pP 14 15 05.7 -2.3**
YAK *e* 14 17 23.9
YAK *e*S **S 14 24 13.8 -0.7**
YAK *e**SS sS 14 25 27.8 -7.1
YAK pmax pmax
comp=Z,2μm,1.0s
YAK pmax pmax
comp=E,432nm,1.4s
YAK pmax pmax
comp=N,878nm,1.4s
YAK pmax pmax
comp=Z,522nm,2.8s
YAK pmax pmax
comp=N,536nm,2.6s
YAK pmax pmax
comp=E,466nm,2.8s
YAK smax smax
comp=N,2μm,3.8s
YAK smax smax
comp=E,492nm,3.8s
YAK Yakutsk 80.97 343 *e*P **P 14 14 22.0 +0.1**
YAK
comp=E,2μm,0.9s
YAK *e*PKKPbc **PKKPbc 14 32 58.5 -3.1**
YAK *e*P'P'df **P'P'df 14 41 03.4 +2.5**
YAK LR LR
comp=Z,3μm,20.0s
ULN Ulaanbaatar 81.23 324*c i*P **P 14 14 24.1 +0.3**
ULN pmax pmax
comp=Z,848nm,1.0s
ULN Ulaanbaatar 81.23 324 *e*P **P 14 14 24.3 +0.5**
comp=Z,847nm,1.0s
ULN *e*P'P'df **P'P'df 14 41 04.0 +2.2**
ULN LR LR
comp=Z,2μm,21.0s
SPU Mount Spurr 81.24 19 *e*P **P 14 14 23.4 0.0**
BILL Bilibino 81.44 360*c i*P **P 14 14 24.6 +0.4**
BILL *e**PP **pP 14 15 12.1 +1.6**
BILL *e* 14 17 31.1
BILL *i*S **S 14 24 24.6 +5.4**
BILL *i*SS **SS 14 29 43.4 +2.9**
BILL pmax pmax
comp=Z,1μm,1.2s
BILL Bilibino 81.44 360 *e*PKKPbc PKKPbc 14 32 58.4 -2.4
BILL *e*P'P'df **P'P'df 14 40 54.8 -5.0**
BILL LR LR
comp=Z,2μm,20.0s
AIS Amsterdam Isla 81.53 233 P P 14 14 07.0 -18
AIS S S 14 24 00.0 -21
AIS SS **SS 14 29 39.0 -3.3**
AIS L L 14 35 00.0
AIS R 14 40 00.0
SONM Songino Array 81.59 324 P **P 14 14 25.9 +0.3**
SONM *PP **pP 14 15 11.2 -0.7**
SONM S **S 14 24 24.7 +2.9**
SONM pmax pmax
comp=Z,219nm,1.0s
SONM pmax pmax
comp=Z,47nm,1.0s
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM smax smax
comp=N,3.0nm,1.2s
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 81.59 324 P **P 14 14 25.9 +0.3**
comp=Z,221nm,1.0s,baz=131,slow=3.3,SNR=435
SONM pP **pP 14 15 11.2 -0.7**
comp=Z,47nm,1.0s,baz=146,slow=11,SNR=1.9
SONM PKiKP **PKiKP 14 19 47.8 -0.5**
comp=Z,4.9nm,0.8s,baz=93,slow=1.1,SNR=6.0
SONM S **S 14 24 24.7 +2.9**
comp=Z,3.0nm,1.2s,baz=135,slow=11,SNR=2.8
SONM PKKPbc **PKKPbc 14 32 57.1 -2.6**
comp=Z,1.8nm,0.9s,baz=264,slow=2.4,SNR=3.9
SONM PKPPKP **P'P'df 14 41 03.2 +2.0**
comp=Z,3.0nm,0.8s,baz=291,slow=1.2,SNR=8.5
SONM LR LR 14 48 56.1
comp=Z,2μm,21.8s,baz=122,slow=34
SONA1 Songino Array 81.59 324 *e*P **P 14 14 25.4 -0.2**
GTA Gaotai 81.88 314⇑ P **P 14 14 28.3 +1.0**
GTA pP **pP 14 15 14.6 +1.0**
GTA sP **sP 14 15 35.1 +1.4**
GTA PP **PP 14 17 40.5 +2.8**
GTA S **S 14 24 24.8 -0.4**
GTA SKS **SKSac 14 24 26.0 -3.7**
GTA sS **sS 14 25 45.6 -0.2**
GTA SS **SS 14 29 52.1 +3.7**
GTA PMZ
comp=Z,880nm,1.3s
GTA PMZ
comp=Z,9μm,7.1s
GTA LN
comp=Z,3μm,21.4s
GTA LE
comp=Z,2μm,19.5s
GTA LZ
comp=Z,4μm,19.0s
RC01 Rabbit Creek A 81.91 20 *e*P **P 14 14 24.4 -2.4**
comp=Z,312nm,1.2s
MAW Mawson 82.89 202 P **P 14 14 33.5 +1.6**
comp=Z,272nm,0.9s,baz=102,slow=5.8,SNR=37
MAW LR LR 14 46 36.6
comp=Z,3μm,20.2s,baz=88,slow=32
CAST Castle Rocks 82.96 17 *e*P **P 14 14 31.8 -0.4**
comp=Z,183nm,0.9s
CAST *e*S **S 14 24 36.9 +2.0**
SHL Shillong 83.01 298⇑ *i*P **P 14 14 33.0 -0.6**
SHL *i*S **S 14 24 37.0 -0.3**
KCPM Cahto Peak 83.24 47 *e*P **P 14 14 33.7 -0.6**
HOPS Hopland Field 83.33 47 *e*P **P 14 14 34.5 -0.2**
KMRM Mail Ridge 83.37 46 *e*P **P 14 14 36.8 +1.8**
comp=Z,333nm,1.2s
KMRM *e*P'P'df **P'P'df 14 41 02.7 +4.2**
KTH Kantishna Hill 83.40 18 *e*P **P 14 14 33.4 -1.1**
comp=Z,256nm,1.2s
BOD Bodaibo 83.47 334⇑ *i*P **P 14 14 34.8 -0.1**
BOD pmax pmax
comp=Z,511nm,1.6s
TRF Thorofare Moun 83.51 18 *e*SKSac **S 14 24 41.4 +0.7**
TRF *e*S **ScS 14 24 51.2 -1.6**
TRF *e*ScS **ScS 14 24 55.7 +2.9**
BMRM Bremner River 83.57 21 *e*P **P 14 14 35.4 0.0**
comp=Z,502nm,1.2s
KHMM Horse Mountain 83.62 45 *e*P **P 14 14 36.9 +0.6**
comp=Z,214nm,1.2s
SAO San Andreas Ge 83.65 50 *e*P **P 14 14 36.6 +0.2**
SAO San Andreas Ge 83.65 50 *e*P **P 14 14 36.6 +0.2**
KBO Bosley Butte 83.83 44 *e*P **P 14 14 39.8 +2.6**
KBO *e*pP **pP 14 15 25.2 +1.5**
BSC Santa Cruz Isl 84.03 53⇓ P **P 14 14 38.4 0.0**
baz=84
KEBM Edson Butte 84.03 43 *e*P **P 14 14 37.5 -0.7**
SBC Santa Barbara 84.12 53⇓ P **P 14 14 39.7 +1.0**
baz=84
SMMC Simmler 84.21 52⇑ P **P 14 14 39.9 +0.7**
baz=84
L02D Cave Junction, 84.23 44⇑ P **P 14 14 40.0 +0.9**
baz=84
PAF Port-aux-Franc 84.30 221 *e*P **P 14 14 39.7 +0.3**
PAF pmax pmax
comp=Z,1μm,1.1s
PAF MLR MLR
comp=Z,8μm,19.0s
PAF Port-aux-Franc 84.30 221 P x 14 14 05.0
PAF Port-aux-Franc 84.30 221 S SKSac 14 24 20.0 -25
PAF SS SS 14 30 09.0 -14
PAF L L 14 36 00.0
PAF R 14 42 00.0
PAF Port-aux-Franc 84.30 221 *e*P **P 14 14 39.7 +0.3**
comp=Z,1μm,1.1s
PAF LR LR
comp=Z,8μm,19.0s
WDC Whiskeytown Da 84.33 46 *e*P **P 14 14 39.7 0.0**
WDC pmax pmax
comp=Z,241nm,1.3s
WDC Whiskeytown Da 84.33 46 *e*P **P 14 14 39.7 0.0**
comp=Z,241nm,1.3s
WDC *e*P'P'df **P'P'df 14 40 54.4 -2.3**
N02D Trinity Center 84.37 46⇓ P **P 14 14 41.0 +1.0**
baz=84
CRGC Crocker Grade 84.40 52 *e*PKiKP **PKiKP 14 19 51.9 -1.3**
M02C Callahan 84.43 45⇓ P **P 14 14 41.6 +1.3**
baz=84
SCI San Clemente I 84.53 54⇓ P **P 14 14 41.2 +0.3**
baz=85
ZAK Zakamensk 84.64 325 *e*P **P 14 14 40.8 -0.3**
ZAK *e* 14 24 47.3
ZAK pmax pmax
comp=Z,646nm,1.2s
YBH Yreka Blue Hor 84.67 45 *e*P **P 14 14 41.8 +0.3**
YBH pmax pmax
comp=Z,221nm,1.2s
YBH Yreka Blue Hor 84.67 45 S **S 14 24 51.9 -1.1**
comp=Z,1.1nm,0.8s,baz=180,slow=2.0,SNR=3.4
YBH Yreka Blue Hor 84.67 45 *e*P **P 14 14 41.8 +0.3**
comp=Z,221nm,1.2s
YBH *e*P'P'df **P'P'df 14 40 55.4 -0.7**
CIS Catalina Islan 84.78 54⇓ P **P 14 14 42.4 +0.2**
baz=85
HUMO Hull Mountain 84.85 44 *e*P **P 14 14 42.5 +0.2**
comp=Z,194nm,1.1s
HUMO *e*PKKPbc **PKKPbc 14 32 50.5 -1.0**
HUMO *e*P'P'df **P'P'df 14 40 51.2 -4.4**
CMB Columbia Colle 84.91 49 *e*P **P 14 14 42.9 +0.2**
CMB pmax pmax
comp=Z,133nm,1.1s
CMB Columbia Colle 84.91 49 *e*P **P 14 14 42.9 +0.2**
comp=Z,133nm,1.1s
CMB *e*P'P'df **P'P'df 14 40 55.9 0.0**
LSA Lhasa 84.95 302 P **P 14 14 43.8 +0.2**
LSA Lhasa 84.95 302 *e*P **P 14 14 44.2 +0.6**
LSA pmax pmax
comp=Z,1μm,1.8s
LSA MLR MLR
comp=Z,1μm,20.0s
LSA Lhasa 84.95 302 *e*P **P 14 14 44.2 +0.6**
comp=Z,1μm,1.8s
LSA *e*PKKPbc **PKKPbc 14 32 52.3 +1.1**
LSA *e*P'P'df **P'P'df 14 40 56.7 -0.3**
LSA LR LR
comp=Z,1μm,20.0s
OSI Osito Audit: C 84.95 53⇓ P **P 14 14 43.3 +0.3**
baz=85
OSI Osito Audit: C 84.95 53 *e*P **P 14 14 42.3 -0.7**
comp=Z,30nm,0.8s
FMP Fort Macarthur 84.97 54⇓ P **P 14 14 43.7 +0.6**
baz=85
IRK Irkutsk 85.00 327⇑ *i*P **P 14 14 41.9 -0.9**
IRK *e* 14 24 49.9
IRK pmax pmax
comp=Z,1μm,1.8s
I03D Drain, OR 85.02 43⇑ P **P 14 14 44.3 +1.2**
baz=85
ARVC Arvin 85.04 52⇑ P **P 14 14 44.4 +1.1**
baz=85,SNR=14
TLY Talaya 85.06 326 P **P 14 14 43.0 -0.1**
comp=Z,4μm,0.9s
TLY Talaya 85.06 326*c i*P **P 14 14 42.9 -0.1**
TLY *e* 14 15 27.4
TLY *e* 14 18 00.5
TLY *e*S **S 14 24 50.3 -6.0**
TLY *e* 14 25 52.9
TLY *e* 14 26 10.6
TLY *e*SS **SS 14 30 35.7 +1.1**
TLY pmax pmax
comp=Z,1μm,1.5s
TLY Talaya 85.06 326 P **P 14 14 43.1 -0.1**
comp=Z,322nm,0.8s,baz=155,slow=3.5,SNR=335
TLY S **S 14 24 50.5 -5.8**
comp=Z,1.8nm,0.3s,baz=220,slow=7.6,SNR=2.2
TLY PKKPbc **PKKPbc 14 32 50.6 -1.0**
comp=Z,3.3nm,0.7s,baz=243,slow=2.9,SNR=6.9
TLY Talaya 85.06 326 P **P 14 14 43.1 -0.1**
comp=Z,68nm,1.0s
TLY S **S 14 24 50.5 -5.8**
TLY PKKPbc **PKKPbc 14 32 50.6 -1.0**
TLY LR LR
comp=Z,2μm,20.0s
VES Vestal, Richgr 85.10 52⇑ P **P 14 14 43.5 -0.1**
baz=85,SNR=17
DECC Green Verdugo 85.13 53⇓ P **P 14 14 44.4 +0.6**
baz=85
RCTC Rector, Farmer 85.14 51⇓ P **P 14 14 43.6 -0.2**
baz=85
MENT Mentasta 85.22 20 *e*P **P 14 14 43.2 -0.5**
COLA College 85.28 18*c i*P **P 14 14 43.8 0.0**
COLA *i**PP **pP 14 15 29.2 -1.3**
COLA pmax pmax
comp=Z,3μm,2.5s
COLA College 85.28 18 *e*P **P 14 14 42.7 -1.1**
comp=Z,616nm,1.0s
COLA LR LR
comp=Z,4μm,20.0s
M04C Macdoel 85.28 45⇑ P **P 14 14 45.0 +0.4**
baz=85
M04C ⇑S **S 14 24 59.4 +0.3**
baz=85
COR Corvallis 85.42 42 *e*P **P 14 14 44.7 -0.3**
COR Corvallis 85.42 42 *e*P **P 14 14 44.7 -0.3**
IL1 Eielson Array 85.49 18 *e*P **P 14 14 43.2 -1.7**
ILAR Eielson Array 85.49 18 P **P 14 14 43.7 -1.2**
comp=Z,65nm,0.7s,baz=238,slow=5.3,SNR=209
ILAR pP **pP 14 15 30.1 -1.5**
comp=Z,170nm,0.9s,baz=232,slow=5.8,SNR=9.9
ILAR PKiKP **PKiKP 14 19 53.7 -0.2**
comp=Z,2.1nm,0.6s,baz=288,slow=3.1,SNR=5.7
ILAR S S 14 24 52.4 -7.5
comp=Z,1.6nm,1.0s,baz=238,slow=5.7,SNR=6.0
ILAR PKKPbc **PKKPbc 14 32 47.4 -3.7**
comp=Z,8.5nm,1.0s,baz=343,slow=1.6,SNR=12
ILAR PKPPKP **P'P'df 14 40 52.0 -0.7**
comp=Z,4.8nm,1.0s,baz=352,slow=2.1,SNR=13
ILAR LR LR 14 50 19.7
comp=Z,2μm,19.3s,baz=226,slow=34
ISA Isabella, Lake 85.50 52⇓ P **P 14 14 46.1 +0.3**
baz=86,SNR=42
ISA Isabella, Lake 85.50 52 *e*PKKPbc PKKPbc 14 32 51.5 +1.8
ISA *e*P'P'df **P'P'df 14 40 50.8 -4.2**
DOT Dot Lake 85.59 20 *e*P'P'df P'P'df 14 40 54.6 +1.9
EDW2 Edwards Air Fo 85.61 53⇑ P **P 14 14 46.6 +0.3**
baz=86,SNR=53
109C Camp Elliot, M 85.64 55⇑ P **P 14 14 46.9 +0.6**
baz=86
BFSC Mount Baldy Ra 85.65 53⇓ P **P 14 14 46.9 +0.3**
baz=86,SNR=24
J04D Umpqua Nationa 85.67 44⇓ P **P 14 14 46.5 0.0**
baz=86
K04D Chiloquin, OR 85.67 44⇑ P **P 14 14 47.1 +0.7**
baz=86
I04A Tendick Farm, 85.68 43⇓ P **P 14 14 46.9 +0.5**
baz=86

G03D	McMinnville, O	85.69	42	⇑P	P	14 14 47.3	+0.9
	baz=86						
HBO	Huckleberry Mo	85.77	43	P	P	14 14 47.7	+0.7
MURC	Murrieta	85.80	54	⇓P	P	14 14 47.4	+0.2
	baz=86,SNR=13						
WRAK	Wrangell Islan	85.87	29	eP	P	14 14 47.3	+0.4
WRAK				LR	LR		
	comp=Z,4μm,19.0s						
MLAC	Mammoth, Mammo	85.91	50	⇓P	P	14 14 48.3	+0.4
	baz=86,SNR=14						
BAR	Barrett	85.91	55	eP	P	14 14 47.7	-0.1
	comp=Z,338nm,1.8s						
LRMC	Laurel Mtn Rad	86.04	52	⇓P	P	14 14 48.3	-0.1
	baz=86						
E03A	Lebam	86.05	40	eP	P	14 14 49.5	+1.5
	comp=Z,355nm,1.1s						
E03A				ePKKPbc	PKKPbc	14 32 49.9	+1.1
E03A				eP'P'df	P'P'df	14 40 57.5	+4.4
HYT	Haines Junctio	86.14	24	eP	P	14 14 48.7	+0.4
HYT				ePKKPbc	PKKPbc	14 32 49.0	-0.6
TIN	Tinemaha, Big	86.17	51	⇑P	P	14 14 49.6	+0.5
	baz=86,SNR=8.6						
MONP	Monument Peak,	86.18	55	⇓P	P	14 14 49.7	+0.4
	baz=86,SNR=16						
F04D	Rainier, OR	86.21	41	⇓P	P	14 14 50.1	+1.2
	baz=86						
NLWA	Neilton Lookou	86.21	39	P	P	14 14 46.7	-2.2
NLWA				LR	LR		
	comp=Z,5μm,20.0s						
BBRC	Big Bear Solar	86.23	54	⇓P	P	14 14 50.1	+0.6
	baz=86						
J05D	Fort Rock, OR	86.27	44	⇓P	P	14 14 49.2	-0.3
	baz=86						
K05A	Summer Lake	86.29	45	eP	P	14 14 50.8	+1.2
	comp=Z,331nm,1.3s						
K05A				ePKKPdf	PKKPdf	14 32 44.6	+3.1
K05A				eP'P'df	P'P'df	14 40 47.6	-5.6
RRX	Edison Barstow	86.37	53	⇑P	P	14 14 50.2	+0.3
	baz=86						
DAC	Darwin (Calif)	86.38	52	eP	P	14 14 49.7	-0.5
DAC				pmax	pmax		
	comp=Z,135nm,1.2s						
DAC	Darwin (Calif)	86.38	52	eP	P	14 14 49.7	-0.5
	comp=Z,134nm,1.2s						
PFO	Pinyon Flats O	86.39	54	P	P	14 14 50.3	+0.1
	comp=Z,351nm,0.9s,SNR=9.6						
PFO	Pinyon Flats O	86.39	54	eP	P	14 14 49.1	-1.1
PFO				pmax	pmax		
	comp=Z,89nm,1.1s						
PFO				MLR	MLR		
	comp=Z,5μm,21.0s						
PFO	Pinyon Flats O	86.39	54	⇓P	P	14 14 50.2	+0.1
	baz=86,SNR=22						
PFO	Pinyon Flats O	86.39	54	eP	P	14 14 49.1	-1.1
	comp=Z,89nm,1.1s						
PFO				eP'P'df	P'P'df	14 40 50.3	-3.3
PFO				LR	LR		
	comp=Z,5μm,21.0s						
MPMC	Manual Prospec	86.39	52	⇓P	P	14 14 50.3	0.0
	baz=86						
MOD	Modoc Plateau	86.39	45	eP	P	14 14 48.0	-2.1
	comp=Z,134nm,1.2s						
MOY	Mondy	86.51	325	eP	P	14 14 50.3	-0.1
MOY				pmax	pmax		
	comp=Z,1μm,3.5s						
NV01	Mina Array Sit	86.58	49	eP	P	14 14 50.6	-0.5
NV01				ePKKPdf	PKKPdf	14 32 43.8	+2.9
NV01				eP'P'df	P'P'df	14 40 45.8	-7.3
NVAR	Mina Array Bea	86.58	49	P	P	14 14 51.8	+0.6
	comp=Z,35nm,0.8s,baz=235,slow=6.7,SNR=129						
NVAR				pP	pP	14 15 36.6	-1.4
	comp=Z,72nm,1.0s,baz=232,slow=7.8,SNR=9.3						
NVAR				PKKPbc	PKKPbc	14 32 47.0	-0.4
	comp=Z,6.0nm,0.7s,baz=89,slow=2.1,SNR=17						
NVAR				SKKPbc	SKKPbc	14 36 09.9	+1.1
	comp=Z,1.7nm,0.8s,baz=148,slow=3.2,SNR=3.8						
NVAR				PKPPKP	P'P'df	14 40 51.4	-1.6
	comp=Z,4.1nm,0.8s,baz=86,slow=2.9,SNR=12						
I05D	Terrebonne, OR	86.61	43	⇑P	P	14 14 51.1	+0.2
	baz=87						
GSC	Goldstone, Bar	86.66	53	⇑P	P	14 14 52.1	+0.6
	baz=87,SNR=27						
GSC	Goldstone, Bar	86.66	53	ePKKPbc	PKKPbc	14 32 48.5	+1.6
GSC				eP'P'df	P'P'df	14 40 52.5	-0.4
FL2	Flat Top 2	86.68	41	P	P	14 14 52.4	+1.1
SWSC	Sam W. Stewart	86.70	55	⇓P	P	14 14 52.2	+0.7
	baz=87,SNR=29						
PINOR	Pine Mountain	86.72	44	eP	P	14 14 51.4	0.0
	comp=Z,145nm,1.2s						
PINOR				ePKKPbc	PKKPbc	14 32 47.8	+0.8
PINOR				eP'P'df	P'P'df	14 40 52.3	+0.3
GRAC	Grapevine Rang	86.79	51	⇑P	P	14 14 52.6	+0.6
	baz=87,SNR=11						
TDL	Tradedollar La	86.82	41	P	P	14 14 53.1	+1.1
BELC	Belle Mtn. Jos	86.87	54	⇓P	P	14 14 52.7	+0.1
	baz=87,SNR=68						
HEC	Hector,Ludlow	86.88	53	⇑P	P	14 14 52.8	+0.3
	baz=87,SNR=15						
VFP	Flag Point	86.90	42	P	P	14 14 53.1	+0.6
G05D	Wamic, OR	86.97	42	⇑P	P	14 14 53.1	+0.5
	baz=87						
FURC	Furnace Creek,	87.00	52	⇓P	P	14 14 53.3	+0.4
	baz=87,SNR=36						
BC3	Big Chuckawall	87.19	55	⇑P	P	14 14 54.5	+0.4
	baz=87,SNR=36						
LON	Longmire	87.24	41	eP	P	14 14 54.1	+0.2
LON				pmax	pmax		
	comp=Z,51nm,1.1s						
LON	Longmire	87.24	41	eP	P	14 14 54.1	+0.2
	comp=Z,51nm,1.1s						
SHOC	Shoshone, Teco	87.26	52	⇑P	P	14 14 54.2	0.0
	baz=87,SNR=11						
TPH	Tonopah	87.26	50	eP	P	14 14 54.4	0.0
TPH				pmax	pmax		
	comp=Z,181nm,1.5s						
TPH	Tonopah	87.26	50	eP	P	14 14 54.4	0.0
	comp=Z,180nm,1.5s						
TPH				eP'P'df	P'P'df	14 40 46.2	-5.6
EGAK	Eagle	87.29	20	eP	P	14 14 53.9	+0.2
	comp=Z,264nm,1.0s						
EGAK				LR	LR		
	comp=Z,4μm,20.0s						
D05A	Enumclaw	87.30	40	eP	P	14 14 55.5	+1.4
	comp=Z,461nm,1.4s						
D05A				ePKKPbc	PKKPbc	14 32 46.2	+0.3
D05A				eP'P'df	P'P'df	14 40 55.0	+4.2
GMRC	Granite Mounta	87.38	53	⇑P	P	14 14 55.3	+0.3
	baz=88,SNR=51						
TUQ	Turquoise Moun	87.39	53	⇑P	P	14 14 55.1	+0.1
	baz=88,SNR=28						
G06A	Carlson Farm,	87.41	42	eP	P	14 14 55.2	+0.5
	comp=Z,439nm,2.0s						
G06A				eP'P'df	P'P'df	14 40 56.2	+5.5
DAWY	Dawson	87.43	21	eP	P	14 14 54.5	0.0
DAWY				eP'P'df	P'P'df	14 40 47.6	-1.7
GLA	Glamis	87.50	55	eP	P	14 14 55.5	0.0
GLA				pmax	pmax		
	comp=Z,279nm,1.2s						
GLA	Glamis	87.50	55	⇑P	P	14 14 56.1	+0.6
	baz=88,SNR=69						
GLA	Glamis	87.50	55	eP	P	14 14 55.5	0.0
	comp=Z,279nm,1.2s						
GLA				eP'P'df	P'P'df	14 40 51.4	-0.1
IRM	Iron Mountain	87.59	54	⇑P	P	14 14 56.5	+0.6
	baz=88,SNR=71						
BOK	Bokaro	87.70	295	eP	P	14 14 56.1	-0.5
BOK				AMB	AMB	14 14 57.9	
	comp=Z,337nm,1.8s						
I07A	Izee	87.74	44	eP	P	14 14 56.7	+0.3
	comp=Z,1μm,2.5s						
I07A				ePKKPdf	PKKPdf	14 32 40.1	+1.1
I07A				eP'P'df	P'P'df	14 40 47.4	-2.9
WVOR	Wild Horse Val	87.74	45	eP	P	14 14 56.4	-0.1
WVOR				pmax	pmax		
	comp=Z,262nm,1.4s						
WVOR				MLR	MLR		
	comp=Z,2μm,20.0s						
WVOR	Wild Horse Val	87.74	45	eP	P	14 14 56.4	-0.1
	comp=Z,262nm,1.4s						
WVOR				ePKKPdf	PKKPdf	14 32 41.2	+2.3
WVOR				eP'P'df	P'P'df	14 40 49.6	-0.9
WVOR				LR	LR		
	comp=Z,2μm,20.0s						
Y12C	Blythe	87.96	55	⇓P	P	14 14 58.4	+0.9
	baz=88,SNR=42						
DLBC	Dease Lake	87.99	28	eP	P	14 14 55.1	-2.0
DLBC				eP'P'df	P'P'df	14 40 45.3	-3.4
B06A	Marblemount	88.13	39	eP	P	14 14 58.9	+0.9
	comp=Z,602nm,2.5s						
B06A				eP'P'df	P'P'df	14 40 51.0	+1.9
LTY	Liberty	88.16	40	eP	P	14 14 58.8	+0.5
	comp=Z,94nm,1.1s						
LTY				eP'P'df	P'P'df	14 40 49.0	-0.2
NEE2	Needles Airpor	88.19	54	⇑P	P	14 14 59.2	+0.5
	baz=88,SNR=13						
113A	Mohawk Valley,	88.27	56	⇑P	P	14 14 59.8	+0.7
	baz=88,SNR=50						
PALK	Pallekele	88.34	278	P	P	14 15 00.0	+0.1
	comp=Z,1μm,1.5s,SNR=53						
PALK	Pallekele	88.34	278	S	SKSac	14 25 14.1	+2.7
	comp=Z,6.2nm,1.0s,baz=174,slow=7.2,SNR=2.3						
PALK	Pallekele	88.34	278	⇑P	P	14 15 00.7	+0.9
	SNR=78						
E07A	Sunnyside	88.41	41	P	P	14 14 59.8	+0.4
VIS	Vishakhapatnam	88.42	289	eP	P	14 14 58.2	-1.8
PDMCI	Parker Dam,Lak	88.43	54	⇓P	P	14 15 00.6	+0.9
	baz=88,SNR=78						
G08A	Pilot Rock	88.53	43	eP	P	14 15 00.1	-0.1
	comp=Z,169nm,1.1s						
G08A				ePKKPdf	PKKPdf	14 32 35.6	-2.0
HAWA	Hanford	88.56	42	P	P	14 14 59.8	-0.3
	comp=Z,224nm,1.4s						
HAWA				ePKiKP	PKiKP	14 20 04.8	+5.3
R11A	Troy Canyon, C	88.57	50	⇑P	P	14 15 01.5	+0.9
	baz=89						
R11A	Troy Canyon, C	88.57	50	eP	P	14 15 00.4	-0.2
	comp=Z,116nm,1.4s						
214A	Organ Pipe Nat	88.81	57	⇑P	P	14 15 02.6	+1.0
	baz=89,SNR=56						
214A	Organ Pipe Nat	88.81	57	eP	P	14 15 02.0	+0.4
	comp=Z,92nm,0.9s						
W13A	Hualapai Mount	88.87	54	⇑P	P	14 15 02.3	+0.2
	baz=89,SNR=86						
TIXI	Tiksi	88.89	349	ceP	P	14 15 00.3	-0.7
TIXI				pmax	pmax		
	comp=Z,305nm,1.0s						
Z14A	Wintersburg	89.10	55	⇑P	P	14 15 03.9	+1.0
	baz=89,SNR=19						
D08A	Wollman Farm,	89.19	41	eP	P	14 15 03.2	+0.2
	comp=Z,1μm,3.0s						
D08A				ePKKPdf	PKKPdf	14 32 33.2	-3.2
D08A				eP'P'df	P'P'df	14 40 47.8	+0.5
Y14A	Wickenburg	89.22	55	⇑P	P	14 15 04.5	+0.9
	baz=89,SNR=21						
B08A	Colville Reser	89.40	40	eP	P	14 15 04.3	+0.2
	comp=Z,139nm,1.3s						
B08A				ePKKPdf	PKKPdf	14 32 31.3	-4.8
B08A				eP'P'df	P'P'df	14 40 39.6	-7.3
ELK	Elko	89.58	48	eP	P	14 15 05.5	+0.2
ELK				pmax	pmax		
	comp=Z,113nm,1.1s						
ELK	Elko	89.58	48	eP	P	14 15 05.5	+0.2
	comp=Z,113nm,1.1s						
ELK				ePKKPdf	PKKPbc	14 32 38.1	-2.1
ELK				eP'P'df	P'P'df	14 40 42.7	-4.7
SYO	Syowa Base	89.75	197	⇓iP	P	14 15 03.6	-1.7
C09A	Chrisman Ranch	89.86	41	eP	P	14 15 06.8	+0.6
	comp=Z,152nm,1.6s						
C09A				ePKKPdf	PKKPdf	14 32 30.5	-4.7
C09A				eP'P'df	P'P'df	14 40 41.6	-4.3
ARUT	Antelope Range	90.01	51	eP	P	14 15 07.7	+0.4
ARUT				pmax	pmax		
	comp=Z,2μm,1.3s						
ARUT	Antelope Range	90.01	51	eP	P	14 15 07.7	+0.4
	comp=Z,2μm,1.3s						
ARUT				eP'P'df	P'P'df	14 40 48.2	+1.5
MFID	Camas Ranch	90.01	45	ePKKPdf	PKKPdf	14 32 33.4	-1.6
MFID				eP'P'df	P'P'df	14 40 45.2	-1.0
MDRS	Chennai	90.16	283	eP	P	14 15 07.0	-1.3
MDRS				AMB	AMB	14 15 09.1	
	comp=Z,248nm,6.1s						
KNB	Kanab	90.26	52	eP	P	14 15 09.6	+1.1
KNB				pmax	pmax		
	comp=Z,229nm,1.3s						
KNB	Kanab	90.26	52	eP	P	14 15 09.6	+1.1
	comp=Z,229nm,1.3s						
KNB				ePKKPdf	PKKPbc	14 32 37.5	-0.8
KNB				eP'P'df	P'P'df	14 40 48.1	+1.7
HVS	Khovu-Aksy	90.47	323	ciP	P	14 15 08.7	-0.3
HVS				pmax	pmax		
	comp=Z,3μm,1.2s						
U15A	North Rim	90.50	53	⇓P	P	14 15 10.1	+0.4
	baz=91						
X16A	Lo Mia Camp, P	90.60	55	⇓P	P	14 15 10.9	+0.8
	baz=91						
NEW	Newport	90.75	40	eP	P	14 15 08.8	-1.5
NEW				pmax	pmax		
	comp=Z,87nm,1.1s						
NEW	Newport	90.75	40	⇓P	P	14 15 10.6	+0.3
	baz=91,SNR=25						
NEW	Newport	90.75	40	eP	P	14 15 08.8	-1.5
	comp=Z,87nm,1.1s						
WUAZ	Wupatki	90.96	54	⇓P	P	14 15 12.9	+1.1
	baz=91						
WUAZ	Wupatki	90.96	54	eP	P	14 15 11.1	-0.7
	comp=Z,84nm,1.0s						
HLID	Hailey	91.03	45	⇓P	P	14 15 12.0	+0.1
	baz=91						
HLID	Hailey	91.03	45	eP	P	14 15 11.8	-0.1
	comp=Z,78nm,1.1s						
HLID				ePKKPdf	PKKPdf	14 32 32.5	-0.7
HLID				eP'P'df	P'P'df	14 40 41.1	-3.2
HLID				LR	LR		
	comp=Z,3μm,19.0s						
DUG	Dugway, Tooele	91.18	49	eP	P	14 15 12.2	-0.4
DUG				pmax	pmax		
	comp=Z,101nm,1.4s						
DUG				MLR	MLR		
	comp=Z,4μm,20.0s						
DUG	Dugway, Tooele	91.18	49	⇓P	P	14 15 13.3	+0.6
	baz=91						
DUG	Dugway, Tooele	91.18	49	eP	P	14 15 12.2	-0.4
	comp=Z,101nm,1.4s						
DUG				ePKKPdf	PKKPdf	14 32 32.8	0.0
DUG				eP'P'df	P'P'df	14 40 43.3	-1.0
DUG				LR	LR		
	comp=Z,4μm,20.0s						
BGU	Big Grassy Mou	91.23	48	eP	P	14 15 12.9	0.0
	comp=Z,37nm,1.2s						
BGU				eP'P'df	P'P'df	14 40 44.4	+0.2
319A	Douglas	91.54	58	⇑P	P	14 15 15.5	+1.0
	baz=92						
SNUT	Stansbury Nort	91.60	48	eP	P	14 15 15.4	+0.8
NLU	North Lily Min	91.65	49	ePKKPdf	PKKPdf	14 32 34.4	+2.3
HVU	Hansel Valley	91.66	47	eP	P	14 15 14.6	-0.3
HVU				pmax	pmax		
	comp=Z,180nm,1.2s						
HVU	Hansel Valley	91.66	47	eP	P	14 15 14.6	-0.3
	comp=Z,180nm,1.2s						
HVU				ePKKPdf	PKKPdf	14 32 31.5	-0.6
HVU				eP'P'df	P'P'df	14 40 39.0	-4.4
SPUT	South Promonto	91.76	48	eP	P	14 15 14.2	-1.1
	comp=Z,27nm,1.3s						
X18A	Snowflake	91.82	55	⇓P	P	14 15 16.2	+0.4
	baz=92						
INK	Inuvik	91.86	19	PKKPbc	PKKPbc	14 32 31.8	-3.5
	comp=Z,12nm,0.9s,baz=48,slow=3.6,SNR=6.6						
INK				LR	LR	14 55 29.8	
	comp=Z,2μm,18.6s,baz=229,slow=35						
WMQ	Urumqi	91.93	315	P	P	14 15 16.2	+0.3
WMQ				pP	pP	14 16 05.5	+2.4
WMQ				PP	PP	14 19 00.4	+2.2
WMQ				SKS	SKSac	14 25 27.5	-3.4
WMQ				S	S	14 25 56.6	-4.6
WMQ				sS	sS	14 27 24.6	+0.9
WMQ				SS	SS	14 32 12.5	-2.2
WMQ				PMZ			
	comp=Z,380nm,1.6s						
WMQ				PMZ			
	comp=Z,5μm,4.0s						
WMQ				LN			
	comp=Z,2μm,18.0s						
WMQ				LE			
	comp=Z,2μm,17.0s						
WMQ				LZ			
	comp=Z,4μm,28.0s						
MPU	Maple Canyon	92.00	49	eP	P	14 15 16.4	-0.1
CTU	Camp Tracy	92.10	49	eP	P	14 15 16.6	-0.3
	comp=Z,46nm,1.1s						
CTU				eP'P'df	P'P'df	14 40 45.4	+2.8
BSMT	Bassoo Peak	92.10	41	eP	P	14 15 16.9	+0.1
BSMT				eP'P'df	P'P'df	14 40 40.4	-1.7
TMUT	Trail Mountain	92.11	50	eP	P	14 15 16.5	-0.7
	comp=Z,56nm,1.2s						
TMUT				eP'P'df	P'P'df	14 40 43.7	+0.8
W18A	Petrified Fore	92.14	55	⇓P	P	14 15 17.4	+0.1
	baz=92						
W18A	Petrified Fore	92.14	55	eP	P	14 15 17.1	-0.2
	comp=Z,72nm,0.9s						
TRD	Trivandrum	92.23	278	eP	P	14 15 16.8	-1.1
TRD				AMB	AMB	14 15 19.8	
	comp=Z,302nm,1.4s						
TRD				⇓ix	x	14 15 27.9	
TRD				ex	x	14 20 01.9	
JLU	Jordanelle	92.29	49	eP	P	14 15 17.4	-0.6
	comp=Z,75nm,1.4s						
JLU				eP'P'df	P'P'df	14 40 38.4	-4.0
MSO	Missoula	92.34	42	⇑P	P	14 15 17.4	-0.4
	baz=92						
MSO	Missoula	92.34	42	eP	P	14 15 18.2	+0.4
	comp=Z,52nm,1.5s						
MSO				ePKKPdf	PKKPdf	14 32 32.0	+1.1
MSO				eP'P'df	P'P'df	14 40 39.1	-2.5
DAU	Daniels Canyon	92.38	49	eP	P	14 15 18.4	0.0
DAU				pmax	pmax		
	comp=Z,9.0nm,0.6s						
DAU	Daniels Canyon	92.38	49	eP	P	14 15 18.4	0.0
	comp=Z,9.0nm,0.6s						
BLMT	Blacktail Moun	92.42	41	ePKKPdf	PKKPdf	14 32 33.8	+2.8
BLMT				eP'P'df	P'P'df	14 40 45.6	+4.1
TCUT	Toone Canyon	92.46	48	eP	P	14 15 18.9	+0.2
	comp=Z,43nm,1.0s						
MCMT	McKenzie Canyo	92.48	45	eP	P	14 15 19.1	+0.4
MCMT				eP'P'df	P'P'df	14 40 40.0	-1.7
SRU	San Rafael Swe	92.58	51	eP	P	14 15 18.9	-0.3
SRU				pmax	pmax		
	comp=Z,17nm,0.9s						
SRU	San Rafael Swe	92.58	51	eP	P	14 15 18.9	-0.3
	comp=Z,17nm,0.9s						
SRU				eP'P'df	P'P'df	14 40 39.5	-2.4
YBMT	Yellow Bay	92.60	41	eP	P	14 15 19.3	+0.3
	comp=Z,35nm,1.3s						
YBMT				eP'P'df	P'P'df	14 40 37.4	-3.7
KRAR	Krasnoyarsk	92.66	327	deP	P	14 15 17.2	-1.7
KRAR				pmax	pmax		
	comp=Z,249nm,2.5s						
SLMT	Seeley Lake	92.75	42	eP	P	14 15 20.1	+0.3
	comp=Z,19nm,1.0s						
SLMT				eSS	SS	14 32 30.6	+4.0
HYB	Hyderabad	92.77	287	⇑iP	P	14 15 19.0	-1.3
HYB				epP	pP	14 16 05.5	-1.9
HYB				eSKS	SKSac	14 25 36.0	-0.5
HYB				eS	S	14 26 06.0	-3.5
HYB				esSKS		14 26 58.0	
HYB				e		14 27 30.0	
HYB				ePPS	PPS	14 28 30.0	
HYB				ePKPPKP	P'P'df	14 40 43.0	+0.2
HYB	Hyderabad	92.77	287	eP	P	14 15 19.9	-0.4
HYB				AMB	AMB	14 15 20.6	
	comp=Z,313nm,3.4s						
DLMT	Dillon	92.81	44	eP	P	14 15 20.7	+0.6
	comp=Z,86nm,1.1s						
DLMT				eP'P'df	P'P'df	14 40 38.0	-3.0
PMSA	Palmer Station	92.81	160	eP	P	14 15 21.0	+1.4
	comp=Z,276nm,1.1s						
PMSA				LR	LR		
	comp=Z,1μm,19.0s						
CHMT	Chamberlain Mo	92.82	42	eP	P	14 15 20.4	+0.3
	comp=Z,39nm,1.4s						
CHMT				eP'P'df	P'P'df	14 40 41.3	+0.4
DGAR	Diego Garcia	92.89	262	diP	P	14 15 20.8	-0.1
DGAR	Diego Garcia	92.89	262	PFAKE		14 15 30.0	+9.1
DGAR				LR	LR		
	comp=Z,4μm,19.0s						
WALA	Waterton Lakes	93.02	40	eP	P	14 15 20.9	0.0
	comp=Z,62nm,1.3s						
WALA				ePKKPdf	PKKPbc	14 32 30.9	-0.7
WALA				eP'P'df	P'P'df	14 40 41.0	+0.8
LRM	Limekiln Ridge	93.04	44	eP	P	14 15 20.5	-0.7
LRM				ePKKPdf	PKKPdf	14 32 29.8	0.0
LRM				eP'P'df	P'P'df	14 40 37.8	-2.8
121A	Cookes Peak, D	93.06	57	⇑P	P	14 15 22.5	+0.9
	baz=93						
121A	Cookes Peak, D	93.06	57	eP	P	14 15 21.3	-0.3
	comp=Z,69nm,1.2s						
AHID	Auburn Hatcher	93.13	47	eP	P	14 15 20.4	-1.3
	comp=Z,12nm,1.0s						
AHID				eP'P'df	P'P'df	14 40 39.2	-1.4
AHID				LR	LR		
	comp=Z,2μm,20.0s						
NGP	Nagpur	93.16	291	eP	P	14 15 22.0	-0.1
NGP				eS	SKSac	14 25 37.5	-1.0
PV05	Paradox Valley	93.39	52	eP	P	14 15 24.4	+1.3
PV05				epP	pP	14 16 11.1	+1.0
PV05				ePKKPdf	PKKPdf	14 32 28.5	-0.4
PV05				eP'P'df	P'P'df	14 40 40.9	+0.4
FXWY	Fox Creek	93.42	46	eP	P	14 15 23.5	+0.5
	comp=Z,26nm,1.1s						
FXWY				ePKKPdf	PKKPdf	14 32 26.7	-2.4
FXWY				eP'P'df	P'P'df	14 40 36.7	-3.3
TPAW	Teton Pass	93.43	46	eP	P	14 15 23.7	+0.6
	comp=Z,284nm,2.7s						
TPAW				ePKKPdf	PKKPdf	14 32 26.8	-2.3
TPAW				eP'P'df	P'P'df	14 40 34.5	-5.6
QLMT	Earthquake Lak	93.45	45	eP	P	14 15 23.3	+0.1
QLMT				ePKKPdf	PKKPdf	14 32 29.5	+0.5
QLMT				eP'P'df	P'P'df	14 40 38.1	-1.8
REDW	Red Top Meadow	93.46	46	eP	P	14 15 24.7	+1.5
	comp=Z,63nm,1.3s						
REDW				eP'P'df	P'P'df	14 40 37.1	-2.9
PV09	Paradox Valley	93.47	51	eP	P	14 15 24.5	+1.1
PV09				ePKKPdf	PKKPbc	14 32 29.6	-0.6
PV09				eP'P'df	P'P'df	14 40 40.5	+0.1
PV10	Paradox Valley	93.51	52	eP	P	14 15 23.9	+0.3
BOZ	Bozeman (W)	93.54	44	eP	P	14 15 23.4	0.0
BOZ				pmax	pmax		
	comp=Z,53nm,1.4s						
BOZ				MLR	MLR		
	comp=Z,4μm,19.0s						
BOZ	Bozeman (W)	93.54	44	eP	P	14 15 23.4	0.0
	comp=Z,53nm,1.4s						
BOZ				eP'P'df	P'P'df	14 40 37.6	-1.9
BOZ				LR	LR		
	comp=Z,4μm,19.0s						
IMW	Indian Meadow	93.55	46	eP	P	14 15 24.9	+1.2
	comp=Z,31nm,1.1s						
IMW				ePKKPdf	PKKPdf	14 32 26.0	-3.0
IMW				eP'P'df	P'P'df	14 40 34.1	-5.7
SNOW	Snow King Moun	93.56	46	eP	P	14 15 25.4	+1.7
	comp=Z,294nm,2.5s						
PV04	Paradox Valley	93.62	52	eP	P	14 15 23.6	-0.4
MVCO	Mesa Verde	93.64	53	⇓P	P	14 15 25.1	+1.0
	baz=94						
MVCO	Mesa Verde	93.64	53	eP	P	14 15 24.5	+0.3
	comp=Z,13nm,0.8s						
MVCO				eP'P'df	P'P'df	14 40 41.3

LAZ *e*PP **PP** **14 19 16.6 +1.6**
LAZ *e*PKKPdf **PKKPbc** **14 32 29.1 +0.7**
LAZ *e*P'P'df **P'P'df** **14 40 42.1 +2.6**
LENM Lemitar 94.11 56 *e*P **P** **14 15 27.1 +0.7**
comp=Z,18nm,1.0s
LENM *e*PKKPdf **PKKPbc** **14 32 29.2 +1.0**
LENM *e*P'P'df **P'P'df** **14 40 42.1 +2.8**
NVL N'lazarevskaya 94.13 188 ⇓*i*P **P** **14 15 24.2 -1.3**
NVL *e*S **SKSac** **14 25 35.7 -6.3**
NVL *e* 14 26 12.7
NVL *e* 14 32 53.4
NVL pmax pmax
comp=Z,240nm,0.9s
NVL MLR MLR
comp=Z,3μm,16.0s
Y22D IRIS PASSCAL I 94.13 56 ⇑P **P** **14 15 26.8 +0.4**
baz=94
BW06 Boulder Array 94.23 47 *e*P **P** **14 15 25.5 -1.3**
comp=Z,25nm,1.3s
BW06 *e*PP PP 14 19 09.5 -6.9
BW06 *e*PKKPdf **PKKPdf** **14 32 23.5 -4.0**
BW06 *e*PKKPdf **PKKPbc** **14 32 24.4 -3.9**
BW06 *e*P'P'df P'P'df 14 40 31.5 -7.1
BW06 *e*P'P'df P'P'df 14 40 34.6 -4.0
BW06 LR LR
comp=Z,3μm,19.0s
PDAR Pinedale Array 94.23 47 P **P** **14 15 26.3 -0.5**
comp=Z,3.7nm,0.6s,baz=214,slow=2.5,SNR=27
PDAR pP **pP** **14 16 13.3 -0.6**
comp=Z,9.3nm,1.0s,baz=241,slow=4.6,SNR=3.9
PDAR PP PP 14 19 09.9 -6.5
comp=Z,6.5nm,1.1s,baz=251,slow=4.5,SNR=4.6
PDAR PKKPbc **PKKPdf** **14 32 26.3 -1.3**
comp=Z,9.3nm,0.8s,baz=96,slow=4.0,SNR=16
PDAR PKPPKP **P'P'df** **14 40 38.6 0.0**
comp=Z,7.2nm,1.1s,baz=98,slow=3.0,SNR=12
BNM Barren Site 94.39 56 *e*P **P** **14 15 28.2 +0.5**
BNM *e*PP **PP** **14 19 18.9 +1.0**
BNM *e*PKKPdf **PKKPdf** **14 32 25.7 -1.3**
BNM *e*P'P'df **P'P'df** **14 40 39.4 +0.4**
LPM Los Pinos Moun 94.42 56 *e*PP PP 14 19 18.4 +0.3
LPM *e*PKKPdf **PKKPbc** **14 32 27.8 +0.4**
LPM *e*P'P'df **P'P'df** **14 40 41.5 +2.7**
O20A White River Ci 94.54 50 ⇑P **P** **14 15 28.7 +0.5**
baz=95,SNR=16
O20A White River Ci 94.54 50 *e*P **P** **14 15 27.6 -0.6**
comp=Z,70nm,1.4s
O20A *e*PKKPdf **PKKPdf** **14 32 25.6 -1.2**
EDM Edmonton 94.57 36 *e*P **P** **14 15 26.8 -1.0**
EDM Edmonton 94.57 36 *e*P **P** **14 15 26.8 -1.0**
EDM *e*P'P'df **P'P'df** **14 40 38.5 +1.6**
V22A San Miguel Ran 94.57 54 ⇓P **P** **14 15 28.8 +0.3**
baz=95
H18A Shoshone NF, C 94.63 45 ⇑P **P** **14 15 29.4 +0.8**
baz=95
SNAA Sanae 94.64 183 P **P** **14 15 28.0 0.0**
SNAA Sanae 94.64 183 *d i P* **P** **14 15 27.8 -0.1**
SNAA pmax pmax
comp=Z,328nm,1.1s
SNAA Sanae 94.64 183 PKKPbc PKKPbc 14 32 24.6 -3.1
comp=Z,5.2nm,1.2s,baz=270,slow=8.7,SNR=4.0
N20A Spence Gulch, 94.69 49 ⇑P **P** **14 15 28.7 -0.2**
baz=95,SNR=13
ANMO Albuquerque 94.71 55 *c e*P **P** **14 15 29.8 +0.7**
ANMO pmax pmax
comp=Z,119nm,1.1s
ANMO Albuquerque 94.71 55 *e*P **P** **14 15 27.3 -1.8**
comp=Z,30nm,1.1s
ANMO *e*P'P'df **P'P'df** **14 40 37.6 -0.6**
ANMO LR LR
comp=Z,4μm,19.0s
J19A Crowheart 94.71 47 ⇑P **P** **14 15 28.9 +0.1**
baz=95,SNR=10
U22A Llaves 94.72 54 ⇑P **P** **14 15 29.2 0.0**
baz=95
Y23A Lovelace Mesa, 94.80 56 ⇑P **P** **14 15 29.7 +0.2**
baz=95,SNR=23
X23A Hourglass Bar 94.84 56 ⇓P **P** **14 15 30.4 +0.6**
baz=95,SNR=8.0
MNTX Cornudas Mount 94.85 59 *e*P **P** **14 15 29.2 -0.4**
comp=Z,21nm,1.3s
MNTX *e*PKKPdf **PKKPbc** **14 32 26.9 +1.0**
MNTX LR LR
comp=Z,2μm,19.0s
I19A Meeteetse 94.94 46 ⇑P **P** **14 15 30.4 +0.5**
baz=95
W23A Werner Place, 95.00 55 ⇑P **P** **14 15 31.1 +0.6**
baz=95,SNR=11
RLMT Red Lodge 95.01 45 *e*P **P** **14 15 29.6 -0.7**
comp=Z,45nm,1.4s
RLMT LR LR
comp=Z,3μm,22.0s
S22A 4UR Ranch, Cre 95.05 53 ⇓P **P** **14 15 31.4 +0.6**
baz=95,SNR=20
BHPL Bhopal 95.10 293 *e*P **P** **14 15 29.5 -1.4**
BHPL AMB AMB 14 15 31.4
comp=Z,191nm,2.4s
H19A Powell 95.10 45 ⇓P **P** **14 15 31.2 +0.6**
baz=95,SNR=7.8
V23A Ortiz Mt. (NFS 95.11 55 ⇓P **P** **14 15 31.5 +0.5**
baz=95,SNR=20
Z24A Sheeppen Canyo 95.23 57 ⇑P **P** **14 15 31.4 -0.1**
baz=95
U23A El Rito 95.23 54 ⇓P **P** **14 15 32.7 +1.2**
baz=95
SMCO Snowmass 95.27 51 *e*P **P** **14 15 32.6 +0.8**
SMCO *e*pP **pP** **14 16 19.1 +0.1**
SMCO *e*PP PP 14 19 34.6 +10
SMCO *e*PKKPdf **PKKPbc** **14 32 24.6 -1.1**
SMCO *e*P'P'df **P'P'df** **14 40 32.7 -4.4**
Y24A Capitan 95.30 57 ⇓P **P** **14 15 32.1 +0.2**
baz=95,SNR=26
VNA3 Neumayer Olymp 95.31 181 P **P** **14 15 31.4 +0.5**
EGMT Eagleton 95.40 42 ⇓P **P** **14 15 32.8 +1.0**
baz=96
EGMT Eagleton 95.40 42 *e*P **P** **14 15 31.5 -0.3**
comp=Z,169nm,1.9s
EGMT *e*P'P'df **P'P'df** **14 40 33.3 -2.5**
EGMT LR LR
comp=Z,2μm,20.0s
F19A Roth Farm, Mol 95.41 44 ⇑P **P** **14 15 32.7 +0.8**
baz=96,SNR=12
J20A Shoshoni 95.42 47 ⇓P **P** **14 15 32.5 +0.4**
baz=96,SNR=8.2
X24A Lazy VL Ranch, 95.44 56 ⇓P **P** **14 15 32.4 -0.1**
baz=96
T23A Casias Ranch, 95.51 53 ⇑P **P** **14 15 32.7 -0.1**
baz=96
I20A Worland 95.53 46 ⇓P **P** **14 15 33.4 +0.9**
baz=96
P22A Eagle 95.53 51 ⇓P **P** **14 15 33.2 +0.5**
baz=96,SNR=26
VNA2 Neumayer--Watz 95.58 182 P **P** **14 15 33.5 +1.4**
W24A Lazy 6 Ranch, 95.61 55 ⇓P **P** **14 15 33.2 0.0**
baz=96,SNR=20
E19A Rath Farm, Rou 95.66 44 ⇓P **P** **14 15 33.1 +0.1**
baz=96
S23A Nye Farm, Mont 95.68 53 ⇑P **P** **14 15 34.1 +0.5**
baz=96
H20A Greybull 95.74 46 ⇓P **P** **14 15 34.1 +0.6**
baz=96
Z25A Roswell 95.75 57 ⇑P **P** **14 15 34.1 +0.3**
baz=96
G20A Bridger 95.76 45 ⇓P **P** **14 15 34.4 +0.9**
baz=96
D19A Cripps Ranch, 95.77 43 ⇑P **P** **14 15 33.9 +0.4**
baz=96
TX31 Lajitas Ar. Si 95.78 61 *e*P **P** **14 15 34.3 +0.3**
TX31 *e*PKKPbc **PKKPbc** **14 32 22.1 -1.4**
TX31 *e*P'P'df **P'P'df** **14 40 36.5 0.0**
TXAR Lajitas Array 95.78 61 P **P** **14 15 34.3 +0.3**
TXAR *PP **pP** **14 16 20.1 -1.1**
TXAR 14 19 29.6
TXAR pmax pmax
comp=Z,7.0nm,0.8s
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR pmax pmax
comp=Z,27nm,1.1s
TXAR pmax pmax
comp=Z,8.0nm,0.8s
TXAR pmax pmax
comp=Z,2.0nm,0.9s
TXAR Lajitas Array 95.78 61 P **P** **14 15 34.3 +0.3**
comp=Z,7.0nm,0.8s,baz=231,slow=4.4,SNR=63
TXAR pP **pP** **14 16 20.1 -1.1**
comp=Z,1.4nm,0.8s,baz=224,slow=7.0,SNR=1.3
TXAR PP **PP** **14 19 29.6 +1.0**
comp=Z,27nm,1.1s,baz=232,slow=6.2,SNR=20
TXAR PKKPbc **PKKPbc** **14 32 23.6 +0.2**
comp=Z,8.1nm,0.8s,baz=116,slow=5.7,SNR=23
TXAR PKPPKP **P'P'df** **14 40 37.4 +0.8**
comp=Z,2.1nm,0.9s,baz=58,slow=3.1,SNR=4.5
C19A Slack Wire Ran 95.79 42 ⇓P **P** **14 15 34.9 +1.3**
baz=96
O22A Kremmling 95.81 50 ⇑P **P** **14 15 34.8 +0.6**
baz=96,SNR=32
V24A Rampart Ranch, 95.83 55 ⇓P **P** **14 15 34.7 +0.5**
baz=96,SNR=6.8
K21A Alcova 95.85 48 ⇑P **P** **14 15 34.2 +0.1**
baz=96
J21A Lysite 95.87 47 ⇓P **P** **14 15 35.2 +1.0**
baz=96
VNA1 Neumayer--Stat 95.88 182 P **P** **14 15 34.3 +0.9**
Y25A Mesa, Roswell 95.90 57 ⇑P **P** **14 15 34.9 +0.4**
baz=96,SNR=16
R23A Moffat 95.93 52 P **P** **14 15 35.2 +0.5**
baz=96
F20A Billings 95.94 44 ⇑P **P** **14 15 34.9 +0.6**
baz=96
U24A Moreno Valley 95.97 54 ⇓P **P** **14 15 35.7 +0.8**
baz=96
N22A Wattenberg Ran 96.02 50 ⇑P **P** **14 15 36.1 +1.0**
baz=96,SNR=10
T24B San Luis 96.03 53 ⇓P **P** **14 15 34.4 -0.7**
baz=96
B19A Brinkman Farms 96.03 42 ⇑P **P** **14 15 34.7 +0.2**
baz=96
M22A Cedar Creek Ra 96.05 49 ⇑P **P** **14 15 35.7 +0.6**
baz=96,SNR=9.3
DDI Dehra Dun 96.06 300 *e*P **P** **14 15 34.5 -0.7**
DDI AMB AMB 14 15 35.9
comp=Z,196nm,2.8s
X25A Clemmons Ranch 96.06 56 ⇑P **P** **14 15 35.2 0.0**
baz=96
Q23A Hartsel 96.08 52 ⇑P **P** **14 15 36.2 +0.8**
baz=96
SDCO Great Sand Dun 96.08 53 *e*P **P** **14 15 36.7 +1.3**
SDCO *e*pP **pP** **14 16 23.5 +0.8**
SDCO *e*PP **PP** **14 19 30.1 -0.9**
SDCO *e*PKKPbc **PKKPbc** **14 32 22.1 -1.1**
SDCO *e*P'P'df **P'P'df** **14 40 35.3 -0.3**
SDCO LR LR
comp=Z,3μm,20.0s
I21A Big Trails, Te 96.08 47 ⇑P **P** **14 15 35.4 +0.3**
baz=96,SNR=16
E20A Meyer Farm, Mu 96.11 44 ⇓P **P** **14 15 35.7 +0.7**
baz=96
P23A Jefferson 96.17 51 ⇑P **P** **14 15 36.8 +0.9**
baz=96,SNR=6.8
A19A Klindworth Far 96.27 41 ⇓P **P** **14 15 35.8 +0.1**
baz=96
S24A Houchin Ranch, 96.28 53 ⇑P **P** **14 15 37.1 +0.8**
baz=96,SNR=11
O23A Lake Granby, G 96.29 50 ⇓P **P** **14 15 37.0 +0.7**
baz=96,SNR=15
L22A Ellis Ranch, M 96.31 48 ⇓P **P** **14 15 36.6 +0.4**
baz=96,SNR=12
Z26A Caprock 96.35 57 ⇑P **P** **14 15 36.3 -0.2**
baz=96,SNR=13
W25A X Bar L Ranch, 96.36 55 ⇓P **P** **14 15 37.1 +0.5**
baz=96,SNR=9.5
V25A Rancho No Teng 96.37 55 ⇓P **P** **14 15 36.6 0.0**
baz=96,SNR=8.7
MK01 Makanchi Array 96.37 316 *e*P **P** **14 15 35.2 -0.9**
MK01 *e*PKKPbc **PKKPbc** **14 32 18.5 -4.0**
MK01 *e*P'P'df **P'P'df** **14 40 32.9 -1.1**
K22A Casper 96.37 48 ⇑P **P** **14 15 36.6 +0.1**
baz=96
K22A Casper 96.37 48 *e*PP PP 14 19 33.5 +0.6
K22A *e*PKKPbc **PKKPbc** **14 32 21.8 -0.7**
MK31 Makanchi Array 96.38 316 *i P* **P** **14 15 36.1 -0.1**
MK31 pmax pmax
comp=Z,549nm,1.1s
MKAR Makanchi Array 96.38 316 P **P** **14 15 35.9 -0.3**
MKAR *PP **pP** **14 16 21.8 -1.6**
MKAR pmax pmax
comp=Z,140nm,0.7s
MKAR pmax pmax
comp=Z,42nm,1.0s
MKAR pmax pmax
comp=Z,11nm,0.6s
MKAR pmax pmax
comp=Z,10.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 96.38 316 P **P** **14 15 35.9 -0.3**
comp=Z,140nm,0.7s,baz=95,slow=5.5,SNR=475
MKAR pP **pP** **14 16 21.8 -1.6**
comp=Z,42nm,1.0s,baz=100,slow=6.8,SNR=2.1
MKAR PKiKP **PKiKP** **14 20 12.9 0.0**
comp=Z,11nm,0.6s,baz=210,slow=1.3,SNR=22
MKAR PKKPbc **PKKPbc** **14 32 21.1 -1.4**
comp=Z,9.8nm,0.7s,baz=266,slow=4.0,SNR=33
MKAR PKPPKP **P'P'df** **14 40 32.4 -1.6**
comp=Z,1.4nm,0.9s,baz=341,slow=2.6,SNR=7.0
N23A Red Feather La 96.42 50 ⇑P **P** **14 15 37.2 +0.4**
baz=96,SNR=7.5
NDI New Delhi 96.43 298 *e*PKP **P** **14 15 36.0 -0.8**
NDI *ex* x 14 19 38.0
ISCO Idaho Springs 96.43 51 *e*P **P** **14 15 36.3 -0.7**
ISCO pmax pmax
comp=Z,13nm,1.0s
ISCO MLR MLR
comp=Z,4μm,19.0s
ISCO Idaho Springs 96.43 51 ⇑P **P** **14 15 37.8 +0.8**
baz=96,SNR=13
ISCO Idaho Springs 96.43 51 *e*P **P** **14 15 36.3 -0.7**
comp=Z,13nm,1.0s
ISCO *e*PKKPbc **PKKPbc** **14 32 21.4 -0.9**
ISCO *e*P'P'df **P'P'df** **14 40 37.0 +2.2**
ISCO LR LR
comp=Z,4μm,19.0s
H21A Big Horn, Sher 96.44 46 ⇑P **P** **14 15 37.2 +0.5**
baz=96
G21A Lodge Grass 96.45 45 ⇑P **P** **14 15 37.0 +0.3**
baz=96
C20A Veseth Ranch, 96.47 43 ⇓P **P** **14 15 36.7 +0.1**
baz=96
ZAA0 Zalesovo Array 96.48 324 *e*P **P** **14 15 34.7 -1.8**
ZALV Zalesovo Beam 96.48 324 P **P** **14 15 35.2 -1.2**
ZALV 14 19 34.0
ZALV pmax pmax
comp=Z,138nm,0.8s
ZALV pmax pmax
comp=Z,9.0nm,0.9s
ZALV pmax pmax
comp=Z,8.0nm,0.7s
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV pmax pmax
comp=Z,1.0nm,0.8s
ZALV Zalesovo Beam 96.48 324 P **P** **14 15 35.2 -1.2**
comp=Z,137nm,0.8s,baz=114,slow=3.7,SNR=361
ZALV PP **PP** **14 19 34.0 +0.8**
comp=Z,8.5nm,0.9s,baz=106,slow=4.8,SNR=4.2
ZALV PKiKP **PKiKP** **14 20 14.1 +1.2**
comp=Z,8.1nm,0.7s,baz=175,slow=4.0,SNR=4.3
ZALV PKKPbc **PKKPbc** **14 32 20.6 -1.8**
comp=Z,2.6nm,0.5s,baz=285,slow=3.5,SNR=8.4
ZALV PKPPKP **P'P'df** **14 40 30.1 -3.1**
comp=Z,1.2nm,0.8s,baz=318,slow=2.0,SNR=4.2
ZALV LR LR 14 56 40.6
comp=Z,944nm,21.7s,baz=78,slow=34
R24A Sanders Place, 96.49 52 ⇓P **P** **14 15 37.7 +0.5**
baz=97,SNR=8.9
YKA Yellowknife Ar 96.59 27 P **P** **14 15 35.5 -1.2**
YKA *PP **pP** **14 16 21.6 -2.3**
YKA pmax pmax
comp=Z,15nm,0.9s
YKA pmax pmax
comp=Z,32nm,1.0s
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=Z,6.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 96.59 27 P **P** **14 15 35.5 -1.2**
comp=Z,15nm,0.9s,baz=253,slow=4.6,SNR=95
YKA pP **pP** **14 16 21.6 -2.3**
comp=Z,32nm,0.9s,baz=253,slow=4.5,SNR=8.2
YKA PKiKP **PKiKP** **14 20 12.3 -0.4**
comp=Z,2.3nm,0.7s,baz=248,slow=1.3,SNR=15
YKA PKKPbc **PKKPbc** **14 32 20.5 -2.0**
comp=Z,5.7nm,0.8s,baz=74,slow=2.6,SNR=18
YKA PKPPKP **P'P'df** **14 40 32.3 -0.1**
comp=Z,1.0nm,0.7s,baz=47,slow=2.4,SNR=7.8
Q24A Divide 96.61 52 ⇓P **P** **14 15 38.2 +0.4**
baz=97,SNR=20
Y26A Elida 96.61 57 ⇓P **P** **14 15 37.7 0.0**
baz=97,SNR=5.5
B20A Solberg Farm, 96.62 42 ⇓P **P** **14 15 37.7 +0.4**
baz=97
F21A Absaloka Mine, 96.64 45 ⇑P **P** **14 15 38.4 +0.9**
baz=97
U25A Circle Dot Ran 96.65 54 ⇑P **P** **14 15 38.1 +0.2**
baz=97
I22A 9 Mile Ranch, 96.67 47 ⇓P **P** **14 15 38.2 +0.5**
baz=97
M23A Laramie 96.70 49 ⇑P **P** **14 15 38.0 0.0**
baz=97,SNR=6.0
X26A CR and CF Fran 96.75 56 ⇓P **P** **14 15 38.0 -0.3**
baz=97
GOA Goa 96.77 284 *e*P **P** **14 15 37.4 -1.2**
GOA AMB AMB 14 15 38.7
comp=Z,171nm,2.7s
A20A Cobblestone Ra 96.78 41 ⇑P **P** **14 15 38.7 +0.7**
baz=97
T25A Trinidad 96.80 54 ⇑P **P** **14 15 38.8 +0.2**
baz=97
E21A Keefer Ranch, 96.83 44 ⇑P **P** **14 15 38.9 +0.7**
baz=97
CRZF Crozet Islands 96.84 219 P P 14 15 24.0 -14
CRZF PP PP 14 19 10.0 -26
CRZF S SKSac 14 25 42.0 -15
CRZF SS SS 14 32 55.0 -28
CRZF L L 14 41 00.0
CRZF R 14 48 00.0
L23A Garrett 96.86 48 ⇑P **P** **14 15 38.8 +0.1**
baz=97,SNR=12
PHWY Pilot Hill 96.86 49 *e*P **P** **14 15 40.6 +1.7**
comp=Z,62nm,2.0s
PHWY *e*PKKPbc **PKKPbc** **14 32 20.6 -0.7**
S25A Robets Cordova 96.89 53 ⇑P **P** **14 15 39.7 +0.8**
baz=97,SNR=19
W26A Owens Ranch, T 96.90 56 ⇑P **P** **14 15 38.6 -0.3**
baz=97
P24A Kohler Place, 96.91 51 ⇓P **P** **14 15 39.0 0.0**
baz=97
O24A Longmont 96.91 51 ⇓P **P** **14 15 39.9 +1.0**
baz=97
H22A Clearmont 96.91 46 ⇑P **P** **14 15 39.6 +0.8**
baz=97
SMLA Simla 96.97 300 *i P* **P** **14 15 39.4 +0.2**
SMLA AMB AMB 14 15 41.8
comp=Z,162nm,2.4s
Z27A Tatum 96.98 58 ⇓P **P** **14 15 39.5 +0.1**
baz=97,SNR=6.1
D21A La Casta Ranch 97.00 43 ⇑P **P** **14 15 40.0 +0.9**
baz=97
V26A Tequesquite Ra 97.02 55 ⇓P **P** **14 15 39.4 -0.1**
baz=97,SNR=6.2
K23A Bowen Ranch, D 97.04 48 ⇓P **P** **14 15 38.7 -0.8**
baz=97
G22A Birney 97.08 45 P Pdif 14 15 40.4 +0.8
baz=97
C21A Desert Coulee 97.09 43 ⇑P Pdif 14 15 39.8 +0.3
baz=97
R25A Fountain Ranch 97.11 53 ⇓P Pdif 14 15 40.2 +0.2
baz=97
Y27A Causey 97.14 57 ⇑P **P** **14 15 40.1 0.0**
baz=97,SNR=12
U26A Atchley Ranch, 97.18 54 ⇓P **P** **14 15 40.2 0.0**
baz=97,SNR=11
529A Stev Forest Ra 97.18 61 ⇓P Pdif 14 15 40.7 +0.4
baz=97,SNR=11
N24A Carr 97.19 50 ⇓P Pdif 14 15 41.4 +1.2
baz=97
F22A Rosebud 97.23 45 ⇓P **P** **14 15 40.1 0.0**
baz=97
J23A Dilts Ranch, B 97.23 47 ⇓P Pdif 14 15 40.4 +0.1
baz=97
USHA Ushuaia 97.26 151 PKKPbc PKKPbc 14 32 19.7 -0.3
comp=Z,23nm,1.0s,baz=38,slow=5.4,SNR=8.0
USHA PKPPKP **P'P'df** **14 40 33.2 +0.3**
comp=Z,18nm,1.1s,baz=288,slow=3.2,SNR=3.8
228A UT Block 9, Go 97.26 59 ⇓P **P** **14 15 38.8 -1.9**
baz=97
B21A Ellsworth Farm 97.27 42 ⇑P Pdif 14 15 41.2 +0.9
baz=97
Q25A Bedland, Calha 97.29 52 ⇓P **P** **14 15 40.1 -0.7**
baz=97
X27A F and S Farms, 97.34 56 ⇑P **P** **14 15 40.6 -0.4**
baz=97
M24A Cheyenne 97.36 49 ⇓P Pdif 14 15 41.3 +0.3
baz=97
POO Poona 97.38 287 *e*P P 14 15 38.0 -3.4
L24A Wheatland 97.40 49 ⇓P Pdif 14 15 41.2 0.0
baz=98
I23A Meade Ranch, G 97.41 47 ⇑P Pdif 14 15 41.5 +0.4
baz=98
LAO LASA Array 97.44 44 *e*P Pdif 14 15 42.9 +1.8
comp=Z,204nm,2.3s
LAO *e*P'P'df **P'P'df** **14 40 34.5 +2.4**
LAO LR LR
comp=Z,4μm,20.0s
128A Castleberry Fa 97.45 58 ⇓P **P** **14 15 40.8 -0.7**
baz=98
T26A Comanche Natio 97.45 54 ⇑P Pdif 14 15 42.3 +0.8
baz=98
A21A Bergtoll Ranch 97.45 41 ⇓P **P** **14 15 40.8 -0.2**
baz=98
W27A Bowe Ranch, En 97.45 56 ⇓P **P** **14 15 40.2 -1.2**
baz=98
P25A Willow Gulch B 97.47 51 ⇓P Pdif 14 15 41.7 +0.1
baz=98,SNR=6.1
MSTX Muleshoe 97.48 57 ⇓P **P** **14 15 41.4 -0.1**
baz=98,SNR=8.6
MSTX Muleshoe 97.48 57 *e*P **P** **14 15 40.8 -0.8**
comp=Z,32nm,1.0s
MSTX *e* 14 19 41.2
MSTX *e*P'P'df **P'P'df** **14 40 32.9 -0.1**
429A Davenport Ranc 97.55 60 ⇓P **P** **14 15 41.2 -0.7**
baz=98
D22A Cohagen 97.56 43 ⇓P **P** **14 15 41.3 -0.3**
baz=98
E22A Miles City 97.57 44 ⇑P **P** **14 15 41.6 0.0**
baz=98
NVS Novosibirsk 97.59 325 *e*P **P** **14 15 39.7 -1.7**
NVS *i* *PP **pP** **14 16 25.1 -3.6**
NVS *e* 14 26 00.2
NVS pmax pmax
comp=Z,570nm,2.0s
NVS pmax pmax
comp=N,97nm,2.1s
NVS pmax pmax
comp=E,267nm,2.1s
NVS pmax pmax
comp=Z,317nm,2.2s
NVS pmax pmax
comp=N,57nm,1.8s
NVS pmax pmax
comp=E,234nm,2.1s
K24A Anderson Ranch 97.62 48 ⇑Pdiff Pdif 14 15 42.4 +0.3
baz=98
O25A Wiggins 97.62 51 ⇑Pdiff Pdif 14 15 43.0 +0.9
baz=98
S26A Kim 97.63 53 ⇑Pdiff **P** **14 15 42.2 0.0**
baz=98
329A Wagon Wheel Ra 97.65 60 ⇓Pdiff Pdif 14 15 42.6 +0.2
baz=98
Z28A Tucker Farm, M 97.66 58 ⇓Pdiff **P** **14 15 42.0 -0.4**
baz=98
G23A Biddle 97.70 45 ⇑Pdiff Pdif 14 15 42.8 +0.5
baz=98
V27A Dan Oppiter Fa 97.77 55 ⇑Pdiff **P** **14 15 42.5 -0.3**
baz=98
N25A Grover 97.78 50 ⇓Pdiff Pdif 14 15 43.2 +0.3
baz=98
R26A Arlington 97.78 53 ⇑Pdiff Pdif 14 15 43.8 +0.9
baz=98
F23A Volborg 97.80 45 ⇑Pdiff Pdif 14 15 43.2 +0.5
baz=98
Q26A Hugo 97.85 52 ⇓Pdiff Pdif 14 15 43.7 +0.5
baz=98
J24A Dixon Ranch, L 97.85 47 ⇓Pdiff **P** **14 15 42.9 -0.2**
baz=98
C22A Vida 97.88 43 ⇓Pdiff Pdif 14 15 43.6 +0.6
baz=98
229A Bryant Ranch, 97.88 59 ⇓Pdiff Pdif 14 15 44.5 +1.1

	baz=98							
Y28A	McKinney Farm,	97.89	57	⇑Pdiff	Pdif	14 15 43.9	+0.5	
	baz=98							
U27A	Thompson Grove	97.91	55	⇑Pdiff	Pdif	14 15 43.7	+0.2	
	baz=98							
B22A	Reddig Ranch S	97.91	42	⇓Pdiff	Pdif	14 15 44.0	+0.9	
	baz=98							
DHRM	DHARAMSHALA	97.92	301	*e*P	P	14 15 42.5	-1.2	
DHRM				AMB	AMB	14 15 43.1		
	comp=Z,133nm,5.0s							
M25A	Palm-Egli Farm	97.93	49	⇓Pdiff	Pdif	14 15 43.5	0.0	
	baz=98							
530A	J-C Ranch, Com	97.93	61	⇓Pdiff	Pdif	14 15 43.8	+0.2	
	baz=98							
129A	Stewart Farms,	97.96	58	⇑Pdiff	P	14 15 43.4	-0.4	
	baz=98							
I24A	Kuemmerle Ranc	97.98	47	⇑Pdiff	P	14 15 43.4	-0.2	
	baz=98							
E23A	Ismay	98.02	44	⇑Pdiff	Pdif	14 15 45.1	+1.5	
	baz=98							
X28A	Dimmitt	98.05	56	⇓Pdiff	Pdif	14 15 44.3	+0.2	
	baz=98							
S27A	Las Animas	98.09	53	⇑Pdiff	Pdif	14 15 44.5	+0.2	
	baz=98							
P26A	Davis Ranch, A	98.10	51	⇓Pdiff	Pdif	14 15 44.6	+0.2	
	baz=98							
A22A	Carney Farms,	98.10	42	⇓Pdiff	Pdif	14 15 44.9	+0.9	
	baz=98							
T27A	Campo	98.11	54	⇓Pdiff	Pdif	14 15 44.9	+0.5	
	baz=98							
L25A	Engebretsen Ra	98.13	49	⇓Pdiff	Pdif	14 15 44.4	0.0	
	baz=98							
430A	Baggett Ranch,	98.14	60	⇓Pdiff	Pdif	14 15 44.7	+0.2	
	baz=98							
PONG	Pong	98.15	301	*ex*	P	14 15 38.0	-6.4	
W28A	Vega	98.18	56	⇓Pdiff	P	14 15 44.6	-0.1	
	baz=98							
H24A	Dirks Ranch, A	98.20	46	⇑Pdiff	Pdif	14 15 45.3	+0.7	
	baz=98							
Z29A	Hungry Hill Ra	98.21	58	⇑Pdiff	Pdif	14 15 45.1	+0.2	
	baz=98							
D23A	Lindsay	98.22	44	⇓Pdiff	Pdif	14 15 44.8	+0.3	
	baz=98							
AJM	Ajmer	98.23	295	*i*P	P	14 15 44.0	-1.0	
O26A	Horse Wrangler	98.25	51	⇓Pdiff	Pdif	14 15 45.5	+0.6	
	baz=98							
V28A	Channing	98.26	55	⇑Pdiff	Pdif	14 15 45.6	+0.5	
	baz=98							
R27A	Eads	98.28	53	⇑Pdiff	Pdif	14 15 46.0	+0.9	
	baz=98							
K25A	Mack Ranch, Ha	98.28	48	⇓Pdiff	Pdif	14 15 46.0	+0.9	
	baz=98							
330A	Mertzon	98.31	60	⇑Pdiff	P	14 15 45.2	-0.1	
	baz=98							
C23A	Lambert	98.35	43	⇓Pdiff	Pdif	14 15 45.4	+0.3	
	baz=98							
Y29A	Porterfield Fa	98.35	57	⇓Pdiff	P	14 15 45.1	-0.4	
	baz=98							
U28A	Mallet	98.38	55	⇓Pdiff	P	14 15 45.2	-0.3	
	baz=98							
G24A	Alzada	98.41	45	⇓Pdiff	P	14 15 45.3	-0.1	
	baz=98							
N26A	Koester Ranch,	98.43	50	⇑Pdiff	Pdif	14 15 46.0	+0.3	
	baz=98							
X29A	Tulia	98.44	57	⇓Pdiff	P	14 15 45.5	-0.4	
	baz=98							
631A	Perdido Creek	98.44	62	⇑Pdiff	Pdif	14 15 46.4	+0.5	
	baz=98							
RSSD	Black Hills	98.45	47	*e*P	P	14 15 44.8	-1.0	
RSSD	Black Hills	98.45	47	*e*P	P	14 15 44.8	-1.0	
RSSD				*e*PKKPbc	PKKPbc	14 32 16.6	-0.3	
RSSD				*e*P'P'df	P'P'df	14 40 34.0	+3.4	
230A	Sterling City	98.45	59	⇑Pdiff	P	14 15 45.8	-0.1	
	baz=98							
J25A	Sunshine Ranch	98.48	47	⇓Pdiff	P	14 15 45.3	-0.5	
	baz=98							
F24A	Ekalaka	98.48	45	⇑Pdiff	Pdif	14 15 46.2	+0.5	
	baz=98							
AMTX	Amarillo	98.53	56	⇓Pdiff	P	14 15 46.2	-0.1	
	baz=99							
AMTX	Amarillo	98.53	56	*e*P'P'df	P'P'df	14 40 33.5	+2.6	
KSCO	Kaye Shedlock'	98.55	52	⇓Pdiff	P	14 15 46.2	0.0	
	baz=99							
KSCO	Kaye Shedlock'	98.55	52	*e*PP	PP	14 19 49.2	-0.4	
KSCO				*e*PKKPbc	PKKPbc	14 32 15.8	-0.5	
T28A	Walsh	98.60	54	⇓Pdiff	P	14 15 45.9	-0.6	
	baz=99							
B23A	Brockton	98.60	42	⇑Pdiff	Pdif	14 15 47.1	+0.9	
	baz=99							
M26A	McRoberts Ranc	98.61	49	⇓Pdiff	Pdif	14 15 47.7	+1.2	
	baz=99							
W29A	Amarillo	98.61	56	⇑Pdiff	Pdif	14 15 47.1	+0.5	
	baz=99							
531A	Rocksprings	98.61	61	⇑Pdiff	Pdif	14 15 47.1	+0.5	
	baz=99							
I25A	Rochford	98.64	47	⇑Pdiff	P	14 15 46.4	-0.3	
	baz=99							
431A	Sonora	98.65	61	⇓Pdiff	P	14 15 45.5	-1.3	
	baz=99							
P27A	Ficken Ranch,	98.68	51	⇓Pdiff	P	14 15 46.2	-0.6	
	baz=99							
Z30A	Sanderson Ranc	98.69	58	⇑Pdiff	P	14 15 46.3	-0.7	
	baz=99							
130A	Snyder	98.70	59	⇑Pdiff	P	14 15 46.3	-0.7	
	baz=99							
E24A	Baker	98.71	44	⇓Pdiff	P	14 15 45.5	-1.3	
	baz=99							
832A	Faith Ranch, C	98.75	63	⇓Pdiff	P	14 15 46.8	-0.4	
	baz=99							
L26A	Underwood Farm	98.75	49	⇓Pdiff	Pdif	14 15 48.1	+0.9	
	baz=99							
D24A	Glendive	98.80	44	⇓Pdiff	Pdif	14 15 48.5	+1.5	
	baz=99							
K26A	Motz Farm, Whi	98.80	48	⇑Pdiff	Pdif	14 15 47.4	+0.1	
	baz=99							
C24A	Savage	98.81	43	⇑Pdiff	Pdif	14 15 47.4	+0.3	
	baz=99							
732A	Laxson Ranch,	98.83	63	⇑Pdiff	P	14 15 47.2	-0.4	
	baz=99							
V29A	Stinnett	98.84	55	⇓Pdiff	P	14 15 47.6	0.0	
	baz=99							
H25A	Fruitdale	98.85	46	⇓Pdiff	P	14 15 45.5	-1.9	
	baz=99							
S28A	Manter	98.85	54	⇓Pdiff	P	14 15 47.3	-0.3	
	baz=99							
O27A	Beecher Island	98.87	51	⇓Pdiff	P	14 15 47.4	-0.3	
	baz=99							
331A	San Angelo	98.92	60	⇓Pdiff	P	14 15 47.9	-0.1	
	baz=99							
N27A	Anderson Farm,	98.94	50	⇓Pdiff	P	14 15 47.7	-0.3	
	baz=99							
J26A	Sides Ranch, S	98.98	48	⇑Pdiff	Pdif	14 15 48.2	+0.1	
	baz=99							
Y30A	Stafford Cattl	98.99	57	⇑Pdiff	P	14 15 47.9	-0.4	
	baz=99							
R28A	Tribune	99.05	53	⇑Pdiff	Pdif	14 15 48.8	+0.3	
	baz=99							
G25A	Newell	99.08	46	⇑Pdiff	Pdif	14 15 48.6	+0.2	
	baz=99							
X30A	Coker Ranch, T	99.11	57	⇑Pdiff	Pdif	14 15 47.0	-1.8	
	baz=99							
231A	Bronte	99.12	59	⇑Pdiff	Pdif	14 15 48.5	-0.4	
	baz=99							
DGMT	Dagmar	99.12	42	⇑Pdiff	Pdif	14 15 48.5	0.0	
	baz=99							
DGMT	Dagmar	99.12	42	*e*P'P'df	P'P'df	14 40 30.2	+1.5	
DGMT				LR	LR			
	comp=Z,2μm,19.0s							
632A	Uvalde	99.14	62	⇓Pdiff	Pdif	14 15 48.6	-0.4	
	baz=99							
U29A	Oasis Ranch, S	99.15	55	⇓Pdiff	Pdif	14 15 48.6	-0.3	
	baz=99							
532A	Rocksprings	99.15	61	⇑Pdiff	Pdif	14 15 48.6	-0.4	
	baz=99							
Q28A	Sharon Springs	99.17	52	⇑Pdiff	Pdif	14 15 48.7	-0.3	
	baz=99							
F25A	Bowman	99.17	45	⇑Pdiff	Pdif	14 15 49.3	+0.5	
	baz=99							
M27A	Reverse DX Ran	99.17	50	⇑Pdiff	Pdif	14 15 48.1	-0.8	
	baz=99							
131A	Roby	99.19	59	⇓Pdiff	Pdif	14 15 48.5	-0.7	
	baz=99							
933A	Laredo	99.23	64	⇓Pdiff	Pdif	14 15 48.4	-1.0	
	baz=99							
T29A	Hugoton	99.25	54	⇓Pdiff	Pdif	14 15 49.4	0.0	
	baz=99							
833A	Chaparral WMA,	99.26	63	⇓Pdiff	Pdif	14 15 49.4	-0.1	
	baz=99							
I26A	New Underwood	99.27	47	⇑Pdiff	Pdif	14 15 48.8	-0.5	
	baz=99							
JCT	Junction City	99.30	61	⇓Pdiff	Pdif	14 15 48.7	-1.0	
	baz=99							
JCT	Junction City	99.30	61	*e*PKKPbc	PKKPbc	14 32 13.8	+0.1	
JCT				LR	LR			
	comp=Z,3μm,21.0s							
P28A	Saint Francis	99.31	52	⇓Pdiff	Pdif	14 15 49.6	0.0	
	baz=99							
E25A	Miller Ranch,	99.31	44	⇑Pdiff	Pdif	14 15 49.6	+0.2	
	baz=99							
L27A	T5 Ranch, Ells	99.32	49	⇓Pdiff	Pdif	14 15 50.0	+0.4	
	baz=99							
A24A	Westby	99.33	42	⇓Pdiff	Pdif	14 15 49.4	0.0	
	baz=99							
OGNE	Ogallala	99.34	50	⇓Pdiff	Pdif	14 15 49.7	+0.1	
	baz=99							
OGNE	Ogallala	99.34	50	PFAKE		14 16 00.0	+10	
OGNE				LR	LR			
	comp=Z,5μm,19.0s							
432A	Menard	99.38	60	⇓Pdiff	Pdif	14 15 49.9	-0.1	
	baz=99							
O28A	Krutsinger Ran	99.39	51	⇓Pdiff	Pdif	14 15 49.7	-0.3	
	baz=100							
733A	Divot King Ran	99.42	63	⇓Pdiff	Pdif	14 15 50.4	+0.2	
	baz=100							
H26A	Fairpoint	99.42	46	⇓Pdiff	Pdif	14 15 49.2	-0.7	
	baz=100							
S29A	Ulysses	99.47	54	⇑Pdiff	Pdif	14 15 49.4	-0.9	
	baz=100							
D25A	Fairfield	99.48	44	⇑Pdiff	Pdif	14 15 50.6	+0.5	
	baz=100							
W30A	Crocket Farms	99.48	56	⇑Pdiff	Pdif	14 15 50.1	-0.4	
	baz=100							
K27A	Flueckinger Fa	99.49	48	⇑Pdiff	Pdif	14 15 50.4	+0.1	
	baz=100							
V30A	Spur Ranch, Mi	99.49	55	⇑Pdiff	Pdif	14 15 51.3	+0.8	
	baz=100							
KSH	Kashi	99.49	308	⇑*i*P	Pdif	14 15 52.3	+1.9	
KSH				SKS	SKSac	14 26 08.1	-2.9	
KSH				S	ScS	14 27 02.4	-4.2	
KSH				SS	SS	14 34 02.4	+0.5	
KSH				PMZ				
	comp=Z,240nm,2.4s							
KSH				PMZ				
	comp=Z,1μm,6.0s							
KSH				LN				
	comp=Z,3μm,21.1s							
KSH				LE				
	comp=Z,1μm,16.4s							
KSH				LZ				
	comp=Z,1μm,21.8s							
332A	Millersview	99.51	60	⇓Pdiff	Pdif	14 15 50.8	+0.2	
	baz=100							
Z31A	Sharp Cattle R	99.51	58	⇑Pdiff	Pdif	14 15 50.5	-0.1	
	baz=100							
Y31A	Rekieta Farm,	99.53	57	⇓Pdiff	Pdif	14 15 49.7	-0.9	
	baz=100							
KURK	Kurchatov	99.54	320	*e*P	Pdif	14 15 48.5	-1.7	
KURK				pmax	pmax			
	comp=Z,94nm,1.5s							
KURK				MLR	MLR			
	comp=Z,1μm,21.0s							
KURK	Kurchatov	99.54	320	*e*Pdif	Pdif	14 15 48.5	-1.7	
	comp=Z,94nm,1.5s							
KURK				*e*PKKPbc	PKKPbc	14 32 11.8	-2.0	
KURK				LR	LR			
	comp=Z,1μm,21.0s							
R29A	Marienthal	99.59	53	⇓Pdiff	Pdif	14 15 51.2	+0.3	
	baz=100							
C25A	Freed Ranch, W	99.62	43	⇓Pdiff	Pdif	14 15 51.3	+0.6	
	baz=100							
633A	Saathoff Ranch	99.65	62	⇓Pdiff	Pdif	14 15 51.4	+0.2	
	baz=100							
U30A	WK&E Inc. Balk	99.65	55	⇑Pdiff	Pdif	14 15 52.0	+0.9	
	baz=100							
034A	Hebbronville	99.65	64	⇑Pdiff	Pdif	14 15 52.3	+1.1	
	baz=100							
G26A	Maurine	99.66	46	⇑Pdiff	Pdif	14 15 50.6	-0.4	
	baz=100							
N28A	Pribbeno Ranch	99.66	50	⇓Pdiff	Pdif	14 15 51.2	0.0	
	baz=100							
232A	Coleman	99.68	60	⇓Pdiff	Pdif	14 15 51.0	-0.4	
	baz=100							
F26A	Lodgepole	99.70	45	⇑Pdiff	Pdif	14 15 52.3	+1.1	
	baz=100							
J27A	Elkhorn Farm,	99.74	48	⇑Pdiff	Pdif	14 15 52.4	+1.0	
	baz=100							
B25A	Knox Farm, Ray	99.77	43	⇓Pdiff	Pdif	14 15 51.9	+0.6	
	baz=100							
Q29A	Oakley	99.79	52	⇑Pdiff	Pdif	14 15 52.1	+0.3	
	baz=100							
ABTX	Abilene, Hawle	99.81	59	⇓Pdiff	Pdif	14 15 50.6	-1.3	
	baz=100							
ABTX	Abilene, Hawle	99.81	59	*e*PP	PP	14 19 57.0	-2.2	
ABTX				*e*PKKPbc	PKKPbc	14 32 13.3	+0.9	
ABTX				*e*P'P'df	P'P'df	14 40 30.9	+2.2	
I27A	Quinn	99.84	47	⇑Pdiff	Pdif	14 15 52.0	+0.1	
	baz=100							
X31A	McDonald Ranch	99.87	57	⇑Pdiff	Pdif	14 15 52.7	+0.6	
	baz=100							
533A	Kerrville	99.88	61	⇓Pdiff	Pdif	14 15 52.7	+0.5	
	baz=100							
934A	Benavides	99.89	64	⇓Pdiff	Pdif	14 15 54.0	+1.7	
	baz=100							
L28A	Connealy Angus	99.89	49	⇑Pdiff	Pdif	14 15 52.8	+0.6	
	baz=100							
A25A	Svangstu Ranch	99.91	42	⇑Pdiff	Pdif	14 15 51.7	-0.3	
	baz=100							
H27A	Howes	99.92	46	⇓Pdiff	Pdif	14 15 51.7	-0.4	
	baz=100							
P29A	Atwood	99.94	52	⇑Pdiff	Pdif	14 15 51.8	-0.6	
	baz=100							
E26A	Carlson Angus	99.95	45	⇓Pdiff	Pdif	14 15 53.6	+1.4	
	baz=100							
433A	Art	99.95	61	⇓Pdiff	Pdif	14 15 52.8	+0.2	
	baz=100							
834A	Tilden	99.96	63	⇑Pdiff	Pdif	14 15 52.8	+0.2	
	baz=100							
S30A	Montezuma	99.98	54	⇑Pdiff	Pdif	14 15 52.6	0.0	
	baz=100							
W31A	Holland Ranch,	99.99	56	⇓Pdiff	Pdif	14 15 52.6	0.0	
	baz=100							
D26A	Manning	100.06	44	⇑Pdiff	Pdif	14 15 53.8	+1.1	
	baz=100							
Z32A	Haskell	100.06	58	⇑Pdiff	Pdif	14 15 52.6	-0.3	
	baz=100							
734A	La Parita Cree	100.08	63	⇑Pdiff	Pdif	14 15 52.7	-0.4	
	baz=100							
035Z	Hargill	100.09	65	⇓Pdiff	Pdif	14 15 53.1	-0.1	
	baz=100							
K28A	Ten Mile Ranch	100.12	48	⇓Pdiff	Pdif	14 15 53.2	+0.1	
	baz=100							
O29A	4D Ranch, Culb	100.13	51	⇑Pdiff	Pdif	14 15 53.0	-0.2	
	baz=100							
G27A	Dupree	100.14	46	⇑Pdiff	Pdif	14 15 52.7	-0.4	
	baz=100							
035A	Encino	100.14	65	⇑Pdiff	Pdif	14 15 52.7	-0.7	
	baz=100							
F27A	Lemmon	100.16	45	⇑Pdiff	Pdif	14 15 53.7	+0.5	
	baz=100							
V31A	Spring Creek L	100.17	56	⇑Pdiff	Pdif	14 15 53.7	+0.3	
	baz=100							
Y32A	R-V Farms, Ver	100.20	57	⇑Pdiff	Pdif	14 15 54.2	+0.6	
	baz=100							
R30A	Dighton	100.23	53	⇑Pdiff	Pdif	14 15 54.3	+0.6	
	baz=100							
U31A	Nine Bar Ranch	100.26	55	⇓Pdiff	Pdif	14 15 52.6	-1.2	
	baz=100							
233A	Rising Star	100.32	59	⇓Pdiff	Pdif	14 15 53.8	-0.4	
	baz=100							
TKM2	Tokmak 2	100.32	312	P	Pdif	14 15 54.6	+0.3	
	SNR=8.2							
TKM2	Tokmak 2	100.32	312	P	PKKPbc	14 32 11.4	-0.2	
	SNR=17							
TKM2	Tokmak 2	100.32	312	*e*P	Pdif	14 15 54.5	+0.3	
TKM2				MLR	MLR			
	comp=Z,3μm,20.0s							
TKM2	Tokmak 2	100.32	312	*e*Pdif	Pdif	14 15 54.5	+0.3	
TKM2				*e*PKKPbc	PKKPbc	14 32 10.6	-0.9	
TKM2				*e*P'P'df	P'P'df	14 40 29.8	+2.6	
TKM2				LR	LR			
	comp=Z,3μm,20.0s							
J28A	Allard Ranch,	100.33	48	⇑Pdiff	Pdif	14 15 54.1	+0.1	
	baz=100							
634A	China Grove, S	100.35	62	⇓Pdiff	Pdif	14 15 54.5	+0.2	
	baz=100							
N29A	Votaw Ranch, W	100.37	50	⇓Pdiff	Pdif	14 15 54.9	+0.7	
	baz=100							
Q30A	Quinter	100.39	52	⇑Pdiff	Pdif	14 15 55.3	+0.9	
	baz=100							
B26A	Jensen Ranch,	100.40	43	⇓Pdiff	Pdif	14 15 55.3	+1.2	
	baz=100							
X32A	Elmer	100.40	57	⇓Pdiff	Pdif	14 15 53.9	-0.6	
	baz=100							
133A	Hamilton Ranch	100.41	59	⇓Pdiff	Pdif	14 15 54.8	+0.2	
	baz=100							
M29A	Burnside Ranch	100.42	50	⇓Pdiff	Pdif	14 15 54.8	+0.4	
	baz=100							
KVTX	Kingsville	100.43	64	PFAKE		14 16 10.0	+15	
KVTX				LR	LR			
	comp=Z,2μm,19.0s							
KZA	Kyzart	100.45	311	P	Pdif	14 15 56.2	+1.2	
	SNR=8.8							
P30A	Selden	100.46	52	⇓Pdiff	Pdif	14 15 54.7	0.0	
	baz=100							
I28A	Midland	100.46	47	⇑Pdiff	Pdif	14 15 55.6	+1.1	
	baz=100							
T31A	Randall Ranch,	100.52	54	⇓Pdiff	Pdif	14 15 56.2	+1.2	
	baz=101							
W32A	Sentinel	100.55	56	⇑Pdiff	Pdif	14 15 56.9	+1.8	
	baz=101							
E27A	Carson	100.55	45	⇓Pdiff	Pdif	14 15 56.6	+1.7	
	baz=101							
A26A	Wade Farm, Ken	100.61	42	⇓Pdiff	Pdif	14 15 55.6	+0.6	
	baz=101							
835A	Beeville	100.61	63	⇑Pdiff	Pdif	14 15 55.7	+0.2	
	baz=101							
Z33A	Whitaker Ranch	100.64	58	⇑Pdiff	Pdif	14 15 55.5	0.0	
	baz=101							
434A	Burnet	100.66	61	⇑Pdiff	Pdif	14 15 55.3	-0.4	
	baz=101							
H28A	Mission Ridge	100.67	47	⇓Pdiff	Pdif	14 15 55.3	-0.1	
	baz=101							
L29A	Maesberg Ranch	100.67	49	⇓Pdiff	Pdif	14 15 55.6	+0.1	
	baz=101							
D27A	Center	100.68	44	⇓Pdiff	Pdif	14 15 55.4	-0.1	
	baz=101							
O30A	MW Ranch, Wils	100.70	51	⇓Pdiff	Pdif	14 15 56.7	+1.0	
	baz=101							
735A	Kenedy	100.73	63	⇑Pdiff	Pdif	14 15 55.9	-0.1	
	baz=101							
S31A	Mullinville	100.75	54	⇓Pdiff	Pdif	14 15 56.0	0.0	
	baz=101							
KBK	Karagaybulak	100.76	311	P	Pdif	14 15 56.5	+0.4	
	SNR=6.3							
KBK	Karagaybulak	100.76	311	P	PKKPbc	14 32 09.3	-1.0	
	SNR=12							
N30A	Hueftle Ranch,	100.76	51	⇓Pdiff	Pdif	14 15 55.7	-0.2	
	baz=101							
334A	Lometa	100.77	60	⇑Pdiff	Pdif	14 15 55.8	-0.4	
	baz=101							
C27A	Sayler Ranch,	100.78	43	⇑Pdiff	Pdif	14 15 57.0	+1.1	
	baz=101							
G28A	Parade	100.80	46	⇑Pdiff	Pdif	14 15 57.1	+1.1	
	baz=101							
V32A	Arapaho	100.80	56	⇓Pdiff	Pdif	14 15 56.8	+0.6	
	baz=101							
R31A	Burdett	100.82	53	⇑Pdiff	Pdif	14 15 56.9	+0.6	
	baz=101							
635A	Leesville	100.84	62	⇓Pdiff	Pdif	14 15 56.7	+0.2	
	baz=101							
WMOK	Wichita Mounta	100.86	57	*e*P'P'df	P'P'df	14 40 28.9	+2.4	
WMOK				LR	LR			
	comp=Z,3μm,19.0s							
Y33A	Hilltop Ranch,	100.87	58	⇑Pdiff	Pdif	14 15 56.9	+0.3	
	baz=101							
K29A	Lazy Trails An	100.89	49	⇓Pdiff	Pdif	14 15 56.9	+0.4	
	baz=101							
U32A	Winter Ranch,	100.94	55	⇑Pdiff	Pdif	14 15 57.4	+0.6	
	baz=101							
CHMS	Chumysh	100.95	312	P	Pdif	14 15 56.9	+0.2	
	SNR=15							
CHMS	Chumysh	100.95	312	P	PKKPbc	14 32 09.2	-0.3	
	SNR=20							
234A	Clairette	100.96	60	⇑Pdiff	Pdif	14 15 56.9	-0.1	
	baz=101							
J29A	Okreek	100.98	48	⇓Pdiff	Pdif	14 15 57.6	+0.7	
	baz=101							
F28A	McLaughlin	101.00	45	⇑Pdiff	Pdif	14 15 56.2	-0.7	
	baz=101							
UCH	Uchtor	101.01	311	P	Pdif	14 15 58.6	+1.0	
	SNR=13							
UCH	Uchtor	101.01	311	P	PKKPbc	14 32 10.0	+0.1	
	SNR=22							
FRU	Bishkek	101.02	312	*e*P	Pdif	14 15 55.0	-2.1	
FRU				*e*S	SKSac	14 26 19.5	+1.4	
FRU				pmax	pmax			
	comp=Z,300nm,2.4s							
FRU				pmax	pmax			
	comp=Z,1μm,5.2s							
FRU				smax	smax			
	comp=E,1μm,3.5s							
Q31A	Ellis	101.03	52	⇓Pdiff	Pdif	14 15 56.9	-0.3	
	baz=101							
M30A	Dale-Ortello V	101.04	50	⇓Pdiff	Pdif	14 15 57.6	+0.4	
	baz=101							
B27A	Peters Farms,	101.05	43	⇓Pdiff	Pdif	14 15 57.3	+0.3	
	baz=101							
X33A	Lawton	101.06	57	⇑Pdiff	Pdif	14 15 57.1	-0.3	
	baz=101							
AAK	Ala-Archa	101.08	311	P	Pdif	14 15 58.1	+0.6	
	SNR=9.3							
AAK	Ala-Archa	101.08	311	P	PKKPbc	14 32 09.6	+0.3	
	SNR=16							
AAK	Ala-Archa	101.08	311	*e*P	Pdif	14 15 56.8	-0.7	
AAK						14 20 07.8		
AAK				pmax	pmax			
	comp=Z,19nm,1.0s							
AAK				MLR	MLR			
	comp=Z,2μm,22.0s							
AAK	Ala-Archa	101.08	311	PP	PP	14 20 07.8	-1.0	
	comp=Z,8.0nm,1.1s,baz=46,slow=12,SNR=3.6							
AAK				PKKPbc	PKKPbc	14 32 09.6	+0.3	
	comp=Z,37nm,0.7s,baz=198,slow=2.4,SNR=41							
AAK				PKPPKP	P'P'df	14 40 26.3	+0.6	
	comp=Z,2.8nm,0.9s,baz=90,slow=1.8,SNR=9.0							

baz=102
636A Smothers Creek 101.48 62 ⇑Pdiff Pdif 14 16 00.7 +1.4
baz=102
WHTX Lake Whitney, 101.53 60 ⇑Pdiff Pdif 14 15 59.5 -0.1
baz=102
WHTX Lake Whitney, 101.53 60 *e*PP PP 14 20 11.1 -1.1
WHTX *e*P'P'df **P'P'df 14 40 29.2 +3.9**
C28A Hausauer Farms 101.53 44 ⇑Pdiff Pdif 14 15 59.4 +0.2
baz=102
536A Bastrop 101.56 62 ⇑Pdiff Pdif 14 15 59.9 +0.2
baz=102
J30A Dallas 101.57 48 ⇑Pdiff Pdif 14 15 59.3 -0.2
baz=102
Y34A Reagan Ranch, 101.58 58 ⇓Pdiff Pdif 14 15 59.7 0.0
baz=102
AML Almayashu 101.60 311 P **Pdif 14 16 00.9 +0.8**
SNR=13
AML Almayashu 101.60 311 P **PKKPbc 14 32 08.2 +0.2**
SNR=9.5
EKS2 Erkin-Say 101.61 311 P **Pdif 14 16 00.5 +0.7**
SNR=9.3
EKS2 Erkin-Say 101.61 311 P **PKKPbc 14 32 08.0 +0.2**
SNR=24
EKS2 Erkin-Say 101.61 311 *e*PKKPbc PKKPbc 14 32 07.6 -0.1
EKS2 LR LR
comp=Z,2μm,20.0s
X34A Smith Ranch, M 101.61 57 ⇓Pdiff Pdif 14 16 00.7 +0.9
baz=102
N31A Bailey Ranch, 101.62 51 ⇓Pdiff Pdif 14 16 00.8 +1.0
baz=102
B28A Dugan Ranch, T 101.64 43 ⇑Pdiff Pdif 14 16 00.2 +0.6
baz=102
T33A Patterson Ranc 101.64 54 ⇑Pdiff Pdif 14 16 00.3 +0.3
baz=102
135A Vickery Place, 101.66 59 ⇓Pdiff Pdif 14 16 00.3 +0.2
baz=102
U33A Lingo Farm, Me 101.66 55 ⇓Pdiff Pdif 14 16 00.3 +0.3
baz=102
F29A Eureka 101.67 45 ⇑Pdiff Pdif 14 15 59.7 -0.1
baz=102
Q32A Meitler Ranch, 101.67 53 ⇑Pdiff Pdif 14 16 01.6 +1.5
baz=102
M31A Lambtecht Ranc 101.68 50 ⇑Pdiff Pdif 14 16 00.7 +0.7
baz=102
I30A Oacoma 101.70 47 ⇓Pdiff Pdif 14 16 00.5 +0.5
baz=102
P32A Huiting Farm, 101.73 52 ⇑Pdiff Pdif 14 16 00.9 +0.7
baz=102
W34A Bridge Creek, 101.75 56 ⇓Pdiff Pdif 14 16 00.5 0.0
baz=102
W34A Bridge Creek, 101.75 56 *e*PP PP 14 20 12.8 -1.0
A28A Rude Farm, Bot 101.76 42 ⇓Pdiff Pdif 14 16 00.8 +0.5
baz=102
E29A Napoleon 101.89 45 ⇓Pdiff Pdif 14 16 01.0 +0.2
baz=102
L31A Butterfield Fa 101.89 49 ⇑Pdiff Pdif 14 16 02.2 +1.3
baz=102
436A Wall Ranch, Ga 101.90 61 ⇓Pdiff Pdif 14 16 00.8 -0.4
baz=102
Z35A Perchaven, San 101.90 58 ⇑Pdiff Pdif 14 16 02.0 +0.9
baz=102
S33A Kaszmaul Farm, 101.91 54 ⇑Pdiff Pdif 14 16 02.0 +0.9
baz=102
336A Riesel 101.95 60 ⇓Pdiff Pdif 14 16 01.3 -0.1
baz=102
PAYG Puerto Ayora 101.97 94 PFAKE 14 16 10.0 +8.1
PAYG LR LR
comp=Z,2μm,19.0s
D29A Pettibone, Tap 101.98 44 ⇑Pdiff Pdif 14 16 00.8 -0.4
baz=102
MDND Maddock 102.07 43 *e*P'P'df P'P'df 14 40 26.2 +3.1
BRSD Miller 102.10 47 *e*PKKPbc PKKPbc 14 32 06.3 +0.1
BHJ Bhuj 102.11 291 *e*P **Pdif 14 16 01.0 -1.3**
BHJ AMB AMB 14 16 03.7
comp=Z,121nm,2.9s
N32A Stulken Farm, 102.11 51 ⇑Pdiff Pdif 14 16 02.6 +0.7
baz=102
U34A Anderson Ranch 102.12 55 *e*PP PP 14 20 14.7 -1.8
U34A *e*PKKPbc **PKKPbc 14 32 06.1 +0.3**
BGNE Belgrade 102.30 50 *e*PKKPbc PKKPbc 14 32 05.7 +0.2
MRIV Mauritius Mete 103.15 245 *e*Pdif **Pdif 14 16 08.1 +1.0**
KSU1 Kansas State U 103.19 53 *e*P'P'df P'P'df 14 40 24.0 +2.3
KSU1 LR LR
comp=Z,3μm,20.0s
TUL1 Leonard 103.45 56 *e*PKKPbc PKKPbc 14 32 01.8 -0.1
NATX Nacogdoches 103.85 60 PFAKE 14 16 20.0 +10
NATX LR LR
comp=Z,2μm,20.0s
339A Huntington 103.88 61 ⇓Pdiff Pdif 14 16 11.7 +1.7
baz=104
EFI East Falkland 104.05 153 *e*PKKPbc PKKPbc 14 32 00.2 -0.4
EFI LR LR
comp=Z,2μm,19.0s
KK31 Karatay Array 104.05 311 P **Pdif 14 16 09.9 -0.6**
KK31 pmax pmax
comp=Z,33nm,1.1s
KKAR Karatay Array 104.05 311 *e*PKiKP **PKiKP 14 20 27.6 +0.7**
KKAR *e*PKKPbc **PKKPbc 14 32 01.1 +0.7**
KBL Kabul 104.27 303 *e*P **Pdif 14 16 12.0 +0.1**
KBL *i* 14 20 28.8
KBL Kabul 104.27 303 *e*Pdif **Pdif 14 16 12.0 +0.1**
KBL *e*PKiKP **PKiKP 14 20 28.8 +1.0**
RER Riviere de l'E 104.38 244 PFAKE 14 16 20.0 +7.4
RER LR LR
comp=Z,4μm,21.0s
VOSK Vostochnaya 104.49 321 *e*P **Pdif 14 16 10.7 -1.5**
VOSK Vostochnaya 104.49 321 *e*Pdif **Pdif 14 16 10.7 -1.5**
VOSK *e*PKKPbc **PKKPbc 14 31 58.8 -0.6**
VOSK *e*PKKPab **PKKPab 14 32 16.2 +0.3**
AGMN Agassiz Nation 104.61 43 *e*PKKPab PKKPab 14 32 16.4 +0.8
AGMN LR LR
comp=Z,3μm,19.0s
ULM Lac du Bonnet 104.74 41 PKiKP **PKiKP 14 20 27.4 -0.4**
comp=Z,6.5nm,0.7s,baz=264,slow=1.5,SNR=9.8
ULM PKKPbc **PKKPbc 14 31 57.0 -1.5**
comp=Z,5.6nm,0.8s,baz=85,slow=3.8,SNR=6.7
ULM PKKP **PKKPdf 14 32 11.0 +2.8**
comp=Z,7.4nm,1.0s,baz=93,slow=2.5,SNR=4.6
ULM PKPPKP **P'P'df 14 40 18.3 +0.4**
comp=Z,18nm,1.1s,baz=49,slow=2.1,SNR=13
BVA0 Borovoye Array 104.86 322 P **Pdif 14 16 11.8 -2.1**
BVA0 pmax pmax
comp=Z,700nm,3.0s
BVAR Borovoye Array 104.86 322 P **Pdif 14 16 13.2 -0.6**
BVAR pmax pmax
comp=Z,21nm,0.9s
BVAR pmax pmax
comp=Z,20nm,0.9s
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 104.86 322 Pdiff **Pdif 14 16 13.2 -0.6**
comp=Z,21nm,0.9s,baz=103,slow=4.7,SNR=87
BVAR PKiKP **PKiKP 14 20 27.7 -0.3**
comp=Z,20nm,0.9s,baz=153,slow=2.3,SNR=16
BVAR PKKPbc **PKKPbc 14 31 57.3 -1.0**
comp=Z,3.7nm,0.6s,baz=294,slow=1.4,SNR=9.0
BRVK Borovoye 104.93 322 P **Pdif 14 16 13.1 -1.0**
BRVK pmax pmax
comp=Z,300nm,3.0s
BRVK Borovoye 104.93 322 *e*PKiKP **PKiKP 14 20 28.8 +0.7**
BRVK *e*PKKPbc **PKKPbc 14 31 59.0 +0.9**
BRVK LR LR
comp=Z,3μm,22.0s
MIAR Mount Ida 105.09 58 *e*PP PP 14 20 37.9 -0.8
MIAR *e*PKKPbc **PKKPbc 14 31 58.0 +1.1**
MIAR *e*PKKPab **PKKPab 14 32 12.3 -1.5**
MIAR *e*P'P'df **P'P'df 14 40 20.8 +2.4**
MIAR LR LR
comp=Z,3μm,19.0s
APG El Apazote 105.09 78 PKKPbc PKKPbc 14 31 54.3 -2.3
comp=Z,7.5nm,0.8s,baz=1.3,slow=1.3,SNR=9.1
APG PKKPab **PKKPab 14 32 12.2 -2.6**
comp=Z,22nm,0.9s,baz=139,slow=2.1,SNR=12
RES Resolute Bay 105.13 16 *e*P **Pdif 14 16 15.6 +1.1**
RES Resolute Bay 105.13 16 PKKPbc PKKPbc 14 31 56.1 -2.0
comp=Z,8.3nm,0.9s,baz=85,slow=3.4,SNR=14
RES PKKPab **PKKPab 14 32 14.1 +1.4**
comp=Z,13nm,0.9s,baz=89,slow=4.8,SNR=12
RES Resolute Bay 105.13 16 *e*Pdif **Pdif 14 16 15.6 +1.1**
RES *e*PKiKP **PKiKP 14 20 27.9 0.0**
RES PKKPbc **PKKPbc 14 31 56.1 -2.0**
RES PKKPab **PKKPab 14 32 14.1 +1.4**
SCIA State Center 106.03 50 *e*PKKPab PKKPab 14 32 10.8 +1.3
SCIA LR LR
comp=Z,5μm,20.0s
FCC Fort Churchill 106.04 32 *e*PKKPbc PKKPbc 14 31 52.8 -2.1
FCC *e*P'P'df **P'P'df 14 40 15.9 +1.2**
UALR University of 106.12 57 *e*PKKPab PKKPab 14 32 10.5 +1.3
SPMN Marine on St. 106.53 47 *e*PP PP 14 20 47.3 -1.5
SPMN *e*PKKPbc **PKKPbc 14 31 52.3 -0.6**
HBAR Harrisburg 107.57 57 *e*PKiKP **PKiKP 14 20 35.9 +2.4**
TEIG Tepich 107.99 73 PKKPbc PKKPbc 14 31 49.0 +1.6
comp=Z,13nm,0.8s,baz=88,slow=3.1,SNR=5.7
JFWS Jewell Farm 108.28 49 *e*PKiKP **PKiKP 14 20 39.6 +5.0**
OXF Oxford 108.51 58 *e*PKKPbc PKKPbc 14 31 46.0 -0.2
OXF *e*PKKPab **PKKPdf 14 31 59.8 -0.9**
HOPE Hope Point 109.41 166 PFAKE 14 20 50.0
HOPE LR LR
comp=Z,1μm,19.0s
JTS JuntasAbangare 109.53 84 PFAKE 14 20 50.0
JTS LR LR
comp=Z,2μm,21.0s
OLIL Olney 109.78 54 *e*PP PP 14 21 10.7 -2.0
OLIL *e*PKKPab **PKKPab 14 31 53.8 +0.9**
MSEY Mahe Island 109.89 260 PFAKE 14 20 50.0
MSEY LR LR
comp=Z,4μm,20.0s
WVT Waverly 109.89 56 *e*PKKPbc PKKPbc 14 31 40.7 -1.2
WVT *e*PKKPab **PKKPab 14 31 52.0 -0.4**
BRAL Brewton 110.25 62 PFAKE 14 20 50.0
BRAL LR LR
comp=Z,2μm,19.0s
CFAA Coronel Fontan 110.37 131 PKiKP **PKiKP 14 20 38.7 -0.4**
comp=Z,1.0nm,0.8s,baz=261,slow=2.7,SNR=10
SVE Sverdlovsk 110.38 326 *e*PKIKP **PKiKP 14 20 38.3 +0.2**
SVE pmax pmax
comp=Z,89nm,1.4s
LRAL Lakeview Retre 110.42 60 *e*PKKPbc PKKPbc 14 31 41.2 +1.1
TRQA Tornquist 110.96 140 PFAKE 14 20 50.0
TRQA LR LR
comp=Z,1μm,19.0s
WCI Wyandotte Cave 111.18 54 *e*PP PP 14 21 20.9 -1.9
WCI *e*PKKPbc **PKKPbc 14 31 36.6 -1.3**
WCI *e*PKKPab **PKKPab 14 31 48.3 +1.6**
AB31 Akbulak array 111.48 318 PKIKP **PKiKP 14 20 40.4 -0.1**
AB31 pmax pmax
comp=Z,33nm,1.1s
ABKAR Akbulak array 111.48 318 *e*Pdif **Pdif 14 16 43.3 -0.1**
ABKAR *e*PKiKP **PKiKP 14 20 41.5 +1.0**
ABKAR *e*PKKPbc **PKKPbc 14 31 34.4 -2.9**
ARU Arti 111.56 326 P **Pdif 14 16 42.2 -1.3**
ARU *i* 14 20 40.1
ARU 14 21 21.0
ARU 14 26 59.5
ARU PS **SP 14 30 40.4 +3.7**
ARU MLR MLR
comp=Z,2μm,19.0s
ARU Arti 111.56 326 *e*PKiKP **PKiKP 14 20 40.2 -0.2**
ARU LR LR
comp=Z,2μm,21.0s
NNA Nana 111.57 109 PKKPbc PKKPbc 14 31 36.4 +0.4
comp=Z,7.4nm,0.4s,baz=49,slow=1.0,SNR=5.0
NNA Nana 111.57 109 PFAKE 14 20 50.0
NNA LR LR
comp=Z,1μm,20.0s
ATAH Atahualpa 111.67 103 PKiKP **PKiKP 14 20 42.0 -0.4**
comp=Z,13nm,0.8s,baz=150,slow=5.2,SNR=6.6
IMYA Miami 111.67 304 *e*P **PKiKP 14 20 42.3 +0.8**
IDAH Dahanechah 111.75 300 *e*P **PKiKP 14 20 43.0 +1.1**
SOKR Solikamsk 111.98 329 *c i*PKIKP **PKiKP 14 20 41.8 +0.8**
SOKR 14 21 23.6
SOKR pmax pmax
comp=Z,160nm,1.3s
ISRO Mashad 112.18 304 *e*P **PKiKP 14 20 43.5 +1.1**
IMOG Moghan 112.29 304 *e*P **PKiKP 14 20 44.7 +1.9**
IKOO Kooshah 112.46 300 *e*P **PKiKP 14 20 43.1 -0.1**
JMDO Jabal Madar 112.55 289 P **PKiKP 14 20 44.4 +1.0**
SNR=6.5
ABPO Ambohimpanom 112.59 243 *e*PKIKP **PKiKP 14 20 44.1 +0.4**
ABPO MLR MLR
comp=Z,5μm,19.0s
ABPO Ambohimpanom 112.59 243 *e*PKPdf **PKiKP 14 20 44.1 +0.4**
ABPO LR LR
comp=Z,5μm,19.0s
AKTO Aktyubinsk 112.62 319 *i* PKIKP **PKiKP 14 20 42.7 +0.1**
AKTO pmax pmax
comp=Z,37nm,0.6s
AKTO pmax pmax
comp=Z,9.0nm,0.8s
AKTO Aktyubinsk 112.62 319 PKiKP **PKiKP 14 20 42.7 +0.1**
comp=Z,37nm,0.6s,baz=88,slow=6.2,SNR=70
AKTO PKKPbc **PKKPbc 14 31 32.5 -1.0**
comp=Z,8.7nm,0.8s,baz=262,slow=3.5,SNR=14
SMDO Samad 112.67 289 P **PKiKP 14 20 44.9 +1.3**
SNR=11
IAKL Akhelmad 112.76 304 *e*P **PKiKP 14 20 44.2 +0.5**
OPO Ambohidratompo 112.81 243 PKiKP **PKiKP 14 20 44.4 +0.3**
comp=Z,76nm,0.8s,baz=112,slow=1.7,SNR=55
IKRD Kardeh 112.96 304 *e*P **PKiKP 14 20 43.0 -1.0**
AAM Ann Arbor 113.15 50 PFAKE 14 21 00.0
AAM LR LR
comp=Z,4μm,20.0s
GEYT Alibeck 113.27 306 Pdiff **Pdif 14 16 52.0 +0.4**
comp=Z,1.0nm,0.5s,baz=338,slow=1.6,SNR=5.1
GEYT PKiKP **PKiKP 14 20 44.9 +0.6**
comp=Z,50nm,0.8s,baz=203,slow=1.1,SNR=62
GEYT PP **PP 14 21 39.4 +1.7**
comp=Z,9.9nm,0.8s,baz=93,slow=8.5,SNR=2.7
GEYT PKKPbc **PKKPbc 14 31 30.5 -0.5**
comp=Z,7.8nm,0.8s,baz=258,slow=4.4,SNR=7.4
ISFR Sfrayin 113.37 305 *e*P **PKiKP 14 20 44.9 0.0**
HOQ Hoqain 113.39 290 P **PKiKP 14 20 45.8 +0.8**
SNR=7.6
GOGA Godfrey 113.39 59 PFAKE 14 21 00.0
GOGA LR LR
comp=Z,2μm,20.0s
KBS Kingsbay 113.60 355 *e*PKPdf **PKiKP 14 20 44.7 +1.0**
KBS *e*PP **PP 14 21 38.2 -0.4**
KBS *e*SS SS 14 37 12.6 +2.2
KBS Kingsbay 113.60 355 *e*PKIKP **PKiKP 14 20 44.3 +0.6**
KBS *e* 14 21 39.4
KBS MLR MLR
comp=Z,1μm,22.0s
KBS Kingsbay 113.60 355 *e*PKiKP **PKiKP 14 20 44.3 +0.6**
KBS *e*PP **PP 14 21 39.4 +0.8**
KBS *e*PKKPbc **PKKPbc 14 31 30.5 -0.5**
KBS *e*PKKPab **PKKPab 14 31 37.4 +2.4**
KBS LR LR
comp=Z,1μm,22.0s
OTAV Otavalo 113.66 96 *e*PKiKP **PKiKP 14 20 48.2 +2.0**
OTAV LR LR
comp=Z,1μm,20.0s
ACSO Alum Creek Sta 113.74 52 *e*PKiKP **PKiKP 14 20 45.2 +0.1**
ACSO LR LR
comp=Z,5μm,19.0s
SPA0 Spitsbergen Ar 113.84 354 *e*PKPdf **PKiKP 14 20 44.9 +0.6**
SPA0 *e*PP **PP 14 21 39.4 -0.9**
SPITS Spitsbergen Ar 113.84 354 *i* PKIKP **PKiKP 14 20 45.0 +0.8**
SPITS pmax pmax
comp=Z,74nm,0.8s
SPITS pmax pmax
comp=Z,19nm,0.9s
SPITS Spitsbergen Ar 113.84 354 PKiKP **PKiKP 14 20 45.0 +0.8**
comp=Z,74nm,0.8s,baz=137,slow=14,SNR=43
SPITS PKKPbc **PKKPbc 14 31 28.8 -1.3**
comp=Z,19nm,0.8s,baz=161,slow=13,SNR=11
ARQ Araqi 114.09 290 P PKPdf 14 20 47.1 +0.8
SNR=6.3
LVC Limon Verde 114.27 123 *e*PKiKP **PKiKP 14 20 48.6 +1.6**
LVC *e*PKKPbc **PKKPbc 14 31 28.4 +0.9**
LVC LR LR
comp=Z,2μm,22.0s
BCIP Isla Barro Col 114.27 86 PFAKE 14 21 00.0 +13
BCIP LR LR
comp=Z,1μm,20.0s
KULLO Kullorsuaq 114.28 12 *i* PKIKP PKPdf 14 20 45.1 0.0
KULLO pmax pmax
comp=Z,38nm,0.9s
KULLO Kullorsuaq 114.28 12 *i* P PKPdf 14 20 45.1 0.0
comp=Z,38nm,0.8s
KULLO *i* 14 21 38.6
HATD Hatta, Dubai 114.57 291⇑ *e*P PKPdf 14 20 47.7 +0.5
SNR=29
ASHO Ashiyiah 114.62 291 P PKPdf 14 20 47.8 +0.5
SNR=13
HSPB Hornsund (broa 114.95 353 *e*PP PP 14 21 48.0 0.0
NAZ Nazwa, Dubai 115.00 291⇑ *e*P **PKPdf 14 20 48.3 +0.3**
SNR=26
FAQ Al Faqa, Dubai 115.05 291⇑ *e*P **PKPdf 14 20 48.2 +0.1**
SNR=11
ASUD Al Ashush, Dub 115.28 291⇑ *e*P **PKPdf 14 20 49.1 +0.6**
SNR=13
IBAF Bafgh 115.36 299 *e*P **PKPdf 14 20 48.3 -0.3**
RBK Rabkut 115.65 283 P **PKPdf 14 20 50.4 +1.0**
SNR=24
BLA Blacksburg 115.85 55 *e*PKIKP **PKPdf 14 20 50.4 +1.1**
BLA MLR MLR
comp=Z,4μm,19.0s
BLA Blacksburg 115.85 55 *e*PKPdf **PKPdf 14 20 50.4 +1.1**
BLA LR LR
comp=Z,4μm,19.0s
ERPA Erie 115.88 50 *e*PP PP 14 21 54.9 -0.9
ERPA LR LR
comp=Z,4μm,19.0s
NHSC New Hope 116.15 60 PFAKE 14 21 00.0 +10
NHSC LR LR
comp=Z,3μm,20.0s
IMEH Mehriz 116.17 298 *e*P **PKPdf 14 20 49.4 -1.0**
ABTO Aybut 116.49 283 P **PKPdf 14 20 51.8 +0.7**
SNR=17
BJO Bjornoya 116.56 351 *e*PP PP 14 21 58.5 -0.8
PRGR Permogore 116.68 333⇓ *i*PKIKP **PKPdf 14 20 49.6 -0.4**
PRGR 14 21 49.3
PRGR pmax pmax
comp=Z,152nm,0.8s
IANJ Anjilo 116.70 303 *e*P **PKPdf 14 20 52.1 +0.8**
IGLO Ghaloghah 116.73 304 *e*P **PKPdf 14 20 51.3 0.0**
DAG Danmarks Havn 116.78 2⇑ *i*PKIKP **PKPdf 14 20 48.7 -1.2**
DAG *i* 14 21 58.2
DAG pmax pmax
comp=Z,39nm,0.8s
DAG Danmarks Havn 116.78 2⇑ *i*P **PKPdf 14 20 48.7 -1.2**
comp=Z,52nm,0.8s
DAG *i* 14 21 58.2
ILAS Lasjerd 117.48 303 *e*P **PKPdf 14 20 52.7 -0.1**
IALA Alasht 117.57 304 *e*P **PKPdf 14 20 54.3 +1.4**
SSPA Standing Stone 117.59 51 *e*PKPdf **PKPdf 14 20 53.4 +0.9**
IFIR Firoozkooh 117.64 303 *e*P **PKPdf 14 20 52.7 -0.4**
LPAZ La Paz 117.74 117 PKIKP **PKPdf 14 20 54.5 +0.3**
LPAZ pmax pmax
comp=Z,20nm,0.9s
LPAZ pmax pmax
comp=Z,14nm,0.8s
LPAZ La Paz 117.74 117 PKP **PKPdf 14 20 54.5 +0.3**
comp=Z,20nm,0.9s,baz=286,slow=0.7,SNR=41
LPAZ PKKPbc **PKKPbc 14 31 15.0 -0.8**
comp=Z,14nm,0.8s,baz=108,slow=1.3,SNR=18
LVZ Lovozero 117.75 342 *d i*PKIKP **PKPdf 14 20 51.5 -0.5**
LVZ pmax pmax
comp=Z,121nm,0.7s
LVZ Lovozero 117.75 342 *e*PKPdf **PKPdf 14 20 52.8 +0.8**
LVZ *e*PKKPbc **PKKPbc 14 31 14.7 -1.7**
LVZ LR LR
comp=Z,2μm,21.0s
MTDJ Mount Denham 117.82 76 PFAKE 14 21 10.0 +16
MTDJ LR LR
comp=Z,1μm,20.0s
IPRN Peran 117.94 304 *e*P **PKPdf 14 20 53.9 +0.4**
CNNC Cliffs of the 117.98 57 PFAKE 14 21 10.0 +17
CNNC LR LR
comp=Z,4μm,19.0s
CBN Corbin Frederi 118.20 54 PFAKE 14 21 10.0 +16
CBN LR LR
comp=Z,5μm,21.0s
IDMV Damavand 118.23 303 *e*P **PKPdf 14 20 54.6 +0.4**
APA Apatity 118.33 342⇓ *i*PKIKP **PKPdf 14 20 52.8 -0.3**
APA *i* *PP **pPKPdf 14 21 40.0 -2.4**
APA *i* 14 22 10.0
APA *i* 14 27 32.0
APA *i* PS **PS 14 32 00.0 -0.7**
APA *i* SS SS 14 38 10.0 -2.2
APA MLR MLR
comp=Z,2μm,22.0s
IVRN Varamin 118.51 303 *e*P **PKPdf 14 20 55.2 +0.7**
KEV Kevo 118.66 345 *e*PKIKP **PKPdf 14 20 53.9 +0.3**
KEV MLR MLR
comp=Z,2μm,21.0s
KEV Kevo 118.66 345 *e*pkp **PKPdf 14 20 52.6 -1.0**
comp=Z,65nm,0.6s
KEV Kevo 118.66 345 *e*p **PKKPbc 14 31 09.0 -4.1**
comp=Z,24nm,0.8s
KEV Kevo 118.66 345 *e*PKPdf **PKPdf 14 20 53.9 +0.3**
KEV *e*PKKPbc **PKKPab 14 31 11.4 -1.4**
KEV LR LR
comp=Z,2μm,21.0s
TMCR Tamitsa 118.66 337 *e*PKIKP **PKPdf 14 20 51.7 -2.1**
TMCR *e* 14 22 17.2
TMCR pmax pmax
comp=Z,188nm,1.4s
ROSC El Rosal 118.75 92 PKP **PKPdf 14 20 56.2 +0.2**
comp=Z,12nm,0.5s,baz=260,slow=23,SNR=6.2
ROSC PKKPbc **PKKPbc 14 31 13.3 +1.6**
comp=Z,7.5nm,0.5s,baz=94,slow=14,SNR=4.3
QAM Ghamsar 118.81 301 *e*P **PKPdf 14 20 54.7 -0.6**
MVL Millersville 118.82 52 *e*PKPdf **PKPdf 14 20 54.5 -0.4**
BINY Binghamton 118.83 49 PFAKE 14 21 10.0 +15
BINY LR LR
comp=Z,6μm,19.0s
IR3 Iran Long-Peri 119.06 303 *e*P **PKPdf 14 20 56.6 +1.0**
SUMG Summit 119.15 9 *i* PKIKP **PKPdf 14 20 54.9 -0.2**
SUMG *i* 14 22 16.0
SUMG Summit 119.15 9 *i* P **PKPdf 14 20 54.9 -0.2**
SUMG *i* 14 22 16.0
SUMG Summit 119.15 9 *e*PKPdf **PKPdf 14 20 53.6 -1.5**
SUMG *e*PKKPbc **PKKPab 14 31 06.6 -4.5**
ARA0 ARCESS Array S 119.18 346 *e*PKPdf **PKPdf 14 20 54.2 -0.5**
ARA0 *e*PKKPbc **PKKPab 14 31 07.6 -3.0**
ARCES ARCESS Array B 119.18 346 PKIKP **PKPdf 14 20 54.1 -0.6**
ARCES pmax pmax
comp=Z,112nm,0.6s
ARCES pmax pmax
comp=Z,66nm,0.8s
ARCES ARCESS Array B 119.18 346 PKP **PKPdf 14 20 54.1 -0.6**
comp=Z,112nm,0.6s,baz=35,slow=19,SNR=4.2
ARCES PKKPbc **PKKPab 14 31 07.9 -2.6**
comp=Z,66nm,0.8s,baz=223,slow=2.2,SNR=94
ARE0 ARCESS Array S 119.18 346 *e*PP PP 14 22 16.0 -1.5
PTN Potsdam (NY) 119.19 46 *e*PKIKP **PKPdf 14 20 54.7 -0.7**
PTN Potsdam (NY) 119.19 46 *e*PKPdf **PKPdf 14 20 54.7 -0.7**
PTN *e*PKKPbc **PKKPab 14 31 13.0 +1.8**
ILULI Ilulissat 119.40 15⇑ *i*PKIKP **PKPdf 14 20 55.5 +0.4**
ILULI pmax pmax
comp=Z,65nm,1.0s
ILULI Ilulissat 119.40 15⇑ *i*P **PKPdf 14 20 55.5 +0.4**
comp=Z,65nm,0.9s
ILULI *i* 14 22 06.8
LONY Lake Ozonia 119.46 46 *e*PKPdf **PKPdf 14 20 56.2 +0.2**
LONY *e*PKKPbc **PKKPab 14 31 10.2 +0.2**
LONY LR LR
comp=Z,3μm,19.0s
KLMR Klimovskoe 119.69 334 *e*P **Pdif 14 17 16.5 -3.1**
KLMR *e* 14 20 55.0
KLMR pmax pmax
comp=Z,405nm,1.2s
NCB Newcomb 119.83 47 PFAKE 14 21 10.0 +13
NCB LR LR
comp=Z,4μm,20.0s
IRAZ Razeghan 119.95 303 *e*P **PKPdf 14 20 57.5 0.0**
ODNJ Ogdensburg 120.01 50 *e*PKPdf **PKPdf 14 20 57.6 +0.6**
KTK1 Kautokeino 120.11 346 *e*PKPdf **PKPdf 14 20 55.9 -0.6**
GRM Grahamstown 120.15 218 PKIKP **PKPdf 14 20 58.4 +0.6**
GRM Grahamstown 120.15 218 *i* P **PKPdf 14 20 58.6 +0.8**
GRM Grahamstown 120.15 218 P **PKPdf 14 20 58.4 +0.6**
KSD Kokstad 120.21 222 P **PKPdf 14 20 59.4 +1.3**
GTBY Guantanamo Bay 120.26 75 PFAKE 14 21 10.0 +12
GTBY LR LR
comp=Z,1μm,19.0s
TRO Tromso 120.59 348 *e*PKPdf **PKPdf 14 20 55.6 -1.7**
TRO *e*PP **PP 14 22 23.0 -4.0**
MAK Makhachkala 120.85 312 *e*P **Pdif 14 17 25.7 +0.5**
MAK *e* 14 21 00.2
MAK *e* 14 21 48.4
MAK *e* 14 22 09.9
MAK *e* 14 22 27.7
MAK *e* 14 27 50.0
MAK *e*SP SP 14 32 03.2 +1.5
MAK *e*PS **PS 14 32 22.2 -2.0**
MAK pmax pmax
comp=Z,740nm,1.4s
MAK MLR MLR
comp=Z,2μm,20.0s
SFJD Kangerlussuaq 121.13 16⇑ *i*PKIKP **PKPdf 14 20 58.5 +0.1**
SFJD *i* 14 22 29.8
SFJD pmax pmax

comp=Z,37nm,1.0s
SFJD Kangerlussuaq 121.13 16 ⇑*i*P **PKPdf 14 20 58.5 +0.1**
comp=Z,37nm,1.0s
SFJD *i* 14 22 29.8
SFJD Kangerlussuaq 121.13 16 PKP **PKPdf 14 20 57.7 -0.8**
comp=Z,48nm,0.9s,baz=263,slow=0.8,SNR=8.6
SFJD PKKPbc **PKKPab 14 31 01.5 -0.6**
comp=Z,21nm,0.8s,baz=141,slow=5.3,SNR=8.4
SFJD SKKP 14 34 57.8
comp=Z,51nm,1.2s,baz=124,slow=8.2,SNR=4.9
SFJD Kangerlussuaq 121.13 16 PKP **PKPdf 14 20 57.7 -0.8**
SFJD PKKPbc **PKKPab 14 31 01.5 -0.6**
SFJD SKKP 14 34 57.8
SFJD LR LR
comp=Z,3μm,20.0s
CPUP Villa Florida 121.22 133 PKP **PKPdf 14 20 59.9 -0.1**
comp=Z,39nm,0.8s,baz=258,slow=1.8,SNR=60
CPUP PKKPbc **PKKPbc 14 31 03.3 +0.7**
comp=Z,5.1nm,0.7s,baz=40,slow=3.4,SNR=7.7
CPUP PKKP **PKKPdf 14 31 37.0 +1.0**
comp=Z,4.6nm,0.5s,baz=24,slow=2.1,SNR=9.0
LBNH Lisbon 121.40 46 PFAKE 14 21 10.0 +10
LBNH LR LR
comp=Z,4μm,19.0s
SCHQ Schefferville 121.40 33 PKP **PKPdf 14 20 57.4 -2.0**
comp=Z,27nm,0.9s,baz=342,slow=1.4,SNR=18
SCHQ PKKPbc **PKKPab 14 31 01.6 +0.3**
comp=Z,26nm,0.8s,baz=82,slow=4.3,SNR=9.1
ISRB Sarab 121.52 306 *e*P **PKPdf 14 20 59.8 -0.7**
JOF Joensuu 121.86 338 *e*PKIKP **PKPdf 14 20 59.4 -0.6**
JOF pmax pmax
comp=Z,156nm,0.8s
JOF Joensuu 121.86 338 *e*pkp **PKPdf 14 20 59.4 -0.6**
comp=Z,156nm,0.8s
JOF Joensuu 121.86 338 *e*p **PKKPbc 14 30 58.3 -2.8**
comp=Z,8.1nm,0.7s
IHRS Heris 121.94 307 *e*P **PKPdf 14 21 02.4 +1.1**
IKOM Komasi 122.04 302 *e*P **PKPdf 14 20 60.0 -1.5**
BRYW Bryant College 122.14 49 *e*PKPdf **PKPdf 14 21 02.0 +0.8**
ILIN Lien 122.42 303 *e*P **PKPdf 14 21 00.8 -1.5**
VRHR Novokhopersk 122.59 323 *e*PKIKP **PKPdf 14 21 01.4 -0.3**
VRHR *e* 14 22 37.4
VRHR *e*SP SP 14 32 13.7 -2.7
VRHR pmax pmax
comp=N,90nm,0.9s
VRHR pmax pmax
comp=E,100nm,0.9s
VRHR pmax pmax
comp=Z,600nm,0.9s
VRHR pmax pmax
comp=N,380nm,2.8s
VRHR pmax pmax
comp=E,580nm,2.8s
VRHR pmax pmax
comp=Z,630nm,2.8s
JMIC Jan Mayen 122.61 358 *e*PKPdf **PKPdf 14 21 01.7 +0.5**
JMIC *e*PP **PP 14 22 39.9 -0.7**
JMIC Jan Mayen 122.61 358 PKP **PKPdf 14 21 00.3 -0.9**
comp=Z,64nm,0.4s,baz=354,slow=21,SNR=4.5
ITBZ Tabriz 122.65 307 *e*P **PKPdf 14 21 02.7 +0.2**
DGRG David-gareji 122.69 311 P **PKPdf 14 21 04.7 +2.4**
STEI Steigen 122.76 348 *e*PKPdf **PKPdf 14 21 01.3 -0.3**
IGHG Ghaleghazi 122.80 302 *e*P **PKPdf 14 21 01.5 -1.5**
SEK Senekal 122.84 223 P **PKPdf 14 21 02.5 -0.7**
IAZR Azarshahr 122.87 306 *e*P **PKPdf 14 21 02.9 -0.2**
IDHR Dehrash 122.91 303 *e*P **PKPdf 14 21 01.6 -1.6**
LOF Lofoten 122.92 349 *e*P **PKPdf 14 21 01.8 0.0**
LOF IAmb IAmb 14 21 03.2
comp=Z,211nm,1.0s
IMRD Marand 122.92 307 *e*P **PKPdf 14 21 03.0 0.0**
MOS Moscow 122.93 329α *i*PKIKP **PKPdf 14 21 03.1 +0.9**
MOS *e* 14 21 51.1
MOS *i* 14 22 41.1
MOS pmax pmax
comp=Z,700nm,1.2s
MOS pmax pmax
comp=Z,487nm,0.9s
ELIM Elim 122.96 212 P **PKPdf 14 21 03.9 +0.8**
PKME Peaks-Kenny Pk 122.99 45 PFAKE 14 21 10.0 +7.3
PKME LR LR
comp=Z,7μm,19.0s
SEAG Tbilisi Sea 123.05 311 P **PKPdf 14 21 04.0 +1.0**
DUS Dusheti 123.06 312 P **PKPdf 14 21 05.8 +2.7**
TBLG Delisi 123.10 311 P **PKPdf 14 21 04.8 +1.7**
GUDG Gudauri 123.14 312 P **PKPdf 14 21 03.8 +0.4**
SDV Santo Domingo 123.16 88 *e*PKPdf **PKPdf 14 21 03.2 -1.0**
SDV *e*PKKPbc **PKKPab 14 30 56.6 +1.0**
SDV LR LR
comp=Z,2μm,20.0s
GNI Garni 123.41 309 PKIKP **PKPdf 14 21 04.9 +1.0**
GNI pmax pmax
comp=Z,171nm,0.8s
GNI Garni 123.41 309 PKP **PKPdf 14 21 04.9 +1.0**
comp=Z,171nm,0.8s,baz=244,slow=0.8,SNR=83
GNI Garni 123.41 309 PKP **PKPdf 14 21 04.9 +1.0**
GNI LR LR
comp=Z,1μm,21.0s
KZR Kazreti 123.41 311 P **PKPdf 14 21 05.1 +1.3**
ZEI Tsey 123.48 312 *i* PKIKP **PKPdf 14 21 02.8 -1.2**
ZEI pmax pmax
comp=Z,180nm,1.0s
GOF Gofitskoye 123.53 315⇑*i*PKIKP **PKPdf 14 21 05.0 +1.3**
GOF pmax pmax
comp=Z,300nm,1.3s
NCK Nalchik 123.54 313⇑*i*PKIKP **PKPdf 14 21 05.1 +1.3**
ERPM east rand prop 123.71 225 P **PKPdf 14 21 05.0 0.0**
OBN Obninsk 123.75 328*d i*PKIKP **PKPdf 14 21 03.7 -0.1**
OBN *i* 14 21 54.7
OBN *i* 14 22 51.1
OBN *e* 14 27 57.7
OBN *i* SS SS 14 39 25.0 +3.1
OBN pmax pmax
comp=Z,527nm,1.2s
OBN Obninsk 123.75 328 PKP **PKPdf 14 21 03.6 -0.1**
comp=Z,232nm,0.7s,baz=49,slow=1.3,SNR=77
OBN PP **PP 14 22 52.1 +3.2**
comp=Z,13nm,0.3s,baz=247,slow=9.5,SNR=4.7
OBN Obninsk 123.75 328 PKP **PKPdf 14 21 03.6 -0.1**
OBN PP **PP 14 22 52.1 +3.2**
OBN LR LR
comp=Z,1μm,20.0s
VOR Voronezh 123.77 324 *e*PKIKP **PKPdf 14 21 02.0 -2.0**
VOR pmax pmax
comp=Z,2μm,1.2s
SDDR Presa de Saban 123.79 76 *e*PKKPbc PKKPbc 14 30 54.4 +1.9
SDDR LR LR
comp=Z,2μm,21.0s
ONI Oni 123.85 312 P **PKPdf 14 21 06.6 +2.0**
SIV San Ignacio 123.91 120 PKP **PKPdf 14 21 03.7 -1.7**
comp=Z,32nm,0.8s,baz=245,slow=2.0,SNR=43
SIV PKKPbc **PKKPbc 14 30 52.0 -0.1**
comp=Z,11nm,0.9s,baz=92,slow=7.5,SNR=13
KBZ Khabaz 123.97 314 PKIKP **PKPdf 14 21 04.4 -0.2**
KBZ 14 22 52.2
KBZ pmax pmax
comp=Z,80nm,0.9s
KBZ pmax pmax
comp=Z,20nm,1.0s
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 123.97 314 PKP **PKPdf 14 21 04.3 -0.2**
comp=Z,80nm,0.9s,baz=119,slow=2.3,SNR=51
KBZ PP **PP 14 22 52.2 +1.3**
comp=Z,20nm,1.0s,baz=95,slow=9.7,SNR=6.1
KBZ PKKPbc **PKKPbc 14 30 54.1 +1.9**
comp=Z,5.1nm,0.9s,baz=233,slow=4.0,SNR=4.8
VSR Storozhevoye 123.99 323 *e*PKIKP **PKPdf 14 21 04.2 -0.2**
VSR *e* 14 22 46.6
VSR *e*SP SP 14 32 29.3 +0.6
VSR *e*SPP SPP 14 33 56.6
VSR *e*SS **SS 14 39 23.2 -2.1**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,100nm,0.8s
VSR pmax pmax
comp=Z,440nm,0.8s
VSR pmax pmax
comp=N,910nm,5.3s
VSR pmax pmax
comp=E,1μm,5.3s
VSR pmax pmax
comp=Z,2μm,5.3s
VORD Divnogorie 124.01 323 *e*PKIKP **PKPdf 14 21 04.1 -0.3**
VORD *e*SP SP 14 32 28.1 -0.8
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,30nm,0.7s
VORD pmax pmax
comp=Z,230nm,0.7s
VORD pmax pmax
comp=Z,1μm,2.9s
VORD pmax pmax
comp=N,180nm,2.4s
VORD pmax pmax
comp=E,540nm,2.9s
KIV Kislovodsk 124.06 314 *e*P **Pdif 14 17 38.9 -0.7**
KIV *i* 14 21 05.4
KIV *e* 14 22 50.9
KIV *e* 14 27 55.4
KIV *e*PS **PS 14 32 46.5 -6.3**
KIV *e*SS SS 14 39 25.4 -1.7
KIV pmax pmax
comp=Z,246nm,1.1s
KIV Kislovodsk 124.06 314 *e*PKPdf **PKPdf 14 21 05.9 +1.0**
KIV LR LR
comp=Z,1μm,20.0s
GRTK Grand Turk 124.07 73 PFAKE 14 21 20.0 +15
GRTK LR LR
comp=Z,1μm,21.0s
SLR Silverton 124.07 226 PKIKP **PKPdf 14 21 05.4 -0.2**
SLR Silverton 124.07 226 P **PKPdf 14 21 05.4 -0.2**
AKH Akhalkalaki 124.08 311 P **PKPdf 14 21 07.2 +2.0**
SUR Sutherland 124.10 214 PKP **PKPdf 14 21 06.0 +0.4**
comp=Z,205nm,1.0s,baz=131,slow=1.7,SNR=22
SUR Sutherland 124.10 214 PKP **PKPdf 14 21 06.0 +0.4**
SUR LR LR
comp=Z,4μm,19.0s
EAK Akyaka 124.15 310 *i* P **PKPdf 14 21 05.5 +0.2**
CER Ceres 124.16 212 P **PKPdf 14 21 06.2 +0.8**
KAF Kangasniemi 124.16 339 *e*PKIKP **PKPdf 14 21 03.5 -0.9**
KAF pmax pmax
comp=Z,107nm,0.6s
KAF Kangasniemi 124.16 339 *e*pkp **PKPdf 14 21 03.5 -0.9**
comp=Z,107nm,0.6s
KAF Kangasniemi 124.16 339 *e*p **PKKPbc 14 30 49.1 -3.0**
comp=Z,6.3nm,0.8s
BOSA Boshof 124.18 221 PKIKP **PKPdf 14 21 05.8 +0.1**
BOSA pmax pmax
comp=Z,196nm,0.9s
BOSA Boshof 124.18 221 PKP **PKPdf 14 21 05.8 +0.1**
comp=Z,196nm,0.9s,baz=132,slow=2.4,SNR=97
BOSA Boshof 124.18 221 P **PKPdf 14 21 06.3 +0.5**
CLDR Caldiran 124.22 308 *e*P **PKPdf 14 21 06.4 +0.8**
DYDN Diyadin 124.32 309 *i* P **PKPdf 14 21 06.1 +0.3**
DIGO Kars 124.38 310 *i* P **PKPdf 14 21 06.6 +0.8**
MOR8 Moi Rana 124.41 347 *e*PKPdf **PKPdf 14 21 03.8 -1.0**
MOR8 IAmb IAmb 14 21 05.5
comp=Z,99nm,0.9s
KONS Konsvik 124.42 348 *e*PKPdf **PKPdf 14 21 04.9 +0.1**
KARS Kars 124.56 310 *e*P **PKPdf 14 21 07.6 +1.5**
HAKT HAKKARI 124.67 306 *i* P **PKPdf 14 21 06.1 -0.4**
FINES FINESS Array B 124.69 338 PKhKP PKPpre 14 20 49.2
comp=Z,1.5nm,0.6s,baz=98,slow=4.2,SNR=3.8
FINES PKP **PKPdf 14 21 05.3 -0.2**
comp=Z,169nm,0.8s,baz=110,slow=2.8,SNR=151
FINES PKKPbc **PKKPbc 14 30 48.9 -1.1**
comp=Z,4.6nm,0.8s,baz=186,slow=1.7,SNR=7.6
TVAN Van 124.73 308 *i* P **PKPdf 14 21 07.2 +0.7**
VANB Van 124.73 308 *e*P **PKPdf 14 21 07.7 +1.3**
TRBA At Turbah 124.78 277 *e*P **PKPdf 14 21 08.8 +1.5**
AGRB Hanur-Agry 124.84 309 *e*P **PKPdf 14 21 07.7 +1.0**
MSNA Messina 124.89 230 P **PKPdf 14 21 07.9 +0.7**
KSR Koster 124.95 225 P **PKPdf 14 21 08.0 +0.6**
GEVA Gevas 125.04 307 *i* P **PKPdf 14 21 07.5 +0.4**
SWZ Schweizer 125.11 222 P **PKPdf 14 21 07.8 +0.2**
EATA Eleskirt 125.16 309 *i* P **PKPdf 14 21 07.0 -0.5**
ARTV Artvin 125.28 311 *i* P **PKPdf 14 21 08.0 +0.5**
DAGI Agillar 125.32 311 *i* P **PKPdf 14 21 08.0 +0.5**
DBOC Borcka 125.44 311 *i* P **PKPdf 14 21 08.4 +0.8**
DDEM Demirkent 125.48 311 *i* P **PKPdf 14 21 07.8 0.0**
DBAD Bademkaya 125.50 311 *i* P **PKPdf 14 21 07.8 0.0**
HOMI Horasan 125.56 310 *i* P **PKPdf 14 21 08.4 +0.3**
TATV Tatvan 125.61 308 *i* P **PKPdf 14 21 08.8 +0.6**
SIRT Sirnak 125.67 306 *e*P **PKPdf 14 21 08.6 +0.4**
SMN1 Samana, DR 125.70 76 *e*PKPdf **PKPdf 14 21 09.0 +0.3**
ERZM Erzurum 126.00 310 *i* P **PKPdf 14 21 09.5 +0.5**
EZM Erzurum 126.00 310 *e*P **PKPdf 14 21 09.4 +0.4**
VRTB Varto-Mus 126.09 309 *e*P **PKPdf 14 21 10.6 +1.5**
SOC Sochi 126.23 314*c i*P **Pdif 14 17 43.4 -5.7**
SOC *i* 14 21 07.5
SOC *e* 14 21 54.3
SOC *e*PPP PPP 14 25 46.6
SOC *e*PS **PS 14 33 04.6 -7.0**
SOC pmax pmax
comp=Z,207nm,1.0s
BTMT Batman 126.27 308 *e*P **PKPdf 14 21 10.6 +1.2**
NSS Namsos 126.36 347 *e*PKPdf **PKPdf 14 21 08.7 +0.1**
NSS *e*PP **PP 14 23 07.9 +2.1**
BNGL BINGOL 126.37 308 *i* P **PKPdf 14 21 11.2 +1.5**
LBTB Lobatse 126.38 224 PKIKP **PKPdf 14 21 09.9 -0.1**
LBTB Lobatse 126.38 224 P **PKPdf 14 21 09.9 -0.1**
LBTB *e*PKPdf **PKIKP 14 21 10.4 -0.1**
VSU Vasula 126.40 335*c i*PKIKP **PKPdf 14 21 08.8 0.0**
BEST Besiri 126.50 307 *i* P **PKPdf 14 21 11.4 +1.6**
SVAN Silvan-Diyarba 126.50 308 *e*P **PKPdf 14 21 11.3 +1.6**
KOPT Kop Dagi 126.62 310 *i* P **PKPdf 14 21 10.2 0.0**
BNGB Bing¨¶l 126.72 309 *e*P **PKPdf 14 21 11.3 +1.1**
BAYT Ayd¨–ntepe-Bay 126.79 310 *e*P **PKPdf 14 21 11.3 +0.9**
KTUT Trabzon 126.92 311 *e*P **PKPdf 14 21 09.8 -0.6**
MACK Trabzon 126.93 311 *i* P **PKPdf 14 21 10.9 +0.5**
MARD Mardin 127.00 307 *i* P **PKPdf 14 21 10.9 +0.1**
MAZI Mazidag 127.23 307 *e*P **PKPdf 14 21 12.1 +0.9**
GUMT Gumushane 127.26 311 *e*P **PKPdf 14 21 12.8 +1.6**
EUZM Uzumlu 127.29 310 *i* P **PKPdf 14 21 12.4 +1.1**
ERZN Erzincan 127.30 310 *e*P **PKPdf 14 21 12.9 +1.6**
MZM Mzuzu 127.34 244 *i* P **PKPdf 14 21 11.5 -0.4**
DYBB Diyarbakir 127.36 308 *e*P **PKPdf 14 21 12.1 +0.7**
MZRK Al-Mazaregh 127.39 305 *e*P **PKiKP 14 21 15.3 +3.3**
SNR=154
MZRK Al-Mazaregh 127.39 305 *e*P **PKiKP 14 21 15.3 +3.3**
ANN Anapa 127.40 316 *i* PKIKP **PKPdf 14 21 11.7 +0.6**
ANN *i* 14 23 13.2
ANN *e*SP SP 14 32 56.0 -3.0
ANN *e*SS **SS 14 40 05.7 -2.7**
ANN pmax pmax
comp=Z,254nm,1.2s
ANN pmax pmax
comp=N,47nm,1.1s
ANN pmax pmax
comp=E,41nm,1.1s
ANN pmax pmax
comp=Z,1μm,3.5s
ANN pmax pmax
comp=N,370nm,3.5s
KELT Kelkit 127.51 310 *i* P **PKPdf 14 21 10.5 -1.3**
MPR Mayaguez 127.66 77 *e*PKPdf **PKPdf 14 21 12.6 +0.3**
CRPR Cabo Rojo, PR 127.68 78 *e*PKPdf **PKPdf 14 21 12.3 -0.1**
ESPY Espiye-Giresun 127.69 311 *e*P **PKPdf 14 21 11.7 -0.2**
LSP Las Mesas 127.71 77 *e*PKPdf **PKPdf 14 21 12.8 +0.3**
TBLU Trondheim 127.85 347 *e*PKPdf **PKPdf 14 21 11.6 +0.1**
TBLU IAmb IAmb 14 21 12.9
comp=Z,131nm,0.9s
TBLU *e*PP **PP 14 23 12.4 -3.1**
KOMG Komaggas 127.90 214 P **PKPdf 14 21 13.5 +0.9**
LRS Lares 127.95 77 *e*PKPdf **PKPdf 14 21 11.9 -1.1**
DODT Dodoma, Tanzan 127.97 251 *i* P **PKPdf 14 21 13.6 +0.3**
GRSN GIRESUNGRSN 128.03 312 *i* P **PKPdf 14 21 13.0 +0.4**
AOPR Arecibo Observ 128.04 77 *e*PKPdf **PKPdf 14 21 12.5 -0.6**
OBIP Obispado Ponce 128.16 78 *e*PKPdf **PKPdf 14 21 12.5 -0.8**
CELP Cerrillos 128.19 78 *e*PKPdf **PKPdf 14 21 13.2 -0.2**
ILIC ilic-Erzincan 128.20 310 *e*P **PKPdf 14 21 18.0 +5.0**
SUSE Susehri 128.27 311 *i* P **PKPdf 14 21 13.3 +0.1**
KEMA Kemaliye 128.30 310 *i* P **PKPdf 14 21 12.8 -0.4**
KMBO Kilima Mbogo 128.31 258 PKIKP **PKPdf 14 21 15.6 +1.4**
KMBO 14 23 20.5
KMBO pmax pmax
comp=Z,91nm,0.9s
KMBO pmax pmax
comp=Z,12nm,1.0s
KMBO Kilima Mbogo 128.31 258 PKP **PKPdf 14 21 15.6 +1.4**
comp=Z,91nm,0.9s,baz=86,slow=2.3,SNR=133
KMBO PP **PP 14 23 20.4 -0.4**
comp=Z,12nm,0.9s,baz=110,slow=7.0,SNR=6.0
KMBO Kilima Mbogo 128.31 258 PKP **PKPdf 14 21 15.6 +1.4**
KMBO PP **PP 14 23 20.4 -0.4**
KMBO LR LR
comp=Z,3μm,19.0s
MAUS Longido 128.32 255 *i* P **PKPdf 14 21 15.1 +1.1**
MICGM Minsk 128.34 331⇑*i*PKP **PKPdf 14 21 12.0 -0.6**
MNK Minsk 128.37 331*c i*PKIKP **PKPdf 14 21 12.0 -0.7**
MNK *e* 14 22 00.0
MNK *e* 14 27 54.0
MNK *e*PS **PS 14 33 34.0 +4.4**
MNK *e*SS SS 14 40 26.0 +6.6
MNK *e*SSS SSS 14 45 10.0
MNK MLR MLR
comp=Z,3μm,24.0s
ISAL Salakas 128.49 333 *e*P **PKPdf 14 21 13.7 +0.8**
ISAL AMB AMB 14 21 16.3
comp=Z,112nm,1.1s
ISAL *e*PP **PP 14 23 20.0 -0.2**
URFA Urfa 128.50 307 *e*P **PKPdf 14 21 15.6 +2.0**
IIGN Ignalina 128.59 333 *e*P **PKPdf 14 21 13.4 +0.3**
IIGN AMB AMB 14 21 16.0
comp=Z,185nm,1.1s
MALT Malatya 128.59 308⇑PKIKP **PKPdf 14 21 14.9 +1.1**
MALT Malatya 128.59 308⇑*i*P **PKPdf 14 21 14.9 +1.1**
BORG Borgarnes 128.60 5 *e*PKIKP **PKPdf 14 21 15.9 +3.1**
BORG MLR MLR
comp=Z,1μm,22.0s
BORG Borgarnes 128.60 5 *e*PKPdf **PKPdf 14 21 15.9 +3.1**
BORG LR LR
comp=Z,1μm,22.0s
NACGM Naroch 128.62 332 *e*PKP **PKPdf 14 21 11.0 -2.1**
KSRV Kasrt alli 128.70 305 *e*P **PP 14 23 24.7 +2.2**
SNR=123
KSRV Kasrt alli 128.70 305 *e*P **PKiKP 14 21 16.3 +1.7**
SNR=168
KSRV Kasrt alli 128.70 305 *e*P **PKiKP 14 21 16.3 +1.7**
KSRV Kasrt alli 128.70 305 *e*P **PP 14 23 24.7 +2.2**
RSDY Resadiye-TOKAT 128.86 311 *e*P **PKPdf 14 21 16.1 +2.0**
HUMP Col San Antoni 128.88 78 *e*PKPdf **PKPdf 14 21 14.4 -0.3**
CBYP Canovanas 128.88 77 *e*PKPdf **PKPdf 14 21 15.7 +0.9**
ATAB Bozova 128.90 307 *i* P **PKPdf 14 21 14.6 +0.3**
DRLN Deer Lake 129.00 36 *e*PKPdf **PKPdf 14 21 14.6 +0.5**
JHLN Al Jahlan 129.18 305 *e*P **SKPdf 14 24 27.8 -4.5**
SNR=130
JHLN Al Jahlan 129.18 305 *e*P **PKiKP 14 21 19.0 +3.4**
SNR=166
JHLN Al Jahlan 129.18 305 *e*P **PKiKP 14 21 19.0 +3.4**
JHLN Al Jahlan 129.18 305 *e*P **SKPdf 14 24 27.8 -4.5**
SVSK Karacayir 129.24 311 *e*P **PKPdf 14 21 16.0 +1.2**
DARE Darende-Malaty 129.25 309 *e*P **PKPdf 14 21 15.6 +0.6**
TOKT Tokat 129.46 311 *e*P **PKPdf 14 21 17.9 +2.6**
SLMH Al Salmeh 129.47 306 *e*P **PKiKP 14 21 17.7 +1.5**
SNR=161
SLMH Al Salmeh 129.47 306 *e*P **PKiKP 14 21 17.7 +1.5**
GZT Gaziantep 129.49 307 *i* P **PKPdf 14 21 16.2 +0.6**
TOKA Tokat 129.50 311 *i* P **PKPdf 14 21 15.4 0.0**
SIM Simferopol' 129.54 318*de*PKIKP **PKPdf 14 21 15.3 +0.1**
SIM *e* 14 23 24.7
SIM SS SS 14 40 34.6 -0.2
SIM pmax pmax
comp=Z,131nm,0.7s
SIM pmax pmax
comp=Z,330nm,7.7s
NB2 NORSAR Subarra 129.55 345 PKPdf **PKPdf 14 21 15.4 +0.6**
comp=Z,244nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 129.55 345 PKPdf **PKPdf 14 21 15.4 +0.6**
baz=31,slow=1.9
NOA NORSAR Array B 129.55 345 *i* PKHKP PKPpre 14 21 00.5
NOA 14 21 15.6
NOA 14 23 27.5
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA pmax pmax
comp=Z,81nm,0.8s
NOA pmax pmax
comp=Z,7.0nm,0.9s
NOA pmax pmax
comp=N,17nm,0.9s
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 129.55 345 PKhKP PKPpre 14 21 00.5
comp=Z,6.2nm,0.8s,baz=53,slow=1.9,SNR=16
NOA PKP **PKiKP 14 21 15.6 0.0**
comp=Z,81nm,0.8s,baz=31,slow=2.0,SNR=82
NOA PP **PP 14 23 27.4 +0.7**
comp=Z,6.8nm,0.9s,baz=33,slow=6.4,SNR=3.7
NOA SKPbc SKPbc 14 24 21.1 +2.2
comp=Z,17nm,0.8s,baz=32,slow=3.0,SNR=13
NOA PKKP **PKKPdf 14 31 19.2 -1.9**
comp=Z,3.0nm,0.8s,baz=208,slow=1.9,SNR=7.7
KVT Kavak 129.58 312 *e*P **PKPdf 14 21 16.0 +0.5**
HFS Hagfors 129.66 343 PKIKP **PKPdf 14 21 13.7 -1.3**
HFS pmax pmax
comp=Z,94nm,0.9s
HFS pmax pmax
comp=N,27nm,0.8s
HFS Hagfors 129.66 343 PKP **PKPdf 14 21 13.7 -1.3**
comp=N,94nm,0.9s,baz=98,slow=3.0,SNR=15
HFS SKPbc SKPbc 14 24 19.5 +0.3
comp=N,26nm,0.8s,baz=66,slow=5.0,SNR=8.6
NC602 NORSAR Array S 129.73 345 *e*PKPdf **PKPdf 14 21 13.7 -1.4**
NC602 *e*PP **PP 14 23 27.8 -0.1**
STVI Saint Thomas 129.75 77 *e*PKPdf **PKPdf 14 21 16.5 +0.1**
AKASG Malin Array Be 129.80 326 PKhKP PKPpre 14 21 00.7
comp=N,2.0nm,0.5s,baz=57,slow=2.9,SNR=6.7
AKASG PKP **PKiKP 14 21 15.9 -0.4**
comp=N,97nm,0.8s,baz=54,slow=1.9,SNR=115
AKASG PP **PP 14 23 25.7 -3.1**
comp=N,7.9nm,0.8s,baz=44,slow=7.3,SNR=4.2
AKASG SKPbc SKPbc 14 24 21.8 +1.7
comp=N,35nm,0.9s,baz=46,slow=4.4,SNR=9.4
AKASG PKKP **PKKPdf 14 31 18.2 -2.2**
comp=N,1.1nm,0.7s,baz=255,slow=1.9,SNR=4.2
AKASG SKKPbc **SKKPbc 14 34 00.5 -4.9**
comp=N,0.3nm,0.3s,baz=225,slow=4.4,SNR=4.4
KIEV Kiev 129.81 326*c i*PKIKP **PKPdf 14 21 15.7 +0.2**
KIEV Kiev 129.81 326 *e*PKPdf **PKPdf 14 21 16.2 +0.7**
KIEV LR LR
comp=Z,2μm,19.0s
HAVZ Havza 129.82 313 *i* P **PKPdf 14 21 15.7 -0.3**
CDVI St. Croix 129.89 78 *e*PKPdf **PKPdf 14 21 17.5 +0.9**
DIKM Dikmen 129.96 313 *e*P **PKPdf 14 21 16.8 +0.6**
KMRS Kahramanmaras 129.97 308 *e*P **PKPdf 14 21 16.4 0.0**
KUZU Kuzuini 130.01 307 *i* P **PKPdf 14 21 17.0 +0.5**
LSZ Lusaka 130.34 236 PKIKP **PKPdf 14 21 18.2 +0.4**
LSZ 14 23 33.9
LSZ pmax pmax
comp=Z,102nm,0.8s
LSZ pmax pmax
comp=Z,11nm,1.1s
LSZ pmax pmax
comp=N,84nm,1.1s
LSZ Lusaka 130.34 236 PKP **PKPdf 14 21 18.2 +0.4**
comp=N,102nm,0.8s,baz=50,slow=7.8,SNR=51
LSZ PP **PP 14 23 33.9 +0.7**
comp=N,11nm,1.1s,baz=74,slow=13,SNR=3.1
LSZ SKPbc **SKPab 14 24 24.1 +0.6**
comp=N,84nm,1.1s,baz=50,slow=14,SNR=11
LSZ Lusaka 130.34 236 PKP **PKPdf 14 21 18.2 +0.4**
LSZ PP **PP 14 23 33.9 +0.7**
LSZ SKPbc **SKPab 14 24 24.1 +0.6**
LSZ LR LR
comp=Z,4μm,20.0s
BYBT Boyabat 130.37 313 *e*P **PKPdf 14 21 18.4 +1.5**
ANDN Andirin 130.37 308 *i* P **PKPdf 14 21 16.4 -0.8**
BNN Bunyan 130.40 310 *e*P **PKPdf 14 21 17.2 -0.1**
FOO Floro 130.40 349 *e*PKPdf **PKPdf 14 21 16.9 +0.6**
FOO *e*PP **PP 14 23 32.6 +0.5**
HYA Hoyanger 130.58 348 *e*PKPdf **PKPdf 14 21 17.1 +0.4**
KFRA Kufra 130.59 305 *e*P **SKPbc 14 24 21.2 -2.5**
SNR=164
KFRA Kufra 130.59 305 *e*P **PKiKP 14 21 16.4 -2.1**
SNR=165
KFRA Kufra 130.59 305 *e*P **PKiKP 14 21 16.4 -2.1**
KFRA Kufra 130.59 305 *e*P **SKPbc 14 24 21.2 -2.5**
OSL Oslo 130.63 345 *e*PKPdf **PKPdf 14 21 17.2 +0.4**
OSL IAmb IAmb 14 21 18.9
comp=Z,348nm,1.6s
CTKT Corum 130.63 312 *i* P **PKPdf 14 21 17.9 +0.2**
BTCH Batrach 130.67 306 *e*P **SKPab 14 24 26.8 +2.6**
SNR=133
BTCH Batrach 130.67 306 *e*P **PKiKP 14 21 19.9 +1.2**
SNR=158
BTCH Batrach 130.67 306 *e*P **PKiKP 14 21 19.9 +1.2**
BTCH Batrach 130.67 306 *e*P **SKPab 14 24 26.8 +2.6**
BZK Bozkurt 130.74 314 *e*P **PKPdf 14 21 17.2 -0.4**
KOZT Kozan 130.80 308 *e*P **PKPdf 14 21 17.9 +0.1**

SUW	Suwalki	130.80	333	ePKIKP	PKPdf	14 21 18.4 +1.1
SUW				e		14 23 34.1
SUW	Suwalki	130.80	333	ePKP	PKPdf	14 21 18.4 +1.1
SUW				ePP	PP	14 23 34.1 -1.0
SUW				e		14 24 26.9
SUW	Suwalki	130.80	333	ePKPdf	PKPdf	14 21 18.5 +1.1
SUW				eSKPbc	SKPab	14 24 26.8 +2.8
CORM	Corum	130.89	312	eP	PKPdf	14 21 18.3 +0.2
SUE	Sulen	130.96	349	ePKPdf	PKPdf	14 21 17.3 -0.1
SUE				ePP	PP	14 23 35.2 -0.4
CEYT	Ceyhan	130.98	307	eP	PKPdf	14 21 18.7 +0.5
BIDA	Albida	131.02	305	eP	PKSab	14 24 47.2 +1.8
	SNR=147					
BIDA	Albida	131.02	305	eP	PKiKP	14 21 17.0 -2.4
	SNR=163					
BIDA	Albida	131.02	305	eP	PKiKP	14 21 17.0 -2.4
BIDA	Albida	131.02	305	eP	PKSab	14 24 47.2 +1.8
TOS	Tosya	131.04	313	eP	PKPdf	14 21 19.5 +1.1
HAWK	Haweek	131.06	304	eP	PKiKP	14 21 20.4 +0.9
	SNR=165					
HAWK	Haweek	131.06	304	eP	PKiKP	14 21 20.4 +0.9
ARNB	Al Arnab	131.10	306	eP	PKiKP	14 21 21.3 +1.8
	SNR=156					
ARNB	Al Arnab	131.10	306	eP	PKiKP	14 21 21.3 +1.8
MARH	Ras Al Marh	131.11	303	eP	SKPab	14 24 28.1 +1.7
	SNR=130					
MARH	Ras Al Marh	131.11	303	eP	PKiKP	14 21 22.2 +2.3
	SNR=165					
MARH	Ras Al Marh	131.11	303	eP	PKiKP	14 21 22.2 +2.3
MARH	Ras Al Marh	131.11	303	eP	SKPab	14 24 28.1 +1.7
ASF	Jabal al Asfar	131.12	301	PKIKP	PKPdf	14 21 20.6 +1.9
ASF						14 23 41.6
ASF				pmax	pmax	
	comp=Z,62nm,0.8s					
ASF				pmax	pmax	
	comp=Z,13nm,1.1s					
ASF				pmax	pmax	
	comp=N,83nm,1.1s					
ASF	Jabal al Asfar	131.12	301	PKP	PKPdf	14 21 20.6 +1.9
	comp=N,62nm,0.8s,baz=55,slow=2.1,SNR=55					
ASF				PP	PP	14 23 41.6 +3.1
	comp=N,13nm,1.1s,baz=30,slow=2.8,SNR=3.6					
ASF				SKPbc	SKPab	14 24 27.7 +1.5
	comp=N,83nm,1.1s,baz=335,slow=0.3,SNR=14					
KONO	Kongsberg	131.16	345	ePKPdf	PKPdf	14 21 15.5 -2.3
KONO				ePP	PP	14 23 37.3 +0.2
KONO	Kongsberg	131.16	345	ePKIKP	PKPdf	14 21 19.2 +1.4
KONO				MLR	MLR	
	comp=Z,2μm,20.0s					
KONO	Kongsberg	131.16	345	ePKPdf	PKPdf	14 21 19.2 +1.4
KONO				eSKPbc	SKPab	14 24 28.7 +3.4
KONO				LR	LR	
	comp=Z,2μm,20.0s					
ILGA	Ilgaz	131.26	313	i P	PKPdf	14 21 18.2 -0.7
CDAG	Cicekdag	131.26	311	i P	PKPdf	14 21 15.1 -3.7
TOTH	TOTAH	131.29	303	eP	SKPbc	14 24 24.2 -2.1
	SNR=119					
TOTH	TOTAH	131.29	303	eP	PKiKP	14 21 18.0 -2.0
	SNR=162					
TOTH	TOTAH	131.29	303	eP	PKiKP	14 21 18.0 -2.0
TOTH	TOTAH	131.29	303	eP	SKPbc	14 24 24.2 -2.1
ASK	Askoy	131.40	348	ePKPdf	PKPdf	14 21 19.5 +1.2
RUND	Rundenannen	131.43	348	ePKPdf	PKPdf	14 21 17.9 -0.5
KARA	Karaisali	131.45	308	eP	PKPdf	14 21 19.1 0.0
BER	Bergen	131.47	348	ePKPdf	PKPdf	14 21 17.0 -1.4
BER				ePP	PP	14 23 40.3 +1.4
CANT	Cankiri	131.48	313	eP	PKPdf	14 21 18.7 -0.4
HWQ	Hawqa	131.49	304	eP	PKPdf	14 21 19.5 +0.1
SMRT	St. Maarten	131.52	78	ePKPdf	PKPdf	14 21 20.0 +0.3
NIG	Nigde	131.54	309	eP	PKPdf	14 21 20.3 +0.7
ODD1	Odda	131.62	347	ePKPdf	PKPdf	14 21 20.0 +1.2
ODD1				IAmb	IAmb	14 21 21.6
	comp=Z,325nm,1.2s					
ODD1				ePP	PP	14 23 39.9 -0.2
ELDT	Eldivan	131.66	313	i P	PKPdf	14 21 20.0 +0.3
BRBR	Barbar	131.67	303	eP	PKSab	14 24 49.5 +1.0
	SNR=117					
BRBR	Barbar	131.67	303	eP	PKSab	14 24 49.5 +1.0
RCY	Rachaya	131.74	303	eP	PKPdf	14 21 21.1 +1.2
BRTR	Keskin Array B	131.76	312	PKhKP	PKPpre	14 21 06.5
	comp=Z,4.7nm,0.7s,baz=138,slow=3.1,SNR=17					
BRTR				PKP	PKPdf	14 21 20.1 +0.3
	comp=Z,49nm,0.9s,baz=125,slow=2.0,SNR=46					
BRTR				PP	PP	14 23 41.8 -0.5
	comp=Z,18nm,1.1s,baz=72,slow=4.3,SNR=5.7					
BRTR				SKPbc	SKPab	14 24 29.4 +0.6
	comp=Z,65nm,0.9s,baz=109,slow=4.1,SNR=20					
BRTR				PKKP	PKKPdf	14 31 16.2 -0.5
	comp=Z,2.5nm,0.8s,baz=196,slow=3.0,SNR=4.6					
TCHB	Talchebab	131.80	302	eP	PKSbc	14 24 45.2 -2.4
	SNR=111					
TCHB	Talchebab	131.80	302	eP	PKSbc	14 24 45.2 -2.4
ITZ	Itezhi-Tezhi	131.81	234	i P	PKPdf	14 21 20.8 +0.2
SAFT	Safranbolu	131.92	314	eP	PKPdf	14 21 21.6 +1.7
KIS	Kishinev	131.94	322	⇑ePKIKP	PKPdf	14 21 21.0 +1.3
KIS				e		14 22 07.0
KIS				i		14 23 42.0
KIS				pmax	pmax	
	comp=Z,800nm,2.0s					
KIS				pmax	pmax	
	comp=Z,2μm,7.0s					
KIS				pmax	pmax	
	comp=Z,2μm,12.0s					
KIS	Kishinev	131.94	322	⇓i PKP	PKPdf	14 21 21.0 +1.3
KIS				M	M	14 21 22.0
	comp=Z,800nm,2.0s					
KIS				epPKP	pPKPdf	14 22 07.0 -2.1
KIS	Kishinev	131.94	322	i PP	PP	14 23 42.0 -0.8
	comp=Z,2μm,12.0s					
KIS				i SKP		14 24 32.0
KIS	Kishinev	131.94	322	i PS	PS	14 34 20.0 +19
KIS				LRM	MLR	15 12 00.0
	comp=Z,2μm,24.0s					
MERS	Mersin	131.97	308	eP	PKPdf	14 21 19.9 -0.3
BLS5	Blasjo	132.10	347	ePKPdf	PKPdf	14 21 21.5 +1.8
BBAL	Bala	132.20	311	i P	PKPdf	14 21 20.7 0.0
MMAI	Mount Meron Ar	132.20	302	PKhKP	PKPpre	14 21 11.1
	comp=Z,2.6nm,0.5s,baz=98,slow=6.0,SNR=3.9					
MMAI				PKP	PKiKP	14 21 22.8 +0.9
	comp=Z,134nm,0.8s,baz=46,slow=2.4,SNR=46					
MMAI				SKPbc	SKPab	14 24 31.3 +0.5
	comp=Z,118nm,1.0s,baz=66,slow=4.0,SNR=20					
AFSR	Af´ar-Bala (A	132.27	311	eP	PKPdf	14 21 20.3 -0.4
ANTO	Ankara	132.32	312	⇑PKIKP	PKPdf	14 21 21.8 +1.0
ANTO	Ankara	132.32	312	⇑i P	PKPdf	14 21 21.8 +1.0
ANTO	Ankara	132.32	312	ePKPdf	PKPdf	14 21 21.4 +0.6
ANTO				eSKPbc	SKPab	14 24 33.5 +2.4
ANTO				LR	LR	
	comp=Z,815nm,20.0s					
LOD	Lodumlu	132.34	312	eP	PKPdf	14 21 20.7 -0.2
SULT	Sultanhani-AKS	132.34	310	eP	PKPdf	14 21 19.5 -1.4
KIZK	Mersin	132.37	307	i P	PKPdf	14 21 20.1 -0.7
GRGR	Grenville	132.38	86	PFAKE		14 21 30.0 +8.5
GRGR				LR	LR	
	comp=Z,1μm,20.0s					
BCAM	Yenicaga	132.51	313	i P	PKPdf	14 21 20.4 -0.8
LEOM	Leova	132.54	322	⇓i P	PKPdf	14 21 22.8 +2.0
KMY	Karmoy	132.56	348	ePKPdf	PKPdf	14 21 21.9 +1.5
EREN	Erenkoy	132.60	306	eP	PKPdf	14 21 20.7 -0.6
HOMB	Homborsund	132.65	345	ePKPdf	PKPdf	14 21 20.0 -0.6
HOMB				ePP	PP	14 23 46.3 -0.3
ANWB	Willy Bob	132.73	78	PFAKE		14 21 30.0 +8.0
ANWB				LR	LR	
	comp=Z,1μm,21.0s					
KDZE	Karadeniz Ereo	132.76	314	eP	PKPdf	14 21 19.9 -1.6
LRW	Lerwick	132.79	352	eP	PKPdf	14 21 15.5 -5.4
TLCR		132.83	320	⇑i P	PKPdf	14 21 23.8 +2.4
LVV	L'vov	133.05	328	⇓i PKIKP	PKPdf	14 21 22.5 +0.8
LVV				e		14 22 09.1
LVV				e		14 23 51.1
LVV				e		14 26 50.9
LVV				i		14 34 08.3
LVV				e		14 41 15.1
LVV				MLR	MLR	
	comp=Z,800nm,18.0s					
LVV				MLR	MLR	
	comp=N,300nm,17.0s					
LVV				MLR	MLR	
	comp=E,1μm,18.0s					
FDF	Fort de France	133.15	82	ePKIKP	PKPdf	14 21 24.2 +1.3
FDF				MLR	MLR	
	comp=Z,1μm,20.0s					
FDF	Fort de France	133.15	82	ePKPdf	PKPdf	14 21 24.2 +1.3
FDF				LR	LR	
	comp=Z,1μm,20.0s					
LFK	Lefkose	133.17	306	eP	PKPdf	14 21 24.2 +1.7
EIL	Elat	133.20	298	PKP	PKPdf	14 21 24.1 +1.4
	comp=Z,150nm,0.9s,baz=342,slow=2.8,SNR=59					
EIL				PP	PP	14 23 52.8 +1.1
	comp=Z,40nm,1.1s,baz=89,slow=4.9,SNR=5.7					
EIL				SKPbc	SKPab	14 24 34.8 -0.3
	comp=Z,42nm,0.9s,baz=135,slow=1.5,SNR=5.8					
LADK	Ladik-KONYA	133.20	310	eP	PKPdf	14 21 21.8 -0.7
MDUB	Mudurnu	133.25	313	eP	PKPdf	14 21 23.6 +1.1
CFR	Carcaliu	133.25	321	⇓i P	PKPdf	14 21 23.8 +1.6
ERMK	Ermenek	133.27	308	i P	PKPdf	14 21 21.6 -1.3
KDHN	Kadinhani	133.28	311	i P	PKPdf	14 21 21.3 -1.3
KONT	Konya--Tatoy	133.28	310	eP	PKPdf	14 21 22.6 0.0
HENT	Hendek	133.33	314	i P	PKPdf	14 21 21.7 -0.9
KIZT	Kizilcal	133.33	311	eP	PKPdf	14 21 23.7 +1.0
BSD	Bornholm Skovb	133.33	338	i PKIKP	PKPdf	14 21 21.6 -0.4
BSD				pmax	pmax	
	comp=Z,140nm,0.9s					
BSD	Bornholm Skovb	133.33	338	i P	PKPdf	14 21 21.6 -0.4
	comp=Z,139nm,0.8s					
BEL	Belsk	133.33	332	ePKPc		14 21 23.9
BEL				ePP	PP	14 23 50.1 -1.2
BEL				e		14 24 36.3
BTAS	Taskesti	133.35	314	i P	PKPdf	14 21 21.7 -1.0
SVRH	Sivrihisar-ESK	133.39	312	eP	PKPdf	14 21 23.0 +0.2
CSS	Prodhromos	133.41	305	P	PKPdf	14 21 22.0 -0.9
CSS	Prodhromos	133.41	305	P	PP	14 23 52.4 -0.5
CSS	Prodhromos	133.41	305	P	PKPdf	14 21 22.0 -0.9
CSS				eSKPbc	SKPab	14 24 36.5 +0.6
CSS				LR	LR	
	comp=Z,328nm,21.0s					
TIRR	Tirgusor	133.42	320	ePKIKP	PKPdf	14 21 23.2 +0.6
TIRR	Tirgusor	133.42	320	⇑i P	PKPdf	14 21 23.6 +1.0
TIRR	Tirgusor	133.42	320	ePKPdf	PKPdf	14 21 23.2 +0.6
TIRR				eSKPbc	SKPab	14 24 37.0 +1.4
TESR	Tescani	133.47	323	⇓i P	PKPdf	14 21 24.3 +1.7
MANR	Mangalia	133.61	319	⇑i P	PKPdf	14 21 24.9 +2.0
HARR	Harsova	133.62	320	⇑i P	PKPdf	14 21 24.4 +1.5
WIN	Windhoek	133.63	219	i P	PKPdf	14 21 24.2 +0.3
BURAR	Bucovina Array	133.69	325	⇑i P	PKPdf	14 21 24.7 +1.5
COP	Copenhagen	133.72	341	i PKIKP	PKPdf	14 21 22.6 -0.1
COP				i		14 23 52.2
COP				pmax	pmax	
	comp=Z,140nm,0.9s					
COP	Copenhagen	133.72	341	i P	PKPdf	14 21 22.6 -0.1
	comp=Z,141nm,0.8s					
COP				i		14 23 52.2
LEF	Lefka	133.72	306	eP	PKPdf	14 21 23.4 0.0
GULT	Gulveren	133.75	314	eP	PKPdf	14 21 24.7 +1.2
VRI	Vrincioaia	133.76	322	⇑i P	PKPdf	14 21 24.7 +1.5
SPNC	Sapanca-Adapaz	133.79	314	eP	PKPdf	14 21 23.4 0.0
PLOR	Plostina	133.82	322	⇑i P	PKPdf	14 21 23.9 +0.5
KWP	Kalwaria Pacla	133.84	328	⇑ePKIKP	PKPdf	14 21 24.5 +1.3
KWP				e		14 23 55.1
KWP	Kalwaria Pacla	133.84	328	ePKPc	PKPdf	14 21 24.5 +1.3
KWP				ePP	PP	14 23 55.1 +0.4
KWP	Kalwaria Pacla	133.84	328	⇑i P	PKPdf	14 21 25.1 +1.9
KWP	Kalwaria Pacla	133.84	328	ePKPdf	PKPdf	14 21 24.5 +1.3
KWP				LR	LR	
	comp=Z,2μm,21.0s					
GAZI	Gazipasa	133.85	307	i P	PKPdf	14 21 21.9 -1.8
SEYT	Eskypehyr	133.85	312	i P	PKPdf	14 21 23.4 -0.3
GKP	Gorka Klasztor	133.85	335	ePKPc	PKPdf	14 21 24.5 +1.4
GKP				ePP	PP	14 23 52.5 -2.0
GKP				e		14 24 37.9
PSN	Preselentsi	133.93	319	⇓i P	PKPdf	14 21 26.5 +2.9
PSN	Preselentsi	133.93	319	eP	PKPdf	14 21 24.0 +0.4
BORA	Eskisehir	134.00	313	i P	PKPdf	14 21 23.8 -0.2
MUD	Monsted U'grnd	134.05	343	i P	PKPdf	14 21 24.6 +1.2
	comp=Z,60nm,0.9s					
SILT	Sile	134.07	315	eP	PKPdf	14 21 24.2 +0.3
LLD	Lille Linde	134.08	340	i P	PKPdf	14 21 25.3 +1.9
HRT	Hereke	134.19	314	eP	PKPdf	14 21 23.4 -0.8
ISR	Istrita	134.26	321	⇓i P	PKPdf	14 21 26.0 +1.8
ADVT	Abdulvahap	134.29	314	eP	PKPdf	14 21 23.4 -1.0
CAVI	Cavuskoy	134.31	314	eP	PKPdf	14 21 23.8 -0.7
RGN	Rugen	134.34	339	ePKPdf	PKPdf	14 21 25.6 +1.6
SHUT	Suhut-Afyon	134.42	311	eP	PKPdf	14 21 24.9 +0.1
MLR	Muntele Rosu	134.43	322	PKHKP	PKPpre	14 21 11.3
MLR						14 21 25.4
MLR				pmax	pmax	
	comp=Z,2.0nm,0.7s					
MLR				pmax	pmax	
	comp=Z,34nm,1.1s					
MLR				pmax	pmax	
	comp=N,12nm,1.0s					
MLR	Muntele Rosu	134.43	322	⇓i P	PKPdf	14 21 25.7 +1.1
MLR	Muntele Rosu	134.43	322	PKhKP	PKPpre	14 21 11.3
	comp=N,2.2nm,0.7s,baz=85,slow=4.5,SNR=6.5					
MLR				PKP	PKiKP	14 21 25.4 -0.6
	comp=N,34nm,1.1s,baz=16,slow=3.0,SNR=34					
MLR				SKPbc	SKPbc	14 24 38.4 +1.7
	comp=N,12nm,1.0s,baz=12,slow=6.0,SNR=4.7					
KLYT	Kilyos	134.44	315	eP	PKPdf	14 21 23.0 -1.6
KOLS	Kolonicke sedl	134.50	328	ePKHKP	PKPpre	14 21 10.7
KOLS				e		14 21 26.1
KOLS				e		14 23 59.5
KOLS	Kolonicke sedl	134.50	328	e	PKPpre	14 21 10.7
KOLS	Kolonicke sedl	134.50	328	ePKP	PKPdf	14 21 26.1 +1.6
KOLS				ePP	PP	14 23 59.5 +0.6
KOLS				eSKPpB		14 24 40.6
DOPR	Dopca	134.50	323	⇑i P	PKPdf	14 21 25.9 +1.3
ISK	Istanbul-Kandi	134.50	315	P	PKPdf	14 21 23.3 -1.4
ISK	Istanbul-Kandi	134.50	315	P	PP	14 23 55.0 -4.4
ISK	Istanbul-Kandi	134.50	315	eP	PKPdf	14 21 23.8 -0.9
ISK	Istanbul-Kandi	134.50	315	PKIKP	PKPdf	14 21 23.3 -1.4
ISK	Istanbul-Kandi	134.50	315	P	PKPdf	14 21 23.3 -1.4
IZI	Iznik	134.52	314	eP	PKPdf	14 21 25.3 +0.4
BBGH	Gun Hill	134.53	85	PFAKE		14 21 40.0 +15
BBGH				LR	LR	
	comp=Z,3μm,20.0s					
ALT	Altintas	134.56	312	P	PKPpre	14 21 16.9
ALT	Altintas	134.56	312	P	PP	14 23 51.9 -8.1
ALT	Altintas	134.56	312	eP	PKPdf	14 21 24.2 -0.9
SECR		134.59	321	⇑i P	PKPdf	14 21 26.6 +1.8
BDFB	Brasilia	134.61	129	i PKHKP	PKPpre	14 21 16.0
BDFB						14 21 26.9
BDFB				pmax	pmax	
	comp=Z,17nm,0.8s					
BDFB				pmax	pmax	
	comp=Z,59nm,0.8s					
BDFB				pmax	pmax	
	comp=N,13nm,0.9s					
BDFB	Brasilia	134.61	129	PKhKP	PKPpre	14 21 16.0
	comp=N,17nm,0.8s,baz=199,slow=2.5,SNR=11					
BDFB				PKP	PKiKP	14 21 26.9 -0.4
	comp=N,59nm,0.8s,baz=227,slow=2.5,SNR=33					
BDFB				SKPbc	SKPbc	14 24 39.8 +1.7
	comp=N,13nm,0.9s,baz=40,slow=4.8,SNR=3.9					
BDFB				SKKPbc	SKKPbc	14 33 46.7 +1.1
	comp=N,8.9nm,0.9s,baz=164,slow=3.2,SNR=4.5					
BMR	Baia Mare	134.61	326	⇑i P	PKPdf	14 21 26.7 +2.0
BGKT	Bogazkoy	134.65	315	eP	PKPdf	14 21 24.5 -0.4
PRD	Provadia	134.66	318	eP	PKPdf	14 21 26.0 +1.1
GEMT	Gemlik	134.67	314	eP	PKPdf	14 21 24.9 -0.1
UZH	Uzhgorod	134.68	328	ePKHKP	PKPpre	14 21 11.4
UZH				i		14 21 26.2
UZH				e		14 22 11.0
ISP	Isparta	134.70	310	P	PKPdf	14 21 27.9 +2.6
ISP	Isparta	134.70	310	P	PP	14 23 48.2 -13
ISP	Isparta	134.70	310	ePKIKP	PKPdf	14 21 25.5 +0.2
ISP				MLR	MLR	
	comp=Z,1μm,20.0s					
ISP	Isparta	134.70	310	⇓i P	PKPdf	14 21 25.6 +0.2
ISP	Isparta	134.70	310	ePKPdf	PKPdf	14 21 25.5 +0.2
ISP				LR	LR	
	comp=Z,1μm,20.0s					
STHS	Stebnicka Huta	134.71	329	ePKHKP	PKPpre	14 21 10.6
STHS				e		14 21 26.6
STHS	Stebnicka Huta	134.71	329	e	PKPpre	14 21 10.6
STHS	Stebnicka Huta	134.71	329	ePKP	PKPdf	14 21 26.6 +1.7
STHS				eSKPpB		14 24 42.1
BCK	Bucak	134.77	310	eP	PKPdf	14 21 23.4 -2.1
CTKS	Kestanelik-??a	134.81	315	eP	PKPdf	14 21 24.2 -1.1
ULDT	Uludag	134.83	314	i P	PKPdf	14 21 25.5 -0.1
ARMT	Armutlu	134.85	314	eP	PKPdf	14 21 24.9 -0.5
TRPA	Tarpa	134.85	327	⇑i P	PKPdf	14 21 26.8 +1.7
TRPA	Tarpa	134.85	327	⇑e	PKPdf	14 21 26.2 +1.1
TRPA				e		14 23 58.8
CTYL	Yal??k??y-??at	134.86	316	eP	PKPdf	14 21 24.5 -0.8
TVSB	Tavsanli	134.87	313	eP	PKPdf	14 21 26.8 +1.2
OJC	Ojcow	134.89	331	ePKPdf	PKPdf	14 21 25.4 +0.2
OJC				epPKPdf	pPKPdf	14 22 17.6 +3.0
OJC				i PP	PP	14 24 03.2 +2.0
ELBA	Catalca	134.90	315	i P	PKPdf	14 21 25.4 0.0
ANTB	Antalya	134.91	309	eP	PKPdf	14 21 24.5 -1.0
MDNY	Mudanya-Bursa	134.91	314	eP	PKPdf	14 21 24.5 -1.0
CRVS	Cervenica-Dubn	134.93	328	ePKP	PKPdf	14 21 26.6 +1.3
CRVS				ePP	PP	14 24 02.2 +0.6
CRVS				eSKPpB		14 24 41.2
VOIR		134.99	322	⇓i P	PKPdf	14 21 28.3 +2.7
GDZ	Gediz	135.00	312	i P	PKPdf	14 21 24.9 -1.0
SLVT	Silivri	135.02	316	eP	PKPdf	14 21 26.5 +0.8
ORLT	Orhaneli	135.04	314	eP	PKPdf	14 21 25.7 -0.1
KORT	Korkueli	135.10	309	i P	PKPdf	14 21 25.8 -0.4
CJR	Cluj-Napoca	135.12	325	⇑i P	PKPdf	14 21 27.7 +1.9
NIE	Niedzica	135.17	330	ePKPdf	PKPdf	14 21 26.9 +1.1
NIE				epPKPdf	pPKPdf	14 22 18.0 +2.8
NIE				i PP	PP	14 24 05.6 +2.5
KHL	Karahalli	135.25	311	eP	PKPdf	14 21 27.1 +0.7
ARR	Arges	135.27	323	⇑i P	PKPdf	14 21 27.6 +1.5
PHSR	Pinarhisar	135.30	316	eP	PKPdf	14 21 26.9 +0.7
MVH1	Achvaich	135.31	353	eP	PKPpre	14 21 16.6
KCTX	Karacabey (Bur	135.32	314	eP	PKPdf	14 21 26.0 -0.3
CRLT	Corlu	135.38	316	eP	PKPdf	14 21 27.3 +0.9
HUMR	Humele	135.51	321	⇓i P	PKPdf	14 21 27.5 +1.0
MCD	Coleburn Disti	135.54	353	eP	PKPpre	14 21 17.3
JMB	Yambol	135.54	318	P	PKPdf	14 21 28.9 +2.3
JMB	Yambol	135.54	318	P	PP	14 24 06.3 +0.5
JMB	Yambol	135.54	318	PKIKP	PKPdf	14 21 28.9 +2.3
JMB	Yambol	135.54	318	⇑i P	PKPdf	14 21 30.6 +4.0
JMB	Yambol	135.54	318	eP	PKPdf	14 21 28.8 +2.2
JMB	Yambol	135.54	318	P	PKPdf	14 21 28.9 +2.3
DRGR		135.56	325	⇓i P	PKPdf	14 21 28.3 +1.7
SZH	Strazhica	135.57	319	eP	PKPdf	14 21 26.9 +0.2
TKR	Tekirdag	135.58	316	eP	PKPdf	14 21 27.3 +0.5
BNT	Bandirma	135.59	315	eP	PKPpre	14 21 12.9
GOLH	Golhisar	135.62	310	i P	PKPdf	14 21 25.6 -1.5
EDC	Edincik	135.63	315	eP	PKPdf	14 21 27.7 +0.8
GLHS	Glhisar (BURDU	135.69	310	eP	PKPdf	14 21 28.0 +0.8
MRMT	Marmara Adasi	135.71	315	eP	PKPdf	14 21 26.5 -0.6
EDRB	Edirne	135.72	317	P	PKPdf	14 21 25.2 -1.8
EDRB	Edirne	135.72	317	P	PP	14 24 04.8 -2.2
EDRB	Edirne	135.72	317	eP	PKPdf	14 21 26.5 -0.5
EDRB	Edirne	135.72	317	P	PKPdf	14 21 25.2 -1.8
LOT	Lotru	135.74	323	⇓i P	PKPdf	14 21 28.2 +1.1
TSUM	Tsumeb	135.75	223	PKhKP	PKPpre	14 21 16.1
	comp=Z,7.8nm,0.7s,baz=148,slow=4.7,SNR=7.4					
TSUM				PKP	PKPdf	14 21 28.6 +0.7
	comp=Z,89nm,0.9s,baz=125,slow=2.5,SNR=35					
TSUM				SKPbc	SKPbc	14 24 43.3 +1.6
	comp=Z,43nm,1.1s,baz=121,slow=3.7,SNR=13					
TSUM	Tsumeb	135.75	223	PKP	PKPdf	14 21 28.6 +0.7
TSUM				SKPbc	SKPbc	14 24 43.3 +1.6
TSUM				LR	LR	
	comp=Z,3μm,19.0s					
MDO	Dochfour	135.81	353	eP	PKPdf	14 21 18.9 -7.8
KULA	Kula-Manisa	135.81	312	P	PKPdf	14 21 26.7 -0.7
KULA	Kula-Manisa	135.81	312	eP	PKPdf	14 21 26.9 -0.5
KULA	Kula-Manisa	135.81	312	P	PKPdf	14 21 26.7 -0.7
KAC	Achnashellach	135.84	354	eP	PKPdf	14 21 17.8 -8.9
BSEG	Bad Segeberg	135.86	341	ePKPdf	PKPdf	14 21 28.3 +1.5
BALB	Balikesir	135.92	314	eP	PKPdf	14 21 26.9 -0.5
OKC	Ostrava-Krasne	135.93	331	ePKHKP	PKPpre	14 21 15.2
OKC				e		14 21 28.3
OKC				e		14 24 07.1
OKC				MLR	MLR	
	comp=Z,1μm,23.0s					
OKC	Ostrava-Krasne	135.93	331	ePKPpre	PKPpre	14 21 15.2
OKC				ePKPdf	PKiKP	14 21 28.3 -0.5
OKC				ePP	PP	14 24 07.1 -0.6
OKC				eSKP		14 24 44.9
OKC				ePKS	PKSdf	14 25 03.0 -0.2
OKC				AMS	AMS	15 20 00.0
	comp=Z,1μm,23.0s					
AKAS	Kas	135.93	308	i P	PKPdf	14 21 26.1 -1.6
SART	Tekirdag	135.95	315	i P	PKPdf	14 21 24.5 -3.0
RKY	Sarkoy-Tekirda	135.96	315	eP	PKPdf	14 21 25.7 -1.8
DEV	Deva	135.99	324	⇓i P	PKPdf	14 21 28.8 +1.5
KRBG	Karabiga-Canak	136.00	315	eP	PKPdf	14 21 26.1 -1.4
KPL	Plockton	136.04	354	eP	PKPpre	14 21 16.4
KSP	Ksiaz	136.04	334	ePKHKP	PKPpre	14 21 14.3
KSP	Ksiaz	136.04	334	ePKPc	PKPdf	14 21 28.9 +1.6
KSP				ePP	PP	14 24 10.5 +2.1
KSP				e		14 24 45.2
DRUM	Mains of Drumt	136.09	352	eP	PKPpre	14 21 17.2
FETY	Fethiye	136.19	309	eP	PKPdf	14 21 28

BRG				MLR	MLR		
	comp=Z,449nm,13.3s						
BRG	**Berggiesshubel**	**137.00 335**	*e*PKP	PKPpre		14 21 18.5	
BRG			*e*PKPdf	**PKiKP**		**14 21 30.5**	**-0.4**
PVCC	**Panska Ves**	**137.00 335**	*e*PKHKP	PKPpre		14 21 17.3	
PVCC			*e*			14 21 30.3	
PVCC			*e*			14 24 11.4	
PVCC	**Panska Ves**	**137.00 335**	*e*PKPpre	PKPpre		14 21 17.3	
PVCC			*e*PKPdf	**PKiKP**		**14 21 30.3**	**-0.6**
PVCC			*e*PP	**PP**		**14 24 11.4**	**-2.9**
PVCC			*e*SKP			14 24 48.1	
PVCC			*e*PKS	**PKSdf**		**14 25 05.3**	**+0.2**
PVCC			*ex*	x		14 26 11.6	
VRAC	**Vranov**	**137.02 332**	⇑*i*P	**PKPdf**		**14 21 31.2**	**+2.0**
VRAC	**Vranov**	**137.02 332**	PKhKP	PKPpre		14 21 20.6	
	comp=Z,7.4nm,0.7s,baz=44,slow=6.5,SNR=7.1						
VRAC			PKP	**PKPdf**		**14 21 28.9**	**-0.3**
	comp=Z,32nm,0.7s,baz=53,slow=1.6,SNR=27						
VRAC			PP	**PP**		**14 24 15.9**	**+1.3**
	comp=Z,10nm,0.8s,baz=50,slow=6.9,SNR=7.3						
VRAC			SKPbc	**SKPbc**		**14 24 46.7**	**+2.3**
	comp=Z,56nm,1.0s,baz=79,slow=2.0,SNR=8.1						
BLCB	**Balcova**	**137.03 312**	*e*P	**PKPdf**		**14 21 30.4**	**+0.9**
EAB	**Aberfoyle**	**137.03 353**	*e*P	PKPpre		14 21 22.6	
CLL	**Collm**	**137.04 336**	⇑*e*PKHKP	PKPpre		14 21 21.0	
CLL			*i*			14 21 30.3	
CLL			*e*			14 24 14.0	
CLL			pmax	pmax			
	comp=Z,30nm,0.9s						
CLL			pmax	pmax			
	comp=Z,154nm,1.2s						
CLL	**Collm**	**137.04 336**	*e*PKPpre	PKPpre		14 21 21.0	
	comp=Z,30nm,0.9s						
CLL			*e*			14 21 25.0	
CLL			⇑*i*PKPdf	**PKiKP**		**14 21 30.3**	**-0.7**
	comp=Z,154nm,1.2s						
CLL			*i* PKiKP	**PKPdf**		**14 21 32.3**	**+3.2**
	comp=Z,255nm,1.1s						
CLL			*ep*PKiKP	pPKiKP		14 22 25.0	+4.7
CLL			*e*PP	**PP**		**14 24 14.0**	**-0.5**
CLL			*e*PPIp			14 24 19.0	
	comp=Z,2μm,19.0s						
CLL			*i* SKPbc	**SKiKP**		**14 24 47.4**	**-1.8**
	comp=Z,75nm,1.1s						
CLL			*i* PKSdf	**PKSdf**		**14 25 04.1**	**-1.0**
CLL			*i* PKSab	**PKSab**		**14 25 12.1**	**+1.4**
CLL			*ep*PKSdf			14 25 54.0	
CLL			*es*SKPbc			14 26 10.0	
	comp=Z,43nm,1.1s						
CLL			*e*PPP	PPP		14 27 12.0	
CLL			*e*SKKSac	**SKKSac**		**14 30 44.0**	**-6.6**
CLL			*e*Sdif	**Sdif**		**14 32 12.0**	**-7.1**
CLL			*e*SKSP			14 33 57.0	
CLL			*e*PSKS			14 34 26.0	
CLL			*e*SPP	SPP		14 36 06.0	
CLL			*e*PPPrev			14 37 03.0	
CLL			*es*PPPrev			14 38 18.0	
CLL			*e*SS	SS		14 42 12.0	+8.2
CLL			*es*SS			14 43 28.0	
CLL			*e*SSS	SSS		14 47 12.0	
CLL			*e*			14 49 00.0	
PKSN	**Nyarlorinc**	**137.04 327**	⇓*e*	**PKPdf**		**14 21 31.4**	**+2.2**
ARG	**Arkhangelos**	**137.06 309**	*e*P	**PKPdf**		**14 21 29.9**	**+0.3**
ESY	**Stoneypath**	**137.07 352**	*e*P	PKPpre		14 21 21.0	
BUD	**Budapest**	**137.10 328**	⇑*e*	**PKPdf**		**14 21 30.1**	**+0.8**
BUD			*e*			14 24 15.3	
BOZC	**Bozcaada**	**137.10 315**	*i* P	**PKPdf**		**14 21 27.7**	**-1.9**
NRDL	**Niedersach Rie**	**137.13 340**	*e*PKP	PKPpre		14 21 19.2	
NRDL			*e*PKPdf	**PKiKP**		**14 21 30.7**	**-0.3**
SMTH	**Samothraki Isl**	**137.17 316**	*e*P	**PKPdf**		**14 21 28.6**	**-1.1**
SMOL	**Smolenice**	**137.19 331**	*e*PKP	**PKPdf**		**14 21 31.6**	**+2.1**
SMOL			*e*SKPDF			14 24 49.9	
FBE	**Freiberg**	**137.20 336**	*e*PKPdf	**PKPdf**		**14 21 31.2**	**+1.8**
FBE			*e*PP	**PP**		**14 24 15.8**	**+0.3**
PRK	**Paraskevi**	**137.21 314**	*e*P	**PKPdf**		**14 21 29.5**	**-0.3**
BDRM	**Kayabasi**	**137.25 310**	*i* P	PKPpre		14 21 15.0	
EBL	**Broad Law**	**137.27 352**	*e*P	PKPpre		14 21 20.7	
BODT	**Bodrum**	**137.35 311**	*e*P	**PKPdf**		**14 21 29.6**	**-0.6**
PKS6	**Bocsa**	**137.39 327**	⇓*e*	**PKPdf**		**14 21 32.0**	**+2.1**
PRA	**Prague**	**137.41 334**	PKPpre	PKPpre		14 21 21.0	
PRA			PKPdf	**PKiKP**		**14 21 31.0**	**-0.8**
PRA			PP	**PP**		**14 24 19.0**	**+2.2**
PGBU	**Glenifferbraes**	**137.42 353**	*e*P	PKPpre		14 21 21.6	
PRU	**Pruhonice**	**137.42 334**	*e*PKHKP	PKPpre		14 21 21.0	
PRU			*e*			14 21 30.8	
PRU			*e*			14 24 18.5	
PRU			MLR	MLR			
	comp=Z,2μm,20.8s						
PRU	**Pruhonice**	**137.42 334**	*e*PKPpre	PKPpre		14 21 21.0	
PRU			*e*PKPdf	**PKPdf**		**14 21 30.8**	**+0.9**
PRU			*ex*	x		14 21 37.8	
PRU			*e*PP	**PP**		**14 24 18.5**	**+1.5**
PRU			*e*SKP			14 24 49.2	
PRU			*e*PKS	**PKSdf**		**14 25 05.7**	**-0.2**
PRU			*ex*	x		14 26 12.0	
PRU			AMS	AMS		15 20 40.0	
	comp=Z,2μm,20.8s						
SMG	**Samos**	**137.45 312**	*e*P	**PKPdf**		**14 21 31.3**	**+1.0**
SIGR	**SIGRI**	**137.52 314**	P	**PP**		**14 24 16.6**	**-1.7**
TREC	**Trest**	**137.53 333**	*e*PKHKP	PKPpre		14 21 20.8	
TREC			*e*			14 21 30.9	
TREC			MLR	MLR			
	comp=Z,3μm,23.5s						
TREC	**Trest**	**137.53 333**	*e*PKPpre	PKPpre		14 21 20.8	
TREC			*e*PKPdf	**PKPdf**		**14 21 30.9**	**+0.8**
TREC			*ex*	x		14 21 37.3	
TREC			*e*PP	**PP**		**14 24 12.7**	**-5.0**
TREC			*e*SKP			14 24 48.9	
TREC			*ex*	x		14 24 52.9	
TREC			*ex*	x		14 24 57.2	
TREC			*e*PKS	**PKSdf**		**14 25 06.5**	**+0.3**
TREC			*ex*	x		14 26 12.7	
TREC			*ex*	x		14 34 11.6	
TREC			AMS	AMS		15 20 50.0	
	comp=Z,3μm,23.5s						
CLZ	**Clausthal**	**137.58 339**	*e*PKP	PKPpre		14 21 20.4	
CLZ			*e*PKPdf	**PKiKP**		**14 21 31.7**	**-0.4**
NEUB	**Neuenburg**	**137.59 337**	*e*PKP	PKPpre		14 21 20.4	
NEUB			*e*PKPdf	**PKiKP**		**14 21 31.6**	**-0.5**
KAVA	**Kavala**	**137.60 317**	P	**PKPdf**		**14 21 28.9**	**-1.6**
KAVA	**Kavala**	**137.60 317**	P	**PP**		**14 24 16.3**	**-2.4**
KAVA	**Kavala**	**137.60 317**	P	**PKPdf**		**14 21 28.9**	**-1.6**
PKS2	**Kecel**	**137.64 327**	⇓*e*	**PKPdf**		**14 21 32.6**	**+2.2**
LIA	**Limnos Island**	**137.67 315**	*e*P	**PKPdf**		**14 21 30.0**	**-0.6**
EKA	**Eskdalemuir Ar**	**137.72 352**	PKhKP	PKPpre		14 21 18.7	
	comp=Z,4.8nm,0.4s,baz=359,slow=2.2,SNR=17						
EKA			PKP	**PKPdf**		**14 21 30.7**	**+0.4**
	comp=Z,17nm,0.6s,baz=15,slow=2.9,SNR=16						
EKA			PP	**PP**		**14 24 18.4**	**+0.1**
	comp=Z,37nm,1.2s,baz=25,slow=5.5,SNR=4.6						
EKA			SKPbc	**SKPbc**		**14 24 46.9**	**+0.7**
	comp=Z,18nm,0.9s,baz=14,slow=3.6,SNR=4.4						
EKA			PKKP	**PKKPdf**		**14 31 03.5**	**-1.7**
	comp=Z,3.2nm,0.9s,baz=150,slow=5.4,SNR=4.8						
EKA			SKKPbc	**SKKPbc**		**14 33 33.7**	**-2.9**
	comp=Z,13nm,1.1s,baz=169,slow=5.0,SNR=5.8						
CHOS	**Chios island**	**137.73 313**	P	**PKPdf**		**14 21 30.2**	**-0.7**
CHOS	**Chios island**	**137.73 313**	P	**PKPdf**		**14 21 30.2**	**-0.7**
ESK	**Eskdalemuir**	**137.74 352**	*e*P	PKPpre		14 21 19.2	
ESK	**Eskdalemuir**	**137.74 352**	*e*PKIKP	**PKPdf**		**14 21 31.0**	**+0.7**
ESK			MLR	MLR			
	comp=Z,2μm,19.0s						
ESK	**Eskdalemuir**	**137.74 352**	*e*PKPdf	**PKPdf**		**14 21 31.0**	**+0.7**
ESK			LR	LR			
	comp=Z,2μm,19.0s						
PKST	**T^s**	**137.75 329**	⇓*e*	**PKPdf**		**14 21 31.6**	**+1.0**
MMB	**Musomiste**	**137.82 318**	⇑*i*P	**PKPdf**		**14 21 33.5**	**+2.6**
NVR	**Nevrokopi**	**137.86 318**	*e*P	**PKPdf**		**14 21 30.2**	**-0.8**
ECK	**Cauldkaine Hil**	**137.86 352**	*e*P	PKPpre		14 21 19.7	
TANN	**Tannenbergstha**	**137.95 336**	*e*PKPdf	**PKiKP**		**14 21 32.3**	**-0.7**
TANN			*e*PP	**PP**		**14 24 20.8**	**+0.6**
WERD	**Werda**	**137.99 336**	*e*PKP	PKPpre		14 21 21.3	
WERD			*e*PKPdf	**PKiKP**		**14 21 32.3**	**-0.7**
WERD			*e*PP	**PP**		**14 24 21.1**	**+0.7**
PLN	**Plauen**	**138.01 336**	*e*PKP	PKPpre		14 21 21.4	
PLN			*e*PP	**PP**		**14 24 21.4**	**+0.8**
KARP	**Karpathos**	**138.03 308**	*e*P	**PKPdf**		**14 21 32.0**	**+0.5**
GUNZ	**Gunzen**	**138.04 336**	*e*PKP	PKPpre		14 21 21.4	
GUNZ			*e*PKPdf	**PKiKP**		**14 21 32.6**	**-0.5**
GUNZ			*e*PP	**PP**		**14 24 21.6**	**+0.8**
IBBN	**Ibbenburen**	**138.06 341**	*e*PKP	PKPpre		14 21 21.6	
IBBN			*e*PKPdf	**PKiKP**		**14 21 32.5**	**-0.5**
IBBN			*e*PP	**PP**		**14 24 22.0**	**+1.4**
PKS9	**Tamasi**	**138.07 328**	⇓*e*	**PKPdf**		**14 21 32.7**	**+1.5**
WERN	**Wernitzgruen**	**138.08 336**	*e*PKP	PKPpre		14 21 21.5	
WERN			*e*PKPdf	**PKiKP**		**14 21 32.7**	**-0.5**
WERN			*e*PP	**PP**		**14 24 22.0**	**+0.9**
KKB	**Krupnik**	**138.09 319**	*e*P	**PKPdf**		**14 21 31.6**	**+0.2**
MOX	**Moxa**	**138.10 337**	*e*PKP	PKPpre		14 21 21.1	
MOX			*e*PKPdf	**PKiKP**		**14 21 32.5**	**-0.7**
MOX			*e*PP	**PP**		**14 24 21.9**	**+0.8**
PKSM	**Moragy**	**138.13 327**	⇑*i*P	**PKPdf**		**14 21 33.1**	**+1.8**
PKSM	**Moragy**	**138.13 327**	⇑*e*	**PKPdf**		**14 21 32.4**	**+1.1**
SRS	**Serrai**	**138.15 318**	P	PKPpre		14 21 19.7	
SOP	**Sopron**	**138.18 330**	⇑*e*	**PKPdf**		**14 21 32.4**	**+1.1**
SOP			*e*			14 24 23.2	
SOP			*e*			14 25 07.7	
OUR	**Ouranopolis**	**138.28 317**	P	PKPpre		14 21 21.9	
CONA	**Conrad Observa**	**138.34 331**	⇑*i*PKPdf	PKPpre		14 21 22.2	
	comp=Z,16nm,0.8s						
CONA			⇓*i*PKiKP	**PKiKP**		**14 21 33.4**	**-0.4**
	comp=Z,205nm,0.9s						
CONA			⇑*i*pPKiKP	pPKiKP		14 22 23.7	+0.5
	comp=Z,60nm,1.4s						
GAL1	**Galloway**	**138.37 353**	*e*P	PKPpre		14 21 23.5	
KESW	**Keswick, Cumbr**	**138.43 352**	*e*P	PKPpre		14 21 23.1	
SOH	**Sokhos**	**138.45 318**	P	**PP**		**14 24 23.0**	**-1.0**
KHC	**Kasperske Hory**	**138.48 334**	*e*PKHKP	PKPpre		14 21 22.1	
KHC			*e*			14 21 33.1	
KHC			*e*			14 24 21.1	
KHC			MLR	MLR			
	comp=Z,2μm,25.5s						
KHC	**Kasperske Hory**	**138.48 334**	*e*PKPpre	PKPpre		14 21 22.1	
KHC			*e*PKPdf	**PKiKP**		**14 21 33.1**	**-1.0**
KHC			*ex*	x		14 21 42.5	
KHC			*e*PP	**PP**		**14 24 21.1**	**-2.5**
KHC			*e*SKP			14 24 52.3	
KHC			*e*PKS	**PKSdf**		**14 25 09.1**	**+1.2**
KHC			*ex*	x		14 26 15.3	
KHC			*e*SKKP			14 34 15.3	
KHC			AMS	AMS		15 19 50.0	
	comp=Z,2μm,25.5s						
UBBA	**Unterbreizbach**	**138.56 338**	*e*PKPdf	**PKPdf**		**14 21 33.1**	**+1.3**
ROTZ	**Rotzenmuhle**	**138.56 336**	*e*PKP	PKPpre		14 21 22.4	
ROTZ			*e*PKPdf	**PKiKP**		**14 21 33.3**	**-0.9**
KNT	**Kendrikon**	**138.58 318**	P	PKPpre		14 21 22.2	
PLG	**Polygyros**	**138.62 317**	*e*P	**PKPdf**		**14 21 31.9**	**-0.5**
GEC2	**GERESS Array S**	**138.65 334**	*e*PKPdf	**PKPdf**		**14 21 33.5**	**+1.2**
GEC2			*e*PP	**PP**		**14 24 24.8**	**+0.1**
GERES	**GERESS Array B**	**138.65 334**	PKhKP	PKPpre		14 21 22.8	
	comp=Z,11nm,0.9s,baz=29,slow=3.0,SNR=22						
GERES			PKP	**PKiKP**		**14 21 34.1**	**-0.3**
	comp=Z,87nm,0.9s,baz=52,slow=1.6,SNR=37						
GERES			SKPbc	**SKiKP**		**14 24 51.2**	**-1.6**
	comp=Z,41nm,1.0s,baz=29,slow=3.0,SNR=12						
WTSB	**Winterswijk**	**138.65 342**	*e*PKPdf	PKPdf		14 21 26.2	-5.9
WTSB			*e*PKPbc	**PKiKP**		**14 21 33.0**	**-1.2**
	comp=Z,788nm,1.4s						
WTSB			*ep*PKPdf	**PP**		**14 24 26.1**	**+1.9**
VAY	**Valandovo**	**138.71 319**	P	PKPpre		14 21 22.6	
VAY	**Valandovo**	**138.71 319**	*i* PKP	PKPpre		14 21 21.2	
DIVS	**Divibare**	**138.71 324**	P	PKPpre		14 21 24.8	
DIVS	**Divibare**	**138.71 324**	P	**PP**		**14 24 25.9**	**+0.5**
HORT	**Hortiatis**	**138.73 317**	P	PKPpre		14 21 21.1	
WET	**Wettzell**	**138.77 334**	*e*PKPdf	**PKPdf**		**14 21 33.9**	**+1.5**
WET			*e*PP	**PP**		**14 24 26.2**	**+0.9**
ZKR	**Zakros**	**138.90 308**	*e*P	**PKPdf**		**14 21 33.7**	**+0.6**
BUG	**Bochum--Univer**	**138.96 341**	*e*PKP	PKPpre		14 21 24.2	
BUG			*e*PKPdf	**PKiKP**		**14 21 33.8**	**-1.1**
ARSA	**Arzberg**	**138.99 331**	⇑*i*PKPdf	PKPpre		14 21 26.8	
	comp=Z,20nm,0.9s						
ARSA			*i* PKiKP	**PKiKP**		**14 21 34.4**	**-0.8**
	SNR=9.0						
ARSA			⇓*i*PP	**PP**		**14 24 28.1**	**+1.3**
	comp=Z,73nm,1.9s						
SANT	**Santorini**	**138.99 310**	*e*P	**PKPdf**		**14 21 32.6**	**-0.6**
GRF	**Grafenberg Arr**	**139.01 336**	*e*PKPdf	**PKPdf**		**14 21 34.4**	**+1.6**
GRF			*e*PP	**PP**		**14 24 27.0**	**+0.3**
SKO	**Skopje**	**139.07 320**	*e*PKP	PKPpre		14 21 23.5	
MOA	**Molln**	**139.14 332**	⇑*i*PKPdf	PKPpre		14 21 25.1	
	comp=Z,32nm,1.4s						
MOA			*i* PKPdf	**PKPdf**		**14 21 33.8**	**+0.6**
	SNR=11						
MOA			⇑*i*pPKiKP	pPKiKP		14 22 25.0	+0.2
	comp=Z,45nm,1.2s						
SKIA	**Skiathos**	**139.19 315**	*e*P	**PKPdf**		**14 21 33.5**	**0.0**
XOR	**Xorichti**	**139.28 316**	P	PKPpre		14 21 24.3	
XOR	**Xorichti**	**139.28 316**	P	PP		14 24 23.9	-5.3
MRKA	**Markates**	**139.32 315**	*e*P	**PKPdf**		**14 21 33.0**	**-0.8**
LIT	**Litokhoron**	**139.39 317**	P	PKPpre		14 21 24.0	
LIT	**Litokhoron**	**139.39 317**	P	**PP**		**14 24 24.8**	**-4.9**
PTL	**Penteli**	**139.43 314**	*e*P	**PKPdf**		**14 21 33.3**	**-0.7**
LAST	**Lasithi**	**139.45 309**	*e*P	**PKPdf**		**14 21 34.3**	**+0.1**
KBI1	**Birley Grange**	**139.47 350**	*e*P	PKPpre		14 21 25.6	
IVA	**Berane**	**139.50 322**	*e*PKP	PKPpre		14 21 27.3	
SMIA	**Simia**	**139.50 315**	*e*P	**PKPdf**		**14 21 34.3**	**+0.2**
PLE	**Pljevlja**	**139.52 323**	⇑*i*PKP	PKPpre		14 21 27.5	
ATHU	**Athens Univers**	**139.52 314**	P	**PP**		**14 24 29.1**	**-1.6**
ATH	**Athens Observa**	**139.57 314**	*e*P	**PKPdf**		**14 21 33.2**	**-1.0**
TNS	**Taunus Mts**	**139.60 339**	*e*PKP	PKPpre		14 21 26.3	
PERS	**Pernice**	**139.62 330**	*i* PKPdf	PKPpre		14 21 28.9	
PERS			*i* PKPbc	**PKPdf**		**14 21 34.8**	**+0.7**
PERS			*ep*PKPdf	**PP**		**14 24 31.2**	**+0.5**
PVY	**Plav**	**139.62 322**	⇑*i*PKP	PKPpre		14 21 27.6	
SOKA	**Soboth**	**139.63 330**	⇓*i*PKPdf	PKPpre		14 21 27.5	
	comp=Z,36nm,1.0s						
SOKA			*i* PKiKP	**PKiKP**		**14 21 35.5**	**-1.1**
	SNR=10						
SOKA			⇓*i*PP	**PP**		**14 24 33.3**	**+2.5**
	comp=Z,98nm,1.4s						
LKR	**Lokris**	**139.75 315**	*e*P	PKPpre		14 21 28.6	
FNA	**Florina**	**139.76 319**	P	PKPpre		14 21 26.0	
WME	**Myndd Eilian**	**139.76 352**	*e*P	PKPpre		14 21 27.1	
IDI	**Anoyia**	**139.84 309**	PKhKP	PKPpre		14 21 28.1	
	comp=Z,58nm,1.0s,baz=127,slow=0.4,SNR=17						
IDI			PKP	**PKiKP**		**14 21 36.9**	**-0.5**
	comp=Z,287nm,1.0s,baz=114,slow=3.6,SNR=26						
IDI			SKPbc	**SKiKP**		**14 24 54.8**	**-0.8**
	comp=Z,39nm,1.0s,baz=115,slow=5.4,SNR=3.7						
PHP	**Peshkopia**	**139.85 320**	P	PKPpre		14 21 26.6	
WLF1	**Llynfaes**	**139.88 352**	*e*P	PKPpre		14 21 27.3	
UPM	**Unac-Piva**	**139.88 323**	⇑*i*PKP	PKPpre		14 21 27.1	
AXAR	**Agios Charalam**	**139.93 315**	P	PKPpre		14 21 27.0	
AXAR	**Agios Charalam**	**139.93 315**	*e*P	**PKPdf**		**14 21 35.2**	**+0.3**
YRC	**Rhoscolyn**	**139.94 352**	*e*P	PKPpre		14 21 27.9	
OHR	**Ohrid**	**139.95 320**	*i* PKP	PKPpre		14 21 25.0	
HGN	**Heimansgroeve**	**139.96 342**	*e*PKPdf	PKPpre		14 21 27.2	
HGN			*e*PKPbc	**PKPdf**		**14 21 35.4**	**+0.9**
	comp=Z,280nm,1.1s						
HGN			*ep*PKPdf	**PP**		**14 24 34.4**	**+2.1**
OBKA	**Obir**	**139.99 330**	⇑*i*PKPdf	PKPpre		14 21 30.3	
	comp=Z,67nm,1.3s						
SIVA	**Sivas**	**140.01 309**	P	**PP**		**14 24 30.5**	**-3.3**
SIVA	**Sivas**	**140.01 309**	*e*P	**PKPdf**		**14 21 38.7**	**+3.6**
BEBN	**Eben Emael**	**140.01 342**	E	**PKPdf**		**14 21 34.4**	**-0.2**
BEBN			PP	**PP**		**14 24 35.4**	**+2.7**
BEBN			SKiKP	**SKiKP**		**14 24 56.3**	**+1.0**
AGG	**Agios Georgios**	**140.03 316**	P	PKPpre		14 21 26.6	
AGG	**Agios Georgios**	**140.03 316**	P	**PP**		**14 24 32.8**	**-1.0**
NKY	**Niksic**	**140.06 323**	⇑*i*PKP	PKPpre		14 21 28.3	
LTK	**Loutraki**	**140.07 314**	P	PKPpre		14 21 27.0	
LTK	**Loutraki**	**140.07 314**	P	**PP**		**14 24 31.2**	**-2.9**
MEM	**Membach**	**140.08 341**	PKP	PKPpre		14 21 27.2	
MEM			PP	**PP**		**14 24 34.4**	**+1.4**
MEM			SKiKP	**SKiKP**		**14 24 56.5**	**+1.1**
FOEL	**Foel Wylfa**	**140.09 351**	*e*P	PKPpre		14 21 26.7	
NKME	**Niksic**	**140.12 323**	⇑*i*PKP	PKPpre		14 21 28.0	
DID	**Didima**	**140.12 313**	P	PKPpre		14 21 27.6	
KBA	**Koelnbreinsper**	**140.13 332**	⇓*i*PKPdf	PKPpre		14 21 28.2	
	comp=Z,30nm,0.9s						
KBA			⇓*i*PKiKP	**PKiKP**		**14 21 38.2**	**+0.6**
	comp=Z,245nm,1.1s						
PDG	**Podgorica**	**140.14 322**	P	PKPpre		14 21 28.6	
PDG	**Podgorica**	**140.14 322**	P	**PP**		**14 24 33.4**	**-0.7**
TTG	**Podgorica**	**140.14 322**	⇑*i*PKP	PKPpre		14 21 28.9	
DSB	**Dublin**	**140.15 354**	*e*PKPdf	**PKPdf**		**14 21 35.0**	**+0.3**
NEST	**Nestorio**	**140.16 318**	P	PKPpre		14 21 27.6	
MAKR	**Makrakomi, Fth**	**140.17 316**	P	PKPpre		14 21 28.0	
MAKR	**Makrakomi, Fth**	**140.17 316**	*e*P	**PKPdf**		**14 21 35.6**	**+0.3**
YRE	**Yr Eifl**	**140.18 352**	*e*P	PKPpre		14 21 24.7	
VNDS	**Vrh nad Dolski**	**140.20 330**	*i* PKPdf	PKPpre		14 21 30.4	
BRY	**Bratogost**	**140.28 323**	⇑*i*PKP	PKPpre		14 21 28.9	
VAM	**Vamos**	**140.31 310**	*e*P	PKPpre		14 21 28.5	
DRME	**Dracevica, Mon**	**140.33 322**	⇑*i*PKP	PKPpre		14 21 29.2	
MYKA	**Terra Mystica**	**140.33 331**	⇓*i*PKPdf	PKPpre		14 21 28.7	
	comp=Z,35nm,1.0s						
MYKA			*i* PKiKP	**PKiKP**		**14 21 38.6**	**+0.6**
	SNR=5.1						
LJU	**Ljubljana**	**140.33 330**	*i* PKPdf	PKPpre		14 21 30.9	
LJU			*i* PKPbc	**PKiKP**		**14 21 37.3**	**-0.6**
LJU			*ep*PKPdf	**PP**		**14 24 34.5**	**-0.6**
BOJS	**Bojanci**	**140.35 329**	*i* PKPdf	PKPpre		14 21 30.3	
BOJS			*e*PKPbc	**PKiKP**		**14 21 36.9**	**-1.1**
BOJS			*ep*PKPdf	**PP**		**14 24 35.1**	**-0.1**
MEV	**Metsovon**	**140.38 317**	P	PKPpre		14 21 29.6	
UCC	**Uccle**	**140.40 343**	PKP	PKPpre		14 21 30.3	
UCC			PP	**PP**		**14 24 35.5**	**+0.5**
UCC			E			14 24 56.7	
HLM1	**Long Mynd**	**140.41 351**	*e*P	PKPpre		14 21 27.9	
ULC	**Ulcinj**	**140.42 322**	*e*PKP	PKPpre		14 21 28.9	
BUM	**Brajici-Budva**	**140.43 322**	*e*PKP	PKPpre		14 21 28.2	
EVR	**Evrytania**	**140.44 316**	*e*P	**PKPdf**		**14 21 33.2**	**-2.7**
BCLA	**Clavier**	**140.46 342**	PKP	PKPpre		14 21 28.0	
BCLA			PP	**PP**		**14 24 35.6**	**+0.2**
BCLA			SKiKP	**SKPbc**		**14 24 54.6**	**+0.7**
KALE	**Kalithea**	**140.47 315**	P	PKPpre		14 21 27.8	
KALE	**Kalithea**	**140.47 315**	*e*P	PKPpre		14 21 30.3	
GUR	**Goura**	**140.55 314**	P	PKPpre		14 21 28.8	
HCY	**Herceg Novi**	**140.58 323**	*e*PKP	PKPpre		14 21 29.8	
EFP	**Efpalio**	**140.61 315**	P	PKPpre		14 21 30.4	
KLV	**Kalavryta, Ach**	**140.63 315**	*e*P	PKPpre		14 21 30.0	
LAKA	**Lakka**	**140.65 315**	P	PKPpre		14 21 29.7	
LAKA	**Lakka**	**140.65 315**	*e*P	PKPpre		14 21 30.6	
JAVS	**Javornik**	**140.66 330**	*e*PKPdf	PKPpre		14 21 30.8	
JAVS			*e*PKPbc	**PKPdf**		**14 21 36.7**	**+0.6**
JAVS			*ep*PKPdf	**PP**		**14 24 37.3**	**+0.2**
SNF	**Seneffe**	**140.68 343**	PKP	PKPpre		14 21 29.0	
SNF			PP	**PP**		**14 24 37.8**	**+1.1**
SNF			SKiKP	**SKiKP**		**14 24 57.4**	**+0.7**
JAN	**Janina**	**140.70 318**	*e*P	**PKPdf**		**14 21 34.4**	**-1.8**
WATA	**Walderalm**	**140.72 334**	*i* PKiKP	**PKPdf**		**14 21 37.0**	**+0.8**
	SNR=12						
ABTA	**Abfaltersbach**	**140.76 332**	*i* PKPdf	PKPpre		14 21 29.8	
	SNR=24						
UDBI	**Udbina**	**140.76 327**	P	PKPpre		14 21 27.6	
STON	**Ston**	**140.78 324**	P	PKPpre		14 21 32.5	
VLX	**Vlachokerasia**	**140.79 313**	P	PKPpre		14 21 30.8	
ANKY	**Antikythira Is**	**140.79 311**	*e*P	PKPpre		14 21 30.6	
DSL	**Palaion Diasel**	**140.81 317**	P	PKPpre		14 21 29.2	
DSL	**Palaion Diasel**	**140.81 317**	P	**PP**		**14 24 36.4**	**-2.0**
WLF	**Walferdange**	**140.85 341**	PKP	PKPpre		14 21 30.8	
WLF			E			14 24 55.3	
LANF	**Langenberg**	**140.87 338**	PKP	PKPpre		14 21 31.8	
MOTA	**Moosalm**	**140.91 334**	*i* PKPdf	PKPpre		14 21 31.9	
	SNR=28						
MCH1	**Michaelchurch**	**140.93 350**	*e*P	PKPpre		14 21 28.6	
RETA	**Reutte**	**140.95 335**	*i* PKPdf	PKPpre		14 21 32.2	
	SNR=11						
RETA			⇑*i*PKiKP	**PKiKP**		**14 21 40.7**	**+1.5**
	comp=

CARF	Carcanieres	148.29 339	PKP	PKPbc	14 21 54.2	+1.2
VALF	Valcebollere	148.60 339	PKP	PKPbc	14 21 55.5	+1.7
MELF	Melles	148.60 341	PKP	PKPbc	14 21 55.0	+1.3
LABF	Labassere	148.66 342	PKP	PKPbc	14 21 55.4	+1.6
RESF	Ens	148.79 341	PKP	PKPbc	14 21 56.2	+1.9
ORDF	Ordiarp	148.80 343	PKP	PKPbc	14 21 54.4	+0.3
VIEF	Viey	148.82 342	PKP	PKPbc	14 21 55.7	+1.4
ATE	Arette	148.85 343	PKP	PKPbc	14 21 54.9	+0.6
OSSF	Osses	148.85 344	PKP	PKPbc	14 21 54.0	-0.2
LARF	Larrau	148.98 343	PKP	PKPbc	14 21 55.7	+1.1
MSKU	Masuku	149.76 242	PFAKE		14 22 00.0	+2.6
MSKU			LR	LR		
	comp=Z,2.0nm,21.0s					
SHEL	Horse Pasture	149.80 194	*e*PKPdf	PKPdf	14 21 53.6	+1.2
SHEL			LR	LR		
	comp=Z,2μm,21.0s					
RCBR	Riachuelo	149.98 129	PKPbc	PKPbc	14 21 58.2	+0.3
	comp=Z,112nm,0.9s,baz=152,slow=1.5,SNR=35					
RCBR	Riachuelo	149.98 129	PKPbc	PKPbc	14 21 58.2	+0.3
RCBR			LR	LR		
	comp=Z,1μm,19.0s					
KEST	Kesra	150.33 322	PKP	PKPdf	14 21 54.8	+2.0
	comp=Z,76nm,0.9s,baz=210,slow=1.3,SNR=28					
KEST			PKPbc	PKiKP	14 21 59.9	+1.0
	comp=Z,434nm,0.9s,baz=120,slow=1.5,SNR=170					
CMAH	Djebel Manchou	150.82 325	P	PKPdf	14 21 54.7	+1.2
CAEH	'Ain El Ouahch	151.02 326	P	PKPdf	14 21 54.5	+0.8
ABSA	Djebel Ababsia	151.04 325	P	PKPdf	14 21 55.3	+1.4
CKFL	Kef-Lekhel	151.37 326	P	PKPdf	14 21 55.9	+1.5
PBRG	Braganca	151.44 351	PKPdf	PKPdf	14 21 54.0	-0.3
PBRG	Braganca	151.44 351	PKPbc	PKPbc	14 22 01.7	+1.2
PBRG	Braganca	151.44 351	*e*PKPab	PKPab	14 22 11.3	+1.9
PBRG	Braganca	151.44 351	*e*PP	PP	14 25 43.3	+3.3
PGAV	Gavieira, Arco	151.49 353	PKPdf	PKPdf	14 21 54.7	+0.3
PGAV	Gavieira, Arco	151.49 353	PKPbc	PKPbc	14 22 02.0	+1.3
PGAV	Gavieira, Arco	151.49 353	*e*PP	PP	14 25 43.5	+3.1
CASM	Ain Smara	151.60 326	P	PKPdf	14 21 55.9	+1.2
DFRA	Djebel Bou Aff	151.72 327	P	PKPdf	14 21 57.0	+2.1
CTEI	Djebel Teioual	151.79 326	P	PKPdf	14 21 56.8	+1.7
POLO	Lamas de Olo	152.02 352	PKPdf	PKPdf	14 21 56.3	+1.1
POLO	Lamas de Olo	152.02 352	PKPbc	PKPbc	14 22 03.5	+1.6
POLO	Lamas de Olo	152.02 352	PKPab	PKPab	14 22 13.6	+1.7
POLO	Lamas de Olo	152.02 352	*e*PP	PP	14 25 44.3	+0.9
PVRL	Vila Real	152.10 352	PKPdf	PKPdf	14 21 56.8	+1.5
PVRL	Vila Real	152.10 352	PKPbc	PKPbc	14 22 03.7	+1.7
PVRL	Vila Real	152.10 352	PKPab	PKPab	14 22 14.3	+2.1
PVRL	Vila Real	152.10 352	*e*PP	PP	14 25 45.7	+1.9
MVO	Moncorvo	152.11 351	PKPdf	PKPdf	14 21 56.3	+1.0
MVO	Moncorvo	152.11 351	PKPbc	PKPbc	14 22 03.7	+1.6
MVO	Moncorvo	152.11 351	*e*PKPab	PKPab	14 22 13.7	+1.4
MVO	Moncorvo	152.11 351	*e*PP	PP	14 25 46.7	+2.8
SET	Setif	152.23 327	P	PKPdf	14 21 58.0	+2.3
CKHR	Kef el Ahmar	152.31 327	P	PKPdf	14 21 57.2	+1.3
PVIS	Viseu	152.68 352	PKPdf	PKPdf	14 21 57.2	+1.0
PVIS	Viseu	152.68 352	PKPbc	PKPbc	14 22 04.6	+1.2
PVIS	Viseu	152.68 352	PKPab	PKPab	14 22 16.7	+2.1
ES19	SONSECA Array	152.88 345	*e*PKPdf	PKPdf	14 21 56.9	+0.4
ESDC	Sonseca Array	152.92 345	PKP	PKPdf	14 21 57.7	+1.2
	comp=Z,20nm,1.0s,baz=360,slow=2.7,SNR=58					
ESDC			PKPbc	PKiKP	14 22 05.7	+1.6
	comp=Z,96nm,0.9s,baz=5.3,slow=3.1,SNR=78					
ESDC			PKPab	PKPab	14 22 17.4	+1.7
	comp=Z,114nm,0.8s,baz=2.4,slow=3.8,SNR=25					
ESDC			PP	PP	14 25 46.8	-1.8
	comp=Z,21nm,0.9s,baz=16,slow=6.0,SNR=6.1					
ABA	Alger-Bouzarea	152.93 331	P	PKPbc	14 22 05.0	+1.0
MTE	Manteigas	152.94 351	PKPdf	PKPdf	14 21 57.5	+0.9
MTE	Manteigas	152.94 351	PKPbc	PKPbc	14 22 05.2	+1.2
MTE	Manteigas	152.94 351	PKPab	PKPab	14 22 18.1	+2.4
MTE	Manteigas	152.94 351	*e*PP	PP	14 25 49.3	+0.7
MTE	Manteigas	152.94 351	*e*PKPdf	PKPdf	14 21 56.9	+0.3
MTE			LR	LR		
	comp=Z,2μm,21.0s					
AKET	Djebel Ketaf	153.12 329	P	PKPdf	14 21 57.7	+0.6
PAB	San Pablo	153.13 345	*e*PKIKP	PKPdf	14 21 57.6	+0.7
PAB			MLR	MLR		
	comp=Z,2μm,20.0s					
PAB	San Pablo	153.13 345	*e*PKPdf	PKPdf	14 21 57.6	+0.7
PAB			LR	LR		
	comp=Z,2μm,20.0s					
ADJB	Djebel Djouab	153.26 330	P	PKPdf	14 21 59.0	+1.8
PCAS	Casmilo, Conde	153.41 353	PKPdf	PKPdf	14 21 56.8	-0.4
PCAS	Casmilo, Conde	153.41 353	PKPbc	PKPbc	14 22 05.9	+1.0
PCAS	Casmilo, Conde	153.41 353	*e*PKPab	PKPab	14 22 18.9	+1.2
PCAS	Casmilo, Conde	153.41 353	*e*PP	PP	14 25 52.4	+1.3
EMHD	Djebel Mahouad	153.46 331	P	PKPbc	14 22 07.0	+1.7
PCBR	Castelo Branco	153.47 351	PKPdf	PKPdf	14 21 58.1	+0.9
PCBR	Castelo Branco	153.47 351	PKPbc	PKPbc	14 22 06.1	+1.1
PCBR	Castelo Branco	153.47 351	*e*PKPab	PKPab	14 22 19.3	+1.4
PCBR	Castelo Branco	153.47 351	*e*PP	PP	14 25 52.4	+0.9
PTOM	Tomar	153.82 352	PKPdf	PKPdf	14 21 59.1	+1.3
PTOM	Tomar	153.82 352	PKPbc	PKPbc	14 22 07.2	+1.4
PTOM	Tomar	153.82 352	*e*PKPab	PKPab	14 22 21.0	+1.6
PTOM	Tomar	153.82 352	*e*PP	PP	14 25 58.9	+5.5
PMRV	Marv??o	153.86 351	PKPdf	PKPdf	14 21 57.5	-0.4
PMRV	Marv??o	153.86 351	PKPbc	PKPbc	14 22 07.4	+1.5
PMRV	Marv??o	153.86 351	*e*PKPab	PKPab	14 22 20.9	+1.3
PMRV	Marv??o	153.86 351	*e*PP	PP	14 25 54.0	+0.3
EBNR	Beni Rached	154.04 333	P	PKPbc	14 22 08.0	+1.6
ECHA	Ech Chlef	154.23 333	P	PKPbc	14 22 08.5	+1.8
PMTG	Montargil	154.34 352	PKPdf	PKPdf	14 21 59.1	+0.6
PMTG	Montargil	154.34 352	PKPbc	PKPbc	14 22 08.0	+1.1
PMTG	Montargil	154.34 352	*e*PKPab	PKPab	14 22 23.0	+1.4
PMTG	Montargil	154.34 352	*e*PP	PP	14 25 55.3	-1.0
PESTR	Estremoz	154.44 351	PKPdf	PKPdf	14 21 58.1	-0.6
PESTR	Estremoz	154.44 351	PKPbc	PKPbc	14 22 08.5	+1.3
PESTR	Estremoz	154.44 351	*e*PKPab	PKPab	14 22 23.4	+1.3
PESTR	Estremoz	154.44 351	*e*PP	PP	14 25 59.7	+2.7
EANR	'Ain N'Sour	154.51 333	P	PKPdf	14 22 00.0	+1.1
PMAFR	Mafra	154.58 354	PKPdf	PKPdf	14 22 00.0	+1.1
PMAFR	Mafra	154.58 354	PKPbc	PKPbc	14 22 08.8	+1.3
PMAFR	Mafra	154.58 354	*e*PKPab	PKPab	14 22 24.1	+1.4
PMAFR	Mafra	154.58 354	*e*PP	PP	14 26 00.2	+2.5
LIS	Lisbon	154.80 353	*e*P	PKPdf	14 21 59.2	+0.1
LIS			*e*PP	PP	14 26 01.0	+2.1
LIS			AMS	AMS	15 33 22.4	
	comp=Z,2μm,19.6s					
LIS	Lisbon	154.80 353	*e*P	PKPdf	14 21 59.2	+0.1
LIS	Lisbon	154.80 353	PKPdf	PKPdf	14 22 00.1	+1.0
LIS	Lisbon	154.80 353	*e*PKPab	PKPab	14 22 25.9	+2.3
LIS	Lisbon	154.80 353	*e*PP	PP	14 26 01.0	+2.1
LIS	Lisbon	154.80 353	*e*PP	PP	14 26 01.7	+2.8
LIS	Lisbon	154.80 353	A	A	15 33 22.4	
	comp=Z,2μm,19.6s					
EVO	Evora	154.84 351	PKPdf	PKPdf	14 21 56.0	-3.2
EVO	Evora	154.84 351	*e*PKPab	PKPab	14 22 25.5	+1.7
EVO	Evora	154.84 351	*e*PP	PP	14 25 59.5	+0.4
ETRT	Tiaret	154.89 332	P	PKPdf	14 22 01.0	+1.5
PBAR	Barrancos	155.02 349	PKPdf	PKPdf	14 21 59.6	+0.1
PBAR	Barrancos	155.02 349	PKPbc	PKPdf	14 22 09.5	+10
PBAR	Barrancos	155.02 349	*e*PKPab	PKPab	14 22 25.7	+1.1
PBAR	Barrancos	155.02 349	*e*PP	PP	14 26 00.8	+0.6
OJGS	Djebel Guires	155.04 333	P	PKPdf	14 22 04.0	+4.3
PNCL	Nicolau / Gran	155.32 352	PKPdf	PKPdf	14 22 00.5	+0.6
PNCL	Nicolau / Gran	155.32 352	PKPbc	PKPbc	14 22 10.6	
PNCL	Nicolau / Gran	155.32 352	*e*PKPab	PKPab	14 22 27.7	+1.9
PNCL	Nicolau / Gran	155.32 352	*e*PP	PP	14 26 04.7	+2.9
MESJ	Messejana	155.55 351	*e*P	PKPdf	14 22 00.0	-0.1
MESJ			*e*PP	PP	14 26 05.0	+2.0
MESJ			AMS	AMS	15 32 08.0	
	comp=Z,2μm,18.7s					
MESJ	Messejana	155.55 351	PKPdf	PKPdf	14 22 00.9	+0.7
MESJ	Messejana	155.55 351	PKPab	PKPab	14 22 29.3	+2.5
ODJA	Bouhanifia	155.57 334	P	PKPdf	14 22 02.1	+1.6
PVAQ	Vaqueiros	155.89 350	PKPdf	PKPdf	14 22 01.6	+0.9
PVAQ	Vaqueiros	155.89 350	PKPbc	PKPbc	14 22 11.9	
PVAQ	Vaqueiros	155.89 350	*e*PKPab	PKPab	14 22 30.2	+1.9
PVAQ	Vaqueiros	155.89 350	*e*PP	PP	14 26 06.8	+1.8
PTEO	Sao Teotonio	155.91 352	PKPdf	PKPdf	14 22 02.0	+1.3
PTEO	Sao Teotonio	155.91 352	PKPbc	PKPbc	14 22 12.7	
PTEO	Sao Teotonio	155.91 352	*e*PKPab	PKPab	14 22 30.3	+1.9
PTEO	Sao Teotonio	155.91 352	*e*PP	PP	14 26 08.6	+3.6
PBDV	Barranco-do-Ve	156.09 350	PKPdf	PKPdf	14 22 01.8	+0.8
PBDV	Barranco-do-Ve	156.09 350	*e*PKPab	PKPab	14 22 31.4	+2.2
PBDV	Barranco-do-Ve	156.09 350	*e*PP	PP	14 26 01.0	-5.1
MORF	Marmelete	156.13 352	*e*P	PKPdf	14 22 01.0	-0.1
MORF			*e*PP	PP	14 26 08.2	+1.9
MORF			AMS	AMS	15 44 45.4	
	comp=Z,2μm,20.1s					
MORF	Marmelete	156.13 352	PKPdf	PKPdf	14 22 01.9	+0.8
MORF	Marmelete	156.13 352	PKPab	PKPab	14 22 31.9	+2.5
OLHC	Oulhaca	156.16 337	P	PKPdf	14 22 03.0	+1.9
PFVI	Vila Bisbo	156.33 352	PKPdf	PKPdf	14 22 01.7	+0.5
PFVI	Vila Bisbo	156.33 352	PKPbc	PKPbc	14 22 12.6	
PFVI	Vila Bisbo	156.33 352	*e*PKPab	PKPab	14 22 31.9	+1.7
PFVI	Vila Bisbo	156.33 352	*e*PP	PP	14 26 09.4	+2.1
ASCN	Ascension	158.53 176	*e*PKPdf	PKPdf	14 22 07.0	+2.4
ASCN			*e*PKPab	PKPab	14 22 42.2	+2.0
ASCN			LR	LR		
	comp=Z,2μm,20.0s					
RTC	Rabat Centre	159.03 346	PFAKE		14 22 20.0	+15
RTC			LR	LR		
	comp=Z,2μm,20.0s					
MDT	Midelt	159.50 340	PP	PP	14 26 26.5	+1.4
	comp=Z,50nm,1.2s,baz=32,slow=5.2,SNR=6.2					
PMPS	Porto Santo	160.38 9	PKPdf	PKPdf	14 22 07.7	+1.5
PMPS	Porto Santo	160.38 9	*e*PKPab	PKPab	14 22 49.8	+1.9
PMPS	Porto Santo	160.38 9	*e*PP	PP	14 26 33.2	+3.8
TAM	Tamanrasset	160.40 300	*e*PKIKP	PKPdf	14 22 08.0	+1.3
TAM			MLR	MLR		
	comp=Z,2μm,20.0s					
TAM	Tamanrasset	160.40 300	*e*PKPdf	PKPdf	14 22 08.0	+1.3
TAM			LR	LR		
	comp=Z,2μm,20.0s					
PMOZ	Porto Moniz, M	160.47 11	PKPdf	PKPdf	14 22 08.5	+2.0
PMOZ	Porto Moniz, M	160.47 11	*e*PKPab	PKPab	14 22 49.3	+0.9
PMOZ	Porto Moniz, M	160.47 11	*e*PP	PP	14 26 32.6	+2.5
FUL	Funchal	160.69 11	PKPdf	PKPdf	14 22 08.2	+1.6
FUL	Funchal	160.69 11	PKPab	PKPab	14 22 53.4	+4.2
FUL	Funchal	160.69 11	*e*PP	PP	14 26 33.0	+1.9
KUK	Kukurantumi	165.73 240	*i* P	PKPdf	14 22 11.1	-0.8
TOA0	Torodi Ar. Sit	165.92 270	*e*PKPdf	PKPdf	14 22 11.6	-0.4
TORD	Torodi Ar. Bea	165.92 270	PKP	PKPdf	14 22 11.3	-0.6
	comp=Z,222nm,1.1s,baz=4.5,slow=0.4,SNR=290					
TORD			PKPab	PKPab	14 23 14.2	+1.2
	comp=Z,109nm,1.0s,baz=79,slow=3.7,SNR=14					
TORD			PP	PP	14 27 03.5	+2.5
	comp=Z,36nm,1.2s,baz=93,slow=3.0,SNR=5.7					
KIC	Kosan Boka	169.30 228	*e*PKIKP	PKPdf	14 22 13.5	-0.9
	comp=Z,1μm,1.4s					
SACV	Santiago Islan	169.41 81	*e*PKPdf	PKPdf	14 22 14.2	-0.2
SACV			LR	LR		
	comp=Z,3μm,19.0s					
LIC	Lamto	169.41 227	*e*PKIKP	PKPdf	14 22 13.7	-0.8
	comp=Z,990nm,1.4s					
DBIC	Dimbokro	169.59 229	PKIKP	PKPdf	14 22 13.8	-0.8
DBIC					14 23 30.2	
DBIC					14 27 22.9	
DBIC			pmax	pmax		
	comp=Z,175nm,1.0s					
DBIC			pmax	pmax		
	comp=Z,53nm,0.9s					
DBIC			pmax	pmax		
	comp=Z,45nm,1.0s					
DBIC	Dimbokro	169.59 229	PKP	PKPdf	14 22 13.8	-0.8
	comp=Z,175nm,1.0s,baz=126,slow=1.1,SNR=84					
DBIC			PKPab	PKPab	14 23 30.2	+1.1
	comp=Z,52nm,0.9s,baz=149,slow=4.4,SNR=7.5					
DBIC			PP	PP	14 27 22.9	+4.3
	comp=Z,44nm,1.0s,baz=119,slow=6.7,SNR=5.1					
TIC	Toumodi	169.69 228	*e*PKIKP	PKPdf	14 22 13.9	-0.8
	comp=Z,591nm,1.3s					
BBTS	Babate	176.20 74	PKP	PKPdf	14 22 17.2	+0.1
	comp=Z,246nm,1.0s,baz=294,slow=0.7,SNR=22					

DDA 04 14:04:46.8, 36°.32N × 36°.13E, h27km, MD2.6, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GZT	Gaziantep	1.55	48	*i* P	Pn	14 05 13.9	+1.0

TAP 04 14:30:11.1, 22°.99N × 120°.77E, h11km, ML1.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STYT	Tauyuan	0.17	356	*i* P	Pg	14 30 15.5	+0.6
	baz=3.0						
STYT				*i* S	Sg	14 30 18.3	+0.6
	baz=3.0						
SGST	Jiashian	0.19	297	*e*P	Pg	14 30 15.8	+0.5
	baz=305						
SSD	Sandimen	0.28	207	*e*P	Pg	14 30 17.3	+0.6
	baz=208						
SSD				S	Sg	14 30 21.1	+0.5
	baz=208						
ELDTW	Lidau	0.30	49	*e*P	Pg	14 30 17.7	+0.3
	baz=49						

*IDC **04** 14:35:00.7±1.3, 32°.53S × 69°.66W, h0km, mb4.1/3, mb1 4.1/4, mb1mx3.7/30, mbtmp3.9/4, ML4.4/1, Error ellipse: s-maj=54.9km s-min=20.0km az=122.0*
*ISCJB **04** 14:35:06.6±0.7, 32°.67S±0°.05 × 69°.0W±0°.1, h33km±7km, mb4.2/3, Error ellipse: s-maj=14.7km s-min=8.8km az=8.1*
*SJA **04** 14:35:06.1±0.7, 32°.57S × 68°.92W, h32km±2km, ML3.7*
ISC 04 14:35:06.8±1.1, 32°.58S±0°.04 × 68°.87W±0°.07, h34km±3km, n16, σ1°.50/19, mb4.2/3, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAL	Salagasta	0.04	109	*i* P	Pb	14 35 12.4	-0.1
ASAL				*i* S	Sb	14 35 16.2	-0.3
ARCO	CERRO ARCO	0.27	191	*i* P	Pn	14 35 13.9	-0.2
ARCO				AML	AML	14 35 21.9	
	comp=Z,7μm,0.2s						
AAGR	Agrelo	0.51	176	*i* P	Pb	14 35 17.2	-0.4
AUSP	Uspallata	0.56	309	*i* P	Pn	14 35 18.4	-0.2
RTLS	Leoncito	0.86	335	*i* P	Pb	14 35 23.1	-0.3
CFAA	Coronel Fontan	1.11	29	Pg	Pb	14 35 26.9	-0.7
	comp=Z,5.7nm,0.3s,baz=208,slow=16,SNR=160						
CFAA				Lg	Lg	14 35 42.4	
	comp=Z,48nm,0.3s,baz=231,slow=19,SNR=44						
CFAA	Coronel Fontan	1.11	29	*i* P	Pb	14 35 27.1	-0.5
CFAA				*i* S	Sb	14 35 43.2	+1.5
RTLL	Cerro Villicun	1.29	15	*i* P	Pb	14 35 30.1	-0.5
ACAN	Cantantal	1.46	78	*i* P	Pb	14 35 33.0	-0.4
ACAN				*i* P	Pb	14 35 33.0	-0.4
AVFE	Valle Fertil	2.27	33	*i* P	Pb	14 35 44.2	-2.8
AVFE				AML	AML	14 36 18.3	
	comp=Z,398nm,0.3s						
CPUP	Villa Florida	11.83	61	Pn	Pn	14 37 59.6	+6.6
	comp=Z,0.5nm,0.3s,baz=215,slow=19,SNR=2.8						
USHA	Ushuaia	22.25	179	P	P	14 39 59.7	-0.8
	comp=Z,3.5nm,0.4s,baz=150,slow=20,SNR=6.0						
QSPA	South Pole Qui	57.66	180	P	P	14 44 53.1	-0.4
	comp=Z,1.1nm,0.6s,baz=299,slow=0.9,SNR=8.8						
ESDC	Sonseca Array	93.70	44	P	P	14 48 22.4	+2.5
	comp=Z,0.8nm,0.5s,baz=255,slow=4.9,SNR=5.2						
WRA	Warramunga Arr	123.25	206	PKP	PKPdf	14 53 58.2	-2.4
	comp=Z,0.5nm,1.0s,baz=172,slow=1.6,SNR=6.3						
ZALV	Zalesovo Beam	151.60	33	PKPbc	PKPbc	14 54 55.7	-1.2
	comp=Z,1.8nm,0.5s,baz=298,slow=3.0,SNR=8.0						
ZALV				PKPab	PKPab	14 55 08.3	+2.7
	comp=Z,0.8nm,0.5s,baz=327,slow=3.8,SNR=4.3						

*IDC **04** 14:53:01.6±1.1, 34°.08S × 71°.34W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/19, mbtmp3.8/4, ML3.3/2, MS4.5/1, Ms1 4.4/1, ms1mx4.0/15, Error ellipse: s-maj=45.1km s-min=32.7km az=129.0*
*GUC **04** 14:53:09.9±0.5, 33°.88S × 71°.49W, h16km±15km, ML4.0*
*ISCJB **04** 14:53:10.0±1.8, 33°.8S±0°.2 × 71°.4W±0°.1, h68km±9km, mb3.5/2, Error ellipse: s-maj=28.5km s-min=17.0km az=20.3*
ISC 04 14:53:08.9±3.0, 33°.9S±0°.2 × 71°.5W±0°.1, h50km±21km, n16, σ1°.03/21, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTU	Antumapu	0.79	65	*e*P	Pn	14 53 23.9	+0.2
ANTU				*i* S	Sn	14 53 35.0	+0.3
ANTU				IAML		14 53 35.6	
	comp=E,8μm,0.2s						
STL	Santa Lucia	0.84	56	*e*P9	Pn	14 53 23.7	-0.9
STL				*i* S	Sn	14 53 35.0	-1.1
IHA	Instituto Hidr	0.89	351	*e*P	Pn	14 53 25.3	+0.2
FSR	Penalolen	0.91	62	*e*P	Pn	14 53 26.5	+1.1
FSR				*i* S	Sn	14 53 38.4	+1.0
LACH	Col Las Americ	0.92	60	*i* P9	Pn	14 53 25.5	0.0
LACH				*i* S	Sn	14 53 37.8	+0.1
PEL	Peldehue	1.01	41	↑*i* P	Pn	14 53 27.6	+0.8
PEL				*i* S	Sn	14 53 41.3	+1.2
PEL				IAML		14 53 46.1	
	comp=N,11μm,0.2s						
CFAA	Coronel Fontan	3.57	51	Pn	Pn	14 53 58.2	-3.6
	comp=N,0.4nm,0.3s,baz=212,slow=12,SNR=5.2						
LPAZ	La Paz	17.80	11	P	Pn	14 57 11.3	-2.4
	comp=N,0.2nm,0.3s,baz=204,slow=4.6,SNR=3.5						
SIV	San Ignacio	20.16	30	P	P	14 57 38.9	-0.3
	comp=N,1.4nm,0.4s,baz=197,slow=7.0,SNR=5.2						
BDFB	Brasilia	27.90	55	LR	LR	15 12 15.4	
	comp=N,1μm,19.9s,baz=234,slow=41						
TXAR	Lajitas Array	69.88	330	P	P	15 04 16.2	+1.6
	comp=N,0.2nm,0.5s,baz=151,slow=8.2,SNR=3.6						
TORD	Torodi Ar. Bea	83.75	70	P	P	15 05 33.3	+0.4
	comp=N,1.0nm,0.8s,baz=286,slow=3.3,SNR=4.2						
WRA	Warramunga Arr	121.06	209	PKP	PKPdf	15 11 56.0	-0.5
	comp=N,0.2nm,0.4s,baz=161,slow=1.6,SNR=7.5						
ARCES	ARCESS Array B	123.74	25	PKP	PKPdf	15 11 59.7	-0.4
	comp=N,2.3nm,0.8s,baz=306,slow=1.7,SNR=4.0						
ZALV	Zalesovo Beam	153.90	33	PKP	PKPdf	15 12 52.7	-1.4
	comp=N,0.4nm,0.5s,baz=347,slow=2.7,SNR=3.2						
ZALV				PKPbc	PKiKP	15 13 02.9	+0.8
	comp=N,1.1nm,0.6s,baz=269,slow=3.1,SNR=5.3						
ZALV				PKPab	PKPab	15 13 15.5	+0.1
	comp=N,1.0nm,0.7s,baz=316,slow=4.1,SNR=4.2						
MKAR	Makanchi Array	156.35	49	PKPab	PKPab	15 13 26.2	0.0
	comp=N,0.2nm,0.5s,baz=270,slow=4.0,SNR=5.4						

WEL 04 15:07:47.8±0.6, 36°.93S × 176°.37E, h298km±6km, ML3.5/10, 2C, Error ellipse: s-maj=8.6km s-min=6.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	Te Kaha	1.40	127	PN	Pn	15 08 30.1	+0.1
HAZ				SN	S	15 09 03.4	-0.1
URZ	Urewera	1.45	156	↑PN	Pn	15 08 30.6	+0.3
MWZ	Matawai	1.68	147	↑PN	Pn	15 08 32.0	+0.1
MWZ				SN	S	15 09 06.2	-0.8
RAGZ	Rawiri	1.77	152	PN	Pn	15 08 33.2	+0.6
WMGZ	Waiomatatini S	1.86	119	PN	Pn	15 08 33.2	+0.1
WMGZ				SN	S	15 09 08.8	-0.5
PUZ	Puketiti	1.89	128	PN	Pn	15 08 33.4	0.0
SNGZ	Shannon Statio	2.00	158	PN	Pn	15 08 34.5	+0.2
SNGZ				SN	S	15 09 10.8	-0.6
RAHZ	Arahi	2.07	164	PN	Pn	15 08 35.5	+0.7
RIGZ	Rimuhau	2.09	149	PN	Pn	15 08 35.1	+0.1
CNGZ	Carnagh Statio	2.13	137	PN	Pn	15 08 35.6	+0.3
NMHZ	Naumai	2.19	171	PN	Pn	15 08 36.6	+0.6
BKZ	Black Stump Fm	2.24	178	PN	Pn	15 08 36.1	-0.2
KNZ	Kokohu	2.33	154	PN	Pn	15 08 36.6	-0.4
MCHZ	McNeill Hill	2.53	174	PN	Pn	15 08 38.8	+0.1
MHGZ	Mahia Peninsul	2.53	152	PN	Pn	15 08 38.5	-0.3
BHHZ	Black Hill Sta	2.57	185	PN	Pn	15 08 39.1	-0.1
KRHZ	Kereru	2.71	180	PN	Pn	15 08 40.4	-0.1
KAHZ	Kahuranaki	2.89	172	PN	Pn	15 08 42.4	+0.1
PXZ	Pawanui	3.12	173	PN	Pn	15 08 44.2	-0.3
PXZ				SN	S	15 09 28.1	-1.7
TSZ	Takapari Road	3.14	186	PN	Pn	15 08 44.1	-0.7
MRZ	Mangatainoka R	3.78	189	PN	Pn	15 08 49.7	-1.6
MRZ				SN	S	15 09 39.1	-3.2
TIWZ	Tintock	3.86	185	AML	AML	15 09 45.3	
OGWZ	Otaki Gorge	4.00	193	PN	Pn	15 08 52.0	-1.7
KIW	Kapiti Island	4.09	196	PN	Pn	15 08 53.0	-1.7
CAW	Cannon Point	4.30	193	*e*PN	Pn	15 08 55.0	-2.1
TCW	Tory Channel	4.58	200	PN	Pn	15 08 58.4	-1.8
NNZ	Nelson	4.88	208	SN	S	15 10 00.2	-4.4
TUWZ	Tuamarina	4.88	202	PN	Pn	15 09 01.9	-1.7
THZ	Tophouse	5.53	208	PN	Pn	15 09 09.1	-2.2
KHZ	Kahutara	5.90	201	PN	Pn	15 09 13.3	-2.4
MQZ	McQueen's Vall	7.34

KAF	**Kangasniemi**	82.70	335	*ep*	P	15 28 11.5	-2.8
	2.2nm,0.5s						
FINES	**FINESS Array B**	83.16	334	P	P	15 28 15.9	-0.7
	3.3nm,0.5s,baz=72,slow=4.4,SNR=36						
NVAR	**Mina Array Bea**	83.21	51	P	P	15 28 18.5	+0.8
	1.9nm,0.7s,baz=278,slow=5.6,SNR=15						
PDAR	**Pinedale Array**	87.45	45	P	P	15 28 38.8	+0.3
	0.3nm,0.5s,baz=90,slow=0.6,SNR=3.9						
NOA	**NORSAR Array B**	88.93	339	P	P	15 28 43.8	-0.9
	0.3nm,0.5s,baz=49,slow=5.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	128.69	309	PKP	PKPdf	15 34 56.2	-0.4
	0.2nm,0.5s,baz=63,slow=0.9,SNR=3.9						
LPAZ	**La Paz**	150.01	85	PKPbc	PKPbc	15 35 41.4	+0.6
	2.4nm,0.5s,baz=257,slow=1.8,SNR=6.7						

*IDC **04** 15:22:35.0±1.6,28°.99N×128°.12E,h177km±15km,mb2.9/6, mb1 3.0/7,mb1mx2.9/31,mbtmp3.3/7,Error ellipse: s-maj=43.9km s-min=15.6km az=66.0*
*ISCJB **04** 15:22:35.0±0.5,28°.95N±0°.06×128°.19E±0°.09, h192km±6km,mb3.0/6,Error ellipse: s-maj=15.6km s-min=5.6km az=33.5*
*JMA **04** 15:22:36.9±0.2,28°.93N×128°.18E,h181km±4km,M3.6*

ISC 04 15:22:35.8±0.9,28°.97N±0°.07×128°.2E±0°.1,h186km±9km, n21,σ0°90/35,mb3.2/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	0.94	78	P	Pn	15 23 04.5	+0.8
JTAJ				S	Sn	15 23 25.9	+0.7
JAMN	**Amaminishikomi**	1.16	128	P	Pn	15 23 05.6	+0.3
JAMN				S	Sn	15 23 28.1	0.0
JTK	**Tokunoshima**	1.37	149	P	Pn	15 23 07.6	+0.4
JTK				S	Sn	15 23 30.6	-0.8
JAM	**Amami Oshima**	1.39	113	P	Pn	15 23 07.5	+0.2
JAM				S	Sn	15 23 30.4	-1.3
JOKE	**Okinoerabujima**	1.64	167	P	Pn	15 23 10.1	+0.4
JOKE				S	Sn	15 23 35.4	-0.6
JZK	**Kikaishima**	1.73	112	P	Pn	15 23 11.9	+1.4
JZK				S	Sn	15 23 38.2	+0.8
JIH	**Iheya**	1.93	185	P	Pn	15 23 13.3	+0.7
JIH				S	Sn	15 23 40.7	-0.5
JOW	**Kunigami**	2.13	177	P	Pn	15 23 15.2	+0.5
JOW				S	Sn	15 23 43.8	-1.2
JOW	**Kunigami**	2.13	177	P	Pn	15 23 15.2	+0.5
	1.4nm,0.3s,baz=130,slow=28,SNR=87						
JOW				S	Sn	15 23 43.2	-1.8
	7.8nm,0.3s,baz=94,slow=19,SNR=72						
JYAK	**Yakushimahirau**	2.42	58	S	Sn	15 23 49.1	-1.5
JNTH	**Nagotoyohara**	2.44	183	P	Pn	15 23 18.8	+0.6
JNTH				S	Sn	15 23 49.6	-1.6
JAGN	**Aguni-jima**	2.50	199	P	Pn	15 23 19.9	+1.0
JAGN				S	Sn	15 23 52.4	0.0
JJT2	**Tamagusuku 2**	2.84	187	P	Pn	15 23 24.1	+1.2
JJT2				eS	Sn	15 23 59.4	-0.2
JKE	**Kume jima 2**	2.90	205	P	Pn	15 23 24.3	+0.8
JKE				S	Sn	15 24 00.2	-0.5
JTN	**Tanegashima 3**	2.98	55	P	Pn	15 23 25.2	+0.7
JTN				S	Sn	15 24 01.5	-1.0
SONM	**Songino Array**	25.26	324	P	P	15 27 44.8	0.0
	1.0nm,0.7s,baz=131,slow=9.2,SNR=6.5						
MKAR	**Makanchi Array**	39.70	309	P	P	15 29 49.3	-0.5
	0.1nm,0.5s,baz=96,slow=10,SNR=3.2						
ZALV	**Zalesovo Beam**	40.06	321	P	P	15 29 52.3	-0.3
	0.3nm,0.4s,baz=100,slow=7.1,SNR=2.4						
WRA	**Warramunga Arr**	48.99	172	P	P	15 31 03.0	-0.6
	0.3nm,0.5s,baz=355,slow=8.6,SNR=5.0						
ASAR	**Alice Springs**	52.62	173	P	P	15 31 31.9	+1.2
	0.3nm,0.5s,baz=2.4,slow=15,SNR=5.7						
YKA	**Yellowknife Ar**	76.09	25	P	P	15 34 02.4	-0.1
	0.3nm,0.5s,baz=294,slow=5.4,SNR=5.0						

CASC 04 15:30:52.5±0.8,14°.04N×91°.55W,h43km±10km,MD3.5,1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	0.29	342	⇓*eP*	Pn	15 31 01.1	+0.2
JAT				*eS*	Sn	15 31 06.9	+0.2
RBDL	**Robledal**	1.81	88	*eP*	Pn	15 31 21.6	+0.2
RBDL				*eS*	Sn	15 31 43.9	+0.6
SBLS	**San Blas**	1.88	96	*eP*	Pn	15 31 22.4	-0.1
SBLS				*eS*	Sn	15 31 46.2	+1.0
SNJE	**San Jose**	1.89	95	*eP*	Pn	15 31 23.1	+0.5
SNJE				*eS*	Sn	15 31 46.0	+0.5
MRL	**Marmol**	2.06	60	*eP*	Pn	15 31 24.8	-0.2

*MOS **04** 15:33:44.0±0.9,47°.63N×155°.03E,h11km,mb4.4/1,Error ellipse: s-maj=46.6km s-min=11.4km az=71.0*
*IDC **04** 15:33:44.5±1.0,47°.49N×155°.18E,h0km,mb3.4/4, mb1 3.7/6,mb1mx3.3/35,mbtmp3.5/6,ML3.1/2,Error ellipse: s-maj=51.2km s-min=20.0km az=123.0*
*ISCJB **04** 15:33:45.6±0.8,47°.69N±0°.10×154°.9E±0°.2,h21km, mb3.3/4,Error ellipse: s-maj=24.9km s-min=7.8km az=30.0*
*KRSC **04** 15:33:49.6±1.8,48°.05N×155°.54E,h17km±26km,ML4.3*

ISC 04 15:33:48.0±1.0,47°.8N±0°.1×154°.9E±0°.2,h21km,n32, σ1°82/29,mb3.3/4,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	2.97	15	P	Pn	15 34 33.3	-0.5
SKR				S	Sn	15 35 04.6	-4.1
PAU	**Pauzhetka**	3.85	18	PN	Pn	15 34 47.7	+1.8
PAU	**Pauzhetka**	3.85	18	*eP*	Pn	15 34 47.7	+1.8
PAU				S	Sn	15 35 29.5	-1.0
MIPR	**Malaya Ipel'ka**	4.62	14	P	Pn	15 34 58.6	+2.2
ASAK	**Asacha**	4.95	22	*eP*	Pn	15 35 03.8	+2.7
MTVR	**Mutnovka**	5.12	23	*eP*	Pn	15 35 05.3	+1.9
MTVR				S	Sn	15 36 01.2	-0.7
RUS	**Russkaya**	5.17	25	PN	Pn	15 35 04.9	+1.0
RUS	**Russkaya**	5.17	25	*eP*	Pn	15 35 04.9	+1.0
PETK	**Petropavlovsk-**	5.58	18	Pn	Pn	15 35 12.1	+2.4
	0.4nm,0.3s,baz=181,slow=12,SNR=22						
PETK				Sn	Sb	15 36 22.4	-8.7
	baz=198,slow=22,SNR=2.5						
KOK	**Koryaka**	5.97	22	*eP*	Pn	15 35 17.3	+2.2
AVH	**Avacha**	5.97	23	*eP*	Pn	15 35 16.9	+1.8
SMAR	**Somma**	5.99	23	P	Pn	15 35 17.3	+1.9
KRER	**Koryakskii**	6.01	23	*eP*	Pn	15 35 17.5	+1.8
SDLR	**Sedlovina**	6.02	23	*eP*	Pn	15 35 17.4	+1.6
KRX	**Arik**	6.03	22	*eP*	Pn	15 35 17.7	+1.7
GNL	**Ganaly**	6.19	17	P	Pn	15 35 19.6	+1.5
MKZ	**Mys Kozlova**	7.99	30	PN	Pn	15 35 43.6	+1.0
MKZ	**Mys Kozlova**	7.99	30	P	Pn	15 35 43.6	+1.0
TUMR	**Tumrok**	8.15	22	P	Pn	15 35 46.6	+1.6
ASAJ	**Asahikawa**	9.34	251	Pn	Pn	15 36 01.8	+0.6
	0.4nm,0.3s,baz=60,slow=17,SNR=6.4						
KBTR	**Krutoberegovo**	9.70	27	PN	Pn	15 36 07.6	+1.4
KBTR	**Krutoberegovo**	9.70	27	*eP*	Pn	15 36 07.6	+1.4
H11N2	**WAKE ISLAND Hy**	29.67	157	T	T	16 12 07.7	
	baz=343,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	29.68	157	T	T	16 12 21.9	
	baz=343,slow=76,SNR=43						
H11N3	**WAKE ISLAND Hy**	29.68	157	T	T	16 12 14.3	
	baz=343,slow=76,SNR=31						
H11S1	**WAKE ISLAND Hy**	30.79	158	T	T	16 13 35.5	
	baz=343,slow=76,SNR=108						
H11S3	**WAKE ISLAND Hy**	30.79	158	T	T	16 13 32.2	
	baz=343,slow=76,SNR=116						
H11S2	**WAKE ISLAND Hy**	30.80	158	T	T	16 13 35.9	
	baz=343,slow=76,SNR=66						
YKA	**Yellowknife Ar**	49.33	38	P	P	15 42 35.3	+0.2
	0.2nm,0.8s,baz=290,slow=7.2,SNR=3.2						
WRA	**Warramunga Arr**	69.94	201	P	P	15 44 55.4	-2.1
	0.4nm,0.6s,baz=15,slow=6.4,SNR=4.1						
ASAR	**Alice Springs**	73.62	200	P	P	15 45 18.5	-1.1
	0.2nm,0.5s,baz=14,slow=5.6,SNR=4.3						
TXAR	**Lajitas Array**	75.91	62	P	P	15 45 33.7	+0.6
	0.1nm,0.3s,baz=303,slow=5.3,SNR=3.4						

*MOS **04** 15:50:21.8±0.9,51°.44N×179°.49E,h62km,mb4.9/48,Error ellipse: s-maj=8.5km s-min=6.0km az=92.8*
*IDC **04** 15:50:21.9±1.8,51°.37N×179°.52E,h53km±14km,mb4.1/27, mb1 4.3/28,mb1mx4.2/44,mbtmp4.4/28,ML3.4/3,MS3.4/2, Ms1 3.4/2,ms1mx3.1/52,Error ellipse: s-maj=17.4km s-min=9.1km az=172.0*
*ISCJB **04** 15:50:22.7±0.6,51°.45N±0°.05×179°.51E±0°.03,h71km±5km, mb4.6/129,Error ellipse: s-maj=8.3km s-min=2.9km az=6.0*
*BJI **04** 15:50:23.2,52°.21N×178°.86E,h42km,mB5.1/3,mb4.5/12, Ms4.7/2,Ms7 4.6/2*
*NEIC **04** 15:50:24.6±0.5,51°.45N×179°.47E,h75km±3km,mb4.8/98, Error ellipse: s-maj=6.2km s-min=2.6km az=186.0*

ISC 04 15:50:24.0±1.1,51°.37N±0°.10×179°.49E±0°.04,h71km±7km, n615,σ0°81/616,mb4.7/130,116C-136D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	3.60	294	P	Pn	15 51 18.3	+1.1
SMY				S	Sn	15 52 02.1	+3.7
SMY	**Shemya**	3.60	294	P	Pn	15 51 18.2	+1.1
SMY				S	Sn	15 52 02.1	+3.7
KOKL	**Mount Kliuchef**	4.03	74	P	Pn	15 51 25.2	+2.0
KOFP	**Korovin Flat P**	4.08	75	P	Pn	15 51 25.4	+1.5
FX1	**Attu Island--F**	4.18	294	P	Pn	15 51 23.6	-1.6
FX1				S	Sn	15 52 12.7	-0.1
FX1				pmax	pmax		
	comp=Z,22nm,0.3s						
FX1				MLR	MLR		
	comp=Z,818nm,21.6s						
FX1	**Attu Island--F**	4.18	294	P	Pn	15 51 23.6	-1.6
	comp=Z,22nm,0.3s,baz=182,slow=5.3,SNR=84						
FX1				S	Sn	15 52 12.7	-0.1
	baz=280,slow=18,SNR=1.5						
FX1				LR	LR	15 53 02.5	
	comp=Z,818nm,21.6s,baz=120,slow=38						
NIKH	**Nikolski High**	7.35	73	P	Pn	15 52 08.6	+0.1
NIKH				S	Sn	15 53 33.6	+3.4
OKFG	**Magazine Ridge**	7.97	70	P	Pn	15 52 17.3	+0.3
SPIA	**Saint Paul Isl**	8.36	42	P	Pn	15 52 24.3	+2.2
MSW	**Makushin Switc**	8.73	68	P	Pn	15 52 27.8	+0.5
MREP	**Makushin Rep't**	8.73	68	P	Pn	15 52 27.8	+0.5
UNV	**Unalaska Valle**	8.88	68	P	Pn	15 52 29.2	-0.1
LVA	**Lava Point**	9.21	67	P	Pn	15 52 34.4	+0.5
ZRO	**Akutan Zero**	9.23	67	P	Pn	15 52 34.7	+0.5
AKGG	**Akutan Green G**	9.24	66	P	Pn	15 52 34.6	+0.3
AHB	**Akutan Harbor**	9.33	67	P	Pn	15 52 35.9	+0.5
AKUT	**Akutan**	9.36	67	*e*Pn	Pn	15 52 35.9	+0.1
FALS	**False Pass**	10.85	65	*e*Pn	Pn	15 52 55.9	-0.2
SDPT	**Sand Point**	12.60	64	*e*Pn	Pn	15 53 16.8	-3.2
PET	**Petropavlovsk**	12.89	286	*eP*	Pn	15 53 22.7	-1.2
GAMB	**Gambell**	13.29	17	*e*Pn	Pn	15 53 29.8	+0.6
PETK	**Petropavlovsk-**	13.46	286	P	Pn	15 53 29.9	-1.7
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,117nm,20.9s						
PETK	**Petropavlovsk-**	13.46	286	P	Pn	15 53 29.9	-1.7
	comp=Z,0.5nm,0.3s,baz=88,slow=19,SNR=20						
PETK				LR	LR	15 58 40.9	
	comp=Z,117nm,20.9s,baz=45,slow=37						
CHGN	**Chignik**	13.92	61	*e*Pn	Pn	15 53 34.7	-3.0
TNA	**Tin City**	15.62	20	*e*Pn	P	15 54 02.2	-0.2
	comp=Z,48nm,1.3s						
SVW2	**Sparrevohn**	16.83	45	*eP*	P	15 54 15.9	+0.1
	comp=Z,24nm,0.8s						
OHAK	**Old Harbor**	16.86	59	*e*Pn	Pn	15 54 10.1	-5.0
	comp=Z,100nm,0.5s						
KDAK	**Kodiak Island**	17.33	57	*ce*P	Pn	15 54 16.9	-3.9
KDAK	**Kodiak Island**	17.33	57	*e*Pn	Pn	15 54 17.4	-3.4
	comp=Z,614nm,2.3s						
RSO	**Redoubt South**	17.89	49	*e*Pn	P	15 54 28.6	+1.0
BILL	**Bilibino**	17.92	344	*eP*	P	15 54 28.9	+1.1
BILL				pmax	pmax		
	comp=Z,29nm,1.5s						
BILL	**Bilibino**	17.92	344	*eP*	P	15 54 28.9	+1.1
	comp=Z,29nm,1.5s						
SEY	**Seymchan**	18.54	319	P	Pn	15 54 34.4	-1.1
	comp=Z,0.0nm,0.3s,baz=73,slow=19,SNR=2.3						
PPLA	**Purkeypile**	19.03	42	*eP*	Pn	15 54 41.2	-0.2
	comp=Z,170nm,1.6s						
CAST	**Castle Rocks**	19.29	40	*eP*	Pn	15 54 43.9	-0.6
	comp=Z,32nm,0.8s						
SEW	**Seward**	19.38	51	*eP*	P	15 54 41.4	-2.3
	comp=Z,742nm,2.9s						
RC01	**Rabbit Creek A**	19.49	48	*eP*	P	15 54 44.2	-0.8
KTH	**Kantishna Hill**	19.82	41	*eP*	P	15 54 48.5	-0.1
	comp=Z,130nm,0.8s						
PMR	**Palmer**	19.91	47	*eP*	P	15 54 46.1	-3.4
PMR				pmax	pmax		
	comp=Z,90nm,1.8s						
PMR	**Palmer**	19.91	47	*eP*	P	15 54 46.0	-3.4
	comp=Z,90nm,1.8s						
TRF	**Thorofare Moun**	20.04	41	*eP*	P	15 54 51.5	+0.4
	comp=Z,71nm,1.1s						
MCK	**McKinley**	20.71	41	*eP*	P	15 54 56.9	-1.2
MCK				pmax	pmax		
	comp=Z,36nm,0.8s						
MCK	**McKinley**	20.71	41	*eP*	P	15 54 56.9	-1.2
	comp=Z,36nm,0.8s						
DIV	**Divide**	21.37	49	*eP*	P	15 55 03.4	-1.9
	comp=Z,24nm,0.8s						
COLA	**College**	21.58	39	*eP*	P	15 55 06.1	-1.3
COLA				pmax	pmax		
	comp=Z,33nm,1.0s						
COLA	**College**	21.58	39	*eP*	P	15 55 06.0	-1.3
	comp=Z,33nm,1.0s						
COLD	**Coldfoot**	21.82	32	*eP*	P	15 55 10.4	+0.5
	comp=Z,27nm,0.8s						
BMRM	**Bremner River**	21.90	50	*eP*	P	15 55 09.5	-1.4
	comp=Z,61nm,1.2s						
ILAR	**Eielson Array**	21.92	39	P	P	15 55 08.8	-2.3
ILAR						15 59 07.1	
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	21.92	39	P	P	15 55 08.8	-2.3
	comp=Z,4.9nm,0.6s,baz=244,slow=10.0,SNR=55						
ILAR				PcP	PcP	15 59 07.0	-0.1
	comp=Z,1.3nm,0.6s,baz=275,slow=3.2,SNR=10						
ILAR				ScP	ScP	16 02 39.7	+1.8
	comp=Z,0.2nm,0.4s,baz=269,slow=3.7,SNR=4.5						
IL1	**Eielson Array**	21.93	39	*eP*	P	15 55 08.5	-2.6
PAX	**Paxson**	21.94	45	*eP*	P	15 55 09.8	-1.6
PAX				pmax	pmax		
	comp=Z,26nm,0.9s						
PAX	**Paxson**	21.94	45	*eP*	P	15 55 09.8	-1.6
	comp=Z,26nm,0.9s						
MENT	**Mentasta**	22.71	45	*eP*	P	15 55 18.3	-1.2
DOT	**Dot Lake**	22.74	43	*eP*	P	15 55 17.6	-2.3
	comp=Z,22nm,0.8s						
YSS	**Yuzh-Sakhalins**	24.25	274	*eP*	P	15 55 35.0	+0.9
YSS				*e*		15 55 53.0	
EGAK	**Eagle**	24.26	41	*eP*	P	15 55 33.0	-1.0
	comp=Z,64nm,0.9s						
DAWY	**Dawson**	24.85	43	*eP*	P	15 55 38.1	-1.3
HYT	**Haines Junctio**	25.33	51	*eP*	P	15 55 43.0	-1.0
ASAJ	**Asahikawa**	25.64	268	P	P	15 55 46.2	-0.5
ASAJ				pmax	pmax		
	comp=Z,16nm,0.9s						
ASAJ	**Asahikawa**	25.64	268	P	P	15 55 46.2	-0.5
	comp=Z,16nm,0.9s,baz=352,slow=14,SNR=7.6						
INK	**Inuvik**	28.08	35	P	P	15 56 08.2	-0.2
INK						15 59 20.6	
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
INK	**Inuvik**	28.08	35	P	P	15 56 08.2	-0.2
	comp=Z,3.7nm,0.5s,baz=248,slow=10.0,SNR=23						
INK				PcP	PcP	15 59 20.6	-0.2
	baz=237,slow=0.0						
INK	**Inuvik**	28.08	35	*eP*	P	15 56 08.0	-0.4
	comp=Z,24nm,1.0s						
INK				*e*PcP	PcP	15 59 21.2	+0.4
DLBC	**Dease Lake**	29.25	56	P	P	15 56 18.9	-0.1
	comp=Z,3.4nm,1.0s,baz=270,slow=10,SNR=2.7						
KLR	**Kul'dur**	30.15	285	*eP*	P	15 56 23.0	-3.9
USRK	**Ussuriysk Ar.**	32.23	276	P	P	15 56 45.0	-0.3
	comp=Z,4.0nm,0.9s,baz=58,slow=6.9,SNR=5.1						
MAJO	**Matsushiro**	32.73	259	P	P	15 56 49.8	+0.1
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MAJO	**Matsushiro**	32.73	259	P	P	15 56 49.8	+0.1
	comp=Z,9.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	33.10	202	T	T	16 32 09.0	
	baz=20,slow=76,SNR=76						
H11N3	**WAKE ISLAND Hy**	33.11	202	T	T	16 32 00.6	
	baz=20,slow=76,SNR=66						
H11N1	**WAKE ISLAND Hy**	33.12	202	T	T	16 32 06.0	
	baz=20,slow=76,SNR=60						
H11S1	**WAKE ISLAND Hy**	34.32	202	T	T	16 33 37.7	
	baz=18,slow=77,SNR=68						
H11S2	**WAKE ISLAND Hy**	34.34	202	T	T	16 33 58.8	
	baz=18,slow=77,SNR=35						
H11S3	**WAKE ISLAND Hy**	34.34	202	T	T	16 34 03.5	
	baz=18,slow=77,SNR=40						
YKA	**Yellowknife Ar**	36.01	46	P	P	15 57 17.5	-0.2
YKA						15 59 42.7	
YKA				pmax	pmax		
	comp=Z,14nm,0.6s						
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA				pmax	pmax		
	comp=N,1.0nm,0.5s						
YKA	**Yellowknife Ar**	36.01	46	P	P	15 57 17.5	-0.2
	comp=N,14nm,0.6s,baz=281,slow=8.2,SNR=196						
YKA				PcP	PcP	15 59 42.7	+0.2
	comp=N,2.9nm,0.8s,baz=289,slow=3.2,SNR=14						
YKA				ScP	ScP	16 03 24.9	+2.6
	comp=N,0.5nm,0.5s,baz=284,slow=3.5,SNR=11						
NLWA	**Neilton Lookou**	36.30	73	*eP*	P	15 57 21.7	+1.2
	comp=N,32nm,1.0s						
MBW	**Mount Baker**	36.84	70	P	P	15 57 25.7	+0.6
E03A	**Lebam**	36.89	75	*eP*	P	15 57 26.2	+0.8
	comp=N,40nm,1.0s						
BOD	**Bodaibo**	37.12	306	*eP*	P	15 57 26.1	-1.1
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HIA	**Hailar**	37.29	291	*eP*	P	15 57 28.2	-0.6
HIA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
HIA	**Hailar**	37.29	291	*eP*	P	15 57 28.2	-0.6
	comp=Z,5.3nm,0.4s						
D05A	**Enumclaw**	37.53	73	*eP*	P	15 57 32.0	+1.2
	comp=Z,38nm,0.9s						
LON	**Longmire**	37.85	73	*eP*	P	15 57 34.0	+0.4
LON				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LON	**Longmire**	37.85	73	*eP*	P	15 57 34.0	+0.4
	comp=Z,10nm,0.7s						
F04A	**Amboy**	37.88	75	*eP*	P	15 57 33.5	-0.3
	comp=Z,24nm,0.6s						
LTY	**Liberty**	38.28	72	*eP*	P	15 57 36.9	-0.3
	comp=Z,8.3nm,0.9s						
ETW	**Entiat**	38.31	71	P	P	15 57 38.2	+0.6
TBM	**Table Mountain**	38.37	72	P	P	15 57 38.7	+0.7
I03D	**Drain, OR**	38.47	78	⇓P	P	15 57 39.8	+1.1
	baz=38						
B08A	**Colville Reser**	38.55	70	*eP*	P	15 57 39.8	+0.4
	comp=Z,9.7nm,0.6s						
KSRS	**Korea Array**	38.57	269	P	P	15 57 40.3	+0.7
KSRS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KSRS	**Korea Array**	38.57	269	P	P	15 57 40.3	+0.7
	comp=Z,3.4nm,1.0s,baz=67,slow=7.4,SNR=6.1						
VLL	**Laurance Lake**	38.57	75	P	P	15 57 41.0	+1.2
KSAR	**Wonju Array Be**	38.60	269	P	P	15 57 40.3	+0.4
KSAR	**Wonju Array Be**	38.60	269	P	P	15 57 40.3	+0.4
VFP	**Flag Point**	38.77	75	P	P	15 57 42.6	+1.1
TRW	**Toppenish Ridg**	38.83	73	P	P	15 57 42.9	+1.0
G05D	**Wamic, OR**	38.90	75	⇓P	P	15 57 43.4	+1.0
	baz=39						
I04A	**Tendick Farm,**	38.99	78	⇓P	P	15 57 43.9	+0.7
	baz=39						
L02D	**Cave Junction,**	39.15	81	⇑P	P	15 57 46.1	+1.6
	baz=39						
I05D	**Terrebonne, OR**	39.36	76	⇑P	P	15 57 46.8	+0.5
	baz=39						
HAWA	**Hanford**	39.39	73	*eP*	P	15 57 47.5	+1.0
	comp=Z,28nm,0.9s						
D08A	**Wollman Farm,**	39.42	71	*eP*	P	15 57 47.0	+0.3
	comp=Z,6.5nm,0.6s						
C09A	**Chrisman Ranch**	39.44	70	*eP*	P	15 57 47.0	+0.2
	comp=Z,9.5nm,0.6s						
C09A				*e*PP	PP	15 59 14.0	-4.3
J04D	**Umpqua Nationa**	39.48	78	⇑P	P	15 57 48.1	+0.7
	baz=39						
EDM	**Edmonton**	39.75	60	*eP*	P	15 57 49.0	-0.4
EDM	**Edmonton**	39.75	60	*eP*	P	15 57 49.0	-0.4
NEW	**Newport**	39.89	69	*eP*	P	15 57 49.8	-0.8
NEW				*e*		15 58 08.1	
NEW				pmax	pmax		
	comp=Z,13nm,0.7s						
NEW	**Newport**	39.89	69	⇓P	P	15 57 50.4	-0.1
	baz=40,SNR=11						
NEW	**Newport**	39.89	69	*eP*	P	15 57 49.8	-0.8
	comp=Z,13nm,0.7s						
NEW				*e*		15 58 08.1	
YBH	**Yreka Blue Hor**	39.94	81	*eP*	P	15 57 53.2	+2.0
YBH				pmax	pmax		
	comp=Z,102nm,2.6s						
YBH	**Yreka Blue Hor**	39.94	81	*eP*	P	15 57 53.2	+2.0
	comp=Z,102nm,2.6s						
J05D	**Fort Rock, OR**	39.99	78	⇑P	P	15 57 52.8	+1.2
	baz=40						
M02C	**Callahan**	40.04	81	⇓P	P	15 57 53.6	+1.6
	baz=40						
G08A	**Pilot Rock**	40.30	74	*eP*	P	15 57 54.2	+0.1
	comp=Z,10nm,1.1s						
N02D	**Trinity Center**	40.37	82	⇓P	P	15 57 56.0	+1.2
	baz=40						
M04C	**Macdoel**	40.45	80	⇑P	P	15 57 56.6	+1.2
	baz=40						
K05A	**Summer Lake**	40.50	78	*eP*	P	15 57 59.4	+3.4
	comp=Z,62nm,1.9s						
I07A	**Izee**	40.61	76	*eP*	P	15 57 57.8	+1.1
	comp=Z,31nm,1.4s						
F10A	**Beach Ranch, E**	40.98	72	*eP*	P	15 57 59.9	+0.2
	comp=Z,7.8nm,0.9s						

TLY pmax pmax
comp=Z,2.0nm,0.6s
TLY Talaya 45.16 302 P P 15 58 32.7 -0.6
comp=Z,2.4nm,0.6s
ULN Ulaanbaatar 45.30 295 *ce*P P 15 58 35.6 +1.0
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 45.30 295 *e*P P 15 58 34.9 +0.4
comp=Z,3.7nm,0.8s
A21A Bergtoll Ranch 45.34 63 ⇓P P 15 58 33.9 -0.9
baz=45
YMR Madison River 45.40 70 *e*P P 15 58 35.6 +0.2
comp=Z,20nm,0.9s
C20A Veseth Ranch, 45.42 65 ⇓P P 15 58 34.6 -0.8
baz=45,SNR=7.1
TPH Tonopah 45.50 81 *e*P P 15 58 36.9 +0.6
TPH pmax pmax
comp=Z,13nm,1.0s
TPH Tonopah 45.50 81 *e*P P 15 58 36.9 +0.6
comp=Z,13nm,1.0s
YNR Norris Junctio 45.54 70 *e*P P 15 58 37.5 +0.9
comp=Z,16nm,1.0s
YFT Old Faithful 45.59 70 *e*P P 15 58 38.5 +1.5
comp=Z,16nm,0.8s
E19A Rath Farm, Rou 45.66 67 ⇓P P 15 58 37.1 -0.2
baz=46
SONM Songino Array 45.69 296 P P 15 58 38.0 +0.4
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM pmax pmax
comp=N,1.0nm,1.0s
SONM Songino Array 45.69 296 P P 15 58 38.0 +0.4
comp=N,1.8nm,0.6s,baz=60,slow=8.7,SNR=19
SONM ScP ScP 16 04 02.4 +1.5
comp=N,0.8nm,1.0s,baz=42,slow=3.1,SNR=4.7
VES Vestal, Richgr 45.75 85 ⇑P P 15 58 38.0 0.0
baz=46
H17A Grant Village 45.78 70 ⇓P P 15 58 39.3 +0.8
baz=46,SNR=16
H17A Grant Village 45.78 70 *e*P P 15 58 39.6 +1.1
comp=N,18nm,0.9s
IMW Indian Meadow 45.85 71 *e*P P 15 58 39.7 +0.5
comp=N,10nm,0.9s
C21A Desert Coulee 45.87 64 ⇓P P 15 58 38.5 -0.4
baz=46
FLWY Flagg Ranch 45.88 70 *e*P P 15 58 40.1 +0.7
comp=N,23nm,1.0s
A22A Carney Farms, 45.90 62 ⇓P P 15 58 38.1 -1.0
baz=46,SNR=6.7
F19A Roth Farm, Mol 45.91 67 ⇓P P 15 58 38.7 -0.6
baz=46
FXWY Fox Creek 45.95 71 *e*P P 15 58 40.3 +0.5
comp=N,3.4nm,0.9s
HVU Hansel Valley 45.99 74 *e*P P 15 58 40.5 +0.4
HVU pmax pmax
comp=Z,20nm,0.7s
HVU Hansel Valley 45.99 74 *e*P P 15 58 40.5 +0.4
comp=Z,20nm,0.7s
E20A Meyer Farm, Mu 46.01 66 ⇓P P 15 58 40.0 -0.1
baz=46
ZAK Zakamensk 46.04 300 *e*P P 15 58 39.0 -1.3
ZAK pmax pmax
comp=Z,3.0nm,1.5s
I17A Pilgrim Ck. 46.05 71 ⇓P P 15 58 41.0 +0.4
baz=46
TPAW Teton Pass 46.08 71 *e*P P 15 58 41.6 +0.7
comp=Z,41nm,1.8s
RLMT Red Lodge 46.13 68 *e*P P 15 58 41.5 +0.2
comp=Z,21nm,1.3s
H18A Shoshone NF, C 46.15 69 ⇑P P 15 58 41.1 -0.3
baz=46
REDW Red Top Meadow 46.21 71 *e*P P 15 58 42.7 +0.8
comp=Z,10nm,1.1s
LOHW Long Hollow 46.21 71 *e*P P 15 58 42.0 +0.1
comp=Z,5.4nm,0.8s
ISA Isabella, Lake 46.24 85 ⇑P P 15 58 42.0 0.0
baz=46
BGU Big Grassy Mou 46.34 75 *e*P P 15 58 43.5 +0.7
comp=Z,3.8nm,1.1s
R11A Troy Canyon, C 46.34 80 ⇓P P 15 58 42.9 0.0
baz=46,SNR=17
R11A Troy Canyon, C 46.34 80 *e*P P 15 58 42.8 -0.1
comp=Z,9.4nm,1.0s
D21A La Casta Ranch 46.35 65 ⇓P P 15 58 42.3 -0.4
baz=46
F20A Billings 46.40 67 ⇓P P 15 58 42.9 -0.2
baz=46
AHID Auburn Hatcher 46.41 72 *e*P P 15 58 43.7 +0.3
comp=Z,19nm,1.0s
H19A Powell 46.55 69 ⇑P P 15 58 44.5 0.0
baz=46
C22A Vida 46.60 64 ⇑P P 15 58 45.1 +0.4
baz=46
G20A Bridger 46.69 68 ⇓P P 15 58 44.8 -0.7
baz=46,SNR=9.8
B23A Brockton 46.70 62 ⇑P P 15 58 44.6 -0.8
baz=46
FURC Furnace Creek, 46.73 83 ⇑P P 15 58 46.1 +0.4
baz=47
FCC Fort Churchill 46.73 46 *e*P P 15 58 44.1 -1.4
FCC pmax pmax
comp=Z,245nm,3.0s
FCC Fort Churchill 46.73 46 *e*P P 15 58 44.1 -1.4
comp=Z,245nm,3.0s
HWUT Hardware Ranch 46.82 74 *e*P P 15 58 47.0 +0.3
comp=Z,9.2nm,0.8s
DUG Dugway, Tooele 46.91 76 *e*P P 15 58 47.7 +0.4
DUG pmax pmax
comp=Z,24nm,1.1s
DUG Dugway, Tooele 46.91 76 ⇓P P 15 58 47.8 +0.4
baz=47,SNR=16
DUG Dugway, Tooele 46.91 76 *e*P P 15 58 47.6 +0.4
comp=Z,24nm,1.1s
I19A Meeteetse 46.92 69 ⇑P P 15 58 46.9 -0.5
baz=47
C23A Lambert 46.96 63 ⇓P P 15 58 46.6 -0.8
baz=47,SNR=5.6
F21A Absaloka Mine, 46.98 66 ⇑P P 15 58 47.3 -0.4
baz=47
LAO LASA Array 47.00 65 *e*P P 15 58 47.6 -0.2
comp=Z,122nm,2.6s
EDW2 Edwards Air Fo 47.05 85 ⇑P P 15 58 49.0 +0.6
baz=47
TCUT Toone Canyon 47.20 74 *e*P P 15 58 50.0 +0.2
comp=Z,18nm,1.1s
CTU Camp Tracy 47.26 75 *e*P P 15 58 50.6 +0.6
comp=Z,10.0nm,0.8s
E22A Miles City 47.30 65 ⇓P P 15 58 49.6 -0.5
baz=47
BW06 Boulder Array 47.33 71 *e*P P 15 58 49.8 -0.8
PDAR Pinedale Array 47.33 71 P P 15 58 50.4 -0.3
comp=Z,23nm,0.8s,baz=300,slow=3.7,SNR=174
J19A Crowheart 47.33 70 ⇓P P 15 58 50.3 -0.3
baz=47,SNR=8.0
A25A Svangstu Ranch 47.47 61 ⇑P P 15 58 50.6 -0.8
baz=47
I20A Worland 47.47 69 ⇑P P 15 58 51.7 +0.1
baz=47
JLU Jordanelle 47.49 75 *e*P P 15 58 52.2 +0.3
comp=Z,11nm,0.8s
F22A Rosebud 47.50 66 ⇓P P 15 58 51.6 -0.1
baz=47
GSC Goldstone, Bar 47.52 84 *e*P P 15 58 52.5 +0.5
GSC pmax pmax
comp=Z,8.0nm,0.7s
GSC Goldstone, Bar 47.52 84 ⇓P P 15 58 52.7 +0.7
baz=47
GSC Goldstone, Bar 47.52 84 *e*P P 15 58 52.5 +0.5
comp=Z,8.3nm,0.7s
BFSC Mount Baldy Ra 47.67 86 ⇑P P 15 58 53.2 -0.1
baz=48
MPU Maple Canyon 47.74 75 *e*P P 15 58 54.6 +0.8
comp=Z,6.8nm,0.8s
G22A Birney 47.80 67 ⇓P P 15 58 53.5 -0.6
baz=48
B25A Knox Farm, Ray 47.82 62 ⇑P P 15 58 53.4 -0.7
baz=48
D24A Glendive 47.83 63 ⇓P P 15 58 54.1 -0.1
baz=48
J20A Shoshoni 47.85 70 ⇓P P 15 58 54.5 0.0
baz=48,SNR=6.3
F23A Volborg 48.02 66 ⇑P P 15 58 55.9 +0.1
baz=48
I21A Big Trails, Te 48.04 69 ⇓P P 15 58 55.7 -0.3
baz=48
A26A Wade Farm, Ken 48.08 60 ⇓P P 15 58 55.5 -0.6
baz=48
H22A Clearmont 48.13 67 ⇓P P 15 58 56.2 -0.5
baz=48
E24A Baker 48.16 64 ⇓P P 15 58 56.1 -0.7
baz=48
CCUT Cedar City 48.21 79 *e*P P 15 58 58.3 +0.8
comp=Z,3.9nm,0.7s
J21A Lysite 48.23 69 ⇑P P 15 58 57.4 -0.1
baz=48
TMUT Trail Mountain 48.44 76 *e*P P 15 58 59.3 0.0
comp=Z,11nm,0.6s
I22A 9 Mile Ranch, 48.47 68 ⇑P P 15 58 59.6 +0.3
baz=48
GMRC Granite Mounta 48.57 84 ⇑P P 15 59 00.4 +0.2
baz=48
C26A Wahner Farm, P 48.66 62 ⇓P P 15 59 00.1 -0.5
baz=48
J22A Midwest 48.76 69 ⇑P P 15 59 01.2 -0.4
baz=49
K21A Alcova 48.77 70 ⇓P P 15 59 00.8 -0.9
baz=49,SNR=6.3
B27A Peters Farms, 48.78 60 ⇑P P 15 59 00.9 -0.6
baz=49
KULLO Kullorsuaq 48.80 17 *i*P P 15 59 01.3 +0.1
KULLO pmax pmax
comp=Z,8.0nm,0.9s
KULLO Kullorsuaq 48.80 17 *i*P P 15 59 01.3 +0.1
comp=Z,8.1nm,0.9s
BELC Belle Mtn. Jos 48.87 85 ⇓P P 15 59 02.5 +0.1
baz=49
KNB Kanab 48.88 79 *e*P P 15 59 03.7 +1.1
KNB pmax pmax
comp=Z,10.0nm,0.9s
KNB Kanab 48.88 79 *e*P P 15 59 03.7 +1.1
comp=Z,9.8nm,0.9s
SRU San Rafael Swe 48.97 76 *e*P P 15 59 03.4 +0.1
SRU pmax pmax
comp=Z,14nm,1.0s
SRU San Rafael Swe 48.97 76 *e*P P 15 59 03.4 +0.1
comp=Z,14nm,1.0s
A28A Rude Farm, Bot 49.03 59 ⇑P P 15 59 02.9 -0.6
baz=49
H24A Dirks Ranch, A 49.08 66 ⇓P P 15 59 03.2 -0.7
baz=49
K22A Casper 49.19 70 ⇓P P 15 59 04.3 -0.5
baz=49
K22A Casper 49.19 70 *e*P P 15 59 04.3 -0.5
comp=Z,7.7nm,0.9s
N20A Spence Gulch, 49.27 72 ⇑P P 15 59 05.9 +0.4
baz=49
IRM Iron Mountain 49.29 84 ⇑P P 15 59 06.2 +0.6
baz=49
BC3 Big Chuckawall 49.44 85 ⇓P P 15 59 06.9 +0.1
baz=49
W13A Hualapai Mount 49.46 82 ⇑P P 15 59 07.0 -0.1
baz=49,SNR=5.0
I24A Kuemmerle Ranc 49.56 67 ⇓P P 15 59 07.5 -0.2
baz=49
U15A North Rim 49.59 80 ⇑P P 15 59 08.5 +0.4
baz=49,SNR=9.8
L22A Ellis Ranch, M 49.62 70 ⇓P P 15 59 08.0 -0.2
baz=49
K23A Bowen Ranch, D 49.65 69 ⇑P P 15 59 08.5 +0.1
baz=50
O20A White River Ci 49.71 73 ⇑P P 15 59 08.5 -0.4
baz=50,SNR=16
O20A White River Ci 49.71 73 *e*P P 15 59 08.8 -0.1
comp=Z,30nm,0.7s
KBS Kingsbay 49.75 357 *e*P P 15 59 09.2 +0.8
KBS pmax pmax
comp=Z,16nm,0.8s
KBS Kingsbay 49.75 357 *e*P P 15 59 09.2 +0.8
comp=Z,16nm,0.8s
B29A Wagenman Farm, 49.78 59 ⇓P P 15 59 08.4 -0.7
baz=50
PDMCI Parker Dam,Lak 49.83 83 ⇑P P 15 59 09.7 0.0
baz=50
J24A Dixon Ranch, L 49.86 68 ⇑P P 15 59 09.6 -0.3
baz=50
M22A Cedar Creek Ra 49.91 71 ⇑P P 15 59 09.9 -0.6
baz=50,SNR=7.7
Y12C Blythe 49.95 84 ⇓P P 15 59 11.2 +0.6
baz=50
L23A Garrett 50.00 70 ⇓P P 15 59 10.6 -0.5
baz=50,SNR=13
A30A Hoffart Farm, 50.07 58 ⇑P P 15 59 10.4 -0.9
baz=50
PV09 Paradox Valley 50.20 75 *e*P P 15 59 13.1 +0.3
GLA Glamis 50.23 85 *e*P P 15 59 16.9 +4.2
GLA pmax pmax
comp=Z,11nm,0.6s
GLA Glamis 50.23 85 *e*P P 15 59 16.9 +4.2
comp=Z,11nm,0.6s
SPITS Spitsbergen Ar 50.30 356 P P 15 59 12.5 -0.2
SPITS pmax pmax
comp=Z,15nm,0.5s
SPITS Spitsbergen Ar 50.30 356 P P 15 59 12.5 -0.2
comp=Z,15nm,0.5s,baz=84,slow=5.9
PV10 Paradox Valley 50.33 75 *e*P P 15 59 14.7 +1.0
B30A Myrvik Farm, E 50.34 59 ⇓P P 15 59 12.6 -0.8
baz=50
N22A Wattenberg Ran 50.36 71 ⇑P P 15 59 13.9 -0.1
baz=50,SNR=9.7
M23A Laramie 50.38 70 ⇓P P 15 59 14.0 -0.1
baz=50
PV04 Paradox Valley 50.41 75 *e*P P 15 59 14.0 -0.2
PV05 Paradox Valley 50.49 76 *e*P P 15 59 15.8 +1.0
ULM Lac du Bonnet 50.58 56 P P 15 59 13.7 -1.4
ULM pmax pmax
comp=Z,1.0nm,0.5s
ULM Lac du Bonnet 50.58 56 P P 15 59 13.7 -1.4
comp=Z,1.4nm,0.4s,baz=281,slow=6.0,SNR=4.1
N23A Red Feather La 50.61 71 ⇓P P 15 59 16.0 +0.2
baz=50,SNR=5.5
O22A Kremmling 50.71 72 ⇑P P 15 59 16.3 -0.3
baz=50,SNR=6.4
WUAZ Wupatki 50.74 80 ⇑P P 15 59 17.7 +1.0
baz=51
WUAZ Wupatki 50.74 80 *e*P P 15 59 16.3 -0.4
comp=Z,11nm,0.8s
PV01 Paradox Valley 50.77 75 *e*P P 15 59 16.6 -0.5
I27A Quinn 50.91 65 ⇑P P 15 59 17.2 -0.6
baz=51
P22A Eagle 50.94 73 ⇑P P 15 59 18.5 +0.3
baz=51
O23A Lake Granby, G 51.05 72 ⇑P P 15 59 19.6 +0.4
baz=51,SNR=15
SMCO Snowmass 51.07 73 *e*P P 15 59 19.6 +0.1
comp=Z,5.5nm,0.7s
F29A Eureka 51.09 62 ⇓P P 15 59 18.1 -0.9
baz=51
H28A Mission Ridge 51.13 64 ⇓P P 15 59 19.2 -0.2
baz=51
MVCO Mesa Verde 51.41 76 ⇓P P 15 59 21.6 -0.2
baz=51
MVCO Mesa Verde 51.41 76 *e*P P 15 59 21.1 -0.6
comp=Z,125nm,2.8s
X16A Lo Mia Camp, P 51.43 81 ⇓P P 15 59 22.3 +0.4
baz=51,SNR=6.2
I28A Midland 51.46 65 ⇓P P 15 59 21.4 -0.4
baz=51
ISCO Idaho Springs 51.49 72 *e*P P 15 59 22.8 +0.3
ISCO pmax pmax
comp=Z,6.0nm,0.8s
ISCO Idaho Springs 51.49 72 ⇓P P 15 59 22.5 +0.1
baz=51,SNR=7.8
ISCO Idaho Springs 51.49 72 *e*P P 15 59 22.8 +0.3
comp=Z,6.1nm,0.8s
DAG Danmarks Havn 51.61 5⇑ *e*P P 15 59 21.9 -0.5
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 51.61 5⇑ *i*P P 15 59 21.9 -0.5
comp=Z,4.2nm,0.8s
H29A Onida 51.62 64 ⇑P P 15 59 23.0 +0.1
baz=51
P23A Jefferson 51.63 72 ⇓P P 15 59 24.2 +0.7
baz=51
W18A Petrified Fore 52.02 79 ⇓P P 15 59 27.3 +1.1
baz=52
S22A 4UR Ranch, Cre 52.08 75 ⇓P P 15 59 26.9 +0.1
baz=52,SNR=11
214A Organ Pipe Nat 52.22 84 ⇑P P 15 59 28.8 +1.1
baz=52
X18A Snowflake 52.27 80 ⇑P P 15 59 28.9 +0.7
baz=52
Q24A Divide 52.30 72 ⇑P P 15 59 29.0 +0.5
baz=52
J29A Okreek 52.31 65 ⇑P P 15 59 28.5 +0.4
baz=52
R23A Moffat 52.39 74 ⇑P P 15 59 29.8 +0.7
baz=52
P25A Willow Gulch B 52.53 71 ⇓P P 15 59 30.9 +0.8
baz=52,SNR=10.0
O26A Horse Wrangler 52.58 70 ⇑P P 15 59 30.6 +0.3
baz=52
N27A Anderson Farm, 52.67 69 ⇓P P 15 59 30.9 0.0
baz=52
R24A Sanders Place, 52.80 73 ⇓P P 15 59 32.3 +0.3
baz=53
Q25A Bedland, Calha 52.87 72 ⇑P P 15 59 32.9 +0.3
baz=53,SNR=8.1
OGNE Ogallala 52.88 69 ⇓P P 15 59 32.3 -0.1
baz=53
SDCO Great Sand Dun 52.88 74 *e*P P 15 59 33.1 +0.4
comp=Z,9.1nm,0.9s
P26A Davis Ranch, A 52.99 71 ⇓P P 15 59 33.9 +0.5
baz=53,SNR=9.6
S24A Houchin Ranch, 53.12 74 ⇓P P 15 59 35.2 +0.7
baz=53,SNR=5.0
K30A Basset 53.17 65 ⇓P P 15 59 34.8 +0.3
baz=53
V22A San Miguel Ran 53.22 76 ⇑P P 15 59 35.4 +0.1
baz=53
ZALV Zalesovo Beam 53.25 313 P P 15 59 34.0 -0.9
ZALV 16 00 42.5
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 53.25 313 P P 15 59 34.0 -0.9
comp=Z,0.4nm,0.4s,baz=70,slow=4.7,SNR=3.5
ZALV PcP PcP 16 00 42.5 +0.8
comp=Z,2.5nm,0.8s,baz=42,slow=4.6,SNR=6.9
Q26A Hugo 53.30 71 ⇓P P 15 59 35.8 +0.1
baz=53,SNR=5.5
R25A Fountain Ranch 53.35 73 ⇓P P 15 59 36.5 +0.5
baz=53,SNR=8.6
U23A El Rito 53.39 76 ⇑P P 15 59 37.0 +0.6
baz=53,SNR=7.4
T24B San Luis 53.40 74 ⇑P P 15 59 36.4 -0.1
baz=53
NVS Novosibirsk 53.41 314 *e*P P 15 59 35.5 -0.5
SUMG Summit 53.56 13 *e*P P 15 59 37.4 +0.1
SUMG pmax pmax
comp=Z,22nm,1.1s
SUMG Summit 53.56 13 *i*P P 15 59 37.2 -0.1
comp=Z,11nm,1.0s
SUMG Summit 53.56 13 *e*P P 15 59 37.4 +0.1
comp=Z,22nm,1.1s
S25A Robets Cordova 53.57 73 ⇑P P 15 59 37.8 +0.1
baz=53,SNR=8.0
R26A Arlington 53.75 72 ⇓P P 15 59 39.2 +0.3
baz=54,SNR=13
KSCO Kaye Shedlock' 53.77 71 ⇓P P 15 59 39.7 +0.7
baz=54
KSCO Kaye Shedlock' 53.77 71 *e*P P 15 59 40.0 +0.9
comp=Z,37nm,1.3s
V23A Ortiz Mt. (NFS 53.78 76 ⇑P P 15 59 40.1 +0.8
baz=54
P28A Saint Francis 53.92 70 ⇓P P 15 59 40.3 +0.2
baz=54
T25A Trinidad 53.93 74 ⇓P P 15 59 40.9 +0.6
baz=54,SNR=15
LAZ Ladron 54.09 78 *e*P P 15 59 42.6 +1.0
O29A 4D Ranch, Culb 54.12 69 ⇓P P 15 59 42.0 +0.4
baz=54
ANMO Albuquerque 54.14 77 *ce*P P 15 59 42.8 +0.9
ANMO pmax pmax
comp=Z,12nm,1.0s
R27A Eads 54.14 72 ⇓P P 15 59 42.1 +0.3
baz=54,SNR=12
S26A Kim 54.18 73 ⇑P P 15 59 42.0 0.0
baz=54,SNR=12
W23A Werner Place, 54.19 77 ⇑P P 15 59 42.8 +0.6
baz=54
V24A Rampart Ranch, 54.34 76 ⇓P P 15 59 44.0 +0.6
baz=54,SNR=7.3
P29A Atwood 54.39 69 ⇑P P 15 59 44.0 +0.5
baz=54
T26A Comanche Natio 54.40 73 ⇑P P 15 59 43.4 -0.3
baz=54,SNR=7.6
U25A Circle Dot Ran 54.42 74 ⇓P P 15 59 44.0 +0.1
baz=54,SNR=12
S27A Las Animas 54.48 72 ⇓P P 15 59 44.5 +0.2
baz=54
O30A MW Ranch, Wils 54.52 68 ⇑P P 15 59 45.6 +1.1
baz=54
GTA Gaotai 54.57 291 *e*P P 15 59 45.9 +1.0
GTA pP pP 15 59 54.6 -8.4
GTA sP sP 15 59 58.3 -13
GTA PMZ
comp=Z,4.0nm,1.1s
W24A Lazy 6 Ranch, 54.60 76 ⇑P P 15 59 45.9 +0.6
baz=54,SNR=6.7
V25A Rancho No Teng 54.67 75 ⇑P P 15 59 46.0 +0.3
baz=54,SNR=7.1
R28A Tribune 54.69 71 ⇓P P 15 59 45.8 +0.1
baz=54
Q29A Oakley 54.82 70 ⇑P P 15 59 47.0 +0.3
baz=55
U26A Atchley Ranch, 54.82 74 ⇓P P 15 59 47.0 +0.1
baz=55,SNR=12
P30A Selden 54.83 69 ⇓P P 15 59 46.9 +0.3
baz=55
121A Cookes Peak, D 54.95 80 ⇓P P 15 59 48.6 +0.8
baz=55
Z22A Elephant Butte 54.97 79 ⇓P P 15 59 48.6 +0.8
baz=55
T27A Campo 54.99 73 ⇑P P 15 59 48.4 +0.4
baz=55
R29A Marienthal 55.04 70 ⇓P P 15 59 48.9 +0.7
baz=55
Y23A Lovelace Mesa, 55.07 78 ⇓P P 15 59 49.2 +0.6
baz=55,SNR=11
S28A Manter 55.14 72 ⇓P P 15 59 49.6 +0.6
baz=55,SNR=10
W25A X Bar L Ranch, 55.17 75 ⇓P P 15 59 49.8 +0.5
baz=55,SNR=9.0
V26A Tequesquite Ra 55.20 74 ⇑P P 15 59 49.7 +0.2
baz=55,SNR=8.8
T28A Walsh 55.32 72 ⇑P P 15 59 50.6 +0.3
baz=55,SNR=15
U27A Thompson Grove 55.36 73 ⇓P P 15 59 50.5 -0.1
baz=55,SNR=9.9
Y24A Capitan 55.45 77 ⇓P P 15 59 51.7 +0.3
baz=55,SNR=22
O32A Brockman Farm, 55.50 67 ⇑P P 15 59 52.0 +0.5
baz=55
R30A Dighton 55.64 70 ⇓P P 15 59 52.4 -0.1
baz=55,SNR=5.9
U28A Mallet 55.75 73 ⇑P P 15 59 53.1 -0.3
baz=56,SNR=8.6
Z24A Sheeppen Canyo 55.90 78 ⇓P P 15 59 55.0 +0.4
baz=56
Y25A Mesa, Roswell 55.91 77 ⇑P P 15 59 54.9 +0.4
baz=56
S30A Montezuma 55.95 71 ⇑P P 15 59 55.1 +0.3
baz=56
X26A CR and CF Fran 56.02 76 ⇑P P 15 59 55.8 +0.4
baz=56
R31A Burdett 56.07 69 ⇑P P 15 59 55.6 0.0
baz=56
W27A Bowie Ranch, En 56.12 75 ⇑P P 15 59 56.3 +0.2
baz=56
V28A Channing 56.17 74 ⇑P P 15 59 56.6 +0.2
baz=56
Q32A Meitler Ranch, 56.17 68 ⇑P P 15 59 56.4 +0.1
baz=56
U29A Oasis Ranch, S 56.27 72 ⇓P P 15 59 57.3 +0.2
baz=56
T30A Plains 56.31 71 ⇓P P 15 59 57.6 +0.3
baz=56
P33A Williams Farm, 56.38 67 ⇓P P 15 59 57.9 +0.2
baz=56
Y26A Elida 56.44 76 ⇓P P 15 59 58.7 +0.3
baz=56
S31A Mullinville 56.55 70 ⇓P P 15 59 58.9 -0.1
baz=56
U30A WK&E Inc. Balk 56.59 72 ⇓P P 15 59 59.3 0.0
baz=56
Q33A Connelly Farm, 56.59 68 ⇓P P 15 59 59.5 +0.2
baz=56
T31A Randall Ranch, 56.78 71 ⇓P P 16 00 01.1 +0.5
baz=57
Z26A Caprock 56.78 77 ⇑P P 16 00 01.1 +0.3
baz=57
Y27A Causey 56.86 76 ⇑P P 16 00 01.6 +0.2
baz=57
MNTX Cornudas Mount 57.00 79 *e*P P 16 00 02.5 +0.2
comp=Z,6.0nm,0.9s

MSTX	Muleshoe	57.04	75	⇑P		P	16 00 02.8	+0.2
	baz=57							
V30A	Spur Ranch, Mi	57.08	72	⇓P		P	16 00 02.8	0.0
	baz=57							
AMTX	Amarillo	57.08	74	⇑P		P	16 00 03.0	+0.2
	baz=57							
AMTX	Amarillo	57.08	74	eP		P	16 00 03.4	+0.5
	comp=Z,12nm,0.6s							
T32A	Huddler Ranch,	57.17	70	⇓P		P	16 00 03.5	+0.1
	baz=57							
Y28A	McKinney Farm,	57.40	75	⇑P		P	16 00 05.4	+0.2
	baz=57							
V31A	Spring Creek L	57.58	72	⇑P		P	16 00 06.6	+0.3
	baz=57							
U32A	Winter Ranch,	57.67	71	⇑P		P	16 00 07.1	+0.3
	baz=58							
Y29A	Porterfield Fa	57.78	75	⇑P		P	16 00 08.3	+0.5
	baz=58							
X30A	Coker Ranch, T	57.87	74	⇓P		P	16 00 08.4	+0.1
	baz=58							
ARCES	ARCESS Array B	57.91	350	P		P	16 00 07.5	-0.5
ARCES				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ARCES	ARCESS Array B	57.91	350	P		P	16 00 07.5	-0.5
	comp=Z,4.4nm,0.8s,baz=22,slow=8.0,SNR=6.0							
W31A	Holland Ranch,	57.92	72	⇓P		P	16 00 09.0	+0.3
	baz=58							
128A	Castleberry Fa	58.14	76	⇑P		P	16 00 10.0	-0.3
	baz=58,SNR=5.7							
Z29A	Hungry Hill Ra	58.18	75	⇓P		P	16 00 11.0	+0.4
	baz=58							
JFWS	Jewell Farm	58.23	60	eP		P	16 00 11.1	+0.4
JFWS				pmax	pmax			
	comp=Z,30nm,1.4s							
JFWS	Jewell Farm	58.23	60	eP		P	16 00 11.1	+0.4
	comp=Z,30nm,1.4s							
Y30A	Stafford Cattl	58.24	74	⇑P		P	16 00 11.1	+0.1
	baz=58,SNR=5.6							
KURK	Kurchatov	58.24	313	eP		P	16 00 11.1	+0.5
KURK	Kurchatov	58.24	313	eP		P	16 00 11.1	+0.5
X31A	McDonald Ranch	58.28	73	⇓P		P	16 00 11.8	+0.6
	baz=58							
W32A	Sentinel	58.38	72	⇓P		P	16 00 12.2	+0.3
	baz=58							
V33A	Lossen Ranch,	58.47	71	⇓P		P	16 00 12.8	+0.3
	baz=58							
U34A	Anderson Ranch	58.49	70	⇓P		P	16 00 12.6	0.0
	baz=58							
U34A	Anderson Ranch	58.49	70	eP		P	16 00 12.7	0.0
Z30A	Sanderson Ranc	58.51	75	⇑P		P	16 00 13.3	+0.4
	baz=58							
129A	Stewart Farms,	58.51	76	⇓P		P	16 00 13.3	+0.5
	baz=58							
Y31A	Rekieta Farm,	58.56	74	⇓P		P	16 00 13.3	+0.2
	baz=58							
X32A	Elmer	58.84	73	⇑P		P	16 00 15.5	+0.5
	baz=59							
V34A	Guthrie	58.91	70	⇓P		P	16 00 16.0	+0.4
	baz=59							
Y32A	R-V Farms, Ver	59.03	73	⇓P		P	16 00 17.2	+0.8
	baz=59							
Z31A	Sharp Cattle R	59.08	74	⇑P		P	16 00 17.2	+0.5
	baz=59							
MKAR	Makanchi Array	59.19	307	P		P	16 00 16.9	-0.4
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MKAR	Makanchi Array	59.19	307	P		P	16 00 16.9	-0.4
	comp=Z,1.1nm,0.3s,baz=50,slow=6.3,SNR=44							
329A	Wagon Wheel Ra	59.24	77	⇑P		P	16 00 17.7	-0.2
	baz=59							
230A	Sterling City	59.49	76	⇓P		P	16 00 19.6	0.0
	baz=59							
Z32A	Haskell	59.49	74	⇓P		P	16 00 19.4	-0.1
	baz=59,SNR=9.1							
X34A	Smith Ranch, M	59.58	72	⇑P		P	16 00 19.8	-0.4
	baz=59							
TX31	Lajitas Ar. Si	59.71	80	eP		P	16 00 20.9	-0.3
TXAR	Lajitas Array	59.71	80	P		P	16 00 21.4	+0.2
TXAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
TXAR	Lajitas Array	59.71	80	P		P	16 00 21.4	+0.2
	comp=Z,3.0nm,0.6s,baz=300,slow=5.5,SNR=18							
330A	Mertzon	59.78	77	⇓P		P	16 00 21.6	-0.1
	baz=60							
ABTX	Abilene, Hawle	59.87	74	⇓P		P	16 00 22.5	+0.4
	baz=60							
ABTX	Abilene, Hawle	59.87	74	eP		P	16 00 22.7	+0.6
TUL1	Leonard	59.88	69	⇑P		P	16 00 22.0	-0.2
	baz=60							
429A	Davenport Ranc	59.89	78	⇓P		P	16 00 22.2	-0.3
	baz=60							
Z33A	Whitaker Ranch	59.93	73	⇓P		P	16 00 22.6	0.0
	baz=60							
231A	Bronte	59.94	75	⇓P		P	16 00 22.6	-0.1
	baz=60							
529A	Stev Forest Ra	60.04	78	⇓P		P	16 00 23.4	-0.1
	baz=60							
Y34A	Reagan Ranch,	60.07	72	⇓P		P	16 00 23.8	+0.3
	baz=60,SNR=6.9							
VOSK	Vostochnaya	60.17	318	eP		P	16 00 24.3	+0.4
VOSK	Vostochnaya	60.17	318	eP		P	16 00 24.3	+0.4
430A	Baggett Ranch,	60.18	77	⇓P		P	16 00 23.9	-0.5
	baz=60							
BRVK	Borovoye	60.22	319	ceP		P	16 00 24.8	+0.6
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
BRVK	Borovoye	60.22	319	eP		P	16 00 24.2	+0.1
	comp=Z,11nm,1.3s							
133A	Hamilton Ranch	60.31	74	⇑P		P	16 00 25.3	+0.1
	baz=60,SNR=6.4							
232A	Coleman	60.38	75	⇑P		P	16 00 25.6	-0.1
	baz=60							
Z34A	Collier Ranch,	60.38	73	⇓P		P	16 00 25.7	+0.1
	baz=60							
530A	J-C Ranch, Com	60.57	78	⇓P		P	16 00 27.2	+0.2
	baz=60,SNR=9.7							
431A	Sonora	60.64	77	⇑P		P	16 00 27.0	-0.5
	baz=60,SNR=5.4							
SCHQ	Schefferville	60.67	37	P		P	16 00 26.6	-0.6
	comp=Z,6.5nm,0.7s,baz=304,slow=6.7,SNR=11							
332A	Millersview	60.67	76	⇓P		P	16 00 27.9	+0.2
	baz=60							
233A	Rising Star	60.74	74	⇑P		P	16 00 28.5	+0.4
	baz=61							
134A	White-Moore Ra	60.84	73	⇑P		P	16 00 29.2	+0.4
	baz=61,SNR=5.2							
531A	Rocksprings	61.04	77	⇓P		P	16 00 30.1	-0.1
	baz=61							
234A	Clairette	61.21	74	⇑P		P	16 00 31.7	+0.4
	baz=61,SNR=7.9							
135A	Vickery Place,	61.26	73	⇑P		P	16 00 32.1	+0.5
	baz=61							
532A	Rocksprings	61.46	77	⇑P		P	16 00 32.8	-0.2
	baz=61							
631A	Perdido Creek	61.56	78	⇓P		P	16 00 33.4	-0.3
	baz=61							
334A	Lometa	61.62	75	⇑P		P	16 00 34.3	+0.2
	baz=61,SNR=9.7							
WHTX	Lake Whitney,	61.62	73	⇓P		P	16 00 34.6	+0.6
	baz=61							
WHTX	Lake Whitney,	61.62	73	eP		P	16 00 34.8	+0.7
SFIN	Lafayette	61.69	60	⇓P		P	16 00 33.9	-0.4
	baz=61							
434A	Burnet	61.97	75	⇑P		P	16 00 37.0	+0.6
	baz=62							
533A	Kerrville	62.03	76	⇓P		P	16 00 37.0	+0.1
	baz=62							
ARU	Arti	62.04	327	d iP		P	16 00 36.5	0.0
ARU							16 02 53.1	
ARU				S		S	16 08 54.5	-0.8
ARU				pmax	pmax			
	comp=Z,5.0nm,1.2s							
MIAR	Mount Ida	62.13	69	eP		P	16 00 36.6	-0.8
MIAR				e			16 01 17.1	
MIAR	Mount Ida	62.13	69	eP		P	16 00 36.6	-0.8
MIAR				eP	cP	PcP	16 01 17.1	+0.1
732A	Laxson Ranch,	62.41	78	⇓P		P	16 00 39.9	+0.5
	baz=62							
336A	Riesel	62.42	74	⇓P		P	16 00 39.7	+0.4
	baz=62							
832A	Faith Ranch, C	62.73	78	⇓P		P	16 00 42.1	+0.6
	baz=63							
BORG	Borgarnes	63.10	10	P		P	16 00 43.7	+0.3
BORG				pmax	pmax			
	comp=Z,16nm,1.0s							
BORG	Borgarnes	63.10	10	P		P	16 00 43.7	+0.3
	comp=Z,16nm,1.0s,baz=317,slow=9.4,SNR=3.0							
636A	Smothers Creek	63.65	75	⇓P		P	16 00 48.7	+1.1
	baz=64							
537A	Green Hill Far	63.67	74	⇑P		P	16 00 48.6	+0.9
	baz=64							
438A	Sam Houston St	63.70	73	⇓P		P	16 00 48.7	+0.9
	baz=64							
340A	Bronson	64.17	71	⇑P		P	16 00 51.5	+0.6
	baz=64							
WVT	Waverly	64.30	64	eP		P	16 00 51.9	+0.2
WVT	Waverly	64.30	64	eP		P	16 00 51.9	+0.2
ALLY	Alegheny Colle	64.45	55	epP		pP	16 01 05.0	-6.2
KVTX	Kingsville	64.53	77	eP		P	16 00 50.6	-2.8
OXF	Oxford	64.56	66	eP		P	16 00 54.0	+0.5
OXF	Oxford	64.56	66	eP		P	16 00 54.0	+0.5
035A	Encino	64.85	78	⇑P		P	16 00 56.7	+1.3
	baz=65							
TKM2	Tokmak 2	65.28	308	eP		P	16 00 58.6	+0.3
TKM2				pmax	pmax			
	comp=Z,3.0nm,0.9s							
TKM2	Tokmak 2	65.28	308	eP		P	16 00 58.6	+0.3
	comp=Z,3.1nm,0.9s							
FINES	FINESS Array B	65.55	346	P		P	16 00 58.0	-1.4
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
FINES	FINESS Array B	65.55	346	P		P	16 00 58.0	-1.4
	comp=Z,2.3nm,0.8s,baz=358,slow=5.9,SNR=8.6							
AAK	Ala-Archa	66.04	309	ceP		P	16 01 05.4	+2.3
AAK				pmax	pmax			
	comp=Z,10.0nm,1.2s							
AAK	Ala-Archa	66.04	309	eP		P	16 01 03.8	+0.7
EKS2	Erkin-Say	66.37	309	eP		P	16 01 06.0	+0.8
EKS2	Erkin-Say	66.37	309	eP		P	16 01 06.0	+0.8
ABKAR	Akbulak array	67.29	322	eP		P	16 01 11.0	+0.3
NB2	NORSAR Subarra	67.55	354	P		P	16 01 11.6	-0.6
	comp=Z,13nm,0.8s,baz=7.3,slow=6.5							
NOA	NORSAR Array B	67.55	354	P		P	16 01 12.2	-0.1
NOA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
NOA	NORSAR Array B	67.55	354	P		P	16 01 12.2	-0.1
	comp=Z,9.9nm,0.7s,baz=8.9,slow=6.4,SNR=41							
KKAR	Karatay Array	67.59	311	eP		P	16 01 12.9	+0.1
KKAR	Karatay Array	67.59	311	eP		P	16 01 12.9	+0.1
KMSC	Kings Mountain	68.62	60	⇑P		P	16 01 19.4	+0.1
	baz=68							
CMAR	Chiang Mai Arr	69.95	275	P		P	16 01 28.0	+0.3
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
CMAR	Chiang Mai Arr	69.95	275	P		P	16 01 28.0	+0.3
	comp=Z,1.5nm,0.8s,baz=30,slow=6.6,SNR=11							
TAPN	Taplejung	70.20	289	eP		P	16 01 30.0	+0.4
	comp=Z,24nm,1.0s							
GUN	Gumba	70.86	291	eP		P	16 01 34.5	+0.9
JIRN	Jiri	70.87	290	eP		P	16 01 34.6	+0.9
	comp=Z,22nm,0.8s							
RAMN	Ramite	71.16	290	eP		P	16 01 34.7	-0.6
KKN	Kakani	71.30	291	eP		P	16 01 37.0	+0.9
PKI	Pulchoki	71.39	291	eP		P	16 01 37.2	+0.4
	comp=Z,25nm,1.2s							
PKIN	Phulchoki	71.39	291	eP		P	16 01 37.7	+0.9
GKN	Gorkha	71.52	292	eP		P	16 01 37.8	+0.4
DMN	Daman	71.54	291	eP		P	16 01 38.2	+0.6
	comp=Z,12nm,0.8s							
DANN	Dangsing	71.77	293	eP		P	16 01 39.8	+0.8
	comp=Z,15nm,0.9s							
EKA	Eskdalemuir Ar	73.64	2	P		P	16 01 49.6	+0.3
EKA				pmax	pmax			
	comp=Z,6.0nm,0.7s							
EKA	Eskdalemuir Ar	73.64	2	P		P	16 01 49.6	+0.3
	comp=Z,5.3nm,0.6s,baz=6.8,slow=4.9,SNR=15							
KBL	Kabul	74.99	307	eP		P	16 01 57.4	-0.4
KBL				pmax	pmax			
	comp=Z,7.0nm,0.7s							
KBL	Kabul	74.99	307	eP		P	16 01 57.4	-0.4
	comp=Z,6.8nm,0.7s							
AKASG	Malin Array Be	75.22	341	P		P	16 01 57.8	-0.7
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	Malin Array Be	75.22	341	P		P	16 01 57.8	-0.7
	comp=Z,1.0nm,0.3s,baz=18,slow=5.1,SNR=4.9							
CLL	Collm	77.06	351	epP		pP	16 02 28.0	0.0
GEYT	Alibeck	77.36	316	P		P	16 02 11.2	+0.3
	comp=Z,2.3nm,0.7s,baz=0.0,slow=4.9,SNR=5.8							
DPC	Dobruska-Polom	77.65	349	eP		P	16 02 11.8	-0.6
DPC	Dobruska-Polom	77.65	349	eP		P	16 02 11.8	-0.6
KRLC	Kraliky	77.86	349	eP		P	16 02 13.2	-0.4
KRLC	Kraliky	77.86	349	eP		P	16 02 13.2	-0.4
STHS	Stebnicka Huta	77.89	346	eP		P	16 02 14.9	+1.2
STHS				pmax	pmax			
	comp=Z,3.0nm,1.2s							
STHS	Stebnicka Huta	77.89	346	eP		P	16 02 14.9	+1.2
KOLS	Kolonicke sedl	78.19	345	eP		P	16 02 15.4	+0.1
KOLS				pmax	pmax			
	comp=Z,4.0nm,1.2s							
KOLS	Kolonicke sedl	78.19	345	eP		P	16 02 15.4	+0.1
KOLS				e			16 39 35.7	
CRVS	Cervenica-Dubn	78.35	345	eP		P	16 02 15.7	-0.5
CRVS				pmax	pmax			
	comp=Z,44nm,2.7s							
CRVS	Cervenica-Dubn	78.35	345	eP		P	16 02 15.7	-0.5
BAIF	Baives	78.87	357	eP		P	16 02 19.4	+0.4
	comp=Z,14nm,0.8s							
BAIF	Baives	78.87	357	eP		P	16 02 19.4	+0.4
BAIF				pmax	pmax			
	comp=Z,14nm,0.8s							
BAIF	Baives	78.87	357	eP		P	16 02 19.4	+0.4
	comp=Z,14nm,0.8s							
VYHS	Vyhne	79.14	347	eP		P	16 02 21.3	+0.7
VYHS				pmax	pmax			
	comp=Z,2.0nm,0.9s							
VYHS	Vyhne	79.14	347	eP		P	16 02 21.3	+0.7
KHC	Kasperske Hory	79.16	351	eP		P	16 02 20.7	0.0
KHC	Kasperske Hory	79.16	351	eP		P	16 02 20.7	0.0
GERES	GERESS Array B	79.42	351	P		P	16 02 22.0	-0.2
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES	GERESS Array B	79.42	351	P		P	16 02 22.0	-0.2
	comp=Z,0.5nm,0.5s,baz=2.4,slow=3.2,SNR=5.2							
FLN	La Foliniere	80.25	360	eP		P	16 02 26.2	-0.3
	comp=Z,23nm,0.9s							
FLN	La Foliniere	80.25	360	eP		P	16 02 26.2	-0.3
FLN				pmax	pmax			
	comp=Z,23nm,0.9s							
FLN	La Foliniere	80.25	360	eP		P	16 02 26.2	-0.3
	comp=Z,23nm,0.9s							
PAGF	Fort de Pagny	80.31	356	eP		P	16 02 27.2	+0.3
PAGF	Fort de Pagny	80.31	356	eP		P	16 02 27.2	+0.3
BFO	Black Forest	80.39	354	ceP		P	16 02 29.0	+1.7
LDF	La Druitiere	80.41	360	eP		P	16 02 27.2	-0.2
	comp=Z,9.8nm,0.6s							
LDF	La Druitiere	80.41	360	eP		P	16 02 27.2	-0.2
LDF				pmax	pmax			
	comp=Z,10.0nm,0.6s							
LDF	La Druitiere	80.41	360	eP		P	16 02 27.2	-0.2
	comp=Z,9.8nm,0.6s							
GRR	Gorron	80.62	0	eP		P	16 02 28.5	0.0
GRR	Gorron	80.62	0	eP		P	16 02 28.5	0.0
GRR	Gorron	80.62	0	eP		P	16 02 28.5	0.0
ROSF	Rostrenen	80.64	2	eP		P	16 02 28.8	+0.2
ROSF	Rostrenen	80.64	2	eP		P	16 02 28.8	+0.2
ROSF	Rostrenen	80.64	2	eP		P	16 02 28.8	+0.2
SFTF	Sexfontaines	80.69	356	eP		P	16 02 29.0	+0.1
SFTF	Sexfontaines	80.69	356	eP		P	16 02 29.0	+0.1
SGMF	Saint Gilles	80.74	1	eP		P	16 02 29.2	+0.1
SGMF	Saint Gilles	80.74	1	eP		P	16 02 29.2	+0.1
SGMF	Saint Gilles	80.74	1	eP		P	16 02 29.2	+0.1
QUIF	Quistinic	81.06	2	eP		P	16 02 30.8	-0.1
QUIF	Quistinic	81.06	2	eP		P	16 02 30.8	-0.1
QUIF	Quistinic	81.06	2	eP		P	16 02 30.8	-0.1
WRAB	Tennant Creek	81.26	222	ceP		P	16 02 32.8	+0.6
WRAB				pmax	pmax			
	comp=Z,13nm,1.7s							
WRA	Warramunga Arr	81.28	222	P		P	16 02 31.1	-1.1
WRA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
WRA	Warramunga Arr	81.28	222	P		P	16 02 31.1	-1.1
	comp=Z,1.7nm,0.9s,baz=35,slow=6.1,SNR=12							
LOR	Lormes	81.67	357	eP		P	16 02 33.9	-0.2
LOR	Lormes	81.67	357	eP		P	16 02 33.9	-0.2
LOR	Lormes	81.67	357	eP		P	16 02 33.9	-0.2
SSF	Saint Saulge	81.89	357	eP		P	16 02 35.2	-0.1
SSF	Saint Saulge	81.89	357	eP		P	16 02 35.2	-0.1
SSF	Saint Saulge	81.89	357	eP		P	16 02 35.2	-0.1
AVF	Avril sur Loir	82.16	357	eP		P	16 02 36.5	-0.2
	comp=Z,13nm,0.9s							
AVF	Avril sur Loir	82.16	357	eP		P	16 02 36.5	-0.2
AVF				pmax	pmax			
	comp=Z,13nm,0.9s							
AVF	Avril sur Loir	82.16	357	eP		P	16 02 36.5	-0.2
	comp=Z,13nm,0.9s							
SMF	Signal de Mont	82.29	357	eP		P	16 02 37.3	-0.1
SMF	Signal de Mont	82.29	357	eP		P	16 02 37.3	-0.1
SMF	Signal de Mont	82.29	357	eP		P	16 02 37.3	-0.1
MFF	Saint Martin d	82.41	360	eP		P	16 02 38.0	0.0
	comp=Z,23nm,1.0s							
MFF	Saint Martin d	82.41	360	eP		P	16 02 38.0	0.0
MFF				pmax	pmax			
	comp=Z,23nm,1.0s							
MFF	Saint Martin d	82.41	360	eP		P	16 02 38.0	0.0
	comp=Z,23nm,1.0s							
LPG	La Plagne	83.31	355	eP		P	16 02 43.8	+0.8
LPG	La Plagne	83.31	355	eP		P	16 02 43.8	+0.8
LPG	La Plagne	83.31	355	eP		P	16 02 43.8	+0.8
ORIF	Oris-en-Rattie	83.93	355	eP		P	16 02 46.1	+0.1
ORIF	Oris-en-Rattie	83.93	355	eP		P	16 02 46.1	+0.1
ORIF	Oris-en-Rattie	83.93	355	eP		P	16 02 46.1	+0.1
VIVF	Saint-Julien-l	84.05	356	eP		P	16 02 46.8	+0.3
VIVF	Saint-Julien-l	84.05	356	eP		P	16 02 46.8	+0.3
VIVF	Saint-Julien-l	84.05	356	eP		P	16 02 46.8	+0.3
CAF	Calviac	84.06	358	eP		P	16 02 46.9	+0.3
CAF	Calviac	84.06	358	eP		P	16 02 46.9	+0.3
CAF	Calviac	84.06	358	eP		P	16 02 46.9	+0.3
LFF	La Frestale	84.06	359	eP		P	16 02 46.7	+0.2
LFF	La Frestale	84.06	359	eP		P	16 02 46.7	+0.2
LFF	La Frestale	84.06	359	eP		P	16 02 46.7	+0.2
BRTR	Keskin Array B	84.50	334	P		P	16 02 49.0	-0.1
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BRTR	Keskin Array B	84.50	334	P		P	16 02 49.0	-0.1
	comp=Z,1.6nm,0.8s,baz=87,slow=2.5,SNR=7.0							
ASAR	Alice Springs	84.77	221	P		P	16 02 50.0	-0.3
ASAR				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ASAR	Alice Springs	84.77	221	P		P	16 02 50.0	-0.3
	comp=Z,1.6nm,1.0s,baz=31,slow=5.3,SNR=10							
FRF	La Foret Royal	85.24	355	eP		P	16 02 52.4	-0.1
FRF	La Foret Royal	85.24	355	eP		P	16 02 52.4	-0.1
FRF	La Foret Royal	85.24	355	eP		P	16 02 52.4	-0.1
LMR	La Mourre	85.48	355	eP		P	16 02 53.9	+0.2
LMR	La Mourre	85.48	355	eP		P	16 02 53.9	+0.2
LMR	La Mourre	85.48	355	eP		P	16 02 53.9	+0.2
PGF	Pioggiola	86.09	353	eP		P	16 02 56.1	-0.8
	comp=Z,32nm,0.8s							
PGF	Pioggiola	86.09	353	eP		P	16 02 56.1	-0.8
PGF				pmax	pmax			
	comp=Z,32nm,0.8s							
PGF	Pioggiola	86.09	353	eP		P	16 02 56.1	-0.8
	comp=Z,32nm,0.8s							
TORD	Torodi Ar. Bea	115.72	358	PKP		PKPdf	16 08 57.5	-0.8
	comp=Z,0.5nm,0.5s,baz=349,slow=1.9,SNR=5.2							
BOSA	Boshof	150.18	310	PKIKP		PKPbc	16 10 06.8	+0.2
BOSA				pmax	pmax			
	comp=Z,5.0nm,0.6s							
BOSA	Boshof	150.18	310	PKPbc		PKPbc	16 10 06.8	+0.2
	comp=Z,4.8nm,0.6s,baz=26,slow=2.2,SNR=11							

*IDC **04** 15:50:31.8±0.9, 34°.45S×72°.30W, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.7/28, mbtmp3.6/6, ML3.4/2, Error ellipse: s-maj=46.8km s-min=23.5km az=111.0*
*ISCJB **04** 15:50:32.5±1.0, 34°.5S±0°.1×72°.2W±0°.2, h10km, mb3.9/3, Error ellipse: s-maj=26.3km s-min=9.9km az=45.0*
*GUC **04** 15:50:36.2±0.6, 34°.49S×69°.37W, h32km±3km*
ISC 04 15:50:33.5±0.9, 34°.5S±0°.2×72°.2W±0°.2, h10km, n13, σ1§07/15, mb4.0/3, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STL	Santa Lucia	1.63	51	eP	Pn	15 51 02.2	-0.1
STL				eS	Sn	15 51 21.8	-1.5
SJCH	San Jose de Ma	1.71	62	eP	Pn	15 50 57.0	-6.5
SJCH				eS	Sn	15 51 13.7	-12
PEL	Peldehue	1.80	44	⇑iP	Pn	15 51 05.8	+1.1
PEL				eS	Sn	15 51 27.6	0.0
CFAA	Coronel Fontan	4.36	50	Pn	Pn	15 51 41.4	+1.5
	1.0nm,0.3s,baz=218,slow=13,SNR=20						
LPAZ	La Paz	18.46	12	P	P	15 54 49.9	-0.2
	0.1nm,0.3s,baz=174,slow=9.2,SNR=2.2						
SIV	San Ignacio	20.92	31	P	P	15 55 18.0	+1.6
	1.1nm,0.6s,baz=212,slow=7.6,SNR=2.8						
QSPA	South Pole Qui	55.77	180	P	P	16 00 11.6	+1.2
	1.2nm,0.7s,baz=175,slow=11						
PDAR	Pinedale Array	84.13	333	P	P	16 03 04.7	-0.1
	0.4nm,0.7s,baz=93,slow=7.2,SNR=3.0						
TORD	Torodi Ar. Bea	84.47	70	P	P	16 03 05.9	-0.9
	0.6nm,0.6s,baz=296,slow=7.2,SNR=5.4						
WRA	Warramunga Arr	120.31	209	PKP	PKPdf	16 09 24.1	-1.5
	0.1nm,0.4s,baz=155,slow=1.7,SNR=5.9						
BVAR	Borovoye Array	147.69	43	PKPbc	PKPbc	16 10 18.0	+0.2
	0.5nm,0.6s,baz=318,slow=4.2,SNR=3.8						
ZALV	Zalesovo Beam	154.67	33	PKPbc	PKPbc	16 10 33.8	-0.4
	0.6nm,0.5s,baz=230,slow=3.7,SNR=4.0						
ZALV				PKPab	PKPab	16 10 48.9	-0.1
	0.6nm,0.5s,baz=307,slow=7.8,SNR=3.4	

MKAR Makanchi Array 159.41 55 PKPab **PKPab 16 13 34.6 +0.7**
0.6nm,0.8s,baz=264,slow=6.1,SNR=4.7
SONM Songino Array 169.39 2 PKPab **PKPab 16 14 19.3 +1.5**
0.6nm,1.0s,baz=18,slow=5.1,SNR=4.1

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*NEIC **04** 15:54:32.9±5.8, 37.°32S×73.°57W, h9km±34km, mb4.6/7, Error ellipse: s-maj=23.1km s-min=10.4km az=86.0*
*IDC **04** 15:54:32.2±0.7, 37.°39S×73.°58W, h0km, mb4.3/10, mb1 4.4/13, mb1mx4.3/29, mbtmp4.2/13, ML4.2/2, MS4.4/1, Ms1 4.4/1, ms1mx3.6/26, Error ellipse: s-maj=29.0km s-min=18.0km az=91.0*
*ISCJB **04** 15:54:33.9±0.6, 37.°31S±0.°06×73.°6W±0.°1, h23km, mb4.6/19, Error ellipse: s-maj=16.5km s-min=9.0km az=179.4*
ISC 04 15:54:35.3±0.6, 37.°31S±0.°09×73.°7W±0.°1, h23km, n37, σ1§17/36, mb4.5/19, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.23**	**40**	Pn	**Pn**	**15 56 19.3**	**-0.3**
0.5nm,0.3s,baz=184,slow=18,SNR=3.5							
TRQA	**Tornquist**	**9.28**	**98**	*e*Pn	Pn	15 56 43.1	-4.5
LVC	**Limon Verde**	**15.21**	**17**	*e*Pn	**Pn**	**15 58 05.5**	**-3.3**
CPUP	**Villa Florida**	**17.64**	**56**	P	**P**	**15 58 40.0**	**-0.4**
0.7nm,0.3s,baz=224,slow=16,SNR=2.8							
CPUP				LR	LR	16 04 51.8	
comp=Z,1μm,18.1s,baz=207,slow=35							
USHA	**Ushuaia**	**17.89**	**170**	P	**P**	**15 58 41.6**	**-1.2**
baz=312,slow=14							
EFI	**East Falkland**	**18.10**	**147**	*e*Pn	**P**	**15 58 45.8**	**+0.6**
74nm,1.2s							
LPAZ	**La Paz**	**21.50**	**15**	P	**P**	**15 59 25.1**	**+1.9**
17nm,1.1s,baz=205,slow=6.2,SNR=6.9							
LPAZ	**La Paz**	**21.50**	**15**	*e*P	**P**	**15 59 24.1**	**+0.9**
31nm,1.2s							
SIV	**San Ignacio**	**23.98**	**31**	P	**P**	**15 59 48.3**	**+0.1**
8.4nm,1.0s,baz=0.0,slow=0.0							
SAML	**Samuel**	**29.78**	**21**	*e*P	**P**	**16 00 39.5**	**-0.9**
6.2nm,1.1s							
OTAV	**Otavalo**	**37.62**	**352**	*e*P	**P**	**16 01 47.9**	**-1.0**
23nm,1.5s							
SDV	**Santo Domingo**	**46.04**	**4**	*e*P	**P**	**16 02 57.3**	**-0.1**
7.4nm,0.9s							
RCBR	**Riachuelo**	**46.52**	**57**	*e*P	**P**	**16 03 01.9**	**+0.7**
9.8nm,1.0s							
SNAA	**Sanae**	**49.05**	**157**	P	**P**	**16 03 19.1**	**-0.9**
4.2nm,0.9s,baz=317,slow=9.5,SNR=5.0							
QSPA	**South Pole Qui**	**52.93**	**180**	P	**P**	**16 03 49.9**	**+0.4**
5.1nm,1.0s,baz=246,slow=0.7,SNR=5.7							
VNDA	**Vanda**	**60.60**	**192**	P	P	16 04 37.9	-5.6
3.6nm,1.2s							
BBSR	**BB Station**	**69.82**	**8**	P	**P**	**16 05 43.7**	**0.0**
80nm,1.1s							
TXAR	**Lajitas Array**	**72.02**	**333**	P	**P**	**16 05 58.5**	**+1.1**
1.9nm,0.9s,baz=146,slow=9.1,SNR=3.9							
LIC	**Lamto**	**77.06**	**72**	*e*P	**P**	**16 06 27.4**	**+0.6**
62nm,1.4s							
TIC	**Toumodi**	**77.33**	**71**	*e*P	**P**	**16 06 29.1**	**+0.7**
19nm,0.2s							
KIC	**Kosan Boka**	**77.36**	**72**	*e*P	**P**	**16 06 29.1**	**+0.6**
32nm,1.0s							
DBIC	**Dimbokro**	**77.47**	**72**	P	**P**	**16 06 30.1**	**+0.9**
7.8nm,0.9s,baz=221,slow=3.5,SNR=6.2							
BOSA	**Boshof**	**79.69**	**118**	P	**P**	**16 06 41.6**	**+0.2**
3.8nm,0.9s,baz=226,slow=6.1,SNR=3.8							
NVAR	**Mina Array Bea**	**85.88**	**326**	P	**P**	**16 07 14.5**	**+1.3**
1.0nm,0.8s,baz=152,slow=4.2,SNR=4.8							
PDAR	**Pinedale Array**	**86.15**	**334**	P	**P**	**16 07 14.8**	**+0.4**
1.1nm,0.9s,baz=143,slow=5.2,SNR=4.2							
TORD	**Torodi Ar. Bea**	**86.55**	**71**	P	**P**	**16 07 16.9**	**+0.1**
2.1nm,0.9s,baz=226,slow=4.2,SNR=5.5							
BRTR	**Keskin Array B**	**124.53**	**63**	PKP	**PKPdf**	**16 13 33.0**	**+0.3**
1.0nm,0.8s,baz=194,slow=4.5,SNR=5.2							
AKTO	**Aktyubinsk**	**143.41**	**53**	PKP	**PKPdf**	**16 14 07.0**	**-0.3**
0.9nm,0.5s,baz=201,slow=6.5,SNR=3.5							
TIXI	**Tiksi**	**143.69**	**348**	*e*PKPpre	PKPpre	16 14 04.4	
ABKAR	**Akbulak array**	**144.70**	**55**	*e*PKPdf	PKPbc	16 14 08.6	+0.2
BVAR	**Borovoye Array**	**150.55**	**46**	PKPbc	**PKPbc**	**16 14 25.8**	**+1.3**
3.8nm,0.9s,baz=298,slow=3.2,SNR=7.6							
KKAR	**Karatay Array**	**152.17**	**67**	*e*PKPdf	**PKPdf**	**16 14 18.9**	**-3.0**
KKAR				*e*PKPbc	**PKiKP**	**16 14 28.5**	**-0.4**
AAK	**Ala-Archa**	**155.10**	**68**	PKPbc	PKPdf	16 14 36.6	+10
2.3nm,0.8s,baz=195,slow=6.5,SNR=4.1							
AAK				PKPab	**PKPab**	**16 14 51.7**	**+0.6**
3.8nm,0.7s,baz=182,slow=6.6,SNR=7.4							
AAK	**Ala-Archa**	**155.10**	**68**	*e*PKPdf	**PKPdf**	**16 14 24.2**	**-2.1**
AAK				*e*PKPbc	PKPab	16 14 36.0	-15
AAK				PKPbc		16 14 36.6	
AAK				*e*PKPab	PKPab	16 14 51.6	+0.5
AAK				PKPab	PKPab	16 14 51.7	+0.6
ZALV	**Zalesovo Beam**	**157.70**	**35**	PKP	**PKPdf**	**16 14 29.2**	**+0.1**
1.3nm,0.8s,baz=291,slow=1.2,SNR=3.6							
ZALV				PKPab	**PKPab**	**16 15 01.1**	**-0.5**
1.4nm,0.6s,baz=336,slow=3.2,SNR=3.4							
MKAR	**Makanchi Array**	**159.84**	**54**	PKP	**PKPdf**	**16 14 31.8**	**-0.1**
0.8nm,0.9s,baz=289,slow=4.4,SNR=3.2							
MKAR				PKPab	**PKPab**	**16 15 11.5**	**+0.3**
1.3nm,0.8s,baz=286,slow=4.5,SNR=5.5							
SONM	**Songino Array**	**169.48**	**360**	PKPab	**PKPab**	**16 15 55.1**	**+1.6**
0.6nm,0.9s,baz=355,slow=3.6,SNR=3.2							

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*ISCJB **04** 16:01:44.5±0.7, 48.°0N±0.°1×28.°1W±0.°1, h10km, mb3.8/13, Error ellipse: s-maj=17.9km s-min=12.3km az=15.8*
*IDC **04** 16:01:44.9±0.8, 47.°95N×28.°14W, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.5/57, mbtmp3.6/12, ML3.9/2, Error ellipse: s-maj=26.4km s-min=18.7km az=26.0*
*NEIC **04** 16:01:46.4±0.5, 47.°96N×28.°14W, h10km, mb4.2/3, Error ellipse: s-maj=15.6km s-min=11.0km az=195.0*
ISC 04 16:01:46.5±0.8, 47.°9N±0.°1×28.°1W±0.°1, h10km, n18, σ1§40/18, mb3.7/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**17.14**	**55**	P	**Pn**	**16 05 44.1**	**-1.9**
baz=248,slow=12,SNR=3.0							
ESDC	**Sonseca Array**	**19.23**	**106**	P	**P**	**16 06 10.8**	**+0.1**
0.3nm,0.3s,baz=299,slow=9.1,SNR=5.8							
SUMG	**Summit**	**25.22**	**353**	P	**P**	**16 07 16.1**	**+3.7**
3.6nm,0.9s							
TORD	**Torodi Ar. Bea**	**42.61**	**134**	P	**P**	**16 09 42.8**	**-0.1**
1.7nm,1.1s,baz=336,slow=7.3,SNR=4.3							
DBIC	**Dimbokro**	**45.61**	**147**	P	**P**	**16 10 08.2**	**+1.2**
2.5nm,0.7s,baz=331,slow=6.8,SNR=3.0							
INK	**Inuvik**	**51.67**	**333**	P	**P**	**16 10 52.0**	**-1.0**
0.4nm,0.4s,baz=54,slow=6.5,SNR=2.2							
WMOK	**Wichita Mounta**	**52.90**	**283**	P	**P**	**16 11 01.8**	**-0.9**
AKTO	**Aktyubinsk**	**53.31**	**53**	P	**P**	**16 11 04.1**	**-1.3**
0.6nm,0.6s,baz=322,slow=14,SNR=3.7							
PDAR	**Pinedale Array**	**54.95**	**297**	P	**P**	**16 11 17.1**	**-0.7**
0.6nm,0.9s,baz=76,slow=6.3,SNR=3.6							
ABKAR	**Akbulak array**	**55.00**	**53**	*e*P	P	16 11 10.9	-6.8
1.8nm,0.7s							
BRVK	**Borovoye**	**57.98**	**45**	*e*P	**P**	**16 11 40.4**	**+1.5**
6.2nm,1.0s							
ILAR	**Eielson Array**	**58.03**	**334**	P	**P**	**16 11 39.1**	**+0.1**
0.3nm,0.9s,baz=53,slow=6.5,SNR=3.4							
BVAR	**Borovoye Array**	**58.05**	**45**	P	**P**	**16 11 39.1**	**-0.3**
1.5nm,0.7s,baz=317,slow=6.3,SNR=4.7							
TXAR	**Lajitas Array**	**59.52**	**281**	P	**P**	**16 11 50.0**	**0.0**
0.1nm,0.3s,baz=58,slow=6.3,SNR=3.3							
ZALV	**Zalesovo Beam**	**63.81**	**37**	P	**P**	**16 12 18.9**	**+0.4**
0.4nm,0.4s,baz=309,slow=5.0,SNR=3.2							
SONM	**Songino Array**	**76.79**	**30**	P	**P**	**16 13 38.4**	**+0.2**
0.4nm,0.7s,baz=330,slow=5.4,SNR=3.2							
WRA	**Warramunga Arr**	**148.71**	**33**	PKPbc	**PKPbc**	**16 21 32.3**	**-1.8**
0.7nm,0.7s,baz=334,slow=2.6,SNR=9.1							
ASAR	**Alice Springs**	**151.91**	**37**	PKPbc	**PKPbc**	**16 21 40.7**	**-1.0**
0.8nm,1.1s,baz=337,slow=1.7,SNR=5.1							
ASAR				PKPab	**PKPab**	**16 21 51.5**	**+0.7**
0.6nm,0.6s,baz=340,slow=2.4,SNR=6.2							

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*JMA **04** 16:05:57.2±0.1, 23.°06N×120.°52E, h2km±2km, M4.0*
*TAP **04** 16:05:58.3, 23.°01N×120.°57E, h18km, ML4.0, B*
*ISCJB **04** 16:05:59.4±0.2, 23.°00N±0.°01×120.°56E±0.°02, h24km±2km, Error ellipse: s-maj=2.7km s-min=1.9km az=169.4*
ISC 04 16:05:58.8±0.8, 23.°02N±0.°01×120.°55E±0.°02, h17km±2km, n74, σ0§82/138, 15C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.07**	**27**	⇓*i*P	**Pg**	**16 06 02.6**	**+0.6**
baz=14							
SGST				*e*S	**Sg**	**16 06 05.2**	**+1.0**
baz=14							
CHN1	**Nanshi**	**0.17**	**353**	⇓*i*P	**Pb**	**16 06 03.8**	**+0.3**
baz=355							
CHN1				S	**Sb**	**16 06 07.7**	**+1.1**
baz=355							
CHN3	**Shinhua**	**0.18**	**288**	*e*P	**Pb**	**16 06 04.8**	**+1.1**
baz=297							
CHN3				*e*S	**Sb**	**16 06 09.3**	**+2.4**
baz=297							
TWM1	**Shoushan**	**0.23**	**211**	⇑*i*P	**Pb**	**16 06 05.1**	**+0.6**
baz=215							
WTP	**Ta-pu**	**0.23**	**15**	⇑*i*P	**Pb**	**16 06 04.7**	**+0.1**
baz=11							
WTP				S	**Sb**	**16 06 09.5**	**+0.9**
baz=11							
STYT	**Tauyuan**	**0.24**	**53**	⇑*i*P	**Pb**	**16 06 04.6**	**-0.2**
baz=60							
STYT				*i* S	**Sb**	**16 06 09.0**	**+0.3**
baz=60							
TWK	**Hsinying**	**0.25**	**347**	⇓*i*P	**Pb**	**16 06 05.1**	**+0.2**
baz=356							
TWK				*e*S	**Sb**	**16 06 10.3**	**+1.2**
baz=356							
SSD	**Sandimen**	**0.28**	**164**	⇓*i*P	**Pg**	**16 06 04.8**	**-0.1**
baz=161							
SSD				S	**Sg**	**16 06 09.4**	**+0.3**
baz=161							
TAI1	**Yung-k'ang**	**0.30**	**274**	⇑*i*P	**Pb**	**16 06 06.4**	**+0.8**
baz=276							
TAI1				*e*S	**Sn**	**16 06 12.5**	**-1.9**
baz=276							
SGLT	**Jiouru**	**0.30**	**190**	*e*P	**Pb**	**16 06 06.2**	**+0.5**
baz=188							
SGLT				*e*S	**Sb**	**16 06 12.1**	**+1.8**
baz=188							
CHN4	**Tsaushan**	**0.33**	**7**	⇑*i*P	**Pb**	**16 06 06.3**	**-0.1**
baz=4.0							
CHN4				*i* S	**Sb**	**16 06 12.3**	**+0.9**
baz=4.0							
SCLT	**Jiali**	**0.36**	**295**	⇑*i*P	**Pb**	**16 06 07.3**	**+0.5**
baz=296							
SCLT				*e*S	**Sn**	**16 06 14.5**	**-1.6**
baz=296							
CHN8	**Yiju**	**0.45**	**316**	*e*P	**Pb**	**16 06 08.4**	**+0.1**
baz=328							
CHN8				*e*S	**Sb**	**16 06 16.4**	**+1.6**
baz=328							
ELDTW	**Lidau**	**0.46**	**69**	⇑*i*P	**Pg**	**16 06 08.2**	**0.0**
baz=66							
ELDTW				*e*S	**Sb**	**16 06 15.3**	**+0.1**
baz=66							
CHY	**Chiayi**	**0.49**	**346**	P	**Pb**	**16 06 09.5**	**+0.6**
baz=346							
CHY				*e*S	**Sn**	**16 06 17.6**	**-1.6**
baz=346							
KAU	**Kaohsiung**	**0.50**	**206**	P	**Pb**	**16 06 10.0**	**+0.9**
baz=219							
KAU				*e*S	**Sn**	**16 06 19.3**	**-0.2**
baz=219							
CHN2	**Minshiung**	**0.51**	**352**	⇓P	**Pb**	**16 06 10.0**	**+0.6**
baz=351							
CHN2				*e*S	**Sn**	**16 06 18.6**	**-1.2**
baz=351							
TWG	**Pinlang**	**0.52**	**112**	⇑*i*P	**Pg**	**16 06 09.3**	**+0.1**
baz=101							
TWG				*e*S	**Sb**	**16 06 16.8**	**-0.1**
baz=101							
ALS	**Alishan**	**0.54**	**26**	⇑*i*P	**Pb**	**16 06 09.8**	**-0.2**
baz=24							
ALS				*e*S	**Sb**	**16 06 18.6**	**+0.9**
baz=24							
ECL	**Taimali**	**0.56**	**138**	⇓*i*P	**Pg**	**16 06 09.7**	**-0.3**
baz=138							
ECL				S	**Sg**	**16 06 17.2**	**-0.3**
baz=138							
CHN5	**Tsauling**	**0.59**	**12**	⇑*i*P	**Pb**	**16 06 10.6**	**-0.1**
baz=10.0							
CHN5				*e*S	**Sn**	**16 06 20.5**	**-1.2**
baz=10.0							
YUS	**Yu-Shan**	**0.60**	**38**	⇑*i*P	**Pb**	**16 06 11.1**	**0.0**
baz=37							
YUS				S	**Sb**	**16 06 19.8**	**+0.4**
baz=37							
TTN	**Taitung**	**0.61**	**116**	*e*P	**Pg**	**16 06 10.8**	**0.0**
baz=115							
TTN				*e*S	**Sb**	**16 06 20.4**	**+1.0**
baz=115							
SCZT	**Fangliau**	**0.65**	**174**	⇓*i*P	**Pg**	**16 06 11.0**	**-0.5**
baz=168							
SCZT				*e*S	**Sb**	**16 06 21.4**	**+0.9**
baz=168							
WGK	**Gukeng**	**0.66**	**1**	⇓*i*P	**Pb**	**16 06 12.6**	**+0.6**
WGK				*e*S	**Sn**	**16 06 23.1**	**-0.5**
WSF	**Szhu**	**0.69**	**334**	P	**Pb**	**16 06 12.5**	**+0.2**
baz=334							
WSF				*e*S	**Sn**	**16 06 23.6**	**-0.5**
baz=334							
EAST	**Anshuo**	**0.69**	**156**	⇓*i*P	**Pg**	**16 06 11.9**	**-0.4**
baz=152							
EAST				*e*S	**Sb**	**16 06 22.0**	**+0.2**
baz=152							
TWP	**Hsiaoliuchiu**	**0.69**	**194**	*e*P	**Pn**	**16 06 13.7**	**-0.1**
baz=196							
TWP				*e*S	**Sn**	**16 06 26.6**	**+2.4**
baz=196							
TAW	**Tawu**	**0.73**	**154**	P	**Pg**	**16 06 12.6**	**-0.5**
baz=155							
TAW				S	**Sb**	**16 06 23.2**	**+0.3**
baz=155							
CHKT	**Chengkung**	**0.76**	**84**	P	**Pb**	**16 06 13.6**	**+0.1**
baz=83							
CHKT				*e*S	**Sb**	**16 06 24.3**	**+0.7**
baz=83							
TWF1	**Yuli**	**0.76**	**64**	⇑*i*P	**Pg**	**16 06 13.4**	**-0.3**
baz=63							
WDGT	**Dungji**	**0.85**	**286**	⇑*e*P	**Pb**	**16 06 14.4**	**-0.7**
baz=287							
WDGT				*e*S	**Sb**	**16 06 26.2**	**-0.1**
baz=287							
EHY	**Hungye**	**0.86**	**56**	⇑P	**Pb**	**16 06 15.0**	**-0.3**
baz=58							
EHY				*e*S	**Sb**	**16 06 26.4**	**-0.2**
baz=58							
WNT	**Mingjian**	**0.86**	**8**	P	**Pg**	**16 06 15.5**	**-0.1**
baz=354							
WNT				*e*S	**Sn**	**16 06 28.3**	**-0.1**
baz=354							
WTCT	**Ta-ch'eng**	**0.88**	**344**	*e*P	**Pb**	**16 06 15.3**	**-0.3**
baz=343							
WTCT				*e*S	**Sn**	**16 06 28.8**	**0.0**
baz=343							
SMLT	**Sun Moon Lake**	**0.92**	**21**	*e*P	**Pb**	**16 06 16.3**	**-0.1**
baz=20							
SMLT				*e*S	**Sn**	**16 06 29.8**	**-0.2**
baz=20							
TYC	**Yuchr**	**0.93**	**18**	*e*P	**Pb**	**16 06 16.2**	**-0.2**
baz=17							
TYC				*e*S	**Sn**	**16 06 30.2**	**+0.3**
baz=17							
HEN	**Hengchun**	**1.02**	**170**	⇓P	**Pb**	**16 06 18.0**	**-0.1**
baz=161							
HEN				*e*S	**Sg**	**16 06 32.0**	**0.0**
baz=161							
PNG	**Penghu**	**1.06**	**301**	⇑*e*P	**Pb**	**16 06 17.3**	**-1.4**
baz=301							
PNG				*e*S	**Sb**	**16 06 31.7**	**-0.7**
baz=301							
TWK1	**Hengchun**	**1.10**	**167**	⇓*i*P	**Pb**	**16 06 18.9**	**-0.5**
baz=169							
TWK1				*e*S	**Sn**	**16 06 34.1**	**-0.1**
baz=169							
TCU	**Taichung**	**1.13**	**6**	*e*P	**Pb**	**16 06 19.8**	**-0.1**
baz=355							
TCU				*e*S	**Sg**	**16 06 35.7**	**+0.3**
baz=355							
ESL	**Shilin**	**1.13**	**46**	P	**Pb**	**16 06 19.9**	**-0.1**
baz=45							
ESL				*e*S	**Sg**	**16 06 35.8**	**+0.2**
baz=45							
TSEB	**Hengchuen, Pin**	**1.16**	**164**	P	**Pn**	**16 06 19.7**	**-0.6**
baz=167							
TSEB				*e*S	**Sb**	**16 06 35.3**	**+0.1**
baz=167							
WHF	**Hehuan Shan**	**1.30**	**30**	*e*P	**Pb**	**16 06 22.9**	**-0.2**
baz=20							
WHF				*e*S	**Sg**	**16 06 40.3**	**-0.6**
baz=20							
TWQ1	**Liyutan**	**1.34**	**9**	*e*P	**Pn**	**16 06 23.0**	**+0.2**
baz=8.0							
TWQ1				*e*S	**Sg**	**16 06 41.1**	**-1.0**
baz=8.0							
LAY	**Lan-yu**	**1.35**	**136**	*e*P	**Pn**	**16 06 21.8**	**-1.1**
baz=137							
LAY				*e*S	**Sn**	**16 06 40.1**	**-0.4**
baz=137							
TWT	**Tachien**	**1.36**	**25**	*e*P	**Pn**	**16 06 23.2**	**0.0**
baz=23							
TWT				*e*S	**Sn**	**16 06 40.5**	**-0.4**
baz=23							
HWA	**Hwalien**	**1.36**	**45**	*e*P	**Pn**	**16 06 23.3**	**+0.2**
baz=37							
HWA				*e*S	**Sg**	**16 06 41.9**	**-0.9**
baz=37							
NSY	**Sanyi**	**1.40**	**8**	*e*P	**Pn**	**16 06 23.8**	**+0.1**
baz=7.0							
NSY				*e*S	**Sb**	**16 06 42.6**	**+0.3**
baz=7.0							
TWD	**Chiawan**	**1.43**	**42**	*e*P	**Pn**	**16 06 24.3**	**+0.3**
baz=41							
TWD				*e*S	**Sb**	**16 06 42.9**	**0.0**
baz=41							
NNS	**Nan Shan**	**1.60**	**28**	*e*P	**Pb**	**16 06 27.3**	**-0.8**
baz=13							
NSTT	**Nanjuang**	**1.66**	**14**	*e*P	**Pn**	**16 06 26.9**	**-0.2**
baz=13							
NSTT				*e*S	**Sn**	**16 06 48.8**	**+0.7**
baz=13							
ENA	**Nanau**	**1.78**	**38**	*e*P	**Pn**	**16 06 29.0**	**+0.2**
baz=36							
ENA				*e*S	**Sn**	**16 06 51.9**	**+0.9**
baz=36							
NSK	**Sanguang**	**1.81**	**24**	*e*P	**Pn**	**16 06 29.4**	**+0.2**
baz=8.0							
ENTT	**Nioudou**	**1.86**	**30**	*e*P	**Pn**	**16 06 30.8**	**+0.8**
baz=29							
ENTT				*e*S	**Sb**	**16 06 55.6**	**+0.1**
baz=29							
TWE	**Neicheng**	**1.98**	**31**	*e*P	**Pn**	**16 06 32.9**	**+1.3**
baz=30							
TWE				*e*S	**Sb**	**16 06 57.8**	**-1.0**
baz=30							
TWC	**Suao**	**1.98**	**37**	*e*P	**Pn**	**16 06 32.5**	**+0.9**
baz=49							
TWC				*e*S	**Sn**	**16 06 57.4**	**+1.3**
baz=49							
TWA	**Mucha**	**2.17**	**26**	*e*P	**Pn**	**16 06 34.5**	**+0.3**
baz=26							
EGS		**2.21**	**35**	*e*P	**Pn**	**16 06 35.4**	**+0.6**
baz=47							
TWS1	**Kuangyinshan**	**2.22**	**21**	*e*P	**Pn**	**16 06 35.9**	**+1.0**
baz=3.0							
NWF	**Wu-fen Shan**	**2.33**	**29**	*e*P	**Pn**	**16 06 37.9**	**+1.4**
baz=12							
NWF				*e*S	**Sn**	**16 07 06.8**	**+2.0**
baz=12							
TWB1	**Santiao Chiao**	**2.38**	**33**	*e*P	**Pn**	**16 06 38.1**	**+1.0**
baz=45							
TWB1				*e*S	**Sn**	**16 07 07.4**	**+1.6**
baz=45							
KNM	**Kinmen**	**2.39**	**306**	*e*P	**Pn**	**16 06 37.9**	**+0.7**
baz=305							
JYNG	**Yonagunijimaku**	**2.62**	**57**	P	**Pn**	**16 06 41.5**	**+1.2**
JYNG				S	**Sn**	**16 07 12.6**	**+0.8**
YOJ	**Yonaguni jima**	**2.67**	**57**	P	**Pn**	**16 06 42.8**	**+1.7**
YOJ				*e*S	**Sn**	**16 07 14.7**	**+1.5**
YOJ	**Yonaguni jima**	**2.67**	**57**	⇓*e*P	**Pn**	**16 06 42.3**	**+1.2**
baz=56							
HATJ	**Hateruma jima**	**3.16**	**70**	P	**Pn**	**16 06 48.3**	**+0.5**
HATJ				*e*S	**Sn**	**16 07 25.9**	**+0.7**
IRIF	**Iriomote-Funau**	**3.20**	**65**	P	**Pn**	**16 06 49.1**	**+0.8**
IRIF				*e*S	**Sn**	**16 07 26.9**	**+0.8**
JKRS	**Kuro-shima**	**3.40**	**68**	P	**Pn**	**16 06 52.0**	**+0.9**
JKRS				*e*S	**Sn**	**16 07 32.3**	**+1.3**
JIJ	**Ishigaki jima**	**3.56**	**67**	P	**Pn**	**16 06 53.4**	**+0.1**
JIJ				S	**Sn**	**16 07 35.2**	**+0.3**
JISG	**Ishigakijimahi**	**3.78**	**65**	P	**Pn**	**16 06 56.6**	**+0.2**
JISG				*e*S	**Sn**	**16 07 39.9**	**-0.6**
JTJ	**Tarama**	**4.13**	**66**	P	**Pn**	**16 07 02.1**	**+0.9**
JTJ				*e*S	**Sn**	**16 07 50.4**	**+1.3**
JIRB	**Irabujima**	**4.60**	**66**	P	**Pn**	**16 07 08.5**	**+0.9**
JIKM	**Ikemajima**	**4.70**	**65**	P	**Pn**	**16 07 10.1**	**+1.2**
JIKM				*e*S	**Sn**	**16 08 04.1**	**+1.0**

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*IDC **04** 16:06:40.3±1.0, 30.°28N×67.°50E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.6/61, mbtmp3.7/11, ML3.4/2, MS3.3/1, Ms1 3.3/1, ms1mx2.9/50, Error ellipse: s-maj=25.9km s-min=22.7km az=62.0*
*ISCJB **04** 16:06:41.2±0.7, 30.°30N±0.°08×67.°73E±0.°05, h17km, mb3.7/8, MS3.4/1, Error ellipse: s-maj=12.0km s-min=5.3km az=23.2*
ISC 04 16:06:42.1±0.8, 30.°16N±0.°09×67.°63E±0.°07, h17km, n31, σ1§29/33, mb3.7/8, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJM	**Ajmer**	**7.19**	**119**	*i* x	**Pn**	**16 08 28.0**	**+1.5**
AJM				*i* x	**Sn**	**16 09 48.0**	**+0.1**
KHET	**Khetri**	**7.45**	**104**	*e*P	Pn	16 08 34.0	+3.9
KHET				*e*S	**Sn**	**16 09 54.1**	**-0.1**
KHET				AML	AML	16 11 02.1	
comp=N,94nm,0.1s							
KHET				AML	AML	16 11 03.0	
comp=E,96nm,0.2s							
DHRM	**DHARAMSHALA**	**7.72**	**72**	*e*P	Pn	16 08 36.9	+3.0
DHRM				*e*S	**Sn**	**16 10 00.6**	**-0.5**
DHRM				AML	AML	16 10 45.6	
comp=N,31nm,1.1s							
DHRM				AML	AML	16 10 46.2	
comp=E,39nm,0.4s							
KUDL	**Kundal**	**8.01**	**102**	*e*P	**Pn**	**16 08 38.1**	**+0.5**
KUDL				*e*S	**Sn**	**16 10 07.6**	**-0.2**
SMLA	**Simla**	**8.28**	**81**	*e*P	**Pn**	**16 08 43.4**	**+2.1**
SMLA				*e*S	**Sn**	**16 10 14.9**	**+0.4**
SMLA				AML	AML	16 10 25.0	
comp=N,25nm,0.6s							
SMLA				AML	AML	16 10 29.2	
comp=E,22nm,0.7s							
SONA	**Sohna**	**8.48**	**101**	*e*P	**Pn**	**16 08 45.

comp=N,1.6nm,0.7s,baz=56,slow=6.1,SNR=11
WRA Warramunga Arr 81.22 119 P P 16 19 00.5 +3.1
comp=N,0.4nm,0.9s,baz=320,slow=4.9,SNR=4.1
ILAR Eielson Array 81.61 14 P **P 16 18 59.2 +0.4**
comp=N,0.9nm,1.1s,baz=315,slow=4.9,SNR=4.4
ASAR Alice Springs 83.11 122 P **P 16 19 08.2 +0.9**
comp=N,0.4nm,0.8s,baz=315,slow=5.4,SNR=5.9
YKA Yellowknife Ar 87.65 1 P **P 16 19 29.7 +0.4**
comp=N,0.5nm,0.7s,baz=351,slow=5.1,SNR=15

JMA 04 16:09:18.1±0.1, 32°.47N×140°.70E, h32km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**0.97**	**309**	P	Pn	16 09 35.6	+0.1
JHCJ				*e*S	Sn	16 09 48.3	+0.1
JHJ2	**Mitsune**	**0.98**	**311**	*e*S	Sn	16 09 48.5	0.0
BSO3	**Boso 3**	**2.33**	**356**	P	Pn	16 09 55.6	+1.7
JOD2	**Odawara 2**	**3.09**	**335**	P	Pn	16 10 06.6	+1.9
JYN	**Shimob**	**3.51**	**330**	P	Pn	16 10 10.6	0.0
JAG	**Ashikaga**	**4.08**	**346**	P	Pn	16 10 20.1	+1.9

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*IDC **04** 16:17:00.9±3.1, 35°.25N×66°.08E, h0km, mb3.6/1, mb1 3.5/5, mb1mx3.2/46, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=42.4km s-min=22.8km az=167.0*
*ISCJB **04** 16:17:14.8±1.3, 37°.3N±0°.1×65°.48E±0°.06, h10km, mb3.5/1, Error ellipse: s-maj=19.3km s-min=6.0km az=166.0*
*NNC **04** 16:17:19.6±2.0, 37°.21N×65°.55E, h29km±12km, mb3.8, mpv3.5, Error ellipse: s-maj=18.9km s-min=11.7km az=170.0*

ISC 04 16:17:17.2±2.3, 37°.2N±0°.2×65°.44E±0°.08, h10km, n14, σ1§66/17, 8C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.11**	**58**	⇑Pn	**Pn**	**16 18 06.1**	**-0.2**
DZET				⇓Pg	**Pb**	**16 18 15.2**	**+2.6**
DZET				⇓Lg	Lg	16 18 56.3	
GEYT	**Alibeck**	**5.86**	**279**	Pn	Pn	16 18 44.3	+0.1
0.2nm,0.3s,baz=95,slow=13,SNR=4.9							
GEYT				Sn	**Sn**	**16 19 51.2**	**-0.2**
0.8nm,0.3s,baz=139,slow=14,SNR=3.6							
GEYT				Lg	Lg	16 20 41.2	
0.8nm,0.3s,baz=110,slow=33,SNR=3.8							
KK31	**Karatay Array**	**7.04**	**32**	Pn	**Pn**	**16 19 01.9**	**+1.5**
0.3nm,0.2s,baz=218,slow=13,SNR=31							
KK31				⇑Sn	**Sn**	**16 20 19.7**	**-0.8**
1.0nm,0.3s,baz=214,slow=25,SNR=4.7							
KK31				⇑Lg	Lg	16 21 00.4	
4.7nm,0.6s,baz=213,slow=29,SNR=4.0							
AAK	**Ala-Archa**	**8.81**	**49**	⇓Pn	**Pn**	**16 19 24.2**	**-0.5**
2.0nm,0.5s							
AAK				⇓Sn	**Sn**	**16 21 02.5**	**-1.6**
2.0nm,0.6s							
AAK				⇓Lg	Lg	16 21 59.2	
4.3nm,1.1s							
AAK	**Ala-Archa**	**8.81**	**49**	Pn	**Pn**	**16 19 24.0**	**-0.7**
1.4nm,0.3s,baz=173,slow=3.1,SNR=20							
AAK				Sn	**Sn**	**16 21 03.6**	**-0.5**
0.3nm,0.3s,baz=167,slow=17,SNR=3.1							
TKM2	**Tokmak 2**	**9.64**	**51**	⇑Pn	Pn	16 19 34.2	-1.9
1.7nm,0.4s							
TKM2				⇓Sn	**Sn**	**16 21 22.3**	**-2.3**
3.0nm,0.9s							
TKM2				⇓Lg	Lg	16 22 25.1	
AB31	**Akbulak array**	**12.68**	**343**	⇑Pn	**Pn**	**16 20 17.2**	**-0.3**
0.3nm,0.6s							
AKTO	**Aktyubinsk**	**14.25**	**340**	⇑Pn	Pn	16 20 37.4	-1.5
2.2nm,1.2s							
MK31	**Makanchi Array**	**15.73**	**47**	⇑Pn	**Pn**	**16 20 58.0**	**-0.8**
1.8nm,0.6s,baz=234,slow=9.5,SNR=22							
MKAR	**Makanchi Array**	**15.73**	**47**	Pn	**Pn**	**16 20 56.2**	**-2.6**
0.1nm,0.3s,baz=238,slow=16,SNR=4.5							
BVA0	**Borovoye Array**	**16.18**	**11**	⇑Pn	**Pn**	**16 21 04.4**	**-0.2**
1.8nm,0.9s,baz=184,slow=8.7,SNR=4.2							
BVAR	**Borovoye Array**	**16.18**	**11**	Pn	**Pn**	**16 21 07.9**	**+3.4**
0.3nm,0.3s,baz=184,slow=11,SNR=7.5							
BRVK	**Borovoye**	**16.20**	**11**	⇓Pn	**Pn**	**16 21 05.3**	**+0.5**
5.1nm,1.3s							
ZALV	**Zalesovo Beam**	**21.42**	**32**	P	**P**	**16 22 04.1**	**-1.0**
1.0nm,0.4s,baz=219,slow=11,SNR=6.4							

IDC 04 16:19:27.3±1.5, 6°.74S×145°.38E, h0km, mb3.4/3, mb1 3.4/5, mb1mx3.4/26, mbtmp3.4/5, ML2.8/2, Error ellipse: s-maj=51.2km s-min=25.3km az=79.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.18**	**146**	Pn	Pn	16 20 18.3	-0.3
2.1nm,0.3s,baz=0.0,slow=4.0,SNR=23							
PMG				Sn	Sb	16 21 04.1	+0.1
1.1nm,0.3s,baz=195,slow=20,SNR=3.1							
WRA	**Warramunga Arr**	**16.94**	**218**	Pn	Pn	16 23 26.0	0.0
0.1nm,0.3s,baz=42,slow=11,SNR=8.4							
ASAR	**Alice Springs**	**20.12**	**212**	P	P	16 24 03.2	+0.2
0.2nm,0.3s,baz=29,slow=12,SNR=5.5							
SONM	**Songino Array**	**64.28**	**332**	P	P	16 30 05.2	+0.6
0.5nm,0.9s,baz=137,slow=7.8,SNR=3.6							
MKAR	**Makanchi Array**	**77.05**	**321**	P	P	16 31 21.9	-0.5
0.4nm,0.4s,baz=114,slow=7.3,SNR=17							

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*IDC **04** 16:31:21.8±1.2, 34°.40S×72°.17W, h0km, mb3.8/4, mb1 4.3/5, mb1mx4.0/19, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=39.9km s-min=33.7km az=4.0*
*GUC **04** 16:31:24.1±0.7, 34°.20S×72°.24W, h32km±10km, ML4.2*
*ISCJB **04** 16:31:25.0±3.0, 34°.2S±0°.1×72°.2W±0°.2, h26km±20km, mb4.0/6, Error ellipse: s-maj=25.7km s-min=16.7km az=166.4*
*NEIC **04** 16:31:27.5±0.7, 34°.26S×71°.91W, h35km, mb4.1/3, Error ellipse: s-maj=18.2km s-min=14.4km az=70.0*

ISC 04 16:31:24.2±3.1, 34°.15S±0°.09×72°.17W±0°.08, h11km±17km, n25, σ1§00/29, mb4.1/6, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.66**	**74**	⇑*i*P	**Pb**	**16 31 37.9**	**+0.2**
LNV				*e*S1	**Sn**	**16 31 47.8**	**-1.9**
IHA	**Instituto Hidr**	**1.20**	**22**	⇑*i*P	**Pn**	**16 31 46.3**	**-0.6**
IHA				*i* S1	**Sn**	**16 32 03.1**	**-0.1**
CACH	**El Canelo**	**1.30**	**89**	⇑*i*P	**Pb**	**16 31 48.6**	**-0.2**
CACH				*i* S1	**Sn**	**16 32 07.3**	**+1.4**
ANTU	**Antumapu**	**1.40**	**66**	*e*P1	**Pn**	**16 31 49.5**	**-0.2**
ANTU				*i* S1	**Sn**	**16 32 08.5**	**+0.3**
ANTU				AML	AML	16 32 15.1	
comp=N,5μm,0.5s							
PEL	**Peldehue**	**1.59**	**51**	⇓*i*P	**Pn**	**16 31 52.7**	**+0.4**
PEL				*e*S1	**Sg**	**16 32 15.1**	**-0.3**
PEL				AML	AML	16 32 22.8	
comp=N,5μm,0.6s							
FCH	**Farellones**	**1.76**	**63**	AML	AML	16 32 38.4	
comp=N,3μm,0.3s							
CMCH	**Combarbala**	**3.12**	**19**	⇓*i*P	**Pn**	**16 32 13.3**	**-0.1**
CFAA	**Coronel Fontan**	**4.16**	**54**	Pn	**Pn**	**16 32 27.4**	**-0.3**
comp=N,0.1nm,0.3s,baz=213,slow=14,SNR=4.4							
TRQA	**Tornquist**	**9.12**	**118**	*e*Pn	Pn	16 33 31.5	-4.3
LPAZ	**La Paz**	**18.15**	**13**	P	**P**	**16 35 39.4**	**+2.1**
comp=N,0.2nm,0.3s,baz=126,slow=5.4,SNR=12							
LPAZ	**La Paz**	**18.15**	**13**	*e*Pn	**P**	**16 35 39.1**	**+1.9**
comp=N,6.8nm,0.7s							
SAML	**Samuel**	**26.40**	**20**	*e*P	**P**	**16 37 01.1**	**+0.3**
comp=N,3.5nm,0.8s							
OTAV	**Otavalo**	**34.71**	**349**	P	**P**	**16 38 13.1**	**-1.6**
QSPA	**South Pole Qui**	**56.09**	**180**	*e*P	**P**	**16 41 03.3**	**+0.1**
comp=N,11nm,1.3s							
TXAR	**Lajitas Array**	**69.81**	**331**	P	**P**	**16 42 35.5**	**+0.7**
comp=N,0.5nm,0.6s,baz=156,slow=7.7,SNR=8.6							
PDAR	**Pinedale Array**	**83.84**	**333**	P	**P**	**16 43 53.5**	**-0.4**
comp=N,0.5nm,0.7s,baz=145,slow=5.4,SNR=4.5							
NVAR	**Mina Array Bea**	**83.94**	**325**	P	**P**	**16 43 55.4**	**+0.9**
comp=N,0.9nm,0.7s,baz=161,slow=5.6,SNR=6.8							
TORD	**Torodi Ar. Bea**	**84.36**	**70**	P	**P**	**16 43 56.5**	**-0.3**
comp=N,0.8nm,0.7s,baz=243,slow=4.0,SNR=4.8							
YKA	**Yellowknife Ar**	**102.16**	**341**	P	**Pdif**	**16 45 17.6**	**-0.6**
comp=N,0.3nm,0.7s,baz=147,slow=4.2,SNR=4.3							
WRA	**Warramunga Arr**	**120.58**	**209**	PKP	**PKPdf**	**16 50 15.1**	**-1.5**
comp=N,0.6nm,1.0s,baz=163,slow=1.7,SNR=5.6							
BVAR	**Borovoye Array**	**147.46**	**43**	PKPbc	**PKPbc**	**16 51 08.3**	**+0.6**
comp=N,0.7nm,0.5s,baz=303,slow=2.5,SNR=5.0							
AAK	**Ala-Archa**	**152.67**	**62**	PKPbc	**PKPbc**	**16 51 21.2**	**+0.3**
comp=N,0.3nm,0.3s,baz=218,slow=6.5,SNR=3.9							
ZALV	**Zalesovo Beam**	**154.41**	**32**	PKPbc	**PKPbc**	**16 51 22.8**	**-1.3**
comp=N,1.4nm,0.7s,baz=314,slow=3.0,SNR=7.1							
ZALV				PKPab	**PKPab**	**16 51 39.0**	**+0.6**
comp=N,0.4nm,0.4s,baz=304,slow=6.1,SNR=2.9							
MKAR	**Makanchi Array**	**156.94**	**49**	PKPab	**PKPab**	**16 51 49.3**	**-0.3**
comp=N,0.3nm,0.7s,baz=289,slow=4.4,SNR=3.2							
SONM	**Songino Array**	**166.28**	**4**	PKPab	**PKPab**	**16 52 31.2**	**+0.9**
comp=N,0.3nm,0.8s,baz=344,slow=4.7,SNR=3.0							

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*TEH **04** 16:38:48.8, 35°.71N×48°.99E, h3km, ML3.8*
*CSEM **04** 16:38:48.5±0.3, 35°.69N×49°.05E, h2km, ML3.8, Error ellipse: s-maj=7.1km s-min=6.2km az=11.0*
*THR **04** 16:38:48.3±1.9, 35°.75N×49°.01E, h15km±10km, ML3.6*
*ISCJB **04** 16:38:50.3±0.5, 35°.66N±0°.03×49°.19E±0°.04, h8km, Error ellipse: s-maj=5.5km s-min=4.2km az=140.7*
*AZER **04** 16:38:51.1±2.0, 36°.14N×50°.75E, h5km, Error ellipse: s-maj=34.0km s-min=14.1km az=66.0*
*ISN **04** 16:40:04.3±1.8, 34°.16N×45°.44E, h5km±7km, ML3.6*

ISC 04 16:38:48.4±0.8, 35°.66N±0°.03×49°.04E±0°.02, h8km, n53, σ1§71/59, 7C-6D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**0.77**	**109**	*e*	**Sn**	**16 39 18.5**	**+1.0**
comp=Z,45μm,0.1s							
IRAZ				*e*Pg	**Pg**	**16 39 03.1**	**0.0**
ZNJK	**Zanjan**	**1.05**	**344**	*e*Pg	**Pg**	**16 39 06.8**	**-1.8**
ZNJK	**Zanjan**	**1.05**	**344**	*e*Pg	**Pg**	**16 39 06.8**	**-1.8**
IGZV	**Ghazvin**	**1.20**	**52**	*e*Pg	**Pb**	**16 39 10.2**	**-1.3**
IGZV				*e*Sg	**Sg**	**16 39 26.4**	**-0.7**
IGZV				*e*		16 39 26.9	
comp=Z,21μm,0.2s							
IGZV	**Ghazvin**	**1.20**	**52**	*e*Pg	**Pb**	**16 39 10.2**	**-1.3**
IGZV				*e*Sg	**Sg**	**16 39 26.4**	**-0.7**
IMHD	**Mahdasht**	**1.32**	**88**	*e*Pg	**Pn**	**16 39 13.1**	**-0.2**
IMHD				*e*		16 39 33.7	
comp=Z,21μm,0.1s							
IMHD	**Mahdasht**	**1.32**	**88**	*e*Pg	**Pn**	**16 39 13.1**	**-0.2**
ASAO	**Ashtian**	**1.37**	**144**	*e*Pg	**Pb**	**16 39 14.4**	**+0.1**
ASAO	**Ashtian**	**1.37**	**144**	*e*Pg	**Pb**	**16 39 14.4**	**+0.1**
SNGE	**Sanandaj**	**1.49**	**248**	*e*Pg	**Pb**	**16 39 16.3**	**-0.2**
SNGE				*e*Sg	**Sg**	**16 39 36.4**	**0.0**
SNGE	**Sanandaj**	**1.49**	**248**	*e*Pg	**Pb**	**16 39 16.3**	**-0.2**
SNGE				*e*Sg	**Sg**	**16 39 36.4**	**0.0**
IBZA	**Bozab**	**1.53**	**220**	*e*Pn	**Pb**	**16 39 17.1**	**0.0**
IBZA				*e*		16 39 40.5	
comp=Z,20μm,0.1s							
IBZA	**Bozab**	**1.53**	**220**	*e*Pn	**Pb**	**16 39 17.1**	**0.0**
CHTH	**Charan**	**1.71**	**81**	*e*Pg	**Pn**	**16 39 19.4**	**+0.6**
CHTH				AML	AML	16 39 43.4	
comp=N,355nm,0.3s							
CHTH	**Charan**	**1.71**	**81**	*e*Pg	**Pn**	**16 39 19.4**	**+0.6**
comp=N,424nm,0.5s							
IKOM	**Komasi**	**1.94**	**221**	*e*Pn	**Pb**	**16 39 24.5**	**+0.4**
IKOM				*e*		16 39 56.9	
comp=Z,6μm,0.3s							
IKOM	**Komasi**	**1.94**	**221**	*e*Pn	**Pb**	**16 39 24.5**	**+0.4**
KHMZ	**Khomeyn**	**2.06**	**158**	*e*PN5	**Pn**	**16 39 25.5**	**+2.1**
KHMZ				AML	AML	16 39 60.0	
comp=N,633nm,0.5s							
KHMZ				AML	AML	16 40 03.3	
comp=E,424nm,0.5s							
GHVR	**GHOM**	**2.19**	**122**	*e*Pn	**Pb**	**16 39 27.4**	**-0.9**
GHVR				*e*Sg	**Sg**	**16 39 59.2**	**+0.5**
GHVR				AML	AML	16 40 07.6	
comp=N,310nm,0.6s							
GHVR				AML	AML	16 40 12.5	
comp=E,417nm,0.6s							
GHVR	**GHOM**	**2.19**	**122**	*e*Pn	**Pb**	**16 39 27.4**	**-0.9**
GHVR				*e*Sg	**Sg**	**16 39 59.2**	**+0.5**
comp=E,417nm,0.6s							
IVRN	**Varamin**	**2.29**	**106**	*e*Pn	**Pn**	**16 39 28.2**	**+1.6**
IVRN				*e*		16 39 40.3	
comp=Z,4μm,0.1s							
IVRN	**Varamin**	**2.29**	**106**	*e*Pn	**Pn**	**16 39 28.2**	**+1.6**
DAMV	**Damavand**	**2.39**	**90**	*e*Pn	**Pn**	**16 39 29.6**	**+1.6**
DAMV				AML	AML	16 40 10.6	
comp=N,414nm,0.5s							
DAMV				AML	AML	16 40 14.8	
comp=E,435nm,0.7s							
DAMV	**Damavand**	**2.39**	**90**	*e*Pn	**Pn**	**16 39 29.6**	**+1.6**
comp=E,435nm,0.7s							
IGHG	**Ghaleghazi**	**2.42**	**238**	*e*Pn	**Pb**	**16 39 32.9**	**+0.6**
IGHG				*e*		16 40 16.4	
comp=Z,6μm,0.3s							
IDMV	**Damavand**	**2.44**	**91**	*e*Pn	**Pn**	**16 39 30.6**	**+1.8**
IDMV				*e*		16 40 09.8	
comp=Z,5μm,0.1s							
IDMV	**Damavand**	**2.44**	**91**	*e*Pn	**Pn**	**16 39 30.6**	**+1.8**
QAM	**Ghamsar**	**2.73**	**133**	*e*Pn	**Pb**	**16 39 36.8**	**-0.8**
QAM				*e*		16 40 19.5	
comp=Z,4μm,0.2s							
IPRN	**Peran**	**2.74**	**77**	*e*Pn	**Pn**	**16 39 35.0**	**+2.2**
IPRN				*e*		16 40 22.8	
comp=Z,4μm,0.4s							
IFIR	**Firoozkooh**	**3.02**	**89**	*e*Pn	**Pn**	**16 39 38.8**	**+2.0**
IFIR				*e*		16 40 26.7	
comp=Z,3μm,0.2s							
IFIR	**Firoozkooh**	**3.02**	**89**	*e*Pn	**Pn**	**16 39 38.8**	**+2.0**
LRK	**Lerik**	**3.04**	**350**	⇑P	**Pn**	**16 39 38.6**	**+1.8**
LRK				⇑S	**Sb**	**16 40 19.4**	**-0.6**
LRK	**Lerik**	**3.04**	**350**	P	**Pn**	**16 39 38.6**	**+1.8**
IALA	**Alasht**	**3.09**	**81**	*e*	**Sg**	**16 40 29.5**	**+1.8**
comp=Z,2μm,0.2s							
ILAS	**Lasjerd**	**3.21**	**94**	*e*Pn	**Pn**	**16 39 40.9**	**+1.6**
ILAS				*e*		16 40 40.1	
comp=Z,2μm,0.3s							
ILAS	**Lasjerd**	**3.21**	**94**	*e*Pn	**Pn**	**16 39 40.9**	**+1.6**
GLBA	**Clilabad**	**3.62**	**352**	⇑P	**Pn**	**16 39 47.8**	**+3.1**
GLBA				⇓S	**Sn**	**16 40 30.6**	**+3.1**
IKRK	**Kirkuk**	**3.84**	**268**	*e*Pn	x	16 40 32.0	
IKRK				*e*Sn	**Sg**	**16 40 53.0**	**+1.2**
NAX	**Nakhchivan**	**4.51**	**322**	⇓P	**Pb**	**16 40 09.1**	**+1.4**
BHD	**Baghdad**	**4.53**	**240**	*e*PG	x	16 40 31.7	
BHD				*e*SG	**Sn**	**16 40 51.6**	**+1.6**
BHD	**Baghdad**	**4.53**	**240**	*e*Pg	x	16 40 31.7	
SNR=92							
BHD				*e*Sg	**Sn**	**16 40 51.6**	**+1.6**
SNR=92							
PQL	**Pirkuli**	**5.14**	**356**	⇑P	**Pn**	**16 40 07.3**	**+1.5**
PQL	**Pirkuli**	**5.14**	**356**	P	**Pn**	**16 40 07.3**	**+1.5**
ATGJ	**Altiaghaj**	**5.20**	**359**	⇓P	**Pn**	**16 40 07.6**	**+1.1**
ATGJ	**Altiaghaj**	**5.20**	**359**	P	**Pn**	**16 40 07.6**	**+1.1**
NSR	**Nassriya**	**5.23**	**208**	*e*Pn	x	16 40 54.0	
NSR				*e*Sn	**Sg**	**16 41 31.6**	**-4.7**
NSR	**Nassriya**	**5.23**	**208**	*e*Pn	x	16 40 54.0	
SNR=3.0							
NSR				*e*Sn	**Sg**	**16 41 31.6**	**-4.7**
SNR=3.0							
SIZA	**Siyzn**	**5.41**	**359**	⇑P	**Pn**	**16 40 09.5**	**0.0**
SIZA	**Siyzn**	**5.41**	**359**	P	**Pn**	**16 40 09.5**	**0.0**
GANJ	**Ganja**	**5.42**	**338**	⇓P	Pn	16 40 16.4	+6.9
GANJ				⇓S	**Sb**	**16 41 24.2**	**-4.4**
SEKA	**Sheki**	**5.73**	**346**	⇑P	Pn	16 40 18.8	+5.0
QZX	**Qazax, Azerbai**	**6.12**	**333**	⇓P	Pb	16 40 27.2	-8.0
ZKTA	**Zakatala**	**6.27**	**343**	⇑P	Pn	16 40 26.8	+5.7

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*IDC **04** 16:56:02.9±0.7, 35°.25S×72°.53W, h0km, mb4.3/9, mb1 4.3/13, mb1mx4.2/31, mbtmp4.1/13, ML4.0/4, MS2.5/1, Ms1 2.5/1, ms1mx2.5/28, Error ellipse: s-maj=27.7km s-min=16.9km az=93.0*
*GUC **04** 16:56:03.7±0.5, 35°.23S×72°.72W, h4km±8km, ML4.8*
*NEIC **04** 16:56:08.0±1.5, 35°.23S×72°.61W, h37km±12km, mb4.7/6, Error ellipse: s-maj=19.0km s-min=7.2km az=84.0*
NEIC Felt [III] at Concepcion and [II] at Talca.

ISC 04 16:56:05.5±0.5, 35°.15S±0°.04×72°.58W±0°.07, h18km, n42, σ1§09/52, mb4.5/12, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**1.06**	**131**	⇑*i*P	**Pb**	**16 56 24.1**	**-1.3**
LNCH				*i* S	**Sg**	**16 56 39.8**	**-0.3**
LNCH				AML	AML	16 56 40.3	
comp=N,36μm,0.6s							
LNCH	**Linares**	**1.06**	**131**	⇑*i*P	**Pb**	**16 56 24.1**	**-1.3**
LNCH				*i* S	**Sg**	**16 56 39.8**	**-0.3**
LNV	**Longovilo**	**1.54**	**39**	*e*P1	**Pn**	**16 56 33.0**	**+1.0**
LNV	**Longovilo**	**1.54**	**39**	*e*P	**Pn**	**16 56 33.0**	**+1.0**
CACH	**El Canelo**	**1.93**	**58**	*e*P1	**Pb**	**16 56 40.0**	**-0.4**
CACH	**El Canelo**	**1.93**	**58**	*e*P	**Pb**	**16 56 40.0**	**-0.4**
CHCH	**Chadas Angostu**	**2.00**	**53**	*e*P1	**Pb**	**16 56 40.8**	**-0.6**
CHCH	**Chadas Angostu**	**2.00**	**53**	*e*P	**Pb**	**16 56 40.8**	**-0.6**
ANTU	**Antumapu**	**2.26**	**46**	*e*P	**Pb**	**16 56 45.3**	**-0.5**
ANTU				*e*S	**Sg**	**16 57 16.3**	**-1.9**
ANTU				AML	AML	16 57 26.6	
comp=E,6μm,0.4s							
ANTU	**Antumapu**	**2.26**	**46**	*e*P	**Pb**	**16 56 45.3**	**-0.5**
ANTU				*e*S	**Sg**	**16 57 16.3**	**-1.9**
PEL	**Peldehue**	**2.55**	**39**	*e*P1	**Pb**	**16 56 48.7**	**-2.0**
PEL				*i* S	**Sb**	**16 57 23.0**	**+1.2**
PEL				AML	AML	16 57 30.8	
comp=N,7μm,0.6s							
PEL	**Peldehue**	**2.55**	**39**	*e*P	**Pb**	**16 56 48.7**	**-2.0**
PEL				*i* S	**Sb**	**16 57 23.0**	**+1.2**
CFAA	**Coronel Fontan**	**5.07**	**47**	Pn	**Pn**	**16 57 22.4**	**+1.6**
comp=N,0.6nm,0.3s,baz=230,slow=9.3,SNR=15							
CFAA				LR	LR	16 59 23.7	
comp=N,44nm,18.3s,baz=242,slow=39							
TRQA	**Tornquist**	**9.01**	**112**	*e*Pn	**Pn**	**16 58 16.5**	**+1.8**
comp=N,39nm,1.1s							
LVC	**Limon Verde**	**12.90**	**15**	*e*Pn	**Pn**	**16 59 09.1**	**+0.8**
CPUP	**Villa Florida**	**15.78**	**60**	Pn	**Pn**	**16 59 48.3**	**+1.6**
comp=N,0.4nm,0.3s,baz=222,slow=12,SNR=2.5							
LPAZ	**La Paz**	**19.20**	**13**	P	**Pn**	**17 00 30.8**	**+0.7**
comp=N,0.3nm,0.3s,baz=170,slow=7.5,SNR=3.6							
LPAZ	**La Paz**	**19.20**	**13**	P	**Pn**	**17 00 30.8**	**+0.7**
LPAZ				*e*Pn	**pP**	**17 00 33.2**	**-1.1**
EFI	**East Falkland**	**19.54**	**152**	P	**P**	**17 00 30.5**	**-1.4**
comp=N,179nm,1.8s							
USHA	**Ushuaia**	**19.89**	**173**	P	**P**	**17 00 35.6**	**-0.1**
comp=N,0.3nm,0.3s,baz=355,slow=12,SNR=5.2							
SIV	**San Ignacio**	**21.69**	**31**	P	**P**	**17 00 55.6**	**+0.1**
comp=N,12nm,0.9s,baz=212,slow=7.8,SNR=14							
SAML	**Samuel**	**27.46**	**20**	P	**P**	**17 01 52.1**	**+1.4**
comp=N,5.1nm,1.2s							
SDV	**Santo Domingo**	**43.84**	**3**	*e*P	**P**	**17 04 08.9**	**-2.0**
comp=N,7.5nm,0.9s							
SNAA	**Sanae**	**50.70**	**157**	P	**P**	**17 05 03.4**	**-0.2**
comp=N,7.6nm,1.1s,baz=298,slow=12,SNR=7.0							
SNAA	**Sanae**	**50.70**	**157**	*e*P	**P**	**17 05 03.3**	**-0.2**
comp=N,19nm,1.0s							
FDF	**Fort de France**	**50.78**	**14**	P	**P**	**17 05 04.1**	**-0.7**
QSPA	**South Pole Qui**	**55.09**	**180**	P	**P**	**17 05 36.4**	**+0.2**
comp=N,7.4nm,1.0s,baz=225,slow=1.2,SNR=12							
QSPA	**South Pole Qui**	**55.09**	**180**	*e*P	**P**	**17 05 36.2**	**0.0**
comp=N,8.3nm,1.0s							
TXAR	**Lajitas Array**	**70.52**	**331**	P	**P**	**17 07 19.8**	**+0.5**
comp=N,0.6nm,0.7s,baz=158,slow=7.7,SNR=4.6							
DBIC	**Dimbokro**	**75.97**	**71**	P	**P**	**17 07 51.6**	**-0.1**
comp=N,5.1nm,0.9s,baz=242,slow=8.2,SNR=3.6							
TSUM	**Tsumeb**	**79.33**	**106**	P	**P**	**17 08 10.6**	**-0.1**
comp=N,9.9nm,1.4s							
BOSA	**Boshof**	**79.93**	**118**	P	**P**	**17 08 12.6**	**-1.3**
comp=N,3.6nm,0.7s,baz=239,slow=5.9,SNR=2.8							
NVAR	**Mina Array Bea**	**84.57**	**326**	P	**P**	**17 08 39.2**	**+1.4**
comp=N,0.4nm,0.8s,baz=171,slow=6.4,SNR=3.4							
TORD	**Torodi Ar. Bea**	**85.02**	**70**	P	**P**	**17 08 40.5**	**+0.2**
comp=N,1.8nm,0.8s,baz=232,slow=3.5,SNR=11							
ULM	**Lac du Bonnet**	**87.49**	**345**	P	**P**	**17 08 52.4**	**+0.9**
comp=N,2.7nm,0.8s,baz=208,slow=0.3,SNR=4.4							
WRA	**Warramunga Arr**	**119.54**	**209**	PKP	**PKPdf**	**17 14 53.5**	**-1.1**
comp=N,0.2nm,0.5s,baz=170,slow=1.6,SNR=4.5							
ABKAR	**Akbulak array**	**142.74**	**53**	*e*PKPpre	PKPpre	17 15 31.6	
KKAR	**Karatay Array**	**150.48**	**63**	*e*PKPbc	**PKPbc**	**17 15 54.9**	**-0.9**
AAK	**Ala-Archa**	**153.43**	**64**	*e*PKPdf	**PKPdf**	**17 15 56.7**	**+1.6**
AAK				*e*PKPbc	**PKiKP**	**17 16 03.4**	**+0.5**
ZALV	**Zalesovo Beam**	**155.44**	**33**	PKP	**PKPdf**	**17 15 56.3**	**-1.0**
comp=N,1.2nm,0.8s,baz=296,slow=4.4,SNR=3.7							
ZALV				PKPab	**PKPab**	**17 16 23.4**	**+0.5**
comp=N,0.7nm,0.5s,baz=312,slow=6.9,SNR=2.8							
MKAR	**Makanchi Array**	**157.85**	**51**	PKP	**PKPdf**	**17 15 59.9**	**-0.9**
comp=N,0.3nm,0.

SONM pP **PcP** **17 40 45.8 +1.1**
0.2nm,0.4s,baz=140,slow=6.9,SNR=3.6
ILAR Eielson Array 83.47 19 P P 17 41 01.2 0.0
0.2nm,0.5s,baz=227,slow=5.1,SNR=6.2
MKAR Makanchi Array 93.45 317 P P 17 41 48.6 -0.9
0.5nm,0.9s,baz=89,slow=5.8,SNR=5.4
YKA Yellowknife Ar 94.94 27 P P 17 41 56.9 +1.0
0.1nm,0.7s,baz=260,slow=3.9,SNR=2.8
ARCES ARCESS Array B 116.27 345 PKP **PKPdf** **17 47 15.1 -1.5**
2.1nm,0.8s,baz=69,slow=2.5,SNR=3.5
ARCES pPKP PKiKP 17 47 24.1 +7.4
2.3nm,0.8s,baz=55,slow=3.7,SNR=1.3

ISCJB ***04*** *17:33:21.9±0.6,26.°11N±0.°08×96.°87E±0.°07,h16km, mb3.6/10,MS3.4/1,Error ellipse: s-maj=12.6km s-min=8.5km az=21.4*
IDC ***04*** *17:33:21.5±0.8,26.°17N×96.°84E,h0km,mb3.7/10, mb1 3.8/11,mb1mx3.5/48,mbtmp3.6/11,ML2.8/1,MS3.5/1, Ms1 3.5/1,ms1mx2.8/44,Error ellipse: s-maj=43.3km s-min=13.7km az=63.0*
ISC 04 17:33:23.9±0.8,26.°2N±0.°1×96.°9E±0.°1,h16km,n23, σ0°84/22,mb3.8/10,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.93**	**166**	Pn	**Pn**	**17 35 18.1**	**-0.5**
	0.0nm,0.3s,baz=345,slow=11,SNR=2.4						
CMAR				Lg	Lg	17 37 31.7	
	baz=351,slow=27,SNR=2.8						
TAPN	**Taplejung**	**8.33**	**280**	*e*P	**Pn**	**17 35 25.1**	**+0.8**
ODAN	**Odare**	**8.58**	**276**	*e*P	**Pn**	**17 35 28.8**	**+1.1**
RAMN	**Ramite**	**9.29**	**277**	*e*P	**Pn**	**17 35 38.2**	**+0.8**
	17nm,0.5s						
JIRN	**Jiri**	**9.70**	**281**	*e*P	**Pn**	**17 35 43.9**	**+0.7**
GUN	**Gumba**	**10.00**	**282**	*e*P	**Pn**	**17 35 47.7**	**+0.4**
	18nm,0.4s						
PKI	**Pulchoki**	**10.38**	**280**	*e*P	**Pn**	**17 35 52.3**	**-0.2**
PKIN	**Phulchoki**	**10.39**	**280**	*e*P	**Pn**	**17 35 52.4**	**-0.2**
	10.0nm,0.6s						
KKN	**Kakani**	**10.52**	**281**	*e*P	**Pn**	**17 35 54.7**	**+0.4**
DMN	**Daman**	**10.65**	**280**	*e*P	**Pn**	**17 35 56.0**	**-0.2**
GKN	**Gorkha**	**11.11**	**282**	*e*P	**Pn**	**17 36 01.8**	**-0.5**
	11nm,0.4s						
DANN	**Dangsing**	**11.92**	**283**	*e*P	**Pn**	**17 36 11.3**	**-2.2**
	5.0nm,0.3s						
SONM	**Songino Array**	**22.84**	**17**	P	**P**	**17 38 26.7**	**+0.3**
	0.3nm,0.6s,baz=185,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**23.61**	**334**	P	**P**	**17 38 35.1**	**+1.0**
	1.4nm,0.5s,baz=145,slow=8.7,SNR=31						
AAK	**Ala-Archa**	**24.61**	**317**	P	**P**	**17 38 44.7**	**+1.0**
	0.9nm,0.7s,baz=154,slow=5.6,SNR=4.9						
ZALV	**Zalesovo Beam**	**29.14**	**345**	P	**P**	**17 39 24.0**	**0.0**
	0.2nm,0.3s,baz=141,slow=5.5,SNR=2.8						
BVAR	**Borovoye Array**	**33.34**	**331**	P	**P**	**17 40 01.4**	**+0.4**
	0.9nm,0.6s,baz=149,slow=6.7,SNR=5.1						
AKTO	**Aktyubinsk**	**38.31**	**320**	LR	LR	17 57 40.9	
	comp=Z,61nm,19.6s,baz=205,slow=38						
FINES	**FINESS Array B**	**58.22**	**328**	P	**P**	**17 43 16.6**	**-0.5**
	1.0nm,0.7s,baz=100,slow=8.1,SNR=4.9						
WRA	**Warramunga Arr**	**58.50**	**138**	P	**P**	**17 43 20.0**	**+0.4**
	0.7nm,0.5s,baz=328,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**61.13**	**141**	P	**P**	**17 43 38.4**	**+0.7**
	0.7nm,0.6s,baz=324,slow=6.6,SNR=16						
NOA	**NORSAR Array B**	**65.40**	**328**	P	**P**	**17 44 04.4**	**-1.1**
	1.2nm,1.0s,baz=81,slow=6.3,SNR=3.6						
GERES	**GERESS Array B**	**66.45**	**314**	P	**P**	**17 44 12.0**	**-0.6**
	0.3nm,0.5s,baz=68,slow=5.4,SNR=2.9						

IDC ***04*** *17:37:43.3±0.4,34.°15S×72.°11W,h0km,mb4.8/27, mb1 4.9/29,mb1mx4.9/35,mbtmp4.8/29,ML4.2/3,MS4.9/18, Ms1 4.9/18,ms1mx4.7/32,Error ellipse: s-maj=16.0km s-min=12.1km az=65.0*
GUC ***04*** *17:37:45.7±0.8,34.°20S×72.°27W,h11km±6km,ML4.9*
MOS ***04*** *17:37:47.7±0.9,34.°11S×72.°19W,h33km,mb5.5/29, MS5.0/4,Error ellipse: s-maj=13.8km s-min=8.1km az=95.1*
GCMT ***04*** *17:37:48.8±0.2,34.°24S×72.°41W,h24km±1km,MW5.4/74, Moment Tensor Solution. s56,c74; s74,c99; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.01±.05; $M_{\theta\theta}$0.10±.04; $M_{\phi\phi}$-1.11±.04; $M_{r\theta}$0.11±.06; $M_{\theta\phi}$-0.11±.03; $M_{\phi r}$-1.15±.07; Best double couple: $M_0$1.57200×10^{17} NP1:ϕ_s177.00000°,δ69.00000°,λ84.00000°. NP2: ϕ_s14.00000°,δ22.00000°,λ106.00000°. Principal axes: T 1.5290, Plg66.0000°, Azm76.0000°; N 0.0880, Plg6.0000°, Azm179.0000°; P -1.6160, Plg24.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***04*** *17:37:48.0,34.°12S×72.°58W,h40km,mB5.1/17,Ms5.3/15, Ms7 5.2/14*
NEIC ***04*** *17:37:48.8±0.1,34.°18S×72.°07W,h35km,mb5.3/82, MS4.9/3,ML4.9(GUC),Error ellipse: s-maj=4.2km s-min=3.5km az=200.0*
NEIC Felt [II] at Santiago. Also felt at Rancagua.
ISCJB ***04*** *17:37:48.9±0.7,34.°15S±0.°03×72.°03W±0.°07,h48km±6km, mb5.2/105,MS4.9/29,Error ellipse: s-maj=9.2km s-min=5.3km az=167.7*
ISC 04 17:37:48.3±0.8,34.°18S±0.°03×72.°13W±0.°05,h33km±3km, n731,σ0°89/771,mb5.2/107,MS5.0/30,210C-207D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.64**	**70**	⇓*i*P	**Pb**	**17 38 00.1**	**-1.0**
LNV	**Longovilo**	**0.64**	**70**	⇓*i*P	**Pb**	**17 38 00.1**	**-1.0**
TACH	**Talagante**	**1.12**	**62**	⇑*i*P	**Pn**	**17 38 07.2**	**-0.5**
TACH	**Talagante**	**1.12**	**62**	⇑*i*P	**Pn**	**17 38 07.2**	**-0.5**
IHA	**Instituto Hidr**	**1.22**	**20**	⇑*i*P	**Pn**	**17 38 08.4**	**-0.6**
IHA				*i* S1	**Sn**	**17 38 25.2**	**+0.9**
IHA	**Instituto Hidr**	**1.22**	**20**	⇑*i*P	**Pn**	**17 38 08.4**	**-0.6**
IHA				*i* S	**Sn**	**17 38 25.2**	**+0.9**
CHCH	**Chadas Angostu**	**1.25**	**79**	⇑*i*P	**Pn**	**17 38 09.4**	**0.0**
CHCH	**Chadas Angostu**	**1.25**	**79**	⇑*i*P	**Pn**	**17 38 09.4**	**0.0**
CACH	**El Canelo**	**1.27**	**88**	⇓*i*P	**Pn**	**17 38 10.3**	**+0.5**
CACH	**El Canelo**	**1.27**	**88**	⇓*i*P	**Pn**	**17 38 10.3**	**+0.5**
ANTU	**Antumapu**	**1.38**	**64**	⇓*i*P	**Pn**	**17 38 11.6**	**+0.3**
ANTU				*i* S1	**Sb**	**17 38 32.2**	**+1.3**
ANTU				AML	AML	17 38 37.6	
	comp=N,32μm,0.8s						
ANTU	**Antumapu**	**1.38**	**64**	⇓*i*P	**Pn**	**17 38 11.6**	**+0.3**
ANTU				*i* S	**Sb**	**17 38 32.2**	**+1.3**
SAN	**Santiago**	**1.42**	**60**	⇓*i*P	**Pn**	**17 38 12.2**	**+0.4**
SAN				*i* S	**Sb**	**17 38 32.2**	**+0.3**
SAN	**Santiago**	**1.42**	**60**	⇓*i*P	**Pn**	**17 38 12.2**	**+0.4**
SAN				*i* S1	**Sb**	**17 38 32.2**	**+0.3**
SAN	**Santiago**	**1.42**	**60**	⇓*i*P	**Pn**	**17 38 12.2**	**+0.4**
SAN				*i* S	**Sb**	**17 38 32.2**	**+0.3**
PCH	**Pirque**	**1.45**	**68**	⇓*i*P	**Pn**	**17 38 13.2**	**+0.9**
PCH				*i* S4	**Sb**	**17 38 34.6**	**+1.6**
PCH	**Pirque**	**1.45**	**68**	⇓*i*P	**Pn**	**17 38 13.2**	**+0.9**
PCH				S	**Sb**	**17 38 34.6**	**+1.6**
LACH	**Col Las Americ**	**1.51**	**62**	*e*P1	**Pn**	**17 38 13.7**	**+0.6**
LACH				*i* S1	**Sb**	**17 38 35.4**	**+0.7**
LACH				AML	AML	17 38 46.8	
	comp=N,12μm,0.7s						
LACH	**Col Las Americ**	**1.51**	**62**	*e*P	**Pn**	**17 38 13.7**	**+0.6**
LACH				*i* S	**Sb**	**17 38 35.4**	**+0.7**
PEL	**Peldehue**	**1.58**	**50**	⇑*i*P	**Pn**	**17 38 14.9**	**+0.8**
PEL				*i* S	**Sb**	**17 38 36.8**	**+0.1**
PEL	**Peldehue**	**1.58**	**50**	⇑*i*P	**Pn**	**17 38 14.9**	**+0.8**
PEL				*i* S1	**Sb**	**17 38 36.8**	**+0.1**
PEL				AML	AML	17 38 50.0	
	comp=E,34μm,0.4s						
PEL	**Peldehue**	**1.58**	**50**	⇑*i*P	**Pn**	**17 38 14.9**	**+0.8**
PEL				*i* S	**Sb**	**17 38 36.8**	**+0.1**
LNCH	**Linares**	**1.72**	**166**	*e*P1	**Pn**	**17 38 16.0**	**+0.1**
LNCH				*i* S1	**Sn**	**17 38 37.4**	**+0.7**
LNCH				AML	AML	17 38 49.2	
	comp=N,37μm,0.7s						
LNCH	**Linares**	**1.72**	**166**	*e*P	**Pn**	**17 38 16.0**	**+0.1**
LNCH				*i* S	**Sn**	**17 38 37.4**	**+0.7**
FCH	**Farellones**	**1.75**	**62**	⇓*i*P	**Pn**	**17 38 18.1**	**+1.5**
FCH				*i* S1	**Sb**	**17 38 43.0**	**+1.3**
FCH				AML	AML	17 38 47.6	
	comp=N,16μm,0.5s						
FCH	**Farellones**	**1.75**	**62**	⇓*i*P	**Pn**	**17 38 18.1**	**+1.5**
FCH				*i* S	**Sb**	**17 38 43.0**	**+1.3**
CFAA	**Coronel Fontan**	**4.16**	**53**	Pn	**Pn**	**17 38 48.2**	**-1.3**
	comp=N,1.9nm,0.3s,baz=219,slow=6.0,SNR=34						
CFAA				LR	LR	17 39 50.8	
	comp=N,369nm,21.9s,baz=227,slow=31						
TRQA	**Tornquist**	**9.08**	**118**	*e*Pn	**Pn**	**17 39 58.3**	**+1.3**
LVC	**Limon Verde**	**11.86**	**15**	*e*Pn	Pn	17 40 29.9	-5.4
CPUP	**Villa Florida**	**14.98**	**62**	*e*P	Pn	17 41 12.8	-4.8
CPUP				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CPUP	**Villa Florida**	**14.98**	**62**	Pn	**Pn**	**17 41 17.6**	**0.0**
	comp=Z,0.3nm,0.3s,baz=223,slow=10,SNR=9.0						
CPUP				LR	LR	17 47 29.1	
	comp=Z,7μm,20.7s,baz=224,slow=39						
CPUP	**Villa Florida**	**14.98**	**62**	*e*P	Pn	17 41 12.8	-4.8
	comp=Z,6.6nm,0.8s						
CPUP				Pn	**Pn**	**17 41 17.6**	**0.0**
LPAZ	**La Paz**	**18.17**	**12**	P	**Pn**	**17 41 58.5**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=184,slow=8.6,SNR=37						
LPAZ	**La Paz**	**18.17**	**12**	P	**Pn**	**17 41 58.5**	**-0.1**
LPAZ				*e*P	**P**	**17 41 58.8**	**0.0**
EFI	**East Falkland**	**20.23**	**154**	P	**P**	**17 42 19.0**	**-1.4**
	comp=Z,249nm,0.6s,SNR=7.4						
EFI	**East Falkland**	**20.23**	**154**	PFAKE		17 42 30.0	+7.5
EFI				LR	LR		
	comp=Z,5μm,19.0s						
SIV	**San Ignacio**	**20.66**	**32**	P	**P**	**17 42 24.7**	**-0.7**
	comp=Z,64nm,0.9s,baz=228,slow=12,SNR=52						
SIV				LR	LR	17 51 50.1	
	comp=Z,7μm,19.3s,baz=224,slow=41						
USHA	**Ushuaia**	**20.81**	**174**	P	**P**	**17 42 27.6**	**+0.9**
	comp=Z,9.7nm,0.8s,baz=340,slow=6.4,SNR=5.3						
USHA				LR	LR	17 51 28.3	
	comp=Z,4μm,18.6s,baz=324,slow=40						
NNA	**Nana**	**22.50**	**348**	P	**P**	**17 42 44.8**	**-0.4**
	comp=Z,9.5nm,0.4s,baz=189,slow=8.3,SNR=7.5						
NNA				LR	LR	17 49 44.7	
	comp=Z,2μm,18.4s,baz=166,slow=32						
SAML	**Samuel**	**26.42**	**20**	*e*P	**P**	**17 43 21.2**	**-0.8**
	comp=Z,26nm,1.0s						
SAML				LR	LR		
	comp=Z,4μm,19.6s						
ATAH	**Atahualpa**	**27.53**	**346**	P	**P**	**17 43 32.9**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=126,slow=11,SNR=4.2						
ATAH				LR	LR	17 53 30.9	
	comp=Z,1μm,18.1s,baz=180,slow=34						
BDFB	**Brasilia**	**28.50**	**56**	P	**P**	**17 43 40.0**	**-0.7**
	comp=Z,26nm,0.8s,baz=228,slow=5.3,SNR=26						
BDFB				LR	LR	17 56 16.3	
	comp=Z,6μm,18.5s,baz=222,slow=39						
BDFB	**Brasilia**	**28.50**	**56**	P	**P**	**17 43 40.0**	**-0.7**
BDFB				*e*P	**P**	**17 43 40.3**	**-0.5**
PMSA	**Palmer Station**	**31.02**	**173**	LR	LR	17 56 20.8	
	comp=Z,3μm,18.7s,baz=324,slow=36						
HOPE	**Hope Point**	**32.00**	**140**	PFAKE		17 44 20.0	+8.8
HOPE				LR	LR		
	comp=Z,2μm,18.0s						
RPN	**Rapa Nui**	**32.64**	**272**	LR	LR	17 53 57.5	
	comp=Z,4μm,18.7s,baz=82,slow=30						
OTAV	**Otavalo**	**34.74**	**349**	*e*P	**P**	**17 44 37.4**	**+1.4**
	comp=Z,41nm,1.4s						
SDV	**Santo Domingo**	**42.85**	**2**	*e*P	**P**	**17 45 42.5**	**-1.0**
	comp=Z,57nm,1.1s						
RCBR	**Riachuelo**	**43.80**	**58**	P	**P**	**17 45 51.3**	**+0.1**
	comp=Z,14nm,0.7s,baz=221,slow=8.8,SNR=11						
RCBR	**Riachuelo**	**43.80**	**58**	*e*P	**P**	**17 45 51.3**	**+0.1**
	comp=Z,56nm,1.3s						
JTS	**JuntasAbangare**	**45.87**	**342**	⇑*e*P	**P**	**17 46 08.6**	**+1.0**
JTS				pmax	pmax		
	comp=Z,66nm,1.7s						
JTS	**JuntasAbangare**	**45.87**	**342**	P	**P**	**17 46 07.1**	**-0.4**
	comp=Z,12nm,0.9s,baz=222,slow=6.3,SNR=5.1						
JTS				LR	LR	17 59 45.9	
	comp=Z,138nm,21.8s,baz=197,slow=29						
VNA3	**Neumayer Olymp**	**49.22**	**158**	P	**P**	**17 46 33.9**	**+0.9**
VNA2	**Neumayer--Watz**	**49.88**	**157**	P	**P**	**17 46 38.8**	**+0.8**
SNAA	**Sanae**	**51.45**	**158**	P	**P**	**17 46 50.4**	**+0.5**
SNAA	**Sanae**	**51.45**	**158**	*e*P	**P**	**17 46 49.5**	**-0.4**
SNAA				pmax	pmax		
	comp=Z,88nm,1.3s						
SNAA	**Sanae**	**51.45**	**158**	P	**P**	**17 46 50.5**	**+0.5**
	comp=Z,9.8nm,1.0s,baz=286,slow=7.5,SNR=10						
SNAA	**Sanae**	**51.45**	**158**	*e*P	**P**	**17 46 49.5**	**-0.4**
	comp=Z,88nm,1.3s						
SNAA				P	**P**	**17 46 50.5**	**+0.5**
APG	**El Apazote**	**51.93**	**337**	P	P	17 46 50.8	-3.5
	comp=Z,12nm,0.9s,baz=184,slow=23,SNR=14						
SABA	**Saba**	**52.20**	**11**	*e*P	**P**	**17 46 56.0**	**0.0**
	comp=Z,192nm,0.9s						
ANWB	**Willy Bob**	**52.49**	**12**	*e*P	**P**	**17 46 56.4**	**-1.7**
	comp=Z,399nm,1.5s						
SDDR	**Presa de Saban**	**52.87**	**1**	*e*P	**P**	**17 47 01.0**	**+0.1**
	comp=Z,24nm,0.9s						
CMIG	**Matas Romero**	**55.40**	**333**	P	**P**	**17 47 19.7**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=77,slow=0.7,SNR=4.0						
CMIG				LR	LR	18 07 00.5	
	comp=Z,854nm,18.1s,baz=152,slow=32						
RKT	**Rikitea**	**55.48**	**264**	*e*S	**S**	**17 55 04.7**	**+1.6**
	comp=Z,594nm,28.8s						
RKT				*e*LR	LR	18 03 31.2	
	comp=Z,1μm,28.2s,baz=109						
RKT	**Rikitea**	**55.48**	**264**	*e*T	T	18 46 57.6	
	comp=Z,1.0nm,0.2s						
NVL	**N'lazarevskaya**	**56.19**	**157**	*e*P	**P**	**17 47 23.7**	**-0.7**
NVL				pmax	pmax		
	comp=Z,33nm,0.9s						
TEIG	**Tepich**	**56.24**	**342**	P	**P**	**17 47 25.4**	**0.0**
	comp=Z,56nm,0.9s,baz=148,slow=6.4,SNR=27						
VNDA	**Vanda**	**63.91**	**191**	*e*P	**P**	**17 48 18.2**	**+0.9**
VNDA				pmax	pmax		
	comp=Z,26nm,1.4s						
VNDA	**Vanda**	**63.91**	**191**	P	**P**	**17 48 18.8**	**+1.5**
	comp=Z,3.2nm,1.0s,baz=51,slow=4.1,SNR=5.7						
VNDA				LR	LR	18 10 32.3	
	comp=Z,316nm,21.7s,baz=130,slow=31						
VNDA	**Vanda**	**63.91**	**191**	*e*P	**P**	**17 48 18.2**	**+0.9**
	comp=Z,26nm,1.4s						
VNDA				P	**P**	**17 48 18.8**	**+1.5**
035Z	**Hargill**	**65.14**	**334**	⇓P	**P**	**17 48 26.5**	**+0.7**
	baz=66						
035A	**Encino**	**65.58**	**335**	⇓P	**P**	**17 48 29.8**	**+1.1**
	baz=66,SNR=6.2						
SYO	**Syowa Base**	**65.73**	**158**	⇓*e*P	**P**	**17 48 27.5**	**-1.7**
SYO	**Syowa Base**	**65.73**	**158**	⇓*i*X	pP	17 48 35.6	-3.8
034A	**Hebbronville**	**65.91**	**334**	⇓P	**P**	**17 48 31.8**	**+1.0**
	baz=66,SNR=9.6						
TIGA	**Tifton**	**66.16**	**349**	⇓P	**P**	**17 48 32.3**	**0.0**
	baz=66						
TIGA	**Tifton**	**66.16**	**349**	*e*P	**P**	**17 48 32.3**	**0.0**
	comp=Z,74nm,1.0s						
934A	**Benavides**	**66.34**	**334**	⇑P	**P**	**17 48 35.1**	**+1.6**
	baz=67						
738A	**Farr-Stevens R**	**66.51**	**338**	⇑P	**P**	**17 48 36.2**	**+1.6**
	baz=67						
933A	**Laredo**	**66.62**	**334**	⇓P	**P**	**17 48 36.4**	**+1.0**
	baz=67						
835A	**Beeville**	**66.72**	**335**	⇓P	**P**	**17 48 37.7**	**+1.7**
	baz=67						
834A	**Tilden**	**66.83**	**335**	⇓P	**P**	**17 48 38.1**	**+1.4**
	baz=67,SNR=5.9						
735A	**Kenedy**	**67.23**	**336**	⇑P	**P**	**17 48 40.7**	**+1.5**
	baz=68						
833A	**Chaparral WMA,**	**67.31**	**334**	⇓P	**P**	**17 48 40.2**	**+0.4**
	baz=68,SNR=6.5						
832A	**Faith Ranch, C**	**67.49**	**334**	⇓P	**P**	**17 48 41.3**	**+0.5**
	baz=68,SNR=11						
734A	**La Parita Cree**	**67.49**	**335**	⇓P	**P**	**17 48 41.7**	**+0.9**
	baz=68						
636A	**Smothers Creek**	**67.56**	**337**	⇑P	**P**	**17 48 42.2**	**+0.9**
	baz=68,SNR=7.4						
HKT	**Hockley**	**67.60**	**338**	*e*P	**P**	**17 48 41.9**	**+0.4**
HKT				pmax	pmax		
	comp=Z,48nm,1.5s						
HKT	**Hockley**	**67.60**	**338**	*e*P	**P**	**17 48 41.9**	**+0.4**
	comp=Z,48nm,1.5s						
733A	**Divot King Ran**	**67.63**	**334**	⇑P	**P**	**17 48 42.4**	**+0.7**
	baz=68						
635A	**Leesville**	**67.71**	**336**	⇓P	**P**	**17 48 43.1**	**+0.8**
	baz=68						
537A	**Green Hill Far**	**67.87**	**337**	⇓P	**P**	**17 48 45.0**	**+1.7**
	baz=68						
732A	**Laxson Ranch,**	**67.89**	**334**	⇑P	**P**	**17 48 43.7**	**+0.3**
	baz=68						
GOGA	**Godfrey**	**68.07**	**350**	*e*P	**P**	**17 48 44.1**	**-0.3**
GOGA				pmax	pmax		
	comp=Z,77nm,1.6s						
GOGA	**Godfrey**	**68.07**	**350**	*e*P	**P**	**17 48 44.1**	**-0.3**
	comp=Z,77nm,1.6s						
536A	**Bastrop**	**68.11**	**337**	⇓P	**P**	**17 48 45.4**	**+0.6**
	baz=68						
438A	**Sam Houston St**	**68.23**	**338**	⇑P	**P**	**17 48 46.5**	**+1.0**
	baz=69						
633A	**Saathoff Ranch**	**68.26**	**335**	⇑P	**P**	**17 48 46.3**	**+0.6**
	baz=69,SNR=5.1						
LRAL	**Lakeview Retre**	**68.30**	**347**	*e*P	**P**	**17 48 45.4**	**-0.5**
	comp=Z,22nm,1.1s						
340A	**Bronson**	**68.39**	**340**	⇓P	**P**	**17 48 47.0**	**+0.5**
	baz=69						
339A	**Huntington**	**68.51**	**339**	⇑P	**P**	**17 48 48.1**	**+0.9**
	baz=69						
632A	**Uvalde**	**68.53**	**334**	⇑P	**P**	**17 48 47.8**	**+0.3**
	baz=69,SNR=11						
534A	**Blanco**	**68.54**	**336**	⇑P	**P**	**17 48 47.9**	**+0.4**
	baz=69						
436A	**Wall Ranch, Ga**	**68.67**	**337**	⇑P	**P**	**17 48 49.0**	**+0.8**
	baz=69						
631A	**Perdido Creek**	**68.73**	**334**	⇓P	**P**	**17 48 49.1**	**+0.4**
	baz=69,SNR=7.3						
MEH	**Mehetia**	**68.75**	**262**	*e*T	T	19 03 27.6	
	comp=Z,20nm,0.2s						
338A	**Crockett**	**68.75**	**339**	⇑P	**P**	**17 48 49.7**	**+0.9**
	baz=69						
533A	**Kerrville**	**68.77**	**335**	⇓P	**P**	**17 48 49.5**	**+0.5**
	baz=69,SNR=7.5						
337A	**Centerville**	**68.89**	**338**	⇓P	**P**	**17 48 50.8**	**+1.2**
	baz=69						
435B	**Jarrell**	**68.93**	**337**	⇓P	**P**	**17 48 50.7**	**+0.8**
	baz=69						
532A	**Rocksprings**	**69.13**	**334**	⇑P	**P**	**17 48 51.7**	**+0.5**
	baz=70,SNR=25						
434A	**Burnet**	**69.19**	**336**	⇓P	**P**	**17 48 52.1**	**+0.6**
	baz=70,SNR=9.1						
336A	**Riesel**	**69.25**	**338**	⇓P	**P**	**17 48 52.4**	**+0.5**
	baz=70,SNR=6.2						
335A	**Moody**	**69.34**	**337**	⇓P	**P**	**17 48 53.2**	**+0.8**
	baz=70						
531A	**Rocksprings**	**69.40**	**334**	⇑P	**P**	**17 48 53.5**	**+0.7**
	baz=70,SNR=9.3						
JCT	**Junction City**	**69.41**	**335**	*e*P	**P**	**17 48 53.5**	**+0.5**
JCT				pmax	pmax		
	comp=Z,47nm,1.1s						
JCT	**Junction City**	**69.41**	**335**	⇓P	**P**	**17 48 53.4**	**+0.5**
	baz=70,SNR=8.4						
JCT	**Junction City**	**69.41**	**335**	*e*P	**P**	**17 48 53.5**	**+0.5**
	comp=Z,47nm,1.1s						
433A	**Art**	**69.42**	**335**	⇓P	**P**	**17 48 53.3**	**+0.3**
	baz=70,SNR=8.6						
KMSC	**Kings Mountain**	**69.50**	**352**	⇑P	**P**	**17 48 52.8**	**-0.5**
	baz=70						
KMSC	**Kings Mountain**	**69.50**	**352**	*e*P	**P**	**17 48 53.1**	**-0.2**
	comp=Z,35nm,1.1s						
334A	**Lometa**	**69.66**	**336**	⇑P	**P**	**17 48 54.8**	**+0.4**
	baz=70,SNR=12						
530A	**J-C Ranch, Com**	**69.67**	**333**	⇓P	**P**	**17 48 55.4**	**+0.8**
	baz=70,SNR=15						
432A	**Menard**	**69.77**	**335**	⇓P	**P**	**17 48 55.5**	**+0.3**
	baz=70						
TXAR	**Lajitas Array**	**69.85**	**331**	P	**P**	**17 48 56.3**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=146,slow=9.1,SNR=33						
431A	**Sonora**	**69.89**	**334**	⇓P	**P**	**17 48 56.1**	**+0.3**
	baz=70,SNR=6.3						
333A	**Richland Sprin**	**69.90**	**336**	⇑P	**P**	**17 48 55.8**	**-0.1**
	baz=70,SNR=12						
138A	**Matatall Enter**	**69.90**	**339**	⇑P	**P**	**17 48 56.1**	**+0.3**
	baz=70						
529A	**Stev Forest Ra**	**69.99**	**332**	⇑P	**P**	**17 48 57.2**	**+0.7**
	baz=70,SNR=5.2						
WHTX	**Lake Whitney,**	**70.01**	**337**	⇑P	**P**	**17 48 56.8**	**+0.2**
	baz=70						
WHTX	**Lake Whitney,**	**70.01**	**337**	*e*P	**P**	**17 48 56.7**	**+0.2**
	comp=Z,38nm,0.9s						
PPT2	**Papeete2**	**70.14**	**262**	*e*S	**S**	**17 58 08.5**	**+1.4**
	comp=Z,668nm,23.5s						
PPT2	**Papeete2**	**70.14**	**262**	*e*LR	LR	18 10 13.5	
	comp=Z,2μm,27.2s,baz=112						
PPT	**Papeete**	**70.15**	**262**	LR	LR	18 12 13.4	
	comp=Z,711nm,19.0s,baz=94,slow=30						
430A	**Baggett Ranch,**	**70.21**	**334**	⇓P	**P**	**17 48 58.3**	**+0.4**
	baz=70,SNR=12						
332A	**Millersview**	**70.21**	**335**	⇑P	**P**	**17 48 58.2**	**+0.3**
	baz=71,SNR=6.0						
OXF	**Oxford**	**70.22**	**345**	*e*P	**P**	**17 48 57.4**	**-0.4**
OXF				pmax	pmax		
	comp=Z,106nm,1.0s						
OXF	**Oxford**	**70.22**	**345**	*e*P	**P**	**17 48 57.4**	**-0.4**
	comp=Z,106nm,1.0s						
CPCT	**Cooper Cave**	**70.23**	**349**	*e*P	**P**	**17 48 59.8**	**+1.9**
SWET	**Sewanee**	**70.23**	**348**	*e*P	**P**	**17 48 57.7**	**-0.1**
	comp=Z,62nm,0.9s						
234A	**Clairette**	**70.24**	**337**	⇓P	**P**	**17 48 58.0**	**0.0**
	baz=71						
429A	**Davenport Ranc**	**70.31**

comp=Z,1µm,18.1s,baz=232,slow=38
Y29A Porterfield Fa 73.14 335 ⇓P P 17 49 15.4 -0.1
baz=74,SNR=8.3
TUL1 Leonard 73.15 340 ⇓P P 17 49 15.3 0.0
baz=74
TUL1 Leonard 73.15 340 eP P 17 49 15.1 -0.2
comp=Z,26nm,1.0s
Z27A Tatum 73.21 333 ⇑P P 17 49 16.1 +0.1
baz=74
USIN University of 73.22 347 eP P 17 49 15.4 -0.3
comp=Z,88nm,1.1s
WCI Wyandotte Cave 73.23 348 eP P 17 49 15.2 -0.6
WCI pmax pmax
comp=Z,18nm,0.9s
WCI Wyandotte Cave 73.23 348 eP P 17 49 15.2 -0.6
comp=Z,18nm,0.9s
W33A Caddo, Fort Co 73.24 338 ⇓P P 17 49 16.3 +0.3
baz=74,SNR=5.5
X31A McDonald Ranch 73.25 336 ⇑P P 17 49 15.8 -0.2
baz=74,SNR=6.0
X30A Coker Ranch, T 73.39 335 ⇑P P 17 49 16.8 -0.1
baz=74
Z26A Caprock 73.46 333 ⇓P P 17 49 17.5 0.0
baz=74,SNR=31
W32A Sentinel 73.46 337 ⇑P P 17 49 17.4 +0.1
baz=74,SNR=14
V34A Guthrie 73.58 339 ⇓P P 17 49 18.1 +0.2
baz=74
V34A Guthrie 73.58 339 eP P 17 49 17.4 -0.5
comp=Z,174nm,1.9s
MSTX Muleshoe 73.63 334 ⇑P P 17 49 18.2 -0.2
baz=74,SNR=9.4
MSTX Muleshoe 73.63 334 eP P 17 49 18.4 0.0
comp=Z,20nm,0.8s
X29A Tulia 73.68 335 ⇓P P 17 49 18.7 0.0
baz=74
Y27A Causey 73.70 333 ⇑P P 17 49 18.8 0.0
baz=74
W31A Holland Ranch, 73.75 337 ⇓P P 17 49 19.2 +0.2
baz=74
Z25A Roswell 73.75 332 ⇑P P 17 49 19.3 +0.2
baz=74
V33A Lossen Ranch, 73.80 338 ⇑P P 17 49 19.2 -0.1
baz=74,SNR=6.1
X28A Dimmitt 73.92 334 ⇓P P 17 49 20.3 +0.3
baz=74
V32A Arapaho 73.95 337 ⇓P P 17 49 20.4 +0.3
baz=74
Y26A Elida 73.98 333 ⇑P P 17 49 21.1 +0.6
baz=74
319A Douglas 74.01 327 ⇑P P 17 49 21.7 +1.0
baz=74
OLIL Olney 74.04 347 eP P 17 49 20.1 -0.4
comp=Z,41nm,1.3s
Z24A Sheeppen Canyo 74.05 331 ⇑P P 17 49 21.6 +0.6
baz=74,SNR=9.9
AMTX Amarillo 74.06 335 ⇑P P 17 49 21.1 +0.3
baz=74
AMTX Amarillo 74.06 335 eP P 17 49 21.6 +0.7
comp=Z,23nm,0.9s
U34A Anderson Ranch 74.14 339 ⇑P P 17 49 21.3 +0.1
baz=74
U34A Anderson Ranch 74.14 339 eP P 17 49 21.3 +0.1
comp=Z,213nm,2.3s
V31A Spring Creek L 74.25 337 ⇑P P 17 49 22.5 +0.6
baz=75
W29A Amarillo 74.27 335 ⇓P P 17 49 22.2 +0.1
baz=75,SNR=6.3
U33A Lingo Farm, Me 74.31 338 ⇓P P 17 49 22.7 +0.5
baz=75
Y25A Mesa, Roswell 74.31 332 ⇑P P 17 49 22.9 +0.5
baz=75
121A Cookes Peak, D 74.35 329 ⇑P P 17 49 23.4 +0.6
baz=75,SNR=13
121A Cookes Peak, D 74.35 329 eP P 17 49 23.8 +1.1
comp=Z,23nm,1.0s
X27A F and S Farms, 74.36 334 ⇓P P 17 49 23.3 +0.6
baz=75
V30A Spur Ranch, Mi 74.52 336 ⇓P P 17 49 24.1 +0.6
baz=75
X26A CR and CF Fran 74.54 333 ⇓P P 17 49 24.0 +0.3
baz=75,SNR=7.9
U32A Winter Ranch, 74.54 338 ⇓P P 17 49 23.7 +0.2
baz=75
Y24A Capitan 74.61 332 ⇑P P 17 49 24.8 +0.6
baz=75,SNR=8.2
Z22A Elephant Butte 74.63 330 ⇑P P 17 49 25.5 +1.2
baz=75,SNR=10.0
ACSO Alum Creek Sta 74.72 351 eP P 17 49 24.1 -0.3
comp=Z,59nm,0.9s
W27A Bowe Ranch, En 74.72 334 ⇓P P 17 49 25.0 +0.3
baz=75,SNR=11
SUR Sutherland 74.81 119 P P 17 49 27.2 +1.5
comp=Z,29nm,0.9s,baz=238,slow=7.6,SNR=12
X25A Clemmons Ranch 74.84 333 ⇑P P 17 49 25.8 +0.3
baz=75,SNR=5.8
Y23A Lovelace Mesa, 74.86 331 ⇑P P 17 49 26.6 +1.0
baz=75,SNR=9.5
LIC Lamto 74.90 72 eP P 17 49 26.1 0.0
comp=Z,107nm,1.8s
T33A Patterson Ranc 74.95 339 ⇑P P 17 49 26.1 +0.2
baz=75,SNR=7.1
W26A Owens Ranch, T 75.00 334 ⇑P P 17 49 27.0 +0.6
baz=75
V28A Channing 75.04 335 ⇑P P 17 49 27.0 +0.5
baz=75
TIC Toumodi 75.16 71 eP P 17 49 27.5 -0.2
comp=Z,12nm,0.2s
U30A WK&E Inc. Balk 75.21 337 ⇑P P 17 49 27.7 +0.3
baz=76
KIC Kosan Boka 75.21 72 eP P 17 49 28.0 +0.1
comp=Z,62nm,1.1s
T32A Huddler Ranch, 75.25 338 ⇓P P 17 49 27.8 +0.1
baz=76
V27A Dan Oppiter Fa 75.26 335 ⇓P P 17 49 28.2 +0.3
baz=76
DBIC Dimbokro 75.31 71 P P 17 49 27.7 -0.8
comp=Z,25nm,1.1s,baz=188,slow=10.0,SNR=13
DBIC LR LR 18 20 58.4
comp=Z,900nm,19.0s,baz=218,slow=34
DBIC Dimbokro 75.31 71 P P 17 49 27.7 -0.8
DBIC eP P 17 49 28.6 +0.2
S33A Kaszmaul Farm, 75.35 339 ⇑P P 17 49 28.5 +0.3
baz=76
W25A X Bar L Ranch, 75.37 333 ⇓P P 17 49 28.9 +0.4
baz=76,SNR=6.2
T31A Randall Ranch, 75.41 338 ⇑P P 17 49 29.0 +0.4
baz=76
SFIN Lafayette 75.46 348 ⇓P P 17 49 28.4 -0.3
baz=76
SFIN Lafayette 75.46 348 eP P 17 49 27.9 -0.8
comp=Z,268nm,2.8s
TUC Tucson 75.48 327 eP P 17 49 30.6 +1.5
TUC pmax pmax
comp=Z,19nm,1.4s
TUC Tucson 75.48 327 eP P 17 49 30.6 +1.5
comp=Z,19nm,1.4s
X23A Hourglass Bar 75.48 331 ⇑P P 17 49 29.9 +0.7
baz=76
U28A Mallet 75.60 335 ⇓P P 17 49 30.3 +0.5
baz=76
V26A Tequesquite Ra 75.64 334 ⇑P P 17 49 30.4 +0.3
baz=76
W24A Lazy 6 Ranch, 75.72 332 ⇓P P 17 49 31.2 +0.6
baz=76,SNR=8.1
S32A Newby Ranch, P 75.73 338 ⇑P P 17 49 30.9 +0.5
baz=76
S31A Mullinville 75.83 338 ⇓P P 17 49 31.7 +0.7
baz=76
U27A Thompson Grove 75.85 335 ⇓P P 17 49 31.9 +0.7
baz=76
ANMO Albuquerque 75.90 331 ⇓P P 17 49 33.0 +1.4
ANMO pmax pmax
comp=Z,56nm,1.0s
ANMO Albuquerque 75.90 331 P P 17 49 32.1 +0.4
comp=Z,9.0nm,1.0s,baz=166,slow=7.5,SNR=15
ANMO Albuquerque 75.90 331 eP P 17 49 31.4 -0.3
comp=Z,16nm,1.1s
ANMO P P 17 49 32.1 +0.4
W23A Werner Place, 75.97 332 ⇑P P 17 49 32.6 +0.6
baz=76,SNR=6.5
V25A Rancho No Teng 75.98 333 ⇓P P 17 49 32.2 +0.2
baz=76,SNR=13
T29A Hugoton 75.99 336 ⇑P P 17 49 33.1 +1.1
baz=76
R33A Olander Ranch, 76.01 339 ⇓P P 17 49 32.9 +0.9
baz=76
214A Organ Pipe Nat 76.12 325 ⇑P P 17 49 34.1 +1.4
baz=76
214A Organ Pipe Nat 76.12 325 eP P 17 49 34.0 +1.3
comp=Z,9.8nm,1.0s
V24A Rampart Ranch, 76.13 333 ⇓P P 17 49 33.7 +0.8
baz=76
U26A Atchley Ranch, 76.16 334 ⇑P P 17 49 33.6 +0.6
baz=76
S30A Montezuma 76.16 337 ⇓P P 17 49 33.5 +0.6
baz=76
T28A Walsh 76.23 336 ⇑P P 17 49 33.5 +0.1
baz=77,SNR=9.4
R32A Long Quarter, 76.33 339 ⇑P P 17 49 34.3 +0.6
baz=77
S29A Ulysses 76.35 337 ⇑P P 17 49 34.3 +0.4
baz=77,SNR=6.0
KSU1 Kansas State U 76.36 341 ⇑P P 17 49 34.2 +0.4
baz=77
T27A Campo 76.39 335 ⇓P P 17 49 34.8 +0.5
baz=77,SNR=9.6
U25A Circle Dot Ran 76.40 334 ⇑P P 17 49 34.9 +0.5
baz=77,SNR=13
R31A Burdett 76.46 338 ⇑P P 17 49 35.2 +0.7
baz=77
V23A Ortiz Mt. (NFS 76.50 332 ⇓P P 17 49 36.0 +0.9
baz=77
TRY Troy 76.55 359 eP P 17 49 36.2 +1.4
comp=Z,723nm,3.0s
S28A Manter 76.58 336 ⇑P P 17 49 35.8 +0.5
baz=77,SNR=9.0
Q33A Connelly Farm, 76.61 340 ⇑P P 17 49 35.6 +0.3
baz=77
R30A Dighton 76.69 338 ⇓P P 17 49 36.8 +0.9
baz=77
T26A Comanche Natio 76.80 335 ⇑P P 17 49 37.3 +0.7
baz=77,SNR=7.3
Q32A Meitler Ranch, 76.81 339 ⇑P P 17 49 36.6 +0.2
baz=77,SNR=6.3
V22A San Miguel Ran 76.93 332 ⇓P P 17 49 38.8 +1.3
baz=77,SNR=18
P33A Williams Farm, 76.97 340 ⇑P P 17 49 38.0 +0.6
baz=77
U23A El Rito 77.01 332 ⇓P P 17 49 39.1 +1.1
baz=77
S27A Las Animas 77.01 335 ⇓P P 17 49 38.1 +0.3
baz=77,SNR=6.1
T25A Trinidad 77.06 334 ⇓P P 17 49 39.1 +0.9
baz=77,SNR=19
Q31A Ellis 77.08 339 ⇑P P 17 49 38.6 +0.7
baz=77
R29A Marienthal 77.09 337 ⇓P P 17 49 38.8 +0.7
baz=77
S26A Kim 77.16 335 ⇓P P 17 49 39.6 +1.0
baz=78,SNR=25
R28A Tribune 77.24 336 ⇑P P 17 49 39.3 +0.3
baz=78,SNR=9.0
113A Mohawk Valley, 77.24 325 ⇓P P 17 49 40.6 +1.6
baz=78
Q30A Quinter 77.30 338 ⇑P P 17 49 39.7 +0.4
baz=78,SNR=9.3
U22A Llaves 77.31 332 ⇓P P 17 49 40.8 +1.2
baz=78
T24B San Luis 77.35 333 ⇓P P 17 49 40.9 +1.0
baz=78
W18A Petrified Fore 77.40 329 ⇓P P 17 49 41.5 +1.4
baz=78
P32A Huiting Farm, 77.41 339 ⇓P P 17 49 40.1 +0.3
baz=78
Q29A Oakley 77.46 337 ⇑P P 17 49 41.1 +0.9
baz=78
R27A Eads 77.52 336 ⇑P P 17 49 40.9 +0.3
baz=78,SNR=12
S25A Robets Cordova 77.53 334 ⇓P P 17 49 41.5 +0.7
baz=78,SNR=15
P31A Stockton 77.55 339 ⇑P P 17 49 41.2 +0.6
baz=78
X16A Lo Mia Camp, P 77.55 328 ⇑P P 17 49 42.2 +1.2
baz=78,SNR=9.6
T23A Casias Ranch, 77.57 333 ⇓P P 17 49 41.7 +0.5
baz=78
R26A Arlington 77.75 335 ⇓P P 17 49 43.0 +1.1
baz=78,SNR=7.0
S24A Houchin Ranch, 77.80 334 ⇑P P 17 49 43.7 +1.3
baz=78,SNR=12
P30A Selden 77.83 338 ⇓P P 17 49 42.7 +0.5
baz=78
Y14A Wickenburg 77.85 326 ⇑P P 17 49 44.0 +1.5
baz=78
Q28A Sharon Springs 77.90 337 ⇓P P 17 49 43.4 +0.8
baz=78
O32A Brockman Farm, 77.91 340 ⇑P P 17 49 42.9 +0.3
baz=78
R25A Fountain Ranch 77.91 335 ⇑P P 17 49 43.9 +1.1
baz=78
P29A Atwood 78.10 338 ⇓P P 17 49 44.7 +1.0
baz=78
O31A Woolen Ranch, 78.11 339 ⇑P P 17 49 44.2 +0.5
baz=78
KSCO Kaye Shedlock' 78.11 336 ⇓P P 17 49 45.1 +1.3
baz=78
SCIA Stone Center 78.15 344 eP P 17 49 44.2 +0.3
comp=Z,30nm,0.8s
R24A Sanders Place, 78.28 334 ⇓P P 17 49 46.1 +1.1
baz=79,SNR=14
P28A Saint Francis 78.33 337 ⇓P P 17 49 46.1 +1.0
baz=79
Q26A Hugo 78.34 335 ⇑P P 17 49 46.3 +1.1
baz=79
O30A MW Ranch, Wils 78.36 339 ⇑P P 17 49 45.7 +0.6
baz=79
SWSC Sam W. Stewart 78.37 324 ⇓P P 17 49 46.6 +1.4
baz=79
N32A Stulken Farm, 78.38 340 ⇑P P 17 49 46.1 +0.9
baz=79
Y12C Blythe 78.41 325 ⇓P P 17 49 47.1 +1.6
baz=79
WUAZ Wupatki 78.44 328 ⇓P P 17 49 47.0 +1.2
baz=79
WUAZ Wupatki 78.44 328 eP P 17 49 47.6 +1.8
comp=Z,21nm,1.0s
LONY Lake Ozonia 78.46 358 eP P 17 49 46.3 +0.8
comp=Z,455nm,3.0s
S22A 4UR Ranch, Cre 78.50 333 ⇑P P 17 49 47.0 +0.7
baz=79,SNR=9.0
R23A Moffat 78.51 334 ⇑P P 17 49 47.0 +0.7
baz=79,SNR=7.2
O29A 4D Ranch, Culb 78.53 338 ⇓P P 17 49 47.0 +0.9
baz=79
Q25A Bedland, Calha 78.58 335 ⇓P P 17 49 47.3 +0.7
baz=79
MONP Monument Peak, 78.63 323 ⇓P P 17 49 48.8 +1.7
baz=79
PDMCI Parker Dam,Lak 78.68 326 ⇑P P 17 49 48.4 +1.5
baz=79
MVCO Mesa Verde 78.68 331 ⇓P P 17 49 48.2 +1.0
baz=79,SNR=7.5
MVCO Mesa Verde 78.68 331 eP P 17 49 48.3 +1.0
comp=Z,24nm,1.2s
BC3 Big Chuckawall 78.78 324 ⇑P P 17 49 49.7 +2.0
baz=79
SADO Sadowa 78.83 355 P P 17 49 47.0 -0.6
comp=Z,5.1nm,0.6s,baz=256,slow=3.2,SNR=6.0
O28A Krutsinger Ran 78.84 337 ⇓P P 17 49 48.8 +1.0
baz=79
P26A Davis Ranch, A 78.85 336 ⇓P P 17 49 48.9 +1.0
baz=79,SNR=5.2
BGNE Belgrade 78.93 340 ⇓P P 17 49 49.0 +0.8
baz=79
BGNE Belgrade 78.93 340 eP P 17 49 48.8 +0.6
comp=Z,46nm,1.0s
Q24A Divide 78.95 334 ⇑P P 17 49 49.4 +0.7
baz=79,SNR=11
IRM Iron Mountain 79.04 325 ⇑P P 17 49 50.7 +1.7
baz=79
P25A Willow Gulch B 79.09 335 ⇑P P 17 49 50.4 +1.1
baz=79,SNR=16
M31A Lambtecht Ranc 79.11 340 ⇓P P 17 49 50.2 +1.0
baz=80
N29A Votaw Ranch, W 79.11 338 ⇓P P 17 49 50.2 +0.9
baz=80
O27A Beecher Island 79.13 337 ⇓P P 17 49 50.4 +1.0
baz=80
W13A Hualapai Mount 79.22 326 ⇑P P 17 49 51.9 +1.7
baz=80,SNR=7.3
PFO Pinyon Flats O 79.23 324 P P 17 49 50.9 +0.8
comp=Z,6.9nm,0.8s,baz=116,slow=5.6,SNR=7.3
PFO Pinyon Flats O 79.23 324 ⇓P P 17 49 52.1 +2.0
baz=80
PFO Pinyon Flats O 79.23 324 P P 17 49 50.9 +0.8
PFO eP P 17 49 52.2 +2.0
BELC Belle Mtn. Jos 79.32 324 ⇓P P 17 49 52.3 +1.6
baz=80
O26A Horse Wrangler 79.45 336 ⇓P P 17 49 52.0 +0.8
baz=80,SNR=5.1
M30A Dale-Ortello V 79.55 339 ⇑P P 17 49 52.4 +0.8
baz=80
P23A Jefferson 79.56 334 ⇑P P 17 49 53.0 +0.9
baz=80
MURC Murrieta 79.59 323 ⇑P P 17 49 53.7 +1.6
baz=80
O25A Wiggins 79.61 336 ⇓P P 17 49 53.1 +1.0
baz=80
U15A North Rim 79.61 328 ⇑P P 17 49 53.6 +1.3
baz=80,SNR=8.7
OGNE Ogallala 79.67 337 ⇑P P 17 49 53.3 +0.9
baz=80
N27A Anderson Farm, 79.70 337 ⇑P P 17 49 53.5 +0.9
baz=80,SNR=8.2
M29A Burnside Ranch 79.70 339 ⇑P P 17 49 53.3 +0.8
baz=80
GMRC Granite Mounta 79.79 325 ⇑P P 17 49 55.0 +1.8
baz=80
SMCO Snowmass 79.80 333 eP P 17 49 54.9 +1.4
comp=Z,20nm,1.1s
L31A Butterfield Fa 79.84 340 ⇑P P 17 49 53.9 +0.7
baz=80
ISCO Idaho Springs 79.85 334 eP P 17 49 54.5 +0.9
ISCO Idaho Springs 79.85 334 ⇑P P 17 49 54.1 +0.4
baz=80,SNR=7.8
ISCO Idaho Springs 79.85 334 eP P 17 49 54.5 +0.9
L30A Spencer Herefo 79.88 339 ⇓P P 17 49 54.2 +0.8
baz=80
O24A Longmont 79.95 335 ⇓P P 17 49 54.8 +0.9
baz=80
N26A Koester Ranch, 79.95 337 ⇓P P 17 49 54.8 +0.9
baz=80,SNR=6.5
BOSA Boshof 80.05 118 eP P 17 49 55.2 +0.2
BOSA pmax pmax
comp=Z,72nm,1.4s
BOSA Boshof 80.05 118 P P 17 49 55.1 +0.2
comp=Z,23nm,0.9s,baz=224,slow=6.8,SNR=19
BOSA LR LR 18 23 27.6
comp=Z,429nm,18.1s,baz=230,slow=34
BOSA Boshof 80.05 118 eP P 17 49 55.2 +0.2
comp=Z,72nm,1.4s
P22A Eagle 80.09 334 ⇓P P 17 49 55.7 +0.8
baz=80,SNR=6.2
HEC Hector,Ludlow 80.15 324 ⇑P P 17 49 56.8 +1.7
baz=80
L29A Maesberg Ranch 80.21 339 ⇑P P 17 49 56.3 +1.1
baz=81
M27A Reverse DX Ran 80.31 337 ⇓P P 17 49 55.9 +0.2
baz=81
O23A Lake Granby, G 80.33 334 ⇑P P 17 49 57.0 +0.8
baz=81,SNR=13
BFSC Mount Baldy Ra 80.33 323 ⇑P P 17 49 57.5 +1.4
baz=81
TUQ Turquoise Moun 80.45 325 ⇓P P 17 49 58.1 +1.4
baz=81
N24A Carr 80.51 335 ⇓P P 17 49 58.0 +1.0
baz=81
O22A Kremmling 80.51 334 ⇑P P 17 49 57.6 +0.4
baz=81,SNR=9.0
K30A Basset 80.52 340 ⇑P P 17 49 57.3 +0.5
baz=81,SNR=7.4
ECSD EROS Data Cent 80.69 342 ⇓P P 17 49 57.6 -0.1
baz=81,SNR=32
ECSD EROS Data Cent 80.69 342 eP P 17 49 57.8 +0.1
comp=Z,49nm,1.0s
GSC Goldstone, Bar 80.76 324 eP P 17 49 59.9 +1.5
GSC pmax pmax
comp=Z,48nm,1.8s
GSC Goldstone, Bar 80.76 324 ⇑P P 17 49 59.9 +1.5
baz=81
GSC Goldstone, Bar 80.76 324 eP P 17 49 59.9 +1.5
comp=Z,48nm,1.8s
L27A T5 Ranch, Ells 80.79 338 ⇑P P 17 49 59.1 +0.7
baz=81
K29A Lazy Trails An 80.80 339 ⇑P P 17 49 58.9 +0.6
baz=81
N23A Red Feather La 80.94 335 ⇑P P 17 49 59.7 +0.3
baz=81,SNR=5.3
SHPR Sheep Range 80.96 326 eP P 17 50 01.0 +1.5
EDW2 Edwards Air Fo 81.01 323 ⇓P P 17 50 00.9 +1.3
baz=81
CCUT Cedar City 81.02 328 eP P 17 50 01.6 +1.8
comp=Z,213nm,2.5s
N22A Wattenberg Ran 81.04 334 ⇓P P 17 50 00.6 +0.7
baz=81,SNR=10
M24A Cheyenne 81.06 336 ⇑P P 17 50 00.5 +0.6
baz=81,SNR=5.3
K28A Ten Mile Ranch 81.07 339 ⇑P P 17 50 00.6 +0.9
baz=81,SNR=8.9
J30A Dallas 81.08 340 ⇑P P 17 50 00.3 +0.5
baz=81
O20A White River Ci 81.11 333 ⇑P P 17 50 01.0 +0.8
baz=82,SNR=5.7
O20A White River Ci 81.11 333 eP P 17 50 01.4 +1.2
comp=Z,138nm,2.3s
PHWY Pilot Hill 81.13 335 eP P 17 50 01.1 +0.7
comp=Z,51nm,1.8s
SRU San Rafael Swe 81.13 331 eP P 17 50 01.3 +1.0
SRU pmax pmax
comp=Z,15nm,1.0s
SRU San Rafael Swe 81.13 331 eP P 17 50 01.3 +1.0
comp=Z,15nm,1.0s
OSI Osito Audit: C 81.16 323 ⇑P P 17 50 01.1 +0.7
baz=82
SPMN Marine on St. 81.23 345 ⇑P P 17 50 00.6 +0.2
baz=82,SNR=7.2
ARUT Antelope Range 81.25 328 eP P 17 50 02.1 +1.1
ARUT pmax pmax
comp=Z,238nm,1.1s
ARUT Antelope Range 81.25 328 eP P 17 50 02.1 +1.1
comp=Z,238nm,1.1s
K27A Flueckinger Fa 81.33 338 ⇓P P 17 50 02.7 +1.5
baz=82
LRMC Laurel Mtn Rad 81.33 324 ⇑P P 17 50 03.0 +1.5
baz=82
M23A Laramie 81.37 335 ⇑P P 17 50 02.4 +0.8
baz=82
L25A Engebretsen Ra 81.38 337 ⇑P P 17 50 02.4 +0.9
baz=82
J29A Okreek 81.39 340 ⇓P P 17 50 01.9 +0.5
baz=82,SNR=18
TMUT Trail Mountain 81.57 330 eP P 17 50 04.1 +1.3
comp=Z,15nm,1.1s
I30A Oacoma 81.61 340 ⇓P P 17 50 03.1 +0.6
baz=82
M22A Cedar Creek Ra 81.62 335 ⇓P P 17 50 03.5 +0.6
baz=82
K26A Motz Farm, Whi 81.62 337 ⇑P P 17 50 03.4 +0.6
baz=82
J28A Allard Ranch, 81.68 339 ⇑P P 17 50 03.4 +0.5
baz=82,SNR=11
N20A Spence Gulch, 81.73 333 ⇓P P 17 50 04.7 +1.2
baz=82
J27A Elkhorn Farm, 81.75 338 ⇓P P 17 50 04.3 +0.8
baz=82,SNR=8.9
K25A Mack Ranch, Ha 81.76 337 ⇓P P 17 50 04.8 +1.2
baz=82
ISA Isabella, Lake 81.87 323 ⇑P P 17 50 05.7 +1.5
baz=82
L23A Garrett 81.93 335 ⇓P P 17 50 05.1 +0.5
baz=82
L22A Ellis Ranch, M 82.11 335 ⇓P P 17 50 06.0 +0.5
baz=82
J26A Sides Ranch, S 82.14 338 ⇑P P 17 50 06.2 +0.7
baz=82,SNR=8.2
K24A Anderson Ranch 82.17 336 ⇑P P 17 50 06.6 +0.8
baz=82
I28A Midland 82.18 339 ⇑P P 17 50 06.2 +0.6
baz=82,SNR=8.9
LBTB Lobatse 82.30 115 eP P 17 50 07.3 +0.3
LBTB pmax pmax
comp=Z,33nm,0.9s
LBTB Lobatse 82.30 115 eP P 17 50 07.2 +0.3
comp=Z,33nm,0.9s
VES Vestal, Richgr 82.31 323 ⇓P P 17 50 08.0 +1.6
baz=83
MPU Maple Canyon 82.35 330 eP P 17 50 08.0 +1.2
comp=Z,22nm,1.2s
J25A Sunshine Ranch 82.44 337 ⇓P P 17 50 07.8 +0.7
baz=83
K23A Bowen Ranch, D 82.47 336 ⇓P P 17 50 07.7 +0.4
baz=83,SNR=5.5
H29A Onida 82.48 340 ⇑P P 17 50 07.4 +0.3

baz=83,SNR=9.4
I27A Quinn 82.51 339 ⇑P P 17 50 08.0 +0.7
baz=83
G30A Faulkton 82.65 341 ⇑P P 17 50 07.8 -0.2
baz=83,SNR=6.4
J24A Dixon Ranch, L 82.66 337 ⇑P P 17 50 08.8 +0.6
baz=83,SNR=5.7
R11A Troy Canyon, C 82.67 327 ⇑P P 17 50 09.3 +0.8
baz=83
R11A Troy Canyon, C 82.67 327 eP P 17 50 09.0 +0.6
comp=Z,15nm,1.0s
K22A Casper 82.69 335 ⇑P P 17 50 09.2 +0.7
baz=83,SNR=6.1
K22A Casper 82.69 335 eP P 17 50 09.5 +1.1
comp=Z,45nm,1.3s
I26A New Underwood 82.72 338 ⇑P P 17 50 09.2 +0.7
baz=83
H28A Mission Ridge 82.76 340 ⇓P P 17 50 08.8 +0.2
baz=83,SNR=14
JLU Jordanelle 82.77 331 eP P 17 50 10.1 +1.0
G29A Hoven 82.92 341 ⇑P P 17 50 09.3 -0.1
baz=83,SNR=6.4
K21A Alcova 82.93 335 ⇑P P 17 50 10.0 +0.2
baz=83,SNR=9.1
CTU Camp Tracy 82.97 331 eP P 17 50 11.2 +1.2
comp=Z,7.2nm,0.8s
I25A Rochford 82.98 338 ⇑P P 17 50 10.4 +0.5
baz=83,SNR=13
DUG Dugway, Tooele 82.99 330 eP P 17 50 11.4 +1.4
DUG pmax pmax
comp=Z,76nm,1.8s
DUG Dugway, Tooele 82.99 330 ⇓P P 17 50 11.0 +0.9
baz=83
DUG Dugway, Tooele 82.99 330 eP P 17 50 11.4 +1.4
comp=Z,76nm,1.8s
H27A Howes 83.03 339 ⇓P P 17 50 10.2 +0.2
baz=83
G28A Parade 83.09 340 ⇑P P 17 50 10.3 0.0
baz=84,SNR=6.0
I24A Kuemmerle Ranc 83.12 337 ⇓P P 17 50 10.9 +0.3
baz=84
RSSD Black Hills 83.17 337 eP P 17 50 10.6 -0.4
RSSD pmax pmax
comp=Z,11nm,0.9s
RSSD Black Hills 83.17 337 eP P 17 50 10.6 -0.4
comp=Z,11nm,0.9s
TPH Tonopah 83.19 326 eP P 17 50 12.2 +1.0
TPH pmax pmax
comp=Z,27nm,1.2s
TPH Tonopah 83.19 326 eP P 17 50 12.2 +1.0
comp=Z,27nm,1.2s
F30A Leola 83.28 341 ⇓P P 17 50 11.2 0.0
baz=84,SNR=7.6
J22A Midwest 83.35 336 ⇓P P 17 50 11.6 -0.2
baz=84
F29A Eureka 83.49 341 ⇑P P 17 50 12.2 -0.1
baz=84,SNR=14
EYMN Ely 83.58 347 eP P 17 50 12.5 -0.2
comp=Z,33nm,1.1s
J21A Lysite 83.62 335 ⇑P P 17 50 13.8 +0.6
baz=84
G27A Dupree 83.67 339 ⇓P P 17 50 13.8 +0.5
baz=84
BGU Big Grassy Mou 83.69 330 eP P 17 50 14.5 +0.8
comp=Z,13nm,1.4s
F28A McLaughlin 83.77 340 ⇓P P 17 50 14.6 +0.9
baz=84
I22A 9 Mile Ranch, 83.77 336 ⇑P P 17 50 14.0 +0.1
baz=84,SNR=9.9
SPUT South Promonto 83.77 331 eP P 17 50 13.7 -0.3
comp=Z,39nm,1.4s
G26A Maurine 83.78 339 ⇓P P 17 50 14.3 +0.4
baz=84
J20A Shoshoni 83.86 334 ⇑P P 17 50 14.9 +0.5
baz=84,SNR=17
E30A Jud 83.86 342 ⇑P P 17 50 14.2 0.0
baz=84,SNR=6.9
PDAR Pinedale Array 83.89 333 P P 17 50 14.5 -0.2
comp=Z,4.3nm,1.0s,baz=163,slow=4.6,SNR=19
H24A Dirks Ranch, A 83.89 337 ⇓P P 17 50 14.8 +0.3
baz=84
G25A Newell 83.94 338 ⇓P P 17 50 15.0 +0.3
baz=84
I21A Big Trails, Te 83.98 335 ⇓P P 17 50 14.9 -0.2
baz=84,SNR=6.0
NVAR Mina Array Bea 83.99 325 P P 17 50 16.1 +0.8
comp=Z,5.4nm,0.8s,baz=158,slow=6.1,SNR=4.6
H23A Clabaugh Cattl 84.00 337 ⇑P P 17 50 15.5 +0.4
baz=84
E29A Napoleon 84.12 341 ⇑P P 17 50 15.5 0.0
baz=84,SNR=7.0
J19A Crowheart 84.13 334 ⇓P P 17 50 15.9 0.0
baz=84,SNR=13
F27A Lemmon 84.14 340 ⇓P P 17 50 15.7 0.0
baz=84,SNR=22
HVU Hansel Valley 84.30 331 eP P 17 50 17.1 +0.4
HVU pmax pmax
comp=Z,15nm,0.8s
HVU Hansel Valley 84.30 331 eP P 17 50 17.1 +0.4
comp=Z,15nm,0.8s
TORD Torodi Ar. Bea 84.34 70 P P 17 50 17.4 +0.1
comp=Z,23nm,0.9s,baz=247,slow=4.3,SNR=79
TORD LR LR 18 27 00.6
comp=Z,971nm,18.6s,baz=245,slow=35
H22A Clearmont 84.35 336 ⇑P P 17 50 17.2 +0.3
baz=85
G24A Alzada 84.37 338 ⇑P P 17 50 17.3 +0.4
baz=85
D30A Buchanan 84.39 342 ⇓P P 17 50 17.0 +0.2
baz=85,SNR=6.7
I20A Worland 84.39 335 ⇓P P 17 50 17.5 +0.4
baz=85,SNR=9.8
E28A Huff 84.41 341 ⇓P P 17 50 17.3 +0.4
baz=85
ELK Elko 84.47 329 P P 17 50 18.3 +0.6
comp=Z,7.7nm,0.9s,baz=169,slow=2.9,SNR=15
ELK Elko 84.47 329 P P 17 50 18.3 +0.6
ELK eP P 17 50 18.5 +0.8
D29A Pettibone, Tap 84.56 342 ⇓P P 17 50 17.8 +0.1
baz=85,SNR=16
G23A Biddle 84.57 337 ⇑P P 17 50 17.8 -0.1
baz=85
H21A Big Horn, Sher 84.61 336 ⇑P P 17 50 18.0 -0.2
baz=85
F25A Bowman 84.61 339 ⇓P P 17 50 18.1 0.0
baz=85
I19A Meeteetse 84.78 334 ⇓P P 17 50 19.4 +0.3
baz=85,SNR=6.6
AGMN Agassiz Nation 84.81 344 ⇑P P 17 50 18.6 -0.3
baz=85
AGMN Agassiz Nation 84.81 344 eP P 17 50 18.8 -0.1
comp=Z,21nm,1.1s
E26A Carlson Angus 84.81 339 ⇓P P 17 50 19.3 +0.2
baz=85
H20A Greybull 84.82 335 ⇓P P 17 50 19.1 -0.1
baz=85,SNR=11
F24A Ekalaka 84.84 338 ⇑P P 17 50 20.0 +0.8
baz=85
C30A Mose, Pekin 84.87 342 ⇓P P 17 50 19.3 0.0
baz=85,SNR=10
G22A Birney 84.88 337 ⇓P P 17 50 19.3 -0.2
baz=85
REDW Red Top Meadow 84.89 333 eP P 17 50 20.4 +0.7
comp=Z,69nm,2.0s
LOHW Long Hollow 85.00 333 eP P 17 50 20.6 +0.2
comp=Z,86nm,2.3s
F23A Volborg 85.04 337 ⇑P P 17 50 20.2 -0.1
baz=85,SNR=7.9
D27A Center 85.12 340 ⇑P P 17 50 20.7 +0.1
baz=86
FXWY Fox Creek 85.19 333 eP P 17 50 21.3 +0.1
comp=Z,18nm,1.7s
G21A Lodge Grass 85.19 336 ⇓P P 17 50 21.0 -0.1
baz=86,SNR=6.7
I17A Pilgrim Ck. 85.26 333 ⇑P P 17 50 22.1 +0.6
baz=86,SNR=9.4
D26A Manning 85.31 340 ⇓P P 17 50 21.8 +0.2
baz=86,SNR=7.4
H19A Powell 85.32 335 ⇑P P 17 50 22.0 +0.2
baz=86,SNR=5.5
F22A Rosebud 85.36 337 ⇑P P 17 50 22.2 +0.3
baz=86
IMW Indian Meadow 85.37 333 eP P 17 50 22.6 +0.4
comp=Z,18nm,1.1s
E24A Baker 85.44 338 ⇓P P 17 50 22.6 +0.4
baz=86,SNR=6.9
FLWY Flagg Ranch 85.44 333 eP P 17 50 23.2 +0.7
comp=Z,158nm,2.1s

B30A Myrvik Farm, E 85.53 343 ⇓P P 17 50 22.5 0.0
baz=86,SNR=44
G20A Bridger 85.53 335 ⇑P P 17 50 22.5 -0.3
baz=86,SNR=24
H18A Shoshone NF, C 85.57 334 ⇑P P 17 50 23.1 0.0
baz=86,SNR=33
H17A Grant Village 85.66 333 ⇓P P 17 50 24.4 +0.7
baz=86
H17A Grant Village 85.66 333 eP P 17 50 24.6 +1.0
comp=Z,26nm,1.8s
C27A Sayler Ranch, 85.67 341 ⇑P P 17 50 23.5 +0.2
baz=86,SNR=6.4
D25A Fairfield 85.68 339 ⇓P P 17 50 23.6 +0.2
baz=86
F21A Absaloka Mine, 85.69 336 ⇑P P 17 50 24.1 +0.6
baz=86
E23A Ismay 85.70 338 ⇓P P 17 50 24.1 +0.7
baz=86
B29A Wagenman Farm, 85.80 342 ⇑P P 17 50 23.9 0.0
baz=86,SNR=9.0
YFT Old Faithful 85.81 333 eP P 17 50 26.8 +2.5
RLMT Red Lodge 85.81 335 eP P 17 50 24.3 0.0
E22A Miles City 85.85 337 ⇑P P 17 50 24.2 -0.1
baz=86,SNR=5.1
C26A Wahner Farm, P 85.94 340 ⇓P P 17 50 25.1 +0.5
baz=86
D24A Glendive 85.95 339 ⇓P P 17 50 25.2 +0.5
baz=86
A30A Hoffart Farm, 85.98 343 ⇓P P 17 50 24.4 -0.4
baz=86,SNR=11
F20A Billings 86.01 336 ⇑P P 17 50 25.2 +0.1
baz=86
B28A Dugan Ranch, T 86.04 342 ⇑P P 17 50 25.0 -0.1
baz=86,SNR=5.9
YMR Madison River 86.04 333 eP P 17 50 26.8 +1.4
A29A Manning Farm, 86.19 342 ⇓P P 17 50 25.4 -0.4
baz=87,SNR=15
D23A Lindsay 86.27 338 ⇑P P 17 50 26.5 +0.2
baz=87,SNR=11
E21A Keefer Ranch, 86.30 337 ⇓P P 17 50 26.8 +0.3
baz=87
F19A Roth Farm, Mol 86.33 335 ⇑P P 17 50 26.6 -0.2
baz=87,SNR=10.0
C24A Savage 86.35 339 ⇓P P 17 50 26.9 +0.2
baz=87,SNR=7.3
QLMT Earthquake Lak 86.35 333 eP P 17 50 28.4 +1.4
A28A Rude Farm, Bot 86.44 342 ⇓P P 17 50 27.1 0.0
baz=87
HLID Hailey 86.45 331 ⇑P P 17 50 28.2 +0.7
baz=87,SNR=13
B26A Jensen Ranch, 86.48 340 ⇓P P 17 50 27.8 +0.5
baz=87
D22A Cohagen 86.55 337 ⇓P P 17 50 27.8 +0.2
baz=87,SNR=7.0
E20A Meyer Farm, Mu 86.62 336 ⇓P P 17 50 28.0 0.0
baz=87,SNR=19
B25A Knox Farm, Ray 86.64 340 ⇓P P 17 50 28.2 +0.1
baz=87
ULM Lac du Bonnet 86.65 345 P P 17 50 28.0 0.0
ULM Lac du Bonnet 86.65 345 P P 17 50 27.9 0.0
comp=Z,13nm,0.9s,baz=162,slow=3.7,SNR=21
D21A La Casta Ranch 86.74 337 ⇓P P 17 50 28.7 0.0
baz=87,SNR=12
E19A Rath Farm, Rou 86.81 336 ⇑P P 17 50 29.1 +0.1
baz=87,SNR=23
C23A Lambert 86.82 338 ⇓P P 17 50 29.1 +0.1
baz=87,SNR=23
A26A Wade Farm, Ken 86.90 341 ⇓P P 17 50 29.5 +0.2
baz=87,SNR=5.4
MFID Camas Ranch 86.92 330 eP P 17 50 30.3 +0.7
comp=Z,8.4nm,0.9s
C22A Vida 86.99 338 ⇓P P 17 50 30.0 +0.3
baz=87
BOZ Bozeman (W) 87.12 333 eP P 17 50 30.6 0.0
BOZ Bozeman (W) 87.12 333 eP P 17 50 30.6 0.0
DGMT Dagmar 87.12 339 ⇑P P 17 50 30.9 +0.5
baz=88
DGMT Dagmar 87.12 339 eP P 17 50 31.1 +0.7
comp=Z,66nm,0.9s
A25A Svangstu Ranch 87.23 340 ⇑P P 17 50 31.0 +0.1
baz=88,SNR=6.0
DLMT Dillon 87.24 333 eP P 17 50 32.4 +1.2
comp=Z,21nm,1.2s
WVOR Wild Horse Val 87.33 327 eP P 17 50 33.0 +1.3
WVOR pmax pmax
comp=Z,15nm,1.1s
WVOR Wild Horse Val 87.33 327 eP P 17 50 33.0 +1.3
comp=Z,15nm,1.1s
B23A Brockton 87.35 339 ⇓P P 17 50 31.7 +0.2
baz=88,SNR=6.0
C21A Desert Coulee 87.44 337 ⇑P P 17 50 32.0 0.0
baz=88,SNR=7.0
D19A Cripps Ranch, 87.45 336 ⇑P P 17 50 32.4 +0.3
baz=88
A24A Westby 87.47 340 ⇓P P 17 50 32.1 0.0
baz=88,SNR=7.6
B22A Reddig Ranch S 87.51 338 ⇓P P 17 50 32.8 +0.5
baz=88
LRM Limekiln Ridge 87.58 333 eP P 17 50 33.9 +1.0
C20A Veseth Ranch, 87.64 337 ⇓P P 17 50 32.7 -0.2
baz=88,SNR=8.5
MOD Modoc Plateau 87.67 326 eP P 17 50 34.7 +1.4
comp=Z,18nm,1.0s
WDC Whiskeytown Da 87.70 324 eP P 17 50 33.6 +0.3
WDC pmax pmax
comp=Z,14nm,0.9s
WDC Whiskeytown Da 87.70 324 eP P 17 50 33.6 +0.3
comp=Z,14nm,0.9s
B21A Ellsworth Farm 87.94 338 ⇓P P 17 50 34.4 0.0
baz=88,SNR=10
C19A Slack Wire Ran 88.00 336 ⇑P P 17 50 34.6 -0.1
baz=88,SNR=5.7
N02D Trinity Center 88.09 324 ⇑P P 17 50 36.0 +0.8
baz=88
A22A Carney Farms, 88.10 339 ⇑P P 17 50 35.3 +0.2
baz=88,SNR=18
B20A Solberg Farm, 88.28 337 ⇓P P 17 50 35.9 0.0
baz=89,SNR=9.7
M04C Macdoel 88.30 325 ⇑P P 17 50 37.2 +0.9
baz=89
A21A Bergtoll Ranch 88.41 338 ⇓P P 17 50 36.4 -0.2
baz=89,SNR=15
M02C Callahan 88.48 324 ⇓P P 17 50 38.2 +1.1
baz=89
EGMT Eagleton 88.49 336 ⇑P P 17 50 37.4 +0.4
baz=89
EGMT Eagleton 88.49 336 eP P 17 50 37.1 0.0
comp=Z,128nm,2.3s
K05A Summer Lake 88.59 326 eP P 17 50 39.1 +1.3
B19A Brinkman Farms 88.59 336 ⇓P P 17 50 38.0 +0.5
baz=89
A20A Cobblestone Ra 88.63 337 ⇓P P 17 50 37.6 0.0
baz=89,SNR=15
YBH Yreka Blue Hor 88.67 325 eP P 17 50 38.4 +0.4
YBH pmax pmax
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 88.67 325 eP P 17 50 38.4 +0.4
comp=Z,11nm,1.0s
BMO Blue Mountains 88.70 330 eP P 17 50 38.4 +0.2
SCHQ Schefferville 88.77 3 P P 17 50 37.4 -0.7
comp=Z,4.7nm,0.9s,baz=342,slow=3.6,SNR=4.8
SCHQ LR LR 18 31 00.3
comp=Z,290nm,21.0s,baz=205,slow=36
CHMT Chamberlain Mo 88.80 333 eP P 17 50 38.8 +0.1
K04D Chiloquin, OR 88.91 326 ⇑P P 17 50 40.3 +1.1
baz=89
A19A Klindworth Far 88.94 337 ⇑P P 17 50 39.1 0.0
baz=89,SNR=7.0
MSO Missoula 88.98 333 ⇓P P 17 50 40.1 +0.7
baz=89
I07A Izee 89.03 328 eP P 17 50 41.1 +1.4
J05D Fort Rock, OR 89.18 326 ⇑P P 17 50 41.5 +1.0
baz=90
L02D Cave Junction, 89.42 324 ⇓P P 17 50 43.0 +1.5
baz=90
J04D Umpqua Nationa 89.55 326 ⇓P P 17 50 43.5 +1.2
baz=90
SWMT Swartz Lake 89.57 333 eP P 17 50 42.9 +0.8
F10A Beach Ranch, E 89.58 330 eP P 17 50 43.4 +1.2
G08A Pilot Rock 89.75 329 eP P 17 50 44.0 +0.9
YBMT Yellow Bay 89.87 333 eP P 17 50 44.1 +0.5
JTMT Jette 89.88 333 eP P 17 50 44.4 +0.8
I04A Tendick Farm, 90.11 326 ⇓P P 17 50 45.1 +0.4
baz=90
BLMT Blacktail Moun 90.13 333 eP P 17 50 45.5 +0.7
BSMT Bassoo Peak 90.15 333 eP P 17 50 45.7 +0.8
E09A Wood Farm, Sta 90.39 330 eP P 17 50 47.8 +1.9

G06A Carlson Farm, 90.44 328 eP P 17 50 47.7 +1.5
WALA Waterton Lakes 90.83 334 eP P 17 50 48.6 +0.6
D08A Wollman Farm, 91.14 330 eP P 17 50 50.4 +1.0
NEW Newport 91.39 332 eP P 17 50 50.5 -0.1
NEW pmax pmax
comp=Z,16nm,1.5s
NEW Newport 91.39 332 ⇑P P 17 50 50.2 -0.3
baz=92
NEW Newport 91.39 332 eP P 17 50 50.5 -0.1
comp=Z,16nm,1.5s
C09A Chrisman Ranch 91.47 331 eP P 17 50 51.7 +0.8
MDT Midelt 91.98 51 P P 17 50 53.4 -0.4
comp=Z,7.3nm,1.1s,baz=301,slow=1.6,SNR=5.5
LON Longmire 92.13 328 eP P 17 50 54.4 +0.4
LON Longmire 92.13 328 eP P 17 50 54.4 +0.4
TAM Tamanrasset 92.97 65 eP P 17 50 59.0 +0.4
TAM pmax pmax
comp=Z,25nm,1.6s
TAM Tamanrasset 92.97 65 eP P 17 50 59.0 +0.4
comp=Z,25nm,1.6s
EDM Edmonton 94.12 337 eP P 17 51 01.9 -1.1
EDM Edmonton 94.12 337 eP P 17 51 01.9 -1.1
FCC Fort Churchill 94.39 349 eP P 17 51 04.0 0.0
FCC Fort Churchill 94.39 349 eP P 17 51 04.0 0.0
ESDC Sonseca Array 96.75 46 P P 17 51 15.0 -0.4
comp=Z,0.2nm,0.4s,baz=244,slow=4.1,SNR=4.2
ESDC LR LR 18 35 06.2
comp=Z,401nm,18.1s,baz=235,slow=36
FRB Frobisher Bay 97.63 2 LR LR 18 39 30.7
comp=Z,244nm,19.1s,baz=182,slow=38
YKA Yellowknife Ar 102.20 341 P Pdif 17 51 38.6 -0.4
comp=Z,1.1nm,0.9s,baz=139,slow=4.4,SNR=20
GERES GERESS Array B 112.33 45 PKiKP PKiKP 17 56 20.5 +0.2
comp=Z,0.8nm,0.9s,baz=322,slow=8.5,SNR=3.8
KHC Kasperske Hory 112.39 45 AMS AMS 18 46 30.0
comp=Z,400nm,17.2s
CLL Collm 113.03 43 ePP PP 17 57 12.0 +0.6
CLL ePS **PS 18 06 48.0 +1.6**
CLL ePPS PPS 18 08 00.0
CLL e(SS) 18 12 42.0
CLL e 18 18 00.0
CLL Lm MLR 18 42 00.0
comp=Z,500nm,21.1s
PRU Pruhonice 113.33 45 AMS AMS 18 44 40.0
comp=Z,500nm,22.4s
TREC Trest 113.58 46 AMS AMS 18 52 50.0
comp=Z,500nm,17.8s
ILAR Eielson Array 114.32 333 PKP PKPdf 17 56 23.1 -0.5
comp=Z,0.8nm,0.9s,baz=190,slow=3.2,SNR=6.1
COLA College 114.73 333 i PKiKP PKPdf 17 56 26.3 +2.0
VYHS Vyhne 115.27 47 ePKiKP PKPdf 17 56 25.8 -0.1
VYHS Vyhne 115.27 47 ePKP PKPdf 17 56 25.8 -0.1
OKC Ostrava-Krasne 115.39 46 AMS AMS 18 49 40.0
comp=Z,400nm,18.0s
NOA NORSAR Array B 116.21 33 PKP PKPdf 17 56 27.2 -0.1
comp=Z,1.4nm,1.0s,baz=75,slow=3.5,SNR=3.7
ASAR Alice Springs 117.38 207 PKP PKPdf 17 56 29.8 -1.2
comp=Z,1.0nm,0.8s,baz=116,slow=1.8,SNR=8.0
KOLS Kolonicke sedl 117.54 48 ePKiKP PKPdf 17 56 30.1 -0.1
KOLS Kolonicke sedl 117.54 48 ePKP PKPdf 17 56 30.1 -0.1
WRA Warramunga Arr 120.57 209 PKP PKPdf 17 56 36.0 -1.1
comp=Z,2.4nm,0.9s,baz=172,slow=1.5,SNR=26
WRAB Tennant Creek 120.57 209 i PKiKP PKPdf 17 56 36.4 -0.7
BRTR Keskin Array B 121.98 61 PKP PKPdf 17 56 39.4 +0.1
comp=Z,1.9nm,0.8s,baz=183,slow=2.5,SNR=9.7
KIEV Kiev 122.36 48c i PKiKP PKPdf 17 56 38.3 -1.1
KIEV Kiev 122.36 48 ePKPdf PKPdf 17 56 38.0 -1.3
AKASG Malin Array Be 122.37 48 PKP PKPdf 17 56 38.5 -0.9
comp=Z,1.6nm,0.6s,baz=262,slow=2.6,SNR=5.3
VSU Vasula 122.88 38 i PKiKP PKPdf 17 56 39.9 -0.2
TNA Tin City 122.91 330 ePKPdf PKPdf 17 56 40.5 +0.5
FINES FINESS Array B 123.18 35 PKP PKPdf 17 56 40.8 +0.1
comp=Z,2.1nm,0.9s,baz=96,slow=1.9,SNR=4.4
ARCES ARCESS Array B 124.21 25 PKP PKPdf 17 56 42.5 +0.1
comp=Z,3.9nm,1.0s,baz=236,slow=4.1,SNR=6.7
ANN Anapa 126.18 56 eP Pdif 17 53 33.2 +7.1
OBN Obninsk 127.62 43c i PKiKP PKPdf 17 56 49.0 -0.3
OBN pmax pmax
comp=Z,22nm,1.6s
OBN MLR MLR
comp=Z,657nm,22.0s
TMCR Tamitsa 128.89 32 ePKiKP PKPdf 17 56 59.5 +8.0
TMCR pmax pmax
comp=Z,13nm,1.0s
KLMR Klimovskoe 129.59 36 ePKiKP PKPdf 17 56 51.2 -1.7
KLMR pmax pmax
comp=Z,41nm,1.6s
KIV Kislovodsk 129.65 58 i PKiKP PKPdf 17 56 53.7 0.0
KIV e 17 59 01.6
KIV ePS **PS 18 09 16.0 +0.6**
KIV eSS SS 18 16 24.9 -1.4
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,212nm,20.0s
KBZ Khabaz 129.75 59 PKP PKPdf 17 56 54.0 +0.3
comp=Z,3.5nm,1.0s,baz=220,slow=3.9,SNR=5.5
GOF Gofitskoye 130.12 57 ePKiKP PKPdf 17 56 55.1 +0.6
GOF pmax pmax
comp=Z,20nm,0.8s
PRGR Permogore 132.51 35 ePKiKP PKPdf 17 56 57.6 -0.8
BILL Bilibino 132.96 334 ⇑ i PKiKP PKPdf 17 57 00.6 +1.5
BILL pmax pmax
comp=Z,34nm,1.3s
BILL Bilibino 132.96 334 ePKPdf PKPdf 17 56 59.3 +0.2
ARU Arti 139.93 41 i PKiKP PKPdf 17 57 13.2 +0.8
ARU MLR MLR
comp=Z,373nm,20.0s
ARU Arti 139.93 41 ePKPdf PKPdf 17 57 12.5 +0.2
GEYT Alibeck 139.98 70 PKP PKPdf 17 57 13.7 +0.5
comp=Z,1.4nm,0.7s,baz=242,slow=3.2,SNR=5.3
AKTO Aktyubinsk 140.51 50 PKP PKPdf 17 57 14.2 +0.5
comp=Z,2.6nm,0.9s,baz=311,slow=2.3,SNR=7.4
PALK Pallekele 143.32 131 i PKiKP PKPbc 17 57 18.0 +1.0
GSI Gunungsitoli 145.91 161 ePKPdf PKPbc 17 57 24.9 0.0
POO Poona 145.95 109 i PKiKP PKPdf 17 57 23.0 -1.2
comp=Z,159nm,1.2s
KSM Kuching 147.38 185 ePKPbc PKPbc 17 57 28.8 -0.4
BRVK Borovoye 147.39 43ce PKP2 PKPbc 17 57 28.3 +0.2
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK Borovoye 147.39 43 ePKPdf PKPdf 17 57 26.7 +1.1
BVA0 Borovoye Array 147.46 43 i PKiKP PKPdf 17 57 26.0 +0.3
BVA0 pmax pmax
comp=Z,13nm,0.9s
PSI Prapat 147.69 163 PKPbc PKPbc 17 57 29.4 -0.8
comp=Z,5.8nm,0.4s,baz=209,slow=5.6,SNR=16
VOSK Vostochnaya 147.90 43 PKiKP PKPdf 17 57 26.6 +0.2
VOSK pmax pmax
comp=Z,69nm,1.6s
KBL Kabul 148.08 78 ePKiKP PKPdf 17 57 28.5 +0.9
KBL Kabul 148.08 78 ePKPdf PKPdf 17 57 28.5 +0.9
YAK Yakutsk 148.87 340 ePKP2 PKPab 17 57 34.8 -0.9
YAK e 18 01 07.7
YAK eSS SS 18 20 08.4 -1.8
YAK pmax pmax
comp=Z,141nm,4.1s
YAK pmax pmax
comp=E,130nm,4.9s
YAK pmax pmax
comp=N,59nm,4.3s
YAK Yakutsk 148.87 340 ePKPdf PKPdf 17 57 27.5 -0.2
HYB Hyderabad 148.92 115 i PKP PKPbc 17 57 32.5 -0.7
YUK Yuzh-Kuril'sk 149.16 300 i PKHKP PKPpre 17 57 27.4
YUK i 17 57 35.1
YUK i SS SS 18 20 16.5 +1.2
YUK MLR MLR
comp=N,255nm,18.0s
YUK MLR MLR
comp=Z,293nm,18.0s
MYLDM Lahad Datu 149.51 201 ePKPab PKPab 17 57 38.0 -1.6
KK31 Karatay Array 149.69 62 PKHKP PKPbc 17 57 33.8 -0.6
KK31 pmax pmax
comp=Z,33nm,1.3s
IPM Ipoh 149.77 166 ePKPbc PKPbc 17 57 34.4 -1.0
KULM Kulim 150.49 165 ePKPbc PKPbc 17 57 36.4 -0.8
YSS Yuzh-Sakhalins 150.84 306 ePKiKP PKPbc 17 57 36.0 -0.9
YSS e 17 57 50.0
AML Almayashu 152.12 63 P PKPbc 17 57 41.1 +0.5
SNR=8.8
EKS2 Erkin-Say 152.13 62 P PKPbc 17 57 41.0 +0.8
SNR=9.0
EKS2 Erkin-Say 152.13 62 ePKiKP PKPdf 17 57 34.8 +1.2
EKS2 Erkin-Say 152.13 62 ePKPdf PKPdf 17 57 34.8 +1.2
USP Ospenovka 152.58 61 P PKPbc 17 57 42.0 +0.9

SNR=6.9
AAK Ala-Archa 152.66 62 P **PKPbc 17 57 42.5 +1.0**
SNR=8.0
AAK Ala-Archa 152.66 62 PKIKP **PKPdf 17 57 34.5 +0.1**
AAK *e* 17 57 35.6
AAK 17 57 42.3
AAK 17 57 50.4
AAK Ala-Archa 152.66 62 PKP **PKPdf 17 57 34.5 +0.1**
comp=Z,5.5nm,0.9s,baz=201,slow=6.4,SNR=5.2
AAK PKPbc **PKiKP 17 57 42.3 +0.6**
comp=Z,9.8nm,0.9s,baz=201,slow=2.4,SNR=35
AAK PKPab **PKPab 17 57 50.4 -1.9**
comp=Z,15nm,0.9s,baz=202,slow=5.2,SNR=13
AAK Ala-Archa 152.66 62 PKP **PKPdf 17 57 34.5 +0.1**
AAK *e*PKPdf **PKPdf 17 57 35.6 +1.2**
AAK PKPbc **PKiKP 17 57 42.3 +0.6**
AAK PKPab **PKPab 17 57 50.4 -1.9**
UCH Uchtor 152.71 63 P **PKPbc 17 57 43.4 +1.4**
SNR=9.7
FRU Bishkek 152.72 62 *e*PKIKP **PKPbc 17 57 42.0 +0.6**
FRU pmax pmax
comp=Z,70nm,2.0s
KURK Kurchatov 153.06 43 *e*PKIKP **PKPdf 17 57 34.6 +0.1**
KURK Kurchatov 153.06 43 *e*PKPdf **PKPdf 17 57 34.6 +0.1**
NVS Novosibirsk 153.13 32 *e*PKIKP **PKPdf 17 57 33.1 -1.3**
NVS pmax pmax
comp=Z,61nm,1.5s
NVS pmax pmax
comp=E,11nm,1.4s
TKM2 Tokmak 2 153.42 61 P **PKPbc 17 57 43.3 +0.1**
SNR=5.5
TKM2 Tokmak 2 153.42 61 *e*PKIKP **PKPdf 17 57 36.2 +0.6**
TKM2 Tokmak 2 153.42 61 *e*PKPdf **PKPdf 17 57 36.2 +0.6**
KSH Kashi 154.00 69 PKPbc **PKPdf 17 57 36.9 +0.5**
KSH sPKP 17 57 51.1
KSH PKS **PKSdf 18 01 11.6 +0.9**
KSH PP **PP 18 01 29.8 -3.5**
KSH SKS **SKSdf 18 04 40.2 -0.6**
KSH SKKS **SKKSac 18 08 19.0 -1.5**
KSH SS **SS 18 21 06.6 -3.0**
KSH PPMZ
comp=E,140nm,7.3s
KSH LN
comp=E,51nm,5.0s
KSH LE
comp=E,51nm,3.9s
KSH LZ
comp=E,190nm,5.8s
ZALV Zalesovo Beam 154.41 32 PKP **PKPdf 17 57 36.1 -0.2**
comp=E,3.4nm,0.9s,baz=298,slow=3.2,SNR=17
ZALV PKPbc **PKiKP 17 57 45.1 +0.4**
comp=E,16nm,0.8s,baz=298,slow=3.2,SNR=44
ZALV PKPab **PKPab 17 57 57.7 -1.3**
comp=E,18nm,0.9s,baz=289,slow=4.5,SNR=9.2
BOD Bodaibo 155.99 352 *e*PKIKP **PKPdf 17 57 38.5 +0.2**
BOD *e* 17 58 04.9
BOD pmax pmax
comp=Z,27nm,1.1s
KLR Kul'dur 156.81 318 *e*PKIKP PKPdf 17 57 35.0 -4.7
MKAR Makanchi Array 156.94 49 PKP **PKPdf 17 57 39.8 -0.2**
comp=Z,1.3nm,0.8s,baz=127,slow=7.7,SNR=4.5
MKAR PKPab **PKPab 17 58 10.3 +0.1**
comp=Z,6.3nm,0.9s,baz=298,slow=2.6,SNR=10
KOLN Koldanda 158.26 100 *e*P **PKPdf 17 57 41.7 -0.8**
comp=Z,72nm,1.4s
DANN Dangsing 158.61 99 *e*P **PKPdf 17 57 43.0 0.0**
GKN Gorkha 159.19 101 *e*P **PKPdf 17 57 44.0 +0.5**
comp=Z,30nm,1.1s
DMN Daman 159.42 102 *e*P **PKPdf 17 57 43.6 -0.3**
comp=Z,20nm,1.2s
KKN Kakani 159.63 102 *e*P **PKPdf 17 57 44.0 -0.1**
PKIN Phulchoki 159.64 103 *e*P **PKPdf 17 57 43.3 -0.9**
PKI Pulchoki 159.65 103 *e*P **PKPdf 17 57 44.0 -0.3**
GUN Gumba 160.16 102 *e*P **PKPdf 17 57 44.1 -0.8**
JIRN Jiri 160.31 103 *e*P **PKPdf 17 57 44.5 -0.6**
comp=Z,22nm,1.3s
RAMN Ramite 160.34 106 *e*P **PKPdf 17 57 45.0 0.0**
ODAN Odare 160.93 107 *e*P **PKPdf 17 57 45.7 +0.1**
TAPN Taplejung 161.40 106 *e*P **PKPdf 17 57 46.4 +0.2**
comp=Z,30nm,1.4s
WMQ Urumqi 161.64 52 *e*PKP **PKPdf 17 57 45.4 -0.2**
WMQ pPKP pPKPdf 17 57 57.0 +0.5
WMQ PKPab **PKPab 17 58 31.9 +1.1**
WMQ PKS **PKSdf 18 01 17.4 -1.4**
WMQ PP **PP 18 02 17.0 +2.4**
WMQ SKS **SKSdf 18 04 45.0 -3.0**
WMQ SKKS **SKKSac 18 08 59.5 -0.8**
WMQ PPMZ
comp=Z,87nm,5.0s
WMQ LN
comp=Z,240nm,24.0s
WMQ LE
comp=Z,220nm,24.0s
WMQ LZ
comp=Z,420nm,21.0s
CIT Chita 161.70 349 *e*PKP2 **PKPab 17 58 31.2 +0.6**
TLY Talaya 162.24 9 *e*PKP2 **PKPab 17 58 33.9 +0.9**
TLY pmax pmax
comp=Z,14nm,1.6s
CMAR Chiang Mai Arr 162.43 151 PKP **PKPdf 17 57 47.1 +0.1**
comp=Z,1.7nm,0.3s,baz=253,slow=2.3,SNR=9.7
CHTO Chiang Mai 162.75 150 *e*PKIKP **PKPdf 17 57 45.9 -1.5**
CHTO Chiang Mai 162.75 150 *e*PKPdf **PKPdf 17 57 45.9 -1.5**
KSRS Korea Array 163.41 287 PKP **PKPdf 17 57 45.8 -1.6**
comp=Z,1.3nm,1.0s,baz=103,slow=22,SNR=4.7
KSRS PKPab **PKPab 17 58 38.2 -0.4**
comp=Z,1.4nm,0.8s,baz=93,slow=3.4,SNR=3.1
KSAR Wonju Array Be 163.44 287 PKIKP **PKPdf 17 57 45.8 -1.7**
KSAR 17 58 38.2
KSAR Wonju Array Be 163.44 287 PKP **PKPdf 17 57 45.8 -1.7**
KSAR PKPab **PKPab 17 58 38.2 -0.6**
LSA Lhasa 165.12 103 *e*PKIKP **PKPdf 17 57 50.2 +0.3**
LSA Lhasa 165.12 103 *e*PKPdf **PKPdf 17 57 50.2 +0.3**
SONM Songino Array 166.31 4 PKP **PKPdf 17 57 49.4 -0.4**
comp=Z,0.9nm,0.9s,baz=159,slow=4.5,SNR=3.6
SONM PKPab **PKPab 17 58 51.9 +0.8**
comp=Z,3.3nm,0.8s,baz=333,slow=3.4,SNR=12
ULN Ulaanbaatar 166.31 2 *e*PKP2 **PKPab 17 58 52.3 +1.2**
ULN Ulaanbaatar 166.31 2 *e*PKPab **PKPab 17 58 52.3 +1.2**
BJI Beijing 171.16 314 PKP **PKPdf 17 57 54.8 +1.8**
GTA Gaotai 171.69 49 *e*PKP **PKPdf 17 57 53.8 +0.3**
GTA pPKP **pPKPdf 17 58 04.5 +0.1**
GTA sPKP 17 58 08.1
GTA PKPab **PKPab 17 59 16.3 +1.0**
GTA PP **PP 18 03 09.4 +3.0**
GTA SKS **SKSdf 18 04 52.0 -2.4**
GTA SKKS **SKKSac 18 09 50.8 +0.1**
GTA SS **SS 18 24 10.7 -1.1**
GTA PPMZ
comp=Z,160nm,9.5s
GTA LN
comp=Z,220nm,18.5s
GTA LE
comp=Z,240nm,19.5s
GTA LZ
comp=Z,390nm,19.5s
TIA Tai'an 172.16 288 PKP **PKPdf 17 57 53.3 -0.3**
GYA Guiyang 172.24 172 PKP **PKPdf 17 57 54.0 -0.1**
GYA PKS **PKSdf 18 01 25.8 -0.8**
GYA PP PP 18 03 13.6 +5.6
GYA SKKS 18 09 54.2
GYA PPMZ
comp=Z,140nm,8.5s
GYA LN
comp=Z,140nm,22.2s
GYA LE
comp=Z,130nm,22.7s
GYA LZ
comp=Z,170nm,21.4s
HHC Hu-ho-hao-te 172.72 337 *e*PKP PKPdf 17 57 47.6 -6.3
HHC PP **PP 18 03 08.1 -2.6**
HHC SKS SKSdf 18 04 46.3 -8.3
HHC SKKS SKKSac 18 09 51.0 -4.2
HHC PPMZ
comp=Z,180nm,10.0s
HHC LN
comp=Z,610nm,19.9s
HHC LE
comp=Z,510nm,18.7s
HHC LZ
comp=Z,640nm,18.7s
CD2 Chengdu 175.24 132 *e*PKP **PKPdf 17 57 55.2 +0.2**
CD2 sPKP 17 58 12.9
CD2 PKPab **PKPab 17 59 32.6 +1.4**
CD2 PP **PP 18 03 26.9 +3.3**
CD2 SKS SKSdf 18 04 50.2 -5.5
CD2 SKKS **SKKSac 18 10 08.0 +0.3**
CD2 SS **SS 18 24 44.6 -1.3**
CD2 PPMZ
comp=Z,200nm,10.7s
CD2 LN
comp=Z,280nm,19.0s
CD2 LE
comp=Z,180nm,20.2s
CD2 LZ
comp=Z,360nm,21.4s
LZH Lanzhou 176.19 59 *e*PKP **PKPdf 17 57 54.7 -0.5**
LZH pPKP **pPKPdf 17 58 03.1 -3.0**
LZH sPKP 17 58 09.4
LZH SKKS 18 10 11.3
LZH SS SS 18 24 51.5 -4.4
LZH PPMZ
comp=Z,210nm,5.7s
LZH LN
comp=Z,750nm,14.8s
LZH LE
comp=Z,860nm,17.0s
LZH LZ
comp=Z,1μm,19.6s
XAN Xi'an 179.12 261 PKP **PKPdf 17 57 56.8 +1.3**
XAN PKPab 17 59 49.3
XAN PKS **PKSdf 18 01 27.5 -0.2**
XAN PP **PP 18 03 44.1 +1.4**
XAN SKS **SKSdf 18 04 54.3 -1.7**
XAN SKKS **SKKSac 18 10 24.9 -1.1**
XAN SS SS 18 25 17.4 -6.7
XAN PPMZ
comp=Z,76nm,8.7s
XAN LN
comp=Z,140nm,19.5s
XAN LE
comp=Z,88nm,19.5s
XAN LZ
comp=Z,120nm,20.2s

*IDC **04** 17:48:54.0±2.3, 35°.03S×73°.67W, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.5/31, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=106.3km s-min=46.8km az=106.0*
ISC 04 17:48:58.8±2.3, 34°.9S±0°.3×73°.9W±0°.6, h35km, n6, σ1°70/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**19.25**	**17**	P		**P**		**17 53 19.8**	**-1.0**
	0.1nm,0.3s,baz=166,slow=18,SNR=1.8								
SIV	**San Ignacio**	**22.07**	**35**	P		**P**		**17 53 51.1**	**+0.3**
	1.9nm,0.8s,baz=234,slow=19,SNR=2.6								
TORD	**Torodi Ar. Bea**	**85.97**	**71**	P		**P**		**18 01 35.0**	**-0.7**
	0.8nm,0.9s,baz=237,slow=4.4,SNR=3.3								
BVAR	**Borovoye Array**	**149.00**	**43**	PKPbc		**PKPbc**		**18 08 42.9**	**+0.4**
	1.3nm,0.7s,baz=318,slow=4.0,SNR=7.5								
ZALV	**Zalesovo Beam**	**155.81**	**32**	PKP		**PKPdf**		**18 08 47.1**	**-1.3**
	0.3nm,0.5s,baz=337,slow=3.1,SNR=2.6								
ZALV				PKPab		**PKPab**		**18 09 18.0**	**+2.8**
	0.8nm,0.7s,baz=328,slow=5.3,SNR=4.2								
MKAR	**Makanchi Array**	**158.53**	**49**	PKPab		**PKPab**		**18 09 27.7**	**+0.4**
	0.3nm,0.8s,baz=298,slow=2.6,SNR=3.9								

*ISCJB **04** 17:52:15.6±0.3, 31°.89N±0°.03×104°.33E±0°.05, h15km, mb4.1/20, MS4.0/2, Error ellipse: s-maj=6.0km s-min=4.4km az=11.8*
*BJI **04** 17:52:16.6, 31°.94N×104°.22E, h6km, mB4.4/6, mb4.4/10, ML4.1/23, Ms3.7/5, Ms7 3.4/4*
*NEIC **04** 17:52:20.8±0.8, 31°.92N×104°.38E, h42km±9km, mb4.5/3, Error ellipse: s-maj=7.6km s-min=7.5km az=196.0*
*IDC **04** 17:52:21.0±3.6, 31°.90N×104°.31E, h44km±36km, mb3.8/19, mb1 4.0/21, mb1mx3.8/50, mbtmp4.1/21, ML3.9/2, MS3.1/2, Ms1 3.1/2, ms1mx2.8/41, Error ellipse: s-maj=17.2km s-min=12.9km az=51.0*
ISC 04 17:52:17.2±0.5, 31°.90N±0°.04×104°.43E±0°.05, h15km, n42, σ1°33/44, mb4.1/19, 4C, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.14**	**210**	Pg		**Pb**		**17 52 38.1**	**-0.5**
CD2				Sg		**Sg**		**17 52 53.4**	**-0.7**
CD2				SMN					
	8μm,0.7s								
CD2				SME					
	7μm,0.7s								
LZH	**Lanzhou**	**4.21**	**354**	Pn		**Pn**		**17 53 23.8**	**+2.9**
LZH				Sg		**Sg**		**17 54 31.3**	**-1.0**
LZH				SMN					
	390nm,0.6s								
LZH				SME					
	300nm,0.7s								
XAN	**Xi'an**	**4.34**	**59**	Pn		**Pn**		**17 53 23.8**	**+1.2**
XAN				Pg		**Pg**		**17 53 38.5**	**-1.8**
XAN				Sn		**Sn**		**17 54 16.5**	**+3.5**
XAN				Sg		**Sg**		**17 54 34.2**	**-2.3**
XAN				SMN					
	480nm,0.6s								
XAN				SME					
	300nm,0.6s								
XAN				LN					
	320nm,6.0s								
XAN				LE					
	180nm,9.6s								
XAN				LZ					
	200nm,7.7s								
ENH	**Enshi**	**4.63**	**109**	*e*P		**Pn**		**17 53 28.9**	**+2.2**
GYA	**Guiyang**	**5.76**	**160**	Pn		**Pn**		**17 53 44.6**	**+2.3**
GYA				Sn		**Sn**		**17 54 47.9**	**-0.3**
GYA				Sg		**Sg**		**17 55 20.8**	**-1.4**
GYA				SMN					
	170nm,0.9s								
GYA				SME					
	210nm,0.9s								
GTA	**Gaotai**	**8.38**	**335**	*e*P		**Pn**		**17 54 19.5**	**+1.3**
GTA				pP		pP		17 54 22.6	
GTA				sP				17 54 25.4	
GTA				S		**Sn**		**17 55 53.7**	**+1.0**
GTA				sS		sS		17 55 58.9	
GTA				PMZ					
	78nm,4.3s								
BTO	**Baotou**	**9.79**	**26**	*e*Pg		Pn		17 55 08.4	+31
BTO				Sg		**Sn**		**17 56 24.7**	**-2.5**
BTO				smax		smax			
	comp=E,8.0nm,0.6s								
BTO				SMZ					
	comp=E,9.0nm,0.8s								
BTO				smax		smax			
	comp=N,7.0nm,0.8s								
LSA	**Lhasa**	**11.62**	**263**	*e*P		Pn		17 55 06.2	+3.1
	comp=N,2.4nm,0.6s								
CMAR	**Chiang Mai Arr**	**14.27**	**202**	P		**Pn**		**17 55 38.9**	**+0.1**
	comp=N,0.4nm,0.3s,baz=5.0,slow=10,SNR=5.7								
CMAR				LR		LR		18 01 10.4	
	comp=N,33nm,19.2s,baz=185,slow=37								
SONM	**Songino Array**	**15.99**	**5**	P		**Pn**		**17 56 01.9**	**+0.3**
	comp=N,0.1nm,0.3s,baz=185,slow=13,SNR=19								
ULN	**Ulaanbaatar**	**16.07**	**6**	*e*P		**Pn**		**17 56 02.6**	**-0.1**
	comp=N,6.4nm,1.2s								
KSAR	**Wonju Array Be**	**20.05**	**68**	P		Pn		17 56 52.2	+0.7
KSRS	**Korea Array**	**20.08**	**68**	P		Pn		17 56 52.2	+0.3
	comp=N,3.5nm,0.6s,baz=254,slow=10,SNR=17								
CN2	**Changchun**	**20.35**	**48**	*e*P		Pn		17 56 54.9	-0.1
CN2				PMZ					
	comp=N,20nm,1.0s								
HIA	**Hailar**	**20.82**	**29**	*e*P		**P**		**17 56 58.4**	**+0.4**
JNU	**Nakatsue**	**22.32**	**80**	LR		LR		18 06 57.1	
	comp=N,90nm,18.9s,baz=239,slow=39								
MKAR	**Makanchi Array**	**22.57**	**318**	P		**P**		**17 57 17.0**	**+0.1**
	comp=N,2.7nm,0.7s,baz=113,slow=12,SNR=39								
MDJ	**Mudanjiang**	**23.38**	**50**	P		**P**		**17 57 27.8**	**+2.6**
MDJ				PMZ					
	comp=N,11nm,1.1s								
MDJ				PMZ					
	comp=N,110nm,5.8s								
MDJ	**Mudanjiang**	**23.38**	**50**	*e*P		**P**		**17 57 26.7**	**+1.4**
USRK	**Ussuriysk Ar.**	**24.81**	**52**	P		**P**		**17 57 39.8**	**+1.1**
	comp=N,5.1nm,0.7s,baz=254,slow=10,SNR=16								
GEYT	**Alibeck**	**38.14**	**292**	P		**P**		**17 59 36.2**	**+0.3**
	comp=N,1.9nm,0.8s,baz=112,slow=6.6,SNR=3.6								
SEY	**Seymchan**	**43.27**	**30**	P		**P**		**18 00 17.8**	**+0.1**
	comp=N,2.3nm,1.0s,baz=67,slow=22,SNR=4.3								
PETK	**Petropavlovsk-**	**43.43**	**45**	P		**P**		**18 00 20.2**	**+0.9**
	comp=N,3.7nm,0.8s,baz=246,slow=11,SNR=6.9								
BATI	**Baumata**	**45.74**	**153**	P		**P**		**18 00 37.1**	**-0.9**
	comp=N,10.0nm,0.4s,baz=333,slow=3.0,SNR=6.5								
BRTR	**Keskin Array B**	**56.59**	**299**	P		**P**		**18 01 59.1**	**-0.5**
	comp=N,0.8nm,0.8s,baz=114,slow=6.1,SNR=4.3								
ARCES	**ARCESS Array B**	**56.65**	**336**	P		**P**		**18 01 58.4**	**-0.9**
	comp=N,1.1nm,0.6s,baz=89,slow=7.6,SNR=9.5								
AKASG	**Malin Array Be**	**57.05**	**313**	P		**P**		**18 02 01.5**	**-0.9**
	comp=N,0.6nm,0.4s,baz=68,slow=7.5,SNR=3.5								
FINES	**FINESS Array B**	**57.06**	**326**	P		**P**		**18 02 02.1**	**-0.3**
	comp=N,2.9nm,0.6s,baz=98,slow=7.7,SNR=22								
WRA	**Warramunga Arr**	**58.98**	**147**	P		**P**		**18 02 16.8**	**+0.5**
	comp=N,3.9nm,0.7s,baz=339,slow=7.5,SNR=41								
ASAR	**Alice Springs**	**62.03**	**149**	P		**P**		**18 02 37.8**	**+0.7**
	comp=N,1.3nm,0.5s,baz=335,slow=6.7,SNR=23								
NB2	**NORSAR Subarra**	**64.14**	**327**	P		**P**		**18 02 49.4**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=73,slow=6.9								
NOA	**NORSAR Array B**	**64.14**	**327**	P		**P**		**18 02 49.7**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=75,slow=6.8,SNR=8.0								
GERES	**GERESS Array B**	**67.19**	**314**	P		**P**		**18 03 09.9**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=66,slow=3.6,SNR=3.9								
ILAR	**Eielson Array**	**69.00**	**26**	P		**P**		**18 03 20.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=293,slow=4.3,SNR=12								
INK	**Inuvik**	**71.32**	**19**	P		**P**		**18 03 35.7**	**0.0**
	comp=Z,1.3nm,0.8s,baz=316,slow=9.0,SNR=5.4								
KMBO	**Kilima Mbogo**	**71.36**	**257**	LR		LR		18 35 31.5	
	comp=Z,572nm,21.6s,baz=262,slow=36								
LPG	**La Plagne**	**72.91**	**313**	⇑*i*P		**P**		**18 03 46.1**	**0.0**
	comp=Z,7.5nm,0.6s								
LPG	**La Plagne**	**72.91**	**313**	⇑*i*P		**P**		**18 03 46.1**	**0.0**
	comp=Z,7.5nm,0.6s								
LPL	**La Plagne**	**72.91**	**313**	⇑*i*P		**P**		**18 03 46.0**	**0.0**
	comp=Z,4.2nm,0.5s								
LPL	**La Plagne**	**72.91**	**313**	⇑*i*P		**P**		**18 03 46.0**	**0.0**
	comp=Z,4.2nm,0.5s								
YKA	**Yellowknife Ar**	**80.85**	**17**	P		**P**		**18 04 30.2**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=328,slow=4.7,SNR=12								
PDAR	**Pinedale Array**	**99.42**	**25**	P		**Pdif**		**18 05 59.4**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=332,slow=3.8,SNR=3.0								

GUC 04 18:03:24.8±0.6, 35°.04S×72°.56W, h20km±5km, ML4.5, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**1.12**	**136**	⇑*i*P		Pn		18 03 43.5	-1.8
LNCH				*i*S		Sb		18 03 58.3	-1.4
LNV	**Longovilo**	**1.44**	**41**	*e*P		Pn		18 03 49.4	-0.3
LNV				*i*S		Sn		18 04 07.9	0.0
CACH	**El Canelo**	**1.86**	**61**	⇓*i*P		Pn		18 03 56.6	+0.9
CHCH	**Chadas Angostu**	**1.92**	**55**	*e*P1		Pn		18 03 57.4	+1.0
ANTU	**Antumapu**	**2.17**	**48**	*e*P9		Pn		18 04 02.1	+2.4
ANTU				*i*S		Sb		18 04 29.9	+0.1
ANTU				AML		AML		18 04 39.5	
	comp=E,4μm,0.6s								
PEL	**Peldehue**	**2.45**	**40**	*e*P1		Pn		18 04 05.3	+1.7
PEL				*i*S		Sn		18 04 34.9	+1.9
PEL				AML		AML		18 04 46.2	
	comp=E,5μm,0.8s								
FCH	**Farellones**	**2.54**	**48**	*e*P9		Pb		18 04 16.6	+6.4
FCH				*e*S		Sb		18 04 48.7	+7.5
FCH				AML		AML		18 05 02.2	
	comp=N,2μm,0.2s								

*IDC **04** 18:07:03.0±1.2, 36°.64S×73°.31W, h0km, mb3.9/6, mb1 4.3/7, mb1mx4.0/29, mbtmp4.0/7, ML4.1/1, MS4.2/2, Ms1 4.2/2, ms1mx3.5/25, Error ellipse: s-maj=45.2km s-min=30.7km az=38.0*
*ISCJB **04** 18:07:06.1±0.8, 36°.4S±0°.1×73°.2W±0°.2, h25km, mb4.1/6, MS4.2/2, Error ellipse: s-maj=22.5km s-min=19.2km az=31.3*
*NEIC **04** 18:07:09.6±0.7, 36°.27S×73°.40W, h35km, mb4.6/1, Error ellipse: s-maj=20.0km s-min=17.1km az=197.0*
ISC 04 18:07:07.8±0.8, 36°.4S±0°.2×73°.1W±0°.2, h25km, n19, σ0°96/17, mb4.1/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRQA	**Tornquist**	**9.04**	**104**	*e*P		Pn		18 09 23.3	+6.6
	32nm,1.0s								
CPUP	**Villa Florida**	**16.82**	**58**	P		**Pn**		**18 11 01.9**	**+0.4**
	0.2nm,0.3s,baz=192,slow=12,SNR=2.9								
LPAZ	**La Paz**	**20.55**	**14**	P		**P**		**18 11 46.0**	**+0.7**
	2.9nm,0.7s,baz=170,slow=12,SNR=6.6								
BDFB	**Brasilia**	**30.47**	**54**	LR		LR		18 26 44.6	
	comp=Z,524nm,19.6s,baz=254,slow=38								
SBA	**Scott Base**	**60.51**	**192**	*e*P		**P**		**18 17 16.5**	**+1.3**
	5.7nm,1.0s								
TXAR	**Lajitas Array**	**71.44**	**332**	P		**P**		**18 18 25.0**	**-1.1**
	0.4nm,0.7s,baz=134,slow=5.4,SNR=4.4								
BOSA	**Boshof**	**79.73**	**118**	P		**P**		**18 19 12.3**	**-1.6**
	6.5nm,1.0s,baz=170,slow=2.2,SNR=4.4								
PFO	**Pinyon Flats O**	**80.57**	**325**	LR		LR		18 49 22.9	
	comp=Z,111nm,19.1s,baz=228,slow=32								
NVAR	**Mina Array Bea**	**85.39**	**326**	P		**P**		**18 19 43.0**	**-0.1**
	0.2nm,0.4s,baz=128,slow=8.5,SNR=2.7								
PDAR	**Pinedale Array**	**85.54**	**334**	P		**P**		**18 19 43.5**	**-0.2**
	0.7nm,0.9s,baz=139,slow=8.4,SNR=3.7								
TORD	**Torodi Ar. Bea**	**85.87**	**70**	P		**P**		**18 19 46.0**	**+0.3**
	2.1nm,1.1s,baz=277,slow=3.1,SNR=4.0								
ABKAR	**Akbulak array**	**143.86**	**54**	*e*PKPpre		PKPpre		18 26 37.1	
BVAR	**Borovoye Array**	**149.65**	**45**	PKPbc		**PKPbc**		**18 26 54.7**	**+0.1**
	0.3nm,0.5s,baz=329,slow=1.7,SNR=3.7								
YAK	**Yakutsk**	**150.69**	**338**	P		**PKPdf**		**18 26 52.6**	**+1.4**
KKAR	**Karatay Array**	**151.43**	**65**	PKPdf		**PKPdf**		**18 26 51.9**	**-1.2**
AAK	**Ala-Archa**	**154.38**	**66**	*e*PKPbc		**PKPbc**		**18 27 05.1**	**-0.8**
ZALV	**Zalesovo Beam**	**156.75**	**34**	PKP		**PKPdf**		**18 26 59.7**	**-0.5**
	0.7nm,0.6s,baz=322,slow=4.5,SNR=4.4								
ZALV				PKPab		**PKPab**		**18 27 30.5**	**+0.8**
	1.5nm,0.9s,baz=305,slow=5.2,SNR=4.6								
MKAR	**Makanchi Array**	**158.99**	**53**	PKP		**PKPdf**		**18 27 02.6**	**-0.6**
	0.6nm,0.9s,baz=270,slow=1.1,SNR=4.8								
MKAR				PKPab		**PKPab**		**18 27 41.0**	**+1.2**
	0.4nm,0.9s,baz=292,slow=3.5,SNR=3.6								
SONM	**Songino Array**	**168.60**	**2**	PKPab		**PKPab**		**18 28 22.3**	**+0.4**
	0.7nm,0.9s,baz=19,slow=1.0,SNR=4.0								

*ISCJB **04** 18:10:54.8±0.5, 50°.9N±0°.1×30°.00W±0°.08, h14km, mb4.0/27, MS4.1/1, Error ellipse: s-maj=17.0km s-min=7.0km az=11.5*
*IDC **04** 18:10:54.0±0.8, 50°.85N×29°.97W, h0km, mb3.7/16, mb1 3.9/17, mb1mx3.7/62, mbtmp3.7/17, ML3.8/1, MS4.0/1, Ms1 4.0/1, ms1mx3.0/49, Error ellipse: s-maj=27.1km s-min=13.5km az=10.0*
*NEIC **04** 18:10:55.8±0.4, 50°.89N×29°.99W, h10km, mb4.7/11, Error ellipse: s-maj=11.9km s-min=4.8km az=191.0*
*CSEM **04** 18:10:55.5±0.2, 50°.92N×29°.98W, h10km, mb4.7/11, Error ellipse: s-maj=10.8km s-min=4.4km az=11.0*
ISC 04 18:10:56.2±0.7, 50°.8N±0°.1×29°.97W±0°.08, h14km, n81, σ0°96/83, mb3.9/27, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.68**	**64**	Pn		**Pn**		**18 14 47.5**	**-1.7**
	baz=233,slow=30,SNR=4.0								
ESDC	**Sonseca Array**	**21.32**	**111**	P		**P**		**18 15 43.1**	**+0.5**
	1.2nm,0.6s,baz=310,slow=10,SNR=10								
RJF	**Les Rejaudoux**	**21.65**	**92**	*e*P		**P**		**18 15 45.1**	**-0.9**
	69nm,1.4s								
RJF	**Les Rejaudoux**	**21.65**	**92**	*e*P		**P**		**18 15 45.1**	**-0.9**
	69nm,1.4s								
RJF	**Les Rejaudoux**	**21.65**	**92**	*e*P		**P**		**18 15 45.1**	**-0.9**
	69nm,1.4s								
BAIF	**Baives**	**21.67**	**79**	*e*P		**P**		**18 15 48.5**	**+2.3**
	14nm,0.8s								
BAIF	**Baives**	**21.67**	**79**	*e*P		**P**		**18 15 48.5**	**+2.3**
	14nm,0.8s								
BAIF	**Baives**	**21.67**	**79**	*e*P		**P**		**18 15 48.5**	**+2.3**
	14nm,0.8s								
TCF	**Toulx Ste Croi**	**21.68**	**90**	*e*P		**P**		**18 15 46.5**	**+0.2**
	16nm,0.9s								
TCF	**Toulx Ste Croi**	**21.68**	**90**	*e*P		**P**		**18 15 46.5**	**+0.2**
	16nm,0.9s								
TCF	**Toulx Ste Croi**	**21.68**	**90**	*e*P		**P**		**18 15 46.5**	**+0.2**
	16nm,0.9s								
BGF	**Bois d'Agland**	**21.97**	**88**	*e*P		**P**		**18 15 49.9**	**+0.5**
BGF	**Bois d'Agland**	**21.97**	**88**	*e*P		**P**		**18 15 49.9**	**+0.5**
BGF	**Bois d'Agland**	**21.97**	**88**

GIVF	Givet	22.05	78	*eP*	P	18 15 52.2	+2.0
SSF	Saint Saulge 18nm,1.0s	22.20	87	*eP*	P	18 15 52.6	+0.8
SSF	Saint Saulge 18nm,1.0s	22.20	87	*eP*	P	18 15 52.6	+0.8
SSF	Saint Saulge 18nm,1.0s	22.20	87	*eP*	P	18 15 52.6	+0.8
AVF	Avril sur Loir 29nm,1.2s	22.20	87	*eP*	P	18 15 52.0	+0.1
AVF	Avril sur Loir 29nm,1.2s	22.20	87	*eP*	P	18 15 52.0	+0.1
AVF	Avril sur Loir 29nm,1.2s	22.20	87	*eP*	P	18 15 52.0	+0.1
LOR	Lormes	22.34	86	*eP*	P	18 15 53.3	-0.1
LOR	Lormes	22.34	86	*eP*	P	18 15 53.3	-0.1
LOR	Lormes	22.34	86	*eP*	P	18 15 53.3	-0.1
SCHQ	Schefferville 4.3nm,0.7s,baz=87,slow=8.5,SNR=4.5	22.45	295	P	P	18 15 54.7	+0.2
SMF	Signal de Mont 29nm,1.1s	22.57	87	*eP*	P	18 15 55.6	-0.2
SMF	Signal de Mont 29nm,1.1s	22.57	87	*eP*	P	18 15 55.6	-0.2
SMF	Signal de Mont 29nm,1.1s	22.57	87	*eP*	P	18 15 55.6	-0.2
MEZF	Maizieres J'vi	22.66	82	*eP*	P	18 15 56.9	+0.1
MEZF	Maizieres J'vi	22.66	82	*eP*	P	18 15 56.9	+0.1
MEZF	Maizieres J'vi	22.66	82	*eP*	P	18 15 56.9	+0.1
SFTF	Sexfontaines 29nm,1.0s	22.75	83	*eP*	P	18 15 58.7	+0.9
SFTF	Sexfontaines 29nm,1.0s	22.75	83	*eP*	P	18 15 58.7	+0.9
SFTF	Sexfontaines 29nm,1.0s	22.75	83	*eP*	P	18 15 58.7	+0.9
PAGF	Fort de Pagny	23.07	82	*eP*	P	18 16 01.6	+0.6
PAGF	Fort de Pagny	23.07	82	*eP*	P	18 16 01.6	+0.6
PAGF	Fort de Pagny	23.07	82	*eP*	P	18 16 01.6	+0.6
HAU	Haudompre	23.65	83	*eP*	P	18 16 06.8	0.0
HAU	Haudompre	23.65	83	*eP*	P	18 16 06.8	0.0
HAU	Haudompre	23.65	83	*eP*	P	18 16 06.8	0.0
CABF	La Chapelle 45nm,1.3s	24.00	86	*eP*	P	18 16 09.6	-0.7
CABF	La Chapelle 45nm,1.3s	24.00	86	*eP*	P	18 16 09.6	-0.7
CABF	La Chapelle 45nm,1.3s	24.00	86	*eP*	P	18 16 09.6	-0.7
HINF	Hinteralfeld	24.03	83	*eP*	P	18 16 10.6	+0.1
HINF	Hinteralfeld	24.03	83	*eP*	P	18 16 10.6	+0.1
HINF	Hinteralfeld	24.03	83	*eP*	P	18 16 10.6	+0.1
FRB	Frobisher Bay 1.0nm,0.3s,baz=97,slow=9.8,SNR=3.6	24.08	317	P	P	18 16 10.6	-0.1
CDF	Champ du Feu	24.09	81	*eP*	P	18 16 11.8	+0.7
CDF	Champ du Feu	24.09	81	*eP*	P	18 16 11.8	+0.7
CDF	Champ du Feu	24.09	81	*eP*	P	18 16 11.8	+0.7
NB2	NORSAR Subarra comp=Z,3.1nm,1.0s,baz=264,slow=10	24.81	50	P	P	18 16 22.0	+4.5
NOA	NORSAR Array B comp=Z,0.8nm,0.9s,baz=268,slow=8.6,SNR=3.3	24.81	50	P	P	18 16 17.1	-0.5
LPG	La Plagne comp=Z,50nm,1.6s	24.89	88	*eP*	P	18 16 18.7	+0.1
LPG	La Plagne comp=Z,50nm,1.6s	24.89	88	*eP*	P	18 16 18.7	+0.1
LPG	La Plagne comp=Z,50nm,1.6s	24.89	88	*eP*	P	18 16 18.7	+0.1
GERES	GERESS Array B comp=Z,0.2nm,0.3s,baz=258,slow=6.3,SNR=5.4	27.94	77	P	P	18 16 46.5	+0.6
FINES	FINESS Array B comp=Z,1.3nm,0.8s,baz=273,slow=9.7,SNR=3.1	31.98	49	P	P	18 17 20.0	-1.4
FINES	FINESS Array B	31.98	49	P	P	18 17 20.0	-1.4
YKA	Yellowknife Ar comp=Z,0.8nm,0.8s,baz=61,slow=8.5,SNR=11	44.58	319	P	P	18 19 07.1	-0.1
YKA				PcP	PcP	18 20 49.5	-0.4
	comp=Z,0.4nm,0.7s,baz=67,slow=3.6,SNR=5.5						
BRTR	Keskin Array B comp=Z,0.9nm,0.7s,baz=305,slow=4.4,SNR=4.1	44.86	79	P	P	18 19 09.7	+0.2
TORD	Torodi Ar. Bea comp=Z,2.4nm,1.0s,baz=334,slow=6.9,SNR=8.8	45.53	134	P	P	18 19 15.1	-0.1
PDAR	Pinedale Array comp=Z,0.6nm,0.7s,baz=70,slow=10,SNR=4.0	52.59	294	P	P	18 20 09.2	-0.2
ABKAR	Abkulak array comp=Z,1.5nm,0.8s	54.22	54	*eP*	P	18 20 20.9	-0.1
ABKAR	Abkulak array comp=Z,1.5nm,0.8s	54.22	54	*eP*	P	18 20 20.9	-0.1
ILAR	Eielson Array comp=Z,0.7nm,0.9s,baz=39,slow=4.9,SNR=5.5	54.87	332	P	P	18 20 25.9	+0.5
ILAR	Eielson Array	54.87	332	P	P	18 20 26.0	+0.5
BVAR	Borovoye Array comp=Z,1.0nm,0.7s,baz=270,slow=2.7,SNR=5.4	56.82	45	P	P	18 20 39.9	+0.3
TXAR	Lajitas Array comp=Z,0.4nm,0.5s,baz=18,slow=5.3,SNR=5.6	57.84	278	P	P	18 20 46.6	-0.7
TXAR				LR	LR	18 45 49.6	
	comp=Z,131nm,18.7s,baz=0.0,slow=36						
NVAR	Mina Array Bea comp=Z,0.4nm,0.5s,baz=55,slow=7.8,SNR=2.7	60.46	296	P	P	18 21 05.6	+0.1
KURK	Kurchatov	62.08	43	*eP*	P	18 21 15.7	-0.3
KURK	Kurchatov	62.08	43	*eP*	P	18 21 15.7	-0.3
EKS2	Erkin-Say	65.74	52	*eP*	P	18 21 40.2	-0.2
EKS2	Erkin-Say	65.74	52	*eP*	P	18 21 40.2	-0.2
MKAR	Makanchi Array comp=Z,0.6nm,0.8s,baz=314,slow=5.5,SNR=7.3	66.63	44	P	P	18 21 45.8	-0.1
SONM	Songino Array comp=Z,1.2nm,1.0s,baz=316,slow=4.6,SNR=8.0	74.81	29	P	P	18 22 36.1	+0.3
TRQA	Tornquist comp=Z,7.6nm,0.6s	92.87	205	*eP*	P	18 24 09.1	+1.1
TRQA	Tornquist comp=Z,7.6nm,0.6s	92.87	205	*eP*	P	18 24 09.1	+1.1
WRA	Warramunga Arr comp=Z,1.9nm,0.8s,baz=339,slow=3.0,SNR=15	146.78	28	PKPbc	PKPbc	18 30 37.6	-0.1
ASAR	Alice Springs comp=Z,1.9nm,0.7s,baz=350,slow=1.9,SNR=28	150.14	31	PKPbc	PKPbc	18 30 46.1	-0.3
ASAR				PKPab	PKPab	18 30 51.6	-0.7
	comp=Z,1.4nm,0.8s,baz=351,slow=1.9,SNR=8.3						

MAN 04 18:20:22.1 6°.99N×120°.23E, h32km, mb4.7, ML3.6, MS3.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.68	207	*eP*	Pb	18 20 36.2	+0.7
ABRA	Dolores	0.80	35	*eP*	Pb	18 20 38.3	+0.8
ABRA				*eS*	Sb	18 20 48.5	+0.5
SCZP	Santa Cruz	1.25	194	*eP*	Pn	18 20 43.7	+0.5
APYP	Conner	1.29	48	*eP*	Pb	18 20 45.1	-0.7
APYP				*eS*	Sn	18 20 53.3	-6.8
BALP	Baler	1.79	134	*eP*	Pn	18 20 51.4	+0.7

*IDC **04** 18:21:48.5±0.9, 36°.37S×73°.36W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.7/35, mbtmp3.7/8, ML3.9/2, Error ellipse: s-maj=35.0km s-min=19.5km az=101.0*
*ISCJB **04** 18:21:51.1±0.8, 36°.42S±0°.10×73°.2W±0°.1, h27km, mb4.0/6, Error ellipse: s-maj=17.5km s-min=13.3km az=16.0*
*NEIC **04** 18:21:53.6±0.6, 36°.40S×73°.28W, h35km, mb4.2/1, Error ellipse: s-maj=14.5km s-min=11.1km az=109.0*
ISC 04 18:21:52.7±0.8, 36°.4S±0°.1×73°.2W±0°.1, h27km, n14, σ0s48/14, mb4.0/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan 0.3nm,0.3s,baz=211,slow=12,SNR=8.5	6.31	43	Pn	Pn	18 23 24.2	+0.2
TRQA	Tornquist	9.14	104	*e*Pn	Pn	18 24 03.0	+0.2
CPUP	Villa Florida 0.4nm,0.3s,baz=265,slow=11,SNR=2.4	16.86	58	Pn	P	18 25 48.1	-0.5
LPAZ	La Paz 1.1nm,0.6s,baz=102,slow=6.0,SNR=4.2	20.51	14	P	P	18 26 30.3	+0.8
SIV	San Ignacio 6.7nm,1.1s,baz=241,slow=9.9,SNR=7.3	23.00	31	P	P	18 26 56.0	+0.5
PMSA	Palmer Station 19nm,0.6s,baz=249,slow=19,SNR=2.8	28.97	172	P	P	18 27 49.9	+0.4
QSPA	South Pole Qui 1.4nm,0.8s,baz=304,slow=3.0,SNR=5.6	53.87	180	P	P	18 31 13.4	+0.2
QSPA	South Pole Qui 2.7nm,1.0s	53.87	180	*eP*	P	18 31 13.0	-0.3
TXAR	Lajitas Array 0.2nm,0.6s,baz=149,slow=6.6,SNR=3.3	71.34	332	P	P	18 33 09.8	-0.3
NVAR	Mina Array Bea 0.5nm,0.6s,baz=152,slow=6.7,SNR=3.8	85.28	326	P	P	18 34 27.4	+0.3
TORD	Torodi Ar. Bea 0.4nm,0.8s,baz=229,slow=4.3,SNR=3.2	85.93	71	P	P	18 34 30.5	-0.1
ABKAR	Abkulak array	143.89	54	*eP*	PKPab	18 41 22.3	+0.1
BVAR	Borovoye Array 0.6nm,0.7s,baz=308,slow=3.6,SNR=3.6	149.66	45	PKPbc	PKPbc	18 41 38.9	-0.4
ZALV	Zalesovo Beam 0.3nm,0.4s,baz=315,slow=1.4,SNR=2.4	156.74	34	PKP	PKPdf	18 41 44.5	-0.2
ZALV				PKPab	PKPab	18 42 13.6	-0.8
	0.4nm,0.6s,baz=327,slow=4.8,SNR=2.4						

IDC 04 18:22:25.2±3.5, 19°.41N×145°.99E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/41, mbtmp3.4/4, MS3.9/1, Ms1 3.9/1, ms1mx2.8/19, Error ellipse: s-maj=147.0km s-min=26.6km az=83.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby comp=Z,236nm,21.7s,baz=174,slow=34	28.66	178	LR	LR	18 38 30.5	
WRA	Warramunga Arr 0.2nm,0.4s,baz=20,slow=11,SNR=15	40.75	197	P	P	18 30 08.3	+0.2
ASAR	Alice Springs 0.2nm,0.4s,baz=11,slow=6.7,SNR=5.6	44.41	196	P	P	18 30 37.4	-0.6
MKAR	Makanchi Array 0.2nm,0.9s,baz=89,slow=6.5,SNR=2.1	58.17	314	P	P	18 32 21.0	0.0
FINES	FINESS Array B 0.7nm,0.8s,baz=46,slow=8.2,SNR=3.8	86.35	335	P	P	18 35 09.1	-0.1

IDC 04 18:46:36.0±10.0, 19°.90N×145°.06E, h211km±98km, mb3.2/9, mb1 3.3/9, mb1mx3.1/39, mbtmp3.7/9, Error ellipse: s-maj=48.0km s-min=15.6km az=77.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array 1.8nm,0.7s,baz=150,slow=9.0,SNR=9.3	23.00	323	P	P	18 51 22.4	0.0
WRA	Warramunga Arr 0.2nm,0.5s,baz=11,slow=8.7,SNR=6.5	40.96	195	P	P	18 53 59.2	+0.9
SONM	Songino Array 0.4nm,0.4s,baz=134,slow=6.4,SNR=8.5	41.84	321	P	P	18 54 05.2	-0.2
ASAR	Alice Springs 0.1nm,0.4s,baz=23,slow=7.3,SNR=5.0	44.64	195	P	P	18 54 26.4	-1.5
ZALV	Zalesovo Beam 1.6nm,0.7s,baz=101,slow=7.7,SNR=8.1	56.70	322	P	P	18 55 56.2	-1.3
MKAR	Makanchi Array 0.9nm,0.5s,baz=90,slow=8.8,SNR=23	57.20	313	P	P	18 56 02.0	+0.8
BVAR	Borovoye Array 1.4nm,0.4s,baz=96,slow=7.8,SNR=18	65.17	320	P	P	18 56 54.9	+0.3
YKA	Yellowknife Ar 0.3nm,0.5s,baz=291,slow=5.0,SNR=4.2	77.22	28	P	P	18 58 07.0	+0.6
FINES	FINESS Array B 0.6nm,0.3s,baz=86,slow=4.3,SNR=12	85.55	335	P	P	18 58 49.4	-0.8

WEL 04 19:02:08.9±0.3, 38°.87S×179°.57E, h33km, ML3.8/6, 2C, Error ellipse: s-maj=3.2km s-min=1.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	Carnagh Statio	1.13	289	PN	Pn	19 02 27.6	-0.8
PUZ	Puketiti	1.30	307	⇑PN	Pn	19 02 29.8	-0.9
PUZ				SN	Sn	19 02 46.4	-0.7
PUZ				AML	AML	19 02 54.8	
MHGZ	Mahia Peninsul	1.33	257	PN	Pn	19 02 30.3	-0.8
MHGZ				SN	Sn	19 02 46.6	-1.1
WMGZ	Waiomatatini S	1.39	319	PN	Pn	19 02 31.3	-0.6
RIGZ	Rimuhau	1.42	276	PN	Pn	19 02 32.0	-0.5
TWGZ	Tauwhareparae	1.43	298	⇑PN	Pn	19 02 32.1	-0.5
KNZ	Kokohu	1.49	263	PN	Pn	19 02 32.9	-0.4
MXZ	Matakaoa Point	1.64	322	PN	Pn	19 02 35.2	-0.1
MXZ				AML	AML	19 02 56.1	
MXZ				AML	AML	19 02 56.2	
MXZ				AML	AML	19 02 56.3	
MXZ				AML	AML	19 02 56.3	
MWZ	Matawai	1.69	288	PN	Pn	19 02 35.4	-0.8
MWZ				SN	Sn	19 02 55.3	-1.3
MWZ				AML	AML	19 02 56.7	
MWZ				AML	AML	19 03 07.4	
MWZ				AML	AML	19 03 07.4	
RAGZ	Rawiri	1.73	282	PN	Pn	19 02 36.5	-0.3
RAGZ				SN	Sn	19 02 56.8	-1.0
SNGZ	Shannon Statio	1.75	272	PN	Pn	19 02 36.8	-0.1
HAZ	Te Kaha	1.79	308	PN	Pn	19 02 36.9	-0.6
RAHZ	Arahi	1.94	268	PN	Pn	19 02 39.5	-0.1
URZ	Urewera	2.02	287	PN	Pn	19 02 41.1	+0.5
URZ				SN	Sn	19 03 04.9	+0.2
URZ				AML	AML	19 03 06.2	
CKHZ	Cape Kidnapper	2.09	247	PN	Pn	19 02 40.9	-0.7
NMHZ	Naumai	2.17	263	PN	Pn	19 02 43.1	+0.3
KAHZ	Kahuranaki	2.29	245	*e*PN	Pn	19 02 43.3	-1.1
MCHZ	McNeill Hill	2.31	255	PN	Pn	19 02 45.0	+0.4
MCHZ				SN	Sn	19 03 11.4	-0.5
PXZ	Pawanui	2.40	240	PN	Pn	19 02 44.4	-1.4
PXZ				SN	Sn	19 03 11.8	-2.3
BKZ	Black Stump Fm	2.42	262	PN	Pn	19 02 45.8	-0.4
BKZ				AML	AML	19 03 16.2	
BKZ				AML	AML	19 03 19.4	
TARZ	Mount Tarawera	2.48	284	PN	Pn	19 02 47.5	+0.4
OPRZ	Ohinepanea	2.58	292	PN	Pn	19 02 47.6	-0.7
KRHZ	Kereru	2.60	252	PN	Pn	19 02 48.2	-0.5
BHHZ	Black Hill Sta	2.80	256	PN	Pn	19 02 50.5	-0.9
PNHZ	Pukenui	2.81	247	PN	Pn	19 02 50.5	-1.1
DVHZ	Dannevirke	3.00	240	PN	Pn	19 02 52.3	-1.8
MOVZ	Moawhango	3.02	258	PN	Pn	19 02 54.7	+0.2
TSZ	Takapari Road	3.04	246	PN	Pn	19 02 53.3	-1.4
TUVZ	Tukino	3.08	261	*e*PN	Pn	19 02 56.9	+1.6
WNVZ	Wahianoa	3.13	260	PN	Pn	19 02 57.0	+0.9
BFZ	Birch Farm	3.14	234	PN	Pn	19 02 53.5	-2.5
FWVZ	Far West T-bar	3.15	262	PN	Pn	19 02 56.9	+0.4
TRVZ	Turoa	3.16	261	PN	Pn	19 02 56.4	-0.3
PRWZ	Pori Road	3.25	238	PN	Pn	19 02 56.3	-1.3
TIWZ	Tintock	3.42	235	PN	Pn	19 02 58.2	-1.7
MRZ	Mangatainoka R	3.56	238	PN	Pn	19 02 59.8	-2.1
MRZ				SN	Sn	19 03 39.2	-3.6
MRZ				AML	AML	19 03 43.2	
HOWZ	Holdsworth Sta	3.72	236	*e*PN	Pn	19 03 01.1	-3.0
PAWZ	Paruwai Farm	4.05	230	SN	Sn	19 03 49.6	-5.3
CTZ	Chatham Island	5.65	151	*e*PN	Pn	19 03 30.9	+0.5
CTZ				SN	Sn	19 04 28.1	-6.0
MQZ	McQueen's Vall	7.11	225	*e*PN	Pn	19 03 45.9	-4.6
MQZ				SN	Sn	19 05 00.9	-9.2

IDC 04 19:02:08.9±1.2, 35°.92S×71°.75W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/23, mbtmp4.0/6, ML3.1/2, MS3.5/2, Ms1 3.5/2, ms1mx3.1/28, Error ellipse: s-maj=35.8km s-min=24.6km az=103.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan 0.3nm,0.3s,baz=195,slow=15,SNR=14	5.21	35	Pn	Pn	19 03 29.9	+1.9
CFAA				Lg	Lg	19 04 54.8	
	0.8nm,0.3s,baz=98,slow=16,SNR=8.2						
CPUP	Villa Florida comp=Z,55nm,19.0s,baz=222,slow=35	15.60	56	LR	LR	19 11 15.6	
LPAZ	La Paz 0.1nm,0.3s,baz=192,slow=9.8,SNR=5.5	19.82	10	P	P	19 06 40.9	-0.9
SIV	San Ignacio 3.4nm,0.9s,baz=232,slow=11,SNR=7.0	22.02	28	P	P	19 07 03.6	-1.4
BDFB	Brasilia comp=Z,319nm,18.3s,baz=224,slow=40	29.27	52	LR	LR	19 21 41.2	
TXAR	Lajitas Array 0.3nm,0.5s,baz=156,slow=8.9,SNR=4.7	71.53	331	P	P	19 13 31.2	-0.5
DBIC	Dimbokro 3.8nm,1.0s,baz=201,slow=6.5,SNR=3.2	75.58	71	P	P	19 13 55.4	-0.5
BOSA	Boshof 5.1nm,1.1s,baz=210,slow=18,SNR=2.3	78.97	117	P	P	19 14 14.8	-0.1
TORD	Torodi Ar. Bea 0.4nm,0.7s,baz=260,slow=6.5,SNR=3.1	84.65	70	P	P	19 14 43.7	-1.1
ZALV	Zalesovo Beam 0.6nm,0.4s,baz=347,slow=5.9,SNR=3.1	155.69	35	PKPab	PKPab	19 22 30.6	+0.1
MKAR	Makanchi Array 0.2nm,0.7s,baz=336,slow=3.2,SNR=2.9	157.79	53	PKPab	PKPab	19 22 41.3	+1.5
SONM	Songino Array 0.5nm,0.7s,baz=4.0,slow=2.1,SNR=4.7	168.02	6	PKPab	PKPab	19 23 25.4	+0.9

IDC 04 19:02:43.8±2.1, 1°.11N×126°.93E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/29, mbtmp3.5/3, Error ellipse: s-maj=175.3km s-min=24.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.5nm,0.3s,baz=340,slow=11,SNR=16	22.15	161	P	P	19 07 40.5	-0.9
ASAR	Alice Springs 0.5nm,0.3s,baz=342,slow=8.8,SNR=28	25.55	165	P	P	19 08 15.1	+0.6
MKAR	Makanchi Array 0.2nm,0.3s,baz=120,slow=8.0,SNR=8.5	59.82	326	P	P	19 12 50.9	-0.1

MAN 04 19:04:53.1 4°.02N×123°.90E, h38km, mb4.6, ML3.5, MS3.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	0.48	150	*e*P	Pn	19 05 04.9	+1.5
PVCP				*e*S	Sn	19 05 13.7	+3.0
AUQP	San Andres	1.38	240	*e*P	Pn	19 05 16.8	+1.1
CNP	Catarman	1.67	154	*e*P	Pn	19 05 20.7	+1.0
SJMP	San Jose	3.12	241	*e*P	Pn	19 05 40.8	+1.1

*IDC **04** 19:07:54.8±1.5, 34°.51S×71°.86W, h0km, mb4.1/1, mb1 3.8/3, mb1mx3.6/24, mbtmp3.7/3, ML3.2/2, Error ellipse: s-maj=80.0km s-min=39.5km az=123.0*
ISC 04 19:07:57.2±1.6, 34°.4S±0°.3×72°.0W±0°.3, h16km, n6, σ0s95/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan 0.3nm,0.3s,baz=224,slow=12,SNR=7.6	4.25	50	Pn	Pn	19 09 01.8	+0.5
CFAA				Lg	Lg	19 09 56.6	
	0.9nm,0.3s,baz=358,slow=10.0,SNR=6.1						
LPAZ	La Paz 0.1nm,0.3s,baz=170,slow=8.3,SNR=4.7	18.39	12	P	P	19 12 11.8	-0.4
TORD	Torodi Ar. Bea 1.4nm,0.8s,baz=243,slow=2.4,SNR=7.6	84.35	70	P	P	19 20 28.2	-0.7
WRA	Warramunga Arr 0.5nm,1.1s,baz=160,slow=1.7,SNR=6.2	120.40	209	PKP	PKPdf	19 26 48.7	+0.3
ZALV	Zalesovo Beam 0.8nm,0.5s,baz=293,slow=5.5,SNR=4.3	154.57	33	PKPbc	PKPbc	19 27 57.9	+1.3
ZALV				PKPab	PKPab	19 28 11.1	-0.1
	0.5nm,0.5s,baz=299,slow=6.1,SNR=2.8						
MKAR	Makanchi Array 0.2nm,0.6s,baz=302,slow=3.2,SNR=3.8	157.03	50	PKPab	PKPab	19 28 21.1	-1.1

*IDC **04** 19:11:02.0±0.9, 37°.28S×73°.78W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/29, mbtmp4.1/9, ML4.5/1, MS3.3/4, Ms1 3.3/4, ms1mx3.1/27, Error ellipse: s-maj=35.1km s-min=19.4km az=101.0*
*ISCJB **04** 19:11:04.6±0.9, 37°.29S±0°.10×73°.5W±0°.2, h23km, mb4.1/8, MS3.6/2, Error ellipse: s-maj=20.0km s-min=13.4km az=12.6*
*NEIC **04** 19:11:07.7±0.5, 37°.26S×73°.60W, h35km, mb4.3/2, Error ellipse: s-maj=13.3km s-min=9.7km az=112.0*
ISC 04 19:11:05.9±0.8, 37°.3S±0°.1×73°.7W±0°.1, h23km, n19, σ0s71/20, mb4.2/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan 0.1nm,0.3s,baz=246,slow=18,SNR=5.1	7.21	40	Pn	Pn	19 12 49.8	-0.2
CFAA				Lg	Lg	19 14 37.9	
	0.1nm,0.3s,baz=240,slow=16,SNR=3.2						
CFAA				LR	LR	19 15 22.5	
	comp=Z,29nm,18.4s,baz=227,slow=36						
TRQA	Tornquist	9.29	98	P	Pn	19 13 17.9	-0.5
CPUP	Villa Florida 0.4nm,0.3s,baz=136,slow=11,SNR=3.8	17.63	56	P	Pn	19 15 10.1	+0.1
CPUP				LR	LR	19 21 33.0	
	comp=Z,116nm,18.2s,baz=218,slow=36						
LPAZ	La Paz 4.0nm,0.6s,baz=164,slow=6.5,SNR=10	21.47	15	P	P	19 15 54.5	+1.0
LPAZ	La Paz 5.2nm,0.7s	21.47	15	*e*P	P	19 15 55.0	+1.5
SIV	San Ignacio 2.4nm,0.8s,baz=226,slow=7.0,SNR=5.1	23.95	31	P	P	19 16 18.4	-0.2
SIV				LR	LR	19 27 24.1	
	comp=Z,208nm,19.3s,baz=248,slow=41						
RPN	Rapa Nui comp=Z,111nm,18.3s,baz=189,slow=29	31.68	278	LR	LR	19 26 19.2	
SNAA	Sanae 3.4nm,0.9s,baz=270,slow=11,SNR=5.7	49.07	157	P	P	19 19 51.0	+0.1
QSPA	South Pole Qui 4.7nm,1.0s,baz=137,slow=1.5,SNR=7.6	52.96	180	P	P	19 20 20.2	-0.1
QSPA	South Pole Qui 9.6nm,1.2s	52.96	180	*e*P	P	19 20 21.8	+1.4
TXAR	Lajitas Array 0.5nm,0.6s,baz=150,slow=8.4,SNR=5.8	71.99	333	P	P	19 22 27.0	-0.8
DBIC	Dimbokro 4.3nm,0.9s,baz=208,slow=6.6,SNR=3.6	77.47	72	P	P	19 22 59.8	0.0
BOSA	Boshof 1.6nm,0.7s,baz=176,slow=9.1,SNR=3.1	79.70	118	P	P	19 23 12.7	+0.6
TORD	Torodi Ar. Bea 1.2nm,0.8s,baz=241,slow=3.3,SNR=6.0	86.55	71	P	P	19 23 47.4	0.0
WRA	Warramunga Arr 0.2nm,0.5s,baz=177,slow=1.5,SNR=6.7	117.27	210	PKP	PKPdf	19 29 49.0	-0.8
BRTR	Keskin Array B 1.0nm,0.9s,baz=180,slow=6.9,SNR=3.6	124.53	63	PKP	PKPdf	19 30 03.2	0.0
ABKAR	Abkulak array	144.69	55	*e*PKPdf	PKPdf	19 30 39.6	-0.6
ZALV	Zalesovo Beam 0.4nm,0.5s,baz=0.0,slow=3.3,SNR=3.6	157.68	35	PKP	PKPdf	19 30 59.0	-0.7
ZALV				PKPab	PKPab	19 31 32.4	+0.3
	0.6nm,0.5s,baz=288,slow=6.1,SNR=3.6						
MKAR	Makanchi Array 0.7nm,1.0s,baz=261,slow=6.0,SNR=4.7	159.83	54	PKP	PKPdf	19 31 02.6	0.0
MKAR				PKPab	PKPab	19 31 41.1	-0.6
	0.6nm,0.8s,baz=306,slow=4.2,SNR=6.5						

*IDC **04** 19:16:20.7±1.2, 36°.34S×73°.24W, h0km, mb4.0/6, mb1 4.1/8, mb1mx4.0/32, mbtmp3.9/8, ML4.1/2, Error ellipse: s-maj=46.8km s-min=23.1km az=111.0*
*ISCJB **04** 19:16:23.3±1.1, 36°.3S±0°.1×73°.2W±0°.2, h25km, mb4.1/5, Error ellipse: s-maj=30.9km s-min=17.0km az=29.0*
*NEIC **04** 19:16:25.7±0.8, 36°.34S×73°.27W, h35km, mb4.5/1, Error ellipse: s-maj=28.6km s-min=14.9km az=121.0*
ISC 04 19:16:24.7±1.1, 36°.4S±0°.2×73°.2W±0°.2, h25km, n11, σ1s09/12, mb4.2/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan 0.6nm,0.3s,baz=222,slow=2.8,SNR=13	6.26	42	Pn	Pn	19 17 56.7	+1.2
CFAA				Lg	Lg	19 19 27.6	
	0.5nm,0.3s,baz=71,slow=14,SNR=7.6						
CPUP	Villa Florida 0.6nm,0.3s,baz=249,slow=11,SN

PCIG		**1.23**	**40**	*i* P	**Pb**	**19 23 43.4**	**-1.0**
PCIG				*i* S	**Sb**	**19 24 02.3**	**+2.5**
PCIG		**1.23**	**40**	*i* P	**Pb**	**19 23 43.4**	**-1.0**
PCIG				*i* S	**Sb**	**19 24 02.3**	**+2.5**
THIG		**1.71**	**85**	*eP*	**Pb**	**19 23 51.7**	**-1.1**
THIG				*eS*	**Sb**	**19 24 14.8**	**+0.9**
THIG		**1.71**	**85**	*eP*	**Pb**	**19 23 51.7**	**-1.1**
THIG				*eS*	**Sb**	**19 24 14.8**	**+0.9**
HUIG	**Huatulco**	**2.24**	**297**	*eP*	Pn	19 23 52.0	-5.1
HUIG				*eS*	Sn	19 24 14.3	-9.5
HUIG	**Huatulco**	**2.24**	**297**	*eP*	Pn	19 23 52.0	-5.1
HUIG				*eS*	Sn	19 24 14.3	-9.5
CCIG	**Comitan**	**2.37**	**50**	*eP*	**Pb**	**19 24 01.9**	**-2.2**
CCIG				*eS*	**Sb**	**19 24 33.4**	**+0.4**
CCIG	**Comitan**	**2.37**	**50**	*eP*	**Pb**	**19 24 01.9**	**-2.2**
CCIG				*eS*	**Sb**	**19 24 33.4**	**+0.4**
CMIG	**Matias Romero**	**2.46**	**341**	*eP*	**Pn**	**19 23 58.6**	**-1.4**
CMIG				*eS*	**Sn**	**19 24 27.7**	**-1.5**
CMIG	**Matias Romero**	**2.46**	**341**	Pn	**Pn**	**19 23 58.5**	**-1.6**
75nm,0.3s,baz=160,slow=11,SNR=336							
CMIG				Lg	Lg	19 24 26.1	
346nm,0.3s,baz=28,slow=12,SNR=15							
CMIG				LR	LR	19 24 29.5	
comp=Z,558nm,20.1s,baz=150,slow=29							
CMIG	**Matias Romero**	**2.46**	**341**	Pn	**Pn**	**19 23 58.5**	**-1.6**
CMIG				*eP*	**Pn**	**19 23 58.6**	**-1.4**
CMIG				Lg	Lg	19 24 26.1	
CMIG				*eS*	**Sn**	**19 24 27.7**	**-1.5**
TUIG	**Tuzandepetl**	**3.28**	**353**	*eP*	**Pn**	**19 24 11.5**	**+0.2**
TUIG	**Tuzandepetl**	**3.28**	**353**	*eP*	**Pn**	**19 24 11.5**	**+0.2**
APG	**El Apazote**	**3.46**	**85**	Pn	**Pn**	**19 24 12.3**	**-1.6**
9.5nm,0.3s,baz=278,slow=8.0,SNR=33							
APG				Lg	Lg	19 24 58.4	
14nm,0.3s,baz=304,slow=22,SNR=6.5							
PNIG	**Pinotepa**	**4.27**	**293**	*eP*	Pn	19 24 20.3	-4.6
PNIG				*eS*	Sn	19 25 05.5	-8.4
PNIG	**Pinotepa**	**4.27**	**293**	*eP*	Pn	19 24 20.3	-4.6
PNIG				*eS*	Sn	19 25 05.5	-8.4
SCIG	**Sabancuy**	**4.99**	**33**	*eP*	**Pn**	**19 24 37.0**	**+2.1**
SCIG	**Sabancuy**	**4.99**	**33**	*eP*	**Pn**	**19 24 37.0**	**+2.1**
TEIG	**Tepich**	**7.73**	**44**	Pn	**Pn**	**19 25 12.7**	**+0.2**
23nm,0.3s,baz=250,slow=1.4,SNR=44							
TEIG				LR	LR	19 28 35.3	
comp=Z,2µm,19.1s,baz=289,slow=42							
JTS	**JuntasAbangare**	**9.91**	**116**	*eP*	Pn	19 25 49.1	+6.6
33nm,1.0s							
035A	**Encino**	**12.70**	**343**	⇑P	**Pn**	**19 26 22.5**	**+1.9**
baz=13							
034A	**Hebbronville**	**12.99**	**341**	⇑P	Pn	19 26 28.0	+3.5
baz=13,SNR=10							
934A	**Benavides**	**13.45**	**343**	⇑P	**Pn**	**19 26 33.2**	**+2.5**
baz=13							
933A	**Laredo**	**13.69**	**340**	⇑P	**Pn**	**19 26 35.8**	**+1.7**
baz=14							
835A	**Beeville**	**13.92**	**346**	⇑P	**Pn**	**19 26 39.2**	**+2.0**
baz=14							
834A	**Tilden**	**13.95**	**343**	⇓P	**Pn**	**19 26 39.5**	**+1.9**
baz=14,SNR=8.6							
833A	**Chaparral WMA,**	**14.39**	**341**	⇑P	**Pn**	**19 26 44.6**	**+0.9**
baz=14,SNR=13							
735A	**Kenedy**	**14.46**	**347**	⇓P	**Pn**	**19 26 45.2**	**+0.6**
baz=14							
832A	**Faith Ranch, C**	**14.55**	**339**	⇓P	**Pn**	**19 26 46.0**	**+0.2**
baz=14,SNR=15							
734A	**La Parita Cree**	**14.63**	**344**	⇑P	**Pn**	**19 26 47.5**	**+0.5**
baz=15							
733A	**Divot King Ran**	**14.72**	**342**	⇓P	**Pn**	**19 26 48.8**	**+0.6**
baz=15,SNR=8.7							
636A	**Smothers Creek**	**14.92**	**350**	⇑P	**Pn**	**19 26 51.2**	**+0.4**
baz=15							
732A	**Laxson Ranch,**	**14.95**	**339**	⇑P	**Pn**	**19 26 51.4**	**+0.1**
baz=15,SNR=5.6							
633A	**Saathoff Ranch**	**15.38**	**343**	⇑P	**Pn**	**19 26 56.6**	**-0.3**
baz=15							
537A	**Green Hill Far**	**15.39**	**353**	⇑P	**Pn**	**19 26 57.0**	**-0.1**
baz=15,SNR=7.8							
632A	**Uvalde**	**15.61**	**341**	⇓P	**Pn**	**19 26 59.3**	**-0.7**
baz=16							
534A	**Blanco**	**15.74**	**346**	⇓P	**Pn**	**19 27 01.3**	**-0.3**
baz=16,SNR=30							
631A	**Perdido Creek**	**15.79**	**339**	⇑P	**Pn**	**19 27 00.8**	**-1.4**
baz=16,SNR=8.7							
533A	**Kerrville**	**15.92**	**344**	⇓P	**Pn**	**19 27 04.0**	**0.0**
baz=16,SNR=6.0							
532A	**Rocksprings**	**16.23**	**342**	⇑P	**Pn**	**19 27 07.8**	**-0.1**
baz=16,SNR=13							
435B	**Jarrell**	**16.28**	**349**	⇑P	**Pn**	**19 27 08.2**	**-0.3**
baz=16							
434A	**Burnet**	**16.45**	**347**	⇓P	**Pn**	**19 27 10.1**	**-0.6**
baz=16,SNR=20							
531A	**Rocksprings**	**16.46**	**340**	⇑P	**Pn**	**19 27 10.5**	**-0.4**
baz=16,SNR=14							
JCT	**Junction City**	**16.52**	**342**	⇑P	**Pn**	**19 27 11.3**	**-0.3**
baz=16,SNR=9.5							
JCT	**Junction City**	**16.52**	**342**	*eP*	**Pn**	**19 27 11.7**	**+0.1**
34nm,1.0s							
433A	**Art**	**16.59**	**345**	⇑P	**Pn**	**19 27 12.2**	**-0.3**
baz=17,SNR=5.9							
530A	**J-C Ranch, Com**	**16.73**	**338**	⇓P	**Pn**	**19 27 13.7**	**-0.6**
baz=17							
335A	**Moody**	**16.74**	**350**	⇑P	**Pn**	**19 27 14.1**	**-0.2**
baz=17,SNR=5.3							
336A	**Riesel**	**16.75**	**352**	⇓P	**Pn**	**19 27 15.3**	**+0.8**
baz=17,SNR=6.5							
432A	**Menard**	**16.89**	**343**	⇑P	**Pn**	**19 27 16.6**	**+0.3**
baz=17,SNR=12							
334A	**Lometa**	**16.94**	**348**	⇑P	**Pn**	**19 27 16.3**	**-0.6**
baz=17,SNR=21							
431A	**Sonora**	**16.96**	**340**	⇑P	**Pn**	**19 27 17.0**	**-0.2**
baz=17,SNR=14							
TXAR	**Lajitas Array**	**17.02**	**330**	P	**Pn**	**19 27 18.1**	**+0.2**
0.3nm,0.3s,baz=153,slow=11,SNR=22							
529A	**Stev Forest Ra**	**17.05**	**335**	⇑P	**Pn**	**19 27 18.3**	**-0.1**
baz=17,SNR=9.0							
333A	**Richland Sprin**	**17.10**	**345**	⇑P	**Pn**	**19 27 18.2**	**-0.7**
baz=17,SNR=9.0							
430A	**Baggett Ranch,**	**17.27**	**339**	⇓P	**Pn**	**19 27 21.1**	**0.0**
baz=17,SNR=12							
332A	**Millersview**	**17.36**	**343**	⇓P	**Pn**	**19 27 21.9**	**-0.1**
baz=17,SNR=9.2							
429A	**Davenport Ranc**	**17.37**	**337**	⇑P	**Pn**	**19 27 22.6**	**+0.4**
baz=17,SNR=30							
WHTX	**Lake Whitney,**	**17.44**	**350**	⇑P	**Pn**	**19 27 22.2**	**-0.8**
baz=17							
WHTX	**Lake Whitney,**	**17.44**	**350**	*eP*	**P**	**19 27 25.1**	**+1.1**
40nm,0.7s							
331A	**San Angelo**	**17.48**	**341**	⇑P	**Pn**	**19 27 23.6**	**-0.1**
baz=18,SNR=8.4							
234A	**Clairette**	**17.57**	**348**	⇑P	**Pn**	**19 27 24.7**	**0.0**
baz=18,SNR=14							
233A	**Rising Star**	**17.75**	**346**	⇑P	**Pn**	**19 27 26.7**	**-0.3**
baz=18,SNR=11							
232A	**Coleman**	**17.81**	**344**	⇓P	**Pn**	**19 27 27.6**	**-0.1**
baz=18,SNR=14							
330A	**Mertzon**	**17.82**	**340**	⇓P	**Pn**	**19 27 27.9**	**+0.1**
baz=18,SNR=12							
137A	**Heron Place, G**	**17.83**	**355**	⇑P	**P**	**19 27 28.4**	**+0.1**
baz=18							
135A	**Vickery Place,**	**17.98**	**351**	⇓P	**Pn**	**19 27 29.5**	**-0.3**
baz=18							
231A	**Bronte**	**18.04**	**343**	⇓P	**Pn**	**19 27 30.4**	**-0.1**
baz=18,SNR=7.0							
329A	**Wagon Wheel Ra**	**18.17**	**338**	⇓P	**Pn**	**19 27 31.7**	**-0.5**
baz=18							
230A	**Sterling City**	**18.24**	**340**	⇑P	**Pn**	**19 27 32.5**	**-0.4**
baz=18,SNR=11							
133A	**Hamilton Ranch**	**18.32**	**347**	⇑P	**P**	**19 27 33.7**	**-0.1**
baz=18,SNR=13							
ABTX	**Abilene, Hawle**	**18.50**	**345**	⇑P	**Pn**	**19 27 36.1**	**0.0**
baz=18,SNR=14							
ABTX	**Abilene, Hawle**	**18.50**	**345**	*eP*	**Pn**	**19 27 36.6**	**+0.4**
57nm,0.8s							
229A	**Bryant Ranch,**	**18.55**	**339**	⇓P	**P**	**19 27 36.0**	**-0.4**
baz=18							
Z35A	**Perchaven, San**	**18.72**	**352**	⇑P	**P**	**19 27 37.7**	**-0.5**
baz=19							
131A	**Roby**	**18.75**	**343**	⇓P	**Pn**	**19 27 39.0**	**-0.2**
baz=19,SNR=8.7							
130A	**Snyder**	**18.85**	**342**	⇓P	**P**	**19 27 39.8**	**+0.1**
baz=19							
Z34A	**Collier Ranch,**	**18.86**	**350**	⇓P	**P**	**19 27 40.0**	**+0.2**
baz=19							
Z33A	**Whitaker Ranch**	**18.94**	**348**	⇑P	**Pn**	**19 27 41.2**	**-0.3**
baz=19,SNR=9.5							
228A	**UT Block 9, Go**	**18.97**	**337**	⇓P	**Pn**	**19 27 41.7**	**-0.2**
baz=19,SNR=18							
Z32A	**Haskell**	**19.12**	**346**	⇑P	**Pn**	**19 27 43.1**	**-0.5**
baz=19,SNR=35							
129A	**Stewart Farms,**	**19.17**	**339**	⇑P	**P**	**19 27 43.7**	**+0.4**
baz=19,SNR=8.1							
LRAL	**Lakeview Retre**	**19.29**	**18**	*eP*	**P**	**19 27 44.7**	**+0.3**
14nm,0.9s							
Z31A	**Sharp Cattle R**	**19.29**	**344**	⇓P	**P**	**19 27 44.8**	**+0.3**
baz=19,SNR=10							
128A	**Castleberry Fa**	**19.38**	**338**	⇑P	**P**	**19 27 46.0**	**+0.5**
baz=19,SNR=7.0							
Y34A	**Reagan Ranch,**	**19.41**	**351**	⇓P	**P**	**19 27 46.0**	**+0.2**
baz=19,SNR=6.4							
Z30A	**Sanderson Ranc**	**19.54**	**342**	⇑P	**P**	**19 27 47.8**	**+0.5**
baz=20,SNR=22							
Y33A	**Hilltop Ranch,**	**19.61**	**349**	⇓P	**Pn**	**19 27 49.0**	**-0.4**
baz=20							
Z29A	**Hungry Hill Ra**	**19.69**	**341**	⇑P	**P**	**19 27 49.5**	**+0.5**
baz=20,SNR=27							
MIAR	**Mount Ida**	**19.71**	**1**	*eP*	**P**	**19 27 48.3**	**-0.7**
45nm,0.8s							
Y32A	**R-V Farms, Ver**	**19.78**	**347**	⇑P	**P**	**19 27 50.4**	**+0.6**
baz=20,SNR=8.2							
MNTX	**Cornudas Mount**	**19.80**	**330**	*eP*	**P**	**19 27 49.7**	**-0.4**
3.8nm,0.8s							
Y31A	**Rekieta Farm,**	**19.93**	**345**	⇑P	**P**	**19 27 52.0**	**+0.5**
baz=20,SNR=26							
Z28A	**Tucker Farm, M**	**19.95**	**339**	⇓P	**P**	**19 27 52.4**	**+0.7**
baz=20,SNR=11							
UALR	**University of**	**19.99**	**4**	*eP*	**P**	**19 27 51.2**	**-0.8**
29nm,0.8s							
Y30A	**Stafford Cattl**	**20.02**	**343**	⇓P	**P**	**19 27 52.9**	**+0.4**
baz=20,SNR=9.8							
X34A	**Smith Ranch, M**	**20.05**	**351**	⇑P	Pn	19 27 53.8	-0.9
baz=20,SNR=7.4							
OXF	**Oxford**	**20.11**	**11**	P	**P**	**19 27 51.9**	**-1.5**
44nm,1.0s							
X33A	**Lawton**	**20.11**	**349**	⇑P	**P**	**19 27 54.2**	**+0.8**
baz=20,SNR=6.5							
X32A	**Elmer**	**20.14**	**347**	⇓P	**P**	**19 27 54.3**	**+0.5**
baz=20,SNR=11							
Y29A	**Porterfield Fa**	**20.24**	**341**	⇑P	**P**	**19 27 55.1**	**+0.2**
baz=20,SNR=6.7							
WMOK	**Wichita Mounta**	**20.35**	**349**	*eP*	**P**	**19 27 55.2**	**-0.8**
13nm,0.8s							
Y28A	**McKinney Farm,**	**20.47**	**340**	⇑P	**P**	**19 27 57.9**	**+0.5**
baz=20,SNR=17							
X31A	**McDonald Ranch**	**20.50**	**346**	⇓P	**P**	**19 27 58.2**	**+0.5**
baz=20,SNR=21							
Z26A	**Caprock**	**20.53**	**336**	⇑P	**P**	**19 27 58.6**	**+0.6**
baz=20,SNR=13							
X30A	**Coker Ranch, T**	**20.55**	**344**	⇓P	**P**	**19 27 58.8**	**+0.5**
baz=21,SNR=29							
W34A	**Bridge Creek,**	**20.67**	**351**	⇓P	**P**	**19 27 59.7**	**+0.2**
baz=21,SNR=6.5							
W34A	**Bridge Creek,**	**20.67**	**351**	*eP*	**P**	**19 27 60.0**	**+0.5**
29nm,0.5s							
W33A	**Caddo, Fort Co**	**20.70**	**350**	⇑P	**P**	**19 27 60.0**	**+0.2**
baz=21,SNR=8.4							
MSTX	**Muleshoe**	**20.70**	**339**	⇓P	**P**	**19 28 00.1**	**+0.2**
baz=21,SNR=13							
MSTX	**Muleshoe**	**20.70**	**339**	*eP*	**P**	**19 27 59.7**	**-0.2**
48nm,0.9s							
Y27A	**Causey**	**20.76**	**338**	⇓P	**P**	**19 28 00.5**	**-0.1**
baz=21,SNR=12							
X29A	**Tulia**	**20.79**	**342**	⇓P	**P**	**19 28 01.3**	**+0.5**
baz=21,SNR=23							
W32A	**Sentinel**	**20.82**	**348**	⇑P	**P**	**19 28 01.3**	**+0.3**
baz=21,SNR=18							
Z25A	**Roswell**	**20.84**	**334**	⇑P	**P**	**19 28 01.9**	**+0.5**
baz=21,SNR=14							
X28A	**Dimmitt**	**21.01**	**341**	⇑P	**P**	**19 28 03.4**	**+0.1**
baz=21,SNR=7.4							
W31A	**Holland Ranch,**	**21.02**	**346**	⇓P	**P**	**19 28 03.6**	**+0.2**
baz=21,SNR=17							
Y26A	**Elida**	**21.04**	**337**	⇓P	**P**	**19 28 03.7**	**+0.1**
baz=21,SNR=6.6							
OTAV	**Otavalo**	**21.11**	**132**	*eP*	P	19 27 58.1	-6.8
TUL1	**Leonard**	**21.12**	**356**	⇑P	**P**	**19 28 04.4**	**+0.1**
baz=21,SNR=6.2							
TUL1	**Leonard**	**21.12**	**356**	*eP*	**P**	**19 28 01.9**	**-2.5**
36nm,0.8s							
Z24A	**Sheeppen Canyo**	**21.16**	**333**	⇓P	**P**	**19 28 06.2**	**+1.3**
baz=21,SNR=29							
W30A	**Crocket Farms**	**21.17**	**345**	⇓P	**P**	**19 28 05.3**	**+0.3**
baz=21							
AMTX	**Amarillo**	**21.19**	**342**	⇓P	**P**	**19 28 05.2**	**-0.1**
baz=21							
AMTX	**Amarillo**	**21.19**	**342**	*eP*	**P**	**19 28 05.1**	**-0.1**
107nm,0.8s							
V34A	**Guthrie**	**21.22**	**352**	⇓P	**P**	**19 28 05.1**	**-0.3**
baz=21,SNR=12							
V34A	**Guthrie**	**21.22**	**352**	*eP*	**P**	**19 28 04.4**	**-1.0**
81nm,0.8s							
V33A	**Lossen Ranch,**	**21.32**	**350**	⇓P	**P**	**19 28 05.9**	**-0.5**
baz=21,SNR=10							
V32A	**Arapaho**	**21.35**	**349**	⇓P	**P**	**19 28 06.5**	**-0.3**
baz=21,SNR=5.5							
Y25A	**Mesa, Roswell**	**21.38**	**335**	⇓P	**P**	**19 28 08.3**	**+1.0**
baz=21,SNR=26							
W29A	**Amarillo**	**21.40**	**343**	⇑P	**P**	**19 28 07.7**	**+0.2**
baz=21,SNR=14							
X27A	**F and S Farms,**	**21.43**	**339**	⇓P	**P**	**19 28 08.0**	**+0.3**
baz=21,SNR=13							
V31A	**Spring Creek L**	**21.57**	**347**	⇑P	**P**	**19 28 09.3**	**+0.1**
baz=22							
X26A	**CR and CF Fran**	**21.59**	**338**	⇓P	**P**	**19 28 10.2**	**+0.7**
baz=22,SNR=21							
319A	**Douglas**	**21.65**	**322**	⇑P	**P**	**19 28 11.4**	**+1.3**
baz=22,SNR=8.6							
121A	**Cookes Peak, D**	**21.68**	**327**	⇓P	**P**	**19 28 11.9**	**+1.3**
baz=22,SNR=48							
121A	**Cookes Peak, D**	**21.68**	**327**	*eP*	**P**	**19 28 12.1**	**+1.5**
66nm,0.9s							
W28A	**Vega**	**21.70**	**342**	⇓P	**P**	**19 28 10.8**	**+0.2**
baz=22							
Y24A	**Capitan**	**21.70**	**334**	⇓P	**P**	**19 28 12.0**	**+1.2**
baz=22,SNR=51							
V30A	**Spur Ranch, Mi**	**21.75**	**345**	⇑P	**P**	**19 28 10.8**	**-0.4**
baz=22,SNR=5.3							
W27A	**Bowe Ranch, En**	**21.79**	**340**	⇓P	**P**	**19 28 12.1**	**+0.4**
baz=22,SNR=14							
U34A	**Anderson Ranch**	**21.82**	**352**	⇓P	**P**	**19 28 12.1**	**+0.3**
baz=22,SNR=6.0							
U34A	**Anderson Ranch**	**21.82**	**352**	*eP*	**P**	**19 28 13.5**	**+1.7**
42nm,0.7s							
Z22A	**Elephant Butte**	**21.84**	**330**	⇓P	**P**	**19 28 13.4**	**+1.2**
baz=22,SNR=15							
U33A	**Lingo Farm, Me**	**21.89**	**351**	⇓P	**P**	**19 28 12.2**	**-0.4**
baz=22,SNR=12							
X25A	**Clemmons Ranch**	**21.90**	**336**	⇓P	**P**	**19 28 13.3**	**+0.5**
baz=22,SNR=7.0							
Y23A	**Lovelace Mesa,**	**21.97**	**332**	⇓P	**P**	**19 28 15.2**	**+1.5**
baz=22,SNR=23							
U32A	**Winter Ranch,**	**21.99**	**349**	⇓P	**P**	**19 28 13.9**	**+0.3**
baz=22							
W26A	**Owens Ranch, T**	**22.06**	**338**	⇓P	**P**	**19 28 15.8**	**+1.3**
baz=22,SNR=9.6							
V29A	**Stinnett**	**22.07**	**344**	⇓P	**P**	**19 28 15.3**	**+0.7**
baz=22,SNR=8.9							
U31A	**Nine Bar Ranch**	**22.14**	**347**	⇑P	**P**	**19 28 15.5**	**+0.1**
baz=22							
V28A	**Channing**	**22.16**	**342**	⇓P	**P**	**19 28 15.4**	**-0.2**
baz=22,SNR=7.2							
SDDR	**Presa de Saban**	**22.16**	**76**	*eP*	**P**	**19 28 15.2**	**-0.5**
15nm,0.9s							
X24A	**Lazy VL Ranch,**	**22.24**	**334**	⇓P	**P**	**19 28 17.4**	**+0.7**
baz=22,SNR=11							
V27A	**Dan Oppiter Fa**	**22.35**	**341**	⇓P	**P**	**19 28 17.9**	**+0.2**
baz=22							
W25A	**X Bar L Ranch,**	**22.43**	**337**	⇓P	**P**	**19 28 19.3**	**+0.8**
baz=22,SNR=44							
U30A	**WK&E Inc. Balk**	**22.48**	**346**	⇓P	**P**	**19 28 19.4**	**+0.4**
baz=22,SNR=9.0							
T33A	**Patterson Ranc**	**22.55**	**351**	⇑P	**P**	**19 28 20.2**	**+0.6**
baz=22,SNR=5.1							
U29A	**Oasis Ranch, S**	**22.55**	**345**	⇑P	**P**	**19 28 19.8**	**0.0**
baz=23							
X23A	**Hourglass Bar**	**22.58**	**333**	⇓P	**P**	**19 28 21.1**	**+0.9**
baz=23,SNR=15							
LENM	**Lemitar**	**22.59**	**331**	*eP*	**P**	**19 28 21.7**	**+1.4**
12nm,1.0s							
V26A	**Tequesquite Ra**	**22.70**	**339**	⇑P	**P**	**19 28 21.6**	**+0.2**
baz=23,SNR=15							
U28A	**Mallet**	**22.74**	**343**	⇑P	**P**	**19 28 21.2**	**-0.6**
baz=23							
T32A	**Huddler Ranch,**	**22.75**	**350**	⇑P	**P**	**19 28 21.2**	**-0.6**
baz=23,SNR=8.9							
TKL	**Tuckaleechee C**	**22.76**	**22**	P	**P**	**19 28 19.8**	**-2.1**
5.2nm,0.7s,baz=189,slow=13,SNR=3.7							
W24A	**Lazy 6 Ranch,**	**22.79**	**335**	⇑P	**P**	**19 28 22.7**	**+0.3**
baz=23,SNR=12							
T31A	**Randall Ranch,**	**22.81**	**348**	⇑P	**P**	**19 28 21.9**	**-0.5**
baz=23							
LAZ	**Ladron**	**22.86**	**331**	*eP*	**P**	**19 28 22.8**	**-0.3**
7.1nm,1.0s							
T30A	**Plains**	**22.95**	**347**	⇑P	**P**	**19 28 23.6**	**-0.3**
baz=23							
U27A	**Thompson Grove**	**22.96**	**342**	⇑P	**P**	**19 28 24.3**	**+0.2**
baz=23,SNR=9.3							
ANMO	**Albuquerque**	**23.00**	**333**	P	**P**	**19 28 25.1**	**+0.5**
5.5nm,0.8s,baz=135,slow=10,SNR=21							
ANMO	**Albuquerque**	**23.00**	**333**	*eP*	**P**	**19 28 25.1**	**+0.5**
6.6nm,0.8s							
S33A	**Kaszmaul Farm,**	**23.02**	**352**	⇑P	**P**	**19 28 23.6**	**-1.0**
baz=23							
V25A	**Rancho No Teng**	**23.04**	**338**	⇓P	**P**	**19 28 25.5**	**+0.5**
baz=23,SNR=38							
W23A	**Werner Place,**	**23.05**	**334**	⇓P	**P**	**19 28 25.5**	**+0.3**
baz=23,SNR=8.4							
V24A	**Rampart Ranch,**	**23.19**	**336**	⇑P	**P**	**19 28 26.6**	**+0.1**
baz=23,SNR=15							
TUC	**Tucson**	**23.21**	**322**	*eP*	**P**	**19 28 27.3**	**+0.7**
22nm,1.4s							
U26A	**Atchley Ranch,**	**23.23**	**340**	⇓P	**P**	**19 28 27.2**	**+0.2**
baz=23,SNR=18							
SIUC	**Southern Illin**	**23.26**	**10**	*eP*	**P**	**19 28 25.4**	**-1.5**
49nm,0.8s							
S31A	**Mullinville**	**23.28**	**349**	⇓P	**P**	**19 28 26.6**	**-0.6**
baz=23							
T28A	**Walsh**	**23.41**	**344**	⇑P	**P**	**19 28 28.6**	**0.0**
baz=23							
U25A	**Circle Dot Ran**	**23.46**	**339**	⇓P	**P**	**19 28 29.9**	**+0.7**
baz=24,SNR=25							
S30A	**Montezuma**	**23.50**	**347**	⇑P	**P**	**19 28 29.1**	**-0.2**
baz=24,SNR=5.6							
T27A	**Campo**	**23.52**	**342**	⇑P	**P**	**19 28 29.7**	**0.0**
baz=24,SNR=10							
V23A	**Ortiz Mt. (NFS**	**23.57**	**335**	⇓P	**P**	**19 28 31.8**	**+1.5**
baz=24,SNR=19							
SDV	**Santo Domingo**	**23.62**	**102**	*eP*	**P**	**19 28 30.7**	**-0.3**
8.4nm,0.7s							
S29A	**Ulysses**	**23.62**	**346**	⇑P	**P**	**19 28 31.0**	**+0.4**
baz=24,SNR=8.1							
R33A	**Olander Ranch,**	**23.72**	**352**	⇓P	**P**	**19 28 31.1**	**-0.3**
baz=24,SNR=5.6							
S28A	**Manter**	**23.79**	**344**	⇑P	**P**	**19 28 32.4**	**+0.2**
baz=24							
T26A	**Comanche Natio**	**23.89**	**341**	⇑P	**P**	**19 28 33.7**	**+0.3**
baz=24,SNR=9.9							
R32A	**Long Quarter,**	**23.93**	**351**	⇓P	**P**	**19 28 32.8**	**-0.7**
baz=24,SNR=8.7							
R31A	**Burdett**	**23.94**	**349**	⇓P	**P**	**19 28 33.2**	**-0.4**
baz=24,SNR=11							
V22A	**San Miguel Ran**	**24.02**	**334**	⇑P	**P**	**19 28 35.5**	**+0.9**
baz=24,SNR=16							
R30A	**Dighton**	**24.08**	**348**	⇑P	**P**	**19 28 35.2**	**+0.3**
baz=24,SNR=12							
U23A	**El Rito**	**24.08**	**335**	⇑P	**P**	**19 28 36.4**	**+1.3**
baz=24,SNR=14							
T25A	**Trinidad**	**24.13**	**339**	⇑P	**P**	**19 28 36.9**	**+1.3**
baz=24,SNR=9.8							
S27A	**Las Animas**	**24.15**	**343**	⇓P	**P**	**19 28 36.0**	**+0.3**
baz=24							
214A	**Organ Pipe Nat**	**24.23**	**318**	⇓P	**P**	**19 28 37.6**	**+1.3**
baz=24							
S26A	**Kim**	**24.27**	**342**	⇓P	**P**	**19 28 37.4**	**+0.7**
baz=24,SNR=10							
KSU1	**Kansas State U**	**24.36**	**355**	⇓P	**P**	**19 28 37.2**	**-0.2**
baz=24							
KSU1	**Kansas State U**	**24.36**	**355**	*eP*	**P**	**19 28 36.8**	**-0.6**
25nm,0.7s							
WCI	**Wyandotte Cave**	**24.36**	**15**	*eP*	**P**	**19 28 36.2**	**-1.3**
20nm,0.7s							
WCI				*e*		19 28 47.6	
X18A	**Snowflake**	**24.37**	**327**	⇑P	**P**	**19 28 39.4**	**+1.7**
baz=24							
Q33A	**Connelly Farm,**	**24.38**	**353**	⇑P	**P**	**19 28 36.9**	**-0.6**
baz=24							
U22A	**Llaves**	**24.39**	**334**	⇓P	**P**	**19 28 39.0**	**+1.0**
baz=24							
R29A	**Marienthal**	**24.40**	**346**	⇓P	**P**	**19 28 38.2**	**+0.4

	baz=27					
M31A	Lambtecht Ranc	26.84	352	⇓P	P	19 29 01.4 +1.5
	baz=27,SNR=6.8					
ISCO	Idaho Springs	26.93	340	⇓P	P	19 29 02.0 +0.9
	baz=27,SNR=8.5					
PV04	Paradox Valley	26.96	334	eP	P	19 29 02.2 +1.0
N27A	Anderson Farm,	26.99	346	⇓P	P	19 29 05.2 +3.8
	baz=27,SNR=5.5					
OGNE	Ogallala	27.01	347	⇑P	P	19 29 02.6 +1.1
	baz=27					
OGNE	Ogallala	27.01	347	eP	P	19 29 02.8 +1.4
	76nm,1.1s					
BC3	Big Chuckawall	27.02	318	⇑P	P	19 29 02.9 +1.1
	baz=27,SNR=6.7					
SCIA	State Center	27.06	1	eP	P	19 29 00.7 -1.2
	97nm,0.7s					
IRM	Iron Mountain	27.15	319	⇓P	P	19 29 04.5 +1.8
	baz=27					
MONP	Monument Peak,	27.20	315	⇓P	P	19 29 05.5 +2.1
	baz=27					
O22A	Kremmling	27.58	339	⇑P	P	19 29 07.8 +1.0
	baz=28					
L31A	Butterfield Fa	27.64	352	⇑P	P	19 29 08.5 +1.4
	baz=28					
N24A	Carr	27.64	342	⇓P	P	19 29 08.5 +1.3
	baz=28					
PFO	Pinyon Flats O	27.65	317	P	P	19 29 09.4 +2.1
	3.7nm,0.7s,baz=166,slow=8.5,SNR=3.6					
N23A	Red Feather La	28.03	341	⇓P	P	19 29 11.8 +1.0
	baz=28					
N22A	Wattenberg Ran	28.12	340	⇓P	P	19 29 13.0 +1.4
	baz=28					
O20A	White River Ci	28.17	337	⇑P	P	19 29 13.7 +1.7
	baz=28					
K30A	Basset	28.23	351	⇑P	P	19 29 13.8 +1.4
	baz=28					
JFWS	Jewell Farm	28.25	6	eP	P	19 29 10.9 -1.5
	21nm,0.6s					
ARUT	Antelope Range	28.67	327	eP	P	19 29 18.0 +1.5
	367nm,1.4s					
M22A	Cedar Creek Ra	28.70	340	⇑P	P	19 29 18.5 +1.6
	baz=29					
N20A	Spence Gulch,	28.79	337	⇓P	P	19 29 18.5 +1.0
	baz=29,SNR=6.2					
BFSC	Mount Baldy Ra	28.83	316	⇓P	P	19 29 19.9 +2.0
	baz=29					
J30A	Dallas	28.85	352	⇓P	P	19 29 19.1 +1.2
	baz=29					
ECSD	EROS Data Cent	28.96	356	⇓P	P	19 29 18.5 -0.3
	baz=29,SNR=10					
ECSD	EROS Data Cent	28.96	356	eP	P	19 29 17.6 -1.2
	14nm,0.7s					
L23A	Garrett	29.07	342	⇓P	P	19 29 20.5 +0.5
	baz=29,SNR=9.4					
L22A	Ellis Ranch, M	29.22	341	⇓P	P	19 29 22.4 +1.1
	baz=29					
J28A	Allard Ranch,	29.23	349	⇑P	P	19 29 21.9 +0.6
	baz=29					
J26A	Sides Ranch, S	29.50	347	⇓P	P	19 29 24.6 +1.0
	baz=30					
I27A	Quinn	30.00	348	⇑P	P	19 29 28.7 +0.6
	baz=30					
DUG	Dugway, Tooele	30.20	331	eP	P	19 29 27.6 -2.4
R11A	Troy Canyon, C	30.25	325	⇓P	P	19 29 32.0 +1.6
	baz=30					
TCUT	Toone Canyon	30.30	333	eP	P	19 29 32.5 +1.6
	24nm,0.8s					
I25A	Rochford	30.32	346	⇓P	P	19 29 32.0 +1.0
	baz=30					
SPMN	Marine on St.	30.39	2	⇓P	P	19 29 30.6 -0.8
	baz=30,SNR=19					
SPMN	Marine on St.	30.39	2	eP	P	19 29 30.0 -1.4
	55nm,0.7s					
J22A	Midwest	30.48	342	⇑P	P	19 29 33.5 +1.0
	baz=30					
G30A	Faulkton	30.58	353	⇑P	P	19 29 32.9 -0.2
	baz=31,SNR=7.5					
VES	Vestal, Richgr	30.72	318	⇑P	P	19 29 36.8 +2.3
	baz=31					
J21A	Lysite	30.72	341	⇓P	P	19 29 35.9 +1.2
	baz=31					
H25A	Fruitdale	30.86	347	⇓P	P	19 29 36.9 +1.2
	baz=31					
I22A	9 Mile Ranch,	30.92	342	⇓P	P	19 29 37.2 +0.9
	baz=31					
J20A	Shoshoni	30.94	340	⇑P	P	19 29 37.5 +1.1
	baz=31					
PDAR	Pinedale Array	30.94	337	P	P	19 29 37.1 +0.5
	2.6nm,0.8s,baz=145,slow=8.0,SNR=18					
I21A	Big Trails, Te	31.09	341	⇑P	P	19 29 38.5 +0.7
	baz=31					
J19A	Crowheart	31.19	339	⇑P	P	19 29 39.4 +0.7
	baz=31					
H24A	Dirks Ranch, A	31.20	345	⇓P	P	19 29 39.4 +0.7
	baz=31					
G27A	Dupree	31.25	349	⇓P	P	19 29 39.6 +0.6
	baz=31					
F29A	Eureka	31.36	352	⇑P	P	19 29 40.2 +0.2
	baz=31					
HVU	Hansel Valley	31.44	333	eP	P	19 29 42.2 +1.3
	14nm,0.8s					
I20A	Worland	31.48	340	⇑P	P	19 29 42.0 +0.7
	baz=32,SNR=6.1					
AHID	Auburn Hatcher	31.54	336	eP	P	19 29 42.5 +0.7
	5.9nm,0.8s					
F27A	Lemmon	31.74	349	⇑P	P	19 29 43.8 +0.5
	baz=32					
H21A	Big Horn, Sher	31.76	342	⇑P	P	19 29 44.0 +0.3
	baz=32					
G23A	Biddle	31.83	345	⇑P	P	19 29 44.3 +0.1
	baz=32					
F26A	Lodgepole	31.84	349	⇑P	P	19 29 44.7 +0.4
	baz=32					
I19A	Meeteetse	31.85	339	⇑P	P	19 29 45.6 +1.0
	baz=32					
NVAR	Mina Array Bea	31.86	322	P	P	19 29 46.6 +1.9
	6.9nm,0.9s,baz=138,slow=8.3,SNR=26					
NVAR				PcP	PcP	19 32 36.4 +1.2
	1.2nm,0.7s,baz=117,slow=4.4,SNR=3.9					
E30A	Jud	31.91	354	⇑P	P	19 29 44.4 -0.4
	baz=32					
H20A	Greybull	31.92	341	⇑P	P	19 29 45.2 +0.1
	baz=32,SNR=5.5					
E28A	Huff	32.21	351	⇑P	P	19 29 47.3 -0.1
	baz=32,SNR=6.4					
I17A	Pilgrim Ck.	32.31	337	⇑P	P	19 29 49.9 +1.3
	baz=32					
F23A	Volborg	32.32	345	⇓P	P	19 29 49.0 +0.5
	baz=32					
E26A	Carlson Angus	32.40	349	⇑P	P	19 29 49.6 +0.4
	baz=32,SNR=6.3					
H19A	Powell	32.41	340	⇓P	P	19 29 50.1 +0.7
	baz=32,SNR=8.3					
D30A	Buchanan	32.49	354	⇑P	P	19 29 49.8 -0.1
	baz=32					
D29A	Pettibone, Tap	32.54	353	⇓P	P	19 29 50.2 -0.2
	baz=32					
H18A	Shoshone NF, C	32.64	339	⇑P	P	19 29 52.1 +0.6
	baz=33,SNR=23					
G20A	Bridger	32.65	341	⇓P	P	19 29 51.3 -0.2
	baz=33,SNR=5.2					
D26A	Manning	32.93	349	⇑P	P	19 29 53.9 +0.1
	baz=33,SNR=8.8					
C30A	Mose, Pekin	33.05	354	⇑P	P	19 29 54.2 -0.6
	baz=33,SNR=6.0					
E22A	Miles City	33.13	345	⇓P	P	19 29 55.7 +0.2
	baz=33,SNR=6.4					
F20A	Billings	33.15	342	⇓P	P	19 29 56.5 +0.7
	baz=33					
EYMN	Ely	33.16	3	eP	P	19 29 53.6 -2.1
	4.6nm,0.6s					
MDND	Maddock	33.31	353	⇓P	P	19 29 57.3 +0.2
	baz=33					
MDND	Maddock	33.31	353	eP	P	19 29 55.8 -1.3
	6.5nm,0.3s					
D24A	Glendive	33.38	347	⇑P	P	19 29 58.3 +0.6
	baz=33					
F19A	Roth Farm, Mol	33.45	341	⇑P	P	19 29 58.7 +0.4
	baz=34					
AGMN	Agassiz Nation	33.48	358	eP	P	19 29 57.6 -0.8
	26nm,0.3s					
HLID	Hailey	33.59	333	⇑P	P	19 30 00.4 +0.6
	baz=34,SNR=10					
HLID	Hailey	33.59	333	eP	P	19 30 00.3 +0.6
	6.4nm,0.9s					
GCMT	Greycliff	33.62	340	eP	P	19 29 60.0 0.0
	6.9nm,0.9s					
D23A	Lindsay	33.63	346	⇓P	P	19 30 00.6 +0.7
	baz=34					
C26A	Wahner Farm, P	33.64	350	⇓P	P	19 30 00.7 +0.8
	baz=34					
E20A	Meyer Farm, Mu	33.78	342	⇓P	P	19 30 01.8 +0.5
	baz=34,SNR=5.5					
B30A	Myrvik Farm, E	33.78	355	⇓P	P	19 30 01.2 +0.1
	baz=34,SNR=12					
C24A	Savage	33.80	347	⇓P	P	19 30 02.3 +0.9
	baz=34					
D22A	Cohagen	33.85	345	⇑P	P	19 30 02.3 +0.5
	baz=34,SNR=8.8					
B29A	Wagenman Farm,	33.90	354	⇑P	P	19 30 02.2 0.0
	baz=34,SNR=9.8					
E19A	Rath Farm, Rou	33.94	342	⇓P	P	19 30 02.8 +0.1
	baz=34,SNR=6.1					
MCMT	McKenzie Canyo	33.95	336	eP	P	19 30 04.6 +1.6
	7.8nm,1.2s					
D21A	La Casta Ranch	33.98	344	⇑P	P	19 30 03.6 +0.6
	baz=34					
B28A	Dugan Ranch, T	34.00	352	⇓P	P	19 30 03.0 0.0
	baz=34,SNR=8.5					
C23A	Lambert	34.22	347	⇓P	P	19 30 06.1 +1.1
	baz=34					
A30A	Hoffart Farm,	34.27	355	⇑P	P	19 30 05.3 -0.1
	baz=34,SNR=12					
C22A	Vida	34.33	346	⇑P	P	19 30 06.8 +0.8
	baz=34					
A29A	Manning Farm,	34.34	354	⇑P	P	19 30 06.0 0.0
	baz=34,SNR=11					
A28A	Rude Farm, Bot	34.44	353	⇓P	P	19 30 06.6 -0.3
	baz=34,SNR=6.0					
D19A	Cripps Ranch,	34.60	342	⇓P	P	19 30 08.4 0.0
	baz=35,SNR=6.0					
LRM	Limekiln Ridge	34.63	337	eP	P	19 30 09.5 +0.6
	110nm,1.2s					
DGMT	Dagmar	34.65	348	⇑P	P	19 30 09.5 +0.8
	baz=35					
C21A	Desert Coulee	34.71	344	⇑P	P	19 30 10.3 +1.0
	baz=35					
WVOR	Wild Horse Val	34.78	327	eP	P	19 30 10.7 +0.7
	13nm,1.0s					
B23A	Brockton	34.81	347	⇓P	P	19 30 11.0 +0.9
	baz=35					
C20A	Veseth Ranch,	34.85	343	⇓P	P	19 30 11.2 +0.8
	baz=35					
B22A	Reddig Ranch S	34.88	346	⇑P	P	19 30 11.5 +0.8
	baz=35					
C19A	Slack Wire Ran	35.16	342	⇑P	P	19 30 13.7 +0.5
	baz=35					
B21A	Ellsworth Farm	35.24	345	⇓P	P	19 30 14.4 +0.6
	baz=35					
MOD	Modoc Plateau	35.31	325	eP	P	19 30 15.3 +0.6
	14nm,1.1s					
ULM	Lac du Bonnet	35.43	358	P	P	19 30 13.6 -1.7
	11nm,0.7s,baz=181,slow=9.5,SNR=19					
A22A	Carney Farms,	35.51	346	⇑P	P	19 30 16.8 +0.7
	baz=36					
B20A	Solberg Farm,	35.52	344	⇓P	P	19 30 16.6 +0.4
	baz=36,SNR=5.4					
EGMT	Eagleton	35.63	342	⇑P	P	19 30 17.5 +0.3
	baz=36,SNR=5.8					
EGMT	Eagleton	35.63	342	eP	P	19 30 17.5 +0.3
	13nm,1.2s					
A21A	Bergtoll Ranch	35.74	345	⇓P	P	19 30 18.7 +0.6
	baz=36,SNR=6.9					
B19A	Brinkman Farms	35.78	343	⇑P	P	19 30 19.2 +0.7
	baz=36,SNR=8.2					
CHMT	Chamberlain Mo	35.85	337	eP	P	19 30 19.2 -0.1
	2.6nm,0.9s					
A20A	Cobblestone Ra	35.89	344	⇓P	P	19 30 19.9 +0.4
	baz=36,SNR=6.9					
BMO	Blue Mountains	35.90	331	eP	P	19 30 18.8 -0.8
	5.5nm,1.2s					
MSO	Missoula	36.04	337	⇑P	P	19 30 21.3 +0.5
	baz=36,SNR=6.1					
A19A	Klindworth Far	36.16	344	⇑P	P	19 30 22.5 +0.8
	baz=36,SNR=7.8					
K04D	Chiloquin, OR	36.59	325	⇑P	P	19 30 26.9 +1.3
	baz=37					
SWMT	Swartz Lake	36.63	337	eP	P	19 30 26.1 +0.2
	2.7nm,0.7s					
J05D	Fort Rock, OR	36.75	326	⇑P	P	19 30 28.4 +1.5
	baz=37					
YBMT	Yellow Bay	36.93	337	eP	P	19 30 28.7 +0.3
	6.7nm,0.9s					
JTMT	Jette	36.93	337	eP	P	19 30 28.6 +0.2
	9.5nm,1.2s					
JTMT				e		19 30 38.4
J04D	Umpqua Nationa	37.20	325	⇑P	P	19 30 31.9 +1.1
	baz=37					
I04A	Tendick Farm,	37.73	326	⇑P	P	19 30 35.4 +0.3
	baz=38					
G05D	Wamic, OR	38.13	328	⇓P	P	19 30 40.0 +1.5
	baz=38					
I03D	Drain, OR	38.18	325	⇑P	P	19 30 39.7 +0.8
	baz=38					
NEW	Newport	38.47	335	LR	LR	19 48 56.6
	comp=Z,121nm,21.0s,baz=236,slow=40					
NEW	Newport	38.47	335	⇑P	P	19 30 41.9 +0.6
	baz=38					
NEW	Newport	38.47	335	eP	P	19 30 41.7 +0.4
	2.5nm,0.7s					
SAML	Samuel	38.60	126	eP	P	19 30 42.6 -0.2
	4.7nm,0.9s					
LON	Longmire	39.43	330	eP	P	19 30 49.7 +0.3
	6.4nm,0.8s					
LPAZ	La Paz	40.08	139	P	P	19 30 55.9 +0.2
	1.1nm,0.7s,baz=253,slow=12,SNR=3.0					
FFC	Flin Flon	40.36	353	eP	P	19 30 56.4 -0.5
	3.3nm,0.6s					
FCC	Fort Churchill	43.93	360	eP	P	19 31 24.9 -1.0
	0.4nm,1.1s					
SIV	San Ignacio	44.65	132	P	P	19 31 31.8 -0.5
	2.0nm,1.0s,baz=299,slow=9.3,SNR=2.5					
SCHQ	Schefferville	45.23	22	P	P	19 31 35.0 -1.4
	7.5nm,0.9s,baz=238,slow=7.9,SNR=4.8					
SCHQ				LR	LR	19 52 14.6
	comp=Z,266nm,18.6s,baz=246,slow=39					
YKA	Yellowknife Ar	49.85	348	P	P	19 32 12.0 -0.1
	7.8nm,0.9s,baz=152,slow=7.4,SNR=74					
YKA				PcP	PcP	19 33 32.2 -0.2
	1.0nm,0.7s,baz=148,slow=3.6,SNR=5.9					
FRB	Frobisher Bay	52.04	14	P	P	19 32 28.0 -0.5
	13nm,0.5s,baz=218,slow=11					
BDFB	Brasilia	54.59	122	P	P	19 32 48.1 -0.1
	4.6nm,0.7s,baz=284,slow=6.7,SNR=7.7					
INK	Inuvik	59.16	344	P	P	19 33 20.1 +0.4
	5.6nm,0.8s,baz=125,slow=7.9,SNR=22					
INK	Inuvik	59.16	344	eP	P	19 33 19.5 -0.1
	10nm,1.2s					
RES	Resolute Bay	59.93	360	P	P	19 33 23.9 -0.9
	7.3nm,0.8s,baz=184,slow=9.7,SNR=28					
RES	Resolute Bay	59.93	360	eP	P	19 33 24.1 -0.7
	6.8nm,0.7s					
RC01	Rabbit Creek A	60.91	333	eP	P	19 33 32.4 +0.5
RCBR	Riachuelo	61.14	105	eP	P	19 33 35.2 +1.1
ILAR	Eielson Array	61.38	337	P	P	19 33 34.9 -0.1
	5.6nm,0.9s,baz=143,slow=4.0,SNR=49					
COLA	College	61.79	337	eP	P	19 33 37.0 -0.6
	4.6nm,0.8s					
TRF	Thorofare Moun	62.12	335	eP	P	19 33 40.1 0.0
	15nm,0.9s					
KTH	Kantishna Hill	62.42	335	eP	P	19 33 41.7 -0.4
	7.8nm,0.8s					
SUMG	Summit	66.04	16	i P	P	19 34 06.5 +0.5
	11nm,0.8s					
SUMG	Summit	66.04	16	eP	P	19 34 06.2 +0.2
	7.4nm,0.8s					
TNA	Tin City	70.01	335	eP	P	19 34 30.8 +0.2
	2.6nm,0.8s					
DAG	Danmarks Havn	72.39	14	i P	P	19 34 44.6 -0.2
	9.0nm,0.6s					
SPITS	Spitsbergen Ar	79.74	11	P	P	19 35 26.5 -0.1
	2.9nm,0.5s,baz=147,slow=2.0,SNR=36					
BILL	Bilibino	80.02	338	eP	P	19 35 28.7 +0.4
	5.2nm,0.7s					
ESDC	Sonseca Array	80.79	51	P	P	19 35 31.9 -1.3
	2.0nm,0.8s,baz=290,slow=5.5,SNR=11					
GRR	Gorron	81.20	42	eP	P	19 35 35.8 +0.8
GRR	Gorron	81.20	42	eP	P	19 35 35.8 +0.8
ETSF	Etsaut	82.61	48	eP	P	19 35 43.5 +0.8
ETSF	Etsaut	82.61	48	eP	P	19 35 43.5 +0.8
LFF	La Frestale	83.05	45	eP	P	19 35 44.7 -0.1
LFF	La Frestale	83.05	45	eP	P	19 35 44.7 -0.1
EPF	Esparros	83.22	47	eP	P	19 35 45.7 -0.1
	15nm,0.9s					
EPF	Esparros	83.22	47	eP	P	19 35 45.7 -0.1
	15nm,0.9s					
TCF	Toulx Ste Croi	83.72	44	eP	P	19 35 47.7 -0.6
TCF	Toulx Ste Croi	83.72	44	eP	P	19 35 47.7 -0.6
BAIF	Baives	84.02	40	eP	P	19 35 50.4 +0.7
BAIF	Baives	84.02	40	eP	P	19 35 50.4 +0.7
BGF	Bois d'Agland	84.07	44	eP	P	19 35 50.5 +0.5
	23nm,0.9s					
BGF	Bois d'Agland	84.07	44	eP	P	19 35 50.5 +0.5
	23nm,0.9s					
AVF	Avril sur Loir	84.35	43	eP	P	19 35 51.5 +0.1
	9.1nm,0.8s					
AVF	Avril sur Loir	84.35	43	eP	P	19 35 51.5 +0.1
	9.1nm,0.8s					
SSF	Saint Saulge	84.38	43	eP	P	19 35 51.8 +0.2
	12nm,0.9s					
SSF	Saint Saulge	84.38	43	eP	P	19 35 51.8 +0.2
	12nm,0.9s					
NB2	NORSAR Subarra	84.42	28	P	P	19 35 52.8 +1.3
	comp=Z,6.4nm,0.8s,baz=291,slow=5.3					
NOA	NORSAR Array B	84.42	28	P	P	19 35 53.1 +1.6
	comp=Z,4.1nm,0.7s,baz=291,slow=5.2,SNR=25					
MTLF	Montolieu	84.47	47	eP	P	19 35 52.6 +0.5
	comp=Z,17nm,1.0s					
MTLF	Montolieu	84.47	47	eP	P	19 35 52.6 +0.5
	comp=Z,17nm,1.0s					
LOR	Lormes	84.55	43	eP	P	19 35 53.0 +0.5
	comp=Z,18nm,1.0s					
LOR				eR		
	comp=Z,121nm,17.5s					
LOR	Lormes	84.55	43	eP	P	19 35 53.0 +0.5
SFTF	Sexfontaines	85.06	42	eP	P	19 35 55.8 +0.8
SFTF	Sexfontaines	85.06	42	eP	P	19 35 55.8 +0.8
PAGF	Fort de Pagny	85.40	41	eP	P	19 35 56.8 +0.1
	comp=Z,12nm,1.2s					
PAGF	Fort de Pagny	85.40	41	eP	P	19 35 56.8 +0.1
	comp=Z,12nm,1.2s					
LASF	Ste Croix	85.42	46	eP	P	19 35 57.3 +0.4
LASF	Ste Croix	85.42	46	eP	P	19 35 57.3 +0.4
VIVF	Saint-Julien-I	85.77	45	eP	P	19 35 59.0 +0.4
	comp=Z,21nm,1.1s					
VIVF	Saint-Julien-I	85.77	45	eP	P	19 35 59.0 +0.4
	comp=Z,21nm,1.0s					
HAU	Haudompre	85.96	41	eP	P	19 36 00.2 +0.7
	comp=Z,37nm,0.9s					
HAU				eR		
	comp=Z,116nm,19.0s					
HAU	Haudompre	85.96	41	eP	P	19 36 00.2 +0.7
ARCES	ARCESS Array B	86.03	18	P	P	19 35 59.5 +0.1
	comp=Z,2.3nm,0.7s,baz=17,slow=8.9,SNR=8.2					
CABF	La Chapelle	86.20	43	eP	P	19 36 01.7 +0.9
CABF	La Chapelle	86.20	43	eP	P	19 36 01.7 +0.9
HINF	Hinteralfeld	86.34	42	eP	P	19 36 01.8 +0.4
	comp=Z,20nm,1.0s					
HINF	Hinteralfeld	86.34	42	eP	P	19 36 01.8 +0.4
	comp=Z,20nm,1.0s					
ECH	Echery	86.41	41	eP	P	19 36 02.2 +0.4
	comp=Z,18nm,1.1s					
CDF	Champ du Feu	86.42	41	eP	P	19 36 02.5 +0.6
	comp=Z,30nm,1.2s					
CDF	Champ du Feu	86.42	41	eP	P	19 36 02.5 +0.6
	comp=Z,30nm,1.2s					
ORIF	Oris-en-Rattie	86.57	45	eP	P	19 36 03.0 +0.3
ORIF				eR		
	comp=Z,123nm,19.8s					
ORIF	Oris-en-Rattie	86.57	45	eP	P	19 36 03.0 +0.3
SMRF	Simiane la Rot	86.64	45	eP	P	19 36 04.4 +1.4
	comp=Z,58nm,1.2s					
SMRF	Simiane la Rot	86.64	45	eP	P	19 36 04.4 +1.4
	comp=Z,58nm,1.3s					
LPL	La Plagne	86.96	44	eP	P	19 36 06.0 +1.3
LPL	La Plagne	86.96	44	eP	P	19 36 06.0 +1.3
LPG	La Plagne	86.98	44	eP	P	19 36 06.3 +1.4
	comp=Z,56nm,1.4s					
LPG	La Plagne	86.98	44	eP	P	19 36 06.3 +1.4
	comp=Z,56nm,1.4s					
MBDF	Montbardon	87.23	45	eP	P	19 36 06.9 +0.9
	comp=Z,39nm,1.1s					
MBDF	Montbardon	87.23	45	eP	P	19 36 06.9 +0.9
	comp=Z,39nm,1.1s					
SEY	Seymchan	87.25	335	P	P	19 36 05.8 +0.4
	comp=Z,1.5nm,0.6s,baz=165,slow=4.3,SNR=8.5					
TIC	Toumodi	87.38	84	eP	P	19 36 07.3 +0.2
	comp=Z,14nm,0.2s					
LIC	Lamto	87.48	84	⇑i P	P	19 36 07.7 +0.2
	comp=Z,41nm,1.2s,baz=290					
LIC	Lamto	87.48	84	eP	P	19 36 07.6 +0.1
	comp=Z,45nm,1.2s					
LIC	Lamto	87.48	84	⇑i P	P	19 36 07.7 +0.2
	comp=Z,41nm,1.2s					
LMR	La Mourre	87.48	46	eP	P	19 36 06.9 -0.1
LMR	La Mourre	87.48	46	eP	P	19 36 06.9 -0.1
DBIC	Dimbokro	87.53	84	P	P	19 36 08.2 +0.4
	comp=Z,3.2nm,0.9s,baz=272,slow=13,SNR=3.1					
KIC	Kosan Boka	87.72	84	eP	P	19 36 09.0 +0.3
	comp=Z,109nm,1.9s					
CLL	Collm	88.90	37	e(P)	P	19 36 16.0 +2.5
CLL				Lm	MLR	20 34 00.0
	comp=N,100nm,18.5s					
CLL				Lm	MLR	20 34 00.0
	comp=E,200nm,19.6s					
CLL				Lm	MLR	20 34 00.0
	comp=Z,300nm,18.6s					
BRG	Berggiesshubel	89.62	37	eP	P	19 36 26.7 +10
	comp=Z,6.1nm,1.1s					
KHC	Kasperske Hory	90.08	39	eP	P	19 36 20.9 +1.7
	comp=Z,5.6nm,1.0s					
GERES	GERESS Array B	90.26	39	P	P	19 36 20.3 +0.1
	comp=Z,1.9nm,0.9s,baz=318,slow=1.8,SNR=9.8					
FINES	FINESS Array B	90.64	25	P	P	19 36 21.2 -0.2
	comp=Z,1.0nm,0.5s,baz=325,slow=3.0,SNR=7.3					
TORD	Torodi Ar. Bea	92.11	76	P	P	19 36 28.2 -1.0
	comp=Z,0.3nm,0.7s,baz=287,slow=6.1,SNR=5.0					
ULN	Ulaanbaatar	114.88	345	ePdif	Pdif	19 38 11.6 +0.7
GEYT	Alibeck	121.43	26	PKP	PKPdf	19 42 12.8 -0.1
	comp=Z,0.8nm,0.8s,baz=294,slow=1.5,SNR=3.7					
BOSA	Boshof	122.46	115	PKP	PKPdf	19 42 15.1 -0.1
	comp=Z,3.2nm,0.9s,baz=268,slow=7.6,SNR=1.6					
WRA	Warramunga Arr	133.66	256	PKP	PKPdf	19 42 37.4 +0.7
	comp=Z,0.8nm,0.7s,baz=83,slow=2.0,SNR=6.4					
CMAR	Chiang Mai Arr	144.60	338	PKP	PKPab	19 42 55.1 0.0
	comp=Z,3.2nm,0.8s,baz=349,slow=2.8,SNR=28					
HYB	Hyderabad	147.20	13	i PKP	PKPdf	19 43 02.0 +0.9

*IDC **04** 19:28:15.9±1.8, 34°.58S×72°.81W, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.7/33, mbtmp3.6/6, ML3.4/3, Error ellipse: s-maj=43.7km s-min=30.1km az=91.0*
*ISCJB **04** 19:28:19.0±1.3, 34°.6S±0°.1×72°.7W±0°.3, h33km, mb3.7/3, Error ellipse: s-maj=30.8km s-min=15.1km az=4.9*
ISC 04 19:28:21.2±1.4, 34°.6S±0°.1×72°.7W±0°.2, h35km, n6, σ0§94/6, mb3.8/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.76	53	Pn	Pn	19 29 29.9	-0.5
	0.4nm,0.3s,baz=237,slow=13,SNR=7.0						
PLCA	Paso Flores	6.36	165	Pn	Pn	19 29 52.4	0.0
	0.2nm,0.3s,baz=338,slow=16,SNR=2.0				

central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.80	53	Pn	Pn	19 29 47.4	+0.2
	2.1nm,0.3s,baz=232,slow=12,SNR=17						
PLCA	Paso Flores	6.41	165	Pn	Pn	19 30 08.4	-0.9
	2.7nm,0.3s,baz=338,slow=9.3,SNR=17						
TRQA	Tornquist	9.38	115	eP	Pn	19 30 50.1	+0.1
	117nm,1.2s						
CPUP	Villa Florida	15.62	63	eP	Pn	19 32 12.4	-2.3
CPUP				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CPUP	Villa Florida	15.62	63	Pn	Pn	19 32 15.6	+0.8
	comp=Z,0.4nm,0.3s,baz=223,slow=12,SNR=8.5						
CPUP	Villa Florida	15.62	63	eP	Pn	19 32 12.4	-2.3
	comp=Z,2.5nm,1.1s						
LPAZ	La Paz	18.66	14	P	P	19 32 52.1	-0.8
LPAZ				pmax	pmax		
	comp=Z,92nm,1.1s						
LPAZ	La Paz	18.66	14	P	P	19 32 52.6	-0.3
	comp=Z,0.5nm,0.3s,baz=177,slow=7.5,SNR=25						
LPAZ	La Paz	18.66	14	P	P	19 32 52.1	-0.8
	comp=Z,92nm,1.1s						
USHA	Ushuaia	20.50	173	P	P	19 33 11.2	-0.9
	comp=Z,25nm,0.9s,baz=336,slow=5.0,SNR=12						
USHA				LR	LR	19 42 04.4	
	comp=Z,2μm,19.0s,baz=322,slow=40						
SIV	San Ignacio	21.26	33	P	P	19 33 20.2	-0.4
	comp=Z,21nm,1.0s,baz=226,slow=12,SNR=17						
SIV				LR	LR	19 43 17.5	
	comp=Z,4μm,19.6s,baz=230,slow=42						
SAML	Samuel	26.96	21	eP	P	19 34 13.6	-2.0
	comp=Z,30nm,1.1s						
BDFB	Brasilia	29.14	56	P	P	19 34 33.8	-1.4
	comp=Z,7.7nm,0.8s,baz=216,slow=6.9,SNR=12						
PMSA	Palmer Station	30.71	173	LR	LR	19 46 48.3	
	comp=Z,1μm,19.7s,baz=32,slow=36						
OTAV	Otavalo	35.02	350	eP	P	19 35 28.1	+0.9
	comp=Z,31nm,1.3s						
SDV	Santo Domingo	43.25	3	eP	P	19 36 33.9	-1.7
	comp=Z,28nm,0.9s						
JTS	JuntasAbangare	46.07	343	deP	P	19 36 59.3	+1.4
VNA3	Neumayer Olymp	49.08	158	P	P	19 37 21.9	+1.3
VNA1	Neumayer--Stat	49.40	157	P	P	19 37 24.7	+1.7
VNA2	Neumayer--Watz	49.74	157	P	P	19 37 26.9	+1.3
SNAA	Sanae	51.30	158	P	P	19 37 38.8	+1.2
SNAA	Sanae	51.30	158	eP	P	19 37 38.1	+0.6
SNAA				pmax	pmax		
	comp=Z,89nm,1.4s						
SNAA	Sanae	51.30	158	P	P	19 37 36.0	-1.5
	comp=Z,5.2nm,0.8s,baz=286,slow=7.5,SNR=9.0						
SNAA	Sanae	51.30	158	eP	P	19 37 38.1	+0.6
	comp=Z,89nm,1.4s						
CELP	Cerrillos	52.67	7	eP	P	19 37 47.8	-0.4
RKT	Rikitea	54.92	264	eLR	LR	19 53 54.2	
	comp=Z,469nm,26.0s						
QSPA	South Pole Qui	55.68	180	P	P	19 38 09.3	-0.5
	comp=Z,18nm,0.9s,baz=145,slow=3.9,SNR=21						
QSPA	South Pole Qui	55.68	180	eP	P	19 38 10.5	+0.6
	comp=Z,31nm,1.1s						
NVL	N'lazarevskaya	56.05	157	eP	P	19 38 17.8	+5.6
NVL				eS	S	19 46 06.3	+8.3
NVL				pmax	pmax		
	comp=Z,45nm,1.0s						
NVL				MLR	MLR		
	comp=Z,453nm,14.0s						
VNDA	Vanda	63.44	191	P	P	19 39 03.1	+0.1
	comp=Z,1.4nm,0.9s,baz=38,slow=3.3,SNR=6.2						
SYO	Syowa Base	65.57	159‖	eP	P	19 39 15.3	-1.6
034A	Hebbronville	66.02	335	P	P	19 39 18.8	-1.5
	baz=66						
834A	Tilden	66.94	335	P	P	19 39 26.9	+0.7
	baz=67						
832A	Faith Ranch, C	67.59	334	P	P	19 39 30.0	-0.3
	baz=68						
HKT	Hockley	67.75	338	eP	P	19 39 32.1	+0.9
HKT				pmax	pmax		
	comp=Z,83nm,2.1s						
HKT	Hockley	67.75	338	eP	P	19 39 32.1	+0.9
	comp=Z,83nm,2.1s						
732A	Laxson Ranch,	68.00	334	P	P	19 39 32.3	-0.5
	baz=68						
633A	Saathoff Ranch	68.38	335	P	P	19 39 36.1	+0.8
	baz=69						
632A	Uvalde	68.64	335	P	P	19 39 37.2	+0.3
	baz=69						
631A	Perdido Creek	68.83	334	P	P	19 39 38.1	0.0
	baz=69						
532A	Rocksprings	69.25	335	P	P	19 39 41.0	+0.3
	baz=70						
434A	Burnet	69.32	337	P	P	19 39 40.9	-0.2
	baz=70						
JCT	Junction City	69.53	335	P	P	19 39 44.2	+1.8
JCT				pmax	pmax		
	comp=Z,42nm,1.3s						
JCT	Junction City	69.53	335	P	P	19 39 44.2	+1.8
	comp=Z,42nm,1.3s						
433A	Art	69.54	336	P	P	19 39 42.4	0.0
	baz=70						
PPT2	Papeete2	69.56	262	eS	S	19 48 45.0	-3.9
	comp=Z,163nm,23.2s						
PPT2	Papeete2	69.56	262	eLR	LR	20 00 38.4	
	comp=Z,783nm,25.5s,baz=113						
530A	J-C Ranch, Com	69.78	334	P	P	19 39 43.2	-0.7
	baz=70						
TXAR	Lajitas Array	69.93	331	P	P	19 39 44.9	0.0
	comp=Z,2.0nm,0.7s,baz=151,slow=8.6,SNR=11						
TXAR				LR	LR	20 05 52.7	
	comp=Z,702nm,18.1s,baz=0.0,slow=32						
529A	Stev Forest Ra	70.08	333	P	P	19 39 45.9	0.0
	baz=70						
WVT	Waverly	71.71	347	eP	P	19 39 55.3	-0.2
WVT				pmax	pmax		
	comp=Z,17nm,0.9s						
WVT	Waverly	71.71	347	eP	P	19 39 55.2	-0.2
	comp=Z,17nm,0.9s						
228A	UT Block 9, Go	72.01	334	P	P	19 39 57.4	-0.2
	baz=72						
128A	Castleberry Fa	72.42	334	P	P	19 39 59.7	-0.2
	baz=73						
MNTX	Cornudas Mount	72.70	331	eP	P	19 40 00.0	-1.5
	comp=Z,5.5nm,0.9s						
MAW	Mawson	72.82	164	LR	LR	20 13 36.2	
	comp=Z,1μm,18.7s,baz=234,slow=37						
Z26A	Caprock	73.56	333	P	P	19 40 06.5	-0.2
	baz=74						
W32A	Sentinel	73.61	338	P	P	19 40 06.9	0.0
	baz=74						
MSTX	Muleshoe	73.74	334	P	P	19 40 07.4	-0.4
	baz=74						
MSTX	Muleshoe	73.74	334	eP	P	19 40 06.7	-1.0
	comp=Z,17nm,1.0s						
Z24A	Sheeppen Canyo	74.14	332	P	P	19 40 10.8	+0.6
	baz=74						
W29A	Amarillo	74.39	336	P	P	19 40 11.4	-0.1
	baz=75						
121A	Cookes Peak, D	74.41	330	P	P	19 40 12.1	+0.3
	baz=75						
121A	Cookes Peak, D	74.41	330	eP	P	19 40 11.7	-0.1
	comp=Z,21nm,1.2s						
X26A	CR and CF Fran	74.64	334	P	P	19 40 13.0	0.0
	baz=75						
Y24A	Capitan	74.69	332	P	P	19 40 13.5	+0.1
	baz=75						
Z22A	Elephant Butte	74.70	331	P	P	19 40 14.1	+0.7
	baz=75						
W27A	Bowe Ranch, En	74.83	335	P	P	19 40 13.5	-0.6
	baz=75						
W25A	X Bar L Ranch,	75.47	334	P	P	19 40 17.2	-0.6
	baz=76						
LPM	Los Pinos Moun	75.50	332	eP	P	19 40 16.7	-1.4
W24A	Lazy 6 Ranch,	75.82	333	P	P	19 40 19.4	-0.5
	baz=76						
DBIC	Dimbokro	75.92	72	P	P	19 40 21.3	+0.6
	comp=Z,22nm,1.1s,baz=207,slow=6.4,SNR=6.6						
ANMO	Albuquerque	75.98	332‖	eP	P	19 40 21.0	+0.2
ANMO				pmax	pmax		
	comp=Z,29nm,1.7s						
ANMO	Albuquerque	75.98	332	eP	P	19 40 21.1	+0.3
	comp=Z,15nm,1.1s						
V25A	Rancho No Teng	76.08	334	P	P	19 40 21.2	-0.2
	baz=76						
U25A	Circle Dot Ran	76.51	334	P	P	19 40 23.9	+0.1
	baz=77						
S28A	Manter	76.72	337	P	P	19 40 24.9	+0.1
	baz=77						
U23A	El Rito	77.10	333	P	P	19 40 28.0	+0.9
	baz=77						
T25A	Trinidad	77.17	335	P	P	19 40 28.1	+0.6
	baz=78						
S26A	Kim	77.28	335	P	P	19 40 28.4	+0.4
	baz=78						
R28A	Tribune	77.38	337	P	P	19 40 28.7	+0.2
	baz=78						
T24B	San Luis	77.45	334	P	P	19 40 29.7	+0.5
	baz=78						
Q30A	Quinter	77.46	338	P	P	19 40 29.9	+1.0
	baz=78						
S25A	Robets Cordova	77.64	335	P	P	19 40 30.1	0.0
	baz=78						
R27A	Eads	77.65	336	P	P	19 40 29.9	-0.1
	baz=78						
R26A	Arlington	77.88	336	P	P	19 40 31.6	+0.3
	baz=78						
S24A	Houchin Ranch,	77.90	334	P	P	19 40 32.3	+0.6
	baz=78						
KSCO	Kaye Shedlock'	78.25	337	P	P	19 40 35.2	+1.8
	comp=Z,24nm,0.5s						
R24A	Sanders Place,	78.39	335	P	P	19 40 35.0	+0.7
	baz=79						
Q25A	Bedland, Calha	78.70	335	P	P	19 40 36.0	0.0
	baz=79						
P25A	Willow Gulch B	79.21	336	P	P	19 40 39.3	+0.6
	baz=80						
W13A	Hualapai Mount	79.24	327	P	P	19 40 39.7	+0.7
	baz=80						
TSUM	Tsumeb	79.64	106	eP	P	19 40 43.8	+2.2
	comp=Z,12nm,1.2s						
U15A	North Rim	79.65	329	P	P	19 40 42.1	+0.8
	baz=80						
GMRC	Granite Mounta	79.80	325	P	P	19 40 42.7	+0.8
	baz=80						
BOSA	Boshof	80.34	118	eP	P	19 40 43.9	-1.4
BOSA				pmax	pmax		
	comp=Z,36nm,1.3s						
BOSA	Boshof	80.34	118	P	P	19 40 43.5	-1.8
	comp=Z,21nm,1.1s,baz=240,slow=5.9,SNR=8.1						
BOSA	Boshof	80.34	118	eP	P	19 40 43.9	-1.4
	comp=Z,36nm,1.3s						
O23A	Lake Granby, G	80.44	335	P	P	19 40 45.7	+0.2
	baz=81						
O22A	Kremmling	80.62	334	P	P	19 40 45.6	-0.9
	baz=81						
ECSD	EROS Data Cent	80.89	343	P	P	19 40 46.8	-0.7
	baz=81						
ECSD	EROS Data Cent	80.89	343	eP	P	19 40 46.7	-0.8
	comp=Z,28nm,1.3s						
SHPR	Sheep Range	80.99	327	eP	P	19 40 48.9	+0.5
	comp=Z,32nm,1.4s						
N23A	Red Feather La	81.06	335	P	P	19 40 49.2	+0.4
	baz=81						
N22A	Wattenberg Ran	81.15	335	P	P	19 40 49.9	+0.6
	baz=82						
SRU	San Rafael Swe	81.20	331	eP	P	19 40 49.4	-0.1
SRU				pmax	pmax		
	comp=Z,35nm,1.6s						
SRU	San Rafael Swe	81.20	331	eP	P	19 40 49.4	-0.1
	comp=Z,35nm,1.6s						
J29A	Okreek	81.57	340	P	P	19 40 51.0	-0.1
	baz=82						
N20A	Spence Gulch,	81.83	334	P	P	19 40 52.6	-0.2
	baz=82						
J25A	Sunshine Ranch	82.59	338	P	P	19 40 56.0	-0.5
	baz=83						
R11A	Troy Canyon, C	82.70	327	P	P	19 40 55.4	-2.0
	baz=83						
K22A	Casper	82.81	336	eP	P	19 40 57.9	+0.1
	comp=Z,37nm,1.4s						
K21A	Alcova	83.05	335	P	P	19 40 58.5	-0.6
	baz=83						
DUG	Dugway, Tooele	83.05	330	eP	P	19 40 59.5	+0.4
DUG				pmax	pmax		
	comp=Z,32nm,1.4s						
DUG	Dugway, Tooele	83.05	330	P	P	19 40 58.3	-0.8
	baz=83						
DUG	Dugway, Tooele	83.05	330	eP	P	19 40 59.5	+0.4
	comp=Z,32nm,1.4s						
SPUT	South Promonto	83.84	331	eP	P	19 41 03.1	-0.1
	comp=Z,47nm,1.6s						
I22A	9 Mile Ranch,	83.90	336	P	P	19 41 02.5	-0.8
	baz=84						
J20A	Shoshoni	83.97	335	P	P	19 41 03.9	+0.1
	baz=84						
PDAR	Pinedale Array	83.99	334	P	P	19 41 03.4	-0.6
	comp=Z,0.8nm,0.8s,baz=160,slow=6.1,SNR=4.7						
NVAR	Mina Array Bea	84.00	326	P	P	19 41 02.7	-1.4
	comp=Z,1.4nm,0.8s,baz=157,slow=5.4,SNR=5.5						
J19A	Crowheart	84.24	334	P	P	19 41 05.0	-0.1
	baz=85						
AHID	Auburn Hatcher	84.56	333	P	P	19 41 05.4	-1.4
	comp=Z,33nm,1.7s						
TORD	Torodi Ar. Bea	84.96	70	P	P	19 41 09.2	0.0
	comp=Z,8.0nm,0.9s,baz=246,slow=3.4,SNR=22						
G20A	Bridger	85.66	336	P	P	19 41 11.3	-0.8
	baz=86						
H18A	Shoshone NF, C	85.68	335	P	P	19 41 11.8	-0.6
	baz=86						
YMR	Madison River	86.14	334	eP	P	19 41 15.0	+0.3
	comp=Z,37nm,1.2s						
QLMT	Earthquake Lak	86.45	334	eP	P	19 41 16.7	+0.5
	comp=Z,1.1nm,1.0s						
C24A	Savage	86.51	339	P	P	19 41 16.5	+0.3
	baz=87						
HLID	Hailey	86.53	331	P	P	19 41 16.9	+0.4
	baz=87						
E20A	Meyer Farm, Mu	86.75	336	P	P	19 41 17.4	-0.1
	baz=87						
ULM	Lac du Bonnet	86.88	345	P	P	19 41 16.7	-1.1
	comp=Z,2.9nm,0.9s,baz=140,slow=5.3,SNR=3.7						
E19A	Rath Farm, Rou	86.94	336	P	P	19 41 17.6	-0.7
	baz=87						
C23A	Lambert	86.98	339	P	P	19 41 18.5	0.0
	baz=87						
MCMT	McKenzie Canyo	86.98	333	eP	P	19 41 19.2	+0.3
	comp=Z,14nm,1.4s						
A26A	Wade Farm, Ken	87.08	341	P	P	19 41 19.4	+0.5
	baz=87						
DGMT	Dagmar	87.29	340	eP	P	19 41 19.8	-0.1
	comp=Z,42nm,1.2s						
WVOR	Wild Horse Val	87.37	328	P	P	19 41 20.7	+0.1
WVOR	Wild Horse Val	87.37	328	P	P	19 41 20.7	+0.1
C21A	Desert Coulee	87.59	338	P	P	19 41 21.1	-0.4
	baz=88						
B22A	Reddig Ranch S	87.67	339	P	P	19 41 21.6	-0.3
	baz=88						
MOD	Modoc Plateau	87.69	327	eP	P	19 41 22.6	+0.4
	comp=Z,9.0nm,1.0s						
A22A	Carney Farms,	88.26	339	P	P	19 41 24.7	+0.1
	baz=89						
M04C	Macdoel	88.31	326	P	P	19 41 25.0	-0.1
	baz=89						
B19A	Brinkman Farms	88.73	337	P	P	19 41 28.9	+2.1
	baz=89						
J05D	Fort Rock, OR	89.20	327	P	P	19 41 29.8	+0.5
	baz=90						
YKA	Yellowknife Ar	102.39	342	PP	PP	19 46 41.7	-0.4
	comp=Z,0.3nm,0.9s,baz=143,slow=7.8,SNR=4.5						
VYHS	Vyhne	115.91	48	ePKIKP	PKPdf	19 47 19.2	+3.4
VYHS	Vyhne	115.91	48	e	PKPdf	19 47 19.2	+3.4
ASAR	Alice Springs	116.80	207	PKP	PKPdf	19 47 16.8	-1.8
	comp=Z,0.4nm,0.9s,baz=68,slow=1.8,SNR=4.3						
WRA	Warramunga Arr	119.99	210	PKP	PKPdf	19 47 23.5	-1.2
	comp=Z,0.7nm,0.7s,baz=156,slow=1.6,SNR=8.5						
BRTR	Keskin Array B	122.62	61	PKP	PKPdf	19 47 28.3	-0.9
	comp=Z,0.7nm,0.7s,baz=199,slow=3.6,SNR=4.5						
OBN	Obninsk	128.25	44	iPKIKP	PKPdf	19 47 45.0	+5.8
OBN				pmax	pmax		
	comp=Z,31nm,2.0s						
OBN				MLR	MLR		
	comp=Z,228nm,20.0s						
KLMR	Klimovskoe	130.20	36	ePKIKP	PKPdf	19 47 44.1	+1.3
KLMR				pmax	pmax		
	comp=Z,23nm,1.5s						
BILL	Bilibino	133.07	334‖	iPKIKP	PKPdf	19 47 53.1	+5.1
BILL				pmax	pmax		
	comp=Z,12nm,2.1s						
SEY	Seymchan	140.21	330	PKP	PKPdf	19 48 00.5	-0.9
	comp=Z,1.8nm,0.8s,baz=162,slow=6.5,SNR=7.1						
GEYT	Alibeck	140.60	70	PKP	PKPdf	19 48 02.6	-0.4
	comp=Z,0.8nm,0.6s,baz=222,slow=2.0,SNR=5.0						
TIXI	Tiksi	141.13	349‖	ePKIKP	PKPdf	19 48 02.7	-0.1
ABKAR	Akbulak array	142.50	52	ePKPpre	PKPpre	19 48 01.3	
GSI	Gunungsitoli	145.71	163	ePKPdf	PKPab	19 48 13.4	+0.1
POO	Poona	146.33	110	eP	PKPab	19 48 16.0	+0.3
KSM	Kuching	146.97	186	ePKPbc	PKPab	19 48 18.6	+0.5
BRVK	Borovoye	148.02	43‖	ePKP2	PKPbc	19 48 17.8	-0.7
KBL	Kabul	148.66	79	ePKP2	PKPbc	19 48 20.3	-0.8
KBL	Kabul	148.66	79	ePKPbc	PKPbc	19 48 20.3	-0.8
YAK	Yakutsk	149.04	340	ePKIKP	PKPbc	19 48 19.5	-1.3
YAK				pmax	pmax		
	comp=Z,55nm,0.9s						
YAK				pmax	pmax		
	comp=N,25nm,1.4s						
YAK				pmax	pmax		
	comp=E,56nm,2.7s						
YAK	Yakutsk	149.04	340	ePKPbc	PKPbc	19 48 20.2	-0.6
HYB	Hyderabad	149.23	116	i PKP	PKPbc	19 48 23.5	+0.8
IPM	Ipoh	149.53	168	ePKPbc	PKPbc	19 48 22.4	-1.2
KKAR	Karatay Array	150.33	62	ePKIKP	PKPbc	19 48 24.4	-0.2
KKAR	Karatay Array	150.33	62	ePKPbc	PKPbc	19 48 24.4	-0.2
YSS	Yuzh-Sakhalins	150.64	306	ePKIKP	PKPdf	19 48 21.5	+1.8
EKS2	Erkin-Say	152.76	63	ePKIKP	PKPbc	19 48 29.7	-0.7
EKS2	Erkin-Say	152.76	63	ePKPbc	PKPbc	19 48 29.7	-0.7
AAK	Ala-Archa	153.29	63‖	ePKIKP	PKPdf	19 48 22.3	-1.8
AAK	Ala-Archa	153.29	63	ePKPbc	PKPbc	19 48 32.2	+0.6
NVS	Novosibirsk	153.73	32	ePKIKP	PKPdf	19 48 27.2	+3.2
NVS				e		19 48 45.7	
NVS				e		19 52 28.2	
NVS				pmax	pmax		
	comp=Z,25nm,1.4s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.3s						
TKM2	Tokmak 2	154.06	62	ePKIKP	PKPbc	19 48 30.1	-3.2
TKM2	Tokmak 2	154.06	62	ePKPbc	PKPbc	19 48 30.1	-3.2
KSH	Kashi	154.63	70	PKPbc	PKPdf	19 48 28.2	+2.2
KSH				PKS	PKSdf	19 52 00.9	+0.7
KSH				PP	PP	19 52 24.4	-1.1
KSH				SKS	SKSdf	19 55 29.2	-0.8
KSH				SKKS	SKKSac	19 59 10.9	-1.5
KSH				SS	SS	20 12 00.5	-4.4
KSH				PPMZ			
	comp=E,87nm,3.0s						
KSH				LN			
	comp=E,28nm,3.7s						
KSH				LE			
	comp=E,49nm,4.2s						
KSH				LZ			
	comp=E,110nm,6.3s						
ZALV	Zalesovo Beam	155.01	32	PKPbc		19 48 33.6	
	comp=E,2.4nm,0.7s,baz=288,slow=1.4,SNR=8.8						
ZALV				PKPab	PKPab	19 48 49.3	-1.0
	comp=E,2.2nm,0.7s,baz=315,slow=3.3,SNR=3.8						
BOD	Bodaibo	156.29	351	ePKP2	PKPab	19 48 52.8	-2.8
BOD				pmax	pmax		
	comp=Z,10.0nm,1.4s						
MKAR	Makanchi Array	157.58	49	PKP	PKPdf	19 48 29.6	+0.1
	comp=Z,0.4nm,0.8s,baz=250,slow=2.1,SNR=4.4						
MKAR				PKPab	PKPab	19 49 01.5	-0.2
	comp=Z,3.1nm,0.8s,baz=295,slow=4.2,SNR=18						
MKAR				PP	PP	19 52 43.0	+1.8
	comp=Z,0.8nm,1.0s,baz=289,slow=3.7,SNR=3.9						
MDJ	Mudanjiang	160.11	307	PKP	PKPdf	19 48 31.5	-1.0
MDJ				PPMZ			
	comp=Z,94nm,4.8s						
WMQ	Urumqi	162.28	53	ePKP	PKPdf	19 48 36.5	+1.5
WMQ				pPKP	pPKPdf	19 48 45.3	-1.2
WMQ				PKPab	PKPab	19 49 26.0	+3.7
WMQ				PKS	PKSdf	19 52 08.5	+0.4
WMQ				PP	PP	19 53 09.5	+2.7
WMQ				SKS	SKSdf	19 55 36.3	-0.7
WMQ				SKKS	SKKSac	19 59 53.0	+0.9
WMQ				PPMZ			
	comp=Z,130nm,4.0s						
WMQ				LN			
	comp=Z,87nm,20.0s						
WMQ				LE			
	comp=Z,110nm,20.0s						
WMQ				LZ			
	comp=Z,120nm,21.0s						
CMAR	Chiang Mai Arr	162.35	153	PKP	PKPdf	19 48 35.5	-0.2
	comp=Z,0.5nm,0.8s,baz=297,slow=0.4,SNR=3.9						
CMAR				PKPab	PKPab	19 49 22.4	-0.6
	comp=Z,0.5nm,0.7s,baz=226,slow=2.6,SNR=3.5						
TLY	Talaya	162.69	8	ePKP2	PKPab	19 49 27.4	+3.8
TLY				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ZAK	Zakamensk	163.92	9	ePKP2	PKPab	19 49 30.0	+0.8
SONM	Songino Array	166.72	2	PKP	PKPdf	19 48 39.3	+0.5
	comp=Z,0.5nm,1.0s,baz=50,slow=2.3,SNR=3.9						
SONM				PKPab	PKPab	19 49 42.0	+0.4
	comp=Z,2.1nm,1.1s,baz=344,slow=3.9,SNR=7.1						
BJI	Beijing	171.02	310	PKP	PKPdf	19 48 43.7	+2.1
GYA	Guiyang	171.92	176	ePKP	PKPdf	19 48 43.2	+0.5
GYA				PKS	PKSdf	19 52 13.8	-1.4
GYA				PP	PP	19 54 01.6	+6.5
GYA				SKKS		20 00 42.4	
GYA				SS	SS	20 15 05.7	+5.1
GYA				PPMZ			
	comp=Z,120nm,8.0s						
GYA				LN			
	comp=Z,120nm,22.6s						
GYA				LE			
	comp=Z,130nm,22.4s						
GYA				LZ			
	comp=Z,120nm,21.8s						
GTA	Gaotai	172.33	49	ePKP	PKPdf	19 48 44.2	+1.7
GTA				PKPab	PKPab	19 50 09.3	+2.4
GTA				PP	PP	19 54 01.5	+3.2
GTA				SKS	SKSdf	19 55 42.9	-0.2
GTA				SKKS	SKKSac	20 00 42.5	+0.2
GTA				SS	SS	20 15 04.9	-1.7
GTA				PPMZ			
	comp=Z,99nm,7.1s						
GTA				LN			
	comp=Z,140nm,16.9s						
GTA				LE			
	comp=Z,120nm,17.6s						
GTA				LZ			
	comp=Z,150nm,16.6s						
HHC	Hu-ho-hao-te	172.84	333	ePKP	PKPdf	19 48 43.0	+0.4
HHC				pPKP	pPKPdf	19 48 52.4	-1.7
HHC				PP	PP	19 54 03.2	+3.1
HHC				SKS	SKSdf	19 55 40.2	-3.0
HHC				SKKS	SKKSac	20 00 44.9	+0.6
HHC				SS	SS	20 15 10.8	+0.5
HHC				PPMZ			
	comp=Z,100nm,8.7s						
HHC				LN			
	comp=Z,410nm,16.2s						
HHC				LE			
	comp=Z,380nm,17.4s						
HHC				LZ			
	comp=Z,360nm,14.9s						
CD2	Chengdu	175.33	140	ePKP	PKPdf	19 48 44.5	+0.8
LZH	Lanzhou	176.83	60	ePKP	PKPdf	19 48 42.9	-1.1
LZH				pPKP	pPKPdf	19 48 50.9	-4.7
LZH				PPMZ			
	comp=Z,160nm,5.2s						
LZH				LN			
	comp=Z,520nm,15.3s						
LZH				LE			
	comp=Z,710nm,17.2s						
LZH				LZ			
	comp=Z,860nm,19.0s						

IDC ***04*** *19:31:53.5±0.5, 31°.45N×141°.96E, h0km, mb4.0/20, mb1 4.1/24, mb1mx4.1/48, mbtmp4.0/24, ML3.7/4, MS4.1/3, Ms1 4.1/3, ms1mx3.0/47, Error ellipse: s-maj=17.3km s-min=13.3km az=88.0*

NEIC ***04***

CBIJ Chichi jima 4.42 177 Pn **Pn 19 33 01.8 -1.0**
CBIJ Sn **Sn 19 33 51.3 -2.0**
JCJ Chichijima 4.42 177 Pn **Pn 19 33 01.8 -1.0**
9.9nm,0.3s,baz=265,slow=23,SNR=8.7
JCJ Sn **Sn 19 33 51.3 -2.0**
12nm,0.3s,baz=300,slow=20,SNR=2.5
JOD2 Odawara 2 4.43 328 P **Pn 19 33 02.6 -0.4**
JOD2 *eS* **Sn 19 33 51.9 -1.7**
JHU Hanno 4.86 333 P **Pn 19 33 08.4 -0.4**
JHU *eS* **Sn 19 34 02.8 -1.2**
JYT Yasato 4.91 343 P **Pn 19 33 09.7 +0.2**
JYT *eS* **Sn 19 34 04.9 -0.4**
JRY Ryogami san 5.15 331 P **Pn 19 33 13.7 +0.9**
JRY *eS* **Sn 19 34 09.3 -2.0**
JHO Hitachi 5.20 348 P **Pn 19 33 12.6 -0.9**
JHO *eS* **Sn 19 34 08.9 -3.6**
MJAR Matsushiro Arr 5.89 329 Pn **Pn 19 33 23.4 +0.4**
2.0nm,0.3s,baz=121,slow=15,SNR=16
MAJO Matsushiro 5.89 329 *eP* **Pn 19 33 24.1 +1.1**
21nm,0.8s
MAT Matsushiro 5.89 329 P Pn 19 33 25.2 +2.2
MAT S **Sn 19 34 27.7 -1.9**
JMK Ichinoseki 7.43 356 P **Pn 19 33 43.8 -0.3**
JMK *eS* **Sn 19 35 01.6 -5.8**
ASAJ Asahikawa 12.58 2 Pn **Pn 19 34 54.0 -0.5**
0.7nm,0.3s,baz=245,slow=4.3,SNR=5.8
KSRS Korea Array 13.00 301 Pn **Pn 19 35 00.2 -0.1**
0.1nm,0.3s,baz=99,slow=15,SNR=3.3
KSAR Wonju Array Be 13.02 301 Pn **Pn 19 35 00.2 -0.4**
SONM Songino Array 31.51 311 P **P 19 38 17.3 +0.2**
2.0nm,0.7s,baz=120,slow=8.8,SNR=14
SEY Seymchan 32.12 9 P **P 19 38 22.9 +0.8**
1.2nm,0.5s,baz=188,slow=12,SNR=5.3
CMAR Chiang Mai Arr 40.85 262 P **P 19 39 37.7 +0.5**
0.3nm,0.5s,baz=72,slow=7.5,SNR=4.1
ZALV Zalesovo Beam 46.09 316 P **P 19 40 19.9 +1.0**
1.8nm,0.6s,baz=107,slow=7.2,SNR=7.6
MKAR Makanchi Array 47.59 307 P **P 19 40 31.3 +0.5**
1.5nm,0.7s,baz=91,slow=9.6,SNR=15
WRA Warramunga Arr 51.70 189 P **P 19 41 01.5 -0.7**
3.0nm,0.9s,baz=6.3,slow=7.7,SNR=21
ILAR Eielson Array 53.96 30 P **P 19 41 19.4 +0.9**
1.6nm,0.9s,baz=262,slow=6.3,SNR=12
ASAR Alice Springs 55.42 189 P **P 19 41 29.2 -0.3**
1.0nm,0.8s,baz=16,slow=15,SNR=14
ASAR LR LR 20 03 31.0
comp=Z,64nm,21.1s,baz=342,slow=34
KKAR Karatay Array 56.41 304 *eP* **P 19 41 36.9 +0.4**
3.6nm,0.7s
INK Inuvik 59.11 26 P **P 19 41 55.9 +0.9**
1.8nm,0.8s,baz=311,slow=8.7,SNR=10.0
ABKAR Akbulak array 61.91 313 *eP* **P 19 42 12.6 -1.9**
1.6nm,0.5s
STKA Stephens Creek 63.06 180 P **P 19 42 20.4 -1.7**
2.8nm,0.4s,baz=179,slow=4.0,SNR=3.3
GEYT Alibeck 66.99 301 P **P 19 42 48.2 +0.3**
1.7nm,0.7s,baz=35,slow=5.4,SNR=6.6
YKA Yellowknife Ar 68.36 29 P **P 19 42 56.1 +0.1**
0.6nm,0.8s,baz=296,slow=6.1,SNR=8.2
FINES FINESS Array B 73.90 333 P **P 19 43 29.4 -0.2**
0.9nm,0.5s,baz=68,slow=5.1,SNR=9.1
KBZ Khabaz 74.88 312 P **P 19 43 36.1 +0.5**
1.9nm,0.8s,baz=68,slow=6.5,SNR=5.1
NVAR Mina Array Bea 77.95 52 P **P 19 43 54.4 +0.9**
0.2nm,0.3s,baz=312,slow=4.7,SNR=2.8
AKASG Malin Array Be 78.95 323 P **P 19 43 59.9 +1.4**
0.5nm,0.4s,baz=52,slow=5.7,SNR=2.8
NB2 NORSAR Subarra 79.44 338 P **P 19 44 01.0 0.0**
comp=Z,2.9nm,1.1s,baz=38,slow=5.6
NOA NORSAR Array B 79.44 338 P **P 19 44 00.3 -0.6**
comp=Z,1.3nm,0.8s,baz=39,slow=5.5,SNR=5.2
PDAR Pinedale Array 81.21 45 P **P 19 44 12.1 +0.9**
comp=Z,0.4nm,0.6s,baz=184,slow=2.6,SNR=3.3
BRTR Keskin Array B 82.86 312 P **P 19 44 21.5 +1.7**
comp=Z,0.8nm,0.8s,baz=118,slow=7.6,SNR=4.1
ULM Lac du Bonnet 83.85 33 LR LR 20 27 13.6
comp=Z,91nm,18.0s,baz=230,slow=40
TXAR Lajitas Array 93.10 53 P **P 19 45 09.9 +0.6**
comp=Z,0.5nm,0.6s,baz=284,slow=2.3,SNR=5.5
KEST Kesra 99.66 333 LR LR 20 34 03.9
comp=Z,224nm,18.1s,baz=193,slow=37
TORD Torodi Ar. Bea 121.47 313 PKP **PKPdf 19 50 50.6 +1.6**
comp=Z,0.5nm,1.0s,baz=46,slow=4.2,SNR=2.3
LPAZ La Paz 148.72 68 PKPbc **PKPab 19 51 45.0 -2.3**
comp=Z,1.7nm,0.6s,baz=345,slow=1.2,SNR=5.9

MAN 04 19:36:19.19̇̇00N×121̇̇13E, h1km, mb4.8, ML3.7, MS3.7, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**1.13**	**174**	*eP*	Pb	19 36 41.3	-0.1
APYP				*eS*	Sn	19 36 58.8	+0.6
ABRA	**Dolores**	**1.40**	**196**	*eP*	Pb	19 36 46.1	+0.2
ABRA				*eS*	Sn	19 37 06.1	+1.4

IDC 04 19:43:06.7±2.9, 23̇̇38S×170̇̇55E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.4/24, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=100.6km s-min=48.3km az=169.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.01**	**288**	Pn	Pn	19 44 11.0	+1.5
3.6nm,0.3s,baz=125,slow=16,SNR=117							
DZM				Sn	Sn	19 44 47.2	-10
22nm,0.3s,baz=136,slow=23,SNR=27							
NOUC	**Port Laguerre**	**4.12**	**287**	*eP*	Pb	19 44 20.4	+0.3
NOUC				*eS*	Sn	19 44 58.6	-1.3
ASAR	**Alice Springs**	**33.54**	**262**	P	P	19 49 48.1	-0.4
0.3nm,0.8s,baz=96,slow=9.4,SNR=4.3							
WRA	**Warramunga Arr**	**33.77**	**269**	P	P	19 49 49.8	-0.7
0.1nm,0.4s,baz=99,slow=8.4,SNR=7.7							
GERES	**GERESS Array B**	**148.69**	**330**	PKPbc	PKPbc	20 02 55.6	-0.3
0.8nm,0.7s,baz=48,slow=2.0,SNR=7.8							

*IDC **04** 19:53:26.1±1.1, 35̇̇53S×72̇̇63W, h0km, mb4.2/6, mb1 4.2/8, mb1mx4.0/30, mbtmp4.1/8, ML3.5/2, MS4.0/1, Ms1 4.0/1, ms1mx3.0/25, Error ellipse: s-maj=37.8km s-min=22.9km az=99.0*
*ISCJB **04** 19:53:27.5±1.0, 35̇̇5S±0̇̇1×72̇̇7W±0̇̇3, h20km, mb4.2/6, MS3.9/1, Error ellipse: s-maj=31.1km s-min=16.8km az=15.8*
ISC 04 19:53:29.2±1.1, 35̇̇5S±0̇̇1×72̇̇7W±0̇̇2, h20km, n10, σ0ˢ91/9, mb4.3/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.39**	**45**	Pn	**Pn**	**19 54 49.5**	**+1.0**
0.4nm,0.3s,baz=245,slow=12,SNR=7.7							
LPAZ	**La Paz**	**19.58**	**13**	P	**Pn**	**19 57 58.1**	**+0.1**
0.2nm,0.3s,baz=189,slow=7.0,SNR=8.9							
SIV	**San Ignacio**	**22.05**	**31**	P	**P**	**19 58 22.5**	**-0.2**
6.2nm,0.7s,baz=217,slow=9.6,SNR=13							
RPN	**Rapa Nui**	**32.25**	**275**	LR	LR	20 10 11.4	
comp=Z,247nm,19.5s,baz=166,slow=31							
QSPA	**South Pole Qui**	**54.73**	**180**	P	**P**	**20 02 58.0**	**+1.1**
3.2nm,0.8s,baz=161,slow=6.1,SNR=3.8							
TXAR	**Lajitas Array**	**70.80**	**332**	P	**P**	**20 04 44.3**	**0.0**
0.6nm,0.7s,baz=153,slow=7.6,SNR=7.2							
DBIC	**Dimbokro**	**76.18**	**71**	P	**P**	**20 05 16.0**	**-0.2**
2.9nm,0.7s,baz=221,slow=5.0,SNR=4.7							
BOSA	**Boshof**	**79.85**	**118**	P	**P**	**20 05 35.9**	**-0.7**
2.9nm,0.8s,baz=253,slow=7.6,SNR=4.7							
TORD	**Torodi Ar. Bea**	**85.23**	**70**	P	**P**	**20 06 04.3**	**-0.3**
1.4nm,0.9s,baz=270,slow=3.1,SNR=5.6							
MKAR	**Makanchi Array**	**158.15**	**51**	PKPab	**PKPab**	**20 13 56.9**	**-1.4**
0.5nm,0.8s,baz=328,slow=4.3,SNR=6.0							

*IDC **04** 19:54:24.6±0.9, 35̇̇55S×72̇̇62W, h0km, mb4.3/9, mb1 4.4/11, mb1mx4.2/30, mbtmp4.3/11, ML3.9/2, MS3.3/2, Ms1 3.3/2, ms1mx3.0/28, Error ellipse: s-maj=28.6km s-min=22.3km az=83.0*
*ISCJB **04** 19:54:25.9±0.8, 35̇̇5S±0̇̇1×72̇̇7W±0̇̇1, h17km, mb4.3/9, MS3.7/1, Error ellipse: s-maj=17.3km s-min=14.7km az=158.0*
*NEIC **04** 19:54:30.2±0.6, 35̇̇49S×72̇̇69W, h35km, mb4.1/1, Error ellipse: s-maj=14.9km s-min=12.7km az=63.0*
ISC 04 19:54:27.4±0.9, 35̇̇5S±0̇̇1×72̇̇8W±0̇̇1, h17km, n15, σ0ˢ98/15, mb4.4/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.39**	**46**	Pn	**Pn**	**19 55 47.7**	**+0.5**
0.9nm,0.3s,baz=205,slow=11,SNR=2.9							
CFAA				LR	LR	19 57 59.3	
comp=Z,92nm,19.2s,baz=216,slow=40							
TRQA	**Tornquist**	**9.03**	**110**	P	**Pn**	**19 56 38.5**	**+1.5**
22nm,0.6s							
LPAZ	**La Paz**	**19.54**	**13**	P	**Pn**	**19 58 57.0**	**+0.8**
0.4nm,0.3s,baz=183,slow=5.7,SNR=8.0							
LPAZ	**La Paz**	**19.54**	**13**	*eP*	**Pn**	**19 58 57.1**	**+0.9**
10nm,0.8s							
SIV	**San Ignacio**	**22.03**	**31**	P	**P**	**19 59 21.2**	**0.0**
12nm,0.8s,baz=218,slow=10,SNR=11							
SIV				LR	LR	20 09 20.2	
comp=Z,244nm,18.1s,baz=153,slow=41							
QSPA	**South Pole Qui**	**54.77**	**180**	P	**P**	**20 03 56.4**	**+0.5**
5.7nm,0.9s,baz=292,slow=1.9,SNR=6.9							
TXAR	**Lajitas Array**	**70.73**	**332**	P	**P**	**20 05 42.3**	**-0.3**
1.2nm,0.7s,baz=152,slow=8.7,SNR=8.2							
DBIC	**Dimbokro**	**76.21**	**71**	P	**P**	**20 06 14.3**	**-0.8**
3.9nm,0.7s,baz=202,slow=6.2,SNR=6.1							
BOSA	**Boshof**	**79.92**	**118**	P	**P**	**20 06 34.6**	**-1.2**
6.1nm,0.9s,baz=252,slow=5.6,SNR=6.1							
NVAR	**Mina Array Bea**	**84.75**	**326**	P	**P**	**20 07 01.6**	**+0.9**
0.8nm,0.7s,baz=152,slow=6.7,SNR=4.0							
PDAR	**Pinedale Array**	**84.81**	**334**	P	**P**	**20 07 02.2**	**+1.4**
0.5nm,0.9s,baz=187,slow=6.9,SNR=2.8							
TORD	**Torodi Ar. Bea**	**85.27**	**70**	P	**P**	**20 07 02.0**	**-1.6**
1.7nm,0.8s,baz=257,slow=5.1,SNR=6.1							
ULM	**Lac du Bonnet**	**87.76**	**345**	P	**P**	**20 07 14.9**	**0.0**
3.0nm,0.7s,baz=199,slow=2.5,SNR=5.3							
MKAR	**Makanchi Array**	**158.16**	**51**	PKPab	**PKPab**	**20 14 56.8**	**-0.3**
0.8nm,0.8s,baz=296,slow=3.5,SNR=6.5							
SONM	**Songino Array**	**167.63**	**3**	PKPab	**PKPab**	**20 15 38.5**	**0.0**
0.9nm,0.8s,baz=327,slow=5.4,SNR=6.2							

*IDC **04** 19:58:53.3±0.9, 35̇̇36S×73̇̇76W, h0km, mb4.1/5, mb1 4.3/7, mb1mx4.1/32, mbtmp4.1/7, ML4.0/2, MS3.7/2, Ms1 3.7/2, ms1mx3.2/29, Error ellipse: s-maj=39.6km s-min=22.1km az=86.0*
*ISCJB **04** 19:58:56.9±0.7, 35̇̇36S±0̇̇10×73̇̇6W±0̇̇2, h33km, mb4.1/7, MS4.0/1, Error ellipse: s-maj=20.8km s-min=12.1km az=157.8*
*NEIC **04** 19:58:59.0±0.5, 35̇̇32S×73̇̇61W, h35km, mb4.3/2, Error ellipse: s-maj=14.7km s-min=8.7km az=68.0*
ISC 04 19:58:58.9±0.8, 35̇̇3S±0̇̇1×73̇̇6W±0̇̇2, h35km, n15, σ0ˢ58/15, mb4.2/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**5.93**	**157**	Pn	**Pn**	**20 00 24.6**	**+0.3**
1.5nm,0.3s,baz=336,slow=17,SNR=4.3							
PLCA				LR	LR	20 02 59.2	
comp=Z,388nm,18.3s,baz=346,slow=41							
TRQA	**Tornquist**	**9.73**	**110**	*eP*	**Pn**	**20 01 16.2**	**-0.1**
LPAZ	**La Paz**	**19.55**	**16**	P	**Pn**	**20 03 25.8**	**0.0**
0.1nm,0.3s,baz=190,slow=6.9,SNR=4.2							
SIV	**San Ignacio**	**22.26**	**33**	P	**P**	**20 03 53.1**	**+0.2**
4.0nm,1.0s,baz=238,slow=13,SNR=4.6							
QSPA	**South Pole Qui**	**54.94**	**180**	P	**P**	**20 08 24.8**	**-1.3**
5.3nm,0.9s,baz=161,slow=2.1,SNR=6.7							
QSPA	**South Pole Qui**	**54.94**	**180**	*eP*	**P**	**20 08 26.4**	**+0.4**
TXAR	**Lajitas Array**	**70.26**	**332**	P	**P**	**20 10 08.3**	**-0.3**
2.2nm,0.9s,baz=145,slow=9.0,SNR=12							
TXAR				LR	LR	20 36 07.5	
comp=Z,75nm,18.9s,baz=0.0,slow=32							
ANMO	**Albuquerque**	**76.33**	**333**	*eP*	**P**	**20 10 44.7**	**+0.4**
2.0nm,0.9s							
PDAR	**Pinedale Array**	**84.36**	**334**	P	**P**	**20 11 27.1**	**-0.3**
1.0nm,1.0s,baz=152,slow=6.7,SNR=4.7							
TORD	**Torodi Ar. Bea**	**85.85**	**71**	P	**P**	**20 11 35.2**	**0.0**
1.6nm,1.0s,baz=247,slow=4.5,SNR=5.2							
MCMT	**McKenzie Canyo**	**87.33**	**333**	*eP*	**P**	**20 11 41.6**	**-0.5**
3.0nm,1.2s							
ABKAR	**Akbulak array**	**143.49**	**53**	*e*PKPpre	PKPpre	20 18 25.5	
ZALV	**Zalesovo Beam**	**156.01**	**32**	PKPab	**PKPab**	**20 19 15.9**	**-0.3**
0.6nm,0.6s,baz=318,slow=8.0,SNR=4.7							
MKAR	**Makanchi Array**	**158.58**	**50**	PKP	**PKPdf**	**20 18 53.1**	**+0.8**
0.8nm,1.0s,baz=318,slow=1.6,SNR=5.0							
MKAR				PKPab	**PKPab**	**20 19 27.2**	**-0.4**
1.0nm,0.9s,baz=306,slow=4.1,SNR=5.7							
SONM	**Songino Array**	**167.48**	**0**	PKPab	**PKPab**	**20 20 07.4**	**+0.9**
0.4nm,0.7s,baz=0.0,slow=0.1,SNR=4.0							

*IDC **04** 20:06:30.6±1.1, 48̇̇26S×164̇̇97E, h0km, mb4.3/6, mb1 4.5/6, mb1mx4.2/28, mbtmp4.3/6, MS4.2/1, Ms1 4.2/1, ms1mx3.2/23, Error ellipse: s-maj=61.3km s-min=24.0km az=57.0*
*NEIC **04** 20:06:30.6±3.8, 48̇̇37S×164̇̇88E, h3km±24km, mb4.4/1, Error ellipse: s-maj=14.0km s-min=10.3km az=124.0*
*ISCJB **04** 20:06:31.9±0.8, 48̇̇58S±0̇̇10×165̇̇11E±0̇̇08, h33km, mb4.3/7, MS4.3/1, Error ellipse: s-maj=15.0km s-min=4.7km az=156.4*
ISC 04 20:06:34.5±0.8, 48̇̇5S±0̇̇1×165̇̇08E±0̇̇08, h35km, n51, σ0ˢ97/46, mb4.4/7, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APZ	**The Paps**	**2.60**	**50**	PN	**Pn**	**20 07 13.8**	**-0.3**
APZ				SN	**Sn**	**20 07 44.0**	**-0.5**
WHZ	**Wether Hill Ro**	**3.28**	**38**	PN	**Pn**	**20 07 22.6**	**-0.9**
WHZ	**Wether Hill Ro**	**3.28**	**38**	*eP*	**Pn**	**20 07 22.8**	**-0.7**
DCZ	**Deep Cove**	**3.37**	**26**	PN	**Pn**	**20 07 24.3**	**-0.3**
SYZ	**Scrubby Hill**	**3.40**	**56**	PN	**Pn**	**20 07 25.3**	**+0.3**
SYZ				SN	**Sn**	**20 08 03.5**	**-0.5**
MLZ	**Mavora Lakes**	**3.83**	**35**	PN	**Pn**	**20 07 30.5**	**-0.4**
TUZ	**Tuapeka**	**4.03**	**52**	PN	**Pn**	**20 07 33.8**	**+0.1**
MSZ	**Milford Sound**	**4.33**	**28**	PN	**Pn**	**20 07 39.1**	**+1.3**
EAZ	**Earnscleugh**	**4.39**	**43**	PN	**Pn**	**20 07 37.9**	**-0.8**
WKZ	**Wanaka**	**4.59**	**38**	*e*PN	**Pn**	**20 07 41.8**	**+0.3**
JCZ	**Jackson Bay**	**5.13**	**31**	PN	**Pn**	**20 07 49.5**	**+0.5**
ODZ	**Otahua Downs**	**5.17**	**50**	PN	**Pn**	**20 07 47.9**	**-1.5**
ODZ	**Otahua Downs**	**5.17**	**50**	*eP*	**Pn**	**20 07 48.4**	**-1.1**
55nm,0.7s							
LBZ	**Lake Benmore**	**5.44**	**42**	*e*PN	**Pn**	**20 07 50.4**	**-2.7**
FOZ	**Fox Glacier**	**5.91**	**35**	*e*PN	**Pn**	**20 08 01.1**	**+1.6**
WVZ	**Waitaha Valley**	**6.74**	**38**	*e*PN	**Pn**	**20 08 11.3**	**+0.5**
MCQ	**Macquarie Isla**	**7.09**	**210**	P	**Pn**	**20 08 16.0**	**+0.4**
baz=7.1,SNR=8.5							
MCQ	**Macquarie Isla**	**7.09**	**210**	*eP*	**Pn**	**20 08 15.3**	**-0.3**
11μm,0.8s							
MQZ	**McQuen's Vall**	**7.14**	**50**	PN	**Pn**	**20 08 16.2**	**-0.1**
DSZ	**Denniston Nort**	**8.28**	**37**	PN	**Pn**	**20 08 32.4**	**+0.3**
QRZ	**Quartz Range**	**9.35**	**37**	PN	**Pn**	**20 08 46.4**	**-0.3**
MOO	**Moorlands**	**13.94**	**289**	P	**Pn**	**20 09 46.9**	**-2.5**
baz=14,SNR=3.3							
TOO	**Toolangi**	**17.97**	**300**	P	**Pn**	**20 10 41.1**	**-0.3**
baz=18,SNR=17							
STKA	**Stephens Creek**	**24.31**	**305**	P	**P**	**20 11 47.8**	**-0.9**
9.3nm,0.7s,baz=128,slow=9.9,SNR=13							
STKA	**Stephens Creek**	**24.31**	**305**	P	**P**	**20 11 50.0**	**+1.3**
baz=24,SNR=6.9							
HTT	**Hallett**	**24.69**	**298**	P	**P**	**20 11 53.4**	**+1.3**
baz=25,SNR=4.7							
RMQ	**Roma**	**25.43**	**324**	P	**P**	**20 11 60.0**	**+1.1**
baz=25,SNR=18							
QLP	**Quilpie**	**27.28**	**316**	P	P	20 12 22.6	+7.1
baz=27,SNR=4.8							
CTA	**Charters Tower**	**32.17**	**325**	P	**P**	**20 12 59.0**	**0.0**
4.8nm,0.8s,baz=150,slow=12,SNR=7.2							
QIS	**Mount Isa**	**34.60**	**315**	P	**P**	**20 13 20.2**	**+0.1**
baz=35,SNR=6.6							
ASAR	**Alice Springs**	**34.95**	**304**	P	**P**	**20 13 22.6**	**-0.6**
3.2nm,0.6s,baz=136,slow=7.8,SNR=54							
AS31	**Alice Springs**	**34.95**	**304**	*eP*	**P**	**20 13 22.3**	**-0.9**
WRKA	**Warakurna**	**37.12**	**296**	P	**P**	**20 13 41.4**	**-0.3**
baz=37,SNR=10.0							
WRA	**Warramunga Arr**	**37.74**	**308**	P	**P**	**20 13 45.7**	**-1.3**
3.1nm,0.6s,baz=140,slow=8.3,SNR=46							
WRA				PcP	**PcP**	**20 16 03.6**	**+0.2**
1.6nm,0.8s,baz=146,slow=2.9,SNR=8.1							
WRAB	**Tennant Creek**	**37.74**	**308**	*eP*	**P**	**20 13 45.5**	**-1.5**
10nm,1.2s							
QSPA	**South Pole Qui**	**41.59**	**180**	P	P	20 14 23.1	+4.4
2.9nm,1.0s,baz=274,slow=1.5,SNR=5.5							
KNRA	**Kununurra**	**44.23**	**305**	P	**P**	**20 14 39.8**	**-0.5**
baz=44,SNR=3.7							
MTN	**Manton Dam**	**45.35**	**310**	P	**P**	**20 14 49.1**	**-0.2**
baz=45,SNR=3.7							
BATI	**Baumata**	**51.52**	**304**	LR	LR	20 37 08.7	
comp=Z,270nm,20.9s,baz=206,slow=36							

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**86.04**	**263**	T	T	21 53 42.6	
baz=139,slow=76,SNR=40							
H08S1	**Diego Garcia H**	**86.05**	**263**	T	T	21 53 46.6	
baz=139,slow=76,SNR=15							
H08S3	**Diego Garcia H**	**86.06**	**263**	T	T	21 53 44.1	
baz=139,slow=76,SNR=38							
CMAR	**Chiang Mai Arr**	**88.84**	**300**	P	**P**	**20 19 25.6**	**+0.6**
1.6nm,0.8s,baz=163,slow=4.3,SNR=11							
MKAR	**Makanchi Array**	**119.05**	**309**	PKP	**PKPdf**	**20 25 18.7**	**0.0**
0.4nm,0.9s,baz=108,slow=2.3,SNR=3.4							
TORD	**Torodi Ar. Bea**	**142.12**	**207**	PKhKP	PKPpre	20 25 58.8	
0.5nm,0.8s,baz=140,slow=2.4,SNR=3.4							
BRTR	**Keskin Array B**	**144.57**	**274**	PKP	PKPbc	20 26 06.2	+0.5
2.2nm,0.8s,baz=132,slow=3.1,SNR=11							
SPITS	**Spitsbergen Ar**	**148.01**	**348**	PKPbc	**PKPbc**	**20 26 15.9**	**+1.3**
7.4nm,0.9s,baz=118,slow=6.7,SNR=5.0							
ARCES	**ARCESS Array B**	**151.32**	**332**	PKPbc	**PKPbc**	**20 26 23.9**	**+1.1**
5.1nm,0.9s,baz=5.7,slow=2.4,SNR=7.8							
AKASG	**Malin Array Be**	**151.63**	**291**	PKPbc	**PKPbc**	**20 26 24.4**	**+0.3**
1.1nm,0.6s,baz=81,slow=2.5,SNR=5.2							
FINES	**FINESS Array B**	**153.67**	**315**	PKPbc	**PKPbc**	**20 26 29.4**	**+1.1**
2.2nm,0.8s,baz=96,slow=1.9,SNR=6.0							
NOA	**NORSAR Array B**	**160.58**	**320**	PKPab	**PKPab**	**20 27 11.4**	**+0.3**
0.9nm,0.9s,baz=13,slow=1.6,SNR=3.6							

IDC 04 20:06:57.1±1.9, 3̇̇48N×126̇̇92E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.2/38, mbtmp3.4/3, Error ellipse: s-maj=144.0km s-min=25.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.39**	**163**	P	P	20 12 17.4	+0.1
0.4nm,0.5s,baz=343,slow=11,SNR=8.8							
ASAR	**Alice Springs**	**27.83**	**166**	P	P	20 12 48.5	+0.2
0.2nm,0.5s,baz=352,slow=7.7,SNR=4.6							
MKAR	**Makanchi Array**	**57.87**	**325**	P	P	20 16 50.6	-0.2
0.4nm,0.5s,baz=120,slow=8.2,SNR=9.7							

IDC 04 20:20:35.1±1.8, 34̇̇81S×72̇̇13W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/23, mbtmp4.0/5, ML3.3/2, MS3.7/3, Ms1 3.7/3, ms1mx3.1/31, Error ellipse: s-maj=41.9km s-min=35.0km az=70.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.56**	**47**	Pn	Pn	20 21 47.3	+1.8
0.1nm,0.3s,baz=218,slow=15,SNR=9.5							
CFAA				Lg	Lg	20 22 48.6	
0.7nm,0.3s,baz=158,slow=12,SNR=3.6							
PLCA	**Paso Flores**	**6.04**	**169**	LR	LR	20 24 39.9	
comp=Z,464nm,18.8s,baz=326,slow=40							
LPAZ	**La Paz**	**18.79**	**12**	P	P	20 24 55.9	-1.0
0.2nm,0.3s,baz=195,slow=8.1,SNR=5.1							
USHA	**Ushuaia**	**20.19**	**174**	LR	LR	20 32 28.7	
comp=Z,281nm,19.4s,baz=326,slow=35							
SIV	**San Ignacio**	**21.20**	**31**	P	P	20 25 21.4	-1.0
3.5nm,0.7s,baz=227,slow=9.6,SNR=10							
QSPA	**South Pole Qui**	**55.43**	**180**	LR	LR	20 52 53.3	
comp=Z,62nm,19.7s,baz=186,slow=35							
TXAR	**Lajitas Array**	**70.41**	**331**	P	P	20 31 51.4	+0.3
0.6nm,0.5s,baz=152,slow=8.2,SNR=6.8							
BOSA	**Boshof**	**79.76**	**118**	P	P	20 32 45.1	-0.3
4.7nm,1.0s,baz=233,slow=8.1,SNR=3.5							
TORD	**Torodi Ar. Bea**	**84.55**	**70**	P	P	20 33 10.7	+0.3
0.4nm,0.7s,baz=252,slow=2.3,SNR=2.9							

MEX 04 20:24:50.7±0.7, 16̇̇93N×100̇̇32W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.13**	**23**	*i* P	Pg	20 24 52.4	-1.0
CAIG				*i* S	Sg	20 24 55.3	+0.2
ACX	**Acapulco**	**0.45**	**97**	*e*P	Pg	20 25 00.2	+0.8
ACX				*i* S	Sg	20 25 06.1	+0.9
ZIIG	**Zihuatanejo**	**1.29**	**302**	*e*P	Pn	20 25 11.4	-3.9
ZIIG				*i* S	Sg	20 25 28.2	-3.9
ARIG	**Puente Sto Nin**	**1.35**	**359**	*e*P	Pn	20 25 12.2	-4.1
ARIG				*i* S	Sb	20 25 30.0	-4.1
PLIG	**Platanillo**	**1.65**	**28**	*e*P	Pn	20 25 17.2	-3.3
PLIG				*i* S	Sn	20 25 37.9	-4.4
TLIG	**Tlapa**	**1.79**	**69**	*e*P	Pn	20 25 19.3	-3.2
TLIG				*i* S	Sn	20 25 41.1	-4.6

*ISCJB **04** 20:30:57.5±0.3, 2̇̇50N±0̇̇03×127̇̇01E±0̇̇05, h53km, mb4.2/20, Error ellipse: s-maj=6.7km s-min=4.3km az=165.2*
*BJI **04** 20:30:58.0, 2̇̇37N×126̇̇70E, h59km, mB4.8/10, mb4.3/16, Ms4.5/2*
*DJA **04** 20:30:58.7±0.6, 2̇̇N±6̇̇×12̇̇7E±̇̇, h10

6.9nm,0.3s,baz=342,slow=11,SNR=131
WRA S **S** **20 40 10.0 -2.8**
2.0nm,0.9s,baz=330,slow=15,SNR=6.0
AS31 Alice Springs 26.81 166 *eP* **P** **20 36 32.8 -1.9**
ASAR Alice Springs 26.81 166 P **P** **20 36 33.5 -1.2**
1.2nm,0.6s,baz=350,slow=7.1,SNR=39
ASAR S **S** **20 41 05.2 -2.2**
0.5nm,0.7s,baz=345,slow=18,SNR=4.1
WRKA Warakurna 27.34 177 P **P** **20 36 38.6 -0.9**
baz=28,SNR=32
CMAR Chiang Mai Arr 31.74 302 P **P** **20 37 17.7 -0.8**
1.3nm,0.8s,baz=117,slow=7.8,SNR=8.5
CHTO Chiang Mai 31.90 303 *eP* **P** **20 37 18.8 -1.1**
4.0nm,0.9s
KSAR Wonju Array Be 34.84 1 P **P** **20 37 46.2 +1.0**
KSRS Korea Array 34.86 1 P **P** **20 37 46.2 +0.9**
2.4nm,0.7s,baz=176,slow=11,SNR=8.4
MJAR Matsushiro Arr 35.49 16 P **P** **20 37 50.7 -0.2**
0.9nm,0.6s,baz=183,slow=8.7,SNR=4.4
STKA Stephens Creek 36.85 159 P **P** **20 38 01.1 -1.4**
12nm,0.6s,baz=335,slow=8.7,SNR=20
HTT Hallett 37.42 163 P **P** **20 38 07.0 -0.4**
baz=38,SNR=3.5
USRK Ussuriysk Ar. 41.82 5 P **P** **20 38 44.3 +0.5**
2.2nm,0.7s,baz=196,slow=6.5,SNR=7.2
LSA Lhasa 43.47 312 *eP* **P** **20 38 58.1 +0.1**
3.1nm,0.6s
GTA Gaotai 44.32 330 *eP* **P** **20 39 04.0 -0.3**
GTA PMZ
3.0nm,1.6s
TAPN Taplejung 44.97 307 *eP* **P** **20 39 08.3 -1.6**
RAMN Ramite 45.69 306 *eP* **P** **20 39 14.7 -0.8**
GUN Gumba 46.68 307 *eP* **P** **20 39 21.9 -1.5**
19nm,0.7s
PKIN Phulchoki 46.92 306 *eP* **P** **20 39 24.6 -0.6**
KKN Kakani 47.11 306 *eP* **P** **20 39 24.6 -2.0**
DMN Daman 47.17 306 *eP* **P** **20 39 26.8 -0.3**
GKN Gorkha 47.71 306 *eP* **P** **20 39 29.7 -1.5**
ULN Ulaanbaatar 48.41 342 *eP* **P** **20 39 36.7 +0.5**
5.8nm,1.0s
KOLN Koldanda 48.46 306 *eP* **P** **20 39 35.7 -1.3**
5.0nm,0.3s
DANN Dangsing 48.56 306 *eP* **P** **20 39 36.1 -1.8**
16nm,0.6s
SONM Songino Array 48.59 342 P **P** **20 39 38.0 +0.4**
2.0nm,0.6s,baz=159,slow=8.3,SNR=22
MKAR Makanchi Array 58.74 326 P **P** **20 40 51.3 -0.5**
2.6nm,0.5s,baz=119,slow=7.6,SNR=56
ZALV Zalesovo Beam 61.84 333 P **P** **20 41 12.0 -0.7**
1.5nm,0.5s,baz=127,slow=4.7,SNR=7.2
KURK Kurchatov 62.95 328 *eP* **P** **20 41 19.7 -0.6**
3.8nm,0.8s
BRVK Borovoye 68.60 327 *eP* **P** **20 41 56.4 -0.2**
4.4nm,1.0s
TIXI Tiksi 69.12 1 *eP* **P** **20 42 00.2 +0.8**
1.7nm,0.5s
ABKAR Akbulak array 73.29 321 *eP* **P** **20 42 24.7 -0.5**
0.8nm,0.6s
VNDA Vanda 82.12 173 P **P** **20 43 14.3 +0.6**
1.3nm,0.8s,baz=317,slow=5.9,SNR=6.1
ILAR Eielson Array 86.16 25 P **P** **20 43 37.0 +2.5**
0.2nm,0.6s,baz=263,slow=5.1,SNR=3.1
FINES FINESS Array B 93.07 332 P **P** **20 44 07.3 +0.2**
0.4nm,0.6s,baz=85,slow=4.7,SNR=2.6

NIED ***04*** *20:49:00,26°.00N×128°.70E,h8km,Mw3.8 Best double couple: M0=5.96000×10^14 NP1:φs=0.00000°,δ=72.00000°, λ=-161.00000°. NP2:φs=264.00000°,δ=72.00000°, λ=-19.00000°.*
IDC ***04*** *20:49:19.9±0.8,25°.95N×128°.62E,h0km,mb3.9/13, mb1 4.0/17,mb1mx3.9/60,mbtmp3.9/17,ML3.8/2,Error ellipse: s-maj=25.8km s-min=15.4km az=79.0*
NEIC ***04*** *20:49:21.9±3.8,25°.92N×128°.52E,h12km±24km,mb4.0/2, Error ellipse: s-maj=12.9km s-min=9.6km az=102.0*
JMA ***04*** *20:49:23.6±0.3,26°.02N×128°.67E,h38km,M3.8*
ISC 04 20:49:21.9±1.6,**25°.95N**±0°.04×**128°.69E**±0°.04,**h16**km±10km,
n45,σ1**°60**/62,**mb4.0**/15,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.82**	**313**	P	**Pg**	**20 49 37.8**	**-0.1**
JNTH				S	**Sg**	**20 49 47.8**	**-1.0**
JJT2	**Tamagusuku 2**	**0.87**	**282**	P	**Pb**	**20 49 39.1**	**+0.5**
JJT2				S	**Sb**	**20 49 51.0**	**+1.0**
JOW	**Kunigami**	**0.95**	**337**	P	**Pb**	**20 49 40.0**	**0.0**
JOW				S	**Sb**	**20 49 51.3**	**-1.1**
JOW	**Kunigami**	**0.95**	**337**	Pn	**Pb**	**20 49 40.0**	**0.0**
	baz=140,slow=16						
JOW				Sn	**Sb**	**20 49 48.4**	**-4.0**
	baz=90,slow=20						
JIH	**Iheya**	**1.26**	**329**	P	**Pn**	**20 49 44.7**	**-0.1**
JIH				S	**Sb**	**20 49 59.8**	**-1.4**
JOKE	**Okinoerabujima**	**1.41**	**356**	P	**Pn**	**20 49 46.6**	**-0.3**
JAGN	**Aguni-jima**	**1.45**	**296**	P	**Pn**	**20 49 47.5**	**+0.1**
JAGN				S	**Sn**	**20 50 04.9**	**-1.2**
JKE	**Kume jima 2**	**1.75**	**283**	P	**Pn**	**20 49 51.0**	**-0.6**
JKE				S	**Sn**	**20 50 11.7**	**-1.9**
JTK	**Tokunoshima**	**1.84**	**7**	P	**Pn**	**20 49 52.5**	**-0.3**
JTK				S	**Sn**	**20 50 13.1**	**-2.7**
JMZ	**Minamidaito 2**	**2.28**	**93**	P	**Pn**	**20 49 57.3**	**-1.6**
JMZ				S	**Sn**	**20 50 22.0**	**-4.7**
JAMN	**Amaminishikomi**	**2.32**	**11**	P	**Pn**	**20 49 59.0**	**-0.5**
JAM	**Amami Oshima**	**2.58**	**18**	P	**Pn**	**20 50 02.3**	**-0.7**
JAM				*eS*	**Sn**	**20 50 32.3**	**-1.8**
JZK	**Kikaishima**	**2.61**	**26**	P	**Pn**	**20 50 03.3**	**-0.2**
JZK				*eS*	**Sn**	**20 50 34.2**	**-0.7**
JOGS	**Gusukube**	**3.20**	**249**	P	**Pn**	**20 50 11.9**	**+0.3**
JOGS				*eS*	**Sn**	**20 50 47.8**	**-1.6**
JTAJ	**Takarajima**	**3.22**	**8**	P	**Pn**	**20 50 11.6**	**-0.2**
JTAJ				*eS*	**Sn**	**20 50 47.8**	**-2.0**
JMJ	**Miyako jima 2**	**3.27**	**250**	*eS*	**Sn**	**20 50 48.7**	**-2.5**
JIKM	**Ikemajima**	**3.28**	**253**	P	**Pn**	**20 50 12.3**	**-0.3**
JIKM				*eS*	**Sn**	**20 50 49.9**	**-1.4**
JIRB	**Irabujima**	**3.37**	**251**	P	**Pn**	**20 50 13.4**	**-0.5**
JIRB				*eS*	**Sn**	**20 50 50.3**	**-3.3**
JTJ	**Tarama**	**3.84**	**251**	P	**Pn**	**20 50 19.7**	**-0.6**
JTJ				*eS*	**Sn**	**20 51 02.3**	**-2.9**
JNN	**Nakanoshima**	**4.01**	**15**	P	**Pn**	**20 50 22.9**	**+0.2**
JISG	**Ishigakijimahi**	**4.19**	**252**	P	**Pn**	**20 50 24.1**	**-1.1**
JISG				*eS*	**Sn**	**20 51 10.5**	**-3.4**
JIJ	**Ishigaki jima**	**4.42**	**250**	P	**Pn**	**20 50 26.9**	**-1.4**
SSLB	**Suanglung**	**7.35**	**255**	*eP*	**Pn**	**20 51 06.0**	**-2.6**
	12nm,0.3s						
JNU	**Nakatsue**	**7.39**	**14**	Pn	**Pn**	**20 51 10.3**	**+1.1**
	3.0nm,0.3s,baz=191,slow=12,SNR=38						
KSAR	**Wonju Array Be**	**11.47**	**357**	Pn	**Pn**	**20 52 06.6**	**+1.6**
KSRS	**Korea Array**	**11.48**	**357**	Pn	**Pn**	**20 52 06.6**	**+1.4**
	0.2nm,0.3s,baz=179,slow=13,SNR=3.6						
MJAR	**Matsushiro Arr**	**13.32**	**35**	Pn	**Pn**	**20 52 32.7**	**+2.3**
	baz=215,slow=15,SNR=2.3						
USRK	**Ussuriysk Ar.**	**18.40**	**8**	P	**Pn**	**20 53 37.8**	**+1.5**
	0.1nm,0.3s,baz=191,slow=11,SNR=5.9						
ULN	**Ulaanbaatar**	**27.71**	**328**	*eP*	**P**	**20 55 11.7**	**+2.1**
	3.1nm,0.9s						
SONM	**Songino Array**	**28.01**	**327**	P	**P**	**20 55 13.9**	**+1.6**
	1.9nm,0.4s,baz=143,slow=11,SNR=22						
MKAR	**Makanchi Array**	**42.03**	**312**	P	**P**	**20 57 12.2**	**-0.4**
	0.5nm,0.5s,baz=95,slow=10,SNR=14						
ZALV	**Zalesovo Beam**	**42.72**	**323**	P	**P**	**20 57 16.9**	**-1.1**
	1.2nm,0.7s,baz=96,slow=9.1,SNR=4.2						
WRAB	**Tennant Creek**	**45.94**	**173**	*eP*	**P**	**20 57 45.0**	**+0.8**
WRA	**Warramunga Arr**	**45.95**	**173**	P	**P**	**20 57 44.2**	**-0.1**
	1.6nm,0.8s,baz=354,slow=8.6,SNR=16						
ASAR	**Alice Springs**	**49.59**	**174**	P	**P**	**20 58 14.1**	**+1.6**
	0.9nm,0.9s,baz=6.1,slow=8.9,SNR=7.5						
ABKAR	**Akbulak array**	**57.14**	**313**	*eP*	**P**	**20 59 07.5**	**-0.2**
	0.8nm,0.5s						
GEYT	**Alibeck**	**59.79**	**300**	P	**P**	**20 59 27.7**	**+1.2**
	0.7nm,0.5s,baz=69,slow=7.9,SNR=2.8						
ILAR	**Eielson Array**	**64.48**	**28**	P	**P**	**20 59 57.7**	**+0.2**
	0.3nm,0.7s,baz=276,slow=8.2,SNR=6.3						
KBZ	**Khabaz**	**69.65**	**310**	P	**P**	**21 00 31.6**	**+0.9**
	2.1nm,0.8s,baz=153,slow=5.5,SNR=4.1						
FINES	**FINESS Array B**	**73.31**	**331**	P	**P**	**21 00 52.6**	**+0.2**
	1.0nm,0.4s,baz=74,slow=6.1,SNR=17						
AKASG	**Malin Array Be**	**76.01**	**320**	P	**P**	**21 01 08.1**	**-0.2**
	1.5nm,0.5s,baz=62,slow=6.4,SNR=4.0						
BRTR	**Keskin Array B**	**77.53**	**308**	P	**P**	**21 01 17.4**	**+0.1**
	1.2nm,0.8s,baz=90,slow=5.0,SNR=4.2						
YKA	**Yellowknife Ar**	**78.60**	**25**	P	**P**	**21 01 23.0**	**+0.5**
	0.5nm,0.6s,baz=299,slow=5.5,SNR=8.2						
NB2	**NORSAR Subarra**	**79.74**	**334**	P	**P**	**21 01 28.8**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=53,slow=5.9						
NOA	**NORSAR Array B**	**79.74**	**334**	P	**P**	**21 01 28.0**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=56,slow=5.5,SNR=3.3						

ISK ***04*** *20:57:50.4,34°.21N×32°.69E,h11km,ML3.6*
DDA ***04*** *20:57:51.5,34°.44N×32°.60E,h1km,ML3.3*
NIC ***04*** *20:57:52.4,34°.31N×32°.62E,h20km,ML3.7*
IDC ***04*** *20:57:53.6±1.8,34°.41N×32°.82E,h0km,mb3.3/3, mb1 3.5/8,mb1mx3.2/48,mbtmp3.3/8,ML3.5/5,Error ellipse: s-maj=39.6km s-min=15.2km az=57.0*
ISCJB ***04*** *20:57:54.5±0.6,34°.39N±0°.02×32°.66E±0°.04,h21km±6km, mb3.0/2,Error ellipse: s-maj=5.3km s-min=3.2km az=166.8*
HLW ***04*** *20:57:54.3,34°.44N×32°.68E,h11km±14km,Md2.8,Ml2.6*
CSEM ***04*** *20:57:54.6±0.1,34°.44N×32°.71E,h10km,ML3.7,Error ellipse: s-maj=3.3km s-min=1.7km az=81.0*
GII ***04*** *20:57:55.5±0.0,34°.46N×32°.73E,h15km±1km,MD2.9/11*
NSSC ***04*** *20:58:03.8±1.2,34°.55N×33°.40E,h38km±999km,ML2.6*
ISC 04 20:57:54.7±1.3,**34°.41N**±0°.02×**32°.73E**±0°.03,**h11**km±9km,
n127,σ1**°04**/160,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.37**	**20**	P	**Pg**	**20 58 02.3**	**+0.3**
	baz=205						
SZAC				S	**Sb**	**20 58 10.0**	**+1.0**
SZAC	**Souni-Zanaja**	**0.37**	**20**	P	**Pg**	**20 58 02.3**	**+0.3**
PPCY	**Paphos**	**0.57**	**326**	P	**Pg**	**20 58 04.6**	**-1.2**
	baz=158						
PPCY	**Paphos**	**0.57**	**326**	P	**Pg**	**20 58 04.6**	**-1.2**
AKMC	**Akamas**	**0.70**	**332**	P	**Pg**	**20 58 06.9**	**-1.3**
	baz=161						
AKMC	**Akamas**	**0.70**	**332**	P	**Pg**	**20 58 06.9**	**-1.3**
LEF	**Lefka**	**0.72**	**10**	*ePG*	**Pg**	**20 58 08.1**	**-0.5**
LEF				*eSG*	**Sn**	**20 58 21.4**	**-0.4**
LEF	**Lefka**	**0.72**	**10**	*ePg*	**Pg**	**20 58 08.1**	**-0.5**
LEF				*eSg*	**Sn**	**20 58 21.5**	**-0.4**
CSS	**Prodhromos**	**0.74**	**42**	P	**Pg**	**20 58 08.9**	**-0.1**
	baz=221						
CSS	**Prodhromos**	**0.74**	**42**	*ePG*	**Pg**	**20 58 08.3**	**-0.6**
CSS				*eSG*	**Sn**	**20 58 21.7**	**-0.6**
CSS	**Prodhromos**	**0.74**	**42**	*Pg*	**Pg**	**20 58 08.2**	**-0.8**
CSS	**Prodhromos**	**0.74**	**42**	*ePg*	**Pg**	**20 58 08.4**	**-0.6**
CSS	**Prodhromos**	**0.74**	**42**	P	**Pg**	**20 58 08.9**	**-0.1**
CSS				*eSg*	**Sn**	**20 58 21.7**	**-0.6**
ALFC	**Alevga**	**0.75**	**352**	P	**Pg**	**20 58 08.2**	**-1.0**
	baz=178						
ALFC				S	**Sb**	**20 58 20.2**	**+0.1**
ALFC	**Alevga**	**0.75**	**352**	P	**Pg**	**20 58 08.2**	**-1.0**
MAMC	**Mammari**	**0.86**	**28**	P	**Pg**	**20 58 10.0**	**-1.2**
	baz=209						
MAMC	**Mammari**	**0.86**	**28**	P	**Pg**	**20 58 10.0**	**-1.2**
AKDN	**Akdeniz- K¯–br**	**0.91**	**12**	*ePN*	**Pb**	**20 58 12.3**	**-0.1**
AKDN				*eSN*	**Sn**	**20 58 27.6**	**+1.2**
AKDN	**Akdeniz- K¯–br**	**0.91**	**12**	*ePn*	**Pb**	**20 58 12.3**	**-0.1**
AKDN				*eSn*	**Sn**	**20 58 27.6**	**+1.2**
LFK	**Lefkose**	**1.09**	**37**	*ePN*	**Pb**	**20 58 14.7**	**-0.8**
LFK	**Lefkose**	**1.09**	**37**	*ePn*	**Pb**	**20 58 14.7**	**-0.8**
EREN	**Erenkoy**	**1.62**	**46**	*ePN*	**Pn**	**20 58 22.1**	**-1.1**
EREN	**Erenkoy**	**1.62**	**46**	*ePn*	**Pn**	**20 58 22.1**	**-1.1**
GAZI	**Gazipasa**	**1.85**	**349**	*i P*	**Pn**	**20 58 25.6**	**-0.8**
GAZI	**Gazipasa**	**1.85**	**349**	*i P*	**Pn**	**20 58 25.6**	**-0.8**
GAZI				*i S*	**Sg**	**20 58 59.0**	**+4.8**
ERMK	**Ermenek**	**2.23**	**4**	*i P*	**Pn**	**20 58 32.9**	**+1.1**
ERMK	**Ermenek**	**2.23**	**4**	*i P*	**Pn**	**20 58 32.9**	**+1.1**
ERMK				*i S*	**Sb**	**20 59 04.6**	**+1.8**
KIZK	**Mersin**	**2.36**	**29**	*i P*	**Pn**	**20 58 34.7**	**+1.3**
KIZK	**Mersin**	**2.36**	**29**	*i P*	**Pn**	**20 58 34.7**	**+1.3**
KIZK				*i S*	**Sg**	**20 59 09.3**	**-1.3**
NAQL	**Naqoura**	**2.38**	**122**	*eP*	**Pn**	**20 58 34.0**	**+0.3**
NAQL	**Naqoura**	**2.38**	**122**	*eP*	**Pn**	**20 58 34.0**	**+0.3**
OFRI	**'Ofer**	**2.59**	**133**	Pn	**Pn**	**20 58 36.9**	**+0.3**
OFRI	**'Ofer**	**2.59**	**133**	Pn	**Pn**	**20 58 36.9**	**+0.3**
MMA0B	**Mount Meron ar**	**2.62**	**121**	Pn	**Pn**	**20 58 37.0**	**-0.1**
MMA0B				Sn	**Sn**	**20 59 08.9**	**-0.1**
MMA0B	**Mount Meron ar**	**2.62**	**121**	Pn	**Pn**	**20 58 37.0**	**-0.1**
MMA0B				Sn	**Sn**	**20 59 08.9**	**-0.1**
MMAI	**Mount Meron Ar**	**2.62**	**121**	Pn	**Pn**	**20 58 37.0**	**-0.1**
	10.0nm,0.3s,baz=299,slow=12,SNR=73						
MMAI				Sn	**Sn**	**20 59 08.6**	**-0.4**
	52nm,0.3s,baz=317,slow=21,SNR=22						
BLGI	**Bet Lehem HaGe**	**2.65**	**129**	Pn	**Pn**	**20 58 37.6**	**+0.3**
BLGI	**Bet Lehem HaGe**	**2.65**	**129**	Pn	**Pn**	**20 58 37.6**	**+0.3**
HWQ	**Hawqa**	**2.66**	**92**	*eP*	**Pn**	**20 58 37.7**	**+0.1**
HWQ	**Hawqa**	**2.66**	**92**	*eP*	**Pn**	**20 58 37.7**	**+0.1**
KSDI	**Kefar Szold**	**2.72**	**116**	Pn	**Pn**	**20 58 38.7**	**+0.4**
KSDI	**Kefar Szold**	**2.72**	**116**	Pn	**Pn**	**20 58 38.7**	**+0.4**
RCY	**Rachaya**	**2.73**	**109**	*eP*	**Pn**	**20 58 38.2**	**-0.5**
MERS	**Mersin**	**2.85**	**30**	*ePN*	**Pn**	**20 58 40.4**	**+0.2**
MERS	**Mersin**	**2.85**	**30**	*ePn*	**Pn**	**20 58 40.4**	**+0.2**
BRBR	**Barbar**	**2.85**	**110**	*eP*	**Pn**	**20 58 41.0**	**+0.7**
	SNR=90						
BRBR	**Barbar**	**2.85**	**110**	*eP*	**Pn**	**20 58 41.0**	**+0.7**
BRBR				*eS*	Sn	20 59 08.2	-6.6
BRBR				AML	AML	20 59 18.8	
	comp=N,61nm,0.3s						
BRBR				AML	AML	20 59 19.2	
	comp=E,127nm,0.3s						
SLTI	**Sal'it**	**2.90**	**138**	Pn	**Pn**	**20 58 41.4**	**+0.6**
SLTI				Sn	**Sn**	**20 59 16.7**	**+1.0**
SLTI	**Sal'it**	**2.90**	**138**	Pn	**Pn**	**20 58 41.4**	**+0.6**
SLTI				Sn	**Sn**	**20 59 16.7**	**+1.0**
MMLI	**Mount Malkishu**	**2.99**	**130**	Pn	**Pn**	**20 58 42.6**	**+0.6**
MMLI	**Mount Malkishu**	**2.99**	**130**	Pn	**Pn**	**20 58 42.8**	**+0.8**
MMLI	**Mount Malkishu**	**2.99**	**130**	Pn	**Pn**	**20 58 42.6**	**+0.6**
ARNB	**Al Arnab**	**3.02**	**60**	*eP*	**Pn**	**20 58 42.4**	**-0.1**
	SNR=90						
ARNB	**Al Arnab**	**3.02**	**60**	*eP*	**Pn**	**20 58 42.4**	**-0.1**
ARNB				*eS*	Sn	20 59 09.0	-10
ARNB				AML	AML	20 59 23.4	
	comp=N,18nm,0.2s						
ARNB				AML	AML	20 59 24.4	
	comp=E,43nm,0.4s						
HMDT	**Nahal Hemdat**	**3.18**	**132**	Pn	**Pn**	**20 58 45.5**	**+0.9**
HMDT				Sn	**Sn**	**20 59 24.1**	**+1.6**
HMDT	**Nahal Hemdat**	**3.18**	**132**	Pn	**Pn**	**20 58 45.5**	**+0.9**
HMDT				Sn	**Sn**	**20 59 24.1**	**+1.6**
TCHB	**Talchebab**	**3.21**	**122**	*eP*	**Pn**	**20 58 46.4**	**+1.3**
	SNR=90						
TCHB	**Talchebab**	**3.21**	**122**	*eP*	**Pn**	**20 58 46.4**	**+1.3**
TCHB				*eS*	**Sn**	**20 59 18.8**	**-4.6**
TCHB				AML	AML	20 59 33.0	
	comp=N,149nm,0.4s						
TCHB				AML	AML	20 59 37.4	
	comp=E,82nm,0.4s						
ELL	**Elmali**	**3.28**	**316**	*ePN*	**Pn**	**20 58 45.1**	**-1.0**
ELL	**Elmali**	**3.28**	**316**	*ePn*	**Pn**	**20 58 45.1**	**-1.0**
KARA	**Karaisali**	**3.41**	**33**	*ePN*	**Pn**	**20 58 47.8**	**0.0**
KARA	**Karaisali**	**3.41**	**33**	*ePn*	**Pn**	**20 58 47.8**	**0.0**
BTCH	**Batrach**	**3.46**	**61**	*eP*	**Pn**	**20 58 48.5**	**0.0**
	SNR=90						
BTCH	**Batrach**	**3.46**	**61**	*eP*	**Pn**	**20 58 48.5**	**0.0**
BTCH				*eS*	Sn	20 59 20.2	-9.2
BTCH				AML	AML	20 59 34.7	
	comp=N,52nm,0.4s						
BTCH				AML	AML	20 59 39.3	
	comp=E,56nm,0.3s						
RSH		**3.54**	**166**	P	**Pn**	**20 58 50.2**	**+0.6**
	baz=165						
RSH		**3.54**	**166**	P	**Pn**	**20 58 50.2**	**+0.6**
KONT	**Konya--Tatoy**	**3.54**	**355**	*ePN*	**Pn**	**20 58 50.1**	**+0.5**
KONT	**Konya--Tatoy**	**3.54**	**355**	*ePn*	**Pn**	**20 58 50.1**	**+0.5**
DSI	**Dead Sea**	**3.60**	**141**	Pn	**Pn**	**20 58 51.2**	**+0.8**
DSI				Sn	**Sn**	**20 59 34.3**	**+1.3**
DSI	**Dead Sea**	**3.60**	**141**	Pn	**Pn**	**20 58 51.2**	**+0.8**
DSI				Sn	**Sn**	**20 59 34.3**	**+1.3**
YTIR	**Yattir**	**3.64**	**146**	Pn	**Pn**	**20 58 52.1**	**+1.1**
YTIR	**Yattir**	**3.64**	**146**	Pn	**Pn**	**20 58 52.1**	**+1.1**
FETY	**Fethiye**	**3.71**	**308**	*ePN*	**Pn**	**20 58 50.7**	**-1.3**
FETY	**Fethiye**	**3.71**	**308**	*ePn*	**Pn**	**20 58 50.7**	**-1.3**
RTMI	**Retamim**	**3.73**	**153**	Pn	**Pn**	**20 58 53.3**	**+1.1**
RTMI	**Retamim**	**3.73**	**153**	Pn	**Pn**	**20 58 53.3**	**+1.1**
KZIT	**Kziot**	**3.77**	**158**	Pn	**Pn**	**20 58 53.2**	**+0.5**
KZIT				Sn	**Sn**	**20 59 37.4**	**+0.4**
KZIT	**Kziot**	**3.77**	**158**	Pn	**Pn**	**20 58 53.2**	**+0.5**
KZIT				Sn	**Sn**	**20 59 37.4**	**+0.4**
AMAG	**Maghara**	**3.78**	**174**	P	**Pn**	**20 58 53.2**	**+0.3**
	baz=173						
AMAG				S	**Sn**	**20 59 36.5**	**-0.9**
	baz=173						
AMAG	**Maghara**	**3.78**	**174**	P	**Pn**	**20 58 53.2**	**+0.3**
AMAG				S	**Sn**	**20 59 36.5**	**-0.9**
MZDA	**Masada**	**3.80**	**144**	Pn	**Pn**	**20 58 54.4**	**+1.3**
MZDA				Sn	**Sn**	**20 59 39.0**	**+1.2**
MZDA	**Masada**	**3.80**	**144**	Pn	**Pn**	**20 58 54.4**	**+1.3**
MZDA				Sn	**Sn**	**20 59 39.0**	**+1.2**
GOLH	**Golhisar**	**3.82**	**318**	*i P*	**Pn**	**20 58 54.6**	**+1.1**
GOLH	**Golhisar**	**3.82**	**318**	*i P*	**Pn**	**20 58 54.6**	**+1.1**
GOLH				*i S*	**Sn**	**20 59 42.8**	**+4.2**
KOZT	**Kozan**	**3.96**	**38**	*ePN*	**Pn**	**20 58 55.5**	**+0.1**
KOZT	**Kozan**	**3.96**	**38**	*ePn*	**Pn**	**20 58 55.5**	**+0.1**
KDHN	**Kadinhani**	**4.13**	**353**	*i P*	**Pb**	**20 59 04.8**	**-2.7**
ASF	**Jabal al Asfar**	**4.14**	**121**	Pn	**Pn**	**20 58 58.8**	**+0.9**
	comp=E,1.8nm,0.3s,baz=270,slow=4.0,SNR=26						
ASF				Sn	**Sn**	**20 59 47.3**	**+0.9**
	comp=E,0.8nm,0.3s,baz=38,slow=19,SNR=3.5						
RMNI	**Mount Ramon**	**4.17**	**155**	Pn	**Pn**	**20 58 58.7**	**+0.4**
RMNI	**Mount Ramon**	**4.17**	**155**	Pn	**Pn**	**20 58 58.7**	**+0.4**
KUZU	**Kuzuini**	**4.25**	**55**	*i P*	**Pn**	**20 58 59.3**	**-0.1**
KUZU	**Kuzuini**	**4.25**	**55**	*i P*	**Pn**	**20 58 59.3**	**-0.1**
HHAG	**Hagoal**	**4.48**	**187**	P	**Pn**	**20 59 02.5**	**0.0**
	baz=187						
HHAG	**Hagoal**	**4.48**	**187**	P	**Pn**	**20 59 02.5**	**0.0**
PRNI	**Paran**	**4.48**	**154**	Pn	**Pn**	**20 59 02.9**	**+0.4**
PRNI	**Paran**	**4.48**	**154**	Pn	**Pn**	**20 59 02.9**	**+0.4**
KOT	**Kottamia**	**4.54**	**190**	P	**Pn**	**20 59 03.8**	**+0.5**
	baz=190						
KOT	**Kottamia**	**4.54**	**190**	P	**Pn**	**20 59 03.8**	**+0.5**
SUZ		**4.56**	**179**	P	**Pn**	**20 59 04.2**	**+0.6**
	baz=178						
SUZ		**4.56**	**179**	P	**Pn**	**20 59 04.2**	**+0.6**
KMRS	**Kahramanmaras**	**4.58**	**46**	*ePN*	**Pn**	**20 59 04.1**	**+0.2**
KMRS	**Kahramanmaras**	**4.58**	**46**	*ePn*	**Pn**	**20 59 04.1**	**+0.2**
HNKL	**Nakhl**	**4.59**	**166**	P	**Pn**	**20 59 04.9**	**+0.8**
	baz=165						
HNKL	**Nakhl**	**4.59**	**166**	P	**Pn**	**20 59 04.9**	**+0.8**
KRMI	**Paran Flat**	**4.60**	**158**	Pn	**Pn**	**20 59 04.6**	**+0.4**
KRMI	**Paran Flat**	**4.60**	**158**	Pn	**Pn**	**20 59 04.6**	**+0.4**
HRFI	**Mount Harif**	**4.78**	**155**	Pn	**Pn**	**20 59 07.0**	**+0.4**
HRFI				Sn	**Sn**	**21 00 02.8**	**+0.8**
HRFI	**Mount Harif**	**4.78**	**155**	Pn	**Pn**	**20 59 07.0**	**+0.4**
HRFI				Sn	**Sn**	**21 00 02.8**	**+0.8**
HSAF	**As Saff**	**4.88**	**192**	P	**Pn**	**20 59 08.8**	**+0.7**
	baz=192						
HSAF	**As Saff**	**4.88**	**192**	P	**Pn**	**20 59 08.8**	**+0.7**
AQBJ	**Aqaba**	**5.07**	**157**	Pn	**Pn**	**20 59 11.4**	**+0.8**
EIL	**Elat**	**5.09**	**158**	Pn	**Pn**	**20 59 10.9**	**+0.1**
	comp=E,2.8nm,0.3s,baz=312,slow=3.7,SNR=25						
EIL				Sn	**Sn**	**21 00 09.8**	**+0.1**
	comp=E,5.6nm,0.3s,baz=121,slow=16,SNR=11						
EIL	**Elat**	**5.09**	**158**	Pn	**Pn**	**20 59 11.0**	**+0.1**
EIL				Sn	**Sn**	**21 00 09.4**	**-0.2**
EIL	**Elat**	**5.09**	**158**	Pn	**Pn**	**20 59 11.0**	**+0.1**
EIL				Sn	**Sn**	**21 00 09.4**	**-0.2**
BRTR	**Keskin Array B**	**5.35**	**8**	Pn	**Pn**	**20 59 17.1**	**+2.5**
	comp=E,0.2nm,0.3s,baz=190,slow=16,SNR=6.9						
DARE	**Darende-Malaty**	**5.65**	**41**	*ePN*	**Pn**	**20 59 19.6**	**+1.0**
DARE	**Darende-Malaty**	**5.65**	**41**	*ePn*	**Pn**	**20 59 19.6**	**+1.0**
MALT	**Malatya**	**6.02**	**48**	*ePN*	**Pn**	**20 59 24.7**	**+0.9**
MALT	**Malatya**	**6.02**	**48**	*ePn*	**Pn**	**20 59 24.7**	**+0.9**
TR1		**6.47**	**170**	P	**Pn**	**20 59 30.7**	**+0.9**
	baz=170						
TR1		**6.47**	**170**	P	**Pn**	**20 59 30.7**	**+0.9**
SHRM		**6.61**	**169**	P	**Pn**	**20 59 32.7**	**+0.9**
	baz=168						
SHRM		**6.61**	**169**	P	**Pn**

LPIG La Paz 33.62 309 LR LR 21 31 55.7
comp=Z,53nm,18.0s,baz=316,slow=30
CPUP Villa Florida 38.66 143 LR LR 21 39 34.7
comp=Z,80nm,18.1s,baz=233,slow=38
PDAR Pinedale Array 45.54 332 P P 21 23 28.6 -0.8
0.5nm,0.8s,baz=136,slow=12,SNR=3.7
YKA Yellowknife Ar 63.00 344 P P 21 25 36.6 +0.6
0.3nm,0.8s,baz=139,slow=6.7,SNR=6.1

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*ISCJB **04** 21:17:54.2±0.7, 19°.84S±0°.03×177°.83W±0°.04, h383km±7km, mb4.7/70, Error ellipse: s-maj=7.1km s-min=4.4km az=36.7*
*BJI **04** 21:17:56.2, 20°.01S×177°.90W, h405km, mB4.9/12, mb4.5/15*
*IDC **04** 21:17:58.0±0.8, 19°.79S×177°.86W, h410km±7km, mb4.0/20, mb1 4.2/21, mb1mx4.0/41, mbtmp4.8/21, Error ellipse: s-maj=13.4km s-min=9.0km az=148.0*
*MOS **04** 21:17:58.3±1.4, 19°.81S×177°.91W, h414km, mb4.8/9, Error ellipse: s-maj=12.7km s-min=11.8km az=174.9*
*NEIC **04** 21:17:58.2±0.8, 19°.88S×177°.82W, h415km±8km, mb4.9/52, Error ellipse: s-maj=7.2km s-min=5.1km az=121.0*
ISC 04 21:17:57.7±0.4, 19°.98S±0°.05×177°.68W±0°.05, h412km±3km, h412km:pP-P, n282, σ1§13/318, mb4.8/72, 36C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.62**	**298**	*eP*	**P**	**21 19 15.4**	**-1.1**
MSVF	**Nonsavu**	**4.62**	**298**	*ePn*	**P**	**21 19 15.4**	**-1.1**
NIUE	**Niue**	**7.36**	**84**	P	**P**	**21 19 44.5**	**-1.6**
baz=7.2,SNR=17							
NIUE				S	**S**	**21 21 09.7**	**-4.4**
baz=7.2,SNR=9.4							
AFI	**Afiamalu**	**8.26**	**44**	*eP*	P	21 19 51.1	-5.0
AFI	**Afiamalu**	**8.26**	**44**	*eP*	P	21 19 51.1	-5.0
RAO	**Raoul Island**	**9.23**	**181**	S	**S**	**21 21 49.1**	**-3.6**
206nm,0.3s,baz=86,slow=23,SNR=6.3							
DZM	**Mont Dzumac**	**14.97**	**259**	P	**P**	**21 21 09.8**	**+0.1**
1.1nm,0.3s,baz=78,slow=17,SNR=18							
NFK	**Norfolk Island**	**15.89**	**233**	P	P	21 21 13.2	-6.1
baz=16,SNR=3.7							
OUZ	**Omahuta**	**17.02**	**205**	*eP*	**P**	**21 21 34.0**	**+2.6**
208nm,1.3s							
PUZ	**Puketiti**	**18.37**	**190**	*ePN*	**P**	**21 21 47.8**	**+2.1**
PUZ				SN	**S**	**21 24 51.1**	**-2.2**
URZ	**Urewera**	**18.77**	**193**	P	**P**	**21 21 48.6**	**-1.0**
2.8nm,0.3s,baz=30,slow=3.3,SNR=19							
URZ				S	**S**	**21 24 59.6**	**-0.4**
1.7nm,0.3s,baz=81,slow=22,SNR=15							
URZ	**Urewera**	**18.77**	**193**	PN	**P**	**21 21 48.3**	**-1.3**
URZ				SN	**S**	**21 24 59.8**	**-0.2**
URZ	**Urewera**	**18.77**	**193**	*eP*	**P**	**21 21 49.7**	**+0.1**
33nm,0.7s							
URZ				*eS*	**S**	**21 25 01.6**	**+1.6**
BKZ	**Black Stump Fm**	**19.77**	**194**	*eP*	**P**	**21 21 58.1**	**-1.2**
44nm,1.6s							
BKZ				*eS*	**S**	**21 25 15.8**	**-0.8**
BFZ	**Birch Farm**	**21.28**	**193**	*eP*	**P**	**21 22 13.2**	**+0.2**
186nm,2.2s							
SNZO	**South Karori**	**22.23**	**195**	*eP*	**P**	**21 22 21.2**	**-0.3**
35nm,1.0s							
KHZ	**Kahutara**	**23.57**	**196**	*eP*	**P**	**21 22 33.8**	**+0.2**
89nm,1.5s							
RPZ	**Rata Peaks**	**25.48**	**199**	*eP*	**P**	**21 22 50.7**	**0.0**
485nm,2.8s							
DCZ	**Deep Cove**	**28.35**	**203**	*eP*	**P**	**21 23 16.5**	**+0.5**
337nm,2.5s							
DCZ				*eS*	**S**	**21 27 34.6**	**+2.5**
WHZ	**Wether Hill Ro**	**28.43**	**201**	*eP*	**P**	**21 23 18.7**	**+2.0**
42nm,0.7s							
WHZ				*ePcP*	**PcP**	**21 26 17.3**	**+0.6**
WHZ				*eS*	**S**	**21 27 36.5**	**+3.1**
EIDS	**Eidsvold**	**29.28**	**254**	P	**P**	**21 23 24.3**	**-0.2**
baz=30,SNR=4.2							
EIDS	**Eidsvold**	**29.28**	**254**	*eP*	**P**	**21 23 24.2**	**-0.3**
32nm,1.0s							
ARMA	**Armidale**	**29.57**	**243**	P	**P**	**21 23 27.9**	**+0.8**
baz=30,SNR=11							
ARMA	**Armidale**	**29.57**	**243**	*eP*	**P**	**21 23 27.5**	**+0.4**
83nm,1.4s							
MGCD	**Mangrove Creek**	**30.74**	**238**	P	**P**	**21 23 38.2**	**+1.1**
baz=31,SNR=8.5							
RMQ	**Roma**	**31.45**	**252**	P	**P**	**21 23 44.0**	**+0.6**
baz=32,SNR=20							
CNB	**Canberra Magne**	**32.77**	**235**	P	**P**	**21 23 55.5**	**+0.8**
baz=33,SNR=18							
CTA	**Charters Tower**	**33.85**	**263**	P	**P**	**21 24 03.1**	**-0.9**
78nm,0.7s,baz=98,slow=13							
CTAO	**Charters Tower**	**33.85**	**263**	*eP*	**P**	**21 24 03.6**	**-0.4**
CTAO				pmax	pmax		
comp=Z,89nm,0.7s							
CTAO	**Charters Tower**	**33.85**	**263**	*eP*	**P**	**21 24 03.6**	**-0.4**
comp=Z,90nm,0.7s							
CMSA	**Cobar Meteorol**	**34.79**	**243**	P	**P**	**21 24 11.8**	**0.0**
baz=35,SNR=33							
QLP	**Quilpie**	**35.51**	**252**	P	**P**	**21 24 17.4**	**-0.5**
baz=36,SNR=8.0							
PMG	**Port Moresby**	**35.53**	**282**	*i P*	**P**	**21 24 18.7**	**+0.5**
TOO	**Toolangi**	**36.45**	**233**	P	**P**	**21 24 25.9**	**+0.2**
baz=37,SNR=12							
COEN	**Coen**	**37.86**	**273**	P	**P**	**21 24 36.7**	**-0.9**
baz=38,SNR=8.8							
COEN	**Coen**	**37.86**	**273**	*eP*	**P**	**21 24 36.1**	**-1.5**
comp=Z,99nm,0.9s							
STKA	**Stephens Creek**	**38.29**	**244**	P	**P**	**21 24 41.2**	**+0.2**
comp=Z,44nm,0.8s,baz=91,slow=9.3,SNR=54							
STKA	**Stephens Creek**	**38.29**	**244**	P	**P**	**21 24 41.3**	**+0.3**
baz=38,SNR=20							
HTT	**Hallett**	**40.74**	**242**	P	**P**	**21 25 00.7**	**-0.2**
baz=41,SNR=71							
BBOO	**Buckleboo**	**43.05**	**243**	P	**P**	**21 25 18.9**	**-0.4**
baz=43,SNR=106							
BBOO	**Buckleboo**	**43.05**	**243**	*eP*	**P**	**21 25 18.8**	**-0.6**
comp=Z,554nm,0.6s							
JAY	**Jayapura**	**44.17**	**288**	P	P	21 25 24.5	-4.0
baz=44,SNR=4.7							
ASAR	**Alice Springs**	**44.94**	**256**	P	**P**	**21 25 33.5**	**-0.8**
comp=Z,60nm,0.8s,baz=98,slow=8.3,SNR=488							
ASAR				PcP	**PcP**	**21 27 06.3**	**-1.2**
comp=Z,4.2nm,0.8s,baz=93,slow=5.6,SNR=7.0							
ASAR				ScP	**ScP**	**21 30 22.2**	**+2.2**
comp=Z,0.8nm,0.8s,baz=136,slow=3.7,SNR=4.1							
ASAR				S	**S**	**21 31 39.2**	**-2.0**
comp=Z,2.3nm,0.7s,baz=94,slow=16,SNR=13							
WRAB	**Tennant Creek**	**44.97**	**261**	*c iP*	**P**	**21 25 32.9**	**-1.6**
WRAB				pmax	pmax		
comp=Z,68nm,1.0s							
WRAB	**Tennant Creek**	**44.97**	**261**	*eP*	**P**	**21 25 32.8**	**-1.8**
comp=Z,23nm,0.8s							
WRA	**Warramunga Arr**	**44.98**	**261**	P	**P**	**21 25 33.0**	**-1.6**
comp=Z,16nm,0.7s,baz=97,slow=8.7,SNR=208							
WRA				S	**S**	**21 31 39.4**	**-2.4**
comp=Z,0.8nm,0.8s,baz=98,slow=14,SNR=6.8							
KDU	**Kakadu**	**48.25**	**271**	P	**P**	**21 25 58.4**	**-1.3**
baz=48,SNR=11							
MTN	**Manton Dam**	**49.47**	**270**	P	**P**	**21 26 07.4**	**-1.3**
baz=50,SNR=5.0							
FORT	**Forrest**	**49.78**	**246**	P	**P**	**21 26 09.9**	**-0.9**
baz=50,SNR=28							
FORT	**Forrest**	**49.78**	**246**	*eP*	**P**	**21 26 09.8**	**-1.1**
comp=Z,108nm,0.7s							
WRKA	**Warakurna**	**49.90**	**254**	P	**P**	**21 26 11.3**	**-0.7**
baz=50,SNR=117							
KNRA	**Kununurra**	**51.00**	**266**	P	**P**	**21 26 19.1**	**-1.0**
baz=51,SNR=26							
SOEI	**Soe**	**56.79**	**271**	P	**P**	**21 27 02.3**	**+0.7**
baz=57,SNR=24							
SOEI	**Soe**	**56.79**	**271**	*eP*	**P**	**21 27 02.4**	**+0.8**
comp=Z,96nm,0.8s							
BATI	**Baumata**	**57.23**	**271**	P	**P**	**21 27 04.5**	**0.0**
comp=Z,39nm,0.7s,baz=179,slow=4.0,SNR=9.2							
MBWA	**Marble Bar**	**58.27**	**257**	*eP*	**P**	**21 27 10.5**	**-1.1**
comp=Z,48nm,0.8s							
MEEK	**Meekatharra**	**58.38**	**250**	P	**P**	**21 27 11.0**	**-1.2**
baz=59,SNR=8.3							
SBA	**Scott Base**	**58.41**	**184**	*eP*	P	21 27 15.1	+3.6
SBA				pmax	pmax		
comp=Z,68nm,1.1s							
SBA	**Scott Base**	**58.41**	**184**	*eP*	P	21 27 15.1	+3.6
comp=Z,68nm,1.1s							
VNDA	**Vanda**	**58.45**	**185**	P	**P**	**21 27 14.5**	**+2.7**
comp=Z,9.9nm,0.7s,baz=358,slow=8.0,SNR=34							
KLBR	**Kellerberrin**	**58.55**	**245**	P	**P**	**21 27 12.8**	**-0.6**
baz=59,SNR=14							
MMRI	**Maumere**	**59.04**	**272**	*eP*	**P**	**21 27 15.4**	**-1.5**
comp=Z,37nm,0.9s							
BLDU	**Ballidu**	**59.54**	**246**	P	**P**	**21 27 19.2**	**-0.9**
baz=60,SNR=28							
MORW	**Morawa**	**60.31**	**247**	P	**P**	**21 27 24.6**	**-0.6**
baz=60,SNR=3.8							
JAGI	**Jajag, Banyuwa**	**66.69**	**269**	P	**P**	**21 28 05.0**	**-1.7**
baz=67,SNR=6.3							
JAGI	**Jajag, Banyuwa**	**66.69**	**269**	*eP*	**P**	**21 28 05.0**	**-1.7**
comp=Z,30nm,0.8s							
KKM	**Kota Kinabalu**	**69.92**	**285**	*eP*	**P**	**21 28 26.2**	**-0.3**
comp=Z,10nm,0.7s							
MJAR	**Matsushiro Arr**	**69.98**	**323**	P	**P**	**21 28 24.2**	**-2.1**
comp=Z,4.6nm,0.7s,baz=160,slow=6.1,SNR=15							
MAT	**Matsushiro**	**69.98**	**323**	P	**P**	**21 28 24.7**	**-1.6**
QSPA	**South Pole Qui**	**70.08**	**180**	*eP*	**P**	**21 28 28.4**	**+1.8**
comp=Z,72nm,0.9s							
UGM	**Wanagama**	**70.28**	**269**	P	**P**	**21 28 28.1**	**-0.6**
baz=70,SNR=4.7							
UGM	**Wanagama**	**70.28**	**269**	*eP*	**P**	**21 28 27.9**	**-0.7**
comp=Z,357nm,1.7s							
ASAJ	**Asahikawa**	**73.42**	**331**	P	**P**	**21 28 46.2**	**-0.1**
comp=Z,7.6nm,0.9s,baz=192,slow=3.5,SNR=4.7							
KSM	**Kuching**	**73.64**	**278**	*eP*	**P**	**21 28 48.4**	**+0.1**
comp=Z,14nm,0.8s							
AKUT	**Akutan**	**74.52**	**7**	*eP*	**P**	**21 28 53.4**	**+1.1**
comp=Z,1μm,2.1s							
YSS	**Yuzh-Sakhalins**	**75.57**	**333**	*eP*	**P**	**21 28 58.5**	**+0.1**
PEA0	**Petropavlovsk-**	**75.85**	**345**	*eP*	**P**	**21 28 59.5**	**-0.4**
PETK	**Petropavlovsk-**	**75.85**	**345**	P	**P**	**21 28 59.9**	**-0.1**
comp=Z,8.7nm,0.6s,baz=145,slow=6.7,SNR=11							
KSRS	**Korea Array**	**76.70**	**318**	P	**P**	**21 29 05.1**	**+0.2**
comp=Z,1.1nm,0.7s,baz=116,slow=5.5,SNR=5.2							
KSAR	**Wonju Array Be**	**76.72**	**318**	P	**P**	**21 29 05.1**	**0.0**
KSAR	**Wonju Array Be**	**76.72**	**318**	P	**P**	**21 29 05.1**	**0.0**
USRK	**Ussuriysk Ar.**	**78.71**	**326**	P	**P**	**21 29 15.8**	**0.0**
comp=Z,3.5nm,0.8s,baz=156,slow=4.8,SNR=10							
SII	**Sitkinak Islan**	**78.78**	**13**	*eP*	**P**	**21 29 15.5**	**-0.4**
comp=Z,302nm,1.5s							
OHAK	**Old Harbor**	**79.58**	**13**	*eP*	**P**	**21 29 19.8**	**-0.3**
comp=Z,192nm,1.9s							
YBH	**Yreka Blue Hor**	**79.70**	**39**	*eP*	**P**	**21 29 22.7**	**+1.4**
YBH				pmax	pmax		
comp=Z,63nm,2.3s							
YBH	**Yreka Blue Hor**	**79.70**	**39**	*eP*	**P**	**21 29 22.7**	**+1.4**
comp=Z,63nm,2.3s							
WAKR	**Walker**	**79.76**	**43**	*eP*	**P**	**21 29 22.9**	**+1.1**
MDJ	**Mudanjiang**	**80.27**	**325**	P	**P**	**21 29 24.9**	**+0.8**
MDJ				PMZ			
comp=Z,10.0nm,1.1s							
MDJ				PMZ			
comp=Z,96nm,4.8s							
NV01	**Mina Array Sit**	**80.44**	**43**	*eP*	**P**	**21 29 24.9**	**-0.5**
NVAR	**Mina Array Bea**	**80.44**	**43**	P	**P**	**21 29 25.4**	**-0.1**
comp=Z,2.3nm,0.7s,baz=223,slow=8.7,SNR=8.4							
NVAR				pP	**pP**	**21 30 57.5**	**-0.4**
comp=Z,0.4nm,0.3s,baz=232,slow=8.7,SNR=2.0							
K05A	**Summer Lake**	**81.37**	**39**	*eP*	**P**	**21 29 30.3**	**+0.2**
H04A	**Detroit Lake**	**81.83**	**36**	*eP*	**P**	**21 29 32.1**	**-0.2**
comp=Z,93nm,2.5s							
PINOR	**Pine Mountain**	**82.04**	**38**	*eP*	**P**	**21 29 33.0**	**-0.2**
comp=Z,14nm,1.0s							
BMN	**Battle Mountai**	**82.27**	**42**	*eP*	**P**	**21 29 33.2**	**-1.6**
BMN				pmax	pmax		
comp=Z,4.0nm,0.8s							
BMN	**Battle Mountai**	**82.27**	**42**	*eP*	**P**	**21 29 33.2**	**-1.6**
comp=Z,4.1nm,0.8s							
TUC	**Tucson**	**82.42**	**52**	*eP*	**P**	**21 29 37.6**	**+1.9**
TUC				pmax	pmax		
comp=Z,3.0nm,0.7s							
TUC	**Tucson**	**82.42**	**52**	*eP*	**P**	**21 29 37.6**	**+1.9**
comp=Z,3.4nm,0.7s							
WVOR	**Wild Horse Val**	**82.54**	**40**	*eP*	**P**	**21 29 35.4**	**-0.7**
WVOR				pmax	pmax		
comp=Z,6.0nm,0.9s							
WVOR	**Wild Horse Val**	**82.54**	**40**	*eP*	**P**	**21 29 35.4**	**-0.7**
comp=Z,6.0nm,0.9s							
I07A	**Izee**	**82.99**	**38**	*eP*	**P**	**21 29 39.0**	**+0.7**
comp=Z,6.6nm,0.8s							
CCUT	**Cedar City**	**83.23**	**46**	*eP*	**P**	**21 29 39.6**	**-0.2**
comp=Z,60nm,2.7s							
GAMB	**Gambell**	**83.61**	**3**	*eP*	**P**	**21 29 40.7**	**-0.1**
comp=Z,72nm,0.8s							
G08A	**Pilot Rock**	**84.02**	**37**	*eP*	**P**	**21 29 44.2**	**+0.8**
LTY	**Liberty**	**84.25**	**35**	*eP*	**P**	**21 29 44.5**	**0.0**
comp=Z,72nm,2.6s							
BMO	**Blue Mountains**	**84.72**	**38**	*eP*	**P**	**21 29 46.9**	**0.0**
comp=Z,24nm,2.0s							
F10A	**Beach Ranch, E**	**85.41**	**37**	*eP*	**P**	**21 29 50.3**	**+0.1**
comp=Z,7.7nm,0.9s							
GSI	**Gunungsitoli**	**85.50**	**273**	*eP*	**P**	**21 29 49.7**	**-1.7**
comp=Z,21nm,0.8s							
TNA	**Tin City**	**85.60**	**4**	*eP*	**P**	**21 29 49.8**	**-0.7**
comp=Z,6.6nm,1.0s							
B08A	**Colville Reser**	**85.63**	**35**	*eP*	**P**	**21 29 51.1**	**-0.2**
TRF	**Thorofare Moun**	**85.88**	**12**	*eP*	**P**	**21 29 51.1**	**-1.2**
comp=Z,50nm,1.7s							
SEY	**Seymchan**	**85.94**	**347**	P	**P**	**21 29 51.5**	**-0.8**
comp=Z,9.7nm,0.8s,baz=145,slow=5.3,SNR=40							
MNTX	**Cornudas Mount**	**86.20**	**54**	*eP*	**P**	**21 29 56.9**	**+2.6**
comp=Z,61nm,3.0s							
MCK	**McKinley**	**86.40**	**12**	*eP*	**P**	**21 29 54.5**	**0.0**
MCK				pmax	pmax		
comp=Z,130nm,2.6s							
MCK	**McKinley**	**86.40**	**12**	*eP*	**P**	**21 29 54.5**	**0.0**
comp=Z,130nm,2.6s							
TXAR	**Lajitas Array**	**86.52**	**57**	P	**P**	**21 29 57.6**	**+1.6**
comp=Z,2.4nm,0.6s,baz=221,slow=6.6,SNR=28							
TXAR				pP	**pP**	**21 31 31.4**	**+1.4**
comp=Z,1.3nm,1.0s,baz=202,slow=6.2,SNR=3.0							
GYA	**Guiyang**	**86.66**	**300**	*eP*	**P**	**21 29 57.0**	**+0.2**
GYA				pP	**pP**	**21 31 30.7**	**-0.1**
GYA				sP	**sP**	**21 32 12.6**	**-0.8**
GYA				PP	**PP**	**21 33 27.4**	**+1.2**
GYA				S	**S**	**21 39 57.2**	**-1.6**
GYA				PMZ			
comp=Z,10.0nm,0.8s							
GYA				PMZ			
comp=Z,90nm,5.4s							
ANMO	**Albuquerque**	**86.84**	**51⇓**	*eP*	**P**	**21 30 00.0**	**+2.5**
ANMO				pmax	pmax		
comp=Z,9.0nm,1.2s							
ANMO	**Albuquerque**	**86.84**	**51**	P	**P**	**21 29 58.1**	**+0.6**
comp=Z,1.6nm,0.7s,baz=215,slow=6.9,SNR=4.5							
SYO	**Syowa Base**	**87.30**	**193⇓**	*epP*	pP	21 31 35.0	+2.1
MCMT	**McKenzie Canyo**	**87.36**	**40**	*eP*	**P**	**21 29 59.2**	**-0.6**
DOT	**Dot Lake**	**87.39**	**14**	*eP*	**P**	**21 29 59.4**	**+0.2**
comp=Z,27nm,1.5s							
DLBC	**Dease Lake**	**87.46**	**23**	P	**P**	**21 29 58.8**	**-0.9**
comp=Z,2.8nm,0.8s,baz=172,slow=9.8,SNR=4.3							
IM04	**Indian Mountai**	**87.58**	**10**	*eP*	**P**	**21 29 59.8**	**-0.3**
COLA	**College**	**87.64**	**12**	*d iP*	**P**	**21 29 59.8**	**-0.5**
COLA				*i* *PP	**pP**	**21 31 33.9**	**-0.7**
COLA				pmax	pmax		
comp=Z,53nm,0.7s							
COLA	**College**	**87.64**	**12**	*eP*	**P**	**21 29 59.4**	**-0.9**
comp=Z,15nm,0.7s							
ILAR	**Eielson Array**	**87.74**	**13**	P	**P**	**21 29 59.5**	**-1.4**
comp=Z,3.4nm,0.8s,baz=227,slow=4.5,SNR=36							
ILAR				pP	**pP**	**21 31 34.0**	**-1.1**
comp=Z,5.8nm,1.1s,baz=222,slow=5.6,SNR=10							
ILAR				PP	**PP**	**21 33 36.2**	**+2.4**
comp=Z,1.3nm,0.9s,baz=221,slow=7.2,SNR=5.7							
ILB	**Eielson Array**	**87.74**	**13**	*eP*	**P**	**21 30 00.2**	**-0.6**
IL1	**Eielson Array**	**87.75**	**13**	*eP*	**P**	**21 30 00.5**	**-0.4**
REDW	**Red Top Meadow**	**87.85**	**42**	*eP*	**P**	**21 30 02.7**	**+0.6**
comp=Z,26nm,1.8s							
LRM	**Limekiln Ridge**	**88.12**	**39**	*eP*	**P**	**21 30 03.6**	**+0.3**
CHMT	**Chamberlain Mo**	**88.22**	**38**	*eP*	**P**	**21 30 03.5**	**-0.2**
QLMT	**Earthquake Lak**	**88.23**	**41**	*eP*	**P**	**21 30 05.1**	**+1.2**
PDAR	**Pinedale Array**	**88.38**	**43**	P	**P**	**21 30 04.3**	**-0.3**
comp=Z,1.1nm,0.6s,baz=208,slow=2.4,SNR=9.4							
SNAA	**Sanae**	**88.52**	**178**	P	**P**	**21 30 05.0**	**+0.4**
SNAA	**Sanae**	**88.52**	**178**	*eP*	**P**	**21 30 04.6**	**0.0**
SNAA				pmax	pmax		
comp=Z,246nm,3.0s							
SNAA	**Sanae**	**88.52**	**178**	*eP*	**P**	**21 30 04.6**	**0.0**
comp=Z,246nm,3.0s							
BILL	**Bilibino**	**88.56**	**354⇓**	*eP*	**P**	**21 30 05.2**	**+0.7**
BILL				pmax	pmax		
comp=Z,6.0nm,1.0s							
VNA3	**Neumayer Olymp**	**88.64**	**176**	P	**P**	**21 30 05.8**	**+0.6**
DAWY	**Dawson**	**88.88**	**16**	*eP*	**P**	**21 30 06.5**	**+0.3**
comp=Z,49nm,1.9s							
EGAK	**Eagle**	**89.03**	**15**	*eP*	**P**	**21 30 07.2**	**+0.4**
comp=Z,9.2nm,0.9s							
VNA2	**Neumayer--Watz**	**89.08**	**177**	P	**P**	**21 30 08.2**	**+1.0**
VNA1	**Neumayer--Stat**	**89.31**	**176**	P	**P**	**21 30 09.1**	**+0.9**
COLD	**Coldfoot**	**89.32**	**10**	*eP*	**P**	**21 30 08.4**	**+0.3**
comp=Z,5.0nm,0.8s							
CM01	**Chiang Mai Arr**	**90.20**	**289**	*eP*	**P**	**21 30 14.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**90.23**	**289**	*ceP*	**P**	**21 30 14.8**	**+1.3**
CMAR				pmax	pmax		
comp=Z,3.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**90.23**	**289**	P	**P**	**21 30 13.9**	**+0.5**
comp=Z,3.2nm,0.9s,baz=124,slow=3.0,SNR=18							
CMAR				PKKPbc	**PKKPbc**	**21 47 41.1**	**+0.5**
comp=Z,0.5nm,1.0s,baz=280,slow=4.4,SNR=4.2							
CHTO	**Chiang Mai**	**90.36**	**290**	*eP*	**P**	**21 30 14.6**	**+0.5**
CHTO				pmax	pmax		
comp=Z,4.0nm,0.8s							
CHTO	**Chiang Mai**	**90.36**	**290**	*eP*	**P**	**21 30 14.6**	**+0.5**
comp=Z,4.1nm,0.8s							
EFI	**East Falkland**	**91.35**	**147**	*eP*	**P**	**21 30 18.7**	**+0.7**
EFI				pmax	pmax		
comp=Z,147nm,1.9s							
EFI	**East Falkland**	**91.35**	**147**	*eP*	**P**	**21 30 18.7**	**+0.7**
comp=Z,147nm,1.9s							
YAK	**Yakutsk**	**91.75**	**338**	*eP*	**P**	**21 30 19.3**	**-0.1**
LZH	**Lanzhou**	**92.70**	**307**	*eP*	**P**	**21 30 25.2**	**+0.5**
LZH				pP	**pP**	**21 32 01.0**	**+1.4**
LZH				sP	**sP**	**21 32 43.3**	**+1.4**
LZH				PMZ			
comp=Z,14nm,1.0s							
ULN	**Ulaanbaatar**	**95.17**	**319⇑**	*eP*	**P**	**21 30 36.1**	**+0.4**
ULN				pmax	pmax		
comp=Z,5.0nm,2.0s							
YKA	**Yellowknife Ar**	**95.92**	**25**	P	**P**	**21 30 38.0**	**-0.5**
YKA	**Yellowknife Ar**	**95.92**	**25**	P	**P**	**21 30 37.9**	**-0.5**
comp=Z,0.8nm,0.8s,baz=244,slow=4.5,SNR=10							
YKA				PKKPbc	**PKKPbc**	**21 47 25.0**	**-2.8**
comp=Z,0.2nm,0.4s,baz=36,slow=2.4,SNR=5.1							
ZALV	**Zalesovo Beam**	**110.28**	**321**	PKiKP	**PKiKP**	**21 35 39.6**	**-1.8**
comp=Z,0.6nm,0.5s,baz=120,slow=1.8,SNR=3.7							
MKAR	**Makanchi Array**	**111.06**	**314**	PKiKP	**PKiKP**	**21 35 41.9**	**-1.2**
comp=Z,0.6nm,0.6s,baz=76,slow=0.3,SNR=13							
MKAR				PP	**PP**	**21 36 30.6**	**+1.0**
comp=Z,0.2nm,0.8s,baz=88,slow=6.3,SNR=3.5							
KSH	**Kashi**	**114.84**	**305**	*e*PKP	PKPdf	21 35 51.1	+0.4
KSH				PP	**PP**	**21 36 58.6**	**+2.0**
KSH				PKS	**PKSdf**	**21 39 27.0**	**-0.5**
KSH				SKS	**SKSdf**	**21 42 22.4**	**-0.8**
KSH				SKKS	**SKKSac**	**21 43 11.8**	**-2.7**
KSH				SS	**SS**	**21 52 23.6**	**+4.1**
KSH				PPMZ			
comp=Z,110nm,4.5s							
BDFB	**Brasilia**	**119.17**	**122**	PKP	**PKPdf**	**21 35 59.9**	**+0.1**
comp=Z,0.8nm,0.3s,baz=20,slow=11,SNR=3.1							
KBL	**Kabul**	**119.91**	**299**	*e*PKiKP	**PKPdf**	**21 36 00.9**	**+0.2**
KBL	**Kabul**	**119.91**	**299**	*e*PKPdf	**PKPdf**	**21 36 00.9**	**+0.2**
SFJD	**Kangerlussuaq**	**122.35**	**22**	*e*PKiKP	**PKPdf**	**21 36 03.9**	**-0.2**
SFJD	**Kangerlussuaq**	**122.35**	**22**	*e*PKPdf	**PKPdf**	**21 36 03.9**	**-0.2**
ARU	**Arti**	**124.95**	**326**	*e*PKiKP	**PKPdf**	**21 36 09.4**	**0.0**
ARU	**Arti**	**124.95**	**326**	*e*PKPdf	**PKPdf**	**21 36 09.4**	**0.0**
SUR	**Sutherland**	**125.01**	**199**	PKP	**PKPdf**	**21 36 10.7**	**0.0**
comp=Z,3.3nm,0.8s,baz=168,slow=9.3,SNR=5.0							
SUR	**Sutherland**	**125.01**	**199**	*e*PKPdf	**PKPdf**	**21 36 11.4**	**+0.7**
BOSA	**Boshof**	**126.85**	**205**	PKP	**PKPdf**	**21 36 14.0**	**-0.2**
comp=Z,6.6nm,1.1s,baz=123,slow=8.5,SNR=3.8							
ARA0	**ARCESS Array S**	**128.47**	**350**	*e*PKPdf	**PKPdf**	**21 36 15.7**	**-0.1**
ARCES	**ARCESS Array B**	**128.47**	**350**	PKP	**PKPdf**	**21 36 15.8**	**0.0**
comp=Z,1.1nm,0.4s,baz=82,slow=1.1,SNR=12							
GEYT	**Alibeck**	**128.76**	**303**	PKP	**PKPdf**	**21 36 17.0**	**-0.4**
comp=Z,1.0nm,0.5s,baz=235,slow=5.1,SNR=3.6							
GEYT				SKPbc	SKiKP	21 38 59.3	-15
comp=Z,1.2nm,0.8s,baz=300,slow=12,SNR=4.0							
LBTB	**Lobatse**	**129.87**	**208**	PKP	**PKPdf**	**21 36 20.4**	**+0.4**
comp=Z,1.6nm,0.6s,baz=207,slow=2.6,SNR=4.7							
FINES	**FINESS Array B**	**135.36**	**344**	PKiKP

KRLC	Kraliky	147.84 342	⇑ePKP	PKPbc	21 36 55.1	0.0
KRLC			ePKPAB	PKPab	21 36 59.6	+0.7
DOPR	Dopca	147.89 329	⇑iP	PKPbc	21 36 55.9	+0.6
FBE	Freiberg	147.92 347	ePKPab	PKPab	21 36 59.2	+0.1
MLR	Muntele Rosu	147.95 328	⇓PKP2	PKPbc	21 36 56.5	+0.9
MLR	Muntele Rosu	147.95 328	⇓iP	PKPbc	21 36 56.5	+0.9
NEUB	Neuenburg	147.96 349	ePKPab	PKPab	21 36 58.9	-0.3
PVCC	Panska Ves	148.01 345	ePKP2	PKPab	21 36 57.9	-1.6
PVCC	Panska Ves	148.01 345	ePKPAB	PKPab	21 36 57.9	-1.6
VOIR		148.43 329	⇑PKP2	PKPbc	21 36 57.0	+0.2
VOIR		148.43 329	⇑iP	PKPbc	21 36 57.0	+0.2
PRA	Prague	148.47 345	⇑PKP	PKPbc	21 36 57.0	+0.4
PRA			PKPAB	PKPab	21 37 02.0	+0.7
DRGR		148.49 333	⇑PKHKP	PKPbc	21 36 54.8	-2.1
DRGR		148.49 333	⇑iP	PKPbc	21 36 54.8	-2.1
PRU	Pruhonice	148.52 345	ePKP2	PKPbc	21 36 57.0	+0.3
PRU	Pruhonice	148.52 345	⇑ePKP	PKPbc	21 36 57.0	+0.3
PRU			ePKPAB	PKPab	21 37 01.7	+0.1
PRU			ex	x	21 38 42.3	
WERD	Werda	148.59 348	ePKPab	PKPab	21 37 01.9	0.0
VRAC	Vranov	148.59 342	⇑PKP2	PKPbc	21 36 57.2	+0.3
VRAC	Vranov	148.59 342	⇑iP	PKPbc	21 36 57.2	+0.3
VYHS	Vyhne	148.59 339	ePKP2	PKPbc	21 36 56.9	-0.1
VYHS	Vyhne	148.59 339	ePKP	PKPbc	21 36 56.9	-0.1
GUNZ	Gunzen	148.66 348	ePKPab	PKPab	21 37 02.1	-0.1
WERN	Wernitzgruen	148.72 348	ePKPab	PKPab	21 37 02.4	-0.1
CSS	Prodhromos	148.86 305	ePKPbc	PKPbc	21 36 57.3	-0.8
GRF	Grafenberg Arr	149.52 349	ePKPab	PKPab	21 37 05.8	+0.1
BCLA	Clavier	149.54 356	PKPab	PKPab	21 37 05.5	-0.2
KHC	Kasperske Hory	149.55 345	ePKPDF	PKPdf	21 36 54.5	+0.2
KHC			⇑ePKP	PKPbc	21 36 59.8	+0.4
KHC			ePKPAB	PKPab	21 37 06.6	+0.7
KHC			epPKP	pPKPdf	21 38 43.8	+8.9
KHC	Kasperske Hory	149.55 345	ePKPbc	PKPbc	21 36 59.8	+0.4
KHC			ePKPab	PKPab	21 37 06.7	+0.8
GERES	GERESS Array B	149.78 345	PKPbc	PKPbc	21 36 59.5	-0.5
	comp=Z,1.5nm,0.6s,baz=180,slow=2.7,SNR=4.0					
GERES			PKPab	PKPab	21 37 05.9	-1.0
	comp=Z,2.5nm,1.0s,baz=20,slow=4.3,SNR=6.9					
BZS	Buzias	149.89 332	⇑iP	PKPbc	21 36 58.5	-1.7
DOU	Dourbes	149.90 357	PKPbc	PKPbc	21 37 00.3	+0.3
CONA	Conrad Observa	150.04 342	⇓iPKIKP	PKiKP	21 37 01.0	-0.2
	comp=Z,5.8nm,0.7s					
CONA			⇑iPKPab	PKPab	21 37 09.4	+1.3
	comp=Z,7.2nm,0.8s					
PKSM	Moragy	150.60 337	⇑PKIKP	PKPdf	21 36 58.4	+2.4
PKSM	Moragy	150.60 337	⇑iP	PKPdf	21 36 58.4	+2.4
KDZ	Kurdzhali	150.84 323	⇑PKIKP	PKPbc	21 37 02.1	-0.5
KDZ	Kurdzhali	150.84 323	⇑iP	PKPbc	21 37 02.1	-0.5
MMB	Musomiste	151.82 325	⇑PKIKP	PKPbc	21 37 03.0	-1.9
MMB	Musomiste	151.82 325	⇑iP	PKPbc	21 37 03.0	-1.9
ABTA	Abfaltersbach	152.03 345	⇑iPKPbc	PKPbc	21 37 04.4	-0.8
	comp=Z,5.1nm,0.8s					
ABTA			⇑iPKPab	PKPab	21 37 15.8	-0.7
	comp=Z,14nm,1.3s					
FUORN	Ofenpass-Fuorn	152.65 348	ePKPbc	PKPbc	21 37 07.4	+0.6
FUORN			ePKPab	PKPab	21 37 19.9	+0.6
ES19	SONSECA Array	159.63 14	ePKPab	PKPab	21 37 49.5	+0.2
ESDC	Sonseca Array	159.64 14	PKPab	PKPab	21 37 48.2	-1.1
	comp=Z,0.9nm,0.8s,baz=342,slow=3.8,SNR=6.3					
KEST	Kesra	163.14 340	PKPab	PKPab	21 38 03.2	-1.6
	comp=Z,1.6nm,0.8s,baz=305,slow=5.0,SNR=4.1					
LIC	Lamto	164.57 151	ePP	PKPdf	21 37 11.0	-3.0
	comp=Z,116nm,1.8s					
KIC	Kosan Boka	164.82 152	ePP	PKPdf	21 37 13.5	-0.7
	comp=Z,23nm,0.9s					
TIC	Toumodi	164.95 151	ePP	PKPdf	21 37 13.5	-0.8
	comp=Z,3.7nm,0.2s					
DBIC	Dimbokro	165.04 151	ePKIKP	PKPdf	21 37 13.6	-0.8
DBIC			e		21 38 15.5	
DBIC	Dimbokro	165.04 151	PKP	PKPdf	21 37 13.2	-1.1
	comp=Z,5.7nm,0.8s,baz=234,slow=0.6,SNR=6.8					
DBIC			PKPab	PKPab	21 38 14.2	+0.6
	comp=Z,2.5nm,0.6s,baz=144,slow=4.7,SNR=5.4					
DBIC	Dimbokro	165.04 151	ePKPdf	PKPdf	21 37 13.6	-0.8
DBIC			ePKPab	PKPab	21 38 15.5	+2.0
TORD	Torodi Ar. Bea	173.18 175	PKP	PKPdf	21 37 18.1	-1.3
	comp=Z,6.1nm,0.9s,baz=231,slow=0.8,SNR=27					
TORD			PKPab	PKPab	21 38 49.5	+0.1
	comp=Z,3.3nm,0.8s,baz=182,slow=3.9,SNR=21					
TORD			PP	PP	21 42 40.2	+0.1
	comp=Z,2.9nm,1.1s,baz=184,slow=3.8,SNR=8.5					

*ISCJB **04** 21:24:47.6±0.7, 39°.06N±0°.03×26°.73E±0°.06, h11km, Error ellipse: s-maj=7.5km s-min=4.3km az=18.3*
*ISK **04** 21:24:47.3, 39°.07N×26°.70E, h14km, MD2.7*
*CSEM **04** 21:24:47.7±0.2, 39°.08N×26°.70E, h15km, MD2.7, Error ellipse: s-maj=7.0km s-min=3.7km az=114.0*

ISC 04 21:24:47.9±0.9, 39°.06N±0°.03×26°.73E±0°.05, h11km, n12, σ0§44/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	Ayvalik	0.25	353	iP	Pg	21 24 53.2	0.0
AYVA				iS	Sg	21 24 57.2	+0.5
AYVA	Ayvalik	0.25	353	iP	Pg	21 24 53.2	0.0
AYVA				iS	Sg	21 24 57.2	+0.5
BLCB	Balcova	0.71	160	ePG	Pg	21 25 01.8	+0.1
BLCB				eSG	Sb	21 25 12.6	+0.5
BLCB	Balcova	0.71	160	ePg	Pg	21 25 01.8	+0.1
BLCB				eSg	Sb	21 25 12.6	+0.5
CHOS	Chios island	0.85	219	ePG	Pg	21 25 04.1	-0.2
CHOS				eSG	Sb	21 25 16.6	+0.4
CHOS	Chios island	0.85	219	ePg	Pg	21 25 04.1	-0.2
CHOS				eSg	Sb	21 25 16.6	+0.4
BALB	Balikesir	1.06	56	ePG	Pb	21 25 08.1	-0.2
BALB				eSG	Sn	21 25 23.9	+0.3
BALB	Balikesir	1.06	56	ePg	Pb	21 25 08.1	-0.2
BALB				eSg	Sn	21 25 23.9	+0.3
KRBG	Karabiga-Canak	1.41	18	ePN	Pn	21 25 13.2	-0.3
KRBG	Karabiga-Canak	1.41	18	ePn	Pn	21 25 13.2	-0.3
KCTX	Karacabey (Bur	1.74	46	ePN	Pn	21 25 17.3	-0.8
KCTX	Karacabey (Bur	1.74	46	ePn	Pn	21 25 17.3	-0.8

JMA 04 21:49:10.9±0.1, 32°.93N×140°.80E, h48km, M3.2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.85	283	P	Pn	21 49 26.7	+0.2
JHJ2				S	Sn	21 49 38.3	+0.4
JHCJ	Hachijojimakas	0.85	280	P	Pn	21 49 26.5	-0.1
JHCJ				S	Sn	21 49 37.6	-0.5
BSO1	Boso 1	1.73	5	P	Pn	21 49 39.2	+1.4
BSO3	Boso 3	1.88	353	P	Pn	21 49 41.5	+1.2
BSO3				eS	Sn	21 50 05.0	+2.4
JIM2	Oshima 3	2.12	328	P	Pn	21 49 44.9	+1.0
JIZS	Izushimoda	2.40	319	P	Pn	21 49 48.8	+1.2
JOD2	Odawara 2	2.73	329	P	Pn	21 49 53.1	+0.9
TK02	Tokai 2	2.74	293	P	Pn	21 49 53.5	+1.4
JHU	Hanno	3.17	337	P	Pn	21 49 59.4	+1.1

*NIED **04** 21:49:00, 33°.90N×139°.40E, h17km, Mw4.3 Best double couple: M0:3.16000×10^15 NP1:φ=209.00000°, δ85.00000°, λ4.00000°. NP2:φ=119.00000°, δ86.00000°, λ175.00000°.*
*ISCJB **04** 21:49:52.9±0.7, 33°.76N±0°.03×139°.45E±0°.06, h9km±4km, mb3.9/23, MS3.3/5, Error ellipse: s-maj=7.9km s-min=4.1km az=167.2*
*IDC **04** 21:49:53.1±0.6, 33°.70N×139°.59E, h0km, mb3.9/16, mb1 4.1/21, mb1mx4.0/31, mbtmp3.9/21, ML4.6/3, MS3.3/7, Ms1 3.3/7, ms1mx3.1/38, Error ellipse: s-maj=20.0km s-min=14.1km az=75.0*
*NEIC **04** 21:49:56.0±2.3, 33°.84N×139°.52E, h18km±15km, mb4.2/5, Error ellipse: s-maj=9.6km s-min=7.1km az=81.0*
NEIC Recorded [2 JMA] on Miyake-jima, Nii-jima and Shikine-jima and [1 JMA] on Mikura-jima. Also recorded [1 JMA] in Shizuoka, Honshu.
*JMA **04** 21:49:56.2, 33°.93N×139°.42E, h21km±1km, M4.6 Broadband fault plane solution: P waves. NP1: φ=300.00000°, δ79.00000°, λ-152.00000°. NP2: φ=204.00000°, δ62.00000°, λ-13.00000°. Principal axes: T Plg11.0000°, Azm69.0000°; N Plg60.0000°, Azm320.0000°; P Plg28.0000°, Azm165.0000°;*
JMA Felt II J1.

ISC 04 21:49:55.7±0.9, 33°.88N±0°.03×139°.41E±0°.05, h15km±6km, n57, σ1§47/52, mb4.0/23, MS3.3/5, 6D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMY	Miyakejima3	0.21	24	⇓P	Pg	21 50 00.8	+0.2
JMY				S	Sg	21 50 03.9	0.0
JKO	Kozu shima	0.38	324	P	Pg	21 50 03.6	+0.2
JKO				S	Sg	21 50 08.8	+0.1
JNIO	Niijimaoohara	0.49	347	P	Pg	21 50 05.2	-0.2
JHJ2	Mitsune	0.84	156	⇓P	Pb	21 50 12.4	+0.5
JHJ2	Mitsune	0.84	156	ePg	Pb	21 50 12.3	+0.4
JHJ2				eSg	Sb	21 50 17.9	-5.0
JIM2	Oshima 3	0.84	1	⇓P	Pb	21 50 11.0	-0.9
JIM2				S	Sb	21 50 22.1	-0.9
JHCJ	Hachijojimakas	0.87	158	⇓P	Pb	21 50 12.6	+0.2
JHCJ				S	Sg	21 50 25.0	+1.1
JIZS	Izushimoda	0.95	333	⇓P	Pb	21 50 12.6	-1.2
JIZS				S	Sb	21 50 24.7	-1.4
KTJJ	Kamata 2	1.08	345	⇓P	Pb	21 50 13.7	-2.4
I30JP	ISUMI INFRASON	1.61	27	Sn	Sb	21 50 45.0	-0.2
MJAR	Matsushiro Arr	2.83	340	Pn	Pn	21 50 41.2	+0.8
	32nm,0.3s,baz=161,slow=14,SNR=96						
MJAR				Sn	Sb	21 51 19.8	-0.7
	33nm,0.3s,baz=29,slow=18,SNR=17						
MJAR				LR	LR	21 51 32.1	
	comp=Z,195nm,19.4s,baz=140,slow=33						
MAJO	Matsushiro	2.83	340	ePn	Pn	21 50 41.4	+1.0
MAJO				eSn	Sb	21 51 20.1	-0.4
MAT	Matsushiro	2.83	340	P	Pn	21 50 41.5	+1.1
MAT				S	Sb	21 51 19.0	-1.5
JNU	Nakatsue	7.17	266	Pn	Pn	21 51 40.9	+1.0
	15nm,0.3s,baz=40,slow=5.2,SNR=132						
JNU	Nakatsue	7.17	266	ePn	Pn	21 51 40.7	+0.7
JNU				eSn	Sn	21 52 59.4	-1.7
CBIJ	Chichi jima	7.17	160	ePn	Pn	21 51 38.0	-2.0
JCJ	Chichijima	7.17	160	Pn	Pn	21 51 36.9	-3.1
	7.2nm,0.3s,baz=273,slow=17,SNR=5.4						
ERM	Erimo	8.64	19	ePn	Pn	21 51 59.7	-0.4
KSRS	Korea Array	10.00	294	Pn	Pn	21 52 21.3	+2.6
	0.2nm,0.3s,baz=107,slow=16,SNR=3.2						
KSRS				LR	LR	21 56 11.8	
	comp=Z,225nm,19.2s,baz=104,slow=37						
KSAR	Wonju Array Be	10.03	294	Pn	Pn	21 52 21.3	+2.2
ASAJ	Asahikawa	10.52	13	Pn	Pn	21 52 23.7	-2.1
	1.2nm,0.3s,baz=227,slow=9.8,SNR=10						
USRK	Ussuriysk Ar.	11.80	333	Pn	Pn	21 52 46.6	+3.2
	0.0nm,0.3s,baz=211,slow=39,SNR=3.3						
JOW	Kunigami	11.90	237	ePn	Pn	21 52 46.7	+1.9
PETK	Petropavlovsk-	23.23	29	LR	LR	22 04 31.4	
	comp=Z,44nm,18.7s,baz=190,slow=38						
H11N2	WAKE ISLAND Hy 28.18 113			T	T	22 24 44.8	
	baz=306,slow=75,SNR=79						
H11N1	WAKE ISLAND Hy 28.19 113			T	T	22 24 46.9	
	baz=306,slow=75,SNR=76						
H11N3	WAKE ISLAND Hy 28.20 113			T	T	22 24 47.1	
	baz=306,slow=75,SNR=68						
SONM	Songino Array	28.35	309	P	P	21 55 52.6	+3.5
	0.5nm,0.8s,baz=116,slow=8.5,SNR=4.6						
H11S3	WAKE ISLAND Hy 28.76 115			T	T	22 25 34.2	
	baz=263,slow=74,SNR=9.2						
H11S1	WAKE ISLAND Hy 28.76 115			T	T	22 26 17.6	
	SNR=9.8						
H11S2	WAKE ISLAND Hy 28.77 115			T	T	22 25 34.0	
	baz=306,slow=74,SNR=9.6						
CMAR	Chiang Mai Arr	39.16	257	P	P	21 57 23.1	+0.1
	0.3nm,0.5s,baz=53,slow=7.9,SNR=3.1						
CMAR				LR	LR	22 14 00.9	
	comp=Z,43nm,19.1s,baz=182,slow=37						
ZALV	Zalesovo Beam	42.91	315	P	P	21 57 55.2	+1.8
	0.6nm,0.5s,baz=90,slow=10,SNR=3.2						
MKAR	Makanchi Array	44.48	305	P	P	21 58 07.0	+0.8
	1.1nm,0.8s,baz=86,slow=9.4,SNR=12						
MKAR				LR	LR	22 19 30.5	
	comp=Z,35nm,19.2s,baz=70,slow=40						
KURK	Kurchatov	46.65	310	eP	P	21 58 23.5	+0.2
	1.4nm,0.8s						
ILAR	Eielson Array	53.03	31	P	P	21 59 11.2	-0.5
	1.9nm,0.9s,baz=269,slow=6.3,SNR=15						
KKAR	Karatay Array	53.33	302	eP	P	21 59 12.8	-1.4
	1.5nm,0.6s						
WRA	Warramunga Arr	53.74	186	P	P	21 59 15.6	-1.7
	0.9nm,0.5s,baz=2.2,slow=7.7,SNR=27						
ASAR	Alice Springs	57.47	186	P	P	21 59 42.4	-1.7
	0.3nm,0.4s,baz=355,slow=5.8,SNR=9.7						
ABKAR	Akbulak array	58.75	311	eP	P	21 59 52.3	-0.5
	1.3nm,0.6s						
GEYT	Alibeck	63.94	300	LR	LR	22 31 18.8	
	comp=Z,38nm,18.2s,baz=315,slow=39						
STKA	Stephens Creek	65.44	178	P	P	22 00 36.6	-1.2
	1.2nm,0.3s,baz=69,slow=2.9,SNR=3.2						
ARCES	ARCESS Array B	66.37	339	LR	LR	22 35 27.0	
	comp=Z,22nm,18.3s,baz=357,slow=41						
YKA	Yellowknife Ar	67.35	29	P	P	22 00 50.3	+0.5
	0.3nm,0.5s,baz=300,slow=6.5,SNR=6.3						
DAG	Danmarks Havn	68.76	355	iP	P	22 01 03.2	+4.8
	1.3nm,1.0s						
FINES	FINESS Array B	70.84	332	P	P	22 01 11.4	0.0
	1.1nm,0.7s,baz=93,slow=4.2,SNR=6.0						
JTMT	Jette	75.42	42	eP	P	22 01 38.9	0.0
	1.6nm,0.8s						
AKASG	Malin Array Be	75.78	322	P	P	22 01 41.1	+0.3
	0.4nm,0.4s,baz=50,slow=7.4,SNR=3.1						
NB2	NORSAR Subarra	76.45	337	P	P	22 01 49.2	+4.8
	comp=Z,0.8nm,0.7s,baz=41,slow=5.6						
NOA	NORSAR Array B	76.45	337	P	P	22 01 46.4	+2.0
	comp=Z,1.4nm,0.9s,baz=42,slow=5.7,SNR=4.2						
LRM	Limekiln Ridge	77.56	43	eP	P	22 01 51.6	+0.4
	comp=Z,34nm,0.8s						
H17A	Grant Village	79.47	43	eP	P	22 02 04.8	+3.0
	comp=Z,4.3nm,1.0s						
BRTR	Keskin Array B	79.70	311	P	P	22 02 06.2	+3.2
	comp=Z,1.7nm,1.0s,baz=80,slow=2.9,SNR=4.8						
PDAR	Pinedale Array	81.06	44	P	P	22 02 10.8	+0.4
	comp=Z,1.3nm,1.1s,baz=336,slow=2.0,SNR=3.4						
GERES	GERESS Array B	84.50	327	P	P	22 02 30.1	+2.1
	comp=Z,0.9nm,0.8s,baz=61,slow=10,SNR=4.5						
TXAR	Lajitas Array	93.36	51	P	P	22 03 11.6	+1.0
	comp=Z,0.9nm,0.8s,baz=298,slow=2.7,SNR=4.4						
TORD	Torodi Ar. Bea	118.30	312	PKP	PKPdf	22 08 42.6	-0.4
	comp=Z,0.4nm,0.8s,baz=17,slow=0.9,SNR=5.6						

DDA 04 21:53:30.1, 37°.59N×36°.38E, h1km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	Andirin	0.03	253	iP	Pg	21 53 30.5	-0.3
ANDN				iS	Sg	21 53 32.0	+0.7
KUZU	Kuzuini	0.98	145	iP	Pn	21 53 51.2	+0.1
KUZU				iS	Sn	21 54 06.7	+1.0

IDC 04 22:05:34.3±4.5, 38°.90S×74°.09W, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.6/30, mbtmp3.6/3, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/25, Error ellipse: s-maj=102.4km s-min=22.5km az=52.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.28	125	Pn	Pn	22 06 29.2	+2.1
	1.5nm,0.3s,baz=307,slow=10,SNR=9.4						
PLCA				Lg	Lg	22 07 17.8	
	12nm,0.3s,baz=217,slow=23,SNR=6.0						
PLCA				LR	LR	22 07 55.0	
	comp=Z,211nm,18.8s,baz=271,slow=43						
LPAZ	La Paz	23.12	15	P	P	22 10 43.5	+0.7
	1.4nm,0.9s,baz=195,slow=9.7,SNR=3.9						
TORD	Torodi Ar. Bea	87.40	71	P	P	22 18 22.6	-1.1
	0.4nm,0.7s,baz=226,slow=4.3,SNR=5.3						

IDC 04 22:07:01.4±1.9, 10°.80S×77°.73W, h85km±22km, mb3.1/2, mb1 3.5/4, mb1mx3.2/38, mbtmp3.5/4, Error ellipse: s-maj=72.8km s-min=9.9km az=69.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.47	143	P	Pn	22 07 25.4	-1.2
	baz=323,slow=13,SNR=1.6						
NNA				S	Sn	22 07 45.6	0.0
	94nm,0.3s,baz=186,slow=19,SNR=2.9						
ATAH	Atahualpa	3.70	350	P	Pn	22 07 55.3	-1.6
	41nm,0.3s,baz=122,slow=1.1,SNR=86						
ATAH				S	Sn	22 08 40.5	+0.7
	6.8nm,0.3s,baz=153,slow=23,SNR=4.8						
LPAZ	La Paz	10.81	121	P	Pn	22 09 35.2	+1.2
	0.1nm,0.3s,baz=312,slow=13,SNR=1.7						
TXAR	Lajitas Array	47.10	329	P	P	22 15 26.6	+1.5
	0.3nm,0.7s,baz=142,slow=10,SNR=3.4						
YKA	Yellowknife Ar	78.46	343	P	P	22 18 51.2	-1.5
	0.2nm,0.5s,baz=138,slow=6.6,SNR=4.4						

*ISCJB **04** 22:09:09.3±0.2, 4°.83N±0°.03×75°.41W±0°.03, h122km, mb4.7/59, Error ellipse: s-maj=4.8km s-min=3.9km az=7.4*
*IDC **04** 22:09:11.7±0.5, 4°.74N×75°.48W, h137km±3km, mb3.9/21, mb1 4.1/23, mb1mx4.0/37, mbtmp4.3/23, MS3.3/6, Ms1 3.3/6, ms1mx3.1/44, Error ellipse: s-maj=11.7km s-min=7.8km az=38.0*
*BJI **04** 22:09:11.1, 4°.90N×75°.50W, h130km, mB5.1/2*
*NEIC **04** 22:09:13.1, 4°.89N×75°.49W, h131km, mb4.9/47, After RSNC.*
NEIC Felt [III] at Pereira and [II] at Medellin. Also felt at Armenia, Bello, Bogota, Cali, Cartago, Dos Quebradas, Envigado, Manizales, Quimbaya, Riosucio, San Agustin and Supia.

ISC 04 22:09:10.4±0.3, 4°.87N±0°.04×75°.46W±0°.05, h122km, n133, σ1§60/147, mb4.7/60, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLC	Tolima	0.30	157	eP	Pn	22 09 31.8	+3.8
ROSC	El Rosal	1.12	91	P	Pn	22 09 38.3	+4.0
	2μm,0.3s,baz=296,slow=4.9,SNR=1615						
ROSC				S	Sn	22 09 57.0	+4.7
	337nm,0.3s,baz=276,slow=17,SNR=14						
ROSC	El Rosal	1.12	91	ePn	Pn	22 09 38.3	+4.0
ROSC				eSn	Sn	22 09 55.0	+2.7
HELC	Santa Helena	1.36	356	eP	Pn	22 09 37.8	+1.0
CHIC	Chingaza	1.74	98	eP	Pn	22 09 44.5	+3.4
RUSC	La Rusia	2.59	66	eP	Pn	22 09 54.4	+2.5
RUSC				eS	Sn	22 10 25.3	+1.6
OTAV	Otavalo	5.49	213	ePn	Pn	22 10 31.6	+1.2
OTAV				eSn	Sn	22 11 34.6	+2.0
BCIP	Isla Barro Col	6.09	315	ePn	Pn	22 10 39.6	+1.5
BCIP				eSn	Sn	22 11 46.3	-0.3
SDV	Santo Domingo	6.23	50	ePn	Pn	22 10 40.5	+0.3
SDV				eSn	Sn	22 11 48.4	-2.0
JTS	JuntasAbangare	10.84	300	P	Pn	22 11 45.2	+2.9
	0.2nm,0.3s,baz=258,slow=20,SNR=1.8						
JTS				LR	LR	22 15 47.5	
	comp=Z,219nm,20.0s,baz=65,slow=36						
ATAH	Atahualpa	12.28	194	P	Pn	22 12 02.2	+0.5
	0.7nm,0.3s,baz=342,slow=7.8,SNR=2.7						
ATAH				LR	LR	22 17 14.3	
	comp=Z,121nm,18.0s,baz=56,slow=40						
MTDJ	Mount Denham	13.43	351	ePn	P	22 12 19.2	-2.1
MTDJ				eSn	Sn	22 14 42.5	-2.0
JAKH	Jacmel	13.60	12	eSn	Sn	22 14 47.1	-1.2
PAPH	Port-au-Prince	13.92	13	ePn	P	22 12 25.1	-1.6
SDDR	Presa de Saban	14.61	16	eP	P	22 12 36.5	+2.2
SDDR				eSn	Sn	22 15 09.8	-3.1
GTBY	Guantanamo Bay	14.97	1	eP	P	22 12 40.2	+1.9
	50nm,0.6s						
CRPR	Cabo Rojo, PR	15.40	31	eP	P	22 12 44.8	+1.7
	31nm,0.6s						
GRGR	Grenville	15.44	61	ePn	Pn	22 12 41.9	+0.2
	252nm,1.1s						
LSP	Las Mesas	15.55	31	ePn	P	22 12 45.3	+0.5
MPR	Mayaguez	15.56	31	ePn	Pn	22 12 43.7	+0.5
	39nm,0.8s						
OBIP	Obispado Ponce	15.70	33	ePn	Pn	22 12 45.5	+0.6
	45nm,1.0s						
CELP	Cerrillos	15.74	33	ePn	P	22 12 48.4	+1.6
LRS	Lares	15.78	32	ePn	P	22 12 47.4	+0.1
AOPR	Arecibo Observ	15.87	32	ePn	Pn	22 12 46.9	-0.2
	83nm,0.6s						
CPD	Cerro la Pandu	16.07	35	ePn	P	22 12 52.5	+2.0
	35nm,0.8s						
HUMP	Col San Antoni	16.20	35	ePn	P	22 12 52.0	+0.1
	35nm,0.7s						
CBYP	Canovanas	16.30	34	ePn	Pn	22 12 52.7	+0.4
	94nm,1.3s						
CDVI	St. Croix	16.54	38	ePn	Pn	22 12 55.2	0.0
	89nm,0.8s						
NNA	Nana	16.80	185	LR	LR	22 21 17.7	
	comp=Z,66nm,20.6s,baz=353,slow=44						
STVI	Saint Thomas	16.88	37	eP	P	22 12 60.0	+0.5
	88nm,0.6s						
SMRT	St. Maarten	17.84	42	eP	P	22 13 09.5	-0.6
	48nm,0.8s						
APG	El Apazote	17.87	305	LR	LR	22 19 54.6	
	comp=Z,91nm,20.2s,baz=164,slow=36						
SAML	Samuel	18.39	138	eP	P	22 13 16.0	-0.1
	33nm,0.8s						
LPAZ	La Paz	22.23	161	P	P	22 13 56.8	-1.2
	14nm,0.6s,baz=341,slow=11,SNR=37						
LPAZ				LR	LR	22 23 58.5	
	comp=Z,52nm,18.1s,baz=348,slow=40						
SIV	San Ignacio	25.14	146	P	P	22 14 23.1	-1.3
	18nm,0.5s,baz=331,slow=10,SNR=35						
LVC	Limon Verde	28.05	167	eP	P	22 14 50.4	-0.4
	13nm,0.8s						
WVT	Waverly	33.13	341	eP	P	22 15 36.8	+1.8
	14nm,1.3s						
BDFB	Brasilia	33.96	127	P	P	22 15 40.7	-1.9
	10.0nm,0.5s,baz=287,slow=10,SNR=

H04A Detroit Lake 56.89 322 *eP* **P 22 18 43.9 +1.2**
16nm,1.4s
B08A Colville Reser 57.19 327 *eP* **P 22 18 45.4 +0.7**
5.1nm,0.9s
EDM Edmonton 57.30 334 *eP* **P 22 18 45.2 -0.2**
187nm,2.8s
LTY Liberty 57.33 325 *eP* **P 22 18 47.1 +1.3**
44nm,2.2s
EFI East Falkland 58.26 167 *eP* **P 22 18 52.3 +0.3**
270nm,2.3s
YKA Yellowknife Ar 64.31 341 P **P 22 19 32.4 -0.2**
5.7nm,0.5s,baz=135,slow=6.3,SNR=104
YKA pP **PcP 22 20 04.5 -1.7**
1.5nm,0.7s,baz=132,slow=7.1,SNR=3.6
TIC Toumodi 70.06 85 *eP* **P 22 20 07.7 -2.2**
4.0nm,0.2s
LIC Lamto 70.07 85 *eP* **P 22 20 09.6 -0.3**
74nm,1.9s
DBIC Dimbokro 70.22 85 P **P 22 20 09.9 -0.9**
6.5nm,0.7s,baz=269,slow=7.2,SNR=9.2
KIC Kosan Boka 70.34 85 *eP* P 22 20 07.9 -3.7
26nm,0.8s
MDT Midelt 71.29 57 P **P 22 20 18.4 +1.2**
2.8nm,1.0s,baz=280,slow=4.8,SNR=4.8
ESDC Sonseca Array 72.68 50 P **P 22 20 23.7 -1.6**
0.5nm,0.4s,baz=274,slow=7.8,SNR=6.1
INK Inuvik 74.08 341 *eP* **P 22 20 33.1 +0.4**
37nm,2.0s
DAWY Dawson 74.44 336 *eP* **P 22 20 34.9 -0.1**
47nm,2.1s
EGAK Eagle 75.41 336 *eP* **P 22 20 41.2 +0.7**
70nm,2.4s
BMRM Bremner River 75.72 332 *eP* **P 22 20 43.4 +1.0**
170nm,2.3s
EKA Eskdalemuir Ar 75.98 34 P **P 22 20 44.7 +0.8**
0.6nm,0.5s,baz=258,slow=3.3,SNR=5.0
EKA pP **pP 22 21 16.8 +2.2**
1.0nm,0.5s,baz=253,slow=3.2,SNR=4.2
DOT Dot Lake 76.25 335 *eP* **P 22 20 46.4 +1.1**
11nm,0.6s
TOA0 Torodi Ar. Sit 76.42 78 *eP* **P 22 20 46.2 -1.0**
TORD Torodi Ar. Bea 76.42 78 P **P 22 20 46.5 -0.7**
1.4nm,0.4s,baz=281,slow=5.9,SNR=49
PAX Paxson 76.67 334 *eP* **P 22 20 48.4 +0.5**
52nm,2.2s
ILAR Eielson Array 77.75 335 P **P 22 20 53.7 0.0**
1.9nm,0.6s,baz=118,slow=4.3,SNR=47
ILAR pP **pP 22 21 27.9 +3.4**
1.2nm,0.8s,baz=118,slow=4.7,SNR=4.3
DAG Danmarks Havn 78.01 11 *i* P **P 22 20 54.1 -0.8**
1.4nm,0.7s
MCK McKinley 78.37 334 *eP* **P 22 20 57.7 +0.5**
130nm,2.8s
COLD Coldfoot 79.65 338 *eP* **P 22 21 05.0 +1.0**
24nm,1.8s
PPLA Purkeypile 79.65 333 *eP* **P 22 21 04.7 +0.4**
28nm,1.3s
NB2 NORSAR Subarra 84.16 29 P **P 22 21 28.8 +1.0**
comp=Z,1.1nm,0.7s,baz=269,slow=5.1
NOA NORSAR Array B 84.16 29 P **P 22 21 29.6 +1.7**
comp=Z,0.9nm,0.7s,baz=275,slow=4.9,SNR=5.4
KHC Kasperske Hory 85.72 41 *eP* **P 22 21 38.2 +2.3**
KHC *e*PCP **PcP 22 21 41.4 +2.8**
KHC *ex* x 22 22 29.0
GERES GERESS Array B 85.82 41 P **P 22 21 37.2 +0.8**
comp=Z,0.6nm,0.6s,baz=258,slow=6.7,SNR=4.6
VNA3 Neumayer Olymp 87.00 163 P **P 22 21 41.4 -0.2**
VNA2 Neumayer--Watz 87.55 162 P **P 22 21 44.1 -0.1**
SNAA Sanae 89.19 162 P **P 22 21 52.0 0.0**
SNAA Sanae 89.19 162 *eP* **P 22 21 51.6 -0.4**
comp=Z,84nm,2.2s
VYHS Vyhne 89.24 42 *eP* **P 22 21 53.1 +0.4**
ARCES ARCESS Array B 89.30 20 P **P 22 21 52.8 +0.2**
comp=Z,4.1nm,1.0s,baz=295,slow=3.6,SNR=6.5
CRVS Cervenica-Dubn 90.91 41 *eP* **P 22 22 00.1 -0.4**
KOLS Kolonicke sedl 91.43 41 *eP* **P 22 22 02.8 -0.1**
QSPA South Pole Qui 94.89 180 *eP* **P 22 22 19.5 +1.0**
comp=Z,180nm,2.8s
ZAA0 Zalesovo Array 119.11 13 *e*PKPdf **PKPdf 22 27 43.8 -1.1**
ZALV Zalesovo Beam 119.11 13 PKP **PKPdf 22 27 44.0 -0.9**
comp=Z,0.5nm,0.3s,baz=294,slow=1.6,SNR=6.1
MKAR Makanchi Array 124.92 18 PKP **PKPdf 22 27 55.4 -1.0**
comp=Z,0.5nm,0.4s,baz=299,slow=2.4,SNR=16
MKAR Makanchi Array 124.92 18 *e*PKPdf **PKPdf 22 27 55.0 -1.3**
SONA1 Songino Array 127.48 358 *e*PKPdf **PKPdf 22 28 00.8 -0.6**
KSH Kashi 128.57 28 *e*PKP **PKPdf 22 28 03.1 -0.6**
KSH sPKP 22 28 51.5
KSH PKS **PKSdf 22 31 39.8 -0.6**
KSH SKS **SKSdf 22 35 01.4 -3.1**
KSH SS **SS 22 47 16.2 -0.2**
KSH PPMZ
comp=Z,92nm,4.6s
KSH LN
comp=Z,100nm,6.6s
KSH LE
comp=Z,82nm,7.6s
KSH LZ
comp=Z,570nm,14.9s
STKA Stephens Creek 136.13 228 PKP **PKPdf 22 28 17.5 -0.4**
comp=Z,3.2nm,0.5s,baz=123,slow=4.0,SNR=6.8
LZH Lanzhou 139.25 1 *e*PKP **PKPdf 22 28 20.4 -3.4**
COEN Coen 140.89 254 *e*PKPdf **PKPdf 22 28 27.3 +0.2**
DANN Dangsing 141.38 30 *eP* PKPdf 22 28 21.8 -6.3
GKN Gorkha 142.10 29 *eP* PKPdf 22 28 23.1 -6.1
comp=Z,5.0nm,0.4s
KKN Kakani 142.59 29 *eP* **PKPdf 22 28 26.0 -4.1**
comp=Z,9.8nm,0.5s
DMN Daman 142.65 29 *eP* **PKPdf 22 28 26.2 -4.1**
comp=Z,27nm,0.5s
GUN Gumba 142.77 28 *eP* **PKPdf 22 28 26.4 -4.2**
comp=Z,24nm,0.5s
PKIN Phulchoki 142.82 29 *eP* **PKPdf 22 28 26.3 -4.3**
comp=Z,15nm,0.5s
PKI Pulchoki 142.83 29 *eP* **PKPdf 22 28 26.4 -4.3**
comp=Z,18nm,0.6s
RAMN Ramite 143.92 28 *eP* PKPab 22 28 29.8 -0.1
TAPN Taplejung 144.08 26 *eP* PKPbc 22 28 31.0 -0.1
comp=Z,52nm,0.4s
ODAN Odare 144.36 27 *eP* **PKPab 22 28 31.2 -0.4**
CD2 Chengdu 144.42 1 *e*PKP **PKPab 22 28 31.5 +0.1**
FORT Forrest 146.03 218 *e*PKPdf **PKPbc 22 28 36.4 -0.3**
ASAR Alice Springs 146.09 234 PKPbc **PKPdf 22 28 35.9 -0.2**
comp=Z,15nm,0.5s,baz=120,slow=3.5,SNR=153
WRAB Tennant Creek 147.35 240 *e*PKPdf **PKPdf 22 28 38.2 0.0**
WRAB *e*PKPbc **PKPbc 22 28 40.7 -0.1**
WRA Warramunga Arr 147.36 240 PKPbc **PKPdf 22 28 38.0 -0.3**
comp=Z,6.7nm,0.4s,baz=109,slow=2.2,SNR=140
WRA pPKPbc **pPKPbc 22 29 16.4 +2.9**
comp=Z,2.2nm,0.6s,baz=106,slow=2.6,SNR=2.4
GYA Guiyang 148.79 356 *e*PKPbc **PKPdf 22 28 37.8 -2.8**
GYA PKS **PP 22 32 12.6 -1.3**
GYA SKKS 22 38 50.3
GYA SS **SS 22 51 11.6 -1.8**
GYA PPMZ
comp=Z,120nm,7.8s
GYA LN
comp=Z,110nm,21.5s
GYA LE
comp=Z,90nm,22.8s
GYA LZ
comp=Z,120nm,21.0s
CMAR Chiang Mai Arr 156.17 13 PKPab **PKPab 22 29 19.2 -0.3**
comp=Z,2.0nm,0.6s,baz=329,slow=5.7,SNR=9.5
CMAR pPKPab **pPKPab 22 29 53.0 +1.8**
comp=Z,1.3nm,0.7s,baz=327,slow=5.2,SNR=4.5

IDC 04 22:15:33.9±1.9, 36°.30S×73°.49W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.6/27, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=51.9km s-min=21.1km az=72.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.99**	**153**	Pn	Pn	22 16 50.6	+0.5
	0.4nm,0.3s,baz=340,slow=13,SNR=5.6						
PLCA				Lg	Lg	22 18 12.2	
	1.3nm,0.3s,baz=270,slow=17,SNR=2.8						
CFAA	**Coronel Fontan**	**6.39**	**44**	Pn	Pn	22 17 08.6	-0.9
	0.2nm,0.3s,baz=210,slow=12,SNR=4.5						
LPAZ	**La Paz**	**20.49**	**15**	P	P	22 20 14.9	+0.7
	2.3nm,0.7s,baz=213,slow=8.0,SNR=4.5						
TXAR	**Lajitas Array**	**71.18**	**332**	P	P	22 26 54.3	-0.3
	0.3nm,0.7s,baz=150,slow=7.3,SNR=4.1						

*NEIC **04** 22:21:20.8, 39°.23S×174°.61E, h203km, MG4.6(WEL), After WEL.*
WEL 04 22:21:22.0±0.3, 39°.24S×174°.64E, h193km±2km, ML4.6/21, 44C-21D, Error ellipse: s-maj=1.4km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.15**	**39**	⇑PN	Pn	22 21 46.6	-0.7
VRZ	**Vera Road**	**0.15**	**39**	Pn	Pn	22 21 46.6	-0.8
LREZ	**Lake Rotokare**	**0.28**	**220**	⇑PN	Pn	22 21 47.4	-0.1
MHEZ	**Mangahewa**	**0.29**	**304**	Pn	Pn	22 21 47.5	-0.1
MHEZ				SN	Sn	22 22 06.7	-0.6
MHEZ	**Mangahewa**	**0.29**	**304**	Pn	Pn	22 21 47.6	0.0
MHEZ				Sn	Sn	22 22 07.5	+0.3
DREZ	**Durham Road**	**0.34**	**279**	⇑PN	Pn	22 21 47.5	-0.2
DREZ				SN	Sn	22 22 07.3	-0.2
DREZ	**Durham Road**	**0.34**	**279**	Pn	Pn	22 21 47.5	-0.2
DREZ				Sn	Sn	22 22 07.3	-0.2
PREZ	**Palmer Road**	**0.38**	**255**	⇑PN	Pn	22 21 47.7	-0.1
NEZ	**North Egmont**	**0.42**	**266**	PN	Pn	22 21 48.0	0.0
NEZ	**North Egmont**	**0.42**	**266**	Pn	Pn	22 21 48.0	0.0
KHEZ	**Kahui Hut**	**0.49**	**264**	⇑PN	Pn	22 21 48.0	-0.3
PKE	**Pukeiti**	**0.51**	**275**	PN	Pn	22 21 48.0	-0.3
PKE	**Pukeiti**	**0.51**	**275**	Pn	Pn	22 21 48.0	-0.3
PKVZ	**Pokaka**	**0.55**	**95**	PN	Pn	22 21 48.1	-0.4
PKVZ				SN	Sn	22 22 07.5	-1.5
PKVZ	**Pokaka**	**0.55**	**95**	Pn	Pn	22 21 48.1	-0.4
WAZ	**Wanganui**	**0.58**	**152**	⇑PN	Pn	22 21 48.7	+0.2
WAZ	**Wanganui**	**0.58**	**152**	Pn	Pn	22 21 48.7	+0.1
NWEZ	**Newall Road**	**0.60**	**267**	⇑PN	Pn	22 21 48.6	0.0
NWEZ	**Newall Road**	**0.60**	**267**	Pn	Pn	22 21 48.6	0.0
NMEZ	**Namu Road**	**0.61**	**254**	⇑PN	Pn	22 21 48.7	0.0
TWVZ	**Taurewa**	**0.65**	**75**	⇑PN	Pn	22 21 48.5	-0.5
TWVZ				SN	Sn	22 22 07.8	-2.0
TWVZ	**Taurewa**	**0.65**	**75**	Pn	Pn	22 21 48.5	-0.5
MTVZ	**Mangateitei**	**0.66**	**103**	⇑PN	Pn	22 21 48.7	-0.3
MTVZ	**Mangateitei**	**0.66**	**103**	Pn	Pn	22 21 48.7	-0.3
COVZ	**Chateau Observ**	**0.70**	**87**	⇑PN	Pn	22 21 49.0	-0.3
WPVZ	**Whakapapa**	**0.71**	**87**	⇑PN	Pn	22 21 49.1	-0.2
WPVZ	**Whakapapa**	**0.71**	**87**	Pn	Pn	22 21 49.1	-0.2
TRVZ	**Turoa**	**0.71**	**95**	PN	Pn	22 21 49.2	-0.3
TRVZ	**Turoa**	**0.71**	**95**	Pn	Pn	22 21 49.2	-0.3
FWVZ	**Far West T-bar**	**0.71**	**91**	⇑PN	Pn	22 21 49.2	-0.3
FWVZ	**Far West T-bar**	**0.71**	**91**	Pn	Pn	22 21 49.2	-0.3
DRZ	**Dome Shelter**	**0.72**	**93**	PN	Pn	22 21 49.4	-0.2
DRZ	**Dome Shelter**	**0.72**	**93**	Pn	Pn	22 21 49.5	-0.1
WHVZ	**Whangaehu Hut**	**0.74**	**93**	⇑PN	Pn	22 21 49.4	-0.2
HIZ	**Hauiti**	**0.75**	**13**	⇑PN	Pn	22 21 48.6	-0.8
HIZ	**Hauiti**	**0.75**	**13**	Pn	Pn	22 21 48.6	-0.8
WNVZ	**Wahianoa**	**0.75**	**97**	⇑PN	Pn	22 21 49.5	-0.1
WNVZ	**Wahianoa**	**0.75**	**97**	Pn	Pn	22 21 49.5	-0.1
WTVZ	**West Tongariro**	**0.75**	**81**	PN	Pn	22 21 49.4	-0.2
WTVZ	**West Tongariro**	**0.75**	**81**	Pn	Pn	22 21 49.4	-0.2
NGZ	**Ngauruhoe**	**0.75**	**85**	⇑PN	Pn	22 21 49.4	-0.2
NGZ	**Ngauruhoe**	**0.75**	**85**	Pn	Pn	22 21 49.4	-0.2
TUVZ	**Tukino**	**0.79**	**92**	PN	Pn	22 21 49.9	+0.1
TUVZ	**Tukino**	**0.79**	**92**	Pn	Pn	22 21 49.9	+0.1
KRVZ	**Karewarewa**	**0.79**	**80**	PN	Pn	22 21 49.6	-0.2
KRVZ	**Karewarewa**	**0.79**	**80**	Pn	Pn	22 21 49.6	-0.2
OTVZ	**Oturere**	**0.80**	**85**	PN	Pn	22 21 49.9	0.0
OTVZ	**Oturere**	**0.80**	**85**	Pn	Pn	22 21 49.9	0.0
KATZ	**Kakaramea**	**0.86**	**72**	PN	Pn	22 21 50.0	-0.3
KATZ	**Kakaramea**	**0.86**	**72**	Pn	Pn	22 21 50.0	-0.3
MOVZ	**Moawhango**	**0.88**	**101**	⇑PN	Pn	22 21 49.9	-0.4
MOVZ	**Moawhango**	**0.88**	**101**	Pn	Pn	22 21 49.9	-0.4
RATZ	**Rangitukua**	**0.96**	**67**	PN	Pn	22 21 50.3	-0.5
RATZ	**Rangitukua**	**0.96**	**67**	Pn	Pn	22 21 50.2	-0.6
RITZ	**Rihia Road**	**0.99**	**75**	PN	Pn	22 21 50.7	-0.2
RITZ	**Rihia Road**	**0.99**	**75**	Pn	Pn	22 21 50.7	-0.2
WATZ	**Wairara**	**1.01**	**58**	⇓PN	Pn	22 21 51.0	-0.1
WATZ	**Wairara**	**1.01**	**58**	Pn	Pn	22 21 51.0	-0.1
BHHZ	**Black Hill Sta**	**1.13**	**103**	⇑PN	Pn	22 21 51.6	-0.4
BHHZ	**Black Hill Sta**	**1.13**	**103**	Pn	Pn	22 21 51.6	-0.4
TLZ	**Tolley Road**	**1.15**	**38**	PN	Pn	22 21 51.5	-0.7
TSZ	**Takapari Road**	**1.31**	**129**	⇑PN	Pn	22 21 53.4	+0.1
TSZ				AML	AML	22 22 15.9	
TSZ				AML	AML	22 22 17.8	
TSZ	**Takapari Road**	**1.31**	**129**	Pn	Pn	22 21 53.1	-0.3
PNHZ	**Pukenui**	**1.38**	**120**	⇑PN	Pn	22 21 53.9	0.0
PNHZ	**Pukenui**	**1.38**	**120**	Pn	Pn	22 21 54.0	0.0
KRHZ	**Kereru**	**1.40**	**107**	PN	Pn	22 21 54.1	0.0
POWZ	**Post Office Ro**	**1.44**	**143**	⇑PN	Pn	22 21 54.3	-0.2
POWZ	**Post Office Ro**	**1.44**	**143**	Pn	Pn	22 21 54.3	-0.2
BKZ	**Black Stump Fm**	**1.44**	**88**	⇓PN	Pn	22 21 54.1	-0.5
BKZ				AML	AML	22 22 17.0	
BKZ				AML	AML	22 22 17.0	
BKZ	**Black Stump Fm**	**1.44**	**88**	Pn	Pn	22 21 53.7	-0.9
ALRZ	**Allen Road**	**1.49**	**64**	PN	Pn	22 21 54.2	-0.7
ALRZ	**Allen Road**	**1.49**	**64**	Pn	Pn	22 21 54.2	-0.7
PRRZ	**Plateau Road**	**1.56**	**62**	PN	Pn	22 21 54.6	-1.0
PRRZ	**Plateau Road**	**1.56**	**62**	Pn	Pn	22 21 54.6	-1.0
DVHZ	**Dannevirke**	**1.58**	**132**	⇑PN	Pn	22 21 55.6	-0.2
DVHZ	**Dannevirke**	**1.58**	**132**	Pn	Pn	22 21 55.6	-0.2
MRZ	**Mangatainoka R**	**1.59**	**153**	⇑PN	Pn	22 21 55.5	-0.3
MRZ				AML	AML	22 22 20.4	
MRZ				AML	AML	22 22 21.4	
MRZ	**Mangatainoka R**	**1.59**	**153**	Pn	Pn	22 21 55.5	-0.3
MCHZ	**McNeill Hill**	**1.61**	**98**	⇓PN	Pn	22 21 56.6	+0.6
MCHZ	**McNeill Hill**	**1.61**	**98**	Pn	Pn	22 21 56.6	+0.6
WPHZ	**Waipukurau**	**1.62**	**121**	⇑PN	Pn	22 21 56.2	+0.1
WPHZ	**Waipukurau**	**1.62**	**121**	Pn	Pn	22 21 56.2	+0.1
OGWZ	**Otaki Gorge**	**1.63**	**166**	⇑PN	Pn	22 21 56.1	-0.1
OGWZ	**Otaki Gorge**	**1.63**	**166**	Pn	Pn	22 21 56.1	-0.1
KIW	**Kapiti Island**	**1.63**	**173**	⇑PN	Pn	22 21 55.8	-0.4
KIW				AML	AML	22 22 21.9	
KIW				AML	AML	22 22 22.7	
KIW	**Kapiti Island**	**1.63**	**173**	Pn	Pn	22 21 55.8	-0.4
DUWZ	**D'Urville Isla**	**1.65**	**199**	⇑PN	Pn	22 21 55.9	-0.5
DUWZ	**D'Urville Isla**	**1.65**	**199**	Pn	Pn	22 21 55.9	-0.5
TOZ	**Tahuroa Road**	**1.66**	**24**	⇓PN	Pn	22 21 55.9	-0.6
TOZ	**Tahuroa Road**	**1.66**	**24**	Pn	Pn	22 21 55.9	-0.6
PRWZ	**Pori Road**	**1.67**	**142**	⇑PN	Pn	22 21 56.6	0.0
NMHZ	**Naumai**	**1.69**	**86**	⇓PN	Pn	22 21 57.4	+0.5
NMHZ	**Naumai**	**1.69**	**86**	Pn	Pn	22 21 57.4	+0.5
TARZ	**Mount Tarawera**	**1.77**	**56**	⇓PN	Pn	22 21 57.2	-0.6
TARZ	**Mount Tarawera**	**1.77**	**56**	Pn	Pn	22 21 57.2	-0.6
HOWZ	**Holdsworth Sta**	**1.79**	**158**	⇑PN	Pn	22 21 57.3	-0.4
HOWZ	**Holdsworth Sta**	**1.79**	**158**	Pn	Pn	22 21 57.3	-0.4
TIWZ	**Tintock**	**1.81**	**148**	⇑PN	Pn	22 21 57.6	-0.3
TIWZ				AML	AML	22 22 26.1	
TIWZ				AML	AML	22 22 28.1	
TIWZ	**Tintock**	**1.81**	**148**	Pn	Pn	22 21 57.6	-0.3
KAHZ	**Kahuranaki**	**1.82**	**108**	⇓PN	Pn	22 21 58.4	+0.3
KAHZ	**Kahuranaki**	**1.82**	**108**	Pn	Pn	22 21 58.4	+0.3
PRHZ	**Porangahau**	**1.85**	**124**	⇑PN	Pn	22 21 58.4	+0.1
ANWZ	**Angora Road**	**1.87**	**131**	⇑PN	Pn	22 21 58.7	+0.2
PXZ	**Pawanui**	**1.89**	**115**	PN	Pn	22 21 58.9	+0.1
PXZ				AML	AML	22 22 26.2	
PXZ				AML	AML	22 22 26.3	
PXZ				AML	AML	22 22 26.5	
PXZ				AML	AML	22 22 26.5	
PXZ	**Pawanui**	**1.89**	**115**	Pn	Pn	22 21 58.9	+0.1
CAW	**Cannon Point**	**1.89**	**170**	⇑PN	Pn	22 21 58.4	-0.4
CAW				AML	AML	22 22 27.0	
CAW				AML	AML	22 22 27.1	
CAW	**Cannon Point**	**1.89**	**170**	Pn	Pn	22 21 58.4	-0.4
BFZ	**Birch Farm**	**1.90**	**140**	⇓PN	Pn	22 21 58.4	-0.4
BFZ	**Birch Farm**	**1.90**	**140**	Pn	Pn	22 21 58.4	-0.4
RAHZ	**Arahi**	**1.93**	**81**	⇓PN	Pn	22 21 59.1	-0.2
RAHZ	**Arahi**	**1.93**	**81**	Pn	Pn	22 21 59.1	-0.2
CKHZ	**Cape Kidnapper**	**1.94**	**103**	⇓PN	Pn	22 21 59.5	+0.3
CKHZ	**Cape Kidnapper**	**1.94**	**103**	Pn	Pn	22 21 59.5	+0.3
TCW	**Tory Channel**	**1.99**	**188**	⇑PN	Pn	22 21 59.4	-0.3
TCW				AML	AML	22 22 26.4	
TCW				AML	AML	22 22 26.9	
TCW	**Tory Channel**	**1.99**	**188**	Pn	Pn	22 21 59.4	-0.3
MTW	**Mount Morrison**	**2.02**	**161**	⇑PN	Pn	22 21 59.4	-0.7
MTW				AML	AML	22 22 28.8	
MTW				AML	AML	22 22 29.0	
MTW	**Mount Morrison**	**2.02**	**161**	Pn	Pn	22 21 59.4	-0.7
WHHZ	**Waihua**	**2.03**	**86**	⇓PN	Pn	22 22 00.1	-0.1
WEL	**Wellington**	**2.04**	**177**	PN	Pn	22 21 59.6	-0.7
WEL				AML	AML	22 22 29.8	
WEL				AML	AML	22 22 31.1	
WEL	**Wellington**	**2.04**	**177**	Pn	Pn	22 21 59.7	-0.6
CPWZ	**Castlepoint**	**2.05**	**145**	⇑PN	Pn	22 22 00.5	+0.1
CPWZ				SN	Sn	22 22 28.1	-2.4
SNZO	**South Karori**	**2.06**	**179**	*e*Pn	Pn	22 21 59.7	-0.8
SNZO				*e*Sn	Sn	22 22 27.3	-3.5
TMWZ	**Te Maipa**	**2.10**	**153**	⇑PN	Pn	22 22 00.3	-0.6
TMWZ	**Te Maipa**	**2.10**	**153**	Pn	Pn	22 22 00.3	-0.6
SNGZ	**Shannon Statio**	**2.15**	**78**	⇓PN	Pn	22 22 01.1	-0.5
URZ	**Urewera**	**2.17**	**64**	PN	Pn	22 22 00.2	-1.5
URZ				AML	AML	22 22 28.4	
URZ				AML	AML	22 22 28.8	
URZ	**Urewera**	**2.17**	**64**	*e*Pn	Pn	22 22 00.2	-1.5
URZ				*e*Sn	Sn	22 22 27.7	-4.9
BHW	**Baring Head**	**2.17**	**175**	PN	Pn	22 22 00.8	-0.8
BHW				AML	AML	22 22 31.5	
BHW				AML	AML	22 22 31.7	
BHW	**Baring Head**	**2.17**	**175**	Pn	Pn	22 22 00.8	-0.8
NNZ	**Nelson**	**2.20**	**206**	⇑PN	Pn	22 22 00.9	-1.0
NNZ	**Nelson**	**2.20**	**206**	Pn	Pn	22 22 00.9	-1.0
MSWZ	**Moikau Station**	**2.22**	**168**	⇑PN	Pn	22 22 01.4	-0.9
MSWZ				AML	AML	22 22 32.6	
MSWZ				AML	AML	22 22 32.7	
MSWZ	**Moikau Station**	**2.22**	**168**	Pn	Pn	22 22 01.4	-0.9
PAWZ	**Paruwai Farm**	**2.22**	**164**	⇑PN	Pn	22 22 01.4	-0.8
PAWZ				AML	AML	22 22 31.6	
PAWZ				AML	AML	22 22 32.4	
PAWZ	**Paruwai Farm**	**2.22**	**164**	Pn	Pn	22 22 01.4	-0.8
TUWZ	**Tuamarina**	**2.25**	**193**	⇓PN	Pn	22 22 01.6	-0.9
TUWZ				AML	AML	22 22 32.1	
TUWZ				AML	AML	22 22 33.2	
TUWZ	**Tuamarina**	**2.25**	**193**	Pn	Pn	22 22 01.6	-0.9
QRZ	**Quartz Range**	**2.26**	**225**	⇓PN	Pn	22 22 01.3	-1.4
QRZ	**Quartz Range**	**2.26**	**225**	Pn	Pn	22 22 01.3	-1.4
RAGZ	**Rawiri**	**2.29**	**72**	PN	Pn	22 22 02.3	-0.9
TRWZ	**Traveller**	**2.30**	**160**	⇑PN	Pn	22 22 02.3	-0.8
TRWZ				AML	AML	22 22 34.6	
TRWZ				AML	AML	22 22 34.8	
TRWZ	**Traveller**	**2.30**	**160**	Pn	Pn	22 22 02.3	-0.8
KNZ	**Kokohu**	**2.37**	**86**	⇓PN	Pn	22 22 03.2	-0.7
KNZ	**Kokohu**	**2.37**	**86**	Pn	Pn	22 22 03.2	-0.7
PLWZ	**Palliser**	**2.37**	**169**	PN	Pn	22 22 02.8	-1.2
PLWZ	**Palliser**	**2.37**	**169**	Pn	Pn	22 22 02.8	-1.2
MWZ	**Matawai**	**2.43**	**69**	⇓PN	Pn	22 22 03.5	-1.3
MWZ				AML	AML	22 22 37.3	
MWZ				AML	AML	22 22 41.7	
MWZ	**Matawai**	**2.43**	**69**	Pn	Pn	22 22 03.5	-1.3
MTAZ	**Motutapu**	**2.46**	**5**	PN	Pn	22 22 05.0	0.0
RIGZ	**Rimuhau**	**2.49**	**79**	⇓PN	Pn	22 22 04.6	-0.8
BSWZ	**Blackbirch Sta**	**2.54**	**193**	PN	Pn	22 22 05.2	-0.6
BSWZ				AML	AML	22 22 40.4	
BSWZ				AML	AML	22 22 41.3	
BSWZ	**Blackbirch Sta**	**2.54**	**193**	Pn	Pn	22 22 05.2	-0.6
MHGZ	**Mahia Peninsul**	**2.54**	**89**	PN	Pn	22 22 05.5	-0.3
MHGZ	**Mahia Peninsul**	**2.54**	**89**	Pn	Pn	22 22 05.5	-0.3
TWGZ	**Tauwhareparae**	**2.82**	**69**	⇓PN	Pn	22 22 08.2	-1.0
THZ	**Tophouse**	**2.84**	**207**	⇑PN	Pn	22 22 07.9	-1.5
THZ	**Tophouse**	**2.84**	**207**	Pn	Pn	22 22 07.9	-1.5
HAZ	**Te Kaha**	**2.88**	**60**	PN	Pn	22 22 07.6	-2.2
CNGZ	**Carnagh Statio**	**2.89**	**76**	PN	Pn	22 22 09.1	-0.7
CNGZ	**Carnagh Statio**	**2.89**	**76**	Pn	Pn	22 22 09.1	-0.7
PUZ	**Puketiti**	**3.06**	**69**	⇓PN	Pn	22 22 10.5	-1.5
PUZ				AML	AML	22 22 50.4	
PUZ				AML	AML	22 22 50.4	
PUZ	**Puketiti**	**3.06**	**69**	Pn	Pn	22 22 10.5	-1.5
KHZ	**Kahutara**	**3.28**	**194**	PN	Pn	22 22 13.3	-1.2
KHZ				AML	AML	22 22 52.6	
KHZ				AML	AML	22 22 54.3	
KHZ	**Kahutara**	**3.28**	**194**	*e*Pn	Pn	22 22 13.3	-1.2
KHZ				*e*Sn	Sn	22 22 51.0	-4.7
WMGZ	**Waiomatatini S**	**3.29**	**66**	⇓PN	Pn	22 22 13.0	-1.7
DSZ	**Denniston Nort**	**3.31**	**220**	PN	Pn	22 22 13.0	-1.9
DSZ	**Denniston Nort**	**3.31**	**220**	Pn	Pn	22 22 13.0	-1.9
MXZ	**Matakaoa Point**	**3.33**	**61**	⇓PN	Pn	22 22 13.8	-1.4
MXZ				AML	AML	22 22 15.9	
MXZ				AML	AML	22 22 56.2	
MXZ	**Matakaoa Point**	**3.33**	**61**	Pn	Pn	22 22 13.8	-1.4
LTZ	**Lake Taylor**	**3.96**	**206**	PN	Pn	22 22 21.2	-1.9
OUZ	**Omahuta**	**4.10**	**348**	*e*Pn	Pn	22 22 24.4	-0.4
OXZ	**Oxford**	**4.52**	**205**	PN	Pn	22 22 27.1	-2.9
CRLZ	**Canterbury Las**	**4.59**	**199**	⇑PN	Pn	22 22 27.9	-2.9
CRLZ	**Canterbury Las**	**4.59**	**199**	Pn	Pn	22 22 27.9	-2.9
MQZ	**McQueen's Vall**	**4.70**	**198**	PN	Pn	22 22 28.9	-3.3
MQZ	**McQueen's Vall**	**4.70**	**198**	Pn	Pn	22 22 28.9	-3.3
WVZ	**

ISC 04 22:29:12.4±1.4, 51°.15N±0°.09×130°.71W±0°.08, h12km, n26, σ0°79/18, 3D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	Barry Inlet	1.57	336	⇑Pn	Pn	22 29 40.8	+0.6
BNB				⇑Sn	Sn	22 29 58.6	-1.9
HOLB	Holberg	1.71	106	⇑Pn	Pn	22 29 41.5	-0.6
BBB	Bella Bella	1.92	56	⇓Pn	Pn	22 29 45.1	+0.1
BBB				⇑Sn	Sn	22 30 08.5	-0.6
BBB	Bella Bella	1.92	56	Pg	Pn	22 29 45.3	+0.4
	14nm,0.3s,baz=227,slow=5.8,SNR=98						
BBB				Lg	Lg	22 30 08.7	
	97nm,0.3s,baz=245,slow=19,SNR=10.0						
PHC	Port Hardy	2.12	101	⇓Pn	Pn	22 29 46.7	-1.0
DIB	Dawson Inlet,	2.33	333	⇑Pn	Pn	22 29 50.3	-0.2
MAYB	Maynard	2.37	107	⇑Pn	Pn	22 29 51.1	-0.1
TLCB	Telegraph Cove	2.53	102	⇑Pn	Pn	22 29 54.0	+0.7
FHRB	Fair Harbour	2.54	114	⇓Pn	Pn	22 29 53.6	+0.2
EDB	Eliza Dome	2.62	118	⇑Pn	Pn	22 29 54.3	-0.2
WOSB	Woss	2.81	109	⇑Pn	Pn	22 29 57.6	+0.3
NCRB	Newcastle Ridg	3.05	102	⇑Pn	Pn	22 30 00.7	+0.1
NDB	Naden	3.13	335	⇑Pn	Pn	22 30 02.2	+0.6
DLBC	Dease Lake	7.32	3	Pn	Pn	22 31 05.3	+6.2
	0.6nm,0.3s,baz=190,slow=18,SNR=3.5						
YKA	Yellowknife Ar	14.33	31	Pn	Pn	22 32 35.0	+0.1
	0.1nm,0.3s,baz=222,slow=12,SNR=11						
ELK	Elko	14.93	128	LR	LR	22 38 50.5	
	comp=Z,89nm,19.9s,baz=1.0,slow=39						
NVAR	Mina Array Bea	15.44	141	Pn	P	22 32 54.6	0.0
	0.2nm,0.3s,baz=320,slow=11,SNR=3.7						
ILAR	Eielson Array	16.05	334	Pn	P	22 33 07.5	+6.4
	0.0nm,0.3s,baz=142,slow=9.8,SNR=8.4						
PDAR	Pinedale Array	16.65	112	Pn	P	22 33 09.7	+1.5
	baz=300,slow=9.9,SNR=3.8						
TXAR	Lajitas Array	29.72	127	P	P	22 35 23.1	+4.6
	0.4nm,0.9s,baz=311,slow=6.5,SNR=3.7						
H11N2	WAKE ISLAND Hy 57.61	261		T	T	23 41 33.2	
	baz=41,slow=75,SNR=42						
H11N3	WAKE ISLAND Hy 57.62	261		T	T	23 41 33.2	
	baz=41,slow=75,SNR=45						
H11N1	WAKE ISLAND Hy 57.63	261		T	T	23 41 34.6	
	baz=41,slow=75,SNR=32						
H11S1	WAKE ISLAND Hy 58.65	261		T	T	23 43 01.3	
	baz=46,slow=75,SNR=4.2						
H11S2	WAKE ISLAND Hy 58.66	261		T	T	23 42 48.7	
	baz=46,slow=75,SNR=5.1						
H11S3	WAKE ISLAND Hy 58.67	261		T	T	23 43 06.6	
	baz=46,slow=75,SNR=4.1						

*IDC **04** 22:30:31.5±2.2, 0°.73S×133°.28E, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.6/31, mbtmp4.0/4, ML3.8/2, Error ellipse: s-maj=85.0km s-min=25.0km az=78.0*

*ISCJB **04** 22:30:35.6±1.1, 0°.87S±0°.10×133°.24E±0°.07, h33km, mb3.8/2, Error ellipse: s-maj=14.5km s-min=9.0km az=16.4*

*DJA **04** 22:30:37.2±0.9, 1°.S±6°.×13°.3E±°, h50km±14km, M4.0/4, MLv4.0/4*

ISC 04 22:30:36.7±1.3, 0°.7S±0°.1×133°.22E±0°.07, h35km, n11, σ1°37/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	1.97	265	P	Pn	22 31 08.1	+0.6
SWI				S	Sn	22 31 31.1	+0.1
FAKI	Fak Fak	2.41	204	P	Pn	22 31 14.9	+1.3
FAKI				S	Sn	22 31 43.9	+2.0
BAKI	Biak	2.92	100	P	Pn	22 31 21.7	+1.0
BNDI	Bandanaira	5.04	221	P	Pn	22 31 50.8	+1.0
KDU	Kakadu	11.93	184	P	Pn	22 33 23.9	-0.4
	baz=1.9,SNR=8.3						
MTN	Manton Dam	12.24	190	P	Pn	22 33 28.1	-0.5
	baz=2.2,SNR=9.5						
BATI	Baumata	13.40	225	Pn	Pn	22 33 44.4	-0.1
	2.4nm,0.3s,baz=56,slow=3.6,SNR=4.8						
KNRA	Kununurra	15.52	196	P	Pn	22 34 10.3	-2.7
	baz=5.8,SNR=4.4						
WRA	Warramunga Arr	19.15	177	P	P	22 34 55.7	-1.5
	0.2nm,0.3s,baz=354,slow=12,SNR=13						
WRA				S	Sn	22 38 20.8	-11
	0.1nm,0.3s,baz=346,slow=24,SNR=3.9						
ASAR	Alice Springs	22.84	178	P	P	22 35 36.5	-0.5
	1.4nm,0.3s,baz=358,slow=11,SNR=20						
MKAR	Makanchi Array	64.91	324	P	P	22 41 13.2	+0.5
	0.6nm,0.6s,baz=113,slow=8.0,SNR=9.1						

WEL 04 22:34:54.0±0.4, 36°.88S×176°.55E, h232km±5km, ML3.5/11, 2C-1D, Error ellipse: s-maj=7.4km s-min=6.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	1.31	132	PN	Pn	22 35 29.4	+0.2
HAZ				SN	S	22 35 55.7	-1.0
URZ	Urewera	1.45	162	ePN	Pn	22 35 30.1	0.0
URZ				SN	S	22 35 58.8	+0.2
WMGZ	Waiomatatini S	1.76	123	PN	Pn	22 35 32.7	0.0
WMGZ				SN	S	22 36 03.2	0.0
PUZ	Puketiti	1.81	132	ePN	Pn	22 35 33.1	-0.2
PUZ				SN	S	22 36 03.4	-0.6
SNGZ	Shannon Statio	2.00	162	PN	Pn	22 35 35.1	+0.1
SNGZ				SN	S	22 36 06.2	-1.0
RIGZ	Rimuhau	2.06	153	PN	Pn	22 35 35.6	-0.1
CNGZ	Carnagh Statio	2.07	141	⇑PN	Pn	22 35 35.8	+0.1
BKZ	Black Stump Fm	2.28	181	SN	S	22 36 10.7	-1.5
BKZ				AML	AML		
KNZ	Kokohu	2.31	158	⇑PN	Pn	22 35 37.2	-0.8
KNZ				SN	S	22 36 10.3	-2.3
BHHZ	Black Hill Sta	2.63	188	PN	Pn	22 35 40.8	-0.6
KAHZ	Kahuranaki	2.92	175	PN	Pn	22 35 43.5	-1.1
PNHZ	Pukenui	3.04	185	PN	Pn	22 35 44.4	-1.5
PXZ	Pawanui	3.15	176	PN	Pn	22 35 45.3	-1.8
TSZ	Takapari Road	3.21	188	PN	Pn	22 35 46.2	-1.6
MRZ	Mangatainoka R	3.85	191	PN	Pn	22 35 52.6	-2.6
MRZ				SN	S	22 36 39.6	-4.0
TIWZ	Tintock	3.92	187	AML	AML	22 36 42.3	
OGWZ	Otaki Gorge	4.08	195	PN	Pn	22 35 55.3	-2.6
KIW	Kapiti Island	4.18	197	PN	Pn	22 35 56.3	-2.8
CAW	Cannon Point	4.38	195	PN	Pn	22 35 58.5	-3.1
TUWZ	Tuamarina	4.97	203	PN	Pn	22 36 05.8	-3.0
NNZ	Nelson	4.98	209	PN	Pn	22 36 05.6	-3.4
THZ	Tophouse	5.63	209	⇓PN	Pn	22 36 14.5	-2.7
KHZ	Kahutara	6.00	202	PN	Pn	22 36 18.1	-3.6
MQZ	McQueen's Vall	7.44	202	SN	S	22 37 54.0	-11

*ISCJB **04** 22:39:22.7±0.5, 22°.09S±0°.02×68°.39W±0°.02, h86km±4km, mb6.1/338, Error ellipse: s-maj=4.4km s-min=3.2km az=34.8*

*GUC **04** 22:39:23.5±0.8, 22°.61S×68°.80W, h126km±6km, ML5.9*

*MOS **04** 22:39:24.8±1.0, 22°.05S×68°.50W, h103km, mb6.2/58, MS5.6/16, Error ellipse: s-maj=9.4km s-min=5.4km az=105.7*

*NEIC **04** 22:39:25.0±0.0, 22°.33S×68°.34W, h105km Best double couple: NP1:φs358.00000°, δ68.00000°, λ-79.00000°. NP2:φs152.00000°, δ23.00000°, λ-112.00000°. Principal axes: T 3.7200, Plg23.0000°, Azm80.0000°; N -0.5400, Plg9.0000°, Azm174.0000°; P -3.1800, Plg64.0000°, Azm285.0000°;*

*BJI **04** 22:39:25.1, 22°.46S×68°.80W, h108km, mB6.2/61*

*GCMT **04** 22:39:26.5±0.1, 22°.36S×68°.69W, h119km, MW6.3/130, Moment Tensor Solution. s130,c323; s129,c424; Duration: 3s5 Moment tensor: Scale 10^18 Nm; Mrr=2.30±.02; Mθθ=0.83±.02; Mφφ=3.13±.03; Mrθ=0.18±.02; Mθφ=0.64±.02; Mφr=2.55±.02; Best double couple: M0=3.7840×10^18 NP1:φs22.00000°, δ67.00000°, λ-78.00000°. NP2:φs155.00000°, δ26.00000°, λ-115.00000°. Principal axes: T 4.1950, Plg21.0000°, Azm84.0000°; N -0.8230, Plg11.0000°, Azm178.0000°; P -3.3740, Plg66.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*IDC **04** 22:39:26.1±0.4, 22°.28S×68°.46W, h108km±3km, mb5.7/30, mb1 5.8/35, mb1mx5.8/35, mbtmp6.1/35, MS5.3/24, Ms1 5.3/24, ms1mx5.2/37 Error ellipse: s-maj=9.4km s-min=7.8km az=52.0*

*NEIC **04** 22:39:26.5±0.1, 22°.23S×68°.33W, h114km, mb6.3/229, ME6.2, MW6.3, MW6.3, Error ellipse: s-maj=4.3km s-min=2.9km az=69.0, Moment Tensor Solution. s65 Moment tensor: Scale 10^18 Nm; Mrr=1.44; Mθθ=0.24; Mφφ=1.21; Mrθ=0.77; Mφθ=0.04; Mφr=-3.37; Best double couple: M0=3.70000×10^18 NP1:φs12.00000°, δ80.00000°, λ-87.00000°. NP2:φs178.00000°, δ11.00000°, λ-104.00000°. Principal axes: T 3.5700, Plg34.0000°, Azm99.0000°; N 0.2600, Plg2.0000°, Azm191.0000°; P -3.8300, Plg55.0000°, Azm285.0000°; Broadband fault plane solution: P waves. NP1:φs185.00000°, δ15.00000°, λ-90.00000°. NP2:φs5.00000°, δ75.00000°, λ-90.00000°. Principal axes: T Plg30.0000°, Azm95.0000°; N Plg0.0000°, Azm0.0000°; P Plg60.0000°, Azm275.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [VI] at Calama; [IV] at Mejillones, Pica, Pozo Almonte, San Pedro de Atacama and Sierra Gorda; [III] at Alto Hospicio, Antofagasta, Huara, Iquique and Tocopilla; [II] at Camina, Chanaral, Copiapo and Tierra Amarilla. Also felt at Arica, Curico and San Antonio. Felt [II] at Arequipa, Peru. Also felt at Puno and Tacna. Felt at San Salvador de Jujuy, Argentina and at Tarija, Bolivia.

*LDG **04** 22:39:28.6, 21°.25S×68°.36W, h110km*

ISC 04 22:39:25.7±0.2, 22°.27S±0°.03×68°.46W±0°.03, h108km±1km, h108km:pP-P, n1874, σ1°37/2395, mb6.1/335, 318C-272D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.54	230	ePn	Pn	22 39 42.0	-1.0
LVC				eSn	Sn	22 39 56.5	+0.5
SPCH	San Pedro de A	0.68	160	eP	Pn	22 39 44.3	+0.1
SPCH				i S	Sn	22 39 59.1	+1.1
SPCH	San Pedro de A	0.68	160	eP	Pn	22 39 44.3	+0.1
SPCH				i S	Sn	22 39 59.1	+1.1
MACH	Maria Elena	1.21	273	eP	Pn	22 39 47.1	-2.2
MACH				i S	Sn	22 40 04.2	-2.8
MACH	Maria Elena	1.21	273	eP	Pn	22 39 47.1	-2.2
MACH				i S	Sn	22 40 04.2	-2.8
CEN1	Los Morros	1.96	235	eP9	Pn	22 39 58.8	+0.6
CEN1				i S	Sn	22 40 22.8	-0.3
CEN1				AML	AML	22 40 32.2	
	comp=N,81μm,0.6s						
ANCH	Antofagasta	2.29	232	⇑iP	Pn	22 39 55.3	-7.0
ANCH				i S	Sn	22 40 20.3	-10
ANCH				AML	AML	22 40 31.0	
	comp=N,156μm,0.8s						
ANCH	Antofagasta	2.29	232	⇑iP	Pn	22 39 55.3	-7.0
ANCH				i S	Sn	22 40 20.3	-10
CDCH	Caldera	5.24	204	⇓iP	Pn	22 40 36.4	-5.4
CDCH	Caldera	5.24	204	⇓iP	Pn	22 40 36.4	-5.4
CPCH	Copiapo	5.36	198	eP	Pn	22 40 38.6	-4.8
CPCH				i S	Sn	22 41 34.4	-9.4
CPCH	Copiapo	5.36	198	eP	Pn	22 40 38.6	-4.8
CPCH				i S	Sn	22 41 34.4	-9.4
LPAZ	La Paz	5.95	3	eP	Pn	22 40 54.3	+2.2
LPAZ				e		22 41 49.0	
LPAZ	La Paz	5.95	3	P	Pn	22 40 53.8	+1.7
	comp=N,0.5nm,0.3s,baz=188,slow=9.0,SNR=35						
LPAZ				LR	LR	22 43 04.7	
	comp=N,28μm,18.8s,baz=190,slow=37						
LPAZ	La Paz	5.95	3	ePn	Pn	22 40 54.2	+2.2
LPAZ				eSn	Sn	22 41 49.0	-11
I08BO	LAS PENAS INFR	6.02	0	P	Pn	22 40 52.4	-0.5
ARE	Arequipa	6.44	333	eP	Pn	22 40 55.0	-3.4
ARE				eS	Sn	22 42 08.0	-2.7
ARE	Arequipa	6.44	333	eP	Pn	22 40 55.0	-3.4
ARE				eS	Sn	22 42 08.0	-2.7
CFAA	Coronel Fontan	9.30	179	P	Pn	22 41 32.4	-4.5
	comp=N,4.9nm,0.3s,baz=352,slow=13,SNR=253						
SIV	San Ignacio	9.36	49	P	Pn	22 41 36.5	-1.3
	comp=N,582nm,0.3s,baz=232,slow=12,SNR=1178						
CPUP	Villa Florida	10.93	114	eP	Pn	22 41 56.7	-2.2
CPUP	Villa Florida	10.93	114	P	Pn	22 41 57.6	-1.2
	comp=N,10nm,0.3s,baz=280,slow=11,SNR=319						
CPUP				LR	LR	22 46 55.2	
	comp=N,57μm,20.9s,baz=290,slow=41						
CPUP	Villa Florida	10.93	114	ePn	Pn	22 41 56.7	-2.2
NNA	Nana	12.98	321	Pn	Pn	22 42 26.6	+0.4
	comp=N,4μm,1.5s,SNR=15						
NNA	Nana	12.98	321	eP	Pn	22 42 25.7	-0.6
NNA				e		22 44 50.2	
NNA	Nana	12.98	321	P	Pn	22 42 25.6	-0.6
	comp=N,2.5nm,0.3s,baz=158,slow=15,SNR=17						
NNA	Nana	12.98	321	ePn	Pn	22 42 25.7	-0.6
NNA				eSn	Sn	22 44 50.2	+1.0
SAML	Samuel	14.18	22	ePn	Pn	22 42 39.0	-2.6
SAML				eSn	Sn	22 45 19.1	+1.0
TRQA	Tornquist	16.70	162	ePn	Pn	22 43 10.3	-2.8
	comp=N,4μm,1.5s						
TRQA				eSn	Sn	22 46 15.9	-2.7
ATAH	Atahualpa	17.84	326	P	P	22 43 26.6	-0.1
	comp=N,3.7nm,0.3s,baz=153,slow=7.9,SNR=93						
PLCA	Paso Flores	18.50	185	P	P	22 43 32.1	-1.3
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PLCA	Paso Flores	18.50	185	P	P	22 43 32.1	-1.3
	comp=Z,4.9nm,0.3s,baz=3.7,slow=15,SNR=34						
BDFB	Brasilia	20.42	75	P	P	22 43 53.8	-0.7
BDFB				pmax	pmax		
	comp=Z,881nm,0.7s						
BDFB				MLR	MLR		
	comp=Z,19μm,19.8s						
BDFB	Brasilia	20.42	75	P	P	22 43 53.8	-0.7
	comp=Z,881nm,0.7s,baz=248,slow=11,SNR=395						
BDFB				LR	LR	22 53 00.7	
	comp=Z,19μm,19.8s,baz=246,slow=40						
OTAV	Otavalo	24.40	335	eP	P	22 44 36.1	+1.5
	comp=Z,3μm,1.8s						
ROSC	El Rosal	27.56	347	P	P	22 45 02.8	-0.3
	comp=Z,30nm,0.7s,baz=161,slow=3.2,SNR=23						
ROSC				LR	LR	22 57 51.1	
	comp=Z,14μm,18.5s,baz=189,slow=40						
ROSC	El Rosal	27.56	347	eP	P	22 45 04.0	+0.9
PAYG	Puerto Ayora	30.20	312	eP	P	22 45 27.5	+1.4
	comp=Z,761nm,1.4s						
EFI	East Falkland	30.45	167	P	P	22 45 26.3	-1.5
	comp=Z,1μm,0.8s,SNR=27						
EFI	East Falkland	30.45	167	eP	P	22 45 26.9	-0.9
EFI	East Falkland	30.45	167	eP	P	22 45 26.4	-1.5
EFI				epP	pP	22 45 51.9	+0.1
EFI				ePcP	PcP	22 48 25.6	+1.0
SDV	Santo Domingo	31.03	356	eP	P	22 45 32.2	-1.4
	comp=Z,697nm,1.8s						
USHA	Ushuaia	32.52	180	P	P	22 45 45.2	-0.8
	comp=Z,191nm,1.0s,baz=342,slow=8.2,SNR=73						
USHA				LR	LR	22 59 13.3	
	comp=Z,8μm,19.7s,baz=347,slow=36						
BCIP	Isla Barro Col	33.17	339	eP	P	22 45 53.6	+1.5
	comp=Z,688nm,1.1s						
TOSP	Speyside	34.25	14	eP	P	22 46 02.5	+1.1
GRGR	Grenville	34.83	12	eP	P	22 46 05.9	-0.5
GRGR	Grenville	34.83	12	eP	P	22 46 06.1	-0.4
	comp=Z,552nm,0.6s						
GRGR				epP	pP	22 46 33.0	+2.2
RCBR	Riachuelo	35.43	67	P	P	22 46 11.4	-0.4
	comp=Z,2μm,0.8s,baz=231,slow=9.9,SNR=372						
RCBR				LR	LR	23 01 24.0	
	comp=Z,10μm,19.2s,baz=238,slow=37						
RCBR	Riachuelo	35.43	67	eP	P	22 46 11.5	-0.3
	comp=Z,2μm,0.8s						
SVB	Belmont	36.02	12	eP	P	22 46 15.7	-0.9
JTS	JuntasAbangare	36.17	332	P	P	22 46 20.6	+2.6
	comp=Z,3μm,1.3s,SNR=40						
JTS	JuntasAbangare	36.17	332	d iP	P	22 46 19.8	+1.8
JTS	JuntasAbangare	36.17	332	eP	P	22 46 19.7	+1.8
	comp=Z,956nm,1.3s						
BIM	Bigot	37.27	12	eP	P	22 46 25.1	-2.1
TRMF	Trois Ilets	37.29	12	eP	P	22 46 26.1	-1.2
ZAM	Aeronautique	37.33	12	eP	P	22 46 26.6	-1.1
MVM	Montagne Vauci	37.34	12	eP	P	22 46 27.1	-0.7
RPN	Rapa Nui	37.34	254	P	P	22 46 28.9	+1.1
	comp=Z,4μm,1.3s,SNR=6.5						
RPN	Rapa Nui	37.34	254	P	P	22 46 27.0	-0.8
RPN				pmax	pmax		
	comp=Z,445nm,1.1s						
RPN	Rapa Nui	37.34	254	P	P	22 46 26.9	-0.8
	comp=Z,445nm,1.1s,baz=28,slow=2.8,SNR=15						
LPMF	Morne Lapointe	37.34	12	eP	P	22 46 26.9	-0.9
FDF	Fort de France	37.46	12	eP	P	22 46 26.9	-2.0
FDF	Fort de France	37.46	12	eP	P	22 46 27.2	-1.7
BVM	Bellevue	37.48	12	eP	P	22 46 29.0	0.0
HMG	Houelmont	38.58	10	eP	P	22 46 36.0	-2.2
PHG	Guadaloupe-2	38.62	11	eP	P	22 46 36.7	-2.0
DOG	Dongo Capester	38.65	11	eP	P	22 46 36.6	-2.2
FNG	Fond-Bernard	38.66	10	eP	P	22 46 35.9	-3.1
DEG	La Desirade	39.02	11	eP	P	22 46 37.0	-4.9
SEG	Port Louis	39.03	11	eP	P	22 46 39.4	-2.6
SEUS	St. Eustatius	39.88	8	eP	P	22 46 49.7	+0.7
	comp=Z,669nm,1.5s						
CDVI	St. Croix	39.94	5	eP	P	22 46 47.2	-2.2
	comp=Z,151nm,0.8s						
SABA	Saba	39.97	8	eP	P	22 46 47.7	-2.0
	comp=Z,210nm,0.8s						
HOPE	Hope Point	40.01	151	P	P	22 46 51.6	+1.9
	comp=Z,7μm,1.0s,SNR=30						
HOPE	Hope Point	40.01	151	eP	P	22 46 50.7	+1.0
HOPE				epP	pP	22 47 15.9	+1.5
CRPR	Cabo Rojo, PR	40.05	2	eP	P	22 46 48.4	-1.9
CRPR				epP	pP	22 47 15.3	+0.2
OBIP	Obispado Ponce	40.10	3	eP	P	22 46 48.7	-2.1
	comp=Z,369nm,0.9s						
OBIP				epP	pP	22 47 14.9	-0.7
CNCH	Conchagua	40.11	330	eP	P	22 46 51.8	+0.7
CPD	Cerro la Pandu	40.13	4	eP	P	22 46 49.2	-1.9
CPD				e*PP	pP	22 47 16.5	+0.6
CPD	Cerro la Pandu	40.13	4	eP	P	22 46 49.2	-1.9
CPD				epP	pP	22 47 16.5	+0.6
CELP	Cerrillos	40.13	3	eP	P	22 46 49.3	-1.8
CELP				epP	pP	22 47 15.7	-0.2
LSP	Las Mesas	40.22	2	eP	P	22 46 49.3	-2.5
LSP				epP	pP	22 47 15.9	-0.7
ANWB	Willy Bob	40.22	10	eP	P	22 46 48.2	-3.6
ANWB	Willy Bob	40.22	10	eP	P	22 46 48.5	-3.3
	comp=Z,360nm,0.6s						
ANWB				epP	pP	22 47 15.7	-0.9
HUMP	Col San Antoni	40.24	4	eP	P	22 46 49.9	-2.0
HUMP				epP	pP	22 47 17.4	+0.7
MPR	Mayaguez	40.25	2	eP	P	22 46 50.0	-2.0
MPR				epP	pP	22 47 17.4	+0.6
LRS	Lares	40.34	2	eP	P	22 46 50.7	-2.1
LRS				epP	pP	22 47 17.8	+0.2
LRS				ePcP	PcP	22 48 53.7	-0.6
CBYP	Canovanas	40.37	4	eP	P	22 46 50.7	-2.4
CBYP				epP	pP	22 47 18.6	+0.7
AOPR	Arecibo Observ	40.40	2	eP	P	22 46 51.3	-2.0
AOPR				epP	pP	22 47 19.6	+1.5
SMRT	St. Maarten	40.41	8	eP	P	22 46 49.5	-3.9
SMRT				epP	pP	22 47 17.5	-0.7
VSM	San Miguel	40.45	329	eP	P	22 46 54.4	+0.4
JAKH	Jacmel	40.45	354	eP	P	22 46 52.1	-1.6
	comp=Z,499nm,1.7s						
JAKH				ePP	PP	22 48 29.6	+0.5
JAKH				ePcP	PcP	22 48 53.3	-1.3
STVI	Saint Thomas	40.51	5	eP	P	22 46 51.6	-2.6
	comp=Z,81nm,0.8s						
STVI				ePcP	PcP	22 48 54.4	-0.4
PAPH	Port-au-Prince	40.71	354	eP	P	22 46 54.6	-1.2
	comp=Z,547nm,1.7s						
LGNH	LØogne	40.73	354	eP	P	22 46 55.2	-0.8
	comp=Z,160nm,1.0s						
LGNH				ePcP	PcP	22 48 56.7	+1.2
SDDR	Presa de Saban	41.09	356	eP	P	22 46 58.4	-0.6
	comp=Z,108nm,1.1s						
SDDR				ePP	PP	22 48 35.8	-0.3
BOQS	Boqueron	41.19	328	eP	P	22 47 01.4	+1.3
MTDJ	Mount Denham	41.21	347	eP	P	22 47 00.1	0.0
	comp=Z,321nm,1.1s						
SBLS	San Blas	41.45	328	eP	P	22 47 02.7	+0.5
SNJE	San Jose	41.47	328	eP	P	22 47 02.5	+0.2
GTBY	Guantanamo Bay	42.44	351	eP	P	22 47 09.2	-0.7
	comp=Z,144nm,1.3s						
MRL	Marmol	42.54	329	eP	P	22 47 08.8	-2.2
PMSA	Palmer Station	42.59	177	P	P	22 47 10.3	-0.4
	comp=Z,162nm,0.8s,baz=14,slow=8.6,SNR=15						
PMSA	Palmer Station	42.59	177	eP	P	22 47 10.2	-0.5
	comp=Z,1μm,1.5s						
GRTK	Grand Turk	43.59	356	eP	P	22 47 18.4	-0.8
	comp=Z,2μm,2.1s						
CMIG	Matias Romero	46.90	324	P	P	22 47 46.1	+0.7
	comp=Z,229nm,1.1s,baz=136,slow=6.4,SNR=136						
H10S3	ASCENSION HYDR	53.21	85	P	P	22 48 33.5	+0.5
	baz=256,slow=7.6,SNR=17						
H10S2	ASCENSION HYDR	53.23	85	P	P	22 48 33.6	+0.4
	baz=256,slow=7.6,SNR=21						
H10S1	ASCENSION HYDR	53.23	85	P	P	22 48 33.7	+0.5
	baz=256,slow=7.6,SNR=29						
H10N3	ASCENSION HYDR	53.77	83	P	P	22 48 38.1	+1.1
	baz=232,slow=7.3,SNR=19						
H10N1	ASCENSION HYDR	53.78	83	P	P	22 48 37.8	+0.6
	baz=232,slow=7.3,SNR=37						
H10N2	ASCENSION HYDR	53.78	83	P	P	22 48 37.8	+0.7
	baz=232,slow=7.3,SNR=18						
ASCN	Ascension	53.86	83	P	P	22 48 38.9	+0.8
	comp=Z,3μm,1.1s,SNR=15						
ASCN	Ascension	53.86	83	eP	P	22 48 38.3	+0.3
	comp=Z,1μm,1.1s						
BBSR	BB Station	54.45	4	eP	P	22 48 41.8	0.0
	comp=Z,102nm,0.8s						
TIGA	Tifton	55.33	344	⇑P	P	22 48 48.2	0.0
	baz=56,SNR=10						
TIGA	Tifton	55.33	344	eP	P	22 48 47.8	-0.4
	comp=Z,541nm,1.3s						
BRAL	Brewton	55.90	341	eP	P	22 48 53.1	+0.8
	comp=Z,3μm,1.8s						
BRAL				epP	pP	22 49 21.2	+2.8
PTCN	Pitcairn Islan	56.09	254	eP	P	22 48 55.5	+1.5
	comp=Z,2μm,1.2s						
NHSC	New Hope	56.19	348	eP	P	22 48 54.8	+0.5
NHSC				epP	pP	22 49 21.8	+1.3
035Z	Hargill	56.29	328	⇓P	P	22 48 56.0	+0.8
	baz=57,SNR=6.1						
035A	Encino	56.70	328	⇓P	P	22 48 58.6	+0.5
	baz=57,SNR=22						
034A	Hebbronville	57.10	328	⇑P	P	22 49 01.6	+0.8
	baz=57,SNR=115						
KV

KMSC *e*pP **pP** **22 49 36.3 +0.2**
833A Chaparral WMA, 58.49 328 ⇑P **P** **22 49 11.1 +0.5**
baz=59,SNR=258
734A La Parita Cree 58.52 329 ⇑P **P** **22 49 11.1 +0.3**
baz=59,SNR=66
537A Green Hill Far 58.53 332 ⇓P **P** **22 49 11.9 +1.0**
baz=59,SNR=69
635A Leesville 58.60 330 ⇓P **P** **22 49 11.5 +0.1**
baz=59,SNR=78
340A Bronson 58.68 335 ⇓P **P** **22 49 12.8 +1.0**
baz=59,SNR=113
832A Faith Ranch, C 58.74 327 ⇑P **P** **22 49 12.6 +0.3**
baz=59,SNR=335
438A Sam Houston St 58.75 333 ⇑P **P** **22 49 13.7 +1.3**
baz=59,SNR=82
733A Divot King Ran 58.77 328 ⇑P **P** **22 49 12.8 +0.3**
baz=59,SNR=89
536A Bastrop 58.86 331 ⇑P **P** **22 49 13.4 +0.3**
baz=59,SNR=47
634A China Grove, S 58.87 329 ⇓P **P** **22 49 13.2 0.0**
baz=59,SNR=13
339A Huntington 58.88 334 ⇓P **P** **22 49 14.2 +1.0**
baz=59,SNR=57
535A Dale 59.05 331 ⇓P **P** **22 49 14.5 0.0**
baz=59,SNR=45
437A Phantom Ranch, 59.10 332 ⇓P **P** **22 49 15.6 +0.8**
baz=59,SNR=20
732A Laxson Ranch, 59.11 328 ⇑P **P** **22 49 15.2 +0.3**
baz=59,SNR=267
338A Crockett 59.21 333 ⇓P **P** **22 49 16.9 +1.4**
baz=60,SNR=113
VNA3 Neumayer Olymp 59.22 161 P **P** **22 49 15.5 +0.3**
SHEL Horse Pasture 59.24 96 P **P** **22 49 17.6 +1.4**
comp=Z,8μm,1.0s,SNR=80
SHEL Horse Pasture 59.24 96 *i* P **P** **22 49 17.1 +0.9**
SHEL Horse Pasture 59.24 96 *e*P **P** **22 49 16.7 +0.5**
comp=Z,1μm,0.8s
NATX Nacogdoches 59.29 334 *e*P **P** **22 49 16.8 +0.7**
comp=Z,3μm,1.5s
NATX *e*pP **pP** **22 49 43.3 +0.8**
NATX *e*PcP **PcP** **22 50 03.4 +0.3**
633A Saathoff Ranch 59.32 329 ⇓P **P** **22 49 16.7 +0.3**
baz=60,SNR=196
436A Wall Ranch, Ga 59.34 332 ⇑P **P** **22 49 17.1 +0.7**
baz=60,SNR=32
TKL Tuckaleechee C 59.41 346 *e*P **P** **22 49 16.2 -0.6**
TKL *e**PP **pP** **22 49 43.9 +0.6**
TKL Tuckaleechee C 59.41 346 *e*P **P** **22 49 16.2 -0.6**
TKL *e*pP **pP** **22 49 43.9 +0.6**
337A Centerville 59.41 333 ⇑P **P** **22 49 18.1 +1.2**
baz=60,SNR=61
VNA1 Neumayer--Stat 59.43 160 P **P** **22 49 17.2 +0.7**
534A Blanco 59.47 330 ⇑P **P** **22 49 16.7 -0.7**
baz=60,SNR=64
632A Uvalde 59.66 328 ⇓P **P** **22 49 19.1 +0.4**
baz=60,SNR=171
435B Jarrell 59.70 331 ⇓P **P** **22 49 19.2 +0.2**
baz=60,SNR=19
533A Kerrville 59.77 329 ⇓P **P** **22 49 19.5 0.0**
baz=60,SNR=82
VNA2 Neumayer--Watz 59.79 161 P **P** **22 49 19.1 0.0**
OXF Oxford 59.87 340 *e*P **P** **22 49 18.7 -1.3**
OXF *e**PP **pP** **22 49 46.6 +0.1**
OXF pmax pmax
comp=Z,562nm,1.0s
OXF Oxford 59.87 340 *e*P **P** **22 49 18.7 -1.3**
comp=Z,562nm,1.0s
OXF *e*pP **pP** **22 49 46.6 +0.1**
336A Riesel 59.89 332 ⇓P **P** **22 49 20.5 +0.3**
baz=60,SNR=77
631A Perdido Creek 59.97 328 ⇑P **P** **22 49 20.6 -0.2**
baz=60,SNR=302
434A Burnet 60.03 330 ⇓P **P** **22 49 20.8 -0.4**
baz=60,SNR=191
335A Moody 60.05 331 ⇑P **P** **22 49 21.5 +0.1**
baz=60,SNR=109
URVA University of 60.13 352 *e*P **P** **22 49 21.7 +0.1**
VWCC Virginia Weste 60.18 349 *e*P **P** **22 49 22.6 +0.5**
VWCC *e*pP **pP** **22 49 48.4 -0.2**
TZTN Tazewell 60.20 346 *e*P **P** **22 49 21.6 -0.7**
TZTN *e*pP **pP** **22 49 49.6 +0.8**
BLA Blacksburg 60.22 349 *e*P **P** **22 49 22.8 +0.3**
BLA *e**PP **pP** **22 49 48.7 -0.3**
BLA pmax pmax
comp=Z,578nm,1.1s
BLA Blacksburg 60.22 349 *e*P **P** **22 49 22.8 +0.3**
comp=Z,578nm,1.1s
BLA *e*pP **pP** **22 49 48.6 -0.3**
532A Rocksprings 60.23 329 ⇑P **P** **22 49 22.7 +0.1**
baz=60,SNR=341
JSRW J. Sargeant Re 60.29 351 *e*P **P** **22 49 23.3 +0.5**
JSRW *e*pP **pP** **22 49 50.9 +1.6**
433A Art 60.37 330 ⇓P **P** **22 49 23.3 -0.2**
baz=61,SNR=275
334A Lometa 60.46 331 ⇓P **P** **22 49 23.9 -0.3**
baz=61,SNR=108
JCT Junction City 60.47 329 *e*P **P** **22 49 24.1 -0.2**
JCT *e**PP **pP** **22 49 51.8 +1.0**
JCT pmax pmax
comp=Z,574nm,1.0s
JCT Junction City 60.47 329 ⇓P **P** **22 49 24.2 -0.2**
baz=61,SNR=186
JCT Junction City 60.47 329 *e*P **P** **22 49 24.1 -0.2**
comp=Z,574nm,1.0s
JCT *e*pP **pP** **22 49 51.8 +1.0**
531A Rocksprings 60.57 328 ⇑P **P** **22 49 25.3 +0.3**
baz=61,SNR=414
WHTX Lake Whitney, 60.67 332 ⇓P **P** **22 49 25.7 +0.2**
baz=61,SNR=84
WHTX Lake Whitney, 60.67 332 *e*P **P** **22 49 25.5 -0.1**
comp=Z,3μm,1.6s
WHTX *e*pP **pP** **22 49 52.7 +0.7**
333A Richland Sprin 60.79 330 ⇓P **P** **22 49 26.2 -0.2**
baz=61,SNR=212
432A Menard 60.80 329 ⇑P **P** **22 49 26.5 0.0**
baz=61,SNR=354
RKT Rikitea 60.86 255 *e*P **P** **22 49 28.1 +1.0**
RKT *e*pP **pP** **22 49 54.3 +0.6**
comp=Z,290nm,1.3s
RKT *e*S S 22 57 30.0 -6.7
comp=Z,9μm,26.3s
RKT *e*LQ LQ 23 04 46.9
comp=Z,7μm,27.2s
RKT *e*LR LR 23 07 19.0
comp=Z,24μm,37.2s,baz=102
WVT Waverly 60.90 342 *e*P **P** **22 49 26.0 -1.0**
WVT *e**PP **pP** **22 49 52.6 -0.9**
WVT pmax pmax
comp=Z,2μm,1.9s
WVT Waverly 60.90 342 *e*P **P** **22 49 26.0 -1.0**
comp=Z,2μm,1.9s
WVT *e*pP **pP** **22 49 52.6 -0.9**
530A J-C Ranch, Com 60.95 327 ⇑P **P** **22 49 27.7 +0.2**
baz=61,SNR=230
234A Clairette 60.98 331 ⇓P **P** **22 49 27.7 0.0**
baz=61,SNR=332
431A Sonora 61.03 328 ⇑P **P** **22 49 27.9 -0.1**
baz=61,SNR=225
UALR University of 61.10 338 *e*P **P** **22 49 27.8 -0.6**
UALR *e*pP **pP** **22 49 55.2 +0.3**
135A Vickery Place, 61.13 332 ⇑P **P** **22 49 28.8 +0.2**
baz=61,SNR=27
332A Millersview 61.20 330 ⇓P **P** **22 49 29.2 0.0**
baz=62,SNR=268
HBAR Harrisburg 61.23 339 *e*P **P** **22 49 28.7 -0.5**
MIAR Mount Ida 61.34 336 *e*P **P** **22 49 29.8 -0.2**
MIAR *e**PP **pP** **22 49 56.4 -0.1**
MIAR pmax pmax
comp=Z,768nm,1.2s
MIAR Mount Ida 61.34 336 *e*P **P** **22 49 29.8 -0.2**
comp=Z,768nm,1.2s
MIAR *e*pP **pP** **22 49 56.4 -0.1**
233A Rising Star 61.34 331 ⇓P **P** **22 49 30.0 0.0**
baz=62,SNR=260
529A Stev Forest Ra 61.37 327 ⇓P **P** **22 49 30.8 +0.4**
baz=62,SNR=709
430A Baggett Ranch, 61.42 328 ⇑P **P** **22 49 30.5 -0.2**
baz=62,SNR=160
SNAA Sanae 61.42 161 P **P** **22 49 30.5 +0.3**
SNAA Sanae 61.42 161 ⇓*i*P **P** **22 49 30.1 -0.1**
SNAA Sanae 61.42 161 *d*/P **P** **22 49 29.7 -0.5**
SNAA *i* *PP **pP** **22 49 57.0 +0.2**
SNAA pmax pmax
comp=Z,783nm,1.7s
SNAA Sanae 61.42 161 P **P** **22 49 30.0 -0.2**
comp=Z,84nm,0.8s,baz=288,slow=7.3,SNR=122

SNAA LR LR 23 14 14.6
comp=Z,894nm,20.5s,baz=278,slow=34
SNAA Sanae 61.42 161 *e*P **P** **22 49 29.9 -0.2**
SNAA *e*pP **pP** **22 49 56.8 0.0**
134A White-Moore Ra 61.44 332 ⇓P **P** **22 49 30.8 0.0**
baz=62,SNR=83
331A San Angelo 61.46 329 ⇓P **P** **22 49 30.8 -0.1**
baz=62,SNR=119
LPIG La Paz 61.47 316 LR LR 23 12 40.5
comp=Z,1μm,20.8s,baz=121,slow=32
TXAR Lajitas Array 61.49 325 P **P** **22 49 31.4 +0.1**
TXAR *PP **pP** **22 49 58.5 +0.6**
TXAR pmax pmax
comp=Z,62nm,1.0s
TXAR pmax pmax
comp=Z,73nm,1.0s
TXAR Lajitas Array 61.49 325 P **P** **22 49 31.4 +0.1**
comp=Z,62nm,1.0s,baz=146,slow=7.4,SNR=237
TXAR pP **pP** **22 49 58.5 +0.6**
comp=Z,73nm,1.0s,baz=142,slow=6.3,SNR=8.4
TXAR PKPPKP **P'P'df** **23 18 46.6 +4.4**
comp=Z,2.0nm,1.1s,baz=90,slow=0.5,SNR=5.7
TX31 Lajitas Ar. Si 61.49 325 *e*P **P** **22 49 31.1 -0.1**
TX31 *e*pP **pP** **22 49 58.5 +0.6**
232A Coleman 61.57 330 ⇑P **P** **22 49 31.7 0.0**
baz=62,SNR=353
429A Davenport Ranc 61.61 327 ⇑P **P** **22 49 32.2 +0.2**
baz=62,SNR=312
PVMO Portageville 61.72 341 *e*P **P** **22 49 32.4 -0.1**
comp=Z,6μm,2.0s
PVMO *e*pP **pP** **22 49 59.7 +0.6**
Z35A Perchaven, San 61.73 333 ⇑P **P** **22 49 33.0 +0.3**
baz=62,SNR=182
133A Hamilton Ranch 61.84 331 ⇓P **P** **22 49 33.4 0.0**
baz=62,SNR=128
330A Mertzon 61.90 328 ⇓P **P** **22 49 33.9 0.0**
baz=62,SNR=143
231A Bronte 61.92 329 ⇓P **P** **22 49 33.7 -0.3**
baz=62,SNR=73
Z34A Collier Ranch, 62.05 332 ⇑P **P** **22 49 35.0 +0.2**
baz=62,SNR=73
ABTX Abilene, Hawle 62.19 330 ⇑P **P** **22 49 35.7 0.0**
baz=62,SNR=165
ABTX Abilene, Hawle 62.19 330 *e*P **P** **22 49 35.8 0.0**
comp=Z,2μm,1.4s
ABTX *e*pP **pP** **22 50 02.7 +0.3**
230A Sterling City 62.26 329 ⇓P **P** **22 49 36.0 -0.4**
baz=63,SNR=57
PBMO Poplar Bluff 62.28 340 *e*P **P** **22 49 35.4 -0.8**
comp=Z,1μm,1.8s
Z33A Whitaker Ranch 62.35 331 ⇓P **P** **22 49 36.9 +0.1**
baz=63,SNR=228
329A Wagon Wheel Ra 62.36 328 ⇓P **P** **22 49 36.9 0.0**
baz=63,SNR=119
MVL Millersville 62.38 353 *e*P **P** **22 49 37.2 +0.4**
comp=Z,302nm,1.1s
WCI Wyandotte Cave 62.46 344 *e*P **P** **22 49 36.1 -1.4**
WCI *e**PP **pP** **22 50 04.0 -0.1**
WCI Wyandotte Cave 62.46 344 *e*P **P** **22 49 36.1 -1.4**
WCI *e*pP **pP** **22 50 04.0 -0.1**
Y34A Reagan Ranch, 62.48 333 ⇓P **P** **22 49 37.6 -0.1**
baz=63,SNR=127
131A Roby 62.57 330 ⇓P **P** **22 49 38.4 +0.1**
baz=63,SNR=111
USIN University of 62.57 343 *e*P **P** **22 49 36.8 -1.3**
USIN *e*pP **pP** **22 50 04.7 -0.2**
229A Bryant Ranch, 62.67 328 ⇓P **P** **22 49 38.9 -0.2**
baz=63,SNR=78
Z32A Haskell 62.68 331 ⇓P **P** **22 49 39.0 0.0**
baz=63,SNR=139
BBTS Babate 62.73 59 P **P** **22 49 40.0 +0.4**
comp=Z,649nm,0.9s,baz=250,slow=1.6,SNR=68
BBTS pP **pP** **22 50 06.8 +0.4**
comp=Z,275nm,1.1s,baz=152,slow=3.4,SNR=2.8
130A Snyder 62.78 329 ⇓P **P** **22 49 39.5 -0.2**
baz=63,SNR=93
SIUC Southern Illin 62.78 342 *e*P **P** **22 49 38.6 -0.9**
SIUC *e*pP **pP** **22 50 06.5 +0.3**
LUPA Lehigh Univers 62.87 354 *e*P **P** **22 49 40.3 +0.2**
comp=Z,20nm,0.9s
LUPA *e*pP **pP** **22 50 07.9 +1.1**
BRNJ Basking Ridge 62.88 355 *e*P **P** **22 49 40.9 +0.8**
comp=Z,241nm,1.0s
Y33A Hilltop Ranch, 62.90 332 ⇓P **P** **22 49 40.4 -0.1**
baz=63,SNR=64
CPNY Central Park 62.94 355 *e*P **P** **22 49 40.5 0.0**
comp=Z,714nm,1.8s
CPNY *e*pP **pP** **22 50 07.1 -0.1**
Z31A Sharp Cattle R 62.99 330 ⇓P **P** **22 49 41.1 0.0**
baz=63,SNR=193
X34A Smith Ranch, M 63.07 333 ⇓P **P** **22 49 41.6 +0.1**
baz=63,SNR=185
PAL Palisades 63.15 355 *e*P **P** **22 49 41.5 -0.4**
PAL *e**PP **pP** **22 50 09.5 +0.9**
PAL pmax pmax
comp=Z,684nm,1.8s
PAL Palisades 63.15 355 *e*P **P** **22 49 41.5 -0.4**
comp=Z,684nm,1.8s
PAL *e*pP **pP** **22 50 09.4 +0.9**
228A UT Block 9, Go 63.17 328 ⇓P **P** **22 49 42.1 -0.3**
baz=64,SNR=81
SSPA Standing Stone 63.19 352 *e*P **P** **22 49 42.6 +0.5**
SSPA *e*pP **pP** **22 50 10.1 +1.2**
129A Stewart Farms, 63.24 329 ⇑P **P** **22 49 42.6 -0.1**
baz=64,SNR=70
Y32A R-V Farms, Ver 63.26 331 ⇑P **P** **22 49 42.9 +0.1**
baz=64,SNR=94
ODNJ Ogdensburg 63.28 355 *e*P **P** **22 49 42.8 0.0**
comp=Z,185nm,1.2s
ODNJ *e*pP **pP** **22 50 10.4 +0.9**
X33A Lawton 63.30 332 ⇑P **P** **22 49 42.4 -0.7**
baz=64,SNR=20
TUL1 Leonard 63.38 335 ⇓P **P** **22 49 43.5 -0.1**
baz=64,SNR=94
TUL1 Leonard 63.38 335 *e*P **P** **22 49 43.2 -0.3**
comp=Z,2μm,1.5s
TUL1 *e*pP **pP** **22 50 10.7 +0.4**
YLE Yale 63.39 356 *e*P **P** **22 49 44.4 +0.9**
comp=Z,437nm,1.1s
YLE *e*pP **pP** **22 50 11.2 +1.0**
OLIL Olney 63.41 343 *e*P **P** **22 49 42.3 -1.4**
comp=Z,406nm,1.3s
OLIL *e*pP **pP** **22 50 09.2 -1.3**
BLO Bloomington 63.41 344 *e*P **P** **22 49 42.6 -1.1**
BLO *e**PP **pP** **22 50 10.3 -0.1**
BLO Bloomington 63.41 344 *e*P **P** **22 49 42.6 -1.1**
BLO *e*pP **pP** **22 50 10.3 -0.1**
Z30A Sanderson Ranc 63.42 330 ⇓P **P** **22 49 43.8 -0.2**
baz=64,SNR=257
128A Castleberry Fa 63.53 328 ⇓P **P** **22 49 44.6 -0.2**
baz=64,SNR=97
X32A Elmer 63.54 332 ⇑P **P** **22 49 44.4 -0.2**
baz=64,SNR=49
Y31A Rekieta Farm, 63.59 331 ⇓P **P** **22 49 45.1 +0.1**
baz=64,SNR=216
W34A Bridge Creek, 63.59 333 ⇑P **P** **22 49 44.5 -0.4**
baz=64,SNR=29
W34A Bridge Creek, 63.59 333 *e*P **P** **22 49 44.4 -0.6**
comp=Z,1μm,1.6s
W34A *e*pP **pP** **22 50 10.8 -0.9**
WMOK Wichita Mounta 63.59 332 *e*P **P** **22 49 43.8 -1.2**
WMOK *e**PP **pP** **22 50 10.0 -1.7**
WMOK pmax pmax
comp=Z,202nm,1.0s
WMOK Wichita Mounta 63.59 332 *e*P **P** **22 49 43.8 -1.2**
comp=Z,202nm,1.0s
WMOK *e*pP **pP** **22 50 10.0 -1.7**
ACSO Alum Creek Sta 63.63 348 *e*P **P** **22 49 44.1 -1.0**
ACSO *e*pP **pP** **22 50 11.8 -0.1**
Z29A Hungry Hill Ra 63.67 329 ⇑P **P** **22 49 45.2 -0.5**
baz=64,SNR=139
Y30A Stafford Cattl 63.81 330 ⇓P **P** **22 49 46.2 -0.3**
baz=64,SNR=49
W33A Caddo, Fort Co 63.81 333 ⇑P **P** **22 49 46.7 +0.3**
baz=64,SNR=231
KSPA Keystone Colle 63.86 354 *e*P **P** **22 49 46.7 +0.1**
comp=Z,217nm,1.0s
KSPA *e*pP **pP** **22 50 13.5 +0.2**
BRYW Bryant College 63.92 357 *e*P **P** **22 49 47.1 +0.1**
BRYW *e*pP **pP** **22 50 14.2 +0.4**
SLM Saint Louis 63.93 341 *e*P **P** **22 49 46.1 -1.0**
SLM *e**PP **pP** **22 50 13.7 -0.2**
SLM Saint Louis 63.93 341 *e*P **P** **22 49 46.0 -1.0**
SLM *e*pP **pP** **22 50 13.7 -0.2**
CLNB Carlsbad 63.93 327 *e*P **P** **22 49 47.8 +0.4**
CLNB *e*pP **pP** **22 50 15.6 +1.4**

V34A Guthrie 64.00 334 ⇑P **P** **22 49 47.2 -0.4**
baz=64,SNR=55
V34A Guthrie 64.00 334 *e*P **P** **22 49 47.0 -0.7**
comp=Z,2μm,1.7s
V34A *e*pP **pP** **22 50 14.2 -0.2**
X31A McDonald Ranch 64.02 331 ⇑P **P** **22 49 47.6 -0.3**
baz=64,SNR=175
Z28A Tucker Farm, M 64.02 329 ⇓P **P** **22 49 47.3 -0.7**
baz=64,SNR=100
W32A Sentinel 64.12 332 ⇓P **P** **22 49 48.4 -0.1**
baz=64,SNR=265
GDL2 Guadalupe Moun 64.13 326 *e*P **P** **22 49 48.9 +0.2**
GDL2 *e*pP **pP** **22 50 17.1 +1.5**
Y29A Porterfield Fa 64.15 330 ⇓P **P** **22 49 48.4 -0.4**
baz=64,SNR=18
MNTX Cornudas Mount 64.26 325 *e*P **P** **22 49 49.1 -0.4**
comp=Z,392nm,1.3s
MNTX *e*pP **pP** **22 50 17.0 +0.7**
X30A Coker Ranch, T 64.27 331 ⇑P **P** **22 49 49.2 -0.3**
baz=65,SNR=130
V33A Lossen Ranch, 64.30 333 ⇓P **P** **22 49 49.6 -0.1**
baz=65,SNR=167
QUA2 Belchertown 64.32 357 *e*P **P** **22 49 48.2 -1.4**
comp=Z,387nm,1.7s
WES Weston 64.38 358 *e*P **P** **22 49 50.5 +0.6**
WES pmax pmax
comp=Z,331nm,1.4s
WES Weston 64.38 358 *e*P **P** **22 49 50.5 +0.6**
comp=Z,331nm,1.4s
Y28A McKinney Farm, 64.47 329 ⇑P **P** **22 49 50.3 -0.5**
baz=65,SNR=24
W31A Holland Ranch, 64.47 332 ⇑P **P** **22 49 50.4 -0.4**
baz=65,SNR=74
ALLY Alegheny Colle 64.51 350 *e*P **P** **22 49 50.7 -0.1**
ALLY *e*pP **pP** **22 50 18.3 +0.6**
HRV Adam Dziewonsk 64.51 357 *e*P **P** **22 49 50.8 0.0**
HRV *e**PP **pP** **22 50 17.4 -0.2**
HRV pmax pmax
comp=Z,188nm,0.9s
HRV Adam Dziewonsk 64.51 357 *e*P **P** **22 49 50.8 0.0**
comp=Z,188nm,0.9s
HRV *e*pP **pP** **22 50 17.4 -0.2**
BINY Binghamton 64.52 354 *e*P **P** **22 49 51.3 +0.4**
comp=Z,328nm,0.9s
BINY *e*pP **pP** **22 50 18.3 +0.6**
U34A Anderson Ranch 64.53 334 ⇑P **P** **22 49 51.1 0.0**
baz=65,SNR=132
U34A Anderson Ranch 64.53 334 *e*P **P** **22 49 50.9 -0.2**
comp=Z,3μm,1.7s
U34A *e*pP **pP** **22 50 18.7 +0.8**
V32A Arapaho 64.54 333 ⇓P **P** **22 49 51.3 +0.2**
baz=65,SNR=71
X29A Tulia 64.65 330 ⇓P **P** **22 49 51.7 -0.4**
baz=65,SNR=92
SFIN Lafayette 64.70 344 ⇑P **P** **22 49 50.5 -1.6**
baz=65,SNR=33
SFIN Lafayette 64.70 344 *e*P **P** **22 49 50.5 -1.6**
SFIN *e*pP **pP** **22 50 18.2 -0.6**
W30A Crocket Farms 64.75 331 ⇑P **P** **22 49 52.3 -0.3**
baz=65,SNR=24
U33A Lingo Farm, Me 64.76 334 ⇑P **P** **22 49 52.1 -0.5**
baz=65,SNR=98
MSTX Muleshoe 64.77 329 ⇑P **P** **22 49 52.5 -0.3**
baz=65,SNR=206
MSTX Muleshoe 64.77 329 *e*P **P** **22 49 52.6 -0.2**
comp=Z,2μm,1.3s
MSTX *e*pP **pP** **22 50 20.3 +0.7**
Z26A Caprock 64.79 327 ⇑P **P** **22 49 53.0 0.0**
baz=65,SNR=285
TRY Troy 64.85 356 *e*P **P** **22 49 53.4 +0.4**
comp=Z,436nm,1.0s
TRY *e*pP **pP** **22 50 21.1 +1.3**
Y27A Causey 64.88 328 ⇓P **P** **22 49 53.2 -0.5**
baz=65,SNR=143
V31A Spring Creek L 64.92 332 ⇓P **P** **22 49 54.2 +0.5**
baz=65,SNR=79
ERPA Erie 64.94 351 *e*P **P** **22 49 53.5 -0.2**
ERPA *e*pP **pP** **22 50 21.5 +1.1**
X28A Dimmitt 64.94 330 ⇓P **P** **22 49 53.7 -0.3**
baz=65,SNR=32
AMTX Amarillo 65.00 330 ⇓P **P** **22 49 53.9 -0.4**
baz=65
AMTX Amarillo 65.00 330 *e*P **P** **22 49 53.8 -0.5**
comp=Z,429nm,1.1s
AMTX *e*pP **pP** **22 50 21.4 +0.2**
U32A Winter Ranch, 65.08 333 ⇑P **P** **22 49 54.7 0.0**
baz=65,SNR=42
Z25A Roswell 65.17 327 ⇓P **P** **22 49 55.2 -0.3**
baz=66,SNR=136
W29A Amarillo 65.18 330 ⇓P **P** **22 49 55.1 -0.4**
baz=66,SNR=117
Y26A Elida 65.24 328 ⇑P **P** **22 49 55.6 -0.4**
baz=66,SNR=57
MMNY Mt. Morris Dam 65.26 352 *e*P **P** **22 49 55.7 +0.1**
comp=Z,1μm,1.4s
MMNY *e*pP **pP** **22 50 23.6 +1.1**
V30A Spur Ranch, Mi 65.28 331 ⇓P **P** **22 49 56.8 +0.7**
baz=66,SNR=118
T33A Patterson Ranc 65.37 334 ⇓P **P** **22 49 56.8 +0.2**
baz=66,SNR=57
U31A Nine Bar Ranch 65.43 332 ⇓P **P** **22 49 57.0 0.0**
baz=66,SNR=21
X27A F and S Farms, 65.47 329 ⇑P **P** **22 49 57.1 -0.3**
baz=66,SNR=23
FFD Franklin Falls 65.47 357 *e*P **P** **22 49 57.5 +0.5**
comp=Z,284nm,1.4s
ACCN Adirondack Com 65.50 356 *e*P **P** **22 49 57.8 +0.6**
comp=Z,618nm,1.6s
Z24A Sheeppen Canyo 65.54 326 ⇑P **P** **22 49 58.2 +0.2**
baz=66,SNR=367
W28A Vega 65.55 330 ⇓P **P** **22 49 58.1 +0.2**
baz=66,SNR=41
Y25A Mesa, Roswell 65.67 327 ⇓P **P** **22 49 58.4 -0.3**
baz=66,SNR=212
S33A Kaszmaul Farm, 65.71 335 ⇑P **P** **22 49 58.7 0.0**
baz=66,SNR=37
T32A Huddler Ranch, 65.73 334 ⇓P **P** **22 49 59.1 +0.2**
baz=66,SNR=60
X26A CR and CF Fran 65.74 328 ⇑P **P** **22 49 59.1 0.0**
baz=66,SNR=117
HNH Hanover 65.74 357 *e*P **P** **22 49 58.9 +0.1**
comp=Z,686nm,1.6s
V29A Stinnett 65.75 331 ⇓P **P** **22 49 58.9 -0.2**
baz=66,SNR=12
AAM Ann Arbor 65.76 348 *e*P **P** **22 49 58.2 -0.7**
AAM *e**PP **pP** **22 50 25.7 -0.1**
AAM Ann Arbor 65.76 348 *e*P **P** **22 49 58.2 -0.7**
AAM *e*pP **pP** **22 50 25.7 -0.1**
W27A Bowe Ranch, En 65.80 329 ⇓P **P** **22 49 59.4 -0.1**
baz=66,SNR=127
U30A WK&E Inc. Balk 65.91 332 ⇓P **P** **22 50 00.4 +0.3**
baz=66,SNR=59
V28A Channing 65.97 330 ⇑P **P** **22 50 00.8 +0.2**
baz=66,SNR=145
NVL N'lazarevskaya 65.97 159 ⇑*i*P P 22 49 55.8 -4.2
NVL *e* 22 50 27.8
NVL *e*S S 22 58 32.0 -6.7
NVL *e* 22 59 20.9
NVL *e*SS **SS** **23 03 01.2 +6.0**
NVL *e*SSS SSS 23 06 05.7
NVL pmax pmax
comp=Z,207nm,0.9s
T31A Randall Ranch, 65.97 333 ⇑P **P** **22 50 00.6 +0.2**
baz=66,SNR=72
Y24A Capitan 66.04 327 ⇓P **P** **22 50 01.2 0.0**
baz=66,SNR=77
MDV Middlebury 66.08 356 *e*P **P** **22 50 01.4 +0.5**
MDV *e*pP **pP** **22 50 28.0 +0.2**
U29A Oasis Ranch, S 66.12 331 ⇓P **P** **22 50 01.8 +0.3**
baz=66,SNR=24
NCB Newcomb 66.12 355 *e*P **P** **22 50 01.6 +0.4**
comp=Z,257nm,1.1s
X25A Clemmons Ranch 66.14 328 ⇓P **P** **22 50 01.4 -0.3**
baz=66,SNR=58
319A Douglas 66.15 322 ⇓P **P** **22 50 02.9 +1.1**
baz=66,SNR=121
W26A Owens Ranch, T 66.15 329 ⇓P **P** **22 50 02.0 +0.3**
baz=66,SNR=142
S32A Newby Ranch, P 66.18 334 ⇓P **P** **22 50 02.2 +0.4**
baz=66
121A Cookes Peak, D 66.19 324 ⇑P **P** **22 50 03.5 +1.3**
baz=66,SNR=235
LBNH Lisbon 66.25 357 *e*P **P** **22 50 02.2 +0.1**
LBNH *e**PP **pP** **22 50 28.3 -0.7**
LBNH pmax pmax
comp=Z,937nm,1.9s

LBNH Lisbon 66.25 357 *eP* **P 22 50 02.2 +0.1**
comp=Z,937nm,1.9s
LBNH *epP* **pP 22 50 28.3 -0.7**
V27A Dan Oppiter Fa 66.25 330 ⇓P **P 22 50 02.6 +0.2**
baz=66,SNR=55
T30A Plains 66.30 332 ⇑P **P 22 50 02.7 +0.1**
baz=67,SNR=27
Z22A Elephant Butte 66.31 325 ⇑P **P 22 50 04.2 +1.4**
baz=67,SNR=252
R33A Olander Ranch, 66.33 335 ⇑P **P 22 50 02.6 0.0**
baz=67,SNR=79
S31A Mullinville 66.34 333 ⇑P **P 22 50 03.1 +0.3**
baz=67,SNR=70
Y23A Lovelace Mesa, 66.36 326 ⇑P **P 22 50 03.9 +0.6**
baz=67,SNR=135
U28A Mallet 66.49 331 ⇓P **P 22 50 03.7 -0.1**
baz=67,SNR=22
KSU1 Kansas State U 66.49 336 ⇑P **P 22 50 03.3 -0.3**
baz=67,SNR=33
KSU1 Kansas State U 66.49 336 *eP* **P 22 50 03.1 -0.6**
comp=Z,1μm,1.7s
KSU1 *epP* **pP 22 50 30.6 0.0**
WVL Waterville 66.51 359 *eP* **P 22 50 04.5 +0.8**
comp=Z,235nm,1.0s
X24A Lazy VL Ranch, 66.55 327 ⇓P **P 22 50 04.8 +0.4**
baz=67,SNR=58
W25A X Bar L Ranch, 66.59 328 ⇓P **P 22 50 04.7 +0.1**
baz=67,SNR=268
EMMW East Machias 66.65 1 *eP* **P 22 50 03.7 -0.8**
comp=Z,221nm,0.9s
R32A Long Quarter, 66.71 334 ⇓P **P 22 50 05.3 +0.2**
baz=67,SNR=140
T29A Hugoton 66.72 332 ⇑P **P 22 50 05.6 +0.3**
baz=67,SNR=50
V26A Tequesquite Ra 66.73 329 ⇑P **P 22 50 05.7 +0.3**
baz=67,SNR=294
S30A Montezuma 66.77 333 ⇑P **P 22 50 05.9 +0.3**
baz=67,SNR=47
PTN Potsdam (NY) 66.78 355 *eP* **P 22 50 05.6 +0.3**
PTN pmax pmax
comp=Z,1μm,1.6s
PTN Potsdam (NY) 66.78 355 *eP* **P 22 50 05.6 +0.3**
comp=Z,1μm,1.6s
LONY Lake Ozonia 66.79 355 *eP* **P 22 50 05.9 +0.4**
comp=Z,1μm,1.9s
U27A Thompson Grove 66.79 330 ⇑P **P 22 50 06.0 +0.2**
baz=67,SNR=59
BNM Barren Site 66.83 326 *eP* **P 22 50 06.8 +0.6**
BNM *epP* **PcP 22 50 35.0 +0.8**
Q33A Connelly Farm, 66.86 335 ⇑P **P 22 50 06.2 +0.1**
baz=67,SNR=55
Y22D IRIS PASSCAL I 66.92 326 ⇑P **P 22 50 08.1 +1.4**
baz=67,SNR=6.7
R31A Burdett 66.93 334 ⇓P **P 22 50 06.7 +0.2**
baz=67,SNR=92
X23A Hourglass Bar 66.94 327 ⇑P **P 22 50 07.9 +1.0**
baz=67,SNR=49
LPM Los Pinos Moun 66.96 326 *eP* **P 22 50 07.7 +0.7**
LPM *epP* **PcP 22 50 36.2 +1.5**
LENM Lemitar 67.02 326 *eP* **P 22 50 08.2 +0.8**
LENM *epP* **PcP 22 50 35.5 +0.6**
S29A Ulysses 67.03 332 ⇑P **P 22 50 07.7 +0.4**
baz=67,SNR=119
W24A Lazy 6 Ranch, 67.05 328 ⇑P **P 22 50 08.0 +0.4**
baz=67,SNR=93
T28A Walsh 67.05 331 ⇑P **P 22 50 07.3 -0.1**
baz=67,SNR=116
Q32A Meitler Ranch, 67.14 335 ⇓P **P 22 50 07.9 +0.1**
baz=67,SNR=119
V25A Rancho No Teng 67.16 329 ⇓P **P 22 50 08.8 +0.6**
baz=68,SNR=296
P33A Williams Farm, 67.19 336 ⇓P **P 22 50 08.2 +0.1**
baz=68,SNR=22
U26A Atchley Ranch, 67.20 330 ⇓P **P 22 50 08.7 +0.2**
baz=68,SNR=405
PKME Peaks-Kenny Pk 67.21 359 *eP* **P 22 50 08.8 +0.8**
comp=Z,178nm,0.9s
R30A Dighton 67.23 333 ⇓P **P 22 50 09.0 +0.5**
baz=68,SNR=116
T27A Campo 67.27 331 ⇓P **P 22 50 09.2 +0.3**
baz=68,SNR=197
LAZ Ladron 67.29 326 *eP* **P 22 50 09.4 +0.3**
LAZ *epP* **PcP 22 50 37.0 +0.9**
S28A Manter 67.34 332 ⇓P **P 22 50 09.4 +0.2**
baz=68,SNR=60
ANMO Albuquerque 67.37 327 *d iP* **P 22 50 10.3 +0.7**
ANMO pmax pmax
comp=Z,4μm,1.8s
ANMO Albuquerque 67.37 327 P **P 22 50 10.4 +0.9**
comp=Z,217nm,1.1s,baz=145,slow=7.6,SNR=289
ANMO pP **pP 22 50 37.4 +0.8**
comp=Z,152nm,1.1s,baz=133,slow=9.4,SNR=6.2
ANMO Albuquerque 67.37 327 *eP* **P 22 50 10.5 +0.9**
comp=Z,998nm,1.4s
ANMO pP **pP 22 50 37.4 +0.8**
W23A Werner Place, 67.38 327 ⇓P **P 22 50 10.5 +0.9**
baz=68,SNR=183
V24A Rampart Ranch, 67.39 328 ⇑P **P 22 50 10.1 +0.4**
baz=68,SNR=101
Q31A Ellis 67.48 334 ⇓P **P 22 50 10.6 +0.5**
baz=68,SNR=107
U25A Circle Dot Ran 67.52 329 ⇑P **P 22 50 11.1 +0.6**
baz=68,SNR=389
TUC Tucson 67.69 322 *eP* **P 22 50 12.9 +1.3**
TUC pmax pmax
comp=Z,816nm,1.4s
TUC Tucson 67.69 322 *eP* **P 22 50 12.9 +1.3**
comp=Z,816nm,1.4s
P32A Huiting Farm, 67.70 335 ⇓P **P 22 50 11.2 -0.2**
baz=68,SNR=57
R29A Marienthal 67.71 333 ⇑P **P 22 50 11.7 +0.2**
baz=68,SNR=126
T26A Comanche Natio 67.76 330 ⇓P **P 22 50 12.6 +0.6**
baz=68,SNR=413
Q30A Quinter 67.80 334 ⇓P **P 22 50 12.6 +0.6**
baz=68,SNR=344
SCIA State Center 67.84 340 *eP* **P 22 50 12.2 0.0**
comp=Z,1μm,1.8s
V23A Ortiz Mt. (NFS 67.86 327 ⇑P **P 22 50 14.0 +1.4**
baz=68,SNR=248
S27A Las Animas 67.86 331 ⇑P **P 22 50 12.8 +0.2**
baz=68
JFWS Jewell Farm 67.89 343 *eP* **P 22 50 12.1 -0.4**
JFWS pmax pmax
comp=Z,1μm,1.8s
JFWS Jewell Farm 67.89 343 *eP* **P 22 50 12.1 -0.4**
comp=Z,1μm,1.8s
P31A Stockton 67.92 335 ⇑P **P 22 50 13.0 +0.3**
baz=68,SNR=209
QSPA South Pole Qui 67.93 180 PKPPKP **P'P'df 23 18 32.2 -1.1**
comp=Z,27nm,1.2s,baz=355,slow=3.0,SNR=6.4
QSPA LR LR 23 20 39.7
comp=Z,2μm,19.2s,baz=142,slow=36
QSPA South Pole Qui 67.93 180 *eP* **P 22 50 12.8 +0.2**
comp=Z,2μm,1.5s
QSPA P'P' 23 18 32.2
R28A Tribune 67.93 332 ⇑P **P 22 50 13.2 +0.3**
baz=68,SNR=128
U24A Moreno Valley 67.94 329 ⇑P **P 22 50 14.6 +1.3**
baz=68,SNR=13
Q29A Oakley 68.04 333 ⇓P **P 22 50 13.6 +0.1**
baz=68,SNR=174
S26A Kim 68.07 331 ⇓P **P 22 50 14.8 +0.9**
baz=68,SNR=633
T25A Trinidad 68.11 330 ⇓P **P 22 50 15.1 +0.8**
baz=68,SNR=187
O32A Brockman Farm, 68.13 336 ⇓P **P 22 50 13.9 -0.2**
baz=68,SNR=38
LIC Lamto 68.20 73 ⇑*iP* **P 22 50 14.7 -0.3**
comp=Z,525nm,0.9s,baz=248
LIC *epP* **pP 22 50 43.5 +1.4**
LIC Lamto 68.20 73 *eP* **P 22 50 13.5 -1.5**
comp=Z,752nm,0.9s
P30A Selden 68.29 334 ⇑P **P 22 50 15.3 +0.3**
baz=69,SNR=30
R27A Eads 68.32 331 ⇑P **P 22 50 15.6 +0.3**
baz=69,SNR=151
U23A El Rito 68.32 328 ⇑P **P 22 50 16.7 +1.1**
baz=69,SNR=67
V22A San Miguel Ran 68.35 327 ⇓P **P 22 50 17.5 +1.7**
baz=69,SNR=387
TIC Toumodi 68.40 73 *eP* **P 22 50 15.0 -1.3**
comp=Z,763nm,0.9s
O31A Woolen Ranch, 68.44 335 ⇑P **P 22 50 16.0 +0.1**
baz=69,SNR=38
T24B San Luis 68.51 329 ⇑P **P 22 50 18.3 +1.4**
baz=69,SNR=235

KIC Kosan Boka 68.52 73 *eP* **P 22 50 15.3 -1.7**
comp=Z,1μm,0.9s
Q28A Sharon Springs 68.54 333 ⇓P **P 22 50 17.1 +0.4**
baz=69,SNR=93
S25A Robets Cordova 68.55 330 ⇓P **P 22 50 17.8 +0.9**
baz=69,SNR=256
DBIC Dimbokro 68.55 73 ⇑*iP* **P 22 50 16.7 -0.5**
DBIC Dimbokro 68.55 73 P **P 22 50 17.1 0.0**
comp=Z,957nm,0.9s,baz=214,slow=6.0,SNR=505
DBIC pP **pP 22 50 44.3 0.0**
comp=Z,226nm,1.0s,baz=215,slow=7.1,SNR=2.7
DBIC LR LR 23 18 17.8
comp=Z,3μm,21.5s,baz=248,slow=34
DBIC PKPPKP **P'P'df 23 18 34.0 +1.1**
comp=Z,17nm,1.1s,baz=43,slow=1.6,SNR=6.6
DBIC Dimbokro 68.55 73 *eP* **P 22 50 17.3 +0.1**
comp=Z,1μm,1.0s
DBIC pP **pP 22 50 44.3 0.0**
DBIC P'P' 23 18 34.0
N32A Stulken Farm, 68.57 336 ⇑P **P 22 50 16.9 +0.1**
baz=69,SNR=19
214A Organ Pipe Nat 68.62 320 ⇑P **P 22 50 18.9 +1.6**
baz=69,SNR=236
P29A Atwood 68.62 334 ⇑P **P 22 50 17.9 +0.7**
baz=69,SNR=78
R26A Arlington 68.62 331 ⇑P **P 22 50 17.8 +0.6**
baz=69,SNR=289
U22A Llaves 68.69 327 ⇓P **P 22 50 19.6 +1.7**
baz=69,SNR=169
O30A MW Ranch, Wils 68.75 334 ⇑P **P 22 50 18.5 +0.5**
baz=69,SNR=98
T23A Casias Ranch, 68.81 328 ⇓P **P 22 50 19.7 +1.1**
baz=69,SNR=81
KSCO Kaye Shedlock' 68.84 332 ⇑P **P 22 50 19.4 +0.7**
baz=69,SNR=42
KSCO Kaye Shedlock' 68.84 332 *eP* **P 22 50 19.9 +1.2**
comp=Z,2μm,1.4s
R25A Fountain Ranch 68.87 330 ⇑P **P 22 50 19.6 +0.8**
baz=69,SNR=107
N31A Bailey Ranch, 68.88 336 ⇑P **P 22 50 19.1 +0.4**
baz=69,SNR=12
X18A Snowflake 68.88 324 ⇑P **P 22 50 20.5 +1.4**
baz=69,SNR=70
S24A Houchin Ranch, 68.89 329 ⇑P **P 22 50 20.4 +1.2**
baz=69,SNR=414
P28A Saint Francis 68.94 333 ⇓P **P 22 50 19.7 +0.6**
baz=69,SNR=72
O29A 4D Ranch, Culb 69.00 334 ⇓P **P 22 50 20.1 +0.6**
baz=69,SNR=41
BGNE Belgrade 69.08 336 ⇑P **P 22 50 20.0 +0.1**
baz=69,SNR=208
BGNE Belgrade 69.08 336 *eP* **P 22 50 20.1 +0.1**
comp=Z,2μm,1.0s
SDCO Great Sand Dun 69.12 329 *eP* **P 22 50 21.6 +1.0**
comp=Z,1μm,1.4s
Q26A Hugo 69.16 331 ⇑P **P 22 50 21.6 +0.9**
baz=70,SNR=92
W18A Petrified Fore 69.21 325 ⇑P **P 22 50 22.4 +1.3**
baz=70,SNR=62
W18A Petrified Fore 69.21 325 *eP* **P 22 50 22.7 +1.7**
comp=Z,889nm,1.3s
P27A Ficken Ranch, 69.27 332 ⇑P **P 22 50 22.0 +0.8**
baz=70,SNR=56
N30A Hueftle Ranch, 69.30 335 ⇑P **P 22 50 22.1 +0.8**
baz=70,SNR=34
R24A Sanders Place, 69.32 330 ⇑P **P 22 50 22.8 +1.1**
baz=70,SNR=238
S23A Nye Farm, Mont 69.32 329 ⇓P **P 22 50 23.0 +1.2**
baz=70,SNR=21
M31A Lambtecht Ranc 69.33 336 ⇓P **P 22 50 21.8 +0.3**
baz=70,SNR=63
O28A Krutsinger Ran 69.41 333 ⇑P **P 22 50 22.9 +0.8**
baz=70,SNR=81
Q25A Bedland, Calha 69.48 331 ⇓P **P 22 50 23.1 +0.5**
baz=70,SNR=61
N29A Votaw Ranch, W 69.52 334 ⇑P **P 22 50 23.2 +0.5**
baz=70,SNR=50
P26A Davis Ranch, A 69.61 332 ⇑P **P 22 50 24.2 +0.8**
baz=70,SNR=91
X16A Lo Mia Camp, P 69.62 323 ⇑P **P 22 50 25.0 +1.4**
baz=70,SNR=178
R23A Moffat 69.63 329 ⇑P **P 22 50 24.8 +1.1**
baz=70,SNR=296
Z14A Wintersburg 69.70 321 ⇑P **P 22 50 25.2 +1.3**
baz=70,SNR=18
S22A 4UR Ranch, Cre 69.75 328 ⇓P **P 22 50 25.5 +1.0**
baz=70,SNR=103
O27A Beecher Island 69.76 333 ⇑P **P 22 50 25.4 +1.2**
baz=70,SNR=52
113A Mohawk Valley, 69.76 320 ⇓P **P 22 50 25.4 +1.2**
baz=70,SNR=67
N28A Pribbeno Ranch 69.78 334 ⇑P **P 22 50 24.8 +0.5**
baz=70,SNR=24
M30A Dale-Ortello V 69.84 335 ⇑P **P 22 50 25.2 +0.5**
baz=70,SNR=38
Q24A Divide 69.93 330 ⇓P **P 22 50 26.5 +0.9**
baz=70,SNR=470
P25A Willow Gulch B 69.93 331 ⇑P **P 22 50 26.4 +1.0**
baz=70,SNR=254
L31A Butterfield Fa 70.00 336 ⇓P **P 22 50 26.0 +0.5**
baz=70,SNR=183
M29A Burnside Ranch 70.08 335 ⇓P **P 22 50 26.7 +0.6**
baz=70,SNR=34
L30A Spencer Herefo 70.14 336 ⇑P **P 22 50 27.0 +0.5**
baz=70,SNR=47
Y14A Wickenburg 70.15 322 ⇓P **P 22 50 28.0 +1.2**
baz=70,SNR=121
O26A Horse Wrangler 70.16 332 ⇓P **P 22 50 27.7 +1.0**
baz=70,SNR=52
MVCO Mesa Verde 70.16 327 ⇑P **P 22 50 28.1 +1.2**
baz=70,SNR=265
MVCO Mesa Verde 70.16 327 *eP* **P 22 50 27.8 +0.9**
comp=Z,1μm,1.3s
MVCO *epP* **pP 22 50 54.8 +0.7**
Q23A Hartsel 70.20 330 ⇓P **P 22 50 27.9 +0.7**
baz=70,SNR=9.6
OGNE Ogallala 70.20 334 ⇓P **P 22 50 27.5 +0.6**
baz=70,SNR=71
P24A Kohler Place, 70.27 331 ⇑P **P 22 50 28.7 +1.2**
baz=71,SNR=53
N27A Anderson Farm, 70.30 333 ⇓P **P 22 50 28.0 +0.5**
baz=71,SNR=35
M28A Bar X Bar Ranc 70.31 334 ⇑P **P 22 50 28.4 +0.8**
baz=71,SNR=26
WUAZ Wupatki 70.39 324 ⇑P **P 22 50 29.8 +1.6**
baz=71,SNR=55
WUAZ Wupatki 70.39 324 *eP* **P 22 50 29.7 +1.4**
comp=Z,966nm,1.4s
WUAZ *epP* **pP 22 50 57.0 +1.5**
O25A Wiggins 70.40 332 ⇑P **P 22 50 29.4 +1.2**
baz=71,SNR=102
L29A Maesberg Ranch 70.53 335 ⇑P **P 22 50 29.6 +0.8**
baz=71,SNR=29
ECSD EROS Data Cent 70.58 339 ⇑P **P 22 50 28.7 -0.3**
baz=71,SNR=163
ECSD EROS Data Cent 70.58 339 *eP* **P 22 50 28.3 -0.7**
comp=Z,730nm,1.5s
P23A Jefferson 70.58 330 ⇑P **P 22 50 30.8 +1.3**
baz=71,SNR=68
COWI Conover 70.58 345 *eP* **P 22 50 28.5 -0.5**
comp=Z,498nm,1.4s
COWI *ePcP* **PcP 22 50 50.5 +1.0**
GLA Glamis 70.59 320 *eP* **P 22 50 30.3 +0.9**
GLA *e* 22 50 51.8
GLA pmax pmax
comp=Z,1μm,1.8s
GLA Glamis 70.59 320 ⇑P **P 22 50 30.7 +1.3**
baz=71,SNR=34
GLA Glamis 70.59 320 *eP* **P 22 50 30.3 +0.9**
comp=Z,1μm,1.8s
GLA *ePcP* **PcP 22 50 51.8 +1.9**
N26A Koester Ranch, 70.60 333 ⇓P **P 22 50 30.4 +1.0**
baz=71,SNR=33
K30A Basset 70.72 336 ⇑P **P 22 50 30.2 +0.3**
baz=71,SNR=91
SPMN Marine on St. 70.74 342 ⇑P **P 22 50 29.2 -0.7**
baz=71,SNR=52
SPMN Marine on St. 70.74 342 *eP* **P 22 50 29.2 -0.7**
comp=Z,498nm,1.4s
ISCO Idaho Springs 70.82 330 *eP* **P 22 50 31.5 +0.6**
ISCO *e*PP* **pP 22 50 58.9 +0.7**
ISCO pmax pmax
comp=Z,716nm,1.4s
ISCO Idaho Springs 70.82 330 ⇑P **P 22 50 31.9 +1.0**
baz=71,SNR=313
ISCO Idaho Springs 70.82 330 *eP* **P 22 50 31.5 +0.6**
comp=Z,716nm,1.4s
ISCO *epP* **pP 22 50 58.9 +0.7**

O24A Longmont 70.83 331 ⇑P **P 22 50 31.9 +1.0**
baz=71,SNR=22
M27A Reverse DX Ran 70.84 334 ⇑P **P 22 50 31.7 +0.9**
baz=71,SNR=22
L28A Connealy Angus 70.89 335 ⇑P **P 22 50 31.9 +0.8**
baz=71,SNR=23
Y12C Blythe 70.90 321 ⇑P **P 22 50 32.7 +1.5**
baz=71,SNR=74
PV01 Paradox Valley 70.91 327 *eP* **P 22 50 32.6 +1.1**
PV01 *epP* **pP 22 50 59.4 +0.7**
SMCO Snowmass 70.95 329 *eP* **P 22 50 33.0 +1.1**
comp=Z,637nm,1.3s
N25A Grover 70.96 332 ⇓P **P 22 50 32.8 +1.2**
baz=71,SNR=19
K29A Lazy Trails An 71.06 336 ⇓P **P 22 50 32.8 +0.8**
baz=71,SNR=163
PDMCI Parker Dam,Lak 71.07 321 ⇑P **P 22 50 33.5 +1.3**
baz=71,SNR=51
SWSC Sam W. Stewart 71.10 319 ⇑P **P 22 50 33.7 +1.4**
baz=71,SNR=22
M26A McRoberts Ranc 71.10 333 ⇑P **P 22 50 33.5 +1.1**
baz=71,SNR=22
PV05 Paradox Valley 71.14 327 *eP* **P 22 50 33.5 +0.7**
P22A Eagle 71.18 330 ⇓P **P 22 50 34.2 +1.1**
baz=72,SNR=191
J30A Dallas 71.23 337 ⇓P **P 22 50 32.9 -0.2**
baz=72,SNR=95
L27A T5 Ranch, Ells 71.27 334 ⇓P **P 22 50 34.2 +0.8**
baz=72,SNR=75
PV04 Paradox Valley 71.28 327 *eP* **P 22 50 34.5 +0.9**
O23A Lake Granby, G 71.29 331 ⇑P **P 22 50 35.0 +1.2**
baz=72,SNR=135
N24A Carr 71.32 332 ⇑P **P 22 50 35.2 +1.4**
baz=72,SNR=52
PV10 Paradox Valley 71.33 327 *eP* **P 22 50 34.4 +0.4**
BC3 Big Chuckawall 71.39 320 ⇑P **P 22 50 35.6 +1.3**
baz=72,SNR=167
K28A Ten Mile Ranch 71.42 335 ⇑P **P 22 50 35.3 +1.1**
baz=72,SNR=100
MONP Monument Peak, 71.44 319 ⇑P **P 22 50 36.0 +1.3**
baz=72,SNR=37
BAR Barrett 71.45 318 *eP* **P 22 50 35.4 +0.9**
comp=Z,451nm,1.3s
BAR *epP* **pP 22 50 59.6 -2.2**
M25A Palm-Egli Farm 71.46 333 ⇑P **P 22 50 35.4 +0.8**
baz=72,SNR=20
PV09 Paradox Valley 71.47 327 *eP* **P 22 50 35.9 +1.0**
W13A Hualapai Mount 71.49 322 ⇓P **P 22 50 36.4 +1.4**
baz=72,SNR=123
O22A Kremmling 71.53 330 ⇓P **P 22 50 36.2 +0.9**
baz=72,SNR=348
L26A Underwood Farm 71.55 334 ⇑P **P 22 50 36.2 +1.1**
baz=72,SNR=42
IRM Iron Mountain 71.56 321 ⇓P **P 22 50 36.6 +1.4**
baz=72,SNR=250
U15A North Rim 71.57 324 ⇑P **P 22 50 37.4 +1.9**
baz=72,SNR=187
J29A Okreek 71.61 336 ⇑P **P 22 50 35.7 +0.4**
baz=72,SNR=202
NEE2 Needles Airpor 71.68 321 ⇑P **P 22 50 36.9 +1.0**
baz=72
I30A Oacoma 71.72 337 ⇓P **P 22 50 35.8 -0.2**
baz=72,SNR=41
K27A Flueckinger Fa 71.76 334 ⇑P **P 22 50 37.3 +1.1**
baz=72,SNR=123
M24A Cheyenne 71.82 332 ⇑P **P 22 50 38.1 +1.4**
baz=72,SNR=83
N23A Red Feather La 71.85 331 ⇓P **P 22 50 38.1 +1.0**
baz=72,SNR=54
109C Camp Elliot, M 71.86 318 ⇓P **P 22 50 38.0 +1.1**
baz=72,SNR=9.5
DRLN Deer Lake 71.86 8 *eP* **P 22 50 36.3 -0.3**
comp=Z,248nm,0.9s
BELC Belle Mtn. Jos 71.95 320 ⇑P **P 22 50 39.1 +1.4**
baz=72,SNR=73
PFO Pinyon Flats O 71.96 319 P **P 22 50 39.3 +1.6**
comp=Z,885nm,1.2s,SNR=50
PFO Pinyon Flats O 71.96 319 P **P 22 50 37.6 -0.1**
PFO *PP **pP 22 51 06.3 +1.3**
PFO pmax pmax
comp=Z,134nm,1.2s
PFO pmax pmax
comp=Z,131nm,1.1s
PFO Pinyon Flats O 71.96 319 P **P 22 50 37.6 -0.1**
comp=Z,134nm,1.2s,baz=127,slow=5.4,SNR=82
PFO pP **pP 22 51 06.2 +1.3**
comp=Z,131nm,1.1s,baz=110,slow=4.8,SNR=6.5
PFO Pinyon Flats O 71.96 319 ⇓P **P 22 50 39.1 +1.4**
baz=72,SNR=28
PFO Pinyon Flats O 71.96 319 *eP* **P 22 50 38.8 +1.1**
comp=Z,461nm,1.5s
PFO pP **pP 22 51 06.2 +1.3**
PHWY Pilot Hill 71.96 332 *eP* **P 22 50 38.4 +0.6**
comp=Z,978nm,1.5s
PHWY *epP* **pP 22 51 04.9 -0.2**
J28A Allard Ranch, 71.98 335 ⇑P **P 22 50 38.4 +0.9**
baz=72,SNR=211
N22A Wattenberg Ran 72.00 331 ⇑P **P 22 50 39.5 +1.5**
baz=72,SNR=77
BRSD Miller 72.01 338 ⇓P **P 22 50 37.5 -0.1**
baz=72,SNR=8.8
BRSD Miller 72.01 338 *eP* **P 22 50 37.5 -0.1**
comp=Z,1μm,1.5s
L25A Engebretsen Ra 72.01 333 ⇑P **P 22 50 39.1 +1.2**
baz=72,SNR=18
J27A Elkhorn Farm, 72.13 335 ⇓P **P 22 50 39.8 +1.3**
baz=72,SNR=86
I29A Vivian Onida 72.13 336 ⇑P **P 22 50 38.3 0.0**
baz=72,SNR=70
K26A Motz Farm, Whi 72.14 334 ⇑P **P 22 50 39.6 +1.0**
baz=72,SNR=31
LDFC Landfair 72.18 321 *eP* **P 22 50 40.5 +1.5**
comp=Z,951nm,1.5s
LDFC *epP* **pP 22 51 07.7 +1.3**
M23A Laramie 72.21 331 ⇑P **P 22 50 40.1 +0.9**
baz=72,SNR=84
KNB Kanab 72.29 324 *eP* **P 22 50 41.4 +1.7**
KNB *e*PP* **pP 22 51 06.9 -0.1**
KNB pmax pmax
comp=Z,2μm,1.4s
KNB Kanab 72.29 324 *eP* **P 22 50 41.4 +1.7**
comp=Z,2μm,1.4s
KNB *epP* **pP 22 51 06.9 -0.1**
GMRC Granite Mounta 72.29 321 ⇓P **P 22 50 41.3 +1.6**
baz=73,SNR=267
O20A White River Ci 72.31 329 ⇑P **P 22 50 41.0 +1.3**
baz=73,SNR=306
O20A White River Ci 72.31 329 *eP* **P 22 50 40.6 +0.8**
comp=Z,1μm,1.4s
O20A *epP* **pP 22 51 08.7 +1.6**
L24A Wheatland 72.33 332 ⇓P **P 22 50 40.7 +0.9**
baz=73,SNR=13
K25A Mack Ranch, Ha 72.35 333 ⇑P **P 22 50 41.1 +1.2**
baz=73,SNR=6.7
MMU Miners Mountai 72.35 326 *eP* **P 22 50 40.2 +0.1**
MURC Murrieta 72.40 319 ⇑P **P 22 50 41.4 +1.1**
baz=73,SNR=40
I28A Midland 72.44 336 ⇑P **P 22 50 40.6 +0.4**
baz=73,SNR=41
M22A Cedar Creek Ra 72.55 331 ⇓P **P 22 50 42.2 +1.0**
baz=73,SNR=16
J26A Sides Ranch, S 72.61 334 ⇑P **P 22 50 42.6 +1.3**
baz=73,SNR=28
H29A Onida 72.62 337 ⇓P **P 22 50 41.2 0.0**
baz=73,SNR=218
SRU San Rafael Swe 72.64 327 *eP* **P 22 50 42.3 +0.6**
SRU *e* 22 50 59.3
SRU *e*PP* **pP 22 51 09.8 +0.7**
SRU pmax pmax
comp=Z,947nm,1.4s
SRU San Rafael Swe 72.64 327 *eP* **P 22 50 42.3 +0.6**
comp=Z,947nm,1.4s
SRU *ePcP* **PcP 22 50 59.2 +0.6**
SRU *epP* **pP 22 51 09.8 +0.7**
G30A Faulkton 72.67 338 ⇓P **P 22 50 41.2 -0.4**
baz=73,SNR=38
BBRC Big Bear Solar 72.69 320 ⇑P **P 22 50 44.1 +1.9**
baz=73,SNR=8.0
HEC Hector,Ludlow 72.72 320 ⇓P **P 22 50 43.7 +1.5**
baz=73,SNR=45
L23A Garrett 72.72 332 ⇓P **P 22 50 42.8 +0.6**
baz=73,SNR=11
SCI San Clemente I 72.81 318 ⇑P **P 22 50 44.0 +1.4**
baz=73,SNR=8.7
I27A Quinn 72.84 335 ⇑P **P 22 50 43.3 +0.7**
baz=73,SNR=75
K24A Anderson Ranch 72.84 333 ⇑P **P 22 50 43.9 +1.2**

baz=73,SNR=6.6
OWUT Old Woman Plat 72.85 326 eP P 22 50 44.8 +1.7
N20A Spence Gulch, 72.87 329 ⇓P P 22 50 44.3 +1.2
baz=73,SNR=152
EYMN Ely 72.89 344 eP P 22 50 42.4 -0.4
comp=Z,756nm,1.6s
TUQ Turquoise Moun 72.91 321 ⇑P P 22 50 44.7 +1.3
baz=73,SNR=90
H28A Mission Ridge 72.96 336 ⇑P P 22 50 43.7 +0.4
baz=73
J25A Sunshine Ranch 72.97 334 ⇑P P 22 50 44.5 +1.0
baz=73,SNR=18
CCUT Cedar City 72.97 324 eP P 22 50 45.6 +1.9
comp=Z,730nm,1.3s
CCUT epP pP 22 51 09.8 -1.4
L22A Ellis Ranch, M 72.98 331 ⇑P P 22 50 45.0 +1.3
baz=73,SNR=6.0
ROA Roan Cliffs 72.98 327 eP P 22 50 45.2 +1.3
ICU Indian Springs 72.99 323 eP P 22 50 45.3 +1.5
G29A Hoven 73.00 337 ⇑P P 22 50 43.5 0.0
baz=73,SNR=28
CIS Catalina Islan 73.01 318 ⇑P P 22 50 44.9 +1.0
baz=73,SNR=8.4
MSU Marysvale 73.05 325 eP P 22 50 43.4 -0.8
MSU Marysvale 73.05 325 eP P 22 50 43.4 -0.8
BFSC Mount Baldy Ra 73.11 319 ⇓P P 22 50 45.7 +1.1
baz=73,SNR=74
I26A New Underwood 73.12 335 ⇓P P 22 50 45.0 +0.7
baz=73,SNR=43
TMUT Trail Mountain 73.13 327 eP P 22 50 45.5 +0.7
comp=Z,1µm,2.0s
TMUT epP pP 22 51 13.1 +0.9
FMP Fort Macarthur 73.15 318 ⇓P P 22 50 46.0 +1.4
baz=73
RRX Edison Barstow 73.16 320 ⇑P P 22 50 46.3 +1.7
baz=73,SNR=11
ARUT Antelope Range 73.19 324 eP P 22 50 46.5 +1.6
ARUT e*PP pP 22 51 13.6 +1.3
ARUT Antelope Range 73.19 324 eP P 22 50 46.5 +1.6
ARUT epP pP 22 51 13.6 +1.3
ARGU Argyle Ridge 73.19 327 eP P 22 50 46.5 +1.4
K23A Bowen Ranch, D 73.21 332 ⇓P P 22 50 45.9 +0.9
baz=74,SNR=5.6
SHPR Sheep Range 73.22 322 eP P 22 50 46.2 +1.1
SHPR epP pP 22 51 12.9 +0.4
F30A Leola 73.25 338 ⇑P P 22 50 45.3 +0.3
baz=74,SNR=21
G28A Parade 73.26 337 ⇑P P 22 50 45.6 +0.5
baz=74,SNR=77
SGU Sterling 73.27 326 eP P 22 50 47.3 +1.8
J24A Dixon Ranch, L 73.27 333 ⇑P P 22 50 46.9 +1.6
baz=74,SNR=6.5
SNO Snow College 73.31 326 eP P 22 50 44.3 -1.5
H27A Howes 73.32 336 ⇓P P 22 50 45.8 +0.4
baz=74,SNR=111
GSC Goldstone, Bar 73.33 320 eP P 22 50 46.9 +1.2
GSC e*PP pP 22 51 13.1 -0.1
GSC pmax pmax
comp=Z,796nm,1.6s
GSC Goldstone, Bar 73.33 320 ⇓P P 22 50 47.1 +1.4
baz=74,SNR=96
GSC Goldstone, Bar 73.33 320 eP P 22 50 46.9 +1.2
comp=Z,796nm,1.6s
GSC epP pP 22 51 13.1 -0.1
MWC Mount Wilson 73.35 319 eP P 22 50 47.0 +1.0
MWC e*PP pP 22 51 14.8 +1.4
MWC pmax pmax
comp=Z,962nm,1.6s
MWC Mount Wilson 73.35 319 eP P 22 50 47.0 +1.0
comp=Z,962nm,1.6s
MWC epP pP 22 51 14.8 +1.4
PASC Pasadena Art C 73.39 319 eP P 22 50 46.9 +0.9
comp=Z,702nm,1.4s
PASC epP pP 22 51 15.1 +1.6
SHOC Shoshone, Teco 73.44 321 ⇑P P 22 50 47.9 +1.6
baz=74
PMOZ Porto Moniz, M 73.45 43 eP P 22 50 49.7 +3.2
comp=Z,442nm,2.0s
PMOZ eS S 23 00 12.3 +4.9
I25A Rochford 73.46 334 ⇓P P 22 50 47.7 +1.3
baz=74,SNR=75
K22A Casper 73.52 332 ⇓P P 22 50 47.8 +1.0
baz=74,SNR=22
K22A Casper 73.52 332 eP P 22 50 46.3 -0.5
comp=Z,953nm,1.4s
K22A ePcP PcP 22 50 57.8 -4.4
K22A epP pP 22 51 14.5 +0.3
F29A Eureka 73.52 338 ⇓P P 22 50 46.4 -0.2
baz=74,SNR=42
DECC Green Verdugo 73.53 319 ⇑P P 22 50 48.0 +1.2
baz=74,SNR=22
H26A Fairpoint 73.58 335 ⇑P P 22 50 47.1 +0.1
baz=74,SNR=16
TBI Tubuai 73.64 251 eP P 22 50 49.3 +1.5
comp=Z,2µm,1.4s
TBI epP pP 22 51 16.6 +1.4
comp=Z,2µm,1.6s
IMU Iron Mountain 73.65 325 eP P 22 50 49.4 +1.7
RSSD Black Hills 73.67 334 eP P 22 50 48.1 +0.4
RSSD pmax pmax
comp=Z,759nm,1.4s
RSSD Black Hills 73.67 334 eP P 22 50 48.1 +0.4
comp=Z,759nm,1.4s
FLU Fool Peak 73.69 326 eP P 22 50 49.7 +1.8
I24A Kuemmerle Ranc 73.69 334 ⇓P P 22 50 48.7 +1.0
baz=74
J23A Dilts Ranch, B 73.70 333 ⇑P P 22 50 49.1 +1.3
baz=74
EDW2 Edwards Air Fo 73.75 319 ⇑P P 22 50 49.1 +0.9
baz=74,SNR=64
E30A Jud 73.79 339 ⇑P P 22 50 47.9 -0.1
baz=74,SNR=37
K21A Alcova 73.82 331 ⇑P P 22 50 49.7 +1.1
baz=74,SNR=44
F28A McLaughlin 73.88 337 ⇑P P 22 50 49.2 +0.6
baz=74,SNR=63
MPU Maple Canyon 73.89 327 eP P 22 50 50.0 +1.0
comp=Z,690nm,1.3s
MPU epP pP 22 51 15.6 -0.9
G27A Dupree 73.90 336 ⇓P P 22 50 49.2 +0.4
baz=74,SNR=43
H25A Fruitdale 73.91 335 ⇓P P 22 50 49.6 +0.7
baz=74,SNR=14
LRMC Laurel Mtn Rad 73.98 320 ⇓P P 22 50 50.6 +1.0
baz=74,SNR=67
DAU Daniels Canyon 74.00 327 eP P 22 50 50.9 +1.1
DAU Daniels Canyon 74.00 327 eP P 22 50 50.9 +1.1
OSI Osito Audit: C 74.02 319 ⇑P P 22 50 50.6 +0.9
baz=74,SNR=18
OSI Osito Audit: C 74.02 319 eP P 22 50 50.2 +0.4
comp=Z,676nm,1.6s
OSI epP pP 22 51 18.0 +0.8
WMUT West Mountain 74.03 327 eP P 22 50 51.1 +1.2
NLU North Lily Min 74.07 327 eP P 22 50 51.1 +1.0
comp=Z,587nm,1.4s
G26A Maurine 74.08 336 ⇓P P 22 50 50.0 +0.1
baz=74,SNR=106
MEH Mehetia 74.09 257 eP P 22 50 51.8 +1.2
comp=Z,151nm,1.1s
E29A Napoleon 74.09 338 ⇑P P 22 50 49.8 0.0
baz=74,SNR=56
J22A Midwest 74.11 332 ⇓P P 22 50 50.5 +0.3
baz=74
I23A Meade Ranch, G 74.12 333 ⇓P P 22 50 51.2 +0.9
baz=74
BSC Santa Cruz Isl 74.17 318 ⇑P P 22 50 51.7 +1.1
baz=74,SNR=13
FURC Furnace Creek, 74.17 321 ⇓P P 22 50 52.0 +1.6
baz=74,SNR=43
HTU Hoyt Peak 74.18 328 eP P 22 50 52.1 +1.2
LDJ Lady 74.20 327 eP P 22 50 52.2 +1.3
HLJ Hailstone 74.22 327 eP P 22 50 52.2 +1.2
KLJ Keetly 74.23 327 eP P 22 50 52.3 +1.2
JLU Jordanelle 74.24 327 eP P 22 50 52.1 +1.0
comp=Z,457nm,1.1s
JLU epP pP 22 51 18.3 -0.3
D30A Buchanan 74.27 339 ⇑P P 22 50 51.0 +0.1
baz=75,SNR=119
RCJ Ross Creek 74.27 327 eP P 22 50 52.6 +1.3
F27A Lemmon 74.35 336 ⇓P P 22 50 52.0 +0.6
baz=75,SNR=75
GMU Granite Mounta 74.37 327 eP P 22 50 52.6 +0.8
H24A Dirks Ranch, A 74.39 334 ⇑P P 22 50 52.1 +0.4
baz=75,SNR=36
AGMN Agassiz Nation 74.41 341 ⇑P P 22 50 51.4 -0.2
baz=75,SNR=39
AGMN Agassiz Nation 74.41 341 eP P 22 50 51.1 -0.6
comp=Z,616nm,1.5s
ARVC Arvin 74.42 319 ⇑P P 22 50 53.0 +0.9
baz=75,SNR=14
CWU Camp Williams 74.45 327 eP P 22 50 53.3 +1.0
CTU Camp Tracy 74.45 327 eP P 22 50 52.9 +0.6
comp=Z,2µm,3.0s
CTU epP pP 22 51 20.4 +0.7
CTU ePP PP 22 53 41.0 +0.6
DAC Darwin (Calif) 74.47 321 eP P 22 50 53.0 +0.5
DAC e 22 51 07.1
DAC e*PP pP 22 51 21.8 +1.8
DAC pmax pmax
comp=Z,267nm,1.2s
DAC Darwin (Calif) 74.47 321 eP P 22 50 53.0 +0.5
comp=Z,267nm,1.2s
DAC ePcP PcP 22 51 07.1 +0.6
DAC epP pP 22 51 21.8 +1.8
E28A Huff 74.47 338 ⇑P P 22 50 52.6 +0.6
baz=75,SNR=122
J21A Lysite 74.48 332 ⇓P P 22 50 53.5 +1.1
baz=75,SNR=49
ABL Mount Abel 74.48 319 eP P 22 50 53.7 +1.1
I22A 9 Mile Ranch, 74.50 332 ⇓P P 22 50 53.1 +0.7
baz=75
D29A Pettibone, Tap 74.51 338 ⇑P P 22 50 52.5 +0.2
baz=75,SNR=77
SBC Santa Barbara 74.51 318 ⇓P P 22 50 53.4 +0.9
baz=75
VAH Vaihoa 74.55 260 eP P 22 50 54.5 +1.3
comp=Z,872nm,1.2s
ISA Isabella, Lake 74.57 320 eP P 22 50 54.1 +1.1
ISA e 22 51 07.1
ISA e*PP pP 22 51 22.1 +1.7
ISA pmax pmax
comp=Z,299nm,1.2s
ISA Isabella, Lake 74.57 320 ⇓P P 22 50 54.4 +1.5
baz=75,SNR=72
ISA Isabella, Lake 74.57 320 eP P 22 50 54.1 +1.1
comp=Z,299nm,1.2s
ISA ePcP PcP 22 51 07.1 +0.3
ISA epP pP 22 51 22.1 +1.7
F26A Lodgepole 74.58 336 ⇓P P 22 50 53.3 +0.6
baz=75,SNR=133
FSU Fish Springs 74.58 326 eP P 22 50 54.6 +1.6
H23A Clabaugh Cattl 74.58 334 ⇓P P 22 50 53.5 +0.6
baz=75,SNR=35
TCUT Toone Canyon 74.60 328 eP P 22 50 53.9 +0.6
comp=Z,313nm,1.1s
DUG Dugway, Tooele 74.62 326 eP P 22 50 54.2 +1.0
DUG pmax pmax
comp=Z,435nm,1.3s
DUG Dugway, Tooele 74.62 326 ⇑P P 22 50 54.6 +1.4
baz=75,SNR=164
DUG Dugway, Tooele 74.62 326 eP P 22 50 54.2 +1.0
comp=Z,435nm,1.3s
E27A Carson 74.66 337 ⇑P P 22 50 53.6 +0.4
baz=75,SNR=18
C30A Mose, Pekin 74.69 339 ⇓P P 22 50 53.4 +0.1
baz=75,SNR=101
FPU Francis Peak 74.75 327 eP P 22 50 55.1 +0.9
R11A Troy Canyon, C 74.77 323 ⇑P P 22 50 55.6 +1.5
baz=75,SNR=229
R11A Troy Canyon, C 74.77 323 eP P 22 50 55.5 +1.3
comp=Z,706nm,1.6s
R11A epP pP 22 51 21.3 -0.3
J20A Shoshoni 74.77 331 ⇑P P 22 50 55.0 +1.0
baz=75,SNR=18
I21A Big Trails, Te 74.78 332 ⇑P P 22 50 54.5 +0.4
baz=75,SNR=56
G24A Alzada 74.81 335 ⇑P P 22 50 54.7 +0.5
baz=75,SNR=16
GRAC Grapevine Rang 74.83 321 ⇓P P 22 50 55.8 +1.4
baz=75,SNR=5.9
PMOR Pomariorio Ree 74.87 260 eP P 22 50 56.5 +1.5
comp=Z,1µm,1.3s
MCU Monte Cristo P 74.91 328 eP P 22 50 55.8 +0.7
F25A Bowman 74.94 336 ⇑P P 22 50 55.4 +0.6
baz=75,SNR=64
D28A Regan 74.95 338 ⇓P P 22 50 55.4 +0.6
baz=75,SNR=73
BW06 Boulder Array 74.98 330 eP P 22 50 55.3 0.0
comp=Z,549nm,1.5s
BW06 epP pP 22 51 22.6 -0.2
PD31 Pinedale Array 74.98 330 eP P 22 50 55.3 -0.1
PD31 epP pP 22 51 22.8 -0.1
PDAR Pinedale Array 74.98 330 P P 22 50 55.6 +0.3
comp=Z,39nm,0.6s,baz=145,slow=3.6,SNR=126
PDAR pP pP 22 51 24.0 +1.1
comp=Z,18nm,0.6s,baz=116,slow=8.9,SNR=3.1
PDAR PKKPbc PKKPbc 23 10 22.5 +1.5
comp=Z,0.5nm,0.6s,baz=207,slow=1.3,SNR=4.0
PDAR PKPPKP P'P'df 23 18 23.5 +4.4
comp=Z,2.1nm,1.1s,baz=318,slow=2.0,SNR=5.2
PDAR LR LR 23 27 19.1
comp=Z,729nm,18.0s,baz=148,slow=38
RSUT Red Spur Mount 75.00 328 eP P 22 50 56.1 +0.5
H22A Clearmont 75.01 333 ⇑P P 22 50 55.9 +0.6
baz=75,SNR=29
E26A Carlson Angus 75.02 336 ⇑P P 22 50 55.6 +0.4
baz=75,SNR=29
HWUT Hardware Ranch 75.05 328 eP P 22 50 56.1 +0.4
comp=Z,480nm,1.3s
VES Vestal, Richgr 75.06 319 ⇑P P 22 50 56.6 +1.0
baz=75,SNR=80
G23A Biddle 75.10 334 ⇑P P 22 50 56.5 +0.6
baz=75,SNR=22
GZU Grizzly Peak 75.12 328 eP P 22 50 56.8 +0.6
J19A Crowheart 75.14 331 ⇑P P 22 50 57.0 +0.8
baz=75,SNR=123
SBA Scott Base 75.15 190 eP P 22 50 56.7 +1.1
SBA pmax pmax
comp=Z,565nm,1.3s
SBA Scott Base 75.15 190 eP P 22 50 56.7 +1.1
comp=Z,565nm,1.3s
BMUT Black Mountain 75.16 328 eP P 22 50 56.8 +0.4
MDND Maddock 75.19 339 ⇓P P 22 50 56.6 +0.5
baz=76,SNR=74
MDND Maddock 75.19 339 eP P 22 50 56.6 +0.5
comp=Z,521nm,1.2s
MDND epP pP 22 51 23.2 -0.5
TVO Taravao 75.19 257 eP P 22 50 58.5 +1.5
comp=Z,265nm,1.4s
TVO epP pP 22 51 26.2 +1.7
comp=Z,164nm,1.3s
D27A Center 75.22 337 ⇓P P 22 50 57.0 +0.7
baz=76,SNR=19
F24A Ekalaka 75.25 335 ⇓P P 22 50 57.2 +0.5
baz=76,SNR=103
I20A Worland 75.26 332 ⇑P P 22 50 57.4 +0.7
baz=76,SNR=19
SMMC Simmler 75.26 319 ⇑P P 22 50 58.4 +1.5
baz=76,SNR=26
SPUT South Promonto 75.27 327 eP P 22 50 57.6 +0.6
comp=Z,535nm,1.2s
SPUT epP pP 22 51 25.8 +1.3
BGU Big Grassy Mou 75.27 327 eP P 22 50 57.6 +0.6
comp=Z,193nm,1.3s
HDU Hyde Park 75.30 328 eP P 22 50 57.6 +0.5
B30A Myrvik Farm, E 75.30 340 ⇓P P 22 50 56.9 +0.1
baz=76,SNR=151
EPU East Promontor 75.31 327 eP P 22 50 57.9 +0.8
H21A Big Horn, Sher 75.33 333 ⇑P P 22 50 57.5 +0.3
baz=76,SNR=17
C28A Hausauer Farms 75.34 338 ⇑P P 22 50 57.2 +0.2
baz=76,SNR=22
TIAR Tiarei 75.35 257 eP P 22 50 59.1 +1.3
comp=Z,70nm,1.2s
TIAR epP pP 22 51 26.7 +1.4
comp=Z,59nm,1.1s
TIN Tinemaha, Big 75.37 321 ⇑P P 22 50 58.9 +1.3
baz=76,SNR=12
E25A Miller Ranch, 75.40 336 ⇑P P 22 50 58.3 +0.8
baz=76,SNR=38
RCTC Rector, Farmer 75.47 320 ⇓P P 22 50 58.5 +0.6
baz=76
D26A Manning 75.48 337 ⇑P P 22 50 58.4 +0.5
baz=76,SNR=13
G22A Birney 75.49 333 P P 22 50 58.4 +0.3
baz=76
TPH Tonopah 75.49 322 eP P 22 50 59.4 +1.1
TPH e*PP pP 22 51 26.2 +0.3
TPH pmax pmax
comp=Z,300nm,1.2s
TPH Tonopah 75.49 322 eP P 22 50 59.4 +1.1
comp=Z,300nm,1.2s
TPH epP pP 22 51 26.2 +0.3
PAE Paea 75.53 257 eP P 22 51 00.2 +1.4
comp=Z,164nm,1.1s
F23A Volborg 75.53 334 ⇑P P 22 50 58.8 +0.5
baz=76,SNR=31
BEI Bear River Ran 75.54 328 eP P 22 50 59.3 +0.7
PPT2 Papeete2 75.55 257 eP P 22 51 00.5 +1.5
comp=Z,775nm,1.3s
PPT2 epP pP 22 51 28.1 +1.6
comp=Z,400nm,1.4s
PPT2 eS S 23 00 26.3 -5.2
comp=Z,21µm,25.0s
PPT2 Papeete2 75.55 257 eLQ LQ 23 10 58.0
comp=Z,8µm,26.0s
PPT2 eLR LR 23 14 03.9
comp=Z,28µm,37.8s,baz=111
PPT Papeete 75.56 257 eP P 22 51 00.2 +1.2
PPT e*PP pP 22 51 25.5 -1.0
PPT Papeete 75.56 257 P P 22 51 00.3 +1.2
comp=Z,481nm,1.0s,baz=143,slow=3.2,SNR=19
PPT LR LR 23 18 01.5
comp=Z,1µm,19.7s,baz=108,slow=31
PPT Papeete 75.56 257 eP P 22 51 00.2 +1.2
PPT epP pP 22 51 25.5 -1.0
H20A Greybull 75.63 332 ⇑P P 22 50 59.3 +0.4
baz=76,SNR=33
SYO Syowa Base 75.64 159 ⇑eP P 22 50 52.6 -5.9
MLI Malad Range 75.64 328 eP P 22 50 59.9 +0.7
B29A Wagenman Farm, 75.65 339 ⇓P P 22 50 59.1 +0.4
baz=76,SNR=110
PTU Portage 75.67 328 eP P 22 50 59.9 +0.5
AHID Auburn Hatcher 75.70 329 eP P 22 50 59.9 +0.4
comp=Z,1µm,1.4s
AHID epP pP 22 51 27.1 +0.1
I19A Meeteetse 75.71 331 ⇑P P 22 51 00.4 +0.9
baz=76,SNR=96
A30A Hoffart Farm, 75.73 340 ⇓P P 22 50 59.2 0.0
baz=76,SNR=35
C27A Sayler Ranch, 75.73 338 ⇓P P 22 51 00.2 +0.9
baz=76,SNR=84
HVU Hansel Valley 75.78 327 eP P 22 51 00.2 +0.3
HVU e*PP pP 22 51 27.8 +0.4
HVU pmax pmax
comp=Z,672nm,1.4s
HVU Hansel Valley 75.78 327 eP P 22 51 00.2 +0.3
comp=Z,672nm,1.4s
HVU epP pP 22 51 27.8 +0.4
E24A Baker 75.79 335 ⇑P P 22 51 00.9 +1.2
baz=76,SNR=111
G21A Lodge Grass 75.88 333 ⇑P P 22 51 01.0 +0.7
baz=76,SNR=30
D25A Fairfield 75.91 336 ⇑P P 22 51 01.4 +1.1
baz=76,SNR=58
KOMG Komaggas 75.92 117 eP P 22 51 01.8 +0.9
KOMG AMB AMB 22 51 04.7
comp=Z,310nm,1.5s
NPI North Pocatell 75.93 328 eP P 22 51 01.3 +0.6
F22A Rosebud 75.93 334 ⇑P P 22 51 01.1 +0.7
baz=76,SNR=52
B28A Dugan Ranch, T 75.97 339 ⇑P P 22 51 00.9 +0.3
baz=76,SNR=175
A29A Manning Farm, 76.01 340 ⇓P P 22 51 00.6 -0.1
baz=76,SNR=108
C26A Wahner Farm, P 76.03 337 ⇓P P 22 51 01.6 +0.7
baz=76,SNR=120
REDW Red Top Meadow 76.04 330 eP P 22 51 02.2 +0.8
comp=Z,613nm,1.3s
REDW ePP PP 22 53 50.2 -3.6
SNOW Snow King Moun 76.07 330 eP P 22 51 02.5 +0.9
comp=Z,289nm,1.0s
SNOW ePP PP 22 53 55.7 +1.6
MLAC Mammoth, Mammo 76.11 321 ⇓P P 22 51 03.3 +1.3
baz=76,SNR=5.4
LOHW Long Hollow 76.12 330 eP P 22 51 02.5 +0.7
comp=Z,279nm,1.0s
E23A Ismay 76.13 335 ⇑P P 22 51 01.8 +0.2
baz=76,SNR=19
ULM Lac du Bonnet 76.17 342 P P 22 51 01.2 -0.4
comp=Z,158nm,1.0s,baz=153,slow=5.7,SNR=106
ULM LR LR 23 29 55.1
comp=Z,966nm,18.9s,baz=143,slow=40
ULM Lac du Bonnet 76.17 342 eP P 22 51 01.2 -0.4
comp=Z,426nm,1.3s
VNDA Vanda 76.17 190 eP P 22 51 02.2 +0.8
VNDA pmax pmax
comp=Z,271nm,1.2s
VNDA Vanda 76.17 190 P P 22 51 02.5 +1.1
comp=Z,108nm,1.0s,baz=133,slow=5.3,SNR=113
VNDA LR LR 23 24 42.1
comp=Z,1µm,18.9s,baz=140,slow=36
VNDA Vanda 76.17 190 eP P 22 51 02.2 +0.8
comp=Z,271nm,1.2s
TPAW Teton Pass 76.19 330 eP P 22 51 02.8 +0.6
comp=Z,732nm,1.4s
H19A Powell 76.20 331 ⇓P P 22 51 03.1 +0.9
baz=76,SNR=50
B27A Peters Farms, 76.23 338 ⇑P P 22 51 02.8 +0.7
baz=76,SNR=33
D24A Glendive 76.26 336 ⇑P P 22 51 03.4 +1.1
baz=77,SNR=70
ELK Elko 76.29 325 eP P 22 51 03.6 +0.7
ELK e 22 53 56.9
ELK pmax pmax
comp=Z,188nm,1.2s
ELK Elko 76.29 325 eP P 22 51 03.6 +0.7
comp=Z,188nm,1.2s
ELK ePP PP 22 53 56.9 +1.0
ELIM Elim 76.30 122 eP P 22 51 03.5 +0.5
ELIM AMB AMB 22 51 04.6
comp=Z,262nm,3.2s
G20A Bridger 76.30 332 ⇑P P 22 51 03.1 +0.4
baz=77,SNR=61
F21A Absaloka Mine, 76.32 333 ⇑P P 22 51 03.4 +0.6
baz=77,SNR=45
A28A Rude Farm, Bot 76.33 339 ⇓P P 22 51 02.7 +0.1
baz=77,SNR=60
FXWY Fox Creek 76.33 330 eP P 22 51 03.8 +0.8
comp=Z,215nm,1.1s
E22A Miles City 76.34 334 ⇑P P 22 51 03.1 +0.3
baz=77,SNR=19
I17A Pilgrim Ck. 76.34 330 ⇓P P 22 51 04.5 +1.5
baz=77,SNR=146
NV01 Mina Array Sit 76.35 322 eP P 22 51 03.8 +0.5
NV01 epP pP 22 51 30.6 -0.3
NVAR Mina Array Bea 76.35 322 P P 22 51 04.2 +1.0
comp=Z,54nm,1.0s,baz=142,slow=5.1,SNR=147
NVAR PKPPKP P'P'df 23 18 24.0 +6.8
comp=Z,1.1nm,0.7s,baz=342,slow=1.2,SNR=4.1
C25A Freed Ranch, W 76.36 337 ⇓P P 22 51 03.8 +1.0
baz=77,SNR=9.5
IMW Indian Meadow 76.49 330 eP P 22 51 04.9 +0.9
comp=Z,715nm,1.3s
IMW epP pP 22 51 32.1 +0.5
H18A Shoshone NF, C 76.51 331 ⇑P P 22 51 04.8 +0.7
baz=77,SNR=85
FLWY Flagg Ranch 76.52 330 eP P 22 51 05.3 +1.2
comp=Z,1µm,1.4s
B26A Jensen Ranch, 76.55 338 ⇓P P 22 51 04.4 +0.5
baz=77
YTP The Promontory 76.57 331 eP P 22 51 05.8 +1.4
YMS Mount Sheridan 76.58 330 eP P 22 51 05.9 +1.3
C24A Savage 76.64 336 ⇑P P 22 51 05.5 +1.1
baz=77,SNR=54
D23A Lindsay 76.65 335 ⇓P P 22 51 05.7 +1.2
baz=77,SNR=100
LAO LASA Array 76.65 334 eP P 22 51 05.0 +0.4
comp=Z,1µm,1.4s
RLMT Red Lodge 76.68 332 eP P 22 51 05.7 +0.7
comp=Z,2µm,1.7s
RLMT epP pP 22 51 32.8 +0.2
A27A Ledoux Ranch, 76.70 338 ⇓P P 22 51 05.5 +0.8
baz=77,SNR=18
H17A Grant Village 76.71 330 ⇓P P 22 51 07.1 +1.9
baz=77,SNR=34
H17A Grant Village 76.71 330 eP P 22 51 06.5 +1.3
comp=Z,331nm,1.4s
F20A Billings 76.73 333 ⇑P P 22 51 05.7 +0.6
baz=77,SNR=76
YLT Little Thumb C 76.75 330 eP P 22 51 07.7 +2.3
LKWY Lake 76.76 331 eP P 22 51 07.4 +2.0
LKWY pmax pmax
comp=Z,1µm,1.5s
LKWY Lake 76.76 331 eP P 22 51 07.4 +2.0
comp=Z,1µm,1.5s
YMP Mirror Lake Pl 76.78 331 eP P 22 51 06.8 +1.1
B25A Knox Farm, Ray 76.79 337 ⇓P P 22 51 06.5 +1.2
baz=77,SNR=47
SCHQ Schefferville 76.79 1 P P 22 51 05.2 +0.2

comp=Z,121nm,0.8s,baz=182,slow=4.4,SNR=75
SCHQ LR LR 23 26 56.1
comp=Z,978nm,19.7s,baz=186,slow=37
SCHQ Schefferville 76.79 1 eP **P 22 51 04.8 -0.3**
comp=Z,984nm,1.9s
SCHQ epP **pP 22 51 30.4 -2.3**
MCID Moose Creek 76.83 330 eP **P 22 51 06.7 +0.9**
YFT Old Faithful 76.87 330 eP **P 22 51 08.3 +2.2**
comp=Z,413nm,1.3s
E21A Keefer Ranch, 76.88 334 ⇑P **P 22 51 06.7 +0.9**
baz=77,SNR=98
YJC Joseph's Coat 76.88 331 eP **P 22 51 08.5 +2.3**
A26A Wade Farm, Ken 76.92 338 ⇓P **P 22 51 06.5 +0.5**
baz=77,SNR=103
YNR Norris Junctio 77.00 331 eP **P 22 51 08.0 +1.2**
comp=Z,325nm,1.3s
D22A Cohagen 77.01 335 ⇑P **P 22 51 07.5 +0.9**
baz=77,SNR=128
YPM Purple Mountai 77.04 330 eP **P 22 51 08.8 +1.7**
WAKR Walker 77.06 321 eP **P 22 51 08.3 +1.1**
WAKR epP **pP 22 51 34.2 -0.6**
YMR Madison River 77.09 330 eP **P 22 51 08.8 +1.5**
comp=Z,2μm,1.4s
SAO San Andreas Ge 77.10 319 eP **P 22 51 07.6 +0.4**
SAO pmax pmax
comp=Z,337nm,1.6s
SAO San Andreas Ge 77.10 319 eP **P 22 51 07.6 +0.4**
comp=Z,337nm,1.6s
F19A Roth Farm, Mol 77.12 332 ⇓P **P 22 51 07.9 +0.7**
baz=77,SNR=118
BMN Battle Mountai 77.13 324 eP **P 22 51 06.1 -1.4**
BMN pmax pmax
comp=Z,126nm,1.3s
BMN Battle Mountai 77.13 324 eP **P 22 51 06.1 -1.4**
comp=Z,126nm,1.3s
YHH Holmes Hill 77.14 330 eP **P 22 51 09.1 +1.5**
C23A Lambert 77.16 336 ⇓P **P 22 51 08.3 +1.0**
baz=78,SNR=72
YMC Maple Creek 77.18 330 eP **P 22 51 09.4 +1.6**
TOA0 Torodi Ar. Sit 77.22 70 eP **P 22 51 07.5 -0.9**
TOA0 epP **pP 22 51 34.4 -1.6**
TORD Torodi Ar. Bea 77.22 70 P **P 22 51 08.1 -0.2**
comp=Z,676nm,0.7s,baz=258,slow=5.5,SNR=1759
TORD pP **pP 22 51 36.2 +0.2**
comp=Z,458nm,0.9s,baz=251,slow=5.2,SNR=6.1
TORD PKKPbc **PKKPbc 23 10 15.7 +2.0**
comp=Z,0.5nm,0.8s,baz=61,slow=2.8,SNR=5.4
TORD PKPPKP **P'P'df 23 18 16.9 -0.7**
comp=Z,2.9nm,1.0s,baz=78,slow=1.6,SNR=4.6
TORD LR LR 23 26 00.1
comp=Z,3μm,18.1s,baz=255,slow=36
D21A La Casta Ranch 77.27 334 ⇑P **P 22 51 08.9 +0.9**
baz=78,SNR=121
E20A Meyer Farm, Mu 77.29 333 ⇑P **P 22 51 09.0 +0.9**
baz=78,SNR=166
CMB Columbia Colle 77.30 320 eP **P 22 51 08.6 +0.3**
CMB pmax pmax
comp=Z,374nm,1.8s
CMB Columbia Colle 77.30 320 eP **P 22 51 08.6 +0.3**
comp=Z,374nm,1.8s
A25A Svangstu Ranch 77.34 337 ⇑P **P 22 51 09.3 +1.0**
baz=78,SNR=87
DGMT Dagmar 77.34 337 ⇓P **P 22 51 09.4 +1.1**
baz=78,SNR=100
DGMT Dagmar 77.34 337 eP **P 22 51 09.2 +0.9**
comp=Z,2μm,1.5s
DGMT epP **pP 22 51 37.2 +1.2**
C22A Vida 77.38 335 ⇓P **P 22 51 09.3 +0.7**
baz=78,SNR=58
GCMT Greycliff 77.38 332 eP **P 22 51 09.6 +0.8**
GCMT epP **pP 22 51 37.1 +0.7**
QLMT Earthquake Lak 77.43 330 eP **P 22 51 10.5 +1.3**
TPMT Tepee Creek 77.47 330 eP **P 22 51 11.5 +2.1**
E19A Rath Farm, Rou 77.53 333 ⇓P **P 22 51 10.3 +0.8**
baz=78,SNR=217
B23A Brockton 77.63 336 ⇑P **P 22 51 10.9 +1.0**
baz=78,SNR=85
A24A Westby 77.64 337 ⇑P **P 22 51 11.1 +1.1**
baz=78,SNR=136
SUR Sutherland 77.83 120 P **P 22 51 13.3 +1.5**
comp=Z,1μm,1.1s,SNR=66
SUR Sutherland 77.83 120 eP **P 22 51 12.7 +0.9**
SUR epP **pP 22 51 38.1 -1.4**
WIN Windhoek 77.87 110 eP **P 22 51 12.9 +0.7**
WIN AMB AMB 22 51 15.2
comp=Z,70nm,1.4s
B22A Reddig Ranch S 77.88 335 ⇓P **P 22 51 12.4 +1.0**
baz=78,SNR=48
HLID Hailey 77.91 328 ⇓P **P 22 51 13.4 +1.6**
baz=78,SNR=602
HLID Hailey 77.91 328 eP **P 22 51 13.2 +1.4**
comp=Z,939nm,1.4s
C21A Desert Coulee 77.92 335 ⇓P **P 22 51 12.1 +0.5**
baz=78,SNR=94
A23A Redstone 78.00 336 P **P 22 51 12.5 +0.6**
baz=78
MCMT McKenzie Canyo 78.09 329 eP **P 22 51 14.4 +1.5**
D19A Cripps Ranch, 78.12 333 ⇑P **P 22 51 13.4 +0.6**
baz=78,SNR=102
BOZ Bozeman (W) 78.15 331 eP **P 22 51 13.3 +0.3**
BOZ e*PP **pP 22 51 41.5 +0.8**
BOZ pmax pmax
comp=Z,372nm,1.4s
BOZ Bozeman (W) 78.15 331 eP **P 22 51 13.3 +0.3**
comp=Z,372nm,1.4s
BOZ epP **pP 22 51 41.5 +0.8**
C20A Veseth Ranch, 78.20 334 ⇓P **P 22 51 13.5 +0.4**
baz=78,SNR=60
SAC San Andreas 78.22 319 eP **P 22 51 14.2 +0.8**
SAC San Andreas 78.22 319 eP **P 22 51 14.2 +0.8**
DLMT Dillon 78.38 330 eP **P 22 51 15.4 +1.1**
comp=Z,520nm,1.3s
B21A Ellsworth Farm 78.38 335 ⇑P **P 22 51 15.1 +1.1**
baz=79,SNR=58
A22A Carney Farms, 78.41 336 ⇑P **P 22 51 15.0 +0.7**
baz=79,SNR=184
MFID Camas Ranch 78.51 327 eP **P 22 51 16.3 +1.2**
comp=Z,771nm,1.4s
C19A Slack Wire Ran 78.64 333 ⇑P **P 22 51 16.4 +0.8**
baz=79,SNR=118
LRM Limekiln Ridge 78.65 330 eP **P 22 51 17.0 +1.0**
B20A Solberg Farm, 78.78 334 ⇓P **P 22 51 16.8 +0.5**
baz=79,SNR=198
A21A Bergtoll Ranch 78.80 335 ⇑P **P 22 51 16.8 +0.4**
baz=79,SNR=122
MCCM Marconi Confer 78.86 319 eP **P 22 51 17.4 +0.6**
comp=Z,551nm,1.3s
HRY Holter Researc 79.05 331 eP **P 22 51 19.7 +1.8**
A20A Cobblestone Ra 79.10 335 ⇓P **P 22 51 18.7 +0.6**
baz=79,SNR=277
EGMT Eagleton 79.17 333 ⇑P **P 22 51 18.8 +0.3**
baz=80,SNR=127
EGMT Eagleton 79.17 333 eP **P 22 51 18.7 +0.2**
comp=Z,860nm,1.4s
B19A Brinkman Farms 79.17 334 ⇑P **P 22 51 19.1 +0.6**
baz=80,SNR=27
WVOR Wild Horse Val 79.29 325 P **P 22 51 19.8 +0.5**
WVOR Wild Horse Val 79.29 325 P **P 22 51 19.8 +0.5**
TSUM Tsumeb 79.42 106 P **P 22 51 21.5 +0.8**
comp=Z,804nm,1.1s,baz=243,slow=6.3
TSUM pP **pP 22 51 49.2 +0.8**
comp=Z,511nm,1.1s,baz=247,slow=7.4,SNR=3.7
TSUM Tsumeb 79.42 106 eP **P 22 51 21.2 +0.5**
comp=Z,1μm,1.3s
TSUM epP **pP 22 51 49.7 +1.3**
A19A Klindworth Far 79.46 334 ⇓P **P 22 51 20.5 +0.5**
baz=80,SNR=106
HOPS Hopland Field 79.52 320 eP **P 22 51 19.5 -1.0**
comp=Z,847nm,1.8s
MOD Modoc Plateau 79.83 323 eP **P 22 51 22.8 +0.5**
comp=Z,448nm,1.3s
CHMT Chamberlain Mo 79.84 331 eP **P 22 51 23.2 +0.9**
MSO Missoula 80.09 330 ⇓P **P 22 51 24.7 +1.2**
baz=80,SNR=94
MSO Missoula 80.09 330 eP **P 22 51 24.4 +0.8**
comp=Z,487nm,1.4s
SLMT Seeley Lake 80.20 331 eP **P 22 51 24.8 +0.6**
WDC Whiskeytown Da 80.23 321 eP **P 22 51 23.3 -1.0**
WDC pmax pmax
comp=Z,300nm,1.4s
WDC Whiskeytown Da 80.23 321 eP **P 22 51 23.3 -1.0**
comp=Z,300nm,1.4s
KCPM Cahto Peak 80.26 320 eP **P 22 51 25.6 +0.9**
comp=Z,203nm,1.1s
KIPM Iron Peak 80.28 320 eP **P 22 51 26.0 +1.2**
BMO Blue Mountains 80.28 327 eP **P 22 51 25.1 +0.5**
comp=Z,869nm,1.4s
BMO epP **pP 22 51 51.9 -0.6**
N02D Trinity Center 80.58 321 ⇑P **P 22 51 26.2 -0.1**
baz=81
M04C Macdoel 80.61 323 ⇓P **P 22 51 27.1 +0.6**
baz=81
SWMT Swartz Lake 80.62 331 eP **P 22 51 27.2 +0.8**
SWMT epP **pP 22 51 53.5 -0.7**
KMRM Mail Ridge 80.68 320 eP **P 22 51 27.8 +1.0**
comp=Z,627nm,1.2s
KMRM epP **pP 22 51 53.2 -1.4**
K05A Summer Lake 80.71 324 P **P 22 51 28.3 +1.2**
HOG Hogback Mounta 80.84 323 P **P 22 51 28.4 +0.7**
I07A Izee 80.88 325 eP **P 22 51 28.9 +1.0**
comp=Z,501nm,1.3s
YBMT Yellow Bay 80.89 331 eP **P 22 51 28.4 +0.6**
JTMT Jette 80.93 331 eP **P 22 51 28.8 +0.7**
M02C Callahan 80.93 322 ⇑P **P 22 51 28.4 +0.3**
baz=81
RTC Rabat Centre 81.00 48 eP **P 22 51 28.4 -0.1**
comp=Z,320nm,1.0s
RTC epP **pP 22 51 55.7 -0.7**
F10A Beach Ranch, E 81.04 328 P **P 22 51 29.4 +0.8**
YBH Yreka Blue Hor 81.07 322 eP **P 22 51 28.3 -0.6**
YBH pmax pmax
comp=Z,132nm,1.3s
YBH Yreka Blue Hor 81.07 322 P **P 22 51 28.1 -0.8**
comp=Z,60nm,1.0s,baz=101,slow=3.9,SNR=69
YBH LR LR 23 26 24.7
comp=Z,903nm,20.5s,baz=126,slow=35
YBH Yreka Blue Hor 81.07 322 eP **P 22 51 28.2 -0.6**
comp=Z,132nm,1.3s
KHMM Horse Mountain 81.11 321 eP **P 22 51 30.1 +0.9**
comp=Z,293nm,1.2s
K04D Chiloquin, OR 81.11 323 ⇑P **P 22 51 29.8 +0.7**
baz=81
BLMT Blacktail Moun 81.16 331 eP **P 22 51 30.0 +0.6**
BSMT Bassoo Peak 81.24 330 eP **P 22 51 30.6 +0.9**
J05D Fort Rock, OR 81.27 324 ⇓P **P 22 51 30.8 +0.9**
baz=82
PINOR Pine Mountain 81.42 325 eP **P 22 51 32.0 +1.5**
comp=Z,830nm,1.3s
G08A Pilot Rock 81.43 327 eP **P 22 51 31.4 +0.7**
comp=Z,155nm,1.0s
G08A epP **pP 22 52 00.2 +1.6**
PFVI Vila Bisbo 81.50 44 eP **P 22 51 32.3 +1.2**
comp=Z,264nm,1.6s
PFVI epP **pP 22 52 00.3 +1.3**
PFVI eS S 23 01 40.4 +6.4
MORF Marmelete 81.71 44 eP **P 22 51 32.5 +0.2**
MORF eS **S 23 01 37.3 +1.0**
MORF AMS AMS 23 26 47.3
comp=Z,4μm,20.6s
MORF Marmelete 81.71 44 eP **P 22 51 33.8 +1.5**
comp=Z,252nm,1.4s
MORF epP **pP 22 52 00.8 +0.6**
MORF eS **S 23 01 39.8 +3.5**
MORF Marmelete 81.71 44 eP **P 22 51 32.5 +0.2**
MORF eS **S 23 01 37.3 +1.0**
J04D Umpqua Nationa 81.72 324 ⇑P **P 22 51 32.9 +0.5**
baz=82
WALA Waterton Lakes 81.74 332 eP **P 22 51 32.4 +0.2**
comp=Z,485nm,1.3s
RUDU RUNDU 81.77 106 eP **P 22 51 34.3 +1.1**
RUDU AMB AMB 22 51 35.3
comp=Z,377nm,1.2s
HUMO Hull Mountain 81.78 323 eP **P 22 51 32.2 -0.3**
comp=Z,138nm,1.1s
L02D Cave Junction, 81.85 322 ⇓P **P 22 51 33.8 +0.9**
baz=82
E09A Wood Farm, Sta 81.87 328 eP **P 22 51 32.9 0.0**
comp=Z,276nm,1.4s
E09A epP **pP 22 52 00.5 -0.3**
FFC Flin Flon 81.89 341 P **P 22 51 32.3 -0.4**
comp=Z,918nm,1.3s,SNR=73
FFC Flin Flon 81.89 341 eP **P 22 51 32.4 -0.4**
FFC e*PP **pP 22 52 02.1 +1.5**
FFC pmax pmax
comp=Z,454nm,1.4s
FFC Flin Flon 81.89 341 eP **P 22 51 32.4 -0.4**
comp=Z,454nm,1.4s
FFC epP **pP 22 52 02.1 +1.5**
MDT Midelt 81.91 50 P **P 22 51 34.3 +0.7**
comp=Z,160nm,0.9s,baz=237,slow=4.2,SNR=212
GRM Grahamstown 82.02 123 eP **P 22 51 34.9 +0.7**
GRM AMB AMB 22 51 37.1
comp=Z,328nm,1.5s
I05D Terrebonne, OR 82.03 325 ⇓P **P 22 51 34.9 +1.1**
baz=82
PBDV Barranco-do-Ve 82.14 45 eP **P 22 51 36.1 +1.6**
comp=Z,255nm,1.6s
PBDV epP **pP 22 52 04.2 +1.7**
PBDV eS **S 23 01 43.7 +3.1**
LIS Lisbon 82.23 43 eP **P 22 51 35.3 +0.4**
LIS eS **S 23 01 42.1 +0.8**
LIS AMS AMS 23 28 04.5
comp=Z,3μm,18.3s
LIS Lisbon 82.23 43 eP **P 22 51 35.3 +0.4**
LIS Lisbon 82.23 43 eS **S 23 01 42.1 +0.8**
LIS A A 23 28 04.5
comp=Z,3μm,18.3s
LIS Lisbon 82.23 43 eP **P 22 51 35.2 +0.4**
LIS eS **S 23 01 42.1 +0.8**
KBO Bosley Butte 82.24 322 eP **P 22 51 36.0 +0.9**
comp=Z,890nm,1.4s
KBO epP **pP 22 52 05.0 +2.0**
I04A Tendick Farm, 82.25 324 ⇑P **P 22 51 35.1 +0.1**
baz=82
G06A Carlson Farm, 82.25 326 eP **P 22 51 35.9 +1.0**
comp=Z,406nm,1.4s
PNCL Nicolau / Gran 82.27 44 eP **P 22 51 36.7 +1.6**
comp=Z,149nm,1.7s
PNCL epP **pP 22 52 03.3 +0.3**
PNCL eS **S 23 01 44.3 +2.5**
PMAFR Mafra 82.29 43 eP **P 22 51 36.5 +1.3**
comp=Z,240nm,2.6s
PMAFR epP **pP 22 52 04.0 +0.9**
PMAFR eS **S 23 01 44.6 +2.6**
MESJ Messejana 82.30 44 eP **P 22 51 35.5 +0.2**
MESJ eS **S 23 01 43.0 +0.8**
MESJ AMS AMS 23 26 53.1
comp=Z,4μm,14.8s
MESJ Messejana 82.30 44 eP **P 22 51 37.0 +1.7**
comp=Z,242nm,1.1s
MESJ epP **pP 22 52 04.0 +0.8**
MESJ Messejana 82.30 44 eP **P 22 51 35.5 +0.2**
MESJ eS **S 23 01 42.9 +0.8**
PVAQ Vaqueiros 82.38 45 eP **P 22 51 37.3 +1.6**
comp=Z,154nm,1.7s
PVAQ epP **pP 22 52 04.5 +0.9**
PVAQ eS **S 23 01 45.4 +2.5**
HAWA Hanford 82.48 327 eP **P 22 51 37.0 +1.0**
comp=Z,571nm,1.3s
HAWA epP **pP 22 52 05.0 +1.0**
G05D Wamic, OR 82.61 325 ⇓P **P 22 51 37.7 +0.9**
baz=83
NEW Newport 82.62 330 P **P 22 51 36.6 -0.2**
comp=Z,142nm,1.3s,baz=130,slow=5.3,SNR=74
NEW PKKPbc **PKKPbc 23 10 02.8 -0.9**
comp=Z,1.9nm,0.9s,baz=74,slow=5.6,SNR=3.7
NEW LR LR 23 32 39.7
comp=Z,732nm,18.1s,baz=126,slow=39
NEW Newport 82.62 330 ⇓P **P 22 51 36.5 -0.2**
baz=83,SNR=71
NEW Newport 82.62 330 eP **P 22 51 36.4 -0.3**
comp=Z,193nm,1.3s
NEW PKKPbc **PKKPbc 23 10 02.8 -0.9**
D08A Wollman Farm, 82.63 328 eP **P 22 51 37.3 +0.5**
comp=Z,630nm,1.6s
D08A epP **pP 22 52 04.8 0.0**
I03D Drain, OR 82.70 323 ⇑P **P 22 51 38.0 +0.8**
baz=83
H04A Detroit Lake 82.71 325 eP **P 22 51 37.0 -0.3**
BOSA Boshof 82.72 118 ⇑iP **P 22 51 38.3 +0.3**
BOSA AMB AMB 22 51 40.5
comp=Z,307nm,1.3s
BOSA Boshof 82.72 118 eP **P 22 51 38.5 +0.5**
BOSA e*PP **pP 22 52 04.3 -1.7**
BOSA eS **S 23 01 44.5 -2.9**
BOSA pmax pmax
comp=Z,378nm,1.1s
BOSA Boshof 82.72 118 P **P 22 51 38.0 0.0**
comp=Z,277nm,1.0s,baz=257,slow=3.9,SNR=152
BOSA pP **pP 22 52 06.5 +0.5**
comp=Z,152nm,1.0s,baz=243,slow=4.3,SNR=4.5
BOSA PKKPbc **PKKPbc 23 10 00.4 -0.9**
comp=Z,2.5nm,0.6s,baz=76,slow=3.5,SNR=5.4
BOSA Boshof 82.72 118 eP **P 22 51 38.5 +0.5**
comp=Z,378nm,1.1s
BOSA epP **pP 22 52 04.3 -1.7**
BOSA eS **S 23 01 44.5 -2.9**
BOSA PKKPbc **PKKPbc 23 10 00.4 -0.9**
KEBM Edson Butte 82.72 322 eP **P 22 51 38.2 +0.8**
comp=Z,789nm,1.2s
E07A Sunnyside 82.75 327 eP **P 22 51 38.1 +0.6**
comp=Z,454nm,1.6s
OD2 Odessa Site #2 82.76 328 P **P 22 51 38.2 +0.7**
C09A Chrisman Ranch 82.83 329 eP **P 22 51 38.3 +0.4**
comp=Z,2μm,1.6s
C09A epP **pP 22 52 06.0 +0.2**
EVO Evora 82.84 43 eP **P 22 51 39.6 +1.5**
comp=Z,102nm,1.7s
EVO epP **pP 22 52 06.8 +0.8**
TRW Toppenish Ridg 82.92 327 P **P 22 51 39.4 +1.0**
VLL Laurance Lake 82.95 325 P **P 22 51 39.8 +1.1**
PMTG Montargil 83.02 43 eP **P 22 51 40.3 +1.3**
comp=Z,245nm,1.5s
PMTG epP **pP 22 52 07.9 +0.9**
PMTG eS **S 23 01 50.3 +0.9**
RNO Roman Nose 83.06 323 P **P 22 51 40.1 +1.0**
COR Corvallis 83.25 324 eP **P 22 51 40.1 +0.1**
COR pmax pmax
comp=Z,1μm,1.3s
COR Corvallis 83.25 324 eP **P 22 51 40.0 +0.1**
comp=Z,1μm,1.3s
PBAR Barrancos 83.26 44 eP **P 22 51 41.6 +1.4**
comp=Z,260nm,1.3s
PBAR epP **pP 22 52 09.3 +1.1**
PBAR eS **S 23 01 54.3 +2.4**
SWZ Schweizer 83.30 116 eP **P 22 51 41.0 -0.1**
SWZ AMB AMB 22 51 43.2
comp=Z,271nm,1.6s
PESTR Estremoz 83.30 43 eP **P 22 51 41.9 +1.4**
comp=Z,199nm,1.6s
PESTR epP **pP 22 52 09.1 +0.6**
PESTR eS **S 23 01 54.7 +2.4**
SAW Saint Andrews 83.31 328 P **P 22 51 40.7 +0.4**
EBG Ellensburg 83.35 327 P **P 22 51 41.6 +1.0**
PCAS Casmilo, Conde 83.43 42 eP **P 22 51 42.6 +1.5**
comp=Z,175nm,2.2s
PCAS epP **pP 22 52 09.5 +0.4**
PCAS eS **S 23 01 53.8 +0.3**
FCC Fort Churchill 83.47 347 eP **P 22 51 40.9 +0.1**
FCC pmax pmax
comp=Z,664nm,1.6s
FCC Fort Churchill 83.47 347 eP **P 22 51 40.9 +0.1**
comp=Z,664nm,1.6s
MAW Mawson 83.48 163 eP **P 22 51 40.7 -0.2**
MAW pmax pmax
comp=Z,136nm,1.6s
MAW Mawson 83.48 163 P **P 22 51 41.5 +0.5**
comp=Z,82nm,0.7s,baz=207,slow=5.9,SNR=39
MAW Mawson 83.48 163 eP **P 22 51 40.7 -0.2**
comp=Z,136nm,1.6s
WTV Waterville 83.58 328 P **P 22 51 42.2 +0.4**
G03D McMinnville, O 83.63 324 ⇑P **P 22 51 43.0 +1.1**
baz=84
LTY Liberty 83.64 327 eP **P 22 51 42.0 0.0**
comp=Z,438nm,1.3s
LTY epP **pP 22 52 08.8 -1.3**
F04A Amboy 83.65 325 eP **P 22 51 42.3 +0.2**
comp=Z,698nm,1.4s
SHW Mount Saint He 83.73 326 eP **P 22 51 43.3 +0.6**
SHW Mount Saint He 83.73 326 eP **P 22 51 43.3 +0.6**
B08A Colville Reser 83.73 329 eP **P 22 51 42.3 -0.2**
comp=Z,545nm,1.5s
LVP Lakeview Peak 83.74 326 P **P 22 51 43.0 +0.3**
PMRV Marv??o 83.75 43 eP **P 22 51 43.9 +1.1**
comp=Z,96nm,1.5s
PMRV epP **pP 22 52 11.0 +0.2**
PMRV eS **S 23 01 55.5 -1.4**
LON Longmire 83.88 326 eP **P 22 51 43.0 -0.3**
LON pmax pmax
comp=Z,173nm,1.5s
LON Longmire 83.88 326 eP **P 22 51 43.0 -0.3**
comp=Z,173nm,1.5s
F04D Rainier, OR 84.06 325 ⇑P **P 22 51 45.1 +0.9**
baz=84
MTE Manteigas 84.22 42 eP **P 22 51 46.2 +1.0**
comp=Z,194nm,1.1s
MTE epP **pP 22 52 13.8 +0.6**
MTE eS **S 23 02 00.2 -1.4**
MTE Manteigas 84.22 42 eP **P 22 51 46.1 +0.9**
comp=Z,141nm,1.0s
F03A Seaside 84.25 325 eP **P 22 51 44.9 -0.2**
comp=Z,430nm,1.4s
D05A Enumclaw 84.26 327 eP **P 22 51 45.0 -0.1**
comp=Z,685nm,1.4s
LBTB Lobatse 84.32 115 ⇑iP **P 22 51 46.6 +0.3**
LBTB AMB AMB 22 51 49.0
comp=Z,325nm,1.4s
BFSD Buffelsfontein 84.62 117 eP **P 22 51 48.5 +0.7**
BFSD AMB AMB 22 51 50.4
comp=Z,263nm,1.6s
EDM Edmonton 84.63 335 eP **P 22 51 46.1 -0.8**
EDM e*PP **pP 22 52 13.8 -1.2**
EDM Edmonton 84.63 335 eP **P 22 51 46.1 -0.8**
EDM epP **pP 22 52 13.8 -1.2**
POLO Lamas de Olo 84.63 41 eP **P 22 51 48.4 +1.1**
comp=Z,83nm,1.7s
POLO epP **pP 22 52 15.6 +0.2**
POLO eS **S 23 02 04.3 -1.4**
E03A Lebam 84.66 325 eP **P 22 51 47.6 +0.5**
comp=Z,542nm,1.3s
PGAV Gavieira, Arco 84.69 41 eP **P 22 51 48.7 +1.1**
comp=Z,234nm,1.9s
PGAV epP **pP 22 52 15.5 -0.1**
PGAV eS S 23 01 59.2 -7.1
SEK Senekal 84.76 118 eP **P 22 51 48.6 +0.1**
SEK AMB AMB 22 51 51.8
comp=Z,242nm,2.6s
B06A Marblemount 84.89 328 eP **P 22 51 47.9 -0.3**
comp=Z,552nm,1.4s
B06A epP **pP 22 52 15.5 -0.8**
JCW Jim Creek 84.90 327 P **P 22 51 48.0 -0.4**
MVO Moncorvo 84.98 42 eP **P 22 51 50.1 +1.1**
comp=Z,304nm,1.5s
MVO epP **pP 22 52 17.5 +0.4**
MVO eS **S 23 02 04.2 -4.9**
KSR Koster 85.10 116 eP **P 22 51 50.2 0.0**
KSR AMB AMB 22 51 52.8
comp=Z,104nm,1.4s
WDLM Western Deep L 85.32 116 eP **P 22 51 51.9 +0.6**
WDLM AMB AMB 22 51 53.7
comp=Z,107nm,1.8s
KSD Kokstad 85.36 121 eP P 22 51 55.2 +3.9
KSD AMB AMB 22 52 23.7
comp=Z,74nm,3.0s
NLWA Neilton Lookou 85.36 326 eP **P 22 51 51.1 +0.4**
comp=Z,478nm,1.4s
KLOF Kloof 85.50 116 eP **P 22 51 52.7 +0.5**
KLOF AMB AMB 22 51 54.5
comp=Z,144nm,1.8s
A05A Maple Falls 85.51 328 eP **P 22 51 51.3 0.0**
comp=Z,649nm,1.3s
PBRG Braganca 85.53 41 eP **P 22 51 52.6 +0.9**
comp=Z,221nm,1.6s
PBRG epP **pP 22 52 20.7 +0.9**
PBRG eS S 23 02 07.0 -7.4
MCW Mount Constitu 85.67 327 P **P 22 51 52.7 +0.5**
MCW Mount Constitu 85.67 327 P **P 22 51 52.6 +0.5**
PAB San Pablo 85.77 44 eP **P 22 51 54.0 +1.0**
PAB e*PP **pP 22 52 21.2 +0.1**
PAB pmax pmax
comp=Z,123nm,0.8s
PAB San Pablo 85.77 44 eP **P 22 51 54.0 +1.0**
comp=Z,123nm,0.8s
PAB epP **pP 22 52 21.1 +0.1**
CRWM Crown Mines 85.88 117 eP **P 22 51 54.4 +0.3**
CRWM AMB AMB 22 51 56.4
comp=Z,137nm,1.6s
OBSV Observatory 85.95 116 eP **P 22 51 54.8 +0.3**
OBSV AMB AMB 22 51 56.8
comp=Z,126nm,2.5s
PGC Sidney 85.96 327 eP **P 22 51 53.7 +0.2**
comp=Z,737nm,1.3s
PGC epP **pP 22 52 23.0 +1.4**
ERPM east rand prop 86.03 117 eP **P 22 51 55.2 +0.4**
ERPM AMB AMB 22 52 26.3
comp=Z,226nm,2.9s

ESDC	Sonseca Array	86.08	44	P		P	22 51 55.7	+1.2
	comp=Z,29nm,0.9s,baz=244,slow=4.1,SNR=107							
ESDC				pP		pP	22 52 23.6	+0.9
	comp=Z,118nm,1.2s,baz=248,slow=3.1,SNR=6.1							
ESDC				PKKPbc		PKKPbc	23 09 54.0	-0.9
	comp=Z,1.2nm,0.7s,baz=27,slow=2.4,SNR=6.9							
ESDC				PKPPKP		P'P'df	23 17 57.0	-2.7
	comp=Z,1.2nm,0.9s,baz=20,slow=1.7,SNR=6.6							
ESDC				LR		LR	23 28 55.8	
	comp=Z,3μm,19.6s,baz=240,slow=34							
ES19	SONSECA Array	86.14	44	eP		P	22 51 55.2	+0.5
ES19				epP		pP	22 52 23.3	+0.4
SLR	Silverton	86.29	116	eP		P	22 51 56.4	+0.3
SLR				AMB		AMB	22 51 58.4	
	comp=Z,156nm,2.6s							
ODJA	Bouhanifia	86.38	50	P		P	22 51 52.0	-4.1
DRV	Dumont d'Urvil	88.79	191	P		P	22 51 54.0	-13
MSNA	Messina	89.09	114	eP		P	22 52 11.2	+1.8
MSNA				AMB		AMB	22 52 13.0	
	comp=Z,156nm,2.5s							
ADJB	Djebel Djouab	89.33	50	P		P	22 52 11.9	+1.7
ABA	Alger-Bouzarea	89.35	50	P		P	22 52 11.3	+1.2
AKET	Djebel Ketaf	89.60	51	P		P	22 52 13.8	+2.3
VAL	Valentia	89.64	32	⇓iP		P	22 52 12.5	+1.5
VAL	Valentia	89.64	32	⇓iS		S	23 02 52.7	-0.3
SJPF	Ste Jean	89.66	42	eP		P	22 52 11.8	+0.4
	comp=Z,51nm,0.9s							
LARF	Larrau	89.77	43	eP		P	22 52 13.4	+1.4
XMAS	Kiritimati	89.83	272	eP		P	22 52 13.1	+0.3
	comp=Z,797nm,1.2s							
ETSF	Etsaut	89.97	43	eP		P	22 52 13.3	+0.4
	comp=Z,86nm,1.2s							
ETSF				epP		pP	22 52 42.5	+1.3
SFJD	Kangerlussuaq	89.99	7	eP		P	22 52 11.6	-0.7
SFJD				pmax		pmax		
	comp=Z,11nm,1.0s							
SFJD	Kangerlussuaq	89.99	7	iP		P	22 52 11.6	-0.7
	comp=Z,11nm,0.9s							
SFJD	Kangerlussuaq	89.99	7	eP		P	22 52 11.0	-1.3
	comp=Z,163nm,1.6s							
LSZ	Lusaka	90.28	107	eP		P	22 52 16.9	+1.8
LSZ				e*PP		pP	22 52 41.8	-1.6
LSZ				pmax		pmax		
	comp=Z,162nm,1.3s							
LSZ	Lusaka	90.28	107	eP		P	22 52 16.9	+1.8
	comp=Z,162nm,1.3s							
LSZ				epP		pP	22 52 41.8	-1.6
VIEF	Viey	90.33	43	eP		P	22 52 15.8	+1.2
RESF	Ens	90.49	43	eP		P	22 52 16.7	+1.3
BBB	Bella Bella	90.50	328	LR		LR	23 34 45.4	
	comp=Z,688nm,20.0s,baz=121,slow=37							
EPF	Esparros	90.60	43	eP		P	22 52 15.2	-0.7
	comp=Z,77nm,1.2s							
EPF				epP		pP	22 52 45.1	+0.9
CKHR	Kef el Ahmar	90.75	51	P		P	22 52 18.4	+1.6
SET	Setif	90.76	51	P		P	22 52 19.0	+2.2
MELF	Melles	90.79	43	eP		P	22 52 18.2	+1.4
QUIF	Quistinic	91.05	38	eP		P	22 52 17.0	-0.7
	comp=Z,162nm,1.3s							
QUIF				epP		pP	22 52 46.1	+0.1
ROSF	Rostrenen	91.21	37	eP		P	22 52 17.9	-0.6
	comp=Z,80nm,1.0s							
ROSF				epP		pP	22 52 46.8	0.0
DFRA	Djebel Bou Aff	91.26	51	P		P	22 52 21.2	+2.1
VALF	Valcebollere	91.36	44	eP		P	22 52 20.6	+1.1
CTEI	Djebel Teioual	91.42	51	P		P	22 52 21.2	+1.3
CASM	Ain Smara	91.57	51	P		P	22 52 21.6	+1.1
CARF	Carcanieres	91.57	44	eP		P	22 52 21.5	+1.0
SGMF	Saint Gilles	91.57	38	eP		P	22 52 19.2	-0.9
	comp=Z,56nm,1.0s							
FILF	Fillols	91.79	44	eP		P	22 52 21.9	+0.5
LCHF	La Chataignera	91.79	40⇑	eP		P	22 52 22.1	+0.9
CKFL	Kef-Lekhel	91.80	51	P		P	22 52 23.0	+1.3
LFF	La Frestale	91.81	42	eP		P	22 52 21.1	-0.2
	comp=Z,149nm,1.0s							
LFF				epP		pP	22 52 50.1	+0.4
MTLF	Montolieu	91.95	44	eP		P	22 52 21.9	-0.1
	comp=Z,84nm,1.1s							
MTLF				epP		pP	22 52 50.7	+0.3
YKA	Yellowknife Ar	92.05	340	P		P	22 52 22.0	0.0
YKA				*PP		pP	22 52 50.3	0.0
YKA				pmax		pmax		
	comp=Z,47nm,0.6s							
YKA				pmax		pmax		
	comp=Z,33nm,0.7s							
YKA	Yellowknife Ar	92.05	340	P		P	22 52 22.0	0.0
	comp=Z,47nm,0.6s,baz=135,slow=4.5,SNR=650							
YKA				pP		pP	22 52 50.3	0.0
	comp=Z,33nm,0.7s,baz=134,slow=4.6,SNR=4.8							
YKA				PKPPKP		P'P'df	23 17 37.5	-9.4
	comp=Z,0.6nm,1.0s,baz=302,slow=1.8,SNR=4.0							
CAEH	'Ain El Ouahch	92.06	51	P		P	22 52 23.4	+0.7
ILULI	Ilulissat	92.08	6	iP		P	22 52 21.8	-0.2
ILULI				pmax		pmax		
	comp=Z,64nm,1.1s							
ILULI	Ilulissat	92.08	6	iP		P	22 52 21.8	-0.2
	comp=Z,64nm,1.1s							
MFF	Saint Martin d	92.11	40	eP		P	22 52 22.4	-0.3
	comp=Z,122nm,1.1s							
MFF				epP		pP	22 52 51.4	+0.4
ABSA	Djebel Ababsia	92.29	52	P		P	22 52 25.1	+1.2
DSB	Dublin	92.32	32	eP		P	22 52 22.1	-1.3
	comp=Z,242nm,2.1s							
CMAH	Djebel Manchou	92.40	51	P		P	22 52 25.5	+1.1
RJF	Les Rejaudoux	92.47	42	eP		P	22 52 23.9	-0.5
	comp=Z,87nm,1.1s							
GRR	Gorron	92.61	38	eP		P	22 52 24.2	-0.7
	comp=Z,100nm,1.1s							
CAF	Calviac	92.62	42	eP		P	22 52 24.8	-0.3
	comp=Z,24nm,0.7s							
CRZF	Crozet Islands	92.94	143	P		P	22 52 23.0	-3.7
CRZF				PP		PP	22 55 57.0	-13
CRZF				S		S	23 02 43.0	-41
CRZF				SS		SS	23 08 50.0	-49
CRZF				L		L	23 16 00.0	
CRZF				R			23 24 00.0	
FLN	La Foliniere	93.02	38	eP		P	22 52 26.3	-0.5
	comp=Z,170nm,1.5s							
FLN				epP		pP	22 52 55.1	-0.1
LDF	La Druitiere	93.14	38	eP		P	22 52 27.4	0.0
	comp=Z,124nm,1.3s							
BFZ	Birch Farm	93.23	224	eP		P	22 52 30.0	+1.8
	comp=Z,781nm,2.3s							
LASF	Ste Croix	93.34	43	eP		P	22 52 28.5	0.0
LASF				epP		pP	22 52 57.5	+0.7
TCF	Toulx Ste Croi	93.37	41	eP		P	22 52 27.9	-0.7
	comp=Z,42nm,1.0s							
TCF				epP		pP	22 52 57.0	+0.1
KEST	Kesra	93.43	53	P		P	22 52 30.5	+1.4
	comp=Z,30nm,0.8s,baz=256,slow=3.9,SNR=48							
KEST				PKKPbc		PKKPbc	23 09 37.1	+0.9
	comp=Z,2.5nm,0.8s,baz=316,slow=4.5,SNR=6.9							
KEST				LR		LR	23 36 43.2	
	comp=Z,3μm,19.3s,baz=214,slow=37							
LBL	Lubilhac	93.50	42⇑	eP		P	22 52 30.4	+1.1
PYM	Petit Puy Mans	93.60	42⇑	eP		P	22 52 30.5	+0.8
AGO	Saint Agoulin	93.82	41⇑	eP		P	22 52 31.2	+0.6
SNZO	South Karori	93.86	222	eP		P	22 52 32.0	+1.0
	comp=Z,126nm,1.1s							
BGF	Bois d'Agland	93.89	41	eP		P	22 52 30.4	-0.5
	comp=Z,99nm,1.0s							
BGF				epP		pP	22 52 59.5	+0.2
BKZ	Black Stump Fm	93.89	225	eP		P	22 52 33.5	+2.1
	comp=Z,393nm,1.4s							
COLF	Collangettes	93.92	42⇑	eP		P	22 52 32.0	+0.9
KHZ	Kahutara	93.95	221	eP		P	22 52 32.6	+1.1
	comp=Z,258nm,1.4s							
URZ	Urewera	93.97	226	P		P	22 52 33.0	+1.3
	comp=Z,48nm,1.1s,baz=91,slow=1.4,SNR=16							
URZ				LR		LR	23 27 52.7	
	comp=Z,3μm,18.7s,baz=155,slow=31							
URZ	Urewera	93.97	226	eP		P	22 52 32.9	+1.3
	comp=Z,203nm,1.4s							
BORG	Borgarnes	94.01	18	eP		P	22 52 28.5	-2.5
BORG				pmax		pmax		
	comp=Z,1μm,2.9s							
BORG	Borgarnes	94.01	18	eP		P	22 52 28.5	-2.5
	comp=Z,1μm,2.9s							
PLDF	La Plantade	94.08	42⇑	eP		P	22 52 32.7	+0.8
HYF	Humbligny	94.10	40	eP		P	22 52 31.4	-0.5
ODZ	Otahua Downs	94.10	218	eP		P	22 52 32.0	-0.1
	comp=Z,251nm,2.0s							
STCH	Steam Cracks	94.21	289	eP		P	22 52 32.9	-0.2
VIVF	Saint-Julien-l	94.22	43	eP		P	22 52 32.5	0.0
	comp=Z,73nm,1.3s							
VIVF				epP		pP	22 53 01.8	+0.9
PUH	Pauahi	94.29	289	eP		P	22 52 32.9	-0.6
AVF	Avril sur Loir	94.30	41	eP		P	22 52 32.1	-0.7
	comp=Z,80nm,1.2s							
SMRF	Simiane la Rot	94.40	44	eP		P	22 52 32.8	-0.6
	comp=Z,88nm,1.3s							
SMRF				epP		pP	22 53 03.0	+1.3
HPO	Honuapo	94.48	289	eP		P	22 52 34.9	+0.7
SSF	Saint Saulge	94.52	41	eP		P	22 52 32.9	-0.9
	comp=Z,60nm,1.1s							
SSF				epP		pP	22 53 02.0	-0.2
SMF	Signal de Mont	94.53	41	eP		P	22 52 33.5	-0.4
	comp=Z,95nm,1.0s							
SMF				epP		pP	22 53 02.5	+0.3
RPZ	Rata Peaks	94.67	219	eP		P	22 52 35.4	+0.6
	comp=Z,297nm,1.7s							
POHA	Pohakuloa	94.71	289	eP		P	22 52 37.8	+2.2
	comp=Z,238nm,1.1s							
LMR	La Mourre	94.72	45	eP		P	22 52 34.1	-0.7
	comp=Z,75nm,0.9s							
LOR	Lormes	94.83	41	eP		P	22 52 34.4	-0.8
	comp=Z,43nm,1.0s							
FRF	La Foret Royal	94.91	45	eP		P	22 52 35.0	-0.6
	comp=Z,144nm,1.5s							
FRF				epP		pP	22 53 04.9	+0.9
RAO	Raoul Island	94.97	236	LR		LR	23 27 46.2	
	comp=Z,541nm,20.4s,baz=163,slow=30							
WRAK	Wrangell Islan	94.97	330	eP		P	22 52 35.2	-0.4
	comp=Z,152nm,1.3s							
ESK	Eskdalemuir	95.02	31	iP		P	22 52 37.5	+1.7
ESK	Eskdalemuir	95.02	31	eP		P	22 52 34.3	-1.6
	comp=Z,729nm,1.8s							
ORIF	Oris-en-Rattie	95.02	43	eP		P	22 52 36.7	+0.5
	comp=Z,95nm,1.1s							
ORIF				epP		pP	22 53 05.8	+1.2
VSL	Villasalto	95.03	49	eP		P	22 52 37.0	+0.7
	comp=Z,194nm,1.8s							
WHZ	Wether Hill Ro	95.07	216	eP		P	22 52 37.2	+0.7
	comp=Z,106nm,1.2s							
DLBC	Dease Lake	95.07	332	LR		LR	23 39 46.6	
	comp=Z,1μm,21.4s,baz=122,slow=38							
DLBC	Dease Lake	95.07	332	eP		P	22 52 36.5	+0.4
DLBC				ePP		PP	22 56 26.8	-0.5
KKH	Kailua Kona	95.09	289	eP		P	22 52 38.5	+1.5
KKH	Kailua Kona	95.09	289	eP		P	22 52 38.5	+1.5
CALN	Calern	95.15	45	eP		P	22 52 37.8	+0.9
MVIF	Mont Vial	95.39	45	eP		P	22 52 39.0	+1.0
REVF	Revere	95.46	45	eP		P	22 52 39.3	+1.1
TOUF	Mont Tournerai	95.50	45	eP		P	22 52 39.5	+0.9
MBDF	Montbardon	95.50	44	eP		P	22 52 38.8	+0.3
	comp=Z,66nm,1.1s							
MBDF				epP		pP	22 53 07.8	+0.9
SBF	Sospel	95.56	45	eP		P	22 52 38.7	0.0
	comp=Z,151nm,1.0s							
SBF				epP		pP	22 53 07.8	+0.7
BNI	Bardonecchia	95.58	44	eP		P	22 52 39.3	+0.5
BNI				e			22 56 29.0	
BNI	Bardonecchia	95.58	44	eP		P	22 52 39.3	+0.5
BNI				ePP		PP	22 56 29.0	-2.7
AUTN	L'Aution	95.61	45	eP		P	22 52 41.2	+2.1
LPL	La Plagne	95.82	43	eP		P	22 52 40.6	+0.6
	comp=Z,72nm,1.0s							
LPG	La Plagne	95.82	43	eP		P	22 52 40.7	+0.6
	comp=Z,76nm,1.0s							
CABF	La Chapelle	95.90	42	eP		P	22 52 39.9	-0.3
	comp=Z,38nm,0.9s							
CABF				epP		pP	22 53 09.0	+0.4
SFTF	Sexfontaines	95.97	40	eP		P	22 52 39.6	-0.8
	comp=Z,63nm,1.1s							
SFTF				epP		pP	22 53 08.8	0.0
PGF	Pioggiola	96.04	46	eP		P	22 52 40.2	-0.7
MEZF	Maizieres J'vi	96.11	40	eP		P	22 52 40.4	-0.6
	comp=Z,70nm,1.1s							
MEZF				epP		pP	22 53 09.5	+0.1
BAIF	Baives	96.32	38	eP		P	22 52 41.2	-0.7
	comp=Z,39nm,1.2s							
BAIF				epP		pP	22 53 10.3	0.0
PAGF	Fort de Pagny	96.53	40	eP		P	22 52 42.7	-0.2
	comp=Z,22nm,1.0s							
PAGF				epP		pP	22 53 11.7	+0.4
SENIN	Lac Senin/Sane	96.54	43	eP		P	22 52 43.5	+0.2
SENIN				ePP		PP	22 56 36.1	-3.1
THEF	They Montfort	96.55	40	eP		P	22 52 43.2	+0.2
DOU	Dourbes	96.56	38	P		P	22 52 42.6	-0.4
	comp=Z,35nm,2.3s							
DOU				AP		pP	22 53 10.7	-0.7
SNF	Seneffe	96.57	38	P		P	22 52 44.5	+1.5
HAU	Haudompre	96.67	41	eP		P	22 52 42.9	-0.7
	comp=Z,41nm,1.0s							
LOMF	Lomont	96.67	41	eP		P	22 52 44.7	+1.0
GIVF	Givet	96.70	38	eP		P	22 52 43.1	-0.5
	comp=Z,53nm,0.9s							
UCC	Uccle	96.75	38	P		P	22 52 44.0	+0.2
UCC				AP		pP	22 53 13.0	+0.8
SUMG	Summit	96.75	9	iP		P	22 52 44.1	+0.2
SUMG				pmax		pmax		
	comp=Z,21nm,0.9s							
SUMG	Summit	96.75	9	iP		P	22 52 44.1	+0.2
	comp=Z,21nm,0.9s							
SUMG	Summit	96.75	9	eP		P	22 52 43.3	-0.6
	comp=Z,762nm,3.0s							
KULLO	Kullorsuaq	96.89	3	⇓iP		P	22 52 43.9	0.0
KULLO				pmax		pmax		
	comp=Z,26nm,1.1s							
KULLO	Kullorsuaq	96.89	3	⇓iP		P	22 52 43.9	0.0
	comp=Z,26nm,1.0s							
HINF	Hinteralfeld	96.89	41	eP		P	22 52 43.8	-0.8
	comp=Z,25nm,1.0s							
MOF	Molkenrain	97.08	41	eP		Pdif	22 52 45.6	0.0
BCLA	Clavier	97.11	38	P		Pdif	22 52 45.6	+0.1
	comp=Z,32nm,2.3s							
BCLA				AP		pP	22 53 14.2	+0.3
ECH	Echery	97.25	41	eP		P	22 52 45.3	-0.9
WLF	Walferdange	97.27	39	P		Pdif	22 52 47.0	+0.7
	comp=Z,63nm,1.9s							
WLF				AP		pP	22 53 15.8	+1.1
WLF	Walferdange	97.27	39	eP		Pdif	22 52 46.8	+0.5
WLF				e*PP		pP	22 53 13.9	-0.7
WLF	Walferdange	97.27	39	eP		Pdif	22 52 46.8	+0.5
WLF				epP		pP	22 53 13.9	-0.7
CDF	Champ du Feu	97.40	41	eP		P	22 52 46.3	-0.7
	comp=Z,49nm,1.0s							
CDF				epP		pP	22 53 15.4	0.0
BEBN	Eben Emael	97.49	38	P		Pdif	22 52 48.0	+0.8
MEM	Membach	97.60	38	P		Pdif	22 52 48.1	+0.4
	comp=Z,18nm,1.9s							
MEM				AP		pP	22 53 16.7	+0.6
MEM	Membach	97.60	38	eP		Pdif	22 52 48.2	+0.5
MEM				e*PP		pP	22 53 13.6	-2.5
MEM				pmax		pmax		
	comp=Z,28nm,1.0s							
MEM	Membach	97.60	38	eP		Pdif	22 52 48.2	+0.5
	comp=Z,28nm,1.0s							
MEM				epP		pP	22 53 13.6	-2.5
VLC	Villacollemand	97.62	45	eP		P	22 52 47.5	-0.5
VLC				epP		pP	22 53 16.2	-0.2
VLC				ePP		PP	22 56 43.3	-4.0
HGN	Heimansgroeve	97.62	38	eP		P	22 52 47.1	-0.7
	comp=Z,239nm,2.8s							
HGN				epP		pP	22 53 16.0	-0.2
TUE	Stuetta	97.88	43	eP		Pdif	22 52 49.5	+0.1
	comp=Z,36nm,1.0s							
LANF	Langenberg	97.96	40	eP		Pdif	22 52 50.3	+0.9
BFO	Black Forest	98.01	41	eP		P	22 52 48.8	-0.8
BFO				e			22 56 47.6	
BFO	Black Forest	98.01	41	eP		P	22 52 48.8	-0.8
BFO				ePP		PP	22 56 47.5	-2.6
RES	Resolute Bay	98.21	353	eP		Pdif	22 52 49.9	0.0
RES				pmax		pmax		
	comp=Z,22nm,1.0s							
RES	Resolute Bay	98.21	353	PKKPbc		PKKPbc	23 09 22.1	-2.5
	comp=Z,9.2nm,1.0s,baz=330,slow=3.6,SNR=8.1							
RES	Resolute Bay	98.21	353	eP		Pdif	22 52 49.9	+0.1
	comp=Z,22nm,1.0s							
RES				PKKPbc		PKKPbc	23 09 22.1	-2.5
DAVOX	Davos/Dischmat	98.34	43	P		Pdif	22 52 52.2	+0.8
DAVOX							22 56 49.1	
DAVOX				pmax		pmax		
	comp=Z,29nm,0.9s							
DAVOX				pmax		pmax		
	comp=Z,22nm,0.9s							
DAVOX	Davos/Dischmat	98.34	43	P		Pdif	22 52 52.2	+0.8
	comp=Z,29nm,0.8s,baz=234,slow=5.2,SNR=28							
DAVOX				PP		PP	22 56 49.1	-3.8
	comp=Z,22nm,0.9s,baz=231,slow=5.9,SNR=10							
FUORN	Ofenpass-Fuorn	98.52	43	eP		P	22 52 50.6	-1.6
	comp=Z,29nm,0.9s							
FUORN				ePP		PP	22 56 49.9	-4.5
DAVA	Damuels	98.54	42	iPdiff		Pdif	22 52 54.6	+2.4
	SNR=8.8							
WTSB	Winterswijk	98.63	37	eP		Pdif	22 52 52.6	+0.4
	comp=Z,29nm,0.9s							
WTSB				epP		pP	22 53 20.9	+0.3
BUG	Bochum--Univer	98.68	38	ePdiff		Pdif	22 52 53.0	+0.5
BUG				epPdiff		pP	22 53 21.5	+0.6
BUG				ePP		PP	22 56 52.7	-2.4
STU	Stuttgart	98.71	41	eP		P	22 52 52.2	-0.5
STU				pmax		pmax		
	comp=Z,31nm,0.9s							
STU	Stuttgart	98.71	41	ePdiff		Pdif	22 52 53.3	+0.6
STU	Stuttgart	98.71	41	eP		P	22 52 52.2	-0.5
	comp=Z,31nm,0.9s							
TNS	Taunus Mts	98.85	39	ePdiff		Pdif	22 52 54.1	+0.7
TNS				epPdiff		pP	22 53 22.3	+0.5
AQU	L'Aquila	98.95	48	eP		Pdif	22 52 54.3	+0.3
AQU				pmax		pmax		
	comp=Z,115nm,1.3s							
AQU	L'Aquila	98.95	48	eP		Pdif	22 52 54.3	+0.3
	comp=Z,115nm,1.3s							
FETA	Feichten	98.97	43	iPdiff		Pdif	22 52 54.9	+0.8
	SNR=13							
RETA	Reutte	99.17	42	iPdiff		Pdif	22 52 55.6	+0.7
	SNR=8.1							
IBBN	Ibbenburen	99.31	37	ePdiff		Pdif	22 52 56.1	+0.8
IBBN				epPdiff		pP	22 53 24.4	+0.7
MOTA	Moosalm	99.33	43	iPdiff		Pdif	22 52 56.3	+0.6
	SNR=16							
HYT	Haines Junctio	99.56	332	ePdif		Pdif	22 52 55.1	-1.3
WATA	Walderalm	99.62	43	iPdiff		Pdif	22 52 57.7	+0.7
	SNR=8.2							
FUR	Furstenfeldbru	99.75	42	epPdiff		Pdif	22 53 26.3	+29
PAF	Port-aux-Franc	99.78	154	Pdif		Pdif	22 52 54.0	-3.6
PAF				SKKS			23 03 14.0	
PAF				SS		SS	23 10 39.0	-36
PAF				L		L	23 20 00.0	
PAF				R			23 29 00.0	
ABTA	Abfaltersbach	99.99	44	iPdiff		Pdif	22 52 59.6	+1.0
	SNR=5.8							
UBBA	Unterbreizbach	100.00	39	epPdiff		pPdif	22 53 27.3	+0.6
UBBA				ePP		PP	22 57 02.2	-2.9
GRFO	Grafenberg	100.29	40	eP		Pdif	22 53 00.9	+1.2
GRFO	Grafenberg	100.29	40	ePdif		Pdif	22 53 00.9	+1.2
GRF	Grafenberg Arr	100.29	40	ePdiff		Pdif	22 53 00.6	+0.8
GRF				ePP		PP	22 57 04.0	-3.5
RJOB	Jochberg	100.54	43	epPdiff		pPdif	22 53 30.2	+0.8
CADS	Cadrg	100.59	44	iP		Pdif	22 53 02.0	+0.8
CLZ	Clausthal	100.61	38	ePdiff		Pdif	22 53 02.0	+0.9
CLZ				epPdiff		pP	22 53 30.3	+0.6
CLZ				ePP		PP	22 57 06.8	-3.1
KBA	Koelnbreinsper	100.65	43	iPdiff		Pdif	22 53 02.0	+0.4
	SNR=5.7							
MYKA	Terra Mystica	100.67	44	iPdiff		Pdif	22 53 02.9	+1.3
	SNR=6.4							
NRDL	Niedersach Rie	100.71	38	epPdiff		pPdif	22 53 31.0	+1.2
NRDL				ePP		PP	22 57 08.2	-2.2
MOX	Moxa	100.89	40	epPdiff		pPdif	22 53 31.5	+0.7
MOX				ePP		PP	22 57 09.0	-2.9
ROTZ	Rotzenmuhle	100.92	41	ePdiff		Pdif	22 53 03.6	+1.1
ROTZ				epPdiff		pP	22 53 32.0	+0.9
ROTZ				ePP		PP	22 57 09.0	-3.2
WET	Wettzell	101.10	41	ePdiff		Pdif	22 53 04.1	+0.7
NEUB	Neuenburg	101.19	39	ePdiff		Pdif	22 53 04.7	+1.1
NEUB				ePP		PP	22 57 10.9	-3.3
WERN	Wernitzgruen	101.21	40	ePdiff		Pdif	22 53 05.1	+1.3
WERN				epPdiff		pP	22 53 33.3	+0.9
WERN				ePP		PP	22 57 11.5	-2.9
GUNZ	Gunzen	101.21	40	ePP		PP	22 57 11.6	-2.8
OBKA	Obir	101.22	44⇑	iPdiff		Pdif	22 53 05.0	+0.9
	comp=Z,20nm,0.7s							
WERD	Werda	101.22	40	ePP		PP	22 57 11.6	-2.9
TANN	Tannenbergstha	101.30	40	ePdiff		Pdif	22 53 05.5	+1.2
TANN				epPdiff		pP	22 53 33.6	+0.7
TANN				ePP		PP	22 57 12.3	-2.9
BSEG	Bad Segeberg	101.37	36	ePdiff		Pdif	22 53 05.2	+0.8
BSEG				epPdiff		pP	22 53 33.4	+0.4
BSEG				ePP		PP	22 57 13.1	-2.4
BER	Bergen	101.45	29	ePP		PP	22 57 14.2	-1.7
BER				eSKSac		SKSac	23 03 32.0	-1.4
BER				eSS		SS	23 11 40.9	+1.5
SUE	Sulen	101.48	28	ePP		PP	22 57 15.2	-0.8
SUE				eSS		SS	23 11 39.8	+0.1
GEC2	GERESS Array S	101.50	42	eP		Pdif	22 53 05.4	+0.2
GEC2	GERESS Array S	101.50	42	ePdif		Pdif	22 53 05.8	+0.6
GEC2				epPdif		pP	22 53 34.0	+0.1
GEC2	GERESS Array S	101.50	42	ePdif		Pdif	22 53 05.4	+0.2
GERES	GERESS Array B	101.50	42	P		Pdif	22 53 05.6	+0.3
GERES							22 57 13.9	
GERES				pmax		pmax		
	comp=Z,5.0nm,0.8s							
GERES				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GERES				pmax		pmax		
	comp=Z,2.0nm,0.8s							

CLL				*e*PKKPbc	**PKKPbc**	**23 09 10.0**	**-3.1**
CLL				*i*		23 09 34.8	
	comp=Z,32nm,1.6s						
CLL				*es*PKKPdf		23 10 03.0	
CLL				*e*SS	**SS**	**23 11 42.0**	**-4.6**
CLL				*e*SSS	SSS	23 15 48.0	
CLL	**Collm**	**101.94**	**39**	*e*Pdif	**Pdif**	**22 53 07.6**	**+0.6**
CLL				*e*PP	**PP**	**22 57 15.8**	**-4.1**
FBE	**Freiberg**	**102.01**	**40**	*ep*Pdiff	**pPdif**	**22 53 37.1**	**+1.3**
FBE				*e*PP	**PP**	**22 57 17.2**	**-3.2**
HOMB	**Homborsund**	**102.09**	**32**	*e*PP	PP	22 57 18.3	-2.4
HOMB				*e*SKSac	**SKSac**	**23 03 39.7**	**+3.2**
HYA	**Hoyanger**	**102.16**	**29**	*e*	**PP**	**22 57 19.5**	**-1.7**
BRG	**Berggiesshubel**	**102.35**	**40**	PDIFF	**Pdif**	**22 53 09.0**	**+0.2**
BRG				*i*		22 53 18.7	
	comp=Z,15nm,1.5s						
BRG				sP		22 53 37.5	
	comp=Z,29nm,1.7s						
BRG				PP	PP	22 57 16.0	-6.9
BRG				SKS	**SKSac**	**23 03 37.0**	**-1.2**
BRG				SDIFF	**Sdif**	**23 04 45.0**	**+1.8**
BRG				PS	PS	23 06 07.0	-24
BRG				SS	SS	23 11 41.0	-11
BRG				*e*PKPPKP	**P'P'df**	**23 17 26.9**	**-1.8**
	comp=Z,36nm,2.0s						
BRG	**Berggiesshubel**	**102.35**	**40**	P	**Pdif**	**22 53 09.0**	**+0.2**
BRG						23 03 37.0	
BRG				S	**Sdif**	**23 04 45.0**	**+1.8**
BRG				pmax	pmax		
	comp=Z,15nm,1.5s						
BRG				pmax	pmax		
	comp=N,29nm,1.7s						
BRG				MLR	MLR		
	comp=N,1μm,28.3s						
BRG				MLR	MLR		
	comp=E,2μm,23.9s						
BRG				MLR	MLR		
	comp=Z,3μm,25.6s						
BRG	**Berggiesshubel**	**102.35**	**40**	*ep*Pdiff	**pPdif**	**22 53 38.0**	**+0.7**
BRG				*e*PP	**PP**	**22 57 19.8**	**-3.1**
PRA	**Prague**	**102.37**	**41**	PDIFF	**Pdif**	**22 53 11.0**	**+2.1**
PRA				PP	PP	22 57 17.0	-6.1
PRU	**Pruhonice**	**102.41**	**41**	*e*P	**Pdif**	**22 53 10.1**	**+1.0**
PRU				*e*		23 03 43.6	
PRU				*e*S	**Sdif**	**23 04 35.1**	**-8.6**
PRU				*e*SP	**SP**	**23 06 16.6**	**-1.6**
PRU				*e*SS	**SS**	**23 11 49.3**	**-3.8**
PRU				MLR	MLR		
	comp=Z,2μm,21.7s						
PRU	**Pruhonice**	**102.41**	**41**	*e*PDIFF	**Pdif**	**22 53 10.1**	**+1.0**
PRU				*ex*	x	22 53 17.8	
PRU				*ex*	x	22 53 23.7	
PRU				*e*PP	PP	22 57 16.5	-6.9
PRU				*e*SKS		23 03 43.6	
PRU				*e*SDIF	**Sdif**	**23 04 35.1**	**-8.6**
PRU				*e*SP	**SP**	**23 06 16.6**	**-1.6**
PRU				*e*PKKP	**PKKPbc**	**23 09 10.7**	**-1.0**
PRU				*ex*	x	23 09 33.3	
PRU				*e*SS	**SS**	**23 11 49.3**	**-3.8**
PRU				AMS	AMS	23 38 30.0	
	comp=Z,2μm,21.7s						
CONA	**Conrad Observa**	**102.54**	**43⇑**	*i*Pdiff	**Pdif**	**22 53 10.7**	**+0.8**
	comp=Z,11nm,1.1s						
PVCC	**Panska Ves**	**102.61**	**40**	*e*P	**Pdif**	**22 53 11.3**	**+1.3**
PVCC				*e*		22 57 22.3	
PVCC				*e*		23 03 44.0	
PVCC				*e*		23 04 34.6	
PVCC				*e*SP	SP	23 06 19.0	-1.3
PVCC				*e*SS	**SS**	**23 11 57.3**	**+1.5**
PVCC				MLR	MLR		
	comp=Z,3μm,19.0s						
PVCC	**Panska Ves**	**102.61**	**40**	*e*PDIFF	**Pdif**	**22 53 11.3**	**+1.3**
PVCC				*ex*	x	22 53 19.3	
PVCC				*e*PP	**PP**	**22 57 22.3**	**-2.5**
PVCC				*e*SKS		23 03 44.0	
PVCC				*ex*	x	23 04 34.6	
PVCC				*e*SP	**SP**	**23 06 19.0**	**-1.3**
PVCC				*e*PKKP	**PKKPbc**	**23 09 12.4**	**+1.3**
PVCC				*ex*	x	23 09 33.1	
PVCC				*e*SS	**SS**	**23 11 57.3**	**+1.5**
PVCC				AMS	AMS	23 39 20.0	
	comp=Z,3μm,19.0s						
TREC	**Trest**	**102.76**	**42**	*e*P	**Pdif**	**22 53 11.6**	**+0.9**
TREC				*e*		22 57 23.5	
TREC				*e*		23 03 44.1	
TREC				*e*S	**Sdif**	**23 04 50.8**	**+4.1**
TREC				*e*SP	**SP**	**23 06 23.4**	**+1.4**
TREC				*e*SS	**SS**	**23 11 57.3**	**-0.7**
TREC				MLR	MLR		
	comp=Z,2μm,22.8s						
TREC	**Trest**	**102.76**	**42**	*e*PDIFF	**Pdif**	**22 53 11.6**	**+0.9**
TREC				*ex*	x	22 53 18.9	
TREC				*e*PP	**PP**	**22 57 23.5**	**-2.5**
TREC				*e*SKS		23 03 44.1	
TREC				*e*SDIF	**Sdif**	**23 04 50.8**	**+4.1**
TREC				*e*SP	**SP**	**23 06 23.4**	**+1.4**
TREC				*e*PKKP	**PKKPbc**	**23 09 07.8**	**-2.9**
TREC				*ex*	x	23 09 31.9	
TREC				*e*SS	**SS**	**23 11 57.3**	**-0.7**
TREC				AMS	AMS	23 34 10.0	
	comp=Z,2μm,22.8s						
EGAK	**Eagle**	**102.85**	**335**	*e*Pdif	**Pdif**	**22 53 11.6**	**+0.9**
SOP	**Sopron**	**102.91**	**44⇑**	*e*	PP	22 57 19.4	-7.8
AKN	**Aaknes**	**102.92**	**28**	*e*PP	PP	22 57 27.5	+0.6
AKN				*e*SS	SS	23 11 58.9	-0.7
KONO	**Kongsberg**	**103.13**	**31**	*e*	PP	22 57 21.7	-6.8
KONO				*e*SKSac	**SKSac**	**23 03 44.1**	**+2.7**
KONO				*e*SS	**SS**	**23 12 02.4**	**-0.2**
KONO	**Kongsberg**	**103.13**	**31**	*e*PP	PP	22 57 27.0	-1.5
DAG	**Danmarks Havn**	**103.23**	**10**	*i* P	**Pdif**	**22 53 12.1**	**-0.1**
DAG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DAG	**Danmarks Havn**	**103.23**	**10**	*i* P	**Pdif**	**22 53 12.1**	**-0.1**
	comp=Z,3.8nm,1.0s						
DAG	**Danmarks Havn**	**103.23**	**10**	*i* P	**PKKPbc**	**23 09 06.4**	**-3.6**
	comp=Z,10.0nm,0.9s						
DAG				*i*		23 09 26.2	
DIV	**Divide**	**103.33**	**331**	*e*Pdif	**Pdif**	**22 53 13.4**	**+0.4**
VRAC	**Vranov**	**103.44**	**42**	⇓P	**Pdif**	**22 53 15.0**	**+1.2**
VRAC	**Vranov**	**103.44**	**42**	⇓*i*P	**Pdif**	**22 53 15.0**	**+1.2**
VRAC	**Vranov**	**103.44**	**42⇑**	*i*P	PP	22 57 20.6	-11
VRAC	**Vranov**	**103.44**	**42⇑**	*i*P	**PKKPbc**	**23 09 09.3**	**+0.7**
VRAC	**Vranov**	**103.44**	**42**	Pdiff	**Pdif**	**22 53 14.4**	**+0.6**
	comp=Z,6.8nm,0.9s,baz=219,slow=4.7,SNR=11						
VRAC				PP	**PP**	**22 57 27.4**	**-3.7**
	comp=Z,18nm,1.0s,baz=249,slow=8.1,SNR=13						
UPC	**Upice**	**103.47**	**41**	*e*P	**Pdif**	**22 53 13.8**	**0.0**
UPC	**Upice**	**103.47**	**41**	*e*PDIFF	**Pdif**	**22 53 13.8**	**0.0**
UPC				*ex*	x	22 53 21.7	
UPC				*e*PKKP	**PKKPbc**	**23 09 08.0**	**-0.6**
UPC				*ex*	x	23 09 28.5	
DOT	**Dot Lake**	**103.55**	**334**	*e*Pdif	**Pdif**	**22 53 13.9**	**0.0**
DPC	**Dobruska-Polom**	**103.61**	**41**	*e*P	**Pdif**	**22 53 15.1**	**+0.6**
DPC				*e*		23 03 48.8	
DPC				*e*		23 04 28.7	
DPC				*e*S	**Sdif**	**23 04 52.1**	**-1.7**
DPC				*e*SP	**SP**	**23 06 32.0**	**+1.1**
DPC				*e*SS	**SS**	**23 12 04.5**	**-5.2**
DPC	**Dobruska-Polom**	**103.61**	**41**	*e*PDIFF	**Pdif**	**22 53 15.1**	**+0.6**
DPC				*ex*	x	22 53 23.1	
DPC				*ex*	x	22 53 27.4	
DPC				*e*PP	PKiKP	22 57 26.3	-6.1
DPC				*e*SKS		23 03 48.8	
DPC				*e*SKKS	**SKKSac**	**23 04 28.7**	**+2.1**
DPC				*e*SDIF	**Sdif**	**23 04 52.1**	**-1.7**
DPC				*e*SP	**SP**	**23 06 32.0**	**+1.1**
DPC				*e*PKKP	**PKKPbc**	**23 09 06.3**	**-1.9**
DPC				*ex*	x	23 09 28.0	
DPC				*e*SS	**SS**	**23 12 04.5**	**-5.2**
DPC				AMS	AMS	23 34 50.0	
PKS9	**Tamasi**	**103.67**	**45⇑**	*e*	PP	22 57 27.5	-5.4
PKST	**T"s**	**103.72**	**44⇑**	*e*	PP	22 57 25.7	-7.6
KSP	**Ksiaz**	**103.75**	**41**	*e*P	**Pdif**	**22 53 15.8**	**+0.7**
KSP				*e*		22 57 30.5	
KSP				*e*		23 03 47.0	
KSP				*e*S	**Sdif**	**23 04 57.0**	**+2.1**
KSP				*e*SP	**SP**	**23 06 30.5**	**-1.8**
KSP				*e*SS	**SS**	**23 12 12.0**	**+0.5**
KSP				MLR	MLR		
	comp=Z,11μm,21.0s						
KSP	**Ksiaz**	**103.75**	**41**	*e*PKP	**PKiKP**	**22 57 30.7**	**-1.9**
KSP				*e*SKSac	**SKSac**	**23 03 49.0**	**+4.3**
KSP				*e*SKKSac	**SKKSac**	**23 04 30.0**	**+2.6**
KSP				*e*PKKPdf	PKKPdf	23 09 26.7	+10
KSP				*e*SS	SS	23 12 20.4	+8.9
KSP				LMZ	LR	23 35 11.8	
OHR	**Ohrid**	**103.75**	**51**	*i* PKP	**PKiKP**	**22 57 30.3**	**-2.7**
OSL	**Oslo**	**103.77**	**31**	*e*	**PP**	**22 57 34.0**	**+0.8**
PKSM	**Moragy**	**103.80**	**46⇓**	*i*P	**PKKPbc**	**23 09 07.1**	**-0.3**
PKSM	**Moragy**	**103.80**	**46⇑**	*e*	PKiKP	22 57 24.5	-8.3
KRLC	**Kraliky**	**103.80**	**41**	*e*P	**Pdif**	**22 53 16.8**	**+1.4**
KRLC	**Kraliky**	**103.80**	**41**	*e*PDIFF	**Pdif**	**22 53 16.8**	**+1.4**
KRLC				*ex*	x	22 53 27.8	
KRLC				*e*PKKP	**PKKPbc**	**23 09 06.7**	**-0.9**
KRLC				*ex*	x	23 09 27.2	
PAX	**Paxson**	**103.89**	**333**	*e*P	**Pdif**	**22 53 15.1**	**-0.4**
PAX	**Paxson**	**103.89**	**333**	*e*Pdif	**Pdif**	**22 53 15.1**	**-0.4**
PKSG		**103.99**	**44⇑**	*e*	PKiKP	22 57 27.9	-5.2
KMBO	**Kilima Mbogo**	**104.09**	**97**	P	**Pdif**	**22 53 18.6**	**+0.8**
KMBO						22 57 32.3	
KMBO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KMBO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KMBO	**Kilima Mbogo**	**104.09**	**97**	Pdiff	**Pdif**	**22 53 18.6**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=221,slow=20,SNR=2.2						
KMBO				PP	**PKiKP**	**22 57 32.3**	**-2.4**
	comp=Z,8.4nm,1.1s,baz=241,slow=7.4,SNR=5.8						
KMBO				PKKPbc	**PKKPbc**	**23 09 05.4**	**-0.1**
	comp=Z,2.3nm,1.0s,baz=28,slow=5.8,SNR=4.5						
MORC	**Moravsky Berou**	**104.18**	**42**	⇓P	**Pdif**	**22 53 18.8**	**+1.7**
MORC	**Moravsky Berou**	**104.18**	**42**	⇓*i*P	**Pdif**	**22 53 18.8**	**+1.7**
MORC	**Moravsky Berou**	**104.18**	**42⇑**	*i*P	**PP**	**22 57 35.3**	**-1.4**
MORC	**Moravsky Berou**	**104.18**	**42**	⇓*i*P	**PKKPbc**	**23 09 05.7**	**-0.8**
MORC	**Moravsky Berou**	**104.18**	**42**	*e*Pdif	**Pdif**	**22 53 18.0**	**+0.9**
MORC				*e*PKiKP	**PP**	**22 57 35.3**	**-1.4**
PKS2	**Kecel**	**104.26**	**45⇑**	*e*	**PKiKP**	**22 57 31.5**	**-2.1**
NB2	**NORSAR Subarra**	**104.38**	**30**	PP	PP	22 57 36.7	-1.1
	comp=Z,288nm,2.0s,baz=250,slow=7.4						
NB2	**NORSAR Subarra**	**104.38**	**30**	PP	PP	22 57 36.7	-1.1
	baz=250,slow=7.4						
NOA	**NORSAR Array B**	**104.38**	**30**	P	**Pdif**	**22 53 17.3**	**-0.4**
NOA						22 57 34.7	
NOA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NOA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NOA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
NOA	**NORSAR Array B**	**104.38**	**30**	Pdiff	**Pdif**	**22 53 17.3**	**-0.4**
	comp=Z,3.3nm,1.0s,baz=251,slow=4.3,SNR=6.0						
NOA				PP	**PKiKP**	**22 57 34.7**	**+1.3**
	comp=Z,6.5nm,1.1s,baz=247,slow=7.6,SNR=3.8						
NOA				PKKPbc	**PKKPbc**	**23 09 04.2**	**-2.0**
	comp=Z,1.6nm,0.9s,baz=260,slow=2.9,SNR=4.6						
NOA				PKKP	**PKKPab**	**23 09 22.4**	**+1.0**
	comp=Z,6.6nm,1.0s,baz=70,slow=4.5,SNR=8.3						
NOA				PKPPKP	**P'P'df**	**23 17 25.1**	**+1.0**
	comp=Z,9.1nm,1.2s,baz=263,slow=3.7,SNR=4.3						
NC602	**NORSAR Array S**	**104.42**	**30**	*e*PP	PP	22 57 38.2	+0.1
BUD	**Budapest**	**104.43**	**44⇑**	*e*	**PKiKP**	**22 57 35.1**	**+1.2**
SKO	**Skopje**	**104.46**	**50**	*e*PKP	**PKiKP**	**22 57 29.8**	**-4.4**
PKS6	**Bocsa**	**104.53**	**45⇑**	*e*	**PKiKP**	**22 57 32.3**	**-1.8**
OKC	**Ostrava-Krasne**	**104.57**	**42**	*e*P	**Pdif**	**22 53 20.1**	**+1.4**
OKC				*e*		23 03 52.9	
OKC				*e*		23 04 36.8	
OKC				*e*S	**Sdif**	**23 05 06.9**	**+5.1**
OKC				*e*SP	**SP**	**23 06 46.7**	**+5.7**
OKC				*e*SS	**SS**	**23 12 24.4**	**+1.6**
OKC				MLR	MLR		
	comp=Z,2μm,18.1s						
OKC	**Ostrava-Krasne**	**104.57**	**42**	*e*PDIFF	**Pdif**	**22 53 20.1**	**+1.4**
OKC				*ex*	x	22 57 28.3	
OKC				*e*SKS		23 03 52.9	
OKC				*e*SKKS	**SKKSac**	**23 04 36.8**	**+3.5**
OKC				*e*SDIF	**Sdif**	**23 05 06.9**	**+5.1**
OKC				*e*SP	**SP**	**23 06 46.7**	**+5.7**
OKC				*e*PKKP	**PKKPbc**	**23 09 04.4**	**-0.8**
OKC				*ex*	x	23 09 23.4	
OKC				*e*SS	**SS**	**23 12 24.4**	**+1.6**
OKC				AMS	AMS	23 44 10.0	
	comp=Z,2μm,18.1s						
VYHS	**Vyhne**	**104.61**	**43**	*e*P	**Pdif**	**22 53 19.7**	**+0.7**
VYHS				*e*		22 57 35.0	
VYHS	**Vyhne**	**104.61**	**43**	PDIF	**Pdif**	**22 53 19.7**	**+0.7**
VYHS				*e*PP	**PKiKP**	**22 57 35.0**	**+0.7**
VYHS	**Vyhne**	**104.61**	**43⇑**	*e*PKKPB	**PKKPbc**	**23 09 02.3**	**-2.8**
VYHS				*e*	**PKKPab**	**23 09 22.1**	**+1.4**
GKP	**Gorka Klasztor**	**105.04**	**38**	*e*PKP		22 57 40.8	
GKP				*e*SKSac	**SKSac**	**23 03 54.1**	**+3.7**
GKP				*e*SKKSac	**SKSdf**	**23 04 40.7**	**+4.3**
GKP				*e*SP	**SP**	**23 06 46.2**	**+0.6**
GKP				*e*SS	**SS**	**23 12 29.9**	**+0.9**
GKP				LMZ	LR	23 38 34.0	
VAY	**Valandovo**	**105.09**	**51**	*e*PKP	PKiKP	22 57 22.9	-12
IL1	**Eielson Array**	**105.11**	**334**	*e*Pdif	**Pdif**	**22 53 19.9**	**-0.9**
ILAR	**Eielson Array**	**105.11**	**334**	P	**Pdif**	**22 53 20.0**	**-0.8**
ILAR						22 57 45.1	
ILAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ILAR				pmax	pmax		
	comp=Z,21nm,1.0s						
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR	**Eielson Array**	**105.11**	**334**	Pdiff	**Pdif**	**22 53 20.0**	**-0.8**
	comp=Z,2.8nm,1.0s,baz=154,slow=2.0,SNR=20						
ILAR				pPdiff	**pPdif**	**22 53 49.6**	**+0.4**
	comp=Z,3.2nm,1.1s,baz=134,slow=2.3,SNR=4.4						
ILAR				PP	**PP**	**22 57 45.1**	**+2.0**
	comp=Z,20nm,1.0s,baz=114,slow=4.9,SNR=6.1						
ILAR				PKKPbc	**PKKPbc**	**23 09 01.4**	**-2.8**
	comp=Z,1.7nm,0.7s,baz=290,slow=3.2,SNR=9.0						
ILAR				PKKPab	**PKKPab**	**23 09 17.6**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=310,slow=3.7,SNR=4.6						
ILAR				P3KPbc		23 11 00.4	
	comp=Z,2.9nm,1.0s,baz=230,slow=3.1,SNR=4.5						
ILB	**Eielson Array**	**105.11**	**334**	*e*Pdif	**Pdif**	**22 53 19.1**	**-1.7**
PSZ	**Piszkesteto**	**105.12**	**44⇓**	*i*P	**PKiKP**	**22 57 39.5**	**+4.2**
PSZ	**Piszkesteto**	**105.12**	**44⇑**	*e*PKiKP	**PKiKP**	**22 57 39.8**	**+4.5**
PSZ	**Piszkesteto**	**105.12**	**44**	*e*PKiKP	**PKiKP**	**22 57 38.8**	**+3.5**
RC01	**Rabbit Creek A**	**105.13**	**330**	*e*PKiKP	**PKiKP**	**22 57 38.0**	**+3.2**
COLA	**College**	**105.54**	**334**	*e*P	**Pdif**	**22 53 22.3**	**-0.3**
COLA	**College**	**105.54**	**334**	*e*Pdif	**Pdif**	**22 53 22.3**	**-0.3**
KKB	**Krupnik**	**105.61**	**51**	*e*P	**PP**	**22 57 45.4**	**-2.0**
MCK	**McKinley**	**105.61**	**333**	*e*P	**Pdif**	**22 53 23.2**	**+0.1**
MCK	**McKinley**	**105.61**	**333**	*e*Pdif	**Pdif**	**22 53 23.2**	**+0.1**
MCK				*e*PKiKP	**PKiKP**	**22 57 39.6**	**+4.0**
BZS	**Buzias**	**105.62**	**47**	⇓P	**Pdif**	**22 53 24.3**	**+0.8**
BZS	**Buzias**	**105.62**	**47**	⇓*i*P	**Pdif**	**22 53 24.3**	**+0.8**
BZS	**Buzias**	**105.62**	**47⇑**	*i*P	**PKiKP**	**22 57 37.1**	**+0.9**
BZS	**Buzias**	**105.62**	**47⇑**	*i*P	**PKKPbc**	**23 09 00.8**	**-1.1**
OJC	**Ojcow**	**105.70**	**42**	*e*PKiKP	PKiKP	22 57 41.9	+5.7
OJC				*e*SKSac	**SKSac**	**23 03 56.1**	**+2.5**
OJC				*es*SKSac	sSKSac	23 04 45.0	0.0
OJC				*e*PS	**PS**	**23 07 03.5**	**-2.9**
OJC				*e*SS	**SS**	**23 12 39.1**	**+0.8**
OJC				L	L	23 40 35.0	
	comp=Z,3μm,20.5s						
OJC	**Ojcow**	**105.70**	**42**	*e*PKiKP	PKiKP	22 57 41.9	+5.7
OJC	**Ojcow**	**105.70**	**42**	*e*PP	PP	22 57 42.0	-5.8
NIE	**Niedzica**	**105.80**	**43**	*e*PKiKP	PKiKP	22 57 42.4	+5.9
NIE				*e*SKSac	**SKSac**	**23 03 57.7**	**+3.5**
NIE				*es*SKSac	sSKSac	23 04 46.9	+1.3
NIE				*e*PS	**PS**	**23 07 06.3**	**-1.2**
NIE				*e*SS	**SS**	**23 12 42.4**	**+2.6**
NIE				L	L	23 36 36.0	
	comp=Z,2μm,19.8s						
NIE	**Niedzica**	**105.80**	**43**	*e*PKiKP	PKiKP	22 57 42.4	+5.9
OUR	**Ouranopolis**	**105.84**	**53**	*e*P	**PP**	**22 57 46.6**	**-2.6**
MMB	**Musomiste**	**106.00**	**51**	⇓*i*P	**PKKPbc**	**23 09 00.0**	**-0.6**
MMB	**Musomiste**	**106.00**	**51**	*e*P	**PP**	**22 57 47.2**	**-3.1**
TRF	**Thorofare Moun**	**106.10**	**332**	*e*Pdif	**Pdif**	**22 53 25.7**	**+0.3**
TRF				*e*PKiKP	**PKiKP**	**22 57 37.9**	**+1.1**
STHS	**Stebnicka Huta**	**106.39**	**43**	*e*PP	PP	22 57 51.3	-1.7
STHS	**Stebnicka Huta**	**106.39**	**43⇑**	*e*PKKPB	**PKKPbc**	**23 08 59.5**	**-0.2**
STHS				*e*PKKPpB	**PKKPab**	**23 09 16.0**	**+3.2**
CRVS	**Cervenica-Dubn**	**106.39**	**43**	*e*P	**Pdif**	**22 53 27.1**	**+0.2**
CRVS				*e*		22 57 51.4	
CRVS	**Cervenica-Dubn**	**106.39**	**43**	PDIF	**Pdif**	**22 53 27.1**	**+0.2**
CRVS				*e*PP	**PP**	**22 57 51.4**	**-1.6**
CRVS	**Cervenica-Dubn**	**106.39**	**43⇑**	*e*PKKPB	**PKKPbc**	**23 08 59.2**	**-0.4**
CRVS				*e*PKKPpB	**PKKPab**	**23 09 15.7**	**+2.9**
MPEP	**Malo Peshtene**	**106.48**	**49**	*e*P	**PP**	**22 57 50.3**	**-3.5**
DEV	**Deva**	**106.56**	**47**	⇓*i*P	**PKiKP**	**22 57 39.5**	**+1.6**
PGB	**Panagyurishte**	**106.57**	**50**	*e*P	**PP**	**22 57 51.3**	**-3.2**
DRGR		**106.66**	**46**	⇓*i*P	**PKKPbc**	**23 08 58.4**	**-0.4**
BEL	**Belsk**	**106.73**	**40**	*e*PKP	**PP**	**22 57 53.7**	**-1.7**
BEL				*e*SKSac	**SKSac**	**23 04 00.4**	**+2.4**
BEL				*e*PKKPdf	**PKKPab**	**23 09 13.9**	**+2.8**
BEL				LMZ	LR	23 37 31.7	
RZN	**Rozhen**	**106.74**	**51**	*e*P	**PP**	**22 57 52.0**	**-4.0**
PPLA	**Purkeypile**	**106.77**	**332**	*e*Pdif	**Pdif**	**22 53 28.1**	**-0.3**
PLD	**Plovdiv**	**106.84**	**51**	*e*P	**PP**	**22 57 54.4**	**-2.0**
CAST	**Castle Rocks**	**106.87**	**332**	*e*Pdif	**Pdif**	**22 53 27.9**	**-0.8**
TRPA	**Tarpa**	**106.89**	**44⇑**	*i*P	**PKiKP**	**22 57 38.8**	**+0.4**
TRPA	**Tarpa**	**106.89**	**44⇑**	*e*PKiKP	**PP**	**22 57 53.9**	**-2.7**
KOLS	**Kolonicke sedl**	**106.92**	**44⇑**	*e*PKKPB	**PKKPbc**	**23 08 58.0**	**0.0**
KOLS				*e*PKKPpB	**PKKPab**	**23 09 13.1**	**+2.6**
KOLS	**Kolonicke sedl**	**106.92**	**44**	*e*PP	PP	22 57 55.0	-1.9
LOT	**Lotru**	**107.03**	**47⇑**	*i*P	**PKKPab**	**23 09 12.4**	**+2.1**
COLD	**Coldfoot**	**107.17**	**336**	*e*Pdif	**Pdif**	**22 53 30.8**	**+0.9**
KWP	**Kalwaria Pacla**	**107.36**	**43**	⇑P	**Pdif**	**22 53 34.3**	**+3.1**
KWP	**Kalwaria Pacla**	**107.36**	**43**	*e*PKP	**PKiKP**	**22 57 40.5**	**+1.2**
KWP				*e*PP	**PP**	**22 57 59.1**	**-1.0**
KWP				*e*SKSac	**SKSac**	**23 04 03.8**	**+2.8**
KWP				*e*SP	**SP**	**23 07 13.6**	**+3.8**
KWP				LMZ	LR	23 37 29.6	
KWP	**Kalwaria Pacla**	**107.36**	**43⇑**	*i*P	**Pdif**	**22 53 34.3**	**+3.1**
KWP	**Kalwaria Pacla**	**107.36**	**43**	⇓*i*P	**PKiKP**	**22 57 40.6**	**+1.2**
KWP	**Kalwaria Pacla**	**107.36**	**43**	⇓*i*P	PKKPbc	23 08 51.3	-5.3
EZN	**Ezine**	**107.44**	**54**	*e*P	**PP**	**22 57 59.8**	**-1.1**
ALN	**Alexandroupoli**	**107.51**	**52**	*e*P	**PP**	**22 57 59.9**	**-1.5**
PVL	**Pavlikeni**	**107.57**	**50**	*e*P	PP	22 57 53.6	-8.1
ARR	**Arges**	**107.60**	**48⇑**	*i*P	**Pdif**	**22 53 35.2**	**+2.8**
ARR	**Arges**	**107.60**	**48⇑**	*i*P	PP	22 57 54.7	-7.3
ARR	**Arges**	**107.60**	**48⇑**	*i*P	**PKKPbc**	**23 08 54.9**	**-0.9**
GELI	**Tayfur-Gelibol**	**107.70**	**53**	*e*P	**PP**	**22 57 59.8**	**-3.0**
IM04	**Indian Mountai**	**108.23**	**335**	*e*Pdif	**Pdif**	**22 53 34.7**	**0.0**
IM04				*e*PKiKP	**PKiKP**	**22 57 41.7**	**+1.3**
EDRB	**Edirne**	**108.25**	**52**	*e*P	**PP**	**22 58 05.6**	**-1.1**
RKY	**Sarkoy-Tekirda**	**108.29**	**53**	*e*P	**PP**	**22 58 06.5**	**-0.7**
KRBG	**Karabiga-Canak**	**108.31**	**53**	*e*P	**PP**	**22 58 06.5**	**-0.8**
BUR04	**Bucovina Ar. S**	**108.51**	**45**	*e*Pdif	**Pdif**	**22 53 38.7**	**+2.2**
BUR04				*e*PP	**PP**	**22 58 05.6**	**-3.1**
BURAR	**Bucovina Array**	**108.52**	**45**	⇓P	**Pdif**	**22 53 38.7**	**+2.2**
BURAR	**Bucovina Array**	**108.52**	**45**	⇓*i*P	**Pdif**	**22 53 38.7**	**+2.2**
BURAR	**Bucovina Array**	**108.52**	**45**	⇓*i*P	**PP**	**22 58 07.4**	**-1.3**
BURAR	**Bucovina Array**	**108.52**	**45**	⇓*i*P	**PKKPbc**	**23 08 49.9**	**-3.1**
MLR	**Muntele Rosu**	**108.53**	**48**	⇑P	**Pdif**	**22 53 38.0**	**+1.4**
MLR	**Muntele Rosu**	**108.53**	**48**	⇑*i*P	**Pdif**	**22 53 38.0**	**+1.4**
MLR	**Muntele Rosu**	**108.53**	**48**	⇑*i*P	**PKKPbc**	**23 08 52.0**	**-0.9**
MLR	**Muntele Rosu**	**108.53**	**48**	Pdiff	**Pdif**	**22 53 36.6**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=220,slow=6.8

KIEV *e*PKKPab **PKKPab** **23 08 50.2 +0.9**
AKASG Malin Array Be 111.68 43 PKiKP **PKiKP** **22 57 47.2 -0.2**
comp=Z,2.6nm,0.3s,baz=270,slow=2.9,SNR=13
AKASG PP **PP** **22 58 28.9 -2.3**
comp=Z,9.0nm,0.8s,baz=258,slow=7.5,SNR=10
AKASG PKKPbc **PKKPbc** **23 08 41.7 -0.9**
comp=Z,9.1nm,0.8s,baz=70,slow=3.4,SNR=24
AKASG PKKPab **PKKPab** **23 08 50.6 +1.4**
comp=Z,7.9nm,1.0s,baz=68,slow=3.7,SNR=13
AKASG PKPPKP **P'P'df** **23 17 11.0 +0.1**
comp=Z,0.3nm,0.3s,baz=54,slow=1.6,SNR=5.6
CSS Prodhromos 111.74 60 *e*P **PP** **22 58 30.1 -2.1**
CSS Prodhromos 111.74 60 *e*PKiKP **PKiKP** **22 57 48.5 +0.5**
CSS *e*PP **PP** **22 58 31.4 -0.8**
CSS *e*PKKPab **PKKPab** **23 08 51.0 +1.1**
EIL Elat 111.87 66 PKiKP **PKiKP** **22 57 48.9 +0.5**
comp=Z,8.9nm,1.1s,baz=95,slow=6.8,SNR=4.3
EIL PP **PP** **22 58 34.2 +1.0**
comp=Z,26nm,1.1s,baz=270,slow=2.9,SNR=9.9
LFK Lefkose 111.97 60 *e*P **PP** **22 58 31.4 -2.4**
ARA0 ARCESS Array S 112.03 22 *e*PKKPbc PKKPbc 23 08 39.7 -2.4
ARA0 *e*PKKPab **PKKPab** **23 08 48.3 +1.2**
ARCES ARCESS Array B 112.03 22 PKiKP **PKiKP** **22 57 47.9 +0.4**
comp=Z,3.6nm,0.8s,baz=255,slow=2.7,SNR=7.7
ARCES PP **PP** **22 58 35.0 +1.7**
comp=Z,5.4nm,0.8s,baz=340,slow=3.2,SNR=3.9
ARCES PKKPbc **PKKPbc** **23 08 40.1 -2.0**
comp=Z,4.9nm,0.7s,baz=89,slow=3.9,SNR=16
ARCES PKKPab **PKKPab** **23 08 48.5 +1.3**
comp=Z,23nm,0.9s,baz=83,slow=5.0,SNR=13
ARE0 ARCESS Array S 112.03 22 *e*PP PP 22 58 36.8 +3.6
ARE0 *e*SKSac **SKSac** **23 04 19.1 -0.6**
LOD Lodumlu 112.29 55 *e*P **PP** **22 58 34.8 -1.3**
BR231 Keskin MP Arra 112.29 55 *e*PKiKP **PKiKP** **22 57 49.7 +0.7**
BR231 *e*PP **PP** **22 58 36.8 +0.6**
BR231 *e*PKKPab **PKKPab** **23 08 46.2 -1.1**
HOPEN Hopen 112.29 15 *e*PP PP 22 58 33.9 -0.9
HOPEN *e*SS SS 23 14 11.2 +5.7
ANTO Ankara 112.31 55 *e*P **PP** **22 58 34.9 -1.3**
ANTO Ankara 112.31 55 *e*PKIKP **PKiKP** **22 57 49.1 +0.1**
ANTO Ankara 112.31 55 ⇑*i*P **PKiKP** **22 57 49.8 +0.8**
ANTO Ankara 112.31 55 *e*PKiKP **PKiKP** **22 57 49.1 +0.1**
ANTO *e*PKKPab **PKKPab** **23 08 45.3 -1.9**
AFSR Af¯ar-Bala (A 112.44 55 *e*P **PP** **22 58 37.2 +0.1**
BBAL Bala 112.50 55 *i*P **PKiKP** **22 57 50.6 +1.1**
EREN Erenkoy 112.53 60 *e*P **PP** **22 58 37.2 -0.5**
KEV Kevo 112.57 22 *e*p **PKKPbc** **23 08 38.0 -2.3**
comp=Z,6.3nm,0.8s
KIZK Mersin 112.70 58 *i*P **PKiKP** **22 57 51.0 +1.3**
BRTR Keskin Array B 112.92 55 PKiKP **PKiKP** **22 57 50.5 +0.2**
comp=Z,3.5nm,0.6s,baz=174,slow=2.1,SNR=11
BRTR PP **PP** **22 58 37.4 -3.3**
comp=Z,21nm,1.1s,baz=247,slow=2.6,SNR=9.1
BRTR PKKPbc **PKKPbc** **23 08 38.4 0.0**
comp=Z,1.0nm,0.6s,baz=120,slow=4.0,SNR=4.4
BRTR PKKPab **PKKPab** **23 08 45.5 +0.9**
comp=Z,2.4nm,0.8s,baz=111,slow=3.1,SNR=6.7
MMAI Mount Meron Ar 113.00 62 PKiKP **PKiKP** **22 57 51.2 +0.7**
comp=Z,2.9nm,0.4s,baz=50,slow=1.3,SNR=26
MMAI PP **PP** **22 58 39.1 -2.2**
comp=Z,10.0nm,0.9s,baz=270,slow=10.0,SNR=6.1
MMAI PKKPbc **PKKPbc** **23 08 40.2 +2.4**
comp=Z,1.8nm,0.5s,baz=62,slow=5.8,SNR=7.3
MMAI PKKPab **PKKPab** **23 08 46.7 +2.3**
comp=Z,30nm,1.0s,baz=60,slow=4.9,SNR=18
CANT Cankiri 113.07 54 *e*P **PP** **22 58 39.7 -1.8**
MERS Mersin 113.07 58 *e*P **PP** **22 58 40.6 -1.1**
TCHB Talchebab 113.39 63 *e*P **PP** **22 58 43.3 -0.7**
CDAG Cicekdag 113.46 55 *i*P **PKiKP** **22 57 52.1 +0.8**
CDAG *i*S PP 22 58 36.1 -8.3
KARA Karaisali 113.56 58 *e*P **PP** **22 58 43.1 -2.0**
TOTH TOTAH 113.91 62 *e*P **PP** **22 58 44.1 -3.6**
TOTH TOTAH 113.91 62 *e*P **PKKPab** **23 08 40.9 +0.4**
TNA Tin City 113.95 333 *e*PKiKP **PKiKP** **22 57 51.1 -0.1**
JOF Joensuu 114.01 30 *e*PKIKP PKPdf 22 57 49.6 -1.8
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 114.01 30 *e*p PKPdf 22 57 49.6 -1.8
comp=Z,2.7nm,0.5s
JOF Joensuu 114.01 30 *e*p **PKKPbc** **23 08 31.4 -3.8**
comp=Z,5.4nm,0.7s
ASF Jabal al Asfar 114.06 64 PKIKP PKPdf 22 57 53.9 +1.3
ASF 22 58 46.9
ASF pmax pmax
comp=Z,13nm,1.0s
ASF pmax pmax
comp=Z,3.0nm,0.8s
ASF Jabal al Asfar 114.06 64 PKP PKPdf 22 57 53.9 +1.3
comp=Z,13nm,1.0s,baz=163,slow=1.0,SNR=11
ASF PP **PP** **22 58 46.9 -1.9**
comp=Z,3.0nm,0.8s,baz=147,slow=2.8,SNR=3.9
ASF PKKPab **PKKPab** **23 08 42.1 +2.2**
comp=Z,15nm,1.0s,baz=54,slow=0.9,SNR=13
HAWK Haweek 114.12 61 *e*P **PKKPab** **23 08 40.9 +1.4**
WRDH Warideh 114.32 60 *e*P **PP** **22 58 50.8 +0.3**
DIKM Dikmen 114.46 53 *e*P PKPdf 22 57 49.7 -3.2
BNN Bunyan 114.46 56 *e*P PKPdf 22 57 50.6 -2.7
ANDN Andirin 114.63 58 *i*P PKPdf 22 57 55.5 +1.9
ANDN *i*S **PP** **22 58 57.6 +4.8**
APA Apatity 114.89 24 ⇑*i*PKIKP PKPdf 22 57 51.4 -1.6
APA *i* *PP PKiKP 22 58 22.0 +29
APA MLR MLR
comp=Z,3μm,34.0s
KMRS Kahramanmaras 115.06 58 *e*P **PKPdf** **22 57 53.9 -0.4**
SVSK Karacayir 115.51 55 *e*P **PKPdf** **22 57 57.2 +2.2**
GAMB Gambell 115.58 331 *e*PKPdf **PKPdf** **22 57 54.6 +0.3**
GAMB *e*PP **PP** **22 58 55.6 -2.7**
DARE Darende-Malaty 115.68 57 *e*P **PKPdf** **22 57 57.2 +1.7**
RSDY Resadiye-TOKAT 115.83 55 *e*P **PKPdf** **22 57 58.9 +3.2**
MALT Malatya 116.38 57 *e*P PKPdf 22 58 02.6 +5.7
MALT Malatya 116.38 57 ⇓PKIKP **PKPdf** **22 57 56.7 -0.2**
MALT Malatya 116.38 57 ⇓*i*P **PKPdf** **22 57 56.7 -0.2**
MALT Malatya 116.38 57 ⇑*i*P **SP** **23 08 32.0 -3.5**
KSRV Kasrt alli 116.45 60 *e*P **PKPdf** **22 57 56.9 -0.2**
KSRV Kasrt alli 116.45 60 *e*P **PKKPab** **23 08 30.7 +1.7**
SUSE Susehri 116.46 55 *i*P **PKPdf** **22 57 58.8 +1.7**
OBN Obninsk 116.51 38 ⇓*i*PKIKP **PKPdf** **22 57 56.3 -0.1**
OBN *i* 22 58 27.0
OBN *i* 22 59 01.4
OBN *i* 23 04 44.5
OBN *i*PS **PS** **23 08 47.3 -1.5**
OBN pmax pmax
comp=Z,112nm,1.5s
OBN MLR MLR
comp=Z,3μm,21.0s
OBN Obninsk 116.51 38 *e*PKPdf **PKPdf** **22 57 56.1 -0.3**
OBN *ep*PKPdf pPKPdf 22 58 26.2 +0.3
OBN *e*PP **PP** **22 59 00.6 -4.5**
OBN *e*PKKPbc **PKKPbc** **23 08 25.4 -0.9**
KEMA Kemaliye 116.56 56 *i*P **PKPdf** **22 57 58.4 +1.1**
ESPY Espiye-Giresun 116.95 54 *e*P PKPdf 22 58 06.4 +8.5
TMCR Tamitsa 116.99 28 *e*PKIKP **PKPdf** **22 57 57.1 0.0**
TMCR pmax pmax
comp=Z,55nm,1.5s
MOS Moscow 117.12 38 *i*PKIKP **PKPdf** **22 57 57.4 -0.2**
MOS *i* 22 59 05.5
MOS *e* 23 04 38.9
MOS *e*PS PKKPab 23 08 34.4 +9.3
MOS pmax pmax
comp=Z,200nm,1.7s
MOS pmax pmax
comp=Z,95nm,1.5s
MOS MLR MLR
comp=Z,2μm,21.0s
MOS MLR MLR
comp=N,800nm,22.0s
MOS MLR MLR
comp=E,2μm,20.0s
KELT Kelkit 117.26 55 *i*P **PKPdf** **22 58 00.2 +1.5**
SFNV Sufian 117.43 59 *e*P **PKPdf** **22 57 59.6 +0.6**
SFNV Sufian 117.43 59 *e*P **PKKPab** **23 08 26.2 +1.4**
DYBB Diyarbakir 117.66 58 *e*P PKPdf 22 58 13.9 +15
MZRK Al-Mazaregh 117.77 60 *e*P **PKKPab** **23 08 26.3 +3.0**
MAZI Mazidag 117.84 58 *e*P PKPdf 22 58 14.7 +15
KLMR Klimovskoe 117.93 32 *e*PKIKP **PKPdf** **22 57 54.9 -4.1**
KLMR pmax pmax
comp=Z,146nm,1.5s
SOC Sochi 117.95 51 *e*P **Pdif** **22 54 18.9 +0.5**
SOC *i* 22 58 00.3
SOC *e* 22 58 30.2
SOC *e* 22 59 13.7
SOC *e* 23 04 43.6
SOC *e*PS **PKKPdf** **23 08 49.2 -0.2**
SOC *e*SS SS 23 15 17.1 -4.3
SOC pmax pmax
comp=Z,48nm,0.8s
BAYT Ayd¯–ntepe-Bay 117.96 55 *e*P PKPdf 22 58 13.9 +14
VSR Storozhevoye 117.99 43 *e*PKIKP **PKPdf** **22 57 58.3 -1.1**
VSR *e* 22 59 12.5
VSR *e* 23 04 41.8
VSR *e*SP SP 23 08 49.4 +0.3
VSR *e*SS **SS** **23 15 15.8 -5.5**
VSR pmax pmax
comp=N,7.0nm,1.2s
VSR pmax pmax
comp=E,6.0nm,1.2s
VSR pmax pmax
comp=Z,50nm,1.2s
VSR pmax pmax
comp=N,60nm,2.2s
VSR pmax pmax
comp=E,320nm,2.2s
VSR pmax pmax
comp=Z,570nm,2.2s
VSR MLR MLR
comp=N,990nm,20.0s
VSR MLR MLR
comp=E,1μm,20.0s
VSR MLR MLR
comp=Z,2μm,20.0s
KOPT Kop Dagi 118.19 55 *i*P **PKPdf** **22 58 02.0 +1.4**
BNGB Bing¯ll 118.21 57 *e*P PKPdf 22 58 15.5 +15
SVAN Silvan-Diyarba 118.52 58 *e*P **PP** **22 59 19.7 -0.1**
STKA Stephens Creek 118.96 209 PKP **PKPdf** **22 58 01.5 -0.6**
comp=Z,24nm,0.9s,baz=136,slow=1.7,SNR=19
STKA PP **PP** **22 59 19.9 -1.5**
comp=Z,6.7nm,1.0s,baz=124,slow=6.9,SNR=4.4
STKA PKKPbc **PKKPbc** **23 08 18.2 +1.1**
comp=Z,2.2nm,0.3s,baz=333,slow=6.4,SNR=5.6
STKA Stephens Creek 118.96 209 *e*PKPdf **PKPdf** **22 58 02.0 -0.1**
STKA *e*PP **PP** **22 59 18.6 -2.9**
STKA PKKPbc **PKKPbc** **23 08 18.2 +1.1**
EIDS Eidsvold 119.06 221 *e*PKPdf **PKPdf** **22 58 02.6 +0.1**
DBAD Bademkaya 119.19 54 *i*P **PKPdf** **22 58 03.7 +1.5**
DBOC Borcka 119.20 54 *i*P **PKPdf** **22 58 03.3 +1.1**
HOMI Horasan 119.27 56 *i*P **PKPdf** **22 58 04.1 +1.5**
DAGI Agillar 119.36 54 *i*P **PKPdf** **22 58 04.1 +1.5**
SIRN S¯–rnak 119.39 59 *i*P **PKPdf** **22 58 04.0 +1.3**
SIRT Sirnak 119.42 59 *e*P **PP** **22 59 25.5 -0.5**
VRHR Novokhopersk 119.53 43 *e*PKIKP **PKPdf** **22 58 01.3 -1.1**
VRHR *e* 22 59 23.1
VRHR *e* 23 04 43.0
VRHR *e*SS SS 23 15 33.7 -7.6
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR pmax pmax
comp=N,160nm,3.0s
VRHR pmax pmax
comp=E,430nm,3.0s
VRHR pmax pmax
comp=Z,520nm,3.0s
VRHR MLR MLR
comp=N,120nm,22.0s
VRHR MLR MLR
comp=E,1μm,22.0s
VRHR MLR MLR
comp=Z,2μm,22.0s
RAYN Ar Rayn 119.66 75 *e*PKPdf **PKPdf** **22 58 04.2 +0.6**
RAYN *e*PP **PP** **22 59 24.9 -3.1**
RAYN *e*PKKPbc **PKKPab** **23 08 15.7 -0.1**
EATA Eleskirt 119.70 56 *i*P **PKPdf** **22 58 05.0 +1.4**
AGRB Hanur-Agry 120.06 56 *e*P **PP** **22 59 30.1 -0.4**
KIV Kislovodsk 120.12 51 *e*PKIKP **PKPdf** **22 58 03.6 -0.3**
KIV Kislovodsk 120.12 51 *i*PKiKP **PKiKP** **22 58 04.0 0.0**
SNR=16
KIV Kislovodsk 120.12 51 *e*PKPdf **PKPdf** **22 58 03.6 -0.3**
KIV *e*PKKPbc **PKKPbc** **23 08 14.4 +1.4**
KBZ Khabaz 120.27 51 PKP **PKPdf** **22 58 04.7 +0.6**
comp=Z,21nm,0.8s,baz=202,slow=1.4,SNR=25
KBZ PKKPbc **PKKPbc** **23 08 13.3 +1.0**
comp=Z,6.7nm,1.0s,baz=152,slow=2.9,SNR=6.3
VANB Van 120.28 57 *e*P **PP** **22 59 32.8 +0.9**
DIGO Kars 120.42 55 *i*P **PKPdf** **22 58 07.2 +2.3**
GOF Gofitskoye 120.42 50 ⇓*i*PKIKP **PKPdf** **22 58 04.7 +0.3**
GOF pmax pmax
comp=Z,80nm,1.3s
HAKT HAKKARI 120.42 59 *i*P **PKPdf** **22 58 05.7 +0.8**
BBOO Buckleboo 120.44 204 *e*PKPdf **PKPdf** **22 58 04.5 -0.4**
BBOO *e*PKKPbc **PKKPbc** **23 08 10.0 -1.8**
AKH Akhalkalaki 120.58 54 *e*P **PP** **22 59 33.8 -0.2**
AKH Akhalkalaki 120.58 54 *i*P **PKPdf** **22 58 05.7 +0.7**
DYDN Diyadin 120.59 56 *i*P **PKPdf** **22 58 06.9 +1.8**
EAK Akyaka 120.61 55 *i*P **PKPdf** **22 58 06.7 +1.6**
ONI Oni 120.62 53 P **PKPdf** **22 58 05.2 +0.3**
CLDR Caldiran 120.73 57 *e*P **PP** **22 59 33.8 -1.4**
NCK Nalchik 120.76 52 ⇓*i*PKIKP **PKPdf** **22 58 05.5 +0.4**
PRGR Permogore 120.77 30 ⇓*i*PKIKP **PKPdf** **22 58 04.8 +0.4**
PRGR *e* 22 58 33.4
PRGR 22 59 33.1
PRGR pmax pmax
comp=Z,51nm,1.0s
ZEI Tsey 120.96 53 *i*PKIKP **PKPdf** **22 58 04.7 -1.0**
ZEI pmax pmax
comp=Z,32nm,1.2s
GUDG Gudauri 121.37 53 P **PKPdf** **22 58 06.8 +0.2**
GNI Garni 121.44 56 PKIKP **PKPdf** **22 58 07.7 +1.0**
GNI pmax pmax
comp=Z,17nm,0.7s
GNI Garni 121.44 56 PKP **PKPdf** **22 58 07.7 +1.0**
comp=Z,17nm,0.7s,baz=306,slow=3.2,SNR=18
TBLG Delisi 121.53 54 *e*P **PP** **22 59 39.2 -1.0**
TBLG Delisi 121.53 54 P **PKPdf** **22 58 06.7 +0.1**
DGRG David-gareji 121.99 54 P **PKPdf** **22 58 07.4 -0.1**
IGHG Ghaleghazi 122.40 63 *e*P **PKPdf** **22 58 08.0 -0.8**
ITBZ Tabriz 122.41 58 *e*P **PKPdf** **22 58 08.4 -0.2**
IHRS Heris 123.11 58 *e*P **PKPdf** **22 58 10.1 0.0**
IKOM Komasi 123.16 63 *e*P **PKPdf** **22 58 10.3 +0.2**
BILL Bilibino 123.38 338 ⇓*i*PKIKP **PKPdf** **22 58 09.2 -0.2**
BILL *i* 22 59 50.1
BILL *e* 23 05 05.2
BILL *i*PS **PS** **23 09 55.3 +5.4**
BILL *i*SS SS 23 16 23.1 -6.1
BILL pmax pmax
comp=Z,73nm,1.3s
BILL MLR MLR
comp=Z,1μm,22.0s
BILL Bilibino 123.38 338 *e*PKPdf **PKPdf** **22 58 09.0 -0.3**
MAK Makhachkala 123.61 52 *e*PKIKP **PKPdf** **22 58 11.9 +1.4**
MAK *e* 22 58 42.4
MAK *e* 22 59 50.6
MAK *e* 23 05 05.3
MAK *e* 23 05 14.5
MAK *e*SP SP 23 09 40.8 +1.1
MAK *e*PS **PS** **23 09 52.0 -0.9**
MAK pmax pmax
comp=Z,69nm,1.0s
MAK MLR MLR
comp=Z,2μm,21.0s
FX1 Attu Island--F 124.50 320 *e*PKIKP **PKPdf** **22 58 12.1 +0.2**
FX1 Attu Island--F 124.50 320 *e*PKPdf **PKPdf** **22 58 12.1 +0.2**
NWAO Narrogin (SRO) 124.85 186 PKIKP **PKPdf** **22 58 13.5 +0.1**
NWAO pmax pmax
comp=Z,35nm,1.0s
NWAO Narrogin (SRO) 124.85 186 PKP **PKPdf** **22 58 13.5 +0.1**
comp=Z,34nm,0.9s,baz=172,slow=2.5,SNR=18
FORT Forrest 124.93 197 *e*PKPdf **PKPdf** **22 58 13.0 -0.6**
IRAZ Razeghan 125.24 62 *e*P **PKPdf** **22 58 13.9 -0.3**
ABTO Aybut 125.26 84 P **PKPdf** **22 58 15.2 +0.7**
SNR=20
ABTO Aybut 125.26 84 P **PKPdf** **22 58 15.5 +1.0**
SNR=6.5
IGZV Ghazvin 125.53 60 *e*P **PKPdf** **22 58 14.6 -0.1**
IPIR Pirpir 125.83 65 *e*P **PKPdf** **22 58 13.6 -1.9**
CTA Charters Tower 125.95 221 PKIKP **PKPdf** **22 58 15.6 -0.2**
CTA pmax pmax
comp=Z,54nm,1.0s
CTA Charters Tower 125.95 221 PKP **PKPdf** **22 58 15.6 -0.2**
comp=Z,54nm,1.0s,baz=186,slow=1.8
CTAO Charters Tower 125.95 221 *e*PKIKP **PKPdf** **22 58 15.9 +0.1**
CTAO Charters Tower 125.95 221 *e*PKPdf **PKPdf** **22 58 15.9 +0.1**
RBK Rabkut 126.13 84 P **PKPdf** **22 58 16.4 +0.2**
SNR=14
IVRN Varamin 126.69 62 *e*P **PKPdf** **22 58 17.1 +0.3**
IDMV Damavand 126.97 62 *e*P **PKPdf** **22 58 17.0 -0.6**
IZEF Zefreh 127.05 65 *e*P **PKPdf** **22 58 16.8 -1.0**
IPRN Peran 127.24 61 *e*P **PKPdf** **22 58 18.2 +0.3**
IPAR Pars 127.38 69 *e*P **PKPdf** **22 58 19.4 +0.9**
ISRV Sarvestan 127.39 69 *e*P **PKPdf** **22 58 19.7 +1.1**
ILAS Lasjerd 127.71 62 *e*P **PKPdf** **22 58 19.1 +0.1**
IGLO Ghaloghah 128.45 60 *e*P **PKPdf** **22 58 20.9 +0.6**
ARU Arti 128.54 35 *i*PKIKP **PKPdf** **22 58 19.5 0.0**
ARU 23 00 23.1
ARU 23 05 16.2
ARU Arti 128.54 35 *e*PKPdf **PKPdf** **22 58 20.8 +1.2**
WAKE Wake Island 128.62 277 *e*PKPdf **PKPdf** **22 58 19.8 -1.0**
FAQ Al Faqa, Dubai 128.93 76 ⇓*i*PKIKP **PKPdf** **22 58 21.3 0.0**
SNR=12
NAZ Nazwa, Dubai 129.03 75 ⇓PKIKP **PKPdf** **22 58 21.4 -0.1**
ASHO Ashiyiah 129.34 76 P **PKPdf** **22 58 21.9 -0.3**
SNR=5.5
AS01 Alice Springs 129.41 207 *e*PKPpre PKPpre 22 58 08.1
AS01 *e*PKPdf **PKPdf** **22 58 21.9 -0.5**
ASAR Alice Springs 129.43 207 *i*PKHKP PKPpre 22 58 05.0
ASAR 22 58 21.9
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR pmax pmax
comp=Z,91nm,0.8s
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 129.43 207 PKhKP PKPpre 22 58 05.0
comp=Z,1.7nm,0.7s,baz=146,slow=2.4,SNR=9.2
ASAR PKP **PKPdf** **22 58 21.9 -0.6**
comp=Z,91nm,0.8s,baz=148,slow=2.2,SNR=127
ASAR P3KPbc 23 08 23.9
comp=Z,0.8nm,0.5s,baz=348,slow=1.8,SNR=4.4
ASAR SKKPbc SKKPbc 23 11 23.9 +6.2
comp=Z,3.1nm,1.0s,baz=344,slow=5.2,SNR=4.2
HATD Hatta, Dubai 129.43 76 ⇑*i*PKiKP **PKPdf** **22 58 21.9 -0.3**
SNR=5.6
SVE Sverdlovsk 129.48 34 *e*PKIKP **PKPdf** **22 58 21.8 +0.5**
SVE pmax pmax
comp=Z,102nm,1.5s
ARQ Araqi 129.53 78 P **PKPdf** **22 58 22.9 +0.5**
SNR=7.4
TIXI Tiksi 129.60 353 *d*PKIKP **PKPdf** **22 58 20.8 -0.3**
TIXI pmax pmax
comp=Z,77nm,1.2s
TIXI Tiksi 129.60 353 *e*PKPpre PKPpre 22 58 10.1
TIXI *e*PKPdf **PKPdf** **22 58 20.7 -0.4**
AKTO Aktyubinsk 129.92 42 SKPbc SKPbc 23 01 36.8 +1.6
comp=Z,48nm,1.2s,baz=274,slow=0.8,SNR=8.4
IBND Bandar-abas 130.16 72 *e*P **PKPdf** **22 58 25.5 +2.0**
HOQ Hoqain 130.29 77 P **PKPdf** **22 58 23.6 -0.3**
SNR=6.9
JMDO Jabal Madar 130.79 79 P **PKPdf** **22 58 24.4 -0.5**
SNR=9.1
JMDO Jabal Madar 130.79 79 P **PKPdf** **22 58 24.6 -0.3**
SNR=7.4
SMDO Samad 130.87 78 P **PKPdf** **22 58 25.3 +0.2**
SNR=19
SMDO Samad 130.87 78 P **PKPdf** **22 58 25.6 +0.4**
SNR=20
SEY Seymchan 130.96 337 PP PP 23 00 40.6 -1.0
comp=Z,31nm,1.2s,baz=72,slow=4.6,SNR=5.3
ABKAR Akbulak array 131.42 43 *e*PKPpre PKPpre 22 58 11.3
ABKAR *e*PKPdf **PKiKP** **22 58 25.9 -0.3**
ABKAR *ep*PKPdf pPKPdf 22 58 55.9 +1.1
ABKAR *e*SKPbc **SKPab** **23 01 42.6 +1.4**
WBK Wadi Bani Khal 131.62 79 P **PKPdf** **22 58 27.3 +0.9**
SNR=17
GEYT Alibeck 131.84 58 PKP **PKPdf** **22 58 26.6 +0.1**
comp=Z,22nm,0.9s,baz=276,slow=4.0,SNR=29
GEYT PP **PP** **23 00 47.3 -1.3**
comp=Z,18nm,0.9s,baz=297,slow=6.5,SNR=5.5
GEYT SKPbc **SKPab** **23 01 44.3 +0.9**
comp=Z,24nm,1.1s,baz=291,slow=4.6,SNR=5.4
GEYT SKKPbc SKKPbc 23 11 02.8 -8.9
comp=Z,1.0nm,0.2s,baz=152,slow=6.6,SNR=3.6
IKRD Kardeh 132.21 60 *e*P **PKPdf** **22 58 31.0 +3.5**
COEN Coen 132.49 224 *e*PKPpre PKPpre 22 58 17.2
COEN *e*PKPdf **PKiKP** **22 58 29.3 -0.1**
WRA Warramunga Arr 132.50 210 *i*PKHKP PKPpre 22 58 09.8
WRA 22 58 27.8
WRA S **SP** **23 10 59.0 +2.0**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA pmax pmax
comp=Z,104nm,0.9s
WRA pmax pmax
comp=N,30nm,1.1s
WRA smax smax
comp=N,7.0nm,1.3s
WRA Warramunga Arr 132.50 210 PKhKP PKPpre 22 58 09.8
comp=N,0.9nm,0.6s,baz=158,slow=2.2,SNR=9.6
WRA PKP **PKPdf** **22 58 27.8 -0.5**
comp=N,103nm,0.9s,baz=158,slow=1.7,SNR=126
WRA PP **PP** **23 00 49.0 -2.5**
comp=N,19nm,1.1s,baz=151,slow=5.6,SNR=7.7
WRA SKPbc **SKPbc** **23 01 45.3 -0.2**
comp=N,30nm,1.1s,baz=146,slow=4.0,SNR=7.2
WRA SKKPbc **SP** **23 10 59.0 +2.0**
comp=N,6.9nm,1.3s,baz=341,slow=2.4,SNR=4.5
WRAB Tennant Creek 132.51 210 *d*PKIKP **PKPdf** **22 58 27.9 -0.3**
WRAB Tennant Creek 132.51 210 *e*PKPpre PKPpre 22 58 14.9
WRAB *e*PKPdf **PKPdf** **22 58 28.0 -0.3**
IPAY Payeh 132.61 60 *e*P **PKPdf** **22 58 29.1 +0.9**
IKOO Kooshah 132.65 66 *e*P **PKPdf** **22 58 28.9 +0.4**
IMOG Moghan 132.90 61 *e*P **PKPdf** **22 58 29.7 +0.9**
PET Petropavlovsk 132.93 323 *e*PKIKP **PKPdf** **22 58 28.5 +0.6**
PET Petropavlovsk 132.93 323 *e*PKPdf **PKPdf** **22 58 28.4 +0.6**
PMG Port Moresby 132.99 232 *d*PKIKP **PKPdf** **22 58 29.6 +0.3**
PMG pmax pmax
comp=Z,250nm,1.2s
PMG Port Moresby 132.99 232 PKP **PKPdf** **22 58 29.5 +0.2**
comp=Z,80nm,0.9s,baz=36,slow=3.3
PMG Port Moresby 132.99 232 *e*PKPdf **PKPdf** **22 58 29.5 +0.2**
PMG *e*PP **PP** **23 00 52.7 -2.8**
PMG *e*SKPbc **SKPab** **23 01 49.2 +0.2**
ISRO Mashad 133.00 61 *e*P **PKPdf** **22 58 29.2 +0.4**
IDAH Dahanechah 133.38 65 *e*P **PKPdf** **22 58 30.5 +0.7**
PEA0 Petropavlovsk- 133.43 323 *e*PKPpre PKPpre 22 58 17.8
PEA0 *e*PKPdf **PKPdf** **22 58 28.4 -0.6**
PEA0 *e*PP **PP** **23 00 56.0 -1.9**
PEA0 *e*SKPbc **SKPbc** **23 01 48.5 +1.0**
PETK Petropavlovsk- 133.43 323 *i*PKHKP PKPpre 22 58 18.0
PETK 22 58 28.6
PETK pmax pmax
comp=Z,27nm,1.0s
PETK pmax pmax
comp=Z,30nm,0.9s
PETK Petropavlovsk- 133.43 323 PKhKP PKPpre 22 58 18.0
comp=Z,27nm,1.0s,baz=102,slow=6.2,SNR=14
PETK PKP **PKPdf** **22 58 28.6 -0.3**
comp=Z,31nm,0.9s,baz=125,slow=2.1,SNR=18
IMYA Miami 133.51 61 *e*P **PKPdf** **22 58 30.6 +0.8**
SKR Severo-Kuril's 135.27 321 *e*PKIKP PKPdf 22 58 27.0 -5.4
MBWA Marble Bar 136.11 191 *e*PKPdf **PKPdf** **22 58 31.5 -3.5**
MBWA *e*SKPbc **SKPbc** **23 01 56.3 -0.8**
BRVK Borovoye 136.11 35 *d*PKIKP **PKPdf** **22 58 34.6 +0.7**
BRVK pmax pmax
comp=Z,101nm,2.5s
BRVK Borovoye 136.11 35 *e*PKPdf **PKPdf** **22 58 35.2 +1.3**
BVAR Borovoye Array 136.18 35 PKP **PKPdf** **22 58 35.2 +1.1**
comp=Z,24nm,0.8s,baz=283,slow=3.1,SNR=5.0
BVAR SKPbc **SKPbc** **23 01 57.8 +1.6**
comp=Z,12nm,1.0s,baz=262,slow=5.4,SNR=3.6
VOSK Vostochnaya 136.64 35 *e*PKIKP **PKPdf** **22 58 35.1 +0.2**
VOSK Vostochnaya 136.64 35 *e*PKPdf **PKPdf** **22 58 35.1 +0.2**
YAK Yakutsk 138.35 347 *e*PKHKP PKPpre 22 58 28.5
YAK *e* 22 58 37.6
YAK *e*PPP PPP 23 04 27.6
YAK pmax pmax
comp=Z,96nm,1.4s
YAK pmax pmax
comp=N,93nm,5.2s
YAK pmax pmax
comp=E,109nm,4.6s
YAK pmax pmax
comp=Z,556nm,3.5s
YAK pmax pmax
comp=E,148nm,3.7s
YAK pmax pmax
comp=N,311nm,3.5s
YAK Yakutsk 138.35 347 *e*PKPpre PKPpre 22 58 28.2
YAK *e*PKPdf **PKPdf** **22 58 38.0 +0.3**
KKAR Karatay Array 140.20 49 *e*PKIKP **PKPdf** **22 58 42.7 +0.9**
KKAR *e* 23 01 42.3

KKAR	**Karatay Array**	**140.20**	**49**	*e*PKPdf	**PKPdf**	**22 58 42.6**	**+0.9**
KKAR				*e*PP	**PP**	**23 01 42.3**	**+1.7**
KBL	**Kabul**	**140.93**	**62**	*e*PKHKP	PKPpre	22 58 35.4	
KBL				*e*		22 58 43.3	
KBL	**Kabul**	**140.93**	**62**	*e*PKPpre	PKPpre	22 58 35.4	
KBL				*e*PKPdf	**PKPdf**	**22 58 43.3**	**-0.3**
NVS	**Novosibirsk**	**141.17**	**26**	*e*PKHKP	PKPpre	22 58 36.7	
NVS				*e*		23 01 54.5	
NVS				pmax	pmax		
	comp=Z,197nm,1.4s						
NVS				pmax	pmax		
	comp=E,74nm,1.5s						
BHJ	**Bhuj**	**141.46**	**80**	*e*P	**PKPdf**	**22 58 42.9**	**-1.7**
KURK	**Kurchatov**	**141.73**	**34**	*i* PKHKP	PKPpre	22 58 39.9	
KURK						22 58 45.9	
KURK						23 01 57.4	
KURK				pmax	pmax		
	comp=Z,35nm,0.9s						
KURK				pmax	pmax		
	comp=Z,16nm,0.9s						
KURK	**Kurchatov**	**141.73**	**34**	*e*PKPpre	PKPpre	22 58 39.8	
KURK				PKP	**PKiKP**	**22 58 45.9**	**-1.3**
KURK				PP	PP	23 01 57.4	+8.1
KURBB	**Kurchatov Arra**	**141.74**	**34**	PKhKP	PKPpre	22 58 39.9	
KURBB				PKP	**PKiKP**	**22 58 45.9**	**-1.3**
	comp=Z,35nm,0.9s,baz=308,slow=2.7,SNR=38						
KURBB				PP	PP	23 01 57.4	+8.0
	comp=Z,16nm,0.9s,baz=291,slow=7.7,SNR=5.8						
ZAA0	**Zalesovo Array**	**142.46**	**26**	*e*PKPpre	PKPpre	22 58 39.3	
ZALV	**Zalesovo Beam**	**142.46**	**26**	*i* PKHKP	PKPpre	22 58 41.2	
ZALV						22 58 47.6	
ZALV				pmax	pmax		
	comp=Z,12nm,0.4s						
ZALV				pmax	pmax		
	comp=Z,65nm,0.6s						
ZALV	**Zalesovo Beam**	**142.46**	**26**	PKhKP	PKPpre	22 58 41.2	
	comp=Z,12nm,0.4s,baz=327,slow=4.2,SNR=68						
ZALV				PKP	**PKiKP**	**22 58 47.6**	**-0.9**
	comp=Z,65nm,0.6s,baz=298,slow=2.6,SNR=42						
EKS2	**Erkin-Say**	**142.61**	**48**	P	**PKPdf**	**22 58 43.8**	**-2.5**
	SNR=31						
EKS2	**Erkin-Say**	**142.61**	**48**	*e*PKIKP	**PKPdf**	**22 58 44.0**	**-2.3**
EKS2	**Erkin-Say**	**142.61**	**48**	*e*PKPdf	**PKPdf**	**22 58 44.0**	**-2.3**
GENI	**Genyem**	**142.69**	**232**	PKP	**PKPdf**	**22 58 44.1**	**-3.0**
AML	**Almayashu**	**142.74**	**49**	P	**PKPdf**	**22 58 44.1**	**-2.8**
	SNR=23						
USP	**Ospenovka**	**142.88**	**47**	P	**PKPdf**	**22 58 45.0**	**-1.7**
	SNR=39						
AAK	**Ala-Archa**	**143.11**	**48**	P	PKPbc	22 58 45.4	+1.0
	SNR=41						
AAK	**Ala-Archa**	**143.11**	**48**	*de*PKIKP	PKPbc	22 58 45.3	+0.9
AAK	**Ala-Archa**	**143.11**	**48**	PKP	PKPbc	22 58 45.6	+1.2
	comp=Z,48nm,1.0s,baz=214,slow=2.3,SNR=52						
AAK	**Ala-Archa**	**143.11**	**48**	*e*PKPdf	PKPbc	22 58 45.5	+1.0
FRU	**Bishkek**	**143.12**	**47**	*e*PKIKP	PKPbc	22 58 45.0	+0.7
FRU				pmax	pmax		
	comp=Z,500nm,2.6s						
FRU				pmax	pmax		
	comp=Z,260nm,1.8s						
CHMS	**Chumysh**	**143.15**	**47**	P	PKPbc	22 58 44.8	+0.4
	SNR=27						
CHMS	**Chumysh**	**143.15**	**47**	*i* PKIKP	PKPbc	22 58 44.7	+0.3
UCH	**Uchtor**	**143.27**	**48**	P	PKPbc	22 58 46.1	+0.8
	SNR=39						
KBK	**Karagaybulak**	**143.41**	**48**	P	PKPbc	22 58 46.3	+1.1
	SNR=80						
GOA	**Goa**	**143.75**	**94**	*e*P	PKPbc	22 58 46.8	+0.1
TKM2	**Tokmak 2**	**143.75**	**47**	P	PKPbc	22 58 47.0	+0.8
	SNR=72						
TKM2	**Tokmak 2**	**143.75**	**47**	*e*PKIKP	PKPbc	22 58 47.0	+0.7
TKM2	**Tokmak 2**	**143.75**	**47**	*e*PKPdf	PKPbc	22 58 47.0	+0.7
KZA	**Kyzart**	**143.84**	**48**	P	**PKPdf**	**22 58 47.9**	**-1.0**
	SNR=87						
MNGI	**Mangalore**	**143.88**	**99**	*ex*	PKPab	22 58 40.3	-6.1
MNGI				*ex*	x	23 08 37.4	
TRD	**Trivandrum**	**144.07**	**107**	*e*P	**PKPab**	**22 58 47.2**	**0.0**
CLNS	**Chul'man**	**144.10**	**348**	*e*PKIKP	**PKPab**	**22 58 46.3**	**+0.2**
CLNS				pmax	pmax		
	comp=Z,291nm,1.4s						
CLNS				pmax	pmax		
	comp=N,74nm,1.2s						
CLNS				pmax	pmax		
	comp=E,69nm,1.4s						
SMPI	**Sarmi**	**144.16**	**231**	PKP	PKPbc	22 58 48.7	+0.7
SAUI	**Saumlaki**	**144.24**	**215**	PKP	**PKPdf**	**22 58 50.1**	**+0.3**
SAUI	**Saumlaki**	**144.24**	**215**	*e*PKPdf	**PKPdf**	**22 58 49.4**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**144.37**	**316**	*d i*PKHKP	PKPpre	22 58 39.2	
YUK				*i*		23 02 09.5	
YUK				*i* PPP	PPP	23 05 26.1	
YUK				*i* SSS	SSS	23 26 07.6	
YUK				MLR	MLR		
	comp=E,741nm,20.0s						
YUK				MLR	MLR		
	comp=Z,901nm,20.0s						
BOD	**Bodaibo**	**144.44**	**358**	⇑*i*PKIKP	**PKPab**	**22 58 46.4**	**-0.9**
BOD				pmax	pmax		
	comp=Z,565nm,1.4s						
ULHL	**Ulahol**	**144.46**	**48**	P	**PKPdf**	**22 58 50.1**	**+0.4**
	SNR=68						
ULHL	**Ulahol**	**144.46**	**48**	*i* PKIKP	**PKPdf**	**22 58 50.1**	**+0.4**
POO	**Poona**	**144.53**	**89**	⇓*i*PKP	**PKPab**	**22 58 48.0**	**-0.9**
	comp=Z,280nm,1.0s						
POO				*e*P	PKPbc	22 58 48.7	-0.5
YSS	**Yuzh-Sakhalins**	**144.80**	**322**	κ *i*PKIKP	**PKPab**	**22 58 49.0**	**0.0**
YSS				*e*		22 59 17.0	
YSS				*e*		22 59 26.0	
YSS				*e*		23 02 10.0	
YSS				*e*SS	SS	23 21 38.0	+50
YSS				pmax	pmax		
	comp=Z,810nm,1.2s						
YSS				pmax	pmax		
	comp=Z,5μm,8.0s						
KSH	**Kashi**	**145.25**	**52**	⇓*i*PKPbc	**PKPab**	**22 58 51.2**	**+0.1**
KSH				pPKP	**pPKPdf**	**22 59 18.1**	**-2.5**
KSH				sPKP		22 59 29.1	
KSH				PKS	**PKSdf**	**23 02 26.2**	**-0.4**
KSH				SKS	**SKSdf**	**23 05 50.1**	**-0.3**
KSH				SKKS	**SKKSac**	**23 08 52.6**	**-0.8**
KSH				SS	**SS**	**23 20 53.7**	**-0.3**
KSH				PPMZ			
	comp=Z,2μm,4.9s						
KSH				LN			
	comp=Z,2μm,19.1s						
KSH				LE			
	comp=Z,770nm,19.2s						
KSH				LZ			
	comp=Z,980nm,20.8s						
BATI	**Baumata**	**145.61**	**201**	PKP	**PKPab**	**22 58 53.9**	**+1.0**
BATI	**Baumata**	**145.61**	**201**	PKPbc	**PKPab**	**22 58 53.3**	**+0.4**
	comp=Z,1μm,1.1s,baz=161,slow=1.1,SNR=312						
SOEI	**Soe**	**145.82**	**203**	PKP	**PKPbc**	**22 58 53.4**	**+0.1**
SOEI	**Soe**	**145.82**	**203**	*e*PKPdf	**PKPab**	**22 58 54.0**	**+0.2**
SRPI	**Serui, Papua**	**145.99**	**228**	PKP	**PKPab**	**22 58 54.6**	**+0.2**
MKAR	**Makanchi Array**	**146.00**	**37**	PKP2	**PKPbc**	**22 58 52.5**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,279nm,1.0s						
MKAR	**Makanchi Array**	**146.00**	**37**	PKPbc	**PKPbc**	**22 58 52.5**	**-0.4**
	comp=Z,279nm,1.0s,baz=319,slow=2.3,SNR=361						
MK01	**Makanchi Array**	**146.02**	**37**	*e*PKPdf	**PKPbc**	**22 58 52.6**	**-0.3**
KMPI	**Kaimana, Papua**	**146.33**	**223**	PKP	**PKPab**	**22 58 55.8**	**+0.1**
ASAJ	**Asahikawa**	**146.40**	**318**	*e*PKPdf	**PKPbc**	**22 58 54.0**	**-0.1**
BASI	**Baing, Sumba**	**146.52**	**196**	PKP	**PKPbc**	**22 58 54.9**	**-0.4**
BAKI	**Biak**	**146.57**	**229**	PKP	**PKPbc**	**22 58 54.9**	**-0.6**
PALK	**Pallekele**	**146.76**	**112**	*i* PKIKP	**PKPbc**	**22 58 55.4**	**-0.7**
PALK	**Pallekele**	**146.76**	**112**	PKPbc	**PKPdf**	**22 58 55.0**	**+0.8**
	comp=Z,215nm,1.0s,baz=220,slow=1.9,SNR=41						
PALK	**Pallekele**	**146.76**	**112**	*i* PKPab	**PKPdf**	**22 58 55.1**	**+0.9**
	SNR=47						
PALK	**Pallekele**	**146.76**	**112**	*e*PKPdf	**PKPdf**	**22 58 55.1**	**+0.9**
XMIS	**Christmas Isla**	**146.95**	**169**	*e*PKPdf	**PKPdf**	**22 58 55.3**	**+0.8**
ERM	**Erimo**	**147.04**	**314**	*e*PKIKP	**PKPdf**	**22 58 53.9**	**+0.2**
ERM	**Erimo**	**147.04**	**314**	*e*PKPdf	**PKPbc**	**22 58 55.1**	**-0.8**
WSI	**Waingapu**	**147.12**	**196**	PKP	**PKPbc**	**22 58 57.3**	**+0.3**
GUMO	**Guam**	**147.20**	**260**	*e*PKPdf	**PKPdf**	**22 58 53.3**	**-1.5**
DHRM	**DHARAMSHALA**	**147.26**	**65**	*e*P	**PKPdf**	**22 58 53.4**	**-1.3**
BHK	**Bhakra**	**147.47**	**66**	*ex*	**PKPab**	**22 59 02.0**	**+2.2**
MMRI	**Maumere**	**147.55**	**200**	PKP	**PKPdf**	**22 58 55.1**	**-0.4**
MMRI	**Maumere**	**147.55**	**200**	*e*PKPdf	**PKPdf**	**22 58 55.1**	**-0.4**
FAKI	**Fak Fak**	**147.81**	**222**	PKP	**PKPdf**	**22 58 56.8**	**+0.9**
FAKI	**Fak Fak**	**147.81**	**222**	*e*PKPdf	**PKPdf**	**22 58 57.1**	**+1.2**
BNDI	**Bandanaira**	**147.88**	**216**	PKP	**PKPdf**	**22 58 56.8**	**+0.8**
SDNR	**Sundarnagar**	**147.93**	**66**	*e*P	**PKPdf**	**22 58 56.6**	**+1.0**
HVS	**Khovu-Aksy**	**148.01**	**21**	*de*PKIKP	**PKPdf**	**22 58 55.2**	**0.0**
SMLA	**Simla**	**148.15**	**67**	*e*P	**PKPdf**	**22 58 55.8**	**-0.1**
NDI	**New Delhi**	**148.43**	**71**	*ex*	**PKPbc**	**22 58 58.0**	**-2.1**
NDI				*ex*	x	23 02 32.0	
BHPL	**Bhopal**	**148.56**	**82**	*e*P	**PKPdf**	**22 58 56.7**	**-0.2**
HYB	**Hyderabad**	**148.63**	**93**	*i* PKP	**PKPdf**	**22 58 56.5**	**-0.6**
HYB	**Hyderabad**	**148.63**	**93**	*e*P	**PKPdf**	**22 58 55.4**	**-1.7**
KLR	**Kul'dur**	**148.69**	**334**	⇑*i*PKHKP	**PKPdf**	**22 58 52.8**	**-3.4**
KLR				*e*		23 02 26.0	
KLR				pmax	pmax		
	comp=E,100nm,1.6s						
KLR				pmax	pmax		
	comp=Z,620nm,1.6s						
MDRS	**Chennai**	**148.86**	**102**	*e*P	**PKPdf**	**22 58 56.2**	**-1.3**
IGBI	**Denpasar**	**148.91**	**187**	PKP	**PKPdf**	**22 58 58.5**	**+0.8**
DDI	**Dehra Dun**	**149.01**	**68**	*e*P	**PKPdf**	**22 58 57.2**	**-0.2**
DNP	**Denpasar**	**149.04**	**187**	PKP	**PKPbc**	**22 59 01.1**	**-0.9**
JAGI	**Jajag, Banyuwa**	**149.35**	**185**	PKP	**PKPdf**	**22 58 58.2**	**-0.2**
JAGI	**Jajag, Banyuwa**	**149.35**	**185**	*e*PKPdf	**PKPdf**	**22 58 57.9**	**-0.5**
JAGI				*e*PKPbc	**PKPbc**	**22 59 03.0**	**+0.1**
MOY	**Mondy**	**149.53**	**13**	*e*PKHKP	**PKPdf**	**22 58 58.2**	**+0.5**
MOY				pmax	pmax		
	comp=Z,843nm,2.0s						
IRK	**Irkutsk**	**149.55**	**9**	⇓*i*PKHKP	**PKPdf**	**22 58 58.1**	**+0.5**
IRK				pmax	pmax		
	comp=Z,1μm,1.7s						
GMJI	**Gumukmas**	**149.59**	**184**	PKP	**PKPdf**	**22 58 58.9**	**+0.1**
SRBI	**Singaraja**	**149.62**	**187**	PKP	**PKPdf**	**22 58 59.2**	**+0.4**
NGP	**Nagpur**	**149.82**	**86**	*e*P	**PKPdf**	**22 58 57.8**	**-1.2**
NGP				*ex*	x	23 09 17.8	
PWJI	**Pagerwojo**	**149.90**	**181**	PKP	**PKPdf**	**22 58 59.4**	**+0.1**
CMJI	**Cimerak**	**149.98**	**174**	PKP	**PKPbc**	**22 59 02.3**	**-2.1**
CMJI	**Cimerak**	**149.98**	**174**	PKP	**PKPbc**	**22 59 03.9**	**-0.5**
UGM	**Wanagama**	**149.99**	**178**	PKP	**PKPbc**	**22 59 02.5**	**-2.0**
UGM	**Wanagama**	**149.99**	**178**	*e*PKPdf	**PKPdf**	**22 59 00.2**	**+0.7**
UGM				*e*PKPbc	**PKPbc**	**22 59 04.7**	**+0.3**
TLY	**Talaya**	**150.00**	**10**	PKP	**PKPdf**	**22 58 59.7**	**+1.3**
	comp=Z,13nm,0.7s,baz=174,slow=4.2,SNR=42						
TLY				PKPbc	**PKiKP**	**22 59 04.4**	**+0.2**
	comp=Z,24nm,0.5s,baz=250,slow=3.1,SNR=34						
TLY	**Talaya**	**150.00**	**10**	*e*PKPdf	**PKPdf**	**22 58 59.5**	**+1.2**
TLY				*e*PKPbc	**PKiKP**	**22 59 04.6**	**+0.4**
ABJI	**Asem Bagus**	**150.01**	**185**	PKP	**PKPdf**	**22 58 59.9**	**+0.5**
SWI	**Sorong**	**150.03**	**222**	PKP	**PKPdf**	**22 59 00.4**	**+0.9**
WOJI	**Wonogiri, Jawa**	**150.08**	**179**	PKP	**PKPdf**	**22 58 57.8**	**-1.7**
BLJI	**Banyuglugur**	**150.11**	**184**	PKP	**PKPdf**	**22 59 00.4**	**+0.8**
CISI	**Cisompet, Garu**	**150.14**	**173**	PKP	**PKPdf**	**22 58 59.2**	**-0.5**
CISI	**Cisompet, Garu**	**150.14**	**173**	PKP	**PKPdf**	**22 59 00.1**	**+0.4**
CISI	**Cisompet, Garu**	**150.14**	**173**	*e*PKPdf	**PKPdf**	**22 58 59.0**	**-0.7**
CISI				*e*PKPbc	**PKPbc**	**22 59 05.0**	**+0.1**
CIT	**Chita**	**150.25**	**357**	*e*PKIKP	**PKPdf**	**22 59 00.2**	**+1.5**
CIT				*e*		22 59 33.5	
CIT				*e*		23 02 39.2	
CIT				pmax	pmax		
	comp=Z,1μm,1.7s						
CNJI	**Cibinong**	**150.29**	**171**	PKP	**PKPdf**	**22 59 00.9**	**+1.0**
CNJI	**Cibinong**	**150.29**	**171**	PKP	**PKPdf**	**22 59 01.1**	**+1.2**
BSSI	**Bau Bau, Buton**	**150.44**	**198**	PKP	**PKPdf**	**22 59 01.8**	**+1.7**
NLAI	**Namlea**	**150.44**	**213**	PKP	**PKPdf**	**22 59 01.6**	**+1.5**
KPJI	**Karang Pucung**	**150.47**	**175**	PKP	**PKPdf**	**22 59 00.4**	**+0.2**
SKJI	**Sukabumi**	**150.50**	**170**	PKP	**PKPdf**	**22 59 00.9**	**+0.7**
NGJI	**Ngawi**	**150.55**	**180**	PKP	**PKPbc**	**22 59 03.3**	**-2.4**
CGJI	**Cibinong**	**150.73**	**168**	PKP	**PKPdf**	**22 59 00.4**	**-0.2**
KMMI	**Kalianget**	**150.77**	**185**	PKP	**PKPdf**	**22 59 02.3**	**+1.7**
WMQ	**Urumqi**	**150.83**	**37**	PKPbc	**PKPdf**	**22 59 00.6**	**+0.7**
WMQ				PKPab	**PKPab**	**22 59 16.1**	**+3.0**
WMQ				PKS	**PKSdf**	**23 02 33.8**	**-0.8**
WMQ				PP	**PP**	**23 02 47.0**	**+3.7**
WMQ				SKS	**SKSdf**	**23 05 56.8**	**-1.0**
WMQ				SKKS	**SKKSac**	**23 09 25.0**	**+0.9**
WMQ				SS	**SS**	**23 21 58.0**	**+2.4**
WMQ				PPMZ			
	comp=Z,390nm,6.0s						
WMQ				LN			
	comp=Z,1μm,23.0s						
WMQ				LE			
	comp=Z,2μm,20.0s						
WMQ				LZ			
	comp=Z,2μm,19.0s						
LEM	**Lembang**	**150.83**	**172**	PKP	**PKPdf**	**22 59 02.5**	**+1.6**
SMRI	**Semarang**	**150.85**	**178**	PKP	**PKPdf**	**22 59 02.1**	**+1.3**
SMRI	**Semarang**	**150.85**	**178**	*e*PKPdf	**PKPdf**	**22 59 01.8**	**+1.0**
SMRI				*e*PKPbc	**PKiKP**	**22 59 07.5**	**+0.4**
SMRI				*e*PP	**PP**	**23 02 43.6**	**+1.2**
GRJI	**Gresik**	**150.99**	**182**	PKP	**PKPdf**	**22 59 02.5**	**+1.5**
LGTI	**Lohaghat**	**151.00**	**69**	*e*P	**PKPdf**	**22 59 01.0**	**+0.5**
TBJI	**Tambak Boyo**	**151.09**	**181**	PKP	**PKPdf**	**22 59 02.8**	**+1.7**
ZAK	**Zakamensk**	**151.20**	**11**	⇑*i*PKIKP	**PKPdf**	**22 59 00.8**	**+0.5**
BKSI	**Bulukumba**	**151.32**	**198**	PKP	**PKPdf**	**22 59 02.3**	**+0.8**
KASI	**Kota Agung**	**151.53**	**165**	PKP	**PKPdf**	**22 59 01.8**	**0.0**
KAPI	**Kappang**	**151.72**	**197**	*e*PKPdf	**PKPdf**	**22 59 02.6**	**+0.5**
KAPI				*e*PKPbc	**PKiKP**	**22 59 09.0**	**+0.1**
KAPI				*e*PKPab	**PKPab**	**22 59 18.5**	**+1.1**
CBIJ	**Chichi jima**	**151.78**	**286**	*e*PKPdf	**PKPdf**	**22 59 02.1**	**+0.3**
CBIJ				*e*PKPbc	**PKPbc**	**22 59 07.0**	**-1.3**
CBIJ				*e*PKPab	**PKPab**	**22 59 17.7**	**+0.1**
JCJ	**Chichijima**	**151.78**	**286**	PKPbc	**PKPbc**	**22 59 06.8**	**-1.4**
	comp=Z,363nm,1.0s,baz=285,slow=2.9,SNR=12						
JCJ				PKPab	**PKPab**	**22 59 17.8**	**+0.2**
	comp=Z,594nm,1.1s,baz=293,slow=21,SNR=6.2						
LWLI	**Liwa**	**151.91**	**164**	PKP	**PKPbc**	**22 59 05.9**	**-3.2**
SANI	**Sanana**	**152.02**	**212**	PKP	**PKPdf**	**22 59 04.0**	**+1.5**
BNSI	**Bone**	**152.21**	**199**	PKP	**PKPdf**	**22 59 04.5**	**+1.7**
MNAI	**Manna**	**152.24**	**161**	*e*PKPbc	**PKPbc**	**22 59 10.0**	**+0.3**
HIA	**Hailar**	**152.28**	**348**	*e*PKIKP	**PKPdf**	**22 59 01.5**	**-0.4**
HIA				*e*		22 59 19.3	
HIA	**Hailar**	**152.28**	**348**	*e*PKPdf	**PKPdf**	**22 59 01.5**	**-0.4**
HIA				*e*PKPbc	**PKPbc**	**22 59 08.5**	**-0.2**
HIA				*e*PKPab	**PKPab**	**22 59 19.3**	**+0.4**
USRK	**Ussuriysk Ar.**	**152.38**	**327**	PKP	**PKPdf**	**22 59 02.4**	**+0.3**
	comp=Z,36nm,1.1s,baz=307,slow=1.0,SNR=61						
USRK				PKPbc	**PKiKP**	**22 59 09.2**	**-0.1**
	comp=Z,164nm,1.1s,baz=5.7,slow=1.4,SNR=61						
USRK				PKPab	**PKPab**	**22 59 19.9**	**+0.4**
	comp=Z,60nm,1.0s,baz=50,slow=3.0,SNR=9.4						
LBMI	**Labuha**	**152.43**	**216**	PKP	**PKPdf**	**22 59 04.0**	**+0.8**
MDSI	**Maura Dua**	**152.45**	**164**	PKP	**PKPdf**	**22 59 01.8**	**-1.4**
SPSI	**Sidrap Palu**	**152.72**	**198**	PKP	**PKPdf**	**22 59 04.0**	**+0.4**
MJAR	**Matsushiro Arr**	**152.87**	**308**	PKIKP	**PKPdf**	**22 59 03.6**	**+0.5**
MJAR				pmax	pmax		
	comp=Z,29nm,1.2s						
MJAR				pmax	pmax		
	comp=Z,127nm,1.0s						
MJAR	**Matsushiro Arr**	**152.87**	**308**	PKP	**PKPdf**	**22 59 03.6**	**+0.5**
	comp=Z,23nm,1.2s,baz=212,slow=0.6,SNR=25						
MJAR				PKPbc	**PKPbc**	**22 59 09.5**	**-1.0**
	comp=Z,127nm,1.0s,baz=95,slow=1.3,SNR=68						
MAJO	**Matsushiro**	**152.87**	**308**	*e*PKIKP	**PKPdf**	**22 59 03.6**	**+0.5**
MAJO				*e*		22 59 22.0	
MAJO	**Matsushiro**	**152.87**	**308**	*e*PKPdf	**PKPdf**	**22 59 03.6**	**+0.5**
MAJO				*e*PKPbc	**PKiKP**	**22 59 10.6**	**0.0**
MAJO				*e*PKPab	**PKPab**	**22 59 21.9**	**+0.1**
MAT	**Matsushiro**	**152.87**	**308**	PKP	**PKPdf**	**22 59 02.7**	**-0.4**
LHSI	**Lahat**	**152.91**	**162**	PKP	**PKPdf**	**22 59 04.0**	**+0.2**
VIS	**Vishakhapatnam**	**153.12**	**95**	*e*P	**PKPdf**	**22 59 04.0**	**0.0**
MDJ	**Mudanjiang**	**153.21**	**331**	PKPbc	**PKPdf**	**22 59 03.8**	**+0.5**
MDJ				pPKP	**pPKPdf**	**22 59 31.1**	**-1.9**
MDJ				sPKP		22 59 41.4	
MDJ				PKS	**PKSdf**	**23 02 37.2**	**-0.4**
MDJ				PP	**PP**	**23 02 55.6**	**-0.8**
MDJ				SKS	**SKSdf**	**23 06 00.4**	**-0.1**
MDJ				PPMZ			
	comp=Z,1μm,10.2s						
MDJ				LN			
	comp=Z,590nm,32.0s						
MDJ				LE			
	comp=Z,2μm,28.6s						
MDJ				LZ			
	comp=Z,2μm,44.7s						
MDJ	**Mudanjiang**	**153.21**	**331**	*e*PKPdf	**PKPdf**	**22 59 02.8**	**-0.6**
MDJ				*e*PKPbc	**PKPbc**	**22 59 10.9**	**0.0**
TTSI	**Tana Toraja**	**153.58**	**199**	PKP	**PKPdf**	**22 59 06.1**	**+1.3**
TNTI	**Ternate**	**153.66**	**218**	*e*PKPdf	**PKPdf**	**22 59 04.8**	**-0.2**
TNTI				*e*PKPbc	**PKPbc**	**22 59 12.1**	**-0.7**
TNTI				*e*PKPab	**PKPab**	**22 59 25.7**	**0.0**
PMBI	**Palembang**	**154.10**	**164**	*e*PKPdf	**PKPdf**	**22 59 05.4**	**-0.2**
PMBI				*e*PKPbc	**PKPbc**	**22 59 13.4**	**-0.3**
PMBI				*e*PKPab	**PKPab**	**22 59 28.5**	**+1.0**
KOLN	**Koldanda**	**154.12**	**72**	*e*P	**PKPdf**	**22 59 05.0**	**-0.4**
	comp=Z,246nm,1.6s						
SONA1	**Songino Array**	**154.14**	**8**	*e*PKPdf	**PKPdf**	**22 59 05.5**	**+0.7**
SONM	**Songino Array**	**154.16**	**8**	PKIKP	**PKPdf**	**22 59 05.5**	**+0.7**
SONM				pmax	pmax		
	comp=Z,38nm,1.1s						
SONM	**Songino Array**	**154.16**	**8**	PKP	**PKPdf**	**22 59 05.5**	**+0.7**
	comp=Z,37nm,1.1s,baz=282,slow=0.7,SNR=158						
SONM				PKPbc	**PKiKP**	**22 59 14.0**	**+0.9**
	comp=Z,23nm,0.5s,baz=304,slow=1.0,SNR=61						
SONM				PKPab	**PKPab**	**22 59 28.1**	**+1.1**
	comp=Z,22nm,0.6s,baz=316,slow=1.6,SNR=9.3						
DANN	**Dangsing**	**154.20**	**71**	*e*P	**PKPdf**	**22 59 06.0**	**+0.3**
	comp=Z,382nm,1.0s						
ULN	**Ulaanbaatar**	**154.20**	**7**	*e*PKIKP	**PKPdf**	**22 59 05.4**	**+0.5**
ULN	**Ulaanbaatar**	**154.20**	**7**	*e*PKPdf	**PKPdf**	**22 59 05.4**	**+0.5**
ULN				*e*PKPab	**PKPab**	**22 59 28.4**	**+1.1**
BBKI	**Banjar Baru**	**154.23**	**188**	PKP	**PKPdf**	**22 59 05.7**	**-0.1**
LUWI	**Luwuk**	**154.38**	**207**	PKP	**PKPdf**	**22 59 07.6**	**+1.7**
LUWI	**Luwuk**	**154.38**	**207**	*e*PKPdf	**PKPdf**	**22 59 06.6**	**+0.7**
LUWI				*e*PKPbc	**PKiKP**	**22 59 14.8**	**+0.4**
LUWI				*e*PKPab	**PKPab**	**22 59 28.7**	**0.0**
PDSI	**Padang**	**154.55**	**153**	PKP	**PKPdf**	**22 59 07.1**	**+0.9**
TPI	**Tanjungpandan**	**154.84**	**171**	PKP	**PKPdf**	**22 59 07.1**	**+0.5**
APSI	**Ampana**	**154.94**	**204**	PKP	**PKPdf**	**22 59 08.8**	**+2.1**
GKN	**Gorkha**	**155.01**	**71**	*e*P	**PKPdf**	**22 59 06.4**	**-0.2**
GSI	**Gunungsitoli**	**155.12**	**145**	PKP	**PKPdf**	**22 59 08.3**	**+1.3**
GSI	**Gunungsitoli**	**155.12**	**145**	*e*PKPdf	**PKPdf**	**22 59 07.6**	**+0.6**
GSI				*e*PKPbc	PKPbc	22 59 16.6	
GSI				*e*PKPab	**PKPab**	**22 59 32.6**	**+0.7**
PBKI	**Pangkalan Bun**	**155.18**	**180**	PKP	**PKPdf**	**22 59 07.8**	**+0.7**
DMN	**Daman**	**155.47**	**72**	*e*P	**PKPdf**	**22 59 07.4**	**0.0**
KKN	**Kakani**	**155.60**	**72**	*e*P	**PKPdf**	**22 59 07.2**	**-0.3**
CN2	**Changchun**	**155.63**	**335**	*e*PKP	**PKPdf**	**22 59 06.3**	**-0.4**
CN2				*ep*PKP	**PKPab**	**22 59 33.1**	**-0.2**
CN2				PP	**PP**	**23 03 13.0**	**+3.2**
CN2				SS	SS	23 22 49.5	+2.4
CN2				PPMZ			
	comp=Z,200nm,8.0s						
CN2				LN			
	comp=Z,700nm,18.0s						
CN2				LE			
	comp=Z,500nm,18.0s						
CN2				LZ			
	comp=Z,300nm,21.0s						
MNSI	**Mandailing Nat**	**155.69**	**150**	PKP	**PKPdf**	**22 59 07.3**	**-0.4**
PKIN	**Phulchoki**	**155.73**	**72**	*e*P	**PKPdf**	**22 59 07.1**	**-0.6**
	comp=Z,144nm,1.5s						
PKI	**Pulchoki**	**155.74**	**72**	*e*P	**PKPdf**	**22 59 07.1**	**-0.7**
	comp=Z,259nm,1.8s						
BKNI	**Bangkinang**	**155.91**	**153**	*e*PKPdf	**PKPdf**	**22 59 06.0**	**-2.1**
BKNI				*e*PKPdif	PKPdif	22 59 17.1	+9.1
BKNI				*e*PKPab	**PKPab**	**22 59 35.6**	**+0.4**
GUN	**Gumba**	**156.11**	**71**	*e*P	**PKPdf**	**22 59 08.1**	**-0.2**
**BO

HHC				PPMZ			
	comp=Z,3μm,12.4s						
BTO	**Baotou**	**161.67**	**4**	*e*PKP	**PKPdf**	**22 59 14.1**	**-0.1**
MYLDM	**Lahad Datu**	**161.73**	**203**	*e*PKPdf	**PKPdf**	**22 59 16.1**	**+1.2**
MYLDM				*e*PKPab	**PKPab**	**23 00 00.7**	**+0.3**
MYLDM				*e*PP	**PP**	**23 03 42.2**	**-0.7**
SHL	**Shillong**	**161.73**	**76**	*i* P	**PKPdf**	**22 59 14.0**	**-0.8**
SHL				*ex*	x	23 03 36.0	
BJI	**Beijing**	**161.85**	**349**	PKP	**PKPdf**	**22 59 14.7**	**+0.5**
BJI				pPKP	**pPKPdf**	**22 59 42.4**	**-1.5**
BJI				PPMZ			
	comp=Z,2μm,7.7s						
BJI				LN			
	comp=Z,900nm,26.6s						
BJI				LE			
	comp=Z,820nm,24.7s						
BJI				LZ			
	comp=Z,2μm,35.8s						
BJT	**Baijiatuau**	**161.87**	**349**	*e*PKIKP	**PKPdf**	**22 59 14.3**	**+0.1**
BJT	**Baijiatuau**	**161.87**	**349**	*e*PKPdf	**PKPdf**	**22 59 14.3**	**+0.1**
BJT				*e*PKPab	**PKPab**	**23 00 00.0**	**-0.4**
BJT				*e*PP	**PP**	**23 03 43.7**	**+0.2**
KKM	**Kota Kinabalu**	**163.25**	**196**	*e*PKPdf	**PKPdf**	**22 59 15.4**	**-1.1**
KKM				*e*PKPab	**PKPab**	**23 00 05.4**	**-1.8**
KKM				*e*PP	**PP**	**23 03 50.7**	**-0.2**
JOW	**Kunigami**	**164.11**	**290**	PKP	**PKPdf**	**22 59 17.1**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=52,slow=1.5,SNR=7.5						
JOW				PKPab	**PKPab**	**23 00 11.3**	**+0.4**
	comp=Z,8.5nm,1.1s,baz=36,slow=3.4,SNR=5.7						
JOW	**Kunigami**	**164.11**	**290**	*e*PKPdf	**PKPdf**	**22 59 17.6**	**+0.8**
JOW				*e*PKPab	**PKPab**	**23 00 11.2**	**+0.4**
TIY	**Taiyuan**	**164.58**	**357**	*e*PKP	**PKPdf**	**22 59 17.7**	**+0.7**
TIY				pPKP	**pPKPdf**	**22 59 49.1**	**+2.3**
TIY				sPKP		22 59 57.9	
TIY				PP	**PP**	**23 03 56.5**	**-1.3**
TIY				SS	SS	23 24 20.4	-0.2
TIY				PPMZ			
	comp=Z,1μm,7.6s						
TIY				LN			
	comp=Z,410nm,14.3s						
TIY				LE			
	comp=Z,130nm,7.1s						
TIY				LZ			
	comp=Z,270nm,14.6s						
LZH	**Lanzhou**	**164.68**	**24**	⇓PKP	**PKPdf**	**22 59 18.7**	**+1.4**
LZH				pPKP	**pPKPdf**	**22 59 48.8**	**+1.8**
LZH				sPKP		22 59 56.6	
LZH				PP	PP	23 04 05.0	+6.2
LZH				SKKS		23 10 40.1	
LZH				SS	**SS**	**23 24 27.7**	**+5.2**
LZH				PPMZ			
	comp=Z,1μm,5.5s						
LZH				LN			
	comp=Z,2μm,16.0s						
LZH				LE			
	comp=Z,2μm,18.1s						
LZH				LZ			
	comp=Z,3μm,19.4s						
TIA	**Tai'an**	**165.28**	**342**	PKP	**PKPdf**	**22 59 17.9**	**+0.3**
TIA				pPKP	**pPKPdf**	**22 59 49.7**	**+2.4**
TIA				PP	**PP**	**23 04 01.1**	**-0.4**
TIA				SS	SS	23 24 24.6	-3.4
TIA				PPMZ			
	comp=Z,3μm,5.7s						
TIA				LN			
	comp=Z,500nm,18.7s						
TIA				LE			
	comp=Z,1μm,19.0s						
TIA				LZ			
	comp=Z,2μm,39.3s						
CMAR	**Chiang Mai Arr**	**167.59**	**106**	PKIKP	**PKPdf**	**22 59 20.0**	**+0.2**
CMAR						23 00 27.0	
CMAR						23 04 16.5	
CMAR				pmax	pmax		
	comp=Z,28nm,1.0s						
CMAR				pmax	pmax		
	comp=Z,33nm,1.0s						
CMAR				pmax	pmax		
	comp=Z,19nm,1.2s						
CMAR	**Chiang Mai Arr**	**167.59**	**106**	PKP	**PKPdf**	**22 59 20.0**	**+0.2**
	comp=Z,39nm,1.1s,baz=260,slow=1.6,SNR=94						
CMAR				PKPab	**PKPab**	**23 00 27.0**	**+0.6**
	comp=Z,33nm,1.0s,baz=256,slow=4.6,SNR=17						
CMAR				PP	**PP**	**23 04 16.5**	**+1.1**
	comp=Z,19nm,1.1s,baz=246,slow=6.4,SNR=7.6						
CM01	**Chiang Mai Arr**	**167.59**	**106**	*e*PKPdf	**PKPdf**	**22 59 19.8**	**-0.1**
CM01				*e*pPKPdf	**pPKPdf**	**22 59 49.0**	**-0.6**
CM01				*e*PKPab	**PKPab**	**23 00 26.4**	**0.0**
CM01				*e*pPKPab	**pPKPab**	**23 00 55.9**	**+1.0**
CM01				*e*PP	**PP**	**23 04 15.9**	**+0.5**
SSE	**Sheshan**	**167.69**	**318**	PKP	**PKPdf**	**22 59 20.1**	**+0.6**
SSE				PP	**PP**	**23 04 13.7**	**-1.0**
SSE				SS	SS	23 24 56.0	+2.2
SSE				PPMZ			
	comp=Z,2μm,10.4s						
SSE				LN			
	comp=Z,850nm,38.5s						
SSE				LE			
	comp=Z,2μm,38.4s						
SSE				LZ			
	comp=Z,2μm,35.8s						
CHTO	**Chiang Mai**	**167.71**	**104**	*e*PKIKP	**PKPdf**	**22 59 19.1**	**-0.8**
CHTO				*e*		22 59 49.7	
CHTO	**Chiang Mai**	**167.71**	**104**	*e*PKPdf	**PKPdf**	**22 59 19.1**	**-0.8**
CHTO				*e*pPKPdf	**pPKPdf**	**22 59 49.7**	**0.0**
CHTO				*e*PKPab	**PKPab**	**23 00 27.5**	**+0.6**
CHTO				*e*pPKPab	**pPKPab**	**23 00 55.6**	**+0.2**
CHTO				*e*PP	**PP**	**23 04 15.5**	**-0.5**
TGY	**Tagaytay City**	**167.94**	**229**	PKP2	**PKPab**	**23 00 29.3**	**+1.4**
TGY				pmax	pmax		
	comp=Z,147nm,0.3s						
TGY	**Tagaytay City**	**167.94**	**229**	PKPab	**PKPab**	**23 00 29.3**	**+1.4**
	comp=Z,147nm,0.3s,baz=109,slow=1.8,SNR=3.2						
XAN	**Xi'an**	**168.04**	**11**	PKP	**PKPdf**	**22 59 20.2**	**+0.4**
XAN				pPKP	**pPKPdf**	**22 59 47.2**	**-2.4**
XAN				PKS	**PKSdf**	**23 02 51.5**	**-0.9**
XAN				PP	**PP**	**23 04 16.2**	**+0.5**
XAN				SKS	**SKSdf**	**23 06 12.5**	**-1.4**
XAN				SKKS	**SKKSac**	**23 10 52.1**	**-1.7**
XAN				PPMZ			
	comp=Z,310nm,11.4s						
XAN				LN			
	comp=Z,1μm,22.3s						
XAN				LE			
	comp=Z,470nm,23.8s						
XAN				LZ			
	comp=Z,540nm,25.3s						
NJ2	**Nanjing**	**168.28**	**328**	*e*PKP	**PKPdf**	**22 59 20.6**	**+0.7**
NJ2				PKPab	**PKPab**	**23 00 28.8**	**-0.1**
NJ2				PP	**PP**	**23 04 15.0**	**-2.4**
NJ2				PPMZ			
	comp=Z,2μm,7.5s						
NJ2				LN			
	comp=Z,2μm,20.3s						
NJ2				LE			
	comp=Z,1μm,23.4s						
NJ2				LZ			
	comp=Z,1μm,24.2s						
CD2	**Chengdu**	**168.93**	**37**	*e*PKP	**PKPdf**	**22 59 21.1**	**+0.6**
CD2				pPKP	**pPKPdf**	**22 59 49.9**	**-0.3**
CD2				sPKP		23 00 05.4	
CD2				PKPab	**PKPab**	**23 00 34.8**	**+2.9**
CD2				PKS	**PKSdf**	**23 02 50.8**	**-2.3**
CD2				PP	**PP**	**23 04 23.5**	**+2.6**
CD2				SKKS		23 10 57.5	
CD2				SS	**SS**	**23 25 06.3**	**+0.3**
CD2				PPMZ			
	comp=Z,2μm,11.8s						
CD2				LN			
	comp=Z,2μm,25.0s						
CD2				LE			
	comp=Z,920nm,28.2s						
CD2				LZ			
	comp=Z,3μm,39.2s						
DLV	**T Lat**	**169.33**	**164**	*e*PKPdf	**PKPdf**	**22 59 20.6**	**-0.7**
DLV				*e*PKPab	**PKPab**	**23 00 32.6**	**-1.4**
SZP	**Santa**	**170.39**	**242**	*e*PKPdf	**PKPdf**	**22 59 22.9**	**+1.3**
NACB	**Ninganchiao**	**170.56**	**284**	*e*PKPdf	**PKPdf**	**22 59 19.4**	**-2.1**
NACB				*e*PKPab	**PKPab**	**23 00 39.0**	**-0.4**
NACB				*e*PP	**PP**	**23 04 26.6**	**-3.7**
YHNB	**Yeheng**	**170.66**	**287**	*e*PKPdf	**PKPdf**	**22 59 19.9**	**-1.8**
YHNB				*e*PKPab	**PKPab**	**23 00 39.6**	**-0.4**
YULB	**Yu-li**	**170.93**	**279**	*e*PKPdf	**PKPdf**	**22 59 21.2**	**-0.6**
YULB				*e*PKPab	**PKPab**	**23 00 40.5**	**-0.7**
TWG	**Pinlang**	**171.17**	**275**	*e*PKPdf	**PKPdf**	**22 59 21.8**	**-0.1**
SSLB	**Suanglung**	**171.20**	**282**	*e*PKPdf	**PKPdf**	**22 59 21.7**	**-0.2**
KMI	**Kunming**	**171.45**	**69**	PKP	**PKPdf**	**22 59 22.5**	**+0.2**
KMI				pPKP	**pPKPdf**	**22 59 52.0**	**-0.1**
KMI				sPKP		23 00 05.2	
TPUB	**Ta-pu**	**171.55**	**279**	*e*PKPdf	**PKPdf**	**22 59 22.5**	**+0.4**
TPUB				*e*PKPab	**PKPab**	**23 00 43.5**	**-0.4**
TPUB				*e*PP	**PP**	**23 04 30.9**	**-4.5**
ENH	**Enshi**	**171.82**	**13**	*e*PKPdf	**PKPdf**	**22 59 22.0**	**-0.1**
SLVN	**Son La**	**172.84**	**96**	*e*PKPdf	**PKPdf**	**22 59 23.1**	**+0.4**
QZH	**Quanzhou**	**173.01**	**294**	*i* PKP	**PKPdf**	**22 59 21.7**	**-0.9**
QZH				PKPab	**PKPab**	**23 00 51.7**	**+1.5**
QZH				PP	**PP**	**23 04 41.3**	**-0.9**
QZH				PPMZ			
	comp=Z,4μm,9.4s						
QZH				LN			
	comp=Z,4μm,25.0s						
QZH				LE			
	comp=Z,3μm,25.3s						
QZH				LZ			
	comp=Z,3μm,21.2s						
GYA	**Guiyang**	**173.90**	**46**	*i* PKP	**PKPdf**	**22 59 22.8**	**-0.3**
GYA				pPKP	**pPKPdf**	**22 59 50.4**	**-2.5**
GYA				PKPab	**PKPab**	**23 00 51.6**	**-2.6**
GYA				PKS	**PKSdf**	**23 02 52.0**	**-3.6**
GYA				PP	**PP**	**23 04 47.2**	**+1.2**
GYA				SKKS		23 11 21.7	
GYA				SS	**SS**	**23 25 52.8**	**-2.7**
GYA				LN			
	comp=Z,210nm,21.9s						
GYA				LE			
	comp=Z,250nm,22.3s						
GYA				LZ			
	comp=Z,360nm,21.4s						
QIZ	**Qiongzhong**	**176.41**	**153**	PKP	**PKPdf**	**22 59 23.7**	**-0.2**
QIZ				sPKP		23 00 01.9	
QIZ				PP	**PP**	**23 04 59.3**	**+2.2**
QIZ				SS	SS	23 26 19.8	+2.0
QIZ				PPMZ			
	comp=Z,1μm,11.5s						
QIZ	**Qiongzhong**	**176.41**	**153**	*e*PKPdf	**PKPdf**	**22 59 23.8**	**0.0**
GZH	**Guangzhou**	**178.15**	**297**	PKP	**PKPdf**	**22 59 25.3**	**+1.3**
GZH				PKPab		23 01 11.8	
GZH				PP	**PP**	**23 05 02.8**	**-3.9**
GZH				LN			
	comp=Z,2μm,26.3s						
GZH				LE			
	comp=Z,2μm,24.1s						

CSEM ***04*** *22:41:08.1±0.6, 50°.14N×18°.58E, h1km, Error ellipse: s-maj=11.1km s-min=9.4km az=45.0*

PRU 04 22:41:10.7, 50°.06N×18°.44E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.29**	**220**	*e*PG	Pg	22 41 16.6	+0.3
OKC				*e*SG	Sg	22 41 19.9	-0.2
	2.3nm,0.4s						
OKC	**Ostrava-Krasne**	**0.29**	**220**	Pg	Pg	22 41 16.6	+0.3
OKC				Sg	Sg	22 41 19.9	-0.2
	2.3nm,0.4s						
KRLC	**Kraliky**	**1.07**	**271**	*e*PG	Pg	22 41 30.3	-1.0
KRLC				*e*SG	Sg	22 41 44.7	-0.5
KRLC	**Kraliky**	**1.07**	**271**	Pg	Pg	22 41 30.3	-1.0
KRLC				Sg	Sg	22 41 44.7	-0.5
DPC	**Dobruska-Polom**	**1.39**	**283**	*e*PG	Pn	22 41 36.5	-1.0
DPC				*e*SG	Sg	22 41 55.4	-0.2
DPC	**Dobruska-Polom**	**1.39**	**283**	Pg	Pn	22 41 36.5	-1.0
DPC				Sg	Sg	22 41 55.4	-0.2

IDC ***04*** *22:44:19.9±2.9, 26°.06N×128°.70E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/41, mbtmp3.5/3, Error ellipse: s-maj=167.8km s-min=21.0km az=70.0*
ISCJB ***04*** *22:44:21.4±0.6, 26°.06N±0°.05×128°.75E±0°.04, h27km, mb3.3/3, Error ellipse: s-maj=6.6km s-min=4.7km az=3.5*
JMA ***04*** *22:44:21.6±0.2, 26°.03N×128°.75E, h32km, M3.0*

ISC 04 22:44:22.5±0.9, 26°.08N±0°.05×128°.72E±0°.04, h27km, n15, σ1°.24/24, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.77**	**305**	P	**Pb**	**22 44 36.6**	**-0.6**
JOW	**Kunigami**	**0.85**	**332**	P	**Pn**	**22 44 38.3**	**-0.4**
JOW				*e*S	**Sn**	**22 44 50.5**	**+0.1**
JOW	**Kunigami**	**0.85**	**332**	Pn	**Pn**	**22 44 38.4**	**-0.3**
	14nm,0.3s,baz=135,slow=24,SNR=258						
JOW				Sn	**Sb**	**22 44 47.3**	**-2.5**
	13nm,0.3s,baz=131,slow=19,SNR=32						
JJT2	**Tamagusuku 2**	**0.88**	**274**	P	**Pn**	**22 44 38.4**	**-0.6**
JJT2				*e*S	**Sn**	**22 44 50.5**	**-0.4**
JIH	**Iheya**	**1.17**	**325**	P	**Pb**	**22 44 43.2**	**-0.8**
JIH				*e*S	**Sb**	**22 44 58.2**	**-0.6**
JOKE	**Okinoerabujima**	**1.29**	**354**	P	**Pb**	**22 44 45.0**	**-1.1**
JAGN	**Aguni-jima**	**1.42**	**291**	P	**Pn**	**22 44 46.7**	**+0.2**
JAGN				*e*S	**Sn**	**22 45 04.0**	**-0.4**
JTK	**Tokunoshima**	**1.71**	**7**	P	**Pn**	**22 44 50.9**	**+0.3**
JTK				*e*S	**Sn**	**22 45 10.5**	**-1.1**
JKE	**Kume jima 2**	**1.76**	**279**	P	**Pn**	**22 44 50.4**	**-0.8**
JKE				*e*S	**Sn**	**22 45 10.9**	**-1.7**
JAMN	**Amaminishikomi**	**2.19**	**11**	P	**Pn**	**22 44 58.0**	**+0.8**
JMZ	**Minamidaito 2**	**2.27**	**96**	P	**Pn**	**22 44 57.4**	**-0.8**
JMZ				*e*S	**Sn**	**22 45 23.2**	**-2.0**
JAM	**Amami Oshima**	**2.46**	**19**	P	**Pn**	**22 45 01.1**	**+0.3**
JAM				*e*S	**Sn**	**22 45 29.1**	**-0.8**
SONM	**Songino Array**	**27.92**	**327**	P	**P**	**22 50 13.6**	**+3.1**
	0.5nm,0.5s,baz=141,slow=11,SNR=7.6						
MKAR	**Makanchi Array**	**41.96**	**312**	P	**P**	**22 52 12.0**	**+0.9**
	0.3nm,0.6s,baz=102,slow=9.8,SNR=5.7						
WRA	**Warramunga Arr**	**46.07**	**173**	P	**P**	**22 52 45.2**	**+1.0**
	0.3nm,0.5s,baz=353,slow=8.4,SNR=4.8						

CASC 04 22:51:47.0±1.8, 13°.79N×91°.07W, h32km±7km, MD3.8, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.71**	**58**	*e*P	Pb	22 52 01.6	+0.3
PCG	**Pacaya**	**0.75**	**37**	*e*P	Pn	22 52 01.7	0.0
PCG				*e*S	Sb	22 52 13.1	+0.9
JAT	**Jato**	**0.76**	**314**	*e*P	Pb	22 52 02.8	+1.0
JAT				*e*S	Sn	22 52 09.5	-2.3
NBG	**Las Nubes**	**1.06**	**42**	*e*P	Pn	22 52 05.5	-0.5
NBG				*e*S	Sn	22 52 20.4	+0.5
RTR	**El Retiro**	**1.39**	**86**	*e*P	Pn	22 52 09.8	-0.6
RTR				*e*S	Sn	22 52 28.7	+0.9
SBLS	**San Blas**	**1.41**	**88⇑**	*e*P	Pn	22 52 10.4	-0.4
SBLS				*e*S	Sb	22 52 29.8	-1.1
BOQS	**Boqueron**	**1.74**	**92⇑**	*e*P	Pn	22 52 15.0	-0.3
LFRS	**El Faro**	**1.96**	**95**	*e*P	Pn	22 52 18.3	+0.1
CNCH	**Conchagua**	**3.19**	**99**	*e*P	Pn	22 52 34.8	-0.3

IDC 04 23:03:18.3±1.7, 5°.39S×145°.84E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.5/37, mbtmp3.6/4, ML2.9/2, MS4.1/1, Ms1 4.1/1, ms1mx3.3/27, Error ellipse: s-maj=52.2km s-min=27.3km az=101.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.20**	**162**	Pn	Pn	23 04 23.6	-0.1
	2.2nm,0.3s,baz=351,slow=5.9,SNR=4.7						
PMG				Sn	Sn	23 05 14.3	+0.9
	5.0nm,0.3s,baz=144,slow=19,SNR=4.5						
WRA	**Warramunga Arr**	**18.29**	**217**	P	Pn	23 07 32.7	-1.0
	0.1nm,0.3s,baz=42,slow=12,SNR=4.0						
WRA				LR	LR	23 15 02.2	
	comp=Z,671nm,21.0s,baz=130,slow=38						
ASAR	**Alice Springs**	**21.50**	**211**	P	P	23 08 09.8	+0.8
	1.7nm,0.8s,baz=39,slow=9.9,SNR=6.2						
ILAR	**Eielson Array**	**85.38**	**23**	P	P	23 15 57.3	0.0
	0.7nm,0.9s,baz=243,slow=5.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**143.82**	**285**	PKP	PKPdf	23 22 55.5	-1.2
	1.1nm,1.2s,baz=106,slow=2.5,SNR=2.9						

GUC 04 23:04:06.7±0.7, 33°.66S×71°.94W, h32km±6km, ML3.6, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.53**	**124**	⇓*i* P	Pn	23 04 18.2	+0.1
LNV				*i* S1	Sn	23 04 26.6	+0.6
IHA	**Instituto Hidr**	**0.68**	**22**	*i* P	Pb	23 04 20.3	+0.2
IHA				*i* S1	Sn	23 04 30.4	+1.0
RCDM	**Rinconada Maip**	**0.96**	**80⇑**	*i* P	Pn	23 04 24.1	+0.1
RCDM				*i* S4	Sn	23 04 36.5	-0.1
RCDM				AML	AML	23 04 40.1	
	comp=N,2μm,0.1s						
ANTU	**Antumapu**	**1.09**	**86⇑**	*i* P	Pb	23 04 27.3	+0.1
ANTU				*i* S	Sb	23 04 42.6	+1.4
ANTU				AML	AML	23 04 43.9	
	comp=N,3μm,0.2s						
STL	**Santa Lucia**	**1.11**	**79**	*e*P9	Pn	23 04 26.2	+0.2
STL				*i* S	Sb	23 04 41.8	+0.3
CHCH	**Chadas Angostu**	**1.11**	**105⇑**	*i* P	Pb	23 04 27.2	-0.2
PEL	**Peldehue**	**1.17**	**64⇑**	*i* P	Pb	23 04 28.9	+0.5
PEL				*i* S	Sb	23 04 45.6	+2.2
PEL				AML	AML	23 04 48.8	
	comp=N,4μm,0.4s						
LACH	**Col Las Americ**	**1.19**	**81**	*e*P	Pb	23 04 28.7	-0.2
LACH				*i* S	Sb	23 04 45.5	+1.4
CACH	**El Canelo**	**1.21**	**113**	⇓*i* P	Pb	23 04 29.7	+0.5

GEN ***04*** *23:06:11.9, 44°.40N×7°.24E, h15km, ML1.3*
CSEM ***04*** *23:06:11.3±0.1, 44°.42N×7°.27E, h12km, ML1.7/10, Error ellipse: s-maj=1.6km s-min=1.2km az=73.0*

LDG 04 23:06:12.0±0.0, 44°.42N×7°.27E, h2km, Md1.9/3, Ml1.9/9, Error ellipse: s-maj=1.1km s-min=0.6km az=61.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV	**Sant Anna di V**	**0.17**	**167**	P	Pg	23 06 15.9	+0.4
STV				S	Sg	23 06 18.7	+0.8
BHB	**Bricherasio**	**0.43**	**359**	P	Pg	23 06 19.9	-0.4
BHB				S	Sg	23 06 25.7	-0.2
MBDF	**Montbardon**	**0.47**	**311**	*e*Pg	Pg	23 06 21.4	+0.1
MBDF				*e*Sg	Sg	23 06 27.5	-0.1
	7.8nm,0.2s						
MBDF	**Montbardon**	**0.47**	**311**	*e*Pg	Pg	23 06 21.4	+0.1
MBDF				*e*Sg	Sg	23 06 27.5	-0.1
	3.9nm,0.2s						
SBF	**Sospel**	**0.57**	**168**	*e*Pg	Pg	23 06 22.9	-0.1
SBF				*e*Sg	Sg	23 06 30.0	-0.4
	6.6nm,0.2s						
SBF	**Sospel**	**0.57**	**168**	*e*Pg	Pg	23 06 22.9	-0.1
SBF				*e*Sg	Sg	23 06 30.0	-0.4
	3.3nm,0.2s						
RRL	**Rocca Remolon**	**0.61**	**326**	P	Pg	23 06 23.7	-0.4
RRL				S	Sg	23 06 31.6	-0.6
NEGI	**Seborga**	**0.65**	**151**	P	Pg	23 06 24.1	-0.4
NEGI				S	Sg	23 06 32.5	-0.5
RSP	**Reno Superiore**	**0.73**	**360**	P	Pg	23 06 24.7	-1.6
RSP				S	Sg	23 06 34.3	-1.6
ROTM	**Rocchetta Tana**	**0.89**	**60**	P	Pg	23 06 28.9	-0.1
ROTM				S	Sg	23 06 40.2	-0.3
PCP	**Piancastagn**	**0.92**	**82**	P	Pg	23 06 29.1	-0.7
PCP				S	Sg	23 06 41.1	-0.7
FRF	**La Foret Royal**	**0.97**	**208**	*e*Pg	Pg	23 06 30.1	-0.4
FRF				*e*Sg	Sg	23 06 42.4	-0.7
	7.0nm,0.2s						
FRF	**La Foret Royal**	**0.97**	**208**	*e*Pg	Pg	23 06 30.1	-0.4
FRF				*e*Sg	Sg	23 06 42.4	-0.7
	3.5nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.11**	**297**	*e*Pg	Pg	23 06 32.6	-0.9
ORIF				*e*Sg	Sg	23 06 47.3	-0.7
	1.4nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.11**	**297**	*e*Pg	Pg	23 06 32.6	-0.9
ORIF				*e*Sg	Sg	23 06 47.3	-0.7
	0.7nm,0.3s						
LPG	**La Plagne**	**1.14**	**341**	*e*Pg	Pg	23 06 33.6	-0.7
LPG				*e*Sg	Sg	23 06 48.6	-0.8
	2.4nm,0.3s						
LPG	**La Plagne**	**1.14**	**341**	*e*Pg	Pg	23 06 33.6	-0.7
LPG				*e*Sg	Sg	23 06 48.6	-0.8
	1.2nm,0.3s						
LPL	**La Plagne**	**1.16**	**341**	*e*Sg	Sg	23 06 49.2	-0.8
	2.4nm,0.3s						
LPL	**La Plagne**	**1.16**	**341**	*e*Sg	Sg	23 06 49.2	-0.8
	1.2nm,0.3s						
LMR	**La Mourre**	**1.21**	**207**	*e*Pg	Pg	23 06 34.6	-0.7
LMR				*e*Sg	Sg	23 06 50.4	-0.6
	7.4nm,0.2s						
LMR	**La Mourre**	**1.21**	**207**	*e*Pg	Pg	23 06 34.6	-0.7
LMR				*e*Sg	Sg	23 06 50.4	-0.6
	3.7nm,0.2s						
SMRF	**Simiane la Rot**	**1.30**	**251**	*e*Pg	Pg	23 06 36.3	-0.6
SMRF				*e*Sg	Sg	23 06 53.1	-0.7
	3.5nm,0.3s						
SMRF	**Simiane la Rot**	**1.30**	**251**	*e*Pg	Pg	23 06 36.3	-0.6
SMRF				*e*Sg	Sg	23 06 53.1	-0.7
	1.8nm,0.3s						
VIVF	**Saint-Julien-l**	**1.91**	**284**	*e*Pn	Pn	23 06 43.8	-1.8
VIVF				*e*Sn	Sn	23 07 07.0	-3.2
	1.6nm,0.4s						
VIVF	**Saint-Julien-l**	**1.91**	**284**	*e*Pn	Pn	23 06 43.8	-1.8
VIVF				*e*Sn	Sn	23 07 07.0	-3.2
	0.8nm,0.4s						
PGF	**Pioggiola**	**2.25**	**145**	*e*Pn	Pn	23 06 48.5	-1.9
PGF				*e*Sn	Sn	23 07 15.1	-3.8
	0.5nm,0.2s						
PGF	**Pioggiola**	**2.25**	**145**	*e*Pn	Pn	23 06 48.5	-1.9
PGF				*e*Sn	Sn	23 07 15.1	-3.8
	0.2nm,0.2s						

IDC ***04*** *23:07:12.4±1.1, 35°.27S×73°.79W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/27, mbtmp4.0/5, ML3.5/2, Error ellipse: s-maj=41.2km s-min=25.8km az=107.0*
ISCJB ***04*** *23:07:15.7±1.1, 35°.2S±0°.2×73°.7W±0°.3, h33km, mb4.1/4, Error ellipse: s-maj=31.8km s-min=18.3km az=27.4*

ISC 04 23:07:17.6±1.1, 35°.2S±0°.2×73°.7W±0°.2, h35km, n9, σ0°.41/10, mb4.1/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.83**	**53**	Pn	**Pn**	**23 08 41.9**	**+0.2**
	0.2nm,0.3s,baz=234,slow=12,SNR=4.4						
LPAZ	**La Paz**	**19.50**	**16**	P	**Pn**	**23 11 43.5**	**-0.4**
	0.2nm,0.3s,baz=184,slow=10,SNR=3.7						
SIV	**San Ignacio**	**22.25**	**34**	P	**P**	**23 12 11.3**	**-0.2**
	3.2nm,0.8s,baz=240,slow=14,SNR=3.9						
QSPA	**South Pole Qui**	**55.02**	**180**	P	**P**	**23 16 45.4**	**-0.1**
	3.5nm,0.9s,baz=137,slow=4.3,SNR=5.4						
TXAR	**Lajitas Array**	**70.13**

0.8nm,1.0s,baz=68,slow=9.3,SNR=6.0
FX1 Attu Island--F 64.43 4 LR LR 23 45 26.6
comp=Z,296nm,19.3s,baz=81,slow=33
SEY Seymchan 75.07 353 P **P 23 20 56.7 0.0**
0.9nm,0.3s,baz=152,slow=5.1,SNR=6.4
SONM Songino Array 79.55 324 P **P 23 21 23.1 +1.0**
0.3nm,0.5s,baz=140,slow=5.3,SNR=8.2
ILAR Eielson Array 83.75 18 P **P 23 21 43.4 0.0**
1.9nm,0.8s,baz=238,slow=4.8,SNR=21
MKAR Makanchi Array 94.44 317 P **P 23 22 34.7 +0.3**
0.9nm,0.6s,baz=86,slow=6.3,SNR=17
YKA Yellowknife Ar 95.06 27 P **P 23 22 35.7 -1.1**
0.3nm,0.5s,baz=259,slow=4.8,SNR=6.9
ARCES ARCESS Array B 117.03 346 PKP **PKPdf 23 27 56.5 -0.7**
3.2nm,0.9s,baz=34,slow=1.6,SNR=6.3
FINES FINESS Array B 122.54 339 PKP **PKPdf 23 28 07.4 -0.6**
0.4nm,0.5s,baz=66,slow=2.3,SNR=5.0
ESDC Sonseca Array 150.77 345 PKPbc **PKPbc 23 29 07.0 +1.2**
0.1nm,0.4s,baz=16,slow=3.5,SNR=4.0
ESDC PKPab **PKPab 23 29 13.7 +0.1**
0.4nm,0.5s,baz=10,slow=4.1,SNR=4.3

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*IDC **04** 23:12:37.1±2.6, 6°.36N×126°.34E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/43, mbtmp3.3/3, Error ellipse: s-maj=226.7km s-min=25.7km az=66.0*
*ISCJB **04** 23:12:49.2±1.0, 5°.72N±0°.07×126°.42E±0°.10, h71km, mb3.2/3, Error ellipse: s-maj=14.9km s-min=8.8km az=154.2*
*MAN **04** 23:13:03, 6°.53N×125°.71E, h32km, mb4.6, ML3.5, MS3.4*
ISC 04 23:12:50.9±1.4, 5°.72N±0°.10×126°.3E±0°.1, h71km, n8, σ1§53/8, mb3.3/3, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.22**	**357**	*eP*	Pn	23 13 17.1	+4.8
MATI				*eS*	**Sn**	**23 13 26.4**	**-1.8**
GSPH	**General Santos**	**1.41**	**285**	⇑*iP*	Pn	23 13 16.2	+1.4
GSPH				*i* S	**Sn**	**23 13 33.2**	**+0.4**
DMPH	**Davao City--Mi**	**1.57**	**329**	⇑*eP*	**Pn**	**23 13 19.0**	**+2.0**
DMPH				*eS*	**Sn**	**23 13 37.4**	**+0.9**
BUKP	**Musuan**	**2.48**	**330**	*eP*	**Pn**	**23 13 29.0**	**-0.2**
BUKP				*eS*	Sn	23 13 42.2	-16
CTBH	**Cotabato--PC H**	**2.54**	**306**	⇓*iP*	**Pn**	**23 13 28.2**	**-1.7**
WRA	**Warramunga Arr**	**26.70**	**163**	P	**P**	**23 18 23.3**	**-0.4**
	0.8nm,1.0s,baz=343,slow=9.8,SNR=6.6						
ASAR	**Alice Springs**	**30.13**	**166**	P	**P**	**23 18 54.6**	**+0.4**
	0.4nm,0.6s,baz=346,slow=7.4,SNR=3.4						
MKAR	**Makanchi Array**	**55.70**	**325**	P	P	23 22 11.6	-8.5
	0.1nm,0.3s,baz=115,slow=8.5,SNR=3.7						

IDC 04 23:18:53.0±3.0, 23°.36S×68°.68W, h0km, mb4.1/1, mb1 3.9/3, mb1mx3.6/33, mbtmp3.9/3, ML3.5/2, Error ellipse: s-maj=79.9km s-min=51.8km az=90.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.06**	**4**	Pn	Pn	23 20 38.2	-0.2
	0.2nm,0.3s,baz=196,slow=8.2,SNR=4.3						
SIV	**San Ignacio**	**10.25**	**46**	Pn	Pn	23 21 21.3	-0.1
	1.6nm,0.3s,baz=249,slow=8.6,SNR=16						
TORD	**Torodi Ar. Bea**	**77.78**	**70**	P	P	23 30 52.6	+0.1
	1.0nm,0.5s,baz=252,slow=5.3,SNR=17						
MKAR	**Makanchi Array**	**146.99**	**38**	PKPbc	PKPbc	23 38 36.8	-0.8
	0.7nm,0.8s,baz=318,slow=1.9,SNR=7.5						

IDC 04 23:37:07.6±24.0, 35°.14S×74°.13W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/25, mbtmp3.8/2, Error ellipse: s-maj=944.1km s-min=53.3km az=26.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**69.92**	**333**	P	P	23 48 20.6	-0.1
	0.5nm,0.7s,baz=150,slow=9.4,SNR=5.8						
TORD	**Torodi Ar. Bea**	**86.21**	**71**	P	P	23 49 50.8	-0.5
	0.7nm,0.9s,baz=245,slow=4.5,SNR=3.8						
MKAR	**Makanchi Array**	**158.81**	**50**	PKPab	PKPab	23 57 43.2	+0.2
	0.4nm,0.6s,baz=294,slow=3.3,SNR=5.9						

IDC 04 23:45:16.0±11.0, 17°.01S×178°.76W, h440km±123km, mb3.0/4, mb1 3.4/4, mb1mx3.1/29, mbtmp3.8/4, 3C, Error ellipse: s-maj=107.6km s-min=39.3km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.48**	**259**	P	P	23 52 46.2	-0.7
	0.4nm,0.7s,baz=95,slow=7.1,SNR=5.4						
ASAR	**Alice Springs**	**44.72**	**253**	P	P	23 52 49.0	+0.2
	4.5nm,0.6s,baz=89,slow=8.1,SNR=71						
ILAR	**Eielson Array**	**85.09**	**13**	P	P	23 57 03.6	-0.1
	0.2nm,0.3s,baz=223,slow=5.6,SNR=9.3						
TXAR	**Lajitas Array**	**85.80**	**58**	P	P	23 57 08.1	-0.1
	0.3nm,0.7s,baz=233,slow=5.5,SNR=3.1						
BRTR	**Keskin Array B**	**143.91**	**315**	PKP	PKPbc	00 03 59.5	-0.2
	0.9nm,0.8s,baz=142,slow=6.3,SNR=5.8						
GERES	**GERESS Array B**	**146.66**	**345**	PKPbc	PKPbc	00 04 07.0	-0.5
	1.0nm,0.4s,baz=29,slow=2.8,SNR=12						
CSNA	**Conrad Observa**	**146.91**	**342**	⇑*i*PKPbc	PKPbc	00 04 08.1	-0.1
	1.0nm,0.4s						
KBA	**Koelnbreinsper**	**148.38**	**344**	⇑*i*PKPdf	PKPdf	00 04 07.6	-0.4
	2.5nm,0.4s						
FETA	**Feichten**	**149.06**	**347**	⇑*i*PKPbc	PKPbc	00 04 13.2	-0.6
	3.3nm,0.9s						

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*IDC **04** 23:47:41.9±1.6, 24°.82S×65°.43W, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.4/25, mbtmp3.4/4, ML3.6/3, Error ellipse: s-maj=54.1km s-min=31.0km az=121.0*
*ISCJB **04** 23:47:42.7±2.3, 24°.68S±0°.07×65°.8W±0°.2, h25km±14km, mb3.2/1, Error ellipse: s-maj=30.3km s-min=10.8km az=7.4*
*SJA **04** 23:47:42.5±0.6, 24°.91S×65°.71W, h4km±4km, ML3.3*
ISC 04 23:47:44.4±1.8, 24°.77S±0°.07×65°.7W±0°.1, h18km±9km, n11, σ1§16/14, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**0.18**	**75**	*i* P	**Pg**	**23 47 48.7**	**-0.5**
SLA				*i* S	**Sb**	**23 47 53.3**	**+1.3**
SLA				AML	AML	23 47 54.0	
	comp=Z,4μm,0.2s						
AZAP	**Zapla**	**0.79**	**47**	*i* P	**Pn**	**23 48 00.9**	**0.0**
AZAP				*i* P	**Pn**	**23 48 00.9**	**0.0**
ASTB	**Santa Barbara**	**1.37**	**54**	*i* P	**Pg**	**23 48 12.0**	**+1.1**
ALOL	**LOMAS DE OLMED**	**1.83**	**59**	*i* P	**Pb**	**23 48 18.1**	**+0.6**
AHML	**Horco Molle**	**2.04**	**171**	*i* P	**Pn**	**23 48 18.1**	**+0.1**
AHML				*i* S	**Sn**	**23 48 44.1**	**+1.2**
AHML				AML	AML	23 48 50.4	
	comp=Z,308nm,0.3s						
CFAA	**Coronel Fontan**	**7.17**	**198**	Pn	**Pn**	**23 49 29.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=3.8,slow=14,SNR=4.4						
CFAA				Lg	Lg	23 51 25.5	
	comp=Z,0.1nm,0.3s,baz=313,slow=19,SNR=3.8						
CPUP	**Villa Florida**	**7.71**	**103**	Pn	**Pn**	**23 49 34.0**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=282,slow=8.4,SNR=4.0						
CPUP				Lg	Lg	23 51 44.4	
	comp=Z,3.7nm,0.3s,baz=180,slow=20,SNR=3.4						
SIV	**San Ignacio**	**9.74**	**27**	Pn	**Pn**	**23 50 04.3**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=212,slow=12,SNR=13						
TORD	**Torodi Ar. Bea**	**75.74**	**68**	P	**P**	**23 59 27.3**	**-2.2**
	comp=Z,0.2nm,0.6s,baz=235,slow=3.4,SNR=3.5						
WRA	**Warramunga Arr**	**131.47**	**205**	PKP	**PKPdf**	**00 06 57.0**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=158,slow=1.9,SNR=5.1						
MKAR	**Makanchi Array**	**146.34**	**41**	PKPbc	**PKPab**	**00 07 24.7**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=323,slow=2.8,SNR=4.4						

IDC 04 23:52:28.6±2.8, 23°.39S×68°.38W, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/22, mbtmp3.8/4, ML3.7/2, MS4.1/1, Ms1 4.1/1, ms1mx3.4/21, Error ellipse: s-maj=60.6km s-min=50.9km az=75.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.07**	**2**	Pn	Pn	23 54 14.0	-0.2
	0.5nm,0.3s,baz=186,slow=8.0,SNR=9.6						
SIV	**San Ignacio**	**10.07**	**44**	Pn	Pn	23 54 54.6	-0.1
	1.2nm,0.3s,baz=246,slow=12,SNR=6.5						
SIV				Sn	Sn	23 56 36.4	-12
	0.4nm,0.3s,baz=156,slow=20,SNR=3.9						
BDFB	**Brasilia**	**20.67**	**72**	P	P	23 57 10.4	0.0
	2.1nm,0.6s,baz=246,slow=12,SNR=3.8						
USHA	**Ushuaia**	**31.40**	**180**	LR	LR	00 13 45.0	
	comp=Z,349nm,19.5s,baz=272,slow=41						
TORD	**Torodi Ar. Bea**	**77.54**	**70**	P	P	00 04 26.9	+0.1
	0.7nm,0.4s,baz=256,slow=5.3,SNR=34						
MKAR	**Makanchi Array**	**146.84**	**38**	PKPbc	PKPbc	00 12 12.0	-0.8
	0.3nm,0.5s,baz=321,slow=2.6,SNR=5.4						

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*ISCJB **05** 00:07:59.0±1.6, 22°.5S±0°.2×68°.1W±0°.1, h100km, mb3.7/2, Error ellipse: s-maj=24.9km s-min=16.8km az=146.5*
*IDC **05** 00:08:02.2±6.2, 22°.27S×68°.23W, h116km±47km, mb3.6/3, mb1 3.5/5, mb1mx3.4/18, mbtmp3.8/5, Error ellipse: s-maj=62.2km s-min=30.8km az=3.0*
ISC 05 00:08:01.2±1.3, 22°.4S±0°.2×68°.1W±0°.1, h100km, n9, σ1§72/10, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.11**	**0**	P	**Pn**	**00 09 29.8**	**+0.2**
	0.7nm,0.3s,baz=189,slow=7.8,SNR=16						
SIV	**San Ignacio**	**9.24**	**47**	P	**Pn**	**00 10 11.4**	**-0.4**
	0.9nm,0.3s,baz=240,slow=14,SNR=7.8						
SIV				S	**Sn**	**00 11 53.3**	**-0.8**
	0.2nm,0.3s,baz=274,slow=16,SNR=5.5						
BDFB	**Brasilia**	**20.17**	**74**	P	**P**	**00 12 27.8**	**-0.2**
	2.6nm,0.6s,baz=261,slow=12,SNR=4.6						
TORD	**Torodi Ar. Bea**	**76.99**	**70**	P	**P**	**00 19 43.6**	**+0.1**
	0.9nm,0.4s,baz=252,slow=5.5,SNR=28						
TORD				pP	**pP**	**00 20 13.1**	**+3.9**
	0.9nm,0.7s,baz=250,slow=4.9,SNR=3.8						
YKA	**Yellowknife Ar**	**92.30**	**340**	P	P	00 20 57.0	-2.7
	0.3nm,0.8s,baz=129,slow=4.9,SNR=5.4						
ASAR	**Alice Springs**	**129.41**	**206**	PKP	**PKPdf**	**00 26 57.6**	**-1.3**
	0.4nm,0.7s,baz=109,slow=4.2,SNR=3.4						
WRA	**Warramunga Arr**	**132.51**	**209**	PKP	**PKPdf**	**00 27 03.3**	**-1.5**
	0.2nm,0.5s,baz=162,slow=1.8,SNR=6.0						
ZALV	**Zalesovo Beam**	**142.48**	**26**	PKP	**PKPdf**	**00 27 21.9**	**-0.1**
	0.2nm,0.3s,baz=321,slow=1.8,SNR=2.6						
MKAR	**Makanchi Array**	**145.95**	**37**	PKPbc	**PKPdf**	**00 27 27.4**	**-1.0**
	0.4nm,0.6s,baz=305,slow=3.5,SNR=5.7						

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*CSEM **05** 00:26:40.6±0.2, 67°.81N×20°.25E, h2km, ML0.9, Error ellipse: s-maj=4.1km s-min=3.7km az=150.0, Mining explosion.*
*HEL **05** 00:26:41.6±0.0, 67°.83N×20°.19E, h0km, ML1.5, ML0.9(UPP), Explosion*
UPP 05 00:26:41.0, 67°.83N×20°.19E, h0km, ML0.9, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**24**	*i* P	Pg	00 26 43.8	+0.2
KUA				*i* S	Sg	00 26 45.9	+0.4
KUA	**Kurravaara**	**0.14**	**24**	P	Pg	00 26 43.8	+0.1
KUA				S	Sg	00 26 45.8	+0.3
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	00 26 49.4	0.0
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	00 26 49.4	-0.1
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	00 26 54.4	-0.3
	baz=262						
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 26 54.4	-0.3
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	00 26 54.5	-0.4
DUNU	**Dundret**	**0.73**	**168**	P	Pg	00 26 54.5	-0.5
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 26 55.9	-0.2
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 26 55.9	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 26 55.8	-0.3
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 26 55.8	-0.3
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*PB	Pg	00 27 04.2	+0.2
KIF				*e*SB	Sb	00 27 20.5	-0.1
KIF	**Kilpisjarvi**	**1.20**	**11**	Pb	Pg	00 27 04.1	+0.1
KIF				Sb	Sb	00 27 20.5	-0.1
HEF	**Hetta**	**1.42**	**64**	*e*PG	Pn	00 27 07.1	-1.0
	baz=252						
HEF	**Hetta**	**1.42**	**64**	Pg	Pn	00 27 07.1	-1.0
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PG	Pn	00 27 08.8	-0.3
ERTU	**Ertsjaerv**	**1.50**	**148**	Pg	Pn	00 27 08.8	-0.3
SGF	**Sodankyl**	**2.45**	**96**	*e*PG	Pb	00 27 24.9	-1.0
SGF	**Sodankyl**	**2.45**	**96**	Pg	Pb	00 27 24.9	-1.0
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	00 27 25.9	+2.0
RNF				MSG	Sg	00 28 00.4	-3.3
	comp=Z,1.5nm,0.2s						
RNF				*e*SG	Sg	00 28 00.4	-3.3
RNF	**Rovaniemi**	**2.58**	**116**	Pb	Pn	00 27 25.8	+1.9
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*P	Pn	00 27 24.4	+0.3
	baz=226						
ARA0				*e*SG	Sb	00 28 01.2	+0.6
ARA0				MSG		00 28 01.2	
	comp=Z,1.5nm,0.3s						
ARA0	**ARCESS Array S**	**2.59**	**46**	Sg	Sb	00 28 01.2	+0.6
	comp=Z,1.5nm,0.3s						
ARA0	**ARCESS Array S**	**2.59**	**46**	P	Pn	00 27 24.4	+0.3

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*CSEM **05** 00:26:43.9±0.8, 67°.60N×20°.89E, h1km, ML1.1, Error ellipse: s-maj=46.7km s-min=13.4km az=25.0, Mining explosion.*
UPP 05 00:26:49.6, 68°.05N×20°.11E, h0km, ML1.1, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**139**	P	Pg	00 26 52.4	+0.2
NIKU	**Nikkaluokta**	**0.45**	**246**	P	Pg	00 26 58.1	0.0
LANU	**Lannavaara**	**0.71**	**89**	P	Pg	00 27 02.9	-0.3
LANU	**Lannavaara**	**0.71**	**89**	S	Pg	00 27 02.8	-0.4
LANU	**Lannavaara**	**0.71**	**89**	*e*S	Pg	00 27 02.8	-0.4

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*NIED **05** 00:44:00, 20°.50N×122°.10E, h23km, Mw4.7 Best double couple: M0 1.43000×10^16 NP1:φs 152.00000°, δ31.00000°, λ-35.00000°. NP2:φs 273.00000°, δ73.00000°, λ-116.00000°.*
*MAN **05** 00:44:38, 20°.33N×122°.09E, h32km, mb5.6, ML4.6, MS4.9*
MAN INTENSITY IV - BASCO ITBAYAT & SABTANG BATANES.
*IDC **05** 00:44:38.8±3.0, 20°.15N×122°.17E, h18km±17km, mb4.2/19, mb1 4.3/21, mb1mx4.3/26, mbtmp4.3/21, ML3.7/2, MS4.0/7, Ms1 4.0/7, ms1mx3.6/29, Error ellipse: s-maj=19.0km s-min=15.2km az=78.0*
*ISCJB **05** 00:44:39.3±0.8, 20°.28N±0°.01×122°.09E±0°.03, h26km±6km, mb4.6/76, MS4.0/9, Error ellipse: s-maj=4.4km s-min=2.3km az=14.7*
*MOS **05** 00:44:39.7±1.3, 20°.13N×122°.08E, h33km, mb4.9/28, Error ellipse: s-maj=10.8km s-min=5.9km az=110.9*
*BJI **05** 00:44:41.2, 20°.43N×121°.86E, h14km, mB4.7/35, mb4.4/41, ML4.3/2, Ms4.5/46, Ms7 4.3/41*
*JMA **05** 00:44:41.0±0.4, 20°.47N×122°.11E, h17km, M4.9*
*NEIC **05** 00:44:42.1±0.2, 20°.24N×122°.09E, h35km, mb4.7/41, Error ellipse: s-maj=6.4km s-min=4.4km az=105.0*
NEIC Felt [IV PIVS] at Basco, Itbayat and Sabtang.
*BKK **05** 00:44:44.8±0.6, 20°.N±4°.×12°.2E±°, h10km, M4.9/20, mB5.2/8, mb4.4/20, MLv5.5/1, Mw(mB)4.6/8*
ISC 05 00:44:42.7±0.3, 20°.24N±0°.03×122°.10E±0°.04, h35km±2km, n225, σ1§80/268, mb4.6/77, MS4.0/9, 17C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.99**	**182**	*e*P	**Pn**	**00 45 11.8**	**-2.0**
PIP	**Pasuquin**	**2.36**	**217**	⇑*iP*	**Pn**	**00 45 16.3**	**-2.7**
PIP				*e*S	**Sn**	**00 45 45.3**	**-1.5**
APYP	**Conner**	**2.50**	**199**	*e*P	**Pn**	**00 45 18.8**	**-2.1**
CVP	**Callao Caves**	**2.54**	**186**	*e*P	**Pn**	**00 45 20.0**	**-1.4**
CVP				*e*S	**Sn**	**00 45 50.8**	**-0.2**
TWG	**Pinlang**	**2.74**	**340**	*e*Pn	**Pn**	**00 45 22.5**	**-1.7**
TWG				*e*Sn	**Sn**	**00 45 51.8**	**-4.4**
SIPP	**Brgy, Tapao**	**2.78**	**214**	⇑*eP*	**Pn**	**00 45 23.9**	**-0.9**
SIPP				*i* S	Sn	00 46 09.5	+12
ABRA	**Dolores**	**2.89**	**207**	*e*P	**Pn**	**00 45 25.4**	**-0.8**
ABRA				*e*S	Sn	00 45 52.8	-7.1
SZP	**Santa**	**3.09**	**210**	*e*Pn	**Pn**	**00 45 28.4**	**-0.6**
SZP				*e*Sn	**Sn**	**00 46 05.2**	**+0.4**
YULB	**Yu-li**	**3.23**	**347**	*e*Pn	**Pn**	**00 45 28.6**	**-2.4**
YULB				*e*Sn	**Sn**	**00 46 06.2**	**-1.9**
TPUB	**Ta-pu**	**3.34**	**336**	*e*Pn	**Pn**	**00 45 32.1**	**-0.4**
TPUB				*e*Sn	**Sn**	**00 46 09.5**	**-1.4**
SSLB	**Suanglung**	**3.69**	**343**	*e*Pn	**Pn**	**00 45 36.7**	**-0.6**
SSLB				*e*Sn	**Sn**	**00 46 18.5**	**-1.1**
NACB	**Ninganchiao**	**3.94**	**353**	*e*Pn	**Pn**	**00 45 38.5**	**-2.3**
NACB				*e*Sn	**Sn**	**00 46 22.4**	**-3.4**
BCPH	**Baguio City Da**	**4.10**	**201**	⇑*iP*	**Pn**	**00 45 40.6**	**-2.4**
BCPH				*i* S	**Sn**	**00 46 30.5**	**+0.6**
HATJ	**Hateruma jima**	**4.12**	**22**	P	**Pn**	**00 45 42.1**	**-1.0**
HATJ				*e*S	**Sn**	**00 46 27.4**	**-2.6**
JYNG	**Yonagunijimaku**	**4.26**	**10**	P	**Pn**	**00 45 44.0**	**-1.2**
JYNG				*e*S	**Sn**	**00 46 31.5**	**-2.2**
YOJ	**Yonaguni jima**	**4.29**	**11**	*e*P	**Pn**	**00 45 44.4**	**-1.1**
YOJ				*e*		00 46 33.0	
YOJ	**Yonaguni jima**	**4.29**	**11**	P	**Pn**	**00 45 45.0**	**-0.5**
YOJ				*e*S	**Sn**	**00 46 32.6**	**-1.6**
YOJ	**Yonaguni jima**	**4.29**	**11**	*e*Pn	**Pn**	**00 45 44.4**	**-1.1**
YOJ				*e*Sn	**Sn**	**00 46 33.0**	**-1.2**
IRIF	**Iriomote-Funau**	**4.35**	**20**	P	**Pn**	**00 45 45.3**	**-1.0**
IRIF				*e*S	**Sn**	**00 46 33.7**	**-2.0**
JKRS	**Kuro-shima**	**4.35**	**24**	P	**Pn**	**00 45 45.8**	**-0.6**
JKRS				*e*S	**Sn**	**00 46 33.8**	**-2.1**
BOLP	**Bolinao**	**4.36**	**209**	*e*P	**Pn**	**00 45 46.8**	**+0.2**
YHNB	**Yeheng**	**4.46**	**351**	*e*Pn	**Pn**	**00 45 47.0**	**-1.0**
YHNB				*e*Sn	**Sn**	**00 46 36.4**	**-2.3**
BALP	**Baler**	**4.50**	**186**	*e*P	**Pn**	**00 45 47.6**	**-0.8**
JIJ	**Ishigaki jima**	**4.52**	**24**	P	**Pn**	**00 45 47.1**	**-1.6**
JIJ				*e*S	**Sn**	**00 46 36.8**	**-3.2**
TATO	**Taipei**	**4.75**	**353**	*e*Pn	**Pn**	**00 45 52.0**	**+0.2**
TATO				*e*Sn	**Sn**	**00 46 43.4**	**-2.2**
PCPH	**Palayan**	**4.75**	**192**	⇑*eP*	**Pn**	**00 45 51.3**	**-0.5**
PCPH				*e*S	**Sn**	**00 46 46.7**	**+1.1**
JISG	**Ishigakijimahi**	**4.79**	**25**	P	**Pn**	**00 45 50.9**	**-1.4**
JISG				*e*S	**Sn**	**00 46 43.7**	**-2.9**
JTJ	**Tarama**	**5.00**	**28**	P	**Pn**	**00 45 55.0**	**-0.2**
JTJ				*e*S	**Sn**	**00 46 49.7**	**-2.1**
JIRB	**Irabujima**	**5.38**	**31**	P	**Pn**	**00 45 59.6**	**-0.9**
JIRB				*e*S	**Sn**	**00 47 00.2**	**-0.9**
QZH	**Quanzhou**	**5.70**	**326**	⇑*i*Pn	**Pn**	**00 46 03.0**	**-1.8**
QZH				Sn	**Sn**	**00 47 05.2**	**-3.8**
QZH				SMN			
	180nm,0.8s						
QZH				SME			
	230nm,1.1s						
QZH				LN			
	2μm,8.8s						
QZH				LE			
	3μm,11.2s						
QZH				LZ			
	3μm,10.6s						
GQP	**Guinayangan**	**6.31**	**177**	⇑*eP*	**Pn**	**00 46 13.4**	**+0.2**
GQP				*i* S	**Sn**	**00 47 23.3**	**-0.8**
GZH	**Guangzhou**	**8.62**	**291**	P	Pn	00 46 40.3	-4.7
GZH				S	Sn	00 48 29.8	+8.7
JOW	**Kunigami**	**8.67**	**40**	Pn	**Pn**	**00 46 44.8**	**-0.8**
	1.4nm,0.3s,baz=245,slow=11,SNR=15						
JOW	**Kunigami**	**8.67**	**40**	*e*Pn	**Pn**	**00 46 43.9**	**-1.8**
QIZ	**Qiongzhong**	**11.61**	**266**	P	**Pn**	**00 47 25.6**	**-0.5**
QIZ				S	**Sn**	**00 49 34.6**	**+0.1**
QIZ				PMZ			
	16nm,1.3s						
QIZ				LN			
	1μm,14.4s						
QIZ				LZ			
	820nm,14.4s						
QIZ	**Qiongzhong**	**11.61**	**266**	*e*Pn	**Pn**	**00 47 27.9**	**+1.8**
NJ2	**Nanjing**	**12.12**	**347**	*e*P	**Pn**	**00 47 31.3**	**-1.6**
NJ2				S	**Sn**	**00 49 47.0**	**+2.0**
NJ2				sS		00 49 57.0	
NJ2				PMZ			
	20nm,0.9s						
NJ2				LN			
	1μm,12.8s						
NJ2				LE			
	930nm,14.0s						
JNU	**Nakatsue**	**15.03**	**30**	P	**P**	**00 48 19.5**	**+2.0**
JNU	**Nakatsue**	**15.03**	**30**	Pn	**P**	**00 48 19.4**	**+1.9**
	0.8nm,0.3s,baz=217,slow=11,SNR=15						
JNU	**Nakatsue**	**15.03**	**30**	*e*Pn	**P**	**00 48 16.9**	**-0.6**
ENH	**Enshi**	**15.15**	**314**	*e*Pn	**Pn**	**00 48 13.3**	**-0.9**
	12nm,1.1s						
KKM	**Kota Kinabalu**	**15.22**	**203**	*e*Pn	**Pn**	**00 48 16.0**	**+0.7**
	34nm,1.3s						
MYLDM	**Lahad Datu**	**15.37**	**194**	*e*Pn	**Pn**	**00 48 19.1**	**+2.0**
	30nm,1.1s						
GYA	**Guiyang**	**15.46**	**296**	P	**Pn**	**00 48 18.0**	**-0.4**
GYA				pP	**P**	**00 48 25.4**	**+2.9**
GYA				PP	**pP**	**00 48 31.0**	**-0.7**
GYA				S	**Sn**	**00 51 07.8**	**-0.8**
GYA				PMZ			
	20nm,0.8s						
GYA				PMZ			
	110nm,4.8s						
GYA				LN			
	420nm,14.5s						
GYA				LE			
	390nm,13.6s						
GYA				LZ			
	450nm,12.0s						
SLVN	**Son La**	**17.05**	**277**	*e*Pn	**Pn**	**00 48 35.8**	**-2.8**
	24nm,1.4s						
INCN	**Inchon**	**17.63**	**12**	*e*Pn	**Pn**	**00 48 42.1**	**-3.5**
	31nm,0.8s						
KSAR	**Wonju Array Be**	**17.87**	**15**	P	**Pn**	**00 48 48.6**	**+0.1**
KSAR	**Wonju Array Be**	**17.87**	**15**	P	**Pn**	**00 48 48.6**	**+0.1**
KSRS	**Korea Array**	**17.89**	**15**	P	**Pn**	**00 48 48.6**	**-0.1**
	0.8nm,0.3s,baz=195,slow=12,SNR=48						
KSRS				LR	LR	00 56 18.5	
	comp=Z,483nm,18.6s,baz=194,slow=39						
KS01	**Wonju Array Si**	**17.90**	**15**	*e*Pn	**P**	**00 48 49.4**	**+0.1**
JWZ	**Kozaga**	**17.94**	**40**	P	**P**	**00 48 53.2**	**+3.5**
XAN	**

comp=Z,70nm,1.2s,comp=Z,16μm
PAYA Payao 20.94 271 P Pn 00 49 26.2 +0.9
comp=Z,9.9nm,1.3s
SUKH Sukhothai 21.44 266 P **P** **00 49 32.1 +4.1**
comp=Z,4.0nm,1.0s
MAJO Matsushiro 21.50 38⇑ *eP* **P** **00 49 32.6 +4.1**
MAJO pmax pmax
comp=Z,310nm,1.7s
MAJO Matsushiro 21.50 38 *eP* **P** **00 49 27.4 -1.1**
comp=Z,180nm,2.1s
MAT Matsushiro 21.50 38 P **P** **00 49 29.1 +0.6**
MAT *eS* **S** **00 53 25.4 +0.3**
MAT Matsushiro 21.50 38 P **P** **00 49 32.2 +3.7**
MJAR Matsushiro Arr 21.50 38 P **P** **00 49 30.8 +2.2**
comp=Z,10.0nm,0.8s,baz=224,slow=9.6,SNR=19
MJAR LR LR 00 57 52.9
comp=Z,186nm,21.3s,baz=160,slow=37
JRY Ryogami san 21.55 40 P **P** **00 49 31.7 +2.7**
CMAI Chiengmai2 21.66 273 P P 00 49 39.7 +9.2
CMMT Chiang Mai 21.87 270 P **P** **00 49 34.7 +2.1**
comp=Z,19nm,1.6s
CHTO Chiang Mai 21.87 270 *eP* **P** **00 49 32.7 +0.1**
CHTO pmax pmax
comp=Z,18nm,1.1s
CHTO MLR MLR
comp=Z,300nm,18.0s
CHTO Chiang Mai 21.87 270 P **P** **00 49 34.8 +2.2**
comp=Z,67nm,1.6s
CHTO Chiang Mai 21.87 270 *eP* **P** **00 49 32.7 +0.1**
comp=Z,18nm,1.1s
CM01 Chiang Mai Arr 21.91 269 *eP* **P** **00 49 33.1 0.0**
CMAR Chiang Mai Arr 21.92 269 *ceP* **P** **00 49 33.5 +0.3**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 21.92 269 P **P** **00 49 32.4 -0.8**
comp=Z,5.9nm,0.8s,baz=72,slow=8.4,SNR=26
CMAR PcP **PcP** **00 53 31.8 +0.2**
comp=Z,0.9nm,0.4s,baz=104,slow=1.2,SNR=4.6
CMAR ScP **ScP** **00 57 06.4 +0.1**
comp=Z,0.8nm,0.3s,baz=104,slow=1.6,SNR=6.5
KSM Kuching 21.93 213 *eP* **P** **00 49 32.1 -1.1**
comp=Z,45nm,1.2s
UTHA Uthaitani 22.05 261 P **P** **00 49 36.5 +2.0**
comp=Z,5.2nm,1.1s,comp=Z,131nm
MTKI Muara Teweh, K 22.20 199 P **P** **00 49 39.7 +3.5**
comp=Z,78nm,0.7s
HHC Hu-ho-hao-te 22.42 339 *eP* **P** **00 49 38.9 +0.4**
HHC sP **sP** **00 49 52.6 +0.2**
HHC PP **PnPn** **00 50 07.2 +5.0**
HHC S **S** **00 53 41.8 -0.8**
HHC SS **SnSn** **00 54 20.6 +8.1**
HHC PMZ
comp=Z,34nm,1.0s
HHC PMZ
comp=Z,190nm,5.2s
HHC LN
comp=Z,910nm,13.5s
HHC LE
comp=Z,1μm,13.1s
HHC LZ
comp=Z,850nm,15.7s
SRDT SRDT 22.70 259 P P 00 49 48.4 +6.9
comp=Z,40nm,0.8s,comp=Z,2μm
BTO Baotou 22.77 336 *eP* **P** **00 49 41.3 -0.9**
CN2 Changchun 23.66 6 *eP* **P** **00 49 52.3 +1.4**
CN2 *eS* **S** **00 54 02.9 -0.3**
CN2 PMZ
comp=Z,10.0nm,1.0s
CN2 PMZ
comp=Z,400nm,13.0s
CN2 LN
comp=Z,800nm,16.0s
CN2 LE
comp=Z,500nm,16.0s
CN2 LZ
comp=Z,400nm,19.0s
JYA Atsumi 23.80 36 P **P** **00 49 53.7 +1.5**
JMM Marumori 23.91 39 P **P** **00 49 54.6 +1.3**
BBKI Banjar Baru 24.61 198 P **P** **00 50 04.1 +4.2**
comp=Z,55nm,1.4s,comp=Z,2μm
MDJ Mudanjiang 25.09 13 P **P** **00 50 07.1 +3.1**
MDJ pP **pP** **00 50 15.2 +1.1**
MDJ sP **sP** **00 50 19.3 +0.9**
MDJ PcP **PcP** **00 53 36.6 -1.2**
MDJ S **S** **00 54 28.6 +2.4**
MDJ ScP **ScP** **00 57 15.0 +0.7**
MDJ PcS **PcS** **00 57 18.8 +0.8**
MDJ ScS **ScS** **01 01 04.4 +1.8**
MDJ PMZ
comp=Z,15nm,0.9s
MDJ PMZ
comp=Z,43nm,4.9s
MDJ LN
comp=Z,580nm,21.5s
MDJ LE
comp=Z,1μm,18.4s
MDJ LZ
comp=Z,450nm,23.1s
MDJ Mudanjiang 25.09 13 *eP* **P** **00 50 03.2 -0.8**
comp=Z,20nm,1.1s
KAPI Kappang 25.20 186 *eP* **P** **00 50 06.1 +0.9**
comp=Z,20nm,1.0s
USRK Ussuriysk Ar. 25.27 17 P **P** **00 50 04.8 -0.8**
comp=Z,5.6nm,0.8s,baz=209,slow=10,SNR=11
USRK LR LR 01 00 57.1
comp=Z,292nm,18.6s,baz=179,slow=39
JOM Ohasama 25.29 37 P **P** **00 50 07.9 +2.1**
KULM Kulim 25.61 237 *eP* **P** **00 50 06.9 -2.0**
comp=Z,19nm,1.3s
BNDI Bandanaira 25.77 162 P P 00 50 15.7 +5.3
IPM Ipoh 25.81 235 *eP* **P** **00 50 08.7 -2.1**
comp=Z,16nm,0.8s
JTM Tenmabayashi 26.09 34 P **P** **00 50 14.8 +1.7**
GTA Gaotai 27.06 320 *eP* **P** **00 50 23.9 +1.9**
GTA pP **pP** **00 50 34.5 +2.4**
GTA S **S** **00 55 00.7 +3.1**
GTA PMZ
comp=Z,2.0nm,1.3s
GTA LN
comp=Z,400nm,15.7s
GTA LE
comp=Z,360nm,15.7s
GTA LZ
comp=Z,640nm,16.1s
HIA Hailar 29.02 357⇑ *eP* **P** **00 50 41.8 +2.5**
HIA pmax pmax
comp=Z,8.0nm,1.7s
ASAJ Asahikawa 29.30 31 P **P** **00 50 44.0 +2.2**
comp=Z,6.8nm,0.7s,baz=237,slow=17,SNR=3.8
LSA Lhasa 29.52 295 *eP* **P** **00 50 43.2 -1.3**
LSA pmax pmax
comp=Z,33nm,2.2s
LSA Lhasa 29.52 295 *eP* **P** **00 50 43.2 -1.3**
comp=Z,33nm,2.2s
KLR Kul'dur 29.94 13 *eP* **P** **00 50 45.8 -1.6**
ULN Ulaanbaatar 30.14 340⇓ *eP* **P** **00 50 49.0 -0.3**
ULN pmax pmax
comp=Z,12nm,1.7s
ULN Ulaanbaatar 30.14 340 *eP* **P** **00 50 48.5 -0.8**
comp=Z,5.5nm,0.9s
SONM Songino Array 30.33 339 P **P** **00 50 49.6 -1.4**
comp=Z,1.3nm,0.5s,baz=153,slow=8.0,SNR=12
SONM LR LR 01 03 25.0
comp=Z,228nm,21.5s,baz=127,slow=37
SONA1 Songino Array 30.34 339 *eP* **P** **00 50 50.1 -0.9**
YSS Yuzh-Sakhalins 31.52 28⇑ *eP* **P** **00 51 04.0 +2.6**
YSS *e* 00 51 10.1
TLY Talaya 34.55 340 *eP* **P** **00 51 29.1 +1.3**
TLY pmax pmax
comp=Z,3.0nm,0.7s
TLY MLR MLR
comp=Z,300nm,19.0s
TLY Talaya 34.55 340 *eP* **P** **00 51 29.1 +1.3**
comp=Z,2.6nm,0.7s
WMQ Urumqi 37.06 317 *eP* **P** **00 51 49.4 0.0**
WMQ PMZ
comp=Z,69nm,5.2s
WMQ LN
comp=Z,310nm,24.0s
WMQ LE
comp=Z,100nm,24.0s
WMQ LZ
comp=Z,200nm,24.0s
HVS Khovu-Aksy 38.05 331⇑ *eP* **P** **00 51 59.0 +1.2**
HVS pmax pmax
comp=Z,35nm,1.3s

MBWA Marble Bar 41.21 183 *eP* **P** **00 52 22.1 -2.1**
comp=Z,56nm,1.6s
WRAB Tennant Creek 41.69 163 *i P* **P** **00 52 25.5 -2.7**
WRAB Tennant Creek 41.69 163 *eP* **P** **00 52 25.9 -2.3**
comp=Z,16nm,0.9s
WRA Warramunga Arr 41.69 163 P **P** **00 52 25.4 -2.9**
comp=Z,8.5nm,0.7s,baz=343,slow=9.0,SNR=69
WRA ScP **ScP** **00 58 12.4 +0.3**
comp=Z,0.8nm,1.1s,baz=346,slow=4.2,SNR=5.3
MK01 Makanchi Array 41.78 319 *eP* **P** **00 52 29.5 +0.7**
MKAR Makanchi Array 41.80 319 *ceP* **P** **00 52 29.2 +0.3**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 41.80 319 P **P** **00 52 28.9 -0.1**
comp=Z,5.7nm,0.7s,baz=116,slow=8.8,SNR=40
MKAR Makanchi Array 41.80 319 *eP* **P** **00 52 29.4 +0.5**
H11N1 WAKE ISLAND Hy 42.00 83 T T 01 37 29.8
baz=278,slow=75,SNR=422
H11N2 WAKE ISLAND Hy 42.00 83 T T 01 37 30.0
baz=278,slow=75,SNR=202
H11S3 WAKE ISLAND Hy 42.01 85 T T 01 37 29.1
baz=280,slow=75,SNR=724
H11S1 WAKE ISLAND Hy 42.02 85 T T 01 37 29.9
baz=280,slow=75,SNR=829
H11N3 WAKE ISLAND Hy 42.02 83 T T 01 37 35.1
baz=278,slow=75,SNR=269
H11S2 WAKE ISLAND Hy 42.02 85 T T 01 37 30.5
baz=280,slow=75,SNR=508
PEA0 Petropavlovsk- 42.72 31 *eP* **P** **00 52 36.3 0.0**
PETK Petropavlovsk- 42.72 31 P **P** **00 52 36.3 0.0**
comp=Z,3.1nm,0.8s,baz=216,slow=7.1,SNR=3.3
KSH Kashi 43.84 306 P **P** **00 52 48.4 +2.8**
KSH sP **sP** **00 53 02.5 +2.2**
KSH PP **PcP** **00 54 32.4 +0.7**
KSH S **S** **00 59 17.3 +2.9**
KSH sS **sS** **00 59 34.4 +2.8**
KSH SS **SS** **01 02 25.3 -5.8**
KSH PMZ
comp=Z,9.0nm,1.4s
KSH PMZ
comp=Z,85nm,4.0s
KSH LN
comp=Z,160nm,5.5s
KSH LE
comp=Z,69nm,5.0s
KSH LZ
comp=Z,200nm,6.3s
ZAA0 Zalesovo Array 44.03 329 *eP* **P** **00 52 46.1 -0.7**
ZALV Zalesovo Beam 44.03 329 P **P** **00 52 45.8 -1.0**
comp=Z,3.7nm,0.6s,baz=118,slow=8.0,SNR=26
TKM2 Tokmak 2 44.92 311 *eP* **P** **00 52 54.4 0.0**
TKM2 pmax pmax
comp=Z,49nm,2.5s
TKM2 Tokmak 2 44.92 311 *eP* **P** **00 52 54.4 0.0**
comp=Z,49nm,2.5s
ASAR Alice Springs 45.13 165 P **P** **00 52 53.3 -2.6**
comp=Z,5.9nm,0.8s,baz=348,slow=8.4,SNR=50
ASAR ScP **ScP** **00 58 26.4 +0.4**
comp=Z,0.8nm,0.8s,baz=347,slow=3.1,SNR=5.3
AS01 Alice Springs 45.14 165 *eP* **P** **00 52 54.9 -1.1**
AS01 *e*ScP **ScP** **00 58 26.2 +0.2**
NVS Novosibirsk 45.30 329 *eP* **P** **00 52 54.8 -2.1**
AAK Ala-Archa 45.63 310⇑ *eP* **P** **00 53 01.4 +1.4**
AAK pmax pmax
comp=Z,14nm,1.7s
AAK Ala-Archa 45.63 310 LR LR 01 14 34.3
comp=Z,260nm,18.0s,baz=76,slow=39
AAK Ala-Archa 45.63 310 *eP* **P** **00 53 01.0 +1.0**
comp=Z,2.7nm,0.9s
KURK Kurchatov 45.69 322 *eP* **P** **00 53 00.4 +0.4**
KURK pmax pmax
comp=Z,24nm,2.1s
KURK Kurchatov 45.69 322 *eP* **P** **00 53 00.4 +0.4**
comp=Z,24nm,2.1s
EKS2 Erkin-Say 46.15 310 *eP* **P** **00 53 02.8 -1.2**
EKS2 pmax pmax
comp=Z,13nm,1.6s
EKS2 Erkin-Say 46.15 310 *eP* **P** **00 53 02.8 -1.2**
comp=Z,13nm,1.6s
KKAR Karatay Array 48.59 310 *eP* **P** **00 53 23.2 +0.3**
KKAR Karatay Array 48.59 310 *eP* **P** **00 53 23.2 +0.3**
KBL Kabul 48.70 299 *eP* **P** **00 53 22.8 -1.3**
KBL Kabul 48.70 299 *eP* **P** **00 53 22.8 -1.3**
VOSK Vostochnaya 50.84 322 *eP* **P** **00 53 38.8 -1.0**
VOSK pmax pmax
comp=Z,5.0nm,1.0s
VOSK Vostochnaya 50.84 322 *eP* **P** **00 53 38.8 -1.0**
comp=Z,5.1nm,1.0s
BRVK Borovoye 51.35 323⇓ *eP* **P** **00 53 44.3 +0.7**
BRVK pmax pmax
comp=Z,11nm,1.7s
BRVK Borovoye 51.35 323 *eP* **P** **00 53 43.6 0.0**
comp=Z,7.1nm,0.9s
TIXI Tiksi 51.57 3 *i P* **P** **00 53 47.7 +2.8**
TIXI Tiksi 51.57 3 *eP* **P** **00 53 43.0 -1.9**
comp=Z,12nm,1.3s
BBOO Buckleboo 54.41 166 *eP* **P** **00 54 05.8 -0.6**
comp=Z,172nm,1.4s
BILL Bilibino 55.11 19⇑ *eP* **P** **00 54 13.3 +2.3**
BILL pmax pmax
comp=Z,4.0nm,0.8s
ABKAR Akbulak array 56.83 316 *eP* **P** **00 54 23.1 -0.5**
GEYT Alibeck 57.58 303 P **P** **00 54 29.0 -0.2**
comp=Z,1.4nm,0.8s,baz=93,slow=7.2,SNR=4.8
SVE Sverdlovsk 57.73 325⇓ *iP* **P** **00 54 30.4 +0.5**
SVE pmax pmax
comp=Z,14nm,1.0s
AKTO Aktyubinsk 58.21 317 LR LR 01 19 19.0
comp=Z,171nm,20.0s,slow=36
ARU Arti 58.78 324 *c iP* **P** **00 54 36.3 -0.9**
ARU 00 56 45.7
ARU S **S** **01 02 40.4 +0.6**
ARU pmax pmax
comp=Z,14nm,1.7s
ARU Arti 58.78 324 *eP* **P** **00 54 36.0 -1.1**
comp=Z,7.3nm,1.1s
TNA Tin City 63.48 26 *eP* **P** **00 55 09.8 +0.9**
comp=Z,18nm,1.7s
PRGR Permogore 65.98 329 P **P** **00 55 22.7 -2.5**
PRGR pmax pmax
comp=Z,3.0nm,0.6s
ZEI Tsey 68.03 309 *eP* **P** **00 55 39.1 +0.2**
ZEI pmax pmax
comp=Z,4.0nm,0.6s
VRHR Novokhopersk 68.60 318 *eP* **P** **00 55 40.7 -1.3**
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
KBZ Khabaz 68.63 310 P **P** **00 55 43.1 +0.7**
comp=Z,4.6nm,0.9s,baz=105,slow=4.5,SNR=5.8
KIV Kislovodsk 68.75 310⇓ *eP* **P** **00 55 43.9 +0.6**
KIV *e*PP pP 00 56 00.3 +6.1
KIV *e*S S 01 04 35.9 -8.5
KIV pmax pmax
comp=Z,18nm,1.7s
KIV MLR MLR
comp=Z,124nm,18.0s
KIV Kislovodsk 68.75 310 *eP* **P** **00 55 43.8 +0.5**
comp=Z,59nm,1.7s
SVW2 Sparrevohn 68.80 31 *eP* **P** **00 55 43.7 +0.5**
comp=Z,63nm,2.0s
KLMR Klimovskoe 68.95 329 *eP* P 00 55 47.2 +3.2
KLMR pmax pmax
comp=Z,22nm,1.9s
IM04 Indian Mountai 69.32 26 *eP* **P** **00 55 46.9 +0.6**
VORD Divnogorie 70.08 318 *eP* **P** **00 55 51.1 -0.1**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,4.0nm,0.8s
VSR Storozhevoye 70.12 318 *eP* **P** **00 55 51.1 -0.3**
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,4.0nm,0.9s
VSR pmax pmax
comp=Z,8.0nm,0.9s
PPLA Purkeypile 70.25 29 *eP* **P** **00 55 53.0 +0.7**
comp=Z,78nm,1.9s
OHAK Old Harbor 70.33 35 *eP* **P** **00 55 52.9 +0.3**
comp=Z,171nm,1.9s

RAYN Ar Rayn 70.35 289 *eP* **P** **00 55 53.7 +0.3**
comp=Z,6.0nm,1.1s
KDAK Kodiak Island 70.64 34 *eP* **P** **00 55 55.4 +0.9**
KDAK pmax pmax
comp=Z,194nm,1.8s
KDAK Kodiak Island 70.64 34 *eP* **P** **00 55 55.4 +0.9**
comp=Z,194nm,1.8s
KTH Kantishna Hill 70.75 28 *eP* **P** **00 55 55.4 +0.3**
comp=Z,107nm,2.5s
TRF Thorofare Moun 71.05 28 *eP* **P** **00 55 58.0 +0.9**
comp=Z,72nm,2.2s
MCK McKinley 71.61 28 *eP* **P** **00 56 00.0 -0.3**
MCK pmax pmax
comp=Z,21nm,1.4s
MCK McKinley 71.61 28 *eP* **P** **00 56 00.0 -0.3**
comp=Z,21nm,1.4s
IL1 Eielson Array 72.33 27 *eP* **P** **00 56 03.4 -1.2**
ILAR Eielson Array 72.33 27 P **P** **00 56 03.2 -1.4**
comp=Z,1.0nm,0.6s,baz=264,slow=4.9,SNR=14
JOF Joensuu 72.55 331 *eP* **P** **00 56 05.2 -0.7**
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 72.55 331 *ep* **P** **00 56 05.2 -0.7**
comp=Z,2.7nm,0.5s
KEV Kevo 72.94 339 *eP* **P** **00 56 05.5 -2.6**
KEV pmax pmax
comp=Z,24nm,1.4s
KEV Kevo 72.94 339 *ep* **P** **00 56 05.5 -2.6**
comp=Z,24nm,1.4s
ARA0 ARCESS Array S 73.50 339 *eP* **P** **00 56 10.4 -1.1**
ARCES ARCESS Array B 73.50 339 P **P** **00 56 10.6 -0.9**
comp=Z,2.7nm,0.7s,baz=52,slow=5.8,SNR=6.7
DOT Dot Lake 73.76 28 *eP* **P** **00 56 13.6 +0.5**
comp=Z,41nm,2.1s
EGAK Eagle 74.72 26 *eP* **P** **00 56 18.9 +0.2**
comp=Z,52nm,2.2s
KAF Kangasniemi 74.99 331 *eP* P 00 56 17.0 -3.2
KAF pmax pmax
comp=Z,3.0nm,0.8s
KAF Kangasniemi 74.99 331 *ep* P 00 56 17.0 -3.2
comp=Z,3.3nm,0.8s
FINES FINESS Array B 75.27 330 P **P** **00 56 20.9 -0.9**
comp=Z,3.0nm,0.7s,baz=70,slow=4.4,SNR=20
DAWY Dawson 75.65 27 *eP* **P** **00 56 24.0 -0.1**
comp=Z,112nm,2.6s
VSU Vasula 75.74 327⇑ *eP* **P** **00 56 25.7 +1.2**
VSU pmax pmax
comp=Z,45nm,1.2s
BRTR Keskin Array B 76.21 307 P **P** **00 56 26.7 -1.2**
comp=Z,0.4nm,0.5s,baz=139,slow=3.1,SNR=5.0
AKASG Malin Array Be 76.38 319 P **P** **00 56 27.4 -1.0**
comp=Z,3.9nm,0.7s,baz=63,slow=5.9,SNR=7.0
KIEV Kiev 76.39 319⇑ *eP* **P** **00 56 27.6 -0.8**
KIEV Kiev 76.39 319 *eP* **P** **00 56 27.0 -1.4**
comp=Z,33nm,1.8s
AK11 Malin Array Si 76.42 319 *eP* **P** **00 56 27.2 -1.4**
INK Inuvik 76.55 22 *eP* **P** **00 56 28.7 -0.3**
INK pmax pmax
comp=Z,90nm,3.0s
INK Inuvik 76.55 22 *eP* **P** **00 56 28.7 -0.3**
comp=Z,90nm,3.0s
BR231 Keskin MP Arra 76.82 308 *eP* **P** **00 56 29.5 -1.8**
BUR04 Bucovina Ar. S 79.80 317 *eP* **P** **00 56 46.1 -1.5**
KOLS Kolonicke sedl 81.21 319 *eP* **P** **00 56 52.9 -2.1**
KOLS Kolonicke sedl 81.21 319 *eP* **P** **00 56 52.9 -2.1**
HFS Hagfors 81.41 331 LR LR 01 34 13.1
comp=Z,90nm,19.6s,baz=64,slow=36
CRVS Cervenica-Dubn 81.72 319 *eP* **P** **00 56 56.1 -1.6**
CRVS Cervenica-Dubn 81.72 319 *eP* **P** **00 56 56.1 -1.6**
NB2 NORSAR Subarra 82.10 333 P **P** **00 56 57.9 -1.6**
comp=Z,1.9nm,0.8s,baz=60,slow=5.3
NOA NORSAR Array B 82.10 333 P **P** **00 56 57.1 -2.4**
comp=Z,1.5nm,0.7s,baz=63,slow=5.0,SNR=7.4
OJC Ojcow 82.24 321 *eP* **P** **00 56 58.9 -1.5**
OJC pmax pmax
comp=Z,7.0nm,0.9s
OJC Ojcow 82.24 321 *eP* **P** **00 56 58.9 -1.5**
comp=Z,6.9nm,0.9s
VYHS Vyhne 83.49 319 *eP* **P** **00 57 06.0 -0.9**
VYHS Vyhne 83.49 319 *eP* **P** **00 57 06.0 -0.9**
KSP Ksiaz 84.04 322 *eP* **P** **00 57 09.5 -0.2**
KMBO Kilima Mbogo 85.55 267 P **P** **00 57 18.8 +0.5**
comp=Z,1.8nm,0.8s,baz=45,slow=7.6,SNR=6.5
YKA Yellowknife Ar 86.26 23 P **P** **00 57 19.9 -0.6**
comp=Z,1.1nm,0.5s,baz=310,slow=4.6,SNR=46
YKB5 Yellowknife Ar 86.26 23 *eP* **P** **00 57 19.8 -0.7**
GERES GERESS Array B 86.42 321 P **P** **00 57 20.3 -1.5**
comp=Z,0.6nm,0.7s,baz=66,slow=3.2,SNR=5.2
TORD Torodi Ar. Bea 112.66 294 PKiKP **PKiKP** **01 03 13.8 -2.6**
comp=Z,0.3nm,0.7s,baz=57,slow=1.5,SNR=3.3
TXAR Lajitas Array 113.85 43 PKiKP **PKiKP** **01 03 17.8 -0.7**
comp=Z,0.4nm,0.8s,baz=221,slow=1.3,SNR=4.2

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*ISCJB **05** 00:45:51.6±0.7, 20°.07N±0°.10×122°.0E±0°.2, h150km, mb3.9/13, Error ellipse: s-maj=20.3km s-min=13.7km az=177.8*
*IDC **05** 00:45:55.3±4.2, 20°.12N×122°.20E, h170km±41km, mb3.7/13, mb1 3.8/15, mb1mx3.7/27, mbtmp4.2/15, MS4.0/4, Ms1 4.0/4, ms1mx3.4/32, Error ellipse: s-maj=21.0km s-min=13.6km az=78.0*
ISC 05 00:45:53.5±0.9, **20°.1N**±0°.1×**122°.2E**±0°.2, **h150**km, **n19**, σ**19/14**, **mb3.9**/13, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**15.10**	**29**	P	**Pn**	**00 49 19.7**	**+0.6**
0.6nm,0.3s,baz=158,slow=7.5,SNR=4.0							
KSRS	**Korea Array**	**17.99**	**15**	P	**P**	**00 49 51.1**	**-1.5**
0.5nm,0.3s,baz=194,slow=12,SNR=7.4							
MJAR	**Matsushiro Arr**	**21.55**	**37**	P	**P**	**00 50 32.0**	**+0.9**
6.2nm,0.9s,baz=227,slow=9.3,SNR=4.1							
CMAR	**Chiang Mai Arr**	**22.02**	**270**	P	**P**	**00 50 38.1**	**+2.0**
2.5nm,0.7s,baz=75,slow=8.2,SNR=4.0							
USRK	**Ussuriysk Ar.**	**25.38**	**17**	P	**P**	**00 51 07.7**	**+0.9**
4.4nm,0.8s,baz=210,slow=11,SNR=4.8							
ASAJ	**Asahikawa**	**29.36**	**31**	LR	LR	01 04 14.9	
comp=Z,258nm,18.8s,baz=161,slow=38							
SONM	**Songino Array**	**30.49**	**339**	P	**P**	**00 51 52.9**	**+0.6**
1.1nm,0.5s,baz=159,slow=9.2,SNR=3.3							
TLY	**Talaya**	**34.71**	**340**	LR	LR	01 06 41.7	
comp=Z,201nm,18.5s,baz=176,slow=36							
WRA	**Warramunga Arr**	**41.53**	**163**	P	**P**	**00 53 25.4**	**-1.0**
3.8nm,0.6s,baz=344,slow=9.1,SNR=3.4							
MKAR	**Makanchi Array**	**41.97**	**319**	P	**P**	**00 53 28.7**	**-1.0**
2.1nm,0.6s,baz=116,slow=9.2,SNR=3.9							
ZALV	**Zalesovo Beam**	**44.19**	**329**	P	P	00 53 45.4	-2.0
2.8nm,0.6s,baz=120,slow=8.2,SNR=2.3							
ASAR	**Alice Springs**	**44.97**	**165**	P	**P**	**00 53 54.3**	**+0.4**
1.5nm,0.6s,baz=360,slow=9.9,SNR=2.5							
GEYT	**Alibeck**	**57.73**	**303**	LR	LR	01 24 11.9	
comp=Z,109nm,18.3s,baz=100,slow=40							
ILAR	**Eielson Array**	**72.40**	**27**	P	**P**	**00 57 01.9**	**-1.1**
0.8nm,0.7s,baz=272,slow=4.4,SNR=4.9							
ARCES	**ARCESS Array B**	**73.66**	**339**	LR	LR	01 34 41.8	
comp=Z,72nm,18.5s,baz=56,slow=40							
FINES	**FINESS Array B**	**75.44**	**330**	P	**P**	**00 57 20.3**	**-0.3**
1.5nm,0.8s,baz=52,slow=9.0,SNR=2.5							
AKASG	**Malin Array Be**	**76.55**	**319**	P	**P**	**00 57 26.1**	**-1.1**
3.0nm,0.8s,baz=61,slow=6.0,SNR=3.2							
NOA	**NORSAR Array B**	**82.26**	**333**	P	**P**	**00 57 57.6**	**-0.4**
0.7nm,0.7s,baz=64,slow=5.1,SNR=2.7							
YKA	**Yellowknife Ar**	**86.34**	**23**	P	**P**	**00 58 19.4**	**+1.0**
1.2nm,0.7s,baz=309,slow=4.6,SNR=4.4							

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*ISCJB **05** 01:03:50.3±0.9, 16°.9S±0°.3×178°.9W±0°.2, h350km, mb3.6/7, Error ellipse: s-maj=48.1km s-min=12.3km az=143.2*
*IDC **05** 01:03:50.2±12.0, 16°.58S×179°.10W, h332km±129km, mb3.5/7, mb1 3.8/7, mb1mx3.4/40, mbtmp4.1/7, Error ellipse: s-maj=85.8km s-min=34.0km az=153.0*
ISC 05 01:03:51.5±1.1, **16°.8S**±0°.4×**179°.0W**±0°.3, **h350**km, **n22**, σ**9.5/20**, **mb3.5/7**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**29.15**	**248**	P	**P**	**01 09 22.9**	**+1.3**
baz=31,SNR=4.4							
ARMA	**Armidale**	**30.04**	**238**	P	**P**	**01 09 30.5**	**+0.9**
baz=32,SNR=5.1							
RMQ	**Roma**	**31.42**	**247**	P	**P**	**01 09 43.2**	**+1.7**
baz=34,SNR=11							
MGCD	**Mangrove Creek**	**31.50**	**233**	P	**P**	**01 09 42.9**	**+0.8**
baz=33,SNR=6.2							
CMSA	**Cobar Meteorol**	**35.23**	**239**	P	**P**	**01 10 14.0**	**-0.1**

baz=37,SNR=8.1
QLP Quilpie 35.43 248 P **P 01 10 16.4 +0.6**
baz=38,SNR=9.6
TOO Toolangi 37.45 229 P **P 01 10 31.7 -0.9**
baz=39,SNR=4.4
STKA Stephens Creek 38.70 240 P **P 01 10 42.9 -0.1**
4.2nm,0.5s,baz=88,slow=10,SNR=8.9
STKA Stephens Creek 38.70 240 P **P 01 10 43.0 0.0**
baz=41,SNR=4.8
HTT Hallett 41.25 238 P **P 01 11 03.0 -0.7**
baz=43,SNR=5.4
MCQ Macquarie Isla 41.30 199 P P 01 10 54.2 -10
baz=42,SNR=3.9
BBOO Buckleboo 43.47 240 P **P 01 11 20.4 -1.1**
baz=46,SNR=9.5
WRA Warramunga Arr 44.31 259 P **P 01 11 28.2 -0.1**
2.5nm,0.8s,baz=93,slow=7.6,SNR=5.6
ASAR Alice Springs 44.58 253 P **P 01 11 30.1 -0.3**
24nm,0.7s,baz=88,slow=8.1,SNR=225
KDU Kakadu 47.04 268 P P 01 11 50.9 +1.4
baz=49,SNR=3.5
ILAR Eielson Array 84.95 13 P **P 01 15 47.5 0.0**
0.4nm,0.4s,baz=223,slow=5.5,SNR=12
TXAR Lajitas Array 85.87 58 P **P 01 15 53.6 +0.7**
0.4nm,0.7s,baz=230,slow=5.6,SNR=3.8
PDAR Pinedale Array 86.93 44 P **P 01 15 58.1 +0.2**
0.3nm,0.5s,baz=226,slow=3.6,SNR=3.2
YKA Yellowknife Ar 93.57 25 P **P 01 16 27.4 -0.5**
0.3nm,0.9s,baz=249,slow=4.7,SNR=3.9
MKAR Makanchi Array 107.99 314 Pdiff **Pdif 01 17 33.0 +0.1**
0.3nm,0.5s,baz=119,slow=6.8,SNR=4.2
BVAR Borovoye Array 115.66 321 PKP **PKPdf 01 21 53.6 +1.3**
0.2nm,0.4s,baz=87,slow=5.9,SNR=2.8
GERES GERESS Array B 146.42 345 PKPbc **PKPbc 01 22 49.9 -2.0**
0.5nm,0.6s,baz=29,slow=3.0,SNR=6.1

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*IDC **05** 01:06:25.4±5.9, 28°.52S×70°.82W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/27, mbtmp4.1/4, Error ellipse: s-maj=238.5km s-min=36.7km az=24.0*
*ISCJB **05** 01:06:28.6±1.2, 28°.3S±0°.2×70°.6W±0°.2, h35km, mb4.2/10, Error ellipse: s-maj=33.2km s-min=16.1km az=22.8*
*NEIC **05** 01:06:30.4±1.1, 28°.42S×70°.67W, h35km, mb4.3/8, Error ellipse: s-maj=31.5km s-min=16.0km az=204.0*
ISC 05 01:06:30.5±1.3, 28°.4S±0°.2×70.7W±0°.2, h35km, n16, σ1§30/15, mb4.2/10, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**12.02**	**83**	*e*Pn	**Pn**	**01 09 18.2**	**-1.2**
SAML	**Samuel**	**20.59**	**21**	*e*P	**P**	**01 11 07.7**	**+1.2**
1.6nm,0.8s							
GTBY	**Guantanamo Bay**	**48.23**	**354**	*e*P	**P**	**01 15 06.2**	**-1.6**
SWET	**Sewanee**	**64.89**	**346**	*e*P	**P**	**01 17 07.2**	**+1.0**
5.4nm,0.7s							
TXAR	**Lajitas Array**	**65.51**	**328**	P	**P**	**01 17 11.8**	**+1.4**
0.9nm,0.6s,baz=153,slow=8.9,SNR=10							
WVT	**Waverly**	**66.19**	**345**	*e*P	**P**	**01 17 15.1**	**+0.6**
2.9nm,0.6s							
MNTX	**Cornudas Mount**	**68.29**	**328**	*e*P	**P**	**01 17 26.5**	**-1.5**
1.2nm,0.9s							
ANMO	**Albuquerque**	**71.50**	**330**	*e*P	**P**	**01 17 47.8**	**-0.1**
0.9nm,0.7s							
DBIC	**Dimbokro**	**72.29**	**72**	P	P	01 17 56.1	+3.3
2.4nm,0.7s,baz=202,slow=5.4,SNR=5.0							
DBIC	**Dimbokro**	**72.29**	**72**	*e*P	**P**	**01 17 55.4**	**+2.6**
3.6nm,0.8s							
HWUT	**Hardware Ranch**	**79.26**	**330**	*e*P	**P**	**01 18 31.8**	**-0.5**
2.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**81.18**	**70**	P	**P**	**01 18 42.5**	**-0.5**
0.4nm,0.7s,baz=240,slow=4.1,SNR=3.7							
ULM	**Lac du Bonnet**	**81.43**	**344**	P	**P**	**01 18 42.4**	**-1.0**
1.8nm,0.8s,baz=164,slow=6.6,SNR=3.1							
BOSA	**Boshof**	**81.63**	**118**	*e*P	**P**	**01 18 45.2**	**-0.2**
18nm,1.5s							
TKM2	**Tokmak 2**	**149.22**	**53**	*e*PKPbc	**PKPbc**	**01 26 15.2**	**-0.4**
MKAR	**Makanchi Array**	**151.98**	**42**	PKPbc	**PKPbc**	**01 26 22.6**	**+0.9**
0.1nm,0.4s,baz=288,slow=2.1,SNR=4.3							

DJA 05 01:06:44.5±1.3, 1°S±16°×13°5E±°, h35km±8km, M4.0/4, MLv4.0/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**1.67**	**111**	P	Pn	01 07 11.4	+0.1
BAKI				S	Sn	01 07 33.2	+1.7
SRPI	**Serui, Papua**	**2.12**	**127**	P	Pn	01 07 17.0	-0.5
FAKI	**Fak Fak**	**3.27**	**225**	P	Pn	01 07 34.1	+0.8
FAKI				S	Sn	01 08 12.7	+1.7
JAY	**Jayapura**	**6.45**	**107**	P	Pn	01 08 10.0	-7.0

GUC 05 01:10:53.7±0.4, 34°.26S×71°.40W, h52km±3km, ML3.5, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.31**	**358**	⇑*i*P	Pn	01 11 02.7	-0.4
CACH	**El Canelo**	**0.68**	**78**	⇑*i*P	Pn	01 11 08.1	+0.6
CACH				*i* S1	Sn	01 11 18.7	+1.3
CHCH	**Chadas Angostu**	**0.70**	**62**	*e*P	Pn	01 11 07.9	+0.3
RCDM	**Rinconada Maip**	**0.92**	**33**	⇑*i*P	Pn	01 11 10.0	-0.5
RCDM				*i* S	Sn	01 11 23.1	+0.3
RCDM				AML	AML	01 11 26.3	
comp=N,3μm,0.1s							
ANTU	**Antumapu**	**0.94**	**43**	⇑*i*P	Pn	01 11 11.1	+0.3
ANTU				*e*S	Sn	01 11 24.3	+1.0
ANTU				AML	AML	01 11 28.6	
comp=E,2μm,0.2s							
STL	**Santa Lucia**	**1.04**	**38**	⇓*i*P	Pn	01 11 11.5	-0.6
STL				*e*S4	Sn	01 11 22.6	-3.1
LACH	**Col Las Americ**	**1.09**	**42**	*i* S1	Sn	01 11 28.2	+1.4
PEL	**Peldehue**	**1.27**	**28**	⇓*i*P	Pn	01 11 15.8	+0.7
PEL				*e*S	Sn	01 11 32.9	+1.7
PEL				AML	AML	01 11 37.5	
comp=N,1μm,0.6s							
FCH	**Farellones**	**1.31**	**45**	AML	AML	01 11 35.5	
comp=N,2μm,0.2s							
LNCH	**Linares**	**1.59**	**186**	*e*P	Pn	01 11 20.0	+0.5
LNCH				*i* S	Sn	01 11 40.4	+1.6
LNCH				AML	AML	01 11 44.9	
comp=N,1μm,0.6s							

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*NIED **05** 01:43:00, 20°.60N×122°.10E, h5km, Mw4.7 Best double couple: M0 1.32000×10^16 NP1:φs 53.00000°, δ22.00000°, λ132.00000°. NP2:φs 189.00000°, δ74.00000°, λ75.00000°.*
*ISCJB **05** 01:43:39.8±0.7, 20°.28N±0°.01×122°.12E±0°.03, h26km±5km, mb4.8/132, MS3.9/17, Error ellipse: s-maj=4.2km s-min=2.3km az=12.6*
*BKK **05** 01:43:40.7±0.5, 20°N±4°×12°3E±°, h10km, M4.8/27, mB4.9/9, mb4.7/27, MLv5.5/1, Mw(mB)4.2/9*
*JMA **05** 01:43:40.6±0.4, 20°.55N×122°.06E, h0km, M4.8*
*MOS **05** 01:43:40.5±1.1, 20°.19N×122°.09E, h33km, mb5.0/51, Error ellipse: s-maj=12.2km s-min=5.5km az=122.8*
*MAN **05** 01:43:40, 20°.14N×122°.20E, h23km, mb5.6, ML4.6, MS4.9*
*BJI **05** 01:43:41.1, 20°.37N×121°.95E, h19km, mB4.8/45, mb4.4/53, ML4.3/1, Ms4.3/53, Ms7 4.1/49*
*IDC **05** 01:43:41.7±3.3, 20°.15N×122°.00E, h32km±23km, mb4.4/30, mb1 4.5/33, mb1mx4.5/37, mbtmp4.6/33, ML3.8/3, MS3.8/15, Ms1 3.8/15, ms1mx3.6/29, Error ellipse: s-maj=14.0km s-min=12.1km az=102.0*
*NEIC **05** 01:43:42.3±1.3, 20°.25N×122°.12E, h34km±9km, mb4.9/63, Error ellipse: s-maj=5.9km s-min=3.7km az=101.0*
NEIC Felt [IV PIVS] at Basco and Sabtang and [III PIVS] at Itbayat and Ivana.
ISC 05 01:43:42.4±0.4, 20°.27N±0°.02×122°.13E±0°.04, h33km±1km, h34km: pP-P, n416, σ1§47/456, mb4.8/132, MS3.9/17, 44C-24D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**2.01**	**182**	*e*P	**Pn**	**01 44 12.2**	**-1.9**
PIP	**Pasuquin**	**2.40**	**217**	⇑*i*P	**Pn**	**01 44 17.4**	**-2.0**
PIP				*e*S	**Sn**	**01 44 47.3**	**-0.3**
CVP	**Callao Caves**	**2.56**	**187**	*e*P	**Pn**	**01 44 20.2**	**-1.5**
CVP				*e*S	**Sn**	**01 44 51.4**	**-0.3**
TWG	**Pinlang**	**2.73**	**339**	*e*Pn	**Pn**	**01 44 22.2**	**-1.7**
TWG				*e*Sn	**Sn**	**01 44 53.9**	**-1.8**
SIPP	**Brgy, Tapao**	**2.82**	**214**	⇑*e*P	**Pn**	**01 44 24.9**	**-0.1**
SIPP				*i* S	**Sb**	**01 45 09.4**	**+3.3**
ABRA	**Dolores**	**2.93**	**208**	*e*P	**Pn**	**01 44 26.5**	**-0.1**
ABRA				*e*S	Sn	01 44 50.3	-10
SZP	**Santa**	**3.13**	**211**	*e*Pn	**Pn**	**01 44 30.1**	**+0.6**
SZP				*e*Sn	**Sn**	**01 45 07.2**	**+1.6**
YULB	**Yu-li**	**3.21**	**346**	*e*Pn	**Pn**	**01 44 29.6**	**-0.9**
YULB				*e*Sn	**Sn**	**01 45 06.9**	**-0.7**
TPUB	**Ta-pu**	**3.33**	**335**	*e*Pn	**Pn**	**01 44 31.9**	**-0.3**
TPUB				*e*Sn	**Sn**	**01 45 11.0**	**+0.4**
SSLB	**Suanglung**	**3.67**	**343**	*e*Pn	**Pn**	**01 44 37.5**	**+0.7**
SSLB				*e*Sn	**Sn**	**01 45 21.1**	**+2.1**
NACB	**Ninganchiao**	**3.92**	**353**	*e*Pn	**Pn**	**01 44 39.1**	**-1.2**
NACB				*e*Sn	**Sn**	**01 45 23.5**	**-1.7**
HATJ	**Hateruma jima**	**4.08**	**22**	P	**Pn**	**01 44 43.4**	**+1.0**
HATJ				*e*S	**Sn**	**01 45 28.4**	**-0.6**
BCPH	**Baguio City Da**	**4.13**	**201**	⇑*i*P	**Pn**	**01 44 43.6**	**+0.2**
BCPH				*i* S	**Sn**	**01 45 30.3**	**-0.4**
JYNG	**Yonagunijimaku**	**4.23**	**10**	P	**Pn**	**01 44 45.0**	**+0.4**
JYNG				*e*S	**Sn**	**01 45 32.6**	**-0.2**
YOJ	**Yonaguni jima**	**4.25**	**11**	*e*P	**Pn**	**01 44 43.1**	**-1.8**
YOJ	**Yonaguni jima**	**4.25**	**11**	*e*Pn	**Pn**	**01 44 43.0**	**-1.8**
YOJ				*e*Sn	**Sn**	**01 45 30.3**	**-3.0**
IRIF	**Iriomote-Funau**	**4.31**	**20**	P	**Pn**	**01 44 46.1**	**+0.5**
IRIF				*e*S	**Sn**	**01 45 34.7**	**-0.1**
JKRS	**Kuro-shima**	**4.32**	**23**	P	**Pn**	**01 44 46.1**	**+0.4**
JKRS				S	**Sn**	**01 45 35.4**	**+0.4**
BOLP	**Bolinao**	**4.40**	**209**	*e*P	**Pn**	**01 44 47.2**	**+0.4**
YHNB	**Yeheng**	**4.44**	**351**	*e*Pn	**Pn**	**01 44 48.2**	**+0.7**
YHNB				*e*Sn	**Sn**	**01 45 35.8**	**-2.3**
JIJ	**Ishigaki jima**	**4.48**	**24**	P	**Pn**	**01 44 47.6**	**-0.4**
JIJ				S	**Sn**	**01 45 37.6**	**-1.4**
BALP	**Baler**	**4.53**	**187**	*e*P	**Pn**	**01 44 48.2**	**-0.4**
TATO	**Taipei**	**4.73**	**353**	*e*Pn	**Pn**	**01 44 50.4**	**-0.9**
TATO				*e*Sn	**Sn**	**01 45 44.4**	**-0.6**
JISG	**Ishigakijimahi**	**4.75**	**25**	P	**Pn**	**01 44 52.3**	**+0.6**
JISG				*e*S	**Sn**	**01 45 44.8**	**-0.8**
PCPH	**Palayan**	**4.78**	**192**	⇓*e*P	**Pn**	**01 44 51.5**	**-0.6**
JTJ	**Tarama**	**4.96**	**28**	P	**Pn**	**01 44 55.5**	**+0.9**
JTJ				*e*S	**Sn**	**01 45 50.3**	**-0.5**
QZH	**Quanzhou**	**5.69**	**326**	Pn	**Pn**	**01 45 03.6**	**-1.0**
QZH				Sn	Sn	01 46 02.0	-6.7
QZH				SMN			
220nm,0.9s							
QZH				SME			
330nm,0.9s							
QZH				LN			
2μm,9.7s							
QZH				LE			
2μm,11.3s							
QZH				LZ			
3μm,23.5s							
GQP	**Guinayangan**	**6.33**	**177**	⇑*e*P	**Pn**	**01 45 13.5**	**+0.1**
GQP				*e*S	Sn	01 46 10.3	-14
JOW	**Kunigami**	**8.63**	**40**	Pn	**Pn**	**01 45 45.5**	**+0.5**
0.6nm,0.3s,baz=236,slow=12,SNR=8.2							
JOW	**Kunigami**	**8.63**	**40**	*e*Pn	**Pn**	**01 45 42.8**	**-2.2**
QIZ	**Qiongzhong**	**11.64**	**266**	P	**Pn**	**01 46 26.7**	**+0.4**
QIZ				S	**Sn**	**01 48 34.8**	**-0.4**
QIZ				LN			
590nm,12.1s							
QIZ				LZ			
400nm,11.4s							
NJ2	**Nanjing**	**12.10**	**347**	*e*P	**Pn**	**01 46 32.2**	**-0.3**
NJ2				pP	P	01 46 38.0	-6.8
NJ2				S	**Sn**	**01 48 48.5**	**+2.3**
NJ2				PMZ			
20nm,0.6s							
NJ2				LN			
750nm,16.2s							
NJ2				LE			
550nm,15.8s							
NJ2				LZ			
5μm,14.8s							
WHN	**Wuhan**	**12.41**	**327**	P	**Pn**	**01 46 34.7**	**-2.0**
WHN				S	Sn	01 48 59.6	+5.8
WHN				LN			
1μm,13.0s							
WHN				LE			
970nm,11.4s							
WHN				LZ			
1μm,13.7s							
JNU	**Nakatsue**	**14.99**	**30**	P	**P**	**01 47 17.4**	**+0.4**
JNU	**Nakatsue**	**14.99**	**30**	Pn	**Pn**	**01 47 14.7**	**+2.8**
0.6nm,0.3s,baz=197,slow=14,SNR=9.7							
JNU	**Nakatsue**	**14.99**	**30**	*e*Pn	**Pn**	**01 47 11.2**	**-0.7**
KKM	**Kota Kinabalu**	**15.26**	**203**	*e*Pn	**Pn**	**01 47 16.3**	**+0.7**
78nm,1.0s							
SDKM	**Sandakan**	**15.31**	**199**	⇑P	**Pn**	**01 47 17.7**	**+1.5**
MYLDM	**Lahad Datu**	**15.40**	**194**	⇑P	**Pn**	**01 47 18.8**	**+1.4**
MYLDM	**Lahad Datu**	**15.40**	**194**	*e*Pn	**Pn**	**01 47 18.4**	**+1.0**
49nm,1.0s							
GYA	**Guiyang**	**15.48**	**296**	P	**Pn**	**01 47 16.6**	**-1.8**
GYA				pP	**pP**	**01 47 27.5**	**-3.8**
GYA				PP	**pwP**	**01 47 33.0**	**+1.7**
GYA				S	**Sn**	**01 50 08.8**	**-0.1**
GYA				PMZ			
20nm,0.8s							
GYA				PMZ			
110nm,4.8s							
GYA				LN			
610nm,14.5s							
GYA				LE			
470nm,13.6s							
GYA				LZ			
440nm,12.0s							
TSM	**Tawau**	**16.41**	**195**	⇑P	**Pn**	**01 47 30.5**	**+0.2**
TIA	**Tai'an**	**16.48**	**346**	*e*P	**P**	**01 47 34.9**	**+1.4**
TIA				LN			
230nm,9.5s							
TIA				LE			
560nm,11.5s							
TIA				LZ			
410nm,9.2s							
UBPT	**Khong Chiam**	**16.62**	**255**	P	P	01 47 39.7	+4.6
29nm,1.0s							
SLVN	**Son La**	**17.08**	**277**	*e*Pn	**P**	**01 47 39.6**	**-0.6**
16nm,0.9s							
KSAR	**Wonju Array Be**	**17.83**	**15**	P	**P**	**01 47 49.9**	**+1.5**
KSAR	**Wonju Array Be**	**17.83**	**15**	P	**P**	**01 47 49.9**	**+1.5**
KSRS	**Korea Array**	**17.86**	**15**	P	**P**	**01 47 49.9**	**+1.3**
1.0nm,0.3s,baz=205,slow=12,SNR=65							
KSRS				LR	LR	01 54 58.7	
comp=Z,94nm,20.9s,baz=10.0,slow=38							
XAN	**Xi'an**	**18.04**	**322**	P	**Pn**	**01 47 49.2**	**-1.4**
XAN				pP	**pP**	**01 47 57.1**	**-2.5**
XAN				sP	**sP**	**01 48 01.7**	**-2.2**
XAN				S	**Sn**	**01 51 09.2**	**-1.7**
XAN				sS	**S**	**01 51 21.2**	**+5.2**
XAN				PMZ			
3.0nm,1.4s							
XAN				PMZ			
75nm,6.5s							
XAN				LN			
250nm,12.1s							
XAN				LE			
140nm,13.9s							
XAN				LZ			
170nm,11.1s							
NONG	**Nongkai**	**18.07**	**266**	P	P	01 47 57.8	+6.7
18nm,0.9s,6μm							
JWT	**Wachi**	**18.99**	**35**	P	Pn	01 48 07.6	+5.6
JIE	**Ise**	**19.09**	**40**	P	Pn	01 48 12.3	+9.1
BTM	**Bintulu**	**19.12**	**209**	⇑P	**P**	**01 48 01.8**	**-0.9**
GTOI	**Gorontalo**	**19.53**	**177**	P	**Pn**	**01 48 08.8**	**+0.2**
62nm,1.0s							
CHAI	**Chaiyaphum**	**19.63**	**261**	P	**Pn**	**01 48 09.6**	**-0.3**
7.5nm,0.9s,385nm							
CD2	**Chengdu**	**19.64**	**306**	P	**Pn**	**01 48 09.0**	**-1.0**
CD2				pP	**pP**	**01 48 18.4**	**+1.1**
CD2				sP	**sP**	**01 48 22.0**	**+0.5**
CD2				PP	**PnPn**	**01 48 27.6**	**+3.7**
CD2				S	**S**	**01 51 44.6**	**-3.7**
CD2				sS	sS	01 51 56.8	-5.6
CD2				PMZ			
60nm,1.1s							
CD2				PMZ			
450nm,5.9s							
CD2				LN			
800nm,10.7s							
CD2				LE			
740nm,11.9s							
CD2				LZ			
700nm,11.9s							
MRSI	**Marisa**	**19.67**	**181**	P	**Pn**	**01 48 14.1**	**+3.9**
45nm,0.8s							
MPSI	**Mapaga**	**19.93**	**187**	P	**Pn**	**01 48 14.5**	**+1.2**
14nm,0.9s							
LOEI	**Loei**	**19.93**	**266**	P	**P**	**01 48 11.2**	**-0.4**
9.7nm,1.0s							
SBUM	**Sibu**	**20.18**	**210**	⇑P	**P**	**01 48 13.9**	**-0.3**
SBUM	**Sibu**	**20.18**	**210**	*e*P	**P**	**01 48 14.7**	**+0.5**
55nm,0.9s							
JGF	**Kuroka**	**20.32**	**38**	P	Pn	01 48 21.0	+3.2
BJT	**Baijiatuau**	**20.34**	**347**	*e*P	**P**	**01 48 16.8**	**+1.0**
BJT				pmax	pmax		
comp=Z,68nm,1.0s							
BJT	**Baijiatuau**	**20.34**	**347**	*e*P	**P**	**01 48 16.8**	**+1.0**
comp=Z,68nm,1.0s							
BJI	**Beijing**	**20.36**	**347**	P	Pn	01 48 17.2	-1.0
BJI				S	**S**	**01 52 00.2**	**-2.2**
BJI				PMZ			
comp=Z,30nm,0.6s							
BJI				PMZ			
comp=Z,92nm,3.6s							
BJI				LN			
comp=Z,320nm,10.2s							
BJI				LE			
comp=Z,260nm,13.3s							
BJI				LZ			
comp=Z,160nm,28.9s							
PBKT	**Sadao Pong**	**20.41**	**263**	P	Pn	01 48 21.1	+2.1
comp=Z,26nm,1.4s							
UTTA	**Uttaradit**	**20.55**	**267**	P	Pn	01 48 24.2	+3.5
comp=Z,3.8nm,0.8s							
PAYA	**Payao**	**20.96**	**271**	P	Pn	01 48 29.0	+3.5
comp=Z,20nm,1.0s,comp=Z,620nm							
JOD2	**Odawara 2**	**21.13**	**41**	P	**P**	**01 48 28.2**	**+3.8**
LUWI	**Luwuk**	**21.18**	**178**	P	P	01 48 33.1	+8.0
comp=Z,137nm,1.0s,comp=Z,6μm							
LUWI	**Luwuk**	**21.18**	**178**	*e*P	**P**	**01 48 26.0**	**+0.9**
comp=Z,149nm,1.1s							
LAMP	**Lampang**	**21.29**	**269**	P	P	01 48 32.5	+6.2
comp=Z,5.1nm,0.8s,comp=Z,183nm							
MAJO	**Matsushiro**	**21.47**	**38**	⇑*e*P	**P**	**01 48 29.9**	**+1.9**
MAJO				pmax	pmax		
comp=Z,280nm,1.2s							
MAJO	**Matsushiro**	**21.47**	**38**	*e*P	**P**	**01 48 26.2**	**-1.8**
comp=Z,36nm,1.0s							
MAT	**Matsushiro**	**21.47**	**38**	P	**P**	**01 48 30.9**	**+2.9**
MAT				S	**S**	**01 52 28.2**	**+3.8**
MAT	**Matsushiro**	**21.47**	**38**	P	**P**	**01 48 31.6**	**+3.6**
MJAR	**Matsushiro Arr**	**21.47**	**38**	P	**P**	**01 48 30.7**	**+2.7**
comp=Z,26nm,0.9s,baz=223,slow=9.0,SNR=41							
SUKH	**Sukhothai**	**21.47**	**266**	P	P	01 48 33.6	+5.4
comp=Z,5.6nm,0.8s							
JRY	**Ryogami san**	**21.51**	**40**	P	**P**	**01 48 32.3**	**+3.8**
CMMT	**Chiang Mai**	**21.89**	**270**	P	**P**	**01 48 35.8**	**+3.0**
comp=Z,42nm,1.1s							
CHTO	**Chiang Mai**	**21.90**	**270**	*e*P	**P**	**01 48 32.1**	**-0.7**
CHTO				pmax	pmax		
comp=Z,27nm,1.0s							
CHTO	**Chiang Mai**	**21.90**	**270**	P	**P**	**01 48 35.9**	**+3.1**
comp=Z,147nm,1.1s							
CHTO	**Chiang Mai**	**21.90**	**270**	*e*P	**P**	**01 48 32.1**	**-0.7**
comp=Z,27nm,1.0s							
CMAR	**Chiang Mai Arr**	**21.95**	**269**	P	**P**	**01 48 32.6**	**-0.7**
comp=Z,1.0nm,0.3s,baz=74,slow=9.5,SNR=11							
CMAR				PcP	**PcP**	**01 52 32.5**	**+0.8**
comp=Z,2.1nm,0.5s,baz=70,slow=0.7,SNR=11							
CMAR				LR	LR	01 57 18.0	
comp=Z,138nm,18.2s,baz=72,slow=37							
KSM	**Kuching**	**21.96**	**213**	⇑P	**P**	**01 48 33.3**	**-0.2**
KSM	**Kuching**	**21.96**	**213**	*e*P	**P**	**01 48 33.5**	**0.0**
comp=Z,53nm,0.9s							
BKB	**Balikpapan**	**22.00**	**194**	P	P	01 48 47.5	+14
UTHA	**Uthaitani**	**22.08**	**261**	P	**P**	**01 48 37.7**	**+2.9**
comp=Z,7.6nm,1.1s,comp=Z,71nm							
MTKI	**Muara Teweh, K**	**22.24**	**199**	P	**P**	**01 48 39.4**	**+3.0**
comp=Z,179nm,1.0s							
HHC	**Hu-ho-hao-te**	**22.41**	**339**	*e*P	**P**	**01 48 38.3**	**+0.1**
HHC				pP	**pP**	**01 48 47.3**	**+0.1**
HHC				sP	**sP**	**01 48 52.6**	**+1.2**
HHC				PP	**PnPn**	**01 49 08.3**	**+6.5**
HHC				S	**S**	**01 52 39.3**	**-3.1**
HHC				SS	SnSn	01 53 22.4	+10
HHC				PMZ			
comp=Z,43nm,1.2s							
HHC				PMZ			
comp=Z,380nm,5.6s							
HHC				LN			
comp=Z,860nm,15.5s							
HHC				LE			
comp=Z,950nm,13.3s							
HHC				LZ			
comp=Z,570nm,14.2s							
LZH	**Lanzhou**	**22.48**	**318**	*e*P	**P**	**01 48 41.7**	**+2.6**
LZH				pP	**pP**	**01 48 49.5**	**+1.4**
LZH				sP	**sP**	**01 48 53.7**	**+1.4**
LZH				S	**S**	**01 52 44.1**	**+0.1**
LZH				sS	Sn	01 52 55.0	-3.1
LZH				PMZ			
comp=Z,27nm,1.0s							
LZH				PMZ			
comp=Z,190nm,4.8s							
LZH				LN			
comp=Z,460nm,11.3s							
LZH				LE			
comp=Z,800nm,12.9s							
LZH				LZ			
comp=Z,980nm,13.0s							
SANI	**Sanana**	**22.50**	**170**	P	**P**	**01 48 43.3**	**+4.1**
comp=Z,26nm,0.8s							
STKI	**Sintang**	**22.62**	**209**	P	**P**	**01 48 44.5**	**+3.9**
comp=Z,34nm,0.9s							
TTSI	**Tana Toraja**	**23.28**	**186**	P	**P**	**01 48 50.9**	**+3.7**
comp=Z,37nm,0.9s,comp=Z,3μm							
CN2	**Changchun**	**23.63**	**6**	*e*P	**P**	**01 48 52.8**	**+2.3**
CN2				*e*S	**S**	**01 53 00.2**	**-2.6**
CN2				PMZ			
comp=Z,10.0nm,0.5s							
CN2				PMZ			
comp=Z,400nm,10.0s							
CN2				LN			
comp=Z,600nm,18.0s							
CN2				LE			
comp=Z,300nm,18.0s							
CN2				LZ			
comp=Z,300nm,16.0s							
JYA	**Atsumi**	**23.76**	**36**	P	**P**	**01 48 53.9**	**+2.1**
JMM	**Marumori**	**23.87**	**39**	P	**P**	**01 48 55.1**	**+2.3**
SURA	**Surathani**	**24.36**	**246**	P	P	01 49 05.2	+7.6
comp=Z,20nm,1.0s							
BBKI	**Banjar Baru**	**24.64**	**198**	P	**P**	**01 49 02.0**	**+1.9**
comp=Z,137nm,0.9s							
MDJ	**Mudanjiang**	**25.06**	**13**	P	**P**	**01 49 05.0**	**+1.4**
MDJ				pP	**pP**	**01 49 12.9**	**-0.3**
MDJ				sP	**sP**	**01 49 17.8**	**+0.5**
MDJ				ScS	**ScS**	**02 00 04.2**	**+1.6**
MDJ				PMZ			
comp=Z,9.0nm,0.7s							
MDJ				PMZ			
comp=Z,68nm,6.4s							
MDJ				LN			
comp=Z,330nm,18.4s							
MDJ				LE			
comp=Z,600nm,17.7s							
MDJ				LZ			
comp=Z,280nm,18.0s							
KAPI	**Kappang**	**25.23**	**186**	*e*P	**P**	**01 49 05.9**	**+0.5**
comp=Z,16nm,0.8s							
USRK	**Ussuriysk Ar.**	**25.24**	**17**	P	**P**	**01 49 06.2**	**

comp=Z,220nm,15.0s
GTA LE
comp=Z,330nm,13.8s
GTA LZ
comp=Z,250nm,14.3s
SHL Shillong 28.32 286 *eP* **P 01 49 36.0 +2.6**
PSI Prapat 28.53 235 P **P 01 49 34.0 -1.3**
comp=Z,6.9nm,0.6s,baz=67,slow=6.5,SNR=6.1
PSI PcP **PcP 01 52 45.5 -1.0**
comp=Z,11nm,1.1s,baz=32,slow=3.3,SNR=5.1
HIA Hailar 29.00 357⇑ *eP* **P 01 49 40.9 +1.9**
HIA pmax pmax
comp=Z,5.0nm,0.7s
ASAJ Asahikawa 29.26 31 P **P 01 49 43.7 +2.3**
comp=Z,6.0nm,0.7s,baz=242,slow=15,SNR=2.7
ASAJ LR LR 02 02 57.5
comp=Z,119nm,18.4s,baz=5.5,slow=39
NGJI Ngawi 29.40 202 P P 01 49 48.5 +5.7
comp=Z,132nm,1.1s
SOEI Soe 29.91 176 P P 01 50 02.3 +15
SOEI Soe 29.91 176 *eP* **P 01 49 46.4 -1.1**
comp=Z,19nm,0.9s
KLR Kul'dur 29.91 13 *eP* **P 01 49 44.2 -2.8**
KLR MLR MLR
comp=Z,1μm,12.5s
WOJI Wonogiri, Jawa 30.02 203 P P 01 49 52.1 +3.8
comp=Z,83nm,1.2s,comp=Z,3μm
ULN Ulaanbaatar 30.12 340*c i*P **P 01 49 48.6 -0.5**
ULN pmax pmax
comp=Z,17nm,1.2s
ULN Ulaanbaatar 30.12 340 *eP* **P 01 49 49.2 +0.1**
comp=Z,18nm,1.1s
MDSI Maura Dua 30.27 218 P P 01 49 56.2 +5.7
comp=Z,17nm,0.9s
SONM Songino Array 30.31 339 P **P 01 49 50.2 -0.6**
comp=Z,3.3nm,0.6s,baz=152,slow=10,SNR=32
SONM LR LR 02 03 10.9
comp=Z,387nm,18.3s,baz=150,slow=38
BATI Baumata 30.32 177 P P 01 49 55.9 +4.9
comp=Z,25nm,0.9s
KPJI Karang Pucung 30.34 207 P P 01 49 59.0 +7.8
comp=Z,45nm,0.8s
GSI Gunungsitoli 30.51 235 *eP* **P 01 49 51.9 -0.8**
comp=Z,15nm,0.8s
CISI Cisompet, Garu 31.03 208 *eP* **P 01 49 57.3 0.0**
comp=Z,25nm,0.7s
YSS Yuzh-Sakhalins 31.49 28 *eP* **P 01 50 03.9 +3.0**
YSS *e* 01 50 10.2
YSS pmax pmax
comp=Z,30nm,1.0s
TAPN Taplejung 32.20 289 *eP* P 01 50 12.1 +4.3
ODAN Odare 32.44 288 *eP* P 01 50 14.6 +4.7
RAMN Ramite 33.15 288 *eP* P 01 50 19.7 +3.5
comp=Z,34nm,0.8s
ZAK Zakamensk 33.56 338 *eP* P 01 50 15.1 -4.1
ZAK pmax pmax
comp=Z,3.0nm,1.6s
JIRN Jiri 33.57 290 *eP* **P 01 50 21.9 +2.0**
comp=Z,13nm,0.6s
GUN Gumba 33.86 290 *eP* **P 01 50 24.7 +2.2**
comp=Z,60nm,1.2s
PKI Pulchoki 34.25 289 *eP* **P 01 50 26.6 +0.8**
comp=Z,12nm,0.7s
DMN Daman 34.52 289 *eP* **P 01 50 28.8 +0.7**
comp=Z,23nm,0.8s
TLY Talaya 34.53 340 *eP* **P 01 50 27.4 -0.2**
TLY *eS* S 01 55 44.9 -9.2
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY MLR MLR
comp=Z,178nm,15.0s
TLY Talaya 34.53 340 P **P 01 50 27.2 -0.4**
comp=Z,4.0nm,0.5s,baz=346,slow=4.5,SNR=4.5
TLY Talaya 34.53 340 *eP* **P 01 50 26.9 -0.7**
comp=Z,3.7nm,0.6s
GKN Gorkha 34.97 290 *eP* **P 01 50 32.2 +0.4**
comp=Z,37nm,1.0s
MOY Mondy 35.44 337 *eP* **P 01 50 36.5 +1.0**
KOLN Koldanda 35.87 290 *eP* **P 01 50 37.6 -2.0**
comp=Z,28nm,0.5s
WMQ Urumqi 37.05 317 P **P 01 50 51.2 +1.8**
WMQ PMZ
comp=Z,3.0nm,1.3s
WMQ PMZ
comp=Z,130nm,6.0s
WMQ LN
comp=Z,140nm,16.0s
WMQ LE
comp=Z,95nm,20.0s
WMQ LZ
comp=Z,93nm,21.0s
BOD Bodaibo 37.98 353 *eP* **P 01 50 54.8 -2.0**
BOD pmax pmax
comp=Z,4.0nm,1.1s
HVS Khovu-Aksy 38.04 331⇓ *eP* **P 01 50 58.0 +0.4**
HVS pmax pmax
comp=Z,49nm,1.7s
COEN Coen 39.81 147 *eP* **P 01 51 11.6 -1.1**
MBWA Marble Bar 41.24 183 *eP* **P 01 51 22.6 -1.7**
comp=Z,18nm,1.0s
HYB Hyderabad 41.26 274 *i* P **P 01 51 24.0 -0.7**
WRAB Tennant Creek 41.70 163*d i*P **P 01 51 26.2 -2.0**
WRAB pmax pmax
comp=Z,146nm,1.2s
WRAB Tennant Creek 41.70 163 *eP* **P 01 51 25.9 -2.3**
comp=Z,35nm,0.8s
WRA Warramunga Arr 41.71 163 P **P 01 51 26.2 -2.1**
comp=Z,33nm,0.9s,baz=343,slow=9.1,SNR=112
WRA PcP **PcP 01 53 24.3 -0.3**
comp=Z,1.9nm,0.8s,baz=345,slow=3.4,SNR=3.8
WRA LR LR 02 09 22.9
comp=Z,87nm,20.5s,baz=120,slow=37
MK31 Makanchi Array 41.80 319 *eP* **P 01 51 29.4 +0.6**
MK31 pmax pmax
comp=Z,5.0nm,0.5s
MKAR Makanchi Array 41.80 319 P **P 01 51 29.5 +0.6**
comp=Z,7.4nm,0.6s,baz=112,slow=9.8,SNR=130
MKAR PcP **PcP 01 53 24.1 -0.5**
comp=Z,2.2nm,0.8s,baz=97,slow=4.9,SNR=3.7
MKAR LR LR 02 10 27.6
comp=Z,113nm,19.4s,baz=111,slow=38
H11N1 WAKE ISLAND Hy 41.97 83 T T 02 36 32.0
baz=278,slow=75,SNR=391
H11N2 WAKE ISLAND Hy 41.97 83 T T 02 36 32.2
baz=278,slow=75,SNR=223
H11S3 WAKE ISLAND Hy 41.98 85 T T 02 36 35.6
baz=280,slow=75,SNR=369
H11S1 WAKE ISLAND Hy 41.98 85 T T 02 36 33.7
baz=280,slow=75,SNR=466
H11N3 WAKE ISLAND Hy 41.99 83 T T 02 36 33.2
baz=278,slow=75,SNR=232
H11S2 WAKE ISLAND Hy 41.99 85 T T 02 36 34.2
baz=280,slow=75,SNR=306
YAK Yakutsk 42.06 5 *eP* **P 01 51 28.3 -2.3**
YAK pmax pmax
comp=Z,10.0nm,0.8s
PALK Pallekele 42.13 258 *eP* **P 01 51 32.1 +0.2**
PALK pmax pmax
comp=Z,19nm,1.1s
PALK Pallekele 42.13 258 *eP* **P 01 51 32.1 +0.2**
comp=Z,19nm,1.1s
PETK Petropavlovsk- 42.68 31 P **P 01 51 38.1 +2.2**
comp=Z,5.1nm,0.8s,baz=190,slow=4.5,SNR=4.6
PETK LR LR 02 10 16.8
comp=Z,49nm,19.6s,baz=197,slow=37
KSH Kashi 43.84 306 P P 01 51 49.2 +3.6
KSH sP sP 01 52 03.1 +3.5
KSH PP **PcP 01 53 32.7 +1.0**
KSH S **S 01 58 17.6 +3.0**
KSH sS sS 01 58 34.7 +3.8
KSH SS **SS 02 01 26.8 -4.5**
KSH PMZ
comp=Z,8.0nm,1.1s
KSH PMZ
comp=Z,110nm,4.3s
KSH LN
comp=Z,200nm,8.4s
KSH LE
comp=Z,190nm,6.5s
KSH LZ
comp=Z,270nm,6.6s
ZALV Zalesovo Beam 44.02 329 *i* P **P 01 51 46.4 -0.2**
ZALV pmax pmax
comp=Z,10.0nm,0.8s
ZALV Zalesovo Beam 44.02 329 P **P 01 51 46.2 -0.4**
comp=Z,9.5nm,0.8s,baz=119,slow=7.2,SNR=47
ZALV LR LR 02 11 36.5
comp=Z,179nm,19.1s,baz=70,slow=38
TKM2 Tokmak 2 44.92 311 P **P 01 51 55.6 +1.3**
SNR=11
TKM2 Tokmak 2 44.92 311 *i* P **P 01 51 54.7 +0.4**
TKM2 Tokmak 2 44.92 311 *eP* **P 01 51 55.2 +0.9**
comp=Z,7.2nm,0.8s
KZA Kyzart 44.96 310 P **P 01 51 57.2 +2.4**
SNR=8.6
KZA Kyzart 44.96 310 *i* P **P 01 51 57.2 +2.4**
AS31 Alice Springs 45.15 165 *eP* **P 01 51 54.8 -1.2**
ASAR Alice Springs 45.15 165 P **P 01 51 54.8 -1.2**
comp=Z,17nm,0.9s,baz=342,slow=6.7,SNR=45
ASAR PcP **PcP 01 53 34.4 -1.7**
comp=Z,1.6nm,0.8s,baz=350,slow=3.8,SNR=3.4
ASAR ScP **ScP 01 57 26.8 +0.5**
comp=Z,1.6nm,0.9s,baz=355,slow=4.5,SNR=6.3
NVS Novosibirsk 45.29 329 *eP* **P 01 51 55.8 -0.9**
NVS *eS* **S 01 58 35.3 +0.5**
NVS pmax pmax
comp=Z,19nm,1.6s
NVS pmax pmax
comp=N,10.0nm,1.4s
NVS pmax pmax
comp=E,13nm,1.6s
NVS smax smax
comp=E,9.0nm,1.4s
KBK Karagaybulak 45.32 310 P **P 01 51 59.4 +2.0**
SNR=8.6
KBK Karagaybulak 45.32 310 *i* P **P 01 51 59.4 +2.0**
UCH Uchtor 45.52 310 P **P 01 52 01.8 +2.4**
SNR=11
UCH Uchtor 45.52 310 *i* P **P 01 52 01.8 +2.4**
CHMS Chumysh 45.54 311 P **P 01 51 59.8 +0.8**
SNR=6.7
CHMS Chumysh 45.54 311 *i* P **P 01 51 59.8 +0.8**
AAK Ala-Archa 45.64 310*ceP* **P 01 52 01.1 +1.2**
AAK pmax pmax
comp=Z,9.0nm,0.7s
AAK Ala-Archa 45.64 310 *eP* **P 01 52 01.5 +1.6**
comp=Z,4.3nm,0.9s
KURK Kurchatov 45.68 322 *eP* **P 01 52 00.3 +0.4**
KURK pmax pmax
comp=Z,8.0nm,0.9s
KURK Kurchatov 45.68 322 *eP* **P 01 52 00.2 +0.4**
comp=Z,7.6nm,0.9s
AML Almayashu 46.10 309 P **P 01 52 06.0 +2.2**
SNR=15
AML Almayashu 46.10 309 *i* P **P 01 52 06.0 +2.2**
EKS2 Erkin-Say 46.16 310 P **P 01 52 05.7 +1.7**
SNR=7.3
EKS2 Erkin-Say 46.16 310 *eP* **P 01 52 05.3 +1.3**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 46.16 310 *eP* **P 01 52 05.2 +1.3**
comp=Z,5.0nm,0.8s
CTAO Charters Tower 46.54 148 *eP* **P 01 52 06.1 -0.9**
CTAO pmax pmax
comp=Z,21nm,1.4s
CTAO Charters Tower 46.54 148 *eP* **P 01 52 06.1 -0.9**
comp=Z,21nm,1.4s
SEY Seymchan 47.38 18 P **P 01 52 13.8 +0.8**
comp=Z,1.6nm,0.6s,baz=231,slow=6.7,SNR=6.9
KK31 Karatay Array 48.60 310 *i* P **P 01 52 23.5 +0.7**
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 48.60 310 *eP* **P 01 52 23.8 +1.0**
KKAR *e* 01 53 47.5
KKAR Karatay Array 48.60 310 *eP* **P 01 52 23.8 +1.0**
KKAR *e*PcP **PcP 01 53 47.5 -0.7**
KBL Kabul 48.72 299 *eP* **P 01 52 25.9 +1.8**
KBL pmax pmax
comp=Z,19nm,0.9s
KBL Kabul 48.72 299 *eP* **P 01 52 25.9 +1.8**
comp=Z,19nm,0.9s
VOSK Vostochnaya 50.84 322 *i* P **P 01 52 39.0 -0.7**
VOSK pmax pmax
comp=Z,16nm,1.0s
FORT Forrest 51.07 173 *eP* **P 01 52 40.5 -1.1**
comp=Z,53nm,1.0s
BVA0 Borovoye Array 51.28 323 *i* P **P 01 52 43.1 +0.1**
BVA0 pmax pmax
comp=Z,11nm,0.7s
BVAR Borovoye Array 51.28 323 P **P 01 52 42.9 -0.1**
comp=Z,5.9nm,0.7s,baz=113,slow=11,SNR=37
BVAR PcP **PcP 01 53 57.0 -0.7**
comp=Z,5.9nm,0.7s,baz=110,slow=4.2,SNR=10
BRVK Borovoye 51.35 323*c i*P **P 01 52 44.0 +0.5**
BRVK pmax pmax
comp=Z,17nm,0.7s
BRVK Borovoye 51.35 323 *eP* **P 01 52 44.1 +0.6**
comp=Z,17nm,0.8s
BRVK *e*PcP **PcP 01 53 56.9 -1.0**
TIXI Tiksi 51.54 3⇓ *eP* **P 01 52 43.6 -1.1**
TIXI pmax pmax
comp=Z,17nm,1.7s
TIXI Tiksi 51.54 3 *eP* **P 01 52 43.2 -1.4**
comp=Z,6.4nm,0.7s
BILL Biiibino 55.08 19⇓ *eP* **P 01 53 11.4 +0.7**
BILL pmax pmax
comp=Z,7.0nm,0.7s
BILL Biiibino 55.08 19 *eP* **P 01 53 10.6 -0.1**
comp=Z,8.2nm,0.9s
ABKAR Akbulak array 56.83 316 *eP* **P 01 53 23.6 +0.1**
comp=Z,12nm,0.8s
GEYT Alibeck 57.58 303 P **P 01 53 28.3 -0.9**
comp=Z,6.6nm,0.9s,baz=106,slow=3.2,SNR=15
GEYT LR LR 02 21 02.1
comp=Z,77nm,19.5s,baz=95,slow=39
SVE Sverdlovsk 57.73 325⇑ *i*P **P 01 53 30.5 +0.7**
SVE pmax pmax
comp=Z,28nm,0.9s
ARU Arti 58.77 324*c i*P **P 01 53 36.5 -0.6**
ARU 01 55 43.2
ARU S **S 02 01 40.8 +1.0**
ARU pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 58.77 324 *eP* **P 01 53 36.8 -0.2**
comp=Z,16nm,1.1s
DZM Mont Dzumac 60.36 132 *eP* **P 01 53 50.1 +1.5**
comp=Z,33nm,1.4s
TNA Tin City 63.45 26 *eP* **P 01 54 09.9 +1.3**
comp=Z,30nm,2.0s
PRGR Permogore 65.97 329 *eP* **P 01 54 24.1 -1.0**
PRGR 01 54 53.2
PRGR pmax pmax
comp=Z,8.0nm,0.7s
ZEI Tsey 68.04 309 *eP* **P 01 54 37.1 -1.8**
ZEI pmax pmax
comp=Z,24nm,1.3s
NCK Nalchik 68.16 310⇓ *eP* **P 01 54 39.8 +0.4**
GOF Gofitskoye 68.35 312 *eP* **P 01 54 41.7 +1.1**
VRHR Novokhopersk 68.60 318 *eP* **P 01 54 40.7 -1.3**
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR pmax pmax
comp=Z,40nm,0.9s
KBZ Khabaz 68.63 310 P **P 01 54 42.0 -0.3**
KBZ Khabaz 68.63 310 P **P 01 54 42.0 -0.3**
comp=Z,12nm,0.9s,baz=125,slow=2.6,SNR=17
KBZ LR LR 02 29 26.1
comp=Z,69nm,19.3s,baz=68,slow=40
KIV Kislovodsk 68.75 310*c i*P **P 01 54 43.5 +0.3**
KIV pmax pmax
comp=Z,33nm,0.7s
KIV Kislovodsk 68.75 310 *eP* **P 01 54 43.7 +0.5**
comp=Z,36nm,0.9s
KLMR Klimovskoe 68.94 329 *eP* **P 01 54 41.2 -2.7**
KLMR pmax pmax
comp=Z,29nm,1.5s
KLMR MLR MLR
comp=Z,198nm,14.0s
VORD Divnogorie 70.08 318 *eP* **P 01 54 50.2 -0.9**
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 70.12 318 *eP* **P 01 54 50.4 -1.0**
VSR pmax pmax
comp=N,3.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
RSO Redoubt South 70.20 32 *eP* **P 01 54 53.8 +1.8**
CAST Castle Rocks 70.21 28 *eP* **P 01 54 53.7 +1.9**
comp=Z,13nm,0.8s
PPLA Purkeypile 70.22 29 *eP* **P 01 54 53.1 +1.2**
comp=Z,7.3nm,0.7s
RAYN Ar Rayn 70.37 289 *eP* **P 01 54 53.4 0.0**
comp=Z,12nm,1.0s
MOS Moscow 70.44 323 *eP* **P 01 54 51.5 -1.7**
MOS pmax pmax
comp=Z,30nm,0.9s
KDAK Kodiak Island 70.61 34 *i* P **P 01 54 56.0 +1.8**
COLD Coldfoot 70.61 24 *eP* **P 01 54 55.9 +1.8**
comp=Z,5.7nm,1.1s
KTH Kantishna Hill 70.72 28 *eP* **P 01 54 55.6 +0.7**
comp=Z,8.5nm,0.8s
TRF Thorofare Moun 71.01 28 *eP* **P 01 54 57.9 +1.1**
comp=Z,83nm,2.2s
OBN Obninsk 71.12 323⇑ *eP* **P 01 54 56.5 -0.9**
OBN pmax pmax
comp=Z,16nm,0.7s
OBN Obninsk 71.12 323 *eP* **P 01 54 56.1 -1.2**
comp=Z,17nm,0.8s
MCK McKinley 71.57 28 *eP* **P 01 55 00.8 +0.8**
MCK pmax pmax
comp=Z,12nm,0.8s
MCK McKinley 71.57 28 *eP* **P 01 55 00.8 +0.8**
comp=Z,12nm,0.8s
PMR Palmer 71.80 30 *eP* **P 01 55 01.3 -0.1**
PMR pmax pmax
comp=Z,257nm,2.7s
PMR Palmer 71.80 30 *eP* **P 01 55 01.3 -0.1**
comp=Z,258nm,2.7s
COLA College 71.87 27⇓ *i*P **P 01 55 02.3 +0.6**
COLA pmax pmax
comp=Z,38nm,1.7s
COLA College 71.87 27 *eP* **P 01 55 01.4 -0.3**
comp=Z,5.7nm,0.9s
SFNV Sufian 72.02 303 *eP* **P 01 55 04.1 +0.8**
ILAR Eielson Array 72.29 27 P **P 01 55 03.5 -0.7**
comp=Z,2.9nm,0.8s,baz=270,slow=4.8,SNR=30
JOF Joensuu 72.54 331 *eP* **P 01 55 04.5 -1.3**
JOF pmax pmax
comp=Z,7.0nm,0.9s
JOF Joensuu 72.54 331 *ep* **P 01 55 04.5 -1.3**
comp=Z,7.2nm,0.9s
MNKR ALMNKUR 72.79 303 *eP* **P 01 55 07.5 -0.3**
KEV Kevo 72.93 339 *eP* **P 01 55 06.7 -1.2**
KEV pmax pmax
comp=Z,16nm,0.9s
KEV Kevo 72.93 339 *ep* **P 01 55 06.7 -1.2**
comp=Z,16nm,0.9s
MALT Malatya 72.93 305 ⇑P **P 01 55 09.8 +1.1**
MALT Malatya 72.93 305⇑ *i*P **P 01 55 09.8 +1.1**
KSRV Kasrt alli 73.02 303 *eP* **P 01 55 10.4 +1.2**
ARCES ARCESS Array B 73.49 339 P **P 01 55 11.0 -0.3**
comp=Z,2.1nm,0.7s,baz=67,slow=9.3,SNR=8.7
ARCES LR LR 02 32 54.0
comp=Z,45nm,18.0s,baz=56,slow=40
DOT Dot Lake 73.72 28 *eP* **P 01 55 12.4 -0.4**
comp=Z,24nm,1.6s
MENT Mentasta 74.03 28 *eP* **P 01 55 15.1 +0.4**
EGAK Eagle 74.69 26 *eP* **P 01 55 19.2 +0.8**
comp=Z,7.8nm,0.7s
BTCH Batrach 74.98 303 *eP* **P 01 55 20.6 -0.1**
KAF Kangasniemi 74.98 331 *eP* **P 01 55 18.7 -1.4**
KAF pmax pmax
comp=Z,6.0nm,0.9s
KAF Kangasniemi 74.98 331 *ep* **P 01 55 18.7 -1.4**
comp=Z,6.3nm,0.9s
FINES FINESS Array B 75.26 330 P **P 01 55 21.3 -0.4**
comp=Z,6.0nm,0.8s,baz=89,slow=7.8,SNR=16
FINES LR LR 02 31 03.2
comp=Z,93nm,18.7s,baz=46,slow=38
HAWK Haweek 75.40 302 *eP* **P 01 55 22.1 -1.1**
VSU Vasula 75.73 327⇑ *i*P **P 01 55 24.3 -0.1**
VSU pmax pmax
comp=Z,68nm,1.2s
MICGM Minsk 76.17 323 *e* **P 01 55 25.0 -2.0**
MNK Minsk 76.19 323 *eP* **P 01 55 25.0 -2.2**
BRTR Keskin Array B 76.22 307*ceP* **P 01 55 27.6 -0.2**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 76.22 307 P **P 01 55 27.3 -0.5**
comp=Z,3.8nm,1.1s,baz=64,slow=2.9,SNR=8.5
AKASG Malin Array Be 76.38 319*ceP* **P 01 55 27.2 -1.1**
AKASG pmax pmax
comp=Z,13nm,0.7s
AKASG Malin Array Be 76.38 319 P **P 01 55 27.5 -0.8**
comp=Z,13nm,0.7s,baz=62,slow=6.0,SNR=22
KIEV Kiev 76.39 319*d i*P **P 01 55 27.5 -0.9**
KIEV Kiev 76.39 319 *eP* **P 01 55 27.4 -0.9**
comp=Z,15nm,0.8s
INK Inuvik 76.52 22 *eP* **P 01 55 28.4 -0.4**
INK pmax pmax
comp=Z,13nm,1.4s
INK Inuvik 76.52 22 P **P 01 55 28.2 -0.5**
comp=Z,4.2nm,0.8s,baz=300,slow=6.3,SNR=16
INK Inuvik 76.52 22 *eP* **P 01 55 28.4 -0.4**
comp=Z,13nm,1.4s
NACGM Naroch 76.67 324 *e* **P 01 55 27.0 -2.9**
HYT Haines Junctio 77.44 30 *eP* **P 01 55 35.5 +1.2**
CSS Prodhromos 77.73 303 *eP* **P 01 55 35.8 -0.5**
comp=Z,5.3nm,0.9s
CFR Carcaliu 78.63 314 ⇑P **P 01 55 41.1 +0.1**
CFR Carcaliu 78.63 314⇑ *i*P **P 01 55 41.1 +0.1**
SUW Suwalki 78.94 324 *eP* **P 01 55 42.3 -0.3**
SUW pmax pmax
comp=Z,56nm,0.9s
SUW Suwalki 78.94 324 *eP* **P 01 55 42.3 -0.3**
comp=Z,56nm,0.9s
TESR Tescani 79.22 316 ⇑*i*P **P 01 55 43.8 -0.4**
VRI Vrincioaia 79.36 315 ⇓P **P 01 55 46.0 +0.9**
VRI Vrincioaia 79.36 315 ⇓*i*P **P 01 55 46.0 +0.9**
PLOR Plostina 79.42 315 ⇑P **P 01 55 43.0 -2.4**
PLOR Plostina 79.42 315 ⇑*i*P **P 01 55 43.0 -2.4**
BURAR Bucovina Array 79.80 317 ⇓P **P 01 55 47.5 0.0**
BURAR Bucovina Array 79.80 317 ⇓*i*P **P 01 55 47.5 0.0**
MLR Muntele Rosu 80.00 315 ⇑P **P 01 55 48.3 -0.4**
MLR Muntele Rosu 80.00 315 ⇑*i*P **P 01 55 48.3 -0.4**
DOPR Dopca 80.22 315 ⇓*i*P **P 01 55 50.1 +0.4**
DAG Danmarks Havn 80.36 352 *i* P **P 01 55 48.3 -1.5**
DAG pmax pmax
comp=Z,3.0nm,0.9s
DAG Danmarks Havn 80.36 352 *i* P **P 01 55 48.3 -1.5**
comp=Z,4.0nm,0.9s
VOIR 80.62 315 ⇑P **P 01 55 49.6 -2.3**
VOIR 80.62 315 ⇑*i*P **P 01 55 49.6 -2.3**
KWP Kalwaria Pacla 80.70 319 ⇓P **P 01 55 52.7 +0.5**
KWP Kalwaria Pacla 80.70 319 ⇓*i*P **P 01 55 52.7 +0.5**
KWP Kalwaria Pacla 80.70 319 *eP* **P 01 55 51.8 -0.4**
comp=Z,35nm,0.9s
ARR Arges 80.92 315 ⇓*i*P **P 01 55 53.7 +0.2**
CJR Cluj-Napoca 81.14 316 ⇑P **P 01 55 55.1 +0.4**
CJR Cluj-Napoca 81.14 316 ⇑*i*P **P 01 55 55.1 +0.4**
KOLS Kolonicke sedl 81.21 319 *eP* **P 01 55 55.0 +0.1**
KOLS pmax pmax
comp=Z,11nm,1.7s
KOLS Kolonicke sedl 81.21 319 *eP* **P 01 55 55.0 +0.1**
TRPA Tarpa 81.33 318 ⇓*i*P **P 01 55 55.2 -0.3**
HFS Hagfors 81.40 331 P **P 01 55 54.9 -0.8**
comp=Z,4.5nm,0.8s,baz=101,slow=6.0,SNR=8.6
LOT Lotru 81.46 315 ⇓*i*P **P 01 55 56.6 +0.1**
STHS Stebnicka Huta 81.67 320 *eP* **P 01 55 57.7 +0.3**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 81.67 320 *eP* **P 01 55 57.7 +0.3**
DRGR 81.69 317 ⇓P **P 01 55 57.7 +0.1**
DRGR 81.69 317 ⇓*i*P **P 01 55 57.7 +0.1**
CRVS Cervenica-Dubn 81.72 319 *eP* **P 01 55 57.6 0.0**
CRVS pmax pmax
comp=Z,14nm,1.7s
CRVS Cervenica-Dubn 81.72 319 *eP* **P 01 55 57.6 0.0**
DLBC Dease Lake 81.86 30 P **P 01 55 59.3 +1.0**
comp=Z,4.4nm,0.9s,baz=306,slow=5.8,SNR=6.1
NB2 NORSAR Subarra 82.09 333 P **P 01 55 58.0 -1.3**
comp=Z,6.2nm,0.8s,baz=62,slow=5.3
NOA NORSAR Array B 82.09 333 P **P 01 55 58.1 -1.3**
comp=Z,4.7nm,0.8s,baz=62,slow=5.1,SNR=16
NOA LR LR 02 35 56.9
comp=Z,132nm,19.5s,baz=65,slow=38
GZR Gura Zlata 82.14 315 ⇑P **P 01 56 00.4 +0.4**
GZR Gura Zlata 82.14 315 ⇑*i*P **P 01 56 00.3 +0.3**
NIE Niedzica 82.23 320 *eP* **P 01 56 00.7 +0.4**
NIE Niedzica 82.23 320 *eP* **P 01 56 00.7 +0.4**

OJC	**Ojcow**	**82.24**	**321**	*e*P		**P**	**01 56 00.2**	**-0.1**
OJC	**Ojcow**	**82.24**	**321**	*e*P		**P**	**01 56 00.2**	**-0.1**
RES	**Resolute Bay**	**82.37**	**9**	*e*P		**P**	**01 55 59.9**	**-0.6**
RES				pmax	pmax			
	comp=Z,3.0nm,0.3s							
RES	**Resolute Bay**	**82.37**	**9**	P		**P**	**01 56 00.5**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=302,slow=5.7,SNR=10							
RES	**Resolute Bay**	**82.37**	**9**	*e*P		**P**	**01 55 59.9**	**-0.6**
	comp=Z,2.9nm,0.3s							
BZS	**Buzias**	**82.82**	**316**	⇑*i*P		**P**	**01 56 03.2**	**-0.2**
BZS	**Buzias**	**82.82**	**316**	⇑*i*P		**P**	**01 56 03.2**	**-0.2**
PSZ	**Piszkesteto**	**83.05**	**319**	*e*P		**P**	**01 56 04.6**	**-0.1**
PSZ				pmax	pmax			
	comp=Z,4.0nm,0.8s							
PSZ	**Piszkesteto**	**83.05**	**319**	*e*P		**P**	**01 56 04.6**	**-0.1**
	comp=Z,3.9nm,0.8s							
OKC	**Ostrava-Krasne**	**83.37**	**321**	*i*P		**P**	**01 56 06.5**	**+0.3**
OKC	**Ostrava-Krasne**	**83.37**	**321**	*i*P		**P**	**01 56 06.5**	**+0.3**
VYHS	**Vyhne**	**83.48**	**319**	*e*P		**P**	**01 56 06.8**	**0.0**
VYHS				pmax	pmax			
	comp=Z,5.0nm,1.0s							
VYHS	**Vyhne**	**83.48**	**319**	*e*P		**P**	**01 56 06.8**	**0.0**
MORC	**Moravsky Berou**	**83.75**	**321**	⇓*i*P		**P**	**01 56 08.1**	**-0.1**
MORC	**Moravsky Berou**	**83.75**	**321**	⇓*i*P		**P**	**01 56 08.1**	**-0.1**
MORC	**Moravsky Berou**	**83.75**	**321**	*e*P		**P**	**01 56 07.8**	**-0.5**
KSP	**Ksiaz**	**84.04**	**322**	⇑*e*P		**P**	**01 56 09.5**	**-0.1**
KRLC	**Kraliky**	**84.08**	**321**	*i*P		**P**	**01 56 09.5**	**-0.4**
KRLC	**Kraliky**	**84.08**	**321**	*i*P		**P**	**01 56 09.5**	**-0.4**
DPC	**Dobruska-Polom**	**84.23**	**322**	*e*P		**P**	**01 56 10.7**	**+0.1**
DPC	**Dobruska-Polom**	**84.23**	**322**	*i*P		**P**	**01 56 10.6**	**-0.1**
DPC	**Dobruska-Polom**	**84.23**	**322**	*e*P		**P**	**01 56 10.7**	**+0.1**
UPC	**Upice**	**84.34**	**322**	*i*P		**P**	**01 56 11.4**	**+0.2**
UPC				*e*			01 56 21.6	
UPC	**Upice**	**84.34**	**322**	*i*P		**P**	**01 56 11.4**	**+0.2**
UPC				*e*pP		**pP**	**01 56 21.6**	**-0.2**
VRAC	**Vranov**	**84.51**	**321**	⇑P		**P**	**01 56 12.4**	**+0.4**
VRAC	**Vranov**	**84.51**	**321**	⇑*i*P		**P**	**01 56 12.4**	**+0.4**
PKSM	**Moragy**	**84.51**	**317**	⇓P		**P**	**01 56 12.1**	**0.0**
PKSM	**Moragy**	**84.51**	**317**	⇓*i*P		**P**	**01 56 12.1**	**0.0**
MUD	**Monsted U'grnd**	**85.23**	**329**	*i*P		**P**	**01 56 15.0**	**-0.5**
MUD				pmax	pmax			
	comp=Z,11nm,0.9s							
MUD	**Monsted U'grnd**	**85.23**	**329**	*i*P		**P**	**01 56 15.0**	**-0.5**
	comp=Z,11nm,0.9s							
BRG	**Berggiesshubel**	**85.37**	**323**	*e*P		**P**	**01 56 16.0**	**-0.3**
	comp=Z,4.2nm,0.9s							
BRG	**Berggiesshubel**	**85.37**	**323**	*e*P		**P**	**01 56 16.0**	**-0.3**
BRG				pmax	pmax			
	comp=Z,4.0nm,1.0s							
PRU	**Pruhonice**	**85.42**	**322**	*i*P		**P**	**01 56 16.6**	**0.0**
PRU	**Pruhonice**	**85.42**	**322**	*i*P		**P**	**01 56 16.6**	**0.0**
CONA	**Conrad Observa**	**85.53**	**320**	⇑*i*P		**P**	**01 56 17.1**	**-0.2**
	comp=Z,8.0nm,1.3s							
KMBO	**Kilima Mbogo**	**85.58**	**267**	*ce*P		**P**	**01 56 20.0**	**+1.7**
KMBO				pmax	pmax			
	comp=Z,7.0nm,0.9s							
KMBO	**Kilima Mbogo**	**85.58**	**267**	P		**P**	**01 56 17.0**	**-1.3**
	comp=Z,3.5nm,0.9s,baz=46,slow=5.2,SNR=13							
CLL	**Collm**	**85.70**	**324**	*e*P		**P**	**01 56 17.0**	**-0.9**
CLL	**Collm**	**85.70**	**324**	*e*P		**P**	**01 56 17.0**	**-0.9**
YKA	**Yellowknife Ar**	**86.22**	**23**	P		**P**	**01 56 20.3**	**0.0**
	comp=Z,4.6nm,0.7s,baz=310,slow=4.7,SNR=91							
YKA				PKKPbc		**PKKPbc**	**02 14 16.8**	**-3.3**
	comp=Z,0.1nm,0.6s,baz=130,slow=2.7,SNR=3.8							
KHC	**Kasperske Hory**	**86.36**	**321**	*i*P		**P**	**01 56 21.0**	**-0.3**
KHC				*e*			01 56 29.9	
KHC	**Kasperske Hory**	**86.36**	**321**	*i*P		**P**	**01 56 21.0**	**-0.3**
KHC				*e*pP		**pP**	**01 56 29.9**	**-2.1**
GEC2	**GERESS Array S**	**86.42**	**321**	*e*P		**P**	**01 56 21.3**	**-0.4**
GEC2	**GERESS Array S**	**86.42**	**321**	*e*P		**P**	**01 56 21.3**	**-0.4**
GERES	**GERESS Array B**	**86.42**	**321**	P		**P**	**01 56 20.8**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=72,slow=4.3,SNR=9.4							
GERES				LR	LR		02 36 10.2	
	comp=Z,81nm,18.9s,baz=34,slow=36							
SUMG	**Summit**	**86.47**	**354**	*i*P		**P**	**01 56 21.0**	**-0.8**
SUMG				pmax	pmax			
	comp=Z,5.0nm,1.0s							
SUMG	**Summit**	**86.47**	**354**	*i*P		**P**	**01 56 21.0**	**-0.8**
	comp=Z,5.0nm,1.0s							
CDF	**Champ du Feu**	**90.35**	**323**	*e*P		**P**	**01 56 40.1**	**-0.3**
	comp=Z,11nm,1.0s							
CDF	**Champ du Feu**	**90.35**	**323**	*e*P		**P**	**01 56 40.1**	**-0.3**
CDF				pmax	pmax			
	comp=Z,11nm,1.0s							
CDF	**Champ du Feu**	**90.35**	**323**	*e*P		**P**	**01 56 40.1**	**-0.3**
	comp=Z,11nm,1.0s							
LPG	**La Plagne**	**92.19**	**321**	*e*P		**P**	**01 56 48.7**	**-0.5**
	comp=Z,20nm,1.1s							
LPG	**La Plagne**	**92.19**	**321**	*e*P		**P**	**01 56 48.7**	**-0.5**
LPG				pmax	pmax			
	comp=Z,20nm,1.1s							
LPG	**La Plagne**	**92.19**	**321**	*e*P		**P**	**01 56 48.7**	**-0.5**
	comp=Z,20nm,1.1s							
LPL	**La Plagne**	**92.19**	**321**	*e*P		**P**	**01 56 48.5**	**-0.7**
	comp=Z,12nm,0.9s							
LPL	**La Plagne**	**92.19**	**321**	*e*P		**P**	**01 56 48.5**	**-0.7**
LPL				pmax	pmax			
	comp=Z,12nm,0.9s							
LPL	**La Plagne**	**92.19**	**321**	*e*P		**P**	**01 56 48.5**	**-0.7**
	comp=Z,12nm,0.9s							
PGF	**Pioggiola**	**92.33**	**317**	*e*P		**P**	**01 56 49.1**	**-0.6**
	comp=Z,71nm,1.2s							
PGF	**Pioggiola**	**92.33**	**317**	*e*P		**P**	**01 56 49.1**	**-0.6**
PGF				pmax	pmax			
	comp=Z,71nm,1.2s							
PGF	**Pioggiola**	**92.33**	**317**	*e*P		**P**	**01 56 49.1**	**-0.6**
	comp=Z,71nm,1.2s							
SBF	**Sospel**	**92.63**	**319**	*e*P		**P**	**01 56 50.4**	**-0.6**
	comp=Z,32nm,1.0s							
SBF	**Sospel**	**92.63**	**319**	*e*P		**P**	**01 56 50.4**	**-0.6**
SBF				pmax	pmax			
	comp=Z,32nm,1.0s							
SBF	**Sospel**	**92.63**	**319**	*e*P		**P**	**01 56 50.4**	**-0.6**
	comp=Z,32nm,1.0s							
ORIF	**Oris-en-Rattie**	**93.02**	**320**	*e*P		**P**	**01 56 52.7**	**-0.1**
	comp=Z,13nm,1.0s							
ORIF				*e*R				
	comp=Z,172nm,22.5s							
ORIF	**Oris-en-Rattie**	**93.02**	**320**	*e*P		**P**	**01 56 52.7**	**-0.1**
ORIF				pmax	pmax			
	comp=Z,13nm,1.0s							
ORIF	**Oris-en-Rattie**	**93.02**	**320**	*e*P		**P**	**01 56 52.7**	**-0.1**
	comp=Z,13nm,1.0s							
SMF	**Signal de Mont**	**93.27**	**323**	*e*P		**P**	**01 56 52.7**	**-1.1**
	comp=Z,6.6nm,0.9s							
SMF	**Signal de Mont**	**93.27**	**323**	*e*P		**P**	**01 56 52.7**	**-1.1**
SMF				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SMF	**Signal de Mont**	**93.27**	**323**	*e*P		**P**	**01 56 52.7**	**-1.1**
	comp=Z,6.6nm,0.9s							
AVF	**Avril sur Loir**	**93.46**	**323**	*e*P		**P**	**01 56 53.4**	**-1.3**
	comp=Z,14nm,0.9s							
AVF	**Avril sur Loir**	**93.46**	**323**	*e*P		**P**	**01 56 53.4**	**-1.3**
AVF				pmax	pmax			
	comp=Z,14nm,0.9s							
AVF	**Avril sur Loir**	**93.46**	**323**	*e*P		**P**	**01 56 53.4**	**-1.3**
	comp=Z,14nm,0.9s							
TCF	**Toulx Ste Croi**	**94.40**	**323**	*e*P		**P**	**01 56 58.2**	**-0.8**
	comp=Z,20nm,1.2s							
TCF	**Toulx Ste Croi**	**94.40**	**323**	*e*P		**P**	**01 56 58.2**	**-0.8**
TCF				pmax	pmax			
	comp=Z,20nm,1.2s							
TCF	**Toulx Ste Croi**	**94.40**	**323**	*e*P		**P**	**01 56 58.2**	**-0.8**
	comp=Z,20nm,1.2s							
CAF	**Calviac**	**95.27**	**322**	*e*P		**P**	**01 57 02.3**	**-0.8**
CAF	**Calviac**	**95.27**	**322**	*e*P		**P**	**01 57 02.3**	**-0.8**
CAF	**Calviac**	**95.27**	**322**	*e*P		**P**	**01 57 02.3**	**-0.8**
KEST	**Kesra**	**95.49**	**311**	LR	LR		02 50 03.5	
	comp=Z,25nm,18.1s,baz=266,slow=42							
EPF	**Esparros**	**97.39**	**321**	*e*P		**P**	**01 57 12.5**	**-0.2**
EPF	**Esparros**	**97.39**	**321**	*e*P		**P**	**01 57 12.5**	**-0.2**
EPF	**Esparros**	**97.39**	**321**	*e*P		**P**	**01 57 12.5**	**-0.2**
NVAR	**Mina Array Bea**	**98.67**	**44**	P		**P**	**01 57 18.0**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=276,slow=6.0,SNR=4.6							
TORD	**Torodi Ar. Bea**	**112.67**	**294**	PKiKP		**PKiKP**	**02 02 14.7**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=93,slow=2.3,SNR=4.0							
TORD				PKKPbc		**PKKPbc**	**02 13 05.2**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=305,slow=1.7,SNR=5.7							
TXAR	**Lajitas Array**	**113.81**	**43**	PKP			02 02 17.8	
	comp=Z,1.0nm,0.8s,baz=275,slow=1.3,SNR=9.3							
DBIC	**Dimbokro**	**121.42**	**292**	PKP		**PKPdf**	**02 02 32.0**	**-1.2**
	comp=Z,4.4nm,0.9s,baz=258,slow=1.3,SNR=3.1							
SDV	**Santo Domingo**	**148.43**	**25**	*e*PKPdf		**PKPdf**	**02 03 23.2**	**0.0**
SDV				*e*PKKPbc		**PKPbc**	**02 03 26.1**	**-0.6**
EFI	**East Falkland**	**148.65**	**180**	*e*PKIKP		**PKPdf**	**02 03 22.9**	**+0.8**
EFI				*e*			02 03 26.2	
EFI	**East Falkland**	**148.65**	**180**	*e*PKPdf		**PKPdf**	**02 03 22.9**	**+0.8**
EFI				*e*PKPbc		**PKPbc**	**02 03 26.2**	**+0.4**
ROSC	**El Rosal**	**150.25**	**35**	PKPbc		**PKPbc**	**02 03 30.6**	**-0.9**
	comp=Z,3.7nm,0.4s,baz=263,slow=4.1,SNR=6.4							
ROSC	**El Rosal**	**150.25**	**35**	*e*PKPdf		**PKPdf**	**02 03 26.2**	**-0.2**
ROSC				PKPbc		**PKPbc**	**02 03 30.6**	**-0.9**
OTAV	**Otavalo**	**151.34**	**47**	*e*PKPdf		**PKPdf**	**02 03 27.8**	**-0.4**
SAML	**Samuel**	**167.63**	**25**	*e*PKPdf		**PKPdf**	**02 03 45.0**	**-1.1**
LPAZ	**La Paz**	**169.48**	**70**	*e*PKIKP		**PKPdf**	**02 03 48.5**	**+0.5**
LPAZ				*e*			02 05 01.0	
LPAZ	**La Paz**	**169.48**	**70**	PKP		**PKPdf**	**02 03 48.5**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=74,slow=1.7,SNR=4.7							
LPAZ	**La Paz**	**169.48**	**70**	*e*PKPdf		**PKPdf**	**02 03 48.5**	**+0.5**
LPAZ				*e*PKPab		**PKPab**	**02 05 01.0**	**-0.2**
CPUP	**Villa Florida**	**173.94**	**185**	PKPab		**PKPab**	**02 05 19.0**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=284,slow=0.8,SNR=5.4							
CPUP	**Villa Florida**	**173.94**	**185**	*e*PKPab		**PKPab**	**02 05 19.1**	**-0.4**
SIV	**San Ignacio**	**174.77**	**36**	PKP		**PKPdf**	**02 03 49.6**	**0.0**
	comp=Z,2.3nm,0.8s,baz=299,slow=1.8,SNR=4.4							

*IDC **05** 01:48:28.2±1.0, 20°.03N×122°.31E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/39, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=59.2km s-min=19.0km az=72.0*
*ISCJB **05** 01:48:31.7±0.8, 20°.0N±0°.1×122°.3E±0°.2, h36km, mb3.5/6, Error ellipse: s-maj=27.1km s-min=14.3km az=172.3*
ISC 05 01:48:33.4±1.1, 20°.0N±0°.1×122°.2E±0°.2, h36km, n14, σ0s82/8, mb3.6/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**18.07**	**15**	P	**Pn**	**01 52 40.7**	**-0.9**
	0.3nm,0.3s,baz=203,slow=12,SNR=4.2						
MAT	**Matsushiro**	**21.60**	**37**	P	**P**	**01 53 20.8**	**+0.6**
SONM	**Songino Array**	**30.58**	**339**	P	**P**	**01 54 43.9**	**0.0**
	0.2nm,0.5s,baz=157,slow=9.5,SNR=3.5						
WRA	**Warramunga Arr**	**41.44**	**163**	P	**P**	**01 56 16.3**	**-0.5**
	1.7nm,0.7s,baz=343,slow=9.1,SNR=8.7						
H11S3	**WAKE ISLAND Hy**	**41.89**	**84**	T	T	02 41 20.3	
	baz=280,slow=75,SNR=54						
H11N1	**WAKE ISLAND Hy**	**41.90**	**82**	T	T	02 41 24.2	
	baz=278,slow=74,SNR=42						
H11N2	**WAKE ISLAND Hy**	**41.90**	**82**	T	T	02 41 26.5	
	baz=278,slow=74,SNR=32						
H11S1	**WAKE ISLAND Hy**	**41.90**	**84**	T	T	02 41 21.3	
	baz=280,slow=75,SNR=58						
H11S2	**WAKE ISLAND Hy**	**41.91**	**84**	T	T	02 41 21.9	
	baz=280,slow=75,SNR=51						
H11N3	**WAKE ISLAND Hy**	**41.91**	**82**	T	T	02 41 25.5	
	baz=278,slow=74,SNR=28						
MKAR	**Makanchi Array**	**42.05**	**319**	P	**P**	**01 56 21.1**	**-0.6**
	0.7nm,0.7s,baz=109,slow=7.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**44.28**	**329**	P	**P**	**01 56 40.6**	**+1.2**
	0.7nm,0.5s,baz=129,slow=8.7,SNR=3.6						
ASAR	**Alice Springs**	**44.88**	**165**	P	**P**	**01 56 45.1**	**+0.4**
	0.7nm,0.6s,baz=344,slow=7.6,SNR=6.8						
YKA	**Yellowknife Ar**	**86.41**	**23**	P	**P**	**02 01 11.6**	**-0.2**
	0.1nm,0.5s,baz=308,slow=4.8,SNR=5.1						

*ISCJB **05** 02:30:00.1±1.2, 36°.64S±0°.09×179°.9E±0°.1, h35km, mb3.8/3, Error ellipse: s-maj=16.7km s-min=10.4km az=31.1*
*IDC **05** 02:30:01.4±1.6, 36°.47S×179°.19E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/18, mbtmp4.0/4, ML4.1/1, Error ellipse: s-maj=35.4km s-min=29.8km az=70.0*
*WEL **05** 02:30:02.1±0.3, 36°.64S×179°.91E, h33km, ML4.2/10, Error ellipse: s-maj=3.2km s-min=2.7km az=90.0*
ISC 05 02:30:02.1±1.6, 36°.65S±0°.10×179°.8E±0°.1, h35km, n37, σ1s07/38, mb3.9/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.53**	**233**	PN	**Pn**	**02 30 26.4**	**-0.5**
MXZ				AML	AML	02 30 44.5	
MXZ				AML	AML	02 30 44.6	
MXZ				AML	AML	02 30 48.0	
MXZ				AML	AML	02 30 48.0	
WMGZ	**Waiomatatini S**	**1.63**	**224**	PN	**Pn**	**02 30 28.2**	**-0.1**
WMGZ				*e*SN	**Sn**	**02 30 48.3**	**+0.2**
PUZ	**Puketiti**	**1.90**	**221**	PN	**Pn**	**02 30 32.5**	**+0.4**
PUZ				SN	**Sn**	**02 30 54.6**	**-0.2**
PUZ				AML	AML	02 31 02.8	
HAZ	**Te Kaha**	**1.98**	**236**	*e*PN	**Pn**	**02 30 33.7**	**+0.6**
HAZ				SN	**Sn**	**02 30 57.0**	**+0.3**
TWGZ	**Tauwhareparae**	**2.12**	**224**	PN	**Pn**	**02 30 35.3**	**+0.2**
CNGZ	**Carnagh Statio**	**2.24**	**215**	PN	**Pn**	**02 30 37.7**	**+1.0**
MWZ	**Matawai**	**2.49**	**227**	PN	**Pn**	**02 30 40.1**	**-0.1**
MWZ				AML	AML	02 31 19.4	
MWZ				AML	AML	02 31 27.9	
RIGZ	**Rimuhau**	**2.63**	**218**	PN	**Pn**	**02 30 41.8**	**-0.3**
RAGZ	**Rawiri**	**2.66**	**226**	PN	**Pn**	**02 30 42.7**	**+0.1**
URZ	**Urewera**	**2.70**	**233**	PN	**Pn**	**02 30 43.2**	**+0.2**
URZ				AML	AML	02 31 23.6	
URZ				AML	AML	02 31 26.2	
URZ	**Urewera**	**2.70**	**233**	Pn	**Pn**	**02 30 41.7**	**-1.3**
	43nm,0.3s,baz=40,slow=15,SNR=142						
URZ				Sn	**Sn**	**02 31 14.6**	**+0.1**
	13nm,0.3s,baz=28,slow=17,SNR=4.7						
PRGZ	**Paritu Road**	**2.75**	**214**	PN	**Pn**	**02 30 43.8**	**+0.1**
EDRZ	**Edgecumbe**	**2.87**	**239**	PN	**Pn**	**02 30 45.5**	**+0.1**
EDRZ				AML	AML	02 31 24.8	
EDRZ				AML	AML	02 31 28.9	
SNGZ	**Shannon Statio**	**2.91**	**222**	PN	**Pn**	**02 30 46.3**	**+0.4**
KNZ	**Kokohu**	**2.92**	**215**	PN	**Pn**	**02 30 45.4**	**-0.7**
MHGZ	**Mahia Peninsul**	**2.93**	**211**	PN	**Pn**	**02 30 46.2**	**0.0**
TARZ	**Mount Tarawera**	**3.09**	**238**	PN	**Pn**	**02 30 48.8**	**+0.3**
RAHZ	**Arahi**	**3.14**	**223**	PN	**Pn**	**02 30 49.7**	**+0.5**
WHHZ	**Waihua**	**3.18**	**220**	PN	**Pn**	**02 30 49.6**	**0.0**
PRRZ	**Plateau Road**	**3.30**	**235**	PN	**Pn**	**02 30 51.2**	**-0.1**
KUZ	**Kuaotunu**	**3.31**	**267**	PN	**Pn**	**02 30 50.9**	**-0.5**
KUZ				AML	AML	02 31 27.6	
NMHZ	**Naumai**	**3.42**	**224**	PN	**Pn**	**02 30 52.9**	**-0.1**
BKZ	**Black Stump Fm**	**3.65**	**226**	PN	**Pn**	**02 30 55.2**	**-0.9**
BKZ				AML	AML	02 32 10.9	
BKZ				AML	AML	02 32 17.4	
MCHZ	**McNeill Hill**	**3.73**	**221**	PN	**Pn**	**02 30 57.0**	**-0.2**
MKAZ	**Moumakai**	**3.78**	**262**	AML	AML	02 30 59.7	
KAHZ	**Kahuranaki**	**3.91**	**216**	PN	**Pn**	**02 30 58.8**	**-1.0**
PXZ	**Pawanui**	**4.11**	**214**	PN	**Pn**	**02 31 01.0**	**-1.4**
PXZ				AML	AML	02 31 48.0	
PXZ				AML	AML	02 31 48.7	
BHHZ	**Black Hill Sta**	**4.11**	**225**	PN	**Pn**	**02 31 02.3**	**-0.2**
WNVZ	**Wahianoa**	**4.29**	**230**	PN	**Pn**	**02 31 04.1**	**-0.8**
BFZ	**Birch Farm**	**4.91**	**214**	PN	**Pn**	**02 31 10.8**	**-2.6**
MRZ	**Mangatainoka R**	**5.21**	**219**	PN	**Pn**	**02 31 14.9**	**-2.6**
MRZ				AML	AML	02 32 16.2	
MTW	**Mount Morrison**	**5.63**	**216**	PN	Pn	02 31 20.1	-3.2
ASAR	**Alice Springs**	**41.41**	**275**	P	**P**	**02 37 45.3**	**0.0**
	1.7nm,0.6s,baz=121,slow=7.9,SNR=29						
WRA	**Warramunga Arr**	**42.97**	**280**	P	**P**	**02 37 57.8**	**-0.2**
	0.7nm,0.5s,baz=120,slow=7.7,SNR=13						
QSPA	**South Pole Qui**	**53.47**	**180**	P	P	02 39 25.1	+6.5
	0.6nm,0.4s,baz=43,slow=1.1,SNR=6.1						
FINES	**FINESS Array B**	**150.21**	**335**	PKPbc	**PKPab**	**02 49 52.7**	**-2.0**
	4.1nm,1.2s,baz=298,slow=3.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**156.53**	**185**	PKPab	**PKPab**	**02 50 26.1**	**+3.6**
	0.2nm,0.5s,baz=172,slow=3.4,SNR=4.5						

*IDC **05** 02:35:50.0±5.4, 22°.60S×68°.40W, h94km±43km, mb3.7/3, mb1 3.8/5, mb1mx3.4/32, mbtmp4.0/5, Error ellipse: s-maj=59.5km s-min=34.5km az=171.0*
*GUC **05** 02:35:51.3±0.5, 22°.63S×68°.80W, h111km±5km, ML3.6*
ISC 05 02:35:51.4±0.8, 22°.56S±0°.08×68°.76W±0°.07, h107km, n11, σ1s13/12, mb4.0/4, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**0.62**	**124**	⇓*i*P	**Pn**	**02 36 10.0**	**+0.9**
SPCH				*i* S1	**Sn**	**02 36 24.0**	**+1.6**
SPCH				AML	AML	02 36 24.7	
	comp=N,3μm,0.5s						
MACH	**Maria Elena**	**1.00**	**291**	⇑*i*P	**Pn**	**02 36 13.4**	**+0.8**
MACH				*i* S1	**Sn**	**02 36 29.9**	**+1.4**
CEN1	**Los Morros**	**1.56**	**238**	⇓*i*P	Pn	02 36 25.0	+6.0
CEN1				*i* S1	Sn	02 36 48.2	+8.4
CEN1				AML	AML	02 36 55.9	
	comp=N,531nm,0.7s						
ANCH	**Antofagasta**	**1.89**	**234**	⇓*i*P	**Pn**	**02 36 22.5**	**-0.3**
ANCH				*i* S1	**Sn**	**02 36 46.3**	**-0.5**
LPAZ	**La Paz**	**6.27**	**6**	P	**Pn**	**02 37 21.9**	**-0.1**
	comp=N,0.9nm,0.3s,baz=191,slow=6.3,SNR=16						
SIV	**San Ignacio**	**9.76**	**49**	P	Pn	02 38 03.2	-5.7
	comp=N,2.0nm,0.3s,baz=244,slow=11,SNR=25						
SIV				S	Sn	02 39 42.3	-14
	comp=N,0.3nm,0.3s,baz=311,slow=21,SNR=5.8						
DBIC	**Dimbokro**	**68.90**	**73**	P	**P**	**02 46 43.9**	**-1.3**
	comp=N,4.0nm,0.9s,baz=236,slow=7.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**77.58**	**70**	P	**P**	**02 47 34.7**	**-1.5**
	comp=N,0.6nm,0.3s,baz=258,slow=5.6,SNR=30						
YKA	**Yellowknife Ar**	**92.23**	**341**	P	**P**	**02 48 48.7**	**0.0**
	comp=N,0.1nm,0.3s,baz=142,slow=4.5,SNR=4.3						
URZ	**Urewera**	**93.57**	**226**	P	**P**	**02 48 56.7**	**+1.0**
	comp=N,11nm,0.7s,baz=108,slow=3.2,SNR=7.5						
MKAR	**Makanchi Array**	**146.40**	**37**	PKPbc	**PKPdf**	**02 55 19.0**	**+0.6**
	comp=N,1.1nm,0.9s,baz=300,slow=3.1,SNR=11						

*IDC **05** 02:36:48.6±2.5, 36°.50S×179°.28E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.9/17, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=46.4km s-min=37.9km az=95.0*
*WEL **05** 02:36:50.9±0.5, 36°.59S×179°.69E, h33km, ML4.0/5, Error ellipse: s-maj=5.7km s-min=5.0km az=90.0*
ISC 05 02:36:52.5±1.9, 36°.6S±0°.1×179°.5E±0°.2, h35km, n21, σ0s83/25, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.34**	**226**	*e*PN	**Pn**	**02 37 13.8**	**-0.9**
MXZ				SN	**Sn**	**02 37 32.0**	**+0.6**
MXZ				AML	AML	02 37 32.2	
MXZ				AML	AML	02 37 32.2	
MXZ				AML	AML	02 37 32.5	
WMGZ	**Waiomatatini S**	**1.47**	**217**	PN	**Pn**	**02 37 16.5**	**0.0**
PUZ	**Puketiti**	**1.75**	**215**	PN	**Pn**	**02 37 20.4**	**0.0**
PUZ				SN	**Sn**	**02 37 41.9**	**+0.4**
PUZ				AML	AML	02 37 55.6	
HAZ	**Te Kaha**	**1.78**	**231**	*e*PN	**Pn**	**02 37 21.7**	**+0.9**
TWGZ	**Tauwhareparae**	**1.97**	**218**	PN	**Pn**	**02 37 23.5**	**+0.2**
CNGZ	**Carnagh Statio**	**2.12**	**209**	PN	**Pn**	**02 37 25.8**	**+0.4**
MWZ	**Matawai**	**2.32**	**223**	PN	**Pn**	**02 37 27.8**	**-0.4**
MWZ				AML	AML	02 38 07.6	
MWZ				AML	AML	02 38 11.6	
RIGZ	**Rimuhau**	**2.49**	**214**	PN	**Pn**	**02 37 29.9**	**-0.6**
RAGZ	**Rawiri**	**2.50**	**222**	PN	**Pn**	**02 37 30.6**	**-0.1**
URZ	**Urewera**	**2.51**	**229**	PN	**Pn**	**02 37 30.8**	**0.0**
URZ				SN	**Sn**	**02 38 00.4**	**+0.2**
URZ				AML	AML	02 38 11.0	
URZ	**Urewera**	**2.51**	**229**	Pn	**Pn**	**02 37 29.7**	**-1.2**
	13nm,0.3s,baz=13,slow=2.4,SNR=51						
URZ				Sn	**Sn**	**02 38 00.6**	**+0.3**
	14nm,0.3s,baz=17,slow=19,SNR=4.3						
PRGZ	**Paritu Road**	**2.63**	**209**	PN	**Pn**	**02 37 31.5**	**-0.9**
SNGZ	**Shannon Statio**	**2.75**	**218**	PN	**Pn**	**02 37 34.1**	**-0.1**
KNZ	**Kokohu**	**2.79**	**211**	PN	**Pn**	**02 37 33.6**	**-1.0**
MHGZ	**Mahia Peninsul**	**2.82**	**207**	PN	**

baz=42,SNR=4.7
WRA Warramunga Arr 44.37 259 P P 02 47 54.4 -0.9
0.3nm,0.3s,baz=92,slow=7.8,SNR=17
WRA PcP **PcP 02 49 28.3 -0.4**
0.7nm,0.7s,baz=89,slow=3.6,SNR=5.0
ASAR Alice Springs 44.60 254 P P 02 47 57.1 +0.1
7.0nm,0.7s,baz=88,slow=8.1,SNR=68
ASAR PcP **PcP 02 49 29.1 -0.3**
1.2nm,0.6s,baz=104,slow=3.7,SNR=6.9
WRKA Warakurna 49.69 252 P P 02 48 35.6 +0.2
baz=49,SNR=18
KNRA Kununurra 50.16 264 P P 02 48 39.5 +0.5
baz=50,SNR=3.6
CISI Cisompet, Garu 71.95 268 P P 02 51 08.9 +6.3
baz=72,SNR=3.6
SEY Seymchan 82.99 347 P P 02 52 02.0 +0.6
0.9nm,0.4s,baz=167,slow=8.6,SNR=5.6
ILAR Eielson Array 85.28 13 P P 02 52 11.9 -0.7
0.7nm,1.2s,baz=224,slow=5.5,SNR=4.3
TXAR Lajitas Array 85.95 58 P P 02 52 17.4 +0.5
0.5nm,0.8s,baz=240,slow=7.1,SNR=4.7
BRTR Keskin Array B 143.99 315 PKP **PKPdf 02 59 08.0 -0.3**
1.4nm,1.1s,baz=94,slow=2.1,SNR=5.7

*IDC **05** 02:43:59.4±0.8, 16°.77S×176°.55E, h0km, mb4.3/13, mb1 4.6/13, mb1mx4.4/20, mbtmp4.3/13, MS4.2/19, Ms1 4.2/19, ms1mx4.2/24, Error ellipse: s-maj=31.6km s-min=16.9km az=145.0*
*ISCJB **05** 02:44:03.8±0.4, 16°.70S±0°.10×176°.39E±0°.08, h33km, mb4.6/34, MS4.2/16, Error ellipse: s-maj=16.5km s-min=7.1km az=146.8*
*BJI **05** 02:44:03.0, 16°.70S×176°.40E, h10km, mB5.0/2, mb4.6/8*
*GCMT **05** 02:44:05.6±0.2, 16°.52S×176°.55E, h20km±1km, MW5.3/87, Moment Tensor Solution. s43,c54; s87,c139; Duration: 1s0 Moment tensor: Scale 1017Nm; Mrr-0.12±.03; Mθθ-0.07±.03; Mφφ0.19±.02; Mrθ0.29±.05; Mrφ0.91±.02; Mθφ-0.16±.04; Best double couple: M0 0.98600×1017 NP1:φs264.00000°, δ78.00000°, λ-18.00000°. NP2: φs358.00000°, δ73.00000°, λ-168.00000°. Principal axes: T 0.9900, Plg4.0000°, Azm311.0000°; N -0.0090, Plg69.0000°, Azm51.0000°; P -0.9810, Plg21.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 02:44:05.6±0.4, 16°.71S×176°.42E, h35km, mb4.7/21 Error ellipse: s-maj=18.5km s-min=8.6km az=151.0*

ISC 05 02:44:04.9±0.5, 16°.8S±0°.1×176°.64E±0°.08, h35km, n84, σ1§57/65, mb4.6/34, MS4.3/16, 4C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.65**	**125**	*e*Pn	**Pn**	**02 44 28.4**	**-3.0**
DZM	**Mont Dzumac**	**10.96**	**240**	Pn	**Pn**	**02 46 42.0**	**+2.6**
DZM	0.4nm,0.3s,baz=89,slow=12,SNR=9.2			LR	LR	02 49 54.9	
	comp=Z,2μm,20.3s,baz=52,slow=33						
DZM	**Mont Dzumac**	**10.96**	**240**	*e*Pn	**Pn**	**02 46 38.6**	**-0.8**
RAO	**Raoul Island**	**13.38**	**159**	LR	LR	02 50 48.3	
	comp=Z,1μm,19.0s,baz=358,slow=30						
HNR	**Honiara**	**17.82**	**292**	LR	LR	02 54 17.8	
	comp=Z,2μm,18.2s,baz=130,slow=35						
URZ	**Urewera**	**21.40**	**179**	LR	LR	02 55 59.4	
	comp=Z,708nm,18.9s,baz=5.0,slow=34						
RMQ	**Roma**	**27.61**	**245**	P	**P**	**02 49 49.4**	**+0.3**
	baz=24,SNR=5.8						
CTA	**Charters Tower**	**29.00**	**259**	P	**P**	**02 50 00.5**	**-1.1**
	7.1nm,1.0s,baz=94,slow=12,SNR=5.2						
CTAO	**Charters Tower**	**29.00**	**259**	*e*P	**P**	**02 50 00.2**	**-1.3**
	17nm,1.2s						
PMG	**Port Moresby**	**29.61**	**281**	*e*P	**P**	**02 50 05.5**	**-1.5**
	25nm,1.0s						
QLP	**Quilpie**	**31.58**	**246**	P	**P**	**02 50 23.6**	**-0.7**
	baz=28,SNR=9.2						
CMSA	**Cobar Meteorol**	**31.70**	**237**	P	**P**	**02 50 25.5**	**+0.2**
	baz=28,SNR=8.3						
PPT2	**Papeete2**	**32.26**	**96**	*e*S	S	02 55 35.2	-6.7
	177nm,28.8s						
PPT2				*e*LQ	LQ	02 57 36.4	
	4μm,27.5s						
PPT2				*e*LR	LR	02 59 04.3	
	1μm,30.5s						
PPT	**Papeete**	**32.26**	**96**	LR	LR	03 01 10.8	
	comp=Z,108nm,19.2s,baz=264,slow=32						
TOO	**Toolangi**	**34.35**	**227**	P	**P**	**02 50 50.3**	**+1.8**
	baz=31,SNR=3.9						
STKA	**Stephens Creek**	**35.11**	**238**	P	**P**	**02 50 55.5**	**+0.4**
	63nm,1.1s,baz=70,slow=9.1,SNR=37						
STKA				LR	LR	03 03 41.7	
	comp=Z,869nm,21.1s,baz=65,slow=34						
STKA	**Stephens Creek**	**35.11**	**238**	P	**P**	**02 50 55.5**	**+0.4**
	baz=32,SNR=23						
H11S2	**WAKE ISLAND Hy**	**36.39**	**344**	T	T	03 29 11.4	
	baz=163,slow=76,SNR=72						
H11S3	**WAKE ISLAND Hy**	**36.40**	**344**	T	T	03 29 14.6	
	baz=163,slow=76,SNR=78						
H11S1	**WAKE ISLAND Hy**	**36.41**	**344**	T	T	03 29 13.6	
	baz=163,slow=76,SNR=53						
ARPS	**Mount Arapiles**	**36.62**	**230**	P	**P**	**02 51 08.8**	**+0.9**
	baz=33,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**37.51**	**345**	T	T	03 30 32.7	
	baz=165,slow=76,SNR=49						
H11N1	**WAKE ISLAND Hy**	**37.51**	**345**	T	T	03 30 36.2	
	baz=165,slow=76,SNR=36						
H11N2	**WAKE ISLAND Hy**	**37.52**	**345**	T	T	03 30 36.8	
	baz=165,slow=76,SNR=19						
HTT	**Hallett**	**37.72**	**237**	P	**P**	**02 51 18.0**	**+0.6**
	baz=34,SNR=5.2						
WRAB	**Tennant Creek**	**40.19**	**259**	*e*P	P	02 51 34.9	-3.3
	11nm,0.9s						
WRA	**Warramunga Arr**	**40.20**	**259**	P	**P**	**02 51 35.3**	**-3.0**
	5.4nm,0.6s,baz=92,slow=9.0,SNR=117						
WRA				LR	LR	03 06 23.0	
	comp=Z,397nm,19.9s,baz=95,slow=34						
AS31	**Alice Springs**	**40.57**	**253**	*e*P	**P**	**02 51 39.3**	**-2.1**
ASAR	**Alice Springs**	**40.57**	**253**	P	**P**	**02 51 39.4**	**-2.0**
	18nm,0.9s,baz=81,slow=9.1,SNR=79						
ASAR				LR	LR	03 07 42.2	
	comp=Z,481nm,19.4s,baz=87,slow=35						
MTN	**Manton Dam**	**44.10**	**269**	P	**P**	**02 52 08.4**	**-1.7**
	baz=41,SNR=3.6						
WRKA	**Warakurna**	**45.71**	**251**	P	**P**	**02 52 21.6**	**-1.3**
	baz=42,SNR=4.8						
RKT	**Rikitea**	**45.76**	**106**	*e*LR	LR	03 05 10.8	
	864nm,32.8s						
FORT	**Forrest**	**46.25**	**243**	*e*P	**P**	**02 52 26.8**	**-0.2**
	51nm,1.1s						
SOEI	**Soe**	**51.33**	**271**	*e*P	**P**	**02 53 06.6**	**+0.2**
	40nm,1.2s						
JCJ	**Chichijima**	**54.96**	**322**	LR	LR	03 12 15.8	
	comp=Z,303nm,20.9s,baz=129,slow=31						
VNDA	**Vanda**	**61.22**	**184**	LR	LR	03 17 23.2	
	comp=Z,178nm,19.9s,baz=23,slow=33						
VNDA	**Vanda**	**61.22**	**184**	*e*P	**P**	**02 54 17.4**	**+1.7**
	7.9nm,1.4s						
MJAR	**Matsushiro Arr**	**64.26**	**326**	P	**P**	**02 54 35.4**	**-1.3**
	2.8nm,0.8s,baz=160,slow=4.9,SNR=4.1						
MJAR				LR	LR	03 17 13.9	
	comp=Z,120nm,21.9s,baz=135,slow=31						
MAJO	**Matsushiro**	**64.27**	**326**	*e*P	**P**	**02 54 38.4**	**+1.8**
	7.7nm,0.6s						
FX1	**Attu Island--F**	**69.44**	**358**	LR	LR	03 17 40.0	
	comp=Z,66nm,21.1s,baz=198,slow=29						
PETK	**Petropavlovsk-**	**71.50**	**348**	LR	LR	03 21 23.3	
	comp=Z,130nm,19.7s,baz=158,slow=31						
USRK	**Ussuriysk Ar.**	**73.09**	**328**	LR	LR	03 22 44.2	
	comp=Z,100nm,19.9s,baz=133,slow=32						
QSPA	**South Pole Qui**	**73.27**	**180**	P	**P**	**02 55 32.1**	**-0.3**
	3.3nm,0.6s,baz=24,slow=2.2,SNR=6.1						
QSPA	**South Pole Qui**	**73.27**	**180**	*e*P	**P**	**02 55 32.5**	**+0.1**
	24nm,1.1s						
IPM	**Ipoh**	**77.58**	**279**	*e*P	**P**	**02 55 58.4**	**+0.4**
	13nm,0.8s						
PSI	**Prapat**	**79.07**	**276**	P	**P**	**02 56 04.2**	**-2.2**
	baz=76,SNR=3.1						
YBH	**Yreka Blue Hor**	**80.72**	**41**	P	**P**	**02 56 14.5**	**-0.2**
	2.6nm,1.0s,baz=210,slow=8.1,SNR=3.3						
SEY	**Seymchan**	**81.70**	**349**	P	**P**	**02 56 18.8**	**-0.5**
	2.4nm,0.8s,baz=130,slow=3.9,SNR=6.3						
NVAR	**Mina Array Bea**	**81.97**	**46**	P	**P**	**02 56 21.2**	**-0.3**
	0.7nm,0.6s,baz=225,slow=12,SNR=4.0						
MAW	**Mawson**	**83.28**	**201**	LR	LR	03 29 41.6	
	comp=Z,111nm,18.5s,baz=84,slow=33						
SHPR	**Sheep Range**	**83.30**	**49**	*e*P	**P**	**02 56 28.4**	**0.0**
	11nm,1.5s						
CMAR	**Chiang Mai Arr**	**84.06**	**291**	P	**P**	**02 56 34.0**	**+1.5**
	0.8nm,0.3s,baz=96,slow=4.0,SNR=4.3						
TUC	**Tucson**	**84.82**	**54**	*e*P	**P**	**02 56 37.5**	**+1.3**
	5.6nm,1.2s						
COLA	**College**	**85.78**	**14**	*e*P	**P**	**02 56 39.4**	**-0.7**
	4.8nm,0.9s						
ILAR	**Eielson Array**	**85.93**	**15**	P	**P**	**02 56 38.4**	**-2.5**
	1.4nm,0.8s,baz=231,slow=4.9,SNR=12						
ILAR				LR	LR	03 27 07.0	
	comp=Z,145nm,20.8s,baz=204,slow=30						
DUG	**Dugway, Tooele**	**86.56**	**46**	*e*P	**P**	**02 56 47.0**	**+2.2**
	7.4nm,1.4s						
HLID	**Hailey**	**86.95**	**43**	*e*P	**P**	**02 56 47.2**	**+0.6**
	3.6nm,1.2s						
MCMT	**McKenzie Canyo**	**88.52**	**42**	*e*P	**P**	**02 56 54.4**	**+0.2**
	3.4nm,1.4s						
ANMO	**Albuquerque**	**89.16**	**53**	*e*P	**P**	**02 56 58.4**	**+1.1**
	4.0nm,1.2s						
ULN	**Ulaanbaatar**	**89.26**	**321**	*e*P	**P**	**02 56 58.1**	**+0.6**
	3.4nm,1.0s						
TXAR	**Lajitas Array**	**89.44**	**59**	P	**P**	**02 56 59.1**	**+0.5**
	0.6nm,0.9s,baz=289,slow=3.8,SNR=4.3						
TXAR				LR	LR	03 29 43.6	
	comp=Z,201nm,19.1s,baz=0.0,slow=31						
BOZ	**Bozeman (W)**	**89.64**	**42**	*e*P	**P**	**02 56 59.9**	**+0.6**
	5.2nm,1.3s						
SONM	**Songino Array**	**89.65**	**321**	P	**P**	**02 57 00.7**	**+1.4**
	3.5nm,1.3s,baz=94,slow=7.7,SNR=3.4						
SONM				LR	LR	03 38 17.6	
	comp=Z,104nm,18.1s,baz=130,slow=36						
BW06	**Boulder Array**	**89.84**	**45**	*e*P	**P**	**02 57 02.9**	**+2.5**
	4.7nm,1.3s						
PDAR	**Pinedale Array**	**89.84**	**45**	P	**P**	**02 57 02.4**	**+2.0**
	1.0nm,1.0s,baz=232,slow=3.0,SNR=3.9						
PDAR				LR	LR	03 29 52.8	
	comp=Z,183nm,20.0s,baz=281,slow=31						
GTA	**Gaotai**	**90.70**	**311**	*e*P	**P**	**02 57 06.0**	**+1.6**
GTA				pP	**pP**	**02 57 13.0**	**-2.5**
GTA				sP	**sP**	**02 57 17.4**	**-2.1**
GTA				PMZ			
	2.0nm,1.5s						
SDCO	**Great Sand Dun**	**90.87**	**51**	*e*P	**P**	**02 57 07.8**	**+2.4**
	6.1nm,1.4s						
RSSD	**Black Hills**	**94.08**	**45**	*e*P	**P**	**02 57 22.8**	**+2.8**
	5.3nm,1.3s						
YKA	**Yellowknife Ar**	**95.33**	**26**	P	**P**	**02 57 24.1**	**-0.9**
	0.3nm,0.8s,baz=251,slow=4.5,SNR=6.8						
SAML	**Samuel**	**115.56**	**109**	*e*PKPdf	**PKPdf**	**03 02 46.9**	**+2.7**
ABKAR	**Akbulak array**	**119.92**	**318**	*e*PKPdf	**PKPdf**	**03 02 53.0**	**+1.4**
LSZ	**Lusaka**	**135.46**	**226**	*e*PKPdf	**PKPdf**	**03 03 23.8**	**+1.5**
KHC	**Kasperske Hory**	**144.91**	**341**	*e*PKP	PKPdf	03 03 44.7	+6.4
KHC				*e*pPKP	pPKPdf	03 03 51.0	+1.2
KHC	**Kasperske Hory**	**144.91**	**341**	*e*PKPdf	**PKPdf**	**03 03 39.5**	**+1.2**
GRFO	**Grafenberg**	**145.11**	**343**	*e*PKPdf	**PKPab**	**03 03 38.4**	**+0.2**
GERES	**GERESS Array B**	**145.12**	**340**	PKPbc	**PKPbc**	**03 03 38.0**	**-0.3**
	1.3nm,0.9s,baz=54,slow=5.4,SNR=6.9						
MOA	**Molln**	**145.79**	**339**	↑*i*PKPab	**PKPab**	**03 03 41.7**	**+1.0**
	24nm,1.2s						
WLF	**Walferdange**	**146.30**	**349**	*e*PKPbc	**PKPab**	**03 03 44.0**	**+1.4**
BFO	**Black Forest**	**147.11**	**346**	*e*PKPbc	**PKPbc**	**03 03 44.1**	**-0.1**
WATA	**Walderalm**	**147.13**	**341**	↑*i*PKPdf	**PKPdf**	**03 03 39.4**	**-2.9**
	7.8nm,0.7s						
MOTA	**Moosalm**	**147.26**	**342**	↑*i*pPKPdf	pPKPdf	03 03 51.2	-2.8
	6.8nm,1.0s						
ABTA	**Abfaltersbach**	**147.34**	**340**	↑*i*pPKPdf	pPKPdf	03 03 51.5	-2.6
	13nm,1.6s						
BNI	**Bardonecchia**	**150.58**	**345**	*e*PKPbc	**PKPbc**	**03 03 52.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**173.93**	**234**	PKP	**PKPdf**	**03 04 14.6**	**+3.0**
	0.5nm,0.9s,baz=258,slow=2.3,SNR=2.4						
TORD				PKPab	**PKPab**	**03 05 42.1**	**-0.2**
	0.6nm,1.0s,baz=186,slow=26,SNR=2.7						

TAP 05 02:44:19.0, 22°.96N×120°.69E, h14km±1km, ML2.4, 1C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.16**	**321**	P	Pb	02 44 23.5	-0.4
	baz=322						
SGST				*e*S	Sb	02 44 27.1	0.0
	baz=322						
STYT	**Tauyuan**	**0.21**	**16**	*i* P	Pb	02 44 24.6	-0.3
	baz=17						
STYT				S	Sb	02 44 28.6	-0.2
	baz=17						
SSD	**Sandimen**	**0.22**	**195**	*i* P	Pb	02 44 24.6	-0.2
	baz=193						
SSD				S	Sb	02 44 28.3	-0.3
	baz=193						
CHN1	**Nanshi**	**0.27**	**326**	*i* P	Pb	02 44 25.5	-0.3
	baz=326						
TWM1	**Shoushan**	**0.28**	**242**	*e*P	Pb	02 44 26.0	+0.1
	baz=241						
SGLT	**Jiouru**	**0.30**	**219**	*e*P	Pb	02 44 26.8	+0.7
	baz=217						
WTP	**Ta-pu**	**0.30**	**346**	↓↓*i*P	Pg	02 44 25.8	+0.5
	baz=346						
TWK	**Hsinying**	**0.36**	**329**	*e*P	Pb	02 44 27.2	-0.2
	baz=330						
TWG	**Pinlang**	**0.37**	**111**	P	Pb	02 44 27.6	+0.2
	baz=111						
TWG				S	Sb	02 44 33.5	+0.4
	baz=111						
ELDTW	**Lidau**	**0.38**	**52**	↑↑*i*P	Pb	02 44 27.6	0.0
	baz=53						
CHN4	**Tsaushan**	**0.40**	**347**	*e*P	Pb	02 44 27.7	-0.3
	baz=346						
ECL	**Taimali**	**0.43**	**146**	*e*P	Pb	02 44 28.5	+0.1
	baz=145						
ALS	**Alishan**	**0.56**	**10**	*e*P	Pb	02 44 30.9	-0.1
	baz=11						
ALS				*e*S	Sb	02 44 39.4	+0.2
	baz=11						
YUS	**Yu-Shan**	**0.58**	**24**	*e*P	Pg	02 44 30.4	-0.6
	baz=24						
YUS				*e*S	Sg	02 44 39.5	+0.2
	baz=24						
SCZT	**Fangliau**	**0.58**	**187**	*e*P	Pb	02 44 30.9	-0.1
	baz=185						
SCZT				*e*S	Sg	02 44 38.5	+0.2
	baz=185						
EAST	**Anshuo**	**0.59**	**166**	*e*P	Pb	02 44 31.5	+0.3
	baz=165						
TAW	**Tawu**	**0.62**	**163**	*e*P	Pb	02 44 31.8	+0.1
	baz=162						
TAW				*e*S	Sb	02 44 41.1	+0.8
	baz=162						
CHN5	**Tsauling**	**0.64**	**359**	*e*P	Pb	02 44 32.1	+0.1
	baz=358						
CHN5				*e*S	Sb	02 44 41.5	+0.5
	baz=358						
TWF1	**Yuli**	**0.68**	**54**	*i* P	Pb	02 44 32.9	+0.2
	baz=55						
TWF1				*e*S	Sb	02 44 42.5	+0.5
	baz=55						
EHY	**Hungye**	**0.80**	**46**	*e*P	Pb	02 44 34.8	+0.1
	baz=46						
EHY				*e*S	Sn	02 44 46.6	-1.0
	baz=46						
SMLT	**Sun Moon Lake**	**0.94**	**12**	*e*P	Pg	02 44 37.5	+0.1
	baz=12						
TYC	**Yuchr**	**0.95**	**9**	*e*P	Pg	02 44 37.7	+0.2
	baz=9.0						
TYC				*e*S	Sn	02 44 51.2	-0.2
	baz=9.0						
WHF	**Hehuan Shan**	**1.29**	**24**	*e*P	Pn	02 44 43.3	0.0
	baz=24						

IDC 05 02:49:32.0±37.0, 54°.04N×169°.95W, h428km±180km, mb2.6/3, mb1 2.8/4, mb1mx2.5/43, mbtmp3.3/4, Error ellipse: s-maj=451.2km s-min=70.3km az=63.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**15.81**	**38**	P	P	02 52 51.8	-0.1
	0.0nm,0.3s,baz=240,slow=8.7,SNR=7.2						
INK	**Inuvik**	**22.17**	**36**	P	P	02 53 54.3	+0.5
	0.2nm,0.4s,baz=236,slow=9.1,SNR=4.6						
YKA	**Yellowknife Ar**	**29.43**	**51**	P	P	02 54 57.8	-0.5
	0.4nm,0.5s,baz=280,slow=8.0,SNR=7.6						
PDAR	**Pinedale Array**	**40.45**	**81**	P	P	02 56 31.4	-0.1
	0.6nm,0.6s,baz=330,slow=2.4,SNR=5.5						

MAN 05 03:09:37, 10°.99N×125°.34E, h38km, mb4.0, ML2.8, MS2.5, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.39**	**297**	↑*e*P	Pn	03 09 47.3	+1.3
PLP				*i* S	Sn	03 09 53.2	+0.4
BESP	**Borongan**	**0.62**	**9**	*e*P	Pn	03 09 51.0	+1.6
BESP				*e*S	Sn	03 10 00.3	+2.2
MSLP	**Maasin**	**0.97**	**209**	*e*P	Pn	03 09 56.6	+2.5
MSLP				*e*S	Sn	03 10 09.4	+2.8
SCPH	**Surigao**	**1.21**	**173**	*e*P	Pn	03 09 57.8	+0.4
SCPH				*e*S	Sn	03 10 13.2	+0.7

*IDC **05** 03:33:19.0±2.2, 3°.05S×128°.31E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/45, mbtmp3.5/3, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/34, Error ellipse: s-maj=152.1km s-min=27.3km az=68.0*
*ISCJB **05** 03:33:24.6±0.9, 3°.7S±0°.1×127°.1E±0°.2, h42km, mb3.4/1, Error ellipse: s-maj=26.8km s-min=11.0km az=140.8*
*DJA **05** 03:33:25.4±0.4, 3°.S±11°.×12°.7E±°, h10km, M3.7/5, mb4.7/1, mB5.6/1, MLv3.1/5, Mw(mB)5.1/1*

ISC 05 03:33:26.0±1.2, 3°.8S±0°.2×127°.0E±0°.2, h42km, n8, σ1§75/5, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.53**	**14**	P	Pn	03 33 31.7	-5.5
SANI	**Sanana**	**1.96**	**330**	P	**Pn**	**03 33 56.4**	**-0.3**
BNDI	**Bandanaira**	**3.03**	**105**	P	**Pn**	**03 34 11.3**	**-0.1**
LUWI	**Luwuk**	**4.99**	**303**	P	Pn	03 34 42.6	+4.3
WRA	**Warramunga Arr**	**17.62**	**157**	P	**Pn**	**03 37 26.7**	**-1.8**
	0.1nm,0.3s,baz=340,slow=12,SNR=14						
TGY	**Tagaytay City**	**18.73**	**341**	LR	LR	03 47 05.8	
	comp=Z,38nm,18.8s,baz=124,slow=45						
ASAR	**Alice Springs**	**20.90**	**162**	P	**P**	**03 38 06.5**	**+1.6**
	3.3nm,0.7s,baz=343,slow=11,SNR=28						
MKAR	**Makanchi Array**	**63.88**	**327**	P	**P**	**03 43 54.9**	**+0.4**
	0.3nm,0.7s,baz=133,slow=6.8,SNR=4.6						

*IDC **05** 03:34:28.2±0.3, 34°.55S×71°.63W, h0km, mb5.1/21, mb1 5.2/24, mb1mx5.2/24, mbtmp5.1/24, ML5.1/3, MS4.8/22, Ms1 4.8/22, ms1mx4.6/36, Error ellipse: s-maj=15.6km s-min=11.8km az=87.0*
*NEIC **05** 03:34:28.6, 34°.55S×71°.85W, h8km, mb5.7/180, MS5.1/100, ML5.3(GUC), After GUC.*
NEIC Felt [V] at Cauquenes, Parral, Pichilemu, San Fernando and Santa Cruz; [IV] at Linares, Machali, Rancagua, San Antonio, Santiago and Talca; [III] at Colina, Curico, Penaflor, Quillota and San Bernardo; [II] at Puente Alto, San Felipe, Talagante, Valparaiso and Vina del Mar. Also felt at Buin, El Monte and Rengo.
*GUC **05** 03:34:28.6±0.6, 34°.55S×71°.85W, h8km±4km, ML5.3*
*GCMT **05** 03:34:28.6±0.1, 34°.67S×71°.94W, h12km, MW5.4/88, Moment Tensor Solution. s73,c112; s88,c201; Duration: 1s3 Moment tensor: Scale 1017Nm; Mrr-1.48±.02; Mθθ-0.37±.02; Mφφ1.85±.02; Mrθ-0.22±.07; Mθφ-0.31±.02; Mφr0.42±.06; Best double couple: M0 1.75600×1017 NP1:φs165.00000°, δ53.00000°, λ-100.00000°. NP2:φs1.00000°, δ38.00000°, λ-77.00000°. Principal axes: T 1.9500, Plg7.0000°, Azm262.0000°; N -0.3860, Plg8.0000°, Azm171.0000°; P -1.5610, Plg79.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **05** 03:34:30.0±1.1, 34°.51S±0°.03×71°.65W±0°.04, h21km±7km, mb5.5/204, MS5.0/122 Error ellipse: s-maj=5.9km s-min=4.0km az=158.7*
*MOS **05** 03:34:32.7±1.1, 34°.43S×71°.71W, h33km, mb5.8/55, MS4.9/27, Error ellipse: s-maj=12.2km s-min=6.3km az=97.7*

ISC 05 03:34:32.9±0.7, 34°.48S±0°.04×71°.65W±0°.05, h31km±4km, n1066, σ0§94/1065, mb5.6/205, MS5.0/123, 230C-245D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.56**	**21**	*e*P	**Pb**	**03 34 41.9**	**-2.4**
LNV	**Longovilo**	**0.56**	**21**	*e*P	**Pb**	**03 34 41.9**	**-2.4**
CACH	**El Canelo**	**0.94**	**68**	↑↑*i*P	**Pn**	**03 34 49.2**	**-0.9**
CACH	**El Canelo**	**0.94**	**68**	↑↑*i*P	**Pn**	**03 34 49.2**	**-0.9**
CHCH	**Chadas Angostu**	**0.99**	**57**	↓↓*i*P	**Pn**	**03 34 49.8**	**-0.9**
CHCH	**Chadas Angostu**	**0.99**	**57**	↓↓*i*P	**Pn**	**03 34 49.8**	**-0.9**
RCDM	**Rinconada Maip**	**1.21**	**36**	*e*P9	**Pn**	**03 34 51.9**	**-1.9**
RCDM				*e*S	**Sb**	**03 35 10.4**	**-0.1**
RCDM				AML	AML	03 35 22.6	
	comp=E,52μm,0.4s						
RCDM	**Rinconada Maip**	**1.21**	**36**	*e*P	**Pn**	**03 34 51.9**	**-1.9**
RCDM				*e*S	**Sb**	**03 35 10.4**	**-0.1**
ANTU	**Antumapu**	**1.24**	**43**	*e*P1	**Pn**	**03 34 53.9**	**-0.3**
ANTU				*i* S	**Sb**	**03 35 12.3**	**+1.0**
ANTU				AML	AML	03 35 17.9	
	comp=E,96μm,0.5s						
ANTU	**Antumapu**	**1.24**	**43**	*e*P	**Pn**	**03 34 53.9**	**-0.3**
ANTU				*i* S	**Sb**	**03 35 12.3**	**+1.0**
LNCH	**Linares**	**1.37**	**178**	↓↓*i*P	Pn	03 34 52.0	-4.0
LNCH				*i* S	**Sn**	**03 35 09.7**	**-3.4**
LNCH				AML	AML	03 35 12.8	
	comp=E,154μm,0.8s						
LNCH	**Linares**	**1.37**	**178**	↓↓*i*P	Pn	03 34 52.0	-4.0
LNCH				*i* S	**Sn**	**03 35 09.7**	**-3.4**
LACH	**Col Las Americ**	**1.38**	**43**	↑↑*i*P	**Pn**	**03 34 56.2**	**0.0**
LACH				*i* S	**Sb**	**03 35 16.3**	**+0.8**
LACH				AML	AML	03 35 27.9	
	comp=E,42μm,0.5s						
LACH	**Col Las Americ**	**1.38**	**43**	↑↑*i*P	**Pn**	**03 34 56.2**	**0.0**
LACH				*i* S	**Sb**	**03 35 16.3**	**+0.8**
IHA	**Instituto Hidr**	**1.45**	**0**	*e*P	**Pn**	**03 34 55.2**	**-1.8**
IHA	**Instituto Hidr**	**1.45**	**0**	*e*P	**Pn**	**03 34 55.2**	**-1.8**
PEL	**Peldehue**	**1.55**	**31**	*e*P	**Pn**	**03 34 58.3**	**-0.2**
PEL				*i* S	**Sb**	**03 35 20.9**	**+0.5**
PEL	**Peldehue**	**1.55**	**31**	*e*P1	**Pn**	**03 34 58.2**	**-0.2**
PEL				*i* S	**Sb**	**03 35 20.9**	**+0.5**
PEL				AML	AML	03 35 28.5	
	comp=N,111μm,0.5s						
PEL	**Peldehue**	**1.55**	**31**	*e*P	**Pn**	**03 34 58.2

EFI	East Falkland	19.79	154	eP	P	03 38 59.3	-1.2
	comp=Z,95nm,1.0s						
USHA	Ushuaia	20.48	175	P	P	03 39 08.1	+0.1
	comp=Z,74nm,0.9s,baz=347,slow=9.0,SNR=25						
USHA				LR	LR	03 47 14.6	
	comp=Z,7µm,19.7s,baz=340,slow=38						
SIV	San Ignacio	20.72	30	P	P	03 39 10.6	-0.2
	comp=Z,145nm,1.1s,baz=230,slow=12,SNR=113						
SIV				LR	LR	03 47 48.8	
	comp=Z,3µm,19.7s,baz=216,slow=38						
NNA	Nana	22.88	347	P	P	03 39 34.2	+0.1
	comp=Z,870nm,0.9s,SNR=5.1						
NNA	Nana	22.88	347	eP	P	03 39 34.4	+0.3
NNA				pmax	pmax		
	comp=Z,156nm,1.0s						
NNA				MLR	MLR		
	comp=Z,2µm,21.0s						
NNA	Nana	22.88	347	P	P	03 39 35.0	+0.9
	comp=Z,110nm,0.9s,baz=185,slow=11,SNR=36						
NNA	Nana	22.88	347	eP	P	03 39 34.4	+0.3
	comp=Z,156nm,1.0s						
NNA				LR	LR		
	comp=Z,2µm,21.0s						
SAML	Samuel	26.57	19	eP	P	03 40 08.6	+0.3
	comp=Z,142nm,1.7s						
SAML				LR	LR		
	comp=Z,3µm,19.0s						
ATAH	Atahualpa	27.91	346	P	P	03 40 22.1	+1.3
	comp=Z,15nm,1.0s,baz=168,slow=4.6,SNR=7.9						
BDFB	Brasilia	28.34	54	P	P	03 40 24.0	-0.4
BDFB	Brasilia	28.34	54	P	P	03 40 24.0	-0.4
	comp=Z,17nm,0.7s,baz=236,slow=7.6,SNR=12						
PMSA	Palmer Station	30.68	174	PFAKE		03 40 50.0	+5.6
PMSA				LR	LR		
	comp=Z,5µm,19.0s						
HOPE	Hope Point	31.52	140	PFAKE		03 41 00.0	+8.1
HOPE				LR	LR		
	comp=Z,2µm,19.0s						
RPN	Rapa Nui	33.05	272	LR	LR	03 50 51.6	
	comp=Z,3µm,18.9s,baz=96,slow=30						
OTAV	Otavalo	35.12	348	eP	P	03 41 25.1	+0.9
	comp=Z,150nm,1.6s						
OTAV				ePcP	PcP	03 43 55.9	+0.4
OTAV				LR	LR		
	comp=Z,885nm,19.0s						
ROSC	El Rosal	39.20	356	P	P	03 42 01.0	+2.2
	comp=Z,32nm,0.9s,baz=152,slow=3.0,SNR=16						
ROSC	El Rosal	39.20	356	eP	P	03 42 02.1	+3.4
SDV	Santo Domingo	43.13	1	eP	P	03 42 30.8	-0.1
	comp=Z,89nm,1.0s						
SDV				ePcP	PcP	03 44 19.7	-0.6
SDV				LR	LR		
	comp=Z,2µm,21.0s						
RCBR	Riachuelo	43.62	57	LR	LR	04 00 53.7	
	comp=Z,4µm,19.3s,baz=207,slow=36						
RCBR	Riachuelo	43.62	57	eP	P	03 42 35.0	+0.3
	comp=Z,58nm,1.3s						
RCBR				ePcP	PcP	03 44 22.0	+0.1
BCIP	Isla Barro Col	44.09	348	eP	P	03 42 38.5	+0.1
	comp=Z,166nm,1.3s						
BCIP				LR	LR		
	comp=Z,970nm,21.0s						
PCRV	Puerto La Cruz	44.90	10	LR	LR	04 02 18.7	
	comp=Z,40µm,21.9s,baz=42,slow=37						
JTS	JuntasAbangare	46.27	342⇑	eP	P	03 42 55.1	-0.6
JTS				pmax	pmax		
	comp=Z,215nm,2.5s						
JTS	JuntasAbangare	46.27	342	eP	P	03 42 57.2	+1.5
	comp=Z,108nm,1.5s						
JTS				LR	LR		
	comp=Z,939nm,22.0s						
GRGR	Grenville	47.31	13	eP	P	03 43 02.9	-0.9
	comp=Z,188nm,0.9s						
GRGR				LR	LR		
	comp=Z,2µm,19.0s						
BBGH	Gun Hill	48.73	16	PFAKE		03 43 30.0	+15
BBGH				LR	LR		
	comp=Z,3µm,22.0s						
VNA3	Neumayer Olymp	48.80	158	P	P	03 43 15.2	+0.5
VNA2	Neumayer--Watz	49.45	157	P	P	03 43 19.8	+0.1
FDF	Fort de France	49.94	13	PFAKE		03 43 40.0	+16
FDF				LR	LR		
	comp=Z,2µm,21.0s						
SNAA	Sanae	51.02	158	P	P	03 43 31.6	-0.1
SNAA	Sanae	51.02	158	eP	P	03 43 31.4	-0.2
SNAA	Sanae	51.02	158⇓	eP	P	03 43 32.2	+0.5
SNAA				pmax	pmax		
	comp=Z,61nm,1.7s						
SNAA	Sanae	51.02	158	P	P	03 43 31.8	+0.1
	comp=Z,5.6nm,0.8s,baz=234,slow=6.0,SNR=31						
SNAA				LR	LR	04 04 56.5	
	comp=Z,335nm,18.1s,baz=290,slow=36						
SNAA	Sanae	51.02	158	eP	P	03 43 31.8	+0.1
	comp=Z,40nm,1.0s						
ICMP	Isla Caja de M	52.30	6	eP	P	03 43 41.7	0.0
CRPR	Cabo Rojo, PR	52.37	5	eP	P	03 43 40.9	-1.2
	comp=Z,97nm,1.0s						
SABA	Saba	52.42	10	eP	P	03 43 43.2	+0.6
	comp=Z,247nm,1.0s						
OBIP	Obispado Ponce	52.45	6	eP	P	03 43 42.4	-0.3
	comp=Z,119nm,1.1s						
CELP	Cerrillos	52.48	6	eP	P	03 43 42.6	-0.4
LSP	Las Mesas	52.54	5	eP	P	03 43 43.3	-0.2
LRS	Lares	52.67	6	eP	P	03 43 43.5	-0.9
ANWB	Willy Bob	52.70	12	eP	P	03 43 43.3	-1.3
	comp=Z,158nm,0.6s						
ANWB				LR	LR		
	comp=Z,1µm,20.0s						
MTDJ	Mount Denham	52.71	353	eP	P	03 43 44.6	-0.2
	comp=Z,54nm,0.8s						
AOPR	Arecibo Observ	52.73	6	eP	P	03 43 44.9	0.0
	comp=Z,50nm,0.9s						
CBYP	Canovanas	52.74	7	eP	P	03 43 43.6	-1.4
	comp=Z,106nm,1.2s						
SMRT	St. Maarten	52.87	10	eP	P	03 43 44.9	-1.0
	comp=Z,51nm,0.9s						
STVI	Saint Thomas	52.92	8	eP	P	03 43 46.3	+0.1
	comp=Z,56nm,1.1s						
SDDR	Presa de Saban	53.16	0	eP	P	03 43 49.1	+1.0
	comp=Z,23nm,0.8s						
SDDR				LR	LR		
	comp=Z,1µm,21.0s						
SMN1	Samana, DR	53.41	3	eP	P	03 43 48.8	-1.1
GTBY	Guantanamo Bay	54.20	356	eP	P	03 43 56.6	+1.1
	comp=Z,131nm,1.3s						
GTBY				LR	LR		
	comp=Z,598nm,22.0s						
GRTK	Grand Turk	55.68	1	PFAKE		03 44 20.0	+14
GRTK				LR	LR		
	comp=Z,1µm,20.0s						
QSPA	South Pole Qui	55.76	180	LR	LR	04 09 11.2	
	comp=Z,413nm,18.3s,baz=154,slow=37						
QSPA	South Pole Qui	55.76	180	eP	P	03 44 06.1	-0.6
	comp=Z,32nm,0.9s						
RKT	Rikitea	55.84	264	eS	S	03 51 45.7	-7.4
	comp=Z,992nm,28.0s						
RKT				eLQ	LQ	03 57 51.2	
	comp=Z,499nm,30.5s						
RKT				eLR	LR	04 00 13.6	
	comp=Z,1µm,34.2s						
RKT	Rikitea	55.84	264	eT	T	04 43 41.1	
	comp=Z,3.3nm,0.2s						
ASCN	Ascension	58.70	77	eP	P	03 44 28.1	+0.1
	comp=Z,45nm,0.8s						
ASCN				LR	LR		
	comp=Z,2µm,21.0s						
SHEL	Horse Pasture	61.42	90	eP	P	03 44 47.6	+1.0
SHEL				pmax	pmax		
	comp=Z,57nm,0.8s						
SHEL				MLR	MLR		
	comp=Z,2µm,19.0s						
SHEL	Horse Pasture	61.42	90	eP	P	03 44 47.6	+1.0
	comp=Z,57nm,0.8s						
SHEL				LR	LR		
	comp=Z,2µm,19.0s						
SBA	Scott Base	62.68	192	eP	P	03 44 55.6	+1.5
SBA				pmax	pmax		
	comp=Z,42nm,1.3s						
SBA	Scott Base	62.68	192	eP	P	03 44 55.6	+1.5
	comp=Z,42nm,1.3s						
VNDA	Vanda	63.70	191	P	P	03 45 01.5	+0.6
	comp=Z,6.7nm,0.9s,baz=129,slow=6.2,SNR=14						
VNDA				LR	LR	04 12 14.4	
	comp=Z,354nm,18.1s,baz=128,slow=36						
VNDA	Vanda	63.70	191	eP	P	03 45 02.5	+1.6
	comp=Z,24nm,1.2s						
SYO	Syowa Base	65.31	158⇓	eP	P	03 45 10.0	-1.4
SYO	Syowa Base	65.31	158⇓	eP	pP	03 45 17.7	-3.3
035Z	Hargill	65.58	334	⇑P	P	03 45 15.0	+1.4
	baz=66						
035A	Encino	66.02	334	⇓P	P	03 45 17.6	+1.0
	baz=66,SNR=12						
034A	Hebbronville	66.35	334	⇑P	P	03 45 19.7	+1.0
	baz=67,SNR=25						
TIGA	Tifton	66.52	349	⇓P	P	03 45 19.6	0.0
	baz=67						
TIGA	Tifton	66.52	349	eP	P	03 45 19.0	-0.7
	comp=Z,112nm,1.1s						
BRAL	Brewton	66.74	346	eP	P	03 45 22.8	+1.7
	comp=Z,163nm,1.3s						
934A	Benavides	66.78	334	⇑P	P	03 45 22.9	+1.5
	baz=67,SNR=14						
933A	Laredo	67.06	333	⇑P	P	03 45 24.1	+0.9
	baz=67,SNR=28						
SACV	Santiago Islan	67.09	51	PFAKE		03 45 40.0	+16
SACV				LR	LR		
	comp=Z,1µm,19.0s						
835A	Beeville	67.16	335	⇓P	P	03 45 25.1	+1.3
	baz=68,SNR=10.0						
834A	Tilden	67.27	334	⇑P	P	03 45 25.5	+1.1
	baz=68,SNR=34						
TBI	Tubuai	67.52	256	eT	T	04 58 10.7	
	comp=Z,11nm,0.3s						
735A	Kenedy	67.67	335	⇓P	P	03 45 28.0	+1.0
	baz=68,SNR=12						
NHSC	New Hope	67.70	352	eP	P	03 45 27.2	+0.1
	comp=Z,153nm,1.1s						
NHSC				LR	LR		
	comp=Z,1µm,20.0s						
833A	Chaparral WMA,	67.75	334	⇑P	P	03 45 28.4	+0.8
	baz=68,SNR=58						
734A	La Parita Cree	67.93	335	⇓P	P	03 45 29.0	+0.4
	baz=68,SNR=18						
832A	Faith Ranch, C	67.93	333	⇓P	P	03 45 29.3	+0.6
	baz=68,SNR=56						
636A	Smothers Creek	67.99	336	⇓P	P	03 45 30.0	+1.0
	baz=68,SNR=43						
HKT	Hockley	68.03	337	eP	P	03 45 30.5	+1.4
HKT				pmax	pmax		
	comp=Z,71nm,1.3s						
HKT	Hockley	68.03	337	eP	P	03 45 30.5	+1.4
	comp=Z,71nm,1.3s						
733A	Divot King Ran	68.07	334	⇓P	P	03 45 29.8	+0.3
	baz=68,SNR=14						
635A	Leesville	68.15	336	⇓P	P	03 45 30.1	+0.1
	baz=68,SNR=13						
538A	Harpers Horsep	68.17	338	⇑P	P	03 45 31.2	+1.1
	baz=68						
537A	Green Hill Far	68.30	337	⇑P	P	03 45 31.7	+0.7
	baz=69,SNR=16						
732A	Laxson Ranch,	68.33	333	⇑P	P	03 45 31.3	+0.2
	baz=69,SNR=93						
634A	China Grove, S	68.34	335	⇓P	P	03 45 31.8	+0.5
	baz=69						
GOGA	Godfrey	68.44	349	eP	P	03 45 31.5	-0.2
GOGA				pmax	pmax		
	comp=Z,67nm,1.3s						
GOGA				MLR	MLR		
	comp=Z,751nm,19.0s						
GOGA	Godfrey	68.44	349	eP	P	03 45 31.5	-0.2
	comp=Z,67nm,1.3s						
GOGA				LR	LR		
	comp=Z,751nm,19.0s						
536A	Bastrop	68.54	336	⇓P	P	03 45 32.9	+0.5
	baz=69,SNR=10						
438A	Sam Houston St	68.66	338	⇓P	P	03 45 33.1	0.0
	baz=69						
535A	Dale	68.67	336	⇑P	P	03 45 33.7	+0.5
	baz=69,SNR=20						
VBMS	Vicksburg	68.67	343	eP	P	03 45 34.7	+1.5
	comp=Z,129nm,0.9s						
LRAL	Lakeview Retre	68.69	346	eP	P	03 45 33.3	0.0
	comp=Z,52nm,1.1s						
633A	Saathoff Ranch	68.70	334	⇓P	P	03 45 33.9	+0.4
	baz=69,SNR=35						
340A	Bronson	68.81	340	⇑P	P	03 45 34.6	+0.5
	baz=69,SNR=18						
339A	Huntington	68.92	339	⇑P	P	03 45 35.4	+0.6
	baz=69,SNR=26						
632A	Uvalde	68.97	334	⇓P	P	03 45 35.5	+0.4
	baz=69,SNR=50						
534A	Blanco	68.97	335	⇓P	P	03 45 34.9	-0.3
	baz=69,SNR=9.6						
436A	Wall Ranch, Ga	69.09	337	⇓P	P	03 45 36.7	+0.9
	baz=69						
MEH	Mehetia	69.10	262	eT	T	05 00 12.6	
	comp=Z,77nm,0.2s						
631A	Perdido Creek	69.17	333	⇓P	P	03 45 36.2	-0.2
	baz=70,SNR=23						
338A	Crockett	69.17	338	⇑P	P	03 45 37.5	+1.1
	baz=70,SNR=10						
533A	Kerrville	69.21	335	⇓P	P	03 45 37.1	+0.4
	baz=70,SNR=43						
337A	Centerville	69.31	338	⇓P	P	03 45 38.2	+1.0
	baz=70,SNR=18						
NATX	Nacogdoches	69.36	339	eP	P	03 45 38.3	+0.8
	comp=Z,194nm,1.3s						
435B	Jarrell	69.36	336	⇑P	P	03 45 38.3	+0.7
	baz=70,SNR=10						
239A	Gary	69.54	339	⇑P	P	03 45 39.1	+0.5
	baz=70,SNR=5.3						
532A	Rocksprings	69.57	334	⇓P	P	03 45 39.4	+0.5
	baz=70,SNR=125						
CNNC	Cliffs of the	69.60	355	eP	P	03 45 39.6	+0.7
	comp=Z,152nm,1.2s						
CNNC				LR	LR		
	comp=Z,455nm,20.0s						
434A	Burnet	69.62	336	⇓P	P	03 45 39.3	+0.1
	baz=70,SNR=53						
336A	Riesel	69.68	337	⇓P	P	03 45 39.8	+0.3
	baz=70,SNR=30						
238A	Jacksonville	69.72	339	⇓P	P	03 45 40.5	+0.8
	baz=70,SNR=6.4						
335A	Moody	69.77	337	⇑P	P	03 45 40.4	+0.3
	baz=70,SNR=19						
531A	Rocksprings	69.84	334	⇑P	P	03 45 41.0	+0.5
	baz=70,SNR=46						
KMSC	Kings Mountain	69.85	352	⇓P	P	03 45 40.6	+0.2
	baz=70,SNR=12						
KMSC	Kings Mountain	69.85	352	eP	P	03 45 40.5	+0.1
	comp=Z,67nm,1.0s						
433A	Art	69.85	335	⇑P	P	03 45 40.5	-0.1
	baz=70,SNR=93						
JCT	Junction City	69.85	334	eP	P	03 45 41.3	+0.6
JCT				pmax	pmax		
	comp=Z,136nm,1.0s						
JCT				MLR	MLR		
	comp=Z,364nm,20.0s						
JCT	Junction City	69.85	334	⇑P	P	03 45 40.7	0.0
	baz=70,SNR=60						
JCT	Junction City	69.85	334	eP	P	03 45 41.3	+0.6
	comp=Z,136nm,1.0s						
JCT				LR	LR		
	comp=Z,364nm,20.0s						
237A	Washetta, Mont	69.92	338	⇑P	P	03 45 41.6	+0.6
	baz=70,SNR=18						
334A	Lometa	70.09	336	⇓P	P	03 45 42.2	+0.1
	baz=70,SNR=54						
530A	J-C Ranch, Com	70.12	333	⇑P	P	03 45 42.7	+0.4
	baz=70,SNR=79						
TVO	Taravao	70.12	262	eT	T	05 01 27.6	
	comp=Z,2.9nm,0.2s						
432A	Menard	70.21	334	⇓P	P	03 45 42.8	-0.1
	baz=70,SNR=18						
TXAR	Lajitas Array	70.31	331	P	P	03 45 44.0	+0.5
	comp=Z,15nm,0.7s,baz=150,slow=8.1,SNR=134						
TIAR	Tiarei	70.31	262	eT	T	05 01 44.0	
	comp=Z,14nm,0.2s						
138A	Matatall Enter	70.32	339	⇓P	P	03 45 44.0	+0.6
	baz=71,SNR=8.7						
431A	Sonora	70.33	334	⇓P	P	03 45 43.4	-0.2
	baz=71,SNR=59						
333A	Richland Sprin	70.33	335	⇓P	P	03 45 43.4	-0.1
	baz=71,SNR=7.8						
529A	Stev Forest Ra	70.43	332	⇑P	P	03 45 44.7	+0.4
	baz=71,SNR=100						
WHTX	Lake Whitney,	70.43	337	⇓P	P	03 45 44.1	0.0
	baz=71,SNR=34						
WHTX	Lake Whitney,	70.43	337	eP	P	03 45 44.7	+0.5
	comp=Z,126nm,1.0s						
PAE	Paea	70.45	262	eT	T	05 01 53.7	
	comp=Z,2.1nm,0.2s						
137A	Heron Place, G	70.46	339	⇓P	P	03 45 44.6	+0.4
	baz=71,SNR=15						
PPT2	Papeete2	70.49	262	eS	S	03 54 47.1	-9.3
	comp=Z,1µm,24.0s						
PPT2	Papeete2	70.49	262	eLR	LR	04 06 55.5	
	comp=Z,3µm,33.0s						
PPT	Papeete	70.50	262	P	P	03 45 45.0	+0.1
	comp=Z,33nm,0.7s,baz=4.1,slow=14,SNR=2.2						
PPT				LR	LR	04 08 20.4	
	comp=Z,909nm,18.4s,baz=182,slow=29						
CPCT	Cooper Cave	70.60	349	eP	P	03 45 47.2	+2.2
SWET	Sewanee	70.61	348	eP	P	03 45 44.6	-0.5
	comp=Z,127nm,1.0s						
OXF	Oxford	70.62	345	eP	P	03 45 45.1	0.0
OXF				pmax	pmax		
	comp=Z,236nm,1.0s						
OXF	Oxford	70.62	345	eP	P	03 45 45.1	0.0
	comp=Z,236nm,1.0s						
332A	Millersview	70.65	335	⇑P	P	03 45 45.3	-0.2
	baz=71,SNR=37						
430A	Baggett Ranch,	70.65	333	⇑P	P	03 45 45.9	+0.3
	baz=71,SNR=74						
234A	Clairette	70.67	336	⇑P	P	03 45 45.7	+0.2
	baz=71,SNR=51						
TKL	Tuckaleechee C	70.69	350	eP	P	03 45 45.3	-0.3
TKL	Tuckaleechee C	70.69	350	eP	P	03 45 45.3	-0.3
429A	Davenport Ranc	70.76	333	⇑P	P	03 45 46.2	0.0
	baz=71,SNR=56						
331A	San Angelo	70.83	334	⇓P	P	03 45 46.1	-0.5
	baz=71,SNR=74						
233A	Rising Star	70.94	336	⇓P	P	03 45 47.0	-0.2
	baz=71,SNR=51						
135A	Vickery Place,	70.94	337	⇑P	P	03 45 46.7	-0.5
	baz=71,SNR=9.0						
232A	Coleman	71.08	335	⇓P	P	03 45 48.1	0.0
	baz=71,SNR=38						
134A	White-Moore Ra	71.17	337	⇑P	P	03 45 48.7	+0.1
	baz=72,SNR=13						
330A	Mertzon	71.19	334	⇓P	P	03 45 48.3	-0.5
	baz=72,SNR=47						
231A	Bronte	71.36	335	⇑P	P	03 45 49.5	-0.3
	baz=72,SNR=38						
133A	Hamilton Ranch	71.48	336	⇓P	P	03 45 50.3	-0.2
	baz=72,SNR=37						
TZTN	Tazewell	71.52	350	eP	P	03 45 50.7	+0.1
	comp=Z,124nm,1.5s						
329A	Wagon Wheel Ra	71.56	333	⇓P	P	03 45 51.2	+0.1
	baz=72,SNR=51						
UALR	University of	71.56	342	eP	P	03 45 51.0	+0.1
	comp=Z,52nm,1.1s						
230A	Sterling City	71.60	334	⇑P	P	03 45 51.0	-0.3
	baz=72,SNR=15						
BBTS	Babate	71.60	57	LR	LR	04 16 29.1	
	comp=Z,1µm,18.5s,baz=234,slow=35						
Z35A	Perchaven, San	71.61	338	⇑P	P	03 45 51.2	0.0
	baz=72,SNR=40						
MIAR	Mount Ida	71.67	341	eP	P	03 45 51.7	+0.2
MIAR				pmax	pmax		
	comp=Z,64nm,1.2s						
MIAR				MLR	MLR		
	comp=Z,389nm,19.0s						
MIAR	Mount Ida	71.67	341	eP	P	03 45 51.7	+0.2
	comp=Z,64nm,1.2s						
MIAR				LR	LR		
	comp=Z,389nm,19.0s						
ABTX	Abilene, Hawle	71.75	335	⇑P	P	03 45 52.0	-0.1
	baz=72,SNR=32						
ABTX	Abilene, Hawle	71.75	335	eP	P	03 45 52.6	+0.5
	comp=Z,146nm,1.0s						
VWCC	Virginia Weste	71.78	353	eP	P	03 45 52.5	+0.4
BLA	Blacksburg	71.79	353	eP	P	03 45 52.3	0.0
BLA				pmax	pmax		
	comp=Z,26nm,0.9s						
BLA	Blacksburg	71.79	353	eP	P	03 45 52.2	0.0
	comp=Z,26nm,0.9s						
WVT	Waverly	71.85	346	eP	P	03 45 51.3	-1.3
WVT				pmax	pmax		
	comp=Z,273nm,1.0s						
WVT	Waverly	71.85	346	eP	P	03 45 51.3	-1.3
	comp=Z,273nm,1.0s						
Z34A	Collier Ranch,	71.85	337	⇓P	P	03 45 52.7	0.0
	baz=72,SNR=14						
229A	Bryant Ranch,	71.93	333	⇓P	P	03 45 53.6	+0.4
	baz=72,SNR=26						
JSRW	J. Sargeant Re	72.04	355	eP	P	03 45 54.5	+0.9
131A	Roby	72.05	335	⇑P	P	03 45 54.0	+0.1
	baz=72,SNR=15						
Z33A	Whitaker Ranch	72.05	336	⇓P	P	03 45 54.0	+0.1
	baz=72,SNR=40						
130A	Snyder	72.19	334	⇓P	P	03 45 54.4	-0.4
	baz=72,SNR=16						
GLAT	Glass	72.28	345	eP	P	03 45 55.9	+0.7
Z32A	Haskell	72.31	336	⇓P	P	03 45 55.4	-0.1
	baz=73,SNR=53						
Y34A	Reagan Ranch,	72.34	337	⇑P	P	03 45 55.4	-0.2
	baz=73,SNR=34						
228A	UT Block 9, Go	72.36	333	⇑P	P	03 45 55.7	-0.1
	baz=73,SNR=43						
CBN	Corbin Frederi	72.51	355	eP	P	03 45 56.9	+0.4
	comp=Z,26nm,0.6s						
CBN				LR	LR		
	comp=Z,896nm,19.0s						
129A	Stewart Farms,	72.54	334	⇑P	P	03 45 56.7	-0.2
	baz=73,SNR=9.9						
Z31A	Sharp Cattle R	72.55	335	⇑P	P	03 45 57.0	+0.1
	baz=73,SNR=35						
MAW	Mawson	72.63	163	P	P	03 45 56.2	-0.8
	comp=Z,18nm,0.8s,baz=225,slow=4.3,SNR=3.6						
MAW				LR	LR	04 17 14.3	
	comp=Z,1µm,21.9s,baz=230,slow=35						
Y33A	Hilltop Ranch,	72.67	337	⇓P	P	03 45 57.3	-0.2
	baz=73,SNR=6.3						
PARMO	Parma	72.76	345	eP	P	03 45 58.3	+0.3
128A	Castleberry Fa	72.77	333	⇓P	P	03 45 58.2	-0.1
	baz=73,SNR=36						
Z30A	Sanderson Ranc	72.87	334	⇑P	P	03 45 58.4	-0.4
	baz=73,SNR=38						
Y32A	R-V Farms, Ver	72.94	336	⇓P	P	03 45 59.2	+0.1
	baz=73,SNR=18						
X34A	Smith Ranch, M	72.96	338	⇑P	P	03 45 59.2	-0.1
	baz=73,SNR=39						
CLNB	Carlsbad	72.98	332	eP	P	03 45 60.0	+0.4
	comp=Z,2.8nm,0.7s						
PBMO	Poplar Bluff	73.02	344	eP	P	03 45 59.3	-0.2
	comp=Z,103nm,1.2s						
Z29A	Hungry Hill Ra	73.05	334	⇓P	P	03 45 59.4	-0.5
	baz=73,SNR=50						
MNTX	Cornudas Mount	73.08	330	eP	P	03 45 59.5	-0.5
	comp=Z,46nm,0.9s						
MNTX				LR	LR		
	comp=Z,409nm,19.0s						
GDL2	Guadalupe Moun	73.11	331	eP	P	03 46 01.2	+0.8
X33A	Lawton	73.12	337	⇑P	P	03 45 59.3	-0.9
	baz=73,SNR=9.8						
KOMG	Komaggas	73.17	115	eP	P	03 46 00.7	-0.3
KOMG				AMB	AMB	03 46 02.5	
	comp=Z,64nm,2.2s						
KOMG	Komaggas	73.17	115	P	P	03 46 00.7	-0.3
	comp=Z,64nm,2.2s						
Y31A	Rekieta Farm,	73.17	335	⇑P	P	03 46 00.4	-0.2
	baz=74,SNR=44						
X32A	Elmer	73.26	336	⇑P	P	03 46 00.7	-0.4
	baz=74,SNR=18						
Y30A	Stafford Cattl	73.32	335	⇑P	P	03 46 00.9	-0.6
	baz=74,SNR=10						
Z28A	Tucker Farm, M	73.33	333	⇓P	P	03 46 01.1	-0.4
	baz=74,SNR=15						
WMOK	Wichita Mounta	73.39	337	eP	P	03 46 01.3	-0.5
WMOK				pmax	pmax		
	comp=Z,55nm,1.2s						
W

WCI	Wyandotte Cave	73.61	348	eP	P	03 46 02.3 -0.7
	comp=Z,35nm,1.0s					
CPRX	Cap Rock	73.65	332	eP	P	03 46 04.1 +0.6
	comp=Z,22nm,0.9s					
SIUC	Southern Illin	73.66	346	eP	P	03 46 03.2 -0.1
	comp=Z,92nm,1.0s					
W33A	Caddo, Fort Co	73.67	337	⇓P	P	03 46 03.9 +0.5
	baz=74,SNR=50					
X31A	McDonald Ranch	73.69	336	⇑P	P	03 46 03.3 -0.3
	baz=74,SNR=59					
X30A	Coker Ranch, T	73.83	335	⇑P	P	03 46 04.2 -0.2
	baz=74,SNR=20					
Y28A	McKinney Farm,	73.83	334	⇑P	P	03 46 04.3 -0.2
	baz=74,SNR=16					
W32A	Sentinel	73.89	337	⇓P	P	03 46 04.8 0.0
	baz=74,SNR=86					
Z26A	Caprock	73.91	332	⇓P	P	03 46 05.1 +0.1
	baz=74,SNR=183					
V34A	Guthrie	74.00	338	⇓P	P	03 46 05.2 -0.2
	baz=74,SNR=23					
V34A	Guthrie	74.00	338	eP	P	03 46 05.4 0.0
	comp=Z,128nm,1.1s					
MSTX	Muleshoe	74.08	333	⇑P	P	03 46 05.7 -0.3
	baz=74,SNR=54					
MSTX	Muleshoe	74.08	333	eP	P	03 46 06.2 +0.2
	comp=Z,114nm,0.9s					
X29A	Tulia	74.11	335	⇓P	P	03 46 06.2 +0.1
	baz=74,SNR=28					
Y27A	Causey	74.14	333	⇓P	P	03 46 05.8 -0.6
	baz=74,SNR=18					
W31A	Holland Ranch,	74.18	336	⇑P	P	03 46 05.9 -0.6
	baz=74,SNR=22					
Z25A	Roswell	74.20	332	⇓P	P	03 46 06.8 0.0
	baz=74,SNR=25					
V33A	Lossen Ranch,	74.23	338	⇑P	P	03 46 06.5 -0.2
	baz=75,SNR=30					
MVL	Millersville	74.23	356	eP	P	03 46 07.6 +1.0
	comp=Z,88nm,1.3s					
SUR	Sutherland	74.32	119	P	P	03 46 08.4 +0.6
	comp=Z,224nm,0.8s,SNR=13					
SUR	Sutherland	74.32	119	eP	P	03 46 08.4 +0.6
	comp=Z,32nm,0.9s					
SUR				LR	LR	
	comp=Z,837nm,19.0s					
X28A	Dimmitt	74.36	334	⇑P	P	03 46 07.2 -0.4
	baz=75,SNR=15					
V32A	Arapaho	74.38	337	⇓P	P	03 46 07.8 +0.2
	baz=75,SNR=13					
W30A	Crocket Farms	74.39	336	⇑P	P	03 46 07.9 +0.1
	baz=75					
OLIL	Olney	74.42	347	eP	P	03 46 07.2 -0.5
	comp=Z,114nm,1.3s					
Y26A	Elida	74.43	333	⇑P	P	03 46 08.0 -0.1
	baz=75,SNR=11					
319A	Douglas	74.47	327	⇓P	P	03 46 09.3 +0.9
	baz=75,SNR=38					
AMTX	Amarillo	74.50	335	⇑P	P	03 46 08.6 +0.2
	baz=75					
AMTX	Amarillo	74.50	335	eP	P	03 46 08.9 +0.5
	comp=Z,131nm,1.0s					
Z24A	Sheeppen Canyo	74.50	331	⇑P	P	03 46 08.9 +0.3
	baz=75,SNR=56					
BLO	Bloomington	74.56	348	eP	P	03 46 08.0 -0.5
BLO				pmax	pmax	
	comp=Z,285nm,1.9s					
BLO	Bloomington	74.56	348	eP	P	03 46 08.0 -0.5
	comp=Z,285nm,1.9s					
U34A	Anderson Ranch	74.56	339	⇓P	P	03 46 08.7 +0.1
	baz=75,SNR=13					
U34A	Anderson Ranch	74.56	339	eP	P	03 46 09.0 +0.4
LIC	Lamto	74.62	71	eP	P	03 46 08.7 -0.8
	comp=Z,183nm,1.3s					
V31A	Spring Creek L	74.68	337	⇓P	P	03 46 09.9 +0.5
	baz=75,SNR=17					
W29A	Amarillo	74.70	335	⇓P	P	03 46 09.6 0.0
	baz=75,SNR=50					
U33A	Lingo Farm, Me	74.74	338	⇓P	P	03 46 09.4 -0.3
	baz=75					
SLM	Saint Louis	74.76	345	eP	P	03 46 09.8 +0.1
SLM				pmax	pmax	
	comp=Z,186nm,1.1s					
SLM	Saint Louis	74.76	345	eP	P	03 46 09.8 +0.1
	comp=Z,186nm,1.1s					
Y25A	Mesa, Roswell	74.76	332	⇑P	P	03 46 10.2 +0.2
	baz=75,SNR=20					
X27A	F and S Farms,	74.80	334	⇓P	P	03 46 10.8 +0.6
	baz=75,SNR=16					
121A	Cookes Peak, D	74.81	329	⇑P	P	03 46 11.2 +0.8
	baz=75,SNR=98					
121A	Cookes Peak, D	74.81	329	eP	P	03 46 11.3 +0.9
	comp=Z,123nm,1.0s					
TIC	Toumodi	74.88	71	eP	P	03 46 11.6 +0.6
	comp=Z,107nm,1.2s					
KIC	Kosan Boka	74.93	71	eP	P	03 46 11.4 +0.1
	comp=Z,290nm,1.3s					
V30A	Spur Ranch, Mi	74.95	336	⇓P	P	03 46 12.0 +1.0
	baz=75,SNR=11					
SSPA	Standing Stone	74.96	355	eP	P	03 46 11.4 +0.6
	comp=Z,50nm,1.2s					
U32A	Winter Ranch,	74.97	337	⇑P	P	03 46 11.1 +0.1
	baz=75,SNR=21					
X26A	CR and CF Fran	74.98	333	⇑P	P	03 46 11.3 +0.1
	baz=75,SNR=48					
W28A	Vega	75.03	334	⇓P	P	03 46 11.4 -0.1
	baz=75					
DBIC	Dimbokro	75.03	71	⇓iP	P	03 46 12.3 +0.4
DBIC	Dimbokro	75.03	71	P	P	03 46 12.3 +0.4
	comp=Z,38nm,0.8s,baz=202,slow=6.2,SNR=36					
DBIC				LR	LR	04 16 30.8
	comp=Z,703nm,19.2s,baz=219,slow=34					
DBIC	Dimbokro	75.03	71	eP	P	03 46 12.7 +0.8
	comp=Z,97nm,1.2s					
Y24A	Capitan	75.06	331	⇑P	P	03 46 12.4 +0.6
	baz=75,SNR=45					
ACSO	Alum Creek Sta	75.07	351	eP	P	03 46 11.4 -0.1
	comp=Z,144nm,0.9s					
ACSO				LR	LR	
	comp=Z,759nm,19.0s					
Z22A	Elephant Butte	75.09	330	⇓P	P	03 46 12.6 +0.6
	baz=75,SNR=44					
W27A	Bowe Ranch, En	75.16	334	⇓P	P	03 46 12.4 +0.1
	baz=76,SNR=45					
U31A	Nine Bar Ranch	75.23	337	⇓P	P	03 46 12.9 +0.3
	baz=76					
ODNJ	Ogdensburg	75.24	358	eP	P	03 46 13.7 +1.3
	comp=Z,494nm,2.6s					
X25A	Clemmons Ranch	75.28	332	⇑P	P	03 46 13.0 -0.1
	baz=76,SNR=7.4					
Y23A	Lovelace Mesa,	75.31	331	⇓P	P	03 46 13.7 +0.5
	baz=76,SNR=53					
V29A	Stinnett	75.34	335	⇓P	P	03 46 13.3 +0.1
	baz=76					
T33A	Patterson Ranc	75.38	338	⇑P	P	03 46 13.5 +0.2
	baz=76,SNR=14					
YLE	Yale	75.43	359	eP	P	03 46 15.3 +1.8
	comp=Z,261nm,1.3s					
W26A	Owens Ranch, T	75.44	333	⇓P	P	03 46 14.2 +0.3
	baz=76,SNR=29					
V28A	Channing	75.47	335	⇓P	P	03 46 14.4 +0.4
	baz=76,SNR=22					
X24A	Lazy VL Ranch,	75.62	332	⇑P	P	03 46 15.4 +0.4
	baz=76,SNR=19					
U30A	WK&E Inc. Balk	75.64	336	⇑P	P	03 46 15.4 +0.5
	baz=76,SNR=16					
T32A	Huddler Ranch,	75.68	338	⇓P	P	03 46 15.4 +0.4
	baz=76,SNR=14					
V27A	Dan Oppiter Pa	75.70	334	⇓P	P	03 46 15.5 +0.2
	baz=76,SNR=23					
KSPA	Keystone Colle	75.76	357	eP	P	03 46 16.7 +1.4
	comp=Z,175nm,2.0s					
S33A	Kaszmaul Farm,	75.78	339	⇓P	P	03 46 15.8 +0.2
	baz=76					
U29A	Oasis Ranch, S	75.78	336	⇑P	P	03 46 16.0 +0.2
	baz=76					
Y22D	IRIS PASSCAL I	75.78	330	⇑P	P	03 46 16.1 +0.2
	baz=76					
W25A	X Bar L Ranch,	75.82	333	⇓P	P	03 46 16.2 +0.2
	baz=76,SNR=38					
SFIN	Lafayette	75.84	348	⇓P	P	03 46 15.0 -0.8
	baz=76,SNR=7.9					
SFIN	Lafayette	75.84	348	eP	P	03 46 15.0 -0.8
T31A	Randall Ranch,	75.84	337	⇑P	P	03 46 16.0 0.0
	baz=76,SNR=8.3					
LPM	Los Pinos Moun	75.87	331	eP	P	03 46 17.4 +0.9
LENM	Lemitar	75.88	330	eP	P	03 46 18.2 +1.7
X23A	Hourglass Bar	75.93	331	⇑P	P	03 46 17.9 +1.1
	baz=76,SNR=40					
TUC	Tucson	75.94	327	eP	P	03 46 16.9 +0.1
TUC				pmax	pmax	
	comp=Z,81nm,1.3s					
TUC				MLR	MLR	
	comp=Z,396nm,20.0s					
TUC	Tucson	75.94	327	eP	P	03 46 16.9 +0.1
	comp=Z,82nm,1.3s					
TUC				LR	LR	
	comp=Z,396nm,20.0s					
U28A	Mallet	76.04	335	⇓P	P	03 46 17.5 +0.2
	baz=76,SNR=13					
T30A	Plains	76.07	337	⇑P	P	03 46 17.6 +0.2
	baz=76					
V26A	Tequesquite Ra	76.08	334	⇑P	P	03 46 18.0 +0.4
	baz=76,SNR=30					
LAZ	Ladron	76.16	330	eP	P	03 46 19.1 +1.0
	comp=Z,40nm,1.2s					
S32A	Newby Ranch, P	76.16	338	⇓P	P	03 46 18.0 +0.2
	baz=76,SNR=15					
W24A	Lazy 6 Ranch,	76.17	332	⇓P	P	03 46 18.4 +0.2
	baz=76,SNR=58					
S31A	Mullinville	76.25	338	⇓P	P	03 46 18.3 -0.1
	baz=77,SNR=10					
U27A	Thompson Grove	76.29	335	⇓P	P	03 46 19.1 +0.4
	baz=77,SNR=43					
DRV	Dumont d'Urvil	76.31	192	SS	SS	04 01 03.0 +9.3
DRV				L	L	04 06 00.0
DRV				R		04 09 00.0
ANMO	Albuquerque	76.35	331⇑	eP	P	03 46 20.5 +1.3
ANMO				pmax	pmax	
	comp=Z,321nm,1.2s					
ANMO	Albuquerque	76.35	331	eP	P	03 46 19.9 +0.7
	comp=Z,60nm,1.0s					
BINY	Binghamton	76.41	357	eP	P	03 46 19.6 +0.5
	comp=Z,34nm,1.0s					
BINY				LR	LR	
	comp=Z,819nm,22.0s					
W23A	Werner Place,	76.42	331	⇓P	P	03 46 20.5 +0.9
	baz=77,SNR=31					
T29A	Hugoton	76.42	336	⇑P	P	03 46 19.6 +0.3
	baz=77,SNR=14					
V25A	Rancho No Teng	76.42	333	⇓P	P	03 46 19.7 +0.1
	baz=77,SNR=60					
R33A	Olander Ranch,	76.43	339	⇓P	P	03 46 19.8 +0.5
	baz=77,SNR=12					
V24A	Rampart Ranch,	76.57	332	⇓P	P	03 46 20.9 +0.4
	baz=77,SNR=29					
S30A	Montezuma	76.59	337	⇑P	P	03 46 20.7 +0.4
	baz=77,SNR=7.9					
214A	Organ Pipe Nat	76.59	325	⇓P	P	03 46 21.5 +1.1
	baz=77,SNR=49					
214A	Organ Pipe Nat	76.59	325	eP	P	03 46 21.5 +1.1
	comp=Z,63nm,1.0s					
U26A	Atchley Ranch,	76.60	334	⇓P	P	03 46 20.8 +0.3
	baz=77,SNR=35					
WIN	Windhoek	76.60	108	eP	P	03 46 21.6 +0.6
WIN				AMB	AMB	03 46 22.3
	comp=Z,13nm,2.4s					
WIN	Windhoek	76.60	108	P	P	03 46 21.7 +0.6
WIN				pmax	pmax	
	comp=Z,13nm,2.4s					
WIN	Windhoek	76.60	108	P	P	03 46 21.6 +0.6
	comp=Z,13nm,2.4s					
ERPA	Erie	76.61	354	eP	P	03 46 20.2 0.0
	comp=Z,115nm,1.1s					
HRV	Adam Dziewonsk	76.61	0	eP	P	03 46 20.6 +0.4
HRV				pmax	pmax	
	comp=Z,244nm,1.8s					
HRV	Adam Dziewonsk	76.61	0	eP	P	03 46 20.6 +0.4
	comp=Z,244nm,1.8s					
T28A	Walsh	76.67	335	⇓P	P	03 46 20.8 0.0
	baz=77,SNR=64					
R32A	Long Quarter,	76.75	338	⇓P	P	03 46 21.1 -0.1
	baz=77,SNR=34					
KSU1	Kansas State U	76.77	340	⇓P	P	03 46 20.7 -0.5
	baz=77,SNR=11					
KSU1	Kansas State U	76.77	340	eP	P	03 46 21.1 -0.1
	comp=Z,78nm,1.1s					
S29A	Ulysses	76.78	336	⇓P	P	03 46 21.5 +0.1
	baz=77,SNR=24					
T27A	Campo	76.83	335	⇑P	P	03 46 21.7 -0.1
	baz=77,SNR=60					
U25A	Circle Dot Ran	76.84	333	⇓P	P	03 46 22.2 +0.3
	baz=77,SNR=57					
TRY	Troy	76.86	358	eP	P	03 46 23.2 +1.7
	comp=Z,133nm,1.1s					
R31A	Burdett	76.88	338	⇑P	P	03 46 22.2 +0.2
	baz=77,SNR=22					
V23A	Ortiz Mt. (NFS	76.94	332	⇓P	P	03 46 23.4 +0.9
	baz=77,SNR=15					
S28A	Manter	77.02	336	⇑P	P	03 46 22.9 +0.1
	baz=77,SNR=58					
Q33A	Connelly Farm,	77.02	339	⇑P	P	03 46 22.8 +0.1
	baz=77,SNR=12					
R30A	Dighton	77.11	337	⇑P	P	03 46 23.4 +0.2
	baz=78,SNR=14					
U24A	Moreno Valley	77.18	333	⇓P	P	03 46 25.1 +1.1
	baz=78,SNR=19					
AAM	Ann Arbor	77.19	351	eP	P	03 46 23.5 0.0
AAM				pmax	pmax	
	comp=Z,90nm,1.3s					
AAM	Ann Arbor	77.19	351	eP	P	03 46 23.5 0.0
	comp=Z,90nm,1.3s					
Q32A	Meitler Ranch,	77.23	339	⇑P	P	03 46 23.9 +0.1
	baz=78,SNR=24					
T26A	Comanche Natio	77.24	334	⇑P	P	03 46 24.4 +0.3
	baz=78,SNR=47					
V22A	San Miguel Ran	77.38	331	⇑P	P	03 46 26.0 +1.0
	baz=78,SNR=85					
P33A	Williams Farm,	77.39	340	⇑P	P	03 46 25.1 +0.4
	baz=78					
S27A	Las Animas	77.45	335	⇑P	P	03 46 25.6 +0.4
	baz=78					
X18A	Snowflake	77.45	328	⇑P	P	03 46 26.5 +1.1
	baz=78,SNR=30					
U23A	El Rito	77.46	332	⇑P	P	03 46 26.2 +0.7
	baz=78,SNR=42					
Q31A	Ellis	77.50	338	⇓P	P	03 46 25.7 +0.4
	baz=78,SNR=25					
T25A	Trinidad	77.50	334	⇑P	P	03 46 26.5 +0.9
	baz=78,SNR=100					
ACCN	Adirondack Com	77.51	358	eP	P	03 46 26.5 +1.3
	comp=Z,88nm,1.3s					
R29A	Marienthal	77.52	337	⇑P	P	03 46 25.7 +0.2
	baz=78,SNR=8.9					
S26A	Kim	77.59	335	⇑P	P	03 46 26.5 +0.5
	baz=78,SNR=118					
R28A	Tribune	77.67	336	⇓P	P	03 46 26.7 +0.4
	baz=78,SNR=43					
113A	Mohawk Valley,	77.72	325	⇑P	P	03 46 27.3 +0.7
	baz=78,SNR=24					
Q30A	Quinter	77.73	338	⇑P	P	03 46 26.9 +0.2
	baz=78,SNR=35					
U22A	Llaves	77.76	332	⇓P	P	03 46 29.0 +1.8
	baz=78,SNR=12					
T24B	San Luis	77.79	333	⇓P	P	03 46 28.1 +0.7
	baz=78,SNR=45					
HNH	Hanover	77.81	360	eP	P	03 46 28.3 +1.4
	comp=Z,122nm,1.3s					
Z14A	Wintersburg	77.82	326	⇑P	P	03 46 28.1 +0.9
	baz=78,SNR=14					
P32A	Huiting Farm,	77.83	339	⇑P	P	03 46 27.0 -0.1
	baz=78,SNR=27					
W18A	Petrified Fore	77.86	329	⇑P	P	03 46 28.2 +0.6
	baz=78,SNR=7.1					
W18A	Petrified Fore	77.86	329	eP	P	03 46 28.5 +0.9
	comp=Z,148nm,1.3s					
GRM	Grahamstown	77.89	122	eP	P	03 46 28.9 +0.9
GRM				AMB	AMB	03 46 29.8
	comp=Z,67nm,1.1s					
GRM	Grahamstown	77.89	122	P	P	03 46 28.9 +0.9
GRM				pmax	pmax	
	comp=Z,67nm,1.1s					
GRM	Grahamstown	77.89	122	P	P	03 46 28.9 +0.9
	comp=Z,67nm,1.1s					
Q29A	Oakley	77.89	337	⇑P	P	03 46 27.4 -0.1
	baz=78,SNR=22					
R27A	Eads	77.95	335	⇑P	P	03 46 28.1 +0.1
	baz=78,SNR=72					
P31A	Stockton	77.97	338	⇑P	P	03 46 28.1 +0.2
	baz=78,SNR=38					
S25A	Robets Cordova	77.97	334	⇓P	P	03 46 28.8 +0.6
	baz=78,SNR=53					
X16A	Lo Mia Camp, P	78.01	327	⇓P	P	03 46 29.2 +0.8
	baz=78,SNR=108					
T23A	Casias Ranch,	78.02	332	⇓P	P	03 46 29.3 +0.7
	baz=78,SNR=19					
NCB	Newcomb	78.11	358	eP	P	03 46 29.5 +0.9
	comp=Z,63nm,1.2s					
NCB				LR	LR	
	comp=Z,1μm,19.0s					
MDV	Middlebury	78.12	359	eP	P	03 46 29.3 +0.7
R26A	Arlington	78.19	335	⇓P	P	03 46 29.8 +0.5
	baz=78,SNR=34					
S24A	Houchin Ranch,	78.24	333	⇑P	P	03 46 30.8 +0.9
	baz=79,SNR=77					
P30A	Selden	78.26	338	⇑P	P	03 46 29.9 +0.3
	baz=79,SNR=17					
O32A	Brockman Farm,	78.32	339	⇓P	P	03 46 29.6 -0.2
	baz=79,SNR=17					
Y14A	Wickenburg	78.32	326	⇓P	P	03 46 30.9 +0.9
	baz=79,SNR=32					
Q28A	Sharon Springs	78.33	336	⇓P	P	03 46 30.3 +0.3
	baz=79,SNR=26					
LBNH	Lisbon	78.34	360	eP	P	03 46 30.6 +0.8
LBNH				pmax	pmax	
	comp=Z,77nm,1.0s					
LBNH	Lisbon	78.34	360	eP	P	03 46 30.6 +0.8
	comp=Z,77nm,1.0s					
R25A	Fountain Ranch	78.35	334	⇓P	P	03 46 30.6 +0.4
	baz=79,SNR=24					
SDCO	Great Sand Dun	78.44	333	eP	P	03 46 31.3 +0.4
	comp=Z,35nm,0.9s					
GLA	Glamis	78.46	324	eP	P	03 46 32.7 +1.9
GLA				pmax	pmax	
	comp=Z,82nm,1.4s					
GLA	Glamis	78.46	324	⇑P	P	03 46 31.4 +0.6
	baz=79,SNR=6.7					
GLA	Glamis	78.46	324	eP	P	03 46 32.7 +1.9
	comp=Z,82nm,1.4s					
P29A	Atwood	78.53	337	⇑P	P	03 46 31.7 +0.7
	baz=79,SNR=28					
O31A	Woolen Ranch,	78.53	339	⇓P	P	03 46 31.3 +0.3
	baz=79,SNR=20					
KSCO	Kaye Shedlock'	78.55	336	⇓P	P	03 46 32.0 +0.8
	baz=79,SNR=22					
KSCO	Kaye Shedlock'	78.55	336	eP	P	03 46 32.5 +1.2
SCIA	State Center	78.55	344	eP	P	03 46 31.3 +0.3
	comp=Z,132nm,1.0s					
S23A	Nye Farm, Mont	78.59	333	⇓P	P	03 46 32.5 +0.7
	baz=79,SNR=7.4					
WVL	Waterville	78.69	1	eP	P	03 46 33.9 +2.2
	comp=Z,136nm,1.4s					
R24A	Sanders Place,	78.72	334	⇑P	P	03 46 33.3 +0.9
	baz=79,SNR=65					
P28A	Saint Francis	78.76	337	⇓P	P	03 46 33.2 +0.8
	baz=79,SNR=25					
LONY	Lake Ozonia	78.77	358	eP	P	03 46 32.9 +0.7
	comp=Z,91nm,1.1s					
Q26A	Hugo	78.77	335	⇑P	P	03 46 33.6 +1.0
	baz=79,SNR=34					
TSUM	Tsumeb	78.77	106	eP	P	03 46 33.4 +0.3
	comp=Z,63nm,1.3s					
TSUM				LR	LR	
	comp=Z,1μm,21.0s					
O30A	MW Ranch, Wils	78.78	338	⇓P	P	03 46 32.8 +0.4
	baz=79,SNR=21					
N32A	Stulken Farm,	78.79	340	⇑P	P	03 46 32.8 +0.3
	baz=79,SNR=8.1					
SWSC	Sam W. Stewart	78.84	323	⇓P	P	03 46 33.8 +1.0
	baz=79,SNR=7.6					
JFWS	Jewell Farm	78.88	346	eP	P	03 46 32.7 -0.1
JFWS				pmax	pmax	
	comp=Z,142nm,1.1s					
JFWS	Jewell Farm	78.88	346	eP	P	03 46 32.7 -0.1
	comp=Z,142nm,1.1s					
Y12C	Blythe	78.88	325	⇑P	P	03 46 34.4 +1.4
	baz=79,SNR=18					
WUAZ	Wupatki	78.90	328	⇑P	P	03 46 34.4 +1.0
	baz=79,SNR=29					
WUAZ	Wupatki	78.90	328	eP	P	03 46 35.0 +1.6
	comp=Z,84nm,1.1s					
WUAZ				LR	LR	
	comp=Z,389nm,19.0s					
S22A	4UR Ranch, Cre	78.94	332	⇓P	P	03 46 34.7 +1.0
	baz=79,SNR=20					
R23A	Moffat	78.95	333	⇓P	P	03 46 34.6 +0.8
	baz=79,SNR=40					
O29A	4D Ranch, Culb	78.96	338	⇑P	P	03 46 34.0 +0.6
	baz=79,SNR=8.2					
P27A	Ficken Ranch,	79.02	336	⇓P	P	03 46 34.4 +0.6
	baz=79,SNR=14					
Q25A	Bedland, Calha	79.02	335	⇑P	P	03 46 34.6 +0.6
	baz=79,SNR=26					
N31A	Bailey Ranch,	79.04	339	⇓P	P	03 46 34.2 +0.4
	baz=79,SNR=5.3					
BAR	Barrett	79.07	323	eP	P	03 46 35.6 +1.4
	comp=Z,44nm,1.1s					
MONP	Monument Peak,	79.11	323	⇑P	P	03 46 35.1 +0.5
	baz=79,SNR=8.0					
MVCO	Mesa Verde	79.14	331	⇑P	P	03 46 35.3 +0.6
	baz=79,SNR=30					
MVCO	Mesa Verde	79.14	331	eP	P	03 46 35.4 +0.7
	comp=Z,86nm,1.3s					
MVCO				LR	LR	
	comp=Z,489nm,21.0s					
PDMCI	Parker Dam,Lak	79.15	325	⇑P	P	03 46 35.5 +1.0
	baz=79,SNR=15					
BC3	Big Chuckawall	79.25	324	⇑P	P	03 46 36.2 +1.0
	baz=80,SNR=40					
O28A	Krutsinger Ran	79.27	337	⇑P	P	03 46 35.9 +0.7
	baz=80,SNR=27					
P26A	Davis Ranch, A	79.28	336	⇓P	P	03 46 35.8 +0.5
	baz=80,SNR=31					
BGNE	Belgrade	79.35	340	⇓P	P	03 46 35.5 0.0
	baz=80,SNR=14					
BGNE	Belgrade	79.35	340	eP	P	03 46 35.7 +0.2
	comp=Z,277nm,1.2s					
N30A	Hueftle Ranch,	79.36	338	⇑P	P	03 46 35.5 -0.1
	baz=80					
Q24A	Divide	79.39	334	⇓P	P	03 46 36.7 +0.6
	baz=80,SNR=49					
PKME	Peaks-Kenny Pk	79.40	2	PFAKE		03 46 50.0 +14
PKME				LR	LR	
	comp=Z,2μm,22.0s					
109C	Camp Elliot, M	79.45	322	⇑P	P	03 46 35.9 -0.3
	baz=80					
IRM	Iron Mountain	79.52	325	⇑P	P	03 46 37.5 +0.9
	baz=80,SNR=33					
M31A	Lambtecht Ranc	79.53	339	⇑P	P	03 46 37.1 +0.6
	baz=80,SNR=28					
P25A	Willow Gulch B	79.53	335	⇓P	P	03 46 37.5 +0.8
	baz=80,SNR=79					
N29A	Votaw Ranch, W	79.54	338	⇑P	P	03 46 37.0 +0.5
	baz=80,SNR=8.5					
O27A	Beecher Island	79.56	336	⇑P	P	03 46 37.6 +0.8
	baz=80,SNR=40					
BOSA	Boshof	79.56	117	⇓iP	P	03 46 37.1 -0.2
BOSA				AMB	AMB	03 46 37.5
	comp=Z,87nm,2.2s					
BOSA	Boshof	79.56	117	eP	P	03 46 37.3 0.0
BOSA				pmax	pmax	
	comp=Z,81nm,1.0s					
BOSA	Boshof	79.56	117	P	P	03 46 37.4 0.0
	comp=Z,60nm,0.8s,baz=237,slow=4.4,SNR=71					
BOSA				LR	LR	04 17 23.9
	comp=Z,444nm,21.0s,baz=232,slow=32					
BOSA	Boshof	79.56	117	eP	P	03 46 37.3 0.0
	comp=Z,81nm,1.0s					
Q23A	Hartsel	79.58	334	⇑P	P	03 46 37.2 0.0
	baz=80					
W13A	Hualapai Mount	79.69	326	⇑P	P	03 46 38.4 +0.7
	baz=80					
N28A	Pribbeno Ranch	79.70	337	⇓P	P	03 46 37.6 +0.1
	baz=80,SNR=16					
PFO	Pinyon Flats O	79.70	323	P	P	03 46 39.9 +2.2
	comp=Z,363nm,1.0s,SNR=19					
PFO	Pinyon Flats O	79.70	323	eP	P	03 46 39.6 +1.8
PFO	Pinyon Flats O	79.70	323	⇑P	P	03 46 38.9 +1.2
	baz=80,SNR=26					
PFO	Pinyon Flats O	79.70	323	eP	P	03 46 39.

MURC	Murrieta	80.07 323	⇓P	P	03 46 40.3	+0.7
	baz=80,SNR=16					
U15A	North Rim	80.07 328	⇑P	P	03 46 40.7	+0.9
	baz=80,SNR=47					
OGNE	Ogallala	80.10 337	⇑P	P	03 46 40.3	+0.6
	baz=80,SNR=12					
OGNE	Ogallala	80.10 337	eP	P	03 46 40.4	+0.7
	comp=Z,71nm,1.1s					
OGNE			LR	LR		
	comp=Z,346nm,19.0s					
M29A	Burnside Ranch	80.13 338	⇑P	P	03 46 40.2	+0.4
	baz=80,SNR=12					
N27A	Anderson Farm,	80.13 337	⇑P	P	03 46 40.2	+0.4
	baz=80,SNR=28					
LDFC	Landfair	80.24 325	eP	P	03 46 42.1	+1.5
	comp=Z,48nm,0.7s					
SMCO	Snowmass	80.25 333	eP	P	03 46 42.0	+1.1
L31A	Butterfield Fa	80.25 340	⇓P	P	03 46 40.9	+0.5
	baz=81,SNR=66					
SCI	San Clemente I	80.26 321	⇓P	P	03 46 41.3	+0.7
	baz=80					
GMRC	Granite Mounta	80.26 325	⇓P	P	03 46 41.8	+1.1
	baz=80,SNR=36					
ISCO	Idaho Springs	80.29 334	eP	P	03 46 41.7	+0.7
ISCO			pmax	pmax		
	comp=Z,59nm,1.3s					
ISCO			MLR	MLR		
	comp=Z,239nm,21.0s					
ISCO	Idaho Springs	80.29 334	⇑P	P	03 46 41.5	+0.5
	baz=81,SNR=41					
ISCO	Idaho Springs	80.29 334	eP	P	03 46 41.7	+0.7
	comp=Z,59nm,1.3s					
ISCO			LR	LR		
	comp=Z,239nm,21.0s					
M28A	Bar X Bar Ranc	80.29 338	⇑P	P	03 46 41.2	+0.5
	baz=81,SNR=7.6					
L30A	Spencer Herefo	80.30 339	⇓P	P	03 46 41.2	+0.5
	baz=81,SNR=13					
PV04	Paradox Valley	80.32 331	eP	P	03 46 42.9	+1.9
N26A	Koester Ranch,	80.38 336	⇑P	P	03 46 42.1	+0.9
	baz=81,SNR=6.8					
O24A	Longmont	80.39 335	⇑P	P	03 46 41.9	+0.6
	baz=81,SNR=9.5					
SWZ	Schweizer	80.41 116	eP	P	03 46 41.2	-0.7
SWZ			AMB	AMB	03 46 43.3	
	comp=Z,74nm,5.5s					
SWZ	Schweizer	80.41 116	P	P	03 46 41.2	-0.7
	comp=Z,74nm,5.5s					
BBRC	Big Bear Solar	80.46 323	⇑P	P	03 46 43.2	+1.2
	baz=81,SNR=5.1					
CIS	Catalina Islan	80.52 322	⇑P	P	03 46 42.8	+0.8
	baz=81					
P22A	Eagle	80.53 333	⇑P	P	03 46 43.3	+1.1
	baz=81,SNR=25					
HEC	Hector,Ludlow	80.63 324	⇓P	P	03 46 44.0	+1.4
	baz=81,SNR=21					
L29A	Maesberg Ranch	80.63 339	⇑P	P	03 46 43.4	+0.9
	baz=81,SNR=6.9					
N25A	Grover	80.66 336	⇓P	P	03 46 43.3	+0.6
	baz=81					
FMP	Fort Macarthur	80.71 322	⇓P	P	03 46 43.5	+0.5
	baz=81					
M27A	Reverse DX Ran	80.74 337	⇑P	P	03 46 43.6	+0.5
	baz=81,SNR=18					
O23A	Lake Granby, G	80.77 334	⇓P	P	03 46 44.3	+0.8
	baz=81,SNR=82					
BFSC	Mount Baldy Ra	80.81 323	⇓P	P	03 46 44.7	+1.0
	baz=81,SNR=24					
L28A	Connealy Angus	80.90 338	⇓P	P	03 46 44.5	+0.6
	baz=81,SNR=7.0					
TUQ	Turquoise Moun	80.92 325	⇓P	P	03 46 45.0	+0.7
	baz=81,SNR=40					
M26A	McRoberts Ranc	80.93 337	⇑P	P	03 46 44.8	+0.7
	baz=81					
K30A	Basset	80.93 340	⇑P	P	03 46 44.5	+0.5
	baz=81,SNR=50					
N24A	Carr	80.94 335	⇓P	P	03 46 45.2	+0.9
	baz=81,SNR=15					
O22A	Kremmling	80.95 334	⇓P	P	03 46 45.2	+0.7
	baz=81,SNR=55					
RRX	Edison Barstow	80.99 324	⇓P	P	03 46 45.5	+1.0
	baz=81					
MWC	Mount Wilson	81.00 323	eP	P	03 46 45.7	+0.9
MWC			pmax	pmax		
	comp=Z,58nm,0.8s					
MWC	Mount Wilson	81.00 323	eP	P	03 46 45.7	+0.9
	comp=Z,58nm,0.8s					
PASC	Pasadena Art C	81.02 322	eP	P	03 46 45.3	+0.6
	comp=Z,31nm,0.8s					
ECSD	EROS Data Cent	81.10 342	⇓P	P	03 46 44.4	-0.4
	baz=82,SNR=116					
ECSD	EROS Data Cent	81.10 342	eP	P	03 46 44.5	-0.4
	comp=Z,175nm,1.0s					
DECC	Green Verdugo	81.15 322	⇓P	P	03 46 45.5	+0.1
	baz=81					
RUDU	RUNDU	81.17 106	eP	P	03 46 47.2	+1.1
RUDU			AMB	AMB	03 46 49.0	
	comp=Z,131nm,1.1s					
RUDU	RUNDU	81.17 106	P	P	03 46 47.2	+1.1
	comp=Z,131nm,1.1s					
M25A	Palm-Egli Farm	81.20 336	⇓P	P	03 46 46.5	+0.8
	baz=82,SNR=7.9					
L27A	T5 Ranch, Ells	81.22 337	⇑P	P	03 46 46.3	+0.7
	baz=82,SNR=23					
K29A	Lazy Trails An	81.22 339	⇑P	P	03 46 46.1	+0.5
	baz=82,SNR=25					
GSC	Goldstone, Bar	81.24 324	eP	P	03 46 46.6	+0.7
GSC			pmax	pmax		
	comp=Z,106nm,0.6s					
GSC	Goldstone, Bar	81.24 324	⇑P	P	03 46 46.5	+0.7
	baz=82,SNR=92					
GSC	Goldstone, Bar	81.24 324	eP	P	03 46 46.6	+0.7
	comp=Z,106nm,0.6s					
N23A	Red Feather La	81.38 334	⇑P	P	03 46 47.3	+0.5
	baz=82,SNR=33					
L26A	Underwood Farm	81.42 337	⇑P	P	03 46 47.0	+0.2
	baz=82					
SHPR	Sheep Range	81.43 326	eP	P	03 46 48.0	+1.0
SEK	Senekal	81.45 118	eP	P	03 46 47.6	+0.1
SEK			AMB	AMB	03 46 49.3	
	comp=Z,82nm,1.2s					
SEK	Senekal	81.45 118	P	P	03 46 47.6	+0.1
	comp=Z,82nm,1.2s					
SHOC	Shoshone, Teco	81.47 325	⇑P	P	03 46 47.8	+0.8
	baz=82,SNR=118					
CCUT	Cedar City	81.48 328	eP	P	03 46 48.9	+1.6
	comp=Z,83nm,1.2s					
N22A	Wattenberg Ran	81.48 334	⇑P	P	03 46 48.1	+0.9
	baz=82,SNR=48					
EDW2	Edwards Air Fo	81.48 323	⇓P	P	03 46 47.6	+0.4
	baz=82,SNR=54					
K28A	Ten Mile Ranch	81.49 338	⇑P	P	03 46 47.8	+0.8
	baz=82,SNR=50					
M24A	Cheyenne	81.49 335	⇓P	P	03 46 48.1	+0.9
	baz=82,SNR=26					
J30A	Dallas	81.50 340	⇓P	P	03 46 47.0	0.0
	baz=82,SNR=28					
O20A	White River Ci	81.56 332	⇓P	P	03 46 48.2	+0.6
	baz=82,SNR=19					
O20A	White River Ci	81.56 332	eP	P	03 46 48.2	+0.6
	comp=Z,44nm,1.0s					
PHWY	Pilot Hill	81.56 335	eP	P	03 46 48.0	+0.3
SRU	San Rafael Swe	81.58 330	eP	P	03 46 48.5	+0.7
SRU	San Rafael Swe	81.58 330	eP	P	03 46 48.5	+0.7
BSC	Santa Cruz Isl	81.61 321	⇑P	P	03 46 47.8	0.0
	baz=82					
SPMN	Marine on St.	81.61 345	⇓P	P	03 46 46.9	-0.7
	baz=82,SNR=23					
SPMN	Marine on St.	81.61 345	eP	P	03 46 46.8	-0.7
	comp=Z,59nm,0.9s					
BFSD	Buffelsfontein	81.66 117	eP	P	03 46 49.1	+0.5
BFSD			AMB	AMB	03 46 50.3	
	comp=Z,76nm,3.0s					
BFSD	Buffelsfontein	81.66 117	P	P	03 46 49.1	+0.5
	comp=Z,76nm,3.0s					
ARUT	Antelope Range	81.71 328	eP	P	03 46 49.3	+0.9
ARUT	Antelope Range	81.71 328	eP	P	03 46 49.3	+0.9
COWI	Conover	81.75 348	eP	P	03 46 48.1	-0.1
	comp=Z,47nm,1.0s					
K27A	Flueckinger Fa	81.75 338	⇑P	P	03 46 49.4	+1.0
	baz=82,SNR=31					
M23A	Laramie	81.81 335	⇓P	P	03 46 49.6	+0.7
	baz=82,SNR=41					
J29A	Okreek	81.81 339	⇓P	P	03 46 49.0	+0.3
	baz=82,SNR=120					
LBTB	Lobatse	81.81 115	eP	P	03 46 49.6	+0.2
LBTB			AMB	AMB	03 46 50.9	
	comp=Z,75nm,2.3s					
LBTB	Lobatse	81.81 115	eP	P	03 46 49.2	-0.2
LBTB			pmax	pmax		
	comp=Z,62nm,0.8s					
LBTB	Lobatse	81.81 115	eP	P	03 46 49.2	-0.2
	comp=Z,62nm,0.8s					
L25A	Engebretsen Ra	81.81 336	⇓P	P	03 46 49.7	+0.9
	baz=82,SNR=11					
I30A	Oacoma	82.02 340	⇓P	P	03 46 49.5	-0.2
	baz=82,SNR=59					
TMUT	Trail Mountain	82.02 330	eP	P	03 46 51.3	+1.1
L24A	Wheatland	82.04 336	⇑P	P	03 46 50.5	+0.5
	baz=82					
K26A	Motz Farm, Whi	82.05 337	⇓P	P	03 46 50.9	+0.9
	baz=82,SNR=5.4					
M22A	Cedar Creek Ra	82.06 334	⇑P	P	03 46 51.1	+0.8
	baz=82,SNR=16					
ARVC	Arvin	82.10 323	⇑P	P	03 46 50.4	+0.1
	baz=82,SNR=37					
J28A	Allard Ranch,	82.10 339	⇓P	P	03 46 50.4	+0.2
	baz=82,SNR=67					
N20A	Spence Gulch,	82.18 333	⇑P	P	03 46 51.5	+0.6
	baz=82,SNR=26					
J27A	Elkhorn Farm,	82.18 338	⇑P	P	03 46 51.4	+0.8
	baz=82,SNR=59					
K25A	Mack Ranch, Ha	82.19 337	⇑P	P	03 46 50.6	-0.2
	baz=82,SNR=7.5					
KSR	Koster	82.31 116	eP	P	03 46 51.9	-0.3
KSR			AMB	AMB	03 46 53.8	
	comp=Z,25nm,2.4s					
KSR	Koster	82.31 116	P	P	03 46 51.9	-0.3
	comp=Z,25nm,2.4s					
L23A	Garrett	82.37 335	⇓P	P	03 46 51.7	-0.2
	baz=83,SNR=14					
I29A	Vivian Onida	82.37 340	⇓P	P	03 46 51.2	-0.4
	baz=83,SNR=20					
BRSD	Miller	82.38 341	⇑P	P	03 46 51.7	+0.1
	baz=83,SNR=14					
BRSD	Miller	82.38 341	eP	P	03 46 51.1	-0.5
	comp=Z,142nm,0.9s					
WDLM	Western Deep L	82.38 117	eP	P	03 46 51.3	-1.2
WDLM			AMB	AMB	03 46 52.8	
	comp=Z,38nm,2.2s					
L22A	Ellis Ranch, M	82.55 335	⇑P	P	03 46 53.3	+0.5
	baz=83,SNR=9.7					
KLOF	Kloof	82.56 117	eP	P	03 46 53.5	+0.1
KLOF			AMB	AMB	03 46 54.9	
	comp=Z,52nm,1.9s					
KLOF	Kloof	82.56 117	P	P	03 46 53.5	+0.1
	comp=Z,52nm,1.9s					
J26A	Sides Ranch, S	82.56 337	⇓P	P	03 46 53.2	+0.5
	baz=83,SNR=52					
I28A	Midland	82.60 339	⇓P	P	03 46 52.8	+0.1
	baz=83,SNR=26					
K24A	Anderson Ranch	82.61 336	⇓P	P	03 46 52.6	-0.4
	baz=83					
MPU	Maple Canyon	82.80 330	eP	P	03 46 54.8	+0.6
	comp=Z,79nm,1.2s					
SMMC	Simmler	82.83 322	⇑P	P	03 46 55.2	+1.0
	baz=83,SNR=6.2					
J25A	Sunshine Ranch	82.87 337	⇑P	P	03 46 54.7	+0.5
	baz=83,SNR=15					
H29A	Onida	82.90 340	⇓P	P	03 46 53.9	-0.4
	baz=83,SNR=77					
K23A	Bowen Ranch, D	82.91 335	⇑P	P	03 46 55.0	+0.5
	baz=83,SNR=40					
CRWM	Crown Mines	82.92 117	eP	P	03 46 55.4	+0.1
CRWM			AMB	AMB	03 46 55.6	
	comp=Z,50nm,2.3s					
I27A	Quinn	82.93 338	⇓P	P	03 46 54.6	+0.1
	baz=83,SNR=40					
NLU	North Lily Min	82.94 330	eP	P	03 46 55.1	+0.3
	comp=Z,82nm,1.4s					
DAU	Daniels Canyon	82.99 331	eP	P	03 46 56.3	+1.1
DAU	Daniels Canyon	82.99 331	eP	P	03 46 56.3	+1.1
OBSV	Observatory	83.00 117	eP	P	03 46 55.8	+0.1
OBSV			AMB	AMB	03 46 57.2	
	comp=Z,45nm,2.3s					
ERPM	east rand prop	83.03 117	eP	P	03 46 56.3	+0.5
ERPM			AMB	AMB	03 46 57.8	
	comp=Z,56nm,2.0s					
ERPM	east rand prop	83.03 117	P	P	03 46 56.3	+0.5
	comp=Z,56nm,2.0s					
G30A	Faulkton	83.06 341	⇓P	P	03 46 55.2	+0.1
	baz=83,SNR=30					
J24A	Dixon Ranch, L	83.09 336	⇓P	P	03 46 56.1	+0.7
	baz=83,SNR=21					
K22A	Casper	83.13 335	⇑P	P	03 46 55.8	+0.1
	baz=84,SNR=36					
K22A	Casper	83.13 335	eP	P	03 46 56.2	+0.5
	comp=Z,207nm,1.4s					
R11A	Troy Canyon, C	83.13 327	⇑P	P	03 46 56.7	+0.9
	baz=83,SNR=85					
R11A	Troy Canyon, C	83.13 327	eP	P	03 46 56.8	+0.9
	comp=Z,16nm,0.6s					
I26A	New Underwood	83.14 338	⇓P	P	03 46 55.6	0.0
	baz=84,SNR=18					
H28A	Mission Ridge	83.18 339	⇑P	P	03 46 55.5	-0.3
	baz=84,SNR=71					
JLU	Jordanelle	83.22 331	eP	P	03 46 56.8	+0.4
	comp=Z,38nm,0.9s					
G29A	Hoven	83.34 340	⇓P	P	03 46 56.1	-0.5
	baz=84,SNR=23					
K21A	Alcova	83.37 334	⇓P	P	03 46 57.1	0.0
	baz=84,SNR=62					
SLR	Silverton	83.41 117	eP	P	03 46 57.0	-0.7
SLR			AMB	AMB	03 46 59.1	
	comp=Z,57nm,1.9s					
SLR	Silverton	83.41 117	P	P	03 46 57.1	-0.7
SLR			pmax	pmax		
	comp=Z,57nm,1.9s					
SLR	Silverton	83.41 117	P	P	03 46 57.0	-0.7
	comp=Z,57nm,1.9s					
I25A	Rochford	83.41 337	⇓P	P	03 46 57.6	+0.5
	baz=84,SNR=43					
CTU	Camp Tracy	83.42 330	eP	P	03 46 57.5	+0.3
	comp=Z,26nm,0.9s					
DUG	Dugway, Tooele	83.44 330	eP	P	03 46 58.1	+0.7
DUG			pmax	pmax		
	comp=Z,109nm,1.4s					
DUG			MLR	MLR		
	comp=Z,313nm,21.0s					
DUG	Dugway, Tooele	83.44 330	⇓P	P	03 46 57.8	+0.4
	baz=84,SNR=79					
DUG	Dugway, Tooele	83.44 330	eP	P	03 46 58.1	+0.7
	comp=Z,109nm,1.4s					
DUG			LR	LR		
	comp=Z,313nm,21.0s					
H27A	Howes	83.45 339	⇓P	P	03 46 57.1	-0.1
	baz=84,SNR=60					
J23A	Dilts Ranch, B	83.46 336	⇑P	P	03 46 57.4	+0.1
	baz=84					
G28A	Parade	83.51 340	⇓P	P	03 46 57.5	+0.1
	baz=84,SNR=53					
I24A	Kuemmerle Ranc	83.56 337	⇓P	P	03 46 57.7	-0.1
	baz=84,SNR=19					
URZ	Urewera	83.58 228	P	P	03 46 57.8	-0.4
	comp=Z,8.1nm,0.7s,baz=250,slow=10,SNR=6.8					
URZ			LR	LR	04 15 51.4	
	comp=Z,861nm,20.0s,baz=140,slow=30					
RSSD	Black Hills	83.60 337	eP	P	03 46 58.3	+0.1
RSSD			pmax	pmax		
	comp=Z,49nm,1.0s					
RSSD	Black Hills	83.60 337	eP	P	03 46 58.2	+0.1
	comp=Z,49nm,1.0s					
TCUT	Toone Canyon	83.64 331	eP	P	03 46 58.9	+0.3
	comp=Z,116nm,1.4s					
H26A	Fairpoint	83.65 338	⇓P	P	03 46 58.5	+0.3
	baz=84					
TPH	Tonopah	83.67 325	eP	P	03 46 59.4	+0.8
TPH			pmax	pmax		
	comp=Z,56nm,0.6s					
TPH	Tonopah	83.67 325	eP	P	03 46 59.4	+0.8
	comp=Z,56nm,0.6s					
F30A	Leola	83.69 341	⇓P	P	03 46 58.0	-0.3
	baz=84,SNR=15					
J22A	Midwest	83.78 335	⇓P	P	03 46 58.7	-0.3
	baz=84,SNR=27					
F29A	Eureka	83.90 341	⇓P	P	03 46 59.2	-0.2
	baz=84,SNR=63					
H25A	Fruitdale	83.91 338	⇓P	P	03 46 59.6	+0.1
	baz=84,SNR=38					
EYMN	Ely	83.95 347	eP	P	03 46 59.2	-0.5
	comp=Z,74nm,1.1s					
J21A	Lysite	84.06 335	⇓P	P	03 47 00.8	+0.3
	baz=84,SNR=10					
TORD	Torodi Ar. Bea	84.07 70	P	P	03 47 01.0	+0.1
	comp=Z,59nm,0.9s,baz=250,slow=4.0,SNR=175					
TORD			PKKPbc	PKKPbc	04 05 14.4	+0.2
	comp=Z,0.4nm,0.6s,baz=48,slow=1.9,SNR=7.4					
TORD			LR	LR	04 23 45.6	
	comp=Z,962nm,18.2s,baz=230,slow=35					
G27A	Dupree	84.08 339	⇑P	P	03 47 00.1	-0.3
	baz=84,SNR=40					
HWUT	Hardware Ranch	84.12 331	eP	P	03 47 00.5	-0.3
	comp=Z,95nm,1.0s					
BGU	Big Grassy Mou	84.15 330	eP	P	03 47 00.7	-0.2
	comp=Z,36nm,1.5s					
F28A	McLaughlin	84.19 340	⇓P	P	03 47 00.7	-0.2
	baz=84,SNR=20					
G26A	Maurine	84.20 339	⇑P	P	03 47 00.8	-0.2
	baz=85,SNR=49					
I22A	9 Mile Ranch,	84.21 335	⇑P	P	03 47 01.3	+0.2
	baz=84,SNR=37					
SPUT	South Promonto	84.23 330	eP	P	03 47 01.8	+0.4
	comp=Z,127nm,1.3s					
E30A	Jud	84.27 341	⇑P	P	03 47 01.2	-0.1
	baz=85,SNR=16					
J20A	Shoshoni	84.30 334	⇑P	P	03 47 01.6	0.0
	baz=85,SNR=59					
H24A	Dirks Ranch, A	84.32 337	⇑P	P	03 47 01.4	-0.3
	baz=85,SNR=22					
BW06	Boulder Array	84.33 333	eP	P	03 47 01.0	-1.0
	comp=Z,47nm,1.2s					
PDAR	Pinedale Array	84.33 333	P	P	03 47 01.9	-0.1
	comp=Z,22nm,1.0s,baz=158,slow=5.1,SNR=80					
PDAR			PKKPbc	PKKPdf	04 05 11.7	+3.3
	comp=Z,0.6nm,0.6s,baz=88,slow=1.5,SNR=5.5					
G25A	Newell	84.36 338	⇓P	P	03 47 01.7	-0.1
	baz=85,SNR=46					
NV11	Mina Array Sit	84.39 325	eP	P	03 47 02.8	+0.6
I21A	Big Trails, Te	84.42 335	⇓P	P	03 47 02.3	0.0
	baz=85,SNR=50					
H23A	Clabaugh Cattl	84.43 336	⇓P	P	03 47 02.1	-0.1
	baz=85					
NVAR	Mina Array Bea	84.46 325	P	P	03 47 03.8	+1.1
	comp=Z,16nm,0.8s,baz=153,slow=5.9,SNR=63					
NVAR			PKKPbc	PKKPbc	04 05 14.4	-0.6
	comp=Z,0.3nm,0.5s,baz=258,slow=5.4,SNR=3.7					
E29A	Napoleon	84.53 341	⇓P	P	03 47 02.3	-0.2
	baz=85,SNR=14					
F27A	Lemmon	84.56 339	⇓P	P	03 47 02.1	-0.6
	baz=85,SNR=73					
J19A	Crowheart	84.57 334	⇑P	P	03 47 02.9	-0.2
	baz=85,SNR=94					
SAO	San Andreas Ge	84.70 322	eP	P	03 47 02.8	-0.9
SAO			pmax	pmax		
	comp=Z,24nm,1.0s					
SAO	San Andreas Ge	84.70 322	eP	P	03 47 02.8	-0.9
	comp=Z,24nm,1.0s					
F26A	Lodgepole	84.73 339	⇑P	P	03 47 03.3	-0.3
	baz=85,SNR=31					
CRZF	Crozet Islands	84.75 145	S	SKSac	03 56 48.0	-38
CRZF			R		04 13 00.0	
HVU	Hansel Valley	84.75 330	eP	P	03 47 04.0	0.0
HVU			pmax	pmax		
	comp=Z,79nm,1.0s					
HVU	Hansel Valley	84.75 330	eP	P	03 47 04.0	0.0
	comp=Z,79nm,1.0s					
H22A	Clearmont	84.78 336	⇑P	P	03 47 03.4	-0.6
	baz=85,SNR=15					
D30A	Buchanan	84.79 342	⇑P	P	03 47 03.8	-0.1
	baz=85,SNR=55					
G24A	Alzada	84.80 337	⇑P	P	03 47 03.7	-0.4
	baz=85,SNR=11					
E28A	Huff	84.82 340	⇑P	P	03 47 03.7	-0.4
	baz=85,SNR=11					
I20A	Worland	84.83 334	⇑P	P	03 47 04.2	-0.1
	baz=85,SNR=75					
AHID	Auburn Hatcher	84.92 332	eP	P	03 47 04.7	-0.2
	comp=Z,86nm,1.4s					
AHID			LR	LR		
	comp=Z,352nm,19.0s					
E27A	Carson	84.93 340	⇓P	P	03 47 04.1	-0.5
	baz=85,SNR=27					
D29A	Pettibone, Tap	84.97 341	⇑P	P	03 47 04.3	-0.5
	baz=85,SNR=29					
G23A	Biddle	85.00 337	⇓P	P	03 47 04.6	-0.4
	baz=85,SNR=30					
F25A	Bowman	85.04 338	⇑P	P	03 47 05.1	-0.1
	baz=85,SNR=13					
H21A	Big Horn, Sher	85.04 335	⇑P	P	03 47 04.7	-0.6
	baz=85,SNR=18					
WAKR	Walker	85.06 324	eP	P	03 47 07.1	+1.4
	comp=Z,20nm,0.5s					
CMB	Columbia Colle	85.15 323	eP	P	03 47 06.6	+0.6
CMB			pmax	pmax		
	comp=Z,68nm,0.6s					
CMB	Columbia Colle	85.15 323	eP	P	03 47 06.6	+0.6
	comp=Z,68nm,0.6s					
AGMN	Agassiz Nation	85.20 344	⇑P	P	03 47 05.3	-0.6
	baz=86,SNR=29					
AGMN	Agassiz Nation	85.20 344	eP	P	03 47 05.5	-0.4
	comp=Z,32nm,0.8s					
AGMN			LR	LR		
	comp=Z,634nm,19.0s					
I19A	Meeteetse	85.22 334	⇑P	P	03 47 05.9	-0.4
	baz=86,SNR=45					
E26A	Carlson Angus	85.23 339	⇑P	P	03 47 06.7	+0.6
	baz=86,SNR=17					
H20A	Greybull	85.25 335	⇑P	P	03 47 05.9	-0.5
	baz=86,SNR=57					
F24A	Ekalaka	85.27 338	⇓P	P	03 47 05.9	-0.5
	baz=86,SNR=31					
C30A	Mose, Pekin	85.27 342	⇑P	P	03 47 06.4	+0.1
	baz=86,SNR=52					
G22A	Birney	85.31 336	⇑P	P	03 47 06.2	-0.5
	baz=86,SNR=18					
D28A	Regan	85.35 341	⇑P	P	03 47 07.0	+0.3
	baz=86,SNR=28					
F23A	Volborg	85.46 337	⇓P	P	03 47 07.0	-0.4
	baz=86,SNR=77					
E25A	Miller Ranch,	85.54 339	⇑P	P	03 47 08.3	+0.7
	baz=86,SNR=20					
D27A	Center	85.54 340	⇓P	P	03 47 07.8	+0.2
	baz=86					
BMN	Battle Mountai	85.56 327	eP	P	03 47 08.7	+0.6
BMN			pmax	pmax		
	comp=Z,16nm,1.4s					
BMN	Battle Mountai	85.56 327	eP	P	03 47 08.7	+0.6
	comp=Z,16nm,1.4s					
G21A	Lodge Grass	85.62 336	⇓P	P	03 47 08.0	-0.3
	baz=86,SNR=25					
MDND	Maddock	85.69 342	⇓P	P	03 47 08.3	-0.1
	baz=86,SNR=39					
MDND	Maddock	85.69 342	eP	P	03 47 08.4	-0.1
	comp=Z,38nm,0.9s					
I17A	Pilgrim Ck.	85.70 333	⇓P	P	03 47 09.4	+0.6
	baz=86,SNR=68					
D26A	Manning	85.73 339	⇑P	P	03 47 08.9	+0.3
	baz=86,SNR=32					
H19A	Powell	85.76 334	⇓P	P	03 47 08.8	-0.1
	baz=86,SNR=42					
C28A	Hausauer Farms	85.78 341	⇑P	P	03 47 08.5	-0.3
	baz=86,SNR=9.6					
F22A	Rosebud	85.79 337	⇑P	P	03 47 09.3	+0.3
	baz=86,SNR=48					
E24A	Baker	85.87 338	⇓P	P	03 47 09.4	+0.1
	baz=86,SNR=27					
RAO	Raoul Island	85.89 237	LR	LR	04 16 27.8	
	comp=Z,332nm,21.4s,baz=156,slow=29					
B30A	Myrvik Farm, E	85.93 343	⇑P	P	03 47 09.3	-0.2
	baz=86,SNR=74					
G20A	Bridger	85.97 335	⇓P	P	03 47 09.3	-0.7
	baz=86,SNR=84					
H18A	Shoshone NF, C	86.01 334	⇓P	P	03 47 10.1	-0.3
	baz=86,SNR=137					
C27A	Sayler Ranch,	86.08 340	⇓P	P	03 47 10.5	+0.2
	baz=86,SNR=25					
D25A	Fairfield	86.10 339	⇓P	P	03 47 11.0	+0.6
	baz=86,SNR=48					
H17A	Grant Village	86.11 333	⇑P	P	03 47 11.5	+0.7
	baz=86,SNR=13					
H17A	Grant Village	86.11 333	eP	P	03 47 11.6	+0.7
	comp=Z,32nm,1.3s					
F21A	Absaloka Mine,	86.12 336	⇑P	P	03 47 10.5	-0

comp=Z,747nm,19.0s
B29A Wagenman Farm, 86.20 342 ⇊P **P 03 47 10.6 -0.2**
baz=87,SNR=26
YFT Old Faithful 86.25 333 *e*P **P 03 47 13.0 +1.5**
comp=Z,34nm,0.9s
RLMT Red Lodge 86.25 334 *e*P **P 03 47 11.7 +0.2**
comp=Z,92nm,1.2s
E22A Miles City 86.28 337 ⇑P **P 03 47 10.7 -0.6**
baz=87,SNR=24
C26A Wahner Farm, P 86.35 340 ⇑P **P 03 47 12.3 +0.6**
baz=87,SNR=22
D24A Glendive 86.37 338 ⇊P **P 03 47 11.9 +0.1**
baz=87,SNR=37
A30A Hoffart Farm, 86.38 343 ⇊P **P 03 47 11.4 -0.3**
baz=87,SNR=18
YNR Norris Junctio 86.42 333 *e*P **P 03 47 13.5 +1.2**
comp=Z,20nm,1.0s
B28A Dugan Ranch, T 86.45 341 ⇑P **P 03 47 11.9 -0.2**
baz=87,SNR=46
F20A Billings 86.45 335 ⇊P **P 03 47 12.0 -0.3**
baz=87
YMR Madison River 86.49 333 *e*P **P 03 47 13.5 +0.9**
comp=Z,148nm,1.0s
C25A Freed Ranch, W 86.58 339 ⇊P **P 03 47 12.8 0.0**
baz=87,SNR=19
LAO LASA Array 86.58 337 *e*P **P 03 47 12.7 -0.2**
comp=Z,127nm,1.1s
A29A Manning Farm, 86.59 342 ⇊P **P 03 47 12.3 -0.4**
baz=87,SNR=27
B27A Peters Farms, 86.65 341 ⇊P **P 03 47 12.9 -0.1**
baz=87,SNR=6.1
MSNA Messina 86.66 115 *e*P **P 03 47 14.5 +0.5**
MSNA AMB AMB 03 47 16.5
comp=Z,77nm,1.1s
MSNA Messina 86.66 115 P **P 03 47 14.5 +0.5**
comp=Z,77nm,1.1s
D23A Lindsay 86.69 338 ⇊P **P 03 47 13.4 +0.1**
baz=87,SNR=120
E21A Keefer Ranch, 86.73 336 ⇊P **P 03 47 13.6 0.0**
baz=87
C24A Savage 86.77 338 ⇊P **P 03 47 14.1 +0.3**
baz=87,SNR=18
F19A Roth Farm, Mol 86.77 335 ⇑P **P 03 47 13.6 -0.3**
baz=87,SNR=30
QLMT Earthquake Lak 86.80 333 *e*P **P 03 47 15.3 +1.1**
comp=Z,7.8nm,1.1s
A28A Rude Farm, Bot 86.85 342 ⇑P **P 03 47 13.8 -0.3**
baz=87,SNR=25
B26A Jensen Ranch, 86.89 340 ⇊P **P 03 47 14.9 +0.6**
baz=87,SNR=12
HLID Hailey 86.91 330 ⇑P **P 03 47 15.2 +0.5**
baz=87,SNR=76
HLID Hailey 86.91 330 *e*P **P 03 47 15.0 +0.3**
HLID LR LR
comp=Z,413nm,19.0s
GCMT Greycliff 86.97 334 *e*P **P 03 47 14.7 -0.2**
comp=Z,45nm,1.3s
D22A Cohagen 86.98 337 ⇊P **P 03 47 14.5 -0.3**
baz=87,SNR=50
ULM Lac du Bonnet 87.04 345 P **P 03 47 14.4 -0.5**
comp=Z,38nm,0.9s,baz=166,slow=4.3,SNR=61
E20A Meyer Farm, Mu 87.06 336 ⇑P **P 03 47 15.2 0.0**
baz=87,SNR=104
B25A Knox Farm, Ray 87.06 340 ⇊P **P 03 47 15.5 +0.4**
baz=87,SNR=14
A27A Ledoux Ranch, 87.14 341 P **P 03 47 15.6 +0.2**
baz=88
D21A La Casta Ranch 87.17 337 ⇑P **P 03 47 15.6 -0.1**
baz=88,SNR=36
E19A Rath Farm, Rou 87.24 335 ⇊P **P 03 47 15.4 -0.7**
baz=88,SNR=82
C23A Lambert 87.25 338 ⇑P **P 03 47 16.0 0.0**
baz=88,SNR=47
A26A Wade Farm, Ken 87.31 340 ⇊P **P 03 47 16.3 +0.1**
baz=88,SNR=24
MCMT McKenzie Canyo 87.34 332 *e*P **P 03 47 17.6 +0.7**
comp=Z,45nm,1.2s
MFID Camas Ranch 87.37 329 *e*P **P 03 47 17.1 +0.3**
comp=Z,47nm,1.2s
C22A Vida 87.41 338 ⇑P **P 03 47 16.8 0.0**
baz=88,SNR=22
DGMT Dagmar 87.54 339 ⇑P **P 03 47 17.4 0.0**
baz=88,SNR=43
DGMT Dagmar 87.54 339 *e*P **P 03 47 17.9 +0.4**
comp=Z,201nm,1.0s
BOZ Bozeman (W) 87.57 333 *e*P **P 03 47 17.6 -0.2**
BOZ pmax pmax
comp=Z,22nm,1.0s
BOZ MLR MLR
comp=Z,354nm,20.0s
BOZ Bozeman (W) 87.57 333 *e*P **P 03 47 17.6 -0.2**
comp=Z,22nm,1.0s
BOZ LR LR
comp=Z,354nm,20.0s
A25A Svangstu Ranch 87.65 340 ⇑P **P 03 47 18.2 +0.2**
baz=88,SNR=18
B23A Brockton 87.78 339 ⇊P **P 03 47 18.4 -0.1**
baz=88,SNR=28
WVOR Wild Horse Val 87.80 327 *e*P **P 03 47 19.7 +0.8**
WVOR pmax pmax
comp=Z,34nm,1.2s
WVOR MLR MLR
comp=Z,430nm,20.0s
WVOR Wild Horse Val 87.80 327 *e*P **P 03 47 19.7 +0.8**
comp=Z,34nm,1.2s
WVOR LR LR
comp=Z,430nm,20.0s
C21A Desert Coulee 87.87 337 ⇑P **P 03 47 18.7 -0.3**
baz=88,SNR=54
D19A Cripps Ranch, 87.89 336 ⇑P **P 03 47 19.0 -0.2**
baz=88,SNR=33
A24A Westby 87.89 339 ⇑P **P 03 47 19.4 +0.3**
baz=88,SNR=20
B22A Reddig Ranch S 87.94 338 ⇑P **P 03 47 19.3 -0.1**
baz=88,SNR=22
KCPM Cahto Peak 88.01 323 *e*P **P 03 47 21.4 +1.3**
comp=Z,33nm,1.3s
LRM Limekiln Ridge 88.02 333 *e*P **P 03 47 20.3 +0.2**
comp=Z,498nm,1.3s
KIPM Iron Peak 88.06 323 *e*P **P 03 47 21.9 +1.6**
comp=Z,69nm,1.4s
C20A Veseth Ranch, 88.07 336 ⇊P **P 03 47 19.8 -0.2**
baz=88,SNR=37
MOD Modoc Plateau 88.14 326 *e*P **P 03 47 21.4 +0.8**
comp=Z,64nm,1.1s
WDC Whiskeytown Da 88.18 324 *e*P **P 03 47 20.5 -0.1**
WDC pmax pmax
comp=Z,38nm,0.9s
WDC Whiskeytown Da 88.18 324 *e*P **P 03 47 20.5 -0.1**
comp=Z,38nm,0.9s
A23A Redstone 88.18 339 ⇑P **P 03 47 20.7 +0.2**
baz=88,SNR=10
B21A Ellsworth Farm 88.37 337 ⇑P **P 03 47 21.1 -0.3**
baz=89,SNR=33
C19A Slack Wire Ran 88.44 336 ⇊P **P 03 47 21.4 -0.4**
baz=89,SNR=22
A22A Carney Farms, 88.53 338 ⇊P **P 03 47 22.1 -0.1**
baz=89,SNR=42
N02D Trinity Center 88.56 324 ⇊P **P 03 47 22.1 -0.4**
baz=89
B20A Solberg Farm, 88.71 337 ⇑P **P 03 47 22.5 -0.4**
baz=89
M04C Macdoel 88.77 325 ⇊P **P 03 47 24.1 +0.6**
baz=89
A21A Bergtoll Ranch 88.84 338 ⇑P **P 03 47 23.2 -0.4**
baz=89,SNR=20
EGMT Eagleton 88.93 336 ⇑P **P 03 47 24.1 +0.1**
baz=89,SNR=10.0
M02C Callahan 88.95 324 ⇑P **P 03 47 23.8 -0.5**
baz=89
KHMM Horse Mountain 88.99 323 *e*P **P 03 47 26.1 +1.5**
comp=Z,60nm,1.1s
B19A Brinkman Farms 89.02 336 ⇊P **P 03 47 24.5 0.0**
baz=89
SCHQ Schefferville 89.04 3 P **P 03 47 23.6 -0.7**
comp=Z,7.7nm,0.9s,baz=165,slow=5.9,SNR=7.1
SCHQ LR LR 04 30 01.1
comp=Z,369nm,19.9s,baz=186,slow=37
HOG Hogback Mounta 89.06 325 P **P 03 47 26.0 +1.0**
A20A Cobblestone Ra 89.06 337 ⇊P **P 03 47 24.1 -0.5**
baz=89
YBH Yreka Blue Hor 89.14 324 *e*P **P 03 47 24.9 -0.4**
YBH pmax pmax
comp=Z,30nm,1.0s
YBH Yreka Blue Hor 89.14 324 *e*P **P 03 47 24.9 -0.4**
comp=Z,30nm,1.0s
BMO Blue Mountains 89.16 329 *e*P **P 03 47 25.4 +0.1**
comp=Z,28nm,1.3s
BMO LR LR
comp=Z,490nm,20.0s
CHMT Chamberlain Mo 89.24 333 *e*P **P 03 47 25.6 -0.1**
comp=Z,23nm,1.5s
LSZ Lusaka 89.35 108 *e*P **P 03 47 28.3 +1.3**
LSZ pmax pmax
comp=Z,43nm,1.0s
LSZ MLR MLR
comp=Z,1μm,21.0s
LSZ Lusaka 89.35 108 *e*P **P 03 47 28.3 +1.3**
comp=Z,43nm,1.0s
LSZ LR LR
comp=Z,1μm,21.0s
A19A Klindworth Far 89.37 337 ⇊P **P 03 47 26.3 +0.2**
baz=90,SNR=19
K04D Chiloquin, OR 89.38 326 ⇊P **P 03 47 26.7 +0.4**
baz=90
MSO Missoula 89.43 332 ⇑P **P 03 47 27.3 +0.8**
baz=90,SNR=6.5
KTRM Thompson Ridge 89.60 324 P **P 03 47 28.9 +1.4**
SLMT Seeley Lake 89.61 333 *e*P **P 03 47 27.6 +0.2**
comp=Z,17nm,1.1s
J05D Fort Rock, OR 89.65 326 ⇊P **P 03 47 28.2 +0.6**
baz=90
PINOR Pine Mountain 89.89 327 *e*P **P 03 47 29.8 +1.3**
comp=Z,69nm,1.3s
L02D Cave Junction, 89.90 324 ⇊P **P 03 47 29.5 +0.8**
baz=90
PAF Port-aux-Franc 89.92 156 S **SKSac 03 57 53.0 -4.4**
PAF R 04 18 00.0
HUMO Hull Mountain 89.93 325 *e*P **P 03 47 29.5 +0.7**
comp=Z,12nm,1.1s
J04D Umpqua Nationa 90.02 326 ⇊P **P 03 47 30.1 +0.6**
baz=90
SWMT Swartz Lake 90.02 333 *e*P **P 03 47 29.6 +0.3**
comp=Z,9.3nm,1.0s
YBMT Yellow Bay 90.32 333 *e*P **P 03 47 31.1 +0.4**
comp=Z,11nm,1.0s
JTMT Jette 90.32 333 *e*P **P 03 47 30.6 -0.1**
comp=Z,41nm,1.6s
I05D Terrebonne, OR 90.51 327 ⇊P **P 03 47 32.2 +0.6**
baz=91
BLMT Blacktail Moun 90.57 333 *e*P **P 03 47 31.9 0.0**
comp=Z,29nm,1.0s
I04A Tendick Farm, 90.58 326 ⇊P **P 03 47 32.4 +0.5**
baz=91
BSMT Bassoo Peak 90.60 333 *e*P **P 03 47 32.3 +0.2**
comp=Z,9.8nm,1.0s
I03D Drain, OR 90.95 325 ⇊P **P 03 47 34.2 +0.7**
baz=91
G05D Wamic, OR 91.20 327 ⇊P **P 03 47 35.5 +0.8**
baz=92
RTC Rabat Centre 91.21 49 PFAKE 03 47 50.0 +15
RTC LR LR
comp=Z,1μm,20.0s
WALA Waterton Lakes 91.27 334 *e*P **P 03 47 34.7 -0.4**
comp=Z,1.7nm,1.4s
HAWA Hanford 91.33 329 *e*P **P 03 47 36.0 +0.8**
comp=Z,56nm,1.2s
OD2 Odessa Site #2 91.78 330 P **P 03 47 37.9 +0.6**
NEW Newport 91.84 332 ⇊P **P 03 47 37.1 -0.5**
baz=92,SNR=8.7
MDT Midelt 91.86 51 P **P 03 47 38.5 +0.3**
comp=Z,6.0nm,1.0s,baz=233,slow=4.1,SNR=7.2
MDT LR LR 04 27 01.2
comp=Z,611nm,21.7s,baz=231,slow=34
ASR Mount Adams--S 92.03 328 P **P 03 47 39.5 +0.9**
G03D McMinnville, O 92.06 326 ⇊P **P 03 47 39.0 +0.4**
baz=92
SAW Saint Andrews 92.31 330 P **P 03 47 40.8 +1.0**
LON Longmire 92.59 328 *e*P **P 03 47 40.8 -0.3**
LON pmax pmax
comp=Z,14nm,1.0s
LON Longmire 92.59 328 *e*P **P 03 47 40.8 -0.3**
comp=Z,14nm,1.0s
ETW Entiat 92.62 329 P **P 03 47 42.4 +1.0**
TAM Tamanrasset 92.74 64 *e*P **P 03 47 42.8 +0.3**
TAM pmax pmax
comp=Z,19nm,1.1s
TAM MLR MLR
comp=Z,954nm,19.0s
TAM Tamanrasset 92.74 64 *e*P **P 03 47 42.8 +0.3**
comp=Z,19nm,1.1s
TAM LR LR
comp=Z,954nm,19.0s
EDM Edmonton 94.55 336 *e*P **P 03 47 48.4 -1.6**
EDM Edmonton 94.55 336 *e*P **P 03 47 48.4 -1.6**
FCC Fort Churchill 94.76 348 *e*P **P 03 47 50.2 -0.5**
FCC pmax pmax
comp=Z,1.0nm,1.0s
FCC Fort Churchill 94.76 348 *e*P **P 03 47 50.2 -0.5**
comp=Z,0.9nm,1.0s
MTE Manteigas 95.06 44 PFAKE 03 48 00.0 +7.3
MTE LR LR
comp=Z,1μm,22.0s
PAB San Pablo 96.36 46 PFAKE 03 48 10.0 +11
PAB LR LR
comp=Z,964nm,21.0s
ESDC Sonseca Array 96.67 46 P **P 03 47 59.9 -0.1**
comp=Z,0.3nm,0.4s,baz=244,slow=3.6,SNR=7.9
ESDC LR LR 04 29 55.9
comp=Z,531nm,19.8s,baz=225,slow=34
FRB Frobisher Bay 97.92 1 LR LR 04 35 37.0
comp=Z,260nm,18.2s,baz=175,slow=37
CAN Canberra 100.85 213 PFAKE 03 48 30.0 +11
CAN LR LR
comp=Z,452nm,20.0s
YKA Yellowknife Ar 102.61 341 P **Pdif 03 48 25.3 -0.6**
comp=Z,2.1nm,0.7s,baz=140,slow=4.4,SNR=50
YKA PP **PP 03 52 35.8 -4.2**
comp=Z,0.4nm,0.8s,baz=143,slow=7.3,SNR=3.3
KMBO Kilima Mbogo 104.87 102 PFAKE 03 53 00.0
KMBO LR LR
comp=Z,524nm,21.0s
VSL Villasalto 104.91 52 PFAKE 03 53 00.0
VSL LR LR
comp=Z,850nm,21.0s
SSB Saint Sauveur 105.06 45 PFAKE 03 53 00.0
SSB LR LR
comp=Z,799nm,20.0s
BNI Bardonecchia 106.20 46 PFAKE 03 53 10.0
BNI LR LR
comp=Z,1μm,20.0s
WDD Wield Dalam 106.49 58 PFAKE 03 53 10.0
WDD LR LR
comp=Z,1μm,19.0s
ESK Eskdalemuir 106.79 34 PFAKE 03 53 10.0
ESK LR LR
comp=Z,404nm,19.0s
EKA Eskdalemuir Ar 106.82 34 PKiKP **PKiKP 03 52 56.5 +1.9**
comp=Z,2.3nm,1.1s,baz=188,slow=2.9,SNR=3.1
VLC Villacollemand 107.99 49 PFAKE 03 53 10.0
VLC LR LR
comp=Z,407nm,19.0s
ECH Echery 108.16 44 PFAKE 03 53 10.0
ECH LR LR
comp=Z,704nm,20.0s
WLF Walferdange 108.35 42 PFAKE 03 53 10.0
WLF LR LR
comp=Z,1μm,19.0s
TUE Stuetta 108.53 46 PFAKE 03 53 10.0
TUE LR LR
comp=Z,548nm,20.0s
CEL Celeste 108.64 56 PFAKE 03 53 10.0
CEL LR LR
comp=Z,1μm,21.0s
BFO Black Forest 108.89 44 PFAKE 03 53 10.0
BFO LR LR
comp=Z,620nm,19.0s
AQU L'Aquila 108.99 51 PFAKE 03 53 10.0
AQU LR LR
comp=Z,770nm,20.0s
CUC Castrocucco 109.43 54 PFAKE 03 53 10.0
CUC LR LR
comp=Z,888nm,19.0s
TIP Timpagrande 109.67 56 PFAKE 03 53 10.0
TIP LR LR
comp=Z,951nm,20.0s
INK Inuvik 112.23 339 PP PP 03 53 46.9 -3.3
comp=Z,3.1nm,1.0s,baz=130,slow=11,SNR=4.5
GERES GERESS Array B 112.26 45 PKiKP **PKiKP 03 53 05.1 -0.1**
comp=Z,1.6nm,1.0s,baz=202,slow=1.4,SNR=7.4
CLL Collm 112.97 43 *e*PKPdf **PKiKP 03 53 08.0 +1.6**
CLL *e*Sdif Sdif 04 01 39.0 +4.1
CLL *e*PS **PS 04 03 24.0 -6.9**
CLL *e*SS **SS 04 09 37.0 -0.7**
CLL *e*(SSS) 04 13 36.0
CLL Lm MLR 04 39 00.0
comp=Z,600nm,20.7s
CSNA Conrad Observa 113.13 47 ⇊*i*Pdiff **Pdif 03 49 13.6 +0.4**
comp=Z,5.1nm,1.5s
BRG Berggiesshubel 113.31 43 PKP **PP 03 53 56.0 -2.4**
BRG *e*PP x 03 54 45.0
comp=Z,18nm,1.8s
VRAC Vranov 114.17 46 PKP PKPdf 03 53 07.7 -1.1
comp=Z,1.1nm,0.4s,baz=281,slow=5.2,SNR=3.4
HNR Honiara 114.50 238 PFAKE 03 53 20.0 +10
HNR LR LR
comp=Z,138nm,19.0s
ILAR Eielson Array 114.76 333 PKP PKPdf 03 53 09.2 -0.2
comp=Z,1.0nm,0.8s,baz=116,slow=1.2,SNR=7.4
CTAO Charters Tower 114.85 220 PFAKE 03 53 20.0 +8.9
CTAO LR LR
comp=Z,371nm,19.0s
MORC Moravsky Berou 114.93 46 *e*PKIKP PKPdf 03 53 10.6 +0.4
MORC Moravsky Berou 114.93 46 *e*PKPdf PKPdf 03 53 10.6 +0.3
KONO Kongsberg 114.93 34 PFAKE 03 53 20.0 +10
KONO LR LR
comp=Z,667nm,20.0s
VYHS Vyhne 115.17 47 *e*PKIKP **PKPdf 03 53 11.5 +0.8**
VYHS Vyhne 115.17 47 *e*PKP **PKPdf 03 53 11.5 +0.8**
COLA College 115.18 333 PFAKE 03 53 20.0 +10
COLA LR LR
comp=Z,136nm,19.0s
PSZ Piszkesteto 115.59 48 PFAKE 03 53 20.0 +8.4
PSZ LR LR
comp=Z,555nm,20.0s
NOA NORSAR Array B 116.25 33 PKP **PKPdf 03 53 11.2 -1.2**
comp=Z,2.1nm,0.9s,baz=251,slow=2.1,SNR=4.1
MSEY Mahe Island 116.83 117 *i* PKIKP **PKPdf 03 53 17.4 +2.3**
MSEY Mahe Island 116.83 117 PFAKE 03 53 30.0 +15
MSEY LR LR
comp=Z,859nm,20.0s
HFS Hagfors 117.02 34 PKP **PKPdf 03 53 12.8 -1.1**
comp=Z,3.4nm,0.8s,baz=290,slow=9.3,SNR=4.4
ASAR Alice Springs 117.29 206 PKIKP **PKPdf 03 53 14.0 -1.8**
ASAR Alice Springs 117.29 206 PKP **PKPdf 03 53 14.0 -1.8**
comp=Z,0.8nm,0.7s,baz=109,slow=1.8,SNR=5.1
ASAR PKKPbc **PKKPbc 04 03 38.5 -0.2**
comp=Z,1.5nm,0.7s,baz=341,slow=2.8,SNR=11
UZH Uzhgorod 117.34 48 *i* PKIKP PKPdf 03 53 24.4 +10
UZH *i* 04 00 25.2
KOLS Kolonicke sedl 117.44 48 *e*PKIKP **PKPdf 03 53 16.4 +1.3**
KOLS Kolonicke sedl 117.44 48 *e*PKP **PKPdf 03 53 16.4 +1.3**
KWP Kalwaria Pacla 117.96 47 *e*PKIKP **PKPdf 03 53 16.4 +0.3**
KWP MLR MLR
comp=Z,584nm,20.0s
KWP Kalwaria Pacla 117.96 47 *e*PKP **PKPdf 03 53 17.5 +1.5**
KWP Kalwaria Pacla 117.96 47 *e*PKPdf **PKPdf 03 53 16.4 +0.3**
KWP LR LR
comp=Z,584nm,20.0s
MLR Muntele Rosu 118.51 53 PKP **PKPdf 03 53 17.6 +0.2**
comp=Z,1.5nm,0.9s,baz=252,slow=6.4
ISP Isparta 118.82 62 PFAKE 03 53 30.0 +12
ISP LR LR
comp=Z,499nm,19.0s
EIL Elat 118.88 72 PKP **PKPdf 03 53 18.6 +0.2**
comp=Z,1.1nm,0.4s,baz=18,slow=3.2,SNR=3.3
SUW Suwalki 119.73 43 *e*PKIKP **PKPdf 03 53 19.0 -0.3**
SUW Suwalki 119.73 43 *e*PKP **PKPdf 03 53 19.4 +0.2**
SUW Suwalki 119.73 43 *e*PKPdf **PKPdf 03 53 19.0 -0.3**
CSS Prodhromos 119.79 66 PFAKE 03 53 30.0 +10
CSS LR LR
comp=Z,96nm,21.0s
WB2 Warramunga Arr 120.50 209 *e*PKPdf **PKPdf 03 53 20.8 -1.2**
WRA Warramunga Arr 120.50 209 PKP **PKPdf 03 53 20.3 -1.7**
comp=Z,1.7nm,0.4s,baz=150,slow=1.6,SNR=8.8
WRA PKKPbc **PKKPbc 04 03 27.2 +0.2**
comp=Z,1.3nm,0.8s,baz=344,slow=3.6,SNR=7.3
WRAB Tennant Creek 120.51 209 ⇊*i*PKIKP **PKPdf 03 53 21.6 -0.4**
WRAB pmax pmax
comp=Z,28nm,1.7s
WRAB Tennant Creek 120.51 209 *e*PKPdf **PKPdf 03 53 20.7 -1.3**
WRAB LR LR
comp=Z,713nm,21.0s
ANTO Ankara 121.22 61 PFAKE 03 53 30.0 +7.3
ANTO LR LR
comp=Z,317nm,20.0s
ASF Jabal al Asfar 121.43 70 PKP **PKPdf 03 53 24.9 +1.5**
comp=Z,2.2nm,1.0s,baz=250,slow=12,SNR=3.3
BRTR Keskin Array B 121.78 61 PKP **PKPdf 03 53 23.7 -0.2**
comp=Z,3.9nm,0.9s,baz=186,slow=3.7,SNR=16
BRTR PP **PP 03 54 56.0 -1.8**
comp=Z,2.6nm,1.1s,baz=261,slow=7.1,SNR=5.1
NACGM Naroch 122.00 42 *e* **PKPdf 03 53 22.0 -1.6**
KIEV Kiev 122.26 48 *d* *i* PKIKP **PKPdf 03 53 24.3 +0.1**
KIEV Kiev 122.26 48 *e*PKPdf **PKPdf 03 53 23.6 -0.6**
KIEV LR LR
comp=Z,402nm,20.0s
AKASG Malin Array Be 122.27 48 PKIKP **PKPdf 03 53 23.4 -0.8**
AKASG pmax pmax
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 122.27 48 PKP **PKPdf 03 53 23.4 -0.8**
comp=Z,3.1nm,0.8s,baz=265,slow=2.6,SNR=11
KBS Kingsbay 122.34 13 PFAKE 03 53 30.0 +6.3
KBS LR LR
comp=Z,269nm,19.0s
VSU Vasula 122.86 38 *i* PKIKP **PKPdf 03 53 25.2 +0.1**
PMG Port Moresby 122.94 227 PFAKE 03 53 40.0 +13
PMG LR LR
comp=Z,534nm,20.0s
FINES FINESS Array B 123.20 35 PKIKP **PKPdf 03 53 26.0 +0.3**
FINES FINESS Array B 123.20 35 PKP **PKPdf 03 53 25.9 +0.3**
comp=Z,5.7nm,0.9s,baz=284,slow=0.8,SNR=10
TNA Tin City 123.36 330 *e*PKPdf **PKPdf 03 53 25.4 -0.4**
KAF Kangasniemi 123.44 34 *e*PKIKP **PKPdf 03 53 25.5 -0.6**
KAF pmax pmax
comp=Z,10.0nm,0.9s
KAF Kangasniemi 123.44 34 *e*p **PKPdf 03 53 25.5 -0.6**
comp=Z,10.0nm,0.9s
MBWA Marble Bar 123.62 193 *e*PKPdf **PKPdf 03 53 26.6 -1.3**
MBWA LR LR
comp=Z,336nm,19.0s
ARCES ARCESS Array B 124.31 25 PKP **PKPdf 03 53 27.2 -0.4**
comp=Z,3.1nm,0.7s,baz=288,slow=1.2,SNR=7.7
RAYN Ar Rayn 124.73 84 *e*PKPdf **PKPdf 03 53 30.4 +0.5**
KEV Kevo 124.86 25 PFAKE 03 53 40.0 +11
KEV LR LR
comp=Z,407nm,20.0s
JOF Joensuu 125.86 33 *e*PKIKP **PKPdf 03 53 30.6 -0.1**
JOF pmax pmax
comp=Z,15nm,1.1s
JOF Joensuu 125.86 33 *e*p **PKPdf 03 53 30.6 -0.1**
comp=Z,15nm,1.1s
H11S2 WAKE ISLAND Hyl 26.08 269 T T 06 11 49.0
baz=118,slow=74,SNR=26
H11S1 WAKE ISLAND Hyl 26.10 269 T T 06 11 52.8
baz=118,slow=74,SNR=32
H11S3 WAKE ISLAND Hyl 26.10 269 T T 06 11 57.0
baz=118,slow=74,SNR=20
H11N3 WAKE ISLAND Hyl 26.51 270 T T 06 12 20.8
baz=115,slow=78,SNR=40
H11N1 WAKE ISLAND Hyl 26.52 270 T T 06 12 21.7
baz=115,slow=78,SNR=70
H11N2 WAKE ISLAND Hyl 26.53 270 T T 06 12 25.0
baz=115,slow=78,SNR=54
APA Apatity 127.06 28 ⇊*i*PKIKP **PKPdf 03 53 37.0 +4.1**
APA MLR MLR
comp=Z,500nm,18.0s
LVZ Lovozero 127.54 27 ⇑*i*PKIKP **PKPdf 03 53 34.9 +1.0**
LVZ Lovozero 127.54 27 PFAKE 03 53 50.0 +16
LVZ LR LR
comp=Z,484nm,20.0s
OBN Obninsk 127.56 44 PKP **PKPdf 03 53 34.8 +0.6**
comp=Z,7.4nm,0.3s,baz=266,slow=4.3,SNR=6.7
OBN Obninsk 127.56 44 PKP **PKPdf 03 53 34.8 +0.6**
OBN LR LR
comp=Z,438nm,20.0s
MOS Moscow 128.24 43 *e*PKIKP **PKPdf 03 53 35.8 +0.3**
VSR Storozhevoye 128.51 49 *e*PKIKP **PKPdf 03 53 35.0 -1.2**
VSR pmax pmax
comp=N,4.0nm,1.3s
VSR pmax pmax
comp=Z,20nm,1.3s
VSR pmax pmax
comp=E,6.0nm,0.9s
VORD Divnogorie 128.55 49 *e*PKIKP **PKPdf 03 53 35.4 -0.8**
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax

comp=E,50nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
TMCR Tamitsa 128.93 32 *e*PKIKP **PKPdf 03 53 37.4 +0.8**
TMCR pmax pmax
comp=Z,52nm,1.5s
KIV Kislovodsk 129.46 58 PFAKE 03 53 50.0 +12
KIV LR LR
comp=Z,225nm,22.0s
KBZ Khabaz 129.56 59 PKP **PKPdf 03 53 40.2 +1.9**
comp=Z,9.4nm,1.0s,baz=246,slow=3.6,SNR=9.2
KLMR Klimovskoe 129.60 36 *e*PKIKP **PKPdf 03 53 37.2 -0.7**
KLMR pmax pmax
comp=Z,63nm,1.2s
GOF Gofitskoye 129.95 57 *e*PKIKP **PKPdf 03 53 40.5 +1.4**
GOF pmax pmax
comp=Z,30nm,1.3s
NCK Nalchik 130.01 59⇓ *i*PKIKP **PKPdf 03 53 41.0 +1.7**
VRHR Novokhopersk 130.03 49 *e*PKIKP **PKPdf 03 53 39.6 +0.5**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,1.9s
VRHR pmax pmax
comp=E,10.0nm,0.8s
GNI Garni 130.04 64 PKIKP **PKPdf 03 53 41.5 +1.8**
GNI MLR MLR
comp=Z,289nm,21.0s
GNI Garni 130.04 64 PKP **PKPdf 03 53 41.5 +1.8**
comp=Z,0.8nm,0.3s,baz=148,slow=14,SNR=6.4
GNI Garni 130.04 64 PKP **PKPdf 03 53 41.5 +1.8**
GNI LR LR
comp=Z,289nm,21.0s
ZEI Tsey 130.07 60 *i* PKIKP **PKPdf 03 53 40.2 +0.5**
ZEI pmax pmax
comp=Z,11nm,1.2s
COCO West Island 132.32 165 PFAKE 03 54 00.0 +15
COCO LR LR
comp=Z,722nm,20.0s
PRGR Permogore 132.52 35 *e*PKIKP **PKPdf 03 53 43.3 -0.1**
PRGR pmax pmax
comp=Z,20nm,0.9s
MAK Makhachkala 132.69 61 *e*P Pdif 03 50 51.0 +11
MAK *i* 03 53 46.3
MAK *e* 03 56 07.6
MAK *e*PPP PPP 03 59 06.7
MAK pmax pmax
comp=Z,32nm,0.8s
BILL Bilibino 133.40 334 *e*PKIKP **PKPdf 03 53 45.3 +0.3**
BILL MLR MLR
comp=Z,323nm,20.0s
BILL Bilibino 133.40 334 *e*PKPdf **PKPdf 03 53 45.3 +0.3**
BILL LR LR
comp=Z,323nm,20.0s
KAPI Kappang 139.28 198 PFAKE 03 54 10.0 +12
KAPI LR LR
comp=Z,310nm,19.0s
GEYT Alibeck 139.71 70 PKhKP PKPpre 03 53 51.3
GEYT PKP **PKiKP 03 53 59.1 -0.9**
comp=Z,3.4nm,0.7s,baz=224,slow=4.1,SNR=5.6
ARU Arti 139.89 41 *i* PKHKP PKPpre 03 53 50.8
ARU Arti 139.89 41 *e*PKPpre PKPpre 03 53 50.1
ARU *e*PKPdf **PKPdf 03 53 58.1 +0.8**
ARU LR LR
comp=Z,495nm,21.0s
AKTO Aktyubinsk 140.39 51 PKhKP PKPpre 03 53 50.4
comp=Z,4.0nm,0.9s,baz=283,slow=4.1,SNR=13
AKTO PKP **PKPdf 03 53 58.4 0.0**
comp=Z,4.1nm,0.8s,baz=336,slow=5.2,SNR=8.8
PETK Petropavlovsk- 140.72 314 PKhKP PKPpre 03 53 51.5
comp=Z,3.5nm,0.4s,baz=230,slow=24,SNR=4.9
PETK PKP **PKiKP 03 54 00.6 -1.0**
comp=Z,16nm,1.0s,baz=142,slow=5.1,SNR=5.5
TIXI Tiksi 141.22 350 *ce*PKIKP **PKPdf 03 53 59.9 +0.6**
TIXI Tiksi 141.22 350 *e*PKPpre PKPpre 03 53 48.6
TIXI *e*PKPdf **PKPdf 03 53 59.5 +0.3**
TIXI LR LR
comp=Z,233nm,21.0s
AB31 Akbulak array 141.72 52 PKHKP PKPpre 03 53 54.4
AB31 pmax pmax
comp=Z,8.0nm,0.7s
ABKAR Akbulak array 141.72 52 *e*PKPpre PKPpre 03 53 54.6
PALK Pallekele 142.83 130 PKhKP PKPpre 03 54 00.8
comp=Z,13nm,0.9s,baz=197,slow=7.6,SNR=4.3
PALK Pallekele 142.83 130 PKPpre PKPpre 03 54 00.8
PALK *e*PKPdf **PKPdf 03 54 01.6 -2.4**
BKNI Bangkinang 145.34 167 *e*PKPbc **PKPbc 03 54 08.0 -0.1**
POO Poona 145.48 108⇑ *i*PS **PKPdf 03 54 07.0 -1.5**
comp=Z,200nm,1.0s
KSM Kuching 147.12 184 *e*PKPbc **PKPbc 03 54 13.1 -0.4**
BRVK Borovoye 147.33 44 PKIKP **PKPdf 03 54 11.2 +0.7**
BRVK pmax pmax
comp=Z,91nm,1.0s
BRVK Borovoye 147.33 44 *e*PKPdf **PKPdf 03 54 10.6 +0.1**
BRVK *e*PKPbc **PKPbc 03 54 13.4 +0.5**
BRVK LR LR
comp=Z,695nm,21.0s
BVA0 Borovoye Array 147.40 44 *i* PKIKP **PKPdf 03 54 11.3 +0.7**
BVA0 pmax pmax
comp=Z,215nm,1.9s
KBL Kabul 147.75 79 *e*PKIKP **PKPbc 03 54 13.7 -1.2**
KBL Kabul 147.75 79 *e*PKPbc **PKPbc 03 54 13.7 -1.2**
VOSK Vostochnaya 147.84 44 PKIKP **PKPdf 03 54 11.9 +0.6**
VOSK pmax pmax
comp=Z,97nm,1.2s
DAV Davao City (W) 148.44 214 PFAKE 03 54 20.0 -0.3
DAV LR LR
comp=Z,254nm,19.0s
HYB Hyderabad 148.44 115 *i* PKP **PKPbc 03 54 16.0 -1.0**
comp=Z,95nm,1.0s
YAK Yakutsk 149.29 340 *e*PKIKP **PKPdf 03 54 12.4 -0.9**
YAK *e* 03 57 47.2
YAK pmax pmax
comp=Z,22nm,1.1s
YAK pmax pmax
comp=N,40nm,2.0s
YAK pmax pmax
comp=Z,269nm,4.1s
YAK pmax pmax
comp=E,158nm,4.3s
YAK Yakutsk 149.29 340 *e*PKPdf **PKPdf 03 54 13.3 -0.1**
YAK *e*PKPbc **PKPbc 03 54 17.4 -0.3**
YAK *e*PKPab **PKPab 03 54 22.9 +0.5**
YAK LR LR
comp=Z,297nm,20.0s
IPM Ipoh 149.39 166 *e*PKPdf **PKPdf 03 54 15.4 +0.3**
IPM *e*PKPbc **PKPbc 03 54 19.2 -0.3**
KK31 Karatay Array 149.48 62 *i* PKHKP **PKPdf 03 54 15.3 +0.9**
KK31 pmax pmax
comp=Z,30nm,0.9s
KKAR Karatay Array 149.48 62 *e*PKHKP **PKPdf 03 54 15.0 +0.6**
KKAR *e* 03 54 23.9
KKAR Karatay Array 149.48 62 *e*PKPdf **PKPdf 03 54 15.0 +0.6**
KKAR *e*PKPbc **PKPbc 03 54 18.8 0.0**
KKAR *e*PKPab **PKPab 03 54 23.9 0.0**
YUK Yuzh-Kuril'sk 149.65 300 *i* PKIKP **PKPdf 03 54 12.7 -1.8**
YUK MLR MLR
comp=Z,450nm,20.0s
KULM Kulim 150.09 164 *e*PKPdf **PKPdf 03 54 14.9 -1.3**
KULM *e*PKPbc **PKPbc 03 54 21.2 0.0**
KULM *e*PKPab **PKPab 03 54 26.9 -0.1**
KKM Kota Kinabalu 150.79 196 *e*PKPdf **PKPdf 03 54 17.5 +0.1**
KKM *e*PKPbc **PKPbc 03 54 22.3 -0.7**
KKM *e*PKPab **PKPab 03 54 30.2 +0.3**
KKM LR LR
comp=Z,163nm,19.0s
YSS Yuzh-Sakhalins 151.33 306⇑ *i*PKIKP **PKPbc 03 54 22.8 -0.3**
YSS *e* 03 54 29.6
YSS pmax pmax
comp=Z,60nm,0.9s
ERM Erimo 151.79 296 PFAKE 03 54 30.0 -3.4
ERM LR LR
comp=Z,373nm,19.0s
AML Almayashu 151.89 64 P **PKPdf 03 54 20.3 +1.6**
SNR=7.7
EKS2 Erkin-Say 151.91 63 P **PKPdf 03 54 19.4 +1.1**
SNR=13
EKS2 Erkin-Say 151.91 63 *e*PKIKP **PKPdf 03 54 19.0 +0.7**
EKS2 *e* 03 54 25.3
EKS2 MLR MLR
comp=Z,445nm,21.0s
EKS2 Erkin-Say 151.91 63 *e*PKPdf **PKPdf 03 54 19.0 +0.7**
EKS2 *e*PKPbc **PKiKP 03 54 25.3 +0.1**
EKS2 LR LR
comp=Z,445nm,21.0s
ASAJ Asahikawa 151.98 300 PKIKP **PKPbc 03 54 24.8 +0.1**
ASAJ 03 54 35.1
ASAJ pmax pmax
comp=Z,27nm,0.9s
ASAJ pmax pmax
comp=Z,45nm,0.9s
ASAJ Asahikawa 151.98 300 PKPbc **PKPbc 03 54 24.8 +0.1**
comp=Z,27nm,0.8s,baz=202,slow=5.4,SNR=11
ASAJ PKPab **PKPab 03 54 35.1 +1.0**
comp=Z,45nm,0.9s,baz=81,slow=22,SNR=9.8
ASAJ Asahikawa 151.98 300 *e*PKPdf **PKPdf 03 54 17.9 -0.3**
ASAJ *e*PKPbc **PKiKP 03 54 25.1 +0.1**
ASAJ *e*PKPab **PKPab 03 54 35.5 +1.4**
USP Ospenovka 152.37 61 P **PKPdf 03 54 20.4 +1.5**
SNR=8.5
USP Ospenovka 152.37 61 *i* PKIKP **PKPdf 03 54 20.3 +1.5**
AAK Ala-Archa 152.44 63 P **PKPbc 03 54 27.1 +1.0**
SNR=12
AAK Ala-Archa 152.44 63 *e*PKIKP **PKPdf 03 54 19.5 +0.4**
AAK *e* 03 54 26.7
AAK *e* 03 54 36.5
AAK 03 58 06.7
AAK MLR MLR
comp=Z,355nm,20.0s
AAK Ala-Archa 152.44 63 PP PP 03 58 06.7 -2.7
comp=Z,2.0nm,0.4s,baz=250,slow=9.1,SNR=5.4
AAK Ala-Archa 152.44 63 *e*PKPdf **PKPdf 03 54 19.5 +0.4**
AAK *e*PKPbc **PKiKP 03 54 26.7 +0.4**
AAK *e*PKPab **PKPab 03 54 36.5 +0.2**
AAK PP **PP 03 58 06.7 -2.7**
AAK LR LR
comp=Z,355nm,20.0s
UCH Uchtor 152.49 64 P **PKPdf 03 54 22.0 +2.4**
SNR=12
FRU Bishkek 152.51 62 *e*PKIKP **PKPdf 03 54 19.0 0.0**
FRU *i* 03 54 27.0
FRU pmax pmax
comp=Z,133nm,1.8s
KBK Karagaybulak 152.77 63 P **PKPbc 03 54 28.5 +1.7**
SNR=10
KURK Kurchatov 153.00 44 PKIKP **PKPdf 03 54 18.6 -0.8**
KURK pmax pmax
comp=Z,19nm,1.2s
KURK Kurchatov 153.00 44 *e*PKPdf **PKPdf 03 54 19.5 +0.1**
KURK *e*PKPbc **PKPbc 03 54 26.6 -0.1**
KURK LR LR
comp=Z,200nm,20.0s
KZA Kyzart 153.05 64 P **PKPdf 03 54 18.3 -2.0**
SNR=7.7
NVS Novosibirsk 153.17 33 *i* PKIKP **PKPdf 03 54 19.4 -0.1**
NVS *e* 03 54 38.6
NVS pmax pmax
comp=Z,71nm,1.1s
NVS pmax pmax
comp=E,20nm,1.4s
TKM2 Tokmak 2 153.21 62 P **PKPdf 03 54 21.5 +1.2**
SNR=7.3
TKM2 Tokmak 2 153.21 62 PKIKP **PKPdf 03 54 18.9 -1.4**
TKM2 Tokmak 2 153.21 62 *e*PKPdf **PKPdf 03 54 20.9 +0.6**
TKM2 *e*PKPbc **PKiKP 03 54 28.6 +0.6**
TKM2 *e*PKPab **PKPab 03 54 39.4 -0.3**
TKM2 LR LR
comp=Z,373nm,22.0s
KSH Kashi 153.74 69 PKPbc **PKPdf 03 54 21.9 +0.9**
KSH sPKP 03 54 35.5
KSH PKS **PKSdf 03 57 56.0 +0.6**
KSH PP **PP 03 58 16.0 -0.8**
KSH SKS **SKSdf 04 01 27.0 +1.2**
KSH SKKS **SKKSac 04 05 02.5 -1.8**
KSH SS **SS 04 17 50.7 -1.2**
KSH PPMZ
comp=Z,350nm,7.9s
KSH LN
comp=Z,68nm,5.1s
KSH LE
comp=Z,110nm,4.8s
KSH LZ
comp=Z,530nm,26.7s
ZALV Zalesovo Beam 154.45 33 PKP **PKPdf 03 54 20.9 -0.4**
comp=Z,7.2nm,0.8s,baz=279,slow=2.9,SNR=26
ZALV PKPbc **PKPbc 03 54 29.7 0.0**
comp=Z,24nm,0.8s,baz=298,slow=3.2,SNR=34
CLNS Chul'man 154.96 338 *e*PKP2 **PKPab 03 54 45.2 -1.1**
CLNS pmax pmax
comp=Z,25nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,1.1s
MJAR Matsushiro Arr 155.65 283 PKP **PKPdf 03 54 23.9 +0.2**
comp=E,4.0nm,1.0s,baz=196,slow=0.7,SNR=7.1
MJAR PKPab **PKPab 03 54 49.6 -0.4**
comp=E,5.4nm,1.0s,baz=136,slow=1.8,SNR=6.6
MAJO Matsushiro 155.65 283⇑ *e*PKIKP **PKPdf 03 54 23.4 -0.2**
MAJO Matsushiro 155.65 283 *e*PKPdf **PKPdf 03 54 23.7 0.0**
MAT Matsushiro 155.65 283 PKP **PKPdf 03 54 21.5 -2.1**
BOD Bodaibo 156.34 352 *e*PKIKP **PKPdf 03 54 22.4 -1.4**
BOD *i* 03 54 51.6
BOD pmax pmax
comp=Z,40nm,1.5s
MK31 Makanchi Array 156.83 50 *i* PKIKP **PKPdf 03 54 24.2 -0.7**
MK31 pmax pmax
comp=Z,10.0nm,1.0s
MKAR Makanchi Array 156.83 50 PKP **PKPdf 03 54 24.8 -0.1**
comp=Z,3.1nm,0.9s,baz=285,slow=1.9,SNR=15
MKAR PKPab **PKPab 03 54 55.0 +0.3**
comp=Z,13nm,1.0s,baz=289,slow=4.5,SNR=11
MKAR PP **PP 03 58 30.4 -3.0**
comp=Z,2.6nm,1.0s,baz=308,slow=4.7,SNR=4.6
KLR Kul'dur 157.30 318 *e*PKIKP PKPdf 03 54 19.8 -5.5
KLR pmax pmax
comp=Z,100nm,2.4s
KOLN Koldanda 157.81 101 *e*P **PKPab 03 54 59.3 -0.5**
comp=Z,105nm,1.4s
DANN Dangsing 158.17 99 *e*P **PKPab 03 55 01.6 +0.2**
comp=Z,69nm,0.9s
GKN Gorkha 158.75 101 *e*P **PKPab 03 55 03.5 -0.3**
comp=Z,62nm,1.1s
DMN Daman 158.97 103 *e*P **PKPab 03 55 05.0 +0.2**
comp=Z,118nm,1.0s
KKN Kakani 159.18 102 *e*P **PKPab 03 55 05.7 0.0**
comp=Z,93nm,1.2s
PKIN Phulchoki 159.19 103 *e*P **PKPab 03 55 06.2 +0.4**
comp=Z,36nm,0.8s
PKI Pulchoki 159.19 103 *e*P **PKPab 03 55 05.8 -0.1**
comp=Z,162nm,1.3s
USRK Ussuriysk Ar. 159.36 305 PKPab **PKPab 03 55 06.2 +0.5**
comp=Z,8.7nm,0.9s,baz=81,slow=3.9,SNR=9.6
GUN Gumba 159.71 103 *e*P **PKPab 03 55 08.1 -0.1**
JIRN Jiri 159.86 104 *e*P **PKPab 03 55 08.9 0.0**
comp=Z,78nm,0.9s
RAMN Ramite 159.87 106 *e*P **PKPab 03 55 09.2 +0.4**
comp=Z,140nm,0.9s
ODAN Odare 160.46 107 *e*P **PKPab 03 55 11.6 +0.3**
comp=Z,155nm,1.2s
MDJ Mudanjiang 160.79 308 PKP **PKPdf 03 54 28.8 -0.8**
MDJ PPMZ
comp=Z,180nm,7.5s
MDJ LN
comp=Z,170nm,31.6s
MDJ LE
comp=Z,240nm,22.1s
MDJ LZ
comp=Z,340nm,22.1s
MDJ Mudanjiang 160.79 308 PFAKE 03 54 40.0 +10
MDJ LR LR
comp=Z,350nm,21.0s
TAPN Taplejung 160.94 106 *e*P **PKPab 03 55 13.7 +0.2**
WMQ Urumqi 161.50 54 *e*PKP **PKPdf 03 54 30.5 0.0**
WMQ PKPab **PKPab 03 55 16.7 +1.5**
WMQ PKS **PKSdf 03 58 02.5 -1.2**
WMQ PP **PP 03 59 02.5 +3.6**
WMQ SKKS 04 05 45.0
WMQ PPMZ
comp=Z,340nm,10.0s
WMQ LN
comp=Z,300nm,25.0s
WMQ LE
comp=Z,280nm,26.0s
WMQ LZ
comp=Z,290nm,22.0s
CMAR Chiang Mai Arr 161.98 150 PKP **PKPdf 03 54 32.1 +0.5**
comp=Z,1.2nm,0.4s,baz=247,slow=2.4,SNR=10
CMAR PKPab **PKPab 03 55 15.5 -2.1**
comp=Z,1.0nm,0.3s,baz=223,slow=6.3,SNR=4.2
MOY Mondy 162.01 15 *e*PKIKP **PKPdf 03 54 31.7 +0.9**
CHTO Chiang Mai 162.30 149 *e*PKP2 **PKPab 03 55 18.4 -0.6**
CHTO MLR MLR
comp=Z,237nm,20.0s
CHTO Chiang Mai 162.30 149 *e*PKPab **PKPab 03 55 18.4 -0.6**
CHTO LR LR
comp=Z,237nm,20.0s
TLY Talaya 162.47 10 *e*PKIKP **PKPdf 03 54 31.6 +0.4**
TLY 03 59 03.8
TLY MLR MLR
comp=Z,450nm,20.0s
TLY Talaya 162.47 10 PP PP 03 59 03.8 +0.9
comp=Z,1.1nm,0.4s,baz=349,slow=8.0,SNR=4.8
TLY Talaya 162.47 10 *e*PKPdf **PKPdf 03 54 31.6 +0.4**
TLY *e*PKPab **PKPab 03 55 20.4 +1.5**
TLY PP **PP 03 59 03.8 +0.9**
TLY LR LR
comp=Z,450nm,20.0s
HIA Hailar 162.99 334 PFAKE 03 54 40.0 +8.3
HIA LR LR
comp=Z,462nm,20.0s
SHL Shillong 163.22 118 *e*P **PKPdf 03 54 33.0 +0.1**
ZAK Zakamensk 163.68 12 *e*PKIKP **PKPdf 03 54 30.4 -2.0**
ZAK *e* 03 55 25.0
ZAK pmax pmax
comp=Z,4.0nm,1.8s
ZAK pmax pmax
comp=Z,10.0nm,1.4s
KSRS Korea Array 163.88 286 PKIKP **PKPdf 03 54 32.2 -0.7**
KSRS 03 55 26.6
KSRS pmax pmax
comp=Z,4.0nm,0.9s
KSRS pmax pmax
comp=Z,8.0nm,1.0s
KSRS Korea Array 163.88 286 PKP **PKPdf 03 54 32.2 -0.7**
comp=Z,3.8nm,0.9s,baz=132,slow=1.0,SNR=15
KSRS PKPab **PKPab 03 55 26.6 +0.9**
comp=Z,7.7nm,1.0s,baz=101,slow=4.0,SNR=12
KSAR Wonju Array Be 163.91 286 PKIKP **PKPdf 03 54 32.2 -0.7**
KSAR 03 55 26.6
KSAR Wonju Array Be 163.91 286 PKP **PKPdf 03 54 32.2 -0.7**
KSAR PKPab **PKPab 03 55 26.6 +0.8**
QIZ Qiongzhong 164.56 185 PKP **PKPdf 03 54 34.6 +0.5**
QIZ PP **PP 03 59 15.8 +2.0**
QIZ SS SS 04 19 48.6 +5.3
QIZ PPMZ
comp=Z,180nm,6.4s
QIZ LZ
comp=Z,350nm,20.8s
QIZ Qiongzhong 164.56 185 PFAKE 03 54 40.0 +5.9
QIZ LR LR
comp=Z,370nm,20.0s
LSA Lhasa 164.66 103 *e*PKP2 **PKPab 03 55 31.0 +1.0**
LSA MLR MLR
comp=Z,507nm,22.0s
LSA Lhasa 164.66 103 *e*PKPab **PKPab 03 55 31.0 +1.0**
LSA LR LR
comp=Z,507nm,22.0s
INCN Inchon 164.90 287 PFAKE 03 54 40.0 +6.2
INCN LR LR
comp=Z,368nm,21.0s
YHNB Yeheng 165.05 233 PFAKE 03 54 40.0 +5.6
YHNB LR LR
comp=Z,275nm,19.0s
SONM Songino Array 166.57 6 PKP **PKPdf 03 54 34.2 -0.8**
comp=Z,2.3nm,0.8s,baz=212,slow=1.3,SNR=16
SONM PKPab **PKPab 03 55 37.7 +0.5**
comp=Z,7.6nm,0.9s,baz=340,slow=3.9,SNR=20
SONM PP **PP 03 59 24.8 +0.3**
comp=Z,2.1nm,1.0s,baz=358,slow=3.1,SNR=8.4
ULN Ulaanbaatar 166.59 4 *e*PKIKP **PKPdf 03 54 35.1 0.0**
ULN *e* 03 55 37.9
ULN MLR MLR
comp=Z,371nm,20.0s
ULN Ulaanbaatar 166.59 4 *e*PKPdf **PKPdf 03 54 35.1 0.0**
ULN *e*PKPab **PKPab 03 55 37.9 +0.5**
ULN LR LR
comp=Z,371nm,20.0s
QZH Quanzhou 166.99 226 PKP **PKPdf 03 54 35.2 -0.6**
QZH PP **PP 03 59 31.0 +3.6**
SSE Sheshan 168.69 256 *e*PKP **PKPdf 03 54 36.3 -0.5**
SSE PP **PP 03 59 39.2 +2.4**
SSE SS SS 04 20 24.1 -4.0
SSE PPMZ
comp=Z,160nm,6.4s
SSE LN
comp=Z,150nm,23.2s
SSE LE
comp=Z,76nm,23.2s
SSE LZ
comp=Z,250nm,22.8s
NJ2 Nanjing 170.88 258 *e*PKP **PKPdf 03 54 38.6 +0.5**
GTA Gaotai 171.58 52⇑ PKP **PKPdf 03 54 39.0 +0.6**
GTA pPKP **pPKPdf 03 54 49.9 +1.2**
GTA sPKP 03 54 53.4
GTA PKPab **PKPab 03 56 01.9 +2.1**
GTA PP **PP 03 59 54.4 +3.5**
GTA SKS **SKSdf 04 01 37.9 -1.7**
GTA SKKS **SKKSac 04 06 36.5 +1.1**
GTA SS **SS 04 20 55.7 -0.4**
GTA PPMZ
comp=Z,520nm,7.6s
GTA LN
comp=Z,280nm,18.5s
GTA LE
comp=Z,330nm,18.0s
GTA LZ
comp=Z,360nm,19.5s
BJI Beijing 171.65 314 PKP **PKPdf 03 54 39.4 +1.2**
BJI PP **PP 03 59 52.0 +1.1**
BJI SS SS 04 20 58.9 +2.8
BJI PPMZ
comp=Z,200nm,8.8s
BJI LN
comp=Z,190nm,25.6s
BJI LE
comp=Z,160nm,25.6s
BJI LZ
comp=Z,220nm,22.6s
BJT Baijiatuau 171.67 314 PFAKE 03 54 50.0 +12
BJT LR LR
comp=Z,489nm,22.0s
GYA Guiyang 171.88 169 PKP **PKPdf 03 54 39.5 +0.5**
GYA pPKP **pPKPdf 03 54 47.0 -2.2**
GYA PKPab **PKPab 03 56 04.8 +3.6**
GYA PKS **PKSdf 03 58 10.0 -1.5**
GYA PP **PP 03 59 55.4 +4.1**
GYA SKKS 04 06 39.2
GYA SS **SS 04 21 01.8 +4.8**
GYA PPMZ
comp=Z,190nm,8.4s
GYA LN
comp=Z,220nm,22.9s
GYA LE
comp=Z,170nm,22.4s
GYA LZ
comp=Z,180nm,21.6s
TIA Tai'an 172.62 286 PKP **PKPdf 03 54 38.1 -0.7**
TIA sPKP 03 54 52.8
TIA PP **PP 03 59 53.8 -2.7**
TIA PPMZ
comp=Z,400nm,6.9s
TIA LN
comp=Z,480nm,18.4s
HHC Hu-ho-hao-te 173.15 339 *e*PKP **PKPdf 03 54 37.5 -1.5**
HHC pPKP **pPKPdf 03 54 48.4 -0.9**
HHC sPKP 03 54 57.0
HHC SKS **SKSdf 04 01 35.2 -4.8**
HHC SKKS **SKKSac 04 06 39.1 -3.4**
HHC SS **SS 04 21 08.8 -0.9**
HHC PPMZ
comp=Z,420nm,9.9s
HHC LN
comp=Z,540nm,21.8s
HHC LE
comp=Z,850nm,20.0s
HHC LZ
comp=Z,920nm,22.8s
WHN Wuhan 173.59 234 PKP **PKPdf 03 54 39.3 -0.1**
WHN LZ
comp=Z,630nm,16.8s
CD2 Chengdu 174.74 131 *e*PKP **PKPdf 03 54 40.2 +0.4**
CD2 sPKP 03 54 57.4
CD2 PKPab **PKPab 03 56 13.6 -0.4**

CD2				PKS	PKSdf	03 58 10.1	-2.0
CD2				SS	SS	04 21 27.1	+0.6
CD2				LN			
	comp=Z,400nm,20.2s						
CD2				LE			
	comp=Z,230nm,20.2s						
CD2				LZ			
	comp=Z,560nm,20.2s						
LZH	**Lanzhou**	**175.98**	**65**	*e*PKP	**PKPdf**	**03 54 41.3**	**+1.1**
LZH				pPKP	**pPKPdf**	**03 54 52.2**	**+1.8**
LZH				sPKP		03 54 58.1	
LZH				PP	**PP**	**04 00 12.0**	**-0.8**
LZH				PPMZ			
	comp=Z,510nm,6.5s						
LZH				LN			
	comp=Z,2μm,16.6s						
LZH				LE			
	comp=Z,2μm,18.1s						
LZH				LZ			
	comp=Z,2μm,19.0s						
XAN	**Xi'an**	**179.36**	**227**	PKP	**PKPdf**	**03 54 39.8**	**-0.7**
XAN				PKS	**PKSdf**	**03 58 10.5**	**-2.2**
XAN				SKS	**SKSdf**	**04 01 37.3**	**-4.0**
XAN				PPMZ			
	comp=Z,57nm,6.1s						
XAN				LN			
	comp=Z,200nm,24.9s						
XAN				LE			
	comp=Z,92nm,20.9s						

IDC ***05*** *03:35:55.8±2.5, 7°.71S×113°.31E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/22, mbtmp3.5/3, MS3.5/2, Ms1 3.6/2, ms1mx2.9/36, Error ellipse: s-maj=147.2km s-min=25.6km az=49.0*

ISCJB ***05*** *03:36:13.8±0.7, 8°.6S±0°.1×112°.95E±0°.06, h150km, mb3.3/3, Error ellipse: s-maj=16.3km s-min=7.4km az=11.6*

DJA ***05*** *03:36:13.9±0.5, 8°S±8°×11°3E±°, h165km±6km, M3.9/15, mb4.7/1, mB5.0/1, MLv3.5/15, Mw(mB)4.3/1*

ISC 05 03:36:14.7±1.2, 8°.4S±0°.1×112°.97E±0°.06, h150km, n18, σ1§45/16, mb3.2/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.49**	**71**	P	**Pn**	**03 36 38.5**	**+2.5**
GMJI				S	**Sn**	**03 36 55.2**	**+3.0**
BLJI	**Banyuglugur**	**0.92**	**42**	P	**Pn**	**03 36 40.3**	**+1.4**
JAGI	**Jajag, Banyuwa**	**1.17**	**92**	P	**Pn**	**03 36 41.7**	**+0.7**
ABJI	**Asem Bagus**	**1.40**	**63**	P	**Pn**	**03 36 43.6**	**+0.3**
KMMI	**Kalianget**	**1.69**	**36**	P	**Pn**	**03 36 46.1**	**-0.3**
WOJI	**Wonogiri, Jawa**	**2.11**	**286**	P	**Pn**	**03 36 52.0**	**+0.8**
IGBI	**Denpasar**	**2.18**	**100**	P	**Pn**	**03 36 51.9**	**-0.1**
DNP	**Denpasar**	**2.23**	**96**	P	**Pn**	**03 36 52.5**	**0.0**
SRBI	**Singaraja**	**2.24**	**81**	P	**Pn**	**03 36 52.5**	**-0.2**
UGM	**Wanagama**	**2.48**	**282**	P	**Pn**	**03 36 56.0**	**+0.3**
BWJI	**Bawean**	**2.58**	**353**	P	**Pn**	**03 36 56.5**	**-0.4**
SMRI	**Semarang**	**2.86**	**299**	P	**Pn**	**03 37 00.7**	**+0.3**
CNJI	**Cibinong**	**5.90**	**281**	P	**Pn**	**03 37 39.7**	**-0.4**
WRA	**Warramunga Arr**	**23.63**	**121**	P	**P**	**03 41 10.1**	**-2.4**
	0.3nm,0.3s,baz=299,slow=12,SNR=22						
ASAR	**Alice Springs**	**25.12**	**130**	P	**P**	**03 41 24.4**	**-1.6**
	1.2nm,0.5s,baz=304,slow=8.5,SNR=15						
CMAR	**Chiang Mai Arr**	**30.09**	**333**	LR	LR	03 54 51.5	
	comp=Z,57nm,18.0s,baz=180,slow=38						
ASAJ	**Asahikawa**	**58.78**	**25**	LR	LR	04 11 37.4	
	comp=Z,58nm,20.5s,baz=127,slow=37						
MKAR	**Makanchi Array**	**61.40**	**336**	P	P	03 46 10.1	-4.8
	0.1nm,0.3s,baz=152,slow=8.5,SNR=6.1						

IDC 05 03:39:57.1±5.1, 13°.86S×169°.89E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/20, mbtmp4.0/4, MS3.5/5, Ms1 3.5/5, ms1mx3.2/35, Error ellipse: s-maj=248.7km s-min=29.3km az=142.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.79**	**201**	LR	LR	03 44 57.2	
	comp=Z,248nm,18.4s,baz=40,slow=34						
HNR	**Honiara**	**10.68**	**293**	LR	LR	03 46 10.5	
	comp=Z,142nm,19.8s,baz=122,slow=35						
RAO	**Raoul Island**	**19.03**	**146**	LR	LR	03 50 20.6	
	comp=Z,138nm,19.8s,baz=204,slow=33						
CTA	**Charters Tower**	**23.42**	**251**	P	P	03 45 09.7	+1.6
	4.4nm,0.9s,baz=77,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**34.50**	**255**	P	P	03 46 46.8	-0.4
	1.6nm,0.9s,baz=87,slow=8.4,SNR=2.1						
WRA				LR	LR	04 00 24.5	
	comp=Z,148nm,19.0s,baz=85,slow=36						
ASAR	**Alice Springs**	**35.35**	**249**	P	P	03 46 53.6	-1.0
	3.1nm,0.7s,baz=76,slow=9.1,SNR=26						
ASAR				LR	LR	04 00 45.8	
	comp=Z,96nm,19.0s,baz=98,slow=35						
ILAR	**Eielson Array**	**84.94**	**17**	P	P	03 52 33.7	-0.1
	0.6nm,0.7s,baz=236,slow=5.1,SNR=11						
TORD	**Torodi Ar. Bea**	**168.49**	**268**	PKPab	PKPab	04 01 16.7	+0.4
	2.3nm,1.3s,baz=218,slow=7.0,SNR=3.9						

ATH ***05*** *03:45:21.0, 33°.85N×25°.40E, h5km±3km, MD3.3/7*

IDC ***05*** *03:45:22.9±1.2, 33°.99N×25°.27E, h0km, mb3.7/6, mb1 3.8/11, mb1mx3.6/45, mbtmp3.6/11, ML3.5/5, Error ellipse: s-maj=23.8km s-min=21.3km az=30.0*

ISCJB ***05*** *03:45:23.4±0.8, 33°.91N±0°.06×25°.48E±0°.07, h17km, mb3.5/6, Error ellipse: s-maj=10.8km s-min=5.8km az=36.3*

CSEM ***05*** *03:45:25.2±1.4, 34°.12N×25°.44E, h15km, MD3.3, Error ellipse: s-maj=35.7km s-min=17.7km az=19.0*

ISC 05 03:45:25.7±0.9, 34°.10N±0°.08×25°.41E±0°.05, h17km, n32, σ1§37/33, mb3.7/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.04**	**332**	*e*PN	**Pb**	**03 45 42.8**	**-2.5**
SIVA	**Sivas**	**1.04**	**332**	*e*PB	**Pn**	**03 45 44.9**	**-0.6**
SIVA				*e*SB	**Sn**	**03 46 03.1**	**+3.4**
SIVA	**Sivas**	**1.04**	**332**	*e*Pn	**Pb**	**03 45 42.8**	**-2.5**
SIVA	**Sivas**	**1.04**	**332**	*e*Pb	**Pn**	**03 45 44.9**	**-0.6**
LAST	**Lasithi**	**1.06**	**3**	*e*PG	**Pg**	**03 45 45.4**	**-1.0**
LAST	**Lasithi**	**1.06**	**3**	*e*Pg	**Pg**	**03 45 45.4**	**-1.0**
NPS	**Neapolis**	**1.18**	**8**	*e*PG	**Pg**	**03 45 47.4**	**-1.1**
NPS	**Neapolis**	**1.18**	**8**	*e*Pg	**Pg**	**03 45 47.4**	**-1.1**
ZKR	**Zakros**	**1.22**	**33**	*e*PN	**Pb**	**03 45 47.4**	**-0.9**
ZKR	**Zakros**	**1.22**	**33**	*e*PB	**Pg**	**03 45 48.2**	**-1.0**
ZKR	**Zakros**	**1.22**	**33**	*e*Pn	**Pb**	**03 45 47.4**	**-0.9**
ZKR	**Zakros**	**1.22**	**33**	*e*Pb	**Pg**	**03 45 48.2**	**-1.0**
IDI	**Anoyia**	**1.26**	**340**	Pn	**Pb**	**03 45 48.4**	**-0.7**
	2.8nm,0.3s,baz=169,slow=18,SNR=27						
VAM	**Vamos**	**1.64**	**323**	*e*PN	**Pb**	**03 45 55.7**	**+0.2**
VAM	**Vamos**	**1.64**	**323**	*e*Pn	**Pb**	**03 45 55.7**	**+0.2**
KARP	**Karpathos**	**2.04**	**44**	*e*PN	**Pb**	**03 46 01.8**	**-0.6**
VLI	**Veliai**	**3.30**	**323**	*e*PB	Pn	03 46 19.7	+3.1
ELL	**Elmali**	**4.53**	**53**	*e*PN	**Pn**	**03 46 32.2**	**-1.4**
ELL	**Elmali**	**4.53**	**53**	*e*Pn	**Pn**	**03 46 32.2**	**-1.4**
CSS	**Prodhromos**	**6.60**	**80**	*e*PN	**Pn**	**03 47 01.4**	**-0.6**
CSS	**Prodhromos**	**6.60**	**80**	*e*Pn	**Pn**	**03 47 01.4**	**-0.6**
MMAI	**Mount Meron Ar**	**8.41**	**95**	Pn	**Pn**	**03 47 27.3**	**+0.4**
	0.4nm,0.3s,baz=274,slow=11,SNR=3.3						
MMAI				Sn	**Sn**	**03 49 00.1**	**-1.5**
	0.5nm,0.3s,baz=264,slow=22,SNR=3.1						
EIL	**Elat**	**9.24**	**116**	Pn	**Pn**	**03 47 38.4**	**+0.2**
	0.3nm,0.3s,baz=260,slow=12,SNR=4.0						
KBZ	**Khabaz**	**16.64**	**50**	Pn	**P**	**03 49 23.8**	**+3.4**
	0.0nm,0.3s,baz=270,slow=13,SNR=2.8						
AKASG	**Malin Array Be**	**16.83**	**8**	Pn	**P**	**03 49 22.6**	**+0.2**
	0.5nm,0.3s,baz=202,slow=11,SNR=4.8						
GERES	**GERESS Array B**	**17.12**	**333**	P	**P**	**03 49 26.1**	**+0.3**
	0.2nm,0.3s,baz=149,slow=13,SNR=11						
HFS	**Hagfors**	**27.16**	**347**	P	**P**	**03 51 08.8**	**+0.9**
	2.3nm,1.0s,baz=148,slow=11,SNR=2.5						
TORD	**Torodi Ar. Bea**	**29.98**	**232**	P	**P**	**03 51 32.3**	**-1.1**
	0.6nm,0.6s,baz=31,slow=8.6,SNR=5.1						
MKAR	**Makanchi Array**	**44.20**	**56**	P	**P**	**03 53 35.1**	**+1.4**
	1.0nm,0.7s,baz=279,slow=6.0,SNR=14						
ZALV	**Zalesovo Beam**	**45.60**	**45**	P	**P**	**03 53 45.3**	**+0.6**
	0.5nm,0.5s,baz=268,slow=10,SNR=3.8						
YKA	**Yellowknife Ar**	**78.52**	**342**	P	**P**	**03 57 25.5**	**-0.1**
	0.2nm,0.8s,baz=40,slow=4.9,SNR=4.5						
ILAR	**Eielson Array**	**81.27**	**357**	P	**P**	**03 57 40.4**	**-0.2**
	0.3nm,0.8s,baz=22,slow=5.0,SNR=3.4						

IDC 05 03:47:45.0±7.0, 6°.61S×152°.75E, h116km±54km, mb3.2/3, mb1 3.5/4, mb1mx3.3/19, mbtmp3.7/4, Error ellipse: s-maj=122.6km s-min=32.6km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.19**	**243**	P	Pn	03 49 15.4	+1.3
	1.7nm,0.3s,baz=56,slow=7.3,SNR=5.5						
WRA	**Warramunga Arr**	**22.25**	**232**	P	P	03 52 31.7	-1.0
	0.8nm,0.6s,baz=56,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**24.81**	**225**	P	P	03 52 56.2	-0.3
	1.7nm,0.7s,baz=58,slow=9.1,SNR=11						
ILAR	**Eielson Array**	**83.85**	**22**	P	P	04 00 00.7	-0.7
	0.2nm,0.6s,baz=247,slow=5.1,SNR=5.1						
TORD	**Torodi Ar. Bea**	**150.77**	**285**	PKPbc	PKPbc	04 07 26.1	+1.2
	0.5nm,0.7s,baz=92,slow=1.8,SNR=4.1						

ISCJB ***05*** *03:53:13.8±0.7, 3°.37N±0°.07×97°.13E±0°.07, h61km±6km, mb3.9/18, Error ellipse: s-maj=11.6km s-min=11.0km az=153.4*

DJA ***05*** *03:53:16.6±0.4, 3°N±3°×9°7E±°, h10km, M4.1/7, MLv4.1/7*

NEIC ***05*** *03:53:16.1±0.8, 3°.19N×97°.04E, h73km±7km, mb4.0/5, Error ellipse: s-maj=14.6km s-min=6.9km az=57.0*

NEIC Felt [III] at Tapaktuan.

IDC ***05*** *03:53:17.6±2.7, 3°.33N×97°.14E, h83km±22km, mb3.6/14, mb1 3.6/14, mb1mx3.5/51, mbtmp3.9/14, MS4.5/2, Ms1 4.4/2, ms1mx3.3/35, Error ellipse: s-maj=39.0km s-min=14.1km az=49.0*

ISC 05 03:53:16.9±1.1, 3°.16N±0°.06×97°.05E±0°.07, h84km±10km, n31, σ0§92/30, mb3.9/18, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**0.17**	**51**	P	Pn	03 53 20.3	-8.7
TPTI				S	Sn	03 53 24.6	-13
KCSI	**Kotacane, Aceh**	**0.81**	**63**	P	Pn	03 53 28.3	-5.8
KCSI				S	Sn	03 53 37.6	-9.2
SNSI	**Sinabang, Aceh**	**1.03**	**224**	P	**Pn**	**03 53 36.7**	**+0.1**
PSI	**Prapat**	**1.91**	**101**	P	**Pn**	**03 53 47.6**	**-0.2**
	15nm,0.3s,baz=303,slow=13,SNR=24						
PSI				S	**Sn**	**03 54 12.0**	**+0.7**
	36nm,0.3s,baz=269,slow=3.1,SNR=15						
GSI	**Gunungsitoli**	**1.91**	**164**	*e*Pn	**Pn**	**03 53 46.4**	**-1.5**
LHMI	**Lhok Sumawe**	**2.06**	**357**	P	**Pn**	**03 53 50.5**	**+0.7**
LHMI	**Lhok Sumawe**	**2.06**	**357**	*e*Pn	**Pn**	**03 53 48.6**	**-1.2**
MNSI	**Mandailing Nat**	**3.45**	**133**	P	**Pn**	**03 54 08.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**15.32**	**7**	P	**P**	**03 56 51.4**	**-0.1**
	0.3nm,0.3s,baz=189,slow=11,SNR=3.9						
KKM	**Kota Kinabalu**	**19.32**	**81**	*e*P	**P**	**03 57 35.9**	**+0.2**
	7.6nm,0.8s						
WRA	**Warramunga Arr**	**43.21**	**124**	P	**P**	**04 01 11.0**	**+0.8**
	0.4nm,0.6s,baz=304,slow=9.2,SNR=16						
WRAB	**Tennant Creek**	**43.22**	**124**	*e*P	**P**	**04 01 10.9**	**+0.7**
	3.5nm,0.9s						
TKM2	**Tokmak 2**	**43.97**	**337**	*e*P	**P**	**04 01 15.3**	**-0.8**
	1.2nm,0.5s						
EKS2	**Erkin-Say**	**44.48**	**335**	*e*P	**P**	**04 01 21.0**	**+0.9**
	1.3nm,0.6s						
ASAR	**Alice Springs**	**44.70**	**129**	P	**P**	**04 01 22.9**	**+0.9**
	0.2nm,0.4s,baz=303,slow=7.8,SNR=2.7						
SONM	**Songino Array**	**45.23**	**9**	P	**P**	**04 01 25.4**	**-0.6**
	0.5nm,0.3s,baz=192,slow=9.1,SNR=7.4						
SONM				PcP	**PcP**	**04 03 02.7**	**-2.0**
	2.0nm,1.1s,baz=179,slow=2.9,SNR=4.5						
MKAR	**Makanchi Array**	**45.32**	**346**	P	**P**	**04 01 26.3**	**-0.3**
	0.5nm,0.4s,baz=164,slow=9.3,SNR=11						
ULN	**Ulaanbaatar**	**45.37**	**9**	*e*P	**P**	**04 01 26.2**	**-0.9**
	0.7nm,0.5s						
GEYT	**Alibeck**	**49.63**	**319**	P	**P**	**04 02 00.2**	**0.0**
	0.8nm,0.3s,baz=153,slow=10.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**51.62**	**351**	P	**P**	**04 02 14.2**	**-0.5**
	1.5nm,0.3s,baz=166,slow=6.5,SNR=12						
STKA	**Stephens Creek**	**54.78**	**133**	LR	LR	04 27 29.6	
	comp=Z,534nm,21.9s,baz=167,slow=37						
ABKAR	**Akbulak array**	**55.73**	**331**	*e*P	**P**	**04 02 45.1**	**+0.2**
AKTO	**Aktyubinsk**	**57.45**	**331**	P	**P**	**04 02 57.0**	**-0.1**
	0.7nm,0.5s,baz=97,slow=13,SNR=2.7						
BRTR	**Keskin Array B**	**67.70**	**312**	P	**P**	**04 04 05.5**	**-0.3**
	0.3nm,0.4s,baz=202,slow=1.6,SNR=3.0						
AKASG	**Malin Array Be**	**73.63**	**322**	P	**P**	**04 04 41.3**	**0.0**
	0.3nm,0.3s,baz=90,slow=4.9,SNR=2.7						
FINES	**FINESS Array B**	**78.21**	**332**	P	**P**	**04 05 07.8**	**+0.6**
	1.9nm,1.1s,baz=104,slow=3.4,SNR=3.6						
FX1	**Attu Island--F**	**79.12**	**37**	P	**P**	**04 05 11.1**	**-1.2**
	11nm,0.9s,baz=181,slow=14,SNR=5.7						
ARCES	**ARCESS Array B**	**80.66**	**340**	P	**P**	**04 05 21.7**	**+1.4**
	3.2nm,1.0s,baz=100,slow=7.3,SNR=8.5						
ARCES				LR	LR	04 46 06.2	
	comp=Z,205nm,20.6s,baz=242,slow=39						
URZ	**Urewera**	**84.15**	**129**	P	**P**	**04 05 40.5**	**+1.4**
	4.5nm,0.8s,baz=140,slow=16,SNR=1.9						
NOA	**NORSAR Array B**	**85.24**	**331**	P	**P**	**04 05 45.2**	**+1.1**
	0.5nm,0.8s,baz=98,slow=5.2,SNR=2.8						
TXAR	**Lajitas Array**	**142.08**	**30**	PKP	**PKPdf**	**04 12 39.2**	**-1.0**
	0.1nm,0.4s,baz=38,slow=4.6,SNR=2.9						

ISCJB ***05*** *03:55:12.5±1.6, 34°.60S±0°.02×71°.79W±0°.04, h7km±9km, mb5.1/155, MS4.5/14, Error ellipse: s-maj=5.6km s-min=3.7km az=11.2*

IDC ***05*** *03:55:13.2±0.4, 34°.53S×71°.73W, h0km, mb4.9/22, mb1 5.0/25, mb1mx4.9/32, mbtmp4.9/25, ML4.9/3, MS4.5/16, Ms1 4.5/16, ms1mx4.3/29, Error ellipse: s-maj=15.9km s-min=11.0km az=84.0*

NEIC ***05*** *03:55:14.3, 34°.66S×71°.76W, h34km±3km, ML5.2*

GCMT ***05*** *03:55:14.3±0.2, 34°.63S×71°.95W, h26km±1km, MW5.3/85, Moment Tensor Solution. s28,c33; s85,c123; Duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.01±.04; $M_{\theta\theta}$=0.90±.03; $M_{\phi\phi}$=0.90±.04; $M_{r\theta}$=0.15±.05; $M_{\theta\phi}$=0.14±.03; $M_{r\phi}$=0.21±.06; Best double couple: M_0=0.94700×1017 NP1:φs=50.00000°, δ87.00000°, λ15.00000°. NP2: φs=319.00000°, δ75.00000°, λ177.00000°. Principal axes: T 0.9650, Plg13.0000°, Azm275.0000°; N -0.0360, Plg74.0000°, Azm60.0000°; P -0.9290, Plg9.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***05*** *03:55:16.8±1.1, 34°.50S×71°.62W, h33km, mb5.3/39 Error ellipse: s-maj=13.2km s-min=6.9km az=95.1*

BJI ***05*** *03:55:17.3, 35°.33S×71°.84W, h35km, mB5.0/9, Ms5.4/8, Ms7 5.1/9*

ISC 05 03:55:16.5±0.6, 34°.60S±0°.03×71°.62W±0°.06, h22km±5km, n751, σ0§87/770, mb5.2/155, MS4.6/14, 211C-202D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**0.97**	**61**	⇑*iP*	**Pb**	**03 55 34.4**	**-0.3**
CACH	**El Canelo**	**0.97**	**61**	⇑*iP*	**Pb**	**03 55 34.4**	**-0.3**
CHCH	**Chadas Angostu**	**1.04**	**51**	⇓*iP*	**Pn**	**03 55 35.0**	**-0.8**
CHCH	**Chadas Angostu**	**1.04**	**51**	⇓*iP*	**Pn**	**03 55 35.0**	**-0.8**
TACH	**Talagante**	**1.10**	**31**	*e*P1	**Pn**	**03 55 35.1**	**-1.5**
TACH	**Talagante**	**1.10**	**31**	*e*P	**Pn**	**03 55 35.1**	**-1.5**
LNCH	**Linares**	**1.24**	**179**	⇓*iP*	**Pn**	**03 55 36.5**	**-2.1**
LNCH				*i* S4	**Sn**	**03 55 53.3**	**-1.3**
LNCH				AML	AML	03 55 55.4	
	comp=E,236μm,0.9s						
LNCH	**Linares**	**1.24**	**179**	P	**Pn**	**03 55 36.5**	**-2.1**
LNCH				S	**Sn**	**03 55 53.3**	**-1.3**
RCDM	**Rinconada Maip**	**1.30**	**32**	⇓*iP*	**Pn**	**03 55 37.0**	**-2.4**
RCDM				*i* S1	**Sn**	**03 55 55.4**	**-0.7**
RCDM				AML	AML	03 55 58.6	
	comp=E,67μm,0.6s						
RCDM	**Rinconada Maip**	**1.30**	**32**	⇓*iP*	**Pn**	**03 55 37.0**	**-2.4**
RCDM				*i* S	**Sn**	**03 55 55.4**	**-0.7**
ANTU	**Antumapu**	**1.32**	**39**	⇓*iP*	**Pn**	**03 55 39.1**	**-0.4**
ANTU				*i* S1	**Sb**	**03 55 58.1**	**+1.1**
ANTU				AML	AML	03 56 04.6	
	comp=E,60μm,0.4s						
ANTU	**Antumapu**	**1.32**	**39**	⇓*iP*	**Pn**	**03 55 39.1**	**-0.4**
ANTU				*i* S	**Sb**	**03 55 58.1**	**+1.1**
PCH	**Pirque**	**1.34**	**44**	*e*P1	**Pn**	**03 55 39.8**	**-0.2**
PCH	**Pirque**	**1.34**	**44**	*e*P	**Pn**	**03 55 39.8**	**-0.2**
SAN	**Santiago**	**1.40**	**35**	⇑*iP*	**Pn**	**03 55 40.3**	**-0.3**
SAN				*i* S	**Sb**	**03 56 00.2**	**+1.0**
SAN	**Santiago**	**1.40**	**35**	⇑*iP*	**Pn**	**03 55 40.3**	**-0.3**
SAN				*i* S1	**Sb**	**03 56 00.2**	**+1.0**
SAN				AML	AML	03 56 05.7	
	comp=E,23μm,0.8s						
SAN	**Santiago**	**1.40**	**35**	⇑*iP*	**Pn**	**03 55 40.3**	**-0.3**
SAN				*i* S	**Sb**	**03 56 00.2**	**+1.0**
LACH	**Col Las Americ**	**1.46**	**39**	⇓*iP*	**Pn**	**03 55 41.1**	**-0.4**
LACH				*i* S1	**Sb**	**03 56 02.0**	**+0.9**
LACH				AML	AML	03 56 09.1	
	comp=E,27μm,0.5s						
LACH	**Col Las Americ**	**1.46**	**39**	⇓*iP*	**Pn**	**03 55 41.1**	**-0.4**
LACH				*i* S	**Sb**	**03 56 02.0**	**+0.9**
IHA	**Instituto Hidr**	**1.57**	**359**	*e*P4	**Pn**	**03 55 40.3**	**-2.8**
IHA				*i* S4	**Sn**	**03 56 02.5**	**-0.1**
IHA	**Instituto Hidr**	**1.57**	**359**	P	**Pn**	**03 55 40.3**	**-2.8**
IHA				S	**Sn**	**03 56 02.5**	**-0.1**
PEL	**Peldehue**	**1.65**	**28**	⇑*iP*	**Pn**	**03 55 44.0**	**-0.1**
PEL				*i* S	**Sb**	**03 56 06.3**	**-0.3**
PEL	**Peldehue**	**1.65**	**28**	⇑*iP*	**Pn**	**03 55 44.0**	**-0.1**
PEL				*i* S	**Sb**	**03 56 06.3**	**-0.3**
PEL				AML	AML	03 56 12.4	
	comp=N,131μm,0.5s						
PEL	**Peldehue**	**1.65**	**28**	⇑*iP*	**Pn**	**03 55 44.0**	**-0.1**
PEL				*i* S	**Sb**	**03 56 06.3**	**-0.3**
FCH	**Farellones**	**1.68**	**41**	⇓*iP*	Pn	03 55 40.2	-4.7
FCH				*e*S1	**Sn**	**03 56 03.2**	**-2.7**
FCH				AML	AML	03 56 11.3	
	comp=N,39μm,0.5s						
FCH	**Farellones**	**1.68**	**41**	⇓*iP*	Pn	03 55 40.2	-4.7
FCH				*e*S	**Sn**	**03 56 03.2**	**-2.7**
CMCH	**Combarbala**	**3.46**	**9**	⇓*iP*	**Pn**	**03 56 08.4**	**-0.7**
CMCH	**Combarbala**	**3.46**	**9**	⇓*iP*	**Pn**	**03 56 08.4**	**-0.7**
CFAA	**Coronel Fontan**	**4.12**	**44**	Pn	Pn	03 56 21.5	+3.3
	comp=N,5.2nm,0.3s,baz=226,slow=12,SNR=76						
CFAA				Lg	Lg	03 57 24.9	
	comp=N,14nm,0.3s,baz=302,slow=21,SNR=18						
PLCA	**Paso Flores**	**6.18**	**172**	Pn	**Pn**	**03 56 47.8**	**+1.3**
	comp=N,27nm,0.3s,baz=339,slow=12,SNR=101						
PLCA				Lg	Lg	03 58 24.3	
	comp=N,15nm,0.3s,baz=254,slow=14,SNR=4.6						
PLCA				LR	LR	03 59 35.2	
	comp=N,2μm,19.7s,baz=354,slow=42						
TRQA	**Tornquist**	**8.51**	**117**	*e*Pn	**Pn**	**03 57 20.6**	**+2.2**
TRQA				*e*Lg	Lg	03 59 41.7	
LVC	**Limon Verde**	**12.18**	**12**	*e*Pn	**Pn**	**03 58 06.4**	**-2.5**
CPUP	**Villa Florida**	**14.82**	**60**	*e*P	**Pn**	**03 58 42.3**	**-2.3**
CPUP				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CPUP	**Villa Florida**	**14.82**	**60**	Pn	**Pn**	**03 58 42.6**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=210,slow=13,SNR=4.0						
CPUP				Lg	Lg	04 03 08.7	
	comp=Z,0.7nm,0.3s,baz=287,slow=14,SNR=2.7						
CPUP				LR	LR	04 04 04.9	
	comp=Z,2μm,18.7s,baz=224,slow=36						
CPUP	**Villa Florida**	**14.82**	**60**	*e*Pn	**Pn**	**03 58 42.3**	**-2.3**
	comp=Z,6.9nm,0.7s						
CPUP				Lg	Lg	04 03 08.7	
LPAZ	**La Paz**	**18.50**	**11**	*e*P	**P**	**03 59 31.0**	**-0.9**
LPAZ				pmax	pmax		
	comp=Z,122nm,1.3s						
LPAZ	**La Paz**	**18.50**	**11**	P	**P**	**03 59 31.2**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=182,slow=7.6,SNR=41						
LPAZ	**La Paz**	**18.50**	**11**	*e*Pn	**P**	**03 59 31.0**	**-0.9**
	comp=Z,122nm,1.3s						
EFI	**East Falkland**	**19.67**	**154**	Pn	**P**	**03 59 42.8**	**-1.0**
	comp=Z,296nm,0.9s,SNR=13						
EFI	**East Falkland**	**19.67**	**154**	*e*P	**P**	**03 59 42.0**	**-1.8**
EFI				pmax	pmax		
	comp=Z,51nm,0.7s						
EFI	**East Falkland**	**19.67**	**154**	*e*P	**P**	**03 59 42.0**	**-1.8**
	comp=Z,51nm,0.7s						
USHA	**Ushuaia**	**20.35**	**175**	P	**P**	**03 59 51.2**	**0.0**
	comp=Z,90nm,1.0s,baz=353,slow=8.2,SNR=22						
SIV	**San Ignacio**	**20.81**	**30**	P	**P**	**03 59 56.7**	**+0.1**
	comp=Z,91nm,0.9s,baz=222,slow=10.0,SNR=36						
SIV				LR	LR	04 08 42.3	
	comp=Z,2μm,20.7s,baz=224,slow=39						
NNA	**Nana**	**23.01**	**347**	*e*P	**P**	**04 00 19.3**	**-0.7**
NNA				pmax	pmax		
	comp=Z,161nm,1.0s						
NNA	**Nana**	**23.01**	**347**	P	**P**	**04 00 19.4**	**-0.6**
	comp=Z,120nm,0.9s,baz=186,slow=12,SNR=17						
NNA	**Nana**	**23.01**	**347**	*e*P	**P**	**04 00 19.2**	**-0.7**
	comp=Z,161nm,1.0s						
SAML	**Samuel**	**26.68**	**19**	*e*P	**P**	**04 00 54.0**	**0.0**
	comp=Z,32nm,0.8s						
ATAH	**Atahualpa**	**28.04**	**346**	P	**P**	**04 01 09.3**	**+2.7**

VNDA	Vanda	63.58	191	eP	P	04 05 45.3 +0.4
	comp=Z,6.9nm,0.9s					
035A	Encino	66.14	334	⇑P	P	04 06 02.8 +0.7
	baz=66					
034A	Hebbronville	66.47	334	⇓P	P	04 06 04.4 +0.2
	baz=67,SNR=11					
TIGA	Tifton	66.65	349	⇑P	P	04 06 06.6 +1.3
	baz=67					
TIGA	Tifton	66.65	349	eP	P	04 06 05.4 +0.1
	comp=Z,393nm,2.6s					
933A	Laredo	67.19	333	⇑P	P	04 06 09.0 +0.2
	baz=68,SNR=8.0					
835A	Beeville	67.28	335	⇑P	P	04 06 10.2 +0.9
	baz=68					
834A	Tilden	67.39	334	⇑P	P	04 06 10.5 +0.5
	baz=68,SNR=20					
TBI	Tubuai	67.51	257	eT	T	05 18 54.4
	comp=Z,9.9nm,0.3s					
735A	Kenedy	67.79	335	⇑P	P	04 06 12.9 +0.3
	baz=68,SNR=8.1					
833A	Chaparral WMA,	67.87	334	⇑P	P	04 06 12.9 -0.1
	baz=68,SNR=19					
832A	Faith Ranch, C	68.05	333	⇑P	P	04 06 14.3 +0.1
	baz=68,SNR=24					
636A	Smothers Creek	68.11	336	⇓P	P	04 06 15.0 +0.4
	baz=68,SNR=21					
HKT	Hockley	68.15	337	eP	P	04 06 15.4 +0.7
HKT				pmax	pmax	
	comp=Z,56nm,1.8s					
HKT	Hockley	68.15	337	eP	P	04 06 15.4 +0.7
	comp=Z,56nm,1.8s					
733A	Divot King Ran	68.19	334	⇑P	P	04 06 15.3 +0.2
	baz=68					
537A	Green Hill Far	68.42	337	⇓P	P	04 06 16.7 +0.2
	baz=69					
732A	Laxson Ranch,	68.45	333	⇓P	P	04 06 16.6 -0.1
	baz=69,SNR=32					
634A	China Grove, S	68.46	335	⇑P	P	04 06 16.7 -0.1
	baz=69					
GOGA	Godfrey	68.56	349	eP	P	04 06 15.5 -1.8
GOGA				pmax	pmax	
	comp=Z,54nm,1.7s					
GOGA	Godfrey	68.56	349	eP	P	04 06 15.5 -1.8
	comp=Z,54nm,1.7s					
536A	Bastrop	68.66	336	⇑P	P	04 06 18.3 +0.3
	baz=69					
438A	Sam Houston St	68.78	338	⇓P	P	04 06 19.1 +0.4
	baz=69					
535A	Dale	68.79	336	⇑P	P	04 06 19.0 +0.2
	baz=69					
VBMS	Vicksburg	68.80	343	eP	P	04 06 19.4 +0.6
	comp=Z,40nm,0.9s					
LRAL	Lakeview Retre	68.81	346	eP	P	04 06 17.5 -1.3
	comp=Z,64nm,1.8s					
633A	Saathoff Ranch	68.83	334	⇓P	P	04 06 18.9 -0.1
	baz=69,SNR=11					
340A	Bronson	68.93	340	⇓P	P	04 06 19.6 -0.1
	baz=69,SNR=13					
339A	Huntington	69.05	339	⇑P	P	04 06 20.4 0.0
	baz=69,SNR=8.8					
632A	Uvalde	69.09	334	⇑P	P	04 06 20.4 -0.3
	baz=69,SNR=28					
534A	Blanco	69.10	335	⇑P	P	04 06 20.4 -0.4
	baz=69					
MEH	Mehetia	69.11	262	eT	T	05 21 00.0
	comp=Z,78nm,0.2s					
631A	Perdido Creek	69.29	333	⇑P	P	04 06 21.9 0.0
	baz=70					
338A	Crockett	69.30	338	⇓P	P	04 06 22.2 +0.3
	baz=70					
533A	Kerrville	69.33	335	⇑P	P	04 06 22.0 -0.3
	baz=70,SNR=17					
337A	Centerville	69.44	338	⇑P	P	04 06 22.9 +0.1
	baz=70					
435B	Jarrell	69.49	336	⇑P	P	04 06 23.2 +0.1
	baz=70					
532A	Rocksprings	69.69	334	⇓P	P	04 06 24.2 -0.3
	baz=70,SNR=53					
CNNC	Cliffs of the	69.73	355	eP	P	04 06 24.4 -0.1
	comp=Z,24nm,0.8s					
434A	Burnet	69.75	336	⇓P	P	04 06 24.4 -0.3
	baz=70,SNR=21					
336A	Riesel	69.80	337	⇓P	P	04 06 24.8 -0.3
	baz=70,SNR=11					
335A	Moody	69.89	337	⇓P	P	04 06 25.2 -0.4
	baz=70,SNR=14					
531A	Rocksprings	69.96	334	⇓P	P	04 06 26.0 -0.1
	baz=70,SNR=18					
433A	Art	69.97	335	⇑P	P	04 06 25.7 -0.5
	baz=70,SNR=36					
KMSC	Kings Mountain	69.97	352	⇓P	P	04 06 25.7 -0.4
	baz=70					
KMSC	Kings Mountain	69.97	352	eP	P	04 06 25.0 -1.0
	comp=Z,25nm,1.0s					
JCT	Junction City	69.97	334	⇑P	P	04 06 25.7 -0.5
	baz=70,SNR=23					
237A	Washetta, Mont	70.05	338	⇑P	P	04 06 25.9 -0.6
	baz=70					
TVO	Taravao	70.12	262	eT	T	05 22 14.0
	comp=Z,3.6nm,0.3s					
334A	Lometa	70.21	336	⇓P	P	04 06 27.1 -0.4
	baz=70,SNR=22					
530A	J-C Ranch, Com	70.24	333	⇑P	P	04 06 27.6 -0.2
	baz=71,SNR=34					
TIAR	Tiarei	70.32	262	eT	T	05 22 29.9
	comp=Z,22nm,0.3s					
432A	Menard	70.33	334	⇓P	P	04 06 27.8 -0.5
	baz=71,SNR=14					
TXAR	Lajitas Array	70.43	331	P	P	04 06 28.5 -0.5
	comp=Z,5.9nm,0.7s,baz=153,slow=8.5,SNR=58					
TXAR				LR	LR	04 31 59.8
	comp=Z,407nm,20.5s,baz=0.0,slow=31					
138A	Matatall Enter	70.45	339	⇑P	P	04 06 28.6 -0.3
	baz=71					
431A	Sonora	70.45	334	⇓P	P	04 06 28.4 -0.7
	baz=71,SNR=16					
PAE	Paea	70.45	262	eT	T	05 22 39.9
	comp=Z,2.0nm,0.3s					
333A	Richland Sprin	70.46	335	⇓P	P	04 06 28.5 -0.6
	baz=71,SNR=21					
PPT2	Papeete2	70.49	262	eS	S	04 15 52.6 +11
	comp=Z,353nm,24.0s					
PPT2	Papeete2	70.49	262	eLR	LR	04 27 52.9
	comp=Z,947nm,29.8s					
PPT	Papeete	70.50	262	P	P	04 06 30.3 +0.5
	comp=Z,56nm,0.9s,baz=300,slow=0.8,SNR=3.2					
PPT				LR	LR	04 29 50.3
	comp=Z,233nm,21.9s,baz=182,slow=30					
529A	Stev Forest Ra	70.56	332	⇓P	P	04 06 29.4 -0.4
	baz=71,SNR=33					
WHTX	Lake Whitney,	70.56	337	⇑P	P	04 06 29.0 -0.6
	baz=71,SNR=7.4					
WHTX	Lake Whitney,	70.56	337	eP	P	04 06 29.3 -0.4
	comp=Z,32nm,0.8s					
137A	Heron Place, G	70.59	339	⇓P	P	04 06 29.4 -0.5
	baz=71					
CPCT	Cooper Cave	70.72	349	eP	P	04 06 31.4 +0.8
SWET	Sewanee	70.73	348	eP	P	04 06 29.3 -1.4
	comp=Z,38nm,0.9s					
OXF	Oxford	70.74	345	eP	P	04 06 30.0 -0.7
OXF				pmax	pmax	
	comp=Z,77nm,0.9s					
OXF	Oxford	70.74	345	eP	P	04 06 30.0 -0.7
	comp=Z,77nm,0.9s					
332A	Millersview	70.77	335	⇓P	P	04 06 30.4 -0.6
	baz=71,SNR=16					
430A	Baggett Ranch,	70.78	333	⇑P	P	04 06 30.6 -0.5
	baz=71,SNR=26					
234A	Clairette	70.79	336	⇓P	P	04 06 30.4 -0.7
	baz=71,SNR=17					
TKL	Tuckaleechee C	70.81	350	eP	P	04 06 29.4 -1.7
TKL	Tuckaleechee C	70.81	350	eP	P	04 06 29.4 -1.7
429A	Davenport Ranc	70.88	333	⇓P	P	04 06 31.3 -0.5
	baz=71,SNR=17					
331A	San Angelo	70.95	334	⇑P	P	04 06 31.4 -0.8
	baz=71,SNR=29					
233A	Rising Star	71.06	336	⇑P	P	04 06 31.9 -0.8
	baz=71,SNR=15					
135A	Vickery Place,	71.06	337	⇓P	P	04 06 32.2 -0.5
	baz=71					
232A	Coleman	71.20	335	⇓P	P	04 06 32.8 -0.9
	baz=72,SNR=14					
134A	White-Moore Ra	71.30	337	⇑P	P	04 06 33.2 -0.9
	baz=72					
330A	Mertzon	71.31	334	⇓P	P	04 06 33.4 -0.9
	baz=72,SNR=20					
231A	Bronte	71.48	334	⇑P	P	04 06 34.3 -1.0
	baz=72,SNR=17					
133A	Hamilton Ranch	71.61	336	⇑P	P	04 06 35.1 -0.9
	baz=72,SNR=11					
329A	Wagon Wheel Ra	71.68	333	⇑P	P	04 06 35.7 -0.8
	baz=72,SNR=22					
230A	Sterling City	71.72	334	⇓P	P	04 06 36.0 -0.8
	baz=72					
Z35A	Perchaven, San	71.73	338	⇓P	P	04 06 36.2 -0.5
	baz=72					
MIAR	Mount Ida	71.79	341	eP	P	04 06 35.4 -1.7
MIAR				pmax	pmax	
	comp=Z,92nm,2.2s					
MIAR	Mount Ida	71.79	341	eP	P	04 06 35.4 -1.7
	comp=Z,92nm,2.2s					
ABTX	Abilene, Hawle	71.87	335	⇓P	P	04 06 36.9 -0.7
	baz=72,SNR=12					
ABTX	Abilene, Hawle	71.87	335	eP	P	04 06 36.9 -0.7
	comp=Z,38nm,0.9s					
WVT	Waverly	71.97	346	eP	P	04 06 36.7 -1.4
WVT				pmax	pmax	
	comp=Z,74nm,0.8s					
WVT	Waverly	71.97	346	eP	P	04 06 36.7 -1.4
	comp=Z,74nm,0.8s					
Z34A	Collier Ranch,	71.98	337	⇑P	P	04 06 37.6 -0.6
	baz=72					
229A	Bryant Ranch,	72.05	333	⇑P	P	04 06 37.8 -0.9
	baz=72,SNR=11					
JSRW	J. Sargeant Re	72.16	355	eP	P	04 06 39.0 -0.2
131A	Roby	72.17	335	⇑P	P	04 06 38.7 -0.7
	baz=72,SNR=9.8					
Z33A	Whitaker Ranch	72.18	336	⇓P	P	04 06 38.7 -0.8
	baz=72,SNR=21					
130A	Snyder	72.31	334	⇓P	P	04 06 39.1 -1.1
	baz=73,SNR=7.4					
Z32A	Haskell	72.43	336	⇑P	P	04 06 40.1 -0.9
	baz=73,SNR=20					
Y34A	Reagan Ranch,	72.47	337	⇑P	P	04 06 40.2 -1.0
	baz=73,SNR=11					
228A	UT Block 9, Go	72.48	333	⇑P	P	04 06 40.5 -0.9
	baz=73,SNR=18					
MAW	Mawson	72.51	163	P	P	04 06 42.2 +1.2
	comp=Z,22nm,0.9s,baz=265,slow=3.0,SNR=3.3					
MAW				LR	LR	04 39 23.7
	comp=Z,498nm,19.7s,baz=232,slow=36					
129A	Stewart Farms,	72.67	334	⇑P	P	04 06 41.6 -0.8
	baz=73					
Z31A	Sharp Cattle R	72.67	335	⇑P	P	04 06 41.7 -0.7
	baz=73,SNR=16					
Y33A	Hilltop Ranch,	72.79	337	⇓P	P	04 06 42.1 -1.0
	baz=73,SNR=9.2					
128A	Castleberry Fa	72.89	333	⇓P	P	04 06 43.1 -0.7
	baz=73,SNR=11					
PARMO	Parma	72.89	345	eP	P	04 06 44.4 +0.9
Z30A	Sanderson Ranc	72.99	334	⇑P	P	04 06 43.3 -1.0
	baz=73,SNR=14					
Y32A	R-V Farms, Ver	73.06	336	⇑P	P	04 06 43.8 -0.9
	baz=73,SNR=10					
X34A	Smith Ranch, M	73.08	338	⇓P	P	04 06 44.2 -0.6
	baz=73,SNR=13					
KOMG	Komaggas	73.10	115	eP	P	04 06 45.8 +0.5
KOMG				AMB	AMB	04 06 50.7
	comp=Z,43nm,2.7s					
KOMG	Komaggas	73.10	115	P	P	04 06 45.8 +0.5
	comp=Z,43nm,2.7s					
PBMO	Poplar Bluff	73.14	344	eP	P	04 06 44.5 -0.6
	comp=Z,27nm,1.0s					
Z29A	Hungry Hill Ra	73.17	334	⇑P	P	04 06 44.4 -1.1
	baz=74,SNR=10					
MNTX	Cornudas Mount	73.20	330	eP	P	04 06 43.3 -2.3
	comp=Z,11nm,0.8s					
GDL2	Guadalupe Moun	73.23	331	eP	P	04 06 46.0 +0.2
X33A	Lawton	73.24	337	⇓P	P	04 06 45.0 -0.8
	baz=74					
Y31A	Rekieta Farm,	73.30	335	⇑P	P	04 06 45.4 -0.7
	baz=74,SNR=19					
X32A	Elmer	73.39	336	⇓P	P	04 06 45.8 -0.8
	baz=74,SNR=6.5					
Y30A	Stafford Cattl	73.44	335	⇑P	P	04 06 46.4 -0.6
	baz=74					
Z28A	Tucker Farm, M	73.45	333	⇓P	P	04 06 46.1 -1.0
	baz=74					
WMOK	Wichita Mounta	73.51	337	eP	P	04 06 46.1 -1.3
WMOK				pmax	pmax	
	comp=Z,11nm,0.9s					
WMOK	Wichita Mounta	73.51	337	eP	P	04 06 46.0 -1.3
	comp=Z,11nm,0.9s					
W34A	Bridge Creek,	73.65	338	⇓P	P	04 06 47.7 -0.5
	baz=74					
W34A	Bridge Creek,	73.65	338	eP	P	04 06 47.8 -0.3
	comp=Z,17nm,0.8s					
TUL1	Leonard	73.69	340	⇑P	P	04 06 47.3 -1.0
	baz=74,SNR=11					
Y29A	Porterfield Fa	73.70	334	⇓P	P	04 06 47.9 -0.7
	baz=74,SNR=21					
USIN	University of	73.72	347	eP	P	04 06 47.9 -0.6
	comp=Z,36nm,1.0s					
WCI	Wyandotte Cave	73.73	348	eP	P	04 06 46.8 -1.8
WCI				pmax	pmax	
	comp=Z,155nm,2.5s					
WCI	Wyandotte Cave	73.73	348	eP	P	04 06 46.8 -1.8
	comp=Z,155nm,2.5s					
CPRX	Cap Rock	73.78	332	eP	P	04 06 49.0 -0.1
	comp=Z,7.0nm,0.8s					
SIUC	Southern Illin	73.78	346	eP	P	04 06 48.0 -0.9
	comp=Z,26nm,0.9s					
W33A	Caddo, Fort Co	73.79	337	⇓P	P	04 06 48.5 -0.5
	baz=74,SNR=28					
X31A	McDonald Ranch	73.81	336	⇑P	P	04 06 48.4 -0.7
	baz=74,SNR=18					
X30A	Coker Ranch, T	73.95	335	⇑P	P	04 06 49.3 -0.6
	baz=74,SNR=9.2					
Y28A	McKinney Farm,	73.95	334	⇑P	P	04 06 49.2 -0.8
	baz=74					
W32A	Sentinel	74.02	337	⇑P	P	04 06 49.8 -0.5
	baz=74,SNR=30					
Z26A	Caprock	74.03	332	⇑P	P	04 06 50.1 -0.4
	baz=74,SNR=64					
V34A	Guthrie	74.13	338	⇓P	P	04 06 50.2 -0.7
	baz=74					
V34A	Guthrie	74.13	338	eP	P	04 06 50.0 -0.9
	comp=Z,28nm,0.8s					
MSTX	Muleshoe	74.20	333	⇓P	P	04 06 50.9 -0.6
	baz=74,SNR=19					
MSTX	Muleshoe	74.20	333	eP	P	04 06 50.8 -0.6
	comp=Z,30nm,0.8s					
X29A	Tulia	74.24	335	⇓P	P	04 06 51.1 -0.6
	baz=75,SNR=16					
Y27A	Causey	74.27	333	⇓P	P	04 06 50.9 -1.0
	baz=75,SNR=11					
W31A	Holland Ranch,	74.30	336	⇑P	P	04 06 51.2 -0.8
	baz=75,SNR=8.0					
Z25A	Roswell	74.33	332	⇑P	P	04 06 51.6 -0.7
	baz=75,SNR=9.6					
V33A	Lossen Ranch,	74.35	338	⇑P	P	04 06 51.9 -0.4
	baz=75,SNR=12					
X28A	Dimmitt	74.48	334	⇑P	P	04 06 52.4 -0.7
	baz=75					
V32A	Arapaho	74.50	337	⇓P	P	04 06 53.0 -0.2
	baz=75					
W30A	Crocket Farms	74.51	336	⇑P	P	04 06 53.0 -0.2
	baz=75					
OLIL	Olney	74.55	347	eP	P	04 06 52.6 -0.7
	comp=Z,25nm,1.1s					
Y26A	Elida	74.55	333	⇑P	P	04 06 53.3 -0.3
	baz=75					
319A	Douglas	74.59	327	⇑P	P	04 06 54.2 +0.3
	baz=75,SNR=21					
AMTX	Amarillo	74.62	335	⇑P	P	04 06 53.6 -0.3
	baz=75					
AMTX	Amarillo	74.62	335	eP	P	04 06 53.8 -0.1
	comp=Z,44nm,1.0s					
Z24A	Shepppen Canyo	74.62	331	⇑P	P	04 06 53.8 -0.3
	baz=75,SNR=15					
LIC	Lamto	74.64	71	eP	P	04 06 55.2 +0.8
	comp=Z,49nm,1.3s					
U34A	Anderson Ranch	74.69	339	⇑P	P	04 06 54.0 -0.2
	baz=75					
U34A	Anderson Ranch	74.69	339	eP	P	04 06 53.2 -1.0
	comp=Z,22nm,0.8s					
BLO	Bloomington	74.69	348	eP	P	04 06 57.2 +3.1
BLO				pmax	pmax	
	comp=Z,19nm,0.8s					
BLO	Bloomington	74.69	348	eP	P	04 06 57.2 +3.1
	comp=Z,19nm,0.8s					
V31A	Spring Creek L	74.81	337	⇓P	P	04 06 55.0 +0.1
	baz=75					
W29A	Amarillo	74.83	335	⇓P	P	04 06 54.8 -0.3
	baz=75,SNR=17					
Y25A	Mesa, Roswell	74.88	332	⇓P	P	04 06 54.8 -0.7
	baz=75					
SLM	Saint Louis	74.89	345	eP	P	04 06 54.8 -0.4
SLM				pmax	pmax	
	comp=Z,47nm,1.1s					
SLM	Saint Louis	74.89	345	eP	P	04 06 54.8 -0.4
	comp=Z,47nm,1.1s					
TIC	Toumodi	74.90	71	eP	P	04 06 55.7 -0.3
	comp=Z,13nm,0.7s					
X27A	F and S Farms,	74.92	334	⇑P	P	04 06 55.1 -0.6
	baz=75					
121A	Cookes Peak, D	74.93	329	⇓P	P	04 06 56.3 +0.4
	baz=75,SNR=40					
121A	Cookes Peak, D	74.93	329	eP	P	04 06 56.0 +0.1
	comp=Z,32nm,0.9s					
KIC	Kosan Boka	74.95	71	eP	P	04 06 57.1 +0.9
	comp=Z,65nm,1.2s					
DBIC	Dimbokro	75.05	71	eP	P	04 06 55.2 -1.6
DBIC	Dimbokro	75.05	71	eP	P	04 06 57.2 +0.5
DBIC				pmax	pmax	
	comp=Z,45nm,1.5s					
DBIC	Dimbokro	75.05	71	P	P	04 06 57.6 +0.9
	comp=Z,8.6nm,0.7s,baz=206,slow=4.8,SNR=11					
DBIC				LR	LR	04 36 59.2
	comp=Z,398nm,20.1s,baz=218,slow=33					
DBIC	Dimbokro	75.05	71	eP	P	04 06 57.2 +0.5
	comp=Z,45nm,1.5s					
V30A	Spur Ranch, Mi	75.08	336	⇑P	P	04 06 56.4 -0.1
	baz=75					
U32A	Winter Ranch,	75.09	337	⇓P	P	04 06 56.1 -0.4
	baz=75,SNR=18					
X26A	CR and CF Fran	75.10	333	⇓P	P	04 06 56.4 -0.4
	baz=75,SNR=29					
Y24A	Capitan	75.18	331	⇑P	P	04 06 57.0 -0.3
	baz=76,SNR=13					
ACSO	Alum Creek Sta	75.20	351	eP	P	04 06 56.0 -1.0
	comp=Z,48nm,0.9s					
Z22A	Elephant Butte	75.21	330	⇓P	P	04 06 57.7 +0.2
	baz=76,SNR=10					
W27A	Bowe Ranch, En	75.28	334	⇓P	P	04 06 57.3 -0.5
	baz=76,SNR=32					
X25A	Clemmons Ranch	75.40	332	⇑P	P	04 06 58.3 -0.2
	baz=76					
Y23A	Lovelace Mesa,	75.43	331	⇓P	P	04 06 58.8 +0.1
	baz=76,SNR=16					
T33A	Patterson Ranc	75.50	338	⇓P	P	04 06 58.9 0.0
	baz=76					
W26A	Owens Ranch, T	75.56	333	⇑P	P	04 06 59.1 -0.3
	baz=76					
V28A	Channing	75.60	335	⇑P	P	04 06 59.4 -0.2
	baz=76					
X24A	Lazy VL Ranch,	75.74	332	⇑P	P	04 07 00.5 0.0
	baz=76,SNR=14					
U30A	WK&E Inc. Balk	75.76	336	⇑P	P	04 07 00.3 -0.1
	baz=76					
T32A	Huddler Ranch,	75.80	338	⇑P	P	04 07 00.6 0.0
	baz=76					
V27A	Dan Oppiter Fa	75.82	334	⇑P	P	04 07 00.9 0.0
	baz=76,SNR=12					
W25A	X Bar L Ranch,	75.94	333	⇓P	P	04 07 01.1 -0.4
	baz=76,SNR=12					
T31A	Randall Ranch,	75.96	337	⇑P	P	04 07 00.6 -0.9
	baz=76					
SFIN	Lafayette	75.96	348	⇑P	P	04 07 01.0 -0.3
	baz=76					
SFIN	Lafayette	75.96	348	eP	P	04 07 01.3 -0.1
	comp=Z,34nm,1.4s					
LPM	Los Pinos Moun	75.99	331	eP	P	04 07 02.5 +0.6
X23A	Hourglass Bar	76.05	331	⇓P	P	04 07 01.6 -0.7
	baz=76					
TUC	Tucson	76.06	327	eP	P	04 07 02.5 +0.2
TUC				pmax	pmax	
	comp=Z,19nm,1.2s					
TUC	Tucson	76.06	327	eP	P	04 07 02.5 +0.2
	comp=Z,19nm,1.2s					
V26A	Tequesquite Ra	76.20	334	⇑P	P	04 07 02.5 -0.5
	baz=76,SNR=9.7					
LAZ	Ladron	76.28	330	eP	P	04 07 03.9 +0.3
	comp=Z,6.9nm,1.0s					
S32A	Newby Ranch, P	76.28	338	⇑P	P	04 07 03.2 -0.1
	baz=77					
W24A	Lazy 6 Ranch,	76.29	332	⇓P	P	04 07 03.4 -0.3
	baz=77,SNR=18					
S31A	Mullinville	76.38	338	⇑P	P	04 07 04.0 +0.1
	baz=77					
U27A	Thompson Grove	76.41	335	⇓P	P	04 07 03.9 -0.3
	baz=77,SNR=8.9					
ANMO	Albuquerque	76.47	331	ceP	P	04 07 05.0 +0.3
ANMO				pmax	pmax	
	comp=Z,58nm,1.0s					
ANMO	Albuquerque	76.47	331	LR	LR	04 35 46.3
	comp=Z,415nm,20.4s,baz=158,slow=32					
ANMO	Albuquerque	76.47	331	eP	P	04 07 04.8 +0.1
	comp=Z,17nm,0.9s					
W23A	Werner Place,	76.54	331	⇓P	P	04 07 05.3 +0.2
	baz=77,SNR=15					
WIN	Windhoek	76.54	108	eP	P	04 07 06.2 +0.6
WIN				AMB	AMB	04 07 07.4
	comp=Z,7.7nm,5.3s					
WIN	Windhoek	76.54	108	P	P	04 07 06.2 +0.6
WIN				pmax	pmax	
	comp=Z,8.0nm,5.3s					
WIN	Windhoek	76.54	108	P	P	04 07 06.2 +0.6
	comp=Z,7.7nm,5.3s					
T29A	Hugoton	76.55	336	⇓P	P	04 07 04.8 -0.1
	baz=77,SNR=9.8					
V25A	Rancho No Teng	76.55	333	⇓P	P	04 07 04.5 -0.6
	baz=77,SNR=26					
R33A	Olander Ranch,	76.56	339	⇑P	P	04 07 04.4 -0.5
	baz=77					
V24A	Rampart Ranch,	76.69	332	⇑P	P	04 07 05.4 -0.6
	baz=77,SNR=10					
214A	Organ Pipe Nat	76.71	325	⇓P	P	04 07 06.2 +0.3
	baz=77,SNR=14					
214A	Organ Pipe Nat	76.71	325	eP	P	04 07 06.0 +0.1
	comp=Z,17nm,0.9s					
S30A	Montezuma	76.71	337	⇓P	P	04 07 05.8 0.0
	baz=77					
U26A	Atchley Ranch,	76.72	334	⇑P	P	04 07 05.6 -0.5
	baz=77,SNR=10.0					
ERPA	Erie	76.73	354	eP	P	04 07 05.2 -0.5
	comp=Z,20nm,0.9s					
T28A	Walsh	76.79	335	⇓P	P	04 07 05.9 -0.4
	baz=77,SNR=36					
R32A	Long Quarter,	76.88	338	⇓P	P	04 07 06.4 -0.2
	baz=77,SNR=12					
KSU1	Kansas State U	76.90	340	⇑P	P	04 07 06.3 -0.4
	baz=77					
KSU1	Kansas State U	76.90	340	eP	P	04 07 06.2 -0.5
	comp=Z,20nm,0.8s					
S29A	Ulysses	76.91	336	⇓P	P	04 07 06.9 0.0
	baz=77					
T27A	Campo	76.95	335	⇑P	P	04 07 07.0 -0.2
	baz=77,SNR=15					
U25A	Circle Dot Ran	76.97	333	⇓P	P	04 07 07.2 -0.2
	baz=77,SNR=19					
R31A	Burdett	77.01	338	⇓P	P	04 07 07.1 -0.3
	baz=77,SNR=11					
V23A	Ortiz Mt. (NFS	77.06	332	⇑P	P	04 07 07.9 -0.2
	baz=77					
S28A	Manter	77.14	336	⇑P	P	04 07 08.4 +0.1
	baz=78,SNR=30					
Q33A	Connelly Farm,	77.15	339	⇓P	P	04 07 08.3 +0.2
	baz=78					
R30A	Dighton	77.24	337	⇑P	P	04 07 08.9 +0.2
	baz=78					
U24A	Moreno Valley	77.30	333	⇑P	P	04 07 09.3 -0.1
	baz=78					
AAM	Ann Arbor	77.32	351	eP	P	04 07 08.4 -0.6
AAM	Ann Arbor	77.32	351	eP	P	04 07 08.4 -0.6
Q32A	Meitler Ranch,	77.36	339	⇑P	P	04 07 09.1 -0.2
	baz=78,SNR=11					
T26A	Comanche Natio	77.36	334	⇑P	P	04 07 09.4 -0.2

baz=78,SNR=22
113A Mohawk Valley, 77.83 325 ⇑P P 04 07 12.2 +0.1
baz=78,SNR=8.7
Q30A Quinter 77.85 338 ⇑P P 04 07 11.9 -0.3
baz=78,SNR=11
U22A Llaves 77.88 332 ⇑P P 04 07 13.0 +0.4
baz=78,SNR=9.2
T24B San Luis 77.92 333 ⇑P P 04 07 13.1 +0.3
baz=78,SNR=16
Z14A Wintersburg 77.93 326 ⇑P P 04 07 13.2 +0.5
baz=78
P32A Huiting Farm, 77.95 339 ⇑P P 04 07 12.0 -0.6
baz=78,SNR=8.6
W18A Petrified Fore 77.97 329 ⇓P P 04 07 13.1 0.0
baz=78,SNR=5.6
W18A Petrified Fore 77.97 329 eP P 04 07 13.9 +0.9
comp=Z,22nm,1.0s
Q29A Oakley 78.02 337 ⇓P P 04 07 12.6 -0.5
baz=78
R27A Eads 78.08 335 ⇓P P 04 07 13.3 -0.2
baz=78,SNR=28
P31A Stockton 78.09 338 ⇓P P 04 07 13.2 -0.3
baz=78,SNR=14
S25A Robets Cordova 78.09 334 ⇑P P 04 07 13.9 +0.2
baz=78,SNR=17
X16A Lo Mia Camp, P 78.13 327 ⇓P P 04 07 14.4 +0.5
baz=78,SNR=44
T23A Casias Ranch, 78.14 332 ⇓P P 04 07 14.0 -0.1
baz=78
R26A Arlington 78.31 335 ⇑P P 04 07 14.6 -0.2
baz=79,SNR=9.8
S24A Houchin Ranch, 78.36 333 ⇓P P 04 07 16.0 +0.6
baz=79,SNR=28
P30A Selden 78.38 338 ⇑P P 04 07 15.1 +0.1
baz=79
Y14A Wickenburg 78.44 326 ⇓P P 04 07 15.6 +0.1
baz=79,SNR=14
O32A Brockman Farm, 78.45 339 ⇑P P 04 07 15.0 -0.3
baz=79
Q28A Sharon Springs 78.45 336 ⇓P P 04 07 15.6 +0.1
baz=79
R25A Fountain Ranch 78.47 334 ⇓P P 04 07 15.7 0.0
baz=79,SNR=11
SDCO Great Sand Dun 78.56 333 eP P 04 07 16.0 -0.4
comp=Z,17nm,0.9s
GLA Glamis 78.57 324 eP P 04 07 16.8 +0.6
GLA pmax pmax
comp=Z,12nm,0.8s
GLA Glamis 78.57 324 eP P 04 07 16.8 +0.6
comp=Z,12nm,0.8s
P29A Atwood 78.65 337 ⇑P P 04 07 16.6 0.0
baz=79,SNR=17
O31A Woolen Ranch, 78.66 339 ⇑P P 04 07 16.2 -0.4
baz=79,SNR=7.5
KSCO Kaye Shedlock' 78.67 336 ⇑P P 04 07 16.9 +0.2
baz=79
KSCO Kaye Shedlock' 78.67 336 eP P 04 07 17.1 +0.3
comp=Z,36nm,1.0s
SCIA State Center 78.67 344 eP P 04 07 16.3 -0.2
comp=Z,38nm,1.0s
S23A Nye Farm, Mont 78.72 333 ⇓P P 04 07 17.1 -0.1
baz=79
TSUM Tsumeb 78.72 106 P P 04 07 18.2 +0.6
comp=Z,16nm,1.0s,baz=216,slow=4.3,SNR=18
TSUM Tsumeb 78.72 106 eP P 04 07 18.4 +0.7
comp=Z,26nm,1.1s
R24A Sanders Place, 78.85 334 ⇑P P 04 07 18.2 +0.4
baz=79,SNR=22
P28A Saint Francis 78.89 337 ⇓P P 04 07 18.1 +0.2
baz=79
LONY Lake Ozonia 78.89 358 eP P 04 07 17.9 +0.2
comp=Z,421nm,2.8s
Q26A Hugo 78.90 335 ⇑P P 04 07 18.3 +0.3
baz=79,SNR=8.6
O30A MW Ranch, Wils 78.90 338 ⇑P P 04 07 18.3 +0.3
baz=79
N32A Stulken Farm, 78.92 340 ⇑P P 04 07 18.6 +0.7
baz=79
Y12C Blythe 79.00 325 ⇑P P 04 07 18.8 +0.3
baz=79,SNR=6.7
JFWS Jewell Farm 79.00 346 eP P 04 07 17.3 -1.0
JFWS pmax pmax
comp=Z,28nm,0.8s
JFWS Jewell Farm 79.00 346 eP P 04 07 17.3 -1.0
comp=Z,28nm,0.8s
WUAZ Wupatki 79.02 328 ⇓P P 04 07 19.1 +0.3
baz=79,SNR=7.4
WUAZ Wupatki 79.02 328 eP P 04 07 19.4 +0.6
comp=Z,22nm,1.1s
S22A 4UR Ranch, Cre 79.06 332 ⇓P P 04 07 19.3 +0.1
baz=79,SNR=12
R23A Moffat 79.08 333 ⇓P P 04 07 19.2 0.0
baz=79,SNR=12
O29A 4D Ranch, Culb 79.08 338 ⇓P P 04 07 19.2 +0.3
baz=79
Q25A Bedland, Calha 79.14 335 ⇑P P 04 07 19.4 -0.1
baz=80,SNR=12
P27A Ficken Ranch, 79.14 336 ⇑P P 04 07 19.4 +0.1
baz=80
BAR Barrett 79.18 323 eP P 04 07 19.6 0.0
comp=Z,35nm,0.8s
MONP Monument Peak, 79.22 323 ⇓P P 04 07 20.3 +0.3
baz=80
MVCO Mesa Verde 79.26 331 ⇓P P 04 07 19.9 -0.2
baz=80,SNR=8.8
PDMCI Parker Dam,Lak 79.27 325 ⇓P P 04 07 19.9 -0.1
baz=80
BC3 Big Chuckawall 79.37 324 ⇓P P 04 07 20.8 +0.1
baz=80,SNR=12
O28A Krutsinger Ran 79.39 337 ⇑P P 04 07 21.2 +0.5
baz=80,SNR=8.3
P26A Davis Ranch, A 79.41 336 ⇓P P 04 07 21.2 +0.4
baz=80,SNR=10
BGNE Belgrade 79.47 340 ⇑P P 04 07 21.5 +0.5
baz=80
BOSA Boshof 79.49 117 eP P 04 07 22.3 +0.6
BOSA AMB AMB 04 07 25.6
comp=Z,37nm,1.2s
BOSA Boshof 79.49 117 eP P 04 07 21.2 -0.5
BOSA pmax pmax
comp=Z,41nm,1.1s
BOSA Boshof 79.49 117 P P 04 07 21.7 0.0
comp=Z,22nm,0.8s,baz=236,slow=5.8,SNR=21
BOSA Boshof 79.49 117 eP P 04 07 21.2 -0.5
comp=Z,40nm,1.1s
Q24A Divide 79.51 334 ⇑P P 04 07 21.6 0.0
baz=80,SNR=24
IRM Iron Mountain 79.63 325 ⇓P P 04 07 22.2 +0.2
baz=80,SNR=9.7
P25A Willow Gulch B 79.65 335 ⇓P P 04 07 22.6 +0.5
baz=80,SNR=32
M31A Lambtecht Ranc 79.65 339 ⇑P P 04 07 22.1 +0.1
baz=80,SNR=12
O27A Beecher Island 79.68 336 ⇓P P 04 07 22.6 +0.3
baz=80,SNR=14
W13A Hualapai Mount 79.81 326 ⇓P P 04 07 23.7 +0.5
baz=80,SNR=7.2
PFO Pinyon Flats O 79.82 323 P P 04 07 24.2 +1.0
comp=Z,118nm,0.9s,SNR=8.6
PFO Pinyon Flats O 79.82 323 eP P 04 07 23.6 +0.4
PFO pmax pmax
comp=Z,23nm,1.0s
PFO Pinyon Flats O 79.82 323 ⇑P P 04 07 24.0 +0.8
baz=80,SNR=8.5
PFO Pinyon Flats O 79.82 323 eP P 04 07 23.6 +0.4
comp=Z,24nm,1.0s
N28A Pribbeno Ranch 79.83 337 ⇓P P 04 07 23.4 +0.4
baz=80
BELC Belle Mtn. Jos 79.91 324 ⇓P P 04 07 24.0 +0.3
baz=80
O26A Horse Wrangler 80.01 336 ⇑P P 04 07 24.8 +0.8
baz=80
PV01 Paradox Valley 80.08 331 eP P 04 07 24.6 0.0
comp=Z,1μm,1.0s
M30A Dale-Ortello V 80.09 339 ⇑P P 04 07 25.1 +0.7
baz=80
P23A Jefferson 80.12 334 ⇑P P 04 07 25.5 +0.6
baz=80
O25A Wiggins 80.17 335 ⇑P P 04 07 25.7 +0.8
baz=80,SNR=8.5
MURC Murrieta 80.18 323 ⇑P P 04 07 25.6 +0.6
baz=80
U15A North Rim 80.19 328 ⇑P P 04 07 25.8 +0.5
baz=80,SNR=20
OGNE Ogallala 80.22 337 ⇓P P 04 07 26.0 +0.9
baz=81
OGNE Ogallala 80.22 337 eP P 04 07 24.7 -0.4
comp=Z,43nm,1.2s

N27A Anderson Farm, 80.26 337 ⇑P P 04 07 25.7 +0.3
baz=81,SNR=9.1
SWZ Schweizer 80.33 116 eP P 04 07 25.5 -0.8
SWZ AMB AMB 04 07 27.5
comp=Z,30nm,4.6s
SWZ Schweizer 80.33 116 P P 04 07 25.5 -0.8
comp=Z,30nm,4.6s
LDFC Landfair 80.36 325 eP P 04 07 26.5 +0.5
comp=Z,24nm,1.2s
SMCO Snowmass 80.37 333 eP P 04 07 26.9 +0.5
comp=Z,20nm,0.9s
L31A Butterfield Fa 80.38 340 ⇑P P 04 07 26.0 +0.1
baz=81,SNR=18
GMRC Granite Mounta 80.38 325 ⇓P P 04 07 26.7 +0.6
baz=81,SNR=17
ISCO Idaho Springs 80.42 334 eP P 04 07 26.9 +0.4
ISCO pmax pmax
comp=Z,13nm,1.1s
ISCO Idaho Springs 80.42 334 ⇑P P 04 07 26.4 -0.1
baz=81,SNR=11
ISCO Idaho Springs 80.42 334 eP P 04 07 26.9 +0.4
comp=Z,13nm,1.1s
M28A Bar X Bar Ranc 80.42 338 ⇓P P 04 07 26.6 +0.4
baz=81
L30A Spencer Herefo 80.42 339 ⇑P P 04 07 26.6 +0.5
baz=81
PV04 Paradox Valley 80.44 331 eP P 04 07 23.6 -2.8
O24A Longmont 80.51 335 ⇑P P 04 07 27.1 +0.3
baz=81
BBRC Big Bear Solar 80.57 323 ⇓P P 04 07 27.6 +0.3
baz=81
P22A Eagle 80.66 333 ⇑P P 04 07 28.1 +0.5
baz=81
HEC Hector,Ludlow 80.74 324 ⇑P P 04 07 28.5 +0.5
baz=81
L29A Maesberg Ranch 80.75 339 ⇑P P 04 07 28.9 +0.9
baz=81
M27A Reverse DX Ran 80.86 337 ⇑P P 04 07 29.3 +0.7
baz=81
O23A Lake Granby, G 80.89 334 ⇑P P 04 07 29.2 +0.3
baz=81,SNR=25
BFSC Mount Baldy Ra 80.92 323 ⇑P P 04 07 28.8 -0.3
baz=81,SNR=7.0
TUQ Turquoise Moun 81.04 325 ⇑P P 04 07 30.0 +0.3
baz=81
K30A Basset 81.06 339 ⇓P P 04 07 30.0 +0.5
baz=81,SNR=19
O22A Kremmling 81.07 334 ⇓P P 04 07 30.2 +0.2
baz=81,SNR=21
MWC Mount Wilson 81.11 323 eP P 04 07 30.1 0.0
MWC pmax pmax
comp=Z,13nm,0.9s
MWC Mount Wilson 81.11 323 eP P 04 07 30.1 0.0
comp=Z,13nm,0.9s
RUDU RUNDU 81.12 106 eP P 04 07 31.8 +1.1
RUDU AMB AMB 04 07 36.0
comp=Z,61nm,1.1s
RUDU RUNDU 81.12 106 P P 04 07 31.8 +1.1
comp=Z,61nm,1.1s
ECSD EROS Data Cent 81.22 342 ⇓P P 04 07 29.7 -0.7
baz=82,SNR=38
ECSD EROS Data Cent 81.22 342 eP P 04 07 29.2 -1.1
comp=Z,48nm,0.9s
M25A Palm-Egli Farm 81.32 336 ⇓P P 04 07 32.0 +0.9
baz=82
L27A T5 Ranch, Ells 81.34 337 ⇑P P 04 07 31.3 +0.2
baz=82,SNR=11
K29A Lazy Trails An 81.34 339 ⇓P P 04 07 31.0 0.0
baz=82,SNR=12
GSC Goldstone, Bar 81.35 324 eP P 04 07 32.3 +1.0
GSC pmax pmax
comp=Z,12nm,1.1s
GSC Goldstone, Bar 81.35 324 ⇓P P 04 07 31.5 +0.2
baz=82
GSC Goldstone, Bar 81.35 324 eP P 04 07 32.3 +1.0
comp=Z,12nm,1.1s
SEK Senekal 81.38 118 eP P 04 07 30.3 -1.6
SEK AMB AMB 04 07 33.2
comp=Z,56nm,5.1s
SEK Senekal 81.38 118 P P 04 07 30.3 -1.6
comp=Z,56nm,5.1s
N23A Red Feather La 81.50 334 ⇓P P 04 07 32.2 +0.1
baz=82,SNR=8.8
SHPR Sheep Range 81.55 326 eP P 04 07 33.0 +0.6
EDW2 Edwards Air Fo 81.59 323 ⇑P P 04 07 32.4 -0.1
baz=82
CCUT Cedar City 81.60 328 eP P 04 07 33.8 +1.1
comp=Z,16nm,1.0s
N22A Wattenberg Ran 81.60 334 ⇑P P 04 07 33.1 +0.4
baz=82,SNR=12
M24A Cheyenne 81.61 335 ⇑P P 04 07 33.1 +0.4
baz=82
K28A Ten Mile Ranch 81.62 338 ⇑P P 04 07 33.0 +0.5
baz=82,SNR=24
J30A Dallas 81.62 340 ⇓P P 04 07 32.0 -0.5
baz=82,SNR=11
O20A White River Ci 81.68 332 ⇑P P 04 07 33.0 0.0
baz=82
O20A White River Ci 81.68 332 eP P 04 07 32.4 -0.7
comp=Z,199nm,2.6s
PHWY Pilot Hill 81.69 335 eP P 04 07 32.4 -0.8
comp=Z,13nm,0.9s
SRU San Rafael Swe 81.70 330 eP P 04 07 32.6 -0.6
SRU pmax pmax
comp=Z,13nm,0.9s
SRU San Rafael Swe 81.70 330 eP P 04 07 32.6 -0.6
comp=Z,13nm,0.9s
LBTB Lobatse 81.74 115 eP P 04 07 33.8 0.0
LBTB AMB AMB 04 07 38.1
comp=Z,39nm,2.4s
LBTB Lobatse 81.74 115 eP P 04 07 33.8 0.0
LBTB pmax pmax
comp=Z,32nm,1.0s
LBTB Lobatse 81.74 115 eP P 04 07 33.8 0.0
comp=Z,32nm,1.0s
SPMN Marine on St. 81.74 345 ⇓P P 04 07 31.8 -1.2
baz=82,SNR=5.6
SPMN Marine on St. 81.74 345 eP P 04 07 31.6 -1.4
comp=Z,21nm,0.8s
K27A Flueckinger Fa 81.88 338 ⇓P P 04 07 33.9 0.0
baz=82,SNR=16
LRMC Laurel Mtn Rad 81.92 324 ⇑P P 04 07 34.1 -0.2
baz=82
M23A Laramie 81.93 335 ⇓P P 04 07 34.4 0.0
baz=82,SNR=9.8
J29A Okreek 81.94 339 ⇓P P 04 07 34.0 -0.1
baz=82,SNR=35
TMUT Trail Mountain 82.14 330 eP P 04 07 36.1 +0.4
comp=Z,12nm,0.8s
I30A Oacoma 82.15 340 ⇑P P 04 07 34.8 -0.4
baz=82,SNR=20
K26A Motz Farm, Whi 82.17 337 ⇑P P 04 07 35.8 +0.3
baz=82
M22A Cedar Creek Ra 82.18 334 ⇑P P 04 07 35.8 +0.1
baz=82
J28A Allard Ranch, 82.22 339 ⇓P P 04 07 35.8 +0.2
baz=83,SNR=24
N20A Spence Gulch, 82.30 333 ⇑P P 04 07 36.5 +0.2
baz=83,SNR=9.2
J27A Elkhorn Farm, 82.30 338 ⇑P P 04 07 36.6 +0.5
baz=83,SNR=16
FURC Furnace Creek, 82.32 325 ⇓P P 04 07 36.3 +0.1
baz=83
ISA Isabella, Lake 82.46 323 eP P 04 07 37.8 +0.7
ISA pmax pmax
comp=Z,8.0nm,0.8s
ISA Isabella, Lake 82.46 323 ⇑P P 04 07 37.7 +0.6
baz=83,SNR=9.1
ISA Isabella, Lake 82.46 323 eP P 04 07 37.8 +0.7
comp=Z,8.5nm,0.8s
L23A Garrett 82.49 335 ⇓P P 04 07 36.9 -0.4
baz=83
I29A Vivian Onida 82.50 340 ⇑P P 04 07 36.9 -0.1
baz=83
BRSD Miller 82.50 341 ⇑P P 04 07 37.0 -0.1
baz=83
DAC Darwin (Calif) 82.52 324 eP P 04 07 37.4 -0.1
DAC pmax pmax
comp=Z,15nm,1.0s
DAC Darwin (Calif) 82.52 324 eP P 04 07 37.4 -0.1
comp=Z,15nm,1.0s
J26A Sides Ranch, S 82.69 337 ⇓P P 04 07 38.4 +0.2
baz=83,SNR=9.5
I28A Midland 82.73 339 ⇓P P 04 07 38.6 +0.3
baz=83
CRWM Crown Mines 82.85 117 eP P 04 07 42.2 +2.5
CRWM AMB AMB 04 07 43.9
comp=Z,24nm,2.5s

VES Vestal, Richgr 82.90 323 ⇓P P 04 07 39.4 +0.2
baz=83,SNR=5.9
OBSV Observatory 82.92 117 eP P 04 07 39.7 -0.4
OBSV AMB AMB 04 07 40.5
comp=Z,18nm,2.1s
MPU Maple Canyon 82.92 330 eP P 04 07 40.0 +0.4
comp=Z,16nm,0.9s
ERPM east rand prop 82.95 117 eP P 04 07 42.1 +1.8
ERPM AMB AMB 04 07 46.6
comp=Z,37nm,3.3s
ERPM east rand prop 82.95 117 P P 04 07 42.1 +1.8
comp=Z,37nm,3.3s
GRAC Grapevine Rang 82.99 325 ⇓P P 04 07 39.7 -0.1
baz=83
J25A Sunshine Ranch 82.99 337 ⇓P P 04 07 39.8 +0.1
baz=83
H29A Onida 83.02 340 ⇓P P 04 07 39.2 -0.5
baz=83,SNR=24
K23A Bowen Ranch, D 83.03 335 ⇓P P 04 07 40.0 0.0
baz=83,SNR=14
I27A Quinn 83.06 338 ⇓P P 04 07 40.1 +0.2
baz=83,SNR=12
NLU North Lily Min 83.06 330 eP P 04 07 40.9 +0.6
comp=Z,40nm,1.7s
DAU Daniels Canyon 83.11 331 eP P 04 07 41.1 +0.5
DAU Daniels Canyon 83.11 331 eP P 04 07 41.1 +0.5
G30A Faulkton 83.19 341 ⇑P P 04 07 40.2 -0.3
baz=84
J24A Dixon Ranch, L 83.22 336 ⇑P P 04 07 40.9 0.0
baz=84
R11A Troy Canyon, C 83.25 327 ⇑P P 04 07 41.3 0.0
baz=84,SNR=21
K22A Casper 83.25 335 ⇑P P 04 07 40.8 -0.3
baz=84,SNR=14
I26A New Underwood 83.27 338 ⇑P P 04 07 41.1 0.0
baz=84
H28A Mission Ridge 83.30 339 ⇓P P 04 07 40.8 -0.4
baz=84,SNR=29
SLR Silverton 83.33 117 eP P 04 07 41.7 -0.5
SLR AMB AMB 04 07 46.2
comp=Z,26nm,2.3s
SLR Silverton 83.33 117 P P 04 07 41.7 -0.5
SLR pmax pmax
comp=Z,26nm,2.3s
SLR Silverton 83.33 117 P P 04 07 41.7 -0.5
comp=Z,26nm,2.3s
JLU Jordanelle 83.34 331 eP P 04 07 41.8 0.0
comp=Z,9.5nm,0.9s
G29A Hoven 83.46 340 ⇓P P 04 07 41.7 -0.3
baz=84
K21A Alcova 83.49 334 ⇓P P 04 07 42.4 0.0
baz=84,SNR=14
URZ Urewera 83.51 228 P P 04 07 43.9 +1.2
comp=Z,7.9nm,0.9s,baz=343,slow=6.2,SNR=3.7
URZ LR LR 04 37 00.9
comp=Z,240nm,18.2s,baz=140,slow=30
I25A Rochford 83.53 337 ⇑P P 04 07 42.3 -0.3
baz=84,SNR=16
CTU Camp Tracy 83.54 330 eP P 04 07 42.0 -0.8
comp=Z,10nm,0.9s
DUG Dugway, Tooele 83.56 329 eP P 04 07 43.3 +0.5
DUG pmax pmax
comp=Z,20nm,1.2s
DUG Dugway, Tooele 83.56 329 ⇓P P 04 07 42.6 -0.2
baz=84,SNR=13
DUG Dugway, Tooele 83.56 329 eP P 04 07 43.3 +0.5
comp=Z,20nm,1.2s
H27A Howes 83.57 339 ⇓P P 04 07 42.0 -0.6
baz=84,SNR=13
G28A Parade 83.64 340 ⇓P P 04 07 42.5 -0.4
baz=84,SNR=24
I24A Kuemmerle Ranc 83.68 337 ⇓P P 04 07 42.7 -0.6
baz=84
RSSD Black Hills 83.72 337 eP P 04 07 42.6 -1.0
RSSD pmax pmax
comp=Z,14nm,0.9s
RSSD Black Hills 83.72 337 eP P 04 07 42.5 -1.0
comp=Z,14nm,0.9s
TPH Tonopah 83.78 325 eP P 04 07 43.8 -0.2
TPH pmax pmax
comp=Z,16nm,1.1s
TPH Tonopah 83.78 325 eP P 04 07 43.8 -0.2
comp=Z,16nm,1.1s
F30A Leola 83.81 341 ⇑P P 04 07 43.5 -0.2
baz=84
J22A Midwest 83.91 335 ⇓P P 04 07 43.8 -0.7
baz=84,SNR=12
F29A Eureka 84.03 341 ⇓P P 04 07 44.2 -0.6
baz=84,SNR=20
H25A Fruitdale 84.03 338 ⇓P P 04 07 44.8 -0.1
baz=84,SNR=9.6
EYMN Ely 84.08 347 eP P 04 07 44.3 -0.8
comp=Z,24nm,1.1s
TORD Torodi Ar. Bea 84.09 70 P P 04 07 46.6 +0.7
comp=Z,10nm,0.8s,baz=243,slow=4.1,SNR=20
TORD LR LR 04 42 25.9
comp=Z,431nm,20.9s,baz=250,slow=34
J21A Lysite 84.19 335 ⇑P P 04 07 45.2 -0.8
baz=84
MLAC Mammoth, Mammo 84.19 324 ⇓P P 04 07 44.9 -1.3
baz=84
G27A Dupree 84.21 339 ⇑P P 04 07 45.4 -0.5
baz=85,SNR=12
HWUT Hardware Ranch 84.24 331 eP P 04 07 45.8 -0.5
comp=Z,29nm,0.9s
BGU Big Grassy Mou 84.27 330 eP P 04 07 45.6 -0.8
comp=Z,4.0nm,1.0s
G26A Maurine 84.33 339 ⇓P P 04 07 46.0 -0.5
baz=85,SNR=13
I22A 9 Mile Ranch, 84.33 335 ⇓P P 04 07 46.3 -0.3
baz=85,SNR=10
SPUT South Promonto 84.35 330 eP P 04 07 46.2 -0.6
comp=Z,16nm,0.9s
E30A Jud 84.40 341 ⇑P P 04 07 46.2 -0.5
baz=85
J20A Shoshoni 84.42 334 ⇓P P 04 07 46.9 -0.2
baz=85,SNR=18
H24A Dirks Ranch, A 84.45 337 ⇓P P 04 07 46.4 -0.7
baz=85,SNR=11
BW06 Boulder Array 84.45 333 eP P 04 07 46.3 -1.1
comp=Z,10nm,1.0s
PDAR Pinedale Array 84.45 333 P P 04 07 46.9 -0.5
comp=Z,4.2nm,0.8s,baz=144,slow=4.5,SNR=14
PDAR LR LR 04 42 33.0
comp=Z,315nm,18.8s,baz=152,slow=34
G25A Newell 84.49 338 ⇓P P 04 07 47.0 -0.3
baz=85,SNR=16
I21A Big Trails, Te 84.54 335 ⇑P P 04 07 47.2 -0.5
baz=85,SNR=11
NVAR Mina Array Bea 84.57 325 P P 04 07 48.4 +0.3
comp=Z,5.3nm,0.7s,baz=157,slow=6.4,SNR=33
E29A Napoleon 84.65 341 ⇑P P 04 07 47.3 -0.8
baz=85
F27A Lemmon 84.68 339 ⇑P P 04 07 47.8 -0.5
baz=85,SNR=27
J19A Crowheart 84.69 334 ⇓P P 04 07 47.9 -0.7
baz=85,SNR=21
F26A Lodgepole 84.86 339 ⇑P P 04 07 48.6 -0.5
baz=85,SNR=12
HVU Hansel Valley 84.88 330 eP P 04 07 49.0 -0.5
HVU pmax pmax
comp=Z,23nm,0.9s
HVU Hansel Valley 84.88 330 eP P 04 07 49.0 -0.5
comp=Z,23nm,0.9s
H22A Clearmont 84.90 336 ⇓P P 04 07 48.6 -0.9
baz=85
D30A Buchanan 84.92 342 ⇑P P 04 07 49.0 -0.4
baz=85,SNR=15
G24A Alzada 84.92 337 ⇓P P 04 07 48.7 -0.8
baz=85
E28A Huff 84.94 340 ⇑P P 04 07 49.0 -0.5
baz=85
I20A Worland 84.95 334 ⇑P P 04 07 49.3 -0.4
baz=85,SNR=20
ELK Elko 85.05 328 eP P 04 07 50.5 0.0
ELK pmax pmax
comp=Z,11nm,0.9s
ELK Elko 85.05 328 eP P 04 07 50.5 0.0
comp=Z,11nm,0.9s
E27A Carson 85.06 340 ⇑P P 04 07 49.5 -0.6
baz=85,SNR=10
D29A Pettibone, Tap 85.09 341 ⇓P P 04 07 49.6 -0.6
baz=86,SNR=12
G23A Biddle 85.12 337 ⇓P P 04 07 49.6 -0.9
baz=86,SNR=8.3
F25A Bowman 85.16 338 ⇑P P 04 07 50.3 -0.4
baz=86
H21A Big Horn, Sher 85.17 335 ⇓P P 04 07 49.9 -0.9

baz=86
WAKR Walker 85.17 324 *e*P **P 04 07 52.3 +1.2**
CMB Columbia Colle 85.27 323 *e*P **P 04 07 51.8 +0.4**
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB Columbia Colle 85.27 323 *e*P **P 04 07 51.8 +0.4**
comp=Z,8.4nm,1.0s
AGMN Agassiz Nation 85.33 344 ⇓P **P 04 07 50.3 -1.0**
baz=86,SNR=11
AGMN Agassiz Nation 85.33 344 *e*P **P 04 07 50.4 -1.0**
comp=Z,14nm,0.7s
I19A Meeteetse 85.34 334 ⇓P **P 04 07 51.2 -0.6**
baz=86,SNR=14
E26A Carlson Angus 85.36 339 ⇑P **P 04 07 50.7 -0.8**
baz=86
H20A Greybull 85.38 335 ⇓P **P 04 07 51.3 -0.5**
baz=86,SNR=26
F24A Ekalaka 85.39 338 ⇑P **P 04 07 51.2 -0.7**
baz=86,SNR=11
C30A Mose, Pekin 85.40 342 ⇑P **P 04 07 51.2 -0.5**
baz=86,SNR=29
G22A Birney 85.43 336 ⇓P **P 04 07 51.3 -0.7**
baz=86
REDW Red Top Meadow 85.45 332 *e*P **P 04 07 52.2 -0.2**
comp=Z,14nm,0.9s
D28A Regan 85.48 341 ⇓P **P 04 07 51.9 -0.3**
baz=86,SNR=9.1
LOHW Long Hollow 85.57 333 *e*P **P 04 07 52.4 -0.6**
comp=Z,118nm,2.8s
F23A Volborg 85.59 337 ⇑P **P 04 07 52.4 -0.4**
baz=86,SNR=18
TPAW Teton Pass 85.60 332 *e*P **P 04 07 53.1 0.0**
comp=Z,13nm,0.9s
E25A Miller Ranch, 85.66 339 ⇓P **P 04 07 52.9 -0.3**
baz=86
D27A Center 85.66 340 ⇑P **P 04 07 52.8 -0.3**
baz=86
G21A Lodge Grass 85.75 336 ⇓P **P 04 07 53.3 -0.4**
baz=86
FXWY Fox Creek 85.75 332 *e*P **P 04 07 53.2 -0.7**
comp=Z,20nm,1.8s
I17A Pilgrim Ck. 85.82 333 ⇓P **P 04 07 54.1 -0.1**
baz=86,SNR=22
RAO Raoul Island 85.84 237 LR LR 04 38 30.1
comp=Z,118nm,21.5s,baz=323,slow=30
H19A Powell 85.89 334 ⇓P **P 04 07 53.8 -0.6**
baz=86,SNR=21
C28A Hausauer Farms 85.91 341 ⇑P **P 04 07 53.9 -0.4**
baz=86
F22A Rosebud 85.92 336 ⇑P **P 04 07 53.9 -0.6**
baz=86,SNR=18
IMW Indian Meadow 85.94 333 *e*P **P 04 07 54.4 -0.4**
comp=Z,15nm,0.9s
E24A Baker 85.99 338 ⇓P **P 04 07 54.2 -0.5**
baz=86,SNR=10.0
FLWY Flagg Ranch 86.01 333 *e*P **P 04 07 55.1 -0.1**
comp=Z,30nm,0.9s
B30A Myrvik Farm, E 86.05 343 ⇓P **P 04 07 54.4 -0.6**
baz=86,SNR=20
G20A Bridger 86.09 335 ⇓P **P 04 07 54.4 -0.9**
baz=86,SNR=26
H18A Shoshone NF, C 86.14 334 ⇑P **P 04 07 55.3 -0.5**
baz=86,SNR=44
C27A Sayler Ranch, 86.21 340 ⇑P **P 04 07 55.6 -0.2**
baz=87
D25A Fairfield 86.22 339 ⇑P **P 04 07 55.9 0.0**
baz=87,SNR=12
H17A Grant Village 86.23 333 ⇓P **P 04 07 55.8 -0.4**
baz=87
F21A Absaloka Mine, 86.24 336 ⇑P **P 04 07 55.7 -0.4**
baz=87
E23A Ismay 86.25 337 ⇓P **P 04 07 55.0 -1.0**
baz=87,SNR=5.5
B29A Wagenman Farm, 86.33 342 ⇑P **P 04 07 55.9 -0.4**
baz=87,SNR=9.8
YFT Old Faithful 86.38 333 *e*P **P 04 07 58.7 +1.8**
comp=Z,22nm,1.0s
RLMT Red Lodge 86.38 334 *e*P **P 04 07 56.0 -0.9**
comp=Z,12nm,0.8s
E22A Miles City 86.40 337 ⇓P **P 04 07 55.7 -1.0**
baz=87
C26A Wahner Farm, P 86.48 340 ⇑P **P 04 07 56.5 -0.6**
baz=87
D24A Glendive 86.49 338 ⇓P **P 04 07 56.9 -0.3**
baz=87,SNR=8.2
A30A Hoffart Farm, 86.50 343 ⇓P **P 04 07 56.2 -1.0**
baz=87
F20A Billings 86.57 335 ⇓P **P 04 07 56.6 -1.2**
baz=87
B28A Dugan Ranch, T 86.57 341 ⇓P **P 04 07 57.0 -0.5**
baz=87,SNR=20
MSNA Messina 86.59 115 *e*P **P 04 07 59.3 +0.8**
MSNA AMB AMB 04 08 00.5
comp=Z,31nm,5.1s
MSNA Messina 86.59 115 P **P 04 07 59.3 +0.8**
comp=Z,31nm,5.1s
YMR Madison River 86.61 333 *e*P **P 04 07 58.7 +0.7**
comp=Z,41nm,0.9s
C25A Freed Ranch, W 86.71 339 ⇓P **P 04 07 57.4 -0.9**
baz=87
LAO LASA Array 86.71 337 *e*P **P 04 07 57.5 -0.8**
comp=Z,29nm,0.9s
A29A Manning Farm, 86.72 342 ⇓P **P 04 07 57.7 -0.5**
baz=87
D23A Lindsay 86.82 338 ⇓P **P 04 07 58.6 -0.2**
baz=87,SNR=45
OHCM Honcut 86.82 324 *e*P **P 04 07 59.3 +0.4**
E21A Keefer Ranch, 86.86 336 ⇓P **P 04 07 58.3 -0.7**
baz=87,SNR=14
C24A Savage 86.89 338 ⇑P **P 04 07 59.0 -0.1**
baz=87,SNR=24
F19A Roth Farm, Mol 86.89 335 ⇑P **P 04 07 58.5 -0.8**
baz=87,SNR=10
QLMT Earthquake Lak 86.92 333 *e*P **P 04 08 00.5 +0.9**
A28A Rude Farm, Bot 86.97 342 ⇑P **P 04 07 58.9 -0.6**
baz=87
HLID Hailey 87.03 330 ⇑P **P 04 07 59.9 -0.2**
baz=87,SNR=21
HLID Hailey 87.03 330 *e*P **P 04 08 00.3 +0.2**
comp=Z,12nm,1.0s
GCMT Greycliff 87.10 334 *e*P **P 04 07 59.2 -1.1**
comp=Z,8.5nm,1.1s
D22A Cohagen 87.10 337 ⇑P **P 04 08 00.0 -0.2**
baz=87,SNR=19
ULM Lac du Bonnet 87.17 345 P **P 04 07 59.4 -0.9**
comp=Z,8.2nm,0.9s,baz=158,slow=4.6,SNR=12
E20A Meyer Farm, Mu 87.18 336 ⇑P **P 04 08 00.1 -0.5**
baz=88,SNR=48
B25A Knox Farm, Ray 87.19 340 ⇓P **P 04 08 00.6 0.0**
baz=88,SNR=12
D21A La Casta Ranch 87.29 337 ⇑P **P 04 08 00.8 -0.4**
baz=88,SNR=20
E19A Rath Farm, Rou 87.37 335 ⇓P **P 04 08 00.7 -0.8**
baz=88,SNR=34
C23A Lambert 87.37 338 ⇑P **P 04 08 01.0 -0.4**
baz=88,SNR=18
A26A Wade Farm, Ken 87.44 340 ⇑P **P 04 08 01.3 -0.5**
baz=88
MCMT McKenzie Canyo 87.46 332 *e*P **P 04 08 02.0 -0.2**
comp=Z,11nm,1.1s
MFID Camas Ranch 87.49 329 *e*P **P 04 08 02.5 +0.2**
comp=Z,7.4nm,0.9s
C22A Vida 87.54 338 ⇓P **P 04 08 01.3 -0.9**
baz=88
DGMT Dagmar 87.67 339 ⇓P **P 04 08 02.6 -0.3**
baz=88,SNR=23
DGMT Dagmar 87.67 339 *e*P **P 04 08 02.6 -0.3**
comp=Z,50nm,0.8s
A25A Svangstu Ranch 87.78 340 ⇑P **P 04 08 03.0 -0.4**
baz=88
DLMT Dillon 87.81 332 *e*P **P 04 08 04.2 +0.4**
comp=Z,14nm,1.1s
B23A Brockton 87.90 339 ⇑P **P 04 08 03.7 -0.3**
baz=88
C21A Desert Coulee 87.99 337 ⇓P **P 04 08 03.9 -0.6**
baz=88,SNR=13
D19A Cripps Ranch, 88.01 336 ⇑P **P 04 08 04.0 -0.6**
baz=88,SNR=7.6
A24A Westby 88.02 339 ⇑P **P 04 08 04.1 -0.4**
baz=88
B22A Reddig Ranch S 88.06 338 ⇓P **P 04 08 04.2 -0.6**
baz=88
LRM Limekiln Ridge 88.14 333 *e*P **P 04 08 05.8 +0.3**
C20A Veseth Ranch, 88.19 336 ⇓P **P 04 08 04.7 -0.7**
baz=88,SNR=9.1
MOD Modoc Plateau 88.25 326 *e*P **P 04 08 06.1 +0.1**
comp=Z,10nm,0.8s
WDC Whiskeytown Da 88.29 324 *e*P **P 04 08 05.5 -0.5**
WDC pmax pmax
comp=Z,13nm,0.8s
WDC Whiskeytown Da 88.29 324 *e*P **P 04 08 05.5 -0.5**
comp=Z,13nm,0.8s
C19A Slack Wire Ran 88.56 336 ⇓P **P 04 08 06.5 -0.7**
baz=89
A22A Carney Farms, 88.65 338 ⇑P **P 04 08 07.1 -0.5**
baz=89,SNR=15
N02D Trinity Center 88.67 324 ⇑P **P 04 08 06.7 -1.1**
baz=89
M04C Macdoel 88.88 325 ⇓P **P 04 08 08.3 -0.6**
baz=89
A21A Bergtoll Ranch 88.96 338 ⇑P **P 04 08 08.8 -0.2**
baz=89
EGMT Eagleton 89.05 336 ⇓P **P 04 08 09.0 -0.4**
baz=89
EGMT Eagleton 89.05 336 *e*P P 04 08 12.7 +3.2
comp=Z,17nm,1.4s
M02C Callahan 89.07 324 ⇓P **P 04 08 09.1 -0.6**
baz=89
K05A Summer Lake 89.17 326 *e*P **P 04 08 11.3 +0.9**
comp=Z,35nm,1.1s
A20A Cobblestone Ra 89.18 337 ⇓P **P 04 08 09.7 -0.4**
baz=90
YBH Yreka Blue Hor 89.26 324 *e*P **P 04 08 10.3 -0.3**
YBH pmax pmax
comp=Z,9.0nm,1.1s
YBH Yreka Blue Hor 89.26 324 *e*P **P 04 08 10.3 -0.3**
comp=Z,9.3nm,1.1s
LSZ Lusaka 89.29 108 *e*P **P 04 08 11.5 -0.1**
LSZ pmax pmax
comp=Z,10.0nm,0.9s
LSZ Lusaka 89.29 108 P **P 04 08 12.5 +0.9**
comp=Z,4.4nm,0.7s,baz=51,slow=14,SNR=4.4
LSZ Lusaka 89.29 108 *e*P **P 04 08 11.5 -0.1**
comp=Z,10nm,0.9s
A19A Klindworth Far 89.49 337 ⇓P **P 04 08 11.5 0.0**
baz=90
I07A Izee 89.61 328 *e*P **P 04 08 12.9 +0.6**
comp=Z,71nm,2.3s
J05D Fort Rock, OR 89.76 326 ⇑P **P 04 08 13.0 -0.1**
baz=90
SWMT Swartz Lake 90.14 333 *e*P **P 04 08 14.9 +0.2**
comp=Z,5.5nm,1.3s
F10A Beach Ranch, E 90.15 330 *e*P **P 04 08 15.1 +0.4**
comp=Z,9.2nm,0.9s
G08A Pilot Rock 90.33 329 *e*P **P 04 08 15.8 +0.3**
comp=Z,5.3nm,1.0s
JTMT Jette 90.44 333 *e*P **P 04 08 15.3 -0.8**
comp=Z,3.6nm,1.0s
I05D Terrebonne, OR 90.63 327 ⇑P **P 04 08 17.1 +0.2**
baz=91
I04A Tendick Farm, 90.70 326 ⇓P **P 04 08 16.8 -0.4**
baz=91
BSMT Bassoo Peak 90.72 333 *e*P **P 04 08 17.1 -0.4**
comp=Z,3.2nm,0.9s
E09A Wood Farm, Sta 90.97 330 *e*P **P 04 08 18.2 -0.1**
comp=Z,8.4nm,1.1s
HAWA Hanford 91.45 329 *e*P **P 04 08 21.5 +0.9**
comp=Z,16nm,1.3s
D08A Wollman Farm, 91.72 330 *e*P **P 04 08 22.6 +0.7**
comp=Z,7.6nm,0.9s
C09A Chrisman Ranch 92.05 331 *e*P **P 04 08 23.4 0.0**
comp=Z,19nm,1.4s
LON Longmire 92.71 328 *e*P **P 04 08 26.0 -0.5**
LON pmax pmax
comp=Z,5.0nm,1.0s
LON Longmire 92.71 328 *e*P **P 04 08 26.0 -0.5**
comp=Z,4.7nm,1.0s
TAM Tamanrasset 92.77 64 *e*P **P 04 08 26.1 -1.4**
TAM pmax pmax
comp=Z,3.0nm,1.0s
TAM Tamanrasset 92.77 64 *e*P **P 04 08 26.1 -1.4**
comp=Z,3.4nm,1.0s
EDM Edmonton 94.67 336 *e*P **P 04 08 33.4 -2.0**
EDM Edmonton 94.67 336 *e*P **P 04 08 33.4 -2.0**
FCC Fort Churchill 94.89 348 *e*P **P 04 08 35.2 -0.9**
FCC Fort Churchill 94.89 348 *e*P **P 04 08 35.2 -0.9**
comp=Z,0.2nm,0.9s
YKA Yellowknife Ar 102.74 341 P **Pdif 04 09 10.0 -1.3**
comp=Z,0.7nm,0.6s,baz=141,slow=4.6,SNR=12
YKA PP **PP 04 13 25.9 +0.3**
comp=Z,0.6nm,0.9s,baz=140,slow=6.9,SNR=4.6
ASAR Alice Springs 117.19 206 PKP **PKPdf 04 14 01.9 +1.4**
comp=Z,0.5nm,0.9s,baz=141,slow=2.0,SNR=5.5
UZH Uzhgorod 117.41 48 *e*PKIKP **PKPdf 04 14 02.0 +2.2**
WRA Warramunga Arr 120.40 209 PKP **PKPdf 04 14 04.9 -1.8**
comp=Z,0.9nm,0.6s,baz=155,slow=1.7,SNR=11
WRAB Tennant Creek 120.41 209 *e*PKIKP **PKPdf 04 14 06.2 -0.4**
WRAB Tennant Creek 120.41 209 *e*PKPdf **PKPdf 04 14 06.2 -0.4**
BRTR Keskin Array B 121.82 61 PKP **PKPdf 04 14 09.5 +0.7**
comp=Z,0.7nm,0.8s,baz=97,slow=4.5,SNR=3.1
KIEV Kiev 122.33 48 *e*PKIKP **PKPdf 04 14 09.3 +0.1**
KIEV Kiev 122.33 48 *e*PKPdf **PKPdf 04 14 09.3 +0.1**
H11S2 WAKE ISLAND Hyl 26.10 268 T T 06 32 41.0
baz=125,slow=78,SNR=16
H11S1 WAKE ISLAND Hyl 26.12 268 T T 06 32 39.0
baz=125,slow=78,SNR=36
H11S3 WAKE ISLAND Hyl 26.12 268 T T 06 32 41.5
baz=125,slow=78,SNR=20
H11N3 WAKE ISLAND Hyl 26.53 270 T T 06 33 06.0
baz=123,slow=74,SNR=41
H11N1 WAKE ISLAND Hyl 26.55 270 T T 06 33 08.1
baz=123,slow=74,SNR=85
H11N2 WAKE ISLAND Hyl 26.55 270 T T 06 33 07.4
baz=123,slow=74,SNR=41
OBN Obninsk 127.63 44 *i* PKIKP **PKPdf 04 14 20.6 +1.4**
KLMR Klimovskoe 129.68 36 *e*PKIKP **PKPdf 04 14 24.2 +1.2**
KLMR pmax pmax
comp=Z,16nm,1.5s
SEY Seymchan 140.72 330 PKP **PKPdf 04 14 42.3 -1.2**
comp=Z,2.0nm,0.6s,baz=128,slow=4.9,SNR=9.4
TIXI Tiksi 141.34 350 *i* PKIKP **PKPdf 04 14 48.5 +4.1**
ABKAR Akbulak array 141.78 52 *e*PKPpre PKPpre 04 14 39.9
ABKAR *e*PKPdf **PKPdf 04 14 45.8 0.0**
GSI Gunungsitoli 145.37 161 *e*PKPbc **PKPdf 04 14 53.5 +0.2**
POO Poona 145.42 109 ⇑*i*P **PKPbc 04 14 51.0 -2.2**
comp=Z,222nm,2.0s
KSM Kuching 146.99 184 *e*PKPbc **PKPbc 04 14 57.2 -0.8**
BRVK Borovoye 147.41 44 ⇑*e*PKP2 **PKPbc 04 14 57.5 -0.5**
BRVK Borovoye 147.41 44 *e*PKPbc **PKPbc 04 14 57.7 -0.2**
HYB Hyderabad 148.37 115 *i* PKP **PKPbc 04 15 00.0 -1.6**
IPM Ipoh 149.26 166 *e*PKPdf **PKPdf 04 14 59.4 -0.3**
IPM *e*PKPbc **PKPbc 04 15 04.3 +0.2**
YAK Yakutsk 149.41 340 *e*PKP2 **PKPbc 04 15 02.6 -0.3**
YAK Yakutsk 149.41 340 *e*PKPbc **PKPbc 04 15 02.6 -0.3**
YAK *e*PKPab **PKPab 04 15 06.8 -0.9**
KKAR Karatay Array 149.52 62 *e*PKPdf **PKPdf 04 14 58.5 -0.8**
KKAR *e*PKPbc **PKPbc 04 15 04.3 +0.4**
KULM Kulim 149.97 164 *e*PKPbc **PKPbc 04 15 04.8 -0.9**
KKM Kota Kinabalu 150.67 196 *e*PKPdf **PKPdf 04 15 02.2 +0.1**
KKM *e*PKPbc **PKPbc 04 15 07.3 -0.2**
YSS Yuzh-Sakhalins 151.43 306 *e*PKIKP **PKPbc 04 15 07.5 -0.7**
YSS *e* 04 15 12.0
EKS2 Erkin-Say 151.95 63 *e*PKIKP **PKPdf 04 15 03.6 +0.4**
EKS2 *e* 04 15 10.0
EKS2 Erkin-Say 151.95 63 *e*PKPdf **PKPdf 04 15 03.6 +0.4**
EKS2 *e*PKPbc **PKiKP 04 15 10.0 -0.1**
ASAJ Asahikawa 152.06 300 PKPbc **PKPbc 04 15 10.2 +0.4**
comp=Z,3.6nm,0.3s,baz=52,slow=9.3,SNR=3.7
AAK Ala-Archa 152.48 63 *e*PKIKP **PKPbc 04 15 11.2 +0.2**
AAK Ala-Archa 152.48 63 *e*PKPbc **PKPbc 04 15 11.2 +0.2**
KURK Kurchatov 153.07 44 *e*PKIKP **PKPdf 04 15 04.7 +0.3**
KURK *e* 04 15 11.9
KURK Kurchatov 153.07 44 *e*PKPdf **PKPdf 04 15 04.7 +0.3**
KURK ⇑*e*PKPbc **PKiKP 04 15 11.9 0.0**
TKM2 Tokmak 2 153.25 62 *e*PKIKP **PKPdf 04 15 04.9 -0.3**
TKM2 *e* 04 15 12.4
TKM2 Tokmak 2 153.25 62 *e*PKPdf **PKPdf 04 15 04.9 -0.3**
TKM2 *e*PKPbc **PKPbc 04 15 12.4 -0.3**
NVS Novosibirsk 153.26 33 *i* PKIKP **PKPbc 04 15 12.1 +0.1**
NVS pmax pmax
comp=Z,15nm,1.1s
KSH Kashi 153.76 70 PKPbc **PKPdf 04 15 06.1 +0.1**
KSH PKS **PKSdf 04 18 38.9 -1.4**
KSH PP **PP 04 19 00.0 -1.7**
KSH SKS **SKSdf 04 22 09.8 -1.8**
KSH SKKS **SKKSac 04 25 47.5 -2.7**
KSH PPMZ
comp=Z,57nm,4.4s
KSH LN
comp=Z,42nm,5.3s
KSH LE
comp=Z,62nm,4.8s
KSH LZ
comp=Z,160nm,12.3s
ZALV Zalesovo Beam 154.54 33 PKPbc **PKPbc 04 15 15.7 +0.9**
comp=Z,1.8nm,0.7s,baz=258,slow=4.1,SNR=7.5
MKAR Makanchi Array 156.89 50 PKP **PKPdf 04 15 11.5 +1.7**
comp=Z,0.3nm,0.7s,baz=269,slow=1.8,SNR=3.0
WMQ Urumqi 161.56 54 *e*PKP **PKPdf 04 15 15.8 +0.4**
WMQ LN
comp=Z,160nm,20.0s
WMQ LE
comp=Z,150nm,20.0s
WMQ LZ
comp=Z,220nm,23.0s
ZAK Zakamensk 163.79 12 *e*PKP2 **PKPab 04 16 09.5 -0.3**
ZAK pmax pmax
comp=Z,2.0nm,1.4s
CN2 Changchun 163.92 310 *e*PKP **PKPdf 04 15 19.0 +1.4**
KSRS Korea Array 163.93 286 PKP **PKPdf 04 15 19.7 +1.9**
comp=Z,0.5nm,0.3s,baz=48,slow=1.8,SNR=3.5
KSRS PKPab **PKPab 04 16 09.1 -1.7**
comp=Z,1.4nm,0.8s,baz=81,slow=4.3,SNR=4.0
KSAR Wonju Array Be 163.97 286 PKIKP **PKPdf 04 15 19.7 +1.8**
KSAR 04 16 09.1
KSAR Wonju Array Be 163.97 286 PKP **PKPdf 04 15 19.7 +1.8**
KSAR PKPab **PKPab 04 16 09.1 -1.8**
SONM Songino Array 166.69 6 PKPab **PKPab 04 16 22.8 +0.1**
comp=Z,1.9nm,0.8s,baz=336,slow=3.6,SNR=9.4
SONM PP **PP 04 20 11.5 +1.5**
comp=Z,0.3nm,0.7s,baz=336,slow=3.2,SNR=2.6
ULN Ulaanbaatar 166.71 4 *e*PKP2 **PKPab 04 16 22.7 0.0**
ULN Ulaanbaatar 166.71 4 *e*PKPab **PKPab 04 16 22.7 0.0**
NJ2 Nanjing 170.87 257 *e*PKP **PKPdf 04 15 24.0 +1.0**
GTA Gaotai 171.64 52 *e*PKP **PKPdf 04 15 23.2 -0.1**
GTA PKPab **PKPab 04 16 48.3 +3.4**
GTA PP **PP 04 20 37.4 +1.3**
GTA SKS **SKSdf 04 22 21.4 -4.0**
GTA SKKS **SKKSac 04 27 19.9 -1.6**
GTA PPMZ
comp=Z,130nm,7.4s
GTA LN
comp=Z,170nm,20.9s
GTA LE
comp=Z,170nm,20.4s
GTA LZ
comp=Z,200nm,19.5s
GYA Guiyang 171.75 169 PKP **PKPdf 04 15 23.2 -0.6**
GYA PKPab **PKPab 04 16 47.0 +1.5**
GYA PP **PP 04 20 39.6 +4.1**
GYA SKKS 04 27 21.0
GYA PPMZ
comp=Z,130nm,8.2s
GYA LN
comp=Z,130nm,22.3s
GYA LE
comp=Z,140nm,22.0s
GYA LZ
comp=Z,120nm,21.5s
HHC Hu-ho-hao-te 173.27 339 *e*PKP **PKPdf 04 15 23.1 -0.9**
HHC PP **PP 04 20 44.6 +1.4**
HHC SKKS 04 27 27.9
HHC SS **SS 04 41 58.7 +2.1**
HHC PPMZ
comp=Z,130nm,10.5s
HHC LN
comp=Z,330nm,20.8s
HHC LE
comp=Z,510nm,21.2s
HHC LZ
comp=Z,400nm,19.8s
WHN Wuhan 173.54 233 PKP **PKPdf 04 15 26.3 +2.1**
WHN LZ
comp=Z,630nm,16.8s
CD2 Chengdu 174.64 132 *e*PKP **PKPdf 04 15 24.5 -0.2**
LZH Lanzhou 176.01 67 *e*PKP **PKPdf 04 15 24.3 -0.8**

IDC 05 04:03:33.5±8.6, 5.°06S×150.°54E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/33, mbtmp3.4/3, Error ellipse: s-maj=267.8km s-min=30.8km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.62**	**225**	P	P	04 08 23.5	-2.0
0.7nm,0.7s,baz=62,slow=10.0,SNR=18							
ASAR	**Alice Springs**	**24.48**	**219**	P	P	04 08 56.5	+1.9
0.2nm,0.3s,baz=61,slow=9.4,SNR=6.1							
H11S3	**WAKE ISLAND Hy**	**28.31**	**34**	T	T	04 37 16.3	
baz=205,slow=74							
H11S2	**WAKE ISLAND Hy**	**28.31**	**34**	T	T	04 37 10.3	
baz=205,slow=74							
H11S1	**WAKE ISLAND Hy**	**28.32**	**34**	T	T	04 37 16.9	
baz=205							
SONM	**Songino Array**	**65.37**	**329**	P	P	04 14 17.8	-0.2
0.7nm,0.5s,baz=140,slow=7.6,SNR=8.1							

*IDC **05** 04:16:19.1±0.5, 34.°50S×71.°70W, h0km, mb4.7/19, mb1 4.8/22, mb1mx4.7/37, mbtmp4.7/22, ML4.7/3, MS3.7/4, Ms1 3.7/4, ms1mx3.5/22, Error ellipse: s-maj=18.6km s-min=12.9km az=78.0*

*GUC **05** 04:16:19.3±1.4, 34.°99S×70.°22W, h15km±28km, ML4.9*

*ISCJB **05** 04:16:20.4±1.0, 34.°52S±0.°03×71.°61W±0.°05, h18km±7km, mb4.8/54, MS3.9/2, Error ellipse: s-maj=7.1km s-min=5.1km az=174.1*

*NEIC **05** 04:16:20.6±2.2, 34.°49S×71.°64W, h8km±13km, mb4.9/36, ML4.9(GUC), Error ellipse: s-maj=8.6km s-min=4.7km az=79.0*

NEIC Felt [III] at Talca and [II] at Quillota and Santiago. Also felt at Melipilla, San Vicente and Valparaiso.

ISC 05 04:16:23.4±1.0, 34.°52S±0.°04×71.°65W±0.°07, h26km±6km, n512, c0°88/531, mb4.8/54, 196C-158D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.24**	**34**	⇓*i*P	**Pb**	**04 16 44.5**	**-1.7**
RCDM				*e*S4	**Sn**	**04 17 02.9**	**+2.0**
RCDM				AML	AML	04 17 06.1	
comp=E,17μm,0.5s							
RCDM	**Rinconada Maip**	**1.24**	**34**	⇓*i*P	**Pb**	**04 16 44.5**	**-1.7**
RCDM				S	**Sn**	**04 17 02.9**	**+2.0**
ANTU	**Antumapu**	**1.27**	**42**	⇑*i*P	**Pb**	**04 16 45.1**	**-1.4**
ANTU				*i* S	**Sn**	**04 17 03.9**	**+2.3**
ANTU				AML	AML	04 17 06.5	
comp=N,28μm,0.8s							
ANTU	**Antumapu**	**1.27**	**42**	⇑*i*P	**Pb**	**04 16 45.1**	**-1.4**
ANTU				*i* S	**Sn**	**04 17 03.9**	**+2.3**
LNCH	**Linares**	**1.33**	**178**	⇑*i*P	Pn	04 16 42.6	-3.6
LNCH				*i* S	**Sn**	**04 16 59.3**	**-3.7**
LNCH				AML	AML	04 17 00.5	
comp=N,49μm,0.4s							
LNCH	**Linares**	**1.33**	**178**	⇑*i*P	Pn	04 16 42.6	-3.6
LNCH				*i* S	**Sn**	**04 16 59.3**	**-3.7**
LACH	**Col Las Americ**	**1.41**	**41**	AML	AML	04 17 14.7	
comp=N,12μm,0.5s							
PEL	**Peldehue**	**1.59**	**31**	⇑*i*P	**Pb**	**04 16 50.0**	**-2.0**
PEL				*i* S	**Sb**	**04 17 12.9**	**+1.2**
PEL				AML	AML	04 17 22.2	
comp=N,34μm,1.1s							
PEL	**Peldehue**	**1.59**	**31**	⇑*i*P	**Pb**	**04 16 50.0**	**-2.0**
PEL				*i* S	**Sb**	**04 17 12.9**	**+1.2**
FCH	**Farellones**	**1.64**	**44**	⇓*i*P	Pn	04 16 46.5	-4.3
FCH				*i* S1	**Sn**	**04 17 08.2**	**-2.9**
FCH				AML	AML	04 17 13.1	
comp=N,18μm,0.5s							
FCH	**Farellones**	**1.64**	**44**	⇓*i*P	Pn	04 16 46.5	-4.3
FCH				*i* S	**Sn**	**04 17 08.2**	**-2.9**
CFAA	**Coronel Fontan**	**4.08**	**46**	Pn	Pn	04 17 27.4	+3.3
comp=N,2.3nm,0.3s,baz=222,slow=12,SNR=62							
CFAA				Lg	Lg	04 18 24.3	
comp=N,6.5nm,0.3s,baz=333,slow=20,SNR=4.5							
CFAA				LR	LR	04 19 15.4	
comp=N,248nm,18.9s,baz=228,slow=43							
PLCA	**Paso Flores**	**6.26**	**172**	Pn	**Pn**	**04 17 53.6**	**-0.5**
comp=N,16nm,0.3s,baz=335,slow=13,SNR=81							
PLCA				Lg	Lg	04 19 28.4	
comp=N,5.6nm,0.3s,baz=287,slow=16,SNR=3.5							
PLCA				LR	LR	04 20 27.6	
comp=N,2μm,18.8s,baz=337,slow=40							
TRQA	**Tornquist**	**8.57**	**117**	*e*Pn	**Pn**	**04 18 27.0**	**+1.3**
TRQA				*e*Sn	**Sn**	**04 20 02.6**	**+1.2**
LVC	**Limon Verde**	**12.10**	**12**	*e*Pn	**Pn**	**04 19 14.4**	**+0.1**
LVC				*e*Sn	**Sn**	**04 21 23.1**	**-5.5**

CPUP **Villa Florida** 14.79 60 Pn Pn 04 19 48.6 -2.2
comp=N,0.4nm,0.3s,baz=211,slow=10,SNR=5.7
CPUP Lg Lg 04 24 12.0
comp=N,0.4nm,0.3s,baz=304,slow=18,SNR=2.0
CPUP **Villa Florida** 14.79 60 *e*Pn Pn 04 19 48.9 -1.9
comp=N,0.6nm,0.6s
CPUP Lg Lg 04 24 12.0
LPAZ **La Paz** 18.43 11 P Pn 04 20 37.3 -0.3
comp=N,0.3nm,0.3s,baz=183,slow=8.5,SNR=40
LPAZ **La Paz** 18.43 11 P Pn 04 20 37.3 -0.3
LPAZ *e*Pn P 04 20 38.0 +0.6
USHA **Ushuaia** 20.44 175 P P 04 20 58.8 +0.3
comp=N,43nm,0.9s,baz=330,slow=6.1,SNR=15
SIV **San Ignacio** 20.75 30 P P 04 21 01.8 -0.5
comp=N,29nm,0.8s,baz=210,slow=11,SNR=26
NNA **Nana** 22.92 347 P P 04 21 25.4 -0.1
comp=N,21nm,0.9s,baz=184,slow=12,SNR=6.4
NNA **Nana** 22.92 347 *e*P P 04 21 26.0 +0.5
comp=N,26nm,1.0s
SAML **Samuel** 26.61 19 *e*P P 04 21 59.6 -0.1
comp=N,36nm,1.6s
BDFB **Brasilia** 28.36 54 P P 04 22 16.2 +0.6
comp=N,13nm,0.9s,baz=224,slow=10,SNR=11
OTAV **Otavalo** 35.16 348 *e*P P 04 23 17.3 +1.7
comp=N,9.8nm,1.2s
ROSC **El Rosal** 39.24 356 P P 04 23 52.6 +2.5
comp=N,5.3nm,0.7s,baz=195,slow=6.7,SNR=4.9
ROSC **El Rosal** 39.24 356 *e*P P 04 23 54.0 +3.8
SDV **Santo Domingo** 43.18 1 *e*P P 04 24 21.7 -0.6
comp=N,18nm,1.0s
JTS **JuntasAbangare** 46.32 342 *e*P P 04 24 44.5 -2.6
GRGR **Grenville** 47.35 13 *e*P P 04 24 53.9 -1.3
comp=N,128nm,0.9s
VNA3 **Neumayer Olymp** 48.76 158 P P 04 25 07.3 +1.8
VNA2 **Neumayer--Watz** 49.41 157 P P 04 25 12.3 +1.9
SNAA **Sanae** 50.98 158 P P 04 25 23.9 +1.4
SNAA **Sanae** 50.98 158 P P 04 25 23.0 +0.6
comp=N,3.2nm,0.8s,baz=243,slow=8.6,SNR=12
SNAA LR LR 04 44 54.7
comp=N,56nm,20.1s,baz=316,slow=34
SNAA **Sanae** 50.98 158 *e*P P 04 25 24.4 +2.0
comp=N,14nm,1.0s
JAKH **Jacmel** 52.47 359 *e*P P 04 25 36.9 +3.0
OBIP **Obispado Ponce** 52.49 6 *e*P P 04 25 33.9 -0.2
comp=N,16nm,0.8s
CELP **Cerrillos** 52.52 6 *e*P P 04 25 33.2 -1.2
GTBY **Guantanamo Bay** 54.24 356 *e*P P 04 25 47.0 0.0
comp=N,35nm,1.0s
QSPA **South Pole Qui** 55.72 180 *e*P P 04 25 58.4 +0.9
comp=N,22nm,0.9s
VNDA **Vanda** 63.66 191 P P 04 26 51.4 -0.2
comp=N,2.8nm,1.0s,baz=120,slow=7.4,SNR=6.7
VNDA **Vanda** 63.66 191 *e*P P 04 26 53.4 +1.7
comp=N,3.6nm,0.9s
035A **Encino** 66.06 334 ⇓P P 04 27 08.8 +0.9
baz=66
034A **Hebbronville** 66.39 334 ⇓P P 04 27 10.9 +0.9
baz=67
933A **Laredo** 67.10 333 ⇑P P 04 27 15.3 +0.8
baz=67
835A **Beeville** 67.20 335 ⇓P P 04 27 16.5 +1.4
baz=68
834A **Tilden** 67.30 334 ⇑P P 04 27 17.0 +1.2
baz=68,SNR=13
735A **Kenedy** 67.71 335 ⇓P P 04 27 19.2 +0.8
baz=68
833A **Chaparral WMA,** 67.79 334 ⇑P P 04 27 19.4 +0.5
baz=68,SNR=10.0
734A **La Parita Cree** 67.96 335 ⇑P P 04 27 20.4 +0.4
baz=68
832A **Faith Ranch, C** 67.97 333 ⇓P P 04 27 20.1 +0.1
baz=68,SNR=6.0
636A **Smothers Creek** 68.03 336 ⇑P P 04 27 21.3 +1.0
baz=68,SNR=8.5
635A **Leesville** 68.19 336 ⇓P P 04 27 21.8 +0.5
baz=68
537A **Green Hill Far** 68.34 337 ⇑P P 04 27 23.1 +0.9
baz=69
732A **Laxson Ranch,** 68.37 333 ⇓P P 04 27 22.8 +0.3
baz=69,SNR=11
535A **Dale** 68.70 336 ⇓P P 04 27 24.9 +0.3
baz=69
LRAL **Lakeview Retre** 68.73 346 *e*P P 04 27 23.6 -1.0
comp=N,8.0nm,0.9s
633A **Saathoff Ranch** 68.74 334 ⇓P P 04 27 25.2 +0.4
baz=69
340A **Bronson** 68.85 340 ⇓P P 04 27 26.0 +0.6
baz=69
339A **Huntington** 68.96 339 ⇑P P 04 27 26.5 +0.4
baz=69
437A **Phantom Ranch,** 68.98 338 ⇑P P 04 27 26.5 +0.3
baz=69
632A **Uvalde** 69.00 334 ⇑P P 04 27 26.9 +0.4
baz=69,SNR=10
534A **Blanco** 69.01 335 ⇑P P 04 27 26.3 -0.2
baz=69
631A **Perdido Creek** 69.21 333 ⇑P P 04 27 27.9 +0.1
baz=70
338A **Crockett** 69.21 338 ⇑P P 04 27 28.4 +0.8
baz=70
533A **Kerrville** 69.25 335 ⇑P P 04 27 28.1 +0.1
baz=70,SNR=6.4
435B **Jarrell** 69.40 336 ⇓P P 04 27 28.9 0.0
baz=70
239A **Gary** 69.58 339 ⇑P P 04 27 30.2 +0.3
baz=70
532A **Rocksprings** 69.61 334 ⇓P P 04 27 30.7 +0.5
baz=70,SNR=25
434A **Burnet** 69.66 336 ⇓P P 04 27 30.3 -0.2
baz=70,SNR=12
336A **Riesel** 69.72 337 ⇓P P 04 27 31.1 +0.3
baz=70,SNR=5.2
335A **Moody** 69.81 337 ⇓P P 04 27 31.5 +0.1
baz=70
531A **Rocksprings** 69.88 334 ⇓P P 04 27 32.3 +0.4
baz=70,SNR=10
433A **Art** 69.89 335 ⇑P P 04 27 31.9 -0.1
baz=70,SNR=14
JCT **Junction City** 69.89 334 ⇑P P 04 27 32.1 +0.1
baz=70,SNR=8.5
JCT **Junction City** 69.89 334 *e*P P 04 27 31.9 0.0
comp=N,17nm,0.8s
237A **Washetta, Mont** 69.96 338 ⇓P P 04 27 32.6 +0.3
baz=70
334A **Lometa** 70.13 336 ⇑P P 04 27 33.4 +0.1
baz=70,SNR=12
530A **J-C Ranch, Com** 70.16 333 ⇑P P 04 27 34.1 +0.5
baz=70,SNR=12
432A **Menard** 70.25 334 ⇑P P 04 27 33.8 -0.4
baz=70
TXAR **Lajitas Array** 70.34 331 P P 04 27 35.0 +0.2
comp=N,3.6nm,0.6s,baz=152,slow=8.7,SNR=56
431A **Sonora** 70.37 334 ⇓P P 04 27 34.8 -0.1
baz=71,SNR=9.1
333A **Richland Sprin** 70.37 335 ⇓P P 04 27 34.7 -0.2
baz=71,SNR=9.9
529A **Stev Forest Ra** 70.47 332 ⇑P P 04 27 35.9 +0.3
baz=71,SNR=11
WHTX **Lake Whitney,** 70.47 337 ⇓P P 04 27 35.4 +0.1
baz=71
WHTX **Lake Whitney,** 70.47 337 *e*P P 04 27 35.5 +0.1
137A **Heron Place, G** 70.50 339 ⇓P P 04 27 36.0 +0.4
baz=71
SWET **Sewanee** 70.65 348 *e*P P 04 27 36.0 -0.5
comp=N,15nm,0.7s
332A **Millersview** 70.69 335 ⇑P P 04 27 36.6 -0.2
baz=71,SNR=6.4
430A **Baggett Ranch,** 70.69 333 ⇓P P 04 27 37.1 +0.2
baz=71,SNR=14
234A **Clairette** 70.71 336 ⇓P P 04 27 36.6 -0.3
baz=71,SNR=7.4
429A **Davenport Ranc** 70.79 333 ⇑P P 04 27 37.7 +0.2
baz=71,SNR=8.3
331A **San Angelo** 70.87 334 ⇑P P 04 27 37.6 -0.3
baz=71,SNR=14
233A **Rising Star** 70.98 336 ⇑P P 04 27 38.5 -0.1
baz=71,SNR=8.9
134A **White-Moore Ra** 71.21 337 ⇓P P 04 27 39.4 -0.5
baz=72
330A **Mertzon** 71.23 334 ⇓P P 04 27 39.7 -0.4
baz=72,SNR=10
231A **Bronte** 71.39 335 ⇓P P 04 27 40.6 -0.5
baz=72,SNR=10
133A **Hamilton Ranch** 71.52 336 ⇓P P 04 27 41.7 -0.2
baz=72,SNR=7.0
329A **Wagon Wheel Ra** 71.60 333 ⇓P P 04 27 42.2 -0.2
baz=72,SNR=5.6
230A **Sterling City** 71.64 334 ⇑P P 04 27 42.3 -0.2
baz=72
Z35A **Perchaven, San** 71.64 338 ⇑P P 04 27 42.4 -0.1
baz=72
ABTX **Abilene, Hawle** 71.78 335 ⇓P P 04 27 43.2 -0.2
baz=72
ABTX **Abilene, Hawle** 71.78 335 *e*P P 04 27 43.4 0.0
WVT **Waverly** 71.89 346 *e*P P 04 27 42.8 -1.1
Z34A **Collier Ranch,** 71.89 337 ⇑P P 04 27 43.9 -0.1
baz=72
229A **Bryant Ranch,** 71.97 333 ⇑P P 04 27 44.4 -0.1
baz=72
131A **Roby** 72.09 335 ⇑P P 04 27 45.1 -0.2
baz=72
Z33A **Whitaker Ranch** 72.09 336 ⇑P P 04 27 45.2 0.0
baz=72,SNR=8.4
130A **Snyder** 72.22 334 ⇓P P 04 27 45.7 -0.3
baz=72,SNR=5.6
Z32A **Haskell** 72.35 336 ⇑P P 04 27 46.7 0.0
baz=73,SNR=9.2
Y34A **Reagan Ranch,** 72.38 337 ⇑P P 04 27 46.6 -0.3
baz=73
228A **UT Block 9, Go** 72.39 333 ⇑P P 04 27 47.2 +0.1
baz=73,SNR=7.4
Z31A **Sharp Cattle R** 72.59 335 ⇑P P 04 27 48.0 -0.2
baz=73,SNR=7.9
MAW **Mawson** 72.59 163 LR LR 04 58 53.4
comp=N,149nm,21.3s,baz=234,slow=35
Y33A **Hilltop Ranch,** 72.71 337 ⇑P P 04 27 48.5 -0.4
baz=73
128A **Castleberry Fa** 72.80 333 ⇓P P 04 27 49.4 -0.2
baz=73,SNR=6.4
Z30A **Sanderson Ranc** 72.90 334 ⇓P P 04 27 49.7 -0.5
baz=73,SNR=6.9
Y32A **R-V Farms, Ver** 72.97 336 ⇑P P 04 27 50.3 -0.1
baz=73,SNR=5.4
X34A **Smith Ranch, M** 73.00 338 ⇑P P 04 27 50.5 -0.1
baz=73,SNR=5.6
Z29A **Hungry Hill Ra** 73.09 334 ⇑P P 04 27 50.9 -0.4
baz=73,SNR=8.1
MNTX **Cornudas Mount** 73.12 330 *e*P P 04 27 49.8 -1.6
comp=N,6.9nm,0.8s
GDL2 **Guadalupe Moun** 73.15 331 *e*P P 04 27 49.2 -2.5
Y31A **Rekieta Farm,** 73.21 335 ⇑P P 04 27 52.0 +0.1
baz=74,SNR=10
X32A **Elmer** 73.30 336 ⇑P P 04 27 51.9 -0.5
baz=74
Y30A **Stafford Cattl** 73.36 335 ⇓P P 04 27 52.2 -0.6
baz=74
Z28A **Tucker Farm, M** 73.36 333 ⇑P P 04 27 52.1 -0.8
baz=74
W34A **Bridge Creek,** 73.57 338 ⇓P P 04 27 53.5 -0.5
baz=74
TUL1 **Leonard** 73.60 340 ⇑P P 04 27 53.7 -0.4
baz=74,SNR=5.4
TUL1 **Leonard** 73.60 340 *e*P P 04 27 53.7 -0.4
comp=N,14nm,0.8s
Y29A **Porterfield Fa** 73.62 334 ⇑P P 04 27 54.2 -0.1
baz=74,SNR=11
SIUC **Southern Illin** 73.70 346 *e*P P 04 27 53.9 -0.7
W33A **Caddo, Fort Co** 73.71 337 ⇑P P 04 27 55.0 +0.3
baz=74,SNR=7.9
X31A **McDonald Ranch** 73.73 336 ⇑P P 04 27 54.6 -0.3
baz=74,SNR=8.2
X30A **Coker Ranch, T** 73.86 335 ⇑P P 04 27 55.3 -0.4
baz=74
Y28A **McKinney Farm,** 73.87 334 ⇑P P 04 27 55.4 -0.4
baz=74
W32A **Sentinel** 73.93 337 ⇓P P 04 27 56.1 0.0
baz=74,SNR=9.4
Z26A **Caprock** 73.95 332 ⇑P P 04 27 56.3 -0.1
baz=74,SNR=30
V34A **Guthrie** 74.04 338 ⇑P P 04 27 56.1 -0.6
baz=74
MSTX **Muleshoe** 74.11 333 ⇑P P 04 27 57.0 -0.3
baz=74,SNR=7.0
MSTX **Muleshoe** 74.11 333 *e*P P 04 27 57.0 -0.3
X29A **Tulia** 74.15 335 ⇓P P 04 27 57.0 -0.5
baz=74
Y27A **Causey** 74.18 333 ⇓P P 04 27 56.9 -0.8
baz=74
W31A **Holland Ranch,** 74.22 336 ⇑P P 04 27 57.4 -0.4
baz=74
Z25A **Roswell** 74.24 332 ⇑P P 04 27 57.7 -0.3
baz=74
V33A **Lossen Ranch,** 74.27 338 ⇓P P 04 27 57.7 -0.3
baz=75,SNR=7.8
X28A **Dimmitt** 74.40 334 ⇑P P 04 27 58.8 -0.2
baz=75
V32A **Arapaho** 74.41 337 ⇑P P 04 27 59.0 +0.1
baz=75
Y26A **Elida** 74.47 333 ⇓P P 04 27 59.9 +0.5
baz=75
319A **Douglas** 74.51 327 ⇓P P 04 28 00.4 +0.7
baz=75,SNR=6.8
AMTX **Amarillo** 74.54 335 ⇓P P 04 27 60.0 +0.2
baz=75
Z24A **Sheeppen Canyo** 74.54 331 ⇑P P 04 28 00.2 +0.3
baz=75,SNR=10
U34A **Anderson Ranch** 74.60 339 ⇑P P 04 27 59.8 -0.2
baz=75
U34A **Anderson Ranch** 74.60 339 *e*P P 04 27 59.7 -0.3
LIC **Lamto** 74.63 71 *e*P P 04 28 00.4 -0.3
comp=N,37nm,1.2s
V31A **Spring Creek L** 74.72 337 ⇓P P 04 28 00.4 -0.3
baz=75
W29A **Amarillo** 74.74 335 ⇓P P 04 28 00.7 -0.3
baz=75
U33A **Lingo Farm, Me** 74.78 338 ⇑P P 04 28 00.8 -0.2
baz=75
Y25A **Mesa, Roswell** 74.80 332 ⇑P P 04 28 00.8 -0.5
baz=75
121A **Cookes Peak, D** 74.85 329 ⇑P P 04 28 02.7 +1.0
baz=75,SNR=18
121A **Cookes Peak, D** 74.85 329 *e*P P 04 28 02.1 +0.5
comp=N,11nm,0.8s
TIC **Toumodi** 74.90 71 *e*P P 04 28 02.1 -0.1
comp=N,6.5nm,0.4s
KIC **Kosan Boka** 74.94 71 *e*P P 04 28 02.1 -0.4
comp=N,26nm,0.8s
U32A **Winter Ranch,** 75.00 337 ⇓P P 04 28 02.6 +0.3
baz=75
X26A **CR and CF Fran** 75.02 333 ⇓P P 04 28 02.9 +0.3
baz=75,SNR=10
DBIC **Dimbokro** 75.04 71 P P 04 28 03.1 +0.1
comp=N,7.4nm,0.6s,baz=194,slow=5.5,SNR=14
DBIC **Dimbokro** 75.04 71 *e*P P 04 28 03.5 +0.4
Y24A **Capitan** 75.09 331 ⇓P P 04 28 03.3 +0.2
baz=75
ACSO **Alum Creek Sta** 75.11 351 *e*P P 04 28 02.3 -0.5
comp=N,26nm,0.8s
Z22A **Elephant Butte** 75.13 330 ⇓P P 04 28 03.7 +0.4
baz=75
W27A **Bowe Ranch, En** 75.20 334 ⇑P P 04 28 03.6 +0.1
baz=76,SNR=10
X25A **Clemmons Ranch** 75.32 332 ⇓P P 04 28 04.3 0.0
baz=76
T33A **Patterson Ranc** 75.42 338 ⇓P P 04 28 04.8 +0.2
baz=76,SNR=7.9
W26A **Owens Ranch, T** 75.48 333 ⇑P P 04 28 05.5 +0.3
baz=76
V28A **Channing** 75.51 335 ⇑P P 04 28 05.7 +0.4
baz=76
U30A **WK&E Inc. Balk** 75.68 336 ⇑P P 04 28 06.5 +0.3
baz=76
T32A **Huddler Ranch,** 75.72 338 ⇑P P 04 28 06.6 +0.3
baz=76
W25A **X Bar L Ranch,** 75.86 333 ⇓P P 04 28 07.3 -0.1
baz=76,SNR=7.3
SFIN **Lafayette** 75.88 348 ⇑P P 04 28 05.7 -1.4
baz=76
T31A **Randall Ranch,** 75.88 337 ⇑P P 04 28 05.9 -1.4
baz=76
LPM **Los Pinos Moun** 75.91 331 *e*P P 04 28 08.1 +0.4
comp=N,6.1nm,0.8s
TUC **Tucson** 75.98 327 *e*P P 04 28 08.8 +0.7
U28A **Mallet** 76.08 335 ⇑P P 04 28 07.7 -0.9
baz=76
V26A **Tequesquite Ra** 76.12 334 ⇑P P 04 28 08.1 -0.7
baz=76
LAZ **Ladron** 76.19 330 *e*P P 04 28 09.8 +0.4
comp=N,7.4nm,1.4s
S32A **Newby Ranch, P** 76.20 338 ⇓P P 04 28 08.6 -0.5
baz=76
W24A **Lazy 6 Ranch,** 76.21 332 ⇓P P 04 28 09.8 +0.3
baz=76,SNR=8.1
S31A **Mullinville** 76.30 338 ⇑P P 04 28 09.1 -0.6
baz=77
U27A **Thompson Grove** 76.33 335 ⇑P P 04 28 10.1 +0.1
baz=77,SNR=7.3
ANMO **Albuquerque** 76.39 331 P P 04 28 11.2 +0.7
comp=N,5.5nm,0.9s,baz=163,slow=8.0,SNR=16
ANMO **Albuquerque** 76.39 331 *e*P P 04 28 09.7 -0.8
W23A **Werner Place,** 76.46 331 ⇓P P 04 28 11.3 +0.4
baz=77
T29A **Hugoton** 76.46 336 ⇑P P 04 28 10.6 -0.1
baz=77
V25A **Rancho No Teng** 76.46 333 ⇑P P 04 28 11.1 +0.2
baz=77,SNR=14
R33A **Olander Ranch,** 76.47 339 ⇓P P 04 28 10.6 -0.1
baz=77
V24A **Rampart Ranch,** 76.61 332 ⇓P P 04 28 11.8 0.0
baz=77
214A **Organ Pipe Nat** 76.63 325 ⇓P P 04 28 12.2 +0.5
baz=77
U26A **Atchley Ranch,** 76.63 334 ⇑P P 04 28 11.8 0.0
baz=77
T28A **Walsh** 76.71 335 ⇑P P 04 28 12.1 0.0
baz=77,SNR=11
R32A **Long Quarter,** 76.79 338 ⇓P P 04 28 12.7 +0.3
baz=77
S29A **Ulysses** 76.82 336 ⇓P P 04 28 13.0 +0.3
baz=77
T27A **Campo** 76.87 335 ⇑P P 04 28 13.1 +0.1
baz=77,SNR=8.1
U25A **Circle Dot Ran** 76.88 333 ⇓P P 04 28 13.3 +0.1
baz=77,SNR=8.2
R31A **Burdett** 76.92 338 ⇓P P 04 28 13.2 0.0
baz=77
S28A **Manter** 77.06 336 ⇓P P 04 28 14.1 0.0
baz=77,SNR=8.0
Q33A **Connelly Farm,** 77.06 339 ⇑P P 04 28 13.8 -0.2
baz=77
R30A **Dighton** 77.15 337 ⇓P P 04 28 15.0 +0.5
baz=78
U24A **Moreno Valley** 77.22 333 ⇓P P 04 28 15.5 +0.2
baz=78
Q32A **Meitler Ranch,** 77.27 339 ⇑P P 04 28 15.6 +0.4
baz=78
T26A **Comanche Natio** 77.28 334 ⇓P P 04 28 15.9 +0.5
baz=78
V22A **San Miguel Ran** 77.42 331 ⇑P P 04 28 17.3 +1.0
baz=78,SNR=15
X18A **Snowflake** 77.48 328 ⇑P P 04 28 17.2 +0.5
baz=78
U23A **El Rito** 77.50 332 ⇑P P 04 28 17.5 +0.8
baz=78,SNR=11
Q31A **Ellis** 77.54 338 ⇓P P 04 28 16.9 +0.3
baz=78
T25A **Trinidad** 77.54 334 ⇓P P 04 28 17.8 +0.8
baz=78,SNR=15
S26A **Kim** 77.63 335 ⇓P P 04 28 18.0 +0.7
baz=78,SNR=14
R28A **Tribune** 77.71 336 ⇑P P 04 28 18.0 +0.3
baz=78,SNR=9.1
113A **Mohawk Valley,** 77.75 325 ⇑P P 04 28 18.3 +0.4
baz=78
Q30A **Quinter** 77.77 338 ⇓P P 04 28 18.2 +0.2
baz=78,SNR=7.2
U22A **Llaves** 77.80 332 ⇓P P 04 28 19.0 +0.6
baz=78
T24B **San Luis** 77.83 333 ⇑P P 04 28 19.6 +1.0
baz=78,SNR=8.0
P32A **Huiting Farm,** 77.87 339 ⇑P P 04 28 18.4 -0.1
baz=78
W18A **Petrified Fore** 77.89 329 ⇓P P 04 28 19.2 +0.3
baz=78
Q29A **Oakley** 77.93 337 ⇓P P 04 28 19.0 +0.1
baz=78
R27A **Eads** 77.99 335 ⇑P P 04 28 19.5 +0.2
baz=78,SNR=10
P31A **Stockton** 78.01 338 ⇓P P 04 28 19.4 +0.1
baz=78,SNR=6.3
S25A **Robets Cordova** 78.01 334 ⇑P P 04 28 20.0 +0.5
baz=78,SNR=6.9
X16A **Lo Mia Camp, P** 78.05 327 ⇑P P 04 28 20.6 +0.8
baz=78
T23A **Casias Ranch,** 78.06 332 ⇑P P 04 28 20.2 +0.4
baz=78
R26A **Arlington** 78.23 335 ⇓P P 04 28 21.1 +0.5
baz=78,SNR=5.7
S24A **Houchin Ranch,** 78.28 333 ⇓P P 04 28 21.8 +0.7
baz=79,SNR=10
P30A **Selden** 78.30 338 ⇑P P 04 28 21.3 +0.5
baz=79
Y14A **Wickenburg** 78.36 326 ⇑P P 04 28 21.8 +0.5
baz=79
O32A **Brockman Farm,** 78.36 340 ⇓P P 04 28 21.2 0.0
baz=79
Q28A **Sharon Springs** 78.37 336 ⇑P P 04 28 21.7 +0.4
baz=79
R25A **Fountain Ranch** 78.39 334 ⇓P P 04 28 22.0 +0.4
baz=79
SDCO **Great Sand Dun** 78.48 333 *e*P P 04 28 22.3 0.0
comp=N,4.7nm,0.8s
P29A **Atwood** 78.56 337 ⇓P P 04 28 22.7 +0.3
baz=79,SNR=6.9
O31A **Woolen Ranch,** 78.57 339 ⇑P P 04 28 22.6 +0.3
baz=79
KSCO **Kaye Shedlock'** 78.58 336 ⇓P P 04 28 23.2 +0.6
baz=79
KSCO **Kaye Shedlock'** 78.58 336 *e*P P 04 28 23.4 +0.8
R24A **Sanders Place,** 78.76 334 ⇑P P 04 28 24.5 +0.8
baz=79,SNR=12
TSUM **Tsumeb** 78.76 106 *e*P P 04 28 24.1 0.0
comp=N,4.0nm,0.9s
P28A **Saint Francis** 78.80 337 ⇑P P 04 28 24.1 +0.4
baz=79
Q26A **Hugo** 78.81 335 ⇑P P 04 28 24.5 +0.7
baz=79
JFWS **Jewell Farm** 78.92 346 *e*P P 04 28 23.7 -0.4
comp=N,14nm,0.7s
Y12C **Blythe** 78.92 325 ⇑P P 04 28 25.1 +0.8
baz=79
WUAZ **Wupatki** 78.94 328 ⇓P P 04 28 25.2 +0.5
baz=79
WUAZ **Wupatki** 78.94 328 *e*P P 04 28 25.8 +1.1
comp=N,11nm,1.0s
S22A **4UR Ranch, Cre** 78.98 332 ⇑P P 04 28 25.6 +0.6
baz=79
R23A **Moffat** 78.99 333 ⇓P P 04 28 25.5 +0.5
baz=79,SNR=6.4
Q25A **Bedland, Calha** 79.06 335 ⇑P P 04 28 25.1 -0.2
baz=79
MVCO **Mesa Verde** 79.17 331 ⇑P P 04 28 26.3 +0.4
baz=80
MVCO **Mesa Verde** 79.17 331 *e*P P 04 28 26.6 +0.6
comp=N,9.5nm,1.1s
SADO **Sadowa** 79.21 355 P P 04 28 24.5 -1.2
comp=N,6.9nm,0.7s,baz=188,slow=1.9,SNR=7.4
BC3 **Big Chuckawall** 79.29 324 ⇓P P 04 28 27.4 +0.9
baz=80
O28A **Krutsinger Ran** 79.31 337 ⇑P P 04 28 26.9 +0.4
baz=80
P26A **Davis Ranch, A** 79.32 336 ⇑P P 04 28 27.0 +0.3
baz=80
BGNE **Belgrade** 79.39 340 ⇓P P 04 28 27.2 +0.4
baz=80
Q24A **Divide** 79.42 334 ⇑P P 04 28 27.7 +0.3
baz=80,SNR=7.1
BOSA **Boshof** 79.54 117 P P 04 28 28.2 -0.1
comp=N,4.5nm,0.6s,baz=254,slow=3.7,SNR=13
BOSA **Boshof** 79.54 117 *e*P P 04 28 28.0 -0.3
comp=N,5.6nm,0.6s
IRM **Iron Mountain** 79.55 325 ⇓P P 04 28 28.6 +0.7
baz=80
P25A **Willow Gulch B** 79.56 335 ⇓P P 04 28 28.9 +0.9
baz=80,SNR=10
M31A **Lambtecht Ranc** 79.56 339 ⇑P P 04 28 27.9 +0.1
baz=80,SNR=5.4
O27A **Beecher Island** 79.60 336 ⇑P P 04 28 28.4 +0.4
baz=80
W13A **Hualapai Mount** 79.72 326 ⇑P P 04 28 29.7 +0.6
baz=80
PFO **Pinyon Flats O** 79.74 323 P P 04 28 29.5 +0.5
comp=N,9.7nm,1.0s,baz=122,slow=3.2,SNR=4.7
PFO **Pinyon Flats O** 79.74 323 ⇓P P 04 28 29.7 +0.7
baz=80
PFO **Pinyon Flats O** 79.74 323 *e*P P 04 28 30.4 +1.4
N28A **Pribbeno Ranch** 79.74 337 ⇑P P 04 28 29.4 +0.5
baz=80
BELC **Belle Mtn. Jos** 79.83 324 ⇑P P 04 28 30.2 +0.7
baz=80
O26A **Horse Wrangler** 79.92 336 ⇑P P 04 28 30.6 +0.7
baz=80
PV01 **Paradox Valley** 80.00 331 *e*P P 04 28 29.5 -0.9
M30A **Dale-Ortello V** 80.00 339 ⇑P P 04 28 30.8 +0.6

	baz=80					
O25A	Wiggins	80.08 335	⇑P		P	04 28 31.8 +1.1
	baz=80					
MURC	Murrieta	80.10 323	⇑P		P	04 28 31.9 +1.0
	baz=80					
U15A	North Rim	80.11 328	⇓P		P	04 28 31.5 +0.3
	baz=80					
M29A	Burnside Ranch	80.17 338	⇓P		P	04 28 31.6 +0.6
	baz=80					
N27A	Anderson Farm,	80.17 337	⇓P		P	04 28 32.0 +0.9
	baz=80					
SMCO	Snowmass	80.29 333	eP		P	04 28 33.1 +0.9
	comp=N,13nm,0.9s					
L31A	Butterfield Fa	80.29 340	⇑P		P	04 28 32.3 +0.6
	baz=81,SNR=9.9					
GMRC	Granite Mounta	80.30 325	⇑P		P	04 28 32.6 +0.6
	baz=81					
ISCO	Idaho Springs	80.33 334	⇑P		P	04 28 32.8 +0.5
	baz=81					
ISCO	Idaho Springs	80.33 334	eP		P	04 28 32.8 +0.5
	comp=N,60nm,2.3s					
L30A	Spencer Herefo	80.34 339	⇑P		P	04 28 32.6 +0.6
	baz=81					
P22A	Eagle	80.57 333	⇓P		P	04 28 33.9 +0.4
	baz=81					
HEC	Hector,Ludlow	80.66 324	⇓P		P	04 28 34.4 +0.5
	baz=81					
L29A	Maesberg Ranch	80.67 339	⇑P		P	04 28 34.2 +0.5
	baz=81					
O23A	Lake Granby, G	80.80 334	⇓P		P	04 28 35.5 +0.7
	baz=81,SNR=14					
BFSC	Mount Baldy Ra	80.84 323	⇑P		P	04 28 35.6 +0.7
	baz=81					
TUQ	Turquoise Moun	80.96 325	⇑P		P	04 28 36.0 +0.5
	baz=81					
K30A	Basset	80.97 340	⇓P		P	04 28 35.8 +0.5
	baz=81,SNR=8.4					
N24A	Carr	80.98 335	⇑P		P	04 28 36.1 +0.5
	baz=81					
O22A	Kremmling	80.99 334	⇑P		P	04 28 36.0 +0.2
	baz=81,SNR=7.6					
ECSD	EROS Data Cent	81.14 342	⇓P		P	04 28 35.7 -0.4
	baz=82,SNR=16					
ECSD	EROS Data Cent	81.14 342	eP		P	04 28 35.5 -0.6
	comp=N,18nm,0.8s					
M25A	Palm-Egli Farm	81.24 336	⇓P		P	04 28 37.6 +0.7
	baz=82					
K29A	Lazy Trails An	81.26 339	⇑P		P	04 28 37.6 +0.7
	baz=82					
GSC	Goldstone, Bar	81.27 324	⇓P		P	04 28 37.9 +0.7
	baz=82					
N23A	Red Feather La	81.42 334	⇑P		P	04 28 38.4 +0.4
	baz=82					
SHPR	Sheep Range	81.47 326	eP		P	04 28 39.3 +1.0
CCUT	Cedar City	81.52 328	eP		P	04 28 40.1 +1.5
EDW2	Edwards Air Fo	81.52 323	⇓P		P	04 28 38.9 +0.5
	baz=82					
N22A	Wattenberg Ran	81.52 334	⇑P		P	04 28 39.0 +0.5
	baz=82,SNR=8.0					
K28A	Ten Mile Ranch	81.53 338	⇓P		P	04 28 39.0 +0.7
	baz=82,SNR=9.9					
M24A	Cheyenne	81.53 335	⇑P		P	04 28 38.9 +0.4
	baz=82					
J30A	Dallas	81.54 340	⇓P		P	04 28 38.1 -0.2
	baz=82,SNR=5.2					
O20A	White River Ci	81.60 332	⇑P		P	04 28 39.2 +0.3
	baz=82					
SRU	San Rafael Swe	81.62 330	eP		P	04 28 39.3 +0.2
K27A	Flueckinger Fa	81.79 338	⇑P		P	04 28 40.4 +0.6
	baz=82,SNR=5.0					
LBTB	Lobatse	81.79 115	eP		P	04 28 40.0 -0.4
	comp=N,7.1nm,0.7s					
LRMC	Laurel Mtn Rad	81.84 324	⇑P		P	04 28 40.8 +0.5
	baz=82					
J29A	Okreek	81.85 339	⇓P		P	04 28 40.0 0.0
	baz=82,SNR=15					
TMUT	Trail Mountain	82.06 330	eP		P	04 28 42.4 +0.9
I30A	Oacoma	82.06 340	⇓P		P	04 28 40.7 -0.3
	baz=82,SNR=10					
J28A	Allard Ranch,	82.14 339	⇑P		P	04 28 41.8 +0.3
	baz=82,SNR=7.3					
N20A	Spence Gulch,	82.21 333	⇑P		P	04 28 42.2 0.0
	baz=82					
J27A	Elkhorn Farm,	82.22 338	⇓P		P	04 28 42.8 +0.9
	baz=82,SNR=8.8					
ISA	Isabella, Lake	82.38 323	⇓P		P	04 28 43.6 +0.6
	baz=83					
ISA	Isabella, Lake	82.38 323	eP		P	04 28 44.0 +1.0
L23A	Garrett	82.41 335	⇓P		P	04 28 42.9 -0.2
	baz=83					
I29A	Vivian Onida	82.41 340	⇑P		P	04 28 42.4 -0.5
	baz=83					
BRSD	Miller	82.42 341	⇓P		P	04 28 42.5 -0.3
	baz=83					
BRSD	Miller	82.42 341	eP		P	04 28 42.0 -0.9
	comp=N,20nm,0.8s					
DAC	Darwin (Calif)	82.44 324	eP		P	04 28 44.4 +1.0
	comp=N,11nm,1.1s					
L22A	Ellis Ranch, M	82.59 335	⇑P		P	04 28 43.6 -0.4
	baz=83					
J26A	Sides Ranch, S	82.60 337	⇓P		P	04 28 44.4 +0.4
	baz=83,SNR=5.1					
I28A	Midland	82.64 339	⇑P		P	04 28 44.1 0.0
	baz=83					
VES	Vestal, Richgr	82.82 323	⇓P		P	04 28 44.9 -0.3
	baz=83					
MPU	Maple Canyon	82.84 330	eP		P	04 28 46.3 +0.8
H29A	Onida	82.94 340	⇓P		P	04 28 45.3 -0.2
	baz=83,SNR=12					
K23A	Bowen Ranch, D	82.95 335	⇑P		P	04 28 45.0 -0.9
	baz=83					
I27A	Quinn	82.97 338	⇑P		P	04 28 46.1 +0.3
	baz=83					
DAU	Daniels Canyon	83.02 331	eP		P	04 28 47.2 +0.7
G30A	Faulkton	83.10 341	⇑P		P	04 28 46.4 0.0
	baz=83					
K22A	Casper	83.17 335	⇑P		P	04 28 46.7 -0.3
	baz=84					
K22A	Casper	83.17 335	eP		P	04 28 46.9 -0.1
	comp=N,24nm,1.5s					
R11A	Troy Canyon, C	83.17 327	⇓P		P	04 28 47.3 +0.2
	baz=83					
I26A	New Underwood	83.18 338	⇑P		P	04 28 46.8 -0.1
	baz=84					
H28A	Mission Ridge	83.22 339	⇑P		P	04 28 47.0 0.0
	baz=84,SNR=13					
JLU	Jordanelle	83.26 331	eP		P	04 28 47.9 +0.3
G29A	Hoven	83.38 340	⇑P		P	04 28 48.0 +0.1
	baz=84					
K21A	Alcova	83.41 334	⇓P		P	04 28 48.4 0.0
	baz=84,SNR=12					
I25A	Rochford	83.45 337	⇑P		P	04 28 48.4 0.0
	baz=84,SNR=6.5					
DUG	Dugway, Tooele	83.48 330	⇑P		P	04 28 48.8 +0.1
	baz=84					
DUG	Dugway, Tooele	83.48 330	eP		P	04 28 49.3 +0.6
H27A	Howes	83.49 339	⇓P		P	04 28 48.3 -0.2
	baz=84,SNR=9.9					
G28A	Parade	83.55 340	⇓P		P	04 28 48.6 -0.2
	baz=84,SNR=13					
I24A	Kuemmerle Ranc	83.59 337	⇑P		P	04 28 48.7 -0.4
	baz=84					
RSSD	Black Hills	83.64 337	eP		P	04 28 49.4 -0.1
TPH	Tonopah	83.70 325	eP		P	04 28 50.6 +0.7
F30A	Leola	83.72 341	⇓P		P	04 28 49.4 -0.2
	baz=84					
J22A	Midwest	83.82 335	⇑P		P	04 28 49.8 -0.5
	baz=84					
F29A	Eureka	83.94 341	⇑P		P	04 28 50.3 -0.4
	baz=84,SNR=7.7					
H25A	Fruitdale	83.95 338	⇑P		P	04 28 51.1 +0.3
	baz=84					
TORD	Torodi Ar. Bea	84.08 70	P		P	04 28 52.2 +0.1
	comp=N,8.1nm,0.8s,baz=298,slow=6.6,SNR=50					
J21A	Lysite	84.10 335	⇑P		P	04 28 51.2 -0.6
	baz=84					
G27A	Dupree	84.12 339	⇓P		P	04 28 51.3 -0.4
	baz=84					
HWUT	Hardware Ranch	84.16 331	eP		P	04 28 51.9 -0.3
BGU	Big Grassy Mou	84.18 330	eP		P	04 28 53.1 +0.9
F28A	McLaughlin	84.22 340	⇓P		P	04 28 51.8 -0.4
	baz=84					
G26A	Maurine	84.25 339	⇑P		P	04 28 51.9 -0.5
	baz=85,SNR=7.6					
I22A	9 Mile Ranch,	84.25 335	⇓P		P	04 28 52.0 -0.5
	baz=85					
E30A	Jud	84.31 341	⇑P		P	04 28 52.1 -0.5
	baz=85					
J20A	Shoshoni	84.33 334	⇓P		P	04 28 53.0 +0.1
	baz=85,SNR=11					
H24A	Dirks Ranch, A	84.36 337	⇑P		P	04 28 52.6 -0.4
	baz=85					
PDAR	Pinedale Array	84.37 333	P		P	04 28 52.6 -0.6
	comp=N,4.4nm,0.9s,baz=143,slow=5.2,SNR=13					
G25A	Newell	84.40 338	⇓P		P	04 28 52.9 -0.2
	baz=85,SNR=8.5					
I21A	Big Trails, Te	84.45 335	⇑P		P	04 28 52.9 -0.7
	baz=85,SNR=5.1					
NVAR	Mina Array Bea	84.49 325	P		P	04 28 54.3 +0.3
	comp=N,2.7nm,0.8s,baz=145,slow=6.1,SNR=16					
E29A	Napoleon	84.57 341	⇓P		P	04 28 53.5 -0.4
	baz=85					
F27A	Lemmon	84.60 339	⇑P		P	04 28 54.0 -0.1
	baz=85,SNR=12					
J19A	Crowheart	84.61 334	⇓P		P	04 28 53.9 -0.5
	baz=85,SNR=7.1					
F26A	Lodgepole	84.77 339	⇑P		P	04 28 54.5 -0.5
	baz=85					
H22A	Clearmont	84.82 336	⇑P		P	04 28 54.6 -0.7
	baz=85					
D30A	Buchanan	84.83 342	⇓P		P	04 28 54.8 -0.4
	baz=85,SNR=5.9					
I20A	Worland	84.87 334	⇑P		P	04 28 54.7 -0.9
	baz=85					
E27A	Carson	84.97 340	⇓P		P	04 28 55.3 -0.7
	baz=85					
ELK	Elko	84.97 328	P		P	04 28 56.1 -0.2
	comp=N,4.5nm,0.8s,baz=203,slow=2.7,SNR=11					
ELK	Elko	84.97 328	eP		P	04 28 56.6 +0.2
D29A	Pettibone, Tap	85.01 341	⇑P		P	04 28 55.6 -0.5
	baz=85					
G23A	Biddle	85.04 337	⇓P		P	04 28 55.2 -1.2
	baz=85					
F25A	Bowman	85.08 338	⇓P		P	04 28 55.0 -1.5
	baz=85					
H21A	Big Horn, Sher	85.08 335	⇓P		P	04 28 55.9 -0.7
	baz=85					
AGMN	Agassiz Nation	85.24 344	⇑P		P	04 28 56.6 -0.5
	baz=86,SNR=7.1					
AGMN	Agassiz Nation	85.24 344	eP		P	04 28 56.7 -0.5
I19A	Meeteetse	85.26 334	⇑P		P	04 28 57.4 -0.2
	baz=86					
E26A	Carlson Angus	85.27 339	⇓P		P	04 28 56.9 -0.6
	baz=86					
H20A	Greybull	85.29 335	⇓P		P	04 28 57.2 -0.5
	baz=86,SNR=11					
F24A	Ekalaka	85.31 338	⇓P		P	04 28 57.1 -0.7
	baz=86					
C30A	Mose, Pekin	85.31 342	⇑P		P	04 28 57.6 0.0
	baz=86,SNR=12					
G22A	Birney	85.35 336	⇑P		P	04 28 57.3 -0.7
	baz=86					
D28A	Regan	85.39 341	⇓P		P	04 28 57.6 -0.4
	baz=86,SNR=5.2					
F23A	Volborg	85.50 337	⇑P		P	04 28 58.1 -0.5
	baz=86,SNR=8.6					
TPAW	Teton Pass	85.52 332	eP		P	04 28 59.1 0.0
E25A	Miller Ranch,	85.58 339	⇓P		P	04 28 58.6 -0.4
	baz=86					
D27A	Center	85.58 340	⇑P		P	04 28 58.6 -0.3
	baz=86					
G21A	Lodge Grass	85.66 336	⇑P		P	04 28 59.0 -0.5
	baz=86					
MDND	Maddock	85.73 342	⇓P		P	04 28 59.5 -0.1
	baz=86,SNR=9.1					
MDND	Maddock	85.73 342	eP		P	04 28 59.2 -0.4
	comp=N,4.7nm,0.6s					
I17A	Pilgrim Ck.	85.74 333	⇑P		P	04 29 00.5 +0.4
	baz=86,SNR=10.0					
D26A	Manning	85.77 339	⇑P		P	04 28 59.6 -0.3
	baz=86					
H19A	Powell	85.80 334	⇑P		P	04 28 60.0 -0.3
	baz=86,SNR=5.9					
F22A	Rosebud	85.83 337	⇓P		P	04 28 59.9 -0.4
	baz=86,SNR=6.3					
E24A	Baker	85.91 338	⇓P		P	04 29 00.0 -0.6
	baz=86					
B30A	Myrvik Farm, E	85.97 343	⇑P		P	04 29 00.4 -0.4
	baz=86,SNR=14					
G20A	Bridger	86.00 335	⇑P		P	04 29 00.6 -0.6
	baz=86,SNR=12					
H18A	Shoshone NF, C	86.05 334	⇓P		P	04 29 01.3 -0.3
	baz=86,SNR=30					
C27A	Sayler Ranch,	86.12 340	⇑P		P	04 29 01.5 -0.2
	baz=86					
D25A	Fairfield	86.14 339	⇑P		P	04 29 01.6 -0.1
	baz=86					
H17A	Grant Village	86.15 333	⇑P		P	04 29 01.9 -0.2
	baz=86					
E23A	Ismay	86.16 337	⇑P		P	04 29 01.4 -0.5
	baz=86					
B29A	Wagenman Farm,	86.24 342	⇑P		P	04 29 02.1 0.0
	baz=87,SNR=5.5					
RLMT	Red Lodge	86.29 334	eP		P	04 29 02.2 -0.6
	comp=N,7.0nm,0.9s					
E22A	Miles City	86.31 337	⇓P		P	04 29 02.3 -0.4
	baz=87					
C26A	Wahner Farm, P	86.39 340	⇑P		P	04 29 02.9 -0.1
	baz=87					
D24A	Glendive	86.41 338	⇑P		P	04 29 03.2 +0.1
	baz=87,SNR=5.7					
A30A	Hoffart Farm,	86.42 343	⇓P		P	04 29 02.4 -0.6
	baz=87,SNR=5.6					
B28A	Dugan Ranch, T	86.49 341	⇑P		P	04 29 03.4 0.0
	baz=87,SNR=5.8					
YMR	Madison River	86.53 333	eP		P	04 29 04.6 +0.6
A29A	Manning Farm,	86.63 342	⇑P		P	04 29 03.4 -0.6
	baz=87,SNR=5.6					
D23A	Lindsay	86.73 338	⇓P		P	04 29 05.0 +0.4
	baz=87,SNR=17					
OHCM	Honcut	86.74 324	eP		P	04 29 08.4 +3.6
E21A	Keefer Ranch,	86.77 336	⇓P		P	04 29 04.7 -0.2
	baz=87					
C24A	Savage	86.81 338	⇑P		P	04 29 05.3 +0.3
	baz=87					
F19A	Roth Farm, Mol	86.81 335	⇓P		P	04 29 04.9 -0.3
	baz=87					
QLMT	Earthquake Lak	86.84 333	eP		P	04 29 06.3 +0.8
A28A	Rude Farm, Bot	86.89 342	⇑P		P	04 29 04.9 -0.4
	baz=87					
B26A	Jensen Ranch,	86.93 340	⇑P		P	04 29 05.1 -0.5
	baz=87					
HLID	Hailey	86.94 330	⇓P		P	04 29 05.9 -0.1
	baz=87					
HLID	Hailey	86.94 330	eP		P	04 29 06.3 +0.4
D22A	Cohagen	87.02 337	⇓P		P	04 29 05.7 -0.4
	baz=87					
ULM	Lac du Bonnet	87.08 345	P		P	04 29 05.0 -1.2
	comp=N,5.3nm,0.7s,baz=155,slow=4.7,SNR=10					
E20A	Meyer Farm, Mu	87.09 336	⇓P		P	04 29 06.4 -0.1
	baz=87,SNR=16					
B25A	Knox Farm, Ray	87.10 340	⇑P		P	04 29 06.2 -0.2
	baz=87					
D21A	La Casta Ranch	87.21 337	⇓P		P	04 29 06.7 -0.3
	baz=88					
E19A	Rath Farm, Rou	87.28 335	⇓P		P	04 29 07.0 -0.4
	baz=88,SNR=9.8					
C23A	Lambert	87.28 338	⇑P		P	04 29 07.1 -0.3
	baz=88,SNR=8.2					
A26A	Wade Farm, Ken	87.35 340	⇑P		P	04 29 07.6 +0.1
	baz=88,SNR=6.1					
MCMT	McKenzie Canyo	87.38 332	eP		P	04 29 08.4 +0.3
	comp=N,5.7nm,1.1s					
MFID	Camas Ranch	87.41 329	eP		P	04 29 08.6 +0.4
C22A	Vida	87.45 338	⇑P		P	04 29 07.7 -0.4
	baz=88					
DGMT	Dagmar	87.58 339	⇓P		P	04 29 08.9 +0.1
	baz=88,SNR=6.5					
DGMT	Dagmar	87.58 339	eP		P	04 29 09.0 +0.3
A25A	Svangstu Ranch	87.69 340	⇓P		P	04 29 09.2 0.0
	baz=88					
B23A	Brockton	87.81 339	⇓P		P	04 29 09.8 0.0
	baz=88					
C21A	Desert Coulee	87.91 337	⇑P		P	04 29 09.9 -0.4
	baz=88,SNR=6.5					
D19A	Cripps Ranch,	87.92 336	⇓P		P	04 29 10.0 -0.5
	baz=88					
A24A	Westby	87.93 339	⇑P		P	04 29 10.0 -0.4
	baz=88					
B22A	Reddig Ranch S	87.98 338	⇑P		P	04 29 10.1 -0.6
	baz=88					
C20A	Veseth Ranch,	88.11 336	⇓P		P	04 29 10.7 -0.6
	baz=88					
MOD	Modoc Plateau	88.17 326	eP		P	04 29 11.9 +0.1
	comp=N,6.9nm,0.9s					
A23A	Redstone	88.22 339	⇓P		P	04 29 11.5 -0.3
	baz=88					
B21A	Ellsworth Farm	88.41 337	⇑P		P	04 29 12.8 +0.1
	baz=89					
C19A	Slack Wire Ran	88.47 336	⇑P		P	04 29 12.9 -0.1
	baz=89					
A22A	Carney Farms,	88.57 338	⇓P		P	04 29 13.1 -0.3
	baz=89,SNR=5.7					
N02D	Trinity Center	88.59 324	⇑P		P	04 29 13.3 -0.5
	baz=89					
M04C	Macdoel	88.80 325	⇑P		P	04 29 14.9 +0.1
	baz=89					
B19A	Brinkman Farms	89.06 336	⇓P		P	04 29 15.1 -0.7
	baz=89					
SCHQ	Schefferville	89.08 3	P		P	04 29 14.9 -0.7
	comp=N,4.4nm,0.9s,baz=249,slow=14,SNR=2.8					
A20A	Cobblestone Ra	89.10 337	⇑P		P	04 29 15.1 -0.8
	baz=89					
YBH	Yreka Blue Hor	89.18 324	P		P	04 29 15.5 -1.1
	comp=N,4.9nm,0.9s,baz=205,slow=9.7,SNR=4.6					
LSZ	Lusaka	89.34 108	eP		P	04 29 18.7 +0.7
	comp=N,6.7nm,1.1s					
A19A	Klindworth Far	89.41 337	⇓P		P	04 29 16.9 -0.5
	baz=90					
J05D	Fort Rock, OR	89.68 326	⇑P		P	04 29 19.0 +0.1
	baz=90					
JTMT	Jette	90.36 333	eP		P	04 29 22.1 +0.2
BSMT	Bassoo Peak	90.64 333	eP		P	04 29 22.9 -0.4
TAM	Tamanrasset	92.75 64	eP		P	04 29 33.8 +0.1
FCC	Fort Churchill	94.80 348	eP		P	04 29 41.4 -0.5
YKA	Yellowknife Ar	102.65 341	P		Pdif	04 30 16.1 -1.0
	comp=N,0.4nm,0.7s,baz=141,slow=4.6,SNR=9.7					
ILAR	Eielson Array	114.80 333	PKP		PKPdf	04 35 01.7 +1.1
	comp=N,0.2nm,0.9s,baz=93,slow=1.9,SNR=2.9					
ASAR	Alice Springs	117.25 206	PKP		PKPdf	04 35 06.6 -0.2
	comp=N,0.2nm,0.5s,baz=132,slow=1.4,SNR=2.8					
KWP	Kalwaria Pacla	117.99 47	ePKPdf		PKPdf	04 35 07.7 +0.4
WRA	Warramunga Arr	120.47 209	PKP		PKPdf	04 35 10.8 -2.2
	comp=N,0.6nm,0.6s,baz=163,slow=1.9,SNR=12					
AKASG	Malin Array Be	122.30 48	PKP		PKPdf	04 35 14.2 -1.2
	comp=N,0.2nm,0.3s,baz=248,slow=3.8,SNR=2.4					
TNA	Tin City	123.40 330	ePKPdf		PKPdf	04 35 18.6 +1.5
MBWA	Marble Bar	123.58 193	ePKPdf		PKPdf	04 35 19.7 +0.8
H11S2	WAKE ISLAND Hyl	26.08 269	T		T	06 53 41.4
	baz=119,slow=74,SNR=15					
H11S1	WAKE ISLAND Hyl	26.10 269	T		T	06 53 44.2
	baz=119,slow=74,SNR=26					
H11S3	WAKE ISLAND Hyl	26.10 269	T		T	06 53 42.8
	baz=119,slow=74,SNR=18					
H11N3	WAKE ISLAND Hyl	26.51 270	T		T	06 54 11.5
	baz=121,slow=76,SNR=11					
H11N1	WAKE ISLAND Hyl	26.52 270	T		T	06 54 15.4
	baz=121,slow=76,SNR=13					
H11N2	WAKE ISLAND Hyl	26.53 270	T		T	06 54 15.9
	baz=121,slow=76,SNR=11					
BILL	Bilibino	133.44 334	ePKPdf		PKPdf	04 35 35.0 -1.1
TIXI	Tiksi	141.26 350	ePKPdf		PKPdf	04 35 50.2 -0.3
ABKAR	Akbulak array	141.75 52	ePKPpre		PKPpre	04 35 45.7
GSI	Gunungsitoli	145.46 161	ePKPbc		PKPab	04 36 02.5 +2.7
KSM	Kuching	147.07 184	ePKPbc		PKPbc	04 36 04.9 +0.5
PSI	Prapat	147.24 162	PKPbc		PKPbc	04 36 06.1 +1.0
	comp=N,7.1nm,0.7s,baz=199,slow=7.2,SNR=7.2					
BRVK	Borovoye	147.36 44	ePKPbc		PKPbc	04 36 04.4 +0.3
HYB	Hyderabad	148.42 115	i PKP		PKPbc	04 36 06.5 -1.5
KKAR	Karatay Array	149.50 62	ePKPbc		PKPbc	04 36 09.8 -0.3
KULM	Kulim	150.05 164	ePKPdf		PKPdf	04 36 08.0 +0.7
EKS2	Erkin-Say	151.93 63	ePKPdf		PKPdf	04 36 10.5 +1.1
EKS2			ePKPbc		PKPbc	04 36 15.8 -0.2
EKS2			ePKPab		PKPab	04 36 25.4 +0.1
AAK	Ala-Archa	152.46 63	ePKPdf		PKPdf	04 36 10.4 +0.1
AAK			ePKPbc		PKPbc	04 36 17.1 -0.1
AAK			ePKPab		PKPab	04 36 27.2 -0.4
KURK	Kurchatov	153.03 44	ePKPdf		PKPdf	04 36 11.1 +0.6
KURK			ePKPbc		PKPbc	04 36 17.6 -0.3
KURK			ePKPab		PKPab	04 36 29.7 +0.3
TKM2	Tokmak 2	153.23 62	ePKPdf		PKPdf	04 36 11.2 -0.2
TKM2			ePKPbc		PKPbc	04 36 18.7 -0.3
TKM2			ePKPab		PKPab	04 36 30.7 -0.1
KSH	Kashi	153.75 70	PKPbc		PKPdf	04 36 11.6 -0.6
KSH			sPKP			04 36 28.4
KSH			PKS		PKSdf	04 39 46.1 -0.5
KSH			PP		PP	04 40 06.4 -1.5
KSH			SKS		SKSdf	04 43 15.4 -2.0
KSH			SKKS		SKKSac	04 46 54.2 -1.8
KSH			SS		SS	04 59 39.1 -4.5
KSH			PPMZ			
	comp=N,93nm,5.7s					
KSH			LN			
	comp=N,26nm,3.9s					
KSH			LE			
	comp=N,23nm,4.7s					
KSH			LZ			
	comp=N,170nm,5.9s					
ZALV	Zalesovo Beam	154.49 33	PKPbc		PKPbc	04 36 20.3 -0.6
	comp=N,4.1nm,0.9s,baz=316,slow=4.1,SNR=8.6					
ZALV			PKPab		PKPab	04 36 35.6 +0.2
	comp=N,5.4nm,0.9s,baz=294,slow=4.7,SNR=6.6					
MKAR	Makanchi Array	156.85 50	PKP		PKPdf	04 36 17.4 +1.4
	comp=N,0.4nm,0.9s,baz=268,slow=2.9,SNR=3.7					
MKAR			PKPab		PKPab	04 36 44.5 -1.4
	comp=N,2.1nm,0.9s,baz=305,slow=4.3,SNR=12					
MKAR			PP		PP	04 40 24.4 -0.2
	comp=N,0.6nm,0.9s,baz=270,slow=0.7,SNR=3.5					
WMQ	Urumqi	161.52 54	ePKP		PKPdf	04 36 23.0 +1.4
WMQ			LN			
	comp=N,62nm,20.0s					
WMQ			LE			
	comp=N,88nm,24.0s					
WMQ			LZ			
	comp=N,69nm,20.0s					
CMAR	Chiang Mai Arr	161.94 150	PKPab		PKPab	04 37 08.8 +0.2
	comp=N,0.5nm,0.3s,baz=215,slow=6.2,SNR=5.2					
CN2	Changchun	163.85 310	ePKP		PKPdf	04 36 25.1 +1.3
SONM	Songino Array	166.62 6	PKPab		PKPab	04 37 29.1 +0.5
	comp=N,1.1nm,0.9s,baz=323,slow=3.7,SNR=6.8					
ULN	Ulaanbaatar	166.63 4	ePKPab		PKPab	04 37 28.6 -0.1
NJ2	Nanjing	170.87 257	ePKP		PKPdf	04 36 30.2 +1.0
BJI	Beijing	171.68 314	PKP		PKPdf	04 36 28.6 -0.8
BJI			SS		SS	05 02 45.9 -2.1
BJI			LN			
	comp=N,370nm,21.4s					
BJI			LE			
	comp=N,360nm,24.9s					
BJI			LZ			
	comp=N,350nm,24.4s					
GYA	Guiyang	171.84 169	ePKP		PKPdf	04 36 29.0 -1.1
GYA			pPKP		pPKPdf	04 36 42.6 +3.7
GYA			PKPab		PKPab	04 37 54.2 +2.1
GYA			PKS		PKSdf	04 40 00.8 -1.8
GYA			PP		PP	04 41 46.4 +4.2
GYA			SKKS			04 48 27.7
GYA			PPMZ			
	comp=N,120nm,8.0s					
GYA			LN			
	comp=N,120nm,22.5s					
GYA			LE			
	comp=N,110nm,22.8s					
GYA			LZ			
	comp=N,120nm,21.3s					
HHC	Hu-ho-hao-te	173.19 339	ePKP		PKPdf	04 36 31.8 +1.6
HHC			pPKP		pPKPdf	04 36 39.4 +0.4
HHC			sPKP			04 36 48.0
HHC			PP		PP	04 41 53.5 +4.5
HHC			SKS		SKSdf	04 43 31.8 +0.1
HHC			S

*DJA **05** 04:20:27.2±0.5,8°S±7°×11°2E±°,h112km±6km,M4.1/19, mb5.0/1,mB5.3/1,MLv3.6/19,Mw(mB)4.7/1*

ISC 05 04:20:25.0±0.8,8°.12S±0°.09×112°.00E±0°.04,h133km,n28, σ1°55/30,mb3.5/5,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	Pagerwojo	0.22	295	P	Pn	04 20 44.0	+0.8
NGJI	Ngawi	0.92	324	P	Pn	04 20 49.6	+2.2
WOJI	Wonogiri, Jawa	1.10	284	P	Pn	04 20 50.5	+1.4
GRJI	Gresik	1.28	22	P	Pn	04 20 52.0	+1.0
TBJI	Tambak Boyo	1.30	353	P	Pn	04 20 51.9	+0.8
GMJI	Gumukmas	1.44	96	P	Pn	04 20 53.4	+0.9
GMJI				S	Sn	04 21 14.0	+0.5
UGM	Wanagama	1.48	278	P	Pn	04 20 54.1	+1.0
UGM				S	Sn	04 21 15.4	+0.9
UGM	Wanagama baz=1.7,SNR=6.8	1.48	278	P	Pn	04 20 54.1	+1.0
UGM				S	Sn	04 21 15.3	+0.8
	baz=1.7,SNR=4.6						
BLJI	Banyuglugur	1.62	77	P	Pn	04 20 56.3	+1.7
JAGI	Jajag, Banyuwa	2.16	100	P	Pn	04 21 01.6	+0.6
JAGI				S	Sn	04 21 29.4	+0.7
JAGI	Jajag, Banyuwa baz=2.3,SNR=21	2.16	100	P	Pn	04 21 01.7	+0.7
KMMI	Kalianget	2.22	62	P	Pn	04 21 02.7	+0.9
ABJI	Asem Bagus	2.23	82	P	Pn	04 21 04.7	+2.8
KPJI	Karang Pucung	3.14	284	P	Pn	04 21 15.5	+2.0
SRBI	Singaraja	3.18	90	P	Pn	04 21 15.4	+1.4
CMJI	Cimerak	3.54	275	P	Pn	04 21 19.0	+0.3
CISI	Cisompet, Garu	4.19	277	P	Pn	04 21 29.3	+2.0
CISI	Cisompet, Garu baz=4.3,SNR=3.5	4.19	277	P	Pn	04 21 29.3	+2.0
CNJI	Cibinong	4.90	279	P	Pn	04 21 38.6	+1.9
CGJI	Cibinong	6.43	283	P	Pn	04 21 59.7	+2.3
XMIS	Christmas Isla baz=6.3,SNR=6.3	6.69	249	P	Pn	04 21 59.8	-1.1
XMIS				S	Sn	04 23 05.7	-10
	baz=6.3,SNR=6.0						
WRA	Warramunga Arr 1.0nm,0.6s,baz=297,slow=11,SNR=27	24.61	121	P	P	04 25 33.9	+0.7
ASAR	Alice Springs 1.5nm,0.5s,baz=302,slow=8.0,SNR=26	26.07	129	P	P	04 25 47.3	+1.0
STKA	Stephens Creek 1.1nm,0.4s,baz=303,slow=8.5,SNR=2.7	36.27	135	P	P	04 27 16.5	+0.9
JCJ	Chichijima comp=Z,166nm,21.6s,baz=116,slow=35	45.62	39	LR	LR	04 46 31.8	
SONM	Songino Array 0.2nm,0.7s,baz=168,slow=7.8,SNR=3.4	55.93	355	P	P	04 29 46.5	-2.7
MKAR	Makanchi Array 0.2nm,0.4s,baz=146,slow=7.5,SNR=4.2	60.73	337	P	P	04 30 20.2	-2.3
ZALV	Zalesovo Beam comp=Z,301nm,21.1s,baz=250,slow=40	65.95	343	LR	LR	05 03 32.5	

*IDC **05** 04:29:23.4±26.0,23°.62S×173°.37W,h0km,mb4.7/4, mb1 4.9/4,mb1mx4.0/35,mbtmp4.7/4,Error ellipse: s-maj=482.0km s-min=141.5km az=78.0*
*ISCJB **05** 04:29:26.8±1.1,23°.7S±0°.3×173°.4W±0°.2,h33km,mb4.7/10, Error ellipse: s-maj=49.9km s-min=15.0km az=151.9*
*NEIC **05** 04:29:29.3±0.7,23°.56S×173°.44W,h35km,mb4.7/7,Error ellipse: s-maj=41.5km s-min=11.9km az=158.0*

ISC 05 04:29:28.3±0.9,23°.9S±0°.3×173°.2W±0°.1,h35km,n29, σ1°19/28,mb4.7/10,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMSA	Cobar Meteorol baz=41,SNR=8.5	37.05	249	P	P	04 36 34.2	-0.8
CTA	Charters Tower 11nm,0.4s,baz=95,slow=10,SNR=21	37.73	268	P	P	04 36 39.9	-1.1
CTAO	Charters Tower 7.0nm,0.5s	37.73	268	eP	P	04 36 39.0	-1.9
QLP	Quilpie baz=42,SNR=3.4	38.50	257	P	P	04 36 45.7	-1.7
STKA	Stephens Creek 3.1nm,0.4s,baz=83,slow=9.2,SNR=6.0	40.54	248	P	P	04 37 03.6	-0.8
COEN	Coen baz=46,SNR=4.1	42.32	275	P	P	04 37 20.0	+0.9
COEN	Coen	42.32	275	eP	P	04 37 19.0	-0.1
HTT	Hallett baz=47,SNR=5.9	42.79	246	P	P	04 37 23.2	+0.3
MANU	Manus Island baz=46,SNR=4.2	43.90	294	S	S	04 44 03.1	+1.8
BBOO	Buckleboo baz=49,SNR=9.0	45.21	247	P	P	04 37 41.9	-0.2
MMPI	Merauke baz=50,SNR=3.0	46.94	281	S	S	04 44 53.8	+8.7
AS31	Alice Springs	48.19	259	eP	P	04 38 04.7	-1.0
ASAR	Alice Springs 1.9nm,0.4s,baz=100,slow=8.1,SNR=40	48.19	259	P	P	04 38 04.8	-0.9
WB2	Warramunga Arr	48.63	264	eP	P	04 38 07.2	-1.8
WRAB	Tennant Creek 2.3nm,0.5s	48.63	264	eP	P	04 38 07.2	-1.9
WRA	Warramunga Arr 4.5nm,0.3s,baz=104,slow=8.1,SNR=254	48.64	264	P	P	04 38 08.0	-1.2
FORT	Forrest 7.7nm,0.5s	52.16	249	eP	P	04 38 35.5	-0.2
KDU	Kakadu baz=56,SNR=4.0	52.53	272	P	P	04 38 39.0	+0.5
WRKA	Warakurna baz=57,SNR=9.2	52.93	256	P	P	04 38 41.3	-0.2
KNRA	Kununurra baz=58,SNR=9.9	54.94	267	P	P	04 38 57.1	+0.9
MEEK	Meekatharra baz=65,SNR=3.3	61.08	252	P	P	04 39 40.7	+1.5
KAPI	Kappang 17nm,0.8s	67.04	275	eP	P	04 40 17.2	-1.2
HWUT	Hardware Ranch 0.7nm,0.4s	86.55	41	eP	P	04 42 08.1	+0.1
MCK	McKinley 4.4nm,1.1s	89.37	11	eP	P	04 42 19.2	-1.5
WMOK	Wichita Mounta 3.1nm,0.8s	91.46	53	eP	P	04 42 31.9	+0.7
TKM2	Tokmak 2	121.11	307	ePKPdf	PKPdf	04 48 16.9	-0.8
EKS2	Erkin-Say	122.43	306	ePKPdf	PKPdf	04 48 21.2	+1.1
TSUM	Tsumeb	135.92	195	ePKPdf	PKPdf	04 48 47.8	+1.4
PSZ	Piszkesteto	153.85	340	ePKPbc	PKPbc	04 49 23.5	-0.4

GUC 05 04:31:33.2±0.5,34°.61S×71°.71W,h48km±5km,ML3.5, 1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	El Canelo	1.04	62	eS	Sn	04 32 07.3	+2.1
LNCH	Linares	1.24	176	⇓iP	Pn	04 31 54.8	+0.7
LNCH				eS	Sn	04 32 11.3	+1.6
LNCH				AML	AML	04 32 12.0	
	comp=E,3μm,0.2s						
RCDM	Rinconada Maip	1.35	34	eP	Pn	04 31 55.9	+0.2
RCDM				i S4	Sn	04 32 13.2	+0.7
ANTU	Antumapu	1.37	41	⇓iP	Pn	04 31 57.2	+1.2
ANTU				i S	Sn	04 32 15.1	+2.0
ANTU				AML	AML	04 32 18.1	
	comp=N,870nm,0.5s						
LACH	Col Las Americ	1.52	41	eP4	Pn	04 31 58.2	+0.3
LACH				i S	Sn	04 32 18.7	+2.1
IHA	Instituto Hidr	1.58	2	eP	Pn	04 31 59.8	+1.0
PEL	Peldehue	1.69	31	⇑iP	Pn	04 32 01.7	+1.3
PEL				i S	Sn	04 32 23.1	+2.1
PEL				AML	AML	04 32 34.3	
	comp=E,846nm,0.3s						
FCH	Farellones	1.74	43	eP4	Pn	04 32 02.4	+1.0
FCH				i S	Sn	04 32 25.2	+2.5
FCH				AML	AML	04 32 31.6	
	comp=E,581nm,0.4s						

*IDC **05** 04:36:56.8±1.0,35°.26S×73°.80W,h0km,mb3.9/6, mb1 4.0/9,mb1mx3.8/26,mbtmp3.8/9,ML3.7/3,MS2.5/1, Ms1 2.5/1,ms1mx2.4/19,Error ellipse: s-maj=30.5km s-min=21.4km az=74.0*
*ISCJB **05** 04:37:00.1±0.7,35°.29S±0°.07×73°.8W±0°.1,h33km, mb4.1/10,Error ellipse: s-maj=13.1km s-min=9.1km az=25.6*
*NEIC **05** 04:37:01.8±0.4,35°.28S×73°.83W,h35km,mb4.4/7,Error ellipse: s-maj=11.7km s-min=9.0km az=88.0*

ISC 05 04:37:01.7±0.6,35°.26S±0°.08×73°.9W±0°.1,h35km,n24, σ0°63/26,mb4.3/10,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.94	54	Pn	Pn	04 38 26.1	-1.1
	0.4nm,0.3s,baz=231,slow=11,SNR=7.5						
CFAA				Sn	Sn	04 39 34.7	+0.6
	0.3nm,0.3s,baz=126,slow=19,SNR=4.0						
CFAA				LR	LR	04 40 55.4	
	comp=Z,43nm,19.0s,baz=154,slow=40						
PLCA	Paso Flores 1.2nm,0.3s,baz=324,slow=11,SNR=23	6.06	156	Pn	Pn	04 38 28.6	-0.3
TRQA	Tornquist	9.94	110	ePn	Pn	04 39 23.0	+0.9
CPUP	Villa Florida	16.73	62	ePn	Pn	04 40 54.2	+0.7
LPAZ	La Paz 0.1nm,0.3s,baz=193,slow=6.6,SNR=6.9	19.57	17	P	Pn	04 41 28.3	-0.5
LPAZ	La Paz 1.8nm,0.8s	19.57	17	eP	Pn	04 41 28.9	+0.1
SDV	Santo Domingo 5.3nm,1.1s	44.01	5	eP	P	04 45 06.3	+0.2
SNAA	Sanae 1.4nm,0.9s,baz=285,slow=10,SNR=4.0	51.00	157	P	P	04 46 00.0	+0.3
QSPA	South Pole Qui 5.3nm,1.1s	54.98	180	eP	P	04 46 29.5	+0.2
TXAR	Lajitas Array 0.3nm,0.6s,baz=158,slow=8.8,SNR=6.5	70.13	333	P	P	04 48 10.7	+0.1
DBIC	Dimbokro 3.8nm,1.0s,baz=202,slow=5.9,SNR=4.4	76.99	72	P	P	04 48 51.0	-0.2
DBIC	Dimbokro 3.2nm,0.8s	76.99	72	eP	P	04 48 50.5	-0.7
TSUM	Tsumeb 8.4nm,1.6s	80.30	107	eP	P	04 49 08.5	-1.2
BOSA	Boshof 1.7nm,0.7s,baz=270,slow=4.0,SNR=3.2	80.80	118	P	P	04 49 11.9	-0.3
BOSA	Boshof 3.9nm,0.8s	80.80	118	eP	P	04 49 11.7	-0.5
LBTB	Lobatse 2.8nm,0.8s	83.12	116	eP	P	04 49 23.6	-0.8
NVAR	Mina Array Bea 0.5nm,0.9s,baz=136,slow=6.9,SNR=3.0	84.08	326	P	P	04 49 30.0	+1.0
TORD	Torodi Ar. Bea 1.0nm,0.9s,baz=247,slow=4.9,SNR=6.2	86.04	71	P	P	04 49 39.2	+0.2
MBWA	Marble Bar	122.43	195	ePKPdf	PKPdf	04 55 54.5	+0.8
ABKAR	Abkulak array	143.63	53	ePKPdf	PKPbc	04 56 30.8	+0.8
BRVK	Borovoye	149.15	44	ePKPdf	PKPbc	04 56 46.2	+0.4
KKM	Kota Kinabalu	149.49	200	ePKPdf	PKPdf	04 56 43.4	-0.1
KKM				ePKPbc	PKiKP	04 56 49.0	-0.1
KULM	Kulim	149.75	169	ePKPbc	PKPbc	04 56 48.0	-0.5
MKAR	Makanchi Array 0.6nm,1.0s,baz=40,slow=2.1,SNR=4.1	158.71	50	PKP	PKPdf	04 56 55.9	+0.5
MKAR				PKPab	PKPab	04 57 31.6	+0.5
	0.4nm,0.6s,baz=290,slow=4.2,SNR=4.9						

GUC 05 04:47:04.6±0.8,33°.69S×72°.06W,h39km±4km,MD3.5, ML3.2,2C-6D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.60	116	⇓iP	Pn	04 47 16.5	-0.2
LNV				i S1	Sn	04 47 25.3	-0.1
IHA	Instituto Hidr	0.75	28	⇓iP	Pn	04 47 18.7	0.0
IHA				i S1	Sn	04 47 29.3	+0.4
RCDM	Rinconada Maip	1.07	79	⇓iP	Pn	04 47 23.8	+0.7
RCDM				i S1	Sn	04 47 38.0	+1.2
ANTU	Antumapu	1.20	84	⇓iP	Pn	04 47 25.9	+1.0
ANTU				i S	Sn	04 47 41.9	+1.9
ANTU				AML	AML	04 47 42.6	
	comp=N,915nm,0.3s						
CHCH	Chadas Angostu	1.20	102	⇓iP	Pn	04 47 25.7	+0.8
CHCH				i S1	Sn	04 47 41.8	+1.7
PEL	Peldehue	1.27	65	⇑iP	Pn	04 47 27.6	+1.6
PEL				i S	Sn	04 47 44.5	+2.6
PEL				AML	AML	04 47 51.9	
	comp=N,938nm,0.3s						
CACH	El Canelo	1.29	110	⇓iP	Pn	04 47 28.4	+2.1
CACH				i S1	Sn	04 47 46.3	+3.8
FCH	Farellones	1.52	77	⇑iP	Pn	04 47 31.0	+1.2
FCH				i S1	Sn	04 47 51.1	+2.4
FCH				AML	AML	04 47 56.9	
	comp=N,479nm,0.2s						

WEL 05 04:47:36.4±0.6,38°.07S×175°.95E,h204km±5km,ML3.5/6, 1C-1D,Error ellipse: s-maj=5.8km s-min=5.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	Black Stump Fm	1.18	159	PN	Pn	04 48 07.9	0.0
RAHZ	Arahi	1.23	134	PN	Pn	04 48 08.7	+0.4
MWZ	Matawai	1.27	103	PN	Pn	04 48 08.5	-0.2
WNVZ	Wahianoa	1.29	192	PN	Pn	04 48 09.0	+0.1
WNVZ				SN	S	04 48 33.9	-0.2
BHHZ	Black Hill Sta	1.42	176	PN	Pn	04 48 09.8	-0.1
BHHZ				SN	S	04 48 35.2	-0.6
KAHZ	Kahuranaki	1.87	158	PN	Pn	04 48 13.9	-0.1
KAHZ				SN	S	04 48 43.1	+0.2
WMGZ	Waiomatatini S	1.96	84	SN	S	04 48 44.3	+0.1
PXZ	Pawanui	2.09	160	PN	Pn	04 48 15.4	-0.6
PXZ				SN	S	04 48 46.0	-0.6
MRZ	Mangatainoka R	2.61	186	⇑PN	Pn	04 48 20.0	-1.7
OGWZ	Otaki Gorge	2.81	192	PN	Pn	04 48 22.4	-1.6
OGWZ				SN	S	04 48 58.6	-2.3
KIW	Kapiti Island	2.91	196	PN	Pn	04 48 23.1	-2.0
TCW	Tory Channel	3.40	202	PN	Pn	04 48 28.6	-2.3
TUWZ	Tuamarina	3.70	204	⇓PN	Pn	04 48 32.1	-2.5
QRZ	Quartz Range	3.82	223	PN	Pn	04 48 32.4	-3.7

NNC 05 04:51:55.6±5.7,36°.89N×71°.16E,h121km±143km,mb3.0, mpv3.6,4C-1D,Error ellipse: s-maj=54.1km s-min=43.1km az=48.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array 4.2nm,0.3s,baz=182,slow=13,SNR=43	6.22	356	P	Pn	04 53 25.8	+0.8
KK31				⇑S	Sn	04 54 35.2	+0.3
	0.7nm,0.3s,baz=185,slow=23,SNR=3.8						
AAK	Ala-Archa 2.8nm,0.6s	6.28	23	⇑P	Pn	04 53 25.9	-0.2
AAK				⇑S	Sn	04 54 37.3	+0.6
	6.3nm,1.1s						
TKM2	Tokmak 2 2.1nm,0.7s	6.92	28	⇑P	Pn	04 53 34.0	-0.7
AB31	Abkulak array 0.4nm,0.5s,baz=164,slow=11,SNR=19	14.80	330	⇓P	Pn	04 55 18.8	0.0

IDC 05 04:59:39.4±13.0,38°.14S×93°.87W,h0km,mb3.7/4, mb1 4.1/4,mb1mx3.9/16,mbtmp3.7/4,MS3.7/2,Ms1 3.7/2, ms1mx3.3/22,Error ellipse: s-maj=344.0km s-min=53.3km az=2.0,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz 2.1nm,1.1s,baz=190,slow=5.5,SNR=3.7	31.40	53	P	P	05 06 03.0	0.0
LPAZ				LR	LR	05 15 44.4	
	comp=Z,85nm,21.1s,baz=134,slow=31						
TXAR	Lajitas Array 0.4nm,0.9s,baz=165,slow=8.4,SNR=3.5	67.74	351	P	P	05 10 38.8	0.0
NVAR	Mina Array Bea 0.4nm,0.7s,baz=163,slow=6.3,SNR=4.8	79.44	341	P	P	05 11 48.0	+0.4
PDAR	Pinedale Array 0.9nm,1.0s,baz=142,slow=4.6,SNR=4.4	81.78	348	P	P	05 11 59.7	-0.4
STKA	Stephens Creek comp=Z,62nm,20.3s,baz=255,slow=31	93.27	225	LR	LR	05 48 09.3	

*NNC **05** 05:15:27.3±2.1,36°.50N×70°.44E,h106km±32km,mb3.4, mpv3.7,Error ellipse: s-maj=19.5km s-min=13.7km az=156.0*

ISC 05 05:15:26.2±3.2,36°.4N±0°.2×70°.40E±0°.09,h100km,n13, σ0°89/17,5C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.69	333	⇓P	Pn	05 16 07.9	0.0
DZET				⇓S	Sn	05 16 40.8	+0.9
AML	Almayashu SNR=78	6.24	23	P	Pn	05 16 56.9	+0.7
UCH	Uchtor SNR=7.7	6.61	28	P	Pn	05 17 01.8	+0.5
KK31	Karatay Array 2.0nm,0.4s,baz=189,slow=14,SNR=49	6.67	1	P	Pn	05 17 02.1	+0.5
KK31				⇑S	Sn	05 18 16.1	0.0
	0.6nm,0.2s						
EKS2	Erkin-Say SNR=13	6.75	22	P	Pn	05 17 03.9	+1.1
KZA	Kyzart SNR=5.8	6.78	32	P	Pn	05 17 03.7	+0.2
AAK	Ala-Archa 2.6nm,0.5s	6.96	26	⇑P	Pn	05 17 06.9	+1.2
AAK				⇓S	Sn	05 18 23.2	-0.2
	2.4nm,0.6s						
CHMS	Chumysh SNR=8.0	7.37	26	P	Pn	05 17 11.8	+0.7
USP	Ospenovka SNR=5.1	7.53	23	P	Pn	05 17 14.1	+0.9
TKM2	Tokmak 2 3.5nm,0.7s	7.62	30	⇑P	Pn	05 17 15.4	+0.7
TKM2				⇑S	Sn	05 18 38.0	-1.6
	2.2nm,0.9s						
TKM2	Tokmak 2 SNR=7.2	7.62	30	P	Pn	05 17 15.7	+1.0
AB31	Abkulak array 5.3nm,0.7s	14.92	332	⇑P	Pn	05 18 50.8	-1.0
AKTO	Aktyubinsk 4.3nm,1.4s	16.61	331	⇓P	P	05 19 13.9	+0.3

GUC 05 05:17:58.0±0.6,33°.96S×72°.15W,h32km±9km,MD3.5, ML3.3,2C-5D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	1.02	25	⇑iP	Pn	05 18 16.2	+0.1
IHA				eS1	Sn	05 18 29.9	+0.5
RCDM	Rinconada Maip	1.22	68	⇓iP	Pn	05 18 19.1	+0.3
RCDM				eS1	Sn	05 18 35.2	+1.1
RCDM				AML	AML	05 18 43.5	
	comp=N,634nm,0.4s						
ANTU	Antumapu	1.32	73	⇓iP	Pn	05 18 21.2	+0.9
ANTU				i S1	Sn	05 18 38.6	+1.8
ANTU				AML	AML	05 18 41.9	
	comp=E,878nm,0.2s						
STL	Santa Lucia	1.36	68	⇓iP	Pn	05 18 20.8	0.0
STL				i S1	Sn	05 18 38.8	+0.9
LACH	Col Las Americ	1.44	70	i P1	Pn	05 18 22.8	+0.8
LACH				i S1	Sn	05 18 41.4	+1.6
LACH				AML	AML	05 18 46.8	
	comp=E,299nm,0.4s						
PEL	Peldehue	1.47	57	⇓iP	Pb	05 18 23.6	-1.2
PEL				i S1	Sn	05 18 43.1	+2.6
PEL				AML	AML	05 18 49.8	
	comp=E,2μm,0.4s						
SJCH	San Jose de Ma	1.53	79	⇑iP	Pb	05 18 26.6	+0.7
SJCH				i S1	Sn	05 18 47.1	+5.0
FCH	Farellones	1.68	68	⇓iP	Pn	05 18 24.9	-0.6
FCH				i S	Sn	05 18 46.9	+0.7
FCH				AML	AML	05 18 52.3	
	comp=N,832nm,0.3s						

*ISCJB **05** 05:24:07.6±0.5,51°.66N±0°.09×173°.46W±0°.07,h37km, mb4.0/33,Error ellipse: s-maj=13.0km s-min=5.8km az=171.0*
*NEIC **05** 05:24:08.8±0.5,51°.57N×173°.45W,h35km,mb4.1/16, Error ellipse: s-maj=11.9km s-min=6.3km az=172.0*
*IDC **05** 05:24:09.2±0.6,51°.55N×173°.50W,h41km±6km,mb3.8/24, mb1 3.9/26,mb1mx3.8/59,mbtmp4.0/26,ML4.1/2,Error ellipse: s-maj=19.3km s-min=10.8km az=176.0*

ISC 05 05:24:09.0±0.6,51°.6N±0°.1×173°.39W±0°.07,h37km,n65, σ0°94/68,mb4.1/33,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	Unalaska Valle	4.76	59	ePn	Pn	05 25 22.6	+4.6
FX1	Attu Island--F 3.9nm,0.3s,baz=105,slow=2.3,SNR=30	8.36	284	P	Pn	05 26 08.7	+1.3
FX1	Attu Island--F	8.36	284	ePn	Pn	05 26 09.3	+1.9
OHAK	Old Harbor	12.97	56	ePn	Pn	05 27 08.5	-2.0
KDAK	Kodiak Island	13.51	55	ePn	Pn	05 27 16.3	-1.5
TNA	Tin City 2.9nm,0.5s	14.29	9	ePn	P	05 27 32.4	-2.6
KTH	Kantishna Hill 23nm,1.1s	16.87	36	eP	P	05 28 04.9	+1.1
MCK	McKinley 3.4nm,0.7s	17.71	37	eP	P	05 28 13.4	+0.4
COLA	College 4.2nm,1.0s	18.73	35	eP	Pn	05 28 27.0	+2.3
ILAR	Eielson Array 0.8nm,0.3s,baz=239,slow=10,SNR=78	19.02	36	P	P	05 28 26.1	-1.3
BILL	Bilibino 7.0nm,1.1s	19.23	337	eP	P	05 28 28.7	-1.0
COLD	Coldfoot 4.8nm,1.3s	19.42	27	eP	P	05 28 31.8	+0.2
EGAK	Eagle 40nm,0.7s	21.21	39	eP	P	05 28 51.2	+0.2
DAWY	Dawson	21.67	42	eP	P	05 28 55.6	-0.5
INK	Inuvik 2.0nm,0.4s,baz=232,slow=6.8,SNR=19	25.38	34	P	P	05 29 32.3	+0.1
INK	Inuvik 11nm,0.9s	25.38	34	eP	P	05 29 32.1	-0.1
DLBC	Dease Lake 5.0nm,0.9s,baz=236,slow=8.5,SNR=6.7	25.41	57	P	P	05 29 33.8	+1.0
DLBC	Dease Lake	25.41	57	eP	P	05 29 35.7	+2.9
YKA	Yellowknife Ar 0.7nm,0.8s,baz=275,slow=9.2,SNR=20	32.62	47	P	P	05 30 36.8	+0.1
YBH	Yreka Blue Hor 0.6nm,0.3s,baz=332,slow=5.1,SNR=7.0	35.50	86	P	P	05 31 02.3	+0.4
NEW	Newport 1.2nm,0.6s,baz=307,slow=8.4,SNR=4.6	35.62	73	P	P	05 31 04.2	+1.3
NEW	Newport 3.3nm,0.9s	35.62	73	eP	P	05 31 03.8	+0.9
EDM	Edmonton	35.73	63	eP	P	05 31 04.5	+0.8
USRK	Ussuriysk Ar. 2.9nm,0.5s,baz=69,slow=9.6,SNR=6.4	36.60	280	P	P	05 31 10.3	-1.0
BSMT	Bassoo Peak 2.5nm,1.0s	37.20	72	eP	P	05 31 17.7	+1.1
MCMT	McKenzie Canyo 1.4nm,0.9s	39.88	75	eP	P	05 31 40.4	+1.2
NVAR	Mina Array Bea 1.0nm,0.9s,baz=284,slow=9.2,SNR=6.2	40.17	87	P	P	05 31 42.4	+0.8
BW06	Boulder Array 3.2nm,0.9s	43.00	76	eP	P	05 32 05.5	+0.8
PDAR	Pinedale Array 0.8nm,0.7s,baz=305,slow=4.2,SNR=5.9	43.00	76	P	P	05 32 05.5	+0.7
KSRS	Korea Array 1.9nm,0.8s,baz=62,slow=8.7,SNR=6.7	43.00	275	P	P	05 32 04.7	+0.1
KSAR	Wonju Array Be	43.04	275	P	P	05 32 04.7	-0.1
FCC	Fort Churchill 0.1nm,0.3s	43.34	48	eP	P	05 32 07.2	+0.3
RSSD	Black Hills 5.0nm,1.3s	45.52	71	eP	P	05 32 25.2	+0.3
ULN	Ulaanbaatar 1.4nm,0.6s	49.16	299	eP	P	05 32 52.9	-0.2
SONM	Songino Array 0.7nm,0.3s,baz=60,slow=4.7,SNR=15	49.53	299	P	P	05 32 55.5	-0.4
ECSD	EROS Data Cent 2.1nm,0.6s	50.07	67	eP	P	05 32 59.4	-0.5
SPITS	Spitsbergen Ar 2.0nm,0.8s,baz=35,slow=3.5,SNR=9.2	50.36	357	P	P	05 33 01.9	+0.3
TXAR	Lajitas Array 0.6nm,0.9s,baz=307,slow=4.6,SNR=4.7	55.27	85	P	P	05 33 38.4	-0.2
TXAR				pP	pP	05 33 50.9	+1.2
	1.1nm,0.8s,baz=299,slow=4.4,SNR=10.0						
ARCES	ARCESS Array B 2.0nm,0.7s,baz=7.3,slow=9.1,SNR=13	58.40	352	P	P	05 33 59.3	-0.8
KURK	Kurchatov	61.26	316	eP	P	05 34 20.4	+0.4
MKAR	Makanchi Array 0.7nm,0.3s,baz=46,slow=6.8,SNR=17	62.49	311	P	P	05 34 27.6	-0.8
BVAR	Borovoye Array 1.1nm,0.5s,baz=38,slow=5.7,SNR=8.0	62.85	322	P	P	05 34 30.2	-0.4
ARU	Arti	64.14	331	eP	P	05 34 38.8	-0.3
FINES	FINESS Array B 1.6nm,0.9s,baz=14,slow=6.3,SNR=4.0	66.25	350	P	P	05 34 52.1	-0.5
NOA

GKN	Gorkha	75.49	297	*e*P	P	05 35 49.5	0.0
DMN	Daman	75.53	296	*e*P	P	05 35 49.8	0.0
DANN	Dangsing 36nm,0.8s	75.70	298	*e*P	P	05 35 51.0	+0.1
KOLN	Koldanda	76.24	297	*e*P	P	05 35 53.6	-0.3
AKASG	Malin Array Be 0.9nm,0.3s,baz=17,slow=6.8,SNR=3.9	76.29	345	P	P	05 35 52.6	-0.8
PYUN	Piuthan 10nm,0.5s	76.32	298	*e*P	P	05 35 54.2	-0.1
GERES	GERESS Array B 0.2nm,0.4s,baz=357,slow=4.3,SNR=3.9	79.76	355	P	P	05 36 13.0	+0.1
GERES				pP	pP	05 36 25.4	+1.0
	0.9nm,0.8s,baz=336,slow=2.9,SNR=4.4						
WRA	Warramunga Arr 0.4nm,0.8s,baz=34,slow=5.9,SNR=4.9	84.60	228	P	P	05 36 36.6	-1.7
WRA				pP	pP	05 36 49.5	-0.4
	0.6nm,0.7s,baz=32,slow=5.5,SNR=5.0						
BRTR	Keskin Array B 0.9nm,0.8s,baz=150,slow=2.7,SNR=4.1	86.05	339	P	P	05 36 45.8	+0.1
ASAR	Alice Springs 0.9nm,0.9s,baz=44,slow=4.4,SNR=5.0	88.01	227	P	P	05 36 53.9	-1.2
ASAR				pP	pP	05 37 07.1	+0.4
	1.2nm,0.8s,baz=29,slow=4.2,SNR=6.6						
QSPA	South Pole Qui	141.35	180	*e*PKPdf	PKPdf	05 43 34.7	+0.4

*ISCJB **05** 05:24:45.8±0.4, 51°.47N±0°.07×173°.49W±0°.06, h37km, mb4.2/45, Error ellipse: s-maj=10.7km s-min=5.3km az=170.7*
*NEIC **05** 05:24:47.1±0.4, 51°.39N×173°.48W, h35km, mb4.3/18, Error ellipse: s-maj=10.9km s-min=5.8km az=172.0*
*IDC **05** 05:24:48.1±0.7, 51°.50N×173°.52W, h43km±6km, mb4.0/31, mb1 4.2/34, mb1mx4.0/60, mbtmp4.3/34, ML4.2/3, Error ellipse: s-maj=19.1km s-min=10.1km az=174.0*

ISC 05 05:24:47.6±0.6, 51°.5N±0°.1×173°.48W±0°.06, h37km, n74, σ1§06/74, mb4.3/45, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	False Pass	6.95	57	*e*Pn	Pn	05 26 28.8	+2.1
SMY	Shemya	7.76	284	*e*Pn	Pn	05 26 40.3	+2.4
FX1	Attu Island--F 6.0nm,0.3s,baz=71,slow=3.0,SNR=10	8.34	285	P	Pn	05 26 47.4	+1.6
GAMB	Gambell 9.2nm,0.4s	12.40	4	*e*Pn	Pn	05 27 43.1	+1.8
OHAK	Old Harbor	13.10	56	*e*Pn	Pn	05 27 50.5	-0.3
KDAK	Kodiak Island	13.64	54	Pn	Pn	05 28 00.0	+1.9
TNA	Tin City	14.44	9	*e*Pn	Pn	05 28 10.3	+1.2
PMR	Palmer 9.3nm,1.3s	16.73	43	*e*P	Pn	05 28 39.1	+0.2
PETK	Petropavlovsk- 1.2nm,0.3s,baz=105,slow=12,SNR=3.1	17.67	287	P	P	05 28 50.5	-0.6
MCK	McKinley 17nm,1.2s	17.86	37	*e*P	Pn	05 28 51.4	-1.5
COLA	College 6.4nm,1.0s	18.88	35	*e*P	P	05 29 04.5	+0.2
ILAR	Eielson Array 2.3nm,0.3s,baz=227,slow=9.3,SNR=26	19.17	36	P	P	05 29 07.0	-0.6
BILL	Bilibino 4.4nm,0.4s	19.34	337	*e*P	Pn	05 29 10.4	-0.3
COLD	Coldfoot 6.6nm,0.9s	19.57	27	*e*P	Pn	05 29 14.2	+0.8
SEY	Seymchan 1.6nm,0.4s,baz=83,slow=12,SNR=3.1	21.48	315	P	P	05 29 34.6	+2.0
INK	Inuvik 5.7nm,0.7s,baz=251,slow=7.5,SNR=9.6	25.52	34	P	P	05 30 11.0	-1.1
INK	Inuvik 12nm,0.9s	25.52	34	*e*P	P	05 30 11.0	-1.1
DLBC	Dease Lake 6.2nm,0.8s,baz=275,slow=14,SNR=5.3	25.54	57	P	P	05 30 13.2	+0.7
DLBC	Dease Lake	25.54	57	*e*P	P	05 30 14.6	+2.1
YKA	Yellowknife Ar 1.0nm,0.4s,baz=273,slow=7.9,SNR=17	32.75	47	P	P	05 31 15.9	-0.6
H11N2	WAKE ISLAND Hy baz=25	35.21	213	T	T	06 09 23.7	
H11N3	WAKE ISLAND Hy baz=25	35.22	213	T	T	06 09 41.2	
H11N1	WAKE ISLAND Hy baz=25	35.23	213	T	T	06 09 44.2	
YBH	Yreka Blue Hor 1.1nm,0.8s,baz=340,slow=6.1,SNR=2.2	35.56	85	P	P	05 31 42.2	+1.0
NEW	Newport 5.6nm,1.0s,baz=309,slow=7.3,SNR=4.4	35.71	72	P	P	05 31 42.2	-0.1
NEW	Newport 5.8nm,1.0s	35.71	72	*e*P	P	05 31 43.0	+0.7
EDM	Edmonton	35.84	63	*e*P	P	05 31 44.3	+0.9
USRK	Ussuriysk Ar. 5.0nm,0.6s,baz=64,slow=10,SNR=8.9	36.58	281	P	P	05 31 48.8	-0.9
WALA	Waterton Lakes 0.3nm,1.1s	37.25	70	*e*P	P	05 31 55.8	+0.3
BSMT	Bassoo Peak 4.3nm,0.9s	37.29	72	*e*P	P	05 31 56.5	+0.5
MCMT	McKenzie Canyo 1.2nm,0.5s	39.97	75	*e*P	P	05 32 18.5	0.0
NVAR	Mina Array Bea 2.1nm,0.8s,baz=289,slow=8.3,SNR=5.1	40.23	87	pP	pP	05 32 33.3	+1.9
KSRS	Korea Array 3.0nm,0.7s,baz=51,slow=8.1,SNR=6.4	42.96	275	P	P	05 32 44.1	+1.3
KSAR	Wonju Array Be	42.99	275	P	P	05 32 44.1	+1.0
BW06	Boulder Array 3.9nm,0.8s	43.09	76	*e*P	P	05 32 44.2	+0.1
PDAR	Pinedale Array 1.7nm,0.5s,baz=309,slow=3.5,SNR=14	43.09	76	P	P	05 32 44.4	+0.3
FCC	Fort Churchill 0.2nm,0.7s	43.47	48	*e*P	P	05 32 45.5	-1.1
RSSD	Black Hills 1.7nm,0.5s	45.62	71	*e*P	P	05 33 04.4	+0.1
PV04	Paradox Valley	46.09	80	*e*P	P	05 33 04.9	-3.1
ULM	Lac du Bonnet 2.1nm,0.5s,baz=306,slow=7.7,SNR=5.7	46.82	59	P	P	05 33 13.0	-0.4
ULN	Ulaanbaatar 2.5nm,0.4s	49.18	299	*e*P	P	05 33 31.3	-0.5
SONM	Songino Array 2.4nm,0.4s,baz=60,slow=5.9,SNR=20	49.56	299	P	P	05 33 34.3	-0.4
SPITS	Spitsbergen Ar 4.0nm,0.9s,baz=87,slow=7.4,SNR=6.4	50.50	357	P	P	05 33 40.6	-0.7
SUMG	Summit 2.4nm,0.5s	52.38	16	*e*P	P	05 33 55.1	-0.8
TXAR	Lajitas Array 0.4nm,0.6s,baz=314,slow=5.1,SNR=4.6	55.34	85	P	P	05 34 17.3	-0.4
TXAR				pP	pP	05 34 29.8	+1.1
	1.5nm,0.7s,baz=298,slow=5.2,SNR=5.5						
ZALV	Zalesovo Beam 0.7nm,0.3s,baz=49,slow=8.0,SNR=3.0	56.35	316	P	P	05 34 21.9	-2.6
SCHQ	Schefferville 4.0nm,0.7s,baz=307,slow=7.7,SNR=6.9	57.83	41	P	P	05 34 33.9	-1.1
ARCES	ARCESS Array B 2.7nm,0.6s,baz=11,slow=6.8,SNR=8.6	58.53	352	P	P	05 34 38.5	-1.1
ARCES				PcP	PcP	05 35 29.2	-0.5
	1.4nm,0.5s,baz=16,slow=5.0,SNR=7.4						
KURK	Kurchatov 2.3nm,0.7s	61.33	316	*e*P	P	05 34 58.4	-0.6
MKAR	Makanchi Array 1.4nm,0.4s,baz=47,slow=6.1,SNR=20	62.55	311	P	P	05 35 06.3	-1.0
BVAR	Borovoye Array 4.2nm,0.5s,baz=55,slow=6.3,SNR=15	62.93	322	P	P	05 35 09.3	-0.5
BRVK	Borovoye 2.8nm,0.6s	62.94	323	*e*P	P	05 35 09.2	-0.6
ARU	Arti	64.23	331	*e*P	P	05 35 17.3	-1.0
FINES	FINESS Array B 0.8nm,0.4s,baz=14,slow=6.1,SNR=5.7	66.38	350	P	P	05 35 30.7	-1.3
NOA	NORSAR Array B 0.9nm,0.8s,baz=0.9,slow=5.8,SNR=3.0	67.80	358	P	P	05 35 40.6	-0.6
AAK	Ala-Archa 5.0nm,0.5s,baz=127,slow=3.6,SNR=8.9	69.32	313	P	P	05 35 50.9	-0.3
AAK	Ala-Archa 6.8nm,0.7s	69.32	313	*e*P	P	05 35 51.4	+0.3
AKTO	Aktyubinsk 7.9nm,0.5s,baz=55,slow=6.3,SNR=13	69.48	328	P	P	05 35 51.5	-0.3
LSA	Lhasa 39nm,1.1s	70.52	293	*e*P	P	05 35 59.6	+0.6
KKAR	Karatay Array 2.1nm,0.5s	70.73	316	*e*P	P	05 35 58.7	-0.8
CMAR	Chiang Mai Arr 0.6nm,0.3s,baz=21,slow=5.9,SNR=4.3	74.30	280	P	P	05 36 21.7	+0.6
AKASG	Malin Array Be 2.3nm,0.3s,baz=16,slow=5.9,SNR=8.5	76.42	345	P	P	05 36 31.4	-1.4
VRAC	Vranov 2.9nm,0.5s,baz=50,slow=4.4,SNR=3.1	79.26	353	P	P	05 36 48.5	-0.1
GERES	GERESS Array B 1.0nm,0.7s,baz=28,slow=6.0,SNR=4.4	79.90	355	P	P	05 36 51.8	-0.4
GERES				pP	pP	05 37 05.0	+1.2
	0.9nm,0.8s,baz=19,slow=4.5,SNR=3.6						
KBZ	Khabaz	80.10	334	P	P	05 36 53.0	-0.2
	3.8nm,0.9s,baz=46,slow=1.3,SNR=5.0						
KBZ	Khabaz	80.10	334	P	P	05 36 53.0	-0.2
GEYT	Alibeck 1.5nm,0.4s,baz=316,slow=6.2,SNR=4.0	80.21	321	P	P	05 36 54.1	0.0
DAVOX	Davos/Dischmat 1.8nm,0.6s,baz=184,slow=16,SNR=2.8	82.11	358	P	P	05 37 04.3	+0.1
WRAB	Tennant Creek 3.5nm,1.0s	84.45	228	*e*P	P	05 37 15.6	-0.6
WRA	Warramunga Arr 0.6nm,1.0s,baz=36,slow=6.1,SNR=5.9	84.46	228	P	P	05 37 15.3	-0.9
WRA				pP	pP	05 37 28.4	+0.6
	0.9nm,0.6s,baz=33,slow=5.7,SNR=4.8						
BRTR	Keskin Array B 1.5nm,0.8s,baz=38,slow=2.7,SNR=5.6	86.16	339	P	P	05 37 24.7	-0.2
ASAR	Alice Springs 1.0nm,0.8s,baz=20,slow=5.2,SNR=5.9	87.88	227	P	P	05 37 31.6	-1.5
ASAR				pP	pP	05 37 45.9	+1.2
	1.6nm,0.8s,baz=29,slow=4.9,SNR=5.1						
TORD	Torodi Ar. Bea 0.4nm,1.0s,baz=327,slow=3.8,SNR=2.6	115.54	5	PKP	PKPdf	05 43 24.5	-1.2
QSPA	South Pole Qui	141.20	180	*e*PKPdf	PKPdf	05 44 15.0	+2.3

IDC 05 05:52:03.4±3.7, 24°.16S×179°.10W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/35, mbtmp4.2/4, Error ellipse: s-maj=130.4km s-min=55.6km az=151.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower 3.1nm,0.5s,baz=90,slow=11,SNR=9.8	32.30	270	P	P	05 58 36.3	+2.0
STKA	Stephens Creek 2.9nm,0.6s,baz=95,slow=11,SNR=7.4	35.39	249	P	P	05 59 01.4	+0.4
ASAR	Alice Springs 1.7nm,0.8s,baz=95,slow=8.6,SNR=14	42.80	261	P	P	06 00 02.4	-0.9
WRA	Warramunga Arr 1.0nm,0.5s,baz=104,slow=8.2,SNR=27	43.21	266	P	P	06 00 05.0	-1.5
BRTR	Keskin Array B 0.9nm,0.8s,baz=82,slow=3.4,SNR=3.2	148.39	307	PKPbc	PKPbc	06 11 51.8	-0.4

*IDC **05** 05:52:10.8±2.0, 27°.16S×66°.65W, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.3/28, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=71.1km s-min=36.2km az=130.0*
*SJA **05** 05:52:13.5±0.4, 27°.48S×66°.19W, h117km±11km, ML3.4*
*ISCJB **05** 05:52:15.4±1.1, 27°.37S±0°.08×66°.55W±0°.10, h33km, mb3.3/1, Error ellipse: s-maj=14.5km s-min=7.7km az=38.8*

ISC 05 05:52:16.7±1.4, 27°.41S±0°.08×66°.5W±0°.1, h35km, n10, σ0§91/11, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	Choya	1.18	151	*e*P	Pn	05 52 36.2	-0.7
CYA				*e*S	Sn	05 52 53.0	+1.3
CYA				AML	AML	05 52 56.8	
	comp=Z,1μm,0.5s						
AHML	Horco Molle	1.18	58	*e*P	Pn	05 52 36.5	-0.4
AHML				*e*P	Pn	05 52 36.5	-0.4
AHML				*e*S	Sn	05 52 53.2	+1.5
AHML				AML	AML	05 53 01.3	
	comp=N,543nm,0.6s						
ACLC	CERRO LA CRUZ	2.05	192	*e*P	Pn	05 52 48.5	-0.5
AGUA	GUANDACOL	2.73	220	*e*P	Pn	05 52 58.9	+0.7
SLA	San Lorenzo comp=Z,986nm,0.5s	2.81	18	AML	AML	05 53 51.0	
AVFE	Valle Fertil comp=Z,53nm,0.3s	3.35	195	AML	AML	05 54 04.8	
CFAA	Coronel Fontan comp=Z,0.5nm,0.3s,baz=14,slow=13,SNR=16	4.46	200	Pn	Pn	05 53 22.2	+0.3
CFAA				Lg	Lg	05 54 29.4	
	comp=Z,0.9nm,0.3s,baz=326,slow=6.3,SNR=9.6						
CPUP	Villa Florida comp=Z,0.6nm,0.3s,baz=260,slow=12,SNR=5.0	8.23	85	Pn	Pn	05 54 13.2	-0.4
CPUP				Lg	Lg	05 56 43.1	
	comp=Z,1.3nm,0.3s,baz=165,slow=20,SNR=2.6						
TORD	Torodi Ar. Bea comp=Z,0.3nm,0.7s,baz=233,slow=6.5,SNR=2.3	77.37	68	P	P	06 04 08.4	0.0
MKAR	Makanchi Array comp=Z,0.2nm,0.6s,baz=309,slow=0.9,SNR=2.9	148.75	43	PKPbc	PKPbc	06 11 59.2	-1.1

WEL 05 05:52:19.6±0.4, 38°.54S×175°.85E, h150km±3km, ML3.0/5, 4C, Error ellipse: s-maj=3.4km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUVZ	Tukino	0.75	192	PN	Pn	05 52 42.6	0.0
TRVZ	Turoa	0.80	197	⇑PN	Pn	05 52 42.9	-0.1
BKZ	Black Stump Fm	0.81	142	⇑PN	Pn	05 52 42.8	0.0
BKZ				SN	Sn	05 53 00.3	-0.4
WNVZ	Wahianoa	0.82	194	⇑PN	Pn	05 52 42.9	-0.1
BHHZ	Black Hill Sta	0.97	170	⇑PN	Pn	05 52 43.7	-0.4
BHHZ				SN	Sn	05 53 02.2	-0.8
KRHZ	Kereru	1.18	160	PN	Pn	05 52 45.8	-0.1
KRHZ				SN	Sn	05 53 05.9	-0.3
SNGZ	Shannon Statio	1.19	102	SN	Sn	05 53 05.9	-0.4
KAHZ	Kahuranaki	1.49	148	PN	Pn	05 52 49.1	0.0
KNZ	Kokohu	1.50	109	PN	Pn	05 52 49.1	0.0
RIGZ	Rimuhau	1.51	97	*e*PN	Pn	05 52 49.2	0.0
PUZ	Puketiti	1.95	77	AML	AML	05 52 56.5	
MRZ	Mangatainoka R	2.13	186	PN	Pn	05 52 54.4	-1.8
WMGZ	Waiomatatini S	2.14	71	PN	Pn	05 52 55.4	-1.0
BFZ	Birch Farm	2.17	172	*e*PN	Pn	05 52 55.1	-1.5
OGWZ	Otaki Gorge	2.34	193	PN	Pn	05 52 56.8	-1.9
HOWZ	Holdsworth Sta	2.38	186	PN	Pn	05 52 56.9	-2.3
KIW	Kapiti Island	2.44	197	*e*PN	Pn	05 52 55.6	-4.3
TCW	Tory Channel	2.94	204	AML	AML	05 53 43.1	

GUC 05 06:04:07.4±0.6, 33°.96S×72°.54W, h34km±4km, MD3.7, ML3.5, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.94	90	⇓*i*P	Pn	06 04 24.7	+0.5
LNV				*i* S1	Sn	06 04 37.2	+0.8
IHA	Instituto Hidr	1.20	39	*i* P1	Pn	06 04 28.6	+0.8
RCDM	Rinconada Maip	1.52	72	*e*P1	Pn	06 04 32.9	+0.6
RCDM				AML	AML	06 04 57.8	
	comp=E,383nm,0.5s						
CHCH	Chadas Angostu	1.57	89	*e*P1	Pn	06 04 34.4	+1.4
CHCH				*i* S1	Sn	06 04 55.1	+2.9
CACH	El Canelo	1.62	96	⇑*i*P	Pb	06 04 35.8	-1.1
ANTU	Antumapu	1.64	77	*e*P1	Pn	06 04 35.3	+1.4
ANTU				AML	AML	06 05 09.6	
	comp=E,724nm,0.5s						
PEL	Peldehue	1.75	63	⇓*i*P	Pb	06 04 37.3	-1.8
PEL				*i* S1	Sn	06 04 59.4	+2.7
PEL				AML	AML	06 05 10.3	
	comp=N,3μm,0.6s						
FCH	Farellones comp=E,532nm,0.4s	1.98	72	⇑*i*P	Pn	06 04 40.2	+1.2
FCH				AML	AML	06 05 14.6	

GUC 05 06:07:22.5±0.5, 34°.02S×72°.37W, h37km±2km, MD3.7, ML3.2, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.80	85	⇓*i*P	Pn	06 07 37.4	+0.1
LNV				*i* S1	Sn	06 07 49.1	+1.1
RCDM	Rinconada Maip	1.41	68	*e*P1	Pn	06 07 46.6	+1.0
RCDM				*i* S1	Sn	06 08 04.7	+1.7
RCDM				AML	AML	06 08 06.8	
	comp=N,267nm,0.1s						
CHCH	Chadas Angostu	1.43	87	⇓*i*P	Pn	06 07 47.3	+1.3
CHCH				*i* S1	Sn	06 08 06.5	+2.9
CACH	El Canelo	1.48	94	⇑*i*P	Pn	06 07 48.4	+1.7
CACH				*i* S1	Sn	06 08 08.3	+3.5
ANTU	Antumapu	1.52	73	*e*P1	Pn	06 07 48.5	+1.3
ANTU				*i* S1	Sn	06 08 08.5	+2.8
ANTU				AML	AML	06 08 09.7	
	comp=E,483nm,0.4s						
PEL	Peldehue	1.66	59	⇓*i*P	Pn	06 07 50.5	+1.4
PEL				*i* S1	Sn	06 08 11.8	+2.5
PEL				AML	AML	06 08 22.5	
	comp=N,712nm,0.6s						
FCH	Farellones comp=E,318nm,0.4s	1.87	69	AML	AML	06 08 29.7	
LNCH	Linares	1.93	161	⇑*i*P	Pn	06 07 54.3	+1.6
LNCH				*i* S1	Sn	06 08 17.6	+1.9
LNCH				AML	AML	06 08 28.0	
	comp=N,754nm,0.4s						

IGQ 05 06:12:29±0.2, 1°.51S×78°.10W, h4km±95km, Mb4.0, 3C-31D, Error ellipse: s-maj=2.0km s-min=1.2km az=14.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	Ulba	0.32	281	⇓P	Pg	06 12 36.2	+0.5
BULB	Ulba Tungurahu	0.32	283	⇓P	Pg	06 12 36.2	+0.4
BRUN	Tungurahua Vol	0.33	286	⇓P	Pb	06 12 37.6	-0.3
BRUN	Tungurahua Vol	0.33	286	⇓S	Sb	06 12 42.8	-1.2
BPAT	Tungurahua Vol	0.34	272	⇓P	Pb	06 12 37.6	-0.6
BPAT	Tungurahua Vol	0.34	272	⇓S	Sg	06 12 41.9	+0.9
PAT1	Patacocha	0.34	271	⇓P	Pb	06 12 37.7	-0.7
RUN5	Runtun	0.34	286	⇓P	Pb	06 12 37.6	-0.6
RETU	Refugio	0.36	280	⇓P	Pb	06 12 37.9	-0.8
ARRY	Arrayan	0.36	271	⇑P	Pb	06 12 37.7	-0.8
BMAS	Trigal station	0.38	272	⇓P	Pg	06 12 37.2	+0.3
BMAS	Trigal station	0.38	272	⇓S	Sg	06 12 42.2	-0.1
JUI6	Juive	0.38	283	⇓P	Pg	06 12 37.1	+0.3
BBIL	Ulba Tungurahu	0.40	279	⇓P	Pg	06 12 37.5	+0.3
BBIL	Ulba Tungurahu	0.40	279	⇓S	Sg	06 12 42.4	-0.3
BIL2	Estacion Bilba	0.41	278	P	Pb	06 12 38.8	-0.5
BIL2	Estacion Bilba	0.41	278	S	Sb	06 12 44.7	-1.5
PISA	Pisayambo	0.54	327	⇓P	Pg	06 12 40.4	+0.4
IGUA	Igualata	0.54	272	⇓P	Pb	06 12 41.9	0.0
BMOR	Cotopaxi Volca	0.86	335	⇓S	Sg	06 12 58.5	+0.6
BMOR	Cotopaxi Volca	0.86	335	⇓P	Pg	06 12 46.0	-0.2
MOV1	Cotopaxi Vol s	0.87	336	⇓P	Pg	06 12 46.1	-0.3
COV1	Cotopaxi Volc	0.88	344	S	Sb	06 13 00.9	+0.4
COV1	Cotopaxi Volc	0.88	344	P	Pg	06 12 47.1	+0.3
BTAM	Cotopaxi Volca	0.89	340	⇓S	Sg	06 12 59.5	+0.7
BTAM	Cotopaxi Volca	0.89	340	⇓P	Pg	06 12 46.4	-0.3
BREF	Cotopaxi Volca	0.91	338	⇓P	Pg	06 12 47.1	-0.2
BREF	Cotopaxi Volca	0.91	338	⇓S	Sb	06 13 00.8	-0.4
BVC2	Cotopaxi Volca	0.91	340	⇓S	Sb	06 13 01.2	+0.1
BVC2	Cotopaxi Volca	0.91	340	⇓P	Pb	06 12 47.9	-0.2
VC1	Cotopaxi 1	0.92	340	⇓P	Pg	06 12 47.1	-0.3
CAMI	Rancho Maria	0.93	334	P	Pg	06 12 47.4	-0.1
NAS2	Nasa	0.94	337	P	Pb	06 12 48.8	+0.2
PAST	Pastocalle	0.98	326	⇓P	Pn	06 12 50.0	-0.2
ANTI	Antisana	1.06	356	⇓P	Pg	06 12 49.1	-1.1
JUA2	San Juan 2	1.39	338	P	Pg	06 12 56.9	+0.6
JUA2	San Juan 2	1.39	338	S	Sg	06 13 14.5	-0.3
GGP	Refugio Guagua	1.42	339	P	Pn	06 12 56.2	-0.3
TERV	Terraza Guagua	1.42	339	P	Pg	06 12 58.0	+0.9
PINO	Pino	1.44	339	P	Pg	06 12 57.7	+0.2
CHAR	Charly	1.48	17	⇓S	Sg	06 13 17.7	+0.1
CHAR	Charly	1.48	17	⇓P	Pg	06 12 58.0	0.0
LAV4	Lava4-Reventad	1.49	18	⇑P	Pn	06 12 56.5	-0.5
LAV4	Lava4-Reventad	1.49	18	⇑S	Sn	06 13 16.5	-0.6
CAYR	Refugio Cayamb	1.52	3	S	Sb	06 13 19.0	+0.1
CAYR	Refugio Cayamb	1.52	3	P	Pn	06 12 58.0	+0.1
ANGU	Angureal	1.55	3	P	Pb	06 12 59.1	0.0
ANGU	Angureal	1.55	3	S	Sg	06 13 20.1	-0.2
CAYA	Cayambe	1.58	4	⇓P	Pg	06 12 60.0	0.0
OTAV	Otavalo	1.77	348	P	Pb	06 13 02.1	-0.7

*IDC **05** 06:31:20.7±1.4, 34°.22S×72°.41W, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.5/23, mbtmp3.4/6, ML3.1/3, MS2.8/2, Ms1 2.8/2, ms1mx2.6/15, Error ellipse: s-maj=35.9km s-min=28.5km az=110.0*
*ISCJB **05** 06:31:23.8±1.4, 34°.02S±0°.05×72°.44W±0°.06, h23km±9km, mb3.5/2, MS3.3/1, Error ellipse: s-maj=9.8km s-min=7.8km az=139.3*
*GUC **05** 06:31:25.4±0.3, 34°.04S×72°.38W, h32km±3km, ML3.6*

ISC 05 06:31:23.5±2.1, 34°.15S±0°.06×72°.39W±0°.08, h15km±12km, n19, σ1§25/26, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.83	77	⇓*i*P	Pg	06 31 39.7	0.0
LNV				*i* S	Sb	06 31 50.5	-0.2
CHCH	Chadas Angostu	1.46	82	*i* P	Pn	06 31 49.4	+0.1
CHCH				*i* S	Sn	06 32 08.0	-0.2
RCDM	Rinconada Maip	1.47	64	*i* P	Pn	06 31 49.0	-0.5
RCDM				*i* S	Sn	06 32 06.8	-1.8
RCDM				AML	AML	06 32 15.3	
	comp=E,809nm,0.5s						
CACH	El Canelo	1.48	89	⇑*i*P	Pb	06 31 50.7	-0.2
CACH				*i* S	Sb	06 32 10.2	+0.7
ANTU	Antumapu	1.57	69	*i* P	Pn	06 31 50.9	0.0
ANTU				*i* S	Sn	06 32 10.2	-0.7
ANTU				AML	AML	06 32 16.9	
	comp=E,1μm,0.6s						
STL	Santa Lucia	1.62	64	*i* P9	Pn	06 31 50.7	-0.8
STL				*i* S	Sn	06 32 10.7	-1.5
FSR	Penalolen	1.69	67	*i* P9	Pn	06 31 53.7	+1.2
FSR				*i* S	Sn	06 32 14.4	+0.5
LACH	Col Las Americ comp=N,585nm,0.8s	1.69	66	AML	AML	06 32 21.1	
PEL	Peldehue	1.74	55	*e*P	Pn	06 31 53.4	+0.1
PEL				*e*S	Sn	06 32 14.3	-0.8
PEL				AML	AML	06 32 28.6	
	comp=E,2μm,0.5s						
LNCH	Linares	1.81	159	⇓*i*P	Pb	06 31 56.6	+0.2
LNCH				*i* S	Sb	06 32 20.2	+1.3
FCH	Farellones comp=N,1μm,0.3s	1.93	65	AML	AML	06 32 24.9	
CFAA	Coronel Fontan comp=N,0.2nm,0.3s,baz=228,slow=15,SNR=4.2	4.32	55	Pn	Pn	06 32 29.2	+0.6
CFAA				Sn	Sn	06 33 22.9	+4.1
	comp=N,0.3nm,0.3s,baz=210,slow=20,SNR=2.0						
CFAA				LR	LR	06 34 29.4	
	comp=N,29nm,19.5s,baz=234,slow=43						
PLC

1.6nm,0.8s,baz=72,slow=2.4,SNR=8.6

KRSC 05 06:39:37.7±1.8, 52°.38N×160°.81E, h59km±22km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.86**	**327**	*eS*	Sn	06 40 05.8	-0.1
NLC	**Nalytchevo**	**1.19**	**312**	*eP*	Pn	06 39 59.6	+1.4
NLC				*eS*	Sn	06 40 13.9	+0.4
RUS	**Russkaya**	**1.41**	**273**	*i* P	Pn	06 40 02.8	+1.7
RUS				*eS*	Sn	06 40 19.6	+1.0
PET	**Petropavlovsk**	**1.46**	**297**	*eP*	Pn	06 40 04.0	+2.2
PET				*eS*	Sn	06 40 21.3	+1.3
UGLR	**Uglovaya**	**1.46**	**305**	*eP*	Pn	06 40 04.7	+2.7
UGLR				S	Sn	06 40 22.7	+2.4
SDLR	**Sedlovina**	**1.48**	**308**	*eP*	Pn	06 40 04.2	+2.0
SDLR				S	Sn	06 40 21.7	+1.1
SMAR	**Somma**	**1.51**	**307**	P	Pn	06 40 04.9	+2.2
AVH	**Avacha**	**1.54**	**306**	*eP*	Pn	06 40 05.7	+2.7
AVH				S	Sn	06 40 24.3	+2.3
KRER	**Koryakskii**	**1.56**	**307**	*eP*	Pn	06 40 05.9	+2.5
KRER				S	Sn	06 40 24.4	+1.7
KOK	**Koryaka**	**1.60**	**306**	*eP*	Pn	06 40 06.7	+2.8
MTVR	**Mutnovka**	**1.61**	**275**	*i* P	Pn	06 40 06.1	+2.1
MTVR				*eS*	Sn	06 40 25.0	+1.1
KRX	**Arik**	**1.64**	**308**	*eP*	Pn	06 40 06.6	+2.2
KRX				S	Sn	06 40 26.1	+1.5
ASAK	**Asacha**	**1.78**	**271**	*eP*	Pn	06 40 09.0	+2.7
ASAK				*eS*	Sn	06 40 29.7	+1.7
KII	**Karymskiy**	**1.85**	**334**	*eP*	Pn	06 40 10.4	+3.2
KII				*eS*	Sn	06 40 32.5	+2.9
GNL	**Ganaly**	**2.18**	**308**	*eP*	Pn	06 40 15.3	+3.6
MKZ	**Mys Kozlova**	**2.25**	**14**	*eP*	Pn	06 40 15.0	+2.5
MKZ				*eS*	Sn	06 40 40.7	+1.6
APC	**Apacha**	**2.29**	**285**	*eP*	Pn	06 40 16.6	+3.6
MIPR	**Malaya Ipel'ka**	**2.49**	**269**	P	Pn	06 40 19.5	+3.7
MIPR				S	Sn	06 40 48.1	+3.1
TUMR	**Tumrok**	**2.94**	**353**	P	Pn	06 40 26.2	+4.1
TUMR				S	Sn	06 40 59.5	+3.3
SKR	**Severo-Kuril's**	**3.39**	**242**	S	Sn	06 41 07.0	+0.1
KBTR	**Krutoberegovo**	**4.01**	**16**	P	Pn	06 40 40.3	+3.7
BKI	**Bering**	**4.17**	**45**	S	Sn	06 41 26.6	+0.5

IDC 05 06:58:12.4±1.7, 34°.16S×73°.63W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/26, mbtmp3.4/4, ML3.5/2, MS1.6/1, Ms1 1.6/1, ms1mx1.6/19, Error ellipse: s-maj=35.7km s-min=32.7km az=77.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.20**	**62**	Pn	Pn	06 59 31.8	+0.3
0.1nm,0.3s,baz=234,slow=19,SNR=5.8							
CFAA				Sn	Sn	07 00 31.2	-1.0
0.2nm,0.3s,baz=311,slow=20,SNR=5.8							
CFAA				LR	LR	07 01 41.4	
comp=Z,5.9nm,20.4s,baz=212,slow=40							
PLCA	**Paso Flores**	**7.00**	**160**	Pn	Pn	06 59 57.2	+0.9
0.3nm,0.3s,baz=334,slow=13,SNR=5.9							
LPAZ	**La Paz**	**18.47**	**17**	P	Pn	07 02 32.1	+1.5
0.0nm,0.3s,baz=200,slow=17,SNR=2.3							
TXAR	**Lajitas Array**	**69.24**	**332**	P	P	07 09 20.9	-0.3
0.3nm,0.8s,baz=155,slow=8.5,SNR=5.0							
TORD	**Torodi Ar. Bea**	**85.51**	**71**	P	P	07 10 52.1	-0.4
0.5nm,0.8s,baz=251,slow=4.4,SNR=2.5							

JMA 05 07:02:21.9±0.1, 28°.10N×128°.03E, h19km±2km, M3.3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.87**	**111**	P	Pb	07 02 38.0	-0.5
JTK				S	Sb	07 02 49.5	-0.2
JOKE	**Okinoerabujima**	**0.88**	**147**	P	Pb	07 02 38.2	-0.4
JOKE				S	Sb	07 02 49.6	-0.3
JAMN	**Amaminishikomi**	**1.02**	**82**	P	Pb	07 02 40.8	-0.2
JAMN				S	Sb	07 02 54.2	+0.2
JIH	**Iheya**	**1.06**	**183**	P	Pb	07 02 41.1	-0.6
JIH				S	Sb	07 02 55.2	0.0
JOW	**Kunigami**	**1.28**	**170**	P	Pn	07 02 44.7	-0.1
JOW				*eS*	Sn	07 03 01.2	-0.3
JAM	**Amami Oshima**	**1.42**	**77**	P	Pn	07 02 46.9	+0.2
JAM				S	Sn	07 03 05.1	+0.2
JTAJ	**Takarajima**	**1.47**	**44**	P	Pn	07 02 47.6	+0.2
JTAJ				S	Sn	07 03 06.4	+0.3
JNTH	**Nagotoyohara**	**1.57**	**180**	P	Pn	07 02 49.2	+0.4
JNTH				S	Sn	07 03 08.8	+0.1

*NIED **05** 07:02:00, 28°.10N×128°.00E, h17km, Mw3.9 Best double couple: M0:8.80000×10^14 NP1:φs152.00000°, δ65.00000°, λ17.00000°. NP2:φs55.00000°, δ75.00000°, λ154.00000°.*

JMA 05 07:02:32.4±0.1, 28°.09N×128°.03E, h14km±2km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.87**	**110**	P	Pg	07 02 48.5	-0.8
JTK				S	Sg	07 02 59.8	-0.9
JOKE	**Okinoerabujima**	**0.87**	**146**	P	Pg	07 02 48.8	-0.5
JOKE				S	Sg	07 03 00.6	-0.1
JAMN	**Amaminishikomi**	**1.02**	**81**	P	Pb	07 02 51.4	-0.5
JAMN				S	Sb	07 03 04.4	-0.8
JIH	**Iheya**	**1.05**	**183**	P	Pb	07 02 51.7	-0.7
JIH				S	Sb	07 03 05.6	-0.4
JOW	**Kunigami**	**1.27**	**170**	P	Pn	07 02 55.5	-0.3
JOW				S	Sb	07 03 12.2	-0.2
JAM	**Amami Oshima**	**1.43**	**77**	P	Pn	07 02 57.9	0.0
JAM				S	Sn	07 03 16.5	+0.1
JTAJ	**Takarajima**	**1.48**	**44**	P	Pn	07 02 58.8	+0.2
JTAJ				S	Sn	07 03 17.3	-0.4
JNTH	**Nagotoyohara**	**1.56**	**180**	P	Pn	07 03 00.0	+0.2

MAN 05 07:02:42, 15°.72N×122°.01E, h7km, mb4.2, ML3.1, MS2.9, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.42**	**272**	*eP*	Pb	07 02 51.1	-0.7
BALP				*eS*	Sg	07 02 56.4	+0.7
PCPH	**Palayan**	**0.90**	**260**	⇑*iP*	Pg	07 02 59.1	-0.2
PCPH				*eS*	Sg	07 03 08.9	-2.0
BCPH	**Baguio City Da**	**1.52**	**296**	⇑*iP*	Pn	07 03 09.2	-0.7
BCPH				*i* S	Sn	07 03 30.2	-0.1
GQP	**Guinayangan**	**1.85**	**167**	⇑*eP*	Pn	07 03 14.5	+0.3
GQP				*eS*	Sn	07 03 38.7	+0.8
BOLP	**Bolinao**	**2.12**	**288**	*eP*	Pn	07 03 18.7	+0.7
APYP	**Conner**	**2.25**	**341**	*eP*	Pn	07 03 20.1	+0.4

*IDC **05** 07:11:36.9±0.6, 5°.86S×129°.98E, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.3/31, mbtmp4.5/13, ML4.9/2, MS3.2/6, Ms1 3.2/6, ms1mx3.0/32, Error ellipse: s-maj=26.5km s-min=14.2km az=67.0*

*ISCJB **05** 07:11:40.4±0.3, 6°.04S±0°.03×130°.03E±0°.04, h35km, mb4.5/19, MS3.1/5, Error ellipse: s-maj=6.2km s-min=3.8km az=157.3*

*DJA **05** 07:11:42.3±0.3, 6°.S±2°.×13°.0E±°., h10km, M4.6/10, mB5.1/6, mb4.9/10, MLv4.5/9, Mw(mB)4.5/6*

*NEIC **05** 07:11:42.0±1.8, 5°.93S×130°.02E, h33km±13km, mb4.4/11, Error ellipse: s-maj=7.6km s-min=5.8km az=211.0*

ISC 05 07:11:42.3±0.4, 6°.01S±0°.04×130°.03E±0°.07, h35km, n81, σ1§28/74, mb4.5/19, MS3.1/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.48**	**355**	P	Pn	07 12 02.6	-3.8
BNDI				S	**Sn**	**07 12 24.5**	**-0.1**
SAUI	**Saumlaki**	**2.33**	**147**	P	Pn	07 12 22.4	+4.3
SAUI				S	Sn	07 12 58.1	+13
SAUI	**Saumlaki**	**2.33**	**147**	*e*Pb	Pn	07 12 22.5	+4.4
FAKI	**Fak Fak**	**3.78**	**36**	P	**Pn**	**07 12 37.8**	**-0.3**
FAKI	**Fak Fak**	**3.78**	**36**	P	**Pn**	**07 12 37.4**	**-0.7**
baz=3.8,SNR=30							
FAKI	**Fak Fak**	**3.78**	**36**	*e*Pn	**Pn**	**07 12 37.4**	**-0.7**
NLAI	**Namlea**	**4.01**	**313**	P	**Pn**	**07 12 42.6**	**+1.3**
KMPI	**Kaimana, Papua**	**4.34**	**58**	P	Pn	07 12 56.1	+10
SWI	**Sorong**	**5.25**	**14**	P	**Pn**	**07 12 56.5**	**-1.9**
126nm,0.6s,5μm0.9nm							
SWI	**Sorong**	**5.25**	**14**	P	**Pn**	**07 12 56.8**	**-1.6**
baz=5.3,SNR=32							
SANI	**Sanana**	**5.63**	**314**	P	**Pn**	**07 13 03.9**	**+0.3**
56nm,0.8s,0.2nm							
LBMI	**Labuha**	**5.90**	**335**	P	Pn	07 13 09.3	+2.0
83nm,1.0s,951nm0.3nm							
SOEI	**Soe**	**6.82**	**237**	P	**Pn**	**07 13 20.6**	**+0.6**
132nm,0.9s							
SOEI	**Soe**	**6.82**	**237**	P	**Pn**	**07 13 20.9**	**+0.9**
baz=6.9,SNR=7.6							
SOEI	**Soe**	**6.82**	**237**	*e*Pn	**Pn**	**07 13 20.6**	**+0.6**
MTN	**Manton Dam**	**6.88**	**171**	P	**Pn**	**07 13 21.9**	**+1.2**
baz=6.9,SNR=27							
KDU	**Kakadu**	**7.06**	**160**	P	**Pn**	**07 13 23.1**	**0.0**
baz=7.1,SNR=85							
KDU				S	**Sn**	**07 14 42.0**	**-0.3**
baz=7.1,SNR=5.6							
BATI	**Baumata**	**7.56**	**236**	P	**Pn**	**07 13 30.4**	**+0.3**
142nm,0.7s,1μm							
BATI	**Baumata**	**7.56**	**236**	Pn	**Pn**	**07 13 29.9**	**-0.2**
23nm,0.3s,baz=70,slow=1.5,SNR=16							
MMRI	**Maumere**	**8.16**	**251**	*e*Pn	**Pn**	**07 13 39.8**	**+1.5**
55nm,0.8s							
KNRA	**Kununurra**	**9.69**	**187**	P	**Pn**	**07 13 57.8**	**-1.5**
baz=9.7,SNR=58							
KNRA				S	**Sn**	**07 15 45.3**	**-1.6**
baz=9.7,SNR=4.8							
BKSI	**Bulukumba**	**9.89**	**273**	P	**Pn**	**07 14 03.2**	**+1.2**
28nm,0.8s							
BNSI	**Bone**	**10.02**	**279**	P	**Pn**	**07 14 05.5**	**+1.8**
27nm,0.7s,866nm							
KAPI	**Kappang**	**10.28**	**275**	*e*Pn	**Pn**	**07 14 07.2**	**-0.2**
MRSI	**Marisa**	**10.33**	**308**	P	**Pn**	**07 14 08.9**	**+0.8**
61nm,0.9s							
SPSI	**Sidrap Palu**	**10.43**	**281**	P	Pn	07 14 12.9	+3.5
WRAB	**Tennant Creek**	**14.46**	**164**	*e*Pn	Pn	07 15 00.4	-4.2
WRAB				*e*Sn	Sn	07 17 37.6	-6.3
WRA	**Warramunga Arr**	**14.47**	**164**	Pn	Pn	07 15 00.3	-4.4
2.6nm,0.3s,baz=346,slow=13,SNR=99							
WRA				Sn	Sn	07 17 36.5	-7.5
3.5nm,0.3s,baz=343,slow=23,SNR=8.8							
WB2	**Warramunga Arr**	**14.47**	**164**	*e*Pn	Pn	07 15 00.5	-4.3
WB2				*e*Sn	Sn	07 17 37.2	-6.9
COEN	**Coen**	**15.15**	**122**	P	**Pn**	**07 15 11.2**	**-2.6**
baz=15,SNR=62							
COEN	**Coen**	**15.15**	**122**	*e*Pn	**Pn**	**07 15 13.1**	**-0.8**
COEN				*e*Sn	Sn	07 17 49.9	-11
QIS	**Mount Isa**	**17.19**	**148**	P	**Pn**	**07 15 37.4**	**-2.4**
baz=17,SNR=11							
PMG	**Port Moresby**	**17.30**	**102**	LR	LR	07 23 08.7	
comp=Z,99nm,19.4s,baz=310,slow=40							
PMG	**Port Moresby**	**17.30**	**102**	*e*P	**P**	**07 15 43.4**	**+1.0**
14nm,0.8s							
AS31	**Alice Springs**	**17.95**	**168**	*e*P	**Pn**	**07 15 48.6**	**-0.6**
ASAR	**Alice Springs**	**17.95**	**168**	P	**Pn**	**07 15 48.5**	**-0.7**
2.9nm,0.3s,baz=12,slow=13,SNR=74							
ASAR				S	Sn	07 18 59.1	-9.4
1.1nm,0.3s,baz=356,slow=26,SNR=7.2							
MBWA	**Marble Bar**	**18.07**	**213**	*e*P	**Pn**	**07 15 47.1**	**-3.6**
6.1nm,0.8s							
WRKA	**Warakurna**	**19.00**	**185**	P	**P**	**07 15 60.0**	**-1.1**
baz=19,SNR=23							
SBUM	**Sibu**	**19.67**	**295**	*e*Pn	**Pn**	**07 16 09.5**	**-0.6**
21nm,1.1s							
CTA	**Charters Tower**	**21.08**	**133**	P	**P**	**07 16 25.4**	**+1.7**
30nm,0.9s,baz=310,slow=14,SNR=26							
CTAO	**Charters Tower**	**21.08**	**133**	*e*P	**P**	**07 16 26.1**	**+2.4**
33nm,0.9s							
CISI	**Cisompet, Garu**	**22.12**	**265**	*e*P	**P**	**07 16 36.0**	**+1.1**
43nm,0.6s							
QLP	**Quilpie**	**24.54**	**148**	P	**P**	**07 16 60.0**	**+1.2**
baz=25,SNR=13							
BBOO	**Buckleboo**	**27.25**	**169**	P	**P**	**07 17 24.0**	**+0.7**
baz=27,SNR=16							
BBOO	**Buckleboo**	**27.25**	**169**	*e*P	**P**	**07 17 24.0**	**+0.7**
426nm,1.0s							
STKA	**Stephens Creek**	**27.92**	**159**	P	**P**	**07 17 30.0**	**+0.8**
6.7nm,0.5s,baz=333,slow=8.4,SNR=15							
STKA				LR	LR	07 29 35.0	
comp=Z,78nm,20.3s,baz=338,slow=38							
STKA	**Stephens Creek**	**27.92**	**159**	P	**P**	**07 17 30.3**	**+1.1**
baz=28,SNR=7.4							
HTT	**Hallett**	**28.51**	**164**	P	**P**	**07 17 36.4**	**+1.8**
baz=29,SNR=5.5							
NWAO	**Narrogin (SRO)**	**29.32**	**202**	LR	LR	07 30 58.0	
comp=Z,84nm,21.7s,baz=3.5,slow=40							
CMSA	**Cobar Meteorol**	**29.33**	**152**	P	**P**	**07 17 43.1**	**+1.3**
baz=29,SNR=31							
ARPS	**Mount Arapiles**	**32.47**	**162**	P	**P**	**07 18 11.2**	**+1.8**
baz=33,SNR=26							
YNG	**Young**	**32.88**	**151**	P	**P**	**07 18 15.3**	**+2.2**
baz=33,SNR=6.0							
MGCD	**Mangrove Creek**	**33.41**	**147**	P	**P**	**07 18 20.3**	**+2.6**
baz=34,SNR=5.5							
JCJ	**Chichijima**	**34.95**	**19**	LR	LR	07 32 32.5	
comp=Z,34nm,18.7s,baz=126,slow=36							
DZM	**Mont Dzumac**	**38.62**	**118**	P	**P**	**07 19 03.2**	**+0.6**
11nm,0.7s,baz=290,slow=11,SNR=7.4							
MJAR	**Matsushiro Arr**	**43.01**	**10**	P	**P**	**07 19 35.9**	**-2.5**
1.4nm,0.6s,baz=192,slow=9.8,SNR=5.0							
KSRS	**Korea Array**	**43.28**	**358**	LR	LR	07 37 37.4	
comp=Z,15nm,19.5s,baz=150,slow=36							
LZH	**Lanzhou**	**48.55**	**332**	*e*P	**P**	**07 20 24.3**	**+1.9**
LZH				pP	**pP**	**07 20 33.8**	**+1.0**
LZH				sP	**sP**	**07 20 37.8**	**+0.8**
LZH				PMZ			
12nm,1.0s							
HHC	**Hu-ho-hao-te**	**49.62**	**342**	*e*P	P	07 20 32.9	+2.5
HHC				pP	pP	07 20 43.9	+3.0
HHC				PP	PP	07 22 30.9	+5.8
HHC				S	**S**	**07 27 38.7**	**+2.2**
HHC				sS	sS	07 27 55.8	+2.0
HHC				SS	**SS**	**07 31 08.0**	**-1.3**
HHC				PMZ			
23nm,1.0s							
HHC				PMZ			
340nm,5.0s							
ULN	**Ulaanbaatar**	**57.34**	**342**	*e*P	**P**	**07 21 26.9**	**-0.1**
5.2nm,1.2s							
SONM	**Songino Array**	**57.52**	**341**	P	**P**	**07 21 28.3**	**0.0**
0.7nm,0.5s,baz=164,slow=6.4,SNR=4.4							
PETK	**Petropavlovsk-**	**63.38**	**18**	P	**P**	**07 22 07.3**	**-0.6**
3.0nm,0.7s,baz=186,slow=6.7,SNR=4.2							
PETK				LR	LR	07 50 24.9	
comp=Z,13nm,19.2s,baz=157,slow=37							
MKAR	**Makanchi Array**	**67.42**	**327**	P	**P**	**07 22 33.6**	**-0.7**
4.6nm,0.7s,baz=129,slow=7.9,SNR=58							
TKM2	**Tokmak 2**	**69.25**	**320**	*e*P	**P**	**07 22 45.3**	**-0.8**
3.8nm,0.8s							
AAK	**Ala-Archa**	**69.81**	**320**	*e*P	**P**	**07 22 49.7**	**+0.1**
3.6nm,1.0s							
EKS2	**Erkin-Say**	**70.29**	**319**	*e*P	**P**	**07 22 52.1**	**-0.3**
2.3nm,0.7s							
ZALV	**Zalesovo Beam**	**70.71**	**334**	P	**P**	**07 22 53.2**	**-1.3**
2.7nm,0.7s,baz=122,slow=5.4,SNR=12							
KURK	**Kurchatov**	**71.69**	**328**	*e*P	**P**	**07 22 59.8**	**-0.8**
6.7nm,0.9s							
VNDA	**Vanda**	**73.42**	**173**	P	**P**	**07 23 11.2**	**+0.7**
1.2nm,0.6s,baz=321,slow=6.5,SNR=9.2							
BRVK	**Borovoye**	**77.32**	**328**	*e*P	**P**	**07 23 33.1**	**-0.1**
4.1nm,1.0s							
GEYT	**Alibeck**	**79.60**	**310**	P	**P**	**07 23 45.4**	**-0.8**
1.1nm,0.4s,baz=100,slow=4.4,SNR=3.3							
ILAR	**Eielson Array**	**92.44**	**25**	P	**P**	**07 24 47.7**	**-1.5**
1.0nm,0.9s,baz=250,slow=4.7,SNR=10							
PDAR	**Pinedale Array**	**116.17**	**45**	PKP	**PKPdf**	**07 30 23.1**	**+0.6**
0.6nm,0.8s,baz=270,slow=1.8,SNR=3.9							
TXAR	**Lajitas Array**	**124.39**	**59**	PKP	**PKPdf**	**07 30 38.3**	**-0.1**
0.2nm,0.5s,baz=194,slow=1.9,SNR=4.4							
JCT	**Junction City**	**127.32**	**56**	*e*PKPdf	**PKPdf**	**07 30 44.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**128.65**	**282**	PKP	**PKPdf**	**07 30 46.4**	**-0.4**
1.3nm,0.7s,baz=60,slow=1.8,SNR=7.4							
DBIC	**Dimbokro**	**135.17**	**273**	PKP	**PKPdf**	**07 30 59.6**	**+0.5**
3.2nm,0.8s,baz=107,slow=2.2,SNR=3.8							
JTS	**JuntasAbangare**	**145.12**	**81**	PKPbc	**PKPdf**	**07 31 18.2**	**+1.0**
15nm,0.7s,baz=249,slow=3.7,SNR=7.4							
CPUP	**Villa Florida**	**147.07**	**168**	PKPbc	**PKPbc**	**07 31 22.9**	**+0.7**
6.4nm,0.5s,baz=234,slow=5.5,SNR=4.2							
LPAZ	**La Paz**	**151.47**	**141**	PKPbc	**PKPbc**	**07 31 34.1**	**-0.3**
5.2nm,0.9s,baz=279,slow=1.0,SNR=12							
LPAZ	**La Paz**	**151.47**	**141**	*e*PKPbc	**PKPbc**	**07 31 34.0**	**-0.4**

GUC 05 07:15:00.2±0.4, 34°.62S×71°.78W, h5km±5km, ML3.7, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.73**	**25**	*eP*	Pg	07 15 13.2	-1.0
CACH	**El Canelo**	**1.10**	**63**	⇑*iP*	Pg	07 15 20.1	-1.4
CHCH	**Chadas Angostu**	**1.16**	**54**	*eP*	Pg	07 15 20.7	-1.8
CHCH				*i* S	Sg	07 15 36.2	-1.4
RCDM	**Rinconada Maip**	**1.39**	**36**	⇑*iP*	Pn	07 15 23.9	-2.5
RCDM				*i* S	Sb	07 15 42.1	-2.6
RCDM				IAML		07 15 46.2	
comp=N,3μm,0.1s							
ANTU	**Antumapu**	**1.42**	**43**	⇑*iP*	Pn	07 15 25.0	-1.8
ANTU				*i* S	Sb	07 15 43.4	-2.3
ANTU				IAML		07 15 51.2	
comp=N,1μm,0.4s							
STL	**Santa Lucia**	**1.51**	**39**	⇓*iP*	Pn	07 15 25.3	-2.8
STL				*i* S	Sn	07 15 44.9	-3.3
LACH	**Col Las Americ**	**1.56**	**42**	⇑*iP*	Pn	07 15 26.9	-1.8
LACH				*i* S	Sn	07 15 47.3	-2.1
PEL	**Peldehue**	**1.73**	**32**	⇑*iP*	Pn	07 15 29.6	-1.5
PEL				*i* S	Sn	07 15 52.4	-1.2
PEL				IAML		07 15 57.0	
comp=N,1μm,0.3s							

*IDC **05** 07:36:37.8±0.5, 35°.31S×73°.22W, h0km, mb4.4/12, mb1 4.6/16, mb1mx4.5/21, mbtmp4.4/16, ML4.4/4, MS4.4/16, Ms1 4.4/16, ms1mx4.2/26, Error ellipse: s-maj=22.1km s-min=14.1km az=96.0*

*ISCJB **05** 07:36:42.0±0.2, 35°.31S±0°.03×73°.15W±0°.03, h33km, mb4.7/41, MS4.5/12, Error ellipse: s-maj=5.3km s-min=3.4km az=151.8*

*NEIC **05** 07:36:42.6, 35°.11S×73°.13W, h20km, mb4.8/31, ML5.1(GUC), After GUC.*

NEIC Felt [IV] at Constitucion and Talca. Also felt at Melipilla, Rancagua, Santa Cruz and Santiago.

*GUC **05** 07:36:42.6±0.8, 35°.11S×73°.13W, h20km±11km, ML5.1*

*GCMT **05** 07:36:42.6±0.3, 35°.35S×73°.41W, h36km±1km, MW5.1/69, Moment Tensor Solution. s33,c37; s69,c97; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.64±.22; Mθθ-0.39±.16; Mφφ1.02±.17; Mrθ-0.43±.18; Mrφ4.10±.12; Mθφ-3.38±.26; Best double couple: M0:5.34100×10^16 NP1:φs358.00000°, δ88.00000°, λ-140.00000°. NP2: φs266.00000°, δ50.00000°, λ-3.00000°. Principal axes: T 5.8180, Plg25.0000°, Azm125.0000°; N -0.9580, Plg50.0000°, Azm1.0000°; P -4.8650, Plg29.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 07:36:43.7±0.4, 35°.22S±0°.04×73°.18W±0°.07, h35km, n210, σ1§06/223, mb4.7/41, MS4.5/12, 4C-11D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**1.43**	**116**	⇑*iP*	**Pn**	**07 37 07.5**	**+0.3**
LNCH				*i* S1	**Sn**	**07 37 25.8**	**+1.0**
LNCH				AML	AML	07 37 27.6	
comp=N,41μm,0.6s							
LNCH	**Linares**	**1.43**	**116**	⇑*iP*	**Pn**	**07 37 07.5**	**+0.3**
LNCH				*i* S	**Sn**	**07 37 25.8**	**+1.0**
LNV	**Longovilo**	**1.93**	**50**	*e*P1	**Pn**	**07 37 13.5**	**-0.5**
LNV	**Longovilo**	**1.93**	**50**	*e*P	**Pn**	**07 37 13.5**	**-0.5**
CACH	**El Canelo**	**2.39**	**63**	⇓*iP*	**Pn**	**07 37 21.1**	**+0.5**
CACH				*e*S2	**Sn**	**07 37 50.4**	**+1.7**
CACH	**El Canelo**	**2.39**	**63**	⇓*iP*	**Pn**	**07 37 21.1**	**+0.5**
CACH				*e*S	**Sn**	**07 37 50.4**	**+1.7**
TACH	**Talagante**	**2.42**	**51**	⇓*iP*	**Pn**	**07 37 21.0**	**+0.1**
TACH	**Talagante**	**2.42**	**51**	⇓*iP*	**Pn**	**07 37 21.0**	**+0.1**
CHCH	**Chadas Angostu**	**2.45**	**59**	⇓*iP*	**Pn**	**07 37 22.0**	**+0.8**
CHCH	**Chadas Angostu**	**2.45**	**59**	⇓*iP*	**Pn**	**07 37 22.0**	**+0.8**
IHA	**Instituto Hidr**	**2.53**	**31**	⇓*iP*	**Pn**	**07 37 21.9**	**-0.5**
IHA				*i* S1	**Sn**	**07 37 51.4**	**-0.5**
IHA	**Instituto Hidr**	**2.53**	**31**	⇓*iP*	**Pn**	**07 37 21.9**	**-0.5**
IHA				*i* S	**Sn**	**07 37 51.4**	**-0.5**
RCDM	**Rinconada Maip**	**2.61**	**49**	*e*P1	**Pn**	**07 37 23.3**	**-0.2**
RCDM				*i* S1	**Sn**	**07 37 54.5**	**+0.5**
RCDM				AML	AML	07 37 56.6	
comp=N,9μm,0.3s							
RCDM	**Rinconada Maip**	**2.61**	**49**	*e*P	**Pn**	**07 37 23.3**	**-0.2**
RCDM				*i* S	**Sn**	**07 37 54.5**	**+0.5**
ANTU	**Antumapu**	**2.67**	**53**	*e*P1	**Pn**	**07 37 24.6**	**+0.3**
ANTU				*i* S1	**Sn**	**07 37 56.3**	**+0.8**
ANTU				AML	AML	07 38 01.9	
comp=N,9μm,0.4s							
ANTU	**Antumapu**	**2.67**	**53**	*e*P	**Pn**	**07 37 24.6**	**+0.3**
ANTU				*i* S	**Sn**	**07 37 56.3**	**+0.8**
SAN	**Santiago**	**2.73**	**50**	*e*P1	**Pn**	**07 37 25.2**	**+0.1**
SAN				*i* S1	**Sn**	**07 37 57.4**	**+0.5**
SAN	**Santiago**	**2.73**	**50**	*e*P	**Pn**	**07 37 25.2**	**+0.1**
SAN				*i* S	**Sn**	**07 37 57.4**	**+0.5**
LACH	**Col Las Americ**	**2.81**	**52**	*e*P1	**Pn**	**07 37 26.2**	**0.0**
LACH				*e*S1	**Sn**	**07 37 59.6**	**+0.6**
LACH				AML	AML	07 38 12.8	
comp=E,4μm,0.3s							
**LAC

TEIG	Tepich	56.97 343	eP	P	07 46 25.7	0.0
	comp=E,23nm,1.1s					
TEIG			e		07 46 38.5	
VNDA	Vanda	62.72 192	P	P	07 47 03.8	-0.8
	comp=E,2.6nm,1.1s,baz=120,slow=6.4,SNR=3.1					
VNDA			LR	LR	08 09 14.2	
	comp=E,84nm,19.8s,baz=137,slow=31					
SYO	Syowa Base	65.08 159	‖eP	pP	07 47 29.4	-1.5
MEH	Mehetia	67.76 263	eT	T	09 00 41.0	
	comp=E,19nm,0.2s					
833A	Chaparral WMA,	67.88 335	P	P	07 47 39.3	+0.8
	baz=68					
832A	Faith Ranch, C	68.04 335	P	P	07 47 40.3	+0.8
	baz=68					
732A	Laxson Ranch,	68.45 335	P	P	07 47 43.1	+1.1
	baz=69					
534A	Blanco	69.14 337	P	P	07 47 46.6	+0.2
	baz=69					
PPT2	Papeete2	69.14 263	eLR	LR	08 08 28.8	
	comp=E,908nm,26.0s					
PPT	Papeete	69.15 263	LR	LR	08 10 41.2	
	comp=E,309nm,18.6s,baz=161,slow=30					
532A	Rocksprings	69.70 335	P	P	07 47 50.4	+0.5
	baz=70					
434A	Burnet	69.80 337	P	P	07 47 51.1	+0.6
	baz=70					
336A	Riesel	69.89 339	P	P	07 47 51.8	+0.9
	baz=70					
531A	Rocksprings	69.96 335	P	P	07 47 52.3	+0.8
	baz=70					
335A	Moody	69.97 338	P	P	07 47 52.6	+1.2
	baz=70					
334A	Lometa	70.27 337	P	P	07 47 53.8	+0.5
	baz=70					
TXAR	Lajitas Array	70.35 332	P	P	07 47 54.2	+0.2
	comp=E,0.9nm,0.4s,baz=158,slow=9.1,SNR=29					
TXAR			LR	LR	08 14 02.4	
	comp=E,264nm,18.7s,baz=0.0,slow=32					
529A	Stev Forest Ra	70.52 334	P	P	07 47 55.4	+0.5
	baz=71					
430A	Baggett Ranch,	70.77 335	P	P	07 47 56.9	+0.5
	baz=71					
429A	Davenport Ranc	70.85 334	P	P	07 47 58.1	+1.2
	baz=71					
234A	Clairette	70.86 338	P	P	07 47 57.4	+0.5
	baz=71					
331A	San Angelo	70.96 336	P	P	07 47 58.0	+0.4
	baz=71					
OXF	Oxford	71.01 346	eP	P	07 47 58.5	+0.8
	comp=E,43nm,1.4s					
SWET	Sewanee	71.08 349	P	P	07 47 59.0	+0.8
	comp=E,18nm,1.2s					
SWET			e		07 48 08.0	
233A	Rising Star	71.11 337	P	P	07 47 59.3	+0.8
	baz=71					
231A	Bronte	71.50 336	P	P	07 48 00.9	+0.1
	baz=72					
133A	Hamilton Ranch	71.66 337	P	P	07 48 02.1	+0.4
	baz=72					
ABTX	Abilene, Hawle	71.91 337	eP	P	07 48 03.8	+0.6
	comp=E,40nm,1.5s					
ABTX			e		07 48 14.1	
Z33A	Whitaker Ranch	72.24 338	P	P	07 48 05.8	+0.6
	baz=72					
MAW	Mawson	72.28 164	LR	LR	08 21 53.7	
	comp=E,349nm,18.2s,baz=238,slow=38					
WVT	Waverly	72.29 348	eP	P	07 48 05.4	+0.1
	comp=E,14nm,1.0s					
Z32A	Haskell	72.49 337	P	P	07 48 07.4	+0.7
	baz=73					
Z31A	Sharp Cattle R	72.71 337	P	P	07 48 08.5	+0.4
	baz=73					
Z30A	Sanderson Ranc	73.01 336	P	P	07 48 09.6	-0.2
	baz=73					
Y32A	R-V Farms, Ver	73.12 337	P	P	07 48 10.7	+0.3
	baz=73					
Z29A	Hungry Hill Ra	73.18 335	P	P	07 48 11.1	+0.2
	baz=73					
Y31A	Rekieta Farm,	73.34 337	P	P	07 48 12.7	+1.0
	baz=74					
Y29A	Porterfield Fa	73.72 336	P	P	07 48 14.4	+0.4
	baz=74					
TUL1	Leonard	73.84 341	P	P	07 48 14.8	+0.3
	baz=74					
X31A	McDonald Ranch	73.87 337	P	P	07 48 15.0	+0.2
	baz=74					
Z26A	Caprock	74.00 333	P	P	07 48 15.9	+0.2
	baz=74					
W32A	Sentinel	74.09 338	P	P	07 48 16.8	+0.7
	baz=74					
V33A	Lossen Ranch,	74.45 339	P	P	07 48 18.9	+0.7
	baz=75					
121A	Cookes Peak, D	74.81 330	P	P	07 48 22.3	+1.7
	baz=75					
Z22A	Elephant Butte	75.12 331	P	P	07 48 23.5	+1.2
	baz=75					
Y24A	Capitan	75.12 333	P	P	07 48 23.4	+1.1
	baz=75					
U32A	Winter Ranch,	75.18 339	P	P	07 48 23.6	+1.2
	baz=75					
W27A	Bowe Ranch, En	75.28 335	P	P	07 48 23.8	+0.7
	baz=76					
X24A	Lazy VL Ranch,	75.69 333	P	P	07 48 26.9	+1.3
	baz=76					
TUC	Tucson	75.88 328	eP	P	07 48 27.6	+1.0
	comp=E,13nm,1.6s					
TUC			e		07 48 41.1	
W25A	X Bar L Ranch,	75.92 334	P	P	07 48 27.3	+0.5
	baz=76					
X23A	Hourglass Bar	75.99 332	P	P	07 48 28.5	+1.2
	baz=76					
LIC	Lamto	76.05 72	eP	P	07 48 27.7	-0.2
	comp=E,96nm,2.1s					
LAZ	Ladron	76.19 332	eP	P	07 48 30.0	+1.5
	comp=E,5.9nm,1.4s					
LAZ			e		07 48 40.6	
W24A	Lazy 6 Ranch,	76.25 333	P	P	07 48 29.3	+0.5
	baz=76					
TIC	Toumodi	76.31 72	eP	P	07 48 29.2	-0.2
	comp=E,21nm,0.7s					
KIC	Kosan Boka	76.36 72	eP	P	07 48 29.6	0.0
	comp=E,102nm,1.4s					
ANMO	Albuquerque	76.41 332	eP	P	07 48 31.1	+1.4
	comp=E,15nm,1.4s					
U27A	Thompson Grove	76.43 336	P	P	07 48 30.7	+1.1
	baz=77					
DBIC	Dimbokro	76.46 72	P	P	07 48 30.1	0.0
	comp=E,9.6nm,0.9s,baz=186,slow=4.7,SNR=8.4					
DBIC			LR	LR	08 19 09.0	
	comp=E,282nm,20.2s,baz=210,slow=33					
DBIC	Dimbokro	76.46 72	eP	P	07 48 30.2	0.0
	comp=E,18nm,1.1s					
214A	Organ Pipe Nat	76.49 326	P	P	07 48 30.9	+1.0
	baz=77					
V25A	Rancho No Teng	76.53 334	P	P	07 48 30.9	+0.5
	baz=77					
T28A	Walsh	76.83 337	P	P	07 48 32.2	+0.3
	baz=77					
T27A	Campo	76.98 336	P	P	07 48 34.1	+1.3
	baz=77					
S28A	Manter	77.19 337	P	P	07 48 34.5	+0.6
	baz=77					
T26A	Comanche Natio	77.38 336	P	P	07 48 35.8	+0.8
	baz=78					
X18A	Snowflake	77.44 330	P	P	07 48 36.3	+0.9
	baz=78					
V22A	San Miguel Ran	77.44 332	P	P	07 48 36.7	+1.2
	baz=78					
S26A	Kim	77.74 336	P	P	07 48 38.3	+1.3
	baz=78					
R28A	Tribune	77.85 337	P	P	07 48 38.1	+0.6
	baz=78					
Q30A	Quinter	77.95 339	P	P	07 48 38.4	+0.4
	baz=78					
X16A	Lo Mia Camp, P	77.97 328	P	P	07 48 40.3	+1.9
	baz=78					
R27A	Eads	78.12 337	P	P	07 48 39.8	+0.7
	baz=78					
R26A	Arlington	78.34 336	P	P	07 48 42.3	+2.0
	baz=79					
S24A	Houchin Ranch,	78.35 335	P	P	07 48 42.3	+1.7
	baz=79					
SDCO	Great Sand Dun	78.55 334	eP	P	07 48 42.2	+0.5
	comp=E,1.5nm,0.8s					
SDCO			e		07 48 56.4	
R24A	Sanders Place,	78.85 335	P	P	07 48 44.7	+1.5
	baz=79					
MVCO	Mesa Verde	79.18 332	P	P	07 48 46.3	+1.2
	baz=79					
U15A	North Rim	80.04 329	P	P	07 48 51.5	+1.7
	baz=80					
BOSA	Boshof	80.33 118	P	P	07 48 51.1	-0.5
	comp=E,13nm,0.8s,baz=246,slow=5.7,SNR=15					
BOSA			LR	LR	08 19 41.1	
	comp=E,274nm,20.4s,baz=216,slow=32					
BOSA	Boshof	80.33 118	eP	P	07 48 51.1	-0.5
	comp=E,18nm,1.0s					
BOSA			e		07 49 03.0	
SMCO	Snowmass	80.35 334	eP	P	07 48 53.7	+2.1
	comp=E,22nm,1.4s					
L31A	Butterfield Fa	80.53 341	P	P	07 48 53.9	+1.9
	baz=81					
O23A	Lake Granby, G	80.90 335	P	P	07 48 56.3	+2.0
	baz=81					
ECSD	EROS Data Cent	81.43 343	P	P	07 48 56.9	+0.2
	baz=82					
ECSD	EROS Data Cent	81.43 343	eP	P	07 48 56.6	-0.1
	comp=E,11nm,1.1s					
CCUT	Cedar City	81.45 329	eP	P	07 48 59.3	+2.1
	comp=E,6.0nm,1.1s					
CCUT			e		07 49 13.4	
N22A	Wattenberg Ran	81.61 335	P	P	07 48 59.5	+1.4
	baz=82					
J29A	Okreek	82.08 340	P	P	07 49 01.5	+1.4
	baz=82					
ISA	Isabella, Lake	82.20 324	P	P	07 49 02.4	+1.4
	baz=82					
DAC	Darwin (Calif)	82.28 325	eP	P	07 48 59.7	-2.0
	comp=E,3.3nm,0.9s					
I30A	Oacoma	82.30 341	P	P	07 49 02.7	+1.3
	baz=83					
J27A	Elkhorn Farm,	82.41 339	P	P	07 49 04.1	+2.1
	baz=83					
LBTB	Lobatse	82.64 115	eP	P	07 49 03.9	0.0
	comp=E,15nm,0.8s					
LBTB			e		07 49 15.6	
I28A	Midland	82.86 340	P	P	07 49 05.5	+1.3
	baz=83					
R11A	Troy Canyon, C	83.07 328	P	P	07 49 07.6	+1.9
	baz=83					
R11A	Troy Canyon, C	83.07 328	eP	P	07 49 07.2	+1.5
	comp=E,3.9nm,1.1s					
R11A			e		07 49 21.6	
G30A	Faulkton	83.36 342	P	P	07 49 07.4	+0.6
	baz=84					
DUG	Dugway, Tooele	83.46 331	P	P	07 49 08.8	+1.2
	baz=84					
DUG	Dugway, Tooele	83.46 331	eP	P	07 49 08.7	+1.1
	comp=E,19nm,1.6s					
K21A	Alcova	83.51 335	P	P	07 49 08.7	+0.9
	baz=84					
TPH	Tonopah	83.58 326	eP	P	07 49 10.0	+1.6
	comp=E,0.6nm,0.5s					
G29A	Hoven	83.62 341	P	P	07 49 08.7	+0.6
	baz=84					
G28A	Parade	83.78 341	P	P	07 49 09.8	+0.8
	baz=84					
HWUT	Hardware Ranch	84.17 332	eP	P	07 49 12.0	+0.7
	comp=E,4.9nm,1.1s					
NVAR	Mina Array Bea	84.36 326	P	P	07 49 12.6	+0.3
	comp=E,1.2nm,0.8s,baz=156,slow=5.8,SNR=7.0					
J20A	Shoshoni	84.43 335	P	P	07 49 13.7	+1.2
	baz=85					
PDAR	Pinedale Array	84.43 334	P	P	07 49 13.0	+0.4
	comp=E,1.1nm,1.1s,baz=141,slow=5.4,SNR=3.8					
PDAR			LR	LR	08 22 32.0	
	comp=E,200nm,18.9s,baz=256,slow=33					
G25A	Newell	84.59 339	P	P	07 49 14.4	+1.3
	baz=85					
J19A	Crowheart	84.69 335	P	P	07 49 14.2	+0.4
	baz=85					
HVU	Hansel Valley	84.79 331	eP	P	07 49 15.2	+0.8
	comp=E,6.7nm,0.8s					
I20A	Worland	84.97 335	P	P	07 49 16.0	+0.8
	baz=85					
H20A	Greybull	85.40 336	P	P	07 49 17.8	+0.5
	baz=86					
F24A	Ekalaka	85.49 339	P	P	07 49 17.8	+0.1
	baz=86					
TORD	Torodi Ar. Bea	85.50 71	P	P	07 49 17.9	-0.5
	comp=E,3.5nm,0.9s,baz=240,slow=4.3,SNR=13					
TORD			LR	LR	08 24 45.2	
	comp=E,273nm,20.5s,baz=245,slow=34					
AGMN	Agassiz Nation	85.58 345	P	P	07 49 17.8	-0.1
	baz=86					
C30A	Mose, Pekin	85.61 343	P	P	07 49 18.4	+0.3
	baz=86					
F23A	Volborg	85.67 338	P	P	07 49 18.6	+0.1
	baz=86					
E25A	Miller Ranch,	85.78 340	P	P	07 49 19.9	+0.8
	baz=86					
H19A	Powell	85.90 335	P	P	07 49 20.5	+0.7
	baz=86					
D26A	Manning	85.99 340	P	P	07 49 20.8	+0.7
	baz=86					
G20A	Bridger	86.12 336	P	P	07 49 20.9	0.0
	baz=86					
H18A	Shoshone NF, C	86.14 335	P	P	07 49 21.4	+0.3
	baz=86					
B30A	Myrik Farm, E	86.27 344	P	P	07 49 21.0	-0.3
	baz=86					
D25A	Fairfield	86.35 340	P	P	07 49 22.7	+0.9
	baz=87					
B29A	Wagenman Farm,	86.53 343	P	P	07 49 23.1	+0.5
	baz=87					
D24A	Glendive	86.60 339	P	P	07 49 24.1	+1.1
	baz=87					
A30A	Hoffart Farm,	86.72 344	P	P	07 49 23.4	-0.2
	baz=87					
B28A	Dugan Ranch, T	86.76 342	P	P	07 49 24.1	+0.4
	baz=87					
D23A	Lindsay	86.92 339	P	P	07 49 24.8	+0.2
	baz=87					
HLID	Hailey	86.94 331	eP	P	07 49 26.9	+1.9
	comp=E,5.7nm,1.4s					
D21A	La Casta Ranch	87.36 338	P	P	07 49 27.7	+0.9
	baz=88					
MCMT	McKenzie Canyo	87.42 333	eP	P	07 49 29.0	+1.7
	comp=E,2.7nm,1.3s					
MCMT			e		07 49 42.2	
ULM	Lac du Bonnet	87.44 346	P	P	07 49 26.5	-0.4
	comp=E,3.7nm,0.9s,baz=350,slow=6.1,SNR=5.2					
DGMT	Dagmar	87.80 340	P	P	07 49 29.8	+1.0
	baz=88					
DGMT	Dagmar	87.80 340	eP	P	07 49 29.5	+0.7
	comp=E,18nm,1.1s					
DGMT			e		07 49 39.7	
MOD	Modoc Plateau	88.06 327	eP	P	07 49 31.3	+0.9
	comp=E,7.3nm,1.1s					
MOD			e		07 49 46.0	
NEW	Newport	91.90 332	LR	LR	08 27 50.7	
	comp=E,134nm,18.3s,baz=207,slow=33					
ESDC	Sonseca Array	98.10 47	LR	LR	08 32 45.6	
	comp=E,93nm,20.7s,baz=245,slow=34					
ASAR	Alice Springs	116.06 208	PKP	PKPdf	07 55 21.4	-2.1
	comp=E,0.4nm,0.8s,baz=136,slow=2.1,SNR=5.0					
VYHS	Vyhne	116.60 48	ePKP	PKPdf	07 55 23.2	-0.4
WRA	Warramunga Arr	119.24 210	PKP	PKPdf	07 55 28.1	-1.5
	comp=E,1.0nm,0.4s,baz=160,slow=1.8,SNR=38					
BRTR	Keskin Array B	123.24 62	PKP	PKPdf	07 55 36.5	-0.3
	comp=E,0.8nm,0.6s,baz=224,slow=5.2,SNR=3.8					
AKASG	Malin Array Be	123.70 48	PKP	PKPdf	07 55 36.2	-0.9
	comp=E,1.5nm,0.7s,baz=274,slow=1.8,SNR=4.2					
FINES	FINESS Array B	124.53 35	PKP	PKPdf	07 55 38.1	-0.2
	comp=E,0.7nm,0.7s,baz=146,slow=2.7,SNR=3.0					
ARCES	ARCESS Array B	125.52 25	PKP	PKPdf	07 55 39.9	-0.1
	comp=E,4.0nm,1.0s,baz=256,slow=1.5,SNR=3.7					
ABKAR	Akbulak array	143.17 53	ePKPdf	PKPab	07 56 09.9	+0.7
BRVK	Borovoye	148.74 44	ePKPbc	PKPbc	07 56 27.2	+0.4
BVAR	Borovoye Array	148.81 44	PKPbc	PKPdf	07 56 24.0	+1.0
	comp=E,4.7nm,0.7s,baz=327,slow=2.5,SNR=23					
HYB	Hyderabad	149.24 118	i PKP	PKPdf	07 56 27.0	+2.2
KKAR	Karatay Array	150.94 63	ePKPbc	PKPbc	07 56 31.9	-0.5
AAK	Ala-Archa	153.90 64	ePKPbc	PKPbc	07 56 39.9	+0.5
KSH	Kashi	155.18 71	ePKPbc	PKPdf	07 56 33.1	-0.1
KSH			PKS	PKSdf	08 00 06.1	-1.2
KSH			SKS	SKSdf	08 03 35.2	-1.8
KSH			SKKS	SKKSac	08 07 22.1	+0.4
KSH			PPMZ			
	comp=E,130nm,4.7s					
KSH			LN			
	comp=E,33nm,3.9s					
KSH			LE			
	comp=E,29nm,4.7s					
KSH			LZ			
	comp=E,120nm,7.1s					
ZALV	Zalesovo Beam	155.76 33	PKP	PKPdf	07 56 32.1	-1.2
	comp=E,0.6nm,0.4s,baz=323,slow=4.5,SNR=3.9					
ZALV			PKPbc	PKPbc	07 56 42.4	
	comp=E,1.4nm,0.5s,baz=316,slow=2.3,SNR=3.8					
ZALV			PKPab	PKPab	07 56 59.6	-0.3
	comp=E,2.8nm,0.6s,baz=305,slow=4.6,SNR=7.4					
MKAR	Makanchi Array	158.27 50	PKP	PKPdf	07 56 36.2	-0.6
	comp=E,0.5nm,0.7s,baz=243,slow=0.7,SNR=6.9					
MKAR			PKPab	PKPab	07 57 10.5	-0.6
	comp=E,1.9nm,0.9s,baz=298,slow=5.1,SNR=8.7					
WMQ	Urumqi	162.95 54	ePKP	PKPdf	07 56 42.5	+0.5
WMQ			LN			
	comp=E,48nm,18.0s					
WMQ			LE			
	comp=E,28nm,22.0s					
WMQ			LZ			
	comp=E,120nm,24.0s					
CN2	Changchun	163.29 306	ePKP	PKPdf	07 56 42.7	+0.5
SONM	Songino Array	167.39 1	PKPab	PKPab	07 57 51.9	+0.9
	comp=E,0.5nm,0.7s,baz=328,slow=5.2,SNR=4.0					
NJ2	Nanjing	169.48 256	ePKP	PKPdf	07 56 48.6	+1.2
GTA	Gaotai	173.02 51	ePKP	PKPdf	07 56 49.7	+0.5
GTA			PKPab	PKPab	07 58 17.6	+1.2
HHC	Hu-ho-hao-te	173.25 328	ePKP	PKPdf	07 56 49.2	0.0
HHC			PPMZ			
	comp=E,98nm,6.6s					
HHC			LN			
	comp=E,220nm,21.6s					
HHC			LE			
	comp=E,230nm,21.4s					
HHC			LZ			
	comp=E,140nm,18.1s					
CD2	Chengdu	174.99 148	ePKP	PKPdf	07 56 50.5	+0.5
LZH	Lanzhou	177.43 69	ePKP	PKPdf	07 56 50.6	+0.1

NIED ***05*** *07:39:00, 38°.30N×141°.90E, h47km, Mw3.8 Best double couple: M0=6.20000×10^14 NP1:φ=217.00000°, δ=17.00000°, λ=95.00000°. NP2:φ=32.00000°, δ=73.00000°, λ=88.00000°.*
ISCJB ***05*** *07:39:44.0±0.9, 38°.28N±0°.04×141°.9E±0°.1, h54km±6km, mb3.7/11, Error ellipse: s-maj=14.2km s-min=4.8km az=21.9*
JMA ***05*** *07:39:44.7±0.1, 38°.30N×141°.85E, h47km±1km, M3.9*
JMA Felt I J1.
IDC ***05*** *07:39:46.1±2.6, 38°.25N×141°.76E, h58km±21km, mb3.5/11, mb1 3.7/14, mb1mx3.5/34, mbtmp3.8/14, ML3.3/3, MS2.4/1, Ms1 2.4/1, ms1mx2.1/39, Error ellipse: s-maj=24.9km s-min=15.2km az=113.0*
ISC 05 07:39:44.5±1.6, 38°.26N±0°.06×141°.88E±0°.10, h43km±13km, n33, σ0=83/37, mb3.7/11, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.46	295	‖P	Pn	07 39 54.9	+0.1
JIO				eS	Sn	07 40 02.0	0.0
OFUJ	Ofunato	0.83	349	‖P	Pn	07 39 59.5	-0.3
OFUJ				eS	Sn	07 40 10.0	-0.9
JMK	Ichinoseki	0.86	323	‖P	Pn	07 40 00.2	0.0
JMK				eS	Sn	07 40 11.2	-0.3
JMM	Marumori	0.94	245	‖P	Pn	07 40 01.1	-0.2
JMM				eS	Sn	07 40 13.1	-0.5
JOU	Okura	0.96	276	‖P	Pn	07 40 01.9	+0.3
JOU				eS	Sn	07 40 14.4	+0.4
JFK	Kawauchi	1.20	222	P	Pn	07 40 04.8	0.0
JFK				eS	Sn	07 40 19.4	-0.5
JOM	Ohasama	1.29	340	‖P	Pn	07 40 06.2	+0.1
JOM				eS	Sn	07 40 22.2	0.0
JYK	Kaneyama	1.36	299	‖P	Pn	07 40 07.1	+0.1
JYS	Shiratake	1.43	269	P	Pn	07 40 08.2	+0.3
JFT	Otama	1.43	239	‖P	Pn	07 40 08.6	+0.6
JFT				eS	Sn	07 40 25.9	+0.4
JRG	Rokugo	1.49	320	‖P	Pn	07 40 09.1	+0.3
MJAR	Matsushiro Arr	3.39	241	P	Pn	07 40 36.1	+1.2
	2.4nm,0.3s,baz=58,slow=11,SNR=15						
MJAR				LR	LR	07 42 18.0	
	comp=Z,64nm,19.9s,baz=40,slow=46						
MAT	Matsushiro	3.39	241	P	Pn	07 40 36.7	+1.8
MAT				S	Sn	07 41 15.3	+1.4
ASAJ	Asahikawa	5.87	5	P	Pn	07 41 08.8	-0.1
	1.7nm,0.3s,baz=208,slow=15,SNR=4.6						
ASAJ				S	Sn	07 42 17.8	+2.9
	1.0nm,0.3s,baz=207,slow=18,SNR=3.0						
USRK	Ussuriysk Ar.	9.52	312	P	Pn	07 41 59.8	+0.9
	0.5nm,0.3s,baz=119,slow=15,SNR=5.0						
SEY	Seymchan	25.52	11	P	P	07 45 10.1	+1.4
	1.3nm,0.5s,baz=236,slow=3.5,SNR=7.0						
H11N2	WAKE ISLAND Hy	28.49	123	T	T	08 15 49.5	
	baz=316,slow=75,SNR=539						
H11N1	WAKE ISLAND Hy	28.50	123	T	T	08 15 50.0	
	baz=316,slow=75,SNR=680						
H11N3	WAKE ISLAND Hy	28.51	123	T	T	08 15 51.3	
	baz=316,slow=75,SNR=475						
H11S1	WAKE ISLAND Hy	29.25	125	T	T	08 16 47.3	
	baz=318,slow=76,SNR=296						
H11S3	WAKE ISLAND Hy	29.25	125	T	T	08 16 46.8	
	baz=318,slow=76,SNR=401						
H11S2	WAKE ISLAND Hy	29.26	125	T	T	08 16 44.4	
	baz=318,slow=76,SNR=275						
ZALV	Zalesovo Beam	41.37	311	P	P	07 47 25.6	-0.6
	1.1nm,0.3s,baz=90,slow=7.4,SNR=5.0						
MKAR	Makanchi Array	43.79	301	P	P	07 47 45.1	-0.9
	0.9nm,0.6s,baz=85,slow=9.8,SNR=14						
ILAR	Eielson Array	48.26	33	P	P	07 48 21.3	+0.4
	0.5nm,1.0s,baz=244,slow=8.0,SNR=4.7						
WRA	Warramunga Arr	58.33	188	P	P	07 49 34.6	-0.6
	0.4nm,0.5s,baz=6.7,slow=6.9,SNR=10						
YKA	Yellowknife Ar	62.56	31	P	P	07 50 03.6	-0.1
	0.2nm,0.7s,baz=304,slow=7.1,SNR=4.8						
ARCES	ARCESS Array B	62.98	339	P	P	07 50 06.1	-0.3
	1.6nm,0.9s,baz=54,slow=6.6,SNR=5.3						
FINES	FINESS Array B	67.90	332	P	P	07 50 37.8	-0.4
	1.2nm,0.7s,baz=52,slow=5.4,SNR=3.5						
NB2	NORSAR Subarra	73.19	337	P	P	07 51 10.3	-0.3
	comp=Z,0.1nm,0.6s,baz=39,slow=6.5						
NOA	NORSAR Array B	73.19	337	P	P	07 51 10.2	-0.3
	comp=Z,1.5nm,0.7s,baz=36,slow=6.0,SNR=5.0						
AKASG	Malin Array Be	73.55	322	P	P	07 51 12.2	-0.6
	comp=Z,0.6nm,0.3s,baz=44,slow=6.3,SNR=4.2						
TXAR	Lajitas Array	89.08	53	P	P	07 52 36.0	+0.4
	comp=Z,0.1nm,0.6s,baz=316,slow=3.8,SNR=2.6						

NIED ***05*** *07:53:00, 36°.40N×141°.10E, h35km, Mw3.9 Best double couple: M0=9.21000×10^14 NP1:φ=211.00000°, δ=19.00000°, λ=92.00000°. NP2:φ=29.00000°, δ=71.00000°, λ=89.00000°.*
IDC ***05*** *07:53:10.7±1.0, 36°.37N×141°.36E, h0km, mb3.9/10, mb1 4.0/14, mb1mx3.8/56, mbtmp3.9/14, ML3.0/3, MS3.3/3, Ms1 3.3/3, ms1mx2.7/45, Error ellipse: s-maj=21.5km s-min=20.5km az=30.0*
ISCJB ***05*** *07:53:14.4±0.8, 36°.35N±0°.03×141°.31E±0°.08, h42km±7km, mb3.9/13, MS4.1/1, Error ellipse: s-maj=10.2km s-min=5.5km az=6.7*
NEIC ***05*** *07:53:15.7±0.7, 36°.32N×141°.30E, h35km±7km, mb4.3/3, Error ellipse: s-maj=7.8km s-min=7.5km az=78.0*
JMA ***05*** *07:53:16.3±0.1, 36°.38N×141°.12E, h48km±2km, M3.5*
ISC 05 07:53:15.3±1.4, 36°.36N±0°.04×141°.24E±0°.07, h30km±10km, n39, σ0=73/38, mb3.8/13, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.60	295	‖P	Pb	07 53 27.2	-0.1
JHO				S	Sb	07 53 35.1	-0.5
CHOJ	Chosi	0.73	205	P	Pb	07 53 30.1	+0.6
CHOJ				S	Sn	07 53 39.7	+0.1
ONAJ	Iwakimizuishiy	0.82	334	‖P	Pn	07 53 30.5	-0.3
ONAJ				S	Sn	07 53 40.3	-1.7
JYT	Yasato	0.86	261	‖P	Pn	07 53 30.8	-0.5
JFK	Kawauchi	1.04	344	‖P	Pn	07 53 33.7	-0.2
JFT	Otama	1.36	328	‖P	Pn	07 53 39.3	+1.0
JFT				S	Sn	07 53 55.4	+0.1
JAG	Ashikaga	1.45	273	‖P	Pn	07 53 39.3	-0.1
JMM	Marumori	1.54	347	P	Pn	07 53 41.3	+0.6
JMM				S	Sn	07 53 59.2	-0

MAT				S	Sn	07 54 15.4	-6.8
ERM	**Erimo**	**5.84**	**14**	*e*Pn	**Pn**	**07 54 40.2**	**+0.5**
ERM				*e*Sn	**Sn**	**07 55 46.5**	**+0.9**
CBIJ	**Chichi jima**	**9.27**	**175**	Pn	**Pn**	**07 55 25.9**	**-1.1**
CBIJ				Sn	Sn	07 56 58.3	-12
JCJ	**Chichijima**	**9.27**	**175**	Pn	**Pn**	**07 55 25.9**	**-1.1**
	5.2nm,0.3s,baz=258,slow=23,SNR=6.9						
JCJ				Sn	Sn	07 56 58.3	-12
	2.0nm,0.3s,baz=270,slow=20,SNR=2.1						
USRK	**Ussuriysk Ar.**	**10.54**	**321**	Pn	**Pn**	**07 55 44.4**	**+0.2**
	0.1nm,0.3s,baz=125,slow=12,SNR=2.7						
USRK				LR	LR	07 59 09.0	
	comp=Z,66nm,21.9s,baz=107,slow=34						
KSRS	**Korea Array**	**10.72**	**280**	Pn	**Pn**	**07 55 48.4**	**+1.7**
	0.2nm,0.3s,baz=92,slow=14,SNR=3.3						
KSRS				LR	LR	07 59 42.4	
	comp=Z,59nm,19.9s,baz=44,slow=36						
KSAR	**Wonju Array Be**	**10.75**	**280**	Pn	**Pn**	**07 55 48.4**	**+1.2**
SEY	**Seymchan**	**27.47**	**11**	P	**P**	**07 58 58.9**	**+0.5**
	1.2nm,0.7s,baz=180,slow=17,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**27.93**	**119**	T	T	08 28 27.2	
	baz=313,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**27.94**	**119**	T	T	08 28 26.8	
	baz=313,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**27.95**	**119**	T	T	08 28 27.4	
	baz=313,slow=75,SNR=22						
SONM	**Songino Array**	**28.05**	**305**	P	**P**	**07 59 03.7**	**-0.3**
	0.8nm,0.5s,baz=99,slow=8.9,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**28.62**	**122**	T	T	08 29 17.6	
	baz=314,slow=76,SNR=86						
H11S3	**WAKE ISLAND Hy**	**28.62**	**122**	T	T	08 29 19.2	
	baz=314,slow=76,SNR=63						
H11S2	**WAKE ISLAND Hy**	**28.63**	**122**	T	T	08 29 18.6	
	baz=314,slow=76,SNR=62						
ZALV	**Zalesovo Beam**	**42.27**	**313**	P	**P**	**08 01 05.9**	**+0.2**
	2.2nm,0.5s,baz=93,slow=7.5,SNR=9.2						
MKAR	**Makanchi Array**	**44.36**	**303**	P	**P**	**08 01 22.8**	**0.0**
	0.9nm,0.8s,baz=92,slow=7.4,SNR=7.5						
KURK	**Kurchatov**	**46.24**	**309**	*e*P	**P**	**08 01 37.2**	**-0.3**
	3.3nm,0.7s						
ILAR	**Eielson Array**	**50.13**	**32**	P	**P**	**08 02 06.6**	**-0.8**
	0.8nm,0.8s,baz=265,slow=6.0,SNR=8.5						
BVAR	**Borovoye Array**	**50.92**	**313**	P	**P**	**08 02 13.8**	**+0.3**
	0.6nm,0.5s,baz=90,slow=7.4,SNR=4.8						
BRVK	**Borovoye**	**50.98**	**313**	*e*P	**P**	**08 02 14.4**	**+0.5**
	1.8nm,0.6s						
KKAR	**Karatay Array**	**53.34**	**300**	*e*P	**P**	**08 02 31.7**	**0.0**
	2.8nm,0.9s						
WRA	**Warramunga Arr**	**56.38**	**188**	P	**P**	**08 02 53.8**	**+0.1**
	0.8nm,0.8s,baz=3.3,slow=7.8,SNR=5.9						
FINES	**FINESS Array B**	**69.34**	**332**	P	**P**	**08 04 19.9**	**+0.4**
	2.0nm,0.8s,baz=57,slow=5.1,SNR=5.2						
NOA	**NORSAR Array B**	**74.75**	**337**	P	**P**	**08 04 52.5**	**+0.5**
	0.7nm,0.7s,baz=77,slow=18,SNR=3.4						
NVAR	**Mina Array Bea**	**75.50**	**53**	P	**P**	**08 04 56.8**	**-0.2**
	0.2nm,0.3s,baz=264,slow=5.3,SNR=4.8						
ELK	**Elko**	**76.09**	**50**	LR	LR	08 35 40.1	
	comp=Z,91nm,19.0s,baz=7.5,slow=34						

CASC 05 07:57:19.4±1.4, 12°.34N×90°.22W, h37km±999km, MD3.7, ML3.4, 5C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.60**	**21**	⇑*i*P	Pn	07 57 45.5	+0.1
SBLS				*e*S	Sn	07 58 06.3	+1.3
SNJE	**San Jose**	**1.63**	**21**	*e*P	Pn	07 57 45.8	-0.1
RTR	**El Retiro**	**1.64**	**20**	*e*P	Pn	07 57 46.3	+0.3
RTR				*e*S	Sn	07 58 07.4	+1.4
SNET	**Serv Nac Est T**	**1.65**	**36**	⇑*i*P	Pn	07 57 45.8	-0.1
SNET				AML	AML	07 57 46.3	
	comp=Z,521nm,0.3s						
SNET				*e*S	Sn	07 58 06.8	+0.9
BOQS	**Boqueron**	**1.66**	**33**	⇓*e*P	Pn	07 57 46.3	+0.1
BOQS				*e*S	Sn	07 58 07.4	+0.9
LFRS	**El Faro**	**1.70**	**41**	⇑*e*P	Pn	07 57 46.5	-0.1
LFRS				*e*S	Sn	07 58 07.7	+0.4
LBRS	**Las Brisas**	**1.80**	**39**	⇑*e*P	Pn	07 57 48.4	+0.3
RBDL	**Robledal**	**1.83**	**16**	⇑*e*P	Pn	07 57 49.2	+0.6
VSM	**San Miguel**	**2.18**	**60**	*e*P	Pn	07 57 53.9	+0.4
NBG	**Las Nubes**	**2.24**	**357**	*e*P	Pn	07 57 56.1	+1.9
NBG				*e*S	Sn	07 58 22.5	+1.6
MRL	**Marmol**	**2.76**	**11**	*e*P	Pn	07 58 05.8	+4.5

IDC 05 07:58:07.1±1.8, 2°.16S×142°.27E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.3/32, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=283.7km s-min=29.2km az=112.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.30**	**203**	P	P	08 02 33.9	+0.1
	0.2nm,0.3s,baz=20,slow=12,SNR=17						
ASAR	**Alice Springs**	**22.86**	**200**	P	P	08 03 12.4	+0.1
	0.5nm,0.7s,baz=31,slow=9.7,SNR=7.1						
ILAR	**Eielson Array**	**83.88**	**24**	P	P	08 10 38.4	-0.1
	0.4nm,0.7s,baz=249,slow=5.7,SNR=5.6						

*IDC **05** 08:00:46.5±0.8, 35°.63S×71°.94W, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.0/23, mbtmp4.0/9, Error ellipse: s-maj=31.4km s-min=20.1km az=74.0*
*ISCJB **05** 08:00:50.5±0.6, 35°.61S±0°.07×72°.1W±0°.1, h35km, mb4.0/12, Error ellipse: s-maj=16.1km s-min=9.5km az=171.3*
*NEIC **05** 08:00:52.1±0.5, 35°.61S×72°.21W, h35km, mb4.5/7, Error ellipse: s-maj=16.5km s-min=9.7km az=82.0*

ISC 05 08:00:52.0±0.6, 35°.61S±0°.08×72°.2W±0°.1, h35km, n27, σ1§11/29, mb4.0/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.17**	**40**	Pn	**Pn**	**08 02 08.3**	**+1.4**
	0.9nm,0.3s,baz=211,slow=10,SNR=30						
CFAA				Lg	Lg	08 03 15.1	
	0.6nm,0.3s,baz=96,slow=15,SNR=10						
PLCA	**Paso Flores**	**5.27**	**166**	Pn	**Pn**	**08 02 10.5**	**+2.3**
	2.9nm,0.3s,baz=330,slow=13,SNR=15						
PLCA				Lg	Lg	08 03 27.1	
	1.4nm,0.3s,baz=219,slow=14,SNR=2.0						
TRQA	**Tornquist**	**8.52**	**110**	*e*Pn	**Pn**	**08 02 55.0**	**+2.1**
	11nm,0.4s						
LVC	**Limon Verde**	**13.26**	**13**	*e*Pn	**Pn**	**08 03 57.4**	**-0.6**
LPAZ	**La Paz**	**19.58**	**12**	P	**Pn**	**08 05 19.6**	**+0.4**
	0.2nm,0.3s,baz=212,slow=3.6,SNR=10						
LPAZ	**La Paz**	**19.58**	**12**	*e*P	**Pn**	**08 05 19.2**	**+0.1**
	5.2nm,0.8s						
SIV	**San Ignacio**	**21.91**	**30**	P	**P**	**08 05 41.9**	**-0.4**
	2.8nm,0.6s,baz=221,slow=11,SNR=10.0						
OTAV	**Otavalo**	**36.15**	**349**	*e*P	**P**	**08 07 53.9**	**+2.4**
	0.8nm,0.6s						
SNAA	**Sanae**	**50.14**	**157**	P	**P**	**08 09 42.8**	**-0.6**
	0.5nm,0.4s,baz=285,slow=12,SNR=11						
QSPA	**South Pole Qui**	**54.63**	**180**	P	**P**	**08 10 17.1**	**+0.2**
	3.9nm,0.8s,baz=319,slow=1.8,SNR=9.3						
QSPA	**South Pole Qui**	**54.63**	**180**	*e*P	**P**	**08 10 17.1**	**+0.2**
	5.7nm,0.9s						
TXAR	**Lajitas Array**	**71.09**	**331**	P	**P**	**08 12 07.5**	**+0.8**
	0.4nm,0.6s,baz=152,slow=8.1,SNR=11						
WVT	**Waverly**	**72.85**	**347**	*e*P	**P**	**08 12 16.5**	**-0.5**
	8.3nm,1.1s						
DBIC	**Dimbokro**	**75.80**	**71**	P	**P**	**08 12 33.9**	**-0.8**
	3.6nm,0.6s,baz=214,slow=4.4,SNR=5.9						
DBIC	**Dimbokro**	**75.80**	**71**	*e*P	**P**	**08 12 34.1**	**-0.5**
	6.3nm,0.8s						
BOSA	**Boshof**	**79.42**	**118**	P	**P**	**08 12 53.5**	**-1.4**
	5.7nm,0.7s,baz=242,slow=3.7,SNR=11						
BOSA	**Boshof**	**79.42**	**118**	*e*P	**P**	**08 12 53.5**	**-1.4**
	8.4nm,0.8s						
ECSD	**EROS Data Cent**	**82.05**	**342**	*e*P	**P**	**08 13 08.0**	**-0.2**
	2.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**84.86**	**70**	P	**P**	**08 13 22.1**	**-1.3**
	1.1nm,0.8s,baz=246,slow=4.4,SNR=7.0						
NVAR	**Mina Array Bea**	**85.15**	**325**	P	**P**	**08 13 24.1**	**-0.5**
	0.1nm,0.3s,baz=190,slow=4.1,SNR=2.7						
PDAR	**Pinedale Array**	**85.15**	**333**	P	**P**	**08 13 25.5**	**+1.0**
	0.3nm,0.7s,baz=189,slow=4.6,SNR=2.7						
BRVK	**Borovoye**	**148.44**	**45**	*e*PKPbc	**PKPbc**	**08 20 34.0**	**-0.2**
AAK	**Ala-Archa**	**153.33**	**65**	*e*PKPbc	**PKPbc**	**08 20 46.1**	**-0.3**
AAK				*e*PKPab	**PKPab**	**08 20 57.7**	**-0.8**
AAK	**Ala-Archa**	**153.33**	**65**	*e*PKPbc	**PKPab**	**08 20 57.9**	**-0.6**
KURK	**Kurchatov**	**154.11**	**45**	*e*PKPbc	**PKPbc**	**08 20 47.1**	**-0.4**
ZALV	**Zalesovo Beam**	**155.63**	**34**	PKPbc	PKPbc	08 20 50.2	
	0.8nm,0.4s,baz=279,slow=3.8,SNR=5.2						
ZALV				PKPab	**PKPab**	**08 21 07.2**	**-0.5**
	1.2nm,0.5s,baz=305,slow=5.6,SNR=3.9						
MKAR	**Makanchi Array**	**157.87**	**52**	PKP	**PKPdf**	**08 20 43.7**	**-0.8**
	0.4nm,0.9s,baz=90,slow=1.4,SNR=3.7						
MKAR				PKPab	**PKPab**	**08 21 16.0**	**-1.6**
	0.2nm,0.4s,baz=283,slow=3.6,SNR=4.4						

*IDC **05** 08:00:59.0±2.9, 35°.49S×71°.21W, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.0/23, mbtmp4.1/5, Error ellipse: s-maj=260.7km s-min=30.6km az=78.0*
*NEIC **05** 08:01:05.2±0.6, 35°.54S×71°.46W, h35km, mb4.5/7, Error ellipse: s-maj=53.8km s-min=16.5km az=76.0*

ISC 05 08:01:05.4±1.8, 35°.6S±0°.3×7°.2W±°, h35km, n13, σ0§59/13, mb4.4/11, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**54.64**	**180**	P	**P**	**08 10 30.0**	**-0.4**
	4.3nm,0.8s,baz=137,slow=17,SNR=5.9						
QSPA	**South Pole Qui**	**54.64**	**180**	*e*P	**P**	**08 10 30.4**	**0.0**
	3.4nm,0.7s						
TXAR	**Lajitas Array**	**71.24**	**331**	P	**P**	**08 12 20.7**	**-0.4**
	1.1nm,0.6s,baz=152,slow=8.2,SNR=15						
SWET	**Sewanee**	**71.69**	**348**	*e*P	**P**	**08 12 23.1**	**-0.4**
	4.2nm,0.7s						
WVT	**Waverly**	**72.92**	**346**	*e*P	**P**	**08 12 31.4**	**+0.5**
	3.3nm,0.5s						
ANMO	**Albuquerque**	**77.30**	**331**	*e*P	**P**	**08 12 56.6**	**+0.2**
	1.3nm,0.9s						
ECSD	**EROS Data Cent**	**82.14**	**342**	*e*P	**P**	**08 13 22.0**	**-0.2**
	2.5nm,0.8s						
HWUT	**Hardware Ranch**	**85.06**	**331**	*e*P	**P**	**08 13 37.5**	**0.0**
	2.5nm,0.8s						
PDAR	**Pinedale Array**	**85.29**	**333**	P	**P**	**08 13 38.3**	**-0.3**
	0.7nm,0.7s,baz=137,slow=6.3,SNR=5.1						
NVAR	**Mina Array Bea**	**85.33**	**325**	P	**P**	**08 13 39.0**	**+0.1**
	0.2nm,0.4s,baz=152,slow=6.1,SNR=6.1						
HVU	**Hansel Valley**	**85.69**	**331**	*e*P	**P**	**08 13 40.4**	**-0.1**
	1.9nm,0.6s						
ULM	**Lac du Bonnet**	**88.10**	**345**	P	**P**	**08 13 51.3**	**-0.5**
	1.4nm,0.6s,baz=169,slow=3.5,SNR=4.1						
FALS	**False Pass**	**119.11**	**319**	*e*PKPdf	**PKPdf**	**08 19 51.3**	**+1.5**

*NIED **05** 08:01:00.26°.70N×127°.50E, h71km, Mw4.0 Best double couple: M0 1.04000×10^15 NP1:φs=28.00000°, δ32.00000°, λ98.00000°. NP2:φs=200.00000°, δ59.00000°, λ85.00000°.*
*ISCJB **05** 08:01:26.6±0.3, 26°.66N±0°.05×127°.51E±0°.05, h72km±3km, mb3.6/13, Error ellipse: s-maj=9.6km s-min=3.5km az=139.1*
*IDC **05** 08:01:27.4±0.7, 26°.73N×127°.46E, h62km±6km, mb3.5/12, mb1 3.7/12, mb1mx3.5/39, mbtmp3.8/12, MS4.1/4, Ms1 4.2/4, ms1mx3.2/32, Error ellipse: s-maj=19.5km s-min=14.2km az=63.0*
*JMA **05** 08:01:28.0±0.1, 26°.70N×127°.49E, h62km±2km, M3.8*
JMA Felt II J1.

ISC 05 08:01:27.6±0.6, 26°.64N±0°.05×127°.53E±0°.04, h66km±5km, n41, σ1§00/56, mb3.8/13, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.26**	**258**	P	**Pn**	**08 01 37.9**	**-0.1**
JAGN				*e*S	**Sn**	**08 01 45.1**	**-0.6**
JNTH	**Nagotoyohara**	**0.46**	**106**	P	**Pn**	**08 01 40.1**	**+0.5**
JNTH				*e*S	**Sn**	**08 01 48.7**	**+0.3**
JJT2	**Tamagusuku 2**	**0.54**	**159**	P	**Pn**	**08 01 41.4**	**+1.0**
JJT2				*e*S	**Sn**	**08 01 51.4**	**+1.6**
JIH	**Iheya**	**0.55**	**45**	P	**Pn**	**08 01 40.9**	**+0.3**
JIH				*e*S	**Sn**	**08 01 50.1**	**+0.1**
JOW	**Kunigami**	**0.69**	**74**	P	**Pn**	**08 01 42.6**	**+0.5**
JOW				*e*S	**Sn**	**08 01 52.9**	**+0.1**
JOW	**Kunigami**	**0.69**	**74**	P	**Pn**	**08 01 42.5**	**+0.5**
	baz=128,slow=17						
JOW				S	**Sn**	**08 01 52.2**	**-0.6**
	baz=114,slow=19						
JOW				LR	LR	08 01 59.3	
	comp=Z,13nm,19.9s,baz=287,slow=43						
JKE	**Kume jima 2**	**0.74**	**245**	P	**Pn**	**08 01 42.8**	**+0.2**
JKE				*e*S	**Sn**	**08 01 53.5**	**-0.2**
JOKE	**Okinoerabujima**	**1.17**	**52**	P	**Pn**	**08 01 48.2**	**+0.1**
JOKE				*e*S	**Sn**	**08 02 02.7**	**-0.7**
JTK	**Tokunoshima**	**1.70**	**48**	P	**Pn**	**08 01 55.3**	**+0.2**
JTK				*e*S	**Sn**	**08 02 15.4**	**-0.6**
JAMN	**Amaminishikomi**	**2.16**	**42**	P	**Pn**	**08 02 01.2**	**-0.1**
JAMN				*e*S	**Sn**	**08 02 26.0**	**-1.1**
JAM	**Amami Oshima**	**2.55**	**46**	P	**Pn**	**08 02 06.8**	**+0.2**
JAM				*e*S	**Sn**	**08 02 36.0**	**-0.5**
JIKM	**Ikemajima**	**2.68**	**231**	P	**Pn**	**08 02 08.1**	**-0.2**
JOGS	**Gusukube**	**2.68**	**226**	P	**Pn**	**08 02 07.7**	**-0.7**
JMJ	**Miyako jima 2**	**2.72**	**228**	P	**Pn**	**08 02 09.9**	**+1.0**
JZK	**Kikaishima**	**2.73**	**52**	P	**Pn**	**08 02 10.1**	**+1.0**
JIRB	**Irabujima**	**2.79**	**230**	P	**Pn**	**08 02 09.6**	**-0.3**
JTAJ	**Takarajima**	**2.91**	**30**	P	**Pn**	**08 02 12.2**	**+0.8**
JTJ	**Tarama**	**3.24**	**233**	P	**Pn**	**08 02 16.4**	**+0.4**
JMZ	**Minamidaito 2**	**3.42**	**103**	P	**Pn**	**08 02 16.2**	**-2.2**
JMZ				*e*S	Sn	08 02 51.3	-6.4
JISG	**Ishigakijimahi**	**3.56**	**236**	P	**Pn**	**08 02 19.4**	**-0.9**
JISG				*e*S	**Sn**	**08 03 01.6**	**+0.5**
JNN	**Nakanoshima**	**3.80**	**32**	P	**Pn**	**08 02 25.0**	**+1.4**
JNN				*e*S	**Sn**	**08 03 08.1**	**+1.0**
JIJ	**Ishigaki jima**	**3.81**	**234**	P	**Pn**	**08 02 24.5**	**+0.7**
JKRS	**Kuro-shima**	**3.98**	**234**	P	**Pn**	**08 02 26.3**	**+0.1**
IRIF	**Iriomote-Funau**	**4.13**	**237**	P	**Pn**	**08 02 30.1**	**+1.9**
HATJ	**Hateruma jima**	**4.24**	**233**	P	**Pn**	**08 02 27.1**	**-2.6**
JNU	**Nakatsue**	**7.08**	**23**	P	**Pn**	**08 03 10.2**	**+1.6**
	1.7nm,0.3s,baz=314,slow=3.0,SNR=9.9						
SONM	**Songino Array**	**26.87**	**327**	P	**P**	**08 07 04.3**	**+2.1**
	1.3nm,0.4s,baz=142,slow=11,SNR=13						
SONM				pP	**pP**	**08 07 18.6**	**+0.6**
	0.6nm,0.5s,baz=144,slow=10,SNR=1.7						
CMAR	**Chiang Mai Arr**	**27.58**	**259**	P	**P**	**08 07 09.6**	**+0.9**
	0.5nm,0.3s,baz=61,slow=9.4,SNR=4.5						
SEY	**Seymchan**	**39.81**	**17**	LR	LR	08 26 44.4	
	comp=Z,601nm,21.9s,baz=151,slow=38						
MKAR	**Makanchi Array**	**40.79**	**312**	P	**P**	**08 09 01.9**	**-0.5**
	1.2nm,0.5s,baz=94,slow=10,SNR=23						
MKAR				pP	**pP**	**08 09 16.1**	**-2.7**
	0.2nm,0.4s,baz=96,slow=11,SNR=2.3						
ZALV	**Zalesovo Beam**	**41.54**	**323**	P	**P**	**08 09 07.3**	**-1.1**
	0.7nm,0.4s,baz=129,slow=7.7,SNR=4.7						
WRA	**Warrmunga Arr**	**46.78**	**171**	P	**P**	**08 09 50.7**	**+0.1**
	0.7nm,0.5s,baz=352,slow=8.7,SNR=15						
WRA				pP	**pP**	**08 10 08.1**	**+0.7**
	0.4nm,0.6s,baz=352,slow=8.5,SNR=3.0						
BVAR	**Borovoye Array**	**49.55**	**318**	P	**P**	**08 10 10.4**	**-1.3**
	0.3nm,0.3s,baz=106,slow=9.1,SNR=3.1						
ASAR	**Alice Springs**	**50.39**	**172**	P	**P**	**08 10 18.9**	**+0.6**
	0.7nm,0.5s,baz=0.9,slow=15,SNR=16						
ILAR	**Eielson Array**	**64.37**	**28**	P	**P**	**08 11 56.0**	**-0.2**
	0.2nm,0.7s,baz=256,slow=4.5,SNR=5.8						
ILAR				LR	LR	08 43 01.8	
	comp=Z,128nm,18.1s,baz=168,slow=39						
ARCES	**ARCESS Array B**	**69.39**	**338**	LR	LR	08 50 07.2	
	comp=Z,66nm,19.1s,baz=179,slow=42						
FINES	**FINESS Array B**	**72.20**	**330**	P	**P**	**08 12 44.6**	**-0.6**
	0.6nm,0.5s,baz=82,slow=4.0,SNR=5.3						
FINES				LR	LR	08 48 48.9	
	comp=Z,165nm,21.3s,baz=228,slow=39						
AKASG	**Malin Array Be**	**74.81**	**319**	P	**P**	**08 13 00.1**	**-0.6**
	0.4nm,0.4s,baz=59,slow=5.7,SNR=2.2						
BRTR	**Keskin Array B**	**76.29**	**308**	P	**P**	**08 13 09.7**	**+0.1**
	0.5nm,0.7s,baz=86,slow=6.6,SNR=3.6						
YKA	**Yellowknife Ar**	**78.42**	**25**	P	**P**	**08 13 21.5**	**+0.7**
	0.2nm,0.5s,baz=301,slow=5.4,SNR=7.6						
YKA				pP	**pP**	**08 13 38.4**	**-0.4**
	0.2nm,0.5s,baz=301,slow=5.4,SNR=3.3						
NOA	**NORSAR Array B**	**78.67**	**334**	P	**P**	**08 13 23.0**	**+0.7**
	0.5nm,0.6s,baz=74,slow=6.0,SNR=2.3						

*IDC **05** 08:05:22.6±0.9, 34°.91S×72°.19W, h30km±5km, mb3.8/8, mb1 4.0/11, mb1mx3.9/28, mbtmp3.9/11, ML3.8/3, MS3.5/6, Ms1 3.5/6, ms1mx3.2/27, Error ellipse: s-maj=27.3km s-min=16.3km az=77.0*
*ISCJB **05** 08:05:23.1±1.6, 34°.94S±0°.06×72°.2W±0°.1, h47km±15km, mb4.3/25, MS3.7/3, Error ellipse: s-maj=19.5km s-min=9.9km az=4.3*
*GUC **05** 08:05:23.2±0.6, 34°.80S×72°.25W, h24km±5km, ML4.5*
*NEIC **05** 08:05:23.5±0.4, 34°.91S×72°.28W, h35km, mb4.4/19, Error ellipse: s-maj=12.5km s-min=8.2km az=68.0*

ISC 05 08:05:22.8±1.0, 34°.94S±0°.04×72°.33W±0°.09, h32km±7km, n50, σ0§92/50, mb4.3/25, MS3.8/3, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**1.09**	**147**	*e*P9	**Pn**	**08 05 40.7**	**-1.2**
LNCH				*i* S1	**Sn**	**08 05 55.9**	**+0.1**
LNV	**Longovilo**	**1.24**	**38**	*i* P1	**Pn**	**08 05 42.5**	**-1.4**
CACH	**El Canelo**	**1.64**	**61**	⇓*i*P	**Pn**	**08 05 49.9**	**+0.2**
RCDM	**Rinconada Maip**	**1.92**	**42**	⇓*i*P	**Pn**	**08 05 53.0**	**-0.3**
RCDM				*i* S1	**Sn**	**08 06 15.7**	**-0.7**
RCDM				AML	AML	08 06 20.1	
	comp=E,5μm,0.1s						
ANTU	**Antumapu**	**1.96**	**46**	*e*P1	**Pn**	**08 05 53.9**	**+0.1**
ANTU				*i* S1	**Sn**	**08 06 17.0**	**-0.3**
ANTU				AML	AML	08 06 21.6	
	comp=E,8μm,0.5s						
STL	**Santa Lucia**	**2.05**	**44**	*e*P1	**Pn**	**08 05 54.8**	**-0.3**
STL				*i* S1	**Sn**	**08 06 20.3**	**+0.7**
LACH	**Col Las Americ**	**2.10**	**46**	*e*P1	**Pn**	**08 05 56.3**	**+0.4**
LACH				AML	AML	08 06 31.7	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**2.25**	**38**	*e*P1	**Pn**	**08 05 58.4**	**+0.5**
PEL				*i* S1	**Sn**	**08 06 24.8**	**+0.2**
PEL				AML	AML	08 06 34.1	
	comp=N,7μm,0.7s						
PEL				AML	AML	08 06 35.9	
	comp=E,8μm,0.7s						
CFAA	**Coronel Fontan**	**4.77**	**47**	Pn	**Pn**	**08 06 32.6**	**0.0**
	comp=E,0.9nm,0.3s,baz=192,slow=7.1,SNR=23						
CFAA				Sn	**Sn**	**08 07 27.4**	**+0.6**
	comp=E,1.0nm,0.3s,baz=234,slow=17,SNR=2.9						
CFAA				LR	LR	08 08 34.7	
	comp=E,78nm,19.5s,baz=218,slow=41						
PLCA	**Paso Flores**	**5.96**	**167**	Pn	**Pn**	**08 06 49.5**	**+0.6**
	comp=E,1.1nm,0.3s,baz=332,slow=12,SNR=3.9						
PLCA				Lg	Lg	08 08 23.7	
	comp=E,1.3nm,0.3s,baz=294,slow=14,SNR=3.9						
PLCA				LR	LR	08 09 05.1	
	comp=E,249nm,18.2s,baz=62,slow=37						
TRQA	**Tornquist**	**8.89**	**114**	*e*Pn	**Pn**	**08 07 30.6**	**+1.4**
CPUP	**Villa Florida**	**15.48**	**60**	LR	LR	08 15 45.4	
	comp=E,234nm,18.2s,baz=204,slow=40						
LPAZ	**La Paz**	**18.95**	**12**	P	**P**	**08 09 42.1**	**+0.2**
	comp=E,0.1nm,0.3s,baz=218,slow=6.0,SNR=3.5						
LPAZ	**La Paz**	**18.95**	**12**	*e*P	**P**	**08 09 41.9**	**-0.1**
	comp=E,2.8nm,0.7s						
SIV	**San Ignacio**	**21.39**	**31**	P	**P**	**08 10 06.3**	**-1.7**
	comp=E,4.6nm,1.0s,baz=238,slow=11,SNR=5.1						
SIV				LR	LR	08 18 18.9	
	comp=E,105nm,18.9s,baz=250,slow=36						
BDFB	**Brasilia**	**29.06**	**55**	LR	LR	08 24 08.3	
	comp=E,192nm,18.0s,baz=218,slow=39						
OTAV	**Otavalo**	**35.46**	**349**	*e*P	**P**	**08 12 19.5**	**+2.6**
	comp=E,1.8nm,0.8s						
RCBR	**Riachuelo**	**44.34**	**58**	LR	LR	08 33 08.9	
	comp=E,173nm,18.0s,baz=214,slow=38						
SNAA	**Sanae**	**50.81**	**158**	P	**P**	**08 14 19.8**	**-0.1**
	comp=E,1.0nm,0.8s,baz=270,slow=12,SNR=3.4						
QSPA	**South Pole Qui**	**55.30**	**180**	P	**P**	**08 14 53.8**	**+0.7**
	comp=E,3.6nm,0.9s,baz=171,slow=2.1,SNR=7.0						
QSPA	**South Pole Qui**	**55.30**	**180**	*e*P	**P**	**08 14 54.0**	**+0.8**
	comp=E,2.8nm,0.7s						
JCT	**Junction City**	**70.03**	**335**	*e*P	**P**	**08 16 31.6**	**+0.1**
	comp=E,17nm,1.5s						
TXAR	**Lajitas Array**	**70.43**	**331**	P	**P**	**08 16 34.3**	**+0.2**
	comp=E,1.5nm,0.5s,baz=157,slow=8.2,SNR=36						
TXAR				pP	**pP**	**08 16 45.0**	**+1.1**
	comp=E,0.4nm,0.6s,baz=148,slow=10,SNR=3.4						
SWET	**Sewanee**	**70.94**	**348**	*e*P	**P**	**08 16 36.4**	**-0.6**
	comp=E,6.3nm,0.7s						
WVT	**Waverly**	**72.16**	**347**	*e*P	**P**	**08 16 43.5**	**-0.8**
	comp=E,8.2nm,0.8s						
TUL1	**Leonard**	**73.80**	**340**	*e*P	**P**	**08 16 52.6**	**-1.3**
	comp=E,8.9

KPT	**Kopyto**	**1.09 278**	*i* P	**Pn**	**08 12 48.5**	**+0.4**
KPT			*i* S	**Sn**	**08 13 02.9**	**+0.7**
TUMR	**Tumrok**	**1.26 245**	*i* P	**Pn**	**08 12 51.1**	**+0.5**
TUMR			*e*S	**Sn**	**08 13 07.9**	**+1.3**
KOZR	**Kozyr**	**1.28 281**	PN	**Pn**	**08 12 51.9**	**+1.1**
KOZR			S	**Sb**	**08 13 09.0**	**+0.6**
KOZ	**Kozyrevsk**	**1.29 281**	*i* P	**Pn**	**08 12 51.9**	**+1.0**
KOZ			*e*S	**Sn**	**08 13 09.0**	**+1.8**
MKZ	**Mys Kozlova**	**1.31 190**	PN	**Pn**	**08 12 50.5**	**-0.6**
MKZ			S	**Sn**	**08 13 07.3**	**-0.2**
MKZ	**Mys Kozlova**	**1.31 190**	*i* P	**Pn**	**08 12 50.5**	**-0.6**
MKZ			*e*S	**Sn**	**08 13 07.3**	**-0.2**
SRDR	**Sredinnyy**	**1.44 290**	*i* P	**Pn**	**08 12 53.4**	**+0.4**
SRDR			*i* S	**Sn**	**08 13 11.8**	**+0.9**
ESO	**Esso**	**1.94 274**	PN	**Pn**	**08 13 00.0**	**+0.2**
ESO			S	**Sn**	**08 13 22.9**	**-0.2**
ESO	**Esso**	**1.94 274**	*e*P	**Pn**	**08 13 00.0**	**+0.2**
ESO			S	**Sn**	**08 13 22.9**	**-0.2**
BKI	**Bering**	**2.27 105**	PN	**Pn**	**08 13 04.4**	**+0.1**
BKI			S	**Sn**	**08 13 30.6**	**-0.7**
BKI	**Bering**	**2.27 105**	*e*P	**Pn**	**08 13 04.4**	**+0.1**
BKI			*e*S	**Sn**	**08 13 30.6**	**-0.7**
SPN	**Mys Shipunski**	**3.01 205**	PN	**Pn**	**08 13 14.1**	**-0.4**
SPN			S	**Sn**	**08 13 47.8**	**-1.7**
SPN	**Mys Shipunski**	**3.01 205**	*e*P	**Pn**	**08 13 14.1**	**-0.4**
SPN			*e*S	**Sn**	**08 13 47.8**	**-1.7**
NLC	**Nalytchevo**	**3.13 212**	*e*S	**Sn**	**08 13 52.1**	**-0.3**
SDLR	**Sedlovina**	**3.19 218**	*i* P	**Pn**	**08 13 17.9**	**+0.8**
SDLR			*e*S	**Sn**	**08 13 54.5**	**+0.4**
KRX	**Arik**	**3.21 221**	*e*P	**Pn**	**08 13 18.6**	**+1.3**
KRX			S	**Sn**	**08 13 55.4**	**+0.8**
KRER	**Koryakskii**	**3.21 219**	*i* P	**Pn**	**08 13 18.9**	**+1.4**
KRER			*e*S	**Sn**	**08 13 55.9**	**+1.0**
SMAR	**Somma**	**3.23 218**	*e*P	**Pn**	**08 13 18.6**	**+0.9**
GNL	**Ganaly**	**3.24 230**	*e*P	**Pn**	**08 13 18.6**	**+0.8**
AVH	**Avacha**	**3.25 219**	*i* P	**Pn**	**08 13 19.3**	**+1.4**
AVH			*e*S	**Sn**	**08 13 56.9**	**+1.3**
KOK	**Koryaka**	**3.27 220**	*e*P	**Pn**	**08 13 19.5**	**+1.4**
KOK			S	**Sn**	**08 13 57.0**	**+1.0**
UGLR	**Uglovaya**	**3.27 218**	*e*P	**Pn**	**08 13 19.1**	**+1.0**
UGLR			*e*S	**Sn**	**08 13 56.0**	**0.0**
OSSR	**Ossora**	**3.46 8**	*i* P	**Pn**	**08 13 21.4**	**+0.8**
PET	**Petropavlovsk**	**3.48 217**	‖ *i*PN	**Pn**	**08 13 21.9**	**+1.0**
PET			*e*S	**Sn**	**08 14 01.7**	**+0.7**
PET			pmax	pmax		
	comp=Z,36nm,0.4s					
PET			smax	smax		
	comp=N,131nm,0.5s					
PET			smax	smax		
	comp=E,82nm,0.5s					
PET	**Petropavlovsk**	**3.48 217**	*e*P	**Pn**	**08 13 21.8**	**+0.9**
PET			*e*S	**Sn**	**08 14 01.1**	**+0.1**
RUS	**Russkaya**	**4.02 213**	PN	**Pn**	**08 13 28.7**	**+0.3**
RUS	**Russkaya**	**4.02 213**	*e*P	**Pn**	**08 13 28.7**	**+0.3**
RUS			*e*S	**Sn**	**08 14 13.1**	**-1.4**
MTVR	**Mutnovka**	**4.09 216**	*e*P	**Pn**	**08 13 30.9**	**+1.5**
MTVR			*e*S	**Sn**	**08 14 16.5**	**+0.2**
ASAK	**Asacha**	**4.27 217**	P	**Pn**	**08 13 32.9**	**+1.1**
ASAK			S	**Sn**	**08 14 19.8**	**-0.8**

DJA 05 08:15:37.8±0.3, 3°S±3°×12°8E±°, h30km, M4.2/5, mb5.6/1, mB5.3/1, MLv3.5/5, Mw(mB)4.7/1, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.16**	**241**	P	Pn	08 15 58.0	+0.1
LBMI	**Labuha**	**2.11**	**343**	P	Pn	08 16 12.1	+1.0
LBMI				S	Sn	08 16 38.2	+1.9
SANI	**Sanana**	**2.21**	**286**	P	Pn	08 16 10.4	-2.0
BNDI	**Bandanaira**	**2.57**	**136**	P	Sn	08 16 41.1	-6.5
SWI	**Sorong**	**3.62**	**60**	P	Pn	08 16 32.5	+0.6
APSI	**Ampana**	**6.69**	**285**	P	Pn	08 17 15.2	+1.1

*ISCJB **05** 08:15:48.8±0.7, 36°.97S±0°.08×71°.2W±0°.2, h10km, mb3.9/6, MS3.2/2, Error ellipse: s-maj=19.2km s-min=11.3km az=177.7*
*IDC **05** 08:15:48.3±0.8, 36°.94S×71°.14W, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/30, mbtmp3.8/8, ML4.2/1, MS3.4/6, Ms1 3.4/6, ms1mx3.2/24, Error ellipse: s-maj=35.9km s-min=17.5km az=85.0*
*NEIC **05** 08:15:53.6±0.6, 36°.99S×71°.21W, h35km, mb4.4/2, Error ellipse: s-maj=15.7km s-min=9.4km az=89.0*
ISC 05 08:15:50.3±0.7, 36°.99S±0°.07×71°.2W±0°.1, h10km, n19, σ1§31/16, mb3.9/6, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.77**	**172**	Pn	**Pn**	**08 16 49.6**	**+0.9**
	3.8nm,0.3s,baz=344,slow=11,SNR=74						
PLCA				Pg	**Pb**	**08 16 56.9**	**-0.2**
	30nm,0.3s,baz=357,slow=16,SNR=164						
PLCA				Lg	Lg	08 17 46.1	
	24nm,0.3s,baz=300,slow=22,SNR=9.4						
PLCA				LR	LR	08 18 25.1	
	comp=Z,499nm,21.1s,baz=67,slow=41						
CFAA	**Coronel Fontan**	**5.92**	**26**	Pn	**Pn**	**08 17 19.9**	**+1.7**
	0.2nm,0.3s,baz=209,slow=13,SNR=23						
CFAA				Lg	Lg	08 18 55.3	
	0.3nm,0.3s,baz=336,slow=3.6,SNR=6.5						
CFAA				LR	LR	08 20 00.7	
	comp=Z,76nm,18.6s,baz=198,slow=43						
TRQA	**Tornquist**	**7.44**	**101**	*e*Pn	**Pn**	**08 17 39.1**	**+0.2**
	14nm,0.7s						
CPUP	**Villa Florida**	**15.89**	**52**	LR	LR	08 26 14.5	
	comp=Z,184nm,18.2s,baz=230,slow=40						
USHA	**Ushuaia**	**17.95**	**175**	LR	LR	08 27 10.0	
	comp=Z,359nm,18.4s,baz=30,slow=38						
LPAZ	**La Paz**	**20.81**	**8**	P	**P**	**08 20 33.0**	**+0.4**
	2.1nm,0.7s,baz=167,slow=8.9,SNR=4.1						
LPAZ	**La Paz**	**20.81**	**8**	*e*P	**P**	**08 20 32.2**	**-0.3**
	3.4nm,0.8s						
SIV	**San Ignacio**	**22.78**	**26**	LR	LR	08 30 07.1	
	comp=Z,92nm,20.6s,baz=138,slow=38						
NNA	**Nana**	**25.40**	**347**	LR	LR	08 29 08.9	
	comp=Z,71nm,19.4s,baz=180,slow=32						
SNAA	**Sanae**	**48.58**	**157**	P	**P**	**08 24 33.5**	**-0.1**
	1.0nm,0.8s,baz=301,slow=5.9						
QSPA	**South Pole Qui**	**53.25**	**180**	P	**P**	**08 25 09.8**	**+0.9**
	1.4nm,0.8s,baz=113,slow=13						
QSPA	**South Pole Qui**	**53.25**	**180**	*e*P	**P**	**08 25 09.6**	**+0.7**
	29nm,1.8s						
TXAR	**Lajitas Array**	**72.66**	**331**	P	**P**	**08 27 17.7**	**-0.5**
	0.4nm,0.8s,baz=152,slow=10.0,SNR=4.8						
DBIC	**Dimbokro**	**75.55**	**70**	P	**P**	**08 27 34.6**	**-0.8**
	1.2nm,0.6s,baz=207,slow=3.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**84.64**	**69**	P	**P**	**08 28 23.2**	**-1.3**
	0.6nm,0.9s,baz=260,slow=3.9,SNR=2.7						
NVAR	**Mina Array Bea**	**86.70**	**325**	P	**P**	**08 28 34.4**	**0.0**
	0.5nm,0.7s,baz=144,slow=6.7,SNR=3.1						
WRA	**Warramunga Arr**	**118.44**	**208**	PKP	**PKPdf**	**08 34 36.5**	**-2.2**
	0.2nm,0.8s,baz=169,slow=1.6,SNR=4.6						
AAK	**Ala-Archa**	**153.20**	**67**	*e*PKPbc	**PKPbc**	**08 35 51.0**	**+2.7**
MKAR	**Makanchi Array**	**158.09**	**55**	PKPab	**PKPab**	**08 36 19.3**	**-1.4**
	0.3nm,0.7s,baz=257,slow=3.7,SNR=2.8						

*IDC **05** 08:21:20.9±1.1, 37°.08S×71°.64W, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/29, mbtmp3.3/5, ML3.8/1, Error ellipse: s-maj=54.1km s-min=15.5km az=84.0*
*ISCJB **05** 08:21:24.4±1.0, 37°.05S±0°.09×71°.0W±0°.2, h33km, mb3.6/2, Error ellipse: s-maj=22.1km s-min=12.3km az=1.0*
*NEIC **05** 08:21:26.0±0.9, 37°.07S×71°.17W, h35km, mb4.0/2, Error ellipse: s-maj=22.3km s-min=12.8km az=91.0*
ISC 05 08:21:25.9±1.1, 37°.0S±0°.1×71°.1W±0°.2, h35km, n9, σ1§21/7, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.72**	**173**	Pn	**Pn**	**08 22 21.1**	**+0.1**
	1.5nm,0.3s,baz=346,slow=12,SNR=5.1						
PLCA				Pg		08 22 28.5	
	10nm,0.3s,baz=360,slow=14,SNR=28						
PLCA				Lg	Lg	08 23 18.4	
	6.8nm,0.3s,baz=290,slow=18,SNR=5.7						
CFAA	**Coronel Fontan**	**5.92**	**25**	Pn	**Pn**	**08 22 51.9**	**+0.7**
	0.0nm,0.3s,baz=202,slow=14,SNR=2.8						
CFAA				Lg	Lg	08 24 26.2	
	0.2nm,0.3s,baz=283,slow=13,SNR=5.5						
TRQA	**Tornquist**	**7.35**	**101**	*e*Pn	**Pn**	**08 23 10.5**	**-0.2**
LPAZ	**La Paz**	**20.84**	**8**	P	Pn	08 26 07.2	-0.8
	0.8nm,0.5s,baz=207,slow=6.8,SNR=3.4						
LPAZ	**La Paz**	**20.84**	**8**	*e*P	Pn	08 26 07.1	-0.9
	1.8nm,0.8s						
QSPA	**South Pole Qui**	**53.21**	**180**	P	**P**	**08 30 41.5**	**+1.1**
	1.6nm,1.0s,baz=146,slow=3.6,SNR=2.8						
QSPA	**South Pole Qui**	**53.21**	**180**	*e*P	**P**	**08 30 41.6**	**+1.1**
	8.9nm,1.5s						
TXAR	**Lajitas Array**	**72.73**	**331**	P	**P**	**08 32 49.7**	**-0.7**
	0.1nm,0.6s,baz=143,slow=9.1,SNR=2.2						
WRA	**Warramunga Arr**	**118.44**	**207**	PKP	**PKPdf**	**08 40 08.7**	**-1.6**
	0.3nm,1.1s,baz=158,slow=1.4,SNR=4.5						

*IDC **05** 08:25:11.1±2.2, 6°.46S×129°.09E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.3/27, mbtmp3.3/3, ML2.9/2, Error ellipse: s-maj=149.9km s-min=31.9km az=68.0, Banda Sea*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.34**	**160**	Pn	Pn	08 28 36.1	+0.5
	0.1nm,0.3s,baz=342,slow=13,SNR=5.8						
WRA				Sn	Sn	08 31 02.4	-13
	0.1nm,0.3s,baz=348,slow=24,SNR=6.0						
ASAR	**Alice Springs**	**17.72**	**165**	P	Pn	08 29 19.0	-0.5
	0.0nm,0.3s,baz=350,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**67.28**	**327**	P	P	08 36 07.8	0.0
	0.2nm,0.4s,baz=122,slow=7.9,SNR=5.1						

*IDC **05** 08:30:23.4±1.7, 34°.40S×73°.83W, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.7/22, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=39.8km s-min=32.4km az=84.0*
*ISCJB **05** 08:30:26.7±1.2, 34°.4S±0°.1×73°.5W±0°.1, h33km, mb3.5/2, Error ellipse: s-maj=18.9km s-min=12.9km az=34.5*
ISC 05 08:30:28.7±1.3, 34°.4S±0°.1×73°.6W±0°.1, h35km, n6, σ0§96/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.29**	**60**	Pn	**Pn**	**08 31 45.1**	**-0.2**
	baz=229,slow=14						
CFAA				Sn	**Sn**	**08 32 44.7**	**-0.5**
	0.2nm,0.3s,baz=156,slow=20,SNR=4.2						
PLCA	**Paso Flores**	**6.78**	**160**	Pn	**Pn**	**08 32 05.8**	**+0.1**
	0.4nm,0.3s,baz=332,slow=16,SNR=8.9						
LPAZ	**La Paz**	**18.68**	**17**	P	**Pn**	**08 34 44.8**	**-0.3**
	0.1nm,0.3s,baz=181,slow=12,SNR=3.7						
SIV	**San Ignacio**	**21.51**	**35**	P	**P**	**08 35 16.4**	**+1.8**
	1.8nm,0.8s,baz=217,slow=13,SNR=4.2						
TXAR	**Lajitas Array**	**69.46**	**332**	P	**P**	**08 41 33.0**	**-0.4**
	0.5nm,0.8s,baz=157,slow=6.8,SNR=7.9						
MKAR	**Makanchi Array**	**158.00**	**49**	PKPab	**PKPab**	**08 50 54.6**	**-0.3**
	0.4nm,0.7s,baz=295,slow=4.7,SNR=4.8						

*IDC **05** 08:35:53.6±1.1, 36°.36S×73°.17W, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.7/27, mbtmp3.6/7, ML3.4/2, Error ellipse: s-maj=34.9km s-min=29.2km az=78.0*
*ISCJB **05** 08:35:56.6±0.9, 36°.3S±0°.1×72°.9W±0°.2, h25km, mb3.6/5, Error ellipse: s-maj=24.5km s-min=15.4km az=177.1*
ISC 05 08:35:57.8±1.0, 36°.3S±0°.1×73°.0W±0°.2, h25km, n9, σ1§13/9, mb3.7/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.84**	**157**	Pn	**Pn**	**08 37 09.3**	**+0.2**
	0.9nm,0.3s,baz=327,slow=12,SNR=10						
PLCA				Lg	Lg	08 38 23.4	
	3.9nm,0.3s,baz=272,slow=15,SNR=3.7						
CFAA	**Coronel Fontan**	**6.13**	**42**	Pn	**Pn**	**08 37 25.8**	**-1.0**
	0.1nm,0.3s,baz=260,slow=11,SNR=4.3						
CFAA				Lg	Lg	08 39 02.5	
	0.2nm,0.3s,baz=101,slow=14,SNR=5.8						
SIV	**San Ignacio**	**22.84**	**31**	P	**P**	**08 41 00.1**	**+0.9**
	2.1nm,0.7s,baz=236,slow=14,SNR=3.5						
TXAR	**Lajitas Array**	**71.35**	**332**	P	**P**	**08 47 15.8**	**+0.3**
	0.3nm,0.6s,baz=153,slow=9.2,SNR=6.0						
NVAR	**Mina Array Bea**	**85.31**	**326**	P	**P**	**08 48 32.9**	**+0.2**
	0.3nm,0.6s,baz=146,slow=6.6,SNR=3.2						
PDAR	**Pinedale Array**	**85.45**	**334**	P	**P**	**08 48 33.3**	**+0.1**
	0.6nm,1.0s,baz=172,slow=7.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**85.74**	**70**	P	**P**	**08 48 35.8**	**+0.8**
	0.4nm,0.8s,baz=234,slow=3.8,SNR=3.8						
WRA	**Warramunga Arr**	**118.38**	**209**	PKP	**PKPdf**	**08 54 41.3**	**-2.2**
	0.5nm,1.1s,baz=156,slow=1.5,SNR=2.8						
MKAR	**Makanchi Array**	**158.83**	**53**	PKPab	**PKPab**	**08 56 29.2**	**+0.2**
	0.3nm,0.8s,baz=248,slow=9.0,SNR=3.5						

IDC 05 08:36:30.4±1.5, 5°.39S×76°.12W, h0km, mb3.3/2, mb1 3.8/5, mb1mx3.5/40, mbtmp3.6/5, ML3.6/3, MS2.6/1, Ms1 2.6/1, ms1mx2.4/17, Error ellipse: s-maj=34.4km s-min=22.4km az=85.0, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.85**	**232**	Pn	Pn	08 37 18.4	+0.7
	6.1nm,0.3s,baz=51,slow=7.1,SNR=23						
ATAH				Sn	Sn	08 37 52.8	-0.4
	17nm,0.3s,baz=15,slow=16,SNR=8.4						
ATAH				LR	LR	08 38 49.6	
	comp=Z,109nm,21.2s,baz=48,slow=49						
NNA	**Nana**	**6.60**	**186**	Pn	Pn	08 38 08.2	-0.6
	2.9nm,0.3s,baz=0.0,slow=5.1,SNR=7.5						
NNA				Sn	Sn	08 39 19.1	-5.7
	3.1nm,0.3s,baz=135,slow=20,SNR=2.8						
ROSC	**El Rosal**	**10.33**	**10**	Lg	Lg	08 42 04.5	
	1.1nm,0.3s,baz=90,slow=20,SNR=3.3						
LPAZ	**La Paz**	**13.37**	**145**	Pn	Pn	08 39 41.9	-0.5
	0.1nm,0.3s,baz=304,slow=9.5,SNR=2.8						
LPAZ				Lg	Lg	08 43 36.5	
	0.1nm,0.3s,baz=164,slow=11,SNR=5.1						
SIV	**San Ignacio**	**18.14**	**127**	Lg	Lg	08 45 55.2	
	0.1nm,0.3s,baz=233,slow=20,SNR=3.1						
NVAR	**Mina Array Bea**	**58.55**	**322**	P	P	08 46 29.1	-0.2
	0.2nm,0.5s,baz=132,slow=8.0,SNR=2.5						
YKA	**Yellowknife Ar**	**73.78**	**342**	P	P	08 48 06.4	+0.1
	0.1nm,0.4s,baz=140,slow=6.3,SNR=5.2						

*IDC **05** 08:38:27.7±3.8, 65°.98N×175°.53W, h0km, mb3.1/3, mb1 3.4/6, mb1mx3.2/51, mbtmp3.3/6, ML3.1/2, Error ellipse: s-maj=142.8km s-min=20.5km az=2.0*
ISC 05 08:38:26.5±2.2, 65°.4N±0°.6×175°.0W±0°.1, h10km, n6, σ1§72/6, mb3.3/3, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**11.83**	**80**	Pn	**Pn**	**08 41 14.3**	**-0.7**
	0.0nm,0.3s,baz=285,slow=13,SNR=6.2						
SEY	**Seymchan**	**14.34**	**275**	Pn	**Pn**	**08 41 50.4**	**+1.1**
	0.1nm,0.3s,baz=60,slow=20,SNR=8.0						
INK	**Inuvik**	**16.33**	**61**	Pn	**Pn**	**08 42 16.4**	**+0.9**
YKA	**Yellowknife Ar**	**25.80**	**68**	P	**P**	**08 43 58.6**	**+1.4**
	0.1nm,0.7s,baz=305,slow=7.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**46.47**	**307**	P	**P**	**08 46 52.0**	**-1.2**
	0.5nm,0.6s,baz=40,slow=7.5,SNR=3.3						
MKAR	**Makanchi Array**	**53.38**	**303**	P	**P**	**08 47 44.1**	**-1.7**
	0.2nm,0.6s,baz=49,slow=6.5,SNR=3.1						

IDC 05 08:44:11.4±2.2, 2°.42N×126°.91E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/30, mbtmp3.2/3, Error ellipse: s-maj=182.4km s-min=24.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.39**	**162**	P	P	08 49 21.9	-0.2
	0.3nm,0.4s,baz=341,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.81**	**166**	P	P	08 49 54.0	+0.4
	0.1nm,0.3s,baz=344,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**58.73**	**326**	P	P	08 54 10.9	-0.2
	0.2nm,0.6s,baz=137,slow=7.1,SNR=3.7						

*IDC **05** 08:51:08.3±1.4, 37°.05N×24°.44W, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/44, mbtmp3.6/4, Error ellipse: s-maj=45.2km s-min=32.2km az=27.0*
*PDA **05** 08:51:12.1±1.3, 36°.77N×24°.63W, h10km±6km, MD4.1, ML3.8, Error ellipse: s-maj=18.9km s-min=4.6km az=44.0*
*CSEM **05** 08:51:12.1, 36°.77N×24°.63W, h10km, ML3.8*
ISC 05 08:51:12.2±1.4, 37°.0N±0°.1×24°.7W±0°.1, h30km±9km, n38, σ0§70/53, mb3.6/4, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.28**	**270**	*e*P	**Pb**	**08 51 19.2**	**-0.3**
PSMN				*e*S	**Sb**	**08 51 24.6**	**+0.2**
PSMN				A	A	08 51 27.1	
	1μm,0.3s						
PSMN	**Pico do Norte,**	**0.28**	**270**	*e*P	**Pb**	**08 51 19.2**	**-0.3**
PSMN				*e*S	**Sb**	**08 51 24.6**	**+0.2**
PSMA	**Santa Maria**	**0.33**	**268**	*e*P	**Pb**	**08 51 19.9**	**-0.2**
PSMA				*e*S	**Sb**	**08 51 25.8**	**+0.3**
PSMA				A	A	08 51 37.5	
	740nm,0.4s						
GRON	**Grota Negra**	**1.00**	**320**	*e*P	Pn	08 51 27.7	-2.6
GRON				*e*S	**Sn**	**08 51 41.3**	**-2.2**
GRON				A	A	08 51 43.9	
	263nm,0.3s						
PDA	**Ponta Delgada**	**1.06**	**315**	*e*P	Pn	08 51 29.6	-1.4
PDA				*e*S	**Sn**	**08 51 44.4**	**-0.3**
PDA				A	A	08 51 45.5	
	357nm,0.2s						
PDA	**Ponta Delgada**	**1.06**	**315**	*e*P	Pn	08 51 29.6	-1.4
PDA				*e*S	**Sn**	**08 51 44.4**	**-0.3**
PSET	**Sete Cidades**	**1.15**	**316**	*e*P	Pn	08 51 31.1	-1.1
PSET				*e*S	**Sn**	**08 51 47.0**	**+0.1**
PSET				A	A	08 51 56.7	
	582nm,0.4s						
PSET	**Sete Cidades**	**1.15**	**316**	*e*P	Pn	08 51 31.1	-1.1
PSET				*e*S	**Sn**	**08 51 47.0**	**+0.1**
ADH	**Angra Heroismo**	**2.59**	**310**	*e*P	**Pn**	**08 51 52.0**	**0.0**
ADH				*e*S	**Sn**	**08 52 22.2**	**-0.3**
ADH				A	A	08 52 25.8	
	176nm,0.3s						
ADH	**Angra Heroismo**	**2.59**	**310**	*e*P	**Pn**	**08 51 52.0**	**0.0**
ADH				*e*S	**Sn**	**08 52 22.2**	**-0.3**
TOPO	**Topo**	**2.99**	**303**	*e*P	**Pn**	**08 51 58.2**	**+0.5**
TOPO				*e*S	**Sn**	**08 52 32.2**	**-0.3**
TOPO	**Topo**	**2.99**	**303**	*e*P	**Pn**	**08 51 58.2**	**+0.5**
TOPO				*e*S	**Sn**	**08 52 32.2**	**-0.3**
PMAN	**Manadas**	**3.13**	**302**	*e*P	**Pn**	**08 51 59.5**	**0.0**
PMAN				*e*S	**Sn**	**08 52 35.1**	**-0.7**
PMAN				A	A	08 52 37.1	
	73nm,0.5s						
PMAN	**Manadas**	**3.13**	**302**	*e*P	**Pn**	**08 51 59.5**	**0.0**
PMAN				*e*S	**Sn**	**08 52 35.1**	**-0.7**
ROSA	**Rosais**	**3.27**	**303**	*e*P	**Pn**	**08 52 01.8**	**+0.3**
ROSA				*e*S	**Sn**	**08 52 38.4**	**-1.0**
ROSA				A	A	08 52 40.8	
	57nm,0.2s						
ROSA	**Rosais**	**3.27**	**303**	*e*P	**Pn**	**08 52 01.8**	**+0.3**
ROSA				*e*S	**Sn**	**08 52 38.4**	**-1.0**
PGRA	**Graciosa**	**3.28**	**309**	*e*P	**Pn**	**08 52 01.9**	**+0.4**
PGRA				*e*S	**Sn**	**08 52 39.3**	**-0.2**
PGRA				A	A	08 52 39.4	
	110nm,0.4s						
PGRA	**Graciosa**	**3.28**	**309**	*e*P	**Pn**	**08 52 01.9**	**+0.4**
PGRA				*e*S	**Sn**	**08 52 39.3**	**-0.2**
PICO	**Pico**	**3.30**	**298**	*e*P	**Pn**	**08 52 02.4**	**+0.5**
PICO				*e*S	**Sn**	**08 52 38.8**	**-1.3**
PICO	**Pico**	**3.30**	**298**	*e*P	**Pn**	**08 52 02.4**	**+0.5**
PICO				*e*S	**Sn**	**08 52 38.8**	**-1.3**
PCAN	**Candelaria**	**3.33**	**297**	*e*P	**Pn**	**08 52 02.3**	**+0.1**
PCAN				*e*S	**Sn**	**08 52 39.7**	**-1.0**
PCAN				A	A	08 52 40.5	
	148nm,0.4s						
PCAN	**Candelaria**	**3.33**	**297**	*e*P	**Pn**	**08 52 02.3**	**+0.1**
PCAN				*e*S	**Sn**	**08 52 39.7**	**-1.0**
HOR	**Horta**	**3.46**	**297**	*e*P	**Pn**	**08 52 04.0**	**+0.1**
HOR	**Horta**	**3.46**	**297**	*e*P	**Pn**	**08 52 04.0**	**+0.1**
CALA	**Caldeira**	**3.53**	**298**	*e*P	**Pn**	**08 52 05.1**	**0.0**
CALA				*e*S	**Sn**	**08 52 44.9**	**-0.9**
CALA	**Caldeira**	**3.53**	**298**	*e*P	**Pn**	**08 52 05.1**	**0.0**
CALA				*e*S	**Sn**	**08 52 44.9**	**-0.9**
PCED	**Cedros**	**3.55**	**298**	*e*P	**Pn**	**08 52 05.3**	**0.0**
PCED				*e*S	**Sn**	**08 52 45.4**	**-0.8**
PCED				A	A	08 52 48.3	
	86nm,0.3s						
PCED	**Cedros**	**3.55**	**298**	*e*P	**Pn**	**08 52 05.3**	**0.0**
PCED				*e*S	**Sn**	**08 52 45.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**33.50**	**128**	P	**P**	**08 57 48.2**	**-0.9**
	0.4nm,0.6s,baz=318,slow=8.6,SNR=2.9						
H10N2	**ASCENSION HYDR**	**45.62**	**166**	T	T	09 48 24.1	
	baz=353,slow=74						
H10N3	**ASCENSION HYDR**	**45.62**	**166**	T	T	09 48 27.3	
	baz=353,slow=74						
H10N1	**ASCENSION HYDR**	**45.63**	**166**	T	T	09 48 16.2	
	baz=353						
H10S1	**ASCENSION HYDR**	**46.67**	**166**	T	T	09 49 34.3	
	baz=350,slow=75,SNR=3.6						
H10S3	**ASCENSION HYDR**	**46.68**	**166**	T	T	09 49 31.1	
	baz=350,slow=75,SNR=3.9						
H10S2	**ASCENSION HYDR**	**46.69**	**166**	T	T	09 49 31.1	
	baz=350,slow=75,SNR=3.3						
TXAR	**Lajitas Array**	**64.78**	**289**	P	**P**	**09 01 50.3**	**+2.0**
	0.3nm,0.6s,baz=81,slow=6.8,SNR=4.7						
ZALV	**Zalesovo Beam**	**71.02**	**36**	P	**P**	**09 02 26

11nm,1.0s,baz=232,slow=11,SNR=6.9
SAML Samuel 29.19 21 *e*P **P 09 14 17.9 0.0**
4.7nm,1.1s
BDFB Brasilia 30.82 54 P **P 09 14 31.9 -0.5**
1.1nm,0.5s,baz=235,slow=12,SNR=3.2
OTAV Otavalo 37.11 352 *e*P **P 09 15 29.2 +1.9**
14nm,1.6s
SDV Santo Domingo 45.47 4 *e*P **P 09 16 35.4 -0.3**
8.3nm,1.0s
SNAA Sanae 49.47 157 *e*P **P 09 17 07.7 +1.7**
4.4nm,0.9s
QSPA South Pole Qui 53.48 180 P **P 09 17 36.9 +0.7**
9.2nm,1.0s,baz=122,slow=5.2,SNR=12
QSPA South Pole Qui 53.48 180 *e*P **P 09 17 37.2 +1.0**
8.2nm,0.9s
TEIG Tepich 58.39 344 *e*P **P 09 18 11.6 0.0**
6.8nm,0.8s
JCT Junction City 71.32 336 *e*P **P 09 19 36.6 +1.0**
TXAR Lajitas Array 71.63 332 P **P 09 19 38.1 +0.6**
0.6nm,0.6s,baz=150,slow=8.5,SNR=7.8
SWET Sewanee 72.55 349 *e*P **P 09 19 43.0 +0.2**
8.6nm,0.6s
WVT Waverly 73.75 348 *e*P **P 09 19 49.4 -0.5**
3.2nm,0.6s
TUL1 Leonard 75.24 341 *e*P **P 09 19 58.6 +0.1**
4.7nm,0.8s
LIC Lamto 76.69 72 *e*P **P 09 20 08.1 +0.8**
36nm,1.3s
TIC Toumodi 76.96 71 *e*P **P 09 20 10.1 +1.2**
7.2nm,0.2s
KIC Kosan Boka 76.99 72 *e*P **P 09 20 10.1 +1.0**
28nm,1.1s
DBIC Dimbokro 77.10 72 P **P 09 20 10.7 +1.1**
3.5nm,0.6s,baz=198,slow=6.2,SNR=5.8
DBIC Dimbokro 77.10 72 *e*P **P 09 20 10.7 +1.1**
3.0nm,0.7s
ANMO Albuquerque 77.69 333 *e*P **P 09 20 13.8 +1.1**
26nm,2.3s
BOSA Boshof 79.76 118 P **P 09 20 25.4 +1.0**
1.3nm,0.5s,baz=231,slow=8.5,SNR=3.8
LBTB Lobatse 82.14 115 *e*P **P 09 20 37.8 +0.7**
2.7nm,0.6s
CCUT Cedar City 82.67 329 *e*P **P 09 20 41.6 +2.1**
5.4nm,1.4s
ECSD EROS Data Cent 82.85 343 *e*P **P 09 20 40.1 +0.1**
161nm,3.0s
SRU San Rafael Swe 82.89 332 *e*P **P 09 20 41.5 +0.9**
0.8nm,0.3s
TMUT Trail Mountain 83.31 331 *e*P **P 09 20 44.0 +1.1**
29nm,0.4s
DUG Dugway, Tooele 84.71 331 *e*P **P 09 20 51.6 +1.8**
42nm,2.6s
TPH Tonopah 84.76 327 *e*P **P 09 20 51.7 +1.5**
11nm,1.5s
RSSD Black Hills 85.17 338 *e*P **P 09 20 52.8 +0.7**
4.3nm,1.0s
HWUT Hardware Ranch 85.45 332 *e*P **P 09 20 54.3 +0.7**
7.3nm,1.2s
NVAR Mina Array Bea 85.53 326 P **P 09 20 53.6 -0.4**
0.4nm,0.9s,baz=188,slow=10,SNR=2.9
BW06 Boulder Array 85.74 334 *e*P **P 09 20 55.5 +0.5**
7.6nm,1.5s
PDAR Pinedale Array 85.74 334 P **P 09 20 54.4 -0.6**
1.6nm,1.1s,baz=145,slow=5.4,SNR=5.1
HVU Hansel Valley 86.06 332 *e*P **P 09 20 57.1 +0.6**
3.4nm,1.0s
TORD Torodi Ar. Bea 86.17 71 P **P 09 20 57.8 +0.3**
1.8nm,0.6s,baz=214,slow=3.7,SNR=10.0
MDND Maddock 87.43 343 *e*P **P 09 21 03.2 +0.4**
8.9nm,1.4s
EIDS Eidsvold 105.34 221 *e*Pdif **Pdif 09 22 17.6 -7.6**
BRTR Keskin Array B 124.10 63 PKP **PKPdf 09 27 14.5 +0.2**
0.5nm,0.5s,baz=283,slow=2.8,SNR=3.4
H11S2 WAKE ISLAND Hyl 24.60 268 T T 11 44 25.6
baz=119
H11S1 WAKE ISLAND Hyl 24.61 268 T T 11 44 16.0
baz=119
H11S3 WAKE ISLAND Hyl 24.62 268 T T 11 44 31.6
baz=119
ABKAR Akbulak array 144.21 55 *e*PKPdf **PKPab 09 27 49.6 +0.6**
HYB Hyderabad 148.63 120 *i* PKP **PKPdf 09 27 57.0 -2.7**
BRVK Borovoye 149.95 46 *e*PKPdf **PKPdf 09 28 01.8 +1.1**
BRVK *e*PKPbc **PKiKP 09 28 06.8 +0.3**
BRVK *e*PKPab **PKPab 09 28 11.6 +0.3**
BVAR Borovoye Array 150.02 46 PKPbc **PKPbc 09 28 06.5 +0.7**
1.2nm,0.6s,baz=279,slow=2.9,SNR=8.0
TKM2 Tokmak 2 155.49 66 *e*PKPdf **PKPdf 09 28 08.3 -1.1**
TKM2 *e*PKPbc PKPbc 09 28 18.5
TKM2 *e*PKPab **PKPab 09 28 36.4 +1.0**
KURK Kurchatov 155.61 46 *e*PKPdf **PKPdf 09 28 09.2 +0.2**
KSH Kashi 155.80 74 PKPbc **PKPdf 09 28 06.2 -3.6**
KSH sPKP 09 28 19.9
KSH PKS **PKSdf 09 31 40.5 -3.4**
KSH PP PP 09 32 07.5 -6.9
KSH SKS **SKSdf 09 35 10.7 -2.8**
KSH SS SS 09 51 49.9 -10
KSH PPMZ
97nm,4.4s
ZALV Zalesovo Beam 157.13 34 PKP **PKPdf 09 28 09.9 -1.0**
0.5nm,0.3s,baz=354,slow=1.5,SNR=5.1
ZALV PKPab **PKPab 09 28 41.6 0.0**
1.7nm,0.7s,baz=300,slow=3.3,SNR=5.9
MKAR Makanchi Array 159.35 53 PKPab **PKPab 09 28 52.0 +0.3**
0.8nm,0.8s,baz=264,slow=5.4,SNR=2.9
CN2 Changchun 164.01 302 *e*PKP **PKPdf 09 28 17.1 -1.7**
NJ2 Nanjing 168.86 249 *e*PKP **PKPdf 09 28 21.1 -1.8**
WHN Wuhan 171.06 228 PKP **PKPdf 09 28 20.1 -4.1**
BJI Beijing 171.81 296 PKP PKPdf 09 28 18.1 -6.2
HHC Hu-ho-hao-te 174.38 318 *e*PKP **PKPdf 09 28 22.2 -3.2**
HHC pPKP **pPKPdf 09 28 34.0 -3.0**
HHC PP **PP 09 33 54.2 +3.9**
HHC SKS SKSdf 09 35 15.8 -10
HHC SKKS **SKKSac 09 40 31.6 -2.5**
HHC SS **SS 09 55 13.1 +4.9**
HHC PPMZ
160nm,8.7s
LZH Lanzhou 177.67 106 *e*PKP **PKPdf 09 28 22.6 -3.8**
LZH pPKP **pPKPdf 09 28 33.5 -4.4**
LZH sPKP 09 28 38.0

*IDC **05** 09:12:51.0±1.0,38°.43S×73°.98W,h0km,mb4.0/8, mb1 4.2/9,mb1mx4.0/25,mbtmp4.0/9,ML3.4/1,Error ellipse: s-maj=35.7km s-min=21.6km az=76.0*
*ISCJB **05** 09:12:54.8±0.9,38°.5S±0°.1×74°.0W±0°.2,h33km,mb4.0/8, Error ellipse: s-maj=28.2km s-min=14.8km az=159.4*
ISC 05 09:12:56.5±1.0,38°.4S±0°.1×73°.9W±0°.2,h35km,n11, σ0§44/11,mb4.0/8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.49**	**132**	Pn	**Pn**	**09 13 48.9**	**+0.4**
	0.8nm,0.3s,baz=311,slow=14,SNR=2.8						
PLCA				Lg	Lg	09 14 44.5	
	4.8nm,0.3s,baz=49,slow=18,SNR=6.2						
LPAZ	**La Paz**	**22.63**	**15**	P	**P**	**09 17 55.7**	**+0.6**
	3.8nm,0.9s,baz=170,slow=8.3,SNR=4.9						
SIV	**San Ignacio**	**25.05**	**30**	P	**P**	**09 18 17.0**	**-0.6**
	0.9nm,0.5s,baz=257,slow=8.4,SNR=3.6						
QSPA	**South Pole Qui**	**51.83**	**180**	P	**P**	**09 22 00.8**	**0.0**
	2.0nm,0.9s,baz=130,slow=8.1,SNR=2.6						
TXAR	**Lajitas Array**	**72.90**	**333**	P	**P**	**09 24 22.0**	**-0.1**
	0.7nm,0.8s,baz=153,slow=8.1,SNR=6.4						
DBIC	**Dimbokro**	**78.05**	**72**	P	**P**	**09 24 52.0**	**+0.1**
	3.8nm,0.7s,baz=184,slow=4.9,SNR=4.6						
BOSA	**Boshof**	**79.37**	**118**	P	**P**	**09 24 58.6**	**-0.6**
	3.3nm,0.8s,baz=239,slow=12,SNR=3.9						
PDAR	**Pinedale Array**	**87.04**	**335**	P	**P**	**09 25 38.5**	**+0.2**
	0.7nm,0.9s,baz=108,slow=5.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**87.14**	**71**	P	**P**	**09 25 38.8**	**-0.3**
	1.0nm,0.7s,baz=225,slow=5.6,SNR=5.0						
AKTO	**Aktyubinsk**	**144.25**	**54**	PKP	**PKPab**	**09 32 26.1**	**0.0**
	1.5nm,0.5s,baz=275,slow=5.2,SNR=5.0						
BVAR	**Borovoye Array**	**151.48**	**48**	PKPbc	**PKPbc**	**09 32 46.4**	**+0.4**
	1.2nm,0.7s,baz=298,slow=3.2,SNR=6.5						

*IDC **05** 09:19:31.6±0.3,36°.61S×73°.35W,h0km,mb5.2/27, mb1 5.2/30,mb1mx5.2/34,mbtmp5.2/30,ML4.9/3,MS5.9/18, Ms1 5.9/18,ms1mx5.6/25,Error ellipse: s-maj=14.3km s-min=10.1km az=84.0*
*GUC **05** 09:19:32.1±0.5,36°.57S×73°.66W,h19km±6km,ML6.1*
*ISCJB **05** 09:19:35.2±0.1,36°.62S±0°.02×73°.26W±0°.03,h33km, mb5.8/216,MS5.8/204,Error ellipse: s-maj=3.7km*

s-min=3.3km az=0.0
*BJI **05** 09:19:35.8,36°.50S×73°.30W,h35km,mB5.8/45,Ms6.3/57, Ms7 6.1/59*
*GCMT **05** 09:19:36.4±0.1,36°.76S×73°.59W,h15km,MW6.1/117, Moment Tensor Solution. s112,c225; s117,c347; Duration: 28 Moment tensor: Scale 10^18Nm; Mrr0.46±.01; Mθθ0.06±.00; Mφφ-0.52±.01; Mrθ0.52±.02; Mrφ0.04±.00; Mθφ-1.83±.05; Best double couple: M0 1.96600×10^18 NP1:φs164.00000°,δ83.00000°, λ87.00000°. NP2:φs11.00000°,δ8.00000°,λ116.00000°. Principal axes: T 1.9460, Plg52.0000°, Azm70.0000°; N 0.0410, Plg3.0000°, Azm165.0000°; P -1.9860, Plg38.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **05** 09:19:36.0±0.0,36°.71S×73°.44W,h35km Best double couple: NP1:φs162.00000°,δ80.00000°,λ73.00000°. NP2:φs44.00000°,δ19.00000°,λ150.00000°. Principal axes: T 1.4400, Plg51.0000°, Azm53.0000°; N 0.1500, Plg16.0000°, Azm164.0000°; P -1.6000, Plg33.0000°, Azm266.0000°;*
*NEIC **05** 09:19:36.4±1.1,36°.63S×73°.22W,h30km±7km,mb5.9/193, MS5.8/158,MW5.9,MW6.1,MW6.0,ML6.0(GUC) Error ellipse: s-maj=4.8km s-min=2.7km az=76.0 Best double couple: NP1:φs164.00000°,δ72.00000°,λ76.00000°. NP2:φs22.00000°,δ23.00000°,λ126.00000°. Principal axes: T 0.9700, Plg60.0000°, Azm53.0000°; N 0.4000, Plg13.0000°, Azm168.0000°; P -1.3800, Plg25.0000°, Azm264.0000°;*
NEIC Felt [VI] at Concepcion, [IV] at Angol and [III] at Linares, Talca and Temuco. Also felt at Chiguayante, Chillan, Los Angeles, Paine, Puente Alto, Santiago and Talcahuano. Felt [III] at Neuquen, Argentina. Also felt at San Carlos de Bariloche and San Rafael.
*MOS **05** 09:19:36.0±1.2,36°.56S×73°.28W,h33km,mb6.0/57, MS5.9/41 Error ellipse: s-maj=13.9km s-min=6.1km az=100.5*
*NEIC **05** 09:19:51.9±0.0,36°.69S×73°.86W,h39km Best double couple: NP1:φs176.00000°,δ73.00000°,λ87.00000°. NP2:φs5.00000°,δ17.00000°,λ99.00000°. Principal axes: T 1.0700, Plg61.0000°, Azm82.0000°; N -0.0600, Plg2.0000°, Azm176.0000°; P -1.0200, Plg28.0000°, Azm268.0000°;*
ISC 05 09:19:36.8±0.6,36°.63S±0°.03×73°.24W±0°.04,h34km±2km, h35km:pP-P,n1196,σ1§12/1168,mb5.9/216,MS5.9/208, 254C-248D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**1.54**	**60**	↑*i*P	**Pn**	**09 20 02.2**	**+0.5**
LNCH				*i* S	**Sb**	**09 20 25.1**	**+1.2**
LNCH				IAML		09 20 35.5	
	comp=E,294μm,0.8s						
LNCH	**Linares**	**1.54**	**60**	↑*i*P	**Pn**	**09 20 02.2**	**+0.5**
LNCH				*i* S	**Sb**	**09 20 25.1**	**+1.2**
LNV	**Longovilo**	**3.06**	**30**	↑*i*P	**Pn**	**09 20 22.2**	**-0.5**
LNV	**Longovilo**	**3.06**	**30**	*e*P	**Pn**	**09 20 22.4**	**-0.4**
VLCH	**Valdivia**	**3.17**	**180**	*e*P	**Pn**	**09 20 22.4**	**-1.8**
VLCH	**Valdivia**	**3.17**	**180**	*e*P	**Pn**	**09 20 22.4**	**-1.8**
CACH	**El Canelo**	**3.31**	**41**	*e*P	**Pn**	**09 20 26.8**	**+0.5**
CACH	**El Canelo**	**3.31**	**41**	*e*P	**Pn**	**09 20 26.8**	**+0.5**
CHCH	**Chadas Angostu**	**3.42**	**39**	↓*i*P	**Pn**	**09 20 27.5**	**-0.3**
CHCH	**Chadas Angostu**	**3.42**	**39**	↑*i*P	**Pn**	**09 20 28.5**	**+0.7**
ANTU	**Antumapu**	**3.73**	**36**	*e*P9	**Pn**	**09 20 32.3**	**+0.3**
ANTU				*i* S	**Sn**	**09 21 17.4**	**+2.7**
ANTU	**Antumapu**	**3.73**	**36**	↓*i*P	**Pn**	**09 20 32.3**	**+0.3**
IHA	**Instituto Hidr**	**3.83**	**21**	↑*i*P	**Pn**	**09 20 31.5**	**-1.8**
IHA	**Instituto Hidr**	**3.83**	**21**	↑*i*P	**Pn**	**09 20 31.5**	**-1.8**
STL	**Santa Lucia**	**3.83**	**35**	↓*i*P	**Pn**	**09 20 32.8**	**-0.7**
STL				*i* S	**Sn**	**09 21 19.1**	**+1.8**
FSR	**Penalolen**	**3.85**	**36**	*e*P9	**Pn**	**09 20 34.9**	**+1.2**
FSR				*i* S	**Sn**	**09 21 20.9**	**+3.1**
LACH	**Col Las Americ**	**3.87**	**36**	*e*P	**Pn**	**09 20 33.9**	**-0.1**
LACH	**Col Las Americ**	**3.87**	**36**	*e*P	**Pn**	**09 20 33.9**	**-0.1**
OSCH	**Osorno**	**3.94**	**179**	*e*P	**Pn**	**09 20 33.0**	**-1.7**
PEL	**Peldehue**	**4.06**	**32**	↓*i*P	**Pn**	**09 20 36.0**	**-0.6**
PEL	**Peldehue**	**4.06**	**32**	↓*i*P	**Pn**	**09 20 36.0**	**-0.6**
PEL	**Peldehue**	**4.06**	**32**	↓*i*P	**Pn**	**09 20 36.0**	**-0.6**
PLCA	**Paso Flores**	**4.60**	**154**	Pn	**Pn**	**09 20 44.6**	**+0.6**
	comp=E,21nm,0.3s,baz=328,slow=12,SNR=190						
PLCA				Lg	Lg	09 21 55.8	
	comp=E,86nm,0.3s,baz=220,slow=19,SNR=4.2						
CFAA	**Coronel Fontan**	**6.51**	**41**	Pn	**Pn**	**09 21 09.8**	**-0.4**
	comp=E,10nm,0.3s,baz=210,slow=12,SNR=83						
CFAA				Sn	**Sn**	**09 22 24.9**	**+1.7**
	comp=E,3.6nm,0.3s,baz=228,slow=21,SNR=3.6						
CFAA				Lg	Lg	09 22 58.4	
	comp=E,5.1nm,0.3s,baz=306,slow=23,SNR=4.7						
CFAA				LR	LR	09 23 47.6	
	comp=E,16μm,18.5s,baz=226,slow=39						
TRQA	**Tornquist**	**9.08**	**102**	*e*Pn	**Pn**	**09 21 47.7**	**+2.3**
TRQA				*e*Sn	**Sn**	**09 23 26.2**	**-0.2**
LVC	**Limon Verde**	**14.47**	**16**	*e*Pn	**Pn**	**09 22 59.0**	**-0.4**
	comp=E,316nm,1.3s						
LVC				*e*Sn	**Sn**	**09 25 41.5**	**+2.9**
CPUP	**Villa Florida**	**17.00**	**57**	*e*P	**Pn**	**09 23 27.8**	**-4.0**
CPUP				*e*		09 26 36.2	
CPUP	**Villa Florida**	**17.00**	**57**	Pn	**Pn**	**09 23 28.5**	**-3.3**
	comp=E,2.4nm,0.3s,baz=229,slow=12,SNR=32						
CPUP				LR	LR	09 31 12.0	
	comp=E,87μm,18.7s,baz=219,slow=41						
CPUP	**Villa Florida**	**17.00**	**57**	*e*Pn	**Pn**	**09 23 27.8**	**-4.0**
	comp=E,0.1nm,0.3s						
CPUP				*e*Sn	**Sn**	**09 26 36.2**	**-3.5**
USHA	**Ushuaia**	**18.50**	**171**	Pn	**Pn**	**09 23 50.5**	**+0.4**
	comp=E,1.8nm,0.3s,baz=347,slow=10,SNR=19						
USHA				LR	LR	09 30 46.3	
	comp=E,17μm,21.2s,baz=326,slow=36						
EFI	**East Falkland**	**18.51**	**149**	*e*P	**P**	**09 23 50.0**	**+0.1**
EFI				pmax	pmax		
	comp=Z,400nm,1.3s						
EFI	**East Falkland**	**18.51**	**149**	*e*P	**P**	**09 23 50.0**	**+0.1**
	comp=Z,400nm,1.3s						
EFI				*e*S	Sn	09 27 04.7	-11
LPAZ	**La Paz**	**20.77**	**14**	P	**P**	**09 24 16.4**	**+0.9**
	comp=Z,40nm,0.8s,baz=198,slow=8.9						
SIV	**San Ignacio**	**23.23**	**31**	P	**P**	**09 24 40.0**	**-1.1**
	comp=Z,48nm,0.9s,baz=228,slow=12,SNR=65						
SIV				LR	LR	09 35 37.1	
	comp=Z,51μm,18.1s,baz=226,slow=42						
NNA	**Nana**	**24.75**	**352**	*e*P	**P**	**09 24 55.3**	**0.0**
NNA				pmax	pmax		
	comp=Z,613nm,1.8s						
NNA				MLR	MLR		
	comp=Z,9μm,21.0s						
NNA	**Nana**	**24.75**	**352**	P	**P**	**09 24 54.6**	**-0.7**
	comp=Z,42nm,1.0s,baz=200,slow=10,SNR=8.7						
NNA	**Nana**	**24.75**	**352**	*e*P	**P**	**09 24 55.3**	**0.0**
	comp=Z,613nm,1.8s						
NNA				LR	LR		
	comp=Z,9μm,21.0s						
PMSA	**Palmer Station**	**28.71**	**172**	P	**P**	**09 25 31.8**	**+1.4**
	comp=Z,72nm,1.2s,baz=333,slow=6.8,SNR=3.1						
PMSA				LR	LR	09 36 27.9	
	comp=Z,22μm,19.4s,baz=339,slow=35						
PMSA	**Palmer Station**	**28.71**	**172**	*e*P	**P**	**09 25 29.2**	**-1.2**
	comp=Z,308nm,1.6s						
SAML	**Samuel**	**29.03**	**21**	*e*P	**P**	**09 25 32.8**	**-0.9**
	comp=Z,370nm,2.1s						
SAML				LR	LR		
	comp=Z,30μm,19.0s						
ATAH	**Atahualpa**	**29.73**	**350**	P	**P**	**09 25 41.6**	**+1.2**
	comp=Z,12nm,1.0s,baz=183,slow=7.0,SNR=12						
ATAH				LR	LR	09 36 38.9	
	comp=Z,7μm,18.8s,baz=177,slow=35						
BDFB	**Brasilia**	**30.65**	**54**	P	**P**	**09 25 47.4**	**-0.9**
	comp=Z,18nm,0.8s,baz=218,slow=9.0,SNR=18						
BDFB				LR	LR	09 39 20.0	
	comp=Z,56μm,19.2s,baz=222,slow=39						
HOPE	**Hope Point**	**30.78**	**137**	*e*P	**P**	**09 25 49.8**	**+1.0**
	comp=Z,200nm,1.4s						
HOPE				LR	LR		
	comp=Z,11μm,19.0s						
RPN	**Rapa Nui**	**31.93**	**277**	LR	LR	09 35 11.4	
	comp=Z,33μm,20.1s,baz=128,slow=30						
OTAV	**Otavalo**	**37.00**	**351**	*e*P	**P**	**09 26 44.7**	**+1.0**
OTAV				*e*S	**S**	**09 32 26.9**	**-0.4**
OTAV				LR	LR		
	comp=Z,5μm,20.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**39.11**	**332**	*e*P	**P**	**09 27 01.5**	**+0.6**
PAYG				LR	LR		
	comp=Z,9μm,21.0s						
ROSC	**El Rosal**	**41.28**	**358**	P	**P**	**09 27 20.3**	**+0.9**
	comp=Z,16nm,0.6s,baz=210,slow=4.9,SNR=16						
ROSC	**El Rosal**	**41.28**	**358**	*e*P	P	09 27 22.8	+3.4
SDV	**Santo Domingo**	**45.34**	**4**	*e*P	**P**	**09 27 50.8**	**-1.2**
	comp=Z,121nm,0.9s						
SDV				LR	LR		
	comp=Z,17μm,19.0s						
RCBR	**Riachuelo**	**45.88**	**57**	P	**P**	**09 27 56.9**	**+0.8**
	comp=Z,54nm,1.1s,baz=217,slow=9.6,SNR=19						
RCBR	**Riachuelo**	**45.88**	**57**	*e*P	**P**	**09 27 56.6**	**+0.6**
	comp=Z,489nm,2.1s						
RCBR				LR	LR		
	comp=Z,55μm,19.0s						
BCIP	**Isla Barro Col**	**45.98**	**351**	*e*P	**P**	**09 27 57.6**	**+0.9**
	comp=Z,398nm,1.5s						
BCIP				LR	LR		
	comp=Z,6μm,21.0s						
VNA3	**Neumayer Olymp**	**47.31**	**157**	P	**P**	**09 28 07.8**	**+1.1**
JTS	**JuntasAbangare**	**47.96**	**344**	↑*e*P	**P**	**09 28 11.4**	**-0.8**
JTS				pmax	pmax		
	comp=Z,211nm,1.9s						
JTS	**JuntasAbangare**	**47.96**	**344**	P	**P**	**09 28 12.0**	**-0.2**
	comp=Z,19nm,1.0s,baz=138,slow=4.2,SNR=9.0						
JTS	**JuntasAbangare**	**47.96**	**344**	*e*P	**P**	**09 28 12.1**	**-0.2**
	comp=Z,248nm,1.4s						
JTS				LR	LR		
	comp=Z,5μm,20.0s						
VNA2	**Neumayer--Watz**	**47.99**	**156**	P	**P**	**09 28 12.7**	**+0.8**
TRIS	**Tristan da Cun**	**47.99**	**110**	PFAKE		09 28 20.0	+7.7
TRIS				LR	LR		
	comp=Z,11μm,19.0s						
PTCN	**Pitcairn Islan**	**49.52**	**267**	PFAKE		09 28 40.0	+16
PTCN				LR	LR		
	comp=Z,10μm,19.0s						
SNAA	**Sanae**	**49.54**	**157**	P	**P**	**09 28 24.7**	**+0.8**
SNAA	**Sanae**	**49.54**	**157**	↑*i*P	**P**	**09 28 24.1**	**+0.3**
SNAA	**Sanae**	**49.54**	**157**	*c iP*	**P**	**09 28 24.5**	**+0.7**
SNAA				pmax	pmax		
	comp=Z,101nm,1.2s						
SNAA	**Sanae**	**49.54**	**157**	P	**P**	**09 28 24.2**	**+0.3**
	comp=Z,24nm,1.1s,baz=282,slow=6.4,SNR=19						
SNAA	**Sanae**	**49.54**	**157**	P	**P**	**09 28 24.2**	**+0.3**
	comp=Z,8.2nm,1.3s						
GRGR	**Grenville**	**49.72**	**15**	*e*P	**P**	**09 28 27.3**	**+1.6**
	comp=Z,691nm,1.1s						
GRGR				LR	LR		
	comp=Z,12μm,19.0s						
FCV	**Fort Charlotte**	**50.80**	**15**	*e*	**P**	**09 28 35.7**	**+1.9**
SVV	**Soufriere Volc**	**50.96**	**15**	*e*	**P**	**09 28 37.9**	**+2.9**
SSV	**Crater Summit**	**50.97**	**15**	*e*	**P**	**09 28 38.0**	**+2.8**
BBGH	**Gun Hill**	**51.16**	**17**	PFAKE		09 28 50.0	+13
BBGH				LR	LR		
	comp=Z,10μm,22.0s						
FDF	**Fort de France**	**52.35**	**15**	*e*P	**P**	**09 28 45.7**	**+0.2**
FDF				pmax	pmax		
	comp=Z,188nm,1.1s						
FDF				MLR	MLR		
	comp=Z,9μm,20.0s						
FDF	**Fort de France**	**52.35**	**15**	*e*P	**P**	**09 28 45.7**	**+0.2**
	comp=Z,188nm,1.1s						
FDF				LR	LR		
	comp=Z,9μm,20.0s						
QSPA	**South Pole Qui**	**53.61**	**180**	P	**P**	**09 28 55.1**	**+0.6**
	comp=Z,36nm,0.8s,baz=308,slow=0.9,SNR=160						
QSPA	**South Pole Qui**	**53.61**	**180**	*e*P	**P**	**09 28 55.0**	**+0.6**
	comp=Z,121nm,1.0s						
QSPA				LR	LR		
	comp=Z,4μm,19.0s						
NVL	**N'lazarevskaya**	**54.31**	**156**	*e*P	**P**	**09 28 58.7**	**-0.5**
NVL				*e*PP	**pP**	**09 29 09.6**	**0.0**
NVL				*e*		09 30 00.3	
NVL				*e*		09 31 01.3	
NVL				*e*PPP	PPP	09 32 10.2	
NVL				*e*S	**S**	**09 36 32.3**	**-2.0**
NVL				*e*		09 38 46.8	
NVL				pmax	pmax		
	comp=Z,104nm,1.1s						
NVL				MLR	MLR		
	comp=Z,4μm,14.0s						
RKT	**Rikitea**	**54.36**	**266**	*e*S	**S**	**09 36 42.0**	**+5.7**
	comp=Z,6μm,26.2s						
RKT				*e*LR	LR	09 44 50.2	
	comp=Z,18μm,28.8s,baz=125						
RKT	**Rikitea**	**54.36**	**266**	*e*T	T	10 27 09.0	
	comp=Z,8.3nm,0.2s						
ICMP	**Isla Caja de M**	**54.59**	**8**	*e*P	**P**	**09 29 00.3**	**-1.5**
CRPR	**Cabo Rojo, PR**	**54.65**	**7**	*e*P	**P**	**09 29 01.0**	**-1.2**
	comp=Z,118nm,1.1s						
MTDJ	**Mount Denham**	**54.71**	**355**	*e*P	**P**	**09 29 02.6**	**-0.3**
	comp=Z,100nm,1.3s						
MTDJ				LR	LR		
	comp=Z,3μm,20.0s						
OBIP	**Obispado Ponce**	**54.74**	**8**	*e*P	**P**	**09 29 02.1**	**-0.8**
	comp=Z,310nm,1.4s						
CELP	**Cerrillos**	**54.77**	**8**	*e*P	**P**	**09 29 02.3**	**-0.8**
SABA	**Saba**	**54.78**	**12**	*e*P	P	09 29 11.6	+8.4
	comp=Z,320nm,1.3s						
LSP	**Las Mesas**	**54.82**	**7**	*e*P	**P**	**09 29 03.4**	**-0.1**
PAPH	**Port-au-Prince**	**54.86**	**1**	*e*P	P	09 29 08.2	+4.4
HUMP	**Col San Antoni**	**54.92**	**9**	*e*P	P	09 29 12.8	+8.6
LRS	**Lares**	**54.96**	**7**	*e*P	**P**	**09 29 03.3**	**-1.2**
AOPR	**Arecibo Observ**	**55.02**	**8**	*e*P	**P**	**09 29 04.0**	**-1.0**
	comp=Z,1μm,3.0s						
CBYP	**Canovanas**	**55.05**	**9**	*e*P	**P**	**09 29 03.5**	**-1.8**
	comp=Z,261nm,1.4s						
ANWB	**Willy Bob**	**55.08**	**13**	*e*P	**P**	**09 29 05.0**	**-0.4**
	comp=Z,86nm,0.8s						
ANWB				LR	LR		
	comp=Z,9μm,20.0s						
SDDR	**Presa de Saban**	**55.34**	**2**	*e*P	**P**	**09 29 08.1**	**+0.7**
	comp=Z,45nm,1.0s						
SDDR				LR	LR		
	comp=Z,6μm,19.0s						
SMN1	**Samana, DR**	**55.64**	**5**	*e*P	**P**	**09 29 08.4**	**-1.1**
GTBY	**Guantanamo Bay**	**56.28**	**358**	*e*P	**P**	**09 29 13.8**	**-0.1**
	comp=Z,148nm,1.2s						
GTBY				LR	LR		
	comp=Z,3μm,19.0s						
GRTK	**Grand Turk**	**57.86**	**2**	*e*P	**P**	**09 29 25.9**	**+0.8**
	comp=Z,67nm,0.8s						
GRTK				LR	LR		
	comp=Z,4μm,19.0s						
TEIG	**Tepich**	**58.31**	**343**	*e*P	**P**	**09 29 27.2**	**-1.0**
	comp=Z,239nm,1.4s						
TEIG				LR	LR		
	comp=Z,3μm,22.0s						
SBA	**Scott Base**	**60.30**	**192**	*e*P	**P**	**09 29 43.0**	**+1.6**
SBA				pmax	pmax		
	comp=Z,144nm,1.7s						
SBA				MLR	MLR		
	comp=Z,5μm,19.0s						
SBA	**Scott Base**	**60.30**	**192**	*e*P	**P**	**09 29 43.0**	**+1.6**
	comp=Z,144nm,1.7s						
SBA				LR	LR		
	comp=Z,5μm,19.0s						
ASCN	**Ascension**	**60.44**	**77**	*e*P	**P**	**09 29 44.4**	**+1.1**

comp=Z,168nm,0.2s
034A Hebbronville 67.74 336 ⇓P P 09 30 30.9 +0.1
baz=68,SNR=17
KVTX Kingsville 67.92 336 eP P 09 30 32.4 +0.4
KVTX LR LR
comp=Z,288nm,1.4s
934A Benavides 68.18 336 ⇓P P 09 30 32.8 -0.7
baz=68
TIGA Tifton 68.41 350 ⇓P P 09 30 34.0 -0.9
baz=69,SNR=5.2
TIGA Tifton 68.41 350 eP P 09 30 34.8 -0.1
comp=Z,1μm,2.5s
933A Laredo 68.44 335 ⇓P P 09 30 35.2 0.0
baz=69,SNR=20
BRAL Brewton 68.53 347 eP P 09 30 37.0 +1.3
BRAL LR LR
comp=Z,439nm,1.6s
835A Beeville 68.59 337 ⇑P P 09 30 37.1 +0.9
baz=69,SNR=11
834A Tilden 68.67 336 ⇑P P 09 30 37.3 +0.7
baz=69,SNR=30
TIAR Tiarei 68.75 264 eT T 10 45 06.6
comp=Z,29nm,0.2s
PAE Paea 68.88 263 eT T 10 45 16.3
comp=Z,4.5nm,0.2s
PPT2 Papeete2 68.92 263 eS S 09 39 43.4 +2.4
comp=Z,7μm,23.2s
PPT2 Papeete2 68.92 263 eLR LR 09 51 37.6
comp=Z,28μm,24.0s,baz=123
PPT Papeete 68.93 263 LR LR 09 52 59.6
comp=Z,17μm,19.3s,baz=122,slow=29
BBSR BB Station 69.11 8 PFAKE 09 30 50.0 +11
BBSR LR LR
comp=Z,2μm,20.0s
735A Kenedy 69.11 337 ⇑P P 09 30 39.8 +0.5
baz=69,SNR=16
833A Chaparral WMA, 69.14 335 ⇓P P 09 30 39.4 -0.1
baz=70,SNR=43
832A Faith Ranch, C 69.30 335 ⇑P P 09 30 40.2 -0.4
baz=70,SNR=45
734A La Parita Cree 69.34 336 ⇑P P 09 30 40.7 -0.1
baz=70,SNR=11
SACV Santiago Islan 69.45 52 PFAKE 09 30 50.0 +8.2
SACV LR LR
comp=Z,4μm,22.0s
636A Smothers Creek 69.47 338 ⇑P P 09 30 41.9 +0.4
baz=70,SNR=44
733A Divot King Ran 69.47 336 ⇓P P 09 30 41.6 +0.1
baz=70,SNR=13
HKT Hockley 69.55 339 eP P 09 30 41.2 -0.7
HKT Hockley 69.55 339 eP P 09 30 41.1 -0.7
635A Leesville 69.60 337 ⇑P P 09 30 42.1 -0.3
baz=70,SNR=8.4
NHSC New Hope 69.68 354 eP P 09 30 42.7 0.0
comp=Z,470nm,1.4s
NHSC LR LR
comp=Z,3μm,20.0s
732A Laxson Ranch, 69.70 335 ⇓P P 09 30 43.1 0.0
baz=70,SNR=65
538A Harpers Horsep 69.70 340 ⇑P P 09 30 42.6 -0.3
baz=70
634A China Grove, S 69.78 337 ⇓P P 09 30 42.8 -0.7
baz=70
537A Green Hill Far 69.81 339 ⇓P P 09 30 43.5 -0.1
baz=70
536A Bastrop 70.03 338 ⇓P P 09 30 44.8 -0.1
baz=70,SNR=14
633A Saathoff Ranch 70.11 336 ⇓P P 09 30 45.5 -0.1
baz=70,SNR=26
535A Dale 70.13 338 ⇓P P 09 30 45.6 0.0
baz=70,SNR=26
438A Sam Houston St 70.20 340 ⇑P P 09 30 46.1 +0.1
baz=70
GOGA Godfrey 70.33 351 eP P 09 30 46.1 -0.7
GOGA pmax pmax
comp=Z,256nm,1.5s
GOGA MLR MLR
comp=Z,3μm,19.0s
GOGA Godfrey 70.33 351 eP P 09 30 46.1 -0.7
comp=Z,256nm,1.5s
GOGA LR LR
comp=Z,3μm,19.0s
632A Uvalde 70.36 336 ⇓P P 09 30 47.0 -0.1
baz=71,SNR=30
VBMS Vicksburg 70.38 344 eP P 09 30 47.9 +0.9
comp=Z,668nm,1.6s
340A Bronson 70.41 341 ⇓P P 09 30 47.5 +0.2
baz=71,SNR=22
534A Blanco 70.42 337 ⇑P P 09 30 47.0 -0.4
baz=71,SNR=16
437A Phantom Ranch, 70.46 339 ⇓P P 09 30 47.3 -0.3
baz=71
LRAL Lakeview Retre 70.49 348 eP P 09 30 47.5 -0.3
comp=Z,164nm,1.4s
339A Huntington 70.50 341 ⇑P P 09 30 47.9 +0.1
baz=71,SNR=20
631A Perdido Creek 70.54 335 ⇑P P 09 30 47.3 -0.8
baz=71,SNR=30
436A Wall Ranch, Ga 70.59 339 ⇑P P 09 30 48.1 -0.3
baz=71
533A Kerrville 70.63 336 ⇑P P 09 30 48.4 -0.3
baz=71,SNR=43
338A Crockett 70.73 340 ⇑P P 09 30 49.8 +0.6
baz=71,SNR=33
435B Jarrell 70.84 338 ⇓P P 09 30 49.7 -0.2
baz=71,SNR=5.9
337A Centerville 70.85 340 ⇑P P 09 30 50.4 +0.4
baz=71,SNR=18
NATX Nacogdoches 70.93 341 eP P 09 30 50.7 +0.2
comp=Z,477nm,1.4s
MAW Mawson 70.94 164 P P 09 30 50.6 +0.5
comp=Z,22nm,0.9s,baz=210,slow=9.2,SNR=4.6
MAW LR LR 10 01 44.0
comp=Z,9μm,22.0s,baz=228,slow=36
532A Rocksprings 70.97 336 ⇓P P 09 30 50.7 -0.1
baz=71,SNR=72
434A Burnet 71.08 337 ⇑P P 09 30 51.3 -0.2
baz=71,SNR=73
239A Gary 71.13 341 ⇑P P 09 30 51.7 +0.1
baz=72,SNR=9.2
336A Riesel 71.19 339 ⇑P P 09 30 52.2 +0.2
baz=72,SNR=44
531A Rocksprings 71.22 335 ⇑P P 09 30 52.2 -0.1
baz=72,SNR=38
JCT Junction City 71.26 336 eP P 09 30 52.4 -0.1
JCT pmax pmax
comp=Z,329nm,1.4s
JCT MLR MLR
comp=Z,2μm,22.0s
JCT Junction City 71.26 336 ⇓P P 09 30 52.2 -0.3
baz=72,SNR=45
JCT Junction City 71.26 336 eP P 09 30 52.4 -0.1
comp=Z,329nm,1.4s
JCT LR LR
comp=Z,2μm,22.0s
335A Moody 71.26 338 ⇓P P 09 30 52.2 -0.2
baz=72,SNR=18
433A Art 71.28 337 ⇑P P 09 30 52.1 -0.6
baz=72,SNR=38
238A Jacksonville 71.28 340 ⇑P P 09 30 52.9 +0.3
baz=72,SNR=13
237A Washetta, Mont 71.47 340 ⇑P P 09 30 53.9 +0.2
baz=72,SNR=28
530A J-C Ranch, Com 71.47 335 ⇑P P 09 30 54.0 +0.1
baz=72,SNR=63
334A Lometa 71.55 338 ⇑P P 09 30 53.9 -0.4
baz=72,SNR=77
TXAR Lajitas Array 71.57 332 P P 09 30 54.5 -0.1
comp=Z,25nm,0.8s,baz=152,slow=7.4,SNR=182
TXAR LR LR 09 57 57.0
comp=Z,6μm,18.2s,baz=0.0,slow=32
432A Menard 71.62 336 ⇑P P 09 30 54.1 -0.6
baz=72,SNR=26
CNNC Cliffs of the 71.64 356 eP P 09 30 56.0 +1.4
comp=Z,408nm,1.7s
CNNC LR LR
comp=Z,2μm,20.0s
431A Sonora 71.71 335 ⇓P P 09 30 54.8 -0.5
baz=72,SNR=40
529A Stev Forest Ra 71.76 334 ⇑P P 09 30 55.3 -0.3
baz=72,SNR=66
333A Richland Sprin 71.78 337 ⇓P P 09 30 55.2 -0.4
baz=72,SNR=34
KMSC Kings Mountain 71.81 353 ⇓P P 09 30 56.3 +0.6
baz=72,SNR=10.0
KMSC Kings Mountain 71.81 353 eP P 09 30 55.9 +0.2
comp=Z,182nm,1.4s
138A Matatall Enter 71.90 341 ⇓P P 09 30 56.6 +0.4
baz=72,SNR=15
WHTX Lake Whitney, 71.93 338 ⇓P P 09 30 56.3 -0.2
baz=72,SNR=23
WHTX Lake Whitney, 71.93 338 eP P 09 30 56.7 +0.2
comp=Z,157nm,1.0s
137A Heron Place, G 72.02 340 ⇓P P 09 30 57.0 0.0
baz=72,SNR=21
430A Baggett Ranch, 72.02 335 ⇓P P 09 30 56.9 -0.3
baz=72,SNR=58
332A Millersview 72.07 336 ⇓P P 09 30 56.9 -0.6
baz=72,SNR=42
429A Davenport Ranc 72.10 334 ⇑P P 09 30 57.2 -0.4
baz=72,SNR=50
234A Clairette 72.15 338 ⇓P P 09 30 57.3 -0.5
baz=72,SNR=62
331A San Angelo 72.23 336 ⇑P P 09 30 58.1 -0.2
baz=73,SNR=76
OXF Oxford 72.37 346 eP P 09 30 58.5 -0.5
OXF Oxford 72.37 346 eP P 09 30 58.5 -0.5
233A Rising Star 72.39 337 ⇑P P 09 30 59.0 -0.3
baz=73,SNR=28
135A Vickery Place, 72.45 339 ⇑P P 09 30 58.9 -0.7
baz=73,SNR=9.9
SWET Sewanee 72.45 349 eP P 09 30 59.2 -0.4
comp=Z,170nm,0.9s
CPCT Cooper Cave 72.48 350 eP P 09 31 01.6 +1.9
232A Coleman 72.51 337 ⇑P P 09 30 59.5 -0.6
baz=73,SNR=27
330A Mertzon 72.57 335 ⇓P P 09 30 59.7 -0.7
baz=73,SNR=31
TKL Tuckaleechee C 72.59 351 eP P 09 31 00.3 0.0
TKL Tuckaleechee C 72.59 351 eP P 09 31 00.3 0.0
134A White-Moore Ra 72.66 338 ⇑P P 09 31 00.5 -0.3
baz=73,SNR=15
231A Bronte 72.77 336 ⇓P P 09 31 00.9 -0.7
baz=73,SNR=48
329A Wagon Wheel Ra 72.92 335 ⇓P P 09 31 02.3 -0.1
baz=73,SNR=43
133A Hamilton Ranch 72.95 338 ⇓P P 09 31 02.3 -0.2
baz=73,SNR=26
230A Sterling City 72.99 335 ⇓P P 09 31 02.0 -0.8
baz=73,SNR=6.6
Z35A Perchaven, San 73.13 339 ⇑P P 09 31 03.3 -0.3
baz=74,SNR=27
ABTX Abilene, Hawle 73.19 337 ⇓P P 09 31 03.6 -0.4
baz=74,SNR=19
ABTX Abilene, Hawle 73.19 337 eP P 09 31 03.9 -0.2
comp=Z,591nm,1.7s
UALR University of 73.24 344 eP P 09 31 04.0 -0.2
comp=Z,218nm,1.8s
229A Bryant Ranch, 73.30 335 ⇑P P 09 31 04.2 -0.5
baz=74,SNR=30
MIAR Mount Ida 73.31 343 eP P 09 31 04.4 -0.2
MIAR pmax pmax
comp=Z,200nm,1.6s
MIAR MLR MLR
comp=Z,3μm,19.0s
MIAR Mount Ida 73.31 343 eP P 09 31 04.4 -0.2
comp=Z,200nm,1.6s
MIAR LR LR
comp=Z,3μm,19.0s
Z34A Collier Ranch, 73.36 339 ⇑P P 09 31 04.5 -0.4
baz=74,SNR=21
TZTN Tazewell 73.43 351 eP P 09 31 05.0 -0.3
comp=Z,342nm,1.5s
KOMG Komaggas 73.45 115 eP P 09 31 06.8 +0.9
KOMG AMB AMB 09 31 08.2
comp=Z,137nm,1.9s
KOMG Komaggas 73.45 115 P P 09 31 06.8 +0.9
comp=Z,137nm,1.9s
131A Roby 73.47 336 ⇓P P 09 31 05.3 -0.4
baz=74,SNR=22
Z33A Whitaker Ranch 73.53 338 ⇓P P 09 31 05.5 -0.5
baz=74,SNR=38
130A Snyder 73.59 336 ⇑P P 09 31 05.7 -0.7
baz=74,SNR=21
HBAR Harrisburg 73.63 345 eP P 09 31 07.0 +0.5
WVT Waverly 73.65 348 eP P 09 31 05.2 -1.4
WVT pmax pmax
comp=Z,662nm,1.7s
WVT Waverly 73.65 348 eP P 09 31 05.2 -1.4
comp=Z,662nm,1.7s
228A UT Block 9, Go 73.70 334 ⇑P P 09 31 06.6 -0.5
baz=74,SNR=30
HALT Halls 73.71 346 eP P 09 31 07.0 +0.1
Z32A Haskell 73.77 337 ⇓P P 09 31 06.8 -0.6
baz=74,SNR=38
VWCC Virginia Weste 73.77 354 eP P 09 31 07.8 +0.5
BLA Blacksburg 73.78 354 eP P 09 31 07.7 +0.3
BLA pmax pmax
comp=Z,33nm,0.8s
BLA MLR MLR
comp=Z,2μm,19.0s
BLA Blacksburg 73.78 354 eP P 09 31 07.7 +0.3
comp=Z,33nm,0.8s
BLA LR LR
comp=Z,2μm,19.0s
Y34A Reagan Ranch, 73.86 339 ⇑P P 09 31 07.2 -0.7
baz=74,SNR=28
BBTS Babate 73.86 57 P P 09 31 08.9 +0.7
comp=Z,174nm,1.2s,baz=259,slow=2.2,SNR=5.8
129A Stewart Farms, 73.92 335 ⇑P P 09 31 07.8 -0.6
baz=74,SNR=20
DRV Dumont d'Urvil 73.92 193 P P 09 31 05.0 -2.9
DRV S SKiKP 09 40 18.0 -16
DRV SS **SS** **09 45 24.0 +3.4**
DRV L L 09 50 00.0
DRV R 09 54 00.0
Z31A Sharp Cattle R 73.99 337 ⇓P P 09 31 08.4 -0.3
baz=74,SNR=29
GLAT Glass 74.05 347 eP P 09 31 09.7 +0.7
JSRW J. Sargeant Re 74.08 356 eP P 09 31 10.1 +1.0
128A Castleberry Fa 74.12 335 ⇓P P 09 31 09.2 -0.4
baz=74,SNR=44
Y33A Hilltop Ranch, 74.16 338 ⇓P P 09 31 09.1 -0.6
baz=74,SNR=31
Z30A Sanderson Ranc 74.28 336 ⇓P P 09 31 09.5 -0.9
baz=75,SNR=33
CLNB Carlsbad 74.29 333 eP P 09 31 10.8 +0.3
comp=Z,6.0nm,0.4s
MNTX Cornudas Mount 74.34 332 eP P 09 31 09.3 -1.5
comp=Z,44nm,1.1s
MNTX LR LR
comp=Z,5μm,19.0s
Y32A R-V Farms, Ver 74.40 338 ⇑P P 09 31 10.5 -0.6
baz=75,SNR=14
GDL2 Guadalupe Moun 74.41 333 eP P 09 31 11.6 +0.2
SUR Sutherland 74.42 119 P P 09 31 12.7 +1.0
comp=Z,55nm,1.0s,baz=269,slow=2.8,SNR=15
SUR Sutherland 74.42 119 eP P 09 31 13.2 +1.4
comp=Z,185nm,1.2s
SUR LR LR
comp=Z,6μm,22.0s
Z29A Hungry Hill Ra 74.44 336 ⇓P P 09 31 10.6 -0.9
baz=75,SNR=52
X34A Smith Ranch, M 74.48 339 ⇑P P 09 31 11.1 -0.4
baz=75,SNR=24
PARMO Parma 74.52 346 eP P 09 31 12.2 +0.6
CBN Corbin Frederi 74.56 357 PFAKE 09 31 20.0 +8.1
CBN LR LR
comp=Z,3μm,19.0s
Y31A Rekieta Farm, 74.62 337 ⇓P P 09 31 12.0 -0.4
baz=75,SNR=22
X33A Lawton 74.62 339 ⇑P P 09 31 11.4 -0.9
baz=75,SNR=16
Z28A Tucker Farm, M 74.70 335 ⇓P P 09 31 12.2 -0.8
baz=75,SNR=13
X32A Elmer 74.74 338 ⇓P P 09 31 12.6 -0.5
baz=75,SNR=15
Y30A Stafford Cattl 74.74 336 ⇓P P 09 31 12.7 -0.4
baz=75,SNR=11
PBMO Poplar Bluff 74.76 346 eP P 09 31 12.7 -0.3
WMOK Wichita Mounta 74.89 338 eP P 09 31 13.0 -0.9
WMOK pmax pmax
comp=Z,179nm,1.4s
WMOK MLR MLR
comp=Z,2μm,20.0s
WMOK Wichita Mounta 74.89 338 eP P 09 31 13.0 -0.9
comp=Z,179nm,1.4s
WMOK LR LR
comp=Z,2μm,20.0s
CPRX Cap Rock 74.98 334 eP P 09 31 14.9 +0.3
comp=Z,17nm,0.5s
Y29A Porterfield Fa 74.98 336 ⇑P P 09 31 13.8 -0.7
baz=75,SNR=27
RAR Rarotonga 74.98 255 PFAKE 09 31 30.0 +15
RAR LR LR
comp=Z,9.0nm,20.0s
W34A Bridge Creek, 75.06 339 ⇑P P 09 31 14.4 -0.4
baz=75,SNR=13
W34A Bridge Creek, 75.06 339 eP P 09 31 14.5 -0.4
comp=Z,353nm,1.6s
X31A McDonald Ranch 75.15 337 ⇓P P 09 31 14.8 -0.6
baz=76,SNR=41
TUL1 Leonard 75.16 341 ⇓P P 09 31 14.7 -0.7
baz=76,SNR=37
TUL1 Leonard 75.16 341 eP P 09 31 14.8 -0.6
comp=Z,183nm,1.0s
W33A Caddo, Fort Co 75.18 339 ⇑P P 09 31 15.4 -0.2
baz=76,SNR=44
Y28A McKinney Farm, 75.22 335 ⇑P P 09 31 14.8 -1.1
baz=76
Z26A Caprock 75.24 334 ⇑P P 09 31 15.4 -0.7
baz=76,SNR=70
X30A Coker Ranch, T 75.26 337 ⇓P P 09 31 15.8 -0.3
baz=76,SNR=13
W32A Sentinel 75.38 338 ⇑P P 09 31 16.4 -0.3
baz=76,SNR=57
USIN University of 75.42 348 eP P 09 31 16.0 -0.8
comp=Z,307nm,1.3s
SIUC Southern Illin 75.44 347 eP P 09 31 16.5 -0.5
comp=Z,175nm,1.3s
MSTX Muleshoe 75.45 335 ⇓P P 09 31 16.5 -0.8
baz=76,SNR=24
MSTX Muleshoe 75.45 335 eP P 09 31 16.8 -0.4
comp=Z,226nm,1.4s
WCI Wyandotte Cave 75.46 349 eP P 09 31 16.1 -1.0
WCI pmax pmax
comp=Z,71nm,1.4s
WCI Wyandotte Cave 75.46 349 eP P 09 31 16.1 -1.0
comp=Z,71nm,1.4s
Y27A Causey 75.51 335 ⇑P P 09 31 17.1 -0.5
baz=76,SNR=12
Z25A Roswell 75.51 333 ⇓P P 09 31 17.1 -0.6
baz=76,SNR=26
X29A Tulia 75.53 336 ⇑P P 09 31 17.3 -0.3
baz=76,SNR=24
V34A Guthrie 75.55 340 ⇑P P 09 31 17.0 -0.6
baz=76,SNR=14
V34A Guthrie 75.55 340 eP P 09 31 17.2 -0.5
comp=Z,490nm,1.6s
319A Douglas 75.61 329 ⇓P P 09 31 18.9 +0.7
baz=76,SNR=37
W31A Holland Ranch, 75.65 338 ⇓P P 09 31 17.4 -0.9
baz=76,SNR=16
V33A Lossen Ranch, 75.75 339 ⇓P P 09 31 18.4 -0.4
baz=76,SNR=22
X28A Dimmitt 75.76 336 ⇓P P 09 31 18.3 -0.7
baz=76,SNR=8.7
Y26A Elida 75.77 334 ⇑P P 09 31 18.6 -0.6
baz=76,SNR=16
Z24A Sheeppen Canyo 75.79 333 ⇑P P 09 31 19.0 -0.3
baz=76,SNR=42
W30A Crocket Farms 75.84 337 ⇑P P 09 31 19.4 0.0
baz=76
V32A Arapaho 75.88 339 ⇑P P 09 31 19.0 -0.6
baz=76,SNR=13
AMTX Amarillo 75.92 336 ⇓P P 09 31 19.6 -0.3
baz=76
AMTX Amarillo 75.92 336 eP P 09 31 20.2 +0.3
comp=Z,505nm,1.6s
121A Cookes Peak, D 76.01 330 ⇓P P 09 31 20.9 +0.3
baz=76,SNR=34
121A Cookes Peak, D 76.01 330 eP P 09 31 21.0 +0.4
comp=Z,175nm,1.4s
Y25A Mesa, Roswell 76.08 333 ⇓P P 09 31 19.9 -1.0
baz=76,SNR=15
U34A Anderson Ranch 76.12 340 ⇑P P 09 31 20.5 -0.4
baz=76,SNR=13
U34A Anderson Ranch 76.12 340 eP P 09 31 20.8 -0.1
comp=Z,208nm,1.1s
W29A Amarillo 76.13 336 ⇑P P 09 31 20.3 -0.8
baz=76,SNR=11
V31A Spring Creek L 76.17 338 ⇑P P 09 31 21.6 +0.4
baz=76,SNR=17
X27A F and S Farms, 76.18 335 ⇑P P 09 31 20.8 -0.7
baz=76,SNR=11
OLIL Olney 76.24 348 eP P 09 31 21.1 -0.4
comp=Z,176nm,1.4s
U33A Lingo Farm, Me 76.28 340 ⇓P P 09 31 21.1 -0.6
baz=77,SNR=10
MVL Millersville 76.31 358 eP P 09 31 24.0 +2.2
comp=Z,106nm,1.4s
Z22A Elephant Butte 76.33 331 ⇑P P 09 31 22.8 +0.5
baz=77,SNR=36
X26A CR and CF Fran 76.33 334 ⇑P P 09 31 22.1 -0.2
baz=77,SNR=23
Y24A Capitan 76.35 333 ⇑P P 09 31 22.6 +0.1
baz=77,SNR=16
V30A Spur Ranch, Mi 76.41 337 ⇑P P 09 31 22.9 +0.2
baz=77,SNR=6.7
BLO Bloomington 76.42 349 eP P 09 31 22.3 -0.2
BLO pmax pmax
comp=Z,184nm,1.4s
BLO Bloomington 76.42 349 eP P 09 31 22.3 -0.2
comp=Z,184nm,1.4s
W28A Vega 76.44 336 ⇑P P 09 31 22.6 -0.2
baz=77
U32A Winter Ranch, 76.48 339 ⇓P P 09 31 22.9 -0.1
baz=77,SNR=25
SLM Saint Louis 76.52 346 eP P 09 31 22.7 -0.4
SLM pmax pmax
comp=Z,733nm,1.7s
SLM Saint Louis 76.52 346 eP P 09 31 22.7 -0.4
comp=Z,733nm,1.7s
LIC Lamto 76.53 72 eP P 09 31 23.7 -0.1
comp=Z,412nm,1.4s
W27A Bowe Ranch, En 76.54 335 ⇓P P 09 31 23.5 0.0
baz=77,SNR=50
Y23A Lovelace Mesa, 76.59 332 ⇓P P 09 31 24.3 +0.4
baz=77,SNR=25
X25A Clemmons Ranch 76.61 334 ⇓P P 09 31 23.6 -0.3
baz=77,SNR=7.8
U31A Nine Bar Ranch 76.72 338 ⇓P P 09 31 24.8 +0.4
baz=77,SNR=6.5
V29A Stinnett 76.78 337 ⇑P P 09 31 24.2 -0.5
baz=77
W26A Owens Ranch, T 76.81 335 ⇓P P 09 31 24.9 0.0
baz=77,SNR=28
TIC Toumodi 76.81 71 eP P 09 31 25.6 +0.2
comp=Z,206nm,1.2s
KIC Kosan Boka 76.84 72 eP P 09 31 25.6 +0.1
comp=Z,439nm,1.2s
V28A Channing 76.89 336 ⇓P P 09 31 25.6 +0.2
baz=77,SNR=6.4
T33A Patterson Ranc 76.92 340 ⇓P P 09 31 25.8 +0.4
baz=77,SNR=48
X24A Lazy VL Ranch, 76.92 333 ⇑P P 09 31 25.9 +0.2
baz=77,SNR=38
DBIC Dimbokro 76.95 71 ⇑iP P 09 31 26.5 +0.4
DBIC Dimbokro 76.95 71 P P 09 31 26.8 +0.7
comp=Z,46nm,1.0s,baz=200,slow=6.8,SNR=29
DBIC LR LR 10 01 40.6
comp=Z,9μm,20.3s,baz=211,slow=33
SSPA Standing Stone 77.01 356 eP P 09 31 26.0 +0.2
comp=Z,348nm,2.5s
ACSO Alum Creek Sta 77.01 352 eP P 09 31 26.1 +0.3
comp=Z,524nm,1.6s
ACSO LR LR
comp=Z,3μm,21.0s
Y22D IRIS PASSCAL I 77.04 332 ⇑P P 09 31 26.4 +0.1
baz=77
TUC Tucson 77.05 328 eP P 09 31 26.5 +0.1
TUC pmax pmax
comp=Z,121nm,1.4s
TUC MLR MLR
comp=Z,2μm,19.0s
TUC Tucson 77.05 328 eP P 09 31 26.5 +0.1
comp=Z,120nm,1.4s
TUC LR LR
comp=Z,2μm,19.0s
V27A Dan Oppiter Fa 77.10 336 ⇓P P 09 31 26.6 0.0
baz=77,SNR=18
U30A WK&E Inc. Balk 77.11 338 ⇓P P 09 31 26.6 0.0
baz=78,SNR=17
LENM Lemitar 77.14 332 eP P 09 31 27.6 +0.6
LPM Los Pinos Moun 77.14 332 eP P 09 31 27.5 +0.6
W25A X Bar L Ranch, 77.16 334 ⇓P P 09 31 26.7 -0.3
baz=78,SNR=32
T32A Huddler Ranch, 77.20 339 ⇓P P 09 31 27.0 0.0
baz=78,SNR=11
X23A Hourglass Bar 77.22 333 ⇑P P 09 31 27.4 +0.1
baz=78

U29A	Oasis Ranch, S	77.23	337	⇓P	P	09 31 27.0 -0.3
	baz=78					
S33A	Kaszmaul Farm,	77.33	340	⇑P	P	09 31 27.5 -0.3
	baz=78					
T31A	Randall Ranch,	77.34	339	⇑P	P	09 31 27.6 -0.2
	baz=78,SNR=9.5					
ODNJ	Ogdensburg	77.35	359	eP	P	09 31 29.5 +1.8
	comp=Z,158nm,1.8s					
LAZ	Ladron	77.41	332	eP	P	09 31 28.5 0.0
	comp=Z,113nm,1.4s					
V26A	Tequesquite Ra	77.45	335	⇑P	P	09 31 28.2 -0.4
	baz=78,SNR=19					
U28A	Mallet	77.47	336	⇓P	P	09 31 28.7 0.0
	baz=78,SNR=12					
W24A	Lazy 6 Ranch,	77.49	333	⇓P	P	09 31 29.0 +0.1
	baz=78,SNR=35					
T30A	Plains	77.56	338	⇑P	P	09 31 29.3 +0.3
	baz=78					
YLE	Yale	77.57	0	eP	P	09 31 32.6 +3.7
	comp=Z,172nm,1.3s					
214A	Organ Pipe Nat	77.63	326	⇓P	P	09 31 30.2 +0.6
	baz=78,SNR=26					
214A	Organ Pipe Nat	77.63	326	eP	P	09 31 29.8 +0.2
	comp=Z,92nm,1.2s					
ANMO	Albuquerque	77.64	333	⇓iP	P	09 31 29.8 +0.1
ANMO				pmax	pmax	
	comp=Z,378nm,1.6s					
ANMO	Albuquerque	77.64	333	eP	P	09 31 30.1 +0.4
	comp=Z,108nm,1.1s					
ANMO				LR	LR	
	comp=Z,4μm,21.0s					
SFIN	Lafayette	77.69	349	⇑P	P	09 31 29.4 -0.2
	baz=78					
SFIN	Lafayette	77.69	349	eP	P	09 31 28.9 -0.7
	comp=Z,103nm,1.4s					
S32A	Newby Ranch, P	77.69	339	⇑P	P	09 31 29.7 0.0
	baz=78,SNR=7.6					
U27A	Thompson Grove	77.70	336	⇑P	P	09 31 30.0 0.0
	baz=78,SNR=22					
W23A	Werner Place,	77.72	333	⇑P	P	09 31 30.6 +0.4
	baz=78,SNR=45					
S31A	Mullinville	77.77	339	⇓P	P	09 31 30.3 +0.1
	baz=78,SNR=8.9					
V25A	Rancho No Teng	77.78	334	⇑P	P	09 31 30.2 -0.2
	baz=78,SNR=51					
GRM	Grahamstown	77.84	122	eP	P	09 31 29.8 -1.2
GRM				AMB	AMB	09 31 32.5
	comp=Z,141nm,2.9s					
GRM	Grahamstown	77.84	122	P	P	09 31 29.8 -1.2
GRM				pmax	pmax	
	comp=Z,141nm,2.9s					
GRM	Grahamstown	77.84	122	P	P	09 31 29.8 -1.2
	comp=Z,141nm,2.9s					
T29A	Hugoton	77.89	337	⇑P	P	09 31 30.8 -0.1
	baz=78,SNR=10					
V24A	Rampart Ranch,	77.91	334	⇓P	P	09 31 31.3 +0.1
	baz=78,SNR=21					
U26A	Atchley Ranch,	77.98	335	⇓P	P	09 31 31.5 -0.1
	baz=78,SNR=15					
R33A	Olander Ranch,	78.00	340	⇑P	P	09 31 30.8 -0.6
	baz=78,SNR=12					
S30A	Montezuma	78.08	338	⇑P	P	09 31 31.9 -0.1
	baz=78,SNR=8.2					
T28A	Walsh	78.11	337	⇓P	P	09 31 32.0 -0.2
	baz=78,SNR=46					
ALLY	Alegheny Colle	78.16	355	eP	P	09 31 33.1 +0.9
	comp=Z,250nm,1.5s					
U25A	Circle Dot Ran	78.21	335	⇓P	P	09 31 33.0 +0.1
	baz=78,SNR=32					
T27A	Campo	78.25	336	⇑P	P	09 31 32.9 -0.1
	baz=79,SNR=28					
V23A	Ortiz Mt. (NFS	78.25	333	⇑P	P	09 31 33.5 +0.3
	baz=79,SNR=14					
S29A	Ulysses	78.26	338	⇓P	P	09 31 33.5 +0.5
	baz=79,SNR=13					
R32A	Long Quarter,	78.30	340	⇑P	P	09 31 33.1 0.0
	baz=79,SNR=20					
KSU1	Kansas State U	78.38	342	⇑P	P	09 31 32.7 -0.8
	baz=79,SNR=11					
KSU1	Kansas State U	78.38	342	eP	P	09 31 33.2 -0.3
	comp=Z,462nm,2.3s					
KSU1				LR	LR	
	comp=Z,2μm,21.0s					
R31A	Burdett	78.41	339	⇑P	P	09 31 33.8 +0.1
	baz=79,SNR=18					
S28A	Manter	78.47	337	⇑P	P	09 31 34.1 0.0
	baz=79,SNR=23					
BINY	Binghamton	78.50	358	PFAKE		09 31 50.0 +16
BINY				LR	LR	
	comp=Z,5μm,20.0s					
U24A	Moreno Valley	78.52	334	⇑P	P	09 31 35.7 +1.0
	baz=79,SNR=13					
Q33A	Connelly Farm,	78.60	341	⇑P	P	09 31 35.9 +1.1
	baz=79,SNR=13					
ERPA	Erie	78.62	355	eP	P	09 31 35.9 +1.2
	comp=Z,229nm,1.6s					
ERPA				LR	LR	
	comp=Z,3μm,20.0s					
R30A	Dighton	78.62	339	⇓P	P	09 31 35.3 +0.4
	baz=79,SNR=9.2					
X18A	Snowflake	78.63	330	⇓P	P	09 31 35.7 +0.5
	baz=79,SNR=29					
T26A	Comanche Natio	78.64	336	⇓P	P	09 31 35.5 +0.3
	baz=79,SNR=30					
V22A	San Miguel Ran	78.67	333	⇑P	P	09 31 36.2 +0.8
	baz=79,SNR=92					
113A	Mohawk Valley,	78.75	326	⇓P	P	09 31 36.6 +0.9
	baz=79,SNR=8.9					
U23A	El Rito	78.78	333	⇓P	P	09 31 36.7 +0.7
	baz=79,SNR=35					
Q32A	Meitler Ranch,	78.79	340	⇑P	P	09 31 35.8 0.0
	baz=79,SNR=7.4					
S27A	Las Animas	78.88	336	⇑P	P	09 31 36.8 +0.4
	baz=79					
T25A	Trinidad	78.88	335	⇓P	P	09 31 37.1 +0.5
	baz=79,SNR=45					
Z14A	Wintersburg	78.89	327	⇓P	P	09 31 36.9 +0.4
	baz=79					
P33A	Williams Farm,	78.98	341	⇑P	P	09 31 36.4 -0.4
	baz=79					
TRY	Troy	78.99	360	eP	P	09 31 39.4 +2.7
	comp=Z,126nm,1.3s					
S26A	Kim	79.00	336	⇓P	P	09 31 37.4 +0.3
	baz=79,SNR=42					
R29A	Marienthal	79.01	338	⇓P	P	09 31 37.2 +0.1
	baz=79,SNR=7.2					
Q31A	Ellis	79.04	340	⇓P	P	09 31 37.4 +0.2
	baz=79,SNR=17					
W18A	Petrified Fore	79.05	330	⇑P	P	09 31 38.1 +0.5
	baz=79,SNR=11					
W18A	Petrified Fore	79.05	330	eP	P	09 31 38.5 +1.0
	comp=Z,295nm,1.5s					
U22A	Llaves	79.06	333	⇑P	P	09 31 38.4 +0.8
	baz=79,SNR=36					
AAM	Ann Arbor	79.13	352	eP	P	09 31 38.0 +0.5
AAM				pmax	pmax	
	comp=Z,238nm,1.5s					
AAM				MLR	MLR	
	comp=Z,3μm,22.0s					
AAM	Ann Arbor	79.13	352	eP	P	09 31 38.0 +0.5
	comp=Z,238nm,1.5s					
AAM				LR	LR	
	comp=Z,3μm,22.0s					
R28A	Tribune	79.14	337	⇓P	P	09 31 38.1 +0.3
	baz=80,SNR=35					
X16A	Lo Mia Camp, P	79.14	329	⇑P	P	09 31 38.4 +0.4
	baz=80,SNR=36					
T24B	San Luis	79.15	334	⇓P	P	09 31 38.9 +0.8
	baz=80,SNR=37					
Q30A	Quinter	79.25	339	⇑P	P	09 31 38.6 +0.3
	baz=80,SNR=31					
T23A	Casias Ranch,	79.35	334	⇓P	P	09 31 39.8 +0.5
	baz=80,SNR=25					
S25A	Robets Cordova	79.36	335	⇑P	P	09 31 39.6 +0.4
	baz=80,SNR=33					
Q29A	Oakley	79.39	338	⇓P	P	09 31 39.0 -0.1
	baz=80					
R27A	Eads	79.39	337	⇓P	P	09 31 39.2 -0.1
	baz=80,SNR=25					
P32A	Huiting Farm,	79.39	340	⇓P	P	09 31 39.0 -0.1
	baz=80,SNR=15					
Y14A	Wickenburg	79.40	327	⇑P	P	09 31 40.0 +0.7
	baz=80,SNR=16					
TSUM	Tsumeb	79.44	106	P	P	09 31 40.9 +0.8
	comp=Z,24nm,1.1s,baz=224,slow=6.4,SNR=28					
TSUM	Tsumeb	79.44	106	eP	P	09 31 40.6 +0.5
	comp=Z,180nm,1.4s					
TSUM				LR	LR	
	comp=Z,9μm,19.0s					
GLA	Glamis	79.47	325	eP	P	09 31 41.0 +1.3
GLA				pmax	pmax	
	comp=Z,189nm,1.6s					
GLA	Glamis	79.47	325	⇑P	P	09 31 40.1 +0.4
	baz=80					
GLA	Glamis	79.47	325	eP	P	09 31 41.0 +1.3
	comp=Z,189nm,1.6s					
P31A	Stockton	79.51	340	⇑P	P	09 31 39.7 0.0
	baz=80,SNR=12					
S24A	Houchin Ranch,	79.61	335	⇑P	P	09 31 41.2 +0.5
	baz=80,SNR=40					
R26A	Arlington	79.61	336	⇑P	P	09 31 40.6 +0.1
	baz=80,SNR=38					
ACCN	Adirondack Com	79.64	360	eP	P	09 31 40.8 +0.5
	comp=Z,303nm,1.9s					
BOSA	Boshof	79.71	118	⇑iP	P	09 31 41.8 +0.3
BOSA				AMB	AMB	09 31 51.9
	comp=Z,143nm,1.4s					
BOSA	Boshof	79.71	118	eP	P	09 31 41.6 +0.1
BOSA				pmax	pmax	
	comp=Z,278nm,1.4s					
BOSA	Boshof	79.71	118	P	P	09 31 41.4 0.0
	comp=Z,77nm,1.1s,baz=235,slow=4.9,SNR=35					
BOSA				LR	LR	10 05 29.3
	comp=Z,5μm,18.6s,baz=232,slow=35					
BOSA	Boshof	79.71	118	iP	P	09 31 41.6 +0.1
BOSA				i		09 31 41.6
	baz=354,slow=4.6					
BOSA	Boshof	79.71	118	eP	P	09 31 41.6 +0.1
	comp=Z,278nm,1.4s					
R25A	Fountain Ranch	79.75	336	⇓P	P	09 31 41.3 +0.1
	baz=80,SNR=15					
P30A	Selden	79.78	339	⇓P	P	09 31 41.2 -0.1
	baz=80,SNR=12					
SDCO	Great Sand Dun	79.80	335	eP	P	09 31 41.8 +0.2
	comp=Z,41nm,1.0s					
SDCO				LR	LR	
	comp=Z,3μm,19.0s					
Q28A	Sharon Springs	79.80	338	⇓P	P	09 31 41.9 +0.5
	baz=80,SNR=14					
SWSC	Sam W. Stewart	79.82	325	⇑P	P	09 31 41.4 -0.1
	baz=80					
O32A	Brockman Farm,	79.91	341	⇓P	P	09 31 41.7 -0.1
	baz=80,SNR=9.1					
Y12C	Blythe	79.92	326	⇑P	P	09 31 42.8 +0.8
	baz=80,SNR=28					
S23A	Nye Farm, Mont	79.94	334	⇓P	P	09 31 42.4 +0.1
	baz=80					
KSCO	Kaye Shedlock'	80.00	337	⇓P	P	09 31 43.1 +0.5
	baz=80,SNR=18					
KSCO	Kaye Shedlock'	80.00	337	eP	P	09 31 42.9 +0.4
	comp=Z,370nm,1.4s					
BAR	Barrett	80.02	324	eP	P	09 31 43.7 +1.1
	comp=Z,47nm,1.1s					
P29A	Atwood	80.03	339	⇑P	P	09 31 43.0 +0.4
	baz=80,SNR=17					
WUAZ	Wupatki	80.06	329	⇓P	P	09 31 43.5 +0.5
	baz=80,SNR=31					
WUAZ	Wupatki	80.06	329	eP	P	09 31 43.0 0.0
	comp=Z,258nm,1.7s					
WUAZ				LR	LR	
	comp=Z,3μm,21.0s					
MONP	Monument Peak,	80.07	324	⇓P	P	09 31 44.0 +0.8
	baz=80,SNR=6.4					
O31A	Woolen Ranch,	80.09	340	⇑P	P	09 31 42.9 +0.1
	baz=80,SNR=8.3					
R24A	Sanders Place,	80.10	335	⇑P	P	09 31 44.1 +0.9
	baz=80,SNR=63					
Q26A	Hugo	80.20	336	⇑P	P	09 31 43.9 +0.2
	baz=80,SNR=10.0					
PDMCI	Parker Dam,Lak	80.21	327	⇑P	P	09 31 44.3 +0.7
	baz=80,SNR=6.6					
NCB	Newcomb	80.23	359	PFAKE		09 32 00.0 +17
NCB				LR	LR	
	comp=Z,3μm,21.0s					
P28A	Saint Francis	80.25	338	⇑P	P	09 31 44.0 +0.2
	baz=81,SNR=13					
MDV	Middlebury	80.25	0	eP	P	09 31 44.9 +1.3
BC3	Big Chuckawall	80.26	325	⇓P	P	09 31 44.9 +0.9
	baz=81,SNR=19					
S22A	4UR Ranch, Cre	80.27	334	⇓P	P	09 31 44.7 +0.5
	baz=81,SNR=33					
SCIA	State Center	80.27	345	eP	P	09 31 44.2 +0.4
	comp=Z,468nm,1.8s					
SCIA				LR	LR	
	comp=Z,2μm,21.0s					
R23A	Moffat	80.31	334	⇓P	P	09 31 45.1 +0.6
	baz=81,SNR=33					
O30A	MW Ranch, Wils	80.32	339	⇑P	P	09 31 44.3 +0.2
	baz=81,SNR=14					
ODZ	Otahua Downs	80.33	220	eP	P	09 31 44.9 +0.6
	comp=Z,87nm,1.3s					
N32A	Stulken Farm,	80.38	341	⇓P	P	09 31 43.2 -1.2
	baz=81					
109C	Camp Elliot, M	80.39	324	⇓P	P	09 31 44.6 0.0
	baz=81					
MVCO	Mesa Verde	80.41	332	⇑P	P	09 31 45.0 +0.1
	baz=81,SNR=32					
MVCO	Mesa Verde	80.41	332	eP	P	09 31 45.2 +0.4
	comp=Z,100nm,1.1s					
MVCO				LR	LR	
	comp=Z,7μm,20.0s					
Q25A	Bedland, Calha	80.43	336	⇑P	P	09 31 45.1 +0.2
	baz=81,SNR=6.6					
O29A	4D Ranch, Culb	80.48	339	⇓P	P	09 31 45.4 +0.4
	baz=81,SNR=7.6					
P27A	Ficken Ranch,	80.49	337	⇑P	P	09 31 45.5 +0.4
	baz=81,SNR=7.7					
LBNH	Lisbon	80.50	1	eP	P	09 31 46.7 +1.7
LBNH				pmax	pmax	
	comp=Z,149nm,1.6s					
LBNH				MLR	MLR	
	comp=Z,3μm,19.0s					
LBNH	Lisbon	80.50	1	eP	P	09 31 46.6 +1.7
	comp=Z,149nm,1.6s					
LBNH				LR	LR	
	comp=Z,3μm,19.0s					
IRM	Iron Mountain	80.54	326	⇑P	P	09 31 46.1 +0.7
	baz=81,SNR=42					
SWZ	Schweizer	80.61	117	eP	P	09 31 46.5 +0.1
SWZ				AMB	AMB	09 31 54.7
	comp=Z,91nm,2.1s					
SWZ	Schweizer	80.61	117	P	P	09 31 46.5 +0.1
	comp=Z,91nm,2.1s					
SNZO	South Karori	80.61	225	PFAKE		09 32 00.0 +14
SNZO				LR	LR	
	comp=Z,6μm,20.0s					
N31A	Bailey Ranch,	80.61	341	⇓P	P	09 31 45.6 0.0
	baz=81					
JFWS	Jewell Farm	80.67	347	eP	P	09 31 45.7 -0.2
JFWS				pmax	pmax	
	comp=Z,333nm,1.6s					
JFWS				MLR	MLR	
	comp=Z,3μm,21.0s					
JFWS	Jewell Farm	80.67	347	eP	P	09 31 45.6 -0.2
	comp=Z,333nm,1.6s					
JFWS				LR	LR	
	comp=Z,3μm,21.0s					
PFO	Pinyon Flats O	80.68	325	eP	P	09 31 47.8 +1.5
PFO				MLR	MLR	
	comp=Z,5μm,19.0s					
PFO	Pinyon Flats O	80.68	325	⇑P	P	09 31 47.4 +1.1
	baz=81,SNR=20					
PFO	Pinyon Flats O	80.68	325	eP	P	09 31 47.8 +1.5
PFO				LR	LR	
	comp=Z,5μm,19.0s					
P26A	Davis Ranch, A	80.73	337	⇑P	P	09 31 47.0 +0.5
	baz=81,SNR=22					
O28A	Krutsinger Ran	80.77	338	⇓P	P	09 31 47.0 +0.5
	baz=81,SNR=17					
W13A	Hualapai Mount	80.77	327	⇑P	P	09 31 47.5 +0.7
	baz=81,SNR=17					
Q24A	Divide	80.78	335	⇓P	P	09 31 47.2 +0.3
	baz=81,SNR=28					
BELC	Belle Mtn. Jos	80.80	325	⇑P	P	09 31 47.6 +0.7
	baz=81,SNR=8.3					
NEE2	Needles Airpor	80.81	327	⇓P	P	09 31 47.0 +0.2
	baz=81					
LONY	Lake Ozonia	80.88	359	eP	P	09 31 48.0 +1.1
	comp=Z,191nm,1.6s					
LONY				LR	LR	
	comp=Z,3μm,20.0s					
N30A	Hueftle Ranch,	80.90	340	⇓P	P	09 31 47.0 -0.2
	baz=81					
BGNE	Belgrade	80.95	341	⇑P	P	09 31 47.2 -0.2
	baz=81,SNR=6.5					
BGNE	Belgrade	80.95	341	eP	P	09 31 47.7 +0.3
	comp=Z,303nm,1.4s					
P25A	Willow Gulch B	80.95	336	⇑P	P	09 31 48.2 +0.6
	baz=81,SNR=52					
Q23A	Hartsel	80.96	335	⇑P	P	09 31 47.8 -0.1
	baz=81					
BKZ	Black Stump Fm	80.96	228	eP	P	09 31 49.3 +1.4
	comp=Z,63nm,1.3s					
RPZ	Rata Peaks	81.02	221	eP	P	09 31 44.6 -3.5
	comp=Z,1μm,2.8s					
MURC	Murrieta	81.02	324	⇓P	P	09 31 49.1 +1.0
	baz=81,SNR=12					
O27A	Beecher Island	81.04	338	⇓P	P	09 31 48.4 +0.3
	baz=81,SNR=17					
N29A	Votaw Ranch, W	81.07	339	⇑P	P	09 31 48.4 +0.3
	baz=81,SNR=9.8					
M31A	Lambtecht Ranc	81.11	341	⇑P	P	09 31 48.6 +0.3
	baz=82,SNR=16					
WHZ	Wether Hill Ro	81.12	218	eP	P	09 31 48.2 -0.3
	comp=Z,90nm,1.3s					
URZ	Urewera	81.18	229	P	P	09 31 48.1 -0.8
	comp=Z,15nm,0.9s,baz=356,slow=4.6,SNR=5.8					
URZ	Urewera	81.18	229	eP	P	09 31 49.4 +0.4
	comp=Z,280nm,2.1s					
P24A	Kohler Place,	81.19	336	⇓P	P	09 31 49.4 +0.4
	baz=82,SNR=16					
N28A	Pribbeno Ranch	81.21	339	⇓P	P	09 31 48.8 -0.1
	baz=82,SNR=10					
U15A	North Rim	81.22	329	⇑P	P	09 31 49.7 +0.4
	baz=82,SNR=50					
PV01	Paradox Valley	81.25	333	eP	P	09 31 49.3 0.0
	comp=Z,6μm,1.1s					
GMRC	Granite Mounta	81.29	326	⇑P	P	09 31 50.0 +0.5
	baz=82,SNR=20					
LDFC	Landfair	81.29	326	eP	P	09 31 51.0 +1.5
	comp=Z,118nm,1.2s					
O26A	Horse Wrangler	81.34	337	⇑P	P	09 31 50.2 +0.5
	baz=82,SNR=7.2					
P23A	Jefferson	81.38	335	⇓P	P	09 31 50.6 +0.5
	baz=82,SNR=15					
BBRC	Big Bear Solar	81.44	325	⇑P	P	09 31 50.4 -0.1
	baz=82,SNR=7.9					
CIS	Catalina Islan	81.44	323	⇓P	P	09 31 50.5 +0.3
	baz=82					
KSD	Kokstad	81.47	122	eP	P	09 31 51.7 +0.8
KSD				AMB	AMB	09 31 52.9
	comp=Z,39nm,3.4s					
KSD	Kokstad	81.47	122	P	P	09 31 51.7 +0.8
	comp=Z,39nm,3.4s					
O25A	Wiggins	81.48	337	⇓P	P	09 31 51.3 +0.9
	baz=82,SNR=19					
M30A	Dale-Ortello V	81.53	340	⇓P	P	09 31 50.2 -0.3
	baz=82					
SEK	Senekal	81.56	119	eP	P	09 31 51.3 -0.1
SEK				AMB	AMB	09 32 02.5
	comp=Z,145nm,1.7s					
SEK	Senekal	81.56	119	P	P	09 31 51.3 -0.1
	comp=Z,145nm,1.7s					
OGNE	Ogallala	81.59	338	⇑P	P	09 31 51.4 +0.5
	baz=82,SNR=8.3					
OGNE	Ogallala	81.59	338	eP	P	09 31 51.3 +0.3
	comp=Z,337nm,1.7s					
OGNE				LR	LR	
	comp=Z,2μm,20.0s					
SMCO	Snowmass	81.59	334	eP	P	09 31 43.5 -7.9
	comp=Z,273nm,1.3s					
PKME	Peaks-Kenny Pk	81.60	3	PFAKE		09 32 00.0 +9.3
PKME				LR	LR	
	comp=Z,3μm,20.0s					
PV04	Paradox Valley	81.60	332	eP	P	09 31 51.9 +0.8
N27A	Anderson Farm,	81.62	338	⇑P	P	09 31 51.6 +0.5
	baz=82,SNR=11					
HEC	Hector,Ludlow	81.64	325	⇑P	P	09 31 52.3 +1.0
	baz=82,SNR=10					
M29A	Burnside Ranch	81.67	339	⇑P	P	09 31 51.6 +0.3
	baz=82,SNR=8.9					
ISCO	Idaho Springs	81.69	335	eP	P	09 31 52.0 +0.3
ISCO				pmax	pmax	
	comp=Z,145nm,1.5s					
ISCO				MLR	MLR	
	comp=Z,2μm,20.0s					
ISCO	Idaho Springs	81.69	335	⇓P	P	09 31 52.4 +0.6
	baz=82,SNR=20					
ISCO	Idaho Springs	81.69	335	eP	P	09 31 52.0 +0.3
	comp=Z,145nm,1.5s					
ISCO				LR	LR	
	comp=Z,2μm,20.0s					
BFSC	Mount Baldy Ra	81.77	324	⇑P	P	09 31 52.7 +0.7
	baz=82,SNR=17					
O24A	Longmont	81.80	336	⇑P	P	09 31 52.2 +0.1
	baz=82,SNR=7.1					
M28A	Bar X Bar Ranc	81.82	339	⇓P	P	09 31 52.1 0.0
	baz=82					
L31A	Butterfield Fa	81.85	341	⇓P	P	09 31 52.5 +0.4
	baz=82,SNR=35					
N26A	Koester Ranch,	81.85	337	⇓P	P	09 31 52.6 +0.3
	baz=82					
L30A	Spencer Herefo	81.87	340	⇓P	P	09 31 52.8 +0.5
	baz=82,SNR=18					
P22A	Eagle	81.89	334	⇓P	P	09 31 53.1 +0.3
	baz=82,SNR=18					
MWC	Mount Wilson	81.94	324	eP	P	09 31 54.1 +1.1
MWC				pmax	pmax	
	comp=Z,163nm,1.7s					
MWC	Mount Wilson	81.94	324	eP	P	09 31 54.1 +1.1
	comp=Z,162nm,1.7s					
TUQ	Turquoise Moun	81.95	326	⇓P	P	09 31 53.8 +0.7
	baz=82,SNR=31					
PASC	Pasadena Art C	81.96	324	eP	P	09 31 54.0 +1.1
	comp=Z,96nm,1.4s					
RRX	Edison Barstow	81.98	325	⇑P	P	09 31 53.6 +0.6
	baz=82					
LBTB	Lobatse	82.08	115	⇑iP	P	09 31 54.6 +0.5
LBTB				AMB	AMB	09 32 04.5
	comp=Z,142nm,1.7s					
LBTB	Lobatse	82.08	115	eP	P	09 31 54.5 +0.3
LBTB				pmax	pmax	
	comp=Z,1μm,2.3s					
LBTB	Lobatse	82.08	115	eP	P	09 31 54.5 +0.3
	comp=Z,1μm,2.3s					
DECC	Green Verdugo	82.09	324	⇑P	P	09 31 54.3 +0.7
	baz=82					
N25A	Grover	82.10	337	⇑P	P	09 31 54.3 +0.6
	baz=82					
O23A	Lake Granby, G	82.16	335	⇑P	P	09 31 54.7 +0.5
	baz=82,SNR=31					
L29A	Maesberg Ranch	82.18	340	⇑P	P	09 31 55.3 +1.3
	baz=82					
M27A	Reverse DX Ran	82.24	338	⇑P	P	09 31 55.3 +1.0
	baz=83					
GSC	Goldstone, Bar	82.24	325	eP	P	09 31 55.8 +1.3
GSC				pmax	pmax	
	comp=Z,185nm,1.9s					
GSC	Goldstone, Bar	82.24	325	⇓P	P	09 31 55.4 +0.9
	baz=83,SNR=12					
GSC	Goldstone, Bar	82.24	325	eP	P	09 31 55.8 +1.3
	comp=Z,186nm,1.9s					
O22A	Kremmling	82.33	335	⇑P	P	09 31 55.3 +0.2
	baz=83,SNR=49					
N24A	Carr	82.37	336	⇑P	P	09 31 55.8 +0.7
	baz=83,SNR=15					
M26A	McRoberts Ranc	82.41	338	⇑P	P	09 31 55.9 +0.7
	baz=83					
L28A	Connealy Angus	82.42	339	⇓P	P	09 31 56.0 +0.7
	baz=83					
EDW2	Edwards Air Fo	82.45	324	⇓P	P	09 31 55.8 +0.3
	baz=83,SNR=8.3					
SHOC	Shoshone, Teco	82.50	326	⇑P	P	09 31 56.2 +0.5
	baz=83					
SHPR	Sheep Range	82.51	327	eP	P	09 31 56.8 +0.8
BSC	Santa Cruz Isl	82.51	323	⇑P	P	09 31 55.7 -0.1
	baz=83					
K30A	Basset	82.52	341	⇑P	P	09 31 55.6 0.0
	baz=83,SNR=21					
KSR	Koster	82.53	117	eP	P	09 31 56.7 +0.2
KSR				AMB	AMB	09 32 06.8
	comp=Z,46nm,1.5s					
KSR	Koster	82.53	117	P	P	09 31 56.7 +0.2
	comp=Z,46nm,1.5s					
WDLM	Western Deep L	82.56	117	eP	P	09 31 56.6 -0.1
WDLM				AMB	AMB	09 32 13.0
	comp=Z,64nm,2.1s					
OSI	Osito Audit: C	82.58	324	⇓P	P	09 31 56.3 +0.1
	baz=83					
OSI	Osito Audit: C	82.58	324	eP	P	09 31 57.1 +0.9
	comp=Z,119nm,1.2s					
CCUT	Cedar City

baz=83,SNR=9.3
L27A T5 Ranch, Ells 82.72 339 ⇓P P 09 31 57.1 +0.2
baz=83
KLOF Kloof 82.74 117 *e*P P 09 31 57.2 -0.4
KLOF AMB AMB 09 32 13.9
comp=Z,74nm,2.0s
KLOF Kloof 82.74 117 P P 09 31 57.2 -0.4
comp=Z,74nm,2.0s
ECSD EROS Data Cent 82.76 343 ⇓P P 09 31 57.1 +0.2
baz=83,SNR=62
ECSD EROS Data Cent 82.76 343 *e*P P 09 31 56.7 -0.2
comp=Z,667nm,1.8s
ECSD LR LR
comp=Z,2μm,19.0s
N23A Red Feather La 82.78 336 ⇓P P 09 31 57.6 +0.2
baz=83,SNR=20
K29A Lazy Trails An 82.79 340 ⇓P P 09 31 57.5 +0.4
baz=83,SNR=11
LRMC Laurel Mtn Rad 82.80 325 ⇓P P 09 31 57.7 +0.3
baz=83,SNR=19
SRU San Rafael Swe 82.84 332 *e*P P 09 31 57.6 -0.1
SRU pmax pmax
comp=Z,94nm,1.0s
SRU San Rafael Swe 82.84 332 *e*P P 09 31 57.5 -0.1
comp=Z,94nm,1.0s
ARUT Antelope Range 82.86 329 *e*P P 09 31 58.6 +0.8
ARUT pmax pmax
comp=Z,4μm,1.6s
ARUT Antelope Range 82.86 329 *e*P P 09 31 58.6 +0.8
comp=Z,4μm,1.6s
N22A Wattenberg Ran 82.87 335 ⇓P P 09 31 58.3 +0.4
baz=83,SNR=24
O20A White River Ci 82.89 334 ⇓P P 09 31 58.1 +0.2
baz=83,SNR=28
O20A White River Ci 82.89 334 *e*P P 09 31 58.0 +0.2
comp=Z,151nm,1.4s
L26A Underwood Farm 82.91 338 ⇓P P 09 31 58.0 +0.2
baz=83
SBC Santa Barbara 82.91 323 ⇑P P 09 31 57.8 0.0
baz=83
M24A Cheyenne 82.93 337 ⇓P P 09 31 58.6 +0.6
baz=83,SNR=21
PHWY Pilot Hill 82.99 336 *e*P P 09 31 58.8 +0.3
comp=Z,111nm,1.2s
K28A Ten Mile Ranch 83.03 340 ⇑P P 09 31 58.7 +0.3
baz=83,SNR=21
J30A Dallas 83.09 341 ⇓P P 09 31 58.5 -0.1
baz=83,SNR=17
CRWM Crown Mines 83.09 117 *e*P P 09 31 59.5 0.0
CRWM AMB AMB 09 32 00.5
comp=Z,97nm,3.3s
OBSV Observatory 83.17 117 *e*P P 09 31 59.4 -0.5
OBSV AMB AMB 09 32 16.1
comp=Z,79nm,2.1s
ERPM east rand prop 83.19 118 *e*P P 09 31 59.6 -0.4
ERPM AMB AMB 09 32 17.7
comp=Z,102nm,1.8s
ERPM east rand prop 83.19 118 P P 09 31 59.6 -0.4
comp=Z,102nm,1.8s
M23A Laramie 83.22 336 ⇓P P 09 31 60.0 +0.4
baz=84
FURC Furnace Creek, 83.23 326 ⇓P P 09 32 00.1 +0.7
baz=84,SNR=12
TMUT Trail Mountain 83.26 331 *e*P P 09 32 00.8 +0.8
comp=Z,132nm,1.2s
K27A Flueckinger Fa 83.27 339 ⇓P P 09 31 59.9 +0.2
baz=84,SNR=16
L25A Engebretsen Ra 83.29 338 ⇓P P 09 32 00.3 +0.5
baz=84,SNR=9.4
ISA Isabella, Lake 83.31 324 *e*P P 09 32 00.8 +0.8
ISA pmax pmax
comp=Z,118nm,1.4s
ISA Isabella, Lake 83.31 324 ⇑P P 09 32 00.5 +0.5
baz=84,SNR=18
ISA Isabella, Lake 83.31 324 *e*P P 09 32 00.8 +0.8
comp=Z,118nm,1.4s
SPMN Marine on St. 83.38 346 ⇓P P 09 32 00.1 +0.1
baz=84,SNR=11
SPMN Marine on St. 83.38 346 *e*P P 09 31 59.4 -0.6
comp=Z,261nm,1.8s
J29A Okreek 83.39 340 ⇑P P 09 32 00.0 -0.2
baz=84,SNR=48
DAC Darwin (Calif) 83.41 325 *e*P P 09 32 00.1 -0.6
DAC pmax pmax
comp=Z,132nm,1.4s
DAC Darwin (Calif) 83.41 325 *e*P P 09 32 00.1 -0.6
comp=Z,132nm,1.4s
M22A Cedar Creek Ra 83.45 335 ⇑P P 09 32 00.9 +0.1
baz=84,SNR=17
L24A Wheatland 83.49 337 ⇓P P 09 32 01.2 +0.4
baz=84
N20A Spence Gulch, 83.52 334 ⇑P P 09 32 01.2 +0.1
baz=84,SNR=24
K26A Motz Farm, Whi 83.55 338 ⇓P P 09 32 01.2 +0.1
baz=84
SLR Silverton 83.59 117 *e*P P 09 32 01.2 -0.8
SLR AMB AMB 09 32 10.5
comp=Z,128nm,1.2s
SLR Silverton 83.59 117 P P 09 32 01.2 -0.8
SLR pmax pmax
comp=Z,128nm,1.2s
SLR Silverton 83.59 117 P P 09 32 01.2 -0.8
comp=Z,128nm,1.2s
I30A Oacoma 83.62 341 ⇑P P 09 32 00.8 -0.5
baz=84,SNR=29
RAO Raoul Island 83.64 238 PFAKE 09 32 10.0 +8.0
RAO LR LR
comp=Z,5μm,19.0s
J28A Allard Ranch, 83.65 340 ⇓P P 09 32 01.7 +0.2
baz=84,SNR=23
K25A Mack Ranch, Ha 83.67 338 ⇑P P 09 32 02.3 +0.5
baz=84,SNR=7.8
J27A Elkhorn Farm, 83.71 339 ⇓P P 09 32 02.0 +0.1
baz=84,SNR=36
CRZF Crozet Islands 83.73 145 P P 09 31 47.0 -15
CRZF Crozet Islands 83.73 145 S Sx 09 41 51.0
CRZF R 09 58 00.0
VES Vestal, Richgr 83.75 324 ⇓P P 09 32 02.7 +0.6
baz=84,SNR=19
SMMC Simmler 83.75 323 ⇓P P 09 32 03.0 +0.8
baz=84
L23A Garrett 83.80 336 ⇑P P 09 32 02.4 -0.1
baz=84,SNR=12
GRAC Grapevine Rang 83.90 326 ⇑P P 09 32 03.9 +0.9
baz=84,SNR=14
I29A Vivian Onida 83.95 341 ⇓P P 09 32 02.9 -0.1
baz=84,SNR=12
L22A Ellis Ranch, M 83.96 336 ⇓P P 09 32 03.6 +0.3
baz=84
BRSD Miller 84.00 342 ⇑P P 09 32 03.0 -0.2
baz=84,SNR=6.1
BRSD Miller 84.00 342 *e*P P 09 32 03.2 -0.1
comp=Z,114nm,0.9s
MPU Maple Canyon 84.05 331 *e*P P 09 32 04.6 +0.8
comp=Z,140nm,1.1s
K24A Anderson Ranch 84.06 337 ⇓P P 09 32 04.3 +0.5
baz=84,SNR=16
J26A Sides Ranch, S 84.07 339 ⇑P P 09 32 04.1 +0.4
baz=84,SNR=19
I28A Midland 84.17 340 ⇑P P 09 32 04.1 0.0
baz=84,SNR=30
NLU North Lily Min 84.17 331 *e*P P 09 32 05.5 +1.0
comp=Z,323nm,1.7s
RCTC Rector, Farmer 84.20 324 ⇓P P 09 32 03.9 -0.5
baz=84
R11A Troy Canyon, C 84.24 328 ⇑P P 09 32 05.3 +0.5
baz=85,SNR=63
R11A Troy Canyon, C 84.24 328 *e*P P 09 32 05.7 +0.9
comp=Z,169nm,1.5s
DAU Daniels Canyon 84.25 332 *e*P P 09 32 05.3 +0.3
DAU Daniels Canyon 84.25 332 *e*P P 09 32 05.3 +0.3
TIN Tinemaha, Big 84.34 325 ⇓P P 09 32 05.3 0.0
baz=85
K23A Bowen Ranch, D 84.35 337 ⇑P P 09 32 05.3 +0.1
baz=85,SNR=31
J25A Sunshine Ranch 84.36 338 ⇑P P 09 32 05.2 -0.1
baz=85,SNR=9.8
I27A Quinn 84.47 340 ⇓P P 09 32 05.8 0.0
baz=85,SNR=23
JLU Jordanelle 84.48 332 *e*P P 09 32 06.4 +0.3
comp=Z,269nm,1.8s
H29A Onida 84.49 341 ⇑P P 09 32 05.4 -0.4
baz=85,SNR=17
K22A Casper 84.55 336 ⇑P P 09 32 06.1 -0.2
baz=85,SNR=49
K22A Casper 84.55 336 *e*P P 09 32 06.3 0.0
comp=Z,249nm,1.1s
J24A Dixon Ranch, L 84.57 338 ⇓P P 09 32 06.6 +0.3
baz=85,SNR=27
DUG Dugway, Tooele 84.66 331 *e*P P 09 32 07.4 +0.5
DUG pmax pmax
comp=Z,172nm,1.1s
DUG MLR MLR
comp=Z,3μm,19.0s
DUG Dugway, Tooele 84.66 331 ⇑P P 09 32 07.1 +0.2
baz=85,SNR=60
DUG Dugway, Tooele 84.66 331 *e*P P 09 32 07.4 +0.5
comp=Z,172nm,1.1s
DUG LR LR
comp=Z,3μm,19.0s
I26A New Underwood 84.67 339 ⇓P P 09 32 06.6 -0.1
baz=85,SNR=18
CTU Camp Tracy 84.68 332 *e*P P 09 32 07.3 +0.3
comp=Z,32nm,1.0s
G30A Faulkton 84.69 342 ⇑P P 09 32 06.0 -0.7
baz=85,SNR=21
TPH Tonopah 84.72 327 *e*P P 09 32 08.0 +0.7
TPH pmax pmax
comp=Z,112nm,1.1s
TPH Tonopah 84.72 327 *e*P P 09 32 08.0 +0.7
comp=Z,112nm,1.1s
MTUM Tungsten Hills 84.73 325 *e*P P 09 32 08.5 +1.2
H28A Mission Ridge 84.75 340 ⇓P P 09 32 06.7 -0.4
baz=85,SNR=39
K21A Alcova 84.77 336 ⇑P P 09 32 06.8 -0.6
baz=85,SNR=39
J23A Dilts Ranch, B 84.91 337 ⇓P P 09 32 07.7 -0.4
baz=85
I25A Rochford 84.91 338 ⇓P P 09 32 07.9 -0.2
baz=85,SNR=47
TCUT Toone Canyon 84.92 332 *e*P P 09 32 08.7 +0.4
comp=Z,443nm,1.4s
G29A Hoven 84.94 341 ⇑P P 09 32 07.9 -0.1
baz=85,SNR=15
H27A Howes 85.00 340 ⇓P P 09 32 07.9 -0.4
baz=85,SNR=41
I24A Kuemmerle Ranc 85.04 338 ⇑P P 09 32 08.5 -0.1
baz=85,SNR=16
MLAC Mammoth, Mammo 85.09 325 ⇑P P 09 32 09.2 +0.1
baz=85
G28A Parade 85.09 341 ⇓P P 09 32 08.6 -0.2
baz=85,SNR=32
RSSD Black Hills 85.10 338 *e*P P 09 32 09.1 0.0
RSSD pmax pmax
comp=Z,88nm,1.0s
RSSD Black Hills 85.10 338 *e*P P 09 32 09.1 0.0
comp=Z,88nm,1.0s
H26A Fairpoint 85.18 339 ⇓P P 09 32 08.5 -0.7
baz=86
J22A Midwest 85.21 336 ⇑P P 09 32 09.0 -0.5
baz=86,SNR=20
F30A Leola 85.32 342 ⇓P P 09 32 09.8 -0.1
baz=86,SNR=12
BGU Big Grassy Mou 85.37 331 *e*P P 09 32 10.7 +0.3
comp=Z,3nm,1.3s
I23A Meade Ranch, G 85.39 337 ⇑P P 09 32 09.7 -0.7
baz=86
HWUT Hardware Ranch 85.40 332 *e*P P 09 32 10.5 -0.1
comp=Z,282nm,1.2s
HWUT LR LR
comp=Z,3μm,20.0s
H25A Fruitdale 85.42 339 ⇑P P 09 32 10.0 -0.5
baz=86,SNR=50
NV11 Mina Array Sit 85.43 326 *e*P P 09 32 11.3 +0.5
J21A Lysite 85.47 336 ⇓P P 09 32 10.7 -0.2
baz=86,SNR=18
SPUT South Promonto 85.48 331 *e*P P 09 32 11.3 +0.3
comp=Z,361nm,1.4s
NVAR Mina Array Bea 85.50 326 P P 09 32 11.8 +0.6
comp=Z,13nm,0.9s,baz=154,slow=5.5,SNR=60
NVAR PKKPbc **PKKPbc** 09 50 17.1 +1.4
comp=Z,1.6nm,0.9s,baz=318,slow=1.2,SNR=7.3
NVAR LR LR 10 04 00.1
comp=Z,1μm,21.1s,baz=214,slow=31
F29A Eureka 85.52 342 ⇓P P 09 32 10.2 -0.6
baz=86,SNR=28
I22A 9 Mile Ranch, 85.65 337 ⇑P P 09 32 10.9 -0.8
baz=86,SNR=32
G27A Dupree 85.65 340 ⇓P P 09 32 11.0 -0.6
baz=86,SNR=32
BW06 Boulder Array 85.68 334 *e*P P 09 32 11.6 -0.4
comp=Z,95nm,1.2s
BW06 LR LR
comp=Z,6μm,19.0s
PDAR Pinedale Array 85.68 334 P P 09 32 11.8 -0.3
comp=Z,17nm,1.0s,baz=145,slow=5.4,SNR=63
PDAR PKKPbc **PKKPbc** 09 50 14.8 -0.8
comp=Z,1.2nm,0.8s,baz=240,slow=1.3,SNR=6.8
J20A Shoshoni 85.69 335 ⇓P P 09 32 11.6 -0.3
baz=86,SNR=51
G26A Maurine 85.75 340 ⇓P P 09 32 11.4 -0.7
baz=86,SNR=50
EYMN Ely 85.77 348 *e*P P 09 32 11.4 -0.6
comp=Z,127nm,1.4s
EYMN LR LR
comp=Z,2μm,21.0s
F28A McLaughlin 85.78 341 ⇑P P 09 32 11.9 -0.3
baz=86,SNR=35
H24A Dirks Ranch, A 85.82 338 ⇓P P 09 32 11.9 -0.6
baz=86,SNR=33
I21A Big Trails, Te 85.83 336 ⇓P P 09 32 11.9 -0.8
baz=86,SNR=49
G25A Newell 85.89 339 ⇑P P 09 32 12.4 -0.4
baz=86,SNR=68
H23A Clabaugh Cattl 85.91 338 ⇑P P 09 32 11.7 -1.2
baz=86
E30A Jud 85.92 343 ⇓P P 09 32 12.6 -0.2
baz=86,SNR=27
J19A Crowheart 85.94 335 ⇑P P 09 32 12.6 -0.6
baz=86,SNR=64
HVU Hansel Valley 86.01 331 *e*P P 09 32 13.8 +0.2
HVU pmax pmax
comp=Z,79nm,0.9s
HVU Hansel Valley 86.01 331 *e*P P 09 32 13.8 +0.2
comp=Z,79nm,0.9s
TORD Torodi Ar. Bea 86.02 71 P P 09 32 13.9 -0.1
comp=Z,38nm,1.2s,baz=234,slow=4.9,SNR=77
TORD LR LR 10 09 40.2
comp=Z,9μm,18.1s,baz=240,slow=35
WAKR Walker 86.07 325 *e*P P 09 32 15.2 +1.2
ELK Elko 86.11 329 *e*P P 09 32 14.8 +0.6
ELK pmax pmax
comp=Z,81nm,1.3s
ELK Elko 86.11 329 *e*P P 09 32 14.8 +0.6
comp=Z,81nm,1.3s
F27A Lemmon 86.13 340 ⇓P P 09 32 13.7 -0.2
baz=86,SNR=66
CMB Columbia Colle 86.13 325 *e*P P 09 32 14.6 +0.5
CMB pmax pmax
comp=Z,91nm,1.4s
CMB Columbia Colle 86.13 325 *e*P P 09 32 14.6 +0.5
comp=Z,91nm,1.4s
E29A Napoleon 86.16 342 ⇓P P 09 32 13.6 -0.4
baz=86,SNR=26
AHID Auburn Hatcher 86.23 333 *e*P P 09 32 14.9 +0.2
comp=Z,300nm,1.5s
AHID LR LR
comp=Z,6μm,19.0s
I20A Worland 86.23 336 ⇑P P 09 32 14.2 -0.4
baz=87,SNR=38
H22A Clearmont 86.23 337 ⇑P P 09 32 13.8 -0.7
baz=87,SNR=26
F26A Lodgepole 86.29 340 ⇑P P 09 32 14.2 -0.5
baz=87,SNR=25
G24A Alzada 86.31 339 ⇑P P 09 32 14.1 -0.8
baz=87,SNR=23
E28A Huff 86.43 341 ⇓P P 09 32 15.2 -0.1
baz=87,SNR=14
D30A Buchanan 86.45 343 ⇓P P 09 32 14.9 -0.5
baz=87,SNR=28
G23A Biddle 86.48 338 ⇑P P 09 32 14.9 -0.8
baz=87,SNR=18
H21A Big Horn, Sher 86.48 337 ⇓P P 09 32 14.8 -1.0
baz=87,SNR=10
MSKU Masuku 86.49 89 PFAKE 09 32 30.0 +13
MSKU LR LR
comp=Z,2.0nm,22.0s
E27A Carson 86.52 341 ⇓P P 09 32 15.6 -0.2
baz=87,SNR=25
XMAS Kiritimati 86.56 275 PFAKE 09 32 30.0 +13
XMAS LR LR
comp=Z,9μm,21.0s
F25A Bowman 86.58 339 ⇑P P 09 32 15.9 -0.2
baz=87,SNR=22
I19A Meeteetse 86.60 335 ⇓P P 09 32 16.1 -0.4
baz=87,SNR=19
D29A Pettibone, Tap 86.61 342 ⇓P P 09 32 15.8 -0.4
baz=87,SNR=26
REDW Red Top Meadow 86.66 334 *e*P P 09 32 16.7 -0.1
comp=Z,223nm,1.4s
H20A Greybull 86.67 336 ⇑P P 09 32 16.1 -0.6
baz=87,SNR=19
BMN Battle Mountai 86.67 328 *e*P P 09 32 16.9 0.0
BMN pmax pmax
comp=Z,37nm,1.4s
BMN Battle Mountai 86.67 328 *e*P P 09 32 16.9 0.0
comp=Z,37nm,1.4s
G22A Birney 86.78 337 ⇓P P 09 32 16.4 -0.8
baz=87,SNR=14
F24A Ekalaka 86.78 339 ⇓P P 09 32 16.5 -0.7
baz=87,SNR=31
LOHW Long Hollow 86.79 334 *e*P P 09 32 17.6 +0.1
comp=Z,61nm,1.1s
E26A Carlson Angus 86.80 340 ⇑P P 09 32 16.9 -0.3
baz=87,SNR=45
TPAW Teton Pass 86.81 334 *e*P P 09 32 17.5 -0.1
comp=Z,99nm,1.0s
MSNA Messina 86.92 116 *e*P P 09 32 18.4 -0.2
MSNA AMB AMB 09 32 20.4
comp=Z,85nm,3.1s
MSNA Messina 86.92 116 P P 09 32 18.4 -0.2
comp=Z,85nm,3.1s
AGMN Agassiz Nation 86.93 345 ⇓P P 09 32 17.3 -0.4
baz=87,SNR=40
AGMN Agassiz Nation 86.93 345 *e*P P 09 32 17.3 -0.4
comp=Z,155nm,1.4s
AGMN LR LR
comp=Z,2μm,19.0s
C30A Mose, Pekin 86.94 343 ⇑P P 09 32 17.7 -0.1
baz=87,SNR=44
F23A Volborg 86.96 338 ⇑P P 09 32 17.6 -0.4
baz=87,SNR=24
FXWY Fox Creek 86.96 334 *e*P P 09 32 18.2 -0.1
comp=Z,59nm,1.0s
D28A Regan 86.97 342 ⇓P P 09 32 17.7 -0.3
baz=87,SNR=50
MATP Matopo 86.98 113 *i*P P 09 32 20.5 +1.4
MATP *i*S Px 09 32 43.9
I17A Pilgrim Ck. 87.05 334 ⇓P P 09 32 18.6 -0.1
baz=87,SNR=40
G21A Lodge Grass 87.07 337 ⇑P P 09 32 18.1 -0.5
baz=87,SNR=10.0
E25A Miller Ranch, 87.08 340 ⇓P P 09 32 18.4 -0.2
baz=87,SNR=38
D27A Center 87.14 341 ⇑P P 09 32 18.5 -0.3
baz=88,SNR=6.5
IMW Indian Meadow 87.16 334 *e*P P 09 32 19.6 +0.3
comp=Z,124nm,1.2s
H19A Powell 87.16 335 ⇑P P 09 32 18.5 -0.6
baz=88,SNR=12
MOPA Mopani 87.18 117 *e*P P 09 32 20.4 +0.6
MOPA AMB AMB 09 32 30.9
comp=Z,127nm,1.5s
MOPA Mopani 87.18 117 P P 09 32 20.4 +0.6
comp=Z,127nm,1.5s
FLWY Flagg Ranch 87.23 334 *e*P P 09 32 19.9 +0.3
F22A Rosebud 87.27 338 ⇓P P 09 32 19.1 -0.4
baz=88,SNR=15
D26A Manning 87.31 340 ⇓P P 09 32 19.6 -0.1
baz=88,SNR=60
MDND Maddock 87.34 343 ⇓P P 09 32 19.6 -0.1
baz=88,SNR=52
MDND Maddock 87.34 343 *e*P P 09 32 19.8 0.0
comp=Z,167nm,1.3s
G20A Bridger 87.39 336 ⇑P P 09 32 19.4 -0.8
baz=88,SNR=20
H18A Shoshone NF, C 87.39 335 ⇑P P 09 32 19.8 -0.6
baz=88,SNR=42
E24A Baker 87.40 339 ⇑P P 09 32 19.6 -0.5
baz=88,SNR=22
C28A Hausauer Farms 87.41 342 ⇓P P 09 32 19.9 -0.2
baz=88,SNR=14
H17A Grant Village 87.46 334 *e*P P 09 32 20.6 -0.1
comp=Z,90nm,1.5s
LKWY Lake 87.55 334 *e*P P 09 32 22.4 +1.2
LKWY pmax pmax
comp=Z,69nm,1.5s
LKWY MLR MLR
comp=Z,6μm,19.0s
LKWY Lake 87.55 334 *e*P P 09 32 22.4 +1.2
comp=Z,69nm,1.5s
LKWY LR LR
comp=Z,6μm,19.0s
F21A Absaloka Mine, 87.58 337 ⇑P P 09 32 19.9 -1.1
baz=88
YFT Old Faithful 87.60 334 *e*P P 09 32 23.1 +1.7
comp=Z,213nm,1.5s
B30A Myrvik Farm, E 87.61 344 ⇓P P 09 32 20.6 -0.4
baz=88,SNR=48
E23A Ismay 87.63 338 ⇓P P 09 32 20.7 -0.5
baz=88
RLMT Red Lodge 87.65 335 *e*P P 09 32 21.4 -0.1
comp=Z,144nm,1.5s
RLMT LR LR
comp=Z,2μm,19.0s
D25A Fairfield 87.66 340 ⇓P P 09 32 21.2 -0.1
baz=88,SNR=33
OHCM Honcut 87.69 325 *e*P P 09 32 22.6 +1.0
C27A Sayler Ranch, 87.69 341 ⇓P P 09 32 21.1 -0.3
baz=88,SNR=49
E22A Miles City 87.77 338 ⇓P P 09 32 22.3 +0.5
baz=88
YNR Norris Junctio 87.78 334 *e*P P 09 32 23.5 +1.3
comp=Z,82nm,1.5s
YMR Madison River 87.84 334 *e*P P 09 32 23.4 +0.9
comp=Z,180nm,1.2s
B29A Wagenman Farm, 87.86 343 ⇓P P 09 32 22.1 -0.1
baz=88,SNR=49
F20A Billings 87.88 336 ⇑P P 09 32 22.5 0.0
baz=88,SNR=5.6
D24A Glendive 87.91 339 ⇓P P 09 32 22.5 0.0
baz=88,SNR=18
C26A Wahner Farm, P 87.95 341 ⇓P P 09 32 22.6 -0.1
baz=88,SNR=21
A30A Hoffart Farm, 88.06 344 ⇓P P 09 32 22.4 -0.8
baz=88,SNR=44
LAO LASA Array 88.08 338 *e*P P 09 32 22.9 -0.5
comp=Z,56nm,1.0s
LAO LR LR
comp=Z,3μm,19.0s
B28A Dugan Ranch, T 88.09 342 ⇑P P 09 32 23.1 -0.2
baz=88,SNR=57
QLMT Earthquake Lak 88.14 334 *e*P P 09 32 25.0 +1.1
C25A Freed Ranch, W 88.15 340 ⇑P P 09 32 23.4 -0.2
baz=88
HLID Hailey 88.16 331 ⇑P P 09 32 24.0 0.0
baz=88,SNR=38
HLID Hailey 88.16 331 *e*P P 09 32 24.5 +0.5
comp=Z,138nm,1.4s
HLID LR LR
comp=Z,2μm,20.0s
F19A Roth Farm, Mol 88.19 336 ⇓P P 09 32 22.9 -1.0
baz=88,SNR=19
E21A Keefer Ranch, 88.20 337 ⇑P P 09 32 23.1 -0.8
baz=88
D23A Lindsay 88.21 339 P P 09 32 23.9 -0.1
baz=89
A29A Manning Farm, 88.26 343 ⇑P P 09 32 23.7 -0.4
baz=89,SNR=55
B27A Peters Farms, 88.27 342 ⇓P P 09 32 23.2 -0.9
baz=89
C24A Savage 88.31 339 ⇑P P 09 32 24.2 -0.3
baz=89,SNR=31
PAF Port-aux-Franc 88.46 157 P P 09 32 09.0 -16
PAF Port-aux-Franc 88.46 157 S **SKSac** 09 42 46.0 -5.7
PAF SS SS 09 48 42.0 -15
PAF L L 09 55 00.0
PAF R 10 02 00.0
PAF Port-aux-Franc 88.46 157 PFAKE 09 32 40.0 +15
PAF LR LR
comp=Z,6μm,20.0s
D22A Cohagen 88.48 338 ⇓P P 09 32 25.2 0.0
baz=89,SNR=13
B26A Jensen Ranch, 88.49 341 ⇑P P 09 32 25.2 -0.1
baz=89
A28A Rude Farm, Bot 88.49 343 ⇓P P 09 32 25.1 -0.2
baz=89,SNR=20
E20A Meyer Farm, Mu 88.50 337 ⇓P P 09 32 25.0 -0.4
baz=89,SNR=20
AFI Afiamalu 88.51 254 PFAKE 09 32 40.0 +14
AFI LR LR
comp=Z,12μm,19.0s
MFID Camas Ranch 88.58 330 *e*P P 09 32 26.7 +0.8
comp=Z,176nm,1.5s

B25A	Knox Farm, Ray	88.64	341	⇓P		P	09 32 25.7 -0.2
	baz=89,SNR=18						
D21A	La Casta Ranch	88.65	338	⇓P		P	09 32 25.5 -0.6
	baz=89,SNR=9.7						
MCMT	McKenzie Canyo	88.65	333	eP		P	09 32 26.7 +0.4
E19A	Rath Farm, Rou	88.67	336	⇓P		P	09 32 25.6 -0.6
	baz=89,SNR=23						
A27A	Ledoux Ranch,	88.77	342	P		P	09 32 26.6 +0.1
	baz=89						
C23A	Lambert	88.78	339	⇓P		P	09 32 26.1 -0.5
	baz=89,SNR=14						
ULM	Lac du Bonnet	88.79	346	eP		P	09 32 25.8 -0.8
ULM				pmax		pmax	
	comp=Z,253nm,1.6s						
ULM	Lac du Bonnet	88.79	346	P		P	09 32 25.7 -0.8
	comp=Z,25nm,1.0s,baz=170,slow=4.1,SNR=24						
ULM	Lac du Bonnet	88.79	346	eP		P	09 32 25.8 -0.8
	comp=Z,253nm,1.6s						
BOZ	Bozeman (W)	88.92	334	eP		P	09 32 26.6 -0.9
BOZ				pmax		pmax	
	comp=Z,44nm,1.4s						
BOZ				MLR		MLR	
	comp=Z,4μm,20.0s						
BOZ	Bozeman (W)	88.92	334	eP		P	09 32 26.6 -0.9
	comp=Z,44nm,1.4s						
BOZ				LR		LR	
	comp=Z,4μm,20.0s						
A26A	Wade Farm, Ken	88.92	341	⇓P		P	09 32 26.9 -0.3
	baz=89,SNR=17						
WVOR	Wild Horse Val	88.92	328	eP		P	09 32 28.5 +0.9
WVOR				MLR		MLR	
	comp=Z,3μm,20.0s						
WVOR	Wild Horse Val	88.92	328	eP		P	09 32 28.5 +0.9
WVOR				LR		LR	
	comp=Z,3μm,20.0s						
C22A	Vida	88.93	339	⇑P		P	09 32 27.5 +0.2
	baz=89,SNR=7.5						
DLMT	Dillon	89.02	333	eP		P	09 32 28.7 +0.8
	comp=Z,169nm,1.5s						
DGMT	Dagmar	89.10	340	⇑P		P	09 32 28.3 +0.1
	baz=90,SNR=18						
DGMT	Dagmar	89.10	340	eP		P	09 32 28.1 -0.1
	comp=Z,438nm,1.6s						
DGMT				LR		LR	
	comp=Z,2μm,21.0s						
WDC	Whiskeytown Da	89.17	325	eP		P	09 32 29.0 +0.4
WDC				pmax		pmax	
	comp=Z,87nm,1.7s						
WDC	Whiskeytown Da	89.17	325	eP		P	09 32 29.0 +0.4
	comp=Z,87nm,1.7s						
MOD	Modoc Plateau	89.21	327	eP		P	09 32 29.9 +0.9
	comp=Z,132nm,1.5s						
A25A	Svangstu Ranch	89.24	341	⇓P		P	09 32 28.7 -0.1
	baz=90,SNR=15						
B23A	Brockton	89.32	339	⇓P		P	09 32 28.9 -0.2
	baz=90,SNR=8.2						
D19A	Cripps Ranch,	89.33	337	⇓P		P	09 32 28.9 -0.4
	baz=90,SNR=7.2						
C21A	Desert Coulee	89.36	338	⇓P		P	09 32 28.8 -0.5
	baz=90,SNR=8.7						
LRM	Limekiln Ridge	89.36	334	eP		P	09 32 30.3 +0.6
KMRM	Mail Ridge	89.43	324	eP		P	09 32 33.3 +3.4
	comp=Z,172nm,1.6s						
KMRM				epP		pP	09 32 40.0 -0.8
B22A	Reddig Ranch S	89.46	339	⇓P		P	09 32 29.4 -0.4
	baz=90,SNR=12						
A24A	Westby	89.46	340	⇑P		P	09 32 29.7 -0.1
	baz=90						
C20A	Veseth Ranch,	89.54	337	⇑P		P	09 32 29.5 -0.7
	baz=90,SNR=12						
N02D	Trinity Center	89.55	325	⇑P		P	09 32 30.0 -0.5
	baz=90						
A23A	Redstone	89.74	340	⇑P		P	09 32 31.0 -0.1
	baz=90						
M04C	Macdoel	89.80	326	⇑P		P	09 32 31.7 0.0
	baz=90						
B21A	Ellsworth Farm	89.87	338	⇓P		P	09 32 31.3 -0.4
	baz=90,SNR=9.4						
C19A	Slack Wire Ran	89.88	337	⇑P		P	09 32 31.5 -0.3
	baz=90						
LSZ	Lusaka	89.90	109	P		P	09 32 34.4 +1.5
LSZ				MLR		MLR	
	comp=Z,15μm,19.0s						
LSZ	Lusaka	89.90	109	P		P	09 32 34.4 +1.5
	comp=Z,19nm,1.1s,baz=11,slow=11,SNR=14						
LSZ	Lusaka	89.90	109	P		P	09 32 34.4 +1.5
LSZ				LR		LR	
	comp=Z,15μm,19.0s						
HRY	Holter Researc	89.91	335	eP		P	09 32 32.7 +0.6
M02C	Callahan	89.95	325	⇑P		P	09 32 32.2 -0.2
	baz=90						
KHMM	Horse Mountain	89.95	324	eP		P	09 32 39.0 +6.5
	comp=Z,82nm,1.4s						
A22A	Carney Farms,	90.06	339	⇓P		P	09 32 32.5 -0.2
	baz=90						
K05A	Summer Lake	90.14	327	eP		P	09 32 34.0 +0.7
	comp=Z,246nm,1.6s						
YBH	Yreka Blue Hor	90.16	325	eP		P	09 32 33.8 +0.5
YBH				pmax		pmax	
	comp=Z,34nm,1.4s						
YBH	Yreka Blue Hor	90.16	325	eP		P	09 32 33.8 +0.5
	comp=Z,34nm,1.4s						
B20A	Solberg Farm,	90.19	338	⇓P		P	09 32 32.7 -0.6
	baz=90						
A21A	Bergtoll Ranch	90.35	339	⇑P		P	09 32 33.3 -0.7
	baz=91,SNR=9.1						
EGMT	Eagleton	90.36	336	⇑P		P	09 32 33.4 -0.7
	baz=91						
EGMT	Eagleton	90.36	336	eP		P	09 32 33.4 -0.7
	comp=Z,20nm,1.0s						
EGMT				LR		LR	
	comp=Z,2μm,19.0s						
BMO	Blue Mountains	90.37	330	eP		P	09 32 33.9 -0.3
	comp=Z,44nm,1.4s						
BMO				LR		LR	
	comp=Z,2μm,19.0s						
K04D	Chiloquin, OR	90.43	326	⇓P		P	09 32 33.9 -0.7
	baz=91						
B19A	Brinkman Farms	90.49	337	⇓P		P	09 32 34.1 -0.6
	baz=91,SNR=12						
A20A	Cobblestone Ra	90.55	338	⇓P		P	09 32 34.1 -0.8
	baz=91,SNR=11						
CHMT	Chamberlain Mo	90.58	334	eP		P	09 32 35.9 +0.5
I07A	Izee	90.64	329	eP		P	09 32 36.5 +0.9
	comp=Z,123nm,1.6s						
J05D	Fort Rock, OR	90.73	327	⇑P		P	09 32 36.1 +0.1
	baz=91						
MSO	Missoula	90.76	333	⇑P		P	09 32 35.6 -0.4
	baz=91,SNR=7.4						
MSO	Missoula	90.76	333	eP		P	09 32 36.5 +0.6
	comp=Z,46nm,1.4s						
A19A	Klindworth Far	90.84	337	⇑P		P	09 32 35.5 -0.8
	baz=91,SNR=8.9						
SLMT	Seeley Lake	90.95	334	eP		P	09 32 37.2 +0.3
PINOR	Pine Mountain	91.00	328	eP		P	09 32 38.4 +1.4
	comp=Z,111nm,1.6s						
J04D	Umpqua Nationa	91.08	327	⇑P		P	09 32 37.1 -0.7
	baz=91						
SCHQ	Schefferville	91.27	4	P		P	09 32 38.9 +0.8
	comp=Z,2.6nm,0.7s,baz=153,slow=6.4,SNR=4.1						
F10A	Beach Ranch, E	91.27	331	eP		P	09 32 39.1 +0.8
	comp=Z,49nm,1.1s						
SWMT	Swartz Lake	91.36	334	eP		P	09 32 39.1 +0.3
I05D	Terrebonne, OR	91.62	328	⇓P		P	09 32 39.9 -0.1
	baz=92						
I04A	Tendick Farm,	91.66	327	⇑P		P	09 32 40.2 +0.1
	baz=92						
JTMT	Jette	91.66	334	eP		P	09 32 40.5 +0.4
YBMT	Yellow Bay	91.66	334	eP		P	09 32 40.6 +0.4
BLMT	Blacktail Moun	91.91	334	eP		P	09 32 41.8 +0.4
BSMT	Bassoo Peak	91.93	333	eP		P	09 32 41.9 +0.3
VTHM	Trough	91.97	329	P		P	09 32 42.4 +0.8
CROR	Criterion Ridg	91.99	328	P		P	09 32 42.9 +1.2
G06A	Carlson Farm,	92.04	329	eP		P	09 32 43.6 +1.7
	comp=Z,115nm,1.5s						
E09A	Wood Farm, Sta	92.08	331	eP		P	09 32 41.7 -0.3
	comp=Z,30nm,1.3s						
H04A	Detroit Lake	92.26	327	eP		P	09 32 46.6 +3.7
	comp=Z,60nm,1.7s						
G05D	Wamic, OR	92.34	328	⇓P		P	09 32 43.0 -0.3
	baz=93						
H2OWA	Water	92.49	330	P		P	09 32 45.2 +1.4
HAWA	Hanford	92.53	330	eP		P	09 32 44.9 +0.8
	comp=Z,127nm,1.5s						
HAWA				LR		LR	
	comp=Z,3μm,20.0s						
TAU	Tasmania Unive	92.64	209	PFAKE			09 33 00.0 +15
TAU				LR		LR	
	comp=Z,4μm,22.0s						
WALA	Waterton Lakes	92.64	335	eP		P	09 32 44.5 -0.2
	comp=Z,2.2nm,1.2s						
E07A	Sunnyside	92.79	330	eP		P	09 32 46.6 +1.3
	comp=Z,30nm,1.1s						
D08A	Wollman Farm,	92.83	331	eP		P	09 32 45.9 +0.4
	comp=Z,29nm,0.9s						
OD2	Odessa Site #2	93.02	331	P		P	09 32 46.6 +0.3
NEW	Newport	93.13	332	eP		P	09 32 46.4 -0.5
NEW				pmax		pmax	
	comp=Z,69nm,1.5s						
NEW				MLR		MLR	
	comp=Z,3μm,19.0s						
NEW	Newport	93.13	332	⇓P		P	09 32 46.2 -0.7
	baz=94,SNR=8.1						
NEW	Newport	93.13	332	eP		P	09 32 46.4 -0.5
	comp=Z,69nm,1.5s						
NEW				LR		LR	
	comp=Z,3μm,19.0s						
G03D	McMinnville, O	93.15	327	⇓P		P	09 32 45.3 -1.6
	baz=94						
C09A	Chrisman Ranch	93.18	331	eP		P	09 32 47.4 +0.3
	comp=Z,86nm,1.4s						
RTC	Rabat Centre	93.60	50	PFAKE			09 33 00.0 +11
RTC				LR		LR	
	comp=Z,14μm,20.0s						
LTY	Liberty	93.69	330	eP		P	09 32 50.0 +0.5
	comp=Z,63nm,1.6s						
LON	Longmire	93.75	329	eP		P	09 32 50.2 +0.4
LON				pmax		pmax	
	comp=Z,71nm,1.8s						
LON	Longmire	93.75	329	eP		P	09 32 50.2 +0.4
	comp=Z,71nm,1.8s						
MSVF	Nonsavu	93.79	245	PFAKE			09 33 00.0 +9.2
MSVF				LR		LR	
	comp=Z,5μm,19.0s						
B08A	Colville Reser	94.05	331	eP		P	09 32 50.7 -0.4
	comp=Z,34nm,1.3s						
D05A	Enumclaw	94.17	329	eP		P	09 32 52.4 +0.8
	comp=Z,67nm,1.2s						
MDT	Midelt	94.22	52	LR		LR	10 14 56.0
	comp=Z,9μm,19.9s,slow=35						
FFC	Flin Flon	94.29	344	eP		P	09 32 53.2 +1.2
FFC				pmax		pmax	
	comp=Z,49nm,1.6s						
FFC				MLR		MLR	
	comp=Z,3μm,19.0s						
FFC	Flin Flon	94.29	344	eP		P	09 32 53.1 +1.2
	comp=Z,49nm,1.6s						
FFC				LR		LR	
	comp=Z,3μm,19.0s						
MORF	Marmelete	94.78	46	eP		P	09 32 55.3 +0.6
MORF				AMS		AMS	10 17 20.7
	comp=Z,9μm,16.6s						
MORF	Marmelete	94.78	46	eP		P	09 32 55.3 +0.6
TAM	Tamanrasset	94.83	65	eP		P	09 32 55.9 +0.5
TAM				pmax		pmax	
	comp=Z,58nm,1.3s						
TAM				MLR		MLR	
	comp=Z,11μm,20.0s						
TAM	Tamanrasset	94.83	65	eP		P	09 32 55.9 +0.5
	comp=Z,58nm,1.3s						
TAM				LR		LR	
	comp=Z,11μm,20.0s						
NLWA	Neilton Lookou	95.12	328	PFAKE			09 33 10.0 +14
NLWA				LR		LR	
	comp=Z,2μm,19.0s						
MESJ	Messejana	95.39	46	eP		P	09 32 58.0 +0.6
MESJ				eS		SKSac	09 43 31.0 +0.4
MESJ				AMS		AMS	10 17 31.7
	comp=Z,9μm,16.5s						
MESJ	Messejana	95.39	46	eP		P	09 32 58.0 +0.6
MESJ				eS		SKSac	09 43 30.9 +0.4
LIS	Lisbon	95.46	45	eP		P	09 32 58.5 +0.8
LIS				eS		SKSac	09 43 31.2 +0.4
LIS				AMS		AMS	10 14 04.8
	comp=Z,6μm,17.9s						
LIS	Lisbon	95.46	45	eP		P	09 32 58.5 +0.8
LIS				eS		SKSac	09 43 31.2 +0.4
POHA	Pohakuloa	95.63	290	PFAKE			09 33 10.0 +11
POHA				LR		LR	
	comp=Z,3μm,20.0s						
A05A	Maple Falls	95.65	330	eP		P	09 32 58.6 +0.3
	comp=Z,59nm,1.4s						
EDM	Edmonton	96.01	337	eP		P	09 32 58.3 -1.7
EDM	Edmonton	96.01	337	eP		P	09 32 58.3 -1.7
MTE	Manteigas	97.51	45	PFAKE			09 33 20.0 +13
MTE				LR		LR	
	comp=Z,8μm,21.0s						
CAN	Canberra	98.34	214	PFAKE			09 33 20.0 +8.8
CAN				LR		LR	
	comp=Z,5μm,20.0s						
KIP	Kipapa	98.48	290	PFAKE			09 33 20.0 +8.2
KIP				LR		LR	
	comp=Z,3μm,19.0s						
PAB	San Pablo	98.79	47	PFAKE			09 33 20.0 +7.1
PAB				LR		LR	
	comp=Z,5μm,20.0s						
ESDC	Sonseca Array	99.09	47	P		Pdif	09 33 14.3 +0.1
	comp=Z,0.8nm,0.6s,baz=247,slow=4.4,SNR=4.2						
ESDC				PP		PP	09 37 19.1 +1.8
	comp=Z,0.2nm,0.3s,baz=241,slow=6.1,SNR=4.2						
ESDC				LR		LR	10 16 53.6
	comp=Z,4μm,20.3s,baz=245,slow=35						
YKA	Yellowknife Ar	104.23	342	Pdiff		Pdif	09 33 35.3 -1.1
	comp=Z,1.7nm,1.0s,baz=146,slow=4.7,SNR=8.9						
YKA				PP		PKiKP	09 37 50.9 -2.0
	comp=Z,1.9nm,1.0s,baz=139,slow=8.0,SNR=5.9						
YKA				PKKPbc		PKKPbc	09 49 25.0 -0.6
	comp=Z,0.3nm,0.8s,baz=324,slow=2.8,SNR=4.4						
SFJD	Kangerlussuaq	104.74	9	PFAKE			09 33 50.0 +11
SFJD				LR		LR	
	comp=Z,3μm,20.0s						
RER	Riviere de l'E	105.02	131	PFAKE			09 38 10.0
RER				LR		LR	
	comp=Z,4μm,19.0s						
WRAK	Wrangell Islan	105.33	330	PFAKE			09 38 10.0
WRAK				LR		LR	
	comp=Z,2μm,22.0s						
KMBO	Kilima Mbogo	105.66	103	PFAKE			09 38 10.0
KMBO				LR		LR	
	comp=Z,13μm,19.0s						
VSL	Villasalto	107.24	53	PFAKE			09 38 10.0
VSL				LR		LR	
	comp=Z,6μm,19.0s						
SSB	Saint Sauveur	107.49	46	PFAKE			09 38 10.0
SSB				LR		LR	
	comp=Z,6μm,19.0s						
BNI	Bardonecchia	108.62	47	PFAKE			09 38 10.0
BNI				LR		LR	
	comp=Z,6μm,20.0s						
WDD	Wield Dalam	108.72	59	PFAKE			09 38 10.0
WDD				LR		LR	
	comp=Z,22μm,20.0s						
BORG	Borgarnes	108.89	21	PFAKE			09 38 10.0
BORG				LR		LR	
	comp=Z,2μm,21.0s						
ESK	Eskdalemuir	109.30	35	PFAKE			09 38 10.0
ESK				LR		LR	
	comp=Z,4μm,20.0s						
TARA	Tarawa	109.81	256	PFAKE			09 38 20.0
TARA				LR		LR	
	comp=Z,4μm,20.0s						
NWAO	Narrogin (SRO)	110.11	189	PFAKE			09 38 20.0
NWAO				LR		LR	
	comp=Z,1.0nm,20.0s						
VLC	Villacollemand	110.38	50	PFAKE			09 38 20.0
VLC				LR		LR	
	comp=Z,3μm,20.0s						
ECH	Echery	110.61	45	PFAKE			09 38 20.0
ECH				LR		LR	
	comp=Z,5μm,21.0s						
WLF	Walferdange	110.81	43	PFAKE			09 38 20.0
WLF				LR		LR	
	comp=Z,8μm,20.0s						
CEL	Celeste	110.90	57	PFAKE			09 38 20.0
CEL				LR		LR	
	comp=Z,15μm,21.0s						
TUE	Stuetta	110.95	47	PFAKE			09 38 20.0
TUE				LR		LR	
	comp=Z,5μm,20.0s						
BFO	Black Forest	111.33	45	PFAKE			09 38 20.0
BFO				LR		LR	
	comp=Z,4μm,21.0s						
AQU	L'Aquila	111.34	53	PFAKE			09 38 20.0
AQU				LR		LR	
	comp=Z,8μm,20.0s						
SUMG	Summit	111.56	11	i P		PP	09 38 49.0 -0.2
CUC	Castrocucco	111.72	56	PFAKE			09 38 20.0
CUC				LR		LR	
	comp=Z,5μm,20.0s						
TIP	Timpagrande	111.95	57	PFAKE			09 38 20.0
TIP				LR		LR	
	comp=Z,8μm,20.0s						
FETA	Feichten	112.05	47	⇓iPKiKP		PKiKP	09 38 07.6 -0.6
	comp=Z,9.9nm,1.1s						
CTAO	Charters Tower	112.37	220	PFAKE			09 38 20.0
CTAO				LR		LR	
	comp=Z,4μm,20.0s						
GRF	Grafenberg Arr	113.66	45	ePP		PP	09 39 03.3 -1.1
GRF				eL		L	10 24 02.2
	comp=Z,4μm,21.9s						
EGAK	Eagle	114.03	334	PFAKE			09 38 20.0 +8.8
EGAK				LR		LR	
	comp=Z,2μm,20.0s						
OBKA	Obir	114.09	49	⇓iPKiKP		PKiKP	09 38 13.6 +1.5
	comp=Z,18nm,1.5s						
MOX	Moxa	114.34	44	eL		L	10 24 00.3
	comp=Z,5μm,21.5s						
GERES	GERESS Array B	114.69	47	PKP		PKPdf	09 38 12.8 -0.3
	comp=Z,3.1nm,0.7s,baz=258,slow=1.2,SNR=14						
KHC	Kasperske Hory	114.75	46	ePKIKP		PKPdf	09 38 13.6 +0.4
KHC				e			09 38 18.9
KHC				e			09 39 10.8
KHC				e			09 48 48.9
KHC				e			09 50 08.3
KHC				MLR		MLR	
	comp=Z,7μm,17.6s						
KHC	Kasperske Hory	114.75	46	ePKP		PKPdf	09 38 13.6 +0.4
KHC				ex		x	09 38 18.9
KHC				ex		x	09 38 48.5
KHC				ePP		PP	09 39 10.8 -1.3
KHC				eXS			09 47 09.5
KHC				eSP		SP	09 48 48.9 +2.8
KHC				ex		x	09 50 08.3
KHC				AMS		AMS	10 29 40.0
	comp=Z,7μm,17.6s						
ASAR	Alice Springs	114.78	207	PKP		PKPdf	09 38 13.1 -1.1
	comp=Z,0.9nm,0.8s,baz=146,slow=1.8,SNR=5.3						
ASAR				PKKPbc		PKKPbc	09 48 50.7 +0.1
	comp=Z,0.9nm,0.6s,baz=342,slow=3.0,SNR=14						
KDAK	Kodiak Island	114.96	325	PFAKE			09 38 30.0 +17
KDAK				LR		LR	
	comp=Z,2μm,19.0s						
ARSA	Arzberg	115.03	49	⇑iPKPdf		PKPdf	09 38 12.8 -0.9
	comp=Z,6.5nm,0.8s						
CLL	Collm	115.43	44	ePKIKP		PKPdf	09 38 14.0 -0.3
CLL				e			09 45 01.0
CLL				MLR		MLR	
	comp=Z,6μm,21.0s						
CLL	Collm	115.43	44	ePdif		Pdif	09 34 31.0 +4.5
CLL				ePKiKP		PKPdf	09 38 14.0 -0.3
CLL				ePP		PP	09 39 13.0 -3.7
	comp=Z,500nm,23.2s						
CLL				eSKSac		SKSac	09 45 01.0 +0.6
CLL				eSKKSac		SKKSac	09 46 20.0 +5.5
CLL				eSdif		Sdif	09 47 12.0 +14
CLL				ePS		PS	09 48 59.0 +2.3
CLL				ePPS		PKPab	09 50 17.0
CLL				eSS		SS	09 55 14.0 +0.9
CLL				e			09 55 48.0
CLL				eSSS		SSS	09 59 30.0
CLL				e			10 06 18.0
CLL				Lm		MLR	10 24 00.0
	comp=N,2μm,21.7s						
CLL				Lm		MLR	10 24 00.0
	comp=E,4μm,21.0s						
CLL				Lm		MLR	10 24 00.0
	comp=Z,6μm,21.0s						
PRU	Pruhonice	115.70	46	eSP		SP	09 48 54.4 -0.3
PRU				ex		x	09 50 17.7
PRU				AMS		AMS	10 30 10.0
	comp=Z,7μm,17.5s						
BRG	Berggiesshubel	115.76	45	PDIFF		Pdif	09 34 29.0 +1.0
BRG	Berggiesshubel	115.76	45	ePKP		PKPdf	09 38 16.0 +1.0
	comp=Z,2.8nm,0.7s						
BRG				PP		PP	09 39 13.0 -6.1
BRG				PKS		PKSdf	09 41 52.0 +0.6
BRG				SKS		SKSac	09 45 03.0 +1.3
BRG				SDIFF		Sdif	09 47 01.0 -0.1
BRG				PS		PKKPab	09 48 54.0 +4.1
BRG				SS		SS	09 55 11.0 -6.4
BRG	Berggiesshubel	115.76	45	P		Pdif	09 34 29.0 +1.0
BRG				e			09 38 16.0
BRG							09 41 52.0
BRG							09 45 03.0
BRG				PS		PKKPab	09 48 54.0 +4.1
BRG				SS		SS	09 55 11.0 -6.4
BRG				pmax		pmax	
	comp=Z,3.0nm,0.7s						
BRG				MLR		MLR	
	comp=N,4μm,17.1s						
BRG				MLR		MLR	
	comp=E,4μm,18.7s						
BRG				MLR		MLR	
	comp=Z,7μm,17.4s						
BER	Bergen	115.88	33	ePP		PP	09 39 19.1 -0.5
TREC	Trest	115.94	47	AMS		AMS	10 32 10.0
	comp=Z,4μm,17.0s						
PVCC	Panska Ves	115.96	45	AMS		AMS	10 31 40.0
	comp=Z,5μm,16.7s						
SUE	Sulen	115.96	32	ePP		PP	09 39 22.0 +1.8
SUE				e			09 49 05.1
ILAR	Eielson Array	116.08	333	PKP		PKPdf	09 38 15.4 +0.2
	comp=Z,0.7nm,0.8s,baz=164,slow=1.3,SNR=7.0						
ILAR				PP		PP	09 39 27.2 +6.2
	comp=Z,8.4nm,1.2s,baz=166,slow=5.3,SNR=5.2						
ILAR				PKKPab		PKKPab	09 48 50.9 +3.1
	comp=Z,0.8nm,0.9s,baz=294,slow=3.6,SNR=4.4						
HOMB	Homborsund	116.31	36	ePP		PP	09 39 24.7 +2.0
FOO	Floro	116.34	31	ePP		PP	09 39 21.4 -1.4
FOO				e			09 49 11.2
FOO				IAMs_20		IAMs_20	10 26 05.3
	comp=Z,2μm,20.2s						
COLA	College	116.49	333	PFAKE			09 38 30.0 +14
COLA				LR		LR	
	comp=Z,2μm,20.0s						
JMIC	Jan Mayen	116.66	19	ePP		PP	09 39 22.3 -2.6
SANT	Santorini	116.68	63	PFAKE			09 38 30.0 +13
SANT				LR		LR	
	comp=Z,5μm,20.0s						
UPC	Upice	116.78	46	ePKIKP		PKPdf	09 38 18.4 +1.4
UPC	Upice	116.78	46	ePKP		PKPdf	09 38 18.4 +1.4
DPC	Dobruska-Polom	116.89	46	ePKIKP		PKPdf	09 38 18.4 +1.1
DPC				e			09 38 23.9
DPC				e			09 49 06.5
DPC				e			09 50 33.5
DPC				MLR		MLR	
	comp=Z,19μm,17.6s						
DPC	Dobruska-Polom	116.89	46	ePKP		PKPdf	09 38 18.4 +1.1
DPC				ex		x	09 38 23.9
DPC				eSP		SP	09 49 06.5 +0.9
DPC				ex		x	09 50 33.5
DPC				AMS		AMS	10 31 20.0
	comp=Z,19μm,17.6s						
MIDW	Midway	116.92	286	PFAKE			09 38 30.0 +12
MIDW				LR		LR	
	comp=Z,6μm,20.0s						
MSEY	Mahe Island	116.96	119	PFAKE			09 38 30.0 +11
MSEY				LR		LR	
	comp=Z,4μm,19.0s						
KRLC	Kraliky	117.03	46	ePKIKP		PKPdf	09 38 18.9 +1.3
KRLC	Kraliky	117.03	46	ePKP		PKPdf	09 38 18.9 +1.3
COP	Copenhagen	117.08	39	i P		PP	09 39 27.1 -1.1
KSP	Ksiaz	117.08	45	ePKPdf		PKPdf	09 38 18.3 +0.8
KSP				ePP		PP	09 39 25.3 -3.1
KSP				ePKKPdf		PKKPdf	09 49 08.0 -2.6
KSP				e			09 50 32.4
KSP				eSS		SS	09 55 32.3 -2.4
KSP				LMZ		LR	10 27 09.6
AKN	Aaknes	117.43	31	ePP		PP	09 39 25.4 -5.1
AKN				e			09 49 23.3
KONO	Kongsberg	117.44	35	ePP		PP	09 39 31.9 +1.3
KONO	Kongsberg	117.44	35	PFAKE			09 38 30.0 +12
KONO				LR		LR	
	comp=Z,4μm,19.0s						
VYHS	Vyhne	117.58	49	ePKIKP		PKPdf	09 38 19

OKC e 09 38 21.8
OKC e 09 49 20.8
OKC MLR MLR
comp=Z,3µm,23.2s
OKC Ostrava-Krasne 117.73 47 *e*PKP **PKPdf 09 38 16.5 -2.3**
OKC *e*x x 09 38 21.8
OKC *e*SP SP 09 49 20.8 +7.6
OKC AMS AMS 10 24 00.0
comp=Z,3µm,23.2s
PSZ Piszkesteto 117.98 50 PFAKE 09 38 30.0 +11
PSZ LR LR
comp=Z,4µm,20.0s
WRA Warramunga Arr 117.99 210 PKP **PKPdf 09 38 19.3 -1.1**
comp=Z,1.9nm,0.8s,baz=151,slow=1.5,SNR=12
WRA PKKPab **PKKPab 09 48 42.9 -2.9**
comp=Z,2.3nm,1.1s,baz=340,slow=4.1,SNR=11
WRAB Tennant Creek 118.00 210 PFAKE 09 38 30.0 +10
WRAB LR LR
comp=Z,7µm,22.0s
DAG Danmarks Havn 118.08 12 *i* P **PP 09 39 34.2 -0.4**
DAG Danmarks Havn 118.08 12 *i* P **PKKPbc 09 48 37.6 -2.3**
comp=Z,2.3nm,0.9s
BZS Buzias 118.10 52 ⇓PKIKP **PKPdf 09 38 16.9 -2.8**
BZS Buzias 118.10 52 ⇓*i*P **PKPdf 09 38 16.9 -2.8**
BSD Bornholm Skovb 118.12 41 *i* P **PP 09 39 34.2 -1.2**
GZR Gura Zlata 118.75 53 ⇑PKIKP **PKPdf 09 38 21.6 +0.6**
GZR Gura Zlata 118.75 53 ⇑*i*P **PKPdf 09 38 21.6 +0.6**
NB2 NORSAR Subarra 118.76 34 PKPdf **PKPdf 09 38 22.3 +1.8**
comp=Z,20nm,1.7s,baz=248,slow=1.9
NB2 NORSAR Subarra 118.76 34 PKPdf **PKPdf 09 38 22.3 +1.8**
baz=248,slow=1.9
NOA NORSAR Array B 118.76 34 PKP **PKPdf 09 38 20.2 -0.3**
comp=Z,1.7nm,0.9s,baz=247,slow=2.0,SNR=2.7
NC602 NORSAR Array S 118.78 34 *e*PP PP 09 39 40.2 +0.4
STHS Stebnicka Huta 119.40 48 *e*PKIKP **PKPdf 09 38 23.7 +1.6**
STHS Stebnicka Huta 119.40 48 *e*PKP **PKPdf 09 38 23.7 +1.6**
TRPA Tarpa 119.69 50 ⇑*i*P **PKPdf 09 38 23.0 +0.4**
UZH Uzhgorod 119.73 50 *i* PKIKP **PKPdf 09 38 25.0 +2.3**
UZH *e* 09 39 48.0
UZH *e* 09 45 21.0
UZH *i* 09 49 40.0
UZH MLR MLR
comp=Z,3µm,18.0s
KOLS Kolonicke sedl 119.84 49 *e*PKIKP **PKPdf 09 38 24.3 +1.4**
KOLS Kolonicke sedl 119.84 49 *e*PKP **PKPdf 09 38 24.3 +1.4**
BEL Belsk 120.07 46 *e*PP PP 09 39 42.6 -6.3
BEL LMZ LR 10 24 07.0
KWP Kalwaria Pacla 120.37 49 ⇑PKIKP **PKPdf 09 38 24.7 +0.8**
KWP Kalwaria Pacla 120.37 49 *e*PKPdf **PKPdf 09 38 24.8 +0.8**
KWP *e*PP **PP 09 39 50.6 -0.5**
KWP *e*SKSac **SKSac 09 45 18.3 -0.1**
KWP LMZ LR 10 27 42.8
KWP Kalwaria Pacla 120.37 49 ⇑*i*P **PKPdf 09 38 24.7 +0.8**
KWP Kalwaria Pacla 120.37 49 *e*PKPdf **PKPdf 09 38 24.8 +0.8**
KWP LR LR
comp=Z,6µm,22.0s
PMG Port Moresby 120.53 228 PFAKE 09 38 40.0 +15
PMG LR LR
comp=Z,6µm,21.0s
MLR Muntele Rosu 120.84 54 ⇑PKIKP **PKPdf 09 38 22.5 -2.6**
MLR Muntele Rosu 120.84 54 ⇑*i*P **PKPdf 09 38 22.5 -2.6**
ISP Isparta 120.95 64 PFAKE 09 38 40.0 +14
ISP LR LR
comp=Z,6µm,21.0s
BURAR Bucovina Array 121.17 51 ⇑PKIKP **PKPdf 09 38 26.7 +1.0**
BURAR Bucovina Array 121.17 51 ⇑*i*P **PKPdf 09 38 26.7 +1.0**
MBWA Marble Bar 121.23 194 PFAKE 09 38 40.0 +13
MBWA LR LR
comp=Z,4µm,19.0s
LVV L'vov 121.23 49 *e*PKIKP **PKPdf 09 38 23.8 -1.8**
CSS Prodhromos 121.82 68 PFAKE 09 38 40.0 +13
CSS LR LR
comp=Z,776nm,19.0s
CFR Carcaliu 122.15 55 ⇑PKIKP **PKPdf 09 38 29.0 +1.6**
CFR Carcaliu 122.15 55 ⇑*i*P **PKPdf 09 38 29.0 +1.6**
SUW Suwalki 122.19 44 *e*PKIKP **PKPdf 09 38 27.2 0.0**
SUW MLR MLR
comp=Z,6µm,21.9s
SUW Suwalki 122.19 44 *e*PKPdf **PKPdf 09 38 27.2 0.0**
SUW *e*PP PP 09 39 57.7 -5.6
SUW LMZ LR 10 28 59.8
KIS Kishinev 123.24 53 *e*PKIKP **PKPdf 09 38 25.0 -4.5**
KIS *e* 09 40 08.0
KIS *e*PPP PPP 09 42 50.0
KIS *e*PS **PS 09 50 10.0 +2.9**
KIS MLR MLR
comp=Z,5µm,25.0s
KIS MLR MLR
comp=N,1µm,20.0s
KIS MLR MLR
comp=E,2µm,22.0s
KIS MLR MLR
comp=Z,4µm,24.0s
KIS Kishinev 123.24 53 *e*PKP **PKPdf 09 38 25.0 -4.5**
KIS Kishinev 123.24 53 *e*PP PP 09 40 08.0 -2.7
KIS Kishinev 123.24 53 *e*PPP PPP 09 42 50.0
KIS *e*SKKS 09 47 20.0
KIS Kishinev 123.24 53 *e*PS PS 09 50 10.0 +2.9
KIS LRM MLR 10 29 05.0
comp=Z,1µm,20.0s
ANTO Ankara 123.39 62 PFAKE 09 38 40.0 +10
ANTO LR LR
comp=Z,4µm,22.0s
BRTR Keskin Array B 123.94 63 PKP **PKPdf 09 38 31.6 +0.3**
comp=Z,5.3nm,0.9s,baz=198,slow=2.6,SNR=18
NACGM Naroch 124.46 44 *e* **PKPdf 09 38 29.0 -2.6**
TRO Tromso 124.55 25 *e*PP PP 09 40 19.6 +0.8
TRO *e* 09 50 17.0
KIEV Kiev 124.66 49 *e*PKIKP **PKPdf 09 38 31.7 -0.4**
KIEV MLR MLR
comp=Z,3µm,19.0s
KIEV Kiev 124.66 49 *e*PKPdf **PKPdf 09 38 31.7 -0.4**
KIEV LR LR
comp=Z,3µm,19.0s
AKASG Malin Array Be 124.67 49 PKP **PKPdf 09 38 31.3 -0.8**
comp=Z,6.8nm,0.8s,baz=260,slow=2.9,SNR=14
AKASG PP **PP 09 40 16.7 -3.5**
comp=Z,0.6nm,0.4s,baz=256,slow=7.3,SNR=8.4
H11S2 WAKE ISLAND Hyl 124.72 268 T T 11 55 47.3
baz=122
H11S1 WAKE ISLAND Hyl 124.74 268 T T 11 55 43.6
baz=122
KBS Kingsbay 124.74 14 *e*PP PP 09 40 20.0 +0.1
KBS *e*SS SS 09 57 16.3 +4.9
KBS Kingsbay 124.74 14 PFAKE 09 38 40.0 +8.5
KBS LR LR
comp=Z,2µm,19.0s
H11S3 WAKE ISLAND Hyl 124.74 268 T T 11 55 45.3
baz=122
MNK Minsk 124.94 44 *e*PKIKP **PKPdf 09 38 30.0 -2.5**
MNK *e*PS **PS 09 50 20.0 -1.9**
MNK *e*SS SS 09 57 20.0 +4.9
MNK MLR MLR
comp=Z,7µm,20.0s
MICGM Minsk 124.96 44 *e*PKP **PKPdf 09 38 30.0 -2.5**
HSPB Hornsund (broa 125.08 16 *e*PP PP 09 40 22.6 +0.3
WAKE Wake Island 125.18 269 PFAKE 09 38 50.0 +16
WAKE LR LR
comp=Z,5µm,20.0s
H11N3 WAKE ISLAND Hyl 125.20 269 T T 11 56 09.6
baz=123
H11N1 WAKE ISLAND Hyl 125.21 269 T T 11 56 02.8
baz=123
H11N2 WAKE ISLAND Hyl 125.22 269 T T 11 56 10.1
baz=123
SPA0 Spitsbergen Ar 125.46 15 *e*PP PP 09 40 24.0 -0.8
ADK Adak 125.60 312 PFAKE 09 38 50.0 +16
ADK LR LR
comp=Z,1µm,20.0s
DGAR Diego Garcia 125.65 137 PFAKE 09 38 50.0 +15
DGAR LR LR
comp=Z,5µm,19.0s
FINES FINESS Array B 125.70 36 PKP **PKPdf 09 38 34.4 +0.6**
comp=Z,7.0nm,1.1s,baz=267,slow=3.8,SNR=7.2
GAMB Gambell 125.79 327 *e*PKPdf **PKPdf 09 38 34.7 +0.9**
KAF Kangasniemi 125.95 35 *e*PKIKP **PKPdf 09 38 34.2 0.0**
KAF pmax pmax
comp=Z,8.0nm,0.8s
KAF Kangasniemi 125.95 35 *e*p **PKPdf 09 38 34.2 0.0**
comp=Z,7.6nm,0.8s
SIM Simferopol' 126.06 57 *e*PKIKP PKPdf 09 38 29.3 -5.7
SIM *e* 09 40 30.0
SIM *e* 09 45 37.0
SIM *e*PPS PPS 09 52 03.0
SIM *e*SS SS 09 57 33.0 +3.2
SIM pmax pmax
comp=Z,300nm,13.0s
RAYN Ar Rayn 126.22 86 *e*PKPdf **PKPdf 09 38 35.9 -0.2**
ARCES ARCESS Array B 126.81 26 PKP **PKPdf 09 38 35.4 -0.3**
comp=Z,3.3nm,0.6s,baz=318,slow=1.6,SNR=8.3
ARE0 ARCESS Array S 126.81 26 *e*PP PP 09 40 33.7 -0.2
HOPEN Hopen 127.20 17 *e*PP PP 09 40 35.6 -0.6
KEV Kevo 127.35 26 *e*PKIKP **PKPdf 09 38 37.0 +0.3**
KEV pmax pmax
comp=Z,31nm,1.3s
KEV Kevo 127.35 26 *e*p **PKPdf 09 38 37.0 +0.3**
comp=Z,30nm,1.3s
KEV Kevo 127.35 26 PFAKE 09 38 50.0 +13
KEV LR LR
comp=Z,4µm,22.0s
ANN Anapa 128.27 58 *i* PKIKP **PKPdf 09 38 41.8 +2.6**
ANN *e* 09 40 42.1
ANN pmax pmax
comp=Z,109nm,2.0s
JOF Joensuu 128.37 34 *e*PKIKP **PKPdf 09 38 38.5 -0.3**
JOF pmax pmax
comp=Z,24nm,1.1s
JOF Joensuu 128.37 34 *e*p **PKPdf 09 38 38.5 -0.3**
comp=Z,24nm,1.1s
SOC Sochi 129.50 60 *e*PKIKP **PKPdf 09 38 41.3 -0.3**
SOC *e*PPP PPP 09 43 39.7
SOC *e*SS SS 09 58 19.0 +6.5
SOC pmax pmax
comp=Z,41nm,1.1s
APA Apatity 129.57 28 ⇑*i*PKIKP PKPdf 09 38 48.8 +7.8
APA *i* 09 40 49.0
APA *i* 09 45 53.0
APA *i* PS **PS 09 50 54.0 -8.0**
APA *i* PPS PPS 09 52 37.0
OBN Obninsk 130.00 45 *c*e*PKIKP **PKPdf 09 38 43.6 +1.5**
OBN *e* 09 41 00.0
OBN *e* 09 45 50.2
OBN pmax pmax
comp=Z,56nm,2.0s
OBN Obninsk 130.00 45 PKP **PKPdf 09 38 41.5 -0.6**
comp=Z,10nm,0.3s,baz=93,slow=18,SNR=5.6
OBN Obninsk 130.00 45 PKP **PKPdf 09 38 41.5 -0.6**
OBN LR LR
comp=Z,5µm,19.0s
LVZ Lovozero 130.05 28 PFAKE 09 38 50.0 +8.1
LVZ LR LR
comp=Z,3µm,20.0s
COCO West Island 130.55 167 PFAKE 09 39 00.0 +16
COCO LR LR
comp=Z,3µm,20.0s
MOS Moscow 130.69 44 *e*PKIKP **PKPdf 09 38 44.8 +1.4**
MOS *e* 09 41 05.0
MOS MLR MLR
comp=E,6µm,21.0s
BATI Baumata 130.77 202 PKP **PKPdf 09 38 43.2 -1.8**
comp=E,9.3nm,0.4s,baz=101,slow=5.2,SNR=1.9
VSR Storozhevoye 130.90 50 *e*PKIKP **PKPdf 09 38 45.1 +1.1**
VSR pmax pmax
comp=Z,20nm,1.2s
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR MLR MLR
comp=Z,4µm,23.0s
VSR MLR MLR
comp=N,2µm,27.0s
VSR MLR MLR
comp=E,2µm,25.0s
VORD Divnogorie 130.93 51 *e*PKIKP **PKPdf 09 38 43.7 -0.3**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD MLR MLR
comp=Z,3µm,22.0s
VORD MLR MLR
comp=N,2µm,24.0s
VORD MLR MLR
comp=E,2µm,24.0s
AKH Akhalkalaki 131.58 64 P **PP 09 41 03.5 -2.6**
KIV Kislovodsk 131.68 60 *c*e*PKIKP **PKPdf 09 38 47.9 +2.1**
KIV *e*PP **PP 09 41 05.0 -1.6**
KIV pmax pmax
comp=Z,36nm,1.3s
KIV Kislovodsk 131.68 60 *e*PKPdf **PKPdf 09 38 46.7 +0.8**
KIV LR LR
comp=Z,2µm,20.0s
KBZ Khabaz 131.77 61 PKP **PKPdf 09 38 45.3 -0.6**
comp=Z,4.6nm,1.0s,baz=348,slow=10,SNR=3.8
ONI Oni 131.87 62 P **PP 09 41 04.5 -3.3**
KLMR Klimovskoe 132.09 37 *e*PKIKP **PKPdf 09 38 45.8 -0.1**
KLMR pmax pmax
comp=Z,95nm,1.6s
KLMR MLR MLR
comp=Z,4µm,18.0s
GNI Garni 132.13 66 PFAKE 09 39 00.0 +13
GNI LR LR
comp=Z,4µm,20.0s
GOF Gofitskoye 132.19 59 *e*PKIKP **PKPdf 09 38 48.3 +1.7**
GOF pmax pmax
comp=Z,50nm,1.3s
VRHR Novokhopersk 132.41 51 *e*PKIKP **PKPdf 09 38 47.8 +1.0**
VRHR pmax pmax
comp=N,8.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR MLR MLR
comp=Z,4µm,24.0s
VRHR MLR MLR
comp=N,410nm,16.0s
VRHR MLR MLR
comp=E,3µm,23.0s
TBLG Delisi 132.56 64 P **PP 09 41 07.6 -4.7**
DGRG David-gareji 132.95 64 P **PP 09 41 13.2 -1.6**
BILL Bilibino 134.75 333 *c*e*PKIKP **PKPdf 09 38 49.1 -1.7**
BILL *i* 09 41 22.6
BILL pmax pmax
comp=Z,16nm,1.8s
BILL MLR MLR
comp=Z,2µm,20.0s
BILL Bilibino 134.75 333 *e*PKPdf **PKPdf 09 38 49.5 -1.2**
BILL LR LR
comp=Z,2µm,19.0s
MAK Makhachkala 134.85 63 *e*P **Pdif 09 35 50.1 -2.9**
MAK *e* 09 41 25.7
MAK *e*PPP PPP 09 44 29.6
MAK pmax pmax
comp=Z,179nm,1.1s
PRGR Permogore 135.03 36 *e*PKIKP **PKPdf 09 38 51.4 0.0**
PRGR 09 41 24.7
PRGR pmax pmax
comp=Z,43nm,1.1s
KAPI Kappang 136.82 199 *e*PKPdf **PKPdf 09 38 56.1 -0.3**
KAPI LR LR
comp=Z,2µm,21.0s
GUMO Guam 138.95 246 PFAKE 09 39 10.0 +10
GUMO LR LR
comp=Z,2µm,19.0s
PET Petropavlovsk 140.65 311 PFAKE 09 39 10.0 +8.0
PET LR LR
comp=Z,2µm,20.0s
TRD Trivandrum 141.06 129 ⇑*e*P **PKPdf 09 39 02.9 -1.1**
PETK Petropavlovsk- 141.22 312 PKP **PKPdf 09 39 04.1 +1.0**
comp=Z,7.9nm,1.0s,baz=89,slow=9.0,SNR=5.4
GEYT Alibeck 141.62 73 PKhKP PKPpre 09 38 59.2
comp=Z,4.5nm,0.6s,baz=274,slow=8.6,SNR=10
GEYT PKP **PKiKP 09 39 06.3 -0.9**
comp=Z,20nm,1.0s,baz=243,slow=6.5,SNR=15
SEY Seymchan 141.78 328 PKhKP PKPpre 09 38 58.9
comp=Z,1.6nm,0.7s,baz=119,slow=6.2,SNR=9.0
SEY PKP **PKPdf 09 39 04.9 +1.1**
comp=Z,23nm,1.0s,baz=109,slow=2.8,SNR=27
PALK Pallekele 142.34 135 PKHKP PKPpre 09 39 02.1
PALK *e* 09 39 07.3
PALK Pallekele 142.34 135 PKhKP PKPpre 09 39 02.1
comp=Z,8.9nm,0.8s,baz=74,slow=1.6,SNR=4.5
PALK PKP **PKiKP 09 39 08.0 -1.4**
comp=Z,16nm,0.8s,baz=228,slow=5.8,SNR=7.0
PALK Pallekele 142.34 135 PKPpre PKPpre 09 39 02.1
PALK *e*PKPdf **PKPdf 09 39 07.2 +0.9**
PALK PKP **PKiKP 09 39 08.0 -1.4**
ARU Arti 142.36 43 *i* PKIKP **PKPdf 09 39 07.2 +2.2**
ARU 09 42 09.1
ARU MLR MLR
comp=Z,7µm,21.0s
ARU Arti 142.36 43 *e*PKPdf **PKPdf 09 39 04.3 -0.7**
ARU LR LR
comp=Z,6µm,20.0s
AKTO Aktyubinsk 142.74 53 PKhKP PKPpre 09 39 01.3
comp=Z,2.9nm,0.5s,baz=265,slow=3.1,SNR=9.9
TIXI Tiksi 143.09 349 *e*PKPdf PKPab 09 39 01.3 -0.1
TIXI LR LR
comp=Z,2µm,20.0s
AB31 Akbulak array 144.04 54 PKIKP **PKPab 09 39 05.6 -0.2**
AB31 pmax pmax
comp=Z,50nm,0.8s
ABKAR Akbulak array 144.04 54 *e*PKPdf **PKPab 09 39 05.9 +0.2**
KSM Kuching 144.86 186 *e*PKPdf PKPbc 09 39 10.3 +0.4
KSM LR LR
comp=Z,2µm,19.0s
MYKOM Kota Tinggi 145.23 175 ⇓P **PKPdf 09 39 11.9 +0.5**
KGM Kluang 145.41 174 ⇓P **PKPab 09 39 12.2 +0.4**
BHJ Bhuj 145.41 102 *e*P **PKPbc 09 39 09.2 -2.2**
BHJ AMS AMS 10 57 56.5
comp=Z,2µm,15.5s
PSI Prapat 145.57 166 PKPbc **PKPdf 09 39 11.6 -0.6**
comp=Z,76nm,1.0s,baz=195,slow=3.1,SNR=22
DAV Davao City (W) 145.93 215 PFAKE 09 39 20.0 +6.3
DAV LR LR
comp=Z,2µm,22.0s
POO Poona 145.93 113 ⇓*i*PKPS **PKPdf 09 39 11.0 -1.5**
comp=Z,70nm,1.0s
POO *e*P **PKPbc 09 39 12.2 -1.0**
TSM Tawau 146.23 200 ⇓P **PKPdf 09 39 08.4 -4.7**
MDRS Chennai 146.60 128 *e*P **PKPdf 09 39 12.1 -1.5**
MDRS AMS AMS 10 45 29.3
comp=Z,3µm,16.9s
LHMI Lhok Sumawe 147.47 162 *e*PKPdf **PKPdf 09 39 15.9 +0.7**
LHMI *e*PKPbc **PKPab 09 39 18.8 -0.9**
LHMI *e*PKPab **PKiKP 09 39 20.1 +0.1**
IPM Ipoh 147.57 169 *e*PKPdf **PKPdf 09 39 16.2 +0.8**
IPM *e*PKPbc **PKPbc 09 39 18.8 +0.7**
IPM *e*PKPab **PKiKP 09 39 20.7 +0.5**
CMBY CAMPBELL BAY 148.27 155 *e*P **PKPdf 09 39 14.9 -1.6**
KULM Kulim 148.31 168 *e*PKPdf **PKPdf 09 39 17.6 +1.1**
KULM *e*PKPbc **PKiKP 09 39 21.0 -0.6**
KULM *e*PKPab **PKPab 09 39 23.1 +0.1**
KULM LR LR
comp=Z,2µm,20.0s
KKM Kota Kinabalu 148.35 198 *e*PKPdf **PKPdf 09 39 16.9 +0.1**
KKM *e*PKPbc **PKPbc 09 39 20.6 +0.4**
KKM *e*PKPab **PKPab 09 39 23.2 -0.1**
KKM LR LR
comp=Z,1µm,19.0s
HYB Hyderabad 148.60 120 *i* PKP **PKPdf 09 39 17.0 +0.1**
HYB Hyderabad 148.60 120 *e*P **PKPdf 09 39 16.5 -0.4**
HYB AMS AMS 10 49 18.1
comp=Z,3µm,18.7s
KBL Kabul 149.38 83 *e*PKPdf **PKPdf 09 39 18.5 +0.5**
KBL *e*PKPbc **PKPbc 09 39 22.9 +0.5**
KBL *e*PKPdf **PKPab 09 39 30.1 +2.8**
YUK Yuzh-Kuril'sk 149.51 296 *i* PKIKP **PKPdf 09 39 16.5 -1.0**
YUK *i* 09 42 58.7
YUK *i* SS SS 10 02 06.3 -1.3
YUK *i* SSS SSS 10 07 44.6
BRVK Borovoye 149.78 45 *e*PKPdf **PKPdf 09 39 17.7 0.0**
BRVK *e*PKPbc **PKPbc 09 39 22.7 +0.2**
BRVK *e*PKPab **PKPab 09 39 28.0 +0.1**
BRVK LR LR
comp=Z,7µm,21.0s
BVA0 Borovoye Array 149.85 45 *i* PKHKP **PKPdf 09 39 17.8 0.0**
BVA0 pmax pmax
comp=Z,72nm,1.4s
BVAR Borovoye Array 149.85 45 PKP **PKPdf 09 39 17.6 -0.2**
comp=Z,2.3nm,0.7s,baz=318,slow=1.9,SNR=9.9
BVAR PKPbc **PKiKP 09 39 23.7 +0.1**
comp=Z,39nm,1.0s,baz=277,slow=2.2,SNR=16
VOSK Vostochnaya 150.28 46 PKIKP **PKPdf 09 39 18.0 -0.5**
VOSK pmax pmax
comp=Z,95nm,1.3s
YAK Yakutsk 150.84 338 *e*PKIKP **PKPdf 09 39 18.3 -0.7**
YAK *e* 09 43 01.2
YAK *e*SSS SSS 10 07 57.1
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=E,41nm,2.0s
YAK pmax pmax
comp=N,157nm,4.8s
YAK pmax pmax
comp=Z,242nm,3.8s
YAK Yakutsk 150.84 338 *e*PKPdf **PKPdf 09 39 19.2 +0.2**
YAK *e*PKPbc **PKPbc 09 39 24.6 -0.1**
YAK LR LR
comp=Z,2µm,21.0s
AJM Ajmer 150.94 101 *i* x **PKPbc 09 39 25.0 -1.2**
BHPL Bhopal 151.41 110 *e*P **PKPdf 09 39 19.4 -1.9**
BHPL AMS AMS 11 08 01.3
comp=Z,2µm,15.0s
YSS Yuzh-Sakhalins 151.48 303 ⇑*i*PKIKP **PKPbc 09 39 26.1 -0.6**
YSS *i* 09 39 33.9
YSS *e* 09 43 12.0
YSS *e*SS SS 10 02 30.0 +0.8
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,70nm,1.1s
ERM Erimo 151.48 292 PFAKE 09 39 30.0 +3.1
ERM LR LR
comp=Z,5µm,20.0s
KK31 Karatay Array 151.60 66 *i* PKIKP **PKPdf 09 39 21.4 +0.5**
KK31 pmax pmax
comp=Z,66nm,0.9s
KKAR Karatay Array 151.60 66 *e*PKIKP **PKPdf 09 39 20.8 -0.1**
KKAR *e* 09 39 27.2
KKAR *e* 09 39 35.3
KKAR Karatay Array 151.60 66 *e*PKPdf **PKPdf 09 39 20.8 -0.1**
KKAR *e*PKPbc **PKPbc 09 39 27.2 0.0**
KKAR *e*PKPab **PKPab 09 39 35.3 -0.6**
ASAJ Asahikawa 151.86 297 PKPbc **PKPbc 09 39 26.7 -1.0**
comp=Z,23nm,0.8s,baz=226,slow=6.4,SNR=10
ASAJ PKPab **PKPab 09 39 36.5 -0.4**
comp=Z,28nm,0.8s,baz=54,slow=1.1,SNR=9.8
ASAJ Asahikawa 151.86 297 *e*PKPdf **PKPdf 09 39 21.2 -0.1**
ASAJ PKPbc **PKPbc 09 39 26.7 -1.0**
ASAJ *e*PKPbc **PKiKP 09 39 26.9 -1.1**
ASAJ PKPab **PKPab 09 39 36.5 -0.4**
VIS Vishakhapatnam 152.03 126 *e*P **PKPdf 09 39 19.6 -2.6**
VIS AMS AMS 10 54 30.8
comp=Z,2µm,22.2s
PBA Port Blair 152.11 150 *e*P PKPdf 09 39 20.8 -1.6
DGPR DIGLIPUR 153.55 148 *e*P **PKPdf 09 39 21.8 -2.8**
NDI New Delhi 153.97 99 *e*P **PKPdf 09 39 24.0 -0.8**
EKS2 Erkin-Say 154.01 66 *e*PKIKP **PKPdf 09 39 24.4 -0.2**
EKS2 *e* 09 39 33.0
EKS2 MLR MLR
comp=Z,4µm,22.0s
EKS2 Erkin-Say 154.01 66 *e*PKPdf **PKPdf 09 39 24.4 -0.2**
EKS2 *e*PKPbc **PKiKP 09 39 33.0 +0.3**
EKS2 LR LR
comp=Z,4µm,22.0s
BHK Bhakra 154.38 93 *e*x **PKPab 09 39 50.0 +2.0**
AAK Ala-Archa 154.54 66 PKIKP **PKPdf 09 39 25.7 +0.3**
AAK *e* 09 39 34.3
AAK 09 39 34.5
AAK 09 39 47.8
AAK 09 43 30.6
AAK MLR MLR
comp=Z,4µm,20.0s
AAK Ala-Archa 154.54 66 PKP **PKPdf 09 39 25.7 +0.3**
comp=Z,5.2nm,0.9s,baz=350,slow=1.9,SNR=8.1
AAK PKPbc **PKiKP 09 39 34.5 +0.6**
comp=Z,18nm,1.1s,baz=172,slow=3.8,SNR=10
AAK PKPab **PKPab 09 39 47.8 -0.8**
comp=Z,57nm,1.1s,baz=249,slow=2.7,SNR=18
AAK PP PP 09 43 30.6 +6.1
comp=Z,8.2nm,0.9s,baz=253,slow=8.0,SNR=4.1
AAK Ala-Archa 154.54 66 PKP **PKPdf 09 39 25.7 +0.3**
AAK *e*PKPdf **PKPdf 09 39 26.1 +0.8**
AAK *e*PKPbc **PKPbc 09 39 34.3 +0.4**
AAK PKPbc **PKiKP 09 39 34.5 +0.6**
AAK PKPab **PKPab 09 39 47.8 -0.8**

AAK				*e*PKPab	**PKPab**	**09 39 48.3**	**-0.3**
AAK				PP	PP	09 43 30.6	+6.1
AAK				LR	LR		
comp=Z,4μm,20.0s							
DHRM	**DHARAMSHALA**	**154.56**	**91**	*e*P	**PKPdf**	**09 39 23.8**	**-2.0**
DHRM				AMS	AMS	10 50 19.9	
comp=Z,3μm,25.2s							
MJAR	**Matsushiro Arr**	**154.80**	**279**	PKPab	**PKPab**	**09 39 48.9**	**-0.8**
comp=Z,7.5nm,1.0s,baz=182,slow=2.4,SNR=7.5							
MAJO	**Matsushiro**	**154.80**	**279**	*e*PKIKP	**PKPdf**	**09 39 25.1**	**-0.7**
MAJO				*e*		09 39 50.0	
MAJO				MLR	MLR		
comp=Z,4μm,20.0s							
MAJO	**Matsushiro**	**154.80**	**279**	*e*PKPdf	**PKPdf**	**09 39 25.1**	**-0.7**
MAJO				*e*PKPab	**PKPab**	**09 39 50.0**	**+0.4**
MAJO				LR	LR		
comp=Z,4μm,20.0s							
MAT	**Matsushiro**	**154.80**	**279**	*e*PKP	**PKPdf**	**09 39 28.4**	**+2.6**
SMLA	**Simla**	**154.88**	**94**	*e*P	**PKPdf**	**09 39 22.9**	**-3.1**
SMLA				AMS	AMS	10 48 13.2	
comp=Z,2μm,16.9s							
DDI	**Dehra Dun**	**155.30**	**96**	*e*P	**PKPdf**	**09 39 22.8**	**-3.9**
DDI				AMS	AMS	10 47 55.9	
comp=Z,3μm,21.3s							
TKM2	**Tokmak 2**	**155.33**	**66**	*e*PKIKP	**PKPdf**	**09 39 26.1**	**-0.4**
TKM2				*e*		09 39 35.0	
TKM2				*e*		09 39 52.5	
TKM2				MLR	MLR		
comp=Z,4μm,20.0s							
TKM2	**Tokmak 2**	**155.33**	**66**	*e*PKPdf	**PKPdf**	**09 39 26.1**	**-0.4**
TKM2				*e*PKPbc	PKPbc	09 39 35.0	
TKM2				*e*PKPab	**PKPab**	**09 39 52.5**	**+0.5**
TKM2				LR	LR		
comp=Z,4μm,20.0s							
KURK	**Kurchatov**	**155.44**	**46**	PKIKP	**PKPdf**	**09 39 27.4**	**+1.3**
KURK				pmax	pmax		
comp=Z,30nm,1.4s							
KURK	**Kurchatov**	**155.44**	**46**	PFAKE		09 39 40.0	-12
KURK				LR	LR		
comp=Z,2μm,21.0s							
KSH	**Kashi**	**155.65**	**74**	PKP	**PKPdf**	**09 39 27.4**	**+0.4**
KSH				sPKP		09 39 42.2	
KSH				PKS	**PKSdf**	**09 43 01.7**	**+0.7**
KSH				SKS	**SKSdf**	**09 46 30.2**	**-0.6**
KSH				PPMZ			
comp=Z,1μm,7.1s							
KSH				LN			
comp=Z,910nm,16.2s							
KSH				LE			
comp=Z,2μm,18.6s							
KSH				LZ			
comp=Z,3μm,24.1s							
NVS	**Novosibirsk**	**155.68**	**34**	⇑*i*PKIKP	**PKPdf**	**09 39 25.0**	**-1.3**
NVS				pmax	pmax		
comp=Z,110nm,1.9s							
CLNS	**Chul'man**	**156.41**	**335**	*e*PKP2	PKPab	09 40 01.1	+5.2
CLNS				pmax	pmax		
comp=Z,25nm,1.1s							
CLNS				pmax	pmax		
comp=E,11nm,1.0s							
CLNS				pmax	pmax		
comp=N,14nm,1.2s							
ZALV	**Zalesovo Beam**	**156.96**	**34**	PKP	**PKPdf**	**09 39 27.5**	**-0.5**
comp=N,16nm,0.9s,baz=288,slow=1.4,SNR=32							
ZALV				PKPab	**PKPab**	**09 39 57.6**	**-0.7**
comp=N,13nm,0.8s,baz=297,slow=3.7,SNR=5.7							
KLR	**Kul'dur**	**157.91**	**313**	*e*PKIKP	PKPdf	09 39 23.8	-5.5
BOK	**Bokaro**	**157.94**	**120**	*e*P	**PKPdf**	**09 39 28.6**	**-1.6**
BOD	**Bodaibo**	**158.26**	**350**	*e*PKIKP	**PKPdf**	**09 39 25.3**	**-4.2**
BOD				*e*		09 40 02.7	
BOD				pmax	pmax		
comp=Z,45nm,1.3s							
MK31	**Makanchi Array**	**159.18**	**53**	*i* PKIKP	**PKPdf**	**09 39 30.7**	**-0.3**
MK31				pmax	pmax		
comp=Z,24nm,1.1s							
MKAR	**Makanchi Array**	**159.18**	**53**	PKP	**PKPdf**	**09 39 31.1**	**+0.1**
comp=Z,18nm,1.1s,baz=321,slow=1.6,SNR=20							
MKAR				PKPab	**PKPab**	**09 40 08.9**	**+0.7**
comp=Z,7.7nm,0.8s,baz=287,slow=2.4,SNR=10							
MKAR				PP	**PP**	**09 43 49.5**	**-0.1**
comp=Z,9.1nm,1.1s,baz=282,slow=6.1,SNR=5.3							
USRK	**Ussuriysk Ar.**	**159.41**	**299**	PKPab	**PKPab**	**09 40 07.3**	**-1.9**
comp=Z,2.4nm,0.9s,baz=143,slow=2.2,SNR=5.4							
JNU	**Nakatsue**	**159.92**	**267**	PKPab	**PKPab**	**09 40 12.2**	**+0.3**
comp=Z,4.5nm,0.8s,baz=321,slow=4.0,SNR=3.6							
CMAR	**Chiang Mai Arr**	**160.63**	**157**	PKP	**PKPdf**	**09 39 34.0**	**+0.5**
comp=Z,1.2nm,0.3s,baz=242,slow=1.9,SNR=4.0							
CMAR				PKPab	**PKPab**	**09 40 14.8**	**-0.3**
comp=Z,2.3nm,0.8s,baz=234,slow=4.2,SNR=2.9							
CMAR				PP	PP	09 44 05.5	+8.9
comp=Z,1.4nm,0.3s,baz=242,slow=5.0,SNR=3.2							
CHTO	**Chiang Mai**	**160.96**	**157**	PFAKE		09 39 40.0	+6.2
CHTO				LR	LR		
comp=Z,2μm,20.0s							
MDJ	**Mudanjiang**	**160.97**	**302**	PKP	**PKPdf**	**09 39 34.4**	**+1.4**
MDJ				pPKP	**pPKPdf**	**09 39 44.6**	**+0.3**
MDJ				sPKP		09 39 47.2	
MDJ				PKS	**PKSdf**	**09 43 07.9**	**+1.7**
MDJ				PPMZ			
comp=Z,490nm,12.4s							
MDJ				LN			
comp=Z,1μm,25.9s							
MDJ				LE			
comp=Z,2μm,21.8s							
MDJ				LZ			
comp=Z,2μm,19.8s							
MDJ	**Mudanjiang**	**160.97**	**302**	PFAKE		09 39 40.0	+7.0
MDJ				LR	LR		
comp=Z,4μm,20.0s							
QIZ	**Qiongzhong**	**162.25**	**190**	PKP	**PKPdf**	**09 39 35.8**	**+0.7**
QIZ				sPKP		09 39 49.7	
QIZ				PP	**PP**	**09 44 08.2**	**+3.1**
QIZ				SS	SS	10 04 29.0	+6.4
QIZ				PPMZ			
comp=Z,260nm,4.9s							
QIZ				LN			
comp=Z,1μm,20.5s							
QIZ				LZ			
comp=Z,3μm,19.1s							
QIZ	**Qiongzhong**	**162.25**	**190**	PFAKE		09 39 50.0	+15
QIZ				LR	LR		
comp=Z,3μm,19.0s							
YHNB	**Yeheng**	**162.70**	**231**	PFAKE		09 39 50.0	+14
YHNB				LR	LR		
comp=Z,2μm,20.0s							
TATO	**Taipei**	**162.85**	**231**	PFAKE		09 39 50.0	+14
TATO				LR	LR		
comp=Z,3μm,19.0s							
KSRS	**Korea Array**	**163.08**	**279**	PKP	**PKPdf**	**09 39 34.6**	**-0.8**
comp=Z,3.4nm,1.0s,baz=25,slow=1.8,SNR=6.6							
KSRS				PKPab	**PKPab**	**09 40 25.1**	**-0.4**
comp=Z,3.8nm,0.9s,baz=90,slow=3.8,SNR=6.0							
KSAR	**Wonju Array Be**	**163.11**	**279**	PKIKP	**PKPdf**	**09 39 34.6**	**-0.8**
KSAR						09 40 25.2	
KSAR	**Wonju Array Be**	**163.11**	**279**	PKP	**PKPdf**	**09 39 34.6**	**-0.8**
KSAR				PKPab	**PKPab**	**09 40 25.1**	**-0.5**
SHL	**Shillong**	**163.17**	**127**	*e*P	**PKPdf**	**09 39 35.0**	**-1.1**
SHL				AMS	AMS	10 51 17.6	
comp=Z,3μm,22.8s							
WMQ	**Urumqi**	**163.78**	**58**	*e*PKP	**PKPdf**	**09 39 34.8**	**-1.2**
WMQ				PKPab	**PKPab**	**09 40 29.2**	**+0.7**
WMQ				PKS	**PKSdf**	**09 43 06.5**	**-2.4**
WMQ				PP	**PP**	**09 44 17.5**	**+3.0**
WMQ				SKS	**SKSdf**	**09 46 33.0**	**-4.8**
WMQ				SKKS	**SKKSac**	**09 50 59.0**	**-0.4**
WMQ				PPMZ			
comp=Z,930nm,7.6s							
WMQ				LN			
comp=Z,4μm,24.0s							
WMQ				LE			
comp=Z,2μm,24.0s							
WMQ				LZ			
comp=Z,4μm,22.0s							
CN2	**Changchun**	**164.05**	**302**	*e*PKP	**PKPdf**	**09 39 37.6**	**+1.5**
INCN	**Inchon**	**164.11**	**279**	PFAKE		09 39 50.0	+14
INCN				LR	LR		
comp=Z,3μm,22.0s							
HIA	**Hailar**	**164.23**	**327**	PFAKE		09 39 50.0	+14
HIA				LR	LR		
comp=Z,4μm,20.0s							
IRK	**Irkutsk**	**164.29**	**6**	*e*PKP2	**PKPab**	**09 40 30.2**	**0.0**
IRK				pmax	pmax		
comp=Z,79nm,1.7s							
MOY	**Mondy**	**164.42**	**13**	*e*PKIKP	PKPdf	09 39 43.1	+6.8
QZH	**Quanzhou**	**164.55**	**224**	PKP	**PKPdf**	**09 39 37.6**	**+0.5**
QZH				PPMZ			
comp=Z,1μm,9.6s							
QZH				LN			
comp=Z,2μm,13.8s							
QZH				LE			
comp=Z,2μm,16.4s							
QZH				LZ			
comp=Z,5μm,20.7s							
TLY	**Talaya**	**164.79**	**7**	*i* PKIKP	PKPdf	09 39 44.3	+7.8
TLY				*e*		09 57 48.7	
TLY				pmax	pmax		
comp=Z,11nm,1.5s							
TLY	**Talaya**	**164.79**	**7**	PKPab	**PKPab**	**09 40 32.1**	**-0.4**
comp=Z,1.2nm,0.5s,baz=330,slow=4.6,SNR=5.7							
TLY				PP	PP	09 44 27.0	+8.5
comp=Z,0.8nm,0.4s,baz=3.1,slow=5.8,SNR=5.7							
TLY	**Talaya**	**164.79**	**7**	PKPab	**PKPab**	**09 40 32.1**	**-0.4**
TLY				PP	PP	09 44 26.9	+8.5
TLY				LR	LR		
comp=Z,4μm,22.0s							
LSA	**Lhasa**	**165.22**	**113**	PFAKE		09 39 50.0	+12
LSA				LR	LR		
comp=Z,4μm,20.0s							
SNY	**Shenyang**	**165.97**	**297**	⇑PKP	**PKPdf**	**09 39 35.9**	**-1.9**
SNY				PP	**PP**	**09 44 23.8**	**-2.1**
SNY				PPMZ			
comp=Z,370nm,10.1s							
SNY				LN			
comp=Z,700nm,19.7s							
SNY				LE			
comp=Z,2μm,19.5s							
SNY				LZ			
comp=Z,2μm,19.6s							
ZAK	**Zakamensk**	**166.03**	**9**	*e*PKIKP	**PKPdf**	**09 39 34.5**	**-3.2**
ZAK				*e*		09 40 37.2	
ZAK				pmax	pmax		
comp=Z,5.0nm,2.0s							
SSE	**Sheshan**	**166.81**	**249**	*e*PKP	**PKPdf**	**09 39 37.3**	**-1.5**
KMI	**Kunming**	**168.02**	**162**	PKP	**PKPdf**	**09 39 39.4**	**-0.8**
ULN	**Ulaanbaatar**	**168.77**	**359**	PFAKE		09 39 50.0	+10
ULN				LR	LR		
comp=Z,4μm,19.0s							
SONM	**Songino Array**	**168.80**	**1**	PKP	**PKPdf**	**09 39 39.3**	**-0.6**
comp=Z,4.1nm,1.1s,baz=194,slow=1.2,SNR=7.4							
SONM				PKPab	**PKPab**	**09 40 51.4**	**+1.0**
comp=Z,6.5nm,1.1s,baz=334,slow=4.1,SNR=6.7							
SONM				PP	PP	09 44 45.2	+6.0
comp=Z,3.9nm,1.1s,baz=300,slow=1.2,SNR=4.1							
NJ2	**Nanjing**	**169.01**	**249**	*e*PKP	**PKPdf**	**09 39 41.0**	**+0.7**
NJ2				PKPab	**PKPab**	**09 40 52.0**	**+0.2**
NJ2				PP	**PP**	**09 44 42.5**	**+0.9**
NJ2				SKKS		09 51 25.0	
NJ2				LN			
comp=Z,3μm,23.1s							
NJ2				LE			
comp=Z,2μm,22.8s							
NJ2				LZ			
comp=Z,2μm,22.8s							
GYA	**Guiyang**	**169.86**	**180**	PKP	**PKPdf**	**09 39 41.0**	**-0.2**
GYA				pPKP	**pPKPdf**	**09 39 53.2**	**+0.8**
GYA				PKPab	**PKPab**	**09 40 57.6**	**+2.0**
GYA				PKS	**PKSdf**	**09 43 12.2**	**-1.6**
GYA				PP	**PP**	**09 44 49.4**	**+4.9**
GYA				SKKS		09 51 31.4	
GYA				PPMZ			
comp=Z,200nm,8.6s							
TIA	**Tai'an**	**171.63**	**270**	PKP	**PKPdf**	**09 39 39.6**	**-2.1**
TIA				PP	**PP**	**09 44 53.3**	**-1.7**
TIA				SKKS		09 51 38.2	
TIA				PPMZ			
comp=Z,1μm,9.5s							
TIA				LN			
comp=Z,880nm,26.2s							
TIA				LE			
comp=Z,2μm,18.4s							
TIA				LZ			
comp=Z,4μm,17.8s							
BJI	**Beijing**	**171.86**	**298**	PKP	**PKPdf**	**09 39 41.1**	**-0.5**
BJI				PP	**PP**	**09 44 56.6**	**+0.9**
BJI				PPMZ			
comp=Z,920nm,15.9s							
BJI				LN			
comp=Z,880nm,24.7s							
BJI				LE			
comp=Z,2μm,25.6s							
BJI				LZ			
comp=Z,2μm,29.8s							
BJT	**Baijiatuau**	**171.87**	**297**	PFAKE		09 39 50.0	+8.4
BJT				LR	LR		
comp=Z,4μm,20.0s							
ENH	**Enshi**	**173.26**	**201**	PFAKE		09 39 50.0	+7.4
ENH				LR	LR		
comp=Z,2μm,21.0s							
CD2	**Chengdu**	**173.77**	**155**	*e*PKP	**PKPdf**	**09 39 42.8**	**0.0**
CD2				sPKP		09 39 57.8	
CD2				PKPab	**PKPab**	**09 41 12.8**	**0.0**
CD2				PKS	**PKSdf**	**09 43 12.9**	**-2.2**
CD2				PPMZ			
comp=Z,840nm,10.8s							
CD2				LN			
comp=Z,3μm,19.0s							
CD2				LE			
comp=Z,2μm,20.2s							
CD2				LZ			
comp=Z,4μm,21.4s							
GTA	**Gaotai**	**173.85**	**61**	⇑PKP	**PKPdf**	**09 39 42.8**	**+0.1**
GTA				pPKP	**pPKPdf**	**09 39 53.6**	**-0.3**
GTA				sPKP		09 39 57.2	
GTA				PKPab	**PKPab**	**09 41 14.9**	**+1.6**
GTA				PP	**PP**	**09 45 08.8**	**+3.1**
GTA				SKS	**SKSdf**	**09 46 40.7**	**-2.5**
GTA				SKKS	**SKKSac**	**09 51 49.9**	**+0.6**
GTA				PPMZ			
comp=Z,2μm,8.8s							
GTA				LN			
comp=Z,3μm,20.0s							
GTA				LE			
comp=Z,3μm,19.5s							
GTA				LZ			
comp=Z,4μm,21.4s							
HHC	**Hu-ho-hao-te**	**174.36**	**320**	*e*PKP	**PKPdf**	**09 39 42.7**	**0.0**
HHC				pPKP	**pPKPdf**	**09 39 53.7**	**-0.3**
HHC				PP	**PP**	**09 45 08.1**	**+0.6**
HHC				PPMZ			
comp=Z,500nm,9.3s							
HHC				LN			
comp=Z,2μm,20.2s							
HHC				LE			
comp=Z,3μm,21.4s							
HHC				LZ			
comp=Z,5μm,21.8s							
BTO	**Baotou**	**175.28**	**328**	*e*PKP	**PKPdf**	**09 39 41.0**	**-2.0**
XAN	**Xi'an**	**176.87**	**215**	PKP	**PKPdf**	**09 39 43.1**	**-0.4**
XAN				PKPab	**PKPab**	**09 41 28.6**	**+2.1**
XAN				PKS	**PKSdf**	**09 43 13.8**	**-1.9**
XAN				PP	**PP**	**09 45 22.8**	**+3.6**
XAN				SKS	**SKSdf**	**09 46 40.6**	**-3.3**
XAN				SKKS	**SKKSac**	**09 52 03.4**	**+0.2**
XAN				SS	**SS**	**10 06 48.5**	**-0.4**
XAN				LN			
comp=Z,1μm,21.5s							
XAN				LE			
comp=Z,730nm,20.2s							
XAN				LZ			
comp=Z,840nm,23.0s							
LZH	**Lanzhou**	**177.58**	**102**	*e*PKP	**PKPdf**	**09 39 45.0**	**+1.3**
LZH				pPKP	**pPKPdf**	**09 39 54.7**	**-0.3**
LZH				sPKP		09 40 01.5	
LZH				PP	**PP**	**09 45 26.0**	**+2.1**
LZH				SKKS		09 52 08.0	
LZH				LN			
comp=Z,16μm,15.3s							
LZH				LE			
comp=Z,16μm,18.4s							
LZH				LZ			
comp=Z,18μm,19.8s							

*IDC **05** 09:24:06.7±1.1,34°.73N×142°.18E,h0km,mb3.6/5, mb1 3.7/8,mb1mx3.5/48,mbtmp3.7/8,ML3.5/3,Error ellipse: s-maj=33.8km s-min=19.2km az=80.0*
*ISCJB **05** 09:24:08.3±2.0,34°.77N±0°.06×142°.15E±0°.07, h27km±17km,mb3.7/5,Error ellipse: s-maj=11.5km s-min=7.6km az=139.6*

*JMA **05** 09:24:09.0±0.6,34°.73N×142°.11E,h36km,M3.3*
ISC 05 09:24:07.9±2.1,34°.73N±0°.06×142°.13E±0°.08,h13km±13km, n26,σ1§50/27,mb3.7/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.95**	**266**	P	**Pg**	**09 24 25.9**	**-0.3**
BSO3	**Boso 3**	**1.34**	**273**	P	**Pb**	**09 24 32.2**	**-0.4**
CHOJ	**Chosi**	**1.42**	**313**	P	**Pn**	**09 24 32.6**	**-0.8**
BSO4	**Boso 4**	**1.50**	**280**	P	**Pb**	**09 24 34.6**	**-0.8**
JCN	**Nagara**	**1.73**	**294**	P	**Pb**	**09 24 38.2**	**-1.2**
JOD2	**Odawara 2**	**2.55**	**283**	P	**Pn**	**09 24 48.4**	**-0.6**
JOD2				S	**Sn**	**09 25 18.9**	**-1.0**
JIZS	**Izushimoda**	**2.68**	**271**	P	**Pn**	**09 24 49.9**	**-0.8**
JAG	**Ashikaga**	**2.76**	**309**	P	**Pn**	**09 24 51.9**	**+0.1**
JAG				S	**Sn**	**09 25 23.6**	**-1.4**
JRY	**Ryogami san**	**2.93**	**297**	P	**Pn**	**09 24 54.4**	**+0.2**
JYN	**Shimob**	**3.04**	**286**	P	**Pn**	**09 24 55.3**	**-0.4**
JFT	**Otama**	**3.14**	**333**	P	**Pn**	**09 24 57.6**	**+0.6**
JFT				S	**Sn**	**09 25 32.7**	**-1.6**
MJAR	**Matsushiro Arr**	**3.67**	**301**	Pn	**Pn**	**09 25 04.6**	**+0.3**
2.4nm,0.3s,baz=155,slow=14,SNR=19							
MJAR				Sn	**Sn**	**09 25 47.5**	**+0.1**
1.5nm,0.3s,baz=163,slow=18,SNR=4.5							
MAT	**Matsushiro**	**3.67**	**301**	P	**Pn**	**09 25 04.9**	**+0.6**
MAT				S	**Sn**	**09 25 48.6**	**+1.1**
JCJ	**Chichijima**	**7.61**	**180**	Pn	**Pn**	**09 26 00.9**	**+2.4**
1.3nm,0.3s,baz=38,slow=19,SNR=4.3							
JCJ				Sn	**Sn**	**09 27 20.6**	**-3.9**
2.8nm,0.3s,baz=194,slow=19,SNR=2.7							
ASAJ	**Asahikawa**	**9.38**	**2**	Pn	**Pn**	**09 26 22.9**	**+0.3**
0.6nm,0.3s,baz=190,slow=17,SNR=3.9							
ASAJ				Sn	**Sn**	**09 28 04.3**	**-3.6**
0.3nm,0.3s,baz=90,slow=16,SNR=2.5							
H11N2	**WAKE ISLAND Hy**	**26.51**	**118**	T	T	09 57 42.4	
baz=309,slow=75,SNR=3.7							
H11N1	**WAKE ISLAND Hy**	**26.52**	**118**	T	T	09 57 34.2	
baz=309,slow=75,SNR=5.0							
H11N3	**WAKE ISLAND Hy**	**26.53**	**118**	T	T	09 57 35.2	
baz=309,slow=75,SNR=3.7							
H11S1	**WAKE ISLAND Hy**	**27.16**	**120**	T	T	09 58 33.5	
baz=313							
H11S3	**WAKE ISLAND Hy**	**27.16**	**120**	T	T	09 58 32.1	
baz=313							
H11S2	**WAKE ISLAND Hy**	**27.18**	**120**	T	T	09 58 34.7	
baz=313							
SONM	**Songino Array**	**29.60**	**307**	P	**P**	**09 30 14.3**	**+1.6**
1.0nm,0.7s,baz=116,slow=8.8,SNR=6.2							
MKAR	**Makanchi Array**	**45.86**	**304**	P	**P**	**09 32 30.8**	**+1.0**
0.3nm,0.6s,baz=89,slow=10,SNR=5.2							
ILAR	**Eielson Array**	**51.14**	**31**	P	**P**	**09 33 10.9**	**+0.8**
0.5nm,0.8s,baz=267,slow=5.3,SNR=6.3							
WRA	**Warramunga Arr**	**54.87**	**189**	P	**P**	**09 33 38.9**	**+0.9**
1.7nm,0.8s,baz=5.6,slow=7.5,SNR=22							
ASAR	**Alice Springs**	**58.60**	**189**	P	**P**	**09 34 04.6**	**+0.1**
0.6nm,1.0s,baz=3.3,slow=6.5,SNR=4.1							

IDC 05 09:30:58.2±4.3,1°.37S×138°.99E,h0km,mb3.5/1, mb1 4.0/2,mb1mx3.5/38,mbtmp3.7/2,ML3.9/1,MS4.5/1, Ms1 4.5/1,ms1mx3.2/27,Error ellipse: s-maj=225.9km s-min=52.5km az=94.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.01**	**194**	P	P	09 35 21.9	+0.1
0.4nm,0.3s,baz=16,slow=12,SNR=16							
ASAR	**Alice Springs**	**22.70**	**192**	P	P	09 36 02.2	+0.4
1.2nm,0.6s,baz=17,slow=10,SNR=11							
H11S3	**WAKE ISLAND Hy**	**33.65**	**53**	T	T	10 13 39.8	
baz=237,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**	**33.66**	**53**	T	T	10 13 41.0	
baz=237,slow=76,SNR=4.3							
H11S1	**WAKE ISLAND Hy**	**33.66**	**53**	T	T	10 13 41.6	
baz=237,slow=76,SNR=5.7							
KSRS	**Korea Array**	**39.97**	**346**	LR	LR	09 55 00.5	
comp=Z,546nm,18.2s,baz=312,slow=36							
TORD	**Torodi Ar. Bea**	**136.14**	**288**	PKP	PKPdf	09 50 21.4	-1.3
0.4nm,0.7s,baz=51,slow=2.6,SNR=2.2							

NNC 05 09:31:26.4±7.0,53°.67N×87°.42E,h26km±46km,mb3.8, mpv3.7,8C-2D,Error ellipse: s-maj=47.4km s-min=31.8km az=64.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.16**	**245**	⇑Pn	Pn	09 32 55.8	+0.2
2.2nm,0.6s							
KURK				Lg	Lg	09 34 41.3	
KURBB	**Kurchatov Arra**	**6.26**	**244**	⇑Pn	Pn	09 32 57.4	+0.3
6.6nm,0.5s							
KURBB				⇓Sn	Sn	09 34 08.9	+1.3
15nm,0.7s							
KURBB				⇓Lg	Lg	09 34 45.0	
53nm,0.8s							
MK31	**Makanchi Array**	**7.62**	**208**	⇑Pn	Pn	09 33 14.6	-1.2
3.3nm,0.9s,baz=28,slow=12,SNR=39							
MK31				⇑Sn	Sn	09 34 41.0	-0.4
7.2nm,1.1s,baz=32,slow=19,SNR=6.0							
MK31				⇑Lg	Lg	09 35 21.4	
12nm,0.9s,baz=34,slow=34,SNR=4.8							
VOSK	**Vostochnaya**	**9.91**	**271**	Pn	Pn	09 33 47.0	-0.1
VOSK				⇑Sn	Sn	09 35 35.9	-1.5
6.8nm,0.8s							
BVA0	**Borovoye Array**	**10.21**	**273**	Pn	Pn	09 33 53.3	+2.3
0.1nm,0.3s,baz=64,slow=16,SNR=6.8							
BVA0				⇑Sn	Sn	09 35 45.3	+0.7
10nm,1.1s,baz=71,slow=26,SNR=7.9							
BRVK	**Borovoye**	**10.26**	**273**	Pn	Pn	09 33 54.0	+2.2
BRVK				⇑Sn	Sn	09 35 46.4	+0.5
18nm,1.1s							

*IDC **05** 09:36:47.6±1.3,36°.61S×73°.41W,h0km,mb3.7/6, mb1 4.0/8,mb1mx3.9/23,mbtmp3.7/8,ML3.5/2,MS4.5/1, Ms1 4.5/1,ms1mx4.0/22,Error ellipse: s-maj=35.0km s-min=29.2km az=68.0*
*ISCJB **05** 09:36:50.8±0.9,36°.6S±0°.1×73°.3W±0°.2,h27km,mb3.8/5, MS4.4/1,Error ellipse: s-maj=23.7km s-min=14.7km az=174.3*
ISC 05 09:36:52.0±1.1,36°.6S±0°.1×73°.4W±0°.2,h27km,n10, σ0§77/8,mb3.7/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.71**	**153**	Pn	**Pn**	**09 38 01.6**	**+0.3**
0.8nm,0.3s,baz=328,slow=14,SNR=2.0							
PLCA				Lg	Lg	09 39 14.4	
0.5nm,0.3s,baz=49,slow=20,SNR=2.3							
CFAA	**Coronel Fontan**	**6.51**	**42**	Pn	**Pn**	**09 38 26.6**	**+0.5**
0.3nm,0.3s,baz=21,slow=4.7,SNR=7.4							
CFAA				Lg	Lg	09 40 15.8	
0.2nm,0.3s,baz=338,slow=14,SNR=3.0							
LPAZ	**La Paz**	**20.72**	**14**	P	Pn	09 41 32.7	-0.9
7.0nm,1.1s,baz=196,slow=11,SNR=6.0							
SIV	**San Ignacio**	**23.21**	**31**	P	**P**	**09 41 56.8**	**-0.1**
8.2nm,1.0s,baz=228,slow=15,SNR=4.5							
NNA	**Nana**	**24.67**	**352**	LR	LR	09 48 39.4	
comp=Z,1μm,19.2s,baz=155,slow=29							
TXAR	**Lajitas Array**	**71.47**	**332**	P	**P**	**09 48 10.1**	**0.0**
0.6nm,0.8s,baz=154,slow=8.0,SNR=8.1							
NVAR	**Mina Array Bea**	**85.39**	**326**	P	**P**	**09 49 27.5**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov** 2.3nm,0.5s	**2.13**	**128**	⇑Pn	Pn	09 46 07.6	-1.1
KURK				⇑Sn	Sn	09 46 36.2	+0.4
KURBB	**Kurchatov Arra** 6.7nm,0.6s	**2.15**	**131**	⇑Pn	Pn	09 46 09.0	+0.1
KURBB				⇓Sn	Sg	09 46 40.6	-0.3
VOSK	**Vostochnaya** 2.9nm,0.4s	**3.14**	**284**	⇑Pn	Pn	09 46 20.9	-1.7
VOSK				⇑Sn	Sn	09 46 58.4	-2.4
BVA0	**Borovoye Array** 3.4nm,0.7s,baz=115,slow=17,SNR=15	**3.55**	**288**	⇓Pn	Pn	09 46 28.8	+0.6
BVA0				⇓Sn	Sn	09 47 14.9	+4.0
BRVK	**Borovoye** 14nm,1.2s	**3.62**	**288**	⇑Pn	Pn	09 46 29.8	+0.6
BRVK				⇓Sn	Sn	09 47 15.6	+2.9
OTUK	**Ortayu** 9.6nm,0.5s	**4.48**	**213**	⇓Pn	Pn	09 46 40.0	-1.1
OTUK				⇑Sn	Sn	09 47 36.0	+2.0
MK31	**Makanchi Array** 6.0nm,1.4s,baz=316,slow=11,SNR=9.0	**6.68**	**140**	⇓Pn	Pn	09 47 08.0	-3.3
MK31				⇑Sn	Sn	09 48 27.3	-0.9
MK31	2.9nm,0.9s,baz=320,slow=21,SNR=5.9			⇑Lg	Lg	09 49 02.6	
	1.5nm,0.5s,baz=324,slow=27,SNR=3.9						

GUC 05 09:49:09.3±0.5, 34°.36S×71°.82W, h13km±4km, ML3.8, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTU	**Antumapu**	**1.26**	**52**	*e*Pn	Pn	09 49 31.2	-1.5
ANTU				*i* S	Sb	09 49 48.2	-1.1
ANTU	comp=N,3μm,0.3s			IAML		09 49 49.1	
IHA	**Instituto Hidr**	**1.34**	**6**	⇑*i*P	Pn	09 49 32.4	-1.3
STL	**Santa Lucia**	**1.34**	**47**	⇑*i*P	Pn	09 49 31.4	-2.5
STL				*i* S	Sb	09 49 49.1	-2.6
FSR	**Penalolen**	**1.39**	**51**	*e*P	Pn	09 49 33.6	-0.9
FSR				*i* S	Sn	09 49 52.0	-0.8
LACH	**Col Las Americ**	**1.40**	**50**	*e*P9	Pn	09 49 33.1	-1.6
LACH				*i* S	Sn	09 49 51.4	-1.7
LNCH	**Linares**	**1.50**	**173**	⇑*i*P	Pn	09 49 34.8	-1.1
LNCH				*i* S	Sn	09 49 54.7	-0.6
PEL	**Peldehue**	**1.54**	**38**	⇑*i*P	Pn	09 49 35.9	-0.6
PEL				*e*S	Sn	09 49 56.0	-0.4
PEL	comp=E,3μm,0.4s			IAML		09 49 57.4	

IDC 05 09:53:59.4±3.3, 4°.80N×96°.46E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/53, mbtmp3.6/5, Error ellipse: s-maj=144.3km s-min=21.7km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=160,slow=8.5,SNR=16	**43.59**	**346**	P	P	10 02 05.2	-0.2
SONM	**Songino Array** 0.4nm,0.6s,baz=187,slow=9.7,SNR=4.9	**43.71**	**10**	P	P	10 02 06.8	+0.3
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=304,slow=9.4,SNR=5.1	**44.62**	**125**	P	P	10 02 13.8	-0.2
ASAR	**Alice Springs** 0.3nm,0.6s,baz=306,slow=7.9,SNR=3.4	**46.20**	**129**	P	P	10 02 26.4	-0.1
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=168,slow=7.4,SNR=2.8	**49.91**	**351**	P	P	10 02 54.2	-0.5

UPP ***05*** *10:02:51.0, 64°.51N×31°.46E, h0km, ML1.1, Suspected Mining explosion.*
ISCJB ***05*** *10:02:54.1±0.6, 64°.73N±0°.03×30°.44E±0°.09, h0km, Error ellipse: s-maj=6.0km s-min=3.3km az=25.4*
CSEM ***05*** *10:02:54.5±0.6, 64°.72N×30°.57E, h2km, ML1.8, Error ellipse: s-maj=12.6km s-min=6.9km az=89.0, Mining explosion.*
HEL ***05*** *10:02:55.2±0.1, 64°.73N×30°.72E, h0km, ML1.8, ML1.1(UPP), Explosion*
KOLA ***05*** *10:02:56.9, 64°.79N×30°.30E, h0km*
IDC ***05*** *10:02:56.7±2.1, 64°.75N×31°.08E, h0km, mb1 3.1/4, mb1mx2.9/51, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=28.9km s-min=9.9km az=102.0*

ISC 05 10:02:54.1±0.9, 64°.70N±0°.02×30°.64E±0°.04, h0km, n49, σ1°51/76, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki** baz=169	**1.37**	**347**	*e*PB	**Pg**	**10 03 19.5**	**-0.9**
KU6				*e*SB	**Sg**	**10 03 37.5**	**-0.6**
KU6	**Riekki**	**1.37**	**347**	Pb	**Pg**	**10 03 19.4**	**-0.9**
KU6				Sb	**Sg**	**10 03 37.4**	**-0.6**
MSF	**Maaselka**	**1.39**	**332**	*e*PG	**Pg**	**10 03 20.0**	**-0.7**
MSF				*e*SB	**Sg**	**10 03 37.9**	**-0.8**
MSF	comp=Z,13nm,0.3s			MSG		10 03 37.9	
MSF	**Maaselka**	**1.39**	**332**	Pg	**Pg**	**10 03 20.0**	**-0.7**
MSF	comp=Z,13nm,0.3s			Sb	**Sg**	**10 03 37.9**	**-0.8**
JOF	**Joensuu**	**1.81**	**170**	*e*PG	**Pn**	**10 03 28.1**	**+1.5**
JOF	**Joensuu**	**1.81**	**170**	Pg	**Pn**	**10 03 28.0**	**+1.5**
OUL	**Oulu** baz=95	**2.06**	**283**	*e*PG	**Pb**	**10 03 32.2**	**-0.1**
OUL	comp=Z,6.0nm,0.2s			MSG	**Sg**	**10 03 58.9**	**-1.3**
OUL				*e*SG	**Sg**	**10 03 58.9**	**-1.3**
OUL	**Oulu**	**2.06**	**283**	Pg	**Pb**	**10 03 32.2**	**-0.1**
OUL				Sg	**Sg**	**10 03 58.9**	**-1.3**
RNF	**Rovaniemi**	**2.71**	**317**	*e*PB	**Pb**	**10 03 41.3**	**-2.1**
RNF				MSG	**Sb**	**10 04 16.9**	**-0.3**
RNF	comp=Z,9.2nm,0.3s			*e*SB	**Sb**	**10 04 16.9**	**-0.3**
RNF	**Rovaniemi**	**2.71**	**317**	Pb	**Pb**	**10 03 41.3**	**-2.1**
RNF				Sb	**Sb**	**10 04 16.9**	**-0.3**
SUF	**Sumiainen**	**2.82**	**227**	*e*PB	**Pb**	**10 03 44.6**	**-0.6**
SUF				*e*SB	**Sb**	**10 04 21.0**	**+0.7**
SUF	comp=Z,2.1nm,0.2s			MSG		10 04 21.0	
SUF	**Sumiainen**	**2.82**	**227**	Pb	**Pb**	**10 03 44.6**	**-0.6**
SUF	comp=Z,2.1nm,0.2s			Sb	**Sb**	**10 04 20.9**	**+0.7**
APA0	**Apatity Array**	**3.07**	**17**	P	**Pn**	**10 03 45.3**	**+1.5**
APA0				S	**Sn**	**10 04 21.7**	**+0.5**
VRF	**Varrio** baz=169	**3.09**	**353**	*e*P	**Pn**	**10 03 45.1**	**+1.0**
VRF	comp=Z,0.6nm,0.2s			MSG	**Sb**	**10 04 28.6**	**+0.5**
VRF				*e*SG	**Sb**	**10 04 28.6**	**+0.5**
VRF	**Varrio**	**3.09**	**353**	P	**Pn**	**10 03 45.1**	**+1.0**
VRF				Sg	**Sb**	**10 04 28.6**	**+0.5**
APA	**Apatity**	**3.09**	**20**	P	**Pn**	**10 03 45.9**	**+1.8**
APA				S	**Sn**	**10 04 22.4**	**+0.7**
SGF	**Sodankyl**	**3.23**	**331**	*e*PB	**Pb**	**10 03 50.9**	**-1.3**
SGF	**Sodankyl**	**3.23**	**331**	Pb	**Pb**	**10 03 50.8**	**-1.3**
KAF	**Kangasniemi**	**3.25**	**219**	*e*PB	**Pb**	**10 03 51.8**	**-0.8**
KAF	**Kangasniemi**	**3.25**	**219**	Pb	**Pb**	**10 03 51.7**	**-0.8**
KALU	**Kalix** baz=106	**3.28**	**294**	*e*PG	**Pb**	**10 03 54.3**	**+1.3**
KALU	**Kalix**	**3.28**	**294**	Pg	**Pb**	**10 03 54.3**	**+1.3**
FIA0	**FINESS Array S** baz=32	**3.87**	**215**	*e*P	**Pn**	**10 03 56.8**	**+2.0**
FIA0	comp=Z,5.1nm,0.7s			MSG	**Sg**	**10 04 57.8**	**-0.5**
FIA0				*e*SG	**Sg**	**10 04 57.8**	**-0.5**
FIA0	**FINESS Array S**	**3.87**	**215**	P	**Pn**	**10 03 56.8**	**+2.0**
FIA0				Sg	**Sg**	**10 04 57.8**	**-0.5**
FINES	**FINESS Array B**	**3.87**	**215**	Pn	Pn	10 03 58.1	+3.3
FINES	comp=Z,0.2nm,0.3s,baz=28,slow=13,SNR=7.9			Pg	**Pg**	**10 04 07.0**	**-1.2**
FINES	comp=Z,0.3nm,0.3s,baz=32,slow=13,SNR=7.7			Sn	**Sn**	**10 04 42.6**	**+1.7**
FINES	comp=Z,0.3nm,0.3s,baz=30,slow=24,SNR=3.8			Lg	Lg	10 04 57.7	
VAF	**Ylistaro**	**3.90**	**248**	*e*P	Pn	10 03 59.3	+4.1
VAF				MSG	**Sg**	**10 04 59.4**	**+0.2**
VAF	comp=Z,1.2nm,0.2s			*e*SG	**Sg**	**10 04 59.4**	**+0.2**
VAF	**Ylistaro**	**3.90**	**248**	P	Pn	10 03 59.2	+4.1
VAF				Sg	**Sg**	**10 04 59.3**	**+0.2**
SJUU	**Sjulsmark**	**3.91**	**286**	*e*P	**Pn**	**10 03 56.6**	**+1.4**
SJUU	**Sjulsmark**	**3.91**	**286**	P	**Pn**	**10 03 56.6**	**+1.4**
ERTU	**Ertsjaerv**	**3.97**	**302**	*e*P	Pn	10 03 59.5	+3.4
ERTU				*e*SG	**Sg**	**10 04 59.3**	**-2.2**
ERTU	**Ertsjaerv** comp=Z,0.8nm,0.2s	**3.97**	**302**	Sg	**Sg**	**10 04 59.2**	**-2.2**
VJF	**Virojoki** comp=Z,0.8nm,0.2s	**4.41**	**200**	MSG	**Sg**	**10 05 13.1**	**-2.6**
VJF				*e*SG	**Sg**	**10 05 13.1**	**-2.6**
UMAU	**Umeaa**	**4.42**	**264**	*e*P	**Pn**	**10 04 03.8**	**+1.5**
UMAU				*e*S	**Sn**	**10 04 54.6**	**+0.3**
UMAU	**Umeaa**	**4.42**	**264**	P	**Pn**	**10 04 03.7**	**+1.5**
UMAU				S	**Sn**	**10 04 54.6**	**+0.3**
LILU	**Lilltraesk**	**4.62**	**282**	*e*P	**Pn**	**10 04 06.8**	**+1.7**
LILU	**Lilltraesk**	**4.62**	**282**	P	**Pn**	**10 04 06.7**	**+1.7**
HEF	**Hetta** baz=141	**4.65**	**326**	*e*PG	**Pb**	**10 04 18.3**	**+1.9**
HEF				*e*SG	**Sb**	**10 05 17.2**	**+4.3**
HEF	comp=Z,0.6nm,0.2s			MSG		10 05 17.2	
HEF	**Hetta**	**4.65**	**326**	Pg	**Pb**	**10 04 18.3**	**+1.9**
HEF	comp=Z,0.6nm,0.2s			Sg	**Sb**	**10 05 17.2**	**+4.3**
LANU	**Lannavaara**	**4.84**	**318**	*e*P	**Pn**	**10 04 08.4**	**+0.3**
LANU	**Lannavaara**	**4.84**	**318**	P	**Pn**	**10 04 08.3**	**+0.3**
ARCES	**ARCESS Array B** comp=Z,0.5nm,0.3s,baz=155,slow=13,SNR=44	**5.25**	**340**	Pn	**Pn**	**10 04 14.1**	**+0.3**
ARCES				Sn	**Sn**	**10 05 13.5**	**-1.4**
ARCES	comp=Z,0.5nm,0.3s,baz=152,slow=24,SNR=7.3			Lg	Lg	10 05 33.6	
KUA	**Kurravaara**	**5.28**	**313**	*e*P	**Pn**	**10 04 15.4**	**+1.3**
KUA	**Kurravaara**	**5.28**	**313**	P	**Pn**	**10 04 15.4**	**+1.3**
NIKU	**Nikkaluokta**	**5.66**	**309**	*e*P	**Pn**	**10 04 21.1**	**+1.8**
NIKU	**Nikkaluokta**	**5.66**	**309**	P	**Pn**	**10 04 21.1**	**+1.8**
I43RU	**DUBNA INFRASON** baz=347,slow=331,SNR=0.6	**8.62**	**155**	*i*		10 56 00.0	
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=57,slow=14,SNR=6.3	**9.08**	**248**	Pn	**Pn**	**10 05 08.3**	**+2.0**
HFS	comp=Z,0.1nm,0.3s,baz=58,slow=27,SNR=3.2			Sn	**Sn**	**10 06 45.7**	**-3.4**
HFS	comp=Z,0.2nm,0.3s,baz=78,slow=27,SNR=3.2			Lg	Lg	10 07 37.6	
NOA	**NORSAR Array B** comp=Z,0.2nm,0.3s,baz=69,slow=13,SNR=4.2	**9.59**	**256**	Pn	**Pn**	**10 05 14.8**	**+1.7**
NOA	comp=Z,0.2nm,0.3s,baz=46,slow=27,SNR=3.5			Lg	Lg	10 07 53.9	
I31KZ	**AKTYUBINSK INF** baz=324,slow=334,SNR=0.8	**20.27**	**122**	*i*		12 10 00.0	

IDC ***05*** *10:05:24.4±1.0, 36°.65S×73°.43W, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/25, mbtmp3.6/7, ML3.7/2, Error ellipse: s-maj=39.4km s-min=22.0km az=84.0*
ISCJB ***05*** *10:05:27.1±0.9, 36°.63S±0°.10×73°.3W±0°.2, h27km, mb3.8/4, Error ellipse: s-maj=27.0km s-min=14.1km az=179.1*

ISC 05 10:05:28.6±1.0, 36°.6S±0°.1×73°.4W±0°.2, h27km, n7, σ0°61/6, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores** 1.7nm,0.3s,baz=329,slow=13,SNR=3.4	**4.67**	**153**	Pn	**Pn**	**10 06 37.8**	**+0.4**
PLCA	2.2nm,0.3s,baz=267,slow=19,SNR=2.1			Lg	Lg	10 07 47.2	
CFAA	**Coronel Fontan** 0.3nm,0.3s,baz=126,slow=11,SNR=3.4	**6.56**	**42**	Pn	**Pn**	**10 07 03.6**	**+0.3**
LPAZ	**La Paz** 0.9nm,0.7s,baz=186,slow=9.2,SNR=2.6	**20.77**	**14**	P	Pn	10 10 10.1	-0.7
QSPA	**South Pole Qui** 2.1nm,0.8s,baz=144,slow=5.2,SNR=9.1	**53.63**	**180**	P	**P**	**10 14 47.2**	**-0.2**
TXAR	**Lajitas Array** 0.8nm,0.7s,baz=155,slow=8.5,SNR=13	**71.50**	**332**	P	**P**	**10 16 47.2**	**+0.3**
PDAR	**Pinedale Array** 0.4nm,0.9s,baz=140,slow=6.1,SNR=2.3	**85.61**	**334**	P	**P**	**10 18 04.6**	**+0.1**
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=232,slow=5.5,SNR=2.3	**86.11**	**71**	P	**P**	**10 18 06.5**	**-0.9**

IDC 05 10:06:38.1±2.5, 35°.95S×73°.05W, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.7/24, mbtmp3.6/5, ML3.0/1, Error ellipse: s-maj=54.7km s-min=42.0km az=163.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan** 0.4nm,0.3s,baz=221,slow=12,SNR=3.9	**5.90**	**44**	Pn	Pn	10 08 07.3	+0.5
LPAZ	**La Paz** 2.2nm,0.7s,baz=170,slow=12,SNR=4.8	**20.07**	**14**	P	Pn	10 11 15.1	-0.5
SIV	**San Ignacio** 2.6nm,0.6s,baz=225,slow=13,SNR=7.2	**22.57**	**31**	P	P	10 11 38.9	-1.2
TXAR	**Lajitas Array** 0.4nm,0.6s,baz=150,slow=8.4,SNR=7.7	**71.04**	**332**	P	P	10 17 57.8	-0.1
TORD	**Torodi Ar. Bea** 0.4nm,0.9s,baz=236,slow=5.5,SNR=3.1	**85.65**	**70**	P	P	10 19 19.1	+0.2

JMA 05 10:09:06.6±0.4, 41°.60N×144°.94E, h48km±3km, M3.5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**1.41**	**353**	P	Pn	10 09 30.3	+0.5
JAK				*e*S	Sn	10 09 46.6	-0.6
JOB	**Onbets**	**1.54**	**328**	P	Pn	10 09 32.4	+0.8
JOB				*e*S	Sn	10 09 50.8	+0.4
JCH	**Churui**	**1.55**	**311**	P	Pn	10 09 32.5	+0.7

IDC ***05*** *10:13:14.4±1.2, 36°.56S×72°.88W, h0km, mb3.9/5, mb1 3.8/7, mb1mx3.8/27, mbtmp3.7/7, ML3.3/2, MS4.1/1, Ms1 4.1/1, ms1mx3.7/25, Error ellipse: s-maj=38.6km s-min=22.8km az=96.0*
ISCJB ***05*** *10:13:15.7±0.6, 36°.59S±0°.08×72°.9W±0°.1, h25km, mb3.9/11, MS4.1/1, Error ellipse: s-maj=14.3km s-min=11.1km az=159.0*
NEIC ***05*** *10:13:18.6±0.6, 36°.62S×72°.87W, h35km, mb4.1/8, Error ellipse: s-maj=12.9km s-min=9.9km az=54.0*

ISC 05 10:13:17.6±0.8, 36°.58S±0°.10×72°.9W±0°.1, h25km, n19, σ0°93/18, mb4.0/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores** 0.6nm,0.3s,baz=334,slow=13,SNR=5.5	**4.54**	**157**	Pn	**Pn**	**10 14 23.4**	**-1.3**
PLCA	3.1nm,0.3s,baz=63,slow=19,SNR=3.1			Lg	Lg	10 15 44.3	
CFAA	**Coronel Fontan** 0.2nm,0.3s,baz=207,slow=13,SNR=7.2	**6.30**	**39**	Pn	**Pn**	**10 14 49.9**	**+0.9**
TRQA	**Tornquist**	**8.83**	**103**	Pn	**Pn**	**10 15 23.2**	**-0.5**
CPUP	**Villa Florida**	**16.75**	**57**	*e*Pn	**Pn**	**10 17 09.8**	**-0.7**
LPAZ	**La Paz** 4.7nm,1.1s	**20.66**	**13**	*e*P	**P**	**10 17 56.0**	**-0.1**
SIV	**San Ignacio** 4.3nm,1.1s,baz=234,slow=11,SNR=5.7	**23.05**	**30**	P	**P**	**10 18 20.1**	**-1.0**
OTAV	**Otavalo** 0.8nm,0.3s	**36.99**	**351**	*e*P	**P**	**10 20 24.9**	**-0.8**
SNAA	**Sanae** comp=Z,169nm,18.1s,baz=356,slow=35	**49.48**	**157**	LR	LR	10 41 59.3	
QSPA	**South Pole Qui** 2.8nm,1.1s,baz=158,slow=6.2,SNR=3.0	**53.66**	**180**	P	**P**	**10 22 38.2**	**+1.4**
JCT	**Junction City** 2.0nm,0.8s	**71.32**	**336**	*e*P	**P**	**10 24 34.8**	**-0.2**
TXAR	**Lajitas Array** 0.2nm,0.8s,baz=157,slow=9.5,SNR=3.0	**71.66**	**332**	P	**P**	**10 24 37.9**	**+0.8**
TUL1	**Leonard** 0.9nm,0.4s	**75.20**	**341**	*e*P	**P**	**10 24 56.7**	**-1.0**
DBIC	**Dimbokro** 2.8nm,0.7s,baz=243,slow=6.8,SNR=3.2	**76.68**	**71**	P	**P**	**10 25 07.8**	**+1.1**
DBIC	**Dimbokro** 3.7nm,0.8s	**76.68**	**71**	*e*P	**P**	**10 25 07.7**	**+1.0**
ACSO	**Alum Creek Sta**	**77.00**	**352**	*e*P	**P**	**10 25 07.8**	**-0.1**
ANMO	**Albuquerque** 1.2nm,0.9s	**77.72**	**332**	*e*P	**P**	**10 25 12.3**	**0.0**
ECSD	**EROS Data Cent** 0.9nm,0.7s	**82.79**	**343**	*e*P	**P**	**10 25 38.0**	**-1.2**
DUG	**Dugway, Tooele** 1.8nm,1.0s	**84.75**	**330**	*e*P	**P**	**10 25 50.4**	**+0.9**
TORD	**Torodi Ar. Bea** 0.6nm,0.8s,baz=231,slow=6.5,SNR=3.1	**85.75**	**70**	P	**P**	**10 25 55.3**	**+0.5**

BJI ***05*** *10:14:17.6, 1°.08N×127°.90E, h102km, mb5.2/36, mb5.0/60*
ISCJB ***05*** *10:14:24.6±0.3, 1°.91N±0°.02×127°.52E±0°.02, h104km±3km, mb4.9/103, Error ellipse: s-maj=3.9km s-min=3.0km az=160.2*
MOS ***05*** *10:14:25.1±1.0, 1°.93N×127°.49E, h111km, mb5.0/28, Error ellipse: s-maj=12.8km s-min=5.8km az=115.7*
IDC ***05*** *10:14:25.9±1.4, 1°.86N×127°.50E, h104km±12km, mb4.5/36, mb1 4.6/37, mb1mx4.5/48, mbtmp4.9/37, MS4.9/2, Ms1 4.9/2, ms1mx3.9/45, Error ellipse: s-maj=13.3km s-min=7.8km az=76.0*
KLM ***05*** *10:14:26.7, 1°.97N×127°.52E, h103km, mb5.3, MS6.0*
NEIC ***05*** *10:14:26.2±0.5, 1°.89N×127°.50E, h107km±4km, mb5.0/41, Error ellipse: s-maj=5.4km s-min=3.5km az=68.0*
DJA ***05*** *10:14:28.0±0.3, 2°N±3°×12°7E±°, h71km±3km, M5.2/60, mB5.6/47, mb5.4/60, MLv5.5/19, Mw(mB)5.1/47*

ISC 05 10:14:26.6±0.3, 1°.87N±0°.03×127°.53E±0°.04, h111km±2km, h111km: pP-P, n390, σ1°37/448, mb4.9/103, 26C-22D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.10**	**188**	P	**Pn**	**10 14 48.4**	**-0.6**
TNTI	**Ternate**	**1.10**	**188**	*e*Pn	**Pn**	**10 14 48.5**	**-0.4**
TNTI				*e*Sn	**Sn**	**10 15 08.2**	**+2.3**
LBMI	**Labuha**	**2.49**	**181**	P	**Pn**	**10 15 06.1**	**+0.1**
SGSI	**Sangihe**	**2.69**	**312**	P	Pn	10 15 05.2	-3.4
KMSI	**Cibinong**	**3.77**	**250**	P	**Pn**	**10 15 22.1**	**-0.8**
SANI	**Sanana**	**4.18**	**202**	P	**Pn**	**10 15 27.1**	**-1.4**
SWI	**Sorong**	**4.62**	**126**	P	**Pn**	**10 15 35.2**	**+1.0**
SWI	**Sorong** baz=4.6,SNR=16	**4.62**	**126**	⇑P	**Pn**	**10 15 34.1**	**-0.2**
GTOI	**Gorontalo**	**4.68**	**255**	P	**Pn**	**10 15 34.7**	**-0.4**
GSPH	**General Santos**	**4.92**	**329**	⇓*i*P	Pn	10 15 34.6	-3.8
NLAI	**Namlea** 319nm,0.6s,9μm4.8nm	**5.09**	**185**	P	**Pn**	**10 15 41.1**	**+0.4**
MATI	**Mati**	**5.20**	**346**	*e*P	**Pn**	**10 15 41.5**	**-0.7**
MATI				*e*S	**Sn**	**10 16 42.6**	**+1.6**
DAV	**Davao City (W)**	**5.52**	**339**	*e*Pn	**Pn**	**10 15 45.5**	**-1.0**
DAV				*e*Sn	Sn	10 16 54.6	+5.8
DMPH	**Davao City--Mi**	**5.56**	**339**	⇑*e*P	**Pn**	**10 15 45.5**	**-1.5**
LUWI	**Luwuk** baz=5.6,SNR=4.0	**5.56**	**239**	⇓P	**Pn**	**10 15 47.1**	**0.0**
LUWI	**Luwuk**	**5.56**	**239**	*e*Pn	**Pn**	**10 15 47.0**	**0.0**
LUWI				*e*Sn	**Sn**	**10 16 48.5**	**-1.3**
MRSI	**Marisa** 900nm,1.0s,10μm4.3nm	**5.75**	**256**	P	**Pn**	**10 15 49.0**	**-0.6**
CTBH	**Cotabato--PC H**	**6.24**	**329**	⇓*e*P	**Pn**	**10 15 53.1**	**-3.1**
BUKP	**Musuan**	**6.46**	**338**	*e*P	**Pn**	**10 15 57.7**	**-1.6**
APSI	**Ampana** 486nm,0.8s,10μm8.9nm	**6.49**	**245**	P	**Pn**	**10 15 59.4**	**-0.3**
FAKI	**Fak Fak** 235nm,1.5s,2μm0.6nm	**6.70**	**135**	P	**Pn**	**10 16 04.3**	**+1.8**
FAKI	**Fak Fak** baz=6.7,SNR=32	**6.70**	**135**	⇑P	**Pn**	**10 16 02.3**	**-0.2**
FAKI	**Fak Fak**	**6.70**	**135**	*e*Pn	**Pn**	**10 16 04.5**	**+1.9**
FAKI				*e*Sn	**Sn**	**10 17 20.5**	**+3.0**
TOLI	**Toli-Toli** 707nm,0.6s	**6.77**	**264**	*e*Pn	**Pn**	**10 16 01.4**	**-2.0**
TOLI				*e*Sn	**Sn**	**10 17 18.6**	**-0.5**
BNDI	**Bandanaira** 585nm,1.5s,9μm2.8nm	**6.78**	**159**	P	Pn	10 16 07.5	+4.0
PAGZ	**Pagadian**	**7.23**	**325**	*e*P	Pn	10 16 06.4	-3.4
BUTP	**Butuan**	**7.30**	**345**	*e*P	**Pn**	**10 16 10.5**	**-0.2**
ZMPH	**Zamboanga City**	**7.43**	**313**	⇓*i*P	**Pn**	**10 16 09.2**	**-3.1**
IPIL	**Ipil**	**7.68**	**320**	*e*P	**Pn**	**10 16 13.0**	**-2.8**
MPSI	**Mapaga** 100nm,0.7s,1μm0.7nm	**7.78**	**259**	P	**Pn**	**10 16 17.6**	**+0.5**
MSLP	**Maasin**	**8.63**	**342**	*e*P	Pn	10 16 22.6	-6.0
PALU	**Palau** baz=8.8,SNR=4.6	**8.80**	**52**	⇓P	**Pn**	**10 16 29.8**	**-1.3**
PALU	baz=8.8,SNR=5.2			S	**Sn**	**10 18 09.7**	**+1.2**
BAKI	**Biak** 1μm,1.3s,13μm	**9.10**	**109**	P	Pn	10 16 40.1	+5.0
TTSI	**Tana Toraja** 387nm,0.7s,3μm	**9.12**	**238**	P	**Pn**	**10 16 33.6**	**-1.7**
SRPI	**Serui, Papua** 258nm,0.9s	**9.47**	**113**	P	Pn	10 16 46.0	+5.9
MYLDM	**Lahad Datu**	**9.59**	**290**	⇓P	**Pn**	**10 16 42.2**	**+0.5**
MYLDM	**Lahad Datu**	**9.59**	**290**	*e*Pn	**Pn**	**10 16 41.4**	**-0.3**
SPSI	**Sidrap Palu** 481nm,0.7s,4μm	**9.68**	**233**	P	**Pn**	**10 16 41.8**	**-1.1**
BNSI	**Bone** 203nm,0.6s,2μm	**9.68**	**230**	P	**Pn**	**10 16 41.9**	**-1.0**
TSM	**Tawau**	**9.94**	**284**	⇓P	**Pn**	**10 16 44.5**	**-1.9**
BKSI	**Bulukumba** 150nm,0.5s,2μm	**10.28**	**226**	P	**Pn**	**10 16 51.6**	**+0.5**
KAPI	**Kappang** 637nm,0.4s,SNR=9.8	**10.35**	**229**	Pn	**Pn**	**10 16 50.4**	**-1.6**
KAPI	**Kappang**	**10.35**	**229**	*e*Pn	**Pn**	**10 16 50.5**	**-1.4**
KAPI				*e*Sn	**Sn**	**10 18 41.0**	**-5.0**
SAUI	**Saumlaki** 688nm,1.2s,6μm	**10.48**	**159**	P	**Pn**	**10 16 56.0**	**+2.2**
SAUI	**Saumlaki**	**10.48**	**159**	*e*Pn	**Pn**	**10 16 54.1**	**+0.2**
SDKM	**Sandakan**	**10.97**	**290**	⇓P	**Pn**	**10 16 58.0**	**-2.4**
CUYO	**Cuyo Island**	**11.02**	**324**	*e*P	**Pn**	**10 16 58.6**	**-2.4**
MMRI	**Maumere**	**11.69**	**207**	P	P	10 17 26.5	+7.8
KDM	**Kudat**	**11.78**	**296**	⇑P	**Pn**	**10 17 13.8**	**+2.6**
SMPI	**Sarmi** 151nm,1.3s,3μm	**11.82**	**109**	P	**P**	**10 17 17.4**	**-2.7**
SOEI	**Soe** 129nm,1.0s,1μm	**11.99**	**196**	P	**P**	**10 17 19.7**	**-2.5**
SOEI	**Soe**	**11.99**	**196**	*e*Pn	**Pn**	**10 17 13.9**	**-0.2**
KKM	**Kota Kinabalu** baz=12,SNR=24	**12.02**	**291**	P	**Pn**	**10 17 13.1**	**-1.4**
KKM	**Kota Kinabalu**	**12.02**	**291**	⇓P	**Pn**	**10 17 12.8**	**-1.7**
KKM	**Kota Kinabalu**	**12.02**	**291**	*e*Pn	**Pn**	**10 17 12.6**	**-1.9**
KKM				*e*Sn	**Sn**	**10 19 24.3**	**-2.6**
BATI	**Baumata** 61nm,0.9s	**12.60**	**198**	P	Pn	10 17 25.2	+3.2
BATI	**Baumata** 6.5nm,0.3s,baz=359,slow=0.3,SNR=9.4	**12.60**	**198**	P	**Pn**	**10 17 22.7**	**+0.7**
GENI	**Genyem** 165nm,1.0s,4μm	**13.39**	**109**	P	**P**	**10 17 37.7**	**-0.1**
BASI	**Baing, Sumba**	**13.86**	**210**	P	P	10 17 46.5	+3.6

baz=20,SNR=7.1
UGM Wanagama 19.55 240 *e*P **P 10 18 47.1 +1.3**
KPJI Karang Pucung 20.68 244 P **P 10 18 58.8 +0.9**
333nm,0.7s
CMJI Cimerak 21.31 243 P **P 10 19 05.8 +1.1**
307nm,0.8s,3μm
DLV T Lat 21.37 299 *e*P **P 10 19 05.7 +0.2**
59nm,0.7s
LEM Lembang 21.67 246 P **P 10 19 11.4 +2.7**
323nm,0.8s,3μm
TWG Pinlang 21.75 344 *e*P **P 10 19 06.3 -3.0**
524nm,0.8s
CISI Cisompet, Garu 21.78 244 P **P 10 19 10.4 +0.7**
252nm,0.8s,2μm
CISI Cisompet, Garu 21.78 244 P **P 10 19 10.5 +0.8**
baz=22,SNR=7.6
CISI Cisompet, Garu 21.78 244 *e*P **P 10 19 09.8 +0.1**
164nm,0.8s
COEN Coen 22.09 136 ⇓P **P 10 19 13.6 +0.7**
baz=22,SNR=14
COEN Coen 22.09 136 *e*P **P 10 19 14.1 +1.2**
CBJI Citeko 22.22 248 P **P 10 19 16.4 +2.1**
619nm,0.8s,27μm
YULB Yu-li 22.23 345 *e*P **P 10 19 11.6 -2.7**
49nm,0.6s
CNJI Cibinong 22.30 246 P **P 10 19 15.1 0.0**
532nm,0.9s,4μm
TPUB Ta-pu 22.33 343 *e*P **P 10 19 13.6 -1.7**
178nm,0.9s
PMG Port Moresby 22.54 120 P **P 10 19 16.8 -0.7**
9.9nm,0.7s,baz=304,slow=11,SNR=4.4
WRAB Tennant Creek 22.68 163 P **P 10 19 18.3 -0.6**
770nm,0.5s
WRAB Tennant Creek 22.68 163*c i*P **P 10 19 18.5 -0.4**
WRAB pmax pmax
comp=Z,398nm,1.2s
WRAB Tennant Creek 22.68 163 *e*P **P 10 19 18.6 -0.2**
comp=Z,226nm,1.3s
WRAB *e*S **S 10 23 19.6 +0.6**
WRA Warramunga Arr 22.68 163 P **P 10 19 18.6 -0.4**
comp=Z,66nm,0.5s,baz=341,slow=11,SNR=235
WRA S **S 10 23 20.1 +1.1**
comp=Z,16nm,1.0s,baz=334,slow=20,SNR=8.1
WRA ScP **ScP 10 26 35.5 0.0**
comp=Z,1.8nm,0.8s,baz=343,slow=3.0,SNR=4.6
WB2 Warramunga Arr 22.69 163 *e*P **P 10 19 18.6 -0.3**
SSLB Suanglung 22.70 344 *e*P **P 10 19 17.3 -1.8**
comp=Z,101nm,0.9s
NACB Ninganchiao 22.91 346 *e*P **P 10 19 21.9 +0.8**
comp=Z,14nm,0.5s
CGJI Cibinong 23.37 249 P **P 10 19 24.9 -0.6**
comp=Z,566nm,0.7s,comp=Z,5μm
YHNB Yeheng 23.43 346 *e*P **P 10 19 25.6 -0.5**
comp=Z,78nm,0.8s
KLI Kotabumi 23.62 253 P P 10 19 34.6 +6.8
comp=Z,78nm,0.8s
MYKOM **Kota Tinggi 23.66 270** ⇓P **P 10 19 28.6 +0.4**
MYKOM **Kota Tinggi 23.66 270** *e*P **P 10 19 28.2 0.0**
MBWA Marble Bar 24.12 198 *e*P **P 10 19 31.5 -0.7**
comp=Z,36nm,0.8s
KASI Kota Agung 24.15 252 P **P 10 19 35.9 +3.4**
comp=Z,85nm,0.8s
MDSI Maura Dua 24.17 255 P **P 10 19 33.9 +1.2**
comp=Z,34nm,0.9s,comp=Z,1μm
KGM Kluang 24.19 271 ⇓P **P 10 19 31.5 -1.5**
LWLI Liwa 24.42 254 P P 10 19 45.2 +10
KTGM Kuala Trenggan 24.58 279 ⇑P **P 10 19 36.6 +0.1**
JOW Kunigami 24.83 2 P **P 10 19 39.5 +0.9**
comp=Z,2.9nm,0.7s,baz=196,slow=8.3,SNR=5.9
JOW Kunigami 24.83 2 *e*P **P 10 19 38.7 +0.1**
comp=Z,27nm,1.3s
XMI Christmas Isla 24.94 240 P **P 10 19 39.7 -0.1**
baz=25,SNR=5.5
XMIS Christmas Isla 24.99 240 P **P 10 19 39.8 -0.5**
baz=25,SNR=16
XMIS Christmas Isla 24.99 240 *e*P **P 10 19 39.6 -0.6**
QIS Mount Isa 25.24 153 ⇓P **P 10 19 42.8 +0.4**
baz=25,SNR=29
UBPT Khong Chiam 25.51 303 P **P 10 19 45.1 +0.2**
comp=Z,56nm,0.8s
FRIM Kepong 25.91 274 ⇓P **P 10 19 48.7 +0.1**
AS31 Alice Springs 26.13 167 *e*P **P 10 19 50.1 -0.4**
ASAR Alice Springs 26.13 167 P **P 10 19 50.3 -0.1**
comp=Z,30nm,0.5s,baz=352,slow=7.6,SNR=738
ASAR PcP **PcP 10 23 14.8 -0.4**
comp=Z,4.7nm,0.6s,baz=349,slow=2.0,SNR=8.1
ASAR S **S 10 24 15.5 +1.5**
comp=Z,2.0nm,0.7s,baz=346,slow=19,SNR=3.9
ASAR ScP **ScP 10 26 45.0 +0.1**
comp=Z,1.7nm,0.7s,baz=316,slow=1.8,SNR=4.5
IPM Ipoh 26.59 276 ⇑P **P 10 19 58.3 +3.6**
IPM Ipoh 26.59 276 *e*P **P 10 19 57.4 +2.7**
comp=Z,7.6nm,0.6s
WRKA Warakurna 26.76 178 P **P 10 19 55.8 -0.2**
baz=27,SNR=56
WRKA P **P 10 19 55.8 -0.2**
baz=27,SNR=21
KULM Kulim 27.03 278 ⇑P **P 10 20 00.7 +2.0**
CTA Charters Tower 28.52 141 P **P 10 20 12.8 +0.9**
comp=Z,5.7nm,0.7s,baz=322,slow=11,SNR=9.1
CTAO Charters Tower 28.52 141 *e*P **P 10 20 12.7 +0.9**
CTAO pmax pmax
comp=Z,5.0nm,0.8s
CTAO Charters Tower 28.52 141 *e*P **P 10 20 12.7 +0.9**
comp=Z,4.9nm,0.8s
PSI Prapat 28.59 272 P **P 10 20 12.2 -0.5**
comp=Z,9.7nm,0.7s,baz=120,slow=3.9,SNR=5.4
CBIJ Chichi jima 28.75 28 P **P 10 20 12.5 -1.3**
JCJ Chichijima 28.75 28 P **P 10 20 12.5 -1.3**
comp=Z,36nm,0.5s,baz=120,slow=20,SNR=6.1
CHAI Chaiyaphum 28.77 300 P **P 10 20 14.5 +0.4**
comp=Z,11nm,0.8s
SURT Suratani 29.44 285 P P 10 20 28.2 +8.2
MEEK Meekatharra 29.62 196 P **P 10 20 21.0 -0.5**
baz=30,SNR=33
PBKT Sadao Pong 29.94 301 P **P 10 20 25.8 +1.4**
comp=Z,17nm,0.7s,comp=Z,912nm
SLVN Son La 30.07 312 *e*P **P 10 20 26.8 +1.2**
LOEI Loei 30.12 303 P **P 10 20 22.9 -3.1**
UTHA Uthaitani 30.85 298 P P 10 20 35.8 +3.4
comp=Z,4.0nm,0.9s,comp=Z,116nm
NJ2 Nanjing 31.12 346 *e*P **P 10 20 35.5 +0.9**
NJ2 pP **pP 10 20 58.5 -0.7**
NJ2 sP **sP 10 21 09.6 -2.5**
NJ2 S **S 10 25 33.5 +1.4**
NJ2 sS **sS 10 26 15.5 +0.5**
NJ2 PMZ
comp=Z,30nm,1.1s
NJ2 PMZ
comp=Z,310nm,11.7s
NJ2 LN
comp=Z,2μm,27.4s
NJ2 LE
comp=Z,3μm,22.4s
NJ2 LZ
comp=Z,3μm,26.6s
WHN Wuhan 31.13 338 P **P 10 20 36.9 +2.1**
WHN PMZ
comp=Z,70nm,1.0s
WHN LZ
comp=Z,5μm,22.4s
JNU Nakatsue 31.25 5 *e*P **P 10 20 35.6 -0.2**
comp=Z,7.5nm,0.9s
SUKH Sukhothai 31.49 301 P **P 10 20 40.2 +2.1**
comp=Z,5.4nm,1.0s
GYA Guiyang 31.61 322 P **P 10 20 41.2 +2.0**
GYA pP **pP 10 21 04.8 +0.9**
GYA sP **sP 10 21 17.4 +0.7**
GYA PP **PnPn 10 21 49.0 +1.5**
GYA S **S 10 25 41.7 +1.3**
GYA sS **sS 10 26 23.2 0.0**
GYA ScP **ScP 10 27 03.0 +0.6**
GYA ScS **ScS 10 31 00.8 +0.1**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.9s
LAMP Lampang 31.96 303 P **P 10 20 44.7 +2.4**
comp=Z,5.2nm,0.8s
PAYA Payao 32.17 305 P P 10 20 49.8 +5.7
comp=Z,4.7nm,1.0s,comp=Z,320nm
FORT Forrest 32.47 179 P **P 10 20 46.4 -0.1**
baz=33,SNR=23
FORT Forrest 32.47 179 *e*P **P 10 20 45.6 -0.8**
comp=Z,152nm,0.9s
CMAR Chiang Mai Arr 32.51 302 P **P 10 20 47.6 +0.5**
comp=Z,6.4nm,0.8s,baz=114,slow=7.1,SNR=28
CMAR PcP **PcP 10 23 31.4 -0.1**
comp=Z,3.0nm,0.9s,baz=154,slow=1.7,SNR=4.7
CMAR ScP **ScP 10 27 07.2 +1.8**
comp=Z,2.2nm,0.8s,baz=163,slow=2.5,SNR=10.0
QLP Quilpie 32.56 151 P **P 10 20 47.6 +0.2**
baz=33,SNR=14
MORW Morawa 32.67 199 ⇓P **P 10 20 47.8 -0.5**
baz=33,SNR=3.1
CMMT Chiang Mai 32.67 303 P **P 10 20 49.6 +1.1**
comp=Z,25nm,1.1s
CHTO Chiang Mai 32.68 303 *e*P **P 10 20 48.5 0.0**
CHTO pmax pmax
comp=Z,15nm,1.0s
CHTO Chiang Mai 32.68 303 P **P 10 20 49.7 +1.2**
comp=Z,85nm,1.1s
CHTO Chiang Mai 32.68 303 *e*P **P 10 20 48.5 0.0**
comp=Z,15nm,1.0s
ENH Enshi 33.03 331 *e*P **P 10 20 52.6 +1.2**
comp=Z,8.3nm,0.8s
CMAI Chiengmai2 33.12 305 P **P 10 20 53.1 +0.5**
comp=Z,16nm,1.1s,comp=Z,665nm
KMI Kunming 33.26 316 P **P 10 20 55.1 +1.4**
KMI pP **pP 10 21 17.4 -1.1**
KMI sP **sP 10 21 33.5 +2.2**
KMI PMZ
comp=Z,16nm,0.9s
BLDU Ballidu 33.91 197 P **P 10 20 58.6 -0.5**
baz=34,SNR=17
KLBR Kellerberrin 34.55 195 ⇓P **P 10 21 03.9 -0.6**
baz=35,SNR=35
RMQ Roma 34.86 145 P **P 10 21 08.0 +0.8**
baz=35,SNR=3.9
KSAR Wonju Array Be 35.40 0 P **P 10 21 12.1 +0.3**
KSAR 10 23 40.4
KSAR Wonju Array Be 35.40 0 P **P 10 21 12.1 +0.3**
KSAR PcP **PcP 10 23 40.4 +1.0**
EIDS Eidsvold 35.41 141 ⇓P **P 10 21 12.6 +0.6**
baz=36,SNR=5.1
EIDS Eidsvold 35.41 141 *e*P **P 10 21 12.2 +0.2**
comp=Z,27nm,1.0s
KSRS Korea Array 35.41 1 P **P 10 21 12.1 +0.3**
comp=Z,1.5nm,0.4s,baz=178,slow=9.7,SNR=7.6
KSRS PcP **PcP 10 23 40.4 +0.9**
comp=Z,3.0nm,0.7s,baz=189,slow=2.6,SNR=7.5
BBOO Buckleboo 35.42 168 ⇑P **P 10 21 11.4 -0.6**
baz=36,SNR=42
BBOO Buckleboo 35.42 168 *e*P **P 10 21 11.7 -0.3**
comp=Z,1μm,0.6s
MAJO Matsushiro 35.89 15 *e*P **P 10 21 15.0 -1.0**
MAJO pmax pmax
comp=Z,11nm,0.7s
MAJO Matsushiro 35.89 15 *e*P **P 10 21 15.0 -1.0**
comp=Z,11nm,0.7s
MAT Matsushiro 35.89 15 P **P 10 21 14.4 -1.6**
MAT *e*S **S 10 26 44.8 -1.1**
MJAR Matsushiro Arr 35.89 15 P **P 10 21 14.6 -1.4**
comp=Z,4.8nm,0.6s,baz=188,slow=9.2,SNR=21
MJAR PcP **PcP 10 23 41.9 +1.0**
comp=Z,5.8nm,1.1s,baz=166,slow=3.3,SNR=5.7
NWAO Narrogin (SRO) 35.95 195 P **P 10 21 16.0 -0.5**
comp=Z,16nm,0.5s,baz=20,slow=7.4,SNR=14
STKA Stephens Creek 36.12 159 P **P 10 21 18.4 +0.4**
comp=Z,76nm,0.8s,baz=331,slow=8.3,SNR=95
STKA Stephens Creek 36.12 159 P **P 10 21 18.5 +0.4**
baz=36,SNR=43
XAN Xi'an 36.42 334 P **P 10 21 20.9 +0.3**
XAN PMZ
comp=Z,9.0nm,0.9s
CD2 Chengdu 36.61 324 P **P 10 21 22.6 +0.4**
CD2 PMZ
comp=Z,30nm,1.1s
HTT Hallett 36.72 164 P **P 10 21 23.8 +0.6**
baz=37,SNR=12
CMSA Cobar Meteorol 37.44 154 ⇓P **P 10 21 29.9 +0.7**
baz=38,SNR=33
BJT Baijiatuau 39.35 346 *e*P **P 10 21 45.7 +0.6**
BJT pmax pmax
comp=Z,71nm,0.9s
BJT Baijiatuau 39.35 346 *e*P **P 10 21 45.7 +0.6**
comp=Z,70nm,0.9s
BJI Beijing 39.37 346 P **P 10 21 45.4 +0.2**
BJI S **S 10 27 41.7 +3.3**
BJI PMZ
comp=Z,43nm,0.8s
BJI PMZ
comp=Z,770nm,6.9s
BJI LN
comp=Z,880nm,26.6s
BJI LE
comp=Z,2μm,25.1s
BJI LZ
comp=Z,2μm,27.3s
ARMA Armidale 39.49 146 ⇑P **P 10 21 47.6 +1.1**
baz=40,SNR=16
LZH Lanzhou 40.50 330 P **P 10 21 56.4 +1.5**
LZH pP **pP 10 22 22.8 +2.5**
LZH sP **sP 10 22 36.4 +3.5**
LZH PP **PP 10 23 32.0 +1.6**
LZH S **S 10 27 58.0 +2.2**
LZH sS sS 10 28 46.4 +6.7
LZH PMZ
comp=Z,52nm,1.0s
LZH PMZ
comp=Z,280nm,6.8s
LZH LN
comp=Z,750nm,14.0s
LZH LE
comp=Z,640nm,13.7s
LZH LZ
comp=Z,910nm,16.2s
ARPS Mount Arapiles 40.68 162 ⇓P **P 10 21 56.9 +0.8**
baz=41,SNR=37
YNG Young 40.98 153 ⇓P **P 10 21 59.6 +1.0**
baz=41,SNR=6.3
HHC Hu-ho-hao-te 41.40 342 *e*P **P 10 22 03.7 +1.6**
HHC pP **pP 10 22 31.1 +3.5**
HHC sP **sP 10 22 43.7 +3.4**
HHC PP **PnPn 10 23 44.4 -1.2**
HHC S **S 10 28 09.8 +0.9**
HHC sS sS 10 28 59.0 +6.1
HHC PMZ
comp=Z,31nm,1.0s
HHC PMZ
comp=Z,210nm,4.6s
H11S3 WAKE ISLAND Hy 41.78 64 T T 11 06 45.3
baz=247,slow=74
CN2 Changchun 41.79 358 *e*P **P 10 22 06.2 +1.1**
CN2 *e*S **S 10 28 18.2 +3.9**
CN2 PMZ
comp=Z,10.0nm,0.9s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,700nm,20.0s
CN2 LE
comp=Z,2μm,20.0s
CN2 LZ
comp=Z,600nm,23.0s
H11S2 WAKE ISLAND Hy 41.80 64 T T 11 06 25.4
baz=247,slow=74
H11S1 WAKE ISLAND Hy 41.80 64 T T 11 06 21.3
baz=247
CAN Canberra 42.10 153 *e*P **P 10 22 09.6 +1.8**
CAN pmax pmax
comp=Z,24nm,0.9s
CAN Canberra 42.10 153 *e*P **P 10 22 09.6 +1.8**
comp=Z,24nm,0.9s
USRK Ussuriysk Ar. 42.34 5 P **P 10 22 10.0 +0.4**
comp=Z,12nm,0.9s,baz=187,slow=7.6,SNR=24
USRK LR LR 10 38 17.8
comp=Z,2μm,21.8s,baz=81,slow=34
H11N1 WAKE ISLAND Hy 42.37 62 T T 11 07 14.8
baz=252
H11N2 WAKE ISLAND Hy 42.38 62 T T 11 07 02.1
baz=252
H11N3 WAKE ISLAND Hy 42.38 62 T T 11 06 34.8
baz=252
MDJ Mudanjiang 42.61 2 P **P 10 22 12.3 +0.6**
MDJ pP **pP 10 22 35.4 -1.9**
MDJ sP **sP 10 22 47.1 -2.8**
MDJ PP **PP 10 23 55.7 +3.0**
MDJ PcS **PcS 10 27 51.4 -2.6**
MDJ S **S 10 28 29.8 +3.6**
MDJ SS **SS 10 31 40.0 -0.6**
MDJ PMZ
comp=Z,15nm,1.0s
MDJ PMZ
comp=Z,250nm,7.5s
MDJ LN
comp=Z,620nm,30.2s
MDJ LE
comp=Z,1μm,26.4s
MDJ LZ
comp=Z,2μm,28.3s
TOO Toolangi 42.63 159 ⇑P **P 10 22 13.2 +1.2**
baz=43,SNR=14
ASAJ Asahikawa 44.14 16 P **P 10 22 24.7 +0.7**
comp=Z,5.4nm,0.7s,baz=198,slow=10,SNR=6.4
LSA Lhasa 44.27 312 *e*P **P 10 22 27.1 +1.2**
LSA pmax pmax
comp=Z,14nm,0.7s
LSA Lhasa 44.27 312 *e*P **P 10 22 27.1 +1.2**
comp=Z,14nm,0.7s
GTA Gaotai 45.09 329 ⇑P **P 10 22 32.9 +1.0**
GTA pP **pP 10 23 00.2 +2.5**
GTA PcP **PcP 10 24 11.9 +1.1**
GTA ScP **ScP 10 27 54.2 +0.9**
GTA S **S 10 29 02.5 -0.4**
GTA sS sS 10 29 52.4 +5.0
GTA ScS **ScS 10 32 17.7 -0.2**
GTA PMZ
comp=Z,11nm,1.1s
GTA PMZ
comp=Z,300nm,5.7s
GTA LN
comp=Z,380nm,18.0s
GTA LE
comp=Z,220nm,17.3s
GTA LZ
comp=Z,540nm,17.6s
TAPN Taplejung 45.76 307 *e*P **P 10 22 37.9 +0.4**
ODAN Odare 45.80 307 *e*P **P 10 22 38.5 +0.7**
RAMN Ramite 46.48 306 *e*P **P 10 22 44.0 +0.9**
comp=Z,35nm,0.6s
JIRN Jiri 47.11 307 *e*P **P 10 22 48.5 +0.3**
comp=Z,48nm,0.7s
KLR Kul'dur 47.32 4 *e*P P 10 22 45.2 -3.8
GUN Gumba 47.47 307 *e*P **P 10 22 51.2 +0.3**
comp=Z,65nm,0.7s
PKI Pulchoki 47.70 306 *e*P **P 10 22 52.8 +0.1**
PKIN Phulchoki 47.71 306 *e*P **P 10 22 53.4 +0.7**
KKN Kakani 47.89 307 *e*P **P 10 22 54.6 +0.5**
comp=Z,27nm,0.7s
DMN Daman 47.96 306 *e*P **P 10 22 55.1 +0.5**
comp=Z,38nm,0.9s
GKN Gorkha 48.50 307 *e*P **P 10 22 58.6 0.0**
comp=Z,39nm,0.8s
ULN Ulaanbaatar 49.12 342*c i*P **P 10 23 03.9 +0.8**
ULN pmax pmax
comp=Z,31nm,1.7s
ULN Ulaanbaatar 49.12 342 *e*P **P 10 23 03.7 +0.7**
comp=Z,26nm,0.8s
KOLN Koldanda 49.24 306 *e*P **P 10 23 05.3 +0.9**
comp=Z,102nm,0.9s
SONM Songino Array 49.30 341 P **P 10 23 04.9 +0.5**
comp=Z,3.4nm,0.6s,baz=155,slow=7.6,SNR=25
SONM ScP **ScP 10 28 10.7 -0.1**
comp=Z,1.7nm,1.1s,baz=160,slow=4.7,SNR=4.5
DANN Dangsing 49.35 307 *e*P **P 10 23 05.6 +0.3**
comp=Z,85nm,0.7s
PYUN Piuthan 49.87 306 *e*P **P 10 23 10.2 +1.1**
comp=Z,71nm,0.8s
HYB Hyderabad 50.51 291 *i*P **P 10 23 12.5 -1.4**
ZAK Zakamensk 52.53 341 *e*P **P 10 23 29.0 +0.5**
ZAK *e* 10 23 58.0
ZAK *e* 10 24 37.0
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 53.53 342 P **P 10 23 36.8 +1.1**
comp=Z,3.8nm,0.6s,baz=184,slow=10.0,SNR=3.7
MOY Mondy 54.39 340 *e*P **P 10 23 43.0 +0.9**
WMQ Urumqi 54.70 325 P **P 10 23 45.4 +1.0**
WMQ pP **pP 10 24 10.9 -0.2**
WMQ PcP **PcP 10 24 46.0 +0.2**
WMQ PP **PP 10 25 51.7 +3.6**
WMQ S **S 10 31 14.6 -1.6**
WMQ ScS **ScS 10 33 20.0 -2.9**
WMQ PMZ
comp=Z,40nm,1.0s
WMQ LN
comp=Z,4μm,22.0s
WMQ LE
comp=Z,2μm,22.0s
WMQ LZ
comp=Z,4μm,21.0s
HVS Khovu-Aksy 56.75 335*c i*P **P 10 23 59.7 +0.8**
HVS pmax pmax
comp=Z,80nm,0.9s
BOD Bodaibo 56.81 351 *e*P **P 10 23 58.6 -0.5**
BOD pmax pmax
comp=Z,10.0nm,1.2s
PETK Petropavlovsk- 56.85 21 P **P 10 24 00.1 +0.6**
comp=Z,16nm,1.0s,baz=222,slow=2.0,SNR=9.2
PET Petropavlovsk 57.14 22 *i*P **P 10 24 00.8 -0.7**
MKAR Makanchi Array 59.53 326 P **P 10 24 18.9 +0.6**
comp=Z,32nm,0.7s,baz=120,slow=8.5,SNR=202
MKAR S **S 10 32 20.2 +0.8**
comp=Z,0.8nm,0.9s,baz=118,slow=15,SNR=5.0
KSH Kashi 59.92 316 ⇑*i*P **P 10 24 22.8 +1.5**
KSH sP **sP 10 25 02.8 +2.2**
KSH PP **PP 10 26 38.5 +3.8**
KSH S **S 10 32 23.0 -1.9**
KSH sS **sS 10 33 10.0 -1.5**
KSH PMZ
comp=Z,11nm,0.8s
KSH PMZ
comp=Z,110nm,4.8s
KSH LN
comp=Z,420nm,12.9s
KSH LE
comp=Z,290nm,10.5s
KSH LZ
comp=Z,1μm,19.7s
YAK Yakutsk 60.04 1 *e*P **P 10 24 20.9 -0.5**
YAK *e**PP **pP 10 24 44.8 -3.7**
YAK *e* 10 25 04.7
YAK *e*S **S 10 32 25.1 -0.2**
YAK *e* 10 34 00.2
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,48nm,0.9s
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=N,87nm,3.4s
YAK pmax pmax
comp=E,157nm,6.4s
YAK pmax pmax
comp=Z,207nm,6.6s
YAK smax smax
comp=E,52nm,3.0s
YAK smax smax
comp=N,249nm,5.5s
YAK Yakutsk 60.04 1 *e*P **P 10 24 21.3 -0.1**
comp=N,53nm,0.9s
KZA Kyzart 61.52 318 P **P 10 24 33.8 +1.4**
SNR=17
KZA Kyzart 61.52 318 *i*P **P 10 24 33.8 +1.4**
TKM2 Tokmak 2 61.66 319 P **P 10 24 33.8 +0.6**
SNR=24
TKM2 Tokmak 2 61.66 319 *e*P **P 10 24 33.7 +0.6**
TKM2 pmax pmax
comp=Z,14nm,0.7s
TKM2 Tokmak 2 61.66 319 *e*P **P 10 24 33.6 +0.5**
comp=Z,14nm,0.7s
UCH Uchtor 62.08 318 P **P 10 24 37.5 +1.3**
SNR=17
UCH Uchtor 62.08 318 *i*P **P 10 24 37.5 +1.3**
AAK Ala-Archa 62.26 318 P **P 10 24 37.9 +0.8**
comp=Z,42nm,0.8s,SNR=5.4
AAK Ala-Archa 62.26 318 P **P 10 24 37.8 +0.8**
AAK pmax pmax
comp=Z,16nm,1.3s
AAK Ala-Archa 62.26 318 P **P 10 24 37.9 +0.8**
comp=Z,4.1nm,0.8s,baz=115,slow=5.6,SNR=11
USP Ospenovka 62.53 319 P **P 10 24 39.4 +0.6**
SNR=22
USP Ospenovka 62.53 319 *i*P **P 10 24 39.3 +0.6**
AML Almayashu 62.59 317 P **P 10 24 40.6 +1.1**
SNR=24
AML Almayashu 62.59 317 *i*P **P 10 24 40.6 +1.1**

ZALV	Zalesovo Beam	62.60	333	P	P	10 24 37.8	-1.1
	comp=Z,2.0nm,0.5s,baz=110,slow=6.5,SNR=16						
EKS2	Erkin-Say	62.75	318	P	P	10 24 41.1	+0.8
	SNR=18						
EKS2	Erkin-Say	62.75	318	eP	P	10 24 41.0	+0.7
EKS2				pmax	pmax		
	comp=Z,13nm,0.8s						
EKS2	Erkin-Say	62.75	318	eP	P	10 24 41.0	+0.7
	comp=Z,13nm,0.8s						
KBL	Kabul	63.28	308	eP	P	10 24 44.3	+0.2
KBL				pmax	pmax		
	comp=Z,12nm,0.6s						
KBL	Kabul	63.28	308	P	P	10 24 44.3	+0.2
	baz=63,SNR=3.5						
KBL	Kabul	63.28	308	eP	P	10 24 44.3	+0.2
	comp=Z,12nm,0.6s						
FX1	Attu Island--F	63.30	29	P	P	10 24 44.6	+1.1
	comp=Z,22nm,0.7s,baz=276,slow=5.0,SNR=5.5						
SEY	Seymchan	63.66	12	P	P	10 24 47.1	+1.5
	comp=Z,14nm,0.8s,baz=213,slow=6.0,SNR=60						
KURK	Kurchatov	63.73	328	P	P	10 24 46.5	+0.1
	comp=Z,182nm,0.8s,SNR=32						
KURK	Kurchatov	63.73	328	eP	P	10 24 46.3	-0.1
KURK				pmax	pmax		
	comp=Z,21nm,0.8s						
KURK	Kurchatov	63.73	328	eP	P	10 24 46.3	-0.1
	comp=Z,21nm,0.8s						
NVS	Novosibirsk	63.88	333	eP	P	10 24 45.5	-1.8
NVS				e*PP	pP	10 25 12.9	-1.8
NVS				eS	S	10 33 10.8	-3.1
NVS				pmax	pmax		
	comp=Z,11nm,0.8s						
NVS				pmax	pmax		
	comp=N,4.0nm,0.8s						
NVS				smax	smax		
	comp=E,16nm,1.7s						
KK31	Karatay Array	65.13	317	P	P	10 24 55.1	-0.6
KK31				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KKAR	Karatay Array	65.13	317	eP	P	10 24 55.6	-0.1
KKAR				pmax	pmax		
	comp=Z,15nm,0.9s						
KKAR	Karatay Array	65.13	317	eP	P	10 24 55.6	-0.1
	comp=Z,15nm,0.9s						
VOSK	Vostochnaya	68.85	327	i P	P	10 25 17.7	-1.4
VOSK				pmax	pmax		
	comp=Z,11nm,0.6s						
BVA0	Borovoye Array	69.30	327	i P	P	10 25 21.5	-0.4
BVA0				pmax	pmax		
	comp=Z,27nm,1.4s						
BVAR	Borovoye Array	69.30	327	P	P	10 25 21.7	-0.2
	comp=Z,8.9nm,0.7s,baz=133,slow=8.3,SNR=47						
BRVK	Borovoye	69.38	327	P	P	10 25 22.5	+0.2
	comp=Z,137nm,1.2s,SNR=8.7						
BRVK	Borovoye	69.38	327⇑	i P	P	10 25 22.3	0.0
BRVK				pmax	pmax		
	comp=Z,20nm,0.8s						
BRVK	Borovoye	69.38	327	eP	P	10 25 22.1	-0.2
	comp=Z,27nm,0.8s						
TIXI	Tiksi	69.68	0⇑	i P	P	10 25 23.8	0.0
TIXI				pmax	pmax		
	comp=Z,15nm,2.5s						
TIXI	Tiksi	69.68	0	eP	P	10 25 23.1	-0.7
	comp=Z,6.4nm,0.8s						
BILL	Bilibino	71.14	14⇑	eP	P	10 25 32.5	-0.3
BILL				i *PP	pP	10 25 57.3	-3.4
BILL				e		10 28 15.2	
BILL				eS	S	10 34 34.6	-5.8
BILL				pmax	pmax		
	comp=Z,10.0nm,1.5s						
BILL	Bilibino	71.14	14	eP	P	10 25 32.7	0.0
	comp=Z,2.1nm,0.6s						
GEYT	Alibeck	72.67	309	P	P	10 25 43.2	+0.6
	comp=Z,13nm,0.8s,baz=140,slow=3.3,SNR=22						
AB31	Akbulak array	74.09	321	P	P	10 25 50.0	-0.6
AB31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AKTO	Aktyubinsk	75.60	322	P	P	10 25 59.0	-0.3
AKTO	Aktyubinsk	75.60	322	P	P	10 25 59.0	-0.3
	comp=Z,15nm,0.8s,baz=98,slow=6.8,SNR=42						
GAMB	Gambell	75.77	24	eP	P	10 26 00.9	+1.0
	comp=Z,16nm,1.0s						
ARU	Arti	76.92	328	c iP	P	10 26 05.6	-1.0
ARU				*PP	pP	10 26 34.7	-0.2
ARU						10 28 55.4	
ARU				S	S	10 35 46.1	+0.6
ARU				SS	SS	10 40 44.1	-0.3
ARU				pmax	pmax		
	comp=Z,25nm,1.0s						
ARU	Arti	76.92	328	eP	P	10 26 05.6	-1.0
	comp=Z,26nm,1.0s						
VNDA	Vanda	81.49	173	eP	P	10 26 31.1	+0.1
VNDA				pmax	pmax		
	comp=Z,19nm,0.8s						
VNDA	Vanda	81.49	173	P	P	10 26 31.2	+0.2
	comp=Z,21nm,0.7s,baz=317,slow=6.3,SNR=69						
VNDA				LR	LR	11 03 23.0	
	comp=Z,472nm,18.8s,baz=144,slow=36						
VNDA	Vanda	81.49	173	eP	P	10 26 31.1	+0.1
	comp=Z,19nm,0.8s						
RAYN	Ar Rayn	81.94	293	P	P	10 26 34.3	-0.4
	comp=Z,115nm,1.0s,SNR=10						
RAYN	Ar Rayn	81.94	293	eP	P	10 26 34.2	-0.4
	comp=Z,32nm,1.0s						
KDAK	Kodiak Island	83.03	32	i P	P	10 26 40.9	+1.5
PRGR	Permogore	84.51	332	eP	P	10 26 45.1	-1.8
PRGR				pmax	pmax		
	comp=Z,17nm,1.0s						
KBZ	Khabaz	84.83	314	P	P	10 26 48.7	-0.2
	comp=Z,6.2nm,1.1s,baz=72,slow=2.9,SNR=6.5						
COLD	Coldfoot	85.29	23	eP	P	10 26 51.5	+0.7
	comp=Z,6.1nm,0.9s						
VRHR	Novokhopersk	85.98	321	eP	P	10 26 52.9	-1.5
VRHR				pmax	pmax		
	comp=N,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=Z,30nm,0.7s						
VRHR				pmax	pmax		
	comp=E,30nm,1.5s						
ILAR	Eielson Array	86.43	25	P	P	10 26 55.0	-1.4
	comp=E,1.3nm,0.8s,baz=253,slow=3.9,SNR=14						
ILAR				PP	PP	10 30 16.6	-2.6
	comp=E,1.1nm,1.1s,baz=241,slow=4.5,SNR=4.0						
KLMR	Klimovskoe	87.41	331	eP	P	10 26 57.1	-4.1
KLMR				pmax	pmax		
	comp=Z,17nm,1.2s						
VORD	Divnogorie	87.44	321	eP	P	10 27 00.0	-1.6
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,40nm,0.6s						
VSR	Storozhevoye	87.53	321	eP	P	10 26 59.7	-2.3
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=N,6.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
OBN	Obninsk	89.03	325⇓	i P	P	10 27 08.0	-1.0
OBN				pmax	pmax		
	comp=Z,31nm,1.7s						
OBN				MLR	MLR		
	comp=Z,883nm,18.0s						
OBN	Obninsk	89.03	325	P	P	10 27 07.9	-1.0
	comp=Z,18nm,0.4s,baz=173,slow=9.6,SNR=4.4						
ASF	Jabal al Asfar	89.55	302	P	P	10 27 12.2	+0.1
	comp=Z,2.2nm,0.7s,baz=278,slow=0.8,SNR=6.1						
KMBO	Kilima Mbogo	90.31	269	ceP	P	10 27 17.1	+0.9
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KMBO	Kilima Mbogo	90.31	269	P	P	10 27 16.5	+0.3
	comp=Z,5.4nm,0.9s,baz=69,slow=5.9,SNR=15						
KMBO	Kilima Mbogo	90.31	269	eP	P	10 27 16.6	+0.4
MMAI	Mount Meron Ar	90.78	303	P	P	10 27 18.1	+0.3
	comp=Z,0.6nm,0.3s,baz=51,slow=6.6,SNR=5.0						
QSPA	South Pole Qui	91.79	180	P	P	10 27 21.7	-0.1
	comp=Z,4.5nm,0.7s,baz=166,slow=0.3,SNR=22						
QSPA	South Pole Qui	91.79	180	eP	P	10 27 20.8	-1.0
	comp=Z,6.2nm,0.9s						
BRTR	Keskin Array B	91.81	310	P	P	10 27 20.9	-1.7
	comp=Z,1.7nm,0.9s,baz=120,slow=6.1,SNR=8.1						
SPITS	Spitsbergen Ar	92.45	349	P	P	10 27 23.5	-1.0
	comp=Z,12nm,0.8s,baz=101,slow=8.6,SNR=8.8						
ARCES	ARCESS Array B	92.46	340	P	P	10 27 23.2	-1.5
	comp=Z,9.0nm,0.8s,baz=46,slow=6.9,SNR=11						
MLR	Muntele Rosu	96.78	316	P	P	10 27 44.7	-0.5
	comp=Z,1.1nm,0.8s,baz=193,slow=2.7,SNR=4.8						
DAG	Danmarks Havn	99.19	353⇑	iP	Pdif	10 27 54.0	-1.1
DAG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
DAG	Danmarks Havn	99.19	353⇑	iP	Pdif	10 27 54.0	-1.1
	comp=Z,7.2nm,0.9s						
NOA	NORSAR Array B	100.80	334	P	Pdif	10 28 00.5	-2.1
	comp=Z,1.7nm,0.8s,baz=67,slow=4.6,SNR=3.6						
YKA	Yellowknife Ar	100.85	25	P	Pdif	10 28 02.8	+0.1
	comp=Z,0.8nm,0.9s,baz=297,slow=4.9,SNR=11						
YKA				PKiKP	PKiKP	10 32 27.7	-0.1
	comp=Z,0.2nm,0.7s,baz=304,slow=1.7,SNR=4.0						
YKA				PKKPbc	PKKPbc	10 44 14.4	-3.4
	comp=Z,0.4nm,0.6s,baz=111,slow=2.4,SNR=8.3						
NVAR	Mina Array Bea	107.54	49	PP	PP	10 33 03.9	+1.6
	comp=Z,0.5nm,0.9s,baz=284,slow=7.3,SNR=3.8						
NVAR				PKKPbc	PKKPbc	10 43 56.9	-0.3
	comp=Z,0.8nm,0.7s,baz=136,slow=4.7,SNR=7.6						
PDAR	Pinedale Array	112.21	42	PKKPbc	PKKPbc	10 43 40.7	-1.6
	comp=Z,1.5nm,0.8s,baz=116,slow=5.2,SNR=8.6						
B28A	Dugan Ranch, T	114.96	33	P	PKPdf	10 32 55.1	+0.4
	baz=115						
B29A	Wagenman Farm,	115.50	33	P	PKPdf	10 32 55.9	+0.2
	baz=115						
G27A	Dupree	115.78	36	P	PKPdf	10 32 56.3	-0.1
	baz=116						
H27A	Howes	116.09	37	P	PKPdf	10 32 56.8	-0.2
	baz=116						
ULM	Lac du Bonnet	116.19	29	PKP	PKPdf	10 32 56.2	-0.7
	comp=Z,2.3nm,1.0s,baz=331,slow=5.6,SNR=3.6						
ULM				PKKPbc	PKKPab	10 43 32.3	-0.3
	comp=Z,0.8nm,0.4s,baz=207,slow=0.8,SNR=3.2						
C30A	Mose, Pekin	116.42	33	P	PKPdf	10 32 57.5	0.0
	baz=116						
D30A	Buchanan	116.62	34	P	PKPdf	10 32 58.2	+0.3
	baz=116						
H28A	Mission Ridge	116.70	37	P	PKPdf	10 32 58.0	-0.1
	baz=117						
U22A	Llaves	116.78	47	P	PKPdf	10 32 59.6	+0.8
	baz=117						
E30A	Jud	116.90	34	P	PKPdf	10 32 58.3	-0.1
	baz=117						
I28A	Midland	116.98	37	P	PKPdf	10 32 58.6	-0.1
	baz=117						
P26A	Davis Ranch, A	117.84	43	P	PKPdf	10 33 01.0	+0.3
	baz=118						
Z22A	Elephant Butte	117.95	51	P	PKPdf	10 33 01.5	+0.5
	baz=118						
W24A	Lazy 6 Ranch,	118.34	48	P	PKPdf	10 33 02.3	+0.5
	baz=118						
V25A	Rancho No Teng	118.65	47	P	PKPdf	10 33 02.6	+0.2
	baz=119						
T26A	Comanche Natio	118.79	45	P	PKPdf	10 33 02.8	+0.2
	baz=119						
Y24A	Capitan	118.85	49	P	PKPdf	10 33 02.9	+0.1
	baz=119						
Z24A	Sheeppen Canyo	119.15	50	P	PKPdf	10 33 03.3	-0.1
	baz=119						
Y25A	Mesa, Roswell	119.42	49	P	PKPdf	10 33 04.0	+0.2
	baz=119						
Z25A	Roswell	119.67	50	P	PKPdf	10 33 04.1	-0.1
	baz=120						
U27A	Thompson Grove	119.69	46	P	PKPdf	10 33 04.4	+0.2
	baz=120						
X26A	CR and CF Fran	119.81	48	P	PKPdf	10 33 04.5	-0.1
	baz=120						
ECSD	EROS Data Cent	119.84	36	P	PKPdf	10 33 03.9	-0.2
	baz=120						
MSTX	Muleshoe	120.83	48	P	PKPdf	10 33 06.7	+0.2
	baz=121						
P32A	Huiting Farm,	120.96	40	P	PKPdf	10 33 06.4	-0.1
	baz=121						
SPMN	Marine on St.	121.03	32	P	PKPdf	10 33 06.6	+0.3
	baz=121						
Y29A	Porterfield Fa	121.70	48	P	PKPdf	10 33 07.6	-0.6
	baz=122						
Z29A	Hungry Hill Ra	121.95	48	P	PKPdf	10 33 09.1	+0.5
	baz=122						
X30A	Coker Ranch, T	122.02	47	P	PKPdf	10 33 09.0	+0.4
	baz=122						
TXAR	Lajitas Array	122.08	53	PKP	PKPdf	10 33 09.3	+0.3
	comp=Z,0.8nm,0.7s,baz=220,slow=1.0,SNR=13						
W31A	Holland Ranch,	122.33	46	P	PKPdf	10 33 09.6	+0.4
	baz=122						
329A	Wagon Wheel Ra	122.52	50	P	PKPdf	10 33 10.4	+0.6
	baz=122						
X31A	McDonald Ranch	122.58	46	P	PKPdf	10 33 10.1	+0.4
	baz=122						
529A	Stev Forest Ra	122.91	52	P	PKPdf	10 33 10.9	+0.4
	baz=123						
429A	Davenport Ranc	122.96	51	P	PKPdf	10 33 11.0	+0.4
	baz=123						
430A	Baggett Ranch,	123.40	51	P	PKPdf	10 33 11.6	+0.2
	baz=123						
Z32A	Haskell	123.58	47	P	PKPdf	10 33 12.0	+0.3
	baz=124						
530A	J-C Ranch, Com	123.59	52	P	PKPdf	10 33 12.7	+0.9
	baz=124						
X33A	Lawton	123.68	46	P	PKPdf	10 33 12.4	+0.6
	baz=124						
331A	San Angelo	123.79	50	P	PKPdf	10 33 12.4	+0.2
	baz=124						
431A	Sonora	123.93	51	P	PKPdf	10 33 12.9	+0.5
	baz=124						
Z33A	Whitaker Ranch	124.11	47	P	PKPdf	10 33 13.1	+0.4
	baz=124						
X34A	Smith Ranch, M	124.13	45	P	PKPdf	10 33 13.5	+0.8
	baz=124						
531A	Rocksprings	124.21	51	P	PKPdf	10 33 13.7	+0.7
	baz=124						
TORD	Torodi Ar. Bea	124.24	287	PKP	PKPdf	10 33 12.8	-0.5
	comp=Z,8.1nm,0.8s,baz=59,slow=2.0,SNR=42						
TORD				PP	PP	10 35 00.7	+0.9
	comp=Z,1.1nm,0.8s,baz=57,slow=6.4,SNR=3.8						
TORD				PKKPbc	PKKPab	10 42 58.4	+0.5
	comp=Z,1.0nm,0.7s,baz=267,slow=3.2,SNR=4.8						
332A	Millersview	124.28	49	P	PKPdf	10 33 13.5	+0.4
	baz=124						
Y34A	Reagan Ranch,	124.51	46	P	PKPdf	10 33 14.1	+0.7
	baz=124						
JCT	Junction City	124.64	50	ePKIKP	PKPdf	10 33 14.1	+0.3
JCT	Junction City	124.64	50	P	PKPdf	10 33 14.2	+0.3
	baz=125						
JCT	Junction City	124.64	50	ePKPdf	PKPdf	10 33 14.1	+0.3
532A	Rocksprings	124.72	51	P	PKPdf	10 33 14.2	+0.2
	baz=125						
333A	Richland Sprin	124.88	49	P	PKPdf	10 33 14.4	+0.2
	baz=125						
433A	Art	125.06	50	P	PKPdf	10 33 14.8	+0.2
	baz=125						
632A	Uvalde	125.09	52	P	PKPdf	10 33 14.9	+0.3
	baz=125						
234A	Clairette	125.19	48	P	PKPdf	10 33 15.4	+0.6
	baz=125						
732A	Laxson Ranch,	125.28	52	P	PKPdf	10 33 15.7	+0.7
	baz=125						
832A	Faith Ranch, C	125.47	53	P	PKPdf	10 33 16.2	+0.9
	baz=125						
434A	Burnet	125.66	49	P	PKPdf	10 33 15.8	+0.1
	baz=126						
534A	Blanco	125.87	50	P	PKPdf	10 33 16.4	+0.3
	baz=126						
833A	Chaparral WMA,	125.91	53	P	PKPdf	10 33 16.4	+0.1
	baz=126						
335A	Moody	126.07	48	P	PKPdf	10 33 16.4	-0.1
	baz=126						
KIC	Kosan Boka	131.65	280	ePKP2	SKPab	10 36 43.5	-0.4
	comp=Z,41nm,1.0s						
DBIC	Dimbokro	131.72	281	PKP	PKPdf	10 33 27.3	-0.4
	comp=Z,2.7nm,0.5s,baz=5.8,slow=3.0,SNR=5.3						
DBIC				SKPbc	SKPbc	10 36 43.7	+0.3
	comp=Z,17nm,0.9s,baz=82,slow=4.4,SNR=14						
TIC	Toumodi	131.88	281	ePKP2	SKPab	10 36 44.0	-1.0
	comp=Z,4.4nm,0.2s						
LIC	Lamto	131.95	280	ePKP2	SKPab	10 36 44.6	-0.6
	comp=Z,38nm,1.1s						
JTS	JuntasAbangare	145.49	69	PKPbc	PKPab	10 33 53.5	+0.1
	comp=Z,2.0nm,0.3s,baz=328,slow=5.6,SNR=5.8						
CPUP	Villa Florida	155.23	170	PKPbc	PKPdf	10 34 16.8	+9.2
	comp=Z,1.8nm,0.5s,baz=175,slow=3.1,SNR=4.6						
LPAZ	La Paz	158.95	134	PKPab	PKPab	10 34 51.0	+1.2
	comp=Z,4.1nm,0.9s,baz=229,slow=1.6,SNR=4.0						
SDV	Santo Domingo	158.98	59	ePKPdf	PKPdf	10 34 12.9	+0.1
SIV	San Ignacio	163.61	149	PKPab	PKPab	10 35 09.2	-0.2
	comp=Z,5.0nm,0.8s,baz=201,slow=4.1,SNR=6.4						
BDFB	Brasilia	165.63	198	PKP	PKPdf	10 34 19.8	+0.5
	comp=Z,4.7nm,1.0s,baz=150,slow=4.3,SNR=3.7						

ISCJB ***05*** *10:19:43.7±1.0, 17°.43S±0°.2×174°.4W±0°.2, h139km, mb3.7/6, Error ellipse: s-maj=37.0km s-min=22.5km az=31.5*
IDC ***05*** *10:19:48.3±15.0, 17°.43S×174°.36W, h170km±142km, mb3.5/6, mb1 3.8/6, mb1mx3.4/45, mbtmp4.0/6, Error ellipse: s-maj=36.4km s-min=29.8km az=26.0*
ISC 05 10:19:44.9±1.1, 17°.45±0°.2×174°.4W±0°.3, h139km, n6, σ0°.44/6, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	Urewera	22.11	198	P	P	P	10 24 29.5	+0.4
	2.1nm,0.4s,baz=34,slow=7.3,SNR=6.5							
WRA	Warramunga Arr	48.53	259	P	P	P	10 28 13.9	-0.4
	0.8nm,0.5s,baz=96,slow=6.9,SNR=13							
ASAR	Alice Springs	48.65	254	P	P	P	10 28 15.6	+0.4
	3.9nm,0.5s,baz=88,slow=9.4,SNR=42							
VNDA	Vanda	61.33	186	P	P	P	10 29 45.0	-0.4
	0.6nm,0.4s,baz=16,slow=5.0,SNR=4.6							
PDAR	Pinedale Array	84.34	42	P	P	P	10 32 01.8	+0.1
	0.7nm,0.7s,baz=224,slow=3.5,SNR=5.8							
ILAR	Eielson Array	84.55	11	P	P	P	10 32 02.1	+0.1
	0.4nm,0.9s,baz=226,slow=5.9,SNR=4.2							

IDC ***05*** *10:28:18.9±0.7, 36°.65S×73°.40W, h0km, mb4.0/9, mb1 4.1/12, mb1mx4.0/29, mbtmp4.0/12, ML4.2/3, Error ellipse: s-maj=26.8km s-min=19.4km az=91.0*
ISCJB ***05*** *10:28:21.8±0.5, 36°.62S±0°.07×73°.32W±0°.08, h27km, mb4.3/19, Error ellipse: s-maj=10.1km s-min=9.0km az=135.4*
NEIC ***05*** *10:28:24.2±0.3, 36°.67S×73°.27W, h35km, mb4.4/13, Error ellipse: s-maj=9.7km s-min=7.5km az=223.0*
ISC 05 10:28:23.2±0.6, 36°.67S±0°.09×73°.3W±0°.1, h27km, n39, σ0°.65/45, mb4.4/19, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.60	153	Pn	Pn	Pn	10 29 32.3	+1.3
	2.0nm,0.3s,baz=328,slow=12,SNR=12							
PLCA				Lg	Lg	Lg	10 30 42.2	
	3.0nm,0.3s,baz=49,slow=20,SNR=2.7							
CFAA	Coronel Fontan	6.57	41	Pn	Pn	Pn	10 29 58.2	+0.1
	1.4nm,0.3s,baz=200,slow=6.1,SNR=25							
CFAA				Sn	Sn	Sn	10 31 13.6	+1.5
	0.6nm,0.3s,baz=276,slow=10,SNR=2.7							
TRQA	Tornquist	9.13	102	ePn	Pn	Pn	10 30 32.0	-1.1
TRQA				eSn	Sn	Sn	10 32 21.8	+6.8
CPUP	Villa Florida	17.06	57	P	Pn	Pn	10 32 20.3	+0.5
	0.5nm,0.3s,baz=218,slow=13,SNR=3.7							
CPUP	Villa Florida	17.06	57	eP	P	P	10 32 20.8	-0.6
LPAZ	La Paz	20.81	14	P	P	P	10 33 02.5	-0.7
	1.4nm,0.5s,baz=190,slow=5.6,SNR=5.1							
LPAZ	La Paz	20.81	14	eP	P	P	10 33 03.4	+0.2
	3.9nm,0.8s							
SIV	San Ignacio	23.29	31	P	P	P	10 33 28.4	-0.5
	1.1nm,0.4s,baz=246,slow=13,SNR=6.0							
QSPA	South Pole Qui	53.58	180	P	P	P	10 37 41.8	+0.2
	3.0nm,1.0s,baz=127,slow=2.3,SNR=12							
JCT	Junction City	71.27	336	eP	P	P	10 39 40.4	+0.4
TXAR	Lajitas Array	71.58	332	P	P	P	10 39 42.2	+0.3
	1.2nm,0.8s,baz=151,slow=8.5,SNR=15							
SWET	Sewanee	72.47	349	eP	P	P	10 39 47.2	+0.1
	7.8nm,0.7s							
WVT	Waverly	73.67	348	eP	P	P	10 39 53.6	-0.6
	4.0nm,0.8s							
TUL1	Leonard	75.17	341	eP	P	P	10 40 02.1	-0.8
	2.9nm,0.6s							
DBIC	Dimbokro	77.01	71	P	P	P	10 40 14.7	+0.8
	2.7nm,0.6s,baz=230,slow=4.7,SNR=4.1							
DBIC	Dimbokro	77.01	71	eP	P	P	10 40 14.3	+0.4
	2.8nm,0.6s							
ACSO	Alum Creek Sta	77.04	352	eP	P	P	10 40 13.1	-0.3
	3.6nm,0.3s							
ANMO	Albuquerque	77.64	333	eP	P	P	10 40 17.8	+0.6
	2.0nm,1.0s							
LBTB	Lobatse	82.12	115	eP	P	P	10 40 41.8	0.0
	1.7nm,0.4s							
CCUT	Cedar City	82.63	329	eP	P	P	10 40 44.5	+0.5
ECSD	EROS Data Cent	82.78	343	eP	P	P	10 40 44.3	-0.1
SRU	San Rafael Swe	82.84	332	eP	P	P	10 40 44.5	-0.6
	2.5nm,0.8s							
DUG	Dugway, Tooele	84.66	331	eP	P	P	10 40 55.0	+0.6
	5.1nm,1.3s							
TPH	Tonopah	84.72	327	eP	P	P	10 40 56.0	+1.2
	1.5nm,0.8s							
HWUT	Hardware Ranch	85.40	332	eP	P	P	10 40 58.0	0.0
	6.7nm,1.0s							
NVAR	Mina Array Bea	85.49	326	P	P	P	10 40 59.0	+0.3
	0.5nm,0.9s,baz=118,slow=5.2,SNR=2.7							
PDAR	Pinedale Array	85.68	334	P	P	P	10 40 59.5	0.0
	1.0nm,1.0s,baz=151,slow=4.2,SNR=4.5							
HVU	Hansel Valley	86.01	332	eP	P	P	10 41 01.0	0.0
	2.0nm,0.8s							
TORD	Torodi Ar. Bea	86.08	71	P	P	P	10 41 01.1	-0.8
	1.0nm,0.8s,baz=230,slow=3.3,SNR=4.4							
ULM	Lac du Bonnet	88.81	346	P	P	P	10 41 13.0	-1.1
	1.5nm,0.8s,baz=100,slow=1.3,SNR=3.5							
WRA	Warramunga Arr	117.93	210	PKP	PKPdf	PKPdf	10 47 06.3	-1.5
	0.3nm,0.9s,baz=158,slow=1.8,SNR=3.8							
BRTR	Keskin Array B	124.00	63	PKP	PKPdf	PKPdf	10 47 19.1	+0.2
	0.6nm,0.7s,baz=150,slow=3.2,SNR=3.8							
ABKAR	Akbulak array	144.11	54	ePKPdf	PKPab	PKPab	10 47 53.3	-0.1
BRVK	Borovoye	149.84	45	ePKPdf	PKPdf	PKPdf	10 48 04.2	-1.1
BRVK				ePKPbc	PKPbc	PKPbc	10 48 10.4	+0.3
BRVK				ePKPab	PKPab	PKPab	10 48 15.9	+0.2
BVAR	Borovoye Array	149.91	46	PKPbc	PKPbc	PKPbc	10 48 10.6	+0.3
	0.8nm,0.6s,baz=300,slow=3.3,SNR=5.4							
AAK	Ala-Archa	154.60	66	PKPab	PKPab	PKPab	10 48 35.9	-0.4
	2.6nm,0.8s,baz=208,slow=8.0,SNR=5.6							
AA

TRQA **Tornquist** 9.27 97 *e*Pn Pn 10 33 35.4 +1.8
LVC **Limon Verde** 15.44 17 *e*Pn Pn 10 34 57.7 -0.4
121nm,1.3s
USHA **Ushuaia** 17.65 170 P Pn 10 35 25.4 -0.2
0.5nm,0.3s,baz=320,slow=10,SNR=11
USHA LR LR 10 41 54.7
comp=Z,2µm,20.7s,baz=324,slow=36
CPUP **Villa Florida** 17.79 56 *e*P Pn 10 35 27.8 +0.3
CPUP **Villa Florida** 17.79 56 P Pn 10 35 27.1 -0.4
1.5nm,0.3s,baz=207,slow=12,SNR=11
CPUP LR LR 10 43 25.7
comp=Z,3µm,19.4s,baz=215,slow=41
CPUP **Villa Florida** 17.79 56 *e*Pn Pn 10 35 27.8 +0.3
EFI **East Falkland** 17.91 147 P P 10 35 29.9 +0.6
1µm,1.0s,SNR=15
EFI **East Falkland** 17.91 147 *e*P Pn 10 35 28.9 +0.1
EFI pmax pmax
comp=Z,213nm,1.0s
EFI **East Falkland** 17.91 147 *e*Pn Pn 10 35 28.9 +0.1
comp=Z,213nm,1.0s
LPAZ **La Paz** 21.74 14 *e*P P 10 36 13.4 +1.5
LPAZ pmax pmax
comp=Z,115nm,1.1s
LPAZ **La Paz** 21.74 14 P P 10 36 13.2 +1.3
comp=Z,32nm,0.9s,baz=181,slow=9.3,SNR=30
LPAZ **La Paz** 21.74 14 *e*P P 10 36 13.4 +1.5
comp=Z,115nm,1.1s
SIV **San Ignacio** 24.19 31 P P 10 36 36.8 +0.5
comp=Z,16nm,0.8s,baz=220,slow=14,SNR=18
SIV LR LR 10 48 00.4
comp=Z,3µm,18.2s,baz=220,slow=41
NNA **Nana** 25.62 353 P P 10 36 48.4 -0.9
comp=Z,13nm,1.0s,baz=217,slow=15,SNR=2.5
PMSA **Palmer Station** 27.85 171 LR LR 10 49 01.7
comp=Z,1µm,18.4s,baz=337,slow=38
SAML **Samuel** 30.02 21 *e*P P 10 37 28.5 -0.1
comp=Z,36nm,1.3s
ATAH **Atahualpa** 30.58 351 P P 10 37 34.9 +0.8
comp=Z,4.6nm,0.8s,baz=124,slow=4.5,SNR=4.2
BDFB **Brasilia** 31.48 53 P P 10 37 41.5 -0.1
comp=Z,13nm,0.8s,baz=212,slow=7.8,SNR=12
BDFB LR LR 10 51 43.6
comp=Z,2µm,18.4s,baz=229,slow=39
RPN **Rapa Nui** 31.71 279 LR LR 10 46 22.0
comp=Z,934nm,18.8s,baz=166,slow=29
OTAV **Otavalo** 37.86 352 *e*P P 10 38 38.1 +1.0
comp=Z,54nm,1.4s
SDV **Santo Domingo** 46.28 4 *e*P P 10 39 45.1 -0.4
comp=Z,16nm,0.9s
VNA3 **Neumayer Olymp** 46.61 156 P P 10 39 48.3 +1.0
RCBR **Riachuelo** 46.66 57 P P 10 39 49.3 +0.9
comp=Z,26nm,1.1s,baz=210,slow=10,SNR=7.8
RCBR **Riachuelo** 46.66 57 *e*P P 10 39 50.2 +1.8
VNA1 **Neumayer--Stat** 46.96 156 P P 10 39 51.6 +1.6
VNA2 **Neumayer--Watz** 47.29 156 P P 10 39 53.6 +1.0
JTS **JuntasAbangare** 48.75 345⇓ *e*P P 10 40 04.4 -0.1
JTS pmax pmax
comp=Z,49nm,1.6s
JTS **JuntasAbangare** 48.75 345 *e*P P 10 40 05.7 +1.2
comp=Z,24nm,1.3s
SNAA **Sanae** 48.83 157 P P 10 40 05.5 +0.9
SNAA **Sanae** 48.83 157 *c e*P P 10 40 05.6 +1.0
SNAA pmax pmax
comp=Z,72nm,1.2s
SNAA **Sanae** 48.83 157 P P 10 40 04.7 +0.1
comp=Z,15nm,1.0s,baz=269,slow=7.3,SNR=18
SNAA **Sanae** 48.83 157 *e*P P 10 40 05.1 +0.5
comp=Z,178nm,1.6s
QSPA **South Pole Qui** 52.69 180 P P 10 40 33.9 +0.1
comp=Z,35nm,1.1s,baz=140,slow=3.5,SNR=30
QSPA **South Pole Qui** 52.69 180 *e*P P 10 40 34.1 +0.3
comp=Z,54nm,1.2s
NVL **N'lazarevskaya** 53.61 156 *e*P P 10 40 38.1 -2.2
NVL pmax pmax
comp=Z,18nm,0.9s
RKT **Rikitea** 53.97 267 *e*LR LR 10 56 22.4
comp=Z,1µm,26.2s
RKT **Rikitea** 53.97 267 *e*T T 11 38 34.0
comp=Z,1.3nm,0.3s
APG **El Apazote** 54.61 340 P P 10 40 50.0 +1.5
comp=Z,8.9nm,0.8s,baz=194,slow=5.1,SNR=9.5
CELP **Cerrillos** 55.73 8 *e*P P 10 40 55.6 -0.6
LRS **Lares** 55.91 8 *e*P P 10 40 56.6 -1.0
CBYP **Canovanas** 56.01 9 *e*P P 10 40 57.0 -1.3
comp=Z,52nm,1.5s
SDDR **Presa de Saban** 56.28 3 *e*P P 10 40 58.6 -1.6
comp=Z,32nm,1.4s
TEIG **Tepich** 59.09 344 *e*P P 10 41 19.8 -0.1
comp=Z,78nm,1.6s
VNDA **Vanda** 60.36 192 *e*P P 10 41 29.0 +1.0
VNDA pmax pmax
comp=Z,26nm,1.4s
VNDA **Vanda** 60.36 192 *e*P P 10 41 29.0 +1.0
comp=Z,26nm,1.4s
035A **Encino** 68.13 337 ⇑P P 10 42 20.9 +1.4
baz=68
034A **Hebbronville** 68.44 336 ⇑P P 10 42 22.4 +1.0
baz=69
PPT2 **Papeete2** 68.48 264 *e*S S 10 51 22.2 -0.8
comp=Z,820nm,23.2s
PPT2 **Papeete2** 68.48 264 *e*LR LR 11 03 06.4
comp=Z,817nm,24.0s
PPT **Papeete** 68.49 264 LR LR 11 03 57.6
comp=Z,433nm,19.1s,baz=4.5,slow=29
934A **Benavides** 68.88 336 ⇓P P 10 42 25.7 +1.5
baz=69
933A **Laredo** 69.14 336 ⇓P P 10 42 27.3 +1.5
baz=70
TIGA **Tifton** 69.26 351 ⇑P P 10 42 27.0 +0.6
baz=70
834A **Tilden** 69.38 337 ⇓P P 10 42 28.2 +0.9
baz=70
735A **Kenedy** 69.83 338 ⇓P P 10 42 30.7 +0.7
baz=70
833A **Chaparral WMA,** 69.83 336 ⇑P P 10 42 30.3 +0.3
baz=70,SNR=6.3
832A **Faith Ranch, C** 69.99 335 ⇑P P 10 42 31.3 +0.3
baz=70
MAW **Mawson** 70.15 164 LR LR 11 14 54.6
comp=Z,973nm,18.2s,baz=242,slow=37
733A **Divot King Ran** 70.17 336 ⇓P P 10 42 32.2 +0.1
baz=70
636A **Smothers Creek** 70.19 338 ⇓P P 10 42 32.7 +0.5
baz=70
732A **Laxson Ranch,** 70.40 336 ⇓P P 10 42 33.8 +0.3
baz=71,SNR=6.7
537A **Green Hill Far** 70.54 339 ⇑P P 10 42 35.0 +0.7
baz=71
632A **Uvalde** 71.06 336 ⇑P P 10 42 38.1 +0.5
baz=71
340A **Bronson** 71.17 342 ⇓P P 10 42 38.4 +0.2
baz=72
LRAL **Lakeview Retre** 71.32 348 *e*P P 10 42 39.0 0.0
comp=Z,21nm,1.1s
533A **Kerrville** 71.34 337 ⇑P P 10 42 39.3 0.0
baz=72
337A **Centerville** 71.59 340 ⇓P P 10 42 41.0 +0.3
baz=72
532A **Rocksprings** 71.67 336 ⇓P P 10 42 41.2 -0.1
baz=72,SNR=6.1
434A **Burnet** 71.80 338 ⇑P P 10 42 41.7 -0.3
baz=72,SNR=8.0
531A **Rocksprings** 71.91 336 ⇑P P 10 42 43.6 +0.9
baz=72
336A **Riesel** 71.92 339 ⇑P P 10 42 43.4 +0.7
baz=72
JCT **Junction City** 71.96 336 *e*P P 10 42 43.0 0.0
JCT pmax pmax
comp=Z,9.0nm,1.1s
JCT **Junction City** 71.96 336 ⇓P P 10 42 43.8 +0.8
baz=72
JCT **Junction City** 71.96 336 *e*P P 10 42 43.0 0.0
comp=Z,9.1nm,1.1s
335A **Moody** 71.99 339 ⇑P P 10 42 43.5 +0.4
baz=72
433A **Art** 71.99 337 ⇑P P 10 42 43.7 +0.6
baz=72
238A **Jacksonville** 72.04 341 ⇑P P 10 42 44.0 +0.6
baz=72
530A **J-C Ranch, Com** 72.16 335 ⇑P P 10 42 43.8 -0.4
baz=72,SNR=7.1
TXAR **Lajitas Array** 72.23 333 P P 10 42 44.7 0.0
comp=Z,2.0nm,0.9s,baz=148,slow=7.4,SNR=13
334A **Lometa** 72.28 338 ⇑P P 10 42 44.7 -0.1
baz=73,SNR=11
432A **Menard** 72.33 337 ⇑P P 10 42 45.5 +0.3
baz=73
431A **Sonora** 72.41 336 ⇓P P 10 42 46.1 +0.4
baz=73
529A **Stev Forest Ra** 72.44 334 ⇑P P 10 42 45.8 -0.1
baz=73,SNR=5.1
333A **Richland Sprin** 72.49 337 ⇑P P 10 42 46.4 +0.2
baz=73
138A **Matatall Enter** 72.66 341 ⇓P P 10 42 47.5 +0.5
baz=73
WHTX **Lake Whitney,** 72.67 339 ⇑P P 10 42 47.3 +0.2
baz=73
KMSC **Kings Mountain** 72.68 353 ⇓P P 10 42 46.8 -0.3
baz=73
430A **Baggett Ranch,** 72.71 335 ⇓P P 10 42 47.6 +0.1
baz=73
332A **Millersview** 72.78 337 ⇑P P 10 42 47.7 -0.2
baz=73,SNR=6.7
429A **Davenport Ranc** 72.78 335 ⇑P P 10 42 47.7 -0.3
baz=73
234A **Clairette** 72.87 338 ⇓P P 10 42 48.4 0.0
baz=73
331A **San Angelo** 72.93 336 ⇑P P 10 42 48.5 -0.2
baz=73,SNR=6.1
233A **Rising Star** 73.11 338 ⇑P P 10 42 49.5 -0.3
baz=74
232A **Coleman** 73.22 337 ⇑P P 10 42 50.2 -0.3
baz=74
330A **Mertzon** 73.26 336 ⇓P P 10 42 50.5 -0.2
baz=74
SWET **Sewanee** 73.29 350 *e*P P 10 42 50.4 -0.4
comp=Z,45nm,0.7s
CPCT **Cooper Cave** 73.33 351 *e*P P 10 42 52.3 +1.3
231A **Bronte** 73.47 337 ⇓P P 10 42 52.1 +0.2
baz=74
329A **Wagon Wheel Ra** 73.60 335 ⇑P P 10 42 52.9 +0.1
baz=74
133A **Hamilton Ranch** 73.67 338 ⇓P P 10 42 53.1 0.0
baz=74,SNR=5.1
Z35A **Perchaven, San** 73.87 340 ⇑P P 10 42 54.3 +0.1
baz=74
ABTX **Abilene, Hawle** 73.90 337 ⇑P P 10 42 54.4 -0.1
baz=74
ABTX **Abilene, Hawle** 73.90 337 *e*P P 10 42 54.4 -0.1
comp=Z,14nm,0.8s
229A **Bryant Ranch,** 73.99 335 ⇓P P 10 42 55.5 +0.5
baz=74
MIAR **Mount Ida** 74.08 343 *e*P P 10 42 56.0 +0.6
MIAR **Mount Ida** 74.08 343 *e*P P 10 42 56.0 +0.6
Z34A **Collier Ranch,** 74.09 339 ⇓P P 10 42 55.2 -0.3
baz=74
131A **Roby** 74.18 337 ⇑P P 10 42 56.3 +0.2
baz=74
Z33A **Whitaker Ranch** 74.26 338 ⇑P P 10 42 56.9 +0.4
baz=75
130A **Snyder** 74.29 336 ⇓P P 10 42 56.9 +0.2
baz=75
228A **UT Block 9, Go** 74.39 335 ⇓P P 10 42 57.3 0.0
baz=75
WVT **Waverly** 74.48 348 *e*P P 10 42 56.9 -0.8
WVT pmax pmax
comp=Z,16nm,1.1s
WVT **Waverly** 74.48 348 *e*P P 10 42 56.9 -0.8
comp=Z,16nm,1.1s
Z32A **Haskell** 74.49 338 ⇓P P 10 42 58.0 +0.1
baz=75
Y34A **Reagan Ranch,** 74.60 339 ⇑P P 10 42 58.1 -0.3
baz=75
Z31A **Sharp Cattle R** 74.70 337 ⇑P P 10 42 59.2 +0.1
baz=75
128A **Castleberry Fa** 74.81 335 ⇑P P 10 42 59.8 0.0
baz=75
Y33A **Hilltop Ranch,** 74.89 339 ⇓P P 10 43 00.3 +0.2
baz=75
Z30A **Sanderson Ranc** 74.98 336 ⇑P P 10 43 00.4 -0.3
baz=75
Y32A **R-V Farms, Ver** 75.12 338 ⇑P P 10 43 01.0 -0.5
baz=76
Z29A **Hungry Hill Ra** 75.14 336 ⇑P P 10 43 01.0 -0.7
baz=76,SNR=8.1
X34A **Smith Ranch, M** 75.22 340 ⇓P P 10 43 02.0 -0.1
baz=76
Y31A **Rekieta Farm,** 75.33 337 ⇓P P 10 43 02.6 -0.1
baz=76
X33A **Lawton** 75.35 339 ⇓P P 10 43 02.6 -0.2
baz=76
Z28A **Tucker Farm, M** 75.39 335 ⇓P P 10 43 02.8 -0.4
baz=76
X32A **Elmer** 75.47 338 ⇓P P 10 43 02.1 -1.3
baz=76
WMOK **Wichita Mounta** 75.62 339 *e*P P 10 43 03.9 -0.4
WMOK pmax pmax
comp=Z,86nm,2.3s
WMOK **Wichita Mounta** 75.62 339 *e*P P 10 43 03.9 -0.4
comp=Z,86nm,2.3s
Y29A **Porterfield Fa** 75.68 336 ⇑P P 10 43 04.1 -0.7
baz=76
W34A **Bridge Creek,** 75.80 340 ⇓P P 10 43 04.9 -0.4
baz=76
X31A **McDonald Ranch** 75.87 338 ⇓P P 10 43 04.7 -1.1
baz=76,SNR=7.6
Y28A **McKinney Farm,** 75.91 336 ⇑P P 10 43 05.6 -0.5
baz=76
Z26A **Caprock** 75.91 334 ⇑P P 10 43 05.6 -0.6
baz=76,SNR=6.5
W33A **Caddo, Fort Co** 75.92 339 ⇑P P 10 43 06.1 +0.1
baz=76
TUL1 **Leonard** 75.92 342 ⇑P P 10 43 05.6 -0.4
baz=76
TUL1 **Leonard** 75.92 342 *e*P P 10 43 05.5 -0.5
comp=Z,15nm,0.9s
X30A **Coker Ranch, T** 75.97 337 ⇓P P 10 43 06.0 -0.4
baz=76
W32A **Sentinel** 76.11 339 ⇓P P 10 43 06.7 -0.5
baz=76,SNR=5.4
MSTX **Muleshoe** 76.14 335 ⇑P P 10 43 07.3 -0.2
baz=76
MSTX **Muleshoe** 76.14 335 *e*P P 10 43 07.9 +0.4
comp=Z,25nm,1.4s
Z25A **Roswell** 76.18 334 ⇑P P 10 43 07.2 -0.5
baz=76
Y27A **Causey** 76.19 335 ⇑P P 10 43 07.1 -0.7
baz=76
319A **Douglas** 76.22 329 ⇓P P 10 43 07.5 -0.5
baz=76
X29A **Tulia** 76.23 336 ⇑P P 10 43 07.7 -0.2
baz=77,SNR=5.5
SIUC **Southern Illin** 76.26 347 *e*P P 10 43 07.7 -0.1
comp=Z,14nm,0.6s
Y26A **Elida** 76.45 335 ⇑P P 10 43 09.0 -0.2
baz=77
Z24A **Sheeppen Canyo** 76.45 333 ⇑P P 10 43 08.4 -1.0
baz=77
V33A **Lossen Ranch,** 76.49 340 ⇓P P 10 43 09.5 +0.2
baz=77
V32A **Arapaho** 76.61 339 ⇓P P 10 43 10.0 0.0
baz=77
AMTX **Amarillo** 76.63 337 ⇓P P 10 43 09.9 -0.2
baz=77
Y25A **Mesa, Roswell** 76.75 334 ⇓P P 10 43 10.8 -0.1
baz=77
V31A **Spring Creek L** 76.89 338 ⇑P P 10 43 12.2 +0.6
baz=77
Z22A **Elephant Butte** 76.97 332 ⇑P P 10 43 12.6 +0.3
baz=77
Y24A **Capitan** 77.02 333 ⇓P P 10 43 12.7 +0.2
baz=77
X26A **CR and CF Fran** 77.02 335 ⇓P P 10 43 12.7 +0.3
baz=77
V30A **Spur Ranch, Mi** 77.13 338 ⇑P P 10 43 13.2 +0.2
baz=78
LIC **Lamto** 77.15 72 *e*P P 10 43 14.2 +0.7
comp=Z,98nm,0.8s
U32A **Winter Ranch,** 77.22 339 ⇑P P 10 43 13.7 +0.3
baz=78
W27A **Bowe Ranch, En** 77.24 336 ⇓P P 10 43 13.4 -0.3
baz=78,SNR=5.2
Y23A **Lovelace Mesa,** 77.25 333 ⇑P P 10 43 13.8 +0.1
baz=78
TIC **Toumodi** 77.43 71 *e*P P 10 43 15.8 +0.7
comp=Z,62nm,1.0s
KIC **Kosan Boka** 77.45 72 *e*P P 10 43 16.0 +0.8
comp=Z,92nm,0.8s
DBIC **Dimbokro** 77.57 72 *e*P P 10 43 17.4 +1.6
DBIC pmax pmax
comp=Z,36nm,0.8s
DBIC **Dimbokro** 77.57 72 P P 10 43 17.1 +1.3
comp=Z,25nm,0.8s,baz=201,slow=6.8,SNR=21
DBIC **Dimbokro** 77.57 72 *e*P P 10 43 17.4 +1.6
comp=Z,36nm,0.8s
TUC **Tucson** 77.65 328 *e*P P 10 43 18.1 +2.1
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC **Tucson** 77.65 328 *e*P P 10 43 18.1 +2.1
comp=Z,5.4nm,1.1s
W25A **X Bar L Ranch,** 77.84 335 ⇑P P 10 43 17.0 -0.1
baz=78,SNR=6.4
X23A **Hourglass Bar** 77.88 333 ⇓P P 10 43 17.7 +0.4
baz=78
ACSO **Alum Creek Sta** 77.88 353 *e*P P 10 43 16.5 -0.4
T32A **Huddler Ranch,** 77.94 340 ⇓P P 10 43 17.7 +0.3
baz=78
LAZ **Ladron** 78.06 332 *e*P P 10 43 19.6 +1.3
comp=Z,2.7nm,1.3s
T31A **Randall Ranch,** 78.08 339 ⇓P P 10 43 18.6 +0.4
baz=78
V26A **Tequesquite Ra** 78.14 335 ⇑P P 10 43 18.6 -0.1
baz=78
W24A **Lazy 6 Ranch,** 78.17 334 ⇑P P 10 43 20.2 +1.3
baz=78
U28A **Mallet** 78.17 337 ⇑P P 10 43 19.8 +1.0
baz=78
214A **Organ Pipe Nat** 78.21 327 ⇓P P 10 43 20.1 +1.1
baz=78
ANMO **Albuquerque** 78.30 333⇓ *i*P P 10 43 19.6 -0.1
ANMO pmax pmax
comp=Z,43nm,1.4s
ANMO **Albuquerque** 78.30 333 *e*P P 10 43 20.3 +0.7
comp=Z,9.9nm,1.1s
W23A **Werner Place,** 78.38 333 ⇓P P 10 43 21.0 +0.9
baz=79
S32A **Newby Ranch, P** 78.43 340 ⇓P P 10 43 20.4 +0.3
baz=79
V25A **Rancho No Teng** 78.46 335 ⇓P P 10 43 20.6 +0.1
baz=79
V24A **Rampart Ranch,** 78.58 334 ⇓P P 10 43 21.5 +0.3
baz=79
R33A **Olander Ranch,** 78.75 341 ⇓P P 10 43 22.1 +0.2
baz=79
T28A **Walsh** 78.82 337 ⇑P P 10 43 22.8 +0.4
baz=79
U25A **Circle Dot Ran** 78.90 335 ⇑P P 10 43 23.0 +0.1
baz=79
V23A **Ortiz Mt. (NFS** 78.92 334 ⇓P P 10 43 23.2 +0.2
baz=79
R32A **Long Quarter,** 79.05 340 ⇑P P 10 43 24.3 +0.8
baz=79
R31A **Burdett** 79.15 340 ⇓P P 10 43 24.6 +0.5
baz=80
S28A **Manter** 79.19 338 ⇑P P 10 43 24.8 +0.4
baz=80
113A **Mohawk Valley,** 79.32 326 ⇑P P 10 43 26.4 +1.4
baz=80
V22A **San Miguel Ran** 79.33 333 ⇑P P 10 43 26.1 +0.7
baz=80
T26A **Comanche Natio** 79.34 336 ⇑P P 10 43 26.2 +0.9
baz=80
U23A **El Rito** 79.45 334 ⇑P P 10 43 26.2 +0.3
baz=80
TSUM **Tsumeb** 79.51 106 *e*P P 10 43 28.0 +1.3
comp=Z,4.3nm,0.7s
T25A **Trinidad** 79.57 335 ⇓P P 10 43 26.7 +0.1
baz=80,SNR=6.8
BOSA **Boshof** 79.59 118 P P 10 43 27.6 +0.5
comp=Z,17nm,1.0s,baz=211,slow=4.8,SNR=14
S26A **Kim** 79.71 336 ⇑P P 10 43 27.9 +0.7
baz=80
U22A **Llaves** 79.72 333 ⇓P P 10 43 28.0 +0.5
baz=80
X16A **Lo Mia Camp, P** 79.75 329 ⇓P P 10 43 27.9 +0.3
baz=80
Q31A **Ellis** 79.78 340 ⇑P P 10 43 27.9 +0.4
baz=80
T24B **San Luis** 79.83 335 ⇑P P 10 43 28.4 +0.3
baz=80
R28A **Tribune** 79.86 338 ⇓P P 10 43 28.4 +0.4
baz=80
T23A **Casias Ranch,** 80.03 334 ⇑P P 10 43 29.9 +0.7
baz=80
S25A **Robets Cordova** 80.06 336 ⇑P P 10 43 29.7 +0.5
baz=80
R27A **Eads** 80.11 337 ⇑P P 10 43 29.7 +0.4
baz=80
Q29A **Oakley** 80.12 339 ⇑P P 10 43 30.0 +0.6
baz=80
P32A **Huiting Farm,** 80.15 341 ⇑P P 10 43 30.1 +0.7
baz=80
P31A **Stockton** 80.26 340 ⇓P P 10 43 30.8 +0.8
baz=81
S24A **Houchin Ranch,** 80.29 335 ⇓P P 10 43 31.0 +0.3
baz=81
R26A **Arlington** 80.32 337 ⇓P P 10 43 31.1 +0.6
baz=81
Y12C **Blythe** 80.49 326 ⇓P P 10 43 31.4 0.0
baz=81
P30A **Selden** 80.52 339 ⇑P P 10 43 31.9 +0.4
baz=81
Q28A **Sharon Springs** 80.53 338 ⇓P P 10 43 31.8 +0.2
baz=81
P29A **Atwood** 80.77 339 ⇓P P 10 43 33.5 +0.7
baz=81
R24A **Sanders Place,** 80.79 335 ⇓P P 10 43 33.6 +0.5
baz=81,SNR=6.0
BC3 **Big Chuckawall** 80.82 326 ⇓P P 10 43 33.7 +0.4
baz=81
O31A **Woolen Ranch,** 80.83 340 ⇑P P 10 43 33.4 +0.3
baz=81
Q26A **Hugo** 80.91 337 ⇓P P 10 43 34.2 +0.5
baz=81
S22A **4UR Ranch, Cre** 80.94 334 ⇑P P 10 43 34.4 +0.3
baz=81
P28A **Saint Francis** 80.98 338 ⇑P P 10 43 34.9 +0.9
baz=81
MVCO **Mesa Verde** 81.06 333 ⇑P P 10 43 35.4 +0.7
baz=81
MVCO **Mesa Verde** 81.06 333 *e*P P 10 43 35.8 +1.1
comp=Z,9.3nm,1.1s
IRM **Iron Mountain** 81.11 326 ⇓P P 10 43 34.8 0.0
baz=81
Q25A **Bedland, Calha** 81.14 336 ⇑P P 10 43 35.2 +0.2
baz=82
P27A **Ficken Ranch,** 81.20 338 ⇑P P 10 43 35.9 +0.6
baz=82
P26A **Davis Ranch, A** 81.44 337 ⇑P P 10 43 37.5 +1.0
baz=82
Q24A **Divide** 81.47 336 ⇑P P 10 43 37.5 +0.6
baz=82
O28A **Krutsinger Ran** 81.49 339 ⇑P P 10 43 38.0 +1.3
baz=82
P25A **Willow Gulch B** 81.66 337 ⇓P P 10 43 38.2 +0.5
baz=82
O27A **Beecher Island** 81.76 338 ⇓P P 10 43 38.5 +0.4
baz=82
U15A **North Rim** 81.84 329 ⇑P P 10 43 38.8 0.0
baz=82
M31A **Lambtecht Ranc** 81.86 341 ⇓P P 10 43 39.3 +0.8
baz=82
PV01 **Paradox Valley** 81.91 333 *e*P P 10 43 39.7 +0.6
comp=Z,388nm,0.9s
N28A **Pribbeno Ranch** 81.95 339 ⇓P P 10 43 39.9 +0.8
baz=82
SMCO **Snowmass** 82.28 334 *e*P P 10 43 42.3 +1.1
comp=Z,18nm,1.3s
M30A **Dale-Ortello V** 82.28 340 ⇓P P 10 43 42.0 +1.3
baz=83
N27A **Anderson Farm,** 82.34 338 ⇓P P 10 43 42.0 +0.8
baz=83
ISCO **Idaho Springs** 82.38 336 *e*P P 10 43 42.1 +0.5
ISCO pmax pmax
comp=Z,28nm,1.9s
ISCO **Idaho Springs** 82.38 336 ⇑P P 10 43 42.0 +0.3
baz=83
ISCO **Idaho Springs** 82.38 336 *e*P P 10 43 42.1 +0.5
comp=Z,28nm,1.9s
P22A **Eagle** 82.58 335 ⇑P P 10 43 43.2 +0.7
baz=83
L31A **Butterfield Fa** 82.61 341 ⇓P P 10 43 43.2 +0.8
baz=83
GSC **Goldstone, Bar** 82.81 326 ⇓P P 10 43 43.7 0.0
baz=83
O23A **Lake Granby, G** 82.85 336 ⇓P P 10 43 44.8 +0.7
baz=83
O22A **Kremmling** 83.02 335 ⇓P P 10 43 45.4 +0.4
baz=83
SHOC **Shoshone, Teco** 83.08 326 ⇑P P 10 43 45.5 +0.5
baz=83
N24A **Carr** 83.08 337 ⇑P P 10 43 45.7 +0.7
baz=83

SHPR	Sheep Range	83.10	327	eP	P	10 43 45.9	+0.6
	comp=Z,26nm,1.7s						
CCUT	Cedar City	83.24	329	eP	P	10 43 45.1	-0.9
	comp=Z,12nm,1.3s						
K30A	Basset	83.27	341	⇑P	P	10 43 46.5	+0.7
	baz=84						
LRMC	Laurel Mtn Rad	83.35	325	⇓P	P	10 43 47.3	+0.8
	baz=84						
N23A	Red Feather La	83.48	336	⇑P	P	10 43 47.5	+0.3
	baz=84						
ECSD	EROS Data Cent	83.55	343	⇑P	P	10 43 46.6	-0.6
	baz=84,SNR=14						
ECSD	EROS Data Cent	83.55	343	eP	P	10 43 47.2	0.0
	comp=Z,17nm,0.8s						
N22A	Wattenberg Ran	83.56	336	⇑P	P	10 43 47.1	-0.6
	baz=84						
O20A	White River Ci	83.57	334	⇓P	P	10 43 47.6	-0.1
	baz=84						
O20A	White River Ci	83.57	334	eP	P	10 43 49.5	+1.8
	comp=Z,53nm,2.1s						
M24A	Cheyenne	83.64	337	⇓P	P	10 43 47.6	-0.4
	baz=84						
PHWY	Pilot Hill	83.69	336	eP	P	10 43 49.2	+0.8
	comp=Z,27nm,1.8s						
K28A	Ten Mile Ranch	83.78	340	⇓P	P	10 43 49.2	+0.7
	baz=84						
J30A	Dallas	83.85	341	⇓P	P	10 43 49.2	+0.4
	baz=84						
ISA	Isabella, Lake	83.86	325	eP	P	10 43 47.9	-1.2
ISA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ISA	Isabella, Lake	83.86	325	eP	P	10 43 47.9	-1.2
	comp=Z,8.8nm,1.3s						
M23A	Laramie	83.92	336	⇑P	P	10 43 50.0	+0.6
	baz=84						
DAC	Darwin (Calif)	83.97	326	eP	P	10 43 51.4	+1.6
DAC				pmax	pmax		
	comp=Z,55nm,2.4s						
DAC	Darwin (Calif)	83.97	326	eP	P	10 43 51.4	+1.6
	comp=Z,55nm,2.4s						
K27A	Flueckinger Fa	84.01	339	⇑P	P	10 43 50.5	+0.8
	baz=84						
J29A	Okreek	84.14	341	⇓P	P	10 43 50.1	-0.2
	baz=84,SNR=6.8						
SPMN	Marine on St.	84.19	347	⇓P	P	10 43 50.3	-0.2
	baz=85						
SPMN	Marine on St.	84.19	347	eP	P	10 43 50.1	-0.3
	comp=Z,161nm,3.0s						
I30A	Oacoma	84.39	342	⇓P	P	10 43 51.4	0.0
	baz=85						
J28A	Allard Ranch,	84.40	340	⇑P	P	10 43 52.0	+0.4
	baz=85						
J27A	Elkhorn Farm,	84.45	340	⇑P	P	10 43 52.0	+0.1
	baz=85,SNR=7.5						
MPU	Maple Canyon	84.69	332	eP	P	10 43 54.5	+1.2
	comp=Z,21nm,1.6s						
J26A	Sides Ranch, S	84.81	339	⇓P	P	10 43 54.4	+0.7
	baz=85						
NLU	North Lily Min	84.81	331	eP	P	10 43 54.0	0.0
	comp=Z,48nm,2.0s						
R11A	Troy Canyon, C	84.84	328	⇓P	P	10 43 54.3	+0.1
	baz=85						
R11A	Troy Canyon, C	84.84	328	eP	P	10 43 50.9	-3.3
	comp=Z,58nm,2.5s						
DAU	Daniels Canyon	84.90	332	eP	P	10 43 51.9	-2.7
DAU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
DAU	Daniels Canyon	84.90	332	eP	P	10 43 51.9	-2.7
	comp=Z,6.6nm,0.9s						
I28A	Midland	84.92	340	⇓P	P	10 43 53.6	-0.6
	baz=85,SNR=8.4						
K23A	Bowen Ranch, D	85.06	337	⇓P	P	10 43 55.4	+0.3
	baz=85						
JLU	Jordanelle	85.14	332	eP	P	10 43 52.8	-2.9
	comp=Z,4.1nm,0.8s						
I27A	Quinn	85.22	340	⇑P	P	10 43 55.5	-0.3
	baz=86						
K22A	Casper	85.25	336	⇓P	P	10 43 55.6	-0.5
	baz=86						
K22A	Casper	85.25	336	eP	P	10 43 56.9	+0.8
	comp=Z,14nm,1.0s						
H29A	Onida	85.25	341	⇑P	P	10 43 55.6	-0.2
	baz=86						
J24A	Dixon Ranch, L	85.29	338	⇑P	P	10 43 56.3	+0.1
	baz=86						
DUG	Dugway, Tooele	85.30	331	eP	P	10 43 56.0	-0.4
DUG				pmax	pmax		
	comp=Z,35nm,1.8s						
DUG	Dugway, Tooele	85.30	331	⇓P	P	10 43 55.5	-0.9
	baz=86						
DUG	Dugway, Tooele	85.30	331	eP	P	10 43 56.0	-0.4
	comp=Z,35nm,1.8s						
TPH	Tonopah	85.31	327	eP	P	10 43 57.4	+0.9
TPH				pmax	pmax		
	comp=Z,12nm,1.4s						
TPH	Tonopah	85.31	327	eP	P	10 43 57.4	+0.9
	comp=Z,12nm,1.4s						
I26A	New Underwood	85.41	339	⇑P	P	10 43 56.6	-0.1
	baz=86						
G30A	Faulkton	85.46	342	⇑P	P	10 43 56.9	+0.1
	baz=86						
K21A	Alcova	85.47	336	⇓P	P	10 43 56.9	-0.3
	baz=86						
H28A	Mission Ridge	85.50	341	⇑P	P	10 43 57.4	+0.3
	baz=86						
I25A	Rochford	85.64	339	⇑P	P	10 43 58.1	0.0
	baz=86						
MLAC	Mammoth, Mammo	85.65	326	⇑P	P	10 43 57.9	-0.4
	baz=86						
G29A	Hoven	85.71	342	⇑P	P	10 43 58.4	+0.3
	baz=86						
H27A	Howes	85.75	340	⇓P	P	10 43 58.0	-0.4
	baz=86,SNR=7.2						
RSSD	Black Hills	85.83	339	eP	P	10 43 58.8	-0.2
RSSD				pmax	pmax		
	comp=Z,6.0nm,0.8s						
RSSD	Black Hills	85.83	339	eP	P	10 43 58.8	-0.2
	comp=Z,5.8nm,0.8s						
G28A	Parade	85.85	341	⇑P	P	10 43 58.5	-0.3
	baz=86,SNR=6.8						
J22A	Midwest	85.92	337	⇑P	P	10 43 58.5	-0.8
	baz=86						
HWUT	Hardware Ranch	86.05	333	eP	P	10 44 00.3	+0.2
H25A	Fruitdale	86.16	339	⇑P	P	10 43 60.0	-0.4
	baz=86,SNR=6.5						
F29A	Eureka	86.28	342	⇓P	P	10 44 00.9	-0.1
	baz=87						
I22A	9 Mile Ranch,	86.36	337	⇑P	P	10 44 01.0	-0.4
	baz=87						
PDAR	Pinedale Array	86.36	334	P	P	10 44 01.3	-0.3
	comp=Z,4.5nm,1.1s,baz=149,slow=3.5,SNR=10						
J20A	Shoshoni	86.38	336	⇑P	P	10 44 01.6	0.0
	baz=87						
G27A	Dupree	86.40	340	⇓P	P	10 44 01.0	-0.5
	baz=87,SNR=6.7						
G26A	Maurine	86.50	340	⇑P	P	10 44 01.1	-0.9
	baz=87,SNR=6.2						
I21A	Big Trails, Te	86.54	336	⇑P	P	10 44 01.7	-0.7
	baz=87						
H24A	Dirks Ranch, A	86.55	339	⇑P	P	10 44 02.0	-0.4
	baz=87						
J19A	Crowheart	86.63	335	⇓P	P	10 44 02.6	-0.3
	baz=87						
G25A	Newell	86.63	339	⇑P	P	10 44 02.0	-0.7
	baz=87,SNR=6.4						
TORD	Torodi Ar. Bea	86.65	71	P	P	10 44 03.5	0.0
	comp=Z,12nm,1.0s,baz=228,slow=4.3,SNR=30						
TORD				PP	PP	10 47 24.2	-1.7
	comp=Z,4.5nm,1.2s,baz=237,slow=6.4,SNR=4.2						
HVU	Hansel Valley	86.65	332	eP	P	10 44 02.1	-0.9
HVU				pmax	pmax		
	comp=Z,13nm,1.2s						
HVU	Hansel Valley	86.65	332	eP	P	10 44 02.1	-0.9
	comp=Z,13nm,1.2s						
E30A	Jud	86.69	343	⇓P	P	10 44 02.4	-0.5
	baz=87,SNR=5.3						
ELK	Elko	86.72	330	eP	P	10 44 04.5	+1.0
ELK				pmax	pmax		
	comp=Z,13nm,1.7s						
ELK	Elko	86.72	330	eP	P	10 44 04.5	+1.0
	comp=Z,13nm,1.7s						
E29A	Napoleon	86.93	342	⇑P	P	10 44 03.7	-0.3
	baz=87						
I20A	Worland	86.93	336	⇑P	P	10 44 03.8	-0.5
	baz=87						
F26A	Lodgepole	87.03	340	⇑P	P	10 44 04.1	-0.5
	baz=87						
G24A	Alzada	87.04	339	⇑P	P	10 44 04.1	-0.6
	baz=87						
E28A	Huff	87.19	342	⇑P	P	10 44 05.4	0.0
	baz=88						
D30A	Buchanan	87.23	343	⇑P	P	10 44 05.7	+0.2
	baz=88						
E27A	Carson	87.28	341	⇑P	P	10 44 05.5	-0.3
	baz=88						
I19A	Meeteetse	87.29	335	⇓P	P	10 44 05.7	-0.5
	baz=88						
F25A	Bowman	87.32	340	⇑P	P	10 44 05.7	-0.3
	baz=88						
REDW	Red Top Meadow	87.33	334	eP	P	10 44 06.4	0.0
	comp=Z,7.5nm,0.9s						
H20A	Greybull	87.37	336	⇑P	P	10 44 06.5	+0.2
	baz=88						
D29A	Pettibone, Tap	87.38	343	⇑P	P	10 44 06.3	+0.1
	baz=88						
LOHW	Long Hollow	87.46	334	eP	P	10 44 06.8	-0.2
	comp=Z,6.3nm,1.3s						
TPAW	Teton Pass	87.48	334	eP	P	10 44 07.2	0.0
	comp=Z,7.1nm,0.8s						
F24A	Ekalaka	87.52	339	⇓P	P	10 44 07.4	+0.4
	baz=88						
E26A	Carlson Angus	87.55	341	⇑P	P	10 44 06.9	-0.2
	baz=88						
FXWY	Fox Creek	87.63	334	eP	P	10 44 09.0	+1.1
	comp=Z,9.1nm,1.4s						
F23A	Volborg	87.68	338	⇓P	P	10 44 07.1	-0.7
	baz=88						
C30A	Mose, Pekin	87.72	344	⇓P	P	10 44 07.2	-0.7
	baz=88,SNR=12						
I17A	Pilgrim Ck.	87.72	334	⇑P	P	10 44 07.2	-1.0
	baz=88						
AGMN	Agassiz Nation	87.73	345	⇓P	P	10 44 06.7	-1.1
	baz=88,SNR=6.1						
AGMN	Agassiz Nation	87.73	345	eP	P	10 44 07.7	-0.2
	comp=Z,54nm,1.8s						
D28A	Regan	87.74	342	⇓P	P	10 44 07.0	-1.0
	baz=88,SNR=5.7						
E25A	Miller Ranch,	87.83	340	⇑P	P	10 44 08.3	-0.2
	baz=88						
IMW	Indian Meadow	87.83	334	eP	P	10 44 09.6	+0.7
	comp=Z,20nm,1.6s						
H19A	Powell	87.85	336	⇑P	P	10 44 08.6	-0.2
	baz=88						
FLWY	Flagg Ranch	87.91	334	eP	P	10 44 09.7	+0.6
	comp=Z,9.7nm,0.8s						
H18A	Shoshone NF, C	88.08	335	⇑P	P	10 44 09.8	-0.2
	baz=88						
MDND	Maddock	88.12	343	⇑P	P	10 44 10.2	+0.4
	baz=88						
MDND	Maddock	88.12	343	eP	P	10 44 10.0	+0.2
	comp=Z,9.6nm,0.8s						
B30A	Myrvik Farm, E	88.40	344	⇑P	P	10 44 10.2	-0.8
	baz=89,SNR=12						
D25A	Fairfield	88.41	340	⇓P	P	10 44 10.7	-0.4
	baz=89						
C27A	Sayler Ranch,	88.45	342	⇑P	P	10 44 11.1	-0.2
	baz=89						
YMR	Madison River	88.52	334	eP	P	10 44 13.3	+1.3
	comp=Z,57nm,2.0s						
B29A	Wagenman Farm,	88.64	343	⇓P	P	10 44 11.0	-1.2
	baz=89,SNR=6.0						
C26A	Wahner Farm, P	88.71	341	⇑P	P	10 44 12.4	-0.1
	baz=89						
HLID	Hailey	88.80	332	eP	P	10 44 14.3	+1.0
	comp=Z,9.6nm,1.4s						
A30A	Hoffart Farm,	88.85	344	⇑P	P	10 44 13.2	+0.1
	baz=89						
B28A	Dugan Ranch, T	88.86	343	⇑P	P	10 44 12.4	-0.8
	baz=89,SNR=8.2						
A29A	Manning Farm,	89.04	343	⇓P	P	10 44 13.5	-0.6
	baz=89,SNR=9.3						
A28A	Rude Farm, Bot	89.27	343	⇓P	P	10 44 15.4	+0.3
	baz=90						
E19A	Rath Farm, Rou	89.38	337	⇓P	P	10 44 16.1	+0.3
	baz=90						
WVOR	Wild Horse Val	89.53	328	eP	P	10 44 17.8	+1.1
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WVOR	Wild Horse Val	89.53	328	eP	P	10 44 17.8	+1.1
	comp=Z,9.7nm,1.2s						
ULM	Lac du Bonnet	89.60	346	eP	P	10 44 16.1	-0.5
ULM	Lac du Bonnet	89.60	346	P	P	10 44 15.4	-1.2
	comp=Z,3.0nm,1.0s,baz=148,slow=0.8,SNR=3.3						
ULM	Lac du Bonnet	89.60	346	eP	P	10 44 16.1	-0.5
JTMT	Jette	92.33	334	eP	P	10 44 30.9	+1.4
	comp=Z,2.6nm,0.9s						
TAM	Tamanrasset	95.52	66	eP	P	10 44 45.4	+0.5
TAM				pmax	pmax		
	comp=Z,11nm,1.2s						
TAM	Tamanrasset	95.52	66	eP	P	10 44 45.4	+0.5
	comp=Z,11nm,1.2s						
ASAR	Alice Springs	113.81	208	PKKPbc	PKKPbc	11 00 39.5	-0.6
	comp=Z,0.4nm,0.5s,baz=336,slow=3.2,SNR=8.9						
GERES	GERESS Array B	115.56	47	PKP	PKPdf	10 50 00.1	-1.1
	comp=Z,1.2nm,0.7s,baz=228,slow=3.2,SNR=7.8						
CLL	Collm	116.33	44	ePKIKP	PKPdf	10 50 03.0	+0.6
CLL	Collm	116.33	44	ePKiKP	PKPdf	10 50 03.0	+0.6
WRA	Warramunga Arr	117.02	210	PKP	PKPdf	10 50 03.7	-1.2
	comp=Z,0.3nm,0.7s,baz=189,slow=1.4,SNR=3.8						
WRA				PKKPbc	PKKPbc	11 00 29.1	+0.1
	comp=Z,0.8nm,0.9s,baz=344,slow=4.3,SNR=5.8						
WRAB	Tennant Creek	117.03	210	c iPKIKP	PKPdf	10 50 07.2	+2.3
WRAB				pmax	pmax		
	comp=Z,33nm,2.5s						
BRTR	Keskin Array B	124.66	64	PKP	PKPdf	10 50 19.2	+0.2
	comp=Z,3.7nm,0.8s,baz=196,slow=3.7,SNR=16						
AKASG	Malin Array Be	125.53	50	PKP	PKPdf	10 50 18.4	-1.6
	comp=Z,0.8nm,0.6s,baz=264,slow=3.1,SNR=7.2						
AKASG				PP	PP	10 52 08.3	-3.9
	comp=Z,1.9nm,0.8s,baz=253,slow=6.8,SNR=7.4						
SPITS	Spitsbergen Ar	126.44	15	PKP	PKPdf	10 50 19.2	-1.9
	comp=Z,1.7nm,0.6s,baz=130,slow=4.7,SNR=4.3						
RAYN	Ar Rayn	126.61	87	ePKPdf	PKPdf	10 50 23.8	+0.7
FINES	FINESS Array B	126.65	36	PKP	PKPdf	10 50 21.2	-0.7
	comp=Z,6.1nm,1.1s,baz=243,slow=8.4,SNR=6.8						
KLMR	Klimovskoe	133.03	38	ePKIKP	PKPdf	10 50 33.2	-0.8
KLMR				pmax	pmax		
	comp=Z,20nm,1.5s						
PRGR	Permogore	135.97	37	ePKIKP	PKPdf	10 50 38.0	-1.5
PRGR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PETK	Petropavlovsk-	141.57	311	PKP	PKPdf	10 50 49.8	-0.3
	comp=Z,3.1nm,0.9s,baz=120,slow=8.5,SNR=3.3						
GEYT	Alibeck	142.21	74	PKhKP	PKPpre	10 50 47.6	
	comp=Z,2.4nm,0.4s,baz=264,slow=4.5,SNR=7.1						
SEY	Seymchan	142.38	327	PKhKP	PKPpre	10 50 45.5	
	comp=Z,0.3nm,0.4s,baz=123,slow=12,SNR=3.6						
ARU	Arti	143.26	43	i PKIKP	PKPbc	10 50 50.0	-0.1
ARU						10 54 00.0	
AKTO	Aktyubinsk	143.57	54	PKP	PKPbc	10 50 50.9	-0.2
	comp=Z,14nm,1.1s,baz=244,slow=1.0,SNR=25						
TIXI	Tiksi	143.92	348	ePKIKP	PKPab	10 50 50.1	-0.8
TIXI	Tiksi	143.92	348	ePKPdf	PKPab	10 50 50.1	-0.8
PSI	Prapat	144.75	167	PKP	PKPab	10 50 54.5	-1.3
	comp=Z,31nm,1.0s,baz=218,slow=6.1,SNR=11						
ABKAR	Akbulak array	144.85	55	ePKPdf	PKPab	10 50 55.0	-0.1
POO	Poona	145.87	115	⇓i P	PKPdf	10 50 57.0	-1.7
	comp=Z,278nm,2.0s						
KULM	Kulim	147.47	169	ePKPdf	PKPdf	10 51 01.8	+0.2
KULM				ePKPbc	PKPbc	10 51 03.6	-0.4
KULM				ePKPab	PKPab	10 51 05.6	-0.4
HYB	Hyderabad	148.42	122	i PKP	PKPbc	10 51 05.5	-1.0
KBL	Kabul	149.83	84	ePKP2	PKPbc	10 51 09.6	-0.2
KBL	Kabul	149.83	84	ePKPbc	PKPbc	10 51 09.6	-0.2
KBL				ePKPab	PKPab	10 51 14.9	-0.4
BRVK	Borovoye	150.66	46	ePKIKP	PKPdf	10 51 05.9	+0.5
BRVK				e		10 51 11.0	
BRVK				e		10 51 17.7	
BRVK	Borovoye	150.66	46	ePKPdf	PKPdf	10 51 05.9	+0.5
BRVK				ePKPbc	PKPbc	10 51 11.0	+0.1
BRVK				ePKPab	PKPab	10 51 17.7	-0.2
BVAR	Borovoye Array	150.73	46	PKP	PKPdf	10 51 05.8	+0.3
	comp=Z,1.2nm,0.7s,baz=228,slow=1.7,SNR=7.3						
BVAR				PKPbc	PKiKP	10 51 11.5	-0.3
	comp=Z,10nm,0.7s,baz=235,slow=3.8,SNR=19						
YAK	Yakutsk	151.55	337	ePKIKP	PKPdf	10 51 06.4	-0.1
YAK				e		10 51 11.8	
YAK				e		10 51 19.9	
YAK	Yakutsk	151.55	337	ePKPdf	PKPdf	10 51 06.4	-0.1
YAK				ePKPbc	PKPbc	10 51 11.8	-0.9
YAK				ePKPab	PKPab	10 51 19.9	-1.4
ASAJ	Asahikawa	151.96	295	PKPbc	PKPbc	10 51 13.0	-1.2
	comp=Z,6.9nm,0.7s,baz=275,slow=11,SNR=4.4						
KKAR	Karatay Array	152.28	67	ePKIKP	PKPdf	10 51 08.3	0.0
KKAR				e		10 51 15.2	
KKAR	Karatay Array	152.28	67	ePKPdf	PKPdf	10 51 08.3	0.0
KKAR				ePKPbc	PKPbc	10 51 15.2	+0.1
KKAR				ePKPab	PKPab	10 51 25.6	+0.6
MJAR	Matsushiro Arr	154.60	278	PKPab	PKPab	10 51 33.5	-1.6
	comp=Z,2.9nm,1.0s,baz=150,slow=4.2,SNR=4.9						
EKS2	Erkin-Say	154.68	68	ePKIKP	PKPdf	10 51 11.7	-0.2
EKS2				e		10 51 20.2	
EKS2	Erkin-Say	154.68	68	ePKPdf	PKPdf	10 51 11.7	-0.2
EKS2				ePKPbc	PKPbc	10 51 20.2	-0.2
EKS2				ePKPab	PKPab	10 51 36.1	+0.7
AAK	Ala-Archa	155.21	68	PKIKP	PKPdf	10 51 12.3	-0.3
AAK				e		10 51 21.0	
AAK						10 51 22.1	
AAK	Ala-Archa	155.21	68	PKP	PKPdf	10 51 12.3	-0.3
	comp=Z,1.8nm,0.6s,baz=238,slow=2.8,SNR=5.9						
AAK				PKPbc	PKPbc	10 51 22.1	
	comp=Z,8.8nm,0.8s,baz=219,slow=3.6,SNR=17						
AAK				PKPab	PKPab	10 51 38.7	+1.0
	comp=Z,12nm,0.6s,baz=225,slow=4.2,SNR=13						
AAK	Ala-Archa	155.21	68	PKP	PKPdf	10 51 12.3	-0.3
AAK				ePKPdf	PKPdf	10 51 12.5	-0.2
AAK				ePKPbc	PKPbc	10 51 21.0	
AAK				PKPbc	PKPbc	10 51 22.1	
AAK				PKPab	PKPab	10 51 38.7	+1.0
AAK				ePKPab	PKPab	10 51 38.7	+1.0
KSH	Kashi	156.22	76	PKP	PKPdf	10 51 14.5	+0.5
KSH				sPKP		10 51 28.5	
KSH				PKS	PKSdf	10 54 47.7	-0.3
KSH				PP	PP	10 55 19.4	-0.9
KSH				SKS	SKSdf	10 58 15.9	-3.0
KSH				SKKS	SKKSac	11 02 05.3	-2.7
KSH				LN			
	comp=Z,45nm,4.0s						
KSH				LE			
	comp=Z,50nm,4.4s						
KSH				LZ			
	comp=Z,260nm,6.7s						
NVS	Novosibirsk	156.63	35	ePKIKP	PKPdf	10 51 12.9	-0.9
NVS				pmax	pmax		
	comp=Z,23nm,1.4s						
ZALV	Zalesovo Beam	157.91	35	PKP	PKPdf	10 51 14.8	-0.7
	comp=Z,6.2nm,1.0s,baz=270,slow=3.0,SNR=18						
ZALV				PKPab	PKPab	10 51 49.4	+0.8
	comp=Z,15nm,0.8s,baz=302,slow=5.2,SNR=19						
PYUN	Piuthan	158.28	109	eP	PKPab	10 51 51.4	0.0
	comp=Z,50nm,1.0s						
KOLN	Koldanda	158.56	110	eP	PKPab	10 51 52.3	-0.3
	comp=Z,102nm,1.6s						
DANN	Dangsing	158.99	109	eP	PKPab	10 51 54.4	-0.1
	comp=Z,105nm,1.1s						
GKN	Gorkha	159.46	111	eP	PKPab	10 51 56.3	-0.1
DMN	Daman	159.59	113	eP	PKPab	10 51 57.1	0.0
	comp=Z,54nm,1.1s						
PKIN	Phulchoki	159.78	113	eP	PKPab	10 51 57.3	-0.7
PKI	Pulchoki	159.79	113	eP	PKPab	10 51 57.8	-0.3
	comp=Z,52nm,1.1s						
KKN	Kakani	159.82	113	eP	PKPab	10 51 57.9	-0.1
CMAR	Chiang Mai Arr	159.90	159	PKP	PKPdf	10 51 18.1	-0.9
	comp=Z,1.0nm,0.3s,baz=204,slow=1.7,SNR=6.4						
CMAR				PKPab	PKPab	10 51 56.3	-1.8
	comp=Z,0.7nm,0.3s,baz=229,slow=3.9,SNR=4.9						
MKAR	Makanchi Array	160.00	55	PKP	PKPdf	10 51 17.8	-0.5
	comp=Z,7.1nm,1.2s,baz=264,slow=1.2,SNR=19						
MKAR				PKPab	PKPab	10 51 58.2	+0.2
	comp=Z,3.0nm,0.7s,baz=297,slow=4.2,SNR=10						
MKAR				PP	PP	10 55 39.9	-0.5
	comp=Z,1.5nm,1.0s,baz=268,slow=5.6,SNR=5.1						
RAMN	Ramite	160.28	117	eP	PKPab	10 52 00.4	+0.3
	comp=Z,26nm,0.6s						
GUN	Gumba	160.32	113	eP	PKPab	10 52 00.3	-0.1
	comp=Z,33nm,1.0s						
JIRN	Jiri	160.41	114	eP	PKPab	10 52 00.5	-0.3
	comp=Z,78nm,1.1s						
CN2	Changchun	164.23	299	ePKP	PKPdf	10 51 23.5	+0.9
CN2				PP	PP	10 56 06.5	+3.5
CN2				PPMZ			
	comp=Z,400nm,7.0s						
CN2				LN			
	comp=Z,800nm,13.0s						
CN2				LE			
	comp=Z,2μm,13.0s						
CN2				LZ			
	comp=Z,1μm,15.0s						
WMQ	Urumqi	164.55	60	PKP	PKPdf	10 51 23.2	+0.2
WMQ				PKPab	PKPab	10 52 19.6	+1.4
WMQ				PKS	PKSdf	10 54 55.0	-0.9
WMQ				PP	PP	10 56 07.7	+2.9
WMQ				SS	SS	11 16 34.5	-1.6
WMQ				LN			
	comp=Z,87nm,20.0s						
WMQ				LE			
	comp=Z,260nm,25.0s						
WMQ				LZ			
	comp=Z,170nm,22.0s						
TLY	Talaya	165.75	7	PKPab	PKPab	10 52 22.3	-0.6
	comp=Z,1.2nm,0.6s,baz=318,slow=3.7,SNR=6.1						
ZAK	Zakamensk	166.99	9	ePKP2	PKPab	10 52 27.1	-1.5
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
NJ2	Nanjing	168.34	246	ePKP	PKPdf	10 51 27.3	+1.1
SONM	Songino Array	169.72	360	PKP	PKPdf	10 51 25.4	-1.4
	comp=Z,0.5nm,0.9s,baz=301,slow=3.1,SNR=4.1						
SONM				PKPab	PKPab	10 52 41.0	+0.2
	comp=Z,3.2nm,1.1s,baz=324,slow=2.0,SNR=11						
SONM				PP	PP	10 56 33.2	+3.1
	comp=Z,1.3nm,1.2s,baz=352,slow=7.2,SNR=3.2						
WHN	Wuhan	170.35	226	PKP	PKPdf	10 51 28.5	+1.0
CD2	Chengdu	173.04	161	ePKP	PKPdf	10 51 29.8	+1.0
GTA	Gaotai	174.56	68	ePKP	PKPdf	10 51 28.8	-0.4
GTA				pPKP	pPKPdf	10 51 39.5	+2.5
GTA				sPKP		10 51 43.1	
GTA				PKPab	PKPab	10 53 03.8	+1.1
GTA				PP	PP	10 56 56.9	+1.4
GTA				SKS	SKSdf	10 58 26.5	-4.4
GTA				SKKS	SKKSac

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
CACH	El Canelo	3.15	43	eP1	Pn	10 39 11.5	+0.2
CACH	El Canelo	3.15	43	eP	Pn	10 39 11.5	+0.2
CHCH	Chadas Angostu	3.26	40	⇑iP	Pn	10 39 13.1	+0.3
CHCH	Chadas Angostu	3.26	40	⇑iP	Pn	10 39 13.1	+0.3
ANTU	Antumapu	3.56	37	eP1	Pn	10 39 16.5	-0.4
ANTU	Antumapu	3.56	37	eP	Pn	10 39 16.5	-0.4
PEL	Peldehue	3.89	33	⇑iP	Pn	10 39 21.6	+0.2
PEL				iS	Sn	10 40 07.7	+1.4
PEL	Peldehue	3.89	33	⇑iP	Pn	10 39 21.6	+0.2
PEL				iS	Sn	10 40 07.7	+1.4
PLCA	Paso Flores	4.74	155	Pn	Pn	10 39 34.8	+1.6
	comp=N,4.6nm,0.3s,baz=310,slow=7.9,SNR=10						
PLCA				Lg	Lg	10 40 49.9	
	comp=N,8.7nm,0.3s,baz=203,slow=8.2,SNR=3.9						
CFAA	Coronel Fontan	6.34	42	Pn	Pn	10 39 54.6	-0.5
	comp=N,0.7nm,0.3s,baz=212,slow=12,SNR=15						
CFAA				Sn	Sn	10 41 06.6	-0.3
	comp=N,0.4nm,0.3s,baz=167,slow=17,SNR=2.1						
TRQA	Tornquist	9.07	103	ePn	Pn	10 40 32.6	0.0
LVC	Limon Verde	14.29	16	ePn	Pn	10 41 43.4	-0.7
LVC				eSn	Sn	10 44 26.4	+4.4
CPUP	Villa Florida	16.86	58	Pn	Pn	10 42 18.1	+0.6
	comp=N,1.0nm,0.3s,baz=212,slow=7.9,SNR=3.1						
CPUP	Villa Florida	16.86	58	ePn	Pn	10 42 16.2	-1.3
USHA	Ushuaia	18.67	171	P	Pn	10 42 41.0	+1.5
	comp=N,0.4nm,0.3s,baz=247,slow=1.3,SNR=3.9						
LPAZ	La Paz	20.58	14	P	P	10 43 01.9	+0.9
	comp=N,1.9nm,0.6s,baz=210,slow=9.3,SNR=5.5						
LPAZ	La Paz	20.58	14	eP	P	10 42 57.9	-3.0
	comp=N,16nm,0.9s						
SIV	San Ignacio	23.05	31	P	P	10 43 26.3	-0.5
	comp=N,13nm,0.9s,baz=224,slow=14,SNR=4.2						
SAML	Samuel	28.85	21	eP	P	10 44 19.2	-0.6
	comp=N,1.2nm,0.5s						
SNAA	Sanae	49.68	157	P	P	10 47 12.8	+0.2
	comp=N,2.6nm,0.9s,baz=281,slow=7.2,SNR=5.2						
QSPA	South Pole Qui	53.78	180	P	P	10 47 44.3	+1.0
	comp=N,4.3nm,1.1s,baz=325,slow=4.9,SNR=8.7						
QSPA	South Pole Qui	53.78	180	eP	P	10 47 43.8	+0.5
	comp=N,4.4nm,0.9s						
TXAR	Lajitas Array	71.44	332	P	P	10 49 41.7	+0.2
	comp=N,1.9nm,0.8s,baz=152,slow=8.2,SNR=21						
SWET	Sewanee	72.29	349	eP	P	10 49 46.2	-0.2
	comp=N,27nm,1.3s						
WVT	Waverly	73.49	348	eP	P	10 49 52.8	-0.6
	comp=N,20nm,1.4s						
DBIC	Dimbokro	76.85	71	P	P	10 50 12.5	-0.8
	comp=N,2.7nm,0.6s,baz=223,slow=6.0,SNR=5.2						
ANMO	Albuquerque	77.51	333	eP	P	10 50 17.5	+0.8
	comp=N,5.9nm,1.3s						
BOSA	Boshof	79.75	118	P	P	10 50 29.4	0.0
	comp=N,8.3nm,0.9s,baz=236,slow=4.7,SNR=7.6						
LBTB	Lobatse	82.12	115	eP	P	10 50 41.0	-1.1
	comp=N,6.0nm,0.7s						
CCUT	Cedar City	82.50	329	eP	P	10 50 45.5	+1.8
	comp=N,4.4nm,1.1s						
ECSD	EROS Data Cent	82.61	343	eP	P	10 50 42.8	-1.0
	comp=N,5.5nm,0.7s						
SRU	San Rafael Swe	82.71	332	eP	P	10 50 42.7	-2.0
DUG	Dugway, Tooele	84.53	331	eP	P	10 50 50.4	-3.6
	comp=N,8.4nm,1.3s						
HWUT	Hardware Ranch	85.27	332	eP	P	10 50 56.3	-1.4
	comp=N,7.6nm,1.0s						
NVAR	Mina Array Bea	85.38	326	P	P	10 50 59.4	+1.0
	comp=N,1.4nm,0.7s,baz=159,slow=6.6,SNR=10						
PDAR	Pinedale Array	85.54	334	P	P	10 50 59.6	+0.5
	comp=N,1.5nm,1.1s,baz=122,slow=7.2,SNR=5.8						
HVU	Hansel Valley	85.88	331	eP	P	10 50 57.2	-3.5
	comp=N,2.3nm,1.0s						
TORD	Torodi Ar. Bea	85.92	71	P	P	10 51 00.6	-0.7
	comp=N,2.0nm,0.9s,baz=248,slow=3.3,SNR=7.1						
PAF	Port-aux-Franc	88.60	157	eP	P	10 51 09.5	-4.3
	comp=N,261nm,1.3s						
WRA	Warramunga Arr	118.17	210	PKP	PKPdf	10 57 07.6	-1.0
	comp=N,0.3nm,0.6s,baz=175,slow=1.7,SNR=5.0						
ABKAR	Akbulak array	143.91	54	ePKPdf	PKPab	10 57 53.1	0.0
BVAR	Borovoye Array	149.69	45	PKPbc	PKPbc	10 58 10.4	+0.3
	comp=N,0.5nm,0.5s,baz=323,slow=2.2,SNR=3.3						
ZALV	Zalesovo Beam	156.79	34	PKP	PKPdf	10 58 15.8	+0.3
	comp=N,0.4nm,0.6s,baz=268,slow=4.2,SNR=3.0						
ZALV				PKPab	PKPab	10 58 45.7	+0.4
	comp=N,0.9nm,0.6s,baz=260,slow=4.5,SNR=3.9						
MKAR	Makanchi Array	159.04	53	PKP	PKPdf	10 58 18.6	0.0
	comp=N,0.1nm,0.5s,baz=234,slow=2.8,SNR=4.1						
MKAR				PKPab	PKPab	10 58 53.5	-1.8
	comp=N,0.3nm,0.6s,baz=264,slow=4.3,SNR=3.1						
SONM	Songino Array	168.63	1	PKPab	PKPab	10 59 37.7	+0.3
	comp=N,0.4nm,0.9s,baz=321,slow=3.7,SNR=3.7						

IDC 05 10:47:28.9±1.8, 38°.14S×73°.25W, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.5/22, mbtmp3.3/4, ML3.5/2, Error ellipse: s-maj=54.4km s-min=31.9km az=57.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
PLCA	Paso Flores	3.33	142	Pn	Pn	10 48 23.5	+1.2
	2.2nm,0.3s,baz=313,slow=8.6,SNR=15						
PLCA				Lg	Lg	10 49 08.2	
	10nm,0.3s,baz=236,slow=18,SNR=5.1						
CFAA	Coronel Fontan	7.71	34	Pn	Pn	10 49 23.6	+1.1
	0.1nm,0.3s,baz=213,slow=17,SNR=5.0						
TXAR	Lajitas Array	72.91	332	P	P	10 59 00.2	+0.4
	0.2nm,0.7s,baz=160,slow=8.2,SNR=3.3						
TORD	Torodi Ar. Bea	86.53	70	P	P	11 00 12.8	-1.3
	0.3nm,0.5s,baz=220,slow=4.4,SNR=4.8						

SKHL 05 10:59:55.5±1.8, 52°.70N×143°.50E, h10km, mb3.5/3, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
OKH	Okha	0.92	338	ePg	Pn	11 00 15.8	+1.4
OKH				eSg	Sn	11 00 30.2	+2.5
OKH				A	A	11 00 33.5	
	5μm,0.6s						
OKH				A	A	11 00 33.5	
	4μm,0.6s						
NKL	Nikolayevsk	1.77	286	⇓iPb	Pb	11 00 28.5	+0.6
NKL				AMB	AMB	11 00 29.5	
	7.0nm,0.4s						
NKL				AMB	AMB	11 00 29.5	
	9.0nm,0.4s						
NKL				AMB	AMB	11 00 29.5	
	14nm,0.4s						
NKL				iPg	Pg	11 00 31.0	+1.7
NKL				AMB	AMB	11 00 33.0	
	60nm,0.4s						
NKL				eSg	Sg	11 00 55.0	+2.8
NKL				A	A	11 00 59.0	
	320nm,0.5s						
TYV	Tymovskoe	1.91	196	ePg	Pg	11 00 32.6	+0.4
TYV				AMB	AMB	11 00 33.0	
	6.0nm,0.4s						
TYV				AMB	AMB	11 00 33.0	
	9.0nm,0.4s						
TYV				eSg	Sg	11 00 59.7	+2.7
TYV				A	A	11 01 07.0	
	112nm,0.8s						
GRNR	Gornyy	4.80	249	ePg	Pg	11 01 29.6	+2.1
GRNR				eSg	Sg	11 02 36.6	+6.8
EKMR	Ekimchan	6.40	278	eP	Pn	11 01 34.1	+4.3
EKMR				ePg	Pg	11 02 02.0	+4.0
EKMR				AMB	AMB	11 02 14.2	
	4.0nm,0.5s						
EKMR				eSg	Sg	11 03 28.8	+7.9
EKMR				A	A	11 03 41.2	
	24nm,0.8s						
EKMR				A	A	11 03 41.2	
	5.0nm,0.8s						
EKMR				A	A	11 03 41.2	
	19nm,0.8s						
KLR	Kul'dur	8.19	250	eSg	Sb	11 04 02.2	+7.4
BMKR	Bomnak	8.93	289	eS	Sn	11 03 51.9	+7.0
BMKR				eSg	Sg	11 04 14.0	-28
BMKR				A	A	11 04 15.5	
	3.0nm,0.7s						
YASR	Yasnyy	9.38	280	eSg	Sn	11 04 52.1	+56
YASR				A	A	11 04 58.3	
	8.0nm,0.7s						
ZEA	Zeya	9.80	283	eSg		11 05 32.4	
KROS	Kirovskiy	9.99	287	eSg		11 05 17.1	
KROS				A	A	11 05 18.1	
	2.0nm,0.6s						

IDC 05 11:00:42.5±2.8, 3°.86N×126°.51E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/42, mbtmp3.2/3, MS2.5/1, Ms1 2.5/1, ms1mx2.5/14, Error ellipse: s-maj=269.1km s-min=25.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
TGY	Tagaytay City	11.57	332	LR	LR	11 08 31.3	
	comp=Z,24nm,18.8s,baz=299,slow=40						
WRA	Warramunga Arr	24.87	162	P	P	11 06 06.5	-0.7
	0.3nm,0.5s,baz=341,slow=10,SNR=7.3						
ASAR	Alice Springs	28.29	166	P	P	11 06 38.5	+0.6
	0.4nm,0.8s,baz=345,slow=12,SNR=3.5						
MKAR	Makanchi Array	57.33	325	P	P	11 10 32.4	-0.1
	0.1nm,0.5s,baz=120,slow=7.5,SNR=3.1						

*ISCJB **05** 11:04:48.5±0.5, 66°.13N±0°.05×121°.69W±0°.08, h10km, mb3.7/1, Error ellipse: s-maj=7.6km s-min=3.7km az=24.2*
*IDC **05** 11:04:51.9±1.5, 66°.28N×121°.44W, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.3/53, mbtmp3.5/5, ML3.2/3, Error ellipse: s-maj=17.9km s-min=11.6km az=9.0*
*PGC **05** 11:04:53.2±0.0, 66°.17N×121°.60W, h10km, ML3.7/5, 253km east of Norman Wells, Nt Northwest Territories, Canada*

ISC 05 11:04:49.4±0.8, 66°.22N±0°.06×121°.49W±0°.04, h10km, n20, σ2°63/32, 15D, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
ROMN	Roman Lake	2.41	141	⇑Pn	Pb	11 05 31.9	-0.9
ROMN				⇑Pg	Pg	11 05 37.8	+2.3
ROMN				⇓Sg	Sg	11 06 07.2	+0.6
GALN	Gameti Lake	2.75	138	⇓Pn	Pb	11 05 36.5	-2.1
GALN				⇓Pg	Pg	11 05 44.5	+2.4
GALN				⇑Sg	Sg	11 06 17.2	-0.5
CTLN	Castor Lake	2.92	126	⇓Pn	Pb	11 05 39.2	-2.3
CTLN				⇓Pg	Pg	11 05 47.4	+2.1
CTLN				⇓Sg	Sg	11 06 24.7	+1.7
YKW3	Yellowknife Ar	4.73	138	⇑Pn	Pn	11 06 03.7	+3.0
YKW3				⇓Sn	Sn	11 06 57.0	+1.4
YKW3				⇑Sg	Sg	11 07 18.6	-2.6
YKA	Yellowknife Ar	4.79	138	Pn	Pn	11 06 04.1	+2.7
	1.1nm,0.3s,baz=318,slow=13,SNR=98						
YKA				Lg	Lg	11 07 19.7	
	11nm,0.3s,baz=321,slow=28,SNR=19						
INK	Inuvik	5.11	300	⇓Pn	Pn	11 06 07.8	+2.0
INK				⇓Sn	Sn	11 07 03.6	-1.2
SNLN	Sandy Lake, NW	6.88	113	⇑Pn	Pn	11 06 33.8	+3.7
SNLN				⇓Sn	Sn	11 07 47.2	-1.1
SNLN				⇓Sg	Sg	11 08 26.2	-3.7
DAWY	Dawson	7.84	262	⇑Pn	Pn	11 06 44.9	+1.6
DAWY				⇑Sn	Sn	11 08 11.1	-0.9
HILA	High Level	7.97	163	⇓Pn	Pn	11 06 45.7	+0.6
HILA				⇓Sn	Sn	11 08 11.8	-3.4
WHY	Whitehorse	8.18	233	⇓Pn	Pn	11 06 49.4	+1.3
WHY				⇑Sn	Sn	11 08 16.3	-4.2
DLBC	Dease Lake	8.76	211	⇑Pn	Pn	11 07 00.6	+4.7
DLBC	Dease Lake	8.76	211	Pn	Pn	11 06 59.0	+3.0
	0.1nm,0.3s,baz=10,slow=11,SNR=3.3						
DLBC				Sn	Sn	11 08 32.9	-1.7
	0.3nm,0.3s,baz=236,slow=11,SNR=2.2						
HYT	Haines Junctio	8.95	240	⇑Pn	Pn	11 06 59.9	+1.2
HYT				⇑Sn	Sn	11 08 33.2	-6.3
ILAR	Eielson Array	10.62	274	Pn	Pn	11 07 22.4	+1.0
	0.4nm,0.3s,baz=76,slow=12,SNR=22						
ILAR				Sn	Sn	11 09 15.7	-4.4
	0.1nm,0.3s,baz=65,slow=28,SNR=2.9						
WAPA	Wapiti River	11.13	173	⇑Sn	Sn	11 09 25.9	-6.9
STLN	Stellar Camp,	11.26	71	⇑Pn	Pn	11 07 31.6	+1.6
STLN				⇓Sn	Sn	11 09 30.3	-5.5
BULN	Bullion Camp,	11.36	76	⇓Pn	Pn	11 07 32.7	+1.1
BULN				⇑Sn	Sn	11 09 33.4	-4.9
RES	Resolute Bay	12.15	34	Lg	Lg	11 11 09.3	
	baz=241,slow=13,SNR=2.3						
ULM	Lac du Bonnet	20.68	128	P	Pn	11 09 32.6	+1.1
	1.2nm,0.5s,baz=330,slow=12,SNR=3.3						
FRB	Frobisher Bay	21.97	72	P	P	11 09 45.7	+2.9
	1.2nm,0.4s,baz=306,slow=12,SNR=5.8						

*CSEM **05** 11:06:02.8, 53°.10N×63°.16E, h0km, mb3.5, Suspected Mining explosion.*

NNC 05 11:06:02.8±3.2, 53°.10N×63°.16E, h0km, mb3.5, mpv3.1, 4C-3D, Error ellipse: s-maj=54.0km s-min=14.1km az=154.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
AKTO	Aktyubinsk	4.16	232	⇑Lg	Lg	11 08 14.0	
AKTO	Aktyubinsk	4.16	232	Lg	Lg	11 08 14.0	
BRVK	Borovoye	4.29	88	⇓Pn	Pn	11 07 10.1	+0.8
	6.5nm,1.2s						
BRVK				⇓Lg	Lg	11 08 18.6	
BRVK	Borovoye	4.29	88	Pn	Pn	11 07 10.1	+0.8
	6.5nm,1.2s						
BRVK				Lg	Lg	11 08 18.6	
AB31	Akbulak array	4.35	209	⇑Lg	Lg	11 08 20.8	
	2.3nm,0.4s,baz=13,slow=23,SNR=4.5						
AB31	Akbulak array	4.35	209	Lg	Lg	11 08 20.8	
	2.3nm,0.4s,SNR=4.5						
BVA0	Borovoye Array	4.36	88	⇑Pn	Pn	11 07 09.9	-0.3
	3.9nm,1.4s,baz=284,slow=14,SNR=3.7						
BVA0				⇑Lg	Lg	11 08 20.8	
	baz=20,slow=8.4,SNR=5.0						
BVA0	Borovoye Array	4.36	88	Pn	Pn	11 07 09.9	-0.3
	3.9nm,1.4s,SNR=3.7						
BVA0				Lg	Lg	11 08 20.8	
	SNR=5.0						
VOSK	Vostochnaya	4.75	91	⇓Lg	Lg	11 08 31.6	
	3.4nm,0.9s						

*IDC **05** 11:24:06.2±0.6, 36°.77S×73°.48W, h0km, mb4.4/11, mb1 4.5/15, mb1mx4.4/26, mbtmp4.4/15, ML4.3/3, MS4.4/3, Ms1 4.4/3, ms1mx4.1/34, Error ellipse: s-maj=22.8km s-min=15.1km az=86.0*
*ISCJB **05** 11:24:09.7±0.2, 36°.68S±0°.05×73°.32W±0°.05, h27km, mb4.7/45, MS4.3/1, Error ellipse: s-maj=7.2km s-min=5.4km az=41.3*
*BJI **05** 11:24:11.1, 36°.64S×73°.24W, h35km, mB5.3/5, Ms5.2/2*
*NEIC **05** 11:24:12.1±0.2, 36°.76S×73°.29W, h35km, mb4.8/35, Error ellipse: s-maj=8.7km s-min=6.2km az=68.0*

ISC 05 11:24:10.9±0.3, 36°.73S±0°.05×73°.41W±0°.08, h27km, n342, σ0°82/369, mb4.8/45, 116C-129D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
PLCA	Paso Flores	4.58	152	Pn	Pn	11 25 18.4	+0.1
	3.2nm,0.3s,baz=324,slow=11,SNR=26						
PLCA				Pg	Pb	11 25 29.6	-0.9
	9.3nm,0.3s,baz=321,slow=14,SNR=20						
PLCA				Lg	Lg	11 26 28.2	
	34nm,0.3s,baz=154,slow=9.0,SNR=3.4						
CFAA	Coronel Fontan	6.67	41	Pn	Pn	11 25 46.4	-0.8
	0.8nm,0.3s,baz=204,slow=8.4,SNR=32						
TRQA	Tornquist	9.20	102	ePn	Pn	11 26 23.3	+1.6
TRQA				eSn	Sn	11 28 07.2	+2.9
LVC	Limon Verde	14.60	17	ePn	Pn	11 27 34.4	-1.6
	9.2nm,0.8s						
LVC				eSn	Sn	11 30 16.5	-0.5
CPUP	Villa Florida	17.17	57	P	P	11 28 09.6	-0.7
	1.0nm,0.3s,baz=217,slow=10,SNR=10						
CPUP				LR	LR	11 35 00.7	
	comp=Z,833nm,19.0s,baz=224,slow=38						
CPUP	Villa Florida	17.17	57	ePn	Pn	11 28 09.2	+0.5
	0.3nm,0.6s						
USHA	Ushuaia	18.42	171	P	P	11 28 23.1	-0.8
	baz=310,slow=8.1,SNR=3.2						
USHA				LR	LR	11 36 44.6	
	comp=Z,1μm,18.4s,baz=328,slow=41						
LPAZ	La Paz	20.90	14	P	P	11 28 52.6	+0.8
	5.7nm,0.7s,baz=184,slow=7.8,SNR=16						
LPAZ	La Paz	20.90	14	eP	P	11 28 52.5	+0.7
	91nm,1.9s						
SIV	San Ignacio	23.39	31	P	P	11 29 16.7	-0.8
	3.9nm,0.6s,baz=228,slow=12,SNR=12						
SIV				LR	LR	11 40 05.3	
	comp=Z,1μm,18.9s,baz=208,slow=41						
SAML	Samuel	29.18	21	eP	P	11 30 09.6	-0.4
	5.6nm,1.0s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
BDFB	Brasilia	30.83	54	P	P	11 30 25.4	+0.6
	4.0nm,0.7s,baz=285,slow=2.2,SNR=3.6						
OTAV	Otavalo	37.08	352	eP	P	11 31 20.6	+1.2
	33nm,1.9s						
PAYG	Puerto Ayora	39.13	333	eP	P	11 31 37.2	+0.9
	79nm,1.1s						
SDV	Santo Domingo	45.45	4	eP	P	11 32 26.5	-1.3
	13nm,0.9s						
VNA3	Neumayer Olymp	47.28	157	P	P	11 32 43.5	+2.1
VNA2	Neumayer--Watz	47.95	156	P	P	11 32 47.3	+0.7
JTS	JuntasAbangare	48.02	345	eP	P	11 32 49.3	+1.6
SNAA	Sanae	49.50	157	P	P	11 32 58.9	+0.3
SNAA	Sanae	49.50	157	eP	P	11 32 58.6	0.0
QSPA	South Pole Qui	53.51	180	P	P	11 33 28.8	+0.1
	10.0nm,0.9s,baz=163,slow=1.6,SNR=40						
QSPA	South Pole Qui	53.51	180	eP	P	11 33 28.5	-0.2
	4.1nm,0.6s						
CELP	Cerrillos	54.89	8	eP	P	11 33 35.7	-3.4
SDDR	Presa de Saban	55.45	2	eP	P	11 33 43.5	+0.3
TEIG	Tepich	58.37	344	eP	P	11 34 03.4	-0.3
	16nm,0.7s						
SYO	Syowa Base	63.74	158	⇓eP	P	11 34 37.0	-2.7
SYO	Syowa Base	63.74	158	⇓epP	pP	11 34 48.2	+0.1
735A	Kenedy	69.15	337	⇓P	P	11 35 15.8	+1.1
	baz=70						
833A	Chaparral WMA,	69.17	336	⇓P	P	11 35 15.4	+0.6
	baz=70,SNR=5.3						
832A	Faith Ranch, C	69.33	335	⇓P	P	11 35 16.0	+0.2
	baz=70						
636A	Smothers Creek	69.51	338	⇓P	P	11 35 18.0	+1.2
	baz=70						
732A	Laxson Ranch,	69.74	335	⇓P	P	11 35 18.5	+0.2
	baz=70,SNR=7.2						
536A	Bastrop	70.07	338	⇑P	P	11 35 21.3	+1.1
	baz=70						
633A	Saathoff Ranch	70.15	336	⇑P	P	11 35 21.7	+0.9
	baz=70						
535A	Dale	70.17	338	⇑P	P	11 35 21.9	+0.9
	baz=71						
438A	Sam Houston St	70.25	340	⇑P	P	11 35 22.3	+1.0
	baz=71						
632A	Uvalde	70.39	336	⇓P	P	11 35 23.2	+0.8
	baz=71						
534A	Blanco	70.45	337	⇓P	P	11 35 23.4	+0.7
	baz=71						
339A	Huntington	70.55	341	⇓P	P	11 35 23.9	+0.7
	baz=71						
631A	Perdido Creek	70.57	335	⇑P	P	11 35 24.0	+0.6
	baz=71						
436A	Wall Ranch, Ga	70.64	339	⇑P	P	11 35 24.2	+0.4
	baz=71						
533A	Kerrville	70.67	337	⇓P	P	11 35 24.5	+0.5
	baz=71						
338A	Crockett	70.77	340	⇑P	P	11 35 25.7	+1.1
	baz=71						
337A	Centerville	70.89	340	⇑P	P	11 35 26.4	+1.1
	baz=71						
532A	Rocksprings	71.00	336	⇓P	P	11 35 26.8	+0.7
	baz=71						
434A	Burnet	71.12	338	⇑P	P	11 35 27.3	+0.5
	baz=72						
336A	Riesel	71.23	339	⇓P	P	11 35 27.8	+0.5
	baz=72						
531A	Rocksprings	71.25	335	⇑P	P	11 35 27.9	+0.3
	baz=72,SNR=6.0						
JCT	Junction City	71.29	336	⇑P	P	11 35 28.3	+0.4
	baz=72						
JCT	Junction City	71.29	336	eP	P	11 35 28.4	+0.6
	15nm,1.2s						
335A	Moody	71.30	338	⇓P	P	11 35 28.6	+0.8
	baz=72						
433A	Art	71.32	337	⇓P	P	11 35 28.1	+0.1
	baz=72						
530A	J-C Ranch, Com	71.50	335	⇓P	P	11 35 29.8	+0.7
	baz=72,SNR=6.0						
237A	Washetta, Mont	71.52	340	⇓P	P	11 35 29.6	+0.5
	baz=72						
334A	Lometa	71.59	338	⇓P	P	11 35 29.9	+0.3
	baz=72						
TXAR	Lajitas Array	71.60	332	P	P	11 35 29.8	0.0
	2.1nm,0.7s,baz=151,slow=8.5,SNR=29						
432A	Menard	71.66	336	⇓P	P	11 35 30.4	+0.3
	baz=72						
431A	Sonora	71.75	336	⇑P	P	11 35 30.6	0.0
	baz=72						
529A	Stev Forest Ra	71.79	334	⇓P	P	11 35 31.1	+0.2
	baz=72						
333A	Richland Sprin	71.82	337	⇓P	P	11 35 31.3	+0.4
	baz=72						
KMSC	Kings Mountain	71.89	353	⇑P	P	11 35 31.6	+0.3
	baz=72						
138A	Matatall Enter	71.95	341	⇑P	P	11 35 32.0	+0.4
	baz=72						
WHTX	Lake Whitney,	71.97	339	⇑P	P	11 35 32.2	+0.3
	baz=72						
430A	Baggett Ranch,	72.05	335	⇑P	P	11 35 33.0	+0.5
	baz=72,SNR=5.7						
137A	Heron Place, G	72.07	340	⇓P	P	11 35 32.8	+0.5
	baz=72						
332A	Millersview	72.11	337	⇑P	P	11 35 33.3	+0.6
	baz=72						
429A	Davenport Ranc	72.13	334	⇑P	P	11 35 33.7	+0.8
	baz=72,SNR=6.9						
234A	Clairette	72.19	338	⇑P	P	11 35 33.3	+0.2
	baz=73						
331A	San Angelo	72.26	336	⇑P	P	11 35 33.7	+0.1
	baz=73						
233A	Rising Star	72.43	337	⇓P	P	11 35 34.8	+0.1
	baz=73						
SWET	Sewanee	72.53	349	eP	P	11 35 34.7	-0.4
	35nm,1.1s						
330A	Mertzon	72.60	335	⇑P	P	11 35 35.5	-0.2
	baz=73						
231A	Bronte	72.80	336	⇑P	P	11 35 36.8	0.0
	baz=73						
329A	Wagon Wheel Ra	72.95	335	⇓P	P	11 35 37.8	0.0
	baz=73						
133A	Hamilton Ranch	72.99	338	⇑P	P	11 35 38.0	+0.1
	baz=73						
Z35A	Perchaven, San	73.17	339	⇑P	P	11 35 39.3	+0.3
	baz=74						
ABTX	Abilene, Hawle	73.23	337	⇓P	P	11 35 39.7	+0.4
	baz=74						
229A	Bryant Ranch,	73.33	335	⇓P	P	11 35 40.4	+0.4
	baz=74						
131A	Roby	73.51	336	⇓P	P	11 35 41.1	+0.1
	baz=74						
Z33A

TUL1	Leonard 11nm,0.9s	75.21	341	eP	P	11 35 51.0 +0.3
W33A	Caddo, Fort Co baz=76	75.22	339	⇓P	P	11 35 51.2 +0.3
Y28A	McKinney Farm, baz=76	75.25	335	⇓P	P	11 35 51.1 -0.1
Z26A	Caprock baz=76,SNR=7.8	75.27	334	⇑P	P	11 35 51.6 +0.3
X30A	Coker Ranch, T baz=76	75.30	337	⇓P	P	11 35 51.6 +0.2
W32A	Sentinel baz=76	75.43	338	⇓P	P	11 35 52.5 +0.4
MSTX	Muleshoe baz=76	75.48	335	⇑P	P	11 35 52.8 +0.2
Y27A	Causey baz=76	75.54	335	⇓P	P	11 35 53.0 +0.1
Z25A	Roswell baz=76	75.54	333	⇑P	P	11 35 52.9 +0.1
X29A	Tulia baz=76	75.56	336	⇑P	P	11 35 53.1 +0.1
W31A	Holland Ranch, baz=76	75.69	338	⇑P	P	11 35 53.5 -0.1
V33A	Lossen Ranch, baz=76	75.80	339	⇓P	P	11 35 54.2 +0.1
Z24A	Sheeppen Canyo baz=76	75.82	333	⇓P	P	11 35 54.3 -0.3
V32A	Arapaho baz=76	75.92	339	⇓P	P	11 35 55.1 +0.2
121A	Cookes Peak, D baz=76	76.03	331	⇑P	P	11 35 56.7 +0.9
Y25A	Mesa, Roswell baz=76	76.11	334	⇑P	P	11 35 56.8 +0.7
W29A	Amarillo baz=77	76.17	336	⇓P	P	11 35 57.2 +0.8
U34A	Anderson Ranch baz=77	76.17	340	⇑P	P	11 35 57.1 +0.8
V31A	Spring Creek L baz=77	76.21	338	⇓P	P	11 35 57.2 +0.6
X27A	F and S Farms, baz=77	76.21	335	⇓P	P	11 35 57.3 +0.6
U33A	Lingo Farm, Me baz=77	76.32	340	⇓P	P	11 35 57.2 +0.1
Z22A	Elephant Butte baz=77	76.35	332	⇓P	P	11 35 58.4 +0.8
X26A	CR and CF Fran baz=77	76.36	335	⇑P	P	11 35 58.3 +0.7
Y24A	Capitan baz=77	76.38	333	⇓P	P	11 35 58.3 +0.6
V30A	Spur Ranch, Mi baz=77	76.45	337	⇓P	P	11 35 59.1 +1.1
U32A	Winter Ranch, baz=77	76.52	339	⇑P	P	11 35 59.0 +0.7
W27A	Bowe Ranch, En baz=77	76.58	335	⇓P	P	11 35 58.7 0.0
Y23A	Lovelace Mesa, baz=77	76.61	333	⇓P	P	11 35 58.9 -0.2
LIC	Lamto 57nm,1.4s	76.70	72	eP	P	11 35 59.3 -0.5
T33A	Patterson Ranc baz=77	76.97	340	⇓P	P	11 36 01.5 +0.7
TIC	Toumodi 5.7nm,0.2s	76.97	71	eP	P	11 36 01.2 -0.2
KIC	Kosan Boka 51nm,1.3s	77.00	72	eP	P	11 36 01.5 -0.1
TUC	Tucson 3.3nm,1.1s	77.06	328	eP	P	11 36 03.2 +1.6
DBIC	Dimbokro 6.8nm,0.7s,baz=198,slow=7.1,SNR=8.1	77.11	72	P	P	11 36 02.0 -0.1
DBIC	Dimbokro 12nm,1.0s	77.11	72	eP	P	11 36 01.4 -0.7
V27A	Dan Oppiter Fa baz=78	77.13	336	⇑P	P	11 36 02.4 +0.5
U30A	WK&E Inc. Balk baz=78	77.15	338	⇑P	P	11 36 02.4 +0.5
W25A	X Bar L Ranch, baz=78	77.19	334	⇓P	P	11 36 02.7 +0.4
X23A	Hourglass Bar baz=78	77.24	333	⇓P	P	11 36 03.3 +0.7
T32A	Huddler Ranch, baz=78	77.25	339	⇓P	P	11 36 03.3 +0.9
LAZ	Ladron 2.2nm,1.1s	77.44	332	eP	P	11 36 05.3 +1.6
V26A	Tequesquite Ra baz=78	77.49	335	⇓P	P	11 36 04.2 +0.3
U28A	Mallet baz=78	77.50	337	⇑P	P	11 36 04.3 +0.4
W24A	Lazy 6 Ranch, baz=78	77.52	334	⇑P	P	11 36 04.5 +0.3
214A	Organ Pipe Nat baz=78	77.64	326	⇓P	P	11 36 05.4 +0.7
ANMO	Albuquerque 5.9nm,1.0s	77.67	333	eP	P	11 36 06.2 +1.2
U27A	Thompson Grove baz=78	77.74	336	⇓P	P	11 36 05.8 +0.6
W23A	Werner Place, baz=78	77.74	333	⇑P	P	11 36 06.0 +0.5
V25A	Rancho No Teng baz=78,SNR=5.8	77.81	334	⇑P	P	11 36 06.2 +0.5
U26A	Atchley Ranch, baz=78	78.02	335	⇑P	P	11 36 07.3 +0.4
T28A	Walsh baz=78	78.15	337	⇓P	P	11 36 08.5 +1.0
U25A	Circle Dot Ran baz=79	78.24	335	⇓P	P	11 36 08.9 +0.7
V23A	Ortiz Mt. (NFS baz=79	78.28	333	⇑P	P	11 36 08.9 +0.5
T27A	Campo baz=79	78.29	336	⇓P	P	11 36 09.0 +0.7
R31A	Burdett baz=79	78.45	339	⇑P	P	11 36 09.6 +0.5
S28A	Manter baz=79	78.51	337	⇓P	P	11 36 10.0 +0.5
Q33A	Connelly Farm, baz=79	78.65	341	⇑P	P	11 36 10.9 +0.8
T26A	Comanche Natio baz=79	78.67	336	⇑P	P	11 36 11.0 +0.5
V22A	San Miguel Ran baz=79	78.69	333	⇓P	P	11 36 11.7 +1.0
U23A	El Rito baz=79	78.80	334	⇑P	P	11 36 12.1 +0.8
T25A	Trinidad baz=79,SNR=7.7	78.91	335	⇓P	P	11 36 13.1 +1.2
S26A	Kim baz=79	79.04	336	⇓P	P	11 36 13.0 +0.6
W18A	Petrified Fore baz=80	79.07	330	⇑P	P	11 36 13.4 +0.6
Q31A	Ellis baz=80	79.08	340	⇑P	P	11 36 13.2 +0.6
U22A	Llaves baz=80	79.09	333	⇑P	P	11 36 13.9 +1.0
X16A	Lo Mia Camp, P baz=80	79.16	329	⇓P	P	11 36 13.8 +0.6
R28A	Tribune baz=80	79.18	338	⇓P	P	11 36 13.6 +0.5
T24B	San Luis baz=80	79.18	334	⇓P	P	11 36 13.9 +0.5
Q30A	Quinter baz=80	79.29	339	⇓P	P	11 36 14.3 +0.6
T23A	Casias Ranch, baz=80	79.38	334	⇑P	P	11 36 14.8 +0.4
S25A	Robets Cordova baz=80	79.39	335	⇓P	P	11 36 14.9 +0.5
Y14A	Wickenburg baz=80	79.41	327	⇓P	P	11 36 15.2 +0.7
R27A	Eads baz=80	79.43	337	⇑P	P	11 36 14.8 +0.2
Q29A	Oakley baz=80	79.43	338	⇑P	P	11 36 14.9 +0.4
P32A	Huiting Farm, baz=80	79.44	340	⇓P	P	11 36 14.2 -0.2
TSUM	Tsumeb 5.7nm,1.1s	79.54	106	eP	P	11 36 16.3 +0.5
S24A	Houchin Ranch, baz=80	79.64	335	⇑P	P	11 36 16.1 +0.2
R26A	Arlington baz=80	79.65	336	⇑P	P	11 36 16.6 +0.8
R25A	Fountain Ranch baz=80	79.78	336	⇓P	P	11 36 17.4 +0.9
BOSA	Boshof 8.6nm,1.0s,baz=216,slow=4.0,SNR=5.7	79.79	118	P	P	11 36 16.4 -0.6
BOSA	Boshof	79.79	118	eP	P	11 36 16.9 -0.1
P30A	Selden baz=80	79.83	339	⇑P	P	11 36 17.4 +0.8
Q28A	Sharon Springs baz=80	79.84	338	⇑P	P	11 36 17.5 +0.8
Y12C	Blythe baz=80	79.92	326	⇑P	P	11 36 18.2 +1.0
P29A	Atwood baz=80	80.08	339	⇓P	P	11 36 19.0 +1.1
WUAZ	Wupatki baz=80	80.08	329	⇓P	P	11 36 19.0 +0.9
R24A	Sanders Place, baz=80,SNR=6.9	80.14	335	⇓P	P	11 36 19.3 +0.8
P28A	Saint Francis baz=81	80.29	338	⇑P	P	11 36 20.4 +1.3
S22A	4UR Ranch, Cre baz=81	80.30	334	⇓P	P	11 36 20.3 +0.8
R23A	Moffat baz=81	80.34	335	⇓P	P	11 36 20.8 +1.1
MVCO	Mesa Verde baz=81	80.43	332	⇑P	P	11 36 21.2 +1.1
MVCO	Mesa Verde 11nm,1.3s	80.43	332	eP	P	11 36 21.1 +0.9
IRM	Iron Mountain baz=81	80.55	326	⇓P	P	11 36 22.6 +2.0
PFO	Pinyon Flats O baz=81	80.68	325	⇑P	P	11 36 22.0 +0.5
O28A	Krutsinger Ran baz=81	80.81	338	⇑P	P	11 36 22.9 +1.0
P25A	Willow Gulch B baz=81,SNR=6.1	80.99	336	⇓P	P	11 36 23.8 +0.9
O27A	Beecher Island baz=82	81.08	338	⇑P	P	11 36 24.7 +1.4
U15A	North Rim baz=82	81.24	329	⇓P	P	11 36 25.3 +0.8
N28A	Pribbeno Ranch baz=82	81.26	339	⇓P	P	11 36 25.3 +1.0
GMRC	Granite Mounta baz=82	81.30	326	⇑P	P	11 36 25.9 +1.2
O26A	Horse Wrangler baz=82	81.38	337	⇑P	P	11 36 26.6 +1.6
SMCO	Snowmass 18nm,1.4s	81.62	334	eP	P	11 36 28.3 +1.7
L31A	Butterfield Fa baz=82	81.90	341	⇑P	P	11 36 28.0 +0.5
L30A	Spencer Herefo baz=82	81.92	340	⇑P	P	11 36 28.3 +0.6
P22A	Eagle baz=82	81.92	335	⇓P	P	11 36 28.1 +0.1
O23A	Lake Granby, G baz=83	82.19	335	⇓P	P	11 36 30.2 +0.7
GSC	Goldstone, Bar baz=83	82.25	325	⇑P	P	11 36 30.3 +0.7
K30A	Basset baz=83	82.56	341	⇑P	P	11 36 31.9 +0.8
CCUT	Cedar City 4.3nm,1.2s	82.64	329	eP	P	11 36 33.5 +1.7
ECSD	EROS Data Cent baz=83	82.82	343	⇑P	P	11 36 32.3 0.0
ECSD	EROS Data Cent 10.0nm,0.8s	82.82	343	eP	P	11 36 31.1 -1.2
SRU	San Rafael Swe	82.86	332	eP	P	11 36 33.2 +0.4
N22A	Wattenberg Ran baz=83	82.90	335	⇓P	P	11 36 33.8 +0.7
O20A	White River Ci baz=83	82.92	334	⇑P	P	11 36 34.0 +0.9
M24A	Cheyenne baz=83	82.97	337	⇑P	P	11 36 34.4 +1.1
K28A	Ten Mile Ranch baz=84	83.08	340	⇓P	P	11 36 34.5 +0.8
TMUT	Trail Mountain 125nm,2.7s	83.28	331	eP	P	11 36 36.4 +1.2
K27A	Flueckinger Fa baz=84	83.31	339	⇑P	P	11 36 36.0 +1.0
J29A	Okreek baz=84	83.44	341	⇓P	P	11 36 36.1 +0.6
SPMN	Marine on St. baz=84	83.44	346	⇑P	P	11 36 34.8 -0.6
N20A	Spence Gulch, baz=84	83.55	334	⇓P	P	11 36 36.4 0.0
I30A	Oacoma baz=84	83.67	341	⇑P	P	11 36 36.6 -0.1
J28A	Allard Ranch, baz=84	83.70	340	⇑P	P	11 36 37.6 +0.7
J27A	Elkhorn Farm, baz=84	83.76	339	⇓P	P	11 36 37.7 +0.5
MPU	Maple Canyon 6.8nm,1.0s	84.07	331	eP	P	11 36 40.4 +1.3
J26A	Sides Ranch, S baz=84	84.12	339	⇓P	P	11 36 39.3 +0.2
I28A	Midland baz=85	84.21	340	⇓P	P	11 36 39.6 +0.1
R11A	Troy Canyon, C baz=85	84.25	328	⇑P	P	11 36 40.5 +0.5
R11A	Troy Canyon, C	84.25	328	eP	P	11 36 41.5 +1.5
K23A	Bowen Ranch, D baz=85	84.39	337	⇓P	P	11 36 41.0 +0.5
JLU	Jordanelle 5.3nm,1.1s	84.51	332	eP	P	11 36 42.0 +0.6
I27A	Quinn baz=85	84.52	340	⇑P	P	11 36 41.5 +0.4
K22A	Casper baz=85	84.58	336	⇓P	P	11 36 42.4 +0.8
K22A	Casper 11nm,1.1s	84.58	336	eP	P	11 36 42.5 +0.9
J24A	Dixon Ranch, L baz=85	84.61	338	⇑P	P	11 36 42.5 +0.9
DUG	Dugway, Tooele baz=85	84.68	331	⇓P	P	11 36 42.7 +0.6
DUG	Dugway, Tooele 6.3nm,1.1s	84.68	331	eP	P	11 36 43.6 +1.5
TPH	Tonopah 48nm,2.6s	84.73	327	eP	P	11 36 43.8 +1.3
G30A	Faulkton baz=85	84.74	342	⇓P	P	11 36 42.8 +0.7
H28A	Mission Ridge baz=85	84.80	341	⇑P	P	11 36 42.5 +0.1
K21A	Alcova baz=85	84.80	336	⇓P	P	11 36 43.0 +0.3
I25A	Rochford baz=85	84.96	339	⇓P	P	11 36 43.8 +0.3
H27A	Howes baz=86	85.05	340	⇓P	P	11 36 44.2 +0.5
I24A	Kuemmerle Ranc baz=86	85.08	338	⇑P	P	11 36 44.2 +0.3
RSSD	Black Hills 3.5nm,0.8s	85.14	338	eP	P	11 36 44.4 +0.1
G28A	Parade baz=86	85.14	341	⇓P	P	11 36 44.4 +0.3
J22A	Midwest baz=86	85.25	336	⇓P	P	11 36 44.6 -0.3
HWUT	Hardware Ranch 9.8nm,1.1s	85.42	332	eP	P	11 36 46.6 +0.7
H25A	Fruitdale baz=86,SNR=6.0	85.47	339	⇓P	P	11 36 46.3 +0.5
NVAR	Mina Array Bea 0.8nm,0.8s,baz=150,slow=6.0,SNR=6.1	85.50	326	P	P	11 36 46.6 +0.2
F29A	Eureka baz=86	85.57	342	⇓P	P	11 36 46.6 +0.3
I22A	9 Mile Ranch, baz=86	85.68	337	⇑P	P	11 36 47.1 +0.1
G27A	Dupree baz=86	85.70	340	⇑P	P	11 36 46.8 -0.1
PDAR	Pinedale Array 2.3nm,1.1s,baz=185,slow=3.8,SNR=9.4	85.71	334	P	P	11 36 47.4 +0.1
J20A	Shoshoni baz=86	85.72	335	⇑P	P	11 36 47.7 +0.4
G26A	Maurine baz=86,SNR=5.3	85.80	340	⇓P	P	11 36 47.2 -0.2
H24A	Dirks Ranch, A baz=86	85.86	338	⇓P	P	11 36 47.4 -0.5
I21A	Big Trails, Te baz=86	85.87	336	⇑P	P	11 36 47.8 -0.2
G25A	Newell baz=86,SNR=9.7	85.94	339	⇑P	P	11 36 48.0 -0.1
E30A	Jud baz=86	85.97	343	⇑P	P	11 36 48.4 +0.2
J19A	Crowheart baz=86	85.97	335	⇑P	P	11 36 48.5 0.0
HVU	Hansel Valley 7.2nm,1.1s	86.03	332	eP	P	11 36 49.6 +0.8
F27A	Lemmon baz=87,SNR=8.1	86.18	340	⇓P	P	11 36 48.9 -0.4
TORD	Torodi Ar. Bea 3.1nm,0.9s,baz=221,slow=3.2,SNR=13	86.19	71	P	P	11 36 49.7 -0.3
E29A	Napoleon baz=87	86.21	342	⇓P	P	11 36 49.3 -0.1
I20A	Worland baz=87	86.27	336	⇑P	P	11 36 50.0 +0.1
H22A	Clearmont baz=87	86.27	337	⇑P	P	11 36 50.2 +0.4
F26A	Lodgepole baz=87	86.33	340	⇓P	P	11 36 50.5 +0.5
G24A	Alzada baz=87	86.35	339	⇓P	P	11 36 50.4 +0.2
E28A	Huff baz=87	86.48	342	⇓P	P	11 36 50.9 +0.2
D30A	Buchanan baz=87	86.50	343	⇑P	P	11 36 51.1 +0.3
G23A	Biddle baz=87	86.52	338	⇓P	P	11 36 51.2 +0.2
E27A	Carson baz=87	86.57	341	⇑P	P	11 36 51.5 +0.3
F25A	Bowman baz=87	86.62	340	⇓P	P	11 36 51.7 +0.2
I19A	Meeteetse baz=87	86.63	335	⇓P	P	11 36 51.9 +0.1
D29A	Pettibone, Tap baz=87	86.66	342	⇓P	P	11 36 51.8 +0.2
H20A	Greybull baz=87	86.70	336	⇓P	P	11 36 51.7 -0.3
G22A	Birney baz=87	86.81	337	⇓P	P	11 36 52.3 -0.3
F24A	Ekalaka baz=87	86.83	339	⇓P	P	11 36 52.8 +0.3
TPAW	Teton Pass 56nm,2.5s	86.83	334	eP	P	11 36 53.6 +0.8
E26A	Carlson Angus baz=87,SNR=7.2	86.85	340	⇑P	P	11 36 52.0 -0.5
FXWY	Fox Creek 4.5nm,1.3s	86.99	334	eP	P	11 36 54.2 +0.6
AGMN	Agassiz Nation baz=87	86.99	345	⇓P	P	11 36 53.0 -0.1
AGMN	Agassiz Nation 5.3nm,0.7s	86.99	345	eP	P	11 36 52.7 -0.4
C30A	Mose, Pekin baz=87	87.00	343	⇓P	P	11 36 53.4 +0.2
F23A	Volborg baz=87	87.00	338	⇓P	P	11 36 53.3 -0.1
D28A	Regan baz=87,SNR=5.1	87.02	342	⇑P	P	11 36 53.8 +0.4
E25A	Miller Ranch, baz=88	87.13	340	⇑P	P	11 36 54.2 +0.2
IMW	Indian Meadow 4.9nm,1.1s	87.19	334	eP	P	11 36 55.3 +0.7
D26A	Manning baz=88,SNR=9.1	87.36	341	⇓P	P	11 36 54.8 -0.1
MDND	Maddock baz=88	87.40	343	⇓P	P	11 36 55.1 -0.1
G20A	Bridger baz=88	87.42	336	⇑P	P	11 36 55.5 0.0
H18A	Shoshone NF, C baz=88	87.43	335	⇑P	P	11 36 55.1 -0.5
E24A	Baker baz=88	87.44	339	⇑P	P	11 36 56.0 +0.5
C28A	Hausauer Farms baz=88	87.46	342	⇑P	P	11 36 55.7 +0.3
B30A	Myrvik Farm, E baz=88,SNR=7.7	87.67	344	⇑P	P	11 36 56.0 -0.4
D25A	Fairfield baz=88	87.70	340	⇑P	P	11 36 57.1 +0.4
C27A	Sayler Ranch, baz=88	87.74	341	⇑P	P	11 36 57.3 +0.5
B29A	Wagenman Farm, baz=88	87.92	343	⇓P	P	11 36 57.6 0.0
D24A	Glendive baz=88	87.95	339	⇑P	P	11 36 57.8 -0.1
C26A	Wahner Farm, P baz=88	88.00	341	⇑P	P	11 36 58.3 +0.2
A30A	Hoffart Farm, baz=88	88.12	344	⇓P	P	11 36 58.4 -0.2
B28A	Dugan Ranch, T baz=88,SNR=6.1	88.14	342	⇑P	P	11 36 58.3 -0.3
HLID	Hailey baz=89	88.18	332	⇓P	P	11 36 59.4 +0.2
A29A	Manning Farm, baz=89,SNR=6.4	88.32	343	⇑P	P	11 36 58.9 -0.6
D22A	Cohagen baz=89	88.52	338	⇑P	P	11 37 00.8 +0.3
ULM	Lac du Bonnet 2.7nm,0.7s,baz=154,slow=4.7,SNR=5.0	88.85	346	P	P	11 37 01.1 -0.8
WVOR	Wild Horse Val 21nm,1.8s	88.94	328	eP	P	11 37 03.6 +0.8
B20A	Solberg Farm, baz=91	90.23	338	⇑P	P	11 37 07.5 -1.0
EGMT	Eagleton baz=91	90.40	337	⇓P	P	11 37 08.3 -1.0
B19A	Brinkman Farms baz=91	90.53	337	⇑P	P	11 37 09.2 -0.7
A20A	Cobblestone Ra baz=91	90.59	338	⇑P	P	11 37 10.0 -0.2
ESK	Eskdalemuir	109.46	35	ePKPdf	PKiKP	11 42 38.2 +0.2
GERES	GERESS Array B 0.8nm,0.8s,baz=255,slow=2.6,SNR=4.5	114.86	47	PKP	PKPdf	11 42 47.7 -0.9
WRA	Warramunga Arr 0.5nm,0.8s,baz=161,slow=1.7,SNR=4.6	117.83	210	PKP	PKPdf	11 42 53.4 -1.8
BRTR	Keskin Array B 1.1nm,0.8s,baz=180,slow=1.2,SNR=4.3	124.11	63	PKP	PKPdf	11 43 05.7 -1.1
AKASG	Malin Array Be 0.2nm,0.3s,baz=262,slow=2.6,SNR=4.6	124.84	49	PKP	PKPdf	11 43 05.9 -1.7
ARCES	ARCESS Array B 3.8nm,1.0s,baz=264,slow=1.8,SNR=4.2	126.96	26	PKP	PKPdf	11 43 10.9 -0.2
AKTO	Aktyubinsk 0.9nm,0.6s,baz=294,slow=5.9,SNR=4.4	142.92	53	PKhKP	PKPpre	11 43 36.1
ABKAR	Akbulak array	144.22	55	ePKPdf	PKPab	11 43 41.1 -0.4
KSM	Kuching	144.75	186	ePKPdf	PKPbc	11 43 44.6 0.0
PSI	Prapat 8.3nm,0.8s,baz=202,slow=9.5,SNR=5.3	145.50	166	PKPbc	PKPdf	11 43 45.5 -1.7
HYB	Hyderabad	148.66	120	i PKP	PKPbc	11 43 54.5 -1.5
BRVK	Borovoye	149.95	46	ePKPdf	PKPdf	11 43 53.1 -0.1
BRVK				ePKPbc	PKPbc	11 43 58.1 0.0
BRVK				ePKPab	PKPab	11 44 03.6 -0.2
BVAR	Borovoye Array 5.7nm,0.9s,baz=298,slow=3.2,SNR=27	150.02	46	PKPbc	PKPbc	11 43 58.2 0.0
EKS2	Erkin-Say	154.18	67	ePKPdf	PKPdf	11 44 00.8 +0.8
EKS2				ePKPbc	PKPbc	11 44 07.9 -0.3
EKS2				ePKPab	PKPab	11 44 22.2 +0.1
AAK	Ala-Archa 1.6nm,0.9s,baz=180,slow=3.0,SNR=5.1	154.71	67	PKP	PKPdf	11 44 00.3 -0.5
AAK				PKPbc	PKPbc	11 44 08.9 -0.5
AAK	2.3nm,1.0s,baz=200,slow=6.0,SNR=5.1			PKPab	PKPab	11 44 23.4 -0.9
AAK	Ala-Archa 5.0nm,0.7s,baz=201,slow=3.0,SNR=9.9	154.71	67	PKP	PKPdf	11 44 00.3 -0.5
AAK				ePKPdf	PKPdf	11 44 00.7 -0.1
AAK				PKPbc	PKPbc	11 44 08.9 -0.5
AAK				ePKPbc	PKPbc	11 44 09.6 +0.3
AAK				PKPab	PKPab	11 44 23.4 -0.9
AAK				ePKPab	PKPab	11 44 24.2 -0.2
TKM2	Tokmak 2	155.50	66	ePKPdf	PKPdf	11 44 01.5 -0.4
TKM2				ePKPbc	PKPbc	11 44 10.8
TKM2				ePKPab	PKPab	11 44 27.7 -0.1
KURK	Kurchatov	155.61	46	ePKPbc	PKPbc	11 44 10.4
KURK				ePKPab	PKPab	11 44 27.6 -0.1
KSH	Kashi	155.81	74	PKP	PKPdf	11 44 02.1 -0.2
KSH				sPKP		11 44 16.6
KSH				PKS	PKSdf	11 47 36.7 +0.3
KSH				PP	PP	11 48 05.1 -1.7
KSH				SKS	SKSdf	11 51 06.6 -0.3
KSH				SKKS	SKKSac	11 54 53.4 -0.8
KSH	150nm,4.6s			PPMZ		
KSH	100nm,5.7s			LN		
KSH	130nm,6.6s			LE		
ZALV	Zalesovo Beam 1.0nm,0.4s,baz=318,slow=2.0,SNR=10	157.12	34	PKP	PKPdf	11 44 02.8 -0.6
ZALV	3.7nm,0.7s,baz=305,slow=5.2,SNR=8.2			PKPab	PKPab	11 44 34.6 +0.6
MKAR	Makanchi Array 1.7nm,1.0s,baz=304,slow=2.6,SNR=11	159.35	53	PKP	PKPdf	11 44 06.2 -0.2
MKAR	2.6nm,0.8s,baz=295,slow=3.5,SNR=12			PKPab	PKPab	11 44 43.9 -0.2
MKAR	1.2nm,1.0s,baz=280,slow=6.8,SNR=5.8			PP	PP	11 48 25.3 -0.4
CN2	Changchun	163.98	302	ePKP	PKPdf	11 44 12.6 +1.4
NJ2	Nanjing	168.84	249	ePKP	PKPdf	11 44 15.2 -0.1
SONM	Songino Array 0.8nm,0.8s,baz=349,slow=4.5,SNR=6.2	168.91	1	PKPab	PKPab	11 45 25.8 -0.2
GYA	Guiyang	169.76	180	PKP	PKPdf	11 44 16.2 -0.1
GYA				pPKP	pPKPdf	11 44 28.0 +2.7
GYA				PKPab	PKPab	11 45 32.6 +2.4
GYA				PKS	PKSdf	11 47 47.9 -1.0
GYA				PP	PP	11 49 23.4 +4.3
GYA				SKKS		11 56 05.5
GYA				SS	SS	12 10 15.7 +0.9
GYA	120nm,8.2s			PPMZ		
GYA	120nm,22.2s			LN		
GYA				LE		

	110nm,22.5s						
WHN	**Wuhan**	**171.06**	**229**	PKPbc	PKPdf	11 44 08.2	-8.5
CD2	**Chengdu**	**173.73**	**157**	*e*PKP	**PKPdf**	**11 44 18.1**	**+0.2**
GTA	**Gaotai**	**174.03**	**61**	*e*PKP	**PKPdf**	**11 44 18.3**	**+0.4**
GTA				pPKP	**pPKPdf**	**11 44 29.1**	**+2.2**
GTA				sPKP		11 44 32.7	
GTA				PKPab	**PKPab**	**11 45 49.9**	**+0.7**
HHC	**Hu-ho-hao-te**	**174.34**	**318**	*e*PKP	**PKPdf**	**11 44 17.5**	**-0.4**
HHC				pPKP	**pPKPdf**	**11 44 26.6**	**-0.4**
HHC				PP	**PP**	**11 49 42.5**	**-0.1**
HHC				SKS	**SKSdf**	**11 51 14.0**	**-5.2**
HHC				SKKS	**SKKSac**	**11 56 29.1**	**+1.9**
HHC				PPMZ			
	350nm,10.8s						
LZH	**Lanzhou**	**177.69**	**105**	*e*PKP	**PKPdf**	**11 44 18.7**	**-0.2**
LZH				pPKP	**pPKPdf**	**11 44 29.3**	**+1.3**
LZH				sPKP		11 44 34.0	

GUC ***05*** *11:47:03.5±0.7,36°.58S×73°.92W,h18km±6km, ML6.5*
IDC ***05*** *11:47:03.8±0.3,36°.62S×73°.30W,h0km,mb5.3/31, mb1 5.4/35,mb1mx5.4/36,mbtmp5.3/35,ML4.9/4, MS6.7/26, Ms1 6.7/26,ms1mx6.5/36,Error ellipse: s-maj=10.7km s-min=6.6km az=74.0*
ISCJB ***05*** *11:47:04.3±1.4,36°.64S±0°.03×73°.36W±0°.04,h10km±8km, mb5.8/156,MS6.7/376,Error ellipse: s-maj=5.2km s-min=4.1km az=156.7*
NEIC ***05*** *11:47:06.8±0.1,36°.67S×73°.37W,h18km,mb6.1/101, ME6.3,MS6.7/298,MW6.5,MW6.6,MW6.6,ML6.5(GUC), Error ellipse: s-maj=4.7km s-min=3.3km az=82.0,Moment Tensor Solution. s79 Moment tensor: Scale 10^{18}Nm; M_{rr}4.11; $M_{\theta\theta}$2.56; $M_{\phi\phi}$-6.67; $M_{r\theta}$0.50; $M_{\theta\phi}$-1.50; $M_{\phi r}$-6.31; Best double couple: $M_0$8.70000×10^{18} NP1:ϕ_s174.00000°, δ71.00000°,λ75.00000°. NP2:ϕ_s34.00000°,δ24.00000°, λ127.00000°. Principal axes: T 7.2700, Plg61.0000°, Azm61.0000°; N 2.4200, Plg14.0000°, Azm179.0000°; P -9.6900, Plg24.0000°, Azm275.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [VII] at Concepcion; [VI] at Chiguayante and Chillan; [V] at Angol and Los Angeles; [IV] at Constitucion; [III] at Santiago, Temuco and Valdivia. Also felt at Bulnes, Coihaique, Coronel, La Laja, Linares, Penaflor, Puerto Varas, San Carlos, Talca, Talcahuano, Vilcun and Villarrica. Felt [II] at Buenos Aires, Argentina. Also felt at Comodoro Rivadavia, Cutral-Co, Mendoza, Neuquen, San Carlos de Bariloche and Santa Rosa.
GCMT ***05*** *11:47:06.8±0.1,36°.89S×73°.75W,h15km,MW6.6/125, Moment Tensor Solution. s125,c304; s121,c528; Duration: 4s9 Moment tensor: Scale 10^{19}Nm; M_{rr}0.52±.00; $M_{\theta\theta}$0.01±.00; $M_{\phi\phi}$-0.52±.00; $M_{r\theta}$0.00±.01; $M_{\theta\phi}$-0.04±.00; $M_{\phi r}$-0.86±.01; Best double couple: $M_0$1.00700×10^{19} NP1:ϕ_s180.00000°,δ74.00000°, λ88.00000°. NP2:ϕ_s9.00000°,δ16.00000°,λ98.00000°. Principal axes: T 1.0020, Plg61.0000°, Azm87.0000°; N 0.0100, Plg2.0000°, Azm181.0000°; P -1.0130, Plg29.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***05*** *11:47:08.5±1.1,36°.53S×73°.28W,h33km,mb6.1/34, MS6.7/45 Error ellipse: s-maj=11.5km s-min=6.7km az=85.3*
NEIC ***05*** *11:47:10.0±0.0,36°.51S×73°.12W,h35km Best double couple: NP1:ϕ_s176.00000°,δ66.00000°,λ75.00000°. NP2:ϕ_s29.00000°,δ27.00000°,λ119.00000°. Principal axes: T 9.0600, Plg65.0000°, Azm60.0000°; N -1.0000, Plg13.0000°, Azm182.0000°; P -8.0500, Plg19.0000°, Azm277.0000°;*
NEIC ***05*** *11:47:30.7±0.0,36°.73S×72°.82W,h10km,Moment Tensor Solution. s129 Moment tensor: Scale 10^{18}Nm; M_{rr}4.92; $M_{\theta\theta}$0.07; $M_{\phi\phi}$-4.99; $M_{r\theta}$-0.37; $M_{\theta\phi}$-0.34; $M_{\phi r}$-5.34; Best double couple: $M_0$7.30000×10^{18} NP1:ϕ_s184.00000°, δ69.00000°,λ90.00000°. NP2:ϕ_s4.00000°,δ21.00000°, λ90.00000°. Principal axes: T 7.2600, Plg66.0000°, Azm94.0000°; N 0.0900, Plg0.0000°, Azm3.0000°; P -7.3500, Plg23.0000°, Azm273.0000°;*

ISC 05 11:47:07.5±0.3,36°.67S±0°.03×73°.45W±0°.04,h22km±2km, h21km:pP-P,n1524,σ1°52/1385,mb6.0/148,MS6.7/384, 276C-285D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**1.70**	**62**	⇑*i*P	**Pb**	**11 47 37.0**	**-1.1**
LNCH				*i* S	**Sb**	**11 48 02.9**	**+3.8**
LNCH				AML	AML	11 48 17.9	
	comp=N,500μm,0.7s						
LNCH	**Linares**	**1.70**	**62**	⇑*i*P	**Pb**	**11 47 37.0**	**-1.1**
LNCH				*i* S	**Sb**	**11 48 02.9**	**+3.8**
LNV	**Longovilo**	**3.18**	**32**	⇑*i*P	**Pn**	**11 47 55.8**	**-0.4**
LNV	**Longovilo**	**3.18**	**32**	⇑*i*P	**Pn**	**11 47 55.8**	**-0.4**
CACH	**El Canelo**	**3.45**	**43**	⇓*i*P	**Pn**	**11 48 00.8**	**+0.7**
CACH	**El Canelo**	**3.45**	**43**	⇓*i*P	**Pn**	**11 48 00.8**	**+0.7**
CHCH	**Chadas Angostu**	**3.56**	**41**	⇓*i*P	**Pn**	**11 48 02.0**	**+0.5**
CHCH	**Chadas Angostu**	**3.56**	**41**	⇓*i*P	**Pn**	**11 48 02.0**	**+0.5**
TACH	**Talagante**	**3.64**	**35**	⇑*i*P	**Pn**	**11 48 02.4**	**-0.2**
TACH	**Talagante**	**3.64**	**35**	⇑*i*P	**Pn**	**11 48 02.4**	**-0.2**
OSCH	**Osorno**	**3.91**	**176**	*e*P	**Pn**	**11 48 05.4**	**-0.9**
OSCH	**Osorno**	**3.91**	**176**	*e*P	**Pn**	**11 48 05.4**	**-0.9**
SAN	**Santiago**	**3.94**	**36**	⇑*i*P	**Pn**	**11 48 06.9**	**+0.2**
SAN	**Santiago**	**3.94**	**36**	⇓*i*P	**Pn**	**11 48 06.8**	**+0.1**
SAN	**Santiago**	**3.94**	**36**	⇑*i*P	**Pn**	**11 48 06.9**	**+0.2**
LACH	**Col Las Americ**	**4.00**	**38**	*e*P1	**Pn**	**11 48 07.8**	**+0.2**
LACH				*i* S	**Sn**	**11 48 56.3**	**+2.4**
LACH	**Col Las Americ**	**4.00**	**38**	*e*P	**Pn**	**11 48 07.8**	**+0.2**
LACH				*i* S	**Sn**	**11 48 56.3**	**+2.4**
PEL	**Peldehue**	**4.18**	**34**	⇓*i*P	**Pn**	**11 48 09.5**	**-0.7**
PEL				*i* S	**Sn**	**11 48 59.7**	**+1.3**
PEL	**Peldehue**	**4.18**	**34**	⇓*i*P	**Pn**	**11 48 09.5**	**-0.7**
PEL				*i* S	**Sn**	**11 48 59.6**	**+1.3**
PEL	**Peldehue**	**4.18**	**34**	⇓*i*P	**Pn**	**11 48 09.5**	**-0.7**
PEL				*i* S	**Sn**	**11 48 59.6**	**+1.3**
PLCA	**Paso Flores**	**4.65**	**152**	P	**Pn**	**11 48 17.0**	**+0.5**
PLCA	**Paso Flores**	**4.65**	**152**	Pn	**Pn**	**11 48 17.0**	**+0.5**
	comp=N,31nm,0.3s,baz=321,slow=13,SNR=165						
PLCA				Lg	Lg	11 49 33.2	
	comp=N,365nm,0.3s,baz=179,slow=14,SNR=7.1						
CMCH	**Combarbala**	**5.84**	**21**	*e*P1	**Pn**	**11 48 31.0**	**-2.0**
CMCH	**Combarbala**	**5.84**	**21**	*e*P	**Pn**	**11 48 31.0**	**-2.0**
CFAA	**Coronel Fontan**	**6.64**	**42**	Pn	**Pn**	**11 48 43.2**	**-0.7**
	comp=N,3.8nm,0.3s,baz=214,slow=12,SNR=72						
CFAA				Sn	**Sn**	**11 49 54.6**	**-4.4**
	comp=N,7.6nm,0.3s,baz=222,slow=15,SNR=3.0						
CFAA				Lg	Lg	11 50 36.2	
	comp=N,14nm,0.3s,baz=147,slow=9.1,SNR=3.6						
CFAA				LR	LR	11 51 44.6	
	comp=N,112μm,19.4s,baz=226,slow=43						
TRQA	**Tornquist**	**9.24**	**102**	*e*Pn	Pn	11 49 15.0	-4.4
LVC	**Limon Verde**	**14.55**	**17**	*e*Pn	Pn	11 50 26.9	-5.5
CPUP	**Villa Florida**	**17.16**	**58**	*e*P	**Pn**	**11 51 03.0**	**-2.9**
CPUP				*e*		11 54 08.1	
CPUP	**Villa Florida**	**17.16**	**58**	P	**Pn**	**11 51 05.2**	**-0.7**
	comp=N,1.0nm,0.3s,baz=209,slow=11,SNR=12						
CPUP				Lg	Lg	11 56 17.1	
	comp=N,1.3nm,0.3s,baz=119,slow=19,SNR=2.8						
CPUP				LR	LR	11 58 25.5	
	comp=N,709μm,19.0s,baz=220,slow=40						
CPUP	**Villa Florida**	**17.16**	**58**	*e*Pn	**Pn**	**11 51 03.0**	**-2.9**
	comp=N,0.2nm,1.1s						
CPUP				*e*Sn	Sn	11 54 08.1	-8.0
CPUP				Lg	Lg	11 56 17.1	
USHA	**Ushuaia**	**18.49**	**171**	P	**Pn**	**11 51 22.2**	**+0.1**
	comp=N,3.9nm,0.3s,baz=328,slow=11,SNR=21						
USHA				S	**S**	**11 54 50.3**	**-1.3**
	comp=N,0.6nm,0.3s,baz=311,slow=19,SNR=1.7						
USHA				Lg	Lg	11 56 54.5	
	comp=N,0.3nm,0.3s,baz=219,slow=17,SNR=2.3						
USHA				LR	LR	11 58 17.6	
	comp=N,170μm,20.6s,baz=328,slow=36						
EFI	**East Falkland**	**18.57**	**149**	P	**Pn**	**11 51 23.0**	**0.0**
	comp=N,2μm,0.9s,SNR=12						
EFI	**East Falkland**	**18.57**	**149**	*e*P	**P**	**11 51 20.1**	**-2.6**
EFI				pmax	pmax		
	comp=Z,403nm,0.9s						
EFI	**East Falkland**	**18.57**	**149**	*e*P	**P**	**11 51 20.1**	**-2.6**
	comp=Z,403nm,0.9s						
LPAZ	**La Paz**	**20.84**	**14**	*e*P	**P**	**11 51 49.8**	**+1.3**
LPAZ				pmax	pmax		
	comp=Z,633nm,1.1s						
LPAZ				MLR	MLR		
	comp=Z,124μm,19.3s						
LPAZ	**La Paz**	**20.84**	**14**	P	**P**	**11 51 49.2**	**+0.8**
	comp=Z,71nm,0.8s,baz=181,slow=8.2,SNR=93						
LPAZ				S	Sn	11 55 45.4	-1.0
	comp=Z,12nm,0.9s,baz=221,slow=19,SNR=1.5						
LPAZ	**La Paz**	**20.84**	**14**	*e*Pn	**P**	**11 51 49.8**	**+1.3**
	comp=Z,633nm,1.1s						
LPAZ				S	Sn	11 55 45.4	-1.0
LPAZ				LR	LR		
	comp=Z,124μm,19.3s						
SIV	**San Ignacio**	**23.35**	**31**	P	**P**	**11 52 13.5**	**-1.0**
	comp=Z,68nm,0.8s,baz=229,slow=11,SNR=104						
SIV				S	**S**	**11 56 32.9**	**+6.7**
	comp=Z,19nm,1.0s,baz=198,slow=16,SNR=2.5						
SIV				LR	LR	12 03 15.6	
	comp=Z,413μm,19.4s,baz=226,slow=42						
NNA	**Nana**	**24.76**	**352**	*e*P	**P**	**11 52 27.2**	**-0.6**
NNA				S	**S**	**11 56 48.2**	**-0.7**
NNA	**Nana**	**24.76**	**352**	P	**P**	**11 52 26.6**	**-1.1**
	comp=Z,37nm,0.9s,baz=185,slow=8.8,SNR=12						
NNA				S	**S**	**11 56 48.2**	**-0.7**
	comp=Z,10nm,0.8s,baz=212,slow=15,SNR=1.7						
NNA				LR	LR	12 00 18.3	
	comp=Z,85μm,19.8s,baz=176,slow=32						
NNA	**Nana**	**24.76**	**352**	*e*P	**P**	**11 52 27.2**	**-0.6**
NNA				S	**S**	**11 56 48.2**	**-0.7**
PMSA	**Palmer Station**	**28.70**	**172**	P	**P**	**11 53 02.3**	**-0.3**
	comp=Z,38nm,0.9s,baz=8.1,slow=7.1,SNR=3.2						
PMSA				S	**S**	**11 57 47.1**	**-3.1**
	comp=Z,30nm,1.0s,baz=319,slow=16,SNR=1.9						
PMSA				LR	LR	12 05 24.6	
	comp=Z,136μm,18.4s,baz=340,slow=38						
PMSA	**Palmer Station**	**28.70**	**172**	*e*P	**P**	**11 53 02.2**	**-0.5**
	comp=Z,116nm,0.9s						
PMSA				S	**S**	**11 57 47.1**	**-3.1**
SAML	**Samuel**	**29.13**	**21**	*e*P	**P**	**11 53 06.6**	**-0.4**
	comp=Z,261nm,1.4s						
SAML				LR	LR		
	comp=Z,56μm,21.0s						
ATAH	**Atahualpa**	**29.74**	**350**	P	**P**	**11 53 11.9**	**-1.0**
	comp=Z,6.8nm,0.9s,baz=176,slow=15,SNR=2.2						
ATAH				S	**S**	**11 58 06.5**	**-1.6**
	comp=Z,7.8nm,0.9s,baz=172,slow=19,SNR=1.8						
ATAH				LR	LR	12 02 50.9	
	comp=Z,63μm,21.0s,baz=178,slow=32						
BDFB	**Brasilia**	**30.81**	**54**	*e*P	**P**	**11 53 21.3**	**-0.7**
BDFB				S	**S**	**11 58 23.5**	**-1.0**
BDFB				*e*		12 04 00.3	
BDFB	**Brasilia**	**30.81**	**54**	P	**P**	**11 53 20.9**	**-1.1**
	comp=Z,32nm,0.8s,baz=218,slow=8.9,SNR=22						
BDFB				S	**S**	**11 58 23.5**	**-1.0**
	comp=Z,31nm,1.1s,baz=130,slow=17,SNR=1.8						
BDFB				LR	LR	12 07 07.9	
	comp=Z,461μm,18.4s,baz=222,slow=39						
BDFB	**Brasilia**	**30.81**	**54**	*e*P	**P**	**11 53 21.3**	**-0.7**
BDFB				S	**S**	**11 58 23.5**	**-1.0**
BDFB				*e*ScS	**ScS**	**12 04 00.3**	**+3.0**
HOPE	**Hope Point**	**30.87**	**137**	*e*P	**P**	**11 53 22.7**	**+0.7**
	comp=Z,550nm,1.2s						
HOPE				LR	LR		
	comp=Z,125μm,19.0s						
RPN	**Rapa Nui**	**31.76**	**277**	P	P	11 53 34.2	+4.0
RPN	**Rapa Nui**	**31.76**	**277**	P	P	11 53 34.2	+4.0
	comp=Z,64nm,0.8s,baz=102,slow=2.9,SNR=4.9						
RPN				LR	LR	12 02 54.0	
	comp=Z,163μm,18.3s,baz=152,slow=30						
OTAV	**Otavalo**	**37.01**	**352**	*e*P	**P**	**11 54 17.2**	**+1.0**
	comp=Z,408nm,1.5s						
OTAV				LR	LR		
	comp=Z,55μm,19.0s						
PAYG	**Puerto Ayora**	**39.06**	**333**	*e*P	**P**	**11 54 33.5**	**+0.5**
	comp=Z,22nm,0.7s						
PAYG				LR	LR		
	comp=Z,133μm,18.0s						
ROSC	**El Rosal**	**41.32**	**359**	P	**P**	**11 54 54.3**	**+2.2**
	comp=Z,46nm,0.7s,baz=133,slow=2.3,SNR=15						
ROSC				S	**S**	**12 01 10.6**	**+5.1**
	comp=Z,5.1nm,0.4s,baz=107,slow=20,SNR=1.6						
ROSC	**El Rosal**	**41.32**	**359**	*e*P	P	11 54 55.7	+3.6
ROSC				S	**S**	**12 01 10.6**	**+5.1**
SDV	**Santo Domingo**	**45.39**	**4**	*e*P	**P**	**11 55 23.9**	**-0.8**
	comp=Z,223nm,1.0s						
SDV				LR	LR		
	comp=Z,110μm,20.0s						
BCIP	**Isla Barro Col**	**45.98**	**351**	*e*P	**P**	**11 55 31.0**	**+1.8**
	comp=Z,276nm,1.3s						
BCIP				LR	LR		
	comp=Z,50μm,20.0s						
RCBR	**Riachuelo**	**46.04**	**57**	LR	LR	12 14 15.6	
	comp=Z,132μm,20.4s,baz=207,slow=36						
RCBR	**Riachuelo**	**46.04**	**57**	*e*P	**P**	**11 55 30.4**	**+0.6**
	comp=Z,1μm,2.1s						
VNA3	**Neumayer Olymp**	**47.35**	**157**	P	**P**	**11 55 39.6**	**+0.3**
VNA1	**Neumayer--Stat**	**47.70**	**156**	P	**P**	**11 55 41.9**	**0.0**
JTS	**JuntasAbangare**	**47.95**	**345**	*e*P	**P**	**11 55 41.6**	**-3.0**
JTS				pmax	pmax		
	comp=Z,197nm,1.4s						
JTS	**JuntasAbangare**	**47.95**	**345**	LR	LR	12 12 55.6	
	comp=Z,30μm,18.3s,baz=152,slow=32						
JTS	**JuntasAbangare**	**47.95**	**345**	*e*P	**P**	**11 55 41.6**	**-3.0**
	comp=Z,197nm,1.4s						
VNA2	**Neumayer--Watz**	**48.02**	**156**	P	**P**	**11 55 44.8**	**+0.2**
TPP	**Pointe-a-Pierr**	**48.08**	**16**	*e*	**P**	**11 55 47.1**	**+1.5**
TRIS	**Tristan da Cun**	**48.14**	**110**	PFAKE		11 56 00.0	+14
TRIS				LR	LR		
	comp=Z,71μm,21.0s						
TBH	**Brigand Hill**	**48.33**	**16**	*e*	**P**	**11 55 48.4**	**+1.0**
TRN	**Trinidad (W)**	**48.41**	**16**	*e*	P	11 55 51.8	+3.7
PTCN	**Pitcairn Islan**	**49.35**	**267**	PFAKE		11 56 10.0	+15
PTCN				LR	LR		
	comp=Z,46μm,21.0s						
SNAA	**Sanae**	**49.57**	**157**	P	**P**	**11 55 57.1**	**+0.6**
SNAA	**Sanae**	**49.57**	**157**	*e*P	**P**	**11 55 56.7**	**+0.2**
SNAA	**Sanae**	**49.57**	**157**	*c i*P	**P**	**11 55 56.8**	**+0.2**
SNAA				pmax	pmax		
	comp=Z,630nm,1.4s						
SNAA				MLR	MLR		
	comp=Z,59μm,16.0s						
SNAA	**Sanae**	**49.57**	**157**	P	**P**	**11 55 56.6**	**+0.2**
	comp=Z,42nm,1.0s,baz=279,slow=6.6						
SNAA				LR	LR	12 15 32.8	
	comp=Z,13μm,21.2s,baz=288,slow=34						
SNAA	**Sanae**	**49.57**	**157**	*e*P	**P**	**11 55 56.6**	**+0.2**
	comp=Z,617nm,1.3s						
GRGR	**Grenville**	**49.79**	**15**	*e*P	**P**	**11 55 58.5**	**-0.2**
GRGR				LR	LR		
	comp=Z,100μm,20.0s						
GRSS	**Sisters**	**49.96**	**15**	*e*	**P**	**11 56 01.6**	**+1.7**
SVB	**Belmont**	**50.98**	**15**	*e*	**P**	**11 56 10.4**	**+2.7**
BBGH	**Gun Hill**	**51.24**	**17**	PFAKE		11 56 20.0	+10
BBGH				LR	LR		
	comp=Z,127μm,22.0s						
FDF	**Fort de France**	**52.42**	**15**	*e*P	**P**	**11 56 17.8**	**-0.7**
FDF				pmax	pmax		
	comp=Z,314nm,0.9s						
FDF				MLR	MLR		
	comp=Z,71μm,20.0s						
FDF	**Fort de France**	**52.42**	**15**	*e*P	**P**	**11 56 17.8**	**-0.7**
	comp=Z,314nm,0.9s						
FDF				LR	LR		
	comp=Z,71μm,20.0s						
QSPA	**South Pole Qui**	**53.57**	**180**	P	**P**	**11 56 27.0**	**+0.4**
	comp=Z,250nm,0.9s,baz=145,slow=2.4,SNR=234						
QSPA				PKP2bc		12 26 56.0	
	comp=Z,4.7nm,0.9s,baz=344,slow=1.6,SNR=5.2						
QSPA	**South Pole Qui**	**53.57**	**180**	*e*P	**P**	**11 56 26.6**	**0.0**
	comp=Z,322nm,1.0s						
QSPA				⇑*e*		12 26 56.0	
RKT	**Rikitea**	**54.19**	**266**	*e*S	**S**	**12 04 03.1**	**-4.5**
	comp=Z,53μm,26.5s						
RKT				*e*SS	**SS**	**12 07 54.0**	**+4.7**
	comp=Z,12μm,26.6s						
RKT				*e*LR	LR	12 12 22.6	
	comp=Z,119μm,29.0s,baz=124						
RKT	**Rikitea**	**54.19**	**266**	*e*T	T	12 54 32.6	
	comp=Z,15nm,0.2s						
NVL	**N'lazarevskaya**	**54.34**	**156**	*e*P	**P**	**11 56 30.7**	**-1.2**
NVL				*e**PP	**pP**	**11 56 38.3**	**-0.5**
NVL				*e**SP	**sP**	**11 56 45.4**	**+3.9**
NVL				*e*		11 58 33.3	
NVL				*e*S	**S**	**12 04 05.0**	**-3.4**
NVL				*e*		12 06 17.4	
NVL				*e*SS	SS	12 07 58.1	+8.1
NVL				pmax	pmax		
	comp=Z,237nm,1.2s						
NVL				MLR	MLR		
	comp=Z,31μm,18.0s						
ICMP	**Isla Caja de M**	**54.65**	**8**	*e*P	**P**	**11 56 33.4**	**-1.3**
CRPR	**Cabo Rojo, PR**	**54.71**	**7**	*e*P	**P**	**11 56 34.2**	**-0.9**
	comp=Z,213nm,0.8s						
CRPR				LR	LR		
	comp=Z,42μm,19.2s						
MTDJ	**Mount Denham**	**54.73**	**355**	*e*P	**P**	**11 56 35.0**	**-0.4**
	comp=Z,300nm,1.4s						
MTDJ				*e*pP	**pP**	**11 56 41.0**	**-1.3**
MTDJ				LR	LR		
	comp=Z,27μm,19.0s						
CDVI	**St. Croix**	**54.74**	**10**	*e*P	**P**	**11 56 34.6**	**-0.8**
	comp=Z,141nm,0.7s						
CDVI				*e*P	P	11 56 38.8	+3.5
CDVI				LR	LR		
	comp=Z,71μm,18.7s						
SEUS	**St. Eustatius**	**54.77**	**12**	*e*P	**P**	**11 56 36.0**	**+0.4**
	comp=Z,252nm,0.9s						
SEUS				LR	LR		
	comp=Z,87μm,18.0s						
OBIP	**Obispado Ponce**	**54.80**	**8**	*e*P	**P**	**11 56 34.6**	**-1.2**
	comp=Z,382nm,1.1s						
OBIP				*e*pP	**pP**	**11 56 40.6**	**-2.1**
CELP	**Cerrillos**	**54.83**	**8**	*e*P	**P**	**11 56 35.4**	**-0.6**
CELP				*e*pP	**pP**	**11 56 41.0**	**-2.0**
SABA	**Saba**	**54.85**	**12**	*e*P	**P**	**11 56 35.5**	**-0.6**
	comp=Z,1μm,1.9s						
SABA				LR	LR		
	comp=Z,104μm,18.6s						
CPD	**Cerro la Pandu**	**54.87**	**9**	*e*P	**P**	**11 56 34.8**	**-1.5**
CPD				pmax	pmax		
	comp=Z,147nm,1.0s						
CPD				MLR	MLR		
	comp=Z,81μm,19.5s						
CPD	**Cerro la Pandu**	**54.87**	**9**	*e*P	**P**	**11 56 34.8**	**-1.5**
	comp=Z,147nm,1.0s						
CPD				LR	LR		
	comp=Z,81μm,19.5s						
LSP	**Las Mesas**	**54.88**	**7**	*e*P	**P**	**11 56 35.8**	**-0.6**
LSP				*e*pP	**pP**	**11 56 41.0**	**-2.3**
LSP				*e*sP	**sP**	**11 56 43.7**	**-2.2**
PAPH	**Port-au-Prince**	**54.90**	**1**	*e*P	**P**	**11 56 37.8**	**+1.2**
MPR	**Mayaguez**	**54.91**	**7**	*e*P	**P**	**11 56 35.8**	**-0.7**
	comp=Z,101nm,0.9s						
HUMP	**Col San Antoni**	**54.98**	**9**	*e*P	**P**	**11 56 35.7**	**-1.4**
HUMP				LR	LR		
	comp=Z,116μm,19.4s						
LRS	**Lares**	**55.02**	**8**	*e*P	**P**	**11 56 36.1**	**-1.3**
LRS				*e*pP	**pP**	**11 56 41.8**	**-2.6**
LRS				*e*sP	**sP**	**11 56 45.0**	**-1.9**
AOPR	**Arecibo Observ**	**55.08**	**8**	*e*P	**P**	**11 56 36.3**	**-1.6**
	comp=Z,245nm,1.1s						
AOPR				LR	LR		
	comp=Z,73μm,19.0s						
PCDR	**Punta Cana, DR**	**55.09**	**6**	*e*P	**P**	**11 56 37.1**	**-0.8**
PCDR				*e*pP	**pP**	**11 56 43.6**	**-1.2**
AGP	**Aguadilla**	**55.10**	**7**	PFAKE		11 56 50.0	+12
AGP				LR	LR		
	comp=Z,64μm,19.4s						
CBYP	**Canovanas**	**55.11**	**9**	*e*P	**P**	**11 56 36.5**	**-1.6**
	comp=Z,1μm,1.9s						
CBYP				*e*pP	**pP**	**11 56 42.1**	**-2.9**
CBYP				*e*sP	**sP**	**11 56 44.2**	**-3.4**
CBYP				LR	LR		
	comp=Z,101μm,19.6s						
ANWB	**Willy Bob**	**55.15**	**14**	*e*P	**P**	**11 56 36.6**	**-1.8**
	comp=Z,220nm,0.8s						
ANWB				*e*pP	**pP**	**11 56 42.0**	**-3.3**
ANWB				*e*sP	**sP**	**11 56 44.2**	**-3.7**
ANWB				LR	LR		
	comp=Z,69μm,20.0s						
SMRT	**St. Maarten**	**55.30**	**12**	*e*P	**P**	**11 56 37.5**	**-1.9**
	comp=Z,141nm,1.1s						
SMRT				LR	LR		
	comp=Z,78μm,18.2s						
STVI	**Saint Thomas**	**55.31**	**10**	*e*P	**P**	**11 56 37.5**	**-1.9**
	comp=Z,318nm,1.7s						
STVI				*e*pP	**pP**	**11 56 44.0**	**-2.4**
STVI				*e*sP	**sP**	**11 56 47.7**	**-1.2**
STVI				LR	LR		
	comp=Z,78μm,19.7s						
SDDR	**Presa de Saban**	**55.38**	**2**	*e*P	**P**	**11 56 39.5**	**-0.6**
	comp=Z,103nm,1.1s						
SDDR				*e*pP	**pP**	**11 56 45.3**	**-1.7**
SDDR				LR	LR		
	comp=Z,52μm,19.0s						
SMN1	**Samana, DR**	**55.69**	**5**	*e*P	**P**	**11 56 40.1**	**-2.1**
GTBY	**Guantanamo Bay**	**56.31**	**358**	*e*P	**P**	**11 56 46.5**	**-0.1**
	comp=Z,248nm,1.1s						
GTBY				LR	LR		
	comp=Z,25μm,19.0s						
CMIG	**Matias Romero**	**57.17**	**335**	P	**P**	**11 56 54.1**	**+1.2**
PNIG	**Pinotepa**	**57.69**	**332**	P	P	11 57 01.1	+4.5
SCIG	**Sabancuy**	**57.81**	**340**	P	P	11 57 02.0	+4.8
GRTK	**Grand Turk**	**57.91**	**3**	*e*P	**P**	**11 56 58.9**	**+1.1**
	comp=Z,304nm,1.1s						
GRTK				*e*pP	**pP**	**11 57 03.8**	**-1.0**
GRTK				LR	LR		
	comp=Z,29μm,20.0s						
TEIG	**Tepich**	**58.29**	**344**	*e*P	**P**	**11 56 59.6**	**-1.0**
	comp=Z,232nm,1.2s						
TEIG				LR	LR		
	comp=Z,20μm,20.0s						
MEIG	**Mezcala**	**59.66**	**331**	P	P	11 57 15.0	+4.7
H10S3	**ASCENSION HYDR**	**59.76**	**78**	P	**P**	**11 57 11.9**	**+1.1**
	baz=260,slow=8.0,SNR=31						
H10S2	**ASCENSION HYDR**	**59.77**	**78**	P	**P**	**11 57 12.0**	**+1.1**
	baz=260,slow=8.0,SNR=48						
H10S1	**ASCENSION HYDR**	**59.78**	**78**	P	**P**

ANIG	Ahuacatlan	64.48	328	P	P	11 57 46.0 +3.4
ZAIG	Zacatecas	65.20	330	P	P	11 57 52.0 +4.5
H06S1	SOCORRO T	65.51	321	T	T	13 09 11.3
	SNR=7.1					
H06E1	SOCORRO T-PHAS	65.53	321	T	T	13 09 19.2
	SNR=43					
TBI	Tubuai	65.61	258	eP	P	11 57 50.3 +0.3
	comp=Z,127nm,0.8s					
TBI	Tubuai	65.61	258	eT	T	13 08 47.8
	comp=Z,16nm,0.3s					
035Z	Hargill	66.94	336	⇑P	P	11 57 57.8 -0.4
	baz=67					
035Z				⇓S	S	12 06 52.6 +2.4
	baz=67					
MAIG	Mazatlaan	67.18	327	P	P	11 58 05.0 +5.1
MEH	Mehetia	67.39	264	eT	T	13 11 01.3
	comp=Z,447nm,0.2s					
035A	Encino	67.39	336	⇓P	P	11 58 01.4 +0.3
	baz=68					
034A	Hebbronville	67.70	336	⇓P	P	11 58 04.1 +1.0
	baz=68,SNR=15					
KVTX	Kingsville	67.89	337	PFAKE		11 58 20.0 +16
KVTX				LR	LR	
	comp=Z,30μm,18.0s					
934A	Benavides	68.14	336	⇓P	P	11 58 07.9 +2.0
	baz=68,SNR=14					
933A	Laredo	68.40	335	⇓P	P	11 58 08.9 +1.4
	baz=69,SNR=6.9					
TIGA	Tifton	68.41	351	⇑P	P	11 58 06.8 -0.6
	baz=69					
TIGA	Tifton	68.41	351	eP	P	11 58 07.1 -0.4
	comp=Z,161nm,0.9s					
TIGA				LR	LR	
	comp=Z,21μm,18.8s					
738A	Farr-Stevens R	68.42	339	⇑P	P	11 58 08.2 +0.7
	baz=69					
BRAL	Brewton	68.52	347	eP	P	11 58 08.6 +0.5
	comp=Z,201nm,1.1s					
BRAL				epP	pP	11 58 14.3 -0.9
BRAL				LR	LR	
	comp=Z,16μm,21.0s					
835A	Beeville	68.56	337	⇓P	P	11 58 09.9 +1.5
	baz=69					
TIAR	Tiarei	68.58	264	eT	T	13 12 30.9
	comp=Z,46nm,0.2s					
834A	Tilden	68.64	336	⇓P	P	11 58 10.4 +1.4
	baz=69					
PAE	Paea	68.71	263	eT	T	13 12 40.5
	comp=Z,6.0nm,0.3s					
PPT2	Papeete2	68.75	263	eP	P	11 58 10.3 +0.2
	comp=Z,210nm,1.3s					
PPT2				eS	S	12 07 08.9 -3.7
	comp=Z,106μm,27.0s					
PPT2	Papeete2	68.75	263	eLR	LR	12 19 10.9
	comp=Z,161μm,24.5s,baz=123					
PPT	Papeete	68.76	264	P	P	11 58 14.5 +4.4
PPT	Papeete	68.76	264	P	P	11 58 14.5 +4.4
	comp=Z,77nm,0.9s,baz=195,slow=7.2,SNR=2.8					
PPT				LR	LR	12 20 32.4
	comp=Z,93μm,19.6s,baz=101,slow=29					
735A	Kenedy	69.08	337	⇓P	P	11 58 13.1 +1.4
	baz=69,SNR=18					
833A	Chaparral WMA,	69.10	336	⇑P	P	11 58 12.9 +1.1
	baz=69,SNR=44					
BBSR	BB Station	69.17	8	eP	P	11 58 10.5 -1.6
BBSR				LR	LR	
	comp=Z,16μm,20.5s					
832A	Faith Ranch, C	69.26	335	⇓P	P	11 58 13.5 +0.7
	baz=70,SNR=40					
734A	La Parita Cree	69.31	337	⇓P	P	11 58 13.8 +0.7
	baz=70					
733A	Divot King Ran	69.43	336	⇑P	P	11 58 14.3 +0.4
	baz=70,SNR=6.8					
636A	Smothers Creek	69.44	338	⇑P	P	11 58 14.8 +0.9
	baz=70,SNR=21					
HKT	Hockley	69.52	339	eP	P	11 58 15.0 +0.7
HKT				pmax	pmax	
	comp=Z,207nm,1.5s					
HKT	Hockley	69.52	339	eP	P	11 58 15.0 +0.7
	comp=Z,207nm,1.5s					
HKT				epP	pP	11 58 20.0 -1.3
635A	Leesville	69.57	337	⇑P	P	11 58 14.6 0.0
	baz=70					
SACV	Santiago Islan	69.60	52	eP	P	11 58 14.4 -0.8
	comp=Z,230nm,1.0s					
SACV				epP	pP	11 58 20.6 -1.7
SACV				LR	LR	
	comp=Z,32μm,19.0s					
732A	Laxson Ranch,	69.67	335	⇓P	P	11 58 15.6 +0.3
	baz=70,SNR=62					
538A	Harpers Horsep	69.68	340	⇓P	P	11 58 16.0 +0.7
	baz=70					
NHSC	New Hope	69.70	354	eP	P	11 58 15.5 +0.1
	comp=Z,437nm,1.2s					
NHSC				LR	LR	
	comp=Z,33μm,22.0s					
LPIG	La Paz	69.73	324	P	P	11 58 15.8 0.0
	comp=Z,12nm,0.3s,baz=147,slow=2.8,SNR=3.6					
LPIG				S	S	12 07 27.0 +3.5
	comp=Z,6.6nm,0.3s,baz=204,slow=20,SNR=1.8					
634A	China Grove, S	69.74	337	⇑P	P	11 58 15.0 -0.8
	baz=70					
537A	Green Hill Far	69.78	339	⇓P	P	11 58 15.9 0.0
	baz=70					
536A	Bastrop	70.00	338	⇓P	P	11 58 17.6 +0.3
	baz=70					
633A	Saathoff Ranch	70.08	336	⇑P	P	11 58 18.1 +0.3
	baz=70,SNR=6.6					
535A	Dale	70.10	338	⇑P	P	11 58 17.9 0.0
	baz=70					
HPIG		70.16	330	P	P	11 58 22.9 +4.3
438A	Sam Houston St	70.17	340	⇓P	P	11 58 19.4 +1.1
	baz=70					
632A	Uvalde	70.32	336	⇑P	P	11 58 19.3 -0.1
	baz=71,SNR=36					
GOGA	Godfrey	70.34	351	eP	P	11 58 18.4 -0.9
GOGA				pmax	pmax	
	comp=Z,121nm,1.0s					
GOGA				MLR	MLR	
	comp=Z,22μm,20.0s					
GOGA	Godfrey	70.34	351	eP	P	11 58 18.4 -0.9
	comp=Z,121nm,1.0s					
GOGA				LR	LR	
	comp=Z,22μm,20.0s					
VBMS	Vicksburg	70.36	345	eP	P	11 58 20.1 +0.6
	comp=Z,386nm,1.2s					
534A	Blanco	70.38	337	⇓P	P	11 58 19.3 -0.5
	baz=71					
340A	Bronson	70.39	342	⇑P	P	11 58 19.5 -0.2
	baz=71,SNR=24					
437A	Phantom Ranch,	70.43	339	⇑P	P	11 58 20.3 +0.3
	baz=71					
339A	Huntington	70.48	341	⇓P	P	11 58 20.7 +0.4
	baz=71,SNR=19					
LRAL	Lakeview Retre	70.49	348	eP	P	11 58 19.9 -0.4
	comp=Z,146nm,1.1s					
631A	Perdido Creek	70.50	335	⇑P	P	11 58 20.5 +0.1
	baz=71,SNR=36					
436A	Wall Ranch, Ga	70.57	339	⇓P	P	11 58 20.0 -0.8
	baz=71					
533A	Kerrville	70.60	337	⇑P	P	11 58 21.4 +0.4
	baz=71,SNR=14					
338A	Crockett	70.70	340	⇓P	P	11 58 21.8 +0.2
	baz=71,SNR=15					
435B	Jarrell	70.81	338	⇓P	P	11 58 22.6 +0.3
	baz=71					
337A	Centerville	70.82	340	⇑P	P	11 58 22.8 +0.5
	baz=71,SNR=21					
NATX	Nacogdoches	70.91	341	eP	P	11 58 23.4 +0.6
	comp=Z,395nm,1.1s					
532A	Rocksprings	70.93	336	⇑P	P	11 58 23.2 +0.1
	baz=71,SNR=79					
MAW	Mawson	70.95	164	eP	P	11 58 23.3 +0.6
MAW				S	S	12 07 35.3 -1.5
MAW				pmax	pmax	
	comp=Z,44nm,1.2s					
MAW	Mawson	70.95	164	P	P	11 58 23.3 +0.6
	comp=Z,69nm,0.8s,baz=211,slow=8.7,SNR=21					
MAW				S	S	12 07 35.3 -1.5
	comp=Z,12nm,1.2s,baz=302,slow=9.5,SNR=1.7					
MAW				LR	LR	12 29 29.0
	comp=Z,64μm,20.4s,baz=228,slow=36					
MAW	Mawson	70.95	164	eP	P	11 58 23.2 +0.6
	comp=Z,44nm,1.2s					
MAW				S	S	12 07 35.3 -1.5
434A	Burnet	71.05	338	⇓P	P	11 58 23.2 -0.6
	baz=71,SNR=45					
239A	Gary	71.11	341	⇑P	P	11 58 23.1 -0.9
	baz=72,SNR=8.8					
336A	Riesel	71.16	339	⇓P	P	11 58 23.7 -0.7
	baz=72,SNR=43					
531A	Rocksprings	71.18	335	⇑P	P	11 58 24.6 0.0
	baz=72,SNR=42					
JCT	Junction City	71.22	336	eP	P	11 58 25.0 +0.2
JCT				pmax	pmax	
	comp=Z,317nm,1.4s					
JCT				MLR	MLR	
	comp=Z,12μm,19.0s					
JCT	Junction City	71.22	336	⇓P	P	11 58 24.7 -0.1
	baz=72,SNR=48					
JCT	Junction City	71.22	336	eP	P	11 58 25.0 +0.2
	comp=Z,317nm,1.4s					
JCT				LR	LR	
	comp=Z,12μm,19.0s					
335A	Moody	71.23	338	⇑P	P	11 58 25.5 +0.7
	baz=72					
433A	Art	71.25	337	⇑P	P	11 58 25.1 +0.2
	baz=72,SNR=60					
238A	Jacksonville	71.26	341	⇓P	P	11 58 26.1 +1.1
	baz=72					
530A	J-C Ranch, Com	71.43	335	⇑P	P	11 58 26.2 0.0
	baz=72,SNR=62					
237A	Washetta, Mont	71.45	340	⇓P	P	11 58 26.3 +0.2
	baz=72,SNR=18					
334A	Lometa	71.52	338	⇓P	P	11 58 26.5 -0.1
	baz=72,SNR=74					
TX31	Lajitas Ar. Si	71.53	332	eP	P	11 58 26.4 -0.3
TXAR	Lajitas Array	71.53	332	P	P	11 58 26.9 +0.1
TXAR				S	S	12 07 42.0 -2.5
TXAR	Lajitas Array	71.53	332	P	P	11 58 26.9 +0.1
	comp=Z,19nm,0.8s,baz=152,slow=7.9,SNR=88					
TXAR				S	S	12 07 42.0 -2.5
	comp=Z,0.7nm,1.0s,baz=26,slow=9.0,SNR=2.2					
TXAR				LR	LR	12 25 25.3
	comp=Z,68μm,18.4s,baz=0.0,slow=32					
432A	Menard	71.59	336	⇑P	P	11 58 27.2 +0.1
	baz=72,SNR=23					
CNNC	Cliffs of the	71.66	356	eP	P	11 58 27.3 0.0
	comp=Z,147nm,0.9s					
CNNC				LR	LR	
	comp=Z,20μm,19.0s					
431A	Sonora	71.67	336	⇑P	P	11 58 27.6 0.0
	baz=72,SNR=34					
529A	Stev Forest Ra	71.72	334	⇑P	P	11 58 28.5 +0.6
	baz=72,SNR=55					
333A	Richland Sprin	71.75	337	⇑P	P	11 58 28.1 +0.2
	baz=72,SNR=35					
KMSC	Kings Mountain	71.82	353	⇓P	P	11 58 27.3 -1.0
	baz=72					
KMSC	Kings Mountain	71.82	353	eP	P	11 58 27.5 -0.7
	comp=Z,100nm,0.9s					
KMSC				LR	LR	
	comp=Z,32μm,21.3s					
138A	Matatall Enter	71.88	341	⇓P	P	11 58 28.6 0.0
	baz=72					
WHTX	Lake Whitney,	71.90	339	⇓P	P	11 58 28.6 -0.3
	baz=72,SNR=26					
WHTX	Lake Whitney,	71.90	339	eP	P	11 58 28.6 -0.3
	comp=Z,204nm,1.0s					
WHTX				LR	LR	
	comp=Z,13μm,20.7s					
430A	Baggett Ranch,	71.98	335	⇑P	P	11 58 29.7 +0.3
	baz=72,SNR=38					
137A	Heron Place, G	72.00	340	⇑P	P	11 58 29.3 0.0
	baz=72,SNR=18					
332A	Millersview	72.04	337	⇓P	P	11 58 29.8 +0.1
	baz=72,SNR=50					
429A	Davenport Ranc	72.06	334	⇓P	P	11 58 29.8 -0.1
	baz=72,SNR=58					
234A	Clairette	72.12	338	⇑P	P	11 58 30.2 +0.1
	baz=72,SNR=39					
331A	San Angelo	72.19	336	⇑P	P	11 58 30.3 -0.3
	baz=72,SNR=48					
OXF	Oxford	72.36	346	eP	P	11 58 30.8 -0.7
OXF				pmax	pmax	
	comp=Z,428nm,1.1s					
OXF	Oxford	72.36	346	eP	P	11 58 30.8 -0.7
	comp=Z,428nm,1.1s					
233A	Rising Star	72.36	337	⇓P	P	11 58 31.4 -0.2
	baz=73,SNR=38					
135A	Vickery Place,	72.42	339	⇓P	P	11 58 31.5 -0.4
	baz=73					
SWET	Sewanee	72.46	349	eP	P	11 58 31.8 -0.4
	comp=Z,797nm,1.3s					
232A	Coleman	72.47	337	⇓P	P	11 58 31.9 -0.5
	baz=73,SNR=34					
330A	Mertzon	72.53	335	⇓P	P	11 58 32.6 -0.1
	baz=73,SNR=21					
ELIM	Elim	72.60	120	eP	P	11 58 32.8 -0.5
ELIM				AMB	AMB	11 58 39.7
	comp=Z,353nm,3.2s					
ELIM	Elim	72.60	120	P	P	11 58 32.8 -0.5
	comp=Z,353nm,3.2s					
TKL	Tuckaleechee C	72.60	351	P	P	11 58 32.3 -0.6
TKL	Tuckaleechee C	72.60	351	P	P	11 58 32.3 -0.6
	comp=Z,45nm,0.8s,baz=164,slow=7.2,SNR=31					
134A	White-Moore Ra	72.63	338	⇑P	P	11 58 31.7 -1.5
	baz=73					
231A	Bronte	72.73	336	⇑P	P	11 58 33.4 -0.4
	baz=73,SNR=36					
329A	Wagon Wheel Ra	72.88	335	⇑P	P	11 58 34.7 -0.1
	baz=73,SNR=48					
133A	Hamilton Ranch	72.92	338	⇑P	P	11 58 34.9 -0.1
	baz=73,SNR=36					
230A	Sterling City	72.95	336	⇑P	P	11 58 35.8 +0.7
	baz=73					
Z35A	Perchaven, San	73.10	339	⇓P	P	11 58 36.2 +0.2
	baz=74,SNR=31					
ABTX	Abilene, Hawle	73.16	337	⇑P	P	11 58 36.5 +0.2
	baz=74,SNR=21					
ABTX	Abilene, Hawle	73.16	337	eP	P	11 58 36.5 +0.2
	comp=Z,249nm,1.1s					
UALR	University of	73.22	344	eP	P	11 58 36.5 -0.2
	comp=Z,63nm,0.9s					
229A	Bryant Ranch,	73.26	335	⇓P	P	11 58 37.5 +0.5
	baz=74,SNR=26					
MIAR	Mount Ida	73.29	343	eP	P	11 58 36.5 -0.6
MIAR				pmax	pmax	
	comp=Z,75nm,1.1s					
MIAR				MLR	MLR	
	comp=Z,15μm,19.0s					
MIAR	Mount Ida	73.29	343	eP	P	11 58 36.5 -0.6
	comp=Z,75nm,1.1s					
MIAR				LR	LR	
	comp=Z,15μm,19.0s					
Z34A	Collier Ranch,	73.33	339	⇑P	P	11 58 37.8 +0.5
	baz=74,SNR=14					
SRIG	Santa Rosalia	73.37	324	P	P	11 58 39.9 +2.2
131A	Roby	73.44	337	⇑P	P	11 58 38.3 +0.3
	baz=74					
TZTN	Tazewell	73.44	352	eP	P	11 58 37.5 -0.4
	comp=Z,185nm,1.1s					
TZTN				LR	LR	
	comp=Z,24μm,20.1s					
Z33A	Whitaker Ranch	73.50	338	⇑P	P	11 58 38.9 +0.6
	baz=74,SNR=34					
130A	Snyder	73.55	336	⇓P	P	11 58 39.0 +0.3
	baz=74,SNR=15					
KOMG	Komaggas	73.58	115	eP	P	11 58 39.7 +0.5
KOMG				AMB	AMB	11 58 46.3
	comp=Z,428nm,2.7s					
KOMG	Komaggas	73.58	115	P	P	11 58 39.7 +0.5
	comp=Z,428nm,2.7s					
HBAR	Harrisburg	73.62	345	eP	P	11 58 39.4 +0.5
WVT	Waverly	73.65	348	eP	P	11 58 38.3 -0.8
WVT				pmax	pmax	
	comp=Z,214nm,1.0s					
WVT	Waverly	73.65	348	eP	P	11 58 38.3 -0.8
	comp=Z,214nm,1.0s					
228A	UT Block 9, Go	73.66	334	⇑P	P	11 58 40.0 +0.6
	baz=74,SNR=28					
Z32A	Haskell	73.74	337	⇓P	P	11 58 40.2 +0.5
	baz=74,SNR=29					
VWCC	Virginia Weste	73.79	355	eP	P	11 58 39.5 -0.5
BLA	Blacksburg	73.79	354	eP	P	11 58 39.8 -0.2
BLA				pmax	pmax	
	comp=Z,52nm,0.9s					
BLA				MLR	MLR	
	comp=Z,18μm,20.0s					
BLA	Blacksburg	73.79	354	eP	P	11 58 39.8 -0.2
	comp=Z,52nm,0.9s					
BLA				LR	LR	
	comp=Z,18μm,20.0s					
Y34A	Reagan Ranch,	73.83	339	⇑P	P	11 58 40.7 +0.5
	baz=74,SNR=27					
DRV	Dumont d'Urvil	73.85	193	P	P	11 58 23.0 -17
DRV				S	SKiKP	12 07 36.0 -31
DRV				SS	SS	12 12 57.0 +4.1
DRV				L	L	12 17 00.0
DRV				R		12 21 00.0
129A	Stewart Farms,	73.88	335	⇑P	P	11 58 39.5 -1.2
	baz=74					
Z31A	Sharp Cattle R	73.95	337	⇓P	P	11 58 41.5 +0.4
	baz=74,SNR=35					
URVA	University of	73.97	357	eP	P	11 58 41.2 +0.3
BBTS	Babate	74.02	58	P	P	11 58 42.5 +0.7
	comp=Z,100nm,1.0s,baz=271,slow=2.9,SNR=7.2					
BBTS				LR	LR	12 30 46.1
	comp=Z,106μm,18.5s,baz=210,slow=36					
128A	Castleberry Fa	74.08	335	⇑P	P	11 58 42.7 +0.9
	baz=74,SNR=30					
JSRW	J. Sargeant Re	74.11	356	eP	P	11 58 41.6 -0.1
CGIG		74.13	329	P	P	11 58 46.9 +4.6
Y33A	Hilltop Ranch,	74.13	338	⇑P	P	11 58 42.1 +0.1
	baz=74,SNR=28					
Z30A	Sanderson Ranc	74.24	336	⇓P	P	11 58 43.4 +0.7
	baz=75,SNR=24					
PVMO	Portageville	74.26	346	eP	P	11 58 43.4 +0.7
PVMO				ePP	pP	11 58 48.4 -1.4
MNTX	Cornudas Mount	74.29	332	eP	P	11 58 42.0 -1.0
	comp=Z,46nm,1.0s					
MNTX				LR	LR	
	comp=Z,44μm,19.0s					
Y32A	R-V Farms, Ver	74.37	338	⇑P	P	11 58 41.5 -1.9
	baz=75					
Z29A	Hungry Hill Ra	74.41	336	⇓P	P	11 58 43.9 +0.1
	baz=75,SNR=53					
X34A	Smith Ranch, M	74.46	339	⇓P	P	11 58 44.5 +0.6
	baz=75,SNR=18					
SUR	Sutherland	74.55	119	P	P	11 58 46.4 +1.4
	comp=Z,945nm,1.0s,SNR=16					
SUR	Sutherland	74.55	119	eP	P	11 58 46.1 +1.0
	comp=Z,3μm,2.8s					
SUR				LR	LR	
	comp=Z,90μm,18.0s					
Y31A	Rekieta Farm,	74.59	337	⇑P	P	11 58 45.1 +0.4
	baz=75,SNR=25					
CBN	Corbin Frederi	74.59	357	PFAKE		11 59 00.0 +15
CBN				LR	LR	
	comp=Z,23μm,21.0s					
X33A	Lawton	74.59	339	⇓P	P	11 58 45.0 +0.3
	baz=75,SNR=6.2					
Z28A	Tucker Farm, M	74.66	335	⇑P	P	11 58 45.8 +0.6
	baz=75,SNR=18					
Y30A	Stafford Cattl	74.71	337	⇑P	P	11 58 45.7 +0.3
	baz=75					
X32A	Elmer	74.71	338	⇓P	P	11 58 45.7 +0.3
	baz=75					
Y29A	Porterfield Fa	74.94	336	⇑P	P	11 58 47.0 +0.1
	baz=75,SNR=21					
W34A	Bridge Creek,	75.03	340	⇑P	P	11 58 47.2 0.0
	baz=75					
X31A	McDonald Ranch	75.12	338	⇓P	P	11 58 47.3 -0.4
	baz=76,SNR=35					
TUL1	Leonard	75.14	341	⇑P	P	11 58 47.1 -0.6
	baz=76,SNR=40					
W33A	Caddo, Fort Co	75.15	339	⇓P	P	11 58 48.0 +0.1
	baz=76,SNR=29					
Y28A	McKinney Farm,	75.18	336	⇓P	P	11 58 48.6 +0.4
	baz=76,SNR=14					
Z26A	Caprock	75.19	334	⇓P	P	11 58 48.4 +0.1
	baz=76,SNR=56					
X30A	Coker Ranch, T	75.23	337	⇑P	P	11 58 49.0 +0.5
	baz=76,SNR=15					
W32A	Sentinel	75.35	338	⇓P	P	11 58 49.2 +0.1
	baz=76,SNR=53					
MSTX	Muleshoe	75.41	335	⇓P	P	11 58 50.4 +0.8
	baz=76,SNR=33					
MSTX	Muleshoe	75.41	335	PFAKE		11 59 00.0 +10
MSTX				LR	LR	
	comp=Z,18μm,19.0s					
Y27A	Causey	75.47	335	⇑P	P	11 58 51.4 +1.5
	baz=76,SNR=10					
Z25A	Roswell	75.47	333	⇓P	P	11 58 51.7 +1.8
	baz=76,SNR=6.9					
X29A	Tulia	75.49	336	⇑P	P	11 58 50.1 +0.1
	baz=76,SNR=19					
V34A	Guthrie	75.52	340	⇑P	P	11 58 50.4 +0.3
	baz=76,SNR=14					
319A	Douglas	75.55	329	⇑P	P	11 58 50.7 +0.2
	baz=76					
W31A	Holland Ranch,	75.62	338	⇓P	P	11 58 50.6 -0.1
	baz=76,SNR=15					
X28A	Dimmitt	75.72	336	⇑P	P	11 58 50.4 -0.9
	baz=76					
V33A	Lossen Ranch,	75.73	339	⇓P	P	11 58 51.2 0.0
	baz=76,SNR=30					
Y26A	Elida	75.73	334	⇓P	P	11 58 52.0 +0.6
	baz=76,SNR=21					
Z24A	Sheeppen Canyo	75.75	333	⇑P	P	11 58 52.4 +0.7
	baz=76,SNR=29					
W30A	Crocket Farms	75.81	337	⇑P	P	11 58 51.7 -0.1
	baz=76					
V32A	Arapaho	75.85	339	⇓P	P	11 58 51.1 -0.8
	baz=76					
AMTX	Amarillo	75.89	336	⇑P	P	11 58 51.4 -0.9
	baz=76					
AMTX	Amarillo	75.89	336	PFAKE		11 59 00.0 +7.8
AMTX				LR	LR	
	comp=Z,18μm,20.0s					
121A	Cookes Peak, D	75.96	331	⇓P	P	11 58 53.2 +0.4
	baz=76,SNR=33					
121A	Cookes Peak, D	75.96	331	eP	P	11 58 53.0 +0.2
	comp=Z,134nm,1.4s					
121A				epP	pP	11 58 58.9 -1.0
Y25A	Mesa, Roswell	76.04	334	⇑P	P	11 58 53.9 +0.7
	baz=76,SNR=9.5					
W29A	Amarillo	76.09	336	⇓P	P	11 58 53.8 +0.4
	baz=76,SNR=34					
U34A	Anderson Ranch	76.09	340	⇓P	P	11 58 53.9 +0.6
	baz=76,SNR=12					
V31A	Spring Creek L	76.14	338	⇓P	P	11 58 54.3 +0.7
	baz=76,SNR=16					
X27A	F and S Farms,	76.14	335	⇑P	P	11 58 53.9 +0.2
	baz=76					
OLIL	Olney	76.24	348	eP	P	11 58 53.1 -0.9
OLIL				epP	pP	11 59 00.1 -1.0
U33A	Lingo Farm, Me	76.25	340	⇓P	P	11 58 54.8 +0.6
	baz=77,SNR=11					
Z22A	Elephant Butte	76.28	332	⇓P	P	11 58 55.2 +0.6
	baz=77,SNR=32					
X26A	CR and CF Fran	76.29	335	⇓P	P	11 58 54.8 +0.2
	baz=77,SNR=30					
Y24A	Capitan	76.31	333	⇓P	P	11 58 54.7 -0.1
	baz=77,SNR=42					
MVL	Millersville	76.34	358	PFAKE		11 59 10.0 +15
MVL				LR	LR	
	comp=Z,26μm,19.4s					
V30A	Spur Ranch, Mi	76.38	337	⇓P	P	11 58 56.1 +1.0
	baz=77					
W28A	Vega	76.40	336	⇓P	P	11 58 56.5 +1.4
	baz=77					
BLO	Bloomington	76.42	350	eP	P	11 58 54.0 -1.1
BLO				e*PP	pP	11 59 01.2 -1.0
BLO	Bloomington	76.42	350	eP	P	11 58 54.0 -1.1
BLO				epP	pP	11 59 01.2 -1.0
U32A	Winter Ranch,	76.45	339	⇓P	P	11 58 55.7 +0.3
	baz=77,SNR=8.8					
W27A	Bowe Ranch, En	76.50	335	⇓P	P	11 58 56.0 +0.2
	baz=77,SNR=45					
Y23A	Lovelace Mesa,	76.54	333	⇓P	P	11 58 56.4 +0.3
	baz=77,SNR=28					
X25A	Clemmons Ranch	76.57	334	⇑P	P	11 58 57.5 +1.3
	baz=77					
U31A	Nine Bar Ranch	76.69	338	⇑P	P	11 58 58.5 +1.8
	baz=77					
LIC	Lamto	76.71	72	⇑iP	P	11 58 57.3 0.0
	comp=Z,746nm,1.2s,baz=241					
LIC	Lamto	76.71	72	eP	P	11 58 57.4 +0.1
	comp=Z,802nm,1.2s					
LIC	Lamto	76.71	72	⇑iP	P	11 58 57.3 0.0
	comp=Z,746nm,1.2s					
V29A	Stinnett	76.74	337	⇑P	P	11 58 58.9 +1.8
	baz=77					
W26A	Owens Ranch, T	76.77	335	⇑P	P	11 58 57.5 +0.2
	baz=77,SNR=5.8					
V28A	Channing	76.86	336	⇑P	P	11 58 58.4 +0.6
	baz=77					
X24A	Lazy VL Ranch,	76.88	333	⇓P	P	11 58 58.5 +0.5
	baz=77					
T33A	Patterson Ranc	76.89	340	⇓P	P	11 58 57.8 0.0
	baz=77,SNR=14					
LUPA	Lehigh Univers	76.91

LUPA LR LR
comp=Z,6µm,19.4s
BNM Barren Site 76.95 332 eP P 11 59 01.7 +3.3
TIC Toumodi 76.98 71 eP **P 11 58 59.0 +0.1**
comp=Z,450nm,1.1s
BRNJ Basking Ridge 76.98 359 eP **P 11 58 57.8 -0.4**
comp=Z,93nm,1.2s
BRNJ LR LR
comp=Z,31µm,18.6s
Y22D IRIS PASSCAL I 76.99 332 ⇑P **P 11 59 01.0 +2.4**
baz=77
TUC Tucson 76.99 328 eP **P 11 58 59.3 +0.7**
TUC e*PP **pP 11 59 04.6 -1.1**
TUC MLR MLR
comp=Z,25µm,18.7s
TUC Tucson 76.99 328 eP **P 11 58 59.3 +0.7**
TUC epP **pP 11 59 04.6 -1.1**
TUC LR LR
comp=Z,25µm,18.7s
KIC Kosan Boka 77.01 72 eP **P 11 58 59.2 +0.2**
comp=Z,909nm,1.1s
ACSO Alum Creek Sta 77.03 353 eP **P 11 58 57.7 -0.8**
ACSO epP **pP 11 59 05.1 -0.5**
ACSO LR LR
comp=Z,24µm,20.0s
SSPA Standing Stone 77.04 357 eP **P 11 58 58.4 -0.1**
SSPA epP **pP 11 59 05.1 -0.5**
SSPA LR LR
comp=Z,20µm,22.0s
V27A Dan Oppiter Fa 77.06 336 ⇓P **P 11 59 00.6 +1.7**
baz=77
U30A WK&E Inc. Balk 77.08 338 ⇑P **P 11 58 59.5 +0.5**
baz=77,SNR=16
CPNY Central Park 77.09 360 PFAKE 11 59 10.0 +11
CPNY LR LR
comp=Z,17µm,20.6s
DBIC Dimbokro 77.12 72 eP **P 11 58 59.9 +0.3**
DBIC Dimbokro 77.12 72 P **P 11 58 59.9 +0.3**
DBIC S **S 12 08 49.3 +1.6**
DBIC Dimbokro 77.12 72 P **P 11 58 59.9 +0.3**
comp=Z,99nm,0.9s,baz=206,slow=7.0,SNR=71
DBIC S **S 12 08 49.3 +1.6**
comp=Z,4.4nm,1.1s,baz=340,slow=17,SNR=2.0
DBIC LR LR 12 30 23.8
comp=Z,60µm,18.6s,baz=218,slow=34
W25A X Bar L Ranch, 77.12 334 ⇓P **P 11 58 59.9 +0.6**
baz=78,SNR=39
X23A Hourglass Bar 77.17 333 ⇓P **P 11 59 00.9 +1.2**
baz=78
T32A Huddler Ranch, 77.18 339 ⇓P **P 11 59 01.6 +2.2**
baz=78
U29A Oasis Ranch, S 77.20 337 ⇓P **P 11 59 01.4 +1.8**
baz=78
PAL Palisades 77.30 360 PFAKE 11 59 10.0 +10
PAL LR LR
comp=Z,16µm,20.0s
S33A Kaszmaul Farm, 77.31 340 ⇓P **P 11 59 00.1 0.0**
baz=78
T31A Randall Ranch, 77.32 339 ⇑P **P 11 59 01.7 +1.5**
baz=78
LAZ Ladron 77.36 332 eP **P 11 59 02.0 +1.3**
ODNJ Ogdensburg 77.38 359 PFAKE 11 59 10.0 +10
ODNJ LR LR
comp=Z,24µm,21.2s
V26A Tequesquite Ra 77.41 335 ⇑P **P 11 59 01.7 +0.8**
baz=78,SNR=16
U28A Mallet 77.43 337 ⇑P **P 11 59 02.7 +1.7**
baz=78
W24A Lazy 6 Ranch, 77.45 334 ⇑P **P 11 59 02.0 +0.7**
baz=78,SNR=32
T30A Plains 77.53 338 ⇑P **P 11 59 02.5 +1.1**
baz=78
214A Organ Pipe Nat 77.57 326 ⇑P **P 11 59 02.8 +1.1**
baz=78
214A Organ Pipe Nat 77.57 326 eP **P 11 59 01.4 -0.3**
comp=Z,119nm,1.4s
ANMO Albuquerque 77.59 333 c iP **P 11 59 02.5 +0.5**
ANMO pmax pmax
comp=Z,262nm,1.1s
ANMO Albuquerque 77.59 333 P **P 11 59 02.3 +0.3**
comp=Z,24nm,1.0s,baz=157,slow=6.9,SNR=49
ANMO LR LR 12 28 53.0
comp=Z,41µm,18.8s,baz=158,slow=32
YLE Yale 77.61 0 epP **pP 11 59 09.0 +0.3**
YLE LR LR
comp=Z,26µm,20.7s
U27A Thompson Grove 77.66 336 ⇓P **P 11 59 03.2 +1.0**
baz=78,SNR=22
S32A Newby Ranch, P 77.67 340 ⇓P **P 11 59 02.5 +0.3**
baz=78,SNR=18
W23A Werner Place, 77.67 333 ⇓P **P 11 59 03.3 +0.8**
baz=78,SNR=41
SFIN Lafayette 77.69 349 ⇑P **P 11 59 01.7 -0.4**
baz=78
V25A Rancho No Teng 77.74 335 ⇑P **P 11 59 03.3 +0.5**
baz=78,SNR=54
S31A Mullinville 77.75 339 ⇑P **P 11 59 03.3 +0.7**
baz=78
T29A Hugoton 77.86 338 ⇓P **P 11 59 03.5 +0.3**
baz=78
V24A Rampart Ranch, 77.86 334 ⇓P **P 11 59 04.1 +0.6**
baz=78,SNR=17
KSPA Keystone Colle 77.88 358 PFAKE 11 59 10.0 +6.8
KSPA LR LR
comp=Z,36µm,19.0s
U26A Atchley Ranch, 77.94 335 ⇓P **P 11 59 04.4 +0.5**
baz=78,SNR=15
GRM Grahamstown 77.96 123 eP **P 11 59 04.1 -0.1**
GRM AMB AMB 11 59 10.4
comp=Z,379nm,2.7s
GRM Grahamstown 77.96 123 P **P 11 59 04.1 -0.1**
GRM pmax pmax
comp=Z,379nm,2.7s
GRM Grahamstown 77.96 123 i P P 11 58 58.4 -5.8
GRM PKP **S 12 08 58.5 +1.9**
GRM Grahamstown 77.96 123 P **P 11 59 04.1 -0.1**
comp=Z,379nm,2.7s
R33A Olander Ranch, 77.97 340 ⇑P **P 11 59 04.0 +0.2**
baz=78,SNR=11
SPIG San Pedro Mart 78.02 324 P P 11 59 09.9 +5.2
S30A Montezuma 78.05 338 ⇓P **P 11 59 05.0 +0.7**
baz=78
T28A Walsh 78.08 337 ⇑P **P 11 59 04.9 +0.4**
baz=78,SNR=44
U25A Circle Dot Ran 78.17 335 ⇓P **P 11 59 06.6 +1.4**
baz=78,SNR=28
ALLY Alegheny Colle 78.18 355 eP **P 11 59 04.7 -0.2**
comp=Z,96nm,1.0s
V23A Ortiz Mt. (NFS 78.21 333 ⇑P **P 11 59 07.0 +1.6**
baz=79,SNR=6.8
T27A Campo 78.22 336 ⇓P **P 11 59 05.5 +0.2**
baz=79,SNR=20
S29A Ulysses 78.23 338 ⇑P **P 11 59 05.7 +0.4**
baz=79,SNR=12
BRYW Bryant College 78.23 1 eP **P 11 59 06.1 +1.0**
comp=Z,316nm,1.4s
BRYW LR LR
comp=Z,25µm,18.7s
R32A Long Quarter, 78.28 340 ⇓P **P 11 59 06.3 +0.8**
baz=79,SNR=14
KSU1 Kansas State U 78.36 342 ⇑P **P 11 59 06.7 +0.7**
baz=79
KSU1 Kansas State U 78.36 342 PFAKE 11 59 20.0 +14
KSU1 LR LR
comp=Z,12µm,20.0s
R31A Burdett 78.38 339 ⇑P **P 11 59 07.2 +1.1**
baz=79,SNR=16
S28A Manter 78.44 337 ⇓P **P 11 59 07.8 +1.2**
baz=79,SNR=18
U24A Moreno Valley 78.48 334 ⇑P **P 11 59 08.5 +1.5**
baz=79
BINY Binghamton 78.53 358 eP **P 11 59 06.5 -0.3**
comp=Z,274nm,2.0s
BINY epP **pP 11 59 12.3 -1.6**
BINY LR LR
comp=Z,33µm,19.0s
X18A Snowflake 78.57 330 ⇓P **P 11 59 09.2 +1.7**
baz=79,SNR=23
QUA2 Belchertown 78.58 1 eP **P 11 59 07.6 +0.6**
comp=Z,112nm,1.0s
QUA2 LR LR
comp=Z,27µm,18.9s
Q33A Connelly Farm, 78.58 341 ⇓P **P 11 59 07.5 +0.3**
baz=79
R30A Dighton 78.59 339 ⇓P **P 11 59 08.0 +0.7**
baz=79
T26A Comanche Natio 78.60 336 ⇓P **P 11 59 08.6 +1.0**
baz=79,SNR=36
V22A San Miguel Ran 78.62 333 ⇑P **P 11 59 08.8 +1.1**
baz=79,SNR=89
ERPA Erie 78.64 355 eP **P 11 59 06.8 -0.5**
ERPA epP **pP 11 59 12.6 -1.9**
ERPA LR LR
comp=Z,21µm,19.0s
MCQ Macquarie Isla 78.65 208 PFAKE 11 59 20.0 +13
MCQ LR LR
comp=Z,2990µm,20.5s
113A Mohawk Valley, 78.68 326 ⇓P **P 11 59 09.7 +1.9**
baz=79
WES Weston 78.70 2 PFAKE 11 59 20.0 +12
WES LR LR
comp=Z,28µm,18.4s
U23A El Rito 78.73 334 ⇑P **P 11 59 09.8 +1.4**
baz=79,SNR=38
Q32A Meitler Ranch, 78.77 340 ⇑P **P 11 59 08.2 0.0**
baz=79,SNR=12
HRV Adam Dziewonsk 78.82 1 PFAKE 11 59 20.0 +12
HRV LR LR
comp=Z,25µm,19.0s
Z14A Wintersburg 78.83 327 ⇓P **P 11 59 10.1 +1.5**
baz=79
S27A Las Animas 78.84 337 ⇓P **P 11 59 10.5 +1.7**
baz=79
T25A Trinidad 78.84 335 ⇑P **P 11 59 09.1 +0.2**
baz=79,SNR=62
P33A Williams Farm, 78.96 341 ⇓P **P 11 59 10.3 +1.1**
baz=79
S26A Kim 78.97 336 ⇓P **P 11 59 10.1 +0.6**
baz=79,SNR=59
R29A Marienthal 78.98 338 ⇓P **P 11 59 09.0 -0.5**
baz=79
W18A Petrified Fore 79.00 330 ⇑P **P 11 59 10.4 +0.6**
baz=79,SNR=29
W18A Petrified Fore 79.00 330 PFAKE 11 59 20.0 +10
W18A LR LR
comp=Z,49µm,18.1s
Q31A Ellis 79.01 340 ⇓P **P 11 59 10.4 +0.8**
baz=79,SNR=14
U22A Llaves 79.02 333 ⇓P **P 11 59 10.6 +0.7**
baz=79,SNR=25
TRY Troy 79.02 360 PFAKE 11 59 20.0 +11
TRY LR LR
comp=Z,22µm,19.5s
X16A Lo Mia Camp, P 79.09 329 ⇑P **P 11 59 11.5 +1.2**
baz=79,SNR=34
R28A Tribune 79.11 338 ⇑P **P 11 59 10.5 +0.4**
baz=80,SNR=21
T24B San Luis 79.11 334 ⇑P **P 11 59 10.9 +0.5**
baz=80,SNR=33
AAM Ann Arbor 79.14 352 eP **P 11 59 09.3 -0.8**
AAM e*PP **pP 11 59 16.0 -1.2**
AAM MLR MLR
comp=Z,34µm,22.0s
AAM Ann Arbor 79.14 352 eP **P 11 59 09.3 -0.8**
AAM epP **pP 11 59 16.0 -1.2**
AAM LR LR
comp=Z,34µm,22.0s
Q30A Quinter 79.22 339 ⇑P **P 11 59 11.1 +0.4**
baz=80,SNR=25
T23A Casias Ranch, 79.31 334 ⇓P **P 11 59 12.9 +1.4**
baz=80,SNR=16
S25A Robets Cordova 79.32 335 ⇓P **P 11 59 12.4 +0.9**
baz=80,SNR=24
Y14A Wickenburg 79.34 327 ⇓P **P 11 59 12.7 +1.2**
baz=80,SNR=16
Q29A Oakley 79.36 338 ⇓P **P 11 59 12.5 +1.0**
baz=80,SNR=18
R27A Eads 79.36 337 ⇓P **P 11 59 12.0 +0.5**
baz=80,SNR=34
P32A Huiting Farm, 79.37 340 ⇑P **P 11 59 11.8 +0.3**
baz=80,SNR=14
GLA Glamis 79.40 326 ⇑P **P 11 59 13.6 +1.8**
baz=80
GLA Glamis 79.40 326 PFAKE 11 59 20.0 +8.1
GLA LR LR
comp=Z,30µm,20.3s
P31A Stockton 79.49 340 ⇓P **P 11 59 13.6 +1.4**
baz=80
S24A Houchin Ranch, 79.57 335 ⇓P **P 11 59 13.8 +0.8**
baz=80,SNR=22
R26A Arlington 79.58 336 ⇓P **P 11 59 13.5 +0.7**
baz=80,SNR=35
TSUM Tsumeb 79.59 106 P **P 11 59 14.1 +0.6**
comp=Z,56nm,1.0s,baz=238,slow=6.1,SNR=29
TSUM S **S 12 09 17.5 +3.0**
comp=Z,1.1nm,0.9s,baz=46,slow=22,SNR=3.5
TSUM Tsumeb 79.59 106 eP **P 11 59 13.9 +0.5**
comp=Z,234nm,1.3s
TSUM S **S 12 09 17.5 +3.0**
ACCN Adirondack Com 79.68 360 eP **P 11 59 13.5 +0.5**
ACCN epP **pP 11 59 20.0 -0.2**
ACCN LR LR
comp=Z,19µm,20.2s
R25A Fountain Ranch 79.71 336 ⇑P **P 11 59 14.3 +0.8**
baz=80,SNR=17
SWSC Sam W. Stewart 79.75 325 ⇓P **P 11 59 14.4 +0.7**
baz=80
P30A Selden 79.75 339 ⇑P **P 11 59 12.8 -0.8**
baz=80
SDCO Great Sand Dun 79.76 335 eP **P 11 59 14.8 +0.8**
comp=Z,55nm,1.0s
SDCO LR LR
comp=Z,36µm,18.0s
Q28A Sharon Springs 79.77 338 ⇑P **P 11 59 14.4 +0.6**
baz=80,SNR=12
FFD Franklin Falls 79.78 1 PFAKE 11 59 20.0 +6.5
FFD LR LR
comp=Z,20µm,19.9s
BOSA Boshof 79.85 118 eP **P 11 59 14.3 -0.4**
BOSA AMB AMB 11 59 19.7
comp=Z,383nm,2.8s
BOSA Boshof 79.85 118 eP **P 11 59 14.6 -0.1**
BOSA S **S 12 09 16.2 -0.8**
BOSA pmax pmax
comp=Z,232nm,1.1s
BOSA Boshof 79.85 118 P **P 11 59 14.6 -0.1**
comp=Z,95nm,1.0s,baz=226,slow=5.2,SNR=36
BOSA S **S 12 09 16.2 -0.8**
comp=Z,4.2nm,1.0s,baz=294,slow=20,SNR=1.9
BOSA LR LR 12 33 25.1
comp=Z,29µm,18.5s,baz=232,slow=35
BOSA Boshof 79.85 118 eP **P 11 59 14.6 -0.1**
comp=Z,232nm,1.1s
BOSA S **S 12 09 16.2 -0.8**
Y12C Blythe 79.85 326 ⇑P **P 11 59 14.9 +0.7**
baz=80,SNR=29
O32A Brockman Farm, 79.88 341 ⇓P **P 11 59 15.3 +1.1**
baz=80
S23A Nye Farm, Mont 79.90 334 ⇑P **P 11 59 15.5 +0.8**
baz=80
BAR Barrett 79.94 324 eP **P 11 59 15.6 +0.8**
BAR epP **pP 11 59 19.9 -2.0**
BAR LR LR
comp=Z,43µm,20.1s
KSCO Kaye Shedlock' 79.97 337 ⇓P **P 11 59 16.2 +1.3**
baz=80
BFZ Birch Farm 79.98 226 PFAKE 11 59 30.0 +15
BFZ LR LR
comp=Z,24µm,20.0s
MONP Monument Peak, 80.00 324 ⇑P **P 11 59 16.2 +0.8**
baz=80
HNH Hanover 80.00 1 PFAKE 11 59 30.0 +15
HNH LR LR
comp=Z,27µm,20.8s
P29A Atwood 80.00 339 ⇑P **P 11 59 15.4 +0.4**
baz=80,SNR=29
WUAZ Wupatki 80.01 329 ⇑P **P 11 59 16.3 +1.0**
baz=80,SNR=21
WUAZ Wupatki 80.01 329 PFAKE 11 59 30.0 +15
WUAZ LR LR
comp=Z,36µm,18.0s
O31A Woolen Ranch, 80.06 340 ⇓P **P 11 59 16.3 +1.1**
baz=80
R24A Sanders Place, 80.06 335 ⇓P **P 11 59 16.5 +1.0**
baz=80,SNR=57
PDMCI Parker Dam,Lak 80.14 327 ⇓P **P 11 59 17.7 +1.9**
baz=80
Q26A Hugo 80.17 337 ⇓P **P 11 59 17.4 +1.4**
baz=80,SNR=23
BC3 Big Chuckawall 80.19 325 ⇓P **P 11 59 17.4 +1.2**
baz=80,SNR=14
ODZ Otahua Downs 80.19 220 PFAKE 11 59 30.0 +14
ODZ LR LR
comp=Z,52µm,18.0s
P28A Saint Francis 80.22 338 ⇓P **P 11 59 17.4 +1.2**
baz=81,SNR=12
S22A 4UR Ranch, Cre 80.23 334 ⇑P **P 11 59 17.0 +0.5**
baz=81,SNR=30
NCB Newcomb 80.27 359 eP **P 11 59 16.1 -0.2**
comp=Z,49nm,0.9s
NCB epP **PcP 11 59 22.9 -0.4**
NCB LR LR
comp=Z,20µm,19.0s
KUK Kukurantumi 80.27 75 i P **P 11 59 14.2 -2.8**
KUK PKP **S 12 09 23.0 +1.5**
R23A Moffat 80.27 335 ⇓P **P 11 59 18.3 +1.5**
baz=81
O30A MW Ranch, Wils 80.29 340 ⇓P **P 11 59 17.2 +0.7**
baz=81
MDV Middlebury 80.29 0 eP **P 11 59 16.6 +0.3**
MDV epP **PcP 11 59 22.8 -0.6**
109C Camp Elliot, M 80.32 324 ⇓P **P 11 59 17.9 +1.1**
baz=81
MVCO Mesa Verde 80.36 332 ⇑P **P 11 59 17.5 +0.3**
baz=81,SNR=40
MVCO Mesa Verde 80.36 332 PFAKE 11 59 30.0 +13
MVCO LR LR
comp=Z,71µm,20.0s
N32A Stulken Farm, 80.36 341 ⇑P **P 11 59 17.5 +0.7**
baz=81
KHZ Kahutara 80.39 224 PFAKE 11 59 30.0 +13
KHZ LR LR
comp=Z,21µm,22.0s
Q25A Bedland, Calha 80.40 336 ⇑P **P 11 59 17.6 +0.3**
baz=81,SNR=23
O29A 4D Ranch, Culb 80.45 339 ⇑P **P 11 59 17.7 +0.3**
baz=81
P27A Ficken Ranch, 80.45 338 ⇑P **P 11 59 18.4 +1.0**
baz=81
SNZO South Karori 80.47 225 PFAKE 11 59 30.0 +12
SNZO LR LR
comp=Z,30µm,18.0s
IRM Iron Mountain 80.48 326 ⇓P **P 11 59 18.6 +1.0**
baz=81,SNR=17
LBNH Lisbon 80.54 1 eP **P 11 59 18.4 +0.7**
LBNH pmax pmax
comp=Z,76nm,0.9s
LBNH MLR MLR
comp=Z,21µm,19.0s
LBNH Lisbon 80.54 1 eP **P 11 59 18.4 +0.7**
comp=Z,76nm,0.9s
LBNH LR LR
comp=Z,21µm,19.0s
N31A Bailey Ranch, 80.59 341 ⇑P **P 11 59 18.0 -0.1**
baz=81
PFO Pinyon Flats O 80.61 325 P **P 11 59 20.6 +2.1**
comp=Z,405nm,1.1s,SNR=5.7
PFO Pinyon Flats O 80.61 325 P **P 11 59 18.7 +0.2**
PFO MLR MLR
comp=Z,33µm,18.0s
PFO Pinyon Flats O 80.61 325 P **P 11 59 18.6 +0.2**
comp=Z,25nm,0.9s,baz=152,slow=3.4,SNR=9.7
PFO Pinyon Flats O 80.61 325 ⇑P **P 11 59 20.2 +1.7**
baz=81,SNR=9.2
PFO Pinyon Flats O 80.61 325 P **P 11 59 18.6 +0.2**
PFO eP **P 11 59 19.3 +0.8**
PFO LR LR
comp=Z,33µm,18.0s
JFWS Jewell Farm 80.67 348 eP **P 11 59 18.0 -0.4**
JFWS e*PP **PcP 11 59 24.8 -0.3**
JFWS MLR MLR
comp=Z,26µm,22.0s
JFWS Jewell Farm 80.67 348 eP **P 11 59 18.0 -0.4**
JFWS epP **PcP 11 59 24.8 -0.3**
JFWS LR LR
comp=Z,26µm,22.0s
P26A Davis Ranch, A 80.70 337 ⇓P **P 11 59 19.7 +0.9**
baz=81,SNR=13
W13A Hualapai Mount 80.71 327 ⇓P **P 11 59 19.9 +0.8**
baz=81,SNR=24
BELC Belle Mtn. Jos 80.73 325 ⇑P **P 11 59 20.8 +1.7**
baz=81
O28A Krutsinger Ran 80.73 338 ⇑P **P 11 59 19.7 +0.7**
baz=81,SNR=24
Q24A Divide 80.74 335 ⇑P **P 11 59 19.9 +0.6**
baz=81,SNR=26
SWZ Schweizer 80.74 117 eP **P 11 59 17.4 -2.3**
SWZ AMB AMB 11 59 25.2
comp=Z,404nm,2.9s
SWZ Schweizer 80.74 117 P **P 11 59 17.4 -2.3**
comp=Z,404nm,2.9s
NEE2 Needles Airpor 80.75 327 ⇑P **P 11 59 18.3 -0.8**
baz=81
BKZ Black Stump Fm 80.81 228 PFAKE 11 59 30.0 +10
BKZ LR LR
comp=Z,44µm,18.0s
N30A Hueftle Ranch, 80.88 340 ⇑P **P 11 59 19.5 -0.1**
baz=81
RPZ Rata Peaks 80.88 222 PFAKE 11 59 30.0 +10
RPZ LR LR
comp=Z,47µm,19.0s
P25A Willow Gulch B 80.91 336 ⇑P **P 11 59 20.4 +0.4**
baz=81,SNR=46
Q23A Hartsel 80.92 335 ⇑P **P 11 59 20.6 +0.3**
baz=81
LONY Lake Ozonia 80.92 359 eP **P 11 59 19.8 +0.1**
LONY epP **pP 11 59 26.6 -0.3**
LONY LR LR
comp=Z,22µm,20.0s
BGNE Belgrade 80.93 341 ⇓P **P 11 59 19.8 -0.1**
baz=81
WVL Waterville 80.93 3 PFAKE 11 59 30.0 +10
WVL LR LR
comp=Z,31µm,18.5s
MURC Murrieta 80.95 324 ⇑P **P 11 59 21.7 +1.5**
baz=81,SNR=11
WHZ Wether Hill Ro 80.98 218 PFAKE 11 59 30.0 +10
WHZ LR LR
comp=Z,29µm,19.0s
O27A Beecher Island 81.01 338 ⇓P **P 11 59 20.5 +0.1**
baz=81,SNR=12
URZ Urewera 81.03 229 eP **P 11 59 21.8 +1.1**
URZ epP **pP 11 59 27.7 -0.2**
URZ LR LR
comp=Z,54µm,20.0s
N29A Votaw Ranch, W 81.04 339 ⇑P **P 11 59 21.3 +0.8**
baz=81,SNR=10
M31A Lambtecht Ranc 81.08 341 ⇑P **P 11 59 21.2 +0.5**
baz=81,SNR=15
SCI San Clemente I 81.09 323 ⇓P **P 11 59 19.3 -1.6**
baz=81
P24A Kohler Place, 81.16 336 ⇑P **P 11 59 21.4 +0.1**
baz=82
U15A North Rim 81.17 329 ⇑P **P 11 59 23.3 +1.7**
baz=82,SNR=36
EMMW East Machias 81.18 4 ePcP **PcP 11 59 28.1 +0.9**
EMMW LR LR
comp=Z,16µm,19.4s
N28A Pribbeno Ranch 81.18 339 ⇑P **P 11 59 22.3 +1.0**
baz=82,SNR=12
PV01 Paradox Valley 81.20 333 eP **P 11 59 22.4 +0.7**
PV01 epP **PcP 11 59 27.6 -0.2**
GMRC Granite Mounta 81.22 326 ⇑P **P 11 59 23.7 +1.9**
baz=82,SNR=21
SADO Sadowa 81.22 356 P **P 11 59 20.6 -0.7**
comp=Z,19nm,0.9s,baz=258,slow=4.2,SNR=10
SADO SKKP 12 21 16.1
comp=Z,4.6nm,0.9s,baz=47,slow=0.7,SNR=3.4
LDFC Landfair 81.23 327 eP **P 11 59 22.1 +0.4**
LDFC epP **pP 11 59 28.5 -0.4**
LDFC LR LR
comp=Z,26µm,18.2s
O26A Horse Wrangler 81.31 337 ⇑P **P 11 59 23.7 +1.7**
baz=82
P23A Jefferson 81.34 335 ⇑P **P 11 59 23.9 +1.4**
baz=82
PV05 Paradox Valley 81.35 332 eP **P 11 59 22.8 +0.4**
CIS Catalina Islan 81.37 323 ⇑P **P 11 59 24.2 +1.8**
baz=82
BBRC Big Bear Solar 81.37 325 ⇓P **P 11 59 24.2 +1.5**
baz=82
O25A Wiggins 81.44 337 ⇓P **P 11 59 24.1 +1.3**
baz=82,SNR=14
M30A Dale-Ortello V 81.50 340 ⇑P **P 11 59 23.6 +0.6**
baz=82
SMCO Snowmass 81.55 334 PFAKE 11 59 40.0 +16
SMCO LR LR
comp=Z,45µm,19.4s
FMP Fort Macarthur 81.56 324 ⇓P **P 11 59 24.1 +0.7**
baz=82
OGNE Ogallala 81.57 339 ⇓P **P 11 59 24.3 +1.0**

baz=82
OGNE Ogallala 81.57 339 eP P 11 59 23.3 0.0
comp=Z,239nm,1.4s
OGNE LR LR
comp=Z,13µm,19.0s
HEC Hector,Ludlow 81.57 326 ⇓P P 11 59 25.2 +1.7
baz=82
N27A Anderson Farm, 81.59 338 ⇑P P 11 59 24.7 +1.2
baz=82,SNR=18
PV10 Paradox Valley 81.59 332 eP P 11 59 23.9 +0.2
PV10 ePKKPbc **PKKPbc 12 17 57.5 -0.2**
KSD Kokstad 81.59 122 eP P 11 59 24.4 +0.3
KSD AMB AMB 11 59 30.9
comp=Z,121nm,3.1s
KSD Kokstad 81.59 122 P P 11 59 24.4 +0.3
comp=Z,121nm,3.1s
M29A Burnside Ranch 81.64 340 ⇓P P 11 59 25.5 +1.7
baz=82
PKME Peaks-Kenny Pk 81.64 3 PFAKE 11 59 30.0 +6.5
PKME LR LR
comp=Z,14µm,19.0s
ISCO Idaho Springs 81.65 336 ⇑P P 11 59 25.0 +0.9
baz=82,SNR=24
ISCO Idaho Springs 81.65 336 PFAKE 11 59 40.0 +16
ISCO LR LR
comp=Z,23µm,18.0s
DCZ Deep Cove 81.67 218 PFAKE 11 59 40.0 +16
DCZ LR LR
comp=Z,22µm,20.0s
SEK Senekal 81.69 119 eP P 11 59 24.2 -0.4
SEK AMB AMB 11 59 30.6
comp=Z,373nm,3.0s
SEK Senekal 81.69 119 P P 11 59 24.2 -0.4
comp=Z,373nm,3.0s
BFSC Mount Baldy Ra 81.69 324 ⇓P P 11 59 26.3 +2.0
baz=82
PV09 Paradox Valley 81.73 332 eP P 11 59 25.5 +1.0
O24A Longmont 81.76 336 ⇑P P 11 59 26.5 +2.0
baz=82
M28A Bar X Bar Ranc 81.79 339 ⇓P P 11 59 26.2 +1.7
baz=82
N26A Koester Ranch, 81.82 338 ⇓P P 11 59 25.7 +0.9
baz=82
L31A Butterfield Fa 81.83 341 ⇑P P 11 59 25.5 +0.9
baz=82,SNR=31
L30A Spencer Herefo 81.85 341 ⇓P P 11 59 25.6 +0.9
baz=82,SNR=9.8
P22A Eagle 81.85 335 ⇑P P 11 59 26.5 +1.4
baz=82,SNR=26
MWC Mount Wilson 81.87 324 PFAKE 11 59 40.0 +15
MWC LR LR
comp=Z,50µm,18.0s
PASC Pasadena Art C 81.89 324 eP P 11 59 26.7 +1.6
PASC LR LR
comp=Z,39µm,19.0s
TUQ Turquoise Moun 81.89 326 ⇑P P 11 59 26.4 +1.1
baz=82,SNR=28
KNB Kanab 81.89 329 eP P 11 59 26.8 +1.5
KNB pmax pmax
comp=Z,281nm,1.5s
KNB MLR MLR
comp=Z,23µm,18.8s
KNB Kanab 81.89 329 eP P 11 59 26.8 +1.5
comp=Z,281nm,1.5s
KNB LR LR
comp=Z,23µm,18.8s
RRX Edison Barstow 81.92 325 ⇓P P 11 59 26.6 +1.4
baz=82
DECC Green Verdugo 82.02 324 ⇑P P 11 59 27.2 +1.4
baz=82
N25A Grover 82.07 337 ⇑P P 11 59 27.7 +1.6
baz=82
O23A Lake Granby, G 82.12 335 ⇑P P 11 59 27.4 +0.8
baz=82,SNR=43
L29A Maesberg Ranch 82.16 340 ⇑P P 11 59 27.0 +0.6
baz=82,SNR=9.8
GSC Goldstone, Bar 82.18 325 ⇓P P 11 59 27.1 +0.4
baz=82,SNR=8.8
GSC Goldstone, Bar 82.18 325 PFAKE 11 59 40.0 +13
GSC LR LR
comp=Z,28µm,21.4s
M27A Reverse DX Ran 82.21 338 ⇓P P 11 59 27.3 +0.6
baz=83
LBTB Lobatse 82.22 115 eP P 11 59 27.2 -0.2
LBTB AMB AMB 11 59 33.2
comp=Z,396nm,2.8s
LBTB Lobatse 82.22 115 P P 11 59 27.3 -0.2
LBTB S **S 12 09 38.3 -3.5**
LBTB MLR MLR
comp=Z,87µm,19.1s
LBTB Lobatse 82.22 115 P P 11 59 27.3 -0.2
comp=Z,88nm,0.9s,baz=250,slow=5.0,SNR=85
LBTB S **S 12 09 38.3 -3.5**
comp=Z,1.3nm,0.6s,baz=51,slow=15,SNR=2.0
LBTB Lobatse 82.22 115 P P 11 59 27.3 -0.2
LBTB S **S 12 09 38.3 -3.5**
LBTB LR LR
comp=Z,87µm,19.1s
O22A Kremmling 82.29 335 ⇓P P 11 59 27.9 +0.4
baz=83,SNR=44
MMU Miners Mountai 82.29 331 eP P 11 59 28.4 +0.9
N24A Carr 82.34 336 ⇓P P 11 59 27.6 +0.1
baz=83,SNR=13
M26A McRoberts Ranc 82.38 338 ⇓P P 11 59 28.6 +0.9
baz=83
EDW2 Edwards Air Fo 82.38 324 ⇓P P 11 59 29.5 +1.7
baz=83
L28A Connealy Angus 82.40 339 ⇓P P 11 59 29.0 +1.3
baz=83
SHOC Shoshone, Teco 82.44 326 ⇓P P 11 59 29.4 +1.4
baz=83
BSC Santa Cruz Isl 82.44 323 ⇑P P 11 59 26.8 -1.2
baz=83
K30A Basset 82.49 341 ⇑P P 11 59 28.1 0.0
baz=83,SNR=31
OSI Osito Audit: C 82.50 324 ⇑P P 11 59 28.6 +0.2
baz=83
OSI Osito Audit: C 82.50 324 eP P 11 59 29.6 +1.2
OSI ePcP **PcP 11 59 34.0 +0.6**
OSI LR LR
comp=Z,40µm,18.4s
CCUT Cedar City 82.57 329 PFAKE 11 59 40.0 +11
CCUT LR LR
comp=Z,34µm,18.4s
M25A Palm-Egli Farm 82.63 337 ⇑P P 11 59 29.2 +0.2
baz=83,SNR=14
KSR Koster 82.66 117 eP P 11 59 29.6 -0.2
KSR AMB AMB 11 59 35.8
comp=Z,169nm,2.7s
KSR Koster 82.66 117 P P 11 59 29.6 -0.2
comp=Z,169nm,2.7s
WDLM Western Deep L 82.69 117 eP P 11 59 28.3 -1.6
WDLM AMB AMB 11 59 35.8
comp=Z,189nm,2.7s
L27A T5 Ranch, Ells 82.70 339 ⇓P P 11 59 29.5 +0.2
baz=83
LRMC Laurel Mtn Rad 82.73 325 ⇓P P 11 59 30.9 +1.3
baz=83,SNR=9.3
N23A Red Feather La 82.74 336 ⇑P P 11 59 30.8 +1.1
baz=83,SNR=18
ECSD EROS Data Cent 82.75 343 ⇑P P 11 59 29.4 0.0
baz=83,SNR=95
ECSD EROS Data Cent 82.75 343 PFAKE 11 59 40.0 +11
ECSD LR LR
comp=Z,17µm,19.0s
K29A Lazy Trails An 82.76 340 ⇓P P 11 59 30.6 +1.1
baz=83,SNR=13
SRU San Rafael Swe 82.79 332 PFAKE 11 59 40.0 +10
SRU LR LR
comp=Z,21µm,21.7s
ARUT Antelope Range 82.81 329 eP P 11 59 30.6 +0.6
ARUT Antelope Range 82.81 329 eP P 11 59 30.6 +0.6
N22A Wattenberg Ran 82.83 335 ⇓P P 11 59 30.9 +0.7
baz=83,SNR=25
SBC Santa Barbara 82.84 323 ⇓P P 11 59 30.0 0.0
baz=83
O20A White River Ci 82.85 334 ⇓P P 11 59 31.1 +0.8
baz=83,SNR=27
O20A White River Ci 82.85 334 PFAKE 11 59 40.0 +10
O20A LR LR
comp=Z,31µm,19.0s
KLOF Kloof 82.87 117 eP P 11 59 31.1 +0.2
KLOF AMB AMB 11 59 36.6
comp=Z,214nm,2.7s
KLOF Kloof 82.87 117 P P 11 59 31.1 +0.2
comp=Z,214nm,2.7s
L26A Underwood Farm 82.88 338 ⇓P P 11 59 30.0 -0.2
baz=83
M24A Cheyenne 82.90 337 ⇓P P 11 59 30.9 +0.5
baz=83,SNR=20
PHWY Pilot Hill 82.95 336 PFAKE 11 59 40.0 +9.1
PHWY LR LR
comp=Z,15µm,20.3s
ARVC Arvin 82.97 324 ⇑P P 11 59 31.0 +0.3
baz=83
K28A Ten Mile Ranch 83.01 340 ⇓P P 11 59 31.4 +0.6
baz=83,SNR=42
J30A Dallas 83.07 341 ⇓P P 11 59 31.6 +0.5
baz=83,SNR=13
PQI Presque Isle 83.11 4 PFAKE 11 59 40.0 +8.9
PQI LR LR
comp=Z,19µm,18.2s
FURC Furnace Creek, 83.17 326 ⇓P P 11 59 32.8 +1.1
baz=84,SNR=10
M23A Laramie 83.19 336 ⇓P P 11 59 32.4 +0.4
baz=84
TMUT Trail Mountain 83.21 331 PFAKE 11 59 40.0 +7.7
TMUT LR LR
comp=Z,18µm,18.6s
CRWM Crown Mines 83.23 118 eP P 11 59 32.4 -0.4
CRWM AMB AMB 11 59 38.5
comp=Z,274nm,2.7s
ISA Isabella, Lake 83.24 325 ⇑P P 11 59 32.3 +0.1
baz=84,SNR=15
ISA Isabella, Lake 83.24 325 PFAKE 11 59 40.0 +7.8
ISA LR LR
comp=Z,43µm,18.5s
K27A Flueckinger Fa 83.24 339 ⇓P P 11 59 31.9 -0.2
baz=84,SNR=21
L25A Engebretsen Ra 83.25 338 ⇓P P 11 59 32.0 -0.2
baz=84
SGU Sterling 83.28 331 eP P 11 59 33.8 +1.2
OBSV Observatory 83.30 118 eP P 11 59 32.1 -1.0
OBSV AMB AMB 11 59 38.9
comp=Z,237nm,2.6s
ERPM east rand prop 83.33 118 eP P 11 59 32.4 -0.8
ERPM AMB AMB 11 59 39.5
comp=Z,316nm,2.7s
ERPM east rand prop 83.33 118 P P 11 59 32.4 -0.8
comp=Z,316nm,2.7s
DAC Darwin (Calif) 83.34 325 PFAKE 11 59 40.0 +7.1
DAC LR LR
comp=Z,19µm,19.0s
J29A Okreek 83.36 341 ⇑P P 11 59 32.2 -0.4
baz=84,SNR=42
SPMN Marine on St. 83.37 346 ⇓P P 11 59 31.8 -0.7
baz=84,SNR=7.8
SPMN Marine on St. 83.37 346 PFAKE 11 59 40.0 +7.5
SPMN LR LR
comp=Z,20µm,21.4s
M22A Cedar Creek Ra 83.42 336 ⇓P P 11 59 33.9 +0.7
baz=84,SNR=13
L24A Wheatland 83.45 337 ⇓P P 11 59 33.7 +0.5
baz=84,SNR=12
N20A Spence Gulch, 83.48 334 ⇓P P 11 59 33.6 +0.1
baz=84,SNR=28
RAO Raoul Island 83.48 238 PFAKE 11 59 50.0 +16
RAO LR LR
comp=Z,17µm,18.0s
K26A Motz Farm, Whi 83.52 338 ⇑P P 11 59 32.6 -0.9
baz=84
I30A Oacoma 83.60 341 ⇑P P 11 59 33.3 -0.5
baz=84,SNR=40
J28A Allard Ranch, 83.63 340 ⇑P P 11 59 34.0 0.0
baz=84,SNR=22
K25A Mack Ranch, Ha 83.64 338 ⇑P P 11 59 34.7 +0.5
baz=84
VES Vestal, Richgr 83.67 324 ⇓P P 11 59 35.4 +1.1
baz=84
SMMC Simmler 83.68 323 ⇓P P 11 59 36.5 +2.1
baz=84
J27A Elkhorn Farm, 83.68 339 ⇓P P 11 59 34.8 +0.4
baz=84,SNR=36
SLR Silverton 83.72 117 eP P 11 59 34.3 -1.0
SLR AMB AMB 11 59 41.0
comp=Z,362nm,2.6s
SLR Silverton 83.72 117 P P 11 59 34.3 -1.0
SLR pmax pmax
comp=Z,362nm,2.6s
SLR Silverton 83.72 117 P P 11 59 34.3 -1.0
comp=Z,362nm,2.6s
L23A Garrett 83.76 336 ⇓P P 11 59 35.1 +0.1
baz=84,SNR=7.7
CRZF Crozet Islands 83.80 145 P P 11 59 10.0 -25
CRZF S SKiKP 12 09 06.0 +42
CRZF SS SS 12 14 41.0 -42
CRZF R 12 25 00.0
GRAC Grapevine Rang 83.84 326 ⇓P P 11 59 36.2 +1.0
baz=84
RWWY Rawlins 83.88 335 PFAKE 11 59 50.0 +14
RWWY LR LR
comp=Z,28µm,19.7s
L22A Ellis Ranch, M 83.92 336 ⇓P P 11 59 36.5 +0.8
baz=84
I29A Vivian Onida 83.93 341 ⇑P P 11 59 35.4 -0.1
baz=84
BRSD Miller 83.98 342 ⇑P P 11 59 35.1 -0.6
baz=84,SNR=8.4
MPU Maple Canyon 84.00 331 PFAKE 11 59 50.0 +14
MPU LR LR
comp=Z,19µm,18.9s
K24A Anderson Ranch 84.03 337 ⇑P P 11 59 36.3 +0.1
baz=84,SNR=6.5
J26A Sides Ranch, S 84.05 339 ⇑P P 11 59 36.4 +0.2
baz=84,SNR=25
NLU North Lily Min 84.12 331 PFAKE 11 59 50.0 +13
NLU LR LR
comp=Z,14µm,18.4s
RCTC Rector, Farmer 84.13 324 ⇓P P 11 59 38.4 +1.8
baz=84
I28A Midland 84.14 340 ⇑P P 11 59 36.4 -0.1
baz=84,SNR=36
R11A Troy Canyon, C 84.18 328 ⇓P P 11 59 37.9 +0.8
baz=84
R11A Troy Canyon, C 84.18 328 eP P 11 59 38.0 +0.9
comp=Z,105nm,1.2s
R11A ePKKPbc **PKKPbc 12 17 51.1 -0.4**
R11A LR LR
comp=Z,37µm,18.4s
TIN Tinemaha, Big 84.27 326 ⇓P P 11 59 39.1 +1.6
baz=85
K23A Bowen Ranch, D 84.31 337 ⇓P P 11 59 37.6 0.0
baz=85,SNR=34
J25A Sunshine Ranch 84.33 338 ⇑P P 11 59 38.0 +0.4
baz=85,SNR=14
JLU Jordanelle 84.44 332 PFAKE 11 59 50.0 +12
JLU LR LR
comp=Z,16µm,21.5s
I27A Quinn 84.45 340 ⇑P P 11 59 38.1 0.0
baz=85,SNR=12
H29A Onida 84.47 341 ⇑P P 11 59 38.2 0.0
baz=85,SNR=15
K22A Casper 84.51 336 ⇓P P 11 59 38.7 +0.1
baz=85,SNR=43
K22A Casper 84.51 336 PFAKE 11 59 50.0 +11
K22A LR LR
comp=Z,22µm,18.3s
J24A Dixon Ranch, L 84.54 338 ⇓P P 11 59 39.0 +0.3
baz=85,SNR=30
DUG Dugway, Tooele 84.61 331 ⇑P P 11 59 39.4 +0.2
baz=85,SNR=32
DUG Dugway, Tooele 84.61 331 PFAKE 11 59 50.0 +11
DUG LR LR
comp=Z,52µm,18.0s
CTU Camp Tracy 84.63 332 PFAKE 11 59 50.0 +11
CTU LR LR
comp=Z,13µm,18.3s
I26A New Underwood 84.64 339 ⇓P P 11 59 38.7 -0.4
baz=85,SNR=17
TPH Tonopah 84.66 327 PFAKE 11 59 50.0 +10
TPH LR LR
comp=Z,32µm,20.0s
G30A Faulkton 84.67 342 ⇑P P 11 59 38.8 -0.4
baz=85,SNR=23
H28A Mission Ridge 84.73 341 ⇓P P 11 59 39.3 -0.3
baz=85,SNR=42
K21A Alcova 84.73 336 ⇑P P 11 59 39.6 -0.2
baz=85,SNR=50
TCUT Toone Canyon 84.87 332 eP P 11 59 40.8 +0.2
comp=Z,253nm,1.2s
TCUT LR LR
comp=Z,24µm,20.1s
J23A Dilts Ranch, B 84.88 337 ⇑P P 11 59 39.8 -0.6
baz=85
I25A Rochford 84.89 339 ⇑P P 11 59 40.3 -0.2
baz=85,SNR=54
G29A Hoven 84.92 342 ⇓P P 11 59 40.0 -0.5
baz=85,SNR=12
H27A Howes 84.98 340 ⇓P P 11 59 40.8 0.0
baz=85,SNR=32
I24A Kuemmerle Ranc 85.01 338 ⇑P P 11 59 40.8 -0.2
baz=85,SNR=20
MLAC Mammoth, Mammo 85.02 325 ⇑P P 11 59 41.4 0.0
baz=85
RSSD Black Hills 85.07 338 eP P 11 59 41.0 -0.5
RSSD MLR MLR
comp=Z,14µm,20.0s
RSSD Black Hills 85.07 338 eP P 11 59 41.0 -0.5
comp=Z,114nm,0.9s
RSSD LR LR
comp=Z,14µm,20.0s
G28A Parade 85.07 341 ⇓P P 11 59 40.8 -0.4
baz=85,SNR=28
H07S1 FLORES T-PHASE 85.09 32 eP P 11 59 40.5 -0.9
OUZ Omahuta 85.14 229 PFAKE 11 59 50.0 +7.9
OUZ LR LR
comp=Z,188µm,20.0s
H26A Fairpoint 85.16 339 ⇓P P 11 59 41.9 +0.2
baz=86
J22A Midwest 85.18 337 ⇑P P 11 59 41.4 -0.5
baz=86,SNR=27
MCU Monte Cristo P 85.20 332 eP P 11 59 42.4 +0.1
F30A Leola 85.30 342 ⇑P P 11 59 42.6 +0.2
baz=86
BGU Big Grassy Mou 85.32 331 PFAKE 11 59 50.0 +7.2
BGU LR LR
comp=Z,14µm,18.8s
HWUT Hardware Ranch 85.35 332 PFAKE 11 59 50.0 +7.1
HWUT LR LR
comp=Z,40µm,18.0s
I23A Meade Ranch, G 85.35 337 ⇓P P 11 59 42.2 -0.6
baz=86
NV11 Mina Array Sit 85.37 326 eP P 11 59 43.5 +0.5
H25A Fruitdale 85.40 339 ⇑P P 11 59 43.0 +0.1
baz=86,SNR=43
SPUT South Promonto 85.43 332 eP P 11 59 43.5 +0.2
comp=Z,247nm,1.2s
SPUT LR LR
comp=Z,20µm,18.0s
J21A Lysite 85.43 336 ⇓P P 11 59 43.1 -0.2
baz=86,SNR=14
NV01 Mina Array Sit 85.43 326 eP P 11 59 44.0 +0.6
NV01 ePKKPbc **PKKPbc 12 17 47.6 -0.9**
NVAR Mina Array Bea 85.43 326 P P 11 59 43.9 +0.4
comp=Z,9.9nm,0.8s,baz=153,slow=5.1,SNR=19
NVAR S **S 12 10 10.1 -3.4**
comp=Z,0.1nm,0.3s,baz=54,slow=26,SNR=2.3
NVAR PKKPbc **PKKPbc 12 17 48.5 -0.1**
comp=Z,2.3nm,0.8s,baz=299,slow=1.9,SNR=7.7
NVAR PKPPKP P'P'df 12 25 59.1 +10
comp=Z,1.6nm,0.9s,baz=302,slow=1.7,SNR=6.4
NVAR LR LR 12 31 45.2
comp=Z,8µm,19.3s,baz=226,slow=31
F29A Eureka 85.50 342 ⇓P P 11 59 43.1 -0.3
baz=86,SNR=28
BMUT Black Mountain 85.53 333 eP P 11 59 43.7 -0.2
SAO San Andreas Ge 85.54 323 eP P 11 59 44.8 +1.0
SAO pmax pmax
comp=Z,30nm,1.1s
SAO MLR MLR
comp=Z,32µm,18.0s
SAO San Andreas Ge 85.54 323 eP P 11 59 44.8 +1.0
comp=Z,30nm,1.1s
SAO LR LR
comp=Z,32µm,18.0s
I22A 9 Mile Ranch, 85.61 337 ⇓P P 11 59 43.8 -0.3
baz=86,SNR=37
G27A Dupree 85.62 340 ⇑P P 11 59 43.7 -0.3
baz=86,SNR=29
BW06 Boulder Array 85.64 334 eP P 11 59 43.9 -0.5
comp=Z,141nm,1.4s
BW06 ePKKPdf **PKKPbc 12 17 46.2 -2.1**
BW06 eP'P'df P'P'df 12 25 56.0 +7.8
BW06 eP'P'df P'P'df 12 25 56.6 +8.4
BW06 LR LR
comp=Z,62µm,19.0s
PDAR Pinedale Array 85.64 334 P P 11 59 43.6 -0.8
comp=Z,7.1nm,0.9s,baz=155,slow=4.4,SNR=36
PDAR PKKPbc **PKKPbc 12 17 46.2 -2.1**
comp=Z,2.3nm,0.8s,baz=107,slow=0.5,SNR=7.9
PDAR PKPPKP P'P'df 12 25 56.4 +8.2
comp=Z,1.0nm,1.0s,baz=14,slow=4.0,SNR=4.4
J20A Shoshoni 85.65 335 ⇓P P 11 59 44.3 0.0
baz=86,SNR=11
G26A Maurine 85.73 340 ⇑P P 11 59 44.2 -0.3
baz=86,SNR=55
F28A McLaughlin 85.76 341 ⇑P P 11 59 44.4 -0.3
baz=86,SNR=36
EYMN Ely 85.77 348 PFAKE 12 00 00.0 +15
EYMN LR LR
comp=Z,18µm,22.0s
MTUT Morton Thiokol 85.77 332 eP P 11 59 45.1 +0.2
H24A Dirks Ranch, A 85.79 338 ⇑P P 11 59 44.4 -0.5
baz=86,SNR=49
I21A Big Trails, Te 85.80 336 ⇑P P 11 59 44.9 -0.2
baz=86,SNR=39
ROSA Rosais 85.83 34 eP P 11 59 44.1 -1.0
comp=Z,23nm,0.7s
G25A Newell 85.87 339 ⇓P P 11 59 45.5 +0.3
baz=86,SNR=123
H23A Clabaugh Cattl 85.88 338 ⇓P P 11 59 44.8 -0.6
baz=86
E30A Jud 85.90 343 ⇓P P 11 59 45.4 +0.1
baz=86,SNR=25
J19A Crowheart 85.90 335 ⇑P P 11 59 45.5 -0.1
baz=86,SNR=55
PSMN Pico do Norte, 85.92 37 eP P 11 59 45.1 -0.5
comp=Z,111nm,1.1s
HVU Hansel Valley 85.96 332 PFAKE 12 00 00.0 +14
HVU LR LR
comp=Z,61µm,18.4s
ELK Elko 86.05 330 P P 11 59 46.8 +0.3
ELK MLR MLR
comp=Z,17µm,19.5s
ELK Elko 86.05 330 P P 11 59 46.8 +0.3
comp=Z,16nm,0.9s,baz=172,slow=0.9,SNR=21
ELK Elko 86.05 330 P P 11 59 46.8 +0.3
ELK LR LR
comp=Z,17µm,19.5s
CMB Columbia Colle 86.06 325 PFAKE 12 00 00.0 +14
CMB LR LR
comp=Z,31µm,18.0s
F27A Lemmon 86.11 340 ⇑P P 11 59 46.3 0.0
baz=86,SNR=101
E29A Napoleon 86.14 342 ⇑P P 11 59 46.2 -0.3
baz=86,SNR=13
AHID Auburn Hatcher 86.19 333 eP P 11 59 47.9 +0.9
comp=Z,107nm,1.0s
AHID LR LR
comp=Z,53µm,18.0s
TOA0 Torodi Ar. Sit 86.19 71 eP P 11 59 46.6 -0.9
TOA0 eScS **ScS 12 10 29.9 -0.2**
TORD Torodi Ar. Bea 86.19 71 P P 11 59 47.0 -0.4
comp=Z,46nm,1.0s,baz=229,slow=3.8,SNR=116
TORD PP PP 12 03 16.9 +8.4
comp=Z,36nm,1.2s,baz=238,slow=6.1,SNR=4.1
TORD S S 12 10 15.3 -6.1
comp=Z,1.7nm,1.1s,baz=212,slow=1.5,SNR=3.4
TORD LR LR 12 37 09.1
comp=Z,66µm,18.2s,baz=235,slow=35
I20A Worland 86.20 336 ⇓P P 11 59 46.1 -0.9
baz=87,SNR=50
PGRA Graciosa 86.20 34 eP P 11 59 46.0 -0.9
comp=Z,35nm,0.3s
H22A Clearmont 86.20 337 ⇑P P 11 59 46.0 -1.0
baz=87,SNR=14
F26A Lodgepole 86.26 340 ⇑P P 11 59 46.5 -0.7
baz=87,SNR=51
PSET Sete Cidades 86.26 36 eP P 11 59 47.4 +0.1
comp=Z,69nm,0.7s
G24A Alzada 86.28 339 ⇑P P 11 59 46.5 -0.8
baz=87,SNR=15
XMAS Kiritimati 86.39 275 PFAKE 12 00 00.0 +11
XMAS LR LR
comp=Z,44µm,19.0s
E28A Huff 86.41 342 ⇓P P 11 59 47.2 -0.6
baz=87,SNR=25
D30A Buchanan 86.43 343 ⇑P P 11 59 47.4 -0.5
baz=87,SNR=36
H21A Big Horn, Sher 86.45 337 ⇓P P 11 59 47.8 -0.4
baz=87,SNR=27

G23A	Biddle	86.45	338	⇓P		P	11 59 47.3	-0.8
	baz=87,SNR=28							
E27A	Carson	86.50	341	⇑P		P	11 59 48.1	-0.2
	baz=87							
F25A	Bowman	86.55	340	⇓P		P	11 59 48.0	-0.6
	baz=87,SNR=29							
I19A	Meeteetse	86.56	335	⇑P		P	11 59 48.4	-0.5
	baz=87,SNR=13							
D29A	Pettibone, Tap	86.59	342	⇑P		P	11 59 47.9	-0.8
	baz=87,SNR=25							
BMN	Battle Mountai	86.61	328		PFAKE		12 00 00.0	+11
BMN					LR	LR		
	comp=Z,44µm,18.0s							
REDW	Red Top Meadow	86.62	334		PFAKE		12 00 00.0	+11
REDW					LR	LR		
	comp=Z,43µm,19.6s							
H20A	Greybull	86.63	336	⇑P		P	11 59 48.3	-0.7
	baz=87,SNR=21							
SNOW	Snow King Moun	86.67	334	*e*P		P	11 59 49.8	+0.3
	comp=Z,84nm,1.0s							
SNOW					LR	LR		
	comp=Z,48µm,19.8s							
DRLN	Deer Lake	86.71	10		PFAKE		12 00 00.0	+11
DRLN					LR	LR		
	comp=Z,47µm,21.1s							
G22A	Birney	86.74	337	⇑P		P	11 59 49.2	-0.4
	baz=87,SNR=19							
LOHW	Long Hollow	86.75	334		PFAKE		12 00 00.0	+10
LOHW					LR	LR		
	comp=Z,61µm,19.4s							
F24A	Ekalaka	86.76	339	⇑P		P	11 59 49.2	-0.5
	baz=87,SNR=44							
TPAW	Teton Pass	86.76	334		PFAKE		12 00 00.0	+10
TPAW					LR	LR		
	comp=Z,36µm,19.9s							
E26A	Carlson Angus	86.78	340	⇓P		P	11 59 49.1	-0.6
	baz=87,SNR=51							
PMOZ	Porto Moniz, M	86.83	45	*e*SKS		S	12 10 36.2	+9.2
PMOZ	Porto Moniz, M	86.83	45	*e*LQ		LQ	12 27 27.9	
PMOZ				*e*LR		LR	12 30 56.5	
	comp=Z,43µm,20.0s							
FXWY	Fox Creek	86.92	334		PFAKE		12 00 00.0	+9.3
FXWY					LR	LR		
	comp=Z,34µm,19.9s							
AGMN	Agassiz Nation	86.92	345	⇑P		P	11 59 49.6	-0.6
	baz=87,SNR=30							
AGMN	Agassiz Nation	86.92	345		PFAKE		12 00 00.0	+10
AGMN					LR	LR		
	comp=Z,22µm,19.0s							
C30A	Mose, Pekin	86.93	343	⇓P		P	11 59 50.2	-0.1
	baz=87,SNR=67							
F23A	Volborg	86.93	338	⇓P		P	11 59 50.0	-0.5
	baz=87,SNR=29							
D28A	Regan	86.95	342	⇓P		P	11 59 50.0	-0.4
	baz=87,SNR=44							
I17A	Pilgrim Ck.	87.00	334	⇓P		P	11 59 50.7	-0.4
	baz=87,SNR=48							
G21A	Lodge Grass	87.03	337	⇓P		P	11 59 51.2	+0.1
	baz=87							
MSNA	Messina	87.06	116	*e*P		P	11 59 51.7	-0.1
MSNA					AMB	AMB	11 59 58.3	
	comp=Z,271nm,2.7s							
MSNA	Messina	87.06	116	P		P	11 59 51.7	-0.1
	comp=Z,271nm,2.7s							
E25A	Miller Ranch,	87.06	340	⇑P		P	11 59 50.9	-0.2
	baz=87,SNR=27							
IMW	Indian Meadow	87.11	334		PFAKE		12 00 00.0	+8.3
IMW					LR	LR		
	comp=Z,43µm,19.5s							
D27A	Center	87.12	341	⇓P		P	11 59 50.7	-0.5
	baz=88							
H19A	Powell	87.12	335	⇑P		P	11 59 51.6	+0.1
	baz=88,SNR=16							
FLWY	Flagg Ranch	87.19	334		PFAKE		12 00 00.0	+8.0
FLWY					LR	LR		
	comp=Z,59µm,19.1s							
F22A	Rosebud	87.24	338	⇓P		P	11 59 52.1	+0.2
	baz=88,SNR=20							
D26A	Manning	87.28	341	⇑P		P	11 59 51.8	-0.3
	baz=88,SNR=104							
MOPA	Mopani	87.32	117	*e*P		P	11 59 53.4	+0.4
MOPA					AMB	AMB	11 59 59.7	
	comp=Z,293nm,2.4s							
MOPA	Mopani	87.32	117	P		P	11 59 53.4	+0.4
	comp=Z,293nm,2.4s							
MDND	Maddock	87.33	343	⇓P		P	11 59 52.0	-0.3
	baz=88,SNR=35							
MCCM	Marconi Confer	87.33	323		PFAKE		12 00 00.0	+7.6
MCCM					LR	LR		
	comp=Z,22µm,21.0s							
G20A	Bridger	87.35	336	⇓P		P	11 59 52.4	-0.2
	baz=88,SNR=19							
H18A	Shoshone NF, C	87.35	335	⇑P		P	11 59 52.4	-0.3
	baz=88,SNR=33							
E24A	Baker	87.37	339	⇓P		P	11 59 52.3	-0.2
	baz=88,SNR=19							
C28A	Hausauer Farms	87.39	342	⇓P		P	11 59 53.2	+0.6
	baz=88							
H17A	Grant Village	87.42	334	⇑P		P	11 59 53.4	+0.3
	baz=88							
H17A	Grant Village	87.42	334		PFAKE		12 00 00.0	+6.9
H17A					LR	LR		
	comp=Z,89µm,19.9s							
MCID	Moose Creek	87.45	334	*e*P		P	11 59 53.7	+0.4
LKWY	Lake	87.51	335		PFAKE		12 00 00.0	+6.5
LKWY					LR	LR		
	comp=Z,13µm,20.0s							
F21A	Absaloka Mine,	87.54	337	⇓P		P	11 59 53.6	+0.1
	baz=88							
YFT	Old Faithful	87.56	334		PFAKE		12 00 00.0	+6.2
YFT					LR	LR		
	comp=Z,97µm,18.8s							
B30A	Myrvik Farm, E	87.60	344	⇑P		P	11 59 53.2	-0.3
	baz=88,SNR=68							
E23A	Ismay	87.60	339	⇑P		P	11 59 53.7	0.0
	baz=88,SNR=11							
RLMT	Red Lodge	87.61	336	*e*P		P	11 59 53.2	-0.8
	comp=Z,79nm,1.2s							
RLMT					LR	LR		
	comp=Z,24µm,18.0s							
D25A	Fairfield	87.63	340	⇑P		P	11 59 53.8	0.0
	baz=88,SNR=40							
C27A	Sayler Ranch,	87.67	341	⇓P		P	11 59 53.7	-0.2
	baz=88,SNR=55							
YNR	Norris Junctio	87.74	334		PFAKE		12 00 10.0	+15
YNR					LR	LR		
	comp=Z,49µm,18.9s							
E22A	Miles City	87.74	338	⇑P		P	11 59 54.5	+0.2
	baz=88							
YMR	Madison River	87.80	334		PFAKE		12 00 10.0	+15
YMR					LR	LR		
	comp=Z,53µm,18.3s							
B29A	Wagenman Farm,	87.84	343	⇑P		P	11 59 54.2	-0.6
	baz=88,SNR=38							
F20A	Billings	87.85	337	⇑P		P	11 59 55.0	+0.1
	baz=88							
D24A	Glendive	87.88	339	⇑P		P	11 59 54.8	-0.2
	baz=88,SNR=23							
C26A	Wahner Farm, P	87.93	341	⇓P		P	11 59 54.6	-0.6
	baz=88,SNR=23							
LAO	LASA Array	88.05	338	*e*P		P	11 59 55.6	-0.2
	comp=Z,810nm,2.6s							
LAO					LR	LR		
	comp=Z,12µm,18.0s							
A30A	Hoffart Farm,	88.05	344	⇓P		P	11 59 54.7	-0.9
	baz=88,SNR=42							
B28A	Dugan Ranch, T	88.07	342	⇓P		P	11 59 54.9	-0.9
	baz=88,SNR=39							
HOPS	Hopland Field	88.09	324	*e*P		P	11 59 57.2	+1.1
HOPS					LR	LR		
	comp=Z,27µm,19.0s							
ITZ	Itezhi-Tezhi	88.11	108	*i* P		P	11 59 53.7	-3.3
ITZ				PKP		**PP**	**12 03 23.2**	**-0.4**
ITZ				PKP			12 10 30.0	
HLID	Hailey	88.11	332	⇓P		P	11 59 56.7	+0.4
	baz=88,SNR=47							
HLID	Hailey	88.11	332		PFAKE		12 00 10.0	+14
HLID					LR	LR		
	comp=Z,29µm,18.0s							
C25A	Freed Ranch, W	88.13	340	⇑P		P	11 59 55.5	-0.6
	baz=88,SNR=19							
F19A	Roth Farm, Mol	88.15	336	⇓P		P	11 59 56.5	+0.1
	baz=88							
E21A	Keefer Ranch,	88.17	338	⇑P		P	11 59 55.8	-0.6
	baz=88							
D23A	Lindsay	88.18	339	P		P	11 59 56.5	+0.1
	baz=88							
A29A	Manning Farm,	88.25	343	⇓P		P	11 59 56.0	-0.6
	baz=89,SNR=80							
B27A	Peters Farms,	88.25	342	⇑P		P	11 59 56.5	-0.2
	baz=89,SNR=11							
C24A	Savage	88.29	340	⇓P		P	11 59 57.0	+0.2
	baz=89,SNR=9.7							
AFI	Afiamalu	88.34	254		PFAKE		12 00 10.0	+12
AFI					LR	LR		
	comp=Z,50µm,19.0s							
D22A	Cohagen	88.45	338	⇓P		P	11 59 57.4	-0.2
	baz=89,SNR=13							
E20A	Meyer Farm, Mu	88.47	337	⇓P		P	11 59 57.2	-0.6
	baz=89,SNR=24							
B26A	Jensen Ranch,	88.47	341	⇓P		P	11 59 56.8	-1.0
	baz=89							
A28A	Rude Farm, Bot	88.48	343	⇓P		P	11 59 57.3	-0.5
	baz=89,SNR=30							
PAF	Port-aux-Franc	88.49	157	P		P	11 59 33.0	-25
PAF				PP		PP	12 03 05.0	-20
PAF				S		S	12 09 42.0	-61
PAF				SS		**SS**	**12 16 26.0**	**-5.4**
PAF				L		L	12 23 00.0	
PAF				R			12 30 00.0	
PAF	Port-aux-Franc	88.49	157		PFAKE		12 00 10.0	+12
PAF					LR	LR		
	comp=Z,40µm,19.0s							
MFID	Camas Ranch	88.53	331		PFAKE		12 00 10.0	+12
MFID					LR	LR		
	comp=Z,34µm,18.0s							
MCMT	McKenzie Canyo	88.60	333	*e*P		P	11 59 57.6	-1.1
D21A	La Casta Ranch	88.62	338	P		P	11 59 58.0	-0.4
	baz=89							
B25A	Knox Farm, Ray	88.62	341	⇑P		P	11 59 58.0	-0.5
	baz=89,SNR=22							
E19A	Rath Farm, Rou	88.64	336	⇑P		P	11 59 57.9	-0.8
	baz=89,SNR=23							
C23A	Lambert	88.75	339	⇑P		P	11 59 58.5	-0.6
	baz=89,SNR=11							
A27A	Ledoux Ranch,	88.75	342	⇓P		P	11 59 57.7	-1.3
	baz=89							
ULM	Lac du Bonnet	88.78	346	P		P	11 59 58.2	-0.9
ULM				MLR		MLR		
	comp=Z,17µm,20.6s							
ULM	Lac du Bonnet	88.78	346	P		P	11 59 58.2	-0.9
	comp=Z,24nm,0.8s,baz=170,slow=3.2,SNR=33							
ULM				PKKP		**PKKPdf**	**12 17 38.0**	**+1.5**
	comp=Z,1.7nm,0.6s,baz=336,slow=2.8,SNR=3.5							
ULM	Lac du Bonnet	88.78	346	P		P	11 59 58.2	-0.9
ULM				PKKP		**PKKPdf**	**12 17 38.0**	**+1.5**
ULM				LR		LR		
	comp=Z,17µm,20.6s							
WVOR	Wild Horse Val	88.87	328		PFAKE		12 00 10.0	+10
WVOR					LR	LR		
	comp=Z,27µm,18.1s							
BOZ	Bozeman (W)	88.88	334	*e*P		P	12 00 00.0	+0.1
BOZ				pmax		pmax		
	comp=Z,174nm,2.0s							
BOZ				MLR		MLR		
	comp=Z,41µm,20.0s							
BOZ	Bozeman (W)	88.88	334	*e*P		P	11 59 60.0	+0.1
	comp=Z,174nm,2.0s							
BOZ				LR		LR		
	comp=Z,41µm,20.0s							
KCPM	Cahto Peak	88.88	324	P		P	12 00 00.7	+0.7
KCPM				LR		LR		
	comp=Z,11µm,19.3s							
C22A	Vida	88.90	339	⇑P		P	11 59 59.2	-0.6
	baz=89							
A26A	Wade Farm, Ken	88.90	342	⇑P		P	11 59 59.3	-0.4
	baz=89,SNR=10							
KIPM	Iron Peak	88.93	324	*e*P		sP	12 00 14.4	+4.4
DLMT	Dillon	88.97	334		PFAKE		12 00 10.0	+10
DLMT					LR	LR		
	comp=Z,37µm,18.1s							
DGMT	Dagmar	89.08	340	⇑P		P	12 00 00.1	-0.5
	baz=89,SNR=40							
DGMT	Dagmar	89.08	340		PFAKE		12 00 10.0	+9.4
DGMT					LR	LR		
	comp=Z,11µm,19.0s							
WDC	Whiskeytown Da	89.10	325		PFAKE		12 00 10.0	+9.2
WDC					LR	LR		
	comp=Z,24µm,19.0s							
MOD	Modoc Plateau	89.15	327		PFAKE		12 00 10.0	+8.8
MOD					LR	LR		
	comp=Z,35µm,18.0s							
A25A	Svangstu Ranch	89.22	341	⇑P		P	12 00 00.6	-0.6
	baz=90,SNR=16							
D19A	Cripps Ranch,	89.29	337	⇑P		P	12 00 00.7	-1.0
	baz=90							
B23A	Brockton	89.29	340	⇓P		P	12 00 01.1	-0.5
	baz=90,SNR=6.5							
C21A	Desert Coulee	89.33	338	⇓P		P	12 00 00.8	-1.0
	baz=90							
KMRM	Mail Ridge	89.36	324	*e*pP		P	12 00 03.8	+1.6
KMRM				*e*pP		**pP**	**12 00 10.4**	**+1.0**
B22A	Reddig Ranch S	89.43	339	⇑P		P	12 00 02.2	-0.1
	baz=90,SNR=13							
A24A	Westby	89.44	340	⇑P		P	12 00 01.7	-0.6
	baz=90							
N02D	Trinity Center	89.49	325	⇓P		P	12 00 02.8	+0.1
	baz=90							
C20A	Veseth Ranch,	89.50	337	⇓P		P	12 00 02.4	-0.2
	baz=90							
A23A	Redstone	89.71	340	⇓P		P	12 00 03.3	-0.2
	baz=90							
M04C	Macdoel	89.73	326	⇑P		P	12 00 03.6	-0.4
	baz=90							
B21A	Ellsworth Farm	89.84	338	⇓P		P	12 00 02.8	-1.3
	baz=90							
C19A	Slack Wire Ran	89.85	337	⇓P		P	12 00 03.6	-0.6
	baz=90							
KHMM	Horse Mountain	89.89	324	*e*P		P	12 00 05.4	+0.7
	comp=Z,75nm,1.4s							
KHMM					LR	LR		
	comp=Z,37µm,18.5s							
M02C	Callahan	89.89	325	⇑P		P	12 00 03.9	-0.7
	baz=90							
A22A	Carney Farms,	90.03	339	⇓P		P	12 00 04.7	-0.4
	baz=90,SNR=27							
LSZ	Lusaka	90.05	109	*e*P		P	12 00 07.1	+0.9
LSZ				MLR		MLR		
	comp=Z,81µm,19.0s							
LSZ	Lusaka	90.05	109	P		P	12 00 06.8	+0.6
	comp=Z,26nm,1.0s,baz=44,slow=1.2,SNR=23							
LSZ	Lusaka	90.05	109	*e*P		P	12 00 07.1	+0.9
	comp=Z,1.8nm,1.0s							
LSZ					LR	LR		
	comp=Z,81µm,19.0s							
K05A	Summer Lake	90.07	327		PFAKE		12 00 20.0	+14
K05A					LR	LR		
	comp=Z,25µm,19.0s							
YBH	Yreka Blue Hor	90.09	325	P		P	12 00 04.9	-0.6
YBH				MLR		MLR		
	comp=Z,14µm,18.0s							
YBH	Yreka Blue Hor	90.09	325	P		P	12 00 04.9	-0.6
	comp=Z,2.2nm,0.8s,baz=180,slow=2.0,SNR=4.2							
YBH	Yreka Blue Hor	90.09	325	P		P	12 00 04.9	-0.6
YBH				LR		LR		
	comp=Z,14µm,18.0s							
B20A	Solberg Farm,	90.16	338	⇓P		P	12 00 05.2	-0.5
	baz=90,SNR=18							
BMO	Blue Mountains	90.32	330	*e*P		P	12 00 07.0	+0.4
	comp=Z,144nm,1.8s							
BMO					LR	LR		
	comp=Z,23µm,19.0s							
A21A	Bergtoll Ranch	90.32	339	⇓P		P	12 00 05.4	-1.0
	baz=91,SNR=18							
EGMT	Eagleton	90.33	337	⇓P		P	12 00 06.2	-0.3
	baz=91							
EGMT	Eagleton	90.33	337		PFAKE		12 00 20.0	+13
EGMT					LR	LR		
	comp=Z,14µm,18.0s							
K04D	Chiloquin, OR	90.37	327	⇓P		P	12 00 06.9	0.0
	baz=91							
B19A	Brinkman Farms	90.45	337	⇑P		P	12 00 06.2	-0.8
	baz=91,SNR=12							
A20A	Cobblestone Ra	90.52	338	⇓P		P	12 00 07.0	-0.4
	baz=91,SNR=24							
J05D	Fort Rock, OR	90.67	327	⇑P		P	12 00 07.9	-0.4
	baz=91							
MSO	Missoula	90.71	334	⇑P		P	12 00 08.8	+0.4
	baz=91							
MSO	Missoula	90.71	334		PFAKE		12 00 20.0	+12
MSO					LR	LR		
	comp=Z,36µm,19.0s							
A19A	Klindworth Far	90.81	338	⇓P		P	12 00 08.3	-0.4
	baz=91,SNR=11							
L02D	Cave Junction,	90.83	325	⇓P		P	12 00 08.0	-1.0
	baz=91							
HUMO	Hull Mountain	90.89	326		PFAKE		12 00 20.0	+11
HUMO					LR	LR		
	comp=Z,28µm,19.0s							
PINOR	Pine Mountain	90.94	328	*e*P		P	12 00 12.2	+2.9
	comp=Z,68nm,1.4s							
PINOR					LR	LR		
	comp=Z,20µm,20.6s							
J04D	Umpqua Nationa	91.02	327	⇑P		P	12 00 09.2	-0.8
	baz=91							
KBO	Bosley Butte	91.16	325		PFAKE		12 00 20.0	+9.5
KBO					LR	LR		
	comp=Z,26µm,18.6s							
F10A	Beach Ranch, E	91.22	331	*e*PKKPdf		PKKPdf	12 17 33.4	+1.4
F10A					LR	LR		
	comp=Z,17µm,19.8s							
SCHQ	Schefferville	91.31	4	P		P	12 00 09.8	-1.0
	comp=Z,8.7nm,0.8s,baz=151,slow=5.7,SNR=6.4							
SCHQ	Schefferville	91.31	4	P		P	12 00 09.8	-1.0
SCHQ					LR	LR		
	comp=Z,34µm,19.9s							
I05D	Terrebonne, OR	91.56	328	⇑P		P	12 00 13.9	+1.6
	baz=92							
I04A	Tendick Farm,	91.59	327	⇑P		P	12 00 12.9	+0.5
	baz=92							
KEBM	Edson Butte	91.73	325		PFAKE		12 00 20.0	+6.9
KEBM					LR	LR		
	comp=Z,28µm,18.1s							
I03D	Drain, OR	91.93	326	⇓P		P	12 00 13.8	-0.2
	baz=92							
G06A	Carlson Farm,	91.99	329		PFAKE		12 00 30.0	+16
G06A					LR	LR		
	comp=Z,33µm,19.4s							
E09A	Wood Farm, Sta	92.02	331		PFAKE		12 00 30.0	+16
E09A					LR	LR		
	comp=Z,17µm,18.4s							
H04A	Detroit Lake	92.20	328		PFAKE		12 00 30.0	+15
H04A					LR	LR		
	comp=Z,23µm,18.1s							
G05D	Wamic, OR	92.28	328	⇑P		P	12 00 16.1	+0.5
	baz=93							
HAWA	Hanford	92.47	330		PFAKE		12 00 30.0	+14
HAWA					LR	LR		
	comp=Z,25µm,18.0s							
TAU	Tasmania Unive	92.52	209		PFAKE		12 00 30.0	+13
TAU					LR	LR		
	comp=Z,18µm,22.0s							
WALA	Waterton Lakes	92.61	335		PFAKE		12 00 30.0	+13
WALA					LR	LR		
	comp=Z,50µm,19.0s							
COR	Corvallis	92.61	327		PFAKE		12 00 30.0	+13
COR					LR	LR		
	comp=Z,31µm,19.0s							
E07A	Sunnyside	92.74	330		PFAKE		12 00 30.0	+12
E07A					LR	LR		
	comp=Z,20µm,21.4s							
D08A	Wollman Farm,	92.77	331		PFAKE		12 00 30.0	+12
D08A					LR	LR		
	comp=Z,26µm,18.0s							
NEW	Newport	93.08	332	P		P	12 00 19.1	-0.1
NEW	Newport	93.08	332	P		P	12 00 19.1	-0.1
	comp=Z,5.1nm,0.8s,baz=132,slow=5.4,SNR=13							
NEW				PKKP		**PKKPdf**	**12 17 27.4**	**-1.2**
	comp=Z,2.7nm,1.0s,baz=1.9,slow=3.6,SNR=3.2							
NEW					LR	LR	12 38 06.2	
	comp=Z,14µm,21.3s,baz=144,slow=33							
NEW	Newport	93.08	332	⇓P		P	12 00 19.7	+0.5
	baz=93							
G03D	McMinnville, O	93.09	327	⇓P		P	12 00 19.8	+0.6
	baz=93							
C09A	Chrisman Ranch	93.13	332		PFAKE		12 00 30.0	+11
C09A					LR	LR		
	comp=Z,32µm,18.1s							
F04A	Amboy	93.30	328		PFAKE		12 00 30.0	+10
F04A					LR	LR		
	comp=Z,20µm,18.9s							
MSVF	Nonsavu	93.62	245		PFAKE		12 00 30.0	+7.4
MSVF					LR	LR		
	comp=Z,23µm,19.0s							
F04D	Rainier, OR	93.67	328	⇑P		P	12 00 23.9	+2.1
	baz=94							
RTC	Rabat Centre	93.75	50		PFAKE		12 00 30.0	+7.4
RTC					LR	LR		
	comp=Z,93µm,20.0s							
F03A	Seaside	93.78	328		PFAKE		12 00 30.0	+7.6
F03A					LR	LR		
	comp=Z,18µm,19.3s							
B08A	Colville Reser	94.00	331		PFAKE		12 00 30.0	+6.6
B08A					LR	LR		
	comp=Z,18µm,19.5s							
D05A	Enumclaw	94.11	329		PFAKE		12 00 40.0	+16
D05A					LR	LR		
	comp=Z,32µm,18.5s							
E03A	Lebam	94.27	328		PFAKE		12 00 40.0	+15
E03A					LR	LR		
	comp=Z,17µm,18.6s							
FFC	Flin Flon	94.28	344		PFAKE		12 00 40.0	+16
FFC					LR	LR		
	comp=Z,21µm,19.0s							
MDT	Midelt	94.37	52	P		P	12 00 25.9	+0.2
	comp=Z,7.5nm,0.8s,baz=237,slow=3.5,SNR=13							
MDT					LR	LR	12 44 19.7	
	comp=Z,91µm,18.3s,baz=236,slow=36							
PFVI	Vila Bisbo	94.70	46	*e*P		P	12 00 30.3	+3.4
	comp=Z,92nm,1.4s							
PFVI	Vila Bisbo	94.70	46	*e*SKS		SKSac	12 11 11.9	+11
MORF	Marmelete	94.92	46	*e*P		P	12 00 27.0	-1.0
MORF				*e*S		**SKSac**	**12 11 00.3**	**-1.9**
MORF				AMS		AMS	12 41 54.2	
	comp=Z,53µm,20.2s							
MORF	Marmelete	94.92	46	*e*P		P	12 00 32.9	+4.9
	comp=Z,69nm,1.6s							
MORF	Marmelete	94.92	46	*e*SKS		SKSac	12 11 12.9	+11
MORF	Marmelete	94.92	46	*e*P		P	12 00 27.0	-1.0
MORF				*e*S		**SKSac**	**12 11 00.2**	**-1.9**
TAM	Tamanrasset	95.00	65	*e*P		P	12 00 28.8	0.0
TAM				pmax		pmax		
	comp=Z,100nm,1.3s							
TAM	Tamanrasset	95.00	65	*e*P		P	12 00 28.8	0.0
	comp=Z,100nm,1.3s							
PTEO	Sao Teotonio	95.05	46	*e*P		P	12 00 34.1	+5.7
	comp=Z,108nm,1.3s							
NLWA	Neilton Lookou	95.06	328		PFAKE		12 00 40.0	+12
NLWA					LR	LR		
	comp=Z,24µm,19.0s							
PBDV	Barranco-do-Ve	95.30	47	*e*P		P	12 00 32.8	+3.1
	comp=Z,85nm,1.7s							
PBDV	Barranco-do-Ve	95.30	47	*e*SKS		SKSac	12 11 09.2	+5.1
POHA	Pohakuloa	95.48	290		PFAKE		12 00 40.0	+8.8
POHA					LR	LR		
	comp=Z,16µm,19.0s							
PVAQ	Vaqueiros	95.54	47	*e*P		P	12 00 32.7	+2.0
	comp=Z,68nm,2.3s							
PVAQ	Vaqueiros	95.54	47	*e*SKS		SKSac	12 11 11.5	+6.2
PVAQ	Vaqueiros	95.54	47	*e*LQ		LQ	12 31 58.7	
PVAQ				*e*LR		LR	12 36 33.3	
	comp=Z,42µm,20.0s							
MESJ	Messejana	95.54	46	*e*P		P	12 00 29.9	-0.8
MESJ				*e*PP		**PP**	**12 04 19.8**	**-2.5**
MESJ				*e*S		**SKSac**	**12 11 02.4**	**-2.8**
MESJ				AMS		AMS	12 42 21.8	
	comp=Z,59µm,20.0s							
MESJ	Messejana	95.54	46	*e*P		P	12 00 34.1	+3.4
	comp=Z,38nm,1.7s							
MESJ	Messejana	95.54	46	*e*P		P	12 00 29.8	-0.8
MESJ				*e*			12 04 19.8	
MESJ				*e*

PMAFR	**Mafra**	**95.69**	**45**	*e*SKS	SKSac	12 11 15.4	+9.4
PGC	**Sidney**	**95.87**	**329**	PFAKE		12 00 40.0	+8.1
PGC				LR	LR		
	comp=Z,38µm,18.8s						
EDM	**Edmonton**	**95.98**	**337**	PFAKE		12 00 40.0	+7.6
EDM				LR	LR		
	comp=Z,15µm,18.3s						
EVO	**Evora**	**96.13**	**46**	*e*P	**P**	**12 00 36.1**	**+2.7**
	comp=Z,35nm,1.5s						
PMTG	**Montargil**	**96.37**	**45**	*e*P	P	12 00 40.0	+5.6
	comp=Z,59nm,1.1s						
PMTG	**Montargil**	**96.37**	**45**	*e*SKS	SKSac	12 11 19.1	+10
PBAR	**Barrancos**	**96.45**	**47**	*e*P	**P**	**12 00 36.1**	**+1.3**
	comp=Z,51nm,1.6s						
PBAR	**Barrancos**	**96.45**	**47**	*e*SKS	SKSac	12 11 20.8	+11
PESTR	**Estremoz**	**96.60**	**46**	*e*P	**P**	**12 00 38.4**	**+2.9**
	comp=Z,32nm,2.4s						
PESTR	**Estremoz**	**96.60**	**46**	*e*SKS	**SKSac**	**12 11 15.1**	**+4.3**
FCC	**Fort Churchill**	**96.62**	**349**	PFAKE		12 00 50.0	+15
FCC				LR	LR		
	comp=Z,22µm,18.7s						
MZM	**Mzuzu**	**96.86**	**110**	*i* P	P	12 00 41.8	+4.5
MZM				PKP	**PP**	**12 04 34.7**	**+2.3**
MZM				PKP		12 11 18.3	
PCAS	**Casmilo, Conde**	**96.88**	**44**	*e*P	P	12 00 41.7	+4.9
	comp=Z,102nm,1.8s						
PCAS	**Casmilo, Conde**	**96.88**	**44**	*e*SKS	SKSac	12 11 25.8	+14
PMRV	**Marv??o**	**97.09**	**46**	*e*P	Pdif	12 00 41.8	+4.0
	comp=Z,33nm,1.3s						
PMRV	**Marv??o**	**97.09**	**46**	*e*SKS	SKSac	12 11 27.2	+14
PMRV	**Marv??o**	**97.09**	**46**	*e*LQ	LQ	12 31 57.3	
PMRV				*e*LR	LR	12 35 44.6	
	comp=Z,47µm,20.0s						
MTE	**Manteigas**	**97.65**	**45**	*e*P	Pdif	12 00 44.4	+4.0
	comp=Z,53nm,1.3s						
MTE	**Manteigas**	**97.65**	**45**	*e*SKS	SKSac	12 11 25.6	+9.3
MTE	**Manteigas**	**97.65**	**45**	*e*LQ	LQ	12 32 03.6	
MTE				*e*LR	LR	12 39 51.7	
	comp=Z,51µm,20.0s						
MTE	**Manteigas**	**97.65**	**45**	PFAKE		12 00 50.0	+10
MTE				LR	LR		
	comp=Z,52µm,21.0s						
PVIS	**Viseu**	**97.67**	**44**	*e*P	Pdif	12 00 46.7	+6.3
	comp=Z,45nm,1.5s						
PVRL	**Vila Real**	**98.14**	**44**	*e*P	Pdif	12 00 49.1	+6.6
	comp=Z,55nm,1.7s						
POLO	**Lamas de Olo**	**98.17**	**44**	*e*P	Pdif	12 00 45.2	+2.5
	comp=Z,51nm,2.0s						
POLO	**Lamas de Olo**	**98.17**	**44**	*e*SKS	SKSac	12 11 37.3	+18
CAN	**Canberra**	**98.22**	**214**	PFAKE		12 00 50.0	+6.7
CAN				LR	LR		
	comp=Z,30µm,19.0s						
PGAV	**Gavieira, Arco**	**98.30**	**43**	*e*P	Pdif	12 00 46.1	+2.8
	comp=Z,75nm,1.7s						
PGAV	**Gavieira, Arco**	**98.30**	**43**	*e*SKS	SKSac	12 11 29.4	+10
PGAV	**Gavieira, Arco**	**98.30**	**43**	*e*LQ	LQ	12 31 41.4	
PGAV				*e*LR	LR	12 36 21.4	
	comp=Z,34µm,20.0s						
KIP	**Kipapa**	**98.33**	**290**	PFAKE		12 00 50.0	+6.2
KIP				LR	LR		
	comp=Z,24µm,18.0s						
MVO	**Moncorvo**	**98.46**	**44**	*e*P	Pdif	12 00 48.2	+4.3
	comp=Z,89nm,1.5s						
MVO	**Moncorvo**	**98.46**	**44**	*e*SKS	SKSac	12 11 30.5	+10
MVO	**Moncorvo**	**98.46**	**44**	*e*LQ	LQ	12 31 48.1	
MVO				*e*LR	LR	12 39 13.4	
	comp=Z,49µm,20.0s						
DZM	**Mont Dzumac**	**98.74**	**234**	LR	LR	12 34 58.5	
	comp=Z,25µm,21.2s,baz=156,slow=29						
PAB	**San Pablo**	**98.93**	**47**	PFAKE		12 01 00.0	+14
PAB				LR	LR		
	comp=Z,43µm,20.0s						
PBRG	**Braganca**	**99.04**	**44**	*e*P	**Pdif**	**12 00 50.0**	**+3.5**
	comp=Z,71nm,2.1s						
PBRG	**Braganca**	**99.04**	**44**	*e*SKS	SKSac	12 11 42.6	+19
ESDC	**Sonseca Array**	**99.24**	**47**	P	**Pdif**	**12 00 46.4**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=251,slow=3.4,SNR=7.8						
ESDC				PP	**PP**	**12 04 52.6**	**+1.7**
	comp=Z,4.7nm,1.0s,baz=227,slow=8.3,SNR=3.7						
ESDC				LR	LR	12 44 32.4	
	comp=Z,33µm,20.0s,baz=235,slow=35						
ES19	**SONSECA Array**	**99.30**	**47**	*e*P	**Pdif**	**12 00 47.6**	**-0.1**
ARMA	**Armidale**	**101.00**	**219**	PFAKE		12 01 10.0	+14
ARMA				LR	LR		
	comp=Z,29µm,18.7s						
AIS	**Amsterdam Isla**	**101.20**	**157**	Pdif	Pdif	12 00 38.0	-18
AIS				PP	PP	12 04 54.0	-10
AIS				SKKS		12 12 15.0	
AIS				SP	**SP**	**12 14 01.0**	**-3.4**
AIS				SS	**SS**	**12 19 30.0**	**-2.4**
AIS				L	L	12 29 00.0	
AIS				R		12 35 00.0	
DODT	**Dodoma, Tanzan**	**101.49**	**107**	*i* P	**Pdif**	**12 00 56.9**	**-1.4**
DODT				PKP	**PP**	**12 05 08.3**	**+0.3**
DODT				PKP		12 14 17.8	
SJPF	**Ste Jean**	**103.01**	**46**	*e*P	**Pdif**	**12 01 04.5**	**+0.4**
	comp=Z,62nm,1.4s						
SJPF	**Ste Jean**	**103.01**	**46**	*e*P	**Pdif**	**12 01 04.5**	**+0.4**
SJPF				pmax	pmax		
	comp=Z,62nm,1.4s						
SJPF	**Ste Jean**	**103.01**	**46**	*e*P	**Pdif**	**12 01 04.5**	**+0.4**
	comp=Z,62nm,1.4s						
ETSF	**Etsaut**	**103.27**	**46**	*e*P	**Pdif**	**12 01 06.5**	**+1.2**
	comp=Z,42nm,1.2s						
ETSF	**Etsaut**	**103.27**	**46**	*e*P	**Pdif**	**12 01 06.5**	**+1.2**
ETSF				pmax	pmax		
	comp=Z,42nm,1.2s						
ETSF	**Etsaut**	**103.27**	**46**	*e*P	**Pdif**	**12 01 06.5**	**+1.2**
	comp=Z,42nm,1.2s						
EPF	**Esparros**	**103.87**	**46**	*e*P	**Pdif**	**12 01 09.3**	**+1.4**
	comp=Z,39nm,1.3s						
EPF	**Esparros**	**103.87**	**46**	*e*P	**Pdif**	**12 01 09.3**	**+1.4**
EPF				pmax	pmax		
	comp=Z,39nm,1.3s						
EPF	**Esparros**	**103.87**	**46**	*e*P	**Pdif**	**12 01 09.3**	**+1.4**
	comp=Z,39nm,1.3s						
VAL	**Valentia**	**104.04**	**35**	*e*P	**Pdif**	**12 01 07.4**	**-0.9**
VAL				*e*PP	**PKiKP**	**12 05 23.3**	**-2.2**
YKA	**Yellowknife Ar**	**104.21**	**342**	P	**Pdif**	**12 01 07.9**	**-1.0**
YKA						12 05 33.4	
YKA	**Yellowknife Ar**	**104.21**	**342**	Pdiff	**Pdif**	**12 01 07.8**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=141,slow=4.1,SNR=11						
YKA				PP	PP	12 05 33.4	+5.7
	comp=Z,4.4nm,1.0s,baz=138,slow=7.9,SNR=7.8						
YKA				PKKP	**PKKPbc**	**12 17 01.6**	**+3.4**
	comp=Z,0.6nm,0.7s,baz=332,slow=2.0,SNR=5.8						
YKB5	**Yellowknife Ar**	**104.21**	**342**	*e*PKKPbc	PKKPbc	12 17 01.6	+3.4
STKA	**Stephens Creek**	**104.33**	**210**	P	**Pdif**	**12 01 15.2**	**+4.7**
STKA				MLR	MLR		
	comp=Z,8µm,20.0s						
STKA	**Stephens Creek**	**104.33**	**210**	Pdiff	**Pdif**	**12 01 15.2**	**+4.7**
	comp=Z,2.1nm,0.8s,baz=276,slow=10,SNR=2.6						
STKA	**Stephens Creek**	**104.33**	**210**	Pdif	**Pdif**	**12 01 15.2**	**+4.7**
STKA				LR	LR		
	comp=Z,8µm,20.0s						
MAUS	**Longido**	**104.38**	**105**	*i* P	**PP**	**12 05 32.9**	**+3.2**
MAUS				PKP	**PS**	**12 14 41.3**	**-1.3**
SFJD	**Kangerlussuaq**	**104.80**	**9**	*i* P	**PP**	**12 05 32.9**	**+0.9**
SFJD				*i* S	**Sdif**	**12 12 58.5**	**-4.2**
SFJD	**Kangerlussuaq**	**104.80**	**9**	PFAKE		12 01 20.0	+8.6
SFJD				LR	LR		
	comp=Z,20µm,21.0s						
CRAG	**Craig**	**104.93**	**329**	PFAKE		12 01 20.0	+7.8
CRAG				LR	LR		
	comp=Z,17µm,18.2s						
RER	**Riviere de l'E**	**105.12**	**131**	PFAKE		12 05 40.0	
RER				LR	LR		
	comp=Z,29µm,20.0s						
ROSF	**Rostrenen**	**105.12**	**41**	*e*P	**Pdif**	**12 01 14.3**	**+1.0**
	comp=Z,51nm,1.3s						
ROSF	**Rostrenen**	**105.12**	**41**	*e*P	**Pdif**	**12 01 14.3**	**+1.0**
ROSF				pmax	pmax		
	comp=Z,51nm,1.3s						
ROSF	**Rostrenen**	**105.12**	**41**	*e*P	**Pdif**	**12 01 14.3**	**+1.0**
	comp=Z,51nm,1.3s						
LFF	**La Frestale**	**105.25**	**45**	*e*P	**Pdif**	**12 01 15.1**	**+1.2**
LFF	**La Frestale**	**105.25**	**45**	*e*P	**Pdif**	**12 01 15.1**	**+1.2**
LFF	**La Frestale**	**105.25**	**45**	*e*P	**Pdif**	**12 01 15.1**	**+1.2**
WRAK	**Wrangell Islan**	**105.28**	**330**	PFAKE		12 05 40.0	
WRAK				LR	LR		
	comp=Z,15µm,19.0s						
KEST	**Kesra**	**105.29**	**57**	PP	PP	12 05 40.7	+4.3
	comp=Z,2.2nm,0.7s,baz=262,slow=5.6,SNR=4.9						
EIDS	**Eidsvold**	**105.38**	**221**	PFAKE		12 05 40.0	
EIDS				LR	LR		
	comp=Z,18µm,18.2s						
BBOO	**Buckleboo**	**105.58**	**206**	PFAKE		12 05 40.0	
BBOO				LR	LR		
	comp=Z,98µm,19.9s						
KMBO	**Kilima Mbogo**	**105.82**	**104**	PFAKE		12 05 40.0	
KMBO				LR	LR		
	comp=Z,92µm,18.0s						
DLBC	**Dease Lake**	**105.83**	**333**	Pdiff	**Pdif**	**12 01 19.4**	**+3.1**
	comp=Z,3.8nm,1.0s,baz=130,slow=6.4,SNR=4.6						
DLBC	**Dease Lake**	**105.83**	**333**	Pdif	**Pdif**	**12 01 19.4**	**+3.1**
DLBC				LR	LR		
	comp=Z,24µm,18.8s						
CAF	**Calviac**	**106.00**	**46**	*e*P	**Pdif**	**12 01 18.4**	**+1.1**
CAF	**Calviac**	**106.00**	**46**	*e*P	**Pdif**	**12 01 18.4**	**+1.1**
CAF	**Calviac**	**106.00**	**46**	*e*P	**Pdif**	**12 01 18.4**	**+1.1**
DSB	**Dublin**	**106.68**	**35**	PFAKE		12 05 40.0	
DSB				LR	LR		
	comp=Z,36µm,19.0s						
ILULI	**Ilulissat**	**106.85**	**8**	*i* P	**PP**	**12 05 48.9**	**+1.8**
ILULI				*i* S	**Sdif**	**12 13 15.4**	**-4.4**
VSL	**Villasalto**	**107.40**	**54**	PFAKE		12 05 40.0	
VSL				LR	LR		
	comp=Z,47µm,19.0s						
SSB	**Saint Sauveur**	**107.64**	**46**	PFAKE		12 05 40.0	
SSB				LR	LR		
	comp=Z,34µm,22.0s						
AVF	**Avril sur Loir**	**107.81**	**45**	*e*P	**Pdif**	**12 01 26.2**	**+0.9**
AVF	**Avril sur Loir**	**107.81**	**45**	*e*P	**Pdif**	**12 01 26.2**	**+0.9**
AVF	**Avril sur Loir**	**107.81**	**45**	*e*P	**Pdif**	**12 01 26.2**	**+0.9**
SMF	**Signal de Mont**	**108.00**	**45**	*e*P	**Pdif**	**12 01 27.4**	**+1.2**
	comp=Z,51nm,1.4s						
SMF	**Signal de Mont**	**108.00**	**45**	*e*P	**Pdif**	**12 01 27.4**	**+1.2**
SMF				pmax	pmax		
	comp=Z,51nm,1.4s						
SMF	**Signal de Mont**	**108.00**	**45**	*e*P	**Pdif**	**12 01 27.4**	**+1.2**
	comp=Z,51nm,1.4s						
BNI	**Bardonecchia**	**108.77**	**48**	PFAKE		12 05 50.0	
BNI				LR	LR		
	comp=Z,56µm,20.0s						
WDD	**Wield Dalam**	**108.89**	**59**	PFAKE		12 05 50.0	
WDD				LR	LR		
	comp=Z,136µm,20.0s						
BORG	**Borgarnes**	**108.99**	**21**	PFAKE		12 05 50.0	
BORG				LR	LR		
	comp=Z,18µm,19.0s						
ESK	**Eskdalemuir**	**109.42**	**35**	PFAKE		12 05 50.0	
ESK				LR	LR		
	comp=Z,36µm,18.0s						
TARA	**Tarawa**	**109.64**	**257**	*e*PKPdf		12 05 37.0	
TARA				LR	LR		
	comp=Z,29µm,22.0s						
EDI	**Edinburgh**	**109.79**	**34**	PFAKE		12 05 50.0	
EDI				LR	LR		
	comp=Z,20µm,18.9s						
FORT	**Forrest**	**109.94**	**200**	PFAKE		12 05 50.0	
FORT				LR	LR		
	comp=Z,14µm,18.6s						
VLC	**Villacollemand**	**110.53**	**50**	PFAKE		12 05 50.0	
VLC				LR	LR		
	comp=Z,26µm,19.0s						
ECH	**Echery**	**110.75**	**45**	PFAKE		12 05 50.0	
ECH				LR	LR		
	comp=Z,38µm,21.0s						
CDF	**Champ du Feu**	**110.92**	**45**	*e*P	**Pdif**	**12 01 41.2**	**+2.0**
CDF	**Champ du Feu**	**110.92**	**45**	*e*P	**Pdif**	**12 01 41.2**	**+2.0**
CDF	**Champ du Feu**	**110.92**	**45**	*e*P	**Pdif**	**12 01 41.2**	**+2.0**
WLF	**Walferdange**	**110.96**	**43**	PFAKE		12 05 50.0	
WLF				LR	LR		
	comp=Z,61µm,20.0s						
CEL	**Celeste**	**111.06**	**58**	PFAKE		12 05 50.0	
CEL				LR	LR		
	comp=Z,104µm,18.0s						
TUE	**Stuetta**	**111.10**	**47**	PFAKE		12 05 50.0	
TUE				LR	LR		
	comp=Z,37µm,19.0s						
MEM	**Membach**	**111.38**	**42**	PFAKE		12 05 50.0	
MEM				LR	LR		
	comp=Z,59µm,21.3s						
BFO	**Black Forest**	**111.48**	**45**	PFAKE		12 05 50.0	
BFO				LR	LR		
	comp=Z,29µm,20.0s						
AQU	**L'Aquila**	**111.49**	**53**	PFAKE		12 05 50.0	
AQU				LR	LR		
	comp=Z,55µm,20.0s						
KULLO	**Kullorsuaq**	**111.49**	**5**	*i* P	**PP**	**12 06 18.0**	**-2.7**
SUMG	**Summit**	**111.62**	**11**	*i* P	**PP**	**12 06 22.3**	**+0.1**
SUMG	**Summit**	**111.62**	**11**	PFAKE		12 05 50.0	
SUMG				LR	LR		
	comp=Z,21µm,20.0s						
FUORN	**Ofenpass-Fuorn**	**111.72**	**48**	PFAKE		12 05 50.0	
FUORN				LR	LR		
	comp=Z,76µm,20.4s						
CUC	**Castrocucco**	**111.88**	**56**	PFAKE		12 05 50.0	
CUC				LR	LR		
	comp=Z,51µm,18.0s						
RES	**Resolute Bay**	**111.98**	**354**	PKKPbc	PKKPbc	12 16 31.1	-2.5
	comp=Z,1.9nm,0.8s,baz=9.6,slow=8.6,SNR=5.5						
HNR	**Honiara**	**112.10**	**239**	PFAKE		12 05 50.0	
HNR				LR	LR		
	comp=Z,15µm,18.0s						
TIP	**Timpagrande**	**112.11**	**57**	PFAKE		12 05 50.0	
TIP				LR	LR		
	comp=Z,54µm,20.0s						
STU	**Stuttgart**	**112.20**	**45**	PFAKE		12 05 50.0	
STU				LR	LR		
	comp=Z,39µm,18.0s						
CTAO	**Charters Tower**	**112.23**	**220**	PFAKE		12 05 50.0	
CTAO				LR	LR		
	comp=Z,21µm,19.0s						
MOTA	**Moosalm**	**112.58**	**47**	⇓*i*PKiKP	**PKiKP**	**12 05 42.4**	**+0.5**
	comp=Z,5.7nm,0.6s						
RAGM	**Ragged Mountai**	**112.80**	**329**	*e*PKKPbc	PKKPbc	12 16 33.5	+2.8
RAGM				LR	LR		
	comp=Z,17µm,18.9s						
MID	**Middleton Isla**	**112.96**	**328**	PFAKE		12 05 50.0	
MID				LR	LR		
	comp=Z,8µm,20.0s						
BMRM	**Bremner River**	**113.10**	**330**	PFAKE		12 05 50.0	
BMRM				LR	LR		
	comp=Z,13µm,19.8s						
DIV	**Divide**	**113.66**	**330**	PFAKE		12 06 00.0	
DIV				LR	LR		
	comp=Z,18µm,20.8s						
RJOB	**Jochberg**	**113.78**	**47**	*e*PKiKP	**PKiKP**	**12 05 44.1**	**+0.1**
GRFO	**Grafenberg**	**113.81**	**45**	PFAKE		12 06 00.0	
GRFO				LR	LR		
	comp=Z,30µm,22.0s						
GRF	**Grafenberg Arr**	**113.81**	**45**	*e*PP	PP	12 06 42.3	+4.5
GRF				*e*L	L	12 51 29.6	
	comp=Z,32µm,21.8s						
EGAK	**Eagle**	**113.99**	**334**	PFAKE		12 06 00.0	
EGAK				LR	LR		
	comp=Z,16µm,19.0s						
OBKA	**Obir**	**114.24**	**49**	⇓*i*Pdiff	**Pdif**	**12 01 54.7**	**+0.7**
	comp=Z,6.9nm,1.3s						
OBKA				⇑*i*PKPdf	**PKiKP**	**12 05 45.2**	**+0.2**
	comp=Z,10nm,0.8s						
DOT	**Dot Lake**	**114.39**	**332**	PFAKE		12 06 00.0	+15
DOT				LR	LR		
	comp=Z,22µm,18.9s						
MOX	**Moxa**	**114.49**	**44**	*e*PKiKP	PKPdf	12 05 44.8	-0.4
MOX				*e*L	L	12 52 20.2	
	comp=Z,38µm,21.0s						
PAX	**Paxson**	**114.55**	**331**	PFAKE		12 06 00.0	+15
PAX				LR	LR		
	comp=Z,14µm,19.4s						
SEW	**Seward**	**114.66**	**328**	PFAKE		12 06 00.0	+15
SEW				LR	LR		
	comp=Z,16µm,18.8s						
AS01	**Alice Springs**	**114.66**	**208**	*e*PKiKP	**PKiKP**	**12 05 45.7**	**-0.8**
AS01				*e*SP	SP	12 16 23.7	+4.4
ASAR	**Alice Springs**	**114.67**	**208**	PKIKP	PKPdf	12 05 45.4	-1.2
ASAR						12 06 49.4	
ASAR						12 16 23.7	
ASAR	**Alice Springs**	**114.67**	**208**	PKP	PKPdf	12 05 45.4	-1.3
	comp=Z,3.6nm,0.9s,baz=144,slow=1.9,SNR=14						
ASAR				PP	PP	12 06 49.4	+6.4
	comp=Z,4.1nm,0.8s,baz=158,slow=2.4,SNR=5.0						
ASAR				PKKPbc	**PKKPbc**	**12 16 23.6**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=339,slow=3.0,SNR=11						
AS31	**Alice Springs**	**114.67**	**208**	*e*PKPdf	PKPdf	12 05 47.7	+1.0
MOA	**Molln**	**114.70**	**48**	⇓*i*Pdiff	**Pdif**	**12 01 58.8**	**+2.9**
	comp=Z,5.1nm,1.2s						
MOA				⇑*i*PKPdf	PKPdf	12 05 45.3	-0.4
	comp=Z,8.0nm,0.9s						
GEC2	**GERESS Array S**	**114.83**	**47**	*e*PKiKP	PKPdf	12 05 45.1	-0.9
GERES	**GERESS Array B**	**114.83**	**47**	PKIKP	PKPdf	12 05 45.4	-0.6
GERES	**GERESS Array B**	**114.83**	**47**	PKP	PKPdf	12 05 45.4	-0.6
	comp=Z,5.2nm,0.8s,baz=204,slow=1.3,SNR=17						
TANN	**Tannenbergstha**	**114.85**	**45**	*e*PKiKP	PKPdf	12 05 45.7	-0.3
KDAK	**Kodiak Island**	**114.89**	**325**	PFAKE		12 06 00.0	+14
KDAK				LR	LR		
	comp=Z,17µm,19.0s						
KHC	**Kasperske Hory**	**114.89**	**46**	*e*PKIKP	PKPdf	12 05 45.3	-0.8
KHC				*e*		12 05 51.5	
KHC				*e*		12 06 53.5	
KHC				*e*		12 12 32.3	
KHC				*e*		12 16 24.8	
KHC				MLR	MLR		
	comp=Z,43µm,17.1s						
KHC	**Kasperske Hory**	**114.89**	**46**	*e*PKP	PKPdf	12 05 45.3	-0.8
KHC				*ep*PKP	PKiKP	12 05 51.5	+5.4
KHC				*ex*	x	12 06 37.3	
KHC				*e*PP	**PP**	**12 06 43.0**	**-2.6**
KHC				*ex*	x	12 06 53.5	
KHC				*e*PKS	PKSdf	12 09 29.1	+6.5
KHC				*e*SKS	**SKSac**	**12 12 32.3**	**-0.2**
KHC				*e*PS	**PS**	**12 16 24.8**	**+0.4**
KHC				AMS	AMS	12 57 20.0	
	comp=Z,43µm,17.1s						
KHC	**Kasperske Hory**	**114.89**	**46**	PFAKE		12 06 00.0	+14
KHC				LR	LR		
	comp=Z,26µm,21.1s						
OHAK	**Old Harbor**	**114.95**	**324**	PFAKE		12 06 00.0	+14
OHAK				LR	LR		
	comp=Z,16µm,18.8s						
SII	**Sitkinak Islan**	**115.05**	**323**	PFAKE		12 06 00.0	+14
SII				LR	LR		
	comp=Z,14µm,19.2s						
SML	**Sawmill**	**115.07**	**330**	PFAKE		12 06 00.0	+14
SML				LR	LR		
	comp=Z,3µm,19.5s						
RC01	**Rabbit Creek A**	**115.28**	**329**	PFAKE		12 06 00.0	+14
RC01				LR	LR		
	comp=Z,12µm,20.6s						
PMR	**Palmer**	**115.28**	**329**	PFAKE		12 06 00.0	+14
PMR				LR	LR		
	comp=Z,9µm,20.2s						
KMY	**Karmoy**	**115.39**	**34**	*e*PP	PP	12 06 48.2	-0.5
CLL	**Collm**	**115.57**	**44**	*e*PKIKP	**PKPdf**	**12 05 47.0**	**-0.2**
CLL				*e*		12 05 53.0	
CLL				*e*		12 06 55.0	
CLL				MLR	MLR		
	comp=Z,40µm,20.7s						
CLL	**Collm**	**115.57**	**44**	*ep*Pdif	**pPdif**	**12 02 06.0**	**-0.9**
CLL				*e*PKiKP	**PKPdf**	**12 05 47.0**	**-0.2**
CLL				*ep*PKiKP	pPKiKP	12 05 53.0	-1.7
	comp=Z,21nm,1.3s						
CLL				*e*PP	**PP**	**12 06 55.0**	**+4.8**
CLL				*e*(pPP)		12 07 02.0	
CLL				*e*SKSac	SKSac	12 12 42.0	+7.2
CLL				*e*SKKSac	**SKKSac**	**12 13 54.0**	**+4.7**
CLL				*e*(Sdif)		12 14 45.0	
CLL				*e*PS	**PS**	**12 16 35.0**	**+4.6**
CLL				*e*(PPS)		12 17 56.0	
CLL				*e*SS	**SS**	**12 22 44.0**	**-4.5**
CLL				*e*SSS	SSS	12 27 12.0	
CLL				*e*SSSS		12 30 24.0	
CLL				*e*		12 33 52.0	
CLL				Lm	MLR	12 52 00.0	
	comp=N,14µm,21.4s						
CLL				Lm	MLR	12 52 00.0	
	comp=E,32µm,19.9s						
CLL				Lm	MLR	12 52 00.0	
	comp=Z,40µm,20.7s						
CLL	**Collm**	**115.57**	**44**	PFAKE		12 06 00.0	+13
CLL				LR	LR		
	comp=Z,48µm,20.0s						
CONA	**Conrad Observa**	**115.69**	**48**	⇑*i*Pdiff	**Pdif**	**12 01 58.0**	**-2.4**
	comp=Z,6.9nm,2.2s						
CONA				⇑*i*PKPdf	**PKPdf**	**12 05 47.6**	**-0.1**
	comp=Z,12nm,0.9s						
PRA	**Prague**	**115.82**	**46**	PKP	**PKPdf**	**12 05 46.0**	**-1.8**
PRA				PP	**PP**	**12 06 47.0**	**-5.0**
PRU	**Pruhonice**	**115.84**	**46**	*e*PP	PP	12 06 46.9	-5.3
PRU				*ex*	x	12 09 35.8	
PRU				*e*SKS	**SKSac**	**12 12 41.0**	**+5.0**
PRU				*e*PS	**PS**	**12 16 34.4**	**+1.5**
PRU				AMS	AMS	12 58 00.0	
	comp=Z,46µm,17.9s						
SNART	**Snartemo**	**115.87**	**35**	*e*PP	PP	12 06 53.2	+1.1
BRG	**Berggiesshubel**	**115.90**	**45**	*e*PKP	**PKPdf**	**12 05 47.3**	**-0.6**
	comp=Z,5.8nm,0.8s						
BRG				PP	PP	12 06 43.0	-10
BRG				SDIFF		12 14 46.0	
BRG				PS	**PKKPab**	**12 16 25.0**	**+3.1**
BRG				SS	SS	12 22 35.0	-18
BRG	**Berggiesshubel**	**115.90**	**45**	P	**Pdif**	**12 01 58.0**	**-3.2**
BRG				*e*		12 05 47.3	
BRG				PS	**PKKPab**	**12 16 25.0**	**+3.1**
BRG				MLR	MLR		
	comp=N,23µm,17.9s						
BRG				MLR	MLR		
	comp=E,26µm,17.4s						
BRG				MLR	MLR		
	comp=Z,42µm,17.0s						
BRG	**Berggiesshubel**	**115.90**	**45**	*e*PKiKP	**PKPdf**	**12 05 47.3**	**-0.6**
MUD	**Monsted U'grnd**	**115.93**	**38**	*i* P	PP	12 06 46.5	-6.0
MUD	**Monsted U'grnd**	**115.93**	**38**	*i* P	**PKKPdf**	**12 16 45.7**	**+0.1**
ASK	**Askoy**	**115.99**	**33**	*e*PP	PP	12 06 57.4	+4.5
BER	**Bergen**	**116.00**	**33**	*e*PP	PP	12 06 54.1	+1.1
BER				IVMs_BB	IVMs_BB	13 01 19.1	
	comp=Z,12µm,19.1s						
BLS5	**Blasjo**	**116.04**	**34**	*e*PP	PP	12 06 55.5	+2.2
IL1	**Eielson Array**	**116.04**	**333**	*e*PKPdf	**PKPdf**	**12 05 51.0**	**+3.2**
ILAR	**Eielson Array**	**116.04**	**333**	PKIKP	**PKPdf**	**12 05 48.0**	**+0.2**
ILAR	**Eielson Array**	**116.04**	**333**	PKP	**PKPdf**	**12 05 48.0**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=153,slow=1.0,SNR=10						
ILAR				PKKPab	**PKKPab**	**12 16 21.6**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=311,slow=3.4,SNR=9.2						
SUE	**Sulen**	**116.08**	**32**	*e*PP	PP	12 06 55.2	+1.7
SUE				IAMs_20	IAMs_20	12 52 00.9	
	comp=Z,23µm,21.7s						
TREC	**Trest**	**116.08**	**47**	AMS	AMS	12 59 50.0	
	comp=Z,29µm,17.5s						
PVCC	**Panska Ves**	**116.10**	**45**	*e*PKIKP	**PKPdf**	**12 05 48.2**	**-0.1**
PVCC			

comp=Z,38μm,22.0s
UPC Upice 116.92 46 *e*PKIKP PKPdf 12 05 56.6 +6.7
UPC Upice 116.92 46 *e*pPKP pPKPdf 12 05 56.6 -0.7
KTH Kantishna Hill 116.97 331 PFAKE 12 06 00.0 +10
KTH LR LR
comp=Z,12μm,18.4s
DPC Dobruska-Polom 117.03 46 *e*PKIKP **PKPdf 12 05 49.3 -0.9**
DPC *e* 12 05 57.0
DPC *e* 12 12 45.4
DPC *e* 12 16 39.0
DPC Dobruska-Polom 117.03 46 *e*PKP **PKPdf 12 05 49.3 -0.9**
DPC *e*pPKP **pPKPdf 12 05 57.0 -0.6**
DPC *e*PP PP 12 06 51.5 -9.1
DPC *e*SKS **SKSac 12 12 45.4 +4.9**
DPC *e*SP **SP 12 16 39.0 -1.7**
DPC AMS AMS 12 59 00.0
DPC Dobruska-Polom 117.03 46 PFAKE 12 06 00.0 +10
DPC LR LR
comp=Z,235μm,18.0s
MSEY Mahe Island 117.09 119 PFAKE 12 06 00.0 +8.5
MSEY LR LR
comp=Z,36μm,19.0s
PPLA Purkeypile 117.17 330 PFAKE 12 06 00.0 +10
PPLA LR LR
comp=Z,14μm,19.8s
COP Copenhagen 117.22 39 *i* P **PP 12 06 57.3 -4.3**
KSP Ksiaz 117.23 45 *e*P **Pdif 12 02 09.0 +1.9**
KSP *e*SP SP 12 16 42.2 -0.2
KSP *e*PPS PPS 12 18 06.0
KSP *e*SS **SS 12 23 11.0 +0.8**
KSP MLR MLR
comp=Z,207μm,21.4s
KSP Ksiaz 117.23 45 *e*Pdiff **Pdif 12 02 11.9 +4.8**
KSP *e*PKPdf PKiKP 12 05 58.6 +8.1
KSP *e*PP PP 12 06 54.2 -7.6
KSP *e*SKSac **SKSac 12 12 44.2 +3.1**
KSP *e*SKKSac **SKKSac 12 14 06.4 +6.0**
KSP *e*PKKPdf **PKKPdf 12 16 43.1 +0.1**
KSP *e*PS PS 12 16 55.9 +10
KSP *e*SS **SS 12 23 12.3 +2.1**
KSP LMZ LR 12 54 56.3
CAST Castle Rocks 117.37 330 PFAKE 12 06 00.0 +10
CAST LR LR
comp=Z,11μm,21.5s
AKN Aaknes 117.55 31 *e*PP PP 12 07 06.1 +2.3
AKN IAMs_20 IAMs_20 12 54 36.6
comp=Z,27μm,21.0s
KONO Kongsberg 117.57 35 *e*PP PP 12 07 02.9 -1.1
KONO Kongsberg 117.57 35 PFAKE 12 06 00.0 +9.2
KONO LR LR
comp=Z,29μm,18.0s
SDPT Sand Point 117.66 320 PFAKE 12 06 00.0 +8.9
SDPT LR LR
comp=Z,9μm,19.5s
VYHS Vyhne 117.73 49 *e*PKIKP **PKPdf 12 05 50.8 -0.7**
VYHS Vyhne 117.73 49 *e*PKP **PKPdf 12 05 50.8 -0.7**
SVW2 Sparrevohn 117.79 327 PFAKE 12 06 00.0 +8.8
SVW2 LR LR
comp=Z,18μm,18.6s
WB2 Warramunga Arr 117.87 210 *e*PKPdf **PKPdf 12 05 52.5 -0.3**
WRA Warramunga Arr 117.88 210 PKIKP **PKPdf 12 05 51.4 -1.4**
WRA Warramunga Arr 117.88 210 PKP **PKPdf 12 05 51.4 -1.4**
comp=Z,3.8nm,0.8s,baz=157,slow=1.7,SNR=26
WRA PKKPbc **PKKPbc 12 16 10.8 -1.5**
comp=Z,1.7nm,1.0s,baz=343,slow=4.1,SNR=4.5
WRA PKKPab **PKKPab 12 16 21.5 +2.6**
comp=Z,3.8nm,0.8s,baz=342,slow=4.0,SNR=12
OKC Ostrava-Krasne 117.88 47 *e*PKIKP **PKPdf 12 05 51.7 0.0**
OKC *e* 12 09 31.7
OKC Ostrava-Krasne 117.88 47 *e*PKP **PKPdf 12 05 51.7 0.0**
OKC *ex* x 12 06 53.2
OKC *e*PKS **PKSdf 12 09 31.7 +3.5**
OKC AMS AMS 13 01 10.0
WRAB Tennant Creek 117.88 210 *i* PKIKP **PKPdf 12 05 53.6 +0.8**
WRAB MLR MLR
comp=Z,64μm,16.0s
WRAB Tennant Creek 117.88 210 *e*PKKPbc PKKPbc 12 16 11.9 -0.4
WRAB *e*PKKPab **PKKPab 12 16 22.4 +3.5**
WRAB LR LR
comp=Z,38μm,21.0s
PSZ Piszkesteto 118.13 50 PFAKE 12 06 00.0 +7.6
PSZ LR LR
comp=Z,28μm,19.0s
DAG Danmarks Havn 118.16 12 *i* P **PP 12 07 06.9 -0.7**
OSL Oslo 118.20 35 *e*PP PP 12 07 09.3 +1.0
BZS Buzias 118.25 53 ⇑PKIKP **PKPdf 12 05 52.0 -0.6**
BZS Buzias 118.25 53 ⇑*i*P **PKPdf 12 05 52.0 -0.6**
BSD Bornholm Skovb 118.26 41 *i* P **PP 12 07 08.8 -0.1**
KWAJ Kwajalein Atol 118.35 259 PFAKE 12 06 10.0 +16
KWAJ LR LR
comp=Z,11μm,19.9s
COLD Coldfoot 118.42 334 *e*PKPdf **PKPdf 12 05 54.2 +2.0**
GKP Gorka Klasztor 118.76 43 *e*PP PP 12 07 13.4 +1.0
GKP *e*SKSdf **SKSdf 12 13 08.0 +4.3**
GKP *e*PS **PS 12 17 02.8 +3.5**
GKP *e*SS **SS 12 23 32.2 +2.2**
GKP LMZ LR 12 54 02.4
NB2 NORSAR Subarra 118.88 34 PKPdf **PKPdf 12 05 52.4 -1.0**
baz=248,slow=1.9
NOA NORSAR Array B 118.88 34 PKIKP **PKPdf 12 05 53.0 -0.4**
NOA NORSAR Array B 118.88 34 PKP **PKPdf 12 05 53.0 -0.4**
comp=Z,2.7nm,0.8s,baz=250,slow=2.2,SNR=5.6
NOA PKKPab **PKKPbc 12 16 09.1 -0.3**
comp=Z,1.5nm,0.8s,baz=68,slow=4.6,SNR=2.9
GZR Gura Zlata 118.90 53 ⇓PKIKP **PKPdf 12 05 53.5 -0.5**
GZR Gura Zlata 118.90 53 ⇓*i*P **PKPdf 12 05 53.5 -0.5**
NC602 NORSAR Array S 118.91 34 *e*PP PP 12 07 14.3 +1.1
NC602 IVMs_BB IVMs_BB 13 02 50.5
comp=Z,10μm,15.3s
COEN Coen 118.94 221 *e*PKKPbc PKKPbc 12 16 12.7 +4.4
COEN LR LR
comp=Z,120μm,19.7s
NIE Niedzica 119.00 48 *e*PKIKP **PKPdf 12 05 53.9 -0.1**
NIE *e* 12 07 14.5
NIE Niedzica 119.00 48 *e*PKPdf **PKPdf 12 05 53.9 -0.1**
NIE *e*PP **PP 12 07 14.5 +0.3**
NIE L L 13 01 36.0
comp=Z,30μm,18.2s
FALS False Pass 119.00 319 PFAKE 12 06 10.0 +16
FALS LR LR
comp=Z,6μm,18.2s
OJC Ojcow 119.01 47 *e*PKIKP **PKPdf 12 05 53.8 -0.1**
OJC *e* 12 07 14.6
OJC Ojcow 119.01 47 *e*PKPdf **PKPdf 12 05 53.8 -0.1**
OJC *e*PP **PP 12 07 14.6 +0.4**
OJC L L 13 03 04.0
comp=Z,26μm,18.9s
OJC Ojcow 119.01 47 *e*PKPdf **PKPdf 12 05 53.8 -0.1**
OJC LR LR
comp=Z,20μm,19.1s
TBLU Trondheim 119.36 31 *e*PP PP 12 07 20.5 +4.2
TBLU *e*SS SS 12 23 37.3 0.0
DRGR 119.43 52 ⇓PKIKP **PKPdf 12 05 54.6 -0.3**
DRGR 119.43 52 ⇓*i*P **PKPdf 12 05 54.6 -0.3**
CRVS Cervenica-Dubn 119.48 49 *e*PKIKP **PKPdf 12 05 56.4 +1.5**
CRVS Cervenica-Dubn 119.48 49 *e*PKP **PKPdf 12 05 56.4 +1.5**
STHS Stebnicka Huta 119.55 48 *e*PKIKP **PKPdf 12 05 55.0 0.0**
STHS Stebnicka Huta 119.55 48 *e*PKP **PKPdf 12 05 55.0 0.0**
LOT Lotru 119.57 53 ⇑*i*P **PKPdf 12 05 54.4 -0.9**
HFS Hagfors 119.65 35 PKKPbc PKKPbc 12 16 05.7 -0.7
comp=Z,2.1nm,0.8s,baz=107,slow=1.5,SNR=4.3
TRPA Tarpa 119.84 50 ⇓*i*P **PKPdf 12 05 55.8 +0.3**
UZH Uzhgorod 119.89 50*c i*PKIKP PKPdf 12 06 01.5 +5.9
UZH *e* 12 06 07.1
UZH *i* 12 07 18.3
UZH *e*PPP PPP 12 09 52.1
UZH *e* 12 12 56.7
KOLS Kolonicke sedl 119.99 49 *e*PKIKP **PKPdf 12 05 55.5 -0.4**
KOLS Kolonicke sedl 119.99 49 *e*PKP **PKPdf 12 05 55.5 -0.4**
ARR Arges 120.09 54 ⇓*i*P **PKPdf 12 05 56.0 -0.3**
BEL Belsk 120.21 46 *e*PP PP 12 07 23.3 +0.9
BEL *e*PS PS 12 17 27.8 +15
BEL *e*SS SS 12 23 46.2 -2.5
BEL LMZ LR 12 56 13.8
JMB Yambol 120.24 57 ⇓PKIKP **PKPdf 12 05 58.8 +2.3**
JMB Yambol 120.24 57 ⇓*i*P **PKPdf 12 05 58.8 +2.3**
UNV Unalaska Valle 120.29 317 PFAKE 12 06 10.0 +14
UNV LR LR
comp=Z,14μm,20.1s
PMG Port Moresby 120.38 228 *i* PKIKP **PKPdf 12 06 01.2 +3.5**
PMG Port Moresby 120.38 228 PFAKE 12 06 10.0 +12
PMG LR LR
comp=Z,31μm,21.0s
KWP Kalwaria Pacla 120.52 49 *e*P **Pdif 12 02 24.8 +3.0**
KWP *e* 12 05 56.4
KWP *e* 12 07 25.4
KWP *e* 12 12 55.6
KWP *e* 12 13 10.7
KWP *e*SS SS 12 23 49.1 -3.8
KWP MLR MLR
comp=Z,43μm,22.9s
KWP Kalwaria Pacla 120.52 49 *e*Pdiff **Pdif 12 02 24.7 +3.0**
KWP *e*PKPdf **PKPdf 12 05 56.3 -0.6**
KWP *e*PP **PP 12 07 25.4 +0.8**
KWP *e*SKSac **SKSac 12 12 55.5 +2.6**
KWP *e*SKSdf **SKSdf 12 13 10.7 +3.4**
KWP *e*SKKSac SKKSac 12 14 35.7 +13
KWP *e*PS PS 12 17 27.3 +12
KWP *e*SS **SKKSdf 12 23 49.0 +1.2**
KWP LMZ LR 12 55 26.5
KWP Kalwaria Pacla 120.52 49 ⇑*i*P **PKPdf 12 05 56.2 -0.6**
KWP Kalwaria Pacla 120.52 49 *e*PKPdf **PKPdf 12 05 56.6 -0.2**
KWP LR LR
comp=Z,40μm,18.0s
NSS Namsos 120.55 30 *e*PP PP 12 07 25.0 +0.6
NSS IVMs_BB IVMs_BB 13 05 46.0
comp=Z,12μm,15.4s
DOPR Dopca 120.81 53 ⇓*i*P **PKPdf 12 05 57.4 -0.2**
EIL Elat 120.91 74 PKP **PKPdf 12 05 58.3 0.0**
comp=Z,6.8nm,0.8s,baz=334,slow=4.7,SNR=4.2
EIL PP **PP 12 07 29.9 +2.2**
comp=Z,16nm,1.1s,baz=331,slow=1.6,SNR=6.0
MLR Muntele Rosu 120.99 54 ⇑PKIKP **PKPdf 12 05 57.2 -0.9**
MLR Muntele Rosu 120.99 54 ⇑*i*P **PKPdf 12 05 57.2 -0.9**
PRD Provadia 121.08 57 ⇑PKIKP **PKPdf 12 05 57.7 -0.4**
ISP Isparta 121.12 64 PFAKE 12 06 10.0 +11
ISP LR LR
comp=Z,41μm,22.0s
MBWA Marble Bar 121.15 194 *e*PKPdf **PKPdf 12 05 58.7 -0.4**
MBWA LR LR
comp=Z,24μm,20.0s
BUR04 Bucovina Ar. S 121.32 52 *e*PKPdf **PKPdf 12 05 58.0 -0.6**
BURAR Bucovina Array 121.32 52 ⇓PKIKP **PKPdf 12 05 58.8 +0.2**
BURAR Bucovina Array 121.32 52 ⇓*i*P **PKPdf 12 05 58.8 +0.2**
LVV L'vov 121.39 49 *e*PKIKP **PKPdf 12 05 57.8 -0.7**
LVV *e* 12 07 26.8
LVV *e* 12 13 09.2
LVV *e* 12 17 26.4
LVV MLR MLR
comp=E,15μm,22.0s
LVV MLR MLR
comp=Z,21μm,22.0s
LVV MLR MLR
comp=N,7μm,25.0s
PLOR Plostina 121.59 54 ⇑PKIKP **PKPdf 12 05 57.9 -1.2**
PLOR Plostina 121.59 54 ⇑*i*P **PKPdf 12 05 57.9 -1.2**
VRI Vrincioaia 121.64 54 ⇑PKIKP **PKPdf 12 05 57.9 -1.2**
VRI Vrincioaia 121.64 54 ⇑*i*P **PKPdf 12 05 57.9 -1.2**
KONS Konsvik 121.69 28 *e*PP PP 12 07 30.4 -1.7
TESR Tescani 121.83 53 ⇑*i*P **PKPdf 12 05 59.1 -0.4**
CSS Prodhromos 121.99 68 PFAKE 12 06 10.0 +10
CSS LR LR
comp=Z,6μm,19.0s
TIRR Tirgusor 122.23 56 ⇑PKIKP **PKPdf 12 05 58.0 -2.3**
TIRR Tirgusor 122.23 56 ⇑*i*P **PKPdf 12 05 58.0 -2.3**
TIRR Tirgusor 122.23 56 PFAKE 12 06 10.0 +10
TIRR LR LR
comp=Z,53μm,19.0s
CFR Carcaliu 122.31 55 ⇓PKIKP **PKPdf 12 05 59.8 -0.6**
CFR Carcaliu 122.31 55 ⇓*i*P **PKPdf 12 05 59.8 -0.6**
SUW Suwalki 122.33 44 *e*P **Pdif 12 02 30.2 +0.6**
SUW *e* 12 05 59.5
SUW *e* 12 07 36.2
SUW *e* 12 12 58.1
SUW *e*PS **PS 12 17 34.6 +3.4**
SUW *e*SS SS 12 24 07.9 -7.8
SUW MLR MLR
comp=Z,46μm,21.6s
SUW Suwalki 122.33 44 *e*Pdiff **Pdif 12 02 30.1 +0.5**
SUW *e*PKPdf **PKPdf 12 05 59.5 -0.6**
SUW *e*PP **PP 12 07 36.2 -0.6**
SUW *e*SKSac **SKSac 12 12 58.1 -0.6**
SUW *e*SKKSac **SKKSac 12 14 37.1 +3.4**
SUW *e*PS **PS 12 17 34.6 +3.4**
SUW *e*SS SS 12 24 07.9 -7.8
SUW LMZ LR 12 56 38.7
SUW Suwalki 122.33 44 PFAKE 12 06 10.0 +10
SUW LR LR
comp=Z,46μm,22.0s
LOF Lofoten 122.38 26 *e*PP PP 12 07 35.5 -1.2
MMAI Mount Meron Ar 122.73 71 PKP **PKPdf 12 06 01.6 -0.1**
comp=Z,2.7nm,0.4s,baz=7.6,slow=1.3,SNR=6.5
TLCR 122.76 55 ⇑PKIKP **PKPdf 12 06 01.2 -0.1**
TLCR 122.76 55 ⇑*i*P **PKPdf 12 06 01.2 -0.1**
LEOM Leova 122.85 54 ⇑PKIKP **PKPdf 12 06 01.1 -0.3**
LEOM Leova 122.85 54 ⇑*i*P **PKPdf 12 06 01.0 -0.3**
KIS Kishinev 123.39 53 *e*P **Pdif 12 02 38.0 +3.4**
KIS *i* PPP PPP 12 10 25.0
KIS MLR MLR
comp=N,15μm,20.0s
KIS MLR MLR
comp=E,30μm,20.0s
KIS MLR MLR
comp=Z,25μm,20.0s
KIS MLR MLR
comp=Z,24μm,20.0s
KIS Kishinev 123.39 53 *e*P **Pdif 12 02 38.0 +3.4**
KIS Kishinev 123.39 53 *e*PKP PKPdf 12 05 55.0 -7.4
KIS Kishinev 123.39 53 *i* PP PP 12 07 30.0 -14
comp=Z,900nm,17.0s
KIS Kishinev 123.39 53 *i* PS PS 12 17 52.0 +11
KIS LRM MLR 13 01 04.0
comp=Z,15μm,20.0s
BR231 Keskin MP Arra 123.53 62 *e*PKPdf **PKPdf 12 06 02.4 -0.7**
ANTO Ankara 123.55 62 ⇓PKIKP **PKPdf 12 06 03.6 +0.5**
ANTO Ankara 123.55 62 ⇓*i*P **PKPdf 12 06 03.6 +0.5**
ANTO Ankara 123.55 62 PFAKE 12 06 10.0 +6.9
ANTO LR LR
comp=Z,32μm,22.0s
BRTR Keskin Array B 124.10 63 PKIKP **PKPdf 12 06 03.7 -0.6**
BRTR Keskin Array B 124.10 63 PKP **PKPdf 12 06 03.6 -0.6**
comp=Z,7.5nm,0.8s,baz=189,slow=3.1,SNR=22
TNA Tin City 124.53 330 PFAKE 12 06 20.0 +16
TNA LR LR
comp=Z,15μm,19.4s
H11S2 WAKE ISLAND Hyl 24.55 268 T T 14 23 18.4
baz=118,slow=73,SNR=515
H11S1 WAKE ISLAND Hyl 24.57 268 T T 14 23 08.1
baz=118,slow=73,SNR=226
H11S3 WAKE ISLAND Hyl 24.57 268 T T 14 23 09.0
baz=118,slow=73,SNR=247
NACGM Naroch 124.60 44 *e*P **PKPdf 12 06 01.0 -3.5**
TRO Tromso 124.66 25 *e*PP PP 12 07 49.5 -2.5
AK11 Malin Array Si 124.78 49 *e*PKPdf **PKPdf 12 06 03.5 -1.4**
KBS Kingsbay 124.81 14 *e*PP PP 12 07 53.1 +0.2
KBS *e*SS SS 12 24 47.2 +1.2
KBS Kingsbay 124.81 14 PFAKE 12 06 20.0 +16
KBS LR LR
comp=Z,12μm,20.0s
KIEV Kiev 124.81 49*c i*PKIKP **PKPdf 12 06 03.5 -1.5**
KIEV Kiev 124.81 49 PFAKE 12 06 20.0 +15
KIEV LR LR
comp=Z,21μm,19.0s
AKASG Malin Array Be 124.82 49 PKIKP **PKPdf 12 06 03.7 -1.3**
AKASG 12 07 53.1
AKASG Malin Array Be 124.82 49 PKP **PKPdf 12 06 03.7 -1.3**
comp=Z,11nm,0.8s,baz=260,slow=2.8,SNR=14
AKASG PP **PP 12 07 53.0 -0.7**
comp=Z,4.5nm,0.9s,baz=251,slow=7.2,SNR=11
WAKE Wake Island 125.01 269 PFAKE 12 06 20.0 +14
WAKE LR LR
comp=Z,23μm,20.0s
H11N3 WAKE ISLAND Hyl 25.03 269 T T 14 23 48.2
baz=122,slow=75,SNR=31
H11N1 WAKE ISLAND Hyl 25.05 269 T T 14 23 46.1
baz=122,slow=75,SNR=44
H11N2 WAKE ISLAND Hyl 25.05 269 T T 14 23 44.1
baz=122,slow=75,SNR=55
MNK Minsk 125.08 44⇓*e*PKIKP **PKPdf 12 06 03.0 -2.4**
MNK *e* 12 13 05.0
MNK *e*SS SS 12 24 50.0 -0.5
MNK MLR MLR
comp=E,37μm,20.0s
MNK MLR MLR
comp=N,18μm,20.0s
MNK MLR MLR
comp=Z,97μm,22.0s
MICGM Minsk 125.11 44⇓*e*PKP **PKPdf 12 06 08.0 +2.5**
HSPB Hornsund (broa 125.16 16 *e*PP PP 12 07 49.2 -6.1
SPA0 Spitsbergen Ar 125.54 15 *e*PP PP 12 07 53.2 -4.6
SPA0 *e*SS SS 12 24 51.1 -4.1
SPITS Spitsbergen Ar 125.54 15 PKIKP **PKPdf 12 06 05.3 -0.4**
SPITS Spitsbergen Ar 125.54 15 PKP **PKPdf 12 06 05.3 -0.4**
comp=Z,6.7nm,0.8s,baz=170,slow=5.1,SNR=13
BJO Bjornoya 125.64 19 *e*PP PP 12 07 55.0 -3.4
GAMB Gambell 125.73 327 PFAKE 12 06 20.0 +14
GAMB LR LR
comp=Z,15μm,18.6s
DGAR Diego Garcia 125.74 137 PFAKE 12 06 20.0 +12
DGAR LR LR
comp=Z,31μm,19.0s
FINES FINESS Array B 125.83 36 PKIKP **PKPdf 12 06 05.9 -0.7**
FINES FINESS Array B 125.83 36 PKP **PKPdf 12 06 05.9 -0.7**
comp=Z,3.0nm,0.8s,baz=107,slow=2.0,SNR=7.5
KAF Kangasniemi 126.07 35 *e*PKIKP **PKPdf 12 06 06.2 -0.9**
KAF Kangasniemi 126.07 35 *e*p **PKPdf 12 06 06.2 -0.9**
comp=Z,24nm,0.9s
SIM Simferopol' 126.22 57 *e*PKIKP PKPdf 12 06 00.0 -7.9
SIM *e* 12 13 16.0
SIM *e*PPS PPS 12 19 37.0
SIM *e*SS SS 12 25 06.0 +0.6
RAYN Ar Rayn 126.39 86 PFAKE 12 06 20.0 +11
RAYN LR LR
comp=Z,52μm,19.0s
ARCES ARCESS Array B 126.91 26 PKIKP **PKPdf 12 06 08.1 -0.4**
ARCES ARCESS Array B 126.91 26 PKP **PKPdf 12 06 08.1 -0.4**
comp=Z,7.5nm,0.8s,baz=304,slow=0.9,SNR=7.9
ARE0 ARCESS Array S 126.91 26 *e*PP PP 12 08 06.7 -0.3
ARE0 *e*SS SS 12 25 09.9 -2.8
ARE0 IAMs_20 IAMs_20 12 57 01.7
comp=Z,32μm,21.7s
ARE0 IVMs_BB IVMs_BB 12 57 16.4
comp=Z,10μm,21.9s
MALT Malatya 127.07 66 ⇓PKIKP **PKPdf 12 06 10.4 +0.5**
MALT Malatya 127.07 66 ⇓*i*P **PKPdf 12 06 10.4 +0.5**
HOPEN Hopen 127.28 17 *e*PP PP 12 08 07.9 -1.4
HOPEN IAMs_20 IAMs_20 12 57 19.4
comp=Z,11μm,18.1s
HOPEN IVMs_BB IVMs_BB 12 58 35.4
comp=Z,6μm,18.2s
KEV Kevo 127.46 26 *e*PKIKP **PKPdf 12 06 11.7 +2.2**
KEV pmax pmax
comp=Z,21nm,1.0s
KEV Kevo 127.46 26 *e*p **PKPdf 12 06 11.7 +2.2**
comp=Z,21nm,1.0s
KEV Kevo 127.46 26 PFAKE 12 06 20.0 +10
KEV LR LR
comp=Z,31μm,22.0s
ANN Anapa 128.43 58 *i* PKIKP **PKPdf 12 06 15.2 +3.1**
ANN *i* 12 08 16.0
JOF Joensuu 128.49 34 *e*PKIKP **PKPdf 12 06 12.1 +0.4**
JOF Joensuu 128.49 34 *e*p **PKPdf 12 06 12.1 +0.4**
comp=Z,48nm,1.3s
SOC Sochi 129.67 60 *e*P **Pdif 12 03 09.6 +7.0**
SOC *e* 12 06 14.8
SOC *e* 12 08 24.2
SOC *e*PPP PPP 12 11 12.3
SOC *e* 12 13 21.0
SOC *e*SSS SSS 12 30 39.4
APA Apatity 129.68 29 ⇑*i*PKIKP PKPdf 12 06 20.6 +6.8
APA *i* 12 08 26.0
APA *i* 12 13 22.0
APA *i* PS **PS 12 18 38.0 +2.6**
APA *i* PPS PPS 12 20 12.0
SAUI Saumlaki 129.88 213 PFAKE 12 06 30.0 +14
SAUI LR LR
comp=Z,24μm,18.0s
OBN Obninsk 130.15 45 ⇑*i*PKIKP **PKPdf 12 06 14.0 -1.0**
OBN *i* 12 13 19.5
OBN Obninsk 130.15 45 PFAKE 12 06 30.0 +15
OBN LR LR
comp=Z,36μm,18.6s
LVZ Lovozero 130.16 28 *i* PKIKP **PKPdf 12 06 15.6 +0.8**
LVZ Lovozero 130.16 28 PFAKE 12 06 30.0 +15
LVZ LR LR
comp=Z,30μm,22.0s
COCO West Island 130.55 167 PFAKE 12 06 30.0 +13
COCO LR LR
comp=Z,20μm,18.8s
MOS Moscow 130.83 44 *e*PKIKP **PKPdf 12 06 16.5 +0.2**
MOS *e* 12 08 34.1
MOS *e*PPP PPP 12 11 22.0
MOS *e* 12 13 26.6
MOS *e*PPS PPS 12 20 24.5
MOS MLR MLR
comp=E,41μm,21.0s
MOS MLR MLR
comp=Z,50μm,21.0s
MOS MLR MLR
comp=N,17μm,19.0s
SOEI Soe 130.91 203 PFAKE 12 06 30.0 +12
SOEI LR LR
comp=Z,35μm,20.8s
VSR Storozhevoye 131.05 50 *e*PKIKP **PKPdf 12 06 14.3 -2.6**
VSR *e* 12 06 18.6
VSR MLR MLR
comp=Z,20μm,22.0s
VSR MLR MLR
comp=N,17μm,19.0s
VSR MLR MLR
comp=E,18μm,21.0s
VORD Divnogorie 131.08 51 *e*PKIKP **PKPdf 12 06 15.4 -1.6**
VORD MLR MLR
comp=N,13μm,21.0s
VORD MLR MLR
comp=Z,21μm,21.0s
VORD MLR MLR
comp=E,11μm,20.0s
SMY Shemya 131.20 312 PFAKE 12 06 30.0 +13
SMY LR LR
comp=Z,19μm,21.8s
KIV Kislovodsk 131.84 60 ⇓*i*PKIKP **PKPdf 12 06 19.3 +0.5**
KIV *e*PP PP 12 08 46.5 +6.4
KIV *i* SS SS 12 26 14.1 -1.0
KIV Kislovodsk 131.84 60 ⇑*i*PKiKP **PKiKP 12 06 19.9 +0.1**
SNR=7.2
KIV Kislovodsk 131.84 60 PFAKE 12 06 30.0 +11
KIV LR LR
comp=Z,17μm,20.1s
KBZ Khabaz 131.93 61 PKHKP PKPpre 12 06 04.3
KBZ 12 06 18.3
KBZ Khabaz 131.93 61 PKhKP PKPpre 12 06 04.3
comp=Z,3.1nm,0.9s,baz=19,slow=3.9,SNR=4.8
KBZ PKP **PKPdf 12 06 18.3 -0.5**
comp=Z,9.9nm,1.0s,baz=200,slow=3.5,SNR=5.8
ONI Oni 132.03 62 P **PKPdf 12 06 22.4 +3.2**
ONI S **PP 12 08 39.2 -2.2**
KLMR Klimovskoe 132.23 37 *e*PKIKP **PKPdf 12 06 16.7 -2.1**
KLMR pmax pmax
comp=Z,132nm,1.6s
KLMR MLR MLR
comp=Z,34μm,20.0s
GNI Garni 132.30 66 *i* PKIKP **PKPdf 12 06 19.3 -0.6**
GNI Garni 132.30 66 PKP **PKPdf 12 06 20.1 +0.2**
comp=Z,4.4nm,0.3s,baz=173,slow=17,SNR=3.4
GNI Garni 132.30 66 ⇑*i*PKiKP **PKiKP 12 06 20.6 -0.4**
SNR=5.8
GNI Garni 132.30 66 PKP **PKPdf 12 06 20.1 +0.2**
GNI LR LR
comp=Z,24μm,20.1s
GOF Gofitskoye 132.35 59 *e*PKIKP **PKPdf 12 06 21.3 +1.7**
ZEI Tsey 132.41 62 *i* PKIKP **PKPdf 12 06 24.5 +4.5**
VRHR Novokhopersk 132.56 51 *e*PKIKP **PKPdf 12 06 18.0 -1.7**
VRHR *e* 12 06 23.2
VRHR *e* 12 08 40.7
VRHR pmax pmax
comp=Z,2μm,6.8s
VRHR pmax pmax
comp=N,260nm,4.8s
VRHR pmax pmax
comp=E,190nm,2.3s
VRHR MLR MLR
comp=Z,23μm,21.0s
VRHR MLR MLR
comp=N,5μm,20.0s
VRHR MLR MLR
comp=E,16μm,20.0s
MMRI Maumere 132.59 201 PFAKE 12 06 30.0 +8.9
MMRI LR LR

comp=Z,17μm,20.6s
TBLG Delisi 132.73 64 P **PKPdf 12 06 22.7 +2.3**
TBLG S **PP 12 08 44.2 -1.7**
XMIS Christmas Isla 133.10 179 PFAKE 12 06 30.0 +8.0
XMIS LR LR
comp=Z,46μm,21.5s
DGRG David-gareji 133.12 64 P **PKPdf 12 06 24.7 +3.5**
DGRG S PP 12 08 56.0 +7.7
JAGI Jajag, Banyuwa 134.54 191 *e*PKPdf **PKPdf 12 06 24.5 -0.2**
BILL Bilibino 134.70 333⇓*e*PKIKP **PKPdf 12 06 23.0 -0.3**
BILL *e* 12 08 57.4
BILL MLR MLR
comp=Z,20μm,21.0s
BILL Bilibino 134.70 333 PFAKE 12 06 30.0 +6.7
BILL LR LR
comp=Z,15μm,20.0s
MAK Makhachkala 135.02 63 *e*P Pdif 12 03 39.2 +13
MAK *i* 12 06 25.1
MAK *e* 12 09 00.0
MAK *e*PPP PPP 12 11 53.4
MAK *e* 12 13 33.2
MAK *e*PS **PS 12 19 14.6 -7.4**
MAK *e*SS SS 12 26 50.8 -2.5
PRGR Permogore 135.15 36 *e*PKIKP **PKPdf 12 06 23.4 -0.9**
PRGR 12 09 02.5
HATD Hatta, Dubai 135.54 91⇓*i*PKPdf **PKPdf 12 06 21.9 -4.3**
SNR=5.6
KAPI Kappang 136.74 199 PFAKE 12 06 40.0 +11
KAPI LR LR
comp=Z,13μm,19.0s
GUMO Guam 138.78 246 PFAKE 12 06 40.0 +7.6
GUMO LR LR
comp=Z,9μm,19.0s
PET Petropavlovsk 140.55 311 *e*PKHKP PKPpre 12 06 29.5
PET *e* 12 09 40.0
PET *e*PPS PPS 12 21 47.4
PET *e*SS SS 12 28 00.5 +2.3
PET Petropavlovsk 140.55 311 *e*PKPdf **PKPdf 12 06 36.1 +1.6**
PET LR LR
comp=Z,13μm,21.0s
SOKR Solikamsk 140.91 38*c i*PKHKP PKPpre 12 06 29.7
SOKR 12 09 31.3
SOKR SS SS 12 28 02.1 +0.3
SOKR pmax pmax
comp=Z,10.0nm,1.1s
PEA0 Petropavlovsk- 141.12 312 *e*PKPdf **PKPdf 12 06 36.1 +0.5**
PETK Petropavlovsk- 141.12 312 PKIKP **PKPdf 12 06 33.4 -2.1**
PETK Petropavlovsk- 141.12 312 PKP **PKPdf 12 06 33.4 -2.1**
comp=Z,3.9nm,0.9s,baz=57,slow=5.3,SNR=4.0
TRD Trivandrum 141.16 129 *e*P **PKPdf 12 06 34.9 -2.0**
SEY Seymchan 141.72 328 PKHKP PKPpre 12 06 29.2
SEY 12 06 36.6
SEY Seymchan 141.72 328 PKhKP PKPpre 12 06 29.2
comp=Z,5.4nm,0.8s,baz=172,slow=3.2,SNR=6.6
SEY PKP **PKPdf 12 06 36.6 +0.3**
comp=Z,24nm,1.0s,baz=55,slow=6.0,SNR=11
GEYT Alibeck 141.79 73 PKhKP PKPpre 12 06 30.2
comp=Z,15nm,0.9s,baz=262,slow=4.5,SNR=16
PALK Pallekele 142.43 135 PKHKP PKPpre 12 06 34.5
PALK *e* 12 06 36.6
PALK Pallekele 142.43 135 PKhKP PKPpre 12 06 34.5
comp=Z,12nm,0.9s,baz=213,slow=7.5,SNR=3.6
PALK Pallekele 142.43 135⇓*i*PKPdf PKPpre 12 06 33.4
SNR=9.7
PALK Pallekele 142.43 135 PKPpre PKPpre 12 06 34.5
PALK *e*PKPdf **PKPdf 12 06 36.6 -2.6**
ARU Arti 142.50 43 *i*PKIKP **PKPdf 12 06 37.6 -0.3**
ARU 12 09 40.9
ARU MLR MLR
comp=Z,47μm,21.0s
ARU Arti 142.50 43 PFAKE 12 06 50.0 +12
ARU LR LR
comp=Z,45μm,20.0s
AKTO Aktyubinsk 142.90 53 PKHKP PKPpre 12 06 30.1
AKTO pmax pmax
comp=Z,44nm,1.0s
MNGI Mangalore 143.04 121 *e*x PKPab 12 06 31.4 -4.0
MNGI *e*x x 12 16 35.4
MNGI *e*x x 12 29 42.1
comp=E,6μm,19.9s
TIXI Tiksi 143.09 348 *i*PKIKP **PKPdf 12 06 38.3 -0.2**
TIXI MLR MLR
comp=Z,10μm,19.0s
GOA Goa 144.09 117 *e*P PKPbc 12 06 40.3 +0.4
AB31 Akbulak array 144.20 54 *i*PKIKP **PKPab 12 06 38.8 -0.2**
KSM Kuching 144.81 187⇓P **PKPab 12 06 42.0 -0.2**
KSM Kuching 144.81 187 PFAKE 12 06 50.0 +6.7
KSM LR LR
comp=Z,11μm,20.0s
MYKOM Kota Tinggi 145.21 175⇓P **PKPbc 12 06 42.9 -0.6**
MYKOM Kota Tinggi 145.21 175 *e*PKPbc **PKPbc 12 06 42.2 -1.4**
KGM Kluang 145.39 174⇓P **PKPbc 12 06 43.7 -0.5**
SBUM Sibu 145.55 190⇓P **PKPbc 12 06 44.7 0.0**
BHJ Bhuj 145.57 102 *e*P **PKPdf 12 06 44.0 -0.3**
PSI Prapat 145.57 166 PKIKP **PKPdf 12 06 43.9 -0.9**
PSI Prapat 145.57 166 PKPbc **PKPdf 12 06 43.9 -0.9**
comp=Z,160nm,0.9s,baz=181,slow=3.3,SNR=44
DAV Davao City (W) 145.80 215 PFAKE 12 07 00.0 +14
DAV LR LR
comp=Z,8μm,19.0s
POO Poona 146.07 113 *e*P **PKPdf 12 06 43.7 -1.7**
POO ⇓*i*PKP **PKPbc 12 06 44.0 -2.2**
comp=Z,250nm,1.2s
FRIM Kepong 146.42 171⇓P **PKPdf 12 06 46.7 +0.6**
CTBH Cotabato--PC H 146.54 213⇑*e*P PKPdf 12 06 40.2 -6.1
MDRS Chennai 146.71 128 *e*P **PKPdf 12 06 44.2 -2.3**
MDRS *e*x x 12 54 44.2
MYLDM Lahad Datu 146.80 202 *e*PKPdf **PKPab 12 06 49.1 -0.6**
SDKM Sandakan 147.62 200⇓P **PKPbc 12 06 49.5 -1.3**
KUR Kuril'sk 147.94 299*d i*PKIKP **PKPdf 12 06 46.5 -1.1**
KUR *i* 12 13 47.8
KUR MLR MLR
comp=N,4μm,18.0s
KUR MLR MLR
comp=E,7μm,18.0s
KUR MLR MLR
comp=Z,4μm,18.0s
LATR Latur 147.98 116 *e*x **PKPdf 12 06 48.0 -0.5**
KKM Kota Kinabalu 148.26 199 PFAKE 12 07 00.0 +4.5
KKM LR LR
comp=Z,10μm,20.0s
KULM Kulim 148.31 169⇓P **PKPbc 12 06 51.8 -0.8**
KULM Kulim 148.31 169 PFAKE 12 07 00.0 +4.4
KULM LR LR
comp=Z,20μm,20.0s
CMBY CAMPBELL BAY 148.31 156 *e*P **PKPdf 12 06 47.1 -2.1**
KTGM Kuala Trenggan 148.65 173⇓P **PKPbc 12 06 52.7 -0.8**
HYB Hyderabad 148.72 120 *i*PKP **PKPdf 12 06 48.0 -1.8**
comp=Z,230nm,1.0s
HYB Hyderabad 148.72 120 *e*P **PKPdf 12 06 48.8 -1.0**
YUK Yuzh-Kuril'sk 149.38 296 *i*PKIKP PKPdf 12 06 44.6 -5.4
YUK *i*SS SS 12 29 43.4 +3.6
YUK *i*SSS SSS 12 35 21.7
BRVK Borovoye 149.92 45 *e*PKPdf **PKPdf 12 06 50.3 -0.2**
BRVK LR LR
comp=Z,56μm,20.0s
BVA0 Borovoye Array 149.99 45 *i*PKHKP PKPpre 12 06 50.2
VOSK Vostochnaya 150.43 46 *e*PKIKP **PKPdf 12 06 51.0 -0.4**
VOSK Vostochnaya 150.43 46 *e*PKPdf **PKPdf 12 06 51.0 -0.4**
YAK Yakutsk 150.80 338 *e*PKIKP **PKPdf 12 06 53.5 +1.9**
YAK *e* 12 10 36.9
YAK *e*PPP PPP 12 13 59.8
YAK *e*SSS SSS 12 35 31.3
YAK pmax pmax
comp=E,590nm,6.6s
YAK pmax pmax
comp=N,834nm,7.0s
YAK pmax pmax
comp=Z,3μm,8.7s
AJM Ajmer 151.10 101 *i*x **PKPbc 12 06 59.0 -0.2**
ERM Erimo 151.34 292 PFAKE 12 07 00.0 +0.9
ERM LR LR
comp=Z,27μm,20.0s
YSS Yuzh-Sakhalins 151.35 302α*i*PKIKP **PKPdf 12 06 54.0 +1.0**
YSS *i* 12 07 02.2
YSS *e* 12 07 08.2
YSS *e* 12 10 44.0
YSS *i*SS SS 12 30 06.0 +4.5
YSS *e* 12 35 52.0
NGP Nagpur 151.52 115 *e*P **PKPdf 12 06 52.1 -2.0**
BHPL Bhopal 151.56 110 *e*P **PKPdf 12 06 53.7 -0.4**
BHPL AMS AMS 13 25 52.2
comp=Z,10μm,20.0s

ASAJ Asahikawa 151.73 297 PKP **PKPdf 12 06 55.0 +1.3**
comp=Z,40nm,0.9s,baz=260,slow=13,SNR=6.2
ASAJ PKPbc **PKiKP 12 07 00.6 +0.2**
comp=Z,42nm,0.9s,baz=256,slow=12,SNR=16
ASAJ Asahikawa 151.73 297 PKP **PKPdf 12 06 55.0 +1.3**
ASAJ PKPbc **PKiKP 12 07 00.6 +0.2**
ASAJ *e*PKPab **PKPab 12 07 09.8 +0.8**
KK31 Karatay Array 151.76 66 *i*PKIKP **PKPdf 12 06 53.4 -0.4**
KKAR Karatay Array 151.76 66 *e*PKIKP **PKPbc 12 06 59.4 -0.8**
KKAR *e* 12 07 08.9
KKAR Karatay Array 151.76 66 *e*PKPbc **PKPbc 12 06 59.4 -0.8**
KKAR *e*PKPab **PKPab 12 07 08.9 -0.3**
VIS Vishakhapatnam 152.15 126 *e*P **PKPdf 12 06 52.4 -2.7**
VIS AMS AMS 13 15 23.8
comp=Z,19μm,16.5s
PBA Port Blair 152.16 150 *e*P PKPdf 12 06 53.4 -1.7
PBA AMS AMS 13 21 08.0
comp=Z,23μm,9.4s
DGPR DIGLIPUR 153.61 149 *e*P **PKPdf 12 06 55.5 -1.8**
DGPR AMS AMS 13 21 47.2
comp=Z,17μm,18.8s
NDI New Delhi 154.13 99 *e*P **PKPdf 12 06 57.0 -0.7**
AML Almayashu 154.13 68 P **PKPdf 12 06 57.7 -0.1**
SNR=7.4
EKS2 Erkin-Say 154.18 66 P **PKPdf 12 06 57.8 +0.4**
SNR=9.3
EKS2 Erkin-Say 154.18 66 *e*PKIKP **PKPbc 12 07 04.8 -0.9**
EKS2 *e* 12 07 19.1
EKS2 MLR MLR
comp=Z,33μm,21.0s
EKS2 Erkin-Say 154.18 66 *e*PKPbc **PKPbc 12 07 04.8 -0.9**
EKS2 *e*PKPab **PKPab 12 07 19.1 -0.4**
EKS2 LR LR
comp=Z,33μm,21.0s
MJAR Matsushiro Arr 154.64 279 PKIKP **PKPdf 12 06 57.0 -1.1**
MJAR Matsushiro Arr 154.64 279 PKP **PKPdf 12 06 57.0 -1.1**
comp=Z,1.6nm,0.9s,baz=270,slow=0.1,SNR=4.7
MAJO Matsushiro 154.64 279 *e*PKIKP **PKPdf 12 06 57.9 -0.3**
MAJO *e* 12 07 22.2
MAJO MLR MLR
comp=Z,20μm,20.0s
MAJO Matsushiro 154.64 279 *e*PKPdf **PKPdf 12 06 57.9 -0.3**
MAJO *e*PKPab **PKPab 12 07 22.2 +0.6**
MAJO LR LR
comp=Z,20μm,20.0s
MAT Matsushiro 154.64 279 PKP **PKPdf 12 06 57.9 -0.3**
AAK Ala-Archa 154.71 66 P **PKPdf 12 06 57.8 -0.4**
SNR=5.9
AAK Ala-Archa 154.71 66 PKIKP **PKPdf 12 06 58.0 -0.3**
AAK *e* 12 07 05.5
AAK MLR MLR
comp=Z,31μm,20.0s
AAK Ala-Archa 154.71 66 PKP **PKPdf 12 06 58.0 -0.3**
comp=Z,7.7nm,0.9s,baz=208,slow=1.2,SNR=17
AAK Ala-Archa 154.71 66 PKP **PKPdf 12 06 58.0 -0.3**
AAK *e*PKPbc **PKPbc 12 07 05.5 -1.3**
AAK *e*PKPab **PKPab 12 07 22.0 +0.2**
AAK LR LR
comp=Z,31μm,20.0s
DHRM DHARAMSHALA 154.72 91 *e*P **PKPdf 12 06 57.0 -1.7**
DHRM AMS AMS 13 23 24.9
comp=Z,14μm,21.8s
UCH Uchtor 154.74 67 P **PKPdf 12 06 59.2 +0.5**
SNR=16
FRU Bishkek 154.78 66 *i*PKIKP **PKPdf 12 06 58.0 -0.2**
FRU *i* 12 07 05.0
FRU *i* 12 07 21.0
FRU *i* 12 11 01.0
FRU pmax pmax
comp=Z,430nm,2.6s
KBK Karagaybulak 155.04 66 P **PKPdf 12 06 58.9 +0.1**
SNR=9.2
SMLA Simla 155.05 94 *i*P **PKPdf 12 06 58.5 -0.3**
SMLA AMS AMS 13 13 44.3
comp=Z,14μm,19.3s
KZA Kyzart 155.29 68 P **PKPdf 12 06 59.1 -0.2**
SNR=12
DLV T Lat 155.32 185 *e*PKPdf **PKPdf 12 07 00.3 +0.4**
DLV *e*PKPab **PKPab 12 07 24.4 -0.6**
DDI Dehra Dun 155.46 97 *e*P **PKPdf 12 06 58.9 -0.6**
DDI AMS AMS 13 26 14.0
comp=Z,12μm,21.0s
TKM2 Tokmak 2 155.50 66 P **PKPdf 12 06 58.7 -0.7**
SNR=16
TKM2 Tokmak 2 155.50 66 PKIKP **PKPdf 12 06 59.2 -0.2**
TKM2 pmax pmax
comp=Z,37nm,1.4s
TKM2 Tokmak 2 155.50 66 *e*PKPab **PKPab 12 07 24.9 -0.4**
KURK Kurchatov 155.59 46 PFAKE 12 07 10.0 +11
KURK LR LR
comp=Z,13μm,19.0s
NVS Novosibirsk 155.80 34⇑*i*PKIKP **PKPdf 12 06 57.4 -1.7**
NVS *i* 12 11 02.7
KSH Kashi 155.82 74⇑*i*PKP **PKPdf 12 06 59.2 -0.6**
KSH sPKP 12 07 13.0
KSH PKS **PKSdf 12 10 33.0 -0.9**
KSH PP **PP 12 11 01.5 -2.8**
KSH SKS **SKSdf 12 14 02.0 -2.9**
KSH SKKS **SKKSac 12 17 48.4 -3.9**
KSH SS SS 12 30 43.7 -7.6
KSH PPMZ
comp=Z,6μm,5.8s
KSH LN
comp=Z,5μm,19.1s
KSH LE
comp=Z,6μm,20.8s
KSH LZ
comp=Z,13μm,23.7s
ULHL Ulahol 156.02 67 P **PKPdf 12 07 00.9 +0.8**
SNR=5.3
CLNS Chul'man 156.37 334 *e*PKIKP **PKPdf 12 06 59.9 0.0**
ZAA0 Zalesovo Array 157.08 34 *e*PKPdf **PKPdf 12 06 58.9 -1.9**
ZALV Zalesovo Beam 157.08 34 PKIKP **PKPdf 12 06 59.4 -1.4**
ZALV Zalesovo Beam 157.08 34 PKP **PKPdf 12 06 59.4 -1.4**
comp=Z,26nm,0.9s,baz=280,slow=2.6,SNR=63
ZALV PKPab **PKPab 12 07 32.0 +0.6**
comp=Z,28nm,0.8s,baz=307,slow=4.5,SNR=5.8
KLR Kul'dur 157.81 312 *e*PKIKP PKPdf 12 06 54.8 -7.1
KLR *e* 12 24 33.5
BOK Bokaro 158.07 120 *e*P **PKPdf 12 06 60.0 -3.0**
BOK AMS AMS 13 20 40.4
comp=Z,14μm,15.1s
BOD Bodaibo 158.27 349 *e*PKIKP **PKPdf 12 06 58.9 -3.2**
BOD *e* 12 07 34.7
BOD *e* 12 11 15.4
KOLN Koldanda 158.69 108 *e*P **PKPdf 12 07 02.5 -1.4**
comp=Z,119nm,1.3s
DANN Dangsing 159.10 107 *e*P **PKPdf 12 07 03.6 -0.9**
comp=Z,190nm,1.2s
MK31 Makanchi Array 159.34 53 *i*PKIKP **PKPdf 12 07 03.1 -0.7**
MKAR Makanchi Array 159.34 53 PKIKP **PKPdf 12 07 03.0 -0.8**
MKAR 12 11 23.2
MKAR Makanchi Array 159.34 53 PKP **PKPdf 12 07 03.0 -0.8**
comp=Z,7.9nm,0.9s,baz=295,slow=1.7,SNR=61
MKAR PKPab **PKPab 12 07 41.4 -0.1**
comp=Z,40nm,0.9s,baz=291,slow=1.8,SNR=10.0
MKAR PP **PP 12 11 23.2 +0.2**
comp=Z,11nm,0.9s,baz=266,slow=3.5,SNR=4.4
MK01 Makanchi Array 159.35 53 *e*PKPdf **PKPdf 12 07 02.5 -1.4**
GKN Gorkha 159.60 109 *e*P **PKPdf 12 07 03.7 -1.2**
comp=Z,150nm,1.5s
DMN Daman 159.75 110 *e*P **PKPdf 12 07 04.3 -0.9**
comp=Z,91nm,1.2s
PKIN Phulchoki 159.95 111 *e*P **PKPdf 12 07 04.5 -1.0**
PKI Pulchoki 159.96 111 *e*P **PKPdf 12 07 04.3 -1.2**
KKN Kakani 159.98 110 *e*P **PKPdf 12 07 04.2 -1.2**
GUN Gumba 160.49 111 *e*P **PKPdf 12 07 04.0 -2.2**
RAMN Ramite 160.50 114 *e*P **PKPdf 12 07 05.5 -0.6**
JIRN Jiri 160.59 112 *e*P **PKPdf 12 07 05.1 -1.2**
comp=Z,127nm,1.5s
CM01 Chiang Mai Arr 160.63 158 *e*PKPdf **PKPdf 12 07 03.9 -2.2**
CMAR Chiang Mai Arr 160.66 158 PKIKP **PKPdf 12 07 04.1 -2.0**
CMAR 12 07 48.6
CMAR Chiang Mai Arr 160.66 158 PKP **PKPdf 12 07 04.1 -2.0**
comp=Z,1.3nm,0.3s,baz=266,slow=2.6,SNR=8.0
CMAR PKPab **PKPab 12 07 48.5 +0.8**
comp=Z,4.2nm,0.4s,baz=214,slow=3.8,SNR=6.5
MDJ Mudanjiang 160.84 302 PKP **PKPdf 12 07 06.6 +1.1**
MDJ pPKP **pPKPdf 12 07 16.5 +3.5**
MDJ LN
comp=Z,9μm,27.1s
MDJ LE
comp=Z,7μm,23.5s
MDJ LZ
comp=Z,18μm,25.3s
MDJ Mudanjiang 160.84 302 PFAKE 12 07 20.0 +14
MDJ LR LR
comp=Z,19μm,20.0s
CHTO Chiang Mai 161.00 157 *e*PKIKP **PKPdf 12 07 06.0 -0.5**
CHTO *e* 12 07 49.7
CHTO MLR MLR
comp=Z,18μm,20.0s
CHTO Chiang Mai 161.00 157 *e*PKPdf **PKPdf 12 07 06.0 -0.5**
CHTO *e*PKPab **PKPab 12 07 49.6 +0.5**
CHTO LR LR
comp=Z,18μm,20.0s
ODAN Odare 161.03 116 *e*P **PKPdf 12 07 06.0 -0.6**
TAPN Taplejung 161.54 115 *e*P **PKPdf 12 07 06.3 -0.9**
QIZ Qiongzhong 162.19 190 PKP **PKPdf 12 07 07.9 +0.2**
QIZ pPKP **pPKPdf 12 07 19.3 +4.1**
QIZ LN
comp=Z,7μm,19.6s
QIZ LZ
comp=Z,13μm,20.5s
QIZ Qiongzhong 162.19 190 PFAKE 12 07 20.0 +12
QIZ LR LR
comp=Z,15μm,21.0s
KSRS Korea Array 162.92 279 PKP **PKPdf 12 07 05.0 -2.8**
comp=Z,1.9nm,0.8s,baz=343,slow=1.3,SNR=5.0
KS01 Wonju Array Si 162.95 279 *e*PKPdf **PKPdf 12 07 06.5 -1.4**
KSAR Wonju Array Be 162.95 279 PKIKP **PKPdf 12 07 05.1 -2.8**
KSAR Wonju Array Be 162.95 279 PKP **PKPdf 12 07 05.0 -2.8**
SHL Shillong 163.28 127 *e*P **PKPdf 12 07 07.3 -1.5**
SHL AMS AMS 13 25 37.3
comp=Z,12μm,17.6s
CN2 Changchun 163.93 302 *e*PKP **PKPdf 12 07 09.2 +0.6**
CN2 SKKS 12 18 30.1
CN2 LN
comp=Z,6μm,18.0s
CN2 LE
comp=Z,10μm,18.0s
WMQ Urumqi 163.95 58 PKP **PKPdf 12 07 09.3 +0.5**
WMQ PKPab **PKPab 12 08 02.2 +0.4**
WMQ PKS **PKSdf 12 10 41.9 +0.2**
WMQ PP **PP 12 11 50.0 +2.1**
WMQ SKS **SKSdf 12 14 08.5 -3.4**
WMQ SKKS **SKKSac 12 18 32.0 -2.1**
WMQ SS **SS 12 32 10.0 -6.2**
WMQ PPMZ
comp=Z,9μm,13.0s
WMQ LN
comp=Z,22μm,23.0s
WMQ LE
comp=Z,12μm,21.0s
WMQ LZ
comp=Z,23μm,21.0s
INCN Inchon 163.95 279 PFAKE 12 07 20.0 +11
INCN LR LR
comp=Z,15μm,21.0s
HIA Hailar 164.16 327 PFAKE 12 07 20.0 +11
HIA LR LR
comp=Z,24μm,20.0s
HKC Hong Kong Obse 164.23 207 PKPdf **PKPdf 12 07 10.0 +0.4**
IRK Irkutsk 164.34 5 *e*PKIKP **PKPdf 12 07 10.8 +2.0**
IRK *e* 12 11 54.3
IRK *e* 12 15 46.7
QZH Quanzhou 164.41 225 *i*PKP **PKPdf 12 07 09.4 -0.2**
QZH PKPab PKPab 12 08 10.2 +6.1
QZH SKKS 12 18 33.0
QZH PPMZ
comp=Z,7μm,10.8s
QZH LN
comp=Z,22μm,17.7s
QZH LE
comp=Z,11μm,20.7s
QZH LZ
comp=Z,29μm,20.6s
MOY Mondy 164.49 13 *e*PKIKP **PKPdf 12 07 11.2 +2.1**
SLVN Son La 164.55 171 *e*PKPdf **PKPdf 12 07 09.3 -0.7**
SLVN *e*PKPab **PKPab 12 08 04.3 -0.5**
TLY Talaya 164.85 7 *i*PKIKP **PKPdf 12 07 09.3 +0.1**
TLY *e* 12 08 04.0
TLY *e* 12 11 54.9
TLY *e*PPS PPS 12 25 31.1
TLY *e*SS SS 12 32 18.0 -5.2
TLY Talaya 164.85 7 PKP **PKPdf 12 07 08.3 -0.9**
comp=Z,1.4nm,0.7s,baz=262,slow=6.0,SNR=3.1
TLY Talaya 164.85 7 *e*PKPdf **PKPdf 12 07 08.3 -0.9**
TLY *e*PKPab PKPab 12 08 11.3 +6.0
GZH Guangzhou 165.25 205 PKP **PKPdf 12 07 14.0 +3.6**
GZH PP **PP 12 11 57.3 +3.7**
GZH SKS **SKSdf 12 14 12.5 -1.0**
GZH LN
comp=Z,11μm,18.0s
GZH LE
comp=Z,20μm,18.9s
LSA Lhasa 165.36 114 PKP **PKPdf 12 07 10.9 -0.1**
LSA LN
comp=Z,8μm,22.3s
LSA LE
comp=Z,10μm,22.3s
LSA LZ
comp=Z,26μm,21.3s
LSA Lhasa 165.36 114 *e*PKIKP **PKPdf 12 07 11.3 +0.3**
LSA MLR MLR
comp=Z,29μm,21.0s
LSA Lhasa 165.36 114 *e*PKPdf **PKPdf 12 07 11.3 +0.3**
LSA *e*PKPab **PKPab 12 08 11.2 +2.3**
LSA LR LR
comp=Z,29μm,21.0s
ZAK Zakamensk 166.09 9 *e*PKIKP **PKPdf 12 07 09.3 -1.1**
ZAK *e* 12 08 11.1
SSE Sheshan 166.63 250⇑PKP **PKPdf 12 07 11.9 +0.6**
DL2 Dalian 167.86 285 PKP **PKPdf 12 07 11.9 0.0**
DL2 LN
comp=Z,3μm,20.1s
DL2 LE
comp=Z,7μm,20.4s
DL2 LZ
comp=Z,10μm,19.6s
KMI Kunming 168.04 163 PKP **PKPdf 12 07 12.1 -0.7**
ULN Ulaanbaatar 168.80 358 *e*PKIKP **PKPdf 12 07 10.9 -1.6**
ULN *e* 12 08 23.3
ULN Ulaanbaatar 168.80 358 *e*PKPdf **PKPdf 12 07 10.9 -1.6**
ULN *e*PKPab **PKPab 12 08 23.3 +0.3**
SONA1 Songino Array 168.83 1 *e*PKPdf **PKPdf 12 07 10.9 -1.6**
SONM Songino Array 168.84 1 PKIKP **PKPdf 12 07 10.8 -1.7**
SONM 12 08 23.7
SONM 12 12 13.9
SONM Songino Array 168.84 1 PKP **PKPdf 12 07 10.8 -1.7**
comp=Z,4.3nm,0.9s,baz=347,slow=0.6,SNR=12
SONM PKPab **PKPab 12 08 23.7 +0.6**
comp=Z,7.5nm,0.8s,baz=348,slow=3.8,SNR=9.0
SONM PP **PP 12 12 13.9 +1.9**
comp=Z,5.3nm,1.0s,baz=48,slow=2.1,SNR=3.6
NJ2 Nanjing 168.84 249 *e*PKP **PKPdf 12 07 14.6 +1.8**
NJ2 pPKP **pPKPdf 12 07 22.6 +2.3**
NJ2 PKPab **PKPab 12 08 28.5 +4.9**
NJ2 PP **PP 12 12 16.0 +2.7**
NJ2 SKS **SKSdf 12 14 13.5 -1.7**
NJ2 PPMZ
comp=Z,3μm,6.9s
NJ2 LN
comp=Z,9μm,17.8s
NJ2 LE
comp=Z,17μm,17.8s
GYA Guiyang 169.82 181 *i*PKP **PKPdf 12 07 14.4 +0.6**
GYA pPKP **pPKPdf 12 07 25.0 +3.8**
GYA PKPab **PKPab 12 08 28.3 +0.3**
GYA PKS **PKSdf 12 10 44.8 -1.6**
GYA PP **PP 12 12 20.6 +3.7**
GYA SKKS 12 19 03.5
GYA PPMZ
comp=Z,2μm,8.7s
GYA LN
comp=Z,6μm,23.3s
GYA LE
comp=Z,13μm,24.2s
GYA LZ
comp=Z,14μm,24.5s
WHN Wuhan 171.08 229 PKP **PKPdf 12 07 14.7 +0.5**
WHN PKPab **PKPab 12 08 37.8 +4.3**
WHN PP **PP 12 12 28.7 +4.7**
TIA Tai'an 171.47 270 PKP **PKPdf 12 07 15.8 +1.6**
TIA SKKS 12 19 12.8
TIA SS **SS 12 33 28.4 -4.2**
TIA PPMZ
comp=Z,7μm,14.3s

TIA				LN			
	comp=Z,7μm,19.6s						
TIA				LE			
	comp=Z,13μm,21.4s						
TIA				LZ			
	comp=Z,17μm,20.8s						
BJI	**Beijing**	**171.72**	**297**	PKP	**PKPdf**	**12 07 12.3**	**-1.9**
BJI				PP	**PP**	**12 12 28.9**	**+1.3**
BJI				LN			
	comp=Z,16μm,27.2s						
BJI				LE			
	comp=Z,19μm,26.4s						
BJI				LZ			
	comp=Z,12μm,28.1s						
BJT	**Baijiatuau**	**171.74**	**297**	PFAKE		12 07 20.0	+5.8
BJT				LR	LR		
	comp=Z,26μm,20.0s						
ENH	**Enshi**	**173.17**	**202**	*e*PKPdf	**PKPdf**	**12 07 14.3**	**-0.9**
ENH				*e*PKPab	**PKPab**	**12 08 46.2**	**+3.5**
ENH				LR	LR		
	comp=Z,12μm,20.0s						
CD2	**Chengdu**	**173.81**	**157**	PKP	**PKPdf**	**12 07 15.5**	**+0.1**
CD2				pPKP	**pPKPdf**	**12 07 21.2**	**-1.7**
CD2				sPKP		12 07 27.4	
CD2				PKPab	**PKPab**	**12 08 46.8**	**+1.3**
CD2				SKS	**SKSdf**	**12 14 13.9**	**-3.5**
CD2				SKKS	**SKKSac**	**12 19 21.8**	**-0.9**
CD2				PPMZ			
	comp=Z,10μm,11.6s						
CD2				LN			
	comp=Z,25μm,19.0s						
CD2				LE			
	comp=Z,18μm,17.8s						
CD2				LZ			
	comp=Z,21μm,21.4s						
GTA	**Gaotai**	**174.02**	**61**	⇑PKP	**PKPdf**	**12 07 14.8**	**-0.6**
GTA				pPKP	**pPKPdf**	**12 07 25.7**	**+2.9**
GTA				sPKP		12 07 29.5	
GTA				PKPab	**PKPab**	**12 08 47.2**	**+0.6**
GTA				PP	**PP**	**12 12 40.3**	**+1.3**
GTA				SKS	**SKSdf**	**12 14 12.7**	**-4.5**
GTA				SKKS	**SKKSac**	**12 19 21.3**	**-2.7**
GTA				SS	**SS**	**12 33 51.3**	**-5.7**
GTA				PPMZ			
	comp=Z,11μm,10.4s						
GTA				LN			
	comp=Z,20μm,20.4s						
GTA				LE			
	comp=Z,18μm,20.4s						
GTA				LZ			
	comp=Z,30μm,19.9s						
HHC	**Hu-ho-hao-te**	**174.28**	**318**	*e*PKP	**PKPdf**	**12 07 15.9**	**+0.5**
HHC				PP	**PP**	**12 12 41.6**	**+1.9**
HHC				PPMZ			
	comp=Z,6μm,9.8s						
HHC				LN			
	comp=Z,15μm,22.4s						
HHC				LE			
	comp=Z,17μm,21.0s						
HHC				LZ			
	comp=Z,22μm,19.4s						
TIY	**Taiyuan**	**175.19**	**284**	*e*PKP	**PKPdf**	**12 07 17.6**	**+1.9**
TIY				SKKS		12 19 27.1	
TIY				PPMZ			
	comp=Z,5μm,8.5s						
TIY				LN			
	comp=Z,8μm,19.0s						
TIY				LE			
	comp=Z,6μm,20.8s						
TIY				LZ			
	comp=Z,16μm,21.9s						
BTO	**Baotou**	**175.22**	**326**	*e*PKP	**PKPdf**	**12 07 16.2**	**+0.6**
XAN	**Xi'an**	**176.74**	**217**	PKP	**PKPdf**	**12 07 14.5**	**-1.6**
XAN				PKPab	**PKPab**	**12 09 01.3**	**+2.7**
XAN				PKS	**PKSdf**	**12 10 45.2**	**-3.1**
XAN				PP	**PP**	**12 12 55.3**	**+4.1**
XAN				SKKS		12 19 36.3	
XAN				SS	**SS**	**12 34 20.9**	**-0.7**
XAN				LN			
	comp=Z,10μm,20.8s						
XAN				LE			
	comp=Z,6μm,20.8s						
XAN				LZ			
	comp=Z,6μm,20.8s						
LZH	**Lanzhou**	**177.74**	**104**	*e*PKP	**PKPdf**	**12 07 20.3**	**+3.9**
LZH				PP	**PP**	**12 13 01.0**	**+3.8**
LZH				SKKS		12 19 46.0	
LZH				PPMZ			
	comp=Z,11μm,7.9s						
LZH				LN			
	comp=Z,18μm,16.8s						
LZH				LE			
	comp=Z,12μm,17.4s						
LZH				LZ			
	comp=Z,24μm,19.6s						

*IDC **05** 12:01:46.6±0.5, 37°.42S×73°.59W, h0km, mb4.7/20, mb1 4.8/21, mb1mx4.7/30, mbtmp4.7/21, ML3.8/1, MS5.9/2, Ms1 5.9/2, ms1mx5.0/37, Error ellipse: s-maj=19.6km s-min=13.0km az=77.0*

*ISCJB **05** 12:01:49.7±0.2, 37°.39S±0°.04×73°.50W±0°.06, h23km, mb5.1/94, MS5.9/2, Error ellipse: s-maj=6.6km s-min=5.1km az=159.3*

*MOS **05** 12:01:51.9±1.1, 37°.40S×73°.50W, h33km, mb5.4/27, Error ellipse: s-maj=18.6km s-min=8.2km az=104.8*

*NEIC **05** 12:01:53.1±0.2, 37°.44S×73°.51W, h35km, mb5.2/76, Error ellipse: s-maj=8.3km s-min=5.1km az=62.0*

NEIC Felt [III] at Temuco. Also felt at Chillan and Santiago.

ISC 05 12:01:51.1±0.3, 37°.43S±0°.05×73°.56W±0°.08, h23km, n494, σ0997/508, mb5.2/94, 146C-123D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.05**	**146**	Pn	**Pn**	**12 02 53.9**	**+2.2**
	11nm,0.3s,baz=313,slow=9.2,SNR=12						
CFAA	**Coronel Fontan**	**7.28**	**39**	Pn	Pn	12 03 30.4	-5.6
	0.8nm,0.3s,baz=277,slow=6.8,SNR=11						
CFAA				Sn	**Sn**	**12 04 58.4**	**+0.3**
	1.1nm,0.3s,baz=234,slow=14,SNR=3.4						
CFAA				Lg	Lg	12 05 28.5	
	0.6nm,0.3s,baz=299,slow=19,SNR=5.9						
TRQA	**Tornquist**	**9.20**	**97**	*e*Pn	**Pn**	**12 04 04.1**	**+1.8**
LVC	**Limon Verde**	**15.30**	**16**	*e*Pn	**Pn**	**12 05 27.9**	**+2.0**
	351nm,2.1s						
LVC				*e*Sn	**Sn**	**12 08 13.0**	**-1.8**
CPUP	**Villa Florida**	**17.65**	**56**	*e*P	**P**	**12 05 57.3**	**+1.1**
CPUP				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CPUP	**Villa Florida**	**17.65**	**56**	P	**P**	**12 05 57.1**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=217,slow=11,SNR=12						
CPUP	**Villa Florida**	**17.65**	**56**	*e*Pn	**P**	**12 05 57.3**	**+1.1**
	comp=Z,5.9nm,1.1s						
USHA	**Ushuaia**	**17.76**	**170**	P	**Pn**	**12 05 56.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=335,slow=11,SNR=6.1						
EFI	**East Falkland**	**17.97**	**147**	P	**P**	**12 05 59.9**	**+0.3**
	comp=Z,920nm,1.3s,SNR=12						
EFI	**East Falkland**	**17.97**	**147**	*e*P	**P**	**12 05 59.7**	**+0.1**
EFI				pmax	pmax		
	comp=Z,186nm,1.0s						
EFI	**East Falkland**	**17.97**	**147**	*e*P	**P**	**12 05 59.7**	**+0.1**
	comp=Z,186nm,1.0s						
LPAZ	**La Paz**	**21.60**	**14**	*e*P	**P**	**12 06 40.1**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,59nm,0.9s						
LPAZ	**La Paz**	**21.60**	**14**	P	**P**	**12 06 39.8**	**-0.2**
	comp=Z,17nm,1.0s,baz=191,slow=9.5,SNR=8.6						
LPAZ	**La Paz**	**21.60**	**14**	*e*P	**P**	**12 06 40.1**	**+0.1**
	comp=Z,59nm,0.9s						
SIV	**San Ignacio**	**24.04**	**31**	P	**P**	**12 07 04.8**	**+0.2**
	comp=Z,23nm,1.0s,baz=220,slow=11,SNR=10						
SIV				LR	LR	12 18 26.0	
	comp=Z,23μm,18.6s,baz=181,slow=42						
NNA	**Nana**	**25.50**	**353**	*e*P	**P**	**12 07 18.0**	**+0.2**
NNA				pmax	pmax		
	comp=Z,51nm,1.4s						
NNA	**Nana**	**25.50**	**353**	*e*P	**P**	**12 07 18.0**	**+0.2**
	comp=Z,51nm,1.4s						
SAML	**Samuel**	**29.87**	**21**	*e*P	P	12 08 00.7	+3.8
ATAH	**Atahualpa**	**30.47**	**351**	P	**P**	**12 08 02.7**	**0.0**
	comp=Z,6.5nm,0.8s,baz=164,slow=7.4,SNR=3.3						
BDFB	**Brasilia**	**31.33**	**53**	P	**P**	**12 08 09.9**	**0.0**
	comp=Z,33nm,1.1s,baz=158,slow=11,SNR=3.0						

OTAV	**Otavalo**	**37.75**	**352**	*e*P	**P**	**12 09 07.2**	**+1.3**
	comp=Z,146nm,1.6s						
ROSC	**El Rosal**	**42.07**	**359**	P	**P**	**12 09 43.8**	**+2.2**
	comp=Z,4.8nm,0.4s,baz=90,slow=20,SNR=2.1						
SDV	**Santo Domingo**	**46.15**	**4**	*e*P	**P**	**12 10 13.3**	**-0.8**
RCBR	**Riachuelo**	**46.52**	**57**	*e*P	**P**	**12 10 17.7**	**+0.8**
VNA3	**Neumayer Olymp**	**46.69**	**156**	P	**P**	**12 10 16.8**	**-0.8**
VNA2	**Neumayer--Watz**	**47.37**	**156**	P	**P**	**12 10 22.1**	**-0.8**
JTS	**JuntasAbangare**	**48.65**	**345**	*e*P	**P**	**12 10 34.2**	**+0.8**
JTS				pmax	pmax		
	comp=Z,58nm,1.3s						
JTS	**JuntasAbangare**	**48.65**	**345**	P	**P**	**12 10 33.4**	**0.0**
	comp=Z,2.0nm,0.3s,baz=217,slow=20,SNR=3.0						
JTS	**JuntasAbangare**	**48.65**	**345**	*e*P	**P**	**12 10 34.2**	**+0.8**
	comp=Z,58nm,1.3s						
SNAA	**Sanae**	**48.91**	**157**	P	**P**	**12 10 34.0**	**-0.8**
SNAA	**Sanae**	**48.91**	**157**	*e*P	**P**	**12 10 33.8**	**-1.0**
SNAA				pmax	pmax		
	comp=Z,31nm,0.9s						
SNAA	**Sanae**	**48.91**	**157**	P	**P**	**12 10 33.9**	**-1.0**
	comp=Z,17nm,1.1s,baz=285,slow=9.7,SNR=23						
SNAA	**Sanae**	**48.91**	**157**	*e*P	**P**	**12 10 33.8**	**-1.0**
	comp=Z,31nm,0.9s						
QSPA	**South Pole Qui**	**52.82**	**180**	P	**P**	**12 11 03.1**	**-1.3**
	comp=Z,30nm,1.0s,baz=145,slow=4.5,SNR=22						
QSPA	**South Pole Qui**	**52.82**	**180**	*e*P	**P**	**12 11 05.0**	**+0.6**
LRS	**Lares**	**55.78**	**8**	*e*P	**P**	**12 11 25.8**	**-0.4**
TEIG	**Tepich**	**59.00**	**344**	*e*P	**P**	**12 11 49.1**	**+0.2**
	comp=Z,34nm,1.2s						
VNDA	**Vanda**	**60.50**	**192**	P	**P**	**12 11 59.8**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=200,slow=6.3,SNR=3.5						
035A	**Encino**	**68.05**	**336**	⇑P	**P**	**12 12 48.5**	**-0.1**
	baz=68						
034A	**Hebbronville**	**68.36**	**336**	⇑P	**P**	**12 12 50.1**	**-0.4**
	baz=69						
934A	**Benavides**	**68.80**	**336**	⇑P	**P**	**12 12 52.9**	**-0.4**
	baz=69						
933A	**Laredo**	**69.06**	**336**	⇑P	**P**	**12 12 54.4**	**-0.5**
	baz=69						
834A	**Tilden**	**69.30**	**336**	⇑P	**P**	**12 12 55.9**	**-0.5**
	baz=70						
833A	**Chaparral WMA,**	**69.75**	**336**	⇓P	**P**	**12 12 59.3**	**+0.1**
	baz=70,SNR=5.8						
832A	**Faith Ranch, C**	**69.91**	**335**	⇑P	**P**	**12 12 60.0**	**-0.2**
	baz=70,SNR=14						
734A	**La Parita Cree**	**69.97**	**337**	⇑P	**P**	**12 12 59.9**	**-0.6**
	baz=70						
733A	**Divot King Ran**	**70.09**	**336**	⇑P	**P**	**12 13 01.5**	**+0.2**
	baz=70						
636A	**Smothers Creek**	**70.11**	**338**	⇓P	**P**	**12 13 01.6**	**+0.3**
	baz=70						
HKT	**Hockley**	**70.20**	**340**	*e*P	**P**	**12 13 02.6**	**+0.8**
HKT	**Hockley**	**70.20**	**340**	*e*P	**P**	**12 13 02.6**	**+0.8**
732A	**Laxson Ranch,**	**70.32**	**335**	⇑P	**P**	**12 13 02.4**	**-0.3**
	baz=71,SNR=14						
537A	**Green Hill Far**	**70.46**	**339**	⇑P	**P**	**12 13 03.7**	**+0.3**
	baz=71						
536A	**Bastrop**	**70.67**	**339**	⇓P	**P**	**12 13 05.5**	**+0.8**
	baz=71						
633A	**Saathoff Ranch**	**70.74**	**336**	⇑P	**P**	**12 13 05.8**	**+0.6**
	baz=71						
535A	**Dale**	**70.77**	**338**	⇓P	**P**	**12 13 06.0**	**+0.6**
	baz=71						
632A	**Uvalde**	**70.98**	**336**	⇑P	**P**	**12 13 07.5**	**+0.8**
	baz=71						
534A	**Blanco**	**71.05**	**337**	⇓P	**P**	**12 13 07.3**	**+0.2**
	baz=71						
340A	**Bronson**	**71.08**	**342**	⇑P	**P**	**12 13 07.9**	**+0.7**
	baz=71						
GOGA	**Godfrey**	**71.08**	**351**	*e*P	**P**	**12 13 08.3**	**+1.1**
GOGA				pmax	pmax		
	comp=Z,22nm,1.1s						
GOGA	**Godfrey**	**71.08**	**351**	*e*P	**P**	**12 13 08.3**	**+1.1**
	comp=Z,22nm,1.1s						
631A	**Perdido Creek**	**71.15**	**335**	⇓P	**P**	**12 13 07.8**	**+0.1**
	baz=72						
339A	**Huntington**	**71.17**	**341**	⇑P	**P**	**12 13 08.2**	**+0.4**
	baz=72						
LRAL	**Lakeview Retre**	**71.21**	**348**	*e*P	**P**	**12 13 08.5**	**+0.5**
	comp=Z,33nm,1.3s						
436A	**Wall Ranch, Ga**	**71.24**	**339**	⇑P	**P**	**12 13 08.6**	**+0.4**
	baz=72						
533A	**Kerrville**	**71.26**	**337**	⇑P	**P**	**12 13 08.6**	**+0.2**
	baz=72						
337A	**Centerville**	**71.50**	**340**	⇑P	**P**	**12 13 09.4**	**-0.3**
	baz=72						
532A	**Rocksprings**	**71.59**	**336**	⇑P	**P**	**12 13 09.8**	**-0.6**
	baz=72,SNR=12						
434A	**Burnet**	**71.72**	**338**	⇓P	**P**	**12 13 11.1**	**0.0**
	baz=72						
531A	**Rocksprings**	**71.83**	**336**	⇓P	**P**	**12 13 12.4**	**+0.5**
	baz=72,SNR=16						
336A	**Riesel**	**71.84**	**339**	⇓P	**P**	**12 13 12.7**	**+0.9**
	baz=72						
JCT	**Junction City**	**71.88**	**336**	*e*P	**P**	**12 13 13.0**	**+0.8**
JCT				pmax	pmax		
	comp=Z,55nm,1.3s						
JCT	**Junction City**	**71.88**	**336**	⇑P	**P**	**12 13 12.3**	**+0.2**
	baz=72						
JCT	**Junction City**	**71.88**	**336**	*e*P	**P**	**12 13 13.0**	**+0.8**
	comp=Z,55nm,1.3s						
335A	**Moody**	**71.91**	**339**	⇑P	**P**	**12 13 12.6**	**+0.4**
	baz=72						
433A	**Art**	**71.91**	**337**	⇑P	**P**	**12 13 12.0**	**-0.3**
	baz=72,SNR=14						
530A	**J-C Ranch, Com**	**72.08**	**335**	⇑P	**P**	**12 13 13.5**	**+0.1**
	baz=72,SNR=11						
TXAR	**Lajitas Array**	**72.16**	**333**	P	**P**	**12 13 11.6**	**-2.4**
	comp=Z,2.5nm,0.9s,baz=156,slow=7.1,SNR=15						
334A	**Lometa**	**72.19**	**338**	⇑P	**P**	**12 13 14.3**	**+0.3**
	baz=73						
431A	**Sonora**	**72.33**	**336**	⇓P	**P**	**12 13 15.4**	**+0.5**
	baz=73,SNR=5.3						
529A	**Stev Forest Ra**	**72.36**	**334**	⇑P	**P**	**12 13 15.7**	**+0.6**
	baz=73						
333A	**Richland Sprin**	**72.41**	**337**	⇑P	**P**	**12 13 15.2**	**0.0**
	baz=73						
KMSC	**Kings Mountain**	**72.56**	**353**	⇓P	**P**	**12 13 16.2**	**+0.2**
	baz=73						
138A	**Matatall Enter**	**72.56**	**341**	⇑P	**P**	**12 13 16.4**	**+0.3**
	baz=73						
WHTX	**Lake Whitney,**	**72.58**	**339**	⇑P	**P**	**12 13 16.6**	**+0.4**
	baz=73						
WHTX	**Lake Whitney,**	**72.58**	**339**	*e*P	**P**	**12 13 16.8**	**+0.6**
	comp=Z,62nm,1.5s						
430A	**Baggett Ranch,**	**72.63**	**335**	⇑P	**P**	**12 13 16.4**	**-0.3**
	baz=73						
137A	**Heron Place, G**	**72.68**	**340**	⇓P	**P**	**12 13 17.3**	**+0.5**
	baz=73						
332A	**Millersview**	**72.70**	**337**	⇓P	**P**	**12 13 17.2**	**+0.2**
	baz=73,SNR=15						
429A	**Davenport Ranc**	**72.71**	**335**	⇑P	**P**	**12 13 17.2**	**+0.1**
	baz=73,SNR=15						
234A	**Clairette**	**72.79**	**338**	⇓P	**P**	**12 13 17.4**	**-0.1**
	baz=73						
331A	**San Angelo**	**72.85**	**336**	⇓P	**P**	**12 13 17.5**	**-0.5**
	baz=73						
233A	**Rising Star**	**73.03**	**338**	⇑P	**P**	**12 13 18.5**	**-0.4**
	baz=73						
OXF	**Oxford**	**73.08**	**346**	*e*P	**P**	**12 13 18.8**	**-0.3**
OXF				pmax	pmax		
	comp=Z,33nm,1.1s						
OXF	**Oxford**	**73.08**	**346**	*e*P	**P**	**12 13 18.8**	**-0.3**
	comp=Z,33nm,1.1s						
135A	**Vickery Place,**	**73.10**	**339**	⇑P	**P**	**12 13 19.2**	**-0.1**
	baz=74						
232A	**Coleman**	**73.14**	**337**	⇓P	**P**	**12 13 19.5**	**-0.1**
	baz=74						
330A	**Mertzon**	**73.18**	**336**	⇑P	**P**	**12 13 19.7**	**-0.2**
	baz=74						
SWET	**Sewanee**	**73.19**	**349**	*e*P	**P**	**12 13 17.3**	**-2.5**
	comp=Z,41nm,0.9s						
134A	**White-Moore Ra**	**73.30**	**339**	⇑P	**P**	**12 13 20.3**	**-0.3**
	baz=74						
TKL	**Tuckaleechee C**	**73.33**	**351**	P	**P**	**12 13 17.9**	**-2.7**
	comp=Z,4.0nm,0.8s,baz=176,slow=8.7,SNR=3.0						
231A	**Bronte**	**73.39**	**336**	⇓P	**P**	**12 13 20.4**	**-0.7**
	baz=74						
329A	**Wagon Wheel Ra**	**73.53**	**335**	⇓P	**P**	**12 13 21.8**	**-0.2**
	baz=74						
133A	**Hamilton Ranch**	**73.58**	**338**	⇓P	**P**	**12 13 22.0**	**-0.2**
	baz=74						
230A	**Sterling City**	**73.61**	**336**	⇓P	**P**	**12 13 21.9**	**-0.5**
	baz=74						
Z35A	**Perchaven, San**	**73.78**	**339**	⇑P	**P**	**12 13 23.2**	**-0.1**
	baz=74						
ABTX	**Abilene, Hawle**	**73.82**	**337**	⇓P	**P**	**12 13 23.5**	**-0.1**
	baz=74						

ABTX	**Abilene, Hawle**	**73.82**	**337**	*e*P	**P**	**12 13 23.9**	**+0.3**
	comp=Z,62nm,1.4s						
229A	**Bryant Ranch,**	**73.91**	**335**	⇑P	**P**	**12 13 24.2**	**0.0**
	baz=74						
MIAR	**Mount Ida**	**73.99**	**343**	*e*P	**P**	**12 13 24.5**	**0.0**
MIAR				pmax	pmax		
	comp=Z,30nm,1.6s						
MIAR	**Mount Ida**	**73.99**	**343**	*e*P	**P**	**12 13 24.5**	**0.0**
	comp=Z,30nm,1.6s						
131A	**Roby**	**74.10**	**337**	⇓P	**P**	**12 13 24.3**	**-1.0**
	baz=74						
Z33A	**Whitaker Ranch**	**74.17**	**338**	⇓P	**P**	**12 13 25.0**	**-0.6**
	baz=74						
228A	**UT Block 9, Go**	**74.31**	**335**	⇓P	**P**	**12 13 25.6**	**-0.9**
	baz=75						
WVT	**Waverly**	**74.38**	**348**	*e*P	**P**	**12 13 26.5**	**-0.2**
WVT				pmax	pmax		
	comp=Z,40nm,1.3s						
WVT	**Waverly**	**74.38**	**348**	*e*P	**P**	**12 13 26.5**	**-0.2**
	comp=Z,40nm,1.3s						
Z32A	**Haskell**	**74.40**	**338**	⇑P	**P**	**12 13 27.1**	**+0.1**
	baz=75						
Y34A	**Reagan Ranch,**	**74.51**	**339**	⇑P	**P**	**12 13 27.6**	**0.0**
	baz=75						
129A	**Stewart Farms,**	**74.53**	**335**	⇑P	**P**	**12 13 27.6**	**-0.3**
	baz=75						
Z31A	**Sharp Cattle R**	**74.62**	**337**	⇓P	**P**	**12 13 28.4**	**+0.2**
	baz=75						
128A	**Castleberry Fa**	**74.73**	**335**	⇓P	**P**	**12 13 29.1**	**+0.1**
	baz=75,SNR=6.5						
Y33A	**Hilltop Ranch,**	**74.81**	**339**	⇓P	**P**	**12 13 29.4**	**+0.1**
	baz=75						
Z30A	**Sanderson Ranc**	**74.90**	**336**	⇑P	**P**	**12 13 29.5**	**-0.4**
	baz=75						
Y32A	**R-V Farms, Ver**	**75.04**	**338**	⇑P	**P**	**12 13 30.7**	**+0.1**
	baz=75						
Z29A	**Hungry Hill Ra**	**75.06**	**336**	⇑P	**P**	**12 13 30.3**	**-0.5**
	baz=75,SNR=5.9						
Y31A	**Rekieta Farm,**	**75.25**	**337**	⇓P	**P**	**12 13 32.1**	**+0.2**
	baz=76						
X33A	**Lawton**	**75.27**	**339**	⇓P	**P**	**12 13 31.9**	**0.0**
	baz=76						
Z28A	**Tucker Farm, M**	**75.31**	**335**	⇑P	**P**	**12 13 32.0**	**-0.3**
	baz=76						
X32A	**Elmer**	**75.38**	**338**	⇓P	**P**	**12 13 32.5**	**-0.2**
	baz=76						
WMOK	**Wichita Mounta**	**75.53**	**339**	*e*P	**P**	**12 13 33.3**	**-0.2**
WMOK				pmax	pmax		
	comp=Z,34nm,1.5s						
WMOK	**Wichita Mounta**	**75.53**	**339**	*e*P	**P**	**12 13 33.3**	**-0.2**
	comp=Z,34nm,1.5s						
Y29A	**Porterfield Fa**	**75.60**	**336**	⇑P	**P**	**12 13 33.7**	**-0.3**
	baz=76						
W34A	**Bridge Creek,**	**75.71**	**340**	*e*P	P	12 13 40.4	+5.9
	comp=Z,140nm,1.8s						
X31A	**McDonald Ranch**	**75.79**	**338**	⇓P	**P**	**12 13 34.0**	**-0.9**
	baz=76						
TUL1	**Leonard**	**75.83**	**342**	⇓P	**P**	**12 13 34.3**	**-0.8**
	baz=76						
TUL1	**Leonard**	**75.83**	**342**	*e*P	**P**	**12 13 34.4**	**-0.7**
	comp=Z,19nm,1.3s						
W33A	**Caddo, Fort Co**	**75.83**	**339**	⇓P	**P**	**12 13 34.1**	**-1.0**
	baz=76						
Y28A	**McKinney Farm,**	**75.83**	**336**	⇓P	**P**	**12 13 34.1**	**-1.2**
	baz=76						
Z26A	**Caprock**	**75.84**	**334**	⇑P	**P**	**12 13 35.4**	**0.0**
	baz=76,SNR=6.8						
X30A	**Coker Ranch, T**	**75.89**	**337**	⇓P	**P**	**12 13 35.7**	**+0.2**
	baz=76						
W32A	**Sentinel**	**76.03**	**339**	⇓P	**P**	**12 13 36.1**	**-0.2**
	baz=76						
MSTX	**Muleshoe**	**76.06**	**335**	⇓P	**P**	**12 13 36.4**	**-0.2**
	baz=76,SNR=6.8						
MSTX	**Muleshoe**	**76.06**	**335**	*e*P	**P**	**12 13 36.8**	**+0.2**
	comp=Z,54nm,1.4s						
Z25A	**Roswell**	**76.10**	**333**	⇓P	**P**	**12 13 37.0**	**+0.1**
	baz=76						
Y27A	**Causey**	**76.11**	**335**	⇑P	**P**	**12 13 36.6**	**-0.3**
	baz=76						
USIN	**University of**	**76.14**	**349**	*e*P	**P**	**12 13 36.9**	**+0.1**
	comp=Z,33nm,0.9s						
X29A	**Tulia**	**76.15**	**336**	⇑P	**P**	**12 13 36.9**	**-0.2**
	baz=76						
319A	**Douglas**	**76.16**	**329**	⇓P	**P**	**12 13 37.2**	**-0.1**
	baz=76						
V34A	**Guthrie**	**76.21**	**340**	⇓P	**P**	**12 13 37.2**	**-0.1**
	baz=77						
W31A	**Holland Ranch,**	**76.29**	**338**	⇓P	**P**	**12 13 37.6**	**-0.2**
	baz=77						
Y26A	**Elida**	**76.38**	**334**	⇑P	**P**	**12 13 38.2**	**-0.2**
	baz=77						
Z24A	**Sheeppen Canyo**	**76.38**	**333**	⇑P	**P**	**12 13 39.0**	**+0.4**
	baz=77						
V33A	**Lossen Ranch,**	**76.41**	**340**	⇓P	**P**	**12 13 38.6**	**+0.2**
	baz=77						
V32A	**Arapaho**	**76.53**	**339**	⇑P	**P**	**12 13 40.1**	**+0.9**
	baz=77						
AMTX	**Amarillo**	**76.55**	**337**	⇓P	**P**	**12 13 40.2**	**+0.8**
	baz=77						
AMTX	**Amarillo**	**76.55**	**337**	*e*P	**P**	**12 13 40.5**	**+1.2**
	comp=Z,48nm,1.3s						
121A	**Cookes Peak, D**	**76.58**	**331**	⇑P	**P**	**12 13 39.6**	**-0.1**
	baz=77						
Y25A	**Mesa, Roswell**	**76.68**	**334**	⇓P	**P**	**12 13 40.8**	**+0.6**
	baz=77						
W29A	**Amarillo**	**76.75**	**337**	⇓P	**P**	**12 13 41.0**	**+0.5**
	baz=77						
U34A	**Anderson Ranch**	**76.78**	**340**	⇓P	**P**	**12 13 41.4**	**+0.9**
	baz=77						
U34A	**Anderson Ranch**	**76.78**	**340**	*e*P	**P**	**12 13 41.0**	**+0.5**
	comp=Z,71nm,1.5s						
X27A	**F and S Farms,**	**76.79**	**335**	⇑P	**P**	**12 13 41.9**	**+1.1**
	baz=77						
V31A	**Spring Creek L**	**76.81**	**338**	⇑P	**P**	**12 13 42.0**	**+1.3**
	baz=77						
Z22A	**Elephant Butte**	**76.91**	**332**	⇓P	**P**	**12 13 42.4**	**+0.9**
	baz=77						
X26A	**CR and CF Fran**	**76.94**	**335**	⇓P	**P**	**12 13 42.1**	**+0.5**
	baz=77						
Y24A	**Capitan**	**76.94**	**333**	⇓P	**P**	**12 13 42.6**	**+0.9**
	baz=77						
LIC	**Lamto**	**77.03**	**72**	*e*PKIKP	**P**	**12 13 43.3**	**+0.9**
	comp=Z,87nm,1.2s						
W27A	**Bowe Ranch, En**	**77.16**	**336**	⇑P	**P**	**12 13 43.2**	**+0.4**
	baz=78						
Y23A	**Lovelace Mesa,**	**77.17**	**333**	⇑P	**P**	**12

comp=Z,28nm,1.4s
W23A Werner Place, 78.31 333 ⇑P P 12 13 50.1 +0.7
baz=79
U27A Thompson Grove 78.32 336 ⇓P P 12 13 48.4 -0.9
baz=79
S32A Newby Ranch, P 78.35 340 ⇓P P 12 13 49.0 -0.3
baz=79
V25A Rancho No Teng 78.38 335 ⇓P P 12 13 49.5 -0.2
baz=79
SFIN Lafayette 78.42 349 ⇑P P 12 13 49.7 +0.2
baz=79
V24A Rampart Ranch, 78.51 334 ⇓P P 12 13 51.1 +0.6
baz=79
U26A Atchley Ranch, 78.60 336 ⇓P P 12 13 51.1 +0.2
baz=79
R33A Olander Ranch, 78.66 341 ⇓P P 12 13 51.3 +0.3
baz=79
T28A Walsh 78.74 337 ⇑P P 12 13 52.3 +0.8
baz=79
U25A Circle Dot Ran 78.82 335 ⇓P P 12 13 52.9 +0.8
baz=79
V23A Ortiz Mt. (NFS 78.84 333 ⇑P P 12 13 53.0 +0.7
baz=79
T27A Campo 78.88 337 ⇑P P 12 13 53.3 +1.0
baz=79
S29A Ulysses 78.90 338 ⇑P P 12 13 53.7 +1.3
baz=79
R32A Long Quarter, 78.96 340 ⇑P P 12 13 53.6 +0.9
baz=79
R31A Burdett 79.06 339 ⇑P P 12 13 54.4 +1.2
baz=79
S28A Manter 79.11 337 ⇓P P 12 13 54.6 +1.1
baz=80
X18A Snowflake 79.19 330 ⇓P P 12 13 55.4 +1.2
baz=80
V22A San Miguel Ran 79.26 333 ⇑P P 12 13 55.1 +0.6
baz=80
T26A Comanche Natio 79.26 336 ⇑P P 12 13 55.0 +0.5
baz=80
113A Mohawk Valley, 79.27 326 ⇑P P 12 13 55.5 +1.1
baz=80
R30A Dighton 79.27 339 ⇓P P 12 13 54.2 -0.1
baz=80
U23A El Rito 79.37 334 ⇑P P 12 13 55.8 +0.6
baz=80
TSUM Tsumeb 79.46 106 P P 12 13 55.9 -0.3
comp=Z,5.3nm,1.1s,baz=234,slow=14,SNR=4.7
TSUM Tsumeb 79.46 106 eP P 12 13 56.0 -0.1
T25A Trinidad 79.49 335 ⇑P P 12 13 55.9 +0.1
baz=80,SNR=7.8
ODZ Otahua Downs 79.56 220 eP P 12 13 56.4 +0.3
comp=Z,505nm,2.7s
BOSA Boshof 79.57 118 P P 12 13 56.0 -0.6
comp=Z,18nm,1.0s,baz=238,slow=4.7,SNR=14
S26A Kim 79.63 336 ⇑P P 12 13 57.4 +1.0
baz=80
X16A Lo Mia Camp, P 79.69 329 ⇓P P 12 13 57.5 +0.5
baz=80
T24B San Luis 79.75 335 ⇑P P 12 13 57.8 +0.5
baz=80
R28A Tribune 79.77 338 ⇑P P 12 13 57.6 +0.4
baz=80
Q30A Quinter 79.90 339 ⇑P P 12 13 58.5 +0.7
baz=80
Y14A Wickenburg 79.93 328 ⇑P P 12 13 58.7 +0.7
baz=80
T23A Casias Ranch, 79.95 334 ⇓P P 12 13 58.8 +0.4
baz=80
S25A Robets Cordova 79.98 336 ⇑P P 12 13 58.5 +0.1
baz=80
R27A Eads 80.02 337 ⇑P P 12 13 58.3 -0.2
baz=80
Q29A Oakley 80.03 339 ⇓P P 12 13 59.0 +0.5
baz=80
P31A Stockton 80.17 340 ⇑P P 12 13 59.1 -0.1
baz=80
S24A Houchin Ranch, 80.22 335 ⇑P P 12 14 00.2 +0.4
baz=81
R26A Arlington 80.24 337 ⇑P P 12 13 59.8 +0.1
baz=81,SNR=9.0
R25A Fountain Ranch 80.37 336 ⇓P P 12 14 01.3 +0.8
baz=81
Y12C Blythe 80.43 326 ⇓P P 12 14 01.0 +0.3
baz=81
Q28A Sharon Springs 80.44 338 ⇓P P 12 14 01.7 +0.9
baz=81
O32A Brockman Farm, 80.57 341 ⇑P P 12 14 01.6 +0.3
baz=81
WUAZ Wupatki 80.62 330 ⇓P P 12 14 01.8 -0.1
baz=81
WUAZ Wupatki 80.62 330 eP P 12 14 03.2 +1.3
comp=Z,23nm,1.4s
KSCO Kaye Shedlock' 80.64 337 ⇑P P 12 14 02.0 +0.1
baz=81
KSCO Kaye Shedlock' 80.64 337 eP P 12 14 08.6 +6.8
comp=Z,59nm,1.4s
P29A Atwood 80.68 339 ⇓P P 12 14 02.2 +0.2
baz=81
R24A Sanders Place, 80.72 335 ⇑P P 12 14 02.7 +0.4
baz=81
PDMCI Parker Dam,Lak 80.73 327 ⇓P P 12 14 02.8 +0.5
baz=81
BC3 Big Chuckawall 80.77 326 ⇑P P 12 14 03.0 +0.4
baz=81
Q26A Hugo 80.83 337 ⇓P P 12 14 03.1 +0.2
baz=81
S22A 4UR Ranch, Cre 80.87 334 ⇑P P 12 14 03.5 +0.2
baz=81
P28A Saint Francis 80.89 338 ⇓P P 12 14 03.8 +0.7
baz=81
R23A Moffat 80.92 335 ⇑P P 12 14 03.9 +0.4
baz=81
MVCO Mesa Verde 80.99 332 ⇑P P 12 14 04.3 +0.4
baz=81
MVCO Mesa Verde 80.99 332 eP P 12 14 05.4 +1.5
comp=Z,65nm,1.8s
Q25A Bedland, Calha 81.06 336 ⇑P P 12 14 04.4 +0.2
baz=81
IRM Iron Mountain 81.06 326 ⇓P P 12 14 04.4 +0.4
baz=81
P27A Ficken Ranch, 81.12 338 ⇑P P 12 14 05.3 +0.9
baz=82
PFO Pinyon Flats O 81.18 325 eP P 12 14 06.2 +1.3
PFO Pinyon Flats O 81.18 325 LR LR 12 43 29.3
comp=Z,9µm,18.6s,baz=114,slow=31
PFO Pinyon Flats O 81.18 325 ⇑P P 12 14 04.9 0.0
baz=82
PFO Pinyon Flats O 81.18 325 eP P 12 14 06.2 +1.3
W13A Hualapai Mount 81.30 328 ⇓P P 12 14 05.4 -0.2
baz=82
P26A Davis Ranch, A 81.36 337 ⇓P P 12 14 05.8 +0.1
baz=82
Q24A Divide 81.39 336 ⇑P P 12 14 05.9 -0.2
baz=82
JFWS Jewell Farm 81.39 348 eP P 12 14 06.3 +0.7
JFWS pmax pmax
comp=Z,47nm,1.5s
JFWS Jewell Farm 81.39 348 eP P 12 14 06.2 +0.7
comp=Z,47nm,1.5s
O28A Krutsinger Ran 81.41 338 ⇓P P 12 14 06.4 +0.5
baz=82
MURC Murrieta 81.52 324 ⇓P P 12 14 07.2 +0.7
baz=82
P25A Willow Gulch B 81.57 337 ⇓P P 12 14 07.3 +0.4
baz=82
U15A North Rim 81.78 329 ⇑P P 12 14 09.0 +0.9
baz=82
GMRC Granite Mounta 81.80 326 ⇑P P 12 14 08.5 +0.4
baz=82
PV01 Paradox Valley 81.83 333 eP P 12 14 07.9 -0.5
comp=Z,316nm,1.3s
O26A Horse Wrangler 81.97 337 ⇑P P 12 14 09.5 +0.6
baz=82
LBTB Lobatse 81.98 115 eP P 12 14 08.7 -0.8
LBTB pmax pmax
comp=Z,19nm,0.8s
LBTB Lobatse 81.98 115 P P 12 14 08.2 -1.3
comp=Z,19nm,0.8s,baz=249,slow=6.3,SNR=16
LBTB Lobatse 81.98 115 eP P 12 14 08.7 -0.8
comp=Z,19nm,0.8s
P23A Jefferson 81.99 335 ⇑P P 12 14 09.6 +0.3
baz=82
O25A Wiggins 82.11 337 ⇑P P 12 14 10.3 +0.7
baz=82
PV04 Paradox Valley 82.19 333 eP P 12 14 11.1 +0.9
SMCO Snowmass 82.20 334 eP P 12 14 12.2 +1.8
comp=Z,38nm,1.5s
N27A Anderson Farm, 82.26 338 ⇑P P 12 14 11.5 +1.1
baz=83
BFSC Mount Baldy Ra 82.26 324 ⇑P P 12 14 11.0 +0.4
baz=83
ISCO Idaho Springs 82.30 336 eP P 12 14 11.7 +0.8
ISCO pmax pmax
comp=Z,24nm,1.6s
ISCO Idaho Springs 82.30 336 ⇑P P 12 14 11.7 +0.8
baz=83
ISCO Idaho Springs 82.30 336 eP P 12 14 11.7 +0.8
comp=Z,24nm,1.6s
TUQ Turquoise Moun 82.47 326 ⇑P P 12 14 12.5 +0.9
baz=83
P22A Eagle 82.50 335 ⇑P P 12 14 11.5 -0.3
baz=83
L31A Butterfield Fa 82.52 341 ⇑P P 12 14 11.8 +0.2
baz=83
GSC Goldstone, Bar 82.75 326 eP P 12 14 14.8 +1.8
GSC pmax pmax
comp=Z,28nm,1.6s
GSC Goldstone, Bar 82.75 326 ⇑P P 12 14 12.9 -0.1
baz=83
GSC Goldstone, Bar 82.75 326 eP P 12 14 14.8 +1.8
comp=Z,28nm,1.6s
O23A Lake Granby, G 82.77 336 ⇓P P 12 14 13.4 +0.1
baz=83
L29A Maesberg Ranch 82.84 340 ⇓P P 12 14 14.0 +0.7
baz=83
O22A Kremmling 82.94 335 ⇓P P 12 14 13.8 -0.3
baz=83
SHPR Sheep Range 83.04 327 eP P 12 14 15.7 +1.1
CCUT Cedar City 83.18 329 eP P 12 14 17.1 +1.8
comp=Z,23nm,1.3s
K30A Basset 83.18 341 ⇑P P 12 14 15.5 +0.5
baz=84
LRMC Laurel Mtn Rad 83.30 325 ⇓P P 12 14 16.0 +0.1
baz=84
N23A Red Feather La 83.40 336 ⇓P P 12 14 16.5 0.0
baz=84
ARUT Antelope Range 83.41 329 eP P 12 14 17.4 +0.9
ARUT pmax pmax
comp=Z,501nm,1.5s
ARUT Antelope Range 83.41 329 eP P 12 14 17.4 +0.9
comp=Z,501nm,1.5s
SRU San Rafael Swe 83.42 332 eP P 12 14 17.3 +0.8
SRU pmax pmax
comp=Z,31nm,1.6s
SRU San Rafael Swe 83.42 332 eP P 12 14 17.3 +0.8
comp=Z,31nm,1.6s
ECSD EROS Data Cent 83.45 343 ⇑P P 12 14 16.9 +0.5
baz=84
ECSD EROS Data Cent 83.45 343 eP P 12 14 16.1 -0.3
comp=Z,39nm,1.2s
N22A Wattenberg Ran 83.48 335 ⇑P P 12 14 17.3 +0.3
baz=84
O20A White River Ci 83.49 334 eP P 12 14 17.3 +0.4
comp=Z,6.3nm,1.1s
M24A Cheyenne 83.56 337 ⇓P P 12 14 17.4 +0.2
baz=84
PHWY Pilot Hill 83.61 336 eP P 12 14 24.5 +7.0
comp=Z,31nm,1.5s
K28A Ten Mile Ranch 83.69 340 ⇑P P 12 14 18.1 +0.4
baz=84
FURC Furnace Creek, 83.75 326 ⇓P P 12 14 18.5 +0.5
baz=84
J30A Dallas 83.76 341 ⇓P P 12 14 18.2 +0.2
baz=84
ISA Isabella, Lake 83.81 325 eP P 12 14 19.8 +1.3
ISA pmax pmax
comp=Z,35nm,1.8s
ISA Isabella, Lake 83.81 325 ⇑P P 12 14 18.8 +0.4
baz=84
ISA Isabella, Lake 83.81 325 eP P 12 14 19.8 +1.3
comp=Z,35nm,1.8s
TMUT Trail Mountain 83.84 332 eP P 12 14 19.6 +0.8
comp=Z,85nm,0.6s
DAC Darwin (Calif) 83.92 326 eP P 12 14 20.5 +1.3
DAC pmax pmax
comp=Z,32nm,1.8s
DAC Darwin (Calif) 83.92 326 eP P 12 14 20.5 +1.3
comp=Z,32nm,1.8s
K27A Flueckinger Fa 83.92 339 ⇓P P 12 14 19.6 +0.7
baz=84
L25A Engebretsen Ra 83.92 338 ⇓P P 12 14 19.4 +0.4
baz=84
J29A Okreek 84.05 341 ⇑P P 12 14 18.9 -0.5
baz=84,SNR=6.3
SPMN Marine on St. 84.09 346 ⇓P P 12 14 19.6 0.0
baz=84
N20A Spence Gulch, 84.12 334 ⇑P P 12 14 20.4 +0.2
baz=84
VES Vestal, Richgr 84.24 324 ⇓P P 12 14 21.5 +1.0
baz=85
I30A Oacoma 84.29 342 ⇓P P 12 14 21.1 +0.5
baz=85
J28A Allard Ranch, 84.31 340 ⇓P P 12 14 21.2 +0.4
baz=85
J27A Elkhorn Farm, 84.36 340 ⇓P P 12 14 21.6 +0.5
baz=85
GRAC Grapevine Rang 84.42 326 ⇑P P 12 14 21.8 +0.3
baz=85
MPU Maple Canyon 84.62 332 eP P 12 14 24.1 +1.5
comp=Z,20nm,1.3s
J26A Sides Ranch, S 84.72 339 ⇓P P 12 14 22.9 0.0
baz=85
NLU North Lily Min 84.74 331 eP P 12 14 30.3 +7.0
comp=Z,50nm,1.8s
R11A Troy Canyon, C 84.78 328 ⇑P P 12 14 23.6 +0.2
baz=85
R11A Troy Canyon, C 84.78 328 eP P 12 14 24.9 +1.4
comp=Z,40nm,1.8s
DAU Daniels Canyon 84.83 332 eP P 12 14 25.2 +1.4
DAU Daniels Canyon 84.83 332 eP P 12 14 25.2 +1.4
I28A Midland 84.83 340 ⇓P P 12 14 23.2 -0.2
baz=85,SNR=7.7
J25A Sunshine Ranch 85.00 338 ⇑P P 12 14 24.3 -0.1
baz=85
JLU Jordanelle 85.06 332 eP P 12 14 25.6 +0.7
comp=Z,3.6nm,0.8s
I27A Quinn 85.13 340 ⇑P P 12 14 24.6 -0.4
baz=86
H29A Onida 85.16 341 ⇑P P 12 14 25.3 +0.3
baz=86
K22A Casper 85.17 336 ⇓P P 12 14 25.5 +0.2
baz=86
K22A Casper 85.17 336 eP P 12 14 25.9 +0.6
comp=Z,56nm,1.6s
DUG Dugway, Tooele 85.23 331 eP P 12 14 26.6 +1.0
DUG pmax pmax
comp=Z,34nm,1.4s
DUG Dugway, Tooele 85.23 331 ⇑P P 12 14 25.6 0.0
baz=86
DUG Dugway, Tooele 85.23 331 eP P 12 14 26.6 +1.0
comp=Z,34nm,1.4s
TPH Tonopah 85.25 327 eP P 12 14 27.7 +1.9
TPH pmax pmax
comp=Z,46nm,1.9s
TPH Tonopah 85.25 327 eP P 12 14 27.7 +1.9
comp=Z,46nm,1.9s
I26A New Underwood 85.32 339 ⇑P P 12 14 26.1 +0.2
baz=86
G30A Faulkton 85.36 342 ⇓P P 12 14 26.2 +0.2
baz=86
H28A Mission Ridge 85.42 341 ⇑P P 12 14 26.5 +0.2
baz=86
I25A Rochford 85.56 339 ⇓P P 12 14 27.7 +0.4
baz=86
G29A Hoven 85.62 342 ⇓P P 12 14 28.0 +0.7
baz=86
H27A Howes 85.66 340 ⇓P P 12 14 26.9 -0.6
baz=86,SNR=7.1
RSSD Black Hills 85.74 339 eP P 12 14 28.4 +0.2
RSSD pmax pmax
comp=Z,9.0nm,1.1s
RSSD Black Hills 85.74 339 eP P 12 14 28.4 +0.2
comp=Z,8.7nm,1.1s
G28A Parade 85.76 341 ⇓P P 12 14 26.8 -1.2
baz=86
BGU Big Grassy Mou 85.94 331 eP P 12 14 29.9 +0.7
comp=Z,12nm,1.8s
HWUT Hardware Ranch 85.98 332 eP P 12 14 29.8 +0.4
comp=Z,55nm,1.4s
NVAR Mina Array Bea 86.02 326 P P 12 14 29.2 -0.4
comp=Z,1.0nm,0.9s,baz=165,slow=5.8,SNR=5.9
H25A Fruitdale 86.07 339 ⇑P P 12 14 29.4 -0.2
baz=86
J21A Lysite 86.09 336 ⇑P P 12 14 29.6 -0.2
baz=86
F29A Eureka 86.19 342 ⇑P P 12 14 29.4 -0.7
baz=87
I22A 9 Mile Ranch, 86.27 337 ⇑P P 12 14 30.2 -0.5
baz=87
BW06 Boulder Array 86.28 334 eP P 12 14 30.8 -0.1
comp=Z,16nm,1.4s
PDAR Pinedale Array 86.28 334 P P 12 14 30.0 -0.9
comp=Z,2.2nm,1.0s,baz=114,slow=3.6,SNR=8.8
J20A Shoshoni 86.31 336 ⇑P P 12 14 30.2 -0.7
baz=87
G27A Dupree 86.31 340 ⇓P P 12 14 30.0 -0.7
baz=87
G26A Maurine 86.41 340 ⇑P P 12 14 30.9 -0.4
baz=87,SNR=7.7
F28A McLaughlin 86.45 341 ⇑P P 12 14 30.5 -0.8
baz=87
I21A Big Trails, Te 86.46 336 ⇓P P 12 14 30.9 -0.7
baz=87
H24A Dirks Ranch, A 86.46 338 ⇑P P 12 14 31.1 -0.5
baz=87
TORD Torodi Ar. Bea 86.52 71 P P 12 14 31.2 -1.2
comp=Z,7.7nm,0.8s,baz=230,slow=4.7,SNR=18
G25A Newell 86.55 339 ⇓P P 12 14 31.1 -0.8
baz=87
J19A Crowheart 86.55 335 ⇑P P 12 14 30.9 -1.2
baz=87
WAKR Walker 86.58 326 eP P 12 14 39.8 +7.4
HVU Hansel Valley 86.58 332 eP P 12 14 32.8 +0.5
HVU pmax pmax
comp=Z,131nm,2.4s
HVU Hansel Valley 86.58 332 eP P 12 14 32.8 +0.5
comp=Z,131nm,2.4s
E30A Jud 86.60 343 ⇑P P 12 14 31.1 -0.9
baz=87
ELK Elko 86.66 330 eP P 12 14 38.5 +5.7
ELK pmax pmax
comp=Z,9.0nm,1.3s
ELK Elko 86.66 330 eP P 12 14 38.5 +5.7
comp=Z,8.8nm,1.3s
F27A Lemmon 86.79 341 ⇑P P 12 14 32.6 -0.5
baz=87,SNR=7.2
E29A Napoleon 86.83 342 ⇑P P 12 14 32.4 -0.8
baz=87
I20A Worland 86.85 336 ⇓P P 12 14 32.7 -0.8
baz=87
H22A Clearmont 86.86 337 ⇓P P 12 14 33.0 -0.5
baz=87
F26A Lodgepole 86.94 340 ⇓P P 12 14 33.4 -0.4
baz=87
G24A Alzada 86.95 339 ⇑P P 12 14 33.5 -0.5
baz=87
E28A Huff 87.10 342 ⇓P P 12 14 34.8 +0.3
baz=88
G23A Biddle 87.12 338 ⇓P P 12 14 34.4 -0.4
baz=88
D30A Buchanan 87.13 343 ⇑P P 12 14 34.8 +0.2
baz=88
E27A Carson 87.19 341 ⇑P P 12 14 35.1 +0.1
baz=88
I19A Meeteetse 87.21 335 ⇑P P 12 14 35.3 -0.1
baz=88
F25A Bowman 87.23 340 ⇑P P 12 14 35.5 +0.3
baz=88
REDW Red Top Meadow 87.26 334 eP P 12 14 41.6 +5.9
comp=Z,33nm,1.5s
D29A Pettibone, Tap 87.28 343 ⇑P P 12 14 36.2 +0.8
baz=88
H20A Greybull 87.29 336 ⇓P P 12 14 36.3 +0.7
baz=88
LOHW Long Hollow 87.39 334 eP P 12 14 36.5 +0.2
comp=Z,17nm,1.5s
TPAW Teton Pass 87.40 334 eP P 12 14 37.0 +0.5
comp=Z,12nm,1.1s
G22A Birney 87.41 338 ⇓P P 12 14 36.3 +0.1
baz=88
F24A Ekalaka 87.43 339 ⇑P P 12 14 36.4 +0.1
baz=88
E26A Carlson Angus 87.46 340 ⇓P P 12 14 35.4 -0.9
baz=88
C30A Mose, Pekin 87.63 343 ⇓P P 12 14 36.8 -0.2
baz=88,SNR=6.4
AGMN Agassiz Nation 87.63 345 ⇑P P 12 14 36.2 -0.8
baz=88
AGMN Agassiz Nation 87.63 345 eP P 12 14 35.5 -1.5
comp=Z,42nm,1.5s
D28A Regan 87.64 342 ⇑P P 12 14 36.4 -0.8
baz=88,SNR=6.7
I17A Pilgrim Ck. 87.65 334 ⇑P P 12 14 36.3 -1.2
baz=88
IMW Indian Meadow 87.75 334 eP P 12 14 38.6 +0.5
comp=Z,17nm,1.4s
FLWY Flagg Ranch 87.83 334 eP P 12 14 38.8 +0.4
comp=Z,19nm,1.2s
D26A Manning 87.97 341 ⇑P P 12 14 38.0 -0.7
baz=88
H18A Shoshone NF, C 88.00 335 ⇓P P 12 14 38.7 -0.5
baz=88
G20A Bridger 88.01 336 ⇓P P 12 14 38.9 -0.2
baz=88
MDND Maddock 88.02 343 ⇓P P 12 14 38.9 0.0
baz=88
MDND Maddock 88.02 343 eP P 12 14 38.8 -0.1
comp=Z,18nm,1.2s
B30A Myrvik Farm, E 88.30 344 ⇓P P 12 14 39.6 -0.6
baz=89,SNR=9.6
C27A Sayler Ranch, 88.36 342 ⇓P P 12 14 39.9 -0.7
baz=89
YMR Madison River 88.44 334 eP P 12 14 42.4 +1.1
comp=Z,31nm,1.5s
B29A Wagenman Farm, 88.54 343 ⇓P P 12 14 41.0 -0.4
baz=89,SNR=6.8
C26A Wahner Farm, P 88.62 341 ⇓P P 12 14 41.2 -0.6
baz=89
HLID Hailey 88.73 332 ⇓P P 12 14 41.5 -1.1
baz=89
HLID Hailey 88.73 332 eP P 12 14 43.8 +1.2
comp=Z,25nm,1.6s
QLMT Earthquake Lak 88.74 334 eP P 12 14 44.2 +1.5
comp=Z,0.6nm,1.0s
A30A Hoffart Farm, 88.75 344 ⇑P P 12 14 42.0 -0.4
baz=89
B28A Dugan Ranch, T 88.77 343 ⇑P P 12 14 41.0 -1.4
baz=89,SNR=8.4
C25A Freed Ranch, W 88.81 340 ⇑P P 12 14 42.0 -0.7
baz=89
A29A Manning Farm, 88.95 343 ⇑P P 12 14 41.5 -1.7
baz=89,SNR=5.9
C24A Savage 88.97 340 ⇓P P 12 14 42.6 -0.8
baz=89
MFID Camas Ranch 89.15 331 eP P 12 14 45.3 +0.8
comp=Z,11nm,1.3s
MCMT McKenzie Canyo 89.24 333 eP P 12 14 46.1 +1.1
comp=Z,14nm,1.7s
WVOR Wild Horse Val 89.47 328 eP P 12 14 47.6 +1.6
WVOR pmax pmax
comp=Z,26nm,1.4s
WVOR Wild Horse Val 89.47 328 eP P 12 14 47.6 +1.6
comp=Z,26nm,1.4s
ULM Lac du Bonnet 89.50 346 eP P 12 14 45.6 -0.2
ULM pmax pmax
comp=Z,25nm,1.5s
ULM Lac du Bonnet 89.50 346 P P 12 14 44.3 -1.5
comp=Z,3.5nm,0.9s,baz=176,slow=7.4,SNR=4.3
ULM Lac du Bonnet 89.50 346 eP P 12 14 45.6 -0.2
comp=Z,25nm,1.5s
DLMT Dillon 89.61 334 eP P 12 14 48.2 +1.5
comp=Z,20nm,1.6s
LSZ Lusaka 89.88 109 eP P 12 14 51.2 +2.5
LSZ Lusaka 89.88 109 P P 12 14 47.6 -1.1
comp=Z,6.5nm,1.0s,baz=181,slow=8.7,SNR=6.8
LSZ Lusaka 89.88 109 eP P 12 14 51.2 +2.5
HAWA Hanford 93.09 330 eP P 15 04.7 +2.1
comp=Z,22nm,1.5s
MDT Midelt 94.91 52 P P 12 15 11.5 +0.1
comp=Z,2.8nm,1.0s,baz=277,slow=2.8,SNR=4.2
ILULI Ilulissat 107.62 8 eP Pdif 12 16 19.7 +13
ILULI Ilulissat 107.62 8 i P Pdif 12 16 19.7 +13
ESK Eskdalemuir 110.09 35 ePKIKP PKiKP 12 20 18.2 -1.8
ESK Eskdalemuir 110.09 35 ePKPdf PKiKP 12 20 18.2 -1.8
ASAR Alice Springs 113.96 208 PKKPbc PKKPbc 12 31 14.8 +5.6
comp=Z,0.6nm,0.7s,baz=338,slow=2.8,SNR=5.4
COP Copenhagen 117.86 40 eP Pdif 12 16 53.9 +0.9
COP Copenhagen 117.86 40 i P Pdif 12 16 53.9 +0.9
BSD Bornholm Skovb 118.89 41 eP Pdif 12 17 08.3 +11
BSD Bornholm Skovb 118.89 41 i P Pdif 12 17 08.3 +11
BRTR Keskin Array B 124.52 63 PKP PKPdf 12 20 46.9 -1.5
comp=Z,1.5nm,0.8s,baz=183,slow=3.6,SNR=4.5
RAYN Ar Rayn 126.52 87 ePKPdf PKPdf 12 20 53.5 +0.9
PALK Pallekele 141.95 136 ePKIKP PKPdf 12 21 21.8 +0.1

PALK	**Pallekele**	**141.95**	**136**	*e*PKPdf	**PKPdf**	**12 21 21.8**	**+0.1**
GEYT	**Alibeck**	**142.09**	**74**	PKhKP	PKPpre	12 21 17.3	
	comp=Z,6.4nm,1.0s,baz=251,slow=4.5,SNR=5.9						
SEY	**Seymchan**	**142.32**	**327**	PKP	**PKPdf**	**12 21 20.1**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=180,slow=2.6,SNR=3.7						
ARU	**Arti**	**143.11**	**43**	PKHKP	PKPab	12 21 18.4	+0.6
ABKAR	**Akbulak array**	**144.71**	**55**	*e*PKPdf	**PKPab**	**12 21 22.7**	**-1.4**
PSI	**Prapat**	**144.85**	**167**	PKP	**PKPab**	**12 21 23.4**	**-2.4**
	comp=Z,21nm,0.9s,baz=153,slow=9.0,SNR=4.0						
LHMI	**Lhok Sumawe**	**146.80**	**163**	*e*PKPbc	**PKPbc**	**12 21 31.8**	**0.0**
KULM	**Kulim**	**147.58**	**169**	*e*PKPdf	**PKPdf**	**12 21 31.4**	**0.0**
KULM				*e*PKPbc	**PKPbc**	**12 21 33.3**	**-0.6**
KULM				*e*PKPab	**PKPab**	**12 21 35.7**	**-0.3**
HYB	**Hyderabad**	**148.41**	**122**	*i* PKP	**PKPdf**	**12 21 32.0**	**-0.6**
KBL	**Kabul**	**149.73**	**84**	*e*PKPdf	**PKPdf**	**12 21 34.1**	**-0.4**
KBL				*e*PKPbc	**PKPbc**	**12 21 39.3**	**+0.1**
KBL				*e*PKPab	**PKPab**	**12 21 43.9**	**-0.7**
BRVK	**Borovoye**	**150.51**	**46**	*e*PKIKP	**PKPdf**	**12 21 34.5**	**-0.3**
BRVK				*e*		12 21 46.9	
BRVK	**Borovoye**	**150.51**	**46**	*e*PKPdf	**PKPdf**	**12 21 34.5**	**-0.3**
BRVK				*e*PKPbc	**PKPbc**	**12 21 38.3**	**-1.9**
BRVK				*e*PKPab	**PKPab**	**12 21 46.9**	**0.0**
YAK	**Yakutsk**	**151.47**	**337**	*e*PKIKP	**PKPbc**	**12 21 41.4**	**-0.7**
YAK				pmax	pmax		
	comp=Z,28nm,1.2s						
YAK	**Yakutsk**	**151.47**	**337**	*e*PKPbc	**PKPbc**	**12 21 42.4**	**+0.2**
ASAJ	**Asahikawa**	**151.98**	**295**	PKPbc	**PKPbc**	**12 21 41.8**	**-2.1**
	comp=Z,6.0nm,0.8s,baz=225,slow=1.4,SNR=4.7						
ASAJ				PKPab	**PKPab**	**12 21 54.1**	**+0.8**
	comp=Z,7.7nm,0.8s,baz=143,slow=18,SNR=4.6						
KKAR	**Karatay Array**	**152.15**	**67**	*e*PKIKP	**PKPdf**	**12 21 38.4**	**+0.7**
KKAR				*e*		12 21 44.4	
KKAR	**Karatay Array**	**152.15**	**67**	*e*PKPdf	**PKPdf**	**12 21 38.4**	**+0.7**
KKAR				*e*PKPbc	**PKPbc**	**12 21 44.4**	**+0.1**
EKS2	**Erkin-Say**	**154.55**	**68**	*e*PKIKP	**PKPdf**	**12 21 42.3**	**+1.0**
EKS2				*e*		12 21 48.6	
EKS2				*e*		12 22 04.8	
EKS2	**Erkin-Say**	**154.55**	**68**	*e*PKPdf	**PKPdf**	**12 21 42.3**	**+1.0**
EKS2				*e*PKPbc	**PKPbc**	**12 21 48.6**	**-1.2**
EKS2				*e*PKPab	**PKPab**	**12 22 04.8**	**+0.4**
MJAR	**Matsushiro Arr**	**154.67**	**278**	PKPbc	**PKPbc**	**12 21 49.3**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=128,slow=2.0,SNR=4.1						
MJAR				PKPab	**PKPab**	**12 22 04.8**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=150,slow=3.1,SNR=5.3						
AAK	**Ala-Archa**	**155.08**	**68**	*e*PKIKP	**PKPdf**	**12 21 42.3**	**+0.2**
AAK				*e*		12 21 50.2	
AAK	**Ala-Archa**	**155.08**	**68**	*e*PKPdf	**PKPdf**	**12 21 42.3**	**+0.2**
AAK				*e*PKPbc	PKPbc	12 21 50.1	
TKM2	**Tokmak 2**	**155.88**	**67**	*e*PKIKP	**PKPdf**	**12 21 43.2**	**0.0**
TKM2				*e*		12 21 53.0	
TKM2				*e*		12 22 09.9	
TKM2	**Tokmak 2**	**155.88**	**67**	*e*PKPdf	**PKPdf**	**12 21 43.2**	**0.0**
TKM2				*e*PKPbc	PKPbc	12 21 53.0	
TKM2				*e*PKPab	**PKPab**	**12 22 09.9**	**-0.3**
KSH	**Kashi**	**156.11**	**76**	PKP	**PKPdf**	**12 21 43.1**	**-0.4**
KSH				sPKP		12 21 56.9	
KSH				PKS	**PKSdf**	**12 25 16.5**	**-1.0**
KSH				PP	**PP**	**12 25 47.0**	**-2.3**
KSH				SKS	**SKSdf**	**12 28 45.5**	**-2.9**
KSH				SKKS	**SKKSac**	**12 32 33.6**	**-3.4**
KSH				PPMZ			
	comp=Z,3μm,13.2s						
KURK	**Kurchatov**	**156.17**	**47**	*e*PKIKP	**PKPdf**	**12 21 43.3**	**+0.3**
KURK	**Kurchatov**	**156.17**	**47**	*e*PKPdf	**PKPdf**	**12 21 43.3**	**+0.3**
ZALV	**Zalesovo Beam**	**157.76**	**35**	PKPab	**PKPab**	**12 22 17.3**	**-0.3**
	comp=Z,11nm,1.1s,baz=286,slow=5.5,SNR=6.4						
KOLN	**Koldanda**	**158.53**	**110**	*e*P	**PKPab**	**12 22 20.7**	**-1.4**
DANN	**Dangsing**	**158.95**	**109**	*e*P	**PKPab**	**12 22 22.5**	**-1.5**
	comp=Z,55nm,0.9s						
BOD	**Bodaibo**	**159.00**	**349**	*e*PKP2	PKPpre	12 22 08.8	
BOD				pmax	pmax		
	comp=Z,7.0nm,1.6s						
GKN	**Gorkha**	**159.43**	**111**	*e*P	**PKPab**	**12 22 24.0**	**-1.9**
DMN	**Daman**	**159.56**	**112**	*e*P	**PKPab**	**12 22 24.9**	**-1.7**
PKI	**Pulchoki**	**159.76**	**113**	*e*P	**PKPab**	**12 22 25.7**	**-1.9**
MKAR	**Makanchi Array**	**159.85**	**55**	PKP	**PKPdf**	**12 21 47.8**	**0.0**
	comp=Z,3.6nm,1.2s,baz=14,slow=0.5,SNR=7.3						
MKAR				PKPab	**PKPab**	**12 22 26.5**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=308,slow=1.9,SNR=9.4						
CMAR	**Chiang Mai Arr**	**159.99**	**159**	PKP	**PKPdf**	**12 21 47.9**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=207,slow=1.8,SNR=4.1						
RAMN	**Ramite**	**160.26**	**116**	*e*P	**PKPab**	**12 22 29.6**	**0.0**
GUN	**Gumba**	**160.29**	**113**	*e*P	**PKPab**	**12 22 28.1**	**-1.8**
JIRN	**Jiri**	**160.38**	**114**	*e*P	**PKPab**	**12 22 28.5**	**-1.8**
ODAN	**Odare**	**160.77**	**118**	*e*P	**PKPab**	**12 22 31.9**	**+0.1**
MDJ	**Mudanjiang**	**161.15**	**300**	PKP	**PKPdf**	**12 21 50.5**	**+1.3**
MDJ				pPKP	**pPKPdf**	**12 22 00.3**	**+3.3**
MDJ				sPKP		12 22 03.0	
TAPN	**Taplejung**	**161.29**	**117**	*e*P	**PKPab**	**12 22 34.1**	**-0.1**
WMQ	**Urumqi**	**164.41**	**60**	*e*PKP	**PKPdf**	**12 21 52.5**	**0.0**
WMQ				PKPab	**PKPab**	**12 22 48.6**	**+1.4**
WMQ				PKS	**PKSdf**	**12 25 24.2**	**-1.2**
WMQ				PP	**PP**	**12 26 36.5**	**+2.8**
WMQ				SKKS		12 33 18.3	
WMQ				SS	**SS**	**12 47 01.5**	**-2.8**
WMQ				PPMZ			
	comp=Z,980nm,7.0s						
ZAK	**Zakamensk**	**166.85**	**9**	*e*PKP2	PKPab	12 22 51.3	-6.3
ZAK				*e*		12 26 47.0	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.8s						
NJ2	**Nanjing**	**168.47**	**246**	*e*PKP	**PKPdf**	**12 21 56.8**	**+0.9**
GYA	**Guiyang**	**169.06**	**181**	PKP	**PKPdf**	**12 21 55.8**	**-0.9**
GYA				pPKP	**pPKPdf**	**12 22 07.0**	**+2.5**
GYA				PKPab	**PKPab**	**12 23 08.6**	**+0.6**
GYA				PKS	**PKSdf**	**12 25 27.4**	**-2.0**
GYA				PP	**PP**	**12 26 59.2**	**+2.8**
GYA				PPMZ			
	comp=Z,120nm,8.2s						
SONM	**Songino Array**	**169.60**	**0**	PKPab	**PKPab**	**12 23 09.1**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=0.0,slow=3.0,SNR=6.1						
WHN	**Wuhan**	**170.50**	**226**	PKP	**PKPdf**	**12 21 57.1**	**-0.1**
CD2	**Chengdu**	**173.13**	**160**	*e*PKP	**PKPdf**	**12 21 58.8**	**+0.3**
GTA	**Gaotai**	**174.43**	**67**	*e*PKP	**PKPdf**	**12 21 59.9**	**+1.1**
GTA				pPKP	**pPKPdf**	**12 22 10.6**	**+4.0**
GTA				sPKP		12 22 14.2	
GTA				PKPab	**PKPab**	**12 23 33.4**	**+1.6**
HHC	**Hu-ho-hao-te**	**174.75**	**312**	*e*PKP	**PKPdf**	**12 21 59.1**	**+0.3**
HHC				pPKP	**pPKPdf**	**12 22 12.1**	**+5.4**
HHC				PP	PP	12 27 31.0	+5.5
HHC				SKS	**SKSdf**	**12 28 56.0**	**-4.5**
HHC				SKKS	**SKKSac**	**12 34 09.0**	**-1.4**
LZH	**Lanzhou**	**177.52**	**122**	*e*PKP	**PKPdf**	**12 21 59.4**	**-0.3**
LZH				pPKP	**pPKPdf**	**12 22 10.6**	**+3.1**
LZH				sPKP		12 22 14.6	

*IDC **05** 12:12:21.4±1.6, 37°.55S×74°.01W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/28, mbtmp3.9/6, ML4.6/1, Error ellipse: s-maj=44.9km s-min=32.6km az=65.0*
*ISCJB **05** 12:12:25.6±1.4, 37°.4S±0°.1×74°.0W±0°.3, h33km, mb3.8/5, Error ellipse: s-maj=31.0km s-min=16.1km az=164.8*
ISC 05 12:12:27.6±1.5, 37°.4S±0°.2×74°.0W±0°.3, h35km, n9, σ1°17/9, mb3.9/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.28**	**143**	Pn	**Pn**	**12 13 31.2**	**+0.8**
	1.0nm,0.3s,baz=294,slow=12,SNR=4.4						
CPUP	**Villa Florida**	**17.89**	**57**	P	**P**	**12 16 34.2**	**+0.2**
	0.5nm,0.3s,baz=215,slow=12,SNR=2.8						
LPAZ	**La Paz**	**21.63**	**15**	P	**P**	**12 17 16.9**	**+1.4**
	4.5nm,0.9s,baz=192,slow=6.3,SNR=4.9						
SIV	**San Ignacio**	**24.17**	**32**	P	**P**	**12 17 39.1**	**-1.6**
	2.1nm,0.9s,baz=218,slow=9.1,SNR=2.8						
TXAR	**Lajitas Array**	**71.96**	**333**	P	**P**	**12 23 47.5**	**-0.1**
	0.6nm,1.0s,baz=141,slow=5.8,SNR=4.0						
BOSA	**Boshof**	**79.88**	**118**	P	**P**	**12 24 31.7**	**-1.4**
	2.1nm,0.9s,baz=159,slow=14,SNR=2.0						
TORD	**Torodi Ar. Bea**	**86.82**	**71**	P	**P**	**12 25 08.7**	**0.0**
	1.5nm,0.9s,baz=220,slow=4.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**157.90**	**35**	PKPab	**PKPab**	**12 32 54.0**	**+1.0**
	0.8nm,0.6s,baz=317,slow=6.3,SNR=3.8						
MKAR	**Makanchi Array**	**160.09**	**54**	PKPab	**PKPab**	**12 33 03.0**	**+0.2**
	0.6nm,0.8s,baz=274,slow=4.7,SNR=6.1						

IDC 05 12:13:33.8±2.6, 37°.61S×74°.41W, h0km, mb3.6/2, mb1 4.1/3, mb1mx3.8/29, mbtmp3.8/3, ML4.6/1, Error ellipse: s-maj=113.4km s-min=28.1km az=49.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.33**	**137**	Pn	Pn	12 14 41.8	+0.8
	7.0nm,0.3s,baz=302,slow=12,SNR=6.7						
PLCA				Sn	Sn	12 15 31.0	-1.2
	8.7nm,0.3s,baz=25,slow=14,SNR=4.1						
TXAR	**Lajitas Array**	**72.01**	**333**	P	P	12 24 59.4	-0.2
	0.3nm,0.6s,baz=146,slow=8.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**87.22**	**71**	P	P	12 26 21.8	-0.6
	0.3nm,0.5s,baz=226,slow=5.4,SNR=2.8						
MKAR	**Makanchi Array**	**160.51**	**55**	PKPab	PKPab	12 34 17.1	+0.7
	0.5nm,0.7s,baz=299,slow=4.1,SNR=4.0						

*IDC **05** 12:21:28.2±0.5, 35°.15S×71°.90W, h0km, mb4.8/17, mb1 4.9/20, mb1mx4.7/32, mbtmp4.7/20, ML4.5/3, Error ellipse: s-maj=21.0km s-min=13.1km az=79.0*
*ISCJB **05** 12:21:31.2±0.2, 35°.29S±0°.03×72°.12W±0°.04, h29km, mb4.7/46, Error ellipse: s-maj=5.4km s-min=4.3km az=42.6*
*NEIC **05** 12:21:36.4, 35°.09S×71°.82W, h36km, mb4.6/30, ML5.1(GUC), After GUC.*
NEIC Felt [V] at Curico and Talca; [IV] at Parral and Retiro; [II] at San Fernando.
*GUC **05** 12:21:36.4±0.5, 35°.09S×71°.82W, h36km±3km, ML5.1*
ISC 05 12:21:33.2±0.4, 35°.12S±0°.03×72°.05W±0°.07, h29km, n390, σ0°89/411, mb4.7/46, 150C-132D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.81**	**154**	⇑*P*	**Pb**	**12 21 51.0**	**+2.2**
LNCH				*i* S	**Sn**	**12 22 01.8**	**+2.0**
LNCH				AML	AML	12 22 05.2	
	comp=E,83μm,0.5s						
LNCH	**Linares**	**0.81**	**154**	⇑*P*	**Pb**	**12 21 51.0**	**+2.2**
LNCH				*i* S	**Sn**	**12 22 01.8**	**+2.0**
LNV	**Longovilo**	**1.27**	**25**	⇑*P*	**Pb**	**12 21 57.2**	**+0.7**
LNV	**Longovilo**	**1.27**	**25**	⇑*P*	**Pb**	**12 21 57.2**	**+0.7**
CACH	**El Canelo**	**1.56**	**50**	⇑*P*	**Pn**	**12 22 00.8**	**+1.8**
CACH	**El Canelo**	**1.56**	**50**	⇑*P*	**Pn**	**12 22 00.8**	**+1.8**
CHCH	**Chadas Angostu**	**1.65**	**45**	⇓*P*	**Pb**	**12 22 02.5**	**-0.4**
CHCH	**Chadas Angostu**	**1.65**	**45**	⇓*P*	**Pb**	**12 22 02.5**	**-0.4**
TACH	**Talagante**	**1.73**	**32**	⇑*P*	**Pb**	**12 22 03.5**	**-0.7**
TACH	**Talagante**	**1.73**	**32**	⇑*P*	**Pb**	**12 22 03.5**	**-0.7**
ANTU	**Antumapu**	**1.94**	**38**	*e*P	**Pn**	**12 22 06.5**	**+2.3**
ANTU				*i* S4	**Sn**	**12 22 30.4**	**+2.8**
ANTU				AML	AML	12 22 35.9	
	comp=E,40μm,0.5s						
ANTU	**Antumapu**	**1.94**	**38**	*e*P	**Pn**	**12 22 06.5**	**+2.3**
ANTU				S	**Sn**	**12 22 30.4**	**+2.8**
PCH	**Pirque**	**1.96**	**41**	*e*P1	**Pn**	**12 22 07.0**	**+2.5**
PCH	**Pirque**	**1.96**	**41**	*e*P	**Pn**	**12 22 07.0**	**+2.5**
SAN	**Santiago**	**2.02**	**35**	*e*P1	**Pn**	**12 22 07.5**	**+2.3**
SAN	**Santiago**	**2.02**	**35**	*e*P	**Pn**	**12 22 07.5**	**+2.3**
LACH	**Col Las Americ**	**2.08**	**37**	*e*P	**Pn**	**12 22 08.5**	**+2.3**
LACH				*i* S4	**Sb**	**12 22 34.9**	**-0.9**
LACH				AML	AML	12 22 42.5	
	comp=E,11μm,0.8s						
LACH	**Col Las Americ**	**2.08**	**37**	*e*P	**Pn**	**12 22 08.5**	**+2.3**
LACH				S	**Sb**	**12 22 34.9**	**-0.9**
PEL	**Peldehue**	**2.27**	**30**	*e*P1	**Pn**	**12 22 10.9**	**+2.1**
PEL				AML	AML	12 22 52.6	
	comp=N,53μm,0.6s						
PEL	**Peldehue**	**2.27**	**30**	*e*P	**Pn**	**12 22 10.9**	**+2.1**
CFAA	**Coronel Fontan**	**4.74**	**43**	Pn	**Pn**	**12 22 44.8**	**+2.1**
	comp=N,4.6nm,0.3s,baz=217,slow=13,SNR=58						
CFAA				Sn	**Sn**	**12 23 41.3**	**+4.6**
	comp=N,5.7nm,0.3s,baz=35,slow=22,SNR=3.9						
PLCA	**Paso Flores**	**5.73**	**169**	Pn	Pn	12 22 52.6	-3.7
	comp=N,2.3nm,0.3s,baz=244,slow=20,SNR=6.2						
PLCA				Lg	Lg	12 24 31.7	
	comp=N,2.2nm,0.3s,baz=39,slow=10,SNR=3.6						
TRQA	**Tornquist**	**8.61**	**113**	*e*Pn	**Pn**	**12 23 37.4**	**+1.6**
	comp=N,32nm,0.6s						
LVC	**Limon Verde**	**12.76**	**13**	*e*Pn	**Pn**	**12 24 34.9**	**+2.0**
	comp=N,164nm,0.2s						
LVC				*e*Sn	**Sn**	**12 26 56.0**	**+1.9**
CPUP	**Villa Florida**	**15.38**	**59**	Pn	**Pn**	**12 25 05.0**	**-3.1**
	comp=N,1.4nm,0.3s,baz=214,slow=12,SNR=3.8						
CPUP	**Villa Florida**	**15.38**	**59**	*e*Pn	**Pn**	**12 25 10.6**	**+2.5**
LPAZ	**La Paz**	**19.08**	**12**	P	**Pn**	**12 25 56.2**	**+1.2**
	comp=N,1.0nm,0.3s,baz=181,slow=3.3,SNR=48						
LPAZ	**La Paz**	**19.08**	**12**	*e*P	**Pn**	**12 25 56.1**	**+1.2**
	comp=N,32nm,0.8s						
EFI	**East Falkland**	**19.36**	**153**	*e*P	**P**	**12 25 56.0**	**-0.2**
	comp=N,28nm,0.7s						
USHA	**Ushuaia**	**19.87**	**174**	P	**P**	**12 26 01.9**	**+0.1**
	comp=N,0.8nm,0.3s,baz=3.1,slow=5.1,SNR=4.5						
SIV	**San Ignacio**	**21.44**	**30**	P	**P**	**12 26 18.6**	**-0.5**
	comp=N,42nm,0.7s,baz=216,slow=10,SNR=85						
NNA	**Nana**	**23.44**	**348**	*e*P	**P**	**12 26 41.0**	**+0.9**
	comp=N,4.6nm,0.3s						
SAML	**Samuel**	**27.28**	**19**	*e*P	**P**	**12 27 14.5**	**-0.6**
	comp=N,6.4nm,0.9s						
BDFB	**Brasilia**	**28.98**	**54**	P	**P**	**12 27 28.7**	**-1.8**
	comp=N,22nm,0.8s,baz=216,slow=9.3,SNR=20						
OTAV	**Otavalo**	**35.68**	**349**	*e*P	**P**	**12 28 31.8**	**+2.3**
	comp=N,12nm,1.1s						
SDV	**Santo Domingo**	**43.79**	**2**	*e*P	**P**	**12 29 36.0**	**-0.6**
	comp=N,21nm,0.9s						
RCBR	**Riachuelo**	**44.24**	**57**	*e*P	**P**	**12 29 39.6**	**-0.6**
	comp=N,4.3nm,0.5s						
VNA3	**Neumayer Olymp**	**48.33**	**157**	P	**P**	**12 30 11.0**	**-0.6**
VNA2	**Neumayer--Watz**	**48.99**	**157**	P	**P**	**12 30 15.8**	**-0.8**
SNAA	**Sanae**	**50.55**	**157**	P	**P**	**12 30 27.9**	**-0.8**
SNAA	**Sanae**	**50.55**	**157**	P	**P**	**12 30 28.2**	**-0.4**
	comp=N,3.9nm,0.8s,baz=232,slow=2.8,SNR=14						
SNAA	**Sanae**	**50.55**	**157**	*e*P	**P**	**12 30 27.9**	**-0.8**
	comp=N,30nm,1.4s						
APG	**El Apazote**	**52.82**	**337**	P	**P**	12 30 42.4	-3.9
	comp=N,3.9nm,0.8s,baz=157,slow=8.9,SNR=4.6						
SDDR	**Presa de Saban**	**53.81**	**1**	*e*P	**P**	**12 30 53.9**	**+0.6**
QSPA	**South Pole Qui**	**55.12**	**180**	P	**P**	**12 31 02.6**	**+0.1**
	comp=N,13nm,0.9s,baz=310,slow=0.8,SNR=20						
QSPA	**South Pole Qui**	**55.12**	**180**	*e*P	**P**	**12 31 02.5**	**0.0**
TEIG	**Tepich**	**57.16**	**342**	P	**P**	**12 31 17.2**	**-0.1**
	comp=N,12nm,0.7s,baz=188,slow=9.4,SNR=7.0						
035A	**Encino**	**66.46**	**335**	⇓*P*	**P**	**12 32 21.2**	**+1.4**
	baz=67						
034A	**Hebbronville**	**66.78**	**334**	⇓*P*	**P**	**12 32 22.6**	**+0.7**
	baz=67						
933A	**Laredo**	**67.49**	**334**	⇑*P*	**P**	**12 32 27.3**	**+0.9**
	baz=68						
834A	**Tilden**	**67.70**	**335**	⇓*P*	**P**	**12 32 29.2**	**+1.5**
	baz=68						
735A	**Kenedy**	**68.12**	**336**	⇑*P*	**P**	**12 32 31.3**	**+1.0**
	baz=68						
833A	**Chaparral WMA,**	**68.18**	**334**	⇓*P*	**P**	**12 32 31.6**	**+0.9**
	baz=68						
832A	**Faith Ranch, C**	**68.36**	**334**	⇓*P*	**P**	**12 32 32.7**	**+0.9**
	baz=69						
636A	**Smothers Creek**	**68.45**	**337**	⇓*P*	**P**	**12 32 33.3**	**+1.0**
	baz=69						
732A	**Laxson Ranch,**	**68.76**	**334**	⇑*P*	**P**	**12 32 35.2**	**+0.9**
	baz=69,SNR=7.9						
633A	**Saathoff Ranch**	**69.14**	**335**	⇓*P*	**P**	**12 32 36.8**	**+0.1**
	baz=70						
632A	**Uvalde**	**69.40**	**334**	⇓*P*	**P**	**12 32 39.2**	**+0.9**
	baz=70,SNR=6.4						
533A	**Kerrville**	**69.65**	**335**	⇓*P*	**P**	**12 32 40.7**	**+0.8**
	baz=70						
532A	**Rocksprings**	**70.01**	**334**	⇑*P*	**P**	**12 32 42.7**	**+0.6**
	baz=70,SNR=9.0						
434A	**Burnet**	**70.08**	**336**	⇑*P*	**P**	**12 32 42.9**	**+0.5**
	baz=70						
336A	**Riesel**	**70.14**	**338**	⇓*P*	**P**	**12 32 43.5**	**+0.7**
	baz=70						
531A	**Rocksprings**	**70.27**	**334**	⇑*P*	**P**	**12 32 44.3**	**+0.6**
	baz=71,SNR=5.8						
JCT	**Junction City**	**70.29**	**335**	⇓*P*	**P**	**12 32 44.2**	**+0.4**
	baz=71						
JCT	**Junction City**	**70.29**	**335**	*e*P	**P**	**12 32 44.5**	**+0.7**
	comp=N,4.4nm,0.8s						
433A	**Art**	**70.30**	**335**	⇓*P*	**P**	**12 32 44.1**	**+0.3**
	baz=71						
237A	**Washetta, Mont**	**70.40**	**339**	⇑*P*	**P**	**12 32 45.2**	**+0.9**
	baz=71						
KMSC	**Kings Mountain**	**70.44**	**352**	⇑*P*	**P**	**12 32 45.9**	**+1.4**
	baz=71						
334A	**Lometa**	**70.54**	**336**	⇑*P*	**P**	**12 32 45.9**	**+0.6**
	baz=71						
530A	**J-C Ranch, Com**	**70.54**	**333**	⇓*P*	**P**	**12 32 46.2**	**+0.9**
	baz=71,SNR=6.1						
432A	**Menard**	**70.65**	**335**	⇑*P*	**P**	**12 32 46.4**	**+0.4**
	baz=71						
TXAR	**Lajitas Array**	**70.71**	**331**	P	**P**	**12 32 47.1**	**+0.7**
	comp=N,1.9nm,0.6s,baz=156,slow=8.2,SNR=42						
431A	**Sonora**	**70.76**	**334**	⇓*P*	**P**	**12 32 46.9**	**+0.3**
	baz=71						
333A	**Richland Sprin**	**70.78**	**336**	⇓*P*	**P**	**12 32 47.0**	**+0.2**
	baz=71						
529A	**Stev Forest Ra**	**70.85**	**333**	⇓*P*	**P**	**12 32 47.6**	**+0.3**
	baz=71						
WHTX	**Lake Whitney,**	**70.90**	**337**	⇑*P*	**P**	**12 32 47.5**	**+0.1**
	baz=71						
137A	**Heron Place, G**	**70.94**	**339**	⇓*P*	**P**	**12 32 48.0**	**+0.4**
	baz=71						
430A	**Baggett Ranch,**	**71.08**	**334**	⇓*P*	**P**	**12 32 49.1**	**+0.5**
	baz=72,SNR=5.7						
332A	**Millersview**	**71.09**	**335**	⇑*P*	**P**	**12 32 48.9**	**+0.2**
	baz=72						
234A	**Clairette**	**71.13**	**337**	⇓*P*	**P**	**12 32 49.1**	**+0.3**
	baz=72						
SWET	**Sewanee**	**71.17**	**348**	*e*P	**P**	**12 32 48.9**	**-0.1**
	comp=N,16nm,0.7s						
429A	**Davenport Ranc**	**71.18**	**333**	⇑*P*	**P**	**12 32 49.4**	**+0.2**
	baz=72						
TKL	**Tuckaleechee C**	**71.26**	**350**	P	**P**	**12 32 49.0**	**-0.5**
	comp=N,4.1nm,0.6s,baz=167,slow=5.7,SNR=5.8						
TKL	**Tuckaleechee C**	**71.26**	**350**	*e*P	**P**	**12 32 48.9**	**-0.6**
331A	**San Angelo**	**71.27**	**335**	⇓*P*	**P**	**12 32 49.8**	**+0.1**
	baz=72,SNR=6.0						
233A	**Rising Star**	**71.39**	**336**	⇑*P*	**P**	**12 32 50.6**	**+0.1**
	baz=72						
232A	**Coleman**	**71.52**	**335**	⇓*P*	**P**	**12 32 51.2**	**0.0**
	baz=72						
330A	**Mertzon**	**71.62**	**334**	⇓*P*	**P**	**12 32 51.8**	**-0.1**
	baz=72						
134A	**White-Moore Ra**	**71.63**	**337**	⇑*P*	**P**	**12 32 51.2**	**-0.7**
	baz=72						
231A	**Bronte**	**71.80**	**335**	⇓*P*	**P**	**12 32 52.9**	**0.0**
	baz=72,SNR=5.1						
133A	**Hamilton Ranch**	**71.94**	**336**	⇓*P*	**P**	**12 32 53.7**	**0.0**
	baz=72						
329A	**Wagon Wheel Ra**	**71.98**	**333**	⇓*P*	**P**	**12 32 54.1**	**0.0**
	baz=72						
230A	**Sterling City**	**72.03**	**334**	⇑*P*	**P**	**12 32 54.5**	**+0.2**
	baz=72						
Z35A	**Perchaven, San**	**72.08**	**338**	⇓*P*	**P**	**12 32 54.9**	**+0.4**
	baz=72						
MAW	**Mawson**	**72.11**	**163**	P	**P**	**12 32 54.2**	**-0.2**
	comp=N,15nm,0.8s,baz=186,slow=7.4,SNR=4.9						
MIAR	**Mount Ida**	**72.17**	**341**	*e*P	**P**	**12 32 55.0**	**0.0**
	comp=N,1.4nm,0.4s						
ABTX	**Abilene, Hawle**	**72.19**	**336**	⇓*P*	**P**	**12 32 55.3**	**0.0**
	baz=73						
229A	**Bryant Ranch,**	**72.36**	**334**	⇓*P*	**P**	**12 32 56.4**	**+0.2**
	baz=73						
WVT	**Waverly**	**72.39**	**347**	*e*P	**P**	**12 32 56.0**	**-0.3**
	comp=N,27nm,0.7s						
131A	**Roby**	**72.49**	**335**	⇑*P*	**P**	**12 32 57.2**	**+0.1**
	baz=73						
Z33A	**Whitaker Ranch**	**72.51**	**337**	⇑*P*	**P**	**12 32 57.1**	**0.0**
	baz=73						
130A	**Snyder**	**72.62**	**335**	⇓*P*	**P**	**12 32 57.5**	**-0.3**
	baz=73						
Z32A	**Haskell**	**72.76**	**336**	⇓*P*	**P**	**12 32 58.7**	**+0.1**
	baz=73						
228A	**UT Block 9, Go**	**72.78**	**333**	⇓*P*	**P**	**12 32

	baz=77					
LAZ	Ladron	76.55	331	eP	P	12 33 22.4 +1.6
	comp=N,27nm,2.4s					
W24A	Lazy 6 Ranch,	76.59	332	⇓P	P	12 33 21.0 0.0
	baz=77					
S31A	Mullinville	76.72	338	⇓P	P	12 33 21.8 +0.3
	baz=77					
U27A	Thompson Grove	76.73	335	⇑P	P	12 33 22.1 +0.4
	baz=77					
ANMO	Albuquerque	76.76	332	P	P	12 33 22.7 +0.8
	comp=N,2.9nm,0.9s,baz=164,slow=7.4,SNR=9.8					
W23A	Werner Place,	76.83	332	⇓P	P	12 33 22.8 +0.5
	baz=77					
V25A	Rancho No Teng	76.85	333	⇑P	P	12 33 22.7 +0.3
	baz=77,SNR=5.5					
R33A	Olander Ranch,	76.91	339	⇓P	P	12 33 22.8 +0.3
	baz=77					
V24A	Rampart Ranch,	76.99	333	⇓P	P	12 33 22.8 -0.5
	baz=77					
U26A	Atchley Ranch,	77.03	334	⇓P	P	12 33 23.6 +0.2
	baz=77					
S30A	Montezuma	77.05	337	⇑P	P	12 33 23.8 +0.5
	baz=77					
T28A	Walsh	77.12	336	⇑P	P	12 33 24.2 +0.4
	baz=78					
S29A	Ulysses	77.24	337	⇑P	P	12 33 24.9 +0.4
	baz=78					
KSU1	Kansas State U	77.27	341	⇓P	P	12 33 24.9 +0.4
	baz=78					
T27A	Campo	77.27	335	⇓P	P	12 33 25.3 +0.6
	baz=78					
U25A	Circle Dot Ran	77.27	334	⇓P	P	12 33 25.4 +0.6
	baz=78					
R31A	Burdett	77.35	338	⇑P	P	12 33 25.2 +0.2
	baz=78					
V23A	Ortiz Mt. (NFS	77.36	332	⇑P	P	12 33 26.0 +0.7
	baz=78					
S28A	Manter	77.47	336	⇓P	P	12 33 26.2 +0.4
	baz=78					
T26A	Comanche Natio	77.67	335	⇑P	P	12 33 27.5 +0.5
	baz=78					
Q32A	Meitler Ranch,	77.71	339	⇑P	P	12 33 27.4 +0.5
	baz=78					
V22A	San Miguel Ran	77.78	332	⇓P	P	12 33 28.8 +1.1
	baz=78					
X18A	Snowflake	77.83	329	⇓P	P	12 33 29.0 +1.0
	baz=78					
U23A	El Rito	77.87	332	⇑P	P	12 33 28.9 +0.7
	baz=78					
T25A	Trinidad	77.93	334	⇑P	P	12 33 29.4 +0.9
	baz=78,SNR=6.3					
Q31A	Ellis	77.97	339	⇓P	P	12 33 29.1 +0.7
	baz=78					
S26A	Kim	78.03	335	⇑P	P	12 33 29.5 +0.6
	baz=78					
113A	Mohawk Valley,	78.05	325	⇓P	P	12 33 30.1 +1.2
	baz=78					
R28A	Tribune	78.12	336	⇓P	P	12 33 29.9 +0.5
	baz=78					
Q30A	Quinter	78.20	338	⇓P	P	12 33 30.7 +1.0
	baz=79					
T24B	San Luis	78.22	333	⇑P	P	12 33 31.1 +0.9
	baz=79					
Q29A	Oakley	78.36	337	⇑P	P	12 33 31.1 +0.5
	baz=79					
X16A	Lo Mia Camp, P	78.38	328	⇓P	P	12 33 32.0 +1.0
	baz=79					
R27A	Eads	78.40	336	⇓P	P	12 33 31.4 +0.5
	baz=79					
S25A	Robets Cordova	78.41	334	⇓P	P	12 33 31.7 +0.6
	baz=79					
R26A	Arlington	78.64	335	⇑P	P	12 33 33.2 +1.0
	baz=79					
S24A	Houchin Ranch,	78.67	334	⇓P	P	12 33 33.9 +1.2
	baz=79					
Y14A	Wickenburg	78.67	326	⇓P	P	12 33 33.2 +0.8
	baz=79					
TSUM	Tsumeb	78.92	106	eP	P	12 33 33.7 -0.7
	comp=N,7.2nm,1.0s					
P29A	Atwood	78.99	338	⇑P	P	12 33 34.8 +0.7
	baz=79					
R24A	Sanders Place,	79.16	334	⇓P	P	12 33 36.5 +1.3
	baz=80,SNR=8.3					
Y12C	Blythe	79.22	325	⇓P	P	12 33 36.7 +1.3
	baz=80					
Q26A	Hugo	79.22	336	⇑P	P	12 33 36.4 +0.9
	baz=80					
P28A	Saint Francis	79.22	337	⇑P	P	12 33 36.7 +1.3
	baz=80					
WUAZ	Wupatki	79.28	328	⇑P	P	12 33 37.3 +1.4
	baz=80					
WUAZ	Wupatki	79.28	328	eP	P	12 33 37.4 +1.6
	comp=N,5.9nm,1.3s					
S22A	4UR Ranch, Cre	79.36	333	⇓P	P	12 33 37.7 +1.3
	baz=80					
R23A	Moffat	79.38	334	⇑P	P	12 33 37.7 +1.2
	baz=80					
Q25A	Bedland, Calha	79.46	335	⇓P	P	12 33 37.7 +0.8
	baz=80					
P27A	Ficken Ranch,	79.48	336	⇑P	P	12 33 38.1 +1.3
	baz=80					
MVCO	Mesa Verde	79.54	331	⇑P	P	12 33 38.3 +0.9
	baz=80					
BOSA	Boshof	79.56	118	P	P	12 33 36.6 -1.2
	comp=N,20nm,0.8s,baz=229,slow=5.3,SNR=23					
BC3	Big Chuckawall	79.58	324	⇓P	P	12 33 38.6 +1.1
	baz=80					
O28A	Krutsinger Ran	79.73	337	⇓P	P	12 33 39.0 +0.8
	baz=80					
P26A	Davis Ranch, A	79.73	336	⇓P	P	12 33 39.2 +1.0
	baz=80					
Q24A	Divide	79.82	334	⇑P	P	12 33 39.7 +0.7
	baz=80					
BGNE	Belgrade	79.84	340	⇑P	P	12 33 39.7 +1.1
	baz=80					
IRM	Iron Mountain	79.85	325	⇑P	P	12 33 39.9 +1.1
	baz=80					
P25A	Willow Gulch B	79.97	335	⇓P	P	12 33 41.1 +1.5
	baz=80					
O27A	Beecher Island	80.02	337	⇑P	P	12 33 40.9 +1.2
	baz=80					
PFO	Pinyon Flats O	80.03	324	⇑P	P	12 33 41.8 +1.8
	baz=80					
W13A	Hualapai Mount	80.04	326	⇓P	P	12 33 41.5 +1.4
	baz=80					
BELC	Belle Mtn. Jos	80.12	324	⇓P	P	12 33 41.7 +1.2
	baz=80					
O26A	Horse Wrangler	80.34	336	⇓P	P	12 33 43.1 +1.6
	baz=81					
MURC	Murrieta	80.38	323	⇑P	P	12 33 42.8 +1.0
	baz=81					
U15A	North Rim	80.44	328	⇑P	P	12 33 43.3 +1.0
	baz=81					
M30A	Dale-Ortello V	80.45	339	⇓P	P	12 33 43.5 +1.5
	baz=81					
O25A	Wiggins	80.49	336	⇑P	P	12 33 43.5 +1.2
	baz=81					
OGNE	Ogallala	80.56	337	⇑P	P	12 33 43.9 +1.3
	baz=81					
N27A	Anderson Farm,	80.59	337	⇓P	P	12 33 44.0 +1.2
	baz=81					
GMRC	Granite Mounta	80.60	325	⇓P	P	12 33 44.3 +1.3
	baz=81					
ISCO	Idaho Springs	80.73	334	⇓P	P	12 33 44.8 +1.0
	baz=81					
ISCO	Idaho Springs	80.73	334	eP	P	12 33 44.5 +0.7
	comp=N,1.9nm,0.8s					
L31A	Butterfield Fa	80.74	340	⇓P	P	12 33 44.3 +0.9
	baz=81					
P22A	Eagle	80.96	334	⇓P	P	12 33 46.1 +1.2
	baz=81					
O23A	Lake Granby, G	81.20	334	⇓P	P	12 33 47.1 +0.9
	baz=82,SNR=5.4					
TUQ	Turquoise Moun	81.26	325	⇓P	P	12 33 47.9 +1.4
	baz=82					
O22A	Kremmling	81.38	334	⇑P	P	12 33 48.5 +1.2
	baz=82					
K30A	Basset	81.42	340	⇑P	P	12 33 47.2 +0.1
	baz=82					
GSC	Goldstone, Bar	81.57	324	⇓P	P	12 33 47.5 -0.6
	baz=82					
ECSD	EROS Data Cent	81.61	342	⇑P	P	12 33 48.0 -0.1
	baz=82					
K29A	Lazy Trails An	81.70	339	⇓P	P	12 33 49.0 +0.4
	baz=82					
N23A	Red Feather La	81.82	335	⇓P	P	12 33 49.8 +0.3
	baz=82					
LBTB	Lobatse	81.84	115	eP	P	12 33 49.1 -0.9
	comp=N,14nm,0.8s					
CCUT	Cedar City	81.85	328	eP	P	12 33 51.3 +1.6
	comp=N,7.0nm,1.3s					
N22A	Wattenberg Ran	81.91	334	⇑P	P	12 33 50.8 +0.8
	baz=82					
M24A	Cheyenne	81.94	336	⇓P	P	12 33 50.6 +0.5
	baz=82					
K28A	Ten Mile Ranch	81.97	339	⇑P	P	12 33 51.3 +1.3
	baz=82					
O20A	White River Ci	81.98	333	⇑P	P	12 33 50.9 +0.6
	baz=82					
SRU	San Rafael Swe	81.98	331	eP	P	12 33 51.0 +0.7
	comp=N,3.4nm,0.8s					
J29A	Okreek	82.30	340	⇓P	P	12 33 52.5 +0.8
	baz=83					
I30A	Oacoma	82.52	340	⇓P	P	12 33 52.9 +0.1
	baz=83					
J28A	Allard Ranch,	82.58	339	⇓P	P	12 33 53.7 +0.5
	baz=83					
J27A	Elkhorn Farm,	82.65	338	⇑P	P	12 33 54.2 +0.6
	baz=83					
K25A	Mack Ranch, Ha	82.65	337	⇓P	P	12 33 53.9 +0.3
	baz=83					
ISA	Isabella, Lake	82.66	323	⇑P	P	12 33 54.2 +0.4
	baz=83					
J26A	Sides Ranch, S	83.03	338	⇑P	P	12 33 56.0 +0.5
	baz=83					
I28A	Midland	83.09	339	⇑P	P	12 33 56.5 +0.7
	baz=84					
VES	Vestal, Richgr	83.10	323	⇑P	P	12 33 56.7 +0.8
	baz=84					
J25A	Sunshine Ranch	83.33	337	⇓P	P	12 33 57.9 +0.8
	baz=84					
K23A	Bowen Ranch, D	83.36	336	⇑P	P	12 33 58.0 +0.7
	baz=84					
H29A	Onida	83.39	340	⇓P	P	12 33 57.7 +0.4
	baz=84					
I27A	Quinn	83.41	339	⇑P	P	12 33 58.0 +0.5
	baz=84					
R11A	Troy Canyon, C	83.49	327	⇓P	P	12 33 58.4 +0.3
	baz=84					
R11A	Troy Canyon, C	83.49	327	eP	P	12 33 58.2 +0.1
	comp=N,2.7nm,0.9s					
J24A	Dixon Ranch, L	83.55	337	⇑P	P	12 33 59.1 +0.8
	baz=84					
G30A	Faulkton	83.56	341	⇓P	P	12 33 59.2 +1.0
	baz=84					
K22A	Casper	83.57	335	⇑P	P	12 33 59.1 +0.7
	baz=84					
H28A	Mission Ridge	83.66	340	⇑P	P	12 33 58.8 +0.1
	baz=84					
K21A	Alcova	83.81	335	⇓P	P	12 34 00.1 +0.4
	baz=84,SNR=7.1					
DUG	Dugway, Tooele	83.83	330	⇑P	P	12 34 00.8 +1.0
	baz=84					
I25A	Rochford	83.88	338	⇓P	P	12 33 59.8 -0.2
	baz=84					
H27A	Howes	83.93	339	⇓P	P	12 34 00.1 +0.1
	baz=84					
G28A	Parade	84.00	340	⇑P	P	12 34 00.8 +0.3
	baz=84					
I24A	Kuemmerle Ranc	84.02	337	⇑P	P	12 34 01.0 +0.4
	baz=84					
TCUT	Toone Canyon	84.05	331	eP	P	12 34 01.3 +0.2
J22A	Midwest	84.23	336	⇑P	P	12 34 01.6 -0.2
	baz=85					
H25A	Fruitdale	84.38	338	⇑P	P	12 34 02.4 0.0
	baz=85					
F29A	Eureka	84.40	341	⇓P	P	12 34 02.4 0.0
	baz=85					
G27A	Dupree	84.57	339	⇑P	P	12 34 03.1 -0.2
	baz=85					
TORD	Torodi Ar. Bea	84.60	70	P	P	12 34 03.2 -0.9
	comp=N,18nm,0.8s,baz=265,slow=4.4,SNR=80					
I22A	9 Mile Ranch,	84.66	336	⇑P	P	12 34 03.6 -0.3
	baz=85					
G26A	Maurine	84.69	339	⇑P	P	12 34 03.7 -0.2
	baz=85					
J20A	Shoshoni	84.73	334	⇑P	P	12 34 05.0 +0.7
	baz=85,SNR=7.5					
PDAR	Pinedale Array	84.76	333	P	P	12 34 04.2 -0.3
	comp=N,1.0nm,0.6s,baz=142,slow=5.5,SNR=8.7					
E30A	Jud	84.78	342	⇑P	P	12 34 04.7 +0.4
	baz=85					
H24A	Dirks Ranch, A	84.79	337	⇑P	P	12 34 04.6 +0.1
	baz=85					
NVAR	Mina Array Bea	84.80	325	P	P	12 34 05.5 +0.6
	comp=N,1.2nm,0.7s,baz=151,slow=6.5,SNR=12					
I21A	Big Trails, Te	84.86	335	⇑P	P	12 34 05.1 +0.2
	baz=85					
J19A	Crowheart	85.00	334	⇑P	P	12 34 05.7 0.0
	baz=85,SNR=5.8					
E29A	Napoleon	85.03	341	⇑P	P	12 34 05.7 +0.1
	baz=85					
F27A	Lemmon	85.04	339	⇓P	P	12 34 05.7 +0.1
	baz=85					
F26A	Lodgepole	85.21	339	⇓P	P	12 34 06.6 0.0
	baz=86					
H22A	Clearmont	85.23	336	⇓P	P	12 34 06.6 -0.1
	baz=86					
G24A	Alzada	85.27	338	⇓P	P	12 34 07.0 +0.1
	baz=86					
I20A	Worland	85.27	335	⇑P	P	12 34 06.9 0.0
	baz=86,SNR=5.4					
D30A	Buchanan	85.30	342	⇓P	P	12 34 07.1 +0.2
	baz=86					
E28A	Huff	85.31	341	⇑P	P	12 34 07.4 +0.4
	baz=86					
G23A	Biddle	85.46	337	⇑P	P	12 34 07.9 +0.1
	baz=86					
D29A	Pettibone, Tap	85.47	342	⇑P	P	12 34 07.7 -0.1
	baz=86					
H21A	Big Horn, Sher	85.49	336	⇑P	P	12 34 07.9 -0.2
	baz=86					
F25A	Bowman	85.51	339	⇓P	P	12 34 08.4 +0.4
	baz=86					
I19A	Meeteetse	85.65	334	⇑P	P	12 34 09.1 +0.1
	baz=86					
H20A	Greybull	85.70	335	⇓P	P	12 34 09.3 +0.2
	baz=86					
E26A	Carlson Angus	85.72	339	⇑P	P	12 34 08.8 -0.2
	baz=86					
F24A	Ekalaka	85.74	338	⇓P	P	12 34 09.3 +0.1
	baz=86					
C30A	Mose, Pekin	85.78	342	⇑P	P	12 34 08.8 -0.4
	baz=86					
F23A	Volborg	85.93	337	⇑P	P	12 34 09.7 -0.4
	baz=86					
E25A	Miller Ranch,	86.02	339	⇑P	P	12 34 10.6 0.0
	baz=86					
G21A	Lodge Grass	86.08	336	⇑P	P	12 34 10.9 0.0
	baz=86					
H19A	Powell	86.20	335	⇑P	P	12 34 11.5 -0.1
	baz=87					
D26A	Manning	86.22	340	⇑P	P	12 34 11.8 +0.3
	baz=87					
F22A	Rosebud	86.25	337	⇓P	P	12 34 11.6 -0.2
	baz=87					
E24A	Baker	86.34	338	⇓P	P	12 34 11.6 -0.5
	baz=87					
G20A	Bridger	86.41	335	⇑P	P	12 34 12.1 -0.5
	baz=87,SNR=5.9					
B30A	Myrvik Farm, E	86.44	343	⇓P	P	12 34 12.2 -0.3
	baz=87					
H18A	Shoshone NF, C	86.45	334	⇑P	P	12 34 12.7 -0.2
	baz=87,SNR=12					
C27A	Sayler Ranch,	86.58	341	⇓P	P	12 34 13.3 +0.1
	baz=87					
D25A	Fairfield	86.58	339	⇓P	P	12 34 13.3 0.0
	baz=87					
RLMT	Red Lodge	86.69	335	eP	P	12 34 14.5 +0.4
	comp=N,2.1nm,0.4s					
B29A	Wagenman Farm,	86.71	342	⇓P	P	12 34 13.6 -0.2
	baz=87					
E22A	Miles City	86.74	337	⇓P	P	12 34 13.7 -0.4
	baz=87					
C26A	Wahner Farm, P	86.84	340	⇑P	P	12 34 14.6 +0.1
	baz=87					
D24A	Glendive	86.84	339	⇑P	P	12 34 14.8 +0.3
	baz=87					
A30A	Hoffart Farm,	86.89	343	⇓P	P	12 34 14.9 +0.2
	baz=87					
F20A	Billings	86.90	336	⇑P	P	12 34 14.7 -0.3
	baz=87					
YMR	Madison River	86.91	333	eP	P	12 34 16.1 +0.9
	comp=N,8.9nm,1.0s					
B28A	Dugan Ranch, T	86.95	342	⇑P	P	12 34 15.5 +0.5
	baz=87					
A29A	Manning Farm,	87.10	342	⇑P	P	12 34 16.0 +0.3
	baz=88					
F19A	Roth Farm, Mol	87.22	335	⇓P	P	12 34 16.1 -0.4
	baz=88					
C24A	Savage	87.25	339	⇓P	P	12 34 17.0 +0.5
	baz=88					
HLID	Hailey	87.31	331	⇑P	P	12 34 17.7 +0.6
	baz=88					
HLID	Hailey	87.31	331	eP	P	12 34 17.8 +0.8
	comp=N,5.8nm,1.3s					
A28A	Rude Farm, Bot	87.35	342	⇑P	P	12 34 16.7 -0.3
	baz=88					
B26A	Jensen Ranch,	87.39	340	⇑P	P	12 34 16.8 -0.3
	baz=88					
D22A	Cohagen	87.44	337	⇑P	P	12 34 17.6 +0.1
	baz=88					
E20A	Meyer Farm, Mu	87.51	336	⇑P	P	12 34 17.6 -0.2
	baz=88,SNR=5.1					
B25A	Knox Farm, Ray	87.55	340	⇓P	P	12 34 18.2 +0.3
	baz=88					
ULM	Lac du Bonnet	87.57	345	P	P	12 34 17.4 -0.5
	comp=N,7.9nm,0.9s,baz=177,slow=3.0,SNR=13					
D21A	La Casta Ranch	87.63	337	⇓P	P	12 34 18.5 +0.1
	baz=88					
A27A	Ledoux Ranch,	87.64	341	⇑P	P	12 34 18.6 +0.3
	baz=88					
E19A	Rath Farm, Rou	87.69	336	⇓P	P	12 34 18.5 -0.3
	baz=88,SNR=5.5					
C23A	Lambert	87.72	338	⇓P	P	12 34 18.5 -0.2
	baz=88					
MCMT	McKenzie Canyo	87.75	332	eP	P	12 34 19.4 +0.1
	comp=N,1.6nm,0.9s					
A26A	Wade Farm, Ken	87.81	341	⇑P	P	12 34 19.0 -0.2
	baz=88					
C22A	Vida	87.88	338	⇓P	P	12 34 19.4 -0.1
	baz=88					
DGMT	Dagmar	88.03	339	⇑P	P	12 34 20.2 0.0
	baz=88					
A25A	Svangstu Ranch	88.14	340	⇑P	P	12 34 20.7 -0.1
	baz=88					
B23A	Brockton	88.25	339	⇑P	P	12 34 21.4 +0.1
	baz=89					
C21A	Desert Coulee	88.33	337	⇑P	P	12 34 21.5 -0.2
	baz=89					
D19A	Cripps Ranch,	88.33	336	⇑P	P	12 34 21.5 -0.2
	baz=89					
C20A	Veseth Ranch,	88.53	337	⇑P	P	12 34 22.6 -0.1
	baz=89					
B21A	Ellsworth Farm	88.84	338	⇑P	P	12 34 24.2 +0.1
	baz=89					
C19A	Slack Wire Ran	88.89	336	⇑P	P	12 34 24.2 -0.1
	baz=89					
A22A	Carney Farms,	89.00	338	⇑P	P	12 34 24.6 -0.3
	baz=89					
A21A	Bergtoll Ranch	89.31	338	⇑P	P	12 34 25.6 -0.6
	baz=90					
B19A	Brinkman Farms	89.48	336	⇑P	P	12 34 26.4 -0.7
	baz=90					
A20A	Cobblestone Ra	89.52	337	⇑P	P	12 34 26.5 -0.8
	baz=90					
BMO	Blue Mountains	89.55	330	eP	P	12 34 26.3 -1.2
	comp=N,0.2nm,0.3s					
SCHQ	Schefferville	89.70	3	P	P	12 34 27.4 -0.4
	comp=N,4.9nm,0.9s,baz=194,slow=3.2,SNR=5.2					
A19A	Klindworth Far	89.83	337	⇓P	P	12 34 28.3 -0.5
	baz=90					
HAWA	Hanford	91.71	329	eP	P	12 34 37.1 -0.3
ESDC	Sonseca Array	97.35	46	P	P	12 35 02.6 -1.0
	comp=N,0.2nm,0.3s,baz=247,slow=4.6,SNR=4.9					
YKA	Yellowknife Ar	103.11	341	Pdiff	Pdif	12 35 27.9 -0.7
	comp=N,0.4nm,0.9s,baz=144,slow=4.7,SNR=5.2					
ASAR	Alice Springs	116.57	207	PKP	PKPdf	12 40 13.2 -1.6
	comp=N,0.3nm,0.7s,baz=131,slow=2.6,SNR=4.3					
ASAR				PKKPbc	PKKPbc	12 50 41.6 -0.1
	comp=N,0.3nm,0.6s,baz=344,slow=2.6,SNR=5.5					
WRA	Warramunga Arr	119.78	209	PKP	PKPdf	12 40 19.4 -1.6
	comp=N,0.8nm,0.7s,baz=168,slow=1.6,SNR=16					
BRTR	Keskin Array B	122.38	62	PKP	PKPdf	12 40 24.8 -0.7
	comp=N,2.3nm,0.7s,baz=198,slow=4.0,SNR=8.1					
AKASG	Malin Array Be	122.95	48	PKP	PKPdf	12 40 24.6 -1.4
	comp=N,2.0nm,0.7s,baz=266,slow=2.8,SNR=6.5					
H11N1	WAKE ISLAND Hyl	26.19	270	T	T	14 59 47.6
	SNR=4.3					
GEYT	Alibeck	140.23	71	PKP	PKPdf	12 40 59.0 -0.1
	comp=N,3.6nm,0.6s,baz=262,slow=4.5,SNR=5.9					
AKTO	Aktyubinsk	141.05	51	PKhKP	PKPpre	12 40 51.0
	comp=N,1.9nm,0.8s,baz=196,slow=4.0,SNR=8.2					
GSI	Gunungsitoli	145.00	162	ePKPab	PKPbc	12 41 07.5 0.0
PSI	Prapat	146.77	163	PKPbc	PKPdf	12 41 10.2 -1.3
	comp=N,13nm,0.8s,baz=158,slow=6.1,SNR=7.0					
BRVK	Borovoye	148.02	44	ePKPdf	PKPdf	12 41 12.1 +0.1
BRVK				ePKPbc	PKPbc	12 41 15.3 +0.1
BRVK				ePKPab	PKPab	12 41 17.9 -0.1
BVAR	Borovoye Array	148.09	44	PKPbc	PKPdf	12 41 12.6 +0.3
	comp=N,4.5nm,0.7s,baz=294,slow=1.4,SNR=21					
KBL	Kabul	148.19	80	ePKPdf	PKPdf	12 41 13.6 +0.3
KBL				ePKPbc	PKPbc	12 41 15.6 -1.0
KBL				ePKPab	PKPab	12 41 19.5 -0.1
HYB	Hyderabad	148.46	116	i PKP	PKPdf	12 41 15.5 +1.6
YAK	Yakutsk	149.78	340	ePKPdf	PKPdf	12 41 15.0 +0.4
YAK				ePKPbc	PKPbc	12 41 18.8 -0.6
YAK				ePKPab	PKPab	12 41 24.8 -0.1
KKAR	Karatay Array	150.07	63	ePKPbc	PKPbc	12 41 19.7 -1.0
KKAR				ePKPab	PKPab	12 41 26.1 -0.7
AML	Almayashu	152.47	65	P	PKPbc	12 41 26.3 -0.6
	SNR=16					
EKS2	Erkin-Say	152.49	64	P	PKPbc	12 41 26.4 -0.2
	SNR=16					
EKS2	Erkin-Say	152.49	64	ePKPdf	PKPdf	12 41 19.8 +0.2
EKS2				ePKPbc	PKPbc	12 41 26.1 -0.4
USP	Ospenovka	152.97	62	P	PKPbc	12 41 27.5 0.0
	SNR=8.5					
AAK	Ala-Archa	153.02	64	P	PKPbc	12 41 27.5 -0.3
	SNR=14					
AAK	Ala-Archa	153.02	64	PKPbc	PKPbc	12 41 27.8 0.0
	comp=N,16nm,0.7s,baz=198,slow=2.0,SNR=67					
AAK				PKPab	PKPab	12 41 38.9 -0.4
	comp=N,10nm,0.7s,baz=321,slow=2.4,SNR=9.8					
AAK	Ala-Archa	153.02	64	ePKPdf	PKPdf	12 41 20.2 -0.2
AAK				PKPbc	PKPbc	12 41 27.8 0.0
AAK				PKPab	PKPab	12 41 38.9 -0.4
AAK				ePKPab	PKPab	12 41 39.0 -0.3
UCH	Uchtor	153.07	65	P	PKPbc	12 41 28.4 +0.2
	SNR=16					
KURK	Kurchatov	153.69	45	ePKPbc	PKPbc	12 41 28.0 -0.7
KURK				ePKPab	PKPab	12 41 41.5 0.0
TKM2	Tokmak 2	153.80	63	P	PKPbc	12 41 29.0 -0.5
	SNR=7.0					
TKM2	Tokmak 2	153.80	63	ePKPdf	PKPdf	12 41 21.1 -0.6
TKM2				ePKPbc	PKPbc	12 41 29.0 -0.5
TKM2				ePKPab	PKPab	12 41 41.8 -0.8
ZALV	Zalesovo Beam	155.17	34	PKP	PKPdf	12 41 22.2 -0.6
	comp=N,1.8nm,0.7s,baz=305,slow=1.3,SNR=8.5					
ZALV				PKPab	PKPab	12 41 47.7 0.0
	comp=N,8.4nm,0.7s,baz=298,slow=5.2,SNR=18					
MKAR	Makanchi Array	157.49	51	PKP	PKPdf	12 41 25.3 -0.8
	comp=N,0.7nm,0.7s,baz=336,slow=0.6,SNR=8.0					
MKAR				PKPab	PKPab	12 41 57.3 -0.8
	comp=N,8.5nm,0.8s,baz=294,slow=3.7,SNR=28					
CMAR	Chiang Mai Arr	161.58	152	PKP	PKPdf	12 41 31.1 -0.6
	comp=N,0.7nm,0.4s,baz=259,slow=3.3,SNR=5.3					
TLY	Talaya	163.16	9	PKPab	PKPab	12 42 23.6 +1.1
	comp=N,3.1nm,0.6s,baz=304,slow=19,SNR=4.4					
SONM	Songino Array	167.24	5	PKPab	PKPab	12 42 41.3 +0.6
	comp=N,3.3nm,0.9s,baz=331,slow=4.3,SNR=25					

IDC ***05*** *12:28:52.8±0.5, 34°.99S×72°.25W, h0km, mb4.6/16, mb1 4

LNCH *i* S **Sb** **12 29 28.8 +0.1**
LNCH AML AML 12 29 32.5
comp=N,112µm,0.6s
LNCH Linares 1.04 145 ⇓*i*P **Pb** **12 29 15.3 -0.1**
LNCH *i* S **Sb** **12 29 28.8 +0.1**
LNV Longovilo 1.29 37 ⇑*i*P **Pb** **12 29 19.7 0.0**
LNV Longovilo 1.29 37 ⇑*i*P **Pb** **12 29 19.7 0.0**
CACH El Canelo 1.68 59 ⇑*i*P **Pb** **12 29 26.6 +0.2**
CACH El Canelo 1.68 59 ⇑*i*P **Pb** **12 29 26.6 +0.2**
CHCH Chadas Angostu 1.75 53 *e*P1 **Pb** **12 29 27.0 -0.6**
CHCH Chadas Angostu 1.75 53 *e*P **Pb** **12 29 27.0 -0.6**
ANTU Antumapu 2.01 45 *e*P **Pb** **12 29 31.2 -0.6**
ANTU *i* S **Sb** **12 29 57.4 +0.8**
ANTU AML AML 12 30 05.2
comp=N,23µm,0.5s
ANTU Antumapu 2.01 45 *e*P **Pb** **12 29 31.2 -0.6**
ANTU *i* S **Sb** **12 29 57.4 +0.8**
LACH Col Las Americ 2.15 45 *e*P **Pb** **12 29 34.2 -0.2**
LACH *i* S **Sb** **12 30 01.4 +0.7**
LACH AML AML 12 30 13.4
comp=N,14µm,0.5s
LACH Col Las Americ 2.15 45 *e*P **Pb** **12 29 34.2 -0.2**
LACH *i* S **Sb** **12 30 01.4 +0.7**
PEL Peldehue 2.30 37 *e*P1 **Pb** **12 29 36.5 -0.4**
PEL *i* S **Sb** **12 30 05.7 +0.6**
PEL AML AML 12 30 11.9
comp=N,31µm,0.6s
PEL Peldehue 2.30 37 *e*P **Pb** **12 29 36.5 -0.4**
PEL *i* S **Sb** **12 30 05.7 +0.6**
CFAA Coronel Fontan 4.82 47 Pn **Pn** **12 30 09.8 +2.2**
comp=N,3.6nm,0.3s,baz=216,slow=11,SNR=25
CFAA Lg Lg 12 31 19.6
comp=N,9.0nm,0.3s,baz=110,slow=17,SNR=5.0
PLCA Paso Flores 5.90 167 Pn **Pn** **12 30 23.4 +1.0**
comp=N,9.7nm,0.3s,baz=350,slow=11,SNR=23
PLCA Lg Lg 12 31 53.5
comp=N,0.3nm,0.3s,baz=253,slow=19,SNR=2.8
TRQA Tornquist 8.88 113 *e*Pn **Pn** **12 31 05.3 +2.0**
LVC Limon Verde 12.70 15 *e*Pn **Pn** **12 31 54.5 -1.4**
LVC *e*Sn **Sn** **12 34 16.9 -0.1**
CPUP Villa Florida 15.53 60 Pn **P** **12 32 37.2 -1.0**
comp=N,1.2nm,0.3s,baz=198,slow=15,SNR=3.4
LPAZ La Paz 19.01 12 P **Pn** **12 33 19.6 +1.4**
comp=N,0.9nm,0.3s,baz=176,slow=6.1,SNR=23
LPAZ La Paz 19.01 12 P **Pn** **12 33 19.6 +1.4**
LPAZ *e*Pn **P** **12 33 19.9 +2.5**
USHA Ushuaia 20.02 173 P **P** **12 33 27.2 -0.2**
comp=N,10.0nm,0.8s,baz=308,slow=3.6,SNR=5.9
SIV San Ignacio 21.45 31 P **P** **12 33 43.1 -0.3**
comp=N,60nm,0.9s,baz=221,slow=9.7,SNR=72
SAML Samuel 27.25 20 *e*P **P** **12 34 39.0 -0.1**
comp=N,6.9nm,0.9s
BDFB Brasilia 29.11 55 P **P** **12 34 54.8 -1.0**
comp=N,9.1nm,0.9s,baz=250,slow=8.2,SNR=5.8
SDV Santo Domingo 43.68 2 *e*P **P** **12 37 00.1 +0.1**
comp=N,6.0nm,0.7s
VNA3 Neumayer Olymp 48.53 157 P **P** **12 37 37.4 0.0**
VNA2 Neumayer--Watz 49.19 157 P **P** **12 37 42.4 -0.1**
SNAA Sanae 50.76 158 P **P** **12 37 54.5 +0.1**
SNAA Sanae 50.76 158 P **P** **12 37 54.3 -0.2**
comp=N,5.1nm,1.0s,baz=288,slow=7.1,SNR=10
SNAA Sanae 50.76 158 *e*P **P** **12 37 54.3 -0.2**
comp=N,21nm,1.1s
APG El Apazote 52.62 338 P P 12 38 05.5 -3.6
comp=N,4.2nm,0.6s,baz=131,slow=7.5,SNR=6.8
QSPA South Pole Qui 55.24 180 P **P** **12 38 27.8 +0.2**
comp=N,2.4nm,0.6s,baz=155,slow=1.6,SNR=18
QSPA South Pole Qui 55.24 180 *e*P **P** **12 38 27.9 +0.2**
comp=N,12nm,0.9s
TEIG Tepich 56.97 342 P **P** **12 38 40.2 0.0**
comp=N,12nm,0.7s,baz=13,slow=6.2,SNR=11
SYO Syowa Base 65.03 158 ⇑*e*X **P** **12 39 36.2 +1.7**
035A Encino 66.25 335 ⇓P **P** **12 39 44.0 +1.3**
baz=67
034A Hebbronville 66.57 334 ⇑P **P** **12 39 46.3 +1.5**
baz=67
933A Laredo 67.28 334 ⇑P **P** **12 39 51.0 +1.6**
baz=68
834A Tilden 67.49 335 ⇓P **P** **12 39 52.2 +1.5**
baz=68
735A Kenedy 67.91 336 ⇓P **P** **12 39 54.4 +1.0**
baz=68
833A Chaparral WMA, 67.97 334 ⇑P **P** **12 39 54.0 +0.2**
baz=68,SNR=5.2
832A Faith Ranch, C 68.14 334 ⇓P **P** **12 39 55.2 +0.4**
baz=68,SNR=6.1
636A Smothers Creek 68.24 337 ⇓P **P** **12 39 56.6 +1.2**
baz=69
732A Laxson Ranch, 68.55 334 ⇑P **P** **12 39 57.6 +0.2**
baz=69,SNR=14
633A Saathoff Ranch 68.93 335 ⇑P **P** **12 40 00.2 +0.5**
baz=69
340A Bronson 69.11 340 ⇑P **P** **12 40 01.1 +0.4**
baz=70
632A Uvalde 69.19 335 ⇓P **P** **12 40 01.8 +0.5**
baz=70
631A Perdido Creek 69.39 334 ⇑P **P** **12 40 03.2 +0.6**
baz=70
532A Rocksprings 69.80 335 ⇓P **P** **12 40 05.6 +0.4**
baz=70,SNR=15
434A Burnet 69.87 336 ⇑P **P** **12 40 05.5 0.0**
baz=70,SNR=5.1
336A Riesel 69.94 338 ⇓P **P** **12 40 06.6 +0.7**
baz=70
335A Moody 70.03 337 ⇑P **P** **12 40 06.6 +0.2**
baz=70
531A Rocksprings 70.06 334 ⇑P **P** **12 40 06.9 +0.2**
baz=70,SNR=12
JCT Junction City 70.08 335 ⇑P **P** **12 40 07.2 +0.3**
baz=70
JCT Junction City 70.08 335 *e*P **P** **12 40 07.4 +0.5**
comp=N,20nm,0.9s
433A Art 70.09 336 ⇓P **P** **12 40 07.0 +0.1**
baz=70,SNR=8.1
237A Washetta, Mont 70.20 339 ⇑P **P** **12 40 08.0 +0.5**
baz=71
KMSC Kings Mountain 70.28 352 ⇓P **P** **12 40 08.5 +0.6**
baz=71
530A J-C Ranch, Com 70.33 334 ⇑P **P** **12 40 08.7 +0.3**
baz=71,SNR=8.3
334A Lometa 70.34 337 ⇓P **P** **12 40 08.6 +0.3**
baz=71
432A Menard 70.44 335 ⇑P **P** **12 40 09.4 +0.3**
baz=71
TXAR Lajitas Array 70.49 331 P **P** **12 40 09.7 +0.3**
comp=N,3.8nm,0.5s,baz=154,slow=8.6,SNR=131
431A Sonora 70.55 334 ⇓P **P** **12 40 10.0 +0.3**
baz=71
333A Richland Sprin 70.58 336 ⇓P **P** **12 40 09.6 -0.2**
baz=71,SNR=7.8
529A Stev Forest Ra 70.63 333 ⇑P **P** **12 40 10.6 +0.3**
baz=71,SNR=12
430A Baggett Ranch, 70.87 334 ⇓P **P** **12 40 11.4 -0.3**
baz=71,SNR=7.3
332A Millersview 70.89 335 ⇓P **P** **12 40 11.7 0.0**
baz=71,SNR=5.1
429A Davenport Ranc 70.96 333 ⇓P **P** **12 40 12.4 +0.1**
baz=71,SNR=5.9
331A San Angelo 71.05 335 ⇑P **P** **12 40 12.5 -0.3**
baz=71,SNR=6.0
233A Rising Star 71.18 336 ⇓P **P** **12 40 13.5 0.0**
baz=72,SNR=5.0
232A Coleman 71.31 336 ⇑P **P** **12 40 14.3 0.0**
baz=72
330A Mertzon 71.41 334 ⇓P **P** **12 40 14.8 -0.2**
baz=72
134A White-Moore Ra 71.43 337 ⇑P **P** **12 40 14.8 -0.2**
baz=72
231A Bronte 71.59 335 ⇑P **P** **12 40 15.8 -0.2**
baz=72,SNR=7.2
133A Hamilton Ranch 71.73 337 ⇑P **P** **12 40 16.3 -0.5**
baz=72
329A Wagon Wheel Ra 71.77 334 ⇓P **P** **12 40 16.9 -0.2**
baz=72,SNR=5.4
Z35A Perchaven, San 71.88 338 ⇑P **P** **12 40 18.0 +0.3**
baz=72
ABTX Abilene, Hawle 71.99 336 ⇑P **P** **12 40 18.2 -0.1**
baz=72
ABTX Abilene, Hawle 71.99 336 *e*P **P** **12 40 18.6 +0.3**
comp=N,17nm,0.9s
229A Bryant Ranch, 72.14 334 ⇓P **P** **12 40 19.3 -0.1**
baz=72
WVT Waverly 72.22 347 *e*P **P** **12 40 18.8 -0.8**
comp=N,20nm,1.0s
Z33A Whitaker Ranch 72.31 337 ⇓P **P** **12 40 20.0 -0.2**
baz=73,SNR=7.2
130A Snyder 72.41 335 ⇓P **P** **12 40 20.8 -0.2**
baz=73
Z32A Haskell 72.56 336 ⇓P **P** **12 40 21.8 0.0**
baz=73,SNR=6.8
228A UT Block 9, Go 72.56 333 ⇓P **P** **12 40 21.8 -0.1**
baz=73
Y34A Reagan Ranch, 72.61 338 ⇓P **P** **12 40 22.1 +0.1**
baz=73
Z31A Sharp Cattle R 72.79 336 ⇓P **P** **12 40 23.0 -0.1**
baz=73,SNR=6.6
Y33A Hilltop Ranch, 72.93 337 ⇓P **P** **12 40 23.6 -0.3**
baz=73
128A Castleberry Fa 72.98 334 ⇑P **P** **12 40 24.2 -0.1**
baz=73,SNR=5.6
Z30A Sanderson Ranc 73.10 335 ⇑P **P** **12 40 24.6 -0.4**
baz=74
Y32A R-V Farms, Ver 73.19 337 ⇓P **P** **12 40 25.4 -0.1**
baz=74
X34A Smith Ranch, M 73.23 338 ⇑P **P** **12 40 25.5 -0.2**
baz=74
Z29A Hungry Hill Ra 73.27 335 ⇑P **P** **12 40 26.1 0.0**
baz=74,SNR=6.8
Y31A Rekieta Farm, 73.42 336 ⇑P **P** **12 40 27.0 +0.1**
baz=74
X32A Elmer 73.52 337 ⇑P **P** **12 40 27.3 -0.1**
baz=74
Y29A Porterfield Fa 73.81 335 ⇓P **P** **12 40 29.1 -0.1**
baz=74,SNR=5.6
TUL1 Leonard 73.86 340 ⇑P **P** **12 40 29.5 +0.1**
baz=74
W33A Caddo, Fort Co 73.94 338 ⇓P **P** **12 40 30.3 +0.4**
baz=74
X31A McDonald Ranch 73.94 337 ⇑P **P** **12 40 30.3 +0.4**
baz=74
Y28A McKinney Farm, 74.05 334 ⇑P **P** **12 40 30.8 +0.1**
baz=74
Z26A Caprock 74.11 333 ⇓P **P** **12 40 30.9 -0.2**
baz=74,SNR=17
W32A Sentinel 74.15 337 ⇑P **P** **12 40 31.1 0.0**
baz=74,SNR=6.5
MSTX Muleshoe 74.29 334 ⇓P **P** **12 40 31.8 -0.3**
baz=75
X29A Tulia 74.34 335 ⇑P **P** **12 40 32.4 0.0**
baz=75
Y27A Causey 74.36 334 ⇓P **P** **12 40 32.2 -0.3**
baz=75
Z25A Roswell 74.40 332 ⇓P **P** **12 40 32.7 -0.1**
baz=75
W31A Holland Ranch, 74.43 337 ⇑P **P** **12 40 32.8 0.0**
baz=75
V33A Lossen Ranch, 74.50 338 ⇑P **P** **12 40 33.2 +0.1**
baz=75
X28A Dimmitt 74.58 335 ⇑P **P** **12 40 33.6 -0.1**
baz=75
319A Douglas 74.61 328 ⇓P **P** **12 40 34.6 +0.6**
baz=75,SNR=6.4
Y26A Elida 74.64 333 ⇓P **P** **12 40 34.3 +0.2**
baz=75
V32A Arapaho 74.64 338 ⇓P **P** **12 40 34.2 +0.3**
baz=75
Z24A Sheeppen Canyo 74.69 332 ⇓P **P** **12 40 34.9 +0.3**
baz=75
AMTX Amarillo 74.74 335 ⇓P **P** **12 40 35.1 +0.5**
baz=75
AMTX Amarillo 74.74 335 *e*P **P** **12 40 34.9 +0.2**
comp=N,15nm,1.0s
V31A Spring Creek L 74.94 337 ⇑P **P** **12 40 36.6 +0.9**
baz=75
W29A Amarillo 74.94 335 ⇓P **P** **12 40 36.1 +0.3**
baz=75
Y25A Mesa, Roswell 74.96 333 ⇓P **P** **12 40 36.7 +0.7**
baz=75
121A Cookes Peak, D 74.97 330 ⇑P **P** **12 40 36.9 +0.8**
baz=75,SNR=8.2
X26A CR and CF Fran 75.19 334 ⇓P **P** **12 40 37.6 +0.3**
baz=76
U32A Winter Ranch, 75.23 338 ⇑P **P** **12 40 37.6 +0.3**
baz=76
Y24A Capitan 75.25 332 ⇑P **P** **12 40 38.1 +0.3**
baz=76
Z22A Elephant Butte 75.26 331 ⇑P **P** **12 40 38.1 +0.4**
baz=76
LIC Lamto 75.33 71 *e*PKIKP **P** **12 40 37.6 -0.8**
comp=N,95nm,1.2s
W27A Bowe Ranch, En 75.38 334 ⇑P **P** **12 40 38.7 +0.4**
baz=76,SNR=7.8
X25A Clemmons Ranch 75.48 333 ⇓P **P** **12 40 39.4 +0.4**
baz=76
Y23A Lovelace Mesa, 75.49 332 ⇑P **P** **12 40 39.7 +0.6**
baz=76
ACSO Alum Creek Sta 75.50 352 *e*P **P** **12 40 38.6 -0.2**
comp=N,25nm,0.8s
TIC Toumodi 75.59 71 *e*PKIKP **P** **12 40 39.5 -0.5**
comp=N,11nm,0.5s
KIC Kosan Boka 75.63 72 *e*PKIKP **P** **12 40 39.9 -0.3**
comp=N,63nm,0.9s
W26A Owens Ranch, T 75.66 334 ⇑P **P** **12 40 40.5 +0.6**
baz=76
V28A Channing 75.71 335 ⇓P **P** **12 40 41.0 +0.8**
baz=76
DBIC Dipokro 75.73 71 P **P** **12 40 40.5 -0.2**
comp=N,17nm,0.8s,baz=199,slow=6.6,SNR=22
X24A Lazy VL Ranch, 75.81 332 ⇓P **P** **12 40 41.3 +0.3**
baz=76
U30A WK&E Inc. Balk 75.89 337 ⇑P **P** **12 40 41.7 +0.5**
baz=76
V27A Dan Oppiter Fa 75.92 335 ⇓P **P** **12 40 41.8 +0.4**
baz=76
T32A Huddler Ranch, 75.95 338 ⇓P **P** **12 40 42.0 +0.5**
baz=76
W25A X Bar L Ranch, 76.03 333 ⇓P **P** **12 40 42.4 +0.3**
baz=76
TUC Tucson 76.07 327 *e*P **P** **12 40 42.2 -0.1**
comp=N,5.0nm,0.9s
T31A Randall Ranch, 76.10 338 ⇑P **P** **12 40 43.1 +0.8**
baz=76
U28A Mallet 76.28 336 ⇓P **P** **12 40 43.7 +0.3**
baz=77
V26A Tequesquite Ra 76.30 334 ⇑P **P** **12 40 43.8 +0.2**
baz=77
W24A Lazy 6 Ranch, 76.37 333 ⇑P **P** **12 40 44.5 +0.3**
baz=77
U27A Thompson Grove 76.52 335 ⇓P **P** **12 40 44.5 -0.4**
baz=77
ANMO Albuquerque 76.54 332 P **P** **12 40 45.4 +0.3**
comp=N,4.3nm,0.9s,baz=168,slow=8.1,SNR=17
ANMO Albuquerque 76.54 332 *e*P **P** **12 40 45.7 +0.6**
W23A Werner Place, 76.61 332 ⇓P **P** **12 40 45.9 +0.4**
baz=77,SNR=6.2
V25A Rancho No Teng 76.64 334 ⇑P **P** **12 40 45.8 +0.2**
baz=77,SNR=5.6
T29A Hugoton 76.67 337 ⇑P **P** **12 40 46.1 +0.4**
baz=77
214A Organ Pipe Nat 76.69 325 ⇓P **P** **12 40 46.0 +0.2**
baz=77
R33A Olander Ranch, 76.72 340 ⇓P **P** **12 40 46.1 +0.3**
baz=77
U26A Atchley Ranch, 76.82 334 ⇑P **P** **12 40 47.6 +1.0**
baz=77
T28A Walsh 76.91 336 ⇑P **P** **12 40 47.3 +0.3**
baz=77,SNR=9.1
R32A Long Quarter, 77.03 339 ⇓P **P** **12 40 48.6 +1.0**
baz=77
S29A Ulysses 77.04 337 ⇓P **P** **12 40 48.2 +0.6**
baz=77
U25A Circle Dot Ran 77.06 334 ⇑P **P** **12 40 48.5 +0.5**
baz=77
T27A Campo 77.06 335 ⇓P **P** **12 40 48.5 +0.6**
baz=78
S28A Manter 77.27 336 ⇑P **P** **12 40 49.9 +0.9**
baz=78
T26A Comanche Natio 77.47 335 ⇑P **P** **12 40 50.7 +0.5**
baz=78
Q32A Meitler Ranch, 77.52 339 ⇓P **P** **12 40 50.7 +0.4**
baz=78
V22A San Miguel Ran 77.57 332 ⇓P **P** **12 40 52.3 +1.4**
baz=78,SNR=9.8
X18A Snowflake 77.60 329 ⇓P **P** **12 40 51.9 +0.9**
baz=78
U23A El Rito 77.66 333 ⇓P **P** **12 40 52.0 +0.7**
baz=78
T25A Trinidad 77.72 334 ⇓P **P** **12 40 52.8 +1.1**
baz=78,SNR=5.7
Q31A Ellis 77.78 339 ⇑P **P** **12 40 52.7 +1.0**
baz=78
113A Mohawk Valley, 77.82 325 ⇑P **P** **12 40 53.0 +1.0**
baz=78
S26A Kim 77.82 335 ⇑P **P** **12 40 52.6 +0.5**
baz=78,SNR=9.8
R28A Tribune 77.92 337 ⇑P **P** **12 40 52.8 +0.2**
baz=78,SNR=5.7
T24B San Luis 78.00 334 ⇓P **P** **12 40 54.2 +0.8**
baz=78
X16A Lo Mia Camp, P 78.14 328 ⇑P **P** **12 40 55.0 +0.9**
baz=78,SNR=10
Q29A Oakley 78.15 338 ⇑P **P** **12 40 54.2 +0.3**
baz=79,SNR=6.3
R27A Eads 78.19 336 ⇑P **P** **12 40 54.4 +0.2**
baz=79,SNR=9.2
S25A Robets Cordova 78.20 334 ⇑P **P** **12 40 55.2 +0.9**
baz=79
T23A Casias Ranch, 78.22 333 ⇓P **P** **12 40 55.0 +0.5**
baz=79
P31A Stockton 78.25 339 ⇑P **P** **12 40 54.8 +0.5**
baz=79
R26A Arlington 78.43 335 ⇓P **P** **12 40 56.4 +1.0**
baz=79
Y14A Wickenburg 78.44 326 ⇓P **P** **12 40 56.3 +0.8**
baz=79
S24A Houchin Ranch, 78.46 334 ⇓P **P** **12 40 57.0 +1.1**
baz=79
P30A Selden 78.53 338 ⇑P **P** **12 40 56.9 +1.0**
baz=79
P29A Atwood 78.79 338 ⇑P **P** **12 40 58.1 +0.7**
baz=79,SNR=5.6
R24A Sanders Place, 78.94 334 ⇑P **P** **12 40 59.6 +1.2**
baz=79,SNR=6.4
Y12C Blythe 78.98 325 ⇑P **P** **12 40 59.3 +0.8**
baz=79
Q26A Hugo 79.01 336 ⇓P **P** **12 40 59.6 +0.9**
baz=79
P28A Saint Francis 79.02 337 ⇑P **P** **12 40 59.7 +1.0**
baz=79
WUAZ Wupatki 79.05 328 ⇓P **P** **12 40 59.8 +0.8**
baz=79
WUAZ Wupatki 79.05 328 *e*P **P** **12 41 00.3 +1.3**
comp=N,11nm,1.2s
R23A Moffat 79.17 334 ⇑P **P** **12 41 00.3 +0.6**
baz=80
Q25A Bedland, Calha 79.25 335 ⇑P **P** **12 41 01.1 +1.0**
baz=80
BC3 Big Chuckawall 79.34 325 ⇓P **P** **12 41 02.0 +1.4**
baz=80
P26A Davis Ranch, A 79.53 336 ⇓P **P** **12 41 02.2 +0.7**
baz=80
Q24A Divide 79.61 335 ⇓P **P** **12 41 02.9 +0.7**
baz=80
IRM Iron Mountain 79.61 325 ⇓P **P** **12 41 02.7 +0.7**
baz=80
P25A Willow Gulch B 79.76 336 ⇓P **P** **12 41 03.9 +1.1**
baz=80
PFO Pinyon Flats O 79.79 324 P **P** **12 41 04.5 +1.5**
comp=N,2.5nm,0.7s,baz=131,slow=3.8,SNR=3.8
PFO Pinyon Flats O 79.79 324 ⇓P **P** **12 41 04.0 +1.0**
baz=80
W13A Hualapai Mount 79.81 326 ⇑P **P** **12 41 04.0 +0.8**
baz=80
BOSA Boshof 79.83 118 P **P** **12 41 02.8 -0.8**
comp=N,13nm,0.8s,baz=244,slow=3.8,SNR=16
O26A Horse Wrangler 80.13 336 ⇑P **P** **12 41 05.9 +1.2**
baz=80
U15A North Rim 80.21 328 ⇓P **P** **12 41 05.8 +0.4**
baz=81,SNR=6.0
GMRC Granite Mounta 80.36 325 ⇑P **P** **12 41 06.7 +0.6**
baz=81
N27A Anderson Farm, 80.39 337 ⇑P **P** **12 41 06.8 +0.7**
baz=81
SMCO Snowmass 80.46 333 *e*P **P** **12 41 07.9 +1.0**
comp=N,20nm,1.5s
ISCO Idaho Springs 80.52 335 ⇓P **P** **12 41 07.9 +0.9**
baz=81
ISCO Idaho Springs 80.52 335 *e*P **P** **12 41 08.0 +0.9**
comp=N,26nm,2.1s
L31A Butterfield Fa 80.55 340 ⇑P **P** **12 41 07.9 +1.1**
baz=81
HEC Hector,Ludlow 80.72 325 ⇓P **P** **12 41 09.3 +1.3**
baz=81
P22A Eagle 80.75 334 ⇓P **P** **12 41 09.2 +1.0**
baz=81
O23A Lake Granby, G 80.99 335 ⇓P **P** **12 41 09.6 +0.1**
baz=81,SNR=5.2
TUQ Turquoise Moun 81.02 325 ⇑P **P** **12 41 10.7 +1.1**
baz=81
O22A Kremmling 81.17 334 ⇑P **P** **12 41 11.2 +0.7**
baz=82
M26A McRoberts Ranc 81.18 337 ⇑P **P** **12 41 11.4 +1.1**
baz=82
K30A Basset 81.23 340 ⇓P **P** **12 41 11.3 +0.8**
baz=82
GSC Goldstone, Bar 81.33 325 ⇓P **P** **12 41 12.0 +0.8**
baz=82
ECSD EROS Data Cent 81.42 342 ⇓P **P** **12 41 11.3 -0.1**
baz=82,SNR=7.2
ECSD EROS Data Cent 81.42 342 *e*P **P** **12 41 11.2 -0.1**
comp=N,8.9nm,0.6s
K29A Lazy Trails An 81.51 340 ⇑P **P** **12 41 12.9 +0.9**
baz=82
SHPR Sheep Range 81.55 326 *e*P **P** **12 41 13.7 +1.3**
CCUT Cedar City 81.62 328 *e*P **P** **12 41 14.5 +1.6**
comp=N,140nm,3.0s
N22A Wattenberg Ran 81.70 335 ⇑P **P** **12 41 13.9 +0.6**
baz=82
SRU San Rafael Swe 81.76 331 *e*P **P** **12 41 14.2 +0.7**
comp=N,3.7nm,0.8s
K28A Ten Mile Ranch 81.77 339 ⇓P **P** **12 41 14.1 +0.8**
baz=82
ARUT Antelope Range 81.85 328 *e*P **P** **12 41 15.3 +1.3**
comp=N,176nm,1.3s
LRMC Laurel Mtn Rad 81.89 324 ⇓P **P** **12 41 14.4 +0.2**
baz=82
J29A Okreek 82.10 340 ⇑P **P** **12 41 15.6 +0.6**
baz=82
LBTB Lobatse 82.11 115 *e*P **P** **12 41 15.5 -0.3**
comp=N,18nm,1.3s
I30A Oacoma 82.32 341 ⇓P **P** **12 41 17.0 +0.9**
baz=83
J28A Allard Ranch, 82.38 339 ⇓P **P** **12 41 16.9 +0.4**
baz=83
N20A Spence Gulch, 82.38 333 ⇑P **P** **12 41 17.3 +0.5**
baz=83
ISA Isabella, Lake 82.42 324 ⇓P **P** **12 41 18.2 +1.2**
baz=83
ISA Isabella, Lake 82.42 324 *e*P **P** **12 41 18.1 +1.1**
comp=N,9.3nm,1.1s
DAC Darwin (Calif) 82.49 325 *e*P **P** **12 41 18.6 +1.1**
comp=N,5.5nm,0.9s
I28A Midland 82.89 339 ⇑P **P** **12 41 19.3 +0.2**
baz=83
K23A Bowen Ranch, D 83.15 336 ⇑P **P** **12 41 20.9 +0.2**
baz=84
H29A Onida 83.20 340 ⇓P **P** **12 41 21.1 +0.5**
baz=84
I27A Quinn 83.21 339 ⇑P **P** **12 41 21.5 +0.6**
baz=84
R11A Troy Canyon, C 83.26 327 ⇓P **P** **12 41 21.6 +0.3**
baz=84
R11A Troy Canyon, C 83.26 327 *e*P **P** **12 41 22.1 +0.8**
J24A Dixon Ranch, L 83.35 337 ⇑P **P** **12 41 21.8 +0.2**
baz=84
K22A Casper 83.36 335 ⇓P **P** **12 41 21.7 0.0**
baz=84
G30A Faulkton 83.37 341 ⇓P **P** **12 41 21.8 +0.2**
baz=84
H28A Mission Ridge 83.47 340 ⇑P **P** **12 41 22.3 +0.2**
baz=84
K21A Alcova 83.60 335 ⇑P **P** **12 41 22.9 -0.1**
baz=84,SNR=5.9
DUG Dugway, Tooele 83.61 330 ⇑P **P** **12 41 23.3 +0.3**
baz=84
DUG Dugway, Tooele 83.61 330 *e*P **P** **12 41 23.8 +0.8**
comp=N,6.0nm,0.9s
I25A Rochford 83.67 338 ⇑P **P** **12 41 23.7 +0.3**
baz=84
J23A Dilts Ranch, B 83.70 336 ⇓P **P** **12 41 23.7 +0.2**
baz=84
H27A Howes 83.73 339 ⇓P **P** **12 41 23.5 0.0**
baz=84
TPH Tonopah 83.78 326 *e*P **P** **12 41 25.0 +1.0**
comp=N,12nm,1.3s
G28A Parade 83.81 340 ⇑P **P** **12 41 23.9 0.0**
baz=84
RSSD Black Hills 83.86 338 *e*P **P** **12 41 25.1 +0.8**
comp=N,52nm,2.3s
F29A Eureka 84.21 341 ⇑P **P** **12 41 25.8 -0.1**
baz=85
HWUT Hardware Ranch 84.31 332 *e*P **P** **12 41 26.7 +0.1**
comp=N,62nm,2.3s

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I22A  9 Mile Ranch,          84.45 336 ⇓P        P        12 41 26.9 -0.4
      baz=85
G26A  Maurine                84.49 339 ⇓P        P        12 41 27.3  0.0
      baz=85
PDAR  Pinedale Array         84.54 333  P        P        12 41 27.1 -0.8
      comp=N,0.9nm,0.6s,baz=132,slow=7.1,SNR=8.6
NVAR  Mina Array Bea         84.56 325  P        P        12 41 28.9 +0.8
      comp=N,1.6nm,0.8s,baz=154,slow=5.1,SNR=14
H24A  Dirks Ranch, A         84.59 338 ⇑P        P        12 41 28.0 +0.2
      baz=85
E30A  Jud                    84.59 342 ⇓P        P        12 41 27.8 +0.1
      baz=85
G25A  Newell                 84.64 338 ⇓P        P        12 41 28.1  0.0
      baz=85
I21A  Big Trails, Te         84.65 335 ⇓P        P        12 41 28.1 -0.2
      baz=85
TORD  Torodi Ar. Bea         84.78  70  P        P        12 41 29.2 -0.2
      comp=N,5.6nm,0.7s,baz=283,slow=5.8,SNR=44
TORD                                    PP       PP        12 44 49.2 +3.3
      comp=N,0.7nm,0.9s,baz=242,slow=6.0,SNR=3.8
E29A  Napoleon               84.84 341 ⇓P        P        12 41 29.2 +0.2
      baz=85
F27A  Lemmon                 84.85 340 ⇓P        P        12 41 29.2 +0.1
      baz=85
HVU   Hansel Valley          84.93 331 eP        P        12 41 29.8 +0.1
      comp=N,37nm,1.9s
F26A  Lodgepole              85.02 339 ⇑P        P        12 41 29.9  0.0
      baz=85
H22A  Clearmont              85.03 336 ⇑P        P        12 41 29.5 -0.6
      baz=85
I20A  Worland                85.06 335 ⇓P        P        12 41 29.8 -0.5
      baz=86
G24A  Alzada                 85.06 338 ⇓P        P        12 41 29.8 -0.5
      baz=86
ELK   Elko                   85.08 329  P        P        12 41 30.9 +0.3
      comp=N,1.1nm,0.8s,baz=130,slow=6.8,SNR=4.7
D30A  Buchanan               85.11 342 ⇓P        P        12 41 29.9 -0.4
      baz=86
G23A  Biddle                 85.26 337 ⇑P        P        12 41 30.8 -0.5
      baz=86
D29A  Pettibone, Tap         85.28 342 ⇓P        P        12 41 30.8 -0.4
      baz=86
H21A  Big Horn, Sher         85.29 336 ⇓P        P        12 41 31.0 -0.4
      baz=86
I19A  Meeteetse              85.44 334 ⇓P        P        12 41 31.9 -0.4
      baz=86
H20A  Greybull               85.49 335 ⇑P        P        12 41 32.1 -0.3
      baz=86
E26A  Carlson Angus          85.52 340 ⇓P        P        12 41 32.8 +0.4
      baz=86
F24A  Ekalaka                85.54 338 ⇓P        P        12 41 32.4 -0.3
      baz=86
C30A  Mose, Pekin            85.60 343 ⇑P        P        12 41 32.7 -0.1
      baz=86
D28A  Regan                  85.66 341 ⇑P        P        12 41 32.9 -0.2
      baz=86
F23A  Volborg                85.73 337 ⇑P        P        12 41 33.2 -0.3
      baz=86
G21A  Lodge Grass            85.87 336 ⇑P        P        12 41 34.5 +0.2
      baz=86
I17A  Pilgrim Ck.            85.91 333 ⇑P        P        12 41 34.6 -0.1
      baz=86
H19A  Powell                 85.99 335 ⇓P        P        12 41 34.7 -0.2
      baz=86
D26A  Manning                86.02 340 ⇓P        P        12 41 35.0 +0.1
      baz=86
IMW   Indian Meadow          86.03 333 eP        P        12 41 35.5 +0.1
      comp=N,27nm,2.0s
F22A  Rosebud                86.05 337 ⇑P        P        12 41 35.0 -0.1
      baz=86
FLWY  Flagg Ranch            86.10 333 eP        P        12 41 36.0 +0.4
      comp=N,82nm,2.4s
E24A  Baker                  86.14 339 ⇓P        P        12 41 35.7 +0.2
      baz=86
H18A  Shoshone NF, C         86.23 334 ⇓P        P        12 41 36.2 -0.1
      baz=87
B30A  Myrvik Farm, E         86.26 343 ⇓P        P        12 41 36.2 +0.2
      baz=87
D25A  Fairfield              86.38 339 ⇓P        P        12 41 36.8 +0.1
      baz=87
C27A  Sayler Ranch,          86.39 341 ⇑P        P        12 41 36.8 +0.1
      baz=87
E23A  Ismay                  86.39 338 ⇑P        P        12 41 36.8 +0.1
      baz=87
RLMT  Red Lodge              86.48 335 eP        P        12 41 37.7 +0.2
      comp=N,3.5nm,0.6s
D24A  Glendive               86.65 339 ⇓P        P        12 41 38.0  0.0
      baz=87
YMR   Madison River          86.70 334 eP        P        12 41 39.6 +1.0
      comp=N,8.3nm,0.9s
A30A  Hoffart Farm,          86.71 343 ⇓P        P        12 41 38.1 -0.1
      baz=87
B28A  Dugan Ranch, T         86.76 342 ⇓P        P        12 41 38.8 +0.3
      baz=87
A29A  Manning Farm,          86.92 343 ⇑P        P        12 41 39.9 +0.6
      baz=87
C24A  Savage                 87.05 339 ⇑P        P        12 41 40.6 +0.7
      baz=88
HLID  Hailey                 87.08 331 ⇑P        P        12 41 40.9 +0.5
      baz=88
HLID  Hailey                 87.08 331 eP        P        12 41 41.0 +0.7
      comp=N,22nm,2.0s
A28A  Rude Farm, Bot         87.16 342 ⇑P        P        12 41 40.2 -0.3
      baz=88
D22A  Cohagen                87.24 338 ⇑P        P        12 41 40.6 -0.3
      baz=88
E20A  Meyer Farm, Mu         87.30 336 ⇓P        P        12 41 40.8 -0.4
      baz=88
B25A  Knox Farm, Ray         87.35 340 ⇓P        P        12 41 41.2 -0.2
      baz=88
ULM   Lac du Bonnet          87.40 345  P        P        12 41 40.5 -1.0
      comp=N,3.2nm,0.9s,baz=28,slow=1.2,SNR=4.2
D21A  La Casta Ranch         87.42 337 ⇑P        P        12 41 41.6 -0.3
      baz=88
A27A  Ledoux Ranch,          87.45 341 ⇓P        P        12 41 41.7 -0.1
      baz=88
E19A  Rath Farm, Rou         87.48 336 ⇑P        P        12 41 41.7 -0.4
      baz=88
C23A  Lambert                87.52 339 ⇑P        P        12 41 42.1 -0.1
      baz=88
A26A  Wade Farm, Ken         87.62 341 ⇓P        P        12 41 42.3 -0.3
      baz=88
C22A  Vida                   87.68 338 ⇑P        P        12 41 42.8 -0.2
      baz=88
DGMT  Dagmar                 87.83 339 eP        P        12 41 45.0 +1.3
      comp=N,17nm,0.8s
B23A  Brockton               88.06 339 ⇓P        P        12 41 45.2 +0.4
      baz=88
C21A  Desert Coulee          88.13 337 ⇓P        P        12 41 45.4 +0.2
      baz=88
A24A  Westby                 88.18 340 ⇑P        P        12 41 45.6 +0.3
      baz=89
B22A  Reddig Ranch S         88.21 338 ⇑P        P        12 41 45.8 +0.2
      baz=89
MOD   Modoc Plateau          88.25 326 eP        P        12 41 46.8 +0.7
      comp=N,90nm,2.8s
C20A  Veseth Ranch,          88.32 337 ⇑P        P        12 41 45.5 -0.5
      baz=89
B21A  Ellsworth Farm         88.64 338 ⇓P        P        12 41 48.0 +0.5
      baz=89
A22A  Carney Farms,          88.80 339 ⇑P        P        12 41 48.5 +0.2
      baz=89
B19A  Brinkman Farms         89.28 337 ⇓P        P        12 41 50.2 -0.3
      baz=90
A20A  Cobblestone Ra         89.32 337 ⇑P        P        12 41 50.6 -0.2
      baz=90
NEW   Newport                92.03 332 ⇑P        P        12 42 02.7 -0.6
      baz=92
YKA   Yellowknife Ar         102.92 341 Pdiff    Pdif      12 42 50.2 -1.9
      comp=N,0.2nm,0.7s,baz=142,slow=5.2,SNR=3.6
WRA   Warramunga Arr         119.77 209 PKP      PKPdf     12 47 43.6 -1.9
      comp=N,0.3nm,0.6s,baz=168,slow=1.5,SNR=6.8
H11S2 WAKE ISLAND Hyl25.50 269  T        T        15 05 56.1
      baz=119,slow=74,SNR=22
H11S1 WAKE ISLAND Hyl25.52 269  T        T        15 05 51.5
      baz=119,slow=74,SNR=20
H11S3 WAKE ISLAND Hyl25.52 269  T        T        15 05 56.7
      baz=119,slow=74,SNR=14
H11N3 WAKE ISLAND Hyl25.94 270  T        T        15 07 05.0
      baz=121,slow=75,SNR=26
H11N1 WAKE ISLAND Hyl25.95 270  T        T        15 06 40.5
      baz=121,slow=75,SNR=33
H11N2 WAKE ISLAND Hyl25.96 270  T        T        15 06 39.7
      baz=121,slow=75,SNR=29
SEY   Seymchan               140.77 329 PKhKP    PKPpre    12 48 18.9
      comp=N,0.9nm,0.5s,baz=264,slow=23,SNR=7.7
BVAR  Borovoye Array         148.18  44 PKPbc    PKPbc     12 48 39.9 -0.2
      comp=N,1.4nm,0.5s,baz=325,slow=2.3,SNR=7.1
HYB   Hyderabad              148.72 117 i PKP    PKPbc     12 48 41.5 -1.1
ASAJ  Asahikawa              151.74 299 PKPab    PKPab     12 48 55.6 -2.4
      comp=N,3.1nm,0.4s,baz=180,slow=3.0,SNR=4.6
AAK   Ala-Archa              153.18  63 PKPbc    PKPbc     12 48 52.0 -0.5
      comp=N,1.6nm,0.6s,baz=245,slow=3.5,SNR=4.7
AAK                                     PKPab    PKPab     12 49 02.0 -2.4
      comp=N,4.9nm,0.8s,baz=119,slow=2.2,SNR=9.9
AAK   Ala-Archa              153.18  63 ePKPdf   PKPdf     12 48 45.9 +0.8
AAK                                     PKPbc    PKPbc     12 48 52.0 -0.5
AAK                                     ePKPbc   PKiKP     12 48 53.2 +0.5
AAK                                     PKPab    PKPab     12 49 02.0 -2.4
AAK                                     ePKPab   PKPab     12 49 04.9 +0.5
KSH   Kashi                  154.45  70 PKPbc    PKPdf     12 48 47.3 +0.3
KSH                                     sPKP               12 49 00.8
KSH                                     PKS      PKSdf     12 52 20.7 -0.6
KSH                                     PP       PP        12 52 43.1 -2.5
KSH                                     SKS      SKSdf     12 55 52.2 -0.7
KSH                                     SKKS     SKKSac    12 59 30.1 -4.3
KSH                                     SS       SS        13 12 20.2 -5.6
KSH                                     PPMZ
      comp=N,950nm,12.6s
ZALV  Zalesovo Beam          155.20  33 PKP      PKPdf     12 48 46.5 -0.9
      comp=N,0.6nm,0.3s,baz=272,slow=1.8,SNR=5.6
ZALV                                    PKPbc    PKPbc     12 48 55.1
      comp=N,2.4nm,0.6s,baz=279,slow=3.0,SNR=8.7
ZALV                                    PKPab    PKPab     12 49 12.3 +0.1
      comp=N,2.5nm,0.6s,baz=307,slow=5.0,SNR=6.7
MKAR  Makanchi Array         157.60  51 PKP      PKPdf     12 48 50.2 -0.6
      comp=N,0.3nm,0.6s,baz=47,slow=2.3,SNR=3.9
MKAR                                    PKPab    PKPab     12 49 22.0 -0.9
      comp=N,1.1nm,0.7s,baz=299,slow=3.3,SNR=9.7
WMQ   Urumqi                 162.27  54 ePKP     PKPdf     12 48 54.6 -1.6
KSRS  Korea Array            163.47 284 PKPab    PKPab     12 49 49.2 +0.5
      comp=N,1.6nm,0.9s,baz=96,slow=3.7,SNR=3.7
KSAR  Wonju Array Be         163.50 284 PKPab    PKPab     12 49 49.2 +0.3
CN2   Changchun              163.71 308 ePKP     PKPdf     12 48 58.3 +0.8
SONM  Songino Array          167.14   4 PKPab    PKPab     12 50 05.5 +0.9
      comp=N,0.7nm,0.6s,baz=337,slow=4.8,SNR=6.3
NJ2   Nanjing                170.21 256 ePKP     PKPdf     12 49 03.6 +0.9
GYA   Guiyang                171.44 174 ePKP     PKPdf     12 49 02.8 -0.9
GYA                                     pPKP     pPKPdf    12 49 14.0 +4.1
GYA                                     PKPab    PKPab     12 50 24.7 +0.5
GYA                                     PKS      PKSdf     12 52 34.5 -1.7
GYA                                     PP       PP        12 54 17.2 +3.2
GYA                                     SKKS               13 00 58.7
GYA                                     SS       SS        13 15 18.6 -0.2
GYA                                     PPMZ
      comp=N,120nm,8.1s
GTA   Gaotai                 172.35  53 ePKP     PKPdf     12 49 03.8 +0.1
GTA                                     pPKP     pPKPdf    12 49 14.7 +4.8
GTA                                     sPKP               12 49 18.3
GTA                                     PKPab    PKPab     12 50 28.9 +0.8
WHN   Wuhan                  172.83 234 PKP      PKPdf     12 49 04.7 +0.7
HHC   Hu-ho-hao-te           173.40 333 ePKP     PKPdf     12 49 03.7 -0.4
HHC                                     pPKP     pPKPdf    12 49 14.1 +3.8
HHC                                     PP       PP        12 54 22.4 -1.5
HHC                                     SKS      SKSdf     12 56 02.4 -4.0
HHC                                     SKKS     SKKSac    13 01 09.5 -0.5
HHC                                     SS       SS        13 15 39.1 +0.6
HHC                                     PPMZ
      comp=N,2μm,8.3s
LZH   Lanzhou                176.70  70 ePKP     PKPdf     12 49 04.6 -0.7
LZH                                     pPKP     pPKPdf    12 49 15.4 +3.9
LZH                                     sPKP               12 49 19.8
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*IDC **05** 12:34:30.1±0.5, 34°.75S×73°.62W, h0km, mb4.3/13, mb1 4.5/15, mb1mx4.3/42, mbtmp4.3/15, ML4.4/2, Error ellipse: s-maj=22.9km s-min=15.0km az=78.0*
*ISCJB **05** 12:34:32.2±2.1, 34°.76S±0°.04×73°.62W±0°.06, h23km±15km, mb4.4/29, Error ellipse: s-maj=8.2km s-min=7.4km az=22.9*
*GUC **05** 12:34:33.0±0.6, 34°.70S×73°.35W, h16km±10km, ML4.6*
*BJI **05** 12:34:34.8, 34°.37S×72°.79W, h35km, mB5.3/1*
*NEIC **05** 12:34:35.3±0.3, 34°.80S×73°.62W, h35km, mb4.6/20, Error ellipse: s-maj=9.6km s-min=6.3km az=70.0*

ISC 05 12:34:35.8±0.4, 34°.77S±0°.05×73°.5W±0°.1, h39km±4km, n70, σ1§09/101, mb4.5/29, 4C-2D, Off coast of central Chile

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Code  Station Name          Δ°   AZ°  Phase ID          Time      Res
                                      Op       ISC      h m s     ISC
LNCH  Linares               1.91 125  eP       Pn       12 35 05.7  0.0
LNCH                                  i S      Sn       12 35 30.2 +1.7
LNV   Longovilo             1.93  66⇑ iP       Pn       12 35 04.6 -1.5
LNV                                   i S1     Sn       12 35 28.5 -0.6
CACH  El Canelo             2.51  76⇑ iP       Pn       12 35 14.2 +0.1
CACH                                  eS1      Sn       12 35 45.4 +1.9
CHCH  Chadas Angostu        2.52  71⇓ iP       Pn       12 35 13.8 -0.5
CHCH                                  i S1     Sn       12 35 44.8 +0.7
CLCH  Cerro Calan           2.84  62⇑ iP       Pn       12 35 17.8 -0.8
CLCH                                  i S      Sn       12 35 52.6 +1.0
CLCH                                  AML      AML      12 35 53.8
      comp=N,1μm,0.3s
CLCH                                  AML      AML      12 35 54.9
      comp=E,2μm,0.4s
PEL   Peldehue              2.87  56⇑ iP       Pn       12 35 18.9 -0.1
PEL                                   i S      Sn       12 35 53.3 +1.0
PEL                                   AML      AML      12 35 55.0
      comp=E,4μm,0.3s
FCH   Farellones            3.05  63⇓ iP       Pn       12 35 21.4 -0.3
FCH                                   AML      AML      12 36 01.2
      comp=N,3μm,0.3s
CFAA  Coronel Fontan        5.45  56  Pn       Pn       12 35 54.6 +0.2
      comp=N,1.2nm,0.3s,baz=232,slow=13,SNR=14
CFAA                                  Sn       Sn       12 36 56.9 +1.0
      comp=N,1.5nm,0.3s,baz=344,slow=23,SNR=3.5
PLCA  Paso Flores           6.40 159  Pn       Pn       12 36 07.2 -0.3
      comp=N,5.3nm,0.3s,baz=321,slow=11,SNR=19
TRQA  Tornquist             9.87 113  ePn      Pn       12 36 56.7 +1.7
TRQA                                  eSn      Sn       12 38 41.0 -3.5
LVC   Limon Verde           12.77  20  ePn      Pn       12 37 34.5 -0.5
LPAZ  La Paz                19.03  16  P        Pn       12 38 57.5 +1.4
      comp=N,0.2nm,0.3s,baz=174,slow=11,SNR=4.0
LPAZ  La Paz                19.03  16  P        Pn       12 38 57.5 +1.4
      comp=N,13nm,1.8s
USHA  Ushuaia               20.37 172  P        P        12 39 08.5 -0.3
      comp=N,10.0nm,1.0s,baz=343,slow=14,SNR=2.3
SIV   San Ignacio           21.79  34  P        P        12 39 24.7 +0.2
      comp=N,6.7nm,1.0s,baz=226,slow=13,SNR=6.2
SAML  Samuel                27.40  23  eP       P        12 40 17.6  0.0
      comp=N,0.6nm,0.4s
OTAV  Otavalo               35.13 351  eP       P        12 41 26.8 +0.5
      comp=N,5.5nm,1.3s
SNAA  Sanae                 51.34 158  P        P        12 43 36.2 +0.3
      comp=N,3.7nm,0.9s,baz=273,slow=6.6,SNR=14
QSPA  South Pole Qui        55.46 180  P        P        12 44 07.2 +0.8
      comp=N,17nm,1.0s,baz=297,slow=0.6,SNR=26
QSPA  South Pole Qui        55.46 180  P        P        12 44 07.2 +0.8
      comp=N,12nm,1.1s
JCT   Junction City         69.47 336  eP       P        12 45 40.3 +0.2
      comp=N,3.4nm,0.6s
TXAR  Lajitas Array         69.82 332  P        P        12 45 42.6 +0.3
      comp=N,1.8nm,0.7s,baz=152,slow=8.7,SNR=22
SWET  Sewanee               70.59 349  eP       P        12 45 46.5 -0.3
      comp=N,9.2nm,0.9s
WVT   Waverly               71.79 348  eP       P        12 45 53.4 -0.6
TUL1  Leonard               73.33 341  eP       P        12 46 02.7 -0.5
      comp=N,6.6nm,0.8s
MSTX  Muleshoe              73.67 335  eP       P        12 46 05.2 -0.2
      comp=N,127nm,2.6s
TUC   Tucson                75.36 328  eP       P        12 46 16.2 +1.0
      comp=N,4.7nm,1.0s
ANMO  Albuquerque           75.88 333  P        P        12 46 19.0 +0.7
      comp=N,0.8nm,0.8s,baz=139,slow=7.4,SNR=5.0
ANMO  Albuquerque           75.88 333  eP       P        12 46 19.2 +0.9
DBIC  Dimbokro              76.59  72  P        P        12 46 23.5 +0.9
      comp=N,5.8nm,0.8s,baz=226,slow=2.5,SNR=6.7
DBIC  Dimbokro              76.59  72  eP       P        12 46 23.5 +0.9
      comp=N,7.5nm,0.8s
WUAZ  Wupatki               78.35 329  eP       P        12 46 33.4 +1.3
      comp=N,3.7nm,1.1s
BOSA  Boshof                80.80 118  P        P        12 46 46.4 +0.6
      comp=N,13nm,1.0s,baz=218,slow=6.1,SNR=9.7
SHPR  Sheep Range           80.82 327  eP       P        12 46 43.7 -1.8
      comp=N,13nm,1.7s
CCUT  Cedar City            80.92 329  eP       P        12 46 47.5 +1.4
      comp=N,3.4nm,0.9s
ECSD  EROS Data Cent        80.92 343  eP       P        12 46 45.2 -0.5
      comp=N,5.8nm,0.9s
SRU   San Rafael Swe        81.09 332  eP       P        12 46 47.0 +0.1
      comp=N,1.3nm,0.7s
DUG   Dugway, Tooele        82.93 331  eP       P        12 46 56.8 +0.3
      comp=N,6.5nm,1.3s
LBTB  Lobatse               83.09 116  eP       P        12 46 58.2 +0.4
      comp=N,15nm,1.0s
HWUT  Hardware Ranch        83.65 332  eP       P        12 47 00.5 +0.3
      comp=N,32nm,1.8s
NVAR  Mina Array Bea        83.83 326  P        P        12 47 01.9 +0.7
      comp=N,0.8nm,0.8s,baz=152,slow=6.3,SNR=6.6
PDAR  Pinedale Array        83.91 334  P        P        12 47 01.1 -0.5
      comp=N,0.9nm,0.9s,baz=155,slow=4.9,SNR=5.0
HVU   Hansel Valley         84.26 332  eP       P        12 47 03.3  0.0
      comp=N,3.9nm,0.8s
ELK   Elko                  84.39 329  P        P        12 47 04.5 +0.5
      comp=N,1.3nm,0.8s,baz=213,slow=4.0,SNR=4.5
TPAW  Teton Pass            85.04 334  eP       P        12 47 06.2 -1.1
      comp=N,5.0nm,1.0s
TORD  Torodi Ar. Bea        85.63  71  P        P        12 47 10.9 +0.3
      comp=N,3.4nm,0.9s,baz=260,slow=3.1,SNR=11
ULM   Lac du Bonnet         86.93 346  P        P        12 47 14.8 -1.3
      comp=N,1.9nm,0.8s,baz=145,slow=6.0,SNR=3.2
BRTR  Keskin Array B        123.28  62 PKP      PKPdf     12 53 27.9 -0.6
      comp=N,1.1nm,0.8s,baz=259,slow=2.0,SNR=4.8
ABKAR Akbulak array         143.13  52 ePKPdf   PKPbc     12 54 01.9 -0.2
PALK  Pallekele             143.79 133 ePKPdf   PKPbc     12 54 05.2 +0.1
PSI   Prapat                147.42 166 PKPbc    PKPdf     12 54 14.5 +0.7
      baz=150,slow=8.0
BRVK  Borovoye              148.61  43 ePKPdf   PKPdf     12 54 14.3  0.0
BRVK                                   ePKPbc   PKPbc     12 54 18.8 +0.8
BRVK                                   ePKPab   PKPab     12 54 22.9 +1.2
BVAR  Borovoye Array        148.69  43 PKP      PKPdf     12 54 14.9 +0.5
      comp=N,4.6nm,1.0s,baz=284,slow=2.4,SNR=9.5
BVAR                                   PKPbc    PKPbc     12 54 18.9 +0.7
      comp=N,2.9nm,0.8s,baz=291,slow=5.7,SNR=13
HYB   Hyderabad             149.70 118 i PKP    PKPbc     12 54 20.5 -1.4
KKAR  Karatay Array         151.00  62 ePKPdf   PKPdf     12 54 19.1 +0.7
KKAR                                   ePKPbc   PKPbc     12 54 24.6 +0.4
KKAR                                   ePKPab   PKPab     12 54 32.7 +0.8
EKS2  Erkin-Say             153.43  63 ePKPdf   PKPdf     12 54 23.2 +0.9
EKS2                                   ePKPbc   PKiKP     12 54 30.6 +0.6
EKS2                                   ePKPab   PKPab     12 54 42.2 -0.1
AAK   Ala-Archa             153.96  63 PKPbc    PKPbc     12 54 31.3 +0.2
      comp=N,3.7nm,0.9s,baz=238,slow=3.8,SNR=8.7
AAK   Ala-Archa             153.96  63 ePKPdf   PKPdf     12 54 24.0 +0.9
AAK                                    PKPbc    PKPbc     12 54 31.3 +0.2
AAK                                    ePKPbc   PKPbc     12 54 31.7 +0.6
AAK                                    ePKPab   PKPab     12 54 45.7 +1.2
KURK  Kurchatov             154.28  43 ePKPdf   PKPdf     12 54 23.5 +0.6
KURK                                   ePKPbc   PKiKP     12 54 31.4 +0.2
TKM2  Tokmak 2              154.72  62 ePKPdf   PKPdf     12 54 24.0 -0.2
TKM2                                   ePKPbc   PKiKP     12 54 33.6 +0.8
KSH   Kashi                 155.30  70 ePKPbc   PKPdf     12 54 25.5 +0.6
KSH                                    sPKP               12 54 39.6
KSH                                    PKS      PKSdf     12 57 58.9 -0.2
KSH                                    PP       PP        12 58 24.7 -2.6
KSH                                    SKS      SKSdf     13 01 28.2 -0.2
KSH                                    PPMZ
      comp=N,1μm,12.7s
ZALV  Zalesovo Beam         155.53  32 PKP      PKPdf     12 54 24.1 -0.5
      comp=N,2.2nm,0.9s,baz=270,slow=3.0,SNR=8.0
ZALV                                   PKPab    PKPab     12 54 50.3 -0.2
      comp=N,1.6nm,0.8s,baz=300,slow=3.4,SNR=4.6
MKAR  Makanchi Array        158.20  49 PKP      PKPdf     12 54 28.0 -0.3
      comp=N,0.6nm,0.9s,baz=268,slow=1.9,SNR=3.4
MKAR                                   PKPab    PKPab     12 55 02.6 +0.2
      comp=N,1.0nm,0.8s,baz=290,slow=4.4,SNR=7.5
CMAR  Chiang Mai Arr        162.42 156 PKP      PKPdf     12 54 33.8  0.0
      comp=N,0.9nm,0.8s,baz=258,slow=3.2,SNR=5.0
SONM  Songino Array         166.95   0 PKP      PKPdf     12 54 35.6 -1.4
      comp=N,0.4nm,0.9s,baz=349,slow=1.5,SNR=3.6
SONM                                   PKPab    PKPab     12 55 40.2 -0.5
      comp=N,0.5nm,0.9s,baz=341,slow=1.4,SNR=5.6
NJ2   Nanjing               169.30 259 ePKP     PKPdf     12 54 40.2 +1.3
WHN   Wuhan                 172.13 240 PKP      PKPdf     12 54 42.5 +2.0
HHC   Hu-ho-hao-te          172.72 328 ePKP     PKPdf     12 54 40.4 -0.2
HHC                                    pPKP     pPKPdf    12 54 51.4 -1.6
HHC                                    PP       PP        12 59 59.6 +1.9
HHC                                    SKS      SKSdf     13 01 38.8 -2.0
HHC                                    SKKS     SKKSac    13 06 37.7 -3.8
HHC                                    SS       SS        13 21 09.6 +2.5
GTA   Gaotai                172.95  47 ePKP     PKPdf     12 54 41.3 +0.5
GTA                                    pPKP     pPKPdf    12 54 52.1 -1.1
GTA                                    sPKP               12 54 55.7
LZH   Lanzhou               177.49  58 ePKP     PKPdf     12 54 41.6 -0.6
LZH                                    pPKP     pPKPdf    12 54 52.5 -2.1
LZH                                    sPKP               12 54 57.0
```

IDC 05 12:35:09.2±2.7, 15°.65S×173°.76W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.7/53, mbtmp3.8/5, Error ellipse: s-maj=146.0km s-min=25.9km az=142.0, Tonga Islands

```
Code  Station Name          Δ°   AZ°  Phase ID          Time      Res
                                      Op       ISC      h m s     ISC
STKA  Stephens Creek        43.61 240  P        P        12 43 15.8 +0.3
      2.2nm,0.6s,baz=94,slow=9.9,SNR=3.8
WRA   Warramunga Arr        49.45 257  P        P        12 44 01.2 -0.3
      0.3nm,0.6s,baz=86,slow=6.8,SNR=8.4
ASAR  Alice Springs         49.70 252  P        P        12 44 03.0 -0.4
      2.8nm,0.7s,baz=86,slow=8.1,SNR=51
PDAR  Pinedale Array        82.68  42  P        P        12 47 34.8 -0.3
      0.5nm,0.7s,baz=200,slow=4.4,SNR=3.7
ILAR  Eielson Array         82.76  11  P        P        12 47 34.6  0.0
      0.4nm,0.7s,baz=232,slow=6.4,SNR=7.2
BRTR  Keskin Array B        146.13 320 PKPbc    PKPbc     12 54 51.5 -0.3
      1.8nm,0.8s,baz=102,slow=2.1,SNR=7.6
```

*ISCJB **05** 12:37:59.4±1.0, 67°.65N±0°.05×34°.1E±0°.1, h0km, Error ellipse: s-maj=8.1km s-min=7.5km az=179.8*
*HEL **05** 12:38:02.1±0.6, 67°.68N×33°.94E, h0km, ML2.4, ML1.7(UPP), Explosion*
*KOLA **05** 12:38:02.4, 67°.66N×33°.96E, h0km*
*CSEM **05** 12:38:03.5±0.5, 67°.62N×33°.63E, h1km, ML2.8, Error ellipse: s-maj=10.1km s-min=5.8km az=81.0, Mining explosion.*
*NAO **05** 12:38:03.2±1.2, 67°.65N×33°.84E, ML2.8*
*IDC **05** 12:38:04.8±1.8, 67°.72N×33°.61E, h0km, mb1 3.4/5, mb1mx3.1/31, mbtmp3.4/5, ML3.2/4, Error ellipse: s-maj=20.5km s-min=10.0km az=81.0*
*UPP **05** 12:38:04.0, 67°.71N×33°.66E, h0km, ML1.7, Suspected Mining explosion.*

ISC 05 12:38:00.7±1.6, 67°.63N±0°.04×34°.02E±0°.09, h0km, n61, σ1§13/75, Baltic States-Belarus-Northwestern Russia

```
Code  Station Name          Δ°   AZ°  Phase ID          Time      Res
                                      Op       ISC      h m s     ISC
APA   Apatity               0.24 255  P        Pg       12 38 06.6 +1.3
APA                                   S        Sg       12 38 09.6 +1.2
APA0  Apatity Array         0.39 267  Pg       Pg       12 38 09.4 +1.3
      baz=81,slow=18
APA0                                  Lg       Lg       12 38 14.4
      baz=83,slow=37
APA0                                  Rg       Rg       12 38 15.9
      baz=84,slow=37
APA0  Apatity Array         0.39 267  Pg       Pg       12 38 09.4 +1.3
      baz=81,slow=18
APA0                                  Lg       Lg       12 38 14.4
      baz=83,slow=37
APA0                                  Rg       Rg       12 38 15.9
      baz=84,slow=37
APA0  Apatity Array         0.39 267  Pg       Pg       12 38 09.4 +1.3
      baz=81,slow=17,SNR=115
APA0                                  Lg       Lg       12 38 14.4
APA0  Apatity Array         0.39 267  P        Pg       12 38 09.1 +0.9
APA0                                  S        Sg       12 38 14.0 +0.8
VRF   Varrio                1.69 276  eP       Pn       12 38 32.3 +0.9
VRF                                   eS       Sn       12 38 53.3 -0.3
VRF                                   MSG                12 38 54.5
      comp=Z,44nm,0.2s
VRF   Varrio                1.69 276  P        Pn       12 38 32.2 +0.9
VRF                                   S        Sn       12 38 53.3 -0.3
KU6   Riekki                2.30 227  eP       Pb       12 38 42.1 -0.8
KU6                                   eSG      Sg       12 39 13.0 -1.3
KU6                                   MSG                12 39 14.7
      comp=Z,14nm,0.1s
KU6   Riekki                2.30 227  P        Pb       12 38 42.1 -0.8
KU6                                   Sg       Sg       12 39 13.0 -1.3
MSF   Maaselka              2.62 231  eP       Pn       12 38 46.9 +2.7
MSF   Maaselka              2.62 231  P        Pn       12 38 46.9 +2.7
SGF   Sodankyl              2.88 270  eP       Pn       12 38 48.4 +0.6
SGF   Sodankyl              2.88 270  P        Pn       12 38 48.4 +0.6
RNF   Rovaniemi             3.29 256  eP       Pn       12 38 54.7 +1.4
RNF   Rovaniemi             3.29 256  P        Pn       12 38 54.7 +1.4
KEV   Kevo                  3.33 313  eP       Pn       12 38 55.8 +1.9
KEV   Kevo                  3.33 313  P        Pn       12 38 55.7 +1.9
ARA0  ARCESS Array S        3.66 305  Pn       Pn       12 38 59.5 +1.1
```

baz=122,slow=16
ARA0 Sn **Sn** 12 39 42.1 -0.1
baz=128,slow=28
ARA0 Lg Lg 12 39 53.1
baz=117,slow=37
ARA0 ARCESS Array S 3.66 305 Pn **Pn** 12 38 59.5 +1.1
baz=122,slow=16
ARA0 Sn **Sn** 12 39 42.1 -0.1
baz=128,slow=28
ARA0 Lg Lg 12 39 53.1
baz=117,slow=37
ARA0 ARCESS Array S 3.66 305 *e*P **Pn** 12 38 59.5 +1.1
ARA0 ARCESS Array S 3.66 305 Pn **Pn** 12 38 59.5 +1.1
baz=122,slow=14,SNR=593
ARA0 Sn **Sn** 12 39 42.1 -0.1
baz=128,slow=25,SNR=9.0
ARA0 Lg Lg 12 39 53.1
ARCES ARCESS Array B 3.66 305 Pn **Pn** 12 38 59.9 +1.5
comp=Z,6.1nm,0.3s,baz=122,slow=15,SNR=194
ARCES Sn **Sn** 12 39 41.0 -1.2
comp=Z,3.6nm,0.3s,baz=120,slow=27,SNR=10
ARCES Lg Lg 12 39 53.5
comp=Z,9.6nm,0.3s,baz=120,slow=25,SNR=16
HEF Hetta 3.97 286 *e*P **Pn** 12 39 03.7 +0.9
HEF MSG 12 40 05.5
comp=Z,11nm,0.2s
HEF Hetta 3.97 286 P **Pn** 12 39 03.6 +0.9
LANU Lannavaara 4.58 281 *e*P **Pn** 12 39 11.6 +0.5
LANU Lannavaara 4.58 281 P **Pn** 12 39 11.5 +0.5
LANU S **Sn** 12 40 03.8 -1.0
LANU Lannavaara 4.58 281 P **Pn** 12 39 11.4 +0.4
LANU S **Sn** 12 40 03.8 -1.0
KALU Kalix 4.58 252 *e*P **Pn** 12 39 12.1 +1.0
KALU Kalix 4.58 252 P **Pn** 12 39 12.1 +1.0
ERTU Ertsjaerv 4.75 262 *e*P **Pn** 12 39 14.2 +0.9
ERTU Ertsjaerv 4.75 262 P **Pn** 12 39 14.3 +0.9
ERTU Ertsjaerv 4.75 262 P **Pn** 12 39 14.3 +0.9
KUA Kurravaara 5.20 280 *e*P **Pn** 12 39 20.1 +0.5
KUA Kurravaara 5.20 280 P **Pn** 12 39 20.1 +0.5
KUA Kurravaara 5.20 280 P **Pn** 12 39 20.1 +0.5
NIKU Nikkaluokta 5.70 279 *e*P **Pn** 12 39 27.2 +0.8
NIKU Nikkaluokta 5.70 279 P **Pn** 12 39 27.2 +0.8
NIKU Nikkaluokta 5.70 279 P **Pn** 12 39 27.2 +0.8
BURU Burvik 5.97 245 *e*P **Pn** 12 39 30.5 +0.3
BURU Burvik 5.97 245 P **Pn** 12 39 30.5 +0.3
BURU Burvik 5.97 245 P **Pn** 12 39 30.5 +0.3
LILU Lilltraesk 6.14 254 *e*P **Pn** 12 39 32.7 +0.2
LILU Lilltraesk 6.14 254 P **Pn** 12 39 32.7 +0.2
LILU Lilltraesk 6.14 254 P **Pn** 12 39 32.7 +0.2
UMAU Umeaa 6.65 242 *e*P **Pn** 12 39 40.5 +1.1
UMAU Umeaa 6.65 242 P **Pn** 12 39 40.5 +1.1
UMAU Umeaa 6.65 242 P **Pn** 12 39 40.5 +1.1
FIA0 FINESS Array S 7.09 213 Pn **Pn** 12 39 47.1 +1.7
baz=20,slow=16
FIA0 Sn **Sn** 12 41 05.2 -1.4
baz=25,slow=28
FIA0 Lg Lg 12 41 39.1
baz=27,slow=28
FIA0 FINESS Array S 7.09 213 Pn **Pn** 12 39 47.1 +1.7
baz=20,slow=16
FIA0 Sn **Sn** 12 41 05.2 -1.4
baz=25,slow=28
FIA0 Lg Lg 12 41 39.1
baz=27,slow=28
FIA0 FINESS Array S 7.09 213 Pn **Pn** 12 39 47.1 +1.7
baz=20,slow=15,SNR=8.4
FIA0 Sn **Sn** 12 41 05.2 -1.4
baz=25,slow=24,SNR=2.9
FIA0 Lg Lg 12 41 39.2
SNR=21
FINES FINESS Array B 7.09 213 Pn **Pn** 12 39 47.2 +1.7
comp=Z,0.2nm,0.3s,baz=28,slow=13,SNR=3.5
FINES Sn **Sn** 12 41 04.9 -1.6
comp=Z,0.3nm,0.3s,baz=38,slow=21,SNR=4.1
I43RU DUBNA INFRASONI 1.05 171 *i* 13 42 50.0
baz=358,slow=335,SNR=0.4
HFS Hagfors 11.63 240 Pn **Pn** 12 40 46.6 -1.1
baz=37,slow=13,SNR=5.2
SPA0 Spitsbergen Ar 11.70 342 Pn **Pn** 12 40 47.6 -1.0
baz=148,slow=18
SPA0 Spitsbergen Ar 11.70 342 Pn **Pn** 12 40 47.6 -1.0
baz=148,slow=18
SPITS Spitsbergen Ar 11.70 342 Pn **Pn** 12 40 47.3 -1.3
baz=142,slow=19,SNR=12
NB2 NORSAR Subarra 11.83 247 Pn **Pn** 12 40 49.6 -0.8
NB2 NORSAR Subarra 11.83 247 Pn **Pn** 12 40 49.6 -0.8
NB2 NORSAR Subarra 11.83 247 Pn **Pn** 12 40 49.6 -0.8
NOA NORSAR Array B 11.83 247 Pn **Pn** 12 40 49.9 -0.5
comp=Z,0.2nm,0.3s,baz=40,slow=11,SNR=3.0
I31KZ AKTYUBINSK INF 20.99 133 *i* 14 44 20.0
baz=335,slow=334,SNR=0.5

*IDC **05** 12:39:37.2±2.2,40°.25N×50°.12E,h0km,mb3.8/4,*
mb1 3.9/9,mb1mx3.5/59,mbtmp3.9/9,ML4.3/4,Error
ellipse: s-maj=37.2km s-min=16.5km az=4.0
*ISCJB **05** 12:39:42.8±0.3,40°.28N±0°.03×50°.41E±0°.03,h75km±5km,*
mb3.6/4,Error ellipse: s-maj=4.8km s-min=3.6km az=24.6
*AZER **05** 12:39:42.0±0.2,40°.21N×50°.43E,h52km,Error ellipse:*
s-maj=1.1km s-min=0.8km az=259.0
*TEH **05** 12:39:42.7,40°.34N×50°.37E,h14km,ML4.2*
*CSEM **05** 12:39:44.1±0.2,40°.31N×50°.37E,h65km±4km,ML4.2,*
Error ellipse: s-maj=5.5km s-min=3.7km az=27.0
ISC 05 12:39:43.9±0.8,40°.27N±0°.03×50°.38E±0°.04,h59km±6km,
n77,σ1.951/117,mb3.7/4,17C-20D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala** SNR=44	**0.22 310**		⇓P	**Pn**	12 39 52.8	-0.5
GALA				⇓S	**Sn**	12 40 01.6	+1.5
GALA	**Gala** SNR=44	**0.22 310**		P	**Pn**	12 39 52.8	-0.5
GALA				S	**Sn**	12 40 01.6	+1.5
NDR	**Nardaran** SNR=166	**0.43 316**		⇑P	**Pn**	12 39 55.1	+0.1
NDR				⇓S	**Sn**	12 40 05.3	+2.2
NDR	**Nardaran** SNR=166	**0.43 316**		P	**Pn**	12 39 55.1	+0.1
NDR				S	**Sn**	12 40 05.3	+2.2
GOBA	**Gobu** SNR=65	**0.51 285**		⇑P	**Pn**	12 39 57.2	+1.4
GOBA	**Gobu** SNR=65	**0.51 285**		P	**Pn**	12 39 57.2	+1.4
ALIB	**Äli-Bayra** SNR=24	**1.10 254**		⇑P	**Pn**	12 40 05.7	+2.6
ALIB				⇓S	**Sn**	12 40 20.3	+2.9
ALIB	**Äli-Bayra** SNR=24	**1.10 254**		P	**Pn**	12 40 05.7	+2.6
ALIB				S	**Sn**	12 40 20.3	+2.9
ATGJ	**Altiaghaj** SNR=29	**1.24 299**		⇓Pn	**Pn**	12 40 05.5	+0.3
ATGJ				⇓Sn	**Sn**	12 40 22.9	+1.8
ATGJ	**Altiaghaj** SNR=29	**1.24 299**		Pn	**Pn**	12 40 05.5	+0.3
ATGJ				Sn	**Sn**	12 40 22.9	+1.8
SIZA	**Siyzn** SNR=14	**1.38 306**		⇓Pn	**Pn**	12 40 07.6	+0.6
SIZA				⇓Sn	**Sn**	12 40 27.5	+3.1
SIZA	**Siyzn** SNR=14	**1.38 306**		Pn	**Pn**	12 40 07.6	+0.6
PQL	**Pirkuli** SNR=12	**1.45 291**		⇓Pn	**Pn**	12 40 08.4	+0.4
PQL				⇓Sn	**Sn**	12 40 30.1	+3.9
PQL	**Pirkuli** SNR=12	**1.45 291**		Pn	**Pn**	12 40 08.4	+0.4
KDMR	**Kurdemir**	**1.68 274**		⇑Sn	**Sn**	12 40 32.8	+1.5
IML	**Ismayilli** SNR=11	**1.75 288**		Pn	**Pn**	12 40 12.1	+0.1
IML				⇑Sn	**Sn**	12 40 33.3	0.0
IML	**Ismayilli** SNR=11	**1.75 288**		Pn	**Pn**	12 40 12.1	+0.1
IML				Sn	**Sn**	12 40 33.3	0.0
QUBA	**Quba, Azerbaij** SNR=14	**1.79 308**		⇓Pn	**Pn**	12 40 13.2	+0.7
QUBA				⇑Sn	**Sn**	12 40 35.8	+1.5
QUBA	**Quba, Azerbaij** SNR=14	**1.79 308**		Pn	**Pn**	12 40 13.2	+0.7
QUBA				Sn	**Sn**	12 40 35.8	+1.5
GLBA	**Clilabad** SNR=20	**1.84 237**		Pn	**Pn**	12 40 13.1	0.0
GLBA				⇓Sn	**Sn**	12 40 36.1	+0.7
GLBA	**Clilabad** SNR=20	**1.84 237**		Pn	**Pn**	12 40 13.1	0.0
GLBA				Sn	**Sn**	12 40 36.1	+0.7
LKRN	**Lenkeran, Azer** SNR=6.6	**1.99 219**		⇑Pn	**Pn**	12 40 14.8	-0.4
LKRN				⇑Sn	**Sn**	12 40 38.5	-0.4
LKRN	**Lenkeran, Azer** SNR=6.6	**1.99 219**		Pn	**Pn**	12 40 14.8	-0.4
LKRN				Sn	**Sn**	12 40 38.5	-0.4
LRK	**Lerik** SNR=4.0	**2.26 225**		⇓Pn	**Pn**	12 40 18.5	-0.6
LRK				⇓Sn	**Sn**	12 40 44.5	-1.4
LRK	**Lerik** SNR=4.0	**2.26 225**		Pn	**Pn**	12 40 18.5	-0.6
LRK				Sn	**Sn**	12 40 44.5	-1.4
BRDA	**Brd** SNR=3.2	**2.44 271**		⇓Pn	**Pn**	12 40 21.9	+0.5
BRDA				⇑Sn	**Sn**	12 40 52.2	+2.1
BRDA	**Brd** SNR=3.2	**2.44 271**		Pn	**Pn**	12 40 21.9	+0.5
BRDA				Sn	**Sn**	12 40 52.2	+2.1
MNGR	**Mingechevir, A**	**2.56 282**		⇑Pn	**Pn**	12 40 23.1	+0.2
MNGR				⇑Sn	**Sn**	12 40 53.0	+0.2
MNGR	**Mingechevir, A**	**2.56 282**		Pn	**Pn**	12 40 23.1	+0.2
MNGR				Sn	**Sn**	12 40 53.0	+0.2
SEKA	**Sheki** SNR=24	**2.59 292**		⇓Pn	**Pn**	12 40 23.4	0.0
SEKA				⇓Sn	**Sn**	12 40 55.2	+1.5
SEKA	**Sheki** SNR=24	**2.59 292**		Pn	**Pn**	12 40 23.4	0.0
SEKA				Sn	**Sn**	12 40 55.2	+1.5
GANJ	**Ganja** SNR=21	**3.12 278**		Pn	**Pn**	12 40 29.6	-0.9
GANJ				⇑Sn	**Sn**	12 41 04.7	-1.9
GANJ	**Ganja** SNR=21	**3.12 278**		Pn	**Pn**	12 40 29.6	-0.9
GANJ				Sn	**Sn**	12 41 04.7	-1.9
ZKTA	**Zakatala** SNR=18	**3.15 297**		Pn	**Pn**	12 40 31.0	-0.1
ZKTA				⇑Sn	**Sn**	12 41 09.7	+2.2
ISRB	**Sarab**	**3.23 222**		*e*Pn	**Pn**	12 40 33.4	+1.1
ISRB				*e*Sn	**Sn**	12 41 10.8	+1.2
ISRB	comp=Z,753nm,0.1s			*e*		12 41 16.4	
ISRB	**Sarab**	**3.23 222**		*e*Pn	**Pn**	12 40 33.4	+1.1
ISRB				*e*Sn	**Sn**	12 41 10.8	+1.2
IHRS	**Heris**	**3.24 234**		*e*Pn	**Pn**	12 40 33.6	+1.1
IHRS				*e*Sn	**Sn**	12 41 10.7	+0.2
IHRS	comp=Z,4μm,0.1s			*e*		12 41 11.6	
IHRS	**Heris**	**3.24 234**		*e*Pn	**Pn**	12 40 33.6	+1.1
IHRS				*e*Sn	**Sn**	12 41 10.1	+0.2
IBST	**Bostanabad**	**3.74 228**		*e*Pn	**Pn**	12 40 40.0	+0.7
IBST	**Bostanabad**	**3.74 228**		*e*Pn	**Pn**	12 40 39.9	+0.7
IGZV	**Ghazvin**	**3.88 182**		*e*Pn	**Pn**	12 40 40.9	-0.4
IGZV	comp=Z,3μm,0.1s			*e*		12 41 28.1	
IGZV	**Ghazvin**	**3.88 182**		*e*Pn	**Pn**	12 40 40.9	-0.4
QZX	**Qazax, Azerbai**	**3.89 283**		⇓Pn	**Pn**	12 40 40.2	-0.9
QZX				⇑Sn	**Sn**	12 41 24.1	-1.4
QZX	**Qazax, Azerbai**	**3.89 283**		Pn	**Pn**	12 40 40.2	-0.9
QZX				Sn	**Sn**	12 41 24.1	-1.4
NAX	**Nakhchivan**	**3.92 255**		⇑Sn	**Sn**	12 41 26.5	+0.1
NAX	**Nakhchivan**	**3.92 255**		Sn	**Sn**	12 41 26.5	+0.1
IMRD	**Marand**	**3.94 248**		*e*Pn	**Pn**	12 40 42.9	+1.0
IMRD				*e*Sn	**Sn**	12 41 27.1	+0.2
IMRD	comp=Z,2μm,0.3s			*e*		12 41 36.0	
IMRD	**Marand**	**3.94 248**		*e*Pn	**Pn**	12 40 42.9	+1.0
IMRD				*e*Sn	**Sn**	12 41 27.1	+0.2
IPRN	**Peran**	**4.31 158**		*e*Pn	**Pn**	12 40 47.4	+0.4
IPRN	comp=Z,9μm,0.2s			*e*		12 41 35.9	
IALA	**Alasht**	**4.60 155**		*e*Pn	**Pn**	12 40 52.2	+1.0
IALA	comp=Z,10μm,0.1s			*e*		12 41 44.3	
IALA	**Alasht**	**4.60 155**		*e*Pn	**Pn**	12 40 52.2	+1.0
IGLO	**Ghaloghah**	**4.64 143**		*e*Pn	**Pn**	12 40 51.9	+0.3
IGLO	comp=Z,3μm,0.1s			*e*		12 41 45.8	
IKIA	**Kiasar**	**4.82 146**		*e*Pn	**Pn**	12 40 55.6	+1.5
IKIA	comp=Z,3μm,0.1s			*e*		12 41 52.0	
IKIA	**Kiasar**	**4.82 146**		*e*Pn	**Pn**	12 40 55.6	+1.5
IDMV	**Damavand**	**4.87 164**		*e*Pn	**Pn**	12 40 57.0	+2.2
IDMV	comp=Z,2μm,0.1s			*e*		12 41 54.6	
IDMV	**Damavand**	**4.87 164**		*e*Pn	**Pn**	12 40 57.0	+2.2
IFIR	**Firoozkooh**	**4.99 157**		*e*Pn	**Pn**	12 40 58.4	+2.0
IFIR	comp=Z,4μm,0.1s			*e*		12 41 56.4	
IFIR	**Firoozkooh**	**4.99 157**		*e*Pn	**Pn**	12 40 58.4	+2.0
IVRN	**Varamin**	**5.38 168**		*e*Pn	**Pn**	12 41 03.2	+1.6
IVRN	comp=Z,576nm,0.1s			*e*		12 42 09.1	
IVRN	**Varamin**	**5.38 168**		*e*Pn	**Pn**	12 41 03.2	+1.6
ISHV	**Shirvan**	**6.33 113**		*e*Pn	**Pn**	12 41 15.3	+0.5
ISHV	comp=Z,1μm,0.2s			*e*		12 42 35.1	
ISHV	**Shirvan**	**6.33 113**		*e*Pn	**Pn**	12 41 15.3	+0.5
GEYT	**Alibeck**	**6.46 109**		Pn	**Pn**	12 41 15.8	-0.6
GEYT	comp=Z,3.6nm,0.3s,baz=294,slow=18,SNR=23			Sn	**Sn**	12 42 28.1	-0.6
KBZ	**Khabaz**	**6.55 304**		Pn	**Pn**	12 41 15.8	-1.8
KBZ	comp=Z,0.3nm,0.3s,baz=114,slow=7.8,SNR=8.2			Sn	**Sn**	12 42 25.0	-5.8
ISFR	**Sfrayin**	**6.78 116**		*e*Pn	**Pn**	12 41 21.7	+0.8
ISFR	comp=Z,838nm,0.3s			*e*		12 42 47.3	
ISFR	**Sfrayin**	**6.78 116**		*e*Pn	**Pn**	12 41 21.7	+0.8
IAKL	**Akhelmad**	**7.53 116**		*e*Pn	**Pn**	12 41 31.5	+0.2
IAKL				*e*Sn	**Sn**	12 42 51.6	-3.7
IAKL	comp=Z,236nm,0.1s			*e*		12 43 00.7	
AB31	**Akbulak array**	**11.26 34**		⇑Pn	**Pn**	12 42 20.5	-1.4
AB31	comp=Z,1.0nm,0.5s,baz=210,slow=13,SNR=18			⇓Sn	Sn	12 44 18.7	-7.3
AB31	**Akbulak array**	**11.26 34**		Pn	**Pn**	12 42 20.5	-1.4
AKTO	**Aktyubinsk**	**11.49 25**		⇓Pn	**Pn**	12 42 22.3	-2.8
AKTO	comp=Z,3.6nm,0.5s			⇑Sn	Sn	12 44 22.4	-9.2
AKTO	**Aktyubinsk**	**11.49 25**		Pn	**Pn**	12 42 22.2	-2.8
AKTO	comp=Z,0.9nm,0.3s,baz=201,slow=8.2,SNR=16			Sn	Sn	12 44 22.7	-8.9
AKASG	**Malin Array Be**	**18.07 312**		P	**P**	12 43 47.1	-3.2
BVAR	**Borovoye Array**	**18.67 40**		P	**Pn**	12 43 57.7	0.0
MKAR	**Makanchi Array**	**23.93 64**		P	**P**	12 44 54.4	+2.2
FINES	**FINESS Array B**	**25.87 333**		P	**P**	12 45 09.3	-0.4
HFS	**Hagfors**	**30.17 323**		P	**P**	12 45 48.3	+0.3
SPITS	**Spitsbergen Ar**	**40.46 350**		P	**P**	12 47 17.6	+1.5
YKA	**Yellowknife Ar**	**96.14 28**		P	P	12 55 46.5	-0.1
	0.1nm,0.6s,baz=278,slow=4.6,SNR=5.0						

*IDC **05** 12:51:47.5±0.6,27°.45N×128°.65E,h0km,mb4.0/16,*
mb1 4.2/17,mb1mx4.1/40,mbtmp4.1/17,ML4.7/1,Error
ellipse: s-maj=18.9km s-min=11.2km az=93.0
*ISCJB **05** 12:51:52.5±0.3,27°.35N±0°.03×128°.68E±0°.04,h52km±3km,*
mb4.0/18,Error ellipse: s-maj=6.8km s-min=3.1km
az=38.0
*JMA **05** 12:51:53.5,27°.42N×128°.60E,h44km±1km,M4.4*
JMA Felt II J1.
*NEIC **05** 12:51:53.5±0.7,27°.32N×128°.62E,h45km±8km,mb4.2/2,*
Error ellipse: s-maj=10.9km s-min=7.4km az=128.0
NEIC Recorded [2 JMA] on Okino-erabu-shima, Tokuno-shima
and Yoron-jima; [1 JMA] on Amami-oshima,
Kakeroma-jima, Okinawa, Uke-jima and Yoro-jima.
ISC 05 12:51:53.2±0.7,27°.35N±0°.04×128°.70E±0°.04,h42km±6km,
n58,σ1.930/76,mb4.0/18,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.11 275**		P	**Pn**	12 52 00.5	+0.4
JOKE				*e*S	**Sn**	12 52 05.2	+0.3
JTK	**Tokunoshima**	**0.49 28**		P	**Pn**	12 52 04.1	+0.2
JTK				*e*S	**Sn**	12 52 11.2	-0.2
JOW	**Kunigami**	**0.64 216**		P	**Pn**	12 52 06.4	+0.5
JOW				*e*S	**Sn**	12 52 15.2	+0.3
JOW	**Kunigami** baz=359,slow=5.7	**0.64 216**		Pn	**Pn**	12 52 06.4	+0.5
JOW	baz=127,slow=20			Sn	**Sn**	12 52 15.2	+0.3
JOW	**Kunigami**	**0.64 216**		*e*Pn	**Pn**	12 52 06.1	+0.2
JOW				Sn	**Sn**	12 52 15.2	+0.3
JOW				*e*Sn	**Sn**	12 52 15.2	+0.3
JIH	**Iheya**	**0.72 244**		P	**Pn**	12 52 06.9	0.0
JIH				*e*S	**Sn**	12 52 16.4	-0.4
JAMN	**Amaminishikomi**	**0.98 25**		P	**Pn**	12 52 10.4	-0.2
JAMN				*e*S	**Sn**	12 52 23.2	-0.1
JNTH	**Nagotoyohara**	**1.02 216**		P	**Pn**	12 52 11.7	+0.6
JNTH				*e*S	**Sn**	12 52 25.3	+1.1
JAM	**Amami Oshima**	**1.33 37**		P	**Pn**	12 52 16.0	+0.7
JAM				*e*S	**Sn**	12 52 33.1	+1.3
JJT2	**Tamagusuku 2**	**1.47 215**		P	**Pn**	12 52 18.6	+1.3
JJT2				*e*S	**Sn**	12 52 37.6	+2.3
JZK	**Kikaishima**	**1.48 49**		P	**Pn**	12 52 19.0	+1.6
JAGN	**Aguni-jima**	**1.50 240**		P	**Pn**	12 52 17.6	-0.1
JAGN				*e*S	**Sn**	12 52 36.7	+0.7
JTAJ	**Takarajima**	**1.85 14**		P	**Pn**	12 52 22.0	-0.5
JTAJ				*e*S	**Sn**	12 52 45.0	+0.4
JKE	**Kume jima 2**	**1.99 240**		P	**Pn**	12 52 24.1	-0.2
JKE				*e*S	**Sn**	12 52 48.7	+0.7
JNN	**Nakanoshima**	**2.69 22**		P	**Pn**	12 52 33.8	-0.2
JNN				*e*S	**Sn**	12 53 06.0	+0.7
JMZ	**Minamidaito 2**	**2.73 123**		P	**Pn**	12 52 34.4	-0.1
JMZ				*e*S	**Sn**	12 53 04.3	-2.0
JOGS	**Gusukube**	**3.92 230**		P	**Pn**	12 52 51.3	+0.3
JIKM	**Ikemajima**	**3.93 233**		P	**Pn**	12 52 51.4	+0.4
JMJ	**Miyako jima 2**	**3.97 231**		P	**Pn**	12 52 51.6	+0.1
JIJ	**Ishigaki jima**	**5.07 235**		P	**Pn**	12 53 05.1	-1.5
IRIF	**Iriomote-Funau**	**5.39 237**		P	**Pn**	12 53 10.6	-0.5
JNU	**Nakatsue** 5.1nm,0.3s,baz=255,slow=3.6,SNR=53	**6.05 18**		Pn	**Pn**	12 53 22.6	+2.3
JNU	**Nakatsue** 60nm,1.0s	**6.05 18**		*e*Pn	**Pn**	12 53 22.2	+2.0
JNU				*e*Sn	**Sn**	12 54 32.5	+4.2
YHNB	**Yeheng** 144nm,1.0s	**7.11 250**		*e*Pn	**Pn**	12 53 36.6	+1.9
YHNB				*e*Sn	**Sn**	12 54 53.5	-0.8
YULB	**Yu-li** 18nm,0.3s	**7.76 241**		*e*Pn	Pn	12 53 40.1	-3.7
YULB				*e*Sn	**Sn**	12 55 08.2	-2.2
SSLB	**Suanglung** 46nm,0.3s	**7.84 245**		*e*Pn	**Pn**	12 53 42.9	-1.9
TPUB	**Ta-pu** 23nm,0.4s	**8.34 243**		*e*Pn	**Pn**	12 53 50.2	-1.3
TPUB				*e*Sn	**Sn**	12 55 24.9	+0.5
KSAR	**Wonju Array Be**	**10.09 356**		Pn	**Pn**	12 54 17.9	+2.5
KSRS	**Korea Array** 0.5nm,0.3s,baz=175,slow=14,SNR=41	**10.10 356**		Pn	**Pn**	12 54 17.9	+2.3
CBIJ	**Chichi jima**	**12.01 88**		Pn	**Pn**	12 54 40.9	-0.9
JCJ	**Chichijima** 4.3nm,0.3s,baz=118,slow=23,SNR=7.6	**12.01 88**		Pn	**Pn**	12 54 40.9	-0.9
MAJO	**Matsushiro**	**12.21 39**		*e*Pn	**Pn**	12 54 46.6	+2.1
MAJO				*e*Sn	**Sn**	12 56 54.7	-4.5
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=233,slow=10,SNR=4.4	**12.21 39**		Pn	**Pn**	12 54 44.8	+0.2
SONM	**Songino Array** 0.7nm,0.6s,baz=134,slow=10.0,SNR=7.4	**26.85 326**		P	**P**	12 57 30.7	+0.8
CMAR	**Chiang Mai Arr** 1.0nm,0.5s,baz=63,slow=6.4,SNR=7.0	**28.74 258**		P	**P**	12 57 47.9	+0.9
H11N2	**WAKE ISLAND Hy 35.73 94** baz=290,slow=74,SNR=118			T	T	13 36 27.9	
H11N1	**WAKE ISLAND Hy 35.73 94** baz=290,slow=74,SNR=74			T	T	13 36 33.9	
H11N3	**WAKE ISLAND Hy 35.74 94** baz=290,slow=74,SNR=100			T	T	13 36 29.2	
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=93,slow=9.1,SNR=12	**41.11 311**		P	**P**	12 59 32.4	-0.7
MKAR	0.3nm,0.7s,baz=87,slow=5.9,SNR=3.0			PcP	**PcP**	13 01 32.3	+0.3
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=104,slow=9.7,SNR=5.5	**41.62 322**		P	**P**	12 59 35.9	-1.2
KNRA	**Kununurra** baz=13,SNR=5.1	**42.77 180**		P	**P**	12 59 47.4	+0.7
COEN	**Coen** baz=13,SNR=3.9	**43.40 159**		P	**P**	12 59 53.2	+1.3
WRAB	**Tennant Creek** 2.9nm,0.6s	**47.32 173**		*e*P	**P**	13 00 23.4	+0.5
WRA	**Warramunga Arr** 3.6nm,0.6s,baz=354,slow=8.3,SNR=60	**47.33 173**		P	**P**	13 00 23.3	+0.3
QIS	**Mount Isa** baz=18,SNR=5.4	**48.78 166**		P	**P**	13 00 35.0	+0.8
CTA	**Charters Tower** 2.0nm,0.4s,baz=285,slow=6.7,SNR=3.9	**50.13 158**		P	**P**	13 00 45.8	+1.2
ASAR	**Alice Springs** 2.3nm,0.7s,baz=6.9,slow=14,SNR=40	**50.97 174**		P	**P**	13 00 52.1	+1.3
ABKAR	**Akbulak array** 0.8nm,0.5s	**56.19 313**		*e*P	**P**	13 01 27.9	-0.9
STKA	**Stephens Creek** 1.5nm,0.6s,baz=313,slow=9.2,SNR=3.8	**60.17 167**		P	**P**	13 01 55.8	-0.9
ILAR	**Eielson Array** 0.5nm,0.6s,baz=286,slow=7.7,SNR=11	**63.26 29**		P	**P**	13 02 18.6	+1.4
ARCES	**ARCESS Array B** 6.8nm,1.1s,baz=71,slow=7.5,SNR=7.2	**69.12 338**		P	**P**	13 02 53.6	-1.1
FINES	**FINESS Array B** 0.8nm,0.4s,baz=70,slow=5.6,SNR=9.3	**72.09 330**		P	**P**	13 03 11.9	-0.9
AKASG	**Malin Array Be** 0.3nm,0.3s,baz=56,slow=6.0,SNR=2.3	**74.95 319**		P	**P**	13 03 29.0	-0.9
BRTR	**Keskin Array B** 1.2nm,0.7s,baz=69,slow=4.6,SNR=4.7	**76.68 308**		P	**P**	13 03 39.8	-0.4
YKA	**Yellowknife Ar** 0.5nm,0.5s,baz=308,slow=5.8,SNR=18	**77.34 25**		P	**P**	13 03 43.6	+0.4
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.6s,baz=52,slow=5.6	**78.49 334**		P	**P**	13 03 48.8	-1.0
NOA	**NORSAR Array B** comp=Z,1.4nm,0.6s,baz=52,slow=5.7,SNR=5.8	**78.49 334**		P	**P**	13 03 49.0	-0.8
GERES	**GERESS Array B** comp=Z,0.2nm,0.3s,baz=43,slow=7.3,SNR=2.9	**84.56 323**		P	**P**	13 04 22.2	+0.1

IDC 05 12:42:17.1±2.1,2°.95S×147°.75E,h0km,mb3.4/3,
mb1 3.7/3,mb1mx3.4/36,mbtmp3.4/3,Error ellipse:
s-maj=332.8km s-min=33.4km az=122.0,Admiralty
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=44,slow=9.5,SNR=12	**21.37 217**		P	P	12 47 06.7	+0.4
ASAR	**Alice Springs** 0.5nm,0.8s,baz=39,slow=7.1,SNR=7.9	**24.57 212**		P	P	12 47 38.6	-0.3
H11S3	**WAKE ISLAND Hy 28.32** baz=222,slow=76,SNR=120	**40**		T	T	13 17 43.7	
H11S2	**WAKE ISLAND Hy 28.33** baz=222,slow=76,SNR=36	**41**		T	T	13 17 45.1	
H11S1	**WAKE ISLAND Hy 28.34** baz=222,slow=76,SNR=45	**40**		T	T	13 17 46.2	
H11N1	**WAKE ISLAND Hy 29.34** baz=221,slow=76,SNR=31	**39**		T	T	13 19 01.6	
H11N3	**WAKE ISLAND Hy 29.36** baz=221,slow=76,SNR=48	**39**		T	T	13 19 02.7	
H11N2	**WAKE ISLAND Hy 29.36** baz=221,slow=76,SNR=26	**39**		T	T	13 19 03.0	

**IDC 05 13:01:54.0±1.

ILAR	Eielson Array	82.37	23	P	P	13 14 17.8	+0.1
	0.5nm,0.8s,baz=264,slow=5.3,SNR=3.6						
YKA	Yellowknife Ar	96.13	28	P	P	13 15 23.2	-0.3
	0.4nm,0.8s,baz=272,slow=4.8,SNR=9.6						
TORD	Torodi Ar. Bea	144.78	289	PKP	PKPdf	13 21 33.8	-0.3
	0.9nm,0.9s,baz=53,slow=2.5,SNR=3.9						

IDC 05 13:05:00.4±2.0, 2°57S×147°18E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/28, mbtmp3.7/3, Error ellipse: s-maj=254.9km s-min=33.9km az=121.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.34	215	P	P	13 09 49.6	+0.2
	2.2nm,0.8s,baz=41,slow=10,SNR=12						
ASAR	Alice Springs	24.59	210	P	P	13 10 22.3	-0.2
	2.3nm,1.0s,baz=42,slow=6.8,SNR=8.8						
H11S3	WAKE ISLAND Hy 28.41	42		T	T	13 40 24.5	
	baz=222,slow=76,SNR=133						
H11S2	WAKE ISLAND Hy 28.42	42		T	T	13 40 25.2	
	baz=222,slow=76,SNR=60						
H11S1	WAKE ISLAND Hy 28.43	42		T	T	13 40 26.4	
	baz=222,slow=76,SNR=66						
H11N1	WAKE ISLAND Hy 29.42	40		T	T	13 41 41.6	
	baz=221,slow=76,SNR=24						
H11N3	WAKE ISLAND Hy 29.43	40		T	T	13 41 44.0	
	baz=221,slow=76,SNR=49						
H11N2	WAKE ISLAND Hy 29.43	40		T	T	13 41 43.9	
	baz=221,slow=76,SNR=37						
YKA	Yellowknife Ar	96.07	28	P	P	13 18 29.5	-0.1
	0.1nm,0.6s,baz=276,slow=5.1,SNR=4.3						

*KRSC **05** 13:08:54.9±0.6, 55°54N×162°79E, h74km±13km, ML4.0*
*ISCJB **05** 13:08:56.4±0.5, 55°52N±0°03×162°80E±0°05, h63km±12km, Error ellipse: s-maj=5.4km s-min=4.1km az=34.5*
*MOS **05** 13:08:56.8±0.7, 55°50N×162°76E, h38km, mb4.2/1, Error ellipse: s-maj=23.7km s-min=16.5km az=83.3*
ISC 05 13:08:57.6±1.2, 55°54N±0°03×162°78E±0°03, h48km±23km, n39, σ0°95/70, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.67	2	PN	Pn	13 09 10.7	-0.2
KBTR				S	Sn	13 09 21.4	+0.9
KBTR	Krutoberegovo	0.67	2	*i* P	Pn	13 09 10.7	-0.2
KBTR				*e*S	Sn	13 09 21.4	+0.9
MKZ	Mys Kozlova	1.15	212	PN	Pn	13 09 16.3	-1.0
MKZ				S	Sn	13 09 30.9	-1.0
MKZ	Mys Kozlova	1.15	212	*e*P	Pn	13 09 16.3	-1.0
MKZ				*e*S	Sn	13 09 30.9	-1.0
ZLN	Zelenaya	1.22	294	*e*P	Pn	13 09 18.5	+0.2
ZLN				S	Sn	13 09 34.0	+0.3
BZGR	Bezymyannyi-Gr	1.25	290	*e*P	Pn	13 09 18.5	-0.2
BZGR				*e*S	Sn	13 09 34.3	-0.1
SMKR	Semkarok	1.28	325	*e*P	Pn	13 09 19.0	-0.1
SMKR				*e*S	Sn	13 09 35.3	+0.1
BZMR	Bezymyannaya	1.36	288	*e*P	Pn	13 09 19.9	-0.3
BZMR				*e*S	Sn	13 09 36.5	-0.6
BDR	Baidarnaya	1.36	320	*e*P	Pn	13 09 20.2	0.0
BDR				*e*S	Sn	13 09 36.8	-0.3
BZWR	Bezymyannyi-We	1.36	289	*e*P	Pn	13 09 20.3	0.0
BZWR				*e*S	Sn	13 09 37.2	-0.1
KLY	Klyuchi	1.43	304	PN	Pn	13 09 19.4	-1.7
KLY				S	Sn	13 09 36.1	-2.6
KLY	Klyuchi	1.43	304	*i* P	Pn	13 09 19.4	-1.7
KLY				*e*S	Sn	13 09 36.1	-2.6
SRKR	Sorokina	1.44	322	*e*P	Pn	13 09 21.2	-0.1
SRKR				*e*S	Sn	13 09 39.3	+0.2
KMNR	Kamenistaya	1.46	280	*i* P	Pn	13 09 22.0	+0.4
KMNR				*e*S	Sn	13 09 40.5	+0.9
KPT	Kopyto	1.51	288	*i* P	Pn	13 09 22.5	+0.2
KPT				*e*S	Sn	13 09 42.0	+1.2
TUMR	Tumrok	1.52	261	*e*P	Pn	13 09 22.9	+0.4
TUMR				*e*S	Sn	13 09 42.7	+1.5
KOZR	Kozyr	1.71	289	PN	Pn	13 09 25.7	+0.7
KOZR				S	Sn	13 09 47.5	+1.8
KOZ	Kozyrevsk	1.72	289	*i* P	Pn	13 09 25.7	+0.6
KOZ				*e*S	Sn	13 09 47.5	+1.6
BKI	Bering	1.85	99	PN	Pn	13 09 27.2	+0.4
BKI				S	Sn	13 09 49.0	0.0
BKI	Bering	1.85	99	*i* P	Pn	13 09 27.2	+0.4
BKI				*i* S	Sn	13 09 49.0	0.0
ESO	Esso	2.34	281	PN	Pn	13 09 33.6	0.0
ESO	Esso	2.34	281	*e*P	Pn	13 09 33.6	0.0
SDLR	Sedlovina	3.21	227	*e*P	Pn	13 09 46.0	+0.4
SDLR				*e*S	Sn	13 10 21.5	-1.1
KRER	Koryakskii	3.25	228	*e*P	Pn	13 09 46.9	+0.7
KRER				*e*S	Sn	13 10 23.0	-0.7
KRX	Arik	3.25	230	*e*P	Pn	13 09 47.2	+1.0
KRX				S	Sn	13 10 23.6	-0.1
SMAR	Somma	3.26	227	*e*P	Pn	13 09 46.7	+0.4
AVH	Avacha	3.28	228	*e*P	Pn	13 09 47.5	+1.0
AVH				*e*S	Sn	13 10 25.1	+0.8
UGLR	Uglovaya	3.29	226	*e*P	Pn	13 09 47.1	+0.5
UGLR				*e*S	Sn	13 10 24.3	-0.2
KOK	Koryaka	3.31	229	*e*P	Pn	13 09 47.7	+0.8
GNL	Ganaly	3.37	239	*e*P	Pn	13 09 48.6	+0.9
PET	Petropavlovsk	3.49	226	PN	Pn	13 09 50.0	+0.7
PET				S	Sn	13 10 28.9	-0.4
PET	Petropavlovsk	3.49	226	*e*P	Pn	13 09 50.0	+0.7
PET				*e*S	Sn	13 10 28.9	-0.4
OSSR	Ossora	3.73	2	*e*P	Pn	13 09 52.6	+0.1
OSSR				*e*S	Sn	13 10 32.4	-2.7
RUS	Russkaya	4.00	221	PN	Pn	13 09 55.8	-0.5
RUS	Russkaya	4.00	221	*e*P	Pn	13 09 55.8	-0.5
MTVR	Mutnovka	4.09	223	*e*P	Pn	13 09 58.6	+0.9
MTVR				*e*S	Sn	13 10 42.9	-1.4
APC	Apacha	4.21	234	P	Pn	13 09 58.6	-0.6
ASAK	Asacha	4.28	224	P	Pn	13 10 01.1	+0.9
ASAK				S	Sn	13 10 48.3	-0.5
TILK	Tilichiki	5.24	19	*i* P	Pn	13 10 14.8	+1.6
TILK				*e*S	Sn	13 11 12.1	-0.1

*IDC **05** 13:20:59.4±0.9, 3°12S×148°16E, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.0/26, mbtmp4.0/9, Error ellipse: s-maj=34.0km s-min=18.6km az=112.0*
*ISCJB **05** 13:21:01.1±0.8, 3°1S±0°1×148°1E±0°2, h22km, mb4.0/9, Error ellipse: s-maj=29.8km s-min=15.4km az=24.2*
ISC 05 13:21:02.9±1.0, 3°1S±0°2×148°1E±0°2, h22km, n16, σ1°04/10, mb3.9/9, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.46	218	P	P	13 25 48.7	-1.3
	2.5nm,0.6s,baz=42,slow=10,SNR=35						
ASAR	Alice Springs	24.62	213	P	P	13 26 21.4	-0.4
	2.6nm,0.7s,baz=39,slow=7.5,SNR=34						
BATI	Baumata	25.27	253	P	P	13 26 29.6	+1.8
	12nm,0.7s,baz=149,slow=4.1,SNR=7.4						
H11S3	WAKE ISLAND Hy 28.21	40		T	T	13 56 27.8	
	baz=225,slow=74,SNR=139						
H11S2	WAKE ISLAND Hy 28.22	40		T	T	13 56 28.1	
	baz=225,slow=74,SNR=121						
H11S1	WAKE ISLAND Hy 28.23	40		T	T	13 56 25.9	
	baz=225,SNR=128						
H11N1	WAKE ISLAND Hy 29.24	38		T	T	13 57 46.1	
	baz=221,slow=76,SNR=76						
H11N3	WAKE ISLAND Hy 29.26	38		T	T	13 57 45.0	
	baz=221,slow=76,SNR=107						
H11N2	WAKE ISLAND Hy 29.26	38		T	T	13 57 44.6	
	baz=221,slow=76,SNR=107						
CMAR	Chiang Mai Arr	52.94	296	P	P	13 30 17.6	-0.4
	0.4nm,0.4s,baz=138,slow=4.1,SNR=4.6						
PETK	Petropavlovsk-	56.60	7	P	P	13 30 44.1	+0.1
	1.6nm,0.6s,baz=145,slow=5.3,SNR=2.5						
SONM	Songino Array	62.47	330	P	P	13 31 24.8	+0.1
	0.3nm,0.6s,baz=138,slow=7.3,SNR=2.3						
VNDA	Vanda	74.71	177	P	P	13 32 41.0	+0.5
	1.2nm,0.7s,baz=12,slow=8.0,SNR=3.9						
ILAR	Eielson Array	82.41	23	P	P	13 33 22.4	-0.7
	0.8nm,0.8s,baz=253,slow=4.2,SNR=5.7						
YKA	Yellowknife Ar	96.12	28	P	P	13 34 29.4	+0.7
	0.7nm,0.7s,baz=273,slow=4.6,SNR=16						
TORD	Torodi Ar. Bea	145.34	289	PKPbc	PKPbc	13 40 38.9	-1.0
	0.6nm,0.8s,baz=98,slow=2.4,SNR=3.5						

*IDC **05** 13:21:27.9±1.5, 3°26S×148°28E, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/26, mbtmp3.9/6, Error ellipse: s-maj=61.3km s-min=23.9km az=112.0*
*ISCJB **05** 13:21:29.8±1.3, 3°2S±0°2×148°2E±0°4, h21km, mb3.8/6, Error ellipse: s-maj=58.1km s-min=21.2km az=23.8*
ISC 05 13:21:31.1±1.4, 3°3S±0°2×148°3E±0°4, h21km, n6, σ1°70/6, mb3.9/6, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.40	218	P	P	13 26 16.1	-1.7
	2.7nm,0.5s,baz=36,slow=12,SNR=16						
ASAR	Alice Springs	24.54	213	P	P	13 26 51.4	+1.7
	3.6nm,0.7s,baz=45,slow=8.5,SNR=8.5						
SONM	Songino Array	62.71	330	P	P	13 31 53.9	-0.9
	0.3nm,0.6s,baz=148,slow=8.5,SNR=2.7						
MKAR	Makanchi Array	76.26	320	P	P	13 33 19.7	+1.4
	0.3nm,0.7s,baz=112,slow=6.4,SNR=3.9						
ILAR	Eielson Array	82.53	23	P	P	13 33 51.8	-0.3
	0.8nm,0.9s,baz=254,slow=4.8,SNR=4.1						
YKA	Yellowknife Ar	96.22	28	P	P	13 34 57.3	-0.2
	0.9nm,0.9s,baz=274,slow=4.8,SNR=8.0						

GUC 05 13:22:40.6±0.7, 34°34S×71°94W, h8km±6km, MD3.6, ML3.5, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.58	49	⇓*i* P	Pb	13 22 52.4	-0.6
TACH	Talagante	1.07	51	⇑*i* P	Pg	13 22 59.8	-1.5
TACH				*i* S1	Sg	13 23 14.3	-1.0
CACH	El Canelo	1.13	79	*e*P1	Pg	13 23 01.6	-0.9
CACH				*i* S1	Sn	13 23 18.5	-0.3
CHCH	Chadas Angostu	1.14	70	⇑*i* P	Pg	13 23 01.4	-1.2
CHCH				*i* S1	Sg	13 23 16.6	-0.9
ANTU	Antumapu	1.33	55	*i* P1	Pn	13 23 04.3	-1.2
ANTU				*e*S1	Sn	13 23 21.9	-1.5
ANTU				AML	AML	13 23 24.4	
	comp=E,2μm,0.3s						
SAN	Santiago	1.38	51	*e*P1	Pn	13 23 05.4	-0.9
SAN				*i* S1	Sn	13 23 24.0	-0.7
SAN				AML	AML	13 23 25.7	
	comp=N,1μm,0.4s						
PCH	Pirque	1.38	59	*e*P1	Pn	13 23 05.6	-0.7
PCH				*e*S1	Sn	13 23 24.1	-0.8
CLCH	Cerro Calan	1.50	52	⇓*i* P	Pn	13 23 06.8	-1.0
CLCH				*i* S	Sn	13 23 27.3	-0.3
CLCH				AML	AML	13 23 29.5	
	comp=N,1μm,0.6s						
PEL	Peldehue	1.58	42	⇑*i* P	Pn	13 23 08.4	-0.6
PEL				*i* S1	Sn	13 23 29.6	-0.1
PEL				AML	AML	13 23 34.9	
	comp=E,1μm,0.6s						
FCH	Farellones	1.70	54	AML	AML	13 23 37.0	
	comp=E,702nm,0.4s						

IDC 05 13:24:08.8±2.1, 2°99S×147°79E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/27, mbtmp3.6/3, Error ellipse: s-maj=143.9km s-min=33.0km az=119.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.36	217	P	P	13 28 57.8	-0.2
	1.5nm,0.7s,baz=43,slow=10.0,SNR=5.4						
ASAR	Alice Springs	24.56	212	P	P	13 29 30.7	+0.1
	0.8nm,0.7s,baz=38,slow=7.2,SNR=5.0						
H11S3	WAKE ISLAND Hy 28.32	40		T	T	14 00 12.0	
	baz=222,slow=76,SNR=74						
H11S2	WAKE ISLAND Hy 28.33	40		T	T	14 00 12.0	
	baz=222,slow=76,SNR=42						
H11S1	WAKE ISLAND Hy 28.34	40		T	T	14 00 12.7	
	baz=222,slow=76,SNR=37						
H11N1	WAKE ISLAND Hy 29.34	39		T	T	14 00 51.2	
	baz=221,slow=76,SNR=28						
H11N3	WAKE ISLAND Hy 29.36	39		T	T	14 00 53.3	
	baz=221,slow=76,SNR=50						
H11N2	WAKE ISLAND Hy 29.36	39		T	T	14 00 53.2	
	baz=221,slow=76,SNR=37						
YKA	Yellowknife Ar	96.15	28	P	P	13 37 38.2	-0.2
	0.2nm,0.6s,baz=273,slow=4.9,SNR=4.6						
TORD	Torodi Ar. Bea	145.00	289	PKPbc	PKPab	13 43 47.7	-0.8
	0.8nm,1.1s,baz=60,slow=3.5,SNR=3.2						

IDC 05 13:24:46.2±2.0, 2°91S×147°80E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/27, mbtmp3.6/3, Error ellipse: s-maj=399.5km s-min=32.6km az=122.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.43	217	P	P	13 29 35.9	-0.2
	1.0nm,0.5s,baz=40,slow=11,SNR=4.5						
ASAR	Alice Springs	24.62	212	P	P	13 30 08.8	+0.1
	1.8nm,0.9s,baz=44,slow=6.8,SNR=4.6						
YKA	Yellowknife Ar	96.08	28	P	P	13 38 15.3	-0.2
	0.2nm,0.8s,baz=274,slow=5.0,SNR=3.0						

IDC 05 13:29:56.6±2.0, 2°70S×147°37E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/25, mbtmp3.6/3, Error ellipse: s-maj=326.6km s-min=33.4km az=122.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.35	216	P	P	13 34 45.6	0.0
	0.8nm,0.5s,baz=40,slow=10,SNR=16						
ASAR	Alice Springs	24.59	211	P	P	13 35 18.6	0.0
	1.1nm,0.8s,baz=39,slow=7.4,SNR=8.4						
H11S3	WAKE ISLAND Hy 28.38	41		T	T	14 05 24.6	
	baz=222,slow=76,SNR=30						
H11S2	WAKE ISLAND Hy 28.38	41		T	T	14 05 22.8	
	baz=222,slow=76,SNR=27						
H11S1	WAKE ISLAND Hy 28.39	41		T	T	14 05 23.5	
	baz=222,slow=76,SNR=26						
H11N1	WAKE ISLAND Hy 29.39	40		T	T	14 06 39.2	
	baz=221,slow=76,SNR=14						
H11N3	WAKE ISLAND Hy 29.40	40		T	T	14 06 41.4	
	baz=221,slow=76,SNR=20						
H11N2	WAKE ISLAND Hy 29.40	40		T	T	14 06 41.0	
	baz=221,slow=76,SNR=21						
YKA	Yellowknife Ar	96.09	28	P	P	13 43 25.8	-0.1
	0.3nm,0.7s,baz=274,slow=4.6,SNR=4.8						

IDC 05 13:34:44.8±1.3, 36°80S×73°48W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/23, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=41.6km s-min=20.1km az=66.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.54	151	Pn	Pn	13 35 55.9	+1.0
	1.4nm,0.3s,baz=328,slow=12,SNR=14						
PLCA				Lg	Lg	13 37 08.6	
	3.0nm,0.3s,baz=257,slow=16,SNR=5.5						
CFAA	Coronel Fontan	6.76	41	Pn	Pn	13 36 24.8	-0.5
	0.2nm,0.3s,baz=216,slow=12,SNR=4.3						
LPAZ	La Paz	20.97	14	P	P	13 39 31.2	+0.9
	1.3nm,0.6s,baz=191,slow=5.2,SNR=4.7						
TXAR	Lajitas Array	71.63	332	P	P	13 46 07.8	-0.4
	0.8nm,0.8s,baz=153,slow=9.0,SNR=10						
NVAR	Mina Array Bea	85.53	326	P	P	13 47 25.1	+0.3
	0.1nm,0.3s,baz=165,slow=7.2,SNR=3.0						
MKAR	Makanchi Array	159.43	53	PKPab	PKPab	13 55 21.9	-0.9
	0.2nm,0.7s,baz=302,slow=2.7,SNR=2.8						

*IDC **05** 13:51:10.5±1.6, 37°56S×73°92W, h0km, mb4.0/5, mb1 4.0/7, mb1mx3.8/34, mbtmp3.9/7, ML3.5/2, Error ellipse: s-maj=40.4km s-min=18.6km az=86.0*
*ISCJB **05** 13:51:14.7±1.5, 37°55S±0°09×73°6W±0°3, h33km, mb4.0/5, Error ellipse: s-maj=37.9km s-min=13.3km az=2.1*
*GUC **05** 13:52:27.3±0.6, 34°18S×72°36W, h26km±5km, ML4.0*
ISC 05 13:51:16.3±1.6, 37°5S±0°1×73°7W±0°3, h35km, n14, σ2°22/12, mb4.1/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	3.96	28	*i* S1	Sn	13 52 53.3	-6.5
PLCA	Paso Flores	4.05	144	Pn	Pn	13 52 15.6	-0.2
	1.0nm,0.3s,baz=322,slow=8.5,SNR=6.5						
PLCA				Lg	Lg	13 53 21.6	
	3.7nm,0.3s,baz=61,slow=22,SNR=3.3						
CACH	El Canelo	4.18	37	*i* S1	Sn	13 53 13.0	+7.7
CHCH	Chadas Angostu	4.30	36	*i* S1	Sn	13 53 10.8	+2.5
ANTU	Antumapu	4.62	33	*i* S1	Sn	13 53 14.2	-1.9
ANTU				AML	AML	13 53 18.9	
	comp=E,4μm,0.4s						
CLCH	Cerro Calan	4.80	33	*i* S1	Sn	13 53 18.7	-2.0
CLCH				AML	AML	13 53 27.2	
	comp=N,2μm,0.7s						
CLCH				AML	AML	13 53 30.3	
	comp=E,2μm,0.6s						
PEL	Peldehue	4.96	30	*e*S1	Sn	13 53 19.6	-4.9
PEL				AML	AML	13 53 27.5	
	comp=N,4μm,0.4s						
FCH	Farellones	4.97	35	*i* S1	Sn	13 53 25.6	+0.4
FCH				AML	AML	13 53 30.9	
	comp=N,2μm,0.3s						
CFAA	Coronel Fontan	7.37	39	Pn	Pn	13 53 02.2	+0.7
	comp=N,0.4nm,0.3s,baz=219,slow=13,SNR=3.1						
LPAZ	La Paz	21.67	15	P	P	13 56 06.2	+1.6
	comp=N,3.0nm,0.7s,baz=174,slow=7.8,SNR=9.7						
SIV	San Ignacio	24.13	31	P	P	13 56 29.2	+0.2
	comp=N,1.9nm,0.8s,baz=221,slow=6.1,SNR=4.7						
QSPA	South Pole Qui	52.76	180	P	P	14 00 26.4	-1.2
	comp=N,2.6nm,0.8s,baz=294,slow=0.7,SNR=17						
DBIC	Dimbokro	77.54	72	P	P	14 03 09.8	+1.1
	comp=N,2.5nm,0.8s,baz=173,slow=5.4,SNR=2.7						
TORD	Torodi Ar. Bea	86.62	71	P	P	14 03 56.4	0.0
	comp=N,0.7nm,0.6s,baz=216,slow=5.4,SNR=6.7						

IDC 05 13:53:58.7±4.0, 3°38S×147°61E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/37, mbtmp3.4/3, Error ellipse: s-maj=146.6km s-min=28.5km az=101.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.95	217	P	P	13 58 43.6	+0.2
	1.2nm,0.7s,baz=42,slow=10.0,SNR=22						
ASAR	Alice Springs	24.13	212	P	P	13 59 16.8	+0.2
	0.9nm,0.6s,baz=45,slow=8.0,SNR=13						
H11S3	WAKE ISLAND Hy 28.73	40		T	T	14 31 06.3	
	baz=222,slow=76,SNR=18						
H11S2	WAKE ISLAND Hy 28.74	40		T	T	14 31 06.2	
	baz=222,slow=76,SNR=20						
H11S1	WAKE ISLAND Hy 28.75	40		T	T	14 31 06.9	
	baz=222,slow=76,SNR=18						
H11N1	WAKE ISLAND Hy 29.76	39		T	T	14 32 22.6	
	baz=221,slow=76,SNR=23						
H11N3	WAKE ISLAND Hy 29.78	39		T	T	14 32 24.0	
	baz=221,slow=76,SNR=24						
H11N2	WAKE ISLAND Hy 29.78	39		T	T	14 32 24.0	
	baz=221,slow=76,SNR=23						
SONM	Songino Array	62.43	330	P	P	14 04 23.9	0.0
	0.1nm,0.4s,baz=134,slow=8.2,SNR=2.8						
TORD	Torodi Ar. Bea	144.94	288	PKP	PKPab	14 13 37.8	-0.5
	0.5nm,0.9s,baz=98,slow=3.4,SNR=2.7						

IDC 05 13:55:39.6±1.5, 2°58S×147°31E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.6/34, mbtmp3.9/4, Error ellipse: s-maj=231.3km s-min=25.1km az=120.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.41	215	P	P	14 00 29.0	-0.2
	3.8nm,0.8s,baz=42,slow=10,SNR=11						
ASAR	Alice Springs	24.65	211	P	P	14 01 02.4	+0.1
	2.6nm,0.8s,baz=39,slow=7.9,SNR=8.4						
ILAR	Eielson Array	82.24	23	P	P	14 08 02.0	-0.4
	0.5nm,0.8s,baz=263,slow=7.1,SNR=3.6						
YKA	Yellowknife Ar	96.02	28	P	P	14 09 09.0	+0.4
	0.4nm,0.8s,baz=274,slow=4.6,SNR=6.6						
TORD	Torodi Ar. Bea	144.41	289	PKP	PKPdf	14 15 18.6	-0.4
	1.0nm,0.9s,baz=80,slow=1.6,SNR=3.2						

*IDC **05** 14:04:17.7±0.7, 33°73S×73°34W, h0km, mb4.2/9, mb1 4.4/12, mb1mx4.2/30, mbtmp4.3/12, ML4.5/3, Error ellipse: s-maj=24.3km s-min=17.2km az=89.0*
*GUC **05** 14:04:19.8±0.6, 33°91S×73°17W, h21km±12km, ML4.5*
*ISCJB **05** 14:04:21.0±0.6, 33°77S±0°05×73°27W±0°07, h33km, mb4.4/12, Error ellipse: s-maj=8.8km s-min=7.6km az=175.3*
*NEIC **05** 14:04:22.9±0.4, 33°75S×73°26W, h35km, mb4.1/3, Error ellipse: s-maj=12.1km s-min=7.0km az=95.0*
ISC 05 14:04:23.2±0.6, 33°75S±0°06×73°21W±0°07, h35km, n33, σ1°08/42, mb4.4/12, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	1.51	98	⇓*i* P	Pn	14 04 46.1	-1.7
LNV				*i* S1	Sn	14 05 05.1	-1.2
CHCH	Chadas Angostu	2.14	96	*e*P1	Pn	14 04 55.2	-1.3
ANTU	Antumapu	2.16	86	⇑*i* P	Pn	14 04 55.1	-1.6
ANTU				*i* S1	Sn	14 05 22.4	0.0
ANTU				AML	AML	14 05 24.7	
	comp=N,4μm,0.5s						
PEL	Peldehue	2.20	75	⇑*i* P	Pn	14 04 56.3	-1.0
PEL				*i* S1	Sn	14 05 24.5	+1.2
PEL				AML	AML	14 05 26.6	
	comp=E,5μm,0.5s						
CACH	El Canelo	2.20	100	⇑*i* P	Pn	14 04 57.3	-0.1
CACH				*i* S1	Sn	14 05 25.4	+1.8
LACH	Col Las Americ	2.26	83	*e*P1	Pn	14 04 56.5	-1.6
LACH				*i* S1	Sn	14 05 25.1	+0.3
CLCH	Cerro Calan	2.26	82	⇓*i* P	Pn	14 04 57.5	-0.7
CLCH				*i* S1	Sn	14 05 25.8	+0.9
CLCH				AML	AML	14 05 30.2	
	comp=N,2μm,0.3s						
FCH	Farellones	2.48	81	AML	AML	14 05 32.0	
	comp=N,4μm,0.3s						
LNCH	Linares	2.48	148	*i* P9	Pn	14 05 01.1	0.0
LNCH				*i* S	Sn	14 05 29.7	-0.4
CFAA	Coronel Fontan	4.71	64	Pn	Pn	14 05 31.9	+0.1
	comp=N,3.0nm,0.3s,baz=236,slow=12,SNR=92						
CFAA				Sn	Sn	14 06 27.6	+2.3
	comp=N,2.3nm,0.3s,baz=150,slow=23,SNR=6.3						
PLCA	Paso Flores	7.29	164	Pn	Pn	14 06 06.6	-0.6
	comp=N,5.2nm,0.3s,baz=339,slow=10,SNR=21						
CPUP	Villa Florida	15.61	66	Pn	Pn	14 07 54.5	-6.0
	comp=N,0.9nm,0.3s

ZALV PKPab **PKPab 14 24 34.7 +0.5**
comp=N,1.7nm,0.8s,baz=296,slow=4.8,SNR=5.8
MKAR Makanchi Array 157.33 48 PKP **PKPdf 14 24 14.5 -0.7**
comp=N,0.3nm,0.9s,baz=284,slow=0.6,SNR=3.3
MKAR PKPab **PKPab 14 24 46.6 +0.1**
comp=N,1.3nm,0.8s,baz=315,slow=4.4,SNR=14

*IDC **05** 14:33:29.1±1.7, 36°.99S×73°.74W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.7/23, mbtmp3.6/4, ML3.1/2, Error ellipse: s-maj=48.6km s-min=20.9km az=65.0*
*ISCJB **05** 14:33:30.2±1.5, 36°.9S±0°.1×73°.7W±0°.3, h14km, mb3.5/3, Error ellipse: s-maj=33.3km s-min=16.4km az=171.6*
ISC 05 14:33:31.7±1.5, 36°.9S±0°.1×73°.7W±0°.2, h14km, n6, σ0°.92/6, mb3.7/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.54**	**148**	Pn	**Pn**	**14 34 40.5**	**+0.5**
	0.6nm,0.3s,baz=295,slow=11,SNR=7.5						
PLCA				Lg	Lg	14 35 51.1	
	2.7nm,0.3s,baz=37,slow=21,SNR=3.0						
CFAA	**Coronel Fontan**	**6.99**	**42**	Pn	**Pn**	**14 35 13.7**	**0.0**
	0.0nm,0.3s,baz=203,slow=15,SNR=1.9						
LPAZ	**La Paz**	**21.15**	**15**	P	**P**	**14 38 18.1**	**+1.1**
	1.0nm,0.6s,baz=178,slow=10,SNR=3.7						
TXAR	**Lajitas Array**	**71.65**	**333**	P	**P**	**14 44 52.9**	**0.0**
	0.4nm,0.5s,baz=152,slow=7.1,SNR=6.7						
TORD	**Torodi Ar. Bea**	**86.49**	**71**	P	**P**	**14 46 13.5**	**-0.9**
	0.4nm,0.8s,baz=234,slow=3.2,SNR=2.5						
MKAR	**Makanchi Array**	**159.68**	**53**	PKPab	**PKPab**	**14 54 07.9**	**-0.5**
	0.3nm,0.7s,baz=287,slow=4.9,SNR=3.6						

*IDC **05** 14:34:49.6±4.2, 29°.90N×142°.85E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/31, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=146.6km s-min=20.5km az=73.0*
*ISCJB **05** 14:34:52.0±0.9, 29°.91N±0°.04×142°.6E±0°.2, h30km, mb3.6/4, Error ellipse: s-maj=24.4km s-min=3.9km az=171.2*
*JMA **05** 14:34:52.6±0.2, 29°.88N×142°.55E, h47km, M3.9*
ISC 05 14:34:53.7±1.3, 29°.96N±0°.06×142°.8E±0°.2, h30km, n20, σ2°.09/26, mb3.7/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.90**	**191**	S	**Sn**	**14 36 08.5**	**-3.3**
JCJ	**Chichijima**	**2.90**	**191**	Pn	**Pn**	**14 35 37.2**	**-0.7**
	2.4nm,0.3s,baz=287,slow=19,SNR=3.8						
JCJ				Sn	**Sn**	**14 36 08.2**	**-3.6**
	10.0nm,0.3s,baz=158,slow=21,SNR=7.5						
JHJ2	**Mitsune**	**4.04**	**322**	S	**Sn**	**14 36 37.9**	**-1.9**
BSO1	**Boso 1**	**4.93**	**342**	*e*S	**Sn**	**14 37 01.8**	**+0.9**
BSO2	**Boso 2**	**5.08**	**341**	S	**Sn**	**14 37 05.2**	**+0.2**
BSO3	**Boso 3**	**5.20**	**339**	*e*S	**Sn**	**14 37 09.4**	**+1.4**
BSO4	**Boso 4**	**5.43**	**338**	S	**Sn**	**14 37 15.9**	**+2.0**
JOD2	**Odawara 2**	**6.14**	**330**	P	**Pn**	**14 36 23.4**	**+1.0**
JOD2				*e*S	**Sn**	**14 37 32.3**	**+0.6**
JHU	**Hanno**	**6.58**	**334**	P	**Pn**	**14 36 29.4**	**+1.0**
JHU				*e*S	**Sn**	**14 37 40.4**	**-1.9**
JYT	**Yasato**	**6.62**	**341**	*e*S	**Sn**	**14 37 42.7**	**-0.7**
JRY	**Ryogami san**	**6.87**	**333**	P	**Pn**	**14 36 34.0**	**+1.6**
JHO	**Hitachi**	**6.89**	**345**	P	**Pn**	**14 36 33.2**	**+0.5**
JHO				S	**Sn**	**14 37 46.9**	**-3.1**
JAG	**Ashikaga**	**7.03**	**337**	P	**Pn**	**14 36 35.6**	**+1.0**
JAG				*e*S	**Sn**	**14 37 51.0**	**-2.5**
JFK	**Kawauchi**	**7.56**	**348**	*e*S	**Sn**	**14 38 02.7**	**-3.9**
MJAR	**Matsushiro Arr**	**7.60**	**331**	Pn	**Pn**	**14 36 43.4**	**+0.9**
	0.6nm,0.3s,baz=155,slow=12,SNR=7.5						
JMK	**Ichinoseki**	**9.06**	**352**	P	**Pn**	**14 37 03.4**	**+0.9**
JMK				*e*S	**Sn**	**14 38 38.9**	**-4.6**
SONM	**Songino Array**	**33.09**	**313**	P	**P**	**14 41 27.9**	**+1.0**
	0.5nm,0.5s,baz=105,slow=6.5,SNR=6.0						
MKAR	**Makanchi Array**	**49.11**	**308**	P	**P**	**14 43 39.0**	**+0.6**
	0.6nm,0.6s,baz=91,slow=8.8,SNR=7.0						
WRA	**Warramunga Arr**	**50.28**	**190**	P	**P**	**14 43 47.8**	**+0.3**
	0.4nm,0.5s,baz=9.0,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**54.00**	**190**	P	**P**	**14 44 14.3**	**-0.8**
	0.5nm,0.9s,baz=2.7,slow=5.2,SNR=4.2						

*IDC **05** 14:49:12.2±2.9, 8°.17S×148°.56E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/23, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=77.1km s-min=26.3km az=112.0*
*ISCJB **05** 14:49:16.8±1.6, 8°.2S±0°.1×148°.2E±0°.2, h33km, mb3.5/2, Error ellipse: s-maj=33.0km s-min=13.5km az=22.3*
ISC 05 14:49:19.8±1.8, 8°.2S±0°.1×148°.1E±0°.3, h35km, n7, σ1°.06/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.53**	**217**	Pn	**Pn**	**14 49 45.4**	**+0.7**
	57nm,0.3s,baz=18,slow=9.5,SNR=175						
PMG				Sn	**Sn**	**14 50 02.8**	**-0.6**
	109nm,0.3s,baz=287,slow=19,SNR=22						
CTA	**Charters Tower**	**11.98**	**188**	Pn	**Pn**	**14 52 08.5**	**+0.3**
	0.3nm,0.3s,baz=6.1,slow=15,SNR=5.2						
WRA	**Warramunga Arr**	**17.73**	**227**	P	**Pn**	**14 53 23.4**	**-0.6**
	0.3nm,0.3s,baz=52,slow=11,SNR=32						
ASAR	**Alice Springs**	**20.55**	**220**	P	**P**	**14 53 55.0**	**-0.5**
	2.6nm,0.7s,baz=53,slow=10,SNR=30						
CMAR	**Chiang Mai Arr**	**55.23**	**299**	P	**P**	**14 58 51.3**	**+1.5**
	0.4nm,0.5s,baz=120,slow=5.3,SNR=3.7						
MKAR	**Makanchi Array**	**79.85**	**320**	P	**P**	**15 01 23.4**	**-1.4**
	0.2nm,0.6s,baz=102,slow=6.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**146.62**	**281**	PKPbc	**PKPbc**	**15 08 58.9**	**+0.1**
	0.7nm,0.7s,baz=85,slow=2.6,SNR=4.3						

IDC 05 14:58:30.2±1.7, 3°.07S×147°.91E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/24, mbtmp3.9/4, Error ellipse: s-maj=109.7km s-min=23.5km az=115.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.37**	**217**	P	P	15 03 19.4	0.0
	1.0nm,0.5s,baz=42,slow=10,SNR=31						
ASAR	**Alice Springs**	**24.55**	**212**	P	P	15 03 52.0	+0.1
	1.4nm,0.8s,baz=38,slow=7.1,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.30**	**40**	T	T	15 33 56.9	
	baz=222,slow=76,SNR=239						
H11S2	**WAKE ISLAND Hy**	**28.31**	**40**	T	T	15 33 57.2	
	baz=222,slow=76,SNR=248						
H11S1	**WAKE ISLAND Hy**	**28.32**	**40**	T	T	15 33 58.1	
	baz=222,slow=76,SNR=171						
H11N1	**WAKE ISLAND Hy**	**29.33**	**39**	T	T	15 35 14.4	
	baz=221,slow=76,SNR=86						
H11N3	**WAKE ISLAND Hy**	**29.35**	**39**	T	T	15 35 16.3	
	baz=221,slow=76,SNR=148						
H11N2	**WAKE ISLAND Hy**	**29.35**	**39**	T	T	15 35 17.3	
	baz=221,slow=76,SNR=182						
PETK	**Petropavlovsk-**	**56.58**	**7**	P	P	15 08 14.7	+0.1
	1.5nm,0.7s,baz=173,slow=6.1,SNR=8.1						
YKA	**Yellowknife Ar**	**96.17**	**28**	P	P	15 11 59.7	-0.2
	0.1nm,0.4s,baz=272,slow=4.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**145.14**	**289**	PKPbc	PKPbc	15 18 09.0	-1.4
	0.9nm,0.9s,baz=58,slow=1.6,SNR=4.1						

*IDC **05** 15:00:34.7±2.0, 5°.78S×130°.62E, h0km, mb3.8/1, mb1 4.1/4, mb1mx3.6/28, mbtmp4.0/4, ML4.1/3, MS3.9/1, Ms1 3.9/1, ms1mx3.1/31, Error ellipse: s-maj=57.2km s-min=29.7km az=79.0*
*ISCJB **05** 15:00:46.2±0.6, 6°.34S±0°.04×130°.46E±0°.09, h90km, mb3.5/1, Error ellipse: s-maj=12.6km s-min=5.2km az=1.4*
*DJA **05** 15:00:48.0±0.6, 6°.S±4°×13°.0E±°, h150km±15km, M3.9/5, mb4.0/3, mB4.8/2, MLv3.8/5, Mw(mB)4.1/2*
ISC 05 15:00:45.7±0.8, 6°.38S±0°.05×130°.42E±0°.08, h90km, n18, σ2°.27/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.81**	**151**	P	Pn	15 01 24.8	+9.3
BNDI	**Bandanaira**	**1.92**	**344**	P	**Pn**	**15 01 19.5**	**+2.6**
MSAI	**Masohi**	**3.36**	**334**	P	**Pn**	**15 01 38.3**	**+2.1**
FAKI	**Fak Fak**	**3.90**	**28**	P	**Pn**	**15 01 44.8**	**+1.4**
FAKI				S	**Sn**	**15 02 27.4**	**-0.6**
FAKI	**Fak Fak**	**3.90**	**28**	P	**Pn**	**15 01 44.9**	**+1.5**
	baz=3.9,SNR=19						
FAKI				S	**Sn**	**15 02 27.4**	**-0.6**
	baz=3.9,SNR=16						
SWI	**Sorong**	**5.55**	**9**	P	**Pn**	**15 02 06.8**	**+0.9**
	17nm,1.1s,1μm0.2nm						
SWI	**Sorong**	**5.55**	**9**	P	**Pn**	**15 02 06.0**	**+0.2**
	baz=5.7,SNR=7.1						
SWI				S	Sn	15 03 01.9	-6.5
	baz=5.7,SNR=5.0						
MTN	**Manton Dam**	**6.46**	**174**	P	Pn	15 02 22.8	+4.6
	baz=6.4,SNR=40						
KDU	**Kakadu**	**6.58**	**162**	P	Pn	15 02 24.2	+4.3
	baz=6.5,SNR=192						
KDU				S	**Sn**	**15 03 37.5**	**+4.0**
	baz=6.5,SNR=6.5						
BATI	**Baumata**	**7.69**	**240**	P	**Pn**	**15 02 37.6**	**+2.5**
BATI	**Baumata**	**7.69**	**240**	Pn	**Pn**	**15 02 36.8**	**+1.7**
	2.7nm,0.3s,baz=142,slow=3.1,SNR=8.2						
BATI				Sn	**Sn**	**15 03 59.5**	**-1.2**
	2.7nm,0.3s,baz=138,slow=21,SNR=6.1						
KNRA	**Kununurra**	**9.38**	**190**	P	**Pn**	**15 02 59.6**	**+1.5**
	baz=9.4,SNR=32						
KNRA				S	**Sn**	**15 04 39.3**	**-2.4**
	baz=9.4,SNR=7.5						
MMPI	**Merauke**	**10.10**	**102**	P	**Pn**	**15 03 06.3**	**-1.5**
	baz=10.0,SNR=6.5						
WRA	**Warramunga Arr**	**14.01**	**165**	Pn	**Pn**	**15 04 00.7**	**+0.5**
	0.8nm,0.3s,baz=344,slow=13,SNR=35						
WRA				Sn	**Sn**	**15 06 30.2**	**-4.2**
	0.7nm,0.3s,baz=346,slow=21,SNR=6.4						
ASAR	**Alice Springs**	**17.51**	**169**	P	**Pn**	**15 04 47.0**	**+2.9**
	0.6nm,0.3s,baz=342,slow=9.3,SNR=48						
ASAR				S	**Sn**	**15 07 56.6**	**-2.5**
	0.1nm,0.3s,baz=357,slow=28,SNR=4.5						
WRKA	**Warakurna**	**18.66**	**186**	P	**Pn**	**15 04 59.1**	**+1.1**
	baz=19,SNR=3.5						
DZM	**Mont Dzumac**	**38.11**	**118**	LR	LR	15 25 25.8	
	comp=Z,170nm,18.3s,baz=148,slow=39						
MKAR	**Makanchi Array**	**67.94**	**326**	P	**P**	**15 11 32.9**	**-2.1**
	0.5nm,0.6s,baz=120,slow=7.7,SNR=8.4						

IDC 05 15:20:25.4±0.9, 36°.79S×73°.40W, h23km±6km, mb3.5/4, mb1 3.7/6, mb1mx3.5/32, mbtmp3.6/6, ML3.6/2, Error ellipse: s-maj=39.0km s-min=18.1km az=90.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.52**	**151**	Pn	Pn	15 21 32.5	0.0
	1.5nm,0.3s,baz=325,slow=12,SNR=5.1						
PLCA				Lg	Lg	15 22 44.0	
	4.7nm,0.3s,baz=239,slow=20,SNR=4.0						
CFAA	**Coronel Fontan**	**6.71**	**41**	Pn	Pn	15 22 00.7	-1.9
	0.2nm,0.3s,baz=194,slow=10,SNR=12						
LPAZ	**La Paz**	**20.95**	**14**	P	P	15 25 08.2	+0.8
	0.6nm,0.5s,baz=144,slow=8.7,SNR=2.6						
LPAZ				pP	pP	15 25 14.4	+0.6
	1.3nm,0.7s,baz=167,slow=13,SNR=3.3						
QSPA	**South Pole Qui**	**53.45**	**180**	P	P	15 29 43.4	0.0
	2.4nm,1.1s,baz=288,slow=3.2,SNR=8.9						
QSPA				pP	pP	15 29 50.4	-0.2
	2.6nm,0.9s,baz=134,slow=3.1,SNR=4.0						
TXAR	**Lajitas Array**	**71.66**	**332**	P	P	15 31 45.0	-0.3
	0.5nm,0.8s,baz=153,slow=8.2,SNR=6.7						
TXAR				pP	pP	15 31 52.6	0.0
	0.7nm,0.6s,baz=146,slow=8.9,SNR=7.6						
PDAR	**Pinedale Array**	**85.77**	**334**	pP	pP	15 33 09.8	-0.5
	0.5nm,0.8s,baz=187,slow=6.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**86.19**	**71**	P	P	15 33 05.5	+0.2
	0.6nm,1.0s,baz=219,slow=3.7,SNR=2.9						
MKAR	**Makanchi Array**	**159.38**	**53**	pPKPab	pPKPab	15 41 05.2	-1.8
	0.4nm,0.8s,baz=300,slow=2.2,SNR=3.0						

*IDC **05** 15:21:32.3±1.8, 36°.18S×72°.81W, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/32, mbtmp4.1/8, ML3.9/1, Error ellipse: s-maj=44.4km s-min=31.9km az=178.0*
*ISCJB **05** 15:21:35.8±0.8, 36°.15S±0°.09×72°.7W±0°.2, h35km, mb4.0/8, Error ellipse: s-maj=17.7km s-min=12.2km az=173.7*
*NEIC **05** 15:21:37.2±0.6, 36°.14S×72°.77W, h35km, mb4.2/3, Error ellipse: s-maj=14.5km s-min=10.0km az=85.0*
ISC 05 15:21:37.3±0.9, 36°.16S±0°.1×72°.8W±0°.1, h35km, n17, σ0°.97/17, mb4.2/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.91**	**41**	Pn	**Pn**	**15 23 02.8**	**+0.5**
	3.3nm,0.3s,baz=217,slow=9.9,SNR=23						
TRQA	**Tornquist**	**8.83**	**106**	Pn	**Pn**	**15 23 42.7**	**+0.2**
LVC	**Limon Verde**	**13.91**	**15**	*e*Pn	**Pn**	**15 24 50.8**	**-1.4**
LPAZ	**La Paz**	**20.22**	**13**	P	**P**	**15 26 10.4**	**+0.4**
	5.8nm,0.8s,baz=206,slow=4.0,SNR=8.2						
LPAZ	**La Paz**	**20.22**	**13**	*e*P	**P**	**15 26 09.7**	**-0.2**
	5.6nm,0.8s						
SIV	**San Ignacio**	**22.63**	**30**	P	**P**	**15 26 34.4**	**-1.0**
	7.3nm,0.8s,baz=235,slow=12,SNR=6.0						
SAML	**Samuel**	**28.46**	**20**	P	**P**	**15 27 28.1**	**-1.0**
BDFB	**Brasilia**	**30.07**	**54**	P	**P**	**15 27 43.7**	**+0.1**
	3.2nm,0.6s,baz=126,slow=8.7,SNR=3.8						
OTAV	**Otavalo**	**36.59**	**350**	P	**P**	**15 28 40.5**	**-0.2**
SNAA	**Sanae**	**49.83**	**157**	*e*P	**P**	**15 30 25.5**	**-0.9**
	3.2nm,1.0s						
QSPA	**South Pole Qui**	**54.08**	**180**	*e*P	**P**	**15 30 58.1**	**-0.1**
	2.5nm,0.9s						
TXAR	**Lajitas Array**	**71.33**	**332**	P	**P**	**15 32 54.7**	**+1.2**
	0.5nm,0.7s,baz=161,slow=5.7,SNR=2.3						
DBIC	**Dimbokro**	**76.44**	**71**	P	**P**	**15 33 25.3**	**+1.6**
	5.8nm,0.8s,baz=205,slow=2.9,SNR=6.2						
PDAR	**Pinedale Array**	**85.42**	**334**	P	**P**	**15 34 11.9**	**+0.7**
	0.2nm,0.7s,baz=135,slow=9.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**85.51**	**70**	P	**P**	**15 34 12.7**	**+0.7**
	1.3nm,0.9s,baz=239,slow=4.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**156.36**	**34**	PKPab	**PKPab**	**15 41 55.1**	**-1.0**
	1.8nm,0.7s,baz=306,slow=5.3,SNR=6.7						
SONM	**Songino Array**	**168.32**	**3**	PKPab	**PKPab**	**15 42 47.3**	**-1.3**
	0.2nm,0.4s,baz=349,slow=3.2,SNR=3.8						

IDC 05 15:23:09.1±4.2, 30°.73S×177°.73W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/34, mbtmp4.0/4, Error ellipse: s-maj=148.2km s-min=48.2km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.08**	**280**	P	P	15 29 57.1	+1.5
	1.3nm,0.5s,baz=104,slow=12						
STKA	**Stephens Creek**	**34.63**	**257**	P	P	15 30 01.7	+1.5
	1.0nm,0.4s,baz=99,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**43.33**	**267**	P	P	15 31 11.9	-1.3
	0.5nm,0.3s,baz=106,slow=7.4,SNR=23						
WRA	**Warramunga Arr**	**44.34**	**272**	P	P	15 31 20.0	-1.3
	1.0nm,0.3s,baz=111,slow=8.1,SNR=50						
FINES	**FINESS Array B**	**145.54**	**340**	PKPbc	PKPdf	15 42 48.0	-0.6
	0.6nm,0.4s,baz=52,slow=3.9,SNR=13						

*ISCJB **05** 15:31:03.4±0.4, 6°.85S±0°.03×129°.79E±0°.04, h150km, mb4.0/6, Error ellipse: s-maj=6.1km s-min=4.3km az=10.6*
*IDC **05** 15:31:03.8±7.0, 6°.89S×129°.51E, h143km±71km, mb3.8/7, mb1 3.9/9, mb1mx3.6/31, mbtmp4.3/9, Error ellipse: s-maj=51.0km s-min=20.1km az=63.0*
*DJA **05** 15:31:06.8±0.4, 7°.S±3°×13°.0E±°, h183km±9km, M4.5/11, mb4.4/7, mB4.8/4, MLv4.6/11, Mw(mB)4.1/4*
ISC 05 15:31:04.3±0.6, 6°.84S±0°.05×129°.83E±0°.05, h150km, n26, σ1°.58/33, mb4.0/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.85**	**128**	P	Pn	15 31 43.0	+5.4
SAUI				S	Sn	15 32 11.5	+8.2
BNDI	**Bandanaira**	**2.30**	**2**	P	Pn	15 31 47.1	+4.1
MSAI	**Masohi**	**3.58**	**345**	P	Pn	15 32 02.8	+3.7
FAKI	**Fak Fak**	**4.57**	**32**	P	**Pn**	**15 32 13.4**	**+1.3**
FAKI				S	**Sn**	**15 33 05.8**	**+0.8**
FAKI	**Fak Fak**	**4.57**	**32**	P	**Pn**	**15 32 13.0**	**+0.9**
	baz=4.6,SNR=14						
FAKI				S	**Sn**	**15 33 03.5**	**-1.4**
	baz=4.6,SNR=19						
SWI	**Sorong**	**6.10**	**14**	P	**Pn**	**15 32 33.1**	**+0.7**
	35nm,0.8s,2μm0.4nm						
SWI				S	**Sn**	**15 33 37.9**	**-3.4**
	35nm,0.8s,2μm0.4nm						
SWI	**Sorong**	**6.10**	**14**	P	**Pn**	**15 32 32.9**	**+0.5**
	baz=6.2,SNR=12						
SWI				S	Sn	15 33 32.9	-8.5
	baz=6.2,SNR=16						
MTN	**Manton Dam**	**6.11**	**168**	P	**Pn**	**15 32 34.2**	**+1.8**
	baz=6.0,SNR=156						
MTN				S	**Sn**	**15 33 40.6**	**-0.8**
	baz=6.0,SNR=12						
SOEI	**Soe**	**6.23**	**242**	P	**Pn**	**15 32 36.2**	**+2.1**
	31nm,0.9s,0.5nm						
SOEI				S	**Sn**	**15 33 43.0**	**-1.5**
	31nm,0.9s,0.5nm						
SOEI	**Soe**	**6.23**	**242**	P	**Pn**	**15 32 36.0**	**+1.8**
	baz=6.3,SNR=25						
SOEI				S	**Sn**	**15 33 42.8**	**-1.7**
	baz=6.3,SNR=8.8						
KDU	**Kakadu**	**6.37**	**156**	P	**Pn**	**15 32 37.7**	**+1.8**
	baz=6.2,SNR=302						
KDU				S	**Sn**	**15 33 46.0**	**-1.7**
	baz=6.2,SNR=7.0						
LBMI	**Labuha**	**6.58**	**339**	P	**Pn**	**15 32 41.5**	**+2.7**
	90nm,0.8s,658nm0.2nm						
LBMI				S	**Sn**	**15 33 53.5**	**+0.6**
	90nm,0.8s,658nm0.2nm						
BATI	**Baumata**	**6.96**	**241**	P	**Pn**	**15 32 45.5**	**+1.6**
	30nm,0.6s,959nm0.2nm						
BATI				S	**Sn**	**15 33 59.5**	**-2.4**
	30nm,0.6s,959nm0.2nm						
BATI	**Baumata**	**6.96**	**241**	P	**Pn**	**15 32 45.5**	**+1.6**
	12nm,0.3s,baz=120,slow=4.1,SNR=28						
BATI				S	**Sn**	**15 33 59.6**	**-2.4**
	14nm,0.3s,baz=67,slow=23,SNR=15						
BAKI	**Biak**	**8.40**	**48**	P	Pn	15 33 06.9	+3.8
BAKI				S	**Sn**	**15 34 36.3**	**-0.3**
KNRA	**Kununurra**	**8.85**	**187**	P	**Pn**	**15 33 09.2**	**+0.2**
	baz=8.8,SNR=130						
KNRA				S	Sn	15 34 40.9	-6.5
	baz=8.8,SNR=18						
WRA	**Warramunga Arr**	**13.74**	**162**	P	**Pn**	**15 34 11.7**	**-1.4**
	0.7nm,0.3s,baz=339,slow=13,SNR=81						
WRA				S	Sn	15 36 37.7	-7.6
	1.7nm,0.3s,baz=326,slow=23,SNR=9.7						
ASAR	**Alice Springs**	**17.19**	**167**	P	**Pn**	**15 34 56.6**	**+1.2**
	1.8nm,0.3s,baz=341,slow=8.9,SNR=230						
ASAR				S	**S**	**15 38 05.6**	**-0.7**
	0.5nm,0.3s,baz=344,slow=26,SNR=6.5						
CTA	**Charters Tower**	**20.67**	**131**	P	Pn	15 35 35.4	-1.3
	4.9nm,0.9s,baz=323,slow=14,SNR=5.5						
QLP	**Quilpie**	**23.95**	**147**	P	**P**	**15 36 06.1**	**+1.4**
	baz=24,SNR=13						
STKA	**Stephens Creek**	**27.23**	**158**	P	**P**	**15 36 35.3**	**+1.0**
	4.8nm,0.7s,baz=333,slow=9.6,SNR=7.6						
CMAR	**Chiang Mai Arr**	**39.50**	**310**	P	**P**	**15 38 19.3**	**-1.2**
	0.8nm,0.7s,baz=143,slow=7.1,SNR=6.6						
SONM	**Songino Array**	**58.23**	**342**	P	**P**	**15 40 43.0**	**+0.1**
	0.9nm,0.4s,baz=159,slow=7.1,SNR=17						
MKAR	**Makanchi Array**	**68.00**	**327**	P	**P**	**15 41 47.0**	**-0.3**
	4.2nm,0.5s,baz=114,slow=8.5,SNR=70						
ZALV	**Zalesovo Beam**	**71.36**	**334**	P	**P**	**15 42 06.3**	**-1.4**
	2.2nm,0.7s,baz=132,slow=4.7,SNR=9.2						
GEYT	**Alibeck**	**79.98**	**310**	P	**P**	**15 42 56.8**	**-0.4**
	1.5nm,0.6s,baz=96,slow=4.3,SNR=4.3						

*ISCJB **05** 15:31:15.8±0.9, 20°.7S±0°.2×175°.7W±0°.2, h150km, mb3.9/10, Error ellipse: s-maj=30.1km s-min=15.7km az=42.5*
*IDC **05** 15:31:17.6±8.9, 20°.61S×175°.72W, h151km±82km, mb3.8/10, mb1 4.0/11, mb1mx3.7/31, mbtmp4.2/11, Error ellipse: s-maj=40.4km s-min=23.7km az=156.0*
ISC 05 15:31:17.2±1.0, 20°.7S±0°.2×175°.6W±0°.2, h150km, n16, σ1°.13/15, mb4.0/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.80**	**262**	P	**Pn**	**15 35 06.4**	**+2.6**
	1.1nm,0.3s,baz=75,slow=18,SNR=14						
URZ	**Urewera**	**18.65**	**198**	P	**P**	**15 35 23.5**	**+0.1**
	1.2nm,0.3s,baz=319,slow=3.8,SNR=10						
CTA	**Charters Tower**	**35.73**	**264**	P	**P**	**15 38 01.4**	**-0.3**
	3.3nm,0.4s,baz=93,slow=11,SNR=11						
STKA	**Stephens Creek**	**39.77**	**245**	P	**P**	**15 38 35.4**	**-0.1**
	2.8nm,0.6s,baz=85,slow=8.7,SNR=3.9						
ASAR	**Alice Springs**	**46.69**	**257**	P	**P**	**15 39 30.6**	**-0.6**
	4.1nm,0.8s,baz=87,slow=8.0,SNR=7.0						
WRA	**Warramunga Arr**	**46.82**	**262**	P	**P**	**15 39 31.1**	**-1.1**
	1.2nm,0.3s,baz=94,slow=7.7,SNR=7.0						
NWAO	**Narrogin (SRO)**	**60.32**	**243**	P	**P**	**15 41 09.5**	**-0.9**
	8.2nm,0.8s,baz=127,slow=10,SNR=2.2						
PETK	**Petropavlovsk-**	**77.03**	**344**	P	**P**	**15 42 52.8**	**-0.5**
	2.2nm,0.9s,baz=131,slow=9.2,SNR=9.6						
NVAR	**Mina Array Bea**	**79.60**	**42**	P	**P**	**15 43 10.0**	**+2.0**
	0.7nm,0.7s,baz=227,slow=8.5,SNR=6.5						
ILAR	**Eielson Array**	**87.98**	**12**	P	**P**	**15 43 48.5**	**-1.1**
	0.2nm,0.3s,baz=207,slow=5.4,SNR=6.7						
CMAR	**Chiang Mai Arr**	**92.31**	**289**	P	**P**	**15 44 11.5**	**+0.6**
	0.5nm,0.7s,baz=134,slow=3.9,SNR=4.0						
YKA	**Yellowknife Ar**	**95.72**	**24**	P	**P**	**15 44 25.5**	**0.0**
	0.2nm,0.6s

6.4nm,1.0s
TXAR Lajitas Array 72.93 332 P P 16 00 03.4 +0.9
0.9nm,0.6s,baz=157,slow=8.9,SNR=12
TXAR pP **pP 16 00 13.7 +0.8**
1.1nm,0.8s,baz=150,slow=8.7,SNR=7.4
DBIC Dimbokro 77.27 71 P P 16 00 28.1 +0.3
5.3nm,0.7s,baz=163,slow=4.4,SNR=6.9
BOSA Boshof 78.90 118 P P 16 00 36.3 -0.7
3.9nm,0.7s,baz=225,slow=5.8,SNR=7.8
ANMO Albuquerque 79.00 333 LR LR 16 31 52.4
comp=Z,2μm,21.6s,baz=174,slow=33
TORD Torodi Ar. Bea 86.36 70 P P 16 01 15.2 -0.5
2.0nm,0.8s,baz=234,slow=3.7,SNR=11
TORD pP **pP 16 01 26.2 0.0**
1.7nm,0.8s,baz=248,slow=3.8,SNR=8.0
NVAR Mina Array Bea 86.79 326 P P 16 01 19.0 +1.5
1.1nm,0.8s,baz=146,slow=5.6,SNR=6.1
PDAR Pinedale Array 87.05 334 P P 16 01 18.8 +0.1
0.3nm,0.4s,baz=150,slow=6.2,SNR=3.9
ULM Lac du Bonnet 90.23 346 P P 16 01 32.4 -0.8
1.1nm,0.4s,baz=184,slow=15,SNR=3.2
WRA Warramunga Arr 116.80 209 PKP PKPdf 16 07 16.6 -1.5
0.4nm,0.9s,baz=167,slow=1.6,SNR=8.7
BRTR Keskin Array B 124.45 64 PKP PKPdf 16 07 32.0 -0.2
0.7nm,0.9s,baz=222,slow=1.7,SNR=3.6
BRTR pPKP **pPKPdf 16 07 43.2 +0.1**
1.2nm,0.9s,baz=228,slow=1.5,SNR=4.7
PETK Petropavlovsk- 142.29 310 PKhKP PKPpre 16 07 58.1
1.3nm,0.6s,baz=127,slow=11,SNR=5.3
SEY Seymchan 143.09 327 PKhKP PKPpre 16 08 02.9
0.4nm,0.4s,baz=73,slow=21,SNR=5.4
AKTO Aktyubinsk 143.49 54 PKhKP PKPpre 16 08 03.6
1.4nm,0.8s,baz=257,slow=3.3,SNR=5.9
BVAR Borovoye Array 150.73 47 PKPbc PKPbc 16 08 24.6 -0.1
2.0nm,0.7s,baz=316,slow=4.1,SNR=11
BVAR pPKPbc **pPKPbc 16 08 36.5 +1.0**
4.7nm,0.7s,baz=280,slow=3.8,SNR=18
ZALV Zalesovo Beam 158.05 37 PKPab PKPab 16 09 02.2 -0.7
0.8nm,0.6s,baz=316,slow=6.0,SNR=3.3
ZALV pPKPab **pPKPab 16 09 14.2 +0.7**
0.4nm,0.3s,baz=297,slow=6.5,SNR=1.9
MKAR Makanchi Array 159.89 56 PKPab PKPab 16 09 10.8 -0.5
1.5nm,0.7s,baz=282,slow=3.9,SNR=13
MKAR pPKPab **pPKPab 16 09 21.7 -0.1**
2.5nm,0.9s,baz=285,slow=4.0,SNR=10.0

TAP 05 15:56:26.9, 23°.15N×121°.00E, h4km±1km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.05**	**26**	*i* P	Pg	15 56 28.1	-0.2
	baz=34						
ELDTW				*i* S	Sg	15 56 29.2	+0.1
	baz=34						
STYT	**Tauyuan**	**0.22**	**274**	P	Pg	15 56 31.4	+0.1
	baz=273						
STYT				*i* S	Sg	15 56 34.8	+0.5
	baz=273						
TWG	**Pinlang**	**0.33**	**168**	*e*P	Pg	15 56 33.8	+0.4
	baz=166						
TWG				*e*S	Sg	15 56 37.0	-0.8
	baz=166						
CHKT	**Chengkung**	**0.34**	**98**	*e*P	Pg	15 56 33.2	-0.3
	baz=97						
CHKT				S	Sb	15 56 40.1	-1.3
	baz=97						
WTP	**Ta-pu**	**0.36**	**286**	*e*P	Pg	15 56 34.6	+0.6
	baz=285						
WTP				*e*S	Sb	15 56 41.1	-1.1
	baz=285						
SGST	**Jiashian**	**0.39**	**260**	*e*P	Pg	15 56 34.9	+0.5
	baz=259						
SGST				*e*S	Sb	15 56 41.2	-1.5
	baz=259						
ALS	**Alishan**	**0.40**	**334**	*e*P	Pg	15 56 35.1	0.0
	baz=335						
ALS				*e*S	Sg	15 56 41.1	+0.5
	baz=335						
CHN4	**Tsaushan**	**0.42**	**299**	*e*P	Pb	15 56 36.3	-0.7
	baz=298						
CHN4				*e*S	Sb	15 56 43.3	-0.5
	baz=298						
CHN1	**Nanshi**	**0.43**	**275**	*e*P	Pb	15 56 36.3	-0.9
	baz=275						
CHN1				*e*S	Sb	15 56 44.1	0.0
	baz=275						
SSD	**Sandimen**	**0.52**	**220**	*e*P	Pg	15 56 35.8	-1.2
	baz=219						
CHN5	**Tsauling**	**0.53**	**327**	*e*P	Pg	15 56 37.2	-0.1
	baz=326						
CHN5				*e*S	Sb	15 56 46.8	-0.4
	baz=326						
ECL	**Taimali**	**0.55**	**184**	*e*P	Pg	15 56 36.8	-0.7
	baz=183						

IDC ***05*** *16:00:07.6±0.9, 34°.56S×72°.32W, h0km, mb3.9/8, mb1 4.2/10, mb1mx4.0/33, mbtmp4.0/10, ML4.1/2, Error ellipse: s-maj=34.5km s-min=18.1km az=91.0*
GUC ***05*** *16:00:11.8±0.6, 34°.67S×72°.24W, h41km±3km, ML4.4*
ISC 05 16:00:08.2±2.2, 34°.55S±0°.04×72°.35W±0°.09, h3km±13km, n17, σ1°.01/23, mb3.9/7, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.03**	**117**	⇓*i* P	**Pg**	**16 00 28.2**	**+0.3**
NICH				*i* S1	**Sg**	**16 00 41.0**	**-0.2**
LNCH	**Linares**	**1.44**	**155**	⇓*i* P	**Pb**	**16 00 35.6**	**0.0**
LNCH				*i* S1	**Sn**	**16 00 53.0**	**-1.5**
ANTU	**Antumapu**	**1.73**	**56**	*e*P1	**Pg**	**16 00 40.9**	**-0.4**
ANTU				*e*S1	**Sn**	**16 01 01.9**	**+0.2**
ANTU				AML	AML	16 01 04.1	
	comp=N,6μm,0.4s						
LACH	**Col Las Americ**	**1.86**	**55**	*e*P1	**Pn**	**16 00 42.5**	**+1.4**
LACH				*i* S1	**Sn**	**16 01 05.2**	**+0.1**
LACH				AML	AML	16 01 12.2	
	comp=N,3μm,0.6s						
CLCH	**Cerro Calan**	**1.89**	**53**	⇓*i* P	**Pb**	**16 00 43.6**	**+0.2**
CLCH				*i* S1	**Sg**	**16 01 07.4**	**-1.6**
CLCH				AML	AML	16 01 13.6	
	comp=E,7μm,0.5s						
CLCH				AML	AML	16 01 14.3	
	comp=E,8μm,0.7s						
FCH	**Farellones**	**2.10**	**55**	⇓*i* P	**Pn**	**16 00 45.5**	**+0.9**
FCH				*i* S1	**Sn**	**16 01 12.1**	**+0.8**
FCH				AML	AML	16 01 21.7	
	comp=N,2μm,0.2s						
CFAA	**Coronel Fontan**	**4.53**	**51**	Pn	**Pn**	**16 01 19.1**	**+1.4**
	comp=N,0.5nm,0.3s,baz=227,slow=7.6,SNR=8.6						
CFAA				Lg	Lg	16 02 21.2	
	comp=N,2.2nm,0.3s,baz=54,slow=14,SNR=6.2						
PLCA	**Paso Flores**	**6.34**	**168**	Pn	**Pn**	**16 01 43.8**	**+1.2**
	comp=N,1.5nm,0.3s,baz=326,slow=10,SNR=3.3						
LPAZ	**La Paz**	**18.57**	**13**	P	**P**	**16 04 27.1**	**+0.1**
	comp=N,0.2nm,0.3s,baz=174,slow=3.2,SNR=5.8						
USHA	**Ushuaia**	**20.47**	**174**	P	**P**	**16 04 46.5**	**-0.3**
	comp=N,2.5nm,0.5s,baz=8.1,slow=4.9,SNR=6.4						
SIV	**San Ignacio**	**21.07**	**32**	P	**P**	**16 04 53.4**	**-0.2**
	comp=N,1.6nm,0.5s,baz=219,slow=16,SNR=5.7						
QSPA	**South Pole Qui**	**55.69**	**180**	P	**P**	**16 09 45.2**	**-0.4**
	comp=N,4.9nm,0.8s,baz=38,slow=0.2,SNR=19						
TXAR	**Lajitas Array**	**70.09**	**331**	P	**P**	**16 11 21.0**	**-0.7**
	comp=N,0.5nm,0.6s,baz=155,slow=8.5,SNR=6.9						
PDAR	**Pinedale Array**	**84.13**	**333**	P	**P**	**16 12 41.2**	**+0.7**
	comp=N,0.5nm,0.7s,baz=144,slow=6.3,SNR=4.2						
NVAR	**Mina Array Bea**	**84.19**	**325**	P	**P**	**16 12 42.8**	**+1.8**
	comp=N,0.5nm,0.7s,baz=140,slow=6.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**84.64**	**70**	P	**P**	**16 12 42.2**	**-1.2**
	comp=N,0.8nm,0.8s,baz=279,slow=3.4,SNR=4.5						
ULM	**Lac du Bonnet**	**86.96**	**345**	P	**P**	**16 12 53.3**	**-0.8**
	comp=N,1.1nm,0.4s,baz=198,slow=6.3,SNR=3.2						

BJI ***05*** *16:06:53.2, 4°.37S×100°.77E, h26km, mB6.7/71, mb6.0/72, Ms7.2/90, Ms7 7.1/85*
IDC ***05*** *16:06:56.2±0.3, 3°.74S×101°.03E, h0km, mb5.2/54, mb1 5.2/55, mb1mx5.2/60, mbtmp5.2/55, ML5.3/1, MS6.5/12, Ms1 6.5/12, ms1mx6.2/34, Error ellipse: s-maj=10.2km s-min=7.3km az=49.0*
NEIC ***05*** *16:06:57.0±0.0, 4°.03S×100°.81E, h22km Best double couple: NP1:φs128.00000°, δ78.00000°, λ83.00000°. NP2:φs336.00000°, δ13.00000°, λ118.00000°. Principal axes: T 1.1900, Plg56.0000°, Azm30.0000°; N 0.0800, Plg6.0000°, Azm129.0000°; P -1.2700, Plg33.0000°, Azm223.0000°;*
ISCJB ***05*** *16:06:58.8±0.6, 3°.83S±0°.02×100°.90E±0°.02, h27km±4km, mb5.8/251, MS6.7/138 Error ellipse: s-maj=3.3km s-min=2.2km az=35.8*
KLM ***05*** *16:06:59.8, 4°.01S×100°.54E, h46km, mb6.3, ML6.5, MS6.9*
MOS ***05*** *16:07:00.7±1.3, 3°.60S×100°.99E, h33km, mb6.2/77, MS6.7/61, Error ellipse: s-maj=7.0km s-min=3.8km az=117.6*
GCMT ***05*** *16:07:00.7±0.1, 4°.04S×100°.52E, h20km, MW6.7/124, Moment Tensor Solution. s124,c302; s118,c448; Duration: 5s0 Moment tensor: Scale 1019Nm; Mrr0.50±.00; Mθθ-0.26±.00; Mφφ-0.24±.00; Mθφ0.96±.01; Mθφ0.27±.00; Mφr-0.63±.01; Best double couple: M0 1.25800×1019 NP1:φs124.00000°, δ78.00000°, λ86.00000°. NP2:φs324.00000°, δ13.00000°, λ109.00000°. Principal axes: T 1.2570, Plg57.0000°, Azm29.0000°; N 0.0020, Plg4.0000°, Azm125.0000°; P -1.2590, Plg33.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***05*** *16:07:00.7±0.1, 3°.76S×100°.99E, h26km, mb6.0/115, ME6.2, MS6.6/79, MW6.7, MW6.5, MW6.8 Error ellipse: s-maj=4.2km s-min=3.2km az=30.0, Moment Tensor Solution. s83 Moment tensor: Scale 1018Nm; Mrr3.40; Mθθ-2.51; Mφφ-0.90; Mθφ5.82; Mφφ-0.61; Mφr-3.13; Best double couple: M0 7.30000×1018 NP1:φs113.00000°, δ79.00000°, λ99.00000°. NP2:φs254.00000°, δ14.00000°, λ52.00000°. Principal axes: T 7.9900, Plg55.0000°, Azm34.0000°; N -1.6500, Plg8.0000°, Azm291.0000°; P -6.3400, Plg33.0000°, Azm195.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [II] at Bengkulu and Padang, Sumatra. Also felt at Jambi and at Jakarta, Java. Felt at Petaling Jaya, Malaysia and [II] in Singapore.
DJA ***05*** *16:07:03.1±0.6, 4°S±2°×10°1E±°, h37km±5km, M6.5/100, mb6.1/100, mB6.5/100, MLv6.6/40, Mw(mB)6.3/100, Mwp6.5/73*
NEIC ***05*** *16:07:19.1±0.0, 4°.54S×100°.32E, h18km, Moment Tensor Solution. s155 Moment tensor: Scale 1019Nm; Mrr0.46; Mθθ-0.24; Mφφ-0.22; Mθφ1.76; Mφφ0.20; Mφr-1.48; Best double couple: M0 2.30000×1019 NP1:φs317.00000°, δ5.00000°, λ97.00000°. NP2:φs130.00000°, δ85.00000°, λ89.00000°. Principal axes: T 2.3600, Plg50.0000°, Azm39.0000°; N -0.0300, Plg0.0000°, Azm130.0000°; P -2.3300, Plg39.0000°, Azm220.0000°;*
SZGRF ***05*** *16:07:25.0, 2°.47N×100°.05E, h33km, mb5.8, MS6.7, Northern Sumatera, Indonesia*
ISC 05 16:07:00.0±0.3, 3°.84S±0°.03×100°.92E±0°.03, h24km±1km, h24km: pP-P, n1789, σ1°.67/1800, mb5.9/250, MS6.7/148, 342C-277D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.49**	**62**	P	**Pn**	**16 07 25.8**	**+0.5**
MASI				S	**Sb**	**16 07 45.1**	**-0.5**
KRJI	**Kerinci**	**1.82**	**17**	P	**Sn**	**16 07 48.0**	**-4.3**
MNAI	**Manna**	**2.10**	**104**	P	**Pn**	**16 07 34.3**	**+0.7**
MNAI	**Manna**	**2.10**	**104**	⇓P	**Pn**	**16 07 34.4**	**+0.7**
	baz=2.1,SNR=618						
MNAI	**Manna**	**2.10**	**104**	*e*Pn	**Pn**	**16 07 33.8**	**+0.1**
MNAI				*e*Sn	**Sn**	**16 07 58.4**	**-0.7**
LHSI	**Lahat**	**2.60**	**90**	P	**Pn**	**16 07 42.1**	**+1.5**
SDSI	**Sungai Dareh**	**2.93**	**10**	P	**Pn**	**16 07 45.9**	**+0.8**
PDSI	**Padang**	**2.94**	**351**	P	**Pn**	**16 07 44.0**	**-1.3**
MDSI	**Maura Dua**	**3.32**	**101**	P	**Pn**	**16 07 51.1**	**+0.7**
MDSI				S	**Sn**	**16 08 30.2**	**+1.1**
LWLI	**Liwa**	**3.34**	**111**	P	**Pn**	**16 07 51.3**	**+0.4**
JMBI	**JAMBI**	**3.50**	**51**	P	**Pn**	**16 07 55.0**	**+2.1**
RGRI	**Rengat**	**3.75**	**22**	P	**Pn**	**16 07 58.7**	**+2.4**
KASI	**Kota Agung**	**3.94**	**115**	P	**Pn**	**16 07 58.7**	**-0.3**
PMBI	**Palembang**	**3.96**	**77**	P	**Pn**	**16 08 00.7**	**+1.5**
PMBI	**Palembang**	**3.96**	**77**	⇓P	**Pn**	**16 08 00.1**	**+0.9**
	baz=4.0,SNR=20						
KLI	**Kotabumi**	**4.06**	**105**	P	**Pn**	**16 08 03.2**	**+2.6**
BKNI	**Bangkinang**	**4.14**	**2**	P	**Pn**	**16 08 03.4**	**+1.6**
BKNI	**Bangkinang**	**4.14**	**2**	⇑P	**Pn**	**16 08 03.3**	**+1.6**
	baz=4.2,SNR=11						
BKNI	**Bangkinang**	**4.14**	**2**	*e*Pn	**Pn**	**16 08 02.2**	**+0.5**
BKNI				*e*Sn	**Sn**	**16 08 46.8**	**-2.6**
BLSI	**Bandar Lampung**	**4.58**	**110**	P	**Pn**	**16 08 09.3**	**+1.6**
MNSI	**Mandailing Nat**	**4.79**	**344**	P	**Pn**	**16 08 11.2**	**+0.5**
DSRI	**Dabo**	**4.95**	**48**	P	Pn	16 08 19.2	+6.3
CGJI	**Cibinong**	**5.50**	**120**	P	**Pn**	**16 08 18.9**	**-1.5**
	4μm,1.1s,68μm358μm21nm						
SBJI	**Serang**	**5.67**	**114**	P	**Pn**	**16 08 25.7**	**+2.9**
	3μm,1.2s,66μm834μm25nm						
BTDF	**Bukit Timah Da**	**5.90**	**29**	⇓P	**Pn**	**16 08 27.7**	**+1.8**
	baz=5.9,SNR=35						
TPRI	**Tanjung Pinang**	**5.95**	**37**	P	**Pn**	**16 08 28.6**	**+2.0**
	3μm,0.9s,77μm45nm						
GSI	**Gunungsitoli**	**6.10**	**327**	P	**Pn**	**16 08 29.1**	**+0.3**
	1μm,0.9s,64μm804μm48nm						
GSI	**Gunungsitoli**	**6.10**	**327**	*e*Pn	**Pn**	**16 08 27.4**	**-1.4**
GSI				*e*Sn	**Sn**	**16 09 37.4**	**-0.4**
TNG	**Tangerang**	**6.16**	**112**	P	**Pn**	**16 08 32.2**	**+2.7**
	9μm,1.0s,92μm622μm34nm						
TNG	**Tangerang**	**6.16**	**112**	P	**Pn**	**16 08 32.3**	**+2.7**
	14μm,1.0s,145μm577μm55nm						
KGM	**Kluang**	**6.29**	**22**	⇑P	**Pn**	**16 08 34.4**	**+3.1**
MYKOM	**Kota Tinggi**	**6.31**	**28**	*e*Pn	**Pn**	**16 08 32.9**	**+1.2**
SKJI	**Sukabumi**	**6.44**	**119**	P	**Pn**	**16 08 35.5**	**+2.2**
	2μm,0.6s,55μm37μm17nm						
TPI	**Tanjungpandan**	**6.81**	**81**	P	**Pn**	**16 08 41.5**	**+3.0**
	449nm,0.8s,26μm17nm						
PSI	**Prapat**	**6.89**	**343**	P	**Pn**	**16 08 37.0**	**-2.7**
PSI	**Prapat**	**6.89**	**343**	Pn	**Pn**	**16 08 37.0**	**-2.7**
	57nm,0.3s,baz=356,slow=6.6,SNR=65						
PSI	**Prapat**	**6.89**	**343**	⇓P	**Pn**	**16 08 38.6**	**-1.0**
	baz=6.8,SNR=14						
CNJI	**Cibinong**	**7.08**	**119**	P	**Pn**	**16 08 41.4**	**-0.8**
	4μm,0.9s,32μm230μm12nm						
LEM	**Lembang**	**7.30**	**114**	P	**Pn**	**16 08 47.0**	**+1.6**
	999nm,1.1s,69μm498μm16nm						
LEM	**Lembang**	**7.30**	**114**	P	**Pn**	**16 08 45.8**	**+0.4**
	baz=7.3,SNR=56						
TSI	**Tuntungan**	**7.66**	**342**	P	Pn	16 08 53.6	+3.5
	1μm,1.1s,74μm36nm						
SNSI	**Sinabang, Aceh**	**7.72**	**323**	P	**Pn**	**16 08 53.9**	**+3.0**
	2μm,1.1s,53μm16nm						
JCJI	**Jatiwangi**	**7.78**	**110**	P	**Pn**	**16 08 54.9**	**+3.1**
	2μm,1.1s,39μm446μm11nm						
CISI	**Cisompet, Garu**	**7.79**	**119**	P	**Pn**	**16 08 50.3**	**-1.8**
	6μm,0.9s,63μm285μm17nm						
CISI	**Cisompet, Garu**	**7.79**	**119**	⇓P	**Pn**	**16 08 50.6**	**-1.5**
	baz=7.8,SNR=170						
CISI	**Cisompet, Garu**	**7.79**	**119**	*e*Pn	**Pn**	**16 08 50.1**	**-2.0**
CISI				*e*Sn	**Sn**	**16 10 17.8**	**-1.9**
KCSI	**Kotacane, Aceh**	**7.96**	**337**	P	**Pn**	**16 08 56.3**	**+2.0**
	904nm,0.8s,30μm494μm19nm						
TPTI		**7.98**	**332**	P	**Pn**	**16 08 55.7**	**+1.2**
	1μm,0.6s,180μm7.3nm						
TPTI				S	**Sn**	**16 10 27.8**	**+3.7**
	1μm,0.6s,180μm7.3nm						
XMIS	**Christmas Isla**	**8.10**	**145**	*e*Pn	Pn	16 08 51.6	-4.6
IPM	**Ipoh**	**8.26**	**1**	⇑P	**Pn**	**16 09 00.8**	**+2.4**
IPM	**Ipoh**	**8.26**	**1**	*e*Pn	**Pn**	**16 09 00.6**	**+2.1**
IPM				*e*Sn	**Sn**	**16 10 31.9**	**+0.8**
CMJI	**Cimerak**	**8.46**	**118**	P	**Pn**	**16 08 59.9**	**-1.2**
	1μm,0.7s,20μm135μm7.1nm						
KPJI	**Karang Pucung**	**8.70**	**114**	P	**Pn**	**16 09 05.6**	**+1.2**
	2μm,0.9s,26μm5.8nm						
KULM	**Kulim**	**9.07**	**358**	⇑P	**Pn**	**16 09 11.1**	**+1.5**
KTGM	**Kuala Trenggan**	**9.37**	**14**	⇑P	**Pn**	**16 09 16.7**	**+3.1**
LHMI	**Lhok Sumawe**	**9.84**	**336**	P	Pn	16 09 25.3	+5.2
	1μm,0.9s,26μm						
LHMI	**Lhok Sumawe**	**9.84**	**336**	⇑P	**Pn**	**16 09 19.2**	**-0.9**
	baz=9.9,SNR=52						
LHMI	**Lhok Sumawe**	**9.84**	**336**	*e*Pn	**Pn**	**16 09 19.4**	**-0.6**
LHMI				*e*Sn	**Sn**	**16 11 08.7**	**-1.2**
SMRI	**Semarang**	**10.00**	**109**	P	**Pn**	**16 09 25.3**	**+3.0**
	3μm,0.9s,31μm407μm						
SMRI	**Semarang**	**10.00**	**109**	*e*Pn	**Pn**	**16 09 21.2**	**-1.1**
	3μm,0.9s						
SMRI				*e*Sn	**Sn**	**16 11 13.2**	**-0.7**
UGM	**Wanagama**	**10.38**	**113**	P	**Pn**	**16 09 28.9**	**+1.4**
	1μm,0.8s,22μm245μm						
UGM	**Wanagama**	**10.38**	**113**	⇓P	**Pn**	**16 09 27.2**	**-0.3**
	baz=10,SNR=87						
UGM	**Wanagama**	**10.38**	**113**	*e*Pn	**Pn**	**16 09 27.1**	**-0.4**
WOJI	**Wonogiri, Jawa**	**10.72**	**112**	P	**Pn**	**16 09 32.7**	**+0.6**
	829nm,0.9s,13μm177μm						
KSM	**Kuching**	**10.77**	**61**	⇓P	**Pn**	**16 09 34.1**	**+1.2**
	baz=11,SNR=6.6						
KSM	**Kuching**	**10.77**	**61**	Pn	Pn	16 09 29.3	-3.5
PBKI	**Pangkalan Bun**	**10.79**	**84**	P	Pn	16 09 38.3	+5.1
	2μm,1.1s,27μm374μm						
STKI	**Sintang**	**11.24**	**70**	P	Pn	16 09 45.1	+5.8
	589nm,1.0s,23μm358μm						
PWJI	**Pagerwojo**	**11.60**	**111**	P	**Pn**	**16 09 43.3**	**-0.9**
	419nm,1.0s,11μm145μm						
GRJI	**Gresik**	**11.91**	**105**	P	Pn	16 09 51.8	+3.4
	1μm,0.9s,8μm						
PKDT	**Phuket**	**11.93**	**348**	P	**Pn**	**16 09 51.6**	**+2.8**
	305nm,1.2s,13μm						
CMBY	**CAMPBELL BAY**	**12.84**	**327**	*e*P	**Pn**	**16 09 60.0**	**-1.1**
CMBY				AMB	AMB	16 10 17.4	
	comp=Z,286nm,0.9s						
SURT	**Suratani**	**12.89**	**351**	P	**Pn**	**16 10 01.9**	**+0.1**
	comp=Z,156nm,0.8s,comp=Z,5μm						
SBUM	**Sibu**	**12.91**	**61**	⇑P	Pn	16 10 06.6	+4.5
SBUM	**Sibu**	**12.91**	**61**	*e*Pn	Pn	16 10 05.5	+3.3
SURA	**Surathani**	**12.98**	**354**	P	Pn	16 10 06.3	+3.2
	comp=Z,410nm,1.6s,comp=Z,9μm						
BLJI	**Banyuglugur**	**13.20**	**108**	P	**Pn**	**16 10 07.5**	**+1.5**
GMJI	**Gumukmas**	**13.21**	**110**	P	**Pn**	**16 10 08.9**	**+2.7**
KMMI	**Kalianget**	**13.38**	**109**	P	**Pn**	**16 10 10.8**	**+2.3**
	comp=Z,937nm,1.1s,comp=Z,27μmcomp=Z,282μm						
ABJI	**Asem Bagus**	**13.82**	**107**	P	P	16 10 18.7	-4.0
	comp=Z,2μm,0.7s,comp=Z,21μmcomp=Z,140μm						
BBKI	**Banjar Baru**	**13.90**	**89**	P	P	16 10 20.4	-3.2
	comp=Z,5μm,0.9s,comp=Z,50μmcomp=Z,255μm						
JAGI	**Jajag, Banyuwa**	**13.94**	**110**	P	**Pn**	**16 10 15.3**	**-0.9**
	comp=Z,671nm,0.7s,comp=Z,15μmcomp=Z,163μm						
JAGI	**Jajag, Banyuwa**	**13.94**	**110**	⇑P	**Pn**	**16 10 14.1**	**-2.1**
	baz=14,SNR=26						
JAGI	**Jajag, Banyuwa**	**13.94**	**110**	*e*Pn	**Pn**	**16 10 14.1**	**-2.1**
	comp=Z,733nm,0.8s						
JAGI				*e*Sn	**Sn**	**16 12 48.0**	**-2.3**
BTM	**Bintulu**	**14.03**	**60**	⇑P	**P**	**16 10 22.7**	**-2.4**
MTKI	**Muara Teweh, K**	**14.26**	**79**	P	**Pn**	**16 10 23.7**	**+3.1**
	comp=Z,2μm,1.0s,comp=Z,30μmcomp=Z,272μm						
SRBI	**Singaraja**	**14.83**	**107**	P	**Pn**	**16 10 29.5**	**+1.2**
	comp=Z,723nm,1.0s,comp=Z,15μmcomp=Z,126μm						
IGBI	**Denpasar**	**14.98**	**110**	P	**P**	**16 10 33.7**	**-1.9**
	comp=Z,577nm,0.9s,comp=Z,7μm						
DNP	**Denpasar**	**15.00**	**109**	P	**P**	**16 10 34.5**	**-1.3**
	comp=Z,1μm,1.0s,comp=Z,21μm						
BKB	**Balikpapan**	**16.17**	**81**	P	**P**	**16 10 49.4**	**+0.6**
SGKI	**Sangatta, Kali**	**17.00**	**79**	P	P	16 11 04.0	+6.0
DLV	**T Lat**	**17.39**	**26**	*e*Pn	**Pn**	**16 11 01.6**	**+0.2**
	comp=Z,420nm,0.8s						
PBA	**Port Blair**	**17.41**	**332**	*e*P	Pn	16 11 01.2	-0.2
PBA				AMB	AMB	16 11 08.8	
	comp=Z,743nm,2.9s						
SRDT	**SRDT**	**18.16**	**354**	P	**P**	**16 11 13.5**	**+2.7**
	comp=Z,1μm,1.3s,comp=Z,54μm						
KKM	**Kota Kinabalu**	**18.16**	**57**	⇓P	**P**	**16 11 12.0**	**+1.0**
	baz=18,SNR=16						
KKM	**Kota Kinabalu**	**18.16**	**57**	⇑P	**P**	**16 11 12.4**	**+1.4**
KKM	**Kota Kinabalu**	**18.16**	**57**	*e*Pn	**Pn**	**16 11 10.1**	**-0.8**
	comp=Z,1μm,1.3s						
KHLT	**Khaolaem Dam**	**18.66**	**353**	P	**Pn**	**16 11 18.5**	**+1.7**
	comp=Z,353nm,0.9s,comp=Z,8μm						
DGPR	**DIGLIPUR**	**18.67**	**335**	*e*P	**P**	**16 11 16.4**	**0.0**
DGPR				AMB	AMB	16 11 58.0	
	comp=Z,976nm,1.5s						
TSM	**Tawau**	**18.77**	**65**	⇓P	**Pn**	**16 11 19.6**	**+1.4**
SDKM	**Sandakan**	**18.79**	**60**	⇑P	**Pn**	**16 11 20.0**	**+1.6**
SPSI	**Sidrap Palu**	**18.81**	**91**	P	**Pn**	**16 11 18.6**	**-0.1**
	comp=Z,731nm,1.0s,comp=Z,33μmcomp=Z,186μm						
KAPI	**Kappang**	**18.82**	**94**	*e*P	**P**	**16 11 17.8**	**-0.3**
	comp=Z,4μm,0.9s						
TTSI	**Tana Toraja**	**18.89**	**88**	P	**Pn**	**16 11 21.0**	**+1.4**
	comp=Z,788nm,1.4s,comp=Z,21μmcomp=Z,182μm						
KDM	**Kudat**	**19.15**	**56**	⇑P	**Pn**	**16 11 24.3**	**+1.6**
BNSI	**Bone**	**19.15**	**92**	P	**Pn**	**16 11 23.2**	**+0.4**
	comp=Z,2μm,1.2s,comp=Z,41μmcomp=Z,181μm						
BKSI	**Bulukumba**	**19.20**	**95**	P	**P**	**16 11 22.1**	**-0.3**
	comp=Z,2μm,0.9s,comp=Z,22μmcomp=Z,161μm						
WBSI	**Waikabubak, Su**	**19.23**	**108**	P	**P**	**16 11 22.3**	**-0.4**
	comp=Z,814nm,0.7s,comp=Z,11μm						
MPSI	**Mapaga**	**19.42**	**78**	P	**Pn**	**16 11 26.2**	**+0.2**
	comp=Z,1μm,0.8s,comp=Z,24μmcomp=Z,331μm						
UBPT	**Khong Chiam**	**19.52**	**13**	P	**P**	**16 11 24.8**	**-1.0**
	comp=Z,624nm,1.1s,comp=Z,33μm						
BSSI	**Bau Bau, Buton**	**19.63**	**97**	P	Pn	16 11 34.9	+6.3
MYLDM	**Lahad Datu**	**19.72**	**63**	*e*Pn	**Pn**	**16 11 30.3**	**+0.7**
	comp=Z,2μm,1.1s						
WSI	**Waingapu**	**20.09**	**108**	P	Pn	16 11 34.0	0.0
	comp=Z,2μm,0.7s,comp=Z,34μm						
WSI	**Waingapu**	**20.09**	**108**	⇓P	**P**	**16 11 31.8

comp=Z,148nm,0.8s,baz=281,slow=18,SNR=2.3
KMSI Cibinong 23.46 80 P **P 16 12 08.8 +0.8**
comp=Z,1μm,0.9s,comp=Z,24μmcomp=Z,181μm
ZMPH Zamboanga City 23.68 63⇑*e*P **P 16 12 10.3 +0.2**
CMAI Chiengmai2 23.69 356 P **P 16 12 10.1 -0.2**
comp=Z,380nm,1.9s,comp=Z,22μm
ENPP El Nido 23.72 51 *e*P **P 16 12 10.9 +0.5**
SOEI Soe 23.91 105 P **P 16 12 09.2 -3.2**
comp=Z,258nm,0.9s,comp=Z,10μmcomp=Z,118μm
SOEI Soe 23.91 105 *e*P **P 16 12 09.0 -3.4**
comp=Z,795nm,0.9s
CRAI Chiangrai 23.92 359 P **P 16 12 10.2 -2.1**
comp=Z,228nm,0.9s,comp=Z,18μm
QIZ Qiongzhong 24.36 21 P **P 16 12 16.8 +0.4**
QIZ pP **pP 16 12 23.9 +0.3**
QIZ sP **sP 16 12 26.6 0.0**
QIZ S **S 16 16 39.6 +5.0**
QIZ PMZ
comp=Z,110nm,2.2s
QIZ PMZ
comp=Z,16μm,8.3s
QIZ LN
comp=Z,228μm,16.4s
QIZ LZ
comp=Z,308μm,20.7s
QIZ Qiongzhong 24.36 21 *e*P **P 16 12 15.9 -0.5**
comp=Z,726nm,1.3s
QIZ LR LR
comp=Z,319μm,20.4s
IPIL Ipil 24.50 62 *e*P **P 16 12 19.2 +1.5**
BUSP Coron 24.80 50 *e*P **P 16 12 21.3 +0.9**
SANI Sanana 25.10 87 P **P 16 12 22.3 -0.9**
comp=Z,396nm,0.9s,comp=Z,16μmcomp=Z,131μm
MBWA Marble Bar 25.12 135 *e*P **P 16 12 22.2 -1.0**
comp=Z,92nm,0.8s
SLVN Son La 25.19 7 *e*P **P 16 12 23.0 -0.9**
comp=Z,271nm,0.8s
SLVN LR LR
comp=Z,187μm,20.9s
PAGZ Pagadian 25.24 63 *e*P **P 16 12 26.1 +1.6**
SGSI Sangihe 25.71 73 P **P 16 12 29.4 +0.7**
CTBH Cotabato--PC H 25.75 65⇑*e*P **P 16 12 28.4 -0.6**
SJMP San Jose 25.79 51 *e*P **P 16 12 30.0 +0.6**
SNPH Sibulan 25.81 59 *i* P **P 16 12 30.8 +1.2**
GUIM Jordan 25.93 56 *e*P **P 16 12 31.2 +0.6**
LUBP Lubang 25.94 47 *e*P **P 16 12 32.6 +1.9**
GSPH General Santos 25.95 68⇑*i*P P 16 12 37.0 +6.0
NLAI Namlea 26.14 90 P P 16 12 37.8 +5.2
OTRP Odiongan 26.44 52 *e*P **P 16 12 37.2 +1.9**
MDRS Chennai 26.52 310 *e*P **P 16 12 35.0 -1.0**
MDRS *ex* x 16 12 45.2
MDRS AMB AMB 16 12 59.4
comp=Z,342nm,0.0s
MDRS *ex* x 16 17 38.2
RCP Roxas 26.56 55 *e*P **P 16 12 40.6 +4.2**
CGP Cagayan de Oro 26.67 63⇓*e*P P 16 12 46.1 +8.7
TGY Tagaytay City 26.68 48 P **P 16 12 36.8 -0.7**
comp=Z,208nm,0.4s,baz=272,slow=2.1,SNR=13
TGY LR LR 16 24 00.5
comp=Z,2μm,18.9s,baz=299,slow=39
LBMI Labuha 26.75 84 P **P 16 12 38.1 0.0**
comp=Z,790nm,1.1s,comp=Z,19μmcomp=Z,87μm
BUKP Musuan 26.75 64 *e*P **P 16 12 38.5 +0.3**
TNTI Ternate 26.83 81 P **P 16 12 38.0 -0.8**
comp=Z,474nm,1.0s,comp=Z,9μmcomp=Z,137μm
TNTI Ternate 26.83 81 *e*P **P 16 12 36.6 -2.2**
comp=Z,1μm,1.7s
TNTI LR LR
comp=Z,37μm,20.2s
TRD Trivandrum 26.86 297 *e*P **P 16 12 40.3 +1.2**
DAV Davao City (W) 26.90 66 PFAKE 16 12 50.0 +11
DAV LR LR
comp=Z,57μm,21.6s
LLP Lapu-Lapu 26.92 58 *e*P **P 16 12 39.8 +0.1**
SCZP Santa Cruz 27.08 44 *e*P **P 16 12 42.2 +1.2**
BOLP Bolinao 27.50 43 *e*P **P 16 12 47.9 +3.1**
AUQP San Andres 27.52 51 *e*P P 16 12 50.5 +5.5
VIS Vishakhapatnam 27.57 322 *e*P **P 16 12 45.9 +0.5**
VIS AMB AMB 16 13 04.5
comp=Z,287nm,0.9s
MSLP Maasin 27.59 60 *e*P **P 16 12 48.8 +3.1**
OCLP Ormoc 27.84 58 *e*P P 16 12 53.6 +5.7
BCPH Baguio City Da 27.96 44⇑*i*P **P 16 12 46.7 -2.4**
MSAI Masohi 27.96 90 P **P 16 12 52.8 +3.8**
comp=Z,32nm,0.9s,comp=Z,1μm
PLP Palo 28.20 58⇓*e*P **P 16 12 49.8 -1.4**
BALP Baler 28.22 46 *e*P **P 16 12 53.0 +1.8**
MEEK Meekatharra 28.30 145 ⇑P **P 16 12 51.7 -0.2**
baz=28,SNR=10.0
H08S2 Diego Garcia H 28.52 261 T T 16 42 27.3
baz=83,slow=75
H08S3 Diego Garcia H 28.53 261 T T 16 42 34.4
baz=83,slow=75
DGAR Diego Garcia 28.54 262 P **P 16 12 55.3 +1.1**
DGAR MLR MLR
comp=Z,114μm,19.9s
DGAR Diego Garcia 28.54 262 P **P 16 12 55.3 +1.1**
DGAR LR LR
comp=Z,114μm,19.9s
H08S1 Diego Carcia H 28.54 261 T T 16 42 24.6
baz=83,slow=75
CNP Cataraman 28.65 55 *e*P **P 16 12 57.4 +2.3**
SZP Santa 28.70 42 *e*P **P 16 12 55.3 -0.2**
comp=Z,525nm,0.9s
SZP LR LR
comp=Z,63μm,22.0s
KMI Kunming 28.84 3 P **P 16 12 58.2 +1.3**
KMI pP **pP 16 13 04.9 +0.7**
KMI PP **PP 16 13 56.2 -6.2**
KMI S **S 16 17 49.1 +3.2**
KMI PMZ
comp=Z,120nm,0.9s
KMI LN
comp=Z,323μm,16.7s
KMI LE
comp=Z,413μm,14.6s
KMI LZ
comp=Z,381μm,17.9s
PVCP Virac 28.84 53⇑*i*P **P 16 12 57.5 +0.8**
BNDI Bandanaira 28.92 92 P P 16 13 11.8 +14
ABRA Dolores 28.94 42 *e*P **P 16 12 57.8 +0.2**
HKC Hong Kong Obse 29.04 26 *i* P **P 16 13 00.0 +1.6**
GZH Guangzhou 29.38 24 P P 16 13 08.1 +6.6
GZH S S 16 18 07.0 +13
GZH LR LR
comp=N,358μm,19.2s
GZH LR LR
comp=E,380μm,18.7s
APYP Conner 29.45 42 *e*P **P 16 13 05.2 +3.1**
KNRA Kununurra 29.81 115 ⇑P **P 16 13 03.7 -1.7**
baz=30,SNR=82
SWI Sorong 30.46 85 P **P 16 13 10.1 -1.1**
comp=E,309nm,1.1s,comp=E,6μmcomp=E,94μm
SWI Sorong 30.46 85 ⇑P **P 16 13 08.8 -2.3**
baz=30,SNR=18
SAUI Saumlaki 30.49 99 P P 16 13 15.0 +3.5
comp=E,230nm,0.8s,comp=E,5μm
SAUI Saumlaki 30.49 99 *e*P **P 16 13 14.1 +2.6**
comp=E,166nm,0.8s
SHL Shillong 30.52 344 *e*P **P 16 13 11.5 -0.2**
SHL AMB AMB 16 13 20.7
comp=Z,464nm,1.3s
SHL *ex* x 16 18 27.5
HYB Hyderabad 30.55 314 *i* P **P 16 13 11.5 -0.5**
comp=Z,190nm,1.0s
HYB *e*pP **pP 16 13 19.5 +0.3**
HYB *e*PP **PnPn 16 14 11.0 -0.5**
HYB *e*S **S 16 18 12.0 -0.6**
HYB LR LR 16 20 52.0
comp=Z,226nm,20.0s
HYB Hyderabad 30.55 314 *e*P **P 16 13 11.9 -0.1**
HYB AMB AMB 16 13 30.0
comp=Z,182nm,1.1s
MNGI Mangalore 30.82 303 *ex* P 16 13 07.4 -6.8
MNGI *ex* x 16 17 51.2
BOK Bokaro 31.13 333 *e*P **P 16 13 18.0 +1.1**
BOK AMB AMB 16 13 32.4
comp=Z,853nm,5.4s
MTN Manton Dam 31.17 109 ⇑P **P 16 13 15.2 -2.3**
baz=31,SNR=34
FAKI Fak Fak 31.29 89 P **P 16 13 18.1 -0.4**
comp=Z,275nm,0.9s,comp=Z,6μmcomp=Z,90μm
FAKI Fak Fak 31.29 89 ⇓P **P 16 13 17.3 -1.3**
baz=31,SNR=13
FAKI Fak Fak 31.29 89 *e*P P 16 13 13.8 -4.8
comp=Z,244nm,0.9s
KLBR Kellerberrin 31.83 152 ⇑P **P 16 13 23.8 +0.8**
baz=32,SNR=6.1
NWAO Narrogin (SRO) 32.72 154 P **P 16 13 30.6 -0.2**
comp=Z,22nm,0.8s,baz=334,slow=7.7,SNR=11
NWAO LR LR 16 26 17.6
comp=Z,73μm,20.6s,baz=328,slow=35
NGP Nagpur 32.80 320 *e*P **P 16 13 32.3 +0.6**
NGP *ex* x 16 13 52.1
comp=Z,401nm,1.5s
NGP *ex* x 16 18 52.1
GOA Goa 32.99 306 *e*P **P 16 13 33.3 0.0**
TWG Pinlang 33.01 36 *e*P **P 16 13 34.1 +0.6**
comp=Z,939nm,1.3s
TWG LR LR
comp=Z,173μm,20.5s
TPUB Ta-pu 33.13 35 *e*P **P 16 13 34.0 -0.5**
comp=Z,177nm,0.8s
TPUB LR LR
comp=Z,54μm,19.0s
ODAN Odare 33.20 338 *e*P **P 16 13 35.6 +0.2**
QZH Quanzhou 33.37 30⇑*i*P **P 16 13 37.1 +0.5**
QZH S **S 16 19 01.0 +4.7**
QZH PMZ
comp=Z,520nm,1.2s
QZH PMZ
comp=Z,11μm,5.6s
QZH LN
comp=Z,315μm,14.4s
QZH LE
comp=Z,168μm,14.6s
QZH LZ
comp=Z,334μm,16.1s
TAPN Taplejung 33.53 338 *e*P **P 16 13 38.8 +0.5**
YULB Yu-li 33.58 35 *e*P **P 16 13 37.9 -0.6**
comp=Z,72nm,0.7s
YULB LR LR
comp=Z,73μm,20.3s
RAMN Ramite 33.59 336 *e*P **P 16 13 39.3 +0.5**
comp=Z,2μm,1.0s
SSLB Suanglung 33.69 34 *e*P **P 16 13 39.3 -0.2**
comp=Z,133nm,0.9s
SSLB LR LR
comp=Z,38μm,20.8s
WRKA Warakurna 33.73 131 ⇑P **P 16 13 39.9 +0.1**
baz=34,SNR=40
NACB Ninganchiao 34.36 35 *e*P **P 16 13 45.9 +0.7**
comp=Z,262nm,0.9s
NACB *e*PcP PcP 16 16 15.1 -5.9
NACB LR LR
comp=Z,71μm,19.3s
JIRN Jiri 34.39 336 *e*P **P 16 13 46.2 +0.4**
comp=Z,2μm,1.0s
YHNB Yeheng 34.62 34 *e*P **P 16 13 47.1 -0.5**
comp=Z,131nm,0.8s
YHNB *e*PcP **PcP 16 16 20.7 -1.1**
YHNB LR LR
comp=Z,99μm,21.1s
PKI Pulchoki 34.63 335 *e*P **P 16 13 47.4 -0.5**
PKIN Phulchoki 34.64 335 *e*P **P 16 13 48.0 +0.1**
LSA Lhasa 34.64 345 P **P 16 13 48.5 +0.4**
LSA S **S 16 19 13.9 -2.8**
LSA LN
comp=Z,96μm,24.8s
LSA LE
comp=Z,100μm,28.5s
LSA LZ
comp=Z,100μm,24.8s
LSA Lhasa 34.64 345 *e*P **P 16 13 47.5 -0.6**
LSA MLR MLR
comp=Z,97μm,19.3s
LSA Lhasa 34.64 345 *e*P **P 16 13 47.5 -0.6**
LSA LR LR
comp=Z,97μm,19.3s
CD2 Chengdu 34.66 4 P **P 16 13 46.5 -1.3**
CD2 pP **pP 16 13 56.9 +1.8**
CD2 PP **PP 16 15 10.4 +3.7**
CD2 PcP **PcP 16 16 20.6 -1.2**
CD2 S **S 16 19 14.4 -1.8**
CD2 PMZ
comp=Z,390nm,0.7s
CD2 PMZ
comp=Z,10μm,6.0s
CD2 LN
comp=Z,507μm,16.6s
CD2 LE
comp=Z,855μm,17.8s
CD2 LZ
comp=Z,596μm,16.0s
POO Poona 34.71 311 *e*P **P 16 13 47.8 -0.6**
POO AMB AMB 16 14 07.0
comp=Z,180nm,0.6s
POO *i* PP **PnPn 16 15 04.0 -0.7**
GUN Gumba 34.73 336 *e*P **P 16 13 49.0 +0.2**
comp=Z,1μm,0.7s
DMN Daman 34.79 335 *e*P **P 16 13 48.7 -0.5**
comp=Z,810nm,0.9s
KKN Kakani 34.87 335 *e*P **P 16 13 49.6 -0.3**
comp=Z,984nm,0.9s
ENH Enshi 34.90 13 *e*P **P 16 13 48.3 -1.5**
comp=Z,455nm,1.1s
ENH LR LR
comp=Z,108μm,22.0s
TATO Taipei 34.93 34 *e*P **P 16 13 50.1 +0.1**
comp=Z,156nm,0.9s
TATO *e*PcP **PcP 16 16 20.3 -2.2**
TATO LR LR
comp=Z,85μm,21.4s
BAKI Biak 35.25 87 P **P 16 13 55.1 +2.0**
comp=Z,337nm,1.0s,comp=Z,7μmcomp=Z,89μm
PALU Palau 35.28 72 ⇑P **P 16 13 52.2 -1.2**
baz=35,SNR=9.6
GKN Gorkha 35.33 335 *e*P **P 16 13 53.7 0.0**
SRPI Serui, Papua 35.33 88 P **P 16 13 52.7 -1.1**
BHPL Bhopal 35.35 321 *e*P **P 16 13 54.6 +0.7**
YOJ Yonaguni jima 35.40 36 *e*P **P 16 13 56.3 +2.1**
YOJ pmax pmax
comp=Z,179nm,1.1s
YOJ Yonaguni jima 35.40 36 *e*P **P 16 13 56.3 +2.1**
comp=Z,179nm,1.1s
KOLN Koldanda 35.59 333 *e*P **P 16 13 56.0 0.0**
comp=Z,1μm,0.8s
DANN Dangsing 36.01 334 *e*P **P 16 13 59.8 +0.1**
WRA Warramunga Arr 36.29 119 P **P 16 14 01.0 -1.0**
comp=Z,95nm,0.8s,baz=306,slow=8.5,SNR=135
WRA S **S 16 19 41.9 +0.2**
comp=Z,35nm,0.9s,baz=294,slow=16,SNR=6.0
WRA P3KPbc 16 44 41.0
comp=Z,1.1nm,1.0s,baz=114,slow=3.9,SNR=4.8
WRA PKPPKP P'P'df 16 46 46.2 -18
comp=Z,2.0nm,0.9s,baz=54,slow=2.9,SNR=6.3
WRAB Tennant Creek 36.30 119⇓*i*P **P 16 14 01.1 -0.9**
WRAB pmax pmax
comp=Z,216nm,1.5s
WRAB MLR MLR
comp=Z,91μm,21.0s
WRAB Tennant Creek 36.30 119 *e*P **P 16 14 00.7 -1.3**
comp=Z,277nm,0.9s
WRAB *e*PcP **PcP 16 16 27.7 +0.9**
WRAB LR LR
comp=Z,34μm,22.0s
WB2 Warramunga Arr 36.30 119 *e*P **P 16 14 00.7 -1.4**
WHN Wuhan 36.52 20 ⇓P **P 16 14 03.6 -0.1**
WHN pP **pP 16 14 12.0 +1.0**
WHN PP **PP 16 15 33.1 +6.0**
WHN S S 16 19 52.5 +7.8
WHN LN
comp=Z,363μm,14.3s
WHN LE
comp=Z,400μm,14.4s
WHN LZ
comp=Z,764μm,16.4s
FORT Forrest 37.06 139 *e*P **P 16 14 08.2 -0.1**
comp=Z,252nm,0.9s
AS31 Alice Springs 37.45 125 *e*P **P 16 14 11.3 -0.5**
ASAR Alice Springs 37.45 125 P **P 16 14 11.0 -0.8**
comp=Z,37nm,0.8s,baz=299,slow=7.4,SNR=156
ASAR S **S 16 20 00.1 +0.9**
comp=Z,12nm,1.1s,baz=293,slow=10.0,SNR=3.0
ASAR LR LR 16 31 15.0
comp=Z,47μm,20.9s,baz=301,slow=39
ASAR P3KPbc 16 44 37.6
comp=Z,0.4nm,0.7s,baz=133,slow=4.1,SNR=5.0
SMPI Sarmi 37.79 88 P **P 16 14 17.0 +2.3**
comp=Z,332nm,1.1s,comp=Z,8μm
XAN Xi'an 38.42 11 P **P 16 14 18.5 -1.4**
XAN pP **pP 16 14 28.5 +1.3**
XAN sP **sP 16 14 32.5 +2.4**
XAN PP **PnPn 16 15 52.6 +2.6**
XAN S **S 16 20 14.5 +0.8**
XAN sS sS 16 20 31.2 +5.5
XAN SS **SnSn 16 22 59.6 -1.2**
XAN PMZ
comp=Z,41nm,1.1s
XAN PMZ
comp=Z,2μm,7.1s
XAN LN
comp=Z,191μm,14.4s
XAN LE
comp=Z,88μm,16.6s
XAN LZ
comp=Z,122μm,14.4s
LGTI Lohaghat 38.58 330 *e*P **P 16 14 22.1 +0.9**
LGTI *ex* x 16 16 51.5
GENI Genyem 39.21 89 P **P 16 14 24.8 -1.9**
comp=Z,268nm,1.3s,comp=Z,5μmcomp=Z,59μm
AJM Ajmer 39.43 321 *i x* **P 16 14 27.0 -1.4**
NDI New Delhi 39.56 326 *e*P **P 16 14 29.0 -0.4**
NDI *ex* x 16 20 45.0
NJ2 Nanjing 39.56 24 *e*P **P 16 14 30.7 +1.4**
NJ2 pP **pP 16 14 36.9 +0.3**
NJ2 sP **sP 16 14 39.1 -0.5**
NJ2 PP **PnPn 16 16 02.0 -1.5**
NJ2 S **S 16 20 28.0 -2.7**
NJ2 PMZ
comp=Z,420nm,1.1s
NJ2 PMZ
comp=Z,15μm,10.7s
NJ2 LN
comp=Z,214μm,14.6s
NJ2 LE
comp=Z,209μm,16.2s
NJ2 LZ
comp=Z,821μm,17.1s
JAY Jayapura 39.75 89 P **P 16 14 33.0 +1.7**
comp=Z,150nm,0.7s,comp=Z,4μm
JAY Jayapura 39.75 89 ⇓P **P 16 14 28.5 -2.7**
baz=40,SNR=5.5
SSE Sheshan 39.76 28 ⇑P **P 16 14 32.1 +1.1**
SSE pP **pP 16 14 38.5 +0.2**
SSE sP **sP 16 14 41.7 +0.4**
SSE S **S 16 20 37.2 +3.5**
SSE sS **sS 16 20 48.4 +2.6**
SSE PMZ
comp=Z,61nm,1.2s
SSE PMZ
comp=Z,5μm,7.5s
SSE LN
comp=Z,120μm,16.7s
SSE LE
comp=Z,195μm,16.7s
SSE LZ
comp=Z,230μm,14.3s
LZH Lanzhou 39.81 4 ⇑P **P 16 14 31.6 0.0**
LZH pP **pP 16 14 37.0 -1.9**
LZH sP **sP 16 14 40.0 -1.9**
LZH PP **PnPn 16 16 08.6 +1.9**
LZH S **S 16 20 35.0 +0.3**
LZH sS **sS 16 20 48.0 +1.2**
LZH SS **SS 16 23 29.2 -2.2**
LZH PMZ
comp=Z,2μm,1.0s
LZH PMZ
comp=Z,10μm,4.8s
LZH LN
comp=Z,157μm,14.0s
LZH LE
comp=Z,194μm,14.8s
LZH LZ
comp=Z,218μm,15.2s
AIS Amsterdam Isla 39.98 209 P P 16 14 25.0 -7.7
AIS S **S 16 20 40.0 +3.1**
AIS R 16 25 00.0
JOW Kunigami 40.36 39 *e*P **P 16 14 36.5 +0.4**
comp=Z,82nm,0.8s
DDI Dehra Dun 40.40 329 *e*P **P 16 14 35.9 -0.5**
DDI AMB AMB 16 14 43.1
comp=Z,603nm,2.9s
BHJ Bhuj 40.68 313 *e*P **P 16 14 38.1 -0.7**
QIS Mount Isa 41.15 117 ⇑P **P 16 14 41.3 -1.5**
baz=41,SNR=34
SMLA Simla 41.50 329 *i* P **P 16 14 45.6 +0.3**
SMLA AMB AMB 16 14 59.0
comp=Z,2μm,0.6s
SMLA *i* S **S 16 20 60.0 +0.3**
SDNR Sundarnagar 41.90 329 *e*P **P 16 14 50.0 +1.3**
BHK Bhakra 42.12 328 *ex* P 16 14 55.0 +4.5
BHK *ex* x 16 15 56.0
TIA Tai'an 42.63 19 ⇑P **P 16 14 52.9 -1.6**
TIA pP **pP 16 15 06.8 +4.9**
TIA PMZ
comp=Z,40nm,1.4s
TIA LN
comp=Z,39μm,20.2s
TIA LE
comp=Z,96μm,19.0s
TIA LZ
comp=Z,30μm,19.6s
TIY Taiyuan 42.70 14 *e*P **P 16 14 55.8 +0.6**
TIY sP **sP 16 15 07.8 +2.2**
TIY PP **PP 16 16 38.8 +4.2**
TIY S **S 16 21 15.9 -1.6**
TIY SS **SS 16 24 28.9 +0.3**
TIY PMZ
comp=Z,180nm,0.7s
TIY PMZ
comp=Z,7μm,5.7s
TIY LN
comp=Z,164μm,15.4s
TIY LE
comp=Z,130μm,13.1s
TIY LZ
comp=Z,114μm,19.8s
DHRM DHARAMSHALA 42.84 329 *e*P **P 16 14 56.2 -0.4**
DHRM AMB AMB 16 15 40.3
comp=Z,641nm,1.9s
COEN Coen 42.87 106 P **P 16 14 54.7 -2.2**
baz=43,SNR=44
COEN Coen 42.87 106 *e*P **P 16 14 54.4 -2.5**
comp=Z,699nm,0.5s
COEN *e*PcP **PcP 16 16 48.3 +0.6**
COEN LR LR
comp=Z,239μm,21.9s
GTA Gaotai 43.05 359 ⇑P **P 16 14 57.2 -0.8**
GTA pP **pP 16 15 03.5 -1.9**
GTA sP **sP 16 15 06.0 -2.4**
GTA S **S 16 21 21.6 -1.0**
GTA PMZ
comp=Z,51nm,1.9s
GTA PMZ
comp=Z,10μm,7.6s
GTA LN
comp=Z,286μm,15.7s
GTA LE
comp=Z,383μm,17.8s
GTA LZ
comp=Z,326μm,15.7s
BBOO Buckleboo 43.70 135 ⇑P **P 16 15 03.3 0.0**
baz=44,SNR=9.6
BBOO Buckleboo 43.70 135 *e*P **P 16 15 03.9 +0.5**
comp=Z,13μm,2.1s
BBOO LR LR
comp=Z,1316μm,19.8s
KSJDO Jindo 44.99 30 P **P 16 15 16.5 +2.8**
SNR=8.0
BTO Baotou 45.01 10 *e*P **P 16 15 12.7 -1.0**
MSEY Mahe Island 45.31 267 *e*P **P 16 15 16.1 -0.4**
MSEY pmax pmax
comp=Z,112nm,1.0s
MSEY Mahe Island 45.31 267 ⇓P **P 16 15 17.4 +0.9**
MSEY Mahe Island 45.31 267 *e*P **P 16 15 16.1 -0.4**
comp=Z,112nm,1.0s
MRIV Mauritius Mete 45.31 245 *e*P **P 16 15 17.7 +1.3**
HHC Hu-ho-hao-te 45.53 11 *e*P **P 16 15 19.2 +1.3**
HHC sP **sP 16 15 28.3 +0.1**
HHC PP **PP 16 17 07.3 +2.6**
HHC S **S 16 22 02.5 +3.9**
HHC sS **sS 16 22 15.6 +4.8**
HHC SS **SS 16 25 21.4 -1.4**
HHC PMZ
comp=Z,97nm,1.2s

HHC PMZ
comp=Z,14μm,5.5s
HHC LN
comp=Z,86μm,21.9s
HHC LE
comp=Z,253μm,18.6s
HHC LZ
comp=Z,100μm,20.2s
BJT Baijiatuau 45.84 16 *e*P **P 16 15 21.6 +1.4**
BJT pmax pmax
comp=Z,328nm,0.9s
BJT MLR MLR
comp=Z,294μm,19.8s
BJT Baijiatuau 45.84 16 *e*P **P 16 15 21.6 +1.4**
comp=Z,328nm,0.9s
BJT LR LR
comp=Z,294μm,19.8s
BJI Beijing 45.86 16 P **P 16 15 20.6 +0.3**
BJI S **S 16 22 08.4 +5.3**
BJI PMZ
comp=Z,350nm,1.0s
BJI PMZ
comp=Z,9μm,5.9s
BJI LN
comp=Z,284μm,23.4s
BJI LE
comp=Z,231μm,19.6s
BJI LZ
comp=Z,208μm,22.3s
HTT Hallett 46.06 134 ⇑P **P 16 15 21.9 -0.3**
baz=46,SNR=18
PMG Port Moresby 46.23 99*c i*P **P 16 15 23.0 -0.8**
PMG pmax pmax
comp=Z,252nm,1.7s
PMG MLR MLR
comp=Z,28μm,20.0s
PMG Port Moresby 46.23 99 LR LR 16 37 52.8
comp=Z,19μm,19.0s,baz=268,slow=40
PMG Port Moresby 46.23 99 *e*P **P 16 15 22.7 -1.0**
comp=Z,176nm,1.0s
PMG *e*PcP **PcP 16 17 00.1 +0.8**
MANU Manus Island 46.42 89 ⇓P **P 16 15 24.7 -0.6**
baz=46,SNR=4.5
JNU Nakatsue 46.43 35 P **P 16 15 23.7 -1.3**
comp=Z,221nm,1.1s,baz=133,slow=2.9,SNR=26
JNU LR LR 16 36 53.7
comp=Z,41μm,18.1s,baz=248,slow=39
JNU Nakatsue 46.43 35 *e*P **P 16 15 24.3 -0.8**
comp=Z,241nm,1.1s
KSGUS GUNSAN 46.47 29 P **P 16 15 27.8 +2.6**
SNR=16
DL2 Dalian 46.64 22 P **P 16 15 25.8 -0.7**
DL2 S **S 16 22 14.7 +0.3**
DL2 PMZ
comp=Z,240nm,1.3s
DL2 PMZ
comp=Z,6μm,7.6s
DL2 LN
comp=Z,86μm,15.1s
DL2 LE
comp=Z,83μm,15.3s
DL2 LZ
comp=Z,137μm,14.9s
GUMO Guam 46.93 68 *e*P **P 16 15 28.8 -0.3**
GUMO pmax pmax
comp=Z,249nm,0.6s
GUMO MLR MLR
comp=Z,12μm,20.5s
GUMO Guam 46.93 68 *e*P **P 16 15 28.8 -0.3**
comp=Z,249nm,0.6s
GUMO LR LR
comp=Z,12μm,20.5s
CTA Charters Tower 47.01 114 P **P 16 15 29.6 -0.1**
comp=Z,69nm,1.0s,baz=294,slow=9.3,SNR=31
CTAO Charters Tower 47.01 114 *e*P **P 16 15 29.2 -0.6**
CTAO *e* 16 17 03.0
CTAO pmax pmax
comp=Z,338nm,1.0s
CTAO MLR MLR
comp=Z,47μm,19.1s
CTAO Charters Tower 47.01 114 *e*P **P 16 15 29.2 -0.6**
comp=Z,338nm,1.0s
CTAO *e*PcP **PcP 16 17 03.0 +1.1**
CTAO LR LR
comp=Z,47μm,19.1s
RER Riviere de l'E 47.12 245 *e*P **P 16 15 30.1 -0.7**
comp=Z,135nm,1.0s
RER *e*PcP **PcP 16 17 02.9 +0.5**
QLP Quilpie 47.18 123 P **P 16 15 31.0 0.0**
baz=47,SNR=76
STKA Stephens Creek 47.26 131 P **P 16 15 31.4 -0.1**
STKA MLR MLR
comp=Z,12μm,20.8s
STKA Stephens Creek 47.26 131 P **P 16 15 31.4 -0.1**
comp=Z,35nm,0.7s,baz=311,slow=7.8,SNR=46
STKA Stephens Creek 47.26 131 P **P 16 15 31.5 -0.1**
baz=47,SNR=48
STKA Stephens Creek 47.26 131 P **P 16 15 31.4 -0.1**
STKA LR LR
comp=Z,12μm,20.8s
KSBON Boeun 47.34 30 P P 16 15 35.4 +3.4
SNR=11
INCN Inchon 47.56 28 *e*P **P 16 15 33.1 -0.6**
comp=Z,204nm,0.9s
INCN LR LR
comp=Z,73μm,20.0s
KSICN Icheon 47.78 29 P **P 16 15 36.5 +1.1**
SNR=21
KSMUS Musan 47.95 28 P **P 16 15 39.1 +2.4**
SNR=16
KSDDC Dongducheon 48.09 28 P **P 16 15 38.6 +0.7**
SNR=6.5
KSAR Wonju Array Be 48.12 29 P **P 16 15 36.8 -1.3**
KSAR Wonju Array Be 48.12 29 P **P 16 15 36.8 -1.3**
KSRS Korea Array 48.15 29 P **P 16 15 36.8 -1.5**
KSRS pmax pmax
comp=Z,258nm,1.1s
KSRS Korea Array 48.15 29 P **P 16 15 36.8 -1.5**
comp=Z,258nm,1.1s,baz=219,slow=7.9,SNR=62
KSWJU Wonju 48.17 29 P P 16 15 41.7 +3.2
SNR=16
KSYOW Yeongwol 48.19 30 P **P 16 15 41.0 +2.4**
SNR=13
KSULJ Uljin 48.30 31 P P 16 15 43.3 +3.8
SNR=10.0
KSTBA Taebaek 48.40 30 P P 16 15 44.1 +3.8
SNR=12
KBL Kabul 48.55 324 *e*P **P 16 15 40.9 -0.8**
KBL pmax pmax
comp=Z,110nm,0.5s
KBL MLR MLR
comp=Z,53μm,19.9s
KBL Kabul 48.55 324 ⇓P **P 16 15 42.8 +1.0**
baz=49,SNR=8.0
KBL Kabul 48.55 324 *e*P **P 16 15 40.9 -0.8**
comp=Z,110nm,0.5s
KBL LR LR
comp=Z,53μm,19.9s
KSIJA INJE 48.66 29 P P 16 15 45.8 +3.6
SNR=19
KSDGY Daegwallycong 48.70 29 P P 16 15 46.0 +3.4
SNR=7.6
KSH Kashi 48.88 334 ⇓*i*P **P 16 15 42.1 -1.9**
KSH sP **sP 16 15 51.8 -2.6**
KSH PP **PP 16 17 36.2 -1.4**
KSH S **S 16 22 40.6 -5.8**
KSH ScS ScS 16 25 26.5 -8.7
KSH SS SS 16 26 06.7 -11
KSH PMZ
comp=Z,4μm,5.6s
KSH LN
comp=Z,18μm,13.9s
KSH LE
comp=Z,18μm,15.2s
KSH LZ
comp=Z,93μm,20.2s
KSJMJ Jumunjin 48.89 29 P P 16 15 47.2 +3.2
SNR=10
WMQ Urumqi 48.91 347 P **P 16 15 44.5 +0.3**
WMQ pP **pP 16 15 52.6 +1.0**
WMQ PcP **PcP 16 17 08.2 -0.1**
WMQ PP **PP 16 17 36.1 -1.7**
WMQ S **S 16 22 47.0 +0.3**
WMQ sS **sS 16 22 58.0 -1.0**
WMQ ScS **ScS 16 25 32.8 -2.3**
WMQ SS **SS 16 26 13.7 -4.1**
WMQ PMZ
comp=Z,820nm,1.0s
WMQ PMZ
comp=Z,11μm,7.0s
WMQ LN
comp=Z,72μm,16.0s
WMQ LE
comp=Z,132μm,18.0s
WMQ LZ
comp=Z,114μm,28.0s
KSSKC Sokcho 49.10 29 P **P 16 15 48.7 +3.2**
SNR=15
JMDO Jabal Madar 49.28 304 ⇓P P 16 15 50.8 +3.6
SNR=22
SMDO Samad 49.63 305 P **P 16 15 51.4 +1.3**
SNR=34
KSULL Ulleungdo 49.66 31 P P 16 15 56.8 +6.9
SNR=9.4
ARPS Mount Arapiles 49.83 137 ⇑P **P 16 15 51.6 +0.3**
baz=50,SNR=10
SNY Shenyang 49.91 22 ⇑P **P 16 15 51.1 -0.6**
SNY S S 16 23 07.3 +6.7
SNY LN
comp=Z,150μm,14.9s
SNY LE
comp=Z,253μm,14.9s
SNY LZ
comp=Z,281μm,14.9s
CMSA Cobar Meteorol 50.25 129 ⇓P **P 16 15 54.8 +0.3**
baz=50,SNR=92
CBIJ Chichi jima 50.32 50 *e*P **P 16 15 53.3 -1.8**
comp=Z,125nm,0.8s
CBIJ *e*PcP **PcP 16 17 15.8 +2.0**
JCJ Chichijima 50.32 50 P **P 16 15 53.9 -1.2**
comp=Z,134nm,0.7s,baz=281,slow=21,SNR=13
JCJ LR LR 16 37 41.3
comp=Z,16μm,19.7s,baz=242,slow=37
HOQ Hoqain 50.47 305 ⇑P **P 16 15 56.1 -0.3**
SNR=31
RBK Rabkut 50.73 296 ⇑P **P 16 16 01.1 +2.7**
SNR=25
RMQ Roma 50.97 121 ⇓P **P 16 15 60.0 -0.1**
baz=51,SNR=34
ARQ Araqi 51.01 304 ⇑P **P 16 16 00.6 +0.2**
SNR=19
ULHL Ulahol 51.05 337 P **P 16 16 00.5 -0.1**
SNR=18
ULHL Ulahol 51.05 337 *i* P **P 16 16 00.5 -0.1**
KZA Kyzart 51.31 336 P **P 16 16 02.9 +0.1**
SNR=50
KZA Kyzart 51.31 336 *i* P **P 16 16 02.8 +0.1**
ABTO Aybut 51.49 296 P **P 16 16 04.4 +0.3**
SNR=42
SONM Songino Array 51.68 5 P **P 16 16 05.1 -0.1**
comp=Z,65nm,0.8s,baz=184,slow=7.3,SNR=164
SONM PKPPKP P'P'df 16 46 46.2 +5.4
comp=Z,0.5nm,0.9s,baz=23,slow=1.0,SNR=3.5
UCH Uchtor 51.74 335 P **P 16 16 05.9 -0.1**
SNR=35
UCH Uchtor 51.74 335 *i* P **P 16 16 05.9 -0.1**
ULN Ulaanbaatar 51.77 5*c i*P **P 16 16 05.7 -0.1**
ULN pmax pmax
comp=Z,194nm,1.7s
ULN MLR MLR
comp=Z,207μm,17.0s
ULN Ulaanbaatar 51.77 5 *e*P **P 16 16 05.6 -0.1**
comp=Z,291nm,0.9s
ULN LR LR
comp=Z,265μm,19.5s
TKM2 Tokmak 2 51.87 336 P **P 16 16 08.4 +1.6**
SNR=9.6
TKM2 Tokmak 2 51.87 336 *i* P **P 16 16 08.3 +1.6**
TKM2 Tokmak 2 51.87 336 *e*P **P 16 16 06.0 -0.7**
comp=Z,47nm,1.1s
TKM2 LR LR
comp=Z,155μm,19.8s
KBK Karagaybulak 51.91 336 P **P 16 16 07.3 +0.3**
SNR=37
KBK Karagaybulak 51.91 336 *i* P **P 16 16 07.3 +0.3**
HATD Hatta, Dubai 51.99 306 ⇓P **P 16 16 07.9 +0.1**
AML Almayashu 52.01 334 P **P 16 16 07.2 -0.8**
SNR=29
AML Almayashu 52.01 334 *i* P **P 16 16 07.2 -0.8**
JHJ2 Mitsune 52.01 42 *e*P **P 16 16 07.9 +0.3**
JHJ2 LR LR
comp=Z,12μm,21.2s
AAK Ala-Archa 52.08 335 P **P 16 16 08.2 -0.1**
SNR=24
AAK Ala-Archa 52.08 335 P **P 16 16 09.0 +0.7**
AAK pmax pmax
comp=Z,14nm,0.6s
AAK Ala-Archa 52.08 335 P **P 16 16 09.0 +0.7**
comp=Z,14nm,0.6s,baz=148,slow=6.8,SNR=38
AAK PKPPKP **P'P'df 16 46 40.9 -0.2**
comp=Z,1.7nm,1.0s,baz=229,slow=3.5,SNR=3.8
AAK Ala-Archa 52.08 335 *e*P **P 16 16 08.2 -0.1**
comp=Z,186nm,1.0s
AAK P'P' 16 46 40.9
AAK LR LR
comp=Z,171μm,20.8s
FRU Bishkek 52.20 336 ⇑*i*P **P 16 16 09.8 +0.9**
FRU *e*S **S 16 23 35.3 +3.0**
FRU pmax pmax
comp=Z,2μm,2.7s
FRU MLR MLR
comp=Z,12μm,18.0s
CHMS Chumysh 52.28 336 P **P 16 16 08.7 -0.9**
SNR=32
CHMS Chumysh 52.28 336 *i* P **P 16 16 08.6 -0.9**
CN2 Changchun 52.31 22 *e*P **P 16 16 08.9 -0.8**
CN2 *e*pP **pP 16 16 16.5 -0.7**
CN2 *e*sP **sP 16 16 19.7 -0.5**
CN2 *e*S **S 16 23 39.4 +5.7**
CN2 PMZ
comp=Z,50nm,1.0s
CN2 PMZ
comp=Z,3μm,6.0s
CN2 LZ
comp=Z,33μm,19.0s
PAF Port-aux-Franc 52.31 205 P P 16 16 02.0 -7.6
PAF S S 16 23 27.0 -6.6
PAF L L 16 28 00.0
PAF R 16 31 00.0
FAQ Al Faqa, Dubai 52.40 305 ⇓P **P 16 16 10.9 +0.2**
EKS2 Erkin-Say 52.41 335 P **P 16 16 10.3 -0.3**
SNR=78
EKS2 Erkin-Say 52.41 335 *e*P **P 16 16 10.3 -0.3**
EKS2 pmax pmax
comp=Z,216nm,0.9s
EKS2 MLR MLR
comp=Z,109μm,20.7s
EKS2 Erkin-Say 52.41 335 *e*P **P 16 16 10.3 -0.3**
comp=Z,216nm,0.9s
EKS2 LR LR
comp=Z,109μm,20.7s
NAZ Nazwa, Dubai 52.45 306 ⇑P **P 16 16 12.5 +1.4**
ASUD Al Ashush, Dub 52.56 305 ⇑P **P 16 16 13.5 +1.6**
USP Ospenovka 52.60 336 P **P 16 16 12.3 +0.3**
SNR=42
USP Ospenovka 52.60 336 *i* P **P 16 16 12.3 +0.3**
EIDS Eidsvold 52.66 119 ⇑P **P 16 16 12.2 -0.5**
baz=53,SNR=11
EIDS Eidsvold 52.66 119 *e*P **P 16 16 12.3 -0.3**
comp=Z,141nm,0.8s
TOO Toolangi 52.76 136 ⇓P **P 16 16 13.3 0.0**
baz=53,SNR=6.3
MK31 Makanchi Array 53.03 344 *i* P **P 16 16 14.2 -0.9**
MK31 pmax pmax
comp=Z,462nm,1.0s
MKAR Makanchi Array 53.03 344 P **P 16 16 14.1 -1.0**
comp=Z,57nm,0.8s,baz=148,slow=7.1,SNR=177
MKAR PKPPKP **P'P'df 16 46 39.7 +0.6**
comp=Z,0.5nm,0.8s,baz=344,slow=3.0,SNR=3.7
MKAR PKP2bc 16 46 56.2
comp=Z,0.7nm,0.8s,baz=11,slow=0.6,SNR=4.1
MAJO Matsushiro 53.14 38*c i*P **P 16 16 15.3 -0.7**
MAJO pmax pmax
comp=Z,934nm,1.1s
MAJO Matsushiro 53.14 38 *e*P **P 16 16 14.2 -1.9**
comp=Z,199nm,0.8s
MAJO LR LR
comp=Z,55μm,20.3s
MAT Matsushiro 53.14 38 P **P 16 16 13.6 -2.4**
MAT S **S 16 23 45.4 0.0**
MJAR Matsushiro Arr 53.14 38 P **P 16 16 14.4 -1.6**
comp=Z,147nm,0.8s,baz=217,slow=7.6,SNR=54
MJAR PKP2bc 16 47 03.1
comp=Z,0.5nm,0.7s,baz=348,slow=2.0,SNR=4.3
IDAH Dahanechah 53.24 316 *e*P **P 16 16 17.0 -0.1**
YNG Young 53.45 131 ⇓P **P 16 16 18.6 +0.3**
baz=54,SNR=6.8
IKOO Kooshah 53.67 315 *e*P **P 16 16 19.6 -0.7**
ZAK Zakamensk 54.05 2 *e*P **P 16 16 22.4 -0.1**
ZAK *e* 16 23 52.0
ZAK pmax pmax
comp=Z,114nm,1.8s
KK31 Karatay Array 54.20 333 P **P 16 16 22.1 -1.6**
KK31 pmax pmax
comp=Z,28nm,0.5s
KKAR Karatay Array 54.20 333 *e*P **P 16 16 23.1 -0.6**
KKAR Karatay Array 54.20 333 *e*P **P 16 16 23.1 -0.6**
CAN Canberra 54.31 131 *e*P **P 16 16 25.0 +0.3**
CAN pmax pmax
comp=Z,180nm,1.0s
CAN Canberra 54.31 131 *e*P **P 16 16 25.0 +0.3**
comp=Z,180nm,1.0s
VLA Vladivostok 54.47 28 ⇓*e*P **P 16 16 26.0 +0.4**
VLA *e* 16 18 25.9
VLA *e*S **S 16 24 02.9 -0.1**
VLA pmax pmax
comp=Z,520nm,1.9s
VLA smax smax
comp=N,1μm,1.5s
VLA MLR MLR
comp=E,2864μm,17.0s
CNB Canberra Magne 54.58 131 ⇑P **P 16 16 26.7 0.0**
baz=55,SNR=5.4
ARMA Armidale 54.60 125 ⇑P **P 16 16 27.0 0.0**
baz=55,SNR=19
ARMA Armidale 54.60 125 *e*P **P 16 16 28.6 +1.6**
comp=E,168nm,1.0s
ARMA LR LR
comp=E,18μm,21.4s
MDJ Mudanjiang 54.65 25 P **P 16 16 27.1 +0.3**
MDJ pP **pP 16 16 33.4 -1.0**
MDJ sP **sP 16 16 36.2 -1.1**
MDJ PcP **PcP 16 17 29.8 +0.2**
MDJ PMZ
comp=Z,73nm,1.2s
MDJ PMZ
comp=Z,6μm,7.2s
MDJ LN
comp=Z,92μm,22.2s
MDJ LE
comp=Z,145μm,23.9s
MDJ LZ
comp=Z,243μm,17.1s
MDJ Mudanjiang 54.65 25 *e*P **P 16 16 26.8 -0.1**
comp=Z,358nm,1.2s
HVS Khovu-Aksy 55.11 354*c i*P **P 16 16 29.4 -0.8**
HVS pmax pmax
comp=Z,224nm,1.7s
MGCD Mangrove Creek 55.13 128 ⇑P **P 16 16 30.6 +0.1**
baz=55,SNR=5.4
MOY Mondy 55.29 0 *e*P **P 16 16 32.1 +0.6**
MOY *e* 16 24 13.8
MOY pmax pmax
comp=Z,531nm,2.5s
TLY Talaya 55.36 2*c i*P **P 16 16 32.8 +0.9**
TLY *e* 16 18 39.5
TLY *e*S **S 16 24 16.4 +1.7**
TLY pmax pmax
comp=Z,625nm,2.0s
TLY MLR MLR
comp=Z,272μm,14.0s
TLY Talaya 55.36 2 P **P 16 16 31.9 0.0**
comp=Z,35nm,0.8s,baz=216,slow=5.3,SNR=14
TLY Talaya 55.36 2 *e*P **P 16 16 32.0 +0.1**
comp=Z,443nm,1.4s
USRK Ussuriysk Ar. 55.36 27 P **P 16 16 31.1 -0.9**
comp=Z,188nm,0.9s,baz=217,slow=3.4,SNR=83
USRK LR LR 16 43 19.5
comp=Z,121μm,18.2s,baz=213,slow=40
HIA Hailar 55.36 15 *e*P **P 16 16 31.0 -1.0**
HIA pmax pmax
comp=Z,250nm,1.3s
HIA Hailar 55.36 15 *e*P **P 16 16 31.0 -1.0**
comp=Z,250nm,1.3s
IMOG Moghan 55.57 319 *e*P **P 16 16 32.4 -1.6**
ISRO Mashad 55.60 320 *e*P **P 16 16 33.3 -0.8**
IRK Irkutsk 55.94 2 ⇑*i*P **P 16 16 36.5 +0.4**
IRK *e*S **S 16 24 27.5 +5.0**
IRK pmax pmax
comp=Z,816nm,2.0s
IPAY Payeh 55.99 319 *e*P **P 16 16 36.0 -1.0**
IMEH Mehriz 56.29 312 *e*P **P 16 16 37.3 -1.9**
ISRV Sarvestan 56.46 309 *e*P **P 16 16 41.0 +0.4**
IKRD Kardeh 56.50 320 *e*P P 16 16 35.4 -5.3
TAU Tasmania Unive 56.59 140 *e*P **P 16 16 40.0 -0.9**
TAU pmax pmax
comp=Z,67nm,0.9s
TAU MLR MLR
comp=Z,42μm,18.9s
TAU Tasmania Unive 56.59 140 *e*P **P 16 16 40.0 -0.9**
comp=Z,67nm,0.9s
TAU LR LR
comp=Z,42μm,18.9s
CIT Chita 56.68 9 *e*P **P 16 16 41.1 -0.3**
CIT *e* 16 16 55.8
CIT *e* 16 17 38.1
CIT *e*S **S 16 24 36.2 +3.8**
IPAR Pars 56.73 310 *e*P **P 16 16 41.9 -0.6**
ISAD Sadrabad 57.23 312 *e*P **P 16 16 44.9 -1.1**
ABKT Ailbek 57.44 320 P **P 16 16 47.2 +0.2**
comp=Z,496nm,1.3s,SNR=18
GEYT Alibeck 57.44 320 P **P 16 16 46.0 -1.0**
comp=Z,37nm,1.1s,baz=152,slow=6.7,SNR=41
GEYT PKP2bc 16 46 54.3
comp=Z,1.4nm,0.7s,baz=75,slow=11,SNR=4.5
KURK Kurchatov 57.62 343 *e*P **P 16 16 46.5 -1.5**
KURK pmax pmax
comp=Z,215nm,0.9s
KURK MLR MLR
comp=Z,107μm,19.4s
KURK Kurchatov 57.62 343 *e*P **P 16 16 46.5 -1.5**
comp=Z,215nm,0.9s
KURK LR LR
comp=Z,107μm,19.4s
PATS Pohnpei 58.27 80 ⇓P **P 16 16 51.9 -1.3**
baz=58,SNR=3.9
IZEF Zefreh 58.71 312 *e*P **P 16 16 55.6 -0.7**
TRBA At Turbah 58.88 288 *e*P P 16 17 05.4 +7.7
ZALV Zalesovo Beam 59.13 349 P **P 16 16 57.2 -1.3**
comp=Z,120nm,0.8s,baz=176,slow=4.6,SNR=210
ZALV S **S 16 25 09.2 +4.9**
comp=Z,7.4nm,0.7s,baz=153,slow=20,SNR=4.6
ZALV PKP2bc 16 46 39.3
comp=Z,4.4nm,1.0s,baz=298,slow=3.2,SNR=5.3
KLR Kul'dur 59.24 23*de*P P 16 16 54.7 -4.6
KLR *e*S **S 16 25 03.0 -2.9**
KLR pmax pmax
comp=N,3μm,7.5s
KLR pmax pmax
comp=Z,8μm,7.5s
IGLO Ghaloghah 59.47 317 *e*P **P 16 17 03.2 +1.8**
ILAS Lasjerd 59.49 315 *e*P **P 16 17 01.5 -0.2**
ERM Erimo 59.59 36*d i*P **P 16 17 03.2 +1.3**
ERM pmax pmax
comp=Z,121nm,1.4s
ERM MLR MLR
comp=Z,40μm,20.0s
ERM Erimo 59.59 36 *e*P **P 16 17 01.6 -0.3**
comp=Z,162nm,0.9s
IPIR Pirpir 59.68 312 *e*P **P 16 17 01.6 -1.5**
IFIR Firoozkooh 59.77 315 *e*P **P 16 17 03.5 -0.1**
CRZF Crozet Islands 59.98 217 P P 16 16 43.0 -22
CRZF S S 16 24 54.0 -22
CRZF R 16 34 00.0
KRAR Krasnoyarsk 60.01 355*c i*P **P 16 17 03.1 -1.4**
KRAR pmax pmax
comp=Z,618nm,1.8s
IVRN Varamin 60.17 314 *e*P **P 16 17 06.1 0.0**
NVS Novosibirsk 60.29 348 ⇑*i*P **P 16 17 04.9 -1.5**
NVS *i* S **S 16 25 13.3 -5.8**
NVS pmax pmax
comp=N,297nm,1.9s
NVS pmax pmax
comp=Z,514nm,1.9s
NVS pmax pmax
comp=E,140nm,1.4s
RAYN Ar Rayn 60.43 300 *e*P **P 16 17 07.1 -1.0**
comp=E,128nm,0.9s
RAYN LR LR

comp=Z,116μm,18.9s
ASAJ Asahikawa 60.62 33 eP P 16 17 08.2 -0.7
comp=Z,54nm,0.7s
ASAJ LR LR
comp=Z,18μm,19.0s
IR3 Iran Long-Peri 60.91 314 eP P 16 17 11.3 +0.1
LHI Lord Howe Isla 61.03 124 ⇑P P 16 17 11.1 -0.9
baz=61,SNR=4.6
IMHD Mahdasht 61.26 314 eP P 16 17 13.7 +0.1
IRAZ Razeghan 61.66 314 eP P 16 17 14.8 -1.6
VOSK Vostochnaya 61.76 340 PFAKE 16 17 30.0 +13
VOSK LR LR
comp=Z,68μm,20.5s
IGZV Ghazvin 61.92 315 eP P 16 17 17.6 -0.6
BVA0 Borovoye Array 62.21 340 *i* P **P 16 17 17.8 -1.7**
BVA0 pmax pmax
comp=Z,196nm,1.0s
BVAR Borovoye Array 62.21 340 P **P 16 17 18.9 -0.6**
comp=Z,29nm,0.5s,baz=142,slow=7.5,SNR=94
BVAR PKP2bc 16 46 39.0
comp=Z,1.7nm,0.9s,baz=232,slow=1.7,SNR=5.0
BRVK Borovoye 62.28 340 P **P 16 17 17.9 -2.0**
BRVK pmax pmax
comp=Z,347nm,1.1s
BRVK Borovoye 62.28 340 *e*P **P 16 17 18.1 -1.8**
comp=Z,170nm,0.9s
BOD Bodaibo 62.36 8 *e*P **P 16 17 19.6 -0.8**
BOD pmax pmax
comp=Z,229nm,1.2s
YUK Yuzh-Kuril'sk 62.40 35*c i*P P 16 17 14.6 -6.3
YUK *i* 16 17 54.8
YUK *i* 16 19 37.6
YUK *i* S S 16 25 55.5 +9.1
YUK pmax pmax
comp=N,1μm,1.9s
YUK pmax pmax
comp=E,622nm,1.9s
YUK pmax pmax
comp=Z,2μm,1.9s
YUK pmax pmax
comp=Z,2μm,1.9s
YUK MLR MLR
comp=N,42μm,17.0s
YUK MLR MLR
comp=E,12μm,17.0s
YUK MLR MLR
comp=Z,43μm,17.0s
YSS Yuzh-Sakhalins 62.56 31α *i*P **P 16 17 21.0 -0.9**
YSS *e**SP **sP 16 17 30.0 -2.5**
YSS *i* 16 19 43.0
YSS *e*S **S 16 25 45.0 -3.3**
YSS *i* PPS PPS 16 26 04.0
YSS *e*SS SS 16 29 44.0 -9.0
YSS pmax pmax
comp=N,100nm,0.8s
YSS pmax pmax
comp=E,70nm,0.8s
YSS pmax pmax
comp=Z,260nm,0.8s
YSS pmax pmax
comp=N,2μm,6.0s
YSS pmax pmax
comp=E,2μm,6.0s
YSS pmax pmax
comp=Z,6μm,6.0s
YSS pmax pmax
comp=Z,200nm,0.9s
YSS pmax pmax
comp=N,3μm,16.0s
YSS pmax pmax
comp=E,2μm,16.0s
YSS pmax pmax
comp=Z,4μm,16.0s
YSS smax smax
comp=N,2μm,6.0s
YSS smax smax
comp=E,1μm,6.0s
YSS MLR MLR
comp=Z,54μm,19.0s
YSS MLR MLR
comp=E,57μm,20.0s
IKOM Komasi 62.87 312 *e*P **P 16 17 26.2 +1.7**
FURI Furi 63.32 282 PFAKE 16 17 40.0 +12
FURI LR LR
comp=Z,83μm,19.4s
CLNS Chul'man 63.55 14 *e*P **P 16 17 28.4 0.0**
CLNS *e**PP **pP 16 17 36.6 +0.6**
CLNS *e* 16 18 03.5
CLNS *e* 16 19 48.9
CLNS *e*PPP PPP 16 21 19.5
CLNS *e*S **S 16 26 03.1 +2.7**
CLNS pmax pmax
comp=Z,104nm,1.0s
CLNS pmax pmax
comp=E,58nm,1.1s
CLNS pmax pmax
comp=N,66nm,1.0s
CLNS pmax pmax
comp=Z,40nm,1.0s
CLNS pmax pmax
comp=N,26nm,0.9s
CLNS pmax pmax
comp=E,34nm,1.0s
CLNS smax smax
comp=N,5μm,15.4s
CLNS smax smax
comp=E,3μm,17.4s
CLNS MLR MLR
comp=Z,136μm,15.0s
CLNS MLR MLR
comp=E,93μm,17.0s
CLNS MLR MLR
comp=N,183μm,15.0s
IGHG Ghaleghazi 63.64 311 *e*P **P 16 17 28.2 -1.6**
KMBO Kilima Mbogo 63.65 271 P **P 16 17 30.2 0.0**
comp=N,3.8nm,0.9s,baz=53,slow=11,SNR=8.8
KMBO LR LR 16 39 31.3
comp=N,34μm,21.4s,baz=82,slow=31
KMBO Kilima Mbogo 63.65 271 *e*P **P 16 17 30.8 +0.6**
comp=N,76nm,1.3s
AB31 Akbulak array 63.68 331 P **P 16 17 27.7 -1.6**
AB31 pmax pmax
comp=Z,345nm,1.0s
ABKAR Akbulak array 63.68 331 *e*P **P 16 17 27.8 -1.6**
comp=Z,238nm,0.7s
IDHR Dehrash 63.94 312 *e*P **P 16 17 29.6 -2.0**
MAUS Longido 64.11 269 *i* P **P 16 17 35.5 +2.4**
MAUS PKP **S 16 26 12.4 +3.2**
KUR Kuril'sk 64.27 35*c i*P P 16 17 26.1 -7.1
KUR *i* S **S 16 26 11.9 +2.3**
KUR pmax pmax
comp=Z,3μm,3.8s
KUR pmax pmax
comp=E,546nm,1.8s
KUR pmax pmax
comp=N,490nm,1.9s
KUR pmax pmax
comp=Z,863nm,1.9s
ISRB Sarab 64.40 315 *e*P **P 16 17 33.6 -1.0**
DODT Dodoma, Tanzan 64.93 265 *i* P **P 16 17 35.8 -2.6**
DODT PKP **S 16 26 18.8 -0.4**
IHRS Heris 65.06 316 *e*P **P 16 17 37.5 -1.4**
AKTO Aktyubinsk 65.40 331 P **P 16 17 39.1 -1.5**
AKTO pmax pmax
comp=Z,150nm,1.3s
AKTO Aktyubinsk 65.40 331 P **P 16 17 39.5 -1.0**
comp=Z,48nm,1.2s,baz=133,slow=6.2,SNR=25
ITBZ Tabriz 65.65 315 *e*P **P 16 17 42.5 -0.2**
DZM Mont Dzumac 65.91 112 P **P 16 17 45.2 +0.6**
comp=Z,13nm,0.7s,baz=234,slow=11,SNR=13
IMRD Marand 66.18 315 *e*P **P 16 17 46.0 -0.1**
MZM Mzuzu 66.61 259 *i* P **P 16 17 49.9 +0.9**
MZM PKP **S 16 26 36.4 -3.1**
MAK Makhachkala 66.95 320*d i*P P 16 17 44.6 -6.1
MAK *e*PPP PPP 16 21 50.9
MAK *e*S **S 16 26 37.4 -5.2**
MAK *e*SS **SS 16 30 59.5 -2.1**
MAK pmax pmax
comp=Z,163nm,1.2s
CUKT Cukurca 67.05 313 *e*P P 16 17 58.9 +7.3
HKR Hakkari 67.09 314 *e*P **P 16 17 50.1 -1.8**
GNI Garni 67.48 316 *e*P **P 16 17 54.2 -0.1**
GNI Garni 67.48 316*c i*P **P 16 17 55.4 +1.1**
GNI pmax pmax
comp=Z,238nm,2.2s
GNI MLR MLR
comp=Z,51μm,21.0s
GNI Garni 67.48 316 P **P 16 17 54.2 -0.1**
comp=Z,9.0nm,0.7s,baz=41,slow=11,SNR=3.0
GNI Garni 67.48 316 ⇑P **P 16 17 54.6 +0.3**
GNI Garni 67.48 316 *e*P **P 16 17 54.1 -0.1**
comp=Z,449nm,1.5s
GNI LR LR
comp=Z,27μm,22.0s
CLDR Caldiran 67.62 315 *e*P **P 16 17 52.4 -2.9**
DGRG David-gareji 67.63 318 P **P 16 17 56.1 +1.0**
DGRG S **S 16 26 52.8 +1.8**
KWAJ Kwajalein Atol 67.67 79 PFAKE 16 18 10.0 +14
KWAJ LR LR
comp=Z,5μm,20.5s
VANB Van 67.76 314 *e*P **P 16 17 53.4 -2.6**
SIRT Sirnak 68.00 313 *e*P **P 16 17 56.7 -0.9**
SEAG Tbilisi Sea 68.16 318 P **P 16 18 01.3 +2.9**
TBLG Delisi 68.19 318 *e*P **P 16 17 56.9 -1.7**
TBLG Delisi 68.19 318 P **P 16 17 58.7 +0.1**
KZR Kazreti 68.25 317 P **P 16 18 01.2 +2.2**
DUS Dusheti 68.37 318 P **P 16 17 59.8 +0.1**
WAKE Wake Island 68.56 68 PFAKE 16 18 10.0 +8.7
WAKE LR LR
comp=Z,9μm,20.9s
GUDG Gudauri 68.69 319 P **P 16 18 02.4 +0.4**
SVE Sverdlovsk 68.72 338*de*P **P 16 18 01.6 +0.1**
SVE *e* 16 20 32.7
SVE *e*S **S 16 27 01.6 -1.6**
SVE pmax pmax
comp=Z,390nm,1.2s
SVE smax smax
comp=E,19μm,23.6s
SVE MLR MLR
comp=N,69μm,21.0s
SVE MLR MLR
comp=Z,151μm,21.0s
SVE MLR MLR
comp=E,87μm,20.0s
MAW Mawson 68.74 195 P **P 16 18 03.1 +1.6**
comp=E,16nm,0.9s,baz=304,slow=3.6,SNR=1.7
MAW LR LR 16 41 31.3
comp=E,21μm,21.2s,baz=32,slow=30
MCQ Macquarie Isla 68.77 148 *e*P **P 16 18 00.5 -1.4**
MCQ Macquarie Isla 68.77 148 *e*P **P 16 18 00.5 -1.4**
comp=E,24μm,1.3s
MCQ LR LR
comp=Z,1567μm,21.3s
KARS Kars 68.83 316 *e*P **P 16 18 02.2 -0.6**
H11N1 WAKE ISLAND Hy 68.88 67 P **P 16 18 04.7 +1.7**
baz=255,slow=9.7,SNR=19
AKH Akhalkalaki 68.88 317 *e*P **P 16 18 03.9 +0.7**
AKH Akhalkalaki 68.88 317 P **P 16 18 03.0 -0.1**
AKH S **S 16 27 07.2 +1.1**
H11N2 WAKE ISLAND Hy 68.88 67 P **P 16 18 04.4 +1.4**
baz=255,slow=9.7,SNR=9.4
H11N3 WAKE ISLAND Hy 68.89 67 P **P 16 18 04.8 +1.7**
baz=255,slow=9.7,SNR=18
SVAN Silvan-Diyarba 69.16 313 *e*P **P 16 18 06.5 +1.8**
ZEI Tsey 69.21 319 *e*P **P 16 18 05.5 +0.3**
ZEI *e*S **S 16 27 11.6 +1.5**
ZEI pmax pmax
comp=Z,742nm,6.6s
ZEI pmax pmax
comp=Z,148nm,0.8s
ZEI pmax pmax
comp=N,161nm,0.9s
ZEI pmax pmax
comp=E,113nm,0.7s
ZEI MLR MLR
comp=Z,25μm,19.0s
ZEI MLR MLR
comp=N,31μm,24.0s
ZEI MLR MLR
comp=E,11μm,16.0s
ARU Arti 69.25 336 P **P 16 18 04.1 -0.8**
comp=E,986nm,1.2s,SNR=19
ARU Arti 69.25 336*d i*P **P 16 18 04.0 -0.8**
ARU 16 18 28.7
ARU PPP PPP 16 22 16.3
ARU S **S 16 27 10.8 +1.3**
ARU 16 27 54.9
ARU pmax pmax
comp=Z,95nm,1.2s
ARU pmax pmax
comp=Z,4μm,11.4s
ARU MLR MLR
comp=Z,92μm,22.0s
ARU Arti 69.25 336 *e*P **P 16 18 03.5 -1.3**
comp=Z,277nm,1.2s
ARU LR LR
comp=Z,88μm,22.0s
YAK Yakutsk 69.29 14*c i*P **P 16 18 02.5 -2.4**
YAK *e**PP **pP 16 18 13.2 +0.6**
YAK *e* 16 18 25.1
YAK *e* 16 20 33.1
YAK *e*PPP PPP 16 22 16.2
YAK *e*S **S 16 27 07.1 -2.6**
YAK *e* 16 27 57.6
YAK pmax pmax
comp=Z,318nm,1.1s
YAK pmax pmax
comp=N,86nm,1.3s
YAK pmax pmax
comp=E,56nm,1.1s
YAK pmax pmax
comp=Z,331nm,1.1s
YAK pmax pmax
comp=N,233nm,1.6s
YAK pmax pmax
comp=E,149nm,1.6s
YAK smax smax
comp=E,1μm,5.7s
YAK smax smax
comp=N,2μm,5.1s
YAK MLR MLR
comp=E,77μm,15.0s
YAK MLR MLR
comp=N,132μm,17.0s
YAK Yakutsk 69.29 14 *e*P **P 16 18 02.8 -2.1**
VRTB Varto-Mus 69.37 314 *e*P **P 16 18 07.6 +1.5**
ONI Oni 69.42 318 P **P 16 18 06.8 +0.5**
ONI S **S 16 27 11.6 -0.7**
MAZI Mazidag 69.45 312 *e*P **P 16 18 04.3 -2.3**
EZM Erzurum 69.73 315 *e*P **P 16 18 07.6 -0.9**
DYBB Diyarbakir 69.86 313 *e*P **P 16 18 10.9 +1.8**
KBZ Khabaz 70.29 319 P **P 16 18 10.8 -0.6**
comp=N,23nm,0.8s,baz=120,slow=5.0,SNR=37
ASF Jabal al Asfar 70.40 306 P **P 16 18 13.4 +0.9**
comp=N,32nm,1.0s,baz=77,slow=3.5,SNR=19
KIV Kislovodsk 70.52 319 ⇑*i*P **P 16 18 12.7 -0.4**
KIV *i* S S 16 27 14.9 -10
KIV pmax pmax
comp=Z,70nm,1.2s
KIV MLR MLR
comp=Z,42μm,21.0s
KIV Kislovodsk 70.52 319 ⇑P **P 16 18 13.2 +0.1**
KIV Kislovodsk 70.52 319 *e*P **P 16 18 12.8 -0.3**
comp=Z,371nm,1.3s
KIV LR LR
comp=Z,41μm,21.3s
URFA Urfa 70.64 312 *e*P **P 16 18 14.2 +0.2**
ERZN Erzincan 70.77 314 *e*P **P 16 18 16.3 +1.6**
GOF Gofitskoye 70.78 321 *e*P **P 16 18 14.6 +0.1**
GOF *e*S **S 16 27 28.6 +0.6**
GOF pmax pmax
comp=Z,280nm,1.2s
GOF smax smax
comp=N,40nm,1.7s
GOF smax smax
comp=E,60nm,1.7s
MSNA Messina 70.88 248 *e*P **P 16 18 15.8 +0.1**
MSNA AMB AMB 16 18 26.9
comp=Z,47nm,2.6s
MSNA Messina 70.88 248 P **P 16 18 15.8 +0.1**
comp=Z,47nm,2.6s
MALT Malatya 71.25 313 *e*P **P 16 18 16.9 -0.7**
KTUT Trabzon 71.28 316 *e*P **P 16 18 18.5 +1.0**
EIL Elat 71.28 303 P **P 16 18 17.7 -0.1**
comp=Z,60nm,0.9s,baz=105,slow=2.7,SNR=21
EIL Elat 71.28 303 ⇑P **P 16 18 17.2 -0.6**
baz=71,SNR=24
WHZ Wether Hill Ro 71.37 137 *e*P P 16 18 23.0 +4.9
comp=Z,141nm,1.2s
JCZ Jackson Bay 71.50 135 *e*PN **P 16 18 20.7 +1.7**
ILIC ilic-Erzincan 71.55 314 *e*P P 16 18 25.1 +5.6
RCY Rachaya 71.65 307 *e*P **P 16 18 20.7 +0.5**
HWQ Hawqa 71.80 308 *e*P **P 16 18 21.4 +0.3**
WKZ Wanaka 71.85 136 *e*PN P 16 18 26.6 +5.6
MMAI Mount Meron Ar 71.86 306 P **P 16 18 20.6 -0.8**
comp=Z,23nm,0.7s,baz=96,slow=7.8,SNR=21
SKR Severo-Kuril's 71.88 33⇑*i*P P 16 18 16.0 -5.0
SKR *e*S **S 16 27 38.0 -2.4**
SKR *e* 16 28 04.0
SKR *e*PS **PnS 16 28 21.0 +9.1**
SKR pmax pmax
comp=N,160nm,0.9s
SKR pmax pmax
comp=E,100nm,0.9s
SKR pmax pmax
comp=Z,230nm,0.9s
SKR smax smax
comp=N,6μm,16.0s
SKR smax smax
comp=E,10μm,16.0s
SKR MLR MLR
comp=N,43μm,20.0s
SKR MLR MLR
comp=E,26μm,20.0s
SKR MLR MLR
comp=Z,72μm,20.0s
BHL Bhannes 71.92 307 *e*P **P 16 18 22.2 +0.5**
DARE Darende-Malaty 72.03 313 *e*P **P 16 18 21.8 -0.5**
KMRS Kahramanmaras 72.10 311 *e*P **P 16 18 22.9 +0.2**
SOKR Solikamsk 72.12 338*c i*P **P 16 18 22.1 -0.1**
SOKR 16 21 05.1
SOKR PPP PPP 16 22 50.0
SOKR S **S 16 27 40.9 -1.8**
SOKR pmax pmax
comp=Z,270nm,0.9s
SOKR MLR MLR
comp=Z,125μm,21.0s
KSD Kokstad 72.13 239 *e*P **P 16 18 24.3 +1.1**
KSD AMB AMB 16 18 39.9
comp=Z,41nm,1.8s
KSD Kokstad 72.13 239 P **P 16 18 24.3 +1.1**
comp=Z,41nm,1.8s
TARA Tarawa 72.15 87 *e*P **P 16 18 23.9 +0.6**
TARA *e*PcP **PcP 16 18 40.6 -1.0**
TARA LR LR
comp=Z,7μm,22.0s
SOC Sochi 72.32 318*c i*P **P 16 18 22.5 -1.3**
SOC *e**SP **sP 16 18 35.0 +0.5**
SOC *e* 16 21 02.6
SOC *e*PPP PPP 16 22 42.1
SOC *e*S **S 16 27 43.6 -2.2**
SOC *e* 16 28 22.2
SOC pmax pmax
comp=Z,2μm,5.2s
SOC pmax pmax
comp=Z,150nm,0.9s
SOC MLR MLR
comp=N,23μm,21.0s
SOC MLR MLR
comp=Z,51μm,21.0s
SOC MLR MLR
comp=E,32μm,21.0s
LSZ Lusaka 72.34 255 P **P 16 18 24.5 -0.2**
comp=E,4.6nm,0.7s,baz=65,slow=5.6,SNR=8.3
SLR Silverton 72.70 244 *e*P P 16 18 33.5 +6.8
SLR AMB AMB 16 18 53.5
comp=Z,108nm,1.8s
SLR Silverton 72.70 244 P P 16 18 33.5 +6.8
RSDY Resadiye-TOKAT 72.78 314 *e*P P 16 18 22.9 -3.8
ERPM east rand prop 72.78 244 *e*P **P 16 18 25.4 -1.8**
ERPM AMB AMB 16 18 37.0
comp=Z,64nm,2.9s
ERPM east rand prop 72.78 244 P **P 16 18 25.4 -1.8**
comp=Z,64nm,2.9s
CEYT Ceyhan 72.81 310 *e*P **P 16 18 27.5 +0.7**
KOZT Kozan 72.90 311 *e*P **P 16 18 28.3 +0.9**
OBSV Observatory 72.92 244 *e*P **P 16 18 28.8 +0.7**
OBSV AMB AMB 16 18 36.1
comp=Z,43nm,1.8s
CRWM Crown Mines 72.98 244 *e*P P 16 18 32.0 +3.7
CRWM AMB AMB 16 18 44.7
comp=Z,49nm,2.0s
ODZ Otahua Downs 73.02 136 *e*P **P 16 18 27.6 -0.4**
comp=Z,161nm,1.7s
ODZ *e*PcP **PcP 16 18 45.5 +0.8**
ODZ LR LR
comp=Z,19μm,20.1s
RPZ Rata Peaks 73.05 135 *e*PN **P 16 18 28.2 0.0**
RPZ Rata Peaks 73.05 135 *e*P **P 16 18 29.2 +1.0**
comp=Z,299nm,1.3s
RPZ LR LR
comp=Z,40μm,21.6s
BNN Bunyan 73.33 312 *e*P **P 16 18 31.6 +1.5**
KLOF Kloof 73.35 244 *e*P **P 16 18 31.7 +1.2**
KLOF AMB AMB 16 18 46.0
comp=Z,76nm,1.3s
KLOF Kloof 73.35 244 P **P 16 18 31.7 +1.2**
comp=Z,76nm,1.3s
KARA Karaisali 73.41 311 *e*P **P 16 18 28.3 -2.1**
SEK Senekal 73.48 242 *e*P **P 16 18 32.6 +1.4**
SEK AMB AMB 16 18 54.5
comp=Z,100nm,5.2s
SEK Senekal 73.48 242 P **P 16 18 32.6 +1.4**
comp=Z,100nm,5.2s
WDLM Western Deep L 73.52 244 *e*P P 16 18 35.3 +3.7
WDLM AMB AMB 16 18 40.5
comp=Z,40nm,1.2s
EREN Erenkoy 73.57 309 *e*P **P 16 18 33.8 +2.4**
OUZ Omahuta 73.66 125 PFAKE 16 18 40.0 +8.1
OUZ LR LR
comp=Z,166μm,20.3s
MERS Mersin 73.70 310 *e*P P 16 18 28.3 -3.9
KVT Kavak 73.93 315 *e*P **P 16 18 31.6 -1.8**
PETK Petropavlovsk- 73.95 32 P **P 16 18 31.8 -1.4**
comp=Z,43nm,0.7s,baz=208,slow=3.8,SNR=37
KSR Koster 73.96 244 *e*P P 16 18 41.0 +6.9
KSR AMB AMB 16 18 49.8
comp=Z,45nm,1.5s
LFK Lefkose 74.00 308 *e*P P 16 18 30.5 -3.5
NIG Nigde 74.01 311 *e*P **P 16 18 31.6 -2.7**
THZ Tophouse 74.04 132 *e*PN **P 16 18 33.2 -1.0**
CSS Prodhromos 74.06 308 P **P 16 18 35.5 +1.2**
CSS Prodhromos 74.06 308 *e*P **P 16 18 33.0 -1.4**
CSS Prodhromos 74.06 308 *e*P **P 16 18 35.1 +0.7**
comp=Z,41nm,0.9s
CSS LR LR
comp=Z,23μm,20.3s
ANN Anapa 74.31 319 *e*P **P 16 18 33.4 -2.1**
ANN *e* 16 21 26.6
ANN *i* S **SKiKP 16 28 04.5 +3.1**
ANN pmax pmax
comp=E,359nm,4.1s
ANN pmax pmax
comp=N,373nm,4.1s
ANN pmax pmax
comp=Z,2μm,8.3s
ANN pmax pmax
comp=N,32nm,1.5s
ANN pmax pmax
comp=E,33nm,1.5s
ANN pmax pmax
comp=Z,99nm,1.5s
ANN MLR MLR
comp=Z,20μm,17.0s
ANN MLR MLR
comp=N,11μm,17.0s
ANN MLR MLR
comp=E,31μm,17.0s
VRHR Novokhopersk 74.35 326 *e*P **P 16 18 34.8 -0.8**
VRHR *e* 16 18 41.8
VRHR *e* 16 21 23.1
VRHR *e*S **SKiKP 16 28 02.5 +1.2**
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=Z,80nm,0.7s
VRHR pmax pmax
comp=E,180nm,1.2s
VRHR pmax pmax
comp=Z,2μm,7.4s
VRHR pmax pmax
comp=N,270nm,2.3s
VRHR pmax pmax
comp=E,1μm,6.1s
VRHR smax smax
comp=N,5μm,7.0s

VRHR				smax	smax	
	comp=Z,2μm,8.5s					
VRHR				smax	smax	
	comp=E,4μm,9.3s					
VRHR				MLR	MLR	
	comp=Z,59μm,23.0s					
VRHR				MLR	MLR	
	comp=N,40μm,20.0s					
VRHR				MLR	MLR	
	comp=E,47μm,21.0s					
PET	**Petropavlovsk**	**74.41 32**	*c iP*	**P**	**16 18 35.3 -0.6**	
PET			*e*S	**S**	**16 28 08.8 -0.2**	
PET			*e*PS	**PnS**	**16 28 40.0 -5.0**	
PET			*e*PPS	PPS	16 28 53.7	
PET			*e*SSS	SSS	16 36 12.2	
PET				pmax	pmax	
	comp=Z,5μm,18.4s					
PET				pmax	pmax	
	comp=Z,9μm,19.7s					
PET				pmax	pmax	
	comp=Z,271nm,0.9s					
PET	**Petropavlovsk**	**74.41 32**	*e*P	**P**	**16 18 35.0 -0.8**	
	comp=Z,238nm,1.0s					
PET				LR	LR	
	comp=Z,42μm,20.9s					
ITZ	**Itezhi-Tezhi**	**74.44 255**	*i* P	P	16 18 42.0 +5.0	
ITZ			PKP	S	16 28 03.5 -7.5	
LEF	**Lefka**	**74.45 308**	*e*P	P	16 18 32.7 -3.9	
KHZ	**Kahutara**	**74.61 133**	*e*P	**P**	**16 18 38.1 +0.8**	
	comp=Z,98nm,0.9s					
CORM	**Corum**	**74.65 313**	*e*P	**P**	**16 18 39.2 +1.5**	
DIKM	**Dikmen**	**74.68 315**	*e*P	**P**	**16 18 40.3 +2.6**	
SULT	**Sultanhani-AKS**	**74.86 311**	*e*P	**P**	**16 18 36.0 -3.0**	
GRM	**Grahamstown**	**74.87 237**	*e*P	**P**	**16 18 38.8 -0.3**	
GRM			AMB	AMB	16 18 47.6	
	comp=Z,122nm,4.9s					
GRM	**Grahamstown**	**74.87 237**	P	**P**	**16 18 38.8 -0.3**	
GRM			pmax	pmax		
	comp=Z,122nm,4.9s					
GRM	**Grahamstown**	**74.87 237**	*i* P	S	16 28 25.0 +10	
GRM	**Grahamstown**	**74.87 237**	P	**P**	**16 18 38.8 -0.3**	
	comp=Z,122nm,4.9s					
HIZ	**Hauiti**	**75.06 129**	*e*PN	**P**	**16 18 40.8 +0.7**	
LBTB	**Lobatse**	**75.08 245**	*e*P	**P**	**16 18 42.6 +2.0**	
LBTB			AMB	AMB	16 19 17.4	
	comp=Z,66nm,4.5s					
LBTB	**Lobatse**	**75.08 245**	P	**P**	**16 18 41.6 +1.0**	
LBTB			pmax	pmax		
	comp=Z,78nm,1.1s					
LBTB			MLR	MLR		
	comp=Z,55μm,21.3s					
LBTB	**Lobatse**	**75.08 245**	P	**P**	**16 18 41.8 +1.2**	
	comp=Z,4.0nm,0.3s,baz=175,slow=22,SNR=5.8					
LBTB	**Lobatse**	**75.08 245**	P	**P**	**16 18 41.6 +1.0**	
	comp=Z,78nm,1.1s					
LBTB			LR	LR		
	comp=Z,55μm,21.3s					
BRTR	**Keskin Array B**	**75.23 313**	*i* P	**P**	**16 18 39.2 -2.0**	
BRTR			pmax	pmax		
	comp=Z,17nm,0.9s					
BRTR	**Keskin Array B**	**75.23 313**	P	**P**	**16 18 40.5 -0.7**	
	comp=Z,17nm,0.9s,baz=133,slow=6.1,SNR=63					
BRTR			LR	LR	16 54 01.3	
	comp=Z,51μm,20.5s,baz=114,slow=38					
SNZO	**South Karori**	**75.31 132**	*e*P	**P**	**16 18 42.2 +0.8**	
	comp=Z,136nm,1.0s					
SNZO			LR	LR		
	comp=Z,39μm,20.5s					
SWZ	**Schweizer**	**75.43 243**	*e*P	P	16 18 49.4 +6.8	
SWZ			AMB	AMB	16 19 29.0	
	comp=Z,109nm,6.8s					
CANT	**Cankiri**	**75.52 313**	*e*P	**P**	**16 18 44.7 +2.0**	
AFSR	**Af´ar-Bala (A**	**75.57 312**	*e*P	**P**	**16 18 42.5 -0.5**	
BOSA	**Boshof**	**75.58 242**	*e*P	P	16 18 50.2 +6.8	
BOSA			AMB	AMB	16 19 28.7	
	comp=Z,84nm,2.9s					
BOSA	**Boshof**	**75.58 242**	*e*P	**P**	**16 18 42.0 -1.4**	
BOSA					16 18 50.2	
BOSA			MLR	MLR		
	comp=Z,39μm,20.7s					
BOSA	**Boshof**	**75.58 242**	P	**P**	**16 18 44.0 +0.6**	
	comp=Z,8.6nm,0.8s,baz=97,slow=7.9,SNR=10					
BOSA	**Boshof**	**75.58 242**	*e*P	**P**	**16 18 42.0 -1.4**	
	comp=Z,0.7nm,0.4s					
BOSA			LR	LR		
	comp=Z,39μm,20.7s					
VORD	**Divnogorie**	**75.62 325**	*e*P	**P**	**16 18 41.7 -1.2**	
VORD			*e*		16 18 46.7	
VORD			*e*		16 21 30.8	
VORD			*e*S	S	16 28 15.9 -6.7	
VORD			pmax	pmax		
	comp=Z,50nm,1.2s					
VORD			pmax	pmax		
	comp=N,40nm,1.4s					
VORD			pmax	pmax		
	comp=E,50nm,1.3s					
VORD			pmax	pmax		
	comp=Z,960nm,4.2s					
VORD			pmax	pmax		
	comp=N,3μm,6.7s					
VORD			pmax	pmax		
	comp=E,2μm,4.7s					
VORD			smax	smax		
	comp=N,7μm,10.9s					
VORD			smax	smax		
	comp=Z,830nm,6.7s					
VORD			smax	smax		
	comp=E,5μm,7.8s					
VORD			MLR	MLR		
	comp=Z,40μm,20.0s					
VORD			MLR	MLR		
	comp=N,34μm,18.0s					
VORD			MLR	MLR		
	comp=E,30μm,21.0s					
KONT	**Konya--Tatoy**	**75.66 311**	*e*P	**P**	**16 18 43.6 +0.1**	
BZK	**Bozkurt**	**75.67 315**	*e*P	**P**	**16 18 43.6 +0.2**	
FWVZ	**Far West T-bar**	**75.69 129**	PN	**P**	**16 18 44.0 +0.1**	
TRVZ	**Turoa**	**75.69 129**	*e*PN	**P**	**16 18 44.0 +0.1**	
LADK	**Ladik-KONYA**	**75.73 311**	*e*P	**P**	**16 18 44.7 +0.7**	
VSR	**Storozhevoye**	**75.80 325**	*e*P	**P**	**16 18 42.2 -1.7**	
VSR			*e*		16 18 47.4	
VSR			*e*		16 21 31.7	
VSR			*e*S	**S**	**16 28 18.7 -5.9**	
VSR			pmax	pmax		
	comp=E,40nm,1.0s					
VSR			pmax	pmax		
	comp=Z,70nm,1.0s					
VSR			pmax	pmax		
	comp=N,10.0nm,0.9s					
VSR			pmax	pmax		
	comp=Z,450nm,3.1s					
VSR			pmax	pmax		
	comp=N,790nm,5.6s					
VSR			pmax	pmax		
	comp=E,290nm,2.2s					
VSR			smax	smax		
	comp=N,4μm,5.7s					
VSR			smax	smax		
	comp=Z,950nm,8.6s					
VSR			smax	smax		
	comp=E,1μm,6.3s					
VSR			MLR	MLR		
	comp=E,42μm,21.0s					
VSR			MLR	MLR		
	comp=Z,63μm,21.0s					
VSR			MLR	MLR		
	comp=N,25μm,19.0s					
MRZ	**Mangatainoka R**	**75.88 131**	PN	P	16 18 48.1 +3.4	
ANTO	**Ankara**	**75.90 313**	*e*P	**P**	**16 18 46.2 +1.3**	
ANTO	**Ankara**	**75.90 313** ⇓	*i*P	**P**	**16 18 45.2 +0.3**	
ANTO	**Ankara**	**75.90 313** ⇓	*i*P	**P**	**16 18 45.2 +0.3**	
ANTO	**Ankara**	**75.90 313**	*e*P	**P**	**16 18 44.1 -0.8**	
	comp=N,194nm,1.3s					
ANTO			LR	LR		
	comp=Z,53μm,20.0s					
VOR	**Voronezh**	**76.00 326**	*e*P	**P**	**16 18 44.0 -1.1**	
VOR			pmax	pmax		
	comp=Z,300nm,1.6s					
KIZT	**Kizilcal**	**76.29 311**	*e*P	P	16 18 43.6 -3.6	
SAFT	**Safranbolu**	**76.38 314**	*e*P	**P**	**16 18 44.7 -2.8**	
BFZ	**Birch Farm**	**76.39 131**	*e*PN	**P**	**16 18 50.0 +2.4**	
BFZ	**Birch Farm**	**76.39 131**	*e*P	P	16 18 51.0 +3.4	
	comp=Z,454nm,1.4s					
BKZ	**Black Stump Fm**	**76.41 129**	*e*PN	**P**	**16 18 47.8 -0.1**	
BKZ	**Black Stump Fm**	**76.41 129**	*e*P	**P**	**16 18 47.7 -0.1**	
	comp=Z,289nm,0.8s					
BKZ			LR	LR		
	comp=Z,50μm,21.9s					
SYO	**Syowa Base**	**76.43 199** ⇑	*e*P	P	16 18 43.5 -3.7	
ANWZ	**Angora Road**	**76.54 131**	PN	**P**	**16 18 51.0 +2.6**	
SIM	**Simferopol'**	**76.57 318**	*i* P	**P**	**16 18 46.2 -2.3**	
SIM			*e*		16 21 44.0	
SIM			*i* S	**S**	**16 28 29.0 -4.3**	
SIM			pmax	pmax		
	comp=Z,99nm,0.8s					
SIM			MLR	MLR		
	comp=Z,31μm,20.0s					
MSVF	**Nonsavu**	**76.59 107**	*e*P	**P**	**16 18 50.1 +0.8**	
MSVF			pmax	pmax		
	comp=Z,129nm,1.2s					
MSVF			MLR	MLR		
	comp=Z,19μm,21.4s					
MSVF	**Nonsavu**	**76.59 107**	*e*P	**P**	**16 18 50.1 +0.8**	
	comp=Z,129nm,1.2s					
MSVF			LR	LR		
	comp=Z,19μm,21.4s					
SVRH	**Sivrihisar-ESK**	**76.71 312**	*e*P	**P**	**16 18 48.4 -1.2**	
URZ	**Urewera**	**76.79 128**	P	**P**	**16 18 50.6 +0.7**	
	comp=Z,11nm,0.7s,baz=159,slow=7.0,SNR=3.8					
URZ	**Urewera**	**76.79 128**	*e*P	**P**	**16 18 50.6 +0.7**	
	comp=Z,366nm,1.8s					
BCK	**Bucak**	**76.88 310**	*e*P	**P**	**16 18 50.1 -0.4**	
SEY	**Seymchan**	**76.98 22**	P	**P**	**16 18 49.7 -0.7**	
	comp=Z,68nm,0.9s,baz=232,slow=4.9,SNR=98					
ISP	**Isparta**	**77.03 310**	P	**P**	**16 18 51.4 0.0**	
ISP	**Isparta**	**77.03 310**	*e*P	**P**	**16 18 49.7 -1.7**	
ISP	**Isparta**	**77.03 310**	*e*P	**P**	**16 18 53.9 +2.5**	
ISP			pmax	pmax		
	comp=Z,197nm,1.5s					
ISP			MLR	MLR		
	comp=Z,43μm,20.0s					
ISP	**Isparta**	**77.03 310**	*e*P	**P**	**16 18 53.9 +2.5**	
	comp=Z,197nm,1.5s					
ISP			LR	LR		
	comp=Z,43μm,20.0s					
SHUT	**Suhut-Afyon**	**77.20 311**	*e*P	P	16 18 49.1 -3.3	
MDUB	**Mudurnu**	**77.24 313**	*e*P	**P**	**16 18 51.2 -1.3**	
KDZE	**Karadeniz Ereo**	**77.30 314**	*e*P	**P**	**16 18 50.1 -2.6**	
TIXI	**Tiksi**	**77.52 9**	*c iP*	**P**	**16 18 51.1 -2.2**	
TIXI			pmax	pmax		
	comp=Z,143nm,1.7s					
TIXI	**Tiksi**	**77.52 9**	*e*P	**P**	**16 18 51.0 -2.2**	
	comp=Z,498nm,1.6s					
TIXI			LR	LR		
	comp=Z,168μm,20.4s					
ALT	**Altintas**	**77.66 311**	P	**P**	**16 18 55.5 +0.6**	
ALT	**Altintas**	**77.66 311**	*e*P	**P**	**16 18 52.3 -2.6**	
ALT	**Altintas**	**77.66 311**	P	**P**	**16 18 55.5 +0.6**	
PRGR	**Permogore**	**77.71 336**	*e*P	**P**	**16 18 53.7 -0.8**	
PRGR			*e*PP	**pP**	**16 19 01.5 -0.8**	
PRGR			*e*		16 19 03.4	
PRGR			*i* S	**S**	**16 28 45.2 +0.2**	
PRGR			pmax	pmax		
	comp=Z,96nm,0.6s					
SPNC	**Sapanca-Adapaz**	**77.95 313**	*e*P	P	16 18 51.2 -5.1	
ARG	**Arkhangelos**	**78.48 308**	P	P	16 19 07.0 +7.6	
MOS	**Moscow**	**78.53 329**	*i* P	**P**	**16 18 59.7 +0.5**	
MOS			*e*		16 21 55.9	
MOS			*e*PPP	PPP	16 23 53.8	
MOS			*i* S	**S**	**16 28 51.3 -2.8**	
MOS			*i*		16 29 08.4	
MOS			*e*SS	**SS**	**16 33 57.8 -0.2**	
MOS			pmax	pmax		
	comp=Z,900nm,2.0s					
MOS			pmax	pmax		
	comp=Z,390nm,1.6s					
MOS			smax	smax		
	comp=N,7μm,6.3s					
MOS			smax	smax		
	comp=E,3μm,6.3s					
MOS			MLR	MLR		
	comp=E,48μm,18.0s					
MOS			MLR	MLR		
	comp=Z,64μm,18.0s					
KULA	**Kula-Manisa**	**78.62 310**	P	**P**	**16 19 02.1 +1.9**	
KULA	**Kula-Manisa**	**78.62 310**	P	**P**	**16 19 02.1 +1.9**	
OBN	**Obninsk**	**78.83 328**	*c iP*	**P**	**16 19 00.7 -0.1**	
OBN			*e*		16 22 01.1	
OBN			*e*S	S	16 28 50.6 -6.7	
OBN			pmax	pmax		
	comp=Z,151nm,1.2s					
OBN	**Obninsk**	**78.83 328**	P	**P**	**16 19 00.7 -0.1**	
	comp=Z,50nm,0.7s,baz=255,slow=1.7,SNR=11					
OBN	**Obninsk**	**78.83 328**	*e*P	**P**	**16 19 00.9 +0.1**	
	comp=Z,208nm,0.9s					
OBN			LR	LR		
	comp=Z,68μm,20.7s					
ISK	**Istanbul-Kandi**	**78.97 313**	P	**P**	**16 19 04.4 +2.5**	
ISK	**Istanbul-Kandi**	**78.97 313**	P	**P**	**16 19 04.4 +2.5**	
ISK	**Istanbul-Kandi**	**78.97 313**	P	**P**	**16 19 04.4 +2.5**	
UPI	**Upington**	**79.09 242**	*e*P	P	16 19 06.7 +3.6	
UPI			AMB	AMB	16 19 19.5	
	comp=Z,66nm,6.7s					
UPI	**Upington**	**79.09 242**	P	P	16 19 06.7 +3.6	
	comp=Z,66nm,6.7s					
SUR	**Sutherland**	**79.60 238**	P	**P**	**16 19 07.5 +1.6**	
	comp=Z,30nm,1.1s,baz=112,slow=8.0,SNR=9.1					
SUR	**Sutherland**	**79.60 238**	P	**P**	**16 19 07.5 +1.6**	
SUR			LR	LR		
	comp=Z,25μm,20.0s					
KLMR	**Klimovskoe**	**79.87 334**	*c iP*	**P**	**16 19 06.3 -0.1**	
KLMR			*e*S	**S**	**16 29 05.8 -2.4**	
KLMR			pmax	pmax		
	comp=Z,480nm,1.8s					
KLMR			pmax	pmax		
	comp=Z,2μm,4.0s					
KLMR			MLR	MLR		
	comp=Z,31μm,17.0s					
VNDA	**Vanda**	**80.19 169**	*e*P	**P**	**16 19 09.2 +1.3**	
VNDA			pmax	pmax		
	comp=Z,79nm,1.2s					
VNDA	**Vanda**	**80.19 169**	P	**P**	**16 19 09.4 +1.5**	
	comp=Z,5.5nm,0.8s,baz=346,slow=5.0,SNR=13					
VNDA			LR	LR	16 52 36.5	
	comp=Z,12μm,18.6s,baz=314,slow=34					
VNDA	**Vanda**	**80.19 169**	*e*P	**P**	**16 19 09.2 +1.3**	
	comp=Z,79nm,1.2s					
TLCR		**80.22 317** ⇑	P	**P**	**16 19 09.0 +0.4**	
TLCR		**80.22 317** ⇑	*i*P	**P**	**16 19 09.0 +0.4**	
TIRR	**Tirgusor**	**80.31 316** ⇑	P	**P**	**16 19 09.1 0.0**	
TIRR	**Tirgusor**	**80.31 316** ⇑	*i*P	**P**	**16 19 09.1 0.0**	
TIRR	**Tirgusor**	**80.31 316**	*e*P	**P**	**16 19 08.6 -0.6**	
TIRR			pmax	pmax		
	comp=Z,96nm,0.9s					
TIRR			LR	LR		
	comp=Z,28μm,21.5s					
RAO	**Raoul Island**	**80.43 119**	PFAKE		16 19 20.0 +10	
RAO			LR	LR		
	comp=Z,21μm,20.0s					
ELIM	**Elim**	**80.56 236**	*e*P	P	16 19 14.1 +3.2	
ELIM			AMB	AMB	16 20 41.8	
	comp=Z,119nm,2.1s					
ELIM	**Elim**	**80.56 236**	P	P	16 19 14.1 +3.2	
	comp=Z,119nm,2.1s					
CHOS	**Chios island**	**80.58 310**	P	**P**	**16 19 13.3 +2.4**	
CHOS	**Chios island**	**80.58 310**	P	**P**	**16 19 13.3 +2.4**	
PRK	**Paraskevi**	**80.60 311**	P	**P**	**16 19 12.0 +1.2**	
PRK	**Paraskevi**	**80.60 311**	P	**P**	**16 19 12.0 +1.2**	
PRK	**Paraskevi**	**80.60 311**	P	**P**	**16 19 12.0 +1.2**	
SANT	**Santorini**	**80.62 308**	PFAKE		16 19 20.0 +8.9	
SANT			LR	LR		
	comp=Z,37μm,21.4s					
CFR	**Carcaliu**	**80.68 317** ⇓	P	**P**	**16 19 11.5 +0.4**	
CFR	**Carcaliu**	**80.68 317** ⇓	*i*P	**P**	**16 19 11.5 +0.4**	
PRD	**Provadia**	**80.70 315** ⇓	P	**P**	**16 19 12.0 +0.8**	
PRD	**Provadia**	**80.70 315**	*e*P	**P**	**16 19 11.5 +0.3**	
KIS	**Kishinev**	**80.71 319**	*c iP*	**P**	**16 19 10.0 -1.2**	
KIS			*i*		16 22 16.0	
KIS			*e*PPP	PPP	16 24 10.0	
KIS			*i* S	**S**	**16 29 13.0 -4.5**	
KIS			*i*		16 30 14.0	
KIS			pmax	pmax		
	comp=Z,4μm,14.0s					
KIS			pmax	pmax		
	comp=Z,5μm,18.0s					
KIS			pmax	pmax		
	comp=Z,3μm,16.0s					
KIS			pmax	pmax		
	comp=Z,4μm,20.0s					
KIS			MLR	MLR		
	comp=E,29μm,20.0s					
KIS			MLR	MLR		
	comp=Z,32μm,20.0s					
KIS			MLR	MLR		
	comp=N,28μm,24.0s					
KIS			MLR	MLR		
	comp=Z,37μm,20.0s					
KIS	**Kishinev**	**80.71 319** ⇑	*i*P	**P**	**16 19 10.0 -1.2**	
	comp=Z,4μm,14.0s					
KIS	**Kishinev**	**80.71 319**	*i* PP	PP	16 22 16.0 +0.6	
	comp=Z,3μm,16.0s					
EDRB	**Edirne**	**80.84 313**	P	**P**	**16 19 12.2 +0.1**	
EDRB	**Edirne**	**80.84 313**	P	**P**	**16 19 12.2 +0.1**	
IDI	**Anoyia**	**80.86 306**	P	**P**	**16 19 13.4 +1.0**	
	comp=Z,21nm,0.6s,baz=78,slow=6.2,SNR=13					
LEOM	**Leova**	**80.95 318** ⇓	P	**P**	**16 19 14.0 +1.5**	
LEOM	**Leova**	**80.95 318** ⇓	*i*P	**P**	**16 19 14.0 +1.5**	
JMB	**Yambol**	**81.10 314**	P	P	16 19 19.0 +5.5	
JMB	**Yambol**	**81.10 314** ⇓	P	P	16 19 17.3 +3.8	
JMB	**Yambol**	**81.10 314** ⇓	*i*P	P	16 19 17.3 +3.8	
ALN	**Alexandroupoli**	**81.14 312**	P	**P**	**16 19 13.3 -0.4**	
ALN	**Alexandroupoli**	**81.14 312**	P	**P**	**16 19 13.3 -0.4**	
ALN	**Alexandroupoli**	**81.14 312**	P	**P**	**16 19 13.3 -0.4**	
SBA	**Scott Base**	**81.29 169**	*e*P	**P**	**16 19 15.0 +1.2**	
SBA			pmax	pmax		
	comp=Z,644nm,2.1s					
SBA			MLR	MLR		
	comp=Z,12μm,18.3s					
SBA	**Scott Base**	**81.29 169**	*e*P	**P**	**16 19 15.0 +1.2**	
	comp=Z,644nm,2.1s					
SBA			LR	LR		
	comp=Z,12μm,18.3s					
SMTH	**Samothraki Isl**	**81.43 312**	P	**P**	**16 19 15.1 -0.2**	
SMTH	**Samothraki Isl**	**81.43 312**	P	**P**	**16 19 15.1 -0.2**	
VAM	**Vamos**	**81.44 306**	P	P	16 19 20.4 +5.0	
VAM	**Vamos**	**81.44 306**	P	P	16 19 20.4 +5.0	
VAM	**Vamos**	**81.44 306**	P	P	16 19 20.4 +5.0	
AKASG	**Malin Array Be**	**81.49 322**	P	**P**	**16 19 14.3 -1.0**	
	comp=Z,4.2nm,0.7s,baz=89,slow=4.6,SNR=15					
KIEV	**Kiev**	**81.50 322**	*c iP*	**P**	**16 19 16.0 +0.7**	
KIEV	**Kiev**	**81.50 322**	*e*P	**P**	**16 19 13.6 -1.7**	
	comp=Z,78nm,1.1s					
KIEV			LR	LR		
	comp=Z,60μm,22.0s					
GRER		**81.53 317** ⇑	*i*P	P	16 19 23.2 +7.6	
LIA	**Limnos Island**	**81.56 311**	P	**P**	**16 19 15.4 -0.5**	
LIA	**Limnos Island**	**81.56 311**	P	**P**	**16 19 15.4 -0.5**	
KDZ	**Kurdzhali**	**81.77 313** ⇓	P	**P**	**16 19 17.3 +0.3**	
KDZ	**Kurdzhali**	**81.77 313** ⇓	*i*P	**P**	**16 19 17.3 +0.3**	
VRI	**Vrincioaia**	**81.81 317** ⇑	P	**P**	**16 19 18.6 +1.4**	
VRI	**Vrincioaia**	**81.81 317** ⇑	*i*P	**P**	**16 19 18.6 +1.4**	
PLOR	**Plostina**	**81.86 317** ⇑	P	P	16 19 20.9 +3.4	
PLOR	**Plostina**	**81.86 317** ⇑	*i*P	P	16 19 20.9 +3.4	
TESR	**Tescani**	**82.02 318** ⇓	*i*P	**P**	**16 19 18.8 +0.5**	
PTL	**Penteli**	**82.20 309**	P	**P**	**16 19 21.4 +2.0**	
PTL	**Penteli**	**82.20 309**	P	**P**	**16 19 21.4 +2.0**	
ANKY	**Antikythira Is**	**82.24 307**	P	P	16 19 24.5 +4.9	
ANKY	**Antikythira Is**	**82.24 307**	P	P	16 19 24.5 +4.9	
ZIMR		**82.24 315** ⇑	P	**P**	**16 19 20.4 +1.0**	
ZIMR		**82.24 315** ⇑	*i*P	**P**	**16 19 20.4 +1.0**	
ATHU	**Athens Univers**	**82.25 309**	P	**P**	**16 19 20.9 +1.3**	
ATHU	**Athens Univers**	**82.25 309**	P	**P**	**16 19 20.9 +1.3**	
MLR	**Muntele Rosu**	**82.26 317** ⇑	P	**P**	**16 19 20.7 +1.0**	
MLR	**Muntele Rosu**	**82.26 317** ⇑	*i*P	**P**	**16 19 20.7 +1.0**	
MLR	**Muntele Rosu**	**82.26 317**	P	**P**	**16 19 19.1 -0.5**	
	comp=Z,6.5nm,0.9s,baz=70,slow=2.6,SNR=15					
RZN	**Rozhen**	**82.29 313**	*e*P	**P**	**16 19 22.5 +2.5**	
KAVA	**Kavala**	**82.29 312**	P	**P**	**16 19 20.4 +0.6**	
KAVA	**Kavala**	**82.29 312**	P	**P**	**16 19 20.4 +0.6**	
ATH	**Athens Observa**	**82.30 309**	P	**P**	**16 19 18.5 -1.4**	
ATH	**Athens Observa**	**82.30 309**	P	**P**	**16 19 18.5 -1.4**	
ATH	**Athens Observa**	**82.30 309**	P	**P**	**16 19 18.5 -1.4**	
PLD	**Plovdiv**	**82.38 313**	P	**P**	**16 19 20.5 +0.3**	
PLD	**Plovdiv**	**82.38 313**	P	**P**	**16 19 20.5 +0.3**	
PLD	**Plovdiv**	**82.38 313**	P	**P**	**16 19 20.5 +0.3**	
AOS	**Alonnisos**	**82.41 310**	P	**P**	**16 19 20.2 -0.2**	
AOS	**Alonnisos**	**82.41 310**	P	**P**	**16 19 20.2 -0.2**	
KOMG	**Komaggas**	**82.41 241**	*e*P	**P**	**16 19 19.6 -1.0**	
KOMG			AMB	AMB	16 19 31.4	
	comp=Z,58nm,2.9s					
KOMG	**Komaggas**	**82.41 241**	P	**P**	**16 19 19.6 -1.0**	
	comp=Z,58nm,2.9s					
FX1	**Attu Island--F**	**82.45 36**	P	**P**	**16 19 19.5 -0.8**	
FX1			pmax	pmax		
	comp=Z,31nm,0.7s					
FX1	**Attu Island--F**	**82.45 36**	P	**P**	**16 19 19.5 -0.8**	
	comp=Z,34nm,0.7s,baz=332,slow=9.4,SNR=9.5					
FX1	**Attu Island--F**	**82.45 36**	*e*P	**P**	**16 19 19.6 -0.7**	
OUR	**Ouranopolis**	**82.56 311**	P	**P**	**16 19 22.2 +1.1**	
OUR	**Ouranopolis**	**82.56 311**	P	**P**	**16 19 22.2 +1.1**	
OUR	**Ouranopolis**	**82.56 311**	P	**P**	**16 19 22.2 +1.1**	
DID	**Didima**	**82.59 308**	P	**P**	**16 19 19.4 -2.0**	
DID	**Didima**	**82.59 308**	P	**P**	**16 19 19.4 -2.0**	
VLI	**Veliai**	**82.68 308**	P	**P**	**16 19 22.1 +0.2**	
VLI	**Veliai**	**82.68 308**	P	**P**	**16 19 22.1 +0.2**	
PAIG	**Paliouri**	**82.70 311**	P	**P**	**16 19 23.1 +1.2**	
PAIG	**Paliouri**	**82.70 311**	P	**P**	**16 19 23.1 +1.2**	
PAIG	**Paliouri**	**82.70 311**	P	**P**	**16 19 23.1 +1.2**	
HUMR	**Humele**	**82.71 316** ⇓	*i*P	**P**	**16 19 21.8 0.0**	
DOPR	**Dopca**	**82.75 317** ⇑	*i*P	**P**	**16 19 22.2 +0.1**	
NVR	**Nevrokopi**	**82.85 312**	P	**P**	**16 19 22.1 -0.6**	
NVR	**Nevrokopi**	**82.85 312**	P	**P**	**16 19 22.1 -0.6**	
LTK	**Loutraki**	**82.89 309**	P	P	16 19 26.5 +3.5	
LTK	**Loutraki**	**82.89 309**	P	P	16 19 26.5 +3.5	
SMY	**Shemya**	**82.95 36**	PFAKE		16 19 30.0 +7.1	
SMY			LR	LR		
	comp=Z,20μm,21.5s					
PLG	**Polygyros**	**82.97 311**	P	**P**	**16 19 24.1 +0.7**	
PLG	**Polygyros**	**82.97 311**	P	**P**	**16 19 24.1 +0.7**	
PLG	**Polygyros**	**82.97 311**	P	**P**	**16 19 24.1 +0.7**	
XOR	**Xorichti**	**82.97 310**	P	**P**	**16 19 23.6 +0.2**	
XOR	**Xorichti**	**82.97 310**	P	**P**	**16 19 23.6 +0.2**	
LKR	**Lokris**	**82.98 310**	P	**P**	**16 19 23.3 -0.1**	
LKR	**Lokris**	**82.98 310**	P	**P**	**16 19 23.3 -0.1**	
MMB	**Musomiste**	**82.99 313** ⇓	P	**P**	**16 19 22.9 -0.6**	
MMB	**Musomiste**	**82.99 313** ⇓	*i*P	**P**	**16 19 22.9 -0.6**	
SRS	**Serrai**	**83.00 312**	P	**P**	**16 19 23.6 +0.1**	
SRS	**Serrai**	**83.00 312**	P	**P**	**16 19 23.6 +0.1**	
SRS	**Serrai**	**83.00 312**	P	**P**	**16 19 23.6 +0.1**	
SOH	**Sokhos**	**83.12 312**	P	**P**	**16 19 24.6 +0.4**	
SOH	**Sokhos**	**83.12 312**	P	**P**	**16 19 24.6 +0.4**	
SOH	**Sokhos**	**83.12 312**	P	**P**	**16 19 24.6 +0.4**	
ARR	**Arges**	**83.13 316** ⇑	*i*P	**P**	**16 19 24.1 0.0**	
BURAR	**Bucovina Array**	**83.24 319** ⇑	P	**P**	**16 19 25.6 +0.9**	
BURAR	**Bucovina Array**	**83.24 319** ⇑	*i*P	**P**	**16 19 25.6 +0.9**	
AXAR	**Agios Charalam**	**83.27 310**	P	**P**	**16 19 26.0 +1.1**	
AXAR	**Agios Charalam**	**83.27 310**	P	**P**	**16 19 26.0 +1.1**	
MPEP	**Malo Peshtene**	**83.34 314**	*e*P	**P**	**16 19 25.0 -0.2**	
MICGM	**Minsk**	**83.35 326** ⇑	*e*P	**P**	**16 19 23.0 -1.9**	
GUR	**Goura**	**83.36 309**	P	**P**	**16 19 25.2 -0.3**	
GUR	**Goura**	**83.36

DRO	**Drossia**	**83.86 309**	P	**P**	**16 19 30.1**	**+2.1**
THL	**Klokotos Trika**	**83.90 310**	P	**P**	**16 19 26.9**	**-1.2**
EVR	**Evrytania**	**83.94 310**	P	**P**	**16 19 28.9**	**+0.4**
EVR	**Evrytania**	**83.94 310**	P	**P**	**16 19 28.9**	**+0.4**
RLS	**Riolos of Patr**	**84.06 309**	P	**P**	**16 19 30.0**	**+1.0**
RLS	**Riolos of Patr**	**84.06 309**	P	**P**	**16 19 30.0**	**+1.0**
NACGM	**Naroch**	**84.07 326**	*e*P	**P**	**16 19 26.0**	**-2.6**
CJR	**Cluj-Napoca**	**84.12 318** ⇓	*i*P	**P**	**16 19 30.5**	**+1.4**
CJR	**Cluj-Napoca**	**84.12 318** ⇓	*i*P	**P**	**16 19 30.5**	**+1.4**
IDID	**Didziasalis**	**84.20 326**	*e*P	**P**	**16 19 29.8**	**+0.5**
IDID			AMB	AMB	16 19 37.8	
	comp=Z,71nm,1.1s					
KZN	**Kozani**	**84.21 311**	P	**P**	**16 19 30.1**	**+0.3**
KZN	**Kozani**	**84.21 311**	P	**P**	**16 19 30.1**	**+0.3**
KZN	**Kozani**	**84.21 311**	P	**P**	**16 19 30.1**	**+0.3**
JOF	**Joensuu**	**84.26 334**	*e*P	**P**	**16 19 31.0**	**+1.6**
JOF			pmax	pmax		
	comp=Z,85nm,1.0s					
JOF	**Joensuu**	**84.26 334**	*e*p	**P**	**16 19 31.0**	**+1.6**
	comp=Z,85nm,1.0s					
PDO	**Prodromos**	**84.37 309**	P	**P**	**16 19 32.7**	**+2.1**
BMR	**Baia Mare**	**84.38 318** ⇑	P	**P**	**16 19 31.9**	**+1.5**
BMR	**Baia Mare**	**84.38 318** ⇑	*i*P	**P**	**16 19 31.9**	**+1.5**
GZR	**Gura Zlata**	**84.42 316** ⇓	P	P	16 19 35.3	+4.6
GZR	**Gura Zlata**	**84.42 316** ⇓	*i*P	P	16 19 35.3	+4.6
DEV	**Deva**	**84.42 317** ⇑	P	**P**	**16 19 32.3**	**+1.7**
DEV	**Deva**	**84.42 317** ⇑	*i*P	**P**	**16 19 32.3**	**+1.7**
LVV	**L'vov**	**84.49 321**	*e*P	**P**	**16 19 32.6**	**+1.7**
LVV			*e*S	**S**	**16 30 01.6**	**+5.5**
LVV			MLR	MLR		
	comp=N,14μm,18.0s					
LVV			MLR	MLR		
	comp=E,35μm,18.0s					
LVV			MLR	MLR		
	comp=Z,38μm,18.0s					
IIGN	**Ignalina**	**84.50 326**	*e*P	**P**	**16 19 31.3**	**+0.5**
IIGN			AMB	AMB	16 19 38.7	
	comp=Z,72nm,1.0s					
MIDW	**Midway**	**84.51 61**	PFAKE		16 19 40.0	+8.6
MIDW			LR	LR		
	comp=Z,11μm,21.4s					
DSL	**Palaion Diasel**	**84.53 310**	P	P	16 19 36.1	+4.7
DSL	**Palaion Diasel**	**84.53 310**	P	P	16 19 36.1	+4.7
BILL	**Bilibino**	**84.56 20**	*c i*P	**P**	**16 19 30.4**	**-0.4**
BILL			*e*		16 22 49.4	
BILL			*e*PPP	PPP	16 24 36.3	
BILL			*e*S	S	16 29 47.5	-8.5
BILL			*e*SS	**SS**	**16 35 26.8**	**-0.4**
BILL			pmax	pmax		
	comp=Z,95nm,1.0s					
BILL	**Bilibino**	**84.56 20**	*e*P	**P**	**16 19 29.4**	**-1.5**
	comp=Z,114nm,1.0s					
BILL			LR	LR		
	comp=Z,75μm,18.1s					
FNA	**Florina**	**84.59 311**	P	**P**	**16 19 32.1**	**+0.4**
FNA	**Florina**	**84.59 311**	P	**P**	**16 19 32.1**	**+0.4**
FNA	**Florina**	**84.59 311**	P	**P**	**16 19 32.1**	**+0.4**
ISAL	**Salakas**	**84.61 327**	*e*P	**P**	**16 19 31.8**	**+0.5**
ISAL			AMB	AMB	16 19 39.8	
	comp=Z,50nm,1.2s					
DRGR		**84.73 318** ⇑	P	P	16 19 35.8	+3.5
DRGR		**84.73 318** ⇑	*i*P	P	16 19 35.8	+3.5
LKD2	**Lefkada island**	**84.81 309**	P	P	16 19 36.1	+3.3
LKD2	**Lefkada island**	**84.81 309**	P	P	16 19 36.1	+3.3
LVZ	**Lovozero**	**84.81 340**	*c i*P	**P**	**16 19 32.0**	**-0.2**
LVZ			pmax	pmax		
	comp=Z,155nm,1.7s					
LVZ			MLR	MLR		
	comp=Z,83μm,18.0s					
LVZ	**Lovozero**	**84.81 340**	*e*P	**P**	**16 19 32.3**	**+0.1**
	comp=Z,113nm,0.8s					
LVZ			LR	LR		
	comp=Z,97μm,20.3s					
KBN	**Korca**	**85.00 311**	P	**P**	**16 19 34.9**	**+1.1**
KBN	**Korca**	**85.00 311**	P	**P**	**16 19 34.9**	**+1.1**
KBN	**Korca**	**85.00 311**	P	**P**	**16 19 34.9**	**+1.1**
VSU	**Vasula**	**85.04 329**	*c i*P	**P**	**16 19 33.4**	**0.0**
VSU			pmax	pmax		
	comp=Z,560nm,1.8s					
OHR	**Ohrid**	**85.08 312**	*e*P	**P**	**16 19 31.6**	**-2.5**
TRPA	**Tarpa**	**85.11 319** ⇑	*i*P	**P**	**16 19 35.2**	**+1.2**
TRPA	**Tarpa**	**85.11 319**	*e*P	**P**	**16 19 34.6**	**+0.6**
APA	**Apatity**	**85.12 339** ⇑	*i*P	**P**	**16 19 36.6**	**+2.9**
APA			*i*S	**S**	**16 30 04.0**	**+2.4**
APA			MLR	MLR		
	comp=Z,102μm,20.0s					
BZS	**Buzias**	**85.26 316** ⇑	P	**P**	**16 19 34.6**	**-0.2**
BZS	**Buzias**	**85.26 316** ⇑	*i*P	**P**	**16 19 34.6**	**-0.2**
KWP	**Kalwaria Pacla**	**85.29 320** ⇓	P	**P**	**16 19 35.5**	**+0.5**
KWP	**Kalwaria Pacla**	**85.29 320**	*e*P	**P**	**16 19 35.3**	**+0.3**
KWP			*e*S	**S**	**16 30 03.7**	**-0.4**
KWP			LMZ	LR	17 04 00.3	
KWP	**Kalwaria Pacla**	**85.29 320** ⇓	*i*P	**P**	**16 19 35.5**	**+0.5**
KWP	**Kalwaria Pacla**	**85.29 320**	PFAKE		16 19 50.0	+15
KWP			LR	LR		
	comp=Z,26μm,21.3s					
UZH	**Uzhgorod**	**85.36 319**	*e*P	**P**	**16 19 33.8**	**-1.5**
UZH			*e*		16 19 42.3	
UZH			*e*		16 19 47.1	
UZH			*e*		16 22 59.7	
UZH			*e*		16 24 53.7	
UZH			*i*S	**S**	**16 30 01.9**	**-2.9**
UZH			*e*SP	**SPn**	**16 30 58.9**	**-0.3**
UZH			MLR	MLR		
	comp=N,6μm,22.0s					
UZH			MLR	MLR		
	comp=E,6μm,22.0s					
UZH			MLR	MLR		
	comp=Z,2μm,22.0s					
KOLS	**Kolonicke sedl**	**85.44 320**	*e*P	**P**	**16 19 35.8**	**+0.1**
KOLS			pmax	pmax		
	comp=Z,31nm,1.6s					
KOLS	**Kolonicke sedl**	**85.44 320**	*e*P	**P**	**16 19 35.8**	**+0.1**
KEK	**Kerkira**	**85.61 310**	P	**P**	**16 19 38.3**	**+1.5**
KEK	**Kerkira**	**85.61 310**	P	**P**	**16 19 38.3**	**+1.5**
SUW	**Suwalki**	**85.91 325**	*e*P	**P**	**16 19 37.6**	**-0.2**
SUW			*e*S	**S**	**16 30 07.8**	**-2.1**
SUW			MLR	MLR		
	comp=Z,45μm,20.9s					
SUW	**Suwalki**	**85.91 325**	*e*P	**P**	**16 19 37.6**	**-0.2**
SUW			*e*S	**S**	**16 30 07.8**	**-2.1**
SUW			LMZ	LR	17 05 36.1	
SUW	**Suwalki**	**85.91 325**	*e*P	**P**	**16 19 38.0**	**+0.1**
	comp=Z,418nm,1.0s					
SUW			LR	LR		
	comp=Z,42μm,18.3s					
PVY	**Plav**	**85.93 313**	*e*P	**P**	**16 19 37.6**	**-0.8**
CRVS	**Cervenica-Dubn**	**85.96 319**	*e*P	**P**	**16 19 38.9**	**+0.6**
CRVS	**Cervenica-Dubn**	**85.96 319**	*e*P	**P**	**16 19 38.9**	**+0.6**
IVA	**Berane**	**86.02 313**	*e*P	**P**	**16 19 38.2**	**-0.6**
NVL	**N'lazarevskaya**	**86.10 199**	*e*P	P	16 19 47.3	+8.8
NVL			*e**PP	pP	16 19 58.3	+12
NVL			*e*		16 22 57.2	
NVL			*e*PPP	PPP	16 25 01.8	
NVL			*e*		16 30 09.6	
NVL			pmax	pmax		
	comp=Z,38nm,0.9s					
QSPA	**South Pole Qui**	**86.14 180**	P	**P**	**16 19 39.4**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=260,slow=0.6,SNR=17					
QSPA			PKKPbc	**PKKPbc**	**16 37 42.1**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=239,slow=0.9,SNR=6.9					
QSPA	**South Pole Qui**	**86.14 180**	*e*P	**P**	**16 19 39.7**	**+0.7**
	comp=Z,84nm,1.2s					
QSPA			PKKPbc	**PKKPbc**	**16 37 42.1**	**+0.7**
QSPA			LR	LR		
	comp=Z,27μm,18.4s					
DIVS	**Divibare**	**86.14 315**	P	**P**	**16 19 40.1**	**+0.7**
FINES	**FINESS Array B**	**86.15 332**	P	**P**	**16 19 38.5**	**-0.4**
	comp=Z,7.5nm,0.6s,baz=121,slow=7.4,SNR=26					
FINES			PKKPbc	PKKPbc	16 37 54.0	+13
	comp=Z,1.1nm,0.7s,baz=241,slow=3.9,SNR=5.0					
STHS	**Stebnicka Huta**	**86.19 320**	*e*P	**P**	**16 19 39.7**	**+0.3**
STHS	**Stebnicka Huta**	**86.19 320**	*e*P	**P**	**16 19 39.7**	**+0.3**
KAF	**Kangasniemi**	**86.23 333**	*e*P	**P**	**16 19 39.8**	**+0.5**
KAF			pmax	pmax		
	comp=Z,126nm,1.1s					
KAF	**Kangasniemi**	**86.23 333**	*e*p	**P**	**16 19 39.8**	**+0.5**
	comp=Z,126nm,1.1s					
TTG	**Podgorica**	**86.42 313**	*e*P	**P**	**16 19 39.7**	**-1.0**
DRME	**Dracevica, Mon**	**86.44 313** ⇑	*i*P	**P**	**16 19 39.6**	**-1.2**
PLE	**Pljevlja**	**86.46 314** ⇑	*i*P	**P**	**16 19 40.3**	**-0.7**
AFI	**Afiamalu**	**86.48 104**	*e*P	**P**	**16 19 41.8**	**+0.2**
AFI	**Afiamalu**	**86.48 104**	*e*P	**P**	**16 19 41.8**	**+0.2**
	comp=Z,2μm,1.1s					
BUM	**Brajici-Budva**	**86.67 313** ⇑	*i*P	**P**	**16 19 41.4**	**-0.6**
NKY	**Niksic**	**86.67 313** ⇑	*i*P	**P**	**16 19 41.2**	**-0.8**
PKSN	**Nyarlorinc**	**86.67 317**	*e*P	P	16 19 48.4	+6.6
NMKE	**Niksic**	**86.69 313** ⇑	*i*P	**P**	**16 19 42.1**	**0.0**
UPM	**Unac-Piva**	**86.79 314** ⇑	*i*P	**P**	**16 19 42.3**	**-0.4**
NIE	**Niedzica**	**86.79 320** ⇑	*i*P	**P**	**16 19 42.8**	**+0.4**
NIE			*e*		16 23 07.7	
NIE			*i*S	**S**	**16 30 18.4**	**-0.4**
NIE			MLR	MLR		
	comp=Z,37μm,20.9s					
NIE	**Niedzica**	**86.79 320**	*i*P	**P**	**16 19 42.8**	**+0.4**
NIE			*e*PP	**PP**	**16 23 07.7**	**+2.6**
NIE			*i*S	**S**	**16 30 18.4**	**-0.4**
NIE			L	L	17 02 09.0	
	comp=Z,37μm,20.9s					
PSZ	**Piszkesteto**	**86.82 318** ⇑	P	**P**	**16 19 42.4**	**-0.2**
PSZ	**Piszkesteto**	**86.82 318** ⇑	*i*P	**P**	**16 19 42.4**	**-0.2**
PSZ	**Piszkesteto**	**86.82 318**	*e*P	**P**	**16 19 42.8**	**+0.2**
PSZ	**Piszkesteto**	**86.82 318**	*e*P	**P**	**16 19 43.2**	**+0.6**
	comp=Z,944nm,2.4s					
PSZ			LR	LR		
	comp=Z,23μm,20.6s					
PKS6	**Bocsa**	**86.83 317**	*e*P	P	16 19 48.4	+5.8
BEL	**Belsk**	**86.90 322**	*e*P	**P**	**16 19 43.4**	**+0.6**
BEL			*e*S	**S**	**16 30 18.6**	**-1.1**
BEL			MLR	MLR		
	comp=Z,82μm,23.1s					
BEL	**Belsk**	**86.90 322**	*e*P	**P**	**16 19 43.4**	**+0.6**
BEL			*e*S	**S**	**16 30 18.5**	**-1.1**
BEL			LMZ	LR	17 02 54.4	
BRY	**Bratogost**	**87.01 313**	*e*P	**P**	**16 19 41.9**	**-1.9**
PKS2	**Kecel**	**87.05 317**	*e*P	P	16 19 48.7	+5.0
OJC	**Ojcow**	**87.25 321** ⇑	*i*P	**P**	**16 19 44.8**	**+0.2**
OJC			*e**SP	**sP**	**16 19 51.6**	**-3.7**
OJC			*e*		16 23 10.7	
OJC			*i*S	**S**	**16 30 21.6**	**-1.5**
OJC			*e*SS	**SS**	**16 36 07.4**	**-0.1**
OJC			MLR	MLR		
	comp=Z,34μm,20.8s					
OJC	**Ojcow**	**87.25 321**	*i*P	**P**	**16 19 44.8**	**+0.2**
OJC			*e*sP	**sP**	**16 19 51.6**	**-3.7**
OJC			*e*PP	**PP**	**16 23 10.7**	**+2.0**
OJC			*i*S	**S**	**16 30 21.6**	**-1.5**
OJC			*e*SS	**SS**	**16 36 07.4**	**-0.1**
OJC			L	L	17 05 20.0	
	comp=Z,34μm,20.8s					
OJC	**Ojcow**	**87.25 321**	PFAKE		16 20 00.0	+15
OJC			LR	LR		
	comp=Z,23μm,20.7s					
BUD	**Budapest**	**87.33 318**	*e*P	**P**	**16 19 45.0**	**0.0**
PKSM	**Moragy**	**87.40 316** ⇑	P	**P**	**16 19 46.1**	**+0.7**
PKSM	**Moragy**	**87.40 316** ⇑	*i*P	**P**	**16 19 46.1**	**+0.7**
PKSM	**Moragy**	**87.40 316**	*e*P	**P**	**16 19 45.7**	**+0.3**
VYHS	**Vyhne**	**87.60 319**	*e*P	**P**	**16 19 45.7**	**-0.6**
VYHS	**Vyhne**	**87.60 319**	*e*P	**P**	**16 19 45.7**	**-0.6**
PKS9	**Tamasi**	**87.70 317**	*e*P	P	16 19 50.8	+4.0
PKSG		**87.74 318**	*e*P	**P**	**16 19 49.9**	**+2.9**
TIP	**Timpagrande**	**87.87 309**	*e*P	**P**	**16 19 48.2**	**+0.3**
	comp=Z,129nm,1.4s					
PKST	**T"s**	**87.96 317**	*e*P	**P**	**16 19 48.4**	**+0.3**
KEV	**Kevo**	**88.06 340**	*e*P	**P**	**16 19 48.6**	**+0.6**
KEV			pmax	pmax		
	comp=Z,170nm,1.1s					
KEV			MLR	MLR		
	comp=Z,66μm,21.5s					
KEV	**Kevo**	**88.06 340**	*e*p	**P**	**16 19 48.8**	**+0.8**
	comp=Z,149nm,1.1s					
KEV	**Kevo**	**88.06 340**	*e*P	**P**	**16 19 48.6**	**+0.6**
	comp=Z,170nm,1.1s					
KEV			LR	LR		
	comp=Z,66μm,21.5s					
OKC	**Ostrava-Krasne**	**88.24 320**	*e*P	**P**	**16 19 49.8**	**+0.5**
OKC			*e*		16 19 57.4	
OKC			*e*		16 30 33.7	
OKC			MLR	MLR		
	comp=Z,18μm,17.5s					
OKC	**Ostrava-Krasne**	**88.24 320**	*e*P	**P**	**16 19 49.8**	**+0.5**
OKC			*e*pP	**pP**	**16 19 57.4**	**+0.1**
OKC			*e*x	x	16 23 33.5	
OKC			*e*S	**S**	**16 30 33.7**	**+1.1**
OKC			AMS	AMS	17 11 40.0	
	comp=Z,18μm,17.5s					
RAC	**Raciborz**	**88.25 320**	*e*P	**P**	**16 19 50.4**	**+1.1**
RAC			*e*S	**S**	**16 30 33.6**	**+0.9**
RAC			MLR	MLR		
	comp=Z,42μm,20.9s					
CEL	**Celeste**	**88.44 308**	*e*P	**P**	**16 19 50.3**	**-0.3**
	comp=Z,184nm,1.1s					
CEL			LR	LR		
	comp=Z,20μm,20.0s					
ARCES	**ARCESS Array B**	**88.50 340**	P	**P**	**16 19 49.8**	**-0.3**
	comp=Z,24nm,0.8s,baz=97,slow=5.0,SNR=32					
ARE0	**ARCESS Array S**	**88.50 340**	*e*P	**P**	**16 19 50.4**	**+0.3**
SOP	**Sopron**	**89.01 318**	*e*P	P	16 19 49.4	-3.6
KOGS	**Kog**	**89.08 316**	*i*P	**P**	**16 19 53.6**	**+0.2**
KOGS			*e*S	**S**	**16 30 40.3**	**-0.3**
KOGS			*e*		16 43 36.0	
KRLC	**Kraliky**	**89.15 320**	*e*P	**P**	**16 19 53.6**	**-0.1**
KRLC			*e*		16 20 01.6	
KRLC	**Kraliky**	**89.15 320**	*e*P	**P**	**16 19 53.6**	**-0.1**
KRLC			*e*pP	**pP**	**16 20 01.6**	**0.0**
VRAC	**Vranov**	**89.18 319** ⇓	*i*P	P	16 19 58.3	+4.5
VRAC	**Vranov**	**89.18 319**	P	**P**	**16 19 53.2**	**-0.6**
	comp=Z,3.3nm,0.9s,baz=98,slow=15,SNR=3.7					
GKP	**Gorka Klasztor**	**89.27 323**	*e*P	**P**	**16 19 55.4**	**+1.4**
GKP			*e*S	**S**	**16 30 41.0**	**-1.1**
GKP			MLR	MLR		
	comp=Z,42μm,23.7s					
GKP	**Gorka Klasztor**	**89.27 323**	*e*P	**P**	**16 19 55.3**	**+1.3**
GKP			*e*S	**S**	**16 30 40.9**	**-1.1**
GKP			LMZ	LR	17 05 34.5	
WDD	**Wield Dalam**	**89.30 306**	PFAKE		16 20 10.0	+15
WDD			LR	LR		
	comp=Z,34μm,19.9s					
DPC	**Dobruska-Polom**	**89.47 320**	*e*P	**P**	**16 19 55.1**	**-0.1**
DPC			*e*		16 20 03.3	
DPC			*e*		16 30 43.5	
DPC	**Dobruska-Polom**	**89.47 320**	*e*P	**P**	**16 19 55.1**	**-0.1**
DPC			*e*pP	**pP**	**16 20 03.3**	**+0.2**
DPC			*e*x	x	16 23 39.3	
DPC			*e*S	**S**	**16 30 43.5**	**-0.8**
DPC			AMS	AMS	17 06 10.0	
DPC	**Dobruska-Polom**	**89.47 320**	*e*P	**P**	**16 19 55.3**	**+0.1**
DPC			LR	LR		
	comp=Z,186μm,20.0s					
CONA	**Conrad Observa**	**89.50 318** ⇓	*i*P	**P**	**16 19 55.6**	**+0.1**
	comp=Z,35nm,1.3s,SNR=5.1					
KSP	**Ksiaz**	**89.55 321** ⇑	*e*P	**P**	**16 19 56.2**	**+0.8**
KSP			*e*S	**S**	**16 30 44.8**	**-0.1**
KSP	**Ksiaz**	**89.55 321**	*e*P	**P**	**16 19 56.3**	**+0.8**
KSP			*e*S	**S**	**16 30 45.4**	**+0.5**
KSP			LMZ	LR	17 03 40.2	
ARSA	**Arzberg**	**89.66 317** ⇑	*i*P	**P**	**16 19 56.1**	**0.0**
	comp=Z,72nm,1.0s,SNR=14					
UPC	**Upice**	**89.69 321**	*e*P	**P**	**16 19 56.7**	**+0.6**
UPC			*e*		16 20 04.5	
UPC	**Upice**	**89.69 321**	*e*P	**P**	**16 19 56.7**	**+0.6**
UPC			*e*pP	**pP**	**16 20 04.5**	**+0.4**
PERS	**Pernice**	**89.88 317**	*i*P	**P**	**16 19 57.5**	**+0.3**
PERS			*e*		16 30 36.1	
PERS			*e*S	**S**	**16 30 48.0**	**-0.2**
PERS			*e*SS	**SS**	**16 36 46.5**	**+0.4**
PERS			*e*		16 43 55.6	
TREC	**Trest**	**89.90 319**	*e*P	**P**	**16 19 57.1**	**0.0**
TREC			*e*		16 30 40.0	
TREC			MLR	MLR		
	comp=Z,44μm,21.5s					
TREC	**Trest**	**89.90 319**	*e*P	**P**	**16 19 57.1**	**0.0**
TREC			*e*SKKS	S	16 30 40.0	-8.3
TREC			AMS	AMS	17 06 50.0	
	comp=Z,44μm,21.5s					
SOKA	**Soboth**	**89.94 317** ⇑	*i*P	**P**	**16 19 57.8**	**+0.3**
	comp=Z,100nm,1.0s,SNR=12					
LJU	**Ljubljana**	**90.23 316**	*e*P	**P**	**16 19 59.3**	**+0.6**
LJU			*e*		16 23 05.0	
LJU			*e*PP	**PP**	**16 23 36.3**	**+3.6**
LJU	**Ljubljana**	**90.23 316**	P	**P**	**16 19 59.3**	**+0.6**
HOPEN	**Hopen**	**90.44 347**	*e*P	**P**	**16 19 57.2**	**-1.8**
MOA	**Molln**	**90.57 318** ⇑	*i*P	**P**	**16 20 00.2**	**-0.1**
	comp=Z,40nm,1.0s,SNR=6.1					
PRU	**Pruhonice**	**90.58 320**	*e*P	**P**	**16 20 00.6**	**+0.3**
PRU			*e*		16 20 07.7	
PRU			*e*		16 30 42.6	
PRU			MLR	MLR		
	comp=Z,23μm,21.0s					
PRU	**Pruhonice**	**90.58 320**	*e*P	**P**	**16 20 00.6**	**+0.3**
PRU			*e*pP	**pP**	**16 20 07.7**	**-0.5**
PRU			*e*x	x	16 23 46.2	
PRU			*e*XSKS		16 30 42.6	
PRU			AMS	AMS	17 10 20.0	
	comp=Z,23μm,21.0s					
PVCC	**Panska Ves**	**90.61 320**	*e*P	**P**	**16 20 01.6**	**+1.2**
PVCC			*e*		16 20 09.1	
PVCC			*e*		16 30 56.9	
PVCC			MLR	MLR		
	comp=Z,31μm,20.0s					
PVCC	**Panska Ves**	**90.61 320**	*e*P	**P**	**16 20 01.6**	**+1.2**
PVCC			*e*pP	**pP**	**16 20 09.1**	**+0.8**
PVCC			*e*x	x	16 23 46.4	
PVCC			*e*SKKS	**SKKSac**	**16 30 40.6**	**-4.2**
PVCC			*e*S	**ScS**	**16 30 56.9**	**-1.3**
PVCC			AMS	AMS	17 07 40.0	
	comp=Z,31μm,20.0s					
PRA	**Prague**	**90.65 320** ⇑	P	**P**	**16 20 01.0**	**+0.4**
SNAA	**Sanae**	**90.69 198**	P	**P**	**16 20 02.5**	**+2.0**
SNAA	**Sanae**	**90.69 198**	*e*P	P	16 20 09.6	+9.2
SNAA	**Sanae**	**90.69 198**	*c e*P	**P**	**16 20 01.9**	**+1.4**
SNAA			pmax	pmax		
	comp=Z,77nm,1.7s					
SNAA			MLR	MLR		
	comp=Z,14μm,21.0s					
SNAA	**Sanae**	**90.69 198**	P	**P**	**16 20 02.4**	**+2.0**
	comp=Z,9.4nm,1.1s,baz=176,slow=8.3,SNR=5.8					
SNAA	**Sanae**	**90.69 198**	*e*P	**P**	**16 20 01.6**	**+1.1**
	comp=Z,65nm,1.2s					
TRO	**Tromso**	**90.78 340**	*e*P	**P**	**16 19 59.8**	**-0.9**
TRO			*e*PP	**PP**	**16 23 37.7**	**+1.3**
TRO			*e*SKSac	**SKSac**	**16 30 29.5**	**-1.1**
TRO			IVMs_BB	IVMs_BB	17 06 11.9	
	comp=Z,35μm,21.6s					
BSD	**Bornholm Skovb**	**90.83 325**	*e*P	**P**	**16 20 01.8**	**+0.5**
BSD			MLR	MLR		
	comp=Z,42μm,21.0s					
BSD	**Bornholm Skovb**	**90.83 325**	*i*P	**P**	**16 20 01.8**	**+0.5**
GEC2	**GERESS Array S**	**91.03 319**	*e*P	**P**	**16 20 02.8**	**+0.3**
	comp=Z,228nm,1.5s					
GERES	**GERESS Array B**	**91.03 319**	P	**P**	**16 20 02.7**	**+0.3**
	comp=Z,5.6nm,0.7s,baz=94,slow=4.3,SNR=30					
BRG	**Berggiesshubel**	**91.03 321**	*e*P	**P**	**16 20 02.8**	**+0.5**
	comp=Z,8.5nm,1.0s					
BRG			*i*		16 20 19.4	
	comp=Z,287nm,1.9s					
BRG			PP	PP	16 23 25.0	-14
BRG			S	**S**	**16 30 59.0**	**+0.4**
BRG			PS	**PS**	**16 32 09.0**	**-0.6**
BRG	**Berggiesshubel**	**91.03 321**	*e*P	**P**	**16 20 02.8**	**+0.5**
BRG			*i*		16 20 19.4	
BRG			S	**S**	**16 30 59.0**	**+0.4**
BRG			PS	**PS**	**16 32 09.0**	**-0.6**
BRG			pmax	pmax		
	comp=Z,9.0nm,1.0s					
BRG			MLR	MLR		
	comp=N,29μm,20.8s					
BRG			MLR	MLR		
	comp=E,26μm,23.4s					
BRG			MLR	MLR		
	comp=Z,42μm,21.8s					
BRG	**Berggiesshubel**	**91.03 321**	*e*P	**P**	**16 20 02.9**	**+0.5**
	comp=Z,289nm,1.9s					
KBA	**Koelnbreinsper**	**91.13 317** ⇑	*i*P	**P**	**16 20 02.9**	**-0.3**
	comp=Z,30nm,1.3s					
KHC	**Kasperske Hory**	**91.13 319**	*e*P	**P**	**16 20 02.9**	**0.0**
KHC			*e*		16 20 10.0	
KHC			*e*		16 23 42.0	
KHC			*e*		16 31 00.7	
KHC			MLR	MLR		
	comp=Z,55μm,21.1s					
KHC	**Kasperske Hory**	**91.13 319**	*e*P	**P**	**16 20 02.9**	**0.0**
KHC			*e*pP	**pP**	**16 20 10.0**	**-0.9**
KHC			*e*x	x	16 20 35.0	
KHC			*e*PP	**PP**	**16 23 42.0**	**+2.2**
KHC			*e*SKKS	**SKKSac**	**16 30 45.5**	**-3.4**
KHC			*e*S	**S**	**16 31 00.7**	**+1.1**
KHC			AMS	AMS	17 07 40.0	
	comp=Z,55μm,21.1s					
KHC	**Kasperske Hory**	**91.13 319**	*e*P	**P**	**16 20 03.5**	**+0.6**
	comp=Z,209nm,2.2s					
BJO	**Bjornoya**	**91.46 345**	*e*P	**P**	**16 20 05.4**	**+1.6**
WET	**Wettzell**	**91.59 319**	*e*P	**P**	**16 20 05.2**	**+0.2**
	comp=Z,259nm,1.8s					
CLL	**Collm**	**91.66 321**	*e*P	**P**	**16 20 05.0**	**-0.2**
CLL			*i*		16 20 12.7	
CLL			*e*S	**S**	**16 31 05.0**	**+0.8**
CLL			MLR	MLR		
	comp=Z,44μm,20.1s					
CLL	**Collm**	**91.66 321**	*e*P	**P**	**16 20 05.5**	**+0.3**
	comp=Z,136nm,1.8s					
CLL	**Collm**	**91.66 321**	*e*P	**P**	**16 20 05.0**	**-0.2**
CLL			*i*Pmax		16 20 10.1	
	comp=Z,42nm,1.6s					
CLL			*i*pP	**pP**	**16 20 12.7**	**-0.5**
	comp=Z,47nm,1.2s					
CLL			*i*sP	**sP**	**16 20 15.6**	**-0.4**
CLL			*e*		16 20 24.0	
CLL			*e*PP	**PP**	**16 23 46.0**	**+2.1**
CLL			*e*SKKSac	**SKKSac**	**16 30 51.0**	**-1.6**
CLL			*e*S	**S**	**16 31 05.0**	**+0.8**
CLL			*e*PS	**PnS**	**16 32 22.0**	**+4.7**
CLL			*e*		16 33 23.0	
CLL			*e*(SS)		16 37 00.0	
CLL			*e*PKKPdf	PKKPdf	16 37 18.0	-5.7
CLL			*e*(SSS)		16 40 42.0	
CLL			*e*PKKSbc	PKKSbc	16 41 05.0	-2.8
CLL			*e*		16 42 24.0	
CLL			*e*SSSS		16 44 06.0	
CLL			LmV		17 10 00.0	
	comp=Z,44μm,20.1s					
CLL	**Collm**	**91.66 321**	*e*P	**P**	**16 20 08.2**	**+3.0**
	comp=Z,46nm,1.0s					
ABTA	**Abfaltersbach**	**91.67 317** ⇑	*i*pP	pP	16 20 10.3	-3.2
	comp=Z,

NSS e 16 31 19.7
NC602 NORSAR Array S 93.01 331 eP **P 16 20 11.9 +0.6**
NB2 NORSAR Subarra 93.19 331 P **P 16 20 12.3 +0.2**
comp=Z,37nm,1.1s,baz=94,slow=4.8
NB2 NORSAR Subarra 93.19 331 P **P 16 20 12.3 +0.2**
baz=94,slow=4.8
NOA NORSAR Array B 93.19 331 P **P 16 20 11.4 -0.7**
comp=Z,6.6nm,1.0s,baz=94,slow=4.5,SNR=6.8
FUORN Ofenpass-Fuorn 93.21 316 eP **P 16 20 13.7 +0.8**
comp=Z,87nm,1.1s
CLZ Clausthal 93.33 322 eP **P 16 20 13.2 +0.2**
comp=Z,60nm,1.2s
OSL Oslo 93.39 330 eP **P 16 20 14.4 +1.4**
BSEG Bad Segeberg 93.43 324 eP **P 16 20 13.5 +0.2**
comp=Z,60nm,1.3s
DAVOX Davos/Dischmat 93.48 316 P **P 16 20 14.3 +0.3**
comp=Z,5.8nm,0.8s,baz=139,slow=20,SNR=3.7
KEST Kesra 93.49 305 P **P 16 20 15.4 +1.2**
comp=Z,3.3nm,0.9s,baz=228,slow=0.1,SNR=5.5
KEST Kesra 93.49 305 eP **P 16 20 15.1 +0.9**
DAVA Damuels 93.50 317 ⇑iP **P 16 20 14.2 +0.1**
comp=Z,66nm,1.1s
NRDL Niedersach Rie 93.51 322 eP **P 16 20 14.4 +0.7**
comp=Z,52nm,1.3s
UBBA Unterbreizbach 93.53 321 eP **P 16 20 14.0 +0.2**
comp=Z,83nm,1.8s
KBS Kingsbay 93.54 349 eP **P 16 20 13.3 -0.1**
KBS ePP **PP 16 23 56.3 -1.6**
KBS eSKSac **SKSac 16 30 44.9 -1.0**
KBS IVMs_BB IVMs_BB 17 10 45.4
comp=Z,49μm,17.7s
KBS Kingsbay 93.54 349 eP **P 16 20 14.2 +0.8**
KBS pmax pmax
comp=Z,56nm,1.2s
KBS Kingsbay 93.54 349 eP **P 16 20 14.2 +0.8**
comp=Z,56nm,1.2s
TBLU Trondheim 93.70 333 eP **P 16 20 13.7 -0.7**
TBLU IAMs_20 IAMs_20 17 09 11.3
comp=Z,62μm,21.2s
TUE Stuetta 93.84 316 eP **P 16 20 15.7 0.0**
comp=Z,35nm,1.2s
TNA Tin City 93.95 25 eP **P 16 20 14.7 -0.8**
comp=Z,32nm,1.1s
KONO Kongsberg 93.95 329 eP **P 16 20 17.2 +1.6**
KONO ePP **PP 16 23 59.5 -2.0**
KONO e 16 31 19.8
KONO IVMs_BB IVMs_BB 17 08 47.5
comp=Z,13μm,15.5s
MUD Monsted U'grnd 94.14 326 eP **P 16 20 18.8 +2.3**
MUD MLR MLR
comp=Z,40μm,18.0s
MUD Monsted U'grnd 94.14 326 iP **P 16 20 18.8 +2.3**
TNS Taunus Mts 94.51 320 eP **P 16 20 18.6 +0.1**
comp=Z,62nm,1.1s
HOMB Homborsund 94.51 328 eP **P 16 20 19.1 +0.9**
HOMB e 16 31 23.7
BFO Black Forest 94.56 318 eP **P 16 20 18.8 0.0**
BFO pmax pmax
comp=Z,17nm,1.0s
BFO Black Forest 94.56 318 eP **P 16 20 20.7 +1.9**
comp=Z,26nm,1.1s
BFO Black Forest 94.56 318 eP **P 16 20 18.8 0.0**
comp=Z,17nm,1.0s
MOL Molde 94.94 332 eP **P 16 20 22.1 +2.0**
IBBN Ibbenburen 94.95 322 eP **P 16 20 20.4 0.0**
comp=Z,46nm,1.2s
AKN Aaknes 95.20 332 eP **P 16 20 21.4 0.0**
AKN ePP **PP 16 24 09.2 -2.1**
AKN IAMs_20 IAMs_20 17 06 41.5
comp=Z,40μm,18.4s
CDF Champ du Feu 95.27 318 eP **P 16 20 21.6 -0.5**
CDF Champ du Feu 95.27 318 eP **P 16 20 21.6 -0.5**
CDF Champ du Feu 95.27 318 eP **P 16 20 21.6 -0.5**
ECH Echery 95.35 318 eP **P 16 20 22.7 +0.4**
ECH pmax pmax
comp=Z,31nm,1.4s
ECH Echery 95.35 318 eP **P 16 20 22.7 +0.4**
comp=Z,31nm,1.4s
HINF Hinterlalfeld 95.55 318 eP **P 16 20 22.4 -0.9**
HINF Hinterlalfeld 95.55 318 eP **P 16 20 22.4 -0.9**
HINF Hinterlalfeld 95.55 318 eP **P 16 20 22.4 -0.9**
LPG La Plagne 95.64 315 eP **P 16 20 24.0 -0.1**
comp=Z,106nm,1.4s
LPG La Plagne 95.64 315 eP **P 16 20 24.0 -0.1**
LPG pmax pmax
comp=Z,106nm,1.4s
LPG La Plagne 95.64 315 eP **P 16 20 24.0 -0.1**
comp=Z,106nm,1.4s
LPL La Plagne 95.65 315 eP **P 16 20 24.0 -0.1**
comp=Z,58nm,1.1s
LPL La Plagne 95.65 315 eP **P 16 20 24.0 -0.1**
LPL pmax pmax
comp=Z,58nm,1.1s
LPL La Plagne 95.65 315 eP **P 16 20 24.0 -0.1**
comp=Z,58nm,1.1s
HAU Haudompre 95.89 318 eP **P 16 20 24.6 -0.2**
comp=Z,146nm,1.5s
HAU Haudompre 95.89 318 eP **P 16 20 24.6 -0.2**
HAU pmax pmax
comp=Z,146nm,1.5s
HAU Haudompre 95.89 318 eP **P 16 20 24.6 -0.2**
comp=Z,146nm,1.5s
WLF Walferdange 95.99 319 eP **P 16 20 27.8 +2.6**
comp=Z,56nm,1.4s
BER Bergen 96.08 330 eP **P 16 20 26.6 +1.2**
BER IVMs_BB IVMs_BB 17 08 23.8
comp=Z,17μm,19.0s
BER IAMs_20 IAMs_20 17 08 29.3
comp=Z,53μm,22.1s
FOO Floro 96.16 331 eP **P 16 20 26.3 +0.7**
FOO IVMs_BB IVMs_BB 17 10 00.5
comp=Z,5μm,23.2s
PAGF Fort de Pagny 96.30 318 eP **P 16 20 26.2 -0.4**
PAGF Fort de Pagny 96.30 318 eP **P 16 20 26.2 -0.4**
SUE Sulen 96.32 331 eP **P 16 20 23.5 -2.9**
SUE eSKSac **SKSac 16 30 58.3 -3.1**
SUE IVMs_BB IVMs_BB 17 09 46.0
comp=Z,14μm,15.5s
SUE IAMs_20 IAMs_20 17 09 51.7
comp=Z,43μm,18.0s
TAM Tamanrasset 96.44 292 eP **P 16 20 27.9 -0.2**
TAM pmax pmax
comp=Z,13nm,1.1s
TAM Tamanrasset 96.44 292 eP **P 16 20 27.9 -0.2**
comp=Z,13nm,1.1s
MEZF Maizieres J'vi 96.75 318 eP **P 16 20 28.7 0.0**
MEZF Maizieres J'vi 96.75 318 eP **P 16 20 28.7 0.0**
SFTF Sexfontaines 96.76 318 eP **P 16 20 28.5 -0.3**
comp=Z,51nm,0.8s
SFTF Sexfontaines 96.76 318 eP **P 16 20 28.5 -0.3**
comp=Z,51nm,0.8s
SSB Saint Sauveur 97.20 315 eP **P 16 20 29.6 -1.2**
SSB Saint Sauveur 97.20 315 eP **P 16 20 29.6 -1.2**
LOR Lormes 97.60 317 eP **P 16 20 32.4 -0.2**
comp=Z,33nm,1.0s
LOR Lormes 97.60 317 eP **P 16 20 32.4 -0.2**
LOR pmax pmax
comp=Z,33nm,1.0s
LOR Lormes 97.60 317 eP **P 16 20 32.4 -0.2**
comp=Z,33nm,1.0s
IM04 Indian Mountai 99.70 24 ePdif **Pdif 16 20 40.5 -1.0**
TORD Torodi Ar. Bea 99.83 283 P **Pdif 16 20 43.9 +0.7**
comp=Z,0.3nm,0.5s,baz=87,slow=5.4,SNR=4.2
TORD PP PP 16 24 53.6 +5.4
comp=Z,4.3nm,1.1s,baz=113,slow=7.3,SNR=3.6
TORD PKKPbc **PKKPbc 16 37 04.9 +1.5**
comp=Z,0.7nm,0.5s,baz=313,slow=2.9,SNR=12
JMIC Jan Mayen 99.88 342 eP **Pdif 16 20 45.5 +3.3**
LDF La Druitiere 100.17 319 eP **Pdif 16 20 43.9 -0.1**
comp=Z,64nm,1.4s
LDF La Druitiere 100.17 319 eP **Pdif 16 20 43.9 -0.1**
LDF pmax pmax
comp=Z,64nm,1.4s
LDF La Druitiere 100.17 319 eP **Pdif 16 20 43.9 -0.1**
comp=Z,64nm,1.4s
DAG Danmarks Havn 100.26 348 eP **Pdif 16 20 44.6 +0.8**
DAG MLR MLR
comp=Z,61μm,20.0s
DAG Danmarks Havn 100.26 348 iP **Pdif 16 20 44.6 +0.8**
FLN La Foliniere 100.39 319 eP **Pdif 16 20 44.8 -0.2**
comp=Z,39nm,1.1s
FLN La Foliniere 100.39 319 eP **Pdif 16 20 44.8 -0.2**
FLN pmax pmax
comp=Z,39nm,1.1s
FLN La Foliniere 100.39 319 eP **Pdif 16 20 44.8 -0.2**
comp=Z,39nm,1.1s

COLD Coldfoot 100.78 22 ePdif **Pdif 16 20 47.2 +0.9**
COLD ePP **PP 16 24 52.2 -1.6**
EKA Eskdalemuir Ar 101.14 326 P **Pdif 16 20 47.3 -0.9**
comp=Z,1.7nm,0.9s,baz=96,slow=6.5,SNR=2.7
EKA PP **PP 16 25 01.1 +4.3**
comp=Z,7.8nm,0.8s,baz=84,slow=7.8,SNR=4.8
KUK Kukurantumi 101.61 276 iP **PP 16 25 02.1 +0.4**
KUK PKP **PS 16 34 03.7 -2.8**
MCK McKinley 102.27 25 eP **Pdif 16 20 52.1 -0.9**
MCK McKinley 102.27 25 ePdif **Pdif 16 20 52.1 -0.9**
RC01 Rabbit Creek A 102.64 28 ePdif **Pdif 16 20 53.8 -0.9**
ILAR Eielson Array 102.81 24 P **Pdif 16 20 54.4 -1.0**
comp=Z,1.4nm,0.8s,baz=296,slow=3.5,SNR=11
ILAR PP **PKiKP 16 25 13.8 -2.0**
comp=Z,6.5nm,0.9s,baz=300,slow=5.9,SNR=7.2
ILAR PKKPbc **PKKPdf 16 37 02.8 -1.0**
comp=Z,1.0nm,0.7s,baz=131,slow=2.1,SNR=5.3
ESDC Sonseca Array 103.89 310 Pdiff **Pdif 16 21 05.8 +5.0**
comp=Z,0.2nm,0.3s,baz=69,slow=4.5,SNR=2.8
ESDC PP PKiKP 16 25 26.5 +7.9
comp=Z,2.5nm,0.7s,baz=67,slow=7.3,SNR=4.5
H09W1 TRISTAN DA CUN 105.96 230 T T 18 19 17.5
SNR=5.8
VAL Valentia 105.97 323 eP Pdif 16 21 20.0 +10
VAL ePP **PP 16 25 30.7 -2.3**
DBIC Dimbokro 106.08 276 eP **Pdif 16 21 14.3 +3.2**
DBIC Dimbokro 106.08 276 P **Pdif 16 21 14.3 +3.2**
DBIC Dimbokro 106.08 276 P **Pdif 16 21 14.3 +3.2**
SUMG Summit 106.95 348 eP **Pdif 16 21 19.2 +5.0**
SUMG MLR MLR
comp=Z,34μm,22.0s
SUMG Summit 106.95 348 iP **Pdif 16 21 19.2 +5.0**
PPT2 Papeete2 107.33 110 ePdif **Pdif 16 21 15.2 -1.4**
comp=Z,1μm,28.0s
PPT2 Papeete2 107.33 110 ePP PP 16 25 38.0 -6.1
comp=Z,3μm,28.2s
PPT2 eSKSac **SKSac 16 31 52.8 -3.2**
comp=Z,3μm,28.2s
PPT2 eSdif **Sdif 16 33 12.2 -6.9**
comp=Z,20μm,27.5s
PPT2 Papeete2 107.33 110 ePS PS 16 35 05.4 -0.8
comp=Z,7μm,28.8s
PPT2 Papeete2 107.33 110 eLR LR 16 56 50.6
comp=Z,13μm,22.5s
MESJ Messejana 107.43 308 eP **Pdif 16 21 14.0 -2.6**
MESJ eSS SS 16 40 52.6 0.0
MESJ AMS AMS 17 19 24.6
comp=E,21μm,27.0s
MESJ Messejana 107.43 308 eP **Pdif 16 21 14.0 -2.6**
MORF Marmelete 107.85 308 eP **Pdif 16 21 15.8 -2.8**
MORF ePP **PP 16 25 45.2 -2.3**
MORF AMS AMS 17 12 28.9
comp=Z,22μm,19.8s
MORF Marmelete 107.85 308 eP **Pdif 16 21 15.7 -2.8**
MORF e 16 25 45.1
LIS Lisbon 108.01 309 eP **Pdif 16 21 17.2 -1.9**
LIS AMS AMS 17 25 50.4
comp=Z,18μm,19.1s
LIS Lisbon 108.01 309 eP **Pdif 16 21 17.2 -1.9**
KULLO Kullorsuaq 108.17 354 eP **Pdif 16 21 22.3 +3.3**
KULLO MLR MLR
comp=Z,59μm,19.0s
KULLO Kullorsuaq 108.17 354 iP **Pdif 16 21 22.3 +3.3**
RES Resolute Bay 108.62 4 Pdiff **Pdif 16 21 22.9 +1.9**
comp=Z,1.7nm,0.8s,baz=344,slow=3.9,SNR=6.9
RES PP **PP 16 25 53.8 +2.2**
comp=Z,7.2nm,0.9s,baz=264,slow=4.0,SNR=3.6
ILULI Ilulissat 112.13 350 eP **Pdif 16 21 46.7 +10**
ILULI MLR MLR
comp=Z,62μm,17.0s
ILULI Ilulissat 112.13 350 iP **Pdif 16 21 46.7 +10**
DLBC Dease Lake 112.78 26 PP PP 16 26 23.4 +1.2
comp=Z,4.5nm,0.9s,baz=268,slow=10.0,SNR=3.2
SFJD Kangerlussuaq 113.95 348 eP **Pdif 16 21 47.2 +2.3**
SFJD MLR MLR
comp=Z,44μm,17.0s
SFJD Kangerlussuaq 113.95 348 iP **Pdif 16 21 47.2 +2.3**
SFJD Kangerlussuaq 113.95 348 PP PP 16 26 31.5 +1.6
comp=Z,16nm,0.9s,baz=43,slow=5.4,SNR=4.4
YKA Yellowknife Ar 115.85 17 Pdiff **Pdif 16 21 58.0 +4.6**
comp=Z,0.6nm,0.8s,baz=325,slow=4.7,SNR=8.1
YKA PKP **PKiKP 16 25 39.5 -0.8**
comp=Z,3.8nm,0.8s,baz=340,slow=1.9,SNR=14
YKA PP **PP 16 26 44.8 +1.4**
comp=Z,6.5nm,0.8s,baz=320,slow=6.1,SNR=11
YKA PKKPbc **PKKPab 16 36 17.6 +0.4**
comp=Z,1.1nm,0.8s,baz=136,slow=3.4,SNR=5.3
RKT Rikitea 119.29 119 ePP PP 16 27 08.2 -0.6
comp=Z,2μm,29.8s
RKT eSdif Sdif 16 34 54.5 -4.0
comp=Z,7μm,30.0s
RKT Rikitea 119.29 119 ePS PS 16 36 57.2 -0.6
comp=Z,6μm,28.0s
RKT eSS SS 16 43 26.2 -3.7
comp=Z,16μm,31.2s
RKT Rikitea 119.29 119 eLQ LQ 16 57 16.2
comp=Z,14μm,35.5s
RKT eLR LR 17 02 08.5
comp=Z,18μm,33.0s
FRB Frobisher Bay 119.72 355 PKP **PKPdf 16 25 47.3 -0.4**
comp=Z,2.6nm,0.5s,baz=20,slow=3.9,SNR=3.9
MCW Mount Constitu 121.84 33 PKIKP **PKPdf 16 25 53.5 +1.2**
MCW Mount Constitu 121.84 33 P **PKPdf 16 25 53.5 +1.2**
A05A Maple Falls 122.05 32 ePKPdf **PKPdf 16 25 56.9 +4.2**
E03A Lebam 122.65 35 ePKPdf **PKPdf 16 25 55.5 +1.7**
B06A Marblemount 122.65 32 ePKPdf **PKPdf 16 25 56.9 +3.1**
D05A Enumclaw 123.17 34 ePKPdf **PKPdf 16 25 58.4 +3.5**
EDM Edmonton 123.30 24 ePKIKP **PKPdf 16 25 55.0 0.0**
EDM Edmonton 123.30 24 ePKPdf **PKPdf 16 25 55.0 0.0**
LON Longmire 123.53 34 ePKIKP **PKPdf 16 25 56.5 +0.9**
LON Longmire 123.53 34 ePKPdf **PKPdf 16 25 56.5 +0.9**
TDL Tradedollar La 123.53 35 P **PKPdf 16 25 57.1 +1.3**
NLW Nelson Butte 123.53 32 P **PKPdf 16 25 56.3 +0.5**
FL2 Flat Top 2 123.54 35 P **PKPdf 16 25 57.0 +1.2**
G03D McMinnville, O 123.56 36 ⇓P **PKPdf 16 25 54.5 -1.2**
baz=123
F04A Amboy 123.65 35 ePKPdf **PKPdf 16 25 56.3 +0.4**
LTY Liberty 123.85 33 ePKPdf **PKPdf 16 25 55.7 -0.6**
B08A Colville Reser 123.88 31 ePKPdf **PKPdf 16 25 56.5 +0.2**
WTV Waterville 123.97 32 P **PKPdf 16 25 56.5 0.0**
FCC Fort Churchill 123.99 9 ePKIKP **PKPdf 16 25 55.6 -0.5**
FCC Fort Churchill 123.99 9 ePKPdf **PKPdf 16 25 55.6 -0.5**
KEBM Edson Butte 124.16 39 ePKPdf **PKPdf 16 25 57.6 +0.6**
SAW Saint Andrews 124.26 32 P **PKPdf 16 25 57.6 +0.6**
I03D Drain, OR 124.34 38 ⇑P **PKPdf 16 25 54.7 -2.5**
baz=124
H04A Detroit Lake 124.49 36 ePKPdf **PKPdf 16 25 58.5 +0.9**
C09A Chrisman Ranch 124.78 31 ePKPdf **PKPdf 16 25 58.4 +0.4**
I04A Tendick Farm, 124.85 37 ⇑P **PKPdf 16 25 56.1 -2.2**
baz=125
D08A Wollman Farm, 124.92 32 ePKPdf **PKPdf 16 25 58.4 +0.1**
L02D Cave Junction, 124.99 40 ⇓P **PKPdf 16 25 56.3 -2.2**
baz=125
HAWA Hanford 125.00 33 ePKPdf **PKPdf 16 26 00.1 +1.6**
NEW Newport 125.07 30 PKP **PKPdf 16 25 59.1 +0.5**
comp=Z,8.6nm,0.9s,baz=256,slow=1.8,SNR=7.5
NEW Newport 125.07 30 ⇓P **PKPdf 16 25 55.6 -3.0**
baz=125
NEW Newport 125.07 30 PKP **PKPdf 16 25 59.1 +0.5**
NEW ePKPdf **PKiKP 16 26 00.2 +1.3**
G06A Carlson Farm, 125.08 35 ePKPdf **PKPdf 16 25 59.5 +0.9**
HUMO Hull Mountain 125.16 39 ePKPdf **PKPdf 16 26 00.3 +1.4**
J04D Umpqua Nationa 125.34 38 ⇓P **PKPdf 16 25 57.3 -2.2**
baz=125
KHMM Horse Mountain 125.57 41 ePKPdf **PKPdf 16 26 01.8 +2.0**
PINOR Pine Mountain 125.77 36 ePKPdf **PKPdf 16 26 01.4 +1.4**
YBH Yreka Blue Hor 125.78 40 ePKIKP **PKPdf 16 26 01.0 +0.8**
YBH Yreka Blue Hor 125.78 40 ePKPdf **PKPdf 16 26 01.0 +0.8**
J05D Fort Rock, OR 125.85 37 ⇓P **PKPdf 16 25 58.0 -2.4**
baz=126
M02C Callahan 125.87 40 ⇑P **PKPdf 16 25 57.9 -2.5**
baz=126
K04D Chiloquin, OR 125.90 38 ⇓P **PKPdf 16 25 58.1 -2.4**
baz=126
FFC Flin Flon 125.97 16 ePKIKP **PKPdf 16 26 00.0 0.0**
FFC Flin Flon 125.97 16 ePKPdf **PKPdf 16 26 00.0 0.0**
WALA Waterton Lakes 126.08 28 ePKPdf **PKPdf 16 26 01.1 +0.5**
N02D Trinity Center 126.18 40 ⇑P **PKPdf 16 25 58.9 -2.1**
baz=126
M04C Macdoel 126.31 39 ⇓P **PKPdf 16 25 58.7 -2.6**
baz=126
K05A Summer Lake 126.37 38 ePKPdf **PKPdf 16 26 02.7 +1.3**
I07A Izee 126.41 35 ePKPdf **PKPdf 16 26 01.9 +0.5**
WDC Whiskeytown Da 126.50 41 ePKIKP **PKPdf 16 26 01.8 +0.4**

WDC Whiskeytown Da 126.50 41 ePKPdf **PKPdf 16 26 01.8 +0.4**
BSMT Bassoo Peak 126.50 29 ePKPdf **PKPdf 16 26 01.5 -0.1**
F10A Beach Ranch, E 126.51 32 ePKPdf **PKPdf 16 26 01.2 -0.2**
BLMT Blacktail Moun 126.60 29 ePKPdf **PKPdf 16 26 01.5 -0.2**
JTMT Jette 126.82 29 ePKPdf **PKPdf 16 26 02.2 +0.2**
YBMT Yellow Bay 126.87 29 ePKPdf **PKPdf 16 26 02.8 +0.6**
SWMT Swartz Lake 127.13 29 ePKPdf **PKPdf 16 26 02.7 +0.1**
BMO Blue Mountains 127.18 34 ePKIKP **PKPdf 16 26 02.4 -0.4**
BMO Blue Mountains 127.18 34 ePKPdf **PKPdf 16 26 02.4 -0.4**
MOD Modoc Plateau 127.19 38 ePKPdf **PKPdf 16 26 02.9 -0.1**
SLMT Seeley Lake 127.56 29 ePKPdf **PKPdf 16 26 03.5 0.0**
MSO Missoula 127.63 30 ⇑P **PKPdf 16 26 00.7 -2.9**
baz=127
MSO Missoula 127.63 30 ePKPdf **PKPdf 16 26 02.5 -1.0**
OHCM Honcut 127.84 41 ePKPdf **PKPdf 16 26 04.1 +0.1**
OHCM ePP **PP 16 28 09.6 +3.9**
WVOR Wild Horse Val 127.90 37 ePKIKP **PKPdf 16 26 04.9 +0.6**
WVOR Wild Horse Val 127.90 37 ePKPdf **PKPdf 16 26 04.9 +0.6**
CHMT Chamberlain Mo 127.91 29 ePKPdf **PKPdf 16 26 04.2 0.0**
SCHQ Schefferville 128.20 351 PKP **PKPdf 16 26 04.5 +0.2**
comp=Z,12nm,0.8s,baz=25,slow=5.0,SNR=5.9
SCHQ Schefferville 128.20 351 PKP **PKPdf 16 26 04.5 +0.2**
SCHQ ePKPdf **PKiKP 16 26 08.0 +3.1**
A19A Klindworth Far 128.45 25 ⇓P **PKPdf 16 26 03.8 -1.2**
baz=128
EGMT Eagleton 128.71 26 ⇓P **PKPdf 16 26 04.0 -1.5**
baz=128
EGMT Eagleton 128.71 26 ePKPdf **PKPdf 16 26 06.3 +0.7**
B19A Brinkman Farms 128.73 25 ⇑P **PKPdf 16 26 03.1 -2.5**
baz=128
A20A Cobblestone Ra 128.82 24 ⇓P **PKPdf 16 26 04.2 -1.5**
baz=129
MFID Camas Ranch 128.91 34 ePKPdf **PKPdf 16 26 06.8 +0.7**
LRM Limekiln Ridge 129.07 30 ePKPdf **PKPdf 16 26 07.5 +0.9**
LRM ePP PP 16 28 23.1 +9.4
B20A Solberg Farm, 129.13 25 ⇓P **PKPdf 16 26 05.1 -1.2**
baz=129
A21A Bergtoll Ranch 129.14 23 ⇑P **PKPdf 16 26 05.3 -1.1**
baz=129
C19A Slack Wire Ran 129.24 26 ⇑P **PKPdf 16 26 04.5 -2.1**
baz=129
CMB Columbia Colle 129.25 42 ePKIKP **PKPdf 16 26 08.3 +1.4**
CMB Columbia Colle 129.25 42 ePKPdf **PKPdf 16 26 08.3 +1.4**
DLMT Dillon 129.32 30 ePKPdf **PKPdf 16 26 07.8 +0.9**
A22A Carney Farms, 129.53 23 ⇑P **PKPdf 16 26 06.0 -1.1**
baz=129
B21A Ellsworth Farm 129.55 24 ⇓P **PKPdf 16 26 05.6 -1.5**
baz=129
MCMT McKenzie Canyo 129.57 31 ePKPdf **PKPdf 16 26 07.8 +0.3**
BOZ Bozeman (W) 129.60 29 ePKIKP **PKPdf 16 26 07.8 +0.4**
BOZ Bozeman (W) 129.60 29 ePKPdf **PKPdf 16 26 07.8 +0.4**
HLID Hailey 129.60 33 ⇑P **PKPdf 16 26 06.2 -1.4**
baz=129
HLID Hailey 129.60 33 ePKPdf **PKPdf 16 26 08.1 +0.5**
WAKR Walker 129.63 41 ePKPdf **PKPdf 16 26 08.6 +0.9**
C20A Veseth Ranch, 129.71 25 ⇑P **PKPdf 16 26 05.9 -1.5**
baz=130
D19A Cripps Ranch, 129.75 26 ⇓P **PKPdf 16 26 06.0 -1.6**
baz=130
BMN Battle Mountai 129.94 38 ePKIKP **PKPdf 16 26 09.5 +1.2**
BMN e 16 28 26.1
BMN Battle Mountai 129.94 38 ePKPdf **PKPdf 16 26 09.5 +1.2**
BMN ePP PP 16 28 26.1 +6.5
A23A Redstone 129.95 22 ⇓P **PKPdf 16 26 05.2 -2.6**
baz=130
QLMT Earthquake Lak 130.28 30 ePKPdf **PKPdf 16 26 10.3 +1.5**
A24A Westby 130.30 21 ⇓P **PKPdf 16 26 07.3 -1.2**
baz=130
B23A Brockton 130.32 22 ⇓P **PKPdf 16 26 07.3 -1.2**
baz=130
E19A Rath Farm, Rou 130.33 27 ⇑P **PKPdf 16 26 07.8 -0.9**
baz=130
NVAR Mina Array Bea 130.41 41 PKhKP PKPpre 16 26 01.9
comp=Z,1.3nm,0.7s,baz=283,slow=2.8,SNR=6.3
NVAR PKP **PKiKP 16 26 10.6 +0.4**
comp=Z,14nm,0.8s,baz=272,slow=2.3,SNR=19
GCMT Greycliff 130.43 28 ePKPdf **PKPdf 16 26 09.8 +0.8**
MLAC Mammoth, Mammt 130.50 42 ⇑P **PKPdf 16 26 08.3 -1.2**
baz=130
NV11 Mina Array Sit 130.51 41 ePKPdf **PKPdf 16 26 10.2 +0.8**
C22A Vida 130.55 24 ⇓P **PKPdf 16 26 07.8 -1.3**
baz=130
E20A Meyer Farm, Mu 130.59 26 ⇑P **PKPdf 16 26 07.6 -1.6**
baz=130
A25A Svangstu Ranch 130.61 21 ⇓P **PKPdf 16 26 08.6 -0.5**
baz=130
DGMT Dagmar 130.61 22 ⇓P **PKPdf 16 26 10.3 +1.2**
baz=130
DGMT Dagmar 130.61 22 ePKPdf **PKPdf 16 26 09.7 +0.6**
D21A La Casta Ranch 130.64 25 ⇑P **PKPdf 16 26 06.7 -2.6**
baz=130
F19A Roth Farm, Mol 130.72 27 ⇓P **PKPdf 16 26 06.0 -3.5**
baz=130
YNR Norris Junctio 130.74 30 ePKPdf **PKPdf 16 26 12.5 +2.8**
C23A Lambert 130.78 23 ⇓P **PKPdf 16 26 06.3 -3.1**
baz=130
MTUM Tungsten Hills 130.84 42 ePKPdf **PKPdf 16 26 12.6 +2.5**
YFT Old Faithful 130.85 30 ePKPdf **PKPdf 16 26 10.9 +0.9**
D22A Cohagen 130.91 24 ⇓P **PKPdf 16 26 06.3 -3.4**
baz=131
ELK Elko 130.95 36 PKP **PKPdf 16 26 11.6 +1.3**
comp=Z,9.2nm,0.7s,baz=33,slow=2.5,SNR=19
ELK Elko 130.95 36 PKP **PKPdf 16 26 11.6 +1.3**
ELK ePKPdf **PKiKP 16 26 11.7 +0.5**
A26A Wade Farm, Ken 131.02 20 ⇓P **PKPdf 16 26 08.1 -1.8**
baz=131
E21A Keefer Ranch, 131.02 25 ⇓P **PKPdf 16 26 08.2 -1.7**
baz=131
H17A Grant Village 131.02 30 ⇓P **PKPdf 16 26 08.1 -2.2**
baz=131
H17A Grant Village 131.02 30 ePKPdf **PKPdf 16 26 12.7 +2.3**
RLMT Red Lodge 131.12 28 ePKPdf **PKPdf 16 26 10.9 +0.5**
F20A Billings 131.12 27 ⇑P **PKPdf 16 26 08.7 -1.5**
baz=131
B25A Knox Farm, Ray 131.16 21 ⇓P **PKPdf 16 26 08.3 -1.8**
baz=131
FLWY Flagg Ranch 131.18 30 ePKPdf **PKPdf 16 26 13.9 +3.3**
IMW Indian Meadow 131.19 30 ePKPdf **PKPdf 16 26 12.3 +1.6**
A27A Ledoux Ranch, 131.24 19 ⇓P **PKPdf 16 26 08.5 -1.8**
baz=131
H18A Shoshone NF, C 131.26 29 ⇓P **PKPdf 16 26 09.4 -1.3**
baz=131
LAO LASA Array 131.26 25 ePKPdf **PKPdf 16 26 11.5 +1.1**
C24A Savage 131.30 23 ⇑P **PKPdf 16 26 09.2 -1.3**
baz=131
TPH Tonopah 131.31 40 ePKIKP **PKPdf 16 26 12.3 +1.3**
TPH Tonopah 131.31 40 ePKPdf **PKPdf 16 26 12.3 +1.3**
FXWY Fox Creek 131.34 31 ePKPdf **PKPdf 16 26 07.0 -4.0**
I17A Pilgrim Ck. 131.36 30 ⇓P **PKPdf 16 26 08.3 -2.6**
baz=131
TPAW Teton Pass 131.48 31 ePKPdf **PKPdf 16 26 13.3 +2.1**
G20A Bridger 131.53 27 ⇓P **PKPdf 16 26 08.8 -2.3**
baz=131
E22A Miles City 131.57 25 ⇓P **PKPdf 16 26 09.3 -1.8**
baz=131
H19A Powell 131.59 28 ⇓P **PKPdf 16 26 08.3 -2.9**
baz=131
A28A Rude Farm, Bot 131.59 19 ⇑P **PKPdf 16 26 08.0 -3.0**
baz=131
C25A Freed Ranch, W 131.59 22 ⇑P **PKPdf 16 26 09.0 -2.0**
baz=131
ULM Lac du Bonnet 131.62 14 ePKIKP **PKPdf 16 26 10.7 -0.2**
ULM Lac du Bonnet 131.62 14 PKhKP PKPpre 16 26 01.4
comp=Z,1.1nm,0.4s,baz=33,slow=0.5,SNR=3.6
ULM PKP **PKiKP 16 26 11.8 -0.1**
comp=Z,15nm,0.8s,baz=2.5,slow=1.6,SNR=11
ULM Lac du Bonnet 131.62 14 ePKPdf **PKPdf 16 26 10.7 -0.2**
ULM PKP **PKiKP 16 26 11.8 -0.1**
HVU Hansel Valley 131.69 34 ePKIKP **PKPdf 16 26 12.7 +1.1**
HVU Hansel Valley 131.69 34 ePKPdf **PKPdf 16 26 12.7 +1.1**
ISA Isabella, Lake 131.80 44 ePKIKP **PKPdf 16 26 16.0 +4.2**
ISA Isabella, Lake 131.80 44 ⇓P **PKPdf 16 26 10.2 -1.6**
baz=132
ISA Isabella, Lake 131.80 44 ePKPdf **PKPdf 16 26 16.0 +4.2**
ARVC Arvin 131.83 45 ⇓P **PKPdf 16 26 10.0 -1.8**
baz=132
A29A Manning Farm, 131.90 18 ⇓P **PKPdf 16 26 11.4 -0.1**
baz=132
C26A Wahner Farm, P 131.91 21 ⇓P **PKPdf 16 26 11.2 -0.4**
baz=132
B28A Dugan Ranch, T 131.96 19 ⇓P **PKPdf 16 26 10.1 -1.6**
baz=132
F22A Rosebud 131.97 25 ⇑P **PKPdf 16 26 09.9 -1.9**
baz=132
G21A Lodge Grass 131.99 27 ⇑P **PKPdf 16 26 10.9 -1.0**

	baz=132							
I19A	Meeteetse	132.06	29	⇓P		PKPdf	16 26 09.2	-3.0
	baz=132							
DAC	Darwin (Calif)	132.07	43	ePKIKP		PKPdf	16 26 10.8	-1.6
DAC	Darwin (Calif)	132.07	43	ePKPdf		PKPdf	16 26 10.8	-1.6
BGU	Big Grassy Mou	132.11	35	ePKPdf		PKPdf	16 26 13.6	+1.2
E24A	Baker	132.14	23	⇓P		PKPdf	16 26 09.0	-3.1
	baz=132							
A30A	Hoffart Farm,	132.16	17	⇑P		PKPdf	16 26 08.6	-3.4
	baz=132							
OSI	Osito Audit: C	132.17	45	⇓P		PKPdf	16 26 09.3	-3.2
	baz=132							
SPUT	South Promonto	132.19	34	ePKPdf		PKPdf	16 26 13.3	+0.8
H20A	Greybull	132.19	28	⇑P		PKPdf	16 26 09.6	-2.8
	baz=132							
R11A	Troy Canyon, C	132.20	39	⇑P		PKPdf	16 26 09.9	-2.7
	baz=132							
R11A	Troy Canyon, C	132.20	39	ePKPdf		PKPdf	16 26 12.5	-0.1
C27A	Sayler Ranch,	132.22	20	⇓P		PKPdf	16 26 09.4	-2.7
	baz=132							
B29A	Wagenman Farm,	132.27	18	⇑P		PKPdf	16 26 10.6	-1.6
	baz=132							
F23A	Volborg	132.38	25	⇓P		PKPdf	16 26 10.2	-2.4
	baz=132							
G22A	Birney	132.40	26	⇓P		PKPdf	16 26 10.5	-2.2
	baz=132							
LRMC	Laurel Mtn Rad	132.44	44	⇑P		PKPdf	16 26 11.0	-2.1
	baz=132							
FURC	Furnace Creek,	132.46	42	⇑P		PKPdf	16 26 10.7	-2.2
	baz=132							
D26A	Manning	132.47	22	⇑P		PKPdf	16 26 10.9	-1.8
	baz=132							
HWUT	Hardware Ranch	132.47	33	ePKPdf		PKPdf	16 26 13.5	+0.5
H21A	Big Horn, Sher	132.52	27	⇑P		PKPdf	16 26 10.6	-2.4
	baz=132							
I20A	Worland	132.53	28	⇓P		PKPdf	16 26 10.9	-2.1
	baz=132							
E25A	Miller Ranch,	132.55	23	⇓P		PKPdf	16 26 11.4	-1.5
	baz=132							
EDW2	Edwards Air Fo	132.55	44	⇑P		PKPdf	16 26 09.7	-3.5
	baz=132							
B30A	Myrvik Farm, E	132.59	17	⇑P		PKPdf	16 26 11.0	-1.8
	baz=132							
J19A	Crowheart	132.60	30	⇓P		PKPdf	16 26 11.3	-1.9
	baz=132							
F24A	Ekalaka	132.67	24	⇑P		PKPdf	16 26 11.2	-2.0
	baz=132							
BW06	Boulder Array	132.71	31	ePKPdf		PKPdf	16 26 14.4	+0.9
PDAR	Pinedale Array	132.71	31	PKhKP		PKPpre	16 26 01.8	
	comp=Z,1.1nm,0.7s,baz=141,slow=1.1,SNR=6.1							
PDAR				PKP		PKPdf	16 26 13.2	-0.3
	comp=Z,3.3nm,0.6s,baz=73,slow=2.2,SNR=12							
DUG	Dugway, Tooele	132.72	35	ePKIKP		PKPdf	16 26 14.4	+0.9
DUG	Dugway, Tooele	132.72	35	⇑P		PKPdf	16 26 12.3	-1.2
	baz=132							
DUG	Dugway, Tooele	132.72	35	ePKPdf		PKPdf	16 26 14.4	+0.9
D27A	Center	132.73	21	⇑P		PKPdf	16 26 12.0	-1.2
	baz=132							
MDND	Maddock	132.73	19	⇑P		PKPdf	16 26 10.8	-2.3
	baz=132							
MDND	Maddock	132.73	19	ePKPdf		PKPdf	16 26 14.2	+1.1
PASC	Pasadena Art C	132.78	45	ePKPdf		PKPdf	16 26 14.7	+1.1
G23A	Biddle	132.80	25	⇓P		PKPdf	16 26 12.0	-1.4
	baz=133							
MWC	Mount Wilson	132.84	45	ePKIKP		PKPdf	16 26 17.2	+3.2
MWC	Mount Wilson	132.84	45	ePKPdf		PKPdf	16 26 17.1	+3.2
H22A	Clearmont	132.86	27	⇑P		PKPdf	16 26 11.5	-2.1
	baz=133							
TCUT	Toone Canyon	132.89	33	ePKPdf		PKPdf	16 26 14.7	+0.7
E26A	Carlson Angus	132.93	22	⇓P		PKPdf	16 26 11.6	-1.9
	baz=133							
D28A	Regan	132.99	20	⇑P		PKPdf	16 26 11.3	-2.3
	baz=133							
CTU	Camp Tracy	132.99	34	ePKPdf		PKPdf	16 26 15.9	+1.9
F25A	Bowman	133.00	23	⇓P		PKPdf	16 26 10.9	-2.8
	baz=133							
J20A	Shoshoni	133.00	29	⇑P		PKPdf	16 26 12.1	-1.8
	baz=133							
I21A	Big Trails, Te	133.03	28	⇑P		PKPdf	16 26 11.4	-2.6
	baz=133							
G24A	Alzada	133.10	24	⇑P		PKPdf	16 26 11.1	-2.9
	baz=133							
SCI	San Clemente I	133.12	47	⇓P		PKPdf	16 26 11.2	-3.0
	baz=133							
GSC	Goldstone, Bar	133.14	43	ePKIKP		PKPdf	16 26 13.8	-0.6
GSC	Goldstone, Bar	133.14	43	⇓P		PKPdf	16 26 11.0	-3.4
	baz=133							
GSC	Goldstone, Bar	133.14	43	ePKPdf		PKPdf	16 26 13.8	-0.6
SHOC	Shoshone, Teco	133.17	42	⇓P		PKPdf	16 26 12.0	-2.3
	baz=133							
C30A	Mose, Pekin	133.22	18	⇓P		PKPdf	16 26 11.3	-2.7
	baz=133							
JLU	Jordanelle	133.22	34	ePKPdf		PKPdf	16 26 17.4	+2.8
E27A	Carson	133.29	21	⇑P		PKPdf	16 26 11.7	-2.5
	baz=133							
NLU	North Lily Min	133.30	35	ePKPdf		PKPdf	16 26 17.7	+3.0
J21A	Lysite	133.32	28	⇑P		PKPdf	16 26 11.8	-2.8
	baz=133							
I22A	9 Mile Ranch,	133.34	27	⇓P		PKPdf	16 26 12.2	-2.4
	baz=133							
F26A	Lodgepole	133.37	23	⇑P		PKPdf	16 26 12.3	-2.1
	baz=133							
AGMN	Agassiz Nation	133.43	15	⇑P		PKPdf	16 26 12.2	-2.1
	baz=133							
D29A	Pettibone, Tap	133.43	19	⇓P		PKPdf	16 26 12.0	-2.5
	baz=133							
DAU	Daniels Canyon	133.46	34	ePKIKP		PKPdf	16 26 17.6	+2.5
DAU	Daniels Canyon	133.46	34	ePKPdf		PKPdf	16 26 17.6	+2.5
E28A	Huff	133.48	20	⇑P		PKPdf	16 26 11.8	-2.8
	baz=133							
MPU	Maple Canyon	133.51	35	ePKPdf		PKPdf	16 26 15.6	+0.5
H24A	Dirks Ranch, A	133.52	25	⇑P		PKPdf	16 26 11.9	-2.9
	baz=133							
SHPR	Sheep Range	133.56	41	ePKPdf		PKPdf	16 26 16.0	+0.8
F27A	Lemmon	133.60	22	⇓P		PKPdf	16 26 12.2	-2.7
	baz=133							
G25A	Newell	133.62	24	⇑P		PKPdf	16 26 11.9	-3.0
	baz=133							
D30A	Buchanan	133.66	19	⇓P		PKPdf	16 26 11.7	-3.2
	baz=133							
TUQ	Turquoise Moun	133.67	43	⇑P		PKPdf	16 26 13.3	-2.2
	baz=134							
J22A	Midwest	133.72	28	⇓P		PKPdf	16 26 13.1	-2.2
	baz=134							
HEC	Hector,Ludlow	133.73	44	⇑P		PKPdf	16 26 12.9	-2.5
	baz=134							
E29A	Napoleon	133.84	20	⇓P		PKPdf	16 26 12.6	-2.7
	baz=134							
G26A	Maurine	133.86	23	⇑P		PKPdf	16 26 13.1	-2.3
	baz=134							
ARUT	Antelope Range	133.88	38	ePKIKP		PKPdf	16 26 16.6	+0.8
ARUT	Antelope Range	133.88	38	ePKPdf		PKPdf	16 26 16.6	+0.8
K21A	Alcova	133.95	29	⇑P		PKPdf	16 26 12.9	-3.0
	baz=134							
H25A	Fruitdale	134.02	24	⇑P		PKPdf	16 26 13.8	-1.9
	baz=134							
G27A	Dupree	134.05	22	⇑P		PKPdf	16 26 13.6	-2.1
	baz=134							
F28A	McLaughlin	134.06	21	⇑P		PKPdf	16 26 13.6	-2.1
	baz=134							
CCUT	Cedar City	134.08	39	ePKPdf		PKPdf	16 26 16.7	+0.5
E30A	Jud	134.14	19	⇑P		PKPdf	16 26 13.2	-2.7
	baz=134							
I24A	Kuemmerle Ranc	134.20	26	⇓P		PKPdf	16 26 12.3	-3.8
	baz=134							
GMRC	Granite Mounta	134.21	43	⇑P		PKPdf	16 26 13.6	-2.9
	baz=134							
TMUT	Trail Mountain	134.24	35	ePKPdf		PKPdf	16 26 17.4	+0.8
RSSD	Black Hills	134.24	25	ePKIKP		PKPdf	16 26 15.6	-0.8
RSSD	Black Hills	134.24	25	ePKPdf		PKPdf	16 26 15.6	-0.8
K22A	Casper	134.28	28	⇑P		PKPdf	16 26 14.1	-2.4
	baz=134							
PFO	Pinyon Flats O	134.30	45	ePKIKP		PKPdf	16 26 17.1	+0.5
PFO				e			16 28 48.1	
PFO	Pinyon Flats O	134.30	45	⇑P		PKPdf	16 26 13.6	-3.1
	baz=134							
PFO	Pinyon Flats O	134.30	45	ePKPdf		PKPdf	16 26 17.1	+0.5
PFO				ePP		PP	16 28 48.1	+0.2
H26A	Fairpoint	134.35	24	⇑P		PKPdf	16 26 13.6	-2.8
	baz=134							
BELC	Belle Mtn. Jos	134.41	44	⇑P		PKPdf	16 26 14.2	-2.6
	baz=134							
LDFC	Landfair	134.42	42	ePKPdf		PKPdf	16 26 16.6	-0.2
F29A	Eureka	134.42	20	⇑P		PKPdf	16 26 13.4	-3.0
	baz=134							
I25A	Rochford	134.45	25	⇓P		PKPdf	16 26 13.5	-3.2
	baz=134							
J24A	Dixon Ranch, L	134.60	26	⇓P		PKPdf	16 26 14.6	-2.3
	baz=134							
H27A	Howes	134.62	23	⇑P		PKPdf	16 26 13.6	-3.2
	baz=134							
K23A	Bowen Ranch, D	134.62	28	⇓P		PKPdf	16 26 14.5	-2.5
	baz=134							
BAR	Barrett	134.63	46	ePKPdf		PKPdf	16 26 17.3	+0.1
G28A	Parade	134.69	22	⇑P		PKPdf	16 26 14.9	-2.0
	baz=134							
F30A	Leola	134.69	20	⇑P		PKPdf	16 26 14.9	-2.0
	baz=134							
MONP	Monument Peak,	134.70	46	⇑P		PKPdf	16 26 15.8	-1.8
	baz=134							
SRU	San Rafael Swe	134.76	35	ePKIKP		PKPdf	16 26 18.4	+1.0
SRU	San Rafael Swe	134.76	35	ePKPdf		PKPdf	16 26 18.4	+1.0
N20A	Spence Gulch,	134.78	31	⇑P		PKPdf	16 26 15.3	-2.2
	baz=135							
EYMN	Ely	134.78	12	ePKPdf		PKPdf	16 26 17.2	+0.2
L22A	Ellis Ranch, M	134.80	29	⇓P		PKPdf	16 26 15.0	-2.4
	baz=135							
I26A	New Underwood	134.80	24	⇑P		PKPdf	16 26 15.6	-1.6
	baz=135							
IRM	Iron Mountain	134.91	44	⇓P		PKPdf	16 26 15.9	-1.8
	baz=135							
NEE2	Needles Airpor	134.93	43	⇓P		PKPdf	16 26 16.5	-1.2
	baz=135							
J25A	Sunshine Ranch	134.93	26	⇑P		PKPdf	16 26 16.2	-1.3
	baz=135							
G29A	Hoven	134.94	21	⇑P		PKPdf	16 26 15.5	-1.8
	baz=135							
PLCA	Paso Flores	134.96	189	PKP		PKPdf	16 26 19.9	+2.3
	comp=Z,2.0nm,0.7s,baz=218,slow=4.8,SNR=3.1							
BC3	Big Chuckawall	134.98	44	⇓P		PKPdf	16 26 15.3	-2.6
	baz=135							
H28A	Mission Ridge	134.99	22	⇑P		PKPdf	16 26 15.5	-2.0
	baz=135							
K24A	Anderson Ranch	135.02	27	⇑P		PKPdf	16 26 15.3	-2.5
	baz=135							
L23A	Garrett	135.09	28	⇓P		PKPdf	16 26 16.0	-2.0
	baz=135							
I27A	Quinn	135.10	23	⇑P		PKPdf	16 26 15.8	-1.9
	baz=135							
SWSC	Sam W. Stewart	135.12	45	⇑P		PKPdf	16 26 16.8	-1.2
	baz=135							
M22A	Cedar Creek Ra	135.20	30	⇑P		PKPdf	16 26 16.3	-1.9
	baz=135							
W13A	Hualapai Mount	135.23	42	⇓P		PKPdf	16 26 16.6	-1.9
	baz=135							
G30A	Faulkton	135.27	20	⇓P		PKPdf	16 26 16.6	-1.4
	baz=135							
O20A	White River Ci	135.29	32	⇑P		PKPdf	16 26 16.9	-1.5
	baz=135							
O20A	White River Ci	135.29	32	ePKPdf		PKPdf	16 26 19.0	+0.6
J26A	Sides Ranch, S	135.30	25	⇓P		PKPdf	16 26 16.3	-1.9
	baz=135							
H29A	Onida	135.33	21	⇑P		PKPdf	16 26 15.0	-3.1
	baz=135							
TRQA	Tornquist	135.40	199	ePKPdf		PKPdf	16 26 19.5	+1.1
U15A	North Rim	135.45	39	⇓P		PKPdf	16 26 17.0	-1.9
	baz=135							
L24A	Wheatland	135.50	28	⇓P		PKPdf	16 26 16.3	-2.4
	baz=135							
I28A	Midland	135.50	23	⇓P		PKPdf	16 26 16.1	-2.3
	baz=135							
PDMCI	Parker Dam,Lak	135.52	43	⇑P		PKPdf	16 26 16.7	-2.0
	baz=135							
K25A	Mack Ranch, Ha	135.53	26	⇓P		PKPdf	16 26 15.8	-2.9
	baz=135							
Y12C	Blythe	135.57	44	⇓P		PKPdf	16 26 15.9	-2.9
	baz=135							
M23A	Laramie	135.57	29	⇑P		PKPdf	16 26 16.6	-2.4
	baz=135							
N22A	Wattenberg Ran	135.72	30	⇓P		PKPdf	16 26 16.4	-2.9
	baz=136							
GLA	Glamis	135.75	45	ePKIKP		PKPdf	16 26 21.1	+1.9
GLA	Glamis	135.75	45	⇓P		PKPdf	16 26 16.8	-2.4
	baz=136							
GLA	Glamis	135.75	45	ePKPdf		PKPdf	16 26 21.1	+1.9
K26A	Motz Farm, Whi	135.76	26	⇓P		PKPdf	16 26 16.9	-2.2
	baz=136							
J27A	Elkhorn Farm,	135.79	24	⇓P		PKPdf	16 26 17.0	-2.1
	baz=136							
I29A	Vivian Onida	135.81	22	⇑P		PKPdf	16 26 16.6	-2.5
	baz=136							
RCBR	Riachulo	135.82	258	ePKPdf		PKPdf	16 26 19.6	-0.3
PHWY	Pilot Hill	135.83	29	ePKPdf		PKPdf	16 26 21.3	+1.8
L25A	Engebretsen Ra	135.85	27	⇓P		PKPdf	16 26 16.2	-3.1
	baz=136							
N23A	Red Feather La	135.90	29	⇓P		PKPdf	16 26 15.2	-4.4
	baz=136							
BRSD	Miller	135.94	20	⇓P		PKPdf	16 26 16.2	-3.0
	baz=136							
BRSD	Miller	135.94	20	ePKPdf		PKPdf	16 26 21.4	+2.2
BRSD				ePP		PP	16 29 04.2	+7.0
J28A	Allard Ranch,	135.96	23	⇓P		PKPdf	16 26 15.0	-4.4
	baz=136							
M24A	Cheyenne	136.00	28	⇓P		PKPdf	16 26 15.5	-4.2
	baz=136							
K27A	Flueckinger Fa	136.16	25	⇓P		PKPdf	16 26 16.1	-3.8
	baz=136							
O22A	Kremmling	136.16	31	⇑P		PKPdf	16 26 17.2	-2.9
	baz=136							
PV04	Paradox Valley	136.17	34	ePKPdf		PKPdf	16 26 20.7	+0.7
I30A	Oacoma	136.23	21	⇓P		PKPdf	16 26 17.5	-2.3
	baz=136							
J29A	Okreek	136.33	22	⇓P		PKPdf	16 26 17.8	-2.2
	baz=136							
L26A	Underwood Farm	136.34	26	⇓P		PKPdf	16 26 18.3	-1.9
	baz=136							
M25A	Palm-Egli Farm	136.38	27	⇑P		PKPdf	16 26 17.5	-2.9
	baz=136							
O23A	Lake Granby, G	136.44	30	⇓P		PKPdf	16 26 17.7	-2.9
	baz=136							
P22A	Eagle	136.47	31	⇑P		PKPdf	16 26 18.2	-2.4
	baz=136							
N24A	Carr	136.47	29	⇑P		PKPdf	16 26 18.8	-1.7
	baz=136							
Y14A	Wickenburg	136.50	42	⇓P		PKPdf	16 26 18.6	-2.0
	baz=136							
K28A	Ten Mile Ranch	136.50	24	⇓P		PKPdf	16 26 18.1	-2.3
	baz=136							
PV01	Paradox Valley	136.54	34	ePKPdf		PKPdf	16 26 20.9	+0.1
WUAZ	Wupatki	136.60	39	⇓P		PKPdf	16 26 19.5	-1.4
	baz=136							
WUAZ	Wupatki	136.60	39	ePKPdf		PKPdf	16 26 21.7	+0.7
L27A	T5 Ranch, Ells	136.63	25	⇓P		PKPdf	16 26 18.9	-1.8
	baz=136							
113A	Mohawk Valley,	136.64	44	⇑P		PKPdf	16 26 19.3	-1.5
	baz=136							
SMCO	Snowmass	136.66	32	ePKPdf		PKPdf	16 26 17.0	-4.3
J30A	Dallas	136.71	22	⇓P		PKPdf	16 26 19.4	-1.4
	baz=136							
M26A	McRoberts Ranc	136.77	27	⇑P		PKPdf	16 26 18.8	-2.3
	baz=136							
N25A	Grover	136.86	28	⇓P		PKPdf	16 26 19.4	-1.9
	baz=137							
Z14A	Wintersburg	136.87	43	⇑P		PKPdf	16 26 18.5	-2.8
	baz=137							
K29A	Lazy Trails An	136.88	23	⇓P		PKPdf	16 26 18.8	-2.3
	baz=137							
ISCO	Idaho Springs	136.90	30	ePKIKP		PKPdf	16 26 23.6	+2.0
ISCO	Idaho Springs	136.90	30	⇓P		PKPdf	16 26 18.9	-2.7
	baz=137							
ISCO	Idaho Springs	136.90	30	ePKPdf		PKPdf	16 26 23.6	+2.0
O24A	Longmont	136.92	29	⇑P		PKPdf	16 26 18.9	-2.5
	baz=137							
COWI	Conover	137.00	10	ePKPdf		PKPdf	16 26 20.8	-0.4
L28A	Connealy Angus	137.03	25	⇑P		PKPdf	16 26 19.8	-1.6
	baz=137							
M27A	Reverse DX Ran	137.05	26	⇓P		PKPdf	16 26 20.1	-1.4
	baz=137							
SPMN	Marine on St.	137.06	14	⇑P		PKPdf	16 26 19.2	-2.0
	baz=137							
P23A	Jefferson	137.11	31	⇑P		PKPdf	16 26 20.0	-2.0
	baz=137							
MVCO	Mesa Verde	137.22	35	⇓P		PKPdf	16 26 19.2	-2.9
	baz=137							
MVCO	Mesa Verde	137.22	35	ePKPdf		PKPdf	16 26 22.8	+0.7
K30A	Basset	137.23	22	⇑P		PKPdf	16 26 19.2	-2.6
	baz=137							
X16A	Lo Mia Camp, P	137.24	41	⇓P		PKPdf	16 26 19.4	-2.8
	baz=137							
N26A	Koester Ranch,	137.25	27	⇓P		PKPdf	16 26 20.1	-1.8
	baz=137							
ECSD	EROS Data Cent	137.35	19	⇓P		PKPdf	16 26 18.9	-2.9
	baz=137							
ECSD	EROS Data Cent	137.35	19	ePKPdf		PKPdf	16 26 21.9	+0.1
O25A	Wiggins	137.39	29	⇓P		PKPdf	16 26 20.5	-1.7
	baz=137							
L29A	Maesberg Ranch	137.41	24	⇑P		PKPdf	16 26 19.6	-2.5
	baz=137							
Q23A	Hartsel	137.46	31	⇓P		PKPdf	16 26 19.2	-3.4
	baz=137							
N27A	Anderson Farm,	137.57	27	⇑P		PKPdf	16 26 23.3	+0.8
	baz=137							
M28A	Bar X Bar Ranc	137.60	25	⇑P		PKPdf	16 26 23.9	+1.4
	baz=137							
O26A	Horse Wrangler	137.67	28	⇓P		PKPdf	16 26 24.6	+1.8
	baz=137							
OGNE	Ogallala	137.68	26	⇓P		PKPdf	16 26 24.0	+1.4
	baz=137							
Q24A	Divide	137.77	31	⇑P		PKPdf	16 26 21.0	-2.2
	baz=138							
214A	Organ Pipe Nat	137.77	45	⇑P		PKPdf	16 26 22.0	-1.0
	baz=138							
214A	Organ Pipe Nat	137.77	45	ePKPdf		PKPdf	16 26 23.5	+0.5
S22A	4UR Ranch, Cre	137.78	33	⇓P		PKPdf	16 26 21.3	-1.9
	baz=138							
L30A	Spencer Herefo	137.80	23	⇑P		PKPdf	16 26 21.6	-1.3
	baz=138							
P25A	Willow Gulch B	137.84	29	⇓P		PKPdf	16 26 22.3	-0.8
	baz=138							
W18A	Petrified Fore	137.88	39	⇓P		PKPdf	16 26 21.8	-1.6
	baz=138							
W18A	Petrified Fore	137.88	39	ePKPdf		PKPdf	16 26 24.2	+0.8
L31A	Butterfield Fa	137.95	22	⇑P		PKPdf	16 26 21.7	-1.4
	baz=138							
R23A	Moffat	137.99	32	⇓P		PKPdf	16 26 21.5	-2.1
	baz=138							
O27A	Beecher Island	138.09	27	⇑P		PKPdf	16 26 22.1	-1.4
	baz=138							
N28A	Pribbeno Ranch	138.11	26	⇑P		PKPdf	16 26 22.1	-1.3
	baz=138							
X18A	Snowflake	138.13	39	⇑P		PKPdf	16 26 22.4	-1.5
	baz=138							
P26A	Davis Ranch, A	138.19	28	⇑P		PKPdf	16 26 22.7	-1.1
	baz=138							
S23A	Nye Farm, Mont	138.26	33	⇑P		PKPdf	16 26 23.0	-1.1
	baz=138							
R24A	Sanders Place,	138.34	31	⇓P		PKPdf	16 26 23.2	-0.9
	baz=138							
N29A	Votaw Ranch, W	138.39	25	⇓P		PKPdf	16 26 23.2	-0.8
	baz=138							
O28A	Krutsinger Ran	138.46	26	⇓P		PKPdf	16 26 22.9	-1.2
	baz=138							
SDCO	Great Sand Dun	138.50	32	ePKPdf		PKPdf	16 26 24.6	+0.1
P27A	Ficken Ranch,	138.56	28	⇓P		PKPdf	16 26 23.4	-1.0
	baz=138							
Q26A	Hugo	138.61	29	⇓P		PKPdf	16 26 23.3	-1.2
	baz=138							
M31A	Lambtecht Ranc	138.61	23	⇑P		PKPdf	16 26 23.0	-1.3
	baz=138							
N30A	Hueftle Ranch,	138.63	24	⇑P		PKPdf	16 26 19.6	-4.8
	baz=138							
S24A	Houchin Ranch,	138.73	32	⇓P		PKPdf	16 26 24.2	-0.8
	baz=138							
T23A	Casias Ranch,	138.73	33	⇓P		PKPdf	16 26 24.4	-0.6
	baz=138							
U22A	Llaves	138.74	35	⇑P		PKPdf	16 26 24.4	-0.6
	baz=138							
R25A	Fountain Ranch	138.83	31	⇑P		PKPdf	16 26 23.9	-1.1
	baz=139							
BGNE	Belgrade	138.87	22	⇑P		PKPdf	16 26 23.8	-1.0
	baz=139							
BGNE	Belgrade	138.87	22	ePKPdf		PKPdf	16 26 24.3	-0.4
O29A	4D Ranch, Culb	138.89	26	⇓P		PKPdf	16 26 24.1	-0.8
	baz=139							
P28A	Saint Francis	138.92	27	⇑P		PKPdf	16 26 24.0	-1.0
	baz=139							
TUC	Tucson	138.96	43	ePKIKP		PKPdf	16 26 26.1	+0.8
TUC	Tucson	138.96	43	ePKPdf		PKPdf	16 26 26.1	+0.8
KSCO	Kaye Shedlock'	138.97	28	⇑P		PKPdf	16 26 24.1	-1.1
	baz=139							
V22A	San Miguel Ran	139.04	35	⇓P		PKPdf	16 26 24.8	-0.7
	baz=139							
N31A	Bailey Ranch,	139.06	23	⇑P		PKPdf	16 26 24.7	-0.5
	baz=139							
T24B	San Luis	139.06	33	⇓P		PKPdf	16 26 23.4	-2.2
	baz=139							
S25A	Robets Cordova	139.12	31	⇓P		PKPdf	16 26 23.8	-1.8
	baz=139							
R26A	Arlington	139.13	30	⇓P		PKPdf	16 26 23.1	-2.4
	baz=139							
U23A	El Rito	139.15	34	⇑P		PKPdf	16 26 23.1	-2.6
	baz=139							
O30A	MW Ranch, Wils	139.16	25	⇓P		PKPdf	16 26 23.4	-2.0
	baz=139							
LONY	Lake Ozonia	139.19	355	ePKPdf		PKPdf	16 26 24.3	-1.0
LONY				eSKPbc		SKPbc	16 29 51.3	-7.8
P29A	Atwood	139.26	26	⇑P		PKPdf	16 26 23.6	-2.

baz=140
Q32A Meitler Ranch, 140.78 24 ⇓P PKPpre 16 26 24.4
baz=140
S29A Ulysses 140.79 28 ⇑P PKPpre 16 26 26.2
baz=141
121A Cookes Peak, D 140.79 40 ⇓P PKPpre 16 26 25.7
baz=141
121A Cookes Peak, D 140.79 40 *e*PKPdf **PKPdf 16 26 29.3 +0.6**
Z22A Elephant Butte 140.83 38 ⇓P PKPpre 16 26 24.5
baz=141
X24A Lazy VL Ranch, 140.84 35 ⇑P PKPpre 16 26 24.3
baz=141
V26A Tequesquite Ra 140.87 33 ⇑P PKPpre 16 26 24.3
baz=141
U27A Thompson Grove 140.90 31 ⇓P PKPpre 16 26 24.5
baz=141
W25A X Bar L Ranch, 140.93 34 ⇑P PKPpre 16 26 24.7
baz=141
Y23A Lovelace Mesa, 140.93 37 ⇑P PKPpre 16 26 24.7
baz=141
R31A Burdett 140.97 26 ⇑P PKPpre 16 26 23.9
baz=141,SNR=20
Q33A Connelly Farm, 141.07 23 ⇑P PKPpre 16 26 24.4
baz=141
S30A Montezuma 141.08 27 ⇑P PKPpre 16 26 24.4
baz=141
T29A Hugoton 141.08 29 ⇑P PKPpre 16 26 24.3
baz=141
R32A Long Quarter, 141.20 25 ⇓P PKPpre 16 26 23.8
baz=141,SNR=18
U28A Mallet 141.23 30 ⇑P PKPpre 16 26 24.5
baz=141
Y24A Capitan 141.30 36 ⇑P PKPpre 16 26 24.3
baz=141
X25A Clemmons Ranch 141.31 35 ⇑P PKPpre 16 26 24.6
baz=141
V27A Dan Oppiter Fa 141.40 32 ⇑P PKPpre 16 26 25.0
baz=141
W26A Owens Ranch, T 141.40 33 ⇓P PKPpre 16 26 25.4
baz=141
KSU1 Kansas State U 141.46 22 ⇑P PKPpre 16 26 24.8
baz=141
KSU1 Kansas State U 141.46 22 *e*PKPdf **PKPdf 16 26 31.7 +2.2**
T30A Plains 141.53 28 ⇑P PKPpre 16 26 24.8
baz=141
S31A Mullinville 141.54 26 ⇓P PKPpre 16 26 25.3
baz=141
R33A Olander Ranch, 141.60 24 ⇓P PKPpre 16 26 25.7
baz=141,SNR=8.6
U29A Oasis Ranch, S 141.65 29 ⇑P PKPpre 16 26 25.0
baz=141
BINY Binghamton 141.71 356 *e*PKPdf **PKPdf 16 26 30.6 +0.7**
S32A Newby Ranch, P 141.71 26 ⇑P PKPpre 16 26 25.5
baz=142,SNR=8.8
V28A Channing 141.72 31 ⇓P PKPpre 16 26 26.1
baz=142
Y25A Mesa, Roswell 141.73 35 ⇑P PKPpre 16 26 27.1
baz=142
Z24A Sheeppen Canyo 141.76 37 ⇑P PKPpre 16 26 27.1
baz=142
X26A CR and CF Fran 141.78 34 ⇑P PKPpre 16 26 27.0
baz=142
W27A Bowe Ranch, En 141.80 33 ⇑P PKPpre 16 26 26.8
baz=142
T31A Randall Ranch, 141.88 27 ⇓P PKPpre 16 26 26.4
baz=142
U30A WK&E Inc. Balk 141.89 29 ⇑P PKPpre 16 26 26.8
baz=142
V29A Stinnett 141.98 30 ⇑P PKPpre 16 26 27.2
baz=142
X27A F and S Farms, 142.10 33 ⇑P PKPpre 16 26 27.7
baz=142
W28A Vega 142.11 32 ⇓P PKPpre 16 26 28.0
baz=142
T32A Huddler Ranch, 142.15 26 ⇑P PKPpre 16 26 28.2
baz=142,SNR=8.1
S33A Kaszmaul Farm, 142.20 25 ⇑P PKPpre 16 26 28.1
baz=142,SNR=6.3
Y26A Elida 142.23 35 ⇓P PKPpre 16 26 28.5
baz=142
U31A Nine Bar Ranch 142.40 28 ⇑P PKPpre 16 26 28.2
baz=142
V30A Spur Ranch, Mi 142.48 29 ⇑P PKPpre 16 26 28.9
baz=142
W29A Amarillo 142.51 31 ⇓P PKPpre 16 26 29.1
baz=142
T33A Patterson Ranc 142.53 26 ⇓P PKPpre 16 26 29.0
baz=142,SNR=14
Z26A Caprock 142.61 36 ⇑P PKPpre 16 26 28.7
baz=142
Y27A Causey 142.63 34 ⇓P PKPpre 16 26 29.6
baz=142
AMTX Amarillo 142.67 31 ⇑P PKPpre 16 26 29.2
baz=142
AMTX Amarillo 142.67 31 *e*PKPdf **PKPdf 16 26 32.6 +0.7**
X28A Dimmitt 142.68 32 ⇓P PKPpre 16 26 29.1
baz=142
ODNJ Ogdensburg 142.70 354 *e*PKPdf **PKPdf 16 26 32.5 +0.8**
U32A Winter Ranch, 142.78 27 ⇓P PKPpre 16 26 29.1
baz=142,SNR=11
MSTX Muleshoe 142.78 34 ⇓P PKPpre 16 26 30.1
baz=143
MSTX Muleshoe 142.78 34 *e*PKPdf **PKPdf 16 26 32.2 +0.1**
MNTX Cornudas Mount 142.87 39 *e*PKPdf **PKPdf 16 26 33.0 +0.8**
V31A Spring Creek L 142.88 29 ⇑P PKPpre 16 26 29.6
baz=143
SFIN Lafayette 142.91 10 ⇓P PKPpre 16 26 29.6
baz=143
SFIN Lafayette 142.91 10 *e*PKPdf **PKPdf 16 26 31.3 -0.7**
X29A Tulia 143.00 32 ⇑P **PKPdf 16 26 30.2 -2.3**
baz=143
W30A Crocket Farms 143.00 30 ⇓P **PKPdf 16 26 30.5 -2.0**
baz=143
Y28A McKinney Farm, 143.12 33 ⇑P PKPbc 16 26 30.3 +0.7
baz=143
U33A Lingo Farm, Me 143.13 26 ⇑P PKPbc 16 26 30.1 +0.7
baz=143,SNR=6.6
V32A Arapaho 143.30 28 ⇓P PKPbc 16 26 31.0 +1.1
baz=143,SNR=9.9
W31A Holland Ranch, 143.31 29 ⇓P PKPbc 16 26 30.9 +0.9
baz=143,SNR=16
SSPA Standing Stone 143.35 358 *e*PKPdf **PKPdf 16 26 32.8 0.0**
CPUP Villa Florida 143.35 214 PKHKP PKPpre 16 26 29.9
CPUP *e* 16 26 34.0
CPUP Villa Florida 143.35 214 PKhKP PKPpre 16 26 29.9
comp=Z,1.3nm,0.4s,baz=133,slow=3.7,SNR=6.8
CPUP Villa Florida 143.35 214 PKPpre PKPpre 16 26 29.9
CPUP *e*PKPdf **PKPdf 16 26 34.0 +0.8**
U34A Anderson Ranch 143.38 25 ⇑P PKPbc 16 26 30.4 +0.4
baz=143,SNR=16
U34A Anderson Ranch 143.38 25 *e*PKPdf **PKPdf 16 26 33.4 +0.4**
X30A Coker Ranch, T 143.43 31 ⇑P PKPbc 16 26 31.1 +0.7
baz=143
Y29A Porterfield Fa 143.46 32 ⇓P PKPbc 16 26 31.4 +0.9
baz=143
Z28A Tucker Farm, M 143.50 34 ⇑P PKPbc 16 26 31.5 +0.8
baz=143
V33A Lossen Ranch, 143.57 27 ⇑P PKPbc 16 26 31.0 +0.4
baz=143,SNR=5.1
ACSO Alum Creek Sta 143.60 5 *e*PKPdf **PKPdf 16 26 33.2 0.0**
BDFB Brasilia 143.66 237 PKP **PKPdf 16 26 35.9 +1.7**
comp=Z,3.8nm,0.4s,baz=132,slow=2.5,SNR=5.4
X31A McDonald Ranch 143.74 30 ⇓P PKPbc 16 26 31.9 +0.7
baz=144,SNR=48
Y30A Stafford Cattl 143.86 32 ⇑P PKPbc 16 26 32.5 +0.9
baz=144,SNR=16
V34A Guthrie 143.90 26 ⇓P PKPbc 16 26 32.1 +0.5
baz=144,SNR=14
V34A Guthrie 143.90 26 *e*PKPdf **PKPdf 16 26 34.6 +0.7**
Z29A Hungry Hill Ra 143.90 33 ⇑P PKPbc 16 26 32.6 +0.8
baz=144
MVL Millersville 143.92 356 *e*PKPdf **PKPdf 16 26 33.8 0.0**
128A Castleberry Fa 143.94 35 ⇓P PKPbc 16 26 32.4 +0.4
baz=144
W33A Caddo, Fort Co 144.04 28 ⇓P PKPbc 16 26 32.9 +0.9
baz=144,SNR=31
Y31A Rekieta Farm, 144.12 31 ⇑P PKPbc 16 26 33.1 +0.7
baz=144,SNR=25
BLO Bloomington 144.19 10 *e*PKIKP **PKPdf 16 26 34.8 +0.5**
BLO Bloomington 144.19 10 *e*PKPdf **PKPdf 16 26 34.8 +0.5**
Z30A Sanderson Ranc 144.19 33 ⇓P PKPbc 16 26 33.0 +0.3
baz=144
WMOK Wichita Mounta 144.23 28 *e*PKIKP **PKPdf 16 26 36.0 +1.4**
WMOK Wichita Mounta 144.23 28 *e*PKPdf **PKPdf 16 26 36.0 +1.4**
X32A Elmer 144.25 29 ⇓P PKPbc 16 26 32.9 +0.2
baz=144,SNR=36
228A UT Block 9, Go 144.25 35 ⇑P PKPbc 16 26 32.8 -0.1
baz=144
W34A Bridge Creek, 144.28 27 ⇓P PKPbc 16 26 33.2 +0.4
baz=144,SNR=23
W34A Bridge Creek, 144.28 27 *e*PKPdf **PKPdf 16 26 35.4 +0.7**
129A Stewart Farms, 144.29 34 ⇓P PKPbc 16 26 33.2 +0.2
baz=144
OLIL Olney 144.31 12 *e*PKPdf **PKPdf 16 26 35.0 +0.4**
Y32A R-V Farms, Ver 144.50 30 ⇓P **PKPab 16 26 32.2 -1.2**
baz=144,SNR=27
X33A Lawton 144.52 28 ⇑P **PKPab 16 26 32.5 -0.9**
baz=144,SNR=7.6
SDMD Soldier's Deli 144.53 357 *e*PKPdf **PKPdf 16 26 35.5 +0.6**
TUL1 Leonard 144.55 24 ⇓P **PKPab 16 26 32.1 -1.3**
baz=144
TUL1 Leonard 144.55 24 *e*PKPdf **PKPdf 16 26 35.5 +0.4**
Z31A Sharp Cattle R 144.69 31 ⇓P **PKPab 16 26 34.0 -0.1**
baz=144,SNR=169
X34A Smith Ranch, M 144.78 27 ⇑P **PKPab 16 26 33.9 -0.5**
baz=145,SNR=42
130A Snyder 144.81 33 ⇑P **PKPab 16 26 34.4 -0.2**
baz=145,SNR=44
229A Bryant Ranch, 144.81 35 ⇑P PKPbc 16 26 35.0 +0.3
baz=145
Y33A Hilltop Ranch, 144.90 29 ⇓P **PKPab 16 26 34.0 -0.8**
baz=145,SNR=19
SIUC Southern Illin 145.03 14 *e*PKPdf **PKPdf 16 26 35.6 -0.2**
Z32A Haskell 145.04 31 ⇑P **PKPbc 16 26 34.9 -0.5**
baz=145,SNR=96
131A Roby 145.06 32 ⇑P **PKPbc 16 26 35.0 -0.5**
baz=145,SNR=87
329A Wagon Wheel Ra 145.07 35 ⇓P **PKPbc 16 26 34.9 -0.7**
baz=145
USIN University of 145.14 12 *e*PKPdf **PKPab 16 26 35.6 +0.1**
WCI Wyandotte Cave 145.14 10 *e*PKIKP **PKPdf 16 26 35.9 -0.1**
WCI Wyandotte Cave 145.14 10 *e*PKPdf **PKPdf 16 26 35.9 -0.1**
230A Sterling City 145.26 34 ⇑P **PKPbc 16 26 35.9 -0.3**
baz=145,SNR=270
Y34A Reagan Ranch, 145.35 28 ⇓P **PKPbc 16 26 35.9 -0.4**
baz=145,SNR=135
Z33A Whitaker Ranch 145.41 30 ⇓P **PKPbc 16 26 35.9 -0.6**
baz=145,SNR=22
ABTX Abilene, Hawle 145.49 32 ⇓P **PKPdf 16 26 36.4 -0.4**
baz=145,SNR=38
ABTX Abilene, Hawle 145.49 32 *e*PKPdf **PKPdf 16 26 36.4 -0.4**
TXAR Lajitas Array 145.56 40 PKPbc **PKPab 16 26 38.2 +0.8**
comp=Z,86nm,0.6s,baz=276,slow=1.3,SNR=169
330A Mertzon 145.59 35 ⇓P **PKPdf 16 26 36.6 -0.4**
baz=145,SNR=136
PBMO Poplar Bluff 145.60 16 *e*PKPdf **PKPdf 16 26 35.5 -1.3**
231A Bronte 145.67 33 ⇑P **PKPdf 16 26 37.0 -0.1**
baz=145,SNR=72
429A Davenport Ranc 145.75 36 ⇓P **PKPab 16 26 38.6 +0.5**
baz=146
Z34A Collier Ranch, 145.76 29 ⇑P **PKPdf 16 26 37.0 -0.2**
baz=146,SNR=26
133A Hamilton Ranch 145.88 31 ⇑P **PKPdf 16 26 37.7 +0.3**
baz=146,SNR=88
529A Stev Forest Ra 145.91 37 ⇓P **PKPab 16 26 38.8 +0.1**
baz=146
430A Baggett Ranch, 146.01 35 ⇑P **PKPbc 16 26 38.3 -0.2**
baz=146,SNR=65
232A Coleman 146.06 32 ⇓P **PKPdf 16 26 38.2 +0.3**
baz=146,SNR=225
331A San Angelo 146.08 34 ⇓P **PKPdf 16 26 37.6 -0.3**
baz=146,SNR=50
Z35A Perchaven, San 146.11 28 ⇑P **PKPdf 16 26 36.2 -1.6**
baz=146
JSRW J. Sargeant Re 146.29 358 *e*PKPdf **PKPbc 16 26 38.7 -0.3**
134A White-Moore Ra 146.33 30 ⇓P **PKPdf 16 26 37.9 -0.3**
baz=146,SNR=28
233A Rising Star 146.36 31 ⇑P **PKPdf 16 26 38.4 +0.1**
baz=146,SNR=49
332A Millersview 146.40 33 ⇓P **PKPdf 16 26 38.2 -0.2**
baz=146,SNR=154
530A J-C Ranch, Com 146.42 36 ⇓P **PKPdf 16 26 38.5 0.0**
baz=146,SNR=173
431A Sonora 146.45 35 ⇑P **PKPdf 16 26 38.7 +0.2**
baz=146,SNR=27
MIAR Mount Ida 146.61 22 *e*PKP2 **PKPdf 16 26 39.1 +0.5**
MIAR Mount Ida 146.61 22 *e*PKPdf **PKPdf 16 26 39.1 +0.5**
135A Vickery Place, 146.67 29 ⇓P **PKPdf 16 26 39.1 +0.3**
baz=146
VWCC Virginia Weste 146.74 1 *e*PKPdf **PKPbc 16 26 40.2 -0.2**
234A Clairette 146.76 30 ⇑P **PKPdf 16 26 39.1 +0.1**
baz=146,SNR=30
432A Menard 146.76 34 ⇑P **PKPdf 16 26 39.2 +0.2**
baz=146,SNR=101
BLA Blacksburg 146.76 2 *e*PKIKP **PKPdf 16 26 38.6 -0.3**
BLA Blacksburg 146.76 2 *e*PKPdf **PKPdf 16 26 38.5 -0.3**
UALR University of 146.85 20 *e*PKPdf **PKPbc 16 26 40.9 +0.1**
333A Richland Sprin 146.86 32 ⇑P **PKPdf 16 26 38.7 -0.4**
baz=147,SNR=142
WVT Waverly 146.87 13 *e*PKIKP **PKPdf 16 26 38.6 -0.4**
WVT Waverly 146.87 13 *e*PKPdf **PKPdf 16 26 38.6 -0.4**
531A Rocksprings 146.87 35 ⇑P **PKPdf 16 26 38.7 -0.6**
baz=147,SNR=174
JCT Junction City 147.06 34 *e*PKIKP **PKPdf 16 26 39.7 +0.2**
JCT Junction City 147.06 34 ⇑P **PKPdf 16 26 39.7 +0.2**
baz=147,SNR=106
JCT Junction City 147.06 34 *e*PKPdf **PKPdf 16 26 39.7 +0.2**
WHTX Lake Whitney, 147.11 30 ⇓P **PKPdf 16 26 39.8 +0.3**
baz=147
WHTX Lake Whitney, 147.11 30 *e*PKPab **PKPbc 16 26 42.2 +0.6**
TZTN Tazewell 147.19 7 *e*PKPdf **PKPbc 16 26 41.6 -0.1**
334A Lometa 147.24 31 ⇓P **PKPdf 16 26 39.5 -0.3**
baz=147,SNR=62
433A Art 147.24 33 ⇓P **PKPdf 16 26 39.8 -0.1**
baz=147,SNR=70
532A Rocksprings 147.27 35 ⇑P **PKPdf 16 26 39.6 -0.4**
baz=147,SNR=56
137A Heron Place, G 147.41 27 ⇓P **PKPdf 16 26 39.4 -0.6**
baz=147
631A Perdido Creek 147.41 36 ⇑P **PKPdf 16 26 40.3 +0.2**
baz=147,SNR=29
434A Burnet 147.64 32 ⇑P **PKPdf 16 26 41.1 +0.7**
baz=147,SNR=48
138A Matatall Enter 147.65 26 ⇓P **PKPdf 16 26 41.7 +1.3**
baz=147
335A Moody 147.70 30 ⇓P **PKPdf 16 26 40.4 -0.2**
baz=148
533A Kerrville 147.80 34 ⇑P **PKPdf 16 26 42.0 +1.2**
baz=148
632A Uvalde 147.80 35 ⇓P **PKPdf 16 26 40.3 -0.5**
baz=148,SNR=62
237A Washetta, Mont 147.88 27 ⇑P **PKPdf 16 26 41.1 +0.3**
baz=148
336A Riesel 147.90 29 ⇓P **PKPdf 16 26 41.0 +0.2**
baz=148
OXF Oxford 148.01 16 *e*PKP2 **PKPbc 16 26 43.8 -0.2**
OXF Oxford 148.01 16 *e*PKPbc **PKPbc 16 26 43.8 -0.2**
435B Jarrell 148.02 31 ⇑P **PKPdf 16 26 42.3 +1.2**
baz=148
TKL Tuckaleechee C 148.04 7 *e*PKP2 **PKPbc 16 26 43.2 -0.9**
TKL Tuckaleechee C 148.04 7 PKPbc **PKPbc 16 26 43.6 -0.5**
comp=Z,47nm,0.9s,baz=72,slow=1.5,SNR=19
TKL Tuckaleechee C 148.04 7 *e*PKPdf **PKPbc 16 26 43.2 -0.9**
TKL PKPbc **PKPbc 16 26 43.6 -0.5**
534A Blanco 148.14 33 ⇑P **PKPdf 16 26 41.6 +0.3**
baz=148,SNR=20
SWET Sewanee 148.14 11 *e*PKPbc **PKPbc 16 26 44.0 -0.4**
CPCT Cooper Cave 148.15 8 *e*PKPbc **PKPbc 16 26 45.2 +0.8**
633A Saathoff Ranch 148.19 35 ⇓P **PKPdf 16 26 41.9 +0.5**
baz=148,SNR=35
238A Jacksonville 148.19 26 ⇓P **PKPdf 16 26 41.6 +0.3**
baz=148
732A Laxson Ranch, 148.27 37 ⇑P **PKPdf 16 26 41.4 -0.1**
baz=148,SNR=16
337A Centerville 148.42 28 ⇑P **PKPdf 16 26 42.3 +0.6**
baz=148
436A Wall Ranch, Ga 148.43 30 ⇓P **PKPdf 16 26 42.0 +0.3**
baz=148
239A Gary 148.46 26 ⇑P **PKPdf 16 26 43.0 +1.3**
baz=148
832A Faith Ranch, C 148.59 37 ⇓P **PKPdf 16 26 42.1 0.0**
baz=148,SNR=54
NATX Nacogdoches 148.60 26 *e*PKPbc **PKPbc 16 26 46.1 +0.5**
535A Dale 148.62 32 ⇓P **PKPdf 16 26 42.3 +0.3**
baz=148
338A Crockett 148.65 27 ⇑P **PKPdf 16 26 42.8 +0.7**
baz=148
733A Divot King Ran 148.68 36 ⇓P **PKPdf 16 26 43.0 +0.8**
baz=148,SNR=12
437A Phantom Ranch, 148.70 29 ⇑P **PKPdf 16 26 43.4 +1.2**
baz=148
634A China Grove, S 148.71 34 ⇓P **PKPdf 16 26 43.8 +1.6**
baz=148
KMSC Kings Mountain 148.78 4 ⇑P **PKPdf 16 26 43.7 +1.5**
baz=148
KMSC Kings Mountain 148.78 4 *e*PKPdf **PKPdf 16 26 43.2 +1.0**
KMSC *e*PKPbc **PKPbc 16 26 46.7 +0.7**
536A Bastrop 148.85 31 ⇓P **PKPdf 16 26 43.4 +1.0**
baz=149
833A Chaparral WMA, 148.91 36 ⇓P **PKPdf 16 26 43.7 +1.1**
baz=149,SNR=20
734A La Parita Cree 149.00 35 ⇓P **PKPdf 16 26 43.6 +0.9**
baz=149
339A Huntington 149.01 26 ⇓P **PKPdf 16 26 43.9 +1.3**
baz=149
635A Leesville 149.02 33 ⇓P **PKPdf 16 26 43.8 +1.1**
baz=149
438A Sam Houston St 149.09 28 ⇓P **PKPdf 16 26 44.7 +1.9**
baz=149
537A Green Hill Far 149.23 30 ⇑P **PKPbc 16 26 45.3 -1.9**
baz=149
340A Bronson 149.23 25 ⇑P **PKPbc 16 26 45.2 -2.0**
baz=149
636A Smothers Creek 149.33 32 ⇓P **PKPdf 16 26 45.2 +2.0**
baz=149
735A Kenedy 149.41 34 ⇑P **PKPbc 16 26 45.8 -2.0**
baz=149
933A Laredo 149.50 37 ⇑P **PKPdf 16 26 45.7 +2.1**
baz=149
538A Harpers Horsep 149.52 29 ⇓P **PKPdf 16 26 45.5 +2.0**
baz=149
834A Tilden 149.55 36 ⇓P **PKPdf 16 26 44.8 +1.2**
baz=149
HKT Hockley 149.57 30 *e*PKPdf **PKPdf 16 26 44.8 +1.3**
VBMS Vicksburg 149.80 20 *e*PKPdf **PKPbc 16 26 48.4 -0.3**
835A Beeville 149.84 34 ⇑P **PKPdf 16 26 46.2 +2.1**
baz=150
934A Benavides 149.96 36 ⇓P **PKPdf 16 26 46.4 +2.1**
baz=150
LRAL Lakeview Retre 150.03 13 *e*PKPdf **PKPdf 16 26 44.3 +0.1**
LRAL *e*PKPbc **PKPbc 16 26 49.2 0.0**
034A Hebbronville 150.26 37 ⇓P **PKPbc 16 26 47.6 -2.3**
baz=150
GOGA Godfrey 150.29 7 *e*PKIKP **PKPdf 16 26 44.9 +0.2**
GOGA *e* 16 26 49.7
GOGA Godfrey 150.29 7 *e*PKPdf **PKPdf 16 26 44.9 +0.2**
GOGA *e*PKPbc **PKPbc 16 26 49.6 -0.1**
035A Encino 150.70 36 ⇑P **PKPbc 16 26 48.5 -2.4**
baz=150
035Z Hargill 151.07 37 ⇓P **PKPbc 16 26 49.1 -2.7**
baz=151
TIGA Tifton 152.22 8 ⇑P **PKPdf 16 26 50.8 +3.2**
baz=152
SIV San Ignacio 153.43 222 PKPbc **PKPbc 16 26 57.2 -0.3**
comp=Z,2.9nm,0.8s,baz=102,slow=1.3,SNR=4.8
SIV PKPab **PKPab 16 27 11.2 +1.6**
comp=Z,23nm,1.0s,baz=155,slow=1.0,SNR=12
LPAZ La Paz 157.26 208 PKP **PKPdf 16 26 57.1 +1.4**
comp=Z,2.0nm,1.1s,baz=16,slow=3.7,SNR=5.8
LPAZ PKPab **PKPab 16 27 27.6 +1.2**
comp=Z,7.1nm,0.9s,baz=354,slow=5.3,SNR=6.3
LPAZ La Paz 157.26 208 PKP **PKPdf 16 26 57.1 +1.4**
LPAZ *e*PKPbc PKPbc 16 27 01.1
LPAZ PKPab **PKPab 16 27 27.6 +1.2**
SAML Samuel 159.69 231 *e*PKPdf **PKPdf 16 26 58.6 +0.6**
STVI Saint Thomas 160.02 317 *e*PKPdf **PKPdf 16 26 58.4 +0.3**
OBIP Obispado Ponce 161.33 320 *e*PKPdf **PKPdf 16 27 00.4 +0.7**
TEIG Tepich 161.41 28 PKP **PKPdf 16 27 01.5 +1.9**
comp=Z,8.0nm,0.9s,baz=252,slow=9.0,SNR=2.8
TEIG PKPab **PKPab 16 27 43.9 +0.2**
comp=Z,19nm,0.9s,baz=120,slow=20,SNR=2.7
SDV Santo Domingo 170.22 301 *e*PKPdf **PKPdf 16 27 06.6 -0.6**
ROSC El Rosal 175.15 282 PKP **PKPdf 16 27 11.2 +1.6**
comp=Z,4.7nm,0.4s,baz=256,slow=15,SNR=4.9
OTAV Otavalo 176.37 190 *e*PKPdf **PKPdf 16 27 09.5 -0.5**

IDC ***05*** *16:09:25.0±0.5, 3°.73S×100°.90E, h0km, mb5.4/30, mb1 5.4/30, mb1mx5.2/60, mbtmp5.4/30, MS6.8/6, Ms1 6.8/6, ms1mx6.0/32, Error ellipse: s-maj=17.3km s-min=14.4km az=42.0*

ISCJB ***05*** *16:09:27.9±0.3, 3°.72S±0°.06×100°.98E±0°.06, h32km, mb5.4/41, MS5.0/1, Error ellipse: s-maj=9.3km s-min=7.3km az=35.5*

MOS ***05*** *16:09:28.1±1.1, 3°.74S×100°.91E, h33km, mb5.6/14, Error ellipse: s-maj=15.6km s-min=8.7km az=112.5*

NEIC ***05*** *16:09:29.9±0.2, 3°.76S×100°.94E, h35km, mb5.4/12, Error ellipse: s-maj=6.8km s-min=5.2km az=225.0*

ISC 05 16:09:29.7±0.4,**3.75**±0°.08×**100°.94E**±0°.08,**h32**km,**n150,**
σ0**83**/140,**mb5.4**/40,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.98**	**358**	*e*Pn	**Pn**	**16 11 38.2**	**+0.9**
KSM	**Kuching**	**10.71**	**61**	*e*Pn	**Pn**	**16 12 01.7**	**+0.7**
KKM	**Kota Kinabalu**	**18.09**	**58**	*e*P	**Pn**	**16 13 38.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**22.15**	**355**	P	**P**	**16 14 23.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**22.15**	**355**	P	**P**	**16 14 22.9**	**-0.1**
140nm,1.0s,baz=186,slow=8.2,SNR=5.3							
QIZ	**Qiongzhong**	**24.27**	**21**	*e*P	**P**	**16 14 44.9**	**+0.6**
MBWA	**Marble Bar**	**25.17**	**135**	*e*P	**P**	**16 14 51.7**	**-0.7**
DAV	**Davao City (W)**	**26.84**	**66**	P	**P**	**16 15 06.8**	**-0.9**
LSA	**Lhasa**	**34.55**	**345**	*e*P	**P**	**16 16 15.3**	**-0.8**
LSA	**Lhasa**	**34.55**	**345**	*e*P	**P**	**16 16 15.3**	**-0.8**
ENH	**Enshi**	**34.80**	**13**	*e*P	**P**	**16 16 15.4**	**-2.3**
WRA	**Warramunga Arr**	**36.32**	**119**	P	**P**	**16 16 30.3**	**-0.7**
30nm,0.8s,baz=294,slow=10,SNR=2.4							
WRAB	**Tennant Creek**	**36.33**	**119**	P	**P**	**16 16 30.4**	**-0.6**
WRAB	**Tennant Creek**	**36.33**	**119**	P	**P**	**16 16 30.4**	**-0.6**
ASAR	**Alice Springs**	**37.48**	**125**	P	**P**	**16 16 39.6**	**-1.2**
26nm,0.8s,baz=310,slow=5.7,SNR=4.1							
ASAR				PcP	**PcP**	**16 19 00.8**	**+1.9**
13nm,0.9s,baz=297,slow=4.7,SNR=3.1							
JOW	**Kunigami**	**40.28**	**39**	LR	LR	16 31 38.9	
comp=Z,3μm,21.1s,slow=33							
JNU	**Nakatsue**	**46.34**	**35**	P	**P**	**16 17 53.4**	**+0.4**
184nm,1.0s,baz=203,slow=4.9,SNR=3.8							
CTA	**Charters Tower**	**47.02**	**114**	LR	LR	16 38 50.6	
comp=Z,44μm,20.1s,baz=288,slow=38							
CTAO	**Charters Tower**	**47.02**	**114**	*e*P	**P**	**16 17 58.5**	**-0.1**
CTAO				pmax	pmax		
comp=Z,34nm,0.8s							
CTAO	**Charters Tower**	**47.02**	**114**	*e*P	**P**	**16 17 58.5**	**-0.1**
comp=Z,34nm,0.8s							
STKA	**Stephens Creek**	**47.30**	**131**	P	**P**	**16 18 01.5**	**+1.0**
comp=Z,34nm,0.8s,baz=265,slow=17,SNR=2.0							
KSAR	**Wonju Array Be**	**48.03**	**29**	P	**P**	**16 18 07.8**	**+1.8**
KSAR	**Wonju Array Be**	**48.03**	**29**	P	**P**	**16 18 07.8**	**+1.8**
KSRS	**Korea Array**	**48.06**	**29**	P	**P**	**16 18 07.8**	**+1.6**
KSRS				pmax	pmax		
comp=Z,157nm,1.0s							
KSRS	**Korea Array**	**48.06**	**29**	P	**P**	**16 18 07.8**	**+1.6**
comp=Z,157nm,1.0s,baz=220,slow=8.1,SNR=8.5							
SONM	**Songino Array**	**51.59**	**5**	P	**P**	**16 18 34.2**	**+1.1**
comp=Z,76nm,0.8s,baz=185,slow=8.5,SNR=5.3							
SONM				LR	LR	16 42 05.2	
comp=Z,255μm,19.0s,baz=190,slow=38							
TKM2	**Tokmak 2**	**51.80**	**336**	*e*P	**P**	**16 18 34.8**	**0.0**
TKM2				pmax	pmax		
comp=Z,64nm,0.9s							
TKM2	**Tokmak 2**	**51.80**	**336**	*e*P	**P**	**16 18 34.8**	**0.0**
comp=Z,64nm,0.9s							
AAK	**Ala-Archa**	**52.01**	**335**	*e*P	**P**	**16 18 35.1**	**-1.2**
AAK				pmax	pmax		
comp=Z,46nm,1.1s							
AAK	**Ala-Archa**	**52.01**	**335**	*e*P	**P**	**16 18 35.1**	**-1.2**
comp=Z,46nm,1.1s							
EKS2	**Erkin-Say**	**52.33**	**335**	*e*P	**P**	**16 18 38.9**	**+0.2**
EKS2				pmax	pmax		
comp=Z,96nm,1.0s							
EKS2	**Erkin-Say**	**52.33**	**335**	*e*P	**P**	**16 18 38.9**	**+0.2**
comp=Z,96nm,1.0s							
MKAR	**Makanchi Array**	**52.95**	**344**	P	**P**	**16 18 42.8**	**-0.3**
comp=Z,103nm,0.9s,baz=145,slow=6.6,SNR=3.9							
MAT	**Matsushiro**	**53.06**	**38**	P	**P**	**16 18 43.9**	**-0.2**
MJAR	**Matsushiro Arr**	**53.06**	**38**	P	**P**	**16 18 44.3**	**+0.2**
comp=Z,85nm,1.0s,baz=218,slow=8.1,SNR=6.2							
TLY	**Talaya**	**55.26**	**2**	LR	LR	16 44 41.0	
comp=Z,90μm,18.2s,baz=176,slow=38							
USRK	**Ussuriysk Ar.**	**55.27**	**27**	P	**P**	**16 18 59.3**	**-0.7**
comp=Z,79nm,0.7s,baz=214,slow=3.3,SNR=8.3							
TAU	**Tasmania Unive**	**56.65**	**140**	*e*P	**P**	**16 19 09.2**	**-0.7**
TAU				pmax	pmax		
comp=Z,23nm,0.8s							
TAU	**Tasmania Unive**	**56.65**	**140**	*e*P	**P**	**16 19 09.2**	**-0.7**
comp=Z,23nm,0.8s							
GEYT	**Alibeck**	**57.38**	**320**	P	**P**	**16 19 14.7**	**-0.6**
comp=Z,40nm,1.0s,baz=163,slow=6.8,SNR=3.5							

KURK Kurchatov 57.54 343 *eP* **P 16 19 15.4 -0.6**
KURK pmax pmax
comp=Z,44nm,0.9s
KURK Kurchatov 57.54 343 *eP* **P 16 19 15.4 -0.6**
comp=Z,44nm,0.9s
ZALV Zalesovo Beam 59.05 349 P **P 16 19 25.6 -0.9**
comp=Z,185nm,0.9s,baz=179,slow=5.2,SNR=4.6
ZALV LR LR 16 46 56.4
comp=Z,65μm,18.1s,baz=164,slow=38
BVAR Borovoye Array 62.13 340 P **P 16 19 46.3 -1.3**
comp=Z,39nm,0.8s,baz=148,slow=8.7,SNR=3.6
BVAR LR LR 16 49 14.4
comp=Z,78μm,20.6s,baz=144,slow=38
BRVK Borovoye 62.20 340 *eP* **P 16 19 46.8 -1.2**
BRVK pmax pmax
comp=Z,17nm,0.6s
BRVK Borovoye 62.20 340 *eP* **P 16 19 46.8 -1.2**
comp=Z,17nm,0.6s
BOD Bodaibo 62.27 8 *eP* **P 16 19 48.5 +0.1**
KMBO Kilima Mbogo 63.67 271 *eP* **P 16 19 59.4 +0.5**
KMBO Kilima Mbogo 63.67 271 *eP* **P 16 19 59.4 +0.5**
AKTO Aktyubinsk 65.33 331 LR LR 16 53 05.6
comp=Z,58μm,18.8s,slow=40
GNI Garni 67.43 316 P **P 16 20 24.0 +1.4**
GNI pmax pmax
comp=Z,64nm,1.1s
GNI Garni 67.43 316 P **P 16 20 24.0 +1.4**
comp=Z,64nm,1.1s
ARU Arti 69.17 336 *eP* **P 16 20 31.7 -1.3**
ARU pmax pmax
comp=Z,28nm,0.8s
ARU Arti 69.17 336 *eP* **P 16 20 31.7 -1.3**
comp=Z,28nm,0.8s
KBZ Khabaz 70.23 319 P **P 16 20 40.4 +0.6**
KBZ pmax pmax
comp=Z,40nm,0.9s
KBZ Khabaz 70.23 319 P **P 16 20 40.4 +0.6**
comp=Z,40nm,0.8s,baz=93,slow=13,SNR=4.0
ASF Jabal al Asfar 70.36 306 P **P 16 20 41.5 +0.6**
ASF pmax pmax
comp=Z,20nm,1.0s
ASF Jabal al Asfar 70.36 306 P **P 16 20 41.5 +0.6**
comp=Z,20nm,1.0s,baz=84,slow=7.3,SNR=3.6
KIV Kislovodsk 70.47 319 *eP* **P 16 20 41.4 0.0**
KIV pmax pmax
comp=Z,21nm,0.8s
KIV Kislovodsk 70.47 319 *eP* **P 16 20 41.4 0.0**
comp=Z,21nm,0.8s
MMAI Mount Meron Ar 71.82 306 P **P 16 20 50.0 +0.2**
comp=Z,28nm,0.9s,baz=94,slow=7.4,SNR=3.6
PETK Petropavlovsk- 73.86 32 P **P 16 21 01.2 -0.1**
comp=Z,13nm,0.7s,baz=140,slow=5.4,SNR=5.1
PET Petropavlovsk 74.32 32 *eP* **P 16 21 03.7 -0.3**
PET pmax pmax
comp=Z,60nm,1.1s
PET Petropavlovsk 74.32 32 *eP* **P 16 21 03.7 -0.3**
comp=Z,60nm,1.1s
BRTR Keskin Array B 75.18 313 P **P 16 21 09.2 -0.3**
comp=Z,26nm,0.8s,baz=133,slow=7.0,SNR=4.1
BOSA Boshof 75.64 242 P **P 16 21 12.6 +0.2**
BOSA pmax pmax
comp=Z,8.0nm,1.1s
BOSA Boshof 75.64 242 P **P 16 21 12.6 +0.2**
comp=Z,13nm,0.8s,baz=140,slow=7.7,SNR=3.0
BOSA Boshof 75.64 242 P **P 16 21 12.6 +0.2**
comp=Z,7.7nm,1.1s
SEY Seymchan 76.89 22 P **P 16 21 19.3 +0.8**
comp=Z,29nm,1.0s,baz=259,slow=12,SNR=2.3
OBN Obninsk 78.76 328 *eP* **P 16 21 28.1 -1.0**
SUR Sutherland 79.67 238 P **P 16 21 36.3 +1.5**
comp=Z,23nm,1.0s,baz=81,slow=5.3,SNR=3.0
IDI Anoyia 80.82 306 P **P 16 21 40.5 -0.3**
comp=Z,36nm,0.9s,baz=95,slow=6.9,SNR=3.5
AKASG Malin Array Be 81.43 322 P **P 16 21 43.1 -0.5**
comp=Z,17nm,0.9s,baz=89,slow=4.9,SNR=5.6
FINES FINESS Array B 86.08 332 P **P 16 22 07.2 0.0**
comp=Z,15nm,0.8s,baz=97,slow=12,SNR=4.0
ARCES ARCESS Array B 88.42 340 P **P 16 22 18.3 0.0**
comp=Z,37nm,0.9s,baz=91,slow=4.9,SNR=5.2
GERES GERESS Array B 90.97 319 P **P 16 22 30.9 +0.1**
comp=Z,12nm,0.8s,baz=84,slow=5.5,SNR=4.4
CLL Collm 91.60 321 *iP* **P 16 22 34.7 +1.1**
HFS Hagfors 91.84 330 P **P 16 22 34.5 0.0**
comp=Z,16nm,0.9s,baz=90,slow=5.8,SNR=3.6
SPITS Spitsbergen Ar 92.52 348 P **P 16 22 37.2 -0.1**
comp=Z,16nm,0.9s,baz=91,slow=19,SNR=2.4
NOA NORSAR Array B 93.11 331 P **P 16 22 40.4 0.0**
comp=Z,8.3nm,1.0s,baz=95,slow=5.0,SNR=3.5
TORD Torodi Ar. Bea 99.83 283 P **Pdif 16 23 11.9 0.0**
comp=Z,0.9nm,0.9s,baz=60,slow=5.3,SNR=2.1
ILAR Eielson Array 102.71 24 PKKPbc PKKPbc 16 39 33.2 +8.0
comp=Z,0.8nm,0.7s,baz=136,slow=1.9,SNR=4.5
YKA Yellowknife Ar 115.75 17 PKP **PKPdf 16 28 08.5 -0.2**
comp=Z,1.7nm,0.8s,baz=356,slow=31,SNR=3.1
KHMM Horse Mountain 125.48 41 *e*PKPdf **PKPdf 16 28 27.5 -0.8**
SCHQ Schefferville 128.11 351 PKP **PKPdf 16 28 32.4 -0.2**
comp=Z,10nm,0.8s,baz=357,slow=2.4,SNR=3.9
CMB Columbia Colle 129.17 42 *e*PKIKP **PKPdf 16 28 35.2 -0.1**
CMB Columbia Colle 129.17 42 *e*PKPdf **PKPdf 16 28 35.2 -0.1**
NVAR Mina Array Bea 130.33 41 PKP **PKPdf 16 28 37.3 -0.4**
comp=Z,8.2nm,0.9s,baz=286,slow=3.7,SNR=4.2
NV11 Mina Array Sit 130.43 41 *e*PKPdf **PKPdf 16 28 37.9 +0.1**
YNR Norris Junctio 130.65 30 *e*PKPdf **PKPdf 16 28 37.4 -0.8**
ELK Elko 130.86 36 PKP **PKPdf 16 28 38.2 -0.4**
comp=Z,11nm,1.0s,baz=0.6,slow=1.5,SNR=4.5
ULM Lac du Bonnet 131.53 14 PKP **PKPdf 16 28 38.9 -0.4**
comp=Z,18nm,0.9s,baz=355,slow=7.9,SNR=4.4
HVU Hansel Valley 131.60 34 *e*PKIKP **PKPdf 16 28 38.8 -1.1**
HVU Hansel Valley 131.60 34 *e*PKPdf **PKPdf 16 28 38.8 -1.1**
PDAR Pinedale Array 132.62 31 PKP **PKPdf 16 28 41.5 -0.4**
comp=Z,4.6nm,0.9s,baz=88,slow=2.8,SNR=3.1
TMUT Trail Mountain 134.15 35 *e*PKPdf **PKPdf 16 28 45.3 +0.3**
K22A Casper 134.19 28 *e*PKPdf **PKPdf 16 28 44.0 -0.8**
EYMN Ely 134.68 12 *e*PKPdf **PKPdf 16 28 44.7 -0.6**
X31A McDonald Ranch 143.65 30 P **PKPdf 16 29 00.8 -1.3**
baz=144
W33A Caddo, Fort Co 143.95 28 P PKPbc 16 29 01.2 +0.8
baz=144
Y31A Rekieta Farm, 144.03 31 P **PKPdf 16 29 03.1 +0.3**
baz=144
X32A Elmer 144.15 29 P PKPbc 16 29 01.5 +0.5
baz=144
228A UT Block 9, Go 144.17 35 P **PKPdf 16 29 02.4 -0.8**
baz=144
W34A Bridge Creek, 144.19 27 P PKPbc 16 29 01.9 +0.7
baz=144
129A Stewart Farms, 144.20 34 P PKPbc 16 29 02.2 +0.8
baz=144
Y32A R-V Farms, Ver 144.41 30 P PKPbc 16 29 02.0 +0.1
baz=144
TUL1 Leonard 144.46 24 P PKPbc 16 29 02.4 +0.5
baz=144
Z31A Sharp Cattle R 144.60 31 P **PKPdf 16 29 03.2 -0.6**
baz=144
X34A Smith Ranch, M 144.69 27 P **PKPdf 16 29 03.5 -0.4**
baz=145
130A Snyder 144.72 33 P **PKPdf 16 29 03.7 -0.4**
baz=145
229A Bryant Ranch, 144.72 35 P **PKPdf 16 29 03.9 -0.2**
baz=145
Y33A Hilltop Ranch, 144.81 29 P **PKPab 16 29 02.9 -0.2**
baz=145
SIUC Southern Illin 144.94 14 *e*PKPdf **PKPab 16 29 03.1 -0.2**
Z32A Haskell 144.95 31 P **PKPab 16 29 03.4 -0.2**
baz=145
131A Roby 144.97 32 P **PKPdf 16 29 04.2 -0.2**
baz=145
329A Wagon Wheel Ra 144.98 35 P **PKPdf 16 29 04.7 +0.2**
baz=145
USIN University of 145.04 12 *e*PKPdf **PKPbc 16 29 03.5 -0.2**
WCI Wyandotte Cave 145.05 10 *e*PKIKP **PKPbc 16 29 03.4 -0.4**
WCI Wyandotte Cave 145.05 10 *e*PKPdf **PKPbc 16 29 03.4 -0.4**
230A Sterling City 145.18 34 P **PKPdf 16 29 04.8 0.0**
baz=145
Y34A Reagan Ranch, 145.26 28 P **PKPdf 16 29 04.8 -0.1**
baz=145
Z33A Whitaker Ranch 145.32 30 P **PKPdf 16 29 05.1 +0.1**
baz=145
ABTX Abilene, Hawle 145.40 31 P **PKPab 16 29 05.6 +0.3**
baz=145
TXAR Lajitas Array 145.47 40 PKPbc **PKPab 16 29 05.7 -0.1**
comp=Z,143nm,1.0s,baz=312,slow=0.6,SNR=7.8
330A Mertzon 145.50 35 P **PKPab 16 29 06.8 +1.1**
baz=145
231A Bronte 145.58 33 P **PKPab 16 29 06.0 +0.1**
baz=146
429A Davenport Ranc 145.66 36 P **PKPab 16 29 06.7 +0.3**
baz=146
Z34A Collier Ranch, 145.67 29 P **PKPab 16 29 06.9 +0.7**
baz=146
133A Hamilton Ranch 145.79 31 P **PKPab 16 29 07.4 +0.7**
baz=146
529A Stev Forest Ra 145.82 37 P **PKPab 16 29 08.7 +1.7**
baz=146
232A Coleman 145.98 32 P **PKPab 16 29 07.4 0.0**
baz=146
331A San Angelo 146.00 34 P **PKPab 16 29 08.3 +0.8**
baz=146
134A White-Moore Ra 146.24 30 P **PKPab 16 29 08.0 -0.4**
baz=146
233A Rising Star 146.27 31 P **PKPab 16 29 08.5 -0.1**
baz=146
332A Millersview 146.31 33 P **PKPab 16 29 09.9 +1.2**
baz=146
530A J-C Ranch, Com 146.34 36 P **PKPab 16 29 10.1 +1.3**
baz=146
432A Menard 146.68 34 P **PKPab 16 29 10.9 +0.7**
baz=147
333A Richland Sprin 146.77 32 P **PKPab 16 29 10.4 -0.1**
baz=147
531A Rocksprings 146.79 35 P **PKPab 16 29 11.5 +0.9**
baz=147
434A Burnet 147.55 32 P **PKPbc 16 29 11.7 +0.2**
baz=147
336A Riesel 147.81 29 P **PKPbc 16 29 13.1 +1.0**
baz=148
435B Jarrell 147.93 31 P **PKPbc 16 29 13.4 +0.9**
baz=148
337A Centerville 148.33 28 P **PKPab 16 29 15.8 -0.8**
baz=148
436A Wall Ranch, Ga 148.34 30 P **PKPab 16 29 15.4 -1.2**
baz=148
239A Gary 148.37 25 P **PKPbc 16 29 14.8 +1.3**
baz=148
832A Faith Ranch, C 148.51 37 P **PKPbc 16 29 15.2 +1.1**
baz=148
KMSC Kings Mountain 148.69 4 P **PKPbc 16 29 14.9 +0.6**
baz=148
339A Huntington 148.92 26 P **PKPbc 16 29 16.6 +1.6**
baz=149
035Z Hargill 150.99 37 P **PKPbc 16 29 23.2 +3.0**
baz=151
TIGA Tifton 152.12 8 P **PKPbc 16 29 23.6 +0.9**
baz=152

*IDC **05** 16:15:19.5±10.0, 22°.51S×179°.55W, h522km±99km, mb3.9/5, mb1 4.0/6, mb1mx3.4/45, mbtmp4.7/6, Error ellipse: s-maj=80.4km s-min=34.3km az=37.0*
ISC 05 16:15:23.9±1.4, 22°.6S±0°.2×179°.5W±0°.2, h579km, n15, σ1§84/13, mb4.4/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**9.63**	**70**	P	P	16 17 42.4	+3.6
baz=9.6,SNR=3.4							
URZ	**Urewera**	**15.86**	**190**	P	**P**	**16 18 39.5**	**-1.2**
4.8nm,0.3s,baz=264,slow=5.2,SNR=26							
URZ				S	**S**	**16 21 22.5**	**+1.2**
0.4nm,0.3s,baz=313,slow=19,SNR=2.7							
EIDS	**Eidsvold**	**26.98**	**258**	S	**S**	**16 24 22.1**	**+3.8**
baz=27,SNR=3.3							
CTA	**Charters Tower**	**31.94**	**268**	P	**P**	**16 21 02.0**	**-1.6**
17nm,0.6s,baz=98,slow=11,SNR=6.6							
ASAR	**Alice Springs**	**42.70**	**259**	P	**P**	**16 22 30.8**	**-0.4**
5.9nm,0.5s,baz=92,slow=8.2,SNR=8.4							
WRA	**Warramunga Arr**	**42.95**	**265**	P	**P**	**16 22 30.8**	**-2.4**
4.6nm,0.3s,baz=96,slow=8.2,SNR=49							
BATI	**Baumata**	**55.59**	**273**	P	**P**	**16 24 06.5**	**+0.4**
8.1nm,0.4s,baz=88,slow=3.5,SNR=5.1							
JAGI	**Jajag, Banyuwa**	**64.98**	**271**	P	**P**	**16 25 06.9**	**-1.2**
baz=65,SNR=4.0							
CMAR	**Chiang Mai Arr**	**89.50**	**290**	P	**P**	**16 27 22.2**	**+1.6**
2.3nm,0.9s,baz=128,slow=3.8,SNR=7.8							
BVAR	**Borovoye Array**	**119.77**	**319**	PKP	**PKPdf**	**16 33 08.6**	**-0.1**
0.5nm,0.4s,baz=119,slow=2.8,SNR=5.2							
FINES	**FINESS Array B**	**137.37**	**342**	PKP	**PKPdf**	**16 33 43.5**	**+1.7**
1.2nm,0.9s,baz=132,slow=2.8,SNR=3.7							
HFS	**Hagfors**	**141.38**	**349**	PKhKP	PKPpre	16 33 42.8	
0.9nm,0.7s,baz=140,slow=4.7,SNR=4.7							
AKASG	**Malin Array Be**	**144.13**	**329**	PKP	PKPbc	16 33 52.9	-0.9
0.9nm,0.3s,baz=41,slow=3.9,SNR=6.2							
BRTR	**Keskin Array B**	**147.14**	**309**	PKPbc	**PKPbc**	**16 34 02.9**	**-0.1**
1.0nm,0.6s,baz=121,slow=4.6,SNR=5.7							
MMAI	**Mount Meron Ar**	**147.56**	**296**	PKPbc	**PKPbc**	**16 34 05.1**	**+0.9**
2.3nm,0.4s,baz=75,slow=6.4,SNR=9.5							

MEX 05 16:17:40.2±0.3, 16°.34N×98°.84W, h9km±5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.68**	**85**	*e*P	Pg	16 17 51.9	-1.6
PNIG				*e*S	Sg	16 18 01.3	-1.2
TLIG	**Tlapa**	**1.25**	**12**	*e*P	Pn	16 18 00.1	-3.8
TLIG				*e*S	Sb	16 18 15.3	-5.0
CAIG	**El Cayaco**	**1.54**	**297**	*e*P	Pn	16 18 04.4	-3.4
CAIG				*e*S	Sn	16 18 22.8	-5.2
VHO	**Vista Hermosa**	**2.15**	**70**	*e*P	Pn	16 18 12.5	-4.0
VHO				*i* S	Sn	16 18 38.0	-5.3
ARIG	**Puente Sto Nin**	**2.41**	**323**	*i* P	Pn	16 18 16.4	-3.5
ARIG				*i* S	Sn	16 18 45.4	-4.2

*ISCJB **05** 16:24:52.2±0.6, 4°.24N±0°.06×124°.67E±0°.09, h350km, mb3.2/8, Error ellipse: s-maj=13.1km s-min=6.8km az=150.0*
*IDC **05** 16:24:59.7±7.0, 4°.00N×124°.27E, h419km±92km, mb3.0/8, mb1 3.1/8, mb1mx2.9/42, mbtmp3.8/8, Error ellipse: s-maj=37.6km s-min=14.4km az=54.0*
*DJA **05** 16:25:01.6±0.9, 4°.N±8°.×12°.5E±°, h264km±10km, M4.6/6, mb4.4/6, MLv4.8/5*
ISC 05 16:24:53.2±0.8, 4°.22N±0°.09×124°.75E±0°.09, h350km, n30, σ1§61/30, mb3.2/8, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**3.70**	**192**	P	**Pn**	**16 25 57.9**	**-1.3**
TNTI	**Ternate**	**4.31**	**143**	P	**Pn**	**16 26 04.7**	**-0.7**
MRSI	**Marisa**	**4.66**	**217**	P	**Pn**	**16 26 07.8**	**-1.3**
LBMI	**Labuha**	**5.55**	**150**	P	**Pn**	**16 26 18.6**	**-0.4**
238nm,0.9s,2.2nm							
LBMI				S	**S**	**16 27 25.6**	**-2.9**
238nm,0.9s,2.2nm							
SANI	**Sanana**	**6.35**	**169**	P	**Pn**	**16 26 25.1**	**-3.0**
112nm,0.8s,0.9nm							
SANI				S	S	16 27 32.6	-12
112nm,0.8s,0.9nm							
NLAI	**Namlea**	**7.77**	**162**	P	**Pn**	**16 26 45.0**	**+0.3**
60nm,2.2s							
NLAI				S	**S**	**16 28 13.2**	**-2.3**
60nm,2.2s							
MSAI	**Masohi**	**8.60**	**151**	P	**P**	**16 26 57.2**	**+0.1**
12nm,0.7s							
BNSI	**Bone**	**9.74**	**208**	P	**Pn**	**16 27 08.6**	**+0.5**
BNDI	**Bandanaira**	**10.10**	**149**	P	**P**	**16 27 16.7**	**+2.9**
113nm,0.7s							
FAKI	**Fak Fak**	**10.32**	**133**	P	**P**	**16 27 17.7**	**+1.4**
baz=10,SNR=4.0							
SOEI	**Soe**	**13.89**	**182**	P	**Pn**	**16 27 59.7**	**+2.3**
baz=14,SNR=6.2							
BATI	**Baumata**	**14.37**	**184**	P	**Pn**	**16 28 03.7**	**+0.8**
BATI	**Baumata**	**14.37**	**184**	P	**P**	**16 28 01.4**	**+0.4**
7.8nm,0.3s,baz=40,slow=2.1,SNR=23							
WSI	**Waingapu**	**14.49**	**198**	S	S	16 30 48.7	+10
baz=15,SNR=8.0							
KSM	**Kuching**	**14.68**	**260**	P	**Pn**	**16 28 05.5**	**-0.9**
baz=15,SNR=3.2							
JAY	**Jayapura**	**17.29**	**112**	P	**P**	**16 28 29.8**	**-3.0**
baz=17,SNR=3.6							
MTN	**Manton Dam**	**18.10**	**160**	P	**P**	**16 28 42.9**	**+1.6**
baz=18,SNR=30							
KDU	**Kakadu**	**18.47**	**156**	P	**P**	**16 28 46.7**	**+1.5**
baz=19,SNR=11							
KNRA	**Kununurra**	**20.16**	**169**	P	**P**	**16 29 03.9**	**+1.1**
baz=20,SNR=6.5							
MANU	**Manus Island**	**23.44**	**105**	P	**P**	**16 29 30.7**	**-2.0**
baz=23,SNR=3.2							
WRA	**Warramunga Arr**	**25.80**	**159**	P	**P**	**16 29 54.0**	**+0.3**
0.7nm,0.4s,baz=334,slow=11,SNR=34							
CMAR	**Chiang Mai Arr**	**28.93**	**301**	P	**P**	**16 30 21.3**	**-0.2**
0.7nm,0.9s,baz=110,slow=7.8,SNR=3.8							
ASAR	**Alice Springs**	**29.12**	**163**	P	**P**	**16 30 24.5**	**+1.4**
0.3nm,0.3s,baz=341,slow=7.7,SNR=19							
WRKA	**Warakurna**	**29.29**	**173**	P	**P**	**16 30 25.7**	**+1.2**
baz=30,SNR=3.2							
MEEK	**Meekatharra**	**31.24**	**191**	P	**P**	**16 30 41.3**	**-0.3**
baz=32,SNR=3.2							
STKA	**Stephens Creek**	**39.31**	**157**	P	**P**	**16 31 51.4**	**+1.6**
0.7nm,0.4s,baz=315,slow=5.7,SNR=3.7							
SONM	**Songino Array**	**46.23**	**343**	P	**P**	**16 32 45.1**	**+0.5**
0.8nm,0.9s,baz=176,slow=4.2,SNR=3.6							
PETK	**Petropavlovsk-**	**55.75**	**23**	P	P	16 33 58.0	+3.5
0.4nm,0.4s,baz=208,slow=6.1,SNR=11							
MKAR	**Makanchi Array**	**56.04**	**326**	P	**P**	**16 33 56.3**	**-0.4**
1.0nm,0.4s,baz=122,slow=7.3,SNR=32							
ZALV	**Zalesovo Beam**	**59.27**	**334**	P	**P**	**16 34 18.3**	**-0.5**
0.5nm,0.4s,baz=110,slow=7.1,SNR=2.4							

*CSEM **05** 16:28:52.1, 45°.56N×15°.33E, h0km, ML0.8, Suspected Mining explosion.*
LJU 05 16:28:52.1, 45°.56N×15°.33E, h0km, ML0.8, 2C Artificial, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	**Bojanci**	**0.07**	**226**	⇑*i*Pg	Pg	16 28 53.2	-0.3
BOJS				*i* Sg	Sg	16 28 55.1	+0.6
comp=Z,20nm,0.1s							
BOJS	**Bojanci**	**0.07**	**226**	⇑*i*Pg	Pg	16 28 53.2	-0.3
BOJS				*i* Sg	Sg	16 28 55.1	+0.6
comp=Z,20nm,0.1s							
CRES	**Cresnjev**	**0.29**	**19**	*i* Pg	Pg	16 28 56.7	-1.0
CRES				*i* Sg	Sg	16 29 02.1	+0.7
CRES	**Cresnjev**	**0.29**	**19**	*i* Pg	Pg	16 28 56.7	-1.0
CRES				*i* Sg	Sg	16 29 02.1	+0.7
GCIS	**Gornji Cirnik**	**0.38**	**34**	*i* Pg	Pg	16 28 59.4	+0.1
GCIS				*i* Sg	Sg	16 29 05.6	+1.3
GCIS	**Gornji Cirnik**	**0.38**	**34**	*i* Pg	Pg	16 28 59.4	0.0
GCIS				*i* Sg	Sg	16 29 05.6	+1.3
VISS	**Visnje**	**0.42**	**306**	*i* Pg	Pg	16 29 00.2	-0.1
VISS				*i* Sg	Sg	16 29 06.6	+0.8
comp=Z,21nm,0.6s							
VISS	**Visnje**	**0.42**	**306**	*i* Pg	Pg	16 29 00.2	-0.1
VISS				*i* Sg	Sg	16 29 06.6	+0.8
comp=Z,21nm,0.6s							

IDC 05 16:34:21.8±2.0, 3°.03S×147°.80E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/31, mbtmp3.6/4, Error ellipse: s-maj=170.5km s-min=24.8km az=116.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.33**	**217**	P	P	16 39 10.9	+0.2
0.6nm,0.7s,baz=42,slow=10,SNR=9.7							
ASAR	**Alice Springs**	**24.52**	**212**	P	P	16 39 43.2	-0.1
0.6nm,0.7s,baz=40,slow=7.2,SNR=9.6							
H11S3	**WAKE ISLAND Hy 28.35**	**40**		T	T	17 09 48.8	
baz=222,slow=76,SNR=264							
H11S2	**WAKE ISLAND Hy 28.36**	**40**		T	T	17 09 48.8	
baz=222,slow=76,SNR=90							
H11S1	**WAKE ISLAND Hy 28.37**	**40**		T	T	17 09 50.0	
baz=222,slow=76,SNR=143							
H11N1	**WAKE ISLAND Hy 29.37**	**39**		T	T	17 11 05.9	
baz=221,slow=76,SNR=24							
H11N3	**WAKE ISLAND Hy 29.39**	**39**		T	T	17 11 06.3	
baz=221,slow=76,SNR=30							
H11N2	**WAKE ISLAND Hy 29.39**	**39**		T	T	17 11 07.0	
baz=221,slow=76,SNR=46							
PETK	**Petropavlovsk-**	**56.55**	**7**	P	P	16 44 06.5	+0.4
0.9nm,0.5s,baz=180,slow=7.2,SNR=4.8							
YKA	**Yellowknife Ar**	**96.19**	**28**	P	P	16 47 50.7	-0.9
0.3nm,0.7s,baz=279,slow=4.3,SNR=4.2							

BUC 05 16:37:08.7±0.6, 45°.90N×26°.75E, h12km±5km, MD2.8/2, 8C-8D, Error ellipse: s-maj=7.1km s-min=3.2km az=71.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.04**	**199**	⇓*i*P	Pg	16 37 10.9	-0.1
VRI	**Vrincioaia**	**0.04**	**199**	S	Sg	16 37 13.0	+0.4
VRI	**Vrincioaia**	**0.04**	**199**	⇓*i*P	Pg	16 37 10.9	-0.1
VRI				*i* S	Sg	16 37 13.0	+0.4
PLOR	**Plostina**	**0.08**	**233**	⇓*i*P	Pg	16 37 11.9	+0.5
PLOR	**Plostina**	**0.08**	**233**	S	Sg	16 37 14.8	+1.4
PLOR	**Plostina**	**0.08**	**233**	⇓*i*P	Pg	16 37 11.9	+0.5
PLOR				*i* S	Sg	16 37 14.8	+1.4
ODBI	**Odobesti**	**0.26**	**122**	S	Sb	16 37 19.5	-0.2
ODBI	**Odobesti**	**0.26**	**122**	*i* S	Sb	16 37 19.5	-0.2
PETR	**Petresti**	**0.38**	**118**	⇑*i*P	Pb	16 37 17.0	-0.4
PETR	**Petresti**	**0.38**	**118**	S	Sb	16 37 24.0	+0.7
PETR	**Petresti**	**0.38**	**118**	⇑*i*P	Pb	16 37 17.0	-0.4
PETR				*i* S	Sb	16 37 24.0	+0.7
GRER		**0.55**	**163**	⇑*i*P	Pb	16 37 20.2	0.0
GRER		**0.55**	**163**	⇑*i*P	Pb	16 37 20.2	0.0
TESR	**Tescani**	**0.61**	**354**	⇑*i*P	Pb	16 37 21.5	+0.1
TESR	**Tescani**	**0.61**	**354**	⇑*i*P	Pb	16 37 21.5	+0.1
TESR				*i* S	Sb	16 37 31.1	+1.1
MLR	**Muntele Rosu**	**0.69**	**234**	⇓*i*P	Pb	16 37 23.2	+0.2
MLR	**Muntele Rosu**	**0.69**	**234**	⇓*i*P	Pb	16 37 23.2	+0.2
MLR				*i* S	Sn	16 37 34.1	-1.3
DOPR	**Dopca**	**0.95**	**274**	⇓*i*P	Pn	16 37 28.8	+0.9
DOPR	**Dopca**	**0.95**	**274**	⇓*i*P	Pn	16 37 28.8	+0.9
DOPR				*i* S	Sn	16 37 43.6	+2.2
LEOM	**Leova**	**1.19**	**61**	S	Sn	16 37 47.4	+0.2
LEOM	**Leova**	**1.19**	**61**	*i* S	Sn	16 37 47.4	+0.2
CFR	**Carcaliu**	**1.22**	**126**	⇑*i*P	Pn	16 37 31.0	-0.5
CFR	**Carcaliu**	**1.22**	**126**	⇑*i*P	Pn	16 37 31.0	-0.5

*ISCJB **05** 16:46:52.8±0.6, 36°.73S±0°.05×73°.8W±0°.1, h10km, mb4.2/10, Error ellipse: s-maj=12.6km s-min=5.3km az=21.6*
*NEIC **05** 16:46:52.3, 36°.74S×73°.75W, h3km, mb4.3/5, After GUC.*
NEIC Felt [IV] at Concepcion.
*GUC **05** 16:46:52.3±0.5, 36°.74S×73°.75W, h3km±4km, ML5.4*
*IDC **05** 16:46:53.7±0.9, 36°.72S×73°.49W, h0km, mb4.3/9, mb1 4.3/13, mb1mx4.2/35, mbtmp4.2/13, ML4.5/3, Error ellipse: s-maj=32.4km s-min=17.6km az=93.0*
ISC 05 16:46:54.8±0.7, 36°.76S±0°.05×73°.57W±0°.08, h10km, n45, σ1§24/52, mb4.4/10, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**1.83**	**61**	*e*P1	**Pn**	**16 47 26.7**	**+0.3**
LNCH				*i* S	**Sn**	**16 47 52.2**	**+2.6**
LNCH				AML	AML	16 47 58.6	
comp=N,35μm,0.4s							
LNCH	**Linares**	**1.83**	**61**	*e*P	**Pn**	**16 47 26.7**	**+0.3**
LNCH				*i* S	**Sn**	**16 47 52.2**	**+2.6**
VLCH	**Valdivia**	**3.06**	**175**	*i* P1	**Pn**	**16 47 43.0**	**-0.1**
VLCH				AML	AML	16 48 39.6	
comp=E,12μm,0.7s							
VLCH	**Valdivia**	**3.06**	**175**	*i* P	**Pn**	**16 47 43.0**	**-0.1**
LNV	**Longovilo**	**3.31**	**33**	⇑*i*P	**Pn**	**16 47 46.8**	**+0.2**
LNV	**Longovilo**	**3.31**	**33**	⇑*i*P	**Pn**	**16 47 46.8**	**+0.2**
CACH	**El Canelo**	**3.58**	**44**	*e*P	**Pn**	**16 47 51.3**	**+0.8**
CACH	**El Canelo**	**3.58**	**44**	*e*P	**Pn**	**16 47 51.3**	**+0.8**
CHCH	**Chadas Angostu**	**3.69**	**41**	*e*P	**Pn**	**16 47 52.5**	**+0.5**
CHCH	**Chadas Angostu**	**3.69**	**41**	*e*P	**Pn**	**16 47 52.5**	**+0.5**
TACH	**Talagante**	**3.77**	**36**	⇑*i*P	**Pn**	**16 47 53.4**	**+0.3**
TACH	**Talagante**	**3.77**	**36**	⇑*i*P	**Pn**	**16 47 53.4**	**+0.3**
ANTU	**Antumapu**	**3.99**	**38**	*e*P	**Pn**	**16 47 56.6**	**+0.5**
ANTU				*e*S1	**Sn**	**16 48

TRQA Tornquist 9.31 101 *e*Pn **Pn 16 49 09.3 +0.1**
comp=E,41nm,1.0s
TRQA *e*Sn **Sn 16 50 53.4 -0.6**
LVC Limon Verde 14.66 17 *e*Pn **Pn 16 50 21.3 -1.3**
comp=E,3.6nm,0.6s
CPUP Villa Florida 17.29 58 P **Pn 16 50 56.9 +0.6**
comp=E,0.4nm,0.3s,baz=222,slow=9.7,SNR=5.3
USHA Ushuaia 18.42 171 P **Pn 16 51 11.6 +1.5**
comp=E,1.1nm,0.3s,baz=340,slow=7.2,SNR=3.7
LPAZ La Paz 20.95 15 P **P 16 51 39.1 +0.5**
comp=E,1.9nm,0.6s,baz=198,slow=6.8,SNR=7.1
LPAZ La Paz 20.95 15 P **P 16 51 37.1 -1.5**
comp=E,5.7nm,0.8s
SIV San Ignacio 23.47 32 P **P 16 52 04.6 -0.1**
comp=E,3.4nm,0.8s,baz=232,slow=9.4,SNR=6.6
SAML Samuel 29.25 21 *e*P **P 16 52 55.9 -1.1**
comp=E,1.1nm,0.7s
SNAA Sanae 49.53 157 *e*P **P 16 55 44.8 -0.5**
comp=E,5.2nm,0.9s
QSPA South Pole Qui 53.48 180 P **P 16 56 15.8 +0.7**
comp=E,5.1nm,0.8s,baz=237,slow=0.7,SNR=21
QSPA South Pole Qui 53.48 180 *e*P **P 16 56 15.7 +0.6**
comp=E,5.1nm,0.8s
TXAR Lajitas Array 71.56 333 P **P 16 58 17.1 +1.0**
comp=E,1.3nm,0.9s,baz=153,slow=8.4,SNR=5.5
SUR Sutherland 74.59 119 P **P 16 58 35.0 +0.5**
comp=E,6.7nm,0.9s,baz=182,slow=9.1,SNR=3.6
DBIC Dimbokro 77.24 72 P **P 16 58 50.1 +0.7**
comp=E,3.8nm,0.6s,baz=196,slow=5.4,SNR=5.6
DBIC Dimbokro 77.24 72 *e*P **P 16 58 49.3 -0.2**
comp=E,5.3nm,0.8s
TSUM Tsumeb 79.66 106 P **P 16 59 03.6 +0.6**
comp=E,2.7nm,0.8s,baz=248,slow=4.4,SNR=5.0
LBTB Lobatse 82.27 115 P **P 16 59 16.6 -0.3**
comp=E,6.4nm,0.7s,baz=273,slow=3.9,SNR=11
TORD Torodi Ar. Bea 86.31 71 P **P 16 59 36.4 -0.9**
comp=E,0.9nm,0.9s,baz=277,slow=3.7,SNR=3.7
H11N3 WAKE ISLAND Hyl 24.93 269 T T 19 23 18.9
baz=119,slow=74,SNR=5.1
H11N1 WAKE ISLAND Hyl 24.94 269 T T 19 23 20.8
baz=33,slow=74,SNR=4.8
BVAR Borovoye Array 150.13 46 PKPbc **PKPbc 17 06 46.0 +0.7**
comp=E,1.5nm,0.8s,baz=320,slow=4.4,SNR=6.7
AAK Ala-Archa 154.83 67 PKPab **PKPab 17 07 11.1 -0.5**
comp=E,1.2nm,0.6s,baz=206,slow=3.2,SNR=7.4
ZALV Zalesovo Beam 157.21 34 PKP **PKPdf 17 06 49.5 -0.8**
comp=E,0.5nm,0.6s,baz=343,slow=4.6,SNR=3.6
ZALV PKPab **PKPab 17 07 20.7 -0.5**
comp=E,1.1nm,0.6s,baz=319,slow=4.3,SNR=4.8
MKAR Makanchi Array 159.47 53 PKP **PKPdf 17 06 52.4 -0.9**
comp=E,0.5nm,0.9s,baz=29,slow=2.8,SNR=4.4
MKAR PKPab **PKPab 17 07 29.6 -1.7**
comp=E,0.8nm,0.7s,baz=297,slow=5.3,SNR=7.5

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*IDC **05** 16:53:33.4±12.0, 24°.74S×179°.79W, h414km±128km, mb3.5/4, mb1 3.6/5, mb1mx3.2/32, mbtmp4.3/5, Error ellipse: s-maj=106.5km s-min=42.4km az=25.0*
ISC 05 16:53:41.5±2.5, 25°.4S±0°.2×179°.9W±0°.3, h505km, n11, σ0°93/9, mb3.8/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.06**	**190**	P	**P**	**16 56 30.9**	**-0.2**
1.1nm,0.3s,baz=105,slow=1.8,SNR=7.2							
CTA	**Charters Tower**	**31.59**	**273**	P	**P**	**16 59 22.5**	**+0.1**
7.8nm,0.4s,baz=92,slow=11,SNR=20							
STKA	**Stephens Creek**	**34.26**	**250**	P	**P**	**16 59 45.8**	**+0.9**
3.3nm,1.0s,baz=119,slow=13,SNR=3.2							
COEN	**Coen**	**36.45**	**281**	P	**P**	**17 00 03.5**	**+0.1**
baz=38,SNR=4.4							
ASAR	**Alice Springs**	**41.89**	**262**	P	**P**	**17 00 47.0**	**-0.3**
1.1nm,0.4s,baz=91,slow=7.4,SNR=24							
WRA	**Warramunga Arr**	**42.40**	**268**	P	**P**	**17 00 49.6**	**-1.8**
0.8nm,0.3s,baz=101,slow=8.3,SNR=56							
WRKA	**Warakurna**	**46.60**	**259**	P	**P**	**17 01 22.8**	**-1.0**
baz=48,SNR=5.6							
KNRA	**Kununurra**	**48.77**	**271**	P	**P**	**17 01 39.8**	**-0.3**
baz=50,SNR=8.3							
WSI	**Waingapu**	**58.67**	**274**	P	P	17 02 57.5	+7.2
baz=60,SNR=5.8							
LUWI	**Luwuk**	**60.26**	**284**	P	P	17 02 54.7	-6.3
baz=62,SNR=4.8							
HFS	**Hagfors**	**144.03**	**348**	PKP	**PKPdf**	**17 12 18.8**	**+0.2**
2.4nm,0.5s,baz=45,slow=2.4,SNR=14							

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*IDC **05** 16:59:35.4±1.6, 36°.02S×73°.53W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.8/24, mbtmp3.6/6, ML3.2/2, Error ellipse: s-maj=38.4km s-min=31.8km az=96.0*
*ISCJB **05** 16:59:38.5±1.2, 36°.1S±0°.1×73°.3W±0°.2, h33km, mb3.7/3, Error ellipse: s-maj=27.5km s-min=15.9km az=178.9*
ISC 05 16:59:40.4±1.2, 36°.0S±0°.1×73°.4W±0°.2, h35km, n6, σ0°40/6, mb3.7/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.17**	**156**	Pn	**Pn**	**17 00 55.3**	**0.0**
0.2nm,0.3s,baz=339,slow=14,SNR=2.8							
CFAA	**Coronel Fontan**	**6.14**	**45**	Pn	**Pn**	**17 01 08.6**	**0.0**
0.5nm,0.3s,baz=223,slow=11,SNR=18							
LPAZ	**La Paz**	**20.22**	**15**	P	**P**	**17 04 12.9**	**-0.1**
1.0nm,0.6s,baz=198,slow=9.6,SNR=4.1							
SIV	**San Ignacio**	**22.78**	**32**	P	**P**	**17 04 40.1**	**+0.2**
1.7nm,0.6s,baz=216,slow=8.5,SNR=3.9							
TXAR	**Lajitas Array**	**71.01**	**332**	P	**P**	**17 10 54.1**	**-0.5**
0.5nm,0.5s,baz=154,slow=8.9,SNR=7.4							
NVAR	**Mina Array Bea**	**84.96**	**326**	P	**P**	**17 12 12.5**	**+0.5**
0.3nm,0.5s,baz=141,slow=7.6,SNR=3.0							

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*NEIC **05** 17:10:42.8±3.1, 36°.07N×8°.77W, h5km±18km, mb4.0/2, Error ellipse: s-maj=14.3km s-min=5.1km az=80.0*
*IDC **05** 17:10:42.3±1.4, 36°.00N×8°.59W, h0km, mb3.6/7, mb1 3.9/9, mb1mx3.6/51, mbtmp3.7/9, ML4.7/3, Error ellipse: s-maj=33.6km s-min=21.9km az=80.0*
*CSEM **05** 17:10:46.7±0.2, 36°.08N×8°.50W, h20km, ML4.8/9, Error ellipse: s-maj=4.3km s-min=2.4km az=67.0*
*SFS **05** 17:10:48.0, 36°.09N×8°.50W, h30km, ML4.1*
*MDD **05** 17:10:48.6±0.5, 36°.07N×8°.52W, h30km, mbLg4.1/66, Error ellipse: s-maj=5.7km s-min=3.3km az=60.0, PRXIMO*
*CNRM **05** 17:10:48.4, 36°.01N×8°.56W, h30km, MD4.1*
*LDG **05** 17:10:49.0±0.1, 36°.06N×8°.53W, h30km, Ml4.1/29, Error ellipse: s-maj=2.8km s-min=2.0km az=62.0*
*INMG **05** 17:10:49.7±2.1, 36°.20N×8°.42W, h11km±6km, MD3.4, ML3.9, Error ellipse: s-maj=6.6km s-min=2.8km az=49.0*
*IGIL **05** 17:10:49.7, 36°.21N×8°.49W, h8km, ML4.1*
*STR **05** 17:11:06.0±0.4, 37°.03N×7°.21W, h10km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 05 17:10:46.8±1.2, 36°.12N±0°.03×8°.37W±0°.04, h30km±9km, n340, σ2°45/543, mb3.7/8, 4C-4D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.08**	**340**	*i* P	**Pb**	**17 11 06.7**	**-0.2**
PFVI				*e*S	**Sn**	**17 11 20.1**	**+0.3**
PFVI				A	A	17 11 23.3	
1μm,0.3s							
PFVI	**Vila Bisbo**	**1.08**	**340**	⇓P	**Pb**	**17 11 06.7**	**-0.2**
379nm,0.1s,SNR=18							
PFVI				S	**Sn**	**17 11 19.7**	**-0.1**
2μm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**1.08**	**340**	P	**Pb**	**17 11 06.7**	**-0.2**
379nm,0.1s,SNR=18							
PFVI				*e*S	**Sn**	**17 11 20.1**	**+0.3**
1μm,0.3s							
PBDV	**Barranco-do-Ve**	**1.18**	**17**	*i* P	**Pb**	**17 11 09.8**	**+1.2**
PBDV				*e*S	**Sb**	**17 11 24.8**	**+1.3**
PBDV				A	A	17 11 31.7	
528nm,0.5s							
PBDV	**Barranco-do-Ve**	**1.18**	**17**	⇓P	**Pb**	**17 11 09.8**	**+1.2**
PBDV				S	**Sb**	**17 11 24.8**	**+1.3**
528nm,0.5s							
PBDV	**Barranco-do-Ve**	**1.18**	**17**	P	**Pb**	**17 11 09.8**	**+1.2**
PBDV				S	**Sb**	**17 11 24.8**	**+1.3**
528nm,0.5s							
MORF	**Marmelete**	**1.21**	**349**	*e*P	**Pb**	**17 11 08.7**	**-0.4**
MORF				*e*S	**Sn**	**17 11 23.4**	**+0.4**
MORF				AML	AML	17 11 24.6	
comp=E,2μm,0.2s							
MORF	**Marmelete**	**1.21**	**349**	*e*P	**Pb**	**17 11 08.8**	**-0.4**
MORF				*e*S	**Sn**	**17 11 23.4**	**+0.4**
MORF				A	A	17 11 24.4	
comp=E,2μm,0.2s							
MORF	**Marmelete**	**1.21**	**349**	P	**Pb**	**17 11 08.7**	**-0.4**
MORF				S	**Sn**	**17 11 23.4**	**+0.4**
comp=E,2μm,0.2s							
MORF	**Marmelete**	**1.21**	**349**	*e*P	**Pb**	**17 11 08.8**	**-0.4**
MORF				S	**Sn**	**17 11 23.4**	**+0.4**
comp=E,2μm,0.2s							
PVAQ	**Vaqueiros**	**1.38**	**22**	*e*P	**Pb**	**17 11 12.5**	**+0.4**
PVAQ				*e*S	**Sb**	**17 11 29.7**	**+0.3**
PVAQ				A	A	17 11 35.1	
comp=E,596nm,0.1s							
PVAQ	**Vaqueiros**	**1.38**	**22**	P	**Pb**	**17 11 12.5**	**+0.4**
PVAQ				S	**Sb**	**17 11 29.7**	**+0.3**
comp=E,596nm,0.1s							
PVAQ	**Vaqueiros**	**1.38**	**22**	*e*P	**Pb**	**17 11 12.5**	**+0.4**
PVAQ				S	**Sb**	**17 11 29.7**	**+0.3**
comp=E,596nm,0.1s							
PTEO	**Sao Teotonio**	**1.45**	**349**	*e*P	**Pn**	**17 11 12.2**	**+1.2**
PTEO				*e*S	**Sn**	**17 11 29.3**	**+0.3**
PTEO				A	A	17 11 36.6	
comp=E,880nm,0.4s							
PTEO	**Sao Teotonio**	**1.45**	**349**	P	**Pn**	**17 11 12.2**	**+1.2**
PTEO				S	**Sn**	**17 11 29.3**	**+0.3**
comp=E,440nm,0.4s							
PTEO	**Sao Teotonio**	**1.45**	**349**	*e*P	**Pn**	**17 11 12.2**	**+1.2**
PTEO				S	**Sn**	**17 11 29.3**	**+0.3**
comp=E,440nm,0.4s							
EGRO	**El Granado**	**1.58**	**26**	⇑P	**Pb**	**17 11 15.5**	**+0.1**
comp=E,90nm,0.1s,SNR=18							
EGRO				S	**Sb**	**17 11 34.0**	**-1.0**
comp=E,752nm,0.1s							
EGRO	**El Granado**	**1.58**	**26**	P	**Pb**	**17 11 15.5**	**+0.1**
comp=E,90nm,0.1s,SNR=18							
EGRO				S	**Sb**	**17 11 34.0**	**-1.0**
comp=E,752nm,0.1s							
MESJ	**Messejana**	**1.72**	**4**	*e*P	**Pb**	**17 11 16.8**	**-1.0**
MESJ				*e*S	**Sb**	**17 11 37.1**	**-1.9**
MESJ				AML	AML	17 11 37.6	
comp=N,2μm,0.3s							
MESJ	**Messejana**	**1.72**	**4**	*e*Pn	**Pb**	**17 11 16.9**	**-0.9**
MESJ				*e*Sn	**Sb**	**17 11 37.2**	**-1.9**
MESJ				A	A	17 11 38.0	
comp=N,1μm,0.2s							
MESJ	**Messejana**	**1.72**	**4**	P	**Pb**	**17 11 16.8**	**-1.0**
MESJ				S	**Sb**	**17 11 37.1**	**-1.9**
comp=N,2μm,0.3s							
MESJ	**Messejana**	**1.72**	**4**	P	**Pb**	**17 11 16.8**	**-1.0**
MESJ				*e*Sn	**Sb**	**17 11 37.2**	**-1.9**
comp=N,1μm,0.2s							
SFS	**San Fernando**	**1.78**	**78**	P	**Pb**	**17 11 19.7**	**+0.9**
SFS				S	**Sb**	**17 11 39.8**	**-0.9**
SFS	**San Fernando**	**1.78**	**78**	P	**Pb**	**17 11 19.7**	**+0.9**
SFS				S	**Sb**	**17 11 39.8**	**-0.9**
CNIL	**Conil**	**1.89**	**82**	P	**Pb**	**17 11 21.1**	**+0.5**
CNIL				S	**Sn**	**17 11 40.9**	**+1.1**
CNIL	**Conil**	**1.89**	**82**	P	**Pb**	**17 11 21.1**	**+0.5**
CNIL				S	**Sn**	**17 11 40.8**	**+1.1**
PNCL	**Nicolau / Gran**	**1.99**	**356**	*e*Pn	**Pn**	**17 11 20.0**	**+1.6**
PNCL				*e*Sn	**Sn**	**17 11 43.0**	**+0.7**
PNCL				A	A	17 11 43.6	
comp=N,491nm,0.2s							
PNCL	**Nicolau / Gran**	**1.99**	**356**	*e*Pn	**Pn**	**17 11 20.0**	**+1.6**
PNCL				*e*Sn	**Sn**	**17 11 43.0**	**+0.7**
comp=N,491nm,0.2s							
TSY	**Tnine Yamani**	**2.09**	**110**	P	**Pb**	**17 11 23.5**	**-0.5**
TSY				S	**Sn**	**17 11 45.0**	**+0.4**
TSY	**Tnine Yamani**	**2.09**	**110**	P	**Pb**	**17 11 23.5**	**-0.5**
TSY				S	**Sn**	**17 11 45.0**	**+0.4**
EMIN	**Mina Concepcio**	**2.13**	**39**	⇑P	**Pb**	**17 11 23.0**	**-1.8**
comp=N,35nm,0.1s,SNR=18							
EMIN				S	**Sn**	**17 11 47.1**	**+1.3**
comp=N,653nm,0.1s,SNR=8.7							
EMIN	**Mina Concepcio**	**2.13**	**39**	P	**Pb**	**17 11 23.0**	**-1.8**
comp=N,35nm,0.1s,SNR=18							
EMIN				S	**Sn**	**17 11 47.1**	**+1.3**
comp=N,653nm,0.1s,SNR=8.7							
ESPR	**Espera**	**2.16**	**69**	⇑P	**Pb**	**17 11 24.0**	**-1.2**
comp=N,201nm,0.2s,SNR=18							
ESPR				S	**Sb**	**17 11 49.9**	**-1.6**
comp=N,2μm,0.3s,SNR=4.8							
ESPR	**Espera**	**2.16**	**69**	P	**Pb**	**17 11 24.0**	**-1.2**
comp=N,201nm,0.2s,SNR=18							
ESPR				S	**Sb**	**17 11 49.9**	**-1.6**
comp=N,2μm,0.3s,SNR=4.8							
PBAR	**Barrancos**	**2.31**	**27**	*e*Pn	**Pb**	**17 11 25.3**	**-2.5**
PBAR				*e*Sn	**Sn**	**17 11 52.6**	**+2.4**
PBAR				A	A	17 11 55.7	
comp=N,896nm,0.2s							
PBAR	**Barrancos**	**2.31**	**27**	P	**Pb**	**17 11 25.3**	**-2.5**
PBAR	**Barrancos**	**2.31**	**27**	P	**Pb**	**17 11 25.3**	**-2.5**
PBAR				*e*Sn	**Sn**	**17 11 52.6**	**+2.4**
comp=N,896nm,0.2s							
EVO	**Evora**	**2.42**	**7**	*e*Pn	**Pn**	**17 11 26.3**	**+1.9**
EVO				*e*Sn	**Sn**	**17 11 53.5**	**+0.5**
EVO				A	A	17 11 54.7	
comp=N,734nm,0.2s							
EVO	**Evora**	**2.42**	**7**	P	**Pn**	**17 11 26.3**	**+1.9**
EVO	**Evora**	**2.42**	**7**	P	**Pn**	**17 11 26.3**	**+1.9**
EVO				*e*Sn	**Sn**	**17 11 53.5**	**+0.5**
comp=N,734nm,0.2s							
ECEU	**Ceuta**	**2.43**	**94**	⇑P	**Pb**	**17 11 28.4**	**-1.5**
comp=N,211nm,0.2s,SNR=18							
ECEU				S	**Sn**	**17 11 54.6**	**+1.3**
comp=N,47nm,0.1s,SNR=4.0							
ECEU	**Ceuta**	**2.43**	**94**	P	**Pb**	**17 11 28.4**	**-1.5**
comp=N,211nm,0.2s,SNR=18							
ECEU				S	**Sn**	**17 11 54.6**	**+1.3**
comp=N,47nm,0.1s,SNR=4.0							
RTC	**Rabat Centre**	**2.46**	**149**	P	**Pn**	**17 11 26.0**	**+1.1**
RTC				S	**Sn**	**17 11 53.0**	**-0.9**
RTC	**Rabat Centre**	**2.46**	**149**	*e*Pn	**Pn**	**17 11 25.5**	**+0.7**
RTC	**Rabat Centre**	**2.46**	**149**	P	**Pn**	**17 11 26.0**	**+1.1**
RTC				*e*Sn	**Sn**	**17 11 51.7**	**-2.2**
RTC				S	**Sn**	**17 11 53.0**	**-0.9**
RTC	**Rabat Centre**	**2.46**	**149**	*e*Pn	**Pn**	**17 11 25.5**	**+0.7**
RTC				*e*Sn	**Sn**	**17 11 51.7**	**-2.2**
LIJA	**Lijar**	**2.51**	**71**	⇓P	**Pb**	**17 11 29.2**	**-2.1**
LIJA	**Lijar**	**2.51**	**71**	P	**Pb**	**17 11 29.2**	**-2.1**
REAL	**Reales**	**2.58**	**81**	⇓P	**Pb**	**17 11 30.0**	**-2.5**
REAL				S	**Sn**	**17 11 57.0**	**0.0**
REAL	**Reales**	**2.58**	**81**	P	**Pb**	**17 11 30.0**	**-2.5**
REAL				S	**Sn**	**17 11 57.0**	**0.0**
LIS	**Lisbon**	**2.67**	**347**	*e*P	**Pn**	**17 11 29.3**	**+1.6**
LIS				*e*S	**Sn**	**17 11 59.5**	**+0.5**
LIS				AML	AML	17 12 01.6	
comp=N,1μm,0.3s							
LIS	**Lisbon**	**2.67**	**347**	*e*P	**Pn**	**17 11 29.3**	**+1.6**
LIS	**Lisbon**	**2.67**	**347**	*e*Pn	**Pn**	**17 11 29.9**	**+2.2**
LIS				*e*S	**Sn**	**17 11 59.5**	**+0.5**
LIS				*e*Sn	Sb	17 11 59.9	-6.2
LIS				A	A	17 12 01.4	
comp=N,404nm,0.4s							
LIS	**Lisbon**	**2.67**	**347**	P	**Pn**	**17 11 29.3**	**+1.6**
LIS				S	**Sn**	**17 11 59.5**	**+0.5**
comp=N,1μm,0.3s							
LIS	**Lisbon**	**2.67**	**347**	*e*P	**Pn**	**17 11 29.3**	**+1.6**
LIS	**Lisbon**	**2.67**	**347**	*e*Pn	**Pn**	**17 11 29.9**	**+2.2**
LIS				*e*S	**Sn**	**17 11 59.5**	**+0.5**
LIS				*e*Sn	Sb	17 11 59.9	-6.2
comp=N,404nm,0.4s							
INMG	**Instituto de M**	**2.72**	**347**	*e*Pn	**Pn**	**17 11 30.7**	**+2.3**
INMG	**Instituto de M**	**2.72**	**347**	P	**Pn**	**17 11 30.7**	**+2.3**
INMG	**Instituto de M**	**2.72**	**347**	P	**Pn**	**17 11 30.7**	**+2.3**
PESTR	**Estremoz**	**2.81**	**12**	*e*Pn	**Pn**	**17 11 31.6**	**+1.9**
PESTR				*e*Sn	**Sn**	**17 12 03.5**	**+0.9**
PESTR				A	A	17 12 06.1	
comp=N,173nm,0.7s							
PESTR	**Estremoz**	**2.81**	**12**	*e*Pn	**Pn**	**17 11 31.6**	**+1.9**
PESTR				*e*Sn	**Sn**	**17 12 03.5**	**+0.9**
comp=N,173nm,0.7s							
EBAD	**Badajoz**	**2.84**	**22**	P	**Pn**	**17 11 32.2**	**+2.1**
comp=N,143nm,0.1s,SNR=559							
EBAD				S	**Sn**	**17 12 04.4**	**+1.1**
comp=N,357nm,0.1s,SNR=14							
EBAD	**Badajoz**	**2.84**	**22**	P	**Pn**	**17 11 32.2**	**+2.1**
comp=N,143nm,0.1s,SNR=559							
EBAD				S	**Sn**	**17 12 04.4**	**+1.1**
comp=N,357nm,0.1s,SNR=14							
PMAFR	**Mafra**	**2.92**	**346**	*e*Pn	**Pn**	**17 11 32.8**	**+1.5**
PMAFR				*e*Sn	**Sn**	**17 12 05.8**	**+0.5**
PMAFR				A	A	17 12 07.9	
comp=N,471nm,0.4s							
PMAFR	**Mafra**	**2.92**	**346**	P	**Pn**	**17 11 32.8**	**+1.5**
comp=N,126nm,0.1s,SNR=7.9							
PMAFR				S	**Sn**	**17 12 04.4**	**-0.9**
comp=N,251nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**2.92**	**346**	P	**Pn**	**17 11 32.8**	**+1.5**
comp=N,126nm,0.1s,SNR=7.9							
PMAFR				S	**Sn**	**17 12 04.4**	**-0.9**
comp=N,251nm,0.1s,SNR=7.9							
PMAFR				*e*Sn	**Sn**	**17 12 05.8**	**+0.5**
comp=N,471nm,0.4s							
EMIJ	**Mijas**	**2.94**	**80**	P	**Pn**	**17 11 34.0**	**+2.6**
comp=N,70nm,0.2s,SNR=124							
EMIJ				S	**Sn**	**17 12 06.9**	**+1.2**
comp=N,52nm,0.1s							
EMIJ	**Mijas**	**2.94**	**80**	P	**Pn**	**17 11 34.0**	**+2.6**
comp=N,70nm,0.2s,SNR=124							
EMIJ				S	**Sn**	**17 12 06.9**	**+1.2**
comp=N,52nm,0.1s							
PMTG	**Montargil**	**2.95**	**2**	*e*Pn	**Pn**	**17 11 33.3**	**+1.8**
PMTG				*e*Sn	**Sn**	**17 12 06.1**	**+0.2**
PMTG				A	A	17 12 07.3	
comp=N,302nm,0.2s							
PMTG	**Montargil**	**2.95**	**2**	*e*Pn	**Pn**	**17 11 33.3**	**+1.8**
PMTG				*e*Sn	**Sn**	**17 12 06.1**	**+0.2**
comp=N,302nm,0.2s							
ECAB	**El Cabril**	**3.06**	**49**	P	**Pn**	**17 11 35.7**	**+2.5**
comp=N,73nm,0.1s,SNR=168							
ECAB				S	**Sn**	**17 12 08.9**	**+0.2**
comp=N,51nm,0.1s,SNR=6.7							
ECAB	**El Cabril**	**3.06**	**49**	P	**Pn**	**17 11 35.7**	**+2.5**
comp=N,73nm,0.1s,SNR=168							
ECAB				S	**Sn**	**17 12 08.9**	**+0.2**
comp=N,51nm,0.1s,SNR=6.7							
EMAL	**Malaga-Limoner**	**3.24**	**77**	*i* P	Pn	17 11 39.0	+3.4
EMAL				*e*S	**Sn**	**17 12 11.9**	**-1.2**
PMRV	**Marv??o**	**3.39**	**13**	*e*Pn	**Pn**	**17 11 39.8**	**+2.1**
PMRV				*e*Sn	**Sn**	**17 12 17.6**	**+0.7**
PMRV				A	A	17 12 18.9	
comp=N,174nm,0.3s							
PMRV	**Marv??o**	**3.39**	**13**	P	**Pn**	**17 11 39.8**	**+2.1**
PMRV				S	**Sn**	**17 12 17.6**	**+0.7**
comp=N,174nm,0.3s							
PMRV	**Marv??o**	**3.39**	**13**	P	**Pn**	**17 11 39.8**	**+2.1**
PMRV				S	**Sn**	**17 12 17.6**	**+0.7**
comp=N,174nm,0.3s							
TGT	**Taghat**	**3.40**	**126**	P	**Pn**	**17 11 40.0**	**+2.1**
TGT				S	**Sn**	**17 12 18.0**	**+0.8**
TGT	**Taghat**	**3.40**	**126**	P	**Pn**	**17 11 40.0**	**+2.1**
TGT				S	**Sn**	**17 12 18.0**	**+0.8**
PTOM	**Tomar**	**3.49**	**359**	*e*Pn	**Pn**	**17 11 40.8**	**+1.7**
PTOM				*e*Sn	**Sn**	**17 12 19.3**	**-0.1**
PTOM				A	A	17 12 20.9	
comp=N,493nm,0.3s							
PTOM	**Tomar**	**3.49**	**359**	P	**Pn**	**17 11 40.8**	**+1.7**
PTOM				S	**Sn**	**17 12 19.3**	**-0.1**
comp=N,246nm,0.3s							
PTOM	**Tomar**	**3.49**	**359**	P	**Pn**	**17 11 40.8**	**+1.7**
PTOM				S	**Sn**	**17 12 19.3**	**-0.1**
comp=N,246nm,0.3s							
MIF	**Mishlifen**	**3.74**	**135**	P	**Pn**	**17 11 45.0**	**+2.3**
MIF				S	**Sn**	**17 12 27.0**	**+1.2**
MIF	**Mishlifen**	**3.74**	**135**	P	**Pn**	**17 11 45.0**	**+2.3**
MIF				S	**Sn**	**17 12 27.0**	**+1.2**
PCBR	**Castelo Branco**	**3.78**	**10**	*e*Pn	**Pn**	**17 11 45.0**	**+2.0**
PCBR				*e*Sn	**Sn**	**17 12 26.4**	**0.0**
PCBR				A	A	17 12 29.6	
comp=N,326nm,0.3s							
PCBR	**Castelo Branco**	**3.78**	**10**	P	**Pn**	**17 11 45.0**	**+2.0**
PCBR				S	**Sn**	**17 12 26.4**	**0.0**
comp=N,163nm,0.3s							
PCBR	**Castelo Branco**	**3.78**	**10**	P	**Pn**	**17 11 45.0**	**+2.0**
PCBR				S	**Sn**	**17 12 26.4**	**0.0**
comp=N,163nm,0.3s							
SELV	**Sierra Elvira**	**3.89**	**72**	P	Pn	17 11 48.1	+3.5
comp=N,18nm,0.2s,SNR=7.9							
SELV				S	**Sn**	**17 12 30.6**	**+1.3**
comp=N,38nm,0.2s,SNR=7.9							
SELV	**Sierra Elvira**	**3.89**	**72**	P	Pn	17 11 48.1	+3.5
comp=N,18nm,0.2s,SNR=7.9							
SELV				S	**Sn**	**17 12 30.6**	**+1.3**
comp=N,38nm,0.2s,SNR=7.9							
PCAS	**Casmilo, Conde**	**3.93**	**359**	*e*Pn	**Pn**	**17 11 46.9**	**+1.8**
PCAS				*e*Sn	**Sn**	**17 12 29.9**	**-0.2**
PCAS				A	A	17 12 31.6	
comp=N,130nm,0.5s							
PCAS	**Casmilo, Conde**	**3.93**	**359**	*e*Pn	**Pn**	**17 11 46.9**	**+1.8**
PCAS				*e*Sn	**Sn**	**17 12 29.9**	**-0.2**
comp=N,130nm,0.5s							
TOU	**Touzarine**	**3.94**	**106**	P	**Pn**	**17 11 47.5**	**+2.2**
TOU				S	**Sn**	**17 12 31.0**	**+0.6**
TOU	**Touzarine**	**3.94**	**106**	P	**Pn**	**17 11 47.5**	**+2.2**
TOU				S	**Sn**	**17 12 31.0**	**+0.6**
KIB	**El Ksiba**	**4.03**	**151**	*i* P	**Pn**	**17 11 47.0**	**+0.5**
KIB				*i* S	**Sn**	**17 12 30.0**	**-2.6**
ECOG	**Cogollos-Vega**	**4.03**	**72**	P	Pn	17 11 50.3	+3.8
comp=N,47nm,0.2s,SNR=57							
ECOG				S	**Sn**	**17 12 35.0**	**+2.3**
comp=N,91nm,0.2s,SNR=16							
ECOG	**Cogollos-Vega**	**4.03**	**72**	P	Pn	17 11 50.3	+3.8
comp=N,47nm,0.2s,SNR=57							
ECOG				S	**Sn**	**17 12 35.0**	**+2.3**
comp=N,91nm,0.2s,SNR=16							
EQUE	**Quentar**	**4.11**	**73**	P	Pn	17 11 51.1	+3.5
comp=N,17nm,0.2s,SNR=21				

EQES				S		Sn	17 12 47.1 +1.2
	comp=N,30nm,0.1s,SNR=7.0						
EQES	**Quesada**	**4.56**	**67**	P		**Pn**	**17 11 56.7 +2.8**
	comp=N,18nm,0.1s,SNR=77						
EQES				S		**Sn**	**17 12 47.1 +1.2**
	comp=N,30nm,0.1s,SNR=7.0						
PVIS	**Viseu**	**4.60**	**4**	*e*Pn		**Pn**	**17 11 56.2 +1.8**
PVIS				*e*Sn		**Sn**	**17 12 45.8 -1.0**
PVIS				A		A	17 13 00.1
	comp=N,122nm,0.3s						
PVIS	**Viseu**	**4.60**	**4**	P		**Pn**	**17 11 56.2 +1.8**
PVIS				S		**Sn**	**17 12 45.8 -1.0**
	comp=N,61nm,0.3s						
PVIS	**Viseu**	**4.60**	**4**	P		**Pn**	**17 11 56.2 +1.8**
PVIS				S		**Sn**	**17 12 45.8 -1.0**
	comp=N,61nm,0.3s						
PAB	**San Pablo**	**4.67**	**42**	*e*Pn		**Pn**	**17 11 57.6 +2.3**
PAB				*e*Sn		Sn	17 12 38.3 -10
PAB	**San Pablo**	**4.67**	**42**	*e*Pn		**Pn**	**17 11 57.6 +2.3**
PAB				*e*Sn		Sn	17 12 38.3 -10
ZAI	**Zaio**	**4.72**	**102**	P		**Pn**	**17 11 57.0 +0.9**
ZAI				S		**Sn**	**17 12 50.0 +0.1**
ZAI	**Zaio**	**4.72**	**102**	P		**Pn**	**17 11 57.0 +0.9**
ZAI				S		**Sn**	**17 12 50.0 +0.1**
ESDC	**Sonseca Array**	**4.97**	**43**	P		**Pn**	**17 12 01.7 +2.3**
	comp=N,35nm,0.1s,baz=231,slow=13,SNR=109						
ESDC				S		**Sn**	**17 12 54.1 -1.8**
	comp=N,222nm,0.2s,baz=228,slow=23,SNR=27						
ESDC	**Sonseca Array**	**4.97**	**43**	Pn		**Pn**	**17 12 02.1 +2.7**
	comp=N,17nm,0.3s,baz=228,slow=13,SNR=87						
ESDC				Sn		**Sn**	**17 12 54.4 -1.5**
	comp=N,55nm,0.3s,baz=229,slow=23,SNR=25						
ESDC	**Sonseca Array**	**4.97**	**43**	P		**Pn**	**17 12 01.7 +2.3**
	comp=N,35nm,0.1s,SNR=109						
PTO	**Porto**	**5.01**	**358**	*e*Pn		**Pn**	**17 12 01.8 +1.8**
PTO				*e*Sn		**Sn**	**17 12 54.9 -1.9**
PTO				A		A	17 12 57.4
	comp=N,248nm,0.1s						
PTO	**Porto**	**5.01**	**358**	P		**Pn**	**17 12 01.8 +1.8**
PTO				S		**Sn**	**17 12 54.9 -1.9**
	comp=N,124nm,0.1s						
PTO	**Porto**	**5.01**	**358**	P		**Pn**	**17 12 01.8 +1.8**
PTO				S		**Sn**	**17 12 54.9 -1.9**
	comp=N,124nm,0.1s						
ENIJ	**Nijar**	**5.03**	**78**	P		**Pn**	**17 12 01.7 +1.4**
	comp=N,5.1nm,0.2s,SNR=7.9						
ENIJ				S		**Sn**	**17 12 57.5 +0.1**
	comp=N,17nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**5.03**	**78**	P		**Pn**	**17 12 01.7 +1.4**
	comp=N,5.1nm,0.2s,SNR=7.9						
ENIJ				S		**Sn**	**17 12 57.5 +0.1**
	comp=N,17nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**5.06**	**65**	P		**Pn**	**17 12 03.4 +2.6**
	comp=N,12nm,0.1s,SNR=7.9						
SESP				S		**Sn**	**17 12 58.3 0.0**
	comp=N,100nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**5.06**	**65**	P		**Pn**	**17 12 03.4 +2.6**
	comp=N,12nm,0.1s,SNR=7.9						
SESP				S		**Sn**	**17 12 58.3 0.0**
	comp=N,100nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.14**	**11**	*e*Pn		**Pn**	**17 12 03.6 +1.8**
MVO				*e*Sn		**Sn**	**17 12 59.0 -1.2**
MVO				A		A	17 13 01.4
	comp=N,91nm,0.7s						
MVO	**Moncorvo**	**5.14**	**11**	P		**Pn**	**17 12 03.4 +1.6**
	comp=N,88nm,0.2s,SNR=138						
MVO				S		**Sn**	**17 12 58.6 -1.6**
	comp=N,91nm,0.2s,SNR=11						
MVO	**Moncorvo**	**5.14**	**11**	*e*Pn		**Pn**	**17 12 03.6 +1.8**
MVO				S		**Sn**	**17 12 58.6 -1.6**
	comp=N,91nm,0.2s,SNR=11						
PVRL	**Vila Real**	**5.17**	**5**	*e*Pn		**Pn**	**17 12 04.0 +1.8**
PVRL				*e*Sn		**Sn**	**17 12 59.2 -1.7**
PVRL				A		A	17 13 02.5
	comp=N,97nm,0.1s						
PVRL	**Vila Real**	**5.17**	**5**	P		**Pn**	**17 12 04.0 +1.8**
PVRL				S		**Sn**	**17 12 59.2 -1.7**
	comp=N,48nm,0.1s						
PVRL	**Vila Real**	**5.17**	**5**	P		**Pn**	**17 12 04.0 +1.8**
PVRL				S		**Sn**	**17 12 59.2 -1.7**
	comp=N,48nm,0.1s						
ZFT	**Errachidia**	**5.26**	**140**	P		**Pn**	**17 12 05.0 +1.4**
ZFT				S		**Sn**	**17 13 02.0 -1.3**
ZFT	**Errachidia**	**5.26**	**140**	P		**Pn**	**17 12 05.0 +1.4**
ZFT				S		**Sn**	**17 13 02.0 -1.3**
POLO	**Lamas de Olo**	**5.27**	**5**	*e*Pn		**Pn**	**17 12 05.3 +1.8**
POLO				*e*Sn		**Sn**	**17 13 01.2 -2.0**
POLO				A		A	17 13 04.6
	comp=N,43nm,0.4s						
POLO	**Lamas de Olo**	**5.27**	**5**	*e*Pn		**Pn**	**17 12 05.3 +1.8**
EVIA	**Vianos**	**5.30**	**60**	P		**Pn**	**17 12 06.2 +2.2**
	comp=N,29nm,0.1s,SNR=33						
EVIA				S		**Sn**	**17 13 03.6 -0.6**
	comp=N,119nm,0.1s,SNR=13						
EVIA	**Vianos**	**5.30**	**60**	P		**Pn**	**17 12 06.2 +2.2**
	comp=N,29nm,0.1s,SNR=33						
PCAB	**Cabril**	**5.59**	**3**	*e*Pn		**Pn**	**17 12 09.6 +1.7**
PCAB				*e*Sn		**Sn**	**17 13 08.8 -2.3**
PCAB				A		A	17 13 12.1
	comp=N,113nm,0.6s						
PCAB	**Cabril**	**5.59**	**3**	P		**Pn**	**17 12 09.6 +1.7**
PCAB				S		**Sn**	**17 13 08.8 -2.3**
	comp=N,56nm,0.6s						
PCAB	**Cabril**	**5.59**	**3**	P		**Pn**	**17 12 09.6 +1.7**
GUD	**Guadarrama**	**5.60**	**35**	P		**Pn**	**17 12 10.2 +2.1**
	comp=N,37nm,0.3s,SNR=137						
GUD				S		**Sn**	**17 13 11.5 0.0**
	comp=N,60nm,0.2s,SNR=15						
GUD	**Guadarrama**	**5.60**	**35**	P		**Pn**	**17 12 10.2 +2.1**
	comp=N,37nm,0.3s,SNR=137						
ELOB	**Lobios**	**5.75**	**2**	P		**Pn**	**17 12 11.2 +1.1**
	comp=N,66nm,0.2s,SNR=114						
ELOB				S		**Sn**	**17 13 11.9 -3.0**
	comp=N,41nm,0.1s,SNR=12						
ELOB	**Lobios**	**5.75**	**2**	P		**Pn**	**17 12 11.2 +1.1**
	comp=N,66nm,0.2s,SNR=114						
PBRG	**Braganca**	**5.82**	**12**	*e*Pn		**Pn**	**17 12 12.9 +1.9**
PBRG				*e*Sn		**Sn**	**17 13 14.9 -1.8**
PBRG				A		A	17 13 17.5
	comp=N,99nm,0.8s						
PBRG	**Braganca**	**5.82**	**12**	P		**Pn**	**17 12 12.9 +1.9**
PBRG				S		**Sn**	**17 13 14.9 -1.8**
	comp=N,49nm,0.8s						
PBRG	**Braganca**	**5.82**	**12**	P		**Pn**	**17 12 12.9 +1.9**
PGAV	**Gavieira, Arco**	**5.84**	**1**	*e*Pn		**Pn**	**17 12 13.0 +1.6**
PGAV				*e*Sn		**Sn**	**17 13 14.5 -2.8**
PGAV				A		A	17 13 17.8
	comp=N,43nm,0.4s						
PGAV	**Gavieira, Arco**	**5.84**	**1**	*e*Pn		**Pn**	**17 12 13.0 +1.6**
ECAL	**Calabor**	**5.95**	**12**	P		**Pn**	**17 12 14.7 +1.8**
	comp=N,41nm,0.2s,SNR=59						
ECAL				S		**Sn**	**17 13 17.9 -2.2**
	comp=N,159nm,0.3s,SNR=12						
ECAL	**Calabor**	**5.95**	**12**	P		**Pn**	**17 12 14.7 +1.8**
	comp=N,41nm,0.2s,SNR=59						
EMUR	**La Murta**	**5.96**	**71**	P		**Pn**	**17 12 15.8 +2.8**
	comp=N,3.5nm,0.2s,SNR=11						
EMUR				S		**Sn**	**17 13 19.8 -0.4**
	comp=N,18nm,0.2s,SNR=7.8						
EMUR	**La Murta**	**5.96**	**71**	P		**Pn**	**17 12 15.8 +2.8**
	comp=N,3.5nm,0.2s,SNR=11						
ETOB	**Tobarra**	**5.99**	**63**	P		**Pn**	**17 12 15.4 +2.0**
	comp=N,13nm,0.1s,SNR=98						
ETOB				S		**Sn**	**17 13 20.7 -0.2**
	comp=N,29nm,0.3s,SNR=7.8						
ETOB	**Tobarra**	**5.99**	**63**	P		**Pn**	**17 12 15.4 +2.0**
	comp=N,13nm,0.1s,SNR=98						
CART	**Cartagena**	**6.08**	**74**	P		**Pn**	**17 12 17.1 +2.4**
CART				S		**Sn**	**17 13 22.5 -0.7**
CART	**Cartagena**	**6.08**	**74**	P		**Pn**	**17 12 17.1 +2.4**
YBT	**Youssef Ben Ta**	**6.33**	**189**	P		**Pn**	**17 12 17.0 -1.0**
YBT				S		Sn	17 13 21.0 -8.3
YBT	**Youssef Ben Ta**	**6.33**	**189**	P		**Pn**	**17 12 17.0 -1.0**
STS	**Santiago**	**6.76**	**359**	P		**Pn**	**17 12 25.3 +1.4**
	comp=N,27nm,0.2s,SNR=14						
STS				S		**Sn**	**17 13 36.3 -3.5**
	comp=N,13nm,0.1s						
STS	**Santiago**	**6.76**	**359**	P		**Pn**	**17 12 25.3 +1.4**
	comp=N,27nm,0.2s,SNR=14						
ETOR	**Torete**	**6.82**	**45**	P		**Pn**	**17 12 27.6 +2.7**
	comp=N,77nm,0.3s,SNR=117						
ETOR				S		**Sn**	**17 13 38.4 -3.1**
	comp=N,228nm,0.2s,SNR=12						
ETOR	**Torete**	**6.82**	**45**	P		**Pn**	**17 12 27.6 +2.7**
	comp=N,77nm,0.3s,SNR=117						
EMAZ	**Mazaricos**	**6.84**	**356**	P		**Pn**	**17 12 25.9 +0.9**
	comp=N,25nm,0.1s,SNR=33						
EMAZ				S		**Sn**	**17 13 37.0 -4.8**
	comp=N,40nm,0.3s						
EMAZ	**Mazaricos**	**6.84**	**356**	P		**Pn**	**17 12 25.9 +0.9**
	comp=N,25nm,0.1s,SNR=33						
EBEN	**Beniarda**	**6.97**	**66**	P		**Pn**	**17 12 29.1 +2.1**
	comp=N,3.7nm,0.2s,SNR=6.5						
EBEN				S		**Sn**	**17 13 42.3 -2.9**
	comp=N,3.8nm,0.1s						
EBEN	**Beniarda**	**6.97**	**66**	P		**Pn**	**17 12 29.1 +2.1**
	comp=N,3.7nm,0.2s,SNR=6.5						
EPON	**Pontenova**	**7.26**	**7**	P		**Pn**	**17 12 32.6 +1.8**
	comp=N,6.7nm,0.1s,SNR=12						
EPON				S		**Sn**	**17 13 49.6 -2.6**
	comp=N,4.9nm,0.1s						
EPON	**Pontenova**	**7.26**	**7**	P		**Pn**	**17 12 32.6 +1.8**
	comp=N,6.7nm,0.1s,SNR=12						
OKGL	**Djebel Kef Gue**	**7.30**	**88**	P		**Pn**	**17 12 32.8 +1.5**
	comp=N,10nm,0.2s,SNR=7.9						
OKGL				S		**Sn**	**17 13 53.5 +0.4**
	comp=N,42nm,0.2s,SNR=4.0						
OKGL	**Djebel Kef Gue**	**7.30**	**88**	P		**Pn**	**17 12 32.8 +1.5**
	comp=N,10nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**7.52**	**53**	P		**Pn**	**17 12 37.7 +3.2**
	comp=N,5.6nm,0.2s,SNR=34						
EMOS				S		**Sn**	**17 13 56.5 -2.3**
	comp=N,10nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**7.52**	**53**	P		**Pn**	**17 12 37.7 +3.2**
	comp=N,5.6nm,0.2s,SNR=34						
EARI	**Arriondas**	**7.57**	**18**	P		**Pn**	**17 12 37.4 +2.2**
	comp=N,3.7nm,0.3s,SNR=26						
EARI				S		**Sn**	**17 13 57.4 -2.5**
	comp=N,4.3nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**7.57**	**18**	P		**Pn**	**17 12 37.4 +2.2**
	comp=N,3.7nm,0.3s,SNR=26						
ELAN	**Lanestosa**	**8.05**	**27**	P		**Pn**	**17 12 43.3 +1.6**
	comp=N,1.5nm,0.1s,SNR=23						
ELAN				S		**Sn**	**17 14 07.7 -4.0**
	comp=N,5.3nm,0.2s,SNR=6.3						
ELAN	**Lanestosa**	**8.05**	**27**	P		**Pn**	**17 12 43.3 +1.6**
	comp=N,1.5nm,0.1s,SNR=23						
EFAM	**Famara**	**8.22**	**213**	S		Sn	17 14 04.7 -11
	comp=N,31nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**8.24**	**66**	P		**Pn**	**17 12 45.4 +1.2**
	comp=N,8.0nm,0.3s,SNR=7.9						
EIBI				S		**Sn**	**17 14 11.7 -4.5**
	comp=N,5.5nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**8.24**	**66**	P		**Pn**	**17 12 45.4 +1.2**
	comp=N,8.0nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**8.35**	**52**	P		**Pn**	**17 12 48.6 +2.8**
	comp=N,1.8nm,0.1s,SNR=7.9						
ERTA				S		**Sn**	**17 14 18.4 -0.7**
	comp=N,3.6nm,0.2s,SNR=4.0						
ERTA	**Horta de San J**	**8.35**	**52**	P		**Pn**	**17 12 48.6 +2.8**
	comp=N,1.8nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**8.46**	**36**	P		**Pn**	**17 12 50.4 +3.0**
	comp=N,11nm,0.2s,SNR=7.9						
EARA				S		**Sn**	**17 14 19.6 -2.2**
	comp=N,16nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**8.46**	**36**	P		**Pn**	**17 12 50.3 +3.0**
	comp=N,11nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**8.60**	**37**	P		**Pn**	**17 12 52.1 +2.9**
	comp=N,10nm,0.3s,SNR=7.9						
IPRE				S		**Sn**	**17 14 22.7 -2.4**
	comp=N,5.0nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**8.60**	**37**	P		**Pn**	**17 12 52.1 +2.9**
	comp=N,10nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**8.69**	**37**	P		**Pn**	**17 12 51.5 +1.1**
	comp=N,14nm,0.2s,SNR=7.9						
IELO				S		**Sn**	**17 14 23.3 -4.0**
	comp=N,17nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**8.69**	**37**	P		**Pn**	**17 12 51.5 +1.1**
	comp=N,14nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**8.79**	**35**	P		**Pn**	**17 12 54.3 +2.5**
	comp=N,13nm,0.3s,SNR=20						
ELIZ				S		**Sn**	**17 14 26.5 -3.3**
	comp=N,20nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**8.79**	**35**	P		**Pn**	**17 12 54.3 +2.5**
	comp=N,13nm,0.3s,SNR=20						
CFUE	**Fuerteventura**	**8.81**	**214**	S		Sn	17 14 19.6 -11
	comp=N,7.6nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**8.84**	**35**	P		**Pn**	**17 12 54.9 +2.4**
	comp=N,8.4nm,0.3s,SNR=6.4						
EALK				S		**Sn**	**17 14 27.7 -3.3**
	comp=N,48nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**8.84**	**35**	P		**Pn**	**17 12 54.9 +2.4**
	comp=N,8.4nm,0.3s,SNR=6.4						
SJPF	**Ste Jean**	**8.89**	**36**	*e*Pn		**Pn**	**17 12 56.2 +3.0**
	SNR=1.0						
SJPF				*e*Sn		**Sn**	**17 14 29.9 -2.4**
	comp=N,92nm,0.6s						
SJPF	**Ste Jean**	**8.89**	**36**	P		**Pn**	**17 12 56.2 +3.0**
SJPF				S		**Sn**	**17 14 29.9 -2.4**
	comp=N,46nm,0.6s						
SJPF	**Ste Jean**	**8.89**	**36**	P		**Pn**	**17 12 56.2 +3.0**
SJPF				*e*Sn		**Sn**	**17 14 29.9 -2.4**
SJPF	**Ste Jean**	**8.89**	**36**	*e*Pn		**Pn**	**17 12 56.2 +3.0**
SJPF				*e*Sn		**Sn**	**17 14 29.9 -2.4**
LARF	**Larrau**	**8.95**	**37**	P		Pn	17 12 57.5 +3.5
LARF				S		**Sn**	**17 14 30.5 -3.3**
LARF	**Larrau**	**8.95**	**37**	P		Pn	17 12 57.5 +3.5
OSSF	**Osses**	**8.98**	**35**	P		Pn	17 12 57.9 +3.5
OSSF				S		**Sn**	**17 14 31.7 -2.8**
OSSF	**Osses**	**8.98**	**35**	P		Pn	17 12 57.9 +3.5
EPOB	**Poblet**	**9.04**	**52**	P		**Pn**	**17 12 58.0 +2.7**
	comp=N,1.6nm,0.1s,SNR=9.7						
EPOB				S		**Sn**	**17 14 33.7 -2.3**
	comp=N,1.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**9.04**	**52**	P		**Pn**	**17 12 58.0 +2.7**
	comp=N,1.6nm,0.1s,SNR=9.7						
ETSF	**Etsaut**	**9.06**	**39**	*e*Pn		**Pn**	**17 12 58.3 +2.7**
	SNR=1.0						
ETSF				*e*Sn		**Sn**	**17 14 34.1 -2.5**
	comp=N,24nm,0.3s,SNR=1.0						
ETSF	**Etsaut**	**9.06**	**39**	P		**Pn**	**17 12 58.3 +2.7**
ETSF				S		**Sn**	**17 14 34.1 -2.5**
	comp=N,12nm,0.3s						
ETSF	**Etsaut**	**9.06**	**39**	P		**Pn**	**17 12 58.3 +2.7**
ETSF				*e*Sn		**Sn**	**17 14 34.1 -2.5**
ETSF	**Etsaut**	**9.06**	**39**	*e*Pn		**Pn**	**17 12 58.3 +2.7**
ETSF				*e*Sn		**Sn**	**17 14 34.1 -2.5**
CFTV	**Fuerteventura**	**9.08**	**214**	S		Sn	17 14 25.4 -12
	comp=N,6.6nm,0.2s,SNR=7.9						
ORDF	**Ordiarp**	**9.11**	**37**	P		**Pn**	**17 12 59.2 +3.1**
ORDF				S		**Sn**	**17 14 35.6 -2.0**
ORDF	**Ordiarp**	**9.11**	**37**	P		**Pn**	**17 12 59.2 +3.1**
REYF	**Montagne du Re**	**9.27**	**39**	P		Pn	17 13 02.0 +3.5
REYF				S		**Sn**	**17 14 39.4 -2.4**
REYF	**Montagne du Re**	**9.27**	**39**	P		Pn	17 13 02.0 +3.5
VIEF	**Viey**	**9.36**	**41**	P		**Pn**	**17 13 02.8 +3.1**
VIEF				S		**Sn**	**17 14 41.0 -2.9**
VIEF	**Viey**	**9.36**	**41**	P		**Pn**	**17 13 02.8 +3.1**
LABF	**Labassere**	**9.50**	**41**	P		Pn	17 13 04.8 +3.2
LABF				S		**Sn**	**17 14 43.9 -3.4**
LABF	**Labassere**	**9.50**	**41**	P		Pn	17 13 04.8 +3.2
ETOS	**Mallorca**	**9.55**	**64**	P		Pn	17 13 05.6 +3.3
	comp=N,3.2nm,0.4s,SNR=7.9						
ETOS				S		**Sn**	**17 14 46.7 -1.9**
	comp=N,3.2nm,0.2s,SNR=4.0						
ETOS	**Mallorca**	**9.55**	**64**	P		Pn	17 13 05.6 +3.3
	comp=N,3.2nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**9.63**	**50**	P		**Pn**	**17 13 06.2 +2.9**
	comp=N,4.4nm,0.2s,SNR=14						
EMIR				S		**Sn**	**17 14 51.3 +0.9**
	comp=N,20nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**9.63**	**50**	P		**Pn**	**17 13 06.2 +2.9**
	comp=N,4.4nm,0.2s,SNR=14						
EPF	**Esparros**	**9.63**	**42**	*e*Pn		Pn	17 13 06.6 +3.3
	SNR=1.0						
EPF				*e*Sn		**Sn**	**17 14 47.4 -3.1**
	comp=N,34nm,0.3s						
EPF	**Esparros**	**9.63**	**42**	P		Pn	17 13 06.6 +3.3
EPF				S		**Sn**	**17 14 47.4 -3.1**
	comp=N,17nm,0.3s						
EPF	**Esparros**	**9.63**	**42**	P		Pn	17 13 06.6 +3.3
EPF				*e*Sn		**Sn**	**17 14 47.4 -3.1**
EPF	**Esparros**	**9.63**	**42**	*e*Pn		Pn	17 13 06.6 +3.3
EPF				*e*Sn		**Sn**	**17 14 47.4 -3.1**
CSOR	**Sort**	**9.66**	**47**	P		**Pn**	**17 13 06.3 +2.5**
	comp=N,5.3nm,0.2s,SNR=32						
CSOR				S		**Sn**	**17 14 49.0 -2.2**
	comp=N,13nm,0.3s,SNR=7.9						
CSOR	**Sort**	**9.66**	**47**	P		**Pn**	**17 13 06.3 +2.5**
	comp=N,5.3nm,0.2s,SNR=32						
CFON	**Fontmartina**	**10.12**	**53**	P		**Pn**	**17 13 12.5 +2.4**
	comp=N,4.3nm,0.2s,SNR=14						
CFON	**Fontmartina**	**10.12**	**53**	P		**Pn**	**17 13 12.5 +2.4**
	comp=N,4.3nm,0.2s,SNR=14						
CLLI	**Llivia**	**10.22**	**48**	P		**Pn**	**17 13 14.3 +2.9**
	comp=N,3.0nm,0.3s,SNR=17						
CLLI				S		**Sn**	**17 15 01.8 -3.3**
	comp=N,3.3nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**10.22**	**48**	P		**Pn**	**17 13 14.4 +2.9**
	comp=N,3.0nm,0.3s,SNR=17						
EJON	**La Jonquera**	**10.77**	**51**	P		**Pn**	**17 13 20.1 +1.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
EJON				S		**Sn**	**17 15 18.4 +0.1**
	comp=N,1.6nm,0.2s,SNR=4.0						
EJON	**La Jonquera**	**10.77**	**51**	P		**Pn**	**17 13 20.1 +1.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**10.78**	**50**	P		**Pn**	**17 13 21.6 +2.5**
	comp=N,12nm,0.2s,SNR=7.9						
SJAF				S		**Sn**	**17 15 18.2 -0.5**
	comp=N,5.3nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**10.78**	**50**	P		**Pn**	**17 13 21.6 +2.5**
	comp=N,12nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**10.88**	**45**	*e*Pn		**Pn**	**17 13 22.9 +2.5**
	SNR=1.0						
MTLF				*e*Sn		**Sn**	**17 15 17.4 -3.6**
	comp=N,4.1nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**10.88**	**45**	*e*Pn		**Pn**	**17 13 22.9 +2.5**
	SNR=1.0						
MTLF				*e*Sn		**Sn**	**17 15 17.4 -3.6**
MTLF	**Montolieu**	**10.88**	**45**	*e*Pn		**Pn**	**17 13 22.9 +2.5**
MTLF				*e*Sn		**Sn**	**17 15 17.4 -3.6**
EGOM	**La Gomera**	**10.91**	**226**	S		Sn	17 15 07.1 -15
	comp=N,7.9nm,0.2s,SNR=4.0						
SET	**Setif**	**11.13**	**86**	P		Pn	17 13 19.0 -5.0
SET	**Setif**	**11.13**	**86**	P		Pn	17 13 19.0 -5.0
LFF	**La Frestale**	**11.20**	**35**	*e*Pn		**Pn**	**17 13 26.2 +1.4**
LFF				*e*Sn		**Sn**	**17 15 25.0 -3.9**
	comp=N,5.8nm,0.3s						
LFF	**La Frestale**	**11.20**	**35**	*e*Pn		**Pn**	**17 13 26.2 +1.4**
LFF				*e*Sn		**Sn**	**17 15 25.0 -3.9**
LFF	**La Frestale**	**11.20**	**35**	*e*Pn		**Pn**	**17 13 26.2 +1.4**
LFF				*e*Sn		**Sn**	**17 15 25.0 -3.9**
DFRA	**Djebel Bou Aff**	**11.50**	**84**	P		Pn	17 13 20.5 -8.5
DFRA	**Djebel Bou Aff**	**11.50**	**84**	P		Pn	17 13 20.5 -8.5
CAF	**Calviac**	**11.84**	**39**	*e*Pn		**Pn**	**17 13 35.1 +1.6**
	SNR=1.0						
CAF				*e*Sn		Sn	17 15 37.2 -7.4
	comp=N,12nm,0.4s,SNR=1.0						
CAF	**Calviac**	**11.84**	**39**	*e*Pn		**Pn**	**17 13 35.1 +1.6**
	SNR=1.0						
CAF				*e*Sn		Sn	17 15 37.2 -7.4
CAF	**Calviac**	**11.84**	**39**	*e*Pn		**Pn**	**17 13 35.1 +1.6**
CAF				*e*Sn		Sn	17 15 37.2 -7.4
RJF	**Les Rejaudoux**	**11.84**	**36**	*e*Pn		**Pn**	**17 13 34.9 +1.4**
	SNR=1.0						
RJF				*e*Sn		**Sn**	**17 15 40.0 -4.5**
	comp=N,10.0nm,0.4s						
RJF	**Les Rejaudoux**	**11.84**	**36**	*e*Pn		**Pn**	**17 13 34.9 +1.4**
	SNR=1.0						
RJF				*e*Sn		**Sn**	**17 15 40.0 -4.5**
RJF	**Les Rejaudoux**	**11.84**	**36**	*e*Pn		**Pn**	**17 13 34.9 +1.4**
RJF				*e*Sn		**Sn**	**17 15 40.0 -4.5**
CASM	**Ain Smara**	**12.01**	**85**	P		Pn	17 13 31.5 -4.4
CASM	**Ain Smara**	**12.01**	**85**	P		Pn	17 13 31.5 -4.4
MFF	**Saint Martin d**	**12.15**	**28**	*e*Pn		**Pn**	**17 13 39.0 +1.3**
	SNR=1.0						
MFF				*e*Sn		**Sn**	**17 15 47.4 -4.7**
	comp=N,4.3nm,0.3s						
MFF	**Saint Martin d**	**12.15**	**28**	*e*Pn		**Pn**	**17 13 39.0 +1.3**
	SNR=1.0						
MFF				*e*Sn		**Sn**	**17 15 47.4 -4.7**
MFF	**Saint Martin d**	**12.15**	**28**	*e*Pn		**Pn**	**17 13 39.0 +1.3**
MFF				*e*Sn		**Sn**	**17 15 47.4 -4.7**
CKFL	**Kef-Lekhel**	**12.19**	**84**	P		Pn	17 13 34.0 -4.4
CKFL	**Kef-Lekhel**	**12.19**	**84**	P		Pn	17 13 34.0 -4.4
LASF	**Ste Croix**	**12.27**	**46**	*e*Pn		**Pn**	**17 13 41.4 +2.0**
	SNR=1.0						
LASF				*e*Sn		**Sn**	**17 15 50.8

FLN La Foliniere 13.90 22 *e*Pn **Pn 17 14 02.7 +1.1**
FLN *e*Sn **Sn 17 16 29.0 -5.8**
SMF Signal de Mont 13.93 37 *e*Pn **Pn 17 14 03.5 +1.4**
SMF *e*Sn **Sn 17 16 30.2 -5.4**
comp=N,2.1nm,0.4s
SMF Signal de Mont 13.93 37 *e*Pn **Pn 17 14 03.5 +1.4**
SMF *e*Sn **Sn 17 16 30.2 -5.4**
SMF Signal de Mont 13.93 37 *e*Pn **Pn 17 14 03.5 +1.4**
SMF *e*Sn **Sn 17 16 30.2 -5.4**
SSF Saint Saulge 14.07 35 *e*Pn **Pn 17 14 05.2 +1.3**
SSF *e*Sn **Sn 17 16 33.4 -5.5**
comp=N,1.8nm,0.3s
SSF Saint Saulge 14.07 35 *e*Pn **Pn 17 14 05.2 +1.3**
SSF *e*Sn **Sn 17 16 33.4 -5.5**
SSF Saint Saulge 14.07 35 *e*Pn **Pn 17 14 05.2 +1.3**
SSF *e*Sn **Sn 17 16 33.4 -5.5**
KEST Kesra 14.36 86 Pn **Pn 17 14 07.4 -0.7**
comp=N,0.4nm,0.3s,baz=240,slow=7.2,SNR=9.1
KEST Kesra 14.36 86 *e*Pn **Pn 17 14 06.3 -1.8**
KEST Kesra 14.36 86 *e*Pn **Pn 17 14 06.3 -1.8**
LOR Lormes 14.38 35 *e*Pn **Pn 17 14 09.6 +1.3**
LOR *e*Sn **Sn 17 16 41.0 -5.7**
comp=N,0.8nm,0.3s
LOR Lormes 14.38 35 *e*Pn **Pn 17 14 09.6 +1.3**
LOR *e*Sn **Sn 17 16 41.0 -5.7**
LOR Lormes 14.38 35 *e*Pn **Pn 17 14 09.6 +1.3**
LOR *e*Sn **Sn 17 16 41.0 -5.7**
VSL Villasalto 14.43 71 *e*Pn **P 17 14 14.1 -1.3**
VSL Villasalto 14.43 71 *e*Pn **P 17 14 14.1 -1.3**
BNI Bardonecchia 14.48 47 *e*Pn **Pn 17 14 12.9 +3.2**
BNI Bardonecchia 14.48 47 *e*Pn **Pn 17 14 12.9 +3.2**
BAIF Baives 16.65 29 *e*Pn **P 17 14 40.4 +0.4**
BAIF *e*Sn **Sn 17 17 35.0 -6.7**
comp=N,2.1nm,0.3s
BAIF Baives 16.65 29 *e*Pn **P 17 14 40.4 +0.4**
BAIF *e*Sn **Sn 17 17 35.0 -6.7**
BAIF Baives 16.65 29 *e*Pn **P 17 14 40.4 +0.4**
BAIF *e*Sn **Sn 17 17 35.0 -6.7**
GIVF Givet 16.93 30 *e*Pn **P 17 14 44.2 +1.1**
GIVF *e*Sn **Sn 17 17 41.8 -6.7**
comp=N,3.4nm,0.3s
GIVF Givet 16.93 30 *e*Pn **P 17 14 44.2 +1.1**
GIVF Givet 16.93 30 *e*Pn **P 17 14 44.2 +1.1**
GIVF *e*Sn **Sn 17 17 41.8 -6.7**
TAM Tamanrasset 17.94 134 P **P 17 14 56.0 +1.5**
TAM Tamanrasset 17.94 134 P **P 17 14 56.0 +1.5**
TIP Timpagrande 20.11 74 P Pn 17 15 21.8 +1.7
TIP Timpagrande 20.11 74 P Pn 17 15 21.8 +1.7
GERES GERESS Array B 20.56 45 P Pn 17 15 25.6 +0.2
comp=N,1.1nm,0.9s,baz=234,slow=4.6,SNR=5.1
TORD Torodi Ar. Bea 24.60 156 P **P 17 16 03.7 -0.7**
comp=N,1.1nm,0.6s,baz=341,slow=9.2,SNR=7.5
BRTR Keskin Array B 33.11 71 P **P 17 17 21.6 +1.3**
comp=N,0.6nm,0.7s,baz=274,slow=5.4,SNR=3.2
FINES FINESS Array B 33.33 30 P **P 17 17 23.8 +2.2**
comp=N,1.2nm,0.6s,baz=235,slow=6.3,SNR=9.2
ARCES ARCESS Array B 38.20 18 P **P 17 18 04.4 +1.0**
comp=N,2.8nm,0.9s,baz=224,slow=8.5,SNR=5.6
ABKAR Akbulak array 50.25 52 *e*P **P 17 19 41.7 +1.7**
comp=N,0.8nm,0.7s
ABKAR Akbulak array 50.25 52 *e*P **P 17 19 41.7 +1.7**
comp=N,0.8nm,0.7s
KMBO Kilima Mbogo 56.31 121 *e*P **P 17 20 28.0 +2.8**
comp=N,2.5nm,0.8s
KMBO Kilima Mbogo 56.31 121 *e*P **P 17 20 28.0 +2.8**
comp=N,2.5nm,0.8s
MKAR Makanchi Array 65.16 49 P **P 17 21 25.7 +0.8**
comp=N,0.4nm,0.9s,baz=329,slow=5.4,SNR=3.1
ILAR Eielson Array 74.32 343 P **P 17 22 21.6 +0.6**
comp=N,0.3nm,0.6s,baz=15,slow=7.5,SNR=2.4
WRA Warramunga Arr 143.61 74 PKP **PKPdf 17 30 20.3 +1.3**
comp=N,0.4nm,0.9s,baz=306,slow=3.2,SNR=3.6
ASAR Alice Springs 145.23 80 PKPbc **PKPbc 17 30 21.9 +0.4**
comp=N,1.8nm,0.7s,baz=302,slow=3.0,SNR=18

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*NEIC **05** 17:22:45.2, 34°.32S×71°.99W, h33km, ML4.0(GUC), After GUC.*
GUC 05 17:22:45.2±0.7, 34°.32S×71°.99W, h33km±14km, ML4.0, 4C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.60**	**53**	⇓*i*P	Pn	17 22 57.0	-0.4
LNV				*e*S1	Sn	17 23 06.1	+0.1
LNV	**Longovilo**	**0.60**	**53**	⇓*i*P	Pn	17 22 57.0	-0.4
LNV				*e*S	Sn	17 23 06.1	+0.1
CACH	**El Canelo**	**1.17**	**80**	⇓*i*P	Pb	17 23 06.5	-0.6
CACH				*e*S1	Sb	17 23 22.4	+0.1
CACH	**El Canelo**	**1.17**	**80**	⇓*i*P	Pb	17 23 06.5	-0.6
CACH				*e*S	Sb	17 23 22.4	+0.1
CHCH	**Chadas Angostu**	**1.18**	**71**	⇑*i*P	Pn	17 23 06.0	+0.6
CHCH	**Chadas Angostu**	**1.18**	**71**	⇑*i*P	Pn	17 23 06.0	+0.6
IHA	**Instituto Hidr**	**1.32**	**13**	*i* P1	Pn	17 23 07.4	+0.1
IHA	**Instituto Hidr**	**1.32**	**13**	*i* P	Pn	17 23 07.4	+0.1
ANTU	**Antumapu**	**1.36**	**57**	⇓*i*P	Pn	17 23 08.9	+1.1
ANTU				*e*S1	Sb	17 23 26.5	-0.7
ANTU				AML	AML	17 23 31.4	
comp=N,6μm,0.5s							
ANTU	**Antumapu**	**1.36**	**57**	⇓*i*P	Pn	17 23 08.9	+1.1
ANTU				*e*S	Sb	17 23 26.5	-0.7
FSR	**Penalolen**	**1.48**	**56**	*e*P9	Pb	17 23 11.9	-0.3
FSR				*e*S1	Sb	17 23 31.1	+0.2
FSR	**Penalolen**	**1.48**	**56**	*e*P	Pb	17 23 11.9	-0.3
FSR				*e*S	Sb	17 23 31.1	+0.2
LACH	**Col Las Americ**	**1.49**	**55**	*e*P1	Pn	17 23 11.1	+1.3
LACH				*e*S1	Sb	17 23 30.3	-0.9
LACH				AML	AML	17 23 39.3	
comp=E,2μm,0.6s							
LACH	**Col Las Americ**	**1.49**	**55**	*e*P	Pn	17 23 11.1	+1.3
LACH				*e*S	Sb	17 23 30.3	-0.9
CLCH	**Cerro Calan**	**1.52**	**53**	*e*P1	Pn	17 23 11.4	+1.2
CLCH				*i* S1	Sn	17 23 31.9	+3.0
CLCH				AML	AML	17 23 34.6	
comp=N,4μm,0.5s							
PEL	**Peldehue**	**1.60**	**43**	⇑*i*P	Pb	17 23 12.8	-1.5
PEL				*i* S	Sb	17 23 33.7	-0.5
PEL				AML	AML	17 23 35.8	
comp=N,5μm,0.6s							
PEL	**Peldehue**	**1.60**	**43**	⇑*i*P	Pb	17 23 12.8	-1.5
PEL				*i* S	Sb	17 23 33.7	-0.5
FCH	**Farellones**	**1.73**	**56**	AML	AML	17 23 47.6	
comp=N,2μm,0.3s							
TRQA	**Tornquist**	**8.91**	**118**	*e*Pn	Pn	17 24 48.7	-2.9

NNC 05 17:23:30.2±3.5, 37°.03N×71°.27E, h0km, mb3.6, mpv3.2, 4C-2D, Error ellipse: s-maj=29.1km s-min=14.0km az=169.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.62**	**313**	⇑Pn	Pn	17 24 13.6	-0.3
DZET				⇑Sn	Sn	17 24 48.0	+1.4
KK31	**Karatay Array**	**6.09**	**355**	⇑Pn	Pn	17 25 01.6	0.0
0.4nm,0.3s,baz=178,slow=13							
KK31				⇑Sn	Sn	17 26 11.9	-0.2
0.4nm,0.3s,baz=175,slow=21							
AAK	**Ala-Archa**	**6.12**	**23**	⇓Pn	Pn	17 25 01.8	-0.4
2.6nm,0.7s							
AAK				⇓Sn	Sn	17 26 14.9	+1.9
1.4nm,0.5s							

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*IDC **05** 17:46:52.6±2.1, 24°.29S×176°.42W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.1/30, mbtmp4.2/8, Error ellipse: s-maj=92.5km s-min=24.0km az=155.0*
*NEIC **05** 17:47:00.6±6.0, 24°.58S×176°.35W, h63km±45km, mb4.4/3, Error ellipse: s-maj=62.2km s-min=13.8km az=152.0*
ISC 05 17:46:58.8±1.6, 24°.1S±0°.5×176°.5W±0°.2, h35km, n21, σ1§18/19, mb4.2/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.11**	**320**	*e*Pn	Pn	17 49 02.4	+8.2
64nm,0.8s							
EIDS	**Eidsvold**	**29.45**	**261**	P	**P**	**17 53 01.2**	**+1.8**
CTA	**Charters Tower**	**34.68**	**269**	P	**P**	**17 53 46.4**	**+1.0**
3.0nm,0.5s,baz=84,slow=10,SNR=11							
CTAO	**Charters Tower**	**34.68**	**269**	*e*P	**P**	**17 53 45.1**	**-0.3**
ASAR	**Alice Springs**	**45.17**	**260**	P	**P**	**17 55 10.8**	**-1.7**
3.5nm,0.9s,baz=94,slow=6.8,SNR=32							
WRAB	**Tennant Creek**	**45.58**	**265**	*e*P	**P**	**17 55 13.6**	**-2.2**
4.8nm,1.0s							
WRA	**Warramunga Arr**	**45.59**	**265**	P	**P**	**17 55 14.2**	**-1.7**
0.9nm,0.4s,baz=98,slow=8.4,SNR=35							
PETK	**Petropavlovsk-**	**80.07**	**345**	P	**P**	**17 59 05.2**	**+0.6**
2.3nm,0.7s,baz=131,slow=8.6,SNR=3.8							
ISA	**Isabella, Lake**	**80.87**	**44**	*e*P	**P**	**17 59 08.6**	**-0.8**
NVAR	**Mina Array Bea**	**82.69**	**42**	P	**P**	**17 59 19.5**	**+0.4**
0.8nm,0.8s,baz=212,slow=6.8,SNR=4.8							
USRK	**Ussuriysk Ar.**	**82.69**	**325**	P	**P**	**17 59 17.9**	**-0.7**
2.5nm,0.7s,baz=116,slow=4.4,SNR=5.1							
ANMO	**Albuquerque**	**88.56**	**51**	*e*P	**P**	**17 59 48.5**	**+0.1**
PDAR	**Pinedale Array**	**90.62**	**43**	P	**P**	**17 59 57.5**	**-0.3**
0.6nm,0.8s,baz=132,slow=2.2,SNR=4.7							
SDCO	**Great Sand Dun**	**90.65**	**49**	P	**P**	**17 59 58.4**	**+0.2**
0.8nm,0.8s							
WALA	**Waterton Lakes**	**91.64**	**36**	P	**P**	**18 00 02.3**	**0.0**
0.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**92.61**	**289**	P	**P**	**18 00 08.5**	**+1.2**
1.2nm,0.8s,baz=140,slow=3.5,SNR=9.4							
CHTO	**Chiang Mai**	**92.75**	**289**	*e*P	**P**	**18 00 09.6**	**+1.6**
2.9nm,0.8s							
HFS	**Hagfors**	**143.27**	**351**	PKP	PKPab	18 06 23.0	-1.6
1.9nm,0.7s,baz=48,slow=2.2,SNR=6.4							
AKASG	**Malin Array Be**	**146.80**	**330**	PKPbc	**PKPdf**	**18 06 36.1**	**+1.0**
1.2nm,0.4s,baz=42,slow=4.2,SNR=8.0							
BRTR	**Keskin Array B**	**150.22**	**309**	PKPbc	**PKPbc**	**18 06 45.8**	**-0.7**
0.9nm,0.8s,baz=127,slow=3.3,SNR=4.8							
CLL	**Collm**	**151.84**	**347**	*e*PKPbc	**PKPbc**	**18 06 50.0**	**+0.3**

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*IDC **05** 18:02:29.6±0.8, 34°.30S×72°.19W, h0km, mb4.3/8, mb1 4.4/12, mb1mx4.2/34, mbtmp4.2/12, ML4.0/4, Error ellipse: s-maj=24.2km s-min=23.2km az=85.0*
*ISCJB **05** 18:02:30.1±2.6, 34°.21S±0°.06×72°.38W±0°.07, h11km±16km, mb4.6/23, Error ellipse: s-maj=9.9km s-min=9.2km az=176.5*
*NEIC **05** 18:02:32.9±4.4, 34°.19S×72°.29W, h19km±27km, mb4.8/18, Error ellipse: s-maj=15.2km s-min=8.1km az=75.0*
NEIC Felt [Jf] at Santiago.
*GUC **05** 18:02:32.6±0.6, 34°.15S×72°.26W, h8km±7km, ML4.6*
ISC 05 18:02:34.0±1.3, 34°.14S±0°.06×72°.25W±0°.07, h26km±8km, n66, σ0§99/75, mb4.7/24, 6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.72**	**75**	⇓*i*P	**Pb**	**18 02 46.8**	**-1.2**
NICH	**Los Niches**	**1.20**	**136**	*i* S1	**Sn**	**18 03 10.8**	**+0.2**
IHA	**Instituto Hidr**	**1.23**	**25**	*e*P1	**Pn**	**18 02 54.7**	**-0.7**
IHA				*i* S1	**Sn**	**18 03 11.3**	**+0.2**
CHCH	**Chadas Angostu**	**1.34**	**81**	*i* P1	**Pn**	**18 02 56.5**	**-0.7**
CACH	**El Canelo**	**1.37**	**89**	⇓*i*P	**Pn**	**18 02 57.5**	**0.0**
ANTU	**Antumapu**	**1.46**	**67**	⇓*i*P	**Pn**	**18 02 59.1**	**+0.4**
ANTU				*i* S1	**Sn**	**18 03 18.0**	**+0.9**
ANTU				AML	AML	18 03 21.6	
comp=E,13μm,0.5s							
STL	**Santa Lucia**	**1.52**	**63**	*e*P9	**Pn**	**18 02 58.1**	**-1.3**
STL				*i* S1	**Sn**	**18 03 18.6**	**+0.2**
LACH	**Col Las Americ**	**1.59**	**65**	⇓*i*P	**Pn**	**18 03 01.0**	**+0.5**
LACH				*i* S1	**Sn**	**18 03 22.0**	**+1.8**
LACH				AML	AML	18 03 23.5	
comp=N,7μm,0.4s							
CLCH	**Cerro Calan**	**1.61**	**63**	⇓*i*P	**Pn**	**18 03 00.8**	**0.0**
CLCH				*i* S	**Sb**	**18 03 22.7**	**-0.4**
CLCH				AML	AML	18 03 27.9	
comp=E,13μm,0.7s							
CLCH				AML	AML	18 03 30.2	
comp=E,11μm,0.5s							
PEL	**Peldehue**	**1.64**	**53**	⇓*i*P	**Pn**	**18 03 01.3**	**+0.1**
PEL				*e*S1	**Sn**	**18 03 23.8**	**+2.2**
PEL				AML	AML	18 03 32.2	
comp=E,19μm,0.5s							
FCH	**Farellones**	**1.82**	**64**	AML	AML	18 03 34.9	
comp=N,8μm,0.5s							
CFAA	**Coronel Fontan**	**4.22**	**54**	Pn	**Pn**	**18 03 38.1**	**+1.4**
comp=N,1.9nm,0.3s,baz=228,slow=13,SNR=33							
CFAA				Lg	Lg	18 04 40.1	
comp=N,1.9nm,0.3s,baz=94,slow=19,SNR=3.9							
PLCA	**Paso Flores**	**6.71**	**169**	Pn	Pn	18 04 07.7	-3.3
comp=N,0.4nm,0.3s,baz=347,slow=12,SNR=2.6							
TRQA	**Tornquist**	**9.18**	**118**	*e*Pn	**Pn**	**18 04 47.0**	**+2.2**
comp=N,62nm,1.3s							
LVC	**Limon Verde**	**11.86**	**15**	*e*Pn	**Pn**	**18 05 21.0**	**-0.7**
comp=N,5.6nm,0.5s							
CPUP	**Villa Florida**	**15.05**	**63**	Pn	**Pn**	**18 06 05.2**	**+0.2**
comp=N,0.6nm,0.3s,baz=214,slow=11,SNR=6.2							
CPUP	**Villa Florida**	**15.05**	**63**	*e*Pn	**Pn**	**18 06 06.3**	**+1.3**
LPAZ	**La Paz**	**18.16**	**13**	P	**P**	**18 06 45.8**	**+0.6**
comp=N,0.3nm,0.3s,baz=181,slow=9.0,SNR=15							
LPAZ	**La Paz**	**18.16**	**13**	*e*P	**P**	**18 06 45.6**	**+0.4**
comp=N,21nm,0.9s							
EFI	**East Falkland**	**20.31**	**154**	P	**P**	**18 07 06.9**	**-0.8**
SIV	**San Ignacio**	**20.69**	**32**	P	**P**	**18 07 11.3**	**-0.9**
comp=N,11nm,0.8s,baz=238,slow=13,SNR=17							
SAML	**Samuel**	**26.43**	**20**	*e*P	**P**	**18 08 08.5**	**-0.1**
comp=N,8.8nm,0.8s							
BDFB	**Brasilia**	**28.56**	**56**	P	**P**	**18 08 26.4**	**-1.6**
comp=N,5.3nm,0.8s,baz=248,slow=5.4,SNR=6.6							
OTAV	**Otavalo**	**34.69**	**349**	P	**P**	**18 09 23.8**	**+1.6**
SDV	**Santo Domingo**	**42.82**	**2**	*e*P	P	18 10 27.7	-2.3
comp=N,7.4nm,0.9s							
SNAA	**Sanae**	**51.52**	**158**	*e*P	**P**	**18 11 38.0**	**+0.9**
comp=N,13nm,0.9s							
CELP	**Cerrillos**	**52.21**	**7**	*e*P	**P**	**18 11 42.4**	**-0.3**
MTDJ	**Mount Denham**	**52.32**	**354**	P	**P**	**18 11 42.4**	**-1.2**
TEIG	**Tepich**	**56.18**	**342**	*e*P	**P**	**18 12 11.9**	**+0.3**
comp=N,15nm,0.8s							
JCT	**Junction City**	**69.34**	**335**	*e*P	**P**	**18 13 40.1**	**+0.9**
comp=N,12nm,1.3s							
TX31	**Lajitas Ar. Si**	**69.78**	**331**	*e*P	**P**	**18 13 42.4**	**+0.4**
TXAR	**Lajitas Array**	**69.78**	**331**	P	**P**	**18 13 43.2**	**+1.2**
comp=N,0.8nm,0.7s,baz=152,slow=8.1,SNR=10							
WVT	**Waverly**	**71.41**	**347**	*e*P	**P**	**18 13 51.8**	**+0.1**
comp=N,25nm,0.8s							
WVT				*e*		18 14 00.5	
MNTX	**Cornudas Mount**	**72.55**	**331**	*e*P	**P**	**18 13 58.5**	**-0.2**
comp=N,44nm,2.8s							
CPRX	**Cap Rock**	**73.13**	**333**	P	**P**	**18 14 02.5**	**+0.3**
ACSO	**Alum Creek Sta**	**74.67**	**352**	*e*P	**P**	**18 14 10.3**	**-0.5**
comp=N,15nm,0.8s							
SUR	**Sutherland**	**74.91**	**119**	*e*P	**P**	**18 14 14.2**	**+1.2**
WUAZ	**Wupatki**	**78.36**	**328**	*e*P	**P**	**18 14 33.1**	**+1.0**
comp=N,4.4nm,0.8s							
BOSA	**Boshof**	**80.16**	**118**	P	**P**	**18 14 41.8**	**-0.6**
comp=N,3.2nm,0.9s,baz=200,slow=5.2,SNR=4.2							
KNB	**Kanab**	**80.25**	**328**	*e*P	**P**	**18 14 43.9**	**+1.5**
comp=N,5.2nm,1.0s							
ECSD	**EROS Data Cent**	**80.63**	**342**	*e*P	**P**	**18 14 44.5**	**+0.4**
comp=N,8.9nm,0.8s							
CCUT	**Cedar City**	**80.93**	**328**	*e*P	**P**	**18 14 48.3**	**+2.1**
comp=N,64nm,2.7s							
LBTB	**Lobatse**	**82.40**	**115**	*e*P	**P**	**18 14 54.6**	**+0.4**
comp=N,11nm,1.1s							
R11A	**Troy Canyon, C**	**82.58**	**327**	*e*P	**P**	**18 14 56.3**	**+1.6**
comp=N,68nm,3.0s							
PDAR	**Pinedale Array**	**83.81**	**333**	P	**P**	**18 15 01.6**	**+0.6**
comp=N,1.3nm,0.9s,baz=161,slow=3.8,SNR=7.8							
NVAR	**Mina Array Bea**	**83.90**	**325**	P	**P**	**18 15 02.8**	**+1.2**
comp=N,1.2nm,0.7s,baz=160,slow=7.2,SNR=8.2							
HVU	**Hansel Valley**	**84.22**	**331**	*e*P	**P**	**18 15 03.8**	**+0.7**
comp=N,4.6nm,0.9s							
TOA0	**Torodi Ar. Sit**	**84.42**	**70**	*e*P	**P**	**18 15 04.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**84.42**	**70**	P	**P**	**18 15 04.2**	**-0.3**
comp=N,5.0nm,0.8s,baz=254,slow=4.3,SNR=22							
BMN	**Battle Mountai**	**85.01**	**327**	*e*P	P	18 15 05.2	-1.9
comp=N,18nm,0.3s							
ULM	**Lac du Bonnet**	**86.59**	**345**	P	**P**	**18 15 13.9**	**-0.6**
comp=N,2.6nm,0.8s,baz=186,slow=5.8,SNR=5.2							
MCMT	**McKenzie Canyo**	**86.81**	**332**	*e*P	**P**	**18 15 17.4**	**+1.4**
comp=N,0.8nm,1.0s							
KCPM	**Cahto Peak**	**87.45**	**323**	*e*P	**P**	**18 15 18.3**	**-0.8**
YKA	**Yellowknife Ar**	**102.14**	**341**	P	**Pdif**	**18 16 24.8**	**-0.7**
comp=N,0.1nm,0.5s,baz=139,slow=4.9,SNR=6.5							
WRA	**Warramunga Arr**	**120.55**	**209**	PKP	**PKPdf**	**18 21 22.4**	**-1.5**
comp=N,0.2nm,0.4s,baz=153,slow=1.9,SNR=13							
ABKAR	**Akbulak array**	**141.91**	**52**	*e*PKPpre	PKPpre	18 21 57.3	
ABKAR				*e*PKPdf	**PKPdf**	**18 22 03.8**	**+0.9**
HYB	**Hyderabad**	**149.03**	**115**	*i* PKP	**PKPbc**	**18 22 20.0**	**-0.3**
AAK	**Ala-Archa**	**152.73**	**62**	*e*PKPbc	**PKPbc**	**18 22 29.2**	**+0.8**
KSH	**Kashi**	**154.09**	**69**	*e*PKPbc	**PKPdf**	**18 22 23.4**	**+0.1**
KSH				sPKP		18 22 37.4	
KSH				PKS	**PKSdf**	**18 25 55.0**	**-2.6**
KSH				PP	**PP**	**18 26 19.4**	**-1.1**
KSH				PPMZ			
comp=N,320nm,12.0s							
KSH				LN			
comp=N,48nm,4.1s							
KSH				LE			
comp=N,38nm,3.7s							
ZALV	**Zalesovo Beam**	**154.44**	**32**	PKP	**PKPdf**	**18 22 22.4**	**-0.8**
comp=N,0.7nm,0.6s,baz=300,slow=3.3,SNR=4.4							
ZALV				PKPbc	**PKiKP**	**18 22 32.1**	**+0.6**
comp=N,3.9nm,0.7s,baz=306,slow=3.9,SNR=19							
ZALV				PKPab	**PKPab**	**18 22 46.6**	**+0.7**
comp=N,3.7nm,0.7s,baz=302,slow=4.3,SNR=9.9							
MKAR	**Makanchi Array**	**156.99**	**49**	PKP	**PKPdf**	**18 22 26.4**	**-0.4**
comp=N,0.4nm,0.8s,baz=239,slow=0.7,SNR=4.9							
MKAR				PKPbc	PKPbc	18 22 37.5	
comp=N,0.3nm,0.7s,baz=13,slow=1.6,SNR=3.6							
MKAR				PKPab	**PKPab**	**18 22 57.3**	**+0.1**
comp=N,1.2nm,0.7s,baz=305,slow=4.2,SNR=11							
SONM	**Songino Array**	**166.28**	**4**	PKPab	**PKPab**	**18 23 38.2**	**+0.5**
comp=N,0.8nm,0.9s,baz=348,slow=3.1,SNR=5.4							
NJ2	**Nanjing**	**170.45**	**260**	*e*PKP	**PKPdf**	**18 22 39.2**	**-0.5**
HHC	**Hu-ho-hao-te**	**172.65**	**337**	*e*PKP	**PKPdf**	**18 22 40.3**	**-0.3**
HHC				pPKP	pPKPdf	18 22 52.1	+2.7
HHC				SKS	SKSdf	18 29 36.4	-5.8
HHC				SKKS	**SKKSac**	**18 34 43.0**	**+0.6**
HHC				PPMZ			
comp=N,800nm,11.6s							
HHC				LN			
comp=N,270nm,21.6s							
HHC				LE			
comp=N,560nm,21.6s							
HHC				LZ			
comp=N,540nm,20.1s							
CD2	**Chengdu**	**175.34**	**133**	*e*PKP	**PKPdf**	**18 22 41.2**	**-0.6**
LZH	**Lanzhou**	**176.26**	**58**	*e*PKP	**PKPdf**	**18 22 41.6**	**-0.4**
LZH				pPKP	**pPKPdf**	**18 22 52.2**	**+1.4**
LZH				sPKP		18 22 56.0	

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*ISCJB **05** 18:03:23.4±0.4, 67°.09N±0°.02×20°.96E±0°.08, h0km, Error ellipse: s-maj=4.4km s-min=2.8km az=7.3*
*IDC **05** 18:03:24.6±1.1, 67°.08N×20°.96E, h0km, mb1 2.9/3, mb1mx2.8/48, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=20.3km s-min=9.5km az=106.0*
*CSEM **05** 18:03:24.4±0.1, 67°.12N×20°.91E, h2km, ML1.8, Error ellipse: s-maj=3.6km s-min=2.7km az=87.0, Mining explosion.*
*UPP **05** 18:03:24.2, 67°.07N×20°.91E, h0km, ML1.8, Mining explosion.*
*HEL **05** 18:03:25.1±0.1, 67°.09N×20°.89E, h0km, ML1.8, ML1.8(UPP), Explosion*
ISC 05 18:03:24.4±0.8, 67°.09N±0°.02×20°.90E±0°.03, h0km, n52, σ0§76/78, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.56**	**48**	*i* P	**Pg**	**18 03 35.0**	**-0.2**
MASU				*i* S	**Sg**	**18 03 43.0**	**+0.5**
MASU	**Masugnsbyn**	**0.56**	**48**	P	**Pg**	**18 03 35.0**	**-0.2**
MASU				S	**Sg**	**18 03 43.0**	**+0.5**
MASU	**Masugnsbyn**	**0.56**	**48**	P	**Pg**	**18 03 35.0**	**-0.2**
MASU				S	**Sg**	**18 03 43.0**	**+0.5**
ERTU	**Ertsjaerv**	**0.74**	**136**	*e*S	**Sg**	**18 03 47.8**	**-0.4**
ERTU	**Ertsjaerv**	**0.74**	**136**	P	**Pg**	**18 03 37.8**	**-0.7**
ERTU				S	**Sg**	**18 03 47.7**	**-0.4**
ERTU	**Ertsjaerv**	**0.74**	**136**	P	**Pg**	**18 03 37.8**	**-0.7**
KUA	**Kurravaara**	**0.90**	**346**	*e*P	**Pg**	**18 03 41.1**	**-0.5**
KUA	**Kurravaara**	**0.90**	**346**	P	**Pg**	**18 03 41.1**	**-0.5**
KUA	**Kurravaara**	**0.90**	**346**	P	**Pg**	**18 03 41.1**	**-0.5**
SALU	**Saltoluokta**	**0.98**	**289**	*e*P	**Pg**	**18 03 42.7**	**-0.4**
SALU	**Saltoluokta**	**0.98**	**289**	P	**Pg**	**18 03 42.7**	**-0.4**
SALU	**Saltoluokta**	**0.98**	**289**	P	**Pg**	**18 03 42.7**	**-0.4**
LANU	**Lannavaara**	**1.05**	**23**	*e*P	**Pg**	**18 03 43.7**	**-0.8**
LANU				*e*SB	**Sg**	**18 03 58.9**	**+0.8**
LANU	**Lannavaara**	**1.05**	**23**	P	**Pg**	**18 03 43.7**	**-0.8**
LANU				Sb	**Sg**	**18 03 58.9**	**+0.8**
NIKU	**Nikkaluokta**	**1.06**	**318**	*e*P	**Pg**	**18 03 44.2**	**-0.6**
NIKU	**Nikkaluokta**	**1.06**	**318**	P	**Pg**	**18 03 44.1**	**-0.6**
NIKU	**Nikkaluokta**	**1.06**	**318**	P	**Pg**	**18 03 44.2**	**-0.6**
KALU	**Kalix**	**1.58**	**140**	*e*P	**Pn**	**18 03 52.8**	**-0.8**
baz=321							
KALU				*e*SN	**Sg**	**18 04 16.5**	**+1.5**
KALU	**Kalix**	**1.58**	**140**	P	**Pn**	**18 03 52.7**	**-0.8**
KALU				Sn	**Sg**	**18 04 16.5**	**+1.5**
SJUU	**Sjulsmark**	**1.61**	**169**	*e*P	**Pn**	**18 03 53.3**	**-0.7**
SJUU	**Sjulsmark**	**1.61**	**169**	P	**Pn**	**18 03 53.3**	**-0.7**
SJUU	**Sjulsmark**	**1.61**	**169**	P	**Pn**	**18 03 53.3**	**-0.7**
HEF	**Hetta**	**1.69**	**37**	*e*P	**Pn**	**18 03 54.6**	**-0.7**
HEF				*e*SG	**Sn**	**18 04 17.4**	**-0.

ellipse: s-maj=30.7km s-min=11.9km az=50.0
*DJA **05** 18:05:49.6±0.5,4°S±4°×10°1E±°, h10km, M4.8/12, mb4.9/6, MLv4.8/12*
*ISCJB **05** 18:05:50.3±0.4,3°.93S±0°.04×100°.76E±0°.04, h29km, mb4.5/29, Error ellipse: s-maj=8.2km s-min=3.5km az=43.6*
*NEIC **05** 18:05:52.6±2.1,3°.88S×100°.86E, h34km±14km, mb4.5/15, Error ellipse: s-maj=12.4km s-min=5.0km az=45.0*
ISC 05 18:05:52.1±0.5,3°.89S±0°.06×100°.81E±0°.06, h29km, n114, σ1§46/122, mb4.4/29, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.61**	**63**	P	**Pn**	**18 06 19.1**	**+0.4**
MNAI	**Manna**	**2.19**	**102**	P	**Pn**	**18 06 28.3**	**+1.6**
MNAI	**Manna**	**2.19**	**102**	P	**Pn**	**18 06 27.5**	**+0.8**
	baz=2.1,SNR=62						
MNAI	**Manna**	**2.19**	**102**	*e*Pn	**Pn**	**18 06 26.8**	**+0.1**
MNAI				*e*Sn	**Sn**	**18 06 50.7**	**-2.2**
LHSI	**Lahat**	**2.71**	**89**	P	**Pn**	**18 06 35.8**	**+2.0**
PDSI	**Padang**	**2.98**	**353**	P	**Pn**	**18 06 36.9**	**-0.6**
SDSI	**Sungai Dareh**	**3.00**	**12**	P	**Pn**	**18 06 38.9**	**+1.1**
SDSI				S	**Sb**	**18 07 23.0**	**+1.7**
MDSI	**Maura Dua**	**3.42**	**100**	P	**Pn**	**18 06 44.9**	**+1.4**
LWLI	**Liwa**	**3.43**	**109**	P	**Pn**	**18 06 45.0**	**+1.2**
JMBI	**JAMBI**	**3.61**	**52**	P	**Pb**	**18 06 54.8**	**-0.6**
KASI	**Kota Agung**	**4.02**	**114**	P	**Pn**	**18 06 52.6**	**+0.8**
PMBI	**Palembang**	**4.07**	**77**	P	**Pb**	**18 07 05.0**	**+1.8**
PMBI	**Palembang**	**4.07**	**77**	*e*Pn	**Pn**	**18 06 50.1**	**-2.5**
KLI	**Kotabumi**	**4.15**	**104**	P	Pb	18 07 13.7	+9.1
BKNI	**Bangkinang**	**4.20**	**3**	P	Pb	18 07 19.0	+14
BKNI	**Bangkinang**	**4.20**	**3**	*e*Pn	**Pn**	**18 06 54.2**	**0.0**
BLSI	**Bandar Lampung**	**4.66**	**108**	P	**Pn**	**18 07 02.8**	**+2.2**
MNSI	**Mandailing Nat**	**4.81**	**345**	P	**Pn**	**18 07 03.1**	**+0.4**
CGJI	**Cibinong**	**5.57**	**119**	P	**Pn**	**18 07 13.2**	**+0.1**
	75nm,0.7s,0.3nm						
BTDF	**Bukit Timah Da**	**6.00**	**30**	P	**Pn**	**18 07 21.3**	**+2.2**
	baz=5.9,SNR=3.6						
TPRI	**Tanjung Pinang**	**6.05**	**38**	P	**Pn**	**18 07 21.4**	**+1.6**
	79nm,1.1s						
GSI	**Gunungsitoli**	**6.09**	**328**	*e*Pn	**Pn**	**18 07 19.1**	**-1.1**
GSI				*e*Sn	**Sn**	**18 08 25.4**	**-3.6**
MYKOM	**Kota Tinggi**	**6.41**	**28**	*e*Pn	**Pn**	**18 07 25.0**	**+0.3**
PSI	**Prapat**	**6.91**	**344**	Pn	**Pn**	**18 07 29.9**	**-1.8**
	3.0nm,0.3s,baz=352,slow=10.0,SNR=5.0						
LEM	**Lembang**	**7.38**	**114**	P	**Pn**	**18 07 39.7**	**+1.5**
	50nm,0.7s						
LEM	**Lembang**	**7.38**	**114**	P	Pn	18 07 41.9	+3.7
	baz=7.3,SNR=4.4						
CISI	**Cisompet, Garu**	**7.87**	**118**	P	**Pn**	**18 07 44.3**	**-0.5**
	127nm,0.6s,0.5nm						
CISI	**Cisompet, Garu**	**7.87**	**118**	P	**Pn**	**18 07 44.2**	**-0.5**
	baz=7.8,SNR=9.9						
CISI				S	**Sn**	**18 09 10.9**	**-2.0**
	baz=7.8,SNR=4.1						
CISI	**Cisompet, Garu**	**7.87**	**118**	*e*Pn	**Pn**	**18 07 43.9**	**-0.8**
CISI				*e*Sn	**Sn**	**18 09 07.0**	**-5.9**
TPTI		**7.97**	**333**	P	**Pn**	**18 07 47.6**	**+1.4**
	34nm,0.4s						
IPM	**Ipoh**	**8.32**	**2**	*e*Pn	**Pn**	**18 07 53.0**	**+2.1**
KPJI	**Karang Pucung**	**8.78**	**113**	P	**Pn**	**18 07 58.8**	**+1.6**
KULM	**Kulim**	**9.12**	**359**	*e*Pn	**Pn**	**18 08 02.4**	**+0.5**
LHMI	**Lhok Sumawe**	**9.85**	**337**	P	**Pn**	**18 08 13.5**	**+1.7**
	baz=9.9,SNR=3.4						
LHMI	**Lhok Sumawe**	**9.85**	**337**	*e*Pn	**Pn**	**18 08 12.6**	**+0.8**
UGM	**Wanagama**	**10.46**	**113**	P	**Pn**	**18 08 21.3**	**+1.0**
	baz=10,SNR=5.7						
JAGI	**Jajag, Banyuwa**	**14.02**	**110**	P	**Pn**	**18 09 08.9**	**-0.1**
	baz=14,SNR=7.0						
DLV	**T Lat**	**17.49**	**26**	*e*Pn	**P**	**18 09 56.3**	**+1.1**
	14nm,0.9s						
KKM	**Kota Kinabalu**	**18.28**	**57**	*e*P	**Pn**	**18 10 04.2**	**+0.2**
MYLDM	**Lahad Datu**	**19.84**	**63**	*e*P	**P**	**18 10 17.1**	**-3.8**
	22nm,0.8s						
CM01	**Chiang Mai Arr**	**22.25**	**355**	*e*P	**P**	**18 10 47.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**22.28**	**355**	P	**P**	**18 10 45.1**	**-2.1**
	3.7nm,0.8s,baz=186,slow=9.3,SNR=21						
CHTO	**Chiang Mai**	**22.64**	**355**	*e*P	**P**	**18 10 50.4**	**-0.6**
	2.3nm,0.8s						
PALK	**Pallekele**	**22.92**	**299**	P	**P**	**18 10 54.9**	**+0.8**
	20nm,1.2s						
BATI	**Baumata**	**23.52**	**107**	P	**P**	**18 10 58.4**	**-1.7**
	3.9nm,0.4s,baz=106,slow=14,SNR=4.3						
H08S2	**Diego Garcia H**	**28.41**	**261**	T	T	18 41 21.9	
	baz=84,slow=76,SNR=1048						
H08S3	**Diego Garcia H**	**28.41**	**261**	T	T	18 41 22.5	
	baz=84,slow=76,SNR=853						
H08S1	**Diego Carcia H**	**28.43**	**261**	T	T	18 41 23.3	
	baz=84,slow=76,SNR=787						
KNRA	**Kununurra**	**29.89**	**115**	P	**P**	**18 11 56.8**	**-0.8**
	baz=30,SNR=4.6						
GYA	**Guiyang**	**30.70**	**10**	*e*P	**P**	**18 12 07.4**	**+2.6**
GYA				PMZ			
	10.0nm,0.8s						
MTN	**Manton Dam**	**31.26**	**108**	P	**P**	**18 12 09.7**	**-0.1**
	baz=31,SNR=4.0						
ODAN	**Odare**	**33.21**	**338**	*e*Pn	**P**	**18 12 28.6**	**+1.7**
	35nm,0.7s						
TAPN	**Taplejung**	**33.53**	**339**	*e*Pn	**P**	**18 12 31.7**	**+1.9**
	46nm,0.8s						
RAMN	**Ramite**	**33.59**	**337**	*e*Pn	**P**	**18 12 32.2**	**+1.9**
	16nm,0.6s						
JIRN	**Jiri**	**34.39**	**337**	*e*Pn	**P**	**18 12 39.0**	**+1.6**
	35nm,0.7s						
PKI	**Pulchoki**	**34.63**	**335**	*e*Pn	**P**	**18 12 40.5**	**+1.1**
PKIN	**Phulchoki**	**34.64**	**335**	*e*Pn	**P**	**18 12 40.8**	**+1.4**
LSA	**Lhasa**	**34.66**	**345**	P	**P**	**18 12 39.1**	**-0.7**
	7.2nm,1.4s						
CD2	**Chengdu**	**34.72**	**4**	*e*P	**P**	**18 12 41.4**	**+1.6**
CD2				PMZ			
	10.0nm,0.8s						
GUN	**Gumba**	**34.74**	**336**	*e*Pn	**P**	**18 12 41.9**	**+1.6**
	27nm,0.5s						
DMN	**Daman**	**34.79**	**335**	*e*Pn	**P**	**18 12 41.7**	**+1.0**
	8.0nm,0.6s						
KKN	**Kakani**	**34.87**	**335**	*e*Pn	**P**	**18 12 42.6**	**+1.2**
GKN	**Gorkha**	**35.33**	**335**	*e*Pn	**P**	**18 12 46.0**	**+0.8**
	8.2nm,0.4s						
YOJ	**Yonaguni jima**	**35.51**	**36**	*e*P	P	18 12 50.0	+3.4
	191nm,0.6s						
KOLN	**Koldanda**	**35.58**	**333**	*e*Pn	**P**	**18 12 48.8**	**+1.3**
	18nm,0.7s						
DANN	**Dangsing**	**36.01**	**334**	*e*Pn	**P**	**18 12 51.8**	**+0.6**
	15nm,0.4s						
WRA	**Warramunga Arr**	**36.37**	**119**	P	**P**	**18 12 53.5**	**-0.6**
	1.2nm,0.4s,baz=303,slow=9.0,SNR=28						
WRA				PcP	**PcP**	**18 15 18.9**	**+0.5**
	0.7nm,0.7s,baz=308,slow=2.3,SNR=4.7						
WRA				S	**S**	**18 18 34.9**	**+1.1**
	0.6nm,0.9s,baz=286,slow=16,SNR=4.0						
WRAB	**Tennant Creek**	**36.37**	**119**	*e*P	**P**	**18 12 54.0**	**-0.2**
	76nm,2.9s						
WB2	**Warramunga Arr**	**36.38**	**119**	*e*P	**P**	**18 12 53.7**	**-0.5**
ASAR	**Alice Springs**	**37.51**	**125**	P	**P**	**18 13 04.7**	**+0.8**
	1.3nm,0.7s,baz=298,slow=7.3,SNR=30						
AS31	**Alice Springs**	**37.51**	**125**	*e*P	**P**	**18 13 03.9**	**+0.1**
XAN	**Xi'an**	**38.50**	**11**	P	**P**	**18 13 11.0**	**-1.0**
XAN				PMZ			
	4.0nm,0.8s						
NJ2	**Nanjing**	**39.65**	**24**	*e*P	**P**	**18 13 21.2**	**-0.4**
NJ2				PMZ			
	10.0nm,0.8s						
GTA	**Gaotai**	**43.10**	**359**	*e*P	**P**	**18 13 50.4**	**+0.5**
GTA				pP	**pP**	**18 13 59.7**	**+1.1**
GTA				sP	**sP**	**18 14 03.6**	**+1.5**
GTA				PMZ			
	5.0nm,1.3s						
HHC	**Hu-ho-hao-te**	**45.60**	**11**	*e*P	**P**	**18 14 12.5**	**+2.6**
HHC				sP	sP	18 14 29.2	+7.0
HHC				PP	**PP**	**18 15 58.2**	**+1.1**
HHC				S	**S**	**18 20 51.3**	**+0.6**
HHC				sS	sS	18 21 13.9	+8.8
HHC				SS	**SS**	**18 24 15.8**	**+0.6**
HHC				PMZ			
	16nm,0.9s						
HHC				LN			
	540nm,15.7s						
HHC				LE			
	1μm,13.7s						
HHC				LZ			
	1μm,18.6s						
CTAO	**Charters Tower**	**47.09**	**114**	*e*P	**P**	**18 14 22.4**	**+0.5**
	16nm,1.4s						
QLP	**Quilpie**	**47.25**	**123**	P	**P**	**18 14 24.6**	**+1.6**
	baz=47,SNR=5.0						
STKA	**Stephens Creek**	**47.30**	**131**	P	**P**	**18 14 23.5**	**+0.2**
	2.4nm,0.7s,baz=308,slow=8.1,SNR=5.3						
KSAR	**Wonju Array Be**	**48.22**	**29**	P	**P**	**18 14 30.6**	**+0.3**
KSRS	**Korea Array**	**48.25**	**29**	P	**P**	**18 14 30.6**	**+0.1**
	2.5nm,0.7s,baz=227,slow=7.2,SNR=7.3						
KS01	**Wonju Array Si**	**48.25**	**29**	*e*P	**P**	**18 14 30.2**	**-0.4**
KSH	**Kashi**	**48.88**	**334**	P	**P**	**18 14 34.7**	**-0.8**
KSH				sP	**sP**	**18 14 48.5**	**+0.7**
KSH				PP	**PP**	**18 16 28.6**	**-0.5**
KSH				S	**S**	**18 21 31.7**	**-5.8**
KSH				PMZ			
	5.0nm,1.0s						
KSH				LN			
	140nm,5.8s						
KSH				LE			
	61nm,4.6s						
KSH				LZ			
	550nm,12.9s						
CMSA	**Cobar Meteorol**	**50.31**	**128**	P	**P**	**18 14 48.4**	**+2.0**
	baz=50,SNR=8.8						
SONM	**Songino Array**	**51.74**	**5**	P	**P**	**18 14 58.0**	**+0.9**
	3.7nm,0.5s,baz=186,slow=9.5,SNR=52						
SONA1	**Songino Array**	**51.76**	**5**	*e*P	**P**	**18 14 57.5**	**+0.4**
ULN	**Ulaanbaatar**	**51.83**	**5**	*e*P	**P**	**18 14 57.8**	**0.0**
	35nm,2.2s						
TKM2	**Tokmak 2**	**51.88**	**337**	*e*P	**P**	**18 14 59.0**	**+0.8**
	6.2nm,0.8s						
AAK	**Ala-Archa**	**52.08**	**336**	*e*P	**P**	**18 14 59.0**	**-0.8**
	1.4nm,0.7s						
CN2	**Changchun**	**52.40**	**22**	*e*P	P	18 15 05.7	+3.8
EKS2	**Erkin-Say**	**52.41**	**335**	*e*P	**P**	**18 15 02.8**	**+0.7**
	5.3nm,0.8s						
EKS2				*e*S	**S**	**18 22 28.4**	**+2.1**
MK01	**Makanchi Array**	**53.03**	**344**	*e*P	**P**	**18 15 06.3**	**-0.2**
MKAR	**Makanchi Array**	**53.06**	**344**	P	**P**	**18 15 07.1**	**+0.4**
	3.0nm,0.7s,baz=145,slow=8.1,SNR=46						
MKAR	**Makanchi Array**	**53.06**	**344**	*e*P	**P**	**18 15 06.9**	**+0.2**
MAJO	**Matsushiro**	**53.25**	**38**	*e*P	**P**	**18 15 07.3**	**-1.0**
	5.1nm,0.9s						
MJAR	**Matsushiro Arr**	**53.25**	**38**	P	**P**	**18 15 07.6**	**-0.7**
	3.5nm,0.7s,baz=211,slow=7.6,SNR=11						
MDJ	**Mudanjiang**	**54.74**	**25**	P	**P**	**18 15 20.8**	**+1.8**
MDJ				PMZ			
	7.0nm,1.5s						
USRK	**Ussuriysk Ar.**	**55.45**	**27**	P	**P**	**18 15 24.3**	**+0.2**
	6.0nm,0.5s,baz=215,slow=4.8,SNR=35						
KURK	**Kurchatov**	**57.64**	**343**	*e*P	**P**	**18 15 39.4**	**-0.1**
	2.5nm,0.7s						
ZAA0	**Zalesovo Array**	**59.16**	**349**	*e*P	**P**	**18 15 49.6**	**-0.6**
ZALV	**Zalesovo Beam**	**59.16**	**349**	P	**P**	**18 15 50.1**	**-0.1**
	2.2nm,0.3s,baz=167,slow=4.0,SNR=28						
VOSK	**Vostochnaya**	**61.77**	**340**	*e*P	**P**	**18 16 07.8**	**-0.2**
	3.7nm,0.4s						
BRVK	**Borovoye**	**62.29**	**340**	*e*P	**P**	**18 16 11.0**	**-0.5**
	3.1nm,0.6s						
ABKAR	**Akbulak array**	**63.68**	**331**	*e*P	**P**	**18 16 20.4**	**-0.4**
YAK	**Yakutsk**	**69.36**	**14**	*e*P	**P**	**18 16 55.4**	**-1.5**
KBZ	**Khabaz**	**70.25**	**319**	P	**P**	**18 17 02.4**	**-0.3**
	2.5nm,0.9s,baz=141,slow=5.7,SNR=3.6						
PETK	**Petropavlovsk-**	**74.05**	**32**	P	**P**	**18 17 23.9**	**-1.4**
	1.9nm,0.7s,baz=256,slow=3.1,SNR=6.9						
BRTR	**Keskin Array B**	**75.19**	**313**	P	**P**	**18 17 31.6**	**-0.8**
	1.2nm,0.6s,baz=135,slow=7.1,SNR=8.0						
FINES	**FINESS Array B**	**86.15**	**332**	P	**P**	**18 18 30.5**	**+0.2**
	2.1nm,0.9s,baz=100,slow=7.9,SNR=3.6						
NVAR	**Mina Array Bea**	**130.53**	**41**	PKP	**PKPdf**	**18 24 60.0**	**-1.0**
	0.2nm,0.3s,baz=163,slow=3.4,SNR=3.3						
WCI	**Wyandotte Cave**	**145.22**	**10**	*e*PKPdf	**PKPbc**	**18 25 25.6**	**-1.5**
TXAR	**Lajitas Array**	**145.67**	**40**	PKPbc	**PKPab**	**18 25 30.6**	**+1.4**
	9.6nm,0.6s,baz=292,slow=0.9,SNR=110						
MIAR	**Mount Ida**	**146.70**	**22**	*e*PKPbc	**PKPbc**	**18 25 31.2**	**-0.5**
JCT	**Junction City**	**147.17**	**34**	*e*PKPbc	**PKPbc**	**18 25 33.7**	**+0.4**
TKL	**Tuckaleechee C**	**148.11**	**7**	PKPbc	**PKPbc**	**18 25 35.8**	**+0.1**
	2.4nm,0.5s,baz=154,slow=4.5,SNR=4.5						

*SKHL **05** 18:09:28.2±0.2,43°.49N×147°.82E, h35km, mb4.7/2*
*JMA **05** 18:09:28.9±0.3,43°.40N×147°.48E, h33km, M3.0*
ISC 05 18:09:27.3±2.7,43°.5N±0°.1×147°.7E±0°.1, h34km, n7, σ1§01/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.78**	**303**	*e*P	**Pb**	**18 09 42.4**	**-0.2**
SHO				*e*S	**Sb**	**18 09 53.2**	**+0.3**
SHO				A	A	18 09 57.2	
	1μm,0.4s						
SHO				A	A	18 09 57.2	
	921nm,0.4s						
NEM2	**Nemuro 2**	**1.46**	**267**	P	**Pn**	**18 09 51.0**	**-0.2**
NEM2				*e*S	**Sn**	**18 10 06.7**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**1.48**	**294**	*e*P	**Pb**	**18 09 55.1**	**+0.8**
YUK				AMB	AMB	18 09 56.5	
	87nm,0.1s						
YUK				*e*S	**Sn**	**18 10 10.2**	**+0.5**
YUK				A	A	18 10 12.0	
	189nm,0.3s						
YUK				A	A	18 10 12.0	
	223nm,0.3s						
KUR	**Kuril'sk**	**1.79**	**3**	*e*P	**Pn**	**18 09 55.8**	**+0.1**
KUR				AMB	AMB	18 09 57.0	
	63nm,0.1s						
KUR				*e*S	**Sn**	**18 10 16.4**	**-0.8**
KUR				A	A	18 10 18.9	
	50nm,0.1s						
JNK	**Nakash**	**2.20**	**275**	P	**Pn**	**18 10 01.4**	**0.0**
JAK	**Akkeshi**	**2.27**	**260**	P	**Pn**	**18 10 02.7**	**+0.3**
JCH	**Churui**	**3.31**	**257**	P	**Pn**	**18 10 17.5**	**+0.8**

*IDC **05** 18:15:24.0±0.8,36°.07S×73°.18W, h0km, mb4.0/7, mb1 4.2/9, mb1mx3.9/36, mbtmp4.0/9, ML3.8/2, Error ellipse: s-maj=31.8km s-min=16.6km az=85.0*
*ISCJB **05** 18:15:26.3±0.7,36°.08S±0°.07×73°.35W±0°.06, h28km, mb4.1/7, Error ellipse: s-maj=10.1km s-min=7.4km az=6.4*
*GUC **05** 18:15:26.9±0.7,36°.12S×73°.26W, h12km±13km, ML5.0*
*NEIC **05** 18:15:29.2±2.4,35°.99S×73°.29W, h35km±21km, mb4.1/2, Error ellipse: s-maj=29.8km s-min=12.1km az=94.0*
ISC 05 18:15:28.0±0.8,36°.10S±0°.08×73°.24W±0°.07, h28km, n22, σ1§40/25, mb4.0/7, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.37**	**95**	⇓*i*P	**Pb**	**18 15 35.2**	**-1.0**
COCH				*i* S	**Sb**	**18 15 41.0**	**-0.7**
LNCH	**Linares**	**1.35**	**80**	*i* P	**Pn**	**18 15 50.8**	**-0.2**
LNCH				*i* S	**Sb**	**18 16 09.0**	**-0.6**
NICH	**Los Niches**	**1.97**	**57**	⇓*i*P	**Pn**	**18 16 00.4**	**+0.9**
NICH				*e*S	**Sb**	**18 16 26.5**	**-0.8**
CACH	**El Canelo**	**2.93**	**48**	⇑*i*P	**Pn**	**18 16 14.9**	**+2.0**
CACH				*e*S1	**Sn**	**18 16 51.8**	**+4.6**
CLCH	**Cerro Calan**	**3.50**	**40**	*e*P4	**Pn**	**18 16 19.8**	**-0.8**
CLCH				AML	AML	18 16 23.9	
	comp=N,2μm,0.6s						
CLCH				AML	AML	18 17 20.3	
	comp=N,2μm,0.7s						
PLCA	**Paso Flores**	**5.08**	**156**	Pn	**Pn**	**18 16 43.5**	**+1.1**
	comp=N,1.4nm,0.3s,baz=326,slow=11,SNR=7.2						
PLCA				Lg	Lg	18 18 05.3	
	comp=N,2.7nm,0.3s,baz=260,slow=12,SNR=4.2						
CFAA	**Coronel Fontan**	**6.12**	**44**	Pn	**Pn**	**18 16 55.3**	**-1.2**
	comp=N,0.9nm,0.3s,baz=215,slow=11,SNR=7.2						
TRQA	**Tornquist**	**9.21**	**106**	*e*Pn	Pn	18 17 42.9	+4.0
LPAZ	**La Paz**	**20.25**	**14**	P	**P**	**18 20 02.0**	**+0.2**
	comp=N,3.2nm,0.6s,baz=195,slow=9.4,SNR=9.1						
LPAZ	**La Paz**	**20.25**	**14**	*e*P	**P**	**18 20 01.9**	**+0.1**
	comp=N,4.8nm,0.9s						
SIV	**San Ignacio**	**22.77**	**32**	P	**P**	**18 20 27.6**	**-0.7**
	comp=N,7.2nm,0.8s,baz=227,slow=14,SNR=16						
SAML	**Samuel**	**28.54**	**21**	P	**P**	**18 21 19.7**	**-1.6**
SDV	**Santo Domingo**	**44.81**	**4**	*e*P	**P**	**18 23 38.1**	**-1.6**
	comp=N,4.3nm,0.6s						
QSPA	**South Pole Qui**	**54.14**	**180**	P	**P**	**18 24 51.4**	**+1.1**
	comp=N,0.7nm,0.5s,baz=285,slow=2.2,SNR=12						
TXAR	**Lajitas Array**	**71.11**	**332**	P	**P**	**18 26 44.7**	**+0.9**
	comp=N,1.0nm,0.8s,baz=157,slow=9.2,SNR=3.0						
NVAR	**Mina Array Bea**	**85.06**	**326**	P	**P**	**18 28 02.0**	**+0.9**
	comp=N,0.3nm,0.5s,baz=94,slow=20,SNR=4.2						
TORD	**Torodi Ar. Bea**	**85.84**	**71**	P	**P**	**18 28 04.5**	**-0.8**
	comp=N,1.0nm,1.0s,baz=219,slow=5.0,SNR=4.0						
ULM	**Lac du Bonnet**	**88.28**	**346**	P	**P**	**18 28 15.9**	**-0.3**
	comp=N,2.3nm,0.8s,baz=159,slow=3.9,SNR=4.0						
WRA	**Warramunga Arr**	**118.45**	**210**	PKP	**PKPdf**	**18 34 12.2**	**-1.2**
	comp=N,0.1nm,0.4s,baz=163,slow=1.7,SNR=5.6						
BVAR	**Borovoye Array**	**149.47**	**45**	PKPbc	**PKPbc**	**18 35 14.3**	**+0.4**
	comp=N,0.3nm,0.5s,baz=338,slow=3.4,SNR=2.7						
MKAR	**Makanchi Array**	**158.86**	**52**	PKPab	**PKPab**	**18 35 59.0**	**0.0**
	comp=N,0.4nm,0.8s,baz=299,slow=3.0,SNR=3.5						
SONM	**Songino Array**	**168.27**	**1**	PKPab	**PKPab**	**18 36 40.7**	**+0.5**
	comp=N,0.4nm,0.8s,baz=312,slow=3.8,SNR=3.8						

*IDC **05** 18:29:45.7±2.1,34°.79S×72°.22W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/28, mbtmp3.6/3, ML3.2/2, Error ellipse: s-maj=56.7km s-min=44.7km az=177.0*
*GUC **05** 18:29:51.0±0.6,34°.29S×72°.10W, h15km±3km, ML4.0*
ISC 05 18:29:49.4±2.0,34°.36S±0°.07×72°.13W±0°.09, h12km±15km, n16, σ1§25/23, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.98**	**131**	⇓*i*P	**Pb**	**18 30 08.8**	**+0.5**
NICH				*i* S	**Sn**	**18 30 22.6**	**-0.2**
CACH	**El Canelo**	**1.29**	**80**	*i* S1	**Sn**	**18 30 29.9**	**-0.6**
CHCH	**Chadas Angostu**	**1.29**	**71**	*i* S1	**Sn**	**18 30 29.6**	**-1.0**
IHA	**Instituto Hidr**	**1.39**	**17**	*e*P1	**Pn**	**18 30 13.7**	**-0.9**
IHA				*i* S1	**Sn**	**18 30 30.8**	**-2.0**
ANTU	**Antumapu**	**1.47**	**58**	*e*P1	**Pn**	**18 30 15.2**	**-0.5**
ANTU				*i* S1	**Sn**	**18 30 34.2**	**-0.7**
ANTU				AML	AML	18 30 39.2	
	comp=E,7μm,0.5s						
STL	**Santa Lucia**	**1.54**	**54**	*e*P9	**Pn**	**18 30 15.3**	**-1.4**
STL				*i* S1	**Sn**	**18 30 34.9**	**-1.8**
LNCH	**Linares**	**1.55**	**164**	*e*P1	**Pg**	**18 30 18.6**	**-0.5**
LNCH				*i* S1	**Sg**	**18 30 38.7**	**-0.5**
LACH	**Col Las Americ**	**1.61**	**56**	*i* S1	**Sn**	**18 30 37.6**	**-0.7**
LACH				AML	AML	18 30 43.3	
	comp=E,2μm,0.4s						
CLCH	**Cerro Calan**	**1.63**	**55**	⇑*i*P	**Pn**	**18 30 18.2**	**+0.2**
CLCH				*i* S1	**Sn**	**18 30 39.0**	**-0.1**
CLCH				AML	AML	18 30 46.8	
	comp=E,5μm,0.4s						
PEL	**Peldehue**	**1.71**	**45**	⇓*i*P	**Pn**	**18 30 19.1**	**+0.1**
PEL				*i* S	**Sn**	**18 30 40.2**	**-0.6**
PEL				AML	AML	18 30 46.7	
	comp=E,5μm,0.5s						
FCH	**Farellones**	**1.84**	**57**	AML	AML	18 30 55.7	
	comp=N,1μm,0.5s						
CFAA	**Coronel Fontan**	**4.27**	**51**	Pn	**Pn**	**18 30 56.1**	**+1.9**
	comp=N,0.2nm,0.3s,baz=213,slow=10,SNR=3.3						
CFAA				Lg	Lg	18 31 54.1	
	comp=N,0.7nm,0.3s,baz=7.4,slow=12,SNR=6.8						
LPAZ	**La Paz**	**18.35**	**12**	P	**Pn**	**18 34 07.5**	**+3.1**
	comp=N,0.1nm,0.3s,baz=191,slow=5.6,SNR=5.4						
TXAR	**Lajitas Array**	**70.01**	**331**	P	**P**	**18 41 01.4**	**+0.4**
	comp=N,0.2nm,0.5s,baz=148,slow=10,SNR=2.4						
TORD	**Torodi Ar. Bea**	**84.40**	**70**	P	**P**	**18 42 21.8**	**-0.3**
	comp=N,0.9nm,0.9s,baz=235,slow=4.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**154.57**	**33**	PKPbc	**PKPbc**	**18 49 48.0**	**-1.4**
	comp=N,0.5nm,0.5s,baz=333,slow=5.0,SNR=3.6						
ZALV				PKPab	**PKPab**	**18 50 04.3**	**+0.2**
	comp=N,0.6nm,0.4s,baz=286,slow=5.4,SNR=3.6						

JMA 05 18:39:54.4±0.2, 34°.84N×138°.45E, h23km±3km, M0.4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSG	**Sagara**	**0.27**	**233**	*e*S	Sb	18 40 06.6	+1.3
SHZ3	**Shizuoka 3**	**0.30**	**319**	P	Pb	18 40 01.3	-0.1
SHZ3				S	Sb	18 40 06.5	+0.4

JMA 05 18:40:20.4, 36°.67N×138°.23E, h0km, M1.5, 1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**0.13**	**188**	⇓P	Pg	18 40 23.2	+0.3
MAT				S	Sg	18 40 25.4	+0.8
MAT	**Matsushiro**	**0.13**	**188**	P	Pg	18 40 23.2	+0.3
MAT				S	Sg	18 40 25.3	+0.7
JNG	**Nsakai**	**0.28**	**202**	P	Pg	18 40 26.0	0.0
JNG				S	Sg	18 40 30.4	+0.7
JGK	**Kuni**	**0.35**	**108**	P	Pg	18 40 27.7	+0.5

KRSC 05 18:48:59.9±0.9, 55°.72N×165°.61E, h43km±14km, ML3.7, Komandorsky Islands region

| Code | Station Name | Δ° | AZ° | Ph

ISCJB **05** *19:18:58.8±0.2,34.°96N×0.°02×95.°82E±0.°03,h10km, mb4.7/61,MS4.3/10,Error ellipse: s-maj=3.6km s-min=3.2km az=38.4*
IDC **05** *19:18:58.8±0.6,34.°96N×95.°94E,h0km,mb4.1/17, mb1 4.3/21,mb1mx4.2/44,mbtmp4.2/21,ML3.8/4,MS4.3/7, Ms1 4.3/7,ms1mx3.9/38,Error ellipse: s-maj=19.5km s-min=13.7km az=39.0*
BJI **05** *19:18:59.5,35.°06N×95.°94E,h5km,mB4.8/5,mb4.6/19, ML4.5/6,Ms4.5/26,Ms7 4.3/22*
MOS **05** *19:19:02.1±0.9,34.°98N×95.°89E,h33km,mb5.0/32,Error ellipse: s-maj=8.6km s-min=4.7km az=122.8*
NEIC **05** *19:19:03.6±1.9,34.°98N×95.°85E,h32km±14km,mb4.8/22, Error ellipse: s-maj=7.1km s-min=5.4km az=54.0*
ISC 05 19:19:00.2±0.3,35.°09N±0.°04×95.°95E±0.°04,h10km,n247, σ1§42/233,mb4.8/61,MS4.3/10,3C-5D,Qinghai

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
GTA	**Gaotai**	**5.30**	**34**		Pn	Pn	19 20 24.0	+4.4
GTA					Sn	Sn	19 21 27.0	+6.2
GTA					Sg	**Sg**	**19 21 51.5**	**+1.1**
GTA					LN			
	4μm,9.3s							
GTA					LE			
	4μm,8.8s							
GTA					LZ			
	3μm,9.0s							
LZH	**Lanzhou**	**6.51**	**79**		Pn	**Pn**	**19 20 38.6**	**+2.4**
LZH					Sg	**Sg**	**19 22 27.1**	**-2.1**
LZH					SMN			
	390nm,1.4s							
LZH					SME			
	300nm,1.2s							
LZH					LN			
	2μm,7.6s							
LZH					LE			
	2μm,8.2s							
LZH					LZ			
	3μm,8.8s							
LSA	**Lhasa**	**6.73**	**218**		Pn	**Pn**	**19 20 41.2**	**+1.6**
LSA	**Lhasa**	**6.73**	**218**	*e*	P	**Pn**	**19 20 41.4**	**+1.8**
LSA	**Lhasa**	**6.73**	**218**	*e*	Pn	**Pn**	**19 20 41.4**	**+1.8**
CD2	**Chengdu**	**7.77**	**120**		Pn	Pn	19 20 56.0	+2.6
CD2					LN			
	9μm,5.9s							
CD2					LE			
	10μm,5.4s							
CD2					LZ			
	8μm,7.2s							
SHL	**Shillong**	**10.12**	**201**	*e*	P	**Pn**	**19 21 27.4**	**+1.7**
SHL					AMB	AMB	19 23 19.3	
	comp=Z,69nm,2.2s							
TAPN	**Taplejung**	**10.45**	**225**	*e*	P	**Pn**	**19 21 29.1**	**-1.3**
XAN	**Xi'an**	**10.75**	**92**		P	**Pn**	**19 21 36.8**	**+2.5**
XAN					PMZ			
	comp=Z,2.0nm,1.2s							
ODAN	**Odare**	**11.01**	**224**	*e*	P	**Pn**	**19 21 36.6**	**-1.4**
JIRN	**Jiri**	**11.15**	**231**	*e*	P	**Pn**	**19 21 39.8**	**-0.2**
GUN	**Gumba**	**11.18**	**233**	*e*	P	**Pn**	**19 21 40.5**	**+0.1**
RAMN	**Ramite**	**11.40**	**227**	*e*	P	**Pn**	**19 21 41.4**	**-2.0**
KMI	**Kunming**	**11.54**	**148**		P	**Pn**	**19 21 46.3**	**+1.1**
KMI					PMZ			
	comp=Z,22nm,0.9s							
KMI					LN			
	comp=Z,2μm,9.3s							
KMI					LE			
	comp=Z,770nm,7.6s							
KMI					LZ			
	comp=Z,2μm,9.8s							
KKN	**Kakani**	**11.65**	**234**	*e*	P	**Pn**	**19 21 46.5**	**-0.3**
	comp=Z,30nm,0.7s							
PKI	**Pulchoki**	**11.71**	**233**	*e*	P	**Pn**	**19 21 47.2**	**-0.5**
	comp=Z,137nm,0.7s							
PKIN	**Phulchoki**	**11.72**	**233**	*e*	P	**Pn**	**19 21 47.0**	**-0.7**
	comp=Z,79nm,0.8s							
DMN	**Daman**	**11.89**	**234**	*e*	P	**Pn**	**19 21 49.4**	**-0.7**
	comp=Z,30nm,0.7s							
GKN	**Gorkha**	**11.95**	**237**	*e*	P	**Pn**	**19 21 50.0**	**-0.8**
	comp=Z,45nm,0.9s							
DANN	**Dangsing**	**12.36**	**240**	*e*	P	**Pn**	**19 21 55.7**	**-0.8**
ENH	**Enshi**	**12.37**	**109**	*e*	Pn	Pn	19 22 02.1	+5.6
BTO	**Baotou**	**12.41**	**60**	*e*	P	**Pn**	**19 21 56.0**	**-0.9**
GYA	**Guiyang**	**12.60**	**130**	⇑*i*	P	**Pn**	**19 21 58.7**	**-0.9**
GYA					PMZ			
	comp=Z,30nm,1.0s							
KOLN	**Koldanda**	**12.81**	**239**	*e*	P	**Pn**	**19 22 00.6**	**-2.1**
	comp=Z,17nm,0.8s							
HHC	**Hu-ho-hao-te**	**13.59**	**60**	*e*	P	**Pn**	**19 22 14.8**	**+1.7**
HHC					PP	P	19 22 27.0	+4.8
HHC					S	**Sn**	**19 24 46.3**	**+2.1**
HHC					SS	**S**	**19 25 03.5**	**-4.0**
HHC					PMZ			
	comp=Z,42nm,1.0s							
HHC					LN			
	comp=Z,1μm,7.8s							
HHC					LE			
	comp=Z,880nm,7.1s							
HHC					LZ			
	comp=Z,1μm,7.6s							
BOK	**Bokaro**	**14.26**	**221**	*ex*		Pn	19 22 17.8	-4.4
BOK					AMB	AMB	19 22 19.0	
	comp=Z,20nm,0.8s							
SONM	**Songino Array**	**14.93**	**28**		Pn	**Pn**	**19 22 33.7**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=217,slow=12,SNR=48							
SONM					Lg	Lg	19 26 58.4	
	comp=Z,0.0nm,0.3s,baz=213,slow=24,SNR=6.1							
SONA1	**Songino Array**	**14.94**	**28**	*e*	Pn	**P**	**19 22 34.3**	**-2.9**
ULN	**Ulaanbaatar**	**15.21**	**30**	*d*	*i* P	**P**	**19 22 37.9**	**-2.3**
ULN					pmax	pmax		
	comp=Z,43nm,1.7s							
ULN	**Ulaanbaatar**	**15.21**	**30**	*e*	Pn	**P**	**19 22 38.1**	**-2.1**
	comp=Z,22nm,1.0s							
CRAI	**Chiangrai**	**15.31**	**164**		P	**Pn**	**19 22 35.9**	**-0.6**
	comp=Z,7.9nm,1.8s							
MK01	**Makanchi Array**	**15.54**	**323**	*e*	Pn	**Pn**	**19 22 38.7**	**-0.7**
MKAR	**Makanchi Array**	**15.57**	**323**	*e*	P	**Pn**	**19 22 39.0**	**-0.7**
MKAR	**Makanchi Array**	**15.57**	**323**		Pn	**Pn**	**19 22 38.7**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=140,slow=14,SNR=32							
MKAR					LR	LR	19 29 32.0	
	comp=Z,988nm,19.5s,baz=152,slow=40							
MKAR	**Makanchi Array**	**15.57**	**323**	*e*	Pn	**Pn**	**19 22 39.0**	**-0.7**
DDI	**Dehra Dun**	**15.79**	**257**	*e*	P3	**Pn**	**19 22 43.8**	**+1.1**
HVS	**Khovu-Aksy**	**16.12**	**355**	*e*	P	**P**	**19 22 48.7**	**-1.5**
HVS					pmax	pmax		
	comp=Z,78nm,1.1s							
ZAK	**Zakamensk**	**16.19**	**17**	*e*	P	**P**	**19 22 52.2**	**+1.2**
ZAK					pmax	pmax		
	comp=Z,10.0nm,1.4s							
SMLA	**Simla**	**16.22**	**261**	*e*	P	**Pn**	**19 22 46.3**	**-1.9**
SMLA					AMB	AMB	19 22 55.3	
	comp=Z,36nm,0.9s							
CHTO	**Chiang Mai**	**16.43**	**170**	*e*	P	**Pn**	**19 22 49.5**	**-1.4**
CHTO					pmax	pmax		
	comp=Z,10.0nm,0.9s							
CHTO	**Chiang Mai**	**16.43**	**170**		P	**Pn**	**19 22 50.8**	**-0.1**
	comp=Z,56nm,1.0s							
CHTO	**Chiang Mai**	**16.43**	**170**	*e*	Pn	**Pn**	**19 22 49.5**	**-1.4**
	comp=Z,10nm,0.9s							
CMMT	**Chiang Mai**	**16.43**	**170**		P	**Pn**	**19 22 50.7**	**-0.3**
	comp=Z,16nm,1.0s							
DHRM	**DHARAMSHALA**	**16.60**	**266**	*e*	P	**Pn**	**19 22 51.1**	**-2.2**
DHRM					AMB	AMB	19 22 59.3	
	comp=Z,35nm,1.1s							
BJT	**Baijiatuau**	**16.76**	**67**	*e*	P	**P**	**19 22 59.0**	**+1.7**
BJT	**Baijiatuau**	**16.76**	**67**	*e*	Pn	**P**	**19 22 59.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**16.78**	**170**		Pn	**Pn**	**19 22 55.1**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=342,slow=11,SNR=43							
CM01	**Chiang Mai Arr**	**16.82**	**170**	*e*	Pn	**Pn**	**19 22 54.3**	**-1.5**
LAMP	**Lampang**	**16.82**	**168**		P	**P**	**19 22 59.9**	**+1.8**
	comp=Z,5.4nm,0.8s							
MOY	**Mondy**	**16.96**	**11**	*e*	P	P	19 23 05.0	+5.5
AGRA	**Agra**	**17.27**	**248**	*e*	P	**Pn**	**19 22 58.7**	**-2.7**
AGRA					AMB	AMB	19 23 04.2	
	comp=Z,17nm,0.2s							
SONA	**Sohna**	**17.43**	**252**	*e*	P	**Pn**	**19 23 00.1**	**-3.4**
RTK	**Rohtak**	**17.61**	**255**	*e*	P	**Pn**	**19 23 05.2**	**-0.6**
RTK					AMB	AMB	19 23 06.5	
	comp=Z,38nm,1.1s							
TKM2	**Tokmak 2**	**17.62**	**302**	*e*	P	**Pn**	**19 23 04.7**	**-1.2**
TKM2					pmax	pmax		
	comp=Z,24nm,1.3s							
TKM2	**Tokmak 2**	**17.62**	**302**	*e*	Pn	**Pn**	**19 23 04.7**	**-1.2**
	comp=Z,24nm,1.3s							
UTTA	**Uttaradit**	**17.76**	**165**		P	P	19 23 16.5	+8.1
SUKH	**Sukhothai**	**17.84**	**168**		P	P	19 23 21.9	+13
KUDL	**Kundal**	**17.95**	**253**	*e*	P	**Pn**	**19 23 08.7**	**-1.2**
KBK	**Karagaybulak**	**17.98**	**301**		P	**P**	**19 23 13.0**	**+2.0**
	SNR=10							
LOEI	**Loei**	**18.14**	**164**		P	**P**	**19 23 14.9**	**+2.3**
	comp=Z,95nm,1.9s							
UCH	**Uchtor**	**18.17**	**299**		P	**P**	**19 23 16.6**	**+3.2**
	SNR=7.1							
UCH	**Uchtor**	**18.17**	**299**	*i*	P	**P**	**19 23 16.5**	**+3.2**
CHMS	**Chumysh**	**18.23**	**302**		P	**P**	**19 23 15.5**	**+2.0**
	SNR=6.3							
CHMS	**Chumysh**	**18.23**	**302**	*i*	P	**P**	**19 23 15.5**	**+2.0**
FRU	**Bishkek**	**18.27**	**301**	*e*	P	**P**	**19 23 16.0**	**+2.0**
FRU					pmax	pmax		
	comp=Z,68nm,1.8s							
AAK	**Ala-Archa**	**18.30**	**301**		P	**P**	**19 23 16.8**	**+2.4**
	SNR=8.5							
AAK	**Ala-Archa**	**18.30**	**301**		P	**P**	**19 23 16.0**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=102,slow=9.6,SNR=19							
AAK	**Ala-Archa**	**18.30**	**301**	*e*	P	**P**	**19 23 15.6**	**+1.2**
	comp=Z,21nm,1.2s							
USP	**Ospenovka**	**18.49**	**303**		P	**Pn**	**19 23 17.9**	**+1.3**
	SNR=7.1							
USP	**Ospenovka**	**18.49**	**303**	*i*	P	**Pn**	**19 23 17.8**	**+1.3**
KHET	**Khetri**	**18.52**	**253**	*e*	P	**P**	**19 23 15.5**	**-1.2**
AML	**Almayashu**	**18.73**	**299**		P	**Pn**	**19 23 21.9**	**+2.1**
	SNR=9.6							
AML	**Almayashu**	**18.73**	**299**	*i*	P	**Pn**	**19 23 21.9**	**+2.1**
EKS2	**Erkin-Say**	**18.81**	**300**		P	**Pn**	**19 23 22.2**	**+1.7**
	SNR=18							
EKS2	**Erkin-Say**	**18.81**	**300**	*e*	P	**Pn**	**19 23 21.8**	**+1.3**
EKS2					pmax	pmax		
	comp=Z,29nm,1.4s							
EKS2	**Erkin-Say**	**18.81**	**300**	*e*	P	**Pn**	**19 23 21.8**	**+1.3**
	comp=Z,29nm,1.4s							
PBKT	**Sadao Pong**	**18.98**	**165**		P	**Pn**	**19 23 23.7**	**+1.1**
	comp=Z,12nm,1.0s							
BHPL	**Bhopal**	**19.99**	**239**	*e*	P	**P**	**19 23 31.3**	**-1.6**
KURK	**Kurchatov**	**20.05**	**326**	*e*	P	Pn	19 23 34.3	-0.7
KURK					pmax	pmax		
	comp=Z,40nm,1.2s							
KURK	**Kurchatov**	**20.05**	**326**	*e*	P	Pn	19 23 34.3	-0.8
	comp=Z,40nm,1.2s							
QIZ	**Qiongzhong**	**20.19**	**139**		P	**P**	**19 23 32.7**	**-2.4**
QIZ					S	**S**	**19 27 19.9**	**-1.8**
NGP	**Nagpur**	**20.33**	**231**	*e*	P	**P**	**19 23 35.9**	**-0.7**
ZAA0	**Zalesovo Array**	**20.41**	**341**	*e*	P	Pn	19 23 40.1	+0.8
ZALV	**Zalesovo Beam**	**20.41**	**341**		P	Pn	19 23 39.3	0.0
	comp=Z,5.2nm,0.7s,baz=148,slow=8.7,SNR=30							
KRAR	**Krasnoyarsk**	**21.03**	**355**	*e*	P	**P**	**19 23 45.3**	**+1.4**
KRAR					pmax	pmax		
	comp=Z,8.0nm,1.2s							
KKAR	**Karatay Array**	**21.24**	**300**	*e*	P	**P**	**19 23 46.7**	**+0.3**
KKAR	**Karatay Array**	**21.24**	**300**	*e*	P	**P**	**19 23 46.7**	**+0.3**
UBPT	**Khong Chiam**	**21.50**	**154**		P	P	19 23 54.4	+5.1
	comp=Z,26nm,1.1s							
NVS	**Novosibirsk**	**21.64**	**340**	⇓*i*	P	**P**	**19 23 52.0**	**+1.6**
NVS					*e*S	**S**	**19 27 44.7**	**-5.1**
NVS					pmax	pmax		
	comp=Z,33nm,1.5s							
NVS					pmax	pmax		
	comp=N,27nm,1.6s							
NVS					pmax	pmax		
	comp=E,19nm,1.6s							
NVS					smax	smax		
	comp=N,29nm,3.3s							
NVS					smax	smax		
	comp=E,37nm,3.0s							
DGPR	**DIGLIPUR**	**21.99**	**188**	*e*	P	**P**	**19 23 51.3**	**-3.1**
DGPR					AMB	AMB	19 24 07.7	
	comp=Z,20nm,1.9s							
KBL	**Kabul**	**22.08**	**276**	*e*	P	**P**	**19 23 55.8**	**+0.2**
KBL					pmax	pmax		
	comp=Z,55nm,0.9s							
KBL	**Kabul**	**22.08**	**276**	*e*	P	**P**	**19 23 55.8**	**+0.2**
	comp=Z,55nm,0.9s							
HYB	**Hyderabad**	**23.45**	**226**	*i*	P	**P**	**19 24 07.5**	**-2.4**
HYB	**Hyderabad**	**23.45**	**226**	*e*	P	**P**	**19 24 08.6**	**-1.4**
HYB					AMB	AMB	19 24 14.7	
	comp=Z,21nm,0.4s							
CN2	**Changchun**	**24.28**	**60**	*e*	P	**P**	**19 24 18.6**	**+1.0**
CN2					*e*S	**S**	**19 28 33.7**	**-2.7**
CN2					PMZ			
	comp=Z,10.0nm,0.7s							
CN2					PMZ			
	comp=Z,300nm,5.0s							
CN2					LN			
	comp=Z,400nm,16.0s							
CN2					LE			
	comp=Z,300nm,16.0s							
CN2					LZ			
	comp=Z,300nm,15.0s							
VOSK	**Vostochnaya**	**24.98**	**323**	*e*	P	**P**	**19 24 24.3**	**+0.4**
VOSK					pmax	pmax		
	comp=Z,20nm,1.1s							
VOSK	**Vostochnaya**	**24.98**	**323**	*e*	P	**P**	**19 24 24.3**	**+0.4**
	comp=Z,20nm,1.1s							
BVAR	**Borovoye Array**	**25.45**	**323**		P	**P**	**19 24 29.8**	**+1.7**
	comp=Z,3.3nm,0.9s,baz=122,slow=11,SNR=15							
BVAR					LR	LR	19 35 36.5	
	comp=Z,800nm,20.3s,baz=118,slow=39							
BRVK	**Borovoye**	**25.52**	**323**	*d*	*i* P	**P**	**19 24 30.0**	**+1.3**
BRVK					pmax	pmax		
	comp=Z,23nm,1.7s							
BRVK	**Borovoye**	**25.52**	**323**	*e*	P	**P**	**19 24 30.1**	**+1.3**
	comp=Z,15nm,1.1s							
BHJ	**Bhuj**	**25.73**	**250**	*e*	P	**P**	**19 24 29.2**	**-1.6**
BHJ					AMB	AMB	19 24 34.1	
	comp=Z,40nm,1.5s							
KSAR	**Wonju Array Be**	**25.79**	**75**		P	**P**	**19 24 32.3**	**+0.9**
KSAR	**Wonju Array Be**	**25.79**	**75**		P	**P**	**19 24 32.3**	**+0.9**
KS01	**Wonju Array Si**	**25.80**	**75**	*e*	P	**P**	**19 24 33.1**	**+1.7**
KSRS	**Korea Array**	**25.82**	**75**		P	**P**	**19 24 32.3**	**+0.7**
KSRS					pmax	pmax		
	comp=Z,7.0nm,1.0s							
KSRS	**Korea Array**	**25.82**	**75**		P	**P**	**19 24 32.3**	**+0.7**
	comp=Z,6.5nm,1.0s,baz=268,slow=8.4,SNR=10							
GOA	**Goa**	**27.83**	**231**	*e*	P3	**P**	**19 24 50.5**	**+0.7**
GOA					AMB	AMB	19 26 21.5	
	comp=Z,16nm,0.8s							
JOW	**Kunigami**	**28.82**	**98**		LR	LR	19 35 45.0	
	comp=Z,143nm,22.0s,baz=156,slow=35							
JNU	**Nakatsue**	**28.90**	**84**		LR	LR	19 37 17.2	
	comp=Z,548nm,19.1s,baz=169,slow=38							
ABKAR	**Akbulak array**	**29.89**	**309**	*e*	P	**P**	**19 25 08.5**	**+0.7**
GEYT	**Alibeck**	**30.40**	**287**		P	**P**	**19 25 13.6**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=82,slow=11,SNR=6.3							
SVE	**Sverdlovsk**	**32.23**	**323**	*e*	P	P	19 25 31.2	+2.8
SVE					pmax	pmax		
	comp=Z,25nm,1.2s							
SVE					MLR	MLR		
	comp=Z,995nm,19.0s							
ARU	**Arti**	**33.09**	**322**	*d*	*i* P	**P**	**19 25 37.4**	**+1.5**
ARU							19 26 43.9	
ARU					S	**S**	**19 30 57.2**	**+2.5**
ARU					pmax	pmax		
	comp=Z,48nm,1.7s							
ARU	**Arti**	**33.09**	**322**	*e*	P	**P**	**19 25 36.6**	**+0.7**
	comp=Z,36nm,1.2s							
YAK	**Yakutsk**	**34.29**	**28**	*e*	P	P	19 25 49.1	+2.8
YAK					pmax	pmax		
	comp=Z,8.0nm,0.9s							
YAK	**Yakutsk**	**34.29**	**28**	*e*	P	P	19 25 49.1	+2.8
	comp=Z,7.8nm,0.9s							
SBUM	**Sibu**	**35.83**	**151**	*e*	P	**P**	**19 26 01.5**	**+1.4**
	comp=Z,11nm,1.2s							
MYLDM	**Lahad Datu**	**36.33**	**140**	*e*	P	**P**	**19 26 05.8**	**+1.5**
	comp=Z,26nm,1.2s							
GNI	**Garni**	**40.42**	**293**	*i*	P	**P**	**19 26 39.8**	**+1.0**
GNI					pmax	pmax		
	comp=Z,17nm,1.4s							
GNI	**Garni**	**40.42**	**293**		P	**P**	**19 26 41.1**	**+2.3**
	comp=Z,72nm,1.6s							
GOF	**Gofitskoye**	**41.04**	**301**	*e*	P	**P**	**19 26 45.1**	**+1.5**
PRGR	**Permogore**	**41.16**	**326**	*e*	P	**P**	**19 26 44.3**	**-0.1**
PRGR					pmax	pmax		
	comp=Z,6.0nm,0.8s							
KBZ	**Khabaz**	**41.27**	**299**		P	**P**	**19 26 47.2**	**+1.7**
	comp=Z,3.9nm,0.9s,baz=190,slow=9.3,SNR=5.6							
KIV	**Kislovodsk**	**41.40**	**299**	⇑*i*	P	**P**	**19 26 48.3**	**+1.6**
KIV					*e**PP	**PP**	**19 28 24.9**	**+2.7**
KIV					*e*		19 28 54.8	
KIV					pmax	pmax		
	comp=Z,14nm,1.2s							
KIV					MLR	MLR		
	comp=Z,217nm,16.0s							
KIV	**Kislovodsk**	**41.40**	**299**	*e*	P	**P**	**19 26 43.8**	**-2.9**
	comp=Z,42nm,1.5s							
KLMR	**Klimovskoe**	**43.86**	**324**	*e*	P	**P**	**19 27 05.1**	**-1.2**
KLMR					pmax	pmax		
	comp=Z,40nm,1.3s							
MOS	**Moscow**	**44.31**	**316**	*e*	P	**P**	**19 27 11.2**	**+1.2**
MOS					pmax	pmax		
	comp=Z,93nm,1.3s							
OBN	**Obninsk**	**44.90**	**316**	*d*	*i* P	**P**	**19 27 15.7**	**+1.0**
OBN					*e*		19 29 03.6	
OBN					*e*S	**S**	**19 33 48.7**	**-3.6**
OBN					pmax	pmax		
	comp=Z,47nm,1.7s							
OBN					MLR	MLR		
	comp=Z,344nm,16.0s							
OBN	**Obninsk**	**44.90**	**316**	*e*	P	**P**	**19 27 11.8**	**-2.8**
	comp=Z,35nm,1.4s							
ANN	**Anapa**	**45.02**	**301**	*e*	P	P	19 27 12.6	-3.3
ANN					pmax	pmax		
	comp=Z,79nm,1.4s							
JOF	**Joensuu**	**47.96**	**326**	*e*	P	**P**	**19 27 40.4**	**+1.7**
JOF					pmax	pmax		
	comp=Z,11nm,1.1s							
JOF	**Joensuu**	**47.96**	**326**	*e*p		**P**	**19 27 40.4**	**+1.7**
	comp=Z,11nm,1.1s							
BRTR	**Keskin Array B**	**48.84**	**295**	*i*	P	**P**	**19 27 46.7**	**+0.7**
BRTR					pmax	pmax		
	comp=Z,7.0nm,1.0s							
BRTR	**Keskin Array B**	**48.84**	**295**		P	**P**	**19 27 46.8**	**+0.7**
	comp=Z,6.9nm,1.0s,baz=97,slow=7.3,SNR=16							
ANTO	**Ankara**	**49.43**	**295**	*e*	P	**P**	**19 27 50.0**	**-0.4**
ANTO					pmax	pmax		
	comp=Z,33nm,1.2s							
ANTO	**Ankara**	**49.43**	**295**	*e*	P	**P**	**19 27 50.0**	**-0.4**
	comp=Z,33nm,1.2s							
BR231	**Keskin MP Arra**	**49.45**	**295**	*e*	P	P	19 27 46.8	-3.8
AKASG	**Malin Array Be**	**49.63**	**310**		P	**P**	**19 27 51.8**	**+0.1**
	comp=Z,6.2nm,0.9s,baz=72,slow=7.0,SNR=13							
KIEV	**Kiev**	**49.64**	**310**	*e*	P	P	19 27 47.7	-4.1
KIEV					*e**PP	pP	19 27 54.6	-0.3
KIEV	**Kiev**	**49.64**	**310**	*e*	P	P	19 27 47.6	-4.1
KIEV					*e*pP	pP	19 27 54.6	-0.3
VSU	**Vasula**	**50.22**	**320**	*c*	*i* P	**P**	**19 27 57.5**	**+1.5**
VSU					pmax	pmax		
	comp=Z,53nm,1.2s							
FINES	**FINESS Array B**	**50.39**	**324**		P	**P**	**19 27 58.5**	**+1.1**
	comp=Z,4.1nm,0.9s,baz=89,slow=9.7,SNR=9.6							
FINES					LR	LR	19 50 54.8	
	comp=Z,491nm,18.9s,baz=98,slow=38							
BILL	**Bilibino**	**50.65**	**27**	*e*	P	**P**	**19 28 00.7**	**+1.6**
BILL					*e*		19 29 54.1	
BILL					*e*SS	**SS**	**19 38 44.6**	**-2.7**
BILL					pmax	pmax		
	comp=Z,2.0nm,1.0s							
BILL					MLR	MLR		
	comp=Z,413nm,24.0s							
ARCES	**ARCESS Array B**	**50.78**	**335**		LR	LR	19 52 10.1	
	comp=Z,345nm,19.1s,baz=86,slow=39							
BUR04	**Bucovina Ar. S**	**52.81**	**307**	*e*	P	**P**	**19 28 13.8**	**-2.0**
LVV	**L'vov**	**53.07**	**310**	*e*	P	P	19 28 20.4	+2.9
SPITS	**Spitsbergen Ar**	**53.80**	**345**		LR	LR	19 54 42.9	
	comp=Z,292nm,20.1s,baz=345,slow=40							
KWP	**Kalwaria Pacla**	**53.95**	**310**	*e*	P	**P**	**19 28 24.9**	**+0.9**
KWP					pmax	pmax		
	comp=Z,38nm,1.1s							
KWP	**Kalwaria Pacla**	**53.95**	**310**	*e*	P	**P**	**19 28 24.9**	**+0.9**
	comp=Z,38nm,1.1s							
KOLS	**Kolonicke sedl**	**54.39**	**309**	*e*	P	**P**	**19 28 27.6**	**+0.4**
KOLS					pmax	pmax		
	comp=Z,9.0nm,1.5s							
KOLS	**Kolonicke sedl**	**54.39**	**309**	*e*	P	**P**	**19 28 27.6**	**+0.4**
OJC	**Ojcow**	**55.62**	**311**	*e*	P	**P**	**19 28 34.3**	**-1.7**
OJC					pmax	pmax		
	comp=Z,12nm,1.0s							
OJC	**Ojcow**	**55.62**	**311**	*e*	P	**P**	**19 28 34.3**	**-1.7**
	comp=Z,12nm,1.0s							
VYHS	**Vyhne**	**56.70**	**309**	*e*	P	**P**	**19 28 45.7**	**+1.9**
VYHS					pmax	pmax		
	comp=Z,10.0nm,1.5s							
VYHS	**Vyhne**	**56.70**	**309**	*e*	P	**P**	**19 28 45.7**	**+1.9**
NB2	**NORSAR Subarra**	**57.55**	**325**		P	**P**	**19 28 49.9**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=75,slow=7.4							
NOA	**NORSAR Array B**	**57.55**	**325**		P	**P**	**19 28 50.0**	**+0.3**
NOA	**NORSAR Array B**	**57.55**	**325**		P	**P**	**19 28 50.0**	**+0.3**
	comp=Z,4.1nm,0.9s,baz=76,slow=7.1,SNR=8.0							
FURI	**Furi**	**58.26**	**258**	*e*	P	**P**	**19 28 54.6**	**-1.0**
	comp=Z,15nm,0.8s							
BRG	**Berggiesshubel**	**59.00**	**313**	*e*	P	**P**	**19 29 01.1**	**+1.2**
	comp=Z,16nm,1.5s							
BRG					*e*PP	**PP**	**19 31 09.7**	**-0.3**
	comp=Z,18nm,1.8s							
BRG	**Berggiesshubel**	**59.00**	**313**	*e*	P	**P**	**19 29 01.1**	**+1.2**
BRG					*e*		19 31 09.7	
BRG					pmax	pmax		
	comp=Z,16nm,1.5s							
BRG					pmax	pmax		
	comp=Z,18nm,1.8s							
CLL	**Collm**	**59.42**	**314**	*e*	P	**P**	**19 29 03.0**	**+0.2**
CLL					pmax	pmax		
	comp=Z,6.0nm,1.1s							
CLL	**Collm**	**59.42**	**314**	*e*	P	**P**	**19 29 03.0**	**+0.2**
	comp=Z,6.0nm,1.1s							
GEC2	**GERESS Array S**	**59.82**	**311**	*e*	P	**P**	**19 29 05.0**	**-0.7**
GEC2	**GERESS Array S**	**59.82**	**311**	*e*	P	**P

MBDF	Montbardon	65.81	309	*e*P	P	19 29 45.4	-0.4
	comp=Z,22nm,1.2s						
MBDF	Montbardon	65.81	309	*e*P	P	19 29 45.4	-0.4
MBDF				pmax	pmax		
	comp=Z,22nm,1.2s						
MBDF	Montbardon	65.81	309	*e*P	P	19 29 45.4	-0.4
	comp=Z,22nm,1.2s						
ORIF	Oris-en-Rattie	66.29	309	*e*P	P	19 29 48.4	-0.4
	comp=Z,29nm,1.2s						
ORIF	Oris-en-Rattie	66.29	309	*e*P	P	19 29 48.4	-0.4
ORIF				pmax	pmax		
	comp=Z,29nm,1.2s						
ORIF	Oris-en-Rattie	66.29	309	*e*P	P	19 29 48.4	-0.4
	comp=Z,29nm,1.2s						
LOR	Lormes	66.50	312	*e*P	P	19 29 50.8	+0.8
LOR	Lormes	66.50	312	*e*P	P	19 29 50.8	+0.8
LOR	Lormes	66.50	312	*e*P	P	19 29 50.8	+0.8
SMF	Signal de Mont	66.79	311	*e*P	P	19 29 52.3	+0.4
SMF	Signal de Mont	66.79	311	*e*P	P	19 29 52.3	+0.4
SMF	Signal de Mont	66.79	311	*e*P	P	19 29 52.3	+0.4
SSF	Saint Saulge	66.81	312	*e*P	P	19 29 52.1	+0.1
SSF	Saint Saulge	66.81	312	*e*P	P	19 29 52.1	+0.1
SSF	Saint Saulge	66.81	312	*e*P	P	19 29 52.1	+0.1
AVF	Avril sur Loir	67.03	312	*e*P	P	19 29 53.7	+0.4
AVF	Avril sur Loir	67.03	312	*e*P	P	19 29 53.7	+0.4
AVF	Avril sur Loir	67.03	312	*e*P	P	19 29 53.7	+0.4
VIVF	Saint-Julien-l	67.09	309	*e*P	P	19 29 54.5	+0.7
VIVF	Saint-Julien-l	67.09	309	*e*P	P	19 29 54.5	+0.7
VIVF	Saint-Julien-l	67.09	309	*e*P	P	19 29 54.5	+0.7
TCF	Toulx Ste Croi	67.96	312	*e*P	P	19 30 00.1	+0.8
	comp=Z,28nm,1.1s						
TCF	Toulx Ste Croi	67.96	312	*e*P	P	19 30 00.1	+0.8
TCF				pmax	pmax		
	comp=Z,28nm,1.1s						
TCF	Toulx Ste Croi	67.96	312	*e*P	P	19 30 00.1	+0.8
	comp=Z,28nm,1.1s						
LASF	Ste Croix	67.97	309	*e*P	P	19 29 59.1	-0.3
	comp=Z,85nm,1.5s						
LASF	Ste Croix	67.97	309	*e*P	P	19 29 59.1	-0.3
	comp=Z,85nm,1.5s						
ASAR	Alice Springs	68.63	143	P	P	19 30 03.7	+0.1
	comp=Z,1.3nm,0.8s,baz=327,slow=6.3,SNR=9.2						
AS01	Alice Springs	68.65	143	*e*P	P	19 30 00.9	-2.9
CAF	Calviac	68.69	310	*e*P	P	19 30 03.9	0.0
	comp=Z,11nm,1.0s						
CAF	Calviac	68.69	310	*e*P	P	19 30 03.9	0.0
CAF				pmax	pmax		
	comp=Z,11nm,1.0s						
CAF	Calviac	68.69	310	*e*P	P	19 30 03.9	0.0
	comp=Z,11nm,1.0s						
GRR	Gorron	68.79	315	*e*P	P	19 30 05.0	+0.6
	comp=Z,24nm,1.0s						
GRR	Gorron	68.79	315	*e*P	P	19 30 05.0	+0.6
GRR				pmax	pmax		
	comp=Z,24nm,1.0s						
GRR	Gorron	68.79	315	*e*P	P	19 30 05.0	+0.6
	comp=Z,24nm,1.0s						
ILAR	Eielson Array	69.11	24	P	P	19 30 06.5	+0.4
	comp=Z,0.8nm,0.9s,baz=310,slow=4.7,SNR=4.1						
LFF	La Frestale	69.51	311	*e*P	P	19 30 09.1	+0.2
LFF	La Frestale	69.51	311	*e*P	P	19 30 09.1	+0.2
LFF	La Frestale	69.51	311	*e*P	P	19 30 09.1	+0.2
ROSF	Rostrenen	70.21	316	*e*P	P	19 30 14.1	+0.9
ROSF	Rostrenen	70.21	316	*e*P	P	19 30 14.1	+0.9
ROSF	Rostrenen	70.21	316	*e*P	P	19 30 14.1	+0.9
QUIF	Quistinic	70.36	315	*e*P	P	19 30 14.8	+0.7
QUIF	Quistinic	70.36	315	*e*P	P	19 30 14.8	+0.7
QUIF	Quistinic	70.36	315	*e*P	P	19 30 14.8	+0.7
ESDC	Sonseca Array	75.23	308	P	P	19 30 43.3	0.0
	comp=Z,0.8nm,0.6s,baz=44,slow=5.1,SNR=4.2						
YKA	Yellowknife Ar	79.69	14	P	P	19 31 08.2	+0.6
	comp=Z,0.3nm,0.8s,baz=336,slow=5.7,SNR=3.6						
TORD	Torodi Ar. Bea	85.98	283	P	P	19 31 40.4	-0.8
	comp=Z,1.9nm,1.1s,baz=39,slow=6.1,SNR=5.6						
DBIC	Dimbokro	94.97	282	P	P	19 32 18.3	-5.1
DBIC	Dimbokro	94.97	282	P	P	19 32 18.3	-5.1

IDC 05 19:30:50.4±2.6, 34°.75S×72°.14W, h0km, mb3.8/1, mb1 3.5/3, mb1mx3.4/32, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=78.1km s-min=25.6km az=121.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	Coronel Fontan	4.53	47	Pn	Pn	19 32 01.9	+1.5
	0.4nm,0.3s,baz=230,slow=14,SNR=7.5						
CFAA				Lg	Lg	19 33 14.3	
	0.3nm,0.3s,baz=21,slow=5.6,SNR=6.4						
PLCA	Paso Flores	6.11	169	Pn	Pn	19 32 22.8	+0.8
	1.1nm,0.3s,baz=342,slow=8.9,SNR=7.9						
TORD	Torodi Ar. Bea	84.55	70	P	P	19 43 24.1	-1.7
	0.5nm,0.7s,baz=223,slow=5.9,SNR=4.5						
MKAR	Makanchi Array	157.31	50	PKPab	PKPab	19 51 19.9	+0.6
	0.2nm,0.8s,baz=289,slow=4.4,SNR=2.9						

MEX 05 19:33:22.9±0.3, 15°.53N×95°.64W, h13km±6km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	0.51	298	*e*P	Pg	19 33 31.7	-1.2
HUIG				*e*S	Sg	19 33 38.9	-0.9
CMIG	Matias Romero	1.71	25	*e*P	Pn	19 33 49.2	-3.3
CMIG				*i* S	Sn	19 34 08.9	-5.5
VHO	Vista Hermosa	1.86	326	*e*P	Pn	19 33 51.6	-3.1
VHO				*i* S	Sn	19 34 12.9	-5.4
PCIG		2.34	85	*e*P	Pn	19 33 58.1	-3.0
PCIG				*i* S	Sn	19 34 25.4	-4.3
PNIG	Pinotepa	2.54	290	*e*P	Pn	19 34 01.2	-2.7
PNIG				*i* S	Sn	19 34 30.1	-4.6
TPIG	Tehuac#an	3.31	330	*i* P	Pn	19 34 11.6	-3.1
TPIG				*i* S	Sn	19 34 50.5	-3.7

*GUC **05** 19:34:25.9±0.7, 35°.16S×72°.09W, h39km±5km, ML4.8*
*ISCJB **05** 19:34:26.3±0.5, 35°.24S±0°.04×71°.97W±0°.08, h64km±4km, mb4.2/15, Error ellipse: s-maj=11.2km s-min=4.9km az=22.8*
*IDC **05** 19:34:26.6±0.8, 35°.22S×71°.95W, h48km±6km, mb4.0/11, mb1 4.1/14, mb1mx4.0/32, mbtmp4.2/14, Error ellipse: s-maj=21.8km s-min=15.3km az=84.0*
*NEIC **05** 19:34:26.4±0.3, 35°.19S×72°.02W, mb4.4/6, Error ellipse: s-maj=9.4km s-min=6.3km az=85.0*
ISC 05 19:34:26.7±0.7, 35°.21S±0°.04×72°.01W±0°.06, h51km±6km, n46, σ0$95/53, mb4.3/15, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	Los Niches	0.67	73	⇓*i*P	Pn	19 34 40.0	-0.1
NICH				*i* S	Sn	19 34 50.2	+0.5
LNCH	Linares	0.72	153	⇓*i*P	Pn	19 34 40.8	0.0
LNCH				*i* S	Sn	19 34 52.2	+1.2
COCH	Cobquecura	1.12	214	⇑*i*P	Pn	19 34 45.8	-0.3
COCH				*i* S	Sn	19 35 01.1	+0.6
ANTU	Antumapu	1.99	35	*e*P	Pn	19 34 57.6	-0.3
ANTU				AML	AML	19 35 29.3	
	comp=N,11μm,0.5s						
STL	Santa Lucia	2.10	33	⇑*i*P	Pn	19 35 00.4	+1.0
STL				*i* S	Sn	19 35 26.5	+2.2
LACH	Col Las Americ	2.13	35	*i* P	Pn	19 35 00.5	+0.6
LACH				*e*S	Sn	19 35 26.5	+1.2
CLCH	Cerro Calan	2.18	34	⇑*i*P	Pn	19 35 00.9	+0.4
CLCH				*e*S	Sn	19 35 27.5	+1.2
CLCH				AML	AML	19 35 42.9	
	comp=E,8μm,0.7s						
CLCH				AML	AML	19 35 48.0	
	comp=E,8μm,0.5s						
IHA	Instituto Hidr	2.19	8	*e*P1	Pn	19 35 00.3	-0.4
PEL	Peldehue	2.33	28	⇓*i*P	Pn	19 35 03.1	+0.5
PEL				AML	AML	19 35 41.7	
	comp=N,10μm,0.4s						
FCH	Farellones	2.35	38	*e*P9	Pn	19 34 59.0	-4.2
FCH				*i* S	Sn	19 35 27.3	-3.7
FCH				AML	AML	19 35 37.2	
	comp=N,5μm,0.6s						
CFAA	Coronel Fontan	4.78	42	P	Pn	19 35 37.2	+1.0
	comp=N,1.4nm,0.3s,baz=345,slow=1.5,SNR=20						
PLCA	Paso Flores	5.64	169	P	Pn	19 35 49.0	+1.0
	comp=N,1.6nm,0.3s,baz=344,slow=12,SNR=18						
TRQA	Tornquist	8.55	112	*e*Pn	Pn	19 36 28.9	+1.1
	comp=N,11nm,0.7s						
LVC	Limon Verde	12.84	13	*e*Pn	Pn	19 37 16.9	-10
	comp=N,7.9nm,0.6s						
CPUP	Villa Florida	15.39	59	Pn	Pn	19 37 59.7	-0.9
LPAZ	La Paz	19.16	11	P	P	19 38 47.2	+0.6
	comp=N,0.5nm,0.3s,baz=190,slow=8.0,SNR=17						
LPAZ	La Paz	19.16	11	*e*P	P	19 38 47.0	+0.4
	comp=N,8.9nm,0.8s						
SIV	San Ignacio	21.49	30	P	P	19 39 10.6	-0.6
	comp=N,9.1nm,0.6s,baz=28,slow=4.2,SNR=23						
SAML	Samuel	27.35	19	*e*P	P	19 40 05.6	-1.5
	comp=N,1.3nm,0.7s						
BDFB	Brasilia	29.00	54	P	P	19 40 21.5	-0.5
	comp=N,1.5nm,0.3s,baz=234,slow=8.8,SNR=4.7						
PMSA	Palmer Station	29.99	173	P	P	19 40 29.4	-0.6
OTAV	Otavalo	35.77	349	*e*P	P	19 41 22.5	+1.0
	comp=N,2.4nm,0.8s						
SDV	Santo Domingo	43.87	2	P	P	19 42 28.3	-0.1
SNAA	Sanae	50.46	157	P	P	19 43 18.8	-0.2
	comp=N,1.2nm,0.8s,baz=252,slow=6.4,SNR=4.5						
QSPA	South Pole Qui	55.03	180	P	P	19 43 53.2	+0.3
	comp=N,2.8nm,0.8s,baz=266,slow=0.7,SNR=6.8						
TXAR	Lajitas Array	70.80	331	P	P	19 45 38.9	+1.0
	comp=N,0.6nm,0.5s,baz=156,slow=9.1,SNR=8.3						
TXAR				pP	pP	19 45 51.1	-1.2
	comp=N,0.6nm,0.5s,baz=154,slow=8.4,SNR=6.7						
WVT	Waverly	72.49	347	*e*P	P	19 45 47.1	-0.6
	comp=N,9.2nm,0.7s						
DBIC	Dimbokro	75.54	71	P	P	19 46 06.3	+0.2
	comp=N,4.7nm,0.7s,baz=204,slow=6.2,SNR=8.8						
DBIC	Dimbokro	75.54	71	*e*P	P	19 46 06.2	0.0
	comp=N,20nm,1.2s						
TSUM	Tsumeb	78.86	106	*e*P	P	19 46 25.2	+0.2
	comp=N,8.0nm,1.3s						
BOSA	Boshof	79.49	117	P	P	19 46 27.5	-0.7
	comp=N,3.1nm,0.6s,baz=280,slow=2.6,SNR=9.1						
LBTB	Lobatse	81.78	115	*e*P	P	19 46 40.4	-0.1
LBTB				*e*		19 46 58.0	
TORD	Torodi Ar. Bea	84.60	70	P	P	19 46 55.0	+0.1
	comp=N,2.8nm,0.6s,baz=280,slow=5.7,SNR=41						
TORD				pP	pP	19 47 08.8	-0.9
	comp=N,3.3nm,0.7s,baz=258,slow=3.8,SNR=9.2						
PDAR	Pinedale Array	84.85	333	P	P	19 46 55.8	-0.1
	comp=N,0.5nm,0.6s,baz=141,slow=7.5,SNR=4.4						
PDAR				pP	pP	19 47 11.8	+1.1
	comp=N,0.5nm,0.6s,baz=138,slow=6.9,SNR=3.6						
NVAR	Mina Array Bea	84.89	325	P	P	19 46 56.3	+0.1
	comp=N,0.7nm,0.8s,baz=143,slow=6.1,SNR=3.7						
RLMT	Red Lodge	86.78	335	P	P	19 47 05.1	-0.2
ULM	Lac du Bonnet	87.67	345	P	P	19 47 08.8	-0.4
	comp=N,1.5nm,0.6s,baz=22,slow=4.0,SNR=4.0						
WRA	Warramunga Arr	119.72	209	PKP	PKPdf	19 53 10.9	-0.7
	comp=N,0.3nm,0.7s,baz=154,slow=1.6,SNR=6.5						
BRTR	Keskin Array B	122.39	62	PKP	PKPdf	19 53 16.0	-0.2
	comp=N,0.7nm,0.7s,baz=181,slow=3.8,SNR=4.1						
ABKAR	Akbulak array	142.40	53	*e*PKPpre	PKPpre	19 53 48.3	
KKAR	Karatay Array	150.08	63	*e*PKPbc	PKPbc	19 54 10.6	-0.9
EKS2	Erkin-Say	152.50	64	*e*PKPbc	PKPbc	19 54 18.1	+0.8
AAK	Ala-Archa	153.03	64	*e*PKPbc	PKPbc	19 54 19.4	+1.0
ZALV	Zalesovo Beam	155.22	34	PKPbc	PKPbc	19 54 22.2	
	comp=N,0.4nm,0.4s,baz=358,slow=4.5,SNR=3.0						
ZALV				PKPab	PKPab	19 54 39.0	+0.3
	comp=N,1.6nm,0.7s,baz=297,slow=5.8,SNR=5.6						
MKAR	Makanchi Array	157.51	51	PKPbc	PKPbc	19 54 26.9	
	comp=N,0.2nm,0.7s,baz=270,slow=1.4,SNR=2.8						
MKAR				PKPab	PKPab	19 54 49.1	+0.2
	comp=N,1.5nm,0.7s,baz=291,slow=3.7,SNR=13						
SONM	Songino Array	167.32	5	PKPab	PKPab	19 55 33.0	+1.2
	comp=N,0.7nm,0.8s,baz=344,slow=2.2,SNR=6.5						

MAN 05 19:41:41, 18°.02N×120°.52E, h33km, mb4.7, ML3.5, MS3.5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	Pasuquin	0.32	17	⇓*i*P	Pn	19 41 50.5	+1.2
ABRA	Dolores	0.41	154	*e*P	Pn	19 41 51.3	+0.6
ABRA				*e*S	Sn	19 41 59.1	+1.9
APYP	Conner	0.71	103	*e*P	Pb	19 41 55.7	+0.8
APYP				*e*S	Sb	19 42 05.3	+0.9

*IDC **05** 19:54:25.2±1.4, 35°.06S×73°.22W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.8/24, mbtmp3.9/4, ML4.3/1, MS2.6/1, Ms1 2.6/1, ms1mx2.5/26, Error ellipse: s-maj=42.2km s-min=28.7km az=79.0*
*ISCJB **05** 19:54:29.1±1.3, 35°.1S±0°.1×73°.1W±0°.3, h33km, mb3.8/3, Error ellipse: s-maj=29.8km s-min=15.3km az=5.4*
ISC 05 19:54:30.7±1.2, 35°.0S±0°.1×73°.1W±0°.2, h35km, n8, σ1$23/8, mb3.6/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	Coronel Fontan	5.33	51	Pn	Pn	19 55 48.0	+0.2
	0.2nm,0.3s,baz=210,slow=12,SNR=5.4						
CFAA				Lg	Lg	19 57 06.7	
	0.2nm,0.3s,baz=282,slow=6.7,SNR=4.5						
CFAA				LR	LR	19 58 05.5	
	comp=Z,54nm,19.7s,baz=236,slow=41						
PLCA	Paso Flores	6.03	161	Pn	Pn	19 55 57.8	+0.4
	1.6nm,0.3s,baz=347,slow=7.1,SNR=6.6						
PLCA				Lg	Lg	19 57 27.6	
	0.9nm,0.3s,baz=74,slow=23,SNR=6.7						
SIV	San Ignacio	21.83	33	P	P	19 59 20.6	+0.5
	2.1nm,0.8s,baz=228,slow=9.7,SNR=3.9						
TXAR	Lajitas Array	70.22	332	P	P	20 05 40.9	+0.7
	0.3nm,0.6s,baz=148,slow=7.4,SNR=4.6						
BOSA	Boshof	80.37	118	P	P	20 06 38.6	-0.3
	3.9nm,1.0s,baz=252,slow=8.7,SNR=4.2						
ZALV	Zalesovo Beam	155.58	32	PKPab	PKPab	20 14 47.2	+1.0
	0.4nm,0.6s,baz=336,slow=3.2,SNR=2.3						
MKAR	Makanchi Array	158.12	50	PKPab	PKPab	20 14 55.9	-1.5
	0.4nm,0.9s,baz=325,slow=7.4,SNR=4.0						
SONM	Songino Array	167.21	1	PKPab	PKPab	20 15 35.5	-1.8
	0.2nm,0.8s,baz=292,slow=4.5,SNR=2.8						

*IDC **05** 20:18:33.6±0.5, 34°.81S×72°.63W, h0km, mb4.4/14, mb1 4.5/18, mb1mx4.4/32, mbtmp4.4/18, ML4.7/3, MS4.3/15, Ms1 4.3/15, ms1mx4.2/25, Error ellipse: s-maj=21.5km s-min=13.5km az=91.0*
*GUC **05** 20:18:35.2±0.6, 34°.79S×72°.83W, h29km±4km, ML5.2*
*ISCJB **05** 20:18:37.4±0.3, 34°.83S±0°.03×72°.71W±0°.05, h33km, mb4.7/36, MS4.4/13, Error ellipse: s-maj=5.4km s-min=4.9km az=172.6*
*BJI **05** 20:18:37.1, 35°.00S×72°.11W, h35km, mB5.3/4, Ms5.0/4, Ms7 5.0/4*
*NEIC **05** 20:18:39.0±0.2, 34°.81S×72°.58W, h35km, mb4.8/26, Error ellipse: s-maj=7.6km s-min=5.7km az=69.0*
NEIC Felt at Santiago.
ISC 05 20:18:37.0±1.0, 34°.85S±0°.04×72°.73W±0°.06, h26km±6km, n102, σ1$41/100, mb4.7/37, MS4.3/13, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	Los Niches	1.24	98	⇑*i*P	Pn	20 18 58.6	-0.1
NICH				*i* S	Sb	20 19 15.6	+0.1
COCH	Cobquecura	1.28	182	⇓*i*P	Pn	20 18 58.4	-0.9
COCH				*i* S	Sn	20 19 15.5	-0.2
LNCH	Linares	1.36	138	⇓*i*P	Pb	20 19 01.1	-0.7
LNCH				*i* S	Sb	20 19 19.8	+1.0
LNV	Longovilo	1.41	51	⇑*i*P	Pn	20 18 60.0	-1.0
TACH	Talagante	1.90	52	*e*P	Pn	20 19 07.5	-0.3
CACH	El Canelo	1.90	68	⇑*i*P	Pn	20 19 08.4	+0.4
CHCH	Chadas Angostu	1.94	63	*e*P1	Pn	20 19 08.3	-0.1
IHA	Instituto Hidr	2.03	27	*e*P1	Pn	20 19 08.2	-1.2
SAN	Santiago	2.21	52	*e*P1	Pn	20 19 11.8	-0.2
FSR	Penalolen	2.28	54	*e*P9	Pb	20 19 16.2	-1.2
FSR				*i* S	Sb	20 19 44.6	-0.6
CLCH	Cerro Calan	2.32	52	*e*P	Pn	20 19 13.3	-0.3
CLCH				*i* S	Sn	20 19 42.9	+1.4
CLCH				AML	AML	20 19 53.4	
	comp=N,19μm,0.5s						
CLCH				AML	AML	20 19 57.2	
	comp=N,24μm,0.6s						
PEL	Peldehue	2.40	46	⇓*i*P	Pn	20 19 14.4	-0.3
PEL				AML	AML	20 19 56.3	
	comp=N,18μm,0.6s						
FCH	Farellones	2.53	54	*e*P9	Pb	20 19 22.6	+0.8
FCH				*i* S	Sb	20 19 54.6	+1.9
FCH				AML	AML	20 20 16.7	
	comp=E,5μm,0.5s						
CFAA	Coronel Fontan	4.96	51	Pn	Pn	20 19 49.0	-0.9
	comp=E,2.1nm,0.3s,baz=226,slow=12,SNR=53						
CFAA				Lg	Lg	20 21 02.2	
	comp=E,4.6nm,0.3s,baz=290,slow=20,SNR=3.4						
PLCA	Paso Flores	6.13	164	Pn	Pn	20 20 06.8	+0.9
	comp=E,7.8nm,0.3s,baz=337,slow=10,SNR=31						
PLCA				LR	LR	20 21 52.0	
	comp=E,308nm,20.5s,baz=348,slow=32						
TRQA	Tornquist	9.23	113	*e*Pn	Pn	20 20 50.5	+2.0
CPUP	Villa Florida	15.73	62	Pn	Pn	20 22 15.9	-1.0
	comp=E,1.0nm,0.3s,baz=100,slow=15,SNR=6.5						
CPUP				LR	LR	20 28 19.6	
	comp=E,965nm,19.4s,baz=228,slow=38						
LPAZ	La Paz	18.93	14	P	Pn	20 22 57.2	-0.2
	comp=E,0.4nm,0.3s,baz=181,slow=6.6,SNR=4.6						
USHA	Ushuaia	20.21	173	P	Pn	20 23 12.1	+0.4
	comp=E,15nm,0.8s,baz=321,slow=8.2,SNR=8.9						
USHA				LR	LR	20 31 51.6	
	comp=E,945nm,20.4s,baz=332,slow=39						
SIV	San Ignacio	21.49	32	P	P	20 23 23.5	-0.4
	comp=E,13nm,0.9s,baz=233,slow=14,SNR=12						
SIV				LR	LR	20 33 16.5	
	comp=E,3μm,18.9s,baz=230,slow=41						
NNA	Nana	23.06	350	LR	LR	20 30 28.0	
	comp=E,374nm,18.7s,baz=152,slow=31						
SAML	Samuel	27.22	21	*e*P	P	20 24 15.7	-3.2
	comp=E,9.2nm,1.0s						
BDFB	Brasilia	29.28	55	P	P	20 24 37.1	-0.3
	comp=E,1.8nm,0.4s,baz=198,slow=3.2,SNR=2.5						
BDFB				LR	LR	20 36 25.7	
	comp=E,709nm,19.4s,baz=226,slow=37						
PMSA	Palmer Station	30.42	173	LR	LR	20 35 30.0	
	comp=E,734nm,20.6s,baz=308,slow=33						
OTAV	Otavalo	35.31	350	P	P	20 25 22.7	-7.8
	comp=E,9.3nm,1.1s						
SNAA	Sanae	51.02	158	P	P	20 27 36.2	-0.2
	comp=E,8.8nm,1.1s,baz=288,slow=6.2,SNR=13						
APG	El Apazote	52.36	338	P	P	20 27 47.8	+0.6
	comp=E,3.6nm,0.7s,baz=139,slow=11,SNR=4.6						
RKT	Rikitea	54.92	265	*e*LR	LR	20 43 53.0	
	comp=E,274nm,34.5s						
RKT	Rikitea	54.92	265	*e*T	T	21 27 12.3	
	comp=E,1.0nm,0.2s						
QSPA	South Pole Qui	55.39	180	P	P	20 28 09.8	+1.0
	comp=E,4.0nm,0.9s,baz=259,slow=1.1,SNR=28						
QSPA	South Pole Qui	55.39	180	*e*P	P	20 28 09.6	+0.9
	comp=E,9.1nm,1.0s						
VNDA	Vanda	63.16	191	P	P	20 29 03.6	+1.5
	comp=E,2.2nm,0.8s,baz=107,slow=5.7,SNR=7.2						
VNDA				LR	LR	20 55 42.3	
	comp=E,169nm,18.1s,baz=123,slow=35						
SYO	Syowa Base	65.29	158	⇑*e*X	P	20 29 10.8	-5.3
PPT2	Papeete2	69.55	262	*e*LR	LR	20 50 55.3	
	comp=E,522nm,26.2s						
PPT	Papeete	69.56	262	LR	LR	20 53 18.1	
	comp=E,184nm,18.0s,baz=144,slow=30						
TXAR	Lajitas Array	70.20	332	P	P	20 29 48.9	+1.3
	comp=E,1.1nm,0.5s,baz=154,slow=8.3,SNR=12						
TXAR				LR	LR	20 55 27.7	
	comp=E,381nm,21.6s,baz=0.0,slow=32						
WVT	Waverly	72.00	347	*e*P	P	20 29 58.6	+0.3
	comp=E,13nm,0.9s						
MAW	Mawson	72.53	164	LR	LR	21 03 33.9	
	comp=E,589nm,18.1s,baz=235,slow=37						
MSTX	Muleshoe	74.02	334	*e*P	P	20 30 11.6	+1.2
	comp=E,9.4nm,0.8s						
DBIC	Dimbokro	75.99	72	P	P	20 30 22.4	+0.3
	comp=E,6.1nm,0.8s,baz=219,slow=3.9,SNR=6.6						
DBIC				LR	LR	21 03 02.5	
	comp=E,156nm,18.1s,baz=224,slow=35						
ANMO	Albuquerque	76.25	332	*e*P	P	20 30 25.4	+2.0
	comp=E,5.2nm,1.1s						
SMCO	Snowmass	80.18	334	*e*P	P	20 30 47.2	+1.9
	comp=E,9.6nm,1.2s						
BOSA	Boshof	80.18	118	P	P	20 30 46.3	+0.8
	comp=E,11nm,0.8s,baz=243,slow=5.3,SNR=17						
BOSA	Boshof	80.18	118	*e*P	P	20 30 45.9	+0.5
	comp=E,9.0nm,0.8s						
ECSD	EROS Data Cent	81.18	343	*e*P	P	20 30 50.0	-0.1
	comp=E,28nm,1.5s						
SHPR	Sheep Range	81.24	327	*e*P	P	20 30 51.7	+1.0
CCUT	Cedar City	81.32	328	*e*P	P	20 30 53.7	+2.4
	comp=E,48nm,2.1s						
SRU	San Rafael Swe	81.47	331	*e*P	P	20 30 53.2	+1.3
	comp=E,4.3nm,0.8s						
ARUT	Antelope Range	81.55	329	*e*P	P	20 30 53.4	+1.0
	comp=E,106nm,0.9s						
DAC	Darwin (Calif)	82.18	325	*e*P	P	20 30 57.5	+1.7
	comp=E,4.7nm,1.0s						
URZ	Urewera	82.67	228	LR	LR	21 00 34.0	
	comp=E,120nm,19.8s,baz=148,slow=30						
R11A	Troy Canyon, C	82.95	327	*e*P	P	20 31 00.1	+0.4
	comp=E,4.2nm,0.9s						
DUG	Dugway, Tooele	83.31	330	*e*P	P	20 31 01.5	0.0
	comp=E,15nm,1.4s						
TPH	Tonopah	83.47	326	*e*P	P	20 31 04.7	+2.3
	comp=E,3.9nm,0.9s						
HWUT	Hardware Ranch	84.02	332	*e*P	P	20 31 06.1	+0.9

KSH PPMZ
comp=E,130nm,4.9s
KSH LN
comp=E,24nm,4.4s
KSH LE
comp=E,13nm,4.8s
KSH LZ
comp=E,160nm,6.4s
ZALV Zalesovo Beam 155.24 33 PKP **PKPdf 20 38 27.0 -0.3**
comp=E,1.4nm,0.7s,baz=299,slow=3.1,SNR=7.0
MKAR Makanchi Array 157.75 50 PKPab **PKPab 20 39 02.7 -0.8**
comp=E,1.1nm,0.8s,baz=298,slow=2.6,SNR=4.8
MKAR Makanchi Array 157.75 50 PKPab **PKPab 20 39 02.7 -0.8**
CMAR Chiang Mai Arr 162.08 153 PKP **PKPdf 20 38 36.4 -0.2**
comp=E,0.5nm,0.8s,baz=241,slow=4.1,SNR=4.3
WMQ Urumqi 162.44 53 *e*PKP **PKPdf 20 38 35.8 -0.4**
WMQ LN
comp=E,51nm,21.0s
WMQ LE
comp=E,95nm,20.0s
WMQ LZ
comp=E,120nm,22.0s
SONM Songino Array 167.00 3 PKP **PKPdf 20 38 39.7 -0.5**
comp=E,0.3nm,0.8s,baz=277,slow=1.2,SNR=3.6
SONM PKPab **PKPab 20 39 45.2 +1.3**
comp=E,1.0nm,0.9s,baz=286,slow=2.4,SNR=6.1
NJ2 Nanjing 169.93 257 *e*PKP **PKPdf 20 38 43.9 +1.5**
GTA Gaotai 172.50 50 *e*PKP **PKPdf 20 38 40.2 -3.5**
GTA pPKP **pPKPdf 20 38 51.1 -1.3**
GTA sPKP 20 38 54.7
GTA PKPab **PKPab 20 40 10.1 +1.4**
HHC Hu-ho-hao-te 173.11 332 *e*PKP **PKPdf 20 38 44.7 +0.9**
HHC PP **PP 20 44 01.5 -1.0**
HHC SKS **SKSdf 20 45 40.2 -5.1**
HHC SKKS **SKKSac 20 50 52.7 +5.0**
HHC SS **SS 21 05 16.9 +2.0**
HHC PPMZ
comp=E,140nm,6.3s
HHC LN
comp=E,210nm,19.4s
HHC LE
comp=E,200nm,19.4s
HHC LZ
comp=E,130nm,19.0s
CD2 Chengdu 175.09 142 *e*PKP **PKPdf 20 38 43.1 -1.7**
LZH Lanzhou 176.94 65 *e*PKP **PKPdf 20 38 43.6 -1.6**
LZH pPKP **pPKPdf 20 38 54.4 +0.5**
LZH sPKP 20 38 58.0

*IDC **05** 20:18:33.8±1.8, 26°.74S×68°.40W, h0km, mb4.1/3, mb1 4.3/5, mb1mx3.9/30, mbtmp4.2/5, ML4.2/2, Error ellipse: s-maj=45.6km s-min=35.6km az=37.0*
ISC 05 20:18:39.3±1.6, 26°.6S±0°.2×68°.3W±0°.2, h35km, n8, σ0°76/10, mb4.1/3, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**10.29**	**1**	Pn	**Pn**	**20 21 05.2**	**+0.2**
	1.2nm,0.3s,baz=230,slow=3.4,SNR=36						
SIV	**San Ignacio**	**12.55**	**34**	Pn	**Pn**	**20 21 34.8**	**-0.6**
	1.0nm,0.3s,baz=261,slow=10,SNR=11						
ATAH	**Atahualpa**	**21.62**	**332**	P	**P**	**20 23 26.9**	**0.0**
	6.0nm,0.6s,baz=23,slow=5.2,SNR=3.6						
BDFB	**Brasilia**	**21.84**	**64**	P	**P**	**20 23 29.3**	**+0.4**
	6.5nm,0.8s,baz=228,slow=6.6,SNR=7.4						
TORD	**Torodi Ar. Bea**	**78.62**	**69**	P	**P**	**20 30 38.9**	**+1.0**
	1.3nm,0.6s,baz=257,slow=4.8,SNR=16						
ZALV	**Zalesovo Beam**	**146.26**	**29**	PKPbc	**PKPbc**	**20 38 15.6**	**-0.1**
	1.3nm,0.5s,baz=300,slow=3.6,SNR=8.4						
MKAR	**Makanchi Array**	**149.29**	**41**	PKP	**PKPdf**	**20 38 18.7**	**-1.1**
	0.1nm,0.3s,baz=338,slow=3.1,SNR=2.8						
MKAR				PKPbc	**PKPbc**	**20 38 24.4**	**+0.2**
	1.2nm,0.7s,baz=304,slow=2.9,SNR=13						
MKAR	**Makanchi Array**	**149.29**	**41**	PKP	**PKPdf**	**20 38 18.7**	**-1.1**
MKAR				PKPbc	**PKPbc**	**20 38 24.4**	**+0.2**

*ISCJB **05** 20:24:04.0±0.5, 36°.76S±0°.04×73°.32W±0°.08, h25km, mb4.3/11, Error ellipse: s-maj=8.9km s-min=5.4km az=14.0*
*GUC **05** 20:24:05.7±0.7, 36°.75S×73°.20W, h16km±5km, ML4.6*
*NEIC **05** 20:24:06.7±0.5, 36°.73S×72°.79W, mb4.7/5, ML4.6(GUC), Error ellipse: s-maj=17.1km s-min=10.8km az=79.0*
NEIC Felt [V] at Concepcion.
*IDC **05** 20:24:06.6±0.8, 36°.73S×72°.88W, h30km±5km, mb3.8/8, mb1 4.0/10, mb1mx3.9/27, mbtmp4.0/10, ML4.0/2, MS2.8/1, Ms1 2.8/1, ms1mx2.8/21, Error ellipse: s-maj=28.6km s-min=16.9km az=86.0*
ISC 05 20:24:05.8±0.5, 36°.75S±0°.05×73°.06W±0°.09, h25km, n33, σ1°12/38, mb4.3/11, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.65**	**20**	*e*P	**Pb**	**20 24 18.2**	**-0.3**
COCH				*i* S	**Sn**	**20 24 28.5**	**-0.4**
COCH				AML	AML	20 24 31.1	
	comp=E,17μm,0.6s						
AGCH	**Angol**	**1.10**	**165**	*e*P1	**Pn**	**20 24 26.0**	**+0.4**
AGCH				*i* S	**Sb**	**20 24 40.4**	**+0.3**
LNCH	**Linares**	**1.48**	**53**	⇓*i*P	**Pb**	**20 24 32.8**	**+0.2**
LNCH				*i* S	**Sb**	**20 24 52.6**	**+1.7**
LNCH				AML	AML	20 24 55.1	
	comp=N,21μm,0.3s						
NICH	**Los Niches**	**2.29**	**41**	*e*P	**Pb**	**20 24 44.4**	**-1.9**
NICH				*i* S	**Sb**	**20 25 14.7**	**+0.5**
NICH				AML	AML	20 25 25.0	
	comp=E,9μm,0.5s						
PLCA	**Paso Flores**	**4.44**	**155**	Pn	**Pn**	**20 25 13.0**	**+1.4**
	comp=E,2.7nm,0.3s,baz=328,slow=11,SNR=10						
PLCA				Lg	Lg	20 26 21.4	
	comp=E,11nm,0.3s,baz=339,slow=9.1,SNR=5.2						
CFAA	**Coronel Fontan**	**6.50**	**39**	Pn	**Pn**	**20 25 40.1**	**+0.2**
	comp=E,1.3nm,0.3s,baz=205,slow=12,SNR=9.6						
CFAA				LR	LR	20 28 54.2	
	comp=E,72nm,18.0s,baz=210,slow=45						
TRQA	**Tornquist**	**8.92**	**102**	*e*Pn	Pn	20 26 07.3	-5.7
LVC	**Limon Verde**	**14.54**	**15**	*e*Pn	**Pn**	**20 27 29.1**	**-1.0**
LPAZ	**La Paz**	**20.84**	**13**	P	**P**	**20 28 46.8**	**+0.5**
	comp=E,3.3nm,0.9s,baz=239,slow=4.2,SNR=4.1						
SIV	**San Ignacio**	**23.25**	**30**	P	**P**	**20 29 10.4**	**-0.9**
	comp=E,5.1nm,0.7s,baz=229,slow=11,SNR=7.6						
PMSA	**Palmer Station**	**28.58**	**172**	P	P	20 29 55.1	-4.2
OTAV	**Otavalo**	**37.14**	**351**	P	**P**	**20 31 17.2**	**+2.2**
JTS	**JuntasAbangare**	**48.10**	**344**	P	**P**	**20 32 41.6**	**-1.9**
	comp=E,45nm,1.4s						
SNAA	**Sanae**	**49.38**	**157**	P	**P**	**20 32 52.9**	**0.0**
	comp=E,1.6nm,0.8s,baz=303,slow=9.2,SNR=4.4						
SNAA	**Sanae**	**49.38**	**157**	*e*P	**P**	**20 32 52.2**	**-0.6**
	comp=E,8.8nm,1.0s						
QSPA	**South Pole Qui**	**53.50**	**180**	P	**P**	**20 33 24.1**	**+0.2**
	comp=E,7.3nm,0.8s,baz=150,slow=3.7,SNR=13						
TXAR	**Lajitas Array**	**71.74**	**332**	P	**P**	**20 35 26.7**	**+0.8**
	comp=E,1.1nm,0.9s,baz=146,slow=7.4,SNR=8.1						
TXAR				pP	**pP**	**20 35 36.6**	**+2.8**
	comp=E,0.4nm,0.7s,baz=156,slow=9.3,SNR=3.7						
WCI	**Wyandotte Cave**	**75.60**	**349**	P	P	20 35 52.6	+4.4
	comp=E,6.6nm,0.6s						
DBIC	**Dimbokro**	**76.85**	**71**	pP	pP	20 36 05.2	+1.2
	comp=E,7.4nm,1.0s,baz=181,slow=4.2,SNR=3.3						
TSUM	**Tsumeb**	**79.27**	**106**	*e*P	**P**	**20 36 09.1**	**-0.4**
BOSA	**Boshof**	**79.53**	**118**	pP	pP	20 36 20.4	+1.6
	comp=E,3.3nm,0.9s,baz=265,slow=2.8,SNR=2.6						
LBTB	**Lobatse**	**81.91**	**115**	*e*P	**P**	**20 36 23.2**	**-0.4**
ECSD	**EROS Data Cent**	**82.91**	**343**	*e*P	**P**	**20 36 27.5**	**-0.5**
	comp=E,5.1nm,0.9s						
DAC	**Darwin (Calif)**	**83.58**	**325**	*e*P	**P**	**20 36 33.2**	**+1.4**
	comp=E,2.9nm,1.3s						
NVAR	**Mina Array Bea**	**85.67**	**326**	P	**P**	**20 36 42.2**	**-0.2**
	comp=E,1.1nm,0.8s,baz=146,slow=5.7,SNR=5.3						
PDAR	**Pinedale Array**	**85.84**	**334**	P	**P**	**20 36 42.9**	**-0.3**
	comp=E,0.3nm,0.4s,baz=127,slow=5.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	**85.92**	**70**	P	**P**	**20 36 42.4**	**-1.6**
	comp=E,0.5nm,0.8s,baz=238,slow=4.9,SNR=2.1						
TORD				pP	**pP**	**20 36 52.3**	**+0.2**
	comp=E,2.5nm,1.1s,baz=235,slow=5.2,SNR=8.1						
WRA	**Warramunga Arr**	**117.96**	**209**	PKP	**PKPdf**	**20 42 49.4**	**-1.4**
	comp=E,0.3nm,0.7s,baz=157,slow=1.7,SNR=4.5						
WRAB	**Tennant Creek**	**117.97**	**209**	*e*PKPdf	**PKPdf**	**20 42 52.0**	**+1.3**
ABKAR	**Akbulak array**	**143.99**	**55**	*e*PKPdf	PKPab	20 43 35.2	-0.7
ZALV	**Zalesovo Beam**	**156.97**	**35**	PKP	**PKPdf**	**20 43 57.9**	**-0.5**
	comp=E,0.8nm,0.6s,baz=321,slow=2.1,SNR=3.9						
ZALV				pPKP	**pPKPdf**	**20 44 07.5**	**+0.7**
	comp=E,1.5nm,0.8s,baz=300,slow=1.2,SNR=4.4						
ZALV				PKPab	**PKPab**	**20 44 27.7**	**-1.0**
	comp=E,0.3nm,0.4s,baz=15,slow=6.0,SNR=2.5						
MKAR	**Makanchi Array**	**159.13**	**54**	PKP	**PKPdf**	**20 43 59.6**	**-1.7**
	comp=E,0.4nm,0.8s,baz=292,slow=4.5,SNR=3.5						
MKAR				pPKP	**pPKPdf**	**20 44 10.6**	**+0.8**
	comp=E,1.5nm,1.0s,baz=289,slow=3.7,SNR=6.0						
MKAR				PKPab	**PKPab**	**20 44 37.7**	**-0.6**
	comp=E,0.3nm,0.8s,baz=318,slow=1.9,SNR=2.5						
SONM	**Songino Array**	**168.91**	**2**	PKP	**PKPdf**	**20 44 11.2**	**+0.9**
	comp=E,0.2nm,0.9s,baz=72,slow=9.3,SNR=2.4						
SONM				PKPab	**PKPab**	**20 45 21.7**	**+0.4**
	comp=E,0.4nm,0.8s,baz=325,slow=1.8,SNR=3.9						

*ISCJB **05** 20:25:02.5±0.6, 6°.89N±0°.06×73°.05W±0°.08, h166km, mb3.6/1, Error ellipse: s-maj=13.0km s-min=6.2km az=35.8*
*IDC **05** 20:25:03.6±7.2, 6°.72N×76°.02W, h108km±79km, mb3.4/1, mb1 3.8/2, mb1mx3.2/30, mbtmp4.0/2, ML2.8/1, Error ellipse: s-maj=137.4km s-min=32.6km az=78.0*
*FUNV **05** 20:25:03.2, 6°.76N×73°.12W, h169km, MW3.5*
ISC 05 20:25:03.2±1.1, 6°.87N±0°.07×73°.03W±0°.09, h166km, n17, σ0°80/22, 9C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**36**	⇑*i*P	**Pn**	**20 25 32.5**	**+0.8**
CAPV				*e*S	**Sn**	**20 25 54.0**	**+0.4**
ROSC	**El Rosal**	**2.38**	**213**	P	**Pn**	**20 25 43.5**	**-0.6**
	46nm,0.3s,baz=29,slow=0.6,SNR=102						
ROSC				S	**Sn**	**20 26 14.8**	**-0.9**
	76nm,0.3s,baz=110,slow=18,SNR=8.2						
VIGV	**El Vigia**	**2.57**	**40**	⇑*i*P	**Pn**	**20 25 46.8**	**+0.9**
VIGV				*e*S	**Sn**	**20 26 19.7**	**+0.5**
SOCV	**Socops**	**2.58**	**57**	⇑*i*P	**Pn**	**20 25 46.5**	**+0.4**
SOCV				*e*S	**Sn**	**20 26 18.0**	**-1.3**
ELOV	**Elorza**	**3.53**	**88**	⇑*e*P	**Pn**	**20 25 58.3**	**+0.5**
VIRV	**Villa del Rosa**	**3.67**	**10**	⇑*i*P	**Pn**	**20 25 59.1**	**-0.5**
VIRV				*e*S	**Sn**	**20 26 41.9**	**-1.8**
DABV	**Dabajuro**	**4.67**	**30**	*e*P	**Pn**	**20 26 13.3**	**+0.7**
TEPV	**Terepaima**	**4.89**	**51**	⇑*e*P	**Pn**	**20 26 15.8**	**+0.3**
SIQV	**Siquisique**	**4.93**	**40**	⇑*e*P	**Pn**	**20 26 16.1**	**+0.1**
BAUV	**El Baul**	**5.36**	**67**	⇑*e*P	**Pn**	**20 26 20.5**	**-1.1**
MAPV	**Macapo**	**5.40**	**57**	⇑*e*P	**Pn**	**20 26 22.1**	**-0.2**
MONV	**Montecano**	**5.89**	**31**	*e*P	**Pn**	**20 26 28.3**	**-0.3**
TURV	**Turiamo**	**6.25**	**55**	*e*P	**Pn**	**20 26 33.6**	**+0.3**
CUPV	**Cœpira**	**7.84**	**66**	*e*P	**Pn**	**20 26 53.8**	**-0.7**
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**20 35 14.6**	**+0.9**
	0.6nm,0.5s,baz=131,slow=6.7,SNR=12						
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	**PKPbc**	**20 44 32.6**	**-0.4**
	0.6nm,0.7s,baz=103,slow=3.3,SNR=7.4						
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	**PKPbc**	**20 44 36.1**	**+0.1**
	0.3nm,0.4s,baz=108,slow=2.9,SNR=7.2						

*IDC **05** 20:29:28.8±3.3, 34°.87S×179°.46W, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.8/22, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=73.6km s-min=36.7km az=119.0*
ISC 05 20:29:28.6±2.3, 35°.2S±0°.2×178°.5W±0°.3, h46km, n19, σ1°13/23, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.58**	**223**	PN	**Pn**	**20 30 22.9**	**+1.4**
PUZ	**Puketiti**	**3.84**	**222**	PN	**Pn**	**20 30 25.9**	**+0.7**
PUZ				SN	**Sn**	**20 31 08.7**	**-0.4**
HAZ	**Te Kaha**	**3.91**	**229**	PN	**Pn**	**20 30 27.5**	**+1.5**
HAZ				SN	**Sn**	**20 31 11.6**	**+1.1**
TWGZ	**Tauwhareparae**	**4.07**	**223**	PN	**Pn**	**20 30 29.5**	**+1.1**
TWGZ				SN	**Sn**	**20 31 14.5**	**-0.2**
CNGZ	**Carnagh Statio**	**4.18**	**218**	PN	**Pn**	**20 30 31.5**	**+1.8**
MWZ	**Matawai**	**4.44**	**225**	PN	**Pn**	**20 30 34.2**	**+0.8**
RIGZ	**Rimuhau**	**4.57**	**220**	*e*PN	**Pn**	**20 30 35.7**	**+0.5**
URZ	**Urewera**	**4.63**	**228**	Pn	**Pn**	**20 30 36.4**	**+0.3**
	8.6nm,0.3s,baz=233,slow=1.2,SNR=43						
URZ				Sn	**Sn**	**20 31 27.2**	**-1.4**
	16nm,0.3s,baz=330,slow=19,SNR=20						
MHGZ	**Mahia Peninsul**	**4.84**	**215**	PN	**Pn**	**20 30 40.3**	**+1.4**
SNGZ	**Shannon Statio**	**4.85**	**222**	PN	**Pn**	**20 30 40.0**	**+0.9**
BKZ	**Black Stump Fm**	**5.59**	**224**	*e*PN	**Pn**	**20 30 49.5**	**+0.2**
BKZ	**Black Stump Fm**	**5.59**	**224**	*e*P	**Pn**	**20 30 49.6**	**+0.3**
	40nm,1.2s						
MCHZ	**McNeill Hill**	**5.68**	**221**	*e*PN	**Pn**	**20 30 51.1**	**+0.8**
BHHZ	**Black Hill Sta**	**6.06**	**224**	*e*PN	**Pn**	**20 30 55.4**	**-0.2**
TSZ	**Takapari Road**	**6.51**	**221**	PN	**Pn**	**20 30 59.9**	**-1.9**
MRZ	**Mangatainoka R**	**7.15**	**219**	PN	**Pn**	**20 31 08.4**	**-2.2**
ASAR	**Alice Springs**	**42.66**	**272**	P	**P**	**20 37 21.2**	**+0.4**
	0.9nm,0.7s,baz=115,slow=7.9,SNR=12						
WRA	**Warramunga Arr**	**44.08**	**277**	P	**P**	**20 37 31.6**	**-0.6**
	0.5nm,0.4s,baz=117,slow=7.7,SNR=20						
FINES	**FINESS Array B**	**149.48**	**337**	PKPbc	**PKPab**	**20 49 16.8**	**-0.1**
	0.9nm,0.7s,baz=21,slow=1.9,SNR=3.8						

*NSSC **05** 20:37:49.2±1.4, 36°.01N×42°.79E, h91km±228km, MD2.0, ML3.7*
*DDA **05** 20:37:51.1, 38°.34N×39°.34E, h9km, MD3.3*
*ISK **05** 20:37:52.1, 38°.32N×39°.35E, h12km, ML3.8*
*CSEM **05** 20:37:52.1±0.1, 38°.33N×39°.36E, h2km, ML3.8, Error ellipse: s-maj=3.9km s-min=3.4km az=5.0*
ISC 05 20:37:52.7±1.1, 38°.34N±0°.02×39°.37E±0°.02, h7km±10km, n99, σ1°14/126, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYBB	**Diyarbakir**	**0.71**	**122**	*e*PG	**Pg**	**20 38 06.5**	**+0.1**
DYBB				*e*SG	**Sb**	**20 38 17.0**	**-0.7**
MALT	**Malatya**	**0.74**	**269**	PG	**Pg**	**20 38 06.6**	**-0.5**
MALT				*e*SG	**Sg**	**20 38 17.0**	**+0.3**
MALT	**Malatya**	**0.74**	**269**	*i* Pg	**Pg**	**20 38 06.6**	**-0.5**
MALT				*e*Sg	**Sg**	**20 38 17.0**	**+0.3**
DIY	**Diyarbakir**	**0.80**	**123**	*e*Pg	**Pg**	**20 38 06.5**	**-1.7**
DIY				*e*Sg	**Sg**	**20 38 17.0**	**-1.6**
URFA	**Urfa**	**0.99**	**206**	*e*PG	**Pg**	**20 38 11.5**	**-0.3**
URFA	**Urfa**	**0.99**	**206**	*e*Pg	**Pg**	**20 38 11.5**	**-0.3**
BINT	**Bingol**	**1.03**	**58**	*e*Pn	**Pn**	**20 38 15.8**	**+2.0**
KEMA	**Kemaliye**	**1.16**	**324**	*i* P	**Pg**	**20 38 12.7**	**-2.3**
KEMA				*i* S	**Sg**	**20 38 29.4**	**-0.6**
KEMA	**Kemaliye**	**1.16**	**324**	*i* P	**Pg**	**20 38 12.7**	**-2.3**
KEMA				*i* S	**Sg**	**20 38 29.4**	**-0.6**
ATAB	**Bozova**	**1.21**	**225**	*i* P	**Pn**	**20 38 16.4**	**+0.2**
ATAB				*i* S	**Sn**	**20 38 34.7**	**+1.7**
ATAB	**Bozova**	**1.21**	**225**	*i* P	**Pn**	**20 38 16.4**	**+0.2**
ATAB				*i* S	**Sn**	**20 38 34.7**	**+1.7**
BNGB	**Bing˚¶l**	**1.21**	**57**	*e*PN	**Pb**	**20 38 15.8**	**-0.4**
MAZI	**Mazidag**	**1.22**	**136**	*e*PN	**Pb**	**20 38 15.5**	**-0.7**
MAZI	**Mazidag**	**1.22**	**136**	*e*Pn	**Pb**	**20 38 15.5**	**-0.7**
ERZN	**Erzincan**	**1.28**	**12**	*e*PN	**Pn**	**20 38 16.7**	**-0.5**
ILIC	**ilic-Erzincan**	**1.28**	**331**	*e*PN	**Pn**	**20 38 16.6**	**-0.6**
ILIC	**ilic-Erzincan**	**1.28**	**331**	*e*Pn	**Pn**	**20 38 16.6**	**-0.6**
EUZM	**Uzumlu**	**1.39**	**10**	*i* P	**Pn**	**20 38 17.2**	**-1.6**
EUZM				*i* S	**Sn**	**20 38 37.6**	**0.0**
EUZM	**Uzumlu**	**1.39**	**10**	*i* P	**Pn**	**20 38 17.2**	**-1.6**
EUZM				*i* S	**Sn**	**20 38 37.6**	**0.0**
EZC	**Erzincan**	**1.42**	**359**	*e*Pn	**Pn**	**20 38 16.7**	**-2.4**
SVAN	**Silvan-Diyarba**	**1.45**	**97**	*e*PN	**Pn**	**20 38 19.1**	**-0.3**
DARE	**Darende-Malaty**	**1.50**	**280**	*e*PN	**Pn**	**20 38 19.3**	**-1.0**
DARE	**Darende-Malaty**	**1.50**	**280**	*e*Pn	**Pn**	**20 38 19.3**	**-1.0**
MARD	**Mardin**	**1.51**	**132**	*i* P	**Pn**	**20 38 20.1**	**-0.3**
MARD				*i* S	**Sg**	**20 38 41.4**	**+0.1**
BEST	**Besiri**	**1.56**	**106**	*i* P	**Pn**	**20 38 20.9**	**-0.2**
BEST				*i* S	**Sg**	**20 38 43.5**	**+0.6**
KBSD	**Kabsdagh**	**1.62**	**145**	*i* P	**Pb**	**20 38 22.8**	**-0.3**
	SNR=106						
KBSD				*e*S	**Sg**	**20 38 46.2**	**+1.3**
	388nm,0.4s,SNR=106						
KBSD	**Kabsdagh**	**1.62**	**145**	*i* P	**Pb**	**20 38 22.8**	**-0.3**
KBSD				*e*S	**Sg**	**20 38 46.2**	**+1.3**
KBSD				AML	AML	20 38 47.0	
	comp=N,1μm,0.3s						
KBSD				AML	AML	20 38 49.4	
	comp=E,388nm,0.4s						
BTMT	**Batman**	**1.67**	**94**	*e*PN	**Pn**	**20 38 22.3**	**-0.3**
BTMT	**Batman**	**1.67**	**94**	*e*Pn	**Pn**	**20 38 22.3**	**-0.3**
GZT	**Gaziantep**	**1.73**	**236**	*i* P	**Pn**	**20 38 23.6**	**+0.1**
GZT				*i* S	**Sg**	**20 38 53.1**	**+4.7**
KELT	**Kelkit**	**1.81**	**357**	*i* P	**Pn**	**20 38 25.1**	**+0.5**
KELT				*i* S	**Sg**	**20 38 51.3**	**+0.3**
KELT	**Kelkit**	**1.81**	**357**	*i* P	**Pn**	**20 38 25.1**	**+0.5**
KELT				*i* S	**Sg**	**20 38 51.3**	**+0.3**
VRTB	**Varto-Mus**	**1.82**	**63**	*e*PN	**Pn**	**20 38 24.5**	**-0.2**
VRTB	**Varto-Mus**	**1.82**	**63**	*e*Pn	**Pn**	**20 38 24.5**	**-0.2**
KOPT	**Kop Dagi**	**1.89**	**27**	*i* P	**Pn**	**20 38 26.7**	**+0.9**
KOPT	**Kop Dagi**	**1.89**	**27**	*i* P	**Pn**	**20 38 26.7**	**+0.9**
KOPT				*i* S	Sg	20 39 00.2	+6.6
SFNV	**Sufian**	**2.00**	**163**	*i* P	**Pn**	**20 38 25.7**	**-1.4**
	SNR=105						
SFNV				⇓*e*S	**Sn**	**20 38 50.0**	**-2.5**
	SNR=105						
SFNV	**Sufian**	**2.00**	**163**	*i* P	**Pn**	**20 38 25.7**	**-1.4**
SFNV				⇓*e*S	**Sn**	**20 38 50.0**	**-2.5**
SUSE	**Susehri**	**2.08**	**334**	*i* P	**Pb**	**20 38 30.1**	**-0.9**
SUSE	**Susehri**	**2.08**	**334**	*i* P	**Pb**	**20 38 30.1**	**-0.9**
SUSE				*i* S	**Sg**	**20 39 03.0**	**+3.4**
GUMT	**Gumushane**	**2.12**	**2**	*e*PN	**Pn**	**20 38 28.7**	**-0.1**
GUMT	**Gumushane**	**2.12**	**2**	*e*Pn	**Pn**	**20 38 28.7**	**-0.1**
KMRS	**Kahramanmaras**	**2.12**	**248**	*e*PN	**Pn**	**20 38 28.1**	**-0.7**
KMRS	**Kahramanmaras**	**2.12**	**248**	*e*Pn	**Pn**	**20 38 28.1**	**-0.7**
BAYT	**Ayd¨¨ntepe-Bay**	**2.14**	**16**	*e*PN	**Pn**	**20 38 29.1**	**0.0**
BAYT	**Ayd¨¨ntepe-Bay**	**2.14**	**16**	*e*Pn	**Pn**	**20 38 29.1**	**0.0**
EZM	**Erzurum**	**2.20**	**44**	*e*PN	**Pn**	**20 38 30.0**	**0.0**
ERZM	**Erzurum**	**2.21**	**44**	*i* P	**Pg**	**20 38 36.1**	**+1.1**
EKAR	**Karacoban**	**2.29**	**66**	*i* P	**Pg**	**20 38 38.2**	**+1.5**
MNKR	**ALMNKUR**	**2.39**	**182**	*i* P	**Pn**	**20 38 32.9**	**+0.5**
	SNR=101						
MNKR				*e*S	**Sb**	**20 39 05.3**	**-0.5**
	comp=E,638nm,0.6s,SNR=101						
MNKR	**ALMNKUR**	**2.39**	**182**	*i* P	**Pn**	**20 38 32.9**	**+0.6**
MNKR				*e*S	**Sb**	**20 39 05.3**	**-0.5**
MNKR				AML	AML	20 39 18.4	
	comp=E,2μm,0.3s						
MNKR				AML	AML	20 39 23.1	
	comp=N,638nm,0.6s						
KUZU	**Kuzuini**	**2.40**	**230**	*i* P	**Pn**	**20 38 32.6**	**+0.1**
KUZU	**Kuzuini**	**2.40**	**230**	*i* P	**Pn**	**20 38 32.6**	**+0.1**
KUZU				*i* S	**Sg**	**20 39 12.8**	**+3.0**
SVSK	**Karacayir**	**2.43**	**311**	*e*PN	**Pn**	**20 38 32.9**	**0.0**
SVSK	**Karacayir**	**2.43**	**311**	*e*Pn	**Pn**	**20 38 32.9**	**0.0**
KSRV	**Kasrt alli**	**2.48**	**187**	*i* P	**Pb**	**20 38 36.7**	**-1.0**
	SNR=100						
KSRV	**Kasrt alli**	**2.48**	**187**	*i* P	**Pb**	**20 38 36.7**	**-1.0**
KSRV				*e*S	**Sg**	**20 39 12.9**	**+0.4**
KSRV				AML	AML	20 39 21.1	
	comp=N,364nm,0.6s						
KSRV				AML	AML	20 39 21.9	
	comp=E,459nm,0.4s						
ANDN	**Andirin**	**2.51**	**253**	*i* P	**Pn**	**20 38 33.9**	**-0.2**
ANDN	**Andirin**	**2.51**	**253**	*i* P	**Pn**	**20 38 33.9**	**-0.2**
ANDN				*i* S	**Sg**	**20 39 17.1**	**+3.7**
SIRT	**Sirnak**	**2.56**	**108**	*e*PN	**Pn**	**20 38 34.7**	**-0.2**
SIRT	**Sirnak**	**2.56**	**108**	*e*Pn	**Pn**	**20 38 34.7**	**-0.2**
RSDY	**Resadiye-TOKAT**	**2.60**	**323**	*e*PN	**Pn**	**20 38 35.2**	**-0.1**
RSDY	**Resadiye-TOKAT**	**2.60**	**323**	*e*Pn	**Pn**	**20 38 35.2**	**-0.1**
ESPY	**Espiye-Giresun**	**2.63**	**349**	*e*PN	**Pn**	**20 38 35.6**	**-0.1**
ESPY	**Espiye-Giresun**	**2.63**	**349**	*e*Pn	**Pn**	**20 38 35.6**	**-0.1**
GRSN	**GIRESUNGRSN**	**2.72**	**342**	*i* P	**Pn**	**20 38 37.7**	**+0.7**
GRSN	**GIRESUNGRSN**	**2.72**	**342**	*i* P	**Pn**	**20 38 37.7**	**+0.7**
BNN	**Bunyan**	**2.81**	**282**	*e*PN	**Pn**	**20 38 37.9**	**-0.4**
BNN	**Bunyan**	**2.81**	**282**	*e*Pn	**Pn**	**20 38 37.9**	**-0.4**
TUTA	**Tutak**	**2.89**	**67**	*e*P	**Pn**	**20 38 40.6**	**+1.1**
TUTA	**Tutak**	**2.89**	**67**	*e*P	**Pn**	**20 38 40.6**	**+1.1**
TUTA				*i* S	**Sb**	**20 39 21.9**	**+1.5**
GEVA	**Gevas**	**2.90**	**89**	*i* P	**Pn**	**20 38 41.0**	**+1.5**
GEVA	**Gevas**	**2.90**	**89**	*i* P	**Pn**	**20 38 41.0**	**+1.5**
GEVA				*i* S	**Sb**	**20 39 22.5**	**+1.9**
KOZT	**Kozan**	**2.93**	**254**	*e*PN	**Pn**	**20 38 39.8**	**0.0**
KOZT	**Kozan**	**2.93**	**254**	*e*Pn	**Pn**	**20 38 39.8**	**0.0**
VANB	**Van**	**3.16**	**84**	*e*PN	**Pn**	**20 38 43

BOSA Boshof 79.89 118 P **P 21 01 41.6 +1.7**
comp=N,2.0nm,0.9s,baz=157,slow=7.7,SNR=2.4
LBTB Lobatse 82.27 115 *e*P **P 21 01 51.9 -0.7**
comp=N,16nm,1.1s
TORD Torodi Ar. Bea 86.26 71 P **P 21 02 13.2 +0.5**
comp=N,0.6nm,0.9s,baz=210,slow=4.6,SNR=3.4
ABKAR Abkulak array 144.27 55 *e*PKPdf **PKPdf 21 09 05.2 -1.0**
MKAR Makanchi Array 159.40 53 PKP **PKPdf 21 09 30.0 +1.2**
comp=N,0.3nm,0.9s,baz=0.0,slow=1.4,SNR=2.3
MKAR PKPab **PKPab 21 10 07.3 +0.6**
comp=N,0.8nm,0.9s,baz=281,slow=4.4,SNR=4.5

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*GUC **05** 20:53:14.3±0.6, 35°.91S×74°.11W, h22km±5km, ML4.7*
*IDC **05** 20:53:17.6±0.6, 36°.11S×73°.36W, h0km, mb4.4/13, mb1 4.5/17, mb1mx4.4/35, mbtmp4.4/17, ML4.2/4, MS3.6/1, Ms1 3.6/1, ms1mx3.2/25, Error ellipse: s-maj=23.0km s-min=14.4km az=86.0*
*ISCJB **05** 20:53:21.4±0.3, 36°.15S±0°.05×73°.32W±0°.08, h33km, mb4.8/36, Error ellipse: s-maj=9.6km s-min=6.9km az=152.7*
*BJI **05** 20:53:21.3, 36°.86S×73°.31W, h35km, mB5.1/7, Ms5.2/7, Ms7 4.9/7*
*NEIC **05** 20:53:22.8±0.3, 36°.13S×73°.11W, h35km, mb4.9/26, Error ellipse: s-maj=11.2km s-min=7.0km az=82.0*
ISC 05 20:53:22.6±0.4, 36°.08S±0°.06×73°.34W±0°.10, h35km, n80, σ1§33/88, mb4.9/36, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.45**	**97**	*e*P	**Pn**	**20 53 33.6**	**+1.2**
COCH				*i* S	Sn	20 53 47.6	+8.3
COCH				AML	AML	20 53 49.4	
	comp=N,23μm,0.5s						
LNCH	**Linares**	**1.43**	**81**	*e*P	**Pn**	**20 53 48.3**	**+2.3**
LNCH				*e*S	Sn	20 54 14.6	+11
LNCH				AML	AML	20 54 26.9	
	comp=N,11μm,0.7s						
LNV	**Longovilo**	**2.64**	**37**	*e*P1	**Pn**	**20 54 00.7**	**-2.0**
PLCA	**Paso Flores**	**5.13**	**156**	Pn	**Pn**	**20 54 36.6**	**-0.4**
	comp=N,2.8nm,0.3s,baz=333,slow=11,SNR=3.2						
PLCA				Lg	Lg	20 56 04.7	
	comp=N,5.7nm,0.3s,baz=70,slow=22,SNR=3.0						
CFAA	**Coronel Fontan**	**6.16**	**45**	Pn	**Pn**	**20 54 50.8**	**-0.2**
	comp=N,1.2nm,0.3s,baz=216,slow=13,SNR=8.7						
CFAA				Lg	Lg	20 56 33.4	
	baz=108,slow=20,SNR=3.6						
TRQA	**Tornquist**	**9.29**	**106**	*e*Pn	Pn	20 55 37.8	+3.8
LVC	**Limon Verde**	**13.96**	**17**	*e*Pn	**Pn**	**20 56 37.2**	**-0.9**
CPUP	**Villa Florida**	**16.77**	**59**	Pn	**Pn**	**20 57 14.7**	**-0.1**
	comp=N,0.4nm,0.3s,baz=226,slow=9.2,SNR=4.6						
CPUP				LR	LR	21 03 23.3	
	comp=N,207nm,20.8s,baz=222,slow=36						
CPUP	**Villa Florida**	**16.77**	**59**	*e*Pn	**Pn**	**20 57 12.1**	**-2.6**
	comp=N,0.7nm,0.8s						
EFI	**East Falkland**	**19.02**	**150**	*e*P	**P**	**20 57 40.9**	**-0.4**
USHA	**Ushuaia**	**19.06**	**171**	P	**Pn**	**20 57 42.7**	**+0.1**
	comp=N,0.4nm,0.3s,baz=332,slow=9.9,SNR=7.8						
LPAZ	**La Paz**	**20.25**	**15**	P	Pn	20 57 57.4	-0.4
LPAZ	**La Paz**	**20.25**	**15**	*e*P	**P**	**20 57 56.5**	**+1.0**
	comp=N,17nm,0.9s						
SIV	**San Ignacio**	**22.80**	**32**	P	**P**	**20 58 23.3**	**+1.0**
	comp=N,25nm,0.9s,baz=230,slow=15,SNR=33						
SAML	**Samuel**	**28.55**	**21**	*e*P	**P**	**20 59 15.3**	**+0.3**
	comp=N,31nm,1.9s						
BDFB	**Brasilia**	**30.39**	**55**	P	**P**	**20 59 31.5**	**-0.1**
	comp=N,9.5nm,0.9s,baz=226,slow=6.3,SNR=7.6						
OTAV	**Otavalo**	**36.44**	**351**	*e*P	**P**	**21 00 27.5**	**+2.9**
	comp=N,47nm,2.1s						
SDV	**Santo Domingo**	**44.80**	**4**	*e*P	**P**	**21 01 32.2**	**-1.1**
SNAA	**Sanae**	**50.08**	**157**	P	**P**	**21 02 14.2**	**+0.6**
	comp=N,6.1nm,0.9s,baz=300,slow=6.2,SNR=12						
SNAA	**Sanae**	**50.08**	**157**	*e*P	**P**	**21 02 13.3**	**-0.3**
	comp=N,27nm,1.0s						
QSPA	**South Pole Qui**	**54.16**	**180**	P	**P**	**21 02 44.4**	**+0.3**
	comp=N,13nm,0.9s,baz=121,slow=3.3,SNR=19						
QSPA	**South Pole Qui**	**54.16**	**180**	*e*P	**P**	**21 02 43.7**	**-0.4**
	comp=N,24nm,1.1s						
TEIG	**Tepich**	**57.76**	**343**	P	**P**	**21 03 10.7**	**+0.7**
	comp=N,3.4nm,0.6s,baz=333,slow=11,SNR=3.5						
TEIG	**Tepich**	**57.76**	**343**	*e*P	**P**	**21 03 10.8**	**+0.7**
	comp=N,7.3nm,0.7s						
VNDA	**Vanda**	**61.86**	**192**	P	**P**	**21 03 38.0**	**+0.3**
TXAR	**Lajitas Array**	**71.05**	**332**	P	**P**	**21 04 37.1**	**+0.1**
	comp=N,0.7nm,0.6s,baz=154,slow=7.0,SNR=4.4						
TZTN	**Tazewell**	**72.88**	**351**	*e*P	**P**	**21 04 47.3**	**-0.5**
	comp=N,68nm,0.9s						
SUR	**Sutherland**	**74.76**	**119**	P	P	21 04 52.9	-6.5
	comp=N,23nm,1.1s						
WCI	**Wyandotte Cave**	**74.90**	**349**	*e*P	**P**	**21 05 01.0**	**+1.4**
	comp=N,31nm,1.1s						
LIC	**Lamto**	**76.44**	**72**	*e*P	**P**	**21 05 10.1**	**+1.2**
	comp=N,46nm,1.3s						
TIC	**Toumodi**	**76.71**	**72**	*e*P	**P**	**21 05 11.9**	**+1.5**
	comp=N,4.8nm,0.2s						
KIC	**Kosan Boka**	**76.74**	**72**	*e*P	**P**	**21 05 12.0**	**+1.4**
	comp=N,148nm,1.8s						
DBIC	**Dimbokro**	**76.85**	**72**	P	**P**	**21 05 11.5**	**+0.3**
	comp=N,7.3nm,0.8s,baz=234,slow=6.3,SNR=6.6						
DBIC	**Dimbokro**	**76.85**	**72**	*e*P	**P**	**21 05 12.3**	**+1.1**
	comp=N,15nm,1.0s						
ANMO	**Albuquerque**	**77.11**	**333**	*e*P	**P**	**21 05 12.0**	**-0.4**
	comp=N,5.5nm,1.1s						
BOSA	**Boshof**	**80.04**	**118**	P	**P**	**21 05 28.9**	**0.0**
	comp=N,10nm,0.9s,baz=251,slow=3.3,SNR=9.4						
BOSA	**Boshof**	**80.04**	**118**	*e*P	**P**	**21 05 27.8**	**-1.1**
	comp=N,18nm,1.1s						
SMCO	**Snowmass**	**81.06**	**334**	*e*P	**P**	**21 05 36.1**	**+1.9**
	comp=N,16nm,1.4s						
SHPR	**Sheep Range**	**82.00**	**327**	*e*P	**P**	**21 05 40.2**	**+1.2**
CCUT	**Cedar City**	**82.11**	**329**	*e*P	**P**	**21 05 40.9**	**+1.3**
	comp=N,14nm,1.4s						
ECSD	**EROS Data Cent**	**82.21**	**343**	*e*P	**P**	**21 05 39.0**	**-0.7**
	comp=N,15nm,0.9s						
LBTB	**Lobatse**	**82.39**	**115**	*e*P	**P**	**21 05 39.9**	**-1.5**
	comp=N,7.9nm,0.7s						
SPMN	**Marine on St.**	**82.82**	**346**	*e*P	**P**	**21 05 45.0**	**+2.2**
	comp=N,33nm,0.3s						
DAC	**Darwin (Calif)**	**82.91**	**325**	*e*P	**P**	**21 05 46.0**	**+2.3**
	comp=N,9.2nm,1.3s						
NLU	**North Lily Min**	**83.65**	**331**	*e*P	**P**	**21 05 50.3**	**+2.8**
	comp=N,6.8nm,0.5s						
R11A	**Troy Canyon, C**	**83.73**	**328**	*e*P	**P**	**21 05 50.4**	**+2.5**
	comp=N,7.0nm,1.3s						
JLU	**Jordanelle**	**83.96**	**332**	*e*P	**P**	**21 05 51.4**	**+2.2**
	comp=N,10nm,1.2s						
DUG	**Dugway, Tooele**	**84.14**	**331**	*e*P	**P**	**21 05 49.7**	**-0.2**
	comp=N,15nm,1.3s						
TPH	**Tonopah**	**84.22**	**327**	*e*P	**P**	**21 05 52.1**	**+1.7**
	comp=N,19nm,1.5s						
RSSD	**Black Hills**	**84.56**	**338**	*e*P	**P**	**21 05 54.0**	**+2.0**
	comp=N,5.7nm,1.1s						
BGU	**Big Grassy Mou**	**84.85**	**331**	*e*P	**P**	**21 05 56.2**	**+2.7**
	comp=N,6.0nm,1.6s						
HWUT	**Hardware Ranch**	**84.87**	**332**	*e*P	**P**	**21 05 53.6**	**0.0**
	comp=N,18nm,1.1s						
NVAR	**Mina Array Bea**	**85.00**	**326**	P	**P**	**21 05 55.5**	**+1.1**
	comp=N,1.8nm,0.8s,baz=182,slow=5.9,SNR=4.0						
PDAR	**Pinedale Array**	**85.15**	**334**	P	**P**	**21 05 56.4**	**+1.3**
	comp=N,2.8nm,1.1s,baz=176,slow=5.8,SNR=10						
HVU	**Hansel Valley**	**85.48**	**332**	*e*P	**P**	**21 05 57.5**	**+0.8**
	comp=N,8.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**85.91**	**71**	P	**P**	**21 05 59.2**	**0.0**
	comp=N,3.8nm,1.0s,baz=247,slow=3.4,SNR=13						
ULM	**Lac du Bonnet**	**88.23**	**346**	P	**P**	**21 06 09.2**	**-0.3**
	comp=N,2.7nm,0.8s,baz=181,slow=2.8,SNR=6.0						
YKA	**Yellowknife Ar**	**103.69**	**342**	Pdiff	**Pdif**	**21 07 23.6**	**+4.0**
	comp=N,0.1nm,0.4s,baz=140,slow=5.7,SNR=4.3						
BRTR	**Keskin Array B**	**123.75**	**63**	PKP	**PKPdf**	**21 12 16.4**	**-0.3**
	comp=N,0.6nm,0.8s,baz=208,slow=3.0,SNR=3.1						
TIXI	**Tiksi**	**142.53**	**349**	*e*PKPdf	**PKPdf**	**21 12 50.7**	**+0.1**
ABKAR	**Abkulak array**	**143.78**	**54**	*e*PKPdf	PKPbc	21 12 51.3	+0.2
KSM	**Kuching**	**145.40**	**186**	*e*PKPdf	**PKPbc**	**21 12 54.9**	**-2.3**
PSI	**Prapat**	**146.12**	**166**	PKPbc	**PKPdf**	**21 12 58.6**	**-0.2**
HYB	**Hyderabad**	**148.94**	**119**	*i* PKP	**PKPbc**	**21 13 06.0**	**-1.2**
KBL	**Kabul**	**149.38**	**82**	*e*PKPdf	**PKPdf**	**21 13 02.8**	**-0.9**
YAK	**Yakutsk**	**150.29**	**338**	*e*PKPbc	**PKPbc**	**21 13 08.1**	**-1.0**
KKAR	**Karatay Array**	**151.43**	**65**	*e*PKPdf	**PKPdf**	**21 13 05.8**	**-0.6**
KKAR				*e*PKPbc	**PKPbc**	**21 13 12.2**	**-0.3**
AAK	**Ala-Archa**	**154.38**	**65**	*e*PKPdf	**PKPdf**	**21 13 10.5**	**-0.3**
AAK				*e*PKPbc	**PKPbc**	**21 13 18.1**	**-1.1**
KSH	**Kashi**	**155.56**	**73**	*e*PKP	**PKPdf**	**21 13 12.3**	**-0.2**
KSH				sPKP		21 13 25.9	
KSH				PKS	**PKSdf**	**21 16 45.3**	**-1.3**
KSH				PP	**PP**	**21 17 14.9**	**-1.1**
KSH				SKS	**SKSdf**	**21 20 16.1**	**-0.2**
KSH				PPMZ			
	comp=N,110nm,7.2s						
KSH				LN			
	comp=N,23nm,3.9s						
KSH				LE			
	comp=N,16nm,4.9s						
KSH				LZ			
	comp=N,81nm,6.8s						
ZALV	**Zalesovo Beam**	**156.54**	**34**	PKP	**PKPdf**	**21 13 12.8**	**-0.3**
	comp=N,2.2nm,0.9s,baz=318,slow=2.0,SNR=10						
ZALV				PKPab	**PKPab**	**21 13 43.2**	**+1.1**
	comp=N,4.4nm,0.8s,baz=296,slow=4.4,SNR=9.0						
MKAR	**Makanchi Array**	**158.91**	**52**	PKP	**PKPdf**	**21 13 16.3**	**0.0**
	comp=N,1.0nm,0.8s,baz=293,slow=0.9,SNR=10						
MKAR				PKPab	**PKPab**	**21 13 53.1**	**+0.4**
	comp=N,1.4nm,0.8s,baz=305,slow=4.3,SNR=7.1						
CMAR	**Chiang Mai Arr**	**161.17**	**157**	PKP	**PKPdf**	**21 13 19.0**	**-0.7**
	comp=N,0.2nm,0.3s,baz=271,slow=5.3,SNR=3.8						
WMQ	**Urumqi**	**163.55**	**56**	*e*PKP	**PKPdf**	**21 13 21.6**	**+0.2**
WMQ				LN			
	comp=N,75nm,20.0s						
WMQ				LE			
	comp=N,30nm,25.0s						
WMQ				LZ			
	comp=N,120nm,23.0s						
CN2	**Changchun**	**163.68**	**304**	*e*PKP	**PKPdf**	**21 13 21.6**	**+0.2**
SONM	**Songino Array**	**168.25**	**1**	PKP	**PKPdf**	**21 13 24.8**	**-0.4**
	comp=N,0.5nm,1.0s,baz=132,slow=2.1,SNR=3.1						
SONM				PKPab	**PKPab**	**21 14 34.6**	**+1.0**
	comp=N,0.3nm,0.7s,baz=327,slow=2.4,SNR=3.3						
NJ2	**Nanjing**	**169.12**	**252**	*e*PKP	**PKPdf**	**21 13 27.2**	**+1.2**
GYA	**Guiyang**	**170.41**	**180**	*e*PKP	**PKPdf**	**21 13 26.0**	**-1.1**
GYA				PKPab	**PKPab**	**21 14 45.6**	**+1.9**
GYA				PKS	**PKSdf**	**21 16 57.4**	**-2.4**
GYA				SKKS		21 25 17.3	
GYA				PPMZ			
	comp=N,120nm,8.2s						
GYA				LN			
	comp=N,120nm,22.2s						
GYA				LE			
	comp=N,110nm,22.0s						
GYA				LZ			
	comp=N,120nm,21.4s						
HHC	**Hu-ho-hao-te**	**173.88**	**323**	*e*PKP	**PKPdf**	**21 13 28.3**	**+0.1**
HHC				sPKP		21 13 42.2	
HHC				SKS	**SKSdf**	**21 20 26.3**	**-2.4**
HHC				PPMZ			
	comp=N,110nm,8.4s						
HHC				LN			
	comp=N,190nm,20.0s						
HHC				LE			
	comp=N,280nm,20.6s						
HHC				LZ			
	comp=N,150nm,21.2s						
CD2	**Chengdu**	**174.30**	**154**	*e*PKP	**PKPdf**	**21 13 29.2**	**+0.6**
LZH	**Lanzhou**	**177.72**	**89**	*e*PKP	**PKPdf**	**21 13 29.6**	**+0.2**
LZH				pPKP	**pPKPdf**	**21 13 40.4**	**-0.5**
LZH				sPKP		21 13 43.7	

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*IDC **05** 21:01:39.7±1.2, 35°.81S×73°.30W, h0km, mb4.2/6, mb1 4.2/9, mb1mx4.0/29, mbtmp4.1/9, ML3.8/3, MS3.9/2, Ms1 3.9/2, ms1mx3.5/32, Error ellipse: s-maj=42.9km s-min=16.2km az=91.0*
*ISCJB **05** 21:01:43.1±1.1, 35°.82S±0°.07×73°.1W±0°.2, h33km, mb4.2/6, Error ellipse: s-maj=24.9km s-min=10.0km az=2.4*
*NEIC **05** 21:01:44.9±0.7, 35°.79S×73°.16W, h35km, mb4.2/1, Error ellipse: s-maj=17.4km s-min=7.7km az=90.0*
ISC 05 21:01:44.9±1.0, 35°.78S±0°.08×73°.2W±0°.2, h35km, n18, σ0§84/17, mb4.3/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.35**	**158**	Pn	**Pn**	**21 03 01.7**	**-0.7**
	1.6nm,0.3s,baz=330,slow=10,SNR=5.5						
PLCA				Lg	Lg	21 04 31.2	
	1.6nm,0.3s,baz=241,slow=14,SNR=4.3						
CFAA	**Coronel Fontan**	**5.85**	**46**	Pn	**Pn**	**21 03 09.8**	**+0.6**
	0.7nm,0.3s,baz=231,slow=7.7,SNR=19						
TRQA	**Tornquist**	**9.24**	**108**	*e*Pn	**Pn**	**21 03 55.3**	**-0.4**
	150nm,1.9s						
LVC	**Limon Verde**	**13.64**	**17**	*e*Pn	**Pn**	**21 04 54.4**	**-1.7**
CPUP	**Villa Florida**	**16.51**	**60**	LR	LR	21 11 47.9	
	comp=Z,272nm,19.5s,baz=220,slow=37						
EFI	**East Falkland**	**19.21**	**150**	*e*P	**P**	**21 06 05.1**	**-0.5**
USHA	**Ushuaia**	**19.33**	**172**	LR	LR	21 13 02.5	
	comp=Z,598nm,18.2s,baz=326,slow=35						
LPAZ	**La Paz**	**19.93**	**14**	P	**Pn**	**21 06 15.6**	**-0.6**
	0.1nm,0.3s,baz=189,slow=7.6,SNR=8.9						
LPAZ	**La Paz**	**19.93**	**14**	*e*P	**P**	**21 06 14.1**	**-0.3**
	19nm,1.5s						
SIV	**San Ignacio**	**22.48**	**32**	P	**P**	**21 06 41.1**	**-0.1**
	2.4nm,0.6s,baz=235,slow=14,SNR=9.2						
SNAA	**Sanae**	**50.30**	**157**	P	**P**	**21 10 37.8**	**+0.2**
	2.7nm,0.9s,baz=274,slow=9.9,SNR=6.5						
QSPA	**South Pole Qui**	**54.46**	**180**	P	**P**	**21 11 08.4**	**-0.1**
	4.4nm,0.9s,baz=141,slow=1.6,SNR=9.0						
DBIC	**Dimbokro**	**76.63**	**72**	P	**P**	**21 13 34.0**	**+1.7**
	4.3nm,0.7s,baz=223,slow=5.4,SNR=5.6						
BOSA	**Boshof**	**80.06**	**118**	P	**P**	**21 13 51.6**	**+0.3**
	3.1nm,0.9s,baz=169,slow=5.2,SNR=3.3						
TORD	**Torodi Ar. Bea**	**85.69**	**71**	P	**P**	**21 14 20.7**	**+0.3**
	1.9nm,1.1s,baz=213,slow=3.9,SNR=5.7						
ZALV	**Zalesovo Beam**	**156.23**	**33**	PKPab	**PKPab**	**21 22 03.4**	**+0.3**
	1.8nm,0.7s,baz=319,slow=4.2,SNR=7.2						
MKAR	**Makanchi Array**	**158.62**	**52**	PKP	**PKPdf**	**21 21 38.1**	**-0.2**
	0.4nm,0.8s,baz=270,slow=1.2,SNR=4.6						
MKAR				PKPab	**PKPab**	**21 22 12.4**	**-1.3**
	0.4nm,0.8s,baz=316,slow=3.3,SNR=4.7						
SONM	**Songino Array**	**167.95**	**1**	PKPab	**PKPab**	**21 22 55.4**	**+0.8**
	0.2nm,0.7s,baz=338,slow=3.4,SNR=2.9						

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*IDC **05** 21:15:46.7±0.7, 29°.97S×71°.93W, h0km, mb4.3/10, mb1 4.4/14, mb1mx4.2/31, mbtmp4.3/14, ML4.1/4, MS3.8/9, Ms1 3.8/9, ms1mx3.6/26, Error ellipse: s-maj=24.9km s-min=19.1km az=42.0*
*NEIC **05** 21:15:48.6, 29°.93S×71°.92W, h32km, mb5.2/4, ML5.1(GUC), After GUC.*
NEIC Felt [III] at Coquimbo and La Serena and [II] at Ovalle.
*GUC **05** 21:15:48.6±0.7, 29°.93S×71°.92W, h32km±4km, ML5.1*
*ISCJB **05** 21:15:49.3±0.3, 29°.93S±0°.03×71°.83W±0°.06, h25km, mb4.4/13, MS4.0/5, Error ellipse: s-maj=7.0km s-min=4.3km az=174.0*
ISC 05 21:15:50.1±0.4, 29°.93S±0°.03×71°.84W±0°.08, h25km, n98, σ1§43/112, mb4.5/12, MS4.3/5, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.43**	**150⇑**	*i* P	**Pn**	**21 16 14.0**	**-0.6**
CMCH				*i* S	**Sb**	**21 16 33.2**	**-0.9**
CMCH	**Combarbala**	**1.43**	**150⇑**	*i* P	**Pn**	**21 16 14.0**	**-0.6**
CMCH				*i* S	**Sb**	**21 16 33.2**	**-0.9**
VACH	**Vallenar**	**1.65**	**35**	*e*P	**Pn**	**21 16 17.5**	**+0.1**
VACH				*i* S	**Sb**	**21 16 39.6**	**-0.5**
VACH				AML	AML	21 16 50.1	
	comp=E,45μm,0.5s						
VACH	**Vallenar**	**1.65**	**35**	*e*P	**Pn**	**21 16 17.5**	**+0.1**
VACH				*i* S	**Sb**	**21 16 39.6**	**-0.5**
CPCH	**Copiapo**	**2.88**	**27⇑**	*i* P	**Pn**	**21 16 33.8**	**-0.6**
CPCH				*i* S	**Sn**	**21 17 08.6**	**+0.4**
CPCH				AML	AML	21 17 25.7	
	comp=N,3μm,0.5s						
CPCH	**Copiapo**	**2.88**	**27⇑**	*i* P	**Pn**	**21 16 33.8**	**-0.6**
CPCH				*i* S	**Sn**	**21 17 08.6**	**+0.4**
CDCH	**Caldera**	**2.99**	**18**	*e*P9	**Pn**	**21 16 34.3**	**-1.6**
CDCH				*i* S	**Sn**	**21 17 09.4**	**-1.5**
CDCH	**Caldera**	**2.99**	**18**	*e*P	**Pn**	**21 16 34.3**	**-1.6**
CDCH				*i* S	**Sn**	**21 17 09.4**	**-1.5**
PEL	**Peldehue**	**3.35**	**163**	*e*P	**Pn**	**21 16 40.7**	**-0.2**
PEL				*i* S	**Sn**	**21 17 19.7**	**-0.2**
PEL				AML	AML	21 17 44.4	
	comp=N,6μm,0.4s						
PEL	**Peldehue**	**3.35**	**163**	*e*P	**Pn**	**21 16 40.7**	**-0.2**
PEL				*i* S	**Sn**	**21 17 19.7**	**-0.2**
CFAA	**Coronel Fontan**	**3.52**	**119**	Pn	**Pn**	**21 16 45.4**	**+2.2**
	comp=N,4.6nm,0.3s,baz=306,slow=13,SNR=103						
CFAA				LR	LR	21 18 04.5	
	comp=N,169nm,21.9s,baz=252,slow=39						
CLCH	**Cerro Calan**	**3.63**	**163**	*e*P1	**Pn**	**21 16 44.5**	**-0.3**
LVC	**Limon Verde**	**7.75**	**20**	*e*Pn	**Pn**	**21 17 39.5**	**-2.0**
PLCA	**Paso Flores**	**10.83**	**175**	LR	LR	21 23 12.4	
	comp=N,355nm,18.2s,baz=360,slow=41						
TRQA	**Tornquist**	**11.51**	**137**	*e*Pn	**Pn**	**21 18 30.8**	**-2.0**
CPUP	**Villa Florida**	**13.29**	**78**	Pn	**Pn**	**21 18 59.8**	**+2.6**
	comp=N,0.9nm,0.3s,baz=222,slow=16,SNR=1.9						
CPUP				LR	LR	21 24 28.8	
	comp=N,821nm,21.1s,baz=234,slow=39						
LPAZ	**La Paz**	**14.00**	**15**	Pn	**Pn**	**21 19 08.6**	**+1.1**
	comp=N,0.4nm,0.3s,baz=191,slow=8.2,SNR=12						
LPAZ				LR	LR	21 24 15.8	
	comp=N,255nm,18.9s,baz=157,slow=36						
LPAZ	**La Paz**	**14.00**	**15**	*e*Pn	**Pn**	**21 19 04.8**	**-2.7**
SIV	**San Ignacio**	**17.03**	**38**	P	**P**	**21 19 48.2**	**-0.1**
	comp=N,0.4nm,0.3s,baz=237,slow=13,SNR=14						
SAML	**Samuel**	**22.39**	**23**	*e*P	**P**	**21 20 46.8**	**0.0**
	comp=N,15nm,1.2s						
USHA	**Ushuaia**	**25.01**	**175**	P	**P**	**21 21 12.5**	**+0.8**
	comp=N,8.6nm,0.8s,baz=344,slow=8.4,SNR=4.2						
BDFB	**Brasilia**	**26.09**	**62**	P	**P**	**21 21 21.6**	**-0.6**
	comp=N,6.8nm,0.9s,baz=247,slow=11,SNR=6.4						
BDFB				LR	LR	21 32 14.9	
	comp=N,165nm,21.2s,baz=224,slow=38						
BDFB	**Brasilia**	**26.09**	**62**	*e*P	**P**	**21 21 20.8**	**-1.3**
SNAA	**Sanae**	**55.29**	**159**	LR	LR	21 46 32.0	
	comp=N,43nm,18.8s,baz=70,slow=33						
SNAA	**Sanae**	**55.29**	**159**	*e*P	**P**	**21 25 20.9**	**-0.2**
	comp=N,137nm,2.3s						
QSPA	**South Pole Qui**	**60.29**	**180**	*e*P	**P**	**21 25 56.7**	**+0.3**
	comp=N,122nm,2.6s						
434A	**Burnet**	**65.44**	**335**	P	**P**	**21 26 32.1**	**+1.2**
	baz=66						
532A	**Rocksprings**	**65.44**	**333**	P	P	21 26 32.5	+1.6
	baz=66						
334A	**Lometa**	**65.89**	**335**	P	**P**	**21 26 34.8**	**+1.1**
	baz=66						
TX31	**Lajitas Ar. Si**	**66.30**	**330**	*e*P	**P**	**21 26 37.9**	**+1.4**
TXAR	**Lajitas Array**	**66.30**	**330**	P	**P**	**21 26 37.1**	**+0.6**
	comp=N,0.6nm,0.7s,baz=152,slow=8.2,SNR=8.1						
529A	**Stev Forest Ra**	**66.37**	**331**	P	**P**	**21 26 37.9**	**+1.1**
	baz=67						
429A	**Davenport Ranc**	**66.67**	**332**	P	**P**	**21 26 39.8**	**+1.0**
	baz=67						
DBIC	**Dimbokro**	**73.74**	**72**	P	**P**	**21 27 23.4**	**+0.9**
	comp=N,4.8nm,0.5s,baz=211,slow=6.6,SNR=12						
DBIC				LR	LR	21 58 09.5	
	comp=N,166nm,18.8s,baz=207,slow=34						
DBIC	**Dimbokro**	**73.74**	**72**	*e*P	**P**	**21 27 22.9**	**+0.4**
	comp=N,14nm,1.1s						
ECSD	**EROS Data Cent**	**76.74**	**342**	P	**P**	**21 27 39.6**	**+0.6**
	baz=77						
J28A	**Allard Ranch,**	**77.82**	**339**	P	P	21 27 46.8	+1.6
	baz=78						
J24A	**Dixon Ranch, L**	**78.88**	**336**	P	**P**	**21 27 52.6**	**+1.5**
	baz=79						
K22A	**Casper**	**78.96**	**335**	P	P	21 27 53.5	+1.9
	baz=79						
I25A	**Rochford**	**79.17**	**337**	P	**P**	**21 27 54.2**	**+1.5**
	baz=80						
H27A	**Howes**	**79.17**	**339**	P	**P**	**21 27 53.6**	**+1.1**
	baz=80						
K21A	**Alcova**	**79.22**	**334**	P	**P**	**21 27 54.2**	**+1.2**
	baz=80						
J22A	**Midwest**	**79.60**	**335**	P	**P**	**21 27 56.0**	**+0.9**
	baz=80						
I22A	**9 Mile Ranch,**	**80.02**	**335**	P	**P**	**21 27 58.8**	**+1.5**
	baz=80						
H24A	**Dirks Ranch, A**	**80.09**	**337**	P	**P**	**21 27 58.4**	**+0.8**
	baz=80						
G25A	**Newell**	**80.10**	**338**	P	**P**	**21 27 59.2**	**+1.6**
	baz=80						
BW06	**Boulder Array**	**80.22**	**333**	*e*P	**P**	**21 27 59.5**	**+0.9**
PDAR	**Pinedale Array**	**80.22**	**333**	P	**P**	**21 27 59.6**	**+1.0**
	comp=N,0.5nm,0.6s,baz=151,slow=6.4,SNR=4.8						
I21A	**Big Trails, Te**	**80.25**	**335**	P	**P**	**21 27 59.7**	**+1.1**
	baz=80						
F27A	**Lemmon**	**80.27**	**339**	P	**P**	**21 27 59.5**	**+1.0**
	baz=81						
D30A	**Buchanan**	**80.44**	**342**	P	**P**	**21 28 00.8**	**+1.4**
	baz=81						
J19A	**Crowheart**	**80.45**	**333**	P	**P**	**21 28 00.8**	**+1.1**
	baz=81						
NVAR	**Mina Array Bea**	**80.66**	**325**	P	**P**	**21 28 01.8**	**+0.8**
	comp=N,0.2nm,0.3s,baz=132,slow=5.6,SNR=2.6						
C30A	**Mose, Pekin**	**80.91**	**342**	P	**P**	**21 28 03.2**	**+1.3**

MKAR PKPbc **PKiKP** **21 35 47.1 +0.2**
comp=N,0.5nm,0.8s,baz=4.4,slow=2.8,SNR=5.2
MKAR PKPab **PKPab** **21 36 00.8 +0.8**
comp=N,1.1nm,0.9s,baz=308,slow=4.0,SNR=5.2
MK01 Makanchi Array 153.83 43 *e*PKPdf **PKPdf** **21 35 39.1 +0.1**
WMQ Urumqi 158.62 44 *e*PKP **PKPdf** **21 35 44.3 -1.1**
WMQ LN
comp=N,36nm,16.0s
WMQ LE
comp=N,26nm,18.0s
WMQ LZ
comp=N,69nm,20.0s
SONM Songino Array 162.07 4 PKPab **PKPab** **21 36 37.1 +1.5**
comp=N,0.5nm,0.8s,baz=313,slow=3.8,SNR=6.0
HHC Hu-ho-hao-te 168.76 347 *e*PKP **PKPdf** **21 35 54.1 -0.9**
HHC pPKP **pPKPdf** **21 36 03.2 -0.2**
HHC PP **PP** **21 40 55.5 +1.8**
HHC SKS **SKSdf** **21 42 52.2 -4.9**
HHC SS **SS** **22 01 48.3 +3.5**
HHC PPMZ
comp=N,190nm,9.8s
HHC LN
comp=N,200nm,20.1s
HHC LE
comp=N,260nm,19.6s
HHC LZ
comp=N,170nm,20.8s
NJ2 Nanjing 170.58 286 *e*PKP **PKPdf** **21 35 57.9 +1.8**
LZH Lanzhou 172.87 29 *e*PKP **PKPdf** **21 35 56.3 -1.1**
LZH pPKP **pPKPdf** **21 36 07.2 +1.4**
WHN Wuhan 174.61 278 PKPbc PKPdf 21 35 51.2 -6.7
CD2 Chengdu 176.07 75 *e*PKP **PKPdf** **21 35 57.5 -0.9**

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*JSN **05** 21:24:41.3±1.3, 18°.29N×71°.37W, h0km±999km*
*ISCJB **05** 21:24:57.9±0.6, 18°.41N±0'.09×72°.75W±0'.07, h10km, mb3.7/8, Error ellipse: s-maj=12.8km s-min=8.9km az=16.2*
*IDC **05** 21:24:58.3±0.8, 18°.41N×72°.68W, h0km, mb3.8/8, mb1 4.2/11, mb1mx3.9/31, mbtmp4.0/11, ML3.7/3, Error ellipse: s-maj=27.2km s-min=18.0km az=50.0*
ISC 05 21:24:59.7±0.6, 18°.40N±0'.09×72°.72W±0'.07, h10km, n17, σ1§18/20, mb3.8/8, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHJ	**Yallahs**	**3.62**	**263**	*i* P	**Pn**	**21 25 55.4**	**-0.6**
GWJ	**Greenwich**	**3.82**	**266**	*e*P	**Pn**	**21 25 57.3**	**-1.5**
HOJ	**Hope**	**3.85**	**265**	*e*P	**Pn**	**21 25 58.2**	**-0.9**
STH	**Stony Hill**	**3.90**	**266**	*e*P	**Pn**	**21 25 57.7**	**-2.1**
STH				*i* S	**Sb**	**21 26 56.6**	**+0.6**
CVJ	**Coleyville**	**4.58**	**269**	*i* P	**Pn**	**21 26 08.6**	**-0.6**
PCRV	**Puerto La Cruz**	**11.32**	**135**	Pn	**Pn**	**21 27 42.2**	**+0.6**
	2.6nm,0.3s,baz=261,slow=20,SNR=6.7						
PCRV				Sn	**Sn**	**21 29 46.0**	**-2.3**
	0.8nm,0.3s,baz=357,slow=18,SNR=2.5						
ROSC	**El Rosal**	**13.55**	**187**	Pn	**Pn**	**21 28 14.3**	**+1.8**
	1.0nm,0.3s,baz=100,slow=8.2,SNR=3.7						
TEIG	**Tepich**	**14.80**	**280**	Pn	**Pn**	**21 28 28.1**	**-1.1**
	0.9nm,0.3s,baz=63,slow=6.8,SNR=4.8						
TXAR	**Lajitas Array**	**30.24**	**297**	P	**P**	**21 31 10.9**	**-0.1**
	0.8nm,0.9s,baz=98,slow=9.1,SNR=5.2						
LPAZ	**La Paz**	**34.76**	**172**	P	**P**	**21 31 51.0**	**-0.2**
	0.8nm,0.5s,baz=0.0,slow=0.0,SNR=3.0						
ULM	**Lac du Bonnet**	**36.78**	**335**	P	**P**	**21 32 08.1**	**+0.6**
	2.0nm,0.7s,baz=158,slow=3.2,SNR=3.3						
NVAR	**Mina Array Bea**	**44.27**	**307**	P	**P**	**21 33 11.8**	**+1.9**
	0.3nm,0.4s,baz=102,slow=9.1,SNR=3.0						
YKA	**Yellowknife Ar**	**52.70**	**337**	P	**P**	**21 34 13.4**	**-0.8**
	1.2nm,0.9s,baz=124,slow=7.2,SNR=10						
ILAR	**Eielson Array**	**66.77**	**333**	P	**P**	**21 35 50.9**	**-0.2**
	0.3nm,0.8s,baz=89,slow=4.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**71.37**	**82**	P	**P**	**21 36 20.4**	**-0.2**
	0.8nm,1.0s,baz=302,slow=6.2,SNR=3.5						
GERES	**GERESS Array B**	**74.06**	**43**	P	**P**	**21 36 36.6**	**+0.5**
	1.3nm,0.9s,baz=298,slow=2.9,SNR=8.3						
WRA	**Warramunga Arr**	**154.41**	**262**	PKP	**PKPdf**	**21 44 53.0**	**0.0**
	0.6nm,0.9s,baz=94,slow=1.3,SNR=4.5						
WRA				PKPbc	**PKiKP**	**21 45 00.8**	**-0.6**
	0.9nm,0.9s,baz=85,slow=2.7,SNR=6.9						

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*IDC **05** 21:34:33.6±1.0, 13°.45N×91°.17W, h0km, mb4.0/9, mb1 4.3/11, mb1mx4.0/40, mbtmp4.0/11, ML4.1/2, MS3.9/5, Ms1 3.9/5, ms1mx3.2/37, Error ellipse: s-maj=21.0km s-min=15.2km az=107.0*
*NEIC **05** 21:34:37.0±2.2, 13°.59N×90°.92W, h18km±11km, mb5.0/17, Error ellipse: s-maj=16.2km s-min=7.9km az=209.0*
*ISCJB **05** 21:34:38.1±0.6, 13°.44N±0'.07×91°.42W±0'.04, h33km, mb4.6/22, MS4.0/4, Error ellipse: s-maj=10.7km s-min=3.8km az=19.5*
*CASC **05** 21:34:45.0±1.6, 13°.54N×90°.97W, h19km±8km, MD4.1, ML3.6, mb5.0(NEIC)*
ISC 05 21:34:36.8±0.8, 13°.28N±0'.08×91°.23W±0'.06, h29km, n128, σ1§17/123, mb4.6/23, MS3.9/4, 32C-34D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.11**	**339**	⇓*e*P	**Pn**	**21 34 56.5**	**+0.1**
PCG	**Pacaya**	**1.26**	**28**	*e*P	**Pb**	**21 35 02.1**	**+1.9**
NBG	**Las Nubes**	**1.56**	**33**	*e*P	**Pb**	**21 35 06.9**	**+1.7**
RTR	**El Retiro**	**1.66**	**68**	*e*P	**Pb**	**21 35 08.3**	**+1.5**
SBLS	**San Blas**	**1.66**	**70**	*e*P	**Pb**	**21 35 09.6**	**+2.7**
SNJE	**San Jose**	**1.68**	**69**	*e*P	**Pb**	**21 35 08.7**	**+1.5**
RBDL	**Robledal**	**1.71**	**61**	⇑*e*P	**Pb**	**21 35 09.4**	**+1.6**
RBDL				⇑*e*S	**Sb**	**21 35 28.2**	**-0.7**
APG	**El Apazote**	**1.87**	**23**	Pg	**Pn**	**21 35 05.8**	**-1.3**
	75nm,0.3s,baz=192,slow=5.9,SNR=530						
APG				Lg	Lg	21 35 28.2	
	32nm,0.3s,baz=191,slow=21,SNR=5.9						
BOQS	**Boqueron**	**1.95**	**76**	*e*P	**Pb**	**21 35 13.1**	**+1.3**
SNET	**Serv Nac Est T**	**1.98**	**78**	AML	AML	21 35 55.6	
	comp=Z,783nm,0.4s						
MTO2	**Montecristo 2**	**2.13**	**58**	*e*P	**Pb**	**21 35 15.3**	**+0.4**
LFRS	**El Faro**	**2.13**	**80**	*e*P	**Pb**	**21 35 16.4**	**+1.5**
LFRS				*e*S	**Sb**	**21 35 39.1**	**-1.9**
LBRS	**Las Brisas**	**2.17**	**78**	*e*P	**Pb**	**21 35 16.6**	**+1.1**
MRL	**Marmol**	**2.32**	**40**	⇓*e*P	**Pb**	**21 35 18.5**	**+0.4**
VSM	**San Miguel**	**2.88**	**87**	*e*P	**Pb**	**21 35 27.4**	**-0.2**
CNCH	**Conchagua**	**3.30**	**90**	*e*P	**Pb**	**21 35 32.7**	**-2.2**
COPN	**Copaltepe**	**4.65**	**103**	*e*P	Pn	21 35 51.2	+6.0
CMIG	**Matias Romero**	**5.18**	**317**	Pn	**Pn**	**21 35 51.4**	**-1.1**
	comp=Z,2.9nm,0.3s,baz=130,slow=14,SNR=16						
CMIG				Sn	**Sn**	**21 36 51.4**	**0.0**
	comp=Z,6.9nm,0.3s,baz=315,slow=20,SNR=3.4						
JTS	**JuntasAbangare**	**6.82**	**115**	*e*Pn	Pn	21 36 21.8	+6.8
JTS				*e*Sn	**Sn**	**21 37 33.9**	**+2.1**
TEIG	**Tepich**	**7.46**	**22**	LR	LR	21 39 42.0	
	comp=Z,672nm,21.1s,baz=214,slow=42						
TEIG	**Tepich**	**7.46**	**22**	*e*Pn	**Pn**	**21 36 26.2**	**+2.4**
732A	**Laxson Ranch,**	**17.40**	**333**	⇑P	**P**	**21 38 39.5**	**+0.9**
	baz=17						
633A	**Saathoff Ranch**	**17.71**	**337**	⇑P	**P**	**21 38 42.5**	**+0.4**
	baz=18						
532A	**Rocksprings**	**18.59**	**336**	⇑P	**Pn**	**21 38 53.3**	**+1.0**
	baz=18						
433A	**Art**	**18.85**	**339**	⇑P	**Pn**	**21 38 56.2**	**+0.9**
	baz=19						
531A	**Rocksprings**	**18.89**	**334**	⇓P	**Pn**	**21 38 56.8**	**+1.0**
	baz=19						
334A	**Lometa**	**19.09**	**341**	⇑P	**P**	**21 38 57.0**	**-0.4**
	baz=19						
432A	**Menard**	**19.21**	**337**	⇓P	**Pn**	**21 39 00.1**	**+0.3**
	baz=19						
530A	**J-C Ranch, Com**	**19.22**	**332**	⇓P	**Pn**	**21 39 01.0**	**+1.1**
	baz=19,SNR=6.0						
333A	**Richland Sprin**	**19.33**	**340**	⇓P	**Pn**	**21 39 00.8**	**-0.3**
	baz=19						
431A	**Sonora**	**19.37**	**335**	⇓P	**Pn**	**21 39 02.0**	**+0.4**
	baz=19,SNR=7.9						
529A	**Stev Forest Ra**	**19.61**	**331**	⇑P	**Pn**	**21 39 03.9**	**-0.6**
	baz=20,SNR=6.4						
332A	**Millersview**	**19.65**	**338**	⇑P	**P**	**21 39 03.6**	**+0.1**
	baz=20						
TX31	**Lajitas Ar. Si**	**19.71**	**326**	*e*P	**P**	**21 39 05.0**	**+0.8**
TXAR	**Lajitas Array**	**19.71**	**326**	P	**Pn**	**21 39 05.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=156,slow=13,SNR=22						
430A	**Baggett Ranch,**	**19.72**	**334**	⇓P	**Pn**	**21 39 05.6**	**-0.3**
	baz=20						
331A	**San Angelo**	**19.84**	**336**	⇓P	**Pn**	**21 39 06.5**	**-0.7**
	baz=20,SNR=7.3						
429A	**Davenport Ranc**	**19.88**	**332**	⇓P	**P**	**21 39 06.3**	**+0.3**
	baz=20,SNR=7.5						
233A	**Rising Star**	**19.94**	**341**	⇓P	**P**	**21 39 06.7**	**+0.1**
	baz=20						
232A	**Coleman**	**20.07**	**339**	⇑P	**P**	**21 39 07.7**	**-0.4**
	baz=20						
330A	**Mertzon**	**20.23**	**335**	⇓P	**P**	**21 39 09.6**	**-0.2**
	baz=20,SNR=9.9						
231A	**Bronte**	**20.36**	**337**	⇓P	**P**	**21 39 11.5**	**+0.3**
	baz=20						
133A	**Hamilton Ranch**	**20.49**	**341**	⇑P	**P**	**21 39 12.7**	**+0.2**
	baz=20						
329A	**Wagon Wheel Ra**	**20.65**	**333**	⇑P	**P**	**21 39 14.4**	**+0.1**
	baz=21,SNR=5.7						
ABTX	**Abilene, Hawle**	**20.74**	**340**	*e*P	**P**	**21 39 15.0**	**-0.2**
	comp=Z,7.5nm,0.6s						
229A	**Bryant Ranch,**	**20.99**	**334**	⇓P	**P**	**21 39 17.8**	**-0.1**
	baz=21						
Z33A	**Whitaker Ranch**	**21.07**	**342**	⇑P	**P**	**21 39 19.3**	**+0.4**
	baz=21						
Z32A	**Haskell**	**21.31**	**341**	⇑P	**P**	**21 39 21.0**	**-0.4**
	baz=21,SNR=8.0						
228A	**UT Block 9, Go**	**21.46**	**333**	⇓P	**P**	**21 39 22.2**	**-0.8**
	baz=21						
Z31A	**Sharp Cattle R**	**21.55**	**339**	⇓P	**P**	**21 39 23.0**	**-0.9**
	baz=21,SNR=9.3						
129A	**Stewart Farms,**	**21.59**	**335**	⇑P	**P**	**21 39 24.1**	**-0.3**
	baz=22						
128A	**Castleberry Fa**	**21.84**	**334**	⇑P	**P**	**21 39 26.4**	**-0.7**
	baz=22,SNR=9.1						
Z30A	**Sanderson Ranc**	**21.87**	**337**	⇑P	**P**	**21 39 26.4**	**-1.1**
	baz=22						
Y32A	**R-V Farms, Ver**	**21.95**	**341**	⇑P	**P**	**21 39 28.0**	**-0.2**
	baz=22						
Z29A	**Hungry Hill Ra**	**22.07**	**336**	⇑P	**P**	**21 39 28.0**	**-1.7**
	baz=25						
Y31A	**Rekieta Farm,**	**22.17**	**340**	⇓P	**P**	**21 39 29.9**	**-0.7**
	baz=22,SNR=5.3						
X32A	**Elmer**	**22.29**	**342**	⇑P	**P**	**21 39 31.7**	**-0.1**
	baz=22						
Y30A	**Stafford Cattl**	**22.32**	**338**	⇑P	**P**	**21 39 31.1**	**-1.1**
	baz=22						
MNTX	**Cornudas Mount**	**22.48**	**327**	*e*P	**P**	**21 39 33.6**	**-0.3**
	comp=Z,8.2nm,0.8s						
X31A	**McDonald Ranch**	**22.69**	**341**	⇓P	**P**	**21 39 35.5**	**-0.8**
	baz=23						
X30A	**Coker Ranch, T**	**22.82**	**339**	⇓P	**P**	**21 39 36.8**	**-0.8**
	baz=23						
X29A	**Tulia**	**23.12**	**337**	⇓P	**P**	**21 39 39.5**	**-1.2**
	baz=23						
MSTX	**Muleshoe**	**23.12**	**335**	⇓P	**P**	**21 39 39.5**	**-1.2**
	baz=23						
MSTX	**Muleshoe**	**23.12**	**335**	*e*P	**P**	**21 39 40.5**	**-0.3**
	comp=Z,8.1nm,0.8s						
Y27A	**Causey**	**23.21**	**334**	⇑P	**P**	**21 39 40.2**	**-1.4**
	baz=23,SNR=7.0						
TKL	**Tuckaleechee C**	**23.28**	**16**	P	**P**	**21 39 40.0**	**-2.1**
	comp=Z,7.8nm,0.6s,baz=83,slow=17,SNR=5.1						
TKL				LR	LR	21 49 31.4	
	comp=Z,181nm,19.6s,baz=146,slow=39						
Z25A	**Roswell**	**23.41**	**331**	⇓P	**P**	**21 39 42.9**	**-0.7**
	baz=23,SNR=5.2						
AMTX	**Amarillo**	**23.50**	**338**	⇑P	**P**	**21 39 43.3**	**-1.2**
	baz=23						
Y26A	**Elida**	**23.53**	**333**	⇑P	**P**	**21 39 43.9**	**-1.0**
	baz=24						
MPR	**Mayaguez**	**23.68**	**75**	*e*P	**P**	**21 39 43.6**	**-2.7**
	comp=Z,123nm,0.6s						
W29A	**Amarillo**	**23.70**	**338**	⇓P	**P**	**21 39 45.5**	**-1.0**
	baz=24						
Z24A	**Sheeppen Canyo**	**23.76**	**329**	⇓P	**P**	**21 39 47.4**	**+0.3**
	baz=24,SNR=9.2						
X27A	**F and S Farms,**	**23.84**	**335**	⇑P	**P**	**21 39 46.6**	**-1.2**
	baz=24						
Y25A	**Mesa, Roswell**	**23.93**	**331**	⇑P	**P**	**21 39 48.4**	**-0.2**
	baz=24,SNR=7.6						
X26A	**CR and CF Fran**	**24.06**	**334**	⇑P	**P**	**21 39 49.4**	**-0.5**
	baz=24						
W27A	**Bowe Ranch, En**	**24.19**	**336**	⇓P	**P**	**21 39 49.5**	**-1.5**
	baz=24						
Y24A	**Capitan**	**24.28**	**330**	⇓P	**P**	**21 39 52.0**	**0.0**
	baz=24,SNR=7.7						
121A	**Cookes Peak, D**	**24.43**	**324**	⇑P	**P**	**21 39 56.7**	**+3.3**
	baz=24,SNR=5.6						
Z22A	**Elephant Butte**	**24.53**	**327**	⇓P	**P**	**21 39 56.1**	**+1.9**
	baz=24,SNR=9.5						
Y23A	**Lovelace Mesa,**	**24.59**	**329**	⇓P	**P**	**21 39 55.7**	**+1.0**
	baz=24,SNR=12						
X24A	**Lazy VL Ranch,**	**24.80**	**331**	⇓P	**P**	**21 39 57.1**	**+0.4**
	baz=25						
W25A	**X Bar L Ranch,**	**24.90**	**334**	⇓P	**P**	**21 39 57.8**	**+0.3**
	baz=25						
BNM	**Barren Site**	**25.05**	**329**	*e*P	**P**	**21 40 00.1**	**+1.1**
LPM	**Los Pinos Moun**	**25.18**	**329**	*e*P	**P**	**21 40 01.0**	**+0.9**
LENM	**Lemitar**	**25.24**	**328**	*e*P	**P**	**21 40 00.5**	**-0.1**
U27A	**Thompson Grove**	**25.29**	**338**	⇓P	**P**	**21 40 01.3**	**+0.2**
	baz=25						
W24A	**Lazy 6 Ranch,**	**25.32**	**332**	⇑P	**P**	**21 40 02.7**	**+1.3**
	baz=25						
V25A	**Rancho No Teng**	**25.50**	**334**	⇓P	**P**	**21 40 04.1**	**+1.2**
	baz=25						
LAZ	**Ladron**	**25.51**	**328**	*e*P	**P**	**21 40 03.7**	**+0.6**
ANMO	**Albuquerque**	**25.60**	**330**	P	**P**	**21 40 04.3**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=154,slow=13,SNR=5.3						
ANMO	**Albuquerque**	**25.60**	**330**	*e*P	**P**	**21 40 04.8**	**+0.9**
	comp=Z,20nm,2.0s						
U26A	**Atchley Ranch,**	**25.62**	**336**	⇓P	**P**	**21 40 04.8**	**+0.7**
	baz=26						
W23A	**Werner Place,**	**25.62**	**331**	⇓P	**P**	**21 40 05.5**	**+1.4**
	baz=26						
V24A	**Rampart Ranch,**	**25.69**	**333**	⇑P	**P**	**21 40 05.8**	**+1.0**
	baz=26						
U25A	**Circle Dot Ran**	**25.89**	**335**	⇑P	**P**	**21 40 07.7**	**+1.2**
	baz=26						
U23A	**El Rito**	**26.60**	**332**	⇑P	**P**	**21 40 14.8**	**+1.8**
	baz=26						
PV05	**Paradox Valley**	**29.38**	**330**	*e*P	**P**	**21 40 38.2**	**+0.5**
KNB	**Kanab**	**30.53**	**325**	*e*P	**P**	**21 40 48.8**	**+0.8**
	comp=Z,61nm,2.3s						
LDFC	**Landfair**	**30.60**	**319**	*e*P	**P**	**21 40 49.9**	**+1.3**
	comp=Z,6.1nm,0.8s						
DEVC	**Devers**	**30.87**	**316**	*e*ScS	ScS	21 51 23.6	-1.5
ARUT	**Antelope Range**	**31.42**	**325**	*e*P	**P**	**21 40 56.5**	**+0.7**
BINY	**Binghamton**	**31.71**	**22**	*e*P	**P**	21 40 53.0	-5.1
	comp=Z,316nm,2.6s						
SADO	**Sadowa**	**33.04**	**16**	LR	LR	21 55 35.3	
	comp=Z,171nm,18.2s,baz=198,slow=38						
PDAR	**Pinedale Array**	**33.39**	**335**	P	**P**	**21 41 11.5**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=141,slow=6.8,SNR=2.5						
REDW	**Red Top Meadow**	**34.42**	**334**	*e*P	**P**	**21 41 22.2**	**+0.2**
	comp=Z,6.6nm,0.8s						
NV01	**Mina Array Sit**	**34.70**	**321**	*e*P	**P**	**21 41 25.8**	**+1.2**
NVAR	**Mina Array Bea**	**34.70**	**321**	P	**P**	**21 41 26.1**	**+1.5**
	comp=Z,2.8nm,0.8s,baz=132,slow=8.2,SNR=10						
MCMT	**McKenzie Canyo**	**36.45**	**334**	*e*P	**P**	**21 41 40.7**	**+1.3**
ULM	**Lac du Bonnet**	**37.07**	**355**	P	**P**	**21 41 42.2**	**-2.1**
	comp=Z,2.6nm,0.7s,baz=192,slow=8.9,SNR=5.5						
LRM	**Limekiln Ridge**	**37.08**	**335**	*e*P	**P**	**21 41 45.5**	**+0.7**
F10A	**Beach Ranch, E**	**39.30**	**331**	*e*P	**P**	**21 42 05.2**	**+1.9**
	comp=Z,11nm,0.8s						
H04A	**Detroit Lake**	**40.93**	**326**	*e*P	**P**	**21 42 18.2**	**+1.4**
	comp=Z,30nm,1.6s						
SIV	**San Ignacio**	**41.65**	**133**	P	**P**	**21 42 25.1**	**+2.1**
	comp=Z,1.0nm,0.5s,baz=202,slow=19,SNR=3.2						
LTY	**Liberty**	**41.88**	**330**	*e*P	**P**	**21 42 25.6**	**+1.0**
	comp=Z,102nm,3.0s						
FCC	**Fort Churchill**	**45.45**	**358**	*e*P	**P**	**21 42 51.5**	**-1.5**
	comp=Z,153nm,2.8s						
SCHQ	**Schefferville**	**45.64**	**20**	P	**P**	**21 42 52.9**	**-1.8**
	comp=Z,2.9nm,0.7s,baz=223,slow=6.6,SNR=5.4						
SCHQ	**Schefferville**	**45.64**	**20**	*e*P	**P**	**21 42 53.0**	**-1.6**
	comp=Z,270nm,3.0s						
YKA	**Yellowknife Ar**	**51.90**	**346**	P	**P**	**21 43 41.7**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=149,slow=7.6,SNR=28						
YKB5	**Yellowknife Ar**	**51.90**	**346**	*e*P	**P**	**21 43 42.2**	**-0.4**
DLBC	**Dease Lake**	**53.62**	**336**	*e*P	**P**	**21 43 57.3**	**+1.9**
	comp=Z,158nm,2.6s						
PLCA	**Paso Flores**	**57.05**	**161**	LR	LR	22 03 41.5	
	comp=Z,151nm,20.3s,baz=300,slow=31						
INK	**Inuvik**	**61.34**	**343**	*e*P	**P**	**21 44 49.2**	**-0.4**
	comp=Z,47nm,2.3s						
PAX	**Paxson**	**62.42**	**335**	*e*P	**P**	**21 44 57.8**	**+0.6**
	comp=Z,49nm,1.8s						
IL1	**Eielson Array**	**63.80**	**337**	*e*P	**P**	**21 45 06.8**	**+0.7**
ILAR	**Eielson Array**	**63.80**	**337**	P	**P**	**21 45 06.0**	**0.0**
	comp=Z,2.6nm,0.9s,baz=139,slow=4.7,SNR=21						
URZ	**Urewera**	**99.38**	**233**	LR	LR	22 24 57.5	
	comp=Z,139nm,18.8s,baz=7.0,slow=30						
WRA	**Warramunga Arr**	**135.94**	**255**	PKP	**PKPdf**	**21 53 57.5**	**+1.5**
	comp=Z,0.4nm,1.0s,baz=67,slow=2.7,SNR=3.9						
CMAR	**Chiang Mai Arr**	**146.91**	**342**	PKPbc	**PKPab**	**21 54 19.1**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=344,slow=5.0,SNR=20						

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*IDC **05** 21:39:19.0±0.8, 35°.18S×73°.79W, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/37, mbtmp4.1/9, ML3.9/1, MS2.1/2, Ms1 2.1/2, ms1mx2.1/26, Error ellipse: s-maj=34.7km s-min=23.8km az=80.0*
*ISCJB **05** 21:39:22.7±0.8, 35°.2S±0'.1×73°.7W±0'.2, h33km, mb4.1/8, Error ellipse: s-maj=28.9km s-min=18.6km az=1.0*
ISC 05 21:39:24.4±0.9, 35°.2S±0'.2×73°.7W±0'.2, h35km, n14, σ0§40/14, mb4.2/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.81**	**54**	LR	LR	21 42 54.0	
	comp=Z,7.5nm,19.1s,baz=194,slow=37						
PLCA	**Paso Flores**	**6.11**	**157**	LR	LR	21 42 35.6	
	comp=Z,36nm,21.6s,baz=72,slow=32						
LPAZ	**La Paz**	**19.45**	**16**	P	**P**	**21 43 48.0**	**-0.7**
	0.2nm,0.3s,baz=195,slow=9.7,SNR=7.4						
SIV	**San Ignacio**	**22.20**	**34**	P	**P**	**21 44 18.1**	**+0.2**
	2.3nm,0.7s,baz=229,slow=13,SNR=4.3						
QSPA	**South Pole Qui**	**55.08**	**180**	P	**P**	**21 48 52.6**	**0.0**
	3.9nm,0.9s,baz=186,slow=5.5,SNR=6.0						
TXAR	**Lajitas Array**	**70.08**	**332**	P	**P**	**21 50 33.1**	**+0.1**
	1.2nm,0.8s,baz=156,slow=9.6,SNR=8.3						
BOSA	**Boshof**	**80.77**	**118**	P	**P**	**21 51 34.2**	**-0.4**
	3.3nm,0.8s,baz=206,slow=1.7,SNR=3.7						
NVAR	**Mina Array Bea**	**84.05**	**326**	P	**P**	**21 51 51.7**	**+0.2**
	1.1nm,0.7s,baz=164,slow=6.9,SNR=5.4						
PDAR	**Pinedale Array**	**84.17**	**334**	P	**P**	**21 51 52.2**	**+0.2**
	0.5nm,0.7s,baz=199,slow=1.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**85.92**	**71**	P	**P**	**21 52 01.6**	**+0.5**
	1.6nm,1.0s,baz=251,slow=3.7,SNR=5.9						
ULM	**Lac du Bonnet**	**87.26**	**346**	P	**P**	**21 52 06.8**	**+0.1**
	1.5nm,0.5s,baz=153,slow=2.9,SNR=4.6						
ZALV	**Zalesovo Beam**	**155.95**	**32**	PKP	**PKPdf**	**21 59 13.7**	**-0.5**
	0.2nm,0.3s,baz=236,slow=1.6,SNR=4.8						
ZALV				PKPab	**PKPab**	**21 59 41.6**	**+0.1**
	0.5nm,0.5s,baz=282,slow=6.8,SNR=4.4						
MKAR	**Makanchi Array**	**158.58**	**50**	PKP	**PKPdf**	**21 59 17.8**	**0.0**
	0.7nm,0.9s,baz=90,slow=0.1,SNR=4.9						
MKAR				PKPab	**PKPab**	**21 59 53.4**	**+0.3**
	0.8nm,0.8s,baz=297,slow=3.9,SNR=7.6						
SONM	**Songino Array**	**167.33**	**360**	PKPab	**PKPab**	**22 00 30.9**	**-0.5**
	0.4nm,0.8s,baz=351,slow=2.0,SNR=4.2						

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*NEIC **05** 21:46:47.8, 10°.88N×63°.81W, h10km, MW4.0(CAR), After CAR.*
NEIC Felt [III] at Porlamar. Also felt at Caracas and La Asuncion.
*FUNV **05** 21:46:47.9, 10°.90N×63°.88W, h7km, MW3.6*
*ISCJB **05** 21:46:49.2±0.4, 10°.93N±0'.04×63°.92W±0'.03, h44km±23km, Error ellipse: s-maj=6.7km s-min=4.0km az=159.9*
ISC 05 21:46:50.3±6.0, 10°.88N±0'.05×63°.91W±0'.03, h39km±12km, n20, σ1§24/34, 6C-4D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.69**	**107**	⇓*e*P	Pn	21 47 01.2	-2.4
CRUV				*e*S	**Sn**	**21 47 13.1**	**0.0**
PCRV	**Puerto La Cruz**	**1.00**	**226**	⇑*e*P	**Pn**	**21 47 06.3**	**-1.6**
PCRV				*e*S	**Sn**	**21 47 20.1**	**-0.8**
GUNV	**Guanoco**	**1.19**	**127**	⇓*e*P	**Pn**	**21 47 09.6**	**-0.8**
GUNV				*e*S	**Sn**	**21 47 25.8**	**+0.5**
GUIV	**Guiria**	**1.67**	**98**	*e*P	**Pn**	**21 47 16.7**	**-0.3**
GUIV				*e*S	**Sn**	**21 47 38.5**	**+1.3**
ORIV	**Oritupano**	**1.87**	**165**	*e*P	**Pn**	**21 47 19.8**	**0.0**
ORIV				*e*S	**Sn**	**21 47 43.2**	**+1.1**
CUPV	**Cœpira**	**2.02**	**246**	⇑*i*P	**Pn**	**21 47 22.6**	**+0.6**
CUPV				*e*S	**Sn**	**21 47 48.3**	**+2.2**
PRGV	**PARIAGUAN**	**2.23**	**199**	⇑*i*P	**Pn**	**21 47 25.6**	**+0.8**
PRGV				*e*S	**Sn**	**21 47 53.0**	**+1.8**
BIRV	**Birongo**	**2.36**	**260**	*e*P	**Pn**	**21 47 27.0**	**+0.5**
BIRV				*e*S	**Sn**	**21 47 56.0**	**+1.8**
ORCV	**Isla La Orchil**	**2.43**	**293**	⇓*e*P	**Pn**	**21 47 26.6**	**-0.8**
ORCV				*e*S

128nm,0.7s,1µm
MYLDM **Lahad Datu** 8.75 296 ⇓P **Pn** **22 05 43.2 +1.6**
MYLDM **Lahad Datu** 8.75 296 *e*Pn **Pn** **22 05 42.9 +1.3**
TSM **Tawau** 9.00 289 ⇑P **Pn** **22 05 44.2 -0.8**
BKSI **Bulukumba** 9.15 223 P **Pn** **22 05 48.0 +1.0**
63nm,0.7s,581nm
KAPI **Kappang** 9.19 226 *e*Pn **Pn** **22 05 47.7 +0.1**
BAKI **Biak** 10.03 105 P **Pn** **22 06 01.7 +2.6**
144nm,1.0s,2µm
SDKM **Sandakan** 10.12 295 ⇓P **Pn** **22 06 00.3 -0.1**
KKM **Kota Kinabalu** 11.17 295 P Pn 22 06 19.1 +4.3
baz=11,SNR=4.2
KKM **Kota Kinabalu** 11.17 295 *e*Pn **Pn** **22 06 16.4 +1.6**
SOEI **Soe** 11.26 191 P Pn 22 06 20.9 +4.8
117nm,0.9s
SOEI **Soe** 11.26 191 P Pn 22 06 22.9 +6.8
baz=12,SNR=5.9
SOEI **Soe** 11.26 191 *e*Pn **Pn** **22 06 18.1 +2.1**
BATI **Baumata** 11.83 193 P **Pn** **22 06 26.9 +3.2**
26nm,0.9s
BATI **Baumata** 11.83 193 Pn **Pn** **22 06 25.7 +2.0**
1.2nm,0.3s,baz=338,slow=5.4,SNR=2.8
WSI **Waingapu** 12.55 209 S S 22 09 23.3 +6.3
baz=13,SNR=3.2
BTM **Bintulu** 13.43 278 ⇑P Pn 22 06 49.5 +3.9
SBUM **Sibu** 14.22 275 ⇓P **Pn** **22 06 57.6 +1.3**
SBUM **Sibu** 14.22 275 *e*P **P** **22 07 01.9 -0.6**
GENI **Genyem** 14.31 106 P P 22 07 14.4 +11
MTN **Manton Dam** 14.89 162 P **Pn** **22 07 02.7 -2.4**
baz=15,SNR=20
KMMI **Kalianget** 14.97 236 P P 22 07 15.5 +4.7
STKI **Sintang** 14.98 265 P **P** **22 07 12.3 +1.3**
IGBI **Denpasar** 15.12 228 P P 22 07 17.7 +5.3
KDU **Kakadu** 15.22 157 P **Pn** **22 07 07.0 -2.3**
baz=15,SNR=19
JAGI **Jajag, Banyuwa** 15.65 231 P **P** **22 07 22.0 +3.6**
75nm,1.1s,954nm
JAGI **Jajag, Banyuwa** 15.65 231 P **P** **22 07 20.1 +1.7**
baz=16,SNR=9.5
JAGI **Jajag, Banyuwa** 15.65 231 *e*Pn **P** **22 07 19.8 +1.5**
64nm,0.9s
BLJI **Banyuglugur** 15.67 234 P **P** **22 07 19.5 +1.0**
74nm,0.7s
GMJI **Gumukmas** 16.09 233 P P 22 07 29.8 +6.6
KSM **Kuching** 16.09 271 P **P** **22 07 25.3 +2.0**
baz=16,SNR=8.9
KSM **Kuching** 16.09 271 ⇓P **P** **22 07 25.6 +2.3**
KSM **Kuching** 16.09 271 *e*Pn **P** **22 07 24.6 +1.3**
71nm,0.9s
SZP **Santa** 17.10 340 *e*P **P** **22 07 34.4 0.0**
33nm,0.5s
KNRA **Kununurra** 17.11 172 P **Pn** **22 07 32.1 -1.2**
baz=17,SNR=30
PWJI **Pagerwojo** 17.30 237 P **Pn** **22 07 36.0 +0.3**
54nm,0.8s
UGM **Wanagama** 18.33 240 P **Pn** **22 07 52.6 +4.2**
baz=18,SNR=3.3
UGM **Wanagama** 18.33 240 *e*P **P** **22 07 47.5 -0.6**
285nm,1.7s
KPJI **Karang Pucung** 19.46 243 P **Pn** **22 08 01.3 -0.7**
37nm,1.5s
LEM **Lembang** 20.45 246 P Pn 22 08 13.2 -0.7
32nm,0.9s
CISI **Cisompet, Garu** 20.56 244 P Pn 22 08 20.3 +5.2
baz=21,SNR=4.2
CISI **Cisompet, Garu** 20.56 244 *e*P **P** **22 08 12.3 -0.1**
33nm,0.6s
DLV **T Lat** 20.64 301 *e*P Pn 22 08 15.0 -1.2
41nm,1.2s
CGJI **Cibinong** 22.15 249 P **P** **22 08 29.9 +0.5**
29nm,0.5s
YULB **Yu-li** 22.44 348 *e*P **P** **22 08 31.1 -1.4**
50nm,1.5s
TPUB **Ta-pu** 22.50 346 *e*P **P** **22 08 32.3 -0.9**
38nm,0.7s
COEN **Coen** 22.55 133 P **P** **22 08 31.9 -1.8**
baz=23,SNR=11
COEN **Coen** 22.55 133 *e*P **P** **22 08 31.7 -2.0**
79nm,0.6s
MYKOM **Kota Tinggi** 22.55 271 ⇑P **P** **22 08 36.0 +2.2**
MYKOM **Kota Tinggi** 22.55 271 *e*P **P** **22 08 35.6 +1.8**
42nm,1.2s
WRAB **Tennant Creek** 22.57 160*d* *i*P **P** **22 08 32.6 -1.3**
WRAB pmax pmax
comp=Z,260nm,1.2s
WRAB **Tennant Creek** 22.57 160 *e*P **P** **22 08 32.1 -1.7**
comp=Z,63nm,0.8s
WRA **Warramunga Arr** 22.57 160 P **P** **22 08 32.5 -1.4**
comp=Z,62nm,0.8s,baz=338,slow=11,SNR=347
WRA S **S** **22 12 35.0 -3.3**
comp=Z,3.6nm,0.9s,baz=339,slow=17,SNR=5.1
SSLB **Suanglung** 22.89 347 *e*P **P** **22 08 36.4 -0.9**
comp=Z,16nm,0.7s
KASI **Kota Agung** 22.93 252 P **P** **22 08 41.0 +3.3**
comp=Z,28nm,0.8s
MDSI **Maura Dua** 22.96 255 P **P** **22 08 38.9 +0.8**
comp=Z,16nm,0.8s
NACB **Ninganchiao** 23.14 349 *e*P **P** **22 08 38.6 -1.1**
comp=Z,123nm,1.8s
LWLI **Liwa** 23.21 254 P **P** **22 08 41.5 +0.8**
comp=Z,32nm,0.8s,comp=Z,4µm
PMG **Port Moresby** 23.28 118 *e*P **P** **22 08 41.4 +0.2**
PMG pmax pmax
comp=Z,33nm,1.7s
PMG **Port Moresby** 23.28 118 P **P** **22 08 42.1 +0.8**
comp=Z,8.7nm,0.7s,baz=306,slow=7.9,SNR=3.6
MBWA **Marble Bar** 23.33 196 *e*P **P** **22 08 39.7 -1.9**
comp=Z,18nm,0.8s
KTGM **Kuala Trenggan** 23.56 280 ⇓P **P** **22 08 43.1 -0.8**
YHNB **Yeheng** 23.66 349 *e*P **P** **22 08 44.0 -0.8**
comp=Z,442nm,2.6s
XMIS **Christmas Isla** 23.78 240 *e*P **P** **22 08 43.4 -2.5**
comp=Z,179nm,0.9s
FRIM **Kepong** 24.83 275 ⇓P **P** **22 08 55.4 -0.2**
UBPT **Khong Chiam** 24.85 305 P **P** **22 08 59.0 +3.3**
comp=Z,15nm,0.9s
QIS **Mount Isa** 25.35 150 P **P** **22 09 01.0 +0.8**
baz=26,SNR=18
JOW **Kunigami** 25.37 4 P **P** **22 09 00.3 0.0**
comp=Z,2.2nm,0.6s,baz=192,slow=7.3
BKNI **Bangkinang** 25.39 268 *e*P **P** **22 08 59.8 -0.8**
comp=Z,111nm,1.6s
IPM **Ipoh** 25.53 277 ⇓P **P** **22 09 04.5 +2.6**
IPM **Ipoh** 25.53 277 *e*P **P** **22 09 01.0 -0.9**
comp=Z,37nm,1.3s
ASAR **Alice Springs** 25.94 164 P **P** **22 09 04.4 -1.1**
comp=Z,6.6nm,0.6s,baz=338,slow=6.1,SNR=48
ASAR PcP **PcP** **22 12 33.8 +0.4**
comp=Z,2.1nm,0.5s,baz=347,slow=2.0,SNR=6.8
ASAR S S 22 13 41.4 +8.7
comp=Z,3.5nm,0.8s,baz=344,slow=20,SNR=8.9
AS01 **Alice Springs** 25.95 164 *e*P **P** **22 09 04.5 -1.1**
AS01 *e*PcP **PcP** **22 12 34.4 +1.0**
KULM **Kulim** 26.00 279 ⇑P **P** **22 09 08.6 +2.5**
PDSI **Padang** 26.04 265 P **P** **22 09 07.3 +0.7**
comp=Z,15nm,0.6s
WRKA **Warakurna** 26.32 176 P **P** **22 09 09.0 0.0**
baz=27,SNR=15
PSI **Prapat** 27.50 273 P **P** **22 09 17.3 -2.5**
comp=Z,4.1nm,0.5s,baz=261,slow=12,SNR=4.9
PSI **Prapat** 27.50 273 P **P** **22 09 20.7 +0.9**
baz=28,SNR=3.7
CHAI **Chaiyaphum** 28.07 302 P **P** **22 09 23.8 -0.9**
comp=Z,3.3nm,0.8s
MEEK **Meekatharra** 28.85 195 P **P** **22 09 30.7 -0.8**
baz=29,SNR=18
CTA **Charters Tower** 28.88 139 P **P** **22 09 32.4 +0.6**
comp=Z,4.3nm,0.6s,baz=325,slow=12,SNR=4.2
CTAO **Charters Tower** 28.88 139 *e*P **P** **22 09 30.5 -1.4**
CTAO pmax pmax
comp=Z,16nm,1.2s
CTAO **Charters Tower** 28.88 139 *e*P **P** **22 09 30.5 -1.4**
comp=Z,16nm,1.2s
SLVN **Son La** 29.57 314 *e*P **P** **22 09 38.0 -0.1**
comp=Z,86nm,2.8s
CBIJ **Chichi jima** 29.72 29 *e*P **P** **22 09 38.0 -1.3**
comp=Z,87nm,1.0s
WHN **Wuhan** 31.18 340 P **P** **22 09 53.3 +1.2**
NJ2 **Nanjing** 31.33 348 *e*P **P** **22 09 52.6 -0.8**
NJ2 PMZ
comp=Z,10.0nm,0.8s
GYA **Guiyang** 31.34 324 *e*P P 22 09 58.7 +5.0
GYA pP pP 22 10 06.8 +0.3
GYA sP sP 22 10 12.4 +0.1
GYA PP **PnPn** **22 11 01.0 +3.3**
GYA S **S** **22 15 00.6 +2.9**
GYA sS sS 22 15 19.7 +0.5
GYA SS **SnSn** **22 16 49.2 +4.3**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,480nm,16.8s
GYA LE
comp=Z,360nm,17.0s
GYA LZ
comp=Z,490nm,16.4s
CRAI **Chiangrai** 31.60 308 P **P** **22 09 57.3 +1.4**
comp=Z,5.7nm,1.1s
CM01 **Chiang Mai Arr** 31.81 304 *e*P **P** **22 09 57.5 -0.3**
CM01 *e*PcP **PcP** **22 12 48.9 +0.7**
CMAR **Chiang Mai Arr** 31.84 304 P **P** **22 09 57.5 -0.6**
comp=Z,1.4nm,0.8s,baz=126,slow=7.8,SNR=9.4
CMAR PcP **PcP** **22 12 50.0 +1.7**
comp=Z,2.6nm,0.8s,baz=166,slow=2.0,SNR=14
CMAR LR LR 22 22 58.3
comp=Z,77nm,21.0s,baz=105,slow=37
JNU **Nakatsue** 31.86 7 *e*P **P** **22 09 57.7 -0.3**
comp=Z,133nm,2.0s
MORW **Morawa** 31.86 197 P **P** **22 09 57.8 -0.3**
baz=32,SNR=6.2
CMMT **Chiang Mai** 32.01 305 P **P** **22 10 00.9 +1.3**
comp=Z,7.3nm,1.4s
CHTO **Chiang Mai** 32.02 305 *e*P **P** **22 09 58.5 -1.1**
CHTO pmax pmax
comp=Z,38nm,2.3s
CHTO **Chiang Mai** 32.02 305 P **P** **22 10 01.8 +2.2**
comp=Z,40nm,1.3s
CHTO **Chiang Mai** 32.02 305 *e*P **P** **22 09 58.5 -1.1**
comp=Z,38nm,2.3s
FORT **Forrest** 32.02 177 P **P** **22 09 60.0 +0.5**
baz=32,SNR=10
FORT **Forrest** 32.02 177 *e*P P 22 09 56.2 -3.2
comp=Z,91nm,1.3s
QLP **Quilpie** 32.69 149 P **P** **22 10 04.6 -0.8**
baz=33,SNR=5.6
KMI **Kunming** 32.85 318 P **P** **22 10 08.2 +1.1**
KMI pP **pP** **22 10 20.3 +0.4**
KMI sP **sP** **22 10 25.4 -0.3**
KMI PMZ
comp=Z,8.0nm,1.0s
KMI PMZ
comp=Z,83nm,5.5s
KMI LN
comp=Z,220nm,21.0s
KMI LE
comp=Z,150nm,23.4s
KMI LZ
comp=Z,240nm,21.8s
BLDU **Balliduo** 33.13 195 P **P** **22 10 08.7 -0.5**
baz=33,SNR=15
KLBR **Kellerberrin** 33.80 193 P **P** **22 10 14.6 -0.5**
baz=34,SNR=14
HNR **Honiara** 35.09 108 LR LR 22 25 50.7
comp=Z,75nm,20.7s,baz=270,slow=38
NWAO **Narrogin (SRO)** 35.20 193 P **P** **22 10 26.6 -0.5**
comp=Z,7.3nm,0.5s,baz=21,slow=8.5,SNR=9.5
BBOO **Buckleboo** 35.21 166 P **P** **22 10 26.2 -1.0**
baz=36,SNR=11
BBOO **Buckleboo** 35.21 166 *e*P **P** **22 10 26.0 -1.2**
comp=Z,552nm,1.5s
EIDS **Eidsvold** 35.74 140 *e*P **P** **22 10 31.2 -0.7**
comp=Z,74nm,2.1s
KSAR **Wonju Array Be** 35.91 2 P **P** **22 10 34.3 +1.1**
KSAR **Wonju Array Be** 35.91 2 P **P** **22 10 34.3 +1.1**
KSRS **Korea Array** 35.93 2 P **P** **22 10 34.3 +1.0**
comp=Z,3.7nm,0.7s,baz=175,slow=9.4,SNR=7.0
STKA **Stephens Creek** 36.07 158 *e*P **P** **22 10 34.5 -0.2**
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA **Stephens Creek** 36.07 158 P **P** **22 10 34.5 -0.2**
comp=Z,17nm,0.7s,baz=331,slow=9.1,SNR=42
STKA **Stephens Creek** 36.07 158 P **P** **22 10 34.5 -0.2**
baz=36,SNR=28
STKA **Stephens Creek** 36.07 158 *e*P **P** **22 10 34.5 -0.2**
comp=Z,3.7nm,0.8s
CD2 **Chengdu** 36.37 326 *e*P **P** **22 10 38.8 +1.5**
CD2 pP **pP** **22 10 52.1 +1.9**
CD2 PP **PP** **22 12 04.6 +3.8**
CD2 S **S** **22 16 13.2 -2.1**
CD2 SS **SnSn** **22 18 47.8 +1.2**
CD2 PMZ
comp=Z,20nm,0.8s
CD2 PMZ
comp=Z,210nm,4.8s
CD2 LN
comp=Z,230nm,17.8s
CD2 LZ
comp=Z,160nm,15.5s
XAN **Xi'an** 36.38 335 P **P** **22 10 35.7 -1.6**
XAN PMZ
comp=Z,2.0nm,1.2s
HTT **Hallett** 36.58 162 P **P** **22 10 39.4 +0.5**
baz=37,SNR=6.7
MJAR **Matsushiro Arr** 36.66 16 P **P** **22 10 39.5 0.0**
comp=Z,2.3nm,0.4s,baz=177,slow=9.6,SNR=26
MJAR PcP **PcP** **22 13 01.9 +0.2**
comp=Z,1.8nm,0.7s,baz=182,slow=3.1,SNR=6.6
MJAR LR LR 22 26 02.1
comp=Z,33nm,21.1s,baz=130,slow=37
MAJO **Matsushiro** 36.66 16 *e*P **P** **22 10 38.6 -1.0**
MAJO pmax pmax
comp=Z,76nm,1.7s
MAJO **Matsushiro** 36.66 16 *e*P **P** **22 10 39.8 +0.3**
comp=Z,27nm,1.4s
MAT **Matsushiro** 36.66 16 P **P** **22 10 38.9 -0.7**
BJT **Baijiatuau** 39.57 348 *e*P **P** **22 11 02.4 -1.6**
BJT pmax pmax
comp=Z,16nm,0.5s
BJT **Baijiatuau** 39.57 348 *e*P **P** **22 11 02.4 -1.6**
comp=Z,16nm,0.5s
ARMA **Armidale** 39.72 145 P **P** **22 11 07.5 +1.9**
baz=40,SNR=9.3
ARMA **Armidale** 39.72 145 *e*P **P** **22 11 04.4 -1.1**
comp=Z,126nm,2.1s
LZH **Lanzhou** 40.38 331 *e*P **P** **22 11 13.3 +2.3**
LZH PP **PnPn** **22 12 50.3 +1.5**
LZH *e*S **S** **22 17 18.0 +2.1**
LZH PMZ
comp=Z,32nm,1.0s
LZH PMZ
comp=Z,100nm,5.1s
LZH LN
comp=Z,600nm,14.1s
LZH LE
comp=Z,520nm,12.8s
LZH LZ
comp=Z,710nm,15.0s
ARPS **Mount Arapiles** 40.58 161 P **P** **22 11 13.3 +0.9**
baz=41,SNR=13
SHL **Shillong** 41.05 309 *e*P **P** **22 11 15.0 -1.7**
HHC **Hu-ho-hao-te** 41.53 343 *e*P **P** **22 11 21.8 +1.5**
HHC PP **PP** **22 12 59.1 +2.0**
HHC S **S** **22 17 33.8 +1.1**
HHC PMZ
comp=Z,24nm,1.0s
HHC PMZ
comp=Z,340nm,4.9s
HHC LN
comp=Z,290nm,14.1s
HHC LE
comp=Z,360nm,14.1s
HHC LZ
comp=Z,260nm,14.3s
CN2 **Changchun** 42.25 359 *e*P **P** **22 11 27.4 +1.4**
TOO **Toolangi** 42.59 157 P **P** **22 11 31.8 +2.8**
baz=43,SNR=4.2
USRK **Ussuriysk Ar.** 42.93 6 P **P** **22 11 32.7 +1.2**
comp=Z,10nm,0.8s,baz=191,slow=6.8,SNR=25
MDJ **Mudanjiang** 43.15 3 P **P** **22 11 34.3 +1.0**
MDJ pP **pP** **22 11 45.1 -1.3**
MDJ sP **sP** **22 11 50.4 -1.8**
MDJ PP **PP** **22 13 15.9 +1.6**
MDJ sS **sS** **22 18 16.9 -1.4**
MDJ SS **SS** **22 21 06.6 -3.9**
MDJ ScS **ScS** **22 21 25.1 -4.3**
MDJ PMZ
comp=Z,21nm,1.1s
MDJ PMZ
comp=Z,120nm,4.5s
MDJ LZ
comp=Z,66nm,21.5s
MDJ **Mudanjiang** 43.15 3 *e*P **P** **22 11 33.9 +0.6**
comp=Z,18nm,0.8s
WAKE **Wake Island** 43.23 63 *e*P P 22 11 29.8 -4.6
comp=Z,689nm,1.6s
LSA **Lhasa** 43.78 313 P **P** **22 11 38.0 -1.2**
LSA **Lhasa** 43.78 313 *e*P **P** **22 11 38.6 -0.6**
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA **Lhasa** 43.78 313 *e*P **P** **22 11 38.6 -0.6**
comp=Z,6.2nm,0.7s
ASAJ **Asahikawa** 44.92 17 P **P** **22 11 49.2 +1.7**
comp=Z,5.9nm,0.5s,baz=230,slow=11,SNR=14
ASAJ **Asahikawa** 44.92 17 *e*P **P** **22 11 49.3 +1.7**
comp=Z,313nm,3.0s
GTA **Gaotai** 44.95 331 *e*P **P** **22 11 47.7 -0.4**
GTA pP **pP** **22 12 00.2 -1.1**
GTA sP **sP** **22 12 05.5 -1.5**
GTA PcP **PcP** **22 13 30.4 +1.7**
GTA S **S** **22 18 23.1 0.0**
GTA sS **sS** **22 18 43.8 -1.4**
GTA SS **ScS** **22 21 37.2 -4.1**
GTA PMZ
comp=Z,3.0nm,1.1s
GTA PMZ
comp=Z,51nm,4.5s
GTA LN
comp=Z,91nm,15.4s
GTA LE
comp=Z,150nm,15.2s
GTA LZ
comp=Z,160nm,15.7s
TAPN **Taplejung** 45.18 308 *e*P **P** **22 11 48.8 -1.4**
ODAN **Odare** 45.20 308 *e*P **P** **22 11 48.5 -1.8**
comp=Z,14nm,0.5s
DZM **Mont Dzumac** 45.49 123 P **P** **22 11 53.0 +0.5**
comp=Z,5.2nm,0.7s,baz=202,slow=21,SNR=5.0
RAMN **Ramite** 45.87 307 *e*P **P** **22 11 54.3 -1.3**
comp=Z,22nm,0.8s
JIRN **Jiri** 46.52 308 *e*P **P** **22 11 58.9 -2.0**
comp=Z,11nm,0.3s
GUN **Gumba** 46.87 308 *e*P **P** **22 12 02.0 -1.6**
comp=Z,25nm,0.4s
PKI **Pulchoki** 47.09 307 *e*P **P** **22 12 03.1 -2.2**
comp=Z,19nm,0.8s
PKIN **Phulchoki** 47.11 307 *e*P **P** **22 12 03.8 -1.6**
comp=Z,6.0nm,0.4s
KKN **Kakani** 47.29 308 *e*P **P** **22 12 04.5 -2.3**
comp=Z,6.0nm,0.4s
DMN **Daman** 47.35 307 *e*P **P** **22 12 05.9 -1.4**
comp=Z,7.6nm,0.5s
KLR **Kul'dur** 47.89 5 *e*P P 22 12 07.3 -3.4
KLR pmax pmax
comp=Z,56nm,1.8s
GKN **Gorkha** 47.90 307 *e*P **P** **22 12 09.0 -2.4**
comp=Z,7.2nm,0.4s
HIA **Hailar** 48.05 354 *e*P **P** **22 12 12.1 +0.1**
HIA pmax pmax
comp=Z,12nm,1.1s
HIA **Hailar** 48.05 354 *e*P **P** **22 12 12.7 +0.7**
comp=Z,15nm,1.0s
KOLN **Koldanda** 48.62 307 *e*P **P** **22 12 15.2 -1.9**
comp=Z,28nm,0.6s
DANN **Dangsing** 48.74 307 *e*P **P** **22 12 15.6 -2.5**
comp=Z,36nm,0.6s
ULN **Ulaanbaatar** 49.25 343 *e*P **P** **22 12 21.3 -0.1**
ULN *e* 22 13 44.7
ULN **Ulaanbaatar** 49.25 343 *e*P **P** **22 12 21.3 -0.1**
ULN *e*PcP **PcP** **22 13 44.7 +0.9**
SONM **Songino Array** 49.42 342 P **P** **22 12 22.5 -0.1**
comp=Z,1.2nm,0.4s,baz=155,slow=8.1,SNR=15
SONM PcP **PcP** **22 13 45.1 +0.7**
comp=Z,3.4nm,0.7s,baz=162,slow=8.4
SONM LR LR 22 33 36.1
comp=Z,132nm,21.8s,baz=219,slow=36
SONA1 **Songino Array** 49.43 342 *e*P **P** **22 12 22.3 -0.4**
SONA1 *e*PcP **PcP** **22 13 45.0 +0.5**
HYB **Hyderabad** 49.64 292 *i*P **P** **22 12 25.0 +0.2**
CIT **Chita** 51.61 350 *e*P **P** **22 12 40.3 +1.3**
CIT *e* 22 12 50.2
CIT pmax pmax
comp=Z,71nm,2.0s
ZAK **Zakamensk** 52.63 342 *e*P **P** **22 12 47.8 +1.1**
ZAK *e* 22 13 57.0
ZAK pmax pmax
comp=Z,2.0nm,2.8s
TLY **Talaya** 53.66 343 *e*P **P** **22 12 55.4 +1.3**
TLY pmax pmax
comp=Z,4.0nm,0.6s
MOY **Mondy** 54.48 341 *e*P **P** **22 13 02.8 +2.6**
CLNS **Chul'man** 55.30 359 *e*P **P** **22 13 07.0 +1.0**
CLNS pmax pmax
comp=Z,17nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,1.0s
HVS **Khovu-Aksy** 56.73 336*c* *i*P **P** **22 13 15.8 -0.6**
HVS pmax pmax
comp=Z,28nm,0.8s
BOD **Bodaibo** 57.13 352 *e*P **P** **22 13 19.1 +0.1**
BOD pmax pmax
comp=Z,17nm,1.7s
PEA0 **Petropavlovsk-** 57.72 22 *e*P **P** **22 13 24.8 +1.6**
PEA0 *e*PcP **PcP** **22 14 16.3 +0.7**
PETK **Petropavlovsk-** 57.72 22 P **P** **22 13 24.7 +1.5**
comp=Z,4.3nm,0.5s,baz=181,slow=5.3,SNR=23
PETK PcP **PcP** **22 14 16.5 +0.8**
comp=Z,4.6nm,0.7s,baz=194,slow=5.6,SNR=3.5
PET **Petropavlovsk** 58.01 22 *e*P **P** **22 13 26.0 +0.8**
MK01 **Makanchi Array** 59.28 326 *e*P **P** **22 13 33.1 -1.2**
MK01 *e*PcP **PcP** **22 14 22.1 +0.1**
MKAR **Makanchi Array** 59.30 326 P **P** **22 13 33.4 -1.1**
comp=Z,6.0nm,0.4s,baz=120,slow=7.9,SNR=169
MKAR PcP **PcP** **22 14 22.3 +0.2**
comp=Z,5.0nm,0.7s,baz=117,slow=4.3,SNR=7.6
MKAR LR LR 22 41 06.8
comp=Z,78nm,19.2s,baz=29,slow=38
KSH **Kashi** 59.49 316 P **P** **22 13 36.6 +0.6**
KSH sP **sP** **22 13 53.1 -2.2**
KSH PP **PP** **22 15 48.5 +0.7**
KSH S **S** **22 21 37.1 -5.1**
KSH PMZ
comp=Z,4.0nm,1.0s
KSH PMZ
comp=Z,110nm,6.6s
KSH LN
comp=Z,58nm,5.6s
KSH LE
comp=Z,130nm,5.3s
KSH LZ
comp=Z,170nm,5.7s
YAK **Yakutsk** 60.55 2 *e*P **P** **22 13 42.4 -0.2**
YAK pmax pmax
comp=Z,23nm,0.7s
YAK pmax pmax
comp=N,12nm,1.4s
YAK **Yakutsk** 60.55 2 *e*P **P** **22 13 43.0 +0.3**
comp=N,40nm,0.8s
KZA **Kyzart** 61.13 319 P **P** **22 13 47.3 -0.2**
SNR=10
KZA **Kyzart** 61.13 319 *i*P **P** **22 13 47.3 -0.2**
TKM2 **Tokmak 2** 61.30 320 P **P** **22 13 47.5 -1.0**
SNR=11
TKM2 **Tokmak 2** 61.30 320 *i*P **P** **22 13 47.4 -1.0**
TKM2 **Tokmak 2** 61.30 320 *e*P **P** **22 13 47.7 -0.7**
comp=N,5.4nm,0.8s
UCH **Uchtor** 61.69 318 P **P** **22 13 51.6 +0.3**
SNR=9.6
UCH **Uchtor** 61.69 318 *i*P **P** **22 13 51.6 +0.3**
AAK **Ala-Archa** 61.89 319 *e*P **P** **22 13 50.5 -1.8**
AAK pmax pmax
comp=Z,17nm,1.7s
AAK **Ala-Archa** 61.89 319 *e*P **P** **22 13 51.1 -1.2**
comp=Z,30nm,2.3s
USP **Ospenovka** 62.17 319 P **P** **22 13 54.5 +0.4**
SNR=14
USP **Ospenovka** 62.17 319 *i*P **P** **22 13 54.4 +0.4**
AML **Almayashu** 62.19 318 P **P** **22 13 55.5 +0.9**
SNR=13
AML **Almayashu** 62.19 318 *i*P **P** **22 13 55.5 +0.9**
EKS2 **Erkin-Say** 62.37 319 *e*P **P** **22 13 55.1 -0.4**
EKS2 pmax pmax
comp=Z,33nm,2.0s
EKS2 **Erkin-Say** 62.37 319 *e*P **P** **22 13 55.1 -0.4**
comp=Z,33nm,2.0s
ZAA0 **Zalesovo Array** 62.53 334 *e*P **P** **22 13 54.6 -1.5**

ZALV Zalesovo Beam 62.53 334 P **P** **22 13 55.0 -1.2**
ZALV Zalesovo Beam 62.53 334 P **P** **22 13 55.0 -1.2**
comp=Z,2.3nm,0.4s,baz=131,slow=6.1,SNR=19
KBL Kabul 62.71 309 *eP* **P** **22 13 56.0 -2.0**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 62.71 309 P **P** **22 13 56.7 -1.3**
baz=63,SNR=7.8
KBL Kabul 62.71 309 *eP* **P** **22 13 56.0 -2.0**
comp=Z,7.6nm,0.9s
KURK Kurchatov 63.55 328 *eP* **P** **22 14 01.8 -1.1**
KURK pmax pmax
comp=Z,21nm,0.5s
KURK Kurchatov 63.55 328 *eP* **P** **22 14 01.8 -1.1**
comp=Z,21nm,0.5s
NVS Novosibirsk 63.82 334⇑ *iP* **P** **22 14 02.8 -1.8**
NVS pmax pmax
comp=N,3.0nm,0.6s
NVS pmax pmax
comp=E,4.0nm,0.6s
NVS pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 64.73 318 *eP* **P** **22 14 09.6 -1.3**
KKAR Karatay Array 64.73 318 *eP* **P** **22 14 09.6 -1.3**
VOSK Vostochnaya 68.65 327 *eP* **P** **22 14 34.4 -1.3**
VOSK pmax pmax
comp=Z,12nm,0.4s
VOSK Vostochnaya 68.65 327 *eP* **P** **22 14 34.4 -1.3**
comp=Z,12nm,0.4s
BRVK Borovoye 69.18 328 *eP* **P** **22 14 38.0 -1.0**
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 69.18 328 *eP* **P** **22 14 38.0 -1.0**
comp=Z,12nm,0.8s
TIXI Tiksi 70.18 1 *eP* **P** **22 14 44.8 +0.1**
TIXI pmax pmax
comp=Z,14nm,0.6s
TIXI Tiksi 70.18 1 *eP* **P** **22 14 44.8 +0.1**
comp=Z,14nm,0.6s
IMYA Miami 70.22 308 *eP* **P** **22 14 44.2 -1.7**
BILL Bilibino 71.89 15⇑ *eP* **P** **22 14 55.2 0.0**
BILL *e* 22 17 37.1
BILL pmax pmax
comp=Z,4.0nm,1.6s
GEYT Alibeck 72.12 309 P **P** **22 14 56.0 -1.3**
comp=Z,4.7nm,0.7s,baz=123,slow=5.5,SNR=12
ABKAR Akbulak array 73.76 321 *eP* **P** **22 15 05.5 -1.1**
ISRV Sarvestan 74.78 300 *eP* **P** **22 15 12.5 -0.9**
IPAR Pars 74.89 300 *eP* **P** **22 15 12.7 -1.4**
IANJ Anjilo 74.97 306 *eP* **P** **22 15 12.5 -1.8**
ILAS Lasjerd 75.73 306 *eP* **P** **22 15 17.0 -1.6**
SVE Sverdlovsk 75.79 329 *eP* **P** **22 15 18.2 0.0**
SVE pmax pmax
comp=Z,37nm,1.5s
IFIR Firoozkooh 75.93 306 *eP* **P** **22 15 18.6 -1.2**
GAMB Gambell 76.67 24 *eP* **P** **22 15 23.4 +0.4**
comp=Z,12nm,0.8s
ARU Arti 76.74 328 P **P** **22 15 23.2 -0.4**
comp=Z,114nm,0.5s,SNR=8.6
ARU Arti 76.74 328 *c iP* **P** **22 15 22.5 -1.1**
ARU 22 18 12.3
ARU S **S** **22 25 06.0 -1.0**
ARU pmax pmax
comp=Z,33nm,1.7s
ARU Arti 76.74 328 *eP* **P** **22 15 22.1 -1.6**
comp=Z,12nm,0.5s
TNA Tin City 78.87 23 *eP* **P** **22 15 34.2 -1.0**
comp=Z,9.1nm,1.2s
SDPT Sand Point 79.31 34 *eP* **P** **22 15 36.9 -0.9**
IHRS Heris 80.80 308 *eP* **P** **22 15 45.6 -1.0**
VNDA Vanda 81.15 173 *eP* **P** **22 15 47.2 -0.2**
VNDA pmax pmax
comp=Z,110nm,3.0s
VNDA Vanda 81.15 173 P **P** **22 15 48.1 +0.8**
comp=Z,2.1nm,0.6s,baz=328,slow=6.4,SNR=17
VNDA Vanda 81.15 173 *eP* **P** **22 15 47.2 -0.2**
comp=Z,110nm,3.0s
IMRD Marand 81.88 309 *eP* **P** **22 15 51.5 -0.8**
ZEI Tsey 83.56 313 *eP* **P** **22 16 00.4 -0.6**
ZEI pmax pmax
comp=Z,20nm,0.9s
KDAK Kodiak Island 84.04 32 *i P* **P** **22 16 05.1 +2.3**
RSO Redoubt South 84.28 29 *eP* **P** **22 16 05.4 +1.2**
KBZ Khabaz 84.35 314 P **P** **22 16 05.0 +0.4**
comp=Z,2.4nm,0.6s,baz=274,slow=5.3,SNR=14
PRGR Permogore 84.41 332⇓ *iP* **P** **22 16 04.6 +0.1**
PRGR pmax pmax
comp=Z,175nm,1.9s
KIV Kislovodsk 84.52 314⇑ *eP* **P** **22 16 05.9 +0.2**
KIV pmax pmax
comp=Z,6.0nm,0.7s
KIV Kislovodsk 84.52 314 *eP* **P** **22 16 07.9 +2.2**
comp=Z,49nm,1.8s
IM04 Indian Mountai 84.59 24 *eP* **P** **22 16 07.3 +1.8**
KTH Kantishna Hill 85.50 26 *eP* **P** **22 16 11.5 +1.4**
comp=Z,77nm,1.9s
VRHR Novokhopersk 85.65 321 *eP* **P** **22 16 09.1 -1.9**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=E,40nm,1.7s
RC01 Rabbit Creek A 85.82 29 *eP* **P** **22 16 12.7 +1.0**
comp=E,709nm,3.0s
COLD Coldfoot 86.17 23 *eP* **P** **22 16 15.3 +2.0**
comp=E,16nm,1.0s
MCK McKinley 86.40 26 *eP* **P** **22 16 15.7 +1.2**
MCK pmax pmax
comp=Z,226nm,2.8s
MCK McKinley 86.40 26 *eP* **P** **22 16 15.7 +1.2**
comp=Z,226nm,2.8s
VORD Divnogorie 87.11 321 *eP* **P** **22 16 16.8 -1.4**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 87.20 321 *eP* **P** **22 16 17.0 -1.6**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,8.0nm,0.8s
KLMR Klimovskoe 87.28 331 *eP* **P** **22 16 17.2 -1.6**
KLMR pmax pmax
comp=Z,17nm,1.0s
IL1 Eielson Array 87.35 25 *eP* **P** **22 16 17.9 -1.2**
ILAR Eielson Array 87.35 25 P **P** **22 16 18.4 -0.8**
comp=Z,2.2nm,0.5s,baz=248,slow=4.6,SNR=47
ILB Eielson Array 87.35 25 *eP* **P** **22 16 18.4 -0.8**
MALT Malatya 87.56 308⇓ *iP* **P** **22 16 21.5 +0.6**
PAX Paxson 87.93 27 *eP* **P** **22 16 22.6 +0.6**
PAX pmax pmax
comp=Z,251nm,2.8s
PAX Paxson 87.93 27 *eP* **P** **22 16 22.6 +0.6**
comp=Z,251nm,2.8s
ANN Anapa 88.31 315 *eP* **P** **22 16 21.1 -3.0**
ANN pmax pmax
comp=Z,29nm,1.1s
DOT Dot Lake 88.57 27 *eP* **P** **22 16 25.5 +0.5**
comp=Z,108nm,2.2s
OBN Obninsk 88.79 325⇑ *eP* **P** **22 16 24.9 -1.2**
OBN *eS* **SKSac** **22 26 47.6 -3.8**
OBN pmax pmax
comp=Z,27nm,1.7s
OBN MLR MLR
comp=Z,70nm,17.0s
KMBO Kilima Mbogo 89.18 269 P **P** **22 16 28.2 -0.9**
comp=Z,2.0nm,0.8s,baz=54,slow=9.9,SNR=6.1
KMBO LR LR 22 53 44.0
comp=Z,43nm,19.9s,baz=90,slow=34
JOF Joensuu 91.11 333 *eP* **P** **22 16 36.2 -0.6**
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 91.11 333 *ep* **P** **22 16 36.2 -0.6**
comp=Z,4.2nm,0.7s
BRTR Keskin Array B 91.26 310 P **P** **22 16 37.0 -1.2**
BRTR Keskin Array B 91.26 310 P **P** **22 16 37.0 -1.2**
comp=Z,1.4nm,0.7s,baz=126,slow=5.2,SNR=10
BR231 Keskin MP Arra 91.92 310 *eP* P 22 16 37.6 -3.6
KEV Kevo 91.97 340 *eP* **P** **22 16 42.1 +1.5**
KEV pmax pmax
comp=Z,27nm,1.3s
KEV Kevo 91.97 340 *ep* **P** **22 16 42.1 +1.5**
comp=Z,27nm,1.3s
INK Inuvik 92.45 21 *eP* **P** **22 16 43.3 +0.4**
INK pmax pmax
comp=Z,17nm,1.4s
INK Inuvik 92.45 21 *eP* **P** **22 16 43.3 +0.4**
comp=Z,17nm,1.4s
ARA0 ARCESS Array S 92.53 340 *eP* **P** **22 16 42.7 -0.6**
ARCES ARCESS Array B 92.53 340 P **P** **22 16 42.0 -1.3**
ARCES ARCESS Array B 92.53 340 P **P** **22 16 42.0 -1.3**
comp=Z,10.0nm,0.8s,baz=81,slow=6.5,SNR=26
AKASG Malin Array Be 93.50 321 P **P** **22 16 46.7 -1.4**
comp=Z,0.6nm,0.5s,baz=73,slow=5.5,SNR=2.9
KIEV Kiev 93.51 321 *eP* **P** **22 16 47.6 -0.5**
KAF Kangasniemi 93.52 332 *eP* **P** **22 16 46.2 -1.7**
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 93.52 332 *ep* **P** **22 16 46.2 -1.7**
comp=Z,3.0nm,0.5s
FINES FINESS Array B 93.74 332 P **P** **22 16 48.0 -0.9**
FINES FINESS Array B 93.74 332 P **P** **22 16 48.0 -0.9**
comp=Z,1.5nm,0.7s,baz=87,slow=3.0,SNR=12
TESR Tescani 95.72 317⇑ *iP* **P** **22 16 58.2 -0.2**
VRI Vrincioaia 95.76 316⇑ *iP* P 22 17 02.3 +3.7
PLOR Plostina 95.81 316⇑ *iP* **P** **22 17 00.3 +1.4**
BURAR Bucovina Array 96.53 318⇑ *iP* **P** **22 17 02.1 -0.1**
BUR04 Bucovina Ar. S 96.53 318 *eP* **P** **22 17 01.2 -1.0**
KOLS Kolonicke sedl 98.22 320 *eP* Pdif 22 17 10.8 +1.1
KOLS Kolonicke sedl 98.22 320 *eP* Pdif 22 17 10.8 +1.1
DRGR 98.35 318⇑ *iP* Pdif 22 17 10.4 0.0
IDI Anoyia 98.60 306 LR LR 23 11 11.7
comp=Z,20nm,21.8s,baz=95,slow=41
VTS Vitosha 98.77 313⇑ *iP* Pdif 22 17 13.9 +1.4
HFS Hagfors 99.93 332 LR LR 23 06 19.1
comp=Z,46nm,19.6s,baz=70,slow=38
NOA NORSAR Array B 100.73 333 P **Pdif** **22 17 19.7 -0.9**
comp=Z,1.4nm,0.9s,baz=71,slow=4.3,SNR=3.3
YKA Yellowknife Ar 101.76 25 P **Pdif** **22 17 26.1 +1.1**
comp=Z,0.8nm,0.6s,baz=296,slow=4.3,SNR=16
ECSD EROS Data Cent 120.89 35 *ePKPdf* **PKPdf** **22 22 25.3 +0.5**
SCHQ Schefferville 122.92 9 PKP **PKPdf** **22 22 28.7 +0.3**
comp=Z,3.0nm,0.5s,baz=332,slow=1.9,SNR=11
SCHQ Schefferville 122.92 9 *ePKPdf* **PKPdf** **22 22 29.1 +0.7**
TX31 Lajitas Ar. Si 123.27 53 *ePKPdf* **PKPdf** **22 22 31.1 +1.2**
TXAR Lajitas Array 123.27 53 PKP **PKPdf** **22 22 31.1 +1.2**
comp=Z,0.9nm,0.7s,baz=274,slow=1.4,SNR=11
COWI Conover 123.29 29 *ePKPdf* **PKPdf** **22 22 29.9 +0.5**
TOA0 Torodi Ar. Sit 123.31 287 *ePKPdf* **PKPdf** **22 22 30.1 -0.1**
TORD Torodi Ar. Bea 123.31 287 PKP **PKPdf** **22 22 30.4 +0.2**
comp=Z,4.0nm,0.7s,baz=63,slow=1.9,SNR=27
TORD PKKPbc **PKKPab** **22 32 21.8 +1.7**
comp=Z,0.9nm,0.7s,baz=218,slow=3.3,SNR=6.9
JCT Junction City 125.82 50 *ePKIKP* **PKPdf** **22 22 35.3 +0.6**
JCT Junction City 125.82 50 *ePKPdf* **PKPdf** **22 22 35.3 +0.6**
CFAA Coronel Fontan 146.90 157 PKPbc **PKPab** **22 23 16.8 +0.1**
comp=Z,0.6nm,0.5s,baz=251,slow=2.8,SNR=4.8

*IDC **05** 22:53:41.1±1.5, 37.°67S×73.°63W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/22, mbtmp3.7/5, ML3.6/1, MS3.3/1, Ms1 3.4/1, ms1mx2.9/27, Error ellipse: s-maj=52.1km s-min=31.3km az=51.0*
*ISCJB **05** 22:53:43.6±1.2, 37.°7S±0.°2×73.°7W±0.°3, h23km, mb3.8/4, Error ellipse: s-maj=40.1km s-min=17.3km az=151.7*
ISC 05 22:53:45.0±1.3, 37.°6S±0.°2×73.°6W±0.°3, h23km, n9, σ0s89/9, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.89**	**144**	Pn	**Pn**	**22 54 43.9**	**+0.5**
	1.1nm,0.3s,baz=308,slow=12,SNR=3.6						
PLCA				Lg	Lg	22 55 42.0	
	3.4nm,0.3s,baz=212,slow=22,SNR=6.3						
CPUP	**Villa Florida**	**17.77**	**55**	LR	LR	23 05 36.9	
	comp=Z,110nm,20.1s,baz=228,slow=40						
SIV	**San Ignacio**	**24.22**	**30**	P	**P**	**22 59 01.4**	**+1.3**
	1.1nm,0.7s,baz=215,slow=9.2,SNR=2.7						
TXAR	**Lajitas Array**	**72.33**	**333**	P	**P**	**23 05 09.3**	**+0.4**
	0.3nm,0.5s,baz=151,slow=8.6,SNR=3.7						
NVAR	**Mina Array Bea**	**86.18**	**326**	P	**P**	**23 06 24.6**	**+0.2**
	0.7nm,0.4s,baz=159,slow=4.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**86.60**	**71**	P	**P**	**23 06 26.3**	**-0.4**
	0.8nm,0.9s,baz=240,slow=4.4,SNR=3.4						
BVAR	**Borovoye Array**	**150.73**	**47**	PKPbc	**PKPbc**	**23 13 34.2**	**-0.4**
	0.3nm,0.6s,baz=295,slow=2.9,SNR=3.2						
BVAR				PKPab	**PKPab**	**23 13 40.3**	**-1.5**
	0.7nm,0.7s,baz=289,slow=5.8,SNR=4.9						
AAK	**Ala-Archa**	**155.17**	**68**	PKPab	**PKPab**	**23 14 00.8**	**-0.2**
	1.1nm,0.7s,baz=271,slow=7.3,SNR=5.3						
MKAR	**Makanchi Array**	**159.98**	**55**	PKPab	**PKPab**	**23 14 21.4**	**-0.2**
	0.4nm,0.9s,baz=292,slow=2.6,SNR=4.2						

*IDC **05** 23:04:31.9±0.7, 33.°96S×72.°21W, h0km, mb4.2/8, mb1 4.3/10, mb1mx4.1/30, mbtmp4.2/10, ML4.2/2, MS3.7/5, Ms1 3.7/5, ms1mx3.4/23, Error ellipse: s-maj=30.3km s-min=18.0km az=98.0*
*ISCJB **05** 23:04:33.0±0.7, 34.°01S±0.°06×72.°2W±0.°1, h19km, mb4.3/8, MS3.9/3, Error ellipse: s-maj=17.7km s-min=9.2km az=0.4*
*NEIC **05** 23:04:37.3±0.3, 34.°00S×72.°14W, h35km, mb4.3/3, Error ellipse: s-maj=10.7km s-min=6.1km az=89.0*
ISC 05 23:04:34.7±0.6, 33.°94S±0.°08×72.°2W±0.°1, h19km, n36, σ0s82/30, mb4.4/8, MS3.9/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.09**	**56**	Pn	**Pn**	**23 05 36.2**	**0.0**
	0.3nm,0.3s,baz=223,slow=11,SNR=7.6						
CFAA				LR	LR	23 06 38.6	
	comp=Z,11nm,21.6s,baz=234,slow=31						
PLCA	**Paso Flores**	**6.92**	**169**	Pn	**Pn**	**23 06 14.7**	**-0.4**
	1.5nm,0.3s,baz=334,slow=12,SNR=3.1						
PLCA				LR	LR	23 08 26.0	
	comp=Z,80nm,20.3s,baz=330,slow=34						
TRQA	**Tornquist**	**9.27**	**119**	*e*Pn	**Pn**	**23 06 47.9**	**+0.6**
	11nm,0.7s						
LVC	**Limon Verde**	**11.65**	**15**	*e*Pn	**Pn**	**23 07 18.1**	**-2.2**
CPUP	**Villa Florida**	**14.95**	**63**	LR	LR	23 14 25.4	
	comp=Z,535nm,18.4s,baz=228,slow=40						
LPAZ	**La Paz**	**17.96**	**13**	P	**Pn**	**23 08 44.0**	**+0.1**
	0.1nm,0.3s,baz=178,slow=8.2,SNR=6.8						
LPAZ	**La Paz**	**17.96**	**13**	*e*Pn	**P**	**23 08 45.2**	**+0.7**
	11nm,0.9s						
EFI	**East Falkland**	**20.49**	**154**	*e*P	**P**	**23 09 10.3**	**-1.0**
SIV	**San Ignacio**	**20.50**	**32**	P	**P**	**23 09 12.5**	**+0.8**
	5.4nm,0.7s,baz=220,slow=11,SNR=11						
SAML	**Samuel**	**26.23**	**21**	*e*P	**P**	**23 10 09.4**	**+0.9**
	7.1nm,0.8s						
BDFB	**Brasília**	**28.43**	**56**	P	**P**	**23 10 27.9**	**-0.6**
	4.0nm,0.8s,baz=208,slow=7.0,SNR=6.9						
BDFB				LR	LR	23 23 13.5	
	comp=Z,302nm,20.0s,baz=215,slow=40						
PCRV	**Puerto La Cruz**	**44.46**	**11**	LR	LR	23 33 35.0	
	comp=Z,132nm,18.3s,slow=39						
SNAA	**Sanae**	**51.70**	**158**	P	**P**	**23 13 40.4**	**+0.2**
	1.1nm,0.7s,baz=271,slow=8.0,SNR=5.3						
SNAA	**Sanae**	**51.70**	**158**	*e*P	**P**	**23 13 39.8**	**-0.4**
	16nm,1.2s						
QSPA	**South Pole Qui**	**56.30**	**180**	P	**P**	**23 14 14.1**	**+0.2**
	4.5nm,0.9s,baz=132,slow=3.7,SNR=7.4						
TXAR	**Lajitas Array**	**69.60**	**331**	P	**P**	**23 15 43.7**	**+1.0**
	0.4nm,0.5s,baz=156,slow=9.3,SNR=4.0						
DBIC	**Dimbokro**	**75.31**	**71**	LR	LR	23 48 04.0	
	comp=Z,62nm,18.1s,baz=196,slow=35						
BOSA	**Boshof**	**80.24**	**118**	P	**P**	**23 16 44.4**	**-0.1**
	2.2nm,0.6s,baz=190,slow=6.4,SNR=5.8						
TORD	**Torodi Ar. Bea**	**84.34**	**70**	P	**P**	**23 17 06.3**	**+0.4**
	4.6nm,0.8s,baz=261,slow=4.1,SNR=23						
ULM	**Lac du Bonnet**	**86.39**	**345**	P	**P**	**23 17 15.1**	**-0.1**
	0.9nm,0.4s,baz=184,slow=5.6,SNR=3.4						
WRA	**Warramunga Arr**	**120.74**	**209**	PKP	**PKPdf**	**23 23 25.5**	**-0.5**
	0.6nm,0.8s,baz=171,slow=1.3,SNR=7.6						
BRTR	**Keskin Array B**	**121.94**	**61**	PKP	**PKPdf**	**23 23 27.8**	**0.0**
	0.9nm,0.8s,baz=194,slow=3.7,SNR=5.0						
H11S2	**WAKE ISLAND Hyd**	**25.61**	**269**	T	T	01 42 20.4	
	baz=119,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hyd**	**25.62**	**269**	T	T	01 42 17.6	
	baz=119,slow=74,SNR=7.6						
H11S3	**WAKE ISLAND Hyd**	**25.63**	**269**	T	T	01 42 17.7	
	baz=119,slow=74,SNR=9.8						
H11N3	**WAKE ISLAND Hyd**	**26.02**	**271**	T	T	01 42 47.7	
	baz=121,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hyd**	**26.04**	**271**	T	T	01 42 53.0	
	baz=121,slow=76,SNR=36						
H11N2	**WAKE ISLAND Hyd**	**26.04**	**271**	T	T	01 42 50.8	
	baz=121,slow=76,SNR=26						
BRVK	**Borovoye**	**147.27**	**43**	*e*PKPdf	**PKPdf**	**23 24 14.5**	**+0.6**
BVAR	**Borovoye Array**	**147.34**	**43**	PKPbc	**PKPab**	**23 24 17.9**	**-0.5**
	3.7nm,0.7s,baz=284,slow=4.0,SNR=22						
KKAR	**Karatay Array**	**149.66**	**61**	*e*PKPbc	**PKPbc**	**23 24 22.9**	**+0.1**
EKS2	**Erkin-Say**	**152.09**	**62**	*e*PKPbc	**PKPbc**	**23 24 29.5**	**+0.8**
AAK	**Ala-Archa**	**152.62**	**62**	*e*PKPbc	**PKPbc**	**23 24 31.0**	**+1.0**
ZALV	**Zalesovo Beam**	**154.26**	**32**	PKP	**PKPdf**	**23 24 24.4**	**-0.3**
	1.1nm,0.8s,baz=309,slow=2.8,SNR=4.0						
ZALV				PKPbc	**PKiKP**	**23 24 33.6**	**+0.6**
	4.2nm,0.7s,baz=300,slow=3.0,SNR=19						
ZALV				PKPab	**PKPab**	**23 24 44.8**	**-2.2**
	3.0nm,0.7s,baz=282,slow=2.9,SNR=6.3						
MKAR	**Makanchi Array**	**156.84**	**49**	PKP	**PKPdf**	**23 24 28.6**	**+0.1**
	0.4nm,0.8s,baz=278,slow=0.9,SNR=5.0						
MKAR				PKPab	**PKPab**	**23 24 58.9**	**+0.6**
	1.1nm,0.7s,baz=300,slow=4.2,SNR=12						
SONM	**Songino Array**	**166.08**	**4**	PKPab	**PKPab**	**23 25 38.9**	**+0.3**
	0.6nm,0.8s,baz=11,slow=1.2,SNR=4.6						

*ISCJB **05** 23:05:00.1±0.9, 8.°25S±0.°04×107.°28E±0.°03, h23km±8km, Error ellipse: s-maj=6.1km s-min=4.9km az=170.9*
*DJA **05** 23:05:02.4±0.8, 8.°5S±4.°×10.°7E±.°, h31km±7km, M4.2/16, MLv4.2/16*
ISC 05 23:05:00.9±1.6, 8.°21S±0.°04×107.°29E±0.°04, h23km±16km, n21, σ1s08/32, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.83**	**39**	P	**Pn**	**23 05 17.2**	**-0.1**
CISI				S	**Sb**	**23 05 27.4**	**-0.2**
CISI	**Cisompet, Garu**	**0.83**	**39**	P	**Pn**	**23 05 16.5**	**-0.9**
	baz=0.9,SNR=680						
CISI				S	**Sb**	**23 05 26.9**	**-0.8**
	baz=0.9,SNR=15						
CNJI	**Cibinong**	**0.91**	**350**	P	**Pn**	**23 05 17.9**	**-0.4**
CNJI				S	**Sn**	**23 05 29.0**	**-1.7**
CMJI	**Cimerak**	**1.23**	**70**	P	**Pn**	**23 05 23.0**	**+0.4**
CMJI				S	**Sb**	**23 05 38.2**	**-0.6**
SKJI	**Sukabumi**	**1.40**	**329**	P	**Pn**	**23 05 25.3**	**+0.2**
SKJI				S	**Sn**	**23 05 43.8**	**+0.9**
LEM	**Lembang**	**1.41**	**13**	P	**Pb**	**23 05 27.0**	**+0.3**
LEM				S	**Sn**	**23 05 43.3**	**-0.1**
LEM	**Lembang**	**1.41**	**13**	P	**Pb**	**23 05 26.4**	**-0.3**
	baz=1.5,SNR=80						
LEM				S	**Sb**	**23 05 44.4**	**0.0**
	baz=1.5,SNR=8.1						
KPJI	**Karang Pucung**	**1.85**	**62**	P	**Pn**	**23 05 31.5**	**+0.3**
KPJI				S	**Sn**	**23 05 54.2**	**+0.3**
CGJI	**Cibinong**	**2.24**	**315**	P	**Pn**	**23 05 36.6**	**0.0**
SBJI	**Serang**	**2.38**	**331**	P	**Pn**	**23 05 39.7**	**+1.2**
XMI	**Christmas Isla**	**2.73**	**215**	P	**Pn**	**23 05 44.7**	**+1.3**
	baz=2.7,SNR=24						
XMI				S	**Sn**	**23 06 14.0**	**-1.7**
	baz=2.7,SNR=8.8						
XMIS	**Christmas Isla**	**2.77**	**215**	P	**Pn**	**23 05 44.9**	**+0.9**
	baz=2.7,SNR=49						
XMIS				S	**Sn**	**23 06 14.2**	**-2.6**
	baz=2.7,SNR=10.0						
UGM	**Wanagama**	**3.22**	**85**	P	**Pn**	**23 05 50.9**	**+0.8**
UGM				S	**Sn**	**23 06 28.5**	**+0.7**
UGM	**Wanagama**	**3.22**	**85**	P	**Pn**	**23 05 51.7**	**+1.6**
	baz=3.3,SNR=39						
KASI	**Kota Agung**	**3.85**	**314**	P	**Pn**	**23 05 59.8**	**+1.0**
KLI	**Kotabumi**	**4.11**	**324**	P	**Pn**	**23 06 03.3**	**+0.9**
PWJI	**Pagerwojo**	**4.47**	**88**	P	**Pn**	**23 06 08.2**	**+0.8**
PWJI				S	**Sn**	**23 06 57.6**	**-1.2**
LWLI	**Liwa**	**4.51**	**314**	P	**Pn**	**23 06 08.6**	**+0.6**
MDSI	**Maura Dua**	**4.82**	**320**	P	**Pn**	**23 06 12.9**	**+0.7**
MNAI	**Manna**	**5.76**	**311**	P	**Pn**	**23 06 27.1**	**+2.0**
	baz=5.8,SNR=5.7						
JAGI	**Jajag, Banyuwa**	**6.80**	**93**	P	Pn	23 06 43.3	+3.9
	baz=6.8,SNR=18						

*IDC **05** 23:08:37.2±1.8, 33.°88S×72.°62W, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.5/27, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=65.5km s-min=33.2km az=106.0*
*ISCJB **05** 23:08:39.0±1.8, 34.°07S±0.°07×72.°47W±0.°09, h17km±11km, mb3.8/1, Error ellipse: s-maj=14.2km s-min=10.0km az=43.3*
*GUC **05** 23:08:40.6±0.3, 34.°08S×72.°38W, h14km±8km, ML3.6*
ISC 05 23:08:39.0±2.4, 34.°07S±0.°07×72.°43W±0.°09, h13km±12km, n15, σ0s93/21, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.85**	**83**⇓	*iP*	**Pg**	**23 08 55.5**	**-0.1**
LNV				*i* S	**Sg**	**23 09 06.6**	**-0.2**
NICH	**Los Niches**	**1.36**	**134**	*eP*	**Pn**	**23 09 03.6**	**-0.1**
NICH				*e*S	**Sn**	**23 09 20.8**	**-0.8**
CHCH	**Chadas Angostu**	**1.48**	**85**	*i P*	**Pn**	**23 09 05.3**	**-0.1**
CHCH				*i* S	**Sn**	**23 09 24.3**	**-0.4**
CACH	**El Canelo**	**1.52**	**92**⇑	*iP*	**Pn**	**23 09 06.5**	**+0.6**
CACH				*i* S	**Sb**	**23 09 26.6**	**+0.3**
ANTU	**Antumapu**	**1.58**	**72**	*eP*	**Pn**	**23 09 07.1**	**+0.4**
ANTU				*i* S	**Sn**	**23 09 27.0**	**0.0**
ANTU				IAML		23 09 36.3	
	comp=E,1μm,0.4s						
CLCH	**Cerro Calan**	**1.71**	**68**	*e*P9	**Pn**	**23 09 09.1**	**+0.4**
CLCH				*i* S	**Sn**	**23 09 30.8**	**+0.4**
CLCH				IAML		23 09 45.7	
	comp=E,1μm,0.6s						
PEL	**Peldehue**	**1.72**	**58**⇑	*iP*	**Pn**	**23 09 09.5**	**+0.8**
FCH	**Farellones**	**1.93**	**68**	IAML		23 09 45.0	
	comp=N,961nm,0.5s						
CFAA	**Coronel Fontan**	**4.30**	**56**	Pn	**Pn**	**23 09 45.4**	**+1.3**
	comp=N,0.2nm,0.3s,baz=108,slow=19,SNR=5.5						
PLCA	**Paso Flores**	**6.82**	**168**	Pn	**Pn**	**23 10 21.1**	**+2.4**
	comp=N,0.5nm,0.3s,baz=354,slow=11,SNR=5.0						
SIV	**San Ignacio**	**20.70**	**32**	P	**P**	**23 13 17.1**	**-1.9**
	comp=N,1.2nm,0.5s,baz=232,slow=11,SNR=3.4						
TORD	**Torodi Ar. Bea**	**84.54**	**70**	P	**P**	**23 21 12.3**	**+0.2**
	comp=N,0.3nm,0.4s,baz=235,slow=4.9,SNR=4.8						
BVAR	**Borovoye Array**	**147.55**	**43**	PKPbc	**PKPbc**	**23 28 23.2**	**+0.8**
	comp=N,0.7nm,0.6s,baz=296,slow=2.5,SNR=6.0						
ZALV	**Zalesovo Beam**	**154.46**	**32**	PKPbc	**PKPbc**	**23 28 37.9**	**-0.7**
	comp=N,0.7nm,0.6s,baz=287,slow=2.5,SNR=4.1						
ZALV				PKPab	**PKPab**	**23 28 53.1**	**+0.1**
	comp=N,0.4nm,0.5s,baz=310,slow=3.2,SNR=2.8						
MKAR	**Makanchi Array**	**157.05**	**49**	PKPab	**PKPab**	**23 29 04.8**	**+0.3**
	comp=N,0.3nm,0.6s,baz=288,slow=3.3,SNR=3.8						

MEX 05 23:16:43.8±1.1, 17.°53N×96.°01W, h64km±34km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.16**	**112**	*eP*	Pn	23 17 02.2	-2.0
CMIG				*i* S	Sn	23 17 17.8	-1.5
TPIG	**Tehuac#an**	**1.56**	**305**	*i P*	Pn	23 17 08.9	-0.8
TPIG				*e*S	Sn	23 17 26.8	-2.4
HUIG	**Huatulco**	**1.75**	**183**	*eP*	Pn	23 17 11.6	-0.5
HUIG				*e*S	Sn	23 17 31.8	-1.6
PNIG	**Pinotepa**	**2.32**	**241**	*i P*	Pn	23 17 17.6	-2.1
PNIG

0.1nm,0.3s,baz=286,slow=18,SNR=1.7
TRQA **Tornquist** 9.45 121 *e*Pn **Pn** 23 24 23.0 +1.4
30nm,1.1s
LVC **Limon Verde** 11.25 16 *e*Pn Pn 23 24 42.0 -4.6
6.2nm,0.6s
CPUP **Villa Florida** 14.74 65 Pn **Pn** 23 25 33.3 -0.7
0.3nm,0.3s,baz=246,slow=12,SNR=1.8
CPUP **Villa Florida** 14.74 65 Pn **Pn** 23 25 32.9 -1.1
LPAZ **La Paz** 17.55 13 P **Pn** 23 26 10.9 +0.2
0.3nm,0.3s,baz=199,slow=6.5,SNR=10
LPAZ **La Paz** 17.55 13 *e*Pn **Pn** 23 26 10.8 0.0
6.5nm,0.8s
SIV **San Ignacio** 20.14 33 P **P** 23 26 39.9 +0.3
4.9nm,0.7s,baz=226,slow=12,SNR=15
EFI **East Falkland** 20.84 155 *e*P **P** 23 26 46.7 -0.2
SAML **Samuel** 25.83 21 *e*P **P** 23 27 36.0 -0.8
5.7nm,0.9s
BDFB **Brasilia** 28.18 57 P **P** 23 27 56.8 -1.3
3.0nm,0.7s,baz=233,slow=11,SNR=4.3
QSPA **South Pole Qui** 56.71 180 P **P** 23 31 49.3 +0.7
1.3nm,0.9s,baz=34,slow=1.1,SNR=3.7
TXAR **Lajitas Array** 69.26 331 P **P** 23 33 13.5 +1.2
0.1nm,0.5s,baz=156,slow=8.9,SNR=3.1
TORD **Torodi Ar. Bea** 84.17 70 P **P** 23 34 36.9 +0.1
0.9nm,0.7s,baz=269,slow=6.0,SNR=7.4
WRA **Warramunga Arr** 121.11 209 PKP **PKPdf** 23 40 57.4 -1.1
0.2nm,0.7s,baz=160,slow=1.6,SNR=3.6
BVAR **Borovoye Array** 147.02 42 PKPbc **PKPbc** 23 41 48.0 +0.6
0.7nm,0.6s,baz=268,slow=2.4,SNR=6.1
ZALV **Zalesovo Beam** 153.90 32 PKPbc **PKPbc** 23 42 03.1 -0.8
1.3nm,0.6s,baz=334,slow=2.7,SNR=7.1
ZALV PKPab **PKPab** 23 42 17.7 +0.6
0.8nm,0.6s,baz=274,slow=4.2,SNR=3.4
MKAR **Makanchi Array** 156.55 48 PKPab **PKPab** 23 42 28.8 0.0
0.8nm,0.6s,baz=280,slow=2.5,SNR=13

*IDC **05** 23:23:52.0±6.4, 5°.47S×151°.83E, h61km±52km, mb3.7/5, mb1 4.0/6, mb1mx3.5/43, mbtmp4.0/6, ML3.0/1, Error ellipse: s-maj=62.7km s-min=29.6km az=112.0*

ISC 05 23:23:50.2±1.2, 5°.6S±0°.1×152°.0E±0°.2, h45km, n15, σ1.9 56/16, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.35**	**6**	P	**Pn**	**23 24 14.7**	**+2.0**
baz=3.6,SNR=32							
PMG	**Port Moresby**	**6.16**	**231**	P	**Pn**	**23 25 20.4**	**+1.6**
2.5nm,0.3s,baz=27,slow=14,SNR=6.9							
PMG				S	**Sn**	**23 26 26.6**	**-1.4**
2.4nm,0.3s,baz=97,slow=16,SNR=5.6							
QIS	**Mount Isa**	**19.19**	**218**	P	**Pn**	**23 28 11.9**	**+0.3**
baz=22,SNR=3.1							
MTN	**Manton Dam**	**21.85**	**249**	P	**P**	**23 28 42.5**	**+3.3**
baz=26,SNR=3.1							
QLP	**Quilpie**	**22.20**	**199**	P	**P**	**23 28 44.7**	**+1.8**
baz=25,SNR=4.1							
WRA	**Warramunga Arr**	**22.38**	**229**	P	**P**	**23 28 43.8**	**-1.1**
9.3nm,0.6s,baz=52,slow=9.9,SNR=111							
KNRA	**Kununurra**	**24.95**	**244**	P	**P**	**23 29 08.5**	**-1.2**
baz=29,SNR=7.1							
ASAR	**Alice Springs**	**25.08**	**222**	P	**P**	**23 29 11.2**	**+0.4**
9.3nm,0.7s,baz=58,slow=8.8,SNR=98							
WRKA	**Warakurna**	**29.89**	**227**	P	**P**	**23 29 53.1**	**-0.8**
baz=33,SNR=5.2							
MEEK	**Meekatharra**	**38.14**	**233**	P	**P**	**23 31 04.5**	**-0.9**
baz=42,SNR=4.3							
SONM	**Songino Array**	**66.55**	**328**	P	**P**	**23 34 35.3**	**-0.4**
0.2nm,0.4s,baz=117,slow=5.0,SNR=3.7							
MKAR	**Makanchi Array**	**80.38**	**319**	P	**P**	**23 35 56.1**	**-1.0**
0.1nm,0.4s,baz=104,slow=5.7,SNR=3.9							
ZALV	**Zalesovo Beam**	**81.34**	**327**	P	**P**	**23 36 00.6**	**-1.4**
0.3nm,0.3s,baz=104,slow=6.5,SNR=2.4							
ILAR	**Eielson Array**	**83.14**	**22**	P	**P**	**23 36 10.4**	**-0.7**
0.4nm,0.6s,baz=239,slow=5.2,SNR=5.8							
TORD	**Torodi Ar. Bea**	**149.79**	**287**	PKPbc	**PKPbc**	**23 43 35.2**	**-1.2**
0.9nm,0.6s,baz=79,slow=1.9,SNR=9.4							

*IDC **05** 23:30:57.4±0.6, 35°.12S×74°.06W, h0km, mb4.2/9, mb1 4.3/12, mb1mx4.1/32, mbtmp4.1/12, ML3.9/3, Error ellipse: s-maj=24.0km s-min=17.7km az=82.0*
*ISCJB **05** 23:31:01.0±0.7, 35°.10S±0°.08×73°.9W±0°.1, h33km, mb4.2/9, Error ellipse: s-maj=14.0km s-min=10.0km az=35.5*

ISC 05 23:31:02.8±0.6, 35°.10S±0°.09×73°.9W±0°.1, h35km, n21, σ0.8 81/25, mb4.1/9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.91**	**55**	Pn	**Pn**	**23 32 27.3**	**-0.5**
0.5nm,0.3s,baz=226,slow=16,SNR=3.1							
CFAA				Sn	**Sn**	**23 33 34.3**	**0.0**
0.7nm,0.3s,baz=135,slow=20,SNR=5.8							
PLCA	**Paso Flores**	**6.23**	**156**	Pn	**Pn**	**23 32 31.6**	**-0.6**
1.9nm,0.3s,baz=325,slow=9.4,SNR=16							
LPAZ	**La Paz**	**19.44**	**17**	P	**Pn**	**23 35 28.2**	**-0.1**
0.1nm,0.3s,baz=190,slow=7.2,SNR=11							
SIV	**San Ignacio**	**22.25**	**34**	P	**P**	**23 35 55.3**	**-1.3**
3.3nm,0.9s,baz=227,slow=13,SNR=6.7							
QSPA	**South Pole Qui**	**55.14**	**180**	P	**P**	**23 40 32.4**	**+1.0**
4.0nm,0.9s,baz=154,slow=1.2,SNR=11							
TEIG	**Tepich**	**56.68**	**344**	P	**P**	**23 40 43.2**	**+0.5**
6.2nm,0.7s,baz=188,slow=18,SNR=3.5							
TXAR	**Lajitas Array**	**69.95**	**333**	P	**P**	**23 42 11.2**	**+0.6**
1.2nm,0.7s,baz=156,slow=8.4,SNR=8.2							
DBIC	**Dimbokro**	**77.01**	**72**	P	**P**	**23 42 53.1**	**+0.7**
2.3nm,0.6s,baz=215,slow=7.9,SNR=4.7							
BOSA	**Boshof**	**80.94**	**118**	P	**P**	**23 43 14.2**	**+0.3**
3.0nm,0.8s,baz=199,slow=3.3,SNR=5.5							
NVAR	**Mina Array Bea**	**83.91**	**326**	P	**P**	**23 43 27.8**	**-1.3**
1.6nm,1.0s,baz=106,slow=9.4,SNR=5.0							
PDAR	**Pinedale Array**	**84.05**	**334**	P	**P**	**23 43 29.7**	**0.0**
0.8nm,0.9s,baz=145,slow=5.4,SNR=4.6							
TORD	**Torodi Ar. Bea**	**86.05**	**71**	P	**P**	**23 43 40.9**	**+0.8**
1.0nm,0.8s,baz=225,slow=3.6,SNR=5.3							
WRA	**Warramunga Arr**	**119.03**	**211**	PKP	**PKPdf**	**23 49 47.6**	**-0.7**
0.2nm,0.5s,baz=157,slow=1.6,SNR=4.6							
BRTR	**Keskin Array B**	**123.73**	**62**	PKP	**PKPdf**	**23 49 57.1**	**+0.3**
0.7nm,0.8s,baz=262,slow=0.9,SNR=3.9							
BVAR	**Borovoye Array**	**149.15**	**43**	PKPbc	**PKPbc**	**23 50 47.9**	**+1.1**
0.5nm,0.6s,baz=90,slow=5.0,SNR=4.3							
MJAR	**Matsushiro Arr**	**153.95**	**283**	PKPbc	**PKPbc**	**23 50 57.4**	**-1.1**
2.8nm,0.4s,baz=93,slow=3.4,SNR=6.3							
MJAR				PKPab	**PKPab**	**23 51 10.5**	**-1.4**
1.1nm,0.4s,baz=90,slow=5.2,SNR=3.7							
AAK	**Ala-Archa**	**154.40**	**63**	PKPbc	**PKPbc**	**23 50 59.3**	**-0.1**
1.3nm,0.8s,baz=65,slow=2.9,SNR=5.5							
ZALV	**Zalesovo Beam**	**155.99**	**32**	PKP	**PKPdf**	**23 50 52.6**	**0.0**
0.4nm,0.6s,baz=319,slow=2.2,SNR=2.9							
ZALV				PKPab	**PKPab**	**23 51 20.6**	**+0.6**
1.0nm,0.7s,baz=311,slow=5.5,SNR=4.0							
MKAR	**Makanchi Array**	**158.67**	**50**	PKP	**PKPdf**	**23 50 57.1**	**+0.8**
0.4nm,0.8s,baz=75,slow=1.4,SNR=4.0							
MKAR				PKPab	**PKPab**	**23 51 31.8**	**-0.1**
0.5nm,0.6s,baz=292,slow=3.7,SNR=5.3							
CMAR	**Chiang Mai Arr**	**162.26**	**157**	PKPab	**PKPab**	**23 51 47.0**	**-1.0**
0.5nm,0.4s,baz=220,slow=8.2,SNR=4.8							
SONM	**Songino Array**	**167.27**	**359**	PKPab	**PKPab**	**23 52 10.4**	**+0.9**
0.3nm,0.6s,baz=349,slow=4.3,SNR=3.0							

IDC 05 23:34:08.2±1.9, 37°.56S×73°.11W, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.7/26, mbtmp3.7/3, ML4.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/24, Error ellipse: s-maj=92.1km s-min=27.7km az=58.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.74**	**149**	Pn	Pn	23 35 07.2	-0.2
7.8nm,0.3s,baz=305,slow=11,SNR=24							
PLCA				Sn	Sn	23 35 54.2	+2.1
11nm,0.3s,baz=218,slow=23,SNR=5.8							
SIV	**San Ignacio**	**23.98**	**30**	LR	LR	23 49 10.6	
comp=Z,62nm,20.8s,baz=93,slow=38							
TXAR	**Lajitas Array**	**72.44**	**332**	P	P	23 45 36.9	+0.3
0.4nm,0.5s,baz=158,slow=8.8,SNR=6.4							
TORD	**Torodi Ar. Bea**	**86.23**	**70**	P	P	23 46 52.4	+0.4
0.5nm,1.0s,baz=245,slow=6.2,SNR=2.7							
BVAR	**Borovoye Array**	**150.42**	**47**	PKPbc	PKPbc	23 53 59.8	-1.2
0.8nm,0.6s,baz=290,slow=4.3,SNR=6.1							

*IDC **05** 23:47:03.9±2.5, 38°.37S×73°.97W, h0km, mb4.1/4, mb1 4.1/6, mb1mx3.9/22, mbtmp4.0/6, ML3.9/2, MS3.9/3, Ms1 3.8/3, ms1mx3.3/21, Error ellipse: s-maj=64.4km s-min=20.8km az=61.0*

*ISCJB **05** 23:47:09.2±2.1, 38°.3S±0°.1×73°.7W±0°.4, h33km, mb4.0/4, MS4.0/2, Error ellipse: s-maj=45.2km s-min=17.7km az=168.8*

ISC 05 23:47:09.9±2.7, 38°.3S±0°.2×73°.8W±0°.4, h35km, n11, σ0.9 56/8, mb4.1/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.52**	**135**	Pn	**Pn**	**23 48 02.5**	**+0.4**
1.5nm,0.3s,baz=289,slow=8.0,SNR=8.7							
PLCA				Lg	Lg	23 48 56.1	
5.0nm,0.3s,baz=212,slow=19,SNR=3.7							
CFAA	**Coronel Fontan**	**8.11**	**36**	LR	LR	23 52 12.5	
comp=Z,28nm,18.1s,baz=226,slow=38							
CPUP	**Villa Florida**	**18.33**	**54**	P	**P**	**23 51 21.0**	**-0.2**
0.2nm,0.3s,baz=222,slow=9.0,SNR=6.4							
CPUP				LR	LR	23 59 03.9	
comp=Z,219nm,19.6s,baz=202,slow=39							
LPAZ	**La Paz**	**22.50**	**14**	P	**P**	**23 52 08.0**	**+0.9**
2.7nm,0.8s,baz=197,slow=5.9,SNR=6.1							
BDFB	**Brasilia**	**32.04**	**52**	LR	LR	00 07 41.0	
comp=Z,96nm,18.1s,baz=306,slow=38							
DBIC	**Dimbokro**	**77.93**	**71**	P	**P**	**23 59 04.0**	**-0.5**
2.0nm,0.7s,baz=232,slow=7.4,SNR=2.9							
BOSA	**Boshof**	**79.36**	**118**	P	**P**	**23 59 12.7**	**+0.2**
2.8nm,0.8s,baz=43,slow=5.6,SNR=3.8							
TORD	**Torodi Ar. Bea**	**87.02**	**71**	P	**P**	**23 59 51.5**	**-0.4**
0.5nm,0.7s,baz=222,slow=6.5,SNR=5.6							
MDT	**Midelt**	**95.62**	**52**	LR	LR	00 44 18.3	
comp=Z,119nm,18.1s,slow=36							
ZALV	**Zalesovo Beam**	**158.60**	**36**	PKPab	**PKPab**	**00 07 38.2**	**0.0**
0.4nm,0.5s,baz=325,slow=4.2,SNR=2.8							
MKAR	**Makanchi Array**	**160.53**	**57**	PKPab	**PKPab**	**00 07 46.7**	**-0.3**
0.5nm,0.7s,baz=294,slow=3.3,SNR=7.7							

*ISCJB **05** 23:54:02.8±1.0, 37°.96S±0°.10×74°.1W±0°.2, h18km, mb3.6/4, Error ellipse: s-maj=23.3km s-min=13.5km az=173.5*
*IDC **05** 23:54:02.1±1.2, 37°.96S×74°.21W, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.7/23, mbtmp3.6/7, ML3.5/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=35.1km s-min=27.0km az=55.0*

ISC 05 23:54:04.7±1.0, 38°.0S±0°.1×74°.1W±0°.2, h18km, n10, σ1.9 16/12, mb3.7/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.88**	**136**	Pn	**Pn**	**23 55 02.9**	**-0.6**
1.3nm,0.3s,baz=298,slow=9.1,SNR=12							
PLCA				Sn	**Sb**	**23 55 59.3**	**+0.2**
4.0nm,0.3s,baz=39,slow=23,SNR=6.8							
PLCA				LR	LR	23 56 46.2	
comp=Z,188nm,18.0s,baz=278,slow=41							
CFAA	**Coronel Fontan**	**7.99**	**39**	Pn	**Pn**	**23 55 59.3**	**-0.6**
0.1nm,0.3s,baz=213,slow=13,SNR=4.3							
USHA	**Ushuaia**	**17.28**	**169**	P	**Pn**	**23 58 04.4**	**-0.4**
0.3nm,0.3s,baz=318,slow=16,SNR=2.8							
BDFB	**Brasilia**	**32.01**	**53**	P	**P**	**00 00 30.2**	**-0.1**
0.8nm,0.4s,baz=152,slow=17,SNR=2.6							
TXAR	**Lajitas Array**	**72.47**	**333**	P	**P**	**00 05 29.3**	**-0.8**
0.1nm,0.3s,baz=142,slow=5.8,SNR=3.3							
NVAR	**Mina Array Bea**	**86.25**	**327**	P	**P**	**00 06 44.9**	**-0.3**
0.2nm,0.3s,baz=142,slow=6.1,SNR=3.7							
TORD	**Torodi Ar. Bea**	**87.11**	**71**	P	**P**	**00 06 50.7**	**+1.0**
0.4nm,0.9s,baz=213,slow=4.7,SNR=4.3							
BVAR	**Borovoye Array**	**151.28**	**47**	PKPbc	**PKPbc**	**00 13 58.5**	**+2.1**
0.6nm,0.7s,baz=326,slow=7.0,SNR=4.0							
BVAR				PKPab	**PKPab**	**00 14 05.1**	**+0.5**
1.3nm,0.8s,baz=256,slow=3.1,SNR=6.4							
KURBB	**Kurchatov Arra**	**156.85**	**48**	PKPab	**PKPab**	**00 14 30.2**	**+2.0**
0.2nm,0.5s,baz=279,slow=4.1,SNR=2.8							
MKAR	**Makanchi Array**	**160.53**	**56**	PKPab	**PKPab**	**00 14 43.5**	**-0.9**
0.2nm,0.7s,baz=314,slow=2.0,SNR=4.5							

*IDC **05** 23:55:12.5±1.4, 34°.40S×72°.74W, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.7/23, mbtmp3.6/5, ML3.7/3, Error ellipse: s-maj=48.4km s-min=32.6km az=162.0*

ISC 05 23:55:16.5±1.4, 34°.4S±0°.3×72°.8W±0°.2, h35km, n10, σ2.9 19/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.75**	**55**	Pn	**Pn**	**23 56 24.5**	**-1.1**
0.7nm,0.3s,baz=233,slow=12,SNR=11							
CFAA				Sn	**Sn**	**23 57 22.7**	**+3.2**
0.2nm,0.3s,baz=319,slow=19,SNR=2.1							
CPUP	**Villa Florida**	**15.59**	**63**	Pn	**P**	**23 58 54.0**	**-3.4**
0.3nm,0.3s,baz=202,slow=5.4,SNR=2.5							
LPAZ	**La Paz**	**18.52**	**14**	P	**Pn**	**23 59 30.2**	**-0.7**
0.1nm,0.3s,baz=200,slow=6.0,SNR=4.6							
TXAR	**Lajitas Array**	**69.77**	**331**	P	P	00 06 24.8	+1.6
0.6nm,0.7s,baz=150,slow=7.9,SNR=5.7							
TORD	**Torodi Ar. Bea**	**84.95**	**70**	P	**P**	**00 07 48.5**	**+0.1**
0.6nm,0.8s,baz=238,slow=5.0,SNR=3.7							
BVAR	**Borovoye Array**	**148.01**	**43**	PKPbc	**PKPab**	**00 14 59.7**	**-0.9**
0.8nm,0.6s,baz=309,slow=2.9,SNR=4.3							
AAK	**Ala-Archa**	**153.26**	**62**	PKPbc	**PKPbc**	**00 15 12.5**	**+1.7**
1.2nm,0.6s,baz=158,slow=8.9,SNR=3.7							
KURBB	**Kurchatov Arra**	**153.60**	**43**	PKPbc	**PKPbc**	**00 15 12.7**	**+1.7**
0.4nm,0.6s,baz=299,slow=2.8,SNR=4.6							
ZALV	**Zalesovo Beam**	**154.90**	**32**	PKPbc	**PKPbc**	**00 15 15.5**	**+1.8**
0.9nm,0.6s,baz=254,slow=3.8,SNR=4.4							
MKAR	**Makanchi Array**	**157.51**	**49**	PKPab	**PKPab**	**00 15 41.2**	**+0.5**
0.3nm,0.5s,baz=289,slow=4.4,SNR=3.4							

*IDC **05** 23:55:18.2±4.3, 3°.71S×100°.91E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/35, mbtmp3.4/5, Error ellipse: s-maj=189.1km s-min=22.3km az=54.0*

ISC 05 23:55:23.3±4.2, 3°.7S±0°.7×101°.0E±1°.0, h32km, n9, σ0.9 72/6, mb3.5/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**28.67**	**261**	T	T	00 30 46.6	
baz=85							
H08S3	**Diego Garcia H**	**28.68**	**261**	T	T	00 30 44.2	
baz=85							
H08S1	**Diego Carcia H**	**28.69**	**261**	T	T	00 30 47.7	
baz=85							
WRA	**Warramunga Arr**	**36.28**	**119**	P	**P**	**00 02 23.4**	**-0.8**
0.3nm,0.8s,baz=311,slow=9.1,SNR=5.0							
ASAR	**Alice Springs**	**37.46**	**125**	P	**P**	**00 02 34.7**	**+0.5**
0.1nm,0.4s,baz=299,slow=7.9,SNR=2.6							
SONM	**Songino Array**	**51.48**	**5**	P	**P**	**00 04 26.3**	**+0.4**
0.4nm,0.7s,baz=184,slow=8.7,SNR=4.0							
MKAR	**Makanchi Array**	**52.89**	**344**	P	**P**	**00 04 35.8**	**-0.4**
0.5nm,0.7s,baz=150,slow=8.7,SNR=7.7							
ZALV	**Zalesovo Beam**	**58.97**	**349**	P	**P**	**00 05 19.2**	**-0.4**
0.8nm,0.7s,baz=186,slow=4.2,SNR=4.9							
TXAR	**Lajitas Array**	**145.34**	**40**	PKPbc	**PKPab**	**00 14 59.2**	**+0.5**
0.4nm,0.8s,baz=333,slow=1.4,SNR=4.7							

*IDC **06** 00:06:13.7±0.9, 34°.08S×72°.43W, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.7/28, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=39.7km s-min=18.2km az=88.0*
*ISCJB **06** 00:06:15.1±1.0, 34°.15S±0°.09×72°.3W±0°.2, h17km, mb3.8/4, Error ellipse: s-maj=27.7km s-min=12.3km az=8.8*

ISC 06 00:06:16.5±0.9, 34°.1S±0°.1×72°.3W±0°.2, h17km, n10, σ1.9 07/10, mb3.9/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.23**	**55**	Pn	**Pn**	**00 07 19.8**	**-0.4**
0.1nm,0.3s,baz=236,slow=16,SNR=6.3							
CFAA				Lg	Lg	00 08 27.5	
0.3nm,0.3s,baz=164,slow=9.5,SNR=3.3							
PLCA	**Paso Flores**	**6.78**	**169**	Pn	**Pn**	**00 07 54.9**	**-0.4**
0.2nm,0.3s,baz=336,slow=14,SNR=2.9							
PLCA				Lg	Lg	00 09 49.3	
0.1nm,0.3s,baz=319,slow=11,SNR=2.5							
LPAZ	**La Paz**	**18.12**	**13**	P	**P**	**00 10 29.4**	**+1.0**
0.2nm,0.3s,baz=192,slow=8.4,SNR=4.8							
SNAA	**Sanae**	**51.59**	**158**	P	**P**	**00 15 22.1**	**+0.7**
1.0nm,0.8s,baz=283,slow=14							
QSPA	**South Pole Qui**	**56.15**	**180**	P	**P**	**00 15 55.9**	**+0.9**
1.5nm,0.8s,baz=225,slow=4.3,SNR=3.5							
TXAR	**Lajitas Array**	**69.70**	**331**	P	**P**	**00 17 25.4**	**-0.1**
0.3nm,0.7s,baz=157,slow=7.6,SNR=4.6							
TORD	**Torodi Ar. Bea**	**84.45**	**70**	P	**P**	**00 18 48.7**	**+0.1**
0.9nm,0.9s,baz=214,slow=4.7,SNR=5.1							
WRA	**Warramunga Arr**	**120.58**	**209**	PKP	**PKPdf**	**00 25 05.7**	**-2.1**
0.4nm,1.0s,baz=155,slow=1.7,SNR=4.1							
BVAR	**Borovoye Array**	**147.50**	**43**	PKPbc	**PKPbc**	**00 25 59.4**	**+0.3**
0.8nm,0.5s,baz=297,slow=1.3,SNR=4.5							
KURBB	**Kurchatov Arra**	**153.09**	**43**	PKPbc	**PKPbc**	**00 26 11.8**	**-0.9**
0.6nm,0.5s,baz=310,slow=2.9,SNR=4.6							

*IDC **06** 00:11:30.5±0.8, 34°.00S×72°.42W, h0km, mb4.1/5, mb1 4.2/7, mb1mx4.0/27, mbtmp4.1/7, ML3.6/3, MS2.8/1, Ms1 2.8/1, ms1mx2.6/18, Error ellipse: s-maj=34.2km s-min=19.7km az=88.0*
*ISCJB **06** 00:11:31.0±2.3, 34°.05S±0°.06×72°.5W±0°.1, h15km±16km, mb4.3/7, Error ellipse: s-maj=16.2km s-min=9.5km az=19.7*
*GUC **06** 00:11:31.6±0.5, 34°.01S×72°.34W, h1km±6km, ML3.9*
*NEIC **06** 00:11:35.5±0.5, 34°.04S×72°.53W, h35km, mb4.4/6, Error ellipse: s-maj=14.5km s-min=8.4km az=87.0*

ISC 06 00:11:31.6±2.6, 34°.01S±0°.05×72°.36W±0°.07, h8km±15km, n33, σ0.9 74/38, mb4.3/7, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.79**	**86**	⇑*i*P	**Pb**	**00 11 47.4**	**-0.2**
LNV				*i* S1	**Sn**	**00 11 59.0**	**-2.0**
IHA	**Instituto Hidr**	**1.15**	**32**	*e*P1	**Pn**	**00 11 53.0**	**-0.9**
IHA				*i* S1	**Sn**	**00 12 09.4**	**-0.5**
NICH	**Los Niches**	**1.36**	**137**	⇑*i*P	**Pn**	**00 11 56.3**	**-0.6**
NICH				*i* S1	**Sg**	**00 12 15.2**	**-0.2**
CHCH	**Chadas Angostu**	**1.42**	**87**	⇓*i*P	**Pn**	**00 11 57.4**	**-0.4**
CHCH				*i* S1	**Sn**	**00 12 16.8**	**+0.2**
CACH	**El Canelo**	**1.46**	**95**	⇑*i*P	**Pn**	**00 11 58.5**	**+0.1**
CACH				*i* S1	**Sg**	**00 12 19.7**	**+1.0**
ANTU	**Antumapu**	**1.50**	**73**	*e*P1	**Pn**	**00 11 58.8**	**-0.1**
ANTU				*i* S1	**Sn**	**00 12 18.6**	**0.0**
ANTU				AML	AML	00 12 20.5	
comp=N,3μm,0.4s							
CLCH	**Cerro Calan**	**1.64**	**69**	⇑*i*P	**Pn**	**00 12 01.0**	**+0.2**
CLCH				*i* S1	**Sg**	**00 12 23.5**	**-0.7**
CLCH				AML	AML	00 12 36.6	
comp=N,2μm,0.7s							
CLCH				AML	AML	00 12 36.8	
comp=N,2μm,0.8s							
PEL	**Peldehue**	**1.64**	**59**	⇓*i*P	**Pn**	**00 12 00.8**	**0.0**
PEL				*i* S	**Sb**	**00 12 23.0**	**-0.1**
PEL				AML	AML	00 12 35.1	
comp=N,4μm,0.6s							
FCH	**Farellones**	**1.85**	**69**	AML	AML	00 12 39.0	
comp=N,1μm,0.3s							
CFAA	**Coronel Fontan**	**4.22**	**56**	Pn	**Pn**	**00 12 38.6**	**+2.4**
comp=N,0.4nm,0.3s,baz=228,slow=14,SNR=16							
CFAA				Lg	Lg	00 13 40.6	
comp=N,1.3nm,0.3s,baz=79,slow=12,SNR=4.5							
PLCA	**Paso Flores**	**6.86**	**168**	Pn	**Pn**	**00 13 13.5**	**+0.9**
comp=N,0.4nm,0.3s,baz=332,slow=11,SNR=5.3							
PLCA				LR	LR	00 15 28.4	
comp=N,72nm,19.1s,baz=102,slow=34							
TRQA	**Tornquist**	**9.32**	**119**	*e*Pn	Pn	00 13 50.0	+3.7
LPAZ	**La Paz**	**18.05**	**13**	P	**Pn**	**00 15 43.7**	**+0.2**
comp=N,0.2nm,0.3s,baz=203,slow=6.5,SNR=10							
LPAZ	**La Paz**	**18.05**	**13**	*e*Pn	**Pn**	**00 15 43.3**	**-0.2**
comp=N,3.3nm,0.6s							
EFI	**East Falkland**	**20.46**	**154**	*e*P	**P**	**00 16 08.9**	**-0.6**
comp=N,12nm,0.7s							
SIV	**San Ignacio**	**20.62**	**32**	P	Pn	00 16 15.2	+1.4
comp=N,3.6nm,0.8s,baz=224,slow=12,SNR=10							
SNAA	**Sanae**	**51.67**	**158**	P	**P**	**00 20 39.3**	**+0.6**
comp=N,1.2nm,0.7s,baz=279,slow=9.7,SNR=8.1							
SNAA	**Sanae**	**51.67**	**158**	*e*P	**P**	**00 20 38.9**	**+0.2**
comp=N,2.9nm,0.6s							
QSPA	**South Pole Qui**	**56.23**	**180**	P	**P**	**00 21 13.0**	**+0.9**
comp=N,3.1nm,0.9s,baz=218,slow=0.6,SNR=10							
QSPA	**South Pole Qui**	**56.23**	**180**	*e*P	**P**	**00 21 12.4**	**+0.4**
comp=N,1.8nm,0.5s							
TXAR	**Lajitas Array**	**69.61**	**331**	P	**P**	**00 22 42.0**	**+0.6**
comp=N,1.0nm,0.6s,baz=153,slow=8.6,SNR=11							
WVT	**Waverly**	**71.26**	**347**	*e*P	**P**	**00 22 50.6**	**-0.6**
comp=N,5.3nm,0.6s							
DBIC	**Dimbokro**	**75.43**	**71**	*e*P	**P**	**00 23 16.9**	**+0.5**
comp=N,4.0nm,0.7s							
BOSA	**Boshof**	**80.30**	**118**	P	**P**	**00 23 43.7**	**+0.1**
comp=N,1.8nm,0.8s,baz=135,slow=1.4,SNR

CHCP	**Chirah Chowk**	**3.24**	**178**	P	**Pb**	**00 20 56.4**	**+1.1**
DZET	**Dzherino**	**3.89**	**300**	Pn	**Pn**	**00 20 59.3**	**+1.6**
DZET				Lg	Lg	00 21 52.3	
DLH	**Dalhousie**	**4.94**	**151**	*e*P	Pn	00 21 17.0	+4.8
DLH				*e*S	**Sb**	**00 22 20.0**	**-4.0**
DHRM	**DHARAMSHALA**	**5.33**	**150**	*e*P	Pn	00 21 22.8	+5.2
DHRM				*e*S	Sn	00 22 27.1	+8.0
DHRM				AML	AML	00 22 32.9	
	comp=N,170nm,0.3s						
DHRM				AML	AML	00 22 33.4	
	comp=E,121nm,0.4s						
AAK	**Ala-Archa**	**5.82**	**10**	⇑Pn	Pn	00 21 29.9	+5.8
	comp=E,10nm,0.8s						
AAK				⇑Sn	**Sn**	**00 22 32.7**	**+1.6**
	comp=E,12nm,0.8s						
AAK	**Ala-Archa**	**5.82**	**10**	Pn	Pn	00 21 28.0	+3.8
	comp=E,0.3nm,0.3s,baz=191,slow=10.0,SNR=20						
AAK				LR	LR	00 23 52.8	
	comp=E,66nm,20.9s,baz=195,slow=41						
TKM2	**Tokmak 2**	**6.30**	**17**	⇑Pn	**Pn**	**00 21 33.5**	**+2.7**
	comp=E,6.4nm,0.8s						
TKM2				⇑Sn	**Sn**	**00 22 41.8**	**-1.3**
	comp=E,7.9nm,0.8s						
KK31	**Karatay Array**	**6.51**	**343**	⇑Pn	**Pn**	**00 21 34.5**	**+1.0**
	comp=E,1.3nm,0.3s,baz=159,slow=12,SNR=74						
KK31				⇑Sn	**Sn**	**00 22 46.4**	**-1.4**
	comp=E,2.7nm,0.5s,baz=164,slow=25						
SMLA	**Simla**	**6.67**	**149**	*e*P	Pn	00 21 40.2	+4.6
SMLA				*e*S	**Sn**	**00 22 56.1**	**+4.4**
SMLA				AML	AML	00 23 41.0	
	comp=N,33nm,0.5s						
SMLA				AML	AML	00 23 45.5	
	comp=E,61nm,0.0s						
DDI	**Dehra Dun**	**7.75**	**147**	*e*S	**Sn**	**00 23 18.4**	**0.0**
DDI				AML	AML	00 23 58.5	
	comp=N,104nm,0.2s						
DDI				AML	AML	00 23 59.0	
	comp=E,92nm,0.3s						
PDGK	**Podgornoye**	**8.06**	**35**	⇓Pn	**Pn**	**00 21 57.3**	**+2.7**
PDGK				⇓Lg	Lg	00 24 09.1	
GEYT	**Alibeck**	**11.98**	**279**	Pn	**Pn**	**00 22 46.3**	**-2.2**
	comp=E,1.0nm,0.3s,baz=113,slow=10,SNR=14						
MK31	**Makanchi Array**	**12.01**	**32**	⇓P	**Pn**	**00 22 49.4**	**+0.6**
	comp=E,0.9nm,0.8s,baz=215,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**12.01**	**32**	Pn	**Pn**	**00 22 49.3**	**+0.4**
	comp=E,0.0nm,0.3s,baz=214,slow=13,SNR=8.5						
DANN	**Dangsing**	**12.37**	**131**	*e*P	**Pn**	**00 22 54.1**	**0.0**
	comp=E,10nm,0.4s						
KOLN	**Koldanda**	**12.70**	**133**	*e*P	**Pn**	**00 22 55.7**	**-2.8**
	comp=E,6.9nm,0.5s						
GKN	**Gorkha**	**13.15**	**129**	*e*P	**Pn**	**00 23 04.3**	**-0.4**
	comp=E,7.8nm,0.4s						
KKN	**Kakani**	**13.71**	**128**	*e*P	**Pn**	**00 23 11.5**	**-0.8**
	comp=E,8.5nm,0.6s						
PKI	**Pulchoki**	**13.94**	**128**	*e*P	**Pn**	**00 23 13.9**	**-1.7**
	comp=E,6.4nm,0.5s						
GUN	**Gumba**	**14.01**	**126**	*e*P	**Pn**	**00 23 14.8**	**-1.7**
	comp=E,7.2nm,0.5s						
BHPL	**Bhopal**	**14.11**	**164**	*e*S	**S**	**00 26 15.7**	**0.0**
KURBB	**Kurchatov Arra**	**14.25**	**14**	P	**P**	**00 23 26.0**	**-0.8**
KURBB	**Kurchatov Arra**	**14.25**	**14**	Pn	**Pn**	**00 23 20.2**	**+0.7**
	comp=E,0.0nm,0.3s,baz=207,slow=12,SNR=6.2						
KURK	**Kurchatov**	**14.36**	**14**	⇓P	**P**	**00 23 28.9**	**+0.9**
	comp=E,2.1nm,1.1s						
JIRN	**Jiri**	**14.38**	**126**	*e*P	**Pn**	**00 23 19.4**	**-2.2**
	comp=E,16nm,0.6s						
AB31	**Akbulak array**	**15.63**	**326**	⇓P	**Pn**	**00 23 35.5**	**-2.3**
	comp=E,0.4nm,0.5s,baz=132,slow=13,SNR=5.1						
BVAR	**Borovoye Array**	**16.23**	**354**	Pn	**Pn**	**00 23 45.4**	**-0.3**
	comp=E,0.1nm,0.3s,baz=158,slow=12,SNR=2.9						
BOK	**Bokaro**	**17.07**	**136**	*ex*	P	00 24 05.2	+7.0
AKTO	**Aktyubinsk**	**17.34**	**326**	⇑P	**P**	**00 24 02.5**	**+1.4**
	comp=E,2.7nm,0.8s						
AKTO	**Aktyubinsk**	**17.34**	**326**	P	**Pn**	**00 23 59.8**	**0.0**
	comp=E,0.2nm,0.3s,baz=111,slow=14,SNR=8.8						
ZALV	**Zalesovo Beam**	**18.88**	**22**	P	**P**	**00 24 16.9**	**-1.0**
	comp=E,0.2nm,0.3s,baz=217,slow=11,SNR=26						
SONM	**Songino Array**	**26.70**	**55**	P	**P**	**00 25 39.2**	**+2.1**
	comp=E,0.4nm,0.6s,baz=260,slow=8.6,SNR=3.2						
FINES	**FINESS Array B**	**38.11**	**325**	P	**P**	**00 27 16.4**	**-0.1**
	comp=E,1.7nm,1.0s,baz=115,slow=6.3,SNR=3.3						
YKA	**Yellowknife Ar**	**80.75**	**4**	P	**P**	**00 32 09.3**	**-1.5**
	comp=E,0.2nm,0.5s,baz=346,slow=5.4,SNR=5.2						
WRA	**Warramunga Arr**	**80.77**	**123**	P	**P**	**00 32 12.0**	**+0.5**
	comp=E,1.0nm,1.2s,baz=321,slow=4.4,SNR=2.9						

*IDC **06** 00:22:04.5±1.1, 33°.32S×72°.12W, h0km, mb4.2/7, mb1 4.3/10, mb1mx4.1/30, mbtmp4.2/10, ML4.1/3, MS3.6/5, Ms1 3.5/5, ms1mx3.3/20, Error ellipse: s-maj=36.1km s-min=17.2km az=93.0*
*GUC **06** 00:22:05.2±0.5, 33°.36S×72°.42W, h2km±4km, ML4.4*
*NEIC **06** 00:22:09.5±1.0, 33°.34S×72°.23W, h35km, mb4.5/5, Error ellipse: s-maj=20.6km s-min=11.7km az=95.0*

ISC 06 00:22:06.2±2.2, 33°.30S±0°.06×72°.31W±0°.09, h14km±12km, n29, σ1§11/31, mb4.4/9, MS3.5/3, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.62**	**64**	⇑*i*P	**Pn**	**00 22 20.3**	**-0.3**
IHA				*i* S1	**Sn**	**00 22 31.2**	**+0.8**
LNV	**Longovilo**	**0.99**	**131**	⇑*i*P	**Pg**	**00 22 24.9**	**-0.5**
LNV				*i* S1	**Sn**	**00 22 40.0**	**+0.5**
PEL	**Peldehue**	**1.37**	**84**	⇓*i*P	**Pg**	**00 22 31.8**	**-0.7**
PEL				*i* S1	**Sg**	**00 22 52.5**	**+2.2**
PEL				AML	AML	00 22 57.5	
	comp=N,10μm,0.6s						
STL	**Santa Lucia**	**1.40**	**96**	*e*P9	**Pn**	**00 22 31.4**	**+0.1**
STL				*i* S1	**Sg**	**00 22 51.8**	**+0.4**
ANTU	**Antumapu**	**1.42**	**101**	*e*P1	**Pg**	**00 22 32.8**	**-0.8**
ANTU				*e*S1	**Sg**	**00 22 53.2**	**+1.1**
ANTU				AML	AML	00 23 00.2	
	comp=E,7μm,0.6s						
CLCH	**Cerro Calan**	**1.48**	**94**	⇑*i*P	**Pg**	**00 22 33.6**	**-1.2**
CLCH				*i* S4	**Sg**	**00 22 57.1**	**+3.1**
CLCH				AML	AML	00 23 06.9	
	comp=N,11μm,0.7s						
CLCH				AML	AML	00 23 07.6	
	comp=N,12μm,0.6s						
CHCH	**Chadas Angostu**	**1.52**	**115**	⇓*i*P	**Pb**	**00 22 33.2**	**-0.9**
FCH	**Farellones**	**1.69**	**91**	AML	AML	00 23 03.3	
	comp=E,4μm,0.4s						
NICH	**Los Niches**	**1.92**	**153**	*e*P1	**Pn**	**00 22 38.8**	**+0.4**
CFAA	**Coronel Fontan**	**3.83**	**65**	Pn	Pb	00 23 08.8	-4.8
	comp=E,0.3nm,0.3s,baz=235,slow=12,SNR=6.5						
CFAA				LR	LR	00 24 03.8	
	comp=E,32nm,20.1s,baz=328,slow=32						
CFAA				Lg	Lg	00 24 06.1	
	comp=E,2.4nm,0.3s,baz=324,slow=19,SNR=5.5						
PLCA	**Paso Flores**	**7.55**	**170**	Pn	**Pn**	**00 23 56.0**	**+0.1**
	comp=E,2.0nm,0.3s,baz=334,slow=12,SNR=29						
PLCA				Lg	Lg	00 26 01.9	
	comp=E,1.7nm,0.3s,baz=32,slow=14,SNR=4.4						
PLCA				LR	LR	00 26 41.8	
	comp=E,241nm,19.6s,baz=354,slow=37						
TRQA	**Tornquist**	**9.64**	**122**	*e*Pn	**Pn**	**00 24 25.2**	**+0.6**
CPUP	**Villa Florida**	**14.73**	**66**	LR	LR	00 31 41.7	
	comp=E,196nm,18.4s,baz=228,slow=40						
CPUP	**Villa Florida**	**14.73**	**66**	*e*Pn	**Pn**	**00 25 32.3**	**-1.9**
LPAZ	**La Paz**	**17.36**	**14**	P	**Pn**	**00 26 09.8**	**+1.1**
	comp=E,0.1nm,0.3s,baz=176,slow=8.5,SNR=6.4						
LPAZ	**La Paz**	**17.36**	**14**	*e*Pn	**Pn**	**00 26 09.2**	**+0.5**
	comp=E,6.9nm,0.9s						
SIV	**San Ignacio**	**20.00**	**33**	P	**P**	**00 26 38.5**	**-0.1**
	comp=E,0.3nm,0.3s,baz=228,slow=12,SNR=7.7						
SIV				LR	LR	00 35 38.3	
	comp=E,220nm,20.9s,baz=230,slow=41						
EFI	**East Falkland**	**21.08**	**155**	*e*P	**P**	**00 26 49.7**	**-0.2**
	comp=E,19nm,0.6s						
SAML	**Samuel**	**25.66**	**21**	*e*P	**P**	**00 27 37.4**	**+1.8**
	comp=E,8.6nm,1.1s						
ATAH	**Atahualpa**	**26.64**	**346**	LR	LR	00 37 00.4	
	comp=E,134nm,18.7s,baz=198,slow=34						
BDFB	**Brasilia**	**28.14**	**57**	P	**P**	**00 27 56.4**	**-1.8**
	comp=E,2.2nm,0.6s,baz=252,slow=2.7,SNR=3.4						
BDFB				LR	LR	00 39 34.4	
	comp=E,125nm,21.1s,baz=225,slow=38						
SNAA	**Sanae**	**52.31**	**158**	P	**P**	**00 31 17.0**	**-0.1**
	comp=E,1.2nm,0.8s,baz=297,slow=11,SNR=5.2						
QSPA	**South Pole Qui**	**56.93**	**180**	P	**P**	**00 31 51.3**	**+0.5**
	comp=E,3.7nm,0.9s,baz=193,slow=1.4,SNR=8.9						
QSPA	**South Pole Qui**	**56.93**	**180**	*e*P	**P**	**00 31 51.1**	**+0.3**
	comp=E,12nm,1.1s						
TXAR	**Lajitas Array**	**69.02**	**331**	P	**P**	**00 33 12.2**	**+0.8**
	comp=E,0.5nm,0.9s,baz=148,slow=7.4,SNR=6.6						
DBIC	**Dimbokro**	**75.17**	**72**	P	**P**	**00 33 48.6**	**+0.1**
	comp=E,3.5nm,1.0s,baz=207,slow=11,SNR=2.5						
BOSA	**Boshof**	**80.59**	**118**	P	**P**	**00 34 18.7**	**-0.1**
	comp=E,5.1nm,1.0s,baz=207,slow=9.5,SNR=3.8						
BOSA	**Boshof**	**80.59**	**118**	*e*P	**P**	**00 34 18.7**	**-0.1**
	comp=E,8.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**84.18**	**70**	P	**P**	**00 34 37.6**	**+0.2**
	comp=E,2.8nm,0.8s,baz=264,slow=4.3,SNR=13						

WEL 06 00:27:35.7±0.6, 46°.27S×166°.13E, h3km, ML3.6/9, 1C-2D, Error ellipse: s-maj=7.0km s-min=2.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.07**	**42**	P*	Pg	00 27 53.2	-2.9
DCZ				AML	AML	00 28 11.6	
DCZ				AML	AML	00 28 11.6	
DCZ				AML	AML	00 28 12.5	
WHZ	**Wether Hill Ro**	**1.32**	**74**	P*	Pg	00 27 59.9	-1.0
WHZ				S*	Sg	00 28 17.3	-0.8
WHZ				AML	AML	00 28 21.9	
APZ	**The Paps**	**1.40**	**114**	⇑PN	Pn	00 28 01.1	-1.0
APZ				S*	Sb	00 28 20.8	0.0
APZ				AML	AML	00 28 21.9	
MLZ	**Mavora Lakes**	**1.70**	**58**	⇓PN	Pn	00 28 04.5	-1.8
MLZ				SN	Sn	00 28 26.7	-1.9
MLZ				AML	AML	00 28 31.5	
MSZ	**Milford Sound**	**2.04**	**39**	PN	Pn	00 28 09.3	-1.6
MSZ				AML	AML	00 28 44.7	
MSZ				AML	AML	00 28 48.0	
SYZ	**Scrubby Hill**	**2.10**	**98**	PN	Pn	00 28 11.7	+0.1
EAZ	**Earnscleugh**	**2.45**	**66**	⇓PN	Pn	00 28 16.4	-0.2
EAZ				AML	AML	00 28 55.3	
EAZ				AML	AML	00 28 56.4	
TUZ	**Tuapeka**	**2.45**	**84**	PN	Pn	00 28 16.2	-0.4
WKZ	**Wanaka**	**2.49**	**56**	PN	Pn	00 28 16.5	-0.6
WKZ				AML	AML	00 28 57.5	
JCZ	**Jackson Bay**	**2.88**	**41**	PN	Pn	00 28 21.0	-1.5
JCZ				AML	AML	00 29 09.7	
JCZ				AML	AML	00 29 14.2	
ODZ	**Otahua Downs**	**3.39**	**70**	PN	Pn	00 28 27.2	-2.3
LBZ	**Lake Benmore**	**3.42**	**58**	PN	Pn	00 28 27.8	-2.1
RPZ	**Rata Peaks**	**4.33**	**56**	PN	Pn	00 28 39.4	-2.9
RPZ				AML	AML	00 31 10.8	
WVZ	**Waitaha Valley**	**4.58**	**47**	PN	Pn	00 28 42.7	-3.1
OXZ	**Oxford**	**5.13**	**57**	PN	Pn	00 28 49.7	-3.7

*ISCJB **06** 00:32:58.4±0.8, 48°.91N±0°.02×91°.48E±0°.03, h0km±5km, mb4.8/132, MS3.9/29, Error ellipse: s-maj=3.3km s-min=2.8km az=41.2*
*NNC **06** 00:32:58.1±2.4, 48°.92N×91°.79E, h0km, mb5.0, mpv5.0, Error ellipse: s-maj=29.3km s-min=21.2km az=132.0*
*LDG **06** 00:32:59.0±0.1, 48°.99N×91°.58E, h10km, Mb4.8/24, Ms3.6/7, Error ellipse: s-maj=4.8km s-min=3.6km az=50.0*
*BJI **06** 00:32:59.8, 49°.03N×91°.64E, h7km, mB4.7/37, mb4.6/51, ML5.4/7, Ms4.6/44, Ms7 4.4/45*
*NEIC **06** 00:33:01.6±0.1, 48°.90N×91°.48E, h10km, mb5.1/71, Error ellipse: s-maj=3.5km s-min=2.6km az=192.0*
*IDC **06** 00:33:02.4±0.4, 48°.90N×91°.51E, h15km±2km, mb4.3/31, mb1 4.4/37, mb1mx4.3/54, mbtmp4.4/37, ML4.3/5, MS3.8/28, Ms1 3.8/28, ms1mx3.7/40, Error ellipse: s-maj=10.4km s-min=7.4km az=5.0*
*MOS **06** 00:33:03.3±0.9, 48°.90N×91°.48E, h33km, mb5.1/54, MS4.1/7, Error ellipse: s-maj=5.9km s-min=4.3km az=125.7*
*ASRS **06** 00:33:04.3±1.1, 49°.08N×91°.67E, h15km, Ms4.4/6*

ISC 06 00:33:02.4±0.3, 48°.93N±0°.03×91°.47E±0°.03, h15km±1km, h14km: pP-P, n524, σ1§26/528, mb4.9/134, MS3.8/29, 46C-16D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVS	**Khovu-Aksy**	**2.64**	**32**	*c i*PN	**Pn**	**00 33 45.8**	**+1.3**
AKAR	**Aktash**	**2.87**	**301**	*e*PN	**Pb**	**00 33 51.3**	**-2.0**
AKAR				*e*		00 34 32.8	
AKAR	**Aktash**	**2.87**	**301**	*e*Pn	**Pb**	**00 33 51.3**	**-2.0**
AKAR				*e*Sg	**Sg**	**00 34 32.8**	**-1.6**
CERR	**Cheremushki**	**3.93**	**360**	*i* PN	**Pb**	**00 34 12.9**	**+1.5**
CERR				*i*		00 35 01.5	
CERR	**Cheremushki**	**3.93**	**360**	*i* Pg	**Pb**	**00 34 12.9**	**+1.5**
CERR				*i* Sg	**Sb**	**00 35 01.5**	**+2.8**
TASR	**Tashtagol**	**4.46**	**331**	*e*Pg	**Pg**	**00 34 27.4**	**-0.4**
TASR				*e*Sg	**Sg**	**00 35 22.9**	**-2.6**
UKR	**Ust'-Kan**	**4.77**	**297**	*e*PN	**Pn**	**00 34 16.6**	**+2.8**
UKR				*e*		00 34 31.8	
UKR	**Ust'-Kan**	**4.77**	**297**	*e*Pn	**Pn**	**00 34 16.6**	**+2.8**
UKR				*e*Pg	**Pg**	**00 34 31.8**	**-1.9**
UKR				*e*Sg	**Sg**	**00 35 34.0**	**-1.4**
ELT	**Yel'tsovka**	**5.45**	**325**	*e*PN	**Pn**	**00 34 25.4**	**+2.4**
ELT				*e*		00 34 43.0	
ELT	**Yel'tsovka**	**5.45**	**325**	*e*Pn	**Pn**	**00 34 25.4**	**+2.4**
ELT				*e*Pg	Pg	00 34 43.0	-3.6
ELT				*e*Sg	**Sg**	**00 35 54.5**	**-2.6**
WMQ	**Urumqi**	**5.74**	**208**	Pn	**Pn**	**00 34 29.5**	**+2.5**
WMQ				Sn	**Sn**	**00 35 33.6**	**+1.0**
WMQ				SMN			
	3μm,0.8s						
WMQ				SME			
	2μm,0.9s						
WMQ				LN			
	2μm,19.0s						
WMQ				LE			
	880nm,14.0s						
WMQ				LZ			
	2μm,16.0s						
ZAA0	**Zalesovo Array**	**6.52**	**323**	*e*Pn	**Pn**	**00 34 38.4**	**+0.6**
ZALV	**Zalesovo Beam**	**6.52**	**323**	Pn	**Pn**	**00 34 38.5**	**+0.8**
	1.5nm,0.3s,baz=143,slow=13,SNR=32						
ZALV				Lg	Lg	00 36 29.6	
	24nm,0.3s,baz=117,slow=29,SNR=6.0						
ZALV				LR	LR	00 37 22.4	
	comp=Z,702nm,20.8s,baz=75,slow=40						
MK31	**Makanchi Array**	**6.54**	**254**	⇑Pn	**Pn**	**00 34 39.7**	**+1.7**
	25nm,0.5s,baz=84,slow=14,SNR=382						
MK31				⇑Pg	Pg	00 35 03.0	-4.4
	154nm,0.6s,baz=78,slow=17,SNR=13						
MK31				⇑Lg	Lg	00 36 27.1	
	457nm,0.6s,baz=67,slow=32,SNR=9.5						
MKAR	**Makanchi Array**	**6.54**	**254**	PN	**Pn**	**00 34 39.7**	**+1.7**
MKAR						00 36 27.9	
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,2μm,19.9s						
MKAR	**Makanchi Array**	**6.54**	**254**	Pn	**Pn**	**00 34 39.7**	**+1.7**
	comp=Z,6.8nm,0.3s,baz=81,slow=15,SNR=290						
MKAR				Lg	Lg	00 36 27.9	
	comp=Z,52nm,0.3s,baz=68,slow=32,SNR=9.2						
MKAR				LR	LR	00 37 26.2	
	comp=Z,2μm,19.9s,baz=69,slow=40						
MKAR	**Makanchi Array**	**6.54**	**254**	*e*Pn	**Pn**	**00 34 39.5**	**+1.6**
MKAR				*e*Sg	Sg	00 36 26.5	-5.5
MK01	**Makanchi Array**	**6.54**	**254**	*e*Pn	**Pn**	**00 34 39.4**	**+1.3**
MK01				*e*Sg	Sg	00 36 27.0	-5.1
MOY	**Mondy**	**6.69**	**62**	*e*PN	Pn	00 34 43.6	+3.5
MOY				*e*		00 36 23.7	
MOY				pmax	pmax		
	comp=Z,588nm,0.7s						
MOY				smax	smax		
	comp=E,4μm,1.1s						
KRAR	**Krasnoyarsk**	**7.15**	**6**	*i* PN	**Pn**	**00 34 47.0**	**+0.7**
ZAK	**Zakamensk**	**7.80**	**75**	*e*P	**Pn**	**00 34 54.7**	**-0.7**
ZAK				*e*		00 36 30.0	
ZAK				pmax	pmax		
	comp=Z,125nm,0.7s						
ZAK				smax	smax		
	comp=N,1μm,1.1s						
NVS	**Novosibirsk**	**7.81**	**322**	*e*P	**Pn**	**00 34 57.0**	**+1.6**
NVS				*e*		00 36 27.2	
NVS	**Novosibirsk**	**7.81**	**322**	*e*Pn	**Pn**	**00 34 57.0**	**+1.6**
NVS				*e*Pg	Pg	00 35 25.2	-6.5
NVS				*e*Sn	**Sn**	**00 36 27.2**	**+3.8**
NVS				*e*Sg	Sg	00 37 05.9	-6.8
TLY	**Talaya**	**8.27**	**66**	*i* P	Pn	00 35 05.5	+3.8
TLY				pmax	pmax		
	comp=Z,40nm,0.6s						
TLY	**Talaya**	**8.27**	**66**	Lg	Lg	00 37 19.4	
	comp=Z,0.1nm,0.3s,baz=179,slow=5.5,SNR=6.6						
TLY				LR	LR	00 38 18.4	
	comp=Z,2μm,18.6s,baz=252,slow=38						
TLY	**Talaya**	**8.27**	**66**	*e*Pn	Pn	00 34 57.9	-3.8
TLY				Lg	Lg	00 37 19.4	
KURK	**Kurchatov**	**8.50**	**287**	Pn	**Pn**	**00 35 04.9**	**+0.1**
	comp=Z,250nm,0.4s,SNR=28						
KURK	**Kurchatov**	**8.50**	**287**	⇓Pn	**Pn**	**00 35 04.6**	**-0.3**
	comp=Z,23nm,0.7s						
KURK				⇑Lg	Lg	00 37 37.2	
	comp=Z,202nm,0.9s						
KURK	**Kurchatov**	**8.50**	**287**	P	**Pn**	**00 35 05.9**	**+1.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**8.50**	**287**	*e*Pn	**Pn**	**00 35 05.0**	**+0.1**
KURBB	**Kurchatov Arra**	**8.55**	**286**	⇓Pn	**Pn**	**00 35 05.5**	**0.0**
	comp=Z,40nm,0.5s						
KURBB				⇑Lg	Lg	00 37 38.9	
	comp=Z,1μm,0.8s						
KURBB	**Kurchatov Arra**	**8.55**	**286**	Pn	**Pn**	**00 35 05.9**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=96,slow=15,SNR=121						
SONM	**Songino Array**	**9.99**	**91**	Pn	**Pn**	**00 35 24.4**	**-1.0**
	comp=Z,8.2nm,0.3s,baz=274,slow=14,SNR=257						
SONM				Lg	Lg	00 38 17.3	
	comp=Z,19nm,0.3s,baz=284,slow=32,SNR=18						
SONM				LR	LR	00 39 24.5	
	comp=Z,934nm,18.6s,baz=284,slow=38						
SONA1	**Songino Array**	**10.00**	**91**	*e*Pn	**Pn**	**00 35 23.8**	**-1.7**
ULN	**Ulaanbaatar**	**10.42**	**90**	⇑*i*P	**Pn**	**00 35 33.1**	**+1.8**
ULN	**Ulaanbaatar**	**10.42**	**90**	*e*Pn	**Pn**	**00 35 29.9**	**-1.4**
GTA	**Gaotai**	**11.23**	**145**	*e*P	**Pn**	**00 35 42.7**	**+0.2**
GTA				pP		00 35 45.9	
GTA				sP		00 35 48.7	
GTA				S	**Sn**	**00 37 49.2**	**+1.4**
GTA				SS	**SnSn**	**00 38 02.0**	**+2.5**
GTA				PMZ			
	comp=Z,5.0nm,1.1s						
GTA				PMZ			
	comp=Z,140nm,5.7s						
GTA				LN			
	comp=Z,1μm,12.4s						
GTA				LE			
	comp=Z,1μm,11.6s						
GTA				LZ			
	comp=Z,2μm,12.3s						
TKM2	**Tokmak 2**	**12.57**	**247**	⇑Pn	**Pn**	**00 36 00.2**	**-0.5**
	comp=Z,16nm,0.7s						
TKM2				⇓Lg	Lg	00 39 43.0	
	comp=Z,153nm,0.9s						
TKM2	**Tokmak 2**	**12.57**	**247**	P	**Pn**	**00 36 01.3**	**+0.5**
	SNR=12						
TKM2	**Tokmak 2**	**12.57**	**247**	*i* P	**Pn**	**00 36 01.3**	**+0.5**
TKM2	**Tokmak 2**	**12.57**	**247**	*e*Pn	**Pn**	**00 36 00.4**	**-0.4**
USP	**Ospenovka**	**13.06**	**251**	P	**Pn**	**00 36 06.3**	**-1.1**
	SNR=9.4						
USP	**Ospenovka**	**13.06**	**251**	*i* P	**Pn**	**00 36 06.2**	**-1.1**
KBK	**Karagaybulak**	**13.11**	**248**	P	**Pn**	**00 36 08.8**	**+0.6**
	SNR=22						
KBK	**Karagaybulak**	**13.11**	**248**	*i* P	**Pn**	**00 36 08.8**	**+0.6**
FRU	**Bishkek**	**13.22**	**249**	*e*P	**Pn**	**00 36 12.0**	**+2.5**
FRU				pmax	pmax		
	comp=Z,34nm,1.8s						
FRU				pmax	pmax		
	comp=N,520nm,2.0s						
KZA	**Kyzart**	**13.27**	**245**	P	**Pn**	**00 36 12.2**	**+1.7**
	SNR=8.3						
KZA	**Kyzart**	**13.27**	**245**	*i* P	**Pn**	**00 36 12.2**	**+1.7**
AAK	**Ala-Archa**	**13.40**	**248**	Pn	**Pn**	**00 36 12.1**	**0.0**
	comp=N,108nm,0.7s,SNR=9.8						
AAK	**Ala-Archa**	**13.40**	**248**	⇑Pn	**Pn**	**00 36 12.3**	**+0.1**
	comp=N,24nm,0.9s						
AAK				⇑Lg	Lg	00 40 04.4	
	comp=N,110nm,1.1s						
AAK	**Ala-Archa**	**13.40**	**248**	P	**Pn**	**00 36 13.1**	**+1.0**
	SNR=7.0						
AAK	**Ala-Archa**	**13.40**	**248**	*i* P	**Pn**	**00 36 13.1**	**+1.0**
AAK	**Ala-Archa**	**13.40**	**248**	Pn	**Pn**	**00 36 12.2**	**+0.1**
	comp=N,1.1nm,0.3s,baz=85,slow=7.4,SNR=35						
AAK				Lg	Lg	00 40 08.3	
	comp=N,1.4nm,0.3s,baz=291,slow=21,SNR=6.3						
AAK				LR	LR	00 41 48.9	
	comp=N,693nm,19.7s,baz=38,slow=39						
VOSK	**Vostochnaya**	**13.49**	**294**	*e*P	**Pn**	**00 36 11.2**	**-1.9**
VOSK	**Vostochnaya**	**13.49**	**294**	*e*Pn	**Pn**	**00 36 11.2**	**-1.9**
UCH	**Uchtor**	**13.62**	**247**	P	**Pn**	**00 36 17.0**	**+1.6**
	SNR=23						
UCH	**Uchtor**	**13.62**	**247**	*i* P	**Pn**	**00 36 17.0**	**+1.6**
EKS2	**Erkin-Say**	**13.83**	**250**	P	Pn	00 36 22.4	+4.5
	SNR=5.2						
EKS2	**Erkin-Say**	**13.83**	**250**	*e*P	**Pn**	**00 36 17.5**	**-0.4**
EKS2	**Erkin-Say**	**13.83**	**250**	*e*Pn	**Pn**	**00 36 17.5**	**-0.4**
BVAR	**Borovoye Array**	**13.89**	**295**	Pn	**Pn**	**00 36 17.9**	**-0.6**
	comp=N,1.9nm,0.3s,baz=108,slow=15

comp=Z,1μm,19.0s
BJI LE
comp=Z,1μm,19.9s
BJT Baijiatuau 19.68 108 *eP* **P 00 37 31.0 +0.3**
BJT pmax pmax
comp=Z,43nm,0.5s
BJT Baijiatuau 19.68 108 *eP* **P 00 37 31.0 +0.3**
comp=Z,43nm,0.5s
XAN Xi'an 19.73 132 P **Pn 00 37 32.3 -0.7**
XAN pP **pP 00 37 37.1 +1.5**
XAN sP **sP 00 37 39.5 +1.9**
XAN S **S 00 41 08.5 -4.9**
XAN PMZ
comp=Z,3.0nm,0.6s
XAN PMZ
comp=Z,23nm,5.0s
XAN LN
comp=Z,350nm,9.1s
XAN LE
comp=Z,91nm,9.1s
XAN LZ
comp=Z,110nm,9.1s
SVE Sverdlovsk 20.08 305 *eP* Pn 00 37 41.3 +4.5
SVE pmax pmax
comp=Z,38nm,0.6s
CD2 Chengdu 20.27 148 P **P 00 37 38.1 +0.8**
CD2 sP **sP 00 37 47.2 +3.8**
CD2 PP **PnPn 00 37 57.2 +3.2**
CD2 S **S 00 41 17.9 -6.2**
CD2 sS Sn 00 41 26.2 -1.0
CD2 SS **SnSn 00 41 48.8 +7.1**
CD2 PMZ
comp=Z,40nm,1.2s
CD2 PMZ
comp=Z,110nm,5.4s
CD2 LN
comp=Z,1μm,10.7s
CD2 LE
comp=Z,1μm,11.9s
CD2 LZ
comp=Z,1μm,14.3s
CHCP Chirah Chowk 20.41 228 P Pn 00 37 40.5 -0.5
AB31 Akbulak array 20.58 283 ⇓P **P 00 37 40.6 +0.1**
comp=Z,8.2nm,0.6s,baz=81,slow=9.8,SNR=13
ABKAR Akbulak array 20.58 283 *eP* **P 00 37 40.6 +0.2**
BHK Bhakra 20.87 219 *eP* **P 00 37 42.0 -1.8**
CEP Cherat 20.96 231 P **P 00 37 45.8 +0.9**
ARU Arti 21.15 303 Pn **P 00 37 48.8 +2.2**
comp=Z,322nm,0.8s,SNR=12
ARU Arti 21.15 303 *d iP* **P 00 37 48.3 +1.7**
ARU 00 38 07.5
ARU PPP PPP 00 38 15.7
ARU S Sn 00 41 46.4 -1.7
ARU SS **SnSn 00 42 08.8 +6.0**
ARU SSS SSS 00 42 19.7
ARU pmax pmax
comp=Z,9.0nm,0.6s
ARU Arti 21.15 303 *eP* **P 00 37 47.7 +1.0**
comp=Z,39nm,0.8s
DANN Dangsing 21.39 199 *eP* **P 00 37 49.6 -0.1**
comp=Z,145nm,0.8s
GUN Gumba 21.42 194 *eP* **P 00 37 49.7 -0.4**
comp=Z,352nm,1.1s
CLNS Chul'man 21.49 56 *eP* **P 00 37 51.9 +1.6**
CLNS pmax pmax
comp=Z,16nm,0.9s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS MLR MLR
comp=Z,480nm,11.0s
CLNS MLR MLR
comp=N,1μm,12.0s
CLNS MLR MLR
comp=E,1μm,12.0s
GKN Gorkha 21.55 197 *eP* **P 00 37 51.2 -0.1**
comp=E,426nm,1.1s
AKTO Aktyubinsk 21.60 287 ⇓P **P 00 37 51.3 -0.3**
comp=E,20nm,1.0s
AKTO Aktyubinsk 21.60 287 P **P 00 37 51.6 +0.1**
comp=E,3.9nm,0.5s,baz=98,slow=13,SNR=18
AKTO LR LR 00 47 34.9
comp=E,48nm,19.7s,baz=89,slow=40
JIRN Jiri 21.62 193 *eP* **P 00 37 52.2 -0.1**
comp=E,130nm,0.6s
KKN Kakani 21.64 195 *eP* **P 00 37 52.1 -0.2**
comp=E,58nm,0.5s
TAPN Taplejung 21.74 189 *eP* **P 00 37 53.2 -0.3**
comp=E,264nm,0.7s
PKIN Phulchoki 21.83 195 *eP* **P 00 37 54.8 +0.4**
comp=E,48nm,0.6s
PKI Pulchoki 21.83 195 *eP* **P 00 37 54.0 -0.5**
comp=E,65nm,0.5s
DMN Daman 21.85 195 *eP* **P 00 37 54.4 -0.2**
comp=E,39nm,0.6s
KBL Kabul 21.95 237 *eP* **P 00 37 55.5 -0.1**
KBL pmax pmax
comp=Z,69nm,0.9s
KBL Kabul 21.95 237 *eP* **P 00 37 55.5 -0.1**
comp=Z,69nm,0.9s
KOLN Koldanda 21.98 199 *eP* **P 00 37 55.6 -0.4**
comp=Z,170nm,0.9s
SARP Sargodha 22.11 227 P **P 00 37 56.2 -0.9**
ODAN Odare 22.26 190 *eP* **P 00 37 58.6 -0.4**
comp=Z,338nm,1.0s
RAMN Ramite 22.27 192 *eP* **P 00 37 57.8 -1.3**
comp=Z,151nm,0.9s
SOKR Solikamsk 22.62 311 ⇑ *iP* P 00 38 09.1 +6.8
SOKR pmax pmax
comp=Z,10.0nm,0.8s
TIA Tai'an 22.64 115 ⇑P **P 00 38 05.2 +2.4**
RTK Rohtak 22.98 216 *eP* **P 00 38 05.5 -0.8**
RTK AMB AMB 00 38 08.4
comp=Z,147nm,0.4s
NDI New Delhi 22.99 214 *eP* **P 00 38 06.0 -0.5**
BISR Bishrakh 23.01 213 *ex* P 00 37 59.8 -6.8
BISR AMB AMB 00 38 01.0
comp=Z,93nm,1.1s
BHGR Bahadurgarh 23.09 214 *eP* **P 00 38 06.4 -1.0**
BHGR AMB AMB 00 38 09.4
comp=Z,69nm,0.7s
ENH Enshi 23.13 137 *eP* **P 00 38 08.1 +0.2**
comp=Z,16nm,0.8s
SHL Shillong 23.32 179 *ex* **P 00 38 10.0 0.0**
SONA Sohna 23.43 213 *eP* **P 00 38 10.4 -0.5**
KUDL Kundal 23.75 215 *eP* **P 00 38 13.5 -0.5**
CN2 Changchun 23.87 89 ⇑P **P 00 38 14.2 -0.9**
CN2 *es*P **sP 00 38 23.1 +1.7**
CN2 *eS* **S 00 42 25.6 -4.9**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,600nm,11.0s
CN2 LE
comp=Z,300nm,11.0s
CN2 LZ
comp=Z,500nm,13.0s
AGRA Agra 24.06 211 *eP* **P 00 38 16.0 -1.0**
AGRA AMB AMB 00 38 17.8
comp=Z,26nm,0.5s
KHET Khetri 24.07 216 *eP* **P 00 38 16.3 -0.8**
KHET AMB AMB 00 38 19.5
comp=Z,21nm,1.2s
YAK Yakutsk 24.88 44 *eP* **P 00 38 23.9 -0.2**
YAK *e* 00 41 54.7
YAK *eS* **S 00 42 40.4 -5.9**
YAK *e* 00 49 15.2
YAK pmax pmax
comp=Z,57nm,0.9s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,26nm,1.1s
YAK smax smax
comp=N,55nm,2.8s
YAK smax smax
comp=E,42nm,3.6s
YAK Yakutsk 24.88 44 *eP* **P 00 38 24.2 +0.1**
comp=E,63nm,0.8s
WHN Wuhan 25.27 128 P P 00 38 34.2 +6.3
KMI Kunming 25.35 156 P **P 00 38 28.7 -0.3**
KMI sP **sP 00 38 35.6 +0.3**
KMI PP **PnPn 00 39 08.1 +4.3**
KMI S **S 00 42 53.8 -1.1**
KMI sS **sS 00 43 02.3 0.0**
KMI PMZ
comp=E,25nm,1.0s
KMI PMZ
comp=E,130nm,5.1s
KMI LN
comp=E,150nm,11.5s
KMI LE
comp=E,260nm,11.5s
KMI LZ
comp=E,360nm,11.0s
GYA Guiyang 25.36 147 ⇑ *iP* **P 00 38 28.9 0.0**
GYA PcP **PcP 00 42 02.8 +1.5**
GYA SS SS 00 43 52.4
GYA ScP **ScP 00 45 40.2 +0.4**
GYA PMZ
comp=E,80nm,0.8s
GYA PMZ
comp=E,130nm,4.9s
GYA LN
comp=E,570nm,12.9s
GYA LE
comp=E,370nm,11.0s
GYA LZ
comp=E,670nm,11.7s
KLR Kul'dur 26.17 74 *eP* **P 00 38 35.0 -1.0**
KLR MLR MLR
comp=E,700nm,11.5s
KLR MLR MLR
comp=Z,3μm,11.5s
MDJ Mudanjiang 26.27 85 P **P 00 38 36.7 -0.2**
MDJ sP **sP 00 38 41.0 -2.3**
MDJ S **S 00 43 09.3 +0.5**
MDJ sS **sS 00 43 14.0 -2.2**
MDJ ScP **ScP 00 45 42.8 +0.8**
MDJ PcS **PcS 00 45 44.3 +0.5**
MDJ PMZ
comp=Z,9.0nm,1.2s
MDJ PMZ
comp=Z,49nm,4.0s
MDJ LN
comp=Z,390nm,10.9s
MDJ LE
comp=Z,800nm,10.6s
MDJ LZ
comp=Z,930nm,10.6s
GEYT Alibeck 26.39 258 P **P 00 38 39.8 +1.7**
comp=Z,9.3nm,0.9s,baz=27,slow=3.6,SNR=13
GEYT LR LR 00 49 43.4
comp=Z,150nm,20.9s,baz=55,slow=38
NJ2 Nanjing 26.59 119 *eP* **P 00 38 39.1 -0.7**
NJ2 PMZ
comp=Z,20nm,0.8s
USRK Ussuriysk Ar. 28.01 84 P **P 00 38 52.9 +0.3**
comp=Z,6.2nm,0.8s,baz=275,slow=9.4,SNR=11
USRK LR LR 00 50 49.7
comp=Z,463nm,19.6s,baz=282,slow=38
PRGR Permogore 28.38 314 *eP* **P 00 38 54.7 -0.9**
TIXI Tiksi 28.48 24 *eP* **P 00 38 56.4 -0.1**
TIXI pmax pmax
comp=Z,18nm,1.0s
TIXI Tiksi 28.48 24 *eP* **P 00 38 56.4 -0.1**
comp=Z,18nm,1.0s
KSAR Wonju Array Be 28.66 100 P **P 00 38 58.3 -0.1**
KSAR Wonju Array Be 28.66 100 P **P 00 38 58.2 -0.1**
KSRS Korea Array 28.68 100 P **P 00 38 58.2 -0.3**
comp=Z,3.7nm,0.7s,baz=297,slow=8.6,SNR=7.6
KSRS LR LR 00 51 56.9
comp=Z,80nm,19.4s,baz=294,slow=40
SLVN Son La 29.27 156 *eP* **P 00 39 03.9 -0.1**
comp=Z,7.9nm,0.8s
CRAI Chiangrai 29.51 163 P P 00 39 12.5 +6.4
comp=Z,6.3nm,1.3s
CHTO Chiang Mai 30.64 166 *eP* **P 00 39 16.0 -0.1**
CHTO pmax pmax
comp=Z,16nm,1.1s
CHTO Chiang Mai 30.64 166 P **P 00 39 17.5 +1.4**
comp=Z,62nm,1.4s
CHTO Chiang Mai 30.64 166 *eP* **P 00 39 16.0 -0.1**
comp=Z,16nm,1.1s
CMMT Chiang Mai 30.64 166 P **P 00 39 17.4 +1.3**
comp=Z,18nm,1.4s
MAK Makhachkala 30.81 276 *eP* P 00 39 22.0 +4.7
MAK MLR MLR
comp=Z,728nm,14.0s
CMAR Chiang Mai Arr 30.99 166 P **P 00 39 20.0 +0.8**
CMAR Chiang Mai Arr 30.99 166 P **P 00 39 19.9 +0.8**
comp=Z,1.4nm,0.3s,baz=348,slow=9.2,SNR=14
CMAR LR LR 00 52 41.5
comp=Z,222nm,19.1s,baz=260,slow=38
CM01 Chiang Mai Arr 31.03 166 *eP* **P 00 39 19.5 0.0**
LAMP Lampang 31.04 165 P P 00 39 29.8 +10
MHMT Maesarieng 31.12 168 P **P 00 39 22.0 +1.7**
comp=Z,22nm,0.8s
KLMR Klimovskoe 31.30 312 *eP* **P 00 39 21.5 0.0**
KLMR *e* 00 40 31.0
KLMR pmax pmax
comp=Z,25nm,0.8s
VRHR Novokhopersk 31.62 293 *eP* **P 00 39 27.1 +2.7**
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=E,50nm,1.9s
TMCR Tamitsa 32.02 318 *eP* **P 00 39 28.8 +1.0**
TMCR pmax pmax
comp=Z,17nm,1.1s
SUKH Sukhothai 32.06 165 P **P 00 39 30.1 +1.6**
comp=Z,7.7nm,1.0s,comp=Z,71nm
GOF Gofitskoye 32.81 282 *eP* **P 00 39 36.3 +1.3**
VORD Divnogorie 33.06 294 *eP* P 00 39 41.2 +4.1
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,9.0nm,0.6s
VORD pmax pmax
comp=E,40nm,0.8s
VSR Storozhevoye 33.07 294 *eP* P 00 39 41.1 +4.0
VSR pmax pmax
comp=Z,20nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,20nm,0.7s
HYB Hyderabad 33.14 203 *i P* **P 00 39 36.5 -1.6**
PBKT Sadao Pong 33.19 163 P **P 00 39 38.6 +0.2**
comp=E,32nm,0.8s,comp=E,878nm
JNU Nakatsue 33.23 104 LR LR 00 55 28.3
comp=E,44nm,20.4s,baz=330,slow=40
ZEI Tsey 33.24 278 *eP* **P 00 39 37.1 -1.9**
ZEI pmax pmax
comp=Z,19nm,1.9s
QIZ Qiongzhong 33.31 147 P **P 00 39 39.8 +0.3**
QIZ pP **pP 00 39 43.0 -1.0**
QIZ sP **sP 00 39 44.1 -1.7**
QIZ S **S 00 45 00.2 +0.8**
QIZ PMZ
comp=Z,10.0nm,0.9s
QIZ PMZ
comp=Z,93nm,3.6s
QIZ LZ
comp=Z,450nm,11.3s
KBZ Khabaz 33.48 280 LR LR 00 54 52.1
comp=Z,160nm,19.6s,baz=52,slow=39
KIV Kislovodsk 33.51 280 *eP* **P 00 39 40.3 -0.9**
KIV *i* 00 40 50.8
KIV *i* 00 42 21.7
KIV *i* SS SS 00 47 00.1 -27
KIV pmax pmax
comp=Z,7.0nm,1.2s
KIV MLR MLR
comp=Z,172nm,18.0s
OBN Obninsk 33.58 302 *c iP* **P 00 39 40.9 -0.6**
OBN *i* 00 40 52.3
OBN *i* SS SS 00 47 06.8 -21
OBN pmax pmax
comp=Z,88nm,2.5s
OBN Obninsk 33.58 302 P **P 00 39 41.6 0.0**
comp=Z,15nm,0.3s,baz=346,slow=22,SNR=7.8
OBN Obninsk 33.58 302 *eP* **P 00 39 41.3 -0.3**
comp=Z,46nm,0.4s
UTHA Uthaitani 33.91 166 P **P 00 39 46.2 +1.4**
comp=Z,10nm,1.0s,comp=Z,91nm
GNI Garni 33.98 273 *eP* **P 00 39 46.0 +0.6**
GNI pmax pmax
comp=Z,27nm,1.2s
GNI Garni 33.98 273 LR LR 00 56 05.1
comp=Z,153nm,19.8s,baz=78,slow=41
GNI Garni 33.98 273 *eP* **P 00 39 45.7 +0.3**
comp=Z,34nm,0.7s
CHAI Chaiyaphum 34.04 162 P **P 00 39 45.7 -0.2**
comp=Z,5.2nm,0.9s,comp=Z,218nm
APA Apatity 34.11 324 ⇓ *iP* P 00 39 35.0 -11
APA MLR MLR
comp=Z,500nm,12.0s
JOF Joensuu 35.06 316 *eP* **P 00 39 55.3 +1.0**
JOF pmax pmax
comp=Z,4.0nm,0.4s
JOF Joensuu 35.06 316 *ep* **P 00 39 55.3 +1.0**
comp=Z,3.8nm,0.4s
SEY Seymchan 35.40 44 P **P 00 39 57.8 +0.5**
comp=Z,2.1nm,0.6s,baz=241,slow=10.0,SNR=7.4
MJAR Matsushiro Arr 35.94 92 LR LR 00 55 11.1
comp=Z,138nm,21.4s,baz=310,slow=37
KEV Kevo 36.52 328 *eP* **P 00 40 06.5 -0.2**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 36.52 328 *ep* **P 00 40 06.5 -0.2**
comp=Z,0.7nm,0.3s
ARCES ARCESS Array B 37.05 328 P **P 00 40 12.4 +1.2**
comp=Z,4.8nm,0.7s,baz=81,slow=8.9,SNR=17
ARCES PcP **PcP 00 42 31.1 -0.4**
comp=Z,1.0nm,0.4s,baz=87,slow=4.1,SNR=8.8
ARCES pPcP 00 42 35.9
comp=Z,1.7nm,0.6s,baz=94,slow=2.7,SNR=7.1
ARCES LR LR 00 57 10.6
comp=Z,136nm,18.8s,baz=136,slow=39
KAF Kangasniemi 37.47 315 *eP* **P 00 40 15.7 +0.8**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 37.47 315 *ep* **P 00 40 15.7 +0.8**
comp=Z,0.9nm,0.4s
FINES FINESS Array B 37.70 314 P **P 00 40 17.3 +0.4**
comp=Z,1.6nm,0.5s,baz=83,slow=8.9,SNR=27
FINES pP **pP 00 40 22.4 +1.0**
comp=Z,4.5nm,0.6s,baz=90,slow=9.7,SNR=10
FINES PcP **PcP 00 42 32.4 -1.3**
comp=Z,2.3nm,0.6s,baz=88,slow=7.5,SNR=3.5
FINES pPcP 00 42 37.8
comp=Z,1.6nm,0.5s,baz=102,slow=4.2,SNR=4.7
FINES LR LR 00 57 03.9
comp=Z,98nm,18.1s,baz=170,slow=38
VSU Vasula 38.05 310 *eP* **P 00 40 19.5 -0.3**
VSU pmax pmax
comp=Z,26nm,0.9s
MALT Malatya 39.10 275 ⇑P **P 00 40 31.2 +2.2**
MALT Malatya 39.10 275 ⇑ *iP* **P 00 40 31.2 +2.2**
AKASG Malin Array Be 39.16 297 *ceP* **P 00 40 29.8 +0.6**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKASG Malin Array Be 39.16 297 P **P 00 40 29.0 -0.2**
comp=Z,6.5nm,0.6s,baz=58,slow=8.9,SNR=9.5
AKASG LR LR 00 58 07.6
comp=Z,72nm,19.6s,baz=10.0,slow=38
KIEV Kiev 39.17 297 *eP* **P 00 40 29.2 -0.1**
KIEV pmax pmax
comp=Z,13nm,0.5s
KIEV Kiev 39.17 297 *eP* **P 00 40 29.2 -0.1**
comp=Z,12nm,0.5s
AK11 Malin Array Si 39.20 297 *eP* **P 00 40 29.2 -0.3**
SPITS Spitsbergen Ar 39.60 342 P **P 00 40 34.1 +1.5**
comp=Z,2.6nm,0.4s,baz=113,slow=13,SNR=36
SURA Surathani 40.22 167 P P 00 40 45.8 +7.5
SURT Suratani 40.31 169 P **P 00 40 39.9 +0.8**
comp=Z,29nm,1.0s,comp=Z,286nm
BILL Bilibino 40.40 34 *eP* **P 00 40 39.9 +0.5**
BILL *i* 00 42 14.1
BILL *i* 00 42 43.7
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,404nm,18.0s
BILL Bilibino 40.40 34 *eP* **P 00 40 40.5 +1.1**
comp=Z,13nm,1.4s
PEA0 Petropavlovsk- 40.54 58 *eP* **P 00 40 41.1 +0.4**
PETK Petropavlovsk- 40.54 58 P **P 00 40 41.4 +0.7**
comp=Z,3.3nm,0.7s,baz=201,slow=1.3,SNR=5.3
PETK LR LR 00 58 14.0
comp=Z,296nm,18.4s,baz=293,slow=37
SUW Suwalki 41.34 304 *eP* **P 00 40 44.6 -2.6**
SUW pmax pmax
comp=Z,22nm,0.7s
SUW Suwalki 41.34 304 *eP* P 00 40 43.9 -3.3
SUW Suwalki 41.34 304 *eP* **P 00 40 44.6 -2.6**
comp=Z,22nm,0.7s
BRTR Keskin Array B 41.47 280 P **P 00 40 49.6 +1.0**
comp=Z,12nm,0.6s,baz=79,slow=7.8,SNR=81
BRTR LR LR 00 58 21.8
comp=Z,52nm,21.6s,baz=56,slow=37
ANTO Ankara 41.94 280 ⇑P **P 00 40 52.8 +0.3**
ANTO Ankara 41.94 280 ⇑ *iP* **P 00 40 52.8 +0.3**
ANTO Ankara 41.94 280 *eP* **P 00 40 53.0 +0.6**
comp=Z,13nm,0.8s
BR231 Keskin MP Arra 41.97 280 *eP* **P 00 40 50.1 -2.6**
CFR Carcaliu 42.21 290 ⇑P P 00 40 47.8 -6.6
CFR Carcaliu 42.21 290 ⇑ *iP* P 00 40 47.8 -6.6
PRAR RASCA 42.35 294 ⇓ *iP* **P 00 40 56.2 +0.6**
TIRR Tirgusor 42.38 289 *eP* **P 00 40 55.9 0.0**
TIRR pmax pmax
comp=Z,286nm,1.9s
TIRR Tirgusor 42.38 289 *eP* **P 00 40 55.9 0.0**
comp=Z,286nm,1.9s
TESR Tescani 42.49 292 ⇑ *iP* **P 00 40 57.5 +0.7**
PALK Pallekele 42.50 196 *i P* **P 00 40 58.4 +1.3**
PALK Pallekele 42.50 196 P **P 00 40 58.0 +0.9**
comp=Z,41nm,0.7s,baz=4.1,slow=7.8,SNR=16
PALK Pallekele 42.50 196 *eP* **P 00 40 57.7 +0.6**
comp=Z,21nm,0.8s
LVV L'vov 42.56 298 *eP* P 00 41 02.8 +5.5
VRI Vrincioaia 42.75 291 ⇓P **P 00 41 00.6 +1.7**
VRI Vrincioaia 42.75 291 ⇓ *iP* **P 00 41 00.6 +1.7**
PLOR Plostina 42.80 291 ⇑P P 00 41 04.3 +5.0
PLOR Plostina 42.80 291 ⇑ *iP* P 00 41 04.3 +5.0
BURAR Bucovina Array 42.84 294 ⇓P **P 00 41 00.4 +0.7**
BURAR Bucovina Array 42.84 294 ⇓ *iP* **P 00 41 00.4 +0.7**
BUR04 Bucovina Ar. S 42.84 294 *eP* **P 00 41 00.3 +0.6**
ISR Istrita 43.22 291 ⇑P **P 00 41 05.0 +2.2**
ISR Istrita 43.22 291 ⇑ *iP* **P 00 41 05.0 +2.2**
MLR Muntele Rosu 43.41 291 P **P 00 41 05.9 +1.5**
baz=198,slow=20
KWP Kalwaria Pacla 43.41 298 ⇓P **P 00 41 05.3 +1.1**
KWP Kalwaria Pacla 43.41 298 *eP* **P 00 41 05.1 +0.9**
KWP Kalwaria Pacla 43.41 298 ⇓ *iP* **P 00 41 05.3 +1.1**
KWP Kalwaria Pacla 43.41 298 *eP* **P 00 41 05.3 +1.1**
comp=Z,22nm,1.0s
DOPR Dopca 43.52 292 ⇑ *iP* **P 00 41 06.8 +1.7**
LHMI Lhok Sumawe 43.79 172 *eP* **P 00 41 07.8 +0.3**
comp=Z,59nm,0.7s
KOLS Kolonicke sedl 43.98 297 *eP* **P 00 41 08.2 -0.6**
KOLS pmax pmax
comp=Z,29nm,2.2s
KOLS Kolonicke sedl 43.98 297 *eP* **P 00 41 08.2 -0.6**
RAYN Ar Rayn 44.02 252 P **P 00 41 09.3 -0.1**
comp=Z,145nm,0.6s,SNR=15
KULM Kulim 44.18 167 *eP* **P 00 41 10.7 +0.1**
comp=Z,95nm,1.3s
ARR Arges 44.27 292 ⇑ *iP* **P 00 41 12.4 +1.2**
STHS Stebnicka Huta 44.36 298 *eP* **P 00 41 11.7 -0.1**
STHS Stebnicka Huta 44.36 298 *eP* **P 00 41 11.7 -0.1**
HUMR Humele 44.48 291 ⇓ *iP* **P 00 41 13.2 +0.4**
JCJ Chichijima 44.53 100 LR LR 01 00 33.4
comp=Z,74nm,20.0s,baz=188,slow=37
NB2 NORSAR Subarra 44.69 317 P **P 00 41 14.1 -0.2**
comp=Z,4.3nm,0.6s,baz=62,slow=7.9
NOA NORSAR Array B 44.69 317 P **P 00 41 14.1 -0.2**
comp=Z,1.5nm,0.7s,baz=65,slow=7.5,SNR=18
NOA LR LR 01 01 25.1
comp=Z,60nm,21.6s,baz=80,slow=38
DRGR 44.74 295 ⇑P **P 00 41 16.1 +1.2**
DRGR 44.74 295 ⇑ *iP* **P 00 41 16.1 +1.2**
LOT Lotru 44.76 292 ⇑ *iP* **P 00 41 17.1 +1.9**
OJC Ojcow 44.82 300 *eP* **P 00 41 15.0 -0.5**
OJC pmax pmax
comp=Z,12nm,0.7s
OJC Ojcow 44.82 300 *eP* **P 00 41 15.0 -0.5**
comp=Z,12nm,0.7s
NIE Niedzica 44.90 299 *eP* **P 00 41 17.6 +1.5**
NIE Niedzica 44.90 299 *eP* **P 00 41 17.6 +1.5**
GZR Gura Zlata 45.39 293 ⇓ *iP* **P 00 41 17.4 -2.8**

OKC Ostrava-Krasne 45.94 300 *eP* **P 00 41 27.2 +2.9**
OKC Ostrava-Krasne 45.94 300 *eP* **P 00 41 27.2 +2.9**
OKC *ex* x 00 41 31.7
BZS Buzias 45.98 294 ⇑P **P 00 41 25.7 +1.0**
BZS Buzias 45.98 294 ⇑*i*P **P 00 41 25.7 +1.0**
VYHS Vyhne 46.20 298 *eP* **P 00 41 27.1 +0.7**
VYHS pmax pmax
comp=Z,6.0nm,1.7s
VYHS Vyhne 46.20 298 *eP* **P 00 41 27.1 +0.7**
KSP Ksiaz 46.51 302 *eP* **P 00 41 29.6 +0.8**
VTS Vitosha 46.59 289 ⇑P **P 00 41 30.5 +0.8**
VTS Vitosha 46.59 289 ⇑*i*P **P 00 41 30.5 +0.8**
KRLC Kraliky 46.60 301 *eP* P 00 41 33.5 +3.9
KRLC Kraliky 46.60 301 *eP* P 00 41 33.5 +3.9
KAVA Kavala 46.64 287 *eP* **P 00 41 32.2 +2.3**
DPC Dobruska-Polom 46.73 302 *eP* **P 00 41 31.6 +1.0**
DPC *e* 00 41 36.6
DPC Dobruska-Polom 46.73 302 *eP* **P 00 41 31.6 +1.0**
DPC *ep*P **pP 00 41 36.6 +1.4**
SIGR SIGRI 46.78 284 *eP* P 00 41 38.9 +7.9
UPC Upice 46.83 302 *eP* **P 00 41 32.2 +0.9**
UPC Upice 46.83 302 *eP* **P 00 41 32.2 +0.9**
UPC *ep*P **pP 00 41 37.1 +1.2**
NVR Nevrokopi 46.85 287 *eP* **P 00 41 32.9 +1.2**
VRAC Vranov 47.08 300 ⇑P **P 00 41 32.5 -0.8**
VRAC Vranov 47.08 300 ⇑*i*P **P 00 41 32.5 -0.8**
CHOS Chios island 47.12 283 *eP* P 00 41 44.9 +11
SRS Serrai 47.15 287 *eP* **P 00 41 34.5 +0.5**
DAG Danmarks Havn 47.22 343 *i* P **P 00 41 34.2 +0.2**
DAG pmax pmax
comp=Z,6.0nm,0.8s
DAG Danmarks Havn 47.22 343 *i* P **P 00 41 34.2 +0.2**
comp=Z,8.4nm,0.8s
PKSM Moragy 47.46 296 ⇑P **P 00 41 36.3 0.0**
PKSM Moragy 47.46 296 ⇑*i*P **P 00 41 36.3 0.0**
KNT Kendrikon 47.56 288 *eP* **P 00 41 36.1 -1.1**
PVCC Panska Ves 47.62 303 *eP* **P 00 41 37.5 0.0**
PVCC *e* 00 41 43.1
PVCC Panska Ves 47.62 303 *eP* **P 00 41 37.5 0.0**
PVCC *ep*P **pP 00 41 43.1 +1.0**
PLG Polygyros 47.66 287 *eP* **P 00 41 38.1 +0.2**
TREC Trest 47.72 301 *eP* **P 00 41 39.2 +0.9**
TREC *e* 00 41 44.3
TREC Trest 47.72 301 *eP* **P 00 41 39.2 +0.9**
TREC *ep*P **pP 00 41 44.3 +1.4**
GSI Gunungsitoli 47.73 172 *eP* **P 00 41 37.8 -0.8**
comp=Z,99nm,1.2s
BRG Berggiesshubel 47.79 303 *eP* P 00 41 46.1 +7.3
comp=Z,5.6nm,0.7s
BRG Berggiesshubel 47.79 303 *eP* P 00 41 46.1 +7.3
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG Berggiesshubel 47.79 303 *eP* P 00 41 44.4 +5.6
comp=Z,6.0nm,0.7s
PRU Pruhonice 47.90 302 *eP* **P 00 41 40.5 +0.8**
PRU Pruhonice 47.90 302 *eP* **P 00 41 40.5 +0.8**
PRU *ep*P **pP 00 41 45.3 +1.0**
CLL Collm 48.09 304 *i* P **P 00 41 41.7 +0.6**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 48.09 304 *eP* P 00 41 46.6 +5.5
comp=Z,10.0nm,0.7s
CLL Collm 48.09 304 *i* P **P 00 41 41.7 +0.6**
comp=Z,6.0nm,0.8s
CLL *i* pP **pP 00 41 46.1 +0.3**
CLL *i* sP **sP 00 41 48.4 +0.8**
CLL Collm 48.09 304 *eP* **P 00 41 41.2 +0.1**
comp=Z,13nm,0.6s
MYKOM Kota Tinggi 48.15 163 *eP* **P 00 41 41.8 -0.1**
comp=Z,23nm,0.8s
CONA Conrad Observa 48.20 299 ⇑*i*pP **P 00 41 42.7 +0.6**
comp=Z,5.4nm,0.6s
APE Apeiranthos 48.22 282 *eP* P 00 41 46.5 +4.1
SKIA Skiathos 48.33 285 *eP* P 00 41 49.0 +5.9
NEO Neokhori 48.40 286 *eP* **P 00 41 43.6 -0.1**
LIT Litokhoron 48.41 287 *eP* P 00 41 40.0 -3.8
MRKA Markates 48.52 285 *eP* **P 00 41 44.4 -0.2**
PTL Penteli 48.72 284 *eP* **P 00 41 44.6 -1.6**
KHC Kasperske Hory 48.88 302 *eP* **P 00 41 48.1 +0.8**
KHC Kasperske Hory 48.88 302 *eP* **P 00 41 48.1 +0.8**
KHC *ep*P **pP 00 41 52.9 +1.0**
LKR Lokris 48.92 285 *eP* P 00 41 52.9 +5.2
GEC2 GERESS Array S 48.96 301 *eP* **P 00 41 47.7 -0.3**
GEC2 GERESS Array S 48.96 301 *eP* **P 00 41 47.7 -0.3**
GERES GERESS Array B 48.96 301 P **P 00 41 47.9 0.0**
comp=Z,0.5nm,0.6s,baz=358,slow=4.0,SNR=4.8
GERES LR LR 01 01 30.5
comp=Z,65nm,18.1s,baz=168,slow=35
THL Klokotos Trika 49.02 287 *eP* **P 00 41 47.8 -0.6**
FX1 Attu Island--F 49.03 53 LR LR 01 02 31.9
comp=Z,84nm,18.3s,baz=347,slow=36
AXAR Agios Charalam 49.07 285 *eP* P 00 41 54.6 +5.7
BKNI Bangkinang 49.11 167 *eP* **P 00 41 48.1 -1.2**
comp=Z,60nm,1.0s
AGG Agios Georgios 49.13 286 *eP* **P 00 41 48.6 -0.7**
MOX Moxa 49.19 304 *eP* P 00 41 55.3 +5.7
comp=Z,5.0nm,0.8s
CLZ Clausthal 49.24 306 *eP* P 00 41 55.8 +5.8
comp=Z,5.0nm,0.6s
NPS Neapolis 49.25 280 *eP* P 00 41 43.0 -7.2
MAKR Makrakomi, Fth 49.27 286 *eP* P 00 41 42.9 -7.4
WET Wettzell 49.27 302 *eP* P 00 41 56.0 +5.8
comp=Z,7.0nm,1.0s
PERS Pernice 49.31 298 *i* P P 00 41 56.4 +5.7
LTK Loutraki 49.31 284 *eP* P 00 41 56.5 +5.8
ROTZ Rotzenmuhle 49.31 303 *eP* P 00 41 56.7 +6.2
comp=Z,6.0nm,0.9s
DSF Desfina 49.36 285 *eP* **P 00 41 49.7 -1.4**
DID Didima 49.44 284 *eP* **P 00 41 49.4 -2.3**
SBUM Sibu 49.60 152 *eP* **P 00 41 52.5 -0.5**
comp=Z,26nm,1.5s
KALE Kalithea 49.62 285 *eP* **P 00 41 52.5 -0.6**
JAN Janina 49.70 287 *eP* **P 00 41 53.3 -0.4**
IDI Anoyia 49.70 280 P **P 00 41 52.3 -1.5**
comp=Z,8.4nm,0.6s,baz=34,slow=12,SNR=6.1
EFP Efpalio 49.75 285 *eP* **P 00 41 53.3 -0.7**
GUR Goura 49.76 285 *eP* **P 00 41 53.3 -0.9**
LAKA Lakka 49.81 285 *eP* **P 00 41 54.1 -0.4**
KLV Kalavryta, Ach 49.82 285 *eP* **P 00 41 53.9 -0.7**
BOJS Bojanci 49.84 297 *eP* P 00 42 00.3 +5.7
GRF Grafenberg Arr 49.90 303 *eP* P 00 42 01.3 +6.3
comp=Z,19nm,1.2s
VISS Visnje 49.92 297 *i* P P 00 42 01.0 +5.8
PDO Prodromos 50.11 286 *eP* **P 00 41 55.7 -1.0**
DRO Drossia 50.15 285 *eP* **P 00 41 56.5 -0.6**
RLS Riolos of Patr 50.25 285 *eP* **P 00 41 56.5 -1.3**
JAVS Javornik 50.33 298 *i* P P 00 42 03.1 +4.7
FUR Furstenfeldbru 50.69 301 *eP* P 00 42 07.3 +6.3
comp=Z,13nm,0.8s
TNA Tin City 50.73 32 *eP* **P 00 42 01.9 +0.9**
comp=Z,10nm,1.0s
PYL PYLOS 50.76 284 *eP* **P 00 41 59.3 -2.4**
DAVA Damuels 51.96 301 ⇑*i*sP P 00 42 16.4 +5.7
comp=Z,10.0nm,0.9s
FUORN Ofenpass-Fuorn 52.11 300 *eP* **P 00 42 11.6 -0.4**
comp=Z,29nm,1.5s
CDF Champ du Feu 52.77 304 *eP* **P 00 42 16.9 +0.3**
comp=Z,8.3nm,0.8s
CDF Champ du Feu 52.77 304 *eP* **P 00 42 16.9 +0.3**
CDF pmax pmax
comp=Z,8.0nm,0.8s
CDF Champ du Feu 52.77 304 *eP* **P 00 42 16.9 +0.3**
comp=Z,8.3nm,0.8s
GIVF Givet 53.14 307 *eP* **P 00 42 19.3 +0.1**
GIVF Givet 53.14 307 *eP* **P 00 42 19.3 +0.1**
GIVF Givet 53.14 307 *eP* **P 00 42 19.3 +0.1**
HINF Hinteralfeld 53.34 303 *eP* **P 00 42 21.1 +0.3**
comp=Z,6.1nm,0.7s
HINF Hinteralfeld 53.34 303 *eP* **P 00 42 21.1 +0.3**
HINF pmax pmax
comp=Z,6.0nm,0.7s
HINF Hinteralfeld 53.34 303 *eP* **P 00 42 21.1 +0.3**
comp=Z,6.1nm,0.7s
BAIF Baives 53.49 307 *eP* **P 00 42 22.1 +0.4**
comp=Z,22nm,1.1s
BAIF Baives 53.49 307 *eP* **P 00 42 22.1 +0.4**
BAIF pmax pmax
comp=Z,22nm,1.1s
BAIF Baives 53.49 307 *eP* **P 00 42 22.1 +0.4**
comp=Z,22nm,1.1s
HAU Haudompre 53.51 304 *eP* **P 00 42 22.6 +0.6**
comp=Z,11nm,0.8s
HAU *e*R
comp=Z,81nm,19.2s
HAU Haudompre 53.51 304 *eP* **P 00 42 22.6 +0.6**
HAU pmax pmax
comp=Z,11nm,0.8s
HAU Haudompre 53.51 304 *eP* **P 00 42 22.6 +0.6**
comp=Z,11nm,0.8s
PAGF Fort de Pagny 53.54 305 *eP* **P 00 42 22.4 +0.2**
PAGF Fort de Pagny 53.54 305 *eP* **P 00 42 22.4 +0.2**
SUMG Summit 53.90 343 *i* P **P 00 42 25.7 +0.8**
SUMG pmax pmax
comp=Z,5.0nm,0.7s
SUMG Summit 53.90 343 *i* P **P 00 42 25.7 +0.8**
comp=Z,5.4nm,0.7s
SUMG Summit 53.90 343 *eP* **P 00 42 25.6 +0.6**
comp=Z,36nm,1.5s
MEZF Maizieres J'vi 53.93 305 *eP* **P 00 42 25.4 +0.3**
comp=Z,46nm,1.2s
MEZF Maizieres J'vi 53.93 305 *eP* **P 00 42 25.4 +0.3**
comp=Z,46nm,1.2s
SFTF Sexfontaines 54.11 305 *eP* **P 00 42 26.6 +0.2**
SFTF Sexfontaines 54.11 305 *eP* **P 00 42 26.6 +0.2**
CABF La Chapelle 54.47 302 *eP* **P 00 42 29.4 +0.3**
CABF La Chapelle 54.47 302 *eP* **P 00 42 29.4 +0.3**
CABF La Chapelle 54.47 302 *eP* **P 00 42 29.4 +0.3**
LPG La Plagne 54.76 301 *eP* **P 00 42 31.7 +0.2**
LPG La Plagne 54.76 301 *eP* **P 00 42 31.7 +0.2**
LPG La Plagne 54.76 301 *eP* **P 00 42 31.7 +0.2**
LPL La Plagne 54.76 301 *eP* **P 00 42 31.6 +0.2**
comp=Z,9.7nm,0.7s
LPL La Plagne 54.76 301 *eP* **P 00 42 31.6 +0.2**
LPL pmax pmax
comp=Z,10.0nm,0.7s
LPL La Plagne 54.76 301 *eP* **P 00 42 31.6 +0.2**
comp=Z,9.7nm,0.7s
IM04 Indian Mountai 55.06 27 *eP* **P 00 42 33.4 +0.4**
MBDF Montbardon 55.21 300 *eP* **P 00 42 34.7 +0.1**
comp=Z,18nm,0.8s
MBDF Montbardon 55.21 300 *eP* **P 00 42 34.7 +0.1**
MBDF pmax pmax
comp=Z,18nm,0.8s
MBDF Montbardon 55.21 300 *eP* **P 00 42 34.7 +0.1**
comp=Z,18nm,0.8s
COLD Coldfoot 55.21 25 *eP* **P 00 42 35.0 +0.9**
comp=Z,18nm,0.8s
PGF Pioggiola 55.23 297 *eP* **P 00 42 35.1 +0.4**
PGF Pioggiola 55.23 297 *eP* **P 00 42 35.1 +0.4**
PGF Pioggiola 55.23 297 *eP* **P 00 42 35.1 +0.4**
LOR Lormes 55.31 304 *eP* **P 00 42 35.3 +0.2**
comp=Z,6.9nm,0.7s
LOR *e*R
comp=Z,84nm,22.2s
LOR Lormes 55.31 304 *eP* **P 00 42 35.3 +0.2**
LOR pmax pmax
comp=Z,7.0nm,0.7s
LOR Lormes 55.31 304 *eP* **P 00 42 35.3 +0.2**
comp=Z,6.9nm,0.7s
ORIF Oris-en-Rattie 55.60 301 *eP* **P 00 42 37.7 +0.4**
ORIF *e*R
comp=Z,101nm,20.8s
ORIF Oris-en-Rattie 55.60 301 *eP* **P 00 42 37.7 +0.4**
ORIF Oris-en-Rattie 55.60 301 *eP* **P 00 42 37.7 +0.4**
SSF Saint Saulge 55.63 304 *eP* **P 00 42 37.6 +0.2**
comp=Z,26nm,1.1s
SSF Saint Saulge 55.63 304 *eP* **P 00 42 37.6 +0.2**
SSF pmax pmax
comp=Z,26nm,1.1s
SSF Saint Saulge 55.63 304 *eP* **P 00 42 37.6 +0.2**
comp=Z,26nm,1.1s
SMF Signal de Mont 55.69 304 *eP* **P 00 42 38.0 +0.1**
SMF Signal de Mont 55.69 304 *eP* **P 00 42 38.0 +0.1**
SMF Signal de Mont 55.69 304 *eP* **P 00 42 38.0 +0.1**
AVF Avril sur Loir 55.87 304 *eP* **P 00 42 39.4 +0.3**
comp=Z,10nm,0.8s
AVF Avril sur Loir 55.87 304 *eP* **P 00 42 39.4 +0.3**
AVF pmax pmax
comp=Z,10.0nm,0.8s
AVF Avril sur Loir 55.87 304 *eP* **P 00 42 39.4 +0.3**
comp=Z,10nm,0.8s
BGF Bois d'Agland 56.29 304 *eP* **P 00 42 42.2 +0.1**
BGF Bois d'Agland 56.29 304 *eP* **P 00 42 42.2 +0.1**
BGF Bois d'Agland 56.29 304 *eP* **P 00 42 42.2 +0.1**
VIVF Saint-Julien-l 56.32 301 *eP* **P 00 42 43.1 +0.7**
comp=Z,15nm,1.0s
VIVF Saint-Julien-l 56.32 301 *eP* **P 00 42 43.1 +0.7**
VIVF pmax pmax
comp=Z,15nm,1.0s
VIVF Saint-Julien-l 56.32 301 *eP* **P 00 42 43.1 +0.7**
comp=Z,15nm,1.0s
RES Resolute Bay 56.60 2 *eP* **P 00 42 44.3 +0.4**
RES pmax pmax
comp=Z,11nm,1.1s
RES Resolute Bay 56.60 2 *eP* **P 00 42 44.3 +0.4**
comp=Z,11nm,1.1s
LDF La Druitiere 56.64 307 *eP* **P 00 42 44.7 +0.2**
comp=Z,23nm,0.9s
LDF La Druitiere 56.64 307 *eP* **P 00 42 44.7 +0.2**
LDF pmax pmax
comp=Z,23nm,0.9s
LDF La Druitiere 56.64 307 *eP* **P 00 42 44.7 +0.2**
comp=Z,23nm,0.9s
FLN La Foliniere 56.72 308 *eP* **P 00 42 45.3 +0.2**
comp=Z,19nm,0.6s
FLN *e*R
comp=Z,130nm,19.0s
FLN La Foliniere 56.72 308 *eP* **P 00 42 45.3 +0.2**
FLN pmax pmax
comp=Z,19nm,0.6s
FLN La Foliniere 56.72 308 *eP* **P 00 42 45.3 +0.2**
comp=Z,19nm,0.6s
TCF Toulx Ste Croi 56.80 304 *eP* **P 00 42 46.3 +0.5**
comp=Z,38nm,1.1s
TCF Toulx Ste Croi 56.80 304 *eP* **P 00 42 46.3 +0.5**
TCF pmax pmax
comp=Z,38nm,1.1s
TCF Toulx Ste Croi 56.80 304 *eP* **P 00 42 46.3 +0.5**
comp=Z,38nm,1.1s
GRR Gorron 57.15 308 *eP* **P 00 42 48.2 0.0**
comp=Z,22nm,0.9s
GRR Gorron 57.15 308 *eP* **P 00 42 48.2 0.0**
GRR pmax pmax
comp=Z,22nm,0.9s
GRR Gorron 57.15 308 *eP* **P 00 42 48.2 0.0**
comp=Z,22nm,0.9s
CAST Castle Rocks 57.37 29 *eP* **P 00 42 50.2 +0.6**
comp=Z,90nm,2.1s
COLA College 57.59 26 *i* P **P 00 42 51.2 +0.2**
COLA pmax pmax
comp=Z,34nm,1.1s
KTH Kantishna Hill 57.64 28 *eP* **P 00 42 52.8 +1.3**
comp=Z,42nm,1.0s
PPLA Purkeypile 57.71 29 *eP* **P 00 42 53.1 +1.0**
comp=Z,92nm,1.6s
CAF Calviac 57.73 303 *eP* **P 00 42 52.7 +0.3**
CAF Calviac 57.73 303 *eP* **P 00 42 52.7 +0.3**
CAF Calviac 57.73 303 *eP* **P 00 42 52.7 +0.3**
RJF Les Rejaudoux 57.80 303 *eP* **P 00 42 53.4 +0.6**
comp=Z,8.0nm,0.7s
RJF *e*R
comp=Z,94nm,19.5s
RJF Les Rejaudoux 57.80 303 *eP* **P 00 42 53.4 +0.6**
RJF pmax pmax
comp=Z,8.0nm,0.7s
RJF Les Rejaudoux 57.80 303 *eP* **P 00 42 53.4 +0.6**
comp=Z,8.0nm,0.7s
MFF Saint Martin d 57.89 306 *eP* **P 00 42 53.9 +0.5**
comp=Z,24nm,1.0s
MFF Saint Martin d 57.89 306 *eP* **P 00 42 53.9 +0.5**
MFF pmax pmax
comp=Z,24nm,1.0s
MFF Saint Martin d 57.89 306 *eP* **P 00 42 53.9 +0.5**
comp=Z,24nm,1.0s
IL1 Eielson Array 57.94 26 *eP* **P 00 42 53.6 +0.1**
ILAR Eielson Array 57.94 26 P **P 00 42 53.6 +0.1**
comp=Z,3.8nm,0.8s,baz=309,slow=3.8,SNR=43
ILAR pP **pP 00 42 58.4 +0.2**
comp=Z,6.7nm,1.0s,baz=323,slow=5.2,SNR=14
ILAR LR LR 01 11 09.9
comp=Z,313nm,18.4s,baz=307,slow=40
ILB Eielson Array 57.94 26 *eP* **P 00 42 53.6 +0.1**
SGMF Saint Gilles 58.12 308 *eP* **P 00 42 55.7 +0.7**
comp=Z,48nm,1.3s
SGMF Saint Gilles 58.12 308 *eP* **P 00 42 55.7 +0.7**
SGMF pmax pmax
comp=Z,48nm,1.3s
SGMF Saint Gilles 58.12 308 *eP* **P 00 42 55.7 +0.7**
comp=Z,48nm,1.3s
INK Inuvik 58.37 18 *eP* **P 00 42 57.2 +0.8**
INK pmax pmax
comp=Z,21nm,0.9s
INK Inuvik 58.37 18 P **P 00 42 57.0 +0.6**
comp=Z,6.8nm,0.9s,baz=343,slow=7.1,SNR=16
INK Inuvik 58.37 18 *eP* **P 00 42 57.2 +0.8**
comp=Z,20nm,0.9s
ROSF Rostrenen 58.43 309 *eP* **P 00 42 57.5 +0.3**
comp=Z,11nm,0.9s
ROSF Rostrenen 58.43 309 *eP* **P 00 42 57.5 +0.3**
ROSF pmax pmax
comp=Z,11nm,0.9s
ROSF Rostrenen 58.43 309 *eP* **P 00 42 57.5 +0.3**
comp=Z,11nm,0.9s
QUIF Quistinic 58.65 308 *eP* **P 00 42 59.0 +0.3**
comp=Z,20nm,0.8s
QUIF Quistinic 58.65 308 *eP* **P 00 42 59.0 +0.3**
QUIF pmax pmax
comp=Z,20nm,0.8s
QUIF Quistinic 58.65 308 *eP* **P 00 42 59.0 +0.3**
comp=Z,20nm,0.8s
KEST Kesra 59.30 290 P **P 00 43 03.8 +0.3**
comp=Z,0.9nm,0.8s,baz=302,slow=1.1,SNR=6.2
EPF Esparros 59.90 302 *eP* **P 00 43 08.0 +0.5**
EPF Esparros 59.90 302 *eP* **P 00 43 08.0 +0.5**
EPF Esparros 59.90 302 *eP* **P 00 43 08.0 +0.5**
JAGI Jajag, Banyuwa 60.53 154 *eP* **P 00 43 10.0 -1.9**
comp=Z,36nm,1.0s
SFJD Kangerlussuaq 60.88 344 *eP* **P 00 43 14.0 +0.3**
SFJD pmax pmax
comp=Z,24nm,1.1s
SFJD Kangerlussuaq 60.88 344 *eP* **P 00 43 14.0 +0.3**
comp=Z,24nm,1.1s
HYT Haines Junctio 63.70 24 *eP* **P 00 43 33.6 +0.8**
ES19 SONSECA Array 64.49 302 *eP* **P 00 43 38.8 +0.4**
ESDC Sonseca Array 64.55 302 P **P 00 43 38.6 -0.1**
comp=Z,2.1nm,0.8s,baz=52,slow=7.3,SNR=7.4
ESDC pP **pP 00 43 43.9 +0.4**
comp=Z,3.0nm,0.7s,baz=49,slow=6.0,SNR=7.9
YKA Yellowknife Ar 67.00 13 P **P 00 43 53.6 -0.5**
comp=Z,0.8nm,0.7s,baz=339,slow=7.0,SNR=12
YKB5 Yellowknife Ar 67.00 13 *eP* **P 00 43 53.7 -0.4**
KMBO Kilima Mbogo 68.23 241 *ceP* **P 00 44 03.5 +0.7**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 68.23 241 P **P 00 44 03.0 +0.2**
comp=Z,1.0nm,0.5s,baz=22,slow=14,SNR=4.5
KMBO Kilima Mbogo 68.23 241 *eP* **P 00 44 02.0 -0.8**
comp=Z,5.4nm,1.1s
MDT Midelt 69.72 297 P **P 00 44 11.6 -0.2**
comp=Z,1.6nm,0.7s,baz=65,slow=7.4,SNR=4.6
MDT pP **pP 00 44 17.1 +0.5**
comp=Z,3.1nm,0.8s,baz=3.0,slow=4.3,SNR=4.0
FCC Fort Churchill 72.58 3 *eP* **P 00 44 28.0 -0.4**
FCC pmax pmax
comp=Z,12nm,0.9s
FCC Fort Churchill 72.58 3 *eP* **P 00 44 28.0 -0.4**
comp=Z,12nm,0.9s
SCHQ Schefferville 75.02 347 P **P 00 44 42.5 -0.4**
comp=Z,5.3nm,0.8s,baz=233,slow=10,SNR=3.7
SCHQ LR LR 01 22 18.2
comp=Z,110nm,18.1s,baz=66,slow=39
FFC Flin Flon 76.10 8 *eP* **P 00 44 48.6 -0.4**
FFC pmax pmax
comp=Z,14nm,1.1s
FFC Flin Flon 76.10 8 *eP* **P 00 44 48.6 -0.4**
comp=Z,14nm,1.1s
WRAB Tennant Creek 78.47 139 P **P 00 45 01.2 -1.4**
comp=Z,112nm,0.7s,SNR=9.1
WRAB Tennant Creek 78.47 139 *ceP* **P 00 45 01.8 -0.9**
WRAB pmax pmax
comp=Z,85nm,2.5s
WRAB Tennant Creek 78.47 139 *eP* **P 00 45 01.7 -0.9**
comp=Z,14nm,0.6s
WRA Warramunga Arr 78.47 139 P **P 00 45 02.0 -0.7**
comp=Z,6.5nm,0.7s,baz=342,slow=5.9,SNR=98
WRA pP **pP 00 45 07.7 +0.1**
comp=Z,9.5nm,0.6s,baz=342,slow=5.9,SNR=35
WRA PKKPbc **PKKPbc 01 03 59.0 +0.6**
comp=Z,0.3nm,0.5s,baz=157,slow=1.8,SNR=5.3
WRA LR LR 01 21 26.0
comp=Z,53nm,20.6s,baz=75,slow=37
B08A Colville Reser 79.50 20 *eP* **P 00 45 07.6 -0.5**
comp=Z,75nm,2.8s
TOA0 Torodi Ar. Sit 80.07 279 *eP* **P 00 45 10.9 -0.8**
TORD Torodi Ar. Bea 80.07 279 P **P 00 45 11.2 -0.4**
comp=Z,2.8nm,0.8s,baz=37,slow=4.6,SNR=18
TORD pP **pP 00 45 16.4 -0.1**
comp=Z,3.6nm,0.6s,baz=43,slow=5.5,SNR=12
BSMT Bassoo Peak 80.95 18 *eP* **P 00 45 16.7 +0.5**
A19A Klindworth Far 80.97 13 P **P 00 45 14.6 -1.6**
baz=81
ULM Lac du Bonnet 81.00 5 P **P 00 45 15.2 -1.0**
ULM pmax pmax
comp=Z,4.0nm,0.7s
ULM MLR MLR
comp=Z,128nm,18.6s
ULM Lac du Bonnet 81.00 5 P **P 00 45 15.2 -1.0**
comp=Z,3.9nm,0.7s,baz=349,slow=5.3,SNR=9.7
ULM LR LR 01 22 37.2
comp=Z,128nm,18.6s,baz=354,slow=37
ULM Lac du Bonnet 81.00 5 *eP* **P 00 45 15.0 -1.1**
comp=Z,88nm,2.6s
JTMT Jette 81.15 17 *eP* **P 00 45 17.1 -0.1**
B19A Brinkman Farms 81.41 14 P **P 00 45 17.9 -0.5**
baz=81
ASAR Alice Springs 81.59 141 P **P 00 45 19.0 -0.5**
comp=Z,2.9nm,0.7s,baz=334,slow=5.3,SNR=34
ASAR pP **pP 00 45 24.1 -0.3**
comp=Z,5.0nm,0.6s,baz=336,slow=5.6,SNR=24
AS01 Alice Springs 81.61 141 *eP* **P 00 45 19.0 -0.5**
A24A Westby 81.62 10 P **P 00 45 19.6 +0.1**
baz=81
EGMT Eagleton 81.70 14 P **P 00 45 19.5 -0.5**
baz=81
C19A Slack Wire Ran 82.09 14 P **P 00 45 21.3 -0.7**
baz=82
MSO Missoula 82.10 17 *eP* **P 00 45 21.8 -0.3**
comp=Z,10nm,1.3s
A30A Hoffart Farm, 82.15 6 P **P 00 45 21.5 -0.7**
baz=82
C23A Lambert 82.58 11 P **P 00 45 24.9 +0.4**
baz=82
B30A Myrvik Farm, E 82.63 7 P **P 00 45 24.1 -0.7**
baz=82
I04A Tendick Farm, 83.00 24 P **P 00 45 26.7 -0.1**
baz=83
EYMN Ely 83.47 2 *eP* **P 00 45 28.6 -0.5**
comp=Z,17nm,1.0s
J04D Umpqua Nationa 83.59 24 P **P 00 45 29.9 -0.2**
baz=83
D28A Regan 83.69 8 P **P 00 45 30.5 +0.2**
baz=83
D29A Pettibone, Tap 83.91 8 P **P 00 45 30.4 -1.0**
baz=84
D30A Buchanan 83.94 7 P **P 00 45 30.8 -0.7**
baz=84
F27A Lemmon 84.85 9 P **P 00 45 36.5 +0.3**
baz=84
G26A Maurine 85.36 10 P **P 00 45 38.7 -0.1**
baz=85
G30A Faulkton 85.87 8 P **P 00 45 40.3 -1.0**
baz=86
SPMN Marine on St. 86.16 3 P **P 00 45 41.6 -1.1**
baz=86
I21A Big Trails, Te 86.19 13 P **P 00 45 42.2 -0.9**
baz=86
I23A Meade Ranch, G 86.31 12 P **P 00 45 42.2 -1.5**
baz=86
RSSD Black Hills 86.34 11 *eP* **P 00 45 42.9 -1.0**
RSSD pmax pmax
comp=Z,15nm,1.4s
RSSD Black Hills 86.34 11 *eP* **P 00 45 42.9 -1.0**
comp=Z,15nm,1.4s
PDAR Pinedale Array 86.83 15 LR LR 01 26 30.4
comp=Z,35nm,21.5s,baz=34,slow=37
ECSD EROS Data Cent 87.45 6 P **P 00 45 48.8 -0.3**
baz=87
ECSD EROS Data Cent 87.45 6 *eP* **P 00 45 48.8 -0.3**
comp=Z,32nm,1.4s
J30A Dallas 87.63 8 P **P 00 45 50.2 +0.2**
baz=87
K25A Mack Ranch, Ha 87.85 11 P **P 00 45 50.3 -0.8**
baz=88
JFWS Jewell Farm 88.53 1 *eP* **P 00 45 53.3 -0.9**
JFWS pmax pmax
comp=Z,28nm,0.9s

JFWS	**Jewell Farm**	**88.53**	**1**	*e*P		**P**	**00 45 53.3**	**-0.9**
	comp=Z,28nm,0.9s							
DUG	**Dugway, Tooele**	**88.70**	**18**	*e*P		**P**	**00 45 55.7**	**+0.5**
DUG				pmax	pmax			
	comp=Z,8.0nm,1.3s							
DUG	**Dugway, Tooele**	**88.70**	**18**	P		**P**	**00 45 55.9**	**+0.7**
	baz=88							
DUG	**Dugway, Tooele**	**88.70**	**18**	*e*P		**P**	**00 45 55.7**	**+0.5**
	comp=Z,7.6nm,1.3s							
PHWY	**Pilot Hill**	**88.92**	**13**	*e*P		**P**	**00 45 55.6**	**-0.9**
	comp=Z,9.3nm,1.0s							
N20A	**Spence Gulch,**	**88.94**	**15**	P		**P**	**00 45 56.5**	**0.0**
	baz=89							
NV01	**Mina Array Sit**	**89.10**	**23**	*e*P		**P**	**00 45 57.0**	**-0.3**
NVAR	**Mina Array Bea**	**89.10**	**23**	P		**P**	**00 45 57.4**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=291,slow=4.6,SNR=4.8							
DBIC	**Dimbokro**	**89.17**	**279**	P		**P**	**00 45 56.5**	**-1.1**
	comp=Z,3.5nm,0.8s,baz=339,slow=8.6,SNR=3.0							
DBIC				pP		**pP**	**00 46 01.5**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=348,slow=6.4,SNR=2.2							
N23A	**Red Feather La**	**89.25**	**13**	P		**P**	**00 45 58.4**	**+0.5**
	baz=89							
O22A	**Kremmling**	**89.87**	**14**	P		**P**	**00 46 00.3**	**-0.7**
	baz=90							
ANMO	**Albuquerque**	**94.98**	**15**	*i* P		**P**	**00 46 24.0**	**-0.5**
ANMO				pmax	pmax			
	comp=Z,6.0nm,1.7s							
SIV	**San Ignacio**	**140.24**	**316**	PKhKP		PKPpre	00 52 27.3	
	comp=Z,1.7nm,0.7s,baz=0.0,slow=4.0,SNR=4.3							
LPAZ	**La Paz**	**143.44**	**326**	PKhKP		PKPpre	00 52 32.3	
	comp=Z,0.9nm,0.7s,baz=342,slow=3.2,SNR=3.1							
CPUP	**Villa Florida**	**146.92**	**302**	PKPbc		**PKPdf**	**00 52 40.9**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=28,slow=4.7,SNR=5.3							

*THE **06** 00:38:33.7, 39.°01N×23.°29E, h12km±1km, ML1.6/7, Error ellipse: s-maj=1.4km s-min=0.3km az=125.0*
*ATH **06** 00:38:34.0, 39.°03N×23.°30E, h5km±2km, MD2.7/8, ML2.2*
CSEM 06 00:38:33.7±0.2, 39.°03N×23.°28E, h8km, ML1.6, Error ellipse: s-maj=3.3km s-min=3.1km az=97.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIA	**Simia**	**0.16**	**200**	P	Pg	00 38 37.1	0.0
SMIA				S	Sg	00 38 39.7	+0.3
SMIA	**Simia**	**0.16**	**200**	*e*PG	Pg	00 38 37.1	0.0
SMIA				*e*SG	Sg	00 38 39.7	+0.3
SMIA	**Simia**	**0.16**	**200**	P	Pg	00 38 37.1	0.0
SMIA				S	Sg	00 38 39.7	+0.3
SKIA	**Skiathos**	**0.20**	**47**	P	Pg	00 38 38.3	+0.5
SKIA				S	Sg	00 38 41.6	+1.0
SKIA	**Skiathos**	**0.20**	**47**	*e*PG	Pg	00 38 38.3	+0.5
SKIA				*e*SG	Sg	00 38 41.8	+1.2
SKIA	**Skiathos**	**0.20**	**47**	P	Pg	00 38 38.3	+0.5
SKIA				S	Sg	00 38 41.6	+1.0
NEO	**Neokhori**	**0.28**	**351**	P	Pg	00 38 39.8	+0.5
NEO	**Neokhori**	**0.28**	**351**	*e*PG	Pg	00 38 39.8	+0.5
NEO				*e*SG	Sb	00 38 44.6	-1.4
NEO	**Neokhori**	**0.28**	**351**	P	Pg	00 38 39.8	+0.5
NEO				*e*Sg	Sb	00 38 44.6	-1.4
XOR	**Xorichti**	**0.34**	**349**	P	Pg	00 38 40.9	+0.4
XOR				S	Sb	00 38 46.6	-1.2
XOR	**Xorichti**	**0.34**	**349**	*e*P	Pg	00 38 40.8	+0.3
XOR	**Xorichti**	**0.34**	**349**	P	Pg	00 38 40.9	+0.4
XOR				S	Sb	00 38 46.6	-1.2
MRKA	**Markates**	**0.40**	**143**	P	Pg	00 38 41.2	-0.4
MRKA				S	Sg	00 38 46.7	-0.3
MRKA	**Markates**	**0.40**	**143**	*e*PG	Pg	00 38 41.5	-0.1
MRKA				*e*SB	Sg	00 38 47.6	+0.6
MRKA	**Markates**	**0.40**	**143**	P	Pg	00 38 41.2	-0.4
MRKA	**Markates**	**0.40**	**143**	*e*Pg	Pg	00 38 41.5	-0.1
MRKA				S	Sg	00 38 46.7	-0.3
MRKA				*e*Sb	Sb	00 38 47.6	-1.9
LKR	**Lokris**	**0.44**	**210**	P	Pg	00 38 42.0	-0.2
LKR				S	Sg	00 38 48.4	+0.4
LKR	**Lokris**	**0.44**	**210**	*e*PG	Pg	00 38 42.1	-0.1
LKR				*e*SB	Sg	00 38 49.1	+1.1
LKR	**Lokris**	**0.44**	**210**	*e*Pg	Pg	00 38 42.1	-0.1
LKR				S	Sg	00 38 48.4	+0.4
LKR				*e*Sb	Sb	00 38 49.1	-1.3
AOS	**Alonnisos**	**0.49**	**73**	P	Pg	00 38 43.2	0.0
AOS				S	Sg	00 38 50.1	+0.5
AOS	**Alonnisos**	**0.49**	**73**	*e*P	Pb	00 38 44.9	+0.3
AOS	**Alonnisos**	**0.49**	**73**	P	Pg	00 38 43.2	0.0
AOS				S	Sg	00 38 50.1	+0.5
AXAR	**Agios Charalam**	**0.55**	**242**	P	Pg	00 38 44.1	-0.3
AXAR				S	Sg	00 38 52.2	+0.6
AXAR	**Agios Charalam**	**0.55**	**242**	*e*PB	Pg	00 38 44.1	-0.3
AXAR				*e*SB	Sb	00 38 53.2	-0.5
AXAR	**Agios Charalam**	**0.55**	**242**	P	Pg	00 38 44.1	-0.3
AXAR				S	Sg	00 38 52.2	+0.6
AXAR				*e*Sb	Sb	00 38 53.2	-0.5
AGG	**Agios Georgios**	**0.74**	**270**	*e*PB	Pg	00 38 47.6	-0.4
AGG	**Agios Georgios**	**0.74**	**270**	*e*Pb	Pg	00 38 47.6	-0.4
DSF	**Desfina**	**0.85**	**224**	P	Pg	00 38 49.2	-1.0
DSF	**Desfina**	**0.85**	**224**	*e*PB	Pg	00 38 49.3	-0.9
DSF				*e*SB	Sb	00 39 02.6	+0.1
DSF	**Desfina**	**0.85**	**224**	*e*Pb	Pg	00 38 49.3	-0.9
DSF				*e*Sb	Sb	00 39 02.6	+0.1
MAKR	**Makrakomi, Fth**	**0.89**	**269**	*e*PG	Pg	00 38 50.7	-0.2
MAKR				*e*SB	Sb	00 39 03.8	+0.2
MAKR	**Makrakomi, Fth**	**0.89**	**269**	*e*Pg	Pg	00 38 50.7	-0.2
MAKR				*e*Sb	Sb	00 39 03.8	+0.2
PAIG	**Paliouri**	**0.95**	**19**	*e*P	Pg	00 38 47.9	-4.1
LTK	**Loutraki**	**1.03**	**194**	*e*PN	Pn	00 38 54.6	+0.1
LTK				*e*SB	Sb	00 39 08.1	+0.4
LTK	**Loutraki**	**1.03**	**194**	*e*Pn	Pn	00 38 54.6	+0.1
LTK				*e*Sb	Sb	00 39 08.1	+0.4
ATH	**Athens Observa**	**1.11**	**162**	*e*PB	Pn	00 38 55.8	+0.3
ATH				*e*SB	Sn	00 39 11.3	+0.3
ATH	**Athens Observa**	**1.11**	**162**	*e*Pb	Pn	00 38 55.8	+0.3
ATH				*e*Sb	Sn	00 39 11.3	+0.3
THL	**Klokotos Trika**	**1.12**	**299**	*e*PN	Pb	00 38 55.3	0.0
THL				*e*SB	Sn	00 39 11.9	+0.7
THL	**Klokotos Trika**	**1.12**	**299**	*e*Pn	Pb	00 38 55.3	0.0
THL				*e*Sb	Sn	00 39 11.9	+0.7
GUR	**Goura**	**1.32**	**214**	*e*PB	Pg	00 38 59.8	+0.7
GUR				*e*SB	Sn	00 39 17.5	+1.1
GUR	**Goura**	**1.32**	**214**	*e*Pb	Pg	00 38 59.8	+0.7
GUR				*e*Sb	Sn	00 39 17.5	+1.1
KLV	**Kalavryta, Ach**	**1.32**	**222**	*e*PB	Pg	00 39 00.1	+0.9
KLV	**Kalavryta, Ach**	**1.32**	**222**	*e*Pb	Pg	00 39 00.1	+0.9
OUR	**Ouranopolis**	**1.41**	**22**	*e*P	Pn	00 38 59.3	-0.4
DID	**Didima**	**1.52**	**181**	*e*PG	Pb	00 39 01.8	-0.4
DID				*e*SB	Sg	00 39 24.0	+1.2
DID	**Didima**	**1.52**	**181**	*e*Pg	Pb	00 39 01.8	-0.4
DID				*e*Sb	Sg	00 39 24.0	+1.2
HORT	**Hortiatis**	**1.57**	**355**	*e*P	Pn	00 39 01.6	-0.4

*ISCJB **06** 00:52:37.5±1.3, 33.°41S±0.°04×72.°45W±0.°04, h3km±8km, mb4.5/23, MS3.7/4, Error ellipse: s-maj=6.1km s-min=4.8km az=20.6*
*IDC **06** 00:52:37.9±0.8, 33.°30S×72.°07W, h0km, mb4.2/8, mb1 4.4/11, mb1mx4.2/23, mbtmp4.3/11, ML4.4/3, MS3.8/6, Ms1 3.8/6, ms1mx3.6/21, Error ellipse: s-maj=28.0km s-min=18.9km az=81.0*
*NEIC **06** 00:52:38.9, 33.°39S×72.°42W, h7km, mb4.8/17, ML4.5(GUC), After GUC.*
NEIC Felt at Santiago.
*GUC **06** 00:52:38.9±0.7, 33.°39S×72.°42W, h7km±7km, ML4.5*
*BJI **06** 00:52:46.5, 33.°20S×71.°30W, h35km, mB5.1/4, Ms5.1/4, Ms7 5.0/4*
ISC 06 00:52:40.0±1.4, 33.°37S±0.°04×72.°37W±0.°05, h15km±8km, n85, σ1°23/97, mb4.7/23, MS3.7/4, 9C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.70**	**61**	⇑*i*P	**Pg**	**00 52 53.6**	**0.0**
IHA				*i* S1	**Sb**	**00 53 04.2**	**+1.1**
IHA	**Instituto Hidr**	**0.70**	**61**	⇑*i*P	**Pg**	**00 52 53.6**	**0.0**
IHA				*i* S	**Sb**	**00 53 04.2**	**+1.1**
LNV	**Longovilo**	**0.99**	**127**	*e*P1	**Pb**	**00 52 57.8**	**-1.1**
LNV				*i* S1	**Sb**	**00 53 11.9**	**+0.3**
LNV	**Longovilo**	**0.99**	**127**	*e*P	**Pb**	**00 52 57.8**	**-1.1**
LNV				*i* S	**Sb**	**00 53 11.9**	**+0.3**
PEL	**Peldehue**	**1.43**	**82**	⇑*i*P	**Pn**	**00 53 05.1**	**-0.2**
PEL				*i* S	**Sn**	**00 53 24.7**	**+0.8**
PEL				AML	AML	00 53 39.7	
	comp=E,12μm,0.6s						
PEL	**Peldehue**	**1.43**	**82**	⇑*i*P	**Pn**	**00 53 05.1**	**-0.2**
PEL				*i* S	**Sn**	**00 53 24.7**	**+0.8**
ANTU	**Antumapu**	**1.46**	**98**	*e*P	**Pn**	**00 53 05.7**	**-0.2**
ANTU				*i* S	**Sn**	**00 53 25.7**	**+1.0**
ANTU				AML	AML	00 53 37.1	
	comp=N,9μm,0.4s						
ANTU	**Antumapu**	**1.46**	**98**	*e*P	**Pn**	**00 53 05.7**	**-0.2**
ANTU				*i* S	**Sn**	**00 53 25.7**	**+1.0**
CLCH	**Cerro Calan**	**1.53**	**92**	⇑*i*P	**Pn**	**00 53 06.7**	**-0.1**
CLCH				*i* S	**Sn**	**00 53 28.0**	**+1.5**
CLCH				AML	AML	00 53 40.5	
	comp=N,15μm,0.7s						
CHCH	**Chadas Angostu**	**1.54**	**112**	⇓*i*P	**Pn**	**00 53 06.3**	**-0.6**
CHCH	**Chadas Angostu**	**1.54**	**112**	⇓*i*P	**Pn**	**00 53 06.3**	**-0.6**
LACH	**Col Las Americ**	**1.54**	**94**	*e*P	**Pn**	**00 53 06.9**	**0.0**
LACH				*e*S	**Sn**	**00 53 27.7**	**+1.1**
LACH				AML	AML	00 53 40.3	
	comp=E,4μm,0.6s						
LACH	**Col Las Americ**	**1.54**	**94**	*e*P	**Pn**	**00 53 06.9**	**0.0**
LACH				*e*S	**Sn**	**00 53 27.7**	**+1.1**
FSR	**Penalolen**	**1.54**	**95**	*e*P	**Pn**	**00 53 07.4**	**+0.4**
FSR				*i* S	**Sn**	**00 53 27.9**	**+1.2**
FSR	**Penalolen**	**1.54**	**95**	*e*P	**Pn**	**00 53 07.4**	**+0.4**
FSR				*i* S	**Sn**	**00 53 27.9**	**+1.2**
CACH	**El Canelo**	**1.65**	**117**	⇑*i*P	**Pn**	**00 53 08.9**	**+0.3**
CACH	**El Canelo**	**1.65**	**117**	⇑*i*P	**Pn**	**00 53 08.9**	**+0.3**
FCH	**Farellones**	**1.74**	**89**	⇑*i*P	**Pn**	**00 53 10.2**	**+0.3**
FCH				*i* S	**Sb**	**00 53 34.5**	**+1.0**
FCH				AML	AML	00 53 47.2	
	comp=E,6μm,0.7s						
FCH	**Farellones**	**1.74**	**89**	⇑*i*P	**Pn**	**00 53 10.2**	**+0.3**
FCH				*i* S	**Sb**	**00 53 34.5**	**+1.0**
NICH	**Los Niches**	**1.89**	**150**	*e*P	**Pn**	**00 53 11.6**	**0.0**
NICH				*i* S	**Sn**	**00 53 35.9**	**+0.8**
NICH				AML	AML	00 53 52.6	
	comp=E,14μm,0.6s						
NICH	**Los Niches**	**1.89**	**150**	*e*P	**Pn**	**00 53 11.6**	**0.0**
NICH				*i* S	**Sn**	**00 53 35.9**	**+0.8**
CMCH	**Combarbala**	**2.47**	**28**	*e*P4	**Pn**	**00 53 17.9**	**-1.9**
CMCH	**Combarbala**	**2.47**	**28**	P	**Pn**	**00 53 17.9**	**-1.9**
LNCH	**Linares**	**2.56**	**166**	*e*P9	**Pn**	**00 53 20.1**	**-0.7**
LNCH				*i* S	**Sn**	**00 53 52.8**	**+1.2**
LNCH				AML	AML	00 54 12.2	
	comp=N,8μm,0.7s						
LNCH	**Linares**	**2.56**	**166**	*e*P	**Pn**	**00 53 20.1**	**-0.7**
LNCH				*i* S	**Sn**	**00 53 52.8**	**+1.2**
CFAA	**Coronel Fontan**	**3.91**	**64**	Pn	**Pn**	**00 53 41.6**	**+2.1**
	comp=N,0.5nm,0.3s,baz=253,slow=8.6,SNR=13						
CFAA				LR	LR	00 54 36.7	
	comp=N,47nm,19.2s,baz=328,slow=32						
CFAA				Lg	Lg	00 54 42.1	
	comp=N,1.7nm,0.3s,baz=66,slow=14,SNR=4.7						
PLCA	**Paso Flores**	**7.50**	**169**	Pn	**Pn**	**00 54 29.2**	**+0.4**
	comp=N,2.9nm,0.3s,baz=336,slow=12,SNR=25						
PLCA				Lg	Lg	00 56 39.1	
	comp=N,0.3nm,0.3s,baz=38,slow=14,SNR=3.6						
PLCA				LR	LR	00 57 37.2	
	comp=N,951nm,18.3s,baz=354,slow=40						
TRQA	**Tornquist**	**9.65**	**122**	*e*Pn	**Pn**	**00 54 58.8**	**+0.5**
LVC	**Limon Verde**	**11.14**	**17**	*e*Pn	**Pn**	**00 55 17.5**	**-1.4**
CPUP	**Villa Florida**	**14.80**	**66**	Pn	**Pn**	**00 56 08.5**	**-0.3**
	comp=N,0.3nm,0.3s,baz=231,slow=13,SNR=2.1						
CPUP				LR	LR	01 02 13.9	
	comp=N,243nm,19.0s,baz=229,slow=40						
LPAZ	**La Paz**	**17.43**	**14**	P	**Pn**	**00 56 42.7**	**-0.5**
	comp=N,0.3nm,0.3s,baz=152,slow=7.7,SNR=13						
LPAZ	**La Paz**	**17.43**	**14**	*e*Pn	**Pn**	**00 56 43.0**	**-0.1**
	comp=N,23nm,1.1s						
SIV	**San Ignacio**	**20.09**	**33**	P	**P**	**00 57 11.5**	**-1.5**
	comp=N,0.4nm,0.3s,baz=229,slow=13,SNR=20						
SIV				LR	LR	01 06 02.9	
	comp=N,255nm,18.8s,baz=227,slow=40						
EFI	**East Falkland**	**21.05**	**155**	*e*P	**P**	**00 57 22.8**	**-0.3**
	comp=N,56nm,0.9s						
USHA	**Ushuaia**	**21.64**	**174**	P	**P**	**00 57 31.7**	**+2.3**
	comp=N,3.6nm,0.8s,baz=0.0,slow=12,SNR=2.6						
USHA				LR	LR	01 05 30.9	
	comp=N,417nm,19.0s,baz=324,slow=36						
NNA	**Nana**	**21.67**	**348**	P	**P**	**00 57 30.9**	**+0.8**
	comp=N,3.8nm,0.3s,baz=198,slow=13,SNR=4.6						
NNA	**Nana**	**21.67**	**348**	*e*P	**P**	**00 57 31.4**	**+1.3**
	comp=N,67nm,1.6s						
SAML	**Samuel**	**25.74**	**21**	*e*P	**P**	**00 58 09.4**	**-0.4**
	comp=N,21nm,1.1s						
ATAH	**Atahualpa**	**26.69**	**347**	LR	LR	01 07 25.3	
	comp=N,240nm,19.1s,baz=189,slow=33						
BDFB	**Brasilia**	**28.21**	**57**	P	**P**	**00 58 30.0**	**-2.3**
	comp=N,1.6nm,0.5s,baz=172,slow=11,SNR=3.3						
BDFB				LR	LR	01 10 08.5	
	comp=N,140nm,21.0s,baz=230,slow=38						
VNA3	**Neumayer Olymp**	**50.05**	**158**	P	**P**	**01 01 34.0**	**+0.5**
VNA2	**Neumayer--Watz**	**50.70**	**157**	P	**P**	**01 01 38.6**	**+0.2**
SNAA	**Sanae**	**52.27**	**158**	P	**P**	**01 01 49.5**	**-0.8**
SNAA	**Sanae**	**52.27**	**158**	*e*P	**P**	**01 01 50.8**	**+0.5**
	comp=N,19nm,1.1s						
JCT	**Junction City**	**68.60**	**335**	*e*P	P	01 03 47.7	+5.5
	comp=N,23nm,1.4s						
TX31	**Lajitas Ar. Si**	**69.05**	**331**	*e*P	**P**	**01 03 45.4**	**+0.3**
TXAR	**Lajitas Array**	**69.05**	**331**	P	**P**	**01 03 45.2**	**+0.1**
	comp=N,0.9nm,0.7s,baz=155,slow=7.6,SNR=10						
WHTX	**Lake Whitney,**	**69.18**	**337**	*e*P	P	01 03 50.4	+4.7
	comp=N,11nm,1.0s						
MNTX	**Cornudas Mount**	**71.82**	**331**	*e*P	P	01 04 06.0	+4.1
	comp=N,7.4nm,1.4s						
MSTX	**Muleshoe**	**72.82**	**334**	*e*P	P	01 04 12.9	+5.0
	comp=N,14nm,1.1s						
AMTX	**Amarillo**	**73.25**	**335**	*e*P	P	01 04 15.6	+5.2
	comp=N,52nm,2.1s						
LPM	**Los Pinos Moun**	**74.61**	**331**	*e*P	P	01 04 23.6	+5.0
ANMO	**Albuquerque**	**75.09**	**332**	*e*P	P	01 04 26.6	+5.2
	comp=N,7.8nm,1.3s						
DBIC	**Dimbokro**	**75.24**	**72**	P	**P**	**01 04 21.3**	**-1.1**
	comp=N,5.4nm,1.1s,baz=153,slow=6.8,SNR=2.8						
WUAZ	**Wupatki**	**77.65**	**328**	*e*P	P	01 04 41.3	+5.5
	comp=N,9.2nm,1.3s						
SMCO	**Snowmass**	**78.99**	**333**	*e*P	P	01 04 48.1	+4.7
	comp=N,20nm,1.6s						
KNB	**Kanab**	**79.54**	**328**	*e*P	P	01 04 52.5	+6.3
	comp=N,16nm,1.5s						
SHPR	**Sheep Range**	**80.18**	**326**	*e*P	**P**	**01 04 52.2**	**+2.5**
BOSA	**Boshof**	**80.61**	**118**	P	**P**	**01 04 51.8**	**-0.6**
	comp=N,5.2nm,1.0s,baz=235,slow=11,SNR=4.6						
DAC	**Darwin (Calif)**	**81.15**	**325**	*e*P	P	01 04 59.9	+5.0
	comp=N,4.1nm,0.9s						
DUG	**Dugway, Tooele**	**82.19**	**330**	*e*P	P	01 05 05.4	+5.2
	comp=N,12nm,1.6s						
LBTB	**Lobatse**	**82.82**	**115**	*e*P	**P**	**01 05 04.3**	**+0.2**
	comp=N,13nm,1.0s						
NVAR	**Mina Array Bea**	**83.21**	**325**	P	**P**	**01 05 07.8**	**+2.2**
	comp=N,0.4nm,0.5s,baz=181,slow=7.0,SNR=3.0						
TOA0	**Torodi Ar. Sit**	**84.25**	**70**	*e*P	**P**	**01 05 09.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**84.25**	**70**	P	**P**	**01 05 10.5**	**-0.8**
	comp=N,4.5nm,0.8s,baz=250,slow=4.7,SNR=21						
MCMT	**McKenzie Canyo**	**86.08**	**332**	*e*P	P	01 05 23.3	+3.3
WRA	**Warramunga Arr**	**121.18**	**210**	PKP	**PKPdf**	**01 11 31.6**	**-1.1**
	comp=N,0.3nm,0.9s,baz=154,slow=1.7,SNR=4.4						
BRVK	**Borovoye**	**146.93**	**42**	*e*PKPdf	**PKPbc**	**01 12 21.3**	**+0.1**
VOSK	**Vostochnaya**	**147.44**	**42**	*e*PKPdf	**PKPbc**	**01 12 22.1**	**-0.6**
HYB	**Hyderabad**	**149.44**	**114**	*i* PKP	**PKPbc**	**01 12 27.5**	**-1.5**
KKAR	**Karatay Array**	**149.48**	**60**	*e*PKPdf	**PKPdf**	**01 12 25.0**	**+1.2**
TKM2	**Tokmak 2**	**153.20**	**60**	*e*PKPdf	**PKPdf**	**01 12 29.9**	**+0.2**
ZAA0	**Zalesovo Array**	**153.83**	**31**	*e*PKPdf	**PKPdf**	**01 12 29.3**	**-0.7**
ZALV	**Zalesovo Beam**	**153.83**	**31**	PKP	**PKPdf**	**01 12 29.7**	**-0.3**
	comp=N,0.8nm,0.7s,baz=153,slow=0.7,SNR=3.5						
ZALV				PKPbc	**PKPbc**	**01 12 37.4**	**-0.5**
	comp=N,1.6nm,0.7s,baz=300,slow=2.9,SNR=9.1						
KSH	**Kashi**	**153.89**	**67**	PKPbc	**PKPdf**	**01 12 34.0**	**+3.2**
KSH				sPKP		01 12 48.5	
KSH				PKS	**PKSdf**	**01 16 06.3**	**+1.2**
KSH				PP	**PP**	**01 16 25.9**	**-1.0**
KSH				SKS	**SKSdf**	**01 19 36.5**	**-0.6**
KSH				SKKS	**SKKSac**	**01 23 12.3**	**-3.9**
KSH				SS	SS	01 35 54.3	-10
KSH				PPMZ			
	comp=N,150nm,7.2s						
KSH				LN			
	comp=N,31nm,3.8s						
KSH				LE			
	comp=N,22nm,4.4s						
KSH				LZ			
	comp=N,97nm,4.6s						
MKAR	**Makanchi Array**	**156.55**	**48**	PKP	**PKPdf**	**01 12 33.2**	**-0.8**
	comp=N,0.7nm,1.0s,baz=303,slow=2.5,SNR=4.5						
MKAR				PKPab	**PKPab**	**01 13 02.2**	**-0.7**
	comp=N,1.4nm,0.9s,baz=294,slow=1.2,SNR=7.3						
MKAR	**Makanchi Array**	**156.55**	**48**	*e*PKPdf	**PKPdf**	**01 12 34.1**	**+0.1**
MKAR				PKPab	**PKPab**	**01 13 02.2**	**-0.7**
MK01	**Makanchi Array**	**156.56**	**48**	*e*PKPdf	**PKPdf**	**01 12 33.7**	**-0.3**
WMQ	**Urumqi**	**161.29**	**50**	*e*PKP	**PKPdf**	**01 12 41.0**	**+1.3**
WMQ				pPKP	pPKPdf	01 12 52.5	+7.4
SONM	**Songino Array**	**165.52**	**3**	PKPab	**PKPab**	**01 13 42.4**	**+0.4**
	comp=N,0.2nm,0.4s,baz=348,slow=2.1,SNR=4.1						
KMI	**Kunming**	**170.74**	**151**	PKP	**PKPdf**	**01 12 47.0**	**-1.1**
GTA	**Gaotai**	**171.28**	**44**	*e*PKP	PKPdf	01 12 54.9	+7.1
GTA				pPKP	pPKPdf	01 13 05.7	+13
GTA				sPKP		01 13 09.2	
HHC	**Hu-ho-hao-te**	**171.90**	**338**	*e*PKP	**PKPdf**	**01 12 51.0**	**+3.0**
HHC				pPKP	pPKPdf	01 13 01.8	+8.5
HHC				sPKP		01 13 05.6	
HHC				PP	PP	01 18 08.0	+7.0
HHC				SKS	**SKSdf**	**01 19 49.2**	**-1.6**
HHC				SS	**SS**	**01 39 10.9**	**+2.4**
HHC				PPMZ			
	comp=N,120nm,6.8s						
HHC				LN			
	comp=N,150nm,19.7s						
HHC				LE			
	comp=N,170nm,20.5s						
HHC				LZ			
	comp=N,140nm,19.7s						
LZH	**Lanzhou**	**175.87**	**48**	*e*PKP	PKPdf	01 12 55.5	+5.9
LZH				pPKP	pPKPdf	01 13 07.0	+12
LZH				sPKP		01 13 10.6	
LZH				LN			
	comp=N,150nm,18.5s						
LZH				LE			
	comp=N,140nm,19.0s						
LZH				LZ			
	comp=N,170nm,20.3s						
CD2	**Chengdu**	**175.90**	**126**	*e*PKP	**PKPdf**	**01 12 53.2**	**+3.5**

*NNC **06** 00:53:09.4±5.1, 37.°09N×73.°29E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=44.8km s-min=20.1km az=158.0*
*IDC **06** 00:53:09.3±3.5, 37.°57N×72.°67E, h0km, mb3.3/2, mb1 3.5/5, mb1mx3.3/35, mbtmp3.4/5, ML2.7/3, Error ellipse: s-maj=62.4km s-min=51.3km az=121.0*
ISC 06 00:53:09.8±1.8, 36.°9N±0.°1×72.°8E±0.°1, h35km, n16, σ1°90/19, 5C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.68**	**302**	⇓Pn	Pn	00 54 08.5	+4.3
DZET				⇓Sn	Sn	00 55 01.4	+15
AAK	**Ala-Archa**	**5.87**	**12**	⇑Pn	**Pn**	**00 54 35.9**	**+1.5**
	2.5nm,0.6s						
AAK				⇓Sn	**Sn**	**00 55 43.1**	**+2.7**
	9.0nm,0.7s						
AAK	**Ala-Archa**	**5.87**	**12**	Pn	**Pn**	**00 54 34.1**	**-0.3**
	0.5nm,0.3s,baz=188,slow=8.3,SNR=13						
AAK				Sn	**Sn**	**00 55 43.2**	**+2.7**
	0.5nm,0.3s,baz=358,slow=19,SNR=3.6						
TKM2	**Tokmak 2**	**6.38**	**19**	⇑Pn	**Pn**	**00 54 42.3**	**+0.8**
	1.9nm,0.6s						
TKM2				⇓Sn	**Sn**	**00 55 51.2**	**-1.9**
	6.1nm,0.8s						
KK31	**Karatay Array**	**6.44**	**345**	⇑Pn	**Pn**	**00 54 42.1**	**+0.1**
	1.0nm,0.3s,baz=147,slow=11,SNR=40						
KK31				⇑Sn	**Sn**	**00 55 55.4**	**+1.1**
	3.7nm,0.5s,baz=153,slow=25,SNR=6.2						
PDGK	**Podgornoye**	**8.20**	**37**	⇓Pn	**Pn**	**00 55 07.7**	**+1.5**
PDGK				⇑Lg	Lg	00 57 14.6	
MKAR	**Makanchi Array**	**12.14**	**33**	Pn	**Pn**	**00 55 58.4**	**-1.8**
	0.0nm,0.3s,baz=206,slow=9.6,SNR=4.3						
KURBB	**Kurchatov Arra**	**14.31**	**15**	Pn	**Pn**	**00 56 27.4**	**-2.4**
	0.0nm,0.3s,baz=208,slow=11,SNR=3.4						
AB31	**Akbul

EFI **East Falkland** 18.35 148 P P 01 27 35.0 +2.4
comp=Z,216nm,0.6s,SNR=7.7
LPAZ **La Paz** 21.05 14 P P 01 28 03.8 +0.8
comp=Z,12nm,0.7s,baz=190,slow=6.8,SNR=38
LPAZ **La Paz** 21.05 14 P P 01 28 03.8 +0.8
LPAZ *e*Pn P 01 28 04.3 +1.4
SIV **San Ignacio** 23.51 31 P P 01 28 27.9 -0.5
comp=Z,9.3nm,0.7s,baz=232,slow=5.6,SNR=27
SIV LR LR 01 37 52.6
comp=Z,158nm,19.2s,baz=216,slow=37
NNA **Nana** 24.99 352 P P 01 28 40.6 -1.5
comp=Z,11nm,0.7s,baz=207,slow=10,SNR=6.5
NNA LR LR 01 36 32.8
comp=Z,293nm,18.3s,baz=180,slow=32
PMSA **Palmer Station** 28.47 172 LR LR 01 40 11.0
comp=Z,406nm,18.7s,baz=306,slow=36
SAML **Samuel** 29.32 21 *e*P P 01 29 20.1 -0.9
comp=Z,5.8nm,0.9s
ATAH **Atahualpa** 29.97 350 LR LR 01 39 24.8
comp=Z,237nm,18.8s,baz=189,slow=32
BDFB **Brasilia** 30.91 54 P P 01 29 34.6 -0.5
comp=Z,5.0nm,0.8s,baz=230,slow=11,SNR=8.3
BDFB LR LR 01 43 21.7
comp=Z,826nm,19.4s,baz=220,slow=39
OTAV **Otavalo** 37.24 352 *e*P P 01 30 31.5 +1.0
comp=Z,53nm,1.7s
OTAV *e*PcP PcP 01 32 50.0 -0.2
ROSC **El Rosal** 41.54 359 P P 01 31 08.7 +2.4
comp=Z,18nm,0.5s,baz=145,slow=4.0,SNR=9.4
ROSC **El Rosal** 41.54 359 *e*P P 01 31 09.6 +3.3
SDV **Santo Domingo** 45.61 4 *e*P P 01 31 37.9 -0.9
comp=Z,23nm,0.8s
SDV *e*PcP PcP 01 33 16.6 -0.5
BCIP **Isla Barro Col** 46.21 351 *e*P P 01 31 43.9 +0.6
comp=Z,90nm,1.4s
VNA2 **Neumayer--Watz** 47.80 156 P P 01 31 56.3 +1.1
JTS **JuntasÁbangare** 48.17 345 *e*P P 01 31 59.5 +0.8
JTS pmax pmax
comp=Z,24nm,1.2s
JTS **JuntasÁbangare** 48.17 345 *e*P P 01 31 59.5 +0.8
comp=Z,24nm,1.2s
SNAA **Sanae** 49.35 157 P P 01 32 08.3 +1.1
SNAA **Sanae** 49.35 157 *e*P P 01 32 08.0 +0.8
SNAA pmax pmax
comp=Z,23nm,1.1s
SNAA **Sanae** 49.35 157 *e*P P 01 32 08.0 +0.8
comp=Z,24nm,1.1s
GRGR **Grenville** 50.00 15 *e*P P 01 32 09.8 -2.8
comp=Z,119nm,0.7s
QSPA **South Pole Qui** 53.35 180 *e*P P 01 32 38.1 +0.7
comp=Z,30nm,0.8s
NVL **N'lazarevskaya** 54.12 156 *e*P P 01 32 42.7 0.0
NVL pmax pmax
comp=Z,26nm,1.3s
RKT **Rikitea** 54.22 266 *e*LR LR 01 48 28.6
comp=Z,207nm,27.5s
RKT **Rikitea** 54.22 266 *e*T T 02 30 51.3
comp=Z,1.5nm,0.2s
OBIP **Obispado Ponce** 55.01 8 *e*P P 01 32 48.6 -1.1
comp=Z,34nm,0.8s
CELP **Cerrillos** 55.05 8 *e*P P 01 32 48.4 -1.6
CBYP **Canovanas** 55.32 9 *e*P P 01 32 49.8 -2.2
comp=Z,26nm,0.9s
SDDR **Presa de Saban** 55.61 2 *e*P P 01 32 53.8 -0.3
GTBY **Guantanamo Bay** 56.53 358 *e*P P 01 33 00.0 -0.6
comp=Z,42nm,1.1s
TEIG **Tepich** 58.52 344 *e*P P 01 33 14.0 -0.6
comp=Z,47nm,0.7s
VNDA **Vanda** 61.05 192 *e*P P 01 33 32.9 +1.4
VNDA pmax pmax
comp=Z,8.0nm,1.2s
VNDA **Vanda** 61.05 192 P P 01 33 32.9 +1.4
comp=Z,3.4nm,1.0s,baz=129,slow=6.8,SNR=6.2
VNDA **Vanda** 61.05 192 *e*P P 01 33 32.9 +1.4
comp=Z,8.0nm,1.2s
SYO **Syowa Base** 63.59 158⇓*e*P P 01 33 47.6 -0.9
035Z **Hargill** 67.16 336 ⇓P P 01 34 14.2 +2.1
baz=68
MEH **Mehetia** 67.41 264 *e*T T 02 47 19.5
comp=Z,40nm,0.3s
035A **Encino** 67.61 336 ⇓P P 01 34 16.6 +1.7
baz=68
034A **Hebbronville** 67.92 336 ⇓P P 01 34 18.3 +1.4
baz=68
934A **Benavides** 68.37 336 ⇑P P 01 34 21.0 +1.3
baz=69
TIAR **Tiarei** 68.60 264 *e*T T 02 48 48.6
comp=Z,6.0nm,0.3s
933A **Laredo** 68.62 335 ⇓P P 01 34 22.4 +1.1
baz=69,SNR=5.7
TIGA **Tifton** 68.64 351 ⇓P P 01 34 21.4 +0.1
baz=69
PPT2 **Papeete2** 68.77 264 *e*S S 01 43 30.6 +4.5
comp=Z,94nm,23.2s
PPT2 **Papeete2** 68.77 264 *e*LR LR 01 55 18.4
comp=Z,202nm,22.5s
PPT **Papeete** 68.78 264 LR LR 01 57 06.7
comp=Z,232nm,18.1s,baz=96,slow=30
835A **Beeville** 68.78 337 ⇑P P 01 34 23.5 +1.2
baz=69
834A **Tilden** 68.86 336 ⇑P P 01 34 24.3 +1.6
baz=69,SNR=7.2
735A **Kenedy** 69.31 337 ⇓P P 01 34 26.6 +1.1
baz=70
833A **Chaparral WMA,** 69.32 336 ⇓P P 01 34 26.0 +0.4
baz=70,SNR=7.8
832A **Faith Ranch, C** 69.48 335 ⇑P P 01 34 26.8 +0.2
baz=70,SNR=10
734A **La Parita Cree** 69.53 337 ⇑P P 01 34 27.7 +0.8
baz=70
636A **Smothers Creek** 69.66 338 ⇑P P 01 34 28.6 +1.0
baz=70,SNR=10
HKT **Hockley** 69.74 339 *e*P P 01 34 27.0 -1.1
HKT pmax pmax
comp=Z,8.0nm,1.0s
HKT **Hockley** 69.74 339 *e*P P 01 34 27.0 -1.1
comp=Z,8.1nm,1.0s
635A **Leesville** 69.79 337 ⇓P P 01 34 29.0 +0.5
baz=70
732A **Laxson Ranch,** 69.89 335 ⇓P P 01 34 29.4 +0.4
baz=70,SNR=23
538A **Harpers Horsep** 69.91 340 ⇑P P 01 34 30.7 +1.6
baz=70
634A **China Grove, S** 69.97 337 ⇑P P 01 34 31.0 +1.4
baz=70
537A **Green Hill Far** 70.00 339 ⇑P P 01 34 30.7 +0.9
baz=70,SNR=5.8
536A **Bastrop** 70.22 338 ⇓P P 01 34 31.7 +0.6
baz=71
633A **Saathoff Ranch** 70.30 336 ⇑P P 01 34 32.0 +0.4
baz=71
535A **Dale** 70.33 338 ⇓P P 01 34 32.7 +0.9
baz=71
438A **Sam Houston St** 70.40 340 ⇑P P 01 34 33.2 +1.0
baz=71
632A **Uvalde** 70.54 336 ⇑P P 01 34 33.7 +0.6
baz=71,SNR=12
GOGA **Godfrey** 70.57 351 *e*P P 01 34 32.3 -0.9
GOGA pmax pmax
comp=Z,13nm,0.7s
GOGA **Godfrey** 70.57 351 *e*P P 01 34 32.3 -0.9
comp=Z,13nm,0.7s
VBMS **Vicksburg** 70.59 345 *e*P P 01 34 34.1 +0.8
comp=Z,46nm,0.9s
534A **Blanco** 70.61 337 ⇑P P 01 34 34.2 +0.7
baz=71
340A **Bronson** 70.61 341 ⇑P P 01 34 34.1 +0.6
baz=71,SNR=15
339A **Huntington** 70.70 341 ⇑P P 01 34 34.6 +0.6
baz=71,SNR=6.9
LRAL **Lakeview Retre** 70.72 348 *e*P P 01 34 33.7 -0.4
comp=Z,19nm,1.1s
631A **Perdido Creek** 70.72 335 ⇑P P 01 34 34.5 +0.3
baz=71,SNR=9.5
MAW **Mawson** 70.72 164 LR LR 02 03 50.0
comp=Z,236nm,21.0s,baz=242,slow=34
436A **Wall Ranch, Ga** 70.79 339 ⇑P P 01 34 35.2 +0.6
baz=71
533A **Kerrville** 70.82 337 ⇓P P 01 34 35.3 +0.5
baz=71,SNR=14
338A **Crockett** 70.93 340 ⇓P P 01 34 36.5 +1.1
baz=71,SNR=5.8
435B **Jarrell** 71.04 338 ⇓P P 01 34 36.6 +0.5
baz=72
337A **Centerville** 71.05 340 ⇓P P 01 34 37.3 +1.2
baz=72,SNR=5.9
532A **Rocksprings** 71.15 336 ⇑P P 01 34 37.4 +0.6
baz=72,SNR=32
434A **Burnet** 71.27 338 ⇓P P 01 34 37.8 +0.2
baz=72,SNR=19
239A **Gary** 71.33 341 ⇓P P 01 34 38.5 +0.7
baz=72,SNR=9.7
336A **Riesel** 71.39 339 ⇑P P 01 34 38.6 +0.4
baz=72,SNR=11
531A **Rocksprings** 71.40 335 ⇓P P 01 34 38.9 +0.5
baz=72,SNR=20
JCT **Junction City** 71.45 336 *e*P P 01 34 38.9 +0.3
JCT pmax pmax
comp=Z,27nm,0.8s
JCT **Junction City** 71.45 336 ⇑P P 01 34 39.0 +0.4
baz=72,SNR=9.6
JCT **Junction City** 71.45 336 *e*P P 01 34 38.9 +0.3
comp=Z,27nm,0.8s
335A **Moody** 71.46 338 ⇑P P 01 34 38.6 0.0
baz=72
433A **Art** 71.47 337 ⇑P P 01 34 38.5 -0.2
baz=72,SNR=17
238A **Jacksonville** 71.49 341 ⇑P P 01 34 39.1 +0.4
baz=72
530A **J-C Ranch, Com** 71.65 335 ⇑P P 01 34 40.3 +0.4
baz=72,SNR=19
237A **Washetta, Mont** 71.67 340 ⇓P P 01 34 40.4 +0.6
baz=72
334A **Lometa** 71.75 338 ⇑P P 01 34 40.6 +0.2
baz=72,SNR=28
TXAR **Lajitas Array** 71.75 332 P P 01 34 40.6 +0.1
comp=Z,9.5nm,0.7s,baz=151,slow=8.6,SNR=103
TXAR LR LR 02 01 32.4
comp=Z,216nm,18.0s,baz=0.0,slow=32
432A **Menard** 71.81 336 ⇓P P 01 34 40.5 -0.3
baz=72,SNR=5.8
431A **Sonora** 71.90 336 ⇓P P 01 34 41.3 0.0
baz=72,SNR=14
529A **Stev Forest Ra** 71.94 334 ⇓P P 01 34 41.7 0.0
baz=72,SNR=17
333A **Richland Sprin** 71.97 337 ⇑P P 01 34 41.4 -0.3
baz=72,SNR=14
KMSC **Kings Mountain** 72.05 353 ⇓P P 01 34 41.8 -0.3
baz=73
KMSC **Kings Mountain** 72.05 353 *e*P P 01 34 41.6 -0.4
138A **Matatall Enter** 72.10 341 ⇑P P 01 34 42.8 +0.4
baz=73
WHTX **Lake Whitney,** 72.13 339 ⇑P P 01 34 42.7 0.0
baz=73,SNR=11
WHTX **Lake Whitney,** 72.13 339 *e*P P 01 34 42.5 -0.2
comp=Z,37nm,0.9s
430A **Baggett Ranch,** 72.20 335 ⇑P P 01 34 43.3 +0.1
baz=73,SNR=22
137A **Heron Place, G** 72.22 340 ⇑P P 01 34 43.7 +0.6
baz=73,SNR=5.2
332A **Millersview** 72.26 337 ⇑P P 01 34 43.4 -0.1
baz=73,SNR=15
429A **Davenport Ranc** 72.28 334 ⇑P P 01 34 43.8 +0.2
baz=73,SNR=19
234A **Clairette** 72.34 338 ⇑P P 01 34 43.7 -0.2
baz=73,SNR=11
331A **San Angelo** 72.41 336 ⇓P P 01 34 44.3 -0.1
baz=73,SNR=23
233A **Rising Star** 72.59 337 ⇓P P 01 34 45.1 -0.3
baz=73,SNR=12
OXF **Oxford** 72.59 346 *e*P P 01 34 43.8 -1.5
OXF pmax pmax
comp=Z,48nm,1.1s
OXF **Oxford** 72.59 346 *e*P P 01 34 43.8 -1.5
comp=Z,48nm,1.1s
135A **Vickery Place,** 72.64 339 ⇓P P 01 34 45.5 -0.2
baz=73
SWET **Sewanee** 72.68 349 *e*P P 01 34 45.1 -0.8
comp=Z,58nm,0.8s
232A **Coleman** 72.70 337 ⇑P P 01 34 45.7 -0.4
baz=73,SNR=15
330A **Mertzon** 72.75 335 ⇑P P 01 34 45.9 -0.5
baz=73,SNR=9.8
TKL **Tuckaleechee C** 72.83 351 *e*P P 01 34 46.0 -0.7
TKL **Tuckaleechee C** 72.83 351 *e*P P 01 34 46.0 -0.7
134A **White-Moore Ra** 72.86 338 ⇓P P 01 34 46.8 -0.2
baz=73
231A **Bronte** 72.96 336 ⇓P P 01 34 47.2 -0.4
baz=73,SNR=9.7
329A **Wagon Wheel Ra** 73.10 335 ⇓P P 01 34 48.5 0.0
baz=74,SNR=15
133A **Hamilton Ranch** 73.14 338 ⇑P P 01 34 48.4 -0.2
baz=74,SNR=12
230A **Sterling City** 73.17 336 ⇓P P 01 34 48.4 -0.5
baz=74
Z35A **Perchaven, San** 73.33 339 ⇓P P 01 34 49.6 -0.1
baz=74,SNR=10
ABTX **Abilene, Hawle** 73.38 337 ⇑P P 01 34 50.1 0.0
baz=74,SNR=7.6
ABTX **Abilene, Hawle** 73.38 337 *e*P P 01 34 49.8 -0.2
comp=Z,20nm,0.7s
229A **Bryant Ranch,** 73.48 335 ⇓P P 01 34 50.5 -0.3
baz=74,SNR=7.1
MIAR **Mount Ida** 73.52 343 *e*P P 01 34 50.2 -0.6
MIAR pmax pmax
comp=Z,64nm,2.3s
MIAR **Mount Ida** 73.52 343 *e*P P 01 34 50.2 -0.6
comp=Z,64nm,2.3s
Z34A **Collier Ranch,** 73.55 339 ⇓P P 01 34 50.5 -0.5
baz=74
131A **Roby** 73.66 336 ⇓P P 01 34 51.3 -0.4
baz=74,SNR=5.5
TZTN **Tazewell** 73.67 351 *e*P P 01 34 50.7 -1.0
comp=Z,12nm,0.8s
Z33A **Whitaker Ranch** 73.72 338 ⇓P P 01 34 52.0 -0.1
baz=74,SNR=11
130A **Snyder** 73.78 336 ⇓P P 01 34 52.1 -0.4
baz=74,SNR=7.3
WVT **Waverly** 73.88 348 *e*P P 01 34 52.1 -0.8
WVT pmax pmax
comp=Z,38nm,1.1s
WVT **Waverly** 73.88 348 *e*P P 01 34 52.1 -0.8
comp=Z,38nm,1.1s
228A **UT Block 9, Go** 73.88 334 ⇑P P 01 34 53.0 -0.1
baz=74,SNR=9.5
Z32A **Haskell** 73.96 337 ⇑P P 01 34 53.5 0.0
baz=74,SNR=11
Y34A **Reagan Ranch,** 74.06 339 ⇑P P 01 34 53.5 -0.5
baz=74,SNR=6.5
129A **Stewart Farms,** 74.11 335 ⇑P P 01 34 54.0 -0.4
baz=74,SNR=5.5
Z31A **Sharp Cattle R** 74.18 337 ⇓P P 01 34 54.6 -0.2
baz=75,SNR=11
128A **Castleberry Fa** 74.31 335 ⇑P P 01 34 55.4 -0.2
baz=75,SNR=12
Y33A **Hilltop Ranch,** 74.36 338 ⇓P P 01 34 55.4 -0.3
baz=75,SNR=8.4
SUR **Sutherland** 74.41 119 *e*P P 01 34 57.7 +1.1
comp=Z,18nm,1.0s
Z30A **Sanderson Ranc** 74.46 336 ⇓P P 01 34 55.8 -0.7
baz=75,SNR=13
MNTX **Cornudas Mount** 74.51 332 *e*P P 01 34 55.4 -1.3
comp=Z,10nm,1.0s
GDL2 **Guadalupe Moun** 74.59 333 *e*P P 01 34 57.6 +0.3
Y32A **R-V Farms, Ver** 74.60 338 ⇑P P 01 34 56.7 -0.4
baz=75,SNR=5.2
Z29A **Hungry Hill Ra** 74.63 336 ⇓P P 01 34 56.7 -0.8
baz=75,SNR=16
X34A **Smith Ranch, M** 74.68 339 ⇓P P 01 34 57.4 -0.3
baz=75,SNR=5.9
Y31A **Rekieta Farm,** 74.81 337 ⇑P P 01 34 58.0 -0.4
baz=75,SNR=6.8
X33A **Lawton** 74.82 339 ⇑P P 01 34 57.8 -0.6
baz=75
Z28A **Tucker Farm, M** 74.88 335 ⇓P P 01 34 58.7 -0.2
baz=75
Y30A **Stafford Cattl** 74.93 337 ⇑P P 01 34 58.7 -0.5
baz=75
X32A **Elmer** 74.94 338 ⇑P P 01 34 58.7 -0.5
baz=75
PBMO **Poplar Bluff** 74.98 346 *e*P P 01 34 58.4 -0.9
comp=Z,19nm,0.8s
WMOK **Wichita Mounta** 75.08 339 *e*P P 01 34 59.5 -0.5
WMOK pmax pmax
comp=Z,13nm,1.1s
WMOK **Wichita Mounta** 75.08 339 *e*P P 01 34 59.5 -0.5
comp=Z,12nm,1.1s
Y29A **Porterfield Fa** 75.17 336 ⇓P P 01 35 00.1 -0.5
baz=76,SNR=11
W34A **Bridge Creek,** 75.26 340 ⇑P P 01 35 00.6 -0.4
baz=76
W34A **Bridge Creek,** 75.26 340 *e*P P 01 35 00.5 -0.4
comp=Z,36nm,1.3s
X31A **McDonald Ranch** 75.34 338 ⇓P P 01 35 01.1 -0.4
baz=76,SNR=12
TUL1 **Leonard** 75.36 341 ⇓P P 01 35 01.1 -0.4
baz=76,SNR=10
TUL1 **Leonard** 75.36 341 *e*P P 01 35 00.9 -0.6
comp=Z,39nm,1.0s
W33A **Caddo, Fort Co** 75.38 339 ⇓P P 01 35 01.5 -0.1
baz=76,SNR=10
Y28A **McKinney Farm,** 75.40 335 ⇓P P 01 35 01.8 -0.1
baz=76,SNR=7.6
X30A **Coker Ranch, T** 75.45 337 ⇑P P 01 35 02.0 -0.1
baz=76
W32A **Sentinel** 75.58 338 ⇓P P 01 35 02.7 -0.2
baz=76,SNR=18
MSTX **Muleshoe** 75.63 335 ⇑P P 01 35 03.0 -0.2
baz=76,SNR=6.8
MSTX **Muleshoe** 75.63 335 *e*P P 01 35 02.9 -0.3
comp=Z,12nm,0.7s
USIN **University of** 75.64 348 *e*P P 01 35 02.1 -1.0
comp=Z,37nm,0.8s
SIUC **Southern Illin** 75.67 347 *e*P P 01 35 01.9 -1.2
comp=Z,26nm,0.8s
Z25A **Roswell** 75.69 333 ⇑P P 01 35 03.3 -0.3
baz=76,SNR=5.3
Y27A **Causey** 75.69 335 ⇓P P 01 35 03.4 -0.2
baz=76
WCI **Wyandotte Cave** 75.69 350 *e*P P 01 35 01.4 -2.0
WCI pmax pmax
comp=Z,9.0nm,0.9s
WCI **Wyandotte Cave** 75.69 350 *e*P P 01 35 01.4 -2.0
comp=Z,9.2nm,0.9s
X29A **Tulia** 75.71 336 ⇓P P 01 35 03.7 0.0
baz=76
V34A **Guthrie** 75.75 340 ⇓P P 01 35 03.6 -0.1
baz=76
V34A **Guthrie** 75.75 340 *e*P P 01 35 03.2 -0.6
comp=Z,32nm,1.1s
319A **Douglas** 75.77 329 ⇑P P 01 35 04.1 -0.1
baz=76,SNR=6.6
W31A **Holland Ranch,** 75.85 338 ⇓P P 01 35 04.4 0.0
baz=76,SNR=5.1
X28A **Dimmitt** 75.94 336 ⇑P P 01 35 05.4 +0.4
baz=76
V33A **Lossen Ranch,** 75.95 339 ⇑P P 01 35 05.3 +0.3
baz=76,SNR=8.6
Y26A **Elida** 75.95 334 ⇓P P 01 35 05.2 +0.1
baz=76,SNR=8.6
Z24A **Sheeppen Canyo** 75.97 333 ⇓P P 01 35 05.9 +0.6
baz=76,SNR=10
W30A **Crocket Farms** 76.03 337 ⇑P P 01 35 06.3 +0.8
baz=76
V32A **Arapaho** 76.08 339 ⇓P P 01 35 06.2 +0.5
baz=76
AMTX **Amarillo** 76.11 336 ⇑P P 01 35 06.2 +0.2
baz=77
AMTX **Amarillo** 76.11 336 *e*P P 01 35 05.8 -0.2
comp=Z,38nm,1.0s
121A **Cookes Peak, D** 76.18 331 ⇑P P 01 35 07.4 +1.0
baz=77,SNR=11
121A **Cookes Peak, D** 76.18 331 *e*P P 01 35 07.1 +0.6
comp=Z,14nm,1.0s
Y25A **Mesa, Roswell** 76.26 334 ⇑P P 01 35 06.6 -0.3
baz=77,SNR=5.0
W29A **Amarillo** 76.32 336 ⇑P P 01 35 07.3 +0.1
baz=77,SNR=6.2
U34A **Anderson Ranch** 76.32 340 ⇑P P 01 35 07.1 +0.1
baz=77
U34A **Anderson Ranch** 76.32 340 *e*P P 01 35 06.9 -0.1
X27A **F and S Farms,** 76.36 335 ⇓P P 01 35 07.6 +0.2
baz=77
V31A **Spring Creek L** 76.36 338 ⇑P P 01 35 08.4 +1.1
baz=77,SNR=5.2
Z22A **Elephant Butte** 76.50 332 ⇑P P 01 35 09.7 +1.5
baz=77,SNR=7.1
X26A **CR and CF Fran** 76.52 335 ⇓P P 01 35 08.3 0.0
baz=77,SNR=8.0
Y24A **Capitan** 76.53 333 ⇓P P 01 35 08.6 +0.2
baz=77,SNR=12
V30A **Spur Ranch, Mi** 76.61 337 ⇑P P 01 35 10.3 +1.6
baz=77
W28A **Vega** 76.62 336 ⇑P P 01 35 10.2 +1.3
baz=77
BLO **Bloomington** 76.65 350 *e*P P 01 35 07.8 -1.0
BLO pmax pmax
comp=Z,22nm,0.7s
BLO **Bloomington** 76.65 350 *e*P P 01 35 07.8 -1.0
comp=Z,22nm,0.7s
U32A **Winter Ranch,** 76.68 339 ⇓P P 01 35 09.2 +0.1
baz=77,SNR=6.6
W27A **Bowe Ranch, En** 76.73 335 ⇓P P 01 35 09.7 +0.2
baz=77,SNR=17
LIC **Lamto** 76.73 72 *e*P P 01 35 10.1 +0.2
comp=Z,74nm,1.5s
SLM **Saint Louis** 76.75 347 *e*P P 01 35 09.0 -0.3
SLM pmax pmax
comp=Z,49nm,0.9s
SLM **Saint Louis** 76.75 347 *e*P P 01 35 09.0 -0.3
comp=Z,49nm,0.9s
Y23A **Lovelace Mesa,** 76.76 333 ⇑P P 01 35 10.2 +0.4
baz=77,SNR=8.8
X25A **Clemmons Ranch** 76.79 334 ⇑P P 01 35 09.8 -0.1
baz=77,SNR=6.4
W26A **Owens Ranch, T** 76.99 335 ⇓P P 01 35 11.3 +0.3
baz=77,SNR=5.9
TIC **Toumodi** 77.01 71 *e*P P 01 35 11.7 +0.2
comp=Z,27nm,1.0s
KIC **Kosan Boka** 77.04 72 *e*P P 01 35 12.1 +0.5
comp=Z,40nm,0.9s
V28A **Channing** 77.08 336 ⇑P P 01 35 12.3 +0.9
baz=78
T33A **Patterson Ranc** 77.12 340 ⇓P P 01 35 12.3 +0.8
baz=78
DBIC **Dimbokro** 77.15 71 *e*P P 01 35 12.3 +0.1
DBIC pmax pmax
comp=Z,10.0nm,0.6s
DBIC **Dimbokro** 77.15 71 P P 01 35 12.8 +0.6
comp=Z,9.0nm,0.7s,baz=197,slow=5.8,SNR=21
DBIC LR LR 02 07 46.1
comp=Z,134nm,18.1s,baz=220,slow=35
DBIC **Dimbokro** 77.15 71 *e*P P 01 35 12.3 +0.1
comp=Z,10.0nm,0.6s
TUC **Tucson** 77.21 328 *e*P P 01 35 12.4 +0.2
TUC pmax pmax
comp=Z,11nm,1.1s
TUC **Tucson** 77.21 328 *e*P P 01 35 12.3 +0.2
comp=Z,11nm,1.1s
ACSO **Alum Creek Sta** 77.25 352 *e*P P 01 35 11.4 -0.7
comp=Z,35nm,0.6s
V27A **Dan Oppiter Fa** 77.28 336 ⇓P P 01 35 13.2 +0.6
baz=78
U30A **WK&E Inc. Balk** 77.30 338 ⇑P P 01 35 13.2 +0.6
baz=78
LPM **Los Pinos Moun** 77.31 332 *e*P P 01 35 13.3 +0.5
W25A **X Bar L Ranch,** 77.34 334 ⇓P P 01 35 13.4 +0.5
baz=78,SNR=6.8
X23A **Hourglass Bar** 77.39 333 ⇓P P 01 35 14.4 +1.1
baz=78,SNR=5.9
T32A **Huddler Ranch,** 77.40 339 ⇑P P 01 35 13.8 +0.6
baz=78
U29A **Oasis Ranch, S** 77.42 337 ⇑P P 01 35 14.6 +1.3
baz=78
S33A **Kaszmaul Farm,** 77.53 340 ⇑P P 01 35 14.2 +0.3
baz=78
T31A **Randall Ranch,** 77.54 339 ⇑P P 01 35 14.5 +0.6
baz=78
LAZ **Ladron** 77.58 332 *e*P P 01 35 14.8 +0.4
comp=Z,15nm,1.4s
V26A **Tequesquite Ra** 77.64 335 ⇑P P 01 35 14.4 -0.2
baz=78,SNR=7.5
U28A **Mallet** 77.66 337 ⇑P P 01 35 15.1 +0.5
baz=78
W24A **Lazy 6 Ranch,** 77.67 334 ⇑P P 01 35 15.5 +0.6
baz=78,SNR=16
214A **Organ Pipe Nat** 77.78 326 ⇓P P 01 35 16.4 +1.1
baz=78,SNR=9.0
ANMO **Albuquerque** 77.81 333 *e*P P 01 35 15.4 -0.3
ANMO pmax pmax
comp=Z,19nm,1.0s
ANMO **Albuquerque** 77.81 333 *e*P P 01 35 15.4 -0.3
comp=Z,20nm,1.0s
U27A **Thompson Grove** 77.89 336 ⇑P P 01 35 16.3 +0.4
baz=78,SNR=5.9
S32A **Newby Ranch, P** 77.89 340 ⇑P P 01 35 16.5 +0.7
baz=78
W23A **Werner Place,** 77.89 333 ⇑P P 01 35 16.9 +0.7
baz=78,SNR=9.5
SFIN **Lafayette** 77.92 349 *e*P P 01 35 13.3 -2.6
V25A **Rancho No Teng** 77.96 334 ⇑P P 01 35 16.6 +0.1
baz=78,SNR=16
T29A **Hugoton** 78.08 338 ⇑P P 01 35 17.9 +0.9
baz=78

V24A	Rampart Ranch,	78.08 334	⇓P	P	01 35 17.9 +0.7
	baz=78				
U26A	Atchley Ranch,	78.17 335	⇑P	P	01 35 17.9 +0.3
	baz=79,SNR=5.0				
R33A	Olander Ranch,	78.20 340	⇓P	P	01 35 17.7 +0.2
	baz=79				
S30A	Montezuma	78.28 338	⇑P	P	01 35 18.5 +0.5
	baz=79				
T28A	Walsh	78.30 337	⇑P	P	01 35 18.4 +0.1
	baz=79,SNR=19				
U25A	Circle Dot Ran	78.39 335	⇓P	P	01 35 19.5 +0.6
	baz=79,SNR=11				
V23A	Ortiz Mt. (NFS	78.43 333	⇑P	P	01 35 19.4 +0.4
	baz=79,SNR=6.0				
T27A	Campo	78.44 336	⇑P	P	01 35 19.4 +0.4
	baz=79,SNR=7.6				
S29A	Ulysses	78.45 338	⇑P	P	01 35 19.5 +0.5
	baz=79				
R32A	Long Quarter,	78.50 340	⇑P	P	01 35 19.4 +0.2
	baz=79				
KSU1	Kansas State U	78.59 342	⇓P	P	01 35 19.6 -0.1
	baz=79				
R31A	Burdett	78.61 339	⇑P	P	01 35 19.8 +0.1
	baz=79,SNR=5.4				
S28A	Manter	78.66 337	⇓P	P	01 35 20.5 +0.3
	baz=79,SNR=7.6				
U24A	Moreno Valley	78.70 334	⇓P	P	01 35 21.3 +0.6
	baz=79				
X18A	Snowflake	78.79 330	⇓P	P	01 35 21.7 +0.6
	baz=79				
Q33A	Connelly Farm,	78.81 341	⇑P	P	01 35 21.4 +0.6
	baz=79				
R30A	Dighton	78.82 339	⇑P	P	01 35 21.3 +0.3
	baz=79				
T26A	Comanche Natio	78.83 336	⇑P	P	01 35 21.8 +0.5
	baz=79,SNR=12				
V22A	San Miguel Ran	78.84 333	⇑P	P	01 35 22.6 +1.2
	baz=79,SNR=21				
113A	Mohawk Valley,	78.90 326	⇑P	P	01 35 22.7 +1.2
	baz=79				
U23A	El Rito	78.95 334	⇑P	P	01 35 23.2 +1.3
	baz=79,SNR=11				
Q32A	Meitler Ranch,	78.99 340	⇑P	P	01 35 23.6 +1.7
	baz=80				
Z14A	Wintersburg	79.04 327	⇓P	P	01 35 23.8 +1.6
	baz=79				
S27A	Las Animas	79.06 337	⇓P	P	01 35 23.5 +1.0
	baz=80				
T25A	Trinidad	79.06 335	⇑P	P	01 35 23.7 +1.2
	baz=80,SNR=20				
P33A	Williams Farm,	79.18 341	⇑P	P	01 35 24.1 +1.2
	baz=80				
S26A	Kim	79.19 336	⇓P	P	01 35 23.9 +0.8
	baz=80,SNR=22				
R29A	Marienthal	79.20 338	⇑P	P	01 35 23.6 +0.5
	baz=80,SNR=5.5				
W18A	Petrified Fore	79.22 330	⇓P	P	01 35 24.2 +0.8
	baz=80				
U22A	Llaves	79.23 333	⇓P	P	01 35 25.0 +1.5
	baz=80,SNR=8.0				
Q31A	Ellis	79.24 340	⇑P	P	01 35 23.6 +0.4
	baz=80				
X16A	Lo Mia Camp, P	79.30 329	⇓P	P	01 35 24.8 +0.9
	baz=80,SNR=11				
T24B	San Luis	79.33 334	⇑P	P	01 35 25.4 +1.2
	baz=80,SNR=14				
R28A	Tribune	79.33 338	⇓P	P	01 35 24.3 +0.4
	baz=80,SNR=7.6				
Q30A	Quinter	79.44 339	⇑P	P	01 35 25.0 +0.6
	baz=80,SNR=10				
TSUM	Tsumeb	79.48 106	eP	P	01 35 26.1 +0.8
	comp=Z,17nm,1.6s				
T23A	Casias Ranch,	79.53 334	⇓P	P	01 35 25.8 +0.6
	baz=80,SNR=6.2				
S25A	Robets Cordova	79.55 335	⇓P	P	01 35 26.0 +0.9
	baz=80,SNR=9.7				
Y14A	Wickenburg	79.56 327	⇑P	P	01 35 25.9 +0.8
	baz=80,SNR=5.4				
R27A	Eads	79.58 337	⇑P	P	01 35 25.6 +0.4
	baz=80,SNR=12				
Q29A	Oakley	79.58 338	⇑P	P	01 35 25.6 +0.4
	baz=80				
P32A	Huiting Farm,	79.60 340	⇓P	P	01 35 25.3 +0.1
	baz=80				
GLA	Glamis	79.61 326	⇓P	P	01 35 25.6 +0.2
	baz=80				
BOSA	Boshof	79.70 118	eP	P	01 35 26.1 -0.3
BOSA			pmax	pmax	
	comp=Z,7.0nm,0.7s				
BOSA	Boshof	79.70 118	P	P	01 35 26.9 +0.6
	comp=Z,5.5nm,0.9s,baz=259,slow=4.0,SNR=8.9				
BOSA			LR	LR	02 03 56.2
	comp=Z,78nm,21.5s,baz=212,slow=31				
BOSA	Boshof	79.70 118	eP	P	01 35 26.1 -0.3
	comp=Z,7.3nm,0.7s				
P31A	Stockton	79.71 340	⇓P	P	01 35 26.0 +0.2
	baz=80				
S24A	Houchin Ranch,	79.79 335	⇓P	P	01 35 27.5 +0.9
	baz=80,SNR=18				
R26A	Arlington	79.80 336	⇑P	P	01 35 27.3 +0.9
	baz=80,SNR=17				
R25A	Fountain Ranch	79.94 336	⇑P	P	01 35 27.6 +0.4
	baz=80				
SWSC	Sam W. Stewart	79.96 325	⇓P	P	01 35 27.8 +0.5
	baz=80				
P30A	Selden	79.98 339	⇑P	P	01 35 27.6 +0.4
	baz=80				
SDCO	Great Sand Dun	79.98 335	eP	P	01 35 27.4 -0.2
	comp=Z,6.1nm,0.9s				
Q28A	Sharon Springs	80.00 338	⇓P	P	01 35 28.0 +0.6
	baz=80				
Y12C	Blythe	80.06 326	⇑P	P	01 35 29.1 +1.3
	baz=80,SNR=6.8				
O32A	Brockman Farm,	80.11 341	⇓P	P	01 35 28.6 +0.7
	baz=81				
S23A	Nye Farm, Mont	80.12 334	⇑P	P	01 35 29.0 +0.6
	baz=81				
KSCO	Kaye Shedlock'	80.19 337	⇑P	P	01 35 29.3 +0.7
	baz=81				
WUAZ	Wupatki	80.22 329	⇓P	P	01 35 29.6 +0.8
	baz=81,SNR=8.3				
WUAZ	Wupatki	80.22 329	eP	P	01 35 29.7 +0.9
	comp=Z,14nm,1.1s				
P29A	Atwood	80.23 339	⇓P	P	01 35 29.2 +0.6
	baz=81				
R24A	Sanders Place,	80.29 335	⇓P	P	01 35 30.3 +1.2
	baz=81,SNR=18				
O31A	Woolen Ranch,	80.29 340	⇓P	P	01 35 29.7 +0.8
	baz=81				
PDMCI	Parker Dam,Lak	80.36 327	⇑P	P	01 35 30.7 +1.3
	baz=81				
Q26A	Hugo	80.39 337	⇑P	P	01 35 30.6 +0.9
	baz=81,SNR=6.5				
BC3	Big Chuckawall	80.40 325	⇑P	P	01 35 30.9 +1.1
	baz=81,SNR=9.1				
P28A	Saint Francis	80.44 338	⇓P	P	01 35 30.5 +0.7
	baz=81				
S22A	4UR Ranch, Cre	80.45 334	⇑P	P	01 35 30.9 +0.7
	baz=81,SNR=13				
R23A	Moffat	80.49 335	⇓P	P	01 35 31.5 +1.1
	baz=81,SNR=6.1				
MDV	Middlebury	80.51 0	eP	P	01 35 29.6 -0.3
O30A	MW Ranch, Wils	80.52 340	⇑P	P	01 35 30.8 +0.7
	baz=81				
109C	Camp Elliot, M	80.53 324	⇑P	P	01 35 30.8 +0.5
	baz=81				
MVCO	Mesa Verde	80.58 332	⇑P	P	01 35 31.7 +0.9
	baz=81,SNR=11				
MVCO	Mesa Verde	80.58 332	eP	P	01 35 31.3 +0.5
	comp=Z,9.9nm,0.8s				
N32A	Stulken Farm,	80.59 341	⇓P	P	01 35 31.0 +0.5
	baz=81				
Q25A	Bedland, Calha	80.62 336	⇓P	P	01 35 31.9 +0.9
	baz=81,SNR=5.2				
O29A	4D Ranch, Culb	80.67 339	⇓P	P	01 35 31.5 +0.5
	baz=81				
P27A	Ficken Ranch,	80.68 338	⇑P	P	01 35 31.8 +0.7
	baz=81				
IRM	Iron Mountain	80.69 326	⇑P	P	01 35 32.1 +0.9
	baz=81,SNR=8.2				
RPZ	Rata Peaks	80.74 222	eP	P	01 35 32.9 +1.3
	comp=Z,77nm,1.3s				
N31A	Bailey Ranch,	80.82 341	⇑P	P	01 35 33.1 +1.4
	baz=81				
PFO	Pinyon Flats O	80.82 325	eP	P	01 35 33.3 +1.3
PFO			pmax	pmax	
	comp=Z,17nm,1.1s				
PFO	Pinyon Flats O	80.82 325	⇓P	P	01 35 33.7 +1.6
	baz=81,SNR=5.8				
PFO	Pinyon Flats O	80.82 325	eP	P	01 35 33.3 +1.3
	comp=Z,17nm,1.1s				
JFWS	Jewell Farm	80.90 348	eP	P	01 35 31.6 -0.5
JFWS			pmax	pmax	
	comp=Z,15nm,0.9s				
JFWS	Jewell Farm	80.90 348	eP	P	01 35 31.6 -0.5
	comp=Z,15nm,0.9s				
P26A	Davis Ranch, A	80.92 337	⇓P	P	01 35 33.2 +0.7
	baz=81,SNR=5.6				
W13A	Hualapai Mount	80.92 327	⇓P	P	01 35 33.9 +1.3
	baz=81				
BELC	Belle Mtn. Jos	80.94 325	⇑P	P	01 35 34.1 +1.4
	baz=81				
O28A	Krutsinger Ran	80.96 338	⇑P	P	01 35 33.5 +1.0
	baz=81				
Q24A	Divide	80.96 335	⇓P	P	01 35 33.8 +0.8
	baz=81,SNR=7.5				
P25A	Willow Gulch B	81.14 336	⇑P	P	01 35 34.5 +0.9
	baz=82,SNR=12				
BGNE	Belgrade	81.15 341	⇑P	P	01 35 35.1 +1.6
	baz=82				
MURC	Murrieta	81.16 324	⇑P	P	01 35 34.8 +1.1
	baz=82				
O27A	Beecher Island	81.23 338	⇓P	P	01 35 35.4 +1.3
	baz=82				
N29A	Votaw Ranch, W	81.27 339	⇑P	P	01 35 35.3 +1.1
	baz=82				
SCI	San Clemente I	81.29 323	⇑P	P	01 35 35.4 +0.9
	baz=82				
M31A	Lambtecht Ranc	81.31 341	⇓P	P	01 35 35.2 +0.8
	baz=82				
P24A	Kohler Place,	81.38 336	⇓P	P	01 35 35.7 +0.7
	baz=82				
U15A	North Rim	81.38 329	⇓P	P	01 35 36.3 +1.1
	baz=82,SNR=13				
N28A	Pribbeno Ranch	81.41 339	⇓P	P	01 35 36.2 +1.3
	baz=82				
PV01	Paradox Valley	81.42 333	eP	P	01 35 35.5 +0.2
	comp=Z,1μm,1.1s				
GMRC	Granite Mounta	81.44 326	⇑P	P	01 35 36.3 +1.0
	baz=82,SNR=6.9				
LDFC	Landfair	81.44 326	eP	P	01 35 36.5 +1.2
	comp=Z,11nm,0.9s				
O26A	Horse Wrangler	81.53 337	⇓P	P	01 35 36.6 +1.0
	baz=82,SNR=5.9				
P23A	Jefferson	81.56 335	⇓P	P	01 35 37.2 +1.1
	baz=82				
BBRC	Big Bear Solar	81.58 325	⇓P	P	01 35 37.5 +1.3
	baz=82				
O25A	Wiggins	81.67 337	⇓P	P	01 35 37.5 +1.1
	baz=82				
M30A	Dale-Ortello V	81.73 340	⇓P	P	01 35 37.6 +1.0
	baz=82				
FMP	Fort Macarthur	81.77 324	⇑P	P	01 35 38.1 +1.2
	baz=82				
PV04	Paradox Valley	81.77 333	eP	P	01 35 37.8 +0.7
SMCO	Snowmass	81.78 334	eP	P	01 35 38.1 +0.7
	comp=Z,18nm,1.0s				
HEC	Hector,Ludlow	81.78 326	⇑P	P	01 35 38.2 +1.1
	baz=82				
OGNE	Ogallala	81.79 338	⇑P	P	01 35 38.3 +1.4
	baz=82				
N27A	Anderson Farm,	81.81 338	⇓P	P	01 35 38.0 +0.9
	baz=82				
M29A	Burnside Ranch	81.87 340	⇑P	P	01 35 38.0 +0.7
	baz=82				
ISCO	Idaho Springs	81.87 335	eP	P	01 35 38.1 +0.4
ISCO			pmax	pmax	
	comp=Z,5.0nm,0.9s				
ISCO	Idaho Springs	81.87 335	⇑P	P	01 35 38.3 +0.7
	baz=82,SNR=5.6				
ISCO	Idaho Springs	81.87 335	eP	P	01 35 38.1 +0.4
	comp=Z,4.6nm,0.9s				
BFSC	Mount Baldy Ra	81.90 324	⇓P	P	01 35 38.8 +1.0
	baz=82				
O24A	Longmont	81.98 336	⇓P	P	01 35 38.9 +0.9
	baz=82				
M28A	Bar X Bar Ranc	82.02 339	⇓P	P	01 35 39.0 +0.8
	baz=82				
N26A	Koester Ranch,	82.04 338	⇑P	P	01 35 39.4 +1.0
	baz=82				
L31A	Butterfield Fa	82.05 341	⇓P	P	01 35 38.9 +0.7
	baz=82,SNR=6.3				
L30A	Spencer Herefo	82.07 340	⇓P	P	01 35 39.6 +1.2
	baz=82				
P22A	Eagle	82.07 335	⇑P	P	01 35 39.6 +0.9
	baz=82,SNR=7.3				
LBTB	Lobatse	82.08 115	eP	P	01 35 39.6 +0.5
LBTB			pmax	pmax	
	comp=Z,14nm,0.7s				
LBTB	Lobatse	82.08 115	eP	P	01 35 39.6 +0.5
	comp=Z,14nm,0.7s				
TUQ	Turquoise Moun	82.10 326	⇓P	P	01 35 39.8 +1.0
	baz=82,SNR=12				
DECC	Green Verdugo	82.23 324	⇓P	P	01 35 40.0 +0.6
	baz=83				
N25A	Grover	82.29 337	⇓P	P	01 35 41.0 +1.2
	baz=83				
O23A	Lake Granby, G	82.34 335	⇑P	P	01 35 40.9 +0.8
	baz=83,SNR=12				
L29A	Maesberg Ranch	82.38 340	⇓P	P	01 35 40.7 +0.7
	baz=83				
GSC	Goldstone, Bar	82.39 325	eP	P	01 35 41.6 +1.3
GSC			pmax	pmax	
	comp=Z,7.0nm,0.9s				
GSC	Goldstone, Bar	82.39 325	⇑P	P	01 35 41.1 +0.9
	baz=83				
GSC	Goldstone, Bar	82.39 325	eP	P	01 35 41.6 +1.3
	comp=Z,6.6nm,0.9s				
O22A	Kremmling	82.51 335	⇑P	P	01 35 41.6 +0.6
	baz=83,SNR=13				
N24A	Carr	82.56 336	⇑P	P	01 35 42.2 +1.1
	baz=83				
EDW2	Edwards Air Fo	82.58 324	⇓P	P	01 35 42.3 +1.0
	baz=83				
M26A	McRoberts Ranc	82.60 338	⇑P	P	01 35 42.3 +1.0
	baz=83				
BSC	Santa Cruz Isl	82.64 323	⇓P	P	01 35 42.7 +1.2
	baz=83				
SHOC	Shoshone, Teco	82.65 326	⇑P	P	01 35 42.8 +1.3
	baz=83				
SHPR	Sheep Range	82.66 327	eP	P	01 35 42.8 +1.0
OSI	Osito Audit: C	82.71 324	⇓P	P	01 35 43.4 +1.5
	baz=83				
K30A	Basset	82.72 341	⇓P	P	01 35 42.4 +0.6
	baz=83,SNR=6.7				
CCUT	Cedar City	82.79 329	eP	P	01 35 43.8 +1.4
	comp=Z,17nm,1.2s				
M25A	Palm-Egli Farm	82.85 337	⇑P	P	01 35 43.5 +0.9
	baz=83				
L27A	T5 Ranch, Ells	82.92 339	⇑P	P	01 35 43.3 +0.5
	baz=83				
LRMC	Laurel Mtn Rad	82.94 325	⇑P	P	01 35 44.0 +0.9
	baz=83				
N23A	Red Feather La	82.97 336	⇑P	P	01 35 44.1 +0.8
	baz=83,SNR=9.1				
ECSD	EROS Data Cent	82.97 343	⇓P	P	01 35 42.8 -0.2
	baz=84,SNR=31				
ECSD	EROS Data Cent	82.97 343	eP	P	01 35 42.7 -0.3
	comp=Z,37nm,0.8s				
K29A	Lazy Trails An	82.99 340	⇑P	P	01 35 43.5 +0.4
	baz=84				
SRU	San Rafael Swe	83.01 332	eP	P	01 35 44.1 +0.6
SRU			pmax	pmax	
	comp=Z,10.0nm,0.7s				
SRU	San Rafael Swe	83.01 332	eP	P	01 35 44.1 +0.6
	comp=Z,10nm,0.7s				
ARUT	Antelope Range	83.02 329	eP	P	01 35 44.3 +0.7
ARUT			pmax	pmax	
	comp=Z,242nm,1.2s				
ARUT	Antelope Range	83.02 329	eP	P	01 35 44.3 +0.7
	comp=Z,242nm,1.2s				
SBC	Santa Barbara	83.05 323	⇓P	P	01 35 43.9 +0.4
	baz=83				
N22A	Wattenberg Ran	83.05 335	⇑P	P	01 35 44.9 +1.1
	baz=84,SNR=7.4				
O20A	White River Ci	83.07 334	⇑P	P	01 35 44.6 +0.7
	baz=84,SNR=6.0				
O20A	White River Ci	83.07 334	eP	P	01 35 44.5 +0.7
M24A	Cheyenne	83.12 337	⇓P	P	01 35 44.9 +0.9
	baz=84				
PHWY	Pilot Hill	83.17 336	eP	P	01 35 44.9 +0.5
K28A	Ten Mile Ranch	83.23 340	⇑P	P	01 35 45.5 +1.1
	baz=84,SNR=6.9				
J30A	Dallas	83.30 341	⇓P	P	01 35 44.5 -0.1
	baz=84				
FURC	Furnace Creek,	83.38 326	⇑P	P	01 35 46.8 +1.6
	baz=84				
M23A	Laramie	83.41 336	⇑P	P	01 35 46.5 +0.9
	baz=84				
TMUT	Trail Mountain	83.43 331	eP	P	01 35 46.4 +0.5
	comp=Z,21nm,1.3s				
ISA	Isabella, Lake	83.45 325	⇓P	P	01 35 47.1 +1.4
	baz=84				
K27A	Flueckinger Fa	83.47 339	⇑P	P	01 35 46.4 +0.7
	baz=84				
L25A	Engebretsen Ra	83.48 338	⇑P	P	01 35 46.3 +0.6
	baz=84				
DAC	Darwin (Calif)	83.55 325	eP	P	01 35 47.4 +1.0
DAC			pmax	pmax	
	comp=Z,6.0nm,0.9s				
DAC	Darwin (Calif)	83.55 325	eP	P	01 35 47.4 +1.0
	comp=Z,6.4nm,0.9s				
J29A	Okreek	83.59 341	⇓P	P	01 35 46.6 +0.4
	baz=84,SNR=9.7				
SPMN	Marine on St.	83.60 346	⇓P	P	01 35 45.7 -0.5
	baz=84,SNR=5.9				
SPMN	Marine on St.	83.60 346	eP	P	01 35 45.1 -1.1
M22A	Cedar Creek Ra	83.64 336	⇑P	P	01 35 47.6 +0.8
	baz=84				
L24A	Wheatland	83.68 337	⇓P	P	01 35 47.7 +0.9
	baz=84				
N20A	Spence Gulch,	83.70 334	⇓P	P	01 35 47.4 +0.3
	baz=84,SNR=7.1				
K26A	Motz Farm, Whi	83.74 338	⇑P	P	01 35 48.3 +1.3
	baz=84				
I30A	Oacoma	83.83 341	⇑P	P	01 35 47.4 0.0
	baz=84,SNR=11				
J28A	Allard Ranch,	83.85 340	⇓P	P	01 35 48.0 +0.4
	baz=84,SNR=5.6				
K25A	Mack Ranch, Ha	83.87 338	⇑P	P	01 35 49.1 +1.3
	baz=84				
VES	Vestal, Richgr	83.88 324	⇑P	P	01 35 49.2 +1.4
	baz=84				
SMMC	Simmler	83.89 323	⇓P	P	01 35 49.7 +1.7
	baz=84				
J27A	Elkhorn Farm,	83.91 339	⇑P	P	01 35 48.9 +0.9
	baz=84				
L23A	Garrett	83.98 336	⇑P	P	01 35 49.4 +0.9
	baz=84				
GRAC	Grapevine Rang	84.05 326	⇓P	P	01 35 49.8 +1.1
	baz=84				
L22A	Ellis Ranch, M	84.15 336	⇑P	P	01 35 50.1 +0.8
	baz=85				
I29A	Vivian Onida	84.16 341	⇑P	P	01 35 49.7 +0.6
	baz=85				
BRSD	Miller	84.21 342	⇑P	P	01 35 49.6 +0.3
	baz=85				
BRSD	Miller	84.21 342	eP	P	01 35 49.4 +0.1
	comp=Z,33nm,0.7s				
MPU	Maple Canyon	84.22 331	eP	P	01 35 50.5 +0.8
	comp=Z,18nm,1.0s				
K24A	Anderson Ranch	84.25 337	⇑P	P	01 35 50.3 +0.5
	baz=85				
J26A	Sides Ranch, S	84.27 339	⇓P	P	01 35 50.2 +0.5
	baz=85				
NLU	North Lily Min	84.33 331	eP	P	01 35 51.3 +1.0
	comp=Z,27nm,1.6s				
I28A	Midland	84.37 340	⇓P	P	01 35 50.4 +0.2
	baz=85,SNR=8.5				
R11A	Troy Canyon, C	84.39 328	⇓P	P	01 35 51.6 +1.0
	baz=85,SNR=14				
R11A	Troy Canyon, C	84.39 328	eP	P	01 35 51.2 +0.6
	comp=Z,13nm,1.2s				
DAU	Daniels Canyon	84.42 332	eP	P	01 35 51.5 +0.6
DAU	Daniels Canyon	84.42 332	eP	P	01 35 51.5 +0.6
K23A	Bowen Ranch, D	84.54 337	⇑P	P	01 35 51.8 +0.6
	baz=85,SNR=8.5				
J25A	Sunshine Ranch	84.56 338	⇓P	P	01 35 51.7 +0.5
	baz=85				
JLU	Jordanelle	84.66 332	eP	P	01 35 52.6 +0.6
	comp=Z,8.2nm,0.8s				
I27A	Quinn	84.67 340	⇓P	P	01 35 51.9 +0.1
	baz=85				
H29A	Onida	84.70 341	⇓P	P	01 35 52.0 +0.3
	baz=85				
K22A	Casper	84.73 336	⇓P	P	01 35 52.6 +0.4
	baz=85,SNR=12				
K22A	Casper	84.73 336	eP	P	01 35 52.4 +0.2
	comp=Z,20nm,0.8s				
J24A	Dixon Ranch, L	84.76 338	⇑P	P	01 35 52.7 +0.4
	baz=85,SNR=14				
DUG	Dugway, Tooele	84.83 331	eP	P	01 35 53.3 +0.6
DUG			pmax	pmax	
	comp=Z,17nm,1.1s				
DUG	Dugway, Tooele	84.83 331	⇑P	P	01 35 53.2 +0.6
	baz=85,SNR=14				
DUG	Dugway, Tooele	84.83 331	eP	P	01 35 53.3 +0.6
	comp=Z,17nm,1.1s				
CTU	Camp Tracy	84.85 332	eP	P	01 35 53.6 +0.8
	comp=Z,6.0nm,0.7s				
I26A	New Underwood	84.87 339	⇑P	P	01 35 53.0 +0.3
	baz=85				
TPH	Tonopah	84.87 327	eP	P	01 35 53.9 +0.8
TPH			pmax	pmax	
	comp=Z,13nm,1.1s				
TPH	Tonopah	84.87 327	eP	P	01 35 53.9 +0.8
	comp=Z,13nm,1.1s				
G30A	Faulkton	84.90 342	⇑P	P	01 35 53.2 +0.4
	baz=85				
H28A	Mission Ridge	84.95 341	⇓P	P	01 35 53.3 +0.2
	baz=85,SNR=9.5				
K21A	Alcova	84.95 336	⇓P	P	01 35 53.5 +0.2
	baz=85,SNR=5.7				
TCUT	Toone Canyon	85.09 332	eP	P	01 35 54.3 +0.1
	comp=Z,14nm,0.9s				
J23A	Dilts Ranch, B	85.10 337	⇓P	P	01 35 54.3 +0.3
	baz=86				
I25A	Rochford	85.11 339	⇓P	P	01 35 54.5 +0.4
	baz=86,SNR=16				
G29A	Hoven	85.15 342	⇓P	P	01 35 54.2 +0.2
	baz=86				
H27A	Howes	85.20 340	⇓P	P	01 35 54.3 -0.1
	baz=86				
I24A	Kuemmerle Ranc	85.23 338	⇓P	P	01 35 54.8 +0.2
	baz=86,SNR=10				
RSSD	Black Hills	85.29 338	eP	P	01 35 54.8 -0.2
RSSD			pmax	pmax	
	comp=Z,16nm,0.7s				
RSSD	Black Hills	85.29 338	eP	P	01 35 54.8 -0.2
	comp=Z,16nm,0.7s				
G28A	Parade	85.30 341	⇑P	P	01 35 54.9 +0.1
	baz=86				
H26A	Fairpoint	85.38 339	⇑P	P	01 35 55.1 -0.1
	baz=86				
J22A	Midwest	85.40 336	⇑P	P	01 35 55.1 -0.4
	baz=86,SNR=7.8				
F30A	Leola	85.53 342	⇓P	P	01 35 56.0 +0.1
	baz=86				
BGU	Big Grassy Mou	85.54 331	eP	P	01 35 56.0 -0.3
	comp=Z,11nm,1.8s				
HWUT	Hardware Ranch	85.57 332	eP	P	01 35 56.4 -0.1
	comp=Z,20nm,0.9s				
I23A	Meade Ranch, G	85.58 337	⇑P	P	01 35 56.7 +0.3
	baz=86				
H25A	Fruitdale	85.62 339	⇓P	P	01 35 56.7 +0.2
	baz=86,SNR=7.3				
NVAR	Mina Array Bea	85.64 326	P	P	01 35 58.0 +1.0
	comp=Z,3.5nm,0.7s,baz=152,slow=6.4,SNR=25				
NVAR			PKKP	PKKPbc	01 53 58.0 -2.5
	comp=Z,0.7nm,0.6s,baz=307,slow=3.0,SNR=4.5				
J21A	Lysite	85.66 336	⇓P	P	01 35 57.0 +0.2
	baz=86				
F29A	Eureka	85.72 342	⇓P	P	01 35 56.6 -0.3
	baz=86,SNR=7.6				
I22A	9 Mile Ranch,	85.83 337	⇑P	P	01 35 57.3 -0.3
	baz=86,SNR=9.5				
G27A	Dupree	85.85 340	⇓P	P	01 35 57.3 -0.3
	baz=86,SNR=6.9				
PDAR	Pinedale Array	85.86 334	P	P	01 35 57.6 -0.3
	comp=Z,4.4nm,0.9s,baz=163,slow=5.1,SNR=29				
PDAR			PKKP	PKKPbc	01 53 58.5 -1.7
	comp=Z,0.8nm,0.6s,baz=196,slow=0.3,SNR=8.7				
J20A	Shoshoni	85.87 335	⇓P	P	01 35 58.2 +0.4
	baz=86,SNR=14				
G26A	Maurine	85.95 340	⇓P	P	01 35 57.9 -0.2
	baz=86,SNR=16				
F28A	McLaughlin	85.99 341	⇑P	P	01 35 57.9 -0.3
	baz=86				
EYMN	Ely	86.00 348	eP	P	01 35 57.5 -0.7
	comp=Z,17nm,1.4s				
H24A	Dirks Ranch, A	86.02 338	⇑P	P	01 35 58.1 -0.4
	baz=86,SNR=14				
I21A	Big Trails, Te	86.02 336	⇓P	P	01 35 58.3 -0.3
	baz=86,SNR=9.4				

G25A	Newell	86.09 339	⇑P	P	01 35 59.0	+0.2
	baz=87,SNR=10					
H23A	Clabaugh Cattl	86.10 338	⇑P	P	01 35 58.8	-0.1
	baz=87					
J19A	Crowheart	86.12 335	⇓P	P	01 35 59.3	+0.2
	baz=87,SNR=18					
E30A	Jud	86.13 343	⇑P	P	01 35 58.9	+0.1
	baz=87					
HVU	Hansel Valley	86.17 332	eP	P	01 35 59.6	+0.2
HVU			pmax	pmax		
	comp=Z,11nm,0.9s					
HVU	Hansel Valley	86.17 332	eP	P	01 35 59.6	+0.2
	comp=Z,11nm,0.9s					
WAKR	Walker	86.22 326	eP	P	01 36 00.9	+1.1
TORD	Torodi Ar. Bea	86.22 71	P	P	01 35 59.8	-0.3
	comp=Z,2.8nm,0.8s,baz=214,slow=5.0,SNR=24					
TORD			LR	LR	02 13 20.2	
	comp=Z,245nm,18.4s,baz=265,slow=35					
ELK	Elko	86.27 329	eP	P	01 36 00.2	+0.2
ELK			pmax	pmax		
	comp=Z,6.0nm,1.0s					
ELK	Elko	86.27 329	eP	P	01 36 00.2	+0.2
	comp=Z,5.7nm,1.0s					
F27A	Lemmon	86.33 340	⇓P	P	01 35 59.9	0.0
	baz=87,SNR=8.0					
E29A	Napoleon	86.36 342	⇑P	P	01 35 59.8	-0.2
	baz=87,SNR=5.2					
I20A	Worland	86.42 336	⇑P	P	01 36 00.3	-0.2
	baz=87,SNR=10					
H22A	Clearmont	86.42 337	⇑P	P	01 36 00.1	-0.4
	baz=87					
F26A	Lodgepole	86.49 340	⇑P	P	01 36 00.5	-0.2
	baz=87,SNR=8.2					
G24A	Alzada	86.50 339	⇑P	P	01 36 00.7	-0.2
	baz=87					
E28A	Huff	86.63 342	⇓P	P	01 36 01.3	0.0
	baz=87,SNR=5.3					
D30A	Buchanan	86.66 343	⇓P	P	01 36 01.4	-0.1
	baz=87					
H21A	Big Horn, Sher	86.67 337	⇓P	P	01 36 01.2	-0.6
	baz=87,SNR=5.3					
G23A	Biddle	86.68 338	⇓P	P	01 36 01.5	-0.2
	baz=87,SNR=6.6					
E27A	Carson	86.72 341	⇓P	P	01 36 01.9	0.0
	baz=87,SNR=7.7					
F25A	Bowman	86.77 339	⇓P	P	01 36 02.1	0.0
	baz=87,SNR=8.1					
I19A	Meeteetse	86.78 335	⇓P	P	01 36 01.8	-0.6
	baz=87					
D29A	Pettibone, Tap	86.81 342	⇓P	P	01 36 02.2	0.0
	baz=87,SNR=5.8					
REDW	Red Top Meadow	86.84 334	eP	P	01 36 02.9	+0.2
	comp=Z,7.6nm,0.9s					
H20A	Greybull	86.85 336	⇓P	P	01 36 02.2	-0.4
	baz=87,SNR=6.4					
G22A	Birney	86.97 337	⇓P	P	01 36 02.5	-0.6
	baz=87,SNR=5.1					
LOHW	Long Hollow	86.97 334	eP	P	01 36 03.4	0.0
	comp=Z,9.6nm,1.2s					
F24A	Ekalaka	86.98 339	⇑P	P	01 36 02.8	-0.3
	baz=87,SNR=7.1					
TPAW	Teton Pass	86.98 334	eP	P	01 36 03.8	+0.3
E26A	Carlson Angus	87.00 340	⇓P	P	01 36 02.8	-0.4
	baz=88,SNR=13					
FXWY	Fox Creek	87.14 334	eP	P	01 36 03.9	-0.3
	comp=Z,5.9nm,1.1s					
AGMN	Agassiz Nation	87.15 345	⇓P	P	01 36 03.4	-0.4
	baz=88,SNR=13					
AGMN	Agassiz Nation	87.15 345	eP	P	01 36 03.2	-0.6
	comp=Z,17nm,0.6s					
F23A	Volborg	87.15 338	⇓P	P	01 36 03.5	-0.4
	baz=88,SNR=6.5					
C30A	Mose, Pekin	87.15 343	⇓P	P	01 36 03.5	-0.3
	baz=88,SNR=19					
D28A	Regan	87.18 342	⇓P	P	01 36 03.9	-0.1
	baz=88,SNR=9.4					
I17A	Pilgrim Ck.	87.23 334	⇓P	P	01 36 04.2	-0.4
	baz=88,SNR=7.2					
G21A	Lodge Grass	87.26 337	⇓P	P	01 36 04.2	-0.3
	baz=88					
E25A	Miller Ranch,	87.28 340	⇑P	P	01 36 04.2	-0.4
	baz=88,SNR=5.6					
IMW	Indian Meadow	87.33 334	eP	P	01 36 05.3	+0.1
	comp=Z,12nm,1.1s					
D27A	Center	87.34 341	⇓P	P	01 36 04.6	-0.2
	baz=88					
H19A	Powell	87.34 335	⇓P	P	01 36 04.6	-0.4
	baz=88					
FLWY	Flagg Ranch	87.41 334	eP	P	01 36 06.1	+0.6
F22A	Rosebud	87.46 338	⇓P	P	01 36 05.1	-0.3
	baz=88					
D26A	Manning	87.51 341	⇓P	P	01 36 05.5	-0.1
	baz=88,SNR=20					
MDND	Maddock	87.55 343	⇑P	P	01 36 05.8	0.0
	baz=88					
G20A	Bridger	87.58 336	⇓P	P	01 36 05.9	-0.2
	baz=88					
H18A	Shoshone NF, C	87.58 335	⇓P	P	01 36 05.8	-0.5
	baz=88,SNR=7.8					
E24A	Baker	87.59 339	⇑P	P	01 36 06.1	0.0
	baz=88					
C28A	Hausauer Farms	87.62 342	⇑P	P	01 36 06.2	+0.1
	baz=88					
H17A	Grant Village	87.64 334	⇓P	P	01 36 06.4	-0.2
	baz=88					
F21A	Absaloka Mine,	87.77 337	⇑P	P	01 36 06.8	-0.2
	baz=88					
B30A	Myrvik Farm, E	87.82 344	⇓P	P	01 36 06.7	-0.4
	baz=88,SNR=21					
D25A	Fairfield	87.86 340	⇑P	P	01 36 07.3	0.0
	baz=88,SNR=7.2					
C27A	Sayler Ranch,	87.90 341	⇓P	P	01 36 07.5	+0.1
	baz=88,SNR=13					
E22A	Miles City	87.96 338	⇓P	P	01 36 07.9	+0.1
	baz=88					
YMR	Madison River	88.02 334	eP	P	01 36 09.2	+0.8
F20A	Billings	88.07 336	⇓P	P	01 36 08.1	-0.3
	baz=88					
B29A	Wagenman Farm,	88.07 343	⇓P	P	01 36 08.0	-0.3
	baz=89,SNR=11					
D24A	Glendive	88.11 339	⇑P	P	01 36 08.5	0.0
	baz=89					
C26A	Wahner Farm, P	88.15 341	⇑P	P	01 36 08.5	-0.1
	baz=89,SNR=5.4					
A30A	Hoffart Farm,	88.28 344	⇑P	P	01 36 08.5	-0.8
	baz=89,SNR=15					
B28A	Dugan Ranch, T	88.30 342	⇑P	P	01 36 09.3	0.0
	baz=89,SNR=8.1					
HLID	Hailey	88.33 331	⇓P	P	01 36 10.3	+0.5
	baz=89,SNR=7.5					
HLID	Hailey	88.33 331	eP	P	01 36 10.4	+0.7
	comp=Z,9.5nm,1.3s					
C25A	Freed Ranch, W	88.36 340	⇑P	P	01 36 10.1	+0.4
	baz=89					
F19A	Roth Farm, Mol	88.38 336	⇓P	P	01 36 09.5	-0.3
	baz=89					
D23A	Lindsay	88.41 339	⇓P	P	01 36 10.2	+0.3
	baz=89					
A29A	Manning Farm,	88.47 343	⇑P	P	01 36 09.9	-0.2
	baz=89,SNR=23					
B27A	Peters Farms,	88.48 342	⇓P	P	01 36 10.4	+0.2
	baz=89					
C24A	Savage	88.51 340	⇑P	P	01 36 10.7	+0.3
	baz=89,SNR=7.5					
D22A	Cohagen	88.67 338	⇑P	P	01 36 10.8	-0.4
	baz=89					
E20A	Meyer Farm, Mu	88.69 337	⇑P	P	01 36 11.5	+0.2
	baz=89					
B26A	Jensen Ranch,	88.70 341	⇓P	P	01 36 11.4	+0.1
	baz=89					
A28A	Rude Farm, Bot	88.70 343	⇑P	P	01 36 11.6	+0.3
	baz=89,SNR=6.0					
MFID	Camas Ranch	88.75 331	eP	P	01 36 12.0	+0.3
	comp=Z,27nm,1.7s					
D21A	La Casta Ranch	88.84 338	⇓P	P	01 36 11.9	-0.1
	baz=89					
B25A	Knox Farm, Ray	88.84 341	⇑P	P	01 36 12.5	+0.6
	baz=89					
E19A	Rath Farm, Rou	88.86 336	⇓P	P	01 36 12.0	-0.1
	baz=89					
C23A	Lambert	88.97 339	⇓P	P	01 36 12.7	+0.1
	baz=89					
A27A	Ledoux Ranch,	88.98 342	⇑P	P	01 36 13.1	+0.6
	baz=90					
ULM	Lac du Bonnet	89.01 346	P	P	01 36 11.9	-0.7
	comp=Z,7.3nm,0.7s,baz=180,slow=3.8,SNR=18					
WVOR	Wild Horse Val	89.08 328	eP	P	01 36 14.3	+1.0
WVOR			pmax	pmax		
	comp=Z,34nm,1.9s					
WVOR	Wild Horse Val	89.08 328	eP	P	01 36 14.3	+1.0
	comp=Z,34nm,1.9s					
A26A	Wade Farm, Ken	89.13 342	⇓P	P	01 36 14.0	+0.8
	baz=90					
DLMT	Dillon	89.19 334	eP	P	01 36 14.6	+0.8
DGMT	Dagmar	89.31 340	⇑P	P	01 36 14.6	+0.5
	baz=90					
DGMT	Dagmar	89.31 340	eP	P	01 36 14.2	+0.1
	comp=Z,70nm,1.9s					
MOD	Modoc Plateau	89.36 327	eP	P	01 36 15.7	+1.0
	comp=Z,14nm,1.4s					
A25A	Svangstu Ranch	89.44 341	⇑P	P	01 36 15.2	+0.5
	baz=90					
D19A	Cripps Ranch,	89.52 337	⇑P	P	01 36 15.5	+0.3
	baz=90					
A24A	Westby	89.67 340	⇓P	P	01 36 15.9	+0.1
	baz=90					
C20A	Veseth Ranch,	89.73 337	⇑P	P	01 36 15.7	-0.4
	baz=90					
A23A	Redstone	89.94 340	⇓P	P	01 36 17.3	+0.3
	baz=90					
M04C	Macdoel	89.95 326	⇓P	P	01 36 18.2	+0.8
	baz=90					
A22A	Carney Farms,	90.26 339	⇑P	P	01 36 18.1	-0.5
	baz=91					
A21A	Bergtoll Ranch	90.55 339	⇑P	P	01 36 19.3	-0.6
	baz=91,SNR=5.1					
EGMT	Eagleton	90.55 337	⇑P	P	01 36 19.6	-0.4
	baz=91					
B19A	Brinkman Farms	90.68 337	⇓P	P	01 36 21.5	+1.0
	baz=91					
MSO	Missoula	90.93 333	⇑P	P	01 36 22.4	+0.6
	baz=91					
I05D	Terrebonne, OR	91.78 328	⇑P	P	01 36 26.3	+0.6
	baz=92					
NEW	Newport	93.30 332	⇓P	P	01 36 32.7	0.0
	baz=94					
TAM	Tamanrasset	95.05 65	eP	P	01 36 42.1	+0.6
TAM			pmax	pmax		
	comp=Z,4.0nm,1.2s					
TAM	Tamanrasset	95.05 65	eP	P	01 36 42.0	+0.6
	comp=Z,3.8nm,1.2s					
FCC	Fort Churchill	96.85 349	eP	P	01 36 47.3	-1.2
FCC	Fort Churchill	96.85 349	eP	P	01 36 47.3	-1.2
	comp=Z,0.2nm,1.1s					
ESDC	Sonseca Array	99.36 47	P	Pdif	01 37 00.5	+0.1
	comp=Z,0.3nm,0.4s,baz=258,slow=4.8,SNR=3.0					
YKA	Yellowknife Ar	104.44 342	Pdiff	Pdif	01 37 21.1	-1.2
	comp=Z,0.1nm,0.5s,baz=144,slow=4.8,SNR=4.7					
YKA			PP	PKiKP	01 41 36.2	-2.2
	comp=Z,0.5nm,0.9s,baz=142,slow=8.1,SNR=6.9					
ASAR	Alice Springs	114.50 208	PKP	PKPdf	01 41 57.1	-1.6
	comp=Z,1.0nm,0.7s,baz=128,slow=1.5,SNR=8.6					
ASAR			PKKPbc	PKKPbc	01 52 36.5	-0.1
	comp=Z,1.0nm,0.5s,baz=339,slow=2.9,SNR=15					
GERES	GERESS Array B	114.95 47	PKP	PKPdf	01 41 58.2	-0.5
	comp=Z,1.7nm,0.7s,baz=173,slow=1.1,SNR=17					
ILAR	Eielson Array	116.26 333	PKP	PKPdf	01 41 59.7	-1.0
	comp=Z,0.8nm,0.9s,baz=165,slow=2.1,SNR=7.5					
WRA	Warramunga Arr	117.70 210	PKIKP	PKPdf	01 42 04.0	-1.0
WRA	Warramunga Arr	117.70 210	PKP	PKPdf	01 42 04.0	-1.0
	comp=Z,2.2nm,0.7s,baz=161,slow=1.7,SNR=28					
WRA			PKKPbc	PKKPbc	01 52 25.6	+0.3
	comp=Z,0.5nm,0.7s,baz=344,slow=4.1,SNR=7.7					
WRAB	Tennant Creek	117.71 210	ePKIKP	PKPdf	01 42 03.4	-1.6
WRAB	Tennant Creek	117.71 210	ePKPdf	PKPdf	01 42 03.4	-1.6
NOA	NORSAR Array B	119.04 34	PKP	PKPdf	01 42 05.8	-0.4
	comp=Z,0.6nm,0.6s,baz=249,slow=2.3,SNR=3.8					
KWP	Kalwaria Pacla	120.63 49	ePKIKP	PKPdf	01 42 08.8	-0.7
KWP	Kalwaria Pacla	120.63 49	ePKP	PKPdf	01 42 09.3	-0.3
KWP	Kalwaria Pacla	120.63 49	ePKPdf	PKPdf	01 42 08.8	-0.7
MBWA	Marble Bar	120.95 194	ePKPdf	PKPdf	01 42 10.1	-1.1
SUW	Suwalki	122.46 44	ePKIKP	PKPdf	01 42 12.0	-0.9
SUW	Suwalki	122.46 44	ePKP	PKPdf	01 42 12.2	-0.7
SUW	Suwalki	122.46 44	ePKPdf	PKPdf	01 42 12.0	-0.9
BRTR	Keskin Array B	124.17 63	PKP	PKPdf	01 42 16.4	-0.4
	comp=Z,2.2nm,0.8s,baz=186,slow=3.7,SNR=13					
TNA	Tin City	124.74 330	ePKPdf	PKPdf	01 42 16.7	-0.2
KIEV	Kiev	124.92 49	ePKIKP	PKPdf	01 42 16.3	-1.4
KIEV	Kiev	124.92 49	ePKPdf	PKPdf	01 42 16.3	-1.4
AKASG	Malin Array Be	124.94 49	PKP	PKPdf	01 42 16.4	-1.3
	comp=Z,2.0nm,0.6s,baz=262,slow=2.6,SNR=8.7					
FINES	FINESS Array B	125.98 36	PKP	PKPdf	01 42 19.4	-0.1
	comp=Z,1.9nm,0.7s,baz=240,slow=3.8,SNR=6.6					
ARCES	ARCESS Array B	127.10 26	PKP	PKPdf	01 42 20.6	-0.7
	comp=Z,2.2nm,0.7s,baz=270,slow=2.4,SNR=10					
OBN	Obninsk	130.28 45	i PKIKP	PKPdf	01 42 27.6	-0.2
OBN			pmax	pmax		
	comp=Z,8.0nm,1.4s					
KIV	Kislovodsk	131.91 61	ePKIKP	PKPdf	01 42 31.3	-0.1
KIV	Kislovodsk	131.91 61	ePKPdf	PKPdf	01 42 31.3	-0.1
BILL	Bilibino	134.92 333	i PKIKP	PKPdf	01 42 36.4	+0.2
BILL			pmax	pmax		
	comp=Z,3.0nm,1.1s					
PRGR	Permogore	135.31 36	ePKIKP	PKPdf	01 42 35.9	-1.2
PRGR			pmax	pmax		
	comp=Z,43nm,1.2s					
KAPI	Kappang	136.54 199	ePKPdf	PKPdf	01 42 41.9	+1.0
PETK	Petropavlovsk-	141.30 311	PKIKP	PKPdf	01 42 49.0	+0.6
PETK	Petropavlovsk-	141.30 311	PKP	PKPdf	01 42 49.0	+0.6
	comp=Z,2.8nm,0.8s,baz=134,slow=6.4,SNR=4.0					
GEYT	Alibeck	141.82 73	PKhKP	PKPpre	01 42 42.9	
	comp=Z,1.1nm,0.4s,baz=242,slow=5.4,SNR=6.3					
PALK	Pallekele	142.24 135	ePKIKP	PKPdf	01 42 50.4	-0.9
PALK	Pallekele	142.24 135	ePKPdf	PKPdf	01 42 50.4	-0.9
ARU	Arti	142.63 43	ePKHKP	PKPpre	01 42 45.5	
ARU			e		01 42 50.5	
ARU	Arti	142.63 43	ePKPpre	PKPpre	01 42 45.5	
ARU			ePKPdf	PKPdf	01 42 50.5	-0.1
IMYA	Miami	142.96 76	eP	PKPdf	01 42 48.1	-4.0
TIXI	Tiksi	143.32 348	ePKHKP	PKPpre	01 42 46.0	
TIXI	Tiksi	143.32 348	ePKPpre	PKPpre	01 42 46.0	
ABKAR	Akbulak array	144.29 55	ePKPdf	PKPab	01 42 51.7	-0.1
KSM	Kuching	144.59 186	ePKPdf	PKPbc	01 42 54.0	0.0
IPM	Ipoh	147.34 170	ePKPdf	PKPdf	01 42 59.4	-0.8
KKM	Kota Kinabalu	148.06 198	ePKPbc	PKPbc	01 43 04.1	-0.4
KULM	Kulim	148.08 169	ePKPbc	PKPbc	01 43 03.7	-0.8
HYB	Hyderabad	148.57 121	i PKP	PKPbc	01 43 05.0	-0.7
	comp=Z,50nm,1.0s					
KBL	Kabul	149.54 83	ePKPdf	PKPdf	01 43 03.3	-0.1
KBL			ePKPbc	PKPbc	01 43 07.0	-0.9
BRVK	Borovoye	150.05 46	ePKPdf	PKPdf	01 43 02.7	-0.6
BRVK			ePKPbc	PKPbc	01 43 08.6	+0.4
BRVK			ePKPab	PKPab	01 43 13.6	-0.5
YAK	Yakutsk	151.03 338	ePKIKP	PKPbc	01 43 08.2	-2.1
YAK			pmax	pmax		
	comp=Z,38nm,0.8s					
YAK	Yakutsk	151.03 338	ePKPbc	PKPbc	01 43 09.7	-0.6
YSS	Yuzh-Sakhalins	151.51 302	ePKIKP	PKPbc	01 43 11.0	-0.9
YSS			e		01 43 17.5	
KKAR	Karatay Array	151.81 66	ePKIKP	PKPdf	01 43 06.6	+0.2
KKAR			e		01 43 12.3	
KKAR			e		01 43 21.1	
KKAR	Karatay Array	151.81 66	ePKPdf	PKPdf	01 43 06.6	+0.2
KKAR			ePKPbc	PKPbc	01 43 12.3	-0.4
KKAR			ePKPab	PKPab	01 43 21.1	-0.8
ASAJ	Asahikawa	151.87 296	PKPbc	PKPbc	01 43 12.6	-0.2
	comp=Z,14nm,0.8s,baz=277,slow=5.4,SNR=7.0					
EKS2	Erkin-Say	154.22 67	ePKIKP	PKPdf	01 43 10.3	+0.3
EKS2			e		01 43 18.3	
EKS2			e		01 43 32.0	
EKS2	Erkin-Say	154.22 67	ePKPdf	PKPdf	01 43 10.3	+0.3
EKS2			ePKPbc	PKPbc	01 43 18.3	0.0
EKS2			ePKPab	PKPab	01 43 32.0	-0.2
MJAR	Matsushiro Arr	154.72 279	PKPab	PKPab	01 43 34.1	-0.2
	comp=Z,5.5nm,0.9s,baz=162,slow=3.6,SNR=8.7					
AAK	Ala-Archa	154.75 67	ePKIKP	PKPdf	01 43 10.8	0.0
AAK			e		01 43 19.7	
AAK	Ala-Archa	154.75 67	ePKPdf	PKPdf	01 43 10.8	0.0
AAK			ePKPbc	PKiKP	01 43 19.7	+0.3
AAK			ePKPab	PKPab	01 43 34.6	+0.1
TKM2	Tokmak 2	155.55 66	ePKIKP	PKPdf	01 43 11.7	-0.3
TKM2			e		01 43 37.4	
TKM2	Tokmak 2	155.55 66	ePKPdf	PKPdf	01 43 11.7	-0.3
TKM2			ePKPab	PKPab	01 43 37.4	-0.6
KURK	Kurchatov	155.71 46	ePKIKP	PKPdf	01 43 11.4	-0.2
KURK			e		01 43 20.7	
KURK			e		01 43 38.0	
KURK	Kurchatov	155.71 46	ePKPdf	PKPdf	01 43 11.4	-0.2
KURK			ePKPbc	PKPbc	01 43 20.7	
KURK			ePKPab	PKPab	01 43 38.0	0.0
KSH	Kashi	155.84 74	PKP	PKPdf	01 43 12.5	+0.2
KSH			sPKP		01 43 26.1	
KSH			PKS	PKSdf	01 46 45.9	-0.5
KSH			PP	PP	01 47 15.3	-1.6
KSH			SKS	SKSdf	01 50 15.7	-2.6
KSH			SKKS	SKKSac	01 54 01.2	-4.5
KSH			SS	SS	02 06 59.6	-5.1
KSH			PPMZ			
	comp=Z,120nm,6.7s					
KSH			LN			
	comp=Z,48nm,4.7s					
KSH			LE			
	comp=Z,35nm,6.1s					
KSH			LZ			
	comp=Z,130nm,5.8s					
NVS	Novosibirsk	155.96 34	⇑i PKIKP	PKPdf	01 43 10.8	-1.0
NVS			i		01 43 38.7	
NVS			pmax	pmax		
	comp=Z,10.0nm,1.6s					
NVS			pmax	pmax		
	comp=N,6.0nm,1.8s					
NVS			pmax	pmax		
	comp=E,11nm,1.8s					
ZALV	Zalesovo Beam	157.24 35	PKP	PKPdf	01 43 12.8	-0.7
	comp=E,5.6nm,0.8s,baz=285,slow=2.3,SNR=32					
ZALV			PKPab	PKPab	01 43 44.9	+0.4
	comp=E,6.1nm,0.7s,baz=310,slow=4.9,SNR=9.5					
MKAR	Makanchi Array	159.43 54	PKP	PKPdf	01 43 15.9	-0.5
	comp=E,3.0nm,0.9s,baz=291,slow=1.1,SNR=22					
MKAR			PKPab	PKPab	01 43 54.5	+0.2
	comp=E,4.1nm,0.7s,baz=294,slow=4.2,SNR=20					
MKAR			PP	PP	01 47 34.6	-1.4
	comp=E,0.8nm,0.8s,baz=291,slow=5.1,SNR=4.6					
CMAR	Chiang Mai Arr	160.44 158	PKP	PKPdf	01 43 18.4	0.0
	comp=E,0.9nm,0.4s,baz=256,slow=1.7,SNR=4.9					
MDJ	Mudanjiang	161.00 301	PKP	PKPdf	01 43 18.8	+0.6
WMQ	Urumqi	164.03 58	ePKP	PKPdf	01 43 20.6	-0.7
WMQ			sPKP		01 43 34.9	
WMQ			PKPab	PKPab	01 44 14.6	0.0
WMQ			PKS	PKSdf	01 46 52.5	-1.7
WMQ			PP	PP	01 48 02.8	+2.1
WMQ			SKS	SKSdf	01 50 20.0	-5.3
WMQ			SKKS	SKKSac	01 54 44.3	-3.6
WMQ			SS	SS	02 08 25.4	-4.9
WMQ			PPMZ			
	comp=E,87nm,4.0s					
WMQ			LN			
	comp=E,62nm,20.0s					
WMQ			LE			
	comp=E,56nm,22.0s					
WMQ			LZ			
	comp=E,65nm,22.0s					
CN2	Changchun	164.08 302	ePKP	PKPdf	01 43 22.1	+0.8
CN2			epPKP	pPKPdf	01 43 33.0	+6.9
CN2			ePP	PP	01 48 05.0	+4.1
CN2			eSS	SS	02 08 30.0	-0.7
CN2			PPMZ			
	comp=E,200nm,10.0s					
CN2			LN			
	comp=E,600nm,21.0s					
CN2			LE			
	comp=E,700nm,21.0s					
CN2			LZ			
	comp=E,1μm,23.0s					
ZAK	Zakamensk	166.30 9	ePKP2	PKPab	01 44 24.3	0.0
ZAK			pmax	pmax		
	comp=Z,4.0nm,1.4s					
KMI	Kunming	167.81 163	PKP	PKPdf	01 43 24.9	-0.3
NJ2	Nanjing	168.80 248	ePKP	PKPdf	01 43 27.0	+1.7
SONM	Songino Array	169.06 1	PKP	PKPdf	01 43 24.1	-1.1
	comp=Z,1.3nm,1.0s,baz=187,slow=1.9,SNR=6.6					
SONM			PKPab	PKPab	01 44 36.6	0.0
	comp=Z,2.6nm,0.9s,baz=340,slow=4.5,SNR=15					
GYA	Guiyang	169.60 180	ePKP	PKPdf	01 43 26.5	+0.4
GYA			pPKP	pPKPdf	01 43 38.2	+7.2
GYA			PKPab	PKPab	01 44 42.0	+2.5
GYA			PKS	PKSdf	01 46 57.3	-1.5
GYA			PP	PP	01 48 33.8	+5.6
GYA			SKKS		01 55 15.4	
GYA			SS	SS	02 09 25.6	+1.1
GYA			PPMZ			
	comp=Z,120nm,8.2s					
GYA			LN			
	comp=Z,120nm,22.5s					
GYA			LE			
	comp=Z,110nm,22.4s					
GYA			LZ			
	comp=Z,120nm,21.8s					
CD2	Chengdu	173.58 158	ePKP	PKPdf	01 43 28.1	+0.2
GTA	Gaotai	174.09 63	ePKP	PKPdf	01 43 28.1	+0.2
GTA			pPKP	pPKPdf	01 43 38.8	+6.1
GTA			sPKP		01 43 42.6	
GTA			PKPab	PKPab	01 45 00.0	+0.6
GTA			PP	PP	01 48 54.5	+2.6
GTA			SKS	SKSdf	01 50 25.7	-4.9
GTA			SKKS	SKKSac	01 55 35.8	-1.9
GTA			PPMZ			
	comp=Z,71nm,7.1s					
GTA			LN			
	comp=Z,87nm,16.1s					
GTA			LE			
	comp=Z,170nm,16.6s					
GTA			LZ			
	comp=Z,170nm,17.6s					
HHC	Hu-ho-hao-te	174.47 317	ePKP	PKPdf	01 43 27.9	0.0
HHC			pPKP	pPKPdf	01 43 38.8	+6.1
HHC			sPKP		01 43 42.4	
HHC			PP	PP	01 48 56.7	+3.6
HHC			SKS	SKSdf	01 50 25.8	-4.8
HHC			SS	SS	02 10 12.2	-1.4
HHC			PPMZ			
	comp=Z,200nm,7.4s					
HHC			LN			
	comp=Z,350nm,21.0s					
HHC			LE			
	comp=Z,300nm,18.8s					
HHC			LZ			
	comp=Z,270nm,22.2s					
XAN	Xi'an	176.59 214	PKP	PKPdf	01 43 28.5	-0.1
XAN			pPKP	pPKPdf	01 43 39.2	+5.8

*ATH **06** 01:25:42.7, 37.74N×20.90E, h9km±1km, MD3.5/22*
*CSEM **06** 01:25:42.4±0.3, 37.73N×20.89E, h0km, ML2.8, Error ellipse: s-maj=5.2km s-min=2.7km az=56.0*
*THE **06** 01:25:43.3, 37.75N×20.92E, h0km±1km, ML2.8/8, Error ellipse: s-maj=2.0km s-min=0.6km az=222.0*
ISC 06 01:25:40.9±1.5, 37.72N±0.03×20.87E±0.03, h3km±11km, n83, σ0.9 53/120, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	Anninata	0.39	350	P	Pb	01 25 50.5	0.0
KFL				S	Sb	01 25 56.2	-0.7
KFL	Anninata	0.39	350	P	Pb	01 25 50.5	0.0
KFL				S	Sb	01 25 56.2	-0.7
VLS	Valsamata	0.50	334	P	Pb	01 25 52.5	+0.1
VLS				S	Sb	01 26 00.3	+0.1
VLS	Valsamata	0.50	334	ePB	Pb	01 25 52.5	+0.1
VLS				eSB	Sb	01 25 59.8	-0.4
VLS	Valsamata	0.50	334

ITM	Ithomi	1.00	123	*e*PB		Pn	01 26 01.6	-0.2
ITM				*e*SB		Sb	01 26 14.9	+0.5
ITM	Ithomi	1.00	123	*e*Pb		Pn	01 26 01.6	-0.2
ITM	Ithomi	1.00	123	P		Pn	01 26 01.9	+0.1
ITM				*e*Sb		Sb	01 26 14.9	+0.5
LAKA	Lakka	1.01	59	P		Pb	01 26 01.2	+0.1
LAKA	Lakka	1.01	59	*e*PG		Pb	01 26 01.0	-0.1
LAKA	Lakka	1.01	59	P		Pb	01 26 01.2	+0.1
PVO	Paravola	1.03	30	P		Pn	01 26 02.1	-0.1
PVO	Paravola	1.03	30	P		Pn	01 26 02.1	-0.1
KLV	Kalavryta, Ach	1.06	72	P		Pb	01 26 01.8	-0.1
KLV	Kalavryta, Ach	1.06	72	P		Pb	01 26 01.8	-0.1
EFP	Efpalio	1.08	49	P		Pb	01 26 02.2	+0.1
EFP				S		Sn	01 26 17.7	-0.6
EFP	Efpalio	1.08	49	*e*PG		Pb	01 26 02.0	-0.1
EFP				*e*SB		Sn	01 26 17.5	-0.8
EFP	Efpalio	1.08	49	P		Pb	01 26 02.2	+0.1
EFP				*e*Sb		Sn	01 26 17.5	-0.8
LKD2	Lefkada island	1.08	351	P		Pb	01 26 02.2	0.0
LKD2				S		Sn	01 26 18.8	+0.4
LKD2	Lefkada island	1.08	351	*e*PB		Pn	01 26 02.8	-0.1
LKD2				*e*SB		Sn	01 26 18.1	-0.3
LKD2	Lefkada island	1.08	351	P		Pb	01 26 02.2	0.0
LKD2	Lefkada island	1.08	351	*e*Pb		Pn	01 26 02.8	-0.1
LKD2				*e*Sb		Sn	01 26 18.1	-0.3
PYL	PYLOS	1.08	140	P		Pn	01 26 02.6	-0.3
PYL	PYLOS	1.08	140	*e*PB		Pn	01 26 03.0	+0.1
PYL				*e*SB		Sn	01 26 18.3	-0.1
PYL	PYLOS	1.08	140	P		Pn	01 26 02.6	-0.3
PYL	PYLOS	1.08	140	*e*Pb		Pn	01 26 03.0	+0.1
PYL				*e*Sb		Sn	01 26 18.3	-0.1
GUR	Goura	1.18	79	P		Pb	01 26 04.0	-0.1
GUR				S		Sn	01 26 21.6	+0.5
GUR	Goura	1.18	79	*e*PG		Pb	01 26 03.9	-0.1
GUR				*e*SB		Sn	01 26 20.5	-0.6
GUR	Goura	1.18	79	P		Pb	01 26 04.0	-0.1
GUR				*e*Sb		Sn	01 26 20.5	-0.6
GUR				S		Sn	01 26 21.6	+0.5
KALE	Kalithea	1.20	56	P		Pn	01 26 05.0	+0.3
KALE				S		Sn	01 26 22.0	+0.5
KALE	Kalithea	1.20	56	*e*PB		Pn	01 26 05.2	+0.5
KALE	Kalithea	1.20	56	*e*Pb		Pn	01 26 05.2	+0.5
KALE				S		Sn	01 26 22.0	+0.5
EVR	Evrytania	1.40	31	P		Pb	01 26 08.5	+0.8
EVR	Evrytania	1.40	31	*e*PB		Pb	01 26 09.0	+1.3
EVR	Evrytania	1.40	31	P		Pb	01 26 08.5	+0.8
EVR	Evrytania	1.40	31	*e*Pb		Pb	01 26 09.0	+1.3
DSF	Desfina	1.48	62	P		Pg	01 26 09.9	+0.7
DSF				S		Sn	01 26 30.2	+2.0
DSF	Desfina	1.48	62	*e*PG		Pg	01 26 09.3	+0.1
DSF	Desfina	1.48	62	*e*Pg		Pg	01 26 09.3	+0.1
DSF	Desfina	1.48	62	P		Pg	01 26 09.9	+0.7
DSF				S		Sn	01 26 30.2	+2.0
MAKR	Makrakomi, Fth	1.62	37	P		Pg	01 26 12.4	+0.4
MAKR	Makrakomi, Fth	1.62	37	*e*PG		Pg	01 26 12.4	+0.4
MAKR	Makrakomi, Fth	1.62	37	P		Pg	01 26 12.4	+0.4
LTK	Loutraki	1.69	79	P		Pg	01 26 13.3	+0.1
LTK	Loutraki	1.69	79	*e*PG		Pg	01 26 13.7	+0.5
LTK	Loutraki	1.69	79	P		Pg	01 26 13.3	+0.1
LTK	Loutraki	1.69	79	*e*Pg		Pg	01 26 13.7	+0.5
AGG	Agios Georgios	1.73	41	*e*PN		Pg	01 26 15.1	+1.0
AGG	Agios Georgios	1.73	41	*e*Pn		Pg	01 26 15.1	+1.0
AXAR	Agios Charalam	1.75	53	P		Pb	01 26 13.5	-0.2
AXAR				S		Sg	01 26 36.9	-0.2
AXAR	Agios Charalam	1.75	53	*e*PN		Pg	01 26 15.1	+0.6
AXAR	Agios Charalam	1.75	53	P		Pb	01 26 13.5	-0.2
AXAR	Agios Charalam	1.75	53	*e*Pn		Pg	01 26 15.1	+0.6
AXAR				S		Sg	01 26 36.9	-0.2
DID	Didima	1.89	96	P		Pb	01 26 16.2	+0.1
DID	Didima	1.89	96	*e*PN		Pb	01 26 16.2	+0.1
DID	Didima	1.89	96	P		Pb	01 26 16.2	+0.1
LKR	Lokris	1.92	60	P		Pb	01 26 16.4	0.0
LKR	Lokris	1.92	60	*e*PN		Pg	01 26 17.0	-0.6
LKR	Lokris	1.92	60	P		Pb	01 26 16.4	0.0
LKR	Lokris	1.92	60	*e*Pn		Pg	01 26 17.0	-0.6
JAN	Janina	1.93	360	*e*PG		Pg	01 26 18.2	+0.3
JAN	Janina	1.93	360	*e*Pg		Pg	01 26 18.2	+0.3
THL	Klokotos Trika	2.04	26	P		Pb	01 26 18.4	-0.2
THL				S		Sb	01 26 44.7	+0.2
THL	Klokotos Trika	2.04	26	*e*PN		Pg	01 26 19.1	-1.0
THL	Klokotos Trika	2.04	26	P		Pb	01 26 18.4	-0.2
THL	Klokotos Trika	2.04	26	*e*Pn		Pg	01 26 19.1	-1.0
THL				S		Sb	01 26 44.7	+0.2
KYTH	Kithira	2.25	129	P		Pb	01 26 21.9	-0.3
KYTH	Kithira	2.25	129	P		Pb	01 26 21.9	-0.3
MRKA	Markates	2.35	65	*e*PN		Pb	01 26 23.3	-0.6
MRKA	Markates	2.35	65	*e*Pn		Pb	01 26 23.3	-0.6

DJA 06 01:36:37.0±1.0, 0°S±7°×12°6E±°, h70km, M3.8/4, MLv3.8/4, Southern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	2.03	167	P	Pn	01 37 06.8	-2.3
SANI				S	Sn	01 37 35.5	+2.0
LUWI	Luwuk	2.92	250	P	Pn	01 37 24.3	+3.2
LUWI				S	Sn	01 37 54.6	-0.4
APSI	Ampana	3.96	258	P	Pn	01 37 36.8	+1.4

IDC 06 01:42:13.6±3.5, 4°36S×153°01E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/26, mbtmp3.5/2, Error ellipse: s-maj=168.8km s-min=45.5km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.89	228	P	P	01 47 29.3	0.0
	1.2nm,0.4s,baz=53,slow=9.7,SNR=47						
ASAR	Alice Springs	26.61	222	P	P	01 47 54.0	-0.1
	0.1nm,0.4s,baz=54,slow=8.6,SNR=4.2						
TORD	Torodi Ar. Bea	150.36	289	PKPbc	PKPbc	02 02 07.8	-0.4
	0.5nm,0.7s,baz=57,slow=1.9,SNR=12						

IDC 06 01:56:14.0±2.4, 38°56S×73°98W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/24, mbtmp3.6/3, ML3.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/22, Error ellipse: s-maj=106.3km s-min=20.4km az=45.0
ISCJB 06 01:56:15.1±1.0, 38°4S±0°1×73°6W±0°2, h18km, mb3.9/4, MS3.6/1, Error ellipse: s-maj=22.0km s-min=13.0km az=139.2
NEIC 06 01:56:19.6±0.9, 38°34S×73°46W, h35km, mb4.0/2, Error ellipse: s-maj=22.2km s-min=13.3km az=48.0
ISC 06 01:56:17.4±1.1, 38°3S±0°1×73°5W±0°2, h18km, n15, σ1§18/14, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.31	138	Pn	Pn	01 57 07.7	-0.8
	2.6nm,0.3s,baz=307,slow=13,SNR=22						
PLCA				Lg	Lg	01 58 03.8	
	3.0nm,0.3s,baz=28,slow=22,SNR=7.6						
PLCA				LR	LR	01 58 36.1	
	comp=Z,178nm,18.3s,baz=252,slow=42						
TRQA	Tornquist	9.07	92	*e*Pn	Pn	01 58 26.4	-1.0
LVC	Limon Verde	16.14	15	*e*Pn	Pn	02 00 04.2	+0.7
CPUP	Villa Florida	18.11	53	*e*P	P	02 00 29.6	+1.3
SAML	Samuel	30.68	20	*e*P	P	02 02 28.8	-2.3
	10nm,1.7s						
OTAV	Otavalo	38.64	352	*e*P	P	02 03 40.0	-0.3
ROSC	El Rosal	42.96	359	LR	LR	02 19 45.0	
	comp=Z,84nm,19.0s,baz=220,slow=33						
JTS	JuntasAbangare	49.53	345	*e*P	P	02 05 07.1	0.0
OBIP	Obispado Ponce	56.43	8	*e*P	P	02 05 58.6	+0.8
TXAR	Lajitas Array	72.97	333	P	P	02 07 45.5	-0.3
	0.7nm,0.8s,baz=156,slow=6.9,SNR=5.4						
MNTX	Cornudas Mount	75.73	332	*e*P	P	02 08 00.4	-1.4
ANMO	Albuquerque	79.04	333	*e*P	P	02 08 20.2	-0.3
	0.8nm,0.8s						
TORD	Torodi Ar. Bea	86.77	71	P	P	02 09 02.0	+1.3
	0.4nm,0.9s,baz=219,slow=5.1,SNR=3.8						
ABKAR	Abkulak array	145.16	56	*e*PKPbc	PKPdf	02 15 53.7	+0.5
BVAR	Borovoye Array	151.15	48	PKPbc	PKPbc	02 16 10.3	+1.5
	0.7nm,0.7s,baz=270,slow=2.9,SNR=3.8						

IDC 06 02:01:12.9±1.2, 36°78N×69°30E, h0km, mb3.4/5, mb1 3.6/10, mb1mx3.5/39, mbtmp3.5/10, ML3.5/5, Error ellipse: s-maj=24.0km s-min=15.7km az=145.0
ISCJB 06 02:01:16.5±0.8, 37°00N±0°08×69°03E±0°06, h37km, mb3.2/4, Error ellipse: s-maj=12.0km s-min=6.2km az=159.4
NNC 06 02:01:16.1±4.2, 36°95N×69°04E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=34.9km s-min=26.9km az=59.0
ISC 06 02:01:17.8±1.0, 36°85N±0°10×69°08E±0°07, h37km, n28, σ1§64/32, mb3.2/5, 9C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	1.97	354	⇓Pn	Pn	02 01 50.2	+1.5
DZET				⇑Sn	Sn	02 02 15.2	+3.0
KK31	Karatay Array	6.34	10	⇓Pn	Pn	02 02 49.1	+0.3
	0.8nm,0.3s,baz=200,slow=16,SNR=36						
KK31				⇑Sn	Sn	02 03 57.8	-2.1
	0.9nm,0.2s,baz=192,slow=22,SNR=3.5						
KK31				⇑Lg	Lg	02 04 28.8	
	5.2nm,0.5s,baz=196,slow=30,SNR=4.9						
AML	Almayashu	6.37	33	P	Pn	02 02 49.2	-0.3
	SNR=20						
UCH	Uchtor	6.82	36	P	Pn	02 02 55.5	-0.1
	SNR=11						
EKS2	Erkin-Say	6.84	30	P	Pn	02 02 57.4	+1.8
	SNR=9.2						
KZA	Kyzart	7.07	40	P	Pn	02 02 59.5	+0.4
	SNR=7.3						
AAK	Ala-Archa	7.12	34	⇑Pn	Pn	02 02 59.7	+0.1
	5.3nm,0.5s						
AAK				⇑Sn	Sn	02 04 24.2	+4.8
	3.5nm,0.7s						
AAK				⇑Lg	Lg	02 04 54.3	
	9.4nm,0.9s						
AAK	Ala-Archa	7.12	34	P	Pn	02 03 00.7	+1.1
	SNR=6.0						
AAK	Ala-Archa	7.12	34	Pn	Pn	02 02 60.0	+0.4
	2.5nm,0.3s,baz=159,slow=3.0,SNR=37						
AAK				Sn	Sn	02 04 19.3	-0.1
	baz=18,slow=20,SNR=2.0						
KBK	Karagaybulak	7.35	36	P	Pn	02 03 03.6	+0.9
	SNR=8.1						
CHMS	Chumysh	7.53	34	P	Pn	02 03 05.0	0.0
	SNR=7.0						
USP	Ospenovka	7.64	31	P	Pn	02 03 06.2	-0.4
	SNR=6.0						
ULHL	Ulahol	7.72	44	P	Pn	02 03 07.7	-0.2
	SNR=5.6						
TKM2	Tokmak 2	7.86	38	⇑Pn	Pn	02 03 09.5	-0.3
	2.6nm,0.5s						
TKM2				⇓Lg	Lg	02 05 23.6	
	1.1nm,0.5s						
TKM2	Tokmak 2	7.86	38	P	Pn	02 03 09.7	-0.1
	SNR=6.0						
GEYT	Alibeck	8.80	280	Pn	Pn	02 03 22.7	+0.2
	1.1nm,0.3s,baz=60,slow=8.8,SNR=11						
GEYT				Sn	Sn	02 05 01.0	+0.7
	1.3nm,0.3s,baz=125,slow=14,SNR=5.9						
MKAR	Makanchi Array	13.97	41	Pn	Pn	02 04 30.9	-2.3
	0.1nm,0.3s,baz=237,slow=15,SNR=7.6						
AB31	Akbulak array	14.07	335	⇑P	Pn	02 04 32.0	-2.5
	1.2nm,0.5s,baz=152,slow=13,SNR=5.5						
AKTO	Aktyubinsk	15.74	333	⇑P	Pn	02 04 55.2	-1.5
	1.0nm,0.7s						
AKTO	Aktyubinsk	15.74	333	Pn	Pn	02 04 55.2	-1.5
	0.2nm,0.3s,baz=129,slow=15,SNR=3.7						
BVA0	Borovoye Array	16.20	3	⇓P	Pn	02 05 02.6	+0.1
	0.6nm,0.7s,baz=275,slow=38,SNR=8.3						
BVAR	Borovoye Array	16.20	3	Pn	Pn	02 04 59.9	-2.6
	0.1nm,0.3s,baz=165,slow=12,SNR=3.8						
ZALV	Zalesovo Beam	20.28	28	P	P	02 05 48.8	-1.3
	1.4nm,0.5s,baz=218,slow=10,SNR=9.6						
KBZ	Khabaz	21.07	297	P	P	02 05 59.1	+0.4
	1.1nm,0.9s,baz=122,slow=15,SNR=2.3						
SONM	Songino Array	29.41	56	P	P	02 07 18.0	+0.3
	0.1nm,0.3s,baz=260,slow=8.6,SNR=2.4						
TORD	Torodi Ar. Bea	64.19	267	P	P	02 11 51.9	+2.8
	0.3nm,0.7s,baz=47,slow=5.5,SNR=6.1						
YKA	Yellowknife Ar	80.96	2	P		02 13 33.9	+5.9
	0.1nm,0.5s,baz=354,slow=4.9,SNR=4.3						
WRA	Warramunga Arr	83.49	121	P	P	02 13 41.4	-0.4
	0.4nm,0.9s,baz=323,slow=5.1,SNR=4.0						

IDC 06 02:09:40.8±1.1, 34°26S×72°53W, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.8/24, mbtmp3.8/6, ML3.4/2, Error ellipse: s-maj=33.7km s-min=28.5km az=126.0
GUC 06 02:09:40.3±0.7, 33°97S×72°56W, h28km±7km, ML3.9
ISCJB 06 02:09:41.4±1.8, 34°07S±0°04×72°52W±0°05, h12km±12km, mb4.1/12, Error ellipse: s-maj=7.6km s-min=6.6km az=159.9
NEIC 06 02:09:46.0±0.5, 34°17S×72°50W, h35km, mb4.2/10, Error ellipse: s-maj=12.3km s-min=10.3km az=55.0
ISC 06 02:09:46.5±0.7, 34°07S±0°05×72°46W±0°09, h38km±3km, n39, σ1§64/45, mb4.1/12, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.88	83	⇑*i*P	Pn	02 09 58.3	-4.0
IHA	Instituto Hidr	1.25	33	⇑*i*P	Pn	02 10 04.2	-3.2
IHA				*i* S	Sn	02 10 21.3	-1.6
NICH	Los Niches	1.38	133	⇓*i*P	Pn	02 10 07.1	-2.1
NICH				*i* S	Sn	02 10 27.6	+1.5
CHCH	Chadas Angostu	1.51	85	⇑*i*P	Pn	02 10 08.1	-2.9
CACH	El Canelo	1.54	92	⇓*i*P	Pn	02 10 09.7	-1.9
CACH				*e*S1	Sn	02 10 32.9	+2.5
ANTU	Antumapu	1.60	72	⇓*i*P	Pn	02 10 09.7	-2.6
ANTU				*i* S	Sn	02 10 31.4	-0.3
CLCH	Cerro Calan	1.74	68	⇑*i*P	Pn	02 10 11.9	-2.3
CLCH				*i* S	Sn	02 10 35.5	+0.3
CLCH				AML	AML	02 10 46.8	
	comp=N,1μm,0.8s						
PEL	Peldehue	1.75	58	*i* P4	Pn	02 10 12.2	-2.1
PEL				*i* S	Sn	02 10 34.8	-0.5
PEL				AML	AML	02 10 40.6	
	comp=E,3μm,0.6s						
COCH	Cobquecura	2.07	187	⇑*i*P	Pn	02 10 17.2	-1.6
CFAA	Coronel Fontan	4.32	56	Pn	Pn	02 10 50.3	+0.6
	comp=E,0.7nm,0.3s,baz=231,slow=13,SNR=12						
CFAA				Sn	Sn	02 11 44.0	+5.1
	comp=E,0.4nm,0.3s,baz=302,slow=19,SNR=2.1						
TRQA	Tornquist	9.37	118	*e*Pn	Pn	02 12 00.5	+1.6
LVC	Limon Verde	11.83	16	*e*Pn	Pn	02 12 35.5	+2.5
CPUP	Villa Florida	15.18	63	*e*Pn	Pn	02 13 16.3	-1.7
LPAZ	La Paz	18.13	13	P	P	02 13 57.1	+1.2
	comp=E,0.1nm,0.3s,baz=185,slow=9.9,SNR=4.3						
LPAZ	La Paz	18.13	13	*e*P	P	02 13 57.2	+1.2
	comp=E,7.3nm,1.2s						
SIV	San Ignacio	20.72	32	P	Pn	02 14 25.1	-1.1
	comp=E,1.6nm,0.7s,baz=230,slow=14,SNR=5.9						
SAML	Samuel	26.42	21	*e*P	P	02 15 21.9	+2.3
	comp=E,5.5nm,1.2s						
JTS	JuntasAbangare	45.69	343	*e*P	P	02 18 03.8	+0.1
GRGR	Grenville	47.08	14	*e*P	P	02 18 16.7	+2.1
SNAA	Sanae	51.65	158	*e*P	P	02 18 48.0	-1.0
	comp=E,7.0nm,1.0s						
OBIP	Obispado Ponce	52.12	7	*e*P	P	02 18 51.8	-1.2
ASCN	Ascension	59.27	78	*e*P	P	02 19 42.7	-1.8
TXAR	Lajitas Array	69.63	331	P	P	02 20 53.0	+1.1
	comp=E,0.7nm,0.8s,baz=154,slow=6.9,SNR=7.0						
SWET	Sewanee	70.07	348	*e*P	P	02 20 55.1	+0.7
	comp=E,4.8nm,0.9s						
WVT	Waverly	71.30	347	*e*P	P	02 21 01.8	-0.1
	comp=E,5.0nm,0.8s						
MNTX	Cornudas Mount	72.40	331	*e*P	P	02 21 08.4	-0.2
	comp=E,1.7nm,1.1s						
WMOK	Wichita Mounta	72.76	338	*e*P	P	02 21 10.7	0.0
	comp=E,6.7nm,0.9s						
SDCO	Great Sand Dun	77.78	334	*e*P	P	02 21 40.7	+0.9
	comp=E,0.9nm,0.7s						
MVCO	Mesa Verde	78.46	331	*e*P	P	02 21 43.5	-0.1
	comp=E,2.0nm,0.9s						
BOSA	Boshof	80.34	118	P	P	02 21 54.6	+0.5
	comp=E,2.4nm,0.9s,baz=281,slow=5.2,SNR=4.1						
HWUT	Hardware Ranch	83.44	332	*e*P	P	02 22 10.4	+0.4
	comp=E,1.1nm,0.7s						
TORD	Torodi Ar. Bea	84.56	70	P	P	02 22 16.4	+0.3
	comp=E,1.3nm,0.9s,baz=296,slow=6.6,SNR=8.8						
WRA	Warramunga Arr	120.53	209	PKP	PKPdf	02 28 34.4	-0.2
	comp=E,0.3nm,0.9s,baz=139,slow=1.2,SNR=2.1						
BRVK	Borovoye	147.50	43	*e*PKPbc	PKPbc	02 29 26.8	+0.9
BVAR	Borovoye Array	147.57	43	PKPbc	PKPab	02 29 27.3	-1.0
	comp=E,1.3nm,0.6s,baz=336,slow=3.3,SNR=8.4						
KURK	Kurchatov	153.17	43	*e*PKPdf	PKPdf	02 29 31.3	-0.8
KURK				*e*PKPbc	PKiKP	02 29 40.0	+0.2
TKM2	Tokmak 2	153.61	61	*e*PKPbc	PKPbc	02 29 40.3	-0.9
TKM2				*e*PKPab	PKPab	02 29 54.8	+0.9
ZALV	Zalesovo Beam	154.47	32	PKPbc	PKPbc	02 29 42.0	-0.3
	comp=E,0.5nm,0.4s,baz=310,slow=1.1,SNR=3.5						
MKAR	Makanchi Array	157.07	49	PKPab	PKPab	02 30 08.1	-0.2
	comp=E,0.3nm,0.6s,baz=267,slow=4.4,SNR=3.3						

ISCJB 06 02:13:57.3±0.6, 45°38N±0°08×142°8E±0°1, h330km, mb3.0/2, Error ellipse: s-maj=13.1km s-min=10.4km az=159.3
JMA 06 02:13:58.5±0.2, 45°53N×142°86E, h314km, M2.8
IDC 06 02:14:02.0±4.4, 45°65N×142°29E, h352km±224km, mb2.8/2, mb1 2.9/3, mb1mx2.5/35, mbtmp3.4/3, Error ellipse: s-maj=487.2km s-min=50.7km az=178.0
ISC 06 02:13:57.5±1.0, 45°37N±0°09×142°8E±0°1, h330km, n16, σ1§59/20, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	Soyaes	0.44	199	P	Pn	02 14 38.8	-0.6
JWK2	Keihoku	0.63	265	P	Pn	02 14 39.4	-0.4
JWK2				*e*S	S	02 15 10.5	-3.1
ASAJ	Asahikawa	1.26	186	P	Pn	02 14 43.0	+0.6
JMP	Maruseppu	1.43	163	P	Pn	02 14 43.9	+0.6
JKK2	Kamakawa 2	1.50	181	P	Pn	02 14 44.8	+1.0
JTKR	Abashiri--Toko	1.61	150	P	Pn	02 14 45.3	+0.9
JAR	Ashorobuto	2.19	161	P	Pn	02 14 49.9	+1.4
JFR	Furan	2.21	184	P	Pn	02 14 50.5	+1.8
JAK	Akkeshi	2.74	149	P	Pn	02 14 53.8	+0.7
JCH	Churui	2.79	171	P	Pn	02 14 53.6	+0.1
JCH				*e*S	S	02 15 35.9	-2.5
NEM2	Nemuro 2	2.92	132	P	Pn	02 14 55.0	+0.4
NEM2				*e*S	S	02 15 37.6	-2.8
JNBK	Urakawa-nobuka	3.09	181	P	Pn	02 14 57.6	+1.3
JKB	Kayabe	3.71	201	P	Pn	02 15 03.3	+0.9
JKB				*e*S	S	02 15 53.0	-1.5
USRK	Ussuriysk Ar.	7.77	265	P	Pn	02 15 49.7	+1.1
	0.3nm,0.3s,baz=75,slow=13,SNR=7.0						
YKA	Yellowknife Ar	56.16	33	P	P	02 23 05.3	+2.1
	0.2nm,0.5s,baz=307,slow=6.5,SNR=4.3						
FINES	FINESS Array B	61.98	331	P	P	02 23 42.4	-0.4
	1.0nm,0.8s,baz=38,slow=9.6,SNR=4.8						

GUC 06 02:23:24.9±0.7, 34°57S×71°82W, h16km±5km, ML3.5, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.65	132	*i* P	Pg	02 23 37.0	-0.7
NICH				*i* S	Sg	02 23 46.1	-0.2
NICH				AML	AML	02 23 46.9	
	comp=N,5μm,0.2s						
LNV	Longovilo	0.70	29	*i* P	Pg	02 23 37.7	-0.9
LNV				*i* S	Sg	02 23 46.9	-0.9
CACH	El Canelo	1.10	66	⇑*i*P	Pb	02 23 44.8	-1.0
CACH				*i* S	Sb	02 24 00.0	-0.1
CHCH	Chadas Angostu	1.16	57	⇓*i*P	Pn	02 23 45.5	-1.1
CHCH				*i* S	Sb	02 24 00.6	-0.9
TACH	Talagante	1.17	39	*i* P	Pn	02 23 45.5	-1.2
TACH				*i* S	Sb	02 24 00.9	-0.9
LNCH	Linares	1.29	172	⇓*i*P	Pn	02 23 47.8	-0.5
LNCH				*e*S	Sb	02 24 04.3	-0.8
LNCH				AML	AML	02 24 05.4	
	comp=E,1μm,0.4s						

IDC 06 02:24:44.6±0.9, 2°69S×100°94E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.0/40, mbtmp4.1/12, MS3.2/1, Ms1 3.2/1, ms1mx2.6/54, Error ellipse: s-maj=40.5km s-min=15.6km az=51.0
ISCJB 06 02:24:49.9±0.4, 2°88S±0°05×100°74E±0°06, h50km, mb4.2/21, MS3.2/1, Error ellipse: s-maj=10.5km s-min=4.5km az=137.0
DJA 06 02:24:53.2±1.4, 3°S±5°×10°1E±°, h11km±12km, M4.3/12, mb4.2/1, MLv4.3/12
NEIC 06 02:24:54.5±0.7, 2°70S×101°03E, h79km±6km, mb4.4/10, Error ellipse: s-maj=12.4km s-min=4.0km az=52.0
ISC 06 02:24:51.8±0.6, 2°73S±0°08×100°88E±0°09, h50km, n57, σ1§64/56, mb4.2/21, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	Maura Aman, Be	1.42	107	P	Pn	02 25 16.7	+1.5
MASI				S	Sn	02 25 33.2	+0.4
PDSI	Padang	1.86	347	P	Pn	02 25 22.4	+1.2
PDSI				S	Sn	02 25 45.4	+1.9
SDSI	Sungai Dareh	1.87	17	P	Pn	02 25 22.6	+1.2
MNAI	Manna	2.63	128	P	Pn	02 25 34.9	+3.1
MNAI				S	Sn	02 26 07.7	+5.2
MNAI	Manna	2.63	128	*e*Pn	Pn	02 25 33.8	+2.0
MNAI				*e*Sn	Sn	02 26 03.8	+1.3
LHSI	Lahat	2.85	112	P	Pn	02 25 37.6	+2.8
BKNI	Bangkinang	3.04	3	P	Pn	02 25 41.2	+3.7
BKNI	Bangkinang	3.04	3	*e*Pn	Pn	02 25 40.0	+2.5
MDSI	Maura Dua	3.72	118	P	Pn	02 25 49.8	+3.0
MNSI	Mandailing Nat	3.74	340	P	Pn	02 25 49.9	+2.9
LWLI	Liw

0.4nm,0.5s,baz=137,slow=7.4,SNR=3.6
SEY Seymchan 75.98 22 P **P 02 36 32.5 -0.8**
0.8nm,0.4s,baz=267,slow=22,SNR=4.2
TSUM Tsumeb 82.78 251 *e*P **P 02 37 11.3 -0.1**
3.0nm,0.8s
FINES FINESS Array B 85.17 332 P **P 02 37 22.6 +0.1**
0.5nm,0.4s,baz=134,slow=5.5,SNR=5.2
PSZ Piszkesteto 85.97 318 *e*P **P 02 37 27.2 +0.3**
2.3nm,0.7s
ARCES ARCESS Array B 87.46 340 P **P 02 37 33.7 +0.1**
0.9nm,0.5s,baz=96,slow=5.7,SNR=9.3
WCI Wyandotte Cave 144.07 10 *e*PKPdf PKPbc 02 44 21.1 +0.7
TXAR Lajitas Array 144.73 39 PKP **PKPab 02 44 22.8 0.0**
1.2nm,0.5s,baz=215,slow=0.9,SNR=26
WVT Waverly 145.81 13 *e*PKPbc **PKPdf 02 44 24.7 -0.8**
JCT Junction City 146.17 33 *e*PKPbc **PKPdf 02 44 25.4 -0.9**
HKT Hockley 148.63 29 *e*PKPdf **PKPdf 02 44 28.6 -1.6**
HKT *e*PKPbc **PKPbc 02 44 33.1 -0.9**

WEL 06 02:33:53.5±0.3, 45°.49S×166°.73E, h9km±1km, ML3.7/10, 2D, Error ellipse: s-maj=1.9km s-min=0.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.30**	**87**	⇓PG	Pg	02 33 59.9	+0.4
DCZ				SG	Sg	02 34 04.0	+0.5
DCZ				AML	AML	02 34 05.0	
DCZ				AML	AML	02 34 05.1	
DCZ				AML	AML	02 34 05.1	
WHZ	**Wether Hill Ro**	**0.94**	**116**	P*	Pg	02 34 11.0	-0.7
WHZ				S*	Sg	02 34 24.1	+0.1
WHZ				AML	AML	02 34 25.0	
MLZ	**Mavora Lakes**	**1.03**	**82**	⇓P*	Pg	02 34 11.1	-2.2
MLZ				AML	AML	02 34 25.1	
MLZ				AML	AML	02 34 27.2	
MSZ	**Milford Sound**	**1.18**	**46**	S*	Sb	02 34 30.8	-0.6
MSZ				AML	AML	02 34 31.8	
MSZ				AML	AML	02 34 33.1	
MSZ				AML	AML	02 34 33.1	
APZ	**The Paps**	**1.60**	**147**	PN	Pn	02 34 21.8	-0.3
APZ				AML	AML	02 34 45.5	
WKZ	**Wanaka**	**1.75**	**69**	PN	Pn	02 34 23.5	-0.5
WKZ				AML	AML	02 34 51.9	
WKZ				AML	AML	02 34 51.9	
WKZ				AML	AML	02 34 58.3	
EAZ	**Earnscleugh**	**1.84**	**83**	PN	Pn	02 34 24.5	-0.7
EAZ				SN	Sn	02 34 47.2	-1.3
EAZ				AML	AML	02 34 52.7	
EAZ				AML	AML	02 34 52.8	
EAZ				AML	AML	02 34 53.2	
SYZ	**Scrubby Hill**	**1.98**	**123**	PN	Pn	02 34 26.9	-0.2
JCZ	**Jackson Bay**	**2.02**	**46**	PN	Pn	02 34 26.2	-1.7
JCZ				AML	AML	02 34 59.3	
JCZ				AML	AML	02 35 04.5	
TUZ	**Tuapeka**	**2.08**	**104**	PN	Pn	02 34 28.6	0.0
LBZ	**Lake Benmore**	**2.69**	**67**	PN	Pn	02 34 36.1	-0.9
LBZ				AML	AML	02 35 30.4	
HHSZ	**Highcliff Hill**	**2.74**	**100**	PN	Pn	02 34 39.0	+1.4
ODZ	**Otahua Downs**	**2.80**	**82**	PN	Pn	02 34 36.7	-1.7
FOZ	**Fox Glacier**	**2.86**	**49**	PN	Pn	02 34 38.6	-0.7
FOZ				AML	AML	02 35 32.6	
RPZ	**Rata Peaks**	**3.56**	**62**	PN	Pn	02 34 48.0	-0.9
WVZ	**Waitaha Valley**	**3.76**	**51**	PN	Pn	02 34 50.6	-1.0
OXZ	**Oxford**	**4.38**	**62**	PN	Pn	02 34 58.3	-1.8
MQZ	**McQueen's Vall**	**4.59**	**69**	PN	Pn	02 35 01.6	-1.5
LTZ	**Lake Taylor**	**4.82**	**58**	PN	Pn	02 35 04.3	-2.0

*SJA **06** 02:34:20.3±1.3, 24°.80S×65°.93W, h2km±8km, ML3.4*
*IDC **06** 02:34:27.3±5.2, 24°.81S×65°.60W, h35km±40km, mb3.3/1, mb1 3.3/4, mb1mx3.2/32, mbtmp3.3/4, ML3.8/2, Error ellipse: s-maj=43.8km s-min=32.0km az=138.0*
ISC 06 02:34:21.8±2.8, 24°.8S±0°.1×66°.0W±0°.1, h14km±13km, n9, σ1§96/12, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**0.42**	**82**	*i* P	**Pg**	**02 34 29.0**	**-1.3**
AZAP	**Zapla**	**0.99**	**56**	*i* P	**Pg**	**02 34 39.7**	**-1.2**
AZAP				*i* S	**Sb**	**02 34 54.7**	**+0.9**
AZAP				AML	AML	02 35 01.0	
comp=Z,1μm,0.2s
ASTB Santa Barbara 1.58 59 *i* P **Pg 02 34 51.7 -0.5**
ASTB *i* S **Sg 02 35 14.9 +2.0**
ALOL LOMAS DE OLMED 2.06 63 *i* P **Pb 02 34 58.1 -0.8**
ALOL *i* S **Sb 02 35 25.1 +0.7**
CFAA Coronel Fontan 7.09 196 Pn Pn 02 36 09.8 +4.6
comp=Z,0.1nm,0.3s,baz=18,slow=13,SNR=2.6
CPUP Villa Florida 7.95 103 Pn **Pn 02 36 16.8 -0.2**
comp=Z,0.6nm,0.3s,baz=263,slow=13,SNR=4.7
CPUP Lg Lg 02 38 28.7
comp=Z,3.3nm,0.3s,baz=337,slow=20,SNR=4.1
SIV San Ignacio 9.87 29 Pn **Pn 02 36 45.8 +2.4**
comp=Z,0.4nm,0.3s,baz=216,slow=12,SNR=6.3
SIV Sn **Sn 02 38 30.2 -3.9**
comp=Z,0.1nm,0.3s,baz=336,slow=20,SNR=3.1
TORD Torodi Ar. Bea 75.97 68 P **P 02 46 09.3 +0.4**
comp=Z,0.4nm,0.8s,baz=248,slow=4.2,SNR=3.7
MKAR Makanchi Array 146.51 41 PKPbc **PKPab 02 54 03.5 -0.1**
comp=Z,0.4nm,0.7s,baz=303,slow=3.4,SNR=4.5

*ISCJB **06** 02:37:44.8±0.3, 0°.03N±0°.02×123°.40E±0°.02, h155km±3km, mb4.5/81, Error ellipse: s-maj=4.6km s-min=3.2km az=136.1*
*NEIC **06** 02:37:45.7±0.6, 0°.05N×123°.37E, h150km±6km, mb4.6/36, Error ellipse: s-maj=7.5km s-min=4.8km az=58.0*
*BJI **06** 02:37:45.4, 0°.00N×123°.40E, h146km, mB4.9/27, mb4.7/35*
*IDC **06** 02:37:45.6±2.2, 0°.07N×123°.22E, h149km±19km, mb4.2/31, mb1 4.2/32, mb1mx4.1/52, mbtmp4.6/32, MS3.2/1, Ms1 3.4/1, ms1mx2.6/44, Error ellipse: s-maj=13.8km s-min=7.5km az=72.0*
*DJA **06** 02:37:46.4±0.2, 0°.S±3°×12°.3E±°, h127km±2km, M4.7/25, mB5.1/12, mb4.8/25, MLv5.0/23, Mw(mB)4.4/12*
*KLM **06** 02:37:46.3, 0°.07N×123°.43E, h150km, mb4.8, ML4.6, MS6.5*
*MOS **06** 02:37:48.1±1.0, 0°.09N×123°.35E, h194km, mb4.4/28, Error ellipse: s-maj=13.5km s-min=6.3km az=114.2*
ISC 06 02:37:45.9±0.3, 0°.01S±0°.03×123°.41E±0°.04, h150km±2km, n447, σ1§40/489, mb4.6/81, 117C-109D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.76**	**328**	P	**Pn**	**02 38 08.9**	**+0.1**
KMSI	**Cibinong**	**0.82**	**45**	P	**Pn**	**02 38 09.4**	**+0.2**
LUWI	**Luwuk**	**1.20**	**212**	P	**Pn**	**02 38 10.2**	**-2.3**
LUWI				S	**Sn**	**02 38 29.3**	**-3.5**
LUWI	**Luwuk**	**1.20**	**212**	P	Pn	02 38 04.6	-7.9
baz=1.0,SNR=28
LUWI Luwuk 1.20 212 *e*Pn **Pn 02 38 10.6 -2.0**
LUWI *e*Sn **Sn 02 38 28.3 -4.6**
MRSI Marisa 1.54 288 P **Pn 02 38 14.2 -1.7**
MRSI S **Sn 02 38 35.0 -3.9**
APSI Ampana 1.97 243 P **Pn 02 38 19.4 -1.3**
APSI S **Sn 02 38 44.2 -3.2**
TOLI Toli-Toli 2.84 293 *e*Pn **Pn 02 38 30.3 -1.0**
TOLI *e*Sn **Sn 02 39 05.2 -1.1**
SANI Sanana 3.28 128 P **Pn 02 38 35.3 -1.5**
MPSI Mapaga 3.53 276 P **Pn 02 38 39.8 -0.2**
TNTI Ternate 4.04 79 P **Pn 02 38 47.3 +0.7**
TNTI Ternate 4.04 79 *e*Pn **Pn 02 38 46.3 -0.3**
TNTI *e*Sn **Sn 02 39 32.2 -1.6**
LBMI Labuha 4.14 99 P **Pn 02 38 47.9 -0.1**
TTSI Tana Toraja 4.68 230 P **Pn 02 38 54.4 -0.8**
NLAI Namlea 4.89 131 P **Pn 02 38 58.1 +0.2**
SPSI Sidrap Palu 5.35 223 P **Pn 02 39 03.4 -0.6**
213nm,0.8s,3μm1.0nm
BNSI Bone 5.47 217 P **Pn 02 39 05.9 +0.4**
163nm,0.7s,2μm0.7nm
BBSI Bau Bau 5.50 189 P **Pn 02 39 05.8 -0.2**
113nm,0.9s,1μm0.7nm
KAPI Kappang 6.17 216 *e*Pn **Pn 02 39 14.4 -0.5**
KAPI *e*Sn **Sn 02 40 23.6 -0.9**
BKSI Bulukumba 6.21 212 P **Pn 02 39 15.7 +0.2**
94nm,0.8s,887nm0.4nm
MSAI Masohi 6.44 121 P **Pn 02 39 19.4 +0.9**
44nm,0.6s,644nm0.4nm
BKB Balikpapan 6.63 259 P **Pn 02 39 21.7 +0.7**

BSSI	**Bau Bau, Buton**	**6.75 205**	P	**Pn**	**02 39 24.2**	**+1.5**
TSM	**Tawau**	**6.99 308**	⇑S	**Sn**	**02 40 39.8**	**-4.4**
MYLDM	**Lahad Datu**	**7.11 317**	⇑P	Pn	02 39 30.6	+3.1
MYLDM	**Lahad Datu**	**7.11 317**	⇓S	**Sn**	**02 40 50.8**	**+3.6**
MYLDM	**Lahad Datu**	**7.11 317**	*e*Pn	**Pn**	**02 39 29.9**	**+2.3**
CTBH	**Cotabato--PC H**	**7.23 7**	⇑*i*P	**Pn**	**02 39 31.6**	**+2.5**
BNDI	**Bandanaira**	**7.89 125**	P	**Pn**	**02 39 39.7**	**+1.8**
242nm,1.1s,0.8nm
SWI Sorong 7.90 96 P **Pn 02 39 39.1 +1.1**
40nm,1.1s,0.2nm
SDKM Sandakan 8.37 312 ⇓P Pn 02 39 48.2 +3.9
SDKM Sandakan 8.37 312 ⇑S **Sn 02 41 18.6 +1.1**
BBKI Banjar Baru 9.22 248 P **Pn 02 39 58.1 +2.4**
FAKI Fak Fak 9.30 108 P **Pn 02 39 57.8 +1.1**
38nm,1.1s,2μm
FAKI Fak Fak 9.30 108 P **Pn 02 39 55.9 -0.8**
baz=9.3,SNR=14
FAKI S **Sn 02 41 35.7 -4.2**
baz=9.3,SNR=5.2
KKM Kota Kinabalu 9.37 310 P Pn 02 40 02.5 +4.8
baz=9.5,SNR=15
KKM S Sn 02 41 24.8 -17
baz=9.5,SNR=4.2
KKM Kota Kinabalu 9.37 310 *e*Pn Pn 02 40 01.6 +3.9
KKM *e*Sn **Sn 02 41 39.9 -1.7**
KDM Kudat 9.51 317 ⇑P Pn 02 40 04.9 +5.5
SOEI Soe 9.72 175 P Pn 02 40 06.6 +4.3
SOEI Soe 9.72 175 *e*Pn **Pn 02 40 02.6 +0.3**
BATI Baumata 10.13 179 P **Pn 02 40 10.3 +2.5**
5.2nm,0.3s,baz=66,slow=2.1,SNR=9.9
BTM Bintulu 10.80 287 ⇑P **Pn 02 40 14.3 -2.3**
SBUM Sibu 11.45 282 ⇑P **Pn 02 40 22.4 -2.7**
SBUM Sibu 11.45 282 *e*Pn P 02 40 36.9 +4.1
JAGI Jajag, Banyuwa 12.47 227 *e*Pn **Pn 02 40 39.4 +1.0**
47nm,1.0s
KSM Kuching 13.18 276 P **P 02 40 53.9 +1.9**
baz=13,SNR=3.4
KSM Kuching 13.18 276 ⇑P Pn 02 40 44.1 -3.4
KSM Kuching 13.18 276 *e*Pn **P 02 40 51.4 -0.6**
PWJI Pagerwojo 14.04 235 P **P 02 41 02.9 +1.4**
MTN Manton Dam 14.87 149 P **Pn 02 41 08.4 -0.5**
baz=15,SNR=34
KDU Kakadu 15.47 145 P **Pn 02 41 17.1 +0.8**
baz=15,SNR=14
KNRA Kununurra 16.44 161 P **P 02 41 29.0 +0.9**
baz=16,SNR=11
DLV T Lat 18.99 309 *e*P **P 02 41 57.3 +1.0**
45nm,0.6s
MYKOM Kota Tinggi 19.64 275 *e*P **P 02 42 04.2 +1.0**
15nm,0.7s
MBWA Marble Bar 21.32 189 *e*P **P 02 42 20.4 -0.8**
33nm,1.4s
WRAB Tennant Creek 22.52 152 *d i*P **P 02 42 33.4 +0.1**
WRAB pmax pmax
comp=Z,23nm,0.9s
WRAB Tennant Creek 22.52 152 *e*P **P 02 42 33.1 -0.2**
comp=Z,15nm,0.6s
WRA Warramunga Arr 22.52 152 P **P 02 42 33.5 +0.1**
comp=Z,15nm,0.5s,baz=332,slow=10,SNR=415
WRA PcP **PcP 02 46 21.9 -0.1**
comp=Z,0.8nm,0.6s,baz=320,slow=2.5,SNR=5.9
WRA S **S 02 46 26.9 -2.3**
comp=Z,2.5nm,0.7s,baz=335,slow=16,SNR=6.7
WB2 Warramunga Arr 22.52 152 *e*P **P 02 42 33.1 -0.3**
IPM Ipoh 22.80 282 ⇓P **P 02 42 36.8 +0.7**
IPM Ipoh 22.80 282 *e*P **P 02 42 36.5 +0.4**
comp=Z,34nm,0.7s
PDSI Padang 22.96 268 P **P 02 42 38.7 +1.1**
comp=Z,46nm,1.0s,comp=Z,3μm
QIZ Qiongzhong 23.14 326 *e*P **P 02 42 39.9 +0.8**
comp=Z,32nm,0.8s
KULM Kulim 23.33 283 ⇑P **P 02 42 41.7 +0.8**
KULM Kulim 23.33 283 *e*P **P 02 42 41.7 +0.8**
comp=Z,42nm,0.8s
TPUB Ta-pu 23.33 354 *e*P **P 02 42 41.5 +0.8**
comp=Z,32nm,0.7s
UBPT Khong Chiam 23.34 311 P **P 02 42 42.3 +1.3**
comp=Z,40nm,1.0s,comp=Z,761nm
SSLB Suanglung 23.78 354 *e*P **P 02 42 45.2 +0.3**
comp=Z,20nm,0.8s
COEN Coen 23.98 126 P **P 02 42 47.0 +0.2**
baz=24,SNR=27
COEN Coen 23.98 126 *e*P **P 02 42 47.2 +0.4**
PSI Prapat 24.63 277 P **P 02 42 52.6 -0.3**
comp=Z,3.0nm,0.4s,baz=90,slow=6.3,SNR=4.0
WRKA Warakurna 25.32 170 P **P 02 42 59.2 +0.2**
baz=25,SNR=33
PMG Port Moresby 25.42 112 *e*P **P 02 43 00.0 +0.1**
PMG pmax pmax
comp=Z,11nm,0.8s
PMG Port Moresby 25.42 112 *e*P **P 02 42 60.0 +0.1**
comp=Z,11nm,0.8s
AS31 Alice Springs 25.63 157 *e*P **P 02 43 01.6 -0.1**
ASAR Alice Springs 25.63 157 P **P 02 43 01.8 +0.1**
comp=Z,2.0nm,0.5s,baz=347,slow=14,SNR=33
ASAR PcP **PcP 02 46 28.9 +0.2**
comp=Z,3.8nm,0.5s,baz=348,slow=2.2,SNR=14
ASAR ScP **ScP 02 49 53.6 -0.7**
comp=Z,0.3nm,0.5s,baz=341,slow=3.2,SNR=4.3
QIS Mount Isa 25.85 143 P **P 02 43 04.6 +0.9**
baz=26,SNR=30
SURT Suratani 26.08 291 P P 02 43 12.1 +6.3
CHAI Chaiyaphum 26.40 308 P **P 02 43 09.7 +1.0**
comp=Z,15nm,0.7s,comp=Z,609nm
MEEK Meekatharra 26.87 190 P **P 02 43 12.1 -0.7**
baz=27,SNR=13
PBKT Sadao Pong 27.58 308 P P 02 43 26.0 +6.8
LOEI Loei 27.89 310 P **P 02 43 19.8 -2.2**
comp=Z,26nm,0.7s
UTHA Uthaitani 28.27 304 P **P 02 43 27.3 +1.9**
comp=Z,13nm,0.7s
SLVN Son La 28.51 319 *e*P **P 02 43 27.5 0.0**
UTTA Uttaradit 28.58 309 P **P 02 43 30.1 +2.0**
comp=Z,8.1nm,0.8s
NANT Nan 29.09 311 P **P 02 43 34.5 +1.8**
comp=Z,67nm,0.8s,comp=Z,1μm
SUKH Sukhothai 29.15 308 P **P 02 43 34.7 +1.5**
comp=Z,14nm,0.7s,comp=Z,112nm
MORW Morawa 29.74 193 P **P 02 43 37.6 -0.6**
baz=30,SNR=4.0
LAMP Lampang 29.74 310 P **P 02 43 40.2 +1.8**
comp=Z,7.5nm,0.8s,comp=Z,86nm
CTA Charters Tower 29.98 133 P **P 02 43 42.3 +1.8**
comp=Z,3.5nm,0.7s,baz=314,slow=14,SNR=5.2
CTA PcP **PcP 02 46 40.7 +1.3**
comp=Z,0.8nm,0.3s,baz=14,slow=4.2,SNR=3.6
CTAO Charters Tower 29.98 133 *e*P **P 02 43 40.9 +0.5**
CTAO pmax pmax
comp=Z,6.0nm,0.9s
CTAO Charters Tower 29.98 133 *e*P **P 02 43 40.9 +0.5**
comp=Z,6.4nm,0.9s
CRAI Chiangrai 30.22 313 P **P 02 43 44.2 +1.6**
comp=Z,26nm,0.8s
CMAR Chiang Mai Arr 30.24 309 P **P 02 43 43.3 +0.5**
comp=Z,12nm,0.7s,baz=134,slow=7.2,SNR=47
CMAR PcP **PcP 02 46 40.6 +0.6**
comp=Z,2.6nm,0.7s,baz=164,slow=2.0,SNR=11
CMAR LR LR 02 57 52.2
comp=Z,40nm,19.5s,baz=245,slow=40
CMMT Chiang Mai 30.44 309 P **P 02 43 45.4 +0.8**
comp=Z,45nm,0.8s
CHTO Chiang Mai 30.44 309 *e*P **P 02 43 45.5 +0.9**
CHTO pmax pmax
comp=Z,31nm,0.9s
CHTO Chiang Mai 30.44 309 P **P 02 43 45.5 +0.9**
comp=Z,159nm,0.8s
CHTO Chiang Mai 30.44 309 *e*P **P 02 43 45.5 +0.9**
comp=Z,31nm,0.9s
GYA Guiyang 30.87 330 *e*P **P 02 43 51.0 +2.7**
GYA pP **pP 02 44 21.8 +1.6**
GYA sP **sP 02 44 40.5 +3.1**
GYA S **S 02 48 43.0 +1.6**
GYA sS **sS 02 49 39.2 +1.9**
GYA PMZ
comp=Z,10.0nm,0.8s
MHMT Maesarieng 30.88 307 P **P 02 43 50.5 +2.1**
comp=Z,17nm,0.7s,comp=Z,333nm
FORT Forrest 30.92 172 P **P 02 43 48.7 +0.2**
baz=31,SNR=12
FORT Forrest 30.92 172 *e*P **P 02 43 48.2 -0.4**
comp=Z,32nm,0.6s
BLDU Ballidu 31.09 191 P **P 02 43 49.5 -0.6**
baz=31,SNR=10.0
KLBR Kellerberrin 31.86 189 P **P 02 43 56.3 -0.6**
baz=32,SNR=7.5
KMI Kunming 32.00 323 P **P 02 44 00.1 +1.7**

KMI PMZ
comp=Z,8.0nm,0.8s
CBIJ Chichi jima 32.44 32 P **P 02 44 01.6 -0.4**
JCJ Chichijima 32.44 32 P **P 02 44 01.6 -0.4**
comp=Z,48nm,0.4s,baz=290,slow=0.5,SNR=11
QLP Quilpie 33.17 144 P **P 02 44 09.4 +1.1**
baz=33,SNR=17
NWAO Narrogin (SRO) 33.25 189 P **P 02 44 08.6 -0.4**
comp=Z,5.2nm,0.4s,baz=25,slow=8.3,SNR=7.9
RMQ Roma 35.90 139 P **P 02 44 32.8 +0.9**
baz=36,SNR=4.6
CD2 Chengdu 35.97 331 ⇓*i*P **P 02 44 33.2 +0.8**
CD2 sP **sP 02 45 23.0 +1.1**
CD2 PP **PnPn 02 46 01.2 +2.7**
CD2 S **S 02 50 01.2 +1.2**
CD2 SS **SnSn 02 52 33.2 -8.9**
CD2 PMZ
comp=Z,40nm,0.7s
CD2 PMZ
comp=Z,170nm,5.9s
STKA Stephens Creek 36.06 153 *e*P **P 02 44 33.0 -0.1**
STKA 02 46 56.4
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 36.06 153 P **P 02 44 34.2 +1.1**
comp=Z,14nm,0.7s,baz=328,slow=8.5,SNR=27
STKA PcP **PcP 02 46 56.4 +0.2**
comp=Z,4.8nm,0.5s,baz=11,slow=2.5,SNR=6.3
STKA Stephens Creek 36.06 153 P **P 02 44 34.1 +1.0**
baz=36,SNR=6.2
STKA Stephens Creek 36.06 153 *e*P **P 02 44 33.0 -0.1**
comp=Z,3.3nm,0.8s
STKA PcP **PcP 02 46 56.4 +0.2**
HTT Hallett 36.30 158 P **P 02 44 36.5 +1.3**
baz=36,SNR=7.2
XAN Xi'an 36.50 340 P **P 02 44 37.3 +0.5**
XAN pP **pP 02 45 08.4 -0.9**
XAN sP **sP 02 45 26.3 -0.1**
XAN S **S 02 50 04.8 -3.1**
XAN PMZ
comp=Z,4.0nm,0.8s
XAN PMZ
comp=Z,20nm,4.2s
XAN LN
comp=Z,67nm,13.3s
XAN LE
comp=Z,66nm,15.4s
XAN LZ
comp=Z,46nm,14.3s
CMSA Cobar Meteorol 37.80 148 P **P 02 44 49.5 +1.7**
baz=38,SNR=18
MAJO Matsushiro 38.88 19 *e*P **P 02 44 55.8 -1.0**
MAJO pmax pmax
comp=Z,11nm,0.6s
MAJO Matsushiro 38.88 19 *e*P **P 02 44 55.8 -1.0**
comp=Z,11nm,0.6s
MAT Matsushiro 38.88 19 P **P 02 44 55.5 -1.3**
MJAR Matsushiro Arr 38.88 19 P **P 02 44 55.4 -1.3**
comp=Z,9.6nm,0.7s,baz=191,slow=9.4,SNR=24
ARMA Armidale 40.43 141 P **P 02 45 12.0 +2.2**
baz=40,SNR=38
ARMA Armidale 40.43 141 *e*P **P 02 45 12.1 +2.2**
comp=Z,25nm,0.6s
YNG Young 41.37 148 P **P 02 45 19.2 +1.9**
baz=41,SNR=6.7
HHC Hu-ho-hao-te 42.07 347 *e*P **P 02 45 25.5 +2.4**
HHC pP **pP 02 45 57.4 +1.2**
HHC sP **sP 02 46 12.8 -0.3**
HHC PcP **PcP 02 47 17.6 +2.5**
HHC S **S 02 51 34.7 +3.5**
HHC sS **sS 02 52 29.7 +0.8**
HHC ScS **ScS 02 55 10.2 +0.5**
HHC PMZ
comp=Z,34nm,0.6s
HHC PMZ
comp=Z,150nm,5.6s
CAN Canberra 42.47 148 *e*P **P 02 45 28.2 +1.9**
CAN pmax pmax
comp=Z,20nm,0.5s
CAN Canberra 42.47 148 *e*P **P 02 45 28.2 +1.9**
comp=Z,20nm,0.5s
TOO Toolangi 42.58 154 P **P 02 45 29.2 +2.1**
baz=43,SNR=5.2
LSA Lhasa 42.63 317 *e*P **P 02 45 29.1 +0.8**
LSA pmax pmax
comp=Z,9.0nm,0.4s
LSA Lhasa 42.63 317 *e*P **P 02 45 29.1 +0.8**
comp=Z,9.3nm,0.4s
CNB Canberra Magne 42.66 148 P **P 02 45 30.2 +2.3**
baz=43,SNR=5.8
CN2 Changchun 43.66 2 ⇓P P 02 45 39.4 +3.8
CN2 *e*pP pP 02 46 12.2 +3.2
CN2 *e*S **S 02 51 58.8 +4.7**
CN2 PMZ
comp=Z,20nm,0.8s
CN2 PMZ
comp=Z,200nm,4.0s
ODAN Odare 43.74 311 *e*P **P 02 45 37.2 +0.3**
comp=Z,48nm,0.7s
TAPN Taplejung 43.76 311 *e*P **P 02 45 37.4 +0.3**
comp=Z,56nm,0.8s
RAMN Ramite 44.39 310 *e*P **P 02 45 42.6 +0.5**
comp=Z,94nm,0.6s
USRK Ussurisk Ar. 44.68 9 P **P 02 45 43.3 -0.5**
comp=Z,3.8nm,0.6s,baz=201,slow=5.6,SNR=11
MDJ Mudanjiang 44.77 6 P **P 02 45 44.1 -0.4**
MDJ pP **pP 02 46 14.4 -3.6**
MDJ sP **sP 02 46 31.5 -3.3**
MDJ S **S 02 52 09.7 -0.5**
MDJ sS **sS 02 53 05.0 -3.5**
MDJ PMZ
comp=Z,12nm,1.0s
MDJ PMZ
comp=Z,66nm,4.7s
MDJ LN
comp=Z,750nm,10.6s
MDJ LE
comp=Z,480nm,14.5s
MDJ LZ
comp=Z,600nm,12.2s
GTA Gaotai 44.78 334 ⇓P **P 02 45 46.2 +1.4**
GTA pP **pP 02 46 17.9 -0.4**
GTA sP **sP 02 46 33.9 -1.3**
GTA PcP **PcP 02 47 27.0 +2.7**
GTA S **S 02 52 11.8 +1.0**
GTA sS **sS 02 53 07.6 -1.4**
GTA SS **ScS 02 55 29.2 +2.3**
GTA PMZ
comp=Z,18nm,1.2s
GTA PMZ
comp=Z,120nm,5.2s
GTA LN
comp=Z,87nm,15.9s
GTA LE
comp=Z,170nm,16.4s
GTA LZ
comp=Z,170nm,18.5s
JIRN Jiri 45.07 311 *e*P **P 02 45 47.8 +0.2**
comp=Z,64nm,0.7s
GUN Gumba 45.43 311 *e*P **P 02 45 50.5 +0.1**
comp=Z,97nm,0.7s
PKI Pulchoki 45.62 310 *e*P **P 02 45 51.9 0.0**
comp=Z,33nm,0.7s
KKN Kakani 45.83 310 *e*P **P 02 45 53.7 +0.3**
DMN Daman 45.87 310 *e*P **P 02 45 53.6 -0.2**
comp=Z,64nm,0.9s
GKN Gorkha 46.42 310 *e*P **P 02 45 57.8 -0.2**
comp=Z,80nm,0.9s
KOLN Koldanda 47.11 309 *e*P **P 02 46 03.5 +0.1**
comp=Z,129nm,0.7s
ASAJ Asahikawa 47.15 19 P **P 02 46 03.8 +0.6**
comp=Z,16nm,0.7s,baz=274,slow=4.1,SNR=5.1
DANN Dangsing 47.27 310 *e*P **P 02 46 04.5 -0.2**
comp=Z,155nm,0.7s
DZM Mont Dzumac 47.31 121 P **P 02 46 06.8 +2.0**
comp=Z,8.3nm,0.7s,baz=257,slow=12,SNR=6.0
HYB Hyderabad 47.41 294 *i* P **P 02 46 04.5 -1.1**
HIA Hailar 49.19 357 *e*P **P 02 46 17.5 -1.2**
HIA pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 49.76 346 ⇑*e*P **P 02 46 20.5 -2.8**
ULN pmax pmax
comp=Z,8.0nm,1.2s
ULN Ulaanbaatar 49.76 346 *e*P **P 02 46 21.1 -2.1**
comp=Z,8.2nm,0.6s
SONM Songino Array 49.90 345 P **P 02 46 23.6 -0.6**

comp=Z,7.1nm,0.7s,baz=161,slow=8.7,SNR=59
SONM PcP **PcP** 02 47 41.5 -0.9
comp=Z,2.3nm,0.7s,baz=180,slow=2.1,SNR=5.9
WMQ Urumqi 54.02 329 P **P** 02 46 55.8 +1.1
WMQ pP **pP** 02 47 31.2 +1.8
WMQ sP **sP** 02 47 48.9 +3.0
WMQ PcP **PcP** 02 47 59.5 +1.6
WMQ PP **PP** 02 49 00.0 +2.2
WMQ S **S** 02 54 18.0 -1.2
WMQ sS **sS** 02 55 17.2 -2.0
WMQ ScS **ScS** 02 56 26.8 -2.3
WMQ SS **SS** 02 57 59.6 -3.3
WMQ PMZ
comp=Z,6.0nm,1.2s
WMQ PMZ
comp=Z,69nm,5.0s
WMQ LN
comp=Z,190nm,24.0s
WMQ LE
comp=Z,67nm,19.0s
WMQ LZ
comp=Z,160nm,16.0s
TLY Talaya 54.14 345 *e*P **P** 02 46 56.5 +1.0
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY Talaya 54.14 345 P **P** 02 46 56.4 +1.0
comp=Z,3.5nm,0.7s,baz=189,slow=5.4,SNR=6.5
MOY Mondy 54.86 343 *e*P **P** 02 47 01.6 +0.9
HVS Khovu-Aksy 56.83 338 *e*P **P** 02 47 13.0 -1.7
HVS pmax pmax
comp=Z,27nm,0.9s
BOD Bodaibo 58.14 354 *e*P P 02 47 18.9 -4.8
BOD pmax pmax
comp=Z,6.0nm,0.9s
KSH Kashi 58.46 318 *e*P **P** 02 47 25.4 -1.0
KSH PP **PP** 02 49 38.5 +1.0
KSH PMZ
comp=Z,6.0nm,0.9s
KSH PMZ
comp=Z,190nm,4.7s
KSH LN
comp=Z,90nm,5.0s
KSH LE
comp=Z,84nm,4.9s
KSH LZ
comp=Z,220nm,5.9s
MKAR Makanchi Array 58.84 328 P **P** 02 47 27.9 -0.8
comp=Z,2.6nm,0.5s,baz=120,slow=8.6,SNR=74
MKAR PcP **PcP** 02 48 14.9 -1.7
comp=Z,3.6nm,0.6s,baz=129,slow=4.4,SNR=12
PETK Petropavlovsk- 60.14 23 P **P** 02 47 37.9 +0.4
comp=Z,5.1nm,0.7s,baz=198,slow=7.7,SNR=5.8
TKM2 Tokmak 2 60.45 321 *e*P **P** 02 47 39.0 -1.1
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 60.45 321 *e*P **P** 02 47 39.0 -1.1
comp=Z,2.9nm,0.8s
PET Petropavlovsk 60.45 24 *e*P **P** 02 47 38.8 -0.8
RPZ Rata Peaks 60.75 142 *e*P **P** 02 47 43.5 +1.6
comp=Z,30nm,0.8s
AAK Ala-Archa 61.00 321 *e*P **P** 02 47 42.5 -1.3
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 61.00 321 P **P** 02 47 43.2 -0.5
comp=Z,2.7nm,0.8s,baz=129,slow=5.2,SNR=11
AAK Ala-Archa 61.00 321 *e*P **P** 02 47 42.5 -1.3
comp=Z,3.7nm,0.9s
KBL Kabul 61.26 310 *e*P **P** 02 47 44.4 -1.3
KBL pmax pmax
comp=Z,18nm,0.6s
KBL Kabul 61.26 310 P **P** 02 47 45.3 -0.4
baz=61,SNR=5.1
KBL Kabul 61.26 310 *e*P **P** 02 47 44.4 -1.3
comp=Z,18nm,0.6s
EKS2 Erkin-Say 61.47 320 *e*P **P** 02 47 46.2 -0.7
EKS2 pmax pmax
comp=Z,2.0nm,0.9s
EKS2 Erkin-Say 61.47 320 *e*P **P** 02 47 46.2 -0.7
comp=Z,2.3nm,0.9s
YAK Yakutsk 62.07 3 *e*P **P** 02 47 48.6 -1.7
YAK pmax pmax
comp=Z,25nm,0.9s
URZ Urewera 62.22 134 P **P** 02 47 52.4 +0.6
comp=Z,8.5nm,0.5s,baz=255,slow=9.8,SNR=10.0
ZALV Zalesovo Beam 62.49 335 P **P** 02 47 51.3 -2.0
comp=Z,3.1nm,0.4s,baz=119,slow=5.7,SNR=19
KURBB Kurchatov Arra 63.18 330 P **P** 02 47 56.3 -1.6
comp=Z,2.5nm,0.7s,baz=130,slow=5.9,SNR=33
KURK Kurchatov 63.19 330 *e*P **P** 02 47 56.1 -1.9
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK Kurchatov 63.19 330 *e*P **P** 02 47 56.1 -1.9
comp=Z,4.0nm,0.6s
KKAR Karatay Array 63.79 319 *e*P **P** 02 47 59.9 -2.2
KKAR pmax pmax
comp=Z,1.0nm,0.7s
KKAR Karatay Array 63.79 319 *e*P **P** 02 47 59.9 -2.2
comp=Z,1.1nm,0.7s
SEY Seymchan 66.42 14 P **P** 02 48 18.8 +0.2
comp=Z,5.5nm,0.8s,baz=219,slow=5.6,SNR=18
FX1 Attu Island--F 66.96 30 P **P** 02 48 23.2 +0.9
comp=Z,18nm,0.8s,baz=209,slow=18,SNR=5.6
BVAR Borovoye Array 68.70 329 P **P** 02 48 31.4 -1.8
comp=Z,1.7nm,0.7s,baz=134,slow=8.6,SNR=11
BRVK Borovoye 68.78 329 *c i*P **P** 02 48 31.2 -2.4
BRVK pmax pmax
comp=Z,3.0nm,1.3s
BRVK Borovoye 68.78 329 *e*P **P** 02 48 31.5 -2.1
comp=Z,2.5nm,0.9s
TIXI Tiksi 71.63 2 ⇓ *i*P **P** 02 48 49.3 -1.3
TIXI pmax pmax
comp=Z,15nm,1.1s
TIXI Tiksi 71.63 2 *e*P **P** 02 48 49.0 -1.6
comp=Z,14nm,0.9s
ABKAR Akbulak array 72.99 322 *e*P **P** 02 48 56.9 -2.2
BILL Bilibino 74.01 15 *e*P **P** 02 49 03.5 -1.2
BILL pmax pmax
comp=Z,3.0nm,1.3s
BILL Bilibino 74.01 15 *e*P **P** 02 49 04.3 -0.4
AKTO Aktyubinsk 74.56 323 P **P** 02 49 06.4 -1.9
comp=Z,2.6nm,0.7s,baz=109,slow=7.1,SNR=18
SVE Sverdlovsk 75.44 330 *e*P **P** 02 49 11.7 -1.5
SVE pmax pmax
comp=Z,8.0nm,0.9s
ARU Arti 76.35 329 *c i*P **P** 02 49 16.1 -2.3
ARU S **S** 02 58 49.0 -1.9
ARU SS **SS** 03 03 42.0 -6.4
ARU pmax pmax
comp=Z,5.0nm,0.7s
ARU Arti 76.35 329 *e*P **P** 02 49 15.5 -2.9
comp=Z,3.6nm,0.8s
VNDA Vanda 80.18 172 *e*P **P** 02 49 38.8 -0.2
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 80.18 172 P **P** 02 49 39.4 +0.4
comp=Z,5.4nm,0.8s,baz=320,slow=6.4,SNR=20
VNDA Vanda 80.18 172 *e*P **P** 02 49 38.8 -0.2
comp=Z,4.7nm,0.8s
TNA Tin City 81.31 23 *e*P **P** 02 49 44.9 -0.3
comp=Z,4.7nm,1.0s
ZEI Tsey 82.30 313 *e*P **P** 02 49 48.6 -2.6
ZEI pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 83.14 314 P **P** 02 49 53.9 -1.3
comp=Z,2.6nm,0.9s,baz=143,slow=6.7,SNR=3.9
PRGR Permogore 84.21 332 *e*P P 02 49 57.2 -3.0
KMBO Kilima Mbogo 86.16 269 *ce*P **P** 02 50 09.3 -2.0
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 86.16 269 P **P** 02 50 10.3 -1.0
comp=Z,1.9nm,0.6s,baz=84,slow=7.0,SNR=6.1
KMBO Kilima Mbogo 86.16 269 *e*P **P** 02 50 10.1 -1.2
comp=Z,2.6nm,0.9s
KLMR Klimovskoe 87.02 331 *e*P P 02 50 10.7 -3.5
KLMR pmax pmax
comp=Z,10.0nm,0.8s
ASF Jabal al Asfar 87.05 302 P **P** 02 50 13.9 -1.2
comp=Z,2.3nm,0.8s,baz=79,slow=23,SNR=3.7
SYO Syowa Base 87.76 201 ⇑ *e*X **P** 02 50 15.0 -2.5
OBN Obninsk 88.19 325 *i*P **P** 02 50 17.5 -2.3
OBN pmax pmax
comp=Z,4.0nm,0.7s
MMAI Mount Meron Ar 88.33 303 P **P** 02 50 20.6 -0.6
comp=Z,1.8nm,0.6s,baz=78,slow=7.8,SNR=5.5
BRTR Keskin Array B 89.83 310 *ce*P **P** 02 50 26.2 -1.9
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 89.83 310 P **P** 02 50 25.6 -2.5
comp=Z,1.0nm,0.8s,baz=134,slow=7.1,SNR=6.8
ILAR Eielson Array 89.89 25 P **P** 02 50 26.1 -1.5
comp=Z,0.7nm,0.5s,baz=247,slow=5.2,SNR=14
ILAR PKKPbc **PKKPdf** 03 07 58.7 +1.8
comp=Z,0.5nm,0.7s,baz=105,slow=2.3,SNR=6.4
CSS Prodhromos 90.07 305 *e*P **P** 02 50 30.0 +0.8
comp=Z,14nm,1.5s
JOF Joensuu 90.97 333 *e*P **P** 02 50 30.0 -2.7
JOF pmax pmax
comp=Z,3.0nm,0.4s
JOF Joensuu 90.97 333 *e*p **P** 02 50 30.0 -2.7
comp=Z,2.6nm,0.4s
ARCES ARCESS Array B 92.78 340 P **P** 02 50 38.1 -2.8
comp=Z,4.5nm,0.9s,baz=125,slow=7.8,SNR=4.4
SPITS Spitsbergen Ar 93.47 349 P **P** 02 50 42.0 -2.0
comp=Z,11nm,0.7s,baz=112,slow=8.5,SNR=12
FINES FINESS Array B 93.53 331 *ce*P **P** 02 50 43.5 -1.0
FINES pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 94.83 21 *e*P **P** 02 50 49.5 -0.9
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 94.83 21 P **P** 02 50 49.5 -0.9
comp=Z,1.1nm,0.6s,baz=306,slow=3.9,SNR=6.4
YKA Yellowknife Ar 104.25 24 PKiKP **PKiKP** 02 55 48.0 -0.5
comp=Z,0.2nm,0.5s,baz=293,slow=1.9,SNR=5.7
YKA PKKPbc **PKKPbc** 03 07 17.7 -4.7
comp=Z,0.6nm,0.6s,baz=114,slow=2.4,SNR=10
J05D Fort Rock, OR 108.23 44 ⇑P **PKiKP** 02 55 57.6 +0.9
baz=108
NVAR Mina Array Bea 111.86 48 PKiKP **PKiKP** 02 56 05.0 +1.1
comp=Z,1.0nm,0.7s,baz=229,slow=1.3,SNR=7.7
HLID Hailey 112.79 42 ⇑P **PKiKP** 02 56 06.7 +1.3
baz=113
LRMC Laurel Mtn Rad 113.24 51 ⇓P **PKiKP** 02 56 06.0 -0.4
baz=113
R11A Troy Canyon, C 113.90 47 ⇑P **PKiKP** 02 56 07.0 -0.7
baz=114
FFC Flin Flon 114.05 27 *e*PKIKP PKPdf 02 56 06.8 -0.4
FFC Flin Flon 114.05 27 *e*PKP PKPdf 02 56 06.8 -0.5
C19A Slack Wire Ran 114.30 36 ⇑P PKPdf 02 56 08.0 -0.1
baz=114
FCC Fort Churchill 114.44 20 *e*PKIKP PKPdf 02 56 06.8 -1.0
FCC Fort Churchill 114.44 20 *e*PKP PKPdf 02 56 06.8 -1.0
B20A Solberg Farm, 114.54 35 ⇑P PKPdf 02 56 08.4 0.0
baz=114
C20A Veseth Ranch, 114.92 36 ⇓P PKPdf 02 56 09.0 -0.2
baz=115
BELC Belle Mtn. Jos 115.02 52 ⇓P **PKPdf** 02 56 11.0 +1.1
baz=115
GMRC Granite Mounta 115.04 51 ⇓P **PKPdf** 02 56 10.6 +0.6
baz=115
DUG Dugway, Tooele 115.22 45 ⇓P **PKPdf** 02 56 10.7 +0.5
baz=115
A22A Carney Farms, 115.43 34 ⇓P **PKPdf** 02 56 10.8 +0.7
baz=115
D21A La Casta Ranch 115.84 36 ⇑P **PKPdf** 02 56 11.5 +0.4
baz=116
G20A Bridger 116.04 38 ⇑P **PKPdf** 02 56 10.5 -1.0
baz=116
I19A Meeteetse 116.12 40 ⇑P **PKPdf** 02 56 12.5 +0.7
baz=116
C22A Vida 116.12 35 ⇓P **PKPdf** 02 56 11.4 -0.1
baz=116
B23A Brockton 116.24 34 ⇓P **PKPdf** 02 56 11.9 +0.2
baz=116
D22A Cohagen 116.27 35 ⇑P **PKPdf** 02 56 11.5 -0.3
baz=116,SNR=8.4
W13A Hualapai Mount 116.31 50 ⇓P **PKPdf** 02 56 12.7 +0.3
baz=116
PDAR Pinedale Array 116.34 41 PKP **PKPdf** 02 56 12.2 -0.1
comp=Z,0.8nm,0.6s,baz=121,slow=1.9,SNR=7.2
PDAR PKKPab **PKKPbc** 03 06 45.1 +2.1
comp=Z,0.8nm,0.6s,baz=111,slow=5.5,SNR=8.0
J19A Crowheart 116.44 40 ⇑P **PKPdf** 02 56 12.4 0.0
baz=116
C23A Lambert 116.49 34 ⇓P **PKPdf** 02 56 12.5 +0.3
baz=116
A24A Westby 116.52 33 ⇓P **PKPdf** 02 56 12.5 +0.3
baz=116
H20A Greybull 116.53 39 ⇓P **PKPdf** 02 56 12.2 -0.2
baz=116
I20A Worland 116.71 39 ⇑P **PKPdf** 02 56 13.2 +0.3
baz=117
A25A Svangstu Ranch 116.99 32 ⇑P **PKPdf** 02 56 13.7 +0.6
baz=117
J20A Shoshoni 117.02 40 ⇑P **PKPdf** 02 56 13.8 +0.3
baz=117
U15A North Rim 117.04 48 ⇑P **PKPdf** 02 56 15.0 +1.0
baz=117
E23A Ismay 117.13 36 ⇑P **PKPdf** 02 56 14.3 +0.8
baz=117
SRU San Rafael Swe 117.27 45 *e*PKIKP **PKPdf** 02 56 14.4 +0.2
SRU San Rafael Swe 117.27 45 *e*PKPdf **PKPdf** 02 56 14.4 +0.2
I21A Big Trails, Te 117.30 39 ⇓P **PKPdf** 02 56 13.2 -0.8
baz=117
B25A Knox Farm, Ray 117.35 33 ⇓P **PKPdf** 02 56 14.3 +0.4
baz=117
J21A Lysite 117.43 40 ⇑P **PKPdf** 02 56 14.1 -0.3
baz=117
F23A Volborg 117.48 36 ⇓P **PKPdf** 02 56 14.4 +0.2
baz=117
A26A Wade Farm, Ken 117.59 32 ⇓P **PKPdf** 02 56 14.1 -0.2
baz=117
E24A Baker 117.67 35 ⇑P **PKPdf** 02 56 15.0 +0.4
baz=118
G23A Biddle 117.77 37 ⇓P **PKPdf** 02 56 14.5 -0.3
baz=118
I22A 9 Mile Ranch, 117.77 39 ⇓P **PKPdf** 02 56 15.0 0.0
baz=118
K21A Alcova 117.90 40 ⇑P **PKPdf** 02 56 15.5 +0.2
baz=118
A27A Ledoux Ranch, 117.98 32 ⇑P **PKPdf** 02 56 15.3 +0.3
baz=118
F24A Ekalaka 117.98 36 ⇓P **PKPdf** 02 56 15.1 -0.1
baz=118
J22A Midwest 118.01 39 ⇑P **PKPdf** 02 56 15.2 -0.2
baz=118
WUAZ Wupatki 118.07 49 ⇑P **PKPdf** 02 56 16.3 +0.5
baz=118
N20A Spenee Gulch, 118.08 42 ⇑P **PKPdf** 02 56 16.2 +0.4
baz=118
C26A Wahner Farm, P 118.19 33 ⇓P **PKPdf** 02 56 16.0 +0.5
baz=118
G24A Alzada 118.28 36 ⇓P **PKPdf** 02 56 15.9 +0.1
baz=118
K22A Casper 118.36 40 ⇑P **PKPdf** 02 56 16.0 -0.2
baz=118
O20A White River Ci 118.41 43 ⇑P **PKPdf** 02 56 17.1 +0.7
baz=118
O20A White River Ci 118.41 43 *e*PKPdf **PKPdf** 02 56 16.7 +0.3
X16A Lo Mia Camp, P 118.43 50 ⇓P **PKPdf** 02 56 16.9 +0.4
baz=118
H24A Dirks Ranch, A 118.51 37 ⇑P **PKPdf** 02 56 16.1 -0.1
baz=118
A28A Rude Farm, Bot 118.51 31 ⇑P **PKPdf** 02 56 16.1 0.0
baz=118
C27A Sayler Ranch, 118.58 33 ⇓P **PKPdf** 02 56 16.8 +0.6
baz=118
B28A Dugan Ranch, T 118.75 32 ⇓P **PKPdf** 02 56 16.8 +0.3
baz=119
M22A Cedar Creek Ra 118.92 41 ⇓P **PKPdf** 02 56 17.3 -0.1
baz=119
I24A Kuemmerle Ranc 118.94 38 ⇑P **PKPdf** 02 56 16.9 -0.2
baz=119
G25A Newell 118.94 36 ⇑P **PKPdf** 02 56 16.9 -0.1
baz=119
F26A Lodgepole 119.01 35 ⇓P **PKPdf** 02 56 17.2 0.0
baz=119
A29A Manning Farm, 119.04 31 ⇓P **PKPdf** 02 56 16.6 -0.4
baz=119
PV01 Paradox Valley 119.07 45 *e*PKPdf **PKPdf** 02 56 18.2 +0.5
H25A Fruitdale 119.15 37 ⇑P **PKPdf** 02 56 17.3 -0.1
baz=119
L23A Garrett 119.16 40 ⇑P **PKPdf** 02 56 16.2 -1.6
baz=119
B29A Wagenman Farm, 119.26 31 ⇓P **PKPdf** 02 56 17.3 -0.2
baz=119
E27A Carson 119.31 34 ⇑P **PKPdf** 02 56 18.2 +0.6
baz=119
N22A Wattenberg Ran 119.31 42 ⇑P **PKPdf** 02 56 17.6 -0.6
baz=119
G26A Maurine 119.37 36 ⇑P **PKPdf** 02 56 17.9 0.0
baz=119
F27A Lemmon 119.37 35 ⇓P **PKPdf** 02 56 17.8 -0.1
baz=119
I25A Rochford 119.40 37 ⇑P **PKPdf** 02 56 17.9 -0.2
baz=119,SNR=5.3
D28A Regan 119.40 33 ⇑P **PKPdf** 02 56 17.4 -0.4
baz=119
K24A Anderson Ranch 119.41 39 ⇑P **PKPdf** 02 56 17.6 -0.5
baz=119
A30A Hoffart Farm, 119.50 30 ⇓P **PKPdf** 02 56 17.7 -0.2
baz=119
MVCO Mesa Verde 119.52 46 ⇑P **PKPdf** 02 56 19.3 +0.7
baz=119
N23A Red Feather La 119.60 41 ⇓P **PKPdf** 02 56 18.8 +0.1
baz=120
H26A Fairpoint 119.64 36 ⇑P **PKPdf** 02 56 18.0 -0.4
baz=120
J25A Sunshine Ranch 119.69 38 ⇓P **PKPdf** 02 56 17.0 -1.6
baz=120
E28A Huff 119.70 34 ⇓P **PKPdf** 02 56 18.4 0.0
baz=120
G27A Dupree 119.71 35 ⇑P **PKPdf** 02 56 18.2 -0.3
baz=120
B30A Myrvik Farm, E 119.80 31 ⇑P **PKPdf** 02 56 17.7 -0.8
baz=120
ULM Lac du Bonnet 119.81 28 PKP **PKPdf** 02 56 17.6 -0.8
comp=Z,3.9nm,0.6s,baz=299,slow=1.3,SNR=11
O23A Lake Granby, G 119.95 42 ⇑P **PKPdf** 02 56 20.0 +0.6
baz=120
H27A Howes 120.05 36 ⇓P **PKPdf** 02 56 19.0 -0.1
baz=120
J26A Sides Ranch, S 120.18 38 ⇓P **PKPdf** 02 56 18.7 -0.8
baz=120
C30A Mose, Pekin 120.20 31 ⇑P **PKPdf** 02 56 19.2 -0.1
baz=120
I27A Quinn 120.38 37 ⇓P **PKPdf** 02 56 19.4 -0.4
baz=120
D30A Buchanan 120.43 32 ⇑P **PKPdf** 02 56 19.1 -0.6
baz=120
K26A Motz Farm, Whi 120.45 38 ⇓P **PKPdf** 02 56 19.5 -0.6
baz=120
G28A Parade 120.47 35 ⇑P **PKPdf** 02 56 19.8 -0.1
baz=120
S22A 4UR Ranch, Cre 120.48 45 ⇑P **PKPdf** 02 56 20.8 +0.3
baz=120
F29A Eureka 120.63 34 ⇑P **PKPdf** 02 56 20.4 +0.2
baz=120
H28A Mission Ridge 120.64 35 ⇑P **PKPdf** 02 56 19.8 -0.5
baz=120
TORD Torodi Ar. Bea 120.80 285 PKP **PKPdf** 02 56 20.2 -1.1
comp=Z,1.4nm,0.6s,baz=64,slow=1.9,SNR=35
TORD PKKPab **PKKPab** 03 06 26.9 -0.4
comp=Z,1.2nm,0.7s,baz=293,slow=3.9,SNR=7.5
I28A Midland 120.94 36 ⇑P **PKPdf** 02 56 20.8 -0.1
baz=121
R23A Moffat 120.97 44 ⇑P **PKPdf** 02 56 21.1 -0.3
baz=121
U22A Llaves 121.07 46 ⇓P **PKPdf** 02 56 23.7 +2.1
baz=121
Q24A Divide 121.07 43 ⇑P **PKPdf** 02 56 20.6 -1.1
baz=121
F30A Leola 121.08 33 ⇑P **PKPdf** 02 56 20.0 -1.1
baz=121
V22A San Miguel Ran 121.23 47 ⇓P **PKPdf** 02 56 23.3 +1.4
baz=121
J28A Allard Ranch, 121.23 37 ⇓P **PKPdf** 02 56 21.4 -0.1
baz=121
319A Douglas 121.24 53 ⇓P **PKPdf** 02 56 23.0 +1.1
baz=121
T23A Casias Ranch, 121.36 45 ⇑P **PKPdf** 02 56 23.4 +1.2
baz=121
I29A Vivian Onida 121.44 36 ⇑P **PKPdf** 02 56 21.8 0.0
baz=121
G30A Faulkton 121.44 34 ⇓P **PKPdf** 02 56 21.1 -0.7
baz=121
P25A Willow Gulch B 121.47 42 ⇑P **PKPdf** 02 56 22.8 +0.5
baz=121,SNR=5.9
U23A El Rito 121.57 46 ⇑P **PKPdf** 02 56 23.2 +0.7
baz=122
S24A Houchin Ranch, 121.66 44 ⇓P **PKPdf** 02 56 23.6 +0.8
baz=122
Q25A Bedland, Calha 121.71 43 ⇑P **PKPdf** 02 56 23.5 +0.7
baz=122,SNR=5.0
J29A Okreek 121.79 36 ⇓P **PKPdf** 02 56 22.6 +0.1
baz=122
T24B San Luis 121.81 45 ⇓P **PKPdf** 02 56 24.5 +1.4
baz=122
V23A Ortiz Mt. (NFS 121.83 47 ⇑P **PKPdf** 02 56 24.8 +1.8
baz=122
L28A Connealy Angus 121.86 38 ⇓P **PKPdf** 02 56 24.0 +1.2
baz=122
121A Cookes Peak, D 121.97 51 ⇓P **PKPdf** 02 56 24.8 +1.4
baz=122
P26A Davis Ranch, A 121.99 42 ⇓P **PKPdf** 02 56 24.0 +0.8
baz=122
R25A Fountain Ranch 122.06 43 ⇑P **PKPdf** 02 56 23.4 +0.1
baz=122
W23A Werner Place, 122.12 47 ⇓P **PKPdf** 02 56 24.5 +0.9
baz=122
S25A Robets Cordova 122.19 44 ⇑P **PKPdf** 02 56 23.7 0.0
baz=122
Z22A Elephant Butte 122.31 50 ⇑P **PKPdf** 02 56 24.2 +0.2
baz=122
J30A Dallas 122.33 36 ⇓P **PKPdf** 02 56 22.3 -1.3
baz=122
T25A Trinidad 122.46 45 ⇑P **PKPdf** 02 56 24.6 +0.3
baz=122
P27A Ficken Ranch, 122.50 41 ⇑P **PKPdf** 02 56 24.4 +0.2
baz=122
V24A Rampart Ranch, 122.50 46 ⇓P **PKPdf** 02 56 26.0 +1.6
baz=122,SNR=5.8
R26A Arlington 122.56 43 ⇓P **PKPdf** 02 56 24.9 +0.6
baz=122
K30A Basset 122.64 37 ⇑P **PKPdf** 02 56 24.4 +0.2
baz=122
W24A Lazy 6 Ranch, 122.64 47 ⇓P **PKPdf** 02 56 25.8 +1.1
baz=122
Y23A Lovelace Mesa, 122.72 49 ⇑P **PKPdf** 02 56 24.6 -0.2
baz=123
U25A Circle Dot Ran 122.81 45 ⇓P **PKPdf** 02 56 26.0 +1.0
baz=123
S26A Kim 122.88 44 ⇓P **PKPdf** 02 56 25.5 +0.5
baz=123
V25A Rancho No Teng 122.93 46 ⇑P **PKPdf** 02 56 26.2 +1.0
baz=123,SNR=6.2
R27A Eads 123.01 43 ⇓P **PKPdf** 02 56 25.1 0.0
baz=123
T26A Comanche Natio 123.02 44 ⇓P **PKPdf** 02 56 26.2 +0.9
baz=123,SNR=9.0
Y24A Capitan 123.19 48 ⇑P **PKPdf** 02 56 26.9 +1.2
baz=123,SNR=6.7
Q28A Sharon Springs 123.25 41 ⇓P **PKPdf** 02 56 25.9 +0.4
baz=123
U26A Atchley Ranch, 123.29 45 ⇓P **PKPdf** 02 56 25.8 -0.1
baz=123
W25A X Bar L Ranch, 123.33 47 ⇓P **PKPdf** 02 56 26.5 +0.6
baz=123
Z24A Sheeppen Canyo 123.50 49 ⇓P **PKPdf** 02 56 27.5 +1.2
baz=123,SNR=5.8
V26A Tequesquite Ra 123.54 46 ⇓P **PKPdf** 02 56 26.3 0.0
baz=123
R28A Tribune 123.64 42 ⇑P **PKPdf** 02 56 26.8 +0.5
baz=124
T27A Campo 123.68 44 ⇑P **PKPdf** 02 56 27.0 +0.5
baz=124
ECSD EROS Data Cent 123.73 34 ⇓P **PKPdf** 02 56 26.3 +0.1
baz=124
Y25A Mesa, Roswell 123.74 48 ⇓P **PKPdf** 02 56 27.3 +0.6
baz=124,SNR=5.8
Q29A Oakley 123.91 41 ⇓P **PKPdf** 02 56 26.6 -0.2
baz=124
U27A Thompson Grove 123.92 45 ⇓P **PKPdf** 02 56 27.2 +0.3
baz=124
T28A Walsh 124.07 44 ⇑P **PKPdf** 02 56 27.4 +0.2
baz=124
X26A CR and CF Fran 124.11 47 ⇓P **PKPdf** 02 56 28.0 +0.6
baz=124
BGNE Belgrade 124.27 37 ⇓P **PKPdf** 02 56 27.1 -0.2
baz=124
W27A Bowe Ranch, En 124.41 46 ⇓P **PKPdf** 02 56 28.8 +0.8
baz=124
S29A Ulysses 124.49 42 ⇑P **PKPdf** 02 56 28.9 +0.9
baz=124
P31A Stockton 124.60 40 ⇑P **PKPdf** 02 56 28.5 +0.4
baz=124
V28A Channing 124.68 45 ⇓P **PKPdf** 02 56 29.3 +0.9
baz=125
R30A Dighton 124.70 41 ⇓P **PKPdf** 02 56 28.5 +0.3
baz=125
SCHQ Schefferville 124.72 7 PKP **PKPdf** 02 56 27.1 -0.6
comp=Z,4.9nm,0.8s,baz=151,slow=1.4,SNR=4.1

SPMN	**Marine on St.** baz=125	124.78	31	⇓P	PKPdf	02 56 28.0	-0.1
O32A	**Brockman Farm,** baz=125	124.86	38	⇑P	PKPdf	02 56 27.6	-0.9
Y27A	**Causey** baz=125	124.89	47	⇑P	PKPdf	02 56 28.8	0.0
P32A	**Huiting Farm,** baz=125	125.03	39	⇓P	PKPdf	02 56 28.4	-0.4
MSTX	**Muleshoe** baz=125	125.14	47	⇑P	PKPdf	02 56 29.9	+0.6
T30A	**Plains** baz=125	125.19	43	⇑P	PKPdf	02 56 30.5	+1.2
X28A	**Dimmitt** baz=125	125.30	46	⇑P	PKPdf	02 56 30.3	+0.7
U30A	**WK&E Inc. Balk** baz=125	125.38	43	⇑P	PKPdf	02 56 29.7	+0.1
AMTX	**Amarillo** baz=125	125.49	46	⇑P	PKPdf	02 56 30.7	+0.7
Y28A	**McKinney Farm,** baz=126	125.55	47	⇓P	PKPdf	02 56 30.9	+0.8
R32A	**Long Quarter,** baz=126	125.65	40	⇓P	PKPdf	02 56 30.6	+0.5
X29A	**Tulia** baz=126	125.69	46	⇑P	PKPdf	02 56 30.7	+0.4
Q33A	**Connelly Farm,** baz=126	125.88	39	⇓P	PKPdf	02 56 30.8	+0.3
128A	**Castleberry Fa** baz=126	125.98	48	⇑P	PKPdf	02 56 30.8	-0.2
Y29A	**Porterfield Fa** baz=126	126.00	47	⇑P	PKPdf	02 56 31.1	+0.1
R33A	**Olander Ranch,** baz=126	126.18	40	⇓P	PKPdf	02 56 31.4	+0.3
T32A	**Huddler Ranch,** baz=126	126.20	42	⇓P	PKPdf	02 56 31.6	+0.5
Z29A	**Hungry Hill Ra** baz=126	126.26	47	⇑P	PKPdf	02 56 31.9	+0.5
X30A	**Coker Ranch, T** baz=126	126.28	46	⇓P	PKPdf	02 56 31.8	+0.4
V31A	**Spring Creek L** baz=126	126.33	44	⇑P	PKPdf	02 56 32.5	+1.0
129A	**Stewart Farms,** baz=126	126.44	48	⇑P	PKPdf	02 56 31.9	+0.1
TXAR	**Lajitas Array** comp=Z,1.1nm,0.8s,baz=221,slow=1.3,SNR=7.5	126.50	53	PKP	PKPdf	02 56 33.1	+1.0
Y30A	**Stafford Cattl** baz=126	126.55	46	⇑P	PKPdf	02 56 32.0	0.0
W31A	**Holland Ranch,** baz=126	126.57	44	⇑P	PKPdf	02 56 32.7	+0.8
U32A	**Winter Ranch,** baz=126	126.58	43	⇑P	PKPdf	02 56 32.3	+0.3
Z30A	**Sanderson Ranc** baz=127	126.67	47	⇓P	PKPdf	02 56 32.6	+0.4
X31A	**McDonald Ranch** baz=127	126.83	45	⇑P	PKPdf	02 56 33.3	+0.9
329A	**Wagon Wheel Ra** baz=127	126.88	49	⇓P	PKPdf	02 56 32.9	+0.2
Y31A	**Rekieta Farm,** baz=127	126.97	46	⇓P	PKPdf	02 56 33.0	+0.3
W32A	**Sentinel** baz=127	127.09	44	⇓P	PKPdf	02 56 33.2	+0.3
U33A	**Lingo Farm, Me** baz=127	127.15	42	⇑P	PKPdf	02 56 33.5	+0.5
429A	**Davenport Ranc** baz=127	127.33	50	⇓P	PKPdf	02 56 34.3	+0.8
Z31A	**Sharp Cattle R** baz=127	127.37	47	⇓P	PKPdf	02 56 34.3	+0.7
430A	**Baggett Ranch,** baz=128	127.76	50	⇓P	PKPdf	02 56 34.3	-0.1
Z32A	**Haskell** baz=128	127.86	46	⇑P	PKPdf	02 56 34.8	+0.4
530A	**J-C Ranch, Com** baz=128	127.97	51	⇓P	PKPdf	02 56 35.9	+1.1
331A	**San Angelo** baz=128	128.14	49	⇑P	PKPdf	02 56 35.6	+0.6
431A	**Sonora** baz=128	128.29	50	⇓P	PKPdf	02 56 35.5	+0.2
X34A	**Smith Ranch, M** baz=128	128.35	44	⇓P	PKPdf	02 56 36.1	+0.8
Z33A	**Whitaker Ranch** baz=128	128.38	46	⇓P	PKPdf	02 56 36.5	+1.1
531A	**Rocksprings** baz=128	128.58	50	⇓P	PKPdf	02 56 37.4	+1.5
332A	**Millersview** baz=128	128.62	48	⇓P	PKPdf	02 56 36.8	+0.8
Y34A	**Reagan Ranch,** baz=129	128.75	45	⇑P	PKPdf	02 56 36.5	+0.4
631A	**Perdido Creek** baz=129	128.90	51	⇓P	PKPdf	02 56 37.7	+1.2
JCT	**Junction City**	129.00	50	*e*PKIKP	PKPdf	02 56 37.1	+0.4
JCT	**Junction City** baz=129	129.00	50	⇓P	PKPdf	02 56 37.6	+0.9
JCT	**Junction City**	129.00	50	*e*PKPdf	PKPdf	02 56 37.1	+0.4
333A	**Richland Sprin** baz=129	129.21	48	⇓P	PKPdf	02 56 37.6	+0.6
433A	**Art** baz=129	129.41	49	⇑P	PKPdf	02 56 38.3	+0.8
Z35A	**Perchaven, San** baz=129	129.44	45	⇑P	PKPdf	02 56 39.0	+1.6
632A	**Uvalde** baz=129	129.47	51	⇓P	PKPdf	02 56 39.2	+1.6
732A	**Laxson Ranch,** baz=130	129.68	52	⇑P	PKPdf	02 56 38.5	+0.6
334A	**Lometa** baz=130	129.76	48	⇑P	PKPdf	02 56 38.8	+0.7
533A	**Kerrville** baz=130	129.78	50	⇓P	PKPdf	02 56 40.1	+1.8
832A	**Faith Ranch, C** baz=130	129.87	52	⇑P	PKPdf	02 56 39.8	+1.4
434A	**Burnet** baz=130	129.99	48	⇑P	PKPdf	02 56 40.3	+1.8
WHTX	**Lake Whitney,** baz=130	130.00	47	⇑P	PKPdf	02 56 39.5	+1.0
534A	**Blanco** baz=130	130.22	49	⇓P	PKPdf	02 56 39.1	0.0
833A	**Chaparral WMA,** baz=130	130.31	52	⇑P	PKPdf	02 56 39.9	+0.7
335A	**Moody** baz=130	130.38	47	⇓P	PKPdf	02 56 40.4	+1.2
634A	**China Grove, S** baz=130	130.63	50	⇓P	PKPdf	02 56 40.7	+0.9
337A	**Centerville** baz=131	131.49	46	⇓P	PKPdf	02 56 42.6	+1.3
636A	**Smothers Creek** baz=132	131.57	49	⇑P	PKPdf	02 56 41.7	+0.2
PLCA	**Paso Flores** comp=Z,1.2nm,0.7s,baz=330,slow=5.6,SNR=4.6	137.51	164	PKP	PKPdf	02 56 54.5	+2.0
CPUP	**Villa Florida** comp=Z,1.0nm,0.4s,baz=136,slow=2.8,SNR=2.9	153.80	179	PKPbc	PKPbc	02 57 28.5	+0.4
CPUP				PKPab	PKPab	02 57 42.0	+0.6
LPAZ	**La Paz** comp=Z,0.8nm,0.6s,baz=251,slow=3.6,SNR=4.4	160.20	145	PKP	PKPdf	02 57 29.6	+0.3
LPAZ				PKPab	PKPab	02 58 11.2	+1.2
BDFB	**Brasilia** comp=Z,1.7nm,0.5s,baz=117,slow=4.5,SNR=3.8	162.29	208	PKPab	PKPab	02 58 17.8	-0.7
SDV	**Santo Domingo**	163.47	57	*e*PKPdf	PKPdf	02 57 31.1	-1.1

NIED ***06*** *02:40:00, 47.°00N×153.°10E, h32km, Mw4.2 Best double couple: M0=2.08000×10^15 NP1:φ=219.00000°, δ65.00000°, λ173.00000°. NP2:φ=312.00000°, δ83.00000°, λ26.00000°.*
JMA ***06*** *02:40:02.5±0.7, 47.°05N×153.°08E, h30km, M4.7*
SKHL ***06*** *02:40:04.3±0.7, 46.°77N×153.°16E, h57km±6km, mb5.0/3*
BJI ***06*** *02:40:06.8, 47.°06N×153.°07E, h96km, mB4.9/23, mb4.5/30*
SZGRF ***06*** *02:40:06.8, 47.°52N×153.°88E, h33km, mb4.7, Kuril Islands, Russia*
MOS ***06*** *02:40:07.1±0.9, 46.°89N×152.°83E, h76km, mb4.8/30, Error ellipse: s-maj=8.5km s-min=5.3km az=90.7*
IDC ***06*** *02:40:08.9±2.4, 46.°97N×152.°82E, h75km±21km, mb4.0/31, mb1 4.2/35, mb1mx4.0/61, mbtmp4.3/35, MS3.4/9, Ms1 3.4/9, ms1mx3.1/46, Error ellipse: s-maj=15.5km s-min=10.7km az=152.0*
NEIC ***06*** *02:40:09.0±0.8, 46.°90N×152.°85E, h78km±6km, mb4.7/30, Error ellipse: s-maj=6.5km s-min=4.3km az=146.0*
ISC 06 02:40:09.5±0.5, 46.°72N±0.°06×152.°78E±0.°05, h90km±3km, n493, σ1§05/513, mb4.4/72, 108C-119D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.73**	**248**	*d* iPN	**Pn**	**02 41 04.5**	**-0.3**
KUR				*i* S	**Sn**	**02 41 48.3**	**+0.6**
KUR	comp=N,22nm,0.4s			pmax	pmax		
KUR	comp=E,37nm,0.4s			pmax	pmax		
KUR	comp=Z,78nm,0.4s			pmax	pmax		
KUR	comp=N,239nm,0.4s			smax	smax		
KUR	**Kuril'sk**	**3.73**	**248**	*e*P	**Pn**	**02 41 04.0**	**-0.8**
KUR	comp=N,78nm,0.4s			AMB	AMB	02 41 13.8	
KUR				*e*S	**Sn**	**02 41 48.3**	**+0.6**
KUR	comp=N,239nm,0.4s			A	A	02 42 03.0	
SKR	**Severo-Kuril's**	**4.54**	**28**	*e*PN	Pn	02 41 04.7	-11
SKR	comp=N,80nm,0.5s			pmax	pmax		
SKR	comp=E,60nm,0.5s			pmax	pmax		
SKR	comp=Z,80nm,0.5s			pmax	pmax		
SKR	**Severo-Kuril's**	**4.54**	**28**	*e*P	Pn	02 41 08.2	-7.6
SKR	comp=Z,208nm,0.6s			AMB	AMB	02 41 22.5	
SKR				*e*S	Sn	02 41 56.7	-11
SKR	comp=Z,495nm,0.6s			A	A	02 42 05.3	
SHO	**Shikotan**	**5.07**	**238**	*e*P	**Pn**	**02 41 21.5**	**-1.5**
SHO	comp=Z,621nm,0.7s			A	A	02 41 43.7	
SHO				*e*S	**Sn**	**02 42 19.3**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**5.56**	**244**	⇑*i*PN	**Pn**	**02 41 29.6**	**-0.1**
YUK				*i* S	**Sn**	**02 42 35.2**	**+3.0**
YUK	comp=N,66nm,0.5s			pmax	pmax		
YUK	comp=E,97nm,0.5s			pmax	pmax		
YUK	comp=Z,178nm,0.5s			pmax	pmax		
YUK	comp=N,328nm,0.7s			smax	smax		
YUK	comp=E,719nm,0.7s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**5.56**	**244**	*e*P	**Pn**	**02 41 29.6**	**-0.1**
YUK	comp=E,180nm,0.5s			AMB	AMB	02 41 30.5	
YUK				*e*S	**Sn**	**02 42 35.2**	**+3.0**
YUK	comp=E,328nm,0.7s			A	A	02 42 56.1	
YUK	comp=E,720nm,0.7s			A	A	02 42 56.1	
NEM2	**Nemuro 2**	**6.01**	**239**	P	**Pn**	**02 41 33.2**	**-2.5**
NEM2				*e*S	**Sn**	**02 42 40.0**	**-3.1**
JRA	**Rausu**	**6.07**	**246**	P	**Pn**	**02 41 37.2**	**+0.6**
JNK	**Nakash**	**6.50**	**244**	P	**Pn**	**02 41 42.1**	**-0.4**
JTKR	**Abashiri--Toko**	**6.83**	**249**	P	**Pn**	**02 41 47.2**	**+0.3**
JAK	**Akkeshi**	**6.84**	**240**	P	**Pn**	**02 41 44.7**	**-2.4**
JAK				*e*S	**Sn**	**02 43 00.6**	**-2.8**
YSS	**Yuzh-Sakhalins**	**6.88**	**276**	*e*PN	**Pn**	**02 41 48.3**	**+0.7**
YSS				*e*S	**Sn**	**02 43 06.5**	**+2.1**
YSS	comp=N,40nm,0.8s			smax	smax		
YSS	comp=Z,500nm,14.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**6.88**	**276**	*e*P	**Pn**	**02 41 48.3**	**+0.7**
YSS				*e*S	**Sn**	**02 43 06.5**	**+2.1**
YSS	comp=Z,500nm,14.0s			AMS	AMS	02 44 20.0	
PETK	**Petropavlovsk-** comp=Z,1.2nm,0.3s,baz=182,slow=14,SNR=18	**7.14**	**25**	P	Pn	02 41 46.3	-4.8
JMP	**Maruseppu**	**7.17**	**251**	P	**Pn**	**02 41 52.0**	**+0.4**
JAR	**Ashorobuto**	**7.24**	**245**	P	**Pn**	**02 41 52.3**	**-0.3**
PET	**Petropavlovsk**	**7.36**	**29**	*e*PN	**Pn**	**02 41 55.0**	**+0.9**
PET	comp=Z,100nm,14.0s			MLR	MLR		
PET	**Petropavlovsk**	**7.36**	**29**	*e*Pn	**Pn**	**02 41 54.7**	**+0.6**
PET				*e*Sn	Sn	02 43 06.0	-10
ASAJ	**Asahikawa**	**7.62**	**254**	PN	**Pn**	**02 41 59.3**	**+1.5**
ASAJ	comp=Z,3.0nm,0.3s			pmax	pmax		
ASAJ	comp=Z,236nm,20.6s			MLR	MLR		
ASAJ	**Asahikawa**	**7.62**	**254**	P	**Pn**	**02 41 59.5**	**+1.8**
ASAJ	**Asahikawa**	**7.62**	**254**	P	**Pn**	**02 41 59.2**	**+1.5**
ASAJ	comp=Z,2.7nm,0.3s,baz=66,slow=13,SNR=22			LR	LR	02 44 48.2	
ASAJ	**Asahikawa**	**7.62**	**254**	*e*Pn	**Pn**	**02 41 59.6**	**+1.8**
JKK2	**Kamakawa 2**	**7.62**	**252**	P	**Pn**	**02 41 58.9**	**+1.1**
JCH	**Churui**	**7.87**	**242**	P	**Pn**	**02 41 59.2**	**-1.9**
JCH				*e*S	**Sn**	**02 43 25.7**	**-2.7**
ERM	**Erimo**	**8.34**	**239**	*e*PN	**Pn**	**02 42 05.3**	**-2.2**
ERM	**Erimo**	**8.34**	**239**	*e*P	**Pn**	**02 42 05.3**	**-2.2**
ERM	**Erimo**	**8.34**	**239**	*e*Pn	**Pn**	**02 42 05.3**	**-2.2**
ERM				*e*Sn	**Sn**	**02 43 40.9**	**+0.9**
JNBK	**Urakawa-nobuka**	**8.43**	**242**	P	**Pn**	**02 42 06.5**	**-2.2**
JKB	**Kayabe**	**9.71**	**244**	P	**Pn**	**02 42 23.2**	**-2.9**
JANG	**Nango**	**10.34**	**236**	P	Pn	02 42 29.6	-5.2
JANG				*e*S	Sn	02 44 19.7	-9.1
JRG	**Rokugo**	**11.50**	**235**	P	Pn	02 42 47.0	-3.5
JRG				*e*S	Sn	02 44 50.8	-6.2
KLR	**Kul'dur**	**14.30**	**288**	*e*P	**P**	**02 43 31.1**	**-0.9**
KLR	comp=Z,900nm,12.0s			MLR	MLR		
FX1	**Attu Island--F** comp=Z,3.7nm,0.3s,baz=308,slow=3.1,SNR=19	**14.51**	**57**	P	Pn	02 43 23.7	-6.5
FX1				LR	LR	02 51 45.9	
USRK	**Ussuriysk Ar.** comp=Z,0.8nm,0.3s,baz=69,slow=12,SNR=12	**14.80**	**268**	P	**Pn**	**02 43 34.2**	**+0.3**
USRK	comp=Z,120nm,18.7s,baz=85,slow=36			LR	LR	02 49 09.7	
MJA0	**Matsu Arr-Jizo**	**14.86**	**232**	*e*P	**Pn**	**02 43 36.7**	**+1.9**
MJA0	comp=Z,1.0nm,0.3s			pmax	pmax		
MAJO	**Matsushiro**	**14.88**	**232**	*e*P	**Pn**	**02 43 36.2**	**+1.2**
MAJO	**Matsushiro**	**14.88**	**232**	*e*Pn	**Pn**	**02 43 36.1**	**+1.2**
MJAR	**Matsushiro Arr** comp=Z,0.5nm,0.3s,baz=34,slow=8.9,SNR=5.3	**14.88**	**232**	P	**P**	**02 43 40.3**	**+1.8**
MJAR	comp=Z,54nm,18.1s,baz=75,slow=41			LR	LR	02 50 26.1	
SEY	**Seymchan**	**16.25**	**359**	P	**Pn**	**02 43 51.0**	**-1.1**
SEY	**Seymchan** comp=Z,0.6nm,0.3s,baz=185,slow=13,SNR=11	**16.25**	**359**	P	**Pn**	**02 43 51.0**	**-1.1**
MDJ	**Mudanjiang**	**16.34**	**271**	P	**Pn**	**02 43 53.7**	**+0.5**
MDJ				pP	**pP**	**02 44 11.3**	**-0.4**
MDJ				sP	**sP**	**02 44 21.2**	**-1.9**
MDJ				S	**Sn**	**02 46 54.4**	**+0.4**
MDJ	comp=Z,4.0nm,0.7s			PMZ			
MDJ	comp=Z,47nm,3.1s			PMZ			
MDJ	comp=Z,49nm,22.1s			LN			
MDJ	comp=Z,44nm,23.7s			LE			
MDJ	comp=Z,110nm,20.1s			LZ			
CN2	**Changchun**	**19.42**	**271**	*e*P	**P**	**02 44 29.6**	**+1.2**
CN2				*e*pP	**pP**	**02 44 45.5**	**-0.4**
CN2				*e*S	**S**	**02 47 57.4**	**-5.7**
CN2	comp=Z,20nm,0.7s			PMZ			
CN2	comp=Z,200nm,4.0s			PMZ			
YAK	**Yakutsk**	**20.23**	**328**	*e*P	**P**	**02 44 37.1**	**+0.2**
YAK	**Yakutsk**	**20.23**	**328**	*e*P	**P**	**02 44 37.1**	**+0.2**
KSRS	**Korea Array** comp=Z,3.7nm,0.8s,baz=52,slow=12,SNR=5.8	**20.57**	**252**	P	Pn	02 44 43.6	-0.2
KSRS				LR	LR	02 53 09.9	
KSAR	**Wonju Array Be**	**20.60**	**252**	P	Pn	02 44 43.7	-0.6
KSAR	**Wonju Array Be**	**20.60**	**252**	P	Pn	02 44 43.6	-0.6
SNY	**Shenyang**	**21.41**	**267**	⇓P	**P**	**02 44 51.2**	**+1.4**
SNY	comp=Z,20nm,0.8s			PMZ			
HIA	**Hailar**	**22.16**	**289**	*e*P	**P**	**02 44 56.9**	**-0.9**
HIA	comp=Z,2.0nm,1.0s			pmax	pmax		
HIA	**Hailar**	**22.16**	**289**	*e*P	**P**	**02 44 56.9**	**-0.9**
BILL	**Bilibino**	**22.48**	**13**	*e*P	**P**	**02 44 59.9**	**-1.0**
BILL	comp=Z,3.0nm,1.1s			pmax	pmax		
H11N2	**WAKE ISLAND Hy** baz=340,slow=76,SNR=606	**29.30**	**152**	T	T	03 17 29.4	
H11N1	**WAKE ISLAND Hy** baz=340,slow=76,SNR=1066	**29.31**	**152**	T	T	03 17 31.5	
H11N3	**WAKE ISLAND Hy** baz=340,slow=76,SNR=436	**29.31**	**152**	T	T	03 17 31.4	
NJ2	**Nanjing**	**29.77**	**253**	*e*P	**P**	**02 46 08.8**	**+1.4**
NJ2	comp=Z,30nm,0.8s			PMZ			
HHC	**Hu-ho-hao-te**	**30.07**	**274**	*e*P	**P**	**02 46 09.6**	**-0.5**
HHC				pP	**pP**	**02 46 30.4**	**-0.3**
HHC				sP	**sP**	**02 46 43.1**	**+2.0**
HHC				PcP	**PcP**	**02 49 10.6**	**+0.9**
HHC				S	**S**	**02 50 58.6**	**-3.3**
HHC				sS	**sS**	**02 51 37.4**	**-0.1**
HHC				ScS	**ScS**	**02 56 35.7**	**-3.6**
HHC	comp=Z,29nm,0.6s			PMZ			
HHC	comp=Z,170nm,6.5s			PMZ			
HHC	comp=Z,270nm,16.5s			LN			
HHC	comp=Z,370nm,15.5s			LE			
HHC	comp=Z,280nm,17.1s			LZ			
H11S1	**WAKE ISLAND Hy** baz=341,slow=76,SNR=24	**30.38**	**153**	T	T	03 18 47.4	
H11S3	**WAKE ISLAND Hy** baz=341,slow=76,SNR=1065	**30.39**	**153**	T	T	03 18 34.5	
H11S2	**WAKE ISLAND Hy** baz=341,slow=76,SNR=990	**30.40**	**153**	T	T	03 18 34.6	
ULN	**Ulaanbaatar**	**30.69**	**289**	*e*P	**P**	**02 46 15.6**	**0.0**
ULN	**Ulaanbaatar**	**30.69**	**289**	*e*P	**P**	**02 46 15.6**	**0.0**
TLY	**Talaya**	**31.99**	**297**	*e*P	**P**	**02 46 25.4**	**-1.4**
ZAK	**Zakamensk**	**32.48**	**295**	*e*P	**P**	**02 46 30.0**	**-1.2**
ZAK	comp=Z,2.0nm,1.1s			pmax	pmax		
XAN	**Xi'an**	**35.28**	**265**	P	**P**	**02 46 56.9**	**+1.3**
XAN	comp=Z,3.0nm,0.9s			PMZ			
XAN	comp=Z,21nm,4.2s			PMZ			
COLD	**Coldfoot** comp=Z,19nm,1.7s	**35.49**	**34**	*e*P	**P**	**02 46 56.7**	**-0.2**
COLA	**College**	**36.30**	**38**	*e*P	**P**	**02 47 02.3**	**-1.5**
COLA	comp=Z,20nm,1.1s			pmax	pmax		
COLA	**College** comp=Z,7.9nm,0.6s	**36.30**	**38**	*e*P	**P**	**02 47 03.9**	**+0.1**
COLA	**College**	**36.30**	**38**	*e*P	**P**	**02 47 03.5**	**-0.3**
ILAR	**Eielson Array** comp=Z,1.5nm,0.8s,baz=271,slow=8.1,SNR=14	**36.72**	**39**	P	**P**	**02 47 06.3**	**-1.1**
LZH	**Lanzhou**	**37.66**	**272**	*e*P	**P**	**02 47 13.5**	**-2.4**
LZH				pP	**pP**	**02 47 34.3**	**-2.6**
LZH				sP	**sP**	**02 47 45.0**	**-2.3**
LZH				PP	**PP**	**02 48 43.6**	**+0.2**
LZH				*e*S	**S**	**02 52 54.0**	**-5.3**
LZH	comp=Z,27nm,1.1s			PMZ			
LZH	comp=Z,100nm,5.6s			PMZ			
GTA	**Gaotai**	**38.75**	**279**	*e*P	**P**	**02 47 24.9**	**-0.1**
GTA				pP	**pP**	**02 47 45.5**	**-0.5**
GTA				sP	**sP**	**02 47 54.8**	**-1.6**
GTA				PcP	**PcP**	**02 49 37.7**	**+2.9**
GTA				S	**ScP**	**02 53 13.8**	**-0.8**
GTA	comp=Z,5.0nm,1.2s			PMZ			
GTA	comp=Z,80nm,5.5s			PMZ			
CD2	**Chengdu**	**40.65**	**265**	*e*P	**P**	**02 47 41.8**	**+1.1**
CD2	comp=Z,30nm,1.0s			PMZ			
CD2	comp=Z,110nm,4.8s			PMZ			
GYA	**Guiyang**	**41.48**	**257**	*e*P	**P**	**02 47 49.2**	**+1.5**
GYA	comp=Z,10.0nm,0.9s			PMZ			
INK	**Inuvik**	**41.80**	**32**	P	**P**	**02 47 49.6**	**0.0**
INK	comp=Z,5.0nm,0.7s			pmax	pmax		
INK	**Inuvik** comp=Z,4.7nm,0.7s,baz=295,slow=6.4,SNR=29	**41.80**	**32**	P	**P**	**02 47 49.6**	**0.0**
INK	**Inuvik** comp=Z,4.9nm,0.8s	**41.80**	**32**	*e*P	**P**	**02 47 49.1**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.6s,baz=86,slow=4.6,SNR=4.2	**42.45**	**306**	PcP	**PcP**	**02 49 46.4**	**+0.1**
NVS	**Novosibirsk**	**43.03**	**307**	⇓*i*P	**P**	**02 47 59.3**	**-0.4**
NVS	comp=N,4.0nm,0.9s			pmax	pmax		
NVS	comp=E,5.0nm,0.9s			pmax	pmax		
NVS	comp=Z,7.0nm,0.9s			pmax	pmax		
WMQ	**Urumqi**	**44.72**	**291**	*e*P	**P**	**02 48 13.6**	**0.0**
WMQ				pP	**pP**	**02 48 36.6**	**+1.5**
WMQ				sP	**sP**	**02 48 45.6**	**+0.3**
WMQ				PP	**PP**	**02 50 00.6**	**+1.3**
WMQ				sS	**sS**	**02 55 21.0**	**+0.7**
WMQ				SS	**ScS**	**02 57 58.1**	**-3.8**
WMQ	comp=Z,7.0nm,1.0s			PMZ			
WMQ	comp=Z,130nm,5.0s			PMZ			
WMQ	comp=Z,48nm,18.0s			LN			
WMQ	comp=Z,27nm,20.0s			LE			
WMQ	comp=Z,99nm,21.0s			LZ			
KMI	**Kunming**	**45.01**	**259**	P	**P**	**02 48 17.6**	**+1.4**
KMI	comp=Z,9.0nm,0.5s			PMZ			
MKAR	**Makanchi Array** comp=Z,1.5nm,0.6s,baz=76,slow=7.6,SNR=4.1	**46.75**	**297**	P	**P**	**02 48 29.2**	**-0.2**
MKAR	comp=Z,0.8nm,0.6s,baz=76,slow=1.8,SNR=3.9			PcP	**PcP**	**02 50 02.4**	**+1.1**
KURK	**Kurchatov**	**47.19**	**304**	*e*P	**P**	**02 48 32.9**	**+0.2**
KURK	comp=Z,3.0nm,0.7s			pmax	pmax		
KURK	**Kurchatov**	**47.19**	**304**	*e*P	**P**	**02 48 32.9**	**+0.2**
KURK	**Kurchatov** comp=Z,3.0nm,0.7s	**47.19**	**304**	*e*P	**P**	**02 48 32.9**	**+0.2**
KURBB	**Kurchatov Arra** comp=Z,2.8nm,0.6s,baz=66,slow=7.7,SNR=12	**47.28**	**303**	P	**P**	**02 48 32.7**	**-0.7**
BVAR	**Borovoye Array** comp=Z,0.7nm,0.3s,baz=54,slow=8.6,SNR=6.1	**50.70**	**309**	P	**P**	**02 48 58.6**	**-0.9**
BVAR	comp=Z,1.2nm,0.4s,baz=92,slow=2.5,SNR=6.9			PcP	**PcP**	**02 50 16.3**	**+0.9**
BRVK	**Borovoye**	**50.74**	**309**	*e*P	**P**	**02 48 59.1**	**-0.7**
BRVK	comp=Z,4.0nm,1.3s			pmax	pmax		
BRVK	**Borovoye**	**50.74**	**309**	*e*P	**P**	**02 48 59.1**	**-0.7**
YKA	**Yellowknife Ar** comp=Z,2.1nm,0.8s,baz=296,slow=7.2,SNR=23	**51.09**	**37**	P	**P**	**02 49 02.0**	**-0.2**
YKA	comp=Z,0.8nm,0.7s,baz=299,slow=3.7,SNR=5.5			PcP	**PcP**	**02 50 17.3**	**+0.6**
CHTO	**Chiang Mai**	**51.89**	**256**	*e*P	**P**	**02 49 11.6**	**+2.8**
CHTO	**Chiang Mai**	**51.89**	**256**	*e*P	**P**	**02 49 11.6**	**+2.8**
CMAR	**Chiang Mai Arr** comp=Z,2.9nm,0.3s,baz=34,slow=7.5,SNR=14	**52.14**	**256**	P	**P**	**02 49 13.5**	**+2.8**
SPITS	**Spitsbergen Ar** comp=Z,1.5nm,0.6s,baz=84,slow=7.4,SNR=15	**52.60**	**350**	P	**P**	**02 49 12.1**	**-1.2**
AAK	**Ala-Archa**	**53.64**	**296**	*e*P	**P**	**02 49 21.4**	**-0.3**
AAK	comp=Z,5.0nm,1.2s			pmax	pmax		
AAK	**Ala-Archa**	**53.64**	**296**	*e*P	**P**	**02 49 21.4**	**-0.3**
EKS2	**Erkin-Say**	**54.07**	**297**	*e*P	**P**	**02 49 25.5**	**+0.7**
EKS2	comp=Z,3.0nm,0.8s			pmax	pmax		
EKS2	**Erkin-Say** comp=Z,2.5nm,0.8s	**54.07**	**297**	*e*P	**P**	**02 49 25.4**	**+0.7**
KSH	**Kashi**	**54.45**	**292**	*e*P	P	02 49 31.1	+3.6
KSH				sP	sP	02 50 06.0	+6.2
KSH				PP	PP	02 51 37.0	+6.8
KSH				S	**S**	**02 57 00.7**	**+1.3**
KSH				sS	sS	02 57 41.6	+4.3
KSH				SS	**SS**	**03 00 44.6**	**+2.2**
KSH	comp=Z,3.0nm,0.9s			PMZ			
KSH	comp=Z,84nm,5.3s			PMZ			
KSH	comp=Z,90nm,5.0s			LN			
KSH	comp=Z,84nm,4.9s			LE			
KSH	comp=Z,220nm,5.9s			LZ			
EDM	**Edmonton**	**56.50**	**46**	*e*P	**P**	**02 49 42.0**	**+0.1**
EDM	**Edmonton**	**56.50**	**46**	*e*P	**P**	**02 49 42.0**	**+0.1**

EDM Edmonton 56.50 46 eP P 02 49 42.0 +0.1
I04A Tendick Farm, 56.94 59 ⇓P P 02 49 45.6 +0.4
baz=57
I05D Terrebonne, OR 57.26 58 ⇓P P 02 49 47.2 -0.2
baz=57
KULLO Kullorsuaq 57.33 9 i P P 02 49 46.4 -1.0
KULLO pmax pmax
comp=Z,12nm,0.7s
KULLO Kullorsuaq 57.33 9 i P P 02 49 46.4 -1.0
comp=Z,12nm,0.7s
NEW Newport 57.38 52 ⇓P P 02 49 47.3 -0.9
baz=57
ARCES ARCESS Array B 57.81 341 P P 02 49 49.8 -1.0
comp=Z,3.0nm,0.8s,baz=28,slow=6.7,SNR=9.6
J05D Fort Rock, OR 57.93 59 ⇑P P 02 49 52.9 +0.6
baz=58
ABKAR Akbulak array 58.27 310 eP P 02 49 53.4 -0.9
M04C Macdoel 58.46 61 ⇓P P 02 49 55.7 -0.2
baz=58
WALA Waterton Lakes 58.64 50 eP P 02 49 57.5 +0.4
MSO Missoula 59.96 52 ⇑P P 02 50 06.3 +0.1
baz=60
CHMT Chamberlain Mo 60.28 52 eP P 02 50 08.1 -0.4
SUMG Summit 60.75 4 eP P 02 50 10.6 -0.9
SUMG pmax pmax
comp=Z,19nm,0.8s
SUMG Summit 60.75 4 i P P 02 50 11.1 -0.4
comp=Z,18nm,0.8s
SUMG Summit 60.75 4 eP P 02 50 10.6 -0.9
comp=Z,19nm,0.8s
FFC Flin Flon 60.91 40 eP P 02 50 12.2 -0.2
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 60.91 40 eP P 02 50 12.2 -0.2
comp=Z,5.6nm,0.9s
COEN Coen 61.01 191 eP P 02 50 14.5 +1.1
comp=Z,49nm,1.0s
HRY Holter Researc 61.18 51 eP P 02 50 15.7 +1.3
A19A Klindworth Far 61.41 48 ⇓P P 02 50 16.1 +0.2
baz=61
FCC Fort Churchill 61.41 33 eP P 02 50 14.7 -0.9
FCC Fort Churchill 61.41 33 eP P 02 50 15.4 -0.3
FCC Fort Churchill 61.41 33 eP P 02 50 14.7 -0.9
comp=Z,0.2nm,0.6s
EGMT Eagleton 61.45 49 ⇓P P 02 50 16.0 -0.2
baz=61
HLID Hailey 61.72 56 ⇓P P 02 50 18.4 +0.2
baz=61
A20A Cobblestone Ra 61.85 48 ⇑P P 02 50 18.8 -0.1
baz=61,SNR=5.2
KBL Kabul 61.87 291 eP P 02 50 20.3 +0.9
KBL pmax pmax
comp=Z,5.0nm,0.8s
KBL Kabul 61.87 291 eP P 02 50 20.3 +0.9
comp=Z,4.9nm,0.8s
C19A Slack Wire Ran 62.01 49 ⇓P P 02 50 20.7 +0.7
baz=62
B20A Solberg Farm, 62.09 48 ⇓P P 02 50 20.8 +0.4
baz=62
A21A Bergtoll Ranch 62.29 47 ⇑P P 02 50 22.5 +0.7
baz=62,SNR=7.7
D19A Cripps Ranch, 62.46 50 ⇑P P 02 50 23.5 +0.4
baz=62
C20A Veseth Ranch, 62.56 49 ⇓P P 02 50 24.4 +0.8
baz=62,SNR=5.7
NVAR Mina Array Bea 62.65 62 P P 02 50 25.4 +0.8
comp=Z,1.1nm,0.6s,baz=294,slow=6.8,SNR=9.0
A22A Carney Farms, 62.79 47 ⇑P P 02 50 25.4 +0.2
baz=62,SNR=9.6
F19A Roth Farm, Mol 63.27 51 ⇑P P 02 50 29.3 +0.8
baz=63
KAF Kangasniemi 63.38 335 eP P 02 50 28.1 -0.6
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 63.38 335 ep P 02 50 28.1 -0.6
comp=Z,3.2nm,0.5s
D21A La Casta Ranch 63.50 49 ⇑P P 02 50 30.7 +0.7
baz=63
B23A Brockton 63.60 47 ⇑P P 02 50 30.9 +0.4
baz=63
H18A Shoshone NF, C 63.64 52 ⇑P P 02 50 30.8 -0.3
baz=63
A24A Westby 63.79 46 ⇑P P 02 50 31.5 -0.2
baz=63
VES Vestal, Richgr 63.82 65 ⇑P P 02 50 32.6 +0.6
baz=64
REDW Red Top Meadow 63.84 54 eP P 02 50 33.7 +1.3
comp=Z,16nm,1.6s
D22A Cohagen 63.87 48 ⇑P P 02 50 32.4 +0.1
baz=64
C23A Lambert 63.94 47 ⇑P P 02 50 31.0 -1.8
baz=64
FINES FINESS Array B 63.97 335 eP P 02 50 31.9 -0.7
FINES pmax pmax
comp=Z,6.0nm,0.4s
FINES FINESS Array B 63.97 335 P P 02 50 31.6 -1.0
comp=Z,5.7nm,0.4s,baz=41,slow=6.4,SNR=101
FINES FINESS Array B 63.97 335 eP P 02 50 31.9 -0.7
DGMT Dagmar 63.99 46 ⇓P P 02 50 32.8 -0.3
baz=64
G20A Bridger 64.07 51 ⇓P P 02 50 33.9 +0.1
baz=64
R11A Troy Canyon, C 64.34 61 ⇓P P 02 50 35.5 -0.2
baz=64
I19A Meeteetse 64.43 52 ⇓P P 02 50 41.7 +5.5
baz=64,SNR=6.7
F22A Rosebud 64.74 49 ⇑P P 02 50 37.3 -0.7
baz=64
E23A Ismay 64.75 48 ⇑P P 02 50 37.6 -0.4
baz=64
DUG Dugway, Tooele 64.78 58 eP P 02 50 39.5 +1.0
DUG Dugway, Tooele 64.78 58 eP P 02 50 39.5 +1.0
DUG Dugway, Tooele 64.78 58 eP P 02 50 39.5 +1.0
FURC Furnace Creek, 64.79 63 ⇑P P 02 50 38.1 -0.2
baz=64
J19A Crowheart 64.90 53 ⇑P P 02 50 39.4 +0.1
baz=64
PDAR Pinedale Array 64.95 54 P P 02 50 40.0 +0.3
comp=Z,2.5nm,0.8s,baz=289,slow=1.5,SNR=21
H21A Big Horn, Sher 65.09 51 ⇑P P 02 50 40.4 +0.1
baz=65
EDW2 Edwards Air Fo 65.12 65 ⇓P P 02 50 40.9 +0.3
baz=65
E24A Baker 65.22 48 ⇓P P 02 50 40.7 -0.4
baz=65
F23A Volborg 65.22 49 ⇓P P 02 50 41.3 +0.2
baz=65,SNR=5.5
J20A Shoshoni 65.37 52 ⇓P P 02 50 41.9 -0.3
baz=65
C26A Wahner Farm, P 65.47 46 ⇓P P 02 50 43.1 +0.5
baz=65
I21A Big Trails, Te 65.50 52 ⇓P P 02 50 42.8 -0.2
baz=65
G23A Biddle 65.58 49 ⇓P P 02 50 43.2 -0.3
baz=65
GSC Goldstone, Bar 65.58 64 ⇓P P 02 50 44.0 +0.3
baz=65
A28A Rude Farm, Bot 65.61 44 ⇓P P 02 50 43.4 -0.1
baz=65
F24A Ekalaka 65.63 48 ⇓P P 02 50 43.6 -0.2
baz=65
FMP Fort Macarthur 65.69 66 ⇓P P 02 50 44.5 +0.3
baz=65
E25A Miller Ranch, 65.72 47 ⇑P P 02 50 44.9 +0.5
baz=65
J21A Lysite 65.72 52 ⇓P P 02 50 45.1 +0.5
baz=65
C27A Sayler Ranch, 65.84 45 ⇓P P 02 50 45.0 0.0
baz=65
B28A Dugan Ranch, T 65.88 44 ⇑P P 02 50 44.6 -0.7
baz=66
G24A Alzada 66.00 49 ⇑P P 02 50 46.0 -0.2
baz=66
SCI San Clemente I 66.01 67 ⇓P P 02 50 46.1 -0.2
baz=66
TUQ Turquoise Moun 66.04 63 ⇓P P 02 50 46.6 0.0
baz=66
A29A Manning Farm, 66.09 43 ⇑P P 02 50 46.4 -0.2
baz=66
HEC Hector,Ludlow 66.18 64 ⇓P P 02 50 48.0 +0.5
baz=66
J22A Midwest 66.20 51 ⇓P P 02 50 47.3 -0.3
baz=66
E26A Carlson Angus 66.21 47 ⇑P P 02 50 47.1 -0.4
baz=66
D27A Center 66.24 46 ⇓P P 02 50 47.4 -0.3
baz=66

K21A Alcova 66.31 53 ⇑P P 02 50 48.3 0.0
baz=66,SNR=5.1
H24A Dirks Ranch, A 66.32 49 ⇑P P 02 50 48.2 0.0
baz=66
B29A Wagenman Farm, 66.35 44 ⇑P P 02 50 48.3 0.0
baz=66
GEYT Alibeck 66.42 301 P P 02 50 49.8 +0.8
comp=Z,1.6nm,0.5s,baz=341,slow=3.1,SNR=3.7
A30A Hoffart Farm, 66.52 43 ⇓P P 02 50 49.3 0.0
baz=66
E27A Carson 66.69 46 ⇑P P 02 50 50.3 -0.2
baz=66
ULM Lac du Bonnet 66.70 41 P P 02 50 49.9 -0.5
comp=Z,0.7nm,0.4s,baz=268,slow=4.9,SNR=3.2
ULM Lac du Bonnet 66.70 41 eP P 02 50 51.0 +0.6
SRU San Rafael Swe 66.83 57 eP P 02 50 52.3 +0.6
SRU pmax pmax
comp=Z,5.0nm,0.9s
SRU San Rafael Swe 66.83 57 eP P 02 50 52.3 +0.6
comp=Z,4.9nm,0.9s
B30A Myrvik Farm, E 66.85 43 ⇓P P 02 50 51.3 -0.1
baz=66,SNR=8.8
H25A Fruitdale 66.90 49 ⇓P P 02 50 51.7 -0.3
baz=66
PFO Pinyon Flats O 66.91 65 ⇓P P 02 50 52.6 +0.4
baz=67
G26A Maurine 66.96 48 ⇑P P 02 50 52.4 +0.2
baz=66,SNR=5.4
N20A Spence Gulch, 66.96 55 ⇓P P 02 50 52.8 +0.2
baz=67
109C Camp Elliot, M 66.98 66 ⇓P P 02 50 52.4 -0.1
baz=67
E28A Huff 67.02 46 ⇑P P 02 50 52.4 -0.2
baz=67
L22A Ellis Ranch, M 67.16 53 ⇑P P 02 50 53.5 -0.3
baz=67
D29A Pettibone, Tap 67.22 45 ⇑P P 02 50 53.0 -0.8
baz=67
J24A Dixon Ranch, L 67.23 51 ⇑P P 02 50 53.3 -0.8
baz=67
G27A Dupree 67.24 48 ⇑P P 02 50 53.6 -0.4
baz=67
I25A Rochford 67.25 50 ⇓P P 02 50 53.7 -0.6
baz=67
C30A Mose, Pekin 67.31 44 ⇓P P 02 50 53.8 -0.6
baz=67
H26A Fairpoint 67.33 49 ⇑P P 02 50 54.2 -0.5
baz=67
IRM Iron Mountain 67.36 64 ⇑P P 02 50 54.9 0.0
baz=67
O20A White River Ci 67.44 55 ⇓P P 02 50 53.7 -1.9
baz=67
F28A McLaughlin 67.48 47 ⇓P P 02 50 54.6 -0.9
baz=67
M22A Cedar Creek Ra 67.50 53 ⇑P P 02 50 56.1 +0.1
baz=67
BC3 Big Chuckawall 67.50 64 ⇑P P 02 50 56.6 +0.6
baz=67
W13A Hualapai Mount 67.51 62 ⇓P P 02 50 56.6 +0.5
baz=67
E29A Napoleon 67.55 45 ⇑P P 02 50 56.0 +0.1
baz=67
K24A Anderson Ranch 67.56 51 ⇑P P 02 50 56.5 +0.2
baz=67
U15A North Rim 67.58 60 ⇓P P 02 50 57.0 +0.4
baz=67
D30A Buchanan 67.59 44 ⇑P P 02 50 56.8 +0.7
baz=67
J25A Sunshine Ranch 67.64 50 ⇓P P 02 50 56.6 -0.1
baz=67
H27A Howes 67.68 48 ⇓P P 02 50 56.6 -0.2
baz=67
I26A New Underwood 67.69 49 ⇓P P 02 50 56.7 -0.3
baz=67
SWSC Sam W. Stewart 67.77 65 ⇑P P 02 50 57.6 +0.2
baz=67
M23A Laramie 67.94 53 ⇓P P 02 50 58.2 -0.5
baz=68
E30A Jud 67.95 45 ⇓P P 02 50 58.1 -0.4
baz=68
G28A Parade 67.96 47 ⇓P P 02 50 58.7 +0.1
baz=68
L24A Wheatland 67.97 52 ⇓P P 02 50 58.8 0.0
baz=68
F29A Eureka 67.97 46 ⇑P P 02 50 58.5 -0.1
baz=68
I27A Quinn 68.09 49 ⇑P P 02 50 59.4 0.0
baz=68
AGMN Agassiz Nation 68.11 42 ⇓P P 02 50 59.1 -0.3
baz=68
K25A Mack Ranch, Ha 68.15 51 ⇑P P 02 50 59.7 -0.2
baz=68
NB2 NORSAR Subarra 68.19 341 P P 02 50 59.1 -0.6
comp=Z,7.7nm,0.6s,baz=27,slow=6.5
NOA NORSAR Array B 68.19 341 P P 02 50 59.3 -0.3
comp=Z,6.7nm,0.6s,baz=27,slow=6.5,SNR=38
H28A Mission Ridge 68.19 48 ⇑P P 02 51 00.2 +0.2
baz=68,SNR=6.1
GLA Glamis 68.30 65 ⇑P P 02 51 01.0 +0.2
baz=68
F30A Leola 68.37 46 ⇓P P 02 51 00.8 -0.3
baz=68
O22A Kremmling 68.38 54 ⇓P P 02 51 01.0 -0.5
baz=68
WRAB Tennant Creek 68.40 199 eP P 02 51 02.5 +1.2
WRAB pmax pmax
comp=Z,6.0nm,1.2s
WRAB Tennant Creek 68.40 199 eP P 02 51 02.5 +1.2
comp=Z,5.8nm,1.2s
HFS Hagfors 68.41 339 P P 02 51 00.6 -0.4
comp=Z,14nm,0.4s,baz=55,slow=5.6,SNR=166
WRA Warramunga Arr 68.41 199 eP P 02 51 02.8 +1.4
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 68.41 199 P P 02 51 02.5 +1.1
comp=Z,0.7nm,0.7s,baz=11,slow=6.3,SNR=6.4
M24A Cheyenne 68.42 52 ⇓P P 02 51 01.1 -0.6
baz=68
I28A Midland 68.59 48 ⇑P P 02 51 02.0 -0.5
baz=68
H29A Onida 68.63 47 ⇓P P 02 51 02.3 -0.4
baz=68
P22A Eagle 68.64 55 ⇓P P 02 51 02.7 -0.4
baz=68
J27A Elkhorn Farm, 68.68 49 ⇓P P 02 51 02.8 -0.4
baz=68
O23A Lake Granby, G 68.69 54 ⇑P P 02 51 02.9 -0.6
baz=68
WUAZ Wupatki 68.74 61 ⇓P P 02 51 03.7 0.0
baz=68
G30A Faulkton 68.81 46 ⇑P P 02 51 03.1 -0.7
baz=68
N24A Carr 68.84 53 ⇓P P 02 51 03.9 -0.3
baz=68
J28A Allard Ranch, 68.96 49 ⇑P P 02 51 04.9 0.0
baz=68
L26A Underwood Farm 68.97 51 ⇑P P 02 51 04.7 -0.3
baz=69
I29A Vivian Onida 69.02 48 ⇓P P 02 51 05.3 +0.2
baz=69
ISCO Idaho Springs 69.14 54 ⇑P P 02 51 06.6 +0.3
baz=69
O24A Longmont 69.22 53 ⇑P P 02 51 06.4 -0.2
baz=69
Z14A Wintersburg 69.25 63 ⇑P P 02 51 06.8 +0.1
baz=69
P23A Jefferson 69.31 54 ⇓P P 02 51 06.7 -0.8
baz=69
M26A McRoberts Ranc 69.33 51 ⇑P P 02 51 07.0 -0.3
baz=69
L27A T5 Ranch, Ells 69.34 50 ⇑P P 02 51 07.0 -0.3
baz=69
K28A Ten Mile Ranch 69.39 49 ⇑P P 02 51 07.2 -0.3
baz=69
BRSD Miller 69.39 47 ⇓P P 02 51 07.2 -0.2
baz=69
J29A Okreek 69.44 48 ⇑P P 02 51 07.1 -0.7
baz=69
X16A Lo Mia Camp, P 69.45 61 ⇓P P 02 51 08.7 +0.6
baz=69
I30A Oacoma 69.54 47 ⇑P P 02 51 08.2 -0.1
baz=69
M27A Reverse DX Ran 69.69 51 ⇑P P 02 51 09.6 +0.2
baz=69
P24A Kohler Place, 69.73 54 ⇓P P 02 51 10.4 +0.5
baz=69
L28A Connealy Angus 69.81 50 ⇓P P 02 51 10.4 +0.2
baz=69

S22A 4UR Ranch, Cre 69.88 56 ⇑P P 02 51 11.5 +0.7
baz=70
K29A Lazy Trails An 69.90 49 ⇓P P 02 51 11.0 +0.3
baz=70
J30A Dallas 69.92 48 ⇓P P 02 51 10.1 -0.6
baz=70
O26A Horse Wrangler 70.10 52 ⇓P P 02 51 11.7 -0.3
baz=70
N27A Anderson Farm, 70.12 51 ⇑P P 02 51 12.0 -0.1
baz=70
R23A Moffat 70.14 55 ⇓P P 02 51 11.8 -0.7
baz=70
P25A Willow Gulch B 70.14 53 ⇑P P 02 51 12.0 -0.3
baz=70
214A Organ Pipe Nat 70.29 64 ⇓P P 02 51 13.0 -0.1
baz=70
OGNE Ogallala 70.29 51 ⇓P P 02 51 12.5 -0.6
baz=70
K30A Basset 70.33 48 ⇑P P 02 51 13.3 +0.1
baz=70
S23A Nye Farm, Mont 70.38 56 ⇓P P 02 51 13.6 -0.3
baz=70
R24A Sanders Place, 70.52 55 ⇓P P 02 51 14.3 -0.4
baz=70
Q25A Bedland, Calha 70.52 54 ⇓P P 02 51 14.2 -0.5
baz=70
KBZ Khabaz 70.72 314 P P 02 51 16.5 +1.0
comp=Z,2.2nm,0.5s,baz=22,slow=2.8,SNR=7.7
N28A Pribbeno Ranch 70.74 51 ⇑P P 02 51 15.8 0.0
baz=70
L30A Spencer Herefo 70.80 49 ⇓P P 02 51 16.4 +0.3
baz=70
U22A Llaves 70.81 57 ⇑P P 02 51 16.5 -0.1
baz=70
S24A Houchin Ranch, 70.87 55 ⇑P P 02 51 16.3 -0.7
baz=70
Q26A Hugo 70.92 53 ⇑P P 02 51 15.7 -1.3
baz=70
ECSD EROS Data Cent 71.07 46 ⇑P P 02 51 17.4 -0.3
baz=71
U23A El Rito 71.23 57 ⇑P P 02 51 19.0 -0.1
baz=71
R26A Arlington 71.40 54 ⇑P P 02 51 20.2 +0.4
baz=71
AKASG Malin Array Be 71.45 326 P P 02 51 19.4 -0.4
comp=Z,7.4nm,0.4s,baz=34,slow=6.1,SNR=17
KIEV Kiev 71.46 326 eP P 02 51 19.1 -0.7
KIEV pmax pmax
comp=Z,8.0nm,0.6s
KIEV Kiev 71.46 326 eP P 02 51 19.1 -0.7
comp=Z,8.3nm,0.6s
SPMN Marine on St. 71.80 43 ⇑P P 02 51 21.3 -0.6
baz=71
S26A Kim 71.86 54 ⇑P P 02 51 21.5 -1.2
baz=72
O30A MW Ranch, Wils 71.89 50 ⇓P P 02 51 21.1 -1.6
baz=72
BGNE Belgrade 72.00 48 ⇑P P 02 51 21.5 -1.8
baz=72
N31A Bailey Ranch, 72.01 49 ⇑P P 02 51 21.3 -2.1
baz=72
W23A Werner Place, 72.08 58 ⇓P P 02 51 24.5 +0.4
baz=72
AS31 Alice Springs 72.10 198 eP P 02 51 25.6 +1.7
ASAR Alice Springs 72.11 198 P P 02 51 26.5 +2.6
comp=Z,1.5nm,0.7s,baz=11,slow=5.6,SNR=12
T26A Comanche Natio 72.11 55 ⇑P P 02 51 23.9 -0.3
baz=72
V24A Rampart Ranch, 72.19 57 ⇓P P 02 51 22.7 -2.0
baz=72
U25A Circle Dot Ran 72.20 56 ⇑P P 02 51 24.9 0.0
baz=72
R28A Tribune 72.27 53 ⇓P P 02 51 23.5 -1.6
baz=72
Q29A Oakley 72.33 52 ⇓P P 02 51 24.4 -1.0
baz=72
Y22D IRIS PASSCAL I 72.39 59 ⇓P P 02 51 23.7 -2.1
baz=72
N32A Stulken Farm, 72.39 49 ⇑P P 02 51 23.6 -2.0
baz=72
X23A Hourglass Bar 72.46 58 ⇑P P 02 51 24.3 -2.1
baz=72
W24A Lazy 6 Ranch, 72.47 57 ⇑P P 02 51 24.6 -1.8
baz=72
V25A Rancho No Teng 72.48 56 ⇓P P 02 51 24.2 -2.3
baz=72
R29A Marienthal 72.58 52 ⇑P P 02 51 26.7 -0.2
baz=72
T27A Campo 72.68 54 ⇑P P 02 51 27.2 -0.4
baz=72
S28A Manter 72.76 53 ⇑P P 02 51 28.0 0.0
baz=72
319A Douglas 72.86 62 ⇑P P 02 51 29.0 +0.3
baz=72
121A Cookes Peak, D 72.95 61 ⇑P P 02 51 29.9 +0.6
baz=73
T28A Walsh 72.98 54 ⇓P P 02 51 28.3 -1.0
baz=73
Y23A Lovelace Mesa, 73.00 59 ⇓P P 02 51 29.1 -0.4
baz=73
W25A X Bar L Ranch, 73.01 57 ⇓P P 02 51 28.1 -1.4
baz=73
U27A Thompson Grove 73.08 55 ⇓P P 02 51 28.9 -1.0
baz=73
R30A Dighton 73.14 52 ⇑P P 02 51 28.8 -1.4
baz=73
SCHQ Schefferville 73.43 23 P P 02 51 30.7 -0.8
comp=Z,1.7nm,0.6s,baz=293,slow=10,SNR=5.2
U28A Mallet 73.45 54 ⇓P P 02 51 30.2 -1.8
baz=73
W26A Owens Ranch, T 73.50 56 ⇓P P 02 51 30.5 -1.9
baz=73
S30A Montezuma 73.51 52 ⇑P P 02 51 30.4 -2.0
baz=73
Q33A Connelly Farm, 73.93 50 ⇓P P 02 51 33.2 -1.5
baz=74
Y27A Causey 74.71 57 ⇓P P 02 51 38.5 -1.0
baz=74
KWP Kalwaria Pacla 74.73 329 ⇓P P 02 51 39.8 +0.6
KWP Kalwaria Pacla 74.73 329 ⇓/P P 02 51 39.8 +0.6
AMTX Amarillo 74.83 55 eP P 02 51 40.5 +0.4
comp=Z,8.1nm,0.9s
V31A Spring Creek L 75.21 53 ⇑P P 02 51 40.5 -1.7
baz=75
LEOM Leova 75.23 324 ⇓P P 02 51 41.6 -0.4
LEOM Leova 75.23 324 ⇓/P P 02 51 41.6 -0.4
PRAR RASCA 75.31 326 ⇓/P P 02 51 42.0 -0.5
BURAR Bucovina Array 75.49 326 ⇑P P 02 51 43.4 -0.3
BURAR Bucovina Array 75.49 326 ⇑/P P 02 51 43.4 -0.3
Z28A Tucker Farm, M 75.59 57 ⇓P P 02 51 44.0 -0.5
baz=75
TESR Tescani 75.84 325 ⇑/P P 02 51 45.7 +0.1
TRPA Tarpa 76.06 328 ⇑/P P 02 51 47.1 +0.4
OKC Ostrava-Krasne 76.11 332 eP P 02 51 47.2 +0.2
OKC Ostrava-Krasne 76.11 332 eP P 02 51 47.2 +0.2
UPC Upice 76.21 333 eP P 02 51 47.7 +0.1
UPC Upice 76.21 333 eP P 02 51 47.7 +0.1
DPC Dobruska-Polom 76.25 333 eP P 02 51 48.4 +0.5
DPC Dobruska-Polom 76.25 333 eP P 02 51 48.4 +0.5
EKA Eskdalemuir Ar 76.32 346 P P 02 51 47.7 -0.4
comp=Z,0.8nm,0.5s,baz=26,slow=5.1,SNR=5.3
CFR Carcaliu 76.33 323 ⇓P P 02 51 48.6 +0.3
CFR Carcaliu 76.33 323 ⇓/P P 02 51 48.6 +0.3
VRI Vrincioaia 76.34 324 ⇓P P 02 51 49.2 +0.8
VRI Vrincioaia 76.34 324 ⇓/P P 02 51 49.2 +0.8
PLOR Plostina 76.38 324 ⇓P P 02 51 47.4 -1.3
PLOR Plostina 76.38 324 ⇓/P P 02 51 47.4 -1.3
CLL Collm 76.40 335 eP P 02 51 47.7 -0.9
CLL pmax pmax
comp=Z,17nm,1.2s
CLL Collm 76.40 335 i P P 02 51 47.6 -1.0
comp=Z,8.0nm,0.9s
CLL Collm 76.40 335 eP P 02 51 47.7 -1.0
comp=Z,17nm,1.2s
BRG Berggiesshubel 76.51 335 e(P) P 02 51 51.9 +2.6
comp=Z,1.5nm,0.6s
BRG Berggiesshubel 76.51 335 eP P 02 51 51.9 +2.6
BRG pmax pmax
comp=Z,2.0nm,0.6s
PVCC Panska Ves 76.63 334 eP P 02 51 50.0 0.0
PVCC Panska Ves 76.63 334 eP P 02 51 50.0 0.0
MLR Muntele Rosu 76.96 325 ⇑/P P 02 51 44.2 -7.9
MLR Muntele Rosu 76.96 325 P P 02 51 51.6 -0.5
comp=Z,1.7nm,0.7s,baz=154,slow=7.3,SNR=5.8
MLR LR LR 03 28 24.6
comp=Z,14nm,18.3s,baz=28,slow=38
MALT Malatya 77.01 313 ⇑P P 02 51 54.3 +1.9

MALT Malatya 77.01 313⇑*i*P P 02 51 54.3 +1.9
ISR Istrita 77.03 324⇑P P 02 51 50.8 -1.6
ISR Istrita 77.03 324⇑*i*P P 02 51 50.8 -1.6
VRAC Vranov 77.07 332 P **P 02 51 52.6 +0.1**
comp=Z,3.0nm,0.6s,baz=9.5,slow=16,SNR=4.2
VRAC LR LR 03 28 53.7
comp=Z,85nm,19.4s,baz=24,slow=38
PRU Pruhonice 77.12 334 *e*P **P 02 51 52.7 0.0**
PRU Pruhonice 77.12 334 *e*P **P 02 51 52.7 0.0**
DRGR 77.12 327⇓P P 02 51 50.9 -2.0
DRGR 77.12 327⇓*i*P P 02 51 50.9 -2.0
PSZ Piszkesteto 77.17 330 *e*P **P 02 51 52.7 -0.5**
PSZ pmax pmax
comp=Z,5.0nm,1.0s
PSZ Piszkesteto 77.17 330 *e*P **P 02 51 52.7 -0.5**
comp=Z,4.7nm,1.0s
TREC Trest 77.44 333 *e*P **P 02 51 54.9 +0.4**
TREC Trest 77.44 333 *e*P **P 02 51 54.9 +0.4**
ARR Arges 77.58 325⇓*i*P P 02 51 55.8 +0.3
TXAR Lajitas Array 77.71 60 P **P 02 51 56.6 +0.1**
comp=Z,1.2nm,0.6s,baz=295,slow=4.3,SNR=14
430A Baggett Ranch, 78.08 58⇓P P 02 51 58.5 0.0
baz=78
KHC Kasperske Hory 78.17 334 *e*P **P 02 51 59.2 +0.6**
KHC Kasperske Hory 78.17 334 *e*P **P 02 51 59.2 +0.6**
KHC Kasperske Hory 78.17 334 *e*P **P 02 51 59.3 +0.6**
comp=Z,5.8nm,1.0s
232A Coleman 78.18 56⇑P P 02 51 58.5 -0.5
baz=78
BRTR Keskin Array B 78.26 317 *i*P **P 02 52 00.4 +1.0**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 78.26 317 P **P 02 51 60.0 +0.5**
comp=Z,2.7nm,0.8s,baz=72,slow=4.6,SNR=14
GZR Gura Zlata 78.27 327⇓P P 02 51 59.5 +0.2
GZR Gura Zlata 78.27 327⇓*i*P P 02 51 59.5 +0.2
GRF Grafenberg Arr 78.36 336 *e*P **P 02 51 59.9 +0.3**
comp=Z,6.0nm,0.9s
GERES GERESS Array B 78.38 334 P **P 02 51 59.8 -0.1**
comp=Z,0.9nm,0.5s,baz=39,slow=5.4,SNR=11
GERES GERESS Array B 78.38 334 *e*P **P 02 51 59.6 -0.3**
332A Millersview 78.50 56⇓P P 02 52 00.6 -0.2
baz=78
BZS Buzias 78.52 327⇑P P 02 52 00.8 +0.3
BZS Buzias 78.52 327⇑*i*P P 02 52 00.8 +0.3
CONA Conrad Observa 78.52 332⇑*i*P P 02 52 01.3 +0.6
comp=Z,3.8nm,0.6s
ANTO Ankara 78.54 317⇓P P 02 52 02.4 +1.5
ANTO Ankara 78.54 317⇓*i*P P 02 52 02.4 +1.5
531A Rocksprings 78.94 58⇑P P 02 52 01.4 -1.8
baz=79
PKSM Moragy 79.08 330⇓P P 02 52 03.2 -0.4
PKSM Moragy 79.08 330⇓*i*P P 02 52 03.2 -0.4
JCT Junction City 79.14 57 *e*P **P 02 52 04.5 +0.2**
JCT Junction City 79.14 57 *e*P **P 02 52 04.5 +0.2**
532A Rocksprings 79.34 57⇓P P 02 52 04.0 -1.4
baz=79
GIVF Givet 79.65 340 *e*P **P 02 52 07.6 +0.9**
GIVF Givet 79.65 340 *e*P **P 02 52 07.6 +0.9**
GIVF Givet 79.65 340 *e*P **P 02 52 07.6 +0.9**
WLF Walferdange 79.73 339 *e*P **P 02 52 06.0 -1.1**
WLF pmax pmax
comp=Z,15nm,1.1s
WLF Walferdange 79.73 339 *e*P **P 02 52 06.0 -1.1**
comp=Z,15nm,1.1s
BAIF Baives 79.84 340 *e*P **P 02 52 08.5 +0.9**
BAIF Baives 79.84 340 *e*P **P 02 52 08.5 +0.9**
BAIF Baives 79.84 340 *e*P **P 02 52 08.5 +0.9**
KBA Koelnbreinsper 80.07 333⇓*i*P P 02 52 09.9 +0.7
comp=Z,8.0nm,0.6s
WCI Wyandotte Cave 80.29 43 *e*P **P 02 52 10.3 -0.1**
WCI pmax pmax
comp=Z,5.0nm,0.6s
WCI Wyandotte Cave 80.29 43 *e*P **P 02 52 10.2 -0.1**
comp=Z,5.2nm,0.6s
VTS Vitosha 80.47 325⇑P P 02 52 11.8 +0.4
VTS Vitosha 80.47 325⇑*i*P P 02 52 11.8 +0.4
MOTA Moosalm 80.50 335⇑*i*P P 02 52 11.7 +0.2
comp=Z,6.2nm,0.8s
CDF Champ du Feu 80.60 338 *e*P **P 02 52 12.0 +0.1**
comp=Z,5.3nm,0.6s
CDF Champ du Feu 80.60 338 *e*P **P 02 52 12.0 +0.1**
CDF pmax pmax
comp=Z,5.0nm,0.6s
CDF Champ du Feu 80.60 338 *e*P **P 02 52 12.0 +0.1**
comp=Z,5.3nm,0.6s
PAGF Fort de Pagny 80.87 339 *e*P **P 02 52 13.8 +0.6**
comp=Z,4.0nm,0.6s
PAGF Fort de Pagny 80.87 339 *e*P **P 02 52 13.8 +0.6**
comp=Z,4.0nm,0.6s
MEZF Maizieres J'vi 81.08 339 *e*P **P 02 52 14.8 +0.5**
MEZF Maizieres J'vi 81.08 339 *e*P **P 02 52 14.8 +0.5**
HAU Haudompre 81.22 338 *e*P **P 02 52 15.2 +0.1**
HAU *e*R
comp=Z,102nm,20.8s
HAU Haudompre 81.22 338 *e*P **P 02 52 15.2 +0.1**
HAU Haudompre 81.22 338 *e*P **P 02 52 15.2 +0.1**
WVT Waverly 81.22 46 *e*P **P 02 52 14.8 -0.5**
WVT pmax pmax
comp=Z,3.0nm,0.8s
WVT Waverly 81.22 46 *e*P **P 02 52 14.8 -0.5**
comp=Z,3.3nm,0.8s
SFTF Sexfontaines 81.36 339 *e*P **P 02 52 16.2 +0.3**
comp=Z,12nm,0.6s
SFTF Sexfontaines 81.36 339 *e*P **P 02 52 16.2 +0.3**
comp=Z,12nm,0.6s
DAVOX Davos/Dischmat 81.37 335 LR LR 03 34 14.2
comp=Z,43nm,18.4s,baz=73,slow=40
340A Bronson 81.75 52⇑P P 02 52 16.5 -1.7
baz=81
HKT Hockley 81.80 55 *e*P **P 02 52 18.8 +0.5**
HKT pmax pmax
comp=Z,3.0nm,0.8s
HKT Hockley 81.80 55 *e*P **P 02 52 18.8 +0.5**
comp=Z,2.8nm,0.8s
TUE Stuetta 81.81 335 *e*P **P 02 52 19.2 +0.7**
FLN La Foliniere 82.10 343 *e*P **P 02 52 19.5 -0.2**
FLN *e*R
comp=Z,106nm,23.0s
FLN La Foliniere 82.10 343 *e*P **P 02 52 19.5 -0.2**
FLN La Foliniere 82.10 343 *e*P **P 02 52 19.5 -0.2**
LOR Lormes 82.53 339 *e*P **P 02 52 22.1 +0.1**
comp=Z,12nm,0.9s
LOR *e*R
comp=Z,92nm,21.2s
LOR Lormes 82.53 339 *e*P **P 02 52 22.1 +0.1**
LOR pmax pmax
comp=Z,12nm,0.9s
LOR Lormes 82.53 339 *e*P **P 02 52 22.1 +0.1**
comp=Z,12nm,0.9s
GRR Gorron 82.53 343 *e*P **P 02 52 22.1 +0.2**
comp=Z,28nm,1.1s
GRR Gorron 82.53 343 *e*P **P 02 52 22.1 +0.2**
GRR pmax pmax
comp=Z,28nm,1.1s
GRR Gorron 82.53 343 *e*P **P 02 52 22.1 +0.2**
comp=Z,28nm,1.1s
ASF Jabal al Asfar 82.54 310 P **P 02 52 24.1 +1.6**
comp=Z,2.8nm,0.8s,baz=35,slow=7.8,SNR=5.0
MMAI Mount Meron Ar 82.66 311 P **P 02 52 24.6 +1.6**
comp=Z,3.9nm,0.5s,baz=42,slow=6.7,SNR=19
MMAI LR LR 03 33 28.3
comp=Z,45nm,18.6s,baz=285,slow=39
SSF Saint Saulge 82.81 339 *e*P **P 02 52 23.5 +0.1**
SSF Saint Saulge 82.81 339 *e*P **P 02 52 23.5 +0.1**
SSF Saint Saulge 82.81 339 *e*P **P 02 52 23.5 +0.1**
SGMF Saint Gilles 83.00 344 *e*P **P 02 52 24.5 +0.1**
SGMF Saint Gilles 83.00 344 *e*P **P 02 52 24.5 +0.1**
SGMF Saint Gilles 83.00 344 *e*P **P 02 52 24.5 +0.1**
ROSF Rostrenen 83.05 344 *e*P **P 02 52 24.8 +0.1**
ROSF Rostrenen 83.05 344 *e*P **P 02 52 24.8 +0.1**
ROSF Rostrenen 83.05 344 *e*P **P 02 52 24.8 +0.1**
AVF Avril sur Loir 83.10 339 *e*P **P 02 52 25.4 +0.5**
AVF Avril sur Loir 83.10 339 *e*P **P 02 52 25.4 +0.5**
AVF Avril sur Loir 83.10 339 *e*P **P 02 52 25.4 +0.5**
SMF Signal de Mont 83.11 339 *e*P **P 02 52 25.3 +0.3**
comp=Z,17nm,1.0s
SMF Signal de Mont 83.11 339 *e*P **P 02 52 25.3 +0.3**
SMF pmax pmax
comp=Z,17nm,1.0s
SMF Signal de Mont 83.11 339 *e*P **P 02 52 25.3 +0.3**
comp=Z,17nm,1.0s
LPL La Plagne 83.41 337 *e*P **P 02 52 27.8 +0.9**
comp=Z,3.3nm,0.6s
LPL La Plagne 83.41 337 *e*P **P 02 52 27.8 +0.9**
LPL pmax pmax
comp=Z,3.0nm,0.6s
LPL La Plagne 83.41 337 *e*P **P 02 52 27.8 +0.9**
comp=Z,3.3nm,0.6s
LPG La Plagne 83.42 337 *e*P **P 02 52 27.8 +0.8**
comp=Z,7.8nm,0.9s
LPG La Plagne 83.42 337 *e*P **P 02 52 27.8 +0.8**
LPG pmax pmax
comp=Z,8.0nm,0.9s
LPG La Plagne 83.42 337 *e*P **P 02 52 27.8 +0.8**
comp=Z,7.8nm,0.9s
BGF Bois d'Agland 83.44 340 *e*P **P 02 52 27.0 +0.3**
BGF Bois d'Agland 83.44 340 *e*P **P 02 52 27.0 +0.3**
BGF Bois d'Agland 83.44 340 *e*P **P 02 52 27.0 +0.3**
MBDF Montbardon 84.13 336 *e*P **P 02 52 30.7 +0.3**
MBDF Montbardon 84.13 336 *e*P **P 02 52 30.7 +0.3**
MBDF Montbardon 84.13 336 *e*P **P 02 52 30.7 +0.3**
ORIF Oris-en-Rattie 84.19 337 *e*P **P 02 52 31.7 +1.0**
comp=Z,17nm,1.0s
ORIF *e*R
comp=Z,100nm,21.8s
ORIF Oris-en-Rattie 84.19 337 *e*P **P 02 52 31.7 +1.0**
ORIF pmax pmax
comp=Z,17nm,1.0s
ORIF Oris-en-Rattie 84.19 337 *e*P **P 02 52 31.7 +1.0**
comp=Z,17nm,1.0s
RJF Les Rejaudoux 84.93 340 *e*P **P 02 52 34.8 +0.5**
RJF *e*R
comp=Z,96nm,17.5s
RJF Les Rejaudoux 84.93 340 *e*P **P 02 52 34.8 +0.5**
RJF Les Rejaudoux 84.93 340 *e*P **P 02 52 34.8 +0.5**
LFF La Frestale 85.46 340 *e*P **P 02 52 36.8 -0.1**
LFF La Frestale 85.46 340 *e*P **P 02 52 36.8 -0.1**
LFF La Frestale 85.46 340 *e*P **P 02 52 36.8 -0.1**
LMR La Mourre 85.49 336 *e*P **P 02 52 36.9 -0.2**
LMR La Mourre 85.49 336 *e*P **P 02 52 36.9 -0.2**
LMR La Mourre 85.49 336 *e*P **P 02 52 36.9 -0.2**
EIL Elat 85.54 309 P **P 02 52 39.2 +1.6**
comp=Z,3.4nm,0.8s,baz=337,slow=7.1,SNR=4.7
TORD Torodi Ar. Bea 115.00 329 PKP PKPdf 02 58 40.0 -0.2
comp=Z,0.1nm,0.5s,baz=0.1,slow=1.7,SNR=3.4
LVC Limon Verde 138.78 69 *e*PKPdf **PKPdf 02 59 26.1 +0.7**
BDFB Brasilia 144.50 36 PKP **PKPab 02 59 34.3 +0.2**
comp=Z,3.4nm,0.8s,baz=243,slow=4.9,SNR=5.5
CPUP Villa Florida 148.68 60 *e*PKP2 **PKPbc 02 59 46.1 0.0**
CPUP Villa Florida 148.68 60 PKPbc **PKPbc 02 59 46.9 +0.8**
comp=Z,1.0nm,0.4s,baz=219,slow=1.8,SNR=3.7
CPUP Villa Florida 148.68 60 *e*PKPbc **PKPbc 02 59 46.1 0.0**
TRQA Tornquist 153.09 84 *e*PKPdf **PKPdf 02 59 48.6 0.0**

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*ISCJB **06** 02:49:41.9±0.6, 39°.78N±0°.07×118°.67E±0°.06, h15km, mb3.5/4, Error ellipse: s-maj=10.5km s-min=6.3km az=2.6*
*IDC **06** 02:49:42.1±1.2, 39°.64N×118°.52E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.4/49, mbtmp3.5/6, ML3.7/1, Error ellipse: s-maj=37.0km s-min=19.5km az=35.0*
*BJI **06** 02:49:44.1, 39°.70N×118°.48E, h9km, mb3.6/1, ML3.8/13*
ISC 06 02:49:43.5±0.6, 39°.70N±0°.05×118°.54E±0°.04, h15km, n12, σ1§89/19, mb3.6/4, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BJI	**Beijing**	**1.85**	**281**	Pn	**Pn**	**Pn**	**02 50 14.8**	**+0.1**
BJI				Pg		**Pb**	**02 50 17.0**	**-0.1**
BJI				Sg		**Sn**	**02 50 38.2**	**+0.3**
BJI				SMN				
	1μm,0.6s							
BJI				SME				
	2μm,0.6s							
DL2	**Dalian**	**2.52**	**107**	Pn		**Pb**	**02 50 27.8**	**-0.7**
DL2				Pg		**Pg**	**02 50 31.5**	**-0.4**
DL2				Sn		**Sg**	**02 51 04.6**	**0.0**
DL2				SMN				
	480nm,0.7s							
DL2				SME				
	200nm,0.6s							
TIA	**Tai'an**	**3.66**	**198**	Pn		**Pn**	**02 50 40.7**	**+1.1**
TIA				Pg		**Pg**	**02 50 50.7**	**-3.0**
TIA				Sg		**Sb**	**02 51 33.8**	**+1.7**
TIA				SMN				
	100nm,0.5s							
TIA				SME				
	110nm,0.8s							
SNY	**Shenyang**	**4.37**	**59⇑**	Pg		**Pg**	**02 51 04.6**	**-2.7**
SNY				Sg		**Sg**	**02 52 02.8**	**-1.1**
SNY				SMN				
	95nm,0.7s							
SNY				SME				
	63nm,0.9s							
KSRS	**Korea Array**	**7.68**	**104**	Pn		**Pn**	**02 51 36.2**	**+1.4**
	1.1nm,0.3s,baz=293,slow=14,SNR=6.6							
KSRS				Sn		**Sn**	**02 52 59.9**	**-1.7**
	0.3nm,0.3s,baz=287,slow=23,SNR=3.7							
KSRS				Lg		Lg	02 53 46.0	
	0.5nm,0.3s,baz=285,slow=29,SNR=4.1							
USRK	**Ussuriysk Ar.**	**10.97**	**61**	Lg		Lg	02 55 35.1	
	0.2nm,0.3s,baz=252,slow=26,SNR=4.4							
SONM	**Songino Array**	**11.96**	**317**	Pn		**Pn**	**02 52 34.5**	**+1.0**
	baz=129,slow=13,SNR=3.4							
GTA	**Gaotai**	**14.46**	**275**	*e*P		P	02 53 18.7	+4.3
GTA				pP		pP	02 53 22.6	
GTA				sP			02 53 24.9	
GTA				S		**S**	**02 56 02.5**	**-5.0**
GTA				sS		sS	02 56 07.9	
GTA				SS		SnSn	02 56 19.8	+20
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,110nm,4.3s							
GTA				LR		LR		
	comp=N,110nm,10.9s							
GTA				LR		LR		
	comp=E,77nm,10.9s							
GTA				LR		LR		
	comp=Z,93nm,11.2s							
KURBB	**Kurchatov Arra**	**29.91**	**305**	P		**P**	**02 55 52.2**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=94,slow=9.7,SNR=3.3							
FINES	**FINESS Array B**	**57.18**	**325**	P		**P**	**02 59 30.5**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=83,slow=6.0,SNR=11							
WRA	**Warramunga Arr**	**61.14**	**163**	P		**P**	**02 59 57.8**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=350,slow=7.6,SNR=5.4							
YKA	**Yellowknife Ar**	**69.59**	**23**	P		**P**	**03 00 52.4**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=322,slow=5.6,SNR=11							

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*IDC **06** 02:53:47.5±0.7, 35°.83N×71°.18E, h0km, mb4.1/16, mb1 4.3/20, mb1mx4.0/52, mbtmp4.1/20, ML4.5/3, MS3.1/3, Ms1 3.1/3, ms1mx2.7/42, Error ellipse: s-maj=16.9km s-min=15.3km az=103.0*
*BJI **06** 02:53:56.1, 36°.02N×71°.57E, h12km, mb3.9/5, ML4.0/4*
*ISCJB **06** 02:53:57.8±0.2, 36°.01N±0°.02×71°.28E±0°.03, h102km, mb4.1/33, Error ellipse: s-maj=4.1km s-min=2.8km az=155.6*
*MOS **06** 02:53:58.5±0.8, 36°.04N×71°.20E, h100km, mb4.3/15, Error ellipse: s-maj=10.3km s-min=4.9km az=81.8*
*NEIC **06** 02:53:59.0±0.7, 36°.06N×71°.14E, h91km±7km, mb4.3/17, Error ellipse: s-maj=6.6km s-min=5.7km az=123.0*
*NNC **06** 02:54:03.0±3.6, 36°.38N×71°.00E, h117km±39km, mb3.8, mpv4.5, Error ellipse: s-maj=31.6km s-min=19.5km az=164.0*
ISC 06 02:53:59.4±0.4, 36°.04N±0°.04×71°.22E±0°.04, h102km, n137, σ1§77/137, mb4.2/33, 8C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.28**	**165**	⇓P		**Pn**	**02 54 36.9**	**+1.0**
CEP				S		Sn	02 55 16.0	+12
KBL	**Kabul**	**2.32**	**231**	*e*PN		**Pn**	**02 54 35.6**	**-0.9**
KBL				*e*			02 55 02.9	
KBL	**Kabul**	**2.32**	**231**	*e*Pn		**Pn**	**02 54 35.6**	**-0.9**
KBL				*e*Sn		**Sn**	**02 55 02.9**	**-1.9**
CHCP	**Chirah Chowk**	**2.91**	**144**	P		**Pn**	**02 54 46.0**	**+1.9**
DZET	**Dzherino**	**3.35**	**326**	⇑P		**Pn**	**02 54 47.6**	**-2.4**
DZET				⇑S		**Sn**	**02 55 25.6**	**-3.5**
SARP	**Sargodha**	**4.28**	**163**	P		**Pn**	**02 55 03.1**	**+0.7**
KSH	**Kashi**	**5.12**	**46**	Pg		Pn	02 55 10.0	-3.9
KSH				Sn		Sn	02 55 59.0	-13
KSH				SMN				
	280nm,0.3s							
KSH				SME				
	300nm,0.5s							
DLH	**Dalhousie**	**5.26**	**130**	*e*P		**Pn**	**02 55 15.0**	**-0.8**
DLH				*e*S		**Sn**	**02 56 13.0**	**-2.3**
DHRM	**DHARAMSHALA**	**5.66**	**130**	*e*P		**Pn**	**02 55 21.4**	**+0.1**
DHRM				*e*S		**Sn**	**02 56 22.2**	**-2.9**
DHRM				AML		AML	02 56 24.5	
	comp=E,810nm,0.6s							
DHRM				AML		AML	02 56 25.9	
	comp=N,700nm,0.2s							
BHK	**Bhakra**	**6.33**	**135**	*e*S		**Sn**	**02 56 40.0**	**-1.0**
AML	**Almayashu**	**6.38**	**17**	P		**Pn**	**02 55 31.6**	**+0.4**
	SNR=154							
AML	**Almayashu**	**6.38**	**17**	*i* PN		**Pn**	**02 55 31.6**	**+0.4**
SDNR	**Sundarnagar**	**6.59**	**132**	*e*P		**Pn**	**02 55 33.0**	**-0.8**
SDNR				*e*x		**Sn**	**02 56 42.0**	**-5.4**
UCH	**Uchtor**	**6.69**	**22**	P		**Pn**	**02 55 36.1**	**+0.6**
	SNR=39							
UCH	**Uchtor**	**6.69**	**22**	*i* PN		**Pn**	**02 55 36.0**	**+0.6**
KZA	**Kyzart**	**6.80**	**26**	P		**Pn**	**02 55 37.9**	**+1.0**
	SNR=18							
KZA	**Kyzart**	**6.80**	**26**	*i* PN		**Pn**	**02 55 37.8**	**+1.0**
EKS2	**Erkin-Say**	**6.91**	**16**	P		**Pn**	**02 55 38.4**	**+0.4**
	SNR=30							
EKS2	**Erkin-Say**	**6.91**	**16**	*e*PN		**Pn**	**02 55 38.2**	**+0.2**
EKS2				pmax		pmax		
	comp=Z,34nm,0.3s							
EKS2	**Erkin-Say**	**6.91**	**16**	*e*Pn		**Pn**	**02 55 38.2**	**+0.2**
	comp=Z,34nm,0.3s							
EKS2				*e*Sn		**Sn**	**02 56 54.8**	**-0.4**
SMLA	**Simla**	**6.97**	**133**	*i* P		**Pn**	**02 55 39.2**	**+0.3**
SMLA				*i* S		**Sn**	**02 56 54.3**	**-2.4**
SMLA				AML		AML	02 56 58.7	
	comp=N,293nm,0.2s							
SMLA				AML		AML	02 57 00.6	
	comp=E,273nm,0.5s							
AAK	**Ala-Archa**	**7.06**	**20**	⇓P		**Pn**	**02 55 41.0**	**+0.8**
	comp=E,15nm,0.3s							
AAK				⇓S		**Sn**	**02 56 59.2**	**+0.3**
	comp=E,31nm,0.7s							
AAK	**Ala-Archa**	**7.06**	**20**	P		**Pn**	**02 55 41.2**	**+1.0**
	SNR=35							
AAK	**Ala-Archa**	**7.06**	**20**	*e*PN		**Pn**	**02 55 40.4**	**+0.3**
AAK	**Ala-Archa**	**7.06**	**20**	Pn		**Pn**	**02 55 41.1**	**+1.0**
	comp=E,12nm,0.3s,baz=167,slow=4.2,SNR=115							
AAK				Sn		**Sn**	**02 56 58.0**	**-0.9**
	comp=E,3.1nm,0.3s,baz=347,slow=20,SNR=7.5							
AAK	**Ala-Archa**	**7.06**	**20**	*e*Pn		**Pn**	**02 55 40.4**	**+0.3**
AAK				*e*Sn		**Sn**	**02 56 57.4**	**-1.5**
KK31	**Karatay Array**	**7.08**	**356**	⇓P		**Pn**	**02 55 39.4**	**-0.9**
	comp=E,12nm,0.2s,baz=173,slow=11,SNR=858							
KK31				⇓S		**Sn**	**02 56 53.7**	**-5.4**
	comp=E,15nm,0.3s,baz=182,slow=31,SNR=3.6							
KKAR	**Karatay Array**	**7.08**	**356**	*e*PN		**Pn**	**02 55 39.1**	**-1.2**
KKAR				pmax		pmax		
	comp=Z,55nm,0.3s							
KKAR	**Karatay Array**	**7.08**	**356**	*e*Pn		**Pn**	**02 55 39.1**	**-1.2**
	comp=Z,55nm,0.3s							
KKAR				*e*Sn		**Sn**	**02 56 53.5**	**-5.7**
KBK	**Karagaybulak**	**7.21**	**22**	P		**Pn**	**02 55 43.5**	**+1.2**
	SNR=15							
KBK	**Karagaybulak**	**7.21**	**22**	*i* PN		**Pn**	**02 55 43.5**	**+1.2**
FRU	**Bishkek**	**7.28**	**20**	*e*PN		**Pn**	**02 55 44.0**	**+1.0**
FRU				pmax		pmax		
	comp=Z,50nm,1.0s							
ULHL	**Ulahol**	**7.32**	**31**	P		**Pn**	**02 55 45.4**	**+1.6**
	SNR=16							
ULHL	**Ulahol**	**7.32**	**31**	*i* PN		**Pn**	**02 55 45.4**	**+1.6**
CHMS	**Chumysh**	**7.47**	**20**	P		**Pn**	**02 55 46.4**	**+0.8**
	SNR=39							
CHMS	**Chumysh**	**7.47**	**20**	*i* PN		**Pn**	**02 55 46.4**	**+0.8**
USP	**Ospenovka**	**7.65**	**18**	P		**Pn**	**02 55 48.2**	**+0.1**
	SNR=88							
USP	**Ospenovka**	**7.65**	**18**	*i* PN		**Pn**	**02 55 48.2**	**+0.1**
TKM2	**Tokmak 2**	**7.66**	**25**	⇑P		**Pn**	**02 55 49.4**	**+1.0**
	comp=Z,11nm,0.6s							
TKM2				⇓S		**Sn**	**02 57 09.3**	**-4.4**
	comp=Z,15nm,0.8s							
TKM2	**Tokmak 2**	**7.66**	**25**	P		**Pn**	**02 55 49.5**	**+1.1**
	SNR=15							
TKM2	**Tokmak 2**	**7.66**	**25**	*i* PN		**Pn**	**02 55 49.5**	**+1.1**
TKM2	**Tokmak 2**	**7.66**	**25**	*e*Pn		**Pn**	**02 55 48.9**	**+0.5**
	comp=Z,13nm,0.6s							
NDI	**New Delhi**	**8.92**	**144**	*e*P		**Pn**	**02 56 06.0**	**+0.6**
NDI				*e*x		**Sn**	**02 57 40.0**	**-4.0**
IMYA	**Miami**	**8.99**	**275**	*e*P		Pn	02 56 03.0	-3.5
ISRO	**Mashad**	**9.50**	**275**	*e*P		Pn	02 56 09.8	-3.6
IMOG	**Moghan**	**9.62**	**274**	*e*P		**Pn**	**02 56 12.9**	**-2.2**
IPAY	**Payeh**	**9.88**	**276**	*e*P		Pn	02 56 14.7	-4.0
AJM	**Ajmer**	**9.97**	**162**	*e*x		**Pn**	**02 56 19.0**	**-0.7**
AJM				*i* S		Sn	02 58 03.0	-6.7
GEYT	**Alibeck**	**10.65**	**284**	Pn		Pn	02 56 24.2	-4.7
	comp=Z,6.0nm,0.3s,baz=103,slow=9.0,SNR=35							
GEYT				Sn		Sn	02 58 16.0	-10
	comp=Z,3.9nm,0.3s,baz=120,slow=14,SNR=11							
DANN	**Dangsing**	**13.09**	**122**	*e*P		Pn	02 56 58.4	-3.3
	comp=Z,31nm,0.5s							
KOLN	**Koldanda**	**13.36**	**125**	*e*P		Pn	02 57 00.8	-4.3
MK31	**Makanchi Array**	**13.57**	**34**	⇑P		**Pn**	**02 57 07.3**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=214,slow=11,SNR=5.8							
MKAR	**Makanchi Array**	**13.57**	**34**	Pn		**Pn**	**02 57 07.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=220,slow=15,SNR=5.1							
BHPL	**Bhopal**	**13.84**	**155**	*e*P3		**Pn**	**02 57 08.7**	**-2.6**
BHPL				*e*x		x	02 59 33.8	
GKN	**Gorkha**	**13.91**	**121**	*e*P		Pn	02 57 08.7	-3.6
	comp=Z,37nm,0.5s							
DMN	**Daman**	**14.48**	**122**	*e*P		Pn	02 57 16.3	-3.4
KKN	**Kakani**	**14.49**	**121**	*e*P		**Pn**	**02 57 16.8**	**-3.0**
PKIN	**Phulchoki**	**14.70**	**121**	*e*P		**Pn**	**02 57 19.7**	**-2.8**
	comp=Z,15nm,0.3s							
PKI	**Pulchoki**	**14.71**	**121**	*e*P		Pn	02 57 19.4	-3.3
	comp=Z,9.2nm,0.2s							
GUN	**Gumba**	**14.84**	**119**	*e*P		Pn	02 57 20.6	-3.7
	comp=Z,15nm,0.3s							
JIRN	**Jiri**	**15.21**	**119**	*e*P		**Pn**	**02 57 25.8**	**-3.2**
	comp=Z,40nm,0.6s							
KURBB	**Kurchatov Arra**	**15.51**	**18**	⇑P		**P**	**02 57 35.1**	**+0.7**
	comp=Z,3.2nm,0.8s							
KURBB	**Kurchatov Arra**	**15.51**	**18**	Pn		**Pn**	**02 57 29.2**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=212,slow=12,SNR=5.9							
AB31	**Akbulak array**	**15.57**	**332**	⇓P		**Pn**	**02 57 30.3**	**-2.8**
	comp=Z,5.2nm,0.3s,baz=149,slow=12,SNR=526							
AB31				⇓S		Sn	03 00 12.0	-13
	comp=Z,5.5nm,0.5s,baz=150,slow=24,SNR=9.9							
ABKAR	**Akbulak array**	**15.57**	**332**	*e*Pn		**Pn**	**02 57 30.0**	**-3.1**
	comp=Z,12nm,0.3s							
ABKAR				*e*Sn		Sn	03 00 07.7	-17
KURK	**Kurchatov**	**15.61**	**18**	⇑P		**P**	**02 57 36.3**	**+0.7**
	comp=Z,2.6nm,1.1s							
KURK	**Kurchatov**	**15.61**	**18**	P		**Pn**	**02 57 29.2**	**-4.3**
KURK	**Kurchatov**	**15.61**	**18**	*e*Pn		**Pn**	**02 57 34.2**	**+0.6**
	comp=Z,0.9nm,0.8s							
RAMN	**Ramite**	**15.93**	**120**	*e*P		**Pn**	**02 57 34.1**	**-3.8**
	comp=Z,17nm,0.4s							
TAPN	**Taplejung**	**16.48**	**117**	*e*P		**Pn**	**02 57 41.3**	**-3.5**
	comp=Z,9.6nm,0.2s							
ODAN	**Odare**	**16.54**	**119**	*e*P		**Pn**	**02 57 41.6**	**-3.9**
BVA0	**Borovoye Array**	**16.99**	**358**	⇓P		**Pn**	**02 57 49.8**	**-0.8**
	comp=Z,4.3nm,0.9s,baz=163,slow=9.0,SNR=6.0							
BVAR	**Borovoye Array**	**16.99**	**358**	P		**Pn**	**02 57 50.4**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=173,slow=13,SNR=20							
BVAR				LR

GNI				pmax	pmax		
	comp=Z,20nm,0.9s						
GNI	**Garni**	**21.21 289**		P	**P**	**02 58 39.3**	**+2.4**
	comp=Z,8.6nm,0.6s,baz=129,slow=2.5,SNR=6.5						
GNI	**Garni**	**21.21 289**		*e*P	**P**	**02 58 38.8**	**+1.8**
	comp=Z,20nm,0.9s						
SVE	**Sverdlovsk**	**21.98 344**		*e*P	**P**	**02 58 44.9**	**0.0**
SVE				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEI	**Tsey**	**22.09 296**		*e*P	**P**	**02 58 48.0**	**+1.6**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ARU	**Arti**	**22.12 341**		*e*P	**P**	**02 58 46.7**	**+0.4**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARU	**Arti**	**22.12 341**		*e*P	**P**	**02 58 46.7**	**+0.4**
	comp=Z,5.5nm,0.8s						
GTA	**Gaotai**	**22.83 73**		*e*P	**P**	**02 58 57.0**	**+3.1**
GTA				PMZ			
	comp=Z,4.0nm,1.5s						
KBZ	**Khabaz**	**22.97 298**		P	**P**	**02 58 55.4**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=104,slow=4.2,SNR=4.1						
GOF	**Gofitskoye**	**23.13 302**		*e*P	P	02 58 46.3	-10
KIV	**Kislovodsk**	**23.16 299**		*e*P	**P**	**02 58 57.0**	**0.0**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KIV	**Kislovodsk**	**23.16 299**		*e*P	**P**	**02 58 57.0**	**0.0**
	comp=Z,8.9nm,0.8s						
RAYN	**Ar Rayn**	**25.48 248**		*e*P	**P**	**02 59 17.9**	**-0.3**
	comp=Z,10.0nm,0.9s						
SONM	**Songino Array**	**28.46 55**		P	**P**	**02 59 47.0**	**+2.3**
SONM	**Songino Array**	**28.46 55**		P	**P**	**02 59 47.0**	**+2.3**
	comp=Z,0.6nm,0.7s,baz=252,slow=11,SNR=3.6						
ULN	**Ulaanbaatar**	**28.90 55**		*e*P	**P**	**02 59 49.9**	**+1.2**
ULN	**Ulaanbaatar**	**28.90 55**		*e*P	**P**	**02 59 49.9**	**+1.2**
BRTR	**Keskin Array B**	**29.74 289**		P	**P**	**02 59 57.2**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=96,slow=8.8,SNR=6.7						
CHTO	**Chiang Mai**	**29.85 118**		*e*P	**P**	**02 59 57.9**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CHTO	**Chiang Mai**	**29.85 118**		*e*P	**P**	**02 59 57.9**	**+0.7**
	comp=Z,1.9nm,0.5s						
PALK	**Pallekele**	**29.92 161**		*e*P	**P**	**02 59 58.4**	**+0.6**
PALK				pmax	pmax		
	comp=Z,17nm,1.1s						
PALK	**Pallekele**	**29.92 161**		*e*P	**P**	**02 59 58.4**	**+0.6**
	comp=Z,17nm,1.1s						
CMAR	**Chiang Mai Arr**	**30.08 118**		*c*eP	P	03 00 05.6	+6.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OBN	**Obninsk**	**30.40 320**		*e*P	**P**	**03 00 02.2**	**+0.6**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CSS	**Prodhromos**	**30.74 279**		*e*P	P	03 00 00.9	-4.0
	comp=Z,12nm,1.5s						
KLMR	**Klimovskoe**	**31.97 331**		*e*P	**P**	**03 00 12.8**	**-2.5**
KLMR				pmax	pmax		
	comp=Z,13nm,1.6s						
AKASG	**Malin Array Be**	**33.37 309**		P	**P**	**03 00 28.4**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=83,slow=7.1,SNR=4.8						
JOF	**Joensuu**	**36.35 330**		*e*P	**P**	**03 00 54.6**	**+1.4**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JOF	**Joensuu**	**36.35 330**		*e*p	**P**	**03 00 54.6**	**+1.4**
	comp=Z,1.5nm,0.3s						
FINES	**FINESS Array B**	**37.96 326**		P	**P**	**03 01 07.7**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=123,slow=8.5,SNR=11						
ARCES	**ARCESS Array B**	**41.64 338**		P	**P**	**03 01 38.5**	**+1.3**
	comp=Z,2.5nm,0.6s,baz=106,slow=8.9,SNR=10						
IPM	**Ipoh**	**41.70 132**		*e*P	**P**	**03 01 39.0**	**+0.6**
	comp=Z,6.0nm,0.6s						
NB2	**NORSAR Subarra**	**44.85 323**		P	**P**	**03 02 03.5**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.85 323**		P	**P**	**03 02 03.5**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=98,slow=7.8,SNR=8.5						
NOA				LR	LR	03 24 07.5	
	comp=Z,17nm,18.3s,baz=95,slow=40						
SPITS	**Spitsbergen Ar**	**47.98 347**		P	**P**	**03 02 29.5**	**+2.1**
	comp=Z,9.7nm,1.0s,baz=139,slow=12,SNR=13						
KMBO	**Kilima Mbogo**	**48.65 228**		P	**P**	**03 02 34.3**	**+0.8**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KMBO	**Kilima Mbogo**	**48.65 228**		P	**P**	**03 02 34.3**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=21,slow=11,SNR=6.2						
KMBO	**Kilima Mbogo**	**48.65 228**		*e*P	**P**	**03 02 34.2**	**+0.7**
	comp=Z,1.6nm,0.7s						
KEST	**Kesra**	**49.35 289**		*e*P	**P**	**03 02 38.2**	**-0.2**
LSZ	**Lusaka**	**65.26 226**		*e*P	**P**	**03 04 31.3**	**+0.8**
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSZ	**Lusaka**	**65.26 226**		*e*P	**P**	**03 04 31.3**	**+0.8**
	comp=Z,2.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**65.88 269**		P	**P**	**03 04 33.5**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=48,slow=5.9,SNR=47						
INK	**Inuvik**	**74.33 9**		*e*P	**P**	**03 05 26.1**	**+0.9**
INK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
INK	**Inuvik**	**74.33 9**		*e*P	**P**	**03 05 26.1**	**+0.9**
	comp=Z,6.4nm,1.1s						
LBTB	**Lobatse**	**74.45 222**		*e*P	**P**	**03 05 28.2**	**+1.6**
LBTB				pmax	pmax		
	comp=Z,9.0nm,1.3s						
LBTB	**Lobatse**	**74.45 222**		*e*P	**P**	**03 05 28.2**	**+1.6**
	comp=Z,8.8nm,1.3s						
TSUM	**Tsumeb**	**74.77 232**		*e*P	**P**	**03 05 29.1**	**+0.4**
	comp=Z,3.6nm,1.1s						
ILAR	**Eielson Array**	**75.17 16**		P	**P**	**03 05 30.8**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=317,slow=5.1,SNR=6.7						
BOSA	**Boshof**	**77.51 220**		*e*P	**P**	**03 05 44.7**	**+0.7**
BOSA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BOSA	**Boshof**	**77.51 220**		P	**P**	**03 05 45.2**	**+1.2**
	comp=Z,4.2nm,0.8s,baz=36,slow=4.3,SNR=6.0						
BOSA	**Boshof**	**77.51 220**		*e*P	**P**	**03 05 44.7**	**+0.7**
	comp=Z,8.5nm,1.1s						
WRA	**Warramunga Arr**	**81.60 122**		P	**P**	**03 06 07.0**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=322,slow=5.1,SNR=16						
WRAB	**Tennant Creek**	**81.60 122**		*e*P	**P**	**03 06 06.8**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WRAB	**Tennant Creek**	**81.60 122**		*e*P	**P**	**03 06 06.8**	**+0.6**
	comp=Z,6.0nm,0.9s						
YKA	**Yellowknife Ar**	**81.70 3**		P	**P**	**03 06 07.0**	**+0.9**
YKA	**Yellowknife Ar**	**81.70 3**		P	**P**	**03 06 06.9**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=348,slow=5.3,SNR=38						
ASAR	**Alice Springs**	**83.85 125**		P	**P**	**03 06 18.7**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=319,slow=5.6,SNR=17						

GUC 06 02:57:31.0±0.5, 34°.03S×72°.28W, h2km±5km, ML3.8, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.72**	**84**	*i* P	Pb	02 57 46.0	-0.3
LNV				*i* S	Sb	02 57 56.9	+0.2
IHA	**Instituto Hidr**	**1.13**	**28**	*i* P	Pg	02 57 51.9	-0.8
IHA				*i* S	Sb	02 58 08.3	-0.1
NICH	**Los Niches**	**1.30**	**139**	⇓*i* P	Pg	02 57 55.0	-1.0
NICH				*i* S	Sg	02 58 13.0	+0.1
NICH				AML	AML	02 58 17.8	
	comp=E,8μm,0.4s						
CHCH	**Chadas Angostu**	**1.35**	**86**	*i* P	Pn	02 57 55.5	-1.4
CHCH				*i* S	Sg	02 58 14.5	-0.2
CACH	**El Canelo**	**1.40**	**94**	⇓*i* P	Pn	02 57 56.9	-0.7
CACH				*i* S	Sn	02 58 17.1	+0.4
ANTU	**Antumapu**	**1.44**	**72**	*i* P	Pn	02 57 57.4	-0.8
ANTU				*i* S	Sb	02 58 17.2	-0.4
ANTU				AML	AML	02 58 23.1	
	comp=E,1μm,0.5s						
CLCH	**Cerro Calan**	**1.58**	**67**	AML	AML	02 58 36.0	
	comp=N,981nm,0.7s						
CLCH				AML	AML	02 58 43.2	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**1.60**	**57**	*i* P	Pn	02 57 59.9	-0.4
PEL				*i* S	Sn	02 58 21.4	-0.2
PEL				AML	AML	02 58 30.7	
	comp=E,4μm,0.4s						
FCH	**Farellones**	**1.80**	**68**	AML	AML	02 58 35.2	
	comp=N,874nm,0.4s						
LNCH	**Linares**	**1.90**	**163**	AML	AML	02 58 38.2	
	comp=N,2μm,0.6s						

*IDC **06** 03:00:44.3±0.5, 39°.65N×118°.48E, h0km, mb4.1/22, mb1 4.3/27, mb1mx4.2/41, mbtmp4.1/27, ML3.8/5, MS3.6/18, Ms1 3.7/18, ms1mx3.4/46, Error ellipse: s-maj=15.6km s-min=11.8km az=28.0*

*NEIC **06** 03:00:46.4±0.3, 39°.69N×118°.47E, h10km, mb4.6/22, Error ellipse: s-maj=7.8km s-min=5.4km az=196.0*

NEIC Felt [III] at Tangshan and [II] at Beijing. Also felt at Qinhuangdao.

*BJI **06** 03:00:46.4, 39°.70N×118°.50E, h10km, mB4.6/18, mb4.2/27, ML4.7/22, Ms4.3/27, Ms7 4.1/28*

*ISCJB **06** 03:00:48.0±0.5, 39°.75N±0°.03×118°.63E±0°.03, h33km±5km, mb4.4/51, MS3.8/19, Error ellipse: s-maj=5.1km s-min=3.9km az=170.8*

*MOS **06** 03:00:47.2±1.2, 39°.67N×118°.54E, h33km, mb4.7/19, Error ellipse: s-maj=9.2km s-min=6.0km az=118.8*

ISC 06 03:00:47.6±0.5, 39°.83N±0°.03×118°.66E±0°.02, h14km±2km, h14km:pP-P, n147, σ2°20/198, mb4.4/51, MS3.8/19, 4C-2D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJI	**Beijing**	**1.92**	**277**	Pn	**Pn**	**03 01 17.2**	**-2.5**
BJI				Pg	**Pb**	**03 01 19.6**	**-2.7**
BJI				Sg	**Sn**	**03 01 43.5**	**-0.2**
BJI				SMN			
	7μm,0.6s						
BJI				SME			
	9μm,0.5s						
BJI	**Beijing**	**1.92**	**277**	Pn	**Pn**	**03 01 17.2**	**-2.5**
BJI				Pg	**Pb**	**03 01 19.6**	**-2.7**
BJI				Sg	**Sn**	**03 01 43.5**	**-0.2**
BJT	**Baijiatuau**	**1.92**	**277**	*e*P	Pn	03 01 16.8	-3.0
BJT				*e*		03 01 43.5	
BJT	**Baijiatuau**	**1.92**	**277**	*e*Pn	Pn	03 01 16.8	-3.0
BJT				*e*Pg	**Pb**	**03 01 19.6**	**-2.8**
BJT				*e*Sg	**Sn**	**03 01 43.5**	**-0.2**
DL2	**Dalian**	**2.48**	**111**	⇓*i*Pn	**Pn**	**03 01 27.6**	**+0.2**
DL2				Pg	**Pb**	**03 01 33.4**	**+1.6**
DL2				Sg	**Sg**	**03 02 09.0**	**+1.8**
DL2				SMN			
	3μm,0.7s						
DL2				SME			
	1μm,0.6s						
TIA	**Tai'an**	**3.81**	**199**	Pn	Pn	03 01 42.1	-3.6
TIA				Pg	**Pb**	**03 01 55.7**	**+1.2**
TIA				Sg	**Sb**	**03 02 37.6**	**-2.8**
TIA				SMN			
	630nm,0.8s						
TIA				SME			
	850nm,0.8s						
SNY	**Shenyang**	**4.24**	**60**	Pn	**Pn**	**03 01 53.4**	**+1.8**
SNY				Pg	**Pg**	**03 02 06.9**	**-1.8**
SNY				Sn	**Sn**	**03 02 41.5**	**+0.7**
SNY				Sg	**Sg**	**03 03 04.4**	**+0.9**
SNY				SMN			
	1μm,0.7s						
SNY				SME			
	530nm,0.7s						
TIY	**Taiyuan**	**5.30**	**249**	Pn	**Pn**	**03 02 07.4**	**+1.1**
TIY				Pg	**Pb**	**03 02 20.1**	**+0.1**
TIY				Sg	**Sb**	**03 03 22.8**	**-0.7**
TIY				SMN			
	830nm,0.9s						
TIY				SME			
	740nm,0.8s						
HHC	**Hu-ho-hao-te**	**5.52**	**283**	*e*Pg	**Pb**	**03 02 25.0**	**+1.3**
HHC				Sg	**Sb**	**03 03 35.4**	**+5.7**
HHC				SMN			
	720nm,1.0s						
HHC				SME			
	1μm,1.1s						
CN2	**Changchun**	**6.44**	**50**	Pn	**Pn**	**03 02 23.5**	**+1.6**
CN2				Sg	**Sg**	**03 04 12.8**	**-1.4**
CN2				SMN			
	100nm,0.7s						
CN2				SME			
	100nm,0.7s						
BTO	**Baotou**	**6.66**	**279**	*e*Pg	**Pb**	**03 02 43.3**	**+0.2**
BTO				Sg	**Sb**	**03 04 07.1**	**+4.6**
BTO				SMN			
	100nm,1.3s						
BTO				SME			
	62nm,1.1s						
KSAR	**Wonju Array Be**	**7.60**	**105**	P	**Pn**	**03 02 38.2**	**+0.3**
KSAR						03 03 59.5	
KSAR	**Wonju Array Be**	**7.60**	**105**	Pn	**Pn**	**03 02 38.1**	**+0.3**
KSAR				Sn	**Sn**	**03 03 59.5**	**-4.3**
KSAR				Lg	Lg	03 04 49.1	
KSRS	**Korea Array**	**7.63**	**105**	P	**Pn**	**03 02 38.2**	**0.0**
KSRS						03 03 59.5	
KSRS				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KSRS				smax	smax		
	comp=N,5.0nm,0.3s						
KSRS	**Korea Array**	**7.63**	**105**	Pn	**Pn**	**03 02 38.1**	**0.0**
	comp=N,8.1nm,0.3s,baz=293,slow=14,SNR=38						
KSRS				Sn	**Sn**	**03 03 59.5**	**-4.9**
	comp=N,4.6nm,0.3s,baz=288,slow=24,SNR=8.1						
KSRS				Lg	Lg	03 04 49.1	
	comp=N,4.1nm,0.3s,baz=283,slow=31,SNR=5.2						
NJ2	**Nanjing**	**7.76**	**179**	*e*Pn	**Pn**	**03 02 42.3**	**+2.3**
NJ2				Sn	**Sn**	**03 04 10.0**	**+2.4**
NJ2				LN			
	comp=N,820nm,17.6s						
NJ2				LE			
	comp=N,2μm,14.3s						
NJ2				LZ			
	comp=N,1μm,9.7s						
MDJ	**Mudanjiang**	**9.42**	**56**	P	**Pn**	**03 03 03.8**	**+1.1**
MDJ				S	**Sn**	**03 04 48.1**	**-0.2**
MDJ				PMZ			
	comp=N,4.0nm,0.6s						
MDJ				PMZ			
	comp=N,19nm,2.6s						
MDJ				LN			
	comp=N,750nm,9.3s						
MDJ				LE			
	comp=N,480nm,14.1s						
MDJ				LZ			
	comp=N,600nm,13.8s						
HIA	**Hailar**	**9.47**	**4**	*e*P	**Pn**	**03 03 05.6**	**+2.1**
XAN	**Xi'an**	**9.70**	**236**	P	**Pn**	**03 03 05.5**	**-1.1**
XAN				LN			
	comp=N,460nm,15.0s						
XAN				LE			
	comp=N,320nm,15.0s						
WHN	**Wuhan**	**9.91**	**202**	*e*P	**Pn**	**03 03 08.8**	**-0.6**
WHN				S	**Sn**	**03 04 57.1**	**-3.3**
WHN				LN			
	comp=N,1μm,9.7s						
WHN				LE			
	comp=N,2μm,12.9s						
WHN				LZ			
	comp=N,1μm,15.4s						
USRK	**Ussuriysk Ar.**	**10.84**	**62**	Pn	Pn	03 03 27.1	+5.0
	comp=N,0.2nm,0.3s,baz=265,slow=11,SNR=5.4						
USRK				Lg	Lg	03 06 36.2	
	comp=N,1.3nm,0.3s,baz=228,slow=25,SNR=9.9						
ULN	**Ulaanbaatar**	**11.60**	**318**	*c i*P	**Pn**	**03 03 32.5**	**-0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ULN	**Ulaanbaatar**	**11.60**	**318**	*e*Pn	**Pn**	**03 03 32.8**	**+0.1**
ULN				*e*Sn	**Sn**	**03 05 38.4**	**-3.6**
JNU	**Nakatsue**	**11.89**	**120**	Pn	**Pn**	**03 03 36.9**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=2.5,slow=17,SNR=4.8						
JNU				LR	LR	03 07 59.2	
	comp=Z,118nm,20.1s,baz=5.5,slow=36						
SONM	**Songino Array**	**11.93**	**316**	Pn	**Pn**	**03 03 35.2**	**-2.0**
	comp=Z,1.9nm,0.3s,baz=134,slow=14,SNR=41						
SONM				Sn	Sn	03 05 38.7	-11
	comp=Z,0.3nm,0.3s,baz=127,slow=26,SNR=3.5						
SONM				Lg	Lg	03 07 05.0	
	comp=Z,2.5nm,0.3s,baz=127,slow=29,SNR=6.0						
SONM				LR	LR	03 08 55.1	
	comp=Z,277nm,18.6s,baz=80,slow=41						
LZH	**Lanzhou**	**12.27**	**257**	*e*P	**Pn**	**03 03 41.1**	**-0.9**
LZH				pP	P	03 03 43.4	-11
LZH				sP		03 03 45.5	
LZH				*e*S	**Sn**	**03 05 58.1**	**-0.5**
LZH				sS		03 06 02.0	
LZH				SS	**SnSn**	**03 06 12.5**	**+2.1**
LZH				PMZ			
	comp=Z,29nm,1.0s						
LZH				PMZ			
	comp=Z,110nm,4.1s						
LZH				LN			
	comp=Z,1μm,13.0s						
LZH				LE			
	comp=Z,1μm,12.3s						
LZH				LZ			
	comp=Z,2μm,13.5s						
GTA	**Gaotai**	**14.53**	**274**	⇑P	**P**	**03 04 19.5**	**+0.1**
GTA				pP	pP	03 04 23.3	
GTA				sP		03 04 25.6	
GTA				S	S	03 07 06.4	-6.8
GTA				sS	sS	03 07 11.8	
GTA				SS	SnSn	03 07 24.2	+18
CD2	**Chengdu**	**15.05**	**238**	P	**Pn**	**03 04 20.2**	**+0.5**
CD2				sP	**sP**	**03 04 28.2**	**-2.8**
CD2				PP	**pP**	**03 04 33.5**	**+4.4**
CD2				S	**Sn**	**03 07 08.1**	**+2.0**
CD2				sS	sS	03 07 12.8	-17
CD2				SS	**S**	**03 07 24.8**	**+1.2**
CD2				PMZ			
	comp=Z,30nm,0.7s						
CD2				PMZ			
	comp=Z,130nm,4.8s						
CD2				LN			
	comp=Z,760nm,14.3s						
CD2				LE			
	comp=Z,760nm,14.3s						
CD2				LZ			
	comp=Z,770nm,16.6s						
ZAK	**Zakamensk**	**15.11**	**319**	*e*P	**Pn**	**03 04 22.1**	**+1.6**
ZAK				*e*		03 07 14.9	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MAJO	**Matsushiro**	**15.72**	**96**	*e*P	**Pn**	**03 04 29.7**	**+1.3**
MAJO	**Matsushiro**	**15.72**	**96**	*e*Pn	**Pn**	**03 04 29.7**	**+1.3**
MAT	**Matsushiro**	**15.72**	**96**	P	**P**	**03 04 35.1**	**+2.7**
MAT				*e*S	**Sn**	**03 07 29.0**	**+6.6**
MJAR	**Matsushiro Arr**	**15.72**	**96**	Pn	**P**	**03 04 36.6**	**+4.2**
	comp=Z,0.3nm,0.3s,baz=286,slow=12,SNR=11						
MJAR				LR	LR	03 10 26.8	
	comp=Z,114nm,18.2s,baz=325,slow=37						
TLY	**Talaya**	**15.78**	**324**	*e*P	**P**	**03 04 32.6**	**-0.5**
TLY				pmax	pmax		
	comp=Z,11nm,1.6s						
TLY				MLR	MLR		
	comp=Z,382nm,13.0s						
TLY	**Talaya**	**15.78**	**324**	Pn	**P**	**03 04 31.4**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=312,slow=8.4,SNR=5.5						
TLY				Sn	**Sn**	**03 07 24.9**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=109,slow=23,SNR=4.3						
TLY				Lg	Lg	03 08 57.8	
	comp=Z,0.0nm,0.3s,baz=359,slow=4.1,SNR=4.0						
TLY				LR	LR	03 09 51.5	
	comp=Z,143nm,19.7s,baz=143,slow=34						
TLY	**Talaya**	**15.78**	**324**	*e*Pn	Pn	03 04 23.0	-6.2
	comp=Z,10nm,1.3s						
TLY				Sn	**Sn**	**03 07 24.9**	**+1.1**
TLY				Lg	Lg	03 08 57.8	
GYA	**Guiyang**	**16.67**	**221**	*e*P	**P**	**03 04 42.5**	**-0.6**
GYA				PP	**PnPn**	**03 04 55.4**	**+5.3**
GYA				S	**Sn**	**03 07 48.3**	**+2.6**
GYA				SS	**SnSn**	**03 08 07.0**	**+8.2**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				PMZ			
	comp=Z,90nm,4.6s						
GYA				LN			
	comp=Z,480nm,13.5s						
GYA				LE			
	comp=Z,370nm,14.4s						
GYA				LZ			
	comp=Z,450nm,12.8s						
MOY	**Mondy**	**17.04**	**320**	*e*P	**P**	**03 04 48.8**	**+1.7**
MOY				pmax	pmax		
	comp=Z,29nm,2.6s						
CLNS	**Chul'man**	**17.51**	**11**	*e*P	**P**	**03 04 52.1**	**0.0**
CLNS				*e*S	**S**	**03 08 13.1**	**-0.5**
CLNS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.8s						
CLNS				smax	smax		
	comp=N,139nm,15.9s						
CLNS				smax	smax		
	comp=E,105nm,8.8s						
CLNS				MLR	MLR		
	comp=Z,360nm,9.0s						
CLNS				MLR	MLR		
	comp=N,547nm,11.0s						
CLNS				MLR	MLR		
	comp=E,483nm,14.0s						
BOD	**Bodaibo**	**18.26**	**352**	*e*P	**P**	**03 05 01.9**	**+1.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.7s						
ASAJ	**Asahikawa**	**18.29**	**69**	P	**P**	**03 05 02.7**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=150,slow=20,SNR=2.7						
KMI	**Kunming**	**19.83**	**227**	P	**Pn**	**03 05 19.9**	**+0.2**
KMI				pP	**pP**	**03 05 24.0**	**+1.8**
KMI				sP	**sP**	**03 05 26.1**	**+2.0**
KMI				S	**S**	**03 08 58.6**	**-2.6**
KMI				SS	**SnSn**	**03 09 25.3**	**+8.5**
KMI				PMZ			
	comp=Z,13nm,0.8s						
KMI				PMZ			
	comp=Z,71nm,3.1s						
KMI				LN			
	comp=Z,420nm,11.0s						
KMI				LE			
	comp=Z,350nm,13.8s						
KMI				LZ			
	comp=Z,570nm,15.0s						
KMI	**Kunming**	**19.83**	**227**	P	**Pn**	**03 05 19.9**	**+0.2**
KMI				pP	**pP**	**03 05 24.0**	**+1.8**
KMI				sP	**sP**	**03 05 26.1**	**+2.0**
KMI				S	**S**	**03 08 58.6**	**-2.6**
KMI				SS	**SnSn**	**03 09 25.3**	**+8.5**
YUK	**Yuzh-Kuril'sk**	**20.63**	**69**	*c i*P	**P**	**03 05 25.8**	**-0.6**
YUK				*e*S	**S**	**03 09 15.3**	**-1.1**
YUK				MLR	MLR		
	comp=Z,349nm,18.0s						
HVS	**Khovu-Aksy**	**20.73**	**311**	*e*P	**P**	**03 05 27.9**	**+0.4**
HVS				pmax	pmax		
	comp=Z,18nm,0.8s						
QIZ	**Qiongzhong**	**22.08**	**203**	P	**P**	**03 05 39.2**	**-2.9**
QIZ				S	**S**	**03 09 43.5**	**-1.6**
QIZ				LZ			
	comp=Z,450nm,10.0s						
SLVN	**Son La**	**22.33**	**219**	*e*P	**P**	**03 05 43.2**	**-1.7**
	comp=Z,26nm,1.5s						
JCJ	**Chichijima**	**23.30**	**116**	LR	LR	03 15 14.8	
	comp=Z,80nm,18.2s,baz=132,slow=37						
WMQ	**Urumqi**	**23.34**	**290**	*e*P	**P**	**03 05 54.2**	**-1.1**
WMQ				sP	**sP**	**03 06 00.7**	**-0.7**
WMQ				PP	**PnPn**	**03 06 25.4**	**+4.1**
WMQ				PcP	**PcP**	**03 09 44.0**	**+2.0**
WMQ				S	**S**	**03 10 01.5**	**-6.1**
WMQ				sS	sS	03 10 08.5	-6.4
WMQ				SS	**SnSn**	**03 10 48.6**	**+6.3**
WMQ				ScS	**ScS**	**03 17 05.0**	**-0.7**
WMQ				PMZ			
	comp=Z,9.0nm,1.0s						
WMQ				PMZ			
	comp=Z,96nm,4.0s						
WMQ				LN			
	comp=Z,190nm,22.0s						
WMQ				LE			
	comp=Z,79nm,18.0s						
WMQ				LZ			
	comp=Z,160nm,16.0s						
LSA	**Lhasa**	**24.67**	**254**	P	**P**	**03 06 08.3**	**-0.1**
LSA	**Lhasa**	**24.67**	**254**	*e*P	**P**	**03 06 08.7**	**+0.3**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
LSA	**Lhasa**	**24.67**	**254**	*e*P	**P**	**03 06 08.7**	**+0.3**
	comp=Z,4.7n

comp=Z,0.6nm,0.6s,baz=94,slow=9.4,SNR=7.4
MKAR PcP **PcP** **03 09 47.8 -2.7**
comp=Z,0.4nm,0.6s,baz=218,slow=0.2,SNR=4.2
MKAR LR LR 03 17 36.4
comp=Z,145nm,18.9s,baz=75,slow=37
MKAR Makanchi Array 27.18 297 *eP* **P** **03 06 30.0 -0.5**
MKAR PcP **PcP** **03 09 47.8 -2.7**
CMAR Chiang Mai Arr 27.27 224 P **P** **03 06 29.1 -2.3**
comp=Z,1.7nm,0.6s,baz=50,slow=6.0,SNR=6.3
CMAR LR LR 03 18 53.2
comp=Z,175nm,18.2s,baz=241,slow=40
PETK Petropavlovsk- 29.59 50 P P 03 06 56.8 +4.9
comp=Z,4.3nm,0.7s,baz=242,slow=6.2,SNR=5.0
PETK LR LR 03 18 40.1
comp=Z,68nm,18.2s,baz=297,slow=36
KURK Kurchatov 29.86 305 P **P** **03 06 54.3 +0.1**
KURK 03 09 56.0
KURK pmax pmax
comp=Z,2.0nm,0.7s
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 29.86 305 *eP* **P** **03 06 53.6 -0.6**
comp=Z,2.6nm,1.2s
KURK PcP **PcP** **03 09 56.0 -1.0**
KURBB Kurchatov Arra 29.91 305 P **P** **03 06 54.2 -0.4**
comp=Z,1.9nm,0.7s,baz=95,slow=9.9,SNR=14
KURBB PcP **PcP** **03 09 56.0 -1.1**
comp=Z,0.7nm,0.5s,baz=103,slow=2.4,SNR=6.3
SEY Seymchan 30.66 30 P **P** **03 07 03.6 +2.5**
comp=Z,3.2nm,0.8s,baz=248,slow=5.0,SNR=7.2
TKM2 Tokmak 2 32.20 290 *eP* **P** **03 07 16.3 +1.0**
TKM2 pmax pmax
comp=Z,17nm,1.8s
TKM2 Tokmak 2 32.20 290 *eP* **P** **03 07 16.3 +1.0**
comp=Z,17nm,1.8s
TIXI Tiksi 32.31 6 *eP* **P** **03 07 15.1 -0.5**
TIXI pmax pmax
comp=Z,4.0nm,1.2s
KSH Kashi 32.63 283 P P 03 07 22.3 +3.4
KSH sP sP 03 07 29.4 +4.2
KSH PP **PP** **03 08 32.3 -0.3**
KSH S **S** **03 12 37.0 +2.6**
KSH SS **SnSn** **03 14 36.1 +7.2**
KSH PMZ
comp=Z,4.0nm,1.1s
KSH PMZ
comp=Z,30nm,3.7s
KSH LN
comp=Z,190nm,6.8s
KSH LE
comp=Z,280nm,4.9s
KSH LZ
comp=Z,310nm,7.3s
AAK Ala-Archa 33.05 289 *eP* P 03 07 19.0 -3.6
AAK Ala-Archa 33.05 289 *eP* P 03 07 19.0 -3.6
BVAR Borovoye Array 35.11 308 P **P** **03 07 40.0 -0.2**
comp=Z,2.0nm,0.5s,baz=100,slow=8.6,SNR=9.8
BVAR PcP **PcP** **03 10 10.7 -0.8**
comp=Z,0.8nm,0.5s,baz=128,slow=2.2,SNR=4.8
BVAR LR LR 03 23 01.0
comp=Z,220nm,18.6s,baz=102,slow=38
BRVK Borovoye 35.18 308 *eP* **P** **03 07 40.2 -0.5**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
BRVK Borovoye 35.18 308 *eP* **P** **03 07 40.9 +0.1**
comp=Z,13nm,1.5s
BILL Bilibino 38.16 27 *eP* **P** **03 08 07.1 +1.2**
BILL Bilibino 38.16 27 *eP* **P** **03 08 07.1 +1.2**
FX1 Attu Island--F 38.89 52 LR LR 03 25 27.9
comp=Z,60nm,18.5s,baz=295,slow=38
KBL Kabul 39.47 278 *eP* **P** **03 08 16.8 -0.8**
KBL pmax pmax
comp=Z,3.0nm,0.5s
KBL Kabul 39.47 278 *eP* **P** **03 08 16.8 -0.8**
comp=Z,3.1nm,0.5s
ABKAR Akbulak array 41.93 303 *eP* **P** **03 08 37.1 -0.4**
ARU Arti 41.95 314 *d iP* **P** **03 08 36.3 -1.3**
ARU 03 10 28.8
ARU S **S** **03 14 56.1 +0.7**
ARU SS **SS** **03 18 02.7 +0.9**
ARU pmax pmax
comp=Z,6.0nm,0.7s
ARU MLR MLR
comp=Z,236nm,13.0s
ARU Arti 41.95 314 *eP* **P** **03 08 37.6 0.0**
comp=Z,5.9nm,0.9s
AKTO Aktyubinsk 42.96 305 P **P** **03 08 45.1 -0.8**
comp=Z,1.3nm,0.6s,baz=93,slow=8.4,SNR=6.6
AKTO LR LR 03 28 01.5
comp=Z,125nm,18.5s,slow=38
TNA Tin City 47.82 33 *eP* **P** **03 09 25.6 +1.6**
comp=Z,8.4nm,1.0s
PRGR Permogore 48.10 322 *eP* **P** **03 09 24.3 -2.0**
PRGR pmax pmax
comp=Z,27nm,0.9s
TMCR Tamitsa 51.07 326 *eP* **P** **03 09 48.7 -0.2**
TMCR *e* 03 11 02.4
TMCR *e* 03 11 45.8
TMCR pmax pmax
comp=Z,30nm,1.4s
KLMR Klimovskoe 51.15 322 *eP* **P** **03 09 48.0 -1.6**
KLMR pmax pmax
comp=Z,26nm,1.6s
SPITS Spitsbergen Ar 53.81 346 LR LR 03 36 36.7
comp=Z,58nm,18.1s,baz=50,slow=40
JOF Joensuu 54.30 326 *eP* **P** **03 10 12.7 -0.2**
JOF pmax pmax
comp=Z,4.0nm,0.3s
JOF Joensuu 54.30 326 *ep* **P** **03 10 12.7 -0.2**
comp=Z,4.4nm,0.3s
OBN Obninsk 54.34 316 *eP* **P** **03 10 12.3 -0.9**
OBN pmax pmax
comp=Z,17nm,1.7s
OBN MLR MLR
comp=Z,126nm,17.0s
ARCES ARCESS Array B 54.39 334 LR LR 03 36 14.1
comp=Z,44nm,21.0s,baz=117,slow=39
KBZ Khabaz 54.78 301 P **P** **03 10 16.6 -0.1**
comp=Z,4.1nm,1.1s,baz=38,slow=18,SNR=2.9
KBZ LR LR 03 35 44.0
comp=Z,73nm,18.2s,baz=94,slow=38
KIV Kislovodsk 54.83 301 *eP* **P** **03 10 17.1 0.0**
KIV *i* 03 10 22.8
KIV pmax pmax
comp=Z,10.0nm,1.7s
KIV MLR MLR
comp=Z,86nm,19.0s
KIV Kislovodsk 54.83 301 *eP* **P** **03 10 16.5 -0.6**
comp=Z,8.3nm,1.0s
GNI Garni 55.02 296 *eP* **P** **03 10 18.9 +0.2**
GNI pmax pmax
comp=Z,13nm,1.3s
KTH Kantishna Hill 55.40 33 *eP* **P** **03 10 23.7 +2.8**
comp=Z,52nm,1.6s
MCK McKinley 56.16 32 *eP* **P** **03 10 27.9 +1.6**
MCK McKinley 56.16 32 *eP* **P** **03 10 27.9 +1.6**
COLA College 56.16 31 *eP* **P** **03 10 27.7 +1.5**
COLA pmax pmax
comp=Z,38nm,1.3s
COLA College 56.16 31 *eP* **P** **03 10 27.2 +1.0**
comp=Z,8.7nm,0.9s
ILAR Eielson Array 56.58 31 P **P** **03 10 29.9 +0.6**
comp=Z,1.2nm,0.6s,baz=282,slow=5.0,SNR=21
KAF Kangasniemi 56.76 326 *eP* **P** **03 10 29.8 -0.8**
KAF pmax pmax
comp=Z,6.0nm,0.5s
KAF Kangasniemi 56.76 326 *ep* **P** **03 10 29.8 -0.8**
comp=Z,5.5nm,0.5s
FINES FINESS Array B 57.13 325 P **P** **03 10 32.5 -0.6**
comp=Z,8.8nm,0.5s,baz=88,slow=6.5,SNR=99
FINES LR LR 03 35 12.3
comp=Z,50nm,18.7s,baz=186,slow=36
COEN Coen 58.17 152 *eP* **P** **03 10 39.6 -1.4**
INK Inuvik 59.70 24 *eP* **P** **03 10 51.7 +0.7**
INK pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 59.70 24 P **P** **03 10 51.2 +0.2**
comp=Z,1.2nm,0.5s,baz=325,slow=8.6,SNR=18
INK Inuvik 59.70 24 *eP* **P** **03 10 51.7 +0.7**
comp=Z,2.1nm,0.5s
AKASG Malin Array Be 60.19 313 P **P** **03 10 52.6 -2.0**
comp=Z,0.4nm,0.3s,baz=48,slow=9.1,SNR=5.3
KIEV Kiev 60.20 313 *eP* **P** **03 10 54.8 +0.1**
WRAB Tennant Creek 61.23 163 *eP* **P** **03 11 00.0 -2.0**
WRAB pmax pmax
comp=Z,5.0nm,1.1s

WRAB Tennant Creek 61.23 163 *eP* **P** **03 11 00.0 -2.0**
comp=Z,4.6nm,1.1s
WRA Warramunga Arr 61.23 163 P **P** **03 10 59.6 -2.4**
comp=Z,1.3nm,0.6s,baz=346,slow=7.1,SNR=27
BRTR Keskin Array B 62.77 300 P **P** **03 11 11.2 -1.2**
comp=Z,1.0nm,0.5s,baz=68,slow=3.1,SNR=9.4
NB2 NORSAR Subarra 63.58 329 P **P** **03 11 16.1 -1.3**
comp=Z,2.9nm,0.7s,baz=56,slow=6.9
NOA NORSAR Array B 63.58 329 P **P** **03 11 16.2 -1.2**
comp=Z,1.8nm,0.7s,baz=55,slow=7.2,SNR=12
NOA LR LR 03 41 17.6
comp=Z,135nm,18.1s,baz=85,slow=38
AS31 Alice Springs 64.75 165 *eP* **P** **03 11 25.8 +0.4**
ASAR Alice Springs 64.75 165 P **P** **03 11 23.4 -1.9**
comp=Z,1.1nm,0.8s,baz=349,slow=7.3,SNR=8.1
CTAO Charters Tower 64.93 151 *eP* **P** **03 11 25.3 -1.3**
CTAO pmax pmax
comp=Z,3.0nm,0.8s
CTAO Chcters Tower 64.93 151 *eP* **P** **03 11 25.3 -1.3**
comp=Z,3.2nm,0.8s
CSS Prodhromos 65.45 296 *eP* **P** **03 11 30.0 0.0**
comp=Z,3.4nm,1.1s
PSZ Piszkesteto 66.85 314 *eP* **P** **03 11 39.6 +0.7**
PSZ pmax pmax
comp=Z,2.0nm,0.7s
PSZ Piszkesteto 66.85 314 *eP* **P** **03 11 39.6 +0.7**
comp=Z,2.3nm,0.7s
CLL Collm 68.52 319 *eP* **P** **03 11 49.0 -0.2**
CLL MLR MLR
comp=Z,300nm,18.3s
CLL Collm 68.52 319 *eP* **P** **03 11 49.0 -0.2**
CLL *ep*P **pP** **03 11 52.0 -1.9**
CLL LmV 03 44 00.0
comp=Z,300nm,18.3s
YKA Yellowknife Ar 69.44 23 P **P** **03 11 54.5 -0.2**
comp=Z,3.7nm,0.8s,baz=324,slow=6.0,SNR=56
GERES GERESS Array B 69.66 317 LR LR 03 45 09.9
comp=Z,64nm,18.7s,baz=302,slow=38
WLF Walferdange 72.94 321 *eP* **P** **03 12 13.7 -2.4**
WLF pmax pmax
comp=Z,27nm,1.3s
WLF Walferdange 72.94 321 *eP* **P** **03 12 13.7 -2.4**
comp=Z,27nm,1.3s
FCC Fort Churchill 78.06 17 *eP* **P** **03 12 44.7 -0.6**
FCC Fort Churchill 78.06 17 *eP* **P** **03 12 44.7 -0.6**
comp=Z,0.2nm,0.7s
FFC Flin Flon 79.59 23 *eP* **P** **03 12 53.3 -0.6**
FFC pmax pmax
comp=Z,127nm,2.7s
FFC Flin Flon 79.59 23 *eP* **P** **03 12 53.3 -0.6**
comp=Z,127nm,2.7s
SLMT Seeley Lake 81.67 33 *eP* **P** **03 13 06.8 +1.5**
comp=Z,3.3nm,1.0s
KMBO Kilima Mbogo 84.11 264 *ceP* **P** **03 13 18.5 -0.1**
KMBO pmax pmax
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 84.11 264 P **P** **03 13 17.2 -1.4**
comp=Z,3.5nm,1.0s,baz=18,slow=5.5,SNR=5.8
KMBO Kilima Mbogo 84.11 264 *eP* **P** **03 13 18.4 -0.1**
HLID Hailey 84.16 36 *eP* **P** **03 13 20.1 +1.7**
comp=Z,38nm,2.2s
DGMT Dagmar 84.24 27 *eP* **P** **03 13 18.6 +0.1**
comp=Z,14nm,0.6s
ESDC Sonseca Array 85.11 319 P **P** **03 13 22.9 -0.1**
comp=Z,0.5nm,0.5s,baz=39,slow=4.7,SNR=3.8
ULM Lac du Bonnet 85.31 21 P **P** **03 13 22.6 -1.2**
comp=Z,4.0nm,0.7s,baz=333,slow=5.2,SNR=8.7
IMW Indian Meadow 85.42 34 *eP* **P** **03 13 27.4 +2.6**
NVAR Mina Array Bea 86.27 41 P **P** **03 13 30.5 +1.4**
comp=Z,1.2nm,0.8s,baz=297,slow=2.5,SNR=6.5
PDAR Pinedale Array 86.92 33 P **P** **03 13 32.1 -0.1**
comp=Z,0.6nm,0.7s,baz=46,slow=2.5,SNR=4.3
RSSD Black Hills 88.00 29 *eP* **P** **03 13 37.9 +0.5**
RSSD Black Hills 88.00 29 *eP* **P** **03 13 37.9 +0.5**
ECSD EROS Data Cent 90.94 25 *eP* **P** **03 13 50.9 0.0**
PV01 Paradox Valley 91.15 35 *eP* **P** **03 13 53.7 +1.5**
SAML Samuel 149.21 4 *e*PKPbc **PKPbc** **03 20 34.5 -1.5**

*IDC **06** 03:04:53.0±3.9, 35°.20S×72°.48W, h0km, mb4.0/4, mb1 3.9/6, mb1mx3.7/26, mbtmp3.9/6, ML3.6/2, Error ellipse: s-maj=106.2km s-min=33.5km az=92.0*
*ISCJB **06** 03:04:57.5±0.6, 35°.02S±0°.05×72°.55W±0°.09, h35km, mb4.1/10, Error ellipse: s-maj=10.9km s-min=7.7km az=12.7*
*NEIC **06** 03:04:59.2±0.6, 34°.99S×72°.43W, h35km, mb4.2/7, Error ellipse: s-maj=15.1km s-min=10.1km az=77.0*
*GUC **06** 03:05:02.3±0.7, 35°.04S×71°.85W, h11km±4km, ML4.0*
ISC 06 03:04:59.2±0.6, 35°.05S±0°.05×72°.35W±0°.09, h35km, n35, σ1°44/41, mb4.1/10, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**1.01**	**143**	↓*iP*	**Pn**	**03 05 18.7**	**+1.9**
LNCH				*e*S1	**Sn**	**03 05 30.1**	**+0.3**
COCH	**Cobquecura**	**1.14**	**198**	*e*P4	Pn	03 05 24.3	+5.6
LNV	**Longovilo**	**1.33**	**36**	↓↓*iP*	**Pn**	**03 05 23.0**	**+1.6**
CACH	**El Canelo**	**1.71**	**58**	↑*iP*	**Pn**	**03 05 26.8**	**+0.1**
CACH				*e*S1	**Sn**	**03 05 45.5**	**-1.9**
CHCH	**Chadas Angostu**	**1.79**	**52**	↑*iP*	**Pn**	**03 05 28.4**	**+0.7**
CHCH				*i* S1	**Sn**	**03 05 48.0**	**-1.1**
TACH	**Talagante**	**1.81**	**40**	↓*iP*	**Pn**	**03 05 29.4**	**+1.5**
TACH				*i* S1	**Sn**	**03 05 49.9**	**+0.1**
ANTU	**Antumapu**	**2.04**	**44**	*e*P1	**Pn**	**03 05 32.7**	**+1.5**
ANTU				*i* S1	**Sn**	**03 05 56.2**	**+0.7**
ANTU				AML	AML	03 05 59.5	
comp=N,2μm,0.4s							
SAN	**Santiago**	**2.11**	**42**	*e*P1	**Pn**	**03 05 34.7**	**+2.6**
SAN				*e*S1	**Sn**	**03 05 59.0**	**+1.9**
CLCH	**Cerro Calan**	**2.23**	**43**	*e*P9	**Pn**	**03 05 34.9**	**+1.2**
CLCH				*i* S1	**Sn**	**03 06 00.6**	**+0.6**
CLCH				AML	AML	03 06 06.9	
comp=N,2μm,0.5s							
CLCH				AML	AML	03 06 09.3	
comp=N,2μm,0.7s							
PEL	**Peldehue**	**2.34**	**36**	↓↓*iP*	**Pn**	**03 05 38.2**	**+2.9**
PEL				*i* S	**Sn**	**03 06 05.6**	**+2.7**
PEL				AML	AML	03 06 15.3	
comp=E,2μm,0.5s							
FCH	**Farellones**	**2.42**	**45**	AML	AML	03 06 14.5	
comp=N,1μm,0.2s							
CFAA	**Coronel Fontan**	**4.86**	**46**	Pn	**Pn**	**03 06 11.3**	**+1.5**
comp=N,1.1nm,0.3s,baz=221,slow=11,SNR=18							
PLCA	**Paso Flores**	**5.85**	**166**	Pn	**Pn**	**03 06 26.5**	**+3.0**
comp=N,0.7nm,0.3s,baz=339,slow=14,SNR=4.8							
TRQA	**Tornquist**	**8.87**	**113**	*e*Pn	**Pn**	**03 07 05.7**	**+0.9**
LVC	**Limon Verde**	**12.75**	**15**	*e*Pn	**Pn**	**03 07 57.6**	**-0.7**
CPUP	**Villa Florida**	**15.55**	**60**	*e*Pn	**Pn**	**03 08 35.7**	**-0.1**
LPAZ	**La Paz**	**19.06**	**12**	P	**Pn**	**03 09 20.8**	**+0.6**
comp=N,0.1nm,0.3s,baz=217,slow=5.1,SNR=2.9							
LPAZ	**La Paz**	**19.06**	**12**	*e*P	**Pn**	**03 09 20.4**	**+0.3**
comp=N,3.1nm,0.9s							
SIV	**San Ignacio**	**21.50**	**31**	P	**P**	**03 09 43.9**	**-1.2**
comp=N,2.3nm,0.6s,baz=210,slow=9.5,SNR=5.2							
OTAV	**Otavalo**	**35.56**	**349**	*e*P	**P**	**03 11 54.9**	**+1.2**
comp=N,1.2nm,0.6s							
JTS	**JuntasAbangare**	**46.64**	**343**	*e*P	**P**	**03 13 23.5**	**-0.8**
OBIP	**Obispado Ponce**	**53.08**	**7**	*e*P	**P**	**03 14 11.6**	**-1.5**
ASCN	**Ascension**	**59.39**	**77**	*e*P	**P**	**03 14 59.4**	**+1.0**
WVT	**Waverly**	**72.27**	**347**	*e*P	**P**	**03 16 20.4**	**-0.4**
comp=N,3.5nm,1.0s							
WMOK	**Wichita Mounta**	**73.69**	**338**	*e*P	**P**	**03 16 28.8**	**-0.5**
comp=N,3.0nm,0.9s							
DBIC	**Dimbokro**	**75.75**	**71**	P	**P**	**03 16 41.8**	**+0.1**
comp=N,1.0nm,0.5s,baz=214,slow=11,SNR=3.6							
BOSA	**Boshof**	**79.81**	**118**	P	**P**	**03 17 04.1**	**-0.3**
comp=N,2.6nm,1.0s,baz=214,slow=3.6,SNR=3.1							
LBTB	**Lobatse**	**82.10**	**115**	*e*P	**P**	**03 17 17.7**	**+1.1**
comp=N,7.6nm,1.2s							
DUG	**Dugway, Tooele**	**83.65**	**330**	*e*P	**P**	**03 17 24.3**	**+0.3**
comp=N,0.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**84.80**	**70**	P	**P**	**03 17 30.3**	**0.0**
comp=N,0.6nm,0.7s,baz=225,slow=3.9,SNR=11							
LSZ	**Lusaka**	**89.72**	**108**	*e*P	**P**	**03 17 54.3**	**-0.1**
comp=N,2.3nm,0.9s							
GNI	**Garni**	**130.81**	**64**	*e*PKPdf	**PKPdf**	**03 24 04.1**	**-2.7**
PALK	**Pallekele**	**142.89**	**132**	*e*PKPdf	**PKPdf**	**03 24 30.9**	**+1.2**
KULM	**Kulim**	**149.69**	**166**	*e*PKPdf	**PKPdf**	**03 24 39.4**	**-1.7**
KURK	**Kurchatov**	**153.81**	**44**	*e*PKPbc	**PKPbc**	**03 24 52.9**	**-1.2**

*GUC **06** 03:09:27.9±0.6, 34°.64S×72°.24W, h15km±4km, ML5.1*
*NEIC **06** 03:09:27.9, 34°.64S×72°.24W, h15km, mb5.0/64, ML5.1(GUC), After GUC.*

NEIC Felt [IV] at Talca; [III] at Cauquenes, Longavi, Pencahue, Rio Claro, San Fernando, San Javier and Santa Cruz; [II] at Pichilemu and Retiro. Also felt at Curico, Machali and Santiago.
*ISCJB **06** 03:09:27.4±1.0, 34°.69S±0°.03×72°.25W±0°.04, h24km±7km, mb4.9/76, MS4.3/16, Error ellipse: s-maj=6.0km s-min=4.2km az=15.9*
*MOS **06** 03:09:29.2±1.1, 34°.71S×72°.08W, h33km, mb5.0/19, Error ellipse: s-maj=15.6km s-min=8.1km az=93.9*
*IDC **06** 03:09:30.2±0.5, 34°.65S×72°.15W, h32km±2km, mb4.5/15, mb1 4.6/17, mb1mx4.5/26, mbtmp4.7/17, ML4.7/2, MS4.3/19, Ms1 4.3/19, ms1mx4.2/22, Error ellipse: s-maj=19.2km s-min=12.2km az=86.0*
*BJI **06** 03:09:31.5, 34°.70S×72°.00W, h35km, mB4.9/9, Ms5.2/9, Ms7 4.8/10*
ISC 06 03:09:29.9±0.5, 34°.70S±0°.03×72°.16W±0°.06, h33km±2km, h33km:pP-P, n382, σ1°01/416, mb4.9/77, MS4.3/16, 9C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.82**	**112**	↑↑*iP*	**Pn**	**03 09 44.1**	**-1.1**
NICH				*i* S	**Sn**	**03 09 56.4**	**+0.2**
NICH				AML	AML	03 09 57.7	
comp=N,222μm,0.7s							
NICH	**Los Niches**	**0.82**	**112**	↑↑*iP*	**Pn**	**03 09 44.1**	**-1.1**
NICH				*i* S	**Sn**	**03 09 56.4**	**+0.2**
LNV	**Longovilo**	**0.96**	**40**	*e*P1	**Pn**	**03 09 44.7**	**-2.5**
LNV	**Longovilo**	**0.96**	**40**	*e*P	**Pn**	**03 09 44.7**	**-2.5**
LNCH	**Linares**	**1.23**	**159**	*e*P	**Pn**	**03 09 50.4**	**-0.5**
LNCH				*i* S	**Sb**	**03 10 07.8**	**-0.4**
LNCH				AML	AML	03 10 14.3	
comp=N,82μm,0.7s							
LNCH	**Linares**	**1.23**	**159**	*e*P	**Pn**	**03 09 50.4**	**-0.5**
LNCH				*i* S	**Sb**	**03 10 07.8**	**-0.4**
CACH	**El Canelo**	**1.41**	**66**	↑↑*iP*	**Pn**	**03 09 53.3**	**-0.2**
CACH	**El Canelo**	**1.41**	**66**	↑↑*iP*	**Pn**	**03 09 53.3**	**-0.2**
CHCH	**Chadas Angostu**	**1.46**	**59**	↑↑*iP*	**Pn**	**03 09 53.5**	**-0.5**
CHCH	**Chadas Angostu**	**1.46**	**59**	↑↑*iP*	**Pn**	**03 09 53.5**	**-0.5**
ANTU	**Antumapu**	**1.69**	**49**	*e*P	**Pn**	**03 09 56.9**	**-0.3**
ANTU				*i* S	**Sn**	**03 10 18.6**	**+0.8**
ANTU				AML	AML	03 10 27.9	
comp=E,20μm,0.4s							
ANTU	**Antumapu**	**1.69**	**49**	*e*P	**Pn**	**03 09 56.9**	**-0.3**
ANTU				*i* S	**Sn**	**03 10 18.6**	**+0.8**
IHA	**Instituto Hidr**	**1.72**	**15**	*e*P	**Pn**	**03 09 56.0**	**-1.7**
IHA				*e*S1	**Sn**	**03 10 18.2**	**-0.3**
IHA	**Instituto Hidr**	**1.72**	**15**	*e*P	**Pn**	**03 09 56.0**	**-1.7**
IHA				*e*S	**Sn**	**03 10 18.2**	**-0.3**
FSR	**Penalolen**	**1.82**	**48**	*e*P1	**Pn**	**03 09 59.8**	**+0.8**
FSR				*i* S	**Sn**	**03 10 22.4**	**+1.4**
FSR	**Penalolen**	**1.82**	**48**	*e*P	**Pn**	**03 09 59.8**	**+0.8**
FSR				*i* S	**Sn**	**03 10 22.4**	**+1.4**
LACH	**Col Las Americ**	**1.83**	**48**	*e*P	**Pn**	**03 09 59.2**	**0.0**
LACH				*i* S	**Sn**	**03 10 23.0**	**+1.7**
LACH	**Col Las Americ**	**1.83**	**48**	*e*P	**Pn**	**03 09 59.2**	**0.0**
LACH				*i* S	**Sn**	**03 10 23.0**	**+1.7**
CLCH	**Cerro Calan**	**1.87**	**46**	↓↓*iP*	**Pn**	**03 09 59.7**	**-0.1**
CLCH				*i* S	**Sn**	**03 10 23.9**	**+1.6**
CLCH				AML	AML	03 10 40.6	
comp=N,20μm,0.7s							
PEL	**Peldehue**	**1.97**	**39**	↑↑*iP*	**Pn**	**03 10 01.0**	**-0.2**
PEL				*i* S	**Sn**	**03 10 26.3**	**+1.4**
PEL	**Peldehue**	**1.97**	**39**	↑↑*iP*	**Pn**	**03 10 01.0**	**-0.2**
PEL				*i* S	**Sn**	**03 10 26.2**	**+1.4**
PEL				AML	AML	03 10 32.6	
comp=E,28μm,0.5s							
PEL	**Peldehue**	**1.97**	**39**	↑↑*iP*	**Pn**	**03 10 01.0**	**-0.2**
PEL				*i* S	**Sn**	**03 10 26.2**	**+1.4**
CFAA	**Coronel Fontan**	**4.51**	**48**	Pn	**Pn**	**03 10 37.4**	**+1.4**
comp=E,0.8nm,0.3s,baz=223,slow=12,SNR=16							
CFAA				Lg	Lg	03 11 41.4	
comp=E,4.7nm,0.3s,baz=159,slow=18,SNR=4.5							
PLCA	**Paso Flores**	**6.16**	**169**	Pn	**Pn**	**03 10 59.8**	**+1.2**
comp=E,10nm,0.3s,baz=334,slow=13,SNR=250							
PLCA				Lg	Lg	03 12 37.4	
comp=E,4.6nm,0.3s,baz=244,slow=22,SNR=3.0							
PLCA				LR	LR	03 13 34.3	
comp=E,5μm,20.2s,baz=350,slow=39							
TRQA	**Tornquist**	**8.86**	**115**	*e*Pn	**Pn**	**03 11 36.8**	**+1.0**
comp=E,81nm,0.9s							
TRQA				*e*Lg	Lg	03 13 55.7	
LVC	**Limon Verde**	**12.37**	**14**	*e*Pn	**Pn**	**03 12 22.9**	**-1.2**
LVC				*e*Lg	Lg	03 15 23.3	
CPUP	**Villa Florida**	**15.25**	**61**	Pn	**P**	**03 13 06.4**	**-1.0**
comp=E,0.5nm,0.3s,baz=223,slow=10,SNR=4.6							
CPUP				LR	LR	03 19 00.6	
comp=E,515nm,18.3s,baz=223,slow=38							
CPUP	**Villa Florida**	**15.25**	**61**	*e*Pn	**Pn**	**03 13 02.2**	**-0.6**
comp=E,0.6nm,0.7s							
LPAZ	**La Paz**	**18.69**	**12**	P	**P**	**03 13 46.5**	**+0.3**
comp=E,0.3nm,0.3s,baz=173,slow=6.0,SNR=16							
LPAZ				LR	LR	03 21 39.2	
comp=E,704nm,18.0s,baz=170,slow=39							
EFI	**East Falkland**	**19.78**	**153**	*e*P	**P**	**03 13 56.7**	**-0.4**
EFI				pmax	pmax		
comp=Z,50nm,0.9s							
EFI	**East Falkland**	**19.78**	**153**	*e*P	**P**	**03 13 56.7**	**-0.4**
comp=Z,50nm,0.9s							
USHA	**Ushuaia**	**20.30**	**174**	P	Pn	03 14 04.2	-0.7
comp=Z,42nm,0.8s,baz=321,slow=8.8,SNR=29							
USHA				LR	LR	03 22 53.3	
comp=Z,1μm,19.3s,baz=334,slow=40							
SIV	**San Ignacio**	**21.12**	**31**	P	**P**	**03 14 12.6**	**+0.5**
comp=Z,5.0nm,0.7s,baz=222,slow=13,SNR=16							
SIV				LR	LR	03 23 48.7	
comp=Z,938nm,20.9s,baz=217,slow=41							
NNA	**Nana**	**23.01**	**348**	*e*P	**P**	**03 14 32.0**	**-0.2**
NNA				pmax	pmax		
comp=Z,30nm,0.9s							
NNA	**Nana**	**23.01**	**348**	P	**P**	**03 14 32.4**	**+0.2**
comp=Z,24nm,0.8s,baz=185,slow=10,SNR=14							
NNA	**Nana**	**23.01**	**348**	*e*P	**P**	**03 14 32.0**	**-0.2**
comp=Z,30nm,0.9s							
SAML	**Samuel**	**26.92**	**20**	*e*P	**P**	**03 15 07.3**	**-1.0**
comp=Z,7.5nm,0.9s							
ATAH	**Atahualpa**	**28.03**	**347**	LR	LR	03 24 48.5	
comp=Z,603nm,19.0s,baz=195,slow=33							
BDFB	**Brasilia**	**28.81**	**55**	P	**P**	**03 15 26.8**	**+1.5**
comp=Z,1.9nm,0.6s,baz=215,slow=11,SNR=2.8							
BDFB				LR	LR	03 28 10.9	
comp=Z,749nm,18.2s,baz=224,slow=39							
PMSA	**Palmer Station**	**30.51**	**173**	LR	LR	03 27 34.6	
comp=Z,882nm,19.4s,baz=330,slow=36							
OTAV	**Otavalo**	**35.25**	**349**	*e*P	**P**	**03 16 22.3**	**+0.1**
comp=Z,15nm,1.2s							
ROSC	**El Rosal**	**39.40**	**357**	LR	LR	03 33 25.6	
comp=Z,351nm,19.5s,baz=188,slow=36							
SDV	**Santo Domingo**	**43.37**	**2**	*e*P	**P**	**03 17 27.7**	**-1.8**
comp=Z,13nm,0.9s							
RCBR	**Riachuelo**	**44.09**	**58**	pP	pP	03 17 43.9	-1.0
comp=Z,5.6nm,0.9s,baz=205,slow=9.0,SNR=1.3							
BCIP	**Isla Barro Col**	**44.23**	**349**	*e*P	**P**	**03 17 35.8**	**-0.5**
comp=Z,69nm,1.3s							
JTS	**JuntasAbangare**	**46.36**	**342**	*e*P	**P**	**03 17 53.3**	**+0.1**
JTS				pmax	pmax		
comp=Z,14nm,0.9s							
JTS	**JuntasAbangare**	**46.36**	**342**	*e*P	**P**	**03 17 53.3**	**+0.1**
comp=Z,14nm,0.9s							
GRGR	**Grenville**	**47.63**	**14**	*e*P	**P**	**03 18 02.5**	**-0.5**
comp=Z,338nm,1.2s							
VNA3	**Neumayer Olymp**	**48.75**	**158**	P	**P**	**03 18 11.9**	**+0.8**
VNA1	**Neumayer--Stat**	**49.07**	**157**	P	**P**	**03 18 15.2**	**+1.7**
VNA2	**Neumayer--Watz**	**49.41**	**157**	P	**P**	**03 18 16.9**	**+0.7**
SNAA	**Sanae**	**50.98**	**158**	P	**P**	**03 18 28.8**	**+0.7**
SNAA	**Sanae**	**50.98**	**158**	*e*P	**P**	**03 18 28.6**	**+0.5**
SNAA	**Sanae**	**50.98**	**158**	*e*P	**P**	**03 18 28.5**	**+0.4**
SNAA				pmax	pmax		
comp=Z,58nm,1.1s							
SNAA	**Sanae**	**50.98**	**158**	P	**P**

NVL pmax pmax
comp=Z,33nm,0.8s
SBA Scott Base 62.38 192 *e*P **P 03 19 51.2 +2.3**
SBA pmax pmax
comp=Z,35nm,1.4s
SBA Scott Base 62.38 192 *e*P **P 03 19 51.2 +2.3**
comp=Z,34nm,1.4s
VNDA Vanda 63.40 191 P **P 03 19 57.8 +2.1**
comp=Z,2.3nm,0.7s,baz=83,slow=1.6,SNR=8.6
VNDA LR LR 03 44 30.1
comp=Z,139nm,19.0s,baz=218,slow=33
SYO Syowa Base 65.25 158‖ *e*P **P 03 20 06.0 -1.9**
TBI Tubuai 67.06 257 *e*T T 04 33 06.2
comp=Z,4.5nm,0.3s
933A Laredo 67.08 334 P **P 03 20 20.3 +0.3**
baz=67
834A Tilden 67.29 335 P **P 03 20 21.8 +0.4**
baz=68
833A Chaparral WMA, 67.77 334 P **P 03 20 24.7 +0.3**
baz=68
832A Faith Ranch, C 67.94 334 P **P 03 20 25.8 +0.3**
baz=68
636A Smothers Creek 68.03 337 P **P 03 20 26.9 +0.9**
baz=68
732A Laxson Ranch, 68.34 334 P **P 03 20 28.3 +0.3**
baz=69
MEH Mehetia 68.66 263 *e*T T 04 35 12.3
comp=Z,32nm,0.2s
LRAL Lakeview Retre 68.80 347 *e*P **P 03 20 30.2 -0.5**
comp=Z,4.7nm,0.7s
632A Uvalde 68.98 334 P **P 03 20 32.5 +0.4**
baz=69
533A Kerrville 69.23 335 P **P 03 20 33.3 -0.2**
baz=70
532A Rocksprings 69.59 335 P **P 03 20 35.9 +0.1**
baz=70
434A Burnet 69.66 336 P **P 03 20 36.0 -0.2**
baz=70
531A Rocksprings 69.85 334 P **P 03 20 37.6 +0.2**
baz=70
TIAR Tiarei 69.87 262 *e*T T 04 36 42.9
comp=Z,7.1nm,0.3s
JCT Junction City 69.87 335 *e*P **P 03 20 37.7 +0.2**
JCT pmax pmax
comp=Z,16nm,1.0s
JCT Junction City 69.87 335 P **P 03 20 37.5 -0.1**
baz=70
JCT Junction City 69.87 335 *e*P **P 03 20 37.7 +0.2**
comp=Z,16nm,1.0s
433A Art 69.88 335 P **P 03 20 37.1 -0.4**
baz=70
PPT2 Papeete2 70.04 262 *e*S SKiKP 03 30 07.0 -16
comp=Z,125nm,25.2s
PPT2 Papeete2 70.04 262 *e*LR LR 03 42 06.9
comp=Z,187nm,25.8s
PPT Papeete 70.05 262 LR LR 03 45 13.0
comp=Z,140nm,20.0s,baz=192,slow=31
334A Lometa 70.12 336 P **P 03 20 38.6 -0.4**
baz=70
530A J-C Ranch, Com 70.13 333 P **P 03 20 39.3 +0.2**
baz=70
TXAR Lajitas Array 70.30 331 P **P 03 20 40.5 +0.3**
comp=Z,1.6nm,0.6s,baz=152,slow=7.6,SNR=14
TXAR LR LR 03 46 48.5
comp=Z,422nm,19.1s,baz=0.0,slow=32
431A Sonora 70.34 334 P **P 03 20 41.2 +0.8**
baz=71
333A Richland Sprin 70.36 336 P **P 03 20 39.9 -0.6**
baz=71
529A Stev Forest Ra 70.44 333 P **P 03 20 41.0 0.0**
baz=71
430A Baggett Ranch, 70.67 334 P **P 03 20 42.5 +0.1**
baz=71
332A Millersview 70.68 335 P **P 03 20 42.0 -0.4**
baz=71
234A Clairette 70.71 337 P **P 03 20 42.2 -0.3**
baz=71
SWET Sewanee 70.74 348 *e*P **P 03 20 41.8 -0.9**
comp=Z,18nm,0.9s
429A Davenport Ranc 70.76 333 P **P 03 20 43.1 +0.1**
baz=71
331A San Angelo 70.85 335 P **P 03 20 43.0 -0.4**
baz=71
233A Rising Star 70.97 336 P **P 03 20 43.5 -0.6**
baz=71
232A Coleman 71.10 335 P **P 03 20 44.6 -0.4**
baz=71
330A Mertzon 71.20 334 P **P 03 20 45.1 -0.6**
baz=71
231A Bronte 71.38 335 P **P 03 20 46.0 -0.7**
baz=72
133A Hamilton Ranch 71.52 336 P **P 03 20 47.0 -0.4**
baz=72
329A Wagon Wheel Ra 71.57 333 P **P 03 20 47.5 -0.4**
baz=72
Z35A Perchaven, San 71.65 338 P **P 03 20 47.8 -0.4**
baz=72
WVT Waverly 71.97 347 *e*P **P 03 20 49.1 -0.9**
WVT pmax pmax
comp=Z,19nm,0.9s
WVT Waverly 71.97 347 *e*P **P 03 20 49.1 -0.9**
comp=Z,19nm,0.9s
131A Roby 72.08 335 P **P 03 20 50.6 -0.2**
baz=72
Z33A Whitaker Ranch 72.09 337 P **P 03 20 50.7 -0.2**
baz=72
130A Snyder 72.21 335 P **P 03 20 51.0 -0.6**
baz=72
Z32A Haskell 72.34 336 P **P 03 20 52.1 -0.3**
baz=73
228A UT Block 9, Go 72.36 333 P **P 03 20 52.3 -0.3**
baz=73
MAW Mawson 72.54 164 LR LR 03 55 23.5
comp=Z,421nm,18.2s,baz=238,slow=38
Z31A Sharp Cattle R 72.58 336 P **P 03 20 53.8 -0.1**
baz=73
Y33A Hilltop Ranch, 72.71 337 P **P 03 20 54.0 -0.5**
baz=73
128A Castleberry Fa 72.78 334 P **P 03 20 54.8 -0.3**
baz=73
Z30A Sanderson Ranc 72.89 335 P **P 03 20 55.2 -0.5**
baz=73
Y32A R-V Farms, Ver 72.97 337 P **P 03 20 55.7 -0.4**
baz=73
Z29A Hungry Hill Ra 73.07 334 P **P 03 20 55.8 -1.0**
baz=73
TUL1 Leonard 73.63 340 P **P 03 20 59.0 -0.9**
baz=74
W33A Caddo, Fort Co 73.72 338 P **P 03 21 00.2 -0.2**
baz=74
X31A McDonald Ranch 73.72 336 P **P 03 20 59.6 -1.0**
baz=74
Y28A McKinney Farm, 73.85 334 P **P 03 21 00.5 -0.9**
baz=74
W32A Sentinel 73.93 337 P **P 03 21 01.2 -0.5**
baz=74
MSTX Muleshoe 74.09 334 P **P 03 21 02.7 -0.1**
baz=74
MSTX Muleshoe 74.09 334 *e*P **P 03 21 02.8 -0.1**
comp=Z,153nm,2.7s
V33A Lossen Ranch, 74.28 338 P **P 03 21 03.5 -0.2**
baz=74
319A Douglas 74.44 328 P **P 03 21 05.7 +0.8**
baz=75
Z24A Sheeppen Canyo 74.50 332 P **P 03 21 05.6 +0.3**
baz=75
AMTX Amarillo 74.53 335 P **P 03 21 05.1 -0.2**
baz=75
AMTX Amarillo 74.53 335 *e*P **P 03 21 05.4 +0.1**
comp=Z,14nm,1.0s
SUR Sutherland 74.58 119 P **P 03 21 07.5 +1.4**
comp=Z,19nm,0.8s,baz=251,slow=7.3,SNR=12
SUR Sutherland 74.58 119 *e*P **P 03 21 06.8 +0.8**
comp=Z,30nm,0.9s
121A Cookes Peak, D 74.79 329 P **P 03 21 07.6 +0.6**
baz=75
121A Cookes Peak, D 74.79 329 *e*P **P 03 21 07.4 +0.4**
comp=Z,12nm,1.0s
Y24A Capitan 75.05 332 P **P 03 21 08.6 +0.1**
baz=75
LIC Lamto 75.09 71 *e*P **P 03 21 08.5 -0.5**
comp=Z,58nm,1.5s
W27A Bowe Ranch, En 75.18 334 P **P 03 21 09.1 0.0**
baz=75
ACSO Alum Creek Sta 75.23 351 *e*P **P 03 21 08.5 -0.7**
comp=Z,12nm,0.6s
TIC Toumodi 75.35 71 *e*P **P 03 21 09.9 -0.6**
comp=Z,21nm,1.0s
KIC Kosan Boka 75.39 72 *e*P **P 03 21 10.3 -0.4**
comp=Z,100nm,1.4s
DBIC Dimbokro 75.49 71 *e*P **P 03 21 10.6 -0.7**
DBIC pmax pmax
comp=Z,13nm,0.8s
DBIC Dimbokro 75.49 71 P **P 03 21 11.3 0.0**
comp=Z,6.9nm,0.6s,baz=216,slow=5.2,SNR=13
DBIC LR LR 03 52 22.1
comp=Z,132nm,18.9s,baz=214,slow=34
DBIC Dimbokro 75.49 71 *e*P **P 03 21 10.6 -0.7**
comp=Z,13nm,0.8s
W25A X Bar L Ranch, 75.83 333 P **P 03 21 12.9 0.0**
baz=76
TUC Tucson 75.90 327 *e*P **P 03 21 14.2 +0.9**
TUC pmax pmax
comp=Z,8.0nm,1.2s
TUC Tucson 75.90 327 *e*P **P 03 21 14.2 +0.9**
comp=Z,8.0nm,1.2s
X23A Hourglass Bar 75.92 332 P **P 03 21 14.4 +0.8**
baz=76
LAZ Ladron 76.14 331 *e*P **P 03 21 15.6 +0.9**
comp=Z,7.0nm,1.3s
W24A Lazy 6 Ranch, 76.17 332 P **P 03 21 13.9 -1.0**
baz=76
ANMO Albuquerque 76.35 332 *e*P **P 03 21 16.6 +0.7**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 76.35 332 *e*P **P 03 21 16.6 +0.7**
comp=Z,6.2nm,1.0s
V25A Rancho No Teng 76.44 333 P **P 03 21 16.0 -0.4**
baz=77
214A Organ Pipe Nat 76.53 325 P **P 03 21 17.7 +0.8**
baz=77
S30A Montezuma 76.63 337 P **P 03 21 17.5 +0.2**
baz=77
T28A Walsh 76.70 336 P **P 03 21 17.5 -0.2**
baz=77
T27A Campo 76.85 335 P **P 03 21 18.5 -0.1**
baz=77
U25A Circle Dot Ran 76.86 334 P **P 03 21 18.7 -0.1**
baz=77
S28A Manter 77.05 336 P **P 03 21 19.9 +0.2**
baz=77
T26A Comanche Natio 77.26 335 P **P 03 21 21.0 +0.1**
baz=78
V22A San Miguel Ran 77.37 332 P **P 03 21 22.1 +0.4**
baz=78
U23A El Rito 77.46 332 P **P 03 21 23.2 +1.1**
baz=78
T25A Trinidad 77.52 334 P **P 03 21 23.0 +0.6**
baz=78
R29A Marienthal 77.56 337 P **P 03 21 22.5 0.0**
baz=78
S26A Kim 77.62 335 P **P 03 21 23.2 +0.3**
baz=78
R28A Tribune 77.70 337 P **P 03 21 23.3 0.0**
baz=78
U22A Llaves 77.76 332 P **P 03 21 25.0 +1.1**
baz=78
Q30A Quinter 77.78 338 P **P 03 21 23.6 0.0**
baz=78
T24B San Luis 77.80 333 P **P 03 21 25.2 +1.0**
baz=78
Q29A Oakley 77.94 337 P **P 03 21 24.5 -0.1**
baz=78
X16A Lo Mia Camp, P 77.97 328 P **P 03 21 25.6 +0.6**
baz=78
R27A Eads 77.98 336 P **P 03 21 24.5 -0.4**
baz=78
S25A Robets Cordova 77.99 334 P **P 03 21 25.3 +0.2**
baz=78
R26A Arlington 78.22 335 P **P 03 21 26.0 -0.2**
baz=78
S24A Houchin Ranch, 78.25 334 P **P 03 21 27.2 +0.5**
baz=78
Y14A Wickenburg 78.27 326 P **P 03 21 26.3 -0.2**
baz=78
SDCO Great Sand Dun 78.45 334 *e*P **P 03 21 28.0 +0.3**
comp=Z,3.4nm,1.0s
R24A Sanders Place, 78.74 334 P **P 03 21 29.8 +0.6**
baz=79
Q26A Hugo 78.80 336 P **P 03 21 30.0 +0.5**
baz=79
WUAZ Wupatki 78.87 328 P **P 03 21 30.9 +1.0**
baz=79
WUAZ Wupatki 78.87 328 *e*P **P 03 21 31.1 +1.2**
comp=Z,7.1nm,1.0s
S22A 4UR Ranch, Cre 78.95 333 P **P 03 21 31.2 +0.7**
baz=79
JFWS Jewell Farm 78.99 347 *e*P **P 03 21 29.5 -0.7**
JFWS pmax pmax
comp=Z,10.0nm,0.6s
JFWS Jewell Farm 78.99 347 *e*P **P 03 21 29.5 -0.7**
comp=Z,10.0nm,0.6s
MVCO Mesa Verde 79.13 331 P **P 03 21 32.4 +1.0**
baz=79
MVCO Mesa Verde 79.13 331 *e*P **P 03 21 32.6 +1.2**
comp=Z,17nm,1.4s
BC3 Big Chuckawall 79.19 324 P **P 03 21 32.4 +0.7**
baz=79
Q24A Divide 79.41 334 P **P 03 21 33.8 +0.8**
baz=80
IRM Iron Mountain 79.46 325 P **P 03 21 34.1 +1.1**
baz=80
PFO Pinyon Flats O 79.64 324 P **P 03 21 35.0 +0.9**
baz=80
W13A Hualapai Mount 79.64 326 P **P 03 21 34.5 +0.3**
baz=80
BOSA Boshof 79.83 118 *e*P **P 03 21 35.3 -0.2**
BOSA AMB AMB 03 21 46.5
comp=Z,34nm,1.1s
BOSA Boshof 79.83 118 *e*P **P 03 21 35.4 -0.2**
BOSA pmax pmax
comp=Z,42nm,0.9s
BOSA Boshof 79.83 118 P **P 03 21 35.7 +0.1**
comp=Z,32nm,0.8s,baz=245,slow=3.8,SNR=49
BOSA LR LR 03 54 36.1
comp=Z,121nm,18.3s,baz=213,slow=34
BOSA Boshof 79.83 118 *e*P **P 03 21 35.4 -0.2**
comp=Z,42nm,0.9s
PV01 Paradox Valley 79.96 332 *e*P **P 03 21 36.6 +0.7**
U15A North Rim 80.04 328 P **P 03 21 37.6 +1.1**
baz=80
LDFC Landfair 80.19 325 *e*P **P 03 21 37.8 +0.8**
comp=Z,15nm,1.3s
GMRC Granite Mounta 80.20 325 P **P 03 21 38.2 +1.0**
baz=80
SMCO Snowmass 80.26 333 *e*P **P 03 21 38.7 +1.0**
SWZ Schweizer 80.69 116 *e*P **P 03 21 38.9 -1.3**
SWZ AMB AMB 03 21 40.4
comp=Z,36nm,2.9s
SWZ Schweizer 80.69 116 P **P 03 21 38.9 -1.3**
comp=Z,36nm,2.9s
O23A Lake Granby, G 80.78 334 P **P 03 21 41.3 +1.0**
baz=81
TUQ Turquoise Moun 80.86 325 P **P 03 21 41.8 +1.1**
baz=81
O22A Kremmling 80.97 334 P **P 03 21 41.6 +0.3**
baz=81
K30A Basset 81.00 340 P **P 03 21 41.8 +0.7**
baz=81
ECSD EROS Data Cent 81.18 342 P **P 03 21 41.6 -0.4**
baz=82
ECSD EROS Data Cent 81.18 342 *e*P **P 03 21 41.6 -0.4**
comp=Z,27nm,1.3s
SHPR Sheep Range 81.38 326 *e*P **P 03 21 44.7 +1.3**
CCUT Cedar City 81.44 328 *e*P **P 03 21 45.5 +1.6**
comp=Z,10nm,1.1s
N22A Wattenberg Ran 81.50 334 P **P 03 21 44.7 +0.6**
baz=82
K28A Ten Mile Ranch 81.55 339 P **P 03 21 45.1 +1.1**
baz=82
O20A White River Ci 81.57 333 *e*P **P 03 21 44.2 -0.2**
comp=Z,94nm,2.5s
O20A *e*pP **pP 03 21 55.4 +0.7**
ARUT Antelope Range 81.68 328 *e*P **P 03 21 46.3 +1.3**
ARUT pmax pmax
comp=Z,92nm,0.9s
ARUT Antelope Range 81.68 328 *e*P **P 03 21 46.2 +1.3**
comp=Z,92nm,0.9s
SEK Senekal 81.72 119 *e*P **P 03 21 45.9 +0.2**
SEK AMB AMB 03 21 48.1
comp=Z,32nm,2.8s
SEK Senekal 81.72 119 P **P 03 21 45.9 +0.2**
comp=Z,32nm,2.8s
J29A Okreek 81.87 340 P **P 03 21 45.9 +0.1**
baz=82
I30A Oacoma 82.09 340 P **P 03 21 46.7 -0.1**
baz=82
LBTB Lobatse 82.10 115 *e*P **P 03 21 47.8 +0.2**
LBTB AMB AMB 03 21 58.8
comp=Z,28nm,2.4s
LBTB Lobatse 82.10 115 *e*P **P 03 21 47.8 +0.2**
LBTB pmax pmax
comp=Z,27nm,0.6s
LBTB Lobatse 82.10 115 *e*P **P 03 21 47.8 +0.2**
comp=Z,27nm,0.6s
J28A Allard Ranch, 82.16 339 P **P 03 21 46.8 -0.4**
baz=82
J27A Elkhorn Farm, 82.23 338 P **P 03 21 48.2 +0.5**
baz=82
DAC Darwin (Calif) 82.34 324 *e*P **P 03 21 49.6 +1.1**
DAC pmax pmax
comp=Z,6.0nm,0.8s
DAC Darwin (Calif) 82.34 324 *e*P **P 03 21 49.6 +1.1**
comp=Z,6.1nm,0.8s
I28A Midland 82.66 339 P **P 03 21 49.9 0.0**
baz=83
H29A Onida 82.96 340 P **P 03 21 51.2 -0.2**
baz=83
DAU Daniels Canyon 82.98 331 *e*P **P 03 21 53.6 +1.7**
DAU pmax pmax
comp=Z,4.0nm,1.0s
DAU Daniels Canyon 82.98 331 *e*P **P 03 21 53.6 +1.7**
comp=Z,3.8nm,1.0s
R11A Troy Canyon, C 83.09 327 P **P 03 21 53.1 +0.8**
baz=83
R11A Troy Canyon, C 83.09 327 *e*P **P 03 21 53.6 +1.2**
J24A Dixon Ranch, L 83.13 337 P **P 03 21 53.0 +0.6**
baz=83
G30A Faulkton 83.14 341 P **P 03 21 51.9 -0.4**
baz=83
CRWM Crown Mines 83.19 117 *e*P **P 03 21 53.4 0.0**
CRWM AMB AMB 03 22 11.1
comp=Z,18nm,3.8s
JLU Jordanelle 83.22 331 *e*P **P 03 21 53.9 +0.8**
comp=Z,8.0nm,1.2s
H28A Mission Ridge 83.24 340 P **P 03 21 52.8 0.0**
baz=84
OBSV Observatory 83.27 117 *e*P **P 03 21 53.5 -0.3**
OBSV AMB AMB 03 22 05.3
comp=Z,18nm,4.5s
K21A Alcova 83.39 335 P **P 03 21 53.6 -0.2**
baz=84
DUG Dugway, Tooele 83.43 330 *e*P **P 03 21 54.7 +0.7**
DUG pmax pmax
comp=Z,19nm,1.5s
DUG Dugway, Tooele 83.43 330 P **P 03 21 54.5 +0.4**
baz=84
DUG Dugway, Tooele 83.43 330 *e*P **P 03 21 54.7 +0.7**
comp=Z,19nm,1.5s
I25A Rochford 83.45 338 P **P 03 21 53.9 -0.2**
baz=84
H27A Howes 83.51 339 P **P 03 21 54.0 -0.2**
baz=84
TPH Tonopah 83.61 326 *e*P **P 03 21 55.9 +0.8**
TPH pmax pmax
comp=Z,12nm,1.1s
TPH Tonopah 83.61 326 *e*P **P 03 21 55.9 +0.8**
comp=Z,12nm,1.1s
SLR Silverton 83.68 117 *e*P **P 03 21 55.2 -0.7**
SLR AMB AMB 03 22 03.8
comp=Z,24nm,3.3s
SLR Silverton 83.68 117 P **P 03 21 55.2 -0.7**
SLR pmax pmax
comp=Z,24nm,3.3s
SLR Silverton 83.68 117 P **P 03 21 55.2 -0.7**
comp=Z,24nm,3.3s
HWUT Hardware Ranch 84.11 331 *e*P **P 03 21 57.8 +0.2**
comp=Z,104nm,2.5s
BGU Big Grassy Mou 84.13 330 *e*P **P 03 21 59.1 +1.5**
comp=Z,6.4nm,1.6s
F28A McLaughlin 84.25 340 P **P 03 21 56.2 -1.7**
baz=84
G26A Maurine 84.26 339 P **P 03 21 57.5 -0.6**
baz=84
J20A Shoshoni 84.32 335 P **P 03 21 58.3 -0.2**
baz=85
PDAR Pinedale Array 84.34 333 P **P 03 21 58.6 -0.2**
comp=Z,2.5nm,1.1s,baz=141,slow=6.6,SNR=6.2
PDAR LR LR 03 55 47.2
comp=Z,265nm,18.4s,baz=161,slow=33
H24A Dirks Ranch, A 84.37 337 P **P 03 21 57.8 -0.9**
baz=85
NVAR Mina Array Bea 84.40 325 P **P 03 22 00.0 +0.9**
comp=Z,0.7nm,0.6s,baz=160,slow=5.5,SNR=6.6
NVAR pP **pP 03 22 09.7 +0.2**
comp=Z,2.7nm,0.8s,baz=145,slow=6.5,SNR=9.8
G25A Newell 84.42 338 P **P 03 21 58.8 -0.1**
baz=85
I21A Big Trails, Te 84.44 335 P **P 03 21 58.9 -0.3**
baz=85
TORD Torodi Ar. Bea 84.54 70 P **P 03 21 59.9 -0.2**
comp=Z,3.6nm,0.8s,baz=230,slow=3.2,SNR=22
TORD pP **pP 03 22 09.2 -1.3**
comp=Z,9.4nm,0.9s,baz=251,slow=4.0,SNR=20
TORD LR LR 03 58 23.8
comp=Z,109nm,18.1s,baz=270,slow=35
J19A Crowheart 84.59 334 P **P 03 21 59.3 -0.6**
baz=85
F27A Lemmon 84.62 340 P **P 03 21 59.8 0.0**
baz=85
HVU Hansel Valley 84.74 331 *e*P **P 03 21 59.9 -0.8**
HVU pmax pmax
comp=Z,8.0nm,0.8s
HVU Hansel Valley 84.74 331 *e*P **P 03 21 59.9 -0.8**
comp=Z,8.4nm,0.8s
I20A Worland 84.85 335 P **P 03 22 00.5 -0.7**
baz=85
D30A Buchanan 84.87 342 P **P 03 22 00.7 -0.4**
baz=85
ELK Elko 84.91 329 *e*P **P 03 22 04.5 +2.8**
ELK pmax pmax
comp=Z,6.0nm,0.9s
ELK Elko 84.91 329 *e*P **P 03 22 04.5 +2.8**
comp=Z,5.6nm,0.9s
WAKR Walker 85.00 325 *e*P **P 03 22 02.0 -0.2**
comp=Z,5.5nm,1.1s
I19A Meeteetse 85.24 334 P **P 03 22 02.4 -0.8**
baz=86
H20A Greybull 85.28 335 P **P 03 22 03.1 -0.1**
baz=86
AGMN Agassiz Nation 85.30 344 P **P 03 22 02.4 -0.8**
baz=86
AGMN Agassiz Nation 85.30 344 *e*P P 03 21 56.6 -6.6
comp=Z,6.8nm,0.9s
C30A Mose, Pekin 85.36 343 P **P 03 22 03.4 -0.1**
baz=86
D28A Regan 85.42 341 P **P 03 22 03.6 -0.2**
baz=86
LOHW Long Hollow 85.46 333 *e*P **P 03 22 04.6 +0.3**
comp=Z,46nm,2.5s
D27A Center 85.61 340 P **P 03 22 05.3 +0.6**
baz=86
I17A Pilgrim Ck. 85.71 333 P **P 03 22 05.6 0.0**
baz=86
MDND Maddock 85.78 342 P **P 03 22 05.4 -0.1**
baz=86
MDND Maddock 85.78 342 *e*P **P 03 22 05.6 +0.1**
comp=Z,6.4nm,0.9s
H19A Powell 85.78 335 P **P 03 22 05.7 -0.1**
baz=86
IMW Indian Meadow 85.83 333 *e*P **P 03 22 08.2 +1.9**
comp=Z,12nm,1.4s
FLWY Flagg Ranch 85.90 333 *e*P **P 03 22 07.0 +0.5**
comp=Z,7.4nm,0.8s
G20A Bridger 85.99 335 P **P 03 22 06.5 -0.3**
baz=86
B30A Myrvik Farm, E 86.02 343 P **P 03 22 06.4 -0.3**
baz=86
H18A Shoshone NF, C 86.03 334 P **P 03 22 06.8 -0.4**
baz=86
LKWY Lake 86.20 334 *e*P **P 03 22 08.7 +0.7**
LKWY pmax pmax
comp=Z,2.0nm,0.4s
LKWY Lake 86.20 334 *e*P **P 03 22 08.7 +0.7**
comp=Z,2.5nm,0.4s
RLMT Red Lodge 86.28 335 *e*P **P 03 22 08.0 -0.3**
comp=Z,11nm,1.0s
B29A Wagenman Farm, 86.28 342 P **P 03 22 07.8 -0.2**
baz=87
A30A Hoffart Farm, 86.47 343 P **P 03 22 08.6 -0.3**
baz=87
YMR Madison River 86.50 333 *e*P **P 03 22 10.3 +0.8**
comp=Z,14nm,0.9s
LAO LASA Array 86.63 337 *e*P **P 03 22 09.8 0.0**

comp=Z,20nm,1.1s
A29A Manning Farm, 86.68 342 P **P 03 22 09.6 -0.4**
baz=87
D23A Lindsay 86.74 338 P **P 03 22 10.9 +0.6**
baz=87
QLMT Earthquake Lak 86.81 333 *e*P **P 03 22 08.4 -2.6**
comp=Z,1.0nm,1.1s
C24A Savage 86.82 339 P **P 03 22 11.4 +0.6**
baz=87
HLID Hailey 86.90 331 P **P 03 22 12.0 +0.7**
baz=87
HLID Hailey 86.90 331 *e*P **P 03 22 12.2 +0.8**
comp=Z,76nm,2.5s
MSNA Messina 86.94 115 *e*P **P 03 22 12.7 +0.6**
MSNA AMB AMB 03 22 24.1
comp=Z,18nm,1.1s
MSNA Messina 86.94 115 P **P 03 22 12.7 +0.6**
comp=Z,18nm,1.1s
D22A Cohagen 87.02 338 P **P 03 22 12.0 +0.3**
baz=87
E20A Meyer Farm, Mu 87.09 336 P **P 03 22 12.3 +0.2**
baz=87
ULM Lac du Bonnet 87.15 345 *e*P P 03 22 17.7 +5.6
ULM pmax pmax
comp=Z,15nm,1.1s
ULM Lac du Bonnet 87.15 345 P **P 03 22 13.1 +0.9**
comp=Z,4.4nm,0.8s,baz=126,slow=3.9,SNR=5.4
ULM Lac du Bonnet 87.15 345 *e*P P 03 22 17.7 +5.6
comp=Z,15nm,1.1s
D21A La Casta Ranch 87.21 337 P **P 03 22 12.4 -0.2**
baz=88
E19A Rath Farm, Rou 87.27 336 P **P 03 22 13.2 +0.2**
baz=88
C23A Lambert 87.30 338 P **P 03 22 13.0 -0.1**
baz=88
MFID Camas Ranch 87.35 330 *e*P P 03 22 19.8 +6.3
comp=Z,5.6nm,1.0s
BOZ Bozeman (W) 87.58 333 *e*P **P 03 22 15.2 +0.6**
BOZ pmax pmax
comp=Z,3.0nm,0.9s
BOZ Bozeman (W) 87.58 333 *e*P **P 03 22 15.2 +0.6**
comp=Z,2.8nm,0.9s
DGMT Dagmar 87.60 339 P **P 03 22 14.9 +0.4**
baz=88
DGMT Dagmar 87.60 339 *e*P **P 03 22 14.8 +0.4**
comp=Z,59nm,1.3s
DLMT Dillon 87.70 333 *e*P P 03 22 19.6 +4.5
comp=Z,18nm,1.4s
MOD Modoc Plateau 88.09 326 *e*P **P 03 22 18.0 +0.9**
comp=Z,133nm,3.0s
A22A Carney Farms, 88.58 339 P **P 03 22 19.5 +0.4**
baz=89
SCHQ Schefferville 89.29 3 LR LR 04 01 36.0
comp=Z,61nm,21.1s,baz=68,slow=35
TAM Tamanrasset 93.21 65 *e*P **P 03 22 41.5 +0.1**
TAM Tamanrasset 93.21 65 *e*P **P 03 22 41.5 +0.1**
FCC Fort Churchill 94.89 349 *e*P **P 03 22 49.1 +1.1**
FCC Fort Churchill 94.89 349 *e*P **P 03 22 49.1 +1.1**
comp=Z,0.1nm,0.6s
YKA Yellowknife Ar 102.69 341 Pdiff **Pdif 03 23 21.7 -1.3**
comp=Z,0.1nm,0.6s,baz=140,slow=3.9,SNR=3.2
ASAR Alice Springs 116.90 207 PKP **PKPdf 03 28 10.4 -1.3**
comp=Z,0.5nm,0.5s,baz=137,slow=1.8,SNR=7.4
WB2 Warramunga Arr 120.10 209 *e*PKPdf **PKPdf 03 28 16.7 -1.3**
WRA Warramunga Arr 120.11 209 PKP **PKPdf 03 28 16.8 -1.1**
comp=Z,2.6nm,0.7s,baz=159,slow=1.7,SNR=50
WRAB Tennant Creek 120.11 209 *e*PKIKP **PKPdf 03 28 16.3 -1.6**
WRAB Tennant Creek 120.11 209 *e*PKPdf **PKPdf 03 28 16.3 -1.6**
SUW Suwalki 120.18 43 *e*PKIKP **PKPdf 03 28 17.3 +0.5**
SUW Suwalki 120.18 43 *e*PKPdf **PKPdf 03 28 17.3 +0.5**
COEN Coen 121.12 221 *e*PKPdf **PKPdf 03 28 16.6 -3.3**
BRTR Keskin Array B 122.25 61 PKP **PKPdf 03 28 21.1 -0.4**
comp=Z,1.2nm,0.8s,baz=198,slow=3.9,SNR=8.6
BRTR pPKP **pPKPdf 03 28 32.1 -0.1**
comp=Z,1.7nm,0.8s,baz=188,slow=3.7,SNR=8.2
TNA Tin City 123.35 330 *e*PKPdf **PKPdf 03 28 23.0 +0.5**
FINES FINESS Array B 123.62 35 PKP **PKPdf 03 28 22.5 -0.8**
comp=Z,1.0nm,0.8s,baz=64,slow=6.3,SNR=2.8
FINES pPKPbc **pKKPbc 03 38 10.8 -1.5**
comp=Z,1.1nm,0.8s,baz=93,slow=4.0,SNR=5.0
H11S2 WAKE ISLAND Hyl 25.66 269 T T 05 46 47.4
baz=118,slow=74,SNR=3.7
H11S1 WAKE ISLAND Hyl 25.67 269 T T 05 46 45.4
baz=118,slow=74,SNR=2.8
H11S3 WAKE ISLAND Hyl 25.68 269 T T 05 46 56.8
baz=118,slow=74,SNR=2.6
H11N3 WAKE ISLAND Hyl 26.09 270 T T 05 47 12.3
baz=115,slow=78,SNR=12
H11N1 WAKE ISLAND Hyl 26.11 270 T T 05 47 13.4
baz=115,slow=78,SNR=31
H11N2 WAKE ISLAND Hyl 26.11 270 T T 05 47 16.9
baz=115,slow=78,SNR=22
GNI Garni 130.51 64 *e*PKIKP **PKPdf 03 28 37.1 -0.3**
GNI Garni 130.51 64 *e*PKPdf **PKPdf 03 28 37.0 -0.3**
KAPI Kappang 138.94 198 *e*PKPdf **PKPdf 03 28 53.7 0.0**
ARU Arti 140.33 41 *e*PKIKP **PKPdf 03 28 55.7 +0.9**
ARU Arti 140.33 41 *e*PKPdf **PKPdf 03 28 55.7 +0.9**
AKTO Aktyubinsk 140.85 51 PKP **PKPdf 03 28 57.0 +1.0**
comp=Z,1.4nm,0.9s,baz=0,slow=7.1,SNR=4.9
ABKAR Akbulak array 142.19 52 *e*PKPpre PKPpre 03 28 52.7
ABKAR *e*PKPdf **PKPdf 03 28 58.5 +0.1**
POO Poona 145.81 109 *e*P **PKPdf 03 29 04.0 -1.7**
KSM Kuching 146.87 185 *e*PKPbc **PKPbc 03 29 09.0 -0.5**
BRVK Borovoye 147.78 44 *e*PKP2 **PKPbc 03 29 11.1 +0.2**
BRVK Borovoye 147.78 44 *e*PKPbc **PKPbc 03 29 11.1 +0.2**
BVAR Borovoye Array 147.85 44 PKPbc **PKPdf 03 29 08.4 +0.3**
comp=Z,3.5nm,0.7s,baz=281,slow=2.8,SNR=19
BVAR pPKPbc **pPKPbc 03 29 22.5 +0.8**
comp=Z,8.3nm,0.7s,baz=289,slow=4.5,SNR=16
HYB Hyderabad 148.72 116 *i* PKP **PKPbc 03 29 13.0 -1.4**
IPM Ipoh 149.27 167 *e*PKPbc **PKPbc 03 29 15.1 -0.8**
YAK Yakutsk 149.35 340 *e*PKIHKP **PKPdf 03 29 13.3 +3.1**
YAK pmax pmax
comp=Z,30nm,1.0s
KKAR Karatay Array 149.96 63 *e*PKPbc **PKPbc 03 29 16.0 -0.8**
KULM Kulim 149.99 166 *e*PKPbc **PKPbc 03 29 16.6 -1.1**
KKM Kota Kinabalu 150.46 197 *e*PKPbc **PKPbc 03 29 17.0 -1.9**
AAK Ala-Archa 152.91 63 PKPbc **PKPbc 03 29 24.1 +0.3**
comp=Z,6.6nm,0.8s,baz=192,slow=3.2,SNR=24
AAK pPKPbc **pPKPbc 03 29 33.4 -1.0**
comp=Z,3.9nm,0.8s,baz=210,slow=4.4,SNR=5.7
KURBB Kurchatov Arra 153.44 44 PKP **PKPdf 03 29 16.7 -0.1**
comp=Z,0.7nm,0.9s,baz=289,slow=2.1,SNR=6.3
KURBB PKPbc **PKiKP 03 29 24.5 -0.1**
comp=Z,3.6nm,0.7s,baz=296,slow=2.9,SNR=32
KURBB pPKPbc **pPKPbc 03 29 35.5 +0.4**
comp=Z,7.1nm,0.8s,baz=304,slow=2.9,SNR=20
KURK Kurchatov 153.45 44 *e*PKIKP **PKPbc 03 29 24.1 -0.4**
KURK *e* 03 29 34.9
KURK 03 29 35.5
KURK Kurchatov 153.45 44 *e*PKPbc **PKPbc 03 29 24.1 -0.4**
KURK *e*PKPab **PKPab 03 29 34.9 -2.0**
KURK pPKPbc **pKPbc 03 29 35.5 +0.4**
NVS Novosibirsk 153.58 33 *e*PKIKP **PKPbc 03 29 24.1 -0.5**
NVS pmax pmax
comp=Z,16nm,1.0s
NVS pmax pmax
comp=N,2.0nm,1.4s
NVS pmax pmax
comp=E,4.0nm,1.6s
TKM2 Tokmak 2 153.69 62 *e*PKIKP **PKPdf 03 29 17.7 0.0**
TKM2 *e* 03 29 25.3
TKM2 Tokmak 2 153.69 62 *e*PKPdf **PKPdf 03 29 17.6 0.0**
TKM2 *e*PKPbc **PKPbc 03 29 25.3 -0.3**
KSH Kashi 154.21 70 *e*PKPbc **PKPbc 03 29 22.7 -4.0**
KSH sPKP 03 29 32.5
KSH PKS **PKSdf 03 32 52.1 -0.6**
KSH PP **PP 03 33 15.9 -0.3**
KSH SKS **SKSdf 03 36 21.4 -1.5**
KSH SKKS **SKKSac 03 40 02.1 -1.3**
KSH SS **SS 03 52 50.2 -3.4**
KSH PPMZ
comp=E,120nm,5.0s
KSH LN
comp=E,35nm,4.2s
KSH LE
comp=E,54nm,6.3s
KSH LZ
comp=E,130nm,6.3s
ZALV Zalesovo Beam 154.86 33 PKP **PKPdf 03 29 18.4 -0.3**
comp=E,1.3nm,0.8s,baz=284,slow=2.4,SNR=6.3
ZALV PKPbc **pKPbc 03 29 27.0 -0.4**
comp=E,2.3nm,0.8s,baz=292,slow=4.0,SNR=3.8
ZALV pPKPbc **pPKPbc 03 29 37.6 -0.4**
comp=E,6.7nm,0.8s,baz=302,slow=2.8,SNR=11
ZALV PKPab **PKPab 03 29 42.8 +0.1**
comp=E,4.2nm,0.8s,baz=290,slow=4.2,SNR=6.5
BOD Bodaibo 156.50 352 *e*PKIKP PKPdf 03 29 30.1 +9.3
BOD pmax pmax
comp=Z,8.0nm,1.4s
MKAR Makanchi Array 157.29 50 PKP **PKPdf 03 29 21.9 -0.3**
comp=Z,0.4nm,0.7s,baz=358,slow=1.2,SNR=6.5
MKAR pPKP **pPKPdf 03 29 31.9 -1.0**
comp=Z,2.0nm,0.9s,baz=264,slow=1.1,SNR=14
MKAR PKPab **PKPab 03 29 53.3 -0.2**
comp=Z,1.4nm,0.8s,baz=284,slow=3.1,SNR=6.3
MKAR pPKPab **pPKPab 03 30 03.4 -0.5**
comp=Z,2.7nm,0.9s,baz=291,slow=3.8,SNR=5.1
WMQ Urumqi 161.97 54 *e*PKP **PKPdf 03 29 28.0 +0.3**
WMQ pPKP **pPKPdf 03 29 38.0 -0.4**
WMQ PKPab **PKPab 03 30 16.1 +2.1**
WMQ PKS **PKSdf 03 33 00.9 +0.1**
WMQ PP **PP 03 34 01.4 +3.2**
WMQ SKS **SKSdf 03 36 28.0 -2.1**
WMQ SKKS **SKKSac 03 40 44.0 +0.2**
WMQ PPMZ
comp=Z,55nm,5.0s
WMQ LN
comp=Z,50nm,20.0s
WMQ LE
comp=Z,120nm,25.0s
WMQ LZ
comp=Z,72nm,23.0s
ZAK Zakamensk 163.97 11 *e*PKP2 **PKPab 03 30 25.7 +3.2**
ZAK pmax pmax
comp=Z,2.0nm,1.5s
SONM Songino Array 166.83 4 PKP **PKPdf 03 29 31.0 -0.9**
comp=Z,0.3nm,0.6s,baz=222,slow=1.9,SNR=2.9
SONM PKPab **PKPab 03 30 36.1 +1.0**
comp=Z,0.3nm,0.8s,baz=328,slow=2.3,SNR=3.0
ULN Ulaanbaatar 166.83 2 *e*PKIKP **PKPdf 03 29 31.4 -0.6**
ULN *e* 03 30 36.2
ULN Ulaanbaatar 166.83 2 *e*PKPdf **PKPdf 03 29 31.4 -0.6**
ULN *e*PKPab **PKPab 03 30 36.2 +1.0**
KMI Kunming 169.48 154 PKP **PKPdf 03 29 32.0 -2.6**
KMI pPKP **pPKPdf 03 29 45.1 -0.2**
KMI sPKP 03 29 50.7
KMI LZ
comp=Z,78nm,21.2s
NJ2 Nanjing 170.42 257 *e*PKP **PKPdf 03 29 35.2 +0.6**
GYA Guiyang 171.72 173 *e*PKP **PKPdf 03 29 35.0 -0.6**
GYA pPKP **pPKPdf 03 29 47.2 +0.8**
GYA PKPab **PKPab 03 30 59.6 +2.3**
GYA PKS **PKSdf 03 33 05.4 -2.8**
GYA PP **PP 03 34 51.9 +4.7**
GYA SKKS 03 41 33.0
GYA SS **SS 03 55 52.2 +0.2**
GYA PPMZ
comp=Z,120nm,8.4s
GYA LN
comp=Z,120nm,22.7s
GYA LE
comp=Z,110nm,22.6s
GYA LZ
comp=Z,120nm,21.8s
GTA Gaotai 172.04 51 *e*PKP **PKPdf 03 29 35.7 +0.3**
GTA pPKP **pPKPdf 03 29 46.6 +0.5**
GTA sPKP 03 29 50.0
GTA PKPab **PKPab 03 30 59.9 +1.3**
HHC Hu-ho-hao-te 173.19 335 *e*PKP **PKPdf 03 29 36.6 +0.8**
HHC pPKP **pPKPdf 03 29 46.2 -0.4**
HHC sPKP 03 29 50.8
HHC PP **PP 03 34 58.9 +4.1**
HHC SKS **SKSdf 03 36 34.5 -2.1**
HHC SS **SS 03 56 10.8 +3.9**
HHC PPMZ
comp=Z,100nm,6.0s
HHC LN
comp=Z,150nm,19.6s
HHC LE
comp=Z,130nm,19.7s
HHC LZ
comp=Z,140nm,21.0s
CD2 Chengdu 174.89 137 *e*PKP **PKPdf 03 29 37.2 +0.6**
LZH Lanzhou 176.45 66 *e*PKP **PKPdf 03 29 37.2 +0.2**
LZH pPKP **pPKPdf 03 29 48.7 +0.9**
LZH sPKP 03 29 52.5
LZH LN
comp=Z,180nm,18.5s
LZH LE
comp=Z,190nm,18.4s
LZH LZ
comp=Z,220nm,20.3s

*CSEM **06** 03:10:31.1±1.1, 50°.21N×19°.05E, h1km, Error ellipse: s-maj=16.2km s-min=14.2km az=33.0*
PRU 06 03:10:30.2, 50°.21N×19°.13E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.12**	**313**	*e*Pg	Pg	03 10 36.5	+3.9
CHZP				*e*Sg	Sg	03 10 38.6	+4.4
OJC	**Ojcow**	**0.43**	**88**	*e*Pg	Pg	03 10 38.3	-0.2
OJC				*e*Sg	Sg	03 10 44.2	+0.1
OKC	**Ostrava-Krasne**	**0.73**	**240**	*e*SG	Sg	03 10 54.1	+0.2
	comp=Z,3.0nm,0.4s						
OKC	**Ostrava-Krasne**	**0.73**	**240**	Sg	Sg	03 10 54.1	+0.2
	3.0nm,0.4s						
MORC	**Moravsky Berou**	**1.11**	**248**	*e*Pg	Pg	03 10 51.7	+0.1
MORC				*e*Sg	Sg	03 11 05.9	-0.2
KRLC	**Kraliky**	**1.52**	**266**	*e*SG	Sg	03 11 18.5	-0.6
KRLC	**Kraliky**	**1.52**	**266**	Sg	Sg	03 11 18.5	-0.6
DPC	**Dobruska-Polom**	**1.81**	**276**	*e*SG	Sb	03 11 27.6	+0.1
DPC	**Dobruska-Polom**	**1.81**	**276**	Sg	Sb	03 11 27.6	+0.1
VRAC	**Vranov**	**1.88**	**242**	*e*Sg	Sb	03 11 29.0	-0.4

*CSEM **06** 03:34:13.1, 37°.70N×25°.06W, h5km, ML2.0*
PDA 06 03:34:13.1±0.9, 37°.70N×25°.06W, h5km±7km, MD3.6, ML2.0, Error ellipse: s-maj=13.4km s-min=2.8km az=48.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRON	**Grota Negra**	**0.39**	**281**	*e*P	Pg	03 34 18.0	-2.7
GRON				*e*S	Sg	03 34 22.0	-3.8
GRON				A	A	03 34 22.6	
	48nm,0.1s						
PDA	**Ponta Delgada**	**0.48**	**276**	*e*P	Pg	03 34 21.4	-1.0
PDA				*e*S	Sg	03 34 28.0	-0.8
PDA				A	A	03 34 29.4	
	70nm,0.2s						
PDA	**Ponta Delgada**	**0.48**	**276**	*e*P	Pg	03 34 21.4	-1.0
PDA				*e*S	Sg	03 34 28.0	-0.8
PSET	**Sete Cidades**	**0.54**	**284**	*e*P	Pg	03 34 22.4	-1.2
PSET				*e*S	Sg	03 34 29.4	-1.3
PSET				A	A	03 34 38.0	
	127nm,0.3s						
PSET	**Sete Cidades**	**0.54**	**284**	*e*P	Pg	03 34 22.4	-1.2
PSET				*e*S	Sg	03 34 29.4	-1.3
PSMN	**Pico do Norte,**	**0.69**	**181**	*e*P	Pg	03 34 25.0	-1.4
PSMN				*e*S	Sg	03 34 33.0	-2.4
PSMN				A	A	03 34 35.0	
	10.0nm,0.1s						
PSMN	**Pico do Norte,**	**0.69**	**181**	*e*P	Pg	03 34 25.0	-1.4
PSMN				*e*S	Sg	03 34 33.0	-2.4

*IDC **06** 03:56:40.5±1.4, 33°.97S×72°.58W, h0km, mb4.0/3, mb1 4.0/4, mb1mx3.7/33, mbtmp4.0/4, ML3.2/2, MS2.2/1, Ms1 2.2/1, ms1mx2.2/21, Error ellipse: s-maj=66.1km s-min=25.2km az=116.0*
*GUC **06** 03:56:43.9±0.5, 34°.07S×72°.36W, h15km±6km, ML3.7*
*NEIC **06** 03:56:45.9±0.5, 33°.89S×72°.08W, h35km, mb4.4/10, Error ellipse: s-maj=15.8km s-min=11.1km az=70.0*
ISC 06 03:56:42.6±2.2, 34°.03S±0°.06×72°.31W±0°.08, h16km±12km, n36, σ1°.43/40, mb4.3/11, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.15**	**29**	↑*i*P	**Pg**	**03 57 04.8**	**0.0**
IHA				*i* S1	**Sg**	**03 57 20.5**	**+0.7**
NICH	**Los Niches**	**1.32**	**138**	↓*i*P	**Pn**	**03 57 06.8**	**+0.4**
NICH				*e*S1	**Sn**	**03 57 23.7**	**-0.1**
ANTU	**Antumapu**	**1.47**	**72**	↓*i*P	**Pb**	**03 57 10.0**	**+0.3**
ANTU				*i* S	**Sb**	**03 57 29.8**	**+1.6**
ANTU				AML	AML	03 57 39.5	
	comp=E,2μm,0.7s						
CLCH	**Cerro Calan**	**1.61**	**67**	↑*i*P	**Pb**	**03 57 12.1**	**0.0**
CLCH				*e*S1	**Sg**	**03 57 34.3**	**-0.2**
CLCH				AML	AML	03 57 43.1	
	comp=N,1μm,0.7s						
CLCH				AML	AML	03 57 53.7	
	comp=N,1μm,0.3s						
PEL	**Peldehue**	**1.62**	**57**	↓*i*P	**Pb**	**03 57 12.4**	**+0.2**
PEL				*e*S1	**Sg**	**03 57 34.0**	**-0.8**
PEL				AML	AML	03 57 46.1	
	comp=N,2μm,0.7s						
FCH	**Farellones**	**1.82**	**68**	AML	AML	03 57 44.6	
	comp=E,987nm,0.2s						
LNCH	**Linares**	**1.91**	**162**	*i* P1	**Pn**	**03 57 15.5**	**+1.0**
CFAA	**Coronel Fontan**	**4.20**	**56**	Pn	**Pn**	**03 57 48.8**	**+2.8**
	comp=E,0.3nm,0.3s,baz=234,slow=13,SNR=32						
CFAA				Lg	Lg	03 58 52.9	
	comp=E,0.8nm,0.3s,baz=95,slow=18,SNR=6.6						
CFAA				LR	LR	03 59 46.5	
	comp=E,26nm,19.9s,baz=264,slow=43						
TRQA	**Tornquist**	**9.28**	**119**	*e*Pn	**Pn**	**03 58 53.7**	**-2.1**
CPUP	**Villa Florida**	**15.05**	**63**	*e*Pn	**Pn**	**04 00 10.9**	**-3.8**
LPAZ	**La Paz**	**18.06**	**13**	P	**P**	**04 00 55.1**	**+1.0**
	comp=E,0.1nm,0.3s,baz=186,slow=9.8,SNR=7.7						
LPAZ	**La Paz**	**18.06**	**13**	*e*Pn	**Pn**	**04 00 53.0**	**-0.6**
	comp=E,1.8nm,0.7s						
SIV	**San Ignacio**	**20.62**	**32**	P	**P**	**04 01 21.4**	**0.0**
	comp=E,2.3nm,0.7s,baz=213,slow=12,SNR=6.2						
SAML	**Samuel**	**26.34**	**21**	*e*P	**P**	**04 02 17.4**	**-0.6**
	comp=E,2.2nm,0.8s						
SDV	**Santo Domingo**	**42.71**	**2**	*e*P	**P**	**04 04 39.6**	**+0.4**
	comp=E,3.8nm,0.8s						
JTS	**JuntasAbangare**	**45.68**	**342**	*e*P	**P**	**04 05 03.0**	**+0.1**
GRGR	**Grenville**	**47.01**	**14**	*e*P	**P**	**04 05 12.2**	**-1.1**
SNAA	**Sanae**	**51.64**	**158**	*e*P	**P**	**04 05 50.9**	**+2.7**
	comp=E,11nm,1.3s						
OBIP	**Obispado Ponce**	**52.06**	**7**	*e*P	**P**	**04 05 51.5**	**-0.3**
QSPA	**South Pole Qui**	**56.21**	**180**	P	**P**	**04 06 23.1**	**+1.4**
	comp=E,3.8nm,1.0s,baz=118,slow=2.3,SNR=4.9						
QSPA	**South Pole Qui**	**56.21**	**180**	*e*P	**P**	**04 06 22.8**	**+1.0**
	comp=E,5.4nm,1.1s						
HKT	**Hockley**	**67.41**	**338**	*e*P	**P**	**04 07 36.9**	**-0.2**
	comp=E,11nm,1.4s						
SWET	**Sewanee**	**70.06**	**348**	*e*P	**P**	**04 07 51.9**	**-1.9**
	comp=E,3.6nm,0.8s						
MNTX	**Cornudas Mount**	**72.42**	**331**	*e*P	**P**	**04 08 07.7**	**-0.4**
	comp=E,1.8nm,1.1s						
ANMO	**Albuquerque**	**75.70**	**332**	*e*P	**P**	**04 08 26.4**	**-1.0**
SDCO	**Great Sand Dun**	**77.80**	**334**	*e*P	**P**	**04 08 39.2**	**-0.1**
	comp=E,4.8nm,1.5s						
ISCO	**Idaho Springs**	**79.65**	**335**	*e*P	**P**	**04 08 47.9**	**-1.6**
	comp=E,3.5nm,1.0s						
LBTB	**Lobatse**	**82.50**	**115**	*e*P	**P**	**04 09 05.2**	**+0.2**
	comp=E,19nm,1.5s						
TORD	**Torodi Ar. Bea**	**84.43**	**70**	P	**P**	**04 09 15.8**	**+1.0**
	comp=E,1.2nm,0.9s,baz=241,slow=4.1,SNR=12						
WRA	**Warramunga Arr**	**120.62**	**209**	PKP	**PKPdf**	**04 15 34.1**	**-0.2**
	comp=E,0.2nm,0.8s,baz=161,slow=1.7,SNR=5.4						
GNI	**Garni**	**130.34**	**64**	*e*PKPdf	**PKPdf**	**04 15 52.6**	**+0.2**
ABKAR	**Akbulak array**	**141.88**	**52**	*e*PKPdf	**PKPdf**	**04 16 09.2**	**-4.1**
PALK	**Pallekele**	**143.54**	**131**	*e*PKPdf	**PKPdf**	**04 16 18.8**	**+1.5**
BRVK	**Borovoye**	**147.38**	**43**	*e*PKPbc	**PKPbc**	**04 16 25.2**	**+0.1**
ZALV	**Zalesovo Beam**	**154.37**	**32**	PKPbc	**PKPbc**	**04 16 42.5**	**+0.8**
	comp=E,1.2nm,0.6s,baz=329,slow=2.6,SNR=7.1						
MKAR	**Makanchi Array**	**156.95**	**49**	PKPab	**PKPab**	**04 17 08.1**	**+0.8**
	comp=E,0.5nm,0.7s,baz=294,slow=4.2,SNR=5.0						

*ISCJB **06** 03:58:10.1±1.2, 44°.20N±0°.09×147°.1E±0°.1, h122km±8km, Error ellipse: s-maj=19.4km s-min=7.7km az=137.9*
*JMA **06** 03:58:11.5±0.4, 44°.13N×147°.06E, h122km±4km, M3.5*
*SKHL **06** 03:58:11.1±0.6, 44°.24N×147°.19E, h120km, mb4.4/3, msh5.6/3*
ISC 06 03:58:09.5±2.5, 44°.2N±0°.1×147°.2E±0°.1, h128km±15km, n16, σ0°.84/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.41**	**223**	*e*P	**Pn**	**03 58 28.6**	**+0.8**
SHO				AMB	AMB	03 58 28.9	
	180nm,0.5s						
SHO				*e*S	**Sn**	**03 58 41.4**	**-0.2**
SHO				A	A	03 58 42.3	
	1μm,0.4s						
SHO				A	A	03 58 42.3	
	2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.99**	**262**	*e*P	**Pn**	**03 58 32.7**	**+0.7**
YUK				AMB	AMB	03 58 33.0	
	308nm,0.2s						
YUK				*e*S	**Sn**	**03 58 48.8**	**-0.3**
YUK				A	A	03 58 49.2	
	850nm,0.4s						
YUK				A	A	03 58 49.2	
	2μm,0.4s						
KUR	**Kuril'sk**	**1.15**	**23**	*e*P	**Pn**	**03 58 33.8**	**+0.2**
KUR				AMB	AMB	03 58 38.0	
	28nm,0.2s						
KUR				*e*S	**Sn**	**03 58 51.3**	**-0.7**
KUR				A	A	03 58 52.5	
	177nm,0.5s						
KUR				A	A	03 58 52.5	
	1μm,0.5s						
NEM2	**Nemuro 2**	**1.34**	**233**	P	**Pn**	**03 58 36.0**	**+0.4**
NEM2				*e*S	**Sn**	**03 58 54.6**	**-0.9**
JRA	**Rausu**	**1.53**	**262**	P	**Pn**	**03 58 38.1**	**+0.4**
JNK	**Nakash**	**1.90**	**253**	P	**Pn**	**03 58 42.6**	**+0.5**
JAK	**Akkeshi**	**2.18**	**238**	P	**Pn**	**03 58 45.9**	**+0.4**
JAK				*e*S	**Sn**	**03 59 12.5**	**-0.6**
JTKR	**Abashiri--Toko**	**2.40**	**266**	P	**Pn**	**03 58 48.4**	**+0.2**
JTKR				*e*S	**Sn**	**03 59 17.1**	**-0.8**
JAR	**Ashorobuto**	**2.65**	**252**	P	**Pn**	**03 58 52.5**	**+1.1**
JOB	**Onbets**	**2.77**	**244**	P	**Pn**	**03 58 53.9**	**+0.9**
JOB				*e*S	**Sn**	**03 59 26.5**	**0.0**
JMP	**Maruseppu**	**2.79**	**268**	P	**Pn**	**03 58 53.5**	**+0.3**
JCH	**Churui**	**3.21**	**242**	P	**Pn**	**03 58 59.1**	**+0.3**
JCH				*e*S	**Sn**	**03 59 34.8**	**-2.0**
JKK2	**Kamakawa 2**	**3.24**	**266**	P	**Pn**	**03 58 59.6**	**+0.5**
ASAJ	**Asahikawa**	**3.33**	**271**	P	**Pn**	**03 59 01.1**	**+0.9**
JNBK	**Urakawa-nobuka**	**3.77**	**241**	P	**Pn**	**03 59 05.8**	**-0.3**
JEW	**Eniwo**	**4.40**	**254**	P	**Pn**	**03 59 16.0**	**+1.5**

*ISCJB **06** 03:58:45.6±0.5, 6°.08S±0°.07×109°.96W±0°.07, h10km, mb4.7/66, MS3.6/12, Error ellipse: s-maj=12.1km s-min=7.0km az=139.7*
*BJI **06** 03:58:47.2, 6°.10S×109°.90W, h10km, mB5.3/4, Ms5.2/5, Ms7 4.8/5*
*IDC **06** 03:58:47.1±0.7, 5°.72S×109°.82W, h0km, mb4.3/12, mb1 4.5/12, mb1mx4.3/33, mbtmp4.3/12, MS3.6/12, Ms1 3.6/12, ms1mx3.5/26, Error ellipse: s-maj=32.9km s-min=15.3km az=62.0*
*NEIC **06** 03:58:48.0±0.4, 5°.94S×109°.88W, h10km, mb4.7/51, Error ellipse: s-maj=13.0km s-min=6.2km az=65.0*
ISC 06 03:58:48.0±0.5, 5°.93S±0°.10×109°.8W±0°.1, h10km, n456, σ0°.97/442, mb4.7/66, MS3.6/12, 164C-161D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**21.08**	**179**	LR	LR	04 09 32.0	
	comp=Z,116nm,20.3s,baz=9.0,slow=30						
CMIG	**Matias Romero**	**27.24**	**33**	LR	LR	04 12 56.5	
	comp=Z,50nm,21.2s,baz=182,slow=31						
JTS	**JuntasAbangare**	**29.56**	**57**	*e*P	**P**	**04 04 52.7**	**-0.6**
RKT	**Rikitea**	**29.64**	**232**	*e*T	T	04 35 19.6	
	2.3nm,0.3s						
LPIG	**La Paz**	**29.86**	**359**	LR	LR	04 13 48.8	
	comp=Z,81nm,21.4s,baz=224,slow=30						
ATAH	**Atahualpa**	**31.26**	**94**	LR	LR	04 14 39.1	
	comp=Z,256nm,19.5s,baz=251,slow=30						
OTAV	**Otavalo**	**31.93**	**80**	*e*P	**P**	**04 05 13.2**	**-1.6**
	13nm,1.5s						
NNA	**Nana**	**33.12**	**103**	LR	LR	04 15 09.9	
	comp=Z,194nm,20.3s,baz=292,slow=30						
035Z	**Hargill**	**34.17**	**19**	↑↑P	**P**	**04 05 34.8**	**+1.3**
	baz=34						
035A	**Encino**	**34.60**	**19**	↓↓P	**P**	**04 05 38.3**	**+1.0**
	baz=35						
933A	**Laredo**	**34.88**	**17**	↑↑P	**P**	**04 05 41.2**	**+1.5**
	baz=35						
832A	**Faith Ranch, C**	**35.33**	**15**	↓↓P	**P**	**04 05 44.5**	**+0.9**
	baz=36						
833A	**Chaparral WMA,**	**35.52**	**16**	↑↑P	**P**	**04 05 46.4**	**+1.2**
	baz=36,SNR=5.1						

TXAR	Lajitas Array	35.56	9	LR	LR	04 17 13.1
	comp=Z,52nm,18.2s,baz=0.0,slow=31					
834A	Tilden	35.57	17	⇓P	P	04 05 47.1 +1.4
	baz=36					
732A	Laxson Ranch,	35.75	15	⇑P	P	04 05 47.9 +0.8
	baz=36					
733A	Divot King Ran	35.92	16	⇓P	P	04 05 49.7 +1.0
	baz=36					
631A	Perdido Creek	36.25	14	⇓P	P	04 05 53.0 +1.4
	baz=36					
735A	Kenedy	36.48	18	⇓P	P	04 05 54.6 +1.2
	baz=37					
632A	Uvalde	36.54	15	⇑P	P	04 05 55.0 +1.0
	baz=37					
529A	Stev Forest Ra	36.59	11	⇓P	P	04 05 55.5 +1.0
	baz=37,SNR=7.5					
633A	Saathoff Ranch	36.65	16	⇓P	P	04 05 55.8 +0.9
	baz=37					
530A	J-C Ranch, Com	36.79	12	⇓P	P	04 05 57.2 +1.0
	baz=37,SNR=5.1					
634A	China Grove, S	36.81	17	⇓P	P	04 05 57.4 +1.1
	baz=37					
531A	Rocksprings	36.98	13	⇑P	P	04 05 59.2 +1.4
	baz=37					
ROSC	El Rosal	37.04	74	LR	LR	04 18 53.8
	comp=Z,63nm,18.9s,baz=192,slow=33					
532A	Rocksprings	37.10	14	⇓P	P	04 05 60.0 +1.2
	baz=37					
319A	Douglas	37.10	1	⇓P	P	04 05 59.9 +1.0
	baz=37					
429A	Davenport Ranc	37.14	11	⇑P	P	04 06 00.5 +1.4
	baz=37					
533A	Kerrville	37.27	16	⇑P	P	04 06 01.3 +1.1
	baz=38					
636A	Smothers Creek	37.29	19	⇓P	P	04 06 01.6 +1.3
	baz=38					
534A	Blanco	37.38	16	⇓P	P	04 06 01.9 +0.8
	baz=38					
430A	Baggett Ranch,	37.43	12	⇓P	P	04 06 02.6 +1.0
	baz=38					
JCT	Junction City	37.46	14	⇓P	P	04 06 02.8 +1.0
	baz=38					
JCT	Junction City	37.46	14	eP	P	04 06 02.7 +0.8
	14nm,1.4s					
431A	Sonora	37.47	13	⇑P	P	04 06 03.0 +1.1
	baz=38					
535A	Dale	37.65	18	⇓P	P	04 06 04.1 +0.7
	baz=38					
214A	Organ Pipe Nat	37.78	356	⇑P	P	04 06 05.0 +0.5
	baz=38					
433A	Art	37.90	15	⇑P	P	04 06 06.8 +1.2
	baz=38					
329A	Wagon Wheel Ra	37.96	11	⇓P	P	04 06 07.2 +1.1
	baz=38					
330A	Mertzon	38.04	12	⇑P	P	04 06 07.6 +0.8
	baz=38					
331A	San Angelo	38.11	13	⇑P	P	04 06 08.5 +1.2
	baz=38					
HKT	Hockley	38.13	20	eP	P	04 06 09.5 +2.2
	13nm,1.3s					
434A	Burnet	38.18	16	⇓P	P	04 06 08.7 +0.8
	baz=38					
121A	Cookes Peak, D	38.30	3	⇑P	P	04 06 10.0 +0.9
	baz=38					
332A	Millersview	38.34	14	⇑P	P	04 06 10.1 +0.8
	baz=39					
333A	Richland Sprin	38.47	15	⇑P	P	04 06 11.0 +0.6
	baz=39,SNR=15					
334A	Lometa	38.68	16	⇑P	P	04 06 12.6 +0.5
	baz=39					
232A	Coleman	38.85	14	⇑P	P	04 06 14.5 +1.0
	baz=39					
128A	Castleberry Fa	38.97	10	⇓P	P	04 06 15.5 +0.9
	baz=39,SNR=9.2					
438A	Sam Houston St	38.98	20	⇓P	P	04 06 15.8 +1.2
	baz=39					
GLA	Glamis	39.06	353	⇑P	P	04 06 16.3 +1.0
	baz=39					
Z22A	Elephant Butte	39.07	4	⇓P	P	04 06 16.8 +1.3
	baz=39					
SWSC	Sam W. Stewart	39.07	352	⇑P	P	04 06 16.4 +1.1
	baz=39					
129A	Stewart Farms,	39.09	11	⇓P	P	04 06 16.6 +1.0
	baz=39					
MONP	Monument Peak,	39.11	351	⇓P	P	04 06 17.0 +1.1
	baz=39					
336A	Riesel	39.13	18	⇑P	P	04 06 16.7 +0.8
	baz=39					
233A	Rising Star	39.15	15	⇓P	P	04 06 16.8 +0.7
	baz=39,SNR=5.7					
Z14A	Wintersburg	39.19	356	⇓P	P	04 06 17.4 +1.1
	baz=39					
130A	Snyder	39.23	12	⇑P	P	04 06 17.4 +0.6
	baz=40					
Z24A	Sheeppen Canyo	39.28	6	⇑P	P	04 06 17.8 +0.5
	baz=40					
Z25A	Roswell	39.30	7	⇑P	P	04 06 17.7 +0.3
	baz=40					
234A	Clairette	39.34	16	⇑P	P	04 06 18.5 +0.9
	baz=40					
337A	Centerville	39.37	19	⇑P	P	04 06 18.8 +1.0
	baz=40					
131A	Roby	39.43	13	⇓P	P	04 06 19.4 +1.0
	baz=40					
WHTX	Lake Whitney,	39.52	17	⇑P	P	04 06 20.0 +0.9
	baz=40					
ABTX	Abilene, Hawle	39.55	14	⇑P	P	04 06 20.1 +0.7
	baz=40					
SCI	San Clemente I	39.57	348	⇑P	P	04 06 20.1 +0.6
	baz=40					
338A	Crockett	39.59	20	⇓P	P	04 06 20.9 +1.2
	baz=40					
Z28A	Tucker Farm, M	39.64	10	⇑P	P	04 06 21.0 +0.8
	baz=40					
133A	Hamilton Ranch	39.71	14	⇓P	P	04 06 21.8 +1.1
	baz=40					
Y12C	Blythe	39.72	354	⇑P	P	04 06 22.1 +1.4
	baz=40					
BC3	Big Chuckawall	39.73	353	⇓P	P	04 06 21.8 +0.8
	baz=40,SNR=8.8					
Z29A	Hungry Hill Ra	39.73	11	⇓P	P	04 06 21.6 +0.6
	baz=40					
Y14A	Wickenburg	39.77	356	⇑P	P	04 06 22.1 +0.9
	baz=40					
Y23A	Lovelace Mesa,	39.81	5	⇑P	P	04 06 23.0 +1.3
	baz=40,SNR=5.1					
PFO	Pinyon Flats O	39.82	351	⇑P	P	04 06 22.9 +1.1
	baz=40					
Y24A	Capitan	39.86	6	⇑P	P	04 06 23.1 +1.0
	baz=40					
Z30A	Sanderson Ranc	39.87	11	⇑P	P	04 06 22.6 +0.5
	baz=40					
134A	White-Moore Ra	39.89	16	⇓P	P	04 06 23.2 +1.0
	baz=40					
Y25A	Mesa, Roswell	39.94	7	⇓P	P	04 06 23.6 +0.9
	baz=40					
Y27A	Causey	40.10	9	⇓P	P	04 06 24.5 +0.5
	baz=40					
Z31A	Sharp Cattle R	40.11	13	⇑P	P	04 06 25.0 +1.0
	baz=40					
BELC	Belle Mtn. Jos	40.14	352	⇑P	P	04 06 24.9 +0.5
	baz=40,SNR=6.9					
340A	Bronson	40.14	21	⇓P	P	04 06 24.8 +0.5
	baz=40					
X16A	Lo Mia Camp, P	40.16	358	⇓P	P	04 06 25.5 +0.9
	baz=40,SNR=6.1					
IRM	Iron Mountain	40.19	353	⇑P	P	04 06 25.6 +0.9
	baz=40,SNR=7.3					
Z32A	Haskell	40.24	13	⇑P	P	04 06 26.0 +0.8
	baz=40					
X18A	Snowflake	40.24	360	⇑P	P	04 06 26.1 +0.8
	baz=40					
MSTX	Muleshoe	40.25	9	⇓P	P	04 06 25.8 +0.6
	baz=40					
MSTX	Muleshoe	40.25	9	eP	P	04 06 25.2 -0.1
	97nm,2.8s					
238A	Jacksonville	40.25	20	⇓P	P	04 06 26.0 +0.9
	baz=40					
Y28A	McKinney Farm,	40.27	10	⇓P	P	04 06 26.3 +0.9
	baz=40					
Y29A	Porterfield Fa	40.33	11	⇓P	P	04 06 26.8 +0.9
	baz=41,SNR=5.5					
Z33A	Whitaker Ranch	40.40	14	⇑P	P	04 06 27.4 +1.0
	baz=41					
X23A	Hourglass Bar	40.44	5	⇑P	P	04 06 28.4 +1.4
	baz=41					
Y30A	Stafford Cattl	40.49	11	⇑P	P	04 06 28.4 +1.2
	baz=41					
PPT	Papeete	40.49	250	LR	LR	04 19 14.2
	comp=Z,161nm,21.1s,baz=70,slow=30					
PPT2	Papeete2	40.50	250	eLR	LR	04 17 18.2
	258nm,27.2s					
BBRC	Big Bear Solar	40.54	351	⇓P	P	04 06 28.7 +1.0
	baz=41					
X25A	Clemmons Ranch	40.54	7	⇑P	P	04 06 28.7 +1.0
	baz=41					
137A	Heron Place, G	40.59	18	⇑P	P	04 06 29.2 +1.2
	baz=41					
BFSC	Mount Baldy Ra	40.63	350	⇑P	P	04 06 29.5 +1.1
	baz=41					
X26A	CR and CF Fran	40.67	8	⇑P	P	04 06 30.1 +1.4
	baz=41					
Z34A	Collier Ranch,	40.69	15	⇑P	P	04 06 29.6 +0.7
	baz=41					
Y31A	Rekieta Farm,	40.70	12	⇓P	P	04 06 29.7 +0.8
	baz=41					
DECC	Green Verdugo	40.77	349	⇑P	P	04 06 30.5 +1.1
	baz=41					
ANMO	Albuquerque	40.78	4	P	P	04 06 29.4 -0.4
	1.0nm,0.8s,baz=225,slow=7.1,SNR=4.2					
W18A	Petrified Fore	40.83	0	⇓P	P	04 06 31.0 +0.8
	baz=41					
Z35A	Perchaven, San	40.83	16	⇓P	P	04 06 30.7 +0.7
	baz=41					
X27A	F and S Farms,	40.86	9	⇓P	P	04 06 31.1 +0.8
	baz=41					
138A	Matatall Enter	40.86	19	⇑P	P	04 06 30.8 +0.6
	baz=41					
GMRC	Granite Mounta	40.87	353	⇓P	P	04 06 31.4 +1.1
	baz=41					
X28A	Dimmitt	40.88	10	⇓P	P	04 06 30.4 0.0
	baz=41					
X29A	Tulia	40.89	10	⇓P	P	04 06 31.3 +0.8
	baz=41					
Y32A	R-V Farms, Ver	40.92	13	⇑P	P	04 06 31.9 +1.2
	baz=41					
W13A	Hualapai Mount	40.99	355	⇓P	P	04 06 32.3 +0.7
	baz=41					
HEC	Hector,Ludlow	41.01	352	⇑P	P	04 06 32.5 +1.1
	baz=41					
W23A	Werner Place,	41.02	5	⇓P	P	04 06 32.6 +0.8
	baz=41					
X30A	Coker Ranch, T	41.05	11	⇑P	P	04 06 33.2 +1.4
	baz=41					
LDFC	Landfair	41.09	353	eP	P	04 06 32.9 +0.7
	14nm,1.3s					
Y33A	Hilltop Ranch,	41.12	14	⇓P	P	04 06 34.0 +1.6
	baz=41					
W24A	Lazy 6 Ranch,	41.14	6	⇓P	P	04 06 33.5 +0.8
	baz=41					
W26A	Owens Ranch, T	41.20	8	⇓P	P	04 06 33.9 +0.8
	baz=41					
W25A	X Bar L Ranch,	41.24	7	⇓P	P	04 06 34.1 +0.6
	baz=42					
WUAZ	Wupatki	41.26	358	⇑P	P	04 06 34.8 +1.2
	baz=42					
WUAZ	Wupatki	41.26	358	eP	P	04 06 35.1 +1.5
	11nm,1.4s					
W27A	Bowe Ranch, En	41.27	8	⇓P	P	04 06 34.3 +0.6
	baz=42					
Y34A	Reagan Ranch,	41.29	15	⇓P	P	04 06 34.6 +0.8
	baz=42					
EDW2	Edwards Air Fo	41.32	350	⇓P	P	04 06 34.8 +0.8
	baz=42,SNR=6.8					
AMTX	Amarillo	41.32	10	⇓P	P	04 06 35.4 +1.3
	baz=42					
X32A	Elmer	41.36	13	⇓P	P	04 06 35.4 +1.2
	baz=42					
X31A	McDonald Ranch	41.41	12	⇓P	P	04 06 36.0 +1.3
	baz=42,SNR=5.8					
GSC	Goldstone, Bar	41.54	351	⇑P	P	04 06 36.7 +0.9
	baz=42,SNR=8.8					
GSC	Goldstone, Bar	41.54	351	eP	P	04 06 36.7 +0.9
TUQ	Turquoise Moun	41.55	352	⇓P	P	04 06 36.5 +0.5
	baz=42					
V24A	Rampart Ranch,	41.66	6	⇑P	P	04 06 38.1 +1.1
	baz=42					
V22A	San Miguel Ran	41.72	4	⇓P	P	04 06 38.7 +1.3
	baz=42					
SDV	Santo Domingo	41.76	70	eP	P	04 06 38.5 +0.4
V25A	Rancho No Teng	41.84	6	⇑P	P	04 06 39.4 +1.0
	baz=42					
LRMC	Laurel Mtn Rad	41.85	350	⇑P	P	04 06 39.8 +1.4
	baz=42					
V26A	Tequesquite Ra	41.90	7	⇓P	P	04 06 39.5 +0.7
	baz=42					
W31A	Holland Ranch,	41.95	12	⇑P	P	04 06 40.8 +1.6
	baz=42					
LPAZ	La Paz	42.11	108	P	P	04 06 43.3 +1.8
	2.8nm,0.7s,baz=284,slow=4.1,SNR=11					
LPAZ				LR	LR	04 22 09.5
	comp=Z,58nm,18.2s,baz=252,slow=33					
ISA	Isabella, Lake	42.16	350	⇑P	P	04 06 42.1 +1.1
	baz=42					
U22A	Llaves	42.18	4	⇑P	P	04 06 42.8 +1.6
	baz=42,SNR=6.2					
U15A	North Rim	42.20	357	⇓P	P	04 06 42.7 +1.2
	baz=42					
U25A	Circle Dot Ran	42.42	6	⇑P	P	04 06 43.8 +0.6
	baz=43					
VES	Vestal, Richgr	42.45	349	⇓P	P	04 06 44.2 +1.0
	baz=43					
U26A	Atchley Ranch,	42.49	7	⇓P	P	04 06 44.5 +0.7
	baz=43					
SHPR	Sheep Range	42.51	354	eP	P	04 06 43.4 -0.5
	7.9nm,1.5s					
DAC	Darwin (Calif)	42.61	351	eP	P	04 06 45.4 +0.6
	6.7nm,1.3s					
U27A	Thompson Grove	42.64	8	⇓P	P	04 06 45.8 +0.9
	baz=43					
FURC	Furnace Creek,	42.69	352	⇓P	P	04 06 46.6 +1.5
	baz=43					
LVC	Limon Verde	42.80	117	eP	P	04 06 48.7 +2.1
	28nm,1.5s					
T23A	Casias Ranch,	42.89	4	⇓P	P	04 06 48.3 +1.2
	baz=43,SNR=5.0					
V33A	Lossen Ranch,	42.93	14	⇑P	P	04 06 48.5 +1.4
	baz=43					
MVCO	Mesa Verde	42.94	2	⇑P	P	04 06 48.4 +1.0
	baz=43					
MVCO	Mesa Verde	42.94	2	eP	P	04 06 48.4 +1.0
	13nm,1.4s					
T24B	San Luis	42.98	5	⇑P	P	04 06 48.8 +1.0
	baz=43					
U30A	WK&E Inc. Balk	43.11	11	⇓P	P	04 06 50.0 +1.4
	baz=43					
U31A	Nine Bar Ranch	43.11	12	⇓P	P	04 06 49.8 +1.2
	baz=43					
V34A	Guthrie	43.13	15	⇑P	P	04 06 49.5 +0.7
	baz=43					
T25A	Trinidad	43.15	6	⇓P	P	04 06 50.2 +1.1
	baz=43					
T26A	Comanche Natio	43.28	7	⇑P	P	04 06 52.8 +2.7
	baz=44					
GRAC	Grapevine Rang	43.29	351	⇓P	P	04 06 51.3 +1.3
	baz=44					
CCUT	Cedar City	43.38	356	eP	P	04 06 52.2 +1.2
	8.1nm,1.1s					
T28A	Walsh	43.44	9	⇓P	P	04 06 52.4 +1.1
	baz=44					
S22A	4UR Ranch, Cre	43.55	3	⇓P	P	04 06 53.4 +1.0
	baz=44					
S24A	Houchin Ranch,	43.56	5	⇑P	P	04 06 54.4 +1.9
	baz=44					
T29A	Hugoton	43.60	10	⇓P	P	04 06 53.5 +0.9
	baz=44					
ARUT	Antelope Range	43.63	356	eP	P	04 06 53.6 +0.7
	260nm,1.2s					
S25A	Robets Cordova	43.66	6	⇑P	P	04 06 54.2 +1.0
	baz=44,SNR=5.8					
TUL1	Leonard	43.66	17	⇓P	P	04 06 54.0 +1.0
	baz=44					
S26A	Kim	43.73	7	⇑P	P	04 06 54.6 +0.9
	baz=44					
MTUM	Tungsten Hills	43.83	350	eP	P	04 06 55.9 +1.4
PV01	Paradox Valley	43.86	1	eP	P	04 06 54.7 -0.2
S28A	Manter	43.93	9	⇓P	P	04 06 56.1 +0.9
	baz=44					
R23A	Moffat	44.06	5	⇑P	P	04 06 57.6 +1.1
	baz=44					
R24A	Sanders Place,	44.16	5	⇓P	P	04 06 58.8 +1.6
	baz=44					
R25A	Fountain Ranch	44.16	6	⇑P	P	04 06 58.6 +1.5
	baz=44					
TPH	Tonopah	44.32	352	eP	P	04 06 59.2 +0.7
	22nm,1.3s					
R11A	Troy Canyon, C	44.38	354	⇓P	P	04 07 00.3 +1.4
	baz=45,SNR=8.7					
R11A	Troy Canyon, C	44.38	354	eP	P	04 06 59.9 +1.0
R26A	Arlington	44.41	7	⇓P	P	04 07 00.2 +1.1
	baz=45					
R27A	Eads	44.48	8	⇑P	P	04 07 00.5 +0.8
	baz=45,SNR=5.0					
R28A	Tribune	44.68	9	⇓P	P	04 07 02.0 +0.8
	baz=45					
S33A	Kaszmaul Farm,	44.69	13	⇓P	P	04 07 02.5 +1.2
	baz=45					
SRU	San Rafael Swe	44.82	359	eP	P	04 07 03.5 +1.0
	7.8nm,1.2s					
TIGA	Tifton	44.83	32	⇑P	P	04 07 03.5 +1.1
	baz=45					
CMB	Columbia Colle	44.83	348	eP	P	04 07 03.0 +0.6
	9.2nm,1.1s					
NVAR	Mina Array Bea	44.83	351	P	P	04 07 02.9 +0.3
	2.5nm,0.8s,baz=178,slow=10,SNR=14					
NVAR				PcP	PcP	04 08 44.4 -0.1
	1.9nm,1.0s,baz=185,slow=5.4,SNR=4.5					
R29A	Marienthal	44.87	10	⇓P	P	04 07 03.3 +0.6
	baz=45					
Q24A	Divide	44.88	5	⇓P	P	04 07 03.8 +0.7
	baz=45					
R30A	Dighton	44.88	11	⇑P	P	04 07 03.7 +0.9
	baz=45					
Q25A	Bedland, Calha	44.92	6	⇓P	P	04 07 03.9 +0.6
	baz=45					
Q26A	Hugo	45.01	7	⇑P	P	04 07 04.7 +0.8
	baz=45					
KSCO	Kaye Shedlock'	45.22	8	⇑P	P	04 07 06.7 +1.2
	baz=46					
P23A	Jefferson	45.23	4	⇑P	P	04 07 07.6 +1.7
	baz=46					
R32A	Long Quarter,	45.33	12	⇑P	P	04 07 07.3 +0.9
	baz=46					
Q29A	Oakley	45.35	10	⇓P	P	04 07 07.4 +0.8
	baz=46					
P22A	Eagle	45.39	3	⇑P	P	04 07 08.1 +1.1
	baz=46					
P25A	Willow Gulch B	45.52	6	⇑P	P	04 07 08.4 +0.3
	baz=46					
Q30A	Quinter	45.56	11	⇓P	P	04 07 09.3 +1.0
	baz=46					
P26A	Davis Ranch, A	45.66	7	⇓P	P	04 07 10.1 +0.9
	baz=46					
ISCO	Idaho Springs	45.67	5	⇓P	P	04 07 10.3 +1.0
	baz=46					
ISCO	Idaho Springs	45.67	5	eP	P	04 07 10.5 +1.1
	9.0nm,1.4s					
NLU	North Lily Min	45.71	358	eP	P	04 07 10.7 +1.2
	10nm,1.3s					
MPU	Maple Canyon	45.75	358	eP	P	04 07 11.3 +1.4
	16nm,1.2s					
P27A	Ficken Ranch,	45.76	8	⇓P	P	04 07 10.5 +0.7
	baz=46					
O20A	White River Ci	45.86	2	⇑P	P	04 07 11.8 +1.1
	baz=46,SNR=6.5					
O20A	White River Ci	45.86	2	eP	P	04 07 10.5 -0.2
	12nm,1.0s					
P28A	Saint Francis	45.89	9	⇓P	P	04 07 11.8 +0.9
	baz=46					
Q32A	Meitler Ranch,	45.90	12	⇑P	P	04 07 11.8 +0.9
	baz=46					
O22A	Kremmling	45.97	4	⇓P	P	04 07 12.7 +1.0
	baz=46,SNR=5.8					
DUG	Dugway, Tooele	45.98	357	⇑P	P	04 07 12.8 +1.1
	baz=46,SNR=11					
DUG	Dugway, Tooele	45.98	357	eP	P	04 07 12.5 +0.9
	9.3nm,1.1s					
O24A	Longmont	46.04	5	⇑P	P	04 07 13.2 +1.2
	baz=46					
P29A	Atwood	46.05	10	⇑P	P	04 07 13.1 +1.0
	baz=46					
O23A	Lake Granby, G	46.06	4	⇓P	P	04 07 12.9 +0.5
	baz=46					
Q33A	Connelly Farm,	46.07	13	⇓P	P	04 07 12.9 +0.8
	baz=46					
P30A	Selden	46.11	10	⇑P	P	04 07 13.3 +0.7
	baz=46					
O25A	Wiggins	46.12	6	⇑P	P	04 07 13.7 +1.0
	baz=46					
DAU	Daniels Canyon	46.14	358	eP	P	04 07 13.2 +0.1
P31A	Stockton	46.25	11	⇑P	P	04 07 14.8 +1.1
	baz=46					
JLU	Jordanelle	46.33	358	eP	P	04 07 14.3 -0.1
	92nm,2.9s					
SAML	Samuel	46.34	97	eP	P	04 07 15.3 +0.6
	21nm,1.0s					
O26A	Horse Wrangler	46.34	7	⇓P	P	04 07 15.2 +0.8
	baz=47					
O27A	Beecher Island	46.39	8	⇑P	P	04 07 15.8 +1.0
	baz=47					
O28A	Krutsinger Ran	46.43	9	⇓P	P	04 07 16.3 +1.2
	baz=47					
GOGA	Godfrey	46.44	31	eP	P	04 07 15.7 +0.5
	16nm,1.1s					
KSU1	Kansas State U	46.45	14	⇑P	P	04 07 16.0 +0.8
	baz=47					
P32A	Hulting Farm,	46.50	12	⇑P	P	04 07 16.2 +0.7
	baz=47					
P33A	Williams Farm,	46.52	13	⇑P	P	04 07 16.5 +0.8
	baz=47					
N20A	Spence Gulch,	46.56	2	⇑P	P	04 07 17.1 +0.9
	baz=47,SNR=7.9					
N22A	Wattenberg Ran	46.61	4	⇓P	P	04 07 17.5 +0.8
	baz=47					
ELK	Elko	46.71	354	eP	P	04 07 18.5 +1.0
	12nm,1.1s					
N23A	Red Feather La	46.74	4	⇓P	P	04 07 18.6 +0.9
	baz=47					
N24A	Carr	46.75	5	⇑P	P	04 07 18.5 +0.8
	baz=47					
O30A	MW Ranch, Wils	46.76	10	⇑P	P	04 07 18.5 +0.8
	baz=47					
O31A	Woolen Ranch,	46.87	11	⇓P	P	04 07 19.8 +1.3
	baz=47					
N27A	Anderson Farm,	46.99	8	⇑P	P	04 07 20.6 +1.1
	baz=47					
N28A	Pribbeno Ranch	47.02	9	⇑P	P	04 07 20.7 +1.0
	baz=47					
O32A	Brockman Farm,	47.18	12	⇑P	P	04 07 21.6 +0.6
	baz=47					
M22A	Cedar Creek Ra	47.20	3	⇓P	P	04 07 22.1 +0.8
	baz=47					
N29A	Votaw Ranch, W	47.29	10	⇑P	P	04 07 22.7 +0.9
	baz=48					
M23A	Laramie	47.32	4	⇑P	P	04 07 23.3 +1.1
	baz=48					
HWUT	Hardware Ranch	47.34	358	eP	P	04 07 22.7 +0.4
	12nm,1.2s					
M24A	Cheyenne	47.39	5	⇓P	P	04 07 23.7 +1.0
	baz=48					
HVU	Hansel Valley	47.56	357	eP	P	04 07 24.3 +0.4
	43nm,2.2s					
L22A	Ellis Ranch, M	47.84	3	⇓P	P	04 07 27.1 +1.0
	baz=48					
L23A	Garrett	47.97	4	⇓P	P	04 07 27.7 +0.5
	baz=48					
N02D	Trinity Center	48.15	347	⇑P	P	04 07 29.1 +0.7
	baz=48					
K21A	Alcova	48.39	3	⇓P	P	04 07 31.1 +0.6
	baz=49,SNR=5.4					
K22A	Casper	48.45	3	⇓P	P	04 07 31.5 +0.6
	baz=49					
PDAR	Pinedale Array	48.47	0	P	P	04 07 30.4 -0.6
	2.7nm,1.0s,baz=178,slow=7.1,SNR=12					
PDAR				LR	LR	04 24 27.8
	comp=Z,84nm,18.4s,baz=180,slow=32					
L29A	Maesberg Ranch	48.53	9	⇓P	P	04 07 32.1 +0.7
	baz=49					
MOD	Modoc Plateau	48.56	350	eP	P	04 07 32.6 +0.9
M02C	Callahan	48.58	347	⇑P	P	04 07 32.5 +0.7
	baz=49					
K23A	Bowen Ranch, D	48.61	4	⇓P	P	04 07 33.1 +1.0
	baz=49					
K24A	Anderson Ranch	48.64	5	⇓P	P	04 07 33.3 +0.9
	baz=49					
M04C	Macdoel	48.74	348	⇑P	P	04 07 33.3 +0.2
	baz=49					
SIV	San Ignacio	48.80	106	P	P	04 07 34.7 +0.9
	3.0nm,0.7s,baz=290,slow=9.9,SNR=6.2					
WVOR	Wild Horse Val	48.80	351	eP	P	04 07 34.9 +1.3
	20nm,1.4s					
KMSC	Kings Mountain	48.89	31	⇓P	P	04 07 34.1 -0.1
	baz=49					
REDW	Red Top Meadow	49.07	359	eP	P	04 07 35.3 -0.5

	9.2nm,1.3s						
J20A	Shoshoni	49.08	2	⇓P	P	04 07 36.0	+0.4
	baz=49						
J21A	Lysite	49.10	2	⇓P	P	04 07 36.4	+0.6
	baz=49,SNR=7.2						
J22A	Midwest	49.21	3	⇓P	P	04 07 37.2	+0.6
	baz=50,SNR=9.6						
J24A	Dixon Ranch, L	49.26	5	⇓P	P	04 07 37.3	+0.3
	baz=50						
J23A	Dilts Ranch, B	49.26	4	⇑P	P	04 07 37.3	+0.3
	baz=50						
K30A	Basset	49.26	10	⇓P	P	04 07 37.6	+0.6
	baz=50						
LOHW	Long Hollow	49.32	359	eP	P	04 07 37.2	-0.4
FXWY	Fox Creek	49.35	359	eP	P	04 07 37.6	-0.2
	5.8nm,1.1s						
J26A	Sides Ranch, S	49.40	6	⇑P	P	04 07 38.3	+0.3
	baz=50						
MFID	Camas Ranch	49.42	354	eP	P	04 07 38.0	-0.2
	19nm,1.1s						
HLID	Hailey	49.44	356	⇓P	P	04 07 39.5	+1.1
	baz=50,SNR=18						
HLID	Hailey	49.44	356	eP	P	04 07 39.1	+0.7
	11nm,1.0s						
K05A	Summer Lake	49.46	349	eP	P	04 07 39.6	+0.9
	122nm,2.1s						
K04D	Chiloquin, OR	49.53	348	⇑P	P	04 07 39.7	+0.6
	baz=50						
I21A	Big Trails, Te	49.57	2	⇓P	P	04 07 39.2	-0.2
	baz=50,SNR=13						
IMW	Indian Meadow	49.61	359	eP	P	04 07 39.3	-0.5
I17A	Pilgrim Ck.	49.63	359	⇑P	P	04 07 40.2	+0.3
	baz=50						
I20A	Worland	49.68	2	⇓P	P	04 07 40.8	+0.6
	baz=50						
I22A	9 Mile Ranch,	49.69	3	⇑P	P	04 07 40.9	+0.6
	baz=50						
J28A	Allard Ranch,	49.74	8	⇓P	P	04 07 41.3	+0.7
	baz=50						
I19A	Meeteetse	49.74	1	⇑P	P	04 07 40.9	+0.1
	baz=50,SNR=8.9						
FLWY	Flagg Ranch	49.79	359	eP	P	04 07 41.4	+0.2
	21nm,1.1s						
J29A	Okreek	49.86	9	⇑P	P	04 07 42.7	+1.3
	baz=50						
J30A	Dallas	49.92	10	⇑P	P	04 07 42.3	+0.4
	baz=50						
I25A	Rochford	50.03	6	⇓P	P	04 07 43.5	+0.6
	baz=50,SNR=5.0						
J05D	Fort Rock, OR	50.07	349	⇑P	P	04 07 44.2	+1.0
	baz=50						
RSSD	Black Hills	50.10	5	eP	P	04 07 43.0	-0.5
	8.2nm,1.3s						
H17A	Grant Village	50.10	359	⇑P	P	04 07 44.6	+1.0
	baz=50						
I26A	New Underwood	50.13	7	⇓P	P	04 07 44.6	+1.0
	baz=50						
J04D	Umpqua Nationa	50.19	348	⇑P	P	04 07 45.0	+0.8
	baz=50						
H20A	Greybull	50.22	2	⇓P	P	04 07 44.9	+0.6
	baz=50,SNR=7.1						
I27A	Quinn	50.27	7	⇓P	P	04 07 45.0	+0.4
	baz=50						
I28A	Midland	50.31	8	⇑P	P	04 07 45.2	+0.3
	baz=51						
H18A	Shoshone NF, C	50.38	0	⇑P	P	04 07 45.9	+0.2
	baz=51,SNR=9.1						
H19A	Powell	50.38	1	⇑P	P	04 07 46.0	+0.5
	baz=51						
YMR	Madison River	50.38	359	eP	P	04 07 46.7	+1.0
	17nm,1.4s						
H22A	Clearmont	50.39	3	⇓P	P	04 07 46.6	+1.0
	baz=51						
I30A	Oacoma	50.50	10	⇓P	P	04 07 47.0	+0.7
	baz=51						
QLMT	Earthquake Lak	50.55	359	eP	P	04 07 47.7	+0.8
MCMT	McKenzie Canyo	50.60	357	eP	P	04 07 47.4	0.0
	7.9nm,1.2s						
H25A	Fruitdale	50.64	6	⇓P	P	04 07 47.6	+0.2
	baz=51						
H24A	Dirks Ranch, A	50.67	5	⇓P	P	04 07 47.6	-0.1
	baz=51						
H26A	Fairpoint	50.72	7	⇓P	P	04 07 48.5	+0.5
	baz=51						
I04A	Tendick Farm,	50.79	348	⇑P	P	04 07 49.0	+0.5
	baz=51						
H27A	Howes	50.82	7	⇑P	P	04 07 49.2	+0.5
	baz=51						
RLMT	Red Lodge	50.83	1	eP	P	04 07 48.3	-0.7
	1.4nm,0.9s						
ECSD	EROS Data Cent	50.86	12	⇑P	P	04 07 48.9	-0.2
	baz=51						
G20A	Bridger	50.94	1	⇓P	P	04 07 49.4	-0.3
	baz=51						
G21A	Lodge Grass	50.98	2	⇓P	P	04 07 50.7	+0.7
	baz=51						
H28A	Mission Ridge	51.00	8	⇑P	P	04 07 50.6	+0.6
	baz=51						
G22A	Birney	51.02	3	⇑P	P	04 07 49.8	-0.5
	baz=51						
H29A	Onida	51.07	9	⇓P	P	04 07 51.7	+1.1
	baz=51						
BRSD	Miller	51.09	10	⇓P	P	04 07 51.2	+0.5
	baz=51						
I05D	Terrebonne, OR	51.10	349	⇑P	P	04 07 51.3	+0.4
	baz=51						
DLMT	Dillon	51.12	358	eP	P	04 07 51.8	+0.6
	12nm,1.3s						
G25A	Newell	51.22	6	⇑P	P	04 07 52.1	+0.3
	baz=52						
G24A	Alzada	51.26	5	⇑P	P	04 07 52.1	0.0
	baz=52						
G28A	Parade	51.41	8	⇓P	P	04 07 52.9	-0.2
	baz=52						
G26A	Maurine	51.41	7	⇓P	P	04 07 53.4	+0.2
	baz=52						
GCMT	Greycliff	51.49	0	eP	P	04 07 52.5	-1.4
	4.4nm,1.1s						
F20A	Billings	51.52	2	⇓P	P	04 07 54.1	0.0
	baz=52						
F19A	Roth Farm, Mol	51.56	1	⇑P	P	04 07 54.3	-0.1
	baz=52						
G27A	Dupree	51.57	7	⇑P	P	04 07 54.7	+0.4
	baz=52						
F22A	Rosebud	51.58	3	⇑P	P	04 07 54.7	+0.3
	baz=52						
F21A	Absaloka Mine,	51.58	2	⇓P	P	04 07 54.8	+0.3
	baz=52						
G29A	Hoven	51.67	9	⇑P	P	04 07 55.3	+0.3
	baz=52						
G30A	Faulkton	51.73	10	⇓P	P	04 07 56.1	+0.6
	baz=52						
F24A	Ekalaka	51.77	5	⇑P	P	04 07 55.9	0.0
	baz=52						
JFWS	Jewell Farm	51.77	18	eP	P	04 07 55.6	-0.3
	9.2nm,1.0s						
F25A	Bowman	51.94	6	⇑P	P	04 07 57.2	0.0
	baz=52						
F26A	Lodgepole	51.95	6	⇑P	P	04 07 56.8	-0.4
	baz=52						
G05D	Wamic, OR	51.97	350	⇑P	P	04 07 57.0	-0.3
	baz=52						
F27A	Lemmon	52.05	7	⇓P	P	04 07 58.1	+0.2
	baz=52						
F10A	Beach Ranch, E	52.09	353	eP	P	04 07 58.4	0.0
	10nm,1.1s						
E19A	Rath Farm, Rou	52.17	1	⇑P	P	04 07 58.3	-0.6
	baz=52,SNR=7.4						
F28A	McLaughlin	52.18	8	⇑P	P	04 07 58.6	-0.3
	baz=52						
E20A	Meyer Farm, Mu	52.23	1	⇓P	P	04 07 59.4	+0.1
	baz=52,SNR=5.4						
E22A	Miles City	52.26	3	⇑P	P	04 07 59.5	+0.1
	baz=52						
E21A	Keefer Ranch,	52.30	2	⇓P	P	04 07 59.6	-0.2
	baz=52						
F29A	Eureka	52.31	9	⇑P	P	04 07 59.7	-0.1
	baz=52						
G03D	McMinnville, O	52.32	348	⇑P	P	04 07 59.7	-0.2
	baz=52						
E23A	Ismay	52.36	4	⇓P	P	04 08 00.1	-0.1
	baz=53						
F30A	Leola	52.44	10	⇓P	P	04 08 00.3	-0.4
	baz=53						
HRY	Holter Researc	52.44	358	eP	P	04 08 00.8	-0.2
E24A	Baker	52.49	5	⇑P	P	04 08 01.2	-0.1
	baz=53						
E25A	Miller Ranch,	52.52	6	⇑P	P	04 08 01.5	0.0
	baz=53						
E26A	Carlson Angus	52.59	6	⇑P	P	04 08 02.3	+0.3
	baz=53						
E27A	Carson	52.65	7	⇓P	P	04 08 02.6	+0.2
	baz=53						
MSO	Missoula	52.66	356	⇑P	P	04 08 03.3	+0.7
	baz=53						
D21A	La Casta Ranch	52.83	2	⇓P	P	04 08 03.5	-0.3
	baz=53,SNR=5.5						
D19A	Cripps Ranch,	52.87	1	⇑P	P	04 08 04.4	+0.3
	baz=53,SNR=6.3						
D22A	Cohagen	52.95	3	⇑P	P	04 08 04.7	+0.1
	baz=53,SNR=8.2						
D23A	Lindsay	53.03	4	⇓P	P	04 08 05.6	+0.3
	baz=53						
D24A	Glendive	53.04	5	⇓P	P	04 08 05.5	+0.3
	baz=53						
E29A	Napoleon	53.05	9	⇑P	P	04 08 06.4	+1.0
	baz=53						
D26A	Manning	53.14	6	⇑P	P	04 08 05.7	-0.2
	baz=53						
D25A	Fairfield	53.17	6	⇓P	P	04 08 06.1	-0.2
	baz=53						
SPMN	Marine on St.	53.17	15	⇓P	P	04 08 06.0	-0.2
	baz=53						
D27A	Center	53.32	7	⇓P	P	04 08 07.5	+0.2
	baz=54						
D08A	Wollman Farm,	53.37	352	eP	P	04 08 08.3	+0.7
	17nm,1.4s						
BBGH	Gun Hill	53.41	69	eP	P	04 08 04.1	-4.4
	1μm,1.5s						
C20A	Veseth Ranch,	53.44	2	⇑P	P	04 08 08.6	+0.4
	baz=54,SNR=7.0						
C19A	Slack Wire Ran	53.44	1	⇑P	P	04 08 07.9	-0.4
	baz=54,SNR=5.2						
D28A	Regan	53.53	8	⇑P	P	04 08 08.6	-0.2
	baz=54						
D29A	Pettibone, Tap	53.54	9	⇑P	P	04 08 08.5	-0.4
	baz=54						
C22A	Vida	53.56	3	⇓P	P	04 08 09.3	+0.3
	baz=54,SNR=8.7						
JTMT	Jette	53.59	356	eP	P	04 08 09.1	-0.4
C23A	Lambert	53.66	4	⇓P	P	04 08 10.2	+0.4
	baz=54						
YBMT	Yellow Bay	53.69	357	eP	P	04 08 09.9	-0.3
D30A	Buchanan	53.72	9	⇓P	P	04 08 09.9	-0.3
	baz=54						
EGMT	Eagleton	53.73	0	⇑P	P	04 08 10.6	+0.3
	baz=54						
EGMT	Eagleton	53.73	0	eP	P	04 08 10.6	+0.3
	14nm,1.3s						
BSMT	Bassoo Peak	53.73	356	eP	P	04 08 09.6	-0.9
TRQA	Tornquist	53.85	134	eP	P	04 08 11.1	-0.3
	4.9nm,0.8s						
CPUP	Villa Florida	53.94	118	P	P	04 08 13.8	+1.6
	3.3nm,0.9s,baz=254,slow=12,SNR=4.0						
CPUP	Villa Florida	53.94	118	eP	P	04 08 10.7	-1.6
	0.8nm,1.3s						
C26A	Wahner Farm, P	53.96	6	⇑P	P	04 08 12.4	+0.4
	baz=54						
B19A	Brinkman Farms	54.16	1	⇓P	P	04 08 14.0	+0.5
	baz=54						
MDND	Maddock	54.31	8	⇓P	P	04 08 14.2	-0.3
	baz=54						
B23A	Brockton	54.34	4	⇑P	P	04 08 14.9	+0.2
	baz=55						
C30A	Mose, Pekin	54.34	9	⇓P	P	04 08 14.8	+0.1
	baz=55						
NEW	Newport	54.35	354	⇑P	P	04 08 15.3	+0.5
	baz=55						
NEW	Newport	54.35	354	eP	P	04 08 15.2	+0.4
	9.4nm,1.4s						
DGMT	Dagmar	54.40	5	⇓P	P	04 08 15.5	+0.4
	baz=55						
DGMT	Dagmar	54.40	5	eP	P	04 08 15.4	+0.2
	121nm,2.5s						
A20A	Cobblestone Ra	54.61	2	⇓P	P	04 08 17.0	+0.2
	baz=55						
A19A	Klindworth Far	54.64	1	⇑P	P	04 08 17.1	+0.1
	baz=55						
A21A	Bergtoll Ranch	54.76	2	⇑P	P	04 08 17.8	0.0
	baz=55						
B28A	Dugan Ranch, T	54.79	8	⇓P	P	04 08 18.1	+0.2
	baz=55						
A22A	Carney Farms,	54.80	3	⇓P	P	04 08 18.6	+0.4
	baz=55						
A24A	Westby	54.87	5	⇑P	P	04 08 18.7	+0.1
	baz=55						
A25A	Svangstu Ranch	54.96	5	⇑P	P	04 08 19.9	+0.7
	baz=55						
A26A	Wade Farm, Ken	55.03	6	⇑P	P	04 08 19.9	+0.2
	baz=55						
B30A	Myrvik Farm, E	55.09	9	⇑P	P	04 08 19.7	-0.4
	baz=55						
A28A	Rude Farm, Bot	55.25	8	⇓P	P	04 08 21.4	0.0
	baz=56						
AGMN	Agassiz Nation	55.38	11	⇑P	P	04 08 22.0	-0.3
	baz=56						
A29A	Manning Farm,	55.41	8	⇓P	P	04 08 22.1	-0.3
	baz=56						
A30A	Hiffart Farm,	55.57	9	⇑P	P	04 08 23.0	-0.7
	baz=56						
ULM	Lac du Bonnet	57.25	11	P	P	04 08 33.5	-2.0
	4.0nm,1.0s,baz=223,slow=3.8,SNR=4.2						
USHA	Ushuaia	58.97	153	P	P	04 08 49.4	+1.8
	7.4nm,1.0s,baz=324,slow=8.7,SNR=3.8						
BDFB	Brasilia	61.31	105	P	P	04 09 04.9	+0.4
	7.2nm,1.0s,baz=265,slow=6.4,SNR=6.6						
FCC	Fort Churchill	65.72	9	eP	P	04 09 31.1	-1.5
	0.2nm,1.2s						
YKA	Yellowknife Ar	68.33	358	P	P	04 09 48.0	-1.1
	2.8nm,1.0s,baz=170,slow=6.1,SNR=28						
YKA	Yellowknife Ar	68.33	358	P	P	04 09 48.0	-1.1
EGAK	Eagle	74.26	347	eP	P	04 10 23.9	-1.1
	19nm,1.1s						
MCK	McKinley	75.43	343	eP	P	04 10 30.7	-1.1
	13nm,1.1s						
ILAR	Eielson Array	75.67	345	P	P	04 10 32.1	-1.0
	3.3nm,1.0s,baz=160,slow=4.8,SNR=14						
INK	Inuvik	75.92	351	eP	P	04 10 33.6	-0.8
	16nm,1.2s						
COLA	College	76.01	344	eP	P	04 10 34.6	-0.5
	9.5nm,1.2s						
COLD	Coldfoot	78.44	345	eP	P	04 10 48.7	0.0
	16nm,1.1s						
QSPA	South Pole Qui	84.12	180	P	P	04 11 21.5	+2.3
	15nm,1.0s,baz=108,slow=1.4,SNR=26						
H11N3	WAKE ISLAND Hy	85.66	290	T	T	05 45 46.4	
	baz=98,slow=75,SNR=23						
H11N2	WAKE ISLAND Hy	85.67	290	T	T	05 45 46.3	
	baz=98,slow=75,SNR=31						
H11N1	WAKE ISLAND Hy	85.68	290	T	T	05 45 42.5	
	baz=98,slow=75,SNR=16						
H11S2	WAKE ISLAND Hy	85.69	289	T	T	05 45 46.3	
	baz=99,slow=75,SNR=49						
H11S1	WAKE ISLAND Hy	85.69	289	T	T	05 45 47.1	
	baz=99,slow=75,SNR=29						
H11S3	WAKE ISLAND Hy	85.71	289	T	T	05 45 47.7	
	baz=99,slow=75,SNR=28						
FX1	Attu Island--F	86.91	324	LR	LR	04 42 52.4	
	comp=Z,74nm,20.3s,baz=94,slow=30						
SNAA	Sanae	89.69	162	eP	P	04 11 47.2	+1.1
	16nm,1.4s						
PETK	Petropavlovsk-	96.18	323	LR	LR	04 47 51.9	
	comp=Z,34nm,20.2s,baz=62,slow=31						
SUR	Sutherland	119.57	132	ePKPdf	PKPdf	04 17 41.0	+2.0
PSZ	Piszkesteto	120.24	37	ePKPdf	PKPdf	04 17 37.2	-2.4
BOSA	Boshof	124.78	131	PKP	PKPdf	04 17 49.5	+0.4
	5.0nm,1.0s,baz=218,slow=2.7,SNR=4.0						
BOSA	Boshof	124.78	131	ePKPdf	PKPdf	04 17 49.2	+0.1
LBTB	Lobatse	126.85	127	ePKPdf	PKPdf	04 17 49.9	-3.2
SONM	Songino Array	128.06	330	PKP	PKPdf	04 17 54.7	-0.1
	1.1nm,1.1s,baz=48,slow=2.2,SNR=5.4						
HHC	Hu-ho-hao-te	129.27	320	ePKP	PKPdf	04 17 57.5	+0.3
HHC				PP	PP	04 20 09.2	+3.7
HHC				SKS	SKSdf	04 25 07.7	-1.6
HHC				SKKS	SKKSac	04 27 01.6	-1.8
HHC				SS	SS	04 37 29.1	+2.7
HHC				PPMZ			
	88nm,6.3s						
HHC				LN			
	180nm,21.0s						
HHC				LE			
	160nm,19.9s						
HHC				LZ			
	140nm,18.5s						
BRTR	Keskin Array B	132.99	39	PKP	PKPdf	04 18 05.4	+1.1
	1.4nm,1.0s,baz=131,slow=3.4,SNR=4.6						
KURK	Kurchatov	134.81	352	ePKPdf	PKPdf	04 18 06.2	-1.0
ABKAR	Akbulak array	135.97	10	ePKPdf	PKPdf	04 18 09.9	+0.4
LZH	Lanzhou	136.94	319	ePKP	PKPdf	04 18 10.2	-1.7
LZH				sPKP		04 18 14.7	
LZH				LN			
	170nm,18.0s						
LZH				LE			
	160nm,18.1s						
LZH				LZ			
	180nm,20.0s						
GTA	Gaotai	137.28	326	ePKP	PKPdf	04 18 14.3	+2.0
MKAR	Makanchi Array	137.97	348	PKP	PKPdf	04 18 12.8	-0.5
	3.0nm,1.1s,baz=24,slow=1.9,SNR=12						
WMQ	Urumqi	139.24	340	ePKP	PKPdf	04 18 15.4	-0.3
TKM2	Tokmak 2	142.85	353	ePKPdf	PKPdf	04 18 19.6	-2.9
AAK	Ala-Archa	143.25	355	ePKPdf	PKPbc	04 18 20.6	+0.6
EKS2	Erkin-Say	143.28	356	ePKPdf	PKPbc	04 18 21.3	+1.3
IGLO	Ghaloghah	146.09	24	eP	PKPbc	04 18 29.4	+0.3
KSH	Kashi	146.16	352	PKPbc	PKPdf	04 18 26.6	-1.6
KSH				sPKP		04 18 30.8	
KSH				PKS	PKSdf	04 22 01.1	-2.6
KSH				SKS	SKSdf	04 25 35.1	-2.5
KSH				PPMZ			
	97nm,5.4s						
KSH				LN			
	28nm,4.1s						
KSH				LE			
	15nm,4.3s						
KSH				LZ			
	80nm,7.6s						
GEYT	Alibeck	146.32	17	PKPbc	PKPbc	04 18 29.8	+0.3
	15nm,1.1s,baz=294,slow=7.3,SNR=12						
KMBO	Kilima Mbogo	146.40	101	PKPbc	PKPbc	04 18 29.9	-0.8
	1.2nm,0.5s,baz=87,slow=5.2,SNR=5.1						
KMBO	Kilima Mbogo	146.40	101	ePKPbc	PKPdf	04 18 26.9	-2.6
IPAY	Payeh	147.95	17	eP	PKPbc	04 18 33.7	-0.7
IMYA	Miami	148.36	16	eP	PKPdf	04 18 32.8	+0.8
CHTO	Chiang Mai	149.18	297	ePKPbc	PKPbc	04 18 37.5	-0.3
IPM	Ipoh	149.23	269	ePKPbc	PKPbc	04 18 37.3	-0.9
CMAR	Chiang Mai Arr	149.30	296	PKPbc	PKPbc	04 18 38.5	+0.3
	1.5nm,0.4s,baz=76,slow=0.7,SNR=12						
IPAR	Pars	151.26	32	eP	PKPbc	04 18 42.2	-0.7
KBL	Kabul	151.51	2	ePKPbc	PKPbc	04 18 43.6	+0.4
KBL				ePKPab	PKPab	04 18 53.1	+1.6
ISRV	Sarvestan	151.66	33	eP	PKPbc	04 18 43.0	-0.9

GUC 06 04:07:52.6±0.6, 34°.87S×72°.37W, h42km±4km, ML4.1, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.94	98	⇑iP	Pn	04 08 09.6	+0.2
NICH				i S	Sn	04 08 23.1	+1.4
LNCH	Linares	1.16	148	⇑iP	Pn	04 08 13.2	+0.8
LNCH				eS1	Sn	04 08 29.2	+2.3
COCH	Cobquecura	1.30	195	⇓iP	Pn	04 08 15.3	+1.0
COCH				i S	Sn	04 08 31.9	+1.4
ANTU	Antumapu	1.94	48	eP1	Pn	04 08 24.2	+1.1
ANTU				e		04 08 24.2	
ANTU				i S	Sn	04 08 47.9	+1.6
ANTU				AML	AML	04 08 53.0	
	comp=N,2μm,0.4s						
SAN	Santiago	2.00	45	eP1	Pn	04 08 25.4	+1.4
CLCH	Cerro Calan	2.11	46	⇑iP	Pn	04 08 26.3	+0.7
CLCH				eS	Sn	04 08 52.2	+1.5
CLCH				AML	AML	04 09 07.5	
	comp=N,2μm,0.7s						
PEL	Peldehue	2.22	39	eP1	Pn	04 08 27.9	+1.0
PEL				eS	Sn	04 08 54.7	+1.5
PEL				AML	AML	04 09 04.3	
	comp=N,2μm,0.8s						

MAN 06 04:31:55, 9°.03N×125°.47E, h1km, mb3.9, ML2.6, MS2.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.16	112	eP	Pg	04 31 58.5	+0.4
SCPH	Surigao	0.75	1	eP	Pg	04 32 02.7	-6.7
SCPH				eS	Sg	04 32 10.2	-8.9
BUKP	Musuan	1.21	200	eP	Pn	04 32 19.8	+0.6
BUKP				eS	Sn	04 32 37.0	+0.6
PAGZ	Pagadian	2.38	241	eP	Pn	04 32 36.0	+0.9

*IDC **06** 04:38:43.5±2.8, 35°.22S×73°.45W, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.5/19, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=78.7km s-min=45.0km az=122.0*
*GUC **06** 04:39:33.8±0.6, 33°.86S×71°.72W, h29km±9km, ML3.3*

ISC 06 04:39:07.9±2.3, 33°.0S±0°.1×72°.9W±0°.1, h10km, n12, σ2°.35/12, 4C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	1.57	127	⇑iP	Pg	04 39 40.2	+2.3
PEL	Peldehue	1.88	95	⇓iP	Pg	04 39 53.2	+9.4
PEL				i S	Sg	04 40 07.5	-0.7
PEL				AML	AML	04 40 13.4	
	comp=N,3μm,0.4s						
ANTU	Antumapu	1.99	107	eP1	Pn	04 39 50.0	+8.4
ANTU				i S1	Sn	04 40 02.9	-3.7
ANTU				AML	AML	04 40 03.5	
	comp=E,2μm,0.2s						
CLCH	Cerro Calan	2.03	101	⇑iP	Pg	04 39 52.2	+5.4
CLCH				i S	Sn	04 40 07.2	-0.5
CLCH				AML	AML	04 40 12.1	
	comp=N,1μm,0.7s						
LACH	Col Las Americ	2.04	103	eP4	Pn	04 39 51.7	+9.3
LACH				i S	Sn	04 40 06.1	-1.9
LACH				AML	AML	04 40 08.9	
	comp=E,705nm,0.3s						
CHCH	Chadas Angostu	2.10	116	⇓iP	Pg	04 39 49.4	+1.2
FCH	Farellones	2.22	99	⇑iP	Pg	04 39 56.6	+6.1
FCH				i S4	Sn	04 40 14.6	+1.8
FCH				AML	AML	04 40 17.3	
	comp=N,998nm,0.4s						
CACH	El Canelo	2.22	120	⇑iP	Pg	04 39 51.3	+0.8
CFAA	Coronel Fontan	4.20	72	Pn	Pn	04 40 09.8	-2.3
	comp=N,0.5nm,0.3s,baz=222,slow=12,SNR=16						
CFAA				Sn	Sb	04 41 15.7	+2.9
	comp=N,0.3nm,0.3s,baz=335,slow=19,SNR=2.7						
LPAZ	La Paz	17.21	16	P	P	04 43 12.8	+2.1
	comp=N,0.1nm,0.3s,baz=206,slow=8.6,SNR=3.6						
SIV	San Ignacio	20.05	35	P	P	04 43 39.7	-1.7
	comp=N,0.7nm,0.4s,baz=210,slow=8.1,SNR=3.1						
MKAR	Makanchi Array	156.65	47	PKPab	PKPdf	04 59 17.0	+14
	comp=N,0.2nm,0.6s,baz=268,slow=5.6,SNR=3.5						

*BJI **06** 04:49:33.4, 10°.00N×84°.00W, h3km, Ms5.1/3, Ms7 4.8/4*
*NEIC **06** 04:49:34.4, 9°.95N×84°.03W, h3km, mb4.4/1, MW4.6(UCR), After CASC.*
NEIC Felt [V] at Calle Blancos, Sabanilla and San Pedro; [IV] at Alajuelita, Asuncion, Curridabat, Desamparados, Escazu, Guadalupe, Heredia, Mercedes, San Francisco, San Jose and Tres Rios; [III] at Cartago, San Rafael, Santa Ana and Santo Domingo. Felt strongly in much of the Valle Central.

ISC 06 04:49:34.5±1.1, 9°.90N±0°.07×84°.08W±0°.04, h12km±6km, n15, σ1°.57/25, 5C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	Escuela Geolog	0

KSH			PP	**PP**	**05 10 39.6**	**+0.8**
KSH			PKS	PKSdf	05 12 11.4	-5.2
KSH			LN			
	24nm,3.9s					
KSH			LE			
	35nm,5.0s					
KSH			LZ			
	120nm,6.0s					
HHC	**Hu-ho-hao-te**	**127.48 345**	*e*PKP	**PKPdf**	**05 08 40.6**	**+0.7**
HHC			PP	**PP**	**05 10 43.2**	**+4.4**
HHC			SKS	**SKSdf**	**05 15 50.9**	**-0.9**
HHC			SKKS	**SKKSac**	**05 17 35.2**	**-2.7**
HHC			SS	**SS**	**05 27 50.3**	**+1.9**
HHC			LN			
	130nm,19.7s					
HHC			LE			
	170nm,19.1s					
HHC			LZ			
	160nm,19.7s					
LZH	**Lanzhou**	**133.66 351**	*e*PKP	**PKPdf**	**05 08 49.1**	**-2.7**
LZH			sPKP		05 08 52.0	
LZH			LN			
	150nm,17.9s					
LZH			LE			
	160nm,18.2s					
LZH			LZ			
	180nm,20.1s					

IDC 06 04:58:47.3±7.4, 18°.94S×179°.88E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/27, mbtmp3.8/2, Error ellipse: s-maj=300.8km s-min=114.7km az=153.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.85**	**261**	P	P	05 06 48.2	+0.6
	1.0nm,0.6s,baz=92,slow=8.4,SNR=22						
ASAR	**Alice Springs**	**42.95**	**255**	P	P	05 06 47.4	-1.0
	0.3nm,0.4s,baz=94,slow=8.7,SNR=8.4						
AKASG	**Malin Array Be**	**140.68**	**331**	PKP	PKPdf	05 18 18.3	-0.5
	1.2nm,0.6s,baz=41,slow=4.2,SNR=4.1						

*IDC **06** 04:59:14.4±1.0, 34°.83S×72°.23W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/27, mbtmp3.9/5, ML3.1/2, MS2.1/2, Ms1 2.1/2, ms1mx2.1/23, Error ellipse: s-maj=38.1km s-min=25.7km az=97.0*
*GUC **06** 04:59:19.1±0.7, 34°.75S×72°.21W, h16km±4km, ML4.0*
*NEIC **06** 04:59:19.4±0.3, 34°.73S×72°.30W, h35km, mb4.5/14, Error ellipse: s-maj=9.5km s-min=7.4km az=63.0*
ISC 06 04:59:17.7±1.9, 34°.74S±0°.04×72°.31W±0°.08, h24km±13km, n47, σ1°19/57, mb4.5/17, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.93**	**107**	⇓*i*P	**Pb**	**04 59 34.5**	**-0.6**
NICH				*i* S	**Sb**	**04 59 45.6**	**-1.3**
LNV	**Longovilo**	**1.08**	**44**	⇓*i*P	**Pn**	**04 59 37.3**	**-0.1**
LNV				*i* S1	**Sn**	**04 59 50.3**	**-1.3**
LNCH	**Linares**	**1.25**	**152**	⇑*i*P	**Pn**	**04 59 40.3**	**+0.7**
LNCH				*i* S1	**Sn**	**04 59 55.9**	**+0.3**
COCH	**Cobquecura**	**1.44**	**196**	*e*P1	**Pg**	**04 59 43.6**	**+1.3**
COCH				*i* S1	**Sg**	**05 00 02.5**	**+2.1**
CACH	**El Canelo**	**1.55**	**67**	⇓*i*P	**Pb**	**04 59 45.2**	**-0.5**
CACH				*i* S1	**Sn**	**05 00 04.2**	**+0.9**
CHCH	**Chadas Angostu**	**1.59**	**60**	⇑*i*P	**Pn**	**04 59 45.5**	**+1.1**
ANTU	**Antumapu**	**1.82**	**50**	*e*P1	**Pn**	**04 59 48.9**	**+1.4**
ANTU				*e*S1	**Sn**	**05 00 11.4**	**+1.5**
ANTU				AML	AML	05 00 16.4	
	comp=N,2μm,0.6s						
LACH	**Col Las Americ**	**1.96**	**49**	⇓*i*P	**Pb**	**04 59 51.4**	**-1.3**
LACH				*i* S	**Sn**	**05 00 15.3**	**+1.9**
LACH				AML	AML	05 00 17.8	
	comp=E,992nm,0.6s						
CLCH	**Cerro Calan**	**1.99**	**48**	*e*P1	**Pn**	**04 59 52.1**	**+2.1**
CLCH				*i* S1	**Sn**	**05 00 16.5**	**+2.3**
CLCH				AML	AML	05 00 20.6	
	comp=E,3μm,0.7s						
CLCH				AML	AML	05 00 21.1	
	comp=E,4μm,0.7s						
PEL	**Peldehue**	**2.09**	**41**	*e*P1	**Pn**	**04 59 53.0**	**+1.7**
PEL				*i* S1	**Sn**	**05 00 19.7**	**+3.1**
PEL				AML	AML	05 00 23.2	
	comp=N,3μm,0.5s						
FCH	**Farellones**	**2.19**	**50**	AML	AML	05 00 24.0	
	comp=N,998nm,0.2s						
CFAA	**Coronel Fontan**	**4.63**	**49**	Pn	**Pn**	**05 00 28.0**	**+1.7**
	comp=N,0.2nm,0.3s,baz=221,slow=11,SNR=3.3						
CFAA				Lg	Lg	05 01 32.0	
	comp=N,1.2nm,0.3s,baz=28,slow=16,SNR=5.8						
CFAA				LR	LR	05 02 38.6	
	comp=N,8.8nm,18.2s,baz=216,slow=44						
PLCA	**Paso Flores**	**6.14**	**167**	LR	LR	05 02 44.8	
	comp=N,42nm,20.2s,baz=296,slow=35						
TRQA	**Tornquist**	**8.96**	**115**	*e*Pn	**Pn**	**05 01 27.2**	**+1.6**
CPUP	**Villa Florida**	**15.38**	**61**	*e*Pn	**Pn**	**05 02 53.0**	**-0.1**
LPAZ	**La Paz**	**18.76**	**13**	P	**Pn**	**05 03 36.3**	**+0.1**
	comp=N,0.1nm,0.3s,baz=179,slow=7.5,SNR=3.5						
SAML	**Samuel**	**27.00**	**20**	*e*P	**P**	**05 04 57.8**	**-0.1**
	comp=N,1.3nm,0.7s						
SDV	**Santo Domingo**	**43.42**	**2**	*e*P	**P**	**05 07 17.7**	**-1.1**
	comp=N,5.3nm,1.0s						
JTS	**JuntasAbangare**	**46.36**	**343**	*e*P	**P**	**05 07 42.0**	**-0.1**
SNAA	**Sanae**	**50.98**	**158**	*e*P	**P**	**05 08 17.3**	**+0.2**
	comp=N,8.0nm,1.0s						
CBYP	**Canovanas**	**53.08**	**8**	*e*P	**P**	**05 08 33.5**	**+0.3**
	comp=N,31nm,1.2s						
GTBY	**Guantanamo Bay**	**54.43**	**357**	*e*P	**P**	**05 08 42.2**	**-0.8**
QSPA	**South Pole Qui**	**55.49**	**180**	P	**P**	**05 08 51.3**	**+0.8**
	comp=N,2.1nm,1.0s,baz=319,slow=2.2,SNR=6.4						
QSPA	**South Pole Qui**	**55.49**	**180**	*e*P	**P**	**05 08 51.7**	**+1.2**
	comp=N,5.4nm,1.1s						
HKT	**Hockley**	**68.07**	**338**	*e*P	**P**	**05 10 16.0**	**+0.9**
	comp=N,5.8nm,1.2s						
JCT	**Junction City**	**69.86**	**335**	*e*P	**P**	**05 10 26.6**	**+0.2**
TXAR	**Lajitas Array**	**70.27**	**331**	P	**P**	**05 10 30.7**	**+1.6**
	comp=N,0.4nm,0.6s,baz=157,slow=9.8,SNR=3.1						
SWET	**Sewanee**	**70.75**	**348**	*e*P	**P**	**05 10 32.3**	**+0.6**
	comp=N,4.2nm,0.9s						
WVT	**Waverly**	**71.98**	**347**	*e*P	**P**	**05 10 39.4**	**+0.3**
	comp=N,4.0nm,0.8s						
MNTX	**Cornudas Mount**	**73.05**	**331**	*e*P	**P**	**05 10 45.8**	**+0.2**
MVCO	**Mesa Verde**	**79.11**	**331**	*e*P	**P**	**05 11 20.4**	**+0.2**
	comp=N,4.7nm,1.3s						
TSUM	**Tsumeb**	**79.23**	**106**	*e*P	**P**	**05 11 20.9**	**-0.5**
	comp=N,14nm,1.7s						
BOSA	**Boshof**	**79.92**	**118**	P	**P**	**05 11 25.2**	**+0.1**
	comp=N,4.3nm,1.0s,baz=194,slow=8.3,SNR=3.9						
ISCO	**Idaho Springs**	**80.30**	**335**	*e*P	**P**	**05 11 27.1**	**+0.3**
	comp=N,5.6nm,1.3s						
LBTB	**Lobatse**	**82.20**	**115**	*e*P	**P**	**05 11 36.6**	**-0.6**
	comp=N,7.9nm,1.2s						
DUG	**Dugway, Tooele**	**83.40**	**330**	*e*P	**P**	**05 11 43.3**	**+0.4**
	comp=N,9.2nm,1.6s						
HWUT	**Hardware Ranch**	**84.09**	**332**	*e*P	**P**	**05 11 45.8**	**-0.6**
	comp=N,3.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**84.67**	**70**	P	**P**	**05 11 49.4**	**-0.5**
	comp=N,0.6nm,0.9s,baz=242,slow=2.6,SNR=3.1						
KWP	**Kalwaria Pacla**	**118.55**	**48**	*e*PKPdf	**PKPdf**	**05 18 02.8**	**-0.2**
WRA	**Warramunga Arr**	**120.00**	**209**	PKP	**PKPdf**	**05 18 06.3**	**-0.5**
	comp=N,0.5nm,1.1s,baz=161,slow=1.8,SNR=7.9						
WRAB	**Tennant Creek**	**120.01**	**209**	*e*PKPdf	**PKPdf**	**05 18 06.6**	**-0.2**
COEN	**Coen**	**121.00**	**221**	*e*PKPdf	**PKPdf**	**05 18 09.7**	**+0.9**
PALK	**Pallekele**	**143.07**	**131**	*e*PKPdf	PKPab	05 18 45.9	+0.3
KULM	**Kulim**	**149.98**	**166**	*e*PKPdf	**PKPdf**	**05 19 01.5**	**-0.3**
KULM				*e*PKPbc	**PKPbc**	**05 19 05.0**	**-1.7**
KULM				*e*PKPab	**PKPab**	**05 19 10.2**	**-2.0**
KURK	**Kurchatov**	**153.57**	**44**	*e*PKPdf	**PKPdf**	**05 19 03.6**	**-2.5**
TKM2	**Tokmak 2**	**153.82**	**62**	*e*PKPdf	**PKPdf**	**05 19 06.2**	**-0.8**
TKM2				*e*PKPbc	**PKPbc**	**05 19 14.0**	**-0.9**
TKM2				*e*PKPab	**PKPab**	**05 19 27.7**	**-0.3**
MKAR	**Makanchi Array**	**157.42**	**50**	PKPab	**PKPab**	**05 19 43.2**	**+0.1**
	comp=N,0.2nm,0.6s,baz=318,slow=1.9,SNR=3.3						

GUC 06 05:05:35.5±0.4, 35°.39S×72°.71W, h21km±3km, ML3.9, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.74**	**185**	*i* P	Pb	05 05 49.4	-0.3
COCH				*i* S	Sb	05 05 59.5	+0.1
LNCH	**Linares**	**1.01**	**117**	*e*P	Pb	05 05 53.7	-0.7
NICH	**Los Niches**	**1.27**	**73**	*e*P	Pn	05 05 57.9	-0.2
LNV	**Longovilo**	**1.79**	**37**	*i* P	Pn	05 06 05.8	+0.7
LNV				*i* S	Sb	05 06 29.5	-0.1
CACH	**El Canelo**	**2.15**	**55**	*e*P	Pb	05 06 12.2	-1.8
CACH				*i* S	Sb	05 06 40.4	+0.1
CHCH	**Chadas Angostu**	**2.23**	**50**	⇑*i*P	Pn	05 06 13.1	+1.7
CHCH				*i* S	Sb	05 06 41.8	-0.7
PEL	**Peldehue**	**2.80**	**37**	*e*P	Pn	05 06 21.1	+2.0
PEL				*e*S	Sb	05 06 55.8	-3.0
PEL				IAML		05 07 08.7	
	comp=N,622nm,0.3s						
FCH	**Farellones**	**2.87**	**45**	⇑*i*P	Pn	05 06 21.3	+0.8
FCH				*i* S	Sn	05 06 57.4	+2.7
FCH				IAML		05 07 02.7	
	comp=E,311nm,0.5s						

*IDC **06** 05:22:25.8±0.7, 36°.17S×73°.39W, h0km, mb4.4/10, mb1 4.4/14, mb1mx4.3/28, mbtmp4.3/14, ML4.2/4, Error ellipse: s-maj=24.3km s-min=14.2km az=88.0*
*ISCJB **06** 05:22:29.3±0.4, 36°.19S±0°.05×73°.35W±0°.08, h33km, mb4.5/21, Error ellipse: s-maj=9.6km s-min=7.3km az=7.6*
*NEIC **06** 05:22:30.9±0.3, 36°.19S×73°.41W, h35km, mb4.7/15, Error ellipse: s-maj=10.4km s-min=7.5km az=72.0*
ISC 06 05:22:30.9±0.6, 36°.17S±0°.07×73°.4W±0°.1, h35km, n43, σ0°.74/39, mb4.6/21, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.09**	**154**	Pn	**Pn**	**05 23 44.4**	**-0.4**
	4.8nm,0.3s,baz=326,slow=12,SNR=20						
PLCA				Lg	Lg	05 25 05.6	
	7.4nm,0.3s,baz=239,slow=21,SNR=3.9						
CFAA	**Coronel Fontan**	**6.28**	**45**	Pn	**Pn**	**05 24 01.1**	**0.0**
	1.7nm,0.3s,baz=210,slow=14,SNR=25						
CFAA				Sn	**Sn**	**05 25 13.0**	**+1.4**
	1.2nm,0.3s,baz=219,slow=10,SNR=4.9						
TRQA	**Tornquist**	**9.35**	**105**	*e*Pn	**Pn**	**05 24 43.6**	**+0.5**
	41nm,1.0s						
CPUP	**Villa Florida**	**16.89**	**59**	Pn	**Pn**	**05 26 23.7**	**-0.8**
	0.3nm,0.3s,baz=186,slow=10,SNR=4.0						
CPUP	**Villa Florida**	**16.89**	**59**	*e*P	**Pn**	**05 26 24.2**	**-0.4**
	0.2nm,0.5s						
USHA	**Ushuaia**	**18.98**	**171**	P	**Pn**	**05 26 49.8**	**-0.2**
	0.3nm,0.3s,baz=313,slow=7.7,SNR=7.6						
LPAZ	**La Paz**	**20.36**	**15**	P	Pn	05 27 09.1	+1.6
	3.3nm,0.8s,baz=162,slow=5.4,SNR=9.9						
LPAZ	**La Paz**	**20.36**	**15**	*e*P	Pn	05 27 07.5	+0.1
	36nm,1.5s						
SIV	**San Ignacio**	**22.92**	**32**	P	**P**	**05 27 31.3**	**-0.6**
	2.7nm,0.5s,baz=227,slow=12,SNR=9.6						
BDFB	**Brasília**	**30.52**	**55**	P	**P**	**05 28 40.0**	**-1.0**
	6.2nm,1.0s,baz=241,slow=6.3,SNR=5.2						
OTAV	**Otavalo**	**36.52**	**352**	*e*P	**P**	**05 29 33.5**	**-0.1**
	27nm,1.9s						
VNA3	**Neumayer Olymp**	**47.80**	**157**	P	**P**	**05 31 05.3**	**+0.8**
VNA2	**Neumayer--Watz**	**48.48**	**156**	P	**P**	**05 31 10.3**	**+0.7**
	baz=314,slow=7.0						
SNAA	**Sanae**	**50.03**	**157**	P	**P**	**05 31 22.0**	**+0.5**
SNAA	**Sanae**	**50.03**	**157**	P	**P**	**05 31 21.2**	**-0.3**
	8.0nm,0.9s,baz=268,slow=7.1,SNR=14						
QSPA	**South Pole Qui**	**54.07**	**180**	P	**P**	**05 31 52.1**	**+0.4**
	11nm,0.9s,baz=136,slow=0.1,SNR=24						
QSPA	**South Pole Qui**	**54.07**	**180**	*e*P	**P**	**05 31 51.2**	**-0.5**
	13nm,1.0s						
RKT	**Rikitea**	**54.23**	**266**	*e*LR	LR	05 47 46.9	
	208nm,38.2s						
RKT	**Rikitea**	**54.23**	**266**	*e*T	T	06 30 02.0	
	1.0nm,0.2s						
PPT2	**Papeete2**	**68.81**	**263**	*e*S	S	05 42 46.6	+13
	90nm,23.8s						
PPT2	**Papeete2**	**68.81**	**263**	*e*LR	LR	05 54 25.8	
	312nm,25.2s						
JCT	**Junction City**	**70.77**	**336**	*e*P	**P**	**05 33 43.2**	**-0.4**
	2.6nm,0.4s						
TXAR	**Lajitas Array**	**71.09**	**332**	P	**P**	**05 33 46.1**	**+0.5**
	2.2nm,1.1s,baz=160,slow=8.0,SNR=7.2						
WVT	**Waverly**	**73.17**	**348**	*e*P	**P**	**05 33 56.1**	**-1.6**
	15nm,1.4s						
TUL1	**Leonard**	**74.67**	**341**	*e*P	**P**	**05 34 07.2**	**+0.6**
	5.8nm,0.9s						
DBIC	**Dimbokro**	**76.96**	**72**	P	**P**	**05 34 19.6**	**-0.6**
	10nm,1.0s,baz=158,slow=0.8,SNR=5.8						
DBIC	**Dimbokro**	**76.96**	**72**	*e*P	**P**	**05 34 20.4**	**+0.3**
	13nm,0.9s						
ANMO	**Albuquerque**	**77.16**	**333**	*e*P	**P**	**05 34 21.5**	**+0.5**
	4.1nm,1.2s						
BOSA	**Boshof**	**80.08**	**118**	P	**P**	**05 34 37.8**	**+0.3**
	3.9nm,0.8s,baz=209,slow=6.2,SNR=5.9						
BOSA	**Boshof**	**80.08**	**118**	*e*P	**P**	**05 34 37.2**	**-0.2**
	23nm,1.5s						
ECSD	**EROS Data Cent**	**82.28**	**343**	*e*P	**P**	**05 34 47.7**	**-0.6**
	9.5nm,1.1s						
LBTB	**Lobatse**	**82.43**	**115**	*e*P	**P**	**05 34 49.9**	**-0.1**
	6.1nm,0.9s						
R11A	**Troy Canyon, C**	**83.76**	**328**	*e*P	**P**	**05 34 57.9**	**+1.5**
	9.8nm,1.8s						
DUG	**Dugway, Tooele**	**84.18**	**331**	*e*P	**P**	**05 34 58.8**	**+0.4**
	8.2nm,1.5s						
TPH	**Tonopah**	**84.25**	**327**	*e*P	**P**	**05 35 00.2**	**+1.3**
	4.0nm,1.4s						
HWUT	**Hardware Ranch**	**84.91**	**332**	*e*P	**P**	**05 35 03.1**	**+0.9**
	18nm,1.8s						
PDAR	**Pinedale Array**	**85.19**	**334**	P	**P**	**05 35 03.9**	**+0.3**
	0.4nm,0.8s,baz=155,slow=4.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**86.02**	**71**	P	**P**	**05 35 08.0**	**0.0**
	comp=N,0.6nm,0.6s,baz=228,slow=3.9,SNR=9.0						
ULM	**Lac du Bonnet**	**88.30**	**346**	P	**P**	**05 35 18.7**	**+0.5**
	1.1nm,0.5s,baz=164,slow=4.3,SNR=3.2						
ABKAR	**Akbulak array**	**143.91**	**54**	*e*PKPdf	PKPab	05 41 59.5	+0.2
BVAR	**Borovoye Array**	**149.64**	**45**	PKPbc	**PKPbc**	**05 42 17.1**	**+1.0**
	1.2nm,0.6s,baz=284,slow=6.0,SNR=8.0						
ZALV	**Zalesovo Beam**	**156.67**	**34**	PKP	**PKPdf**	**05 42 20.4**	**-1.2**
	0.7nm,0.6s,baz=329,slow=2.6,SNR=5.2						
ZALV				PKPab	**PKPab**	**05 42 52.0**	**+1.0**
	1.1nm,0.5s,baz=299,slow=6.1,SNR=6.9						
MKAR	**Makanchi Array**	**159.03**	**52**	PKP	**PKPdf**	**05 42 24.2**	**-0.6**
	0.7nm,0.8s,baz=270,slow=1.2,SNR=6.9						
MKAR				PKPab	**PKPab**	**05 43 01.7**	**+0.2**
	0.7nm,0.9s,baz=304,slow=2.8,SNR=4.9						

IDC 06 05:43:13.5±3.2, 54°.51N×86°.78E, h0km, mb1 3.2/2, mb1mx3.0/38, mbtmp3.2/2, ML2.8/2, 2C-4D, Error ellipse: s-maj=27.8km s-min=17.7km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**245**	*i*		05 50 20.0	
	baz=65,slow=338,SNR=14						
ZALV	**Zalesovo Beam**	**1.28**	**245**	Pg	Pg	05 43 37.4	-0.7
	1.2nm,0.3s,baz=60,slow=16,SNR=11						
ZALV				Lg	Lg	05 43 55.4	
	1.0nm,0.3s,baz=70,slow=25,SNR=8.2						
KUR15	**Kurchatov Arra**	**6.35**	**235**	⇓Pn	Pn	05 44 49.7	+1.5
	0.6nm,0.7s						
KUR15				⇑Sn	Sn	05 46 03.4	+2.0
	0.4nm,0.8s						
KUR15				⇓Lg	Lg	05 46 38.4	
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**6.36**	**236**	Pn	Pn	05 44 48.2	-0.2
	0.1nm,0.3s,baz=53,slow=14,SNR=5.9						
MK31	**Makanchi Array**	**8.23**	**202**	⇑Pn	Pn	05 45 15.7	+1.5
	0.2nm,0.5s,baz=26,slow=13,SNR=15						
MK31				⇓Sn	Sn	05 46 47.1	-0.8
	0.2nm,0.6s,baz=30,slow=27,SNR=3.9						
MK31				⇓Lg	Lg	05 47 31.8	
	2.5nm,1.0s,baz=26,slow=31						
MKAR	**Makanchi Array**	**8.23**	**202**	Pn	Pn	05 45 15.7	+1.5
	0.2nm,0.3s,baz=24,slow=13,SNR=16						
MKAR				Sn	Sn	05 46 46.8	-1.1
	0.1nm,0.3s,baz=34,slow=26,SNR=6.0						
MKAR				Lg	Lg	05 47 35.1	
	0.0nm,0.3s,baz=22,slow=31,SNR=3.0						

*NIED **06** 05:50:00, 26°.00N×129°.00E, h11km, Mw3.9 Best double couple: $M_0$7.08000×10^14 NP1:φs13.00000°, δ36.00000°, λ-131.00000°. NP2:φs240.00000°, δ64.00000°, λ-65.00000°.*
*IDC **06** 05:50:14.3±1.3, 25°.90N×128°.88E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/34, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=61.5km s-min=17.3km az=71.0*
*JMA **06** 05:50:16.7±0.3, 25°.97N×128°.97E, h41km, M4.2*
ISC 06 05:50:14.5±2.0, 25°.92N±0°.04×128°.95E±0°.04, h13km±12km, n29, σ2°18/48, mb3.8/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**1.03**	**306**	P	**Pb**	**05 50 34.7**	**+0.5**
JNTH				S	**Sg**	**05 50 46.6**	**-1.1**
JOW	**Kunigami**	**1.09**	**326**	P	**Pb**	**05 50 35.6**	**+0.2**
JOW	**Kunigami**	**1.09**	**326**	Pn	**Pn**	**05 50 36.0**	**+0.4**
	76nm,0.3s,baz=147,slow=29,SNR=890						
JOW				Sn	**Sg**	**05 50 48.7**	**-1.2**
	28nm,0.3s,baz=310,slow=22,SNR=12						
JJT2	**Tamagusuku 2**	**1.10**	**282**	P	**Pn**	**05 50 36.5**	**+0.8**
JJT2				S	**Sg**	**05 50 50.2**	**0.0**
JIH	**Iheya**	**1.42**	**322**	P	**Pn**	**05 50 40.7**	**+0.6**
JIH				S	**Sb**	**05 50 57.0**	**-1.9**
JOKE	**Okinoerabujima**	**1.48**	**347**	P	**Pn**	**05 50 41.3**	**+0.4**
JOKE				S	**Sn**	**05 50 58.1**	**-2.0**
JAGN	**Aguni-jima**	**1.68**	**294**	P	**Pn**	**05 50 44.4**	**+0.8**
JAGN				S	**Sn**	**05 51 03.7**	**-1.2**
JTK	**Tokunoshima**	**1.86**	**360**	P	**Pn**	**05 50 46.3**	**+0.1**
JTK				S	**Sn**	**05 51 07.1**	**-2.5**
JKE	**Kume jima 2**	**1.99**	**282**	P	**Pn**	**05 50 48.2**	**+0.3**
JKE				S	**Sn**	**05 51 10.0**	**-2.7**
JMZ	**Minamidaito 2**	**2.05**	**92**	P	**Pn**	**05 50 48.3**	**-0.4**
JMZ				S	**Sn**	**05 51 09.5**	**-4.6**
JAMN	**Amaminishikomi**	**2.32**	**5**	P	**Pn**	**05 50 52.8**	**+0.3**
JAMN				S	**Sn**	**05 51 19.3**	**-1.7**
JAM	**Amami Oshima**	**2.55**	**13**	P	**Pn**	**05 50 55.6**	**0.0**
JAM				S	**Sn**	**05 51 23.6**	**-3.0**
JTAJ	**Takarajima**	**3.23**	**4**	P	**Pn**	**05 51 05.6**	**+0.6**
JTAJ				S	**Sn**	**05 51 40.3**	**-3.1**
JOGS	**Gusukube**	**3.41**	**251**	P	**Pn**	**05 51 08.5**	**+1.0**
JOGS				S	**Sn**	**05 51 46.4**	**-1.4**
JMJ	**Miyako jima 2**	**3.49**	**252**	P	**Pn**	**05 51 09.0**	**+0.5**
JMJ				S	**Sn**	**05 51 46.9**	**-2.8**
JIKM	**Ikemajima**	**3.49**	**254**	P	**Pn**	**05 51 09.1**	**+0.5**
JIRB	**Irabujima**	**3.59**	**253**	P	**Pn**	**05 51 10.2**	**+0.3**
JIRB				*e*S	**Sn**	**05 51 49.9**	**-2.3**
JTJ	**Tarama**	**4.05**	**253**	P	**Pn**	**05 51 16.4**	**+0.1**
JTJ				S	**Sn**	**05 51 59.9**	**-3.7**
JISG	**Ishigakijimahi**	**4.41**	**253**	P	**Pn**	**05 51 19.7**	**-1.5**
JISG				S	**Sn**	**05 52 07.7**	**-4.7**
JIJ	**Ishigaki jima**	**4.62**	**251**	P	**Pn**	**05 51 23.4**	**-0.8**
JIJ				S	**Sn**	**05 52 12.9**	**-4.9**
JKRS	**Kuro-shima**	**4.78**	**251**	P	**Pn**	**05 51 25.8**	**-0.6**
JKRS				S	**Sn**	**05 52 17.7**	**-4.0**
IRIF	**Iriomote-Funau**	**4.99**	**253**	*e*S	**Sn**	**05 52 22.4**	**-4.4**
JNU	**Nakatsue**	**7.37**	**13**	Pn	**Pn**	**05 52 03.6**	**+1.6**
	1.0nm,0.3s,baz=350,slow=14,SNR=7.9						
JNU				Sn	**Sn**	**05 53 22.9**	**-2.6**
	0.5nm,0.3s,baz=125,slow=12,SNR=2.7						
SONM	**Songino Array**	**28.17**	**327**	P	P	05 56 10.0	+3.3
	0.4nm,0.5s,baz=135,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**42.23**	**312**	P	**P**	**05 58 07.8**	**+0.4**
	0.4nm,0.5s,baz=100,slow=10,SNR=8.0						
WRA	**Warramunga Arr**	**45.89**	**173**	P	**P**	**05 58 38.2**	**+1.3**
	1.2nm,0.6s,baz=352,slow=8.5,SNR=5.5						
ASAR	**Alice Springs**	**49.52**	**174**	P	**P**	**05 59 06.9**	**+1.7**
	0.5nm,0.8s,baz=356,slow=10,SNR=2.8						
KBZ	**Khabaz**	**69.86**	**310**	P	**P**	**06 01 27.6**	**+2.6**
	1.2nm,0.8s,baz=98,slow=7.9,SNR=4.1						
FINES	**FINESS Array B**	**73.45**	**331**	P	**P**	**06 01 47.6**	**+1.2**
	0.8nm,0.7s,baz=93,slow=9.5,SNR=7.1						

*IDC **06** 05:53:08.3±1.8, 0°.18N×125°.81E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/34, mbtmp4.0/3, Error ellipse: s-maj=184.7km s-min=23.6km az=65.0*
*ISCJB **06** 05:53:11.9±1.2, 0°.53N±0°.09×126°.43E±0°.09, h47km, mb4.0/3, Error ellipse: s-maj=13.0km s-min=12.7km az=33.5*
*DJA **06** 05:53:16.2±1.4, 0°.7N±5°.×12°.7E±°, h10km, M3.6/3, MLv3.6/3*
ISC 06 05:53:13.8±1.5, 0°.53N±0°.09×126°.5E±0°.1, h47km, n6, σ0°.93/7, mb4.0/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.88**	**74**	P	**Pn**	**05 53 29.9**	**+0.1**
TNTI				S	**Sn**	**05 53 41.5**	**0.0**
LBMI	**Labuha**	**1.51**	**140**	P	**Pn**	**05 53 38.9**	**+0.4**
LBMI				S	**Sn**	**05 53 57.3**	**+0.3**
SANI	**Sanana**	**2.61**	**192**	P	Pn	05 54 04.1	+11
WRA	**Warramunga Arr**	**21.73**	**160**	P	**P**	**05 57 59.6**	**-1.7**
	3.1nm,0.4s,baz=336,slow=10,SNR=48						
ASAR	**Alice Springs**	**25.09**	**164**	P	**P**	**05 58 34.6**	**+0.3**
	1.3nm,0.3s,baz=344,slow=11,SNR=40						
MKAR	**Makanchi Array**	**60.08**	**326**	P	**P**	**06 03 16.4**	**+0.2**
	0.6nm,0.5s,baz=118,slow=

DZM S Sn 06 04 16.0 -6.3
0.1nm,0.3s,baz=286,slow=20,SNR=2.0
MSVF Nonsavu 12.97 121 *e*Pn **P** 06 03 02.4 -1.3
55nm,1.2s
EIDS Eidsvold 20.13 224 *e*P Pn 06 04 24.5 -0.6
46nm,1.7s
CTA Charters Tower 21.23 243 P **P** 06 04 36.1 +1.4
8.6nm,0.8s,baz=82,slow=12,SNR=16
CTAO Charters Tower 21.23 243 *e*P **P** 06 04 37.2 +2.5
6.6nm,0.8s
RMQ Roma 22.45 225 P **P** 06 04 48.4 +0.8
baz=23,SNR=5.7
COEN Coen 22.80 261 *e*P **P** 06 04 52.3 +0.8
25nm,0.7s
ARMA Armidale 23.43 214 P **P** 06 04 58.7 +1.0
baz=24,SNR=5.6
ARMA Armidale 23.43 214 *e*P **P** 06 04 57.9 +0.2
14nm,1.0s
QLP Quilpie 25.81 231 P **P** 06 05 19.1 -0.1
baz=26,SNR=4.6
H11S2 WAKE ISLAND Hy 29.62 1 T T 06 36 53.0
baz=181,slow=74,SNR=2.8
H11S3 WAKE ISLAND Hy 29.62 1 T T 06 37 03.5
baz=181
H11S1 WAKE ISLAND Hy 29.64 1 T T 06 36 56.9
baz=181,slow=74,SNR=3.8
H11N1 WAKE ISLAND Hy 30.84 1 T T 06 38 07.3
baz=185
H11N3 WAKE ISLAND Hy 30.84 1 T T 06 38 07.5
baz=185,slow=74,SNR=3.4
H11N2 WAKE ISLAND Hy 30.85 1 T T 06 38 08.3
baz=185,slow=74,SNR=2.8
WRAB Tennant Creek 31.97 250 *e*P **P** 06 06 12.5 -1.7
6.3nm,0.9s
WRA Warramunga Arr 31.98 250 P **P** 06 06 13.3 -1.0
4.3nm,0.8s,baz=81,slow=9.1,SNR=36
RPZ Rata Peaks 32.53 174 *e*P **P** 06 06 18.5 -0.3
15nm,0.9s
ASAR Alice Springs 33.24 244 P **P** 06 06 23.7 -1.5
4.8nm,0.7s,baz=75,slow=9.5,SNR=38
WHZ Wether Hill Ro 34.49 178 *e*P **P** 06 06 34.6 -1.2
515nm,2.7s
KNRA Kununurra 36.81 259 P **P** 06 06 55.5 -0.5
baz=37,SNR=3.6
WRKA Warakurna 38.53 244 P **P** 06 07 09.4 -1.1
baz=39,SNR=3.3
MBWA Marble Bar 45.71 252 *e*P **P** 06 08 08.9 -0.1
7.5nm,0.8s
MEEK Meekatharra 47.40 244 P **P** 06 08 22.1 -0.1
baz=48,SNR=9.8
POHA Pohakuloa 48.58 51 *e*P **P** 06 08 34.1 +2.6
121nm,1.2s
KLBR Kellerberrin 49.10 238 P **P** 06 08 34.5 -0.8
baz=50,SNR=4.7
MJAR Matsushiro Arr 54.50 332 P **P** 06 09 14.5 -0.8
2.0nm,0.5s,baz=167,slow=9.4,SNR=6.7
VNDA Vanda 66.24 181 P **P** 06 10 35.0 +0.3
2.2nm,0.7s,baz=348,slow=9.7,SNR=8.0
VNDA Vanda 66.24 181 *e*P **P** 06 10 35.1 +0.3
5.9nm,1.0s
SBA Scott Base 66.53 180 *e*P **P** 06 10 37.1 +0.5
4.3nm,0.8s
CMAR Chiang Mai Arr 72.80 293 P **P** 06 11 17.2 +1.0
1.2nm,0.4s,baz=125,slow=5.3,SNR=7.5
QSPA South Pole Qui 78.69 180 *e*P **P** 06 11 48.3 -1.0
8.9nm,1.0s
ULN Ulaanbaatar 78.89 324 *e*P **P** 06 11 50.4 -0.2
7.0nm,1.3s
SONM Songino Array 79.25 324 P **P** 06 11 53.7 +1.1
1.0nm,0.6s,baz=134,slow=5.0,SNR=8.9
MCK McKinley 82.20 18 *e*P **P** 06 12 08.1 +0.2
143nm,2.2s
COLA College 83.35 18 *e*P **P** 06 12 13.5 -0.1
3.5nm,0.6s
ILAR Eielson Array 83.57 18 P **P** 06 12 14.9 +0.1
1.0nm,0.6s,baz=260,slow=5.0,SNR=19
NVAR Mina Array Bea 85.72 50 P **P** 06 12 27.3 +0.7
0.8nm,0.8s,baz=234,slow=8.1,SNR=5.1
ZALV Zalesovo Beam 94.14 324 P **P** 06 13 05.4 -0.2
1.1nm,0.6s,baz=94,slow=4.2,SNR=7.2
MKAR Makanchi Array 94.15 317 P **P** 06 13 05.8 0.0
3.2nm,0.7s,baz=94,slow=6.3,SNR=40
YKA Yellowknife Ar 94.92 27 P **P** 06 13 07.7 -1.2
0.4nm,0.6s,baz=255,slow=4.5,SNR=8.0
ARCES ARCESS Array B 116.75 346 PKP **PKPdf** 06 18 29.9 -0.7
1.7nm,0.7s,baz=66,slow=2.2,SNR=16
FINES FINESS Array B 122.25 339 PKP **PKPdf** 06 18 40.3 -1.0
0.4nm,0.5s,baz=90,slow=3.8,SNR=5.4
NOA NORSAR Array B 127.12 345 PKP **PKPdf** 06 18 49.6 -1.2
0.8nm,0.7s,baz=28,slow=2.0,SNR=4.2

GUC 06 06:00:52.2±0.8, 35°.69S×72°.61W, h33km±9km, ML4.0, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.46**	**198**	↓*iP*		Pb		06 01 01.9	-0.2
COCH				*i* S		Sb		06 01 08.9	-0.1
LNCH	**Linares**	**0.83**	**101**	↓*iP*		Pn		06 01 07.9	+0.2
LNCH				*i* S1		Sn		06 01 18.6	-0.2
NICH	**Los Niches**	**1.32**	**59**	↓*iP*		Pn		06 01 15.3	+0.9
NICH				*i* S1		Sn		06 01 32.6	+1.7
ANTU	**Antumapu**	**2.67**	**38**	AML		AML		06 02 16.1	
	comp=N,558nm,0.5s								
CLCH	**Cerro Calan**	**2.86**	**37**	*e*P1		Pn		06 01 36.4	+0.8
CLCH				AML		AML		06 02 25.4	
	comp=N,446nm,0.6s								
PEL	**Peldehue**	**3.00**	**33**	↓*iP*		Pn		06 01 38.9	+1.3
PEL				AML		AML		06 02 32.7	
	comp=E,396nm,0.6s								

*IDC **06** 06:02:14.0±1.1, 11°.27S×166°.22E, h55km±5km, mb4.0/12, mb1 4.2/13, mb1mx3.9/37, mbtmp4.2/13, MS3.6/5, Ms1 3.6/5, ms1mx3.2/35, Error ellipse: s-maj=30.4km s-min=16.7km az=128.0*
*NEIC **06** 06:02:18.9±1.4, 11°.35S×166°.19E, h100km±13km, mb4.3/8, Error ellipse: s-maj=12.8km s-min=11.3km az=193.0*
ISC 06 06:02:13.5±0.8, 11°.28S±0°.09×166°.36E±0°.10, h54km±6km, n42, σ0^s.95/39, mb4.4/18, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.57**	**286**	P		Pn		06 03 50.7	+3.1
	49nm,0.3s,baz=105,slow=6.9,SNR=6.2								
HNR				LR		LR		06 06 29.6	
	comp=Z,619nm,20.5s,baz=120,slow=40								
HNR	**Honiara**	**6.57**	**286**	*e*P		**Pn**		**06 03 47.0**	**-0.6**
HNR				*e*S		Sn		06 04 43.0	-18
DZM	**Mont Dzumac**	**10.74**	**180**	P		**Pn**		**06 04 46.4**	**+1.8**
	1.1nm,0.3s,baz=319,slow=20,SNR=5.6								
DZM				LR		LR		06 08 27.1	
	comp=Z,305nm,21.1s,baz=27,slow=35								
MSVF	**Nonsavu**	**13.01**	**121**	*e*Pn		**P**		**06 05 23.6**	**-1.0**
PMG	**Port Moresby**	**18.98**	**274**	LR		LR		06 12 47.2	
	comp=Z,223nm,21.3s,baz=116,slow=34								
EIDS	**Eidsvold**	**20.14**	**224**	*e*P		Pn		06 06 45.3	-0.2
	20nm,1.3s								
CTA	**Charters Tower**	**21.23**	**243**	P		**P**		**06 06 55.5**	**+0.4**
	8.6nm,0.7s,baz=68,slow=13,SNR=12								
CTAO	**Charters Tower**	**21.23**	**243**	*e*P		**P**		**06 06 57.7**	**+2.6**
	13nm,1.1s								
RMQ	**Roma**	**22.46**	**225**	P		**P**		**06 07 08.6**	**+0.4**
	baz=22,SNR=4.3								
ARMA	**Armidale**	**23.45**	**213**	P		**P**		**06 07 18.7**	**+0.4**
	baz=23,SNR=5.6								
ARMA	**Armidale**	**23.45**	**213**	*e*P		**P**		**06 07 18.5**	**+0.1**
	18nm,1.1s								
QLP	**Quilpie**	**25.82**	**231**	P		**P**		**06 07 40.0**	**+0.1**
	baz=26,SNR=4.4								
H11S2	**WAKE ISLAND Hy 29.58**	**1**		T		T		06 38 48.2	
	baz=181,slow=76,SNR=3.7								
H11S3	**WAKE ISLAND Hy 29.58**	**1**		T		T		06 39 19.1	
	baz=181,slow=76,SNR=2.5								
H11S1	**WAKE ISLAND Hy 29.60**	**1**		T		T		06 39 14.4	
	baz=181,slow=76,SNR=3.3								
H11N1	**WAKE ISLAND Hy 30.80**	**1**		T		T		06 40 23.8	
	baz=182,slow=76,SNR=1.3								
H11N3	**WAKE ISLAND Hy 30.80**	**1**		T		T		06 40 18.3	
	baz=182,slow=76,SNR=4.3								
H11N2	**WAKE ISLAND Hy 30.82**	**1**		T		T		06 40 25.2	
	baz=182,slow=76,SNR=4.6								
WRAB	**Tennant Creek**	**31.96**	**250**	*e*P		**P**		**06 08 33.7**	**-0.9**
	7.4nm,1.0s								
WB2	**Warramunga Arr**	**31.96**	**250**	*e*P		**P**		**06 08 33.6**	**-1.1**
WRA	**Warramunga Arr**	**31.97**	**250**	P		**P**		**06 08 33.6**	**-1.1**
	5.6nm,0.8s,baz=81,slow=9.1,SNR=21								
WRA				PcP		**PcP**		**06 11 23.8**	**-0.2**
	1.4nm,0.9s,baz=74,slow=2.3,SNR=6.2								
KDU	**Kakadu**	**33.17**	**264**	P		**P**		**06 08 45.2**	**0.0**
	baz=33,SNR=3.6								
ASAR	**Alice Springs**	**33.23**	**244**	P		**P**		**06 08 44.2**	**-1.6**
	5.5nm,0.8s,baz=74,slow=9.7,SNR=25								
ASAR				pP		**pP**		**06 08 58.4**	**-1.1**
	4.4nm,0.8s,baz=76,slow=9.4,SNR=9.6								
ASAR				PcP		**PcP**		**06 11 27.2**	**-0.2**
	1.5nm,0.9s,baz=78,slow=2.5,SNR=7.5								
ASAR				LR		LR		06 21 01.9	
	comp=Z,91nm,20.3s,baz=58,slow=34								
KNRA	**Kununurra**	**36.79**	**259**	P		**P**		**06 09 16.2**	**-0.2**
	baz=37,SNR=3.9								
WRKA	**Warakurna**	**38.52**	**244**	P		**P**		**06 09 30.0**	**-1.1**
	baz=38,SNR=3.2								
MBWA	**Marble Bar**	**45.70**	**251**	*e*P		P		06 10 25.6	-3.9
	3.6nm,0.4s								
MEEK	**Meekatharra**	**47.39**	**244**	P		**P**		**06 10 42.8**	**+0.1**
	baz=47,SNR=9.3								
MJAR	**Matsushiro Arr**	**54.45**	**332**	P		**P**		**06 11 35.1**	**-0.4**
	1.0nm,0.4s,baz=169,slow=8.6,SNR=4.7								
MJAR				pP		**pP**		**06 11 49.7**	**-0.3**
	2.3nm,0.7s,baz=175,slow=7.7,SNR=3.7								
VNDA	**Vanda**	**66.28**	**181**	*e*P		**P**		**06 12 54.5**	**-1.2**
	4.7nm,1.2s								
CMAR	**Chiang Mai Arr**	**72.76**	**293**	P		**P**		**06 13 36.2**	**-0.5**
	2.1nm,0.4s,baz=113,slow=4.4,SNR=5.1								
QSPA	**South Pole Qui**	**78.73**	**180**	*e*P		**P**		**06 14 09.5**	**-0.6**
	8.4nm,1.1s								
ULN	**Ulaanbaatar**	**78.84**	**324**	*e*P		**P**		**06 14 11.8**	**+0.8**
	3.4nm,1.2s								
SONM	**Songino Array**	**79.21**	**324**	P		**P**		**06 14 13.3**	**+0.3**
	1.0nm,0.8s,baz=144,slow=5.7,SNR=6.9								
SONM				pP		**pP**		**06 14 29.4**	**+1.2**
	1.0nm,0.7s,baz=141,slow=5.4,SNR=6.5								
GTA	**Gaotai**	**79.65**	**314**	*e*P		**P**		**06 14 17.3**	**+1.7**
GTA				pP		**PcP**		**06 14 22.4**	**-0.9**
GTA				sP		sP		06 14 26.0	-11
TLY	**Talaya**	**82.65**	**326**	P		**P**		**06 14 31.6**	**+0.5**
	1.3nm,0.6s,baz=182,slow=6.0,SNR=4.0								
ILAR	**Eielson Array**	**83.54**	**18**	P		**P**		**06 14 36.0**	**+0.7**
	0.7nm,0.7s,baz=258,slow=5.5,SNR=10								
NVAR	**Mina Array Bea**	**85.71**	**50**	P		**P**		**06 14 48.6**	**+1.4**
	0.2nm,0.4s,baz=250,slow=7.6,SNR=2.7								
PDAR	**Pinedale Array**	**93.26**	**47**	LR		LR		06 50 55.4	
	comp=Z,32nm,19.4s,baz=273,slow=31								
ZALV	**Zalesovo Beam**	**94.09**	**324**	P		**P**		**06 15 25.9**	**-0.1**
	0.9nm,0.6s,baz=108,slow=4.8,SNR=5.3								
ZALV				pP		**pP**		**06 15 41.0**	**-0.6**
	0.8nm,0.6s,baz=108,slow=4.8,SNR=3.4								
MKAR	**Makanchi Array**	**94.10**	**317**	P		**P**		**06 15 26.8**	**+0.5**
	2.6nm,0.8s,baz=97,slow=6.2,SNR=22								
MKAR				pP		**pP**		**06 15 41.6**	**-0.2**
	1.6nm,0.6s,baz=91,slow=6.6,SNR=9.6								
YKA	**Yellowknife Ar**	**94.90**	**27**	P		**P**		**06 15 28.6**	**-0.9**
	0.2nm,0.6s,baz=257,slow=4.2,SNR=4.3								
ARCES	**ARCESS Array B**	**116.71**	**346**	PKP		**PKPdf**		**06 20 50.7**	**-0.5**
	2.4nm,0.8s,baz=72,slow=4.0,SNR=6.5								

IDC 06 06:15:30.2±2.5, 54°.15N×86°.50E, h0km, mb1 3.0/2, mb1mx2.9/39, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=20.6km s-min=12.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**259**	*i*				06 21 00.0	
	baz=79,slow=338,SNR=33								
ZALV	**Zalesovo Beam**	**1.01**	**259**	Pg		Pg		06 15 48.0	-1.6
	1.4nm,0.3s,baz=80,slow=17,SNR=24								
ZALV				Lg		Lg		06 16 04.0	
	1.5nm,0.3s,baz=77,slow=31,SNR=13								
KURBB	**Kurchatov Arra**	**6.02**	**237**	Pn		Pn		06 17 01.2	+0.8
	0.1nm,0.3s,baz=55,slow=14,SNR=9.3								
KURBB				Lg		Lg		06 18 43.8	
	0.0nm,0.3s,baz=52,slow=30,SNR=4.5								
MKAR	**Makanchi Array**	**7.84**	**202**	Pn		Pn		06 17 26.4	+1.0
	0.3nm,0.3s,baz=26,slow=14,SNR=13								
MKAR				Sn		Sn		06 18 54.6	-0.1
	0.0nm,0.3s,baz=31,slow=29,SNR=3.9								
MKAR				Lg		Lg		06 19 38.0	
	baz=16,slow=26,SNR=5.6								

*ISCJB **06** 06:30:05.9±1.0, 23°.95S±0°.08×67°.0W±0°.2, h181km, mb3.3/2, Error ellipse: s-maj=22.2km s-min=10.8km az=174.6*
*IDC **06** 06:30:09.2±2.4, 23°.84S×67°.04W, h203km±23km, mb3.3/2, mb1 3.5/6, mb1mx3.3/22, mbtmp3.9/6, Error ellipse: s-maj=27.2km s-min=21.1km az=121.0*
ISC 06 06:30:06.5±1.0, 23°.93S±0°.10×67°.1W±0°.2, h181km, n9, σ1^s.41/9, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.67**	**352**	P		**Pn**		**06 31 57.5**	**+1.4**
	1.3nm,0.3s,baz=160,slow=6.3,SNR=30								
LPAZ				S		**Sn**		**06 33 21.6**	**-1.0**
	0.1nm,0.3s,baz=4.8,slow=12,SNR=2.7								
CPUP	**Villa Florida**	**9.13**	**107**	P		Pn		06 32 20.9	+6.3
	0.9nm,0.3s,baz=263,slow=11,SNR=9.5								
SIV	**San Ignacio**	**9.69**	**37**	P		**Pn**		**06 32 22.1**	**+0.1**
	0.6nm,0.3s,baz=231,slow=13,SNR=6.0								
PLCA	**Paso Flores**	**17.02**	**189**	P		**Pn**		**06 33 54.8**	**+0.9**
	0.3nm,0.3s,baz=3.2,slow=13,SNR=6.3								
BDFB	**Brasilia**	**19.70**	**69**	P		**P**		**06 34 23.2**	**+1.0**
	1.0nm,0.3s,baz=240,slow=10,SNR=14								
TORD	**Torodi Ar. Bea**	**76.58**	**69**	P		**P**		**06 41 37.2**	**-0.1**
	0.5nm,0.5s,baz=263,slow=5.0,SNR=8.7								
YKA	**Yellowknife Ar**	**94.04**	**340**	P		**P**		**06 43 03.3**	**-0.2**
	0.1nm,0.5s,baz=139,slow=4.6,SNR=3.9								
WRA	**Warramunga Arr**	**131.67**	**207**	PKP		**PKPdf**		**06 48 56.0**	**-2.6**
	0.2nm,0.4s,baz=154,slow=1.6,SNR=8.1								
MKAR	**Makanchi Array**	**146.50**	**39**	PKPbc		**PKPbc**		**06 49 26.6**	**+0.3**
	0.5nm,0.6s,baz=313,slow=3.0,SNR=8.2								

IDC 06 06:36:14.9±2.4, 54°.23N×85°.88E, h0km, mb1 2.4/2, mb1mx2.4/42, mbtmp2.4/2, ML2.1/2, Error ellipse: s-maj=17.9km s-min=9.9km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.69**	**246**	*i*				06 40 40.0	
	baz=63,slow=337,SNR=16								
ZALV	**Zalesovo Beam**	**0.69**	**246**	Pg		Pg		06 36 26.6	-1.4
	0.7nm,0.3s,baz=60,slow=16,SNR=6.2								
ZALV				Lg		Lg		06 36 38.0	
	1.9nm,0.3s,baz=68,slow=29,SNR=17								
KURBB	**Kurchatov Arra**	**5.77**	**234**	Pn		Pn		06 37 43.2	+1.5
	0.1nm,0.3s,baz=52,slow=13,SNR=3.7								
MKAR	**Makanchi Array**	**7.79**	**198**	Pn		Pn		06 38 09.9	+0.4
	0.0nm,0.3s,baz=23,slow=16,SNR=2.9								

IDC 06 06:45:35.0±1.0, 20°.04N×122°.28E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/28, mbtmp3.5/6, MS3.5/3, Ms1 3.5/3, ms1mx2.9/28, Error ellipse: s-maj=71.8km s-min=19.4km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**18.04**	**15**	LR		LR		06 57 31.7	
	comp=Z,64nm,18.2s,baz=220,slow=40								
SONM	**Songino Array**	**30.58**	**339**	P		P		06 51 51.1	+0.5
	0.3nm,0.6s,baz=145,slow=5.3,SNR=2.9								
TLY	**Talaya**	**34.80**	**340**	LR		LR		07 06 12.9	
	comp=Z,86nm,18.2s,baz=204,slow=36								
WRA	**Warramunga Arr**	**41.45**	**163**	P		P		06 53 23.2	-0.5
	1.0nm,0.7s,baz=343,slow=9.1,SNR=9.5								
H11S3	**WAKE ISLAND Hy 41.86**	**84**		T		T		07 38 31.3	
	baz=280,slow=75,SNR=101								
H11N1	**WAKE ISLAND Hy 41.86**	**83**		T		T		07 38 26.7	
	baz=278,slow=75,SNR=39								
H11N2	**WAKE ISLAND Hy 41.86**	**82**		T		T		07 38 28.8	
	baz=278,slow=75,SNR=17								
H11S1	**WAKE ISLAND Hy 41.87**	**84**		T		T		07 38 28.0	
	baz=280,slow=75,SNR=147								
H11S2	**WAKE ISLAND Hy 41.87**	**84**		T		T		07 38 28.6	
	baz=280,slow=75,SNR=45								
H11N3	**WAKE ISLAND Hy 41.87**	**83**		T		T		07 38 27.9	
	baz=278,slow=75,SNR=23								
MKAR	**Makanchi Array**	**42.06**	**319**	P		P		06 53 27.6	-1.0
	0.5nm,0.5s,baz=109,slow=9.8,SNR=6.0								
ZALV	**Zalesovo Beam**	**44.29**	**329**	P		P		06 53 46.9	+0.5
	0.5nm,0.4s,baz=121,slow=11,SNR=4.7								
ASAR	**Alice Springs**	**44.89**	**165**	P		P		06 53 52.0	+0.5
	0.5nm,0.7s,baz=353,slow=7.7,SNR=6.0								
NOA	**NORSAR Array B**	**82.36**	**333**	LR		LR		07 38 04.6	
	comp=Z,31nm,18.3s,baz=235,slow=38								
YKA	**Yellowknife Ar**	**86.38**	**23**	P		P		06 58 18.6	-0.3
	0.1nm,0.6s,baz=310,slow=4.4,SNR=3.8								

*IDC **06** 06:52:46.8±1.2, 36°.36S×73°.25W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.9/24, mbtmp3.7/7, ML3.7/2, MS3.6/6, Ms1 3.6/6, ms1mx3.3/23, Error ellipse: s-maj=31.2km s-min=27.0km az=94.0*
ISC 06 06:52:50.4±1.0, 36°.53S±0°.07×73°.1W±0°.1, h27km, n16, σ1^s.69/12, mb3.8/5, MS3.7/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.66**	**155**	Pn		**Pn**		**06 54 02.0**	**+3.0**
	1.7nm,0.3s,baz=327,slow=13,SNR=21								
PLCA				Sn		**Sb**		**06 55 03.7**	**-3.3**
	3.2nm,0.3s,baz=1.2,slow=12,SNR=3.2								
PLCA				Lg		Lg		06 55 18.1	
	2.0nm,0.3s,baz=273,slow=22,SNR=3.3								
PLCA				LR		LR		06 56 08.4	
	comp=Z,368nm,19.1s,baz=267,slow=42								
CFAA	**Coronel Fontan**	**6.37**	**41**	Pn		**Pn**		**06 54 21.6**	**-0.9**
	0.2nm,0.3s,baz=198,slow=10.0,SNR=13								
CFAA				Sn		**Sn**		**06 55 35.8**	**+1.4**
	0.2nm,0.3s,baz=218,slow=17,SNR=2.3								
CFAA				LR		LR		06 57 05.2	
	comp=Z,33nm,19.8s,baz=226,slow=41								
CPUP	**Villa Florida**	**16.87**	**57**	LR		LR		07 03 54.5	
	comp=Z,275nm,18.6s,baz=216,slow=40								
USHA	**Ushuaia**	**18.59**	**171**	P		Pn		06 57 11.6	+6.0
	0.2nm,0.3s,baz=313,slow=9.0,SNR=5.9								
LPAZ	**La Paz**	**20.64**	**14**	P		**P**		**06 57 27.4**	**-1.2**
	0.8nm,0.7s,baz=159,slow=6.6,SNR=2.8								
SIV	**San Ignacio**	**23.09**	**31**	P		**P**		**06 57 53.3**	**-0.8**
	1.2nm,0.6s,baz=213,slow=9.0,SNR=2.9								
PMSA	**Palmer Station**	**28.80**	**172**	LR		LR		07 10 55.4	
	comp=Z,181nm,18.2s,baz=44,slow=38								
ATAH	**Atahualpa**	**29.65**	**349**	LR		LR		07 08 30.3	
	comp=Z,61nm,18.5s,baz=201,slow=32								
BDFB	**Brasilia**	**30.52**	**54**	LR		LR		07 12 36.6	
	comp=Z,160nm,18.5s,baz=224,slow=39								
PPT	**Papeete**	**69.03**	**263**	LR		LR		07 24 44.6	
	comp=Z,45nm,18.4s,baz=350,slow=28								
TXAR	**Lajitas Array**	**71.53**	**332**	P		**P**		**07 04 08.9**	**0.0**
	1.1nm,0.7s,baz=151,slow=8.2,SNR=9.8								
NVAR	**Mina Array Bea**	**85.46**	**326**	P		**P**		**07 05 25.4**	**-0.3**
	0.8nm,0.6s,baz=154,slow=8.5,SNR=3.6								
PDAR	**Pinedale Array**	**85.63**	**334**	P		**P**		**07 05 25.6**	**-0.8**
	0.5nm,0.8s,baz=150,slow=6.3,SNR=3.8								
TORD	**Torodi Ar. Bea**	**85.90**	**70**	P		**P**		**07 05 28.6**	**+0.4**
	0.5nm,0.8s,baz=242,slow=6.1,SNR=2.7								
BVAR	**Borovoye Array**	**149.71**	**45**	PKPbc		**PKPbc**		**07 12 37.4**	**+0.3**
	0.5nm,0.7s,baz=318,slow=1.9,SNR=3.1								
MKAR	**Makanchi Array**	**159.05**	**53**	PKPab		**PKPab**		**07 13 22.5**	**+0.2**
	0.3nm,0.6s,baz=320,slow=2.9,SNR=2.7								

GUC 06 06:55:30.4±0.6, 34°.44S×72°.05W, h14km±4km, ML3.6, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.72**	**47**	↓*iP*		Pg		06 55 43.6	-0.7
LNV				*i* S1		Sg		06 55 53.5	-0.3
NICH	**Los Niches**	**0.87**	**130**	↑*iP*		Pg		06 55 46.0	-1.4
NICH				*i* S1		Sg		06 55 57.9	-1.0
CACH	**El Canelo**	**1.24**	**75**	*e*P1		Pn		06 55 52.6	-0.9
CHCH	**Chadas Angostu**	**1.26**	**67**	*e*P1		Pn		06 55 52.3	-1.4
CHCH				*i* S1		Sn		06 56 09.4	-1.1
LNCH	**Linares**	**1.45**	**166**	↓*iP*		Pn		06 55 55.5	-0.7
LNCH				*i* S		Sn		06 56 14.5	-0.5
IHA	**Instituto Hidr**	**1.45**	**14**	*e*P1		Pn		06 55 55.7	-0.6
ANTU	**Antumapu**	**1.46**	**54**	↓*iP*		Pn		06 55 55.6	-0.9
ANTU				*i* S1		Sn		06 56 14.5	-0.9
ANTU				AML		AML		06 56 19.7	
	comp=E,2μm,0.4s								
FSR	**Penalolen**	**1.59**	**53**	*e*P1		Pn		06 55 58.1	-0.1
LACH	**Col Las Americ**	**1.60**	**52**	*e*P1		Pn		06 55 57.5	-0.9
LACH				*i* S1		Sn		06 56 18.9	0.0
LACH				AML		AML		06 56 26.6	
	comp=N,837nm,0.5s								
COCH	**Cobquecura**	**1.79**	**200**	*e*P1		Pn		06 56 00.3	-0.6
COCH				*i* S1		Sn		06 56 23.3	-0.1

GUC 06 07:01:09.4±0.4, 36°.08S×72°.91W, h26km±2km, ML3.7, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.11**	**115**	↑*iP*		Pb		07 01 14.2	0.0
COCH				*i* S		Sb		07 01 17.6	+0.1
COCH				AML		AML		07 01 17.8	
	comp=N,14μm,0.1s								
LNCH	**Linares**	**1.09**	**78**	↑*iP*		Pn		07 01 29.3	+0.2
LNCH				*i* S1		Sn		07 01 44.0	+0.7
LNCH				AML		AML		07 01 49.6	
	comp=E,2μm,0.4s								
NICH	**Los Niches**	**1.75**	**52**	*i* P1		Pn		07 01 39.1	+1.1
NICH				*i* S1		Sn		07 02 01.6	+2.1
NICH	

WEL 06 07:05:51.6±0.4, 39°21′S×174°88′E, h212km±3km, ML3.7/11, 12C-4D, Error ellipse: s-maj=2.2km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ				SN	S	07 06 38.6	-1.0
PKVZ	**Pokaka**	**0.37**	**102**	PN	Pn	07 06 19.6	-0.2
LREZ	**Lake Rotokare**	**0.44**	**236**	PN	Pn	07 06 20.0	+0.2
COVZ	**Chateau Observ**	**0.52**	**89**	PN	Pn	07 06 20.0	-0.3
WPVZ	**Whakapapa**	**0.52**	**89**	⇑PN	Pn	07 06 20.1	-0.2
DREZ	**Durham Road**	**0.52**	**272**	PN	Pn	07 06 20.1	-0.1
FWVZ	**Far West T-bar**	**0.53**	**95**	⇑PN	Pn	07 06 20.2	-0.2
WAZ	**Wanganui**	**0.55**	**171**	⇑PN	Pn	07 06 20.7	+0.4
WAZ				SN	S	07 06 43.1	+0.3
PREZ	**Palmer Road**	**0.57**	**257**	PN	Pn	07 06 20.3	-0.1
WNVZ	**Wahianoa**	**0.57**	**102**	PN	Pn	07 06 20.4	-0.1
TUVZ	**Tukino**	**0.61**	**96**	PN	Pn	07 06 20.6	-0.1
KHEZ	**Kahui Hut**	**0.67**	**263**	PN	Pn	07 06 20.7	-0.1
PKE	**Pukeiti**	**0.69**	**271**	PN	Pn	07 06 20.7	-0.2
HIZ	**Hauiti**	**0.70**	**359**	⇑PN	Pn	07 06 19.9	-1.1
HIZ				SN	S	07 06 42.5	-1.3
MOVZ	**Moawhango**	**0.71**	**106**	⇑PN	Pn	07 06 20.6	-0.4
MOVZ				SN	S	07 06 42.1	-1.8
BHHZ	**Black Hill Sta**	**0.96**	**107**	PN	Pn	07 06 22.0	-0.4
TSZ	**Takapari Road**	**1.19**	**136**	⇑PN	Pn	07 06 24.1	+0.2
TSZ				SN	S	07 06 48.5	-0.6
TSZ				AML	AML	07 06 50.7	
KRHZ	**Kereru**	**1.24**	**111**	PN	Pn	07 06 24.3	0.0
PNHZ	**Pukenui**	**1.24**	**125**	PN	Pn	07 06 24.4	+0.1
BKZ	**Black Stump Fm**	**1.26**	**88**	⇓PN	Pn	07 06 23.8	-0.7
BKZ				SN	S	07 06 47.8	-2.0
BKZ				AML	AML	07 06 49.8	
POWZ	**Post Office Ro**	**1.36**	**150**	PN	Pn	07 06 25.1	-0.1
MCHZ	**McNeill Hill**	**1.43**	**100**	PN	Pn	07 06 26.0	+0.3
DVHZ	**Dannevirke**	**1.47**	**138**	PN	Pn	07 06 26.0	-0.1
WPHZ	**Waipukurau**	**1.48**	**126**	PN	Pn	07 06 26.4	+0.2
NMHZ	**Naumai**	**1.51**	**86**	PN	Pn	07 06 26.7	+0.2
MRZ	**Mangatainoka R**	**1.55**	**160**	⇑PN	Pn	07 06 26.4	-0.3
MRZ				AML	AML	07 06 55.2	
MRZ				AML	AML	07 06 56.0	
PRWZ	**Pori Road**	**1.58**	**148**	PN	Pn	07 06 25.9	-1.2
OGWZ	**Otaki Gorge**	**1.62**	**172**	⇑PN	Pn	07 06 27.3	0.0
KIW	**Kapiti Island**	**1.65**	**179**	⇓PN	Pn	07 06 27.3	-0.3
KIW				AML	AML	07 06 55.5	
KAHZ	**Kahuranaki**	**1.65**	**111**	PN	Pn	07 06 28.0	+0.3
PXZ	**Pawanui**	**1.74**	**119**	PN	Pn	07 06 28.4	0.0
PXZ				AML	AML	07 06 58.9	
PXZ				AML	AML	07 06 59.4	
TIWZ	**Tintock**	**1.75**	**154**	PN	Pn	07 06 28.2	-0.3
TIWZ				AML	AML	07 06 58.9	
TIWZ				AML	AML	07 06 59.1	
RAHZ	**Arahi**	**1.75**	**81**	PN	Pn	07 06 28.0	-0.6
DUWZ	**D'Urville Isla**	**1.75**	**204**	PN	Pn	07 06 28.1	-0.5
ANWZ	**Angora Road**	**1.75**	**136**	PN	Pn	07 06 28.7	+0.2
HOWZ	**Holdsworth Sta**	**1.75**	**164**	PN	Pn	07 06 28.1	-0.5
BFZ	**Birch Farm**	**1.81**	**145**	⇓PN	Pn	07 06 28.7	-0.4
CAW	**Cannon Point**	**1.90**	**176**	⇑PN	Pn	07 06 29.5	-0.4
CAW				AML	AML	07 07 00.5	
CAW				AML	AML	07 07 00.7	
URZ	**Urewera**	**1.99**	**62**	PN	Pn	07 06 28.6	-2.2
MTW	**Mount Morrison**	**2.00**	**166**	PN	Pn	07 06 30.3	-0.7
TMWZ	**Te Maipa**	**2.05**	**158**	PN	Pn	07 06 30.9	-0.6
TCW	**Tory Channel**	**2.05**	**193**	PN	Pn	07 06 31.1	-0.3
TCW				AML	AML	07 07 02.5	
TCW				AML	AML	07 07 02.5	
KNZ	**Kokohu**	**2.19**	**86**	⇓PN	Pn	07 06 31.9	-0.9
PAWZ	**Paruwai Farm**	**2.21**	**169**	⇑PN	Pn	07 06 32.4	-0.7
MSWZ	**Moikau Station**	**2.22**	**173**	⇑PN	Pn	07 06 32.4	-0.8
MWZ	**Matawai**	**2.25**	**68**	PN	Pn	07 06 31.8	-1.9
MWZ				AML	AML	07 07 05.3	
MWZ				AML	AML	07 07 07.6	
RIGZ	**Rimuhau**	**2.31**	**78**	PN	Pn	07 06 33.1	-1.1
NNZ	**Nelson**	**2.31**	**209**	⇑PN	Pn	07 06 33.2	-0.9
TUWZ	**Tuamarina**	**2.33**	**198**	PN	Pn	07 06 33.7	-0.6
TUWZ				AML	AML	07 07 06.3	
TUWZ				AML	AML	07 07 07.7	
MHGZ	**Mahia Peninsul**	**2.36**	**90**	PN	Pn	07 06 34.1	-0.6
PLWZ	**Palliser**	**2.37**	**173**	PN	Pn	07 06 33.9	-1.0
QRZ	**Quartz Range**	**2.42**	**227**	PN	Pn	07 06 33.5	-1.8
BSWZ	**Blackbirch Sta**	**2.61**	**197**	PN	Pn	07 06 37.0	-0.4
PUZ	**Puketiti**	**2.88**	**68**	PN	Pn	07 06 38.2	-2.4
PUZ				AML	AML	07 07 14.7	
PUZ				AML	AML	07 07 17.2	
THZ	**Tophouse**	**2.96**	**210**	PN	Pn	07 06 40.0	-1.4
KHZ	**Kahutara**	**3.36**	**197**	PN	Pn	07 06 44.7	-1.3
DSZ	**Denniston Nort**	**3.45**	**222**	PN	Pn	07 06 44.9	-2.2
LTZ	**Lake Taylor**	**4.08**	**208**	PN	Pn	07 06 52.9	-1.8
OXZ	**Oxford**	**4.63**	**207**	PN	Pn	07 06 58.9	-2.6
MQZ	**McQueen's Vall**	**4.79**	**200**	PN	Pn	07 07 00.5	-3.0
RPZ	**Rata Peaks**	**5.34**	**211**	PN	Pn	07 07 07.8	-2.7
ODZ	**Otahua Downs**	**6.62**	**207**	PN	Pn	07 07 24.9	-2.0
JCZ	**Jackson Bay**	**6.68**	**221**	PN	Pn	07 07 24.1	-3.7

IDC 06 07:05:52.1±3.2, 54°37N×86°53E, h0km, mb1 3.1/2, mb1mx2.9/38, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=26.5km s-min=15.3km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.09**	**248**	*i*		07 12 50.0	
	baz=68,slow=336,SNR=8.3						
ZALV	**Zalesovo Beam**	**1.09**	**248**	Pg	Pg	07 06 12.6	-0.4
	0.9nm,0.3s,baz=64,slow=16,SNR=15						
ZALV				Lg	Lg	07 06 27.4	
	0.7nm,0.3s,baz=63,slow=20,SNR=5.1						
KURBB	**Kurchatov Arra**	**6.16**	**236**	Pn	Pn	07 07 25.7	+1.5
	0.1nm,0.3s,baz=52,slow=14,SNR=8.3						
MKAR	**Makanchi Array**	**8.05**	**201**	Pn	Pn	07 07 50.1	-0.1
	0.1nm,0.3s,baz=22,slow=13,SNR=7.5						
MKAR				Sn	Sn	07 09 22.1	+0.3
	0.1nm,0.3s,baz=14,slow=24,SNR=5.4						

GUC 06 07:07:34.6±0.7, 34°85S×72°33W, h41km±5km, ML3.6, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.92**	**100**	⇑*i*P	Pn	07 07 51.3	+0.3
NICH				*i* S	Sn	07 08 04.1	+1.0
LNCH	**Linares**	**1.16**	**149**	⇑*i*P	Pn	07 07 55.4	+1.0
LNCH				*i* S	Sn	07 08 11.4	+2.4
COCH	**Cobquecura**	**1.33**	**196**	*e*P	Pn	07 07 57.6	+0.9
COCH				*i* S	Sn	07 08 14.9	+1.7
ANTU	**Antumapu**	**1.90**	**48**	*e*P1	Pn	07 08 06.0	+1.4
ANTU				*i* S	Sn	07 08 29.2	+1.8
ANTU				AML	AML	07 08 36.1	
	comp=N,610nm,0.4s						
CLCH	**Cerro Calan**	**2.08**	**46**	*e*P1	Pn	07 08 08.4	+1.3
CLCH				*i* S	Sn	07 08 33.4	+1.5
CLCH				AML	AML	07 08 44.0	
	comp=E,487nm,0.8s						
PEL	**Peldehue**	**2.19**	**39**	*e*P4	Pn	07 08 10.5	+2.0
PEL				*e*S	Sn	07 08 36.2	+1.8
PEL				AML	AML	07 08 45.8	
	comp=E,602nm,0.3s						

*ATH **06** 07:10:11.0, 38°33N×21°84E, h9km±1km, MD2.7/11*
*THE **06** 07:10:11.3, 38°32N×21°85E, h2km±13km, ML1.5/4, Error ellipse: s-maj=13.4km s-min=0.4km az=301.0*

CSEM 06 07:10:10.3±0.1, 38°35N×21°83E, h10km, ML1.5, Error ellipse: s-maj=2.1km s-min=1.7km az=86.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.07**	**209**	P	Pg	07 10 12.4	-0.1
UPR	**University Cam**	**0.07**	**209**	P	Pg	07 10 12.4	-0.1
EFP	**Efpalio**	**0.10**	**36**	P	Pg	07 10 13.3	+0.4
EFP				S	Sg	07 10 15.6	+0.8
EFP	**Efpalio**	**0.10**	**36**	*e*PG	Pg	07 10 13.3	+0.4
EFP				*e*SG	Sg	07 10 15.9	+1.1
EFP	**Efpalio**	**0.10**	**36**	P	Pg	07 10 13.3	+0.4
EFP				S	Sg	07 10 15.6	+0.8
LAKA	**Lakka**	**0.16**	**132**	P	Pg	07 10 14.0	+0.2
LAKA	**Lakka**	**0.16**	**132**	*e*PG	Pg	07 10 14.0	+0.2
LAKA	**Lakka**	**0.16**	**132**	P	Pg	07 10 14.0	+0.2
KALE	**Kalithea**	**0.25**	**79**	P	Pg	07 10 16.0	+0.5
KALE				S	Sg	07 10 19.6	+0.6
KALE	**Kalithea**	**0.25**	**79**	*e*PG	Pg	07 10 15.9	+0.4
KALE				*e*SG	Sg	07 10 19.7	+0.7
KALE	**Kalithea**	**0.25**	**79**	P	Pg	07 10 16.0	+0.5
KALE				S	Sg	07 10 19.6	+0.6
KLV	**Kalavryta, Ach**	**0.39**	**140**	P	Pg	07 10 18.2	0.0
KLV	**Kalavryta, Ach**	**0.39**	**140**	*e*PG	Pg	07 10 18.2	0.0
KLV				*e*SB	Sg	07 10 23.6	+0.2
KLV	**Kalavryta, Ach**	**0.39**	**140**	P	Pg	07 10 18.2	0.0
KLV				*e*Sb	Sg	07 10 23.6	+0.2
DRO	**Drossia**	**0.40**	**193**	P	Pg	07 10 18.6	+0.3
DRO	**Drossia**	**0.40**	**193**	*e*PG	Pg	07 10 18.4	+0.1
DRO				*e*SB	Sg	07 10 24.5	+0.8
DRO	**Drossia**	**0.40**	**193**	P	Pg	07 10 18.6	+0.3
DRO				*e*Sb	Sg	07 10 24.5	+0.8
DSF	**Desfina**	**0.55**	**83**	P	Pg	07 10 21.2	0.0
DSF				S	Sb	07 10 29.5	-0.7
DSF	**Desfina**	**0.55**	**83**	*e*PB	Pg	07 10 21.6	+0.4
DSF				*e*SB	Sg	07 10 28.7	+0.2
DSF	**Desfina**	**0.55**	**83**	P	Pg	07 10 21.2	0.0
DSF	**Desfina**	**0.55**	**83**	*e*Pb	Pg	07 10 21.6	+0.4
DSF				*e*Sb	Sg	07 10 28.7	+0.2
DSF				S	Sb	07 10 29.5	-0.7
PDO	**Prodromos**	**0.57**	**297**	P	Pb	07 10 22.6	+0.2
PDO	**Prodromos**	**0.57**	**297**	*e*PB	Pb	07 10 22.4	0.0
PDO				*e*SB	Sb	07 10 30.2	-0.3
PDO	**Prodromos**	**0.57**	**297**	*e*Pb	Pb	07 10 22.4	0.0
PDO				*e*Sb	Sb	07 10 30.2	-0.3
EVR	**Evrytania**	**0.57**	**358**	*e*PB	Pg	07 10 21.9	+0.3
EVR				*e*SB	Sb	07 10 30.5	-0.4
EVR	**Evrytania**	**0.57**	**358**	*e*Pb	Pg	07 10 21.9	+0.3
EVR				*e*Sb	Sb	07 10 30.5	-0.4
GUR	**Goura**	**0.57**	**135**	P	Pg	07 10 21.4	-0.2
GUR				S	Sg	07 10 29.5	+0.2
GUR	**Goura**	**0.57**	**135**	*e*PB	Pg	07 10 21.4	-0.2
GUR				*e*SB	Sg	07 10 29.3	0.0
GUR	**Goura**	**0.57**	**135**	P	Pg	07 10 21.4	-0.2
GUR				*e*Sb	Sg	07 10 29.3	0.0
MAKR	**Makrakomi, Fth**	**0.71**	**19**	*e*PB	Pb	07 10 24.9	+0.1
MAKR				*e*SB	Sb	07 10 34.9	+0.2
MAKR	**Makrakomi, Fth**	**0.71**	**19**	*e*Pb	Pb	07 10 24.9	+0.1
MAKR				*e*Sb	Sb	07 10 34.9	+0.2
AGG	**Agios Georgios**	**0.78**	**30**	*e*PB	Pb	07 10 26.0	-0.1
AGG	**Agios Georgios**	**0.78**	**30**	*e*Pb	Pb	07 10 26.0	-0.1
AMT	**Artemida-Makis**	**0.82**	**187**	*e*PB	Pb	07 10 26.6	0.0
AMT				*e*SB	Sb	07 10 37.7	0.0
AMT	**Artemida-Makis**	**0.82**	**187**	*e*Pb	Pb	07 10 26.6	0.0
AMT				*e*Sb	Sb	07 10 37.7	0.0

GUC 06 07:25:17.0±0.6, 34°71S×72°12W, h25km±12km, ML3.5, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.79**	**112**	⇑*i*P	Pb	07 25 31.6	-0.4
NICH				*i* S	Sb	07 25 42.2	-0.1
LNV	**Longovilo**	**0.95**	**38**	*e*P1	Pn	07 25 34.2	-0.6
LNV				*i* S1	Sn	07 25 46.7	-0.9
LNCH	**Linares**	**1.21**	**160**	⇑*i*P	Pn	07 25 38.5	+0.2
LNCH				*i* S	Sn	07 25 54.1	+0.2
CACH	**El Canelo**	**1.39**	**65**	⇑*i*P	Pn	07 25 41.5	+0.6
CHCH	**Chadas Angostu**	**1.44**	**58**	*e*P1	Pn	07 25 42.1	+0.5
CHCH				*i* S1	Sn	07 26 00.5	+0.7
COCH	**Cobquecura**	**1.52**	**201**	*e*P	Pn	07 25 42.9	+0.4
COCH				*e*S	Sn	07 26 02.3	+0.8
ANTU	**Antumapu**	**1.68**	**48**	⇑*i*P	Pb	07 25 46.1	-1.1
ANTU				*i* S	Sb	07 26 07.5	-0.6
ANTU				AML	AML	07 26 14.1	
	comp=E,835nm,0.2s						
SAN	**Santiago**	**1.74**	**44**	*e*P1	Pn	07 25 47.0	+1.2
SAN				*e*S	Sb	07 26 09.5	-0.4
CLCH	**Cerro Calan**	**1.86**	**45**	*e*P1	Pn	07 25 48.8	+1.5
CLCH				*i* S	Sb	07 26 12.5	-0.7
CLCH				AML	AML	07 26 19.3	
	comp=E,647nm,0.7s						
PEL	**Peldehue**	**1.97**	**38**	*e*P	Pn	07 25 50.3	+1.4
PEL				*i* S	Sb	07 26 15.7	-0.7
PEL				AML	AML	07 26 22.3	
	comp=E,725nm,0.5s						
FCH	**Farellones**	**2.05**	**48**	*e*P9	Pb	07 25 55.7	+1.7
FCH				*e*S	Sb	07 26 22.8	+3.4

*IDC **06** 07:32:09.7±0.8, 35°45S×74°02W, h0km, mb4.1/9, mb1 4.2/11, mb1mx4.0/29, mbtmp4.0/11, ML3.9/2, MS2.7/3, Ms1 2.8/3, ms1mx2.6/20, Error ellipse: s-maj=25.1km s-min=18.9km az=97.0*
*ISCJB **06** 07:32:11.6±0.6, 34°59S±0°05×71°94W±0°06, h16km, mb4.2/15, MS3.0/1, Error ellipse: s-maj=7.3km s-min=6.6km az=157.4*
*GUC **06** 07:32:14.4±0.5, 34°61S×71°79W, h30km±20km, ML2.8*
*NEIC **06** 07:32:15.0±0.5, 35°43S×74°01W, h35km, mb4.5/7, Error ellipse: s-maj=12.4km s-min=9.6km az=72.0*

ISC 06 07:32:13.3±0.8, 34°56S±0°06×71°79W±0°07, h16km, n33, σ1§14/28, mb4.4/15, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.64**	**134**	⇑*i*P	**Pg**	**07 32 25.6**	**-0.3**
NICH				*i* S	**Sg**	**07 32 34.3**	**-0.1**
LNV	**Longovilo**	**0.68**	**28**	⇑*i*P	**Pg**	**07 32 26.3**	**-0.3**
LNV				*i* S1	**Sn**	**07 32 35.5**	**-3.0**
CACH	**El Canelo**	**1.08**	**66**	⇑*i*P	**Pb**	**07 32 33.4**	**-0.3**
CACH				*i* S1	**Sn**	**07 32 48.4**	**-0.2**
CHCH	**Chadas Angostu**	**1.13**	**57**	*e*P1	**Pn**	**07 32 34.0**	**-0.5**
CHCH				*i* S1	**Sn**	**07 32 49.1**	**-0.6**
ANTU	**Antumapu**	**1.38**	**45**	*e*P	**Pn**	**07 32 38.1**	**+0.2**
ANTU				*i* S	**Sn**	**07 32 56.3**	**+0.5**
ANTU				AML	AML	07 32 59.7	
	comp=N,259nm,0.3s						
CLCH	**Cerro Calan**	**1.56**	**42**	*e*P1	**Pn**	**07 32 41.0**	**+0.6**
CLCH				*i* S	**Sn**	**07 33 01.4**	**+1.1**
CLCH				AML	AML	07 33 07.1	
	comp=E,151nm,0.4s						
PEL	**Peldehue**	**1.69**	**33**	*e*P	**Pn**	**07 32 43.1**	**+1.0**
PEL				*i* S	**Sn**	**07 33 05.0**	**+1.7**
PEL				AML	AML	07 33 13.7	
	comp=N,168nm,0.8s						
CFAA	**Coronel Fontan**	**4.19**	**46**	Pn	Pg	07 33 43.6	+10
	comp=N,0.1nm,0.3s,baz=224,slow=9.4,SNR=11						
CFAA				Sn	Sg	07 34 53.8	+26
	comp=N,0.1nm,0.3s,baz=232,slow=14,SNR=3.5						
CFAA				LR	LR	07 36 06.6	
	comp=N,9.4nm,19.4s,baz=188,slow=38						
PLCA	**Paso Flores**	**6.24**	**171**	Pn	Pn	07 33 40.0	-4.8
	comp=N,1.4nm,0.3s,baz=323,slow=10,SNR=26						
PLCA				LR	LR	07 36 03.5	
	comp=N,178nm,19.8s,baz=38,slow=39						
TRQA	**Tornquist**	**8.65**	**117**	*e*Pn	Pn	07 34 38.0	+20
LVC	**Limon Verde**	**12.17**	**13**	*e*Pn	P	07 35 24.1	+5.3
LPAZ	**La Paz**	**18.49**	**11**	P	Pn	07 36 44.2	+15
	comp=N,0.1nm,0.3s,baz=164,slow=9.3,SNR=5.8						
USHA	**Ushuaia**	**20.41**	**174**	LR	LR	07 44 12.5	
	comp=N,73nm,19.8s,baz=163,slow=37						
SIV	**San Ignacio**	**20.85**	**30**	P	Pn	07 37 09.9	+13
	comp=N,2.9nm,1.0s,baz=297,slow=2.3,SNR=2.2						
BDFB	**Brasilia**	**28.48**	**55**	P	P	07 38 24.8	+17
	comp=N,1.9nm,0.7s,baz=170,slow=11,SNR=3.2						
QSPA	**South Pole Qui**	**55.68**	**180**	P	P	07 41 41.4	-7.1
	comp=N,4.4nm,0.9s,baz=135,slow=2.9,SNR=10						
TXAR	**Lajitas Array**	**70.32**	**331**	P	**P**	**07 43 24.9**	**-1.3**
	comp=N,1.1nm,0.7s,baz=150,slow=8.5,SNR=12						
SWET	**Sewanee**	**70.66**	**348**	*e*P	**P**	**07 43 29.9**	**+1.9**
	comp=N,4.2nm,0.7s						
WVT	**Waverly**	**71.90**	**346**	*e*P	**P**	**07 43 36.5**	**+1.1**
	comp=N,5.5nm,1.0s						
TUL1	**Leonard**	**73.60**	**340**	*e*P	**P**	**07 43 45.4**	**-0.1**
	comp=N,5.9nm,0.8s						
BOSA	**Boshof**	**79.63**	**117**	P	P	07 44 25.4	+5.1
	comp=N,3.0nm,0.7s,baz=231,slow=5.1,SNR=5.2						
ECSD	**EROS Data Cent**	**81.14**	**342**	*e*P	**P**	**07 44 28.1**	**+0.5**
	comp=N,4.6nm,0.8s						
JLU	**Jordanelle**	**83.24**	**331**	*e*P	**P**	**07 44 38.5**	**-0.5**
	comp=N,2.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**84.21**	**70**	P	P	07 44 53.2	+9.0
	comp=N,1.1nm,0.9s,baz=264,slow=5.3,SNR=4.7						
PDAR	**Pinedale Array**	**84.35**	**333**	P	**P**	**07 44 44.1**	**-0.5**
	comp=N,0.5nm,0.8s,baz=146,slow=6.6,SNR=4.7						
NVAR	**Mina Array Bea**	**84.46**	**325**	P	**P**	**07 44 43.9**	**-1.4**
	comp=N,0.8nm,0.7s,baz=149,slow=6.2,SNR=3.8						
HVU	**Hansel Valley**	**84.77**	**330**	*e*P	**P**	**07 44 45.2**	**-1.4**
	comp=N,3.2nm,0.8s						
ULM	**Lac du Bonnet**	**87.09**	**345**	P	**P**	**07 44 56.8**	**-0.9**
	comp=N,1.5nm,0.8s,baz=191,slow=5.2,SNR=3.2						
MCMT	**McKenzie Canyo**	**87.36**	**332**	*e*P	**P**	**07 44 59.4**	**-0.1**
	comp=N,2.5nm,1.5s						
WRA	**Warramunga Arr**	**120.37**	**209**	PKP	PKPdf	07 50 58.5	-5.9
	comp=N,1.0nm,1.1s,baz=145,slow=1.8,SNR=3.0						
ABKAR	**Akbulak array**	**141.86**	**52**	*e*PKPdf	**PKPdf**	**07 51 44.3**	**+0.6**
ZALV	**Zalesovo Beam**	**154.58**	**33**	PKP	**PKPdf**	**07 52 05.8**	**+1.6**
	comp=N,1.0nm,0.8s,baz=278,slow=4.3,SNR=5.4						
MKAR	**Makanchi Array**	**156.97**	**50**	PKP	**PKPdf**	**07 52 09.1**	**+1.4**
	comp=N,0.5nm,0.8s,baz=290,slow=1.4,SNR=5.2						
MKAR				PKPab	PKPab	07 52 45.9	+7.9
	comp=N,0.5nm,0.9s,baz=307,slow=3.0,SNR=4.4						

JMA 06 07:46:04.8±0.2, 31°99N×140°79E, h40km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.37**	**322**	P	Pn	07 46 28.0	+0.6
JHCJ				S	Sn	07 46 44.8	+0.5
JHJ2	**Mitsune**	**1.39**	**324**	P	Pn	07 46 28.5	+0.8
JHJ2				*e*S	Sn	07 46 46.0	+1.2
BSO1	**Boso 1**	**2.66**	**3**	P	Pn	07 46 46.6	+2.1
BSO1				S	Sn	07 47 18.2	+3.2
TK02	**Tokai 2**	**3.21**	**308**	P	Pn	07 46 54.5	+2.1
JOD2	**Odawara 2**	**3.56**	**337**	P	Pn	07 46 59.5	+1.9
JYN	**Shimob**	**3.97**	**332**	P	Pn	07 47 06.6	+3.4
JIE	**Ise**	**4.18**	**306**	P	Pn	07 47 06.8	+0.8
JAG	**Ashikaga**	**4.56**	**346**	P	Pn	07 47 13.5	+2.2
JAG				*e*S	Sn	07 48 04.8	+1.8

GUC 06 07:53:00.2±0.5, 35°56S×72°53W, h53km±18km, ML4.5, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.60**	**200**	⇑*i*P	Pn	07 53 13.1	+0.2
COCH				*i* S	Sn	07 53 22.7	+0.7
NICH	**Los Niches**	**1.20**	**63**	⇑*i*P	Pn	07 53 21.0	+0.2
NICH				*i* S	Sn	07 53 37.2	+1.1
TACH	**Talagante**	**2.31**	**35**	*e*P1	Pn	07 53 36.1	+0.2
ANTU	**Antumapu**	**2.53**	**39**	*e*P	Pn	07 53 39.6	+0.6
ANTU				*e*S	Sn	07 54 09.2	+0.6
SAN	**Santiago**	**2.61**	**37**	*e*P4	Pn	07 53 39.8	-0.2
CLCH	**Cerro Calan**	**2.72**	**38**	⇑*i*P	Pn	07 53 42.2	+0.7
CLCH				*e*S	Sn	07 54 14.4	+1.1
CLCH				AML	AML	07 54 29.3	
	comp=N,2μm,0.7s						
PEL	**Peldehue**	**2.86**	**33**	*e*P1	Pn	07 53 43.9	+0.5
PEL				*i* S	Sn	07 54 16.9	+0.3
PEL				AML	AML	07 54 27.1	
	comp=N,2μm,0.3s						

IDC 06 08:01:48.2±5.1, 18°82N×145°34E, h327km±53km, mb3.1/10, mb1 3.3/11, mb1mx3.1/36, mbtmp3.7/11, Error ellipse: s-maj=28.3km s-min=13.3km az=94.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.74**	**342**	P	P	08 05 44.2	+0.1
	0.2nm,0.3s,baz=168,slow=9.7,SNR=3.6						
WRA	**Warramunga Arr**	**40.01**	**196**	P	P	08 08 52.1	-0.3
	0.3nm,0.3s,baz=22,slow=8.4,SNR=16						
SONM	**Songino Array**	**42.84**	**321**	P	P	08 09 14.7	-0.4
	0.2nm,0.5s,baz=126,slow=7.3,SNR=2.3						
ASAR	**Alice Springs**	**43.68**	**195**	P	P	08 09 21.8	-0.1
	0.2nm,0.5s,baz=14,slow=7.9,SNR=3.3						
MKAR	**Makanchi Array**	**58.13**	**314**	P	P	08 11 09.1	+0.6
	0.6nm,0.7s,baz=91,slow=9.8,SNR=5.0						
ILAR	**Eielson Array**	**63.69**	**26**	P	P	08 11 44.2	-1.0
	1.0nm,0.9s,baz=254,slow=5.1,SNR=7.8						
INK	**Inuvik**	**69.40**	**23**	P	P	08 12 21.0	+0.1
	0.6nm,0.6s,baz=279,slow=5.5,SNR=6.2						
YKA	**Yellowknife Ar**	**78.04**	**28**	P	P	08 13 11.1	+0.2
	0.4nm,0.5s,baz=292,slow=5.5,SNR=9.9						
ARCES	**ARCESS Array B**	**82.27**	**342**	P	P	08 13 33.7	+0.5
	4.1nm,1.1s,baz=82,slow=9.2,SNR=4.1						
NVAR	**Mina Array Bea**	**83.33**	**

σ1918/34, mb4.4/11, MS3.9/6, 1C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.47	144	⇓iP	Pn	08 31 31.4	-1.4
COCH				i S1	Sn	08 31 40.9	+0.9
LNCH	Linares	1.24	95	⇑iP	Pn	08 31 44.5	+1.0
NICH	Los Niches	1.72	65	⇓iP	Pn	08 31 51.1	+1.0
NICH				i S1	Sn	08 32 15.7	+4.8
CACH	El Canelo	2.64	53	eP1	Pn	08 32 03.2	+0.3
CHCH	Chadas Angostu	2.73	49	⇓iP	Pn	08 32 04.1	+0.2
TACH	Talagante	2.76	41	⇓iP	Pn	08 32 04.2	-0.3
IHA	Instituto Hidr	2.98	25	eP1	Pn	08 32 05.2	-2.3
ANTU	Antumapu	2.99	44	⇓iP	Pn	08 32 07.6	0.0
ANTU				AML	AML	08 33 11.5	
	comp=N,2μm,0.5s						
CLCH	Cerro Calan	3.18	43	⇓iP	Pn	08 32 09.9	-0.3
CLCH				AML	AML	08 33 15.6	
	comp=N,2μm,0.7s						
CLCH				AML	AML	08 33 16.1	
	comp=N,2μm,0.6s						
PEL	Peldehue	3.29	38	⇓iP	Pn	08 32 10.7	-1.1
PEL				AML	AML	08 33 27.9	
	comp=N,2μm,0.5s						
PLCA	Paso Flores	5.37	159	Pn	Pn	08 32 39.9	-0.5
	comp=N,2.2nm,0.3s,baz=328,slow=11,SNR=23						
PLCA				Lg	Lg	08 34 10.9	
	comp=N,2.4nm,0.3s,baz=227,slow=22,SNR=4.7						
CFAA	Coronel Fontan	5.81	46	Pn	Pn	08 32 46.5	+0.1
	comp=N,1.8nm,0.3s,baz=212,slow=13,SNR=73						
CFAA				LR	LR	08 35 28.4	
	comp=N,182nm,20.5s,baz=232,slow=44						
TRQA	Tornquist	9.22	108	ePn	Pn	08 33 35.3	+2.2
	comp=N,12nm,0.8s						
CPUP	Villa Florida	16.46	60	Pn	Pn	08 35 09.2	-1.6
	comp=N,0.0nm,0.3s,baz=206,slow=12,SNR=3.0						
CPUP				LR	LR	08 41 47.9	
	comp=N,293nm,21.8s,baz=220,slow=38						
CPUP	Villa Florida	16.46	60	eP	Pn	08 35 08.2	-2.7
	comp=N,0.4nm,0.8s						
USHA	Ushuaia	19.36	172	LR	LR	08 42 42.2	
	comp=N,491nm,20.0s,baz=326,slow=36						
LPAZ	La Paz	19.89	14	P	Pn	08 35 51.9	-1.6
	comp=N,0.1nm,0.3s,baz=179,slow=7.0,SNR=16						
LPAZ	La Paz	19.89	14	eP	Pn	08 35 52.8	-0.7
	comp=N,14nm,1.1s						
SIV	San Ignacio	22.43	32	P	P	08 36 17.9	-0.6
	comp=N,6.9nm,0.8s,baz=227,slow=8.8,SNR=18						
SIV				LR	LR	08 46 45.4	
	comp=N,839nm,18.6s,baz=225,slow=41						
NNA	Nana	23.90	351	LR	LR	08 43 55.2	
	comp=N,136nm,18.1s,baz=176,slow=32						
ATAH	Atahualpa	28.89	349	LR	LR	08 46 57.8	
	comp=N,110nm,18.2s,baz=191,slow=32						
BDFB	Brasilia	30.07	55	P	P	08 37 27.9	-0.9
	comp=N,5.3nm,0.9s,baz=159,slow=4.8,SNR=6.8						
BDFB				LR	LR	08 50 43.4	
	comp=N,299nm,21.3s,baz=224,slow=39						
RPN	Rapa Nui	31.92	275	LR	LR	08 46 51.2	
	comp=N,251nm,18.6s,baz=128,slow=29						
OTAV	Otavalo	36.15	351	eP	P	08 38 24.5	+2.3
	comp=N,3.4nm,0.6s						
SNAA	Sanae	50.31	157	P	P	08 40 15.1	-0.3
	comp=N,3.1nm,1.0s,baz=270,slow=4.5,SNR=7.1						
QSPA	South Pole Qui	54.49	180	P	P	08 40 46.3	-0.2
	comp=N,5.5nm,1.1s,baz=136,slow=1.8,SNR=8.8						
QSPA	South Pole Qui	54.49	180	eP	P	08 40 46.3	-0.2
	comp=N,5.2nm,0.9s						
PPT2	Papeete2	69.11	263	eLR	LR	09 03 23.6	
	comp=N,139nm,24.0s						
TXAR	Lajitas Array	70.84	332	P	P	08 42 36.8	+1.0
	comp=N,0.3nm,0.7s,baz=146,slow=6.6,SNR=2.9						
DBIC	Dimbokro	76.58	72	P	P	08 43 10.4	+0.6
	comp=N,7.9nm,0.9s,baz=194,slow=8.6,SNR=5.6						
BOSA	Boshof	80.05	118	P	P	08 43 29.5	+0.5
	comp=N,3.5nm,0.8s,baz=128,slow=2.1,SNR=5.1						
BOSA				LR	LR	09 15 59.8	
	comp=N,59nm,18.4s,baz=187,slow=34						
DUG	Dugway, Tooele	83.94	331	eP	P	08 43 49.8	+0.8
	comp=N,8.4nm,1.4s						
NVAR	Mina Array Bea	84.82	326	P	P	08 43 56.2	+2.6
	comp=N,0.4nm,0.5s,baz=156,slow=7.8,SNR=3.7						
TORD	Torodi Ar. Bea	85.64	71	P	P	08 43 57.5	-0.4
	comp=N,2.7nm,0.9s,baz=247,slow=3.1,SNR=11						
ABKAR	Akbulak array	143.45	53	ePKPdf	PKPbc	08 50 49.6	-0.7
BRVK	Borovoye	149.09	44	ePKPbc	PKPbc	08 51 06.6	0.0
ZALV	Zalesovo Beam	156.18	33	PKP	PKPdf	08 51 11.4	-1.3
	comp=N,0.4nm,0.5s,baz=85,slow=1.8,SNR=4.1						
ZALV				PKPab	PKPab	08 51 41.0	+0.4
	comp=N,1.5nm,0.7s,baz=303,slow=4.2,SNR=4.6						
MKAR	Makanchi Array	158.57	51	PKP	PKPdf	08 51 14.8	-1.2
	comp=N,0.6nm,0.9s,baz=298,slow=2.6,SNR=4.3						
MKAR				PKPab	PKPab	08 51 51.4	+0.1
	comp=N,1.1nm,1.0s,baz=286,slow=4.5,SNR=4.8						

*IDC **06** 08:44:01.4±0.6, 19°.07N×66°.51W, h0km, mb4.1/17, mb1 4.3/19, mb1mx4.0/52, mbtmp4.1/19, ML3.3/2, Error ellipse: s-maj=18.0km s-min=15.2km az=54.0*
*RSPR **06** 08:44:07.0, 19°.05N×66°.41W, h39km±10km, MD3.7/15*
*NEIC **06** 08:44:07.0, 19°.05N×66°.41W, h39km, MD3.7(RSPR), After RSPR.*
NEIC Felt at Dorado.

ISC 06 08:44:05.3±1.4, 19°.06N±0°.05×66°.44W±0°.03, h27km±11km, n77, σ1916/91, mb4.1/17, 26C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	0.77	203	⇑eP	Pb	08 44 20.0	-0.2
AOPR				eS	Sb	08 44 31.2	+0.9
AOPR	Arecibo Observ	0.77	203	⇑eP	Pb	08 44 20.0	-0.2
AOPR	Arecibo Observ	0.77	203	eS	Sb	08 44 31.2	+0.9
LRS	Lares	0.86	207	⇑eP	Pn	08 44 20.9	-0.8
LRS	Lares	0.86	207	⇑eP	Pn	08 44 20.9	-0.8
AGPR	Aguadilla, PR	0.87	227	ePn	Pn	08 44 20.5	-1.3
AGPR				eSn	Sn	08 44 34.2	+0.6
CBYP	Canovanas	0.96	145	⇑eP	Pn	08 44 22.7	-0.4
CBYP				eS	Sb	08 44 34.9	-0.8
CBYP	Canovanas	0.96	145	⇑eP	Pn	08 44 22.7	-0.4
CBYP				eS	Sb	08 44 34.9	-0.8
SJG	San Juan	0.98	164	⇑eP	Pn	08 44 23.2	-0.1
SJG	San Juan	0.98	164	⇑eP	Pn	08 44 23.2	-0.1
CELP	Cerrillos	0.99	188	⇑eP	Pn	08 44 23.4	-0.1
CELP	Cerrillos	0.99	188	⇑eP	Pn	08 44 23.4	-0.1
OBIP	Obispado Ponce	1.03	189	⇑eP	Pn	08 44 23.9	0.0
OBIP				eS	Sn	08 44 36.5	-0.9
OBIP	Obispado Ponce	1.03	189	⇑eP	Pn	08 44 23.9	0.0
OBIP	Obispado Ponce	1.03	189	eS	Sn	08 44 36.5	-0.9
HUMP	Col San Antoni	1.07	149	⇑eP	Pn	08 44 24.4	-0.2
HUMP				eS	Sn	08 44 37.0	-1.6
HUMP	Col San Antoni	1.07	149	⇑eP	Pn	08 44 24.4	-0.2
HUMP	Col San Antoni	1.07	149	eS	Sn	08 44 37.0	-1.6
LSP	Las Mesas	1.07	215	⇓eP	Pn	08 44 24.1	-0.6
LSP	Las Mesas	1.07	215	⇓eP	Pn	08 44 24.1	-0.6
MPR	Mayaguez	1.08	218	⇓eP	Pn	08 44 24.2	-0.4
MPR				eS	Sn	08 44 38.5	-0.2
MPR	Mayaguez	1.08	218	⇓eP	Pn	08 44 24.2	-0.4
MPR	Mayaguez	1.08	218	eS	Sn	08 44 38.5	-0.2
CPD	Cerro la Pandu	1.13	154	⇑eP	Pn	08 44 25.2	-0.2
CPD				eS	Sn	08 44 38.5	-1.6
CPD	Cerro la Pandu	1.13	154	⇑eP	Pn	08 44 25.2	-0.2
CPD	Cerro la Pandu	1.13	154	eS	Sn	08 44 38.5	-1.6
GBPR	Guanica, Bosqu	1.16	201	⇑eP	Pn	08 44 25.8	+0.1
GBPR	Guanica, Bosqu	1.16	201	⇑eP	Pn	08 44 25.8	+0.1
ICM	Isla Caja Muer	1.17	184	⇑eP	Pn	08 44 26.4	+0.5
ICM	Isla Caja Muer	1.17	184	eS	Sn	08 44 40.3	-0.6
ICMP	Isla Caja de M	1.17	184	⇑eP	Pn	08 44 26.4	+0.4
ICMP				eS	Sn	08 44 40.3	-0.8
IDE	Isla Desecheo	1.19	236	eS	Sn	08 44 41.2	-0.4
CRPR	Cabo Rojo, PR	1.23	211	⇓eP	Pn	08 44 26.5	-0.2
CRPR	Cabo Rojo, PR	1.23	211	⇓eP	Pn	08 44 26.5	-0.2
STVI	Saint Thomas	1.57	116	⇑eP	Pn	08 44 31.0	-0.5
STVI				eS	Sn	08 44 49.6	-1.4
STVI	Saint Thomas	1.57	116	⇑eP	Pn	08 44 31.0	-0.5
STVI	Saint Thomas	1.57	116	eS	Sn	08 44 49.6	-1.4
TBVI	Tortola	1.84	110	⇓eP	Pn	08 44 34.6	-0.6
TBVI				eS	Sn	08 44 56.0	-1.5
TBVI	Tortola	1.84	110	⇓eP	Pn	08 44 34.6	-0.6
TBVI				eS	Sn	08 44 56.0	-1.5
PCDR	Punta Cana, DR	1.92	254	⇑eP	Pn	08 44 36.8	+0.6
PCDR				eS	Sn	08 44 59.8	+0.2
PCDR	Punta Cana, DR	1.92	254	⇑eP	Pn	08 44 36.8	+0.6
PCDR	Punta Cana, DR	1.92	254	eS	Sn	08 44 59.8	+0.2
CDVI	St. Croix	2.05	129	ePn	Pn	08 44 39.6	+1.6
SMN1	Samana, DR	2.69	273	ePn	Pn	08 44 46.3	-0.5
SMRT	St. Maarten	3.34	107	⇑eP	Pn	08 44 56.5	+0.7
SMRT	St. Maarten	3.34	107	⇑eP	Pn	08 44 56.5	+0.7
SDDR	Presa de Saban	4.59	270	ePn	Pn	08 45 14.1	+1.1
ANWB	Willy Bob	4.63	107	ePn	Pn	08 45 16.3	+2.8
GRTK	Grand Turk	5.04	300	ePn	Pn	08 45 16.6	-2.5
GRTK				eSn	Sn	08 46 12.3	-4.1
SEG	Port Louis	5.39	119	eP	Pn	08 45 27.1	+3.0
MLG	Mont-d'or	5.41	123	eP	Pn	08 45 26.7	+2.4
SSG	Sans Toucher	5.42	122	eP	Pn	08 45 25.4	+0.9
FNG	Fond-Bernard	5.43	123	eP	Pn	08 45 27.0	+2.5
ECG	Echelle	5.46	123	eP	Pn	08 45 30.5	+5.4
MGG	Marie-Galante	5.80	122	eP	Pn	08 45 31.3	+1.7
PCRV	Puerto La Cruz	9.00	169	Pn	Pn	08 46 15.4	+1.7
	1.3nm,0.3s,baz=316,slow=2.8,SNR=5.3						
PCRV				Sn	Sn	08 47 52.3	-2.0
	0.9nm,0.3s,baz=169,slow=16,SNR=2.0						
SDV	Santo Domingo	10.90	202	ePn	Pn	08 46 41.1	+1.2
	7.4nm,0.5s						
ROSC	El Rosal	16.08	210	Pn	Pn	08 47 49.8	-0.3
	0.9nm,0.3s,baz=110,slow=15,SNR=2.5						
TEIG	Tepich	20.60	277	P	P	08 48 41.2	-1.3
	9.3nm,0.7s,baz=251,slow=0.9,SNR=8.3						
APG	El Apazote	23.32	264	P	P	08 49 08.6	-3.1
	4.5nm,0.5s,baz=222,slow=19,SNR=4.3						
LPAZ	La Paz	35.17	183	P	P	08 50 57.1	-0.7
	1.9nm,0.7s,baz=22,slow=10,SNR=4.9						
SIV	San Ignacio	35.23	171	P	P	08 50 56.9	-0.8
	1.6nm,0.6s,baz=48,slow=8.0,SNR=3.7						
TXAR	Lajitas Array	35.33	294	P	P	08 50 59.3	+0.6
	2.1nm,0.9s,baz=115,slow=9.9,SNR=27						
TXAR				PcP	PcP	08 53 29.5	+0.7
	0.7nm,0.8s,baz=129,slow=3.7,SNR=3.9						
SCHQ	Schefferville	35.71	360	P	P	08 51 00.8	-0.7
	4.2nm,0.8s,baz=197,slow=5.9,SNR=7.9						
PDAR	Pinedale Array	43.28	313	P	P	08 52 04.7	-0.3
	1.3nm,0.9s,baz=134,slow=7.6,SNR=4.1						
NVAR	Mina Array Bea	48.73	305	P	P	08 52 47.7	-0.2
	0.9nm,0.7s,baz=92,slow=8.2,SNR=3.4						
NEW	Newport	50.06	318	P	P	08 52 57.0	-0.8
	3.9nm,0.9s,baz=140,slow=5.0,SNR=5.3						
YKA	Yellowknife Ar	54.52	335	P	P	08 53 29.8	-0.8
	1.4nm,0.7s,baz=112,slow=7.5,SNR=9.4						
ESDC	Sonseca Array	57.06	55	P	P	08 53 51.4	+2.1
	1.1nm,0.8s,baz=274,slow=6.8,SNR=4.7						
DBIC	Dimbokro	61.01	93	P	P	08 54 17.1	+0.1
	11nm,1.1s,baz=133,slow=6.2,SNR=3.8						
INK	Inuvik	64.00	338	P	P	08 54 35.9	-0.2
	1.8nm,0.7s,baz=108,slow=6.7,SNR=19						
TORD	Torodi Ar. Bea	65.38	84	P	P	08 54 46.7	+0.7
	1.1nm,0.8s,baz=291,slow=6.8,SNR=5.6						
ILAR	Eielson Array	68.86	333	P	P	08 55 07.0	-0.3
	1.5nm,0.7s,baz=107,slow=4.0,SNR=20						
ARCES	ARCESS Array B	72.98	22	P	P	08 55 32.6	+0.4
	3.6nm,0.7s,baz=286,slow=4.5,SNR=14						
FINES	FINESS Array B	74.65	30	P	P	08 55 42.9	+0.8
	1.4nm,0.6s,baz=259,slow=4.5,SNR=9.5						
SEY	Seymchan	92.78	343	P	P	08 57 16.5	+1.4
	1.7nm,0.7s,baz=80,slow=2.4,SNR=5.8						
ASAR	Alice Springs	160.51	253	PKPab	PKPab	09 04 44.6	-0.2
	0.4nm,0.5s,baz=99,slow=4.4,SNR=6.0						

*ISCJB **06** 08:46:23.8±0.8, 40°.34N±0°.02×124°.65W±0°.04, h22km±6km, mb4.0/17, MS3.8/18, Error ellipse: s-maj=5.4km s-min=3.0km az=173.6*
*BJI **06** 08:46:23.4, 40°.89N×125°.17W, h7km, mB5.1/5, mb4.6/7, Ms4.9/4, Ms7 4.5/4*
*IDC **06** 08:46:23.1±0.7, 40°.43N×124°.38W, h0km, mb3.9/14, mb1 4.0/21, mb1mx3.9/56, mbtmp3.9/21, ML4.2/5, MS3.7/23, Ms1 3.7/23, ms1mx3.6/48, Error ellipse: s-maj=12.3km s-min=9.0km az=41.0*
*NEIC **06** 08:46:24.0, 40°.33N×124°.71W, h12km, mb4.4/12, MW4.5(BRK), After NCEDC.*
NEIC Felt [III] at Ferndale, Garberville, Petrolia and Whitethorn; [II] at Eureka, Fortuna, Loleta, Redway, Rio Dell and Scotia. Also felt at Albion, Arcata, Fort Bragg, Hydesville, Kneeland, Leggett, McKinleyville, Mendocino, Myers Flat, Piercy, Trinidad and Westport.

ISC 06 08:46:24.4±0.6, 40°.37N±0°.03×124°.67W±0°.04, h15km±3km, n190, σ1968/180, mb4.0/17, MS3.8/18, 17C-17D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRM	Mail Ridge	0.75	101	ePg	Pg	08 46 39.0	+0.1
KMRM				eSg	Sg	08 46 48.7	-0.1
KHMM	Horse Mountain	0.87	54	ePg	Pg	08 46 40.8	-0.5
KCPM	Cahto Peak	1.08	129	ePn	Pb	08 46 42.6	-2.1
KCPM				eSg	Sb	08 46 58.9	+0.3
N02D	Trinity Center	1.61	67	⇓P	Pn	08 46 51.2	-1.1
	baz=1.6						
N02D				⇑S	Sn	08 47 12.2	-0.6
	baz=1.6						
WDC	Whiskeytown Da	1.63	82	ePb	Pn	08 46 51.2	-1.4
M02C	Callahan	1.71	53	⇓P	Pn	08 46 52.5	-1.2
	baz=1.8						
M02C				⇓S	Sn	08 47 13.6	-1.7
	baz=1.8						
HOPS	Hopland Field	1.84	138	ePn	Pn	08 46 52.9	-2.6
KBO	Bosley Butte	1.87	10	ePn	Pn	08 46 54.3	-1.6
L02D	Cave Junction,	1.96	24	⇓P	Pn	08 46 56.0	-1.1
	baz=2.0						
L02D				⇑S	Sn	08 47 19.4	-2.0
	baz=2.0						
YBH	Yreka Blue Hor	2.01	47	Pn	Pn	08 46 57.1	-0.8
	224nm,0.3s,baz=217,slow=10,SNR=3044						
YBH				Sn	Sn	08 47 21.2	-1.5
	122nm,0.3s,baz=198,slow=20,SNR=9.8						
KEBM	Edson Butte	2.51	6	ePn	Pn	08 47 04.7	0.0
M04C	Macdoel	2.56	56	⇓P	Pn	08 47 05.3	-0.1
	baz=2.6						
M04C				⇑S	Sn	08 47 36.7	+0.3
	baz=2.6						
HUMO	Hull Mountain	2.58	29	ePn	Pn	08 47 04.6	-1.0
MCCM	Marconi Confer	2.62	147	ePn	Pn	08 47 03.3	-2.8
OHCM	Honcut	2.66	112	ePn	Pn	08 47 04.4	-2.2
K04D	Chiloquin, OR	3.14	43	⇓P	Pn	08 47 13.4	0.0
	baz=3.2						
K04D				⇑S	Sn	08 47 51.5	+0.9
	baz=3.2						
J04D	Umpqua Nationa	3.45	33	⇑P	Pn	08 47 18.2	+0.5
	baz=3.5						
J04D				⇑S	Sn	08 47 58.6	+0.2
	baz=3.5						
I03D	Drain, OR	3.47	16	⇑P	Pn	08 47 17.8	+0.1
	baz=3.5						
I03D				⇑S	Sn	08 47 59.1	+0.6
	baz=3.5						
MOD	Modoc Plateau	3.63	64	ePn	Pn	08 47 18.9	-1.3
K05A	Summer Lake	3.68	49	ePn	Pn	08 47 20.9	0.0
I04A	Tendick Farm,	3.81	25	⇑P	Pn	08 47 22.6	0.0
	baz=3.9						
I04A				⇓S	Sn	08 48 05.6	-1.5
	baz=3.9						
J05D	Fort Rock, OR	3.88	40	⇑P	Pn	08 47 23.8	+0.2
	baz=3.9						
J05D				⇓S	Sn	08 48 09.1	+0.1
	baz=3.9						
CMB	Columbia Colle	4.06	124	ePn	Pn	08 47 25.6	-0.4
COR	Corvallis	4.33	13	ePn	Pn	08 47 32.1	+2.5
SAO	San Andreas Ge	4.40	144	ePn	Pn	08 47 27.6	-3.0
PINOR	Pine Mountain	4.45	38	ePn	Pn	08 47 31.8	+0.6
WAKR	Walker	4.46	113	ePn	Pn	08 47 32.1	+0.5
I05D	Terrebonne, OR	4.67	31	⇓P	Pn	08 47 35.0	+0.6
	baz=4.7						
I05D				⇓S	Sn	08 48 28.1	-0.2
	baz=4.7						
H04A	Detroit Lake	4.68	22	ePn	Pn	08 47 35.9	+1.3
G03D	McMinnville, O	4.95	12	⇑S	Sn	08 48 34.9	-0.1
	baz=5.0						
WVOR	Wild Horse Val	4.98	64	ePn	Pn	08 47 37.2	-1.5
NVAR	Mina Array Bea	5.29	109	Pn	Pn	08 47 43.4	+0.3
	2.4nm,0.3s,baz=292,slow=14,SNR=28						
MLAC	Mammoth, Mammo	5.30	119	⇓S	Sn	08 48 44.9	+0.8
	baz=5.3						
I07A	Izee	5.33	44	ePn	Pn	08 47 44.5	+1.0
NV11	Mina Array Sit	5.40	109	ePn	Pn	08 47 44.2	-0.3
NV11				eSg	Sg	08 49 17.9	+0.1
G05D	Wamic, OR	5.46	26	⇑P	Pn	08 47 46.8	+1.7
	baz=5.5						
MTUM	Tungsten Hills	5.63	120	ePn	Pn	08 47 51.7	+3.9
MTUM				eSb	Sn	08 48 57.8	+5.5
BMN	Battle Mountai	5.68	87	ePn	Pn	08 47 47.6	-0.8
G06A	Carlson Farm,	5.69	30	ePn	Pn	08 47 50.1	+1.7
F04A	Amboy	5.80	16	ePn	Pn	08 47 51.2	+1.5
F04D	Rainier, OR	5.84	11	⇓S	Sn	08 48 58.7	+1.7
	baz=5.9						
RCTC	Rector, Farmer	5.88	132	⇑P	Pn	08 47 50.7	-0.2
	baz=5.9						
TPH	Tonopah	6.22	109	ePn	Pn	08 47 59.2	+3.5
E03A	Lebam	6.22	7	ePn	Pn	08 47 57.1	+1.5
VES	Vestal, Richgr	6.31	134	⇓P	Pn	08 47 56.2	-0.6
	baz=6.3						
LON	Longmire	6.71	17	ePn	Pn	08 48 03.7	+1.4
ISA	Isabella, Lake	6.78	132	⇑P	Pn	08 48 03.8	+0.4
	baz=6.8						
ISA	Isabella, Lake	6.78	132	ePn	Pn	08 48 03.8	+0.4
	86nm,0.6s						
DAC	Darwin (Calif)	6.90	124	ePn	Pn	08 48 07.6	+2.5
ARVC	Arvin	6.98	137	⇑P	Pn	08 48 05.2	-0.9
	baz=7.0						
BMO	Blue Mountains	7.04	48	ePn	Pn	08 48 08.0	+1.1
	55nm,0.9s						
HAWA	Hanford	7.08	30	ePn	Pn	08 48 09.6	+2.1
E07A	Sunnyside	7.11	28	ePn	Pn	08 48 10.2	+2.4
ELK	Elko	7.19	84	Pn	Pn	08 48 08.0	-1.1
	0.2nm,0.3s,baz=145,slow=0.9,SNR=16						
ELK				LR	LR	08 51 00.4	
	comp=Z,361nm,21.6s,baz=182,slow=40						
ELK	Elko	7.19	84	ePn	Pn	08 48 10.2	+1.1
R11A	Troy Canyon, C	7.32	103	ePn	Pn	08 48 11.3	+0.4
OSI	Osito Audit: C	7.44	139	ePn	Pn	08 48 13.4	+1.0
	42nm,0.6s						
LTY	Liberty	7.47	21	ePn	Pn	08 48 15.2	+2.5
EDW2	Edwards Air Fo	7.62	134	⇑P	Pn	08 48 14.9	+0.1
	baz=7.6						
E09A	Wood Farm, Sta	7.76	36	ePn	Pn	08 48 18.1	+1.4
F10A	Beach Ranch, E	7.80	42	ePn	Pn	08 48 19.6	+2.2
D08A	Wollman Farm,	7.87	30	ePn	Pn	08 48 19.4	+1.2
GSC	Goldstone, Bar	8.02	127	ePn	Pn	08 48 21.3	+1.0
PASC	Pasadena Art C	8.06	138	ePn	Pn	08 48 20.8	-0.1
	38nm,0.7s						
MWC	Mount Wilson	8.08	137	ePn	Pn	08 48 20.4	-1.0
HLID	Hailey	8.28	64	ePn	Pn	08 48 26.2	+2.2
BFSC	Mount Baldy Ra	8.28	135	P	Pn	08 48 23.9	-0.1
	baz=8.3						
SHPR	Sheep Range	8.40	114	ePn	Pn	08 48 28.8	+3.1
	3.3nm,1.0s						
HEC	Hector,Ludlow	8.62	127	P	Pn	08 48 29.5	+0.8
	baz=8.6						
BBRC	Big Bear Solar	8.67	132	⇓P	Pn	08 48 29.2	-0.2
	baz=8.7						
C09A	Chrisman Ranch	8.73	30	ePn	Pn	08 48 34.8	+4.8
A05A	Maple Falls	8.82	11	ePn	Pn	08 48 37.6	+6.4
B08A	Colville Reser	8.85	24	ePn	Pn	08 48 33.8	+2.1
BGU	Big Grassy Mou	8.86	83	ePn	Pn	08 48 34.3	+2.2
DUG	Dugway, Tooele	9.06	87	ePn	Pn	08 48 35.7	+1.0
HVU	Hansel Valley	9.09	77	ePn	Pn	08 48 37.7	+2.6
LDFC	Landfair	9.23	122	ePn	Pn	08 48 40.5	+3.5
CCUT	Cedar City	9.24	104	ePn	Pn	08 48 40.4	+3.1
SPUT	South Promonto	9.31	80	ePn	Pn	08 48 40.3	+2.2
	8.6nm,0.8s						
BELC	Belle Mtn. Jos	9.39	130	⇓P	Pn	08 48 39.3	+0.1
	baz=9.4						
PFO	Pinyon Flats O	9.41	133	Pn	Pn	08 48 39.9	+0.3
	2.6nm,0.3s,baz=318,slow=9.5,SNR=26						
PFO				LR	LR	08 52 30.9	
	comp=Z,283nm,19.5s,baz=294,slow=40						
PFO	Pinyon Flats O	9.41	133	⇓P	Pn	08 48 39.6	0.0
	baz=9.4						
PFO	Pinyon Flats O	9.41	133	ePn	Pn	08 48 40.0	+0.5
NEW	Newport	9.56	32	Pn	Pn	08 48 42.6	+1.2
	1.2nm,0.3s,baz=225,slow=13,SNR=16						
NEW				LR	LR	08 52 32.2	
	comp=Z,347nm,18.4s,baz=220,slow=39						
NEW	Newport	9.56	32	ePn	Pn	08 48 43.5	+2.1
NLU	North Lily Min	9.65	88	ePn	Pn	08 48 43.4	+0.6
	4.5nm,0.8s						
MCMT	McKenzie Canyo	9.78	59	ePn	Pn	08 48 47.1	+2.4
	4.8nm,0.7s						
BC3	Big Chuckawall	9.95	129	⇑P	Pn	08 48 46.6	-0.4
	baz=9.9						
MONP	Monument Peak,	9.98

46nm,0.8s
LPIG La Paz 20.22 139 LR LR 08 59 05.6
comp=Z,221nm,19.6s,baz=330,slow=38
TXAR Lajitas Array 20.40 116 LR LR 08 59 30.3
comp=Z,88nm,18.0s,baz=0.0,slow=39
FFC Flin Flon 20.86 39 *e*P **P 08 51 04.6 -0.9**
14nm,0.6s
KSU1 Kansas State U 21.58 84 *e*P **P 08 51 16.3 +2.9**
53nm,0.9s
V34A Guthrie 21.80 93 *e*Pn P 08 51 21.1 +5.3
AGMN Agassiz Nation 21.98 59 *e*P **P 08 51 16.0 -1.5**
26nm,0.6s
ULM Lac du Bonnet 22.40 54 P **P 08 51 19.2 -2.8**
5.1nm,0.5s,baz=256,slow=8.4,SNR=11
ULM LR LR 09 01 04.2
comp=Z,286nm,18.8s,baz=264,slow=40
ULM Lac du Bonnet 22.40 54 *e*P **P 08 51 19.6 -2.4**
YKA Yellowknife Ar 22.97 12 P **P 08 51 29.0 +1.0**
1.2nm,0.9s,baz=199,slow=10,SNR=14
SPMN Marine on St. 23.79 68 *e*P **P 08 51 33.5 -2.7**
JFWS Jewell Farm 25.74 73 *e*P **P 08 51 55.0 +0.8**
133nm,2.5s
FCC Fort Churchill 26.69 36 *e*P **P 08 52 05.1 +2.6**
ILAR Eielson Array 27.62 340 P **P 08 52 12.7 +1.8**
0.7nm,0.7s,baz=154,slow=8.8,SNR=8.1
ILAR LR LR 09 01 18.5
comp=Z,133nm,18.4s,baz=175,slow=32
INK Inuvik 28.41 353 P **P 08 52 18.4 +0.6**
2.0nm,1.1s,baz=133,slow=6.7,SNR=3.3
INK LR LR 09 03 43.4
comp=Z,122nm,19.1s,baz=148,slow=37
NCB Newcomb 37.09 67 *e*P **P 08 53 33.0 -1.0**
SCHQ Schefferville 40.40 49 P **P 08 54 01.9 +0.4**
2.9nm,0.6s,baz=274,slow=8.5,SNR=6.7
SCHQ LR LR 09 11 01.1
comp=Z,150nm,18.8s,baz=318,slow=37
FX1 Attu Island--F 43.17 308 LR LR 09 11 20.7
comp=Z,29nm,18.1s,baz=92,slow=35
SEY Seymchan 51.93 325 P **P 08 55 33.8 +1.6**
0.5nm,0.3s,baz=76,slow=19,SNR=3.2
PETK Petropavlovsk- 52.16 312 P **P 08 55 36.5 +2.5**
1.7nm,0.8s,baz=73,slow=16,SNR=3.3
H11N3 WAKE ISLAND Hy 61.24 272 T T 10 03 21.7
baz=53,slow=75,SNR=767
H11N2 WAKE ISLAND Hy 61.25 272 T T 10 03 16.8
baz=53,slow=75,SNR=614
H11N1 WAKE ISLAND Hy 61.26 272 T T 10 03 20.6
baz=53,slow=75,SNR=700
H11S1 WAKE ISLAND Hy 62.11 271 T T 10 04 22.9
baz=54,slow=75,SNR=1430
H11S2 WAKE ISLAND Hy 62.12 271 T T 10 04 22.9
baz=54,slow=75,SNR=842
H11S3 WAKE ISLAND Hy 62.13 271 T T 10 04 22.9
baz=54,slow=75,SNR=638
ARCES ARCESS Array B 68.23 11 LR LR 09 27 30.1
comp=Z,55nm,18.1s,baz=332,slow=36
MDJ Mudanjiang 72.33 314 P **P 08 57 48.0 -1.3**
MDJ PMZ
6.0nm,1.7s
MDJ PMZ
130nm,4.7s
NOA NORSAR Array B 72.74 21 P **P 08 57 52.0 +0.4**
0.8nm,0.8s,baz=325,slow=6.0,SNR=3.9
NOA LR LR 09 30 19.2
comp=Z,50nm,18.7s,baz=305,slow=36
FINES FINESS Array B 75.79 14 P **P 08 58 09.3 +0.1**
1.3nm,0.8s,baz=344,slow=8.7,SNR=2.9
FINES LR LR 09 33 02.0
comp=Z,65nm,19.0s,baz=268,slow=37
LPAZ La Paz 77.01 125 P **P 08 58 17.2 -0.3**
1.2nm,0.8s,baz=347,slow=4.9,SNR=3.9
SONM Songino Array 81.18 328 P **P 08 58 41.8 +2.4**
0.2nm,0.4s,baz=44,slow=6.2,SNR=3.7
SONM LR LR 09 34 24.4
comp=Z,77nm,19.1s,baz=68,slow=36
BJI Beijing 82.67 317 P **P 08 58 46.3 -0.8**
BJI PMZ
7.0nm,1.2s
ZALV Zalesovo Beam 82.69 343 P **P 08 58 49.2 +2.2**
0.2nm,0.4s,baz=23,slow=4.6,SNR=2.3
ESDC Sonseca Array 83.73 42 LR LR 09 36 17.7
comp=Z,41nm,18.2s,baz=325,slow=36
GERES GERESS Array B 83.85 26 LR LR 09 39 39.2
comp=Z,54nm,18.2s,baz=293,slow=38
DAVOX Davos/Dischmat 84.24 29 LR LR 09 35 38.2
comp=Z,53nm,18.4s,baz=260,slow=35
HHC Hu-ho-hao-te 84.36 321 *e*P **P 08 58 54.9 -1.1**
HHC pP **PcP 08 58 59.6 -0.1**
HHC sP **sP 08 59 01.9 -1.0**
HHC PP **PP 09 02 11.1 +0.9**
HHC SKS **SKSac 09 09 13.9 -5.4**
HHC S **S 09 09 16.8 -4.7**
HHC sS **SKKSac 09 09 25.2 +0.4**
HHC PMZ
16nm,0.7s
HHC PMZ
200nm,6.1s
HHC LN
180nm,15.8s
HHC LE
160nm,17.7s
HHC LZ
99nm,16.0s
VRAC Vranov 84.39 24 LR LR 09 37 00.4
comp=Z,69nm,18.2s,baz=328,slow=36
AKASG Malin Array Be 86.46 16 LR LR 09 38 58.3
comp=Z,63nm,18.7s,baz=320,slow=36
KURK Kurchatov 87.03 345 P **P 08 59 08.8 -0.1**
KURBB Kurchatov Arra 87.13 345 P **P 08 59 08.8 -0.6**
1.1nm,0.7s,baz=18,slow=4.9
AKTO Aktyubinsk 89.54 358 LR LR 09 43 47.9
comp=Z,38nm,19.5s,baz=342,slow=38
MKAR Makanchi Array 89.95 342 P **P 08 59 24.0 +1.1**
0.1nm,0.5s,baz=5.3,slow=3.8,SNR=3.0
WMQ Urumqi 91.26 337 *e*P **P 08 59 29.9 +0.8**
WMQ pP **pP 08 59 33.8 -0.4**
WMQ PMZ
4.0nm,1.0s
WMQ PMZ
88nm,7.0s
LZH Lanzhou 91.81 323 *e*P **P 08 59 32.5 +0.6**
LZH pP **pP 08 59 36.4 -0.6**
LZH sP **sP 08 59 38.6 -0.2**
LZH *e*PP **PP 09 03 12.7 +2.6**
LZH PMZ
15nm,1.6s
LZH PMZ
67nm,9.2s
LZH LN
190nm,17.5s
LZH LE
200nm,17.8s
LZH LZ
280nm,19.2s
BRTR Keskin Array B 97.86 17 LR LR 09 46 35.1
comp=Z,52nm,19.9s,baz=280,slow=37
KSH Kashi 98.29 344 *e*P Pdif 09 00 02.9 +1.5

KRSC 06 08:52:11.6±2.1, 49°.80N×156°.96E, h48km±26km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.03**	**329**	*i* P		Pn	08 52 29.8 +0.1
SKR				*e*S		Sn	08 52 42.2 -0.8
PAU	**Pauzhetka**	**1.67**	**357**	*e*P		Pn	08 52 40.5 +2.2
PAU				*e*S		Sn	08 53 01.5 +3.0
MIPR	**Malaya Ipel'ka**	**2.48**	**357**	P		Pn	08 52 52.3 +2.8
MTVR	**Mutnovka**	**2.79**	**16**	P		Pn	08 52 56.9 +3.0
MTVR				*e*S		Sn	08 53 30.4 +3.9
RUS	**Russkaya**	**2.81**	**20**	*e*P		Pn	08 52 56.8 +2.9
UGLR	**Uglovaya**	**3.60**	**18**	P		Pn	08 53 08.5 +3.5
AVH	**Avacha**	**3.64**	**17**	P		Pn	08 53 09.6 +4.1
KOK	**Koryaka**	**3.65**	**16**	P		Pn	08 53 10.5 +4.9
SMAR	**Somma**	**3.65**	**18**	P		Pn	08 53 10.0 +4.2
KRER	**Koryakskii**	**3.68**	**17**	P		Pn	08 53 10.4 +4.2
SDLR	**Sedlovina**	**3.68**	**18**	*e*P		Pn	08 53 09.4 +3.3
KRX	**Arik**	**3.71**	**16**	P		Pn	08 53 10.7 +4.1
GNL	**Ganaly**	**3.94**	**8**	P		Pn	08 53 13.5 +3.8
MKZ	**Mys Kozlova**	**5.59**	**30**	P		Pn	08 53 35.1 +3.1

GUC 06 08:54:03.6±0.6, 34°.48S×71°.96W, h15km±6km, ML3.6, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.69**	**41**	⇑*i*P		Pg	08 54 16.1 -1.0
LNV				*i* S1		Sg	08 54 25.9 -0.4
NICH	**Los Niches**	**0.80**	**131**	⇑*i*P		Pg	08 54 17.6 -1.5
NICH				*i* S		Sg	08 54 29.1 -0.5
CACH	**El Canelo**	**1.18**	**73**	⇓*i*P		Pn	08 54 24.7 -1.0
CACH				*i* S1		Sg	08 54 41.1 -1.0
CHCH	**Chadas Angostu**	**1.21**	**64**	⇓*i*P		Pn	08 54 24.7 -1.4
LNCH	**Linares**	**1.40**	**168**	⇓*i*P		Pn	08 54 27.6 -0.9
LNCH				*i* S1		Sn	08 54 45.8 -1.0
ANTU	**Antumapu**	**1.42**	**51**	⇓*i*P		Pn	08 54 28.7 -0.3
ANTU				AML	AML	08 54 52.7
	comp=E,1μm,0.4s						
CLCH	**Cerro Calan**	**1.60**	**48**	⇑*i*P		Pn	08 54 31.1 -0.3
CLCH				*i* S1		Sn	08 54 51.5 -0.4
CLCH				AML	AML	08 55 05.7
	comp=N,1μm,1.1s						
CLCH				AML	AML	08 55 06.4
	comp=N,1μm,0.9s						
PEL	**Peldehue**	**1.70**	**39**	⇓*i*P		Pn	08 54 32.5 -0.3
PEL				*i* S1		Sn	08 54 54.4 0.0
PEL				AML	AML	08 55 02.3
	comp=N,1μm,0.6s						
FCH	**Farellones**	**1.80**	**51**	AML	AML	08 55 07.3
	comp=N,2μm,0.2s						

*IDC **06** 09:01:14.8±0.9, 33°.21S×71°.99W, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.9/28, mbtmp3.9/7, ML3.8/2, MS3.4/3, Ms1 3.4/3, ms1mx3.0/26, Error ellipse: s-maj=32.5km s-min=20.8km az=106.0*
*ISCJB **06** 09:01:16.2±1.3, 33°.28S±0°.08×72°.47W±0°.06, h21km±9km, mb4.0/8, MS3.3/2, Error ellipse: s-maj=14.1km s-min=7.1km az=16.3*
*GUC **06** 09:01:17.4±0.7, 33°.32S×72°.31W, h29km±7km, ML4.2*
*NEIC **06** 09:01:20.1±0.6, 33°.20S×71°.87W, h35km, mb4.4/3, Error ellipse: s-maj=18.6km s-min=13.7km az=110.0*
ISC 06 09:01:15.8±2.0, 33°.19S±0°.07×72°.33W±0°.07, h9km±11km, n26, σ0s96/31, mb4.2/8, 4C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.60**	**74**	⇑*i*P		**Pn**	**09 01 30.3 -0.3**
IHA				*i* S1		**Sn**	**09 01 39.6 -0.9**
LNV	**Longovilo**	**1.08**	**135**	⇓*i*P		**Pg**	**09 01 36.1 -0.5**
LNV				*i* S1		**Sg**	**09 01 49.8 -0.9**
PEL	**Peldehue**	**1.38**	**88**	⇓*i*P		**Pg**	**09 01 42.0 -0.3**
PEL				*i* S		**Sg**	**09 02 01.3 +1.0**
PEL				AML	AML	09 02 04.2
	comp=N,13μm,0.5s						
STL	**Santa Lucia**	**1.44**	**100**	⇑*i*P		**Pn**	**09 01 42.0 -0.1**
STL				*i* S		**Sb**	**09 02 01.3 +0.1**
ANTU	**Antumapu**	**1.47**	**105**	⇓*i*P		**Pb**	**09 01 43.6 +0.2**
ANTU				*i* S		**Sn**	**09 02 02.4 +0.5**
ANTU				AML	AML	09 02 09.6
	comp=N,4μm,0.5s						
CLCH	**Cerro Calan**	**1.52**	**98**	⇑*i*P		**Pb**	**09 01 43.9 -0.3**
CLCH				*i* S		**Sg**	**09 02 04.7 0.0**
CLCH				AML	AML	09 02 15.1
	comp=E,6μm,0.9s						
LACH	**Col Las Americ**	**1.53**	**100**	⇓*i*P		**Pn**	**09 01 43.9 +0.5**
LACH				*i* S		**Sb**	**09 02 04.5 +0.6**
FSR	**Penalolen**	**1.54**	**101**	*e*P9		**Pg**	**09 01 45.6 +0.2**
FSR				*i* S		**Sg**	**09 02 06.0 +0.7**
CACH	**El Canelo**	**1.71**	**123**	⇑*i*P		**Pn**	**09 01 46.9 +0.9**
NICH	**Los Niches**	**2.02**	**153**	*e*P1		**Pn**	**09 01 50.3 +0.1**
CFAA	**Coronel Fontan**	**3.81**	**67**	Pn		Pn	09 02 09.6 -5.2
	comp=E,0.2nm,0.3s,baz=234,slow=9.8,SNR=9.9						
CPUP	**Villa Florida**	**14.71**	**66**	LR		LR	09 11 19.5
	comp=E,104nm,18.2s,baz=220,slow=42						
LPAZ	**La Paz**	**17.25**	**14**	P		**P**	**09 05 19.2 -0.1**
	comp=E,0.2nm,0.3s,baz=168,slow=9.5,SNR=7.3						
SIV	**San Ignacio**	**19.93**	**33**	P		**P**	**09 05 47.3 -0.7**
	comp=E,0.2nm,0.3s,baz=241,slow=12,SNR=13						
NNA	**Nana**	**21.51**	**348**	LR		LR	09 12 42.0
	comp=E,55nm,20.3s,baz=159,slow=32						
SAML	**Samuel**	**25.56**	**21**	*e*P		**P**	**09 06 48.4 +3.2**
	comp=E,6.7nm,1.2s						
BDFB	**Brasilia**	**28.09**	**57**	P		**P**	**09 07 06.7 -1.5**
	comp=E,1.4nm,0.5s,baz=187,slow=12,SNR=3.7						
BDFB				LR		LR	09 19 24.9
	comp=E,192nm,19.8s,baz=230,slow=39						
SNAA	**Sanae**	**52.42**	**158**	P		**P**	**09 10 28.3 0.0**
	comp=E,1.1nm,0.8s,baz=300,slow=14,SNR=4.2						
QSPA	**South Pole Qui**	**57.04**	**180**	P		**P**	**09 11 02.5 +0.6**
	comp=E,1.9nm,0.9s,baz=240,slow=1.2,SNR=6.4						
JCT	**Junction City**	**68.45**	**335**	*e*P		**P**	**09 12 19.5 +1.2**
	comp=E,1.1nm,0.3s						
TXAR	**Lajitas Array**	**68.91**	**331**	P		**P**	**09 12 22.7 +1.5**
	comp=E,0.4nm,0.9s,baz=160,slow=11,SNR=3.1						
WMOK	**Wichita Mounta**	**71.99**	**337**	*e*P		**P**	**09 12 39.5 -0.3**
	comp=E,10nm,2.0s						
TORD	**Torodi Ar. Bea**	**84.17**	**70**	P		**P**	**09 13 46.8 -1.1**
	comp=E,1.6nm,0.9s,baz=257,slow=4.3,SNR=6.8						
WRA	**Warramunga Arr**	**121.34**	**210**	PKP		**PKPdf**	**09 20 09.7 -0.4**
	comp=E,0.7nm,1.2s,baz=174,slow=1.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**153.67**	**31**	PKPbc		**PKPbc**	**09 21 13.6 -1.0**
	comp=E,0.5nm,0.5s,baz=351,slow=1.9,SNR=3.2						
MKAR	**Makanchi Array**	**156.41**	**47**	PKPab		**PKPab**	**09 21 39.7 +0.4**
	comp=E,0.4nm,0.9s,baz=258,slow=3.5,SNR=4.0						

*NNC **06** 09:03:28.9±6.0, 54°.39N×86°.95E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=49.8km s-min=38.3km az=178.0*
*IDC **06** 09:03:31.0±2.3, 54°.44N×86°.47E, h0km, mb1 3.3/3, mb1mx3.1/35, mbtmp3.3/3, ML3.2/3, Error ellipse: s-maj=19.2km s-min=12.2km az=53.0*
ISC 06 09:03:30.5±4.3, 54°.7N±0°.2×86°.8E±0°.2, h35km, n8, σ1s67/12, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**238**	*i*		09 10 20.0	
	baz=57,slow=339,SNR=3.8						
ZALV	**Zalesovo Beam**	**1.38**	**238**	Pg		Pn	09 03 50.0 -3.2
	5.2nm,0.3s,baz=67,slow=8.0,SNR=50						
ZALV				Lg		Lg	09 04 06.4
	3.9nm,0.3s,baz=65,slow=27,SNR=13						
KURK	**Kurchatov**	**6.37**	**235**	⇑Pn		**Pn**	**09 05 02.4 +0.7**
	0.5nm,0.4s						
KURK				⇑Sn		**Sn**	**09 06 14.2 +1.0**
	0.4nm,0.5s						
KURK				⇑Lg		Lg	09 06 50.1
	1.9nm,0.6s						
KURBB	**Kurchatov Arra**	**6.47**	**234**	⇑Pn		**Pn**	**09 05 03.8 +0.6**
	1.9nm,0.3s						
KURBB				⇓Sn		**Sn**	**09 06 17.9 +2.2**
	5.3nm,0.5s						
KURBB				⇑Lg		Lg	09 06 55.1
	6.4nm,0.6s						
KURBB	**Kurchatov Arra**	**6.47**	**234**	Pn		**Pn**	**09 05 03.4 +0.2**
	0.4nm,0.3s,baz=52,slow=14,SNR=26						
KURBB				Sn		**Sn**	**09 06 15.2 -0.5**
	0.1nm,0.3s,baz=45,slow=22,SNR=5.0						
KURBB				Lg		Lg	09 06 48.5
	0.0nm,0.3s,baz=63,slow=28,SNR=3.5						
MK31	**Makanchi Array**	**8.41**	**202**	⇑Pn		**Pn**	**09 05 30.5 +0.7**
	0.1nm,0.3s,baz=24,slow=13,SNR=19						
MK31				⇓Sn		**Sn**	**09 07 03.2 -0.1**
	0.4nm,0.5s,baz=24,slow=26,SNR=6.9						
MK31				⇑Lg		Lg	09 07 52.2
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**8.41**	**202**	Pn		**Pn**	**09 05 30.1 +0.4**
	0.3nm,0.3s,baz=23,slow=12,SNR=21						
MKAR				Sn		**Sn**	**09 07 01.7 -1.6**
	0.2nm,0.3s,baz=24,slow=25,SNR=9.5						
BVAR	**Borovoye Array**	**9.85**	**267**	Pn		**Pn**	**09 05 51.4 +2.1**
	0.3nm,0.3s,baz=77,slow=15,SNR=4.2						
BVAR				Sn		**Sn**	**09 07 35.3 -3.3**
	0.2nm,0.3s,baz=72,slow=23,SNR=3.8						

*IDC **06** 09:03:27.4±1.2, 36°.21S×73°.49W, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/19, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=46.9km s-min=17.5km az=81.0*
*ISCJB **06** 09:03:30.5±1.1, 36°.2S±0°.1×73°.5W±0°.4, h33km, mb3.9/4, Error ellipse: s-maj=42.0km s-min=14.0km az=175.0*
ISC 06 09:03:32.4±1.2, 36°.2S±0°.1×73°.3W±0°.3, h35km, n6, σ0s20/5, mb4.0/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**5.05**	**155**	Pn		**Pn**	**09 04 45.8 +0.1**
	0.7nm,0.3s,baz=333,slow=12,SNR=8.5						
PLCA				Lg		Lg	09 06 08.4
	1.3nm,0.3s,baz=270,slow=19,SNR=2.4						
LPAZ	**La Paz**	**20.33**	**14**	P		Pn	09 08 08.0 -0.7
	1.3nm,0.7s,baz=173,slow=8.4,SNR=4.0						
SIV	**San Ignacio**	**22.87**	**32**	P		**P**	**09 08 33.0 0.0**
	3.0nm,0.9s,baz=227,slow=13,SNR=4.1						
SNAA	**Sanae**	**49.99**	**157**	P		**P**	**09 12 22.5 -0.2**
	2.4nm,0.9s,baz=260,slow=6.1,SNR=6.8						
QSPA	**South Pole Qui**	**54.07**	**180**	P		**P**	**09 12 53.4 +0.1**
	2.6nm,1.0s,baz=159,slow=3.7,SNR=3.0						
TXAR	**Lajitas Array**	**71.13**	**332**	P		**P**	**09 14 47.4 0.0**
	0.3nm,0.6s,baz=150,slow=7.7,SNR=3.9						

*IDC **06** 09:18:28.4±0.9, 5°.77S×103°.67E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.2/27, mbtmp4.3/15, Error ellipse: s-maj=36.3km s-min=15.3km az=47.0*
*NEIC **06** 09:18:33.1±0.8, 5°.95S×103°.66E, h35km, mb4.5/4, Error ellipse: s-maj=29.0km s-min=8.2km az=225.0*
*ISCJB **06** 09:18:36.3±1.0, 5°.72S±0°.08×103°.88E±0°.09, h77km±6km, mb4.2/18, Error ellipse: s-maj=19.3km s-min=7.2km az=139.5*
*DJA **06** 09:18:37.5±0.8, 6°.S±4°.×10°.4E±°, h26km±6km, M4.3/10, MLv4.3/10*
ISC 06 09:18:35.0±1.7, 5°.83S±0°.09×103°.72E±0°.10, h48km±14km, n38, σ1s17/42, mb4.3/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.84**	**69**	P		**Pn**	**09 18 50.5 0.0**
KASI				S		**Sn**	**09 18 59.1 -2.7**
LWLI	**Liwa**	**0.88**	**23**	P		**Pn**	**09 18 51.8 +0.6**
LWLI				S		**Sn**	**09 19 02.8 -0.2**
MDSI	**Maura Dua**	**1.42**	**19**	P		**Pn**	**09 18 58.7 +0.4**
MDSI				S		**Sn**	**09 19 16.1 +0.3**
KLSI		**1.52**	**42**	P		**Pn**	**09 19 00.4 +0.6**
BLSI	**Bandar Lampung**	**1.59**	**73**	P		**Pn**	**09 19 02.1 +1.3**
MNAI	**Manna**	**1.65**	**333**	P		Pn	09 19 04.3 +2.8
MNAI	**Manna**	**1.65**	**333**	*e*Pn		**Pn**	**09 19 04.0 +2.4**
MNAI				*e*Sn		**Sn**	**09 19 18.4 -3.1**
LHSI	**Lahat**	**2.00**	**355**	P		**Pn**	**09 19 08.8 +2.4**
CGJI	**Cibinong**	**2.11**	**112**	P		**Pn**	**09 19 09.2 +1.3**
MASI	**Maura Aman, Be**	**3.05**	**331**	P		Pn	09 19 25.3 +4.5
CNJI	**Cibinong**	**3.70**	**114**	P		**Pn**	**09 19 30.6 +1.0**
CISI	**Cisompet, Garu**	**4.42**	**113**	P		**Pn**	**09 19 41.2 +1.6**
CISI	**Cisompet, Garu**	**4.42**	**113**	*e*Pn		**Pn**	**09 19 37.2 -2.4**
IPM	**Ipoh**	**10.59**	**345**	*e*Pn		**Pn**	**09 21 04.5 +0.3**
BATI	**Baumata**	**20.22**	**104**	P		**P**	**09 23 07.2 +1.0**
	30nm,0.6s,baz=293,slow=5.5,SNR=5.1						
CMAR	**Chiang Mai Arr**	**24.59**	**349**	P		**P**	**09 23 49.8 -1.0**
	3.7nm,0.6s,baz=181,slow=8.7,SNR=20						
H08S2	**Diego Garcia H**	**31.05**	**265**	T		T	09 57 01.0
	baz=90,slow=76						
H08S3	**Diego Garcia H**	**31.06**	**265**	T		T	09 57 01.3
	baz=90						
H08S1	**Diego Carcia H**	**31.07**	**265**	T		T	09 57 06.8
	baz=90,slow=76						
WRA	**Warramunga Arr**	**32.90**	**118**	P		**P**	**09 25 04.5 -0.4**
	1.2nm,0.7s,baz=291,slow=10,SNR=12						
WRA				PcP		**PcP**	**09 27 49.3 +0.5**
	0.4nm,0.9s,baz=304,slow=2.1,SNR=4.6						
WRAB	**Tennant Creek**	**32.90**	**118**	*e*P		**P**	**09 25 04.3 -0.7**
	1.5nm,0.7s						
ASAR	**Alice Springs**	**34.03**	**125**	P		**P**	**09 25 15.2 +0.4**
	0.9nm,0.8s,baz=299,slow=7.5,SNR=10						
ASAR				PcP		**PcP**	**09 27 52.5 +0.6**
	0.7nm,0.8s,baz=317,slow=2.6,SNR=5.4						
KSAR	**Wonju Array Be**	**48.60**	**26**	P		**P**	**09 27 14.1 +0.2**
KSRS	**Korea Array**	**48.62**	**26**	P		**P**	**09 27 14.1 0.0**
	2.4nm,0.6s,baz=221,slow=7.9,SNR=8.8						
SONM	**Songino Array**	**53.49**	**2**	P		**P**	**09 27 49.9 -0.7**
	1.8nm,0.7s,baz=177,slow=9.1,SNR=14						
SONM				PcP		**PcP**	**09 28 56.5 -0.6**
	0.8nm,0.6s,baz=192,slow=3.5,SNR=4.3						
TKM2	**Tokmak 2**	**54.83**	**335**	*e*P		**P**	**09 28 00.5 0.0**
	2.9nm,0.5s						
EKS2	**Erkin-Say**	**55.40**	**333**	*e*P		**P**	**09 28 04.2 -0.5**
	3.2nm,0.7s						
MKAR	**Makanchi Array**	**55.74**	**342**	P		**P**	**09 28 06.4 -0.4**
	4.4nm,0.5s,baz=149,slow=8.2,SNR=52						
USRK	**Ussuriysk Ar.**	**55.94**	**24**	P		**P**	**09 28 07.8 -0.5**
	4.3nm,0.8s,baz=217,slow=6.1,SNR=8.1						
KURBB	**Kurchatov Arra**	**60.29**	**342**	P		**P**	**09 28 38.1 -0.4**
	3.2nm,0.7s,baz=158,slow=6.2,SNR=26						
KURBB				PcP		**PcP**	**09 29 24.6 +1.2**
	0.4nm,0.5s,baz=164,slow=3.7,SNR=4.3						
KURK	**Kurchatov**	**60.34**	**342**	P		**P**	**09 28 38.1 -0.7**
KURK				PcP		**PcP**	**09 29 24.6 +1.0**
ZALV	**Zalesovo Beam**	**61.64**	**347**	P		**P**	**09 28 47.0 -0.6**
	5.1nm,0.6s,baz=153,slow=4.3,SNR=29						
BVAR	**Borovoye Array**	**65.06**	**339**	P		**P**	**09 29 09.8 -0.5**
	2.3nm,0.6s,baz=144,slow=9.3,SNR=16						
ABKAR	**Akbulak array**	**66.77**	**330**	*e*P		**P**	**09 29 21.6 +0.3**
	5.7nm,0.8s						
AKTO	**Aktyubinsk**	**68.48**	**331**	P		**P**	**09 29 32.0 -0.2**
	1.8nm,0.8s,baz=145,slow=12,SNR=6.1						
KBZ	**Khabaz**	**73.61**	**319**	P		**P**	**09 30 04.0 +0.7**
	1.8nm,0.8s,baz=169,slow=9.0,SNR=4.0						
BRTR	**Keskin Array B**	**78.62**	**312**	P		**P**	**09 30 32.5 +0.4**
	1.3nm,0.8s,baz=119,slow=10,SNR=7.8						
FINES	**FINESS Array B**	**89.21**	**332**	P		**P**	**09 31 24.9 -0.5**
	0.7nm,0.6s,baz=123,slow=7.0,SNR=7.0						

*IDC **06** 09:25:17.8±1.2, 2°.50N×127°.38E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/41, mbtmp3.9/6, Error ellipse: s-maj=110.0km s-min=13.4km az=69.0*
*ISCJB **06** 09:25:24.6±0.8, 2°.73N±0°.06×127°.2E±0°.1, h53km, mb3.9/6, Error ellipse: s-maj=16.6km s-min=5.9km az=154.8*
*DJA **06** 09:25:27.0±1.0, 3°.N±5°.×12°.7E±°, h15km±8km, M4.2/7, mb4.2/2, MLv4.1/7*
ISC 06 09:25:26.3±1.0, 2°.65N±0°.08×127°.1E±0°.1, h53km, n11, σ1s45/14, mb3.9/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.88**	**173**	P		**Pn**	**09 25 56.0 -0.1**
TNTI				S		**Sn**	**09 26 20.1 +1.4**
SGSI	**Sangihe**	**1.90**	**303**	P		**Pn**	**09 25 56.9 +0.6**
SGSI				S		**Sn**	**09 26 19.6 +0.5**
LBMI	**Labuha**	**3.29**	**173**	P		**Pn**	**09 26 16.4 +1.0**
LBMI				S		**Sn**	**09 26 55.2 +2.0**
GTOI	**Gorontalo**	**4.58**	**244**	P		**Pn**	**09 26 32.6 -0.4**
SWI	**Sorong**	**5.41**	**130**	P		Pn	09 26 48.4 +4.0
	20nm,0.9s,0.1nm						
WRA	**Warramunga Arr**	**23.54**	**163**	P		**P**	**09 30 29.1 -2.9**
	3.4nm,0.4s,baz=344,slow=11,SNR=122						
WRA				S		**S**	**09 34 41.0 -1.4**
	0.5nm,0.8s,baz=336,slow=22,SNR=4.4						
ASAR	**Alice Springs**	**26.98**	**166**	P		**P**	**09 31 01.4 -1.8**
	1.4nm,0.5s,baz=352,slow=7.8,SNR=38						
SONM	**Songino Array**	**48.44**	**341**	P		**P**	**09 34 03.1 -0.4**
	0.2nm,0.4s,baz=134,slow=8.3,SNR=2.4						
MKAR	**Makanchi Array**	**58.66**	**325**	P		**P**	**09 35 18.3 0.0**
	0.5nm,0.4s

COCH					*i* S		**Sn**	**09 26 55.6**	**+1.3**
LNCH	**Linares**	**1.28**	**99**	⇑	*i* P		**Pb**	**09 26 55.7**	**-0.3**
LNCH					*i* S4		**Sg**	**09 27 15.6**	**+1.9**
NICH	**Los Niches**	**1.71**	**68**	⇓	*i* P		**Pb**	**09 27 03.1**	**-0.2**
NICH					*e*S		**Sg**	**09 27 29.3**	**+2.0**
NICH					AML		AML	09 27 38.7	
	comp=E,39μm,0.6s								
LNV	**Longovilo**	**2.23**	**41**		*e*P1		**Pn**	**09 27 07.9**	**-0.6**
CACH	**El Canelo**	**2.61**	**54**		*e*P1		**Pn**	**09 27 14.7**	**+0.9**
CHCH	**Chadas Angostu**	**2.69**	**51**		*e*P1		**Pn**	**09 27 15.6**	**+0.8**
IHA	**Instituto Hidr**	**2.91**	**26**	⇑	*i* P		**Pn**	**09 27 16.4**	**-1.6**
ANTU	**Antumapu**	**2.95**	**46**		*e*P1		**Pn**	**09 27 18.4**	**0.0**
CLCH	**Cerro Calan**	**3.13**	**44**	⇑	*i* P		**Pn**	**09 27 20.9**	**-0.1**
CLCH					AML		AML	09 28 30.3	
	comp=N,8μm,0.7s								
PEL	**Peldehue**	**3.24**	**40**	⇓	*i* P		**Pn**	**09 27 22.4**	**-0.1**
PEL					*e*S		**Sn**	**09 28 03.1**	**+2.5**
PEL					AML		AML	09 28 28.1	
	comp=E,7μm,0.6s								
PLCA	**Paso Flores**	**5.46**	**159**		Pn		**Pn**	**09 27 53.1**	**+0.1**
	comp=E,5.4nm,0.3s,baz=323,slow=10,SNR=78								
PLCA					Lg		Lg	09 29 23.6	
	comp=E,6.1nm,0.3s,baz=75,slow=21,SNR=4.4								
CFAA	**Coronel Fontan**	**5.76**	**47**		Pn		**Pn**	**09 27 57.7**	**+0.6**
	comp=E,3.4nm,0.3s,baz=216,slow=12,SNR=161								
CFAA					Lg		Lg	09 29 30.4	
	comp=E,0.6nm,0.3s,baz=108,slow=22,SNR=4.6								
TRQA	**Tornquist**	**9.27**	**108**		*e*Pn		**Pn**	**09 28 45.9**	**+0.7**
LVC	**Limon Verde**	**13.52**	**17**		*e*Pn		**Pn**	**09 29 43.2**	**-0.4**
CPUP	**Villa Florida**	**16.43**	**60**		Pn		**Pn**	**09 30 18.5**	**-3.7**
	comp=E,0.8nm,0.3s,baz=223,slow=11,SNR=4.4								
CPUP					LR		LR	09 36 23.3	
	comp=E,392nm,19.0s,baz=220,slow=36								
CPUP	**Villa Florida**	**16.43**	**60**		*e*Pn		**Pn**	**09 30 21.3**	**-0.9**
EFI	**East Falkland**	**19.31**	**151**		*e*P		**P**	**09 30 56.7**	**+0.3**
	comp=E,38nm,0.8s								
USHA	**Ushuaia**	**19.45**	**172**		P		**Pn**	**09 30 58.8**	**-0.3**
	comp=E,0.5nm,0.3s,baz=334,slow=5.9,SNR=12								
USHA					LR		LR	09 38 16.5	
	comp=E,772nm,18.9s,baz=328,slow=36								
LPAZ	**La Paz**	**19.81**	**14**		P		**P**	**09 31 03.0**	**+0.3**
	comp=E,0.3nm,0.3s,baz=173,slow=7.8,SNR=19								
SIV	**San Ignacio**	**22.37**	**32**		P		**P**	**09 31 29.3**	**-0.4**
	comp=E,11nm,0.8s,baz=227,slow=12,SNR=24								
SIV					LR		LR	09 42 05.4	
	comp=E,1μm,18.8s,baz=226,slow=42								
NNA	**Nana**	**23.81**	**351**		LR		LR	09 39 05.0	
	comp=E,148nm,18.7s,baz=178,slow=32								
NNA	**Nana**	**23.81**	**351**		P		**P**	**09 31 46.6**	**+2.2**
	comp=E,36nm,1.5s								
SAML	**Samuel**	**28.11**	**21**		*e*P		**P**	**09 32 22.2**	**-1.2**
	comp=E,13nm,1.4s								
BDFB	**Brasilia**	**30.03**	**55**		P		**P**	**09 32 39.3**	**-1.3**
	comp=E,11nm,0.9s,baz=226,slow=6.9,SNR=11								
RPN	**Rapa Nui**	**31.89**	**275**		LR		LR	09 41 49.4	
	comp=E,363nm,18.4s,baz=118,slow=29								
OTAV	**Otavalo**	**36.06**	**351**		*e*P		**P**	**09 33 35.0**	**+1.4**
	comp=E,45nm,1.9s								
SDV	**Santo Domingo**	**44.37**	**4**		P		**P**	**09 34 41.0**	**-1.2**
	comp=E,9.4nm,0.8s								
RCBR	**Riachuelo**	**45.30**	**58**		LR		LR	09 55 05.3	
	comp=E,641nm,18.8s,baz=206,slow=38								
RCBR	**Riachuelo**	**45.30**	**58**		*e*P		**P**	**09 34 50.6**	**+1.1**
	comp=E,13nm,1.1s								
VNA3	**Neumayer Olymp**	**48.18**	**157**		P		**P**	**09 35 11.6**	**+0.3**
VNA2	**Neumayer--Watz**	**48.85**	**157**		P		**P**	**09 35 16.6**	**+0.2**
SNAA	**Sanae**	**50.40**	**157**		P		**P**	**09 35 28.6**	**+0.2**
SNAA	**Sanae**	**50.40**	**157**		P		**P**	**09 35 28.3**	**-0.1**
	comp=E,9.4nm,0.9s,baz=279,slow=6.6,SNR=19								
SNAA					LR		LR	09 56 42.5	
	comp=E,82nm,18.3s,baz=206,slow=36								
SNAA	**Sanae**	**50.40**	**157**		P		**P**	**09 35 28.3**	**-0.1**
	comp=E,1.3nm,1.0s								
QSPA	**South Pole Qui**	**54.58**	**180**		P		**P**	**09 35 59.3**	**-0.2**
	comp=E,13nm,0.9s,baz=139,slow=2.5,SNR=26								
QSPA	**South Pole Qui**	**54.58**	**180**		P		**P**	**09 35 59.3**	**-0.2**
	comp=E,9.2nm,0.8s								
SYO	**Syowa Base**	**64.66**	**158**	⇑	*e*P		**P**	**09 37 06.6**	**-2.1**
PPT2	**Papeete2**	**69.10**	**263**		*e*S		S	09 46 59.0	+16
	comp=E,76nm,22.0s								
PPT2	**Papeete2**	**69.10**	**263**		*e*LR		LR	09 58 29.8	
	comp=E,209nm,24.5s								
JCT	**Junction City**	**70.40**	**336**		*e*P		P	09 37 54.1	+8.7
	comp=E,10nm,1.1s								
TXAR	**Lajitas Array**	**70.75**	**332**		P		**P**	**09 37 46.8**	**-0.9**
	comp=E,0.4nm,0.6s,baz=152,slow=7.8,SNR=3.9								
SWET	**Sewanee**	**71.52**	**349**		*e*P		**P**	**09 37 52.0**	**-0.1**
	comp=E,11nm,0.9s								
ABTX	**Abilene, Hawle**	**72.33**	**337**		*e*P		**P**	**09 37 56.8**	**-0.2**
	comp=E,12nm,1.3s								
WVT	**Waverly**	**72.72**	**348**		*e*P		**P**	**09 38 00.1**	**+0.9**
	comp=E,8.5nm,0.7s								
PBMO	**Poplar Bluff**	**73.84**	**346**		*e*P		P	09 38 11.0	+5.2
	comp=E,114nm,2.8s								
WMOK	**Wichita Mounta**	**74.01**	**338**		*e*P		**P**	**09 38 05.4**	**-1.5**
	comp=E,0.7nm,0.5s								
TUL1	**Leonard**	**74.26**	**341**		*e*P		P	09 38 16.0	+7.7
WCI	**Wyandotte Cave**	**74.52**	**349**		*e*P		**P**	**09 38 11.4**	**+1.6**
	comp=E,96nm,2.6s								
ACSO	**Alum Creek Sta**	**76.06**	**352**		P		**P**	**09 38 17.4**	**-1.2**
	comp=E,14nm,0.8s								
LIC	**Lamto**	**76.17**	**72**		*e*P		**P**	**09 38 19.8**	**0.0**
	comp=E,51nm,1.1s								
TUC	**Tucson**	**76.27**	**328**		*e*P		P	09 38 28.4	+8.3
	comp=E,7.3nm,1.4s								
TIC	**Toumodi**	**76.44**	**72**		*e*P		**P**	**09 38 21.3**	**-0.1**
KIC	**Kosan Boka**	**76.47**	**72**		*e*P		**P**	**09 38 21.6**	**0.0**
	comp=E,59nm,1.0s								
DBIC	**Dimbokro**	**76.58**	**72**		P		**P**	**09 38 22.3**	**+0.1**
	comp=E,12nm,0.8s,baz=180,slow=6.0,SNR=8.2								
DBIC					LR		LR	10 11 16.8	
	comp=E,75nm,18.1s,baz=220,slow=35								
DBIC	**Dimbokro**	**76.58**	**72**		*e*P		**P**	**09 38 22.2**	**+0.1**
	comp=E,23nm,0.9s								
LAZ	**Ladron**	**76.59**	**332**		*e*P		**P**	**09 38 23.7**	**+1.7**
	comp=E,4.9nm,1.4s								
ANMO	**Albuquerque**	**76.81**	**332**		*e*P		P	09 38 28.4	+5.2
	comp=E,7.4nm,1.2s								
WUAZ	**Wupatki**	**79.27**	**329**		*e*P		P	09 38 45.4	+8.6
	comp=E,5.4nm,1.1s								
MVCO	**Mesa Verde**	**79.58**	**332**		*e*P		P	09 38 44.4	+5.8
	comp=E,5.8nm,1.0s								
BOSA	**Boshof**	**80.11**	**118**		P		**P**	**09 38 41.6**	**-0.1**
	comp=E,9.3nm,1.0s,baz=236,slow=4.8,SNR=9.5								
BOSA	**Boshof**	**80.11**	**118**		*e*P		**P**	**09 38 41.7**	**-0.1**
	comp=E,13nm,0.9s								
SMCO	**Snowmass**	**80.75**	**334**		*e*P		P	09 38 50.9	+5.8
CCUT	**Cedar City**	**81.83**	**329**		*e*P		**P**	**09 38 52.5**	**+1.8**
ECSD	**EROS Data Cent**	**81.86**	**343**		*e*P		**P**	**09 38 49.6**	**-0.7**
	comp=E,9.2nm,0.8s								
DUG	**Dugway, Tooele**	**83.85**	**331**		*e*P		P	09 39 05.4	+4.5
	comp=E,5.0nm,1.0s								
TPH	**Tonopah**	**83.95**	**326**		*e*P		**P**	**09 39 03.4**	**+1.8**
	comp=E,5.4nm,1.2s								
NVAR	**Mina Array Bea**	**84.73**	**326**		P		**P**	**09 39 06.1**	**+0.5**
	comp=E,0.2nm,0.3s,baz=155,slow=5.0,SNR=2.9								
PDAR	**Pinedale Array**	**84.84**	**334**		P		**P**	**09 39 06.6**	**+0.6**
	comp=E,0.3nm,0.8s,baz=163,slow=3.5,SNR=2.2								
TORD	**Torodi Ar. Bea**	**85.64**	**71**		P		**P**	**09 39 10.1**	**-0.2**
	comp=E,5.3nm,1.0s,baz=252,slow=4.9,SNR=14								
TORD					LR		LR	10 15 18.3	
	comp=E,82nm,20.0s,baz=290,slow=34								
MCMT	**McKenzie Canyo**	**87.82**	**333**		*e*P		**P**	**09 39 22.5**	**+1.9**
	comp=E,3.0nm,1.2s								
ULM	**Lac du Bonnet**	**87.87**	**346**		P		**P**	**09 39 18.7**	**-1.7**
	comp=E,1.1nm,0.5s,baz=113,slow=3.3,SNR=4.9								
WRA	**Warramunga Arr**	**118.86**	**210**		PKP		**PKPdf**	**09 45 16.4**	**-3.9**
	comp=E,0.3nm,0.6s,baz=171,slow=1.6,SNR=6.1								
ABKAR	**Akbulak array**	**143.42**	**53**		*e*PKPdf		PKPab	09 46 01.6	0.0
HYB	**Hyderabad**	**149.01**	**119**		*i* PKP		**PKPbc**	**09 46 18.0**	**-2.0**
BRVK	**Borovoye**	**149.04**	**44**		*e*PKPdf		**PKPdf**	**09 46 14.8**	**0.0**
BRVK					*e*PKPbc		**PKPbc**	**09 46 18.5**	**-0.4**
BRVK					*e*PKPab		**PKPab**	**09 46 22.9**	**-0.3**
YAK	**Yakutsk**	**149.96**	**339**		*e*PKPbc		**PKPbc**	**09 46 20.1**	**-0.8**
YAK					*e*PKPab		**PKPab**	**09 46 27.2**	**+0.6**
KKAR	**Karatay Array**	**151.12**	**64**		*e*PKPdf		**PKPdf**	**09 46 17.9**	**-0.6**
KKAR					*e*PKPbc		**PKPbc**	**09 46 24.0**	**-0.3**
AAK	**Ala-Archa**	**154.07**	**65**		*e*PKPdf		**PKPdf**	**09 46 22.6**	**-0.4**
AAK					*e*PKPbc		**PKPbc**	**09 46 30.6**	**-0.5**
KSH	**Kashi**	**155.30**	**72**		PKPbc		**PKPdf**	**09 46 26.1**	**+1.3**
KSH					sPKP			09 46 39.6	
KSH					PKS		**PKSdf**	**09 50 00.6**	**+1.7**
KSH					PP		**PP**	**09 50 25.7**	**-1.3**
KSH					SKS		**SKSdf**	**09 53 29.6**	**-0.9**
KSH					SKKS		**SKKSac**	**09 57 13.1**	**-2.6**
KSH					SS		**SS**	**10 10 07.4**	**-4.3**
KSH					PPMZ				
	comp=E,93nm,6.1s								
KSH					LN				
	comp=E,39nm,5.5s								
KSH					LE				
	comp=E,40nm,4.5s								
KSH					LZ				
	comp=E,120nm,5.0s								
ZALV	**Zalesovo Beam**	**156.12**	**33**		PKP		**PKPdf**	**09 46 23.2**	**-2.0**
	comp=E,1.8nm,0.8s,baz=266,slow=2.4,SNR=8.7								
ZALV					PKPab		**PKPab**	**09 46 52.7**	**-0.1**
	comp=E,3.8nm,0.7s,baz=310,slow=5.1,SNR=8.9								
MKAR	**Makanchi Array**	**158.53**	**51**		PKP		**PKPdf**	**09 46 27.4**	**-1.1**
	comp=E,0.9nm,0.9s,baz=162,slow=0.4,SNR=7.0								
MKAR					PKPab		**PKPab**	**09 47 02.8**	**-0.8**
	comp=E,1.7nm,0.8s,baz=308,slow=2.9,SNR=8.1								
CMAR	**Chiang Mai Arr**	**161.49**	**156**		PKP		**PKPdf**	**09 46 32.6**	**0.0**
	comp=E,0.5nm,0.3s,baz=246,slow=1.6,SNR=4.8								
WMQ	**Urumqi**	**163.19**	**55**		*e*PKP		**PKPdf**	**09 46 33.1**	**-0.6**
WMQ					pPKP		**pPKPdf**	**09 46 44.2**	**+4.6**
SONM	**Songino Array**	**167.83**	**1**		PKPab		**PKPab**	**09 47 43.7**	**-0.6**
	comp=E,0.3nm,0.5s,baz=316,slow=4.0,SNR=2.9								
NJ2	**Nanjing**	**169.39**	**254**		*e*PKP		**PKPdf**	**09 46 41.1**	**+2.3**
HHC	**Hu-ho-hao-te**	**173.63**	**326**		*e*PKP		**PKPdf**	**09 46 41.6**	**+0.8**
HHC					pPKP		**pPKPdf**	**09 46 52.5**	**+5.9**
HHC					sPKP			09 46 56.5	
HHC					PP		**PP**	**09 52 06.6**	**+4.7**
HHC					SKS		**SKSdf**	**09 53 39.6**	**-3.6**
HHC					SS		**SS**	**10 13 17.9**	**0.0**
HHC					PPMZ				
	comp=E,190nm,6.5s								
HHC					LN				
	comp=E,140nm,20.3s								
HHC					LE				
	comp=E,130nm,18.7s								
HHC					LZ				
	comp=E,82nm,20.6s								
LZH	**Lanzhou**	**177.53**	**79**		*e*PKP		**PKPdf**	**09 46 43.5**	**+1.5**
LZH					pPKP		**pPKPdf**	**09 46 55.0**	**+7.1**
LZH					sPKP			09 46 59.1	
LZH					LN				
	comp=E,170nm,18.2s								
LZH					LE				
	comp=E,180nm,18.0s								
LZH					LZ				
	comp=E,190nm,20.5s								

*ISCJB **06** 09:29:34.9±0.2, 23°.87N±0°.01×121°.54E±0°.02, h21km±2km,*
Error ellipse: s-maj=2.7km s-min=1.6km az=36.9
*JMA **06** 09:29:34.2, 23°.87N×121°.51E, h14km±1km, M3.0*
*TAP **06** 09:29:34.7, 23°.89N×121°.47E, h18km, ML3.8, B*
ISC 06 09:29:34.0±0.8, 23°.88N±0°.01×121°.49E±0°.02, h15km±2km,
n72, σ0°82/133, 10C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESF	**Shoufeng Towns**	**0.02**	**116**	*i* P	**Pg**	**09 29 38.3**	**+1.7**
	baz=115						
ESF				S	**Sg**	**09 29 40.8**	**+2.4**
	baz=115						
ESL	**Shilin**	**0.08**	**220**	⇓ *i* P	**Pg**	**09 29 38.1**	**+0.9**
	baz=197						
ESL				*e*S	**Sg**	**09 29 39.9**	**+0.8**
	baz=197						
HWA	**Hwalien**	**0.14**	**47**	⇑ *i* P	**Pb**	**09 29 39.4**	**+0.9**
	baz=58						
HWA				S	**Sb**	**09 29 42.7**	**+1.3**
	baz=58						
TEGC	**Jichi Village**	**0.17**	**165**	*e*P	**Pb**	**09 29 40.6**	**+1.6**
	baz=163						
TEGC				*e*S	**Sb**	**09 29 44.6**	**+2.4**
	baz=163						
TWD	**Chiawan**	**0.22**	**26**	⇓ P	**Pb**	**09 29 40.2**	**+0.4**
	baz=29						
TWD				S	**Sb**	**09 29 43.7**	**0.0**
	baz=29						
WHF	**Hehuan Shan**	**0.34**	**322**	⇑ *i* P	**Pg**	**09 29 41.7**	**+0.5**
	baz=325						
WHF				S	**Sg**	**09 29 46.2**	**0.0**
	baz=325						
EHY	**Hungye**	**0.40**	**203**	⇑ P	**Pg**	**09 29 42.2**	**0.0**
	baz=191						
EHY				*e*S	**Sg**	**09 29 47.9**	**+0.2**
	baz=191						
TWT	**Tachien**	**0.47**	**322**	⇑ *i* P	**Pb**	**09 29 44.5**	**+0.3**
	baz=317						
TWT				S	**Sg**	**09 29 50.4**	**+0.4**
	baz=317						
EHP	**Heping Village**	**0.49**	**28**	*e*P	**Pb**	**09 29 45.4**	**+1.1**
	baz=32						
EHP				*e*S	**Sb**	**09 29 52.1**	**+0.8**
	baz=32						
SMLT	**Sun Moon Lake**	**0.54**	**271**	⇑ *i* P	**Pg**	**09 29 45.3**	**+0.6**
	baz=269						
SMLT				*i* S	**Sg**	**09 29 52.6**	**+0.6**
	baz=269						
TWF1	**Yuli**	**0.55**	**199**	⇑ *e*P	**Pg**	**09 29 44.4**	**-0.6**
	baz=195						
TWF1				*e*S	**Sg**	**09 29 53.0**	**+0.6**
	baz=195						
NNS	**Nan Shan**	**0.57**	**349**	⇑ *i* P	**Pb**	**09 29 46.1**	**+0.3**
NNS				S	**Sg**	**09 29 53.4**	**+0.4**
TYC	**Yuchr**	**0.58**	**273**	⇑ *i* P	**Pg**	**09 29 45.9**	**+0.4**
	baz=277						
TYC				*i* S	**Sg**	**09 29 53.5**	**+0.2**
	baz=277						
ENA	**Nanau**	**0.59**	**23**	*i* P	**Pg**	**09 29 46.2**	**+0.5**
	baz=26						
ENA				S	**Sg**	**09 29 54.2**	**+0.6**
	baz=26						
YUS	**Yu-Shan**	**0.63**	**232**	⇓ *i* P	**Pb**	**09 29 47.4**	**+0.3**
	baz=219						
YUS				*i* S	**Sg**	**09 29 55.3**	**+0.4**
	baz=219						
ALS	**Alishan**	**0.73**	**240**	⇓ *i* P	**Pb**	**09 29 49.1**	**+0.5**
	baz=229						
ALS				S	**Sg**	**09 29 58.1**	**+0.2**
	baz=229						
WNT	**Mingjian**	**0.74**	**270**	*e*P	**Pb**	**09 29 49.4**	**+0.8**
	baz=271						
WNT				*e*S	**Sn**	**09 30 00.1**	**-0.9**
	baz=271						
ENTT	**Nioudou**	**0.76**	**5**	⇓ P	**Pb**	**09 29 49.1**	**0.0**
	baz=8.0						
ENTT				S	**Sb**	**09 29 59.6**	**+0.3**
	baz=8.0						
CHKT	**Chengkung**	**0.78**	**188**	*e*P	**Pb**	**09 29 48.9**	**-0.5**
	baz=185						
CHKT				*e*S	**Sg**	**09 30 00.4**	**+0.7**
	baz=185						
TCU	**Taichung**	**0.79**	**290**	⇑ *i* P	**Pn**	**09 29 50.9**	**+0.2**
	baz=288						
TCU				*e*S	**Sn**	**09 30 02.5**	**+0.2**
	baz=288						
CHN5	**Tsauling**	**0.80**	**250**	*e*P	**Pg**	**09 29 50.6**	**+1.0**
	baz=240						
CHN5				*e*S	**Sn**	**09 30 02.0**	**-0.5**
	baz=240						
TWC	**Suao**	**0.80**	**24**	P	**Pb**	**09 29 49.4**	**-0.2**
	baz=27						
TWC				*e*S	**Sg**	**09 30 00.8**	**+0.7**
	baz=27						
NSK	**Sanguang**	**0.80**	**351**	P	**Pb**	**09 29 50.2**	**+0.4**
	baz=346						
NSK				S	**Sb**	**09 30 00.3**	**-0.3**
	baz=346						
TWQ1	**Liyutan**	**0.81**	**306**	*e*P	**Pn**	**09 29 50.8**	**-0.1**
	baz=312						
TWQ1				*e*S	**Sn**	**09 30 03.2**	**+0.6**
	baz=312						
ELDTW	**Lidau**	**0.81**	**212**	*e*P	**Pb**	**09 29 48.8**	**-1.2**
	baz=217						
ELDTW				*e*S	**Sb**	**09 30 00.7**	**-0.1**
	baz=217						
TWE	**Neicheng**	**0.85**	**11**	P	**Pb**	**09 29 50.3**	**-0.3**
	baz=14						
TWE				S	**Sb**	**09 30 02.2**	**+0.3**
	baz=14						
NSY	**Sanyi**	**0.85**	**309**	*e*P	**Pn**	**09 29 51.6**	**0.0**
	baz=319						
NSY				*e*S	**Sn**	**09 30 04.4**	**+0.5**
	baz=319						
WGK	**Gukeng**	**0.87**	**258**	*e*P	**Pb**	**09 29 51.1**	**+0.2**
	baz=256						
WGK				*e*S	**Sn**	**09 30 04.3**	**+0.1**
	baz=256						
NSTT	**Nanjuang**	**0.87**	**329**	⇑ *i* P	**Pg**	**09 29 51.7**	**+0.7**
	baz=331						
NSTT				*e*S	**Sb**	**09 30 02.5**	**+0.1**
	baz=331						
ILA	**Ilan**	**0.91**	**15**	*e*P	**Pb**	**09 29 51.0**	**-0.6**
	baz=18						
ILA				*e*S	**Sg**	**09 30 04.7**	**+0.9**
	baz=18						
CHN4	**Tsaushan**	**0.98**	**238**	P	**Pn**	**09 29 54.0**	**+0.7**
	baz=224						
CHN4				*e*S	**Sn**	**09 30 07.9**	**+1.1**
	baz=224						
STYT	**Tauyuan**	**0.98**	**224**	P	**Pb**	**09 29 53.4**	**+0.6**
	baz=214						
STYT				S	**Sg**	**09 30 06.5**	**+0.6**
	baz=214						
CHN2	**Minshiung**	**0.99**	**250**	*e*P	**Pn**	**09 29 54.4**	**+0.9**
	baz=248						
CHN2				*e*S	**Sn**	**09 30 07.8**	**+0.6**
	baz=248						
WTP	**Ta-pu**	**1.02**	**232**	⇓ P	**Pg**	**09 29 54.6**	**+0.8**
	baz=219						
WTP				*e*S	**Sn**	**09 30 08.3**	**+0.3**
	baz=219						
HSN	**Hsinchu**	**1.04**	**333**	*e*P	**Pg**	**09 29 55.6**	**+1.6**
	baz=320						
HSN				*e*S	**Sn**	**09 30 11.6**	**+3.3**
	baz=320						
EGS		**1.04**	**23**	*e*P	**Pb**	**09 29 53.9**	**+0.1**
	baz=25						
EGS				*e*S	**Sn**	**09 30 08.9**	**+0.4**
	baz=25						
CHY	**Chiayi**	**1.05**	**249**	*e*P	**Pg**	**09 29 54.8**	**+0.4**
	baz=247						
CHY				*e*S	**Sg**	**09 30 08.6**	**+0.6**
	baz=247						
TWA	**Mucha**	**1.10**	**4**	*e*P	**Pb**	**09 29 55.2**	**+0.4**
	baz=360						
TWA				*e*S	**Sb**	**09 30 09.5**	**+0.5**
	baz=360						
TWK	**Hsinying**	**1.10**	**237**	*e*P	**Pg**	**09 29 55.8**	**+0.5**
	baz=234						
TWK				*e*S	**Sg**	**09 30 10.9**	**+1.1**
	baz=234						
WTCT	**Ta-ch'eng**	**1.11**	**270**	*e*P	**Pb**	**09 29 55.1**	**+0.2**
	baz=269						
WTCT				*e*S	**Sn**	**09 30 09.9**	**-0.2**
	baz=269						
CHN1	**Nanshi**	**1.12**	**232**	*e*P	**Pn**	**09 29 55.7**	**+0.4**
	baz=230						
CHN1				*e*S	**Sg**	**09 30 11.5**	**+1.1**
	baz=230						
TWG	**Pinlang**	**1.12**	**200**	*e*P	**Pb**	**09 29 53.3**	**-1.9**
	baz=184						
TWG				*e*S	**Sg**	**09 30 11.7**	**+1.4**
	baz=184						
NCU	**National Centr**	**1.12**	**346**	*e*P	**Pg**	**09 29 56.1**	**+0.4**
	baz=348						
NCU				*e*S	**Sg**	**09 30 12.1**	**+1.7**
	baz=348						
SGST	**Jiashian**	**1.15**	**227**	*e*P	**Pg**	**09 29 56.9**	**+0.6**
	baz=223						
SGST				*e*S	**Sg**	**09 30 12.6**	**+1.4**
	baz=223						
TAP	**Taipei**	**1.16**	**1**	*e*P	**Pn**	**09 29 55.8**	**+0.1**
	baz=10.0						
TAP				*e*S	**Sn**	**09 30 11.7**	**+0.4**
	baz=10.0						
TAP1	**Taipei**	**1.16**	**1**	*e*P	**Pn**	**09 29 55.6**	**-0.1**
	baz=10.0						
TAP1				*e*S	**Sb**	**09 30 11.2**	**+0.6**
	baz=10.0						
WSF	**Szhu**	**1.19**	**259**	*e*P	**Pb**	**09 29 56.6**	**+0.3**
	baz=257						
WSF				*e*S	**Sg**	**09 30 12.9**	**+0.5**
	baz=257						
TWB1	**Santiao Chiao**	**1.21**	**22**	*e*P	**Pn**	**09 29 56.1**	**-0.4**
	baz=24						
TWB1				*e*S	**Sb**	**09 30 12.7**	**+0.5**
	baz=24						
NWF	**Wu-fen Shan**	**1.22**	**12**	P	**Pn**	**09 29 56.4**	**-0.3**
	baz=15						
NWF				*e*S	**Sn**	**09 30 13.0**	**+0.1**
	baz=15						
TWS1	**Kuangyinshan**	**1.22**	**357**	*e*P	**Pb**	**09 29 57.3**	**+0.5**
	baz=10.0						
TWS1				*e*S	**Sg**	**09 30 14.0**	**+0.5**
	baz=10.0						
CHN8	**Yiju**	**1.29**	**246**	*e*P	**Pb**	**09 29 58.4**	**+0.4**
	baz=244						
CHN8				*e*S	**Sg**	**09 30 15.8**	**+0.1**
	baz=244						
ECL	**Taimali**	**1.37**	**201**	*e*P	**Pb**	**09 29 59.5**	**+0.1**
	baz=185						
SSD	**Sandimen**	**1.38**	**215**	*e*P	**Pb**	**09 29 59.8**	**+0.3**
	baz=225						
TWY	**Chenhua**	**1.40**	**4**	*e*P	**Pn**	**09 29 59.6**	**+0.6**
	baz=8.0						
TWM1	**Shoushan**	**1.44**	**223**	*e*P	**Pg**	**09 30 03.0**	**+1.2**
	baz=221						
JYNG	**Yonagunijimaku**	**1.45**	**66**	P	**Pn**	**09 29 59.9**	**+0.2**
JYNG				S	**Sn**	**09 30 17.6**	**-0.8**
YOJ	**Yonaguni jima**	**1.50**	**67**	P	**Pn**	**09 30 00.6**	**+0.1**
YOJ

LNCH	**Linares**	**1.52**	**35**	⇑*iP*	Pn	09 36 02.7	+1.3
LNCH				*eS*	Sn	09 36 21.8	+1.9
LNCH				AML	AML	09 36 24.6	
	comp=E,9μm,0.6s						
NICH	**Los Niches**	**2.40**	**30**	*eP*	Pn	09 36 14.3	+0.8
NICH				*i S*	Sn	09 36 42.7	+1.1
NICH				AML	AML	09 36 57.4	
	comp=N,4μm,0.3s						
PEL	**Peldehue**	**4.27**	**23**	⇑*iP*	Pn	09 36 40.0	+0.7
PEL				*eS*	Sn	09 37 28.8	+1.0

*IDC **06** 09:40:12.7±5.0, 9.°33N×104.°30W, h0km, mb3.6/5, mb1 4.1/9, mb1mx3.8/44, mbtmp3.8/9, ML3.9/4, MS3.9/18, Ms1 3.9/18, ms1mx3.8/28, Error ellipse: s-maj=89.5km s-min=41.3km az=1.0*

*NEIC **06** 09:40:16.9±3.4, 9.°65N×104.°24W, h10km, mb4.2/3, Error ellipse: s-maj=52.9km s-min=15.0km az=12.0*

*GCMT **06** 09:40:16.0±0.3, 10.°39N×103.°87W, h20km±1km, MW4.9/80, Moment Tensor Solution. s21,c26; s80,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.13±.12; $M_{\theta\theta}$-1.19±.11; $M_{\phi\phi}$1.06±.12; $M_{r\theta}$0.22±.20; $M_{\theta\phi}$2.64±.10; $M_{\phi r}$-0.31±.21; Best double couple: $M_0$2.89300×10^{16} NP1:ϕ_s349.00000°, δ87.00000°, λ-173.00000°. NP2: ϕ_s258.00000°, δ83.00000°, λ-3.00000°. Principal axes: T 2.8110, Plg3.0000°, Azm123.0000°; N 0.1680, Plg83.0000°, Azm10.0000°; P -2.9750, Plg7.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 09:40:18.4±4.1, 9.°6N±0.°5×103.°8W±0.°2, h35km, n29, σ0s96/10, mb3.8/8, MS3.9/14, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**11.43**	**48**	Pn	Pn	09 43 04.7	+5.4
	0.1nm,0.3s,baz=239,slow=12,SNR=2.9						
CMIG				LR	LR	09 46 16.8	
	comp=Z,1μm,20.4s,baz=226,slow=30						
H06E1	**SOCORRO T-PHASI**	**1.50**	**324**	T	T	09 54 23.3	
	SNR=8.0						
APG	**El Apazote**	**14.07**	**66**	Pn	**P**	**09 43 42.5**	**-0.4**
	1.2nm,0.3s,baz=230,slow=7.9,SNR=9.2						
LPIG	**La Paz**	**15.76**	**337**	Pn	**Pn**	**09 43 56.6**	**-1.2**
	3.3nm,0.3s,baz=17,slow=19,SNR=3.7						
LPIG				LR	LR	09 48 17.2	
	comp=Z,1μm,19.2s,baz=158,slow=31						
TEIG	**Tepich**	**18.33**	**53**	LR	LR	09 50 47.5	
	comp=Z,222nm,19.7s,baz=232,slow=34						
TXAR	**Lajitas Array**	**19.68**	**0**	P	**P**	**09 44 45.5**	**+0.9**
	0.0nm,0.3s,baz=182,slow=12,SNR=12						
TXAR				LR	LR	09 51 39.7	
	comp=Z,450nm,18.6s,baz=0.0,slow=34						
JCT	**Junction City**	**21.14**	**10**	P	**P**	**09 45 00.5**	**0.0**
	11nm,1.0s						
ABTX	**Abilene, Hawle**	**23.27**	**9**	P	**P**	**09 45 23.9**	**+0.9**
	5.5nm,0.8s						
AMTX	**Amarillo**	**25.28**	**4**	P	P	09 45 49.0	+7.4
	11nm,0.9s						
ANMO	**Albuquerque**	**25.39**	**355**	P	**P**	**09 45 44.5**	**+1.7**
	1.7nm,1.0s,baz=184,slow=7.1,SNR=4.7						
PFO	**Pinyon Flats O**	**26.64**	**336**	LR	LR	09 55 06.8	
	comp=Z,360nm,18.2s,baz=149,slow=34						
ROSC	**El Rosal**	**29.56**	**97**	LR	LR	09 56 55.1	
	comp=Z,268nm,18.2s,baz=265,slow=33						
NVAR	**Mina Array Bea**	**31.58**	**338**	P	**P**	**09 46 38.1**	**+0.1**
	0.1nm,0.3s,baz=151,slow=11,SNR=4.2						
PDAR	**Pinedale Array**	**33.47**	**352**	P	**P**	**09 46 55.0**	**+0.5**
	0.7nm,0.8s,baz=160,slow=5.6,SNR=5.0						
PDAR				LR	LR	09 58 38.3	
	comp=Z,111nm,21.5s,baz=192,slow=33						
NNA	**Nana**	**34.26**	**128**	LR	LR	09 56 35.4	
	comp=Z,66nm,19.0s,baz=284,slow=28						
YBH	**Yreka Blue Hor**	**36.14**	**336**	LR	LR	09 59 36.4	
	comp=Z,132nm,20.7s,baz=142,slow=32						
ULM	**Lac du Bonnet**	**41.09**	**8**	LR	LR	10 03 14.9	
	comp=Z,128nm,21.5s,baz=236,slow=33						
RKT	**Rikitea**	**44.59**	**223**	*e*LR	LR	10 01 12.9	
	431nm,26.5s						
RKT	**Rikitea**	**44.59**	**223**	*e*T	T	10 36 19.4	
	3.9nm,0.4s						
BBB	**Bella Bella**	**46.91**	**340**	LR	LR	10 06 41.7	
	comp=Z,182nm,19.4s,baz=150,slow=34						
SIV	**San Ignacio**	**49.30**	**121**	LR	LR	10 08 08.4	
	comp=Z,496nm,20.6s,baz=273,slow=34						
PPT2	**Papeete2**	**52.69**	**239**	*e*LR	LR	10 04 39.8	
	284nm,26.2s						
CFAA	**Coronel Fontan**	**53.21**	**142**	LR	LR	10 08 01.6	
	comp=Z,128nm,19.1s,baz=232,slow=31						
YKA	**Yellowknife Ar**	**53.43**	**354**	P	**P**	**09 49 34.5**	**-0.1**
	0.2nm,0.6s,baz=164,slow=8.1,SNR=5.4						
SCHQ	**Schefferville**	**53.80**	**26**	LR	LR	10 15 44.9	
	comp=Z,113nm,18.6s,baz=218,slow=39						
ILAR	**Eielson Array**	**62.77**	**341**	P	**P**	**09 50 39.9**	**-0.1**
	1.0nm,0.7s,baz=149,slow=4.5,SNR=22						
ILAR				LR	LR	10 15 15.6	
	comp=Z,72nm,20.7s,baz=156,slow=34						
FX1	**Attu Island--F**	**78.27**	**322**	LR	LR	10 19 05.8	
	comp=Z,83nm,20.4s,baz=115,slow=30						
PETK	**Petropavlovsk-**	**87.52**	**323**	LR	LR	10 25 04.0	
	comp=Z,31nm,20.0s,baz=96,slow=31						
NOA	**NORSAR Array B**	**93.36**	**26**	LR	LR	10 38 29.1	
	comp=Z,28nm,18.6s,baz=300,slow=37						

*IDC **06** 09:41:02.9±0.7, 34.°45S×72.°08W, h0km, mb4.2/10, mb1 4.2/13, mb1mx4.1/38, mbtmp4.1/13, ML3.7/3, MS3.8/5, Ms1 3.8/5, ms1mx3.4/24, Error ellipse: s-maj=26.7km s-min=14.3km az=92.0*

*ISCJB **06** 09:41:08.0±0.9, 34.°39S±0.°04×72.°12W±0.°09, h50km±8km, mb4.2/11, MS3.9/3, Error ellipse: s-maj=12.7km s-min=6.3km az=5.9*

*NEIC **06** 09:41:08.0±0.4, 34.°40S×72.°16W, h35km, mb4.5/3, ML4.6(GUC), Error ellipse: s-maj=8.5km s-min=6.1km az=105.0*

NEIC Felt [II] at San Antonio and Santiago.

*GUC **06** 09:41:08.1±0.7, 34.°33S×72.°04W, h11km±4km, ML4.6*

ISC 06 09:41:07.7±1.6, 34.°40S±0.°06×72.°15W±0.°07, h33km±9km, n48, σ0s84/62, mb4.5/11, MS4.0/3, 12C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.76**	**54**	⇓*iP*	**Pn**	**09 41 20.9**	**-1.2**
LNV	**Longovilo**	**0.76**	**54**	⇓*iP*	**Pn**	**09 41 20.9**	**-1.2**
NICH	**Los Niches**	**0.97**	**128**	⇓*iP*	**Pb**	**09 41 25.6**	**-0.4**
NICH				*i S*	**Sb**	**09 41 38.5**	**0.0**
NICH				AML	AML	09 41 41.6	
	comp=E,37μm,0.5s						
NICH	**Los Niches**	**0.97**	**128**	⇓*iP*	**Pb**	**09 41 25.6**	**-0.4**
NICH				*i S*	**Sb**	**09 41 38.5**	**0.0**
CACH	**El Canelo**	**1.32**	**78**	⇓*iP*	**Pn**	**09 41 30.4**	**+0.5**
CACH	**El Canelo**	**1.32**	**78**	⇓*iP*	**Pn**	**09 41 30.4**	**+0.5**
CHCH	**Chadas Angostu**	**1.33**	**70**	⇑*iP*	**Pn**	**09 41 30.0**	**0.0**
CHCH	**Chadas Angostu**	**1.33**	**70**	⇑*iP*	**Pn**	**09 41 30.0**	**0.0**
IHA	**Instituto Hidr**	**1.44**	**17**	⇑*iP*	**Pn**	**09 41 31.1**	**-0.4**
IHA				*e*S1	**Sn**	**09 41 50.1**	**+0.9**
IHA	**Instituto Hidr**	**1.44**	**17**	⇑*iP*	**Pn**	**09 41 31.1**	**-0.4**
IHA				*e*S	**Sn**	**09 41 50.1**	**+0.9**
LNCH	**Linares**	**1.51**	**163**	⇑*iP*	**Pb**	**09 41 34.7**	**-0.4**
LNCH				*i S*	**Sb**	**09 41 55.6**	**+1.8**
LNCH				AML	AML	09 41 59.5	
	comp=N,9μm,0.7s						
LNCH	**Linares**	**1.51**	**163**	⇑*iP*	**Pb**	**09 41 34.7**	**-0.4**
LNCH				*i S*	**Sb**	**09 41 55.6**	**+1.8**
ANTU	**Antumapu**	**1.51**	**57**	⇑*iP*	**Pn**	**09 41 32.7**	**+0.2**
ANTU				*i S*	**Sn**	**09 41 50.9**	**-0.2**
ANTU				AML	AML	09 41 58.1	
	comp=E,21μm,0.3s						
ANTU	**Antumapu**	**1.51**	**57**	⇑*iP*	**Pn**	**09 41 32.7**	**+0.2**
ANTU				*i S*	**Sn**	**09 41 50.9**	**-0.2**
FSR	**Penalolen**	**1.64**	**56**	*e*P1	**Pn**	**09 41 34.6**	**+0.4**
FSR				*i S*	**Sn**	**09 41 54.6**	**+0.4**
FSR	**Penalolen**	**1.64**	**56**	*e*P	**Pn**	**09 41 34.6**	**+0.4**
FSR				*i S*	**Sn**	**09 41 54.6**	**+0.4**
LACH	**Col Las Americ**	**1.65**	**55**	⇑*iP*	**Pn**	**09 41 34.6**	**+0.2**
LACH				*i S*	**Sn**	**09 41 54.8**	**+0.3**
LACH				AML	AML	09 42 00.6	
	comp=N,9μm,0.5s						
LACH	**Col Las Americ**	**1.65**	**55**	⇑*iP*	**Pn**	**09 41 34.6**	**+0.2**
LACH				*i S*	**Sn**	**09 41 54.8**	**+0.3**
CLCH	**Cerro Calan**	**1.68**	**54**	⇓*iP*	**Pn**	**09 41 35.3**	**+0.5**
CLCH				*i S*	**Sn**	**09 41 56.2**	**+0.9**
CLCH				AML	AML	09 41 57.9	
	comp=E,13μm,0.3s						
PEL	**Peldehue**	**1.75**	**45**	⇑*iP*	**Pn**	**09 41 36.4**	**+0.5**
PEL				*i S*	**Sn**	**09 41 57.8**	**+0.8**
PEL				AML	AML	09 42 03.6	
	comp=N,25μm,0.3s						
PEL	**Peldehue**	**1.75**	**45**	⇑*iP*	**Pn**	**09 41 36.4**	**+0.5**
PEL				*i S*	**Sn**	**09 41 57.8**	**+0.8**
CFAA	**Coronel Fontan**	**4.32**	**51**	Pn	**Pn**	**09 42 11.3**	**+0.3**
	comp=N,1.0nm,0.3s,baz=222,slow=11,SNR=24						
CFAA				Lg	Lg	09 43 13.5	
	comp=N,13nm,0.3s,baz=107,slow=9.6,SNR=11						
PLCA	**Paso Flores**	**6.45**	**169**	Pn	**Pn**	**09 42 39.6**	**-0.7**
	comp=N,0.6nm,0.3s,baz=342,slow=9.9,SNR=12						
PLCA				Lg	Lg	09 44 27.7	
	comp=N,0.4nm,0.3s,baz=297,slow=9.6,SNR=3.5						
PLCA				LR	LR	09 45 20.2	
	comp=N,407nm,20.8s,baz=333,slow=40						
TRQA	**Tornquist**	**8.99**	**117**	*e*Pn	**Pn**	**09 43 16.6**	**+1.4**
	comp=N,23nm,0.8s						
CPUP	**Villa Florida**	**15.10**	**62**	LR	LR	09 50 57.7	
	comp=N,281nm,20.5s,baz=226,slow=40						
LPAZ	**La Paz**	**18.40**	**12**	P	**Pn**	**09 45 22.0**	**+1.2**
	comp=N,0.1nm,0.3s,baz=191,slow=8.7,SNR=9.3						
LPAZ	**La Paz**	**18.40**	**12**	*e*P	**Pn**	**09 45 21.6**	**+0.8**
	comp=N,15nm,1.2s						
USHA	**Ushuaia**	**20.59**	**174**	P	**P**	**09 45 41.2**	**-2.5**
	comp=N,3.0nm,0.9s,baz=326,slow=9.3,SNR=2.1						
SIV	**San Ignacio**	**20.87**	**31**	P	**P**	**09 45 45.4**	**-1.6**
	comp=N,4.3nm,0.9s,baz=218,slow=16,SNR=4.7						
SIV				LR	LR	09 55 32.1	
	comp=N,96nm,21.6s,baz=212,slow=42						
ATAH	**Atahualpa**	**27.74**	**347**	LR	LR	09 56 23.4	
	comp=N,1μm,19.0s,baz=307,slow=33						
BDFB	**Brasilia**	**28.64**	**55**	P	**P**	**09 47 00.6**	**-0.9**
	comp=N,3.5nm,0.6s,baz=228,slow=10,SNR=4.1						
SNAA	**Sanae**	**51.25**	**158**	P	**P**	**09 50 08.2**	**+0.4**
	comp=N,2.7nm,0.8s,baz=305,slow=5.8,SNR=6.7						
QSPA	**South Pole Qui**	**55.83**	**180**	P	**P**	**09 50 42.0**	**+0.4**
	comp=N,5.5nm,0.9s,baz=112,slow=2.6,SNR=12						
JCT	**Junction City**	**69.61**	**335**	*e*P	**P**	**09 52 14.4**	**+0.8**
	comp=N,8.1nm,1.4s						
TXAR	**Lajitas Array**	**70.04**	**331**	P	**P**	**09 52 18.0**	**+1.7**
	comp=N,0.2nm,0.6s,baz=144,slow=6.7,SNR=3.7						
TXAR				LR	LR	10 17 55.5	
	comp=N,76nm,18.4s,baz=0.0,slow=32						
WVT	**Waverly**	**71.68**	**347**	*e*P	**P**	**09 52 26.3**	**+0.3**
	comp=N,7.0nm,0.8s						
DBIC	**Dimbokro**	**75.40**	**71**	P	**P**	**09 52 48.2**	**-0.2**
	comp=N,8.4nm,0.9s,baz=194,slow=5.0,SNR=4.3						
SDCO	**Great Sand Dun**	**78.19**	**334**	*e*P	**P**	**09 53 02.7**	**-1.3**
	comp=N,0.1nm,0.3s						
BOSA	**Boshof**	**79.97**	**118**	P	**P**	**09 53 13.9**	**-0.1**
	comp=N,8.4nm,0.9s,baz=244,slow=4.0,SNR=10						
PDAR	**Pinedale Array**	**84.08**	**333**	P	**P**	**09 53 35.9**	**+0.8**
	comp=N,0.3nm,0.7s,baz=152,slow=4.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**84.44**	**70**	P	**P**	**09 53 37.8**	**+0.5**
	comp=N,3.5nm,0.9s,baz=255,slow=4.5,SNR=14						
ASAR	**Alice Springs**	**117.17**	**207**	PKP	**PKPdf**	**09 59 48.7**	**-1.3**
	comp=N,0.3nm,0.8s,baz=151,slow=4.2,SNR=3.8						
WRA	**Warramunga Arr**	**120.36**	**209**	PKP	**PKPdf**	**09 59 55.5**	**-0.6**
	comp=N,0.5nm,0.8s,baz=162,slow=1.5,SNR=5.9						
SEY	**Seymchan**	**140.33**	**330**	PKP	**PKPdf**	**10 00 33.1**	**+0.8**
	comp=N,1.4nm,0.8s,baz=90,slow=4.6,SNR=6.6						
KURBB	**Kurchatov Arra**	**153.23**	**44**	PKPbc	**PKPbc**	**10 01 01.2**	**-0.5**
	comp=N,0.9nm,0.6s,baz=298,slow=2.9,SNR=10						
KURK	**Kurchatov**	**153.24**	**44**	PKPbc	**PKPbc**	**10 01 01.2**	**-0.5**
ZALV	**Zalesovo Beam**	**154.62**	**33**	PKPbc	**PKPbc**	**10 01 05.4**	**+0.9**
	comp=N,1.8nm,0.7s,baz=304,slow=3.4,SNR=8.6						
ZALV				PKPab	**PKPab**	**10 01 20.3**	**+1.0**
	comp=N,2.0nm,0.6s,baz=307,slow=5.4,SNR=6.9						
MKAR	**Makanchi Array**	**157.10**	**50**	PKPab	**PKPab**	**10 01 30.0**	**-0.3**
	comp=N,1.1nm,0.8s,baz=289,slow=4.0,SNR=8.0						

*IDC **06** 09:43:15.5±0.9, 15.°08S×173.°75W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.8/42, mbtmp3.9/6, MS3.4/1, Ms1 3.4/1, ms1mx2.9/23, Error ellipse: s-maj=42.8km s-min=23.4km az=139.0*

*ISCJB **06** 09:43:23.8±0.9, 15.°0S±0.°3×173.°9W±0.°2, h73km, mb3.8/6, Error ellipse: s-maj=43.1km s-min=20.8km az=141.5*

ISC 06 09:43:25.2±1.0, 15.°1S±0.°3×173.°8W±0.°3, h73km, n14, σ0s42/7, mb3.9/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.93**	**247**	LR	LR	09 54 00.9	
	comp=Z,109nm,19.0s,baz=2.0,slow=32						
H11S2	**WAKE ISLAND Hy**	**38.46**	**329**	T	T	10 31 25.4	
	baz=146,slow=76,SNR=8.2						
H11S3	**WAKE ISLAND Hy**	**38.47**	**329**	T	T	10 31 27.3	
	baz=146,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**38.48**	**329**	T	T	10 31 25.5	
	baz=146,slow=76,SNR=9.3						
H11N3	**WAKE ISLAND Hy**	**39.41**	**331**	T	T	10 32 38.1	
	baz=157,slow=80,SNR=10						
H11N1	**WAKE ISLAND Hy**	**39.42**	**331**	T	T	10 32 38.1	
	baz=157,slow=80,SNR=7.7						
H11N2	**WAKE ISLAND Hy**	**39.43**	**331**	T	T	10 32 38.1	
	baz=157,slow=80,SNR=11						
WRA	**Warramunga Arr**	**49.51**	**257**	P	**P**	**09 52 09.1**	**+0.2**
	0.4nm,0.3s,baz=93,slow=6.7,SNR=20						
ASAR	**Alice Springs**	**49.81**	**252**	P	**P**	**09 52 11.1**	**-0.1**
	3.2nm,0.6s,baz=88,slow=7.6,SNR=48						
NVAR	**Mina Array Bea**	**74.37**	**42**	P	**P**	**09 54 55.4**	**-0.1**
	0.4nm,0.3s,baz=225,slow=7.5,SNR=4.6						
QSPA	**South Pole Qui**	**74.97**	**180**	P	**P**	**09 54 58.4**	**-0.1**
	3.1nm,0.9s,baz=26,slow=0.9,SNR=10.0						
ILAR	**Eielson Array**	**82.20**	**11**	P	**P**	**09 55 37.5**	**-0.4**
	0.3nm,0.6s,baz=229,slow=6.8,SNR=6.0						
PDAR	**Pinedale Array**	**82.30**	**42**	P	**P**	**09 55 39.9**	**+0.7**
	0.9nm,1.1s,baz=197,slow=1.9,SNR=4.4						
BRTR	**Keskin Array B**	**145.63**	**321**	PKPbc	**PKPdf**	**10 02 55.5**	**-0.1**
	0.8nm,0.6s,baz=93,slow=2.5,SNR=4.6						

*ISCJB **06** 09:49:11.1±0.7, 52.°89N±0.°05×162.°27W±0.°05, h10km, mb3.4/4, Error ellipse: s-maj=6.9km s-min=4.1km az=161.0*

*IDC **06** 09:49:11.4±1.8, 53.°00N×162.°23W, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/51, mbtmp3.4/6, ML3.3/1, Error ellipse: s-maj=40.7km s-min=23.2km az=170.0*

*NEIC **06** 09:49:14.2, 52.°76N×162.°11W, h3km, ML3.4(AEIC), After AEIC.*

ISC 06 09:49:12.3±1.1, 52.°89N±0.°08×162.°26W±0.°05, h10km, n34, σ0s71/41, mb3.5/4, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRIA	**Deer Island**	**2.08**	**360**	P	**Pn**	**09 49 46.3**	**-1.0**
FALS	**False Pass**	**2.09**	**341**	P	**Pn**	**09 49 46.9**	**-0.4**
FALS				S	**Sn**	**09 50 13.4**	**0.0**
WESE	**West Dahl East**	**2.11**	**320**	P	**Pn**	**09 49 47.9**	**+0.2**
WESE				S	**Sn**	**09 50 13.4**	**-0.5**
ISNN	**Isanotski Nort**	**2.15**	**336**	P	**Pn**	**09 49 48.4**	**+0.2**
WESN	**West Dahl Nort**	**2.18**	**322**	P	**Pn**	**09 49 48.9**	**+0.3**
SSLW	**Shishaldin Wes**	**2.19**	**330**	P	**Pn**	**09 49 49.0**	**+0.2**
SSLW				S	**Sn**	**09 50 17.0**	**+1.1**
DT1	**Dutton Round H**	**2.23**	**360**	P	**Pn**	**09 49 48.5**	**-0.7**
DT1				S	**Sn**	**09 50 15.8**	**-1.0**
DOL	**Dolgoi Island**	**2.28**	**6**	P	**Pn**	**09 49 49.2**	**-0.7**
DOL				S	**Sn**	**09 50 16.8**	**-1.3**
AKUT	**Akutan**	**2.44**	**302**	P	**Pn**	**09 49 52.2**	**+0.1**
AKUT				S	**Sn**	**09 50 21.0**	**-1.0**
HAG	**Hague Volcano**	**2.44**	**5**	P	**Pn**	**09 49 52.8**	**+0.6**
HAG				S	**Sn**	**09 50 22.1**	**-0.1**
PS4A	**Pavlof South-4**	**2.48**	**5**	P	**Pn**	**09 49 52.8**	**+0.2**
PVV	**Pavlof Volcano**	**2.51**	**6**	P	**Pn**	**09 49 53.0**	**0.0**
ZRO	**Akutan Zero**	**2.53**	**300**	P	**Pn**	**09 49 53.4**	**0.0**
ZRO				S	**Sn**	**09 50 24.1**	**-0.1**
SDPT	**Sand Point**	**2.68**	**22**	P	**Pn**	**09 49 55.6**	**+0.2**
SDPT				S	**Sn**	**09 50 26.8**	**-1.1**
UNV	**Unalaska Valle**	**2.72**	**292**	P	**Pn**	**09 49 55.5**	**-0.5**
UNV				S	**Sn**	**09 50 26.9**	**-2.0**
MREP	**Makushin Rep't**	**2.85**	**291**	P	**Pn**	**09 49 58.2**	**+0.4**
MTBL	**Makushin Table**	**2.86**	**294**	P	**Pn**	**09 49 58.5**	**+0.5**
MTBL				S	**Sn**	**09 50 32.2**	**-0.3**
MSW	**Makushin Switc**	**2.90**	**293**	P	**Pn**	**09 49 58.5**	**0.0**
MSW				S	**Sn**	**09 50 32.9**	**-0.4**
MSOM	**Makushin Julie**	**2.96**	**290**	P	**Pn**	**09 49 59.3**	**0.0**
MSOM				S	**Sn**	**09 50 33.4**	**-1.4**
OKFG	**Magazine Ridge**	**3.45**	**281**	P	**Pn**	**09 50 05.5**	**-0.4**
OKFG				S	**Sn**	**09 50 46.8**	**0.0**
NIKH	**Nikolski High**	**3.99**	**274**	P	**Pn**	**09 50 12.6**	**-0.9**
CHGN	**Chignik**	**4.09**	**32**	P	**Pn**	**09 50 14.1**	**-0.6**
ILAR	**Eielson Array**	**14.27**	**27**	Pn	Pn	09 52 29.9	-4.2
	0.1nm,0.3s,baz=216,slow=13,SNR=5.2						
INK	**Inuvik**	**20.61**	**31**	P	**P**	**09 53 51.0**	**-0.2**
	0.8nm,0.4s,baz=236,slow=12,SNR=15						
PETK	**Petropavlovsk-**	**23.89**	**287**	P	**P**	**09 54 26.2**	**+0.5**
	3.8nm,0.8s,baz=90,slow=12,SNR=6.0						
YKA	**Yellowknife Ar**	**26.61**	**50**	P	**P**	**09 54 51.5**	**+1.1**
	0.2nm,0.6s,baz=265,slow=9.8,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**40.80**	**228**	T	T	10 40 25.1	
	baz=30						
H11N3	**WAKE ISLAND Hy**	**40.80**	**228**	T	T	10 40 25.6	
	baz=30						
H11N1	**WAKE ISLAND Hy**	**40.81**	**228**	T	T	10 40 29.6	
	baz=30						
H11S1	**WAKE ISLAND Hy**	**41.96**	**227**	T	T	10 41 56.4	
	baz=27						
H11S2	**WAKE ISLAND Hy**	**41.97**	**227**	T	T	10 41 54.7	
	baz=27						
H11S3	**WAKE ISLAND Hy**	**41.97**	**227**	T	T	10 41 58.7	
	baz=27						
TXAR	**Lajitas Array**	**48.43**	**95**	P	**P**	**09 57 54.9**	**+0.1**
	0.2nm,0.4s,baz=300,slow=6.1,SNR=4.5						
MKAR	**Makanchi Array**	**66.48**	**317**	P	**P**	**10 00 01.8**	**+0.2**
	0.2nm,0.5s,baz=55,slow=7.0,SNR=3.3						

*IDC **06** 09:49:29.3±0.6, 34.°59S×71.°97W, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.3/29, mbtmp4.3/14, ML4.1/3, MS2.7/2, Ms1 2.7/2, ms1mx2.6/19, Error ellipse: s-maj=23.6km s-min=15.4km az=91.0*

*GUC **06** 09:49:31.0±0.6, 34.°64S×71.°89W, h14km±2km, ML4.4*

*ISCJB **06** 09:49:33.3±0.2, 34.°68S±0.°02×71.°76W±0.°04, h33km, mb4.6/45, Error ellipse: s-maj=4.4km s-min=3.4km az=21.2*

*NEIC **06** 09:49:35.0±0.2, 34.°61S×71.°77W, h35km, mb4.7/37, Error ellipse: s-maj=8.6km s-min=5.8km az=71.0*

NEIC Felt at Santiago.

*BJI **06** 09:49:35.5, 34.°50S×71.°60W, h35km, mB5.1/4, Ms5.2/4, Ms7 4.8/4*

ISC 06 09:49:34.7±0.8, 34.°68S±0.°04×71.°74W±0.°06, h35km±3km, n505, σ0s83/515, mb4.7/47, 218C-203D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.53**	**127**	⇑*iP*	**Pb**	**09 49 43.0**	**-2.8**
NICH				*i S*	**Sb**	**09 49 52.4**	**-1.1**
LNV	**Longovilo**	**0.78**	**21**	⇓*iP*	Pn	09 49 45.0	-4.2
CACH	**El Canelo**	**1.10**	**59**	⇑*iP*	**Pn**	**09 49 52.1**	**-1.7**
LNCH	**Linares**	**1.17**	**174**	⇓*iP*	**Pn**	**09 49 52.4**	**-2.2**
LNCH				*i S*	**Sn**	**09 50 08.8**	**-0.4**
CHCH	**Chadas Angostu**	**1.17**	**51**	⇓*iP*	**Pn**	**09 49 52.7**	**-1.9**
ANTU	**Antumapu**	**1.44**	**40**	*e*P1	**Pn**	**09 49 56.6**	**-1.7**
ANTU				*i S*	**Sn**	**09 50 16.1**	**0.0**
ANTU				AML	AML	09 50 23.2	
	comp=N,7μm,0.5s						
STL	**Santa Lucia**	**1.54**	**37**	*e*P	**Pn**	**09 49 57.9**	**-1.9**
STL				*i S*	**Sn**	**09 50 18.3**	**-0.3**
LACH	**Col Las Americ**	**1.59**	**40**	*e*P1	**Pn**	**09 49 59.1**	**-1.2**
LACH				*i S*	**Sn**	**09 50 20.2**	**+0.5**
CLCH	**Cerro Calan**	**1.63**	**38**	⇓*iP*	**Pn**	**09 49 59.6**	**-1.3**
CLCH				*i S*	**Sn**	**09 50 21.6**	**+0.8**
CLCH				AML	AML	09 50 28.7	
	comp=N,7μm,0.6s						
CLCH				AML	AML	09 50 30.9	
	comp=N,10μm,0.6s						
IHA	**Instituto Hidr**	**1.66**	**3**	⇑*iP*	**Pn**	**09 49 58.8**	**-2.4**
IHA				*i* S1	**Sn**	**09 50 19.4**	**-1.8**
COCH	**Cobquecura**	**1.68**	**210**	⇑*iP*	**Pn**	**09 49 58.9**	**-2.6**
COCH				*i S*	**Sn**	**09 50 20.6**	**-1.3**
PEL	**Peldehue**	**1.77**	**30**	⇓*iP*	**Pn**	**09 50 01.7**	**-1.2**
PEL				*e*S	**Sn**	**09 50 24.4**	**+0.3**
PEL				AML	AML	09 50 31.1	
	comp=E,7μm,0.5s						
CFAA	**Coronel Fontan**	**4.25**	**45**	Pn	**Pn**	**09 50 38.1**	**+1.1**
	comp=E,1.0nm,0.3s,baz=230,slow=9.9,SNR=20						
CFAA				Lg	Lg	09 51 39.0	
	comp=E,1.4nm,0.3s,baz=6.8,slow=18,SNR=3.1						
PLCA	**Paso

337A	Centerville baz=70	69.47 338	⇓P	P	10 00 39.6 +0.2
435B	Jarrell baz=70	69.52 336	⇓P	P	10 00 39.7 0.0
239A	Gary baz=70	69.71 340	⇑P	P	10 00 41.1 +0.3
532A	Rocksprings baz=70,SNR=9.9	69.72 334	⇑P	P	10 00 41.3 +0.3
434A	Burnet baz=70,SNR=6.2	69.78 336	⇑P	P	10 00 41.4 0.0
336A	Riesel baz=70	69.84 337	⇑P	P	10 00 41.9 +0.2
238A	Jacksonville baz=70	69.88 339	⇓P	P	10 00 42.1 +0.2
335A	Moody baz=70	69.93 337	⇑P	P	10 00 42.5 +0.3
531A	Rocksprings baz=70,SNR=7.2	69.99 334	⇓P	P	10 00 43.1 +0.4
433A	Art baz=70,SNR=6.5	70.01 335	⇓P	P	10 00 42.5 -0.3
JCT	Junction City baz=70	70.01 334	⇓P	P	10 00 43.0 +0.2
JCT	Junction City comp=E,7.1nm,0.8s	70.01 334	eP	P	10 00 42.6 -0.1
KMSC	Kings Mountain baz=70	70.04 352	⇑P	P	10 00 42.8 0.0
237A	Washetta, Mont baz=70	70.09 338	⇑P	P	10 00 43.4 +0.3
334A	Lometa baz=70	70.25 336	⇓P	P	10 00 44.4 +0.2
530A	J-C Ranch, Com baz=70	70.27 333	⇑P	P	10 00 44.8 +0.4
432A	Menard baz=71	70.36 335	⇑P	P	10 00 44.9 -0.1
TXAR	Lajitas Array comp=E,2.0nm,0.5s,baz=155,slow=8.6,SNR=32	70.45 331 P		P	10 00 45.4 -0.2
431A	Sonora baz=71	70.48 334	⇑P	P	10 00 46.0 +0.3
138A	Matatall Enter baz=71	70.49 339	⇓P	P	10 00 46.0 +0.4
333A	Richland Sprin baz=71,SNR=6.8	70.49 335	⇑P	P	10 00 45.8 +0.1
529A	Stev Forest Ra baz=71,SNR=6.8	70.58 332	⇑P	P	10 00 46.5 +0.2
WHTX	Lake Whitney, baz=71	70.59 337	⇑P	P	10 00 46.4 +0.1
137A	Heron Place, G baz=71	70.63 339	⇑P	P	10 00 46.7 +0.3
SWET	Sewanee comp=E,7.4nm,0.7s	70.79 348	eP	P	10 00 46.8 -0.7
430A	Baggett Ranch, baz=71,SNR=6.9	70.80 333	⇓P	P	10 00 47.6 0.0
332A	Millersview baz=71	70.81 335	⇓P	P	10 00 47.6 0.0
234A	Clairette baz=71	70.83 336	⇑P	P	10 00 47.7 0.0
429A	Davenport Ranc baz=71	70.91 333	⇓P	P	10 00 48.4 +0.1
331A	San Angelo baz=71,SNR=8.5	70.98 334	⇓P	P	10 00 48.8 +0.1
233A	Rising Star baz=71,SNR=6.2	71.09 336	⇑P	P	10 00 49.3 -0.1
135A	Vickery Place, baz=71	71.10 337	⇑P	P	10 00 49.4 0.0
232A	Coleman baz=72,SNR=5.4	71.23 335	⇓P	P	10 00 49.8 -0.4
134A	White-Moore Ra baz=72	71.33 337	⇓P	P	10 00 50.5 -0.2
330A	Mertzon baz=72	71.34 334	⇓P	P	10 00 50.7 -0.2
231A	Bronte baz=72,SNR=8.2	71.51 335	⇑P	P	10 00 51.7 -0.2
133A	Hamilton Ranch baz=72	71.64 336	⇓P	P	10 00 52.4 -0.2
329A	Wagon Wheel Ra baz=72,SNR=5.6	71.71 333	⇓P	P	10 00 53.3 +0.2
230A	Sterling City baz=72	71.75 334	⇓P	P	10 00 53.5 +0.2
Z35A	Perchaven, San baz=72	71.77 338	⇑P	P	10 00 53.5 +0.2
ABTX	Abilene, Hawle baz=72,SNR=5.8	71.90 335	⇑P	P	10 00 54.0 -0.2
ABTX	Abilene, Hawle comp=E,8.1nm,0.7s	71.90 335	eP	P	10 00 53.9 -0.3
Z34A	Collier Ranch, baz=72	72.01 337	⇓P	P	10 00 54.9 +0.1
WVT	Waverly comp=E,16nm,0.8s	72.03 346	eP	P	10 00 53.9 -0.9
229A	Bryant Ranch, baz=72	72.08 333	⇓P	P	10 00 55.1 -0.2
131A	Roby baz=72	72.20 335	⇑P	P	10 00 56.4 +0.4
Z33A	Whitaker Ranch baz=72,SNR=6.9	72.21 336	⇑P	P	10 00 55.7 -0.3
130A	Snyder baz=73,SNR=5.4	72.34 334	⇓P	P	10 00 56.3 -0.6
Z32A	Haskell baz=73	72.47 336	⇑P	P	10 00 57.5 -0.1
228A	UT Block 9, Go baz=73	72.50 333	⇓P	P	10 00 57.9 0.0
Y34A	Reagan Ranch, baz=73	72.50 338	⇓P	P	10 00 57.6 -0.1
129A	Stewart Farms, baz=73	72.69 334	⇓P	P	10 00 58.8 -0.2
Z31A	Sharp Cattle R baz=73,SNR=7.5	72.70 335	⇑P	P	10 00 59.1 +0.1
Y33A	Hilltop Ranch, baz=73	72.83 337	⇓P	P	10 00 59.5 -0.2
128A	Castleberry Fa baz=73,SNR=5.9	72.91 333	⇑P	P	10 01 00.3 0.0
Z30A	Sanderson Ranc baz=73,SNR=5.9	73.02 335	⇓P	P	10 01 00.9 0.0
Y32A	R-V Farms, Ver baz=73	73.09 336	⇓P	P	10 01 01.1 -0.2
X34A	Smith Ranch, M baz=73	73.12 338	⇓P	P	10 01 01.2 -0.2
Z29A	Hungry Hill Ra baz=73,SNR=6.8	73.20 334	⇓P	P	10 01 01.4 -0.6
MNTX	Cornudas Mount comp=E,3.2nm,0.8s	73.22 330	eP	P	10 01 01.0 -1.1
X33A	Lawton baz=74	73.28 337	⇓P	P	10 01 01.6 -0.7
Y31A	Rekieta Farm, baz=74	73.33 336	⇓P	P	10 01 02.8 +0.1
X32A	Elmer baz=74	73.42 336	⇓P	P	10 01 03.1 -0.1
Y30A	Stafford Cattl baz=74	73.47 335	⇓P	P	10 01 03.7 +0.1
Z28A	Tucker Farm, M baz=74	73.47 334	⇑P	P	10 01 03.6 0.0
W34A	Bridge Creek, baz=74	73.69 338	⇑P	P	10 01 04.7 0.0
TUL1	Leonard baz=74	73.73 340	⇑P	P	10 01 04.8 -0.1
TUL1	Leonard comp=E,8.0nm,0.6s	73.73 340	eP	P	10 01 04.3 -0.6
Y29A	Porterfield Fa baz=74,SNR=5.6	73.73 334	⇑P	P	10 01 05.0 -0.1
CPRX	Cap Rock comp=E,1.0nm,0.3s	73.80 332	eP	P	10 01 05.2 -0.4
W33A	Caddo, Fort Co baz=74	73.83 337	⇓P	P	10 01 06.1 +0.5
X31A	McDonald Ranch baz=74,SNR=6.6	73.84 336	⇑P	P	10 01 05.5 -0.2
X30A	Coker Ranch, T baz=74	73.98 335	⇓P	P	10 01 08.1 +1.5
Y28A	McKinney Farm, baz=74	73.98 334	⇑P	P	10 01 07.0 +0.4
W32A	Sentinel baz=74,SNR=8.4	74.05 337	⇓P	P	10 01 06.6 -0.3
V34A	Guthrie baz=74	74.17 338	⇓P	P	10 01 07.6 +0.1
MSTX	Muleshoe baz=74,SNR=5.7	74.23 334	⇓P	P	10 01 07.9 -0.2
MSTX	Muleshoe comp=E,6.6nm,0.8s	74.23 334	eP	P	10 01 07.8 -0.3
X29A	Tulia baz=74	74.27 335	⇓P	P	10 01 08.0 -0.2
Y27A	Causey baz=74	74.30 333	⇓P	P	10 01 08.1 -0.3
W31A	Holland Ranch, baz=75	74.34 336	⇓P	P	10 01 08.7 +0.2
Z25A	Roswell baz=75	74.35 332	⇑P	P	10 01 09.2 +0.5
V33A	Lossen Ranch, baz=75,SNR=5.6	74.39 338	⇑P	P	10 01 08.8 0.0
X28A	Dimmitt baz=75	74.51 334	⇑P	P	10 01 11.0 +1.3
V32A	Arapaho baz=75	74.53 337	⇑P	P	10 01 10.3 +0.6
Y26A	Elida baz=75	74.58 333	⇑P	P	10 01 10.3 +0.2
319A	Douglas baz=75	74.61 327	⇓P	P	10 01 11.0 +0.6
Z24A	Sheeppen Canyo baz=75,SNR=6.4	74.65 331	⇑P	P	10 01 11.2 +0.6
AMTX	Amarillo baz=75	74.66 335	⇑P	P	10 01 11.5 +1.1
U34A	Anderson Ranch baz=75	74.73 339	⇑P	P	10 01 10.7 0.0
V31A	Spring Creek L baz=75	74.84 337	⇑P	P	10 01 12.5 +1.0
W29A	Amarillo baz=75	74.86 335	⇑P	P	10 01 11.8 +0.2
U33A	Lingo Farm, Me baz=75	74.90 338	⇓P	P	10 01 12.2 +0.5
Y25A	Mesa, Roswell baz=75	74.91 332	⇓P	P	10 01 12.0 0.0
121A	Cookes Peak, D baz=75,SNR=6.7	74.95 329	⇓P	P	10 01 13.2 +0.9
121A	Cookes Peak, D comp=E,5.6nm,0.9s	74.95 329	eP	P	10 01 12.8 +0.5
X27A	F and S Farms, baz=75	74.95 334	⇓P	P	10 01 13.0 +0.8
V30A	Spur Ranch, Mi baz=75	75.11 336	⇑P	P	10 01 13.1 +0.1
U32A	Winter Ranch, baz=75	75.13 338	⇓P	P	10 01 13.4 +0.3
X26A	CR and CF Fran baz=75	75.13 333	⇓P	P	10 01 13.5 +0.2
DBIC	Dimbokro comp=E,6.7nm,0.9s,baz=240,slow=14,SNR=3.8	75.17 71 P		P	10 01 14.6 +0.8
W28A	Vega baz=75	75.18 335	⇓P	P	10 01 13.5 0.0
Y24A	Capitan baz=75	75.20 332	⇑P	P	10 01 14.6 +0.8
Z22A	Elephant Butte baz=76	75.23 330	⇓P	P	10 01 14.9 +0.9
ACSO	Alum Creek Sta comp=E,9.0nm,0.7s	75.26 351	eP	P	10 01 13.0 -0.7
W27A	Bowe Ranch, En baz=76,SNR=10	75.31 334	⇓P	P	10 01 14.3 0.0
U31A	Nine Bar Ranch baz=76	75.39 337	⇓P	P	10 01 14.9 +0.3
X25A	Clemmons Ranch baz=76	75.43 332	⇓P	P	10 01 15.3 +0.2
Y23A	Lovelace Mesa, baz=76	75.45 331	⇓P	P	10 01 15.8 +0.5
V29A	Stinnett baz=76	75.50 335	⇓P	P	10 01 16.1 +0.8
T33A	Patterson Ranc baz=76	75.54 338	⇑P	P	10 01 15.8 +0.4
W26A	Owens Ranch, T baz=76	75.59 333	⇑P	P	10 01 16.2 +0.3
V28A	Channing baz=76	75.63 335	⇑P	P	10 01 16.7 +0.6
U30A	WK&E Inc. Balk baz=76	75.80 336	⇓P	P	10 01 17.7 +0.7
T32A	Huddler Ranch, baz=76	75.84 338	⇓P	P	10 01 17.5 +0.4
Y22D	IRIS PASSCAL I baz=76	75.92 330	⇑P	P	10 01 18.0 +0.1
U29A	Oasis Ranch, S baz=76	75.93 336	⇑P	P	10 01 18.1 +0.3
S33A	Kaszmaul Farm, baz=76	75.94 339	⇓P	P	10 01 18.0 +0.2
W25A	X Bar L Ranch, baz=76	75.97 333	⇑P	P	10 01 18.4 +0.3
T31A	Randall Ranch, baz=76	76.00 337	⇓P	P	10 01 18.4 +0.3
SFIN	Lafayette baz=76	76.02 348	⇓P	P	10 01 18.2 +0.1
X23A	Hourglass Bar baz=76	76.07 331	⇓P	P	10 01 18.4 -0.4
TUC	Tucson comp=E,32nm,2.6s	76.07 327	eP	P	10 01 19.0 +0.3
U28A	Mallet baz=76	76.19 335	⇓P	P	10 01 19.4 +0.1
V26A	Tequesquite Ra baz=76	76.23 334	⇓P	P	10 01 19.5 -0.1
T30A	Plains baz=76	76.23 337	⇑P	P	10 01 19.8 +0.3
W24A	Lazy 6 Ranch, baz=77,SNR=5.7	76.32 332	⇓P	P	10 01 20.3 +0.1
S32A	Newby Ranch, P baz=77	76.32 338	⇓P	P	10 01 20.1 +0.2
S31A	Mullinville baz=77	76.42 338	⇓P	P	10 01 20.5 +0.1
U27A	Thompson Grove baz=77	76.44 335	⇑P	P	10 01 21.0 +0.2
ANMO	Albuquerque	76.50 331	eP	P	10 01 21.0 -0.2
W23A	Werner Place, baz=77	76.56 332	⇑P	P	10 01 21.7 +0.1
V25A	Rancho No Teng baz=77,SNR=7.7	76.57 333	⇓P	P	10 01 21.6 0.0
T29A	Hugoton baz=77	76.58 336	⇑P	P	10 01 21.4 0.0
R33A	Olander Ranch, baz=77	76.60 339	⇓P	P	10 01 21.2 -0.3
214A	Organ Pipe Nat baz=77	76.72 325	⇓P	P	10 01 22.9 +0.6
214A	Organ Pipe Nat comp=E,3.1nm,0.8s	76.72 325	eP	P	10 01 22.7 +0.5
V24A	Rampart Ranch, baz=77	76.72 332	⇑P	P	10 01 23.0 +0.5
S30A	Montezuma baz=77	76.75 337	⇓P	P	10 01 22.8 +0.5
U26A	Atchley Ranch, baz=77	76.75 334	⇓P	P	10 01 23.0 +0.4
T28A	Walsh baz=77,SNR=8.5	76.83 335	⇑P	P	10 01 22.8 -0.1
R32A	Long Quarter, baz=77	76.92 339	⇓P	P	10 01 23.4 +0.2
S29A	Ulysses baz=77	76.94 336	⇓P	P	10 01 23.7 +0.2
T27A	Campo baz=77,SNR=7.5	76.98 335	⇓P	P	10 01 23.9 +0.2
U25A	Circle Dot Ran baz=77	77.00 333	⇑P	P	10 01 24.1 +0.1
R31A	Burdett baz=77	77.05 338	⇓P	P	10 01 24.3 +0.3
V23A	Ortiz Mt. (NFS baz=77	77.09 332	⇓P	P	10 01 24.6 +0.1
S28A	Manter baz=77,SNR=7.8	77.18 336	⇓P	P	10 01 25.2 +0.4
Q33A	Connelly Farm, baz=78	77.19 339	⇑P	P	10 01 25.7 +0.9
R30A	Dighton baz=78	77.28 337	⇓P	P	10 01 26.3 +1.0
U24A	Moreno Valley baz=78	77.33 333	⇑P	P	10 01 27.0 +1.0
T26A	Comanche Natio baz=78	77.39 334	⇑P	P	10 01 26.6 +0.4
Q32A	Meitler Ranch, baz=78,SNR=5.9	77.40 339	⇑P	P	10 01 26.1 +0.2
V22A	San Miguel Ran baz=78,SNR=12	77.52 331	⇑P	P	10 01 28.1 +1.1
P33A	Williams Farm, baz=78	77.56 340	⇑P	P	10 01 28.0 +1.2
X18A	Snowflake baz=78	77.58 328	⇑P	P	10 01 28.2 +0.9
S27A	Las Animas baz=78	77.60 335	⇑P	P	10 01 27.8 +0.5
U23A	El Rito baz=78	77.61 332	⇓P	P	10 01 28.4 +1.0
T25A	Trinidad baz=78,SNR=7.5	77.65 334	⇓P	P	10 01 28.3 +0.7
Q31A	Ellis baz=78	77.66 338	⇓P	P	10 01 27.9 +0.5
R29A	Marienthal baz=78	77.68 337	⇓P	P	10 01 28.1 +0.5
S26A	Kim baz=78,SNR=9.7	77.75 335	⇓P	P	10 01 28.6 +0.5
R28A	Tribune baz=78,SNR=9.2	77.83 336	⇓P	P	10 01 28.4 0.0
113A	Mohawk Valley, baz=78	77.84 325	⇑P	P	10 01 28.6 +0.2
Q30A	Quinter baz=78,SNR=6.7	77.89 338	⇓P	P	10 01 29.0 +0.3
U22A	Llaves baz=78	77.91 332	⇓P	P	10 01 29.2 +0.1
T24B	San Luis baz=78	77.94 333	⇓P	P	10 01 29.4 +0.1
Z14A	Wintersburg baz=78	77.94 326	⇓P	P	10 01 29.6 +0.5
P32A	Huiting Farm, baz=78	77.99 339	⇑P	P	10 01 29.3 0.0
W18A	Petrified Fore baz=78	77.99 329	⇑P	P	10 01 29.7 +0.2
Q29A	Oakley baz=78,SNR=5.3	78.05 337	⇑P	P	10 01 29.8 +0.2
R27A	Eads baz=78,SNR=10	78.11 335	⇑P	P	10 01 30.4 +0.3
S25A	Robets Cordova baz=78	78.12 334	⇑P	P	10 01 30.7 +0.5
P31A	Stockton baz=78	78.13 338	⇓P	P	10 01 30.6 +0.6
X16A	Lo Mia Camp, P baz=78	78.14 327	⇑P	P	10 01 31.2 +0.8
T23A	Casias Ranch, baz=78	78.17 333	⇑P	P	10 01 31.3 +0.8
R26A	Arlington baz=79	78.35 335	⇓P	P	10 01 32.2 +0.8
S24A	Houchin Ranch, baz=79,SNR=7.6	78.39 333	⇓P	P	10 01 32.7 +0.8
Y14A	Wickenburg baz=79	78.45 326	⇓P	P	10 01 33.0 +1.0
O32A	Brockman Farm, baz=79	78.49 340	⇑P	P	10 01 32.9 +0.9
GLA	Glamis baz=79	78.58 324	⇑P	P	10 01 33.3 +0.7
P29A	Atwood baz=79,SNR=6.0	78.69 337	⇓P	P	10 01 33.6 +0.5
O31A	Woolen Ranch, baz=79	78.70 339	⇑P	P	10 01 33.9 +0.8
KSCO	Kaye Shedlock' baz=79	78.70 336	⇑P	P	10 01 34.0 +0.7
KSCO	Kaye Shedlock' comp=E,6.9nm,0.8s	78.70 336	eP	P	10 01 34.4 +1.1
S23A	Nye Farm, Mont baz=79	78.74 333	⇓P	P	10 01 34.2 +0.5
R24A	Sanders Place, baz=79,SNR=9.8	78.88 334	⇓P	P	10 01 35.2 +0.9
P28A	Saint Francis baz=79	78.92 337	⇑P	P	10 01 34.9 +0.5
Q26A	Hugo baz=79	78.93 335	⇓P	P	10 01 35.2 +0.7
O30A	MW Ranch, Wils baz=79	78.94 338	⇑P	P	10 01 35.2 +0.8
N32A	Stulken Farm, baz=79	78.96 340	⇑P	P	10 01 35.7 +1.2
SWSC	Sam W. Stewart baz=79	78.96 323	⇓P	P	10 01 35.8 +1.2
Y12C	Blythe baz=79	79.01 325	⇓P	P	10 01 36.1 +1.2
WUAZ	Wupatki baz=79	79.04 328	⇑P	P	10 01 36.3 +1.1
WUAZ	Wupatki comp=E,68nm,3.0s	79.04 328	eP	P	10 01 36.1 +0.8
JFWS	Jewell Farm comp=E,7.6nm,0.8s	79.06 346	eP	P	10 01 34.4 -0.6
S22A	4UR Ranch, Cre baz=79	79.09 332	⇓P	P	10 01 36.4 +0.7
R23A	Moffat baz=79	79.10 333	⇑P	P	10 01 36.8 +1.1
O29A	4D Ranch, Culb baz=79	79.12 338	⇑P	P	10 01 36.0 +0.5
Q25A	Bedland, Calha baz=79	79.17 335	⇑P	P	10 01 36.3 +0.3
P27A	Ficken Ranch, baz=79	79.18 336	⇑P	P	10 01 37.0 +1.2
N31A	Bailey Ranch, baz=80	79.20 339	⇑P	P	10 01 37.1 +1.2
MONP	Monument Peak, baz=79	79.23 323	⇑P	P	10 01 37.2 +0.7
PDMCI	Parker Dam,Lak baz=80	79.28 325	⇑P	P	10 01 37.5 +1.1
MVCO	Mesa Verde baz=80	79.28 331	⇓P	P	10 01 37.3 +0.6
MVCO	Mesa Verde comp=E,20nm,1.7s	79.28 331	eP	P	10 01 37.2 +0.6
BC3	Big Chuckawall baz=80	79.37 324	⇓P	P	10 01 37.8 +0.7
O28A	Krutsinger Ran baz=80	79.43 337	⇑P	P	10 01 37.9 +0.7
P26A	Davis Ranch, A baz=80	79.44 336	⇑P	P	10 01 37.8 +0.4
N30A	Huefele Ranch, baz=80	79.52 338	⇓P	P	10 01 38.2 +0.6
BOSA	Boshof comp=E,4.2nm,1.0s,baz=234,slow=4.0,SNR=3.8	79.54 117 P		P	10 01 38.6 +0.2
Q24A	Divide baz=80	79.54 334	⇓P	P	10 01 38.7 +0.6
109C	Camp Elliot, M baz=80	79.57 322	⇓P	P	10 01 39.2 +1.2
IRM	Iron Mountain baz=80	79.64 325	⇓P	P	10 01 39.1 +0.7
P25A	Willow Gulch B baz=80,SNR=8.7	79.68 335	⇑P	P	10 01 39.8 +1.1
M31A	Lambtecht Ranc baz=80	79.69 339	⇑P	P	10 01 39.4 +0.8
N29A	Votaw Ranch, W baz=80	79.70 338	⇓P	P	10 01 39.2 +0.6
O27A	Beecher Island baz=80	79.72 337	⇓P	P	10 01 40.0 +1.2
Q23A	Hartsel baz=80	79.73 334	⇓P	P	10 01 40.0 +0.8
W13A	Hualapai Mount baz=80	79.82 326	⇑P	P	10 01 40.9 +1.4
PFO	Pinyon Flats O baz=80	79.83 323	⇑P	P	10 01 41.1 +1.5
N28A	Pribbeno Ranch baz=80	79.87 337	⇑P	P	10 01 40.8 +1.3
BELC	Belle Mtn. Jos baz=80	79.92 324	⇑P	P	10 01 41.3 +1.2
P24A	Kohler Place, baz=80	79.94 335	⇑P	P	10 01 41.3 +1.2
O26A	Horse Wrangler baz=80	80.04 336	⇑P	P	10 01 41.6 +1.1
PV01	Paradox Valley	80.11 331	eP	P	10 01 41.5 +0.4
M30A	Dale-Ortello V baz=80	80.13 339	⇓P	P	10 01 42.5 +1.6
P23A	Jefferson baz=80	80.15 334	⇓P	P	10 01 42.5 +1.1
MURC	Murrieta baz=80	80.19 323	⇑P	P	10 01 42.4 +1.0
O25A	Wiggins baz=80	80.20 335	⇓P	P	10 01 42.3 +0.9
U15A	North Rim baz=80	80.20 328	⇑P	P	10 01 42.7 +0.9
M29A	Burnside Ranch baz=81	80.29 338	⇑P	P	10 01 42.8 +1.0
N27A	Anderson Farm, baz=81	80.29 337	⇑P	P	10 01 42.5 +0.7
SCI	San Clemente I baz=81	80.37 322	⇑P	P	10 01 42.9 +0.5
GMRC	Granite Mounta baz=81	80.39 325	⇓P	P	10 01 43.8 +1.2
SMCO	Snowmass	80.40 333	eP	P	10 01 43.7 +0.8
L31A	Butterfield Fa baz=81,SNR=7.4	80.42 340	⇓P	P	10 01 43.3 +0.9
ISCO	Idaho Springs baz=81	80.45 334	⇓P	P	10 01 44.0 +1.0
L30A	Spencer Herefo baz=81	80.47 339	⇑P	P	10 01 44.1 +1.3
O24A	Longmont baz=81	80.54 335	⇑P	P	10 01 44.5 +1.3
P22A	Eagle baz=81	80.68 333	⇓P	P	10 01 45.4 +1.2
HEC	Hector,Ludlow baz=81	80.75 324	⇑P	P	10 01 45.7 +1.2
M27A	Reverse DX Ran baz=81	80.90 337	⇑P	P	10 01 46.6 +1.5
O23A	Lake Granby, G baz=81,SNR=5.7	80.92 334	⇑P	P	10 01 46.8 +1.3
BFSC	Mount Baldy Ra baz=81	80.92 323	⇑P	P	10 01 46.6 +1.1
TUQ	Turquoise Moun baz=81	81.05 325	⇑P	P	10 01 47.4 +1.4
K30A	Basset baz=81,SNR=7.9	81.10 340	⇑P	P	10 01 47.3 +1.2
O22A	Kremmling baz=81	81.10 334	⇑P	P	10 01 47.0 +0.5
ECSD	EROS Data Cent baz=82,SNR=10	81.27 342	⇑P	P	10 01 46.7 -0.2
ECSD	EROS Data Cent comp=E,11nm,0.9s	81.27 342	eP	P	10 01 46.4 -0.6
M25A	Palm-Egli Farm baz=82	81.36 336	⇓P	P	10 01 48.9 +1.3
GSC	Goldstone, Bar baz=82	81.36 324	⇓P	P	10 01 48.7 +1.0
GSC	Goldstone, Bar comp=E,32nm,2.2s	81.36 324	eP	P	10 01 48.0 +0.3
K29A	Lazy Trails An	81.39 339	⇑P	P	10 01 48.2 +0.6

baz=82
N23A Red Feather La 81.53 334 ⇑P P 10 01 49.2 +0.5
baz=82
EDW2 Edwards Air Fo 81.60 323 ⇑P P 10 01 49.7 +0.7
baz=82
CCUT Cedar City 81.61 328 *e*P P 10 01 50.6 +1.4
comp=E,3.3nm,0.9s
N22A Wattenberg Ran 81.63 334 ⇑P P 10 01 49.9 +0.7
baz=82
M24A Cheyenne 81.65 336 ⇓P P 10 01 50.0 +0.8
baz=82
K28A Ten Mile Ranch 81.66 338 ⇓P P 10 01 50.0 +0.9
baz=82
J30A Dallas 81.67 340 ⇑P P 10 01 49.2 +0.2
baz=82
O20A White River Ci 81.71 333 ⇓P P 10 01 50.1 +0.5
baz=82
SRU San Rafael Swe 81.73 330 *e*P P 10 01 50.0 +0.3
comp=E,4.1nm,0.7s
K27A Flueckinger Fa 81.91 338 ⇓P P 10 01 51.6 +1.1
baz=82
LRMC Laurel Mtn Rad 81.93 324 ⇓P P 10 01 51.7 +1.0
baz=82
M23A Laramie 81.96 335 ⇑P P 10 01 51.7 +0.8
baz=82
L25A Engebretsen Ra 81.97 336 ⇑P P 10 01 51.7 +0.9
baz=82
J29A Okreek 81.98 339 ⇑P P 10 01 51.1 +0.4
baz=82,SNR=12
SBC Santa Barbara 82.12 322 ⇑P P 10 01 51.7 +0.1
baz=82
I30A Oacoma 82.19 340 ⇑P P 10 01 51.5 -0.2
baz=82,SNR=8.5
L24A Wheatland 82.20 336 ⇓P P 10 01 52.5 +0.5
baz=82
K26A Motz Farm, Whi 82.21 337 ⇓P P 10 01 52.5 +0.5
baz=82
M22A Cedar Creek Ra 82.21 334 ⇓P P 10 01 52.5 +0.3
baz=82
J28A Allard Ranch, 82.26 339 ⇑P P 10 01 52.9 +0.7
baz=82
N20A Spence Gulch, 82.32 333 ⇓P P 10 01 53.4 +0.5
baz=83
FURC Furnace Creek, 82.33 325 ⇑P P 10 01 53.7 +1.1
baz=83
J27A Elkhorn Farm, 82.34 338 ⇑P P 10 01 53.4 +0.8
baz=83
K25A Mack Ranch, Ha 82.35 337 ⇓P P 10 01 53.4 +0.6
baz=83
ISA Isabella, Lake 82.46 323 ⇓P P 10 01 55.0 +1.5
baz=83
DAC Darwin (Calif) 82.52 324 *e*P P 10 01 54.8 +0.9
comp=E,2.6nm,0.8s
L23A Garrett 82.52 335 ⇓P P 10 01 54.8 +0.9
baz=83
I29A Vivian Onida 82.54 340 ⇑P P 10 01 54.9 +1.3
baz=83
BRSD Miller 82.55 341 ⇓P P 10 01 54.9 +1.3
baz=83
L22A Ellis Ranch, M 82.71 335 ⇓P P 10 01 55.4 +0.7
baz=83
J26A Sides Ranch, S 82.73 338 ⇓P P 10 01 55.7 +1.1
baz=83
K24A Anderson Ranch 82.76 336 ⇓P P 10 01 56.2 +1.3
baz=83
I28A Midland 82.77 339 ⇓P P 10 01 55.6 +0.8
baz=83,SNR=7.3
VES Vestal, Richgr 82.91 323 ⇑P P 10 01 56.5 +0.9
baz=83
SMMC Simmler 82.95 322 ⇑P P 10 01 56.2 +0.3
baz=83
GRAC Grapevine Rang 83.00 325 ⇓P P 10 01 56.6 +0.4
baz=83
J25A Sunshine Ranch 83.03 337 ⇑P P 10 01 56.8 +0.6
baz=83
K23A Bowen Ranch, D 83.06 336 ⇓P P 10 01 57.5 +1.0
baz=83
H29A Onida 83.07 340 ⇓P P 10 01 56.6 +0.3
baz=83
I27A Quinn 83.09 339 ⇑P P 10 01 57.4 +0.9
baz=83
G30A Faulkton 83.23 341 ⇑P P 10 01 58.5 +1.3
baz=84
J24A Dixon Ranch, L 83.25 336 ⇑P P 10 01 58.5 +1.0
baz=84
R11A Troy Canyon, C 83.26 327 ⇓P P 10 01 58.1 +0.4
baz=84
R11A Troy Canyon, C 83.26 327 *e*P P 10 01 58.4 +0.7
comp=E,19nm,2.1s
K22A Casper 83.28 335 ⇓P P 10 01 57.9 +0.3
baz=84
K22A Casper 83.28 335 *e*P P 10 01 58.0 +0.3
comp=E,72nm,2.6s
I26A New Underwood 83.31 338 ⇑P P 10 01 58.1 +0.4
baz=84
H28A Mission Ridge 83.34 339 ⇓P P 10 01 58.2 +0.5
baz=84
JLU Jordanelle 83.37 331 *e*P P 10 01 58.6 +0.3
comp=E,3.4nm,0.8s
G29A Hoven 83.51 340 ⇓P P 10 01 59.7 +1.1
baz=84
K21A Alcova 83.52 334 ⇑P P 10 01 59.3 +0.4
baz=84
I25A Rochford 83.57 337 ⇑P P 10 01 59.8 +0.6
baz=84
DUG Dugway, Tooele 83.58 330 ⇑P P 10 01 59.9 +0.6
baz=84
DUG Dugway, Tooele 83.58 330 *e*P P 10 01 59.9 +0.6
comp=E,61nm,3.0s
H27A Howes 83.61 339 ⇓P P 10 01 59.8 +0.6
baz=84
J23A Dilts Ranch, B 83.61 336 ⇑P P 10 01 59.9 +0.6
baz=84
G28A Parade 83.68 340 ⇓P P 10 01 59.9 +0.5
baz=84
I24A Kuemmerle Ranc 83.71 337 ⇑P P 10 02 00.1 +0.3
baz=84
RSSD Black Hills 83.76 337 *e*P P 10 01 59.6 -0.5
TPH Tonopah 83.79 326 *e*P P 10 02 01.3 +0.8
comp=E,7.8nm,1.4s
H26A Fairpoint 83.81 338 ⇓P P 10 02 00.7 +0.5
baz=84
F30A Leola 83.86 341 ⇑P P 10 02 00.9 +0.6
baz=84
J22A Midwest 83.94 335 ⇓P P 10 02 01.4 +0.4
baz=84
F29A Eureka 84.07 341 ⇑P P 10 02 02.2 +0.8
baz=84
H25A Fruitdale 84.07 338 ⇑P P 10 02 02.2 +0.6
baz=84
MLAC Mammoth, Mammo 84.20 324 ⇑P P 10 02 03.3 +0.7
baz=84
TORD Torodi Ar. Bea 84.21 70 P P 10 02 03.0 +0.1
comp=E,4.4nm,1.1s,baz=250,slow=3.9,SNR=11
J21A Lysite 84.22 335 ⇓P P 10 02 03.7 +1.2
baz=84
G27A Dupree 84.25 339 ⇓P P 10 02 02.3 -0.1
baz=84
I22A 9 Mile Ranch, 84.36 336 ⇑P P 10 02 03.0 -0.1
baz=85
G26A Maurine 84.37 339 ⇓P P 10 02 03.2 +0.2
baz=85
E30A Jud 84.44 342 ⇑P P 10 02 03.7 +0.4
baz=85
J20A Shoshoni 84.45 334 ⇓P P 10 02 04.4 +0.8
baz=85
PDAR Pinedale Array 84.48 333 P P 10 02 03.3 -0.6
comp=E,1.9nm,1.0s,baz=154,slow=4.4,SNR=8.8
H24A Dirks Ranch, A 84.48 337 ⇑P P 10 02 04.5 +0.8
baz=85
G25A Newell 84.53 338 ⇓P P 10 02 04.5 +0.7
baz=85,SNR=6.7
I21A Big Trails, Te 84.57 335 ⇑P P 10 02 04.7 +0.5
baz=85
NVAR Mina Array Bea 84.58 325 P P 10 02 03.8 -0.7
comp=E,1.5nm,0.7s,baz=155,slow=5.6,SNR=9.3
H23A Clabaugh Cattl 84.59 337 ⇓P P 10 02 04.8 +0.6
baz=85
E29A Napoleon 84.70 341 ⇑P P 10 02 04.9 +0.3
baz=85
F27A Lemmon 84.72 339 ⇓P P 10 02 05.0 +0.2
baz=85,SNR=7.3
J19A Crowheart 84.72 334 ⇑P P 10 02 05.2 +0.2
baz=85
F26A Lodgepole 84.90 339 ⇑P P 10 02 06.2 +0.6
baz=85
HVU Hansel Valley 84.90 330 *e*P P 10 02 05.8 -0.1
comp=E,2.8nm,0.7s

H22A Clearmont 84.94 336 ⇓P P 10 02 06.3 +0.3
baz=85
G24A Alzada 84.96 338 ⇓P P 10 02 06.5 +0.5
baz=85
D30A Buchanan 84.96 342 ⇑P P 10 02 05.9 0.0
baz=85
I20A Worland 84.98 335 ⇓P P 10 02 06.6 +0.3
baz=85
E28A Huff 84.99 340 ⇑P P 10 02 06.3 +0.2
baz=85
E27A Carson 85.10 340 ⇑P P 10 02 06.9 +0.2
baz=85
D29A Pettibone, Tap 85.14 341 ⇓P P 10 02 06.9 +0.1
baz=85
G23A Biddle 85.16 337 ⇓P P 10 02 07.3 +0.2
baz=85
F25A Bowman 85.20 338 ⇓P P 10 02 07.3 +0.1
baz=86
H21A Big Horn, Sher 85.20 336 ⇓P P 10 02 07.4 +0.1
baz=86
I19A Meeteetse 85.37 334 ⇑P P 10 02 08.0 -0.2
baz=86
AGMN Agassiz Nation 85.38 344 ⇑P P 10 02 07.4 -0.5
baz=86,SNR=5.3
AGMN Agassiz Nation 85.38 344 *e*P P 10 02 07.1 -0.8
comp=E,37nm,1.9s
E26A Carlson Angus 85.40 339 ⇑P P 10 02 07.9 -0.2
baz=86
H20A Greybull 85.41 335 ⇑P P 10 02 08.2 -0.1
baz=86
F24A Ekalaka 85.43 338 ⇓P P 10 02 08.2 -0.2
baz=86
C30A Mose, Pekin 85.44 342 ⇓P P 10 02 08.7 +0.4
baz=86
G22A Birney 85.47 336 ⇑P P 10 02 08.7 +0.1
baz=86
D28A Regan 85.52 341 ⇓P P 10 02 08.8 +0.1
baz=86
F23A Volborg 85.62 337 ⇓P P 10 02 09.4 0.0
baz=86
TPAW Teton Pass 85.63 333 *e*P P 10 02 10.0 +0.3
comp=E,13nm,1.7s
E25A Miller Ranch, 85.70 339 ⇓P P 10 02 09.8 +0.1
baz=86
G21A Lodge Grass 85.78 336 ⇑P P 10 02 10.3 +0.1
baz=86
I17A Pilgrim Ck. 85.85 333 ⇓P P 10 02 10.9 +0.2
baz=86
MDND Maddock 85.87 342 ⇑P P 10 02 10.6 +0.2
baz=86
MDND Maddock 85.87 342 *e*P P 10 02 10.4 0.0
D26A Manning 85.89 340 ⇑P P 10 02 10.9 +0.3
baz=86
H19A Powell 85.92 334 ⇑P P 10 02 11.0 +0.1
baz=86
F22A Rosebud 85.95 337 ⇑P P 10 02 11.3 +0.3
baz=86
IMW Indian Meadow 85.97 333 *e*P P 10 02 11.4 0.0
comp=E,3.4nm,0.9s
E24A Baker 86.03 338 ⇓P P 10 02 11.6 +0.3
baz=86
FLWY Flagg Ranch 86.04 333 *e*P P 10 02 11.8 +0.2
comp=E,5.8nm,0.9s
B30A Myrvik Farm, E 86.10 343 ⇑P P 10 02 11.4 -0.1
baz=86,SNR=8.5
G20A Bridger 86.12 335 ⇓P P 10 02 11.7 -0.2
baz=86
H18A Shoshone NF, C 86.17 334 ⇑P P 10 02 12.4 +0.2
baz=86
C27A Sayler Ranch, 86.25 340 ⇑P P 10 02 12.7 +0.3
baz=86
H17A Grant Village 86.26 333 ⇑P P 10 02 13.7 +1.0
baz=86
D25A Fairfield 86.26 339 ⇑P P 10 02 13.1 +0.7
baz=86
E23A Ismay 86.28 337 ⇓P P 10 02 12.5 -0.1
baz=86
B29A Wagenman Farm, 86.37 342 ⇑P P 10 02 12.9 +0.1
baz=87
C26A Wahner Farm, P 86.52 340 ⇓P P 10 02 14.0 +0.3
baz=87
D24A Glendive 86.53 338 ⇓P P 10 02 14.1 +0.4
baz=87
A30A Hoffart Farm, 86.55 343 ⇑P P 10 02 13.7 0.0
baz=87
F20A Billings 86.61 335 ⇑P P 10 02 14.2 +0.1
baz=87
B28A Dugan Ranch, T 86.62 341 ⇑P P 10 02 14.4 +0.4
baz=87
YMR Madison River 86.64 333 *e*P P 10 02 15.6 +1.0
comp=E,8.8nm,0.9s
C25A Freed Ranch, W 86.75 339 ⇓P P 10 02 15.2 +0.5
baz=87
A29A Manning Farm, 86.77 342 ⇑P P 10 02 14.9 +0.2
baz=87
B27A Peters Farms, 86.82 341 ⇑P P 10 02 16.2 +1.2
baz=87
D23A Lindsay 86.85 338 ⇓P P 10 02 15.7 +0.3
baz=87
E21A Keefer Ranch, 86.89 336 ⇑P P 10 02 15.8 +0.3
baz=87
F19A Roth Farm, Mol 86.93 335 ⇑P P 10 02 15.3 -0.5
baz=87
C24A Savage 86.93 339 ⇓P P 10 02 15.9 +0.2
baz=87,SNR=9.5
A28A Rude Farm, Bot 87.02 342 ⇑P P 10 02 16.2 +0.2
baz=87
HLID Hailey 87.05 330 ⇓P P 10 02 17.1 +0.6
baz=87
HLID Hailey 87.05 330 *e*P P 10 02 17.1 +0.6
comp=E,3.3nm,1.1s
B26A Jensen Ranch, 87.06 340 ⇑P P 10 02 16.8 +0.5
baz=87
D22A Cohagen 87.14 337 ⇑P P 10 02 17.4 +0.7
baz=87,SNR=6.1
E20A Meyer Farm, Mu 87.21 336 ⇑P P 10 02 17.4 +0.3
baz=88
ULM Lac du Bonnet 87.22 345 P P 10 02 15.6 -1.4
comp=E,3.7nm,0.8s,baz=178,slow=3.6,SNR=7.1
ULM Lac du Bonnet 87.22 345 *e*P P 10 02 16.2 -0.7
comp=E,62nm,2.2s
B25A Knox Farm, Ray 87.23 340 ⇑P P 10 02 17.5 +0.4
baz=88
A27A Ledoux Ranch, 87.31 341 ⇓P P 10 02 18.0 +0.6
baz=88
D21A La Casta Ranch 87.33 337 ⇓P P 10 02 17.9 +0.2
baz=88
E19A Rath Farm, Rou 87.40 335 ⇓P P 10 02 17.9 -0.1
baz=88
C23A Lambert 87.41 338 ⇓P P 10 02 18.3 +0.3
baz=88
A26A Wade Farm, Ken 87.48 341 ⇑P P 10 02 18.5 +0.3
baz=88
MCMT McKenzie Canyo 87.48 332 *e*P P 10 02 19.0 +0.3
comp=E,3.7nm,1.2s
C22A Vida 87.57 338 ⇑P P 10 02 18.8 0.0
baz=88
DGMT Dagmar 87.71 339 ⇑P P 10 02 20.0 +0.6
baz=88
D20A Manuel Ranch, 87.73 336 ⇑P P 10 02 19.8 +0.2
baz=88
A25A Svangstu Ranch 87.82 340 ⇓P P 10 02 20.7 +0.8
baz=88
B23A Brockton 87.94 339 ⇑P P 10 02 21.6 +1.1
baz=88
D19A Cripps Ranch, 88.04 336 ⇑P P 10 02 22.2 +1.2
baz=88
A24A Westby 88.06 339 ⇑P P 10 02 22.1 +1.1
baz=88
B22A Reddig Ranch S 88.10 338 ⇑P P 10 02 22.0 +0.7
baz=88
C20A Veseth Ranch, 88.23 336 ⇑P P 10 02 22.6 +0.8
baz=88
B21A Ellsworth Farm 88.53 337 ⇓P P 10 02 23.6 +0.3
baz=89
C19A Slack Wire Ran 88.59 336 ⇑P P 10 02 24.4 +0.8
baz=89
N02D Trinity Center 88.68 324 ⇑P P 10 02 24.6 +0.3
baz=89
A22A Carney Farms, 88.69 338 ⇓P P 10 02 24.2 +0.2
baz=89
B20A Solberg Farm, 88.86 337 ⇑P P 10 02 25.1 +0.2
baz=89
M04C Macdoel 88.89 325 ⇑P P 10 02 25.3 +0.1
baz=89
A21A Bergtoll Ranch 89.00 338 ⇓P P 10 02 26.1 +0.6
baz=89
M02C Callahan 89.08 324 ⇓P P 10 02 26.3 +0.2
baz=89
EGMT Eagleton 89.08 336 ⇓P P 10 02 26.1 +0.1
baz=89
B19A Brinkman Farms 89.18 336 ⇓P P 10 02 26.5 +0.1
baz=89
A20A Cobblestone Ra 89.22 337 ⇓P P 10 02 26.7 +0.2
baz=90
K04D Chiloquin, OR 89.50 326 ⇑P P 10 02 28.4 +0.3
baz=90
A19A Klindworth Far 89.53 337 ⇓P P 10 02 28.3 +0.3
baz=90
J04D Umpqua Nationa 90.14 326 ⇓P P 10 02 31.8 +0.6
baz=90
G03D McMinnville, O 92.19 326 ⇑P P 10 02 40.9 +0.6
baz=92
YKA Yellowknife Ar 102.78 341 P Pdif 10 03 26.2 -1.6
comp=E,0.1nm,0.5s,baz=143,slow=4.6,SNR=4.7
ASAR Alice Springs 117.07 206 PKP PKPdf 10 08 15.3 -1.2
comp=E,0.3nm,0.9s,baz=76,slow=0.4,SNR=3.3
WRA Warramunga Arr 120.28 209 PKP PKPdf 10 08 21.2 -1.5
comp=E,0.6nm,0.6s,baz=160,slow=1.6,SNR=11
BRTR Keskin Array B 121.95 61 PKP PKPdf 10 08 26.4 +1.1
comp=E,1.0nm,0.9s,baz=5.7,slow=5.8,SNR=2.7
H11S2 WAKE ISLAND Hyl 26.00 268 T T 12 26 52.6
baz=119,slow=76,SNR=16
H11S1 WAKE ISLAND Hyl 26.02 268 T T 12 26 51.4
baz=119,slow=76,SNR=16
H11S3 WAKE ISLAND Hyl 26.02 268 T T 12 26 53.0
baz=119,slow=76,SNR=8.2
H11N3 WAKE ISLAND Hyl 26.43 270 T T 12 27 22.5
baz=115,slow=78,SNR=12
H11N1 WAKE ISLAND Hyl 26.45 270 T T 12 27 23.5
baz=115,slow=78,SNR=31
H11N2 WAKE ISLAND Hyl 26.45 270 T T 12 27 23.8
baz=115,slow=78,SNR=19
SEY Seymchan 140.74 330 PKP PKPdf 10 08 58.0 -1.8
comp=E,1.1nm,0.6s,baz=249,slow=23,SNR=6.4
BVAR Borovoye Array 147.61 44 PKPbc PKPbc 10 09 14.9 +0.1
comp=E,1.8nm,0.6s,baz=290,slow=4.3,SNR=8.3
HYB Hyderabad 148.42 115 *i* PKP PKPbc 10 09 17.0 -1.1
KURBB Kurchatov Arra 153.19 44 PKPbc PKPbc 10 09 28.1 -0.2
comp=E,0.9nm,0.6s,baz=301,slow=2.9,SNR=11
KURK Kurchatov 153.20 44 PKPbc PKPbc 10 09 28.1 -0.2
KSH Kashi 153.88 70 *e*PKPbc PKPdf 10 09 23.8 +1.4
KSH sPKP 10 09 37.3
KSH PKS **PKSdf** **10 12 58.6 +1.9**
KSH SKS **SKSdf** **10 16 26.5 -0.2**
KSH SS **SS** **10 32 48.1 -6.2**
KSH PPMZ
comp=E,71nm,3.6s
KSH LN
comp=E,41nm,5.5s
KSH LE
comp=E,44nm,4.0s
KSH LZ
comp=E,93nm,9.5s
ZALV Zalesovo Beam 154.66 33 PKPbc PKPbc 10 09 30.3 -1.0
comp=E,1.0nm,0.6s,baz=300,slow=3.3,SNR=5.6
WMQ Urumqi 161.68 54 *e*PKP PKPdf 10 09 32.0 +0.2
WMQ pPKP **pPKPdf** **10 09 43.0 -0.2**
SONM Songino Array 166.79 6 PKPab PKPab 10 10 40.4 +1.1
comp=E,0.4nm,0.5s,baz=116,slow=3.4,SNR=2.7
HHC Hu-ho-hao-te 173.31 338 *e*PKP PKPdf 10 09 41.4 +1.2
HHC pPKP **pPKPdf** **10 09 52.2 +0.6**
HHC sPKP 10 09 55.8
HHC PP **PP** **10 15 02.8 +3.1**
HHC SKS **SKSdf** **10 16 38.2 -2.6**
HHC SS **SS** **10 36 10.6 -1.5**
HHC PPMZ
comp=E,120nm,6.5s
HHC LN
comp=E,170nm,20.1s
HHC LE
comp=E,120nm,19.7s
HHC LZ
comp=E,160nm,18.5s
LZH Lanzhou 176.13 68 *e*PKP PKPdf 10 09 42.5 +1.2
LZH pPKP **pPKPdf** **10 09 53.6 +0.9**
LZH sPKP 10 09 57.8
LZH LN
comp=E,170nm,18.1s
LZH LE
comp=E,180nm,18.0s
LZH LZ
comp=E,200nm,20.0s

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*IDC **06** 09:56:15.0± 1.1, 39.°69N×118.°56E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/26, mbtmp3.6/7, ML3.7/2, Error ellipse: s-maj=38.2km s-min=17.0km az=32.0*
*BJI **06** 09:56:17.7, 39.°70N×118.°50E, h8km, ML3.6/10*
ISC 06 09:56:17.3±0.7, 39.°71N±0.°07×118.°53E±0.°04, h15km, n11, σ1§07/16, mb3.6/5, 1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJI	**Beijing**	**1.84**	**281**	Pg	**Pb**	**09 56 50.4**	**-0.3**
BJI				Sn	**Sn**	**09 57 11.5**	**0.0**
BJI				Sg	**Sg**	**09 57 15.0**	**-1.7**
BJI				SMN			
	930nm,0.6s						
BJI				SME			
	2μm,0.7s						
DL2	**Dalian**	**2.53**	**107**	⇓Pn	**Pn**	**09 56 58.5**	**+0.6**
DL2				Pg	**Pg**	**09 57 04.6**	**-1.2**
DL2				Sg	**Sg**	**09 57 38.4**	**-0.3**
DL2				SMN			
	250nm,0.8s						
DL2				SME			
	230nm,0.6s						
TIA	**Tai'an**	**3.66**	**198**	Pg	**Pb**	**09 57 20.4**	**-1.4**
TIA				Sg	**Sb**	**09 58 08.4**	**+2.4**
TIA				SMN			
	70nm,0.7s						
TIA				SME			
	140nm,0.8s						
KSRS	**Korea Array**	**7.69**	**104**	Pn	**Pn**	**09 58 08.4**	**-0.3**
	1.5nm,0.3s,baz=289,slow=14,SNR=18						
KSRS				Sn	**Sn**	**09 59 36.5**	**+0.9**
	0.6nm,0.3s,baz=284,slow=24,SNR=3.9						
KSRS				Lg	Lg	10 00 18.0	
	0.5nm,0.3s,baz=285,slow=29,SNR=3.6						
USRK	**Ussuriysk Ar.**	**10.98**	**62**	Lg	Lg	10 02 06.2	
	0.2nm,0.3s,baz=253,slow=24,SNR=5.3						
SONM	**Songino Array**	**11.95**	**317**	Pn	**Pn**	**09 59 07.6**	**+0.5**
	0.4nm,0.3s,baz=93,slow=2.9,SNR=3.2						
SONM				Lg	Lg	10 02 35.3	
	0.3nm,0.3s,baz=126,slow=27,SNR=5.1						
KURBB	**Kurchatov Arra**	**29.90**	**305**	P	**P**	**10 02 25.2**	**+0.9**
	0.4nm,0.6s,baz=97,slow=9.5,SNR=4.6						
FINES	**FINESS Array B**	**57.17**	**325**	P	**P**	**10 06 03.5**	**+0.4**
	1.2nm,0.5s,baz=83,slow=6.6,SNR=10						
WRA	**Warramunga Arr**	**61.15**	**163**	P	**P**	**10 06 30.9**	**-0.3**
	0.3nm,0.7s,baz=348,slow=7.1,SNR=4.0						
BRTR	**Keskin Array B**	**62.74**	**300**	P	**P**	**10 06 41.8**	**-0.1**
	0.4nm,0.6s,baz=98,slow=6.0,SNR=3.2						
YKA	**Yellowknife Ar**	**69.59**	**23**	P	**P**	**10 07 25.2**	**-0.1**
	0.3nm,0.8s,baz=323,slow=6.1,SNR=7.4						

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*ATH **06** 09:59:55.8, 39.°56N×23.°81E, h27km, ML2.8*
*ISCJB **06** 09:59:56.7± 0.3, 39.°55N±0.°02×23.°80E±0.°03, h22km±3km, Error ellipse: s-maj=4.5km s-min=3.1km az=21.8*
*THE **06** 09:59:56.8, 39.°54N×23.°84E, h13km, ML3.0/12, Error ellipse: s-maj=0.6km s-min=0.3km az=132.0*
*CSEM **06** 09:59:56.6± 0.2, 39.°54N×23.°79E, h17km± 1km, ML3.0, Error ellipse: s-maj=3.9km s-min=2.7km az=105.0*
ISC 06 09:59:56.6±1.0, 39.°55N±0.°01×23.°82E±0.°02, h18km±3km, n112, σ0§50/50/145, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.38**	**173**	P	**Pg**	**10 00 04.4**	**-0.1**
AOS				S	**Sg**	**10 00 09.9**	**0.0**
AOS	**Alonnisos**	**0.38**	**173**	*e*PB	**Pg**	**10 00 04.4**	**-0.1**
AOS				*e*SB	**Sb**	**10 00 10.4**	**0.0**
AOS	**Alonnisos**	**0.38**	**173**	P	**Pg**	**10 00 04.4**	**-0.1**
AOS				S	**Sg**	**10 00 09.9**	**0.0**
AOS				*e*Sb	**Sb**	**10 00 10.4**	**0.0**
PAIG	**Paliouri**	**0.39**	**344**	P	**Pg**	**10 00 04.6**	**-0.1**
PAIG				S	**Sb**	**10 00 11.0**	**+0.2**
PAIG	**Paliouri**	**0.39**	**344**	*e*PB	**Pg**	**10 00 04.6**	**-0.1**
PAIG				*e*SB	**Sg**	**10 00 10.5**	**+0.2**
PAIG	**Paliouri**	**0.39**	**344**	P	**Pg**	**10 00 04.6**	**-0.1**
PAIG				*e*Sb	**Sg**	**10 00 10.5**	**+0.2**

PAIG			S		Sb	10 00 11.0	+0.2
SKIA	**Skiathos**	**0.47 216**	P		**Pg**	**10 00 05.9**	**-0.2**
SKIA			S		**Sb**	**10 00 13.1**	**+0.2**
SKIA	**Skiathos**	**0.47 216**	*e*PB		**Pg**	**10 00 05.7**	**-0.4**
SKIA	**Skiathos**	**0.47 216**	P		**Pg**	**10 00 05.9**	**-0.2**
SKIA			S		**Sb**	**10 00 13.1**	**+0.2**
XOR	**Xorichti**	**0.52 250**	P		**Pb**	**10 00 07.1**	**0.0**
XOR			S		**Sb**	**10 00 14.6**	**+0.4**
XOR	**Xorichti**	**0.52 250**	*e*PN		**Pg**	**10 00 06.5**	**-0.5**
XOR			*e*SN		**Sb**	**10 00 14.2**	**0.0**
XOR	**Xorichti**	**0.52 250**	*e*Pn		**Pg**	**10 00 06.5**	**-0.5**
XOR	**Xorichti**	**0.52 250**	P		**Pb**	**10 00 07.1**	**0.0**
XOR			*e*Sn		**Sb**	**10 00 14.2**	**0.0**
NEO	**Neokhori**	**0.52 242**	P		**Pg**	**10 00 07.0**	**0.0**
NEO	**Neokhori**	**0.52 242**	*e*PN		**Pb**	**10 00 07.2**	**+0.1**
NEO			*e*SN		**Sb**	**10 00 14.4**	**+0.1**
NEO	**Neokhori**	**0.52 242**	P		**Pg**	**10 00 07.0**	**0.0**
NEO			*e*Sn		**Sb**	**10 00 14.4**	**+0.1**
OUR	**Ouranopolis**	**0.80 9**	P		**Pb**	**10 00 12.1**	**+0.3**
OUR	**Ouranopolis**	**0.80 9**	*e*PN		**Pb**	**10 00 11.9**	**+0.1**
OUR	**Ouranopolis**	**0.80 9**	P		**Pb**	**10 00 12.1**	**+0.3**
SMIA	**Simia**	**0.82 215**	*e*PN		**Pb**	**10 00 12.2**	**0.0**
SMIA	**Simia**	**0.82 215**	*e*Pn		**Pb**	**10 00 12.2**	**0.0**
MRKA	**Markates**	**0.86 192**	P		**Pb**	**10 00 13.0**	**0.0**
MRKA			S		**Sn**	**10 00 25.6**	**-0.3**
MRKA	**Markates**	**0.86 192**	*e*PN		**Pg**	**10 00 13.4**	**0.0**
MRKA	**Markates**	**0.86 192**	P		**Pb**	**10 00 13.0**	**0.0**
MRKA	**Markates**	**0.86 192**	*e*Pn		**Pg**	**10 00 13.4**	**0.0**
MRKA			S		**Sn**	**10 00 25.6**	**-0.3**
PLG	**Polygyros**	**0.87 341**	*e*PN		**Pb**	**10 00 11.2**	**-2.0**
PLG			*e*SN		**Sb**	**10 00 24.0**	**-0.5**
PLG	**Polygyros**	**0.87 341**	*e*Pn		**Pb**	**10 00 11.2**	**-2.0**
PLG			*e*Sn		**Sb**	**10 00 24.0**	**-0.5**
LKR	**Lokris**	**1.10 216**	P		**Pb**	**10 00 16.7**	**-0.3**
LKR			S		**Sg**	**10 00 32.9**	**+0.6**
LKR	**Lokris**	**1.10 216**	*e*PN		**Pb**	**10 00 16.6**	**-0.4**
LKR	**Lokris**	**1.10 216**	P		**Pb**	**10 00 16.7**	**-0.3**
LKR			S		**Sg**	**10 00 32.9**	**+0.6**
LIA	**Limnos Island**	**1.11 71**	P		**Pn**	**10 00 16.8**	**-0.4**
LIA			S		**Sg**	**10 00 32.8**	**+0.2**
LIA	**Limnos Island**	**1.11 71**	*e*PN		**Pn**	**10 00 16.6**	**-0.6**
LIA	**Limnos Island**	**1.11 71**	P		**Pn**	**10 00 16.8**	**-0.4**
LIA			S		**Sg**	**10 00 32.8**	**+0.2**
LIT	**Litokhoron**	**1.16 299**	P		**Pn**	**10 00 18.0**	**+0.1**
LIT			S		**Sg**	**10 00 34.7**	**+0.4**
LIT	**Litokhoron**	**1.16 299**	*e*PN		**Pn**	**10 00 17.3**	**-0.6**
LIT	**Litokhoron**	**1.16 299**	*e*Pn		**Pn**	**10 00 17.3**	**-0.6**
LIT	**Litokhoron**	**1.16 299**	P		**Pn**	**10 00 18.0**	**+0.1**
LIT			S		**Sg**	**10 00 34.7**	**+0.4**
HORT	**Hortiatis**	**1.18 333**	P		**Pn**	**10 00 18.4**	**+0.1**
HORT			S		**Sg**	**10 00 35.6**	**+0.6**
HORT	**Hortiatis**	**1.18 333**	*e*PN		**Pn**	**10 00 18.0**	**-0.3**
HORT	**Hortiatis**	**1.18 333**	*e*Pn		**Pn**	**10 00 18.0**	**-0.3**
HORT	**Hortiatis**	**1.18 333**	P		**Pn**	**10 00 18.4**	**+0.1**
HORT			S		**Sg**	**10 00 35.6**	**+0.6**
AXAR	**Agios Charalam**	**1.19 229**	P		**Pb**	**10 00 18.7**	**+0.1**
AXAR			S		**Sg**	**10 00 35.3**	**+0.1**
AXAR	**Agios Charalam**	**1.19 229**	*e*PB		**Pn**	**10 00 17.6**	**-0.7**
AXAR	**Agios Charalam**	**1.19 229**	*e*Pb		**Pn**	**10 00 17.6**	**-0.7**
AXAR	**Agios Charalam**	**1.19 229**	P		**Pb**	**10 00 18.7**	**+0.1**
AXAR			S		**Sg**	**10 00 35.3**	**+0.1**
THE	**Thessaloniki**	**1.27 329**	*e*PN		**Pb**	**10 00 19.8**	**0.0**
THE	**Thessaloniki**	**1.27 329**	*e*Pn		**Pb**	**10 00 19.8**	**0.0**
AGG	**Agios Georgios**	**1.27 246**	P		**Pn**	**10 00 19.3**	**-0.1**
AGG	**Agios Georgios**	**1.27 246**	*e*PN		**Pn**	**10 00 19.7**	**+0.3**
AGG	**Agios Georgios**	**1.27 246**	P		**Pn**	**10 00 19.3**	**-0.1**
AGG	**Agios Georgios**	**1.27 246**	*e*Pn		**Pn**	**10 00 19.7**	**+0.3**
SOH	**Sokhos**	**1.32 345**	P		**Pn**	**10 00 19.6**	**-0.5**
SOH			S		**Sb**	**10 00 37.8**	**+0.4**
SOH	**Sokhos**	**1.32 345**	*e*PN		**Pn**	**10 00 19.6**	**-0.5**
SOH	**Sokhos**	**1.32 345**	P		**Pn**	**10 00 19.6**	**-0.5**
SOH			S		**Sb**	**10 00 37.8**	**+0.4**
THL	**Klokotos Trika**	**1.39 271**	P		**Pn**	**10 00 21.1**	**0.0**
THL			S		**Sg**	**10 00 40.5**	**-1.1**
THL	**Klokotos Trika**	**1.39 271**	*e*PN		**Pn**	**10 00 21.1**	**0.0**
THL	**Klokotos Trika**	**1.39 271**	P		**Pn**	**10 00 21.1**	**0.0**
THL			S		**Sg**	**10 00 40.5**	**-1.1**
MAKR	**Makrakomi, Fth**	**1.41 248**	P		**Pn**	**10 00 21.5**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.41 248**	*e*PN		**Pn**	**10 00 21.7**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.41 248**	P		**Pn**	**10 00 21.5**	**+0.1**
PTL	**Penteli**	**1.50 179**	*e*PN		**Pn**	**10 00 22.6**	**+0.1**
PTL	**Penteli**	**1.50 179**	*e*Pn		**Pn**	**10 00 22.6**	**+0.1**
DSF	**Desfina**	**1.52 222**	P		**Pn**	**10 00 22.5**	**-0.4**
DSF	**Desfina**	**1.52 222**	*e*PB		**Pn**	**10 00 22.4**	**-0.4**
DSF	**Desfina**	**1.52 222**	P		**Pn**	**10 00 22.5**	**-0.4**
KAVA	**Kavala**	**1.54 20**	P		**Pn**	**10 00 22.9**	**-0.2**
KAVA	**Kavala**	**1.54 20**	*e*PN		**Pn**	**10 00 23.1**	**0.0**
KAVA	**Kavala**	**1.54 20**	*e*Pn		**Pn**	**10 00 23.1**	**0.0**
ATH	**Athens Observa**	**1.58 183**	*e*PN		**Pb**	**10 00 24.7**	**-0.4**
ATH	**Athens Observa**	**1.58 183**	*e*Pn		**Pb**	**10 00 24.7**	**-0.4**
SRS	**Serrai**	**1.58 354**	P		**Pn**	**10 00 23.9**	**+0.3**
SRS	**Serrai**	**1.58 354**	*e*PN		**Pn**	**10 00 23.7**	**+0.1**
SRS	**Serrai**	**1.58 354**	*e*Pn		**Pn**	**10 00 23.7**	**+0.1**
SIGR	**SIGRI**	**1.61 101**	*e*PN		**Pb**	**10 00 25.3**	**-0.5**
SIGR	**SIGRI**	**1.61 101**	*e*Pn		**Pb**	**10 00 25.3**	**-0.5**
LTK	**Loutraki**	**1.66 204**	*e*PB		**Pn**	**10 00 24.8**	**0.0**
LTK	**Loutraki**	**1.66 204**	*e*Pb		**Pn**	**10 00 24.8**	**0.0**
EVR	**Evrytania**	**1.68 249**	*e*PN		**Pb**	**10 00 26.2**	**-0.8**
EVR	**Evrytania**	**1.68 249**	*e*Pn		**Pb**	**10 00 26.2**	**-0.8**
KALE	**Kalithea**	**1.75 229**	*e*PB		**Pn**	**10 00 25.6**	**-0.4**
KALE	**Kalithea**	**1.75 229**	*e*Pb		**Pn**	**10 00 25.6**	**-0.4**
KZN	**Kozani**	**1.75 296**	*e*PN		**Pn**	**10 00 26.1**	**+0.1**
KZN	**Kozani**	**1.75 296**	*e*Pn		**Pn**	**10 00 26.1**	**+0.1**
KNT	**Kendrikon**	**1.76 337**	*e*PN		**Pn**	**10 00 26.8**	**+0.7**
KNT	**Kendrikon**	**1.76 337**	*e*Pn		**Pn**	**10 00 26.8**	**+0.7**
NVR	**Nevrokopi**	**1.80 1**	P		**Pn**	**10 00 27.0**	**+0.3**
NVR	**Nevrokopi**	**1.80 1**	*e*PN		**Pn**	**10 00 26.8**	**+0.1**
NVR	**Nevrokopi**	**1.80 1**	*e*Pn		**Pn**	**10 00 26.8**	**+0.1**
EFP	**Efpalio**	**1.86 234**	*e*PN		**Pn**	**10 00 28.5**	**+1.0**
EFP	**Efpalio**	**1.86 234**	*e*Pn		**Pn**	**10 00 28.5**	**+1.0**
LAKA	**Lakka**	**1.94 228**	*e*PB		**Pn**	**10 00 29.4**	**+0.8**
LAKA	**Lakka**	**1.94 228**	*e*Pb		**Pn**	**10 00 29.4**	**+0.8**
GUR	**Goura**	**1.98 216**	P		**Pn**	**10 00 29.4**	**+0.1**
GUR	**Goura**	**1.98 216**	*e*PN		**Pn**	**10 00 29.3**	**0.0**
GUR	**Goura**	**1.98 216**	*e*Pn		**Pn**	**10 00 29.3**	**0.0**
VAY	**Valandovo**	**2.01 332**	*e*Pn		**Pb**	**10 00 33.8**	**+1.2**
VAY			*e*Sn		Sg	10 01 13.3	+12
VAY	**Valandovo**	**2.01 332**	*e*Pn		**Pb**	**10 00 33.7**	**+1.2**
DID	**Didima**	**2.09 193**	P		**Pn**	**10 00 30.6**	**-0.1**
DID	**Didima**	**2.09 193**	*e*PN		**Pn**	**10 00 30.7**	**0.0**
DID	**Didima**	**2.09 193**	P		**Pn**	**10 00 30.6**	**-0.1**
CHOS	**Chios island**	**2.10 123**	*e*PN		**Pn**	**10 00 31.5**	**+0.7**
CHOS	**Chios island**	**2.10 123**	*e*Pn		**Pn**	**10 00 31.5**	**+0.7**
ALN	**Alexandroupoli**	**2.17 51**	*e*PN		**Pn**	**10 00 32.0**	**+0.2**
ALN	**Alexandroupoli**	**2.17 51**	*e*Pn		**Pn**	**10 00 32.0**	**+0.2**
FNA	**Florina**	**2.24 304**	P		**Pn**	**10 00 33.7**	**+0.9**
FNA	**Florina**	**2.24 304**	*e*PN		**Pn**	**10 00 33.2**	**+0.4**
FNA	**Florina**	**2.24 304**	*e*Pn		**Pn**	**10 00 33.2**	**+0.4**
FNA	**Florina**	**2.24 304**	P		**Pn**	**10 00 33.7**	**+0.9**
PDO	**Prodromos**	**2.26 246**	*e*PB		**Pn**	**10 00 34.0**	**+1.0**
PDO	**Prodromos**	**2.26 246**	*e*Pb		**Pn**	**10 00 34.0**	**+1.0**
DRO	**Drossia**	**2.29 227**	*e*PN		**Pn**	**10 00 34.0**	**+0.5**
DRO	**Drossia**	**2.29 227**	*e*Pn		**Pn**	**10 00 34.0**	**+0.5**

BUC 06 10:01:20.4±0.8, 46°13N×25°75E, h24km±4km, MD2.5/2, 5C-7D, Error ellipse: s-maj=9.1km s-min=3.2km az=357.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOPR	**Dopca**	**0.29**	**238**	⇑*i*P	Pb	10 01 27.7	+0.4
DOPR				*i* S	Sb	10 01 33.5	+1.5
DOPR	**Dopca**	**0.29**	**238**	⇑*i*P	Pb	10 01 27.7	+0.4
DOPR				*i* S	Sb	10 01 33.5	+1.5
MLR	**Muntele Rosu**	**0.65**	**168**	⇓*i*P	Pb	10 01 33.7	+0.4
MLR	**Muntele Rosu**	**0.65**	**168**	⇓*i*P	Pb	10 01 33.7	+0.4
MLR				*i* S	Sn	10 01 43.5	-0.5
PLOR	**Plostina**	**0.69**	**113**	⇑*i*P	Pn	10 01 34.3	-0.4
PLOR	**Plostina**	**0.69**	**113**	⇑*i*P	Pn	10 01 34.3	-0.4
PLOR				*i* S	Sn	10 01 45.4	+0.7
PLOR	**Plostina**	**0.69**	**113**	⇑*i*P	Pn	10 01 34.3	-0.4
VRI	**Vrincioaia**	**0.73**	**110**	⇓*i*P	Pn	10 01 35.5	+0.2
VRI	**Vrincioaia**	**0.73**	**110**	⇓*i*P	Pn	10 01 35.5	+0.2
VRI	**Vrincioaia**	**0.73**	**110**	⇓*i*P	Pn	10 01 35.5	+0.2
VOIR		**0.84**	**216**	⇓*i*P	Pn	10 01 37.1	+0.2
VOIR		**0.84**	**216**	⇓*i*P	Pn	10 01 37.1	+0.2
VOIR				*i* S	Sn	10 01 49.5	+0.8

IDC 06 10:02:36.5±57.0, 2°12S×99°71E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.3/40, mbtmp3.7/3, Error ellipse: s-maj=1130.0km s-min=161.5km az=171.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**50.09**	**6**	P	P	10 11 33.3	-0.1
	0.5nm,0.6s,baz=190,slow=7.3,SNR=3.4						
MKAR	**Makanchi Array**	**51.07**	**345**	P	P	10 11 40.6	-0.1
	0.3nm,0.3s,baz=156,slow=8.2,SNR=8.2						
ZALV	**Zalesovo Beam**	**57.23**	**350**	P	P	10 12 25.4	-0.1
	0.6nm,0.4s,baz=177,slow=7.2,SNR=5.5						

*IDC **06** 10:03:00.2±1.8, 36°56S×73°33W, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.6/24, mbtmp3.5/5, ML3.6/2, MS4.0/2, Ms1 4.0/2, ms1mx3.2/12, Error ellipse: s-maj=46.3km s-min=30.3km az=74.0*

*ISCJB **06** 10:03:01.6±1.0, 36°57S±0°08×73°6W±0°1, h27km, mb3.6/2, MS4.0/1, Error ellipse: s-maj=14.5km s-min=8.4km az=44.5*

*GUC **06** 10:03:02.8±0.5, 36°62S×73°53W, h31km±3km, ML4.1*

ISC 06 10:03:04.4±1.4, 36°6S±0°1×73°4W±0°1, h27km, n12, σ1§15/14, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.63**	**48**	*e*P	**Pb**	**10 03 16.8**	**0.0**
COCH				*i* S	**Sn**	**10 03 26.8**	**+0.1**
COCH				AML	AML	10 03 28.6	
	comp=N,9μm,0.2s						
LNCH	**Linares**	**1.59**	**64**	*e*P	**Pn**	**10 03 31.5**	**+0.7**
LNCH				*i* S	**Sb**	**10 03 53.5**	**+0.7**
LNCH				AML	AML	10 04 00.0	
	comp=N,4μm,0.7s						
NICH	**Los Niches**	**2.33**	**49**	*i* P	**Pn**	**10 03 41.7**	**+0.8**
NICH				*i* S	**Sb**	**10 04 11.5**	**-2.5**
CLCH	**Cerro Calan**	**3.92**	**37**	⇑*i*P	**Pn**	**10 04 03.2**	**+0.4**
CLCH				*e*S	**Sn**	**10 04 50.0**	**+2.0**
PEL	**Peldehue**	**4.06**	**34**	*e*P	**Pn**	**10 04 05.5**	**+0.7**
PLCA	**Paso Flores**	**4.72**	**153**	Pn	**Pn**	**10 04 13.5**	**-0.3**
	comp=N,0.8nm,0.3s,baz=327,slow=12,SNR=19						
CFAA	**Coronel Fontan**	**6.52**	**42**	Pn	**Pn**	**10 04 38.5**	**-0.1**
	comp=N,0.6nm,0.3s,baz=214,slow=13,SNR=29						
CPUP	**Villa Florida**	**17.04**	**58**	LR	LR	10 14 26.4	
	comp=N,516nm,18.9s,baz=227,slow=40						
LPAZ	**La Paz**	**20.72**	**14**	P	**P**	**10 07 42.5**	**-0.8**
	comp=N,0.6nm,0.7s,baz=190,slow=5.1,SNR=2.9						
PPT	**Papeete**	**68.84**	**263**	LR	LR	10 36 08.6	
	comp=N,106nm,21.3s,baz=154,slow=29						
TXAR	**Lajitas Array**	**71.46**	**332**	P	**P**	**10 14 23.0**	**+0.5**
	comp=N,0.4nm,0.6s,baz=148,slow=9.4,SNR=6.1						
TORD	**Torodi Ar. Bea**	**86.09**	**71**	P	**P**	**10 15 42.3**	**-0.8**
	comp=N,0.5nm,0.8s,baz=230,slow=5.0,SNR=3.3						

*IDC **06** 10:03:35.0±1.9, 36°31S×74°00W, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.8/22, mbtmp3.7/4, ML4.0/2, MS3.8/5, Ms1 3.8/5, ms1mx3.5/21, Error ellipse: s-maj=41.7km s-min=28.9km az=72.0*

*ISCJB **06** 10:03:38.7±0.8, 36°33S±0°06×73°8W±0°1, h33km, mb4.0/6, MS3.9/3, Error ellipse: s-maj=13.6km s-min=8.2km az=174.6*

*NEIC **06** 10:03:40.2±1.0, 36°41S×73°57W, h35km, mb4.3/2, Error ellipse: s-maj=23.2km s-min=14.9km az=60.0*

ISC 06 10:03:40.7±1.1, 36°34S±0°08×73°9W±0°1, h35km, n14, σ1§63/10, mb4.0/6, MS3.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.11**	**150**	Pn	**Pn**	**10 04 53.2**	**-1.6**
	2.6nm,0.3s,baz=326,slow=13,SNR=5.6						
PLCA				Sn	**Sn**	**10 05 53.8**	**+1.3**
	3.4nm,0.3s,baz=253,slow=19,SNR=3.4						
PLCA				LR	LR	10 06 45.1	
	comp=Z,667nm,18.0s,baz=321,slow=37						
CFAA	**Coronel Fontan**	**6.66**	**46**	Pn	**Pn**	**10 05 14.0**	**-2.1**
	0.4nm,0.3s,baz=233,slow=14,SNR=4.0						
CFAA				Sn	**Sn**	**10 06 31.3**	**+0.6**
	0.2nm,0.3s,baz=294,slow=20,SNR=3.4						
CFAA				Lg	Lg	10 07 10.0	
	baz=292,slow=22,SNR=4.0						
TRQA	**Tornquist**	**9.65**	**104**	*e*Pn	Pn	10 05 51.3	-5.8
USHA	**Ushuaia**	**18.87**	**170**	LR	LR	10 16 25.2	
	comp=Z,572nm,18.4s,baz=323,slow=41						
LPAZ	**La Paz**	**20.62**	**16**	P	Pn	10 08 18.9	-1.3
	2.7nm,0.8s,baz=205,slow=5.6,SNR=4.7						
SIV	**San Ignacio**	**23.26**	**33**	P	**P**	**10 08 47.2**	**+2.1**
	3.6nm,0.8s,baz=224,slow=9.7,SNR=7.4						
SDDR	**Presa de Saban**	**55.08**	**3**	*e*P	**P**	**10 13 08.9**	**-0.3**
	8.7nm,0.9s						
LPIG	**La Paz**	**69.26**	**325**	LR	LR	10 39 18.4	
	comp=Z,49nm,18.3s,baz=105,slow=31						
TXAR	**Lajitas Array**	**71.08**	**333**	P	**P**	**10 14 54.1**	**-1.2**
	0.4nm,0.7s,baz=148,slow=7.0,SNR=3.6						
ANMO	**Albuquerque**	**77.14**	**333**	*e*P	**P**	**10 15 31.6**	**+0.8**
	1.3nm,0.8s						
DBIC	**Dimbokro**	**77.35**	**72**	LR	LR	10 46 38.1	
	comp=Z,54nm,18.1s,baz=230,slow=33						
SDCO	**Great Sand Dun**	**79.32**	**335**	*e*P	**P**	**10 15 42.8**	**0.0**
	12nm,2.1s						
PFO	**Pinyon Flats O**	**80.14**	**325**	LR	LR	10 45 50.3	
	comp=Z,61nm,18.7s,baz=242,slow=32						
TORD	**Torodi Ar. Bea**	**86.42**	**71**	P	**P**	**10 16 21.5**	**+1.7**
	0.5nm,0.8s,baz=226,slow=4.9,SNR=3.6						

*IDC **06** 10:46:25.9±0.8, 32°86S×71°99W, h0km, mb4.0/6, mb1 4.1/9, mb1mx3.9/29, mbtmp3.9/9, ML3.9/3, Error ellipse: s-maj=24.3km s-min=24.0km az=172.0*

*ISCJB **06** 10:46:28.2±1.2, 32°66S±0°05×71°89W±0°07, h21km±8km, mb4.2/11, Error ellipse: s-maj=11.4km s-min=5.9km az=147.7*

*GUC **06** 10:46:29.0±0.7, 32°64S×71°85W, h15km±8km, ML4.2*

*NEIC **06** 10:46:32.1±0.5, 32°60S×71°84W, h35km, mb4.6/3, Error ellipse: s-maj=12.7km s-min=10.2km az=207.0*

ISC 06 10:46:27.9±2.9, 32°63S±0°05×71°81W±0°08, h10km±17km, n42, σ0§94/44, mb4.3/11, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.42**	**161**	⇓*i*P	**Pb**	**10 46 36.9**	**-0.6**
PEL	**Peldehue**	**1.07**	**119**	⇑*i*P	**Pb**	**10 46 48.6**	**0.0**
PEL				*i* S	**Sg**	**10 47 03.3**	**+0.7**
PEL				AML	AML	10 47 05.3	
	comp=E,12μm,0.3s						
STL	**Santa Lucia**	**1.27**	**130**	*e*P9	**Pn**	**10 46 50.7**	**-1.1**
STL				*i* S	**Sb**	**10 47 07.3**	**-1.1**
CLCH	**Cerro Calan**	**1.31**	**126**	⇓*i*P	**Pn**	**10 46 52.2**	**-0.3**
CLCH				*i* S	**Sb**	**10 47 09.8**	**0.0**
CLCH				AML	AML	10 47 16.5	
	comp=E,8μm,0.5s						
CLCH				AML	AML	10 47 17.1	
	comp=E,9μm,0.6s						
LACH	**Col Las Americ**	**1.35**	**128**	*e*P	**Pn**	**10 46 52.9**	**-0.1**
LACH				*i* S	**Sb**	**10 47 10.3**	**-0.5**
ANTU	**Antumapu**	**1.36**	**134**	*e*P1	**Pn**	**10 46 53.1**	**0.0**
ANTU				*i* S	**Sb**	**10 47 10.7**	**-0.4**
ANTU				AML	AML	10 47 17.1	
	comp=E,7μm,0.6s						
LNV	**Longovilo**	**1.37**	**166**	*e*P1	**Pn**	**10 46 52.1**	**-0.9**
FSR	**Penalolen**	**1.37**	**129**	*e*P9	**Pn**	**10 46 54.0**	**+0.8**
FSR				*e*S	**Sg**	**10 47 12.1**	**0.0**
CMCH	**Combarbala**	**1.60**	**26**	⇓*i*P	**Pn**	**10 46 56.7**	**+0.3**
CMCH				*i* S	**Sn**	**10 47 17.9**	**+0.7**
CHCH	**Chadas Angostu**	**1.62**	**144**	*e*P1	**Pn**	**10 46 57.0**	**+0.4**
CACH	**El Canelo**	**1.80**	**146**	⇓*i*P	**Pb**	**10 47 00.6**	**-0.4**
CFAA	**Coronel Fontan**	**3.19**	**72**	Pn	**Pb**	**10 47 22.4**	**-2.4**
	comp=E,1.1nm,0.3s,baz=233,slow=14,SNR=32						
CFAA				Sn	**Sb**	**10 48 03.8**	**-0.1**
	comp=E,2.6nm,0.3s,baz=68,slow=19,SNR=5.1						
TRQA	**Tornquist**	**9.68**	**127**	*e*Pn	**Pn**	**10 48 49.7**	**+2.4**
	comp=E,29nm,1.3s						
CPUP	**Villa Florida**	**14.08**	**67**	Pn	**Pn**	**10 49 49.2**	**+1.7**
	comp=E,0.3nm,0.3s,baz=247,slow=13,SNR=1.8						
LPAZ	**La Paz**	**16.60**	**12**	Pn	**Pn**	**10 50 22.8**	**+1.3**
	comp=E,0.3nm,0.3s,baz=196,slow=8.4,SNR=12						
SIV	**San Ignacio**	**19.21**	**33**	P	**P**	**10 50 51.6**	**-0.6**
	comp=E,0.3nm,0.3s,baz=205,slow=12,SNR=4.4						
SAML	**Samuel**	**24.88**	**21**	*e*P	**P**	**10 51 51.1**	**+0.2**
	comp=E,5.0nm,0.8s						
BDFB	**Brasilia**	**27.42**	**58**	P	**P**	**10 52 12.9**	**-1.1**
	comp=E,1.4nm,0.3s,baz=180,slow=8.1,SNR=2.6						
QSPA	**South Pole Qui**	**57.61**	**180**	P	**P**	**10 56 15.7**	**-2.2**
	comp=E,3.1nm,0.8s,baz=141,slow=3.7,SNR=11						
TXAR	**Lajitas Array**	**68.64**	**330**	P	**P**	**10 57 32.0**	**+0.6**
	comp=E,0.6nm,0.8s,baz=150,slow=7.3,SNR=5.1						
WVT	**Waverly**	**70.03**	**346**	*e*P	**P**	**10 57 39.9**	**+0.1**
	comp=E,13nm,1.1s						
ECSD	**EROS Data Cent**	**79.30**	**342**	*e*P	**P**	**10 58 33.6**	**+0.2**
	comp=E,44nm,1.8s						
BOSA	**Boshof**	**80.54**	**118**	P	**P**	**10 58 40.8**	**-0.1**
	comp=E,3.7nm,1.0s,baz=212,slow=6.1,SNR=4.2						
PDAR	**Pinedale Array**	**82.63**	**333**	P	**P**	**10 58 52.5**	**+1.0**
	comp=E,0.3nm,0.7s,baz=152,slow=5.8,SNR=2.7						
NVAR	**Mina Array Bea**	**82.87**	**325**	P	**P**	**10 58 53.3**	**+0.4**
	comp=E,1.0nm,0.7s,baz=152,slow=5.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**83.56**	**70**	P	**P**	**10 58 56.5**	**-0.1**
	comp=E,2.7nm,0.7s,baz=235,slow=5.1,SNR=15						
HLID	**Hailey**	**85.24**	**330**	*e*P	**P**	**10 59 05.7**	**+1.0**
	comp=E,10nm,2.0s						
YKA	**Yellowknife Ar**	**100.82**	**341**	P	**Pdif**	**11 00 15.1**	**-1.2**
	comp=E,0.1nm,0.7s,baz=139,slow=4.1,SNR=3.4						
WRA	**Warramunga Arr**	**122.05**	**209**	PKP	**PKPdf**	**11 05 22.1**	**-1.3**
	comp=E,0.1nm,0.5s,baz=162,slow=1.8,SNR=6.6						
H11S2	**WAKE ISLAND Hyl**	**25.97**	**270**	T	T	13 24 31.8	
	baz=118,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hyl**	**25.99**	**270**	T	T	13 24 25.8	
	baz=118,slow=75,SNR=43						
H11S3	**WAKE ISLAND Hyl**	**25.99**	**270**	T	T	13 24 30.9	
	baz=118,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hyl**	**26.35**	**271**	T	T	13 24 53.2	
	baz=118						
H11N1	**WAKE ISLAND Hyl**	**26.37**	**271**	T	T	13 24 58.7	
	baz=118						
H11N2	**WAKE ISLAND Hyl**	**26.37**	**271**	T	T	13 24 58.7	
	baz=118						
BRVK	**Borovoye**	**146.06**	**42**	*e*PKPbc	**PKPab**	**11 06 08.3**	**0.0**
EKS2	**Erkin-Say**	**151.14**	**60**	*e*PKPbc	**PKPbc**	**11 06 22.3**	**+0.9**
AAK	**Ala-Archa**	**151.67**	**60**	PKPbc	**PKPbc**	**11 06 23.4**	**+0.7**
	baz=179,slow=3.6						
KURK	**Kurchatov**	**151.74**	**41**	*e*PKPbc	**PKPbc**	**11 06 22.4**	**+0.1**
TKM2	**Tokmak 2**	**152.41**	**59**	*e*PKPbc	**PKPbc**	**11 06 24.7**	**+0.3**
ZALV	**Zalesovo Beam**	**152.96**	**31**	PKPbc	**PKPbc**	**11 06 25.1**	**+0.2**
	comp=E,3.0nm,0.6s,baz=311,slow=3.1,SNR=15						
MKAR	**Makanchi Array**	**155.70**	**47**	PKPab	**PKPab**	**11 06 48.0**	**-0.3**
	comp=E,0.8nm,0.6s,baz=293,slow=3.8,SNR=10						

*GUC **06** 10:48:13.0±0.5, 38°33S×73°24W, h16km±4km, ML5.1*

*ISCJB **06** 10:48:16.0±0.8, 38°39S±0°04×73°01W±0°10, h38km±8km, mb4.4/18, MS3.5/3, Error ellipse: s-maj=13.1km s-min=5.5km az=11.2*

*NEIC **06** 10:48:16.5±0.3, 38°38S×73°19W, h35km, mb4.6/7, ML5.1(GUC),

334A	Lometa	73.21 338	P	P	10 59 44.9	+1.2
	baz=74						
529A	Stev Forest Ra	73.38 334	P	P	10 59 46.0	+1.2
	baz=74						
333A	Richland Sprin	73.43 337	P	P	10 59 45.9	+0.9
	baz=74						
KMSC	Kings Mountain	73.57 353	P	P	10 59 46.2	+0.5
	baz=74						
430A	Baggett Ranch,	73.65 335	P	P	10 59 47.8	+1.5
	baz=74						
332A	Millersview	73.72 337	P	P	10 59 47.6	+0.8
	baz=74						
429A	Davenport Ranc	73.72 334	P	P	10 59 48.1	+1.3
	baz=74						
331A	San Angelo	73.87 336	P	P	10 59 48.3	+0.7
	baz=74						
232A	Coleman	74.16 337	P	P	10 59 50.2	+0.9
	baz=74						
231A	Bronte	74.41 336	P	P	10 59 51.8	+1.0
	baz=75						
ABTX	Abilene, Hawle	74.84 337	eP	P	10 59 52.4	-0.8
	comp=E,18nm,1.6s						
WVT	Waverly	75.39 348	eP	P	10 59 56.0	-0.3
	comp=E,6.7nm,1.0s						
Z29A	Hungry Hill Ra	76.08 336	P	P	11 00 01.4	+1.0
	baz=76						
DBIC	Dimbokro	77.46 71	P	P	11 00 08.3	-0.3
	comp=E,4.6nm,0.7s,baz=214,slow=7.2,SNR=4.6						
BOSA	Boshof	78.83 118	P	P	11 00 15.6	-0.6
	comp=E,2.6nm,0.7s,baz=222,slow=2.5,SNR=6.0						
ANMO	Albuquerque	79.24 333	P	P	11 00 20.7	+2.6
	comp=E,2.1nm,1.0s						
ECSD	EROS Data Cent	84.47 343	P	P	11 00 46.1	+0.9
	baz=85						
ECSD	EROS Data Cent	84.47 343	eP	P	11 00 45.9	+0.7
	comp=E,8.7nm,0.9s						
J29A	Okreek	85.08 340	P	P	11 00 49.3	+1.0
	baz=85						
SPMN	Marine on St.	85.11 346	P	P	11 00 48.3	-0.1
	baz=86						
I28A	Midland	85.85 340	P	P	11 00 53.0	+0.8
	baz=86						
DUG	Dugway, Tooele	86.24 331	P	P	11 00 55.1	+0.9
	baz=86						
TORD	Torodi Ar. Bea	86.55 70	P	P	11 00 55.8	-0.4
	comp=E,2.0nm,0.7s,baz=234,slow=3.8,SNR=7.7						
TORD		pP	pP	11 01 06.3	-0.2
	comp=E,2.3nm,0.8s,baz=224,slow=3.7,SNR=7.9						
H27A	Howes	86.68 340	P	P	11 00 56.7	+0.4
	baz=87						
G28A	Parade	86.78 341	P	P	11 00 56.9	+0.2
	baz=87						
J22A	Midwest	86.86 336	P	P	11 00 56.9	-0.3
	baz=87						
NVAR	Mina Array Bea	87.00 326	pP	pP	11 01 09.8	+1.4
	comp=E,0.6nm,0.6s,baz=145,slow=5.2,SNR=2.9						
PDAR	Pinedale Array	87.30 334	P	P	11 00 59.8	+0.2
	comp=E,0.4nm,0.7s,baz=156,slow=6.7,SNR=4.4						
PDAR		pP	pP	11 01 09.9	+0.1
	comp=E,0.9nm,0.7s,baz=148,slow=5.3,SNR=6.0						
G27A	Dupree	87.33 340	P	P	11 01 00.3	+0.9
	baz=88						
G26A	Maurine	87.44 340	P	P	11 00 59.6	-0.3
	baz=88						
J19A	Crowheart	87.57 335	P	P	11 01 01.6	+0.9
	baz=88						
F27A	Lemmon	87.81 340	P	P	11 01 02.7	+1.0
	baz=88						
E29A	Napoleon	87.86 342	P	P	11 01 02.7	+0.8
	baz=88						
E28A	Huff	88.12 341	P	P	11 01 04.3	+1.2
	baz=88						
D30A	Buchanan	88.16 343	P	P	11 01 04.0	+0.8
	baz=88						
C30A	Mose, Pekin	88.65 343	P	P	11 01 06.5	+1.0
	baz=89						
AGMN	Agassiz Nation	88.66 345	P	P	11 01 06.3	+0.8
	baz=89						
D28A	Regan	88.67 342	P	P	11 01 07.0	+1.3
	baz=89						
MDND	Maddock	89.05 343	P	P	11 01 08.5	+1.1
	baz=89						
B30A	Myrvik Farm, E	89.32 344	P	P	11 01 09.4	+0.7
	baz=90						
B28A	Dugan Ranch, T	89.79 342	P	P	11 01 12.0	+1.2
	baz=90						
A29A	Manning Farm,	89.97 343	P	P	11 01 12.6	+0.9
	baz=90						
ULM	Lac du Bonnet	90.52 346	P	P	11 01 14.3	+0.2
	comp=E,1.6nm,0.9s,baz=72,slow=3.2,SNR=2.7						
ULM		pP	pP	11 01 24.4	-0.1
	comp=E,2.2nm,0.9s,baz=157,slow=7.7,SNR=3.6						
GERES	GERESS Array B	115.85 47	PKP	PKPdf	11 06 54.3	-0.6
	comp=E,0.7nm,0.8s,baz=197,slow=1.4,SNR=6.1						
GERES		pPKP	pPKiKP	11 07 05.1	-0.4
	comp=E,1.0nm,0.8s,baz=217,slow=1.0,SNR=5.8						
WRA	Warramunga Arr	116.48 209	PKP	PKPdf	11 06 56.1	-1.0
	comp=E,0.3nm,0.8s,baz=158,slow=1.8,SNR=3.7						
WRA		pPKP	pPKPdf	11 07 06.6	-1.0
	comp=E,0.6nm,0.9s,baz=158,slow=1.7,SNR=3.2						
BRTR	Keskin Array B	124.68 64	PKP	PKPdf	11 07 11.9	-0.4
	comp=E,0.8nm,0.7s,baz=222,slow=1.9,SNR=4.0						
BRTR		pPKP	pPKPdf	11 07 22.7	-0.1
	comp=E,0.8nm,0.6s,baz=196,slow=4.2,SNR=3.6						
AKASG	Malin Array Be	125.78 50	PKP	PKPdf	11 07 12.7	-1.1
	comp=E,0.8nm,0.5s,baz=264,slow=0.9,SNR=3.1						
AKASG		pPKP	pPKPdf	11 07 23.7	-0.6
	comp=E,0.8nm,0.5s,baz=258,slow=3.2,SNR=2.6						
TIXI	Tiksi	144.83 348	ePKPdf	PKPab	11 07 47.0	-0.5
ABKAR	Akbulak array	145.00 57	ePKPbc	PKPdf	11 07 49.2	-0.2
HYB	Hyderabad	147.63 122	i PKP	PKPbc	11 07 57.0	-0.6
HYB		epPKP	pPKPdf	11 08 07.0	+1.5
BRVK	Borovoye	150.95 48	ePKPbc	PKPbc	11 08 05.7	+0.8
BVAR	Borovoye Array	151.02 48	PKPbc	PKPbc	11 08 05.8	+0.8
	comp=E,3.1nm,0.7s,baz=274,slow=3.8,SNR=16						
BVAR		pPKPbc	pPKPbc	11 08 16.3	+0.7
	comp=E,5.4nm,0.7s,baz=274,slow=4.0,SNR=14						
AAK	Ala-Archa	155.14 70	PKPbc	PKPbc	11 08 14.6	
	comp=E,1.1nm,0.6s,baz=197,slow=5.6,SNR=4.2						
KURBB	Kurchatov Arra	156.56 49	PKPab	PKPab	11 08 36.1	-0.1
	comp=E,0.4nm,0.3s,baz=301,slow=5.0,SNR=6.0						
KURBB		pPKPab	pPKPab	11 08 46.6	+0.1
	comp=E,2.4nm,0.7s,baz=291,slow=4.7,SNR=5.2						
KURK	Kurchatov	156.59 49	PKPab	PKPab	11 08 36.1	-0.2
KURK		pPKPab	pPKPab	11 08 46.6	0.0
ZALV	Zalesovo Beam	158.36 37	PKPab	PKPab	11 08 44.4	+0.5
	comp=E,1.0nm,0.7s,baz=306,slow=5.0,SNR=3.0						
ZALV		pPKPab	pPKPab	11 08 54.9	+0.7
	comp=E,3.2nm,1.0s,baz=316,slow=4.0,SNR=3.6						
CMAR	Chiang Mai Arr	158.97 159	pPKPab	pPKPab	11 08 56.7	-0.9
	comp=E,0.5nm,0.3s,baz=226,slow=2.4,SNR=1.4						
MKAR	Makanchi Array	160.14 57	PKP	PKPdf	11 08 11.8	+0.1
	comp=E,0.2nm,0.7s,baz=266,slow=3.8,SNR=2.9						
MKAR		PKPab	PKPab	11 08 51.4	-0.5
	comp=E,1.6nm,0.7s,baz=290,slow=3.7,SNR=12						
MKAR		pPKPab	pPKPab	11 09 02.8	+0.5
	comp=E,2.5nm,0.8s,baz=290,slow=4.2,SNR=9.7						
SONM	Songino Array	170.57 2	pPKPab	pPKPab	11 09 46.4	-1.7
	comp=E,0.9nm,0.9s,baz=356,slow=4.3,SNR=3.3						

WEL 06 11:00:28.1±0.4, 36°.08S×178°.05E, h220km±6km, ML3.8/9, 2D, Error ellipse: s-maj=8.6km s-min=7.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	1.76	171	SN	S	11 01 34.3	-0.9
PUZ	Puketiti	2.00	175	PN	Pn	11 01 07.6	-0.4
PUZ				AML	AML	11 01 19.6	
PUZ				SN	S	11 01 37.6	-1.6
TWGZ	Tauwhareparae	2.09	181	PN	Pn	11 01 09.5	+0.4
TWGZ				SN	S	11 01 40.6	-0.4
MWZ	Matawai	2.29	190	PN	Pn	11 01 11.3	+0.3
MWZ				AML	AML	11 01 51.1	
MWZ				AML	AML	11 01 54.0	
URZ	Urewera	2.30	199	⇓PN	Pn	11 01 10.8	-0.3
URZ				SN	S	11 01 44.6	0.0
CNGZ	Carnagh Statio	2.40	177	PN	Pn	11 01 12.4	+0.3
RIGZ	Rimuhau	2.63	185	PN	Pn	11 01 14.4	-0.2
SNGZ	Shannon Statio	2.75	192	PN	Pn	11 01 16.0	0.0
SNGZ				SN	S	11 01 53.9	+0.4
RAHZ	Arahi	2.93	195	PN	Pn	11 01 17.9	-0.1
KNZ	Kokohu	2.95	186	PN	Pn	11 01 17.9	-0.2
MHGZ	Mahia Peninsul	3.07	182	PN	Pn	11 01 19.6	+0.1
BKZ	Black Stump Fm	3.32	201	PN	Pn	11 01 21.9	-0.5
BHHZ	Black Hill Sta	3.75	204	PN	Pn	11 01 26.9	-0.7
MOVZ	Moawhango	3.79	208	PN	Pn	11 01 27.2	-0.9
KRHZ	Kereru	3.80	200	PN	Pn	11 01 27.3	-0.8
KAHZ	Kahuranaki	3.82	194	PN	Pn	11 01 28.0	-0.4
PXZ	Pawanui	4.05	193	⇓PN	Pn	11 01 30.2	-1.0
PXZ				AML	AML	11 01 40.9	
PXZ				SN	S	11 02 18.8	-2.0
PNHZ	Pukenui	4.10	200	PN	Pn	11 01 30.9	-0.8
TSZ	Takapari Road	4.30	202	PN	Pn	11 01 32.7	-1.5
ANWZ	Angora Road	4.54	195	PN	Pn	11 01 36.1	-1.0
PRWZ	Pori Road	4.76	199	PN	Pn	11 01 38.8	-1.0
MRZ	Mangatainoka R	4.97	202	PN	Pn	11 01 40.6	-1.9
HOWZ	Holdsworth Sta	5.20	202	PN	Pn	11 01 43.4	-2.1
OGWZ	Otaki Gorge	5.24	205	PN	Pn	11 01 43.9	-2.0
TMWZ	Te Maipa	5.30	198	PN	Pn	11 01 44.8	-1.8
KIW	Kapiti Island	5.37	206	PN	Pn	11 01 45.5	-2.0
MTW	Mount Morrison	5.45	201	PN	Pn	11 01 46.3	-2.2
CAW	Cannon Point	5.54	204	PN	Pn	11 01 47.0	-2.7
PLWZ	Palliser	5.90	201	PN	Pn	11 01 51.6	-2.7
TUWZ	Tuamarina	6.23	210	PN	Pn	11 01 56.2	-2.3

*IDC **06** 11:06:39.3±0.9, 34°.19S×72°.20W, h0km, mb3.9/5, mb1 4.0/9, mb1mx3.9/28, mbtmp3.9/9, ML3.9/4, MS3.6/5, Ms1 3.6/5, ms1mx3.2/29, Error ellipse: s-maj=33.4km s-min=16.7km az=94.0*

*ISCJB **06** 11:06:41.2±0.6, 34°.08S±0°.04×72°.31W±0°.06, h19km, mb4.2/7, MS3.4/3, Error ellipse: s-maj=6.8km s-min=5.3km az=23.7*

*GUC **06** 11:06:42.7±0.7, 34°.08S×72°.22W, h28km±5km, ML4.2*

*NEIC **06** 11:06:44.5±0.5, 34°.20S×72°.27W, h35km, mb4.2/2, Error ellipse: s-maj=13.4km s-min=8.9km az=90.0*

ISC 06 11:06:42.6±0.7, 34°.10S±0°.05×72°.20W±0°.07, h19km, n30, σ1^{s}24/36, mb4.3/7, MS3.6/3, 6C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.67	78	⇓iP	Pb	11 06 55.9	+0.3
NICH	Los Niches	1.20	139	⇓iP	Pn	11 07 04.2	-0.1
NICH				i S	Sn	11 07 20.4	+0.2
CACH	El Canelo	1.32	91	⇑iP	Pn	11 07 06.6	+0.4
ANTU	Antumapu	1.41	68	⇓iP	Pn	11 07 07.2	0.0
ANTU				i S	Sn	11 07 25.6	+0.4
ANTU				AML	AML	11 07 31.6	
	comp=N,8μm,0.8s						
STL	Santa Lucia	1.46	63	⇑iP	Pn	11 07 07.2	-0.7
STL				i S	Sn	11 07 25.9	-0.6
FSR	Penalolen	1.52	66	⇑iP	Pn	11 07 10.1	+1.3
FSR				i S	Sn	11 07 30.1	+1.9
LACH	Col Las Americ	1.53	65	⇑iP	Pn	11 07 09.2	+0.2
LACH				i S	Sn	11 07 29.3	+0.9
CLCH	Cerro Calan	1.55	63	⇑iP	Pn	11 07 09.8	+0.5
CLCH				i S	Sn	11 07 30.0	+1.1
CLCH				AML	AML	11 07 34.9	
	comp=N,5μm,0.3s						
LNCH	Linares	1.81	164	⇑iP	Pn	11 07 13.6	+0.9
LNCH				i S	Sb	11 07 37.5	+0.1
COCH	Cobquecura	2.08	193	eP1	Pn	11 07 16.6	+0.2
CFAA	Coronel Fontan	4.16	54	Pn	Pn	11 07 46.8	+1.6
	comp=N,0.8nm,0.3s,baz=230,slow=14,SNR=14						
CFAA				Sn	Sb	11 08 41.3	-3.8
	comp=N,1.7nm,0.3s,baz=25,slow=19,SNR=3.6						
CFAA				LR	LR	11 09 44.5	
	comp=N,49nm,22.0s,baz=228,slow=44						
PLCA	Paso Flores	6.75	169	Pn	Pn	11 08 19.9	-0.8
	comp=N,0.7nm,0.3s,baz=338,slow=14,SNR=5.6						
PLCA				Lg	Lg	11 10 12.3	
	comp=N,0.1nm,0.3s,baz=257,slow=19,SNR=3.3						
PLCA				LR	LR	11 11 03.0	
	comp=N,318nm,18.8s,baz=307,slow=40						
TRQA	Tornquist	9.16	118	ePn	Pn	11 08 55.7	+1.9
	comp=N,9.3nm,0.9s						
CPUP	Villa Florida	15.00	63	Pn	Pn	11 10 14.9	+1.5
	comp=N,0.5nm,0.3s,baz=233,slow=10,SNR=2.4						
CPUP				LR	LR	11 16 39.6	
	comp=N,293nm,18.2s,baz=218,slow=40						
LPAZ	La Paz	18.11	13	P	P	11 10 54.7	+0.6
	comp=N,0.2nm,0.3s,baz=185,slow=12,SNR=17						
SIV	San Ignacio	20.63	32	P	P	11 11 19.8	-1.2
	comp=N,2.1nm,0.6s,baz=219,slow=6.9,SNR=6.9						
SIV				LR	LR	11 20 41.9	
	comp=N,226nm,18.6s,baz=226,slow=41						
NNA	Nana	22.42	348	LR	LR	11 18 45.7	
	comp=N,47nm,18.0s,baz=146,slow=32						
SAML	Samuel	26.37	20	eP	P	11 12 19.9	+2.2
	comp=N,2.6nm,0.8s						
RCBR	Riachuelo	43.81	58	LR	LR	11 33 49.2	
	comp=N,107nm,18.3s,baz=227,slow=37						
SNAA	Sanae	51.54	158	P	P	11 15 44.3	-2.5
	comp=N,1.9nm,0.9s,baz=284,slow=8.3,SNR=5.6						
SDDR	Presa de Saban	52.80	1	eP	P	11 15 57.5	+0.8
	comp=N,64nm,1.9s						
QSPA	South Pole Qui	56.13	180	P	P	11 16 20.8	+0.2
	comp=N,2.9nm,0.9s,baz=153,slow=4.7,SNR=5.6						
TXAR	Lajitas Array	69.76	331	P	P	11 17 52.3	+0.8
	comp=N,0.3nm,0.8s,baz=159,slow=7.7,SNR=2.8						
WVT	Waverly	71.38	347	eP	P	11 18 01.1	-0.1
	comp=N,2.9nm,0.6s						
TORD	Torodi Ar. Bea	84.37	70	P	P	11 19 13.6	-0.3
	comp=N,2.4nm,0.9s,baz=264,slow=3.7,SNR=9.4						
WRA	Warramunga Arr	120.61	209	PKP	PKPdf	11 25 32.3	-1.3
	comp=N,0.2nm,0.6s,baz=154,slow=1.8,SNR=8.2						
BVAR	Borovoye Array	147.45	43	PKPbc	PKPbc	11 26 24.7	0.0
	comp=N,0.8nm,0.4s,baz=272,slow=3.9,SNR=5.7						
KURBB	Kurchatov Arra	153.03	43	PKPbc	PKPbc	11 26 38.3	+0.1
	comp=N,0.5nm,0.4s,baz=296,slow=3.0,SNR=4.6						
KURK	Kurchatov	153.04	43	PKPbc	PKPbc	11 26 38.3	+0.1
MKAR	Makanchi Array	156.93	49	PKPab	PKPab	11 27 05.7	-0.9
	comp=N,0.5nm,0.7s,baz=284,slow=4.3,SNR=5.0						

*GUC **06** 11:23:31.9±0.8, 36°.33S×73°.43W, h30km±6km, ML4.8*

*IDC **06** 11:23:33.9±0.6, 36°.57S×73°.21W, h26km±3km, mb4.3/12, mb1 4.4/15, mb1mx4.2/29, mbtmp4.4/15, ML4.1/3, MS3.6/7, Ms1 3.6/7, ms1mx3.4/24, Error ellipse: s-maj=19.4km s-min=16.5km az=55.0*

*ISCJB **06** 11:23:34.8±1.1, 36°.41S±0°.05×73°.1W±0°.1, h34km±9km, mb4.6/45, MS3.7/3, Error ellipse: s-maj=14.1km s-min=8.6km az=166.2*

*NEIC **06** 11:23:35.7±0.2, 36°.44S×73°.08W, h35km, mb4.7/34, Error ellipse: s-maj=8.0km s-min=6.0km az=68.0*

NEIC Felt at Concepcion.

*BJI **06** 11:23:36.3, 36°.30S×73°.10W, h35km, mB5.1/3, Ms5.0/3, Ms7 4.7/3*

ISC 06 11:23:34.6±0.5, 36°.41S±0°.06×73°.15W±0°.06, h29km±2km, h28km:pP-P, n392, σ1^{s}24/420, mb4.7/46, MS3.8/3, 146C-158D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.40	47	⇑iP	Pb	11 23 43.9	+0.5
COCH				i S	Sn	11 23 51.8	+0.7
LNCH	Linares	1.38	66	⇓iP	Pb	11 23 59.3	-0.3
LNCH				i S	Sb	11 24 20.4	+3.6
LNCH				AML	AML	11 24 25.8	
	comp=N,19μm,0.7s						
NICH	Los Niches	2.10	49	⇑iP	Pb	11 24 10.2	-1.8
NICH				i S1	Sn	11 24 39.4	+6.4
NICH				AML	AML	11 24 55.8	
	comp=N,10μm,0.4s						
CLCH	Cerro Calan	3.70	36	⇑iP	Pn	11 24 31.0	+1.1
PELD	Peldehue	3.84	33	⇓iP	Pn	11 24 32.5	+0.7
PLCA	Paso Flores	4.77	156	Pn	Pn	11 24 45.5	+0.8
	comp=N,4.4nm,0.3s,baz=327,slow=13,SNR=32						
PLCA				Lg	Lg	11 25 59.0	
	comp=N,7.8nm,0.3s,baz=285,slow=20,SNR=5.4						
PLCA				LR	LR	11 26 31.2	
	comp=N,528nm,18.9s,baz=290,slow=38						
CFAA	Coronel Fontan	6.29	42	Pn	Pn	11 25 06.5	+1.0
	comp=N,0.7nm,0.3s,baz=220,slow=12,SNR=26						
CFAA				Sn	Sb	11 26 34.2	-4.0
	comp=N,0.5nm,0.3s,baz=102,slow=12,SNR=9.8						
CFAA				Lg	Lg	11 26 50.1	
	comp=N,0.8nm,0.3s,baz=264,slow=19,SNR=4.1						
CFAA				LR	LR	11 27 54.1	
	comp=N,61nm,19.0s,baz=224,slow=40						
TRQA	Tornquist	9.06	104	ePn	Pn	11 25 45.3	+1.9
TRQA				eSn	Sn	11 27 34.5	+10
LVC	Limon Verde	14.23	16	ePn	Pn	11 26 54.6	+0.1
CPUP	Villa Florida	16.82	58	Pn	Pn	11 27 28.6	+0.6
	comp=N,0.6nm,0.3s,baz=228,slow=14,SNR=6.4						
CPUP				LR	LR	11 34 35.6	
	comp=N,580nm,19.2s,baz=216,slow=39						
CPUP	Villa Florida	16.82	58	ePn	Pn	11 27 27.6	-0.4
	comp=N,0.4nm,0.7s						
USHA	Ushuaia	18.71	171	P	P	11 27 49.9	-0.6
	comp=N,0.3nm,0.3s,baz=343,slow=12,SNR=5.2						
USHA				LR	LR	11 36 15.1	
	comp=N,160nm,18.8s,baz=331,slow=41						
LPAZ	La Paz	20.53	14	P	Pn	11 28 13.2	-0.6
	comp=N,3.1nm,0.6s,baz=188,slow=12,SNR=14						
LPAZ	La Paz	20.53	14	eP	P	11 28 11.1	-0.3
	comp=N,9.6nm,0.7s						
SIV	San Ignacio	23.00	31	P	P	11 28 37.2	0.0
	comp=N,6.3nm,0.8s,baz=225,slow=11,SNR=19						
SIV				LR	LR	11 39 17.8	
	comp=N,336nm,19.1s,baz=232,slow=41						
SAML	Samuel	28.80	21	eP	P	11 29 30.1	-0.1
	comp=N,1.1nm,0.6s						
ATAH	Atahualpa	29.53	349	LR	LR	11 39 08.6	
	comp=N,98nm,19.5s,baz=212,slow=32						
BDFB	Brasilia	30.47	54	P	P	11 29 45.8	+0.7
	comp=N,2.6nm,0.6s,baz=246,slow=4.1,SNR=4.0						
BDFB				LR	LR	11 43 08.6	
	comp=N,283nm,18.7s,baz=208,slow=38						
OTAV	Otavalo	36.79	351	eP	P	11 30 40.5	0.0
	comp=N,1.3nm,0.7s						
SDV	Santo Domingo	45.12	4	eP	P	11 31 48.4	-0.3
	comp=N,9.3nm,0.9s						
QSPA	South Pole Qui	53.83	180	eP	P	11 32 54.9	+0.3
	comp=N,16nm,1.1s						
RKT	Rikitea	54.45	266	eT	T	12 31 19.1	
	comp=N,1.4nm,0.3s						
CELP	Cerrillos	54.54	8	eP	P	11 32 59.9	-0.2
TEIG	Tepich	58.12	343	P	P	11 33 25.6	+0.1
	comp=N,18nm,0.8s,baz=146,slow=3.1,SNR=7.4						
TEIG				pP	pP	11 33 35.5	+1.1
	comp=N,10.0nm,0.7s,baz=121,slow=7.8,SNR=4.1						
SYO	Syowa Base	63.97	158	⇑eP	P	11 34 03.0	-1.6
MEH	Mehetia	67.65	264	eT	T	12 47 49.7	
	comp=N,24nm,0.2s						
834A	Tilden	68.50	336	⇓P	P	11 34 36.0	+1.9
	baz=69						
735A	Kenedy	68.94	337	⇑P	P	11 34 38.0	+1.1
	baz=69						
833A	Chaparral WMA,	68.97	335	⇑P	P	11 34 38.3	+1.2
	baz=69						
PPT2	Papeete2	69.02	263	eLR	LR	11 55 38.9	
	comp=N,113nm,24.2s						
832A	Faith Ranch, C	69.13	335	⇑P	P	11 34 38.7	+0.6
	baz=70						
636A	Smothers Creek	69.29	338	⇑P	P	11 34 40.6	+1.6
	baz=70						
732A	Laxson Ranch,	69.53	335	⇓P	P	11 34 41.2	+0.6
	baz=70,SNR=7.8						
537A	Green Hill Far	69.63	339	⇑P	P	11 34 42.5	+1.4
	baz=70						
536A	Bastrop	69.85	338	⇑P	P	11 34 44.0	+1.5
	baz=70						
633A	Saathoff Ranch	69.94	336	⇓P	P	11 34 44.8	+1.8
	baz=70						
535A	Dale	69.96	338	⇑P	P	11 34 45.0	+1.8
	baz=70						
438A	Sam Houston St	70.02	340	⇑P	P	11 34 44.9	+1.5
	baz=70						
632A	Uvalde	70.19	335	⇑P	P	11 34 45.6	+1.0
	baz=71						
340A	Bronson	70.22	341	⇑P	P	11 34 46.0	+1.3
	baz=71						
437A	Phantom Ranch,	70.28	339	⇓P	P	11 34 46.3	+1.3
	baz=71						
339A	Huntington	70.31	341	⇓P	P	11 34 46.7	+1.4
	baz=71						
631A	Perdido Creek	70.37	335	⇑P	P	11 34 46.6	+0.9
	baz=71						
436A	Wall Ranch, Ga	70.42	339	⇑P	P	11 34 47.2	+1.2
	baz=71						
533A	Kerrville	70.46	336	⇑P	P	11 34 47.4	+1.1
	baz=71						
338A	Crockett	70.54	340	⇓P	P	11 34 48.6	+1.9
	baz=71						
337A	Centerville	70.66	339	⇑P	P	11 34 49.2	+1.8
	baz=71						
435B	Jarrell	70.66	338	⇓P	P	11 34 48.5	+1.0
	baz=71						
532A	Rocksprings	70.80	336	⇑P	P	11 34 49.0	+0.6
	baz=71,SNR=11						
434A	Burnet	70.90	337	⇑P	P	11 34 49.6	+0.7
	baz=71,SNR=7.7						
239A	Gary	70.94	341	⇑P	P	11 34 50.2	+1.1
	baz=71						
336A	Riesel	71.01	339	⇑P	P	11 34 50.5	+0.9
	baz=71						
531A	Rocksprings	71.05	335	⇓P	P	11 34 51.0	+1.1
	baz=71,SNR=5.3						
335A	Moody	71.08	338	⇑P	P	11 34 50.8	+0.8
	baz=72						
JCT	Junction City	71.09	336	⇓P	P	11 34 51.0	+0.9
	baz=72						
JCT	Junction City	71.09	336	eP	P	11 34 50.8	+0.7
	comp=N,4.3nm,0.6s						
238A	Jacksonville	71.10	340	⇑P	P	11 34 50.3	+0.3
	baz=72						
433A	Art	71.11	337	⇑P	P	11 34 50.7	+0.5
	baz=72,SNR=6.2						
237A	Washetta, Mont	71.29	340	⇓P	P	11 34 52.1	+0.9
	baz=72						
530A	J-C Ranch, Com	71.30	334	⇑P	P	11 34 52.6	+1.2
	baz=72,SNR=5.2						
334A	Lometa	71.38	337	⇓P	P	11 34 52.3	+0.5
	baz=72,SNR=11						
TXAR	Lajitas Array	71.41	332	P	P	11 34 52.7	+0.5
	comp=N,1.9nm,0.6s,baz=150,slow=8.3,SNR=22						
TXAR				pP	pP	11 35 00.9	-0.3
	comp=N,1.6nm,0.7s,baz=153,slow=6.1,SNR=8.2						
432

131A	Roby baz=74	73.30 336	⇑P	P	11 35 04.1 +0.9
Z33A	Whitaker Ranch baz=74,SNR=6.6	73.35 338	⇑P	P	11 35 03.8 +0.2
130A	Snyder baz=74	73.42 336	⇓P	P	11 35 04.5 +0.5
WVT	Waverly comp=N,9.1nm,0.9s	73.45 348	eP	P	11 35 03.5 -0.6
228A	UT Block 9, Go baz=74	73.53 334	⇑P	P	11 35 05.5 +0.8
Z32A	Haskell baz=74,SNR=5.2	73.59 337	⇓P	P	11 35 05.5 +0.5
Y34A	Reagan Ranch, baz=74	73.68 339	⇑P	P	11 35 06.8 +1.4
129A	Stewart Farms, baz=74	73.75 335	⇓P	P	11 35 06.8 +0.8
Z31A	Sharp Cattle R baz=74,SNR=5.3	73.81 337	⇓P	P	11 35 06.8 +0.5
128A	Castleberry Fa baz=74	73.95 335	⇓P	P	11 35 07.7 +0.5
Y33A	Hilltop Ranch, baz=74	73.98 338	⇓P	P	11 35 08.0 +0.7
Z30A	Sanderson Ranc baz=74	74.10 336	⇓P	P	11 35 08.2 +0.2
Y32A	R-V Farms, Ver baz=75	74.23 338	⇓P	P	11 35 09.3 +0.6
Z29A	Hungry Hill Ra baz=75,SNR=7.1	74.27 335	⇓P	P	11 35 09.1 +0.1
X34A	Smith Ranch, M baz=75	74.30 339	⇓P	P	11 35 09.0 0.0
X33A	Lawton baz=75	74.44 338	⇑P	P	11 35 09.6 -0.3
Y31A	Rekieta Farm, baz=75	74.44 337	⇓P	P	11 35 09.7 -0.2
Z28A	Tucker Farm, M baz=75	74.53 335	⇑P	P	11 35 10.0 -0.5
X32A	Elmer baz=75	74.56 338	⇑P	P	11 35 10.3 -0.3
Y30A	Stafford Cattl baz=75	74.57 336	⇓P	P	11 35 10.6 -0.2
WMOK	Wichita Mounta comp=N,5.3nm,1.0s	74.71 338	eP	P	11 35 09.6 -1.9
Y29A	Porterfield Fa baz=75	74.81 336	⇓P	P	11 35 11.9 -0.2
W34A	Bridge Creek, baz=75	74.88 339	⇓P	P	11 35 12.1 -0.3
TUL1	Leonard baz=75	74.97 341	⇓P	P	11 35 12.7 -0.2
TUL1	Leonard comp=N,9.3nm,0.8s	74.97 341	eP	P	11 35 12.6 -0.2
X31A	McDonald Ranch baz=75	74.97 337	⇓P	P	11 35 13.0 0.0
W33A	Caddo, Fort Co baz=75	75.00 339	⇑P	P	11 35 12.7 -0.5
Y28A	McKinney Farm, baz=75	75.05 335	⇓P	P	11 35 14.1 +0.6
X30A	Coker Ranch, T baz=76	75.08 337	⇑P	P	11 35 14.3 +0.7
W32A	Sentinel baz=76,SNR=7.6	75.20 338	⇓P	P	11 35 14.8 +0.5
MSTX	Muleshoe baz=76	75.28 335	⇓P	P	11 35 15.2 +0.4
MSTX	Muleshoe comp=N,120nm,3.0s	75.28 335	eP	P	11 35 14.8 -0.1
Y27A	Causey baz=76	75.34 335	⇑P	P	11 35 15.6 +0.3
Z25A	Roswell baz=76	75.34 333	⇑P	P	11 35 15.7 +0.4
X29A	Tulia baz=76	75.35 336	⇑P	P	11 35 15.4 +0.1
V34A	Guthrie baz=76	75.37 340	⇓P	P	11 35 15.4 +0.2
319A	Douglas baz=76	75.46 329	⇑P	P	11 35 16.3 +0.3
W31A	Holland Ranch, baz=76	75.47 338	⇓P	P	11 35 16.2 +0.3
V33A	Lossen Ranch, baz=76	75.57 339	⇓P	P	11 35 17.0 +0.6
Y26A	Elida baz=76	75.60 334	⇑P	P	11 35 17.3 +0.5
Z24A	Sheeppen Canyo baz=76	75.63 333	⇑P	P	11 35 17.8 +0.8
V32A	Arapaho baz=76	75.70 338	⇑P	P	11 35 18.2 +1.0
AMTX	Amarillo baz=76	75.75 336	⇑P	P	11 35 18.1 +0.6
AMTX	Amarillo comp=N,9.6nm,0.9s	75.75 336	eP	P	11 35 17.8 +0.3
121A	Cookes Peak, D baz=76	75.86 330	⇓P	P	11 35 19.5 +1.2
Y25A	Mesa, Roswell baz=76	75.91 333	⇑P	P	11 35 18.8 +0.2
U34A	Anderson Ranch baz=76	75.94 340	⇓P	P	11 35 18.9 +0.5
W29A	Amarillo baz=76	75.95 336	⇑P	P	11 35 19.5 +0.8
V31A	Spring Creek L baz=76	75.99 338	⇓P	P	11 35 20.0 +1.2
X26A	CR and CF Fran baz=76	76.17 334	⇓P	P	11 35 20.8 +0.8
Z22A	Elephant Butte baz=76	76.17 331	⇑P	P	11 35 21.4 +1.3
Y24A	Capitan baz=77	76.19 333	⇑P	P	11 35 21.2 +1.0
V30A	Spur Ranch, Mi baz=77	76.24 337	⇓P	P	11 35 21.7 +1.5
U32A	Winter Ranch, baz=77	76.30 339	⇑P	P	11 35 21.8 +1.2
W27A	Bowe Ranch, En baz=77	76.37 335	⇓P	P	11 35 21.9 +0.8
Y23A	Lovelace Mesa, baz=77	76.42 332	⇓P	P	11 35 22.7 +1.2
W26A	Owens Ranch, T baz=77	76.64 335	⇓P	P	11 35 23.5 +0.8
V28A	Channing baz=77	76.72 336	⇑P	P	11 35 24.1 +1.1
T33A	Patterson Ranc baz=77	76.74 340	⇓P	P	11 35 24.6 +1.6
DBIC	Dimbokro comp=N,6.5nm,0.6s,baz=200,slow=4.2,SNR=9.3	76.81 71	P	P	11 35 24.5 +0.6
DBIC	comp=N,9.8nm,0.9s,baz=220,slow=6.3,SNR=3.8		pP	pP	11 35 32.8 -0.3
U30A	WK&E Inc. Balk baz=77	76.93 338	⇓P	P	11 35 25.4 +1.2
W25A	X Bar L Ranch, baz=77	77.00 334	⇓P	P	11 35 25.5 +0.8
T32A	Huddler Ranch, baz=77	77.02 339	⇑P	P	11 35 26.3 +1.7
X23A	Hourglass Bar baz=77	77.05 333	⇓P	P	11 35 26.5 +1.4
T31A	Randall Ranch, baz=78	77.17 339	⇓P	P	11 35 27.2 +1.7
V26A	Tequesquite Ra baz=78	77.28 335	⇓P	P	11 35 26.8 +0.5
U28A	Mallet baz=78	77.29 336	⇓P	P	11 35 27.6 +1.3
W24A	Lazy 6 Ranch, baz=78	77.33 333	⇓P	P	11 35 27.5 +0.9
ANMO	Albuquerque comp=N,5.6nm,1.1s	77.48 332	eP	P	11 35 28.2 +0.8
SFIN	Lafayette baz=78	77.48 349	⇑P	P	11 35 28.2 +1.1
214A	Organ Pipe Nat baz=78	77.49 326	⇓P	P	11 35 29.0 +1.6
S32A	Newby Ranch, P baz=78	77.51 339	⇑P	P	11 35 28.2 +0.9
U27A	Thompson Grove baz=78	77.53 336	⇓P	P	11 35 29.0 +1.4
W23A	Werner Place, baz=78	77.55 333	⇑P	P	11 35 29.3 +1.4
V25A	Rancho No Teng baz=78	77.61 334	⇑P	P	11 35 29.0 +0.9
V24A	Rampart Ranch, baz=78	77.74 334	⇑P	P	11 35 30.5 +1.6
U26A	Atchley Ranch, baz=78	77.81 335	⇑P	P	11 35 30.7 +1.5
R33A	Olander Ranch, baz=78	77.81 340	⇓P	P	11 35 31.1 +2.1
S30A	Montezuma baz=78	77.90 338	⇓P	P	11 35 30.7 +1.1
T28A	Walsh baz=78	77.94 337	⇑P	P	11 35 30.9 +1.1
U25A	Circle Dot Ran baz=78	78.04 335	⇓P	P	11 35 31.8 +1.3
T27A	Campo baz=78	78.08 336	⇓P	P	11 35 32.6 +2.0
S29A	Ulysses baz=78	78.08 338	⇑P	P	11 35 33.2 +2.6
V23A	Ortiz Mt. (NFS baz=78	78.09 333	⇑P	P	11 35 32.7 +1.8
R32A	Long Quarter, baz=78	78.12 340	⇑P	P	11 35 32.5 +1.8
KSU1	Kansas State U baz=79	78.19 342	⇓P	P	11 35 33.0 +1.9
R31A	Burdett baz=79	78.23 339	⇓P	P	11 35 32.5 +1.1
S28A	Manter baz=79	78.30 337	⇑P	P	11 35 32.9 +1.1
Q33A	Connelly Farm, baz=79	78.42 341	⇓P	P	11 35 34.1 +1.8
R30A	Dighton baz=79	78.44 339	⇓P	P	11 35 34.5 +1.9
X18A	Snowflake baz=79	78.47 330	⇓P	P	11 35 34.3 +1.4
V22A	San Miguel Ran baz=79	78.50 333	⇑P	P	11 35 35.2 +2.0
113A	Mohawk Valley, baz=79	78.61 326	⇓P	P	11 35 35.2 +1.7
Q32A	Meitler Ranch, baz=79	78.61 340	⇓P	P	11 35 34.7 +1.3
U23A	El Rito baz=79	78.61 333	⇑P	P	11 35 35.4 +1.7
T25A	Trinidad baz=79	78.71 335	⇑P	P	11 35 35.6 +1.3
S26A	Kim baz=79	78.83 336	⇑P	P	11 35 36.1 +1.3
Q31A	Ellis baz=79	78.86 339	⇓P	P	11 35 36.0 +1.2
U22A	Llaves baz=79	78.89 333	⇑P	P	11 35 36.5 +1.2
W18A	Petrified Fore baz=79	78.90 330	⇓P	P	11 35 36.6 +1.3
R28A	Tribune baz=79	78.96 337	⇓P	P	11 35 37.2 +1.7
T24B	San Luis baz=79	78.98 334	⇓P	P	11 35 37.1 +1.2
X16A	Lo Mia Camp, P baz=79	78.99 329	⇓P	P	11 35 37.1 +1.2
Q30A	Quinter baz=80	79.07 339	⇓P	P	11 35 37.0 +1.0
T23A	Casias Ranch, baz=80	79.19 334	⇓P	P	11 35 38.2 +1.2
S25A	Robles Cordova baz=80	79.19 335	⇓P	P	11 35 37.9 +1.1
P32A	Huiting Farm, baz=80	79.21 340	⇑P	P	11 35 38.1 +1.4
Q29A	Oakley baz=80	79.21 338	⇑P	P	11 35 38.1 +1.3
R27A	Eads baz=80	79.22 337	⇓P	P	11 35 37.5 +0.6
P31A	Stockton baz=80	79.33 340	⇓P	P	11 35 40.5 +3.2
S24A	Houchin Ranch, baz=80	79.44 335	⇓P	P	11 35 39.9 +1.5
R26A	Arlington baz=80	79.44 336	⇑P	P	11 35 39.7 +1.6
BOSA	Boshof comp=N,9.2nm,1.0s,baz=214,slow=5.9,SNR=8.5	79.75 118	P	P	11 35 40.1 -0.2
Y12C	Blythe baz=80	79.77 326	⇑P	P	11 35 41.7 +1.8
KSCO	Kaye Shedlock' baz=80	79.83 337	⇓P	P	11 35 41.9 +1.7
P29A	Atwood baz=80	79.85 339	⇑P	P	11 35 41.7 +1.5
O31A	Woolen Ranch, baz=80	79.90 340	⇓P	P	11 35 41.9 +1.5
WUAZ	Wupatki baz=80	79.91 329	⇓P	P	11 35 42.3 +1.5
WUAZ	Wupatki comp=N,5.6nm,1.0s	79.91 329	eP	P	11 35 42.9 +2.1
R24A	Sanders Place, baz=80	79.93 335	⇑P	P	11 35 42.5 +1.6
Q26A	Hugo baz=80	80.03 336	⇑P	P	11 35 43.1 +1.7
S22A	4UR Ranch, Cre baz=80	80.10 333	⇓P	P	11 35 43.6 +1.7
BC3	Big Chuckawall baz=80	80.12 325	⇑P	P	11 35 43.6 +1.8
O30A	MW Ranch, Wils baz=80	80.13 339	⇓P	P	11 35 43.7 +1.9
R23A	Moffat baz=80	80.14 334	⇑P	P	11 35 43.4 +1.2
MVCO	Mesa Verde baz=81	80.25 332	⇑P	P	11 35 44.1 +1.5
MVCO	Mesa Verde comp=N,5.1nm,1.0s	80.25 332	eP	P	11 35 43.9 +1.2
Q25A	Bedland, Calha baz=81	80.26 336	⇓P	P	11 35 44.0 +1.4
IRM	Iron Mountain baz=81	80.40 326	⇑P	P	11 35 45.1 +1.8
PFO	Pinyon Flats O comp=N,0.8nm,0.4s,baz=65,slow=10,SNR=3.8	80.54 325	P	P	11 35 45.3 +1.1
PFO	Pinyon Flats O baz=81	80.54 325	⇓P	P	11 35 46.2 +2.0
P26A	Davis Ranch, A baz=81	80.56 337	⇑P	P	11 35 45.9 +1.7
W13A	Hualapai Mount baz=81	80.62 327	⇑P	P	11 35 46.7 +2.0
P25A	Willow Gulch B baz=81	80.78 336	⇑P	P	11 35 47.2 +1.8
MURC	Murrieta baz=81	80.89 324	⇓P	P	11 35 47.6 +1.7
U15A	North Rim baz=81	81.07 329	⇑P	P	11 35 48.8 +1.6
PV01	Paradox Valley comp=N,293nm,0.9s	81.08 332	eP	P	11 35 47.8 +0.6
GMRC	Granite Mounta baz=82	81.15 326	⇓P	P	11 35 48.9 +1.6
SMCO	Snowmass comp=N,9.6nm,1.4s	81.43 334	eP	P	11 35 51.1 +1.9
M29A	Burnside Ranch baz=82	81.48 339	⇑P	P	11 35 50.9 +2.0
HEC	Hector,Ludlow baz=82	81.49 325	⇓P	P	11 35 51.1 +1.9
BFSC	Mount Baldy Ra baz=82	81.63 324	⇑P	P	11 35 51.7 +1.8
L31A	Butterfield Fa baz=82	81.66 341	⇓P	P	11 35 50.6 +0.7
L30A	Spencer Herefo baz=82	81.68 340	⇑P	P	11 35 50.8 +0.8
P22A	Eagle baz=82	81.72 334	⇑P	P	11 35 51.5 +1.1
TUQ	Turquoise Moun baz=82	81.81 326	⇓P	P	11 35 52.7 +1.8
O23A	Lake Granby, G baz=82	81.99 335	⇑P	P	11 35 53.1 +1.2
L29A	Maesberg Ranch baz=82	82.00 340	⇓P	P	11 35 52.3 +0.7
GSC	Goldstone, Bar baz=82	82.10 325	⇓P	P	11 35 53.8 +1.5
LBTB	Lobatse comp=N,17nm,0.6s	82.11 115	eP	P	11 35 53.4 +0.4
LBTB			epP	pP	11 36 02.5 +0.4
O22A	Kremmling baz=82	82.16 335	⇑P	P	11 35 53.9 +1.1
EDW2	Edwards Air Fo baz=83	82.31 324	⇓P	P	11 35 54.6 +1.2
K30A	Basset baz=83	82.33 341	⇑P	P	11 35 54.7 +1.3
CCUT	Cedar City comp=N,3.9nm,0.8s	82.47 329	eP	P	11 35 56.5 +2.1
ECSD	EROS Data Cent baz=83	82.57 343	⇑P	P	11 35 55.1 +0.6
ECSD	EROS Data Cent comp=N,6.7nm,0.8s	82.57 343	eP	P	11 35 54.8 +0.2
LRMC	Laurel Mtn Rad baz=83	82.66 325	⇓P	P	11 35 56.5 +1.2
SRU	San Rafael Swe comp=N,4.9nm,0.8s	82.68 332	eP	P	11 35 56.0 +0.6
O20A	White River Ci baz=83	82.73 334	⇓P	P	11 35 57.2 +1.5
K28A	Ten Mile Ranch baz=83	82.85 339	⇓P	P	11 35 57.8 +1.8
K27A	Fluecklinger Fa baz=84	83.09 339	⇑P	P	11 35 59.5 +2.1
FURC	Furnace Creek, baz=84	83.09 326	⇑P	P	11 35 59.6 +2.2
TMUT	Trail Mountain comp=N,6.9nm,0.9s	83.10 331	eP	P	11 35 59.0 +1.3
ISA	Isabella, Lake baz=84	83.17 324	⇑P	P	11 35 59.5 +1.6
J29A	Okreek baz=84	83.20 340	⇑P	P	11 35 59.3 +1.4
DAC	Darwin (Calif) comp=N,12nm,1.6s	83.27 325	eP	P	11 36 00.1 +1.5
DAC			epP	pP	11 36 07.5 -0.2
L24A	Wheatland baz=84	83.31 337	⇑P	P	11 36 00.1 +1.5
N20A	Spence Gulch, baz=84	83.35 334	⇑P	P	11 36 00.4 +1.5
I30A	Oacoma baz=84	83.44 341	⇑P	P	11 35 60.0 +1.0
J28A	Allard Ranch, baz=84	83.47 340	⇑P	P	11 36 00.5 +1.3
J27A	Elkhorn Farm, baz=84	83.53 339	⇓P	P	11 36 01.0 +1.4
VES	Vestal, Richgr baz=84	83.61 324	⇓P	P	11 36 01.6 +1.6
SMMC	Simmler baz=84	83.62 323	⇓P	P	11 36 00.9 +0.8
L23A	Garrett baz=84	83.62 336	⇓P	P	11 36 01.3 +1.0
GRAC	Grapevine Rang baz=84	83.76 326	⇓P	P	11 36 01.8 +0.9
I29A	Vivian Onida baz=84	83.77 341	⇑P	P	11 36 01.6 +0.9
L22A	Ellis Ranch, M baz=84	83.79 336	⇑P	P	11 36 01.9 +0.8
BRSD	Miller baz=84	83.81 342	⇓P	P	11 36 02.0 +1.1
MPU	Maple Canyon comp=N,6.2nm,1.0s	83.89 331	eP	P	11 36 02.9 +1.2
MPU			epP	pP	11 36 10.3 -0.6
J26A	Sides Ranch, S baz=84	83.89 339	⇑P	P	11 36 02.9 +1.4
I28A	Midland baz=84	83.98 340	⇑P	P	11 36 03.4 +1.6
R11A	Troy Canyon, C baz=84	84.09 328	⇑P	P	11 36 04.5 +1.8
R11A	Troy Canyon, C	84.09 328	eP	P	11 36 04.5 +1.8
J25A	Sunshine Ranch baz=85	84.18 338	⇓P	P	11 36 05.4 +2.5
I27A	Quinn baz=85	84.29 340	⇑P	P	11 36 05.1 +1.7
H29A	Onida baz=85	84.31 341	⇓P	P	11 36 04.7 +1.2
JLU	Jordanelle comp=N,4.5nm,0.8s	84.32 332	eP	P	11 36 04.9 +1.0
K22A	Casper baz=85	84.37 336	⇓P	P	11 36 06.0 +2.0
J24A	Dixon Ranch, L baz=85	84.39 337	⇑P	P	11 36 05.6 +1.6
G30A	Faulkton baz=85	84.50 342	⇓P	P	11 36 05.9 +1.6
DUG	Dugway, Tooele baz=85	84.50 331	⇓P	P	11 36 06.2 +1.5
DUG	Dugway, Tooele comp=N,6.4nm,1.1s	84.50 331	eP	P	11 36 06.0 +1.3
H28A	Mission Ridge baz=85	84.57 340	⇓P	P	11 36 05.8 +1.0
TPH	Tonopah comp=N,5.4nm,0.9s	84.58 327	eP	P	11 36 06.7 +1.5
TPH			epP	pP	11 36 12.3 -2.1
K21A	Alcova baz=85	84.60 335	⇑P	P	11 36 06.1 +0.9
I25A	Rochford baz=85	84.73 338	⇑P	P	11 36 07.3 +1.5
J23A	Dilts Ranch, B baz=85	84.73 337	⇑P	P	11 36 06.5 +0.7
G29A	Hoven baz=85	84.76 341	⇓P	P	11 36 06.9 +1.2
H27A	Howes baz=85	84.82 340	⇑P	P	11 36 06.8 +0.8
I24A	Kuemmerle Ranc baz=85	84.86 338	⇓P	P	11 36 07.1 +0.7
G28A	Parade baz=85	84.91 341	⇓P	P	11 36 07.2 +0.7
RSSD	Black Hills comp=N,4.0nm,1.0s	84.92 338	eP	P	11 36 06.4 -0.4
MLAC	Mammoth, Mammo baz=85	84.94 325	⇓P	P	11 36 08.8 +1.7
J22A	Midwest baz=85	85.04 336	⇓P	P	11 36 07.8 +0.5
F30A	Leola baz=86	85.13 342	⇓P	P	11 36 09.1 +1.5
HWUT	Hardware Ranch comp=N,73nm,1.2s	85.24 332	eP	P	11 36 08.9 +0.5
H25A	Fruitdale baz=86	85.24 339	⇓P	P	11 36 09.6 +1.4
J21A	Lysite baz=86	85.30 336	⇓P	P	11 36 10.0 +1.3
F29A	Eureka baz=86	85.33 342	⇑P	P	11 36 10.0 +1.4
NVAR	Mina Array Bea comp=N,2.1nm,0.8s,baz=150,slow=6.2,SNR=15	85.35 326	P	P	11 36 10.2 +1.1
NVAR	comp=N,2.1nm,0.7s,baz=153,slow=6.1,SNR=9.0		pP	pP	11 36 18.4 0.0
G27A	Dupree baz=86	85.47 340	⇓P	P	11 36 10.3 +1.1
I22A	9 Mile Ranch, baz=86	85.47 337	⇑P	P	11 36 10.2 +0.7
PDAR	Pinedale Array comp=N,1.4nm,0.9s,baz=150,slow=4.2,SNR=8.5	85.51 334	P	P	11 36 10.4 +0.6
PDAR	comp=N,2.6nm,1.1s,baz=164,slow=4.2,SNR=7.7		pP	pP	11 36 18.0 -1.0
J20A	Shoshoni baz=86	85.52 335	⇑P	P	11 36 10.8 +1.1
G26A	Maurine baz=86	85.57 340	⇓P	P	11 36 10.5 +0.7
F28A	McLaughlin baz=86	85.59 341	⇓P	P	11 36 11.6 +1.7
H24A	Dirks Ranch, A baz=86	85.64 338	⇓P	P	11 36 10.4 +0.2
I21A	Big Trails, Te baz=86	85.66 336	⇓P	P	11 36 10.6 +0.2
G25A	Newell baz=86	85.71 339	⇓P	P	11 36 11.7 +1.1
E30A	Jud baz=86	85.73 342	⇑P	P	11 36 12.1 +1.6
H23A	Clabaugh Cattl baz=86	85.73 338	⇓P	P	11 36 12.2 +1.6
J19A	Crowheart baz=86	85.77 335	⇑P	P	11 36 12.0 +1.0
HVU	Hansel Valley comp=N,4.7nm,0.8s	85.85 331	eP	P	11 36 12.0 +0.6
HVU			epP	pP	11 36 18.5 -2.1
TORD	Torodi Ar. Bea comp=N,3.9nm,1.0s,baz=233,slow=4.3,SNR=11	85.88 71	P	P	11 36 11.9 -0.1
TORD	comp=N,3.0nm,0.9s,baz=246,slow=4.0,SNR=8.0		pP	pP	11 36 21.8 +0.6
F27A	Lemmon baz=86	85.94 340	⇑P	P	11 36 12.6 +1.0
E29A	Napoleon baz=86	85.97 342	⇑P	P	11 36 13.4 +1.7
H22A	Clearmont baz=86	86.06 337	⇑P	P	11 36 13.7 +1.4
I20A	Worland baz=86	86.06 335	⇓P	P	11 36 13.7 +1.3
F26A	Lodgepole baz=86	86.10 340	⇑P	P	11 36 13.8 +1.3
G24A	Alzada baz=86	86.13 338	⇓P	P	11 36 14.3 +1.7
E28A	Huff baz=87	86.24 341	⇑P	P	11 36 14.4 +1.3
D30A	Buchanan baz=87	86.26 343	⇓P	P	11 36 14.2 +1.1
F25A	Bowman baz=87	86.39 339	⇑P	P	11 36 14.9 +1.0
D29A	Pettibone, Tap baz=87	86.42 342	⇑P	P	11 36 15.7 +1.8
REDW	Red Top Meadow comp=N,6.9nm,1.1s	86.49 333	eP	P	11 36 15.2 +0.6
H20A	Greybull baz=87	86.50 336	⇑P	P	11 36 14.9 +0.4
G22A	Birney baz=87	86.60 337	⇑P	P	11 36 15.9 +0.9
F24A	Ekalaka baz=87	86.61 339	⇑P	P	11 36 15.8 +0.9
E26A	Carlson Angus baz=87	86.61 340	⇑P	P	11 36 15.5 +0.5
LOHW	Long Hollow	86.62 334	eP	P	11 36 15.6 +0.4
TPAW	Teton Pass	86.64 333	eP	P	11 36 16.1 +0.7
AGMN	Agassiz Nation baz=87	86.73 345	⇑P	P	11 36 16.1 +0.7
C30A	Mose, Pekin baz=87	86.75 343	⇓P	P	11 36 16.7 +1.2
F23A	Volborg baz=87	86.78 338	⇓P	P	11 36 16.4 +0.6
D28A	Regan baz=87	86.78 342	⇑P	P	11 36 17.1 +1.4
FXWY	Fox Creek comp=N,7.5nm,1.4s	86.80 333	eP	P	11 36 17.0 +0.8
I17A	Pilgrim Ck. baz=87	86.88 334	⇓P	P	11 36 17.8 +1.3

H19A	Powell	86.99	335	⇑P		P	11 36 17.5 +0.5
	baz=87						
IMW	Indian Meadow	86.99	334	*e*P		P	11 36 17.6 +0.5
IMW				*e*pP		pP	11 36 24.7 -1.6
FLWY	Flagg Ranch	87.06	334	*e*P		P	11 36 18.2 +0.8
	comp=N,7.5nm,0.9s						
F22A	Rosebud	87.09	337	⇑P		P	11 36 18.2 +0.9
	baz=88						
D26A	Manning	87.12	340	⇓P		P	11 36 18.5 +1.2
	baz=88						
E24A	Baker	87.22	339	⇓P		P	11 36 19.2 +1.3
	baz=88						
G20A	Bridger	87.22	336	⇓P		P	11 36 18.2 +0.3
	baz=88						
H18A	Shoshone NF, C	87.22	335	⇑P		P	11 36 19.1 +0.9
	baz=88						
B30A	Myrvik Farm, E	87.42	344	⇓P		P	11 36 19.5 +0.8
	baz=88						
D25A	Fairfield	87.47	340	⇓P		P	11 36 20.5 +1.4
	baz=88						
C27A	Sayler Ranch,	87.50	341	⇑P		P	11 36 20.0 +0.9
	baz=88						
YMR	Madison River	87.67	334	*e*P		P	11 36 22.0 +1.7
	comp=N,8.9nm,1.0s						
B29A	Wagenman Farm,	87.67	343	⇓P		P	11 36 20.9 +1.0
	baz=88						
D24A	Glendive	87.72	339	⇓P		P	11 36 21.4 +1.1
	baz=88						
C26A	Wahner Farm, P	87.76	341	⇓P		P	11 36 21.4 +0.9
	baz=88						
A30A	Hoffart Farm,	87.87	344	⇑P		P	11 36 21.4 +0.5
	baz=88						
B28A	Dugan Ranch, T	87.90	342	⇓P		P	11 36 22.3 +1.3
	baz=88						
HLID	Hailey	88.00	331	⇑P		P	11 36 22.7 +0.9
	baz=88						
F19A	Roth Farm, Mol	88.02	336	⇓P		P	11 36 22.7 +1.0
	baz=88						
D23A	Lindsay	88.03	339	⇑P		P	11 36 23.3 +1.6
	baz=88						
A29A	Manning Farm,	88.07	343	⇓P		P	11 36 23.0 +1.2
	baz=88						
C24A	Savage	88.13	339	⇓P		P	11 36 23.6 +1.4
	baz=88						
A28A	Rude Farm, Bot	88.30	342	⇑P		P	11 36 23.8 +0.8
	baz=89						
E20A	Meyer Farm, Mu	88.33	337	⇓P		P	11 36 24.3 +1.1
	baz=89						
MCMT	McKenzie Canyo	88.48	333	*e*P		P	11 36 24.9 +0.6
	comp=N,2.5nm,1.0s						
E19A	Rath Farm, Rou	88.50	336	⇓P		P	11 36 24.7 +0.7
	baz=89						
ULM	Lac du Bonnet	88.59	346	P		P	11 36 23.4 -0.9
	comp=N,1.9nm,0.8s,baz=180,slow=5.1,SNR=3.4						
ULM				pP		pP	11 36 31.4 -2.1
	comp=N,1.8nm,0.7s,baz=150,slow=6.6,SNR=3.3						
C23A	Lambert	88.59	339	⇓P		P	11 36 25.7 +1.3
	baz=89						
D20A	Manuel Ranch,	88.85	337	⇓P		P	11 36 26.0 +0.3
	baz=89						
DGMT	Dagmar	88.92	340	⇑P		P	11 36 26.8 +0.9
	baz=89						
A25A	Svangstu Ranch	89.05	341	⇑P		P	11 36 28.3 +1.9
	baz=89						
B22A	Reddig Ranch S	89.28	339	⇓P		P	11 36 29.5 +1.9
	baz=90						
ASAR	Alice Springs	115.01	207	PKP		PKPdf	11 42 11.9 -1.4
	comp=N,0.3nm,0.3s,baz=205,slow=16,SNR=3.5						
ASAR				pPKP		PKiKP	11 42 19.8 +6.5
	comp=N,0.3nm,0.7s,baz=113,slow=1.1,SNR=2.2						
WRA	Warramunga Arr	118.22	210	PKP		PKPdf	11 42 18.0 -1.5
	comp=N,0.5nm,0.7s,baz=156,slow=1.6,SNR=9.9						
WRA				pPKP		pPKPdf	11 42 26.1 -2.9
	comp=N,0.9nm,0.8s,baz=161,slow=1.7,SNR=6.1						
BRTR	Keskin Array B	123.77	63	PKP		PKPdf	11 42 28.8 -0.8
	comp=N,0.5nm,0.6s,baz=245,slow=2.7,SNR=3.5						
SEY	Seymchan	141.63	328	PKP		PKPdf	11 43 02.4 +0.3
	comp=N,1.3nm,0.8s,baz=85,slow=1.2,SNR=3.2						
ABKAR	Akbulak array	143.86	54	*e*PKPdf		PKPab	11 43 03.8 +0.1
KSM	Kuching	145.09	186	*e*PKPbc		PKPdf	11 43 09.8 -0.1
HYB	Hyderabad	148.64	120	*i* PKP		PKPdf	11 43 17.5 +1.8
HYB				*e*pPKP		pPKPdf	11 43 26.0 +0.8
BVAR	Borovoye Array	149.64	45	PKPbc		PKPbc	11 43 20.9 +0.1
	comp=N,1.7nm,0.7s,baz=279,slow=2.8,SNR=9.3						
YAK	Yakutsk	150.66	338	*e*PKPbc		PKPbc	11 43 22.6 -0.3
YAK				*e*PKPab		PKPab	11 43 31.0 +1.1
KKAR	Karatay Array	151.44	65	*e*PKPbc		PKPbc	11 43 25.3 -0.1
KKAR				*e*PKPab		PKPab	11 43 33.9 0.0
AAK	Ala-Archa	154.38	66	PKPab		PKPab	11 43 46.6 +0.1
	comp=N,3.9nm,0.6s,baz=241,slow=3.6,SNR=5.4						
AAK	Ala-Archa	154.38	66	*e*PKPdf		PKPdf	11 43 24.5 +0.7
AAK				*e*PKPbc		PKPbc	11 43 32.2 +0.1
AAK				*e*PKPab		PKPab	11 43 46.7 +0.1
KURBB	Kurchatov Arra	155.22	46	PKP		PKPdf	11 43 23.4 -1.0
	comp=N,0.5nm,0.8s,baz=296,slow=2.3,SNR=4.8						
KURK	Kurchatov	155.23	46	PKP		PKPdf	11 43 23.4 -1.0
KSH	Kashi	155.52	73	PKP		PKPdf	11 43 24.6 -0.8
KSH				sPKP			11 43 40.0
KSH				PKS		PKSdf	11 46 59.5 0.0
KSH				PP		PP	11 47 25.9 -2.8
KSH				SKS		SKSdf	11 50 27.5 -2.4
KSH				SS		SS	12 07 10.0 -3.4
KSH				PPMZ			
	comp=N,91nm,4.6s						
KSH				LN			
	comp=N,45nm,5.1s						
KSH				LE			
	comp=N,29nm,3.9s						
KSH				LZ			
	comp=N,90nm,4.4s						
ZALV	Zalesovo Beam	156.74	34	PKP		PKPdf	11 43 25.2 -1.2
	comp=N,1.3nm,0.6s,baz=318,slow=1.9,SNR=9.7						
ZALV				PKPab		PKPab	11 43 55.9 0.0
	comp=N,0.9nm,0.3s,baz=329,slow=5.0,SNR=5.1						
MKAR	Makanchi Array	158.99	53	PKP		PKPdf	11 43 29.0 -0.4
	comp=N,0.9nm,0.9s,baz=281,slow=1.1,SNR=9.3						
MKAR				PKPab		PKPab	11 44 05.7 -0.4
	comp=N,0.9nm,0.6s,baz=287,slow=3.4,SNR=7.4						
CMAR	Chiang Mai Arr	160.80	157	PKPab		PKPab	11 44 12.6 -1.8
	comp=N,0.5nm,0.3s,baz=232,slow=3.0,SNR=4.4						
CMAR				pPKPab		pPKPab	11 44 22.0 -1.7
	comp=N,0.3nm,0.3s,baz=221,slow=3.6,SNR=2.3						
WMQ	Urumqi	163.61	57	*e*PKP		PKPdf	11 43 34.3 -0.2
WMQ				pPKP		pPKPdf	11 43 45.0 +1.0
SONM	Songino Array	168.58	2	PKPab		PKPab	11 44 47.6 -0.4
	comp=N,0.4nm,0.6s,baz=347,slow=5.9,SNR=2.9						
NJ2	Nanjing	169.16	250	*e*PKP		PKPdf	11 43 40.3 +1.3
HHC	Hu-ho-hao-te	174.23	322	*e*PKP		PKPdf	11 43 41.9 +0.5
HHC				pPKP		pPKPdf	11 43 52.6 +1.7
HHC				sPKP			11 43 56.5
HHC				PP		PP	11 49 08.1 +2.7
HHC				SKS		SKSdf	11 50 39.0 -3.5
HHC				SS		SS	12 10 22.0 -1.2
HHC				PPMZ			
	comp=N,110nm,5.8s						
HHC				LN			
	comp=N,160nm,20.7s						
HHC				LE			
	comp=N,160nm,20.4s						
HHC				LZ			
	comp=N,150nm,19.7s						
LZH	Lanzhou	177.55	97	*e*PKP		PKPdf	11 43 42.6 +0.2
LZH				pPKP		pPKPdf	11 43 53.7 +1.8
LZH				sPKP			11 43 57.9
LZH				LN			
	comp=N,170nm,18.3s						
LZH				LE			
	comp=N,170nm,18.1s						
LZH				LZ			
	comp=N,200nm,20.2s						

*IDC **06** 11:25:26.1±2.9, 54°.19N×87°.24E, h0km, mb1 3.1/2, mb1mx3.0/30, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=24.7km s-min=16.1km az=62.0*
*NNC **06** 11:25:31.3±3.6, 53°.96N×86°.82E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=29.3km s-min=23.6km az=179.0*

ISC 06 11:25:29.6±4.5, 54°.3N±0°.2×87°.1E±0°.2, h35km, n7, σ1§03/10, 2C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.42	256	*i*		11 33 21.1	
	baz=79,slow=337,SNR=11						
ZALV	Zalesovo Beam	1.42	256	Pg		Pn	11 25 51.8 -1.0
	5.8nm,0.3s,baz=78,slow=15,SNR=60						
ZALV				Lg		Lg	11 26 13.1
	2.0nm,0.3s,baz=78,slow=27,SNR=12						
KURK	Kurchatov	6.33	239	⇓Pn		Pn	11 27 02.0 +1.8
	0.4nm,0.5s						
KURK				⇓Sn		Sn	11 28 11.2 0.0
	0.7nm,0.7s						
KURK				⇓Lg		Lg	11 28 44.9
	0.9nm,0.7s						
KURBB	Kurchatov Arra	6.43	238	⇑Pn		Pn	11 27 02.4 +0.8
	0.9nm,0.3s						
KURBB				⇓Sn		Sn	11 28 12.8 -0.9
	1.4nm,0.5s						
KURBB				⇓Lg		Lg	11 28 46.6
	3.9nm,0.7s						
KURBB	Kurchatov Arra	6.43	238	Pn		Pn	11 27 02.8 +1.1
	0.2nm,0.3s,baz=55,slow=14,SNR=4.1						
KURBB				Lg		Lg	11 28 46.3
	baz=59,slow=35,SNR=2.6						
MK31	Makanchi Array	8.14	204	⇓Pn		Pn	11 27 24.6 -0.5
	0.2nm,0.6s,baz=28,slow=14,SNR=7.7						
MK31				⇓Sn		Sn	11 28 55.5 -0.2
	0.2nm,0.6s						
MK31				⇑Lg		Lg	11 29 36.0
	0.6nm,0.6s,baz=32,slow=32,SNR=3.5						
MKAR	Makanchi Array	8.14	204	Pn		Pn	11 27 25.4 +0.3
	0.1nm,0.3s,baz=23,slow=13,SNR=8.6						
MKAR				Sn		Sn	11 28 55.6 -0.2
	0.1nm,0.3s,baz=28,slow=23,SNR=3.7						
MKAR				Lg		Lg	11 29 40.5
	0.1nm,0.3s,baz=22,slow=29,SNR=2.9						

IDC 06 11:37:31.1±2.5, 54°.28N×85°.94E, h0km, mb1 2.7/2, mb1mx2.7/30, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=18.6km s-min=11.1km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.74	244	*i*		11 42 11.8	
	baz=61,slow=337,SNR=5.1						
ZALV	Zalesovo Beam	0.74	244	Pg	Pg	11 37 44.2	-1.1
	0.5nm,0.3s,baz=61,slow=18,SNR=6.2						
ZALV				Lg	Lg	11 37 55.9	
	1.6nm,0.3s,baz=66,slow=29,SNR=16						
KURBB	Kurchatov Arra	5.82	234	Pn	Pn	11 39 00.2	+1.5
	0.1nm,0.3s,baz=51,slow=13,SNR=3.6						
MKAR	Makanchi Array	7.85	199	Pn	Pn	11 39 27.1	+0.6
	0.1nm,0.3s,baz=18,slow=12,SNR=8.5						

*IDC **06** 11:41:13.5±4.2, 9°.63S×110°.70E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/29, mbtmp3.2/3, Error ellipse: s-maj=225.8km s-min=28.8km az=47.0*
*ISCJB **06** 11:41:18.4±1.1, 10°.16S±0°.06×110°.49E±0°.07, h33km, mb3.1/3, Error ellipse: s-maj=10.7km s-min=7.8km az=155.5*
*DJA **06** 11:41:20.3±0.7, 10°S±4°×11°1E±°, h10km, M3.6/10, MLv3.6/10*

ISC 06 11:41:18.9±1.5, 10°.14S±0°.10×110°.43E±0°.08, h35km, n12, σ1§66/15, mb3.0/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	Wanagama	2.21	2	P	Pn	11 41 53.8	+0.6
UGM				S	Sn	11 42 18.9	-0.5
WOJI	Wonogiri, Jawa	2.34	12	P	Pn	11 41 54.8	-0.1
WOJI				S	Sn	11 42 23.1	+0.7
PWJI	Pagerwojo	2.50	33	P	Pn	11 41 55.9	-1.2
NGJI	Ngawi	2.94	20	P	Pn	11 42 03.1	0.0
NGJI				S	Sn	11 42 38.3	+1.2
CMJI	Cimerak	3.05	320	P	Pn	11 42 06.9	+2.2
SMRI	Semarang	3.07	0	S	Sn	11 42 42.5	+2.0
KPJI	Karang Pucung	3.16	332	P	Pn	11 42 09.0	+2.9
GMJI	Gumukmas	3.51	58	P	Pn	11 42 13.3	+2.4
GMJI				S	Sn	11 42 53.1	+1.9
JAGI	Jajag, Banyuwa	4.03	66	P	Pn	11 42 18.6	+0.4
WRA	Warramunga Arr	25.03	116	P	P	11 46 38.5	-1.5
	0.3nm,1.0s,baz=286,slow=11,SNR=4.1						
ASAR	Alice Springs	26.12	124	P	P	11 46 51.2	+1.4
	0.3nm,0.7s,baz=303,slow=9.1,SNR=4.2						
MKAR	Makanchi Array	62.00	338	P	P	11 51 33.0	-2.6
	0.2nm,0.4s,baz=162,slow=5.8,SNR=4.5						

WEL 06 11:50:22.4±0.4, 37°.18S×177°.14E, h175km±3km, ML3.6/6, 6C, Error ellipse: s-maj=3.2km s-min=2.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.77	138	⇑PN	Pn	11 50 47.8	-0.1
HAZ				SN	Sn	11 51 07.2	-0.6
OPRZ	Ohinepanea	0.81	215	PN	Pn	11 50 48.7	+0.4
MXZ	Matakaoa Point	1.01	112	PN	Pn	11 50 49.5	-0.1
MXZ				SN	Sn	11 51 10.5	-0.1
MXZ				AML	AML	11 51 12.4	
URZ	Urewera	1.07	181	PN	Pn	11 50 50.0	-0.1
URZ				SN	Sn	11 51 11.2	-0.5
URZ				AML	AML	11 51 12.2	
MWZ	Matawai	1.19	165	⇑PN	Pn	11 50 51.0	-0.1
MWZ				AML	AML	11 50 59.4	
MWZ				AML	AML	11 51 14.8	
MWZ				AML	AML	11 51 14.8	
TWGZ	Tauwhareparae	1.20	146	PN	Pn	11 50 51.7	+0.4
TWGZ				SN	Sn	11 51 14.6	+1.0
WMGZ	Waiomatatini S	1.20	122	⇑PN	Pn	11 50 51.3	+0.1
WMGZ				SN	Sn	11 51 13.8	+0.3
PUZ	Puketiti	1.26	135	⇑PN	Pn	11 50 51.6	-0.1
PUZ				SN	Sn	11 51 13.6	-0.9
PUZ				AML	AML	11 51 15.2	
PRRZ	Plateau Road	1.44	204	PN	Pn	11 50 53.7	+0.3
CNGZ	Carnagh Statio	1.55	147	PN	Pn	11 50 54.7	+0.3
RIGZ	Rimuhau	1.60	162	PN	Pn	11 50 55.0	+0.1
SNGZ	Shannon Statio	1.60	174	PN	Pn	11 50 54.8	-0.1
RAHZ	Arahi	1.73	181	⇑PN	Pn	11 50 56.3	0.0
KNZ	Kokohu	1.88	167	PN	Pn	11 50 57.3	-0.5
NMHZ	Naumai	1.93	188	PN	Pn	11 50 58.4	0.0
BKZ	Black Stump Fm	2.04	194	⇑PN	Pn	11 50 58.8	-0.9
BKZ				AML	AML	11 52 29.1	
MHGZ	Mahia Peninsul	2.06	163	PN	Pn	11 50 59.5	-0.2
MCHZ	McNeill Hill	2.28	189	PN	Pn	11 51 01.8	-0.5
BHHZ	Black Hill Sta	2.45	209	PN	Pn	11 51 03.1	-1.2
WNVZ	Wahianoa	2.46	209	PN	Pn	11 51 03.7	-0.9
KRHZ	Kereru	2.53	194	PN	Pn	11 51 03.9	-1.2
KAHZ	Kahuranaki	2.62	184	PN	Pn	11 51 05.3	-0.9
PNHZ	Pukenui	2.82	195	PN	Pn	11 51 07.2	-1.5
PXZ	Pawanui	2.85	184	PN	Pn	11 51 07.4	-1.6
PXZ				AML	AML	11 51 10.7	
PXZ				AML	AML	11 51 20.9	
TSZ	Takapari Road	3.02	197	PN	Pn	11 51 09.1	-1.9
DVHZ	Dannevirke	3.20	193	PN	Pn	11 51 11.1	-2.2
ANWZ	Angora Road	3.31	189	PN	Pn	11 51 12.7	-1.9
BFZ	Birch Farm	3.56	191	PN	Pn	11 51 15.2	-2.6
MRZ	Mangatainoka R	3.68	199	PN	Pn	11 51 16.4	-2.8
HOWZ	Holdsworth Sta	3.92	198	PN	Pn	11 51 19.2	-3.1
OGWZ	Otaki Gorge	3.94	202	PN	Pn	11 51 19.6	-2.9
KIW	Kapiti Island	4.06	205	PN	Pn	11 51 21.3	-2.8
MTW	Mount Morrison	4.17	197	PN	Pn	11 51 22.0	-3.5
CAW	Cannon Point	4.24	202	PN	Pn	11 51 22.8	-3.5
TCW	Tory Channel	4.60	208	PN	Pn	11 51 27.6	-3.3
PLWZ	Palliser	4.62	198	PN	Pn	11 51 27.4	-3.9
TUWZ	Tuamarina	4.91	209	PN	Pn	11 51 31.4	-3.6
NNZ	Nelson	4.97	215	PN	Pn	11 51 31.9	-3.9
QRZ	Quartz Range	5.11	223	PN	Pn	11 51 33.3	-4.4
THZ	Tophouse	5.62	214	PN	Pn	11 51 41.6	-2.8
LTZ	Lake Taylor	6.72	212	PN	Pn	11 51 54.2	-4.6
MQZ	McQueen's Vall	7.36	206	PN	Pn	11 52 01.7	-5.4

*KRSC **06** 11:52:31.5±1.9, 49°.67N×156°.65E, h46km±19km, ML4.5*
*MOS **06** 11:52:31.0±1.5, 49°.67N×156°.09E, h54km, mb4.0/8, Error ellipse: s-maj=16.6km s-min=6.0km az=71.8*
*ISCJB **06** 11:52:32.1±0.7, 49°.67N±0°.06×156°.13E±0°.09, h66km±7km, mb3.6/13, Error ellipse: s-maj=12.2km s-min=5.6km az=43.0*
*SKHL **06** 11:52:32.6±0.1, 49°.62N×156°.11E, h73km±7km, mb5.1/2*
*IDC **06** 11:52:35.0±2.4, 49°.70N×155°.95E, h72km±21km, mb3.4/12, mb1 3.7/16, mb1mx3.5/39, mbtmp3.7/16, MS3.2/2, Ms1 3.2/2, ms1mx2.7/24, Error ellipse: s-maj=23.4km s-min=11.4km az=137.0*

ISC 06 11:52:32.8±1.1, 49°.63N±0°.07×156°.13E±0°.07, h54km±10km, n89, σ1§04/97, mb3.7/13, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.05	360	⇓*i*PN		Pn	11 52 44.9 -6.4
SKR				*i* S		Sn	11 52 58.4 -6.6
SKR				pmax		pmax	
	comp=Z,390nm,0.5s						
SKR				pmax		pmax	
	comp=N,310nm,0.3s						
SKR				smax		smax	
	comp=N,3μm,0.3s						
SKR				smax		smax	
	comp=E,3μm,0.3s						
SKR	Severo-Kuril's	1.05	360	*i* P		Pn	11 52 50.7 -0.6
SKR				*e*S		Sn	11 53 04.1 -0.9
SKR	Severo-Kuril's	1.05	360	*e*P		Pn	11 52 50.8 -0.6
SKR				AMB		AMB	11 52 54.4
	comp=E,814nm,0.6s						
SKR				*e*S		Sn	11 53 04.5 -0.5
SKR				A		A	11 53 05.0
	comp=E,3μm,0.6s						
PAU	Pauzhetka	1.89	13	PN		Pn	11 53 02.3 -0.3
PAU				S		Sn	11 53 25.1 -0.2
PAU	Pauzhetka	1.89	13	*e*P		Pn	11 53 02.3 -0.3
PAU				*e*S		Sn	11 53 25.1 -0.2
PAU	Pauzhetka	1.89	13	*e*P		Pn	11 53 02.8 +0.1
PAU				*e*S		Sn	11 53 25.5 +0.2
PAU				A		A	11 53 26.3
	comp=E,2μm,0.3s						
MIPR	Malaya Ipel'ka	2.68	8	*e*P		Pn	11 53 13.8 +0.3
MIPR				*e*S		Sn	11 53 44.6 -0.1
ASAK	Asacha	2.97	21	*e*P		Pn	11 53 16.5 -1.1
MTVR	Mutnovka	3.13	24	*e*P		Pn	11 53 19.7 -0.1
MTVR				*e*S		Sn	11 53 54.6 -1.5
RUS	Russkaya	3.18	27	PN		Pn	11 53 20.5 +0.2
RUS				S		Sn	11 53 55.1 -1.9
RUS	Russkaya	3.18	27	*e*P		Pn	11 53 20.5 +0.2
RUS				*e*S		Sn	11 53 55.1 -1.9
APC	Apacha	3.36	11	*e*P		Pn	11 53 23.3 +0.5
PETK	Petropavlovsk-	3.62	15	PN		Pn	11 53 27.5 +1.2
PETK				S		Sn	11 54 09.6 +1.9
PETK				pmax		pmax	
	comp=Z,3.0nm,0.3s						
PETK				smax		smax	
	comp=N,2.0nm,0.3s						
PETK	Petropavlovsk-	3.62	15	P		Pn	11 53 27.5 +1.2
	comp=N,2.9nm,0.3s,baz=180,slow=14,SNR=84						
PETK				S		Sn	11 54 09.6 +1.9
	comp=N,1.8nm,0.3s,baz=196,slow=21,SNR=2.8						
PET	Petropavlovsk	3.75	24	*e*PN		Pn	11 53 29.3 +1.2
PET				*e*S		Sn	11 54 12.1 +1.2
PET				smax		smax	
	comp=N,170nm,0.6s						
PET				smax		smax	
	comp=E,147nm,0.5s						
PET	Petropavlovsk	3.75	24	*e*P		Pn	11 53 28.7 +0.6
PET				*e*S		Sn	11 54 10.3 -0.6
PET	Petropavlovsk	3.75	24	*e*P		Pn	11 53 29.2 +1.2
PET				*e*S		Sn	11 54 11.6 +0.7
PET				A		A	11 54 16.8
	comp=E,2μm,0.6s						
UGLR	Uglovaya	3.96	24	*e*P		Pn	11 53 31.2 +0.1
KOK	Koryaka	3.99	22	*e*P		Pn	11 53 32.3 +0.8
AVH	Avacha	3.99	23	*e*P		Pn	11 53 33.0 +1.6
SMAR	Somma	4.00	24	*e*P		Pn	11 53 32.0 +0.2
KRER	Koryakskii	4.03	23	*e*P		Pn	11 53 32.4 +0.3
SDLR	Sedlovina	4.04	24	*e*P		Pn	11 53 31.9 -0.3
KRX	Arik	4.05	22	*e*P		Pn	11 53 33.3 +0.9
GNL	Ganaly	4.22	15	*e*P		Pn	11 53 36.7 +2.0
SPN	Mys Shipunski	4.24	34	PN		Pn	11 53 35.7 +0.8
SPN				S		Sn	11 54 22.6 -0.4
SPN	Mys Shipunski	4.24	34	*e*P		Pn	11 53 35.7 +0.8
SPN				*e*S		Sn	11 54 22.6 -0.4
MKZ	Mys Kozlova	6.02	33	PN		Pn	11 53 57.1 -2.0
MKZ	Mys Kozlova	6.02	33	*e*P		Pn	11 53 57.1 -2.0
TUMR	Tumrok	6.17	22	*e*P		Pn	11 54 02.1 +0.7
ESO	Esso	6.49	13	PN		Pn	11 54 07.2 +1.5
ESO	Esso	6.49	13	P		Pn	11 54 07.2 +1.5
KBTR	Krutoberegovo	7.73	29	PN		Pn	11 54 22.6 +0.1
KBTR	Krutoberegovo	7.73	29	*e*P		Pn	11 54 22.6 +0.1
BKI	Bering	8.20	43	PN		Pn	11 54 29.9 +0.9
BKI	Bering	8.20	43	*e*P		Pn	11 54 29.8 +0.8
BKI				*e*S		Sn	11 55 53.9 -6.3
YUK	Yuzh-Kuril'sk	8.99	235	PN		Pn	11 54 40.7 +0.8
YUK				pmax		pmax	
	comp=E,63nm,0.6s						
YUK				pmax		pmax	
	comp=Z,101nm,0.6s						
YUK				pmax		pmax	
	comp=N,37nm,0.3s						
YUK	Yuzh-Kuril'sk	8.99	235	*e*P		Pn	11 54 40.7 +0.8
YUK				AMB		AMB	11 54 42.7
	comp=N,101nm,0.6s						
YUK				*e*S		Sn	11 56 17.5 -2.0
YSS	Yuzh-Sakhalins	9.31	258	*e*P		Pn	11 54 46.3 +2.1
ASAJ	Asahikawa	10.78	244	PN		Pn	11 55 06.6 +2.3
ASAJ				pmax		pmax	
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	10.78	244	P		Pn	11 55 06.6 +2.3
	comp=Z,0.7nm,0.3s,baz=71,slow=16,SNR=6.3						
FX1	Attu Island--F	11.16	67	P		Pn	11 55 08.4 -1.1
	comp=Z,1.4nm,0.3s,baz=239,slow=4.2,SNR=6.7						
FX1				S		Sn	11 57 03.8 -8.8
	comp=Z,6.6nm,0.3s,baz=270,slow=19,SNR=8.1						
SEY	Seymchan	13.49	353	PN		Pn	11 55 42.7 +1.5
SEY				pmax		pmax	
	comp=Z,2.0nm,0.3s						
SEY	Seymchan	13.49	353	P		Pn	11 55 42.7 +1.5
	comp=Z,1.9nm,0.3s,baz=156,slow=12,SNR=59						
MJA0	Matsu Arr-Jizo	18.42	231	*e*P		P	11 56 44.2 +0.6
MJAR	Matsushiro Arr	18.44	232	P		P	11 56 43.6 -0.2
	comp=Z,0.2nm,0.3s,baz=23,slow=12,SNR=5.0						
MJAR				LR		LR	12 03 56.2
	comp=Z,30nm,18.1s,baz=75,slow=37						
MJAR	Matsushiro Arr	18.44	232	*e*P		P	11 56 44.3 +0.5
BILL	Biiibino	19.14

CMAR Chiang Mai Arr 55.00 257 P **P 12 01 58.9 +0.2**
comp=Z,0.8nm,0.5s,baz=31,slow=7.0,SNR=7.4
NVAR Mina Array Bea 59.35 66 P **P 12 02 30.4 +0.9**
comp=Z,0.3nm,0.5s,baz=306,slow=7.7,SNR=3.5
PDAR Pinedale Array 61.45 57 P **P 12 02 44.8 +1.1**
comp=Z,0.8nm,0.8s,baz=304,slow=1.1,SNR=6.8
FINES FINESS Array B 62.27 335 *i* P **P 12 02 48.0 -0.6**
FINES FINESS Array B 62.27 335 P **P 12 02 47.7 -0.9**
comp=Z,0.2nm,0.3s,baz=31,slow=3.2,SNR=5.3
FINES FINESS Array B 62.27 335 *e*P **P 12 02 48.0 -0.6**
PFO Pinyon Flats O 63.70 68 LR LR 12 27 33.1
comp=Z,51nm,20.0s,baz=188,slow=33
AKASG Malin Array Be 70.24 327 P **P 12 03 39.6 -0.1**
comp=Z,0.2nm,0.3s,baz=34,slow=6.9,SNR=2.2
POO Poona 71.16 277 *e*x x 12 03 46.0
WRA Warramunga Arr 71.92 202 P **P 12 03 49.8 -0.4**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 71.92 202 P **P 12 03 49.8 -0.4**
comp=Z,1.0nm,0.9s,baz=22,slow=6.4,SNR=8.1
TXAR Lajitas Array 74.35 63 P **P 12 04 05.3 +0.5**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 74.35 63 P **P 12 04 05.2 +0.5**
comp=Z,0.6nm,0.7s,baz=311,slow=4.6,SNR=8.9
TXAR Lajitas Array 74.35 63 *e*P **P 12 04 04.8 0.0**
ASAR Alice Springs 75.60 201 P **P 12 04 12.1 +0.4**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 75.60 201 P **P 12 04 12.1 +0.4**
comp=Z,0.5nm,0.7s,baz=13,slow=5.3,SNR=7.1

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*IDC **06** 12:10:46.7±2.3, 13°.17S×166°.91E, h17km±13km, mb5.0/25, mb1 5.1/26, mb1mx5.0/34, mbtmp5.1/26, ML3.8/1, MS4.7/27, Ms1 4.7/27, ms1mx4.7/31, Error ellipse: s-maj=16.4km s-min=12.8km az=115.0*
*BJI **06** 12:10:54.3, 13°.10S×166°.70E, h97km, mB5.4/47, mb5.5/63*
*NEIC **06** 12:10:56.8±1.0, 13°.14S×166°.69E, h96km±9km, mb5.2/57, Error ellipse: s-maj=6.7km s-min=5.1km az=161.0*
*ISCJB **06** 12:10:56.2±0.1, 13°.12S±0°.03×166°.61E±0°.03, h100km, mb5.2/113, Error ellipse: s-maj=4.9km s-min=3.6km az=156.4*
*MOS **06** 12:10:56.1±1.2, 13°.10S×166°.59E, h100km, mb5.2/20, Error ellipse: s-maj=9.3km s-min=8.5km az=134.8*
*GCMT **06** 12:10:58.5±0.1, 13°.12S×166°.44E, h47km, MW5.5/100, Moment Tensor Solution. s100,c181; s98,c178; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.81±.03; $M_{\theta\theta}$-0.01±.02; $M_{\phi\phi}$-1.79±.02; $M_{r\theta}$0.00±.02; $M_{\theta\phi}$0.38±.02; $M_{\phi r}$0.54±.02; Best double couple: $M_0$1.91600×10^{17} NP1:ϕ_s352.00000°, δ53.00000°, λ94.00000°. NP2:ϕ_s165.00000°, δ37.00000°, λ85.00000°. Principal axes: T 1.8910, Plg81.0000°, Azm281.0000°; N 0.0560, Plg3.0000°, Azm169.0000°; P -1.9420, Plg8.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 12:10:57.1±0.3, 13°.12S±0°.04×166°.64E±0°.05, h95km±2km, n365, σ1§47/429, mb5.3/113, 42C-26D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.52**	**299**		LR		LR	12 15 44.7	
	comp=Z,5μm,20.7s,baz=133,slow=38								
HNR	**Honiara**	**7.52**	**299**	*e*P			Pn	12 12 39.0	-5.1
HNR				*e*S			**Sn**	**12 14 04.0**	**-3.8**
DZM	**Mont Dzumac**	**8.90**	**181**	Pn			Pn	12 12 59.3	-3.6
	18nm,0.3s,baz=12,slow=20,SNR=128								
DZM				Sn			Sn	12 14 51.1	+10
	8.3nm,0.3s,baz=126,slow=19,SNR=3.0								
DZM	**Mont Dzumac**	**8.90**	**181**	*e*Pn			Pn	12 12 58.7	-4.3
	169nm,0.6s								
DZM				*e*Sn			**Sn**	**12 14 40.5**	**-1.0**
DZM				Sn			Sn	12 14 51.1	+10
NOUC	**Port Laguerre**	**8.94**	**182**	*e*P			Pn	12 13 11.2	+7.9
NOUC				*e*S			**Sn**	**12 14 48.1**	**+5.9**
BAYA	**Yate Dam**	**8.98**	**179**	*e*P			Pn	12 13 00.1	-3.9
BAYA				*e*S			Sn	12 14 22.7	-21
MSVF	**Nonsavu**	**11.92**	**114**	Pn			**Pn**	**12 13 46.0**	**+2.1**
	674nm,1.1s,SNR=8.5								
MSVF	**Nonsavu**	**11.92**	**114**	*e*P			**Pn**	**12 13 45.2**	**+1.4**
MSVF	**Nonsavu**	**11.92**	**114**	*e*Pn			**Pn**	**12 13 45.2**	**+1.4**
TARA	**Tarawa**	**15.68**	**24**	*e*Pn			**Pn**	**12 14 32.9**	**+0.2**
	414nm,0.7s								
EIDS	**Eidsvold**	**19.06**	**228**	P			**Pn**	**12 15 13.4**	**-0.4**
	baz=19,SNR=22								
EIDS	**Eidsvold**	**19.06**	**228**	*e*P			**Pn**	**12 15 13.2**	**-0.6**
	40nm,0.7s								
PMG	**Port Moresby**	**19.46**	**279**	⇑*i*P			**P**	**12 15 16.5**	**+0.1**
PMG				pmax			pmax		
	comp=Z,77nm,1.2s								
PMG	**Port Moresby**	**19.46**	**279**	P			**P**	**12 15 16.7**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=95,slow=8.0,SNR=15								
PMG				LR			LR	12 22 39.2	
	comp=Z,3μm,18.0s,baz=119,slow=36								
PMG	**Port Moresby**	**19.46**	**279**	*e*P			**P**	**12 15 16.9**	**+0.5**
	comp=Z,13nm,0.9s								
CTA	**Charters Tower**	**20.71**	**248**	P			**P**	**12 15 30.2**	**+0.2**
	comp=Z,42nm,1.0s,baz=79,slow=13,SNR=24								
CTA				LR			LR	12 22 59.9	
	comp=Z,6μm,19.4s,baz=94,slow=35								
CTA				ScP			ScP	12 23 13.2	+8.7
	comp=Z,0.4nm,0.3s,baz=106,slow=7.4,SNR=3.7								
CTAO	**Charters Tower**	**20.71**	**248**	*e*P			**P**	**12 15 29.9**	**-0.1**
CTAO				pmax			pmax		
	comp=Z,54nm,1.0s								
CTAO	**Charters Tower**	**20.71**	**248**	*e*P			**P**	**12 15 29.9**	**-0.1**
	comp=Z,54nm,1.0s								
AFI	**Afiamalu**	**21.00**	**95**	*e*P			**P**	**12 15 34.0**	**+0.9**
AFI				pmax			pmax		
	comp=Z,876nm,0.9s								
AFI	**Afiamalu**	**21.00**	**95**	*e*P			**P**	**12 15 34.0**	**+0.9**
	comp=Z,144nm,0.9s								
RMQ	**Roma**	**21.41**	**229**	P			**P**	**12 15 38.0**	**+0.7**
	baz=22,SNR=74								
RAO	**Raoul Island**	**21.52**	**141**	LR			LR	12 22 08.9	
	comp=Z,2μm,21.5s,baz=317,slow=32								
ARMA	**Armidale**	**22.11**	**216**	⇓P			**P**	**12 15 45.0**	**+0.2**
	baz=22,SNR=19								
ARMA	**Armidale**	**22.11**	**216**	*e*P			**P**	**12 15 45.0**	**+0.2**
COEN	**Coen**	**22.83**	**265**	⇓P			**P**	**12 15 51.9**	**-0.4**
	baz=23,SNR=27								
COEN	**Coen**	**22.83**	**265**	*e*P			**P**	**12 15 52.0**	**-0.4**
MGCD	**Mangrove Creek**	**24.51**	**213**	⇑P			**P**	**12 16 08.4**	**+0.8**
	baz=25,SNR=14								
QLP	**Quilpie**	**24.91**	**234**	⇓P			**P**	**12 16 11.0**	**-0.3**
	baz=25,SNR=31								
RIV	**Riverview**	**24.97**	**212**	⇓P			**P**	**12 16 12.6**	**+0.9**
	baz=25								
CMSA	**Cobar Meteorol**	**26.58**	**223**	⇑P			**P**	**12 16 28.5**	**+2.1**
	baz=27,SNR=21								
URZ	**Urewera**	**26.71**	**161**	LR			LR	12 25 29.8	
	comp=Z,2μm,20.5s,baz=326,slow=33								
YNG	**Young**	**26.81**	**215**	⇓P			**P**	**12 16 29.3**	**+0.9**
	baz=27,SNR=9.9								
QIS	**Mount Isa**	**26.88**	**250**	⇑P			**P**	**12 16 29.2**	**-0.1**
	baz=27,SNR=10								
CNB	**Canberra Magne**	**27.05**	**212**	⇓P			**P**	**12 16 30.9**	**+0.3**
	baz=27,SNR=21								
CAN	**Canberra**	**27.25**	**213**	*e*P			**P**	**12 16 32.3**	**-0.1**
CAN				pmax			pmax		
	comp=Z,36nm,1.3s								
CAN	**Canberra**	**27.25**	**213**	*e*P			**P**	**12 16 32.3**	**-0.1**
	comp=Z,36nm,1.3s								
MILA	**Mila**	**28.51**	**210**	⇓P			**P**	**12 16 43.8**	**+0.1**
	baz=29,SNR=13								
TOO	**Toolangi**	**30.80**	**214**	⇑P			**P**	**12 17 04.1**	**+0.2**
	baz=31,SNR=29								
WR0	**Warramunga Arr**	**31.47**	**253**	⇓P			**P**	**12 17 08.7**	**-1.3**
	baz=32								
WB2	**Warramunga Arr**	**31.65**	**253**	*e*P			**P**	**12 17 10.1**	**-1.4**
WB2				*e*PcP			**PcP**	**12 20 01.9**	**+0.2**
WRAB	**Tennant Creek**	**31.65**	**253**	P			**P**	**12 17 10.3**	**-1.2**
	comp=Z,143nm,0.7s,SNR=36								
WRAB	**Tennant Creek**	**31.65**	**253**	*c i*P			**P**	**12 17 10.0**	**-1.5**
WRAB				pmax			pmax		
	comp=Z,72nm,1.2s								
WRAB	**Tennant Creek**	**31.65**	**253**	*e*P			**P**	**12 17 10.2**	**-1.4**
	comp=Z,28nm,1.0s								
WRA	**Warramunga Arr**	**31.66**	**253**	P			**P**	**12 17 10.1**	**-1.5**
	comp=Z,25nm,0.9s,baz=86,slow=9.2,SNR=109								
WRA				PcP			**PcP**	**12 20 01.4**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=81,slow=3.1,SNR=5.8								
WRA				ScP			**ScP**	**12 23 42.6**	**+6.1**
	comp=Z,1.4nm,0.8s,baz=85,slow=2.8,SNR=3.9								
WRA				PKiKP			**PKiKP**	**12 27 28.5**	**-2.2**
	comp=Z,0.4nm,1.0s,baz=112,slow=1.1,SNR=5.7								
WRA				LR			LR	12 29 08.4	
	comp=Z,5μm,20.6s,baz=80,slow=34								
DCZ	**Deep Cove**	**32.25**	**179**	*e*P			**P**	**12 17 16.5**	**+0.2**
HTT	**Hallett**	**32.34**	**227**	⇓P			**P**	**12 17 17.8**	**+0.3**
	baz=32,SNR=8.4								
ASAR	**Alice Springs**	**32.71**	**247**	P			**P**	**12 17 19.4**	**-1.4**
	comp=Z,42nm,1.0s,baz=72,slow=9.2,SNR=199								
ASAR				PcP			**PcP**	**12 20 03.9**	**-0.6**
	comp=Z,19nm,1.1s,baz=75,slow=2.3,SNR=12								
ASAR				ScP			**ScP**	**12 23 46.3**	**+6.3**
	comp=Z,1.5nm,0.9s,baz=66,slow=2.2,SNR=4.9								
ASAR				LR			LR	12 30 08.2	
	comp=Z,5μm,19.9s,baz=73,slow=35								
KDU	**Kakadu**	**33.29**	**267**	⇓P			**P**	**12 17 25.5**	**-0.4**
	baz=33,SNR=15								
MOO	**Moorlands**	**33.73**	**206**	⇑P			**P**	**12 17 30.0**	**+0.6**
	baz=34,SNR=16								
TAU	**Tasmania Unive**	**34.05**	**206**	*e*P			**P**	**12 17 32.2**	**0.0**
TAU				pmax			pmax		
	comp=Z,85nm,1.2s								
TAU	**Tasmania Unive**	**34.05**	**206**	*e*P			**P**	**12 17 32.2**	**0.0**
	comp=Z,85nm,1.2s								
BBOO	**Buckleboo**	**34.11**	**230**	⇓P			**P**	**12 17 32.5**	**-0.3**
	baz=34,SNR=6.7								
MTN	**Manton Dam**	**34.58**	**266**	⇑P			**P**	**12 17 37.0**	**-0.1**
	baz=35,SNR=13								
SAUI	**Saumlaki**	**35.09**	**275**	P			**P**	**12 17 38.8**	**-2.7**
KNRA	**Kununurra**	**36.74**	**261**	⇓P			**P**	**12 17 55.0**	**-0.5**
	baz=37,SNR=23								
SWI	**Sorong**	**37.10**	**286**	P			**P**	**12 17 57.5**	**-1.1**
SWI	**Sorong**	**37.10**	**286**	⇑P			**P**	**12 17 58.7**	**+0.1**
	baz=37,SNR=4.0								
BNDI	**Bandanaira**	**37.25**	**280**	P			**P**	**12 17 59.3**	**-0.6**
WRKA	**Warakurna**	**37.99**	**246**	⇓P			**P**	**12 18 05.3**	**-0.8**
	baz=38,SNR=15								
FORT	**Forrest**	**39.62**	**237**	⇑P			**P**	**12 18 19.5**	**0.0**
	baz=40,SNR=22								
NLAI	**Namlea**	**40.29**	**281**	P			**P**	**12 18 28.5**	**+3.2**
	comp=Z,93nm,1.6s,comp=Z,1μm								
LBMI	**Labuha**	**40.71**	**285**	P			**P**	**12 18 29.1**	**+0.4**
	comp=Z,104nm,0.9s,comp=Z,1μm								
TNTI	**Ternate**	**41.31**	**287**	P			**P**	**12 18 34.8**	**+1.0**
TNTI	**Ternate**	**41.31**	**287**	*e*P			**P**	**12 18 34.7**	**+1.0**
	comp=Z,72nm,1.1s								
SOEI	**Soe**	**41.63**	**270**	P			**P**	**12 18 36.1**	**-0.4**
	comp=Z,47nm,1.0s								
SOEI	**Soe**	**41.63**	**270**	⇓P			**P**	**12 18 37.1**	**+0.7**
	baz=42,SNR=4.6								
SOEI	**Soe**	**41.63**	**270**	*e*P			**P**	**12 18 36.7**	**+0.2**
	comp=Z,46nm,1.0s								
SANI	**Sanana**	**41.70**	**282**	P			**P**	**12 18 36.5**	**-0.4**
	comp=Z,60nm,1.1s,comp=Z,989nm								
BATI	**Baumata**	**42.15**	**269**	P			**P**	**12 18 41.9**	**+1.3**
	comp=Z,60nm,0.7s								
BATI	**Baumata**	**42.15**	**269**	P			**P**	**12 18 41.9**	**+1.3**
	comp=Z,78nm,0.6s,baz=167,slow=1.8,SNR=19								
PPT	**Papeete**	**42.38**	**102**	LR			LR	12 32 35.7	
	comp=Z,598nm,20.6s,baz=257,slow=31								
PPT2	**Papeete2**	**42.38**	**102**	*e*S			**S**	**12 24 58.9**	**+1.7**
	comp=Z,567nm,28.8s								
PPT2				*e*LQ			LQ	12 28 49.5	
	comp=Z,2μm,30.8s								
PPT2				*e*LR			LR	12 30 39.8	
	comp=Z,5μm,27.0s,baz=270								
MMRI	**Maumere**	**43.79**	**271**	P			**P**	**12 18 53.2**	**-0.6**
	comp=Z,83nm,1.1s								
MEH	**Mehetia**	**43.82**	**102**	*e*P			**P**	**12 18 55.9**	**+1.9**
	comp=Z,26nm,0.9s								
PMOR	**Pomariorio Ree**	**44.09**	**98**	*e*P			**P**	**12 18 57.3**	**+1.2**
	comp=Z,211nm,1.1s								
VAH	**Vaihoa**	**44.33**	**98**	*e*P			**P**	**12 18 59.5**	**+1.4**
	comp=Z,92nm,1.0s								
KMSI	**Cibinong**	**44.43**	**285**	P			**P**	**12 18 59.3**	**+0.4**
	comp=Z,234nm,0.9s								
LUWI	**Luwuk**	**45.06**	**282**	*e*P			**P**	**12 19 05.4**	**+1.5**
	comp=Z,257nm,1.2s								
MBWA	**Marble Bar**	**45.40**	**253**	*e*P			**P**	**12 19 06.3**	**-0.2**
	comp=Z,51nm,1.0s								
APSI	**Ampana**	**46.17**	**282**	P			**P**	**12 19 13.1**	**+0.4**
	comp=Z,99nm,1.0s,comp=Z,954nm								
MRSI	**Marisa**	**46.32**	**283**	P			**P**	**12 19 14.1**	**+0.2**
	comp=Z,24nm,1.0s,comp=Z,544nm								
WBSI	**Waikabubak, Su**	**46.40**	**269**	P			**P**	**12 19 14.4**	**-0.1**
	comp=Z,76nm,0.9s,comp=Z,10μmcomp=Z,49μm								
CBIJ	**Chichi jima**	**46.50**	**329**	P			**P**	**12 19 13.9**	**-1.0**
JCJ	**Chichijima**	**46.50**	**329**	P			**P**	**12 19 13.9**	**-1.0**
	comp=Z,65nm,0.4s,baz=185,slow=3.0,SNR=15								
JCJ				LR			LR	12 38 33.5	
	comp=Z,400nm,19.6s,baz=140,slow=36								
BKSI	**Bulukumba**	**46.50**	**275**	P			**P**	**12 19 15.2**	**-0.1**
	comp=Z,26nm,1.0s,comp=Z,517nm								
BNSI	**Bone**	**46.73**	**276**	P			**P**	**12 19 17.6**	**+0.6**
	comp=Z,122nm,1.0s,comp=Z,1μm								
MEEK	**Meekatharra**	**46.86**	**246**	P			**P**	**12 19 18.2**	**+0.3**
	baz=47,SNR=146								
KAPI	**Kappang**	**46.93**	**275**	P			**P**	**12 19 19.2**	**+0.6**
	comp=Z,340nm,1.0s,SNR=5.3								
KAPI	**Kappang**	**46.93**	**275**	*e*P			**P**	**12 19 18.7**	**+0.1**
	comp=Z,59nm,1.0s								
SPSI	**Sidrap Palu**	**47.16**	**277**	P			**P**	**12 19 19.0**	**-1.4**
	comp=Z,41nm,1.0s,comp=Z,466nm								
KLBR	**Kellerberrin**	**48.37**	**239**	⇓P			**P**	**12 19 29.0**	**-0.5**
	baz=48,SNR=19								
NWAO	**Narrogin (SRO)**	**49.07**	**238**	P			**P**	**12 19 34.4**	**-0.5**
	comp=Z,49nm,0.8s,baz=98,slow=5.4,SNR=19								
BLDU	**Ballidu**	**49.08**	**241**	⇓P			**P**	**12 19 34.4**	**-0.6**
	baz=49,SNR=10								
MORW	**Morawa**	**49.43**	**243**	⇓P			**P**	**12 19 37.6**	**-0.1**
	baz=50,SNR=21								
MYLDM	**Lahad Datu**	**51.15**	**288**	⇑P			**P**	**12 19 52.5**	**+1.7**
TSM	**Tawau**	**51.42**	**286**	⇓P			**P**	**12 19 53.7**	**+0.9**
JAGI	**Jajag, Banyuwa**	**51.69**	**270**	⇓P			**P**	**12 19 54.3**	**-0.6**
	baz=52,SNR=9.3								
JAGI	**Jajag, Banyuwa**	**51.69**	**270**	*e*P			**P**	**12 19 54.0**	**-0.9**
	comp=Z,139nm,1.0s								
SDKM	**Sandakan**	**52.53**	**288**	⇓P			**P**	**12 20 01.6**	**+0.5**
KDM	**Kudat**	**53.33**	**289**	⇓P			**P**	**12 20 07.6**	**+0.6**
KKM	**Kota Kinabalu**	**53.58**	**288**	⇑P			**P**	**12 20 09.3**	**+0.4**
	baz=54,SNR=15								
KKM	**Kota Kinabalu**	**53.58**	**288**	⇑P			**P**	**12 20 10.2**	**+1.3**
KKM	**Kota Kinabalu**	**53.58**	**288**	*e*P			**P**	**12 20 09.0**	**0.0**
	comp=Z,90nm,0.9s								
UGM	**Wanagama**	**55.33**	**269**	⇓P			**P**	**12 20 22.2**	**+0.7**
	baz=55,SNR=4.0								
SMRI	**Semarang**	**55.57**	**270**	*e*P			**P**	**12 20 24.4**	**+1.2**
	comp=Z,51nm,0.9s								
BTM	**Bintulu**	**55.58**	**283**	⇓P			**P**	**12 20 24.7**	**+1.5**
RKT	**Rikitea**	**56.07**	**109**	*e*LR			LR	12 36 59.9	
	comp=Z,2μm,29.8s,baz=274								
SBUM	**Sibu**	**56.17**	**282**	⇑P			**P**	**12 20 28.3**	**+0.8**
MJAR	**Matsushiro Arr**	**56.21**	**333**	P			**P**	**12 20 26.1**	**-1.2**
	comp=Z,8.0nm,0.8s,baz=168,slow=7.5,SNR=38								
MJAR				LR			LR	12 43 19.7	
	comp=Z,301nm,20.5s,baz=165,slow=35								
MAJO	**Matsushiro**	**56.21**	**333**	*c i*P			**P**	**12 20 26.3**	**-1.1**
MAJO				pmax			pmax		
	comp=Z,259nm,1.2s								
MAJO	**Matsushiro**	**56.21**	**333**	*e*P			**P**	**12 20 26.2**	**-1.1**
	comp=Z,27nm,0.8s								
MAT	**Matsushiro**	**56.21**	**333**	P			**P**	**12 20 26.3**	**-1.0**
MAT				S			**S**	**12 28 09.4**	**-0.3**
JNU	**Nakatsue**	**57.27**	**324**	P			**P**	**12 20 34.9**	**-0.1**
	comp=Z,84nm,0.8s,baz=196,slow=1.9,SNR=45								
JNU	**Nakatsue**	**57.27**	**324**	*e*P			**P**	**12 20 34.7**	**-0.2**
	comp=Z,28nm,0.8s								
YULB	**Yu-li**	**57.31**	**309**	*e*P			**P**	**12 20 35.3**	**-0.1**
	comp=Z,33nm,1.0s								
KSM	**Kuching**	**57.71**	**280**	P			**P**	**12 20 38.7**	**+0.2**
	baz=58,SNR=12								
KSM	**Kuching**	**57.71**	**280**	⇓P			**P**	**12 20 38.5**	**+0.1**
KSM	**Kuching**	**57.71**	**280**	*e*P			**P**	**12 20 38.4**	**+0.1**
	comp=Z,23nm,0.9s								
TPUB	**Ta-pu**	**57.77**	**309**	*e*P			**P**	**12 20 37.9**	**-0.8**
	comp=Z,79nm,1.0s								
SSLB	**Suanglung**	**57.80**	**309**	*e*P			**P**	**12 20 38.5**	**-0.3**
	comp=Z,66nm,1.3s								
YHNB	**Yeheng**	**57.98**	**310**	*e*P			**P**	**12 20 39.6**	**-0.6**
	comp=Z,97nm,1.0s								
CISI	**Cisompet, Garu**	**58.03**	**269**	*e*P			**P**	**12 20 40.0**	**-0.8**
	comp=Z,159nm,1.1s								
LEM	**Lembang**	**58.36**	**270**	⇑P			**P**	**12 20 44.2**	**+1.1**
QZH	**Quanzhou**	**60.22**	**309**	⇑*i*P			**P**	**12 20 55.9**	**+0.4**
ASAJ	**Asahikawa**	**61.03**	**340**	P			**P**	**12 21 00.2**	**-0.4**
	comp=Z,21nm,1.0s,baz=217,slow=8.2,SNR=8.8								
KSRS	**Korea Array**	**62.08**	**326**	P			**P**	**12 21 08.0**	**+0.2**
	comp=Z,20nm,0.8s,baz=138,slow=7.1,SNR=38								
KSRS				LR			LR	12 47 07.4	
	comp=Z,169nm,19.7s,baz=139,slow=35								
KSAR	**Wonju Array Be**	**62.09**	**326**	P			**P**	**12 21 08.0**	**+0.1**
KSAR	**Wonju Array Be**	**62.09**	**326**	P			**P**	**12 21 08.0**	**+0.1**
DLV	**T Lat**	**62.83**	**291**	*e*P			**P**	**12 21 14.4**	**+0.9**
	comp=Z,13nm,0.9s								
YSS	**Yuzh-Sakhalins**	**63.52**	**342**	*e*P			**P**	**12 21 17.0**	**-0.2**
NJ2	**Nanjing**	**64.11**	**316**	*e*P			**P**	**12 21 22.2**	**+0.9**
NJ2				pP			**pP**	**12 21 44.0**	**-1.2**
NJ2				S			**S**	**12 29 52.0**	**+1.1**
NJ2				PMZ					
	comp=Z,70nm,0.9s								
NJ2				LN					
	comp=Z,500nm,22.9s								
NJ2				LE					
	comp=Z,360nm,12.5s								
NJ2				LZ					
	comp=Z,290nm,22.0s								
VLA	**Vladivostok**	**64.38**	**332**	⇑*e*P			**P**	**12 21 20.4**	**-2.5**
VLA				*e*				12 23 42.7	
VLA				pmax			pmax		
	comp=Z,33nm,0.9s								
QIZ	**Qiongzhong**	**64.43**	**299**	P			**P**	**12 21 24.1**	**+0.4**
QIZ				pP			**pP**	**12 21 46.9**	**-0.7**
QIZ				sP			**sP**	**12 21 56.5**	**-1.6**
QIZ				S			**S**	**12 29 56.8**	**+1.4**
QIZ				PMZ					
	comp=Z,190nm,3.7s								
QIZ				LZ					
	comp=Z,620nm,27.6s								
VNDA	**Vanda**	**64.44**	**181**	P			**P**	**12 21 22.5**	**-0.3**
	comp=Z,14nm,1.1s,baz=348,slow=6.1,SNR=12								
VNDA				LR			LR	12 46 26.6	
	comp=Z,407nm,20.1s,baz=18,slow=33								
SBA	**Scott Base**	**64.73**	**180**	*e*P			**P**	**12 21 24.7**	**-0.1**
SBA				pmax			pmax		
	comp=Z,32nm,1.3s								
SBA	**Scott Base**	**64.73**	**180**	*e*P			**P**	**12 21 24.7**	**-0.1**
	comp=Z,32nm,1.3s								
USRK	**Ussuriysk Ar.**	**65.19**	**333**	P			**P**	**12 21 29.0**	**+0.9**
	comp=Z,67nm,1.0s,baz=140,slow=5.9,SNR=40								
USRK				LR			LR	12 47 16.8	
	comp=Z,297nm,21.2s,baz=141,slow=34								
FX1	**Attu Island--F**	**65.97**	**4**	LR			LR	12 44 21.2	
	comp=Z,552nm,21.5s,baz=211,slow=30								
PET	**Petropavlovsk**	**66.23**	**355**	*e*P			**P**	**12 21 36.3**	**+1.7**
PET				*e*S			**S**	**12 30 20.4**	**+4.3**
PET				pmax			pmax		
	comp=Z,200nm,19.6s								
PET				pmax			pmax		
	comp=Z,5.0nm,0.8s								
BKNI	**Bangkinang**	**66.35**	**276**	*e*P			**P**	**12 21 37.3**	**+1.0**
	comp=Z,181nm,0.9s								
PETK	**Petropavlovsk-**	**66.41**	**354**	P			**P**	**12 21 36.7**	**+0.9**
	comp=Z,6.0nm,0.8s,baz=173,slow=7.6,SNR=7.5								
PETK				LR			LR	12 45 26.3	
	comp=Z,363nm,21.5s,baz=169,slow=31								
WHN	**Wuhan**	**66.42**	**312**	P			**P**	**12 21 35.8**	**-0.5**
MDJ	**Mudanjiang**	**66.58**	**332**	P			**P**	**12 21 37.5**	**+0.4**
MDJ				pP			**pP**	**12 21 59.0**	**-2.1**
MDJ				S			**S**	**12 30 25.7**	**+5.0**
MDJ				sS			**sS**	**12 31 01.6**	**-0.3**
MDJ				PMZ					
	comp=Z,28nm,1.1s								
MDJ				PMZ					
	comp=Z,280nm,7.0s								
MDJ				LN					
	comp=Z,280nm,29.3s								
MDJ				LE					
	comp=Z,180nm,23.8s								
MDJ				LZ					
	comp=Z,390nm,30.5s								
MDJ	**Mudanjiang**	**66.58**	**332**	*e*P			**P**	**12 21 37.3**	**+0.2**
	comp=Z,49nm,0.9s								
DL2	**Dalian**	**66.66**	**323**	*e*P			**P**	**12 21 37.0**	**-0.6**
DL2				*e*S			**S

comp=Z,19nm,1.0s
XAN PMZ
comp=Z,72nm,5.8s
XAN LN
comp=Z,170nm,18.4s
XAN LZ
comp=Z,130nm,22.5s
SRDT SRDT 72.21 290 P **P 12 22 14.7 +2.3**
comp=Z,89nm,2.0s,comp=Z,14µm
UTHA Uthaitani 72.31 291 P **P 12 22 14.1 +1.1**
comp=Z,17nm,1.0s,comp=Z,136nm
SUKH Sukhothai 72.80 293 P **P 12 22 16.8 +1.0**
comp=Z,22nm,0.8s,comp=Z,152nm
KHLT Khaolaem Dam 72.84 290 P **P 12 22 18.5 +2.4**
comp=Z,11nm,1.3s
KMI Kunming 72.95 302 P **P 12 22 18.6 +1.7**
KMI pP **pP 12 22 39.3 -1.9**
KMI sP **sP 12 22 48.5 -3.1**
KMI PP **PP 12 25 02.0 +1.4**
KMI S **SKiKP 12 31 41.9 +0.9**
KMI sS **sS 12 32 17.9 -0.4**
KMI SS **SS 12 36 21.2 +2.0**
KMI PMZ
comp=Z,150nm,1.0s
KMI PMZ
comp=Z,320nm,5.7s
KMI LN
comp=Z,160nm,22.7s
KMI LE
comp=Z,270nm,23.3s
KMI LZ
comp=Z,440nm,24.8s
CRAI Chiangrai 73.10 296 P **P 12 22 17.3 -0.3**
comp=Z,58nm,1.0s
LAMP Lampang 73.15 294 P **P 12 22 19.1 +1.2**
comp=Z,43nm,1.0s,comp=Z,269nm
PAYA Payao 73.24 295 P **P 12 22 19.5 +1.1**
comp=Z,28nm,0.9s,comp=Z,802nm
CMAR Chiang Mai Arr 73.74 294 P **P 12 22 22.8 +1.4**
comp=Z,63nm,0.9s,baz=120,slow=4.5,SNR=183
CMAR LR LR 12 55 05.9
comp=Z,167nm,20.2s,baz=148,slow=36
CMMT Chiang Mai 73.86 294 P **P 12 22 22.8 +0.7**
comp=Z,75nm,1.0s,comp=Z,684nm
CHTO Chiang Mai 73.86 294 *e*P **P 12 22 23.1 +1.0**
CHTO pmax pmax
comp=Z,41nm,0.9s
CHTO Chiang Mai 73.86 294 P **P 12 22 22.8 +0.7**
comp=Z,264nm,1.0s,comp=Z,2µm
CHTO Chiang Mai 73.86 294 *e*P **P 12 22 23.1 +1.0**
comp=Z,41nm,0.9s
HHC Hu-ho-hao-te 73.97 320 *e*P **P 12 22 23.5 +1.1**
HHC pP **pP 12 22 48.4 +1.5**
HHC sP **sP 12 22 59.2 +2.0**
HHC PP **PP 12 25 12.0 +3.1**
HHC S **S 12 31 47.9 +0.6**
HHC ScS **ScS 12 32 23.7 -0.4**
HHC sS **sS 12 32 28.1 -1.0**
HHC PMZ
comp=Z,38nm,0.6s
HHC PMZ
comp=Z,490nm,5.9s
HHC LN
comp=Z,550nm,16.8s
HHC LE
comp=Z,640nm,17.7s
HHC LZ
comp=Z,900nm,17.0s
CMAI Chiengmai2 74.16 295 P **P 12 22 25.1 +1.1**
comp=Z,60nm,1.0s
CD2 Chengdu 74.55 307 P **P 12 22 26.7 +0.8**
CD2 PcP **PcP 12 22 41.5 +1.6**
CD2 pP pP 12 22 55.7 +5.3
CD2 sP **sP 12 23 02.8 +2.1**
CD2 PP **PP 12 25 17.2 +3.2**
CD2 S **S 12 31 56.1 +2.1**
CD2 ScS **SKSac 12 32 19.9 -6.0**
CD2 sS **sS 12 32 39.0 +3.1**
CD2 SS **SS 12 36 43.5 +0.3**
CD2 PMZ
comp=Z,100nm,0.8s
CD2 PMZ
comp=Z,290nm,7.1s
CD2 LN
comp=Z,310nm,16.7s
CD2 LE
comp=Z,310nm,16.7s
CD2 LZ
comp=Z,410nm,20.2s
MHMT Maesarieng 74.55 293 P **P 12 22 27.2 +1.1**
comp=Z,21nm,1.0s,comp=Z,308nm
BTO Baotou 74.82 319 *e*P **P 12 22 27.5 +0.2**
SEY Seymchan 76.62 353 P **P 12 22 36.2 -0.7**
comp=Z,8.2nm,0.6s,baz=157,slow=8.0,SNR=37
LZH Lanzhou 76.79 312 ⇑P **P 12 22 40.5 +1.8**
LZH pP **pP 12 23 05.1 +1.8**
LZH sP **sP 12 23 15.6 +2.0**
LZH PP **PP 12 25 36.4 +3.5**
LZH *e*S **S 12 32 20.1 +1.3**
LZH SKS **SKSac 12 32 38.2 -4.3**
LZH sS **sS 12 33 03.1 +2.2**
LZH *e*SS **SS 12 37 20.0 +2.8**
LZH PMZ
comp=Z,110nm,1.5s
LZH PMZ
comp=Z,440nm,7.2s
LZH LN
comp=Z,920nm,17.0s
LZH LE
comp=Z,760nm,17.5s
LZH LZ
comp=Z,2µm,19.5s
QSPA South Pole Qui 76.89 180 P **P 12 22 38.2 -0.5**
comp=Z,71nm,1.1s,baz=334,slow=0.6,SNR=161
QSPA LR LR 12 54 29.7
comp=Z,363nm,18.8s,baz=39,slow=34
QSPA South Pole Qui 76.89 180 *e*P **P 12 22 38.2 -0.5**
comp=Z,61nm,1.0s
CLNS Chul'man 77.82 338 *e*P **P 12 22 42.6 -1.2**
CLNS pmax pmax
comp=Z,6.0nm,1.0s
CLNS pmax pmax
comp=E,27nm,1.1s
CLNS pmax pmax
comp=N,8.0nm,1.1s
RPN Rapa Nui 78.89 115 LR LR 12 49 54.5
comp=N,398nm,19.0s,baz=268,slow=30
YAK Yakutsk 80.33 343 *e*P **P 12 22 56.5 -0.8**
YAK pmax pmax
comp=Z,26nm,0.8s
YAK Yakutsk 80.33 343 *e*P **P 12 22 56.8 -0.5**
comp=Z,26nm,0.8s
ULN Ulaanbaatar 80.49 324*c i*P **P 12 22 59.3 +0.6**
ULN Ulaanbaatar 80.49 324 *e*P **P 12 22 59.2 +0.4**
comp=Z,41nm,1.0s
SONM Songino Array 80.85 324 P **P 12 23 00.6 0.0**
comp=Z,13nm,0.9s,baz=137,slow=5.9,SNR=39
SONM LR LR 12 58 00.8
comp=Z,363nm,20.3s,baz=118,slow=35
BILL Bilibino 80.94 360⇑*e*P **P 12 22 59.9 -0.6**
BILL pmax pmax
comp=Z,27nm,1.0s
BILL Bilibino 80.94 360 *e*P **P 12 22 59.8 -0.8**
comp=Z,23nm,0.9s
GTA Gaotai 81.12 314 ⇑P **P 12 23 03.5 +1.2**
GTA pP **pP 12 23 28.9 +1.8**
GTA sP **sP 12 23 39.7 +2.4**
GTA PP **PP 12 26 10.8 +2.0**
GTA S **S 12 33 05.0 +0.4**
GTA SKS **SKSac 12 33 09.3 -3.7**
GTA sS **sS 12 33 48.7 +1.6**
GTA SS **SS 12 38 25.5 +3.6**
GTA PMZ
comp=Z,33nm,1.3s
GTA PMZ
comp=Z,480nm,6.2s
GTA LN
comp=Z,180nm,19.0s
GTA LE
comp=Z,280nm,20.9s
GTA LZ
comp=Z,310nm,21.8s
SHL Shillong 82.27 298 *e*P **P 12 23 10.0 +1.3**
BOD Bodaibo 82.77 335 *e*P **P 12 23 08.9 -1.4**
BOD pmax pmax
comp=Z,7.0nm,1.4s
MAW Mawson 83.14 202 LR LR 12 53 37.0
comp=Z,629nm,19.4s,baz=72,slow=31
MCK McKinley 83.83 18 *e*P **P 12 23 15.4 -0.2**
MCK pmax pmax
comp=Z,6.0nm,0.6s
MCK McKinley 83.83 18 *e*P **P 12 23 15.4 -0.2**
comp=Z,6.0nm,0.6s
ZAK Zakamensk 83.89 325 *e*P **P 12 23 15.9 -0.5**
ZAK pmax pmax
comp=Z,22nm,1.2s
LSA Lhasa 84.19 302 P **P 12 23 20.0 +1.1**
LSA PMZ
comp=Z,50nm,1.1s
LSA Lhasa 84.19 302 *e*P **P 12 23 20.0 +1.1**
LSA pmax pmax
comp=Z,49nm,0.9s
LSA Lhasa 84.19 302 *e*P **P 12 23 20.0 +1.1**
comp=Z,49nm,0.9s
IRK Irkutsk 84.27 327 *e*P **P 12 23 16.2 -1.9**
IRK pmax pmax
comp=Z,45nm,1.6s
PAF Port-aux-Franc 84.30 221 P P 12 23 05.0 -13
PAF SS SS 12 38 59.0 -8.5
PAF L L 12 46 00.0
PAF R 12 51 00.0
TLY Talaya 84.33 326 P **P 12 23 18.3 -0.2**
comp=Z,148nm,0.9s,SNR=26
TLY Talaya 84.33 326 *e*P **P 12 23 18.6 +0.1**
TLY *e*S **S 12 33 40.0 +3.6**
TLY *e* 12 34 34.8
TLY pmax pmax
comp=Z,19nm,0.8s
TLY MLR MLR
comp=Z,219nm,19.0s
TLY Talaya 84.33 326 *e*P **P 12 23 18.3 -0.2**
comp=Z,18nm,0.8s
M02C Callahan 84.49 45 P **P 12 23 19.4 -0.2**
baz=85
COLA College 84.98 18*c i*P **P 12 23 20.4 -1.0**
COLA pmax pmax
comp=Z,80nm,1.4s
COLA College 84.98 18 *e*P **P 12 23 19.5 -1.8**
comp=Z,26nm,1.0s
CMB Columbia Colle 85.02 49 *e*P **P 12 23 20.9 -1.4**
CMB pmax pmax
comp=Z,6.0nm,0.9s
CMB Columbia Colle 85.02 49 *e*P **P 12 23 20.9 -1.4**
comp=Z,6.0nm,0.9s
ILAR Eielson Array 85.20 18 P **P 12 23 20.6 -1.9**
comp=Z,8.5nm,0.5s,baz=238,slow=5.2,SNR=104
ILAR LR LR 12 55 15.0
comp=Z,901nm,21.4s,baz=234,slow=31
M04C Macdoel 85.34 45 P **P 12 23 24.2 +0.2**
baz=86
ISA Isabella, Lake 85.65 52 P **P 12 23 25.2 -0.3**
baz=86
G03D McMinnville, O 85.71 42 P **P 12 23 25.4 0.0**
baz=86
I04A Tendick Farm, 85.72 43 P **P 12 23 24.4 -1.2**
baz=86
EDW2 Edwards Air Fo 85.76 53 P **P 12 23 24.3 -1.8**
baz=86
MOY Mondy 85.77 325 *e*P **P 12 23 25.9 +0.1**
WAKR Walker 85.88 49 *e*P **P 12 23 25.7 -1.1**
comp=Z,9.7nm,1.1s
COLD Coldfoot 86.05 15 *e*P **P 12 23 27.0 +0.3**
comp=Z,12nm,1.0s
LRMC Laurel Mtn Rad 86.19 52 P **P 12 23 27.3 -1.0**
baz=86
J05D Fort Rock, OR 86.32 44 P **P 12 23 27.8 -0.9**
baz=86
TAPN Taplejung 86.37 299⇑*i*P **P 12 23 29.9 +0.3**
comp=Z,157nm,1.2s
ODAN Odare 86.51 298⇑*i*P **P 12 23 30.6 +0.5**
comp=Z,216nm,1.0s
PFO Pinyon Flats O 86.56 55 P **P 12 23 28.6 -1.5**
comp=Z,2.5nm,0.7s,baz=260,slow=6.7,SNR=3.9
PFO Pinyon Flats O 86.56 55 P **P 12 23 28.9 -1.3**
baz=87
I05D Terrebonne, OR 86.64 43 P **P 12 23 29.3 -0.8**
baz=87
NVAR Mina Array Bea 86.69 49 P **P 12 23 29.8 -1.0**
comp=Z,3.8nm,0.9s,baz=231,slow=7.2,SNR=16
NVAR PKKP PKKPdf 12 41 13.2 -7.2
comp=Z,0.3nm,0.5s,baz=93,slow=1.8,SNR=3.3
NVAR PKPPKP **P'P'df 12 49 33.2 +0.7**
comp=Z,0.6nm,0.8s,baz=78,slow=2.2,SNR=5.2
SWSC Sam W. Stewart 86.89 55 P **P 12 23 30.2 -1.4**
baz=87
G05D Wamic, OR 86.99 42 P **P 12 23 31.2 -0.6**
baz=87
EGAK Eagle 87.02 20 *e*P **P 12 23 31.3 -0.2**
comp=Z,18nm,1.1s
HEC Hector,Ludlow 87.04 53 P **P 12 23 31.3 -1.0**
baz=87
BELC Belle Mtn. Jos 87.05 54 P **P 12 23 31.6 -0.9**
baz=87
FURC Furnace Creek, 87.14 52 P **P 12 23 32.3 -0.3**
baz=87
RAMN Ramite 87.21 298⇑*i*P **P 12 23 33.8 +0.2**
comp=Z,125nm,1.1s
BC3 Big Chuckawall 87.38 55 P **P 12 23 33.9 -0.2**
baz=88
SHOC Shoshone, Teco 87.41 52 P **P 12 23 33.5 -0.6**
baz=88
TUQ Turquoise Moun 87.55 53 P **P 12 23 34.4 -0.5**
baz=88
GMRC Granite Mounta 87.55 54 P **P 12 23 33.6 -1.3**
baz=88
GLA Glamis 87.70 55 P **P 12 23 35.7 +0.2**
baz=88
PALK Pallekele 87.70 278 P **P 12 23 37.5 +1.6**
comp=Z,183nm,1.2s,SNR=5.4
PALK Pallekele 87.70 278 *e*P **P 12 23 37.6 +1.6**
PALK pmax pmax
comp=Z,71nm,1.0s
PALK Pallekele 87.70 278 *e*P **P 12 23 37.6 +1.6**
comp=Z,38nm,1.0s
JIRN Jiri 87.75 299⇑*i*P **P 12 23 36.6 +0.3**
IRM Iron Mountain 87.77 54 P **P 12 23 35.6 -0.2**
baz=88
LDFC Landfair 88.07 53 *e*P **P 12 23 37.3 -0.1**
comp=Z,23nm,0.9s
GUN Gumba 88.09 299⇑*i*P **P 12 23 38.1 +0.2**
comp=Z,160nm,0.9s
TIXI Tiksi 88.28 349⇓*e*P **P 12 23 36.6 -0.7**
TIXI pmax pmax
comp=Z,11nm,1.7s
TIXI Tiksi 88.28 349 *e*P **P 12 23 34.9 -2.4**
comp=Z,9.4nm,1.1s
PKI Pulchoki 88.40 299⇑*i*P **P 12 23 39.3 0.0**
comp=Z,176nm,1.0s
PKIN Phulchoki 88.41 299⇑*i*P **P 12 23 39.1 -0.2**
SHPR Sheep Range 88.46 52 *e*P **P 12 23 39.1 -0.1**
comp=Z,10nm,1.2s
113A Mohawk Valley, 88.47 56 P **P 12 23 38.6 -0.5**
baz=88
KKN Kakani 88.57 299⇑*i*P **P 12 23 40.1 +0.1**
comp=Z,103nm,0.9s
PDMCI Parker Dam,Lak 88.61 54 P **P 12 23 40.0 +0.3**
baz=89
DMN Daman 88.67 299⇑*i*P **P 12 23 40.8 +0.3**
comp=Z,310nm,0.9s
R11A Troy Canyon, C 88.69 50 P **P 12 23 40.1 -0.2**
baz=89
214A Organ Pipe Nat 89.02 57 P **P 12 23 41.9 +0.2**
baz=89
214A Organ Pipe Nat 89.02 57 *e*P **P 12 23 41.7 -0.1**
comp=Z,4.4nm,0.8s
LPIG La Paz 89.08 65 LR LR 12 54 23.2
comp=Z,237nm,21.3s,baz=231,slow=29
GKN Gorkha 89.17 299⇑*i*P **P 12 23 42.5 -0.2**
comp=Z,221nm,1.0s
Y14A Wickenburg 89.41 55 P **P 12 23 44.0 +0.4**
baz=90
HVS Khovu-Aksy 89.72 323*c i*P **P 12 23 44.6 -0.1**
HVS pmax pmax
comp=Z,110nm,1.3s
KOLN Koldanda 90.00 298⇑*i*P **P 12 23 46.0 -0.7**
comp=Z,59nm,0.9s
DANN Dangsing 90.01 299⇑*i*P **P 12 23 46.2 -0.6**
comp=Z,129nm,0.8s
SYO Syowa Base 90.06 197⇑*e*X P 12 23 42.0 -3.9
U15A North Rim 90.65 53 P **P 12 23 49.7 +0.1**
baz=91
NEW Newport 90.74 40 P **P 12 23 48.8 -0.6**
baz=91
TUC Tucson 90.77 57 *e*P **P 12 23 49.0 -1.0**
TUC pmax pmax
comp=Z,4.0nm,0.8s
TUC Tucson 90.77 57 *e*P **P 12 23 49.0 -1.0**
comp=Z,3.7nm,0.8s
X16A Lo Mia Camp, P 90.79 55 P **P 12 23 50.5 +0.3**
baz=91
HLID Hailey 91.10 46 P **P 12 23 51.4 0.0**
baz=91
WUAZ Wupatki 91.13 54 P **P 12 23 52.3 +0.6**
baz=91
WMQ Urumqi 91.17 315 P **P 12 23 51.8 +0.2**
WMQ pP **pP 12 24 15.9 -0.9**
WMQ sP **sP 12 24 25.8 -1.1**
WMQ SKS **SKSac 12 34 13.2 -2.1**
WMQ S **S 12 34 39.0 -3.1**
WMQ sS **sS 12 35 22.0 -3.5**
WMQ SS **SS 12 40 47.4 -1.5**
WMQ PMZ
comp=Z,31nm,1.4s
WMQ PMZ
comp=Z,290nm,4.0s
WMQ LN
comp=Z,230nm,26.0s
WMQ LE
comp=Z,140nm,26.0s
WMQ LZ
comp=Z,270nm,23.0s
DUG Dugway, Tooele 91.29 49 P **P 12 23 52.2 -0.1**
baz=91
INK Inuvik 91.57 19 LR LR 12 57 02.2
comp=Z,1µm,20.8s,slow=30
X18A Snowflake 92.00 55 P **P 12 23 56.8 +1.0**
baz=92
HYB Hyderabad 92.07 287 *i*P **P 12 23 55.0 -1.2**
BSMT Bassoo Peak 92.11 41 *e*P **P 12 23 55.4 -0.6**
comp=Z,3.6nm,0.8s
CHMT Chamberlain Mo 92.84 43 *e*P **P 12 23 58.9 -0.5**
HRY Holter Researc 93.72 43 *e*P **P 12 24 03.5 +0.1**
comp=Z,3.1nm,0.6s
I17A Pilgrim Ck. 93.87 46 P **P 12 24 05.7 +1.4**
baz=94
PV01 Paradox Valley 93.95 52 *e*P **P 12 24 05.7 +0.9**
comp=Z,264nm,1.0s
Z22A Elephant Butte 94.12 57 P **P 12 24 05.5 -0.1**
baz=94
PDAR Pinedale Array 94.31 47 P **P 12 24 06.4 +0.1**
comp=Z,0.6nm,0.8s,baz=266,slow=2.7,SNR=5.5
PDAR PKKP **PKKPdf 12 41 05.0 -2.1**
comp=Z,0.8nm,0.7s,baz=101,slow=3.8,SNR=5.9
PDAR LR LR 13 03 07.7
comp=Z,308nm,18.0s,baz=276,slow=33
NVL N'lazarevskaya 94.55 188 *e*P **P 12 24 04.5 -2.1**
NVL *e*S **SKSac 12 34 29.0 -3.9**
NVL pmax pmax
comp=Z,14nm,1.0s
NVL MLR MLR
comp=Z,544nm,17.0s
SNAA Sanae 95.11 183 P **P 12 24 07.5 -1.7**
SNAA Sanae 95.11 183⇑*e*P **P 12 24 07.6 -1.7**
SNAA pmax pmax
comp=Z,20nm,1.0s
H19A Powell 95.16 45 P **P 12 24 10.5 +0.5**
baz=95
MKAR Makanchi Array 95.62 317 P **P 12 24 12.0 0.0**
MKAR 12 28 02.0
MKAR Makanchi Array 95.62 317 P **P 12 24 12.0 0.0**
comp=Z,23nm,0.9s,baz=103,slow=5.7,SNR=150
MKAR PP **PP 12 28 02.0 -2.6**
comp=Z,3.2nm,1.1s,baz=92,slow=10,SNR=4.9
MKAR PKKPbc **PKKPbc 12 41 02.2 -1.9**
comp=Z,0.3nm,0.6s,baz=266,slow=2.1,SNR=4.9
MKAR LR LR 13 05 55.8
comp=Z,150nm,21.6s,baz=108,slow=34
ZALV Zalesovo Beam 95.74 324 P **P 12 24 11.2 -1.1**
comp=Z,18nm,1.0s,baz=108,slow=4.8,SNR=39
ZALV PP **PP 12 28 01.1 -4.1**
comp=Z,0.8nm,0.6s,baz=90,slow=5.8,SNR=3.8
ZALV PKPPKP P'P'df 12 49 05.3 -9.0
comp=Z,0.2nm,0.3s,baz=270,slow=2.2,SNR=3.7
ZALV LR LR 13 05 58.6
comp=Z,401nm,21.4s,baz=70,slow=34
VNA3 Neumayer Olymp 95.80 181 P **P 12 24 10.7 -1.6**
O22A Kremmling 95.94 50 P **P 12 24 13.5 -0.4**
baz=96
TXAR Lajitas Array 96.05 61 P **P 12 24 13.4 -1.0**
comp=Z,0.6nm,0.8s,baz=234,slow=4.2,SNR=6.2
TXAR PKKPbc **PKKPbc 12 41 01.9 -0.4**
comp=Z,0.5nm,0.6s,baz=90,slow=2.7,SNR=5.6
TXAR LR LR 12 59 16.2
comp=Z,464nm,21.3s,baz=0.0,slow=30
VNA2 Neumayer--Watz 96.06 182 P **P 12 24 12.2 -1.3**
R23A Moffat 96.08 52 P **P 12 24 13.8 -0.7**
baz=96
YKA Yellowknife Ar 96.41 27 P **P 12 24 12.6 -2.4**
comp=Z,1.0nm,0.5s,baz=259,slow=4.6,SNR=29
POO Poona 96.68 287 *e*P **P 12 24 15.0 -2.4**
Y26A Elida 96.82 57 P **P 12 24 17.1 -0.7**
baz=97
NVS Novosibirsk 96.85 325 *e*P **P 12 24 16.0 -1.2**
NVS pmax pmax
comp=E,6.0nm,1.2s
NVS pmax pmax
comp=Z,12nm,1.2s
KSH Kashi 98.73 309 *e*P Pdif 12 24 28.3 +2.0
KSH sP sP 12 25 05.0 +3.3
KSH PP **PP 12 28 33.0 +4.3**
KSH S **S 12 35 45.3 -2.9**
KSH sS sS 12 36 30.0 -2.0
KSH SS **SS 12 42 38.2 +1.6**
KSH PMZ
comp=Z,160nm,6.1s
KSH LN
comp=Z,100nm,5.9s
KSH LE
comp=Z,100nm,6.2s
KSH LZ
comp=Z,120nm,5.1s
KURK Kurchatov 98.79 320 *e*P **P 12 24 24.8 -1.3**
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 98.79 320 *e*P **P 12 24 24.8 -1.3**
comp=Z,5.6nm,1.0s
TKM2 Tokmak 2 99.56 312 *e*P **Pdif 12 24 29.9 -0.1**
TKM2 pmax pmax
comp=Z,3.0nm,0.9s
TKM2 Tokmak 2 99.56 312 *e*Pdif **Pdif 12 24 29.9 -0.1**
comp=Z,2.5nm,0.9s
AAK Ala-Archa 100.32 311⇓*e*P **Pdif 12 24 33.2 -0.1**
AAK pmax pmax
comp=Z,7.0nm,0.9s
AAK Ala-Archa 100.32 311 *e*Pdif **Pdif 12 24 32.9 -0.4**
comp=Z,3.1nm,1.0s
ARCES ARCESS Array B 118.55 345 PKP **PKPdf 12 29 32.4 -0.9**
comp=Z,2.9nm,0.6s,baz=65,slow=1.5,SNR=17
KLMR Klimovskoe 118.98 333 *e*PKIKP PKPdf 12 29 27.1 -7.1
KLMR *e* 12 30 51.6
KLMR pmax pmax
comp=Z,12nm,1.4s
KLMR MLR MLR
comp=Z,561nm,24.0s
CPUP Villa Florida 121.99 133 PKP **PKPdf 12 29 38.6 -2.5**
comp=Z,0.8nm,0.5s,baz=181,slow=1.2,SNR=3.2
OBN Obninsk 123.02 328 *i*PKIKP **PKPdf 12 29 42.7 +0.5**
OBN pmax pmax
comp=Z,6.0nm,1.2s
RAYN Ar Rayn 123.50 290 *e*PKPdf **PKPdf 12 29 43.7 -0.5**
FINES FINESS Array B 124.01 338*c i*PKIKP **PKPdf 12 29 43.0 -0.9**
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 124.01 338 PKP **PKPdf 12 29 42.4 -1.5**
comp=Z,2.5nm,0.9s,baz=63,slow=1.7,SNR=8.0
BOSA Boshof 124.18 222 *e*PKIKP **PKPdf 12 29 45.1 -0.4**
BOSA Boshof 124.18 222 PKP **PKPdf 12 29 44.9 -0.6**
comp=Z,16nm,1.0s,baz=121,slow=2.8,SNR=13
BOSA Boshof 124.18 222 *e*PKPdf **PKPdf 12 29 45.1 -0.4**
KMBO Kilima Mbogo 127.86 258 PKP **PKPdf 12 29 53.6 +0.6**
comp=Z,0.6nm,0.3s,baz=308,slow=3.4,SNR=4.3
NB2 NORSAR Subarra128.92 345 PKPdf **PKPdf 12 29 53.2 -0.2**
comp=Z,8.2nm,1.4s,baz=27,slow=1.8
NB2 NORSAR Subarra128.92 345 PKPdf **PKPdf 12 29 53.2 -0.2**
baz=27,slow=1.8
NOA NORSAR Array B128.92 345 PKP **PKPdf 12 29 53.1 -0.2**
comp=Z,1.7nm,0.9s,baz=35,slow=2.0,SNR=5.7
AKASG Malin Array Be 129.07 326 PKP **PKPdf 12 29 53.0 -0.8**
comp=Z,0.7nm,0.5s,baz=61,slow=2.0,SNR=4.4

AKASG PP **PP** **12 31 59.6 -2.9**
comp=Z,1.5nm,0.7s,baz=55,slow=5.8,SNR=4.0
AKASG SKP 12 33 22.5
comp=Z,0.3nm,0.4s,baz=52,slow=4.8,SNR=2.5
KIEV Kiev 129.08 326 *i* PKIKP **PKPdf** **12 29 55.0 +1.1**
LSZ Lusaka 130.13 237 *e*PKIKP **PKPdf** **12 29 57.5 +0.3**
LSZ Lusaka 130.13 237 *e*PKPdf **PKPdf** **12 29 57.5 +0.3**
BRTR Keskin Array B 131.00 312 PKP **PKPdf** **12 29 58.2 0.0**
comp=Z,1.1nm,0.9s,baz=104,slow=2.2,SNR=3.9
BRTR PP **PP** **12 32 14.8 -1.0**
comp=Z,4.7nm,1.1s,baz=90,slow=4.3,SNR=9.3
KIS Kishinev 131.20 322 LRM MLR 12 30 00.0
comp=Z,300nm,20.0s
CRVS Cervenica-Dubn 134.21 328 *e*PKIKP **PKPdf** **12 30 03.1 -0.6**
CRVS Cervenica-Dubn 134.21 328 *e*PKP **PKPdf** **12 30 03.1 -0.6**
DPC Dobruska-Polom 135.68 333 *e*PKIKP **PKPdf** **12 30 06.5 0.0**
DPC Dobruska-Polom 135.68 333 *e*PKPdf **PKPdf** **12 30 06.5 0.0**
BRG Berggiesshubel 136.31 335 *e*PKP **PKPdf** **12 30 09.9 +2.4**
comp=Z,3.2nm,0.7s
BRG Berggiesshubel 136.31 335 *e*PKIKP **PKPdf** **12 30 09.9 +2.4**
BRG pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 136.35 336 *e*PKIKP **PKPdf** **12 30 07.0 -0.6**
CLL Collm 136.35 336 *e*PKPdf **PKPdf** **12 30 07.0 -0.6**
CLL *e*PP **PP** **12 32 48.0 -0.7**
CLL *e*PKSdf **PKSdf** **12 33 43.0 -0.6**
CLL Lm MLR 13 34 00.0
comp=Z,400nm,19.6s
PRU Pruhonice 136.72 334 *e*PKIKP **PKPdf** **12 30 09.1 +0.8**
PRU Pruhonice 136.72 334 *e*PKPdf **PKPdf** **12 30 09.1 +0.8**
KHC Kasperske Hory 137.78 334 *e*PKPdf **PKPdf** **12 30 12.7 +2.3**
GERES GERESS Array B 137.94 333 PKhKP PKPpre 12 29 59.9
comp=Z,2.2nm,1.2s,baz=336,slow=2.2,SNR=4.5
GERES PKP **PKPdf** **12 30 10.2 -0.6**
comp=Z,1.0nm,0.8s,baz=40,slow=3.2,SNR=6.3
GERES SKPbc **SKPab** **12 33 45.4 +1.1**
comp=Z,2.2nm,1.0s,baz=33,slow=2.3,SNR=6.5
BNI Bardonecchia 143.89 336 *e*PKIKP PKPbc 12 30 20.3 +0.7
BNI Bardonecchia 143.89 336 *e*PKPdf PKPbc 12 30 20.3 +0.7
CEL Celeste 143.93 319 *e*PKPdf PKPbc 12 30 19.4 -0.4
PLDF La Plantade 144.25 340 PKP **PKPab** **12 30 19.3 -0.9**
AGO Saint Agoulin 144.34 340 PKP PKPbc 12 30 21.3 +0.5
SAOF Saorge 144.39 334 PKP **PKPab** **12 30 20.0 -0.7**
AUTN L'Aution 144.44 334 PKP **PKPab** **12 30 20.9 -0.3**
TOUF Mont Tournerai 144.50 334 PKP **PKPab** **12 30 21.3 -0.1**
SSB Saint Sauveur 144.52 338 *e*PKIKP PKPbc 12 30 21.8 +0.4
SSB Saint Sauveur 144.52 338 *e*PKPdf PKPbc 12 30 21.8 +0.4
MVIF Mont Vial 144.64 334 PKP **PKPab** **12 30 21.5 -0.3**
PYM Petit Puy Mans 144.64 340 PKP PKPbc 12 30 21.8 0.0
REVF Revere 144.67 334 PKP **PKPab** **12 30 18.7 -3.1**
OG26 St.-Nazaire-De 144.83 337 PKP **PKPdf** **12 30 22.9 -0.3**
CALN Calern 144.87 334 PKP **PKPdf** **12 30 23.2 -0.2**
LBL Lubilhac 145.02 339 PKP **PKPab** **12 30 23.0 -0.1**
VSL Villasalto 146.94 327 *e*PKPbc **PKPbc** **12 30 28.8 -0.1**
KEST Kesra 149.58 322 PKPbc **PKPbc** **12 30 35.8 -0.3**
comp=Z,6.7nm,1.0s,baz=2.3,slow=1.7,SNR=7.5
KEST Kesra 149.58 322 *e*PKPdf **PKPdf** **12 30 30.7 -0.7**
KEST *e*PKPbc **PKPbc** **12 30 36.2 +0.1**
SHEL Horse Pasture 150.14 195 *e*PKPbc **PKPbc** **12 30 38.9 +1.0**
ESDC Sonseca Array 152.28 344 PKPbc **PKPbc** **12 30 41.4 -0.9**
comp=Z,1.2nm,0.6s,baz=5.1,slow=2.6,SNR=5.5
ESDC PKPab **PKPab** **12 30 52.3 0.0**
comp=Z,3.0nm,0.6s,baz=13,slow=4.2,SNR=4.3
TORD Torodi Ar. Bea 165.34 272 PKP **PKPdf** **12 30 50.8 -0.6**
comp=Z,3.9nm,1.0s,baz=96,slow=0.5,SNR=13
TORD PKPab **PKPab** **12 31 50.0 +0.4**
comp=Z,19nm,1.0s,baz=86,slow=3.9,SNR=24
DBIC Dimbokro 169.45 233 PKPab **PKPab** **12 32 07.2 -0.5**
comp=Z,7.8nm,1.0s,baz=106,slow=4.1,SNR=3.1

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*IDC **06** 12:31:37.3±1.4, 12°.37N×87°.69W, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.0/27, mbtmp4.0/11, ML3.1/3, MS3.7/2, Ms1 3.7/2, ms1mx2.9/35, Error ellipse: s-maj=40.7km s-min=18.7km az=39.0*
*CASC **06** 12:31:39.5±2.5, 11°.91N×88°.04W, h18km±14km, MD4.1*
*NEIC **06** 12:31:42.7±0.9, 12°.32N×87°.73W, h39km±9km, mb4.5/10, Error ellipse: s-maj=14.2km s-min=7.4km az=47.0*
ISC 06 12:31:36.8±2.0, 11°.92N±0°.09×88°.05W±0°.07, h9km±10km, n335, σ0°75/338, mb4.4/19, 154C-141D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.36**	**9**	⇑*i*P	**Pg**	**12 32 03.0**	**+0.1**
CNCH				*e*S	**Sg**	**12 32 23.8**	**+3.1**
CNGN	**Cerro Negro**	**1.44**	**66**	*i* P	**Pg**	**12 32 04.4**	**-0.1**
COPN	**Copaltepe**	**1.45**	**80**	⇓*i*P	**Pg**	**12 32 04.7**	**0.0**
VSM	**San Miguel**	**1.51**	**352**	⇑*i*P	**Pg**	**12 32 05.4**	**-0.5**
BLLM	**Bellamira**	**1.52**	**353**	⇓*i*P	**Pg**	**12 32 05.2**	**-0.8**
SNVI	**San Vicente**	**1.84**	**336**	*e*P	**Pg**	**12 32 11.9**	**-0.3**
SNVI				*e*S	**Sg**	**12 32 35.0**	**-1.2**
HUEN		**1.89**	**77**	*i* P	**Pb**	**12 32 10.8**	**-0.7**
LFRS	**El Faro**	**1.96**	**330**	*i* P	**Pn**	**12 32 11.0**	**+0.7**
LFRS				*e*S	**Sb**	**12 32 37.7**	**+0.4**
LBRS	**Las Brisas**	**2.05**	**332**	*i* P	**Pb**	**12 32 12.9**	**-1.3**
BOQS	**Boqueron**	**2.16**	**327**	*i* P	**Pn**	**12 32 14.8**	**+1.5**
BOQS				*e*S	**Sb**	**12 32 42.8**	**-0.6**
SBLS	**San Blas**	**2.44**	**321**	*i* P	**Pn**	**12 32 18.7**	**+1.6**
SBLS				*e*S	**Sb**	**12 32 51.3**	**-0.1**
SNJE	**San Jose**	**2.46**	**322**	*e*P	**Pn**	**12 32 18.9**	**+1.6**
RTR	**El Retiro**	**2.50**	**322**	*i* P	**Pn**	**12 32 20.0**	**+2.1**
RTR				*e*S	**Sn**	**12 32 50.3**	**+1.7**
JTS	**JuntasAbangare**	**3.45**	**118**	Pn	**Pn**	**12 32 33.3**	**+2.5**
	1.9nm,0.3s,baz=320,slow=23,SNR=4.9						
JTS				Sn	**Sn**	**12 33 13.3**	**+1.5**
	5.9nm,0.3s,baz=38,slow=19,SNR=3.5						
JCR	**Jicaral**	**3.55**	**125**	*e*P	**Pn**	**12 32 35.3**	**+3.1**
JCR				*e*S	**Sn**	**12 33 14.9**	**+0.5**
APG	**El Apazote**	**3.86**	**323**	Pn	**Pn**	**12 32 35.5**	**-1.1**
	0.5nm,0.3s,baz=135,slow=14,SNR=4.1						
APG				Sn	**Sn**	**12 33 23.3**	**+1.1**
	2.1nm,0.3s,baz=85,slow=22,SNR=4.2						
QCR	**Quepos**	**4.56**	**123**	*e*P	Pn	12 32 49.6	+3.6
BUS	**Buena Vista**	**4.83**	**119**	*e*P	Pn	12 32 53.9	+3.7
BUS				*e*S	**Sn**	**12 33 46.6**	**0.0**
TEIG	**Tepich**	**8.26**	**359**	LR	LR	12 37 25.6	
	comp=Z,141nm,19.1s,baz=210,slow=44						
CMIG	**Matias Romero**	**8.37**	**309**	Pn	**Pn**	**12 33 41.2**	**+2.7**
	0.7nm,0.3s,baz=153,slow=7.5,SNR=10						
CMIG				Sn	**Sn**	**12 35 16.2**	**+3.0**
	0.4nm,0.3s,baz=180,slow=20,SNR=3.0						
035Z	**Hargill**	**17.27**	**328**	⇑P	**P**	**12 35 40.6**	**+0.8**
	baz=17						
034A	**Hebbronville**	**18.07**	**328**	⇓P	**P**	**12 35 50.1**	**+1.4**
	baz=18						
934A	**Benavides**	**18.43**	**329**	⇑P	**P**	**12 35 53.4**	**+0.8**
	baz=18						
835A	**Beeville**	**18.67**	**332**	⇑P	**Pn**	**12 35 56.7**	**+1.1**
	baz=18						
933A	**Laredo**	**18.82**	**328**	⇓P	**Pn**	**12 35 58.7**	**+1.2**
	baz=19						
834A	**Tilden**	**18.88**	**330**	⇓P	**Pn**	**12 35 59.3**	**+1.2**
	baz=19						
636A	**Smothers Creek**	**19.38**	**336**	⇓P	**Pn**	**12 36 04.5**	**+0.4**
	baz=19						
833A	**Chaparral WMA,**	**19.46**	**329**	⇓P	**Pn**	**12 36 05.6**	**+0.5**
	baz=19,SNR=22						
734A	**La Parita Cree**	**19.48**	**331**	⇓P	**Pn**	**12 36 06.1**	**+0.6**
	baz=19						
635A	**Leesville**	**19.59**	**334**	⇓P	**P**	**12 36 05.9**	**+0.5**
	baz=20						
832A	**Faith Ranch, C**	**19.73**	**327**	⇓P	**Pn**	**12 36 08.6**	**+0.2**
	baz=20,SNR=28						
733A	**Divot King Ran**	**19.73**	**330**	⇓P	**Pn**	**12 36 08.6**	**+0.2**
	baz=20,SNR=26						
634A	**China Grove, S**	**19.84**	**333**	⇓P	**Pn**	**12 36 09.8**	**+0.1**
	baz=20						
TIGA	**Tifton**	**19.86**	**11**	⇓P	**P**	**12 36 08.2**	**-0.1**
	baz=20						
536A	**Bastrop**	**19.91**	**337**	⇑P	**Pn**	**12 36 10.5**	**+0.1**
	baz=20						
535A	**Dale**	**20.07**	**335**	⇑P	Pn	12 36 11.9	-0.5
	baz=20						
732A	**Laxson Ranch,**	**20.08**	**328**	⇑P	Pn	12 36 12.1	-0.5
	baz=20,SNR=8.3						
340A	**Bronson**	**20.14**	**345**	⇓P	Pn	12 36 12.6	-0.5
	baz=20						
339A	**Huntington**	**20.23**	**344**	⇑P	Pn	12 36 13.7	-0.5
	baz=20						
633A	**Saathoff Ranch**	**20.29**	**331**	⇓P	Pn	12 36 14.7	-0.3
	baz=20,SNR=12						
534A	**Blanco**	**20.45**	**333**	⇑P	Pn	12 36 16.0	-0.9
	baz=20,SNR=8.8						
337A	**Centerville**	**20.61**	**341**	⇑P	Pn	12 36 18.0	-0.7
	baz=20						
632A	**Uvalde**	**20.62**	**330**	⇓P	**P**	**12 36 17.6**	**+0.9**
	baz=20,SNR=7.0						
435B	**Jarrell**	**20.74**	**336**	⇑P	**P**	**12 36 18.7**	**+0.8**
	baz=21						
533A	**Kerrville**	**20.74**	**332**	⇓P	**P**	**12 36 18.8**	**+0.9**
	baz=21,SNR=15						
239A	**Gary**	**20.85**	**345**	⇓P	**P**	**12 36 19.7**	**+0.6**
	baz=21						
631A	**Perdido Creek**	**20.95**	**328**	⇑P	**P**	**12 36 20.7**	**+0.6**
	baz=21,SNR=8.5						
336A	**Riesel**	**21.00**	**339**	⇓P	**P**	**12 36 21.3**	**+0.6**
	baz=21						
238A	**Jacksonville**	**21.02**	**343**	⇑P	**P**	**12 36 21.5**	**+0.7**
	baz=21						
434A	**Burnet**	**21.04**	**335**	⇑P	**P**	**12 36 22.1**	**+0.9**
	baz=21						
335A	**Moody**	**21.12**	**337**	⇑P	**P**	**12 36 22.8**	**+0.8**
	baz=21						
532A	**Rocksprings**	**21.19**	**331**	⇑P	**P**	**12 36 23.7**	**+0.9**
	baz=21,SNR=12						
237A	**Washetta, Mont**	**21.22**	**342**	⇑P	**P**	**12 36 23.8**	**+0.8**
	baz=21						
433A	**Art**	**21.34**	**333**	⇓P	**P**	**12 36 24.9**	**+0.5**
	baz=21,SNR=6.0						
JCT	**Junction City**	**21.44**	**331**	⇓P	**P**	**12 36 26.0**	**+0.5**
	baz=21,SNR=11						
JCT	**Junction City**	**21.44**	**331**	*e*P	**P**	**12 36 25.6**	**+0.1**
	12nm,0.7s						
JCT				*e*S	**S**	**12 40 26.2**	**+2.6**
334A	**Lometa**	**21.48**	**336**	⇑P	**P**	**12 36 26.3**	**+0.3**
	baz=21,SNR=8.7						
531A	**Rockspringes**	**21.54**	**329**	⇑P	**P**	**12 36 27.0**	**+0.4**
	baz=21						
138A	**Matatall Enter**	**21.63**	**344**	⇑P	**P**	**12 36 28.1**	**+0.7**
	baz=21						
137A	**Heron Place, G**	**21.76**	**342**	⇓P	**P**	**12 36 29.3**	**+0.4**
	baz=22						
432A	**Menard**	**21.77**	**332**	⇓P	**P**	**12 36 28.9**	**0.0**
	baz=22						
WHTX	**Lake Whitney,**	**21.77**	**338**	⇓P	**P**	**12 36 29.0**	**0.0**
	baz=22						
333A	**Richland Sprin**	**21.79**	**334**	⇓P	**P**	**12 36 29.5**	**+0.3**
	baz=22						
GOGA	**Godfrey**	**21.80**	**10**	P	**P**	**12 36 27.0**	**-2.2**
	7.6nm,0.5s						
530A	**J-C Ranch, Com**	**21.93**	**328**	⇓P	**P**	**12 36 31.4**	**+0.7**
	baz=22						
431A	**Sonora**	**21.99**	**330**	⇓P	**P**	**12 36 31.9**	**+0.5**
	baz=22						
234A	**Clairette**	**22.04**	**337**	⇓P	**P**	**12 36 32.5**	**+0.6**
	baz=22						
332A	**Millersview**	**22.17**	**333**	⇓P	**P**	**12 36 33.9**	**+0.5**
	baz=22,SNR=21						
135A	**Vickery Place,**	**22.26**	**339**	⇓P	**P**	**12 36 34.8**	**+0.6**
	baz=22						
233A	**Rising Star**	**22.36**	**335**	⇑P	**P**	**12 36 35.6**	**+0.3**
	baz=22,SNR=9.1						
529A	**Stev Forest Ra**	**22.38**	**326**	⇑P	**P**	**12 36 35.8**	**+0.2**
	baz=22						
430A	**Baggett Ranch,**	**22.39**	**329**	⇓P	**P**	**12 36 35.9**	**+0.2**
	baz=22						
331A	**San Angelo**	**22.42**	**331**	⇑P	**P**	**12 36 36.2**	**+0.2**
	baz=22,SNR=6.0						
134A	**White-Moore Ra**	**22.52**	**337**	⇑P	**P**	**12 36 37.5**	**+0.4**
	baz=22						
232A	**Coleman**	**22.56**	**334**	⇑P	**P**	**12 36 38.0**	**+0.5**
	baz=22,SNR=15						
429A	**Davenport Ranc**	**22.60**	**328**	⇑P	**P**	**12 36 38.3**	**+0.4**
	baz=22						
TXAR	**Lajitas Array**	**22.62**	**322**	P	**P**	**12 36 39.9**	**+1.7**
	2.8nm,0.6s,baz=137,slow=10,SNR=37						
330A	**Mertzon**	**22.86**	**330**	⇑P	**P**	**12 36 40.5**	**-0.2**
	baz=23						
133A	**Hamilton Ranch**	**22.88**	**336**	⇑P	**P**	**12 36 40.8**	**0.0**
	baz=23,SNR=5.7						
231A	**Bronte**	**22.90**	**332**	⇑P	**P**	**12 36 41.1**	**0.0**
	baz=23						
Z35A	**Perchaven, San**	**22.91**	**340**	⇓P	**P**	**12 36 41.3**	**+0.2**
	baz=23						
MIAR	**Mount Ida**	**23.07**	**348**	*e*P	**P**	**12 36 41.7**	**-1.1**
	18nm,0.8s						
MIAR				*e*S	**S**	**12 40 53.1**	**-0.9**
Z34A	**Collier Ranch,**	**23.18**	**339**	⇓P	**P**	**12 36 44.1**	**+0.2**
	baz=23						
ABTX	**Abilene, Hawle**	**23.19**	**335**	⇓P	**P**	**12 36 44.1**	**+0.1**
	baz=23,SNR=8.2						
ABTX	**Abilene, Hawle**	**23.19**	**335**	*e*P	**P**	**12 36 42.9**	**-1.2**
	14nm,0.8s						
230A	**Sterling City**	**23.23**	**331**	⇑P	**P**	**12 36 44.5**	**0.0**
	baz=23						
329A	**Wagon Wheel Ra**	**23.33**	**329**	⇑P	**P**	**12 36 45.1**	**-0.4**
	baz=23						
Z33A	**Whitaker Ranch**	**23.42**	**337**	⇓P	**P**	**12 36 45.9**	**-0.4**
	baz=23						
131A	**Roby**	**23.55**	**333**	⇓P	**P**	**12 36 47.3**	**-0.4**
	baz=23						
229A	**Bryant Ranch,**	**23.63**	**330**	⇓P	**P**	**12 36 47.8**	**-0.7**
	baz=24						
Y34A	**Reagan Ranch,**	**23.66**	**340**	⇓P	**P**	**12 36 48.3**	**-0.3**
	baz=24						
Z32A	**Haskell**	**23.72**	**336**	⇑P	**P**	**12 36 49.1**	**-0.2**
	baz=24,SNR=7.1						
130A	**Snyder**	**23.75**	**332**	⇓P	**P**	**12 36 49.1**	**-0.6**
	baz=24						
TKL	**Tuckaleechee C**	**23.95**	**9**	P	**P**	**12 36 49.5**	**-1.9**
	7.4nm,0.9s,baz=178,slow=10.0,SNR=7.0						
Z31A	**Sharp Cattle R**	**24.00**	**334**	⇑P	**P**	**12 36 51.8**	**-0.2**
	baz=24,SNR=6.6						
Y33A	**Hilltop Ranch,**	**24.01**	**338**	⇑P	**P**	**12 36 51.8**	**-0.2**
	baz=24						
228A	**UT Block 9, Go**	**24.15**	**329**	⇑P	**P**	**12 36 53.1**	**-0.4**
	baz=24						
129A	**Stewart Farms,**	**24.20**	**331**	⇑P	**P**	**12 36 53.8**	**-0.2**
	baz=24,SNR=10.0						
X34A	**Smith Ranch, M**	**24.27**	**340**	⇓P	**P**	**12 36 54.3**	**-0.1**
	baz=24,SNR=14						
Y32A	**R-V Farms, Ver**	**24.31**	**337**	⇑P	**P**	**12 36 54.8**	**-0.1**
	baz=24						
Z30A	**Sanderson Ranc**	**24.40**	**333**	⇓P	**P**	**12 36 55.4**	**-0.3**
	baz=24,SNR=8.7						
X33A	**Lawton**	**24.44**	**339**	⇓P	**P**	**12 36 56.1**	**0.0**
	baz=24,SNR=7.0						
128A	**Castleberry Fa**	**24.50**	**330**	⇑P	**P**	**12 36 56.8**	**+0.2**
	baz=24,SNR=6.4						
Y31A	**Rekieta Farm,**	**24.61**	**335**	⇓P	**P**	**12 36 57.4**	**-0.1**
	baz=24,SNR=5.8						
X32A	**Elmer**	**24.62**	**337**	⇑P	**P**	**12 36 57.5**	**-0.1**
	baz=24,SNR=10						
Z29A	**Hungry Hill Ra**	**24.64**	**332**	⇑P	**P**	**12 36 57.8**	**-0.1**
	baz=24,SNR=11						
Y30A	**Stafford Cattl**	**24.80**	**334**	⇑P	**P**	**12 36 59.2**	**-0.1**
	baz=25,SNR=7.0						
W34A	**Bridge Creek,**	**24.83**	**341**	⇓P	**P**	**12 36 59.4**	**-0.1**
	baz=25,SNR=6.8						
W34A	**Bridge Creek,**	**24.83**	**341**	*e*P	**P**	**12 36 59.6**	**+0.1**
	36nm,0.7s						
TUL1	**Leonard**	**24.89**	**345**	⇓P	**P**	**12 36 59.8**	**-0.2**
	baz=25						
TUL1	**Leonard**	**24.89**	**345**	*e*P	**P**	**12 36 59.2**	**-0.8**
	6.5nm,0.8s						
W33A	**Caddo, Fort Co**	**24.98**	**339**	⇓P	**P**	**12 37 00.9**	**-0.1**
	baz=25						
Z28A	**Tucker Farm, M**	**24.99**	**331**	⇑P	**P**	**12 37 00.9**	**-0.2**
	baz=25						
X31A	**McDonald Ranch**	**25.07**	**336**	⇑P	**P**	**12 37 01.7**	**0.0**
	baz=25,SNR=5.7						
Y29A	**Porterfield Fa**	**25.13**	**333**	⇓P	**P**	**12 37 02.0**	**-0.3**
	baz=25,SNR=6.3						
W32A	**Sentinel**	**25.23**	**338**	⇓P	**P**	**12 37 02.9**	**-0.4**
	baz=25,SNR=14						
X30A	**Coker Ranch, T**	**25.28**	**335**	⇑P	**P**	**12 37 03.7**	**0.0**
	baz=25,SNR=33						
V34A	**Guthrie**	**25.30**	**342**	⇑P	**P**	**12 37 03.2**	**-0.5**
	baz=25,SNR=5.4						
Y28A	**McKinney Farm,**	**25.43**	**332**	⇑P	**P**	**12 37 04.9**	**-0.2**
	baz=25						
V33A	**Lossen Ranch,**	**25.53**	**340**	⇑P	**P**	**12 37 05.7**	**-0.2**
	baz=25						
W31A	**Holland Ranch,**	**25.55**	**337**	⇑P	**P**	**12 37 05.9**	**-0.2**
	baz=25						
X29A	**Tulia**	**25.63**	**333**	⇓P	**P**	**12 37 06.6**	**-0.4**
	baz=26,SNR=6.4						
V32A	**Arapaho**	**25.70**	**339**	⇓P	**P**	**12 37 07.0**	**-0.4**
	baz=26						
MSTX	**Muleshoe**	**25.73**	**331**	⇑P	**P**	**12 37 07.6**	**-0.3**
	baz=26,SNR=13						
MSTX	**Muleshoe**	**25.73**	**331**	*e*P	**P**	**12 37 08.5**	**+0.6**
	16nm,0.7s						
W30A	**Crocket Farms**	**25.79**	**336**	⇓P	**P**	**12 37 07.9**	**-0.4**
	baz=26						
Y27A	**Causey**	**25.85**	**330**	⇑P	**P**	**12 37 08.5**	**-0.4**
	baz=26,SNR=13						
U34A	**Anderson Ranch**	**25.86**	**342**	⇓P	**P**	**12 37 08.3**	**-0.6**
	baz=26,SNR=6.0						
U34A	**Anderson Ranch**	**25.86**	**342**	*e*P	**P**	**12 37 08.1**	**-0.8**
	12nm,0.6s						
X28A	**Dimmitt**	**25.92**	**333**	⇓P	**P**	**12 37 09.1**	**-0.4**
	baz=26						
AMTX	**Amarillo**	**26.00**	**334**	⇓P	**P**	**12 37 09.9**	**-0.3**
	baz=26						
V31A	**Spring Creek L**	**26.03**	**338**	⇑P	**P**	**12 37 10.0**	**-0.5**
	baz=26						
U33A	**Lingo Farm, Me**	**26.04**	**341**	⇓P	**P**	**12 37 09.8**	**-0.6**
	baz=26						
Z25A	**Roswell**	**26.16**	**327**	⇑P	**P**	**12 37 11.4**	**-0.4**
	baz=26						
W29A	**Amarillo**	**26.18**	**334**	⇑P	**P**	**12 37 11.2**	**-0.8**
	baz=26						
Y26A	**Elida**	**26.21**	**329**	⇑P	**P**	**12 37 11.6**	**-0.6**
	baz=26,SNR=16						
U32A	**Winter Ranch,**	**26.28**	**340**	⇑P	**P**	**12 37 12.5**	**-0.2**
	baz=26						
V30A	**Spur Ranch, Mi**	**26.34**	**336**	⇑P	**P**	**12 37 12.7**	**-0.6**
	baz=26						
X27A	**F and S Farms,**	**26.44**	**331**	⇑P	**P**	**12 37 13.5**	**-0.8**
	baz=26						
W28A	**Vega**	**26.54**	**333**	⇓P	**P**	**12 37 14.3**	**-0.9**
	baz=26						
Z24A	**Sheeppen Canyo**	**26.55**	**326**	⇓P	**P**	**12 37 15.0**	**-0.4**
	baz=26,SNR=5.3						
U31A	**Nine Bar Ranch**	**26.57**	**338**	⇓P	**P**	**12 37 14.9**	**-0.4**
	baz=26						
Y25A	**Mesa, Roswell**	**26.65**	**328**	⇑P	**P**	**12 37 15.5**	**-0.7**
	baz=27,SNR=7.3						
T33A	**Patterson Ranc**	**26.67**	**342**	⇓P	**P**	**12 37 15.7**	**-0.6**
	baz=26						
X26A	**CR and CF Fran**	**26.70**	**330**	⇓P	**P**	**12 37 15.9**	**-0.7**
	baz=27						
W27A	**Bowe Ranch, En**	**26.77**	**332**	⇑P	**P**	**12 37 16.9**	**-0.3**
	baz=27,SNR=10						
V29A	**Stinnett**	**26.77**	**335**	⇓P	**P**	**12 37 16.9**	**-0.3**
	baz=27						
V28A	**Channing**	**26.96**	**334**	⇓P	**P**	**12 37 18.5**	**-0.5**
	baz=27						
U30A	**WK&E Inc. Balk**	**27.00**	**337**	⇓P	**P**	**12 37 18.5**	**-0.8**
	baz=27						
Y24A	**Capitan**	**27.04**	**327**	⇓P	**P**	**12 37 19.2**	**-0.6**
	baz=27,SNR=5.6						
X25A	**Clemmons Ranch**	**27.11**	**329**	⇑P	**P**	**12 37 19.5**	**-0.8**
	baz=27						
W26A	**Owens Ranch, T**	**27.11**	**331**	⇓P	**P**	**12 37 19.4**	**-1.0**
	baz=27						
T31A	**Randall Ranch,**	**27.16**	**339**	⇑P	**P**	**12 37 19.6**	**-1.0**
	baz=27						
V27A	**Dan Oppiter Fa**	**27.24**	**333**	⇑P	**P**	**12 37 20.5**	**-1.0**
	baz=27						
121A	**Cookes Peak, D**	**27.37**	**322**	⇑P	**P**	**12 37 22.4**	**-0.3**
	baz=27						
Y23A	**Lovelace Mesa,**	**27.38**	**326**	⇓P	**P**	**12 37 22.0**	**-0.8**
	baz=27						
U28A	**Mallet**	**27.50**	**335**	⇓P	**P**	**12 37 23.4**	**-0.4**
	baz=27						
319A	**Douglas**	**27.54**	**318**	⇑P	**P**	**12 37 24.0**	**-0.2**
	baz=28						
W25A	**X Bar L Ranch,**	**27.55**	**330**	⇑P	**P**	**12 37 24.2**	**-0.2**
	baz=28						
V26A	**Tequesquite Ra**	**27.70**	**332**	⇓P	**P**	**12 37 25.3**	**-0.3**
	baz=28,SNR=9.8						
R33A	**Olander Ranch,**	**27.73**	**343**	⇑P	**P**	**12 37 25.7**	**-0.1**
	baz=28						
U27A	**Thompson Grove**	**27.79**	**334**	⇑P	**P**	**12 37 26.4**	**-0.1**
	baz=28						
W24A	**Lazy 6 Ranch,**	**28.02**	**329**	⇓P	**P**	**12 37 28.1**	**-0.5**
	baz=28						
KSU1	**Kansas State U**	**28.11**	**346**	*e*P	**P**	**12 37 28.4**	**-0.7**
V25A	**Rancho No Teng**	**28.13**	**331**	⇓P	**P**	**12 37 29.9**	**+0.3**
	baz=28						
U26A	**Atchley Ranch,**	**28.18**	**332**	⇑P	**P**	**12 37 30.4**	**+0.4**
	baz=28						
R31A	**Burdett**	**28.18**	**341**	⇓P	**P**	**12 37 29.9**	**+0.1**
	baz=28						
V24A	**Rampart Ranch,**	**28.36**	**330**	⇓P	**P**	**12 37 31.3**	**-0.3**
	baz=28						
ANMO	**Albuquerque**	**28.37**	**327**	P	**P**	**12 37 33.4**	**+1.7**
	0.2nm,0.3s,baz=77,slow=7.1,SNR=3.5						
W23A	**Werner Place,**	**28.37**	**328**	⇑P	**P**	**12 37 32.0**	**+0.3**
	baz=28						
R30A	**Dighton**	**28.43**	**340**	⇑P	**P**	**12 37 31.2**	**-0.8**
	baz=28						
U25A	**Circle Dot Ran**	**28.48**	**332**	⇑P	**P**	**12 37 32.0**	**-0.7**
	baz=28						
Q32A	**Meitler Ranch,**	**28.53**	**343**	⇓P	**P**	**12 37 32.2**	**-0.6**
	baz=28						
R28A	**Tribune**	**29.03**	**337**	⇑

	baz=31					
N26A	Koester Ranch, baz=32	31.73 338	⇓P	P	12 38 02.1	+0.8
ISCO	Idaho Springs baz=32	31.82 334	⇑P	P	12 38 03.0	+0.7
O24A	Longmont baz=32	31.86 335	⇑P	P	12 38 03.3	+0.9
L29A	Maesberg Ranch baz=32	31.93 342	⇓P	P	12 38 03.8	+0.9
N25A	Grover baz=32	32.05 337	⇑P	P	12 38 04.8	+0.7
M27A	Reverse DX Ran baz=32	32.05 339	⇓P	P	12 38 05.0	+0.9
P22A	Eagle baz=32	32.16 332	⇑P	P	12 38 06.0	+0.8
L28A	Connealy Angus baz=32	32.20 341	⇓P	P	12 38 05.9	+0.6
K30A	Basset baz=32	32.24 344	⇑P	P	12 38 06.3	+0.6
M26A	McRoberts Ranc baz=32	32.26 338	⇑P	P	12 38 06.6	+0.6
O23A	Lake Granby, G baz=32	32.29 334	⇓P	P	12 38 07.0	+0.6
N24A	Carr baz=32	32.37 336	⇓P	P	12 38 07.6	+0.6
Y12C	Blythe baz=32	32.49 316	⇑P	P	12 38 08.2	+0.3
K29A	Lazy Trails An baz=32	32.52 343	⇑P	P	12 38 08.6	+0.5
O22A	Kremmling baz=32	32.52 333	⇑P	P	12 38 08.7	+0.2
L27A	T5 Ranch, Ells baz=32	32.52 340	⇑P	P	12 38 08.8	+0.6
ECSD	EROS Data Cent baz=32,SNR=5.4	32.55 348	⇓P	P	12 38 08.5	+0.2
PDMCI	Parker Dam,Lak baz=32	32.56 317	⇓P	P	12 38 09.1	+0.6
M25A	Palm-Egli Farm baz=32	32.57 337	⇓P	P	12 38 09.1	+0.4
U15A	North Rim baz=33	32.74 322	⇑P	P	12 38 10.7	+0.3
L26A	Underwood Farm baz=33	32.74 339	⇓P	P	12 38 10.7	+0.5
K28A	Ten Mile Ranch baz=33	32.79 342	⇓P	P	12 38 11.0	+0.5
J30A	Dallas baz=33	32.82 345	⇑P	P	12 38 11.0	+0.3
N23A	Red Feather La baz=33	32.87 335	⇑P	P	12 38 11.5	+0.1
W13A	Hualapai Mount baz=33	32.88 319	⇑P	P	12 38 11.6	+0.1
M24A	Cheyenne baz=33	32.90 336	⇑P	P	12 38 11.8	+0.2
SWSC	Sam W. Stewart baz=33	32.91 314	⇓P	P	12 38 11.8	+0.2
N22A	Wattenberg Ran baz=33	33.01 334	⇑P	P	12 38 12.8	+0.1
K27A	Flueckinger Fa baz=33	33.05 341	⇓P	P	12 38 13.1	+0.3
BC3	Big Chuckawall baz=33	33.07 315	⇓P	P	12 38 13.3	+0.1
J29A	Okreek baz=33,SNR=6.2	33.12 344	⇓P	P	12 38 13.6	+0.3
O20A	White River Ci baz=33	33.28 331	⇑P	P	12 38 15.3	+0.3
I30A	Oacoma baz=33,SNR=9.9	33.35 345	⇑P	P	12 38 15.4	0.0
J28A	Allard Ranch, baz=33	33.40 342	⇑P	P	12 38 16.0	+0.3
SPMN	Marine on St. baz=33	33.43 354	⇑P	P	12 38 15.5	-0.5
J27A	Elkhorn Farm, baz=33	33.48 341	⇓P	P	12 38 17.0	+0.5
I29A	Vivian Onida baz=34	33.68 344	⇑P	P	12 38 18.5	+0.3
BRSD	Miller baz=34	33.73 346	⇓P	P	12 38 18.5	-0.1
L23A	Garrett baz=34	33.79 336	⇑P	P	12 38 19.5	+0.1
N20A	Spence Gulch, baz=34	33.84 332	⇓P	P	12 38 20.1	+0.2
I28A	Midland baz=34	33.90 343	⇓P	P	12 38 20.6	+0.5
H28A	Mission Ridge baz=34	34.48 344	⇑P	P	12 38 25.4	+0.3
G29A	Hoven baz=34	34.67 345	⇑P	P	12 38 26.3	-0.5
I25A	Rochford baz=35	34.72 340	⇑P	P	12 38 27.0	-0.4
H27A	Howes baz=35	34.75 342	⇓P	P	12 38 27.2	-0.3
G28A	Parade baz=35	34.82 344	⇓P	P	12 38 27.8	-0.3
K21A	Alcova baz=35	34.85 335	⇑P	P	12 38 28.2	-0.4
G27A	Dupree baz=35	35.38 343	⇑P	P	12 38 32.6	-0.3
DECC	Green Verdugo baz=35	35.40 314	⇑P	P	12 38 32.7	-0.6
G26A	Maurine baz=35	35.50 342	⇑P	P	12 38 33.6	-0.4
F28A	McLaughlin baz=35	35.51 345	⇑P	P	12 38 33.6	-0.5
J21A	Lysite baz=35	35.52 335	⇓P	P	12 38 33.9	-0.5
I22A	9 Mile Ranch, baz=36	35.60 337	⇑P	P	12 38 34.3	-0.6
H24A	Dirks Ranch, A baz=36	35.64 340	⇓P	P	12 38 34.8	-0.4
G25A	Newell baz=36	35.66 341	⇓P	P	12 38 34.7	-0.6
E30A	Jud baz=36	35.67 347	⇑P	P	12 38 34.7	-0.7
E29A	Napoleon baz=36	35.90 346	⇓P	P	12 38 36.9	-0.4
PDAR	Pinedale Array 0.4nm,0.3s,baz=126,slow=4.6,SNR=14	35.96 333 P		P	12 38 38.8	+0.6
F26A	Lodgepole baz=36	36.03 343	⇑P	P	12 38 38.2	-0.3
J19A	Crowheart baz=36	36.13 334	⇓P	P	12 38 39.2	-0.4
E28A	Huff baz=36	36.16 345	⇓P	P	12 38 39.0	-0.6
D30A	Buchanan baz=36	36.21 348	⇑P	P	12 38 39.1	-0.9
E27A	Carson baz=36	36.25 344	⇑P	P	12 38 40.1	-0.3
I20A	Worland baz=36	36.30 335	⇓P	P	12 38 40.7	-0.3
G23A	Biddle baz=36	36.32 339	⇑P	P	12 38 41.2	+0.2
D29A	Pettibone, Tap baz=36	36.35 347	⇑P	P	12 38 40.5	-0.7
H21A	Big Horn, Sher baz=36	36.44 337	⇓P	P	12 38 42.8	+0.7
SBC	Santa Barbara baz=36	36.48 313	⇓P	P	12 38 42.3	-0.1
E26A	Carlson Angus baz=36	36.53 343	⇓P	P	12 38 43.2	+0.3
F24A	Ekalaka baz=36	36.57 341	⇑P	P	12 38 43.6	+0.4
H20A	Greybull baz=36	36.69 336	⇑P	P	12 38 44.5	+0.2
C30A	Mose, Pekin baz=36,SNR=5.6	36.72 348	⇓P	P	12 38 44.1	-0.2
I19A	Meeteetse baz=37	36.73 334	⇓P	P	12 38 44.2	-0.5
F23A	Volborg baz=37	36.78 340	⇑P	P	12 38 44.6	-0.4
E25A	Miller Ranch, baz=37	36.83 342	⇓P	P	12 38 45.6	+0.2
AGMN	Agassiz Nation baz=37	36.84 351	⇑P	P	12 38 44.4	-0.9
D27A	Center baz=37	36.87 345	⇓P	P	12 38 45.2	-0.4
SMMC	Simmler baz=37	37.12 314	⇑P	P	12 38 47.4	-0.6
F22A	Rosebud baz=37	37.13 339	⇓P	P	12 38 47.4	-0.5
E24A	Baker baz=37	37.16 341	⇑P	P	12 38 48.6	+0.4
H19A	Powell baz=37	37.24 335	⇑P	P	12 38 48.9	-0.1
I17A	Pilgrim Ck. baz=37	37.33 333	⇑P	P	12 38 49.8	0.0
G20A	Bridger baz=37	37.39 336	⇓P	P	12 38 50.2	0.0
B30A	Myrvik Farm, E baz=37,SNR=5.9	37.41 349	⇑P	P	12 38 49.6	-0.6
C27A	Sayler Ranch, baz=37	37.42 345	⇓P	P	12 38 50.3	0.0
E23A	Ismay baz=37	37.43 340	⇑P	P	12 38 50.6	+0.2
H18A	Shoshone NF, C baz=37	37.53 334	⇓P	P	12 38 50.9	-0.7
B29A	Wagenman Farm, baz=37	37.63 348	⇓P	P	12 38 51.6	-0.5
D24A	Glendive baz=38	37.66 342	⇓P	P	12 38 51.7	-0.7
C26A	Wahner Farm, P baz=38	37.68 344	⇑P	P	12 38 52.2	-0.3
H17A	Grant Village baz=38	37.70 333	⇑P	P	12 38 52.8	-0.2
B28A	Dugan Ranch, T baz=38	37.83 347	⇑P	P	12 38 53.4	-0.4
A30A	Hoffart Farm, baz=38,SNR=5.1	37.88 349	⇑P	P	12 38 53.4	-0.7
A29A	Manning Farm, baz=38,SNR=5.7	38.04 348	⇓P	P	12 38 54.9	-0.7
C24A	Savage baz=38	38.07 342	⇑P	P	12 38 56.0	+0.2
F19A	Roth Farm, Mol baz=38	38.20 336	⇓P	P	12 38 56.7	-0.3
D22A	Cohagen baz=38	38.29 340	⇓P	P	12 38 57.4	-0.3
B25A	Knox Farm, Ray baz=38	38.37 344	⇓P	P	12 38 58.3	0.0
E20A	Meyer Farm, Mu baz=38	38.43 338	⇑P	P	12 38 59.2	+0.3
D21A	La Casta Ranch baz=38	38.50 339	⇓P	P	12 38 59.8	+0.4
C23A	Lambert baz=38	38.54 341	⇑P	P	12 38 59.4	-0.4
E19A	Rath Farm, Rou baz=38	38.64 337	⇓P	P	12 39 01.1	+0.4
A26A	Wade Farm, Ken baz=38	38.65 345	⇓P	P	12 39 00.4	-0.3
C22A	Vida baz=38	38.71 341	⇑P	P	12 39 01.9	+0.7
ULM	Lac du Bonnet 5.5nm,0.6s,baz=170,slow=9.7,SNR=13	38.75 352 P		P	12 38 59.6	-1.9
DGMT	Dagmar baz=39	38.84 343	⇑P	P	12 39 02.6	+0.3
D20A	Manuel Ranch, baz=39	38.93 338	⇑P	P	12 39 02.7	-0.4
A25A	Svangstu Ranch baz=39	38.97 344	⇑P	P	12 39 02.9	-0.5
MCMT	McKenzie Canyo 1.6nm,0.7s	39.06 332 eP		P	12 39 05.3	+0.9
B23A	Brockton baz=39	39.07 342	⇑P	P	12 39 05.0	+0.8
A24A	Westby baz=39	39.20 343	⇑P	P	12 39 05.6	+0.3
D19A	Cripps Ranch, baz=39	39.26 337	⇑P	P	12 39 06.6	+0.7
C19A	Slack Wire Ran baz=40	39.80 338	⇓P	P	12 39 11.2	+0.8
A22A	Carney Farms, baz=40	39.82 342	⇑P	P	12 39 10.9	+0.4
A21A	Bergtoll Ranch baz=40	40.14 341	⇑P	P	12 39 14.0	+0.9
A20A	Cobblestone Ra baz=40	40.38 340	⇓P	P	12 39 15.7	+0.6
A19A	Klindworth Far baz=40	40.70 339	⇓P	P	12 39 18.0	+0.2
MSO	Missoula baz=41	41.08 333	⇑P	P	12 39 21.2	+0.2
SCHQ	Schefferville 6.0nm,0.8s,baz=223,slow=5.1,SNR=8.2	45.95 17 P		P	12 39 57.9	-2.2
YKA	Yellowknife Ar 0.9nm,0.7s,baz=137,slow=8.0,SNR=27	53.96 345 P		P	12 40 59.5	-1.2
YKA			PcP	PcP	12 42 05.4	-0.6
	0.3nm,0.6s,baz=144,slow=4.0,SNR=4.6					
RES	Resolute Bay 2.3nm,0.7s,baz=178,slow=8.2,SNR=12	62.86 358 P		P	12 42 00.8	-2.0
ILAR	Eielson Array 0.8nm,1.0s,baz=150,slow=5.8,SNR=6.0	66.26 336 P		P	12 42 24.9	-0.3
AKASG	Malin Array Be comp=Z,128nm,19.6s,baz=30,slow=36	97.28 35 LR		LR	13 29 16.5	
ASAR	Alice Springs 0.3nm,0.7s,baz=106,slow=1.3,SNR=3.5	138.53 248 PKP		PKPdf	12 51 05.9	+2.0
WRA	Warramunga Arr 0.3nm,0.7s,baz=92,slow=2.5,SNR=6.0	138.56 253 PKP		PKPdf	12 51 05.8	+1.8
CMAR	Chiang Mai Arr 0.9nm,0.5s,baz=337,slow=3.5,SNR=5.5	149.03 347 PKPbc		PKPbc	12 51 26.6	+0.2

WEL 06 12:32:21.1±0.6, 35°.91S×179°.76E, h12km, ML3.7/4, Error ellipse: s-maj=6.0km s-min=4.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	2.19	209	PN	Pn	12 32 58.2	+0.9
HAZ	Te Kaha	2.43	220	PN	Pn	12 33 01.3	+0.6
HAZ				SN	Sn	12 33 28.7	-1.6
PUZ	Puketiti	2.47	209	PN	Pn	12 33 01.2	-0.1
PUZ				AML	AML	12 33 17.8	
PUZ				SN	Sn	12 33 30.8	-0.6
CNGZ	Carnagh Statio	2.86	205	PN	Pn	12 33 06.4	0.0
MWZ	Matawai	3.01	216	PN	Pn	12 33 07.8	-0.8
MWZ				AML	AML	12 33 19.6	
MWZ				AML	AML	12 33 54.5	
URZ	Urewera	3.16	221	PN	Pn	12 33 09.7	-1.0
URZ				SN	Sn	12 33 45.6	-2.7
RIGZ	Rimuhau	3.21	209	PN	Pn	12 33 10.8	-0.6
OPRZ	Ohinepanea	3.22	232	PN	Pn	12 33 10.8	-0.6
SNGZ	Shannon Statio	3.46	213	PN	Pn	12 33 14.3	-0.5
SNGZ				SN	Sn	12 33 54.5	-1.2
KNZ	Kokohu	3.52	207	PN	Pn	12 33 13.8	-1.8
MHGZ	Mahia Peninsul	3.56	204	PN	Pn	12 33 15.0	-1.2
RAHZ	Arahi	3.68	214	PN	Pn	12 33 17.8	-0.1
BKZ	Black Stump Fm	4.16	218	PN	Pn	12 33 22.9	-1.6
BHHZ	Black Hill Sta	4.62	218	PN	Pn	12 33 29.3	-1.6

*ISCJB **06** 12:58:24.9±0.4, 44°.16N±0°.05×139°.17E±0°.06, h300km, mb3.2/9, Error ellipse: s-maj=8.0km s-min=5.2km az=31.9*
*IDC **06** 12:58:25.5±1.2, 44°.31N×138°.93E, h274km±14km, mb3.0/9, mb1 3.1/12, mb1mx3.0/46, mbtmp3.6/12, Error ellipse: s-maj=17.4km s-min=14.3km az=3.0*
*JMA **06** 12:58:25.0±0.2, 44°.32N×138°.94E, h280km, M3.1*
ISC 06 12:58:25.9±0.8, 44°.11N±0°.07×139°.23E±0°.07, h300km, n29, σ1§17/35, mb3.3/9, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSH	Shimam	1.58	158	P	Pn	12 59 09.0	-0.7
JHR	Hokuryu	1.84	101	P	Pn	12 59 11.1	-0.3
JOSM	Okushiri--Mats	2.04	175	P	Pn	12 59 12.8	-0.2
JEW	Eniwo	2.06	128	P	Pn	12 59 13.4	+0.3
JWK2	Keihoku	2.25	57	P	Pn	12 59 13.7	-0.9
ASAJ	Asahikawa 9.5nm,0.3s,baz=272,slow=10,SNR=134	2.42	89	P	Pn	12 59 16.1	-0.1
JSE	Soyaes	2.54	69	P	Pn	12 59 16.6	-0.6
JKK2	Kamakawa 2	2.55	94	P	Pn	12 59 17.3	0.0
JFR	Furan	2.62	110	P	Pn	12 59 18.3	+0.3
JBT2	Biratori 2	2.64	119	P	Pn	12 59 18.7	+0.5
JBT2				eS	S	13 00 00.8	+0.8
JNBK	Urakawa-nobuka	3.16	124	P	Pn	12 59 24.5	+1.2
JNBK				eS	S	13 00 10.2	+1.1
JCH	Churui	3.36	115	P	Pn	12 59 24.9	-0.4
JCH				eS	S	13 00 10.6	-2.2
JTKR	Abashiri--Toko	3.37	91	P	Pn	12 59 25.8	+0.4
JAR	Ashorobuto	3.39	102	P	Pn	12 59 26.2	+0.6
JAR				eS	S	13 00 14.2	+0.9
JANG	Nango	4.10	155	P	Pn	12 59 33.7	+0.4
JANG				eS	S	13 00 25.1	-2.3
JAK	Akkeshi	4.12	104	P	Pn	12 59 33.2	-0.3
JAK				eS	S	13 00 26.1	-1.5
NEM2	Nemuro 2	4.78	97	P	Pn	12 59 39.9	-0.9
NEM2				eS	S	13 00 37.8	-3.1
USRK	Ussuriysk Ar. 0.3nm,0.3s,baz=91,slow=14,SNR=4.9	5.21	273	P	Pn	12 59 42.1	-3.8
JMK	Ichinoseki	5.37	163	P	Pn	12 59 48.2	+0.4
JMK				eS	S	13 00 52.2	-1.4
MJAR	Matsushiro Arr 0.8nm,0.3s,baz=357,slow=12,SNR=12	7.60	186	P	Pn	13 00 16.2	+1.5
SONM	Songino Array 0.5nm,0.4s,baz=89,slow=10,SNR=3.4	23.02	291	P	P	13 03 03.4	-1.7
ZALV	Zalesovo Beam 0.4nm,0.5s,baz=92,slow=10,SNR=2.5	36.17	305	P	P	13 04 59.0	-1.1
MKAR	Makanchi Array 1.0nm,0.7s,baz=82,slow=10,SNR=13	39.29	295	P	P	13 05 26.2	+0.1
KURBB	Kurchatov Arra 1.2nm,0.5s,baz=75,slow=9.0,SNR=6.4	40.60	301	P	P	13 05 36.7	0.0
ILAR	Eielson Array 0.3nm,0.8s,baz=291,slow=7.6,SNR=5.0	44.57	36	P	P	13 06 09.4	+1.2
BVAR	Borovoye Array 0.6nm,0.3s,baz=80,slow=8.9,SNR=5.5	44.78	307	P	P	13 06 09.9	-0.2
YKA	Yellowknife Ar 0.5nm,0.7s,baz=306,slow=6.2,SNR=12	58.58	32	P	P	13 07 53.2	+2.0
FINES	FINESS Array B 1.5nm,0.8s,baz=46,slow=8.0,SNR=5.0	61.82	330	P	P	13 08 12.7	-0.4
WRA	Warramunga Arr 0.6nm,1.1s,baz=3.4,slow=6.8,SNR=2.8	63.90	185	P	P	13 08 30.5	+3.3

*CSEM **06** 13:17:21.9±0.9, 39°.40N×38°.20E, h2km, MD2.7, Error ellipse: s-maj=19.7km s-min=10.2km az=106.0*
*DDA **06** 13:17:22.2, 39°.42N×38°.35E, h7km, MD2.9*
*ISCJB **06** 13:17:24.4±0.6, 39°.30N±0°.04×38°.57E±0°.06, h14km±5km, Error ellipse: s-maj=8.1km s-min=4.8km az=34.8*
*ISK **06** 13:17:24.2, 39°.31N×38°.60E, h15km, MD2.7*
ISC 06 13:17:23.7±1.2, 39°.37N±0°.04×38°.42E±0°.08, h14km±6km, n18, σ1§16/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	Kemaliye	0.11	151	*i* P	Pg	13 17 26.1	-0.9
KEMA				*i* S	Sg	13 17 29.7	+0.4
KEMA	Kemaliye	0.11	151	*i* P	Pg	13 17 26.1	-0.9
KEMA				*i* S	Sg	13 17 29.7	+0.4
ILIC	ilic-Erzincan	0.14	52	*e*PG	Pb	13 17 28.5	+0.3
ILIC				*e*SG	Sg	13 17 31.3	+1.2
ILIC	ilic-Erzincan	0.14	52	*e*Pg	Pb	13 17 28.5	+0.3
ILIC				*e*Sg	Sg	13 17 31.3	+1.2
EZC	Erzincan	0.82	61	*e*Pg	Pn	13 17 42.4	+1.5
EZC				*e*Sg	Sn	13 17 55.5	+2.6
KELT	Kelkit	1.01	39	*i* P	Pg	13 17 41.3	-1.9
KELT				*i* S	Sg	13 17 56.1	-0.4
KELT	Kelkit	1.01	39	*i* P	Pg	13 17 41.3	-1.9
KELT				*i* S	Sg	13 17 56.1	-0.4
ERZN	Erzincan	1.03	77	*e*PG	Pb	13 17 42.4	-1.0
ERZN				*e*SG	Sg	13 17 55.5	-1.5
MALT	Malatya	1.05	180	*e*PG	Pb	13 17 43.0	-0.6
MALT				*e*SG	Sg	13 17 58.2	+0.5
MALT	Malatya	1.05	180	*e*Pg	Pb	13 17 43.1	-0.6
MALT				*e*Sg	Sg	13 17 58.2	+0.5
GUMT	Gumushane	1.36	36	*e*PN	Pg	13 17 49.2	-0.7
GUMT	Gumushane	1.36	36	*e*Pn	Pg	13 17 49.2	-0.7
ESPY	Espiye-Giresun	1.57	8	*e*PN	Pg	13 17 52.5	-1.3
ESPY	Espiye-Giresun	1.57	8	*e*Pn	Pg	13 17 52.5	-1.3
BAYT	Ayd¨–ntepe-Bay	1.67	52	*e*PN	Pn	13 17 53.0	+0.4
BAYT	Ayd¨–ntepe-Bay	1.67	52	*e*Pn	Pn	13 17 53.1	+0.4
BINT	Bingol	1.68	106	*e*Pn	Pn	13 17 53.6	+0.9
BNGB	Bing¶l	1.79	101	*e*PN	Pn	13 17 53.6	-0.7

DDA 06 13:17:41.9, 36°.45N×37°.41E, h4km, MD2.9, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	Kuzuini	0.42	320	*i* P	Pg	13 17 47.9	-2.2
KUZU				*i* S	Sg	13 17 56.7	+1.1
GZT	Gaziantep	0.91	8	*i* P	Pg	13 17 58.3	-1.3
GZT				*i* S	Sg	13 18 12.2	+0.7

*IDC **06** 13:21:56.7±4.3, 37°.52S×74°.17W, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.8/21, mbtmp3.8/4, ML4.2/2, MS3.7/2, Ms1 3.7/2, ms1mx3.1/23, Error ellipse: s-maj=90.6km s-min=23.2km az=68.0*
*ISCJB **06** 13:22:00.2±1.1, 37°.44S±0°.10×73°.7W±0°.2, h23km, mb4.0/4, MS4.2/1, Error ellipse: s-maj=22.7km s-min=14.2km az=176.2*
*NEIC **06** 13:22:03.6±0.8, 37°.42S×73°.66W, h35km, mb4.2/2, Error ellipse: s-maj=17.6km s-min=11.2km az=86.0*
ISC 06 13:22:02.0±1.2, 37°.4S±0°.1×73°.7W±0°.2, h23km, n10, σ0§80/9, mb4.1/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores 1.9nm,0.3s,baz=314,slow=13,SNR=14	4.13	144	Pn	Pn	13 23 04.7	+0.8
PLCA				Lg	Lg	13 24 11.7	
TRQA	Tornquist	9.32	98	*e*P	Pn	13 24 14.2	-0.7
CPUP	Villa Florida 0.3nm,0.3s,baz=214,slow=9.9,SNR=3.6	17.74	56	P	P	13 26 09.2	+1.0
CPUP				LR	LR	13 32 49.6	
CPUP	Villa Florida comp=Z,82nm,19.1s,baz=219,slow=36	17.74	56	*e*Pn	Pn	13 26 07.6	+0.2
LPAZ	La Paz 0.2nm,0.7s	21.61	15	P	P	13 26 51.8	+0.7
SNAA	Sanae 2.2nm,0.7s,baz=185,slow=6.9,SNR=6.0	48.98	157	*e*P	P	13 30 46.4	+0.1
QSPA	South Pole Qui 1.6nm,0.7s	52.84	180	*e*P	P	13 31 14.6	-0.9
LPIG	La Paz 2.7nm,1.0s	70.21	325	LR	LR	13 55 04.4	
CBN	Corbin Frederi comp=Z,143nm,19.6s,baz=19,slow=28	75.31	357	*e*P	P	13 33 42.8	-0.2
TORD	Torodi Ar. Bea 0.8nm,0.8s,baz=229,slow=5.0,SNR=4.5	86.64	71	P	P	13 34 43.5	-0.4

IDC 06 13:28:33.8±1.8, 34°.68S×72°.51W, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.6/25, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=62.5km s-min=32.3km az=75.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores 0.5nm,0.3s,baz=338,slow=11,SNR=8.7	6.24	166	Pn	Pn	13 30 07.5	+0.4
PLCA				Lg	Lg	13 31 44.7	
LPAZ	La Paz 0.1nm,0.3s,baz=177,slow=6.1,SNR=4.2	18.73	13	P	P	13 32 55.0	+0.1
TXAR	Lajitas Array 0.2nm,0.6s,baz=158,slow=7.8,SNR=4.3	70.14	331	P	P	13 39 48.2	+0.1
TORD	Torodi Ar. Bea 0.3nm,0.9s,baz=250,slow=4.3,SNR=2.6	84.81	70	P	P	13 41 10.2	-0.3

*NIED **06** 13:31:00, 43°.90N×147°.60E, h56km, Mw5.8 Best double couple: M0=4.81000×10^17 NP1:φ=252.00000°, δ33.00000°, λ51.00000°. NP2:φ=116.00000°, δ65.00000°, λ112.00000°.*
*BJI **06** 13:31:09.7, 44°.01N×148°.01E, h49km, mB5.2/53, mb5.3/76, Ms5.1/87, Ms7 5.0/79*
*ISCJB **06** 13:31:11.9±0.3, 44°.12N±0°.02×147°.67E±0°.02, h54km±2km, mb5.3/374, MS5.1/124, Error ellipse: s-maj=3.1km s-min=1.9km az=158.2*
*JMA **06** 13:31:11.0±0.2, 43°.88N×147°.62E, h6km, M5.5*
JMA Felt III J1.
*SKHL **06** 13:31:12.4±1.1, 44°.04N×147°.71E, h64km±8km, mbh5.8/1, Ms5.0/3, msh5.5/1*
SKHL Felt (IV) at Malokurilskoe, (III) at Kurilsk, (II) at Yushno-Kurilsk.
*GCMT **06** 13:31:12.9±0.1, 44°.08N×147°.78E, h52km±1km, MW5.7/124, Moment Tensor Solution. s104,c209; s124,c291; Duration: 1§7 Moment tensor: Scale 10^17 Nm; Mrr 1.19±.04; Mθθ-3.40±.04; Mφφ2.20±.04; Mrθ 1.90±.05; Mθφ-0.02±.04; Mφr-1.97±.04; Best double couple: M0=4.04500×10^17 NP1:φ=128.00000°, δ79.00000°, λ133.00000°. NP2:φ=230.00000°, δ44.00000°, λ17.00000°. Principal axes: T 3.9330, Plg41.0000°, Azm77.0000°; N 0.2140, Plg42.0000°, Azm298.0000°; P -4.1570, Plg22.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **06** 13:31:12.7±0.4, 44°.19N×147°.59E, h49km±4km, mb4.8/40, mb1 4.9/49, mb1mx4.9/58, mbtmp5.1/49, MS4.9/36, Ms1 4.9/36, ms1mx4.9/40 Error ellipse: s-maj=10.4km s-min=7.6km az=121.0*
*NEIC **06** 13:31:12.9±0.5, 44°.17N×147°.65E, h53km±4km, mb5.4/195, MS5.1/75, MW5.6, Error ellipse: s-maj=4.1km s-min=2.5km az=148.0, Moment Tensor Solution. s87 Moment tensor: Scale 10^17Nm; Mrr 1.65; Mθθ-1.49; Mφφ-0.16; Mrθ 2.23; Mθφ 0.43; Mφr-2.14; Best double couple: M0=3.50000×10^17*

NP1:ϕ_s130.00000°,δ77.00000°,λ100.00000°. NP2: ϕ_s272.00000°,δ17.00000°,λ53.00000°. Principal axes: T 3.6300, Plg56.0000°, Azm53.0000°; N -0.2900, Plg9.0000°, Azm307.0000°; P -3.3400, Plg31.0000°, Azm211.0000°;

NEIC Felt [IV] at Shakotan, [III] at Kuril'sk and [II] at Yuzhno-Kuril'sk. Recorded [3 JMA] in eastern Hokkaido and [1 JMA] in southern and southwestern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.

*MOS **06** 13:31:12.9±1.0, 44.°16N×147.°68E, h66km, mb5.6/108, MS5.1/43 Error ellipse: s-maj=5.8km s-min=3.9km az=102.2*

MOS Felt (IV) at Malokuril'skoe;(III) at Kuril'sk; (II) at Yuzhno-Kuril'sk.

*SZGRF **06** 13:31:13.2, 45.°27N×147.°75E, h33km, mb5.2, MS5.2, Kuril Islands, Russia*

ISC 06 13:31:12.9±0.2, 44.°11N±0.°03×147.°72E±0.°03, h50km±1km, h49km:pP-P, n1401, σ1913/1528, mb5.4/376, MS5.1/128, 403C-264D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.69**	**250**		*e*	**P**	**Pn**	**13 31 25.7**	**-0.7**
SHO						AMB	AMB	13 31 28.1	
	5μm,0.6s								
SHO					*e*	**S**	**Sn**	**13 31 34.7**	**-1.5**
SHO						A	A	13 31 38.5	
	13μm,0.4s								
KUR	**Kuril'sk**	**1.13**	**5**		*d*	iPN	**Pn**	**13 31 32.5**	**+0.2**
KUR					*i*	S	**Sn**	**13 31 47.5**	**+0.8**
KUR						pmax	pmax		
	comp=N,6μm,0.4s								
KUR						pmax	pmax		
	comp=Z,12μm,0.4s								
KUR						pmax	pmax		
	comp=E,3μm,0.2s								
KUR						smax	smax		
	comp=N,49nm,0.5s								
KUR						smax	smax		
	comp=E,44nm,0.4s								
KUR	**Kuril'sk**	**1.13**	**5**		*e*	**P**	**Pn**	**13 31 32.5**	**+0.2**
KUR						AMB	AMB	13 31 34.8	
	comp=E,6μm,0.4s								
KUR						AMB	AMB	13 31 34.8	
	comp=E,3μm,0.4s								
KUR						AMB	AMB	13 31 34.8	
	comp=E,12μm,0.4s								
KUR					*e*	**S**	**Sn**	**13 31 47.5**	**+0.8**
KUR						A	A	13 31 49.9	
	comp=E,49μm,0.5s								
KUR						A	A	13 31 49.9	
	comp=E,44μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**1.34**	**267**		*c*	iPN	**Pn**	**13 31 34.9**	**-0.3**
YUK					*i*	S	**Sn**	**13 31 51.7**	**-0.2**
YUK						pmax	pmax		
	comp=E,4μm,0.3s								
YUK						pmax	pmax		
	comp=Z,16μm,0.3s								
YUK						pmax	pmax		
	comp=N,3μm,0.2s								
YUK	**Yuzh-Kuril'sk**	**1.34**	**267**		*e*	**P**	**Pn**	**13 31 34.9**	**-0.3**
YUK						AMB	AMB	13 31 37.3	
	comp=N,3μm,0.3s								
YUK						AMB	AMB	13 31 37.3	
	comp=N,4μm,0.3s								
YUK						AMB	AMB	13 31 37.3	
	comp=N,16μm,0.3s								
YUK					*e*	**S**	**Sn**	**13 31 51.7**	**-0.2**
NEM2	**Nemuro 2**	**1.61**	**243**		⇑	**P**	**Pn**	**13 31 37.9**	**-1.1**
NEM2					*e*	**S**	**Sn**	**13 31 57.2**	**-1.4**
JRA	**Rausu**	**1.88**	**266**		⇑	**P**	**Pn**	**13 31 43.0**	**+0.4**
JRA					*e*	**S**	**Sn**	**13 32 06.9**	**+1.8**
JNK	**Nakash**	**2.23**	**257**			P	**Pn**	**13 31 47.5**	**+0.1**
JNK					*e*	**S**	**Sn**	**13 32 14.4**	**+0.6**
JAK	**Akkeshi**	**2.46**	**244**		⇑	**P**	**Pn**	**13 31 49.9**	**-0.7**
JTKR	**Abashiri--Toko**	**2.75**	**268**		⇑	**P**	**Pn**	**13 31 55.5**	**+1.0**
JAR	**Ashorobuto**	**2.98**	**255**		⇑	**P**	**Pn**	**13 31 58.4**	**+0.8**
JAR					*e*	**S**	**Sn**	**13 32 34.5**	**+2.4**
JOB	**Onbets**	**3.07**	**248**			P	**Pn**	**13 31 59.2**	**+0.3**
JOB					*e*	**S**	**Sn**	**13 32 35.4**	**+1.0**
JMP	**Maruseppu**	**3.14**	**270**			P	**Pn**	**13 32 01.1**	**+1.2**
JCH	**Churui**	**3.51**	**246**			P	**Pn**	**13 32 04.5**	**-0.4**
JKK2	**Kamakawa 2**	**3.59**	**268**			P	**Pn**	**13 32 07.6**	**+1.5**
ASAJ	**Asahikawa**	**3.69**	**272**			P	**Pn**	**13 32 08.9**	**+1.5**
ASAJ	**Asahikawa**	**3.69**	**272**			P	**Pn**	**13 32 07.2**	**-0.1**
	comp=N,60nm,0.3s,baz=139,slow=7.8,SNR=226								
ASAJ						LR	LR	13 32 56.5	
	comp=N,6μm,19.3s,baz=111,slow=29								
ASAJ	**Asahikawa**	**3.69**	**272**		*e*	**Pn**	**Pn**	**13 32 09.1**	**+1.7**
ASAJ					*e*	**Sn**	**Sn**	**13 32 49.1**	**-0.5**
JSE	**Soyaes**	**3.77**	**285**			P	**Pn**	**13 32 10.0**	**+1.6**
JFR	**Furan**	**3.84**	**257**			P	**Pn**	**13 32 11.1**	**+1.6**
ERM	**Erimo**	**3.94**	**239**			Pn	**Pn**	**13 32 13.1**	**+2.1**
	comp=N,28μm,0.6s								
ERM	**Erimo**	**3.94**	**239**	⇓	*e*	PN	**Pn**	**13 32 13.0**	**+2.1**
ERM						pmax	pmax		
	comp=Z,4μm,1.0s								
ERM	**Erimo**	**3.94**	**239**		*e*	**P**	**Pn**	**13 32 13.0**	**+2.1**
ERM	**Erimo**	**3.94**	**239**		*e*	Pn	**Pn**	**13 32 13.2**	**+2.3**
ERM					*e*	Sn	**Sn**	**13 32 56.9**	**+1.1**
JEM	**Erimo**	**3.94**	**239**			P	**Pn**	**13 32 12.2**	**+1.3**
JAB	**Ashibetsu**	**4.02**	**263**			P	**Pn**	**13 32 14.5**	**+2.5**
JNBK	**Urakawa-nobuka**	**4.07**	**245**			P	**Pn**	**13 32 12.0**	**-0.6**
JWK2	**Keihoku**	**4.32**	**288**			P	**Pn**	**13 32 18.8**	**+2.8**
JHR	**Hokuryu**	**4.35**	**267**			P	**Pn**	**13 32 19.5**	**+3.1**
YSS	**Yuzh-Sakhalins**	**4.50**	**311**		*e*	**P**	**Pn**	**13 32 19.0**	**+0.6**
YSS					*e*	**S**	**Sn**	**13 33 10.0**	**+0.6**
YSS						AMS	AMS	13 35 34.0	
	comp=Z,5μm,10.0s								
YSS						AMS	AMS	13 35 34.0	
	comp=Z,4μm,10.0s								
JOT	**Ohata**	**5.62**	**243**			P	**Pn**	**13 32 33.7**	**-0.1**
JKZ	**Kuzumaki**	**6.29**	**231**			P	**Pn**	**13 32 41.8**	**-1.4**
UGL	**Uglegorsk**	**6.31**	**324**		*e*	PN	**Pn**	**13 32 44.0**	**+0.7**
UGL						S	**Sn**	**13 33 56.0**	**+2.1**
UGL						pmax	pmax		
	comp=Z,2μm,4.0s								
UGL						pmax	pmax		
	comp=Z,87nm,0.6s								
UGL						smax	smax		
	comp=N,4μm,6.0s								
UGL						smax	smax		
	comp=E,2μm,4.0s								
UGL						smax	smax		
	comp=N,320nm,0.6s								
UGL						smax	smax		
	comp=E,410nm,0.6s								
UGL	**Uglegorsk**	**6.31**	**324**		*e*	**P**	**Pn**	**13 32 44.0**	**+0.7**
UGL						AMB	AMB	13 32 48.0	
	comp=E,2μm,4.0s								
UGL						AMB	AMB	13 32 49.0	
	comp=E,870nm,0.6s								
UGL					*e*	**S**	**Sn**	**13 33 56.0**	**+2.1**
UGL						A	A	13 34 04.0	
	comp=E,4μm,6.0s								
UGL						A	A	13 34 04.0	
	comp=E,2μm,6.0s								
UGL						A	A	13 34 04.5	
	comp=E,320nm,0.6s								
UGL						A	A	13 34 04.5	
	comp=E,410nm,0.6s								
UGL						AMS	AMS	13 35 18.0	
	comp=E,14μm,16.0s								
UGL						AMS	AMS	13 35 18.0	
	comp=E,4μm,16.0s								
UGL						AMS	AMS	13 35 18.0	
	comp=E,9μm,16.0s								
JAH	**Hinai**	**6.56**	**236**			P	**Pn**	**13 32 46.0**	**-0.8**
JOM	**Ohasama**	**6.67**	**228**	⇓		P	**Pn**	**13 32 46.7**	**-1.6**
OFUJ	**Ofunato**	**6.77**	**224**			P	**Pn**	**13 32 47.9**	**-1.7**
JIO	**Ouri**	**7.41**	**222**			P	**Pn**	**13 32 56.3**	**-2.1**
SKR	**Severo-Kuril's**	**8.69**	**38**		*e*	PN	Pn	13 33 10.5	-5.4
SKR						pmax	pmax		
	comp=Z,1μm,0.5s								
SKR						pmax	pmax		
	comp=N,480nm,0.6s								
SKR						pmax	pmax		
	comp=E,320nm,0.6s								
SKR						pmax	pmax		
	comp=N,6μm,2.0s								
SKR						pmax	pmax		
	comp=Z,8μm,2.0s								
SKR	**Severo-Kuril's**	**8.69**	**38**		*e*	**P**	**Pn**	**13 33 17.1**	**+1.2**
SKR						AMB	AMB	13 33 25.2	
	comp=Z,232nm,0.6s								
SKR					*e*	**S**	**Sn**	**13 34 55.3**	**+2.9**
SKR						A	A	13 35 15.0	
	comp=Z,6μm,0.6s								
SKR						A	A	13 35 15.0	
	comp=Z,6μm,0.6s								
SKR						AMS	AMS	13 38 10.0	
	comp=Z,6μm,18.0s								
SKR						AMS	AMS	13 38 10.0	
	comp=Z,6μm,18.0s								
SKR						AMS	AMS	13 38 10.0	
	comp=Z,9μm,18.0s								
OKH	**Okha**	**9.96**	**343**	⇓	*i*	PN	Pn	13 33 36.2	+3.1
OKH					*e*	**S**	**Sn**	**13 35 27.0**	**+3.7**
OKH						pmax	pmax		
	comp=Z,2μm,6.0s								
OKH	**Okha**	**9.96**	**343**		*e*	P	Pn	13 33 36.2	+3.1
OKH						AMB	AMB	13 33 37.6	
	comp=Z,2μm,5.7s								
OKH						AMB	AMB	13 33 37.6	
	comp=Z,1μm,5.7s								
OKH						AMB	AMB	13 33 37.6	
	comp=Z,2μm,5.7s								
OKH					*e*	**S**	**Sn**	**13 35 27.0**	**+3.7**
OKH						AMS	AMS	13 38 52.4	
	comp=Z,5μm,12.0s								
OKH						AMS	AMS	13 38 52.4	
	comp=Z,4μm,12.0s								
OKH						AMS	AMS	13 38 52.4	
	comp=Z,7μm,12.0s								
MJAR	**Matsushiro Arr**	**10.48**	**227**			P	**Pn**	**13 33 39.2**	**-1.2**
	comp=Z,6.1nm,0.3s,baz=28,slow=12,SNR=154								
MAJO	**Matsushiro**	**10.48**	**227**		*d*	iPN	**Pn**	**13 33 39.3**	**-1.1**
MAJO	**Matsushiro**	**10.48**	**227**		*e*	Pn	**Pn**	**13 33 39.5**	**-1.0**
MAJO					*e*	Sn	**Sn**	**13 35 32.9**	**-3.4**
MAT	**Matsushiro**	**10.48**	**227**			P	**Pn**	**13 33 39.1**	**-1.3**
MAT					*e*	**S**	**Sn**	**13 35 36.5**	**+0.2**
PETK	**Petropavlovsk-**	**11.15**	**33**			P	**Pn**	**13 33 49.6**	**0.0**
	comp=Z,23nm,0.3s,baz=190,slow=12,SNR=408								
PETK						LR	LR	13 37 53.7	
	comp=Z,9μm,21.6s,baz=214,slow=36								
USRK	**Ussuriysk Ar.**	**11.30**	**276**			P	**Pn**	**13 33 51.7**	**0.0**
	comp=Z,1.4nm,0.3s,baz=90,slow=12,SNR=47								
USRK						LR	LR	13 38 21.6	
	comp=Z,6μm,18.8s,baz=80,slow=38								
PET	**Petropavlovsk**	**11.47**	**35**		*c*	iPN	**Pn**	**13 33 51.2**	**-2.7**
PET						pmax	pmax		
	comp=Z,1μm,11.9s								
PET						pmax	pmax		
	comp=Z,44nm,0.5s								
PET						MLR	MLR		
	comp=Z,17μm,17.0s								
PET						MLR	MLR		
	comp=Z,15μm,15.0s								
PET	**Petropavlovsk**	**11.47**	**35**		*e*	Pn	**Pn**	**13 33 52.2**	**-1.7**
VLA	**Vladivostok**	**11.53**	**271**		*d*	iPN	Pn	13 33 58.6	+3.9
VLA						S	**Sn**	**13 36 07.7**	**+5.9**
VLA						pmax	pmax		
	comp=Z,121nm,1.0s								
VLA						smax	smax		
	comp=N,4μm,1.3s								
JIZS	**Izushimoda**	**11.60**	**219**			P	**Pn**	**13 33 54.0**	**-1.8**
KLR	**Kul'dur**	**12.10**	**301**		*e*	PN	**Pn**	**13 34 03.0**	**+0.5**
KLR					*e*	**S**	**Sn**	**13 36 17.7**	**+1.9**
KLR						pmax	pmax		
	comp=E,180nm,1.8s								
KLR						pmax	pmax		
	comp=Z,150nm,1.8s								
KLR						MLR	MLR		
	comp=Z,25μm,12.0s								
JHJ2	**Mitsune**	**12.59**	**212**		*e*	Pn	**Pn**	**13 34 09.6**	**+0.3**
MDJ	**Mudanjiang**	**12.98**	**279**			P	**Pn**	**13 34 14.8**	**+0.2**
MDJ						S	**Sn**	**13 36 37.4**	**0.0**
MDJ						PMZ			
	comp=Z,12nm,1.7s								
MDJ						PMZ			
	comp=Z,250nm,6.2s								
MDJ						LN			
	comp=Z,5μm,21.0s								
MDJ						LE			
	comp=Z,4μm,32.2s								
MDJ						LZ			
	comp=Z,7μm,28.0s								
MDJ	**Mudanjiang**	**12.98**	**279**		*e*	Pn	**Pn**	**13 34 14.8**	**+0.2**
	comp=Z,264nm,1.5s								
CN2	**Changchun**	**16.04**	**277**		*e*	P	**Pn**	**13 34 55.4**	**+0.4**
CN2					*es*	P	**sP**	**13 35 12.3**	**-2.9**
CN2					*e*	**S**	**Sn**	**13 37 50.0**	**-1.7**
CN2						PMZ			
	comp=Z,20nm,1.0s								
CN2						PMZ			
	comp=Z,200nm,4.0s								
CN2						LN			
	comp=Z,5μm,18.0s								
CN2						LE			
	comp=Z,4μm,18.0s								
CN2						LZ			
	comp=Z,900nm,17.0s								
KSRS	**Korea Array**	**16.38**	**253**			P	**Pn**	**13 34 58.0**	**-1.4**
KSRS						pmax	pmax		
	comp=Z,1.0nm,0.3s								
KSRS	**Korea Array**	**16.38**	**253**			P	**Pn**	**13 34 58.0**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=62,slow=12,SNR=22								
KSRS						LR	LR	13 40 42.9	
	comp=Z,6μm,21.4s,baz=61,slow=35								
KSRS						ScP	**ScP**	**13 43 20.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=358,slow=3.8,SNR=4.7								
KSAR	**Wonju Array Be**	**16.42**	**253**			P	**Pn**	**13 34 58.0**	**-1.8**
KSAR	**Wonju Array Be**	**16.42**	**253**			P	**Pn**	**13 34 58.0**	**-1.8**
KSAR						ScP	**ScP**	**13 43 20.5**	**+0.7**
JNU	**Nakatsue**	**17.10**	**236**			P	**Pn**	**13 35 08.3**	**-0.1**
	comp=Z,2.5nm,0.3s,baz=66,slow=7.8,SNR=14								
JNU						LR	LR	13 42 28.2	
	comp=Z,4μm,20.1s,baz=36,slow=40								
JNU	**Nakatsue**	**17.10**	**236**		*e*	Pn	**Pn**	**13 35 08.1**	**-0.3**
INCN	**Inchon**	**17.26**	**255**		*e*	Pn	**Pn**	**13 35 09.1**	**-1.3**
INCN					*e*	pP	**pP**	**13 35 22.9**	**+0.4**
CBIJ	**Chichi jima**	**17.56**	**197**		*e*	Pn	**Pn**	**13 35 11.9**	**-2.1**
CBIJ					*e*	pP	**pP**	**13 35 28.4**	**+2.6**
CBIJ						S	Sn	13 38 15.2	-13
JCJ	**Chichijima**	**17.56**	**197**			P	**Pn**	**13 35 14.5**	**+0.5**
	comp=Z,13nm,0.3s,baz=46,slow=3.1,SNR=17								
JCJ						S	Sn	13 38 15.2	-13
	comp=Z,8.9nm,0.3s,baz=253,slow=19,SNR=5.3								
JCJ						LR	LR	13 42 33.2	
	comp=Z,1μm,18.7s,baz=348,slow=39								
SNY	**Shenyang**	**17.80**	**271**		⇑	**P**	**P**	**13 35 17.4**	**+0.3**
SNY						S	**Sn**	**13 38 28.6**	**-5.7**
SNY						PMZ			
	comp=Z,19nm,0.8s								
SNY						PMZ			
	comp=Z,1μm,12.0s								
SNY						LN			
	comp=Z,4μm,20.1s								
SNY						LE			
	comp=Z,4μm,19.1s								
SNY						LZ			
	comp=Z,6μm,28.9s								
FX1	**Attu Island--F**	**18.93**	**53**		*e*	**P**	**P**	**13 35 28.8**	**-0.6**
FX1						S	Sn	13 38 51.2	-10
FX1	**Attu Island--F**	**18.93**	**53**			P	**P**	**13 35 27.8**	**-1.6**
	comp=Z,26nm,0.3s,baz=213,slow=1.9,SNR=45								
FX1						S	Sn	13 38 51.1	-10
	comp=Z,9.6nm,0.3s,baz=154,slow=23,SNR=5.8								
FX1						LR	LR	13 45 54.2	
	comp=Z,1μm,18.1s,baz=271,slow=46								
FX1	**Attu Island--F**	**18.93**	**53**		*e*	**P**	**P**	**13 35 28.8**	**-0.6**
FX1						S	Sn	13 38 51.1	-10
SEY	**Seymchan**	**19.05**	**7**			P	**P**	**13 35 29.3**	**-1.4**
	comp=Z,3.2nm,0.3s,baz=181,slow=8.4,SNR=81								
SEY	**Seymchan**	**19.05**	**7**		*e*	P	**P**	**13 35 30.1**	**-0.5**
CLNS	**Chul'man**	**19.20**	**320**		*e*	P	**Pn**	**13 35 33.7**	**0.0**
CLNS					*e*	**S**	**S**	**13 39 05.0**	**-2.2**
CLNS						pmax	pmax		
	comp=Z,8.0nm,0.9s								
CLNS						pmax	pmax		
	comp=N,14nm,0.9s								
CLNS						pmax	pmax		
	comp=E,9.0nm,0.9s								
CLNS						smax	smax		
	comp=N,1μm,12.7s								
CLNS						smax	smax		
	comp=E,3μm,12.7s								
CLNS						MLR	MLR		
	comp=N,2μm,16.0s								
CLNS						MLR	MLR		
	comp=E,2μm,16.0s								
SMY	**Shemya**	**19.43**	**54**			P	**P**	**13 35 34.1**	**-0.7**
SMY						pmax	pmax		
	comp=Z,251nm,0.9s								
SMY	**Shemya**	**19.43**	**54**			P	**P**	**13 35 34.1**	**-0.7**
	comp=Z,251nm,0.9s								
HIA	**Hailar**	**19.81**	**295**		*e*	P	**P**	**13 35 38.2**	**-1.0**
HIA						pmax	pmax		
	comp=Z,333nm,1.6s								
HIA	**Hailar**	**19.81**	**295**		*e*	P	**P**	**13 35 38.4**	**-0.7**
HIA	**Hailar**	**19.81**	**295**		*e*	P	**P**	**13 35 38.2**	**-1.0**
	comp=Z,333nm,1.6s								
DL2	**Dalian**	**20.18**	**264**			P	**P**	**13 35 42.9**	**-0.3**
DL2						S	**S**	**13 39 24.2**	**-2.7**
DL2						PMZ			
	comp=Z,130nm,0.8s								
DL2						PMZ			
	comp=Z,680nm,6.9s								
DL2						LE			
	comp=Z,1μm,17.6s								
YAK	**Yakutsk**	**20.83**	**336**		*e*	**P**	**P**	**13 35 48.2**	**-1.8**
YAK					*e**	PP	pP	13 36 08.1	+6.6
YAK					*e*	**S**	**S**	**13 39 34.9**	**-4.4**
YAK					*e**	SS	**sS**	**13 40 00.2**	**+2.2**
YAK					*e*			13 47 08.7	
YAK						pmax	pmax		
	comp=Z,116nm,0.9s								
YAK						pmax	pmax		
	comp=N,88nm,1.1s								
YAK						pmax	pmax		
	comp=E,61nm,1.0s								
YAK						smax	smax		
	comp=N,102nm,1.3s								
YAK						smax	smax		
	comp=E,206nm,1.5s								
YAK	**Yakutsk**	**20.83**	**336**		*e*	**P**	**P**	**13 35 47.3**	**-2.7**
JOW	**Kunigami**	**23.31**	**229**		*e*	**P**	**P**	**13 36 16.9**	**+0.4**
	comp=E,60nm,1.0s								
BJI	**Beijing**	**23.68**	**271**			P	**P**	**13 36 20.3**	**+0.4**
BJI						S	**S**	**13 40 32.1**	**+1.0**
BJI						PMZ			
	comp=E,200nm,1.3s								
BJI						PMZ			
	comp=E,260nm,3.5s								
BJI						LN			
	comp=E,3μm,17.2s								
BJI						LE			
	comp=E,4μm,22.8s								
BJI						LZ			
	comp=E,4μm,32.2s								
BJT	**Baijiatuau**	**23.70**	**271**		*e*	**P**	**P**	**13 36 19.0**	**-1.0**
BJT						pmax	pmax		
	comp=Z,151nm,0.8s								
BJT						MLR	MLR		
	comp=Z,5μm,21.0s								
BJT	**Baijiatuau**	**23.70**	**271**		*e*	**P**	**P**	**13 36 19.0**	**-1.0**
BJT	**Baijiatuau**	**23.70**	**271**		*e*	**P**	**P**	**13 36 18.9**	**-1.0**
	comp=Z,151nm,0.8s								
BJT						LR	LR		
	comp=Z,5μm,21.0s								
TIA	**Tai'an**	**24.57**	**262**	⇓		P	**P**	**13 36 28.1**	**0.0**
TIA						S	**S**	**13 40 48.7**	**+3.2**
TIA						PMZ			
	comp=Z,250nm,0.7s								
TIA						PMZ			
	comp=Z,1μm,9.4s								
TIA						LN			
	comp=Z,2μm,17.4s								
TIA						LE			
	comp=Z,3μm,18.2s								
TIA						LZ			
	comp=Z,3μm,19.9s								
SSE	**Sheshan**	**24.59**	**247**	⇓		P	**P**	**13 36 29.4**	**+1.2**
SSE						pP	**pP**	**13 36 42.6**	**+1.6**
SSE						sP	**sP**	**13 36 48.4**	**+1.5**
SSE						S	**S**	**13 40 44.2**	**-1.6**
SSE						sS	**sS**	**13 41 06.4**	**-0.8**
SSE						PMZ			
	comp=Z,78nm,0.7s								
SSE						PMZ			
	comp=Z,770nm,4.6s								
SSE						LN			
	comp=Z,3μm,18.5s								
SSE						LE			
	comp=Z,3μm,18.5s								
SSE						LZ			
	comp=Z,2μm,18.6s								
BOD	**Bodaibo**	**24.96**	**315**		*e*	**P**	**P**	**13 36 28.4**	**-3.0**
BOD					*e*			13 36 40.7	
BOD					*e*			13 47 21.9	
NJ2	**Nanjing**	**25.58**	**252**		*e*	**P**	**P**	**13 36 37.8**	**+0.6**
NJ2						pP	**pP**	**13 36 50.1**	**+0.2**
NJ2						sP	**sP**	**13 36 56.9**	**+1.1**
NJ2						sS	sS	13 41 16.5	-6.6
NJ2						PMZ			
	comp=Z,80nm,0.8s								
NJ2						PMZ			
	comp=Z,590nm,4.5s								
NJ2						LN			
	comp=Z,5μm,17.2s								
NJ2						LE			
	comp=Z,6μm,17.0s								
NJ2						LZ			
	comp=Z,6μm,17.1s								
BILL	**Bilibino**	**25.90**	**16**		*c*	iP	**P**	**13 36 36.3**	**-3.5**
BILL					*i*	S	S	13 40 57.5	-8.5
BILL						MLR	MLR		
	comp=Z,7μm,24.0s								
BILL	**Bilibino**	**25.90**	**16**		*e*	**P**	**P**	**13 36 36.2**	**-3.5**
	comp=Z,12nm,0.6s								
BILL						LR	LR		
	comp=Z,3μm,21.0s								
HHC	**Hu-ho-hao-te**	**26.73**	**276**		*e*	**P**	**P**	**13 36 48.5**	**+0.8**
HHC						pP	**pP**	**13 37 00.8**	**+0.4**
HHC						sP	**sP**	**13 37 06.1**	**-0.3**
HHC						PP	**PnPn**	**13 37 33.6**	**+2.9**
HHC						S	**S**	**13 41 19.1**	**-0.7**
HHC						ScS	**ScS**	**13 47 34.2**	**-2.1**
HHC						PMZ			
	comp=Z,23nm,0.6s								
HHC						PMZ			
	comp=Z,490nm,5.8s								
HHC						LN			
	comp=Z,3μm,14.7s								
HHC						LE			
	comp=Z,4μm,13.7s								
HHC						LZ			
	comp=Z,2μm,13.6s								
TIY	**Taiyuan**	**27.27**	**269**		*e*	**P**	**P**	**13 36 55.0**	**+2.4**
TIY						pP	**pP**	**13 37 05.7**	**+0.4**
TIY						S	**S**	**13 41 31.2**	**+2.8**
TIY						sS	**sS**	**13 41 52.8**	**+2.8**
TIY						PMZ			
	comp=Z,120nm,1.1s								
TIY						PMZ			
	comp=Z,850nm,9.4s								
TIY						LN			
	comp=Z,940nm,15.2s								
TIY						LE			
	comp=Z,810nm,10.0s								
TIY						LZ			
	comp=Z,2μm,19.6s								
BTO	**Baotou**	**27.91**	**276**		*e*	**P**	**P**	**13 36 58.4**	**+0.1**
BTO						S	**S**	**13 41 39.2**	**+0.7**
BTO						LN			
	comp=Z,1μm,19.6s								
BTO						LE			
	comp=Z,960nm,17.6s								
ULN	**Ulaanbaatar**	**28.27**	**292**		*e*	**P**	**P**	**13 37 01.9**	**+0.4**
ULN					*e**	PP	**pP**	**13 37 15.3**	**+1.0**
ULN						pmax	pmax		

comp=Z,2μm,15.0s
TIXI Tiksi 29.09 348 *e*P **P 13 37 07.4 -0.8**
comp=Z,8.6nm,0.8s
H11N2 WAKE ISLAND Hy 29.11 141 T T 14 07 49.9
baz=332,slow=76,SNR=5532
H11N1 WAKE ISLAND Hy 29.12 141 T T 14 07 50.9
baz=332,slow=76,SNR=4730
H11N3 WAKE ISLAND Hy 29.13 140 T T 14 07 53.6
baz=332,slow=76,SNR=5581
WHN Wuhan 29.57 254 P **P 13 37 12.6 -0.3**
WHN sP **sP 13 37 31.7 0.0**
WHN S S 13 41 57.3 -7.2
WHN LN
comp=Z,6μm,18.6s
WHN LE
comp=Z,8μm,16.6s
WHN LZ
comp=Z,11μm,17.6s
IRK Irkutsk 29.71 301 *e*P **P 13 37 14.7 +0.7**
IRK pmax pmax
comp=Z,27nm,0.9s
H11S1 WAKE ISLAND Hy 30.09 142 T T 14 09 06.7
baz=333,slow=76,SNR=5196
H11S3 WAKE ISLAND Hy 30.10 142 T T 14 09 05.4
baz=333,slow=76,SNR=3169
H11S2 WAKE ISLAND Hy 30.11 142 T T 14 09 07.7
baz=333,slow=76,SNR=2967
TLY Talaya 30.12 300 *e*P **P 13 37 18.5 +0.9**
TLY *e* 13 38 20.7
TLY *e*S **S 13 42 13.5 +0.8**
TLY *e*SS **SnSn 13 43 50.8 +1.8**
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY Talaya 30.12 300 P **P 13 37 16.8 -0.9**
comp=Z,1.3nm,0.5s,baz=43,slow=22,SNR=3.9
TLY Talaya 30.12 300 *e*P **P 13 37 17.1 -0.6**
TLY Talaya 30.12 300 *e*P **P 13 37 17.1 -0.6**
GAMB Gambell 30.18 35 *e*P **P 13 37 16.1 -1.8**
comp=Z,13nm,0.8s
TPUB Ta-pu 30.41 236 *e*P **P 13 37 20.1 -0.4**
comp=Z,53nm,0.8s
QZH Quanzhou 30.44 241 P **P 13 37 23.2 +2.5**
QZH S **S 13 42 22.9 +4.7**
QZH LN
comp=Z,7μm,17.8s
QZH LE
comp=Z,4μm,17.2s
QZH LZ
comp=Z,8μm,33.6s
GUMO Guam 30.52 185 PFAKE 13 37 30.0 +8.6
GUMO LR LR
comp=Z,3μm,21.0s
XAN Xi'an 31.50 265 P **P 13 37 29.5 -0.5**
XAN pP **pP 13 37 43.5 +0.6**
XAN sP **sP 13 37 50.5 +1.7**
XAN S **S 13 42 31.0 -3.7**
XAN sS **sS 13 42 56.6 +0.1**
XAN PcS **PcS 13 44 09.2 +2.7**
XAN PMZ
comp=Z,12nm,0.8s
XAN PMZ
comp=Z,25nm,3.9s
XAN LN
comp=Z,1μm,25.6s
XAN LE
comp=Z,370nm,20.5s
XAN LZ
comp=Z,800nm,34.8s
MOY Mondy 31.77 301 *e*P P 13 37 38.9 +6.6
TNA Tin City 32.32 33 *e*P **P 13 37 37.0 +0.2**
comp=Z,42nm,0.8s
ENH Enshi 33.13 258 *e*P **P 13 37 43.3 -1.0**
comp=Z,18nm,0.8s
LZH Lanzhou 34.17 272 ⇓P **P 13 37 54.2 +0.7**
LZH pP **pP 13 38 07.2 +0.7**
LZH sP **sP 13 38 13.0 +0.7**
LZH PP **PP 13 39 10.0 -1.4**
LZH S **S 13 43 15.0 -1.5**
LZH sS **sS 13 43 37.1 -1.2**
LZH SS **SnSn 13 45 32.0 +4.0**
LZH PMZ
comp=Z,69nm,1.1s
LZH PMZ
comp=Z,390nm,6.0s
LZH LN
comp=Z,2μm,14.2s
LZH LE
comp=Z,3μm,14.0s
LZH LZ
comp=Z,3μm,16.0s
SZP Santa 35.04 230 *e*P **P 13 38 01.1 +0.2**
comp=Z,58nm,0.8s
GZH Guangzhou 35.12 245 P P 13 37 57.2 -4.4
GZH S S 13 43 23.3 -7.6
GZH LN
comp=Z,6μm,19.4s
GZH LE
comp=Z,3μm,18.9s
GTA Gaotai 35.64 279 ⇓P **P 13 38 06.4 +0.3**
GTA pP **pP 13 38 18.5 -0.6**
GTA sP **sP 13 38 24.0 -1.0**
GTA S **S 13 43 36.9 -2.0**
GTA sS **sS 13 43 57.5 -3.3**
GTA ScP **ScP 13 44 16.4 +1.1**
GTA PcS **PcS 13 44 22.7 +1.7**
GTA ScS **ScS 13 48 20.0 -0.4**
GTA PMZ
comp=Z,14nm,1.9s
GTA PMZ
comp=Z,130nm,5.9s
GTA LN
comp=Z,2μm,16.6s
GTA LE
comp=Z,1μm,17.6s
GTA LZ
comp=Z,2μm,17.6s
CHGN Chignik 35.64 51 *e*P **P 13 38 05.7 0.0**
BCPH Baguio City Da 35.93 228 ⇓*e*P **P 13 38 08.0 -0.7**
BALP Baler 35.94 226 *e*P **P 13 38 09.8 +1.2**
BALP *e*S Px 13 38 29.6
KRAR Krasnoyarsk 36.21 309 ⇓*e*P **P 13 38 11.2 +0.6**
KRAR pmax pmax
comp=Z,19nm,0.4s
KRAR MLR MLR
comp=Z,2μm,20.0s
BOLP Bolinao 36.29 229 *e*P **P 13 38 13.0 +1.3**
HVS Khovu-Aksy 36.36 301 ⇑*e*P **P 13 38 13.6 +1.6**
HVS pmax pmax
comp=Z,26nm,1.0s
PVCP Virac 36.49 221 *e*P **P 13 38 14.9 +1.6**
SCZP Santa Cruz 36.79 229 *e*P **P 13 38 15.0 -0.8**
CD2 Chengdu 36.85 264 ⇓*i*P **P 13 38 16.3 -0.1**
CD2 pP **pP 13 38 28.8 -0.7**
CD2 PP **PP 13 39 41.1 +0.2**
CD2 PcP **PcP 13 40 41.8 +4.5**
CD2 S **S 13 43 54.3 -3.1**
CD2 SS **SnSn 13 46 26.5 -6.3**
CD2 ScS **ScS 13 48 28.2 +1.1**
CD2 PMZ
comp=Z,170nm,0.9s
CD2 PMZ
comp=Z,190nm,6.0s
CD2 LE
comp=Z,1μm,14.3s
CD2 LZ
comp=Z,2μm,14.3s
CNP Cataram 37.20 219 *e*P **P 13 38 21.1 +1.8**
GYA Guiyang 37.41 256 ⇓*i*P **P 13 38 20.4 -0.8**
GYA pP **pP 13 38 37.6 +3.3**
GYA sP **sP 13 38 43.2 +3.0**
GYA PP **PnPn 13 39 51.0 +2.7**
GYA S **S 13 44 05.3 -0.8**
GYA ScP **ScP 13 44 22.8 +0.7**
GYA sS **sS 13 44 29.6 +1.5**
GYA SS **SnSn 13 46 39.2 -7.3**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,180nm,5.6s
GYA LN
comp=Z,860nm,17.6s
GYA LE
comp=Z,780nm,18.0s
GYA LZ
comp=Z,820nm,17.5s

TGY Tagaytay City 37.64 226 P **P 13 38 22.8 -0.3**
comp=Z,266nm,0.4s,baz=177,slow=3.5,SNR=18
TGY LR LR 13 52 51.2
comp=Z,32nm,21.9s,baz=297,slow=34
LUBP Lubang 38.31 226 *e*P **P 13 38 30.1 +1.4**
OHAK Old Harbor 38.38 49 *e*P **P 13 38 28.6 -0.3**
comp=Z,155nm,1.2s
RSO Redoubt South 38.42 43 *e*P **P 13 38 27.0 -2.4**
comp=Z,288nm,0.9s
PPLA Purkeypile 38.64 39 *e*P **P 13 38 29.5 -1.7**
comp=Z,137nm,1.1s
KDAK Kodiak Island 38.70 48 P **P 13 38 31.0 -0.6**
comp=Z,948nm,0.7s,SNR=23
KDAK Kodiak Island 38.70 48 *e*P **P 13 38 31.8 +0.2**
KDAK pmax pmax
comp=Z,113nm,0.8s
KDAK MLR MLR
comp=Z,3μm,22.0s
KDAK Kodiak Island 38.70 48 *e*P **P 13 38 31.4 -0.2**
KDAK Kodiak Island 38.70 48 *e*P **P 13 38 31.8 +0.2**
comp=Z,112nm,0.8s
KDAK LR LR
comp=Z,3μm,22.0s
KTH Kantishna Hill 39.21 38 *e*P **P 13 38 36.4 +0.5**
comp=Z,216nm,0.9s
TRF Thorofare Moun 39.50 39 *e*P **P 13 38 38.5 0.0**
comp=Z,69nm,0.8s
COLD Coldfoot 39.62 33 *e*P **P 13 38 38.9 -0.3**
comp=Z,45nm,0.8s
RC01 Rabbit Creek A 39.86 42 *e*P **P 13 38 40.7 -0.5**
comp=Z,126nm,1.0s
SEW Seward 40.08 44 *e*P **P 13 38 42.9 -0.2**
comp=Z,95nm,0.9s
MCK McKinley 40.09 38 *e*P **P 13 38 43.3 +0.1**
MCK pmax pmax
comp=Z,91nm,0.8s
MCK McKinley 40.09 38 *e*P **P 13 38 43.6 +0.4**
MCK McKinley 40.09 38 *e*P **P 13 38 43.3 +0.1**
comp=Z,91nm,0.8s
PMR Palmer 40.11 41 *e*P **P 13 38 43.3 0.0**
PMR pmax pmax
comp=Z,67nm,0.9s
PMR Palmer 40.11 41 *e*P **P 13 38 43.3 0.0**
comp=Z,67nm,0.9s
QIZ Qiongzhong 40.30 244 P **P 13 38 47.0 +1.7**
QIZ sP **sP 13 39 03.2 -1.1**
QIZ S **S 13 44 52.7 +3.3**
QIZ PMZ
comp=Z,32nm,2.2s
QIZ PMZ
comp=Z,310nm,7.7s
QIZ LN
comp=Z,2μm,23.1s
QIZ LZ
comp=Z,2μm,26.6s
COLA College 40.54 36 ⇑*e*P **P 13 38 47.8 +1.1**
COLA pmax pmax
comp=Z,436nm,1.5s
COLA MLR MLR
comp=Z,5μm,20.0s
COLA College 40.54 36 *e*P **P 13 38 47.8 +1.1**
COLA College 40.54 36 *e*P **P 13 38 46.7 -0.1**
comp=Z,59nm,0.8s
COLA LR LR
comp=Z,1μm,21.0s
ILAR Eielson Array 40.95 36 P **P 13 38 50.2 0.0**
comp=Z,67nm,1.0s,baz=267,slow=8.3,SNR=185
ILAR ScP **ScP 13 44 32.0 -2.9**
comp=Z,1.0nm,0.9s,baz=282,slow=3.6,SNR=2.9
ILAR LR LR 13 57 53.9
comp=Z,1μm,18.4s,baz=277,slow=39
KMI Kunming 41.00 258 P **P 13 38 51.4 +0.1**
KMI pP **pP 13 39 03.2 -1.3**
KMI sP **sP 13 39 08.3 -2.0**
KMI PP **PnPn 13 40 29.6 -1.5**
KMI S **S 13 44 57.5 -2.7**
KMI SS SS 13 47 55.7 -7.8
KMI PMZ
comp=Z,58nm,1.1s
KMI PMZ
comp=Z,280nm,5.3s
KMI LN
comp=Z,2μm,20.7s
KMI LE
comp=Z,1μm,21.1s
KMI LZ
comp=Z,2μm,19.0s
ZALV Zalesovo Beam 41.11 307 P **P 13 38 51.0 -0.7**
comp=Z,3.0nm,0.5s,baz=78,slow=7.9,SNR=16
ZALV PcP **PcP 13 40 50.0 -0.2**
comp=Z,9.0nm,0.6s,baz=60,slow=2.9,SNR=7.9
ZALV pPcP 13 41 05.0
comp=Z,15nm,0.7s,baz=78,slow=3.6,SNR=7.0
ZALV ScP **ScP 13 44 35.3 -0.4**
comp=Z,3.2nm,0.9s,baz=22,slow=1.6,SNR=5.0
ZALV LR LR 13 57 02.5
comp=Z,1μm,18.4s,baz=75,slow=38
DAV Davao City (W) 41.67 214 PFAKE 13 39 10.0 +13
DAV LR LR
comp=Z,2μm,22.0s
PAX Paxson 41.70 39 *e*P **P 13 38 56.4 -0.1**
PAX *e**PP **pP 13 39 10.8 +1.0**
PAX pmax pmax
comp=Z,52nm,0.9s
PAX Paxson 41.70 39 *e*P **P 13 38 56.4 -0.1**
comp=Z,52nm,0.9s
PAX *e*pP **pP 13 39 10.8 +1.0**
DIV Divide 41.77 42 *e*P **P 13 38 58.0 +1.0**
DIV Divide 41.77 42 *e*P **P 13 38 57.0 0.0**
comp=Z,187nm,1.2s
NVS Novosibirsk 41.81 308 *e*P **P 13 38 55.9 -1.5**
NVS *e* 13 40 48.2
NVS *e*SS SS 13 48 49.6 +31
NVS pmax pmax
comp=N,3.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,11nm,1.0s
DOT Dot Lake 42.27 38 *e*P **P 13 39 00.7 -0.3**
comp=Z,65nm,0.8s
DOT *e*pP **pP 13 39 15.6 +1.3**
WMQ Urumqi 42.34 291 P **P 13 39 03.5 +1.5**
WMQ pP **pP 13 39 15.9 +0.7**
WMQ sP **sP 13 39 20.3 -0.7**
WMQ PP **PP 13 40 45.0 +4.4**
WMQ PcP **PcP 13 40 57.5 +2.9**
WMQ S **S 13 45 18.6 -0.9**
WMQ sS **sS 13 45 41.0 -0.7**
WMQ SS SS 13 48 21.5 -7.8
WMQ ScS **ScS 13 49 00.0 +0.8**
WMQ PMZ
comp=Z,31nm,1.0s
WMQ PMZ
comp=Z,380nm,7.2s
WMQ LN
comp=Z,2μm,23.0s
WMQ LE
comp=Z,1μm,27.0s
WMQ LZ
comp=Z,3μm,17.5s
MENT Mentasta 42.50 39 *e*P **P 13 39 02.3 -0.6**
MENT *e*pP **pP 13 39 17.2 +1.0**
SLVN Son La 42.65 252 *e*P **P 13 39 05.0 +0.3**
comp=Z,36nm,0.9s
EGAK Eagle 43.40 36 *e*P **P 13 39 08.8 -1.3**
comp=Z,186nm,1.3s
EGAK *e*pP **pP 13 39 24.7 +1.3**
EGAK LR LR
comp=Z,2μm,19.0s
MK31 Makanchi Array 44.78 297 *i* P **P 13 39 21.0 -0.5**
MK31 pmax pmax
comp=Z,15nm,0.6s
MKAR Makanchi Array 44.78 297 *i* P **P 13 39 21.7 +0.2**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 44.78 297 P **P 13 39 20.5 -1.0**
comp=Z,6.9nm,0.6s,baz=79,slow=9.2,SNR=69
MKAR LR LR 13 59 23.8
comp=Z,2μm,18.8s,baz=69,slow=38
MKAR Makanchi Array 44.78 297 *e*P **P 13 39 21.6 +0.1**
KURK Kurchatov 45.67 304 P **P 13 39 28.0 -0.4**
comp=Z,93nm,0.5s,SNR=19
KURK Kurchatov 45.67 304 *e*P **P 13 39 27.3 -1.1**
KURK *e**PP **pP 13 39 41.7 -0.1**
KURK pmax pmax

comp=Z,7.0nm,0.4s
KURK MLR MLR
comp=Z,722nm,19.0s
KURK Kurchatov 45.67 304 *e*P **P 13 39 28.6 +0.2**
KURK Kurchatov 45.67 304 *e*P **P 13 39 27.3 -1.1**
comp=Z,7.2nm,0.4s
KURK *e*pP **pP 13 39 41.7 -0.1**
KURK LR LR
comp=Z,722nm,19.0s
CRAI Chiangrai 45.83 254 P **P 13 39 29.5 -0.6**
comp=Z,91nm,1.0s
KDM Kudat 45.84 225 ⇑P **P 13 39 28.4 -1.6**
UBPT Khong Chiam 45.87 245 P **P 13 39 31.2 +0.8**
comp=Z,69nm,1.1s
INK Inuvik 45.88 31 LR LR 13 59 56.6
comp=Z,3μm,21.5s,baz=298,slow=38
DLV T Lat 46.48 239 *e*P **P 13 39 36.0 +0.6**
comp=Z,69nm,0.9s
MYLDM Lahad Datu 46.50 222 ⇓P **P 13 39 37.6 +2.3**
LSA Lhasa 46.59 272 P **P 13 39 37.2 +0.7**
LSA pP **pP 13 39 46.5 -3.4**
LSA S S 13 46 12.0 -10
LSA LZ
comp=Z,2μm,25.5s
LSA Lhasa 46.59 272 *e*P **P 13 39 36.7 +0.2**
LSA *e**PP **pP 13 39 51.0 +1.1**
LSA pmax pmax
comp=Z,52nm,0.9s
LSA Lhasa 46.59 272 *e*P **P 13 39 36.7 +0.2**
comp=Z,52nm,0.9s
LSA *e*pP **pP 13 39 51.0 +1.1**
SMPI Sarmi 46.60 192 P **P 13 39 36.3 +0.3**
comp=Z,188nm,1.0s,comp=Z,2μm
SDKM Sandakan 46.74 224 ⇑P **P 13 39 38.2 +0.9**
PAYA Payao 46.77 254 P **P 13 39 38.5 +1.1**
comp=Z,54nm,0.8s,comp=Z,391nm
TNTI Ternate 46.80 208 P **P 13 39 37.8 +0.2**
comp=Z,100nm,1.0s,comp=Z,2μm
TNTI Ternate 46.80 208 *e*P **P 13 39 37.7 +0.1**
comp=Z,46nm,0.8s
JAY Jayapura 46.84 190 P P 13 39 30.9 -7.1
comp=Z,42nm,1.0s
KKM Kota Kinabalu 46.90 225 ⇑P **P 13 39 39.3 +0.8**
KKM Kota Kinabalu 46.90 225 PFAKE 13 39 50.0 +11
KKM LR LR
comp=Z,2μm,22.0s
SRPI Serui, Papua 46.92 196 P **P 13 39 38.9 +0.4**
comp=Z,92nm,0.5s
CMAI Chiengmai2 46.95 255 P **P 13 39 39.9 +0.8**
comp=Z,71nm,1.0s
GENI Genyem 46.99 190 P P 13 39 32.4 -6.6
comp=Z,114nm,1.1s,comp=Z,2μm
SWI Sorong 47.13 203 P **P 13 39 40.0 -0.2**
comp=Z,143nm,0.8s,comp=Z,2μm
UTTA Uttaradit 47.40 252 P **P 13 39 43.0 +0.7**
comp=Z,26nm,0.8s,comp=Z,188nm
LAMP Lampang 47.50 253 P **P 13 39 44.1 +1.0**
comp=Z,62nm,0.8s,comp=Z,411nm
TSM Tawau 47.58 222 ⇑P **P 13 39 43.7 0.0**
CMMT Chiang Mai 47.78 254 P **P 13 39 45.5 +0.2**
comp=Z,160nm,0.9s,comp=Z,1μm
CHTO Chiang Mai 47.78 254 *e*P **P 13 39 45.8 +0.5**
CHTO pmax pmax
comp=Z,95nm,0.8s
CHTO MLR MLR
comp=Z,2μm,19.0s
CHTO Chiang Mai 47.78 254 P **P 13 39 45.6 +0.3**
comp=Z,551nm,0.9s,comp=Z,3μm
CHTO Chiang Mai 47.78 254 *e*P **P 13 39 45.8 +0.5**
comp=Z,95nm,0.8s
CHTO LR LR
comp=Z,2μm,19.0s
PBKT Sadao Pong 47.94 250 P **P 13 39 47.1 +0.6**
comp=Z,37nm,1.3s,comp=Z,9μm
CMAR Chiang Mai Arr 48.02 254 P **P 13 39 48.0 +0.8**
CMAR Chiang Mai Arr 48.02 254 P **P 13 39 48.0 +0.8**
comp=Z,34nm,0.7s,baz=44,slow=7.3,SNR=133
CMAR ScP **ScP 13 45 04.8 +0.1**
comp=Z,1.4nm,1.0s,baz=15,slow=3.0,SNR=4.6
CMAR LR LR 14 01 55.2
comp=Z,2μm,18.9s,baz=56,slow=38
CMAR Chiang Mai Arr 48.02 254 *e*P **P 13 39 48.0 +0.8**
LBMI Labuha 48.07 208 P **P 13 39 47.0 -0.5**
comp=Z,76nm,1.0s,comp=Z,1μm
SUKH Sukhothai 48.22 252 P **P 13 39 49.6 +1.0**
comp=Z,20nm,0.8s,comp=Z,162nm
KMSI Cibinong 48.22 213 P **P 13 39 48.9 +0.2**
comp=Z,193nm,0.8s
GTOI Gorontalo 48.55 214 P **P 13 39 51.0 -0.2**
comp=Z,107nm,0.8s,comp=Z,2μm
FAKI Fak Fak 48.84 201 P **P 13 39 50.7 -2.7**
comp=Z,76nm,1.7s,comp=Z,2μm
FAKI Fak Fak 48.84 201 *e*P **P 13 39 53.1 -0.3**
comp=Z,17nm,0.8s
FAKI *e*pP **pP 13 40 08.0 +1.1**
MHMT Maesarieng 48.91 254 P **P 13 39 55.0 +1.0**
comp=Z,64nm,0.9s,comp=Z,428nm
MRSI Marisa 49.13 215 P **P 13 39 56.4 +0.8**
comp=Z,270nm,0.9s,comp=Z,2μm
VOSK Vostochnaya 49.38 309 P **P 13 39 56.2 -1.0**
VOSK pmax pmax
comp=Z,10.0nm,1.1s
BVA0 Borovoye Array 49.59 309 *e*P **P 13 39 58.9 +0.1**
BVA0 pmax pmax
comp=Z,20nm,1.4s
BRVK Borovoye 49.64 309 ⇑*e*P **P 13 39 59.6 +0.5**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK MLR MLR
comp=Z,2μm,21.0s
BRVK Borovoye 49.64 309 *e*P **P 13 39 57.9 -1.2**
comp=Z,16nm,1.0s
BRVK LR LR
comp=Z,1μm,19.0s
SANI Sanana 49.91 209 P **P 13 40 01.6 +0.1**
comp=Z,106nm,1.0s,comp=Z,2μm
MPSI Mapaga 50.13 217 P **P 13 40 03.1 -0.1**
comp=Z,34nm,1.0s,comp=Z,480nm
DLBC Dease Lake 50.13 43 *e*P **P 13 40 01.4 -1.5**
MSAI Masohi 50.17 205 P **P 13 40 06.3 +2.8**
comp=Z,14nm,0.7s,comp=Z,448nm
LUWI Luwuk 50.17 213 *e*P **P 13 40 03.4 -0.1**
TAPN Taplejung 50.41 272 *e*P **P 13 40 06.1 +0.4**
comp=Z,133nm,1.0s
APSI Ampana 50.51 215 P **P 13 40 05.2 -0.9**
comp=Z,231nm,1.1s,comp=Z,2μm
ULHL Ulahol 50.61 294 P **P 13 40 07.6 +0.6**
SNR=9.1
ULHL Ulahol 50.61 294 *i* P **P 13 40 07.5 +0.6**
TKM2 Tokmak 2 50.72 295 P **P 13 40 08.5 +0.7**
SNR=30
TKM2 Tokmak 2 50.72 295 *e*P **P 13 40 07.9 +0.2**
TKM2 pmax pmax
comp=Z,47nm,1.0s
TKM2 Tokmak 2 50.72 295 *e*P **P 13 40 07.9 +0.2**
comp=Z,47nm,1.0s
SRDT SRDT 50.76 250 P **P 13 40 09.8 +1.7**
comp=Z,98nm,1.4s,comp=Z,12μm
KHLT Khaolaem Dam 50.81 251 P **P 13 40 11.0 +2.6**
comp=Z,23nm,1.1s,comp=Z,331nm
ODAN Odare 50.93 271 *e*P **P 13 40 09.8 +0.3**
comp=Z,119nm,1.1s
BTM Bintulu 50.94 227 ⇑P **P 13 40 11.2 +1.9**
BNDI Bandanaira 51.00 203 P **P 13 40 10.2 +0.4**
comp=Z,234nm,0.9s,comp=Z,3μm
KBK Karagaybulak 51.27 295 P **P 13 40 12.4 +0.6**
SNR=17
KBK Karagaybulak 51.27 295 *i* P **P 13 40 12.4 +0.6**
USP Ospenovka 51.27 296 P **P 13 40 11.6 -0.1**
SNR=15
USP Ospenovka 51.27 296 *i* P **P 13 40 11.5 -0.1**
JIRN Jiri 51.33 273 *e*P **P 13 40 12.9 +0.2**
comp=Z,141nm,0.8s
KZA Kyzart 51.34 295 P **P 13 40 13.8 +1.2**
SNR=31
KZA Kyzart 51.34 295 *i* P **P 13 40 13.8 +1.2**
FRU Bishkek 51.40 296 *e*P **P 13 40 10.0 -2.6**
FRU *e* 13 40 23.0
FRU *e* 13 41 31.0
GUN Gumba 51.40 273 *e*P **P 13 40 13.2 0.0**
RAMN Ramite 51.45 272 *e*P **P 13 40 13.4 0.0**
comp=Z,150nm,0.6s
AAK Ala-Archa 51.57 296 P **P 13 40 14.0 -0.1**
comp=Z,71nm,0.5s,SNR=13
AAK Ala-Archa 51.57 296 P **P 13 40 14.2 +0.2**
SNR=8.8
AAK Ala-Archa 51.57 296 P **P 13 40 14.3 +0.2**

AAK MLR MLR
comp=Z,1μm,19.0s
AAK Ala-Archa 51.57 296 P **P 13 40 14.3 +0.2**
comp=Z,6.5nm,0.5s,baz=114,slow=4.7,SNR=27
AAK Ala-Archa 51.57 296 P **P 13 40 14.3 +0.2**
AAK LR LR
comp=Z,1μm,19.0s
KKN Kakani 51.90 274 *e*P **P 13 40 17.1 +0.3**
comp=Z,107nm,0.8s
PKI Pulchoki 51.94 273 *e*P **P 13 40 17.1 -0.1**
comp=Z,97nm,1.0s
PKIN Phulchoki 51.95 273 *e*P **P 13 40 17.9 +0.7**
SBUM Sibu 52.02 227 ⇓P **P 13 40 18.5 +1.1**
EKS2 Erkin-Say 52.02 296 P **P 13 40 17.9 +0.5**
SNR=8.9
EKS2 Erkin-Say 52.02 296 *i* P **P 13 40 17.9 +0.5**
EKS2 Erkin-Say 52.02 296 *e*P **P 13 40 17.1 -0.3**
comp=Z,18nm,0.9s
EKS2 LR LR
comp=Z,1μm,20.0s
KSH Kashi 52.11 291 P P 13 40 23.1 +5.0
KSH sP sP 13 40 41.1 +3.7
KSH PP PP 13 42 23.1 +6.7
KSH S **S 13 47 42.7 +4.1**
KSH sS sS 13 48 04.0 +2.6
KSH SS **SS 13 51 19.1 +3.2**
KSH PMZ
comp=Z,8.0nm,0.5s
KSH PMZ
comp=Z,110nm,3.5s
KSH LN
comp=Z,3μm,15.5s
KSH LE
comp=Z,1μm,14.1s
KSH LZ
comp=Z,3μm,17.9s
DMN Daman 52.13 274 *e*P **P 13 40 18.9 +0.3**
comp=Z,171nm,0.8s
GKN Gorkha 52.24 274 *e*P **P 13 40 19.3 +0.1**
comp=Z,211nm,1.1s
AML Almayashu 52.33 295 P **P 13 40 20.8 +0.8**
SNR=24
AML Almayashu 52.33 295 *i* P **P 13 40 20.8 +0.8**
DANN Dangsing 52.67 275 *e*P **P 13 40 23.3 +0.7**
comp=Z,436nm,0.8s
POHA Pohakuloa 52.77 98 *e*P **P 13 40 23.1 -0.2**
comp=Z,223nm,0.9s
KOLN Koldanda 53.12 275 *e*P **P 13 40 26.2 +0.4**
comp=Z,166nm,0.8s
SVE Sverdlovsk 53.16 317 *e*P **P 13 40 27.4 +2.0**
SVE pmax pmax
comp=Z,17nm,0.8s
SVE MLR MLR
comp=Z,2μm,18.0s
PMG Port Moresby 53.27 181 *e*P **P 13 40 27.5 +1.0**
PMG Port Moresby 53.27 181 P **P 13 40 27.1 +0.5**
comp=Z,21nm,0.9s,baz=30,slow=9.7,SNR=8.0
PMG LR LR 13 59 41.3
comp=Z,1μm,21.8s,baz=20,slow=32
PMG Port Moresby 53.27 181 *e*P **P 13 40 27.5 +1.0**
KSM Kuching 53.87 229 ⇓P **P 13 40 32.3 +1.2**
KSM Kuching 53.87 229 *e*P **P 13 40 30.8 -0.3**
comp=Z,43nm,1.1s
KSM *e*pP **pP 13 40 46.2 +1.5**
KSM LR LR
comp=Z,931nm,20.0s
KKAR Karatay Array 53.91 298 *e*P **P 13 40 30.4 -0.7**
KKAR pmax pmax
comp=Z,8.0nm,0.5s
KKAR Karatay Array 53.91 298 *e*P **P 13 40 30.4 -0.7**
comp=Z,8.0nm,0.5s
SURA Surathani 54.21 245 P P 13 40 37.5 +3.9
comp=Z,26nm,0.9s,comp=Z,901nm
HOPEN Hopen 54.35 346 *e*P **P 13 40 36.5 +2.8**
ARU Arti 54.36 317 *d i*P **P 13 40 33.0 -1.2**
ARU 13 41 38.7
ARU 13 42 37.3
ARU PPP PPP 13 43 43.6
ARU S **S 13 48 08.2 -0.2**
ARU 13 50 10.9
ARU SSS SSS 13 53 54.6
ARU pmax pmax
comp=Z,28nm,1.7s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 54.36 317 *e*P **P 13 40 31.9 -2.3**
comp=Z,14nm,0.5s
ARU LR LR
comp=Z,2μm,19.0s
HNR Honiara 54.43 165 LR LR 13 59 53.2
comp=Z,1μm,21.4s,baz=342,slow=32
KBS Kingsbay 54.49 350 PFAKE 13 40 50.0 +15
KBS LR LR
comp=Z,867nm,21.0s
RES Resolute Bay 54.50 17 P **P 13 40 33.5 -1.4**
comp=Z,42nm,0.8s,baz=328,slow=9.8,SNR=4.7
SPA0 Spitsbergen Ar 54.51 349 *e*P **P 13 40 33.7 -1.3**
SPITS Spitsbergen Ar 54.51 349 P **P 13 40 34.0 -1.0**
SPITS Spitsbergen Ar 54.51 349 P **P 13 40 34.0 -1.0**
comp=Z,16nm,1.0s,baz=72,slow=8.9,SNR=9.6
LGTI Lohaghat 54.55 279 *e*P **P 13 40 38.4 +2.5**
LGTI *e*S **pP 13 40 51.6 +2.0**
SURT Suratani 54.91 246 P **P 13 40 41.8 +3.2**
comp=Z,11nm,1.2s,comp=Z,268nm
KTGM Kuala Trenggan 54.91 239 ⇑P **P 13 40 40.6 +1.9**
KAPI Kappang 55.00 215 P **P 13 40 40.5 +1.3**
comp=Z,304nm,0.7s,SNR=6.7
KAPI Kappang 55.00 215 *e*P **P 13 40 38.6 -0.6**
comp=Z,181nm,0.8s
KAPI LR LR
comp=Z,948nm,22.0s
YKA Yellowknife Ar 55.27 34 P **P 13 40 41.0 +0.4**
comp=Z,40nm,0.8s,baz=299,slow=6.8,SNR=272
HSPB Hornsund (broa 55.52 348 *e*P **P 13 40 40.0 -2.2**
SMLA Simla 55.77 282 *i* x **P 13 40 44.6 -0.1**
baz=301,slow=28
SMLA *i* P **P 13 40 44.6 -0.1**
PKDT Phuket 56.00 245 P **P 13 40 49.6 +3.1**
comp=Z,63nm,0.9s,comp=Z,11μm
KULM Kulim 56.49 241 ⇓P **P 13 40 51.4 +1.4**
KULM Kulim 56.49 241 *e*P **P 13 40 49.5 -0.5**
comp=Z,40nm,0.9s
IPM Ipoh 56.88 240 ⇓P **P 13 40 55.1 +2.3**
NDI New Delhi 57.15 280 *e*P P 13 40 49.0 -5.6
NDI *e*S4 13 48 43.0
AB31 Akbulak array 57.16 309 P **P 13 40 54.0 -0.3**
AB31 pmax pmax
comp=Z,17nm,0.4s
ABKAR Akbulak array 57.16 309 *e*P **P 13 40 53.6 -0.7**
comp=Z,24nm,0.4s
MYKOM Kota Tinggi 57.28 235 ⇓P **P 13 40 57.1 +1.5**
PRGR Permogore 57.49 326 P **P 13 40 54.6 -1.9**
PRGR *e**PP **pP 13 41 08.3 -1.9**
PRGR pmax pmax
comp=Z,11nm,0.8s
AKTO Aktyubinsk 57.61 311 P **P 13 40 57.8 +0.3**
AKTO pmax pmax
comp=Z,17nm,1.1s
AKTO Aktyubinsk 57.61 311 LR LR 14 09 03.7
comp=Z,899nm,18.7s,slow=40
LVZ Lovozero 57.64 336 PFAKE 13 41 10.0 +13
LVZ LR LR
comp=Z,2μm,22.0s
SOEI Soe 57.68 208 *e*P **P 13 40 55.5 -3.0**
comp=Z,73nm,0.8s
COEN Coen 57.94 185 *e*P **P 13 41 00.6 +0.6**
comp=Z,248nm,0.8s
COEN *e*pP **pP 13 41 15.9 +2.0**
PGC Sidney 58.07 51 *e*P **P 13 41 01.3 +0.6**
comp=Z,1.4nm,0.8s
PGC *e*pP **pP 13 41 15.8 +1.4**
APA Apatity 58.22 336 ⇑*i*P **pP 13 41 15.6 +0.4**
APA *i* S S 13 49 20.0 +21
APA *i* 13 50 48.0
APA *i* SS **SS 13 52 54.0 +3.5**
APA MLR MLR
comp=Z,2μm,20.0s
BATI Baumata 58.31 208 P **P 13 41 02.7 0.0**
comp=Z,21nm,0.7s,baz=215,slow=2.1,SNR=8.6
BATI LR LR 14 05 24.3
comp=Z,518nm,21.0s,slow=35
NLWA Neilton Lookou 58.50 53 *e*P **P 13 41 04.8 +1.0**
comp=Z,46nm,0.8s
NLWA *e*pP **pP 13 41 18.7 +1.1**
KEV Kevo 58.52 339 *e*P **P 13 41 01.7 -1.8**
KEV pmax pmax
comp=Z,3.0nm,0.4s
KEV Kevo 58.52 339 *e*p **P 13 41 01.7 -1.8**
comp=Z,2.8nm,0.4s
KEV Kevo 58.52 339 PFAKE 13 41 20.0 +16
KEV LR LR
comp=Z,1μm,19.0s
TMCR Tamitsa 58.85 331 *e*P **P 13 41 05.1 -0.8**
TMCR *e* 13 41 56.1
TMCR pmax pmax
comp=Z,8.0nm,0.6s
MBW Mount Baker 58.86 51 P **P 13 41 07.0 +0.6**
ARCES ARCESS Array B 59.05 340 P **P 13 41 05.8 -1.4**
comp=Z,1.7nm,0.3s,baz=48,slow=7.3,SNR=43
ARCES LR LR 14 09 26.1
comp=Z,1μm,20.9s,baz=38,slow=39
ARE0 ARCESS Array S 59.05 340 *e*P P 13 41 04.0 -3.3
ARE0 *e*S **S 13 49 09.9 0.0**
KBL Kabul 59.45 290 *e*P **P 13 41 08.7 -2.1**
KBL *e**PP **pP 13 41 25.9 +1.3**
KBL pmax pmax
comp=Z,39nm,0.9s
KBL Kabul 59.45 290 *e*P **P 13 41 08.7 -2.1**
comp=Z,39nm,0.9s
KBL *e*pP **pP 13 41 25.9 +1.3**
PSI Prapat 59.49 241 P **P 13 41 10.0 -1.1**
comp=Z,36nm,0.9s,baz=336,slow=2.5,SNR=14
PSI LR LR 14 06 47.0
comp=Z,646nm,21.8s,baz=38,slow=36
KTK1 Kautokeino 59.99 340 *e*P **P 13 41 13.9 +0.2**
LON Longmire 60.03 53 P **P 13 41 13.3 -1.1**
LON pmax pmax
comp=Z,43nm,1.3s
LON Longmire 60.03 53 P **P 13 41 13.3 -1.1**
comp=Z,43nm,1.3s
G03D McMinnville, O 60.04 55 ⇑P **P 13 41 15.1 +0.7**
baz=60
NLW Nelson Butte 60.12 51 P **P 13 41 15.9 +0.8**
BKNI Bangkinang 60.12 237 *e*P **P 13 41 14.8 -0.6**
comp=Z,258nm,1.0s
KLMR Klimovskoe 60.35 328 *e*P **P 13 41 14.8 -1.5**
KLMR pmax pmax
comp=Z,25nm,1.6s
KLMR MLR MLR
comp=Z,1μm,19.0s
COR Corvallis 60.37 55 *e*P **P 13 41 17.5 +0.8**
COR *e**PP **pP 13 41 31.8 +1.3**
COR pmax pmax
comp=Z,200nm,1.5s
COR Corvallis 60.37 55 *e*P **P 13 41 17.5 +0.8**
comp=Z,200nm,1.5s
COR *e*pP **pP 13 41 31.8 +1.3**
ETW Entiat 60.39 51 P **P 13 41 17.6 +0.7**
KULLO Kullorsuaq 60.42 7 *i* P **P 13 41 15.4 -1.2**
KULLO pmax pmax
comp=Z,15nm,0.9s
KULLO Kullorsuaq 60.42 7 *i* P **P 13 41 15.4 -1.2**
comp=Z,15nm,0.9s
TBM Table Mountain 60.48 52 P **P 13 41 18.4 +0.8**
TRO Tromso 60.54 342 *e*P **P 13 41 16.2 -1.2**
TRO *e*S **S 13 49 29.4 +0.3**
WTV Waterville 60.55 51 P **P 13 41 18.3 +0.3**
EBG Ellensburg 60.65 52 P **P 13 41 19.8 +1.2**
VLL Laurance Lake 60.83 54 P **P 13 41 21.5 +1.6**
I03D Drain, OR 60.84 56 ⇓P **P 13 41 20.6 +0.7**
baz=61
SAW Saint Andrews 60.85 51 P **P 13 41 20.4 +0.4**
EDM Edmonton 60.86 43 *e*P **P 13 41 20.4 +0.5**
EDM *e**PP **pP 13 41 35.0 +1.2**
EDM Edmonton 60.86 43 *e*P **P 13 41 20.4 +0.5**
EDM *e*pP **pP 13 41 35.0 +1.2**
VFP Flag Point 61.03 54 P **P 13 41 22.7 +1.3**
SMRI Semarang 61.03 223 *e*P **P 13 41 22.3 +0.8**
comp=Z,105nm,1.1s
G05D Wamic, OR 61.16 54 ⇓P **P 13 41 22.9 +0.8**
baz=61
I04A Tendick Farm, 61.34 56 ⇓P **P 13 41 24.2 +0.8**
baz=61
OD2 Odessa Site #2 61.41 51 P **P 13 41 24.2 +0.4**
GSI Gunungsitoli 61.50 241 *e*P **P 13 41 24.9 +0.2**
comp=Z,44nm,0.8s
HAWA Hanford 61.53 52 *e*P **P 13 41 24.0 -0.5**
comp=Z,84nm,1.4s
HAWA *e*pP **pP 13 41 39.5 +1.1**
HAWA LR LR
comp=Z,1μm,21.0s
L02D Cave Junction, 61.56 58 ⇓P **P 13 41 26.1 +1.2**
baz=61
I05D Terrebonne, OR 61.66 55 ⇓P **P 13 41 26.4 +0.8**
baz=61
HUMO Hull Mountain 61.70 57 *e*P **P 13 41 23.1 -2.7**
comp=Z,8.8nm,0.6s
NEW Newport 61.78 49 *e*P **P 13 41 24.8 -1.5**
NEW *e**PP **pP 13 41 41.9 +1.7**
NEW pmax pmax
comp=Z,83nm,1.2s
NEW Newport 61.78 49 ⇓P **P 13 41 26.9 +0.6**
baz=62,SNR=44
NEW Newport 61.78 49 *e*P **P 13 41 24.8 -1.5**
comp=Z,82nm,1.2s
NEW *e*pP **pP 13 41 41.9 +1.7**
J04D Umpqua Nationa 61.84 56 ⇑P **P 13 41 27.4 +0.4**
baz=62
JOF Joensuu 61.96 332 *e*P **P 13 41 25.6 -1.5**
JOF pmax pmax
comp=Z,9.0nm,0.5s
JOF Joensuu 61.96 332 *e*p **P 13 41 25.6 -1.5**
comp=Z,9.2nm,0.5s
KHMM Horse Mountain 62.22 59 *e*P **P 13 41 29.5 0.0**
comp=Z,85nm,1.2s
PINOR Pine Mountain 62.24 55 *e*P **P 13 41 30.1 +0.8**
J05D Fort Rock, OR 62.34 56 ⇓P **P 13 41 30.6 +0.4**
baz=62
YBH Yreka Blue Hor 62.35 58 *e*P **P 13 41 30.9 +0.7**
YBH *e**PP **pP 13 41 46.2 +2.0**
YBH pmax pmax
comp=Z,18nm,0.8s
YBH Yreka Blue Hor 62.35 58 *e*P **P 13 41 30.9 +0.7**
comp=Z,18nm,0.8s
YBH *e*pP **pP 13 41 46.1 +2.0**
K04D Chiloquin, OR 62.41 56 ⇓P **P 13 41 31.5 +0.8**
baz=62
M02C Callahan 62.46 58 ⇑P **P 13 41 31.6 +0.6**
baz=62
N02D Trinity Center 62.80 58 ⇓P **P 13 41 34.3 +1.1**
baz=63
M04C Macdoel 62.85 57 ⇓P **P 13 41 34.6 +1.0**
baz=63
KCPM Cabto Peak 63.01 60 *e*P **P 13 41 35.5 +0.7**
comp=Z,20nm,0.7s
WALA Waterton Lakes 63.03 47 *e*P **P 13 41 33.8 -0.9**
comp=Z,1.3nm,0.9s
WALA *e*pP **pP 13 41 50.2 +1.6**
WDC Whiskeytown Da 63.13 59 *e*P **P 13 41 34.9 -0.4**
WDC pmax pmax
comp=Z,17nm,0.8s
WDC Whiskeytown Da 63.13 59 *e*P **P 13 41 34.9 -0.4**
comp=Z,17nm,0.8s
HYB Hyderabad 63.20 269 *i* P **P 13 41 35.0 -1.1**
comp=Z,80nm,1.0s
BSMT Bassoo Peak 63.29 48 *e*P **P 13 41 37.1 +0.6**
comp=Z,73nm,1.3s
BLMT Blacktail Moun 63.42 48 *e*P **P 13 41 38.6 +1.2**
comp=Z,61nm,0.9s
SUMG Summit 63.53 2 *i* P **P 13 41 37.6 -0.4**
SUMG pmax pmax
comp=Z,46nm,0.9s
SUMG Summit 63.53 2 *i* P **P 13 41 37.6 -0.4**
comp=Z,46nm,0.9s
SUMG Summit 63.53 2 *e*P **P 13 41 36.6 -1.3**
comp=Z,56nm,1.0s
JTMT Jette 63.63 48 *e*P **P 13 41 39.1 +0.4**
comp=Z,28nm,0.9s
BMO Blue Mountains 63.70 52 *e*P **P 13 41 39.4 +0.3**
comp=Z,24nm,1.1s
BMO LR LR
comp=Z,904nm,22.0s
YBMT Yellow Bay 63.70 48 *e*P **P 13 41 40.0 +0.9**
comp=Z,35nm,0.9s
MOD Modoc Plateau 63.71 56 *e*P **P 13 41 38.9 -0.4**
comp=Z,19nm,0.7s
MOD *e*pP **pP 13 41 54.5 +1.3**
CTA Charters Tower 63.90 182 P **P 13 41 40.7 +0.2**
comp=Z,7.1nm,0.7s,baz=5.2,slow=8.3,SNR=17
CTA LR LR 14 05 18.3
comp=Z,927nm,21.6s,slow=32
CTAO Charters Tower 63.90 182 *e*P **P 13 41 40.4 0.0**
CTAO pmax pmax
comp=Z,27nm,1.2s
CTAO MLR MLR
comp=Z,1μm,21.0s
CTAO Charters Tower 63.90 182 *e*P **P 13 41 40.4 0.0**
comp=Z,27nm,1.2s
CTAO LR LR
comp=Z,1μm,21.0s
SWMT Swartz Lake 63.92 48 *e*P **P 13 41 41.5 +0.9**
comp=Z,89nm,1.2s
SWMT *e*pP **pP 13 41 55.7 +1.2**
KAF Kangasniemi 64.17 334 *e*P **P 13 41 40.4 -1.4**
KAF pmax pmax
comp=Z,5.0nm,0.4s
KAF Kangasniemi 64.17 334 *e*p **P 13 41 40.4 -1.4**
comp=Z,4.7nm,0.4s
MOR8 Moi Rana 64.33 341 *e*P P 13 41 39.4 -3.4
MOR8 IAmb IAmb 13 41 44.8
comp=Z,24nm,0.7s
SLMT Seeley Lake 64.36 48 *e*P **P 13 41 44.2 +0.7**
comp=Z,195nm,1.3s
SLMT *e*pP **pP 13 41 59.0 +1.5**
MSO Missoula 64.37 49 ⇓P **P 13 41 44.2 +0.7**
baz=64,SNR=51
WVOR Wild Horse Val 64.38 55 *e*P **P 13 41 44.3 +0.6**
WVOR *e**PP **pP 13 41 58.6 +1.0**
WVOR pmax pmax
comp=Z,37nm,1.0s
WVOR Wild Horse Val 64.38 55 *e*P **P 13 41 44.3 +0.6**
comp=Z,37nm,1.0s
WVOR *e*pP **pP 13 41 58.6 +1.0**
ABKT Ailbek 64.62 299 P **P 13 41 45.3 +0.1**
comp=Z,136nm,0.5s,SNR=5.0
GEYT Alibeck 64.62 299 P **P 13 41 44.2 -1.0**
comp=Z,7.8nm,0.4s,baz=60,slow=3.2,SNR=18
GEYT LR LR 14 12 31.5
comp=Z,2μm,18.1s,baz=50,slow=38
CHMT Chamberlain Mo 64.69 48 *e*P **P 13 41 46.0 +0.3**
comp=Z,16nm,0.8s
FINES FINESS Array B 64.74 333 P **P 13 41 44.0 -1.5**
FINES FINESS Array B 64.74 333 P **P 13 41 44.0 -1.5**
comp=Z,12nm,0.6s,baz=46,slow=6.5,SNR=95
FINES LR LR 14 13 06.2
comp=Z,2μm,18.8s,baz=44,slow=39
WRAB Tennant Creek 64.90 194 P **P 13 41 47.5 +0.5**
comp=Z,496nm,1.0s,SNR=19
WRAB Tennant Creek 64.90 194 *c e*P **P 13 41 47.4 +0.5**
WRAB pmax pmax
comp=Z,270nm,1.2s
WRAB MLR MLR
comp=Z,573nm,16.0s
WRAB Tennant Creek 64.90 194 *e*P **P 13 41 47.2 +0.2**
comp=Z,129nm,1.1s
WRAB *e*pP **pP 13 42 03.0 +2.0**
WB2 Warramunga Arr 64.91 194 *e*P **P 13 41 46.4 -0.7**
WRA Warramunga Arr 64.91 194 P **P 13 41 46.9 -0.1**
comp=Z,61nm,0.9s,baz=10,slow=6.8,SNR=108
WRA pP **pP 13 41 59.9 -1.1**
comp=Z,83nm,1.0s,baz=11,slow=6.8,SNR=19
WRA PP **PP 13 44 10.9 +0.2**
comp=Z,1.6nm,0.7s,baz=24,slow=7.3,SNR=4.5
WRA LR LR 14 07 38.4
comp=Z,557nm,21.9s,baz=0.0,slow=34
WRA PKPPKP P'P'df 14 10 35.4 +9.2
comp=Z,1.7nm,0.9s,baz=200,slow=2.6,SNR=9.8
FFC Flin Flon 65.16 37 P **P 13 41 49.0 +0.6**
comp=Z,690nm,0.8s,SNR=61
FFC Flin Flon 65.16 37 *e*P **P 13 41 49.0 +0.6**
FFC *e**PP **pP 13 42 03.5 +1.1**
FFC pmax pmax
comp=Z,128nm,0.9s
FFC MLR MLR
comp=Z,1μm,22.0s
FFC Flin Flon 65.16 37 *e*P **P 13 41 48.9 +0.6**
FFC Flin Flon 65.16 37 *e*P **P 13 41 49.0 +0.6**
comp=Z,128nm,0.9s
FFC *e*pP **pP 13 42 03.5 +1.1**
FFC LR LR
comp=Z,1μm,22.0s
OBN Obninsk 65.27 324 P **P 13 41 48.8 -0.2**
OBN *i* S **S 13 50 32.2 +3.7**
OBN pmax pmax
comp=Z,16nm,1.5s
OBN MLR MLR
comp=Z,1μm,16.0s
OBN Obninsk 65.27 324 P **P 13 41 47.5 -1.6**
comp=Z,9.8nm,0.4s,baz=150,slow=21,SNR=2.3
OBN Obninsk 65.27 324 *e*P **P 13 41 48.8 -0.2**
MFID Camas Ranch 65.41 53 *e*P **P 13 41 51.0 +0.6**
comp=Z,18nm,0.8s
MFID *e*pP **pP 13 42 06.0 +1.6**
FCC Fort Churchill 65.50 30 *e*P **P 13 41 50.6 +0.1**
FCC Fort Churchill 65.50 30 *e*P **P 13 41 50.6 +0.1**
comp=Z,1.1nm,0.6s
HRY Holter Researc 65.58 48 *e*P **P 13 41 52.5 +1.1**
comp=Z,49nm,0.8s
HRY *e*pP **pP 13 42 06.6 +1.2**
VRHR Novokhopersk 65.64 318 *e*P **P 13 41 49.3 -2.2**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR MLR MLR
comp=N,770nm,17.0s
VRHR MLR MLR
comp=Z,2μm,17.0s
VRHR MLR MLR
comp=E,2μm,22.0s
A19A Klindworth Far 65.78 45 ⇑P **P 13 41 53.1 +0.5**
baz=66,SNR=36
LRM Limekiln Ridge 65.80 49 *e*P **P 13 41 53.7 +0.6**
comp=E,449nm,0.8s
LRM *e*pP **pP 13 42 08.2 +1.1**
EGMT Eagleton 65.84 46 ⇓P **P 13 41 53.6 +0.6**
baz=66,SNR=51
EGMT Eagleton 65.84 46 *e*P **P 13 41 53.8 +0.7**
comp=E,66nm,0.8s
EGMT LR LR
comp=Z,1μm,19.0s
B19A Brinkman Farms 65.98 45 ⇓P **P 13 41 54.6 +0.7**
baz=66,SNR=15
CMB Columbia Colle 66.00 60 *e*P **P 13 41 54.6 +0.4**
CMB *e**PP **pP 13 42 09.8 +1.6**
CMB pmax pmax
comp=Z,27nm,0.8s
CMB Columbia Colle 66.00 60 *e*P **P 13 41 54.6 +0.4**
comp=Z,27nm,0.8s
CMB *e*pP **pP 13 42 09.8 +1.6**
SAO San Andreas Ge 66.11 61 P **P 13 41 53.2 -1.6**
SAO pmax pmax
comp=Z,13nm,0.7s
SAO San Andreas Ge 66.11 61 P **P 13 41 53.2 -1.6**
comp=Z,12nm,0.7s
HLID Hailey 66.13 52 ⇑P **P 13 41 55.7 +0.6**
baz=66,SNR=39
HLID Hailey 66.13 52 *e*P **P 13 41 55.2 +0.2**
comp=Z,16nm,0.9s
HLID *e*pP **pP 13 42 11.5 +2.4**
HLID LR LR
comp=Z,781nm,21.0s
ILULI Ilulissat 66.14 7 *e*P **P 13 41 51.3 -3.1**
ILULI pmax pmax
comp=Z,22nm,0.8s
ILULI Ilulissat 66.14 7 *i* P **P 13 41 51.3 -3.1**
comp=Z,22nm,0.8s
MCMT McKenzie Canyo 66.21 50 *e*P **P 13 41 55.5 -0.2**
comp=Z,8.4nm,1.0s
MCMT *e*pP **pP 13 42 09.8 +0.1**
A20A Cobblestone Ra 66.22 44 ⇑P **P 13 41 56.4 +1.0**
baz=66,SNR=40
NSS Namsos 66.28 341 *e*P **P 13 41 54.4 -0.9**
NSS IAMs_20 IAMs_20 14 12 28.9
comp=Z,3μm,19.5s
WAKR Walker 66.29 59 *e*P **P 13 41 57.3 +1.1**
comp=Z,30nm,0.8s
BOZ Bozeman (W) 66.36 49 *e*P **P 13 41 57.3 +0.8**
BOZ pmax pmax
comp=Z,65nm,0.8s
BOZ MLR MLR
comp=Z,944nm,21.0s
BOZ Bozeman (W) 66.36 49 *e*P **P 13 41 57.3 +0.8**
comp=Z,65nm,0.8s
BOZ LR LR
comp=Z,944nm,21.0s

XMIS	Christmas Isla	66.39	226	eP	P	13 41 54.6	-2.1
	comp=Z,459nm,0.9s						
C19A	Slack Wire Ran	66.39	46	⇓P	P	13 41 57.7	+1.1
	baz=66,SNR=46						
BMN	Battle Mountai	66.44	56	eP	P	13 41 58.0	+0.9
BMN				e*PP	pP	13 42 12.2	+1.0
BMN				pmax	pmax		
	comp=Z,18nm,0.6s						
BMN	Battle Mountai	66.44	56	eP	P	13 41 58.0	+0.9
	comp=Z,18nm,0.6s						
BMN				epP	pP	13 42 12.2	+1.0
B20A	Solberg Farm,	66.46	45	⇓P	P	13 41 57.5	+0.5
	baz=66,SNR=18						
A21A	Bergtoll Ranch	66.65	44	⇓P	P	13 41 59.3	+1.1
	baz=66,SNR=59						
VSU	Vasula	66.72	331	P	P	13 41 59.0	+0.7
VSU				pmax	pmax		
	comp=Z,33nm,0.9s						
VSR	Storozhevoye	66.72	320	eP	P	13 41 57.1	-1.4
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
VSR				MLR	MLR		
	comp=Z,1µm,17.0s						
VSR				MLR	MLR		
	comp=N,2µm,23.0s						
VSR				MLR	MLR		
	comp=E,880nm,18.0s						
D19A	Cripps Ranch,	66.85	46	⇑P	P	13 42 00.3	+0.8
	baz=67,SNR=25						
C20A	Veseth Ranch,	66.94	45	⇓P	P	13 42 01.0	+0.9
	baz=67,SNR=53						
B21A	Ellsworth Farm	66.98	44	⇑P	P	13 42 01.1	+0.9
	baz=67						
QLMT	Earthquake Lak	66.99	49	eP	P	13 42 01.4	+0.9
	comp=E,7.9nm,1.3s						
NVAR	Mina Array Bea	67.04	58	P	P	13 42 01.0	0.0
	comp=E,53nm,0.9s,baz=289,slow=6.8,SNR=197						
NVAR				pP	pP	13 42 15.3	+0.3
	comp=E,20nm,0.6s,baz=301,slow=6.9,SNR=10						
NV11	Mina Array Sit	67.13	58	eP	P	13 42 00.6	-0.9
A22A	Carney Farms,	67.15	43	⇑P	P	13 42 02.0	+0.7
	baz=67,SNR=50						
MLAC	Mammoth, Mammo	67.21	59	⇑P	P	13 42 03.4	+1.3
	baz=67,SNR=14						
D20A	Manuel Ranch,	67.28	46	⇓P	P	13 42 02.9	+0.7
	baz=67						
YMR	Madison River	67.35	49	eP	P	13 42 02.6	-0.3
	comp=E,47nm,0.8s						
YMR				epP	pP	13 42 18.2	+1.2
E19A	Rath Farm, Rou	67.35	47	⇑P	P	13 42 03.7	+1.0
	baz=67,SNR=31						
YNR	Norris Junctio	67.47	49	eP	P	13 42 03.7	0.0
	comp=E,44nm,1.0s						
YFT	Old Faithful	67.56	49	eP	P	13 42 04.6	+0.3
	comp=E,46nm,0.9s						
B22A	Reddig Ranch S	67.57	44	⇓P	P	13 42 04.1	+0.1
	baz=67,SNR=6.4						
F19A	Roth Farm, Mol	67.67	47	⇓P	P	13 42 05.6	+0.9
	baz=67,SNR=61						
E20A	Meyer Farm, Mu	67.67	46	⇓P	P	13 42 05.1	+0.4
	baz=67						
A23A	Redstone	67.69	43	⇓P	P	13 42 05.3	+0.6
	baz=67,SNR=20						
H17A	Grant Village	67.74	49	⇓P	P	13 42 06.8	+1.5
	baz=68,SNR=45						
H17A	Grant Village	67.74	49	P	P	13 42 06.3	+1.0
	comp=E,40nm,0.9s						
RCTC	Rector, Farmer	67.78	61	⇑P	P	13 42 06.5	+1.1
	baz=68						
MAK	Makhachkala	67.84	309	eP	P	13 42 04.0	-1.6
MAK				e*PP	pP	13 42 19.6	-0.1
MAK				e		13 42 32.1	
MAK				e		13 44 36.7	
MAK				eS	S	13 50 57.5	-2.5
MAK				e		13 51 57.6	
MAK				pmax	pmax		
	comp=Z,60nm,3.5s						
D21A	La Casta Ranch	67.89	45	⇑P	P	13 42 06.5	+0.5
	baz=68,SNR=40						
TPH	Tonopah	67.92	58	eP	P	13 42 07.3	+0.8
TPH				pmax	pmax		
	comp=Z,55nm,0.8s						
TPH	Tonopah	67.92	58	eP	P	13 42 07.3	+0.8
	comp=Z,54nm,0.8s						
SMMC	Simmler	67.93	62	⇓P	P	13 42 07.5	+1.0
	baz=68						
TIN	Tinemaha, Big	67.95	59	⇑P	P	13 42 08.0	+1.4
	baz=68,SNR=8.0						
B23A	Brockton	67.96	43	⇑P	P	13 42 06.9	+0.5
	baz=68,SNR=62						
RLMT	Red Lodge	67.97	48	eP	P	13 42 06.8	0.0
	comp=Z,49nm,1.3s						
C22A	Vida	68.00	44	⇓P	P	13 42 07.4	+0.7
	baz=68,SNR=13						
I17A	Pilgrim Ck.	68.05	50	⇓P	P	13 42 09.3	+2.0
	baz=68,SNR=61						
H18A	Shoshone NF, C	68.05	49	⇑P	P	13 42 08.2	+0.9
	baz=68,SNR=26						
F20A	Billings	68.12	47	⇓P	P	13 42 07.7	+0.2
	baz=68,SNR=7.2						
A24A	Westby	68.14	42	⇓P	P	13 42 08.4	+0.9
	baz=68,SNR=28						
VES	Vestal, Richgr	68.18	61	⇑P	P	13 42 08.1	+0.1
	baz=68,SNR=12						
HVU	Hansel Valley	68.19	53	P	P	13 42 07.3	-0.8
HVU				pmax	pmax		
	comp=Z,31nm,0.9s						
HVU	Hansel Valley	68.19	53	P	P	13 42 07.3	-0.8
	comp=Z,31nm,0.9s						
D22A	Cohagen	68.25	45	⇓P	P	13 42 09.0	+0.7
	baz=68,SNR=21						
C23A	Lambert	68.31	44	⇑P	P	13 42 09.1	+0.5
	baz=68,SNR=16						
SFJD	Kangerlussuaq	68.34	8	iP	P	13 42 07.2	-1.2
	comp=Z,15nm,0.9s						
SFJD	Kangerlussuaq	68.34	8	P	P	13 42 07.5	-0.9
	comp=Z,18nm,0.9s,baz=356,slow=5.5,SNR=8.7						
DGMT	Dagmar	68.35	43	⇓P	P	13 42 09.1	+0.3
	baz=68						
DGMT	Dagmar	68.35	43	eP	P	13 42 08.7	-0.2
	comp=Z,70nm,0.6s						
DGMT				epP	pP	13 42 23.8	+0.9
DGMT				LR	LR		
	comp=Z,2µm,21.0s						
H19A	Powell	68.42	48	⇑P	P	13 42 10.0	+0.5
	baz=68,SNR=6.3						
G20A	Bridger	68.47	47	⇑P	P	13 42 10.0	+0.2
	baz=68,SNR=15						
AHID	Auburn Hatcher	68.50	51	eP	P	13 42 09.9	-0.3
	comp=Z,23nm,0.9s						
AHID				LR	LR		
	comp=Z,940nm,19.0s						
GRAC	Grapevine Rang	68.51	59	⇑P	P	13 42 11.2	+1.2
	baz=68,SNR=95						
PALK	Pallekele	68.52	259	eP	P	13 42 10.3	-0.1
PALK	Pallekele	68.52	259	P	P	13 42 09.0	-1.3
	comp=Z,36nm,0.9s,baz=46,slow=5.6,SNR=8.2						
PALK	Pallekele	68.52	259	⇑iP	P	13 42 11.3	+0.9
	SNR=6.8						
PALK	Pallekele	68.52	259	eP	P	13 42 10.3	-0.1
LAO	LASA Array	68.53	45	eP	P	13 42 10.3	+0.2
	comp=Z,65nm,0.9s						
LAO				epP	pP	13 42 25.4	+1.2
A25A	Svangstu Ranch	68.56	42	⇓P	P	13 42 10.9	+0.8
	baz=68,SNR=12						
BGU	Big Grassy Mou	68.60	53	eP	P	13 42 10.0	-0.7
	comp=Z,6.3nm,1.0s						
AS31	Alice Springs	68.62	194	eP	P	13 42 11.5	+0.8
ASAR	Alice Springs	68.63	194	P	P	13 42 10.4	-0.3
	comp=Z,14nm,0.7s,baz=10,slow=5.6,SNR=62						
ASAR				pP	pP	13 42 24.8	-0.1
	comp=Z,26nm,1.0s,baz=9.9,slow=5.9,SNR=13						
ASAR				PKPPKP	P'P'df	14 10 26.2	+6.1
	comp=Z,1.6nm,1.0s,baz=189,slow=3.9,SNR=9.0						
ASAR				LR	LR	14 10 49.6	
	comp=Z,461nm,22.0s,baz=20,slow=35						
F21A	Absaloka Mine,	68.64	46	⇑P	P	13 42 11.5	+0.7
	baz=68						
SBC	Santa Barbara	68.66	62	⇑P	P	13 42 12.0	+1.0
	baz=68						
SPUT	South Promonto	68.69	53	P	P	13 42 09.2	-2.0
	comp=Z,290nm,2.1s						
D23A	Lindsay	68.72	44	⇓P	P	13 42 12.1	+0.9
	baz=68,SNR=26						
R11A	Troy Canyon, C	68.74	57	⇓P	P	13 42 12.4	+0.7
	baz=68,SNR=74						
R11A	Troy Canyon, C	68.74	57	eP	P	13 42 11.6	-0.1
	comp=Z,28nm,0.9s						
R11A				epP	pP	13 42 27.1	+1.3
ARVC	Arvin	68.79	61	⇓P	P	13 42 12.3	+0.5
	baz=69,SNR=7.0						
I19A	Meeteetse	68.83	49	⇓P	P	13 42 13.2	+1.0
	baz=69,SNR=18						
DAC	Darwin (Calif)	68.83	60	eP	P	13 42 11.6	-0.7
DAC				e*PP	pP	13 42 26.5	+0.1
DAC				pmax	pmax		
	comp=Z,20nm,0.9s						
DAC	Darwin (Calif)	68.83	60	eP	P	13 42 11.6	-0.7
	comp=Z,20nm,0.9s						
DAC				epP	pP	13 42 26.5	+0.1
E22A	Miles City	68.84	45	⇑P	P	13 42 12.7	+0.7
	baz=69,SNR=12						
C24A	Savage	68.87	44	⇑P	P	13 42 13.1	+0.9
	baz=69,SNR=14						
GOF	Gofitskoye	68.90	313	eP	P	13 42 13.0	+0.7
GOF				pmax	pmax		
	comp=Z,81nm,1.2s						
B25A	Knox Farm, Ray	68.99	43	⇑P	P	13 42 13.4	+0.6
	baz=69,SNR=11						
BSC	Santa Cruz Isl	69.00	63	⇓P	P	13 42 13.7	+0.5
	baz=69						
G21A	Lodge Grass	69.00	47	⇑P	P	13 42 13.0	0.0
	baz=69						
MPMC	Manual Prospec	69.04	60	⇓P	P	13 42 13.8	+0.2
	baz=69						
H20A	Greybull	69.07	48	⇑P	P	13 42 13.9	+0.4
	baz=69,SNR=6.6						
IDID	Didziasalis	69.07	328	eP	P	13 42 12.2	-0.9
IDID				AMB	AMB	13 42 51.2	
	comp=Z,14nm,1.4s						
A26A	Wade Farm, Ken	69.10	42	⇑P	P	13 42 14.1	+0.6
	baz=69,SNR=25						
ISAL	Salakas	69.11	329	eP	P	13 42 12.3	-1.1
ISAL				AMB	AMB	13 42 51.4	
	comp=Z,16nm,1.1s						
F22A	Rosebud	69.12	46	⇓P	P	13 42 14.4	+0.6
	baz=69,SNR=22						
E23A	Ismay	69.13	45	⇓P	P	13 42 14.7	+0.9
	baz=69,SNR=20						
FURC	Furnace Creek,	69.17	59	⇑P	P	13 42 15.2	+1.1
	baz=69,SNR=75						
OSI	Osito Audit: C	69.18	62	⇑P	P	13 42 15.2	+0.8
	baz=69,SNR=8.2						
OSI	Osito Audit: C	69.18	62	eP	P	13 42 15.1	+0.8
	comp=Z,53nm,0.7s						
OSI				epP	pP	13 42 29.8	+1.4
DUG	Dugway, Tooele	69.20	54	eP	P	13 42 14.7	+0.3
DUG				pmax	pmax		
	comp=Z,44nm,0.9s						
DUG				MLR	MLR		
	comp=Z,607nm,20.0s						
DUG	Dugway, Tooele	69.20	54	⇓P	P	13 42 15.3	+0.9
	baz=69,SNR=55						
DUG	Dugway, Tooele	69.20	54	eP	P	13 42 14.7	+0.3
	comp=Z,44nm,0.9s						
DUG				LR	LR		
	comp=Z,607nm,20.0s						
D24A	Glendive	69.20	44	⇓P	P	13 42 15.2	+1.0
	baz=69,SNR=38						
EIDS	Eidsvold	69.21	177	eP	P	13 42 13.9	-0.4
	comp=Z,21nm,1.1s						
IIGN	Ignalina	69.24	329	eP	P	13 42 13.2	-1.0
IIGN				AMB	AMB	13 42 51.7	
	comp=Z,11nm,0.9s						
MICGM	Minsk	69.24	327	eP	P	13 42 07.0	-7.2
MNK	Minsk	69.26	327	eP	P	13 42 07.0	-7.3
LRMC	Laurel Mtn Rad	69.28	60	⇓P	P	13 42 15.7	+0.7
	baz=69,SNR=11						
J19A	Crowheart	69.31	49	⇑P	P	13 42 16.3	+1.1
	baz=69,SNR=41						
C25A	Freed Ranch, W	69.33	43	⇓P	P	13 42 16.0	+1.0
	baz=69						
I20A	Worland	69.36	48	⇑P	P	13 42 16.5	+1.2
	baz=69,SNR=23						
BW06	Boulder Array	69.36	50	eP	P	13 42 16.0	+0.5
	comp=Z,18nm,0.7s						
BW06				LR	LR		
	comp=Z,1µm,21.0s						
PDAR	Pinedale Array	69.36	50	P	P	13 42 15.9	+0.4
	comp=Z,18nm,0.8s,baz=264,slow=1.8,SNR=127						
PDAR				pP	pP	13 42 29.7	+0.1
	comp=Z,18nm,0.7s,baz=265,slow=1.5,SNR=13						
PDAR				LR	LR	14 13 33.4	
	comp=Z,384nm,20.3s,baz=332,slow=37						
B26A	Jensen Ranch,	69.37	42	⇑P	P	13 42 16.3	+1.1
	baz=69,SNR=20						
NACGM	Naroch	69.37	328	e	P	13 42 17.0	+2.0
TCUT	Toone Canyon	69.41	52	eP	P	13 42 16.3	+0.4
	comp=Z,60nm,0.9s						
NB2	NORSAR Subarra	69.41	339	P	P	13 42 14.1	-1.1
	comp=Z,10nm,0.7s,baz=31,slow=6.5						
NB2	NORSAR Subarra	69.41	339	P	P	13 42 14.1	-1.1
	baz=31,slow=6.5						
NOA	NORSAR Array B	69.41	339	P	P	13 42 13.5	-1.7
	comp=Z,11nm,0.7s,baz=31,slow=6.6,SNR=48						
NOA				LR	LR	14 17 33.5	
	comp=Z,1µm,18.9s,baz=55,slow=40						
A27A	Ledoux Ranch,	69.44	41	⇓P	P	13 42 16.6	+1.0
	baz=69						
EDW2	Edwards Air Fo	69.48	61	⇓P	P	13 42 16.9	+0.7
	baz=69,SNR=35						
G22A	Birney	69.48	47	⇑P	P	13 42 16.7	+0.7
	baz=69,SNR=13						
H21A	Big Horn, Sher	69.48	47	⇓P	P	13 42 16.9	+0.8
	baz=69,SNR=32						
CTU	Camp Tracy	69.49	53	eP	P	13 42 15.7	-0.6
	comp=Z,50nm,1.3s						
CTU				epP	pP	13 42 29.2	-1.1
HFS	Hagfors	69.51	337	P	P	13 42 14.5	-1.3
	comp=Z,11nm,0.4s,baz=51,slow=5.9,SNR=106						
NC602	NORSAR Array S	69.59	339	eP	P	13 42 13.4	-2.8
NC602				eS	S	13 51 20.0	-0.3
E24A	Baker	69.59	44	⇑P	P	13 42 17.2	+0.6
	baz=69,SNR=10						
F23A	Volborg	69.60	46	⇓P	P	13 42 17.4	+0.7
	baz=69,SNR=37						
DECC	Green Verdugo	69.67	62	⇓P	P	13 42 17.8	+0.6
	baz=70						
D25A	Fairfield	69.68	43	⇑P	P	13 42 18.2	+1.0
	baz=69,SNR=8.8						
JLU	Jordanelle	69.72	53	eP	P	13 42 17.5	-0.3
	comp=Z,38nm,1.2s						
J20A	Shoshoni	69.78	49	⇑P	P	13 42 18.9	+1.0
	baz=70,SNR=50						
NLU	North Lily Min	69.78	54	eP	P	13 42 17.5	-0.6
	comp=Z,40nm,1.0s						
PASC	Pasadena Art C	69.81	62	eP	P	13 42 16.2	-1.9
	comp=Z,18nm,0.9s						
B27A	Peters Farms,	69.82	42	⇑P	P	13 42 18.9	+1.0
	baz=70,SNR=6.4						
C26A	Wahner Farm, P	69.82	42	⇓P	P	13 42 18.7	+0.8
	baz=70,SNR=38						
KIV	Kislovodsk	69.83	312	P	P	13 42 18.8	+0.6
	comp=Z,421nm,0.6s,SNR=8.6						
KIV	Kislovodsk	69.83	312	ciP	P	13 42 18.4	+0.2
KIV				i		13 42 44.4	
KIV				pmax	pmax		
	comp=Z,70nm,1.0s						
KIV				MLR	MLR		
	comp=Z,1µm,21.0s						
KIV	Kislovodsk	69.83	312	eP	P	13 42 18.9	+0.7
KIV	Kislovodsk	69.83	312	⇑iP	P	13 42 18.6	+0.5
	SNR=5.5						
KIV	Kislovodsk	69.83	312	eP	P	13 42 17.3	-0.8
	comp=Z,68nm,0.8s						
KIV				epP	pP	13 42 28.6	-3.6
KIV				LR	LR		
	comp=Z,1µm,20.0s						
MBWA	Marble Bar	69.83	208	eP	P	13 42 17.3	-0.9
	comp=Z,41nm,1.1s						
GUDG	Gudauri	69.85	310	P	P	13 42 18.7	+0.2
MWC	Mount Wilson	69.86	62	eP	P	13 42 17.8	-0.8
MWC				pmax	pmax		
	comp=Z,29nm,1.0s						
MWC	Mount Wilson	69.86	62	eP	P	13 42 17.8	-0.8
	comp=Z,29nm,1.0s						
KBZ	Khabaz	69.87	312	P	P	13 42 17.8	-0.4
	comp=Z,16nm,0.4s,baz=87,slow=3.4,SNR=49						
KBZ				LR	LR	14 17 40.8	
	comp=Z,1µm,19.4s,baz=40,slow=40						
H22A	Clearmont	69.87	47	⇓P	P	13 42 19.4	+1.0
	baz=70,SNR=9.7						
SHOC	Shoshone, Teco	69.89	59	⇑P	P	13 42 19.5	+0.9
	baz=70,SNR=24						
I21A	Big Trails, Te	69.90	48	⇓P	P	13 42 19.4	+0.7
	baz=70,SNR=45						
A28A	Rude Farm, Bot	69.93	41	⇑P	P	13 42 19.5	+0.9
	baz=70,SNR=31						
GSC	Goldstone, Bar	69.95	60	eP	P	13 42 18.3	-0.8
GSC				pmax	pmax		
	comp=Z,27nm,0.8s						
GSC	Goldstone, Bar	69.95	60	⇑P	P	13 42 19.9	+0.8
	baz=70,SNR=36						
GSC	Goldstone, Bar	69.95	60	eP	P	13 42 18.2	-0.8
	comp=Z,27nm,0.8s						
ZEI	Tsey	69.95	310	eP	P	13 42 17.5	-1.6
ZEI				pmax	pmax		
	comp=Z,23nm,0.6s						
DAU	Daniels Canyon	69.95	53	P	P	13 42 17.9	-1.4
DAU				pmax	pmax		
	comp=Z,22nm,0.7s						
DAU	Daniels Canyon	69.95	53	P	P	13 42 17.9	-1.4
	comp=Z,22nm,0.7s						
G23A	Biddle	69.96	46	⇑P	P	13 42 19.6	+0.6
	baz=70,SNR=20						
MPU	Maple Canyon	70.00	53	P	P	13 42 17.0	-2.4
	comp=Z,104nm,1.3s						
F24A	Ekalaka	70.01	45	⇑P	P	13 42 19.8	+0.6
	baz=70,SNR=50						
DGRG	David-gareji	70.02	309	P	P	13 42 19.8	+0.5
FMP	Fort Macarthur	70.03	62	⇓P	P	13 42 20.4	+0.9
	baz=70						
E25A	Miller Ranch,	70.09	44	⇑P	P	13 42 20.3	+0.6
	baz=70,SNR=30						
BFSC	Mount Baldy Ra	70.10	61	⇑P	P	13 42 20.7	+0.7
	baz=70,SNR=29						
RRX	Edison Barstow	70.10	61	⇓P	P	13 42 21.0	+1.1
	baz=70						
J21A	Lysite	70.13	49	⇑P	P	13 42 20.8	+0.6
	baz=70,SNR=16						
CIS	Catalina Islan	70.16	63	⇓P	P	13 42 20.8	+0.5
	baz=70,SNR=6.3						
C27A	Sayler Ranch,	70.18	42	⇓P	P	13 42 21.0	+0.8
	baz=70,SNR=30						
SHPR	Sheep Range	70.19	58	eP	P	13 42 20.3	-0.3
	comp=Z,30nm,0.8s						
D26A	Manning	70.20	43	⇑P	P	13 42 20.8	+0.5
	baz=70,SNR=21						
B28A	Dugan Ranch, T	70.21	41	⇓P	P	13 42 21.0	+0.7
	baz=70,SNR=55						
I22A	9 Mile Ranch,	70.28	48	⇓P	P	13 42 21.7	+0.8
	baz=70,SNR=38						
ONI	Oni	70.33	311	P	P	13 42 22.5	+1.3
SCI	San Clemente I	70.34	63	⇑P	P	13 42 22.5	+1.1
	baz=70						
G24A	Alzada	70.38	45	⇓P	P	13 42 21.9	+0.3
	baz=70,SNR=12						
H23A	Clabaugh Cattl	70.39	47	⇓P	P	13 42 22.2	+0.6
	baz=70						
ARUT	Antelope Range	70.39	56	eP	P	13 42 21.5	-0.3
ARUT	Antelope Range	70.39	56	eP	P	13 42 21.5	-0.3
	comp=Z,403nm,0.9s						
A29A	Manning Farm,	70.41	40	⇓P	P	13 42 22.2	+0.7
	baz=70,SNR=78						
TUQ	Turquoise Moun	70.41	59	⇓P	P	13 42 22.8	+0.8
	baz=70,SNR=25						
F25A	Bowman	70.46	45	⇑P	P	13 42 22.4	+0.5
	baz=70,SNR=26						
HYA	Hoyanger	70.53	341	eP	P	13 42 21.8	-0.1
BBRC	Big Bear Solar	70.55	61	⇓P	P	13 42 23.6	+0.6
	baz=70,SNR=16						
HEC	Hector,Ludlow	70.55	60	⇓P	P	13 42 23.4	+0.7
	baz=70,SNR=53						
E26A	Carlson Angus	70.58	44	⇑P	P	13 42 23.0	+0.4
	baz=70,SNR=31						
D27A	Center	70.59	43	⇑P	P	13 42 23.6	+0.9
	baz=70						
CCUT	Cedar City	70.60	56	eP	P	13 42 21.8	-1.3
	comp=Z,45nm,1.3s						
J22A	Midwest	70.61	48	⇑P	P	13 42 23.6	+0.5
	baz=70,SNR=33						
B29A	Wagenman Farm,	70.67	41	⇑P	P	13 42 23.8	+0.7
	baz=70,SNR=41						
H24A	Dirks Ranch, A	70.71	46	⇑P	P	13 42 23.6	0.0
	baz=70,SNR=40						
K21A	Alcova	70.72	49	⇓P	P	13 42 24.1	+0.3
	baz=70,SNR=31						
C28A	Hausauer Farms	70.72	42	⇓P	P	13 42 24.3	+0.9
	baz=70,SNR=9.4						
TMUT	Trail Mountain	70.72	54	eP	P	13 42 23.7	-0.3
	comp=Z,21nm,0.8s						
I23A	Meade Ranch, G	70.77	47	⇓P	P	13 42 24.5	+0.5
	baz=70						
MURC	Murrieta	70.80	62	⇓P	P	13 42 24.5	+0.3
	baz=71,SNR=20						
A30A	Hoffart Farm,	70.82	40	⇑P	P	13 42 24.6	+0.6
	baz=70,SNR=46						
F26A	Lodgepole	70.91	44	⇓P	P	13 42 25.2	+0.5
	baz=71,SNR=48						
ULM	Lac du Bonnet	70.96	37	P	P	13 42 24.7	-0.2
	comp=Z,11nm,0.4s,baz=312,slow=7.3,SNR=30						
ULM				LR	LR	14 16 26.0	
	comp=Z,702nm,19.4s,baz=328,slow=38						
G25A	Newell	70.98	45	⇓P	P	13 42 25.4	+0.2
	baz=71,SNR=15						
MDND	Maddock	71.00	41	⇑P	P	13 42 25.8	+0.7
	baz=71,SNR=26						
MDND	Maddock	71.00	41	eP	P	13 42 24.5	-0.6
	comp=Z,39nm,0.8s						
D28A	Regan	71.00	42	⇑P	P	13 42 26.3	+1.1
	baz=71,SNR=6.6						
GMRC	Granite Mounta	71.00	60	⇓P	P	13 42 26.2	+0.6
	baz=71,SNR=51						
KONO	Kongsberg	71.02	339	eP	P	13 42 24.9	-0.1
KONO				eS	S	13 51 36.1	-0.9
KONO				IAMs_20	IAMs_20	14 15 18.9	
	comp=Z,2µm,20.3s						
E27A	Carson	71.05	43	⇑P	P	13 42 26.0	+0.5
	baz=71,SNR=27						
K22A	Casper	71.10	49	⇓P	P	13 42 26.3	+0.2
	baz=71,SNR=16						
K22A	Casper	71.10	49	eP	P	13 42 24.0	-2.1
	comp=Z,40nm,1.0s						
J23A	Dilts Ranch, B	71.11	48	⇓P	P	13 42 26.3	+0.2
	baz=71						
LDFC	Landfair	71.15	59	eP	P	13 42 26.9	+0.5
	comp=Z,59nm,0.9s						
B30A	Myrvik Farm, E	71.16	40	⇓P	P	13 42 26.7	+0.6
	baz=71,SNR=123						
F27A	Lemmon	71.22	44	⇑P	P	13 42 26.6	+0.1
	baz=71,SNR=16						
SRU	San Rafael Swe	71.24	54	eP	P	13 42 27.7	+0.7
SRU				e		13 42 46.7	
SRU				pmax	pmax		
	comp=Z,56nm,0.8s						
SRU	San Rafael Swe	71.24	54	eP	P	13 42 27.7	+0.7
	comp=Z,56nm,0.8s						
SRU				ePcP	PcP	13 42 46.7	0.0
GNI	Garni	71.25	308	⇑eP	P	13 42 28.5	+1.5
GNI				pmax	pmax		
	comp=Z,38nm,1.7s						
GNI				MLR	MLR		

baz=71,SNR=40
E28A **Huff** 71.38 43 ⇓P P 13 42 28.0 +0.5
baz=71,SNR=18
SUW **Suwalki** 71.40 329 eP pP 13 42 44.6 +3.0
RSSD **Black Hills** 71.41 46 eP P 13 42 27.4 -0.6
RSSD pmax pmax
comp=Z,39nm,0.8s
RSSD **Black Hills** 71.41 46 eP P 13 42 27.4 -0.6
comp=Z,39nm,0.8s
BER **Bergen** 71.42 341 e S 13 51 37.7 -3.8
K23A **Bowen Ranch, D** 71.51 48 ⇑P P 13 42 28.5 0.0
baz=71,SNR=12
AKASG **Malin Array Be** 71.53 324 P P 13 42 26.1 -2.2
comp=Z,5.3nm,0.4s,baz=37,slow=6.1,SNR=25
AKASG LR LR 14 15 58.8
comp=Z,556nm,20.7s,baz=35,slow=38
ODD1 **Odda** 71.53 341 eP P 13 42 28.5 +0.3
KIEV **Kiev** 71.54 324⇑eP P 13 42 27.3 -1.0
KIEV **Kiev** 71.54 324 eP P 13 42 24.9 -3.4
comp=Z,43nm,1.0s
KIEV LR LR
comp=Z,711nm,19.0s
D29A **Pettibone, Tap** 71.56 42 ⇑P P 13 42 28.9 +0.4
baz=71,SNR=16
L22A **Ellis Ranch, M** 71.57 49 ⇓P P 13 42 29.4 +0.5
baz=71,SNR=38
G27A **Dupree** 71.61 44 ⇑P P 13 42 29.2 +0.3
baz=71
J24A **Dixon Ranch, L** 71.63 47 ⇑P P 13 42 28.9 -0.3
baz=71,SNR=6.6
C30A **Mose, Pekin** 71.63 41 ⇓P P 13 42 29.1 +0.2
baz=71,SNR=17
I25A **Rochford** 71.64 46 ⇓P P 13 42 29.4 +0.1
baz=71,SNR=22
NEE2 **Needles Airpor** 71.66 59 ⇑P P 13 42 29.8 +0.5
baz=72
H26A **Fairpoint** 71.71 45 ⇓P P 13 42 29.6 0.0
baz=71
IRM **Iron Mountain** 71.73 60 ⇓P P 13 42 30.5 +0.7
baz=72,SNR=48
BAR **Barrett** 71.74 62 eP P 13 42 28.1 -1.8
comp=Z,110nm,0.9s
MONP **Monument Peak,** 71.76 62 ⇓P P 13 42 30.6 +0.4
baz=72,SNR=7.5
F28A **McLaughlin** 71.84 43 ⇓P P 13 42 30.6 +0.3
baz=72,SNR=17
O20A **White River Ci** 71.86 52 ⇓P P 13 42 30.7 0.0
baz=72,SNR=35
O20A **White River Ci** 71.86 52 P P 13 42 27.6 -3.1
comp=Z,48nm,0.9s
BC3 **Big Chuckawall** 71.87 61 ⇓P P 13 42 31.2 +0.5
baz=72,SNR=30
E29A **Napoleon** 71.89 42 ⇑P P 13 42 30.4 -0.1
baz=72,SNR=14
W13A **Hualapai Mount** 71.89 59 ⇑P P 13 42 31.9 +0.9
baz=72,SNR=19
L23A **Garrett** 71.91 49 ⇓P P 13 42 31.1 0.0
baz=72,SNR=25
M22A **Cedar Creek Ra** 71.91 50 ⇓P P 13 42 31.5 +0.4
baz=72,SNR=30
D30A **Buchanan** 71.93 41 ⇓P P 13 42 30.6 -0.1
baz=72,SNR=35
U15A **North Rim** 71.98 57 ⇑P P 13 42 32.6 +1.0
baz=72,SNR=54
J25A **Sunshine Ranch** 72.04 47 ⇑P P 13 42 31.6 -0.1
baz=72
H27A **Howes** 72.06 45 ⇓P P 13 42 31.8 +0.2
baz=72,SNR=15
I26A **New Underwood** 72.08 46 ⇓P P 13 42 32.4 +0.6
baz=72,SNR=13
SWSC **Sam W. Stewart** 72.12 61 ⇑P P 13 42 32.4 +0.3
baz=72,SNR=7.3
PDMCI **Parker Dam,Lak** 72.26 59 ⇓P P 13 42 33.6 +0.7
baz=72,SNR=35
E30A **Jud** 72.29 42 ⇑P P 13 42 32.9 0.0
baz=72,SNR=29
F29A **Eureka** 72.33 43 ⇑P P 13 42 33.1 -0.1
baz=72,SNR=10
G28A **Parade** 72.33 44 ⇑P P 13 42 33.3 +0.1
baz=72,SNR=21
M23A **Laramie** 72.34 49 ⇓P P 13 42 33.7 0.0
baz=72,SNR=11
L24A **Wheatland** 72.37 48 ⇑P P 13 42 34.0 +0.3
baz=72
Y12C **Blythe** 72.39 60 ⇓P P 13 42 34.4 +0.7
baz=72,SNR=27
N22A **Wattenberg Ran** 72.40 50 ⇑P P 13 42 34.5 +0.5
baz=72,SNR=24
AGMN **Agassiz Nation** 72.40 39 ⇓P P 13 42 33.4 -0.1
baz=72,SNR=34
AGMN **Agassiz Nation** 72.40 39 P P 13 42 30.6 -2.9
comp=Z,60nm,1.0s
AGMN ePcP PcP 13 42 51.5 +0.3
AGMN LR LR
comp=Z,889nm,19.0s
I27A **Quinn** 72.47 45 ⇓P P 13 42 34.7 +0.6
baz=72,SNR=10
J26A **Sides Ranch, S** 72.47 46 ⇑P P 13 42 35.0 +0.8
baz=72,SNR=15
K25A **Mack Ranch, Ha** 72.54 47 ⇑P P 13 42 34.9 +0.2
baz=72
H28A **Mission Ridge** 72.56 44 ⇓P P 13 42 34.9 +0.3
baz=72,SNR=29
COCO **West Island** 72.61 233 PFAKE 13 42 50.0 +15
COCO LR LR
comp=Z,797nm,21.0s
N23A **Red Feather La** 72.62 50 ⇑P P 13 42 36.1 +0.8
baz=72,SNR=18
PV04 **Paradox Valley** 72.66 53 P P 13 42 34.8 -0.7
GLA **Glamis** 72.66 61 eP P 13 42 35.1 -0.3
GLA e*PP pP 13 42 47.9 -1.7
GLA pmax pmax
comp=Z,29nm,0.7s
GLA **Glamis** 72.66 61 ⇑P P 13 42 36.3 +0.9
baz=72,SNR=19
GLA **Glamis** 72.66 61 eP P 13 42 35.1 -0.3
comp=Z,29nm,0.7s
GLA epP pP 13 42 47.9 -1.7
F30A **Leola** 72.72 42 ⇑P P 13 42 35.5 0.0
baz=72
G29A **Hoven** 72.74 43 ⇑P P 13 42 35.7 +0.1
baz=72,SNR=6.5
SNART **Snartemo** 72.78 339 eP P 13 42 35.8 +0.3
SNART IAmb IAmb 13 42 39.0
comp=Z,33nm,1.4s
O22A **Kremmling** 72.79 51 ⇓P P 13 42 36.9 +0.5
baz=72,SNR=26
L25A **Engebretsen Ra** 72.81 48 ⇓P P 13 42 36.8 +0.6
baz=72
M24A **Cheyenne** 72.83 49 ⇓P P 13 42 37.6 +1.1
baz=73,SNR=26
K26A **Motz Farm, Whi** 72.85 47 ⇑P P 13 42 36.5 +0.1
baz=73,SNR=8.7
I28A **Midland** 72.97 45 ⇑P P 13 42 37.3 +0.3
baz=73,SNR=18
H29A **Onida** 73.00 44 ⇑P P 13 42 37.1 -0.1
baz=73,SNR=25
PV01 **Paradox Valley** 73.03 53 eP P 13 42 38.4 +0.6
comp=Z,2μm,0.7s
P22A **Eagle** 73.06 51 ⇑P P 13 42 38.6 +0.7
baz=73,SNR=32
J27A **Elkhorn Farm,** 73.07 46 ⇓P P 13 42 38.3 +0.6
baz=73,SNR=12
O23A **Lake Granby, G** 73.10 50 ⇑P P 13 42 39.5 +1.2
baz=73,SNR=86
WUAZ **Wupatki** 73.14 57 ⇓P P 13 42 38.9 +0.5
baz=73,SNR=26
WUAZ **Wupatki** 73.14 57 eP P 13 42 38.2 -0.2
comp=Z,29nm,0.9s
G30A **Faulkton** 73.17 43 ⇑P P 13 42 38.1 -0.1
baz=73,SNR=61
Y14A **Wickenburg** 73.20 59 ⇓P P 13 42 39.7 +1.0
baz=73,SNR=31
N24A **Carr** 73.24 49 ⇑P P 13 42 39.4 +0.5
baz=73,SNR=10
M25A **Palm-Egli Farm** 73.27 48 ⇑P P 13 42 40.1 +1.0
baz=73,SNR=7.3
K27A **Flueckinger Fa** 73.34 46 ⇓P P 13 42 39.4 +0.1
baz=73
J28A **Allard Ranch,** 73.34 45 ⇓P P 13 42 39.9 +0.6
baz=73,SNR=48
BSD **Bornholm Skovb** 73.35 334 iP P 13 42 38.3 -0.7
BSD **Bornholm Skovb** 73.35 334 iP P 13 42 38.3 -0.7
L26A **Underwood Farm** 73.36 47 ⇓P P 13 42 39.8 +0.3
baz=73
I29A **Vivian Onida** 73.39 44 ⇓P P 13 42 39.6 +0.1
baz=73,SNR=13
113A **Mohawk Valley,** 73.51 60 ⇑P P 13 42 40.9 +0.5
baz=73,SNR=7.6
SIM **Simferopol'** 73.53 317 eP P 13 42 37.0 -3.2
SIM eS SKiKP 13 52 01.0 -4.9
SIM pmax pmax
comp=Z,17nm,0.8s
SIM MLR MLR
comp=Z,900nm,18.0s
ISCO **Idaho Springs** 73.56 50 eP P 13 42 41.1 +0.2
ISCO e 13 42 56.7
ISCO pmax pmax
comp=Z,20nm,0.8s
ISCO MLR MLR
comp=Z,850nm,20.0s
ISCO **Idaho Springs** 73.56 50 ⇑P P 13 42 41.7 +0.8
baz=73,SNR=27
ISCO **Idaho Springs** 73.56 50 eP P 13 42 41.1 +0.2
comp=Z,20nm,0.8s
ISCO ePcP PcP 13 42 56.7 0.0
ISCO LR LR
comp=Z,850nm,20.0s
Z14A **Wintersburg** 73.63 59 ⇓P P 13 42 41.6 +0.6
baz=73,SNR=10
O24A **Longmont** 73.63 50 ⇓P P 13 42 42.1 +1.0
baz=73,SNR=11
N25A **Grover** 73.69 49 ⇑P P 13 42 42.0 +0.5
baz=73
MVCO **Mesa Verde** 73.70 54 ⇑P P 13 42 42.4 +0.7
baz=74,SNR=25
MVCO **Mesa Verde** 73.70 54 eP P 13 42 41.3 -0.5
comp=Z,27nm,0.8s
MVCO ePcP pP 13 42 56.6 +0.7
P23A **Jefferson** 73.72 51 ⇓P P 13 42 43.0 +1.1
baz=74,SNR=14
M26A **McRoberts Ranc** 73.73 48 ⇑P P 13 42 42.3 +0.6
baz=74,SNR=7.5
BRSD **Miller** 73.75 43 ⇓P P 13 42 41.6 0.0
baz=74,SNR=6.6
BRSD **Miller** 73.75 43 P P 13 42 39.0 -2.7
comp=Z,58nm,0.6s
BRSD ePcP PcP 13 42 57.4 +0.3
K28A **Ten Mile Ranch** 73.78 46 ⇓P P 13 42 42.6 +0.7
baz=74,SNR=6.7
J29A **Okreek** 73.82 45 ⇑P P 13 42 42.3 +0.2
baz=74,SNR=26
X16A **Lo Mia Camp, P** 73.84 58 ⇓P P 13 42 43.7 +1.1
baz=74,SNR=113
I30A **Oacoma** 73.90 44 ⇑P P 13 42 42.6 +0.1
baz=74,SNR=17
BEL **Belsk** 74.01 329 eP P 13 42 43.3 +0.4
BEL **Belsk** 74.01 329 eP P 13 42 43.3 +0.4
Q23A **Hartsel** 74.05 51 ⇑P P 13 42 44.7 +0.8
baz=74
M27A **Reverse DX Ran** 74.09 47 ⇑P P 13 42 44.5 +0.7
baz=74
UOSS **Wadi Hilu** 74.12 289 P P 13 42 44.8 +0.8
comp=Z,218nm,0.7s,SNR=5.3
N26A **Koester Ranch,** 74.14 48 ⇑P P 13 42 44.8 +0.7
baz=74
P24A **Kohler Place,** 74.14 50 ⇑P P 13 42 45.5 +1.3
baz=74,SNR=14
O25A **Wiggins** 74.16 49 ⇑P P 13 42 44.7 +0.5
baz=74
L28A **Connealy Angus** 74.20 46 ⇑P P 13 42 45.1 +0.7
baz=74
HATD **Hatta, Dubai** 74.25 289⇑iP P 13 42 45.8 +1.0
SNR=11
ARMA **Armidale** 74.26 176 eP P 13 42 44.5 0.0
comp=Z,49nm,1.4s
K29A **Lazy Trails An** 74.28 45 ⇓P P 13 42 45.2 +0.4
baz=74,SNR=12
S22A **4UR Ranch, Cre** 74.29 53 ⇓P P 13 42 46.2 +1.0
baz=74,SNR=36
J30A **Dallas** 74.30 44 ⇓P P 13 42 45.1 +0.2
baz=74,SNR=23
LVV **L'vov** 74.36 326 eP P 13 42 44.2 -0.8
LVV MLR MLR
comp=N,600nm,18.0s
LVV MLR MLR
comp=Z,700nm,18.0s
LVV MLR MLR
comp=E,700nm,16.0s
Q24A **Divide** 74.39 51 ⇑P P 13 42 45.7 -0.1
baz=74,SNR=10
W18A **Petrified Fore** 74.40 56 ⇑P P 13 42 46.9 +1.1
baz=74,SNR=5.8
KIS **Kishinev** 74.49 322 eP P 13 42 41.0 -4.8
KIS e 13 43 10.0
KIS e 13 52 12.0
KIS MLR MLR
comp=Z,2μm,18.0s
KIS MLR MLR
comp=N,1μm,17.0s
KIS MLR MLR
comp=Z,2μm,20.0s
KIS **Kishinev** 74.49 322 eP P 13 42 41.0 -4.8
KIS LRM MLR 14 17 48.0
comp=Z,2μm,20.0s
O26A **Horse Wrangler** 74.51 49 ⇓P P 13 42 46.7 +0.5
baz=74
N27A **Anderson Farm,** 74.52 48 ⇓P P 13 42 46.9 +0.6
baz=74,SNR=15
P25A **Willow Gulch B** 74.55 50 ⇑P P 13 42 47.5 +1.0
baz=74,SNR=15
R23A **Moffat** 74.55 52 ⇓P P 13 42 47.1 +0.4
baz=74
EYMN **Ely** 74.59 37 eP P 13 42 44.1 -2.4
comp=Z,31nm,0.7s
EYMN ePcP PcP 13 43 00.2 -0.5
EYMN LR LR
comp=Z,1μm,20.0s
214A **Organ Pipe Nat** 74.66 60 ⇑P P 13 42 47.9 +0.8
baz=74,SNR=12
214A **Organ Pipe Nat** 74.66 60 eP P 13 42 47.1 0.0
comp=Z,35nm,1.3s
214A ePcP pP 13 43 01.6 +0.3
X18A **Snowflake** 74.67 57 ⇑P P 13 42 48.6 +1.2
baz=74,SNR=20
OGNE **Ogallala** 74.69 47 ⇑P P 13 42 47.8 +0.5
baz=74
OGNE **Ogallala** 74.69 47 eP P 13 42 44.6 -2.7
comp=Z,179nm,0.9s
OGNE ePcP pP 13 43 01.5 0.0
L29A **Maesberg Ranch** 74.70 46 ⇑P P 13 42 46.9 -0.4
baz=74
K30A **Basset** 74.71 45 ⇑P P 13 42 47.6 +0.3
baz=74,SNR=24
M28A **Bar X Bar Ranc** 74.72 47 ⇑P P 13 42 47.8 +0.4
baz=74,SNR=8.2
S23A **Nye Farm, Mont** 74.79 52 ⇓P P 13 42 49.3 +1.2
baz=74,SNR=8.4
Q25A **Bedland, Calha** 74.93 50 ⇑P P 13 42 49.3 +0.5
baz=75,SNR=23
R24A **Sanders Place,** 74.93 51 ⇓P P 13 42 49.9 +1.1
baz=75,SNR=40
P26A **Davis Ranch, A** 74.97 49 ⇑P P 13 42 50.1 +1.2
baz=75,SNR=13
O27A **Beecher Island** 74.99 48 ⇓P P 13 42 49.3 +0.3
baz=75,SNR=7.8
KWP **Kalwaria Pacla** 75.03 327 eP P 13 42 49.1 +0.1
KWP **Kalwaria Pacla** 75.03 327 eP P 13 42 49.0 +0.1
KWP **Kalwaria Pacla** 75.03 327⇓iP P 13 42 49.5 +0.6
KWP **Kalwaria Pacla** 75.03 327 PFAKE 13 43 00.0 +11
KWP LR LR
comp=Z,2μm,20.0s
M29A **Burnside Ranch** 75.04 46 ⇓P P 13 42 49.1 -0.1
baz=75
SDCO **Great Sand Dun** 75.05 52 eP P 13 42 50.1 +0.5
comp=Z,22nm,1.2s
N28A **Pribbeno Ranch** 75.14 47 ⇓P P 13 42 49.8 0.0
baz=75,SNR=13
L30A **Spencer Herefo** 75.18 45 ⇑P P 13 42 49.7 -0.3
baz=75
U22A **Llaves** 75.23 54 ⇑P P 13 42 51.6 +1.0
baz=75,SNR=18
T23A **Casias Ranch,** 75.24 53 ⇑P P 13 42 51.7 +1.0
baz=75,SNR=14
S24A **Houchin Ranch,** 75.28 52 ⇓P P 13 42 51.8 +0.9
baz=75,SNR=11
Q26A **Hugo** 75.33 50 ⇑P P 13 42 51.3 +0.3
baz=75,SNR=19
P27A **Ficken Ranch,** 75.39 49 ⇓P P 13 42 51.3 0.0
baz=75
O28A **Krutsinger Ran** 75.42 48 ⇓P P 13 42 51.4 0.0
baz=75,SNR=11
ECSD **EROS Data Cent** 75.42 42 ⇓P P 13 42 51.3 0.0
baz=75,SNR=44
ECSD **EROS Data Cent** 75.42 42 eP P 13 42 51.2 -0.1
comp=Z,48nm,0.9s
ECSD ePcP PcP 13 43 04.6 +0.3
ECSD LR LR
comp=Z,2μm,22.0s
R25A **Fountain Ranch** 75.45 51 ⇑P P 13 42 52.0 +0.3
baz=75,SNR=18
L31A **Butterfield Fa** 75.46 45 ⇑P P 13 42 51.8 +0.2
baz=75,SNR=18
V22A **San Miguel Ran** 75.52 54 ⇓P P 13 42 53.3 +1.0
baz=75,SNR=18
N29A **Votaw Ranch, W** 75.53 47 ⇓P P 13 42 52.1 +0.1
baz=75,SNR=7.9
BURAR **Bucovina Array** 75.59 324⇓iP P 13 42 52.3 0.0
T24B **San Luis** 75.59 52 ⇓P P 13 42 54.2 +1.4
baz=75,SNR=24
U23A **El Rito** 75.64 53 ⇑P P 13 42 54.3 +1.3
baz=75,SNR=54
TUC **Tucson** 75.67 59 P P 13 42 51.3 -1.7
TUC pmax pmax
comp=Z,18nm,0.9s
TUC **Tucson** 75.67 59 P P 13 42 51.3 -1.7
comp=Z,18nm,0.9s
OJC **Ojcow** 75.69 328 eP P 13 42 53.3 +0.6
OJC e*SP sP 13 43 12.0 -0.5
OJC **Ojcow** 75.69 328 eP P 13 42 53.3 +0.6
OJC esP sP 13 43 12.0 -0.5
S25A **Robets Cordova** 75.71 51 ⇓P P 13 42 53.9 +0.6
baz=76,SNR=16
KSCO **Kaye Shedlock'** 75.75 49 ⇓P P 13 42 53.5 +0.1
baz=76
KSCO **Kaye Shedlock'** 75.75 49 P P 13 42 53.2 -0.2
comp=Z,48nm,1.0s
KOLS **Kolonicke sedl** 75.76 326 eP P 13 42 52.9 -0.2
KOLS pmax pmax
comp=Z,15nm,1.2s
KOLS **Kolonicke sedl** 75.76 326 eP P 13 42 52.8 -0.3
BSEG **Bad Segeberg** 75.77 336 eP P 13 42 52.7 -0.3
comp=Z,22nm,1.0s
STHS **Stebnicka Huta** 75.78 327 eP P 13 42 53.8 +0.6
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS **Stebnicka Huta** 75.78 327 eP P 13 42 53.8 +0.6
R26A **Arlington** 75.81 50 ⇑P P 13 42 54.3 +0.5
baz=76,SNR=42
N30A **Hueftle Ranch,** 75.82 46 ⇓P P 13 42 53.9 +0.2
baz=76
P28A **Saint Francis** 75.82 48 ⇑P P 13 42 53.8 0.0
baz=76,SNR=6.3
TESR **Tescani** 75.82 322⇓iP P 13 42 53.6 +0.1
O29A **4D Ranch, Culb** 75.94 47 ⇑P P 13 42 54.4 0.0
baz=76,SNR=27
UZH **Uzhgorod** 75.99 326 eP P 13 42 55.6 +1.2
UZH e 13 43 06.8
UZH e 13 45 45.5
UZH eS S 13 52 31.8 -1.7
UZH e 13 53 03.8
UZH ePS PnS 13 53 27.2 +12
UZH MLR MLR
comp=N,1μm,16.0s
UZH MLR MLR
comp=E,1μm,16.0s
UZH MLR MLR
comp=Z,800nm,16.0s
M31A **Lambtecht Ranc** 76.00 45 ⇓P P 13 42 54.3 -0.4
baz=76,SNR=12
MALT **Malatya** 76.05 310⇑iP P 13 42 56.3 +1.2
V23A **Ortiz Mt. (NFS** 76.06 54 ⇑P P 13 42 55.5 +0.2
baz=76,SNR=18
T25A **Trinidad** 76.09 52 ⇑P P 13 42 55.8 +0.3
baz=76,SNR=13
SPMN **Marine on St.** 76.10 39 ⇓P P 13 42 54.9 -0.2
baz=76,SNR=20
SPMN **Marine on St.** 76.10 39 P P 13 42 53.1 -2.0
comp=Z,49nm,0.8s
CRVS **Cervenica-Dubn** 76.11 327 eP P 13 42 54.9 -0.2
CRVS pmax pmax
comp=Z,12nm,1.2s
CRVS **Cervenica-Dubn** 76.11 327 eP P 13 42 54.9 -0.2
U24A **Moreno Valley** 76.11 53 ⇓P P 13 42 56.8 +1.1
baz=76,SNR=9.0
NIE **Niedzica** 76.14 328 eP P 13 42 54.7 -0.6
NIE e*SP sP 13 43 14.9 -0.3
NIE **Niedzica** 76.14 328 eP P 13 42 54.7 -0.6
NIE esP sP 13 43 14.9 -0.3
Q28A **Sharon Springs** 76.15 49 ⇓P P 13 42 56.1 +0.4
baz=76,SNR=9.1
MDO **Dochfour** 76.15 345 eP P 13 42 55.1 -0.1
R27A **Eads** 76.18 50 ⇓P P 13 42 56.1 +0.2
baz=76,SNR=16
CFR **Carcaliu** 76.18 321⇓iP P 13 42 55.4 -0.1
KAC **Achnashellach** 76.27 345 eP P 13 42 55.0 -0.9
S26A **Kim** 76.28 51 ⇓P P 13 42 56.3 -0.2
baz=76,SNR=14
VRI **Vrincioaia** 76.29 322⇓iP P 13 42 58.1 +1.9
O30A **MW Ranch, Wils** 76.29 47 ⇓P P 13 42 56.3 -0.1
baz=76,SNR=7.8
TRPA **Tarpa** 76.29 326⇓iP P 13 42 56.8 +0.7
TRPA **Tarpa** 76.29 326⇑eP P 13 42 56.3 +0.2
PLOR **Plostina** 76.33 322⇓iP P 13 42 57.8 +1.3
BGNE **Belgrade** 76.38 45 ⇓P P 13 42 56.7 -0.1
baz=76,SNR=16
BGNE **Belgrade** 76.38 45 eP P 13 42 54.8 -2.0
comp=Z,88nm,0.8s
N31A **Bailey Ranch,** 76.39 46 ⇓P P 13 42 56.9 -0.1
baz=76,SNR=8.5
LAZ **Ladron** 76.44 55 eP P 13 42 54.0 -3.5
comp=Z,11nm,1.0s
KSP **Ksiaz** 76.45 331⇑eP P 13 42 56.7 -0.3
KSP eS S 13 52 32.0 -6.5
KSP **Ksiaz** 76.45 331 eP P 13 42 56.7 -0.3
ANMO **Albuquerque** 76.46 54⇑iP P 13 42 58.5 +0.9
ANMO pmax pmax
comp=Z,58nm,0.8s
ANMO MLR MLR
comp=Z,2μm,20.0s
ANMO **Albuquerque** 76.46 54 eP P 13 42 58.3 +0.7
comp=Z,16nm,0.9s
ANMO LR LR
comp=Z,696nm,20.0s
KPL **Plockton** 76.49 346⇑eP P 13 42 56.7 -0.3
KPL AMB AMB 13 43 02.1
comp=Z,61nm,3.1s
W23A **Werner Place,** 76.49 54 ⇓P P 13 42 58.7 +0.9
baz=76,SNR=23
T26A **Comanche Natio** 76.53 51 ⇑P P 13 42 57.8 -0.1
baz=76,SNR=35
S27A **Las Animas** 76.55 50 ⇑P P 13 42 58.2 +0.2
baz=76
V24A **Rampart Ranch,** 76.60 53 ⇑P P 13 42 58.7 +0.2
baz=76,SNR=21
OKC **Ostrava-Krasne** 76.61 329⇑iP P 13 42 58.0 +0.1
OKC eS S 13 52 31.1 -9.2
OKC MLR MLR
comp=Z,1μm,21.0s
OKC **Ostrava-Krasne** 76.61 329⇑iP P 13 42 58.0 +0.1
OKC eS S 13 52 31.1 -9.2
OKC AMS AMS 14 19 50.0
comp=Z,1μm,21.0s
U25A **Circle Dot Ran** 76.62 52 ⇑P P 13 42 58.8 +0.4
baz=76,SNR=17
P30A **Selden** 76.65 47 ⇑P P 13 42 58.6 +0.1
baz=76,SNR=12
R28A **Tribune** 76.68 49 ⇑P P 13 42 58.5 -0.2
baz=76,SNR=28
O31A **Woolen Ranch,** 76.69 46 ⇑P P 13 42 58.7 +0.1
baz=76
Q29A **Oakley** 76.73 48 ⇓P P 13 42 58.8 -0.2
baz=76,SNR=20
N32A **Stulken Farm,** 76.78 45 ⇑P P 13 42 58.9 -0.2
baz=76
Y22D **IRIS PASSCAL I** 76.79 55 ⇓P P 13 43 00.7 +1.2
baz=77
LPM **Los Pinos Moun** 76.80 55 eP P 13 43 00.1 +0.6
comp=Z,9.6nm,0.9s
UPC **Upice** 76.83 331 eP P 13 42 59.2 0.0
UPC e 13 43 18.0
UPC **Upice** 76.83 331⇑eP P 13 42 59.2 0.0
UPC ex x 13 43 18.0
DPC **Dobruska-Polom** 76.85 330⇑iP P 13 42 59.5 +0.2
DPC e 13 43 13.2
DPC **Dobruska-Polom** 76.85 330⇑iP P 13 42 59.5 +0.2
DPC epP pP 13 43 13.2 -0.4
DPC AMS AMS 14 20 20.0
X23A **Hourglass Bar** 76.87 54 ⇑P P 13 43 00.6 +0.6
baz=77
W24A **Lazy 6 Ranch,** 76.88 54 ⇑P P 13 43 01.4 +1.4

baz=77,SNR=41
V25A **Rancho No Teng** 76.89 53 ⇑P P 13 43 00.9 +0.8
baz=77,SNR=17
KRLC **Kraliky** 76.92 330 *e*P P 13 42 59.7 0.0
KRLC **Kraliky** 76.92 330⇑*e*P P 13 42 59.7 0.0
MLR **Muntele Rosu** 76.92 322⇓*i*P P 13 43 01.3 +1.4
MLR **Muntele Rosu** 76.92 322 P P 13 42 59.1 -0.8
comp=Z,1.2nm,0.4s,baz=36,slow=0.9,SNR=12
ISR **Istrita** 76.95 322⇓*i*P P 13 43 00.7 +0.7
CJR **Cluj-Napoca** 76.98 324⇓*i*P P 13 43 01.6 +1.5
R29A **Marienthal** 76.98 49 ⇑P P 13 43 00.4 0.0
baz=77,SNR=13
U26A **Atchley Ranch,** 77.00 52 ⇓P P 13 43 00.6 0.0
baz=77,SNR=15
Q30A **Quinter** 77.08 48 ⇑P P 13 43 00.7 -0.2
baz=77
T27A **Campo** 77.09 51 ⇑P P 13 43 01.2 +0.1
baz=77
P31A **Stockton** 77.12 47 ⇑P P 13 43 00.8 -0.2
baz=77,SNR=23
SCHQ **Schefferville** 77.14 20 P P 13 43 01.1 +0.2
comp=Z,11nm,0.6s,baz=4.0,slow=5.1,SNR=28
SCHQ LR LR 14 19 54.6
comp=Z,2μm,20.4s,baz=344,slow=38
O32A **Brockman Farm,** 77.16 46 ⇓P P 13 43 01.1 -0.2
baz=77
S28A **Manter** 77.17 50 ⇑P P 13 43 01.4 -0.1
baz=77,SNR=15
CLL **Collm** 77.18 333⇑*i*P P 13 43 00.4 -0.7
CLL *i* *PP **pP** 13 43 14.2 -1.2
CLL *e*S **S** 13 52 45.0 -1.4
CLL pmax pmax
comp=Z,29nm,0.6s
CLL MLR MLR
comp=Z,2μm,21.0s
CLL **Collm** 77.18 333 *e*P P 13 43 00.5 -0.7
comp=Z,30nm,0.6s
CLL **Collm** 77.18 333⇑*i*P P 13 43 00.4 -0.7
comp=Z,29nm,0.6s
CLL *i* PcP **PcP** 13 43 09.5 -2.2
CLL *i* pP **pP** 13 43 14.2 -1.2
CLL *i* sP **sP** 13 43 19.6 -1.4
CLL *e*S **S** 13 52 45.0 -1.4
CLL *e*ScS **SKKSac** 13 53 10.0 -0.1
CLL *e*SS SS 13 57 54.0 +10
CLL *e*SSS SSS 14 01 12.0
CLL LmV 14 20 00.0
comp=Z,2μm,21.0s
BRG **Berggiesshubel** 77.24 332 *e*P P 13 43 00.9 -0.5
comp=Z,16nm,1.1s
BRG SS SS 13 57 35.0 -9.4
BRG **Berggiesshubel** 77.24 332 *e*P P 13 43 00.9 -0.5
BRG pmax pmax
comp=Z,16nm,1.2s
BRG MLR MLR
comp=N,1μm,19.6s
BRG MLR MLR
comp=E,843nm,19.9s
BRG MLR MLR
comp=Z,2μm,18.7s
BRG **Berggiesshubel** 77.24 332 *e*P P 13 43 00.9 -0.5
comp=Z,24nm,1.4s
319A **Douglas** 77.24 59 ⇑P P 13 43 02.8 +0.9
baz=77,SNR=38
DRGR 77.29 325⇓*i*P P 13 43 01.9 0.0
PVCC **Panska Ves** 77.31 331 ⇑AMS AMS 14 20 10.0
comp=Z,2μm,20.8s
EAB **Aberfoyle** 77.33 344 *e*P P 13 43 02.0 +0.2
Z22A **Elephant Butte** 77.34 56 ⇓P P 13 43 03.4 +0.8
baz=77,SNR=60
121A **Cookes Peak, D** 77.35 57 ⇑P P 13 43 03.0 +0.3
baz=77,SNR=39
121A **Cookes Peak, D** 77.35 57 *e*P P 13 43 04.0 +1.3
comp=Z,43nm,0.9s
VOIR 77.36 323⇓*i*P P 13 43 02.9 +0.6
T28A **Walsh** 77.39 50 ⇑P P 13 43 03.2 +0.6
baz=77,SNR=9.7
V26A **Tequesquite Ra** 77.40 52 ⇓P P 13 43 03.4 +0.6
baz=77,SNR=8.9
Y23A **Lovelace Mesa,** 77.41 55 ⇓P P 13 43 03.8 +0.9
baz=77,SNR=43
W25A **X Bar L Ranch,** 77.42 53 ⇑P P 13 43 03.1 +0.2
baz=77,SNR=38
P32A **Huiting Farm,** 77.46 46 ⇓P P 13 43 02.7 -0.2
baz=77,SNR=28
Q31A **Ellis** 77.49 47 ⇑P P 13 43 03.0 -0.1
baz=77
U27A **Thompson Grove** 77.50 51 ⇓P P 13 43 03.1 -0.2
baz=77,SNR=15
PSZ **Piszkesteto** 77.52 327 *e*P P 13 43 03.2 +0.1
PSZ pmax pmax
comp=Z,15nm,0.9s
PSZ **Piszkesteto** 77.52 327⇓*i*P P 13 43 03.8 +0.6
PSZ **Piszkesteto** 77.52 327⇓*e*P P 13 43 03.6 +0.4
PSZ **Piszkesteto** 77.52 327 *e*P P 13 43 03.2 +0.1
comp=Z,15nm,0.9s
R30A **Dighton** 77.55 48 ⇓P P 13 43 03.8 +0.3
baz=77,SNR=20
CLZ **Clausthal** 77.56 335 *e*P P 13 43 03.3 0.0
comp=Z,42nm,1.1s
S29A **Ulysses** 77.58 49 ⇓P P 13 43 03.4 -0.2
baz=77
BRTR **Keskin Array B** 77.59 314 *i* P P 13 43 03.9 +0.1
BRTR pmax pmax
comp=Z,5.0nm,0.6s
BRTR **Keskin Array B** 77.59 314 P P 13 43 02.9 -1.0
comp=Z,4.6nm,0.6s,baz=68,slow=3.3,SNR=19
BRTR LR LR 14 22 54.4
comp=Z,414nm,20.2s,baz=55,slow=40
ARR **Arges** 77.60 323⇓*i*P P 13 43 04.7 +1.1
VRAC **Vranov** 77.62 330⇓*i*P P 13 43 04.2 +0.6
VRAC **Vranov** 77.62 330 P P 13 43 03.8 +0.1
comp=Z,29nm,1.0s,baz=31,slow=5.6,SNR=19
PRA **Prague** 77.75 331 ⇑P P 13 43 05.0 +0.7
Y24A **Capitan** 77.77 55 ⇑P P 13 43 05.6 +0.7
baz=78,SNR=30
PRU **Pruhonice** 77.78 331 *e*P P 13 43 04.4 -0.1
PRU *e* 13 43 22.8
PRU MLR MLR
comp=Z,2μm,18.1s
PRU **Pruhonice** 77.78 331⇑*e*P P 13 43 04.4 -0.1
PRU *e*pP **pP** 13 43 22.8 +4.0
PRU *e*x x 13 52 32.7
PRU AMS AMS 14 20 10.0
comp=Z,2μm,18.1s
X25A **Clemmons Ranch** 77.80 54 ⇓P P 13 43 05.0 0.0
baz=78,SNR=18
T29A **Hugoton** 77.81 50 ⇓P P 13 43 05.3 +0.3
baz=78
U28A **Mallet** 77.86 51 ⇓P P 13 43 05.7 +0.4
baz=78
EKA **Eskdalemuir Ar** 77.89 343 P P 13 43 04.5 -0.5
comp=Z,3.9nm,0.5s,baz=19,slow=5.3,SNR=28
W26A **Owens Ranch, T** 77.91 53 ⇑P P 13 43 05.8 +0.2
baz=78,SNR=8.2
S30A **Montezuma** 77.92 49 ⇑P P 13 43 05.6 +0.1
baz=78
ESK **Eskdalemuir** 77.92 343 *e*P P 13 43 04.2 -0.9
ESK AMB AMB 13 43 12.9
comp=Z,51nm,2.6s
ESK **Eskdalemuir** 77.92 343 PFAKE 13 43 20.0 +15
ESK LR LR
comp=Z,978nm,22.0s
ANTO **Ankara** 77.92 314 *e*P P 13 43 03.0 -2.6
ANTO pmax pmax
comp=Z,18nm,0.6s
ANTO MLR MLR
comp=Z,645nm,20.0s
ANTO **Ankara** 77.92 314⇓*i*P P 13 43 06.6 +1.1
ANTO **Ankara** 77.92 314 *e*P P 13 43 03.0 -2.6
comp=Z,18nm,0.6s
ANTO LR LR
comp=Z,645nm,20.0s
DEV **Deva** 77.93 324⇓*i*P P 13 43 04.1 -1.3
Q32A **Meitler Ranch,** 77.94 47 ⇑P P 13 43 05.6 0.0
baz=78,SNR=29
R31A **Burdett** 77.95 48 ⇑P P 13 43 05.7 0.0
baz=78,SNR=7.9
V27A **Dan Oppiter Fa** 77.97 52 ⇓P P 13 43 06.2 +0.3
baz=78,SNR=16
ECK **Cauldkaine Hil** 78.03 343 *e*P P 13 43 05.1 -0.6
TREC **Trest** 78.03 330 *e*P P 13 43 05.9 0.0
TREC MLR MLR
comp=Z,1μm,21.1s
TREC **Trest** 78.03 330⇑*e*P P 13 43 05.9 0.0
TREC AMS AMS 14 19 50.0
comp=Z,1μm,21.1s
P33A **Williams Farm,** 78.07 46 ⇑P P 13 43 06.6 +0.3
baz=78
TANN **Tannenbergstha** 78.12 333 *e*P P 13 43 06.1 -0.4
comp=Z,8.0nm,1.2s
MOX **Moxa** 78.20 333 *e*P P 13 43 06.5 -0.3
comp=Z,27nm,1.3s
MOX *e*L L 14 22 14.5
comp=Z,988nm,18.1s
Y25A **Mesa, Roswell** 78.21 54 ⇑P P 13 43 07.6 +0.3
baz=78,SNR=17
Z24A **Sheeppen Canyo** 78.24 55 ⇓P P 13 43 08.0 +0.5
baz=78,SNR=18
X26A **CR and CF Fran** 78.27 53 ⇓P P 13 43 08.4 +0.7
baz=78,SNR=20
R32A **Long Quarter,** 78.28 47 ⇓P P 13 43 07.8 +0.3
baz=78
T30A **Plains** 78.31 49 ⇓P P 13 43 08.0 +0.3
baz=78
V28A **Channing** 78.31 51 ⇓P P 13 43 07.8 0.0
baz=78
Q33A **Connelly Farm,** 78.32 46 ⇑P P 13 43 07.5 -0.2
baz=78,SNR=64
W27A **Bowe Ranch, En** 78.33 52 ⇓P P 13 43 08.4 +0.4
baz=78,SNR=13
U29A **Oasis Ranch, S** 78.34 50 ⇑P P 13 43 07.9 0.0
baz=78
GZR **Gura Zlata** 78.38 324⇑*i*P P 13 43 07.6 -0.3
SCIA **State Center** 78.44 42 P P 13 43 06.0 -2.3
comp=Z,112nm,0.6s
S31A **Mullinville** 78.46 48 ⇑P P 13 43 08.3 -0.2
baz=78,SNR=9.8
WTSB **Winterswijk** 78.52 337 *e*P P 13 43 07.7 -0.8
comp=Z,24nm,0.5s
PKSG 78.53 328⇓*e*P P 13 43 08.6 -0.1
UBBA **Unterbreizbach** 78.57 334 *e*P P 13 43 08.2 -0.5
comp=Z,18nm,1.4s
KESW **Keswick, Cumbr** 78.58 343 *e*P P 13 43 08.6 -0.2
KESW AMB AMB 13 43 08.9
comp=Z,62nm,1.8s
X27A **F and S Farms,** 78.61 53 ⇓P P 13 43 10.4 +0.9
baz=78
V29A **Stinnett** 78.62 51 ⇓P P 13 43 09.6 +0.1
baz=78
U30A **WK&E Inc. Balk** 78.62 50 ⇑P P 13 43 09.7 +0.2
baz=78,SNR=7.1
GAL1 **Galloway** 78.64 344 *e*P P 13 43 08.5 -0.6
GAL1 AMB AMB 13 43 10.1
comp=Z,35nm,1.4s
Z25A **Roswell** 78.65 55 ⇓P P 13 43 10.5 +0.8
baz=78,SNR=9.5
SZH **Strazhica** 78.66 321 P pP 13 43 21.9 -1.9
W28A **Vega** 78.68 52 ⇓P P 13 43 10.5 +0.6
baz=78,SNR=16
BZS **Buzias** 78.68 325⇑*i*P P 13 43 08.9 -0.6
S32A **Newby Ranch, P** 78.70 48 ⇑P P 13 43 10.0 +0.2
baz=78
Y26A **Elida** 78.71 54 ⇑P P 13 43 10.2 +0.1
baz=78,SNR=11
T31A **Randall Ranch,** 78.74 49 ⇓P P 13 43 09.9 -0.2
baz=78,SNR=11
R33A **Olander Ranch,** 78.75 47 ⇓P P 13 43 09.8 -0.3
baz=78,SNR=17
ROTZ **Rotzenmuhle** 78.76 332 *e*P P 13 43 10.1 +0.2
comp=Z,22nm,1.2s
PKST **T`s** 78.78 328⇓*e*P P 13 43 09.7 -0.4
KHC **Kasperske Hory** 78.84 331⇑*i*P P 13 43 10.5 +0.1
KHC *e* 13 43 26.2
KHC *e*S **S** 13 53 02.3 -2.1
KHC MLR MLR
comp=Z,2μm,17.8s
KHC **Kasperske Hory** 78.84 331⇑*i*P P 13 43 10.5 +0.1
KHC *e*pP **pP** 13 43 26.2 +1.4
KHC *e*x x 13 43 57.5
KHC *e*S **S** 13 53 02.3 -2.1
KHC AMS AMS 14 21 10.0
comp=Z,2μm,17.8s
KHC **Kasperske Hory** 78.84 331 *e*P P 13 43 08.8 -1.6
comp=Z,21nm,0.8s
KSU1 **Kansas State U** 78.88 46 ⇓P P 13 43 10.4 -0.3
baz=79,SNR=12
KSU1 **Kansas State U** 78.88 46 *e*P P 13 43 08.0 -2.8
comp=Z,38nm,0.6s
SOP **Sopron** 78.99 329⇑*e*P P 13 43 11.5 +0.3
GEC2 **GERESS Array S** 79.04 331 *e*P P 13 43 11.1 -0.5
comp=Z,16nm,1.2s
GERES **GERESS Array B** 79.04 331 P P 13 43 11.1 -0.5
comp=Z,4.1nm,0.4s,baz=40,slow=5.7,SNR=66
GERES LR LR 14 21 42.7
comp=Z,2μm,19.3s,baz=24,slow=38
CONA **Conrad Observa** 79.04 329⇑*i*P P 13 43 11.9 +0.3
comp=Z,24nm,1.1s,SNR=10
JFWS **Jewell Farm** 79.05 39 *e*P P 13 43 10.2 -1.4
JFWS *e* 13 43 20.1
JFWS pmax pmax
comp=Z,13nm,0.6s
JFWS MLR MLR
comp=Z,1μm,20.0s
JFWS **Jewell Farm** 79.05 39 *e*P P 13 43 10.2 -1.4
comp=Z,14nm,0.6s
JFWS *e*PcP **PcP** 13 43 20.1 +0.1
JFWS LR LR
comp=Z,1μm,20.0s
CAN **Canberra** 79.07 179 PFAKE 13 43 20.0 +8.4
CAN LR LR
comp=Z,706nm,21.0s
WET **Wettzell** 79.07 332 *e*P P 13 43 11.8 +0.1
comp=Z,34nm,1.1s
T32A **Huedler Ranch,** 79.09 48 ⇑P P 13 43 11.7 -0.3
baz=79,SNR=16
W29A **Amarillo** 79.09 51 ⇑P P 13 43 11.9 -0.2
baz=79
Y27A **Causey** 79.12 53 ⇑P P 13 43 13.0 +0.6
baz=79,SNR=14
GRF **Grafenberg Arr** 79.15 333 *e*P P 13 43 12.3 +0.2
comp=Z,55nm,1.1s
GRF *e*L L 14 22 33.9
comp=Z,1μm,19.3s
GRFO **Grafenberg** 79.16 333 *e*P P 13 43 09.4 -2.7
GRFO *e* 13 43 19.6
GRFO pmax pmax
comp=Z,51nm,1.0s
GRFO **Grafenberg** 79.16 333 *e*P P 13 43 09.4 -2.7
comp=Z,51nm,1.0s
GRFO *e*PcP **PcP** 13 43 19.6 -0.7
V30A **Spur Ranch, Mi** 79.16 50 ⇑P P 13 43 12.4 -0.1
baz=79
U31A **Nine Bar Ranch** 79.18 49 ⇑P P 13 43 12.8 +0.3
baz=79,SNR=8.4
X28A **Dimmitt** 79.22 52 ⇓P P 13 43 13.1 +0.3
baz=79
AMTX **Amarillo** 79.25 52 ⇑P P 13 43 13.8 +0.8
baz=79
AMTX **Amarillo** 79.25 52 *e*P P 13 43 11.7 -1.2
comp=Z,58nm,0.8s
S33A **Kaszmaul Farm,** 79.27 47 ⇓P P 13 43 12.8 -0.2
baz=79,SNR=8.4
MSTX **Muleshoe** 79.29 53 ⇑P P 13 43 13.6 +0.4
baz=79,SNR=6.4
MSTX **Muleshoe** 79.29 53 *e*P P 13 43 12.3 -0.9
comp=Z,15nm,0.9s
MNTX **Cornudas Mount** 79.38 56 *e*P P 13 43 13.6 0.0
comp=Z,22nm,0.8s
MNTX LR LR
comp=Z,524nm,21.0s
KBI1 **Birley Grange** 79.48 342⇑*e*P P 13 43 13.2 -0.6
T33A **Patterson Ranc** 79.52 48 ⇑P P 13 43 14.6 +0.2
baz=79,SNR=13
X29A **Tulia** 79.56 52 ⇑P P 13 43 15.7 +1.0
baz=79,SNR=11
TNS **Taunus Mts** 79.57 335 *e*P P 13 43 14.1 -0.3
comp=Z,28nm,1.1s
MPEP **Malo Peshtene** 79.58 322 P P 13 43 14.2 -0.3
V31A **Spring Creek L** 79.62 50 ⇓P P 13 43 16.1 +1.1
baz=79,SNR=8.9
Y28A **McKinney Farm,** 79.63 53 ⇓P P 13 43 15.3 +0.2
baz=79
U32A **Winter Ranch,** 79.64 49 ⇑P P 13 43 15.7 +0.7
baz=79,SNR=7.7
W30A **Crocket Farms** 79.65 51 ⇓P P 13 43 15.5 +0.4
baz=79
MOA **Molln** 79.69 330⇑*i*P P 13 43 14.9 -0.1
comp=Z,14nm,1.2s
HGN **Heimansgroeve** 79.84 336 *e*P P 13 43 15.0 -0.7
comp=Z,40nm,1.2s
HGN **Heimansgroeve** 79.84 336 *e*S S 13 53 22.9 +8.1
BEBN **Eben Emael** 79.88 337 P P 13 43 15.4 -0.6
comp=Z,14nm,0.9s
MEM **Membach** 79.96 336 P P 13 43 16.1 -0.2
comp=Z,19nm,1.2s
Y29A **Porterfield Fa** 80.00 52 ⇑P P 13 43 17.5 +0.4
baz=80
W31A **Holland Ranch,** 80.00 50 ⇑P P 13 43 17.7 +0.7
baz=80,SNR=28
Z28A **Tucker Farm, M** 80.00 53 ⇓P P 13 43 17.3 +0.2
baz=80,SNR=7.9
X30A **Coker Ranch, T** 80.02 51 ⇓P P 13 43 17.3 +0.1
baz=80,SNR=6.9
U33A **Lingo Farm, Me** 80.08 48 ⇑P P 13 43 17.7 +0.3
baz=80,SNR=24
V32A **Arapaho** 80.10 49 ⇑P P 13 43 18.5 +1.1
baz=80,SNR=8.1
FOEL **Foel Wylfa** 80.19 343 *e*P P 13 43 17.5 -0.1
FOEL AMB AMB 13 43 18.1
comp=Z,45nm,1.3s
RJOB **Jochberg** 80.30 331 *e*P P 13 43 18.5 +0.1
comp=Z,23nm,1.1s
BCLA **Clavier** 80.33 337 P P 13 43 17.6 -0.8
comp=Z,21nm,1.4s
U34A **Anderson Ranch** 80.38 48 ⇑P P 13 43 19.4 +0.4
baz=80,SNR=40
U34A **Anderson Ranch** 80.38 48 *e*P P 13 43 19.2 +0.2
comp=Z,139nm,0.8s
X31A **McDonald Ranch** 80.39 51 ⇓P P 13 43 19.5 +0.5
baz=80,SNR=14
SOKA **Soboth** 80.40 329⇑*i*P P 13 43 18.7 -0.2
comp=Z,20nm,0.9s,SNR=13
PERS **Pernice** 80.40 329 *i* P P 13 43 18.6 -0.3
Z29A **Hungry Hill Ra** 80.41 53 ⇓P P 13 43 20.0 +0.8
baz=80,SNR=55
VTS **Vitosha** 80.42 322⇓*i*P P 13 43 19.8 +0.5
VTS **Vitosha** 80.42 322 P P 13 43 20.0 +0.7
Y30A **Stafford Cattl** 80.42 52 ⇑P P 13 43 20.4 +1.1
baz=80,SNR=5.8
128A **Castleberry Fa** 80.43 54 ⇑P P 13 43 19.9 +0.6
baz=80,SNR=27
W32A **Sentinel** 80.43 50 ⇑P P 13 43 19.5 +0.3
baz=80,SNR=29
V33A **Lossen Ranch,** 80.44 49 ⇑P P 13 43 19.6 +0.3
baz=80,SNR=15
FUR **Furstenfeldbru** 80.45 332 *e*P P 13 43 19.3 +0.1
comp=Z,46nm,1.0s
HLM1 **Long Mynd** 80.47 342⇑*e*P P 13 43 18.5 -0.6
SNF **Seneffe** 80.53 337 P P 13 43 19.3 -0.2
STU **Stuttgart** 80.61 334 *e*P P 13 43 18.1 -1.9
STU pmax pmax
comp=Z,15nm,0.3s
STU **Stuttgart** 80.61 334 *e*P P 13 43 19.8 -0.2
comp=Z,37nm,1.0s
STU **Stuttgart** 80.61 334 *e*P P 13 43 18.1 -1.9
comp=Z,16nm,0.3s
ISP **Isparta** 80.63 314 PFAKE 13 43 30.0 +10
ISP LR LR
comp=Z,749nm,19.0s
KBA **Koelnbreinsper** 80.67 330⇑*i*P P 13 43 20.8 +0.3
comp=Z,62nm,1.1s,SNR=16
OBKA **Obir** 80.72 329⇑*i*P P 13 43 20.3 -0.4
comp=Z,10nm,0.9s
Y31A **Rekieta Farm,** 80.72 51 ⇑P P 13 43 21.4 +0.6
baz=80
Z30A **Sanderson Ranc** 80.72 52 ⇑P P 13 43 21.3 +0.4
baz=80,SNR=28
228A **UT Block 9, Go** 80.73 54 ⇓P P 13 43 21.7 +0.7
baz=80,SNR=12
GIVF **Givet** 80.75 337⇑*i*P P 13 43 20.9 +0.2
comp=Z,100nm,1.3s
GIVF **Givet** 80.75 337⇑*i*P P 13 43 20.9 +0.2
GIVF pmax pmax
comp=Z,100nm,1.3s
GIVF **Givet** 80.75 337⇑*i*P P 13 43 20.9 +0.2
comp=Z,100nm,1.3s
129A **Stewart Farms,** 80.78 53 ⇓P P 13 43 21.7 +0.5
baz=80
DOU **Dourbes** 80.82 337 P P 13 43 20.1 -0.9
W33A **Caddo, Fort Co** 80.84 49 ⇑P P 13 43 22.3 +0.9
baz=81,SNR=6.9
V34A **Guthrie** 80.84 48 ⇑P P 13 43 21.5 0.0
baz=81,SNR=24
V34A **Guthrie** 80.84 48 P P 13 43 20.3 -1.2
comp=Z,79nm,0.8s
LANF **Langenberg** 80.86 335⇑*e*P P 13 43 21.0 -0.3
X32A **Elmer** 80.93 50 ⇑P P 13 43 22.3 +0.4
baz=81,SNR=15
BAIF **Baives** 80.96 337⇑*i*P P 13 43 21.0 -0.8
comp=Z,34nm,1.0s
BAIF **Baives** 80.96 337⇑*i*P P 13 43 21.0 -0.8
BAIF pmax pmax
comp=Z,34nm,1.0s
BAIF **Baives** 80.96 337⇑*i*P P 13 43 21.0 -0.8
comp=Z,34nm,1.0s
WMOK **Wichita Mounta** 80.97 50 *e*P P 13 43 20.8 -1.4
WMOK pmax pmax
comp=Z,32nm,0.9s
WMOK **Wichita Mounta** 80.97 50 *e*P P 13 43 20.8 -1.4
comp=Z,32nm,0.9s
MCH1 **Michaelchurch** 80.98 342⇑*e*P P 13 43 21.1 -0.7
MCH1 AMB AMB 13 43 25.0
comp=Z,59nm,3.0s
MMB **Musomiste** 80.99 321⇓*i*P P 13 43 22.8 +0.6
MMB **Musomiste** 80.99 321 P P 13 43 22.0 -0.2
KKB **Krupnik** 81.06 322 P P 13 43 23.4 +0.9
WATA **Walderalm** 81.07 332⇑*i*P P 13 43 22.5 -0.1
comp=Z,27nm,0.4s,SNR=9.3
LPW **Lampeter** 81.10 343 *e*P P 13 43 21.8 -0.7
Y32A **R-V Farms, Ver** 81.15 51 ⇑P P 13 43 23.4 +0.3
baz=81,SNR=9.8
W34A **Bridge Creek,** 81.15 49 ⇑P P 13 43 23.8 +0.7
baz=81,SNR=8.7
W34A **Bridge Creek,** 81.15 49 *e*P P 13 43 23.2 +0.1
comp=Z,53nm,0.8s
VISS **Visnje** 81.21 329 *i* P P 13 43 22.2 -1.0
WOL **Wolverton** 81.21 341 *e*P P 13 43 22.3 -0.7
WOL AMB AMB 13 43 29.1
comp=Z,100nm,2.1s
RETA **Reutte** 81.22 332⇑*i*P P 13 43 23.1 -0.2
comp=Z,29nm,1.2s,SNR=7.4
MOTA **Moosalm** 81.22 332⇑*i*P P 13 43 23.2 -0.2
comp=Z,49nm,1.1s,SNR=19
HMNX **Herstmonceux** 81.25 340 *e*P P 13 43 23.5 +0.3
HMNX AMB AMB 13 43 24.8
comp=Z,231nm,1.2s
ABTA **Abfaltersbach** 81.25 331⇑*i*P P 13 43 22.3 -1.2
comp=Z,4.7nm,0.6s
Z31A **Sharp Cattle R** 81.26 52 ⇓P P 13 43 24.0 +0.3
baz=81,SNR=12
X33A **Lawton** 81.27 50 ⇓P P 13 43 24.0 +0.3
baz=81
BFO **Black Forest** 81.27 334 P P 13 43 23.4 -0.1
comp=Z,88nm,1.1s,SNR=6.7
BFO **Black Forest** 81.27 334 P P 13 43 23.7 +0.2
comp=Z,30nm,1.1s,SNR=6.7
BFO **Black Forest** 81.27 334 *e*P P 13 43 22.4 -1.1
BFO pmax pmax
comp=Z,12nm,0.9s
BFO MLR MLR
comp=Z,806nm,21.0s
BFO **Black Forest** 81.27 334 *e*P P 13 43 23.1 -0.4
comp=Z,20nm,1.1s
BFO **Black Forest** 81.27 334 *e*P P 13 43 22.4 -1.1
comp=Z,12nm,0.9s
BFO *e*PcP **PcP** 13 43 29.4 -0.3
BFO *e*pP **pP** 13 43 35.1 -2.8
BFO LR LR
comp=Z,806nm,21.0s
CSS **Prodhromos** 81.29 311 PFAKE 13 43 30.0 +6.1
CSS LR LR
comp=Z,132nm,20.0s
229A **Bryant Ranch,** 81.29 54 ⇓P P 13 43 24.7 +0.7
baz=81,SNR=11
BOJS **Bojanci** 81.31 328 *e*P P 13 43 23.0 -0.8
130A **Snyder** 81.32 53 ⇑P P 13 43 24.6 +0.5
baz=81
JAVS **Javornik** 81.42 329 *i* P P 13 43 23.0 -1.4
CDF **Champ du Feu** 81.53 335⇑*i*P P 13 43 24.3 -0.7
comp=Z,62nm,1.1s
CDF **Champ du Feu** 81.53 335⇑*i*P P 13 43 24.3 -0.7
CDF pmax pmax
comp=Z,62nm,1.1s
CDF **Champ du Feu** 81.53 335⇑*i*P P 13 43 24.3 -0.7
comp=Z,62nm,1.1s
329A **Wagon Wheel Ra** 81.55 54 ⇑P P 13 43 26.0 +0.7
baz=81,SNR=21
NWAO **Narrogin (SRO)** 81.56 206 P P 13 43 25.5 +0.5
comp=Z,14nm,0.7s,baz=44,slow=5.3,SNR=7.6

X34A	Smith Ranch, M	81.59	49	⇓P		P	13 43 25.6	+0.2
	baz=81,SNR=16							
131A	Roby	81.59	52	⇑P		P	13 43 25.8	+0.3
	baz=81							
Y33A	Hilltop Ranch,	81.60	50	⇑P		P	13 43 25.7	+0.2
	baz=81,SNR=18							
FETA	Feichten	81.63	332	⇑iP		P	13 43 25.5	-0.1
	comp=Z,23nm,1.0s,SNR=9.5							
Z32A	Haskell	81.64	51	⇑P		P	13 43 25.9	+0.2
	baz=81,SNR=22							
DAVA	Damuels	81.69	332	⇑iP		P	13 43 25.7	-0.2
	comp=Z,32nm,1.1s,SNR=7.2							
TUL1	Leonard	81.71	47	⇓P		P	13 43 26.2	+0.2
	baz=81,SNR=17							
TUL1	Leonard	81.71	47	eP		P	13 43 26.0	0.0
	comp=Z,53nm,0.8s							
ECH	Echery	81.74	335	eP		P	13 43 22.1	-3.9
ECH	Echery	81.74	335	eP		P	13 43 25.5	-0.5
ECH	Echery	81.74	335	eP		P	13 43 22.1	-3.9
	comp=Z,21nm,0.9s							
230A	Sterling City	81.76	53	⇓P		P	13 43 26.8	+0.4
	baz=82,SNR=28							
PAGF	Fort de Pagny	81.88	336	⇑iP		P	13 43 26.4	-0.3
	comp=Z,29nm,1.1s							
PAGF	Fort de Pagny	81.88	336	⇑iP		P	13 43 26.4	-0.3
	comp=Z,29nm,1.1s							
HEX	Exmoor	82.03	342	⇑eP		P	13 43 27.1	-0.4
ABTX	Abilene, Hawle	82.06	52	⇑P		P	13 43 28.2	+0.3
	baz=82,SNR=5.7							
ABTX	Abilene, Hawle	82.06	52	eP		P	13 43 27.0	-0.9
	comp=Z,23nm,1.1s							
Z33A	Whitaker Ranch	82.06	51	⇑P		P	13 43 28.5	+0.6
	baz=82,SNR=7.6							
330A	Mertzon	82.07	54	⇓P		P	13 43 28.4	+0.3
	baz=82,SNR=19							
MOF	Molkenrain	82.07	334	⇑eP		P	13 43 27.2	-0.6
THEF	They Montfort	82.09	335	⇑eP		P	13 43 27.4	-0.4
TXAR	Lajitas Array	82.11	57	P		P	13 43 29.0	+0.7
	comp=Z,52nm,0.8s,baz=296,slow=3.6,SNR=342							
TXAR				pP		pP	13 43 43.5	+0.8
	comp=Z,18nm,0.5s,baz=294,slow=3.7,SNR=9.1							
TXAR				LR		LR	14 18 12.2	
	comp=Z,398nm,20.1s,baz=0.0,slow=34							
Y34A	Reagan Ranch,	82.12	50	⇓P		P	13 43 28.3	+0.1
	baz=82,SNR=14							
MEZF	Maizieres J'vi	82.12	336	⇑iP		P	13 43 27.6	-0.3
	comp=Z,52nm,1.0s							
MEZF	Maizieres J'vi	82.12	336	⇑iP		P	13 43 27.6	-0.3
	comp=Z,52nm,1.0s							
DAVOX	Davos/Dischmat	82.13	332	P		P	13 43 27.7	-0.6
	comp=Z,8.1nm,0.5s,baz=292,slow=3.0,SNR=16							
HAU	Haudompre	82.18	335	⇑iP		P	13 43 27.5	-0.8
	comp=Z,44nm,1.1s							
HAU				eR				
	comp=Z,2µm,21.0s							
HAU	Haudompre	82.18	335	⇑iP		P	13 43 27.5	-0.8
HAU				pmax		pmax		
	comp=Z,44nm,1.1s							
HAU	Haudompre	82.18	335	⇑iP		P	13 43 27.5	-0.8
	comp=Z,44nm,1.1s							
231A	Bronte	82.18	53	⇓P		P	13 43 28.7	+0.1
	baz=82,SNR=19							
HINF	Hinteralfeld	82.19	335	⇑iP		P	13 43 27.4	-1.0
	comp=Z,17nm,0.9s							
HINF	Hinteralfeld	82.19	335	⇑iP		P	13 43 27.4	-1.0
HINF				pmax		pmax		
	comp=Z,17nm,0.9s							
HINF	Hinteralfeld	82.19	335	⇑iP		P	13 43 27.4	-1.0
	comp=Z,17nm,0.9s							
RAYN	Ar Rayn	82.22	295	P		P	13 43 29.9	+0.9
	comp=Z,98nm,1.0s,SNR=6.5							
RAYN	Ar Rayn	82.22	295	eP		P	13 43 28.8	-0.2
	comp=Z,50nm,1.2s							
429A	Davenport Ranc	82.22	55	⇑P		P	13 43 29.0	+0.1
	baz=82,SNR=20							
NVLJ	Novalja	82.25	328	P		P	13 43 28.7	+0.1
SFTF	Sexfontaines	82.39	336	⇑iP		P	13 43 28.8	-0.6
	comp=Z,34nm,0.7s							
SFTF	Sexfontaines	82.39	336	⇑iP		P	13 43 28.8	-0.6
	comp=Z,34nm,0.7s							
529A	Stev Forest Ra	82.40	55	⇓P		P	13 43 30.1	+0.3
	baz=82,SNR=7.7							
SLM	Saint Louis	82.41	42	eP		P	13 43 29.3	-0.3
SLM				pmax		pmax		
	comp=Z,97nm,0.9s							
SLM	Saint Louis	82.41	42	eP		P	13 43 29.3	-0.3
	comp=Z,97nm,0.9s							
AAM	Ann Arbor	82.44	36	PFAKE			13 43 40.0	+10
AAM				LR		LR		
	comp=Z,1µm,20.0s							
VAL	Valentia	82.45	346	eP		P	13 43 26.6	-2.9
Z34A	Collier Ranch,	82.47	50	⇑P		P	13 43 30.1	+0.1
	baz=82,SNR=8.4							
133A	Hamilton Ranch	82.48	51	⇑P		P	13 43 30.4	+0.3
	baz=82,SNR=9.9							
430A	Baggett Ranch,	82.49	54	⇓P		P	13 43 30.6	+0.3
	baz=82							
SFIN	Lafayette	82.50	39	⇑P		P	13 43 29.8	-0.2
	baz=82,SNR=13							
SFIN	Lafayette	82.50	39	eP		P	13 43 28.4	-1.7
	comp=Z,47nm,1.0s							
STON	Ston	82.55	325	P		P	13 43 26.7	-3.5
TUE	Stuetta	82.58	332	eP		P	13 43 29.4	-1.3
	comp=Z,15nm,0.7s							
331A	San Angelo	82.58	53	⇓P		P	13 43 31.0	+0.3
	baz=82,SNR=14							
232A	Coleman	82.60	52	⇓P		P	13 43 31.1	+0.3
	baz=82,SNR=43							
LOMF	Lomont	82.61	334	eP		P	13 43 28.6	-2.1
Z35A	Perchaven, San	82.86	50	⇓P		P	13 43 32.1	0.0
	baz=83,SNR=7.3							
530A	J-C Ranch, Com	82.90	55	⇓P		P	13 43 32.9	+0.5
	baz=83,SNR=34							
332A	Millersview	82.92	53	⇓P		P	13 43 32.7	+0.2
	baz=83,SNR=22							
233A	Rising Star	82.92	52	⇑P		P	13 43 32.8	+0.3
	baz=83,SNR=8.3							
431A	Sonora	82.93	54	⇓P		P	13 43 32.7	+0.1
	baz=83,SNR=35							
PMOR	Pomariorio Ree	82.97	119	eT		T	15 14 41.0	
	comp=Z,325nm,0.2s							
134A	White-Moore Ra	82.97	51	⇑P		P	13 43 32.8	+0.1
	baz=83,SNR=5.3							
432A	Menard	83.26	53	⇑P		P	13 43 34.6	+0.3
	baz=83,SNR=28							
531A	Rocksprings	83.35	54	⇓P		P	13 43 35.1	+0.3
	baz=83,SNR=27							
OLIL	Olney	83.35	41	eP		P	13 43 34.2	-0.3
	comp=Z,41nm,0.8s							
135A	Vickery Place,	83.36	50	⇓P		P	13 43 35.3	+0.6
	baz=83,SNR=6.1							
234A	Clairette	83.37	51	⇓P		P	13 43 34.8	+0.1
	baz=83,SNR=15							
333A	Richland Sprin	83.39	52	⇑P		P	13 43 35.4	+0.5
	baz=83,SNR=19							
FLN	La Foliniere	83.39	339	eP		P	13 43 33.6	-0.9
	comp=Z,22nm,0.5s							
FLN				eR				
	comp=Z,1µm,21.8s							
FLN	La Foliniere	83.39	339	eP		P	13 43 33.6	-0.9
FLN				pmax		pmax		
	comp=Z,22nm,0.5s							
FLN	La Foliniere	83.39	339	eP		P	13 43 33.6	-0.9
	comp=Z,22nm,0.5s							
LDF	La Druitiere	83.46	339	eP		P	13 43 34.1	-0.8
	comp=Z,30nm,1.0s							
LDF	La Druitiere	83.46	339	eP		P	13 43 34.1	-0.8
LDF				pmax		pmax		
	comp=Z,30nm,1.0s							
LDF	La Druitiere	83.46	339	eP		P	13 43 34.1	-0.8
	comp=Z,30nm,1.0s							
CABF	La Chapelle	83.50	334	⇑iP		P	13 43 34.7	-0.6
	comp=Z,46nm,1.2s							
CABF	La Chapelle	83.50	334	⇑iP		P	13 43 34.7	-0.6
CABF				pmax		pmax		
	comp=Z,46nm,1.3s							
CABF	La Chapelle	83.50	334	⇑iP		P	13 43 34.7	-0.6
	comp=Z,46nm,1.3s							
JCT	Junction City	83.55	53	eP		P	13 43 36.0	+0.2
JCT				pmax		pmax		
	comp=Z,53nm,0.9s							
JCT				MLR		MLR		
	comp=Z,818nm,22.0s							
JCT	Junction City	83.55	53	⇑P		P	13 43 36.2	+0.4
	baz=83,SNR=26							
JCT	Junction City	83.55	53	eP		P	13 43 36.0	+0.2
	comp=Z,53nm,0.9s							
JCT				LR		LR		
	comp=Z,818nm,22.0s							
LOR	Lormes	83.58	336	⇑iP		P	13 43 34.9	-0.7
	comp=Z,51nm,0.9s							
LOR				eR				
	comp=Z,1µm,23.0s							
LOR	Lormes	83.58	336	⇑iP		P	13 43 34.9	-0.7
LOR				pmax		pmax		
	comp=Z,51nm,0.9s							
LOR	Lormes	83.58	336	⇑iP		P	13 43 34.9	-0.7
	comp=Z,51nm,0.9s							
SIUC	Southern Illin	83.63	42	eP		P	13 43 36.2	+0.3
	comp=Z,123nm,0.8s							
BLO	Bloomington	83.73	39	eP		P	13 43 35.6	-0.9
BLO				pmax		pmax		
	comp=Z,30nm,0.6s							
BLO	Bloomington	83.73	39	eP		P	13 43 35.6	-0.9
	comp=Z,30nm,0.6s							
532A	Rocksprings	83.75	54	⇓P		P	13 43 36.8	0.0
	baz=84,SNR=47							
433A	Art	83.76	53	⇑P		P	13 43 37.0	+0.2
	baz=84,SNR=26							
WHTX	Lake Whitney,	83.76	51	⇑P		P	13 43 36.9	+0.2
	baz=84,SNR=8.0							
WHTX	Lake Whitney,	83.76	51	eP		P	13 43 36.8	0.0
	comp=Z,30nm,0.8s							
334A	Lometa	83.81	52	⇑P		P	13 43 37.4	+0.4
	baz=84,SNR=34							
GRR	Gorron	83.84	340	⇑iP		P	13 43 36.5	-0.3
	comp=Z,37nm,0.6s							
GRR	Gorron	83.84	340	⇑iP		P	13 43 36.5	-0.3
GRR				pmax		pmax		
	comp=Z,37nm,0.6s							
GRR	Gorron	83.84	340	⇑iP		P	13 43 36.5	-0.3
	comp=Z,37nm,0.6s							
PPT	Papeete	83.86	122	LR		LR	14 14 52.2	
	comp=Z,344nm,21.2s,baz=334,slow=31							
SSF	Saint Saulge	83.87	336	⇑iP		P	13 43 36.4	-0.6
	comp=Z,51nm,0.9s							
SSF	Saint Saulge	83.87	336	⇑iP		P	13 43 36.4	-0.6
SSF				pmax		pmax		
	comp=Z,51nm,0.9s							
SSF	Saint Saulge	83.87	336	⇑iP		P	13 43 36.4	-0.6
	comp=Z,51nm,0.9s							
PPT2	Papeete2	83.87	122	eLR		LR	14 09 46.0	
	comp=Z,2µm,33.2s,baz=319							
PPT2	Papeete2	83.87	122	eT		T	15 15 50.7	
	comp=Z,46nm,0.3s							
631A	Perdido Creek	83.89	55	⇓P		P	13 43 37.7	+0.3
	baz=84,SNR=120							
MIAR	Mount Ida	83.92	47	eP		P	13 43 37.8	+0.3
MIAR				pmax		pmax		
	comp=Z,69nm,0.9s							
MIAR	Mount Ida	83.92	47	eP		P	13 43 37.8	+0.3
	comp=Z,69nm,0.9s							
PAE	Paea	83.93	122	eT		T	15 15 54.1	
	comp=Z,8.9nm,0.3s							
HYF	Humbligny	83.93	337	⇑iP		P	13 43 37.1	-0.2
HYF	Humbligny	83.93	337	⇑iP		P	13 43 37.1	-0.2
TIAR	Tiarei	83.99	121	eT		T	15 15 58.9	
	comp=Z,22nm,0.2s							
ERPA	Erie	84.10	34	eP		P	13 43 36.6	-1.7
	comp=Z,45nm,0.8s							
ERPA				LR		LR		
	comp=Z,1µm,22.0s							
SMF	Signal de Mont	84.15	336	⇑iP		P	13 43 38.0	-0.5
	comp=Z,80nm,0.9s							
SMF	Signal de Mont	84.15	336	⇑iP		P	13 43 38.0	-0.5
SMF				pmax		pmax		
	comp=Z,80nm,0.9s							
SMF	Signal de Mont	84.15	336	⇑iP		P	13 43 38.0	-0.5
	comp=Z,80nm,0.9s							
AVF	Avril sur Loir	84.16	336	⇑iP		P	13 43 38.1	-0.4
	comp=Z,56nm,0.9s							
AVF	Avril sur Loir	84.16	336	⇑iP		P	13 43 38.1	-0.4
AVF				pmax		pmax		
	comp=Z,56nm,0.9s							
AVF	Avril sur Loir	84.16	336	⇑iP		P	13 43 38.1	-0.4
	comp=Z,56nm,0.9s							
USIN	University of	84.17	41	eP		P	13 43 38.0	-0.7
	comp=Z,62nm,0.9s							
434A	Burnet	84.18	52	⇑P		P	13 43 38.9	0.0
	baz=84,SNR=16							
PARMO	Parma	84.20	43	eP		P	13 43 38.8	-0.1
137A	Heron Place, G	84.24	49	⇑P		P	13 43 39.4	+0.3
	baz=84							
LPL	La Plagne	84.28	334	⇑iP		P	13 43 39.3	-0.1
	comp=Z,26nm,0.6s							
LPL	La Plagne	84.28	334	⇑iP		P	13 43 39.3	-0.1
LPL				pmax		pmax		
	comp=Z,26nm,0.6s							
LPL	La Plagne	84.28	334	⇑iP		P	13 43 39.3	-0.1
	comp=Z,26nm,0.6s							
632A	Uvalde	84.28	54	⇓P		P	13 43 39.9	+0.5
	baz=84,SNR=32							
LPG	La Plagne	84.29	334	⇑iP		P	13 43 39.4	-0.1
	comp=Z,55nm,0.8s							
LPG	La Plagne	84.29	334	⇑iP		P	13 43 39.4	-0.1
LPG				pmax		pmax		
	comp=Z,55nm,0.8s							
LPG	La Plagne	84.29	334	⇑iP		P	13 43 39.4	-0.1
	comp=Z,55nm,0.8s							
533A	Kerrville	84.30	53	⇓P		P	13 43 40.1	+0.5
	baz=84							
335A	Moody	84.31	51	⇓P		P	13 43 39.7	+0.2
	baz=84							
SGMF	Saint Gilles	84.38	341	⇑iP		P	13 43 39.5	-0.1
	comp=Z,122nm,1.2s							
SGMF	Saint Gilles	84.38	341	⇑iP		P	13 43 39.5	-0.1
SGMF				pmax		pmax		
	comp=Z,122nm,1.2s							
SGMF	Saint Gilles	84.38	341	⇑iP		P	13 43 39.5	-0.1
	comp=Z,122nm,1.2s							
ALLY	Alegheny Colle	84.43	34	P		P	13 43 38.7	-1.3
	comp=Z,55nm,0.9s							
ACSO	Alum Creek Sta	84.43	37	eP		P	13 43 39.0	-1.0
	comp=Z,32nm,0.6s							
ACSO				LR		LR		
	comp=Z,1µm,21.0s							
ROSF	Rostrenen	84.47	341	⇑iP		P	13 43 39.9	-0.1
	comp=Z,76nm,0.9s							
ROSF	Rostrenen	84.47	341	⇑iP		P	13 43 39.9	-0.1
ROSF				pmax		pmax		
	comp=Z,77nm,0.9s							
ROSF	Rostrenen	84.47	341	⇑iP		P	13 43 39.9	-0.1
	comp=Z,76nm,0.9s							
336A	Riesel	84.55	51	⇓P		P	13 43 41.5	+0.7
	baz=84							
138A	Matatall Enter	84.56	49	⇓P		P	13 43 42.3	+1.5
	baz=84							
435B	Jarrell	84.59	52	⇓P		P	13 43 41.8	+0.8
	baz=84							
WCI	Wyandotte Cave	84.60	40	eP		P	13 43 40.9	0.0
WCI				pmax		pmax		
	comp=Z,52nm,0.8s							
WCI	Wyandotte Cave	84.60	40	eP		P	13 43 40.9	0.0
	comp=Z,52nm,0.8s							
534A	Blanco	84.65	53	⇓P		P	13 43 42.0	+0.6
	baz=84,SNR=26							
NCB	Newcomb	84.66	29	eP		P	13 43 40.6	-0.5
	comp=Z,20nm,0.8s							
237A	Washetta, Mont	84.66	50	⇑P		P	13 43 42.2	+0.9
	baz=84							
633A	Saathoff Ranch	84.67	54	⇑P		P	13 43 42.5	+1.1
	baz=84,SNR=9.5							
AQU	L'Aquila	84.69	328	PFAKE			13 43 50.0	+8.7
AQU				LR		LR		
	comp=Z,2µm,22.0s							
BNI	Bardonecchia	84.71	333	eP		P	13 43 40.6	-0.9
BNI				pmax		pmax		
	comp=Z,9.0nm,0.6s							
BNI				MLR		MLR		
	comp=Z,2µm,22.0s							
BNI	Bardonecchia	84.71	333	eP		P	13 43 40.6	-0.9
	comp=Z,9.3nm,0.6s							
BNI				LR		LR		
	comp=Z,2µm,22.0s							
GLAT	Glass	84.75	43	eP		P	13 43 42.2	+0.6
732A	Laxson Ranch,	84.75	55	⇓P		P	13 43 42.9	+1.1
	baz=84,SNR=38							
PLDF	La Plantade	84.83	336	⇑eP		P	13 43 42.2	+0.2
QUIF	Quistinic	84.84	341	eP		P	13 43 40.7	-1.2
	comp=Z,44nm,0.9s							
QUIF	Quistinic	84.84	341	eP		P	13 43 40.7	-1.2
QUIF				pmax		pmax		
	comp=Z,44nm,0.9s							
QUIF	Quistinic	84.84	341	eP		P	13 43 40.7	-1.2
	comp=Z,44nm,0.9s							
H06N1	SOCORRO T-PHAS	84.88	69	T		T	15 17 56.1	
	SNR=4.1							
AGO	Saint Agoulin	84.90	336	⇑eP		P	13 43 42.7	+0.4
TCF	Toulx Ste Croi	84.95	337	⇑iP		P	13 43 42.4	-0.1
	comp=Z,48nm,1.1s							
TCF	Toulx Ste Croi	84.95	337	⇑iP		P	13 43 42.4	-0.1
TCF				pmax		pmax		
	comp=Z,48nm,1.1s							
TCF	Toulx Ste Croi	84.95	337	⇑iP		P	13 43 42.4	-0.1
	comp=Z,48nm,1.1s							
MBDF	Montbardon	84.97	333	⇑iP		P	13 43 42.1	-0.7
	comp=Z,19nm,0.5s							
MBDF	Montbardon	84.97	333	⇑iP		P	13 43 42.1	-0.7
MBDF				pmax		pmax		
	comp=Z,19nm,0.5s							
MBDF	Montbardon	84.97	333	⇑iP		P	13 43 42.1	-0.7
	comp=Z,19nm,0.5s							
H06E1	SOCORRO T-PHAS	84.97	69	T		T	15 17 58.2	
	SNR=26							
MEH	Mehetia	85.02	121	eT		T	15 17 15.9	
	comp=Z,161nm,0.2s							
238A	Jacksonville	85.04	49	⇑P		P	13 43 44.6	+1.4
	baz=85							
436A	Wall Ranch, Ga	85.05	51	⇓P		P	13 43 44.2	+1.0
	baz=85							
832A	Faith Ranch, C	85.08	55	⇓P		P	13 43 44.3	+0.8
	baz=85,SNR=31							
ORIF	Oris-en-Rattie	85.08	334	⇑iP		P	13 43 43.2	-0.1
	comp=Z,23nm,0.7s							
ORIF				eR				
	comp=Z,919nm,22.5s							
ORIF	Oris-en-Rattie	85.08	334	⇑iP		P	13 43 43.2	-0.1
ORIF				pmax		pmax		
	comp=Z,23nm,0.7s							
ORIF	Oris-en-Rattie	85.08	334	⇑iP		P	13 43 43.2	-0.1
	comp=Z,23nm,0.7s							
337A	Centerville	85.14	50	⇓P		P	13 43 45.0	+1.2
	baz=85							
733A	Divot King Ran	85.15	54	⇑P		P	13 43 44.4	+0.6
	baz=85,SNR=11							
SSB	Saint Sauveur	85.17	335	eP		P	13 43 42.6	-1.1
SSB				pmax		pmax		
	comp=Z,22nm,1.0s							
SSB	Saint Sauveur	85.17	335	eP		P	13 43 42.5	-1.1
	comp=Z,22nm,1.0s							
SSB				ePcP		PcP	13 43 46.1	-0.7
LBNH	Lisbon	85.20	27	PFAKE			13 43 50.0	+6.2
LBNH				LR		LR		
	comp=Z,2µm,19.0s							
634A	China Grove, S	85.20	53	⇓P		P	13 43 44.9	+0.8
	baz=85							
PYM	Petit Puy Mans	85.21	336	⇑eP		P	13 43 44.2	+0.3
COLF	Collangettes	85.21	336	⇑eP		P	13 43 44.1	+0.2
MFF	Saint Martin d	85.31	338	⇑iP		P	13 43 44.3	0.0
	comp=Z,76nm,1.1s							
MFF	Saint Martin d	85.31	338	⇑iP		P	13 43 44.3	0.0
MFF				pmax		pmax		
	comp=Z,76nm,1.1s							
MFF	Saint Martin d	85.31	338	⇑iP		P	13 43 44.3	0.0
	comp=Z,76nm,1.1s							
ACCN	Adirondack Com	85.37	29	eP		P	13 43 44.2	-0.4
	comp=Z,36nm,1.3s							
437A	Phantom Ranch,	85.37	51	⇑P		P	13 43 46.0	+1.2
	baz=85							
239A	Gary	85.38	49	⇑P		P	13 43 45.6	+0.7
	baz=85,SNR=6.9							
833A	Chaparral WMA,	85.39	55	⇓P		P	13 43 45.8	+0.8
	baz=85,SNR=9.9							
LCHF	La Chataignera	85.40	339	⇑eP		P	13 43 45.4	+0.7
536A	Bastrop	85.42	52	⇓P		P	13 43 46.2	+1.1
	baz=85,SNR=7.6							
338A	Crockett	85.43	50	⇑P		P	13 43 46.6	+1.4
	baz=85							
IDI	Anoyia	85.44	316	P		P	13 43 44.6	-0.6
	comp=Z,13nm,0.4s,baz=0.5,slow=12,SNR=18							
734A	La Parita Cree	85.48	54	⇑P		P	13 43 47.0	+1.5
	baz=85							
SBF	Sospel	85.51	332	⇑iP		P	13 43 44.5	-1.0
	comp=Z,17nm,0.4s							
SBF	Sospel	85.51	332	⇑iP		P	13 43 44.5	-1.0
SBF				pmax		pmax		
	comp=Z,17nm,0.4s							
SBF	Sospel	85.51	332	⇑iP		P	13 43 44.5	-1.0
	comp=Z,17nm,0.4s							
VIVF	Saint-Julien-l	85.52	335	⇑iP		P	13 43 45.4	0.0
	comp=Z,54nm,1.1s							
VIVF	Saint-Julien-l	85.52	335	⇑iP		P	13 43 45.4	0.0
VIVF				pmax		pmax		
	comp=Z,54nm,1.1s							
VIVF	Saint-Julien-l	85.52	335	⇑iP		P	13 43 45.4	0.0
	comp=Z,54nm,1.1s							
635A	Leesville	85.53	53	⇑P		P	13 43 46.9	+1.2
	baz=85							
WVT	Waverly	85.57	42	eP		P	13 43 45.4	-0.3
WVT				pmax		pmax		
	comp=Z,42nm,0.8s							
WVT	Waverly	85.57	42	eP		P	13 43 45.4	-0.3
	comp=Z,42nm,0.8s							
BINY	Binghamton	85.57	31	PFAKE			13 44 00.0	+14
BINY				LR		LR		
	comp=Z,977nm,20.0s							
LBL	Lubilhac	85.61	336	⇑eP		P	13 43 46.3	+0.4
CUC	Castrocucco	85.73	325	PFAKE			13 44 00.0	+13
CUC				LR		LR		
	comp=Z,726nm,19.0s							
438A	Sam Houston St	85.80	50	⇑P		P	13 43 48.3	+1.4
	baz=86							
339A	Huntington	85.86	49	⇑P		P	13 43 48.9	+1.6
	baz=86							
636A	Smothers Creek	85.87	52	⇑P		P	13 43 49.1	+1.7
	baz=86,SNR=16							
735A	Kenedy	85.91	53	⇑P		P	13 43 49.3	+1.7
	baz=86							
933A	Laredo	85.99	55	⇑P		P	13 43 49.6	+1.6
	baz=86,SNR=24							
SMRF	Simiane la Rot	86.02	334	⇑iP		P	13 43 48.0	+0.1
	comp=Z,19nm,0.9s							
SMRF	Simiane la Rot	86.02	334	⇑iP		P	13 43 48.0	+0.1
	comp=Z,19nm,0.9s							
834A	Tilden	86.03	54	⇑P		P	13 43 49.7	+1.5
	baz=86							
RJF	Les Rejaudoux	86.04	337	⇑iP		P	13 43 48.0	0.0
	comp=Z,79nm,1.2s							
RJF				eR				
	comp=Z,2µm,21.2s							
RJF	Les Rejaudoux	86.04	337	⇑iP		P	13 43 48.0	0.0
RJF				pmax		pmax		
	comp=

comp=Z,64nm,1.0s
934A Benavides 86.44 54 ⇑P P 13 43 51.5 +1.3
baz=86
LASF Ste Croix 86.47 335 ⇑iP P 13 43 50.4 +0.3
comp=Z,67nm,1.3s
LASF Ste Croix 86.47 335 ⇑iP P 13 43 50.4 +0.3
comp=Z,67nm,1.3s
LFF La Frestale 86.60 337 ⇑iP P 13 43 51.0 +0.3
comp=Z,27nm,0.5s
LFF La Frestale 86.60 337 ⇑iP P 13 43 51.0 +0.3
LFF pmax pmax
comp=Z,27nm,0.5s
LFF La Frestale 86.60 337 ⇑iP P 13 43 51.0 +0.3
comp=Z,27nm,0.5s
034A Hebbronville 86.74 55 ⇑P P 13 43 53.6 +1.9
baz=86,SNR=8.2
CEL Celeste 87.16 324 PFAKE
CEL LR LR
comp=Z,1μm,19.0s
SWET Sewanee 87.21 41 *e*P **P 13 43 53.2 -0.7**
comp=Z,42nm,0.7s
MTLF Montolieu 87.63 336 ⇑iP P 13 43 55.9 +0.2
MTLF Montolieu 87.63 336 ⇑iP P 13 43 55.9 +0.2
MTLF Montolieu 87.63 336 ⇑iP P 13 43 55.9 +0.2
SDMD Soldier's Deli 87.65 33 *e*P **P 13 43 55.4 -0.5**
TKL Tuckaleechee C 87.86 40 *e*P **P 13 43 56.3 -0.7**
TKL Tuckaleechee C 87.86 40 *e*P **P 13 43 56.3 -0.7**
BLA Blacksburg 88.05 37 *e*P **P 13 43 56.6 -1.3**
BLA pmax pmax
comp=Z,44nm,0.9s
BLA MLR MLR
comp=Z,992nm,20.0s
BLA Blacksburg 88.05 37 *e*P **P 13 43 56.6 -1.3**
comp=Z,44nm,0.9s
BLA LR LR
comp=Z,992nm,20.0s
TBI Tubuai 88.34 125 *e*T T 15 21 26.1
comp=Z,29nm,0.3s
LRAL Lakeview Retre 88.46 43 *e*P **P 13 43 58.9 -0.9**
comp=Z,25nm,1.1s
EPF Esparros 88.47 337 ⇑iP P 13 43 58.9 -0.9
comp=Z,14nm,0.8s
EPF Esparros 88.47 337 ⇑iP P 13 43 58.9 -0.9
EPF pmax pmax
comp=Z,15nm,0.8s
EPF Esparros 88.47 337 ⇑iP P 13 43 58.9 -0.9
comp=Z,14nm,0.8s
CBN Corbin Frederi 88.47 34 PFAKE
CBN LR LR
comp=Z,1μm,22.0s
ETSF Etsaut 88.84 337 ⇑iP P 13 44 00.6 -1.0
comp=Z,23nm,0.7s
ETSF Etsaut 88.84 337 ⇑iP P 13 44 00.6 -1.0
ETSF pmax pmax
comp=Z,23nm,0.7s
ETSF Etsaut 88.84 337 ⇑iP P 13 44 00.6 -1.0
comp=Z,23nm,0.7s
KMSC Kings Mountain 89.39 38 ⇓P P 13 44 04.6 +0.5
baz=89,SNR=7.8
KMSC Kings Mountain 89.39 38 *e*P **P 13 44 03.8 -0.4**
comp=Z,29nm,1.0s
GOGA Godfrey 89.86 41 PFAKE 13 44 20.0 +14
GOGA LR LR
comp=Z,842nm,20.0s
BRAL Brewton 90.06 45 PFAKE 13 44 20.0 +13
BRAL LR LR
comp=Z,1μm,20.0s
CNNC Cliffs of the 90.80 36 PFAKE 13 44 20.0 +9.3
CNNC LR LR
comp=Z,982nm,20.0s
TIGA Tifton 91.42 42 ⇑P P 13 44 14.6 +0.9
baz=91
KEST Kesra 91.99 327 P **P 13 44 16.1 -0.3**
comp=Z,0.6nm,0.4s,baz=198,slow=6.4,SNR=2.9
KEST LR LR 14 30 25.8
comp=Z,548nm,18.5s,baz=346,slow=39
ESDC Sonseca Array 92.77 338 P **P 13 44 19.1 -0.8**
comp=Z,0.8nm,0.5s,baz=26,slow=3.8,SNR=7.2
ESDC LR LR 14 30 10.7
comp=Z,692nm,21.5s,baz=15,slow=38
MTE Manteigas 92.97 341 PFAKE 13 44 30.0 +9.2
MTE LR LR
comp=Z,1μm,20.0s
MSEY Mahe Island 94.83 268 PFAKE 13 44 40.0 +10
MSEY LR LR
comp=Z,714nm,20.0s
RKT Rikitea 97.19 115 *e*LR LR 14 16 08.8
comp=Z,883nm,31.5s
BBSR BB Station 98.33 27 PFAKE 13 45 00.0 +15
BBSR LR LR
comp=Z,1μm,20.0s
AIS Amsterdam Isla 103.27 230 R 14 18 00.0
GTBY Guantanamo Bay 105.19 42 PFAKE 13 49 40.0
GTBY LR LR
comp=Z,627nm,21.0s
GRTK Grand Turk 105.63 37 PFAKE 13 49 40.0
GRTK LR LR
comp=Z,1μm,20.0s
JTS JuntasAbangare 107.86 55 PFAKE 13 49 50.0
JTS LR LR
comp=Z,520nm,21.0s
ABPO Ambohimpanom 110.41 263 PFAKE 13 49 50.0
ABPO LR LR
comp=Z,783nm,20.0s
DRV Dumont d'Urvil 110.60 183 SP SP 13 59 27.0 -13
DRV SS SS 14 05 34.0 -7.4
DRV L L 14 16 00.0
DRV R 14 23 00.0
BCIP Isla Barro Col 111.73 52 PFAKE 13 49 50.0
BCIP LR LR
comp=Z,628nm,21.0s
PAF Port-aux-Franc 115.02 225 SP SP 14 00 16.0 -5.1
PAF SS SS 14 06 32.0 -8.6
PAF R 14 25 00.0
TORD Torodi Ar. Bea 115.16 323 PKP **PKPdf 13 49 47.5 -1.4**
comp=Z,0.7nm,0.5s,baz=18,slow=2.3,SNR=16
TORD PP PP 13 50 54.3 +5.8
comp=Z,0.7nm,0.7s,baz=24,slow=5.9,SNR=3.6
FDF Fort de France 115.79 31 PFAKE 13 50 00.0 +10
FDF LR LR
comp=Z,769nm,22.0s
BBGH Gun Hill 117.83 30 PFAKE 13 50 10.0 +16
BBGH LR LR
comp=Z,1μm,19.0s
GRGR Grenville 117.97 33 PFAKE 13 50 10.0 +16
GRGR LR LR
comp=Z,425nm,20.0s
VNDA Vanda 121.67 176 PKP **PKPdf 13 49 59.2 -0.4**
comp=Z,0.4nm,0.5s,baz=332,slow=5.6,SNR=4.1
CRZF Crozet Islands 123.49 236 R 14 30 00.0
DBIC Dimbokro 123.71 327 PKP **PKPdf 13 50 04.3 -1.1**
comp=Z,4.4nm,0.8s,baz=48,slow=1.9,SNR=5.2
BOSA Boshof 132.10 269 PKP **PKPdf 13 50 20.8 -0.3**
comp=Z,2.4nm,0.9s,baz=79,slow=5.2,SNR=2.5
BOSA SKPbc **SKPbc 13 53 41.6 -1.5**
comp=Z,12nm,1.0s,baz=78,slow=4.3,SNR=7.3
SAML Samuel 135.88 47 *e*PKPdf **PKPdf 13 50 28.2 -0.3**
LPAZ La Paz 138.94 59 PKP **PKPdf 13 50 35.1 +0.3**
comp=Z,0.8nm,0.5s,baz=49,slow=4.0,SNR=4.1
ASCN Ascension 140.71 331 PFAKE 13 50 50.0 +13
ASCN LR LR
comp=Z,826nm,20.0s
SIV San Ignacio 142.85 50 PKP **PKPdf 13 50 41.4 +0.3**
comp=Z,2.0nm,0.7s,baz=347,slow=0.5,SNR=3.9
NVL N'lazarevskaya 145.67 204 *e*PKP2 **PKPab 13 50 45.2 0.0**
NVL pmax pmax
comp=Z,36nm,0.8s
BDFB Brasilia 148.63 30 PKPbc **PKPbc 13 50 54.7 -0.1**
comp=Z,12nm,0.7s,baz=285,slow=3.6,SNR=10
SNAA Sanae 148.92 198 P **PKPbc 13 50 54.1 +0.3**
SNAA Sanae 148.92 198 PKP2 **PKPbc 13 50 54.8 +0.9**
SNAA pmax pmax
comp=Z,5.0nm,1.0s
SNAA Sanae 148.92 198 PKPbc **PKPbc 13 50 54.8 +0.9**
comp=Z,5.0nm,1.0s,baz=188,slow=8.0,SNR=8.9
SNAA Sanae 148.92 198 *e*PKPbc **PKPbc 13 50 54.1 +0.3**
VNA2 Neumayer--Watz 150.45 196 P **PKPbc 13 50 58.6 +1.1**
VNA3 Neumayer Olymp 150.63 195 P **PKPbc 13 50 58.5 +0.6**
VNA1 Neumayer--Stat 150.84 196 P **PKPbc 13 51 00.9 +2.5**
CPUP Villa Florida 153.08 57 PKPbc **PKPbc 13 51 05.1 +0.3**
comp=Z,0.7nm,0.3s,baz=288,slow=6.3,SNR=4.1
EFI East Falkland 161.20 123 PFAKE 13 51 20.0 +13
EFI LR LR
comp=Z,2μm,20.0s
HOPE Hope Point 169.46 166 PFAKE 13 51 20.0 +6.3
HOPE LR LR
comp=Z,931nm,19.0s

*IDC **06** 13:34:15.9±3.2, 38°.03S×73°.81W, h0km, mb4.1/5, mb1 4.0/7, mb1mx3.9/32, mbtmp3.9/7, ML3.6/2, Error ellipse: s-maj=71.9km s-min=18.0km az=68.0*
*ISCJB **06** 13:34:20.5±1.2, 37°.83S±0°.09×73°.4W±0°.2, h22km, mb4.0/7, Error ellipse: s-maj=25.5km s-min=13.2km az=5.1*
*NEIC **06** 13:34:23.3±1.1, 37°.84S×73°.51W, h35km, mb4.0/2, Error ellipse: s-maj=24.5km s-min=12.2km az=91.0*
ISC 06 13:34:21.1±1.3, 37°.8S±0°.1×73°.7W±0°.2, h22km, n11, σ1°22/11, mb4.1/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.77**	**141**	Pn	**Pn**	**13 35 16.1**	**-1.8**
	1.7nm,0.3s,baz=308,slow=7.0,SNR=31						
PLCA				Pg	Pb	13 35 21.6	-5.3
	11nm,0.3s,baz=319,slow=16,SNR=50						
PLCA				Lg	Lg	13 36 13.2	
	19nm,0.3s,baz=215,slow=22,SNR=5.8						
CFAA	**Coronel Fontan**	**7.65**	**37**	Pn	**Pn**	**13 36 11.1**	**-0.2**
	0.3nm,0.3s,baz=212,slow=16,SNR=8.5						
TRQA	**Tornquist**	**9.23**	**95**	*e*Pn	**Pn**	**13 36 33.3**	**+0.5**
	6.8nm,0.8s						
LPAZ	**La Paz**	**22.01**	**14**	P	**P**	**13 39 15.1**	**+0.6**
	0.9nm,0.5s,baz=178,slow=11,SNR=3.0						
SIV	**San Ignacio**	**24.43**	**30**	P	**P**	**13 39 38.0**	**-0.2**
	2.6nm,0.8s,baz=229,slow=10,SNR=5.4						
BDFB	**Brasilia**	**31.64**	**53**	P	**P**	**13 40 43.8**	**+0.9**
	1.4nm,0.4s,baz=162,slow=3.2,SNR=3.1						
SNAA	**Sanae**	**48.57**	**157**	*e*P	**P**	**13 43 03.6**	**+1.3**
	1.8nm,0.8s						
QSPA	**South Pole Qui**	**52.41**	**180**	*e*P	**P**	**13 43 32.7**	**+1.2**
	1.1nm,0.8s						
DBIC	**Dimbokro**	**77.65**	**71**	P	**P**	**13 46 16.3**	**+0.2**
	4.9nm,0.7s,baz=216,slow=4.6,SNR=6.0						
TORD	**Torodi Ar. Bea**	**86.73**	**71**	P	**P**	**13 47 02.5**	**-1.1**
	0.7nm,0.6s,baz=223,slow=4.1,SNR=7.8						
MKAR	**Makanchi Array**	**160.15**	**56**	PKPab	**PKPab**	**13 54 56.9**	**-1.6**
	0.6nm,0.7s,baz=298,slow=2.6,SNR=5.6						

*ISCJB **06** 13:34:45.2±0.6, 5°.85S±0°.05×129°.00E±0°.07, h264km, mb3.5/1, Error ellipse: s-maj=10.0km s-min=5.6km az=22.0*
*IDC **06** 13:34:46.3±4.0, 5°.96S×128°.96E, h273km±38km, mb3.2/1, mb1 3.5/4, mb1mx3.1/38, mbtmp4.1/4, Error ellipse: s-maj=44.3km s-min=13.7km az=69.0*
ISC 06 13:34:45.6±0.9, 5°.91S±0°.07×129°.02E±0°.09, h264km, n10, σ2°10/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.38**	**48**	P	**Pn**	**13 35 56.9**	**+2.4**
	baz=4.4,SNR=6.6						
FAKI				S	**S**	**13 36 46.4**	**-3.1**
	baz=4.4,SNR=4.7						
SWI	**Sorong**	**5.49**	**24**	P	**Pn**	**13 36 09.1**	**+1.3**
	baz=5.6,SNR=4.4						
SWI				S	**S**	**13 37 11.2**	**-2.4**
	baz=5.6,SNR=8.2						
SOEI	**Soe**	**6.06**	**231**	P	**Pn**	**13 36 16.7**	**+1.8**
	baz=6.0,SNR=13						
BATI	**Baumata**	**6.81**	**231**	P	**Pn**	**13 36 24.2**	**+0.1**
	5.6nm,0.3s,baz=43,slow=2.4,SNR=12						
BATI				S	**S**	**13 37 41.8**	**-1.5**
	2.2nm,0.3s,baz=16,slow=20,SNR=3.7						
MTN	**Manton Dam**	**7.20**	**163**	P	**Pn**	**13 36 30.7**	**+1.8**
	baz=7.2,SNR=38						
KDU	**Kakadu**	**7.55**	**153**	P	**Pn**	**13 36 35.4**	**+2.0**
	baz=7.5,SNR=54						
KNRA	**Kununurra**	**9.71**	**181**	P	**Pn**	**13 37 01.3**	**+0.9**
	baz=9.7,SNR=19						
WRA	**Warramunga Arr**	**14.88**	**160**	P	**Pn**	**13 38 04.8**	**+0.8**
	0.7nm,0.3s,baz=342,slow=12,SNR=25						
WRA				S	**S**	**13 40 43.9**	**-3.8**
	0.3nm,0.3s,baz=340,slow=22,SNR=8.9						
ASAR	**Alice Springs**	**18.27**	**166**	P	**P**	**13 38 41.4**	**+1.0**
	0.6nm,0.3s,baz=344,slow=12,SNR=40						
ASAR				S	**S**	**13 41 54.5**	**-1.0**
	0.2nm,0.3s,baz=346,slow=21,SNR=9.5						
MKAR	**Makanchi Array**	**66.78**	**327**	P	**P**	**13 45 08.5**	**-0.4**
	0.7nm,0.7s,baz=110,slow=8.4,SNR=3.2						

IDC 06 13:47:14.8±1.6, 36°.94S×73°.54W, h0km, mb3.6/1, mb1 3.9/2, mb1mx3.6/24, mbtmp3.5/2, ML3.8/1, Error ellipse: s-maj=177.2km s-min=22.4km az=60.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.45**	**149**	Pn	Pn	13 48 24.7	+1.1
	1.2nm,0.3s,baz=327,slow=10,SNR=6.6						
PLCA				Lg	Lg	13 49 35.1	
	3.4nm,0.3s,baz=20,slow=9.2,SNR=5.7						
TXAR	**Lajitas Array**	**71.73**	**333**	P	P	13 58 38.8	-0.1
	0.4nm,0.7s,baz=153,slow=8.1,SNR=4.7						
WRA	**Warramunga Arr**	**117.60**	**210**	PKP	PKPdf	14 06 03.0	-0.2
	0.4nm,1.0s,baz=161,slow=1.7,SNR=8.2						

*IDC **06** 13:59:26.2±1.5, 35°.96N×24°.03E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.5/38, mbtmp3.8/4, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/47, Error ellipse: s-maj=23.9km s-min=13.5km az=51.0*
*ISCJB **06** 13:59:32.8±1.2, 34°.6N±0°.1×25°.20E±0°.05, h55km±10km, mb3.6/3, Error ellipse: s-maj=19.8km s-min=6.5km az=1.3*
*ATH **06** 13:59:32.9, 34°.65N×25°.18E, h45km±6km, MD3.4/17*
*CSEM **06** 13:59:32.9, 34°.65N×25°.18E, h45km, MD3.4*
ISC 06 13:59:33.9±1.4, 34°.7N±0°.1×25°.21E±0°.04, h42km±14km, n40, σ1°00/46, mb3.8/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.48**	**317**	*e*P	**Pn**	**13 59 43.9**	**-0.6**
SIVA				*e*S	**Sn**	**13 59 52.5**	**+0.5**
SIVA	**Sivas**	**0.48**	**317**	*e*P	**Pn**	**13 59 43.9**	**-0.6**
SIVA				*e*S	**Sn**	**13 59 52.5**	**+0.5**
LAST	**Lasithi**	**0.54**	**24**	*e*P	**Pn**	**13 59 44.9**	**-0.5**
LAST				*e*S	**Sn**	**13 59 54.1**	**+0.6**
LAST	**Lasithi**	**0.54**	**24**	*e*P	**Pn**	**13 59 44.9**	**-0.5**
LAST				*e*S	**Sn**	**13 59 54.1**	**+0.6**
IDI	**Anoyia**	**0.68**	**337**	Pg	**Pn**	**13 59 46.6**	**-0.5**
	52nm,0.3s,baz=148,slow=18,SNR=174						
IDI				Lg	Lg	13 59 56.8	
	130nm,0.3s,baz=229,slow=20,SNR=23						
NPS	**Neapolis**	**0.68**	**29**	*e*P	**Pn**	**13 59 47.5**	**+0.3**
NPS				*e*S	**Sn**	**13 59 57.3**	**+0.6**
NPS	**Neapolis**	**0.68**	**29**	*e*P	**Pn**	**13 59 47.5**	**+0.3**
NPS				*e*S	**Sn**	**13 59 57.3**	**+0.6**
ZKR	**Zakros**	**0.94**	**61**	*e*P	**Pn**	**13 59 51.2**	**+0.5**
ZKR				*e*S	**Sn**	**14 00 04.8**	**+1.8**
ZKR	**Zakros**	**0.94**	**61**	*e*P	**Pn**	**13 59 51.2**	**+0.5**
VAM	**Vamos**	**1.11**	**312**	*e*P	**Pn**	**13 59 52.3**	**-0.7**
VAM				*e*S	**Sn**	**14 00 08.2**	**+1.1**
VAM	**Vamos**	**1.11**	**312**	*e*P	**Pn**	**13 59 52.3**	**-0.7**
SANT	**Santorini**	**1.72**	**7**	*e*P	**Pn**	**14 00 01.4**	**+0.1**
SANT	**Santorini**	**1.72**	**7**	*e*P	**Pn**	**14 00 01.4**	**+0.1**
KARP	**Karpathos**	**1.83**	**61**	*e*P	**Pn**	**14 00 03.9**	**+1.1**
KARP	**Karpathos**	**1.83**	**61**	*e*P	**Pn**	**14 00 03.9**	**+1.1**
ANKY	**Antikythira Is**	**1.97**	**308**	*e*P	**Pn**	**14 00 06.9**	**+2.2**
ANKY	**Antikythira Is**	**1.97**	**308**	*e*P	**Pn**	**14 00 06.9**	**+2.2**
KYTH	**Kithira**	**2.40**	**313**	*e*P	**Pn**	**14 00 11.6**	**+1.0**
KYTH	**Kithira**	**2.40**	**313**	*e*P	**Pn**	**14 00 11.6**	**+1.0**
APE	**Apeiranthos**	**2.42**	**6**	*e*P	**Pn**	**14 00 11.5**	**+0.6**
APE	**Apeiranthos**	**2.42**	**6**	*e*P	**Pn**	**14 00 11.5**	**+0.6**
VLI	**Veliai**	**2.76**	**319**	*e*P	**Pn**	**14 00 16.2**	**+0.6**
VLI	**Veliai**	**2.76**	**319**	*e*P	**Pn**	**14 00 16.2**	**+0.6**
ARG	**Arkhangelos**	**2.84**	**56**	*e*P	**Pn**	**14 00 17.0**	**+0.3**
ARG	**Arkhangelos**	**2.84**	**56**	*e*P	**Pn**	**14 00 17.0**	**+0.3**
DID	**Didima**	**3.25**	**331**	*e*P	**Pn**	**14 00 22.6**	**+0.2**
DID	**Didima**	**3.25**	**331**	*e*P	**Pn**	**14 00 22.6**	**+0.2**
GUR	**Goura**	**4.00**	**326**	*e*P	**Pn**	**14 00 34.1**	**+1.3**
GUR	**Goura**	**4.00**	**326**	*e*P	**Pn**	**14 00 34.1**	**+1.3**
AMT	**Artemida-Makis**	**4.03**	**316**	*e*P	**Pn**	**14 00 34.9**	**+1.9**
AMT	**Artemida-Makis**	**4.03**	**316**	*e*P	**Pn**	**14 00 34.9**	**+1.9**
DRO	**Drossia**	**4.33**	**320**	*e*P	**Pn**	**14 00 38.3**	**+1.1**
DRO	**Drossia**	**4.33**	**320**	*e*P	**Pn**	**14 00 38.3**	**+1.1**
PDO	**Prodromos**	**5.09**	**322**	*e*P	**Pn**	**14 00 48.5**	**+0.9**
PDO	**Prodromos**	**5.09**	**322**	*e*P	**Pn**	**14 00 48.5**	**+0.9**
MMAI	**Mount Meron Ar**	**8.64**	**98**	LR	LR	14 07 15.8	
KBZ	**Khabaz**	**16.41**	**51**	Pn	**Pn**	**14 03 21.1**	**+0.2**
	0.1nm,0.3s,baz=233,slow=8.1,SNR=8.5						
TORD	**Torodi Ar. Bea**	**30.20**	**231**	P	**P**	**14 05 39.4**	**-1.0**
	1.3nm,0.6s,baz=38,slow=8.9,SNR=9.3						
MKAR	**Makanchi Array**	**44.02**	**56**	P	**P**	**14 07 35.7**	**-1.5**
	0.3nm,0.6s,baz=281,slow=6.5,SNR=5.5						
ZALV	**Zalesovo Beam**	**45.32**	**46**	P	P	14 07 43.4	-4.0
	0.5nm,0.4s,baz=288,slow=6.9,SNR=4.0						

*JMA **06** 14:01:11.5±0.2, 43°.83N×147°.49E, h9km, M3.9*
*SKHL **06** 14:01:12.1±0.4, 44°.12N×147°.66E, h35km, mb5.1/2*
ISC 06 14:01:09.3±3.4, 44°.0N±0°.1×147°.9E±0°.1, h28km±20km, n15, σ1°61/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.75**	**259**	*e*P	**Pn**	**14 01 24.1**	**+0.1**
SHO				AMB	AMB	14 01 24.8	
	190nm,0.8s						
SHO				*e*S	**Sb**	**14 01 32.8**	**-0.9**
SHO				A	A	14 01 33.5	
	1μm,0.5s						
SHO				A	A	14 01 33.5	
	2μm,0.5s						
KUR	**Kuril'sk**	**1.21**	**1**	*e*P	**Pn**	**14 01 30.7**	**+0.3**
KUR				AMB	AMB	14 01 32.2	
	104nm,0.1s						
KUR				*e*S	**Sn**	**14 01 44.7**	**-1.1**
KUR				A	A	14 01 46.9	
	417nm,0.1s						
KUR				A	A	14 01 46.9	
	460nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**1.43**	**271**	*e*P	**Pn**	**14 01 33.1**	**-0.3**
YUK				AMB	AMB	14 01 35.1	
	310nm,0.1s						
YUK				*e*S	**Sn**	**14 01 49.1**	**-2.2**
NEM2	**Nemuro 2**	**1.66**	**247**	P	**Pn**	**14 01 36.5**	**0.0**
NEM2				*e*S	Sn	14 01 54.3	-2.6
JRA	**Rausu**	**1.97**	**268**	P	**Pn**	**14 01 41.8**	**+1.0**
JRA				*e*S	**Sn**	**14 02 04.4**	**-0.1**
JNK	**Nakash**	**2.31**	**260**	P	**Pn**	**14 01 46.5**	**+1.1**
JNK				*e*S	**Sn**	**14 02 11.3**	**-1.6**
JAK	**Akkeshi**	**2.51**	**247**	P	**Pn**	**14 01 48.6**	**+0.4**
JTKR	**Abashiri--Toko**	**2.84**	**270**	P	**Pn**	**14 01 55.1**	**+2.3**
JAR	**Ashorobuto**	**3.05**	**258**	P	**Pn**	**14 01 57.1**	**+1.5**
JAR				*e*S	**Sn**	**14 02 32.1**	**+1.0**
JOB	**Onbets**	**3.13**	**250**	P	**Pn**	**14 01 57.8**	**+1.1**
JOB				*e*S	**Sn**	**14 02 32.0**	**-1.1**
JMP	**Maruseppu**	**3.24**	**271**	P	**Pn**	**14 02 00.9**	**+2.6**
JCH	**Churui**	**3.56**	**248**	P	**Pn**	**14 02 03.2**	**+0.5**
JCH				*e*S	**Sn**	**14 02 41.7**	**-2.1**
JKK2	**Kamakawa 2**	**3.69**	**269**	P	Pn	14 02 07.7	+3.3
JFR	**Furan**	**3.91**	**259**	P	**Pn**	**14 02 10.3**	**+2.8**
JNBK	**Urakawa-nobuka**	**4.12**	**247**	P	**Pn**	**14 02 12.4**	**+2.1**

*CSEM **06** 14:06:41.9±0.2, 41°.11N×43°.90E, h1km±3km, MD2.8, Error ellipse: s-maj=4.9km s-min=3.4km az=135.0*
*TIF **06** 14:06:41.5, 41°.14N×43°.94E, h14km*
*DDA **06** 14:06:42.7, 41°.09N×43°.88E, h18km, MD2.8*
ISC 06 14:06:42.0±1.0, 41°.12N±0°.03×43°.90E±0°.03, h11km±9km, n18, σ0°90/33, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.43**	**314**	P	**Pg**	**14 06 50.3**	**-0.2**
AKH				S	**Sg**	**14 06 56.4**	**+0.3**
AKH	**Akhalkalaki**	**0.43**	**314**	P	**Pg**	**14 06 50.3**	**-0.2**
AKH				S	**Sg**	**14 06 56.4**	**+0.3**
KZR	**Kazreti**	**0.47**	**55**	S	**Sg**	**14 06 57.5**	**0.0**
KZR	**Kazreti**	**0.47**	**55**	S	**Sg**	**14 06 57.5**	**0.0**
EAK	**Akyaka**	**0.48**	**208**	*i* P	**Pg**	**14 06 51.3**	**-0.2**
EAK	**Akyaka**	**0.48**	**208**	*i* P	**Pg**	**14 06 51.3**	**-0.2**
EAK				*i* S	**Sn**	**14 07 02.3**	**+4.4**
DIGO	**Kars**	**0.81**	**210**	*i* P	**Pg**	**14 06 57.6**	**0.0**
DIGO				*i* S	**Sg**	**14 07 08.7**	**+0.5**
DIGO	**Kars**	**0.81**	**210**	*i* P	**Pg**	**14 06 57.6**	**0.0**
DIGO				*i* S	**Sg**	**14 07 08.7**	**+0.5**
DGRG	**David-gareji**	**1.16**	**73**	P	**Pn**	**14 07 04.1**	**0.0**
DGRG				S	**Sn**	**14 07 20.6**	**+0.6**
DGRG	**David-gareji**	**1.16**	**73**	P	**Pn**	**14 07 04.1**	**0.0**
DGRG				S	**Sn**	**14 07 20.6**	**+0.6**
ARTV	**Artvin**	**1.49**	**273**	*i* P	**Pb**	**14 07 09.7**	**-0.1**
ARTV				*i* S	**Sg**	**14 07 30.1**	**+0.1**
ARTV	**Artvin**	**1.49**	**273**	*i* P	**Pb**	**14 07 09.7**	**-0.1**
ARTV				*i* S	**Sg**	**14 07 30.1**	**+0.1**
DAGI	**Agillar**	**1.50**	**269**	*i* P	**Pb**	**14 07 09.7**	**-0.2**
DAGI				*i* S	**Sg**	**14 07 31.2**	**+0.8**
ONI	**Oni**	**1.51**	**347**	P	**Pb**	**14 07 09.7**	**-0.3**
ONI				S	**Sg**	**14 07 30.7**	**+0.1**
DDEM	**Demirkent**	**1.64**	**263**	*i* P	**Pn**	**14 07 11.2**	**+0.3**
DDEM				*i* S	**Sg**	**14 07 35.6**	**+0.8**
DDEM	**Demirkent**	**1.64**	**263**	*i* P	**Pn**	**14 07 11.2**	**+0.3**
DDEM				*i* S	**Sg**	**14 07 35.6**	**+0.8**
DBAD	**Bademkaya**	**1.67**	**267**	*i* P	**Pb**	**14 07 12.3**	**-0.5**
DBAD				*i* S	**Sg**	**14 07 35.6**	**-0.2**
DBAD	**Bademkaya**	**1.67**	**267**	*i* P	**Pb**	**14 07 12.3**	**-0.5**
DBAD				*i* S	**Sg**	**14 07 35.6**	**-0.2**

IDC 06 14:24:33.2±2.0, 1°.26N×125°.95E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/28, mbtmp3.4/3, Error ellipse: s-maj=176.3km s-min=25.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.62**	**159**	P	P	14 29 35.8	-0.1
	0.5nm,0.4s,baz=338,slow=11,SNR=16						
ASAR	**Alice Springs**	**25.96**	**163**	P	P	14 30 07.7	0.0
	0.2nm,0.3s,baz=341,slow=10,SNR=6.4						
MKAR	**Makanchi Array**	**59.15**	**326**	P	P	14 34 35.9	0.0
	0.2nm,0.5s,baz=111,slow=7.6,SNR=6.6						

*ISCJB **06** 14:37:28.3±1.1, 32°.64S±0°.04×71°.92W±0°.07, h20km±8km, mb4.5/29, MS3.8/1, Error ellipse: s-maj=10.3km s-min=6.4km az=152.5*
*IDC **06** 14:37:30.9±0.7, 32°.68S×71°.87W, h24km±4km, mb4.1/11, mb1 4.2/15, mb1mx4.1/27, mbtmp4.2/15, ML4.1/4, MS3.9/1, Ms1 3.9/1, ms1mx3.1/21, Error ellipse: s-maj=21.4km s-min=14.8km az=86.0*
*GUC **06** 14:37:30.4±0.6, 32°.72S×71°.81W, h9km±3km, ML4.4*
*NEIC **06** 14:37:32.1±0.2, 32°.67S×71°.85W, h35km, mb4.7/19, Error ellipse: s-maj=8.1km s-min=4.7km az=66.0*
ISC 06 14:37:30.3±0.7, 32°.71S±0°.05×71°.93W±0°.06, h23km±5km, n81, σ1°19/86, mb4.6/29, 8C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.40**	**142**	⇓*i*P	**Pb**	**14 37 37.6**	**-1.1**
IHA				*i* S1	**Sb**	**14 37 42.7**	**-1.7**
IHA	**Instituto Hidr**	**0.40**	**142**	⇓*i*P	**Pb**	**14 37 37.6**	**-1.1**
IHA				*i* S	**Sb**	**14 37 42.7**	**-1.7**
PEL	**Peldehue**	**1.13**	**113**	⇑*i*P	**Pn**	**14 37 49.4**	**-1.4**
PEL				*i* S	**Sb**	**14 38 04.1**	**-1.4**
PEL				AML	AML	14 38 09.8	
	comp=E,23μm,0.4s						
PEL	**Peldehue**	**1.13**	**113**	⇑*i*P	**Pn**	**14 37 49.4**	**-1.4**
PEL				*i* S	**Sb**	**14 38 04.1**	**-1.4**
LNV	**Longovilo**	**1.31**	**161**	⇓*i*P	**Pn**	**14 37 53.0**	**-0.3**
LNV	**Longovilo**	**1.31**	**161**	⇓*i*P	**Pn**	**14 37 53.0**	**-0.3**
CLCH	**Cerro Calan**	**1.35**	**121**

mb1 4.1/20, mb1mx4.0/28, mbtmp4.5/20, Error ellipse: s-maj=14.1km s-min=9.0km az=69.0
*BJI **06** 14:45:46.2, 23°60S×66°30W, h183km, mB5.0/5*
*NEIC **06** 14:45:46.5±0.2, 23°65S×66°57W, mb4.6/60, Error ellipse: s-maj=8.3km s-min=5.1km az=68.0*
ISC 06 14:45:47.0±0.3, 23°65S±0°05×66°67W±0°06, h201km, n543, σ0°79/556, mb4.5/72, 215C-200D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.50**	**135**	*eP*	**Pn**	**14 46 22.3**	**+1.3**
SLA				*eS*	**S**	**14 46 48.7**	**+1.6**
SLA				AML	AML	14 46 51.5	
	comp=Z,669nm,0.8s						
AZAP	**Zapla**	**1.57**	**112**	*eP*	**Pn**	**14 46 22.5**	**+0.8**
AZAP				AML	AML	14 46 51.5	
	comp=Z,455nm,0.6s						
YJA	**Yavi**	**1.81**	**36**	*eP*	**Pn**	**14 46 25.3**	**+1.0**
YJA				*eS*	**S**	**14 46 54.6**	**+2.0**
ASTB	**Santa Barbara**	**2.02**	**99**	*eP*	**Pn**	**14 46 27.1**	**+1.1**
LVC	**Limon Verde**	**2.31**	**296**	*e*Pn	**Pn**	**14 46 28.9**	**-0.3**
LVC	**Limon Verde**	**2.31**	**296**	*eP*	**Pn**	**14 46 29.0**	**-0.3**
LVC				*eS*	**S**	**14 47 00.8**	**-0.5**
ALOL	**LOMAS DE OLMED**	**2.47**	**94**	*eP*	**Pn**	**14 46 31.4**	**+0.6**
ALOL				*eS*	**S**	**14 47 05.5**	**+1.4**
CYA	**Choya**	**4.83**	**171**	*eP*	**Pn**	**14 46 58.9**	**-0.4**
CYA				AML	AML	14 47 53.0	
	comp=Z,12nm,0.8s						
LPAZ	**La Paz**	**7.46**	**349**	P	**Pn**	**14 47 32.3**	**-1.5**
	comp=Z,1.4nm,0.3s,baz=160,slow=5.3,SNR=33						
LPAZ				S	**S**	**14 48 56.7**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=282,slow=21,SNR=5.2						
CFAA	**Coronel Fontan**	**8.04**	**190**	P	**Pn**	**14 47 37.8**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=345,slow=7.8,SNR=32						
CFAA				S	S	14 49 02.6	-8.9
	comp=Z,1.1nm,0.3s,baz=290,slow=22,SNR=15						
CPUP	**Villa Florida**	**8.88**	**109**	P	**Pn**	**14 47 49.1**	**-2.6**
	comp=Z,1.1nm,0.3s,baz=285,slow=11,SNR=11						
SIV	**San Ignacio**	**9.26**	**36**	P	Pn	14 47 55.0	-1.8
	comp=Z,5.2nm,0.3s,baz=240,slow=12,SNR=58						
TRQA	**Tornquist**	**14.91**	**165**	*e*Pn	Pn	14 49 04.4	-3.6
SAML	**Samuel**	**15.00**	**13**	*eP*	**Pn**	**14 49 07.2**	**-2.1**
NNA	**Nana**	**15.11**	**318**	P	**Pn**	**14 49 10.5**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=174,slow=8.6,SNR=4.1						
PLCA	**Paso Flores**	**17.34**	**190**	P	**P**	**14 49 34.8**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=5.2,slow=12,SNR=13						
BDFB	**Brasilia**	**19.27**	**69**	P	**P**	**14 49 56.9**	**+0.1**
	comp=Z,3.7nm,0.3s,baz=237,slow=12,SNR=46						
ATAH	**Atahualpa**	**19.92**	**324**	P	**P**	**14 50 05.0**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=149,slow=12,SNR=4.9						
OTAV	**Otavalo**	**26.36**	**333**	*eP*	**P**	**14 51 04.0**	**-1.3**
	comp=Z,6.5nm,0.8s						
USHA	**Ushuaia**	**31.17**	**182**	P	**P**	**14 51 47.8**	**+1.0**
	comp=Z,3.9nm,0.7s,baz=345,slow=11,SNR=3.9						
VNA2	**Neumayer-Watz**	**57.94**	**161**	P	**P**	**14 55 17.2**	**-0.7**
	baz=289,slow=11						
034A	**Hebbronville**	**59.15**	**327**	⇓P	**P**	**14 55 27.7**	**+0.9**
	baz=59						
SNAA	**Sanae**	**59.58**	**161**	P	**P**	**14 55 29.5**	**+0.3**
SNAA	**Sanae**	**59.58**	**161**	P	**P**	**14 55 28.9**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=265,slow=8.0,SNR=12						
LRAL	**Lakeview Retre**	**59.61**	**340**	*eP*	**P**	**14 55 28.0**	**-1.9**
	comp=Z,24nm,1.2s						
933A	**Laredo**	**59.90**	**326**	⇓P	**P**	**14 55 32.3**	**+0.4**
	baz=60						
834A	**Tilden**	**59.96**	**327**	⇓P	**P**	**14 55 32.9**	**+0.6**
	baz=60						
KMSC	**Kings Mountain**	**60.10**	**346**	⇓P	**P**	**14 55 33.3**	**+0.2**
	baz=60						
636A	**Smothers Creek**	**60.37**	**330**	⇑P	**P**	**14 55 35.8**	**+0.7**
	baz=61						
833A	**Chaparral WMA,**	**60.54**	**327**	⇓P	**P**	**14 55 36.9**	**+0.6**
	baz=61,SNR=15						
734A	**La Parita Cree**	**60.56**	**328**	⇑P	**P**	**14 55 37.0**	**+0.7**
	baz=61						
340A	**Bronson**	**60.65**	**333**	⇓P	**P**	**14 55 37.8**	**+0.9**
	baz=61						
438A	**Sam Houston St**	**60.74**	**332**	⇓P	**P**	**14 55 38.1**	**+0.6**
	baz=61						
832A	**Faith Ranch, C**	**60.80**	**326**	⇑P	**P**	**14 55 38.5**	**+0.5**
	baz=61,SNR=9.2						
733A	**Divot King Ran**	**60.82**	**327**	⇑P	**P**	**14 55 38.3**	**+0.3**
	baz=61						
339A	**Huntington**	**60.85**	**333**	⇓P	**P**	**14 55 39.0**	**+0.8**
	baz=61						
536A	**Bastrop**	**60.88**	**330**	⇓P	**P**	**14 55 39.2**	**+0.7**
	baz=61						
732A	**Laxson Ranch,**	**61.16**	**327**	⇓P	**P**	**14 55 40.5**	**+0.1**
	baz=62,SNR=7.8						
338A	**Crockett**	**61.19**	**332**	⇑P	**P**	**14 55 41.0**	**+0.5**
	baz=62						
633A	**Saathoff Ranch**	**61.37**	**328**	⇑P	**P**	**14 55 41.9**	**+0.1**
	baz=62						
337A	**Centerville**	**61.41**	**332**	⇓P	**P**	**14 55 42.9**	**+0.9**
	baz=62						
239A	**Gary**	**61.41**	**333**	⇓P	**P**	**14 55 42.8**	**+0.8**
	baz=62						
534A	**Blanco**	**61.50**	**329**	⇑P	**P**	**14 55 43.6**	**+0.9**
	baz=62						
238A	**Jacksonville**	**61.67**	**333**	⇑P	**P**	**14 55 44.6**	**+0.9**
	baz=62						
632A	**Uvalde**	**61.71**	**327**	⇓P	**P**	**14 55 44.4**	**+0.3**
	baz=62						
435B	**Jarrell**	**61.72**	**330**	⇓P	**P**	**14 55 44.4**	**+0.4**
	baz=62						
OXF	**Oxford**	**61.75**	**339**	*eP*	**P**	**14 55 41.7**	**-2.5**
	comp=Z,36nm,1.0s						
533A	**Kerrville**	**61.80**	**328**	⇓P	**P**	**14 55 44.6**	**-0.1**
	baz=62						
336A	**Riesel**	**61.89**	**331**	⇓P	**P**	**14 55 45.7**	**+0.5**
	baz=62						
237A	**Washetta, Mont**	**61.96**	**332**	⇑P	**P**	**14 55 46.5**	**+0.8**
	baz=62						
631A	**Perdido Creek**	**62.03**	**327**	⇓P	**P**	**14 55 46.5**	**+0.4**
	baz=62,SNR=8.3						
434A	**Burnet**	**62.06**	**329**	⇑P	**P**	**14 55 46.6**	**+0.2**
	baz=62						
335A	**Moody**	**62.06**	**330**	⇓P	**P**	**14 55 46.8**	**+0.4**
	baz=62						
532A	**Rocksprings**	**62.27**	**328**	⇑P	**P**	**14 55 48.1**	**+0.2**
	baz=63,SNR=9.5						
433A	**Art**	**62.40**	**329**	⇑P	**P**	**14 55 48.5**	**-0.2**
	baz=63,SNR=12						
137A	**Heron Place, G**	**62.45**	**332**	⇑P	**P**	**14 55 48.8**	**-0.1**
	baz=63						
334A	**Lometa**	**62.48**	**330**	⇑P	**P**	**14 55 49.2**	**0.0**
	baz=63						
JCT	**Junction City**	**62.51**	**328**	⇑P	**P**	**14 55 49.6**	**+0.1**
	baz=63,SNR=6.9						
JCT	**Junction City**	**62.51**	**328**	*eP*	**P**	**14 55 49.0**	**-0.5**
	comp=Z,16nm,0.8s						
531A	**Rocksprings**	**62.62**	**327**	⇑P	**P**	**14 55 50.7**	**+0.5**
	baz=63,SNR=11						
WHTX	**Lake Whitney,**	**62.68**	**331**	⇓P	**P**	**14 55 50.5**	**+0.1**
	baz=63						
WVT	**Waverly**	**62.74**	**341**	*eP*	P	14 55 48.0	-2.7
	comp=Z,21nm,0.8s						
333A	**Richland Sprin**	**62.82**	**329**	⇑P	**P**	**14 55 51.4**	**-0.1**
	baz=63,SNR=7.0						
432A	**Menard**	**62.84**	**328**	⇑P	**P**	**14 55 51.6**	**0.0**
	baz=63,SNR=11						
234A	**Clairette**	**63.00**	**330**	⇑P	**P**	**14 55 52.5**	**-0.1**
	baz=63,SNR=7.2						
530A	**J-C Ranch, Com**	**63.01**	**326**	⇓P	**P**	**14 55 52.8**	**+0.1**
	baz=63,SNR=8.9						
431A	**Sonora**	**63.08**	**327**	⇓P	**P**	**14 55 53.3**	**+0.1**
	baz=63,SNR=5.4						
332A	**Millersview**	**63.23**	**328**	⇓P	**P**	**14 55 54.2**	**0.0**
	baz=64,SNR=12						
MIAR	**Mount Ida**	**63.27**	**335**	*eP*	**P**	**14 55 53.5**	**-0.8**
	comp=Z,16nm,1.1s						
233A	**Rising Star**	**63.36**	**330**	⇑P	**P**	**14 55 54.9**	**-0.1**
	baz=64						
529A	**Stev Forest Ra**	**63.44**	**326**	⇓P	**P**	**14 55 56.2**	**+0.6**
	baz=64,SNR=13						
134A	**White-Moore Ra**	**63.45**	**331**	⇑P	**P**	**14 55 55.5**	**0.0**
	baz=64						
430A	**Baggett Ranch,**	**63.47**	**327**	⇓P	**P**	**14 55 55.7**	**-0.1**
	baz=64,SNR=7.8						
331A	**San Angelo**	**63.50**	**328**	⇓P	**P**	**14 55 55.7**	**-0.2**
	baz=64,SNR=6.4						
TXAR	**Lajitas Array**	**63.58**	**324**	P	**P**	**14 55 56.5**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=151,slow=8.2,SNR=18						
232A	**Coleman**	**63.60**	**329**	⇓P	**P**	**14 55 56.7**	**+0.1**
	baz=64,SNR=13						
429A	**Davenport Ranc**	**63.67**	**326**	⇑P	**P**	**14 55 57.2**	**+0.1**
	baz=64,SNR=11						
Z35A	**Perchaven, San**	**63.72**	**332**	⇓P	**P**	**14 55 57.7**	**+0.4**
	baz=64						
133A	**Hamilton Ranch**	**63.86**	**330**	⇓P	**P**	**14 55 58.2**	**-0.1**
	baz=64						
330A	**Mertzon**	**63.95**	**327**	⇑P	**P**	**14 55 59.3**	**+0.4**
	baz=64						
231A	**Bronte**	**63.96**	**328**	⇑P	**P**	**14 55 59.3**	**+0.3**
	baz=64						
Z34A	**Collier Ranch,**	**64.05**	**331**	⇑P	**P**	**14 55 59.7**	**+0.3**
	baz=64						
PBMO	**Poplar Bluff**	**64.15**	**339**	*eP*	**P**	**14 55 58.7**	**-1.3**
	comp=Z,20nm,0.7s						
ABTX	**Abilene, Hawle**	**64.21**	**329**	⇑P	**P**	**14 56 01.0**	**+0.5**
	baz=64						
ABTX	**Abilene, Hawle**	**64.21**	**329**	*eP*	**P**	**14 55 59.1**	**-1.4**
	comp=Z,14nm,1.3s						
WCI	**Wyandotte Cave**	**64.25**	**343**	*eP*	**P**	**14 55 58.5**	**-2.1**
	comp=Z,94nm,2.4s						
230A	**Sterling City**	**64.31**	**328**	⇑P	**P**	**14 56 01.6**	**+0.4**
	baz=65						
Z33A	**Whitaker Ranch**	**64.36**	**330**	⇓P	**P**	**14 56 01.6**	**+0.2**
	baz=65,SNR=6.6						
329A	**Wagon Wheel Ra**	**64.41**	**327**	⇑P	**P**	**14 56 01.8**	**-0.1**
	baz=65,SNR=7.8						
Y34A	**Reagan Ranch,**	**64.48**	**332**	⇑P	**P**	**14 56 02.4**	**+0.2**
	baz=65						
131A	**Roby**	**64.60**	**329**	⇓P	**P**	**14 56 02.9**	**-0.2**
	baz=65						
Z32A	**Haskell**	**64.70**	**330**	⇓P	**P**	**14 56 03.3**	**-0.4**
	baz=65						
229A	**Bryant Ranch,**	**64.72**	**327**	⇑P	**P**	**14 56 03.9**	**0.0**
	baz=65						
130A	**Snyder**	**64.81**	**328**	⇑P	**P**	**14 56 04.6**	**+0.1**
	baz=65,SNR=6.3						
Y33A	**Hilltop Ranch,**	**64.90**	**331**	⇓P	**P**	**14 56 05.0**	**+0.1**
	baz=65						
Z31A	**Sharp Cattle R**	**65.02**	**329**	⇓P	**P**	**14 56 05.8**	**0.0**
	baz=65,SNR=8.1						
X34A	**Smith Ranch, M**	**65.06**	**332**	⇓P	**P**	**14 56 06.1**	**+0.2**
	baz=65						
228A	**UT Block 9, Go**	**65.23**	**327**	⇑P	**P**	**14 56 06.7**	**-0.5**
	baz=66						
Y32A	**R-V Farms, Ver**	**65.27**	**330**	⇓P	**P**	**14 56 07.3**	**+0.1**
	baz=66						
129A	**Stewart Farms,**	**65.28**	**328**	⇓P	**P**	**14 56 07.5**	**0.0**
	baz=66						
X33A	**Lawton**	**65.30**	**331**	⇓P	**P**	**14 56 07.2**	**-0.3**
	baz=66						
TUL1	**Leonard**	**65.33**	**334**	⇑P	**P**	**14 56 07.6**	**0.0**
	baz=66						
TUL1	**Leonard**	**65.33**	**334**	*eP*	**P**	**14 56 07.5**	**-0.2**
	comp=Z,12nm,1.0s						
Z30A	**Sanderson Ranc**	**65.46**	**329**	⇑P	**P**	**14 56 08.9**	**+0.3**
	baz=66,SNR=7.0						
W34A	**Bridge Creek,**	**65.57**	**332**	⇓P	**P**	**14 56 09.6**	**+0.4**
	baz=66						
128A	**Castleberry Fa**	**65.58**	**327**	⇑P	**P**	**14 56 09.1**	**-0.4**
	baz=66,SNR=5.1						
Y31A	**Rekieta Farm,**	**65.61**	**330**	⇓P	**P**	**14 56 09.7**	**+0.1**
	baz=66,SNR=6.2						
Z29A	**Hungry Hill Ra**	**65.71**	**328**	⇑P	**P**	**14 56 10.3**	**+0.1**
	baz=66						
W33A	**Caddo, Fort Co**	**65.80**	**332**	⇓P	**P**	**14 56 11.4**	**+0.7**
	baz=66,SNR=7.5						
Y30A	**Stafford Cattl**	**65.83**	**329**	⇑P	**P**	**14 56 12.1**	**+1.1**
	baz=66						
V34A	**Guthrie**	**65.97**	**333**	⇓P	**P**	**14 56 11.6**	**-0.1**
	baz=66						
X31A	**McDonald Ranch**	**66.03**	**330**	⇑P	**P**	**14 56 12.2**	**0.0**
	baz=66,SNR=8.3						
Z28A	**Tucker Farm, M**	**66.07**	**328**	⇓P	**P**	**14 56 12.1**	**-0.5**
	baz=66						
W32A	**Sentinel**	**66.12**	**331**	⇑P	**P**	**14 56 12.9**	**+0.2**
	baz=66,SNR=7.0						
Y29A	**Porterfield Fa**	**66.19**	**329**	⇑P	**P**	**14 56 13.4**	**+0.1**
	baz=66						
V33A	**Lossen Ranch,**	**66.29**	**332**	⇑P	**P**	**14 56 14.2**	**+0.4**
	baz=67						
X30A	**Coker Ranch, T**	**66.29**	**330**	⇑P	**P**	**14 56 14.4**	**+0.5**
	baz=67						
W31A	**Holland Ranch,**	**66.48**	**331**	⇓P	**P**	**14 56 15.0**	**-0.1**
	baz=67						
SFIN	**Lafayette**	**66.48**	**343**	⇑P	**P**	**14 56 14.9**	**0.0**
	baz=67						
U34A	**Anderson Ranch**	**66.50**	**333**	⇑P	**P**	**14 56 15.2**	**0.0**
	baz=67						
U34A	**Anderson Ranch**	**66.50**	**333**	*eP*	**P**	**14 56 15.1**	**0.0**
	comp=Z,24nm,0.8s						
Y28A	**McKinney Farm,**	**66.50**	**328**	⇑P	**P**	**14 56 14.8**	**-0.5**
	baz=67						
QSPA	**South Pole Qui**	**66.55**	**180**	P	**P**	**14 56 15.8**	**+0.5**
	comp=Z,11nm,0.5s,baz=323,slow=0.8,SNR=185						
QSPA	**South Pole Qui**	**66.55**	**180**	*eP*	**P**	**14 56 15.6**	**+0.3**
	comp=Z,10nm,0.6s						
X29A	**Tulia**	**66.68**	**329**	⇑P	**P**	**14 56 16.4**	**0.0**
	baz=67						
U33A	**Lingo Farm, Me**	**66.73**	**333**	⇓P	**P**	**14 56 16.8**	**+0.2**
	baz=67						
W30A	**Crocket Farms**	**66.76**	**330**	⇓P	**P**	**14 56 17.3**	**+0.4**
	baz=67						
MSTX	**Muleshoe**	**66.81**	**328**	⇓P	**P**	**14 56 17.6**	**+0.4**
	baz=67,SNR=6.1						
MSTX	**Muleshoe**	**66.81**	**328**	*eP*	**P**	**14 56 17.2**	**0.0**
	comp=Z,25nm,0.8s						
V31A	**Spring Creek L**	**66.92**	**331**	⇑P	**P**	**14 56 18.4**	**+0.5**
	baz=67						
Y27A	**Causey**	**66.93**	**327**	⇑P	**P**	**14 56 17.7**	**-0.3**
	baz=67,SNR=7.1						
X28A	**Dimmitt**	**66.97**	**329**	⇑P	**P**	**14 56 18.6**	**+0.4**
	baz=67						
AMTX	**Amarillo**	**67.03**	**329**	⇓P	**P**	**14 56 19.1**	**+0.5**
	baz=67						
AMTX	**Amarillo**	**67.03**	**329**	*eP*	**P**	**14 56 19.0**	**+0.4**
	comp=Z,14nm,1.1s						
U32A	**Winter Ranch,**	**67.07**	**332**	⇓P	**P**	**14 56 18.7**	**-0.1**
	baz=67						
W29A	**Amarillo**	**67.21**	**329**	⇑P	**P**	**14 56 19.6**	**-0.1**
	baz=68						
Z25A	**Roswell**	**67.23**	**326**	⇑P	**P**	**14 56 19.8**	**-0.2**
	baz=68,SNR=6.0						
Y26A	**Elida**	**67.29**	**327**	⇑P	**P**	**14 56 21.1**	**+0.8**
	baz=68,SNR=7.5						
V30A	**Spur Ranch, Mi**	**67.30**	**330**	⇓P	**P**	**14 56 21.3**	**+1.0**
	baz=68						
T33A	**Patterson Ranc**	**67.34**	**333**	⇑P	**P**	**14 56 21.1**	**+0.7**
	baz=68						
DBIC	**Dimbokro**	**67.40**	**71**	P	**P**	**14 56 20.2**	**-1.1**
	comp=Z,5.6nm,0.7s,baz=217,slow=9.1,SNR=6.3						
X27A	**F and S Farms,**	**67.51**	**328**	⇓P	**P**	**14 56 22.1**	**+0.4**
	baz=68						
W28A	**Vega**	**67.58**	**329**	⇓P	**P**	**14 56 22.6**	**+0.6**
	baz=68						
Z24A	**Sheeppen Canyo**	**67.61**	**326**	⇑P	**P**	**14 56 22.6**	**+0.2**
	baz=68,SNR=17						
S33A	**Kaszmaul Farm,**	**67.68**	**333**	⇑P	**P**	**14 56 22.9**	**+0.4**
	baz=68						
T32A	**Huddler Ranch,**	**67.71**	**333**	⇓P	**P**	**14 56 23.3**	**+0.6**
	baz=68						
Y25A	**Mesa, Roswell**	**67.73**	**326**	⇑P	**P**	**14 56 23.1**	**0.0**
	baz=68,SNR=7.5						
V29A	**Stinnett**	**67.77**	**330**	⇑P	**P**	**14 56 23.7**	**+0.5**
	baz=68						
X26A	**CR and CF Fran**	**67.78**	**327**	⇓P	**P**	**14 56 23.5**	**+0.1**
	baz=68,SNR=10.0						
W27A	**Bowe Ranch, En**	**67.83**	**328**	⇑P	**P**	**14 56 23.7**	**0.0**
	baz=68,SNR=5.2						
U30A	**WK&E Inc. Balk**	**67.92**	**331**	⇓P	**P**	**14 56 24.6**	**+0.5**
	baz=68						
T31A	**Randall Ranch,**	**67.96**	**332**	⇓P	**P**	**14 56 24.5**	**+0.1**
	baz=68						
V28A	**Channing**	**67.99**	**329**	⇓P	**P**	**14 56 25.2**	**+0.6**
	baz=68						
Y24A	**Capitan**	**68.11**	**326**	⇑P	**P**	**14 56 26.1**	**+0.6**
	baz=68						
U29A	**Oasis Ranch, S**	**68.13**	**330**	⇓P	**P**	**14 56 26.4**	**+0.9**
	baz=68						
S32A	**Newby Ranch, P**	**68.16**	**333**	⇑P	**P**	**14 56 26.0**	**+0.5**
	baz=68						
X25A	**Clemmons Ranch**	**68.19**	**327**	⇑P	**P**	**14 56 26.2**	**+0.3**
	baz=68						
W26A	**Owens Ranch, T**	**68.19**	**328**	⇑P	**P**	**14 56 26.6**	**+0.7**
	baz=68,SNR=7.1						
319A	**Douglas**	**68.25**	**321**	⇑P	**P**	**14 56 27.4**	**+1.1**
	baz=68,SNR=10						
121A	**Cookes Peak, D**	**68.28**	**323**	⇑P	**P**	**14 56 28.1**	**+1.5**
	baz=69,SNR=6.8						
R33A	**Olander Ranch,**	**68.28**	**334**	⇑P	**P**	**14 56 27.2**	**+0.9**
	baz=69						

IDC 06 14:40:35.0±2.0, 7°27S×150°23E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/27, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=76.0km s-min=23.3km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.70**	**235**	Pn	Pn	14 41 35.3	+1.8
	2.7nm,0.3s,baz=58,slow=3.0,SNR=12						
PMG				Sn	Sn	14 42 18.3	+0.5
	5.9nm,0.3s,baz=151,slow=19,SNR=7.0						
WRA	**Warramunga Arr**	**19.90**	**229**	P	P	14 45 07.5	-0.8
	0.4nm,0.3s,baz=52,slow=10,SNR=41						
ASAR	**Alice Springs**	**22.61**	**222**	P	P	14 45 36.6	-0.9
	0.3nm,0.4s,baz=58,slow=9.0,SNR=13						
MKAR	**Makanchi Array**	**80.52**	**320**	P	P	14 52 50.4	+1.2
	0.3nm,0.6s,baz=99,slow=6.5,SNR=4.5						
ILAR	**Eielson Array**	**85.40**	**23**	P	P	14 53 13.5	-0.6
	0.4nm,0.8s,baz=248,slow=6.0,SNR=5.9						

*ISCJB **06** 14:45:46.0±0.2, 23°66S±0°04×66°73W±0°04, h201km, mb4.4/72, Error ellipse: s-maj=6.5km s-min=4.1km az=138.5*
*SJA **06** 14:45:45.6±0.6, 23°64S×66°73W, h217km±6km, ML3.6*
*IDC **06** 14:45:46.4±0.7, 23°64S×66°65W, h197km±6km, mb4.0/13,*

V27A Dan Oppiter Fa 68.28 329 ⇑P P 14 56 27.3 +0.9
baz=69
S31A Mullinville 68.32 332 ⇑P P 14 56 27.1 +0.6
baz=69
Z22A Elephant Butte 68.39 324 ⇑P P 14 56 28.7 +1.5
baz=69,SNR=32
KSU1 Kansas State U 68.43 335 ⇑P P 14 56 27.8 +0.7
baz=69
Y23A Lovelace Mesa, 68.43 325 ⇓P P 14 56 28.1 +0.6
baz=69,SNR=5.2
U28A Mallet 68.50 330 ⇓P P 14 56 28.2 +0.4
baz=69
X24A Lazy VL Ranch, 68.61 326 ⇓P P 14 56 29.0 +0.3
baz=69
W25A X Bar L Ranch, 68.64 327 ⇓P P 14 56 28.9 +0.2
baz=69,SNR=6.5
R32A Long Quarter, 68.68 333 ⇑P P 14 56 29.4 +0.7
baz=69
T29A Hugoton 68.72 331 ⇓P P 14 56 29.9 +0.8
baz=69
S30A Montezuma 68.76 332 ⇓P P 14 56 29.8 +0.5
baz=69
V26A Tequesquite Ra 68.77 328 ⇑P P 14 56 29.7 +0.2
baz=69,SNR=8.6
Q33A Connelly Farm, 68.82 334 ⇓P P 14 56 30.1 +0.6
baz=69
U27A Thompson Grove 68.82 329 ⇓P P 14 56 30.7 +1.0
baz=69
R31A Burdett 68.90 333 ⇓P P 14 56 30.9 +0.8
baz=69
S29A Ulysses 69.03 331 ⇑P P 14 56 31.5 +0.5
baz=69
LPM Los Pinos Moun 69.03 325 eP P 14 56 30.4 -0.8
T28A Walsh 69.06 330 ⇓P P 14 56 31.5 +0.3
baz=69
Q32A Meitler Ranch, 69.10 334 ⇑P P 14 56 31.8 +0.5
baz=69
W24A Lazy 6 Ranch, 69.10 327 ⇑P P 14 56 32.3 +0.7
baz=69,SNR=6.0
P33A Williams Farm, 69.14 335 ⇓P P 14 56 32.2 +0.7
baz=70
V25A Rancho No Teng 69.21 328 ⇑P P 14 56 32.7 +0.5
baz=70,SNR=6.9
R30A Dighton 69.22 332 ⇓P P 14 56 32.5 +0.4
baz=70
U26A Atchley Ranch, 69.23 329 ⇓P P 14 56 32.9 +0.5
baz=70,SNR=10.0
T27A Campo 69.29 330 ⇓P P 14 56 33.2 +0.5
baz=70,SNR=6.9
S28A Manter 69.35 331 ⇓P P 14 56 33.3 +0.4
baz=70
ANMO Albuquerque 69.43 326 eP P 14 56 33.8 +0.1
comp=Z,13nm,1.1s
W23A Werner Place, 69.44 326 ⇑P P 14 56 34.3 +0.5
baz=70
V24A Rampart Ranch, 69.44 327 ⇓P P 14 56 34.5 +0.7
baz=70,SNR=6.9
Q31A Ellis 69.45 333 ⇓P P 14 56 34.0 +0.6
baz=70
U25A Circle Dot Ran 69.56 328 ⇓P P 14 56 35.3 +0.9
baz=70,SNR=8.2
P32A Huiting Farm, 69.66 334 ⇑P P 14 56 35.5 +0.8
baz=70
R29A Marienthal 69.70 332 ⇑P P 14 56 35.4 +0.3
baz=70
Q30A Quinter 69.77 333 ⇓P P 14 56 36.2 +0.7
baz=70,SNR=6.6
T26A Comanche Natio 69.79 329 ⇓P P 14 56 36.6 +0.8
baz=70,SNR=10
TUC Tucson 69.81 321 eP P 14 56 35.6 -0.2
comp=Z,8.7nm,1.2s
S27A Las Animas 69.88 330 ⇑P P 14 56 36.6 +0.3
baz=70
P31A Stockton 69.88 334 ⇑P P 14 56 36.6 +0.4
baz=70,SNR=5.3
V23A Ortiz Mt. (NFS 69.92 327 ⇑P P 14 56 36.7 +0.1
baz=70
R28A Tribune 69.93 331 ⇓P P 14 56 36.8 +0.3
baz=70
U24A Moreno Valley 69.99 328 ⇑P P 14 56 37.7 +0.6
baz=70
Q29A Oakley 70.02 332 ⇑P P 14 56 37.1 +0.1
baz=70
O32A Brockman Farm, 70.08 335 ⇑P P 14 56 37.6 +0.4
baz=70
S26A Kim 70.09 330 ⇑P P 14 56 38.8 +1.3
baz=70,SNR=15
T25A Trinidad 70.15 329 ⇑P P 14 56 39.2 +1.2
baz=70,SNR=6.8
P30A Selden 70.26 333 ⇑P P 14 56 39.1 +0.6
baz=71
R27A Eads 70.33 330 ⇓P P 14 56 39.3 +0.4
baz=71
U23A El Rito 70.38 327 ⇑P P 14 56 39.4 0.0
baz=71
O31A Woolen Ranch, 70.40 334 ⇑P P 14 56 39.9 +0.7
baz=71
V22A San Miguel Ran 70.42 326 ⇓P P 14 56 40.4 +0.7
baz=71,SNR=6.8
N32A Stulken Farm, 70.52 335 ⇓P P 14 56 40.6 +0.7
baz=71
Q28A Sharon Springs 70.54 332 ⇑P P 14 56 40.4 +0.3
baz=71
T24B San Luis 70.55 328 ⇑P P 14 56 41.4 +0.9
baz=71,SNR=9.8
S25A Robets Cordova 70.58 329 ⇑P P 14 56 41.3 +0.8
baz=71,SNR=14
P29A Atwood 70.60 333 ⇓P P 14 56 41.3 +0.8
baz=71
R26A Arlington 70.63 330 ⇓P P 14 56 41.6 +0.8
baz=71,SNR=9.0
O30A MW Ranch, Wils 70.72 333 ⇓P P 14 56 41.8 +0.6
baz=71
214A Organ Pipe Nat 70.74 320 ⇑P P 14 56 42.4 +0.9
baz=71
U22A Llaves 70.75 327 ⇓P P 14 56 42.8 +1.2
baz=71
N31A Bailey Ranch, 70.82 335 ⇓P P 14 56 42.3 +0.5
baz=71
KSCO Kaye Shedlock' 70.84 331 ⇓P P 14 56 42.8 +0.8
baz=71
T23A Casias Ranch, 70.85 327 ⇑P P 14 56 43.0 +0.7
baz=71
R25A Fountain Ranch 70.90 329 ⇑P P 14 56 43.0 +0.6
baz=71
P28A Saint Francis 70.93 332 ⇑P P 14 56 43.3 +0.8
baz=71
S24A Houchin Ranch, 70.93 328 ⇑P P 14 56 44.3 +1.5
baz=71,SNR=9.5
X18A Snowflake 70.97 323 ⇑P P 14 56 44.3 +1.3
baz=71
O29A 4D Ranch, Culb 70.98 333 ⇓P P 14 56 43.7 +1.0
baz=71
BGNE Belgrade 71.01 335 ⇓P P 14 56 43.1 +0.2
baz=71,SNR=17
BGNE Belgrade 71.01 335 eP P 14 56 42.4 -0.5
comp=Z,122nm,0.8s
Q26A Hugo 71.17 330 ⇓P P 14 56 45.3 +1.3
baz=72,SNR=6.4
N30A Hueftle Ranch, 71.26 334 ⇑P P 14 56 45.4 +0.9
baz=72
P27A Ficken Ranch, 71.27 331 ⇓P P 14 56 45.5 +0.9
baz=72
M31A Lambtecht Ranc 71.28 335 ⇑P P 14 56 45.1 +0.7
baz=72,SNR=6.1
W18A Petrified Fore 71.30 324 ⇑P P 14 56 46.3 +1.4
baz=72
R24A Sanders Place, 71.35 329 ⇓P P 14 56 46.4 +1.2
baz=72,SNR=5.6
S23A Nye Farm, Mont 71.36 328 ⇓P P 14 56 46.7 +1.3
baz=72
O28A Krutsinger Ran 71.39 332 ⇑P P 14 56 46.1 +0.8
baz=72
N29A Votaw Ranch, W 71.49 333 ⇓P P 14 56 46.3 +0.5
baz=72
Q25A Bedland, Calha 71.50 330 ⇓P P 14 56 46.8 +0.8
baz=72
P26A Davis Ranch, A 71.61 331 ⇓P P 14 56 47.5 +0.8
baz=72
R23A Moffat 71.66 328 ⇓P P 14 56 48.2 +1.0
baz=72
X16A Lo Mia Camp, P 71.72 322 ⇓P P 14 56 49.0 +1.5
baz=72,SNR=6.8
N28A Pribbeno Ranch 71.76 333 ⇓P P 14 56 48.3 +0.8
baz=72
M30A Dale-Ortello V 71.79 334 ⇓P P 14 56 48.5 +0.9
baz=72
S22A 4UR Ranch, Cre 71.80 327 ⇑P P 14 56 49.5 +1.5
baz=72,SNR=5.9
Z14A Wintersburg 71.82 320 ⇑P P 14 56 49.1 +1.3
baz=72
113A Mohawk Valley, 71.88 320 ⇑P P 14 56 49.4 +1.2
baz=72
L31A Butterfield Fa 71.94 335 ⇑P P 14 56 49.5 +1.1
baz=72
P25A Willow Gulch B 71.94 330 ⇑P P 14 56 50.5 +1.9
baz=72,SNR=5.4
Q24A Divide 71.96 329 ⇓P P 14 56 50.0 +1.1
baz=72,SNR=5.4
M29A Burnside Ranch 72.04 334 ⇑P P 14 56 50.0 +0.9
baz=72
L30A Spencer Herefo 72.08 335 ⇑P P 14 56 50.2 +1.0
baz=72
O26A Horse Wrangler 72.16 331 ⇑P P 14 56 51.0 +1.2
baz=72
OGNE Ogallala 72.18 333 ⇓P P 14 56 50.9 +0.9
baz=72
MVCO Mesa Verde 72.23 326 ⇓P P 14 56 51.4 +0.9
baz=72,SNR=8.4
MVCO Mesa Verde 72.23 326 eP P 14 56 50.3 -0.2
comp=Z,31nm,1.6s
Q23A Hartsel 72.23 329 ⇓P P 14 56 50.8 +0.2
baz=72
Y14A Wickenburg 72.27 321 ⇑P P 14 56 51.7 +1.1
baz=73
M28A Bar X Bar Ranc 72.28 333 ⇑P P 14 56 51.4 +0.9
baz=73
N27A Anderson Farm, 72.28 332 ⇑P P 14 56 51.5 +0.9
baz=73
P24A Kohler Place, 72.28 330 ⇓P P 14 56 52.7 +1.9
baz=73
O25A Wiggins 72.41 331 ⇑P P 14 56 52.2 +0.8
baz=73
ECSD EROS Data Cent 72.47 338 ⇑P P 14 56 51.6 +0.1
baz=73,SNR=13
ECSD EROS Data Cent 72.47 338 eP P 14 56 50.5 -1.1
comp=Z,19nm,1.1s
L29A Maesberg Ranch 72.48 334 ⇑P P 14 56 52.4 +0.7
baz=73
WUAZ Wupatki 72.49 323 ⇓P P 14 56 53.2 +1.2
baz=73,SNR=6.8
WUAZ Wupatki 72.49 323 eP P 14 56 52.3 +0.3
comp=Z,9.7nm,0.9s
P23A Jefferson 72.61 329 ⇓P P 14 56 53.3 +0.5
baz=73
K30A Basset 72.66 335 ⇓P P 14 56 53.1 +0.4
baz=73
GLA Glamis 72.71 319 ⇑P P 14 56 53.9 +0.7
baz=73
GLA Glamis 72.71 319 eP P 14 56 54.0 +0.8
comp=Z,6.6nm,0.9s
ISCO Idaho Springs 72.84 330 ⇓P P 14 56 55.0 +0.8
baz=73,SNR=9.5
ISCO Idaho Springs 72.84 330 eP P 14 56 53.4 -0.7
comp=Z,13nm,1.3s
SMCO Snowmass 72.99 328 eP P 14 56 54.4 -0.8
comp=Z,9.6nm,1.0s
K29A Lazy Trails An 73.01 335 ⇑P P 14 56 55.4 +0.6
baz=73,SNR=7.6
Y12C Blythe 73.02 320 ⇑P P 14 56 56.3 +1.4
baz=73
M26A McRoberts Ranc 73.08 332 ⇓P P 14 56 55.9 +0.6
baz=73
J30A Dallas 73.17 336 ⇑P P 14 56 56.3 +0.7
baz=74
PDMCI Parker Dam,Lak 73.18 320 ⇑P P 14 56 56.7 +0.8
baz=74
P22A Eagle 73.22 329 ⇓P P 14 56 57.1 +0.8
baz=74,SNR=6.4
O23A Lake Granby, G 73.31 330 ⇓P P 14 56 57.7 +0.9
baz=74,SNR=5.3
PV04 Paradox Valley 73.34 327 eP P 14 56 55.8 -1.2
M25A Palm-Egli Farm 73.45 332 ⇑P P 14 56 58.0 +0.5
baz=74
BC3 Big Chuckawall 73.51 319 ⇓P P 14 56 58.7 +0.7
baz=74,SNR=5.8
L26A Underwood Farm 73.53 333 ⇓P P 14 56 58.6 +0.8
baz=74
J29A Okreek 73.56 335 ⇓P P 14 56 58.3 +0.4
baz=74,SNR=6.2
O22A Kremmling 73.56 329 ⇓P P 14 56 59.2 +0.8
baz=74,SNR=7.5
MONP Monument Peak, 73.57 318 ⇑P P 14 56 59.3 +0.9
baz=74
W13A Hualapai Mount 73.60 321 ⇑P P 14 56 59.3 +0.7
baz=74
I30A Oacoma 73.65 336 ⇓P P 14 56 58.6 +0.2
baz=74
U15A North Rim 73.66 323 ⇑P P 14 57 00.6 +1.6
baz=74,SNR=7.8
IRM Iron Mountain 73.68 320 ⇑P P 14 56 59.8 +1.0
baz=74,SNR=6.7
K27A Flueckinger Fa 73.73 333 ⇑P P 14 56 59.9 +0.9
baz=74
SYO Syowa Base 73.76 159 ⇓eP P 14 56 57.8 -0.9
M24A Cheyenne 73.82 331 ⇓P P 14 57 01.3 +1.6
baz=74,SNR=10
N23A Red Feather La 73.86 330 ⇑P P 14 57 00.9 +0.9
baz=74
J28A Allard Ranch, 73.93 335 ⇑P P 14 57 00.9 +0.8
baz=74
BRSD Miller 73.93 337 ⇓P P 14 57 00.5 +0.5
baz=74
PHWY Pilot Hill 73.97 331 eP P 14 56 59.5 -1.1
comp=Z,12nm,0.8s
109C Camp Elliot, M 73.99 318 ⇑P P 14 57 01.4 +0.8
baz=74
L25A Engebretsen Ra 74.00 332 ⇓P P 14 57 01.5 +0.8
baz=74
N22A Wattenberg Ran 74.03 330 ⇓P P 14 57 02.3 +1.3
baz=74,SNR=6.7
I29A Vivian Onida 74.07 335 ⇑P P 14 57 01.2 +0.3
baz=74,SNR=6.0
BELC Belle Mtn. Jos 74.08 319 ⇑P P 14 57 02.0 +0.8
baz=74
PFO Pinyon Flats O 74.08 318 ⇑P P 14 57 01.8 +0.5
baz=74
PFO Pinyon Flats O 74.08 318 eP P 14 57 01.6 +0.3
J27A Elkhorn Farm, 74.09 334 ⇓P P 14 57 02.3 +1.2
baz=74,SNR=14
K26A Motz Farm, Whi 74.11 333 ⇑P P 14 57 02.0 +0.8
baz=74
M23A Laramie 74.22 331 ⇑P P 14 57 02.7 +0.6
baz=74
K25A Mack Ranch, Ha 74.33 332 ⇓P P 14 57 03.4 +0.8
baz=75
O20A White River Ci 74.35 328 ⇑P P 14 57 03.5 +0.8
baz=75,SNR=9.9
O20A White River Ci 74.35 328 eP P 14 57 03.2 +0.4
comp=Z,15nm,0.8s
I28A Midland 74.38 335 ⇑P P 14 57 03.0 +0.3
baz=75
GMRC Granite Mounta 74.41 320 ⇑P P 14 57 04.3 +1.1
baz=75,SNR=11
MURC Murrieta 74.53 318 ⇓P P 14 57 04.7 +1.0
baz=75
H29A Onida 74.55 336 ⇓P P 14 57 03.9 +0.3
baz=75,SNR=8.5
M22A Cedar Creek Ra 74.57 330 ⇓P P 14 57 05.0 +0.9
baz=75
J26A Sides Ranch, S 74.58 333 ⇑P P 14 57 05.1 +1.2
baz=75,SNR=8.7
G30A Faulkton 74.58 337 ⇑P P 14 57 04.2 +0.5
baz=75
SRU San Rafael Swe 74.71 326 eP P 14 57 05.0 +0.1
comp=Z,7.5nm,0.7s
L23A Garrett 74.73 331 ⇑P P 14 57 05.6 +0.6
baz=75
I27A Quinn 74.79 334 ⇑P P 14 57 05.3 +0.3
baz=75
BBRC Big Bear Solar 74.81 319 ⇓P P 14 57 06.1 +0.5
baz=75
HEC Hector,Ludlow 74.84 319 ⇑P P 14 57 06.1 +0.5
baz=75
H28A Mission Ridge 74.90 335 ⇑P P 14 57 06.1 +0.5
baz=75
N20A Spence Gulch, 74.90 329 ⇓P P 14 57 06.6 +0.6
baz=75
G29A Hoven 74.92 336 ⇓P P 14 57 06.0 +0.2
baz=75
J25A Sunshine Ranch 74.94 333 ⇑P P 14 57 07.2 +1.2
baz=75,SNR=7.6
SCI San Clemente I 74.95 317 ⇑P P 14 57 06.6 +0.5
baz=75
TUQ Turquoise Moun 75.02 320 ⇓P P 14 57 07.3 +0.6
baz=75
CCUT Cedar City 75.06 323 eP P 14 57 07.8 +0.8
comp=Z,10nm,0.9s
I26A New Underwood 75.08 334 ⇓P P 14 57 06.6 -0.2
baz=75
VNDA Vanda 75.09 190 P P 14 57 07.0 +0.6
comp=Z,2.0nm,0.9s,baz=165,slow=4.4,SNR=4.3
CIS Catalina Islan 75.14 317 ⇓P P 14 57 08.0 +0.7
baz=75
F30A Leola 75.15 337 ⇑P P 14 57 07.6 +0.5
baz=76
G28A Parade 75.19 336 ⇑P P 14 57 08.3 +0.9
baz=76,SNR=5.8
K23A Bowen Ranch, D 75.21 331 ⇑P P 14 57 08.8 +1.2
baz=76,SNR=7.9
BFSC Mount Baldy Ra 75.24 318 ⇑P P 14 57 08.2 +0.2
baz=76
J24A Dixon Ranch, L 75.25 332 ⇓P P 14 57 09.1 +1.3
baz=76,SNR=6.8
H27A Howes 75.27 335 ⇓P P 14 57 08.5 +0.7
baz=76
RRX Edison Barstow 75.28 319 ⇑P P 14 57 08.9 +0.9
baz=76
I25A Rochford 75.43 333 ⇓P P 14 57 10.0 +1.2
baz=76,SNR=16
F29A Eureka 75.44 337 ⇓P P 14 57 08.9 +0.2
baz=76
GSC Goldstone, Bar 75.45 320 ⇓P P 14 57 09.6 +0.5
baz=76
K22A Casper 75.52 331 ⇓P P 14 57 10.2 +0.8
baz=76
K22A Casper 75.52 331 eP P 14 57 09.2 -0.2
comp=Z,9.5nm,0.9s
H26A Fairpoint 75.53 334 ⇑P P 14 57 10.1 +0.8
baz=76
RSSD Black Hills 75.64 333 eP P 14 57 09.0 -1.1
comp=Z,7.6nm,0.9s
DECC Green Verdugo 75.66 318 ⇓P P 14 57 10.7 +0.5
baz=76
I24A Kuemmerle Ranc 75.67 333 ⇓P P 14 57 10.5 +0.3
baz=76
E30A Jud 75.69 338 ⇓P P 14 57 11.0 +1.0
baz=76
J23A Dilts Ranch, B 75.70 332 ⇑P P 14 57 10.8 +0.5
baz=76
F28A McLaughlin 75.81 336 ⇑P P 14 57 11.7 +1.0
baz=76
K21A Alcova 75.84 330 ⇓P P 14 57 12.4 +1.2
baz=76,SNR=15
G27A Dupree 75.84 335 ⇑P P 14 57 11.7 +0.7
baz=76
H25A Fruitdale 75.87 334 ⇑P P 14 57 12.2 +1.0
baz=76
EDW2 Edwards Air Fo 75.88 319 ⇓P P 14 57 12.1 +0.6
baz=76
MPU Maple Canyon 75.95 326 eP P 14 57 11.5 -0.4
comp=Z,13nm,1.3s
E29A Napoleon 76.00 337 ⇓P P 14 57 12.3 +0.5
baz=76
G26A Maurine 76.03 335 ⇑P P 14 57 11.9 -0.1
baz=76,SNR=12
J22A Midwest 76.11 331 ⇑P P 14 57 13.4 +0.7
baz=76,SNR=14
OSI Osito Audit: C 76.15 318 ⇑P P 14 57 14.0 +1.1
baz=76
D30A Buchanan 76.16 338 ⇑P P 14 57 13.1 +0.4
baz=76,SNR=9.6
TORD Torodi Ar. Bea 76.16 69 P P 14 57 12.3 -1.0
comp=Z,5.0nm,0.5s,baz=258,slow=5.5,SNR=106
TORD pP pP 14 58 00.3 -1.2
comp=Z,3.0nm,0.9s,baz=252,slow=5.4,SNR=3.6
AGMN Agassiz Nation 76.26 340 ⇓P P 14 57 13.5 +0.3
baz=77
G25A Newell 76.27 334 ⇓P P 14 57 13.9 +0.5
baz=77,SNR=7.7
F27A Lemmon 76.28 335 ⇑P P 14 57 13.8 +0.3
baz=77,SNR=6.8
FURC Furnace Creek, 76.28 320 ⇑P P 14 57 15.1 +1.5
baz=77
JLU Jordanelle 76.30 326 eP P 14 57 13.6 -0.3
comp=Z,29nm,1.7s
H24A Dirks Ranch, A 76.36 333 ⇓P P 14 57 14.3 +0.3
baz=77,SNR=15
E28A Huff 76.38 337 ⇑P P 14 57 14.3 +0.3
baz=77
D29A Pettibone, Tap 76.41 338 ⇑P P 14 57 14.4 +0.3
baz=77
J21A Lysite 76.49 331 ⇓P P 14 57 15.4 +0.5
baz=77
I22A 9 Mile Ranch, 76.49 332 ⇓P P 14 57 15.5 +0.7
baz=77,SNR=13
F26A Lodgepole 76.52 335 ⇓P P 14 57 15.3 +0.5
baz=77,SNR=11
ARVC Arvin 76.55 318 ⇓P P 14 57 15.8 +0.6
baz=77
H23A Clabaugh Cattl 76.56 333 ⇑P P 14 57 15.6 +0.4
baz=77
C30A Mose, Pekin 76.58 339 ⇑P P 14 57 15.4 +0.4
baz=77,SNR=5.9
E27A Carson 76.58 336 ⇑P P 14 57 16.1 +0.9
baz=77
SBC Santa Barbara 76.65 317 ⇑P P 14 57 16.4 +0.7
baz=77
DUG Dugway, Tooele 76.69 325 ⇑P P 14 57 17.6 +1.5
baz=77
DUG Dugway, Tooele 76.69 325 eP P 14 57 15.7 -0.3
comp=Z,6.4nm,1.0s
G24A Alzada 76.78 334 ⇑P P 14 57 16.9 +0.5
baz=77,SNR=6.8
J20A Shoshoni 76.78 330 ⇓P P 14 57 17.2 +0.8
baz=77,SNR=7.4
I21A Big Trails, Te 76.78 331 ⇓P P 14 57 17.2 +0.7
baz=77,SNR=24
D28A Regan 76.86 337 ⇑P P 14 57 17.4 +0.7
baz=77
R11A Troy Canyon, C 76.86 323 ⇓P P 14 57 18.2 +1.2
baz=77,SNR=7.7
R11A Troy Canyon, C 76.86 323 eP P 14 57 18.3 +1.2
comp=Z,11nm,1.4s
F25A Bowman 76.89 335 ⇑P P 14 57 17.8 +0.9
baz=77,SNR=5.0
E26A Carlson Angus 76.95 335 ⇓P P 14 57 18.0 +0.8
baz=77
H22A Clearmont 77.00 332 ⇑P P 14 57 18.6 +1.1
baz=77
PDAR Pinedale Array 77.01 329 P P 14 57 17.9 +0.1
comp=Z,1.9nm,0.6s,baz=132,slow=7.4,SNR=16
G23A Biddle 77.08 333 ⇑P P 14 57 18.4 +0.4
baz=77,SNR=8.2
MDND Maddock 77.08 338 ⇑P P 14 57 18.5 +0.6
baz=77,SNR=12
MDND Maddock 77.08 338 eP P 14 57 17.5 -0.4
comp=Z,14nm,0.8s
MDND epP pP 14 58 00.2 -5.9
D27A Center 77.14 336 ⇓P P 14 57 18.8 +0.6
baz=78
J19A Crowheart 77.16 330 ⇓P P 14 57 19.1 +0.5
baz=78,SNR=15
B30A Myrvik Farm, E 77.18 339 ⇑P P 14 57 18.7 +0.3
baz=78,SNR=9.1
VES Vestal, Richgr 77.18 319 ⇓P P 14 57 19.5 +0.8
baz=78
F24A Ekalaka 77.21 334 ⇑P P 14 57 19.3 +0.5
baz=78,SNR=8.8
I20A Worland 77.27 331 ⇑P P 14 57 19.9 +0.8
baz=78,SNR=12
H21A Big Horn, Sher 77.32 332 ⇓P P 14 57 20.0 +0.6
baz=78,SNR=14
E25A Miller Ranch, 77.34 335 ⇓P P 14 57 19.9 +0.5
baz=78
BGU Big Grassy Mou 77.34 326 eP P 14 57 19.3 -0.3
comp=Z,1.8nm,1.0s
SMMC Simmler 77.39 318 ⇓P P 14 57 20.7 +0.8
baz=78
D26A Manning 77.41 336 ⇑P P 14 57 20.5 +0.8
baz=78,SNR=5.4
G22A Birney 77.47 332 ⇑P P 14 57 20.7 +0.5
baz=78
F23A Volborg 77.50 333 ⇓P P 14 57 20.6 +0.2
baz=78,SNR=13
B29A Wagenman Farm, 77.53 338 ⇓P P 14 57 20.5 +0.2
baz=78,SNR=9.2
A30A Hoffart Farm, 77.59 339 ⇓P P 14 57 20.8 +0.1
baz=78
H20A Greybull 77.63 331 ⇓P P 14 57 21.5 +0.4
baz=78,SNR=11
C27A Sayler Ranch, 77.64 337 ⇑P P 14 57 21.5 +0.5
baz=78
I19A Meeteetse 77.73 330 ⇑P P 14 57 22.5 +0.7

baz=78,SNR=10
E24A Baker 77.74 334 ⇓P P 14 57 22.4 +0.8
baz=78,SNR=9.0
HVU Hansel Valley 77.84 327 *eP* **P 14 57 21.6 -0.8**
comp=Z,7.4nm,0.8s
D25A Fairfield 77.85 335 ⇑P P 14 57 22.7 +0.6
baz=78,SNR=8.8
B28A Dugan Ranch, T 77.86 338 ⇓P P 14 57 22.8 +0.6
baz=78
G21A Lodge Grass 77.86 332 ⇓P P 14 57 22.9 +0.5
baz=78,SNR=7.4
A29A Manning Farm, 77.89 339 ⇓P P 14 57 22.8 +0.5
baz=78,SNR=9.7
F22A Rosebud 77.90 333 ⇓P P 14 57 22.8 +0.3
baz=78,SNR=12
C26A Wahner Farm, P 77.95 336 ⇓P P 14 57 23.5 +0.8
baz=78,SNR=5.9
ULM Lac du Bonnet 78.00 341 P **P 14 57 22.4 -0.4**
comp=Z,6.3nm,0.6s,baz=161,slow=6.9,SNR=12
ULM Lac du Bonnet 78.00 341 *eP* **P 14 57 22.4 -0.4**
comp=Z,23nm,1.4s
REDW Red Top Meadow 78.08 329 *eP* **P 14 57 23.7 0.0**
comp=Z,9.6nm,0.9s
E23A Ismay 78.09 334 ⇑P P 14 57 23.7 +0.2
baz=78
B27A Peters Farms, 78.14 337 ⇑P P 14 57 24.2 +0.5
baz=78
LOHW Long Hollow 78.15 329 *eP* **P 14 57 24.2 +0.1**
comp=Z,6.8nm,0.8s
SCHQ Schefferville 78.16 360 P **P 14 57 23.4 -0.2**
comp=Z,6.3nm,0.7s,baz=202,slow=5.1,SNR=7.9
D24A Glendive 78.21 335 ⇑P P 14 57 25.0 +0.9
baz=78
H19A Powell 78.21 331 ⇓P P 14 57 25.0 +0.7
baz=78,SNR=8.1
TPAW Teton Pass 78.22 329 *eP* **P 14 57 23.7 -0.9**
comp=Z,7.8nm,0.8s
A28A Rude Farm, Bot 78.22 338 ⇑P P 14 57 24.6 +0.5
baz=78
MLAC Mammoth, Mammo 78.23 320 ⇑P P 14 57 25.1 +0.4
baz=78
C25A Freed Ranch, W 78.29 336 ⇓P P 14 57 25.2 +0.7
baz=79
G20A Bridger 78.30 331 ⇓P P 14 57 25.1 +0.3
baz=79,SNR=20
F21A Absaloka Mine, 78.30 332 ⇓P P 14 57 25.4 +0.6
baz=79
E22A Miles City 78.31 333 ⇓P P 14 57 25.2 +0.5
baz=79
FXWY Fox Creek 78.37 329 *eP* **P 14 57 24.8 -0.6**
comp=Z,3.4nm,0.8s
I17A Pilgrim Ck. 78.37 329 ⇓P P 14 57 26.6 +1.3
baz=79,SNR=15
ELK Elko 78.37 324 *eP* **P 14 57 25.5 +0.1**
comp=Z,7.0nm,1.4s
NVAR Mina Array Bea 78.46 321 P **P 14 57 26.7 +0.7**
comp=Z,0.9nm,0.5s,baz=156,slow=6.2,SNR=11
B26A Jensen Ranch, 78.47 337 ⇓P P 14 57 26.5 +1.0
baz=79
IMW Indian Meadow 78.52 329 *eP* **P 14 57 26.6 +0.4**
comp=Z,11nm,0.8s
H18A Shoshone NF, C 78.53 330 ⇑P P 14 57 26.6 +0.4
baz=79,SNR=18
FLWY Flagg Ranch 78.55 329 *eP* **P 14 57 25.2 -1.1**
comp=Z,13nm,0.9s
C24A Savage 78.58 335 ⇓P P 14 57 27.2 +1.0
baz=79
A27A Ledoux Ranch, 78.60 338 ⇓P P 14 57 27.1 +0.9
baz=79
D23A Lindsay 78.60 334 ⇑P P 14 57 27.5 +1.2
baz=79,SNR=7.0
B25A Knox Farm, Ray 78.72 336 ⇑P P 14 57 28.0 +1.1
baz=79,SNR=6.4
F20A Billings 78.73 332 ⇑P P 14 57 27.3 +0.2
baz=79
H17A Grant Village 78.73 330 ⇓P P 14 57 27.8 +0.5
baz=79,SNR=5.2
H17A Grant Village 78.73 330 *eP* **P 14 57 29.0 +1.7**
comp=Z,5.1nm,0.9s
A26A Wade Farm, Ken 78.83 337 ⇓P P 14 57 28.1 +0.6
baz=79,SNR=5.2
E21A Keefer Ranch, 78.86 333 ⇑P P 14 57 28.3 +0.6
baz=79
YFT Old Faithful 78.89 329 *eP* **P 14 57 28.7 +0.5**
comp=Z,8.5nm,0.9s
D22A Cohagen 78.97 334 ⇓P P 14 57 29.1 +0.8
baz=79
C23A Lambert 79.10 335 ⇓P P 14 57 29.9 +0.9
baz=79
F19A Roth Farm, Mol 79.11 331 ⇓P P 14 57 29.6 +0.4
baz=79,SNR=14
YMR Madison River 79.12 330 *eP* **P 14 57 28.6 -0.8**
comp=Z,18nm,0.9s
D21A La Casta Ranch 79.24 333 ⇓P P 14 57 30.6 +0.9
baz=80,SNR=15
A25A Svangstu Ranch 79.25 337 ⇑P P 14 57 30.7 +0.9
baz=80,SNR=5.3
DGMT Dagmar 79.27 336 ⇑P P 14 57 31.1 +1.2
baz=80
E20A Meyer Farm, Mu 79.27 332 ⇑P P 14 57 30.9 +1.0
baz=80
C22A Vida 79.33 334 ⇓P P 14 57 30.6 +0.4
baz=80,SNR=5.0
E19A Rath Farm, Rou 79.52 332 ⇑P P 14 57 32.0 +0.6
baz=80,SNR=18
B23A Brockton 79.57 335 ⇑P P 14 57 32.5 +1.0
baz=80,SNR=7.1
A24A Westby 79.57 336 ⇑P P 14 57 32.6 +1.1
baz=80,SNR=6.7
D20A Manuel Ranch, 79.74 333 ⇑P P 14 57 33.0 +0.5
baz=80
B22A Reddig Ranch S 79.83 335 ⇑P P 14 57 33.6 +0.6
baz=80
A23A Redstone 79.93 336 ⇓P P 14 57 33.9 +0.5
baz=80
HLID Hailey 79.97 327 ⇑P P 14 57 35.6 +1.6
baz=80,SNR=26
HLID Hailey 79.97 327 *eP* **P 14 57 34.2 +0.3**
comp=Z,13nm,0.8s
D19A Cripps Ranch, 80.11 332 ⇓P P 14 57 35.0 +0.5
baz=80,SNR=7.5
C20A Veseth Ranch, 80.17 333 ⇓P P 14 57 35.0 +0.2
baz=80,SNR=8.5
B21A Ellsworth Farm 80.33 334 ⇑P P 14 57 36.2 +0.6
baz=81,SNR=6.7
A22A Carney Farms, 80.36 335 ⇑P P 14 57 36.3 +0.6
baz=81,SNR=12
DLMT Dillon 80.40 329 *eP* **P 14 57 36.6 +0.5**
comp=Z,16nm,1.3s
MFID Camas Ranch 80.58 326 *eP* **P 14 57 37.6 +0.5**
comp=Z,4.1nm,0.9s
BOSA Boshof 80.62 117 P **P 14 57 39.0 +1.1**
comp=Z,2.1nm,0.6s,baz=236,slow=5.1,SNR=5.2
C19A Slack Wire Ran 80.62 333 ⇑P P 14 57 37.7 +0.5
baz=81,SNR=8.3
LRM Limekiln Ridge 80.68 329 *eP* **P 14 57 37.7 0.0**
A21A Bergtoll Ranch 80.75 334 ⇓P P 14 57 38.0 +0.2
baz=81
B20A Solberg Farm, 80.75 334 ⇓P P 14 57 38.2 +0.4
baz=81
HRY Holter Researc 81.06 330 *eP* **P 14 57 39.3 -0.3**
A20A Cobblestone Ra 81.06 334 ⇓P P 14 57 39.3 -0.1
baz=81,SNR=25
B19A Brinkman Farms 81.14 333 ⇑P P 14 57 40.4 +0.5
baz=82,SNR=13
EGMT Eagleton 81.15 332 ⇑P P 14 57 40.1 +0.2
baz=82,SNR=6.5
EGMT Eagleton 81.15 332 *eP* **P 14 57 39.6 -0.3**
comp=Z,12nm,0.9s
A19A Klindworth Far 81.43 333 ⇑P P 14 57 41.8 +0.4
baz=82,SNR=7.9
CHMT Chamberlain Mo 81.86 330 *eP* **P 14 57 43.5 -0.4**
MOD Modoc Plateau 81.93 323 *eP* **P 14 57 42.9 -1.4**
comp=Z,9.8nm,1.2s
MSO Missoula 82.12 329 ⇓P P 14 57 45.3 +0.2
baz=82
MSO Missoula 82.12 329 *eP* **P 14 57 44.7 -0.4**
comp=Z,3.3nm,0.8s
SLMT Seeley Lake 82.21 330 *eP* **P 14 57 45.2 -0.4**
SWMT Swartz Lake 82.64 330 *eP* **P 14 57 48.5 +0.7**
N02D Trinity Center 82.69 321 ⇑P P 14 57 48.8 +0.6
baz=83
M04C Macdoel 82.71 322 ⇑P P 14 57 48.3 0.0
baz=83
K05A Summer Lake 82.80 323 *eP* **P 14 57 50.1 +1.2**
comp=Z,11nm,0.8s
YBMT Yellow Bay 82.91 330 *eP* **P 14 57 49.9 +0.7**
JTMT Jette 82.95 330 *eP* **P 14 57 49.9 +0.5**

M02C Callahan 83.04 321 ⇓P P 14 57 50.3 +0.4
baz=83
F10A Beach Ranch, E 83.09 327 *eP* **P 14 57 50.8 +0.6**
comp=Z,9.0nm,0.8s
K04D Chiloquin, OR 83.21 322 ⇑P P 14 57 51.3 +0.4
baz=84
BSMT Bassoo Peak 83.26 330 *eP* **P 14 57 51.8 +0.7**
J05D Fort Rock, OR 83.36 323 ⇑P P 14 57 51.8 +0.2
baz=84
WALA Waterton Lakes 83.74 331 *eP* **P 14 57 53.7 +0.3**
J04D Umpqua Nationa 83.81 323 ⇑P P 14 57 54.5 +0.5
baz=84
I05D Terrebonne, OR 84.11 324 ⇑P P 14 57 55.8 +0.5
baz=84
I04A Tendick Farm, 84.34 323 ⇑P P 14 57 57.0 +0.5
baz=85
HAWA Hanford 84.54 326 *eP* **P 14 57 57.9 +0.5**
comp=Z,6.6nm,0.7s
NEW Newport 84.65 329 ⇓P P 14 57 58.6 +0.7
baz=85
D08A Wollman Farm, 84.68 327 *eP* **P 14 57 58.9 +0.8**
comp=Z,112nm,2.8s
G05D Wamic, OR 84.69 325 ⇓P P 14 57 58.8 +0.6
baz=85
C09A Chrisman Ranch 84.88 328 *eP* **P 14 57 59.3 +0.3**
comp=Z,19nm,0.7s
LTY Liberty 85.70 326 *eP* **P 14 58 03.5 +0.3**
comp=Z,5.0nm,0.7s
G03D McMinnville, O 85.72 324 ⇓P P 14 58 03.9 +0.6
baz=86
B08A Colville Reser 85.78 328 *eP* **P 14 58 03.3 -0.2**
comp=Z,4.2nm,0.9s
F04D Rainier, OR 86.14 325 ⇑P P 14 58 06.1 +0.8
baz=86
EDM Edmonton 86.59 334 *eP* **P 14 58 06.1 -1.2**
B06A Marblemount 86.95 327 *eP* **P 14 58 08.5 -0.5**
A05A Maple Falls 87.56 327 *eP* **P 14 58 12.0 0.0**
comp=Z,13nm,0.8s
YKA Yellowknife Ar 93.91 340 P **P 14 58 40.7 -0.4**
comp=Z,2.5nm,0.6s,baz=136,slow=4.7,SNR=92
YKA pP **pP 14 59 30.9 0.0**
comp=Z,0.1nm,0.6s,baz=129,slow=5.7,SNR=0.7
ASAR Alice Springs 128.90 204 PKP **PKPdf 15 04 30.6 -0.8**
comp=Z,3.4nm,0.8s,baz=139,slow=1.8,SNR=36
ASAR SKPbc SKiKP 15 07 32.1 -17
comp=Z,0.4nm,0.7s,baz=143,slow=3.4,SNR=7.1
WRA Warramunga Arr 132.07 207 PKP **PKPdf 15 04 37.2 -0.3**
comp=Z,1.8nm,0.5s,baz=162,slow=1.8,SNR=44
WRA SKPbc **SKPbc 15 07 43.7 -1.2**
comp=Z,2.8nm,0.8s,baz=154,slow=3.5,SNR=21
SEY Seymchan 132.88 337 PKP **PKPdf 15 04 37.6 +0.1**
comp=Z,2.7nm,0.6s,baz=74,slow=1.6,SNR=20
PETK Petropavlovsk- 135.52 323 PKP **PKPdf 15 04 43.5 +0.6**
comp=Z,0.2nm,0.7s,baz=151,slow=2.8,SNR=11
ZALV Zalesovo Beam 142.94 28 PKhKP PKPpre 15 04 53.3
comp=Z,4.9nm,0.7s,baz=293,slow=4.2,SNR=14
KSH Kashi 144.75 54 PKP PKPbc 15 04 58.9 -0.7
KSH PKS **PKSdf 15 08 34.3 -1.5**
KSH SKS **SKSdf 15 11 52.0 +1.5**
KSH SS **SS 15 26 49.8 -1.9**
KSH PPMZ
comp=Z,89nm,5.4s
KSH LN
comp=Z,31nm,5.0s
KSH LE
comp=Z,43nm,6.2s
KSH LZ
comp=Z,130nm,5.5s
BATI Baumata 144.87 198 PKP **PKPdf 15 05 01.0 0.0**
comp=Z,24nm,0.6s,baz=248,slow=0.9,SNR=14
MKAR Makanchi Array 146.06 39 PKPbc **PKPdf 15 05 02.3 +0.2**
comp=Z,12nm,0.8s,baz=321,slow=2.5,SNR=50
MKAR pPKPbc pPKPbc 15 05 52.1 -2.5
comp=Z,0.4nm,0.6s,baz=120,slow=2.0,SNR=0.8
HYB Hyderabad 146.90 94 *i* PKP **PKPbc 15 05 06.0 -0.5**
ASAJ Asahikawa 148.53 318 PKPbc **PKPbc 15 05 09.7 -0.3**
comp=Z,6.1nm,0.7s,baz=77,slow=14,SNR=5.4
WMQ Urumqi 150.88 40 PKPbc **PKPbc 15 05 16.4 +0.6**
WMQ pPKP **pPKPdf 15 06 01.2 -1.0**
WMQ sPKP 15 06 20.0
TLY Talaya 151.04 13 PKPbc **PKPbc 15 05 16.5 +0.6**
comp=Z,2.5nm,0.4s,baz=244,slow=2.5,SNR=5.4
USRK Ussuriysk Ar. 154.43 328 PKPbc **PKPbc 15 05 22.8 -0.8**
comp=Z,2.1nm,0.6s,baz=254,slow=5.6,SNR=5.9
MJAR Matsushiro Arr 155.02 307 PKPbc PKPdf 15 05 24.3 +8.2
comp=Z,1.2nm,0.5s,baz=78,slow=1.4,SNR=5.9
MJAR PKPab **PKPab 15 05 41.3 -0.3**
comp=Z,2.2nm,0.8s,baz=89,slow=1.9,SNR=4.7
SONM Songino Array 155.24 11 PKP **PKPdf 15 05 16.6 +0.4**
comp=Z,1.1nm,0.8s,baz=166,slow=1.2,SNR=4.9
SONM PKPbc PKPbc 15 05 23.9
comp=Z,1.5nm,0.8s,baz=281,slow=0.5,SNR=4.6
SONM PKPab **PKPab 15 05 42.9 +0.7**
comp=Z,1.7nm,0.7s,baz=319,slow=4.7,SNR=6.5
GTA Gaotai 160.55 33 *e*PKP **PKPdf 15 05 23.8 +0.8**
GTA pPKP **PKPab 15 06 06.1 +0.6**
HHC Hu-ho-hao-te 162.79 5 *e*PKP **PKPdf 15 05 25.0 -0.2**
HHC PP **PP 15 10 02.3 +3.0**
HHC SKS **SKSdf 15 12 12.3 +1.3**
HHC SS **SS 15 30 07.0 +2.0**
HHC PPMZ
comp=Z,73nm,6.3s
LZH Lanzhou 165.13 31 *e*PKP **PKPdf 15 05 23.7 -3.9**
CMAR Chiang Mai Arr 165.61 108 PKP **PKPdf 15 05 27.9 -0.4**
comp=Z,0.4nm,0.5s,baz=309,slow=1.9,SNR=4.9
CMAR PKPab **PKPab 15 06 28.1 -0.1**
comp=Z,1.4nm,0.6s,baz=247,slow=5.9,SNR=10
NJ2 Nanjing 170.31 331 *e*PKP **PKPdf 15 05 30.8 -0.3**

*MOS **06** 14:55:57.4±1.0, 49°.67N×150°.74E, h344km, mb4.1/23, Error ellipse: s-maj=10.7km s-min=8.2km az=105.9*
*ISCJB **06** 14:55:58.0±0.3, 49°.58N±0°.04×150°.67E±0°.07, h350km, mb3.9/38, Error ellipse: s-maj=6.9km s-min=3.6km az=35.7*
*BJI **06** 14:55:58.8, 49°.90N×150°.90E, h372km, mB4.4/9, mb4.3/13*
*SKHL **06** 14:55:59.4±8.2, 49°.42N×150°.64E, h360km±13km, mb4.8/1, msh5.8/2*
*IDC **06** 14:56:02.2±1.2, 49°.70N×150°.69E, h379km±13km, mb3.5/20, mb1 3.6/24, mb1mx3.4/43, mbtmp4.2/24, Error ellipse: s-maj=12.8km s-min=8.0km az=152.0*
ISC 06 14:55:58.9±0.4, 49°.50N±0°.06×150°.71E±0°.06, h350km, n117, σ1§42/118, mb4.0/38, 11C-2D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.68**	**69**	*e*PN	Pn	14 57 01.2	-3.3
SKR				*e*S	S	14 57 51.3	-6.2
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=N,80nm,0.5s						
SKR				smax	smax		
	comp=E,60nm,0.5s						
SKR	**Severo-Kuril's**	**3.68**	**69**	*e*P	**Pn**	**14 57 06.7**	**+2.2**
SKR				AMB	AMB	14 57 07.4	
	comp=E,132nm,0.6s						
SKR				*e*S	**S**	**14 57 59.2**	**+1.7**
SKR				A	A	14 57 59.8	
	comp=E,1μm,0.7s						
PETK	**Petropavlovsk-**	**5.68**	**48**	P	**Pn**	**14 57 28.1**	**+2.1**
	comp=E,0.6nm,0.3s,baz=180,slow=7.6,SNR=24						
PETK				S	S	14 58 19.6	-17
	comp=E,1.4nm,0.3s,baz=163,slow=1.2,SNR=7.3						
YSS	**Yuzh-Sakhalins**	**5.89**	**247**	⇑*i*PN	Pn	14 57 32.8	+4.4
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.89**	**247**	*e*P	**Pn**	**14 57 30.8**	**+2.4**
PET	**Petropavlovsk**	**6.11**	**52**	*e*PN	**Pn**	**14 57 32.3**	**+1.5**
PET				*e*S	**S**	**14 58 44.2**	**-1.1**
PET				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PET				smax	smax		
	comp=E,30nm,0.5s						
PET				smax	smax		
	comp=N,54nm,0.6s						
PET	**Petropavlovsk**	**6.11**	**52**	*e*P	Pn	14 57 35.0	+4.2
SHO	**Shikotan**	**6.23**	**207**	*e*P	**Pn**	**14 57 33.1**	**+0.8**
SHO				*e*S	**S**	**14 58 46.0**	**-2.1**
SHO				A	A	14 58 47.4	
	comp=N,307nm,0.4s						
NEM2	**Nemuro 2**	**7.03**	**211**	P	**Pn**	**14 57 41.2**	**-0.4**

NEM2 *e*S **S 14 59 00.1 -4.9**
JSE Soyaes 7.15 234 P Pn 14 57 47.4 +4.4
ASAJ Asahikawa 7.74 229 PN Pn 14 57 54.3 +4.3
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 7.74 229 P Pn 14 57 54.2 +4.3
ASAJ Asahikawa 7.74 229 P Pn 14 57 54.3 +4.3
comp=Z,1.3nm,0.3s,baz=102,slow=9.1,SNR=14
JAR Ashorobuto 7.84 220 P **Pn 14 57 52.7 +1.6**
JOB Onbets 8.13 218 P **Pn 14 57 54.9 +0.3**
JOB *e*S **S 14 59 25.2 -3.8**
JEM Erimo 9.15 218 P **Pn 14 58 07.0 +0.3**
JEM *e*S **S 14 59 47.9 -3.3**
ERM Erimo 9.15 218 PN **Pn 14 58 07.0 +0.3**
ERM Erimo 9.15 218 *e*P **Pn 14 58 07.1 +0.3**
JNB Noboribetsu 9.73 227 P **P 14 58 15.3 +0.1**
JNB *e*S **S 15 00 02.3 -1.6**
JKB Kayabe 10.18 225 P **Pn 14 58 18.7 -0.2**
JKB *e*S S 15 00 06.4 -7.4
JTH Tanohata 11.43 217 *e*S S 15 00 32.6 -9.0
KLR Kul'dur 12.37 276 *e*PN **Pn 14 58 45.8 +1.0**
JRG Rokugo 12.39 219 P **Pn 14 58 45.7 +0.5**
JIO Ouri 12.92 215 P **Pn 14 58 51.8 +0.3**
SEY Seymchan 13.50 3 PN **P 14 58 56.0 -0.7**
SEY Seymchan 13.50 3 P **P 14 58 56.0 -0.7**
comp=Z,0.1nm,0.3s,baz=178,slow=10,SNR=3.6
FX1 Attu Island--F 14.47 68 P **Pn 14 59 08.8 -0.6**
FX1 pmax pmax
comp=Z,5.0nm,0.3s
FX1 Attu Island--F 14.47 68 P **Pn 14 59 08.8 -0.6**
comp=Z,5.4nm,0.8s,baz=306,slow=5.8,SNR=12
MAJO Matsushiro 15.82 220⇑*e*P **Pn 14 59 24.5 -0.7**
MAJO Matsushiro 15.82 220 *e*P **Pn 14 59 24.5 -0.7**
MAT Matsushiro 15.82 220 P **Pn 14 59 24.3 -0.9**
MJAR Matsushiro Arr 15.82 220 P **Pn 14 59 24.2 -1.0**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 15.82 220 P **Pn 14 59 24.2 -1.0**
comp=Z,1.1nm,0.3s,baz=12,slow=11,SNR=16
YAK Yakutsk 17.14 325 *e*P **P 14 59 35.5 -0.8**
HIA Hailar 20.10 281⇑*i*P **P 15 00 07.9 +0.3**
HIA pmax pmax
comp=Z,6.0nm,0.9s
HIA Hailar 20.10 281 *e*P **P 15 00 07.9 +0.3**
KSRS Korea Array 20.36 242 P **P 15 00 12.1 +2.0**
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS Korea Array 20.36 242 P **P 15 00 12.1 +2.0**
comp=Z,1.7nm,0.7s,baz=64,slow=9.2,SNR=7.8
BOD Bodaibo 23.04 305 *e*P **P 15 00 32.6 -1.6**
BOD pmax pmax
comp=Z,3.0nm,2.0s
JCJ Chichijima 23.31 200 P **P 15 00 40.7 +3.7**
comp=Z,40nm,0.6s,baz=120,slow=20,SNR=11
TIXI Tiksi 24.38 343⇑*i*P **P 15 00 45.1 -0.9**
TIXI pmax pmax
comp=Z,10.0nm,2.5s
ULN Ulaanbaatar 28.57 284⇑*i*P **P 15 01 24.2 +0.4**
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 28.57 284 *e*P **P 15 01 24.2 +0.4**
SONM Songino Array 29.00 284 P **P 15 01 28.2 +0.7**
SONM pmax pmax
comp=Z,1.0nm,0.4s
SONM Songino Array 29.00 284 P **P 15 01 28.2 +0.7**
comp=Z,0.7nm,0.4s,baz=76,slow=7.9,SNR=7.4
TLY Talaya 29.56 292 *e*P **P 15 01 33.5 +1.2**
TLY pmax pmax
comp=Z,10.0nm,0.8s
TLY Talaya 29.56 292 P **P 15 01 33.5 +1.2**
comp=Z,10.0nm,0.6s,baz=75,slow=3.2,SNR=14
TLY Talaya 29.56 292 *e*P **P 15 01 33.0 +0.8**
ZAK Zakamensk 30.14 290 *e*P P 15 01 31.8 -5.6
ZAK pmax pmax
comp=Z,2.0nm,1.0s
KDAK Kodiak Island 33.70 54 *i*P **P 15 02 08.0 +0.1**
KDAK Kodiak Island 33.70 54 *e*P **P 15 02 08.0 +0.1**
COLA College 35.04 41 *d*/*i*P **P 15 02 19.8 +0.6**
COLA pmax pmax
comp=Z,24nm,1.0s
COLA College 35.04 41 *e*P **P 15 02 19.8 +0.6**
ILAR Eielson Array 35.46 41 P **P 15 02 22.3 -0.5**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 35.46 41 P **P 15 02 22.3 -0.5**
comp=Z,1.4nm,0.8s,baz=254,slow=5.7,SNR=28
HVS Khovu-Aksy 35.66 295⇑*e*P **P 15 02 25.9 +1.1**
HVS pmax pmax
comp=Z,26nm,1.1s
GTA Gaotai 37.06 274 *e*P **P 15 02 37.9 +1.2**
GTA PMZ
comp=Z,3.0nm,1.3s
ZALV Zalesovo Beam 39.74 302 P **P 15 02 57.9 -0.5**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV Zalesovo Beam 39.74 302 P **P 15 02 57.9 -0.5**
comp=Z,2.9nm,0.3s,baz=59,slow=7.0,SNR=20
INK Inuvik 40.23 34 P **P 15 03 01.5 -0.7**
INK pmax pmax
comp=Z,1.0nm,0.3s
INK Inuvik 40.23 34 P **P 15 03 01.5 -0.7**
comp=Z,0.9nm,0.3s,baz=304,slow=7.9
NVS Novosibirsk 40.27 304 *e*P **P 15 03 01.8 -0.9**
NVS pmax pmax
comp=N,1.0nm,0.5s
NVS pmax pmax
comp=E,3.0nm,0.5s
NVS pmax pmax
comp=Z,5.0nm,0.5s
MKAR Makanchi Array 44.30 294 P **P 15 03 34.9 -0.1**
comp=Z,3.8nm,0.7s,baz=67,slow=7.9,SNR=66
MKAR ScP **ScP 15 08 23.6 -6.3**
comp=Z,0.4nm,0.6s,baz=36,slow=2.7,SNR=4.2
KURK Kurchatov 44.54 300 *e*P **P 15 03 36.7 -0.1**
BRVK Borovoye 47.94 307 *d*/*i*P **P 15 04 02.5 -0.4**
BRVK pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 47.94 307 *e*P **P 15 04 02.5 -0.4**
LSA Lhasa 48.61 269 P **P 15 04 10.5 +1.6**
YKA Yellowknife Ar 49.70 37 P **P 15 04 15.6 -0.4**
comp=Z,0.8nm,0.5s,baz=302,slow=7.1,SNR=17
YKA ScP **ScP 15 08 48.5 -3.8**
comp=Z,0.3nm,0.8s,baz=294,slow=4.3,SNR=3.8
YKA Yellowknife Ar 49.70 37 *e*P **P 15 04 15.5 -0.5**
ULHL Ulahol 50.39 292 P **P 15 04 22.1 +0.3**
SNR=5.9
ULHL Ulahol 50.39 292 *i*P **P 15 04 22.1 +0.3**
SVE Sverdlovsk 50.73 315 *e*P **P 15 04 23.9 +0.1**
SVE pmax pmax
comp=Z,12nm,0.6s
USP Ospenovka 50.85 294 P **P 15 04 25.8 +0.8**
SNR=7.2
USP Ospenovka 50.85 294 *i*P **P 15 04 25.7 +0.8**
KBK Karagaybulak 50.94 293 P **P 15 04 26.3 +0.6**
SNR=5.3
KBK Karagaybulak 50.94 293 *i*P **P 15 04 26.3 +0.6**
KZA Kyzart 51.09 292 P **P 15 04 28.3 +1.1**
SNR=6.8
KZA Kyzart 51.09 292 *i*P **P 15 04 28.3 +1.1**
AAK Ala-Archa 51.22 293 P **P 15 04 28.4 +0.5**
SNR=5.5
AAK Ala-Archa 51.22 293 *c*/*i*P **P 15 04 28.3 +0.5**
AAK pmax pmax
comp=Z,19nm,0.9s
AAK Ala-Archa 51.22 293 *e*P **P 15 04 28.3 +0.5**
CMAR Chiang Mai Arr 51.57 252 *c*e**P P 15 04 31.2 +0.8**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 51.57 252 P **P 15 04 31.2 +0.8**
comp=Z,1.2nm,0.6s,baz=35,slow=6.7,SNR=9.2
EKS2 Erkin-Say 51.63 294 P **P 15 04 31.5 +0.6**
SNR=12
EKS2 Erkin-Say 51.63 294 *i*P **P 15 04 31.4 +0.6**
ARU Arti 51.91 315 *c*/*i*P **P 15 04 32.0 -0.4**
ARU 15 05 38.7
ARU *PP **pP 15 05 46.5 +1.6**
ARU 15 06 33.9
ARU SS SKiKP 15 15 08.5 -8.3
ARU pmax pmax
comp=Z,16nm,0.6s
KK31 Karatay Array 53.31 296 *i*P **P 15 04 42.5 -0.3**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
LVZ Lovozero 53.60 335 P **P 15 04 46.0 +1.5**

LVZ pmax pmax
comp=Z,72nm,1.8s
AB31 Akbulak array 55.45 307 *eP* **P 15 04 57.5 -0.5**
AB31 pmax pmax
comp=Z,10.0nm,0.5s
JOF Joensuu 58.15 332 *eP* **P 15 05 15.1 -1.4**
JOF pmax pmax
comp=Z,3.0nm,0.3s
JOF Joensuu 58.15 332 *ep* **P 15 05 15.1 -1.4**
comp=Z,3.2nm,0.3s
KAF Kangasniemi 60.27 333 *eP* **P 15 05 29.5 -1.3**
KAF pmax pmax
comp=Z,3.0nm,0.4s
KAF Kangasniemi 60.27 333 *ep* **P 15 05 29.5 -1.3**
comp=Z,3.2nm,0.4s
FINES FINESS Array B 60.86 333 P **P 15 05 33.8 -1.1**
FINES pmax pmax
comp=Z,8.0nm,0.4s
FINES FINESS Array B 60.86 333 P **P 15 05 33.8 -1.1**
comp=Z,8.4nm,0.4s,baz=40,slow=6.8,SNR=182
FINES FINESS Array B 60.86 333 *eP* **P 15 05 33.7 -1.1**
OBN Obninsk 62.14 324 *eP* **P 15 05 40.8 -2.5**
OBN *i* 15 06 19.6
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN Obninsk 62.14 324 *eP* **P 15 05 42.4 -0.9**
NVAR Mina Array Bea 62.58 62 P **P 15 05 46.7 -0.2**
comp=Z,1.3nm,0.6s,baz=300,slow=7.1,SNR=8.6
GEYT Alibeck 63.84 298 P **P 15 05 55.0 +0.2**
comp=Z,3.4nm,0.7s,baz=4.3,slow=5.9,SNR=8.5
PDAR Pinedale Array 64.42 54 P **P 15 05 58.8 0.0**
comp=Z,1.4nm,0.6s,baz=344,slow=1.2,SNR=21
NB2 NORSAR Subarra 65.10 340 P **P 15 06 01.0 -1.5**
comp=Z,0.7nm,0.6s,baz=26,slow=6.5
NOA NORSAR Array B 65.10 340 P **P 15 06 01.3 -1.2**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 65.10 340 P **P 15 06 01.3 -1.2**
comp=Z,1.3nm,0.7s,baz=29,slow=6.6,SNR=5.5
KIV Kislovodsk 67.74 312 *eP* **P 15 06 20.2 +0.7**
KIV *i* 15 06 46.1
KIV pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 67.81 312 P **P 15 06 20.3 +0.5**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 67.81 312 P **P 15 06 20.2 +0.5**
comp=Z,8.6nm,0.9s,baz=78,slow=3.3,SNR=18
AKASG Malin Array Be 68.37 324 *ceP* **P 15 06 21.7 -1.3**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 68.37 324 P **P 15 06 21.8 -1.3**
comp=Z,2.8nm,0.4s,baz=33,slow=6.1,SNR=7.9
KIEV Kiev 68.38 324 P **P 15 06 22.0 -1.1**
GNI Garni 69.55 308 P **P 15 06 32.0 +1.3**
GNI pmax pmax
comp=Z,13nm,1.5s
SCHQ Schefferville 71.38 22 P **P 15 06 39.9 -1.3**
comp=Z,2.1nm,0.8s,baz=291,slow=8.6,SNR=5.1
ASAR Alice Springs 74.36 196 P **P 15 07 00.1 +1.2**
comp=Z,0.3nm,0.4s,baz=8.7,slow=5.7,SNR=8.4
ASAR pP pP 15 08 26.3 +8.8
comp=Z,0.5nm,0.8s,baz=6.4,slow=5.8,SNR=4.5
BRTR Keskin Array B 75.30 315 *ceP* **P 15 07 04.1 -0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 75.30 315 P **P 15 07 04.2 -0.2**
comp=Z,2.0nm,0.8s,baz=66,slow=4.0,SNR=9.5
TXAR Lajitas Array 77.51 59 P **P 15 07 17.1 +0.3**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 77.51 59 P **P 15 07 17.1 +0.3**
comp=Z,0.9nm,0.6s,baz=285,slow=3.8,SNR=11

MAN 06 15:01:28, 18°.96N×120°.11E, h19km, mb4.7, ML3.5, MS3.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.80**	**143**	⇑*iP*	Pb	15 01 43.0	-0.2
PIP				*eS*	Sn	15 01 56.2	+0.6
ABRA	**Dolores**	**1.43**	**156**	*eP*	Pn	15 01 52.3	-0.6
SGCP	**Mt. Cagua**	**1.97**	**111**	*eP*	Pn	15 02 00.9	+0.5
BOLP	**Bolinao**	**2.57**	**184**	*eP*	Pn	15 02 09.3	+0.6
BALP	**Baler**	**3.50**	**156**	*eP*	Pn	15 02 22.8	+1.4

HEL 06 15:03:27.1±0.4, 67°.86N×20°.32E, h0km, ML1.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.66**	**73**	*eP*	Pg	15 03 38.1	-1.6
LANU				*eS*	Sg	15 03 46.8	-1.5
KIF	**Kilpisjarvi**	**1.16**	**9**	*eP*	Pg	15 03 49.2	-0.2
KIF				*eS*	Sg	15 04 03.2	-1.2
KIF				MSG		15 04 08.7	
comp=Z,3.1nm,0.2s							
HEF	**Hetta**	**1.37**	**65**	*eP*	Pg	15 03 50.9	-2.4
HEF				*eS*	Sg	15 04 09.7	-1.3
HEF				MSG		15 04 14.8	
comp=Z,1.4nm,0.2s							
KALU	**Kalix**	**2.34**	**148**	*eP*	Pn	15 04 06.1	-0.6
KALU				*eS*	Sn	15 04 35.4	-0.7
SGF	**Sodankyl**	**2.41**	**97**	*eP*	Pn	15 04 08.3	+0.6
SGF				*eS*	Sn	15 04 38.3	+0.4
ARA0	**ARCESS Array S**	**2.53**	**46**	*eP*	Pn	15 04 10.0	+0.5
ARA0				*eS*	Sn	15 04 41.1	+0.1
RNF	**Rovaniemi**	**2.55**	**117**	*eP*	Pn	15 04 10.0	+0.4
RNF				*eS*	Sn	15 04 41.2	-0.1

ISCJB ***06*** *15:19:04.1±0.2, 37°.40S±0°.04×73°.67W±0°.06, h23km, mb5.0/37, MS4.7/6, Error ellipse: s-maj=7.6km s-min=4.7km az=151.5*

IDC ***06*** *15:19:05.5±0.6, 37°.42S×73°.69W, h22km±3km, mb4.5/14, mb1 4.6/18, mb1mx4.5/27, mbtmp4.6/18, ML3.8/3, MS4.5/8, Ms1 4.5/8, ms1mx4.3/17, Error ellipse: s-maj=16.3km s-min=10.8km az=84.0*

NEIC ***06*** *15:19:07.0±0.2, 37°.43S×73°.71W, h35km, mb5.1/21, Error ellipse: s-maj=8.2km s-min=5.4km az=69.0*

GCMT ***06*** *15:19:07.0±0.2, 37°.59S×74°.31W, h14km±1km, MW5.2/81, Moment Tensor Solution. s45,c58; s81,c114; Duration: 1±0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.24±.22; $M_{\theta\theta}$0.34±.12; $M_{\phi\phi}$-4.58±.16; $M_{r\theta}$-0.33±.28; $M_{\theta\phi}$-1.42±.10; $M_{\phi r}$-6.39±.56; Best double couple: $M_0$7.89100×10^{16} NP1:ϕ_s185.00000°, δ72.00000°, λ83.00000°. NP2: ϕ_s28.00000°, δ19.00000°, λ112.00000°. Principal axes: T 7.6130, Plg62.0000°, Azm84.0000°; N 0.5600, Plg7.0000°, Azm187.0000°; P -8.1680, Plg27.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 15:19:05.5±0.6, 37°.42S±0°.05×73°.75W±0°.07, h24km±4km, n207, σ1^{S}28/213, mb5.1/37, MS4.7/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.14**	**144**	Pn	**Pn**	**15 20 07.7**	**+0.4**
2.1nm,0.3s,baz=316,slow=14,SNR=108							
PLCA				Pg	**Pb**	**15 20 19.4**	**+1.8**
19nm,0.3s,baz=306,slow=16,SNR=36							
PLCA				Lg	Lg	15 21 16.2	
25nm,0.3s,baz=14,slow=14,SNR=4.6							
CFAA	**Coronel Fontan**	**7.37**	**40**	Pn	**Pn**	**15 20 51.9**	**+0.3**
0.9nm,0.3s,baz=214,slow=12,SNR=59							
CFAA				Lg	Lg	15 22 59.8	
0.6nm,0.3s,baz=134,slow=22,SNR=4.5							
CFAA				LR	LR	15 24 23.0	
comp=Z,566nm,19.0s,baz=226,slow=43							
TRQA	**Tornquist**	**9.34**	**97**	*e*Pn	**Pn**	**15 21 17.8**	**-0.9**
109nm,0.9s							
TRQA				*e*Sn	**Sn**	**15 22 58.0**	**-5.0**
LVC	**Limon Verde**	**15.34**	**17**	*e*Pn	**Pn**	**15 22 39.9**	**-0.8**
58nm,1.0s							
LVC				*e*Sn	**Sn**	**15 25 31.0**	**+1.1**
CPUP	**Villa Florida**	**17.77**	**56**	P	**Pn**	**15 23 09.9**	**-1.3**
2.1nm,0.3s,baz=207,slow=10,SNR=24							
CPUP				LR	LR	15 30 01.5	
comp=Z,2μm,19.1s,baz=217,slow=37							
CPUP	**Villa Florida**	**17.77**	**56**	*e*Pn	**Pn**	**15 23 11.0**	**-0.1**
USHA	**Ushuaia**	**17.79**	**170**	P	**Pn**	**15 23 10.6**	**-0.7**
0.3nm,0.3s,baz=321,slow=8.7,SNR=8.5							
EFI	**East Falkland**	**18.05**	**147**	*e*Pn	**Pn**	**15 23 13.6**	**-1.0**
268nm,1.0s							
LPAZ	**La Paz**	**21.63**	**15**	P	**P**	**15 23 55.6**	**+1.0**
24nm,0.7s,baz=161,slow=4.1,SNR=51							
SIV	**San Ignacio**	**24.11**	**31**	P	**P**	**15 24 18.7**	**-0.7**
14nm,0.8s,baz=238,slow=8.7,SNR=36							
NNA	**Nana**	**25.48**	**353**	P	**P**	**15 24 32.6**	**+0.7**
11nm,0.7s,baz=163,slow=4.5,SNR=4.1							
NNA	**Nana**	**25.48**	**353**	*e*P	**P**	**15 24 31.5**	**-0.3**
SAML	**Samuel**	**29.91**	**21**	*e*P	**P**	**15 25 11.7**	**+0.1**
47nm,1.4s							
BDFB	**Brasilia**	**31.45**	**53**	P	**P**	**15 25 23.9**	**-1.4**
19nm,0.9s,baz=218,slow=7.2,SNR=19							
BDFB				LR	LR	15 38 43.9	
comp=Z,2μm,18.0s,baz=223,slow=38							
OTAV	**Otavalo**	**37.72**	**352**	*e*P	**P**	**15 26 21.2**	**+1.4**
39nm,1.3s							
SDV	**Santo Domingo**	**46.15**	**4**	*e*P	**P**	**15 27 26.7**	**-1.7**
RCBR	**Riachuelo**	**46.64**	**57**	*e*P	**P**	**15 27 29.4**	**-2.8**
VNA3	**Neumayer Olymp**	**46.75**	**156**	P	**P**	**15 27 33.3**	**+1.0**
VNA1	**Neumayer--Stat**	**47.11**	**156**	P	**P**	**15 27 36.7**	**+1.6**
VNA2	**Neumayer--Watz**	**47.44**	**156**	P	**P**	**15 27 38.8**	**+1.1**
baz=290,slow=9.4							
SNAA	**Sanae**	**48.98**	**157**	P	**P**	**15 27 50.2**	**+0.6**
SNAA	**Sanae**	**48.98**	**157**	*e*P	**P**	**15 27 49.9**	**+0.3**
SNAA	**Sanae**	**48.98**	**157**	P	**P**	**15 27 50.3**	**+0.6**
11nm,0.9s,baz=288,slow=6.9,SNR=28							
SNAA				pP	**pP**	**15 27 57.3**	**+0.2**
12nm,0.9s,baz=260,slow=6.0,SNR=11							
SNAA	**Sanae**	**48.98**	**157**	P	**P**	**15 27 49.9**	**+0.3**
SNAA				pP	**pP**	**15 27 57.3**	**+0.2**
QSPA	**South Pole Qui**	**52.82**	**180**	P	**P**	**15 28 18.5**	**-0.2**
24nm,1.0s,baz=134,slow=3.4,SNR=35							
QSPA	**South Pole Qui**	**52.82**	**180**	P	**P**	**15 28 18.5**	**-0.2**
QSPA				*e*P	pP	15 28 18.8	-7.4
RKT	**Rikitea**	**53.91**	**267**	*e*S	**S**	**15 35 59.9**	**-1.3**
304nm,24.0s							
RKT				*e*LR	LR	15 44 00.4	
1μm,27.2s,baz=127							
RKT	**Rikitea**	**53.91**	**267**	*e*T	T	16 26 15.0	
1.5nm,0.3s							
VNDA	**Vanda**	**60.48**	**192**	P	**P**	**15 29 14.0**	**+1.3**
0.5nm,0.3s,baz=153,slow=3.0,SNR=4.2							
VNDA	**Vanda**	**60.48**	**192**	*e*P	**P**	**15 29 12.9**	**+0.1**
MEH	**Mehetia**	**67.08**	**265**	*e*T	T	16 42 38.2	
13nm,0.2s							
TIAR	**Tiarei**	**68.27**	**264**	*e*T	T	16 44 06.6	
6.4nm,0.3s							
PPT2	**Papeete2**	**68.43**	**264**	*e*S	**S**	**15 39 01.1**	**-5.1**
322nm,23.2s							
PPT2	**Papeete2**	**68.43**	**264**	*e*LR	LR	15 50 47.2	
986nm,25.2s,baz=119							
PPT	**Papeete**	**68.44**	**264**	LR	LR	15 52 33.3	
comp=Z,399nm,18.6s,baz=160,slow=29							
832A	**Faith Ranch, C**	**69.84**	**335**	P	**P**	**15 30 14.5**	**+0.5**
baz=70							
732A	**Laxson Ranch,**	**70.25**	**336**	P	**P**	**15 30 16.9**	**+0.4**
baz=71							
MAW	**Mawson**	**70.30**	**164**	LR	LR	16 01 10.2	
comp=Z,747nm,18.6s,baz=233,slow=36							
535A	**Dale**	**70.71**	**338**	P	**P**	**15 30 19.5**	**+0.2**
baz=71							
631A	**Perdido Creek**	**71.08**	**335**	P	**P**	**15 30 21.8**	**+0.2**
baz=71							
533A	**Kerrville**	**71.19**	**337**	P	**P**	**15 30 23.2**	**+0.9**
baz=72							
532A	**Rocksprings**	**71.52**	**336**	P	**P**	**15 30 25.1**	**+0.8**
baz=72							
434A	**Burnet**	**71.65**	**338**	P	**P**	**15 30 25.7**	**+0.6**
baz=72							
531A	**Rocksprings**	**71.76**	**336**	P	**P**	**15 30 26.7**	**+1.0**
baz=72							
JCT	**Junction City**	**71.81**	**336**	P	**P**	**15 30 27.0**	**+1.0**
baz=72							
JCT	**Junction City**	**71.81**	**336**	*e*P	**P**	**15 30 26.2**	**+0.1**
433A	**Art**	**71.85**	**337**	P	**P**	**15 30 27.2**	**+1.0**
baz=72							
530A	**J-C Ranch, Com**	**72.01**	**335**	P	**P**	**15 30 28.2**	**+1.0**
baz=72							
TXAR	**Lajitas Array**	**72.08**	**333**	P	**P**	**15 30 28.3**	**+0.6**
1.7nm,0.8s,baz=152,slow=8.2,SNR=15							
TXAR				LR	LR	15 56 20.4	
comp=Z,230nm,20.4s,baz=0.0,slow=31							
334A	**Lometa**	**72.13**	**338**	P	**P**	**15 30 28.2**	**+0.3**
baz=72							
431A	**Sonora**	**72.26**	**336**	P	**P**	**15 30 29.3**	**+0.6**
baz=73							
529A	**Stev Forest Ra**	**72.29**	**334**	P	**P**	**15 30 29.4**	**+0.4**
baz=73							
WHTX	**Lake Whitney,**	**72.52**	**339**	P	**P**	**15 30 30.6**	**+0.5**
17nm,1.1s							
430A	**Baggett Ranch,**	**72.56**	**335**	P	**P**	**15 30 30.9**	**+0.4**
baz=73							
332A	**Millersview**	**72.63**	**337**	P	**P**	**15 30 31.0**	**+0.1**
baz=73							
429A	**Davenport Ranc**	**72.64**	**335**	P	**P**	**15 30 31.9**	**+0.9**
baz=73							
331A	**San Angelo**	**72.78**	**336**	P	**P**	**15 30 32.2**	**+0.4**
baz=73							
CER	**Ceres**	**72.79**	**119**	*e*P	**P**	**15 30 32.4**	**+0.3**
CER				AMB	AMB	15 30 41.4	
comp=Z,67nm,2.9s							
CER	**Ceres**	**72.79**	**119**	P	**P**	**15 30 32.4**	**+0.3**
comp=Z,67nm,2.9s							
232A	**Coleman**	**73.07**	**337**	P	**P**	**15 30 33.7**	**+0.2**
baz=73							
SWET	**Sewanee**	**73.15**	**350**	*e*P	**P**	**15 30 33.7**	**-0.2**
TKL	**Tuckaleechee C**	**73.30**	**351**	*e*P	**P**	**15 30 35.1**	**+0.4**
231A	**Bronte**	**73.33**	**337**	P	**P**	**15 30 35.0**	**0.0**
baz=74							
329A	**Wagon Wheel Ra**	**73.46**	**335**	P	**P**	**15 30 36.6**	**+0.8**
baz=74							
KOMG	**Komaggas**	**73.48**	**115**	*e*P	**P**	**15 30 37.8**	**+1.5**
KOMG				AMB	AMB	15 30 45.3	
comp=Z,66nm,1.5s							
KOMG	**Komaggas**	**73.48**	**115**	P	**P**	**15 30 37.8**	**+1.5**
comp=Z,66nm,1.5s							
Z35A	**Perchaven, San**	**73.72**	**340**	P	**P**	**15 30 37.0**	**-0.2**
baz=74							
ABTX	**Abilene, Hawle**	**73.75**	**337**	P	**P**	**15 30 37.5**	**0.0**
baz=74							
131A	**Roby**	**74.03**	**337**	P	**P**	**15 30 39.5**	**+0.4**
baz=74							
WVT	**Waverly**	**74.34**	**348**	*e*P	**P**	**15 30 40.8**	**0.0**
comp=Z,13nm,0.8s							
Z32A	**Haskell**	**74.34**	**338**	P	**P**	**15 30 41.3**	**+0.5**
baz=75							
SUR	**Sutherland**	**74.40**	**119**	*e*P	**P**	**15 30 39.8**	**-1.9**
Z31A	**Sharp Cattle R**	**74.55**	**337**	P	**P**	**15 30 42.2**	**0.0**
baz=75							
128A	**Castleberry Fa**	**74.66**	**335**	P	**P**	**15 30 43.4**	**+0.5**
baz=75							
Z30A	**Sanderson Ranc**	**74.83**	**336**	P	**P**	**15 30 44.0**	**+0.2**
baz=75							
MNTX	**Cornudas Mount**	**74.85**	**332**	*e*P	**P**	**15 30 41.7**	**-2.2**
Z29A	**Hungry Hill Ra**	**74.99**	**336**	P	**P**	**15 30 44.9**	**+0.1**
baz=75							
X34A	**Smith Ranch, M**	**75.08**	**340**	P	**P**	**15 30 45.6**	**+0.5**
baz=75							
X32A	**Elmer**	**75.32**	**338**	P	**P**	**15 30 47.7**	**+1.2**
baz=76							
W33A	**Caddo, Fort Co**	**75.77**	**339**	P	**P**	**15 30 50.2**	**+1.1**
baz=76							
W32A	**Sentinel**	**75.97**	**339**	P	**P**	**15 30 51.0**	**+0.8**
baz=76							
Y26A	**Elida**	**76.31**	**335**	P	**P**	**15 30 53.0**	**+0.7**
baz=77							
V33A	**Lossen Ranch,**	**76.35**	**340**	P	**P**	**15 30 53.5**	**+1.2**
baz=77							
AMTX	**Amarillo**	**76.48**	**337**	P	**P**	**15 30 53.8**	**+0.6**
baz=77							
AMTX	**Amarillo**	**76.48**	**337**	*e*P	**P**	**15 30 53.9**	**+0.6**
W29A	**Amarillo**	**76.69**	**337**	P	**P**	**15 30 54.8**	**+0.3**
baz=77							
Y24A	**Capitan**	**76.87**	**333**	P	**P**	**15 30 56.6**	**+1.0**
baz=77							
X26A	**CR and CF Fran**	**76.87**	**335**	P	**P**	**15 30 56.7**	**+1.2**
baz=77							
UPI	**Upington**	**77.01**	**116**	*e*P	**P**	**15 30 57.6**	**+1.0**
UPI				AMB	AMB	15 31 05.7	
comp=Z,55nm,2.8s							
UPI	**Upington**	**77.01**	**116**	P	**P**	**15 30 57.6**	**+1.0**
comp=Z,55nm,2.8s							
W27A	**Bowe Ranch, En**	**77.09**	**336**	P	**P**	**15 30 57.6**	**+0.9**
baz=77							
Y23A	**Lovelace Mesa,**	**77.10**	**333**	P	**P**	**15 30 58.2**	**+1.3**
baz=77							
LIC	**Lamto**	**77.17**	**72**	*e*P	**P**	**15 30 58.4**	**+0.9**
comp=Z,137nm,1.1s							
TIC	**Toumodi**	**77.44**	**72**	*e*P	**P**	**15 31 00.3**	**+1.2**
comp=Z,87nm,1.1s							
X24A	**Lazy VL Ranch,**	**77.44**	**334**	P	**P**	**15 31 00.1**	**+1.3**
baz=78							
KIC	**Kosan Boka**	**77.47**	**72**	*e*P	**P**	**15 31 00.1**	**+0.9**
comp=Z,116nm,1.0s							
TUC	**Tucson**	**77.51**	**329**	P	**P**	**15 30 56.9**	**-2.2**
comp=Z,8.5nm,1.2s							
DBIC	**Dimbokro**	**77.58**	**72**	*e*P	**P**	**15 31 01.3**	**+1.4**
DBIC	**Dimbokro**	**77.58**	**72**	P	**P**	**15 31 01.0**	**+1.2**
comp=Z,21nm,0.9s,baz=214,slow=5.3,SNR=15							
DBIC				pP	**pP**	**15 31 07.9**	**+0.3**
comp=Z,27nm,0.9s,baz=198,slow=6.2,SNR=10.0							
DBIC	**Dimbokro**	**77.58**	**72**	*e*P	**P**	**15 31 00.1**	**+0.2**
DBIC				P	**P**	**15 31 01.0**	**+1.2**
DBIC				pP	**pP**	**15 31 07.9**	**+0.3**
ACSO	**Alum Creek Sta**	**77.74**	**353**	*e*P	**P**	**15 30 59.8**	**-0.2**
GRM	**Grahamstown**	**77.75**	**123**	*e*P	**P**	**15 31 01.0**	**+0.4**
GRM				AMB	AMB	15 31 09.2	
comp=Z,61nm,3.5s							
GRM	**Grahamstown**	**77.75**	**123**	P	**P**	**15 31 01.0**	**+0.4**
comp=Z,61nm,3.5s							
214A	**Organ Pipe Nat**	**78.07**	**327**	P	**P**	**15 31 02.3**	**+0.1**
baz=78							
214A	**Organ Pipe Nat**	**78.07**	**327**	*e*P	**P**	**15 31 02.9**	**+0.8**
ANMO	**Albuquerque**	**78.15**	**333**	*e*P	**P**	**15 31 03.0**	**+0.3**
V25A	**Rancho No Teng**	**78.31**	**335**	P	**P**	**15 31 04.2**	**+0.6**
baz=79							
U25A	**Circle Dot Ran**	**78.75**	**335**	P	**P**	**15 31 06.4**	**+0.4**
baz=79							
V23A	**Ortiz Mt. (NFS**	**78.77**	**334**	P	**P**	**15 31 05.0**	**-1.2**
baz=79							
113A	**Mohawk Valley,**	**79.18**	**327**	P	**P**	**15 31 09.4**	**+1.3**
baz=80							
V22A	**San Miguel Ran**	**79.18**	**333**	P	**P**	**15 31 09.6**	**+1.2**
baz=80							
T25A	**Trinidad**	**79.42**	**336**	P	**P**	**15 31 11.3**	**+1.6**
baz=80							
S26A	**Kim**	**79.56**	**336**	P	**P**	**15 31 11.5**	**+1.2**
baz=80							
U22A	**Llaves**	**79.58**	**333**	P	**P**	**15 31 11.9**	**+1.3**
baz=80							
X16A	**Lo Mia Camp, P**	**79.61**	**329**	P	**P**	**15 31 12.4**	**+1.6**
baz=80							
TSUM	**Tsumeb**	**79.61**	**106**	*e*P	**P**	**15 31 11.2**	**0.0**
comp=Z,8.2nm,0.8s							
T24B	**San Luis**	**79.68**	**335**	P	**P**	**15 31 12.7**	**+1.5**
baz=80							
BOSA	**Boshof**	**79.70**	**118**	*e*P	**P**	**15 31 12.2**	**+0.6**
BOSA				AMB	AMB	15 31 19.6	
comp=Z,48nm,1.1s							
BOSA	**Boshof**	**79.70**	**118**	P	**P**	**15 31 11.8**	**+0.3**
comp=Z,18nm,0.9s,baz=231,slow=5.7,SNR=21							
BOSA				LR	LR	16 03 59.5	
comp=Z,216nm,18.5s,baz=218,slow=34							
BOSA	**Boshof**	**79.70**	**118**	*e*P	**P**	**15 31 11.6**	**0.0**
comp=Z,47nm,1.0s							
Y14A	**Wickenburg**	**79.85**	**328**	P	**P**	**15 31 12.9**	**+1.0**
baz=80							
S24A	**Houchin Ranch,**	**80.15**	**335**	P	**P**	**15 31 15.4**	**+1.6**
baz=80							
R26A	**Arlington**	**80.17**	**337**	P	**P**	**15 31 14.5**	**+0.9**
baz=80							
SDCO	**Great Sand Dun**	**80.34**	**335**	*e*P	**P**	**15 31 15.5**	**+0.7**
comp=Z,5.5nm,1.1s							
SWZ	**Schweizer**	**80.62**	**117**	*e*P	**P**	**15 31 16.4**	**-0.2**
SWZ				AMB	AMB	15 31 24.1	
comp=Z,33nm,1.2s							
SWZ	**Schweizer**	**80.62**	**117**	P	**P**	**15 31 16.4**	**-0.2**
comp=Z,33nm,1.2s							
R24A	**Sanders Place,**	**80.65**	**335**	P	**P**	**15 31 17.6**	**+1.3**
baz=81							
S22A	**4UR Ranch, Cre**	**80.80**	**334**	P	**P**	**15 31 18.1**	**+0.9**
baz=81							
MVCO	**Mesa Verde**	**80.92**	**333**	*e*P	**P**	**15 31 18.0**	**+0.2**
SEK	**Senekal**	**81.53**	**119**	*e*P	**P**	**15 31 21.6**	**+0.1**
SEK				AMB	AMB	15 31 29.3	
comp=Z,42nm,1.2s							
SEK	**Senekal**	**81.53**	**119**	P	**P**	**15 31 21.6**	**+0.1**
comp=Z,42nm,1.2s							
LBTB	**Lobatse**	**82.11**	**115**	*e*P	**P**	**15 31 24.8**	**+0.3**
LBTB				AMB	AMB	15 31 32.9	
comp=Z,55nm,3.1s							
LBTB	**Lobatse**	**82.11**	**115**	*e*P	**P**	**15 31 24.1**	**-0.4**
comp=Z,51nm,0.9s							
KSR	**Koster**	**82.53**	**117**	*e*P	**P**	**15 31 26.5**	**-0.2**
KSR				AMB	AMB	15 31 34.7	
comp=Z,20nm,1.6s							
KSR	**Koster**	**82.53**	**117**	P	**P**	**15 31 26.5**	**-0.2**
comp=Z,20nm,1.6s							
O22A	**Kremmling**	**82.87**	**335**	P	**P**	**15 31 29.3**	**+1.3**
baz=83							
CRWM	**Crown Mines**	**83.09**	**118**	*e*P	**P**	**15 31 30.3**	**+0.7**
CRWM				AMB	AMB	15 31 37.3	
comp=Z,31nm,1.5s							
OBSV	**Observatory**	**83.16**	**118**	*e*P	**P**	**15 31 30.0**	**-0.1**
OBSV				AMB	AMB	15 31 30.8	
comp=Z,24nm,1.5s							
ERPM	**east rand prop**	**83.18**	**118**	*e*P	**P**	**15 31 30.5**	**+0.4**
ERPM				AMB	AMB	15 31 39.1	
comp=Z,43nm,2.8s							
ERPM	**east rand prop**	**83.18**	**118**	P	**P**	**15 31 30.5**	**+0.4**
comp=Z,43nm,2.8s							
ECSD	**EROS Data Cent**	**83.40**	**344**	P	**P**	**15 31 31.0**	**+0.6**
baz=84							
ECSD	**EROS Data Cent**	**83.40**	**344**	*e*P	**P**	**15 31 29.1**	**-1.2**
SLR	**Silverton**	**83.59**	**117**	*e*P	**P**	**15 31 31.7**	**-0.5**
SLR				AMB	AMB	15 31 39.7	
comp=Z,57nm,1.3s							
SLR	**Silverton**	**83.59**	**117**	P	**P**	**15 31 31.7**	**-0.5**
comp=Z,57nm,1.3s							
R11A	**Troy Canyon, C**	**84.69**	**328**	P	**P**	**15 31 38.3**	**+1.0**
baz=85							
K22A	**Casper**	**85.10**	**336**	P	**P**	**15 31 39.7**	**+0.5**
comp=Z,50nm,1.5s							
TPH	**Tonopah**	**85.16**	**327**	*e*P	**P**	**15 31 41.2**	**+1.5**
TCUT	**Toone Canyon**	**85.42**	**332**	*e*P	**P**	**15 31 41.6**	**+0.6**
I25A	**Rochford**	**85.50**	**339**	P	**P**	**15 31 41.6**	**+0.4**
baz=86							
RSSD	**Black Hills**	**85.68**	**339**	*e*P	**P**	**15 31 42.7**	**+0.6**
NVAR	**Mina Array Bea**	**85.93**	**326**	P	**P**	**15 31 44.6**	**+1.1**
comp=Z,0.7nm,0.7s,baz=145,slow=5.4,SNR=6.2							
NVAR				pP	**pP**	**15 31 51.5**	**+0.1**
comp=Z,2.0nm,0.8s,baz=150,slow=5.0,SNR=7.0							
PDAR	**Pinedale Array**	**86.21**	**334**	P	**P**	**15 31

CLL LmV 16 25 00.0
comp=Z,300nm,19.6s
ILAR Eielson Array 116.60 333 PKP PKPdf 15 37 46.6 +0.2
comp=Z,0.6nm,1.1s,baz=264,slow=4.4,SNR=2.7
WRA Warramunga Arr 117.11 210 PKP PKPdf 15 37 47.6 -1.3
comp=Z,0.3nm,0.8s,baz=166,slow=1.2,SNR=4.7
NB2 NORSAR Subarra119.64 34 PKPdf PKPdf 15 38 00.7 +8.3
comp=Z,1.0nm,0.8s,baz=246,slow=1.9
NOA NORSAR Array B 119.64 34 PKP PKPdf 15 37 50.3 -2.1
comp=Z,1.2nm,1.0s,baz=250,slow=2.1,SNR=2.8
BRTR Keskin Array B 124.65 63 PKP PKPdf 15 38 03.1 +0.2
comp=Z,3.1nm,0.8s,baz=198,slow=2.2,SNR=15
BRTR pPKP **pPKPdf 15 38 10.2 -0.8**
comp=Z,5.1nm,0.8s,baz=195,slow=2.6,SNR=17
AKASG Malin Array Be 125.49 50 PKP PKPdf 15 38 03.0 -0.9
comp=Z,0.4nm,0.4s,baz=255,slow=3.6,SNR=3.6
AKASG pPKP **pPKPdf 15 38 09.4 -2.6**
comp=Z,2.1nm,0.7s,baz=274,slow=2.2,SNR=2.9
AKASG PP **PP 15 40 00.3 +4.5**
comp=Z,2.4nm,0.8s,baz=253,slow=7.2,SNR=8.9
FINES FINESS Array B 126.58 36 PKP PKPdf 15 38 05.5 -0.2
comp=Z,1.5nm,0.9s,baz=332,slow=8.0,SNR=3.3
RAYN Ar Rayn 126.67 87 *e*PKPdf **PKPdf 15 38 07.8 +0.7**
RAYN *e* 15 38 29.3
PETK Petropavlovsk- 141.44 311 PKP **PKPdf 15 38 32.0 -1.7**
comp=Z,3.2nm,1.0s,baz=111,slow=7.9,SNR=2.7
SEY Seymchan 142.23 327 PKP **PKPdf 15 38 32.5 -2.3**
comp=Z,1.5nm,0.8s,baz=183,slow=4.1,SNR=7.6
GEYT Alibeck 142.23 74 PKhKP PKPpre 15 38 31.3
comp=Z,4.1nm,0.8s,baz=251,slow=4.5,SNR=11
KSM Kuching 144.03 187 *e*PKPdf **PKPdf 15 38 39.4 -0.2**
ABKAR Akbulak array 144.83 55 *e*PKPdf **PKPdf 15 38 39.7 -0.1**
PSI Prapat 144.90 167 PKP **PKPab 15 38 39.8 -0.5**
comp=Z,19nm,0.8s,baz=285,slow=1.3,SNR=13
PSI pPKP **PKiKP 15 38 47.0 +2.0**
comp=Z,45nm,0.9s,baz=225,slow=3.5,SNR=13
POO Poona 145.99 115 *e*P **PKPdf 15 38 43.0 +0.2**
LHMI Lhok Sumawe 146.85 163 *e*PKPbc **PKPbc 15 38 46.2 0.0**
HYB Hyderabad 148.54 122 *e*PKP **PKPbc 15 38 50.0 -0.7**
KBL Kabul 149.88 84 *e*PKPbc **PKPbc 15 38 53.9 0.0**
BRVK Borovoye 150.61 46 *e*PKPbc **PKPbc 15 38 55.9 +1.2**
YAK Yakutsk 151.41 337 *e*PKPbc **PKPbc 15 38 55.6 -0.7**
ASAJ Asahikawa 151.84 295 PKPab **PKPab 15 39 06.3 -0.7**
comp=Z,10nm,0.8s,baz=292,slow=16,SNR=4.3
KKAR Karatay Array 152.28 67 *e*PKPbc **PKPbc 15 38 58.7 -0.2**
MJAR Matsushiro Arr 154.52 278 PKPab **PKPab 15 39 19.0 +0.3**
comp=Z,5.1nm,1.2s,baz=184,slow=15,SNR=4.3
EKS2 Erkin-Say 154.69 68 *e*PKPdf **PKPdf 15 38 56.0 +0.2**
EKS2 *e*PKPbc **PKPbc 15 39 04.5 +0.2**
AAK Ala-Archa 155.22 68 *e*PKPdf **PKPdf 15 38 56.8 +0.2**
AAK *e*PKPbc PKPbc 15 39 05.1
TKM2 Tokmak 2 156.01 67 *e*PKPdf **PKPdf 15 38 57.5 -0.1**
KURK Kurchatov 156.27 47 *e*PKPdf **PKPdf 15 38 57.6 +0.2**
ZALV Zalesovo Beam 157.84 35 PKP **PKPdf 15 38 58.9 -0.4**
comp=Z,2.6nm,0.8s,baz=260,slow=2.6,SNR=13
ZALV PKPab **PKPab 15 39 32.5 +0.3**
comp=Z,5.8nm,0.7s,baz=308,slow=5.0,SNR=9.4
DANN Dangsing 159.09 109 *e*P **PKPdf 15 39 05.5 +3.4**
PKI Pulchoki 159.90 113 *e*P **PKPdf 15 39 08.1 +5.0**
KKN Kakani 159.93 112 *e*P **PKPdf 15 39 06.8 +3.8**
MKAR Makanchi Array 159.97 55 PKP **PKPdf 15 39 01.2 -0.9**
comp=Z,2.4nm,1.1s,baz=302,slow=2.3,SNR=9.9
MKAR PKPab **PKPab 15 39 41.1 -0.7**
comp=Z,4.4nm,0.8s,baz=287,slow=4.7,SNR=12
MKAR PP **PP 15 43 24.7 +0.6**
comp=Z,1.7nm,1.0s,baz=272,slow=4.2,SNR=5.0
CMAR Chiang Mai Arr 160.05 159 PKP **PKPdf 15 39 01.9 -1.2**
comp=Z,0.5nm,0.8s,baz=220,slow=2.0,SNR=4.3
CMAR PKPab **PKPab 15 39 44.4 +1.7**
comp=Z,6.7nm,1.1s,baz=216,slow=4.6,SNR=4.0
RAMN Ramite 160.40 117 *e*P PKPdf 15 39 11.0 +7.5
GUN Gumba 160.43 113 *e*P PKPdf 15 39 09.4 +5.7
JIRN Jiri 160.52 114 *e*P PKPdf 15 39 09.4 +5.6
ODAN Odare 160.90 118 *e*P PKPdf 15 39 11.3 +7.2
TPUB Ta-pu 161.28 225 *e*PKPdf **PKPdf 15 39 05.0 +0.7**
TAPN Taplejung 161.43 117 *e*P PKPdf 15 39 11.8 +7.1
comp=Z,27nm,1.3s
SONM Songino Array 169.59 359 PKP **PKPdf 15 39 12.6 +2.0**
comp=Z,1.5nm,1.2s,baz=354,slow=1.5,SNR=5.1
SONM PKPab **PKPab 15 40 25.7 +1.6**
comp=Z,0.6nm,0.7s,baz=8.5,slow=2.9,SNR=3.0

IDC 06 15:22:19.5±2.1, 16°.69N×123°.34E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/32, mbtmp3.4/3, Error ellipse: s-maj=302.1km s-min=29.0km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.98**	**163**	P	P	15 29 38.7	-0.6
	0.1nm,0.4s,baz=343,slow=9.7,SNR=5.7						
ASAR	**Alice Springs**	**41.42**	**165**	P	P	15 30 08.4	+0.5
	0.3nm,0.7s,baz=349,slow=6.9,SNR=5.3						
FINES	**FINESS Array B**	**78.92**	**331**	P	P	15 34 24.6	0.0
	0.8nm,0.8s,baz=71,slow=6.0,SNR=6.3						

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*IDC **06** 16:04:54.6±0.7, 38°.00S×75°.07W, h0km, mb4.1/12, mb1 4.2/16, mb1mx4.1/31, mbtmp4.0/16, ML3.7/4, MS2.9/4, Ms1 3.0/4, ms1mx2.9/24, Error ellipse: s-maj=24.8km s-min=16.3km az=75.0*
*ISCJB **06** 16:04:58.1±0.6, 37°.94S±0°.07×74°.8W±0°.1, h33km, mb4.1/12, Error ellipse: s-maj=15.4km s-min=10.3km az=171.3*
*NEIC **06** 16:04:59.8±0.5, 37°.95S×74°.89W, h35km, mb4.3/3, Error ellipse: s-maj=14.0km s-min=9.1km az=82.0*
ISC 06 16:04:59.9±0.7, 37°.97S±0°.09×74°.9W±0°.1, h35km, n23, σ1§01/23, mb4.2/12, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.34**	**131**	Pn	**Pn**	**16 06 03.4**	**-0.1**
	0.8nm,0.3s,baz=294,slow=9.1,SNR=17						
PLCA				Lg	Lg	16 07 00.1	
	4.2nm,0.3s,baz=23,slow=18,SNR=9.2						
PLCA				LR	LR	16 07 35.3	
	comp=Z,93nm,21.4s,baz=332,slow=36						
CFAA	**Coronel Fontan**	**8.38**	**43**	Pn	**Pn**	**16 06 58.1**	**-0.7**
	0.2nm,0.3s,baz=201,slow=7.9,SNR=14						
CFAA				LR	LR	16 09 38.4	
	comp=Z,14nm,18.8s,baz=241,slow=33						
USHA	**Ushuaia**	**17.43**	**167**	P	**P**	**16 09 00.6**	**-0.4**
	0.2nm,0.3s,baz=314,slow=4.5,SNR=3.6						
USHA				LR	LR	16 14 47.4	
	comp=Z,113nm,20.7s,baz=36,slow=34						
CPUP	**Villa Florida**	**18.82**	**57**	P	**P**	**16 09 16.4**	**-0.1**
	0.2nm,0.3s,baz=220,slow=12,SNR=4.1						
CPUP				LR	LR	16 17 17.2	
	comp=Z,176nm,19.1s,baz=332,slow=39						
LPAZ	**La Paz**	**22.41**	**17**	P	**P**	**16 09 57.8**	**+1.7**
	1.7nm,0.9s,baz=163,slow=5.1,SNR=5.9						
LPAZ	**La Paz**	**22.41**	**17**	*e*P	**P**	**16 09 53.2**	**-2.8**
	6.1nm,1.0s						
SIV	**San Ignacio**	**25.06**	**33**	P	**P**	**16 10 22.8**	**+1.7**
	3.0nm,1.0s,baz=226,slow=10,SNR=4.3						
SNAA	**Sanae**	**48.83**	**156**	P	**P**	**16 13 41.5**	**+0.2**
	2.6nm,1.0s,baz=290,slow=4.0,SNR=5.7						
SNAA	**Sanae**	**48.83**	**156**	*e*P	**P**	**16 13 40.9**	**-0.5**
	6.1nm,0.9s						
QSPA	**South Pole Qui**	**52.27**	**180**	P	**P**	**16 14 07.7**	**+0.3**
	5.1nm,0.9s,baz=153,slow=5.8,SNR=8.2						
QSPA	**South Pole Qui**	**52.27**	**180**	*e*P	**P**	**16 14 07.0**	**-0.5**
	3.8nm,1.0s						
TXAR	**Lajitas Array**	**72.17**	**334**	P	**P**	**16 16 21.1**	**0.0**
	1.1nm,0.8s,baz=153,slow=8.4,SNR=8.5						
ANMO	**Albuquerque**	**78.25**	**334**	P	**P**	**16 16 54.8**	**-1.3**
	2.5nm,0.9s,baz=165,slow=6.5,SNR=7.0						
BOSA	**Boshof**	**80.24**	**119**	P	**P**	**16 17 07.3**	**+0.1**
	2.4nm,0.8s,baz=200,slow=3.2,SNR=5.0						
PFO	**Pinyon Flats O**	**81.03**	**326**	P	**P**	**16 17 10.4**	**-0.7**
	3.6nm,0.9s,baz=130,slow=5.3,SNR=3.7						
NVAR	**Mina Array Bea**	**85.90**	**327**	P	**P**	**16 17 36.8**	**+0.6**
	0.8nm,0.7s,baz=151,slow=5.5,SNR=5.6						
PDAR	**Pinedale Array**	**86.33**	**335**	P	**P**	**16 17 38.7**	**+0.6**
	1.8nm,0.9s,baz=149,slow=7.6,SNR=11						
TORD	**Torodi Ar. Bea**	**87.69**	**71**	P	**P**	**16 17 45.4**	**+0.3**
	0.5nm,0.8s,baz=228,slow=5.0,SNR=3.1						
ULM	**Lac du Bonnet**	**89.78**	**347**	P	**P**	**16 17 54.0**	**0.0**
	1.4nm,0.8s,baz=162,slow=6.4,SNR=2.8						
GEYT	**Alibeck**	**143.25**	**75**	PKP	PKPbc	16 24 28.4	+1.1
	0.9nm,0.4s,baz=354,slow=1.5,SNR=3.6						
ABKAR	**Akbulak array**	**145.88**	**56**	*e*PKPbc	**PKPab**	**16 24 35.6**	**+0.1**
ZALV	**Zalesovo Beam**	**158.81**	**35**	PKPab	**PKPab**	**16 25 29.9**	**+0.8**
	0.9nm,0.8s,baz=313,slow=4.9,SNR=3.9						
MKAR	**Makanchi Array**	**161.03**	**55**	PKP	**PKPdf**	**16 24 55.6**	**-0.3**
	0.8nm,1.1s,baz=342,slow=2.3,SNR=3.6						
MKAR				PKPab	**PKPab**	**16 25 40.5**	**+1.3**
	0.3nm,0.8s,baz=312,slow=4.4,SNR=3.5						

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*NEIC **06** 16:36:35.9, 53°.40N×165°.39W, h26km, ML3.6(AEIC), After AEIC.*
*ISCJB **06** 16:36:37.0±0.9, 53°.50N±0°.08×165°.46W±0°.07, h58km±5km, mb3.7/15, MS3.2/1, Error ellipse: s-maj=14.1km s-min=5.5km az=161.7*
*IDC **06** 16:36:39.5±3.8, 53°.70N×165°.53W, h55km±35km, mb3.4/13, mb1 3.7/15, mb1mx3.4/44, mbtmp3.7/15, ML3.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.8/31, Error ellipse: s-maj=32.9km s-min=14.9km az=180.0*
ISC 06 16:36:37.6±1.0, 53°.45N±0°.08×165°.46W±0°.04, h48km±9km, n47, σ1§05/46, mb3.6/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**0.71**	**345**	P	**Pn**	**16 36 50.6**	**-0.8**
AKUT				S	**Sn**	**16 37 01.1**	**-0.3**
ZRO	**Akutan Zero**	**0.71**	**335**	P	**Pn**	**16 36 50.4**	**-1.0**
UNV	**Unalaska Valle**	**0.73**	**303**	P	**Pn**	**16 36 51.1**	**-0.6**
UNV				S	**Sn**	**16 37 01.6**	**-0.3**
AKRB	**Akutan Reef Bi**	**0.77**	**332**	P	**Pn**	**16 36 51.4**	**-0.8**
AKGG	**Akutan Green G**	**0.81**	**338**	P	**Pn**	**16 36 52.0**	**-0.8**
AKGG				S	**Sn**	**16 37 04.3**	**+0.4**
MREP	**Makushin Rep't**	**0.84**	**296**	P	**Pn**	**16 36 53.4**	**+0.1**
MSW	**Makushin Switc**	**0.91**	**301**	P	**Pn**	**16 36 54.0**	**-0.1**
MCIR	**Makushin Cirqu**	**0.99**	**301**	P	**Pn**	**16 36 55.4**	**+0.2**
WESE	**West Dahl East**	**1.15**	**26**	P	**Pn**	**16 36 56.1**	**-1.3**
OKFG	**Magazine Ridge**	**1.47**	**269**	P	**Pn**	**16 37 01.9**	**+0.3**
SSLW	**Shishaldin Wes**	**1.54**	**30**	P	**Pn**	**16 37 01.9**	**-0.8**
SSLN	**Shishaldin Nor**	**1.61**	**32**	P	**Pn**	**16 37 03.0**	**-0.7**
SSLN				S	**Sn**	**16 37 24.6**	**+1.2**
ISNN	**Isanotski Nort**	**1.70**	**35**	P	**Pn**	**16 37 04.2**	**-0.7**
ISNN				S	**Sn**	**16 37 26.9**	**+1.4**
FALS	**False Pass**	**1.85**	**40**	P	**Pn**	**16 37 05.5**	**-1.4**
FALS				S	**Sn**	**16 37 28.0**	**-1.1**
NIKH	**Nikolski High**	**2.09**	**258**	P	**Pn**	**16 37 07.1**	**-3.1**
DT1	**Dutton Round H**	**2.50**	**47**	P	**Pn**	**16 37 15.6**	**-0.1**
HAG	**Hague Volcano**	**2.80**	**47**	P	**Pn**	**16 37 20.8**	**+0.9**
SDPT	**Sand Point**	**3.48**	**55**	P	**Pn**	**16 37 29.1**	**-0.1**
GAMB	**Gambell**	**10.85**	**345**	*e*Pn	**Pn**	**16 39 10.3**	**+0.3**
	2.5nm,0.3s						
RC01	**Rabbit Creek A**	**11.42**	**42**	*e*Pn	**Pn**	**16 39 16.6**	**-1.3**
TNA	**Tin City**	**12.21**	**355**	*e*Pn	**Pn**	**16 39 28.6**	**0.0**
	2.3nm,0.4s						
FX1	**Attu Island--F**	**12.83**	**276**	P	**Pn**	**16 39 38.4**	**+1.3**
	1.0nm,0.3s,baz=99,slow=19,SNR=4.8						
ILAR	**Eielson Array**	**14.75**	**32**	P	**Pn**	**16 40 00.0**	**-2.9**
	0.1nm,0.3s,baz=225,slow=13,SNR=3.5						
COLD	**Coldfoot**	**15.67**	**22**	*e*Pn	**Pn**	**16 40 14.2**	**-0.7**
PETK	**Petropavlovsk-**	**21.88**	**284**	P	**P**	**16 41 25.9**	**-0.3**
	1.3nm,0.5s,baz=85,slow=14,SNR=7.2						
SEY	**Seymchan**	**23.73**	**310**	P	**P**	**16 41 45.2**	**+0.3**
	0.3nm,0.4s,baz=172,slow=22,SNR=7.2						
YKA	**Yellowknife Ar**	**27.74**	**51**	P	**P**	**16 42 21.5**	**+0.3**
	0.5nm,0.6s,baz=274,slow=9.7,SNR=10						
PDAR	**Pinedale Array**	**37.90**	**83**	P	**P**	**16 43 52.1**	**+1.9**
	0.5nm,1.0s,baz=302,slow=5.2,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**39.82**	**223**	T	T	17 26 46.6	
	baz=25,slow=76,SNR=88						
H11N3	**WAKE ISLAND Hy**	**39.83**	**223**	T	T	17 26 57.3	
	baz=25,slow=76,SNR=88						
H11N1	**WAKE ISLAND Hy**	**39.84**	**223**	T	T	17 26 52.8	
	baz=25,slow=76,SNR=75						
H11S1	**WAKE ISLAND Hy**	**41.00**	**222**	T	T	17 28 14.7	
	baz=25,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**41.01**	**222**	T	T	17 28 21.7	
	baz=25,slow=76,SNR=48						
H11S3	**WAKE ISLAND Hy**	**41.01**	**222**	T	T	17 28 17.2	
	baz=25,slow=76,SNR=32						
MJAR	**Matsushiro Arr**	**42.08**	**270**	P	**P**	**16 44 24.9**	**+0.2**
	1.2nm,0.9s,baz=40,slow=6.5,SNR=4.1						
LPIG	**La Paz**	**50.38**	**103**	LR	LR	17 04 15.0	
	comp=Z,23nm,18.8s,baz=251,slow=33						
TXAR	**Lajitas Array**	**50.40**	**93**	P	**P**	**16 45 30.6**	**+0.5**
	0.4nm,0.6s,baz=302,slow=5.9,SNR=5.7						
TXAR				pP	**pP**	**16 45 43.6**	**+0.4**
	0.3nm,0.5s,baz=298,slow=5.7,SNR=4.9						
SONM	**Songino Array**	**52.75**	**302**	P	**P**	**16 45 48.3**	**+0.7**
	0.4nm,0.6s,baz=33,slow=8.6,SNR=3.3						
H06E1	**SOCORRO T-PHAS**	**54.18**	**108**	T	T	17 45 31.5	
	SNR=5.0						
ARCES	**ARCESS Array B**	**57.06**	**355**	P	**P**	**16 46 17.0**	**-1.2**
	3.2nm,0.9s,baz=11,slow=5.9,SNR=7.2						
JOF	**Joensuu**	**63.23**	**351**	*ep*	**P**	**16 47 00.9**	**+0.5**
	0.5nm,0.3s						
KAF	**Kangasniemi**	**64.41**	**354**	*ep*	**P**	**16 47 07.8**	**-0.4**
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**64.74**	**315**	P	**P**	**16 47 09.4**	**-1.3**
	0.1nm,0.3s,baz=52,slow=6.2,SNR=7.3						
FINES	**FINESS Array B**	**65.09**	**354**	P	**P**	**16 47 12.0**	**-0.6**
	0.7nm,0.4s,baz=15,slow=5.8,SNR=21						
AKASG	**Malin Array Be**	**75.49**	**350**	P	**P**	**16 48 15.6**	**-0.8**
	1.2nm,0.4s,baz=13,slow=6.0,SNR=6.3						
CMAR	**Chiang Mai Arr**	**78.65**	**286**	P	**P**	**16 48 34.9**	**+0.3**
	1.1nm,1.0s,baz=7.8,slow=4.9,SNR=8.0						
BRTR	**Keskin Array B**	**85.74**	**345**	P	**P**	**16 49 11.3**	**-0.3**
	0.5nm,0.6s,baz=45,slow=7.3,SNR=4.1						

IDC 06 16:41:01.4±2.2, 1°.54N×126°.62E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/29, mbtmp3.1/3, Error ellipse: s-maj=176.0km s-min=26.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.66**	**161**	P	P	16 46 04.5	0.0
	0.3nm,0.4s,baz=340,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**26.04**	**165**	P	P	16 46 36.6	0.0
	0.1nm,0.4s,baz=340,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**59.28**	**326**	P	P	16 51 04.9	-0.1
	0.1nm,0.4s,baz=120,slow=6.6,SNR=4.1						

IDC 06 16:53:14.9±1.4, 35°.12S×72°.39W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/37, mbtmp3.7/4, ML4.2/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/24, Error ellipse: s-maj=45.0km s-min=29.7km az=68.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.93**	**46**	Pn	Pn	16 54 31.9	+1.6
	0.1nm,0.3s,baz=218,slow=18,SNR=3.1						
CFAA				Lg	Lg	16 55 39.9	
	0.8nm,0.3s,baz=128,slow=23,SNR=6.0						
PLCA	**Paso Flores**	**5.79**	**166**	Pn	Pn	16 54 44.2	+2.1
	1.7nm,0.3s,baz=337,slow=12,SNR=22						
QSPA	**South Pole Qui**	**55.12**	**180**	LR	LR	17 26 55.8	
	comp=Z,83nm,18.4s,baz=300,slow=37						
TXAR	**Lajitas Array**	**70.57**	**331**	P	P	17 04 32.1	+0.1
	0.1nm,0.5s,baz=158,slow=7.8,SNR=3.8						
BOSA	**Boshof**	**79.80**	**118**	P	P	17 05 24.5	-1.0
	1.6nm,0.4s,baz=266,slow=4.9,SNR=6.2						
TORD	**Torodi Ar. Bea**	**84.86**	**70**	P	P	17 05 51.8	0.0
	0.3nm,0.8s,baz=250,slow=4.3,SNR=2.9						

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*IDC **06** 16:57:33.0±3.3, 57°.67N×155°.40W, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/55, mbtmp3.1/3, ML3.3/1, Error ellipse: s-maj=62.9km s-min=30.0km az=154.0*
*ISCJB **06** 16:57:34.6±0.5, 58°.20N±0°.03×155°.37W±0°.06, h11km±3km, mb3.0/1, Error ellipse: s-maj=5.9km s-min=5.2km az=162.0*
*NEIC **06** 16:57:34.7, 58°.18N×155°.33W, h8km, ML2.7(AEIC), After AEIC.*
ISC 06 16:57:34.8±1.2, 58°.17N±0°.03×155°.32W±0°.03, h2km±11km, n22, σ0§85/27, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KABU	**Katmai Buttres**	**0.11**	**11**	P	**Pg**	**16 57 36.9**	**0.0**
KABU				S	**Sg**	**16 57 38.9**	**+0.6**
KCE	**Katmai Mt Cerb**	**0.11**	**43**	P	**Pg**	**16 57 37.2**	**+0.3**
KAKN	**Katmai Knife C**	**0.19**	**46**	P	**Pg**	**16 57 38.8**	**+0.3**
KAKN				S	**Sg**	**16 57 42.1**	**+1.1**
KVTA	**Katmai Vly 10**	**0.22**	**4**	P	**Pg**	**16 57 39.0**	**-0.1**
KELA	**Mount Kelaz**	**0.35**	**321**	P	**Pg**	**16 57 41.5**	**-0.2**
KELA				S	**Sg**	**16 57 45.6**	**-0.6**
KAHC	**Katmai Hardscr**	**0.51**	**19**	P	**Pg**	**16 57 44.8**	**+0.2**
PLWL	**Peulik Whale M**	**0.56**	**258**	P	**Pg**	**16 57 45.5**	**+0.1**
KAPH	**Katmai Pasha**	**0.67**	**50**	P	**Pg**	**16 57 48.2**	**+0.6**
PLK3	**Peulik 3**	**0.70**	**227**	P	**Pg**	**16 57 48.5**	**+0.3**
PLK1	**Peulik 1**	**0.78**	**242**	P	**Pg**	**16 57 49.9**	**+0.2**
MCNL	**McNeil River**	**1.14**	**26**	P	**Pg**	**16 57 55.7**	**-1.0**
MCNL				S	**Sg**	**16 58 10.5**	**-1.1**
OHAK	**Old Harbor**	**1.45**	**130**	P	**Pn**	**16 58 01.2**	**-0.7**
OHAK				S	**Sg**	**16 58 21.3**	**+0.1**
KDAK	**Kodiak Island**	**1.51**	**104**	P	**Pn**	**16 58 02.2**	**-0.6**
KDAK				S	**Sb**	**16 58 22.9**	**-0.2**
SII	**Sitkinak Islan**	**1.73**	**159**	P	**Pn**	**16 58 04.3**	**-1.6**
CHGN	**Chignik**	**2.52**	**223**	*e*Pn	**Pn**	**16 58 16.5**	**-0.1**
RSO	**Redoubt South**	**2.65**	**29**	*e*Pn	**Pn**	**16 58 17.8**	**-0.9**
RDWB	**Redoubt West**	**2.65**	**28**	P	**Pn**	**16 58 17.2**	**-1.5**
NCT	**North Crescent**	**2.70**	**26**	P	**Pn**	**16 58 18.2**	**-1.1**
PPLA	**Purkeypile**	**4.99**	**17**	*e*Pn	**Pn**	**16 58 52.4**	**+1.6**
ILAR	**Eielson Array**	**7.75**	**28**	Pn	**Pn**	**16 59 27.9**	**-0.7**
	0.2nm,0.3s,baz=216,slow=13,SNR=15						
YKA	**Yellowknife Ar**	**20.35**	**61**	P	Pn	17 02 13.1	-1.0
	0.4nm,0.6s,baz=276,slow=10,SNR=7.8						
MKAR	**Makanchi Array**	**65.10**	**320**	P	**P**	**17 08 17.5**	**+1.0**
	0.1nm,0.6s,baz=46,slow=8.3,SNR=3.1						

MEX 06 17:04:28.7±2.2, 17°.03N×94°.86W, h129km±26km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.06**	**342**	*i* P	Pn	17 04 44.7	-1.5
CMIG				*i* S	Sn	17 04 57.7	-1.9
HUIG	**Huatulco**	**1.73**	**224**	*e*P	Pn	17 04 57.6	-1.8
HUIG				*e*S	Sn	17 05 21.4	-1.5
PCIG		**2.06**	**130**	*i* P	Pn	17 05 02.5	-0.8
PCIG				*e*S	Sn	17 05 28.6	-1.2
PNIG	**Pinotepa**	**3.19**	**259**	*e*P	Pn	17 05 15.8	-2.1
PNIG				*i* S	Sn	17 05 54.4	-1.4
TLIG	**Tlapa**	**3.58**	**279**	*e*P	Pn	17 05 22.5	-0.6
TLIG				*e*S	Sn	17 06 03.2	-1.8

GUC 06 17:12:07.0±0.3, 33°.29S×72°.40W, h39km±1km, ML3.7, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.69**	**67**	*i* P	Pn	17 12 19.8	-0.5
IHA				*i* S	Sn	17 12 29.4	-0.3
LNV	**Longovilo**	**1.06**	**129**	*i* P	Pn	17 12 25.4	+0.1
LNV				*i* S	Sn	17 12 39.1	+0.4
RCDM	**Rinconada Maip**	**1.35**	**99**	*i* P	Pn	17 12 29.7	+0.4
RCDM				*i* S	Sn	17 12 46.9	+0.9
PEL	**Peldehue**	**1.44**	**85**	||*i* P	Pn	17 12 31.8	+1.1
PEL				*i* S	Sn	17 12 50.3	+1.8
PEL				IAML		17 12 56.3	
	comp=N,2μm,0.2s						
ANTU	**Antumapu**	**1.50**	**101**	IAML		17 13 02.9	
	comp=N,1μm,0.3s						
CLCH	**Cerro Calan**	**1.56**	**94**	*i* P	Pn	17 12 33.2	+0.9
CLCH				*i* S	Sn	17 12 52.8	+1.4
CLCH				IAML		17 13 03.5	
	comp=E,2μm,0.8s						
CHCH	**Chadas Angostu**	**1.59**	**114**	*i* P	Pn	17 12 33.3	+0.6
CHCH				*i* S	Sn	17 12 53.5	+1.4
CACH	**El Canelo**	**1.71**	**119**	*e*P	Pn	17 12 35.8	+1.3
CACH				*i* S	Sn	17 12 57.6	+2.4
FCH	**Farellones**	**1.77**	**92**	IAML		17 13 19.3	
	comp=E,924nm,0.7s						

IDC 06 17:14:34.0±2.0, 38°.23S×74°.03W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.6/25, mbtmp3.5/4, ML3.3/1, MS2.5/1, Ms1 2.5/1, ms1mx2.4/21, Error ellipse: s-maj=64.7km s-min=23.6km az=55.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.67**	**134**	Pn	Pn	17 15 33.1	+0.9
	0.6nm,0.3s,baz=306,slow=12,SNR=7.7						
PLCA				Pg	Pb	17 15 40.0	0.0
	1.3nm,0.3s,baz=309,slow=9.3,SNR=10						
PLCA				LR	LR	17 16 34.8	
	comp=Z,62nm,19.5s,baz=278,slow=33						
LPAZ	**La Paz**	**22.47**	**15**	P	P	17 19 35.1	-0.6
	1.2nm,0.7s,baz=194,slow=7.5,SNR=3.8						
TXAR	**Lajitas Array**	**72.70**	**333**	P	P	17 26 03.9	+0.1
	0.1nm,0.4s,baz=155,slow=7.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**87.14**	**71**	P	P	17 27 22.3	+0.1
	0.6nm,0.9s,baz=250,slow=7.5,SNR=4.1						

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*BJI **06** 17:23:10.7, 14°.

comp=Z,413nm,1.6s
MAJO Matsushiro 22.46 347 *e*P **P 17 28 10.8 -1.7**
MAT Matsushiro 22.46 347 P **P 17 28 12.2 -0.3**
MAT S **S 17 32 19.8 +1.1**
LBMI Labuha 22.49 229 P P 17 28 24.5 +11
comp=Z,47nm,1.6s
TGY Tagaytay City 22.60 272 LR LR 17 35 05.7
comp=Z,28nm,21.7s,baz=304,slow=32
ABRA Dolores 22.81 281 *e*P P 17 28 24.2 +7.9
BCPH Baguio City Da 22.88 277||*e*P **P 17 28 16.2 -1.1**
TWG Pinlang 23.39 294 *e*P **P 17 28 21.0 -1.3**
comp=Z,123nm,1.0s
TWG *e*Sn Sn 17 33 00.1 +5.9
BOLP Bolinao 23.52 277 *e*P **P 17 28 26.4 +2.8**
SCZP Santa Cruz 23.52 276 *e*P P 17 28 16.3 -7.3
PMG Port Moresby 24.08 173*d i*P **P 17 28 29.1 +0.2**
PMG pmax pmax
comp=Z,27nm,1.0s
PMG Port Moresby 24.08 173 LR LR 17 38 13.7
comp=Z,435nm,18.2s,baz=358,slow=37
PMG Port Moresby 24.08 173 *e*P **P 17 28 29.1 +0.2**
comp=Z,37nm,1.0s
MRSI Marisa 26.18 239 P **P 17 28 51.5 +3.4**
comp=Z,54nm,1.1s,comp=Z,839nm
QZH Quanzhou 26.18 297 ⇑P **P 17 28 47.1 -0.9**
QZH S **S 17 33 20.0 +0.3**
QZH LZ
comp=Z,3μm,17.0s
KSRS Korea Array 26.95 330 P **P 17 28 53.8 -1.0**
comp=Z,3.4nm,0.8s,baz=147,slow=9.6,SNR=8.8
KSRS LR LR 17 39 09.1
comp=Z,706nm,18.6s,baz=152,slow=36
KSAR Wonju Array Be 26.96 330 P **P 17 28 53.8 -1.1**
KSAR Wonju Array Be 26.96 330 P **P 17 28 53.8 -1.1**
COEN Coen 28.45 182 *e*P **P 17 29 08.5 +0.1**
comp=Z,49nm,0.9s
HNR Honiara 28.54 146 LR LR 17 40 28.1
comp=Z,567nm,20.4s,baz=325,slow=36
NJ2 Nanjing 28.93 311 *e*P **P 17 29 12.1 -0.5**
NJ2 S **S 17 34 05.5 +2.6**
NJ2 sS **sS 17 34 11.0 +1.0**
NJ2 PMZ
comp=Z,10.0nm,0.6s
NJ2 PMZ
comp=Z,510nm,4.6s
NJ2 LN
comp=Z,830nm,26.2s
NJ2 LE
comp=Z,800nm,25.6s
NJ2 LZ
comp=Z,1μm,26.9s
ASAJ Asahikawa 29.40 358 LR LR 17 40 29.2
comp=Z,529nm,21.9s,baz=190,slow=35
USRK Ussuriysk Ar. 31.25 343 LR LR 17 40 42.9
comp=Z,324nm,19.6s,baz=143,slow=34
WHN Wuhan 31.69 305 *e*P P 17 29 40.8 +3.8
WHN S **S 17 34 51.4 +5.2**
WHN LZ
comp=Z,3μm,19.3s
BATI Baumata 32.05 221 P **P 17 29 42.4 +2.1**
comp=Z,16nm,0.9s
MDJ Mudanjiang 32.36 340 P **P 17 29 43.1 +0.4**
MDJ pP **pP 17 29 45.5 -1.5**
MDJ sP **sP 17 29 48.3 -0.5**
MDJ S **S 17 35 01.4 +5.0**
MDJ sS **sS 17 35 03.2 -0.3**
MDJ ScP **ScP 17 36 13.7 -0.1**
MDJ PcS **PcS 17 36 14.7 -0.4**
MDJ PMZ
comp=Z,3.0nm,1.2s
MDJ PMZ
comp=Z,110nm,5.7s
MDJ LN
comp=Z,470nm,33.7s
MDJ LE
comp=Z,480nm,22.7s
MDJ LZ
comp=Z,700nm,26.9s
QIZ Qiongzhong 33.20 282 P **P 17 29 49.8 -0.5**
QIZ sP **sP 17 29 54.4 -2.0**
QIZ S **S 17 35 09.4 -0.5**
QIZ PMZ
comp=Z,250nm,5.2s
QIZ LN
comp=Z,810nm,17.4s
QIZ LE
comp=Z,420nm,19.2s
QIZ LZ
comp=Z,1μm,19.9s
CN2 Changchun 33.20 335 *e*P **P 17 29 52.2 +2.1**
CN2 *es*P **sP 17 29 59.0 +2.9**
CN2 *e*S **S 17 35 11.2 +1.8**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,600nm,15.0s
CN2 LE
comp=Z,500nm,15.0s
CN2 LZ
comp=Z,800nm,17.0s
SBUM Sibu 33.86 252 *e*P **P 17 29 55.5 -0.8**
comp=Z,16nm,1.2s
CTA Charters Tower 34.58 177 P **P 17 30 01.6 -0.7**
comp=Z,4.6nm,0.8s,baz=9.7,slow=10.0,SNR=8.4
CTA LR LR 17 43 20.0
comp=Z,268nm,20.1s,baz=352,slow=35
CTAO Charters Tower 34.58 177 *e*P **P 17 30 01.5 -0.8**
CTAO pmax pmax
comp=Z,105nm,2.5s
CTAO Charters Tower 34.58 177 *e*P **P 17 30 01.5 -0.8**
comp=Z,105nm,2.5s
DLV T Lat 34.90 270 *e*P **P 17 30 05.2 -0.2**
comp=Z,22nm,1.2s
BJI Beijing 35.25 321 P **P 17 30 07.8 -0.1**
BJI S **S 17 35 41.7 +0.5**
BJI PMZ
comp=Z,64nm,0.6s
BJI LN
comp=Z,890nm,25.2s
BJI LE
comp=Z,520nm,23.4s
BJI LZ
comp=Z,1μm,32.5s
STKI Sintang 35.51 249 P P 17 30 18.4 +7.9
comp=Z,15nm,0.8s,comp=Z,7μm
WRAB Tennant Creek 35.73 196 P **P 17 30 12.0 -0.2**
comp=Z,96nm,0.7s,SNR=18
WRAB Tennant Creek 35.73 196*d i*P **P 17 30 12.2 0.0**
WRAB pmax pmax
comp=Z,33nm,1.0s
WRAB MLR MLR
comp=Z,1μm,16.0s
WRAB Tennant Creek 35.73 196 *e*P **P 17 30 11.5 -0.7**
comp=Z,48nm,1.4s
WB2 Warramunga Arr 35.74 196 *e*P **P 17 30 11.6 -0.7**
WRA Warramunga Arr 35.74 196 *i*P **P 17 30 12.3 0.0**
WRA pmax pmax
comp=Z,10.0nm,0.7s
WRA Warramunga Arr 35.74 196 P **P 17 30 11.7 -0.6**
comp=Z,9.9nm,0.8s,baz=15,slow=9.6,SNR=29
WRA LR LR 17 45 13.8
comp=Z,490nm,19.3s,baz=20,slow=37
KSM Kuching 36.00 252 *e*P **P 17 30 13.8 -0.9**
comp=Z,19nm,1.1s
KSM *e*PcP **PcP 17 32 38.6 -2.7**
GYA Guiyang 36.98 295 P **P 17 30 24.2 +1.1**
GYA PP **PnPn 17 31 49.2 +1.7**
GYA PcP **PcP 17 32 45.0 +0.8**
GYA S **S 17 36 08.4 +0.1**
GYA ScP **ScP 17 36 31.9 +1.0**
GYA SS **SnSn 17 38 36.2 -5.2**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.2s
GYA LN
comp=Z,560nm,17.8s
GYA LE
comp=Z,480nm,18.2s
GYA LZ
comp=Z,520nm,17.8s
XAN Xi'an 37.28 308 P **P 17 30 25.8 +0.4**
XAN pP **pP 17 30 32.8 +3.0**
XAN PP **PnPn 17 31 54.0 +3.0**
XAN S **S 17 36 09.7 -2.8**
XAN PcS **PcS 17 36 34.8 +1.5**
XAN SS **SnSn 17 38 42.0 -6.4**
XAN PMZ
comp=Z,61nm,7.0s
XAN LN
comp=Z,370nm,18.4s
XAN LE
comp=Z,250nm,19.4s
XAN LZ
comp=Z,320nm,20.5s
HHC Hu-ho-hao-te 38.58 319 *e*P **P 17 30 36.1 -0.3**
HHC sP **sP 17 30 43.2 +0.7**
HHC PP **PnPn 17 32 10.2 +3.4**
HHC PcP **PcP 17 32 49.1 +0.2**
HHC S **S 17 36 31.2 -1.1**
HHC sS **sS 17 36 38.7 -0.8**
HHC ScS **ScS 17 40 43.0 -4.1**
HHC PMZ
comp=Z,15nm,0.5s
HHC PMZ
comp=Z,370nm,5.3s
HHC LN
comp=Z,1μm,16.9s
HHC LE
comp=Z,720nm,15.1s
HHC LZ
comp=Z,1μm,14.9s
AS01 Alice Springs 39.40 195 *e*P **P 17 30 42.5 -0.8**
AS31 Alice Springs 39.41 195 *e*P **P 17 30 43.0 -0.3**
ASAR Alice Springs 39.41 195 P **P 17 30 43.1 -0.3**
comp=Z,1.0nm,0.7s,baz=20,slow=10,SNR=26
ASAR LR LR 17 47 38.6
comp=Z,404nm,20.2s,baz=8.0,slow=37
BTO Baotou 39.45 318 *e*P **P 17 30 42.7 -1.0**
PETK Petropavlovsk- 39.81 13 LR LR 17 45 05.5
comp=Z,224nm,21.6s,baz=194,slow=33
HIA Hailar 39.93 335||*i*P **P 17 30 48.9 +1.4**
HIA pmax pmax
comp=Z,11nm,1.4s
KMI Kunming 40.27 292 P **P 17 30 50.5 -0.3**
KMI pP **pP 17 30 53.6 -1.6**
KMI sP **sP 17 30 55.5 -1.5**
KMI PP **PnPn 17 32 30.2 +3.0**
KMI S **S 17 36 56.7 -1.5**
KMI sS **sS 17 37 04.5 -0.9**
KMI PMZ
comp=Z,6.0nm,0.9s
KMI PMZ
comp=Z,280nm,4.1s
KMI LN
comp=Z,650nm,19.2s
KMI LE
comp=Z,690nm,22.4s
KMI LZ
comp=Z,940nm,21.8s
CD2 Chengdu 40.44 301 *e*P **P 17 30 50.0 -2.0**
CD2 pP **pP 17 30 53.5 -2.9**
CD2 sP **sP 17 30 58.3 +0.2**
CD2 PP **PP 17 32 22.2 -3.0**
CD2 S **S 17 36 59.0 -1.4**
CD2 SS **SS 17 39 55.0 -4.7**
CD2 PMZ
comp=Z,20nm,1.8s
CD2 PMZ
comp=Z,250nm,7.1s
CD2 LN
comp=Z,1μm,19.0s
CD2 LE
comp=Z,1μm,21.4s
CD2 LZ
comp=Z,1μm,22.6s
PBKT Sadao Pong 41.68 279 P **P 17 31 04.4 +2.1**
comp=Z,19nm,1.4s
LZH Lanzhou 41.90 308 *e*P **P 17 31 04.2 +0.1**
LZH pP **pP 17 31 07.5 -1.0**
LZH sP **sP 17 31 09.0 -1.2**
LZH PP **PnPn 17 32 44.5 -1.6**
LZH *e*S **S 17 37 21.0 -1.1**
LZH sS **sS 17 37 28.0 -1.3**
LZH *e*SS **SS 17 40 22.4 -6.3**
LZH PMZ
comp=Z,49nm,1.4s
LZH PMZ
comp=Z,210nm,5.3s
LZH LN
comp=Z,580nm,14.0s
LZH LE
comp=Z,530nm,13.0s
LZH LZ
comp=Z,810nm,15.8s
UTTA Uttaradit 42.02 280 P **P 17 31 07.6 +2.6**
comp=Z,2.1nm,0.7s
CRAI Chiangrai 42.14 284 P P 17 31 09.4 +3.3
comp=Z,135nm,2.9s
DZM Mont Dzumac 42.49 149 P **P 17 31 10.5 +1.7**
comp=Z,17nm,1.1s,baz=312,slow=9.5,SNR=3.1
DZM LR LR 17 45 18.8
comp=Z,770nm,21.8s,baz=342,slow=31
PAYA Payao 42.62 283 P **P 17 31 11.8 +1.8**
comp=Z,4.7nm,1.0s
MBWA Marble Bar 42.98 215 *e*P **P 17 31 12.3 -0.4**
comp=Z,41nm,1.4s
UTHA Uthaitani 43.22 277 P **P 17 31 16.3 +1.5**
CM01 Chiang Mai Arr 43.51 281 *e*P **P 17 31 17.6 +0.4**
CHTO Chiang Mai 43.51 282 *e*P **P 17 31 15.7 -1.5**
CHTO pmax pmax
comp=Z,10.0nm,1.5s
CHTO Chiang Mai 43.51 282 *e*P **P 17 31 15.7 -1.5**
comp=Z,10nm,1.5s
CMAR Chiang Mai Arr 43.52 281*ce*P **P 17 31 19.8 +2.5**
CMAR pmax pmax
comp=Z,9.0nm,1.0s
CMAR Chiang Mai Arr 43.52 281 P **P 17 31 17.0 -0.3**
comp=Z,7.0nm,1.0s,baz=81,slow=6.6,SNR=4.6
CMAR LR LR 17 50 50.3
comp=Z,479nm,18.1s,baz=86,slow=38
KULM Kulim 43.88 262 *e*P **P 17 31 20.2 0.0**
comp=Z,35nm,1.2s
MDSI Maura Dua 44.05 247 P **P 17 31 23.9 +2.4**
FX1 Attu Island--F 44.48 25 LR LR 17 47 19.9
comp=Z,188nm,20.5s,baz=226,slow=33
ULN Ulaanbaatar 45.17 325*ce*P **P 17 31 30.7 +0.4**
ULN pmax pmax
comp=Z,15nm,1.7s
ULN Ulaanbaatar 45.17 325 *e*P **P 17 31 30.0 -0.3**
comp=Z,19nm,1.5s
SONM Songino Array 45.53 325 P **P 17 31 32.9 -0.2**
comp=Z,2.8nm,0.8s,baz=137,slow=8.1,SNR=15
SONM LR LR 17 50 31.3
comp=Z,1μm,19.7s,baz=130,slow=36
SONA1 Songino Array 45.53 325 *e*P **P 17 31 32.0 -1.1**
GTA Gaotai 46.03 311 *e*P **P 17 31 37.8 +0.6**
GTA pP **pP 17 31 42.3 +0.7**
GTA sP **sP 17 31 44.8 +1.5**
GTA S **S 17 38 23.3 +1.1**
GTA sS **sS 17 38 30.7 +1.2**
GTA SS **SS 17 41 40.7 -6.5**
GTA PMZ
comp=Z,8.0nm,1.5s
GTA PMZ
comp=Z,190nm,5.9s
GTA LN
comp=Z,470nm,20.4s
GTA LE
comp=Z,630nm,20.4s
GTA LZ
comp=Z,730nm,21.4s
KCSI Kotacane, Aceh 47.12 261 P P 17 31 52.8 +6.9
YAK Yakutsk 48.45 351 *e*P **P 17 31 54.7 -0.7**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK Yakutsk 48.45 351 *e*P **P 17 31 54.9 -0.5**
comp=N,27nm,1.0s
SEY Seymchan 48.55 5 P **P 17 31 57.2 +1.0**
comp=N,2.5nm,0.8s,baz=184,slow=7.3,SNR=24
ZAK Zakamensk 48.63 326||*i*P **P 17 31 56.5 -0.7**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
BOD Bodaibo 48.72 339 *e*P **P 17 31 55.2 -2.4**
BOD pmax pmax
comp=Z,5.0nm,1.8s
TLY Talaya 49.14 328 *e*P **P 17 32 01.6 +0.6**
TLY *e* 17 32 14.4
TLY pmax pmax
comp=Z,17nm,1.3s
MOY Mondy 50.53 326 *e*P **P 17 32 13.5 +1.8**
LSA Lhasa 50.99 296 P **P 17 32 16.7 +0.7**
LSA LN
comp=Z,270nm,22.1s
LSA LZ
comp=Z,700nm,24.8s
TAPN Taplejung 53.88 293 *e*P **P 17 32 36.9 -0.4**
comp=Z,45nm,0.9s
ODAN Odare 54.16 293 *e*P **P 17 32 40.0 +0.8**
HVS Khovu-Aksy 54.36 323*ce*P **P 17 32 41.0 +0.9**
HVS pmax pmax
comp=Z,118nm,1.5s
RAMN Ramite 54.87 293 *e*P **P 17 32 44.6 +0.2**
BILL Bilibino 55.22 10*d i*P **P 17 32 45.8 -0.1**
BILL *i* 17 33 46.9
BILL pmax pmax
comp=Z,24nm,2.0s
BILL MLR MLR
comp=Z,234nm,19.0s
BILL Bilibino 55.22 10 *e*P **P 17 32 45.8 -0.1**
comp=Z,17nm,1.1s
JIRN Jiri 55.24 294 *e*P **P 17 32 46.4 -0.8**
GUN Gumba 55.52 294 *e*P **P 17 32 48.8 -0.4**
PKI Pulchoki 55.93 293 *e*P **P 17 32 51.1 -1.0**
PKIN Phulchoki 55.94 293 *e*P **P 17 32 52.4 +0.3**
WMQ Urumqi 55.98 313 P **P 17 32 52.6 +0.7**
WMQ pP **pP 17 32 57.2 +0.8**
WMQ sP **sP 17 32 59.6 +1.5**
WMQ PP **PP 17 34 59.0 +2.3**
WMQ S **S 17 40 38.8 -1.0**
WMQ sS **sS 17 40 44.8 -2.4**
WMQ ScS **ScS 17 42 37.8 -3.2**
WMQ SS **SS 17 44 24.6 -1.2**
WMQ PMZ
comp=Z,27nm,1.3s
WMQ PMZ
comp=Z,200nm,5.0s
WMQ LN
comp=Z,320nm,21.0s
WMQ LE
comp=Z,460nm,24.0s
WMQ LZ
comp=Z,730nm,26.0s
KKN Kakani 56.05 294 *e*P **P 17 32 52.8 0.0**
DMN Daman 56.20 294 *e*P **P 17 32 53.4 -0.6**
comp=Z,34nm,1.0s
GKN Gorkha 56.62 294 *e*P **P 17 32 56.2 -0.6**
comp=Z,61nm,1.1s
DANN Dangsing 57.40 294 *e*P **P 17 33 01.6 -0.9**
comp=Z,90nm,0.9s
KOLN Koldanda 57.54 294 *e*P **P 17 33 02.4 -1.0**
comp=Z,34nm,0.8s
TIXI Tiksi 57.72 354 P **P 17 33 04.0 +0.4**
TIXI pmax pmax
comp=Z,4.0nm,1.2s
TIXI MLR MLR
comp=Z,202nm,15.0s
TIXI Tiksi 57.72 354 *e*P **P 17 33 02.9 -0.7**
comp=Z,5.0nm,1.1s
MK01 Makanchi Array 60.31 316 *e*P **P 17 33 21.8 -0.3**
MKAR Makanchi Array 60.32 316*ce*P **P 17 33 22.7 +0.5**
MKAR pmax pmax
comp=Z,7.0nm,0.9s
MKAR Makanchi Array 60.32 316 P **P 17 33 22.0 -0.2**
comp=Z,7.3nm,0.9s,baz=96,slow=8.7,SNR=17
MKAR LR LR 18 00 38.0
comp=Z,383nm,18.3s,baz=90,slow=37
ZALV Zalesovo Beam 60.42 324 P **P 17 33 21.9 -0.8**
comp=Z,4.4nm,0.8s,baz=109,slow=6.7,SNR=15
ZALV LR LR 18 00 21.7
comp=Z,577nm,18.3s,baz=72,slow=37
NVS Novosibirsk 61.56 325 *e*P **P 17 33 29.4 -1.0**
NVS pmax pmax
comp=Z,32nm,2.2s
NVS pmax pmax
comp=N,6.0nm,1.8s
NVS pmax pmax
comp=E,13nm,1.8s
HYB Hyderabad 62.94 282 *i*P **P 17 33 40.0 -0.3**
KURK Kurchatov 63.39 320 P **P 17 33 42.2 -0.6**
comp=E,75nm,1.2s,SNR=22
KURK Kurchatov 63.39 320 *e*P **P 17 33 42.1 -0.6**
KURK pmax pmax
comp=Z,17nm,1.1s
KURK Kurchatov 63.39 320 *e*P **P 17 33 42.1 -0.6**
comp=Z,17nm,1.1s
KSH Kashi 64.13 307 P P 17 33 51.9 +3.9
KSH sP sP 17 33 57.8 +3.5
KSH PP PP 17 36 14.8 +5.8
KSH S **S 17 42 28.7 +3.8**
KSH sS sS 17 42 37.7 +5.3
KSH SS **SS 17 46 40.3 +6.4**
KSH PMZ
comp=Z,6.0nm,1.1s
KSH PMZ
comp=Z,140nm,5.2s
KSH LN
comp=Z,130nm,6.2s
KSH LE
comp=Z,120nm,6.3s
KSH LZ
comp=Z,220nm,12.9s
TKM2 Tokmak 2 64.58 311 *e*P **P 17 33 50.9 -0.1**
TKM2 pmax pmax
comp=Z,18nm,1.6s
TKM2 Tokmak 2 64.58 311 *e*P **P 17 33 50.9 -0.1**
comp=Z,18nm,1.6s
AAK Ala-Archa 65.38 310 P **P 17 33 57.0 +0.9**
AAK pmax pmax
comp=Z,16nm,1.7s
AAK Ala-Archa 65.38 310 *e*P **P 17 33 56.2 +0.1**
comp=Z,16nm,1.8s
EKS2 Erkin-Say 65.90 310 *e*P **P 17 33 59.5 0.0**
EKS2 pmax pmax
comp=Z,84nm,2.9s
EKS2 Erkin-Say 65.90 310 *e*P **P 17 33 59.5 0.0**
comp=Z,84nm,2.9s
IL1 Eielson Array 67.86 26 *e*P **P 17 34 13.8 +2.4**
ILAR Eielson Array 67.86 26 P **P 17 34 09.2 -2.2**
comp=Z,0.7nm,0.8s,baz=251,slow=5.3,SNR=11
KKAR Karatay Array 68.31 311 *e*P **P 17 34 14.4 -0.2**
KKAR Karatay Array 68.31 311 *e*P **P 17 34 14.4 -0.2**
VOSK Vostochnaya 68.35 321 *e*P **P 17 34 14.1 -0.6**
VOSK pmax pmax
comp=Z,6.0nm,1.1s
VOSK Vostochnaya 68.35 321 *e*P **P 17 34 14.1 -0.6**
comp=Z,6.1nm,1.1s
BVAR Borovoye Array 68.73 321 P **P 17 34 16.6 -0.4**
comp=Z,4.3nm,0.5s,baz=105,slow=7.5,SNR=34
BRVK Borovoye 68.80 322 *e*P **P 17 34 17.3 -0.1**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 68.80 322 *e*P **P 17 34 17.3 -0.1**
comp=Z,8.9nm,0.8s
KBL Kabul 69.77 302 *e*P **P 17 34 23.7 -0.4**
KBL Kabul 69.77 302 *e*P **P 17 34 23.7 -0.4**
PPT Papeete 72.68 114 LR LR 17 59 46.2
comp=Z,713nm,19.5s,baz=298,slow=30
PPT2 Papeete2 72.69 114 *e*S **S 17 44 04.6 -2.6**
comp=Z,266nm,26.5s
PPT2 Papeete2 72.69 114 *e*LR LR 17 56 46.6
comp=Z,2μm,31.0s,baz=293
SVE Sverdlovsk 74.39 325 *e*P **P 17 34 50.7 -0.4**
SVE *e*S **SKiKP 17 44 19.8 +2.2**
SVE pmax pmax
comp=Z,16nm,1.7s
SVE MLR MLR
comp=Z,825nm,19.0s
ABKAR Akbulak array 75.36 318 *e*P **P 17 34 55.6 -1.2**
ARU Arti 75.56 325*d i*P **P 17 34 57.1 -0.8**
ARU 17 37 48.4
ARU S **S 17 44 40.2 +2.1**
ARU SS **SS 17 49 28.4 -0.3**
ARU pmax pmax
comp=Z,13nm,1.7s
ARU MLR MLR
comp=Z,495nm,19.0s
ARU Arti 75.56 325 *e*P **P 17 34 57.0 -0.8**
GEYT Alibeck 78.15 306 P **P 17 35 11.2 -1.7**
comp=Z,0.7nm,0.4s,baz=219,slow=3.8,SNR=5.4
YKA Yellowknife Ar 82.19 27 P **P 17 35 33.9 -0.2**
comp=Z,1.8nm,0.8s,baz=286,slow=5.3,SNR=26

YKB5	**Yellowknife Ar**	**82.19**	**27**	*e*P	**P**	**17 35 33.5**	**-0.6**
YBH	**Yreka Blue Hor**	**82.62**	**49**	LR	LR	18 04 40.8	
	comp=Z,371nm,20.8s,baz=298,slow=30						
B08A	**Colville Reser**	**83.38**	**42**	*e*P	**P**	**17 35 40.6**	**0.0**
RES	**Resolute Bay**	**83.65**	**13**	*e*P	**P**	**17 35 41.6**	**+0.1**
RES	**Resolute Bay**	**83.65**	**13**	*e*P	**P**	**17 35 41.6**	**+0.1**
APA	**Apatity**	**84.27**	**339**↑	*i*P	**P**	**17 35 47.0**	**+2.3**
APA				MLR	MLR		
	comp=Z,600nm,25.0s						
KLMR	**Klimovskoe**	**84.34**	**332**	*e*P	**P**	**17 35 43.8**	**-1.4**
KLMR				pmax	pmax		
	comp=Z,23nm,1.4s						
KLMR				MLR	MLR		
	comp=Z,687nm,18.0s						
NEW	**Newport**	**84.83**	**42**	LR	LR	18 05 38.4	
	comp=Z,354nm,21.9s,baz=289,slow=30						
MAK	**Makhachkala**	**85.00**	**313**	*e*P	P	17 35 43.6	-5.3
MAK				S	S	17 46 06.0	-12
MAK				*e*SSS	SSS	17 55 14.8	
MAK				pmax	pmax		
	comp=Z,141nm,8.6s						
BMO	**Blue Mountains**	**85.65**	**45**	*e*P	**P**	**17 35 52.5**	**+0.2**
BMO	**Blue Mountains**	**85.65**	**45**	*e*P	**P**	**17 35 52.5**	**+0.2**
ARCES	**ARCESS Array B**	**85.89**	**342**	P	**P**	**17 35 50.8**	**-2.1**
	comp=Z,7.2nm,0.9s,baz=77,slow=5.2,SNR=8.1						
BSMT	**Bassoo Peak**	**86.44**	**41**	*e*P	**P**	**17 35 56.1**	**-0.2**
NVAR	**Mina Array Bea**	**86.72**	**51**	P	**P**	**17 35 56.6**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=265,slow=7.2,SNR=3.1						
JOF	**Joensuu**	**87.09**	**335**	*e*P	**P**	**17 35 58.0**	**-0.8**
JOF	**Joensuu**	**87.09**	**335**	*e*p	**P**	**17 35 58.0**	**-0.8**
	comp=Z,0.4nm,0.5s						
RKT	**Rikitea**	**87.43**	**115**	*e*LR	LR	18 03 23.8	
	comp=Z,973nm,31.8s,baz=291						
DAC	**Darwin (Calif)**	**87.86**	**53**	*e*P	P	17 35 59.7	-3.7
DAC	**Darwin (Calif)**	**87.86**	**53**	*e*P	P	17 35 59.7	-3.7
HLID	**Hailey**	**88.02**	**45**	*e*P	**P**	**17 36 04.5**	**+0.5**
PFO	**Pinyon Flats O**	**89.53**	**55**	LR	LR	18 12 16.6	
	comp=Z,127nm,18.9s,baz=306,slow=33						
FINES	**FINESS Array B**	**89.95**	**335**	P	**P**	**17 36 10.8**	**-1.6**
	comp=Z,1.9nm,0.7s,baz=77,slow=4.3,SNR=9.5						
PDAR	**Pinedale Array**	**91.63**	**45**	LR	LR	18 11 18.3	
	comp=Z,169nm,20.9s,baz=320,slow=32						
AKASG	**Malin Array Be**	**93.81**	**325**	LR	LR	18 20 50.9	
	comp=Z,617nm,18.9s,baz=50,slow=37						
NOA	**NORSAR Array B**	**95.85**	**339**	P	**P**	**17 36 37.9**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=48,slow=5.4,SNR=2.7						
ULM	**Lac du Bonnet**	**96.70**	**34**	LR	LR	18 16 57.8	
	comp=Z,166nm,19.6s,baz=282,slow=33						
CLL	**Collm**	**101.83**	**331**	*e*PS	PS	17 50 24.0	+2.3
CLL				*e*PPS	PPS	17 51 06.0	
CLL				*e*SS	SS	17 55 54.0	+4.0
CLL				*e*		17 56 24.0	
CLL				*e*		17 59 24.0	
CLL				*e*SSS	SSS	18 00 00.0	
CLL				*e*		18 03 36.0	
CLL				Lm	MLR	18 24 00.0	
	comp=N,300nm,20.7s						
CLL				Lm	MLR	18 24 00.0	
	comp=E,200nm,21.2s						
CLL				Lm	MLR	18 24 00.0	
	comp=Z,400nm,21.2s						
CLL				LmV		18 26 00.0	
	comp=Z,400nm,19.4s						
CLL				Lm	MLR	18 55 00.0	
	comp=N,100nm,20.5s						
CLL				Lm	MLR	18 55 00.0	
	comp=E,100nm,20.1s						
PLCA	**Paso Flores**	**140.11**	**137**	PKP	**PKPdf**	**17 42 43.6**	**+1.3**
	comp=E,2.1nm,0.9s,baz=334,slow=1.2,SNR=3.3						
LPAZ	**La Paz**	**148.75**	**97**	PKPbc	**PKPbc**	**17 43 03.2**	**+0.7**
	comp=E,2.5nm,0.9s,baz=357,slow=5.1,SNR=7.8						

*IDC **06** 17:25:59.3±1.2, 14°.72N×144°.32E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/33, mbtmp3.7/7, Error ellipse: s-maj=52.9km s-min=21.2km az=88.0*
*ISCJB **06** 17:26:02.0±1.2, 14°.7N±0°.1×144°.2E±0°.4, h27km, mb3.7/7, Error ellipse: s-maj=51.2km s-min=19.3km az=177.2*

ISC 06 17:26:03.5±1.3, 14°.7N±0°.2×144°.3E±0°.4, h27km, n7, σ0§95/7, mb3.9/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.78**	**196**	P	**P**	**17 33 00.3**	**-0.3**
	2.0nm,0.9s,baz=14,slow=9.4,SNR=4.1						
ASAR	**Alice Springs**	**39.45**	**195**	P	**P**	**17 33 32.2**	**+0.5**
	0.4nm,0.7s,baz=20,slow=11,SNR=2.4						
SONM	**Songino Array**	**45.51**	**325**	P	**P**	**17 34 21.7**	**+0.9**
	0.4nm,0.7s,baz=140,slow=11,SNR=2.1						
MKAR	**Makanchi Array**	**60.31**	**316**	P	**P**	**17 36 10.6**	**+0.6**
	1.0nm,0.6s,baz=95,slow=8.3,SNR=5.0						
BVAR	**Borovoye Array**	**68.72**	**321**	P	**P**	**17 37 03.6**	**-1.1**
	1.3nm,0.5s,baz=109,slow=7.0,SNR=6.4						
YKA	**Yellowknife Ar**	**82.14**	**27**	P	**P**	**17 38 22.0**	**+0.4**
	0.3nm,0.6s,baz=288,slow=5.2,SNR=3.5						
FINES	**FINESS Array B**	**89.93**	**335**	P	**P**	**17 38 59.2**	**-0.9**
	0.6nm,0.8s,baz=60,slow=5.5,SNR=2.9						

*IDC **06** 17:33:09.3±1.1, 14°.73N×144°.34E, h0km, mb4.0/12, mb1 4.1/12, mb1mx3.9/37, mbtmp4.0/12, MS3.7/6, Ms1 3.7/6, ms1mx3.4/33, Error ellipse: s-maj=35.8km s-min=17.7km az=90.0*
*NEIC **06** 17:33:10.8±0.5, 14°.66N×144°.29E, h10km, mb4.6/11, Error ellipse: s-maj=16.9km s-min=7.9km az=78.0*
*ISCJB **06** 17:33:11.6±0.4, 14°.70N±0°.06×144°.31E±0°.10, h27km, mb4.2/23, MS3.6/5, Error ellipse: s-maj=14.3km s-min=6.4km az=158.5*

ISC 06 17:33:13.0±0.6, 14°.65N±0°.08×144°.3E±0°.1, h27km, n45, σ1§10/38, mb4.3/23, MS3.6/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.17**	**154**	*e*Pg	**Pn**	**17 33 33.0**	**-0.6**
GUMO				*e*Sg	**Sb**	**17 33 49.3**	**-0.2**
JCJ	**Chichijima**	**12.55**	**351**	LR	LR	17 39 46.8	
	comp=Z,281nm,19.4s,baz=135,slow=32						
H11S3	**WAKE ISLAND Hy**	**21.76**	**77**	T	T	18 00 55.6	
	baz=262,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**21.77**	**77**	T	T	18 00 57.3	
	baz=262,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**21.77**	**77**	T	T	18 01 02.3	
	baz=262,slow=75,SNR=17						
JNU	**Nakatsue**	**22.09**	**329**	LR	LR	17 45 27.1	
	comp=Z,178nm,20.5s,baz=162,slow=34						
MJAR	**Matsushiro Arr**	**22.48**	**347**	P	**P**	**17 38 09.6**	**-0.7**
	7.0nm,1.1s,baz=169,slow=10,SNR=8.8						
MJAR				LR	LR	17 45 44.7	
	comp=Z,111nm,20.7s,baz=180,slow=34						
MAJO	**Matsushiro**	**22.48**	**347**	*e*P	**P**	**17 38 11.9**	**+1.6**
	19nm,1.1s						
KSRS	**Korea Array**	**27.00**	**330**	P	**P**	**17 38 51.5**	**-1.1**
	2.5nm,0.9s,baz=135,slow=12,SNR=5.5						
KSAR	**Wonju Array Be**	**27.00**	**330**	P	**P**	**17 38 51.5**	**-1.2**
HNR	**Honiara**	**28.50**	**146**	LR	LR	17 49 39.4	
	comp=Z,270nm,19.9s,baz=315,slow=35						
ASAJ	**Asahikawa**	**29.41**	**357**	LR	LR	17 51 50.5	
	comp=Z,156nm,19.5s,baz=196,slow=38						
USRK	**Ussuriysk Ar.**	**31.28**	**343**	LR	LR	17 49 56.8	
	comp=Z,249nm,21.5s,baz=146,slow=32						
WRAB	**Tennant Creek**	**35.74**	**196**	*e*P	**P**	**17 40 10.6**	**+0.8**
	7.1nm,1.0s						
WRA	**Warramunga Arr**	**35.75**	**196**	P	**P**	**17 40 11.0**	**+1.2**
	2.9nm,0.9s,baz=17,slow=9.4,SNR=11						
KSM	**Kuching**	**36.07**	**252**	P	**P**	**17 40 12.1**	**-0.6**
	10nm,1.3s						
ASAR	**Alice Springs**	**39.42**	**195**	P	**P**	**17 40 42.2**	**+1.3**
	0.4nm,0.8s,baz=24,slow=7.1,SNR=3.5						
MBWA	**Marble Bar**	**43.01**	**215**	P	**P**	**17 41 10.5**	**+0.1**
	18nm,1.1s						
CMAR	**Chiang Mai Arr**	**43.59**	**281**	P	**P**	**17 41 14.9**	**-0.3**
	1.8nm,1.0s,baz=81,slow=6.0,SNR=9.5						
ULN	**Ulaanbaatar**	**45.22**	**325**	*e*P	**P**	**17 41 26.1**	**-2.0**
	8.1nm,1.5s						
SONM	**Songino Array**	**45.57**	**325**	P	**P**	**17 41 31.4**	**+0.6**
	0.8nm,0.7s,baz=134,slow=11,SNR=5.5						
YAK	**Yakutsk**	**48.46**	**351**	*e*P	**P**	**17 41 52.9**	**-0.1**
	13nm,0.9s						
SEY	**Seymchan**	**48.56**	**5**	P	**P**	**17 41 55.1**	**+1.4**
	2.6nm,1.0s,baz=185,slow=7.2,SNR=9.7						
TLY	**Talaya**	**49.19**	**328**	*e*P	**P**	**17 42 00.3**	**+1.5**
	9.7nm,1.3s						
LSA	**Lhasa**	**51.06**	**296**	P	**P**	**17 42 11.6**	**-2.3**
	8.7nm,1.1s						
TAPN	**Taplejung**	**53.95**	**293**	*e*P	**P**	**17 42 36.6**	**+1.4**
	39nm,1.3s						
ODAN	**Odare**	**54.23**	**293**	*e*P	**P**	**17 42 38.5**	**+1.4**
	49nm,1.6s						
RAMN	**Ramite**	**54.94**	**293**	*e*P	**P**	**17 42 43.7**	**+1.5**
BILL	**Bilibino**	**55.21**	**10**	*e*P	**P**	**17 42 44.2**	**+1.0**
	3.7nm,0.8s						
JIRN	**Jiri**	**55.31**	**294**	*e*P	**P**	**17 42 46.6**	**+1.5**
GUN	**Gumba**	**55.59**	**294**	*e*P	**P**	**17 42 47.5**	**+0.4**
	38nm,1.2s						
PKI	**Pulchoki**	**56.00**	**293**	*e*P	**P**	**17 42 51.0**	**+1.0**
DMN	**Daman**	**56.27**	**294**	*e*P	**P**	**17 42 52.8**	**+0.9**
GKN	**Gorkha**	**56.69**	**294**	*e*P	**P**	**17 42 54.6**	**-0.1**
	39nm,1.4s						
DANN	**Dangsing**	**57.47**	**294**	*e*P	**P**	**17 43 00.5**	**+0.1**
	66nm,1.5s						
KOLN	**Koldanda**	**57.61**	**294**	*e*P	**P**	**17 43 01.1**	**-0.2**
	12nm,0.8s						
MKAR	**Makanchi Array**	**60.38**	**316**	P	**P**	**17 43 20.8**	**+0.9**
	2.5nm,0.9s,baz=95,slow=7.7,SNR=16						
ZALV	**Zalesovo Beam**	**60.47**	**324**	P	**P**	**17 43 20.2**	**-0.1**
	1.2nm,0.8s,baz=118,slow=5.4,SNR=7.5						
KURK	**Kurchatov**	**63.45**	**320**	*e*P	**P**	**17 43 39.7**	**-0.7**
	12nm,1.4s						
TKM2	**Tokmak 2**	**64.64**	**311**	*e*P	**P**	**17 43 48.8**	**+0.1**
EKS2	**Erkin-Say**	**65.97**	**310**	P	**P**	**17 43 58.6**	**+1.4**
KKAR	**Karatay Array**	**68.37**	**311**	*e*P	**P**	**17 44 12.5**	**+0.1**
	2.4nm,0.9s						
BVAR	**Borovoye Array**	**68.78**	**321**	P	**P**	**17 44 15.0**	**+0.4**
	2.2nm,0.7s,baz=104,slow=6.3,SNR=12						
GEYT	**Aliberk**	**78.21**	**306**	P	**P**	**17 45 09.4**	**-1.2**
	0.3nm,0.3s,baz=31,slow=3.4,SNR=2.6						
YKA	**Yellowknife Ar**	**82.16**	**27**	P	**P**	**17 45 29.9**	**-1.3**
	1.7nm,1.1s,baz=282,slow=5.2,SNR=4.6						

*ATH **06** 17:34:19.4, 34°.03N×23°.61E, h5km±2km, MD3.7/10*
*ISCJB **06** 17:34:22.6±0.6, 34°.08N±0°.04×23°.63E±0°.06, h10km, Error ellipse: s-maj=7.6km s-min=4.9km az=167.8*
*HLW **06** 17:34:22.4, 34°.26N×23°.27E, h31km±12km, Md3.3, Ml3.2*
*CSEM **06** 17:34:23.1±0.3, 34°.16N×23°.68E, h2km, MD3.7, Error ellipse: s-maj=10.0km s-min=6.3km az=73.0*

ISC 06 17:34:24.0±1.1, 34°.14N±0°.04×23°.66E±0°.05, h10km, n32, σ1§23/42, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.29**	**47**	*e*PB	**Pn**	**17 34 45.6**	**-2.5**
SIVA	**Sivas**	**1.29**	**47**	*e*Pb	**Pn**	**17 34 45.6**	**-2.5**
VAM	**Vamos**	**1.34**	**19**	*e*PB	**Pn**	**17 34 47.0**	**-1.8**
VAM				*e*SB	**Sg**	**17 35 07.4**	**+0.3**
VAM	**Vamos**	**1.34**	**19**	*e*Pb	**Pn**	**17 34 47.0**	**-1.8**
VAM				*e*Sb	**Sg**	**17 35 07.4**	**+0.3**
ANKY	**Antikythira Is**	**1.75**	**350**	*e*PN	**Pn**	**17 34 54.2**	**-0.2**
ANKY	**Antikythira Is**	**1.75**	**350**	*e*Pn	**Pn**	**17 34 54.2**	**-0.2**
LAST	**Lasithi**	**1.81**	**55**	*e*PN	**Pb**	**17 34 55.9**	**-1.4**
LAST	**Lasithi**	**1.81**	**55**	*e*Pn	**Pb**	**17 34 55.9**	**-1.4**
NPS	**Neapolis**	**1.96**	**55**	*e*PN	**Pn**	**17 34 57.0**	**-0.3**
NPS	**Neapolis**	**1.96**	**55**	*e*Pn	**Pn**	**17 34 57.0**	**-0.3**
KYTH	**Kithira**	**2.20**	**347**	*e*PN	**Pn**	**17 35 00.4**	**-0.2**
KYTH	**Kithira**	**2.20**	**347**	*e*Pn	**Pn**	**17 35 00.4**	**-0.2**
ZKR	**Zakros**	**2.32**	**64**	*e*PN	**Pn**	**17 35 01.8**	**-0.4**
ZKR	**Zakros**	**2.32**	**64**	*e*Pn	**Pn**	**17 35 01.8**	**-0.4**
VLI	**Veliai**	**2.64**	**347**	*e*PN	**Pn**	**17 35 07.1**	**+0.5**
VLI	**Veliai**	**2.64**	**347**	*e*Pn	**Pn**	**17 35 07.1**	**+0.5**
SLUM		**2.94**	**153**	P	**Pn**	**17 35 11.3**	**+0.5**
	baz=148						
SLUM				AMP		17 35 00.0	
	comp=N,60μm,0.4s,logA/T=5.2,baz=148						
SLUM		**2.94**	**153**	P	**Pn**	**17 35 11.3**	**+0.5**
KARP	**Karpathos**	**3.20**	**63**	*e*PB	**Pn**	**17 35 15.4**	**+1.0**
KARP				*e*SN	**Sn**	**17 35 54.6**	**+1.9**
KARP	**Karpathos**	**3.20**	**63**	*e*Pb	**Pn**	**17 35 15.4**	**+1.0**
KARP				*e*Sn	**Sn**	**17 35 54.6**	**+1.9**
APE	**Apeiranthos**	**3.30**	**27**	*e*PN	**Pn**	**17 35 16.1**	**+0.4**
APE	**Apeiranthos**	**3.30**	**27**	*e*Pn	**Pn**	**17 35 16.1**	**+0.4**
ITM	**Ithomi**	**3.35**	**336**	*e*PN	**Pn**	**17 35 16.4**	**0.0**
ITM	**Ithomi**	**3.35**	**336**	*e*Pn	**Pn**	**17 35 16.4**	**0.0**
KLV	**Kalavryta, Ach**	**4.08**	**343**	*e*PN	**Pn**	**17 35 26.6**	**+0.1**
KLV				*e*SN	**Sn**	**17 36 16.7**	**+2.3**
KLV	**Kalavryta, Ach**	**4.08**	**343**	*e*Pn	**Pn**	**17 35 26.6**	**+0.1**
KLV				*e*Sn	**Sn**	**17 36 16.7**	**+2.3**
HMAT	**Matruh**	**4.20**	**135**	P	**Pn**	**17 35 29.3**	**+1.2**
	baz=133						
HMAT	**Matruh**	**4.20**	**135**	P	**Pn**	**17 35 29.3**	**+1.2**
ARG	**Arkhangelos**	**4.20**	**59**	*e*PN	**Pn**	**17 35 28.5**	**+0.4**
ARG				*e*SN	**Sn**	**17 36 18.9**	**+1.6**
ARG	**Arkhangelos**	**4.20**	**59**	*e*Pn	**Pn**	**17 35 28.5**	**+0.4**
ARG				*e*Sn	**Sn**	**17 36 18.9**	**+1.6**
SWA2		**5.11**	**162**	P	**Pn**	**17 35 40.7**	**+0.1**
	baz=159						
SWA2				S	**Sn**	**17 36 38.0**	**-1.7**
	baz=159						
SWA2		**5.11**	**162**	P	**Pn**	**17 35 40.7**	**+0.1**
SWA2				S	**Sn**	**17 36 38.0**	**-1.7**

IDC 06 17:47:44.4±1.4, 14°.83N×144°.65E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/36, mbtmp3.6/5, Error ellipse: s-maj=42.4km s-min=28.2km az=92.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**21.42**	**77**	T	T	18 15 38.0	
	baz=262,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**21.43**	**77**	T	T	18 15 39.1	
	baz=262,slow=74,SNR=8.6						
H11S2	**WAKE ISLAND Hy**	**21.44**	**77**	T	T	18 15 42.5	
	baz=262,slow=74,SNR=6.4						
WRA	**Warramunga Arr**	**36.01**	**197**	P	P	17 54 47.6	+0.2
	1.3nm,1.0s,baz=13,slow=9.6,SNR=10						
CMAR	**Chiang Mai Arr**	**43.86**	**281**	P	P	17 55 51.5	-1.3
	0.7nm,0.9s,baz=74,slow=6.2,SNR=5.6						
MKAR	**Makanchi Array**	**60.46**	**316**	P	P	17 57 56.7	+0.6
	0.8nm,0.8s,baz=94,slow=8.5,SNR=8.3						
ZALV	**Zalesovo Beam**	**60.50**	**324**	P	P	17 57 57.1	+1.0
	0.2nm,0.3s,baz=116,slow=3.4,SNR=2.3						
YKA	**Yellowknife Ar**	**81.86**	**27**	P	P	18 00 04.3	-1.1
	0.3nm,1.0s,baz=291,slow=5.7,SNR=2.8						

*ISCJB **06** 17:53:44.8±1.2, 14°.68N±0°.04×144°.27E±0°.06, h1km±7km, mb4.8/50, MS4.1/20, Error ellipse: s-maj=9.5km s-min=5.8km az=164.7*
*BJI **06** 17:53:45.9, 14°.70N×144°.30E, h10km, mB5.1/40, mb4.7/46, Ms4.6/36, Ms7 4.3/36*
*IDC **06** 17:53:46.1±0.8, 14°.73N×144°.34E, h0km, mb4.3/17, mb1 4.4/17, mb1mx4.2/40, mbtmp4.3/17, MS4.1/17, Ms1 4.1/17, ms1mx4.0/23, Error ellipse: s-maj=24.6km s-min=14.8km az=98.0*
*GCMT **06** 17:53:47.8±0.2, 14°.67N×144°.02E, h12km, MW5.0/84, Moment Tensor Solution. s24,c32; s84,c138; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.43±.09; $M_{\theta\theta}$0.42±.07; $M_{\phi\phi}$3.00±.09; $M_{r\theta}$0.30±.30; $M_{\theta\phi}$1.03±.07; $M_{\phi r}$1.20±.24; Best double couple: $M_0$3.61400×10^{16} NP1:ϕ_s198.00000°, δ55.00000°, λ-92.00000°. NP2: ϕ_s21.00000°, δ35.00000°, λ-87.00000°. Principal axes: T 3.5780, Plg10.0000°, Azm289.0000°; N 0.0660, Plg2.0000°, Azm199.0000°; P -3.6500, Plg80.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 17:53:47.8±0.2, 14°.70N×144°.29E, h10km, mb5.0/24 Error ellipse: s-maj=6.9km s-min=4.1km az=87.0*
*MOS **06** 17:53:49.7±0.8, 14°.73N×144°.30E, h33km, mb5.0/19, Error ellipse: s-maj=16.0km s-min=6.8km az=111.6*

ISC 06 17:53:48.8±0.4, 14°.66N±0°.05×144°.24E±0°.06, h15km±1km, h15km:pP-P, n139, σ1§46/182, mb4.8/50, MS4.1/20, 7C-3D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.22**	**150**	*e*P	**Pn**	**17 54 10.5**	**-0.8**
GUMO				*e*		17 54 26.0	
GUMO	**Guam**	**1.22**	**150**	*e*Pn	**Pn**	**17 54 10.5**	**-0.8**
GUMO				*e*Sn	**Sb**	**17 54 26.0**	**-1.2**
FAKI	**Fak Fak**	**21.12**	**215**	*e*P	**P**	**17 58 32.8**	**-0.3**
	62nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**21.84**	**77**	T	T	18 21 40.7	
	baz=262,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**21.86**	**77**	T	T	18 21 36.1	
	baz=262,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**21.86**	**77**	T	T	18 21 32.8	
	baz=262,slow=75,SNR=28						
JNU	**Nakatsue**	**22.03**	**329**	P	**P**	**17 58 42.1**	**-0.7**
	17nm,0.9s,baz=89,slow=5.2,SNR=6.0						
JNU	**Nakatsue**	**22.03**	**329**	*e*P	**P**	**17 58 42.1**	**-0.7**
	90nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**22.21**	**74**	T	T	18 22 05.3	
	baz=262,slow=75,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**22.21**	**74**	T	T	18 22 01.0	
	baz=262,slow=75,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**22.22**	**74**	T	T	18 22 06.1	
	baz=262,slow=75,SNR=6.9						
MJAR	**Matsushiro Arr**	**22.45**	**347**	P	**P**	**17 58 47.1**	**-0.2**
	8.7nm,1.0s,baz=173,slow=9.3,SNR=13						
MJAR				LR	LR	18 06 29.9	
	comp=Z,152nm,19.9s,baz=165,slow=34						
MAJO	**Matsushiro**	**22.45**	**347**	P	**P**	**17 58 48.0**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,485nm,3.2s						
MAJO	**Matsushiro**	**22.45**	**347**	*e*P	**P**	**17 58 46.5**	**-0.8**
	comp=Z,37nm,1.1s						
MAT	**Matsushiro**	**22.45**	**347**	P	**P**	**17 58 46.5**	**-0.8**
MAT				*e*S	**S**	**18 02 52.8**	**-0.6**
TWG	**Pinlang**	**23.37**	**294**	*e*P	**P**	**17 58 57.1**	**+0.2**
	comp=Z,746nm,2.1s						
SCZP	**Santa Cruz**	**23.50**	**276**	*e*P	**P**	**17 58 58.6**	**+0.3**
PMG	**Port Moresby**	**24.08**	**173**‖	*e*P	**P**	**17 59 06.1**	**+2.3**
PMG				pmax	pmax		
	comp=Z,67nm,2.5s						
PMG	**Port Moresby**	**24.08**	**173**	*e*P	**P**	**17 59 05.0**	**+1.3**
	comp=Z,40nm,1.1s						
KSRS	**Korea Array**	**26.94**	**330**	P	**P**	**17 59 28.6**	**-0.9**
	comp=Z,3.4nm,0.8s,baz=146,slow=9.4,SNR=7.0						
KSRS				LR	LR	18 09 42.5	
	comp=Z,273nm,18.5s,baz=154,slow=36						
KSAR	**Wonju Array Be**	**26.95**	**330**	P	**P**	**17 59 28.7**	**-1.0**
KSAR	**Wonju Array Be**	**26.95**	**330**	P	**P**	**17 59 28.6**	**-1.0**
KS01	**Wonju Array Si**	**26.97**	**330**	*e*P	**P**	**17 59 27.8**	**-2.1**
KS01				*e*pP	**pP**	**17 59 37.4**	**+2.9**
COEN	**Coen**	**28.45**	**182**	*e*P	**P**	**17 59 43.4**	**+0.1**
	comp=Z,126nm,1.3s						
NJ2	**Nanjing**	**28.92**	**311**	*e*P	**P**	**17 59 47.0**	**-0.3**
NJ2				pP	**pP**	**17 59 50.1**	**-1.9**
NJ2				S	**S**	**18 04 37.0**	**-0.4**
NJ2				sS	**sS**	**18 04 43.5**	**-1.7**
NJ2				PMZ			
	comp=Z,10.0nm,0.7s						
NJ2				PMZ			
	comp=Z,290nm,4.1s						
NJ2				LN			
	comp=Z,400nm,25.2s						
NJ2				LE			
	comp=Z,590nm,21.6s						
NJ2				LZ			
	comp=Z,590nm,21.4s						
USRK	**Ussuriysk Ar.**	**31.24**	**343**	LR	LR	18 09 58.6	
	comp=Z,183nm,19.9s,baz=134,slow=31						
SOEI	**Soe**	**31.31**	**220**	*e*P	**P**	**18 00 08.0**	**-0.8**
	comp=Z,32nm,1.3s						
BATI	**Baumata**	**32.04**	**221**	P	**P**	**18 00 15.1**	**0.0**
	comp=Z,16nm,1.0s,baz=301,slow=21,SNR=5.5						
MDJ	**Mudanjiang**	**32.35**	**340**	P	**P**	**18 00 17.1**	**-0.4**
MDJ				pP	**pP**	**18 00 20.1**	**-2.1**
MDJ				sP	**sP**	**18 00 22.0**	**-2.2**
MDJ				S	**S**	**18 05 31.5**	**+0.5**
MDJ				ScP	**ScP**	**18 06 48.6**	**+0.1**
MDJ				PMZ			
	comp=Z,6.0nm,1.8s						
MDJ				PMZ			
	comp=Z,59nm,3.7s						
MDJ				LN			
	comp=Z,170nm,19.9s						
MDJ				LE			
	comp=Z,310nm,21.6s						
MDJ				LZ			
	comp=Z,330nm,28.1s						
QIZ	**Qiongzhong**	**33.18**	**282**	P	**P**	**18 00 24.7**	**-0.3**
QIZ				pP	**pP**	**18 00 27.3**	**-2.5**
QIZ				sP	**sP**	**18 00 29.2**	**-2.5**
QIZ				S	**S**	**18 05 45.0**	**+0.6**
QIZ				LZ			
	comp=Z,500nm,17.4s						
CN2	**Changchun**	**33.19**	**335**	*e*P	**P**	**18 00 27.2**	**+2.4**
CN2				*es*P	**sP**	**18 00 34.0**	**+2.5**
CN2				*e*S	**S**	**18 05 46.2**	**+2.2**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
CN2				PMZ			
	comp=Z,200nm,3.0s						
CN2				LN			
	comp=Z,1μm,15.0s						
CN2				LE			
	comp=Z,1μm,15.0s						
CN2				LZ			
	comp=Z,1μm,14.0s						
SBUM	**Sibu**	**33.85**	**252**	*e*P	**P**	**18 00 31.2**	**+0.3**
	comp=Z,10nm,1.1s						
CTAO	**Charters Tower**	**34.58**	**177**	*e*P	**P**	**18 00 37.7**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,43nm,1.6s						
CTAO	**Charters Tower**	**34.58**	**177**	*e*P	**P**	**18 00 37.7**	**+0.5**
	comp=Z,43nm,1.6s						
BJI	**Beijing**	**35.24**	**321**	P	**P**	**18 00 42.7**	**+0.1**
BJI				PMZ			
	comp=Z,23nm,0.8s						
WRAB	**Tennant Creek**	**35.72**	**196**	P	**P**	**18 00 48.2**	**+1.2**
	comp=Z,93nm,1.2s,SNR=6.1						
WRAB	**Tennant Creek**	**35.72**	**196**‖	*e

PETK	Petropavlovsk-	39.82	13	LR	LR	18 14 53.6
	comp=Z,142nm,21.9s,baz=187,slow=32					
HIA	Hailar	39.92	335	P	P	18 01 23.0 +0.7
HIA				pmax	pmax	
	comp=Z,2.0nm,0.4s					
KMI	Kunming	40.25	292	P	P	18 01 27.0 +1.5
KMI				pP	pP	18 01 29.6 -0.7
KMI				sP	sP	18 01 30.9 -1.3
KMI				S	S	18 07 32.3 -0.3
KMI				sS	sS	18 07 40.3 -0.2
KMI				PMZ		
	comp=Z,4.0nm,0.9s					
KMI				PMZ		
	comp=Z,190nm,5.0s					
KMI				LN		
	comp=Z,290nm,20.2s					
KMI				LE		
	comp=Z,390nm,18.7s					
KMI				LZ		
	comp=Z,380nm,19.7s					
CD2	Chengdu	40.43	301	P	P	18 01 26.5 -0.2
CD2				sP	sP	18 01 35.1 +1.7
CD2				PP	PnPn	18 03 04.3 +0.6
CD2				S	S	18 07 34.3 -0.5
CD2				sS	sS	18 07 42.6 -0.1
CD2				SS	SS	18 10 27.9 -6.2
CD2				PMZ		
	comp=Z,20nm,1.3s					
CD2				PMZ		
	comp=Z,220nm,4.8s					
CD2				LN		
	comp=Z,510nm,24.2s					
CD2				LE		
	comp=Z,560nm,19.0s					
CD2				LZ		
	comp=Z,480nm,25.0s					
LZH	Lanzhou	41.88	308	eP	P	18 01 39.8 +1.0
LZH				pP	pP	18 01 43.1 -0.5
LZH				sP	sP	18 01 44.5 -1.0
LZH				PP	PnPn	18 03 20.3 -0.5
LZH				eS	S	18 07 57.0 +0.4
LZH				sS	sS	18 08 05.0 +0.5
LZH				eSS	SS	18 10 59.0 -4.1
LZH				PMZ		
	comp=Z,41nm,1.3s					
LZH				PMZ		
	comp=Z,210nm,5.1s					
LZH				LN		
	comp=Z,590nm,13.5s					
LZH				LE		
	comp=Z,520nm,13.2s					
LZH				LZ		
	comp=Z,930nm,16.5s					
MBWA	Marble Bar	42.97	215	eP	P	18 01 47.9 +0.4
	comp=Z,34nm,1.2s					
CM01	Chiang Mai Arr	43.49	281	eP	P	18 01 52.7 +0.8
CMAR	Chiang Mai Arr	43.50	281	P	P	18 01 52.9 +0.9
	comp=Z,5.2nm,1.0s,baz=77,slow=6.4,SNR=26					
CMAR				LR	LR	18 20 31.9
	comp=Z,156nm,18.1s,baz=103,slow=37					
IPM	Ipoh	43.72	261	eP	P	18 01 52.6 -1.2
	comp=Z,19nm,1.0s					
KULM	Kulim	43.86	262	eP	P	18 01 55.9 +1.1
	comp=Z,33nm,1.0s					
ULN	Ulaanbaatar	45.16	325⇑	iP	P	18 02 05.6 +0.5
ULN				pmax	pmax	
	comp=Z,7.0nm,1.2s					
ULN	Ulaanbaatar	45.16	325	eP	P	18 02 05.2 +0.1
	comp=Z,7.6nm,0.9s					
ULN				e		18 02 13.0
SONM	Songino Array	45.52	325	P	P	18 02 08.1 +0.3
	comp=Z,1.9nm,0.8s,baz=138,slow=9.6,SNR=10					
SONM				LR	LR	18 21 04.8
	comp=Z,377nm,20.0s,baz=155,slow=36					
SONA1	Songino Array	45.52	325	eP	P	18 02 07.5 -0.3
GTA	Gaotai	46.02	311	⇓P	P	18 02 12.5 +0.6
GTA				pP	pP	18 02 17.1 +0.4
GTA				sP	sP	18 02 19.6 +1.0
GTA				S	S	18 08 59.1 +2.4
GTA				sS	sS	18 09 07.4 +2.7
GTA				SS	SS	18 12 16.7 -5.0
GTA				PMZ		
	comp=Z,10.0nm,1.0s					
GTA				PMZ		
	comp=Z,78nm,6.2s					
GTA				LN		
	comp=Z,200nm,17.6s					
GTA				LE		
	comp=Z,280nm,19.5s					
GTA				LZ		
	comp=Z,270nm,21.9s					
PSI	Prapat	46.21	260	P	P	18 02 14.7 +0.9
	comp=Z,4.8nm,0.9s,baz=110,slow=7.3,SNR=2.8					
YAK	Yakutsk	48.44	351	eP	P	18 02 29.7 -0.5
YAK				pmax	pmax	
	comp=Z,19nm,0.9s					
YAK				pmax	pmax	
	comp=N,6.0nm,1.1s					
YAK	Yakutsk	48.44	351	eP	P	18 02 29.7 -0.5
	comp=N,24nm,0.9s					
SEY	Seymchan	48.56	5	P	P	18 02 30.3 -0.8
	comp=N,3.4nm,0.8s,baz=182,slow=6.8,SNR=16					
ZAK	Zakamensk	48.62	326	eP	P	18 02 31.7 -0.3
ZAK				pmax	pmax	
	comp=Z,8.0nm,1.2s					
BOD	Bodaibo	48.71	339	eP	P	18 02 24.2 -8.2
BOD				pmax	pmax	
	comp=Z,5.0nm,1.8s					
TLY	Talaya	49.13	328	eP	P	18 02 36.5 +0.7
TLY				pmax	pmax	
	comp=Z,7.0nm,1.0s					
TLY				MLR	MLR	
	comp=Z,95nm,15.0s					
MOY	Mondy	50.52	326	eP	P	18 02 53.6 +7.1
LSA	Lhasa	50.98	296	P	P	18 02 51.5 +0.8
TAPN	Taplejung	53.87	293	eP	P	18 03 11.8 -0.2
	comp=Z,87nm,1.2s					
ODAN	Odare	54.14	293	eP	P	18 03 13.6 -0.3
	comp=Z,70nm,1.4s					
HVS	Khovu-Aksy	54.35	323⇑	eP	P	18 03 16.2 +1.3
HVS				pmax	pmax	
	comp=Z,65nm,1.6s					
RAMN	Ramite	54.85	293	eP	P	18 03 18.9 -0.2
	comp=Z,53nm,1.2s					
BILL	Bilibino	55.22	10⇑	iP	P	18 03 21.4 +0.7
BILL				i		18 03 27.6
BILL				i		18 04 21.0
BILL				pmax	pmax	
	comp=Z,27nm,2.2s					
BILL				MLR	MLR	
	comp=Z,226nm,20.0s					
BILL	Bilibino	55.22	10	eP	P	18 03 21.1 +0.4
	comp=Z,18nm,1.2s					
JIRN	Jiri	55.22	294	eP	P	18 03 22.0 +0.1
	comp=Z,55nm,1.0s					
GUN	Gumba	55.50	294	eP	P	18 03 24.1 +0.2
	comp=Z,70nm,0.9s					
PKI	Pulchoki	55.92	293	eP	P	18 03 26.1 -0.8
	comp=Z,45nm,1.3s					
PKIN	Phulchoki	55.93	293	eP	P	18 03 26.3 -0.6
WMQ	Urumqi	55.97	313	P	P	18 03 27.5 +0.9
WMQ				sP	sP	18 03 35.2 +1.7
WMQ				PP	PP	18 05 34.0 +2.6
WMQ				S	S	18 11 13.5 -0.8
WMQ				sS	sS	18 11 20.0 -2.4
WMQ				ScS	ScS	18 13 12.8 -2.8
WMQ				SS	SS	18 14 59.0 -1.3
WMQ				PMZ		
	comp=Z,35nm,1.1s					
WMQ				PMZ		
	comp=Z,360nm,4.5s					
WMQ				LN		
	comp=Z,150nm,21.0s					
WMQ				LE		
	comp=Z,170nm,22.0s					
WMQ				LZ		
	comp=Z,280nm,23.0s					
KKN	Kakani	56.03	294	eP	P	18 03 27.2 -0.4
	comp=Z,31nm,1.1s					
DMN	Daman	56.19	294	eP	P	18 03 28.3 -0.4
	comp=Z,48nm,1.1s					
GKN	Gorkha	56.60	294	eP	P	18 03 31.4 -0.2
	comp=Z,93nm,1.2s					
DANN	Dangsing	57.38	294	eP	P	18 03 37.4 +0.2
	comp=Z,188nm,1.3s					
KOLN	Koldanda	57.52	294	eP	P	18 03 37.2 -0.9
	comp=Z,35nm,0.9s					
TIXI	Tiksi	57.72	354⇑	eP	P	18 03 38.2 -0.3
TIXI				pmax	pmax	
	comp=Z,5.0nm,1.0s					
TIXI				MLR	MLR	
	comp=Z,135nm,17.0s					
TIXI	Tiksi	57.72	354	eP	P	18 03 37.8 -0.7
	comp=Z,6.7nm,1.2s					
MKAR	Makanchi Array	60.31	316	ceP	P	18 03 57.5 +0.6
MKAR				pmax	pmax	
	comp=Z,5.0nm,0.8s					
MKAR	Makanchi Array	60.31	316	P	P	18 03 56.5 -0.4
	comp=Z,5.4nm,0.8s,baz=95,slow=8.6,SNR=49					
MKAR				LR	LR	18 31 12.1
	comp=Z,188nm,18.4s,baz=62,slow=37					
ZALV	Zalesovo Beam	60.41	324	P	P	18 03 57.1 -0.3
	comp=Z,3.3nm,0.7s,baz=94,slow=6.2,SNR=14					
ZALV				LR	LR	18 30 46.6
	comp=Z,210nm,18.5s,baz=68,slow=37					
NVS	Novosibirsk	61.55	325	eP	P	18 04 04.5 -0.6
NVS				pmax	pmax	
	comp=Z,17nm,1.6s					
NVS				pmax	pmax	
	comp=E,6.0nm,1.4s					
HYB	Hyderabad	62.92	282	iP	P	18 04 14.0 -1.1
KURK	Kurchatov	63.38	320	P	P	18 04 17.5 +0.1
	comp=E,68nm,1.0s,SNR=15					
KURK	Kurchatov	63.38	320	eP	P	18 04 17.6 +0.1
KURK				e		18 04 25.0
KURK	Kurchatov	63.38	320	eP	P	18 04 17.6 +0.1
KURK				e		18 04 25.0
KSH	Kashi	64.12	307	P	P	18 04 25.8 +3.0
KSH				sP	sP	18 04 33.1 +3.5
KSH				PP	PP	18 06 49.1 +5.4
KSH				S	S	18 13 01.9 +2.5
KSH				sS	sS	18 13 10.0 +2.4
KSH				ScS	SKSac	18 14 16.1 -0.4
KSH				SS	SS	18 17 14.0 +5.6
KSH				PMZ		
	comp=E,6.0nm,1.1s					
KSH				PMZ		
	comp=E,66nm,4.3s					
KSH				LN		
	comp=E,120nm,4.7s					
KSH				LE		
	comp=E,110nm,5.8s					
KSH				LZ		
	comp=E,160nm,6.7s					
TKM2	Tokmak 2	64.56	311	eP	P	18 04 26.3 +0.6
TKM2	Tokmak 2	64.56	311	eP	P	18 04 26.3 +0.6
AAK	Ala-Archa	65.36	310⇑	eP	P	18 04 30.9 0.0
AAK				pmax	pmax	
	comp=Z,14nm,1.7s					
AAK	Ala-Archa	65.36	310	eP	P	18 04 31.5 +0.7
EKS2	Erkin-Say	65.89	310	eP	P	18 04 35.2 +0.9
EKS2	Erkin-Say	65.89	310	eP	P	18 04 35.1 +0.9
ILAR	Eielson Array	67.87	26	P	P	18 04 44.9 -1.4
	comp=Z,0.4nm,0.7s,baz=269,slow=4.3,SNR=4.3					
KKAR	Karatay Array	68.30	311	eP	P	18 04 49.8 +0.4
KKAR	Karatay Array	68.30	311	eP	P	18 04 49.8 +0.4
VOSK	Vostochnaya	68.34	321	eP	P	18 04 49.6 +0.1
VOSK	Vostochnaya	68.34	321	eP	P	18 04 49.5 +0.1
BRVK	Borovoye	68.78	322	P	P	18 04 52.6 +0.3
	comp=Z,69nm,1.1s,SNR=5.1					
BRVK	Borovoye	68.78	322	eP	P	18 04 52.5 +0.3
BRVK				pmax	pmax	
	comp=Z,12nm,0.9s					
BRVK	Borovoye	68.78	322	eP	P	18 04 52.5 +0.3
	comp=Z,12nm,0.9s					
KBL	Kabul	69.76	302	eP	P	18 04 59.2 +0.3
KBL				e		18 05 07.5
KBL				pmax	pmax	
	comp=Z,24nm,1.4s					
KBL	Kabul	69.76	302	eP	P	18 04 59.1 +0.3
	comp=Z,24nm,1.4s					
KBL				e		18 05 07.5
PPT2	Papeete2	72.70	114	eLR	LR	18 27 25.4
	comp=Z,404nm,26.0s					
SVE	Sverdlovsk	74.38	325	eP	P	18 05 26.0 +0.2
ABKAR	Akbulak array	75.35	318	eP	P	18 05 31.4 -0.2
ARU	Arti	75.55	325	diP	P	18 05 32.5 -0.1
ARU						18 08 21.5
ARU				S	S	18 15 15.1 +2.4
ARU				SS	SS	18 20 04.4 +1.2
ARU				pmax	pmax	
	comp=Z,15nm,1.7s					
GEYT	Alibeck	78.13	306	P	P	18 05 48.3 +0.6
	comp=Z,0.9nm,0.3s,baz=66,slow=1.8,SNR=7.8					
GEYT				LR	LR	18 43 34.4
	comp=Z,126nm,20.2s,baz=25,slow=38					
YKA	Yellowknife Ar	82.20	27	P	P	18 06 09.1 +0.1
	comp=Z,2.1nm,0.9s,baz=288,slow=5.3,SNR=17					
RES	Resolute Bay	83.66	13	eP	P	18 06 16.7 +0.4
RES				pmax	pmax	
	comp=Z,11nm,1.2s					
RES	Resolute Bay	83.66	13	eP	P	18 06 16.7 +0.4
	comp=Z,11nm,1.2s					
TMCR	Tamitsa	83.82	335	eP	P	18 06 18.2 +0.9
TMCR				e		18 09 33.7
TMCR				pmax	pmax	
	comp=Z,13nm,0.4s					
KLMR	Klimovskoe	84.33	332	eP	P	18 06 18.3 -1.7
KLMR				pmax	pmax	
	comp=Z,27nm,1.7s					
BMO	Blue Mountains	85.67	45	eP	P	18 06 26.6 -0.6
BMO				pmax	pmax	
	comp=Z,5.0nm,1.1s					
BMO	Blue Mountains	85.67	45	eP	P	18 06 26.6 -0.6
	comp=Z,4.6nm,1.1s					
ARCES	ARCESS Array B	85.89	342	P	P	18 06 26.0 -1.7
	comp=Z,4.5nm,0.9s,baz=16,slow=5.2,SNR=4.9					
ARCES				LR	LR	18 49 44.9
	comp=Z,67nm,18.1s,baz=80,slow=39					
BSMT	Bassoo Peak	86.46	41	eP	P	18 06 31.0 -0.2
	comp=Z,4.3nm,0.9s					
RKT	Rikitea	87.45	115	eLR	LR	18 34 14.8
	comp=Z,297nm,30.8s					
KBZ	Khabaz	87.98	315	LR	LR	18 50 06.7
	comp=Z,101nm,18.5s,baz=59,slow=38					
FINES	FINESS Array B	89.94	335	iP	P	18 06 46.2 -1.0
FINES				pmax	pmax	
	comp=Z,3.0nm,0.8s					
FINES	FINESS Array B	89.94	335	P	P	18 06 45.4 -1.8
	comp=Z,2.6nm,0.8s,baz=29,slow=4.4,SNR=7.6					
FINES				LR	LR	18 51 47.4
	comp=Z,113nm,18.1s,baz=60,slow=39					
AKASG	Malin Array Be	93.80	325	LR	LR	18 51 52.0
	comp=Z,221nm,18.1s,baz=65,slow=37					
KIEV	Kiev	93.81	325	P	P	18 07 03.0 -2.4
NOA	NORSAR Array B	95.84	339	LR	LR	18 52 51.7
	comp=Z,57nm,18.6s,baz=85,slow=37					
BRTR	Keskin Array B	95.89	313	LR	LR	18 56 04.2
	comp=Z,55nm,18.1s,baz=26,slow=39					
ULM	Lac du Bonnet	96.71	34	LR	LR	18 44 16.4
	comp=Z,119nm,20.4s,baz=294,slow=31					
LPAZ	La Paz	148.77	97	PKPbc	PKPbc	18 13 37.4 0.0
	comp=Z,1.8nm,0.8s,baz=349,slow=3.4,SNR=4.1					

MEX 06 17:57:21.3±0.8, 17°.03N×95°.01W, h123km±7km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.13	65	iP	Pn	17 57 36.6	-1.5
CMIG				eS	Sn	17 57 49.1	-1.7
HUIG	Huatulco	1.64	220	eP	Pn	17 57 49.5	-1.1
HUIG				eS	Sn	17 58 11.0	-1.9
PCIG		2.17	127	iP	Pn	17 57 55.6	-1.4
PCIG				iS	Sn	17 58 22.9	-1.5
CCIG	Comitan	2.85	105	iP	Pn	17 58 03.9	-2.2
CCIG				iS	Sn	17 58 37.9	-2.6
PNIG	Pinotepa	3.05	258	iP	Pn	17 58 06.7	-1.7
TLIG	Tlapa	3.44	279	iP	Pn	17 58 12.8	-0.8
TLIG				eS	Sn	17 58 51.5	-2.6

*NEIC **06** 17:58:14.0±0.8, 35°.24S×72°.12W, h35km, mb4.2/2, Error ellipse: s-maj=21.6km s-min=11.1km az=89.0*
*ISCJB **06** 17:58:15.3±0.6, 35°.36S±0°.04×71°.97W±0°.09, h62km±5km, mb4.1/7, Error ellipse: s-maj=12.5km s-min=5.7km az=23.8*
*GUC **06** 17:58:15.4±0.5, 35°.31S×72°.04W, h41km±3km, ML4.4*
*IDC **06** 17:58:17.8±1.0, 35°.28S×71°.72W, h64km±7km, mb3.8/7, mb1 3.9/9, mb1mx3.7/32, mbtmp4.1/9, Error ellipse: s-maj=28.5km s-min=17.6km az=88.0*

ISC 06 17:58:16.3±0.8, 35°.33S±0°.05×72°.02W±0°.07, h57km±7km, n26, σ1§00/34, mb4.1/7, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	Linares	0.62	147⇑	iP	Pn	17 58 28.4	-1.0
LNCH				iS	Sn	17 58 37.8	-1.1
NICH	Los Niches	0.72	64⇓	iP	Pn	17 58 29.5	-1.2
NICH				iS	Sn	17 58 40.3	-0.9
COCH	Cobquecura	1.02	218⇑	iP	Pn	17 58 33.5	-0.9
COCH				iS	Sn	17 58 48.0	+0.2
RCDM	Rinconada Maip	2.09	29	eP1	Pn	17 58 48.7	-0.3
RCDM				eS1	Sn	17 59 14.0	+0.1
ANTU	Antumapu	2.10	33	eP	Pn	17 58 49.3	+0.3
ANTU				iS	Sn	17 59 14.7	+0.7
ANTU				AML	AML	17 59 26.9	
	comp=N,3μm,0.4s						
CLCH	Cerro Calan	2.28	33	eP1	Pn	17 58 51.7	0.0
CLCH				iS	Sn	17 59 19.2	+0.5
CLCH				AML	AML	17 59 36.1	
	comp=E,3μm,0.7s						
CLCH				AML	AML	17 59 36.7	
	comp=E,4μm,0.7s						
PEL	Peldehue	2.44	27⇑	iP	Pn	17 58 53.5	-0.3
PEL				AML	AML	17 59 34.7	
	comp=N,3μm,0.6s						
FCH	Farellones	2.46	36	AML	AML	17 59 32.2	
	comp=E,2μm,0.5s						
CFAA	Coronel Fontan	4.88	41	P	Pn	17 59 24.8	-2.4
	comp=E,0.6nm,0.3s,baz=220,slow=12,SNR=18						
PLCA	Paso Flores	5.52	168	P	Pn	17 59 36.2	+0.2
	comp=E,0.9nm,0.3s,baz=344,slow=10,SNR=6.3						
TRQA	Tornquist	8.51	112	ePn	Pn	18 00 18.2	+1.3
LVC	Limon Verde	12.96	13	Pn	Pn	18 01 19.1	+1.2
EFI	East Falkland	19.16	153	eP	P	18 02 35.4	+0.5
LPAZ	La Paz	19.28	11	P	Pn	18 02 38.2	-0.4
	comp=E,0.2nm,0.3s,baz=194,slow=7.3,SNR=10.0						
LPAZ	La Paz	19.28	11	eP	P	18 02 37.7	+0.6
	comp=E,3.8nm,0.9s						
SIV	San Ignacio	21.61	30	P	P	18 03 00.3	-1.3
	comp=E,3.2nm,0.9s,baz=220,slow=9.4,SNR=8.2						
QSPA	South Pole Qui	54.91	180	P	P	18 07 42.2	+1.2
	comp=E,1.7nm,0.8s,baz=161,slow=2.4,SNR=4.7						
QSPA	South Pole Qui	54.91	180	eP	P	18 07 42.2	+1.2
	comp=E,14nm,1.6s						
TXAR	Lajitas Array	70.90	331	P	P	18 09 28.1	+0.6
	comp=E,0.6nm,0.7s,baz=140,slow=7.1,SNR=3.2						
TXAR				pP	PcP	18 09 46.1	-1.6
	comp=E,0.9nm,0.8s,baz=127,slow=10,SNR=2.6						
DBIC	Dimbokro	75.59	71	P	P	18 09 55.0	-0.4
	comp=E,3.9nm,1.1s,baz=198,slow=12,SNR=3.1						
DBIC				pP	pP	18 10 12.9	+1.7
	comp=E,4.3nm,0.9s,baz=180,slow=3.0,SNR=2.2						
BOSA	Boshof	79.44	117	P	P	18 10 17.3	+0.3
	comp=E,2.7nm,1.0s,baz=202,slow=5.4,SNR=2.5						
LBTB	Lobatse	81.73	115	P	P	18 10 28.4	-0.8
	comp=E,1.2nm,0.5s,baz=245,slow=6.9						
TORD	Torodi Ar. Bea	84.65	70	P	P	18 10 42.8	-1.4
	comp=E,1.0nm,0.6s,baz=269,slow=5.1,SNR=8.6						
TORD				pP	pP	18 11 00.7	+0.5
	comp=E,1.7nm,0.8s,baz=254,slow=4.3,SNR=6.4						
KKAR	Karatay Array	150.14	64	ePKPbc	PKPbc	18 18 00.1	-0.4
AAK	Ala-Archa	153.09	64	ePKPbc	PKPbc	18 18 07.1	-0.4
MKAR	Makanchi Array	157.60	51	PKPab	PKPab	18 18 38.2	0.0
	comp=E,0.6nm,0.8s,baz=299,slow=4.5,SNR=6.3						

MAN 06 17:58:22, 16°.78N×122°.24E, h14km, mb4.5, ML3.4, MS3.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	Baler	1.21	212	eP	Pn	17 58 44.2	-0.3
APYP	Conner	1.44	319	eP	Pn	17 58 47.8	+0.1
BCPH	Baguio City Da	1.64	256⇓	eP	Pn	17 58 50.1	-0.6
BOLP	Bolinao	2.27	260	eP	Pn	17 59 00.5	+1.4

*IDC **06** 18:03:17.8±0.8, 36°.23S×72°.64W, h0km, mb3.9/9, mb1 4.1/9, mb1mx4.0/30, mbtmp3.9/9, MS3.5/2, Ms1 3.5/2, ms1mx3.1/21, Error ellipse: s-maj=35.3km s-min=19.6km az=81.0*
*ISCJB **06** 18:03:20.4±1.1, 36°.26S±0°.07×73°.03W±0°.09, h29km±6km, mb4.1/9, MS3.6/1, Error ellipse: s-maj=13.9km s-min=10.5km az=39.8*
*GUC **06** 18:03:20.5±0.7, 36°.30S×73°.02W, h24km±7km, ML5.0*
*NEIC **06** 18:03:22.9±0.7, 36°.17S×72°.97W, h35km, mb5.0/2, Error ellipse: s-maj=16.9km s-min=12.2km az=87.0*

ISC 06 18:03:21.8±1.2, 36°.21S±0°.08×72°.97W±0°.10, h29km±7km, n24, σ1§50/24, mb4.0/9, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.16	62⇑	iP	Pb	18 03 27.1	-0.4
COCH				iS	Sb	18 03 31.0	-0.2
LNCH	Linares	1.16	72⇑	iP	Pn	18 03 41.9	-0.3
LNCH				iS	Sn	18 03 58.2	+1.1
NICH	Los Niches	1.86	50⇓	iP	Pn	18 03 52.9	+1.2
NICH				iS	Sb	18 04 18.5	+0.6
CLCH	Cerro Calan	3.44	36	AML	AML	18 05 15.9	
	comp=N,2μm,0.6s						
PLCA	Paso Flores	4.90	158	Pn	Pn	18 04 34.9	+1.3
	comp=N,0.6nm,0.3s,baz=331,slow=14,SNR=4.2						
PLCA				Lg	Lg	18 05 51.6	
	comp=N,2.0nm,0.3s,baz=264,slow=18,SNR=3.6						
CFAA	Coronel Fontan	6.04	42	Pn	Pn	18 04 50.2	+0.8
	comp=N,0.1nm,0.3s,baz=210,slow=13,SNR=11						
CFAA				Lg	Lg	18 06 16.1	
	comp=N,0.3nm,0.3s,baz=80,slow=19,SNR=6.8						
TRQA	Tornquist	8.97	105	ePn	Pn	18 05 31.4	+2.0
	comp=N,13nm,1.0s						
CPUP	Villa Florida	16.58	58	Pn	Pn	18 07 12.2	0.0
	comp=N,0.5nm,0.3s,baz=232,slow=12,SNR=3.5						
CPUP				LR	LR	18 13 13.1	
	comp=N,97nm,20.0s,baz=212,slow=36						
LPAZ	La Paz	20.30	13	P	P	18 07 57.2	+1.1
	comp=N,1.1nm,0.6s,baz=187,slow=8.0,SNR=3.4						
SIV	San Ignacio	22.75	31	P	P	18 08 21.1	-0.8
	comp=N,5.5nm,1.0s,baz=231,slow=9.9,SNR=9.6						
BDFB	Brasilia	30.23	54	LR	LR	18 22 55.8	
	comp=N,143nm,18.2s,baz=196,slow=39						
SNAA	Sanae	49.84	157	P	P	18 12 12.0	+0.1
	comp=N,1.3nm,0.9s,baz=290,slow=17,SNR=4.4						
QSPA	South Pole Qui	54.03	180	P	P	18 12 43.5	+0.2
	comp=N,4.3nm,1.0s,baz=181,slow=1.9,SNR=5.8						
QSPA	South Pole Qui	54.03	180	eP	P	18 12 43.2	-0.1
	comp=N,8.9nm,1.1s						
TEIG	Tepich	57.97	343	eP	P	18 13 08.7	-3.0
	comp=N,54nm,1.5s						
TXAR	Lajitas Array	71.30	332	P	P	18 14 39.3	+0.6
	comp=N,0.3nm,0.8s,baz=150,slow=6.2,SNR=2.7						
BOSA	Boshof	79.72	118	P	P	18 15 25.9	-1.4
	comp=N,4.6nm,0.9s,baz=195,slow=4.0,SNR=5.2						
NVAR	Mina Array Bea	85.27	326	P	P	18 15 57.0	+1.1
	comp=N,0.2nm,0.3s,baz=201,slow=4.8,SNR=2.4						
PDAR	Pinedale Array	85.39	334	P	P	18 15 58.2	+1.7
	comp=N,0.3nm,0.8s,baz=128,slow=28,SNR=2.5						
TORD	Torodi Ar. Bea	85.67	70	P	P	18 15 56.8	-1.4
	comp=N,1.1nm,0.9s,baz=242,slow=3.6,SNR=4.5						
WRA	Warramunga Arr	118.47	209	PKP	PKPdf	18 22 09.5	+2.2
	comp=N,0.3nm,1.0s,baz=164,slow=1.2,SNR=3.1						
BRTR	Keskin Array B	123.55	62	PKP	PKPdf	18 22 16.0	-0.4
	comp=N,0.3nm,0.6s,baz=322,slow=6.1,SNR=3.0						
ZALV	Zalesovo Beam	156.49	34	PKPbc	PKPdf	18 23 24.2	+11
	comp=N,0.5nm,0.4s,baz=263,slow=2.4,SNR=4.2						
MKAR	Makanchi Array	158.75	52	PKP	PKPdf	18 23 15.5	-0.9
	comp=N,0.4nm,0.9s,baz=281,slow=2.0,SNR=3.7						
MKAR				PKPab	PKPab	18 23 47.8	-4.4
	comp=N,0.1nm,0.5s,baz=264,slow=1.4,SNR=2.2						

*IDC **06** 18:17:47.1±0.8, 37°.57S×73°.78W, h0km, mb4.0/8, mb1 4.0/11, mb1mx4.0/26, mbtmp3.8/11, ML3.9/3, MS3.8/3, Ms1 3.8/3, ms1mx3.4/21, Error ellipse: s-maj=24.1km s-min=16.1km az=77.0*
*ISCJB **06** 18:17:49.6±0.6, 37

ellipse: s-maj=16.7km s-min=10.1km az=86.0

ISC 06 18:17:51.2±0.7,37°51S±0°07×73°6W±0°1,h23km,n29, σ1°69/29,mb4.1/12,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.98**	**145**	Pn	**Pn**	**18 18 51.9**	**+0.9**
	2.0nm,0.3s,baz=322,slow=15,SNR=10						
PLCA				Lg	Lg	18 19 53.1	
	7.6nm,0.3s,baz=35,slow=23,SNR=6.5						
CFAA	**Coronel Fontan**	**7.35**	**38**	Pn	**Pn**	**18 19 37.1**	**-0.1**
	0.2nm,0.3s,baz=209,slow=12,SNR=9.9						
CFAA				Lg	Lg	18 21 43.1	
	0.1nm,0.3s,baz=192,slow=12,SNR=4.7						
CFAA				LR	LR	18 22 57.4	
	comp=Z,16nm,21.0s,baz=220,slow=41						
TRQA	**Tornquist**	**9.20**	**97**	*e*Pn	**Pn**	**18 20 03.5**	**+1.0**
	8.3nm,0.9s						
LVC	**Limon Verde**	**15.38**	**16**	*e*Pn	**Pn**	**18 21 28.4**	**+1.3**
USHA	**Ushuaia**	**17.68**	**170**	LR	LR	18 28 46.3	
	comp=Z,227nm,21.1s,baz=220,slow=37						
CPUP	**Villa Florida**	**17.70**	**56**	P	**P**	**18 21 59.0**	**+2.0**
	0.3nm,0.3s,baz=191,slow=7.8,SNR=2.9						
CPUP				LR	LR	18 29 33.3	
	comp=Z,234nm,18.5s,baz=209,slow=40						
CPUP	**Villa Florida**	**17.70**	**56**	Pn	**Pn**	**18 21 55.7**	**-0.6**
EFI	**East Falkland**	**17.90**	**147**	*e*Pn	**Pn**	**18 21 57.9**	**-0.7**
	74nm,1.3s						
LPAZ	**La Paz**	**21.68**	**14**	P	**P**	**18 22 43.5**	**+2.4**
	2.2nm,0.6s,baz=172,slow=8.5,SNR=6.1						
LPAZ	**La Paz**	**21.68**	**14**	P	**P**	**18 22 43.5**	**+2.4**
LPAZ				*e*Pn	**P**	**18 22 43.8**	**+2.8**
SIV	**San Ignacio**	**24.12**	**31**	P	**P**	**18 23 06.4**	**+1.0**
	2.2nm,0.6s,baz=234,slow=18,SNR=6.4						
PMSA	**Palmer Station**	**27.88**	**171**	*e*P	**P**	**18 23 42.3**	**+3.4**
	31nm,0.4s						
SAML	**Samuel**	**29.95**	**21**	P	**P**	**18 23 54.9**	**-2.9**
SDV	**Santo Domingo**	**46.24**	**4**	P	**P**	**18 26 15.9**	**+1.0**
SNAA	**Sanae**	**48.84**	**157**	P	**P**	**18 26 33.6**	**-0.8**
	1.5nm,0.8s,baz=264,slow=8.9,SNR=5.3						
QSPA	**South Pole Qui**	**52.73**	**180**	P	**P**	**18 27 03.4**	**-0.6**
	3.0nm,1.0s,baz=323,slow=5.3,SNR=3.1						
QSPA	**South Pole Qui**	**52.73**	**180**	P	**P**	**18 27 03.3**	**-0.7**
	4.5nm,1.0s						
VNDA	**Vanda**	**60.42**	**192**	P	**P**	**18 28 00.2**	**+2.0**
	2.4nm,0.9s						
TXAR	**Lajitas Array**	**72.23**	**333**	P	**P**	**18 29 14.2**	**-0.3**
	0.6nm,0.8s,baz=150,slow=8.1,SNR=4.7						
DBIC	**Dimbokro**	**77.48**	**71**	P	**P**	**18 29 46.2**	**+1.1**
	3.9nm,0.7s,baz=198,slow=6.6,SNR=5.1						
DBIC	**Dimbokro**	**77.48**	**71**	P	**P**	**18 29 42.8**	**-2.4**
	15nm,1.1s						
URZ	**Urewera**	**80.40**	**229**	LR	LR	18 58 47.4	
	comp=Z,113nm,20.3s,baz=72,slow=31						
LBTB	**Lobatse**	**81.95**	**115**	*e*P	**P**	**18 30 06.7**	**-2.8**
	11nm,1.3s						
NVAR	**Mina Array Bea**	**86.08**	**326**	P	**P**	**18 30 29.7**	**-0.5**
	0.3nm,0.4s,baz=134,slow=7.7,SNR=3.0						
PDAR	**Pinedale Array**	**86.35**	**334**	P	**P**	**18 30 29.8**	**-1.6**
	0.7nm,1.0s,baz=139,slow=14,SNR=2.9						
TORD	**Torodi Ar. Bea**	**86.56**	**71**	P	**P**	**18 30 32.5**	**-0.4**
	1.0nm,0.8s,baz=226,slow=4.2,SNR=4.2						
ABKAR	**Akbulak array**	**144.77**	**55**	*e*PKPdf	**PKPab**	**18 37 24.1**	**-0.5**
ZALV	**Zalesovo Beam**	**157.83**	**35**	PKPab	**PKPab**	**18 38 18.1**	**0.0**
	1.1nm,0.7s,baz=284,slow=6.0,SNR=5.1						
MKAR	**Makanchi Array**	**159.91**	**55**	PKP	**PKPdf**	**18 37 46.8**	**-1.2**
	0.3nm,0.7s,baz=228,slow=1.5,SNR=4.0						
MKAR				PKPab	**PKPab**	**18 38 27.6**	**+0.1**
	0.3nm,0.7s,baz=266,slow=4.7,SNR=3.7						

WEL 06 18:28:18.5±0.4,38°53S×175°81E,h170km±3km,ML3.6/10, 15C-6D,Error ellipse: s-maj=2.5km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	**Karewarewa**	**0.58**	**193**	PN	Pn	18 28 43.0	+0.2
WTVZ	**West Tongariro**	**0.61**	**196**	PN	Pn	18 28 42.8	0.0
OTVZ	**Oturere**	**0.64**	**190**	PN	Pn	18 28 43.2	+0.1
COVZ	**Chateau Observ**	**0.70**	**197**	PN	Pn	18 28 43.5	+0.2
WPVZ	**Whakapapa**	**0.70**	**197**	PN	Pn	18 28 43.4	0.0
HIZ	**Hauiti**	**0.75**	**271**	⇑PN	Pn	18 28 43.6	+0.2
TUVZ	**Tukino**	**0.75**	**189**	⇑PN	Pn	18 28 43.9	+0.2
TUVZ				SN	Sn	18 29 03.1	-0.1
FWVZ	**Far West T-bar**	**0.75**	**195**	PN	Pn	18 28 43.7	-0.1
WHVZ	**Whangaehu Hut**	**0.77**	**193**	⇓PN	Pn	18 28 44.0	0.0
WNVZ	**Wahianoa**	**0.81**	**191**	⇑PN	Pn	18 28 44.3	+0.2
WNVZ				SN	Sn	18 29 03.8	-0.1
BKZ	**Black Stump Fm**	**0.83**	**140**	PN	Pn	18 28 44.2	+0.1
BKZ				SN	Sn	18 29 03.6	-0.2
BKZ				AML	AML	18 29 05.4	
PKVZ	**Pokaka**	**0.84**	**205**	⇑PN	Pn	18 28 44.2	0.0
MOVZ	**Moawhango**	**0.88**	**183**	⇑PN	Pn	18 28 44.2	-0.2
MOVZ				SN	Sn	18 29 03.3	-1.2
NMHZ	**Naumai**	**0.97**	**126**	PN	Pn	18 28 46.1	+1.1
NMHZ				SN	Sn	18 29 06.9	+1.3
BHHZ	**Black Hill Sta**	**0.98**	**168**	⇑PN	Pn	18 28 45.0	-0.1
BHHZ				SN	Sn	18 29 04.5	-1.3
VRZ	**Vera Road**	**1.01**	**234**	⇑PN	Pn	18 28 45.3	-0.1
URZ	**Urewera**	**1.06**	**76**	⇓PN	Pn	18 28 45.2	-0.5
URZ				AML	AML	18 29 06.4	
RAHZ	**Arahi**	**1.07**	**112**	PN	Pn	18 28 46.4	+0.6
MCHZ	**McNeill Hill**	**1.15**	**143**	⇑PN	Pn	18 28 47.2	+0.8
KRHZ	**Kereru**	**1.20**	**159**	⇑PN	Pn	18 28 46.9	0.0
MWZ	**Matawai**	**1.36**	**82**	⇓PN	Pn	18 28 48.1	-0.4
MWZ				SN	Sn	18 29 10.3	-1.1
MWZ				AML	AML	18 29 10.7	
WAZ	**Wanganui**	**1.38**	**207**	PN	Pn	18 28 48.1	-0.4
PNHZ	**Pukenui**	**1.42**	**168**	⇑PN	Pn	18 28 48.5	-0.4
LREZ	**Lake Rotokare**	**1.44**	**229**	PN	Pn	18 28 49.0	0.0
KAHZ	**Kahuranaki**	**1.51**	**147**	PN	Pn	18 28 50.0	+0.2
PREZ	**Palmer Road**	**1.52**	**237**	PN	Pn	18 28 49.6	-0.3
KNZ	**Kokohu**	**1.54**	**109**	⇓PN	Pn	18 28 50.1	+0.1
RIGZ	**Rimuhau**	**1.54**	**97**	PN	Pn	18 28 50.2	+0.1
PKE	**Pukeiti**	**1.57**	**244**	PN	Pn	18 28 49.9	-0.5
KHEZ	**Kahui Hut**	**1.59**	**241**	PN	Pn	18 28 50.2	-0.4
WPHZ	**Waipukurau**	**1.61**	**162**	PN	Pn	18 28 50.3	-0.4
PXZ	**Pawanui**	**1.71**	**152**	⇑PN	Pn	18 28 51.3	-0.5
PXZ				AML	AML	18 29 19.5	
PXZ				AML	AML	18 29 25.9	
HAZ	**Te Kaha**	**1.74**	**64**	PN	Pn	18 28 50.8	-1.2
DVHZ	**Dannevirke**	**1.79**	**171**	⇑PN	Pn	18 28 51.6	-1.1
POWZ	**Post Office Ro**	**1.86**	**181**	PN	Pn	18 28 52.1	-1.3
CNGZ	**Carnagh Statio**	**1.88**	**89**	PN	Pn	18 28 53.9	+0.3
PUZ	**Puketiti**	**1.98**	**77**	PN	Pn	18 28 54.0	-0.7
PUZ				AML	AML	18 29 31.4	
PRWZ	**Pori Road**	**2.03**	**176**	PN	Pn	18 28 54.0	-1.2
MRZ	**Mangatainoka R**	**2.14**	**185**	⇑PN	Pn	18 28 54.7	-1.7
MRZ				AML	AML	18 29 25.2	
MRZ				AML	AML	18 29 25.2	
WMGZ	**Waiomatatini S**	**2.17**	**72**	PN	Pn	18 28 56.0	-0.8
BFZ	**Birch Farm**	**2.18**	**171**	PN	Pn	18 28 55.3	-1.6
TIWZ	**Tintock**	**2.25**	**178**	PN	Pn	18 28 56.1	-1.6
TIWZ				AML	AML	18 29 28.3	
TIWZ				AML	AML	18 29 29.1	
OGWZ	**Otaki Gorge**	**2.34**	**192**	⇑PN	Pn	18 28 57.0	-1.7
HOWZ	**Holdsworth Sta**	**2.38**	**185**	PN	Pn	18 28 57.0	-2.2
KIWZ	**Kapiti Island**	**2.43**	**196**	PN	Pn	18 28 57.6	-2.2
TMWZ	**Te Maipa**	**2.58**	**179**	PN	Pn	18 28 59.2	-2.4
MTW	**Mount Morrison**	**2.64**	**185**	PN	Pn	18 28 59.7	-2.6
CAW	**Cannon Point**	**2.64**	**192**	PN	Pn	18 28 60.0	-2.3
CAW				AML	AML	18 29 34.8	
DUWZ	**D'Urville Isla**	**2.70**	**212**	PN	Pn	18 29 00.4	-2.6
PAWZ	**Paruwai Farm**	**2.87**	**186**	PN	Pn	18 29 02.2	-2.8
WEL	**Wellington**	**2.87**	**196**	PN	Pn	18 29 02.4	-2.6
TRWZ	**Traveller**	**2.87**	**182**	PN	Pn	18 29 02.4	-2.6
MSWZ	**Moikau Station**	**2.91**	**188**	PN	Pn	18 29 02.7	-2.9
MSWZ				AML	AML	18 29 39.9	
MSWZ				AML	AML	18 29 40.2	
TCW	**Tory Channel**	**2.93**	**203**	PN	Pn	18 29 03.1	-2.6
TCW				AML	AML	18 29 40.9	
TCW				AML	AML	18 29 41.0	
BHW	**Baring Head**	**2.96**	**194**	PN	Pn	18 29 03.4	-2.8
PLWZ	**Palliser**	**3.07**	**188**	PN	Pn	18 29 04.3	-3.2
TUWZ	**Tuamarina**	**3.23**	**206**	⇓PN	Pn	18 29 06.4	-3.2
NNZ	**Nelson**	**3.27**	**214**	⇓PN	Pn	18 29 06.7	-3.3
QRZ	**Quartz Range**	**3.42**	**227**	PN	Pn	18 29 07.7	-4.1
BSWZ	**Blackbirch Sta**	**3.51**	**204**	PN	Pn	18 29 10.0	-3.0
THZ	**Tophouse**	**3.92**	**214**	PN	Pn	18 29 14.6	-3.7
KHZ	**Kahutara**	**4.25**	**203**	⇑PN	Pn	18 29 19.1	-3.4
DSZ	**Denniston Nort**	**4.44**	**222**	PN	Pn	18 29 21.1	-4.0
LTZ	**Lake Taylor**	**5.03**	**211**	PN	Pn	18 29 28.0	-4.7
OXZ	**Oxford**	**5.58**	**210**	PN	Pn	18 29 34.1	-5.6
MQZ	**McQueen's Vall**	**5.70**	**204**	PN	Pn	18 29 35.9	-5.4
FOZ	**Fox Glacier**	**6.83**	**221**	PN	Pn	18 29 49.8	-6.4
ODZ	**Otahua Downs**	**7.57**	**209**	PN	Pn	18 30 00.9	-5.1
JCZ	**Jackson Bay**	**7.67**	**222**	PN	Pn	18 30 00.7	-6.8

IDC 06 18:36:42.5±1.2,14°47N×144°13E,h0km,mb3.3/5, mb1 3.6/5,mb1mx3.4/37,mbtmp3.3/5,MS3.4/1,Ms1 3.4/1, ms1mx2.7/19,Error ellipse: s-maj=39.9km s-min=24.0km az=96.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**21.99**	**76**	T	T	19 04 35.3	
	baz=262,slow=74						
H11S1	**WAKE ISLAND Hy**	**22.00**	**76**	T	T	19 04 35.3	
	baz=262,slow=74						
H11S2	**WAKE ISLAND Hy**	**22.00**	**76**	T	T	19 04 35.7	
	baz=262						
WRA	**Warramunga Arr**	**35.53**	**196**	P	P	18 43 41.5	+0.2
	0.5nm,0.8s,baz=17,slow=9.5,SNR=4.9						
WRA				LR	LR	18 59 55.4	
	comp=Z,48nm,18.0s,baz=210,slow=39						
ASAR	**Alice Springs**	**39.20**	**195**	P	P	18 44 12.0	-0.5
	0.2nm,0.7s,baz=17,slow=13,SNR=2.8						
CMAR	**Chiang Mai Arr**	**43.44**	**282**	P	P	18 44 47.9	+0.3
	0.4nm,0.9s,baz=72,slow=5.9,SNR=3.9						
MKAR	**Makanchi Array**	**60.37**	**316**	P	P	18 46 53.2	-0.3
	0.6nm,0.9s,baz=100,slow=6.0,SNR=3.3						
ILAR	**Eielson Array**	**68.08**	**26**	P	P	18 47 43.9	0.0
	0.4nm,0.9s,baz=252,slow=9.0,SNR=2.7						

*IDC **06** 18:42:50.2±0.6,35°08S×72°79W,h0km,mb4.4/11, mb1 4.4/15,mb1mx4.3/29,mbtmp4.3/15,ML4.2/4,MS4.3/15, Ms1 4.3/15,ms1mx4.1/32,Error ellipse: s-maj=20.4km s-min=16.0km az=87.0*

*ISCJB **06** 18:42:52.2±0.2,35°05S±0°03×72°69W±0°06,h18km, mb4.8/40,MS4.3/14,Error ellipse: s-maj=6.7km s-min=4.6km az=160.6*

*GUC **06** 18:42:52.4±0.6,34°96S×72°98W,h15km±9km,ML5.1*

*NEIC **06** 18:42:56.6±1.0,35°05S×72°65W,h44km±9km,mb4.9/30, Error ellipse: s-maj=9.7km s-min=6.2km az=82.0*

NEIC Felt at Rancagua, San Antonio and Santiago.

*BJI **06** 18:42:58.2,34°60S×72°30W,h39km,mB5.0/7,Ms5.2/8, Ms7 4.9/7*

ISC 06 18:42:53.7±0.4,35°00S±0°05×72°59W±0°07,h18km,n407, σ1°13/401,mb4.8/40,MS4.2/14,157C-147D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.11**	**91**	*e*P	**Pg**	**18 43 15.7**	**+0.5**
NICH				*i* S4	Sg	18 43 36.1	+6.3
COCH	**Cobquecura**	**1.15**	**188**	⇑*e*P	Pn	18 43 11.2	-3.7
COCH				*i* S	**Sb**	**18 43 25.9**	**-3.6**
LNCH	**Linares**	**1.17**	**137**	⇑*i*P	**Pg**	**18 43 16.5**	**+0.1**
LNCH				*i* S	**Sg**	**18 43 34.1**	**+2.4**
LNV	**Longovilo**	**1.42**	**43**	⇑*i*P	**Pn**	**18 43 18.6**	**0.0**
ANTU	**Antumapu**	**2.15**	**49**	AML	AML	18 44 15.5	
	comp=N,7μm,0.7s						
CLCH	**Cerro Calan**	**2.33**	**47**	*e*P4	Pn	18 43 34.4	+3.2
CLCH				AML	AML	18 44 21.2	
	comp=N,11μm,0.9s						
CLCH				AML	AML	18 44 21.7	
	comp=N,13μm,0.6s						
PEL	**Peldehue**	**2.43**	**41**	AML	AML	18 44 22.5	
	comp=N,12μm,0.7s						
CFAA	**Coronel Fontan**	**4.97**	**48**	Pn	**Pn**	**18 44 10.3**	**+2.9**
	comp=N,1.6nm,0.3s,baz=224,slow=8.2,SNR=44						
CFAA				Lg	Lg	18 45 24.4	
	comp=N,1.0nm,0.3s,baz=255,slow=13,SNR=4.0						
PLCA	**Paso Flores**	**5.95**	**165**	Pn	**Pn**	**18 44 20.6**	**-0.4**
	comp=N,3.1nm,0.3s,baz=332,slow=10,SNR=83						
PLCA				Lg	Lg	18 45 53.6	
	comp=N,3.7nm,0.3s,baz=287,slow=22,SNR=3.2						
TRQA	**Tornquist**	**9.07**	**113**	*e*Pn	**Pn**	**18 45 06.1**	**+2.4**
LVC	**Limon Verde**	**12.75**	**16**	*e*Pn	Pn	18 45 50.1	-4.3
CPUP	**Villa Florida**	**15.70**	**61**	Pn	**P**	**18 46 36.8**	**-1.1**
	comp=N,0.4nm,0.3s,baz=221,slow=13,SNR=3.5						
CPUP				Lg	Lg	18 51 03.9	
	comp=N,0.2nm,0.3s,baz=336,slow=9.0,SNR=2.9						
CPUP				LR	LR	18 52 53.6	
	comp=N,408nm,21.2s,baz=225,slow=38						
CPUP	**Villa Florida**	**15.70**	**61**	Pn	**Pn**	**18 46 30.3**	**-3.7**
CPUP				Lg	Lg	18 51 03.9	
LPAZ	**La Paz**	**19.05**	**13**	P	**Pn**	**18 47 18.5**	**+2.0**
	comp=N,1.5nm,0.3s,baz=186,slow=7.5,SNR=76						
LPAZ	**La Paz**	**19.05**	**13**	*e*P	**Pn**	**18 47 18.1**	**+1.6**
	comp=N,28nm,0.8s						
EFI	**East Falkland**	**19.67**	**152**	P	Pn	18 47 28.4	+5.4
USHA	**Ushuaia**	**20.05**	**173**	P	**P**	**18 47 25.2**	**-0.4**
	comp=N,0.2nm,0.3s,baz=295,slow=4.2,SNR=6.0						
USHA				LR	LR	18 55 19.1	
	comp=N,877nm,19.8s,baz=326,slow=38						
SIV	**San Ignacio**	**21.56**	**31**	P	**P**	**18 47 43.1**	**+0.8**
	comp=N,31nm,0.7s,baz=224,slow=9.7,SNR=67						
SIV				LR	LR	18 57 48.2	
	comp=N,2μm,18.5s,baz=217,slow=41						
NNA	**Nana**	**23.23**	**349**	LR	LR	18 54 56.8	
	comp=N,408nm,20.3s,baz=192,slow=31						
SAML	**Samuel**	**27.32**	**21**	*e*P	**P**	**18 48 36.9**	**-0.6**
	comp=N,9.3nm,1.0s						
ATAH	**Atahualpa**	**28.24**	**348**	P	**P**	**18 48 47.1**	**+0.9**
	comp=N,3.4nm,0.7s,baz=156,slow=6.3,SNR=6.1						
ATAH				LR	LR	18 58 24.4	
	comp=N,275nm,18.2s,baz=199,slow=33						
BDFB	**Brasilia**	**29.27**	**55**	P	**P**	**18 48 55.0**	**-0.1**
	comp=N,5.6nm,0.9s,baz=221,slow=8.8,SNR=5.4						
BDFB				LR	LR	19 02 04.7	
	comp=N,1μm,18.4s,baz=227,slow=39						
PMSA	**Palmer Station**	**30.26**	**173**	LR	LR	19 00 45.6	
	comp=N,932nm,19.2s,baz=318,slow=36						
RPN	**Rapa Nui**	**32.30**	**274**	LR	LR	18 58 60.0	
	comp=N,308nm,18.1s,baz=75,slow=30						
OTAV	**Otavalo**	**35.48**	**350**	*e*P	**P**	**18 49 50.8**	**+1.0**
ROSC	**El Rosal**	**39.67**	**357**	LR	LR	19 06 28.1	
	comp=N,184nm,20.5s,baz=270,slow=36						
SDV	**Santo Domingo**	**43.68**	**3**	*e*P	**P**	**18 50 57.0**	**-0.8**
	comp=N,15nm,0.9s						
RCBR	**Riachuelo**	**44.55**	**58**	LR	LR	19 10 57.2	
	comp=N,1μm,18.3s,baz=210,slow=38						
RCBR	**Riachuelo**	**44.55**	**58**	P	**P**	**18 51 03.5**	**-1.2**
VNA3	**Neumayer Olymp**	**48.61**	**157**	P	P	18 51 44.1	+8.2
VNA2	**Neumayer--Watz**	**49.27**	**157**	P	P	18 51 49.0	+8.1
FDF	**Fort de France**	**50.63**	**14**	*e*P	**P**	**18 51 50.2**	**-1.6**
	comp=N,62nm,1.1s						
SNAA	**Sanae**	**50.84**	**157**	P	P	18 51 59.5	+6.6
SNAA	**Sanae**	**50.84**	**157**	*e*P	P	18 51 58.3	+5.5
	comp=N,21nm,1.1s						
CELP	**Cerrillos**	**53.08**	**7**	*e*P	**P**	**18 52 09.4**	**-0.6**
SDDR	**Presa de Saban**	**53.69**	**2**	P	**P**	**18 52 12.5**	**-2.0**
QSPA	**South Pole Qui**	**55.24**	**180**	P	**P**	**18 52 24.8**	**-0.7**
	comp=N,2.2nm,1.0s,baz=353,slow=0.7,SNR=4.7						
CMIG	**Matias Romero**	**55.96**	**334**	LR	LR	19 11 26.6	
	comp=N,111nm,18.6s,baz=176,slow=31						
035A	**Encino**	**66.16**	**335**	⇑P	**P**	**18 53 41.3**	**+1.3**
	baz=66						
936A	**North Padre Is**	**66.34**	**336**	⇓P	**P**	**18 53 42.0**	**+0.9**
	baz=67						
034A	**Hebbronville**	**66.48**	**335**	⇑P	**P**	**18 53 43.0**	**+0.9**
	baz=67						
835A	**Beeville**	**67.31**	**336**	⇑P	**P**	**18 53 48.0**	**+0.7**
	baz=68						
834A	**Tilden**	**67.41**	**335**	⇑P	**P**	**18 53 49.6**	**+1.6**
	baz=68						
735A	**Kenedy**	**67.83**	**336**	⇓P	**P**	**18 53 51.6**	**+1.0**
	baz=68						
833A	**Chaparral WMA,**	**67.88**	**335**	⇑P	**P**	**18 53 51.7**	**+0.7**
	baz=68						
832A	**Faith Ranch, C**	**68.05**	**334**	⇓P	**P**	**18 53 52.7**	**+0.6**
	baz=68						
734A	**La Parita Cree**	**68.07**	**336**	⇓P	**P**	**18 53 52.8**	**+0.6**
	baz=68						
636A	**Smothers Creek**	**68.16**	**337**	⇓P	**P**	**18 53 53.5**	**+0.8**
	baz=68						
733A	**Divot King Ran**	**68.21**	**335**	⇑P	**P**	**18 53 54.0**	**+1.0**
	baz=68						
635A	**Leesville**	**68.31**	**336**	⇑P	**P**	**18 53 55.1**	**+1.4**
	baz=69						
538A	**Harpers Horsep**	**68.37**	**339**	⇓P	**P**	**18 53 55.2**	**+1.2**
	baz=69						
732A	**Laxson Ranch,**	**68.45**	**334**	⇓P	**P**	**18 53 54.8**	**+0.2**
	baz=69,SNR=7.6						
536A	**Bastrop**	**68.71**	**337**	⇑P	**P**	**18 53 57.5**	**+1.3**
	baz=69						
535A	**Dale**	**68.83**	**337**	⇑P	**P**	**18 53 57.9**	**+1.0**
	baz=69						
438A	**Sam Houston St**	**68.86**	**339**	⇑P	**P**	**18 53 58.4**	**+1.3**
	baz=69						
340A	**Bronson**	**69.03**	**341**	⇑P	**P**	**18 53 58.8**	**+0.7**
	baz=69						
632A	**Uvalde**	**69.10**	**335**	⇑P	**P**	**18 53 59.1**	**+0.5**
	baz=69						
631A	**Perdido Creek**	**69.29**	**334**	⇓P	**P**	**18 53 59.8**	**0.0**
	baz=70						
533A	**Kerrville**	**69.36**	**336**	⇓P	**P**	**18 54 00.5**	**+0.3**
	baz=70						
338A	**Crockett**	**69.38**	**339**	⇓P	**P**	**18 54 01.1**	**+0.8**
	baz=70						
337A	**Centerville**	**69.51**	**339**	⇑P	**P**	**18 54 02.0**	**+0.9**
	baz=70						
532A	**Rocksprings**	**69.71**	**335**	⇑P	**P**	**18 54 02.7**	**+0.3**
	baz=70,SNR=9.8						
434A	**Burnet**	**69.78**	**337**	⇓P	**P**	**18 54 03.0**	**+0.2**
	baz=70						
238A	**Jacksonville**	**69.93**	**340**	⇑P	**P**	**18 54 04.6**	**+1.0**
	baz=70						
335A	**Moody**	**69.95**	**337**	⇑P	**P**	**18 54 04.0**	**+0.2**
	baz=70						
531A	**Rocksprings**	**69.97**	**334**	⇓P	**P**	**18 54 04.5**	**+0.5**
	baz=70,SNR=6.1						
JCT	**Junction City**	**69.99**	**335**	⇑P	**P**	**18 54 04.4**	**+0.3**
	baz=70						
JCT	**Junction City**	**69.99**	**335**	*e*P	**P**	**18 54 03.2**	**-0.9**
	comp=N,8.6nm,0.8s						
433A	**Art**	**70.00**	**336**	⇓P	**P**	**18 54 04.6**	**+0.4**
	baz=70,SNR=5.3						
237A	**Washetta, Mont**	**70.13**	**339**	⇓P	**P**	**18 54 05.4**	**+0.6**
	baz=70						
530A	**J-C Ranch, Com**	**70.23**	**334**	⇓P	**P**	**18 54 05.8**	**+0.1**
	baz=71						
334A	**Lometa**	**70.25**	**337**	⇑P	**P**	**18 54 05.5**	**-0.2**
	baz=71						
KMSC	**Kings Mountain**	**70.25**	**352**	⇑P	**P**	**18 54 05.6**	**0.0**
	baz=71						
432A	**Menard**	**70.35**	**335**	⇓P	**P**	**18 54 05.5**	**-0.8**
	baz=71						
TXAR	**Lajitas Array**	**70.39**	**331**	P	**P**	**18 54 06.3**	**-0.3**
	comp=N,1.9nm,0.7s,baz=154,slow=7.9,SNR=22						
TXAR				LR	LR	19 20 15.4	
	comp=N,88nm,18.1s,baz=0.0,slow=32						
TX31	**Lajitas Ar. Si**	**70.39**	**331**	*e*P	**P**	**18 54 05.8**	**-0.8**
431A	**Sonora**	**70.46**	**335**	⇓P	**P**	**18 54 06.5**	**-0.5**
	baz=71						
333A	**Richland Sprin**	**70.49**	**336**	⇓P	**P**	**18 54 06.9**	**-0.3**
	baz=71,SNR=5.7						
138A	**Matatall Enter**	**70.54**	**340**	⇑P	**P**	**18 54 08.1**	**+0.8**
	baz=71						
529A	**Stev Forest Ra**	**70.54**	**333**	⇓P	**P**	**18 54 07.9**	**+0.4**
	baz=71						
WHTX	**Lake Whitney,**	**70.61**	**338**	⇓P	**P**	**18 54 08.0**	**+0.2**
	baz=71						
137A	**Heron Place, G**	**70.67**	**339**	⇑P	**P**	**18 54 08.8**	**+0.7**
	baz=71						
430A	**Baggett Ranch,**	**70.78**	**334**	⇑P	**P**	**18 54 09.4**	**+0.4**
	baz=71						
332A	**Millersview**	**70.80**	**336**	⇓P	**P**	**18 54 09.6**	**+0.5**
	baz=71						
234A	**Clairette**	**70.84**	**337**	⇓P	**P**	**18 54 09.1**	**-0.2**
	baz=71						
429A	**Davenport Ranc**	**70.87**	**333**	⇓P	**P**	**18 54 09.7**	**+0.2**
	baz=71						
CPCT	**Cooper Cave**	**70.96**	**350**	*e*P	**P**	**18 54 11.5**	**+1.6**
331A	**San Angelo**	**70.97**	**335**	⇓P	**P**	**18 54 10.0**	**-0.1**
	baz=71,SNR=5.1						
233A	**Rising Star**	**71.10**	**337**	⇑P	**P**	**18 54 10.8**	**-0.1**
	baz=72						
232A	**Coleman**	**71.23**	**336**	⇓P	**P**	**18 54 11.2**	**-0.5**
	baz=72,SNR=5.4						
330A	**Mertzon**	**71.32**	**334**	⇓P	**P**	**18

baz=75
V33A Lossen Ranch, 74.42 339 ⇑P P 18 54 30.7 +0.2
baz=75
X28A Dimmitt 74.50 335 ⇑P P 18 54 31.7 +0.6
baz=75
319A Douglas 74.50 328 ⇓P P 18 54 31.5 +0.4
baz=75
Y26A Elida 74.54 333 ⇑P P 18 54 32.1 +0.7
baz=75
V32A Arapaho 74.56 338 ⇓P P 18 54 32.1 +0.8
baz=75
Z24A Sheeppen Canyo 74.59 332 ⇑P P 18 54 32.4 +0.6
baz=75
AMTX Amarillo 74.65 336 ⇓P P 18 54 32.0 +0.1
baz=75
AMTX Amarillo 74.65 336 eP P 18 54 31.6 -0.3
comp=N,16nm,1.0s
U34A Anderson Ranch 74.77 339 ⇑P P 18 54 32.9 +0.4
baz=75
W29A Amarillo 74.85 336 ⇑P P 18 54 33.2 +0.1
baz=75
V31A Spring Creek L 74.86 337 ⇓P P 18 54 33.7 +0.6
baz=75
121A Cookes Peak, D 74.86 330 ⇓P P 18 54 34.0 +0.7
baz=75
Y25A Mesa, Roswell 74.86 333 ⇓P P 18 54 33.4 +0.1
baz=75
X27A F and S Farms, 74.93 334 ⇑P P 18 54 34.3 +0.7
baz=75
U33A Lingo Farm, Me 74.94 339 ⇓P P 18 54 34.1 +0.7
baz=75
X26A CR and CF Fran 75.10 334 ⇑P P 18 54 35.0 +0.4
baz=75
V30A Spur Ranch, Mi 75.12 337 ⇓P P 18 54 35.4 +0.8
baz=76
Y24A Capitan 75.15 332 ⇑P P 18 54 35.3 +0.4
baz=76
U32A Winter Ranch, 75.15 338 ⇑P P 18 54 35.2 +0.5
baz=76
Z22A Elephant Butte 75.16 331 ⇓P P 18 54 35.5 +0.5
baz=76
W28A Vega 75.17 335 ⇓P P 18 54 35.3 +0.4
baz=76
W27A Bowe Ranch, En 75.29 335 ⇓P P 18 54 35.7 0.0
baz=76
X25A Clemmons Ranch 75.39 333 ⇑P P 18 54 36.0 -0.3
baz=76
Y23A Lovelace Mesa, 75.39 332 ⇑P P 18 54 36.9 +0.6
baz=76
U31A Nine Bar Ranch 75.41 338 ⇓P P 18 54 36.8 +0.5
baz=76
ACSO Alum Creek Sta 75.47 352 eP P 18 54 35.0 -1.4
comp=N,16nm,0.8s
V29A Stinnett 75.49 336 ⇓P P 18 54 37.4 +0.6
baz=76
W26A Owens Ranch, T 75.56 334 ⇑P P 18 54 37.6 +0.3
baz=76
T33A Patterson Ranc 75.58 339 ⇑P P 18 54 37.8 +0.7
baz=76
V28A Channing 75.62 335 ⇑P P 18 54 38.4 +0.9
baz=76
U30A WK&E Inc. Balk 75.81 337 ⇑P P 18 54 39.2 +0.6
baz=76
V27A Dan Oppiter Fa 75.84 335 ⇑P P 18 54 39.1 +0.4
baz=76
T32A Huddler Ranch, 75.87 339 ⇓P P 18 54 39.5 +0.7
baz=76
DBIC Dimbokro 75.92 71 P P 18 54 40.5 +0.8
comp=N,6.3nm,0.8s,baz=232,slow=8.8,SNR=5.3
DBIC LR LR 19 25 57.9
comp=N,156nm,18.8s,baz=214,slow=34
DBIC Dimbokro 75.92 71 eP P 18 54 40.1 +0.4
comp=N,11nm,0.9s
W25A X Bar L Ranch, 75.93 334 ⇓P P 18 54 39.5 +0.1
baz=76
U29A Oasis Ranch, S 75.94 336 ⇑P P 18 54 39.3 0.0
baz=76
S33A Kaszmaul Farm, 75.98 339 ⇓P P 18 54 39.9 +0.5
baz=76
X23A Hourglass Bar 76.02 332 ⇓P P 18 54 40.7 +0.8
baz=76
T31A Randall Ranch, 76.02 338 ⇓P P 18 54 40.0 +0.3
baz=76
SFIN Lafayette 76.19 349 ⇑P P 18 54 41.4 +0.9
baz=77
U28A Mallet 76.19 336 ⇓P P 18 54 41.6 +0.8
baz=76
V26A Tequesquite Ra 76.20 334 ⇓P P 18 54 41.2 +0.3
baz=77
T30A Plains 76.25 337 ⇑P P 18 54 41.7 +0.6
baz=77
W24A Lazy 6 Ranch, 76.28 333 ⇓P P 18 54 42.0 +0.6
baz=77
S32A Newby Ranch, P 76.36 339 ⇓P P 18 54 41.9 +0.3
baz=77
U27A Thompson Grove 76.43 335 ⇓P P 18 54 42.4 +0.3
baz=77
ANMO Albuquerque 76.44 332 eP P 18 54 42.4 0.0
comp=N,6.3nm,1.0s
S31A Mullinville 76.45 338 ⇓P P 18 54 42.3 +0.2
baz=77
W23A Werner Place, 76.51 332 ⇓P P 18 54 43.2 +0.5
baz=77
V25A Rancho No Teng 76.54 334 ⇑P P 18 54 43.0 +0.1
baz=77
214A Organ Pipe Nat 76.58 326 ⇑P P 18 54 43.6 +0.6
baz=77
T29A Hugoton 76.59 337 ⇓P P 18 54 43.9 +0.9
baz=77
V24A Rampart Ranch, 76.68 333 ⇑P P 18 54 43.9 +0.1
baz=77
U26A Atchley Ranch, 76.73 335 ⇑P P 18 54 44.1 +0.2
baz=77
S30A Montezuma 76.77 338 ⇓P P 18 54 44.1 +0.1
baz=77
T28A Walsh 76.83 336 ⇑P P 18 54 44.3 0.0
baz=77,SNR=5.7
S29A Ulysses 76.95 337 ⇓P P 18 54 45.3 +0.2
baz=77
R32A Long Quarter, 76.96 339 ⇓P P 18 54 45.1 +0.1
baz=77
U25A Circle Dot Ran 76.97 334 ⇑P P 18 54 45.5 +0.2
baz=77
T27A Campo 76.97 336 ⇑P P 18 54 45.5 +0.3
baz=77,SNR=5.1
KSU1 Kansas State U 77.00 341 ⇓P P 18 54 45.9 +0.7
baz=77
V23A Ortiz Mt. (NFS 77.04 332 ⇓P P 18 54 46.2 +0.5
baz=77
R31A Burdett 77.08 339 ⇑P P 18 54 46.3 +0.7
baz=78
S28A Manter 77.18 336 ⇑P P 18 54 46.5 +0.2
baz=78
Q33A Connelly Farm, 77.24 340 ⇑P P 18 54 47.0 +0.5
baz=78
U24A Moreno Valley 77.29 333 ⇓P P 18 54 46.9 -0.3
baz=78
R30A Dighton 77.30 338 ⇑P P 18 54 47.4 +0.5
baz=78
T26A Comanche Natio 77.38 335 ⇑P P 18 54 47.7 +0.1
baz=78
Q32A Meitler Ranch, 77.44 340 ⇑P P 18 54 48.1 +0.4
baz=78
V22A San Miguel Ran 77.47 332 ⇓P P 18 54 49.2 +1.1
baz=78
X18A Snowflake 77.49 329 ⇓P P 18 54 49.2 +0.9
baz=78
U23A El Rito 77.56 333 ⇑P P 18 54 49.7 +1.1
baz=78
S27A Las Animas 77.60 336 ⇑P P 18 54 49.6 +0.9
baz=78
P33A Williams Farm, 77.61 340 ⇑P P 18 54 49.4 +0.8
baz=78
T25A Trinidad 77.63 334 ⇓P P 18 54 50.0 +1.0
baz=78,SNR=8.3
R29A Marienthal 77.70 337 ⇑P P 18 54 49.4 +0.2
baz=78
113A Mohawk Valley, 77.70 325 ⇓P P 18 54 50.1 +0.9
baz=78
Q31A Ellis 77.70 339 ⇓P P 18 54 49.8 +0.7
baz=78
S26A Kim 77.74 335 ⇑P P 18 54 50.0 +0.5
baz=78,SNR=8.9
Z14A Wintersburg 77.82 326 ⇑P P 18 54 50.6 +0.8
baz=78
R28A Tribune 77.84 337 ⇓P P 18 54 50.1 +0.1
baz=78,SNR=5.5
U22A Llaves 77.85 332 ⇑P P 18 54 51.1 +0.8
baz=78
W18A Petrified Fore 77.91 330 ⇑P P 18 54 51.1 +0.5
baz=78
T24B San Luis 77.91 334 ⇑P P 18 54 51.1 +0.4
baz=78
Q30A Quinter 77.92 338 ⇓P P 18 54 51.2 +0.8
baz=78
X16A Lo Mia Camp, P 78.03 328 ⇓P P 18 54 51.8 +0.5
baz=78
P32A Huiting Farm, 78.04 340 ⇓P P 18 54 51.6 +0.6
baz=78
Q29A Oakley 78.07 338 ⇓P P 18 54 52.3 +1.1
baz=78
S25A Robets Cordova 78.11 335 ⇑P P 18 54 52.3 +0.7
baz=78
R27A Eads 78.11 336 ⇑P P 18 54 52.2 +0.7
baz=78
T23A Casias Ranch, 78.13 333 ⇑P P 18 54 52.2 +0.3
baz=79
P31A Stockton 78.17 339 ⇓P P 18 54 52.5 +0.8
baz=78
Y14A Wickenburg 78.32 327 ⇑P P 18 54 53.9 +1.1
baz=79
R26A Arlington 78.34 336 ⇓P P 18 54 53.4 +0.6
baz=79,SNR=5.8
S24A Houchin Ranch, 78.36 334 ⇑P P 18 54 53.9 +0.7
baz=79
GLA Glamis 78.43 325 ⇓P P 18 54 54.2 +0.8
baz=79
R25A Fountain Ranch 78.49 335 ⇑P P 18 54 54.1 +0.5
baz=79
O32A Brockman Farm, 78.54 340 ⇓P P 18 54 54.3 +0.5
baz=79
SDCO Great Sand Dun 78.56 334 eP P 18 54 54.0 -0.2
comp=N,3.8nm,1.1s
S23A Nye Farm, Mont 78.71 334 ⇓P P 18 54 55.6 +0.6
baz=79
KSCO Kaye Shedlock' 78.71 337 ⇓P P 18 54 54.9 +0.1
baz=79
P29A Atwood 78.71 338 ⇓P P 18 54 55.3 +0.6
baz=79
O31A Woolen Ranch, 78.74 339 ⇓P P 18 54 55.9 +1.0
baz=79
R24A Sanders Place, 78.85 334 ⇓P P 18 54 56.5 +0.7
baz=79,SNR=7.0
Y12C Blythe 78.86 325 ⇓P P 18 54 56.7 +1.0
baz=79
Q26A Hugo 78.92 336 ⇓P P 18 54 57.4 +1.3
baz=79
WUAZ Wupatki 78.94 329 ⇑P P 18 54 57.0 +0.8
baz=79
WUAZ Wupatki 78.94 329 eP P 18 54 56.3 0.0
comp=N,7.2nm,1.1s
P28A Saint Francis 78.94 337 ⇑P P 18 54 56.3 +0.2
baz=79
O30A MW Ranch, Wils 78.98 339 ⇓P P 18 54 56.9 +0.7
baz=79
N32A Stulken Farm, 79.02 340 ⇑P P 18 54 57.2 +0.8
baz=79
S22A 4UR Ranch, Cre 79.05 333 ⇑P P 18 54 57.6 +0.6
baz=79
MONP Monument Peak, 79.06 324 ⇓P P 18 54 57.8 +0.7
baz=79
R23A Moffat 79.07 334 ⇓P P 18 54 57.5 +0.4
baz=79
PDMCI Parker Dam,Lak 79.14 326 ⇑P P 18 54 57.9 +0.7
baz=80
O29A 4D Ranch, Culb 79.15 338 ⇑P P 18 54 58.1 +1.0
baz=80
Q25A Bedland, Calha 79.16 335 ⇓P P 18 54 58.0 +0.5
baz=80
JFWS Jewell Farm 79.20 347 eP P 18 54 55.8 -1.5
comp=N,11nm,1.1s
MVCO Mesa Verde 79.22 332 ⇓P P 18 54 58.6 +0.8
baz=80
MVCO Mesa Verde 79.22 332 eP P 18 54 57.7 -0.1
comp=N,85nm,2.9s
BC3 Big Chuckawall 79.22 325 ⇓P P 18 54 58.4 +0.7
baz=80
N31A Bailey Ranch, 79.25 340 ⇑P P 18 54 58.3 +0.6
baz=80
P26A Davis Ranch, A 79.44 336 ⇑P P 18 54 59.9 +1.0
baz=80
O28A Krutsinger Ran 79.45 338 ⇑P P 18 54 59.6 +0.8
baz=80
IRM Iron Mountain 79.50 325 ⇑P P 18 55 00.3 +1.1
baz=80
Q24A Divide 79.52 335 ⇑P P 18 54 59.9 +0.4
baz=80
N30A Hueftle Ranch, 79.56 339 ⇓P P 18 55 00.4 +1.0
baz=80
BGNE Belgrade 79.58 341 ⇓P P 18 55 00.0 +0.6
baz=80
PFO Pinyon Flats O 79.67 324 P P 18 54 59.8 -0.4
baz=194,slow=8.3
PFO Pinyon Flats O 79.67 324 ⇓P P 18 55 01.0 +0.8
baz=80
P25A Willow Gulch B 79.67 336 ⇓P P 18 55 00.8 +0.7
baz=80,SNR=5.1
W13A Hualapai Mount 79.69 327 ⇑P P 18 55 01.3 +0.9
baz=80
O27A Beecher Island 79.73 337 ⇓P P 18 55 01.2 +0.8
baz=80
N29A Votaw Ranch, W 79.73 339 ⇓P P 18 55 00.7 +0.4
baz=80
M31A Lambtecht Ranc 79.74 340 ⇓P P 18 55 01.0 +0.7
baz=80
BELC Belle Mtn. Jos 79.77 325 ⇑P P 18 55 01.7 +0.9
baz=80
N28A Pribbeno Ranch 79.89 338 ⇓P P 18 55 01.9 +0.7
baz=80
PKME Peaks-Kenny Pk 79.94 2 eP P 18 54 56.7 -4.5
comp=N,269nm,2.3s
BOSA Boshof 80.01 118 P P 18 55 01.7 -0.7
comp=N,5.8nm,0.9s,baz=269,slow=3.2,SNR=8.2
O26A Horse Wrangler 80.05 337 ⇓P P 18 55 02.5 +0.4
baz=80
PV01 Paradox Valley 80.05 332 eP P 18 55 03.0 +0.7
U15A North Rim 80.10 328 ⇓P P 18 55 03.8 +1.1
baz=80
M30A Dale-Ortello V 80.18 340 ⇑P P 18 55 03.6 +0.9
baz=81
O25A Wiggins 80.20 336 ⇑P P 18 55 04.0 +1.0
baz=81
OGNE Ogallala 80.28 338 ⇑P P 18 55 04.9 +1.6
baz=81
N27A Anderson Farm, 80.31 337 ⇑P P 18 55 04.2 +0.7
baz=81
M29A Burnside Ranch 80.33 339 ⇓P P 18 55 04.3 +0.8
baz=81
SMCO Snowmass 80.36 334 eP P 18 55 04.2 0.0
comp=N,26nm,1.8s
ISCO Idaho Springs 80.43 335 ⇓P P 18 55 04.8 +0.4
baz=81
L31A Butterfield Fa 80.48 341 ⇓P P 18 55 04.9 +0.6
baz=81
L30A Spencer Herefo 80.51 340 ⇓P P 18 55 05.1 +0.6
baz=81
HEC Hector,Ludlow 80.60 325 ⇑P P 18 55 05.6 +0.4
baz=81
KNB Kanab 80.83 328 eP P 18 55 06.8 +0.3
comp=N,10nm,1.0s
L29A Maesberg Ranch 80.84 339 ⇑P P 18 55 06.9 +0.7
baz=81
O23A Lake Granby, G 80.90 335 ⇑P P 18 55 07.7 +0.8
baz=81,SNR=5.7
M27A Reverse DX Ran 80.92 338 ⇓P P 18 55 07.8 +1.1
baz=81
O22A Kremmling 81.08 334 ⇑P P 18 55 08.5 +0.6
baz=81,SNR=5.5
K30A Basset 81.15 340 ⇑P P 18 55 08.8 +0.9
baz=82
ECSD EROS Data Cent 81.36 343 ⇓P P 18 55 08.8 0.0
baz=82
ECSD EROS Data Cent 81.36 343 eP P 18 55 07.8 -1.1
comp=N,274nm,2.9s
CCUT Cedar City 81.51 328 eP P 18 55 10.8 +0.6
comp=N,4.1nm,0.9s
N23A Red Feather La 81.52 335 ⇓P P 18 55 10.7 +0.6
baz=82
N22A Wattenberg Ran 81.61 335 ⇑P P 18 55 11.7 +1.1
baz=82
SRU San Rafael Swe 81.66 331 eP P 18 55 10.9 +0.1
comp=N,12nm,0.4s
K28A Ten Mile Ranch 81.69 339 ⇑P P 18 55 12.0 +1.2
baz=82
LRMC Laurel Mtn Rad 81.77 324 ⇑P P 18 55 12.0 +0.6
baz=82
J29A Okreek 82.03 340 ⇑P P 18 55 13.1 +0.7
baz=82
K26A Motz Farm, Whi 82.23 338 ⇓P P 18 55 13.9 +0.3
baz=83
I30A Oacoma 82.25 341 ⇑P P 18 55 13.7 +0.1
baz=83
N20A Spence Gulch, 82.29 333 ⇓P P 18 55 14.9 +0.7
baz=83
LBTB Lobatse 82.30 115 eP P 18 55 14.6 -0.1
comp=N,6.9nm,0.9s
J28A Allard Ranch, 82.31 339 ⇑P P 18 55 15.0 +1.0
baz=83
L23A Garrett 82.52 336 ⇑P P 18 55 15.6 +0.3
baz=83
J26A Sides Ranch, S 82.75 338 ⇑P P 18 55 16.7 +0.4
baz=83
I28A Midland 82.81 340 ⇓P P 18 55 16.9 +0.4
baz=83
GRAC Grapevine Rang 82.85 325 ⇑P P 18 55 17.6 +0.6
baz=83
K23A Bowen Ranch, D 83.06 336 ⇓P P 18 55 18.6 +0.5
baz=83
H29A Onida 83.12 341 ⇑P P 18 55 18.1 0.0
baz=84
R11A Troy Canyon, C 83.14 327 ⇑P P 18 55 19.2 +0.6
baz=84
J24A Dixon Ranch, L 83.27 337 ⇑P P 18 55 19.4 +0.4
baz=84
K22A Casper 83.28 335 ⇑P P 18 55 19.4 +0.3
baz=84
H28A Mission Ridge 83.39 340 ⇑P P 18 55 19.8 +0.3
baz=84
DUG Dugway, Tooele 83.50 330 ⇑P P 18 55 21.2 +0.9
baz=84
DUG Dugway, Tooele 83.50 330 eP P 18 55 20.3 0.0
comp=N,19nm,0.6s
K21A Alcova 83.51 335 ⇑P P 18 55 20.5 +0.1
baz=84,SNR=5.1
I25A Rochford 83.59 338 ⇓P P 18 55 21.2 +0.4
baz=84
H27A Howes 83.66 339 ⇓P P 18 55 20.5 -0.4
baz=84
TPH Tonopah 83.66 326 eP P 18 55 21.9 +0.7
comp=N,10nm,1.3s
G28A Parade 83.73 340 ⇓P P 18 55 21.8 +0.6
baz=84
F30A Leola 83.93 342 ⇓P P 18 55 22.4 +0.2
baz=84
J22A Midwest 83.94 336 ⇑P P 18 55 21.7 -0.8
baz=84
F29A Eureka 84.14 341 ⇑P P 18 55 23.5 +0.2
baz=84
J21A Lysite 84.20 335 ⇑P P 18 55 24.2 +0.3
baz=85
G27A Dupree 84.30 340 ⇓P P 18 55 23.9 -0.3
baz=85
I22A 9 Mile Ranch, 84.36 336 ⇓P P 18 55 23.8 -0.9
baz=85
J20A Shoshoni 84.43 335 ⇑P P 18 55 25.6 +0.5
baz=85
NVAR Mina Array Bea 84.44 326 P P 18 55 25.6 +0.3
comp=N,0.4nm,0.4s,baz=140,slow=4.1,SNR=6.4
PDAR Pinedale Array 84.45 334 P P 18 55 24.1 -1.1
comp=N,0.7nm,0.9s,baz=160,slow=4.7,SNR=4.6
H24A Dirks Ranch, A 84.50 338 ⇑P P 18 55 25.0 -0.3
baz=85
G25A Newell 84.56 339 ⇑P P 18 55 25.2 -0.3
baz=85
I21A Big Trails, Te 84.56 336 ⇑P P 18 55 25.4 -0.3
baz=85
J19A Crowheart 84.70 334 ⇑P P 18 55 26.5 +0.1
baz=85
HVU Hansel Valley 84.83 331 eP P 18 55 26.3 -0.8
comp=N,21nm,0.8s
RAO Raoul Island 84.96 238 P P 18 55 26.5 -1.6
comp=N,368nm,0.3s,baz=34,slow=18,SNR=3.3
I20A Worland 84.97 335 ⇑P P 18 55 27.6 -0.1
baz=85,SNR=5.2
TOA0 Torodi Ar. Sit 84.97 70 eP P 18 55 28.4 +0.1
TORD Torodi Ar. Bea 84.97 70 P P 18 55 28.5 +0.3
comp=N,2.6nm,0.8s,baz=257,slow=4.0,SNR=14
D30A Buchanan 85.05 342 ⇑P P 18 55 28.3 +0.5
baz=85
H21A Big Horn, Sher 85.20 336 ⇑P P 18 55 28.1 -0.8
baz=86
I19A Meeteetse 85.35 335 ⇑P P 18 55 29.8 +0.1
baz=86
H20A Greybull 85.40 335 ⇓P P 18 55 29.1 -0.7
baz=86
F24A Ekalaka 85.46 338 ⇓P P 18 55 29.1 -0.9
baz=86
C30A Mose, Pekin 85.53 343 ⇑P P 18 55 30.4 +0.2
baz=86
I17A Pilgrim Ck. 85.82 334 ⇓P P 18 55 32.4 +0.3
baz=86
H19A Powell 85.90 335 ⇑P P 18 55 32.3 -0.1
baz=86
IMW Indian Meadow 85.93 333 eP P 18 55 32.7 0.0
comp=N,17nm,1.8s
MDND Maddock 85.95 342 ⇓P P 18 55 32.5 +0.2
baz=86
D26A Manning 85.95 340 ⇓P P 18 55 32.3 0.0
baz=86
F22A Rosebud 85.97 337 ⇑P P 18 55 32.5 -0.1
baz=86
G20A Bridger 86.12 336 ⇓P P 18 55 32.8 -0.6
baz=86
H18A Shoshone NF, C 86.14 334 ⇓P P 18 55 33.1 -0.6
baz=86,SNR=7.3
B30A Myrvik Farm, E 86.20 343 ⇓P P 18 55 33.8 +0.3
baz=87
D25A Fairfield 86.31 340 ⇓P P 18 55 34.9 +0.8
baz=87
B29A Wagenman Farm, 86.46 343 ⇑P P 18 55 35.4 +0.6
baz=87
F20A Billings 86.60 336 ⇑P P 18 55 35.4 -0.3
baz=87
A30A Hoffart Farm, 86.65 343 ⇑P P 18 55 36.0 +0.3
baz=87
B28A Dugan Ranch, T 86.70 342 ⇑P P 18 55 36.2 +0.2
baz=87
A29A Manning Farm, 86.85 343 ⇓P P 18 55 36.6 -0.1
baz=87
D23A Lindsay 86.89 338 ⇓P P 18 55 37.7 +0.7
baz=87
C24A Savage 86.97 339 ⇓P P 18 55 37.7 +0.3
baz=87
HLID Hailey 86.98 331 ⇑P P 18 55 38.3 +0.6
baz=87
A28A Rude Farm, Bot 87.10 342 ⇓P P 18 55 38.3 +0.4
baz=88
E20A Meyer Farm, Mu 87.22 336 ⇑P P 18 55 38.5 -0.2
baz=88
ULM Lac du Bonnet 87.34 345 P P 18 55 37.4 -1.6
comp=N,3.8nm,0.9s,baz=142,slow=2.6,SNR=6.7
E19A Rath Farm, Rou 87.40 336 ⇓P P 18 55 39.6 0.0
baz=88
MCMT McKenzie Canyo 87.44 333 eP P 18 55 39.7 -0.3
C23A Lambert 87.44 339 ⇓P P 18 55 39.8 +0.2
baz=88
A26A Wade Farm, Ken 87.55 341 ⇓P P 18 55 40.5 +0.4
baz=88
D20A Manuel Ranch, 87.73 337 ⇑P P 18 55 40.7 -0.4
baz=88
DGMT Dagmar 87.75 340 ⇑P P 18 55 41.2 +0.1
baz=88
DGMT Dagmar 87.75 340 eP P 18 55 40.4 -0.8
comp=N,19nm,1.0s
A25A Svangstu Ranch 87.88 340 ⇑P P 18 55 41.8 +0.1
baz=88
MDT Midelt 92.79 51 LR LR 19 38 20.6
comp=N,184nm,18.7s,slow=36
YKA Yellowknife Ar 102.85 341 P Pdif 18 56 48.4 -1.2
comp=N,0.1nm,0.4s,baz=139,slow=4.2,SNR=4.5
WRA Warramunga Arr 119.67 209 PKP PKPdf 19 01 41.0 -2.1
comp=N,0.5nm,1.0s,baz=166,slow=1.5,SNR=4.4
BRTR Keskin Array B 122.71 62 PKP PKPdf 19 01 48.0 -0.4
comp=N,0.9nm,0.7s,baz=161,slow=1.9,SNR=5.7
FINES FINESS Array B 124.06 35 PKP PKPdf 19 01 49.4 -0.6
comp=N,1.3nm,0.8s,baz=305,slow=4.9,SNR=2.7
H11S2 WAKE ISLAND Hyl 25.30 269 T T 21 19 49.3
baz=115,slow=74
H11S1 WAKE ISLAND Hyl 25.31 269 T T 21 19 39.5
baz=115,slow=74
H11S3 WAKE ISLAND Hyl 25.32 269 T T 21 19 54.7
baz=115
H11N3 WAKE ISLAND Hyl 25.74 270 T T 21 20 05.3
baz=110
H11N1 WAKE ISLAND Hyl 25.75 270 T T 21 20 15.5

baz=110
H11N2 WAKE ISLAND Hyl 25.76 270 T T 21 20 11.2
baz=110
KBZ Khabaz 130.49 59 PKP **PKPdf 19 02 02.7 -0.2**
comp=N,1.7nm,1.0s,baz=297,slow=4.5,SNR=3.1
GEYT Alibeck 140.61 71 PKP **PKPdf 19 02 20.9 -1.1**
comp=N,0.6nm,0.5s,baz=284,slow=8.8,SNR=2.4
ABKAR Akbulak array 142.65 53 *e*PKPpre PKPpre 19 02 20.1
ABKAR *e*PKPdf **PKPdf 19 02 25.2 -0.1**
KKAR Karatay Array 150.41 63 *e*PKPdf **PKPbc 19 02 42.8 -1.1**
EKS2 Erkin-Say 152.83 63 *e*PKPdf **PKPdf 19 02 41.0 -1.3**
EKS2 *e*PKPbc **PKPbc 19 02 49.2 -0.4**
AAK Ala-Archa 153.36 63 *e*PKPbc **PKPbc 19 02 50.6 -0.2**
KSH Kashi 154.64 70 *e*PKPbc **PKPdf 19 02 46.1 +1.0**
KSH sPKP 19 02 59.5
KSH PKS **PKSdf 19 06 20.3 +1.0**
KSH PP **PP 19 06 43.0 -1.5**
KSH SKS **SKSdf 19 09 47.0 -3.9**
KSH SKKS **SKKSac 19 13 29.1 -4.1**
KSH SS **SS 19 26 19.7 -6.0**
KSH PPMZ
comp=N,68nm,4.1s
KSH LN
comp=N,44nm,4.8s
KSH LE
comp=N,33nm,4.8s
KSH LZ
comp=N,180nm,5.0s
ZALV Zalesovo Beam 155.31 33 PKP **PKPdf 19 02 44.5 -0.9**
comp=N,1.4nm,0.8s,baz=270,slow=3.0,SNR=8.0
ZALV PKPbc PKPbc 19 02 54.0
comp=N,3.1nm,1.0s,baz=300,slow=3.3,SNR=7.8
MKAR Makanchi Array 157.75 50 PKP **PKPdf 19 02 48.0 -0.7**
comp=N,0.6nm,1.0s,baz=358,slow=3.6,SNR=4.3
MKAR PKPab **PKPab 19 03 21.9 +0.4**
comp=N,0.8nm,0.9s,baz=271,slow=3.2,SNR=4.5
MKAR PP **PP 19 06 59.5 -1.6**
comp=N,0.5nm,0.7s,baz=292,slow=6.7,SNR=5.2
WMQ Urumqi 162.43 54 *e*PKP **PKPdf 19 02 55.2 +1.0**
SONM Songino Array 167.15 3 PKPab **PKPab 19 04 02.2 -0.3**
comp=N,1.5nm,0.9s,baz=332,slow=4.6,SNR=7.0
NJ2 Nanjing 170.01 256 *e*PKP **PKPdf 19 03 01.6 +1.2**
GYA Guiyang 171.47 175 *e*PKP **PKPdf 19 03 02.4 +0.9**
GYA pPKP **pPKPdf 19 03 14.2 +6.5**
GYA PKPab **PKPab 19 04 26.6 +4.5**
GYA PKS **PKSdf 19 06 33.0 -1.1**
GYA PP PP 19 08 17.9 +6.0
GYA SKKS 19 14 59.4
GYA SS **SS 19 29 20.0 +3.2**
GYA PPMZ
comp=N,120nm,8.0s
GYA LN
comp=N,120nm,22.6s
GYA LE
comp=N,110nm,22.4s
GYA LZ
comp=N,120nm,21.8s
HHC Hu-ho-hao-te 173.30 332 *e*PKP **PKPdf 19 03 03.5 +1.6**
HHC pPKP **pPKPdf 19 03 14.3 +6.2**
HHC sPKP 19 03 17.5
HHC PP **PP 19 08 25.4 +4.1**
HHC SKS **SKSdf 19 10 00.1 -4.1**
HHC SS **SS 19 29 32.8 -2.7**
HHC PPMZ
comp=N,75nm,5.9s
HHC LN
comp=N,100nm,20.9s
HHC LE
comp=N,160nm,21.6s
HHC LZ
comp=N,160nm,20.8s
CD2 Chengdu 174.90 142 *e*PKP **PKPdf 19 03 04.1 +1.4**
LZH Lanzhou 176.89 68 *e*PKP **PKPdf 19 03 04.1 +1.0**
LZH pPKP **pPKPdf 19 03 16.5 +7.2**
LZH sPKP 19 03 20.6
LZH LN
comp=N,180nm,18.3s
LZH LE
comp=N,190nm,18.5s
LZH LZ
comp=N,230nm,20.3s

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*IDC **06** 18:50:26.3±0.7, 34°.36S×71°.92W, h0km, mb4.0/10, mb1 4.1/11, mb1mx4.0/29, mbtmp4.0/11, ML4.0/1, Error ellipse: s-maj=29.6km s-min=18.6km az=79.0*
*GUC **06** 18:50:28.6±0.6, 34°.41S×72°.10W, h34km±2km, ML4.2*
*NEIC **06** 18:50:31.5±1.4, 34°.39S×72°.03W, h39km±11km, mb4.4/7, Error ellipse: s-maj=18.5km s-min=8.1km az=83.0*
ISC 06 18:50:28.1±1.8, 34°.38S±0°.04×72°.04W±0°.07, h14km±10km, n47, σ0°83/51, mb4.3/12, 8C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.67**	**51**	⇑*i*P	**Pb**	**18 50 42.2**	**+0.6**
NICH	**Los Niches**	**0.91**	**133**	⇑*i*P	**Pg**	**18 50 45.5**	**-0.2**
NICH				*i* S	**Sb**	**18 50 58.2**	**+0.6**
CACH	**El Canelo**	**1.22**	**78**	⇑*i*P	**Pb**	**18 50 51.3**	**+0.3**
CHCH	**Chadas Angostu**	**1.23**	**69**	⇓*i*P	**Pn**	**18 50 51.1**	**+0.1**
IHA	**Instituto Hidr**	**1.39**	**14**	⇑*i*P	**Pn**	**18 50 53.2**	**+0.2**
IHA				*e*S1	**Sn**	**18 51 11.7**	**+0.5**
ANTU	**Antumapu**	**1.42**	**56**	⇑*i*P	**Pb**	**18 50 54.2**	**-0.2**
ANTU				*e*S	**Sg**	**18 51 13.9**	**+0.1**
LNCH	**Linares**	**1.51**	**166**	*e*P	**Pn**	**18 50 54.1**	**-0.5**
LNCH				*i* S	**Sn**	**18 51 13.7**	**-0.4**
CLCH	**Cerro Calan**	**1.59**	**52**	⇑*i*P	**Pb**	**18 50 56.7**	**-0.6**
CLCH				*e*S	**Sb**	**18 51 18.2**	**+1.0**
CLCH				AML	AML	18 51 27.1	
	comp=E,4μm,0.9s						
PEL	**Peldehue**	**1.67**	**43**	⇑*i*P	**Pn**	**18 50 57.5**	**+0.5**
PEL				*i* S	**Sb**	**18 51 19.6**	**0.0**
PEL				AML	AML	18 51 26.8	
	comp=E,5μm,0.4s						
FCH	**Farellones**	**1.79**	**55**	⇑*i*P	**Pn**	**18 50 58.0**	**-1.0**
FCH				*e*S	**Sn**	**18 51 21.5**	**-0.1**
FCH				AML	AML	18 51 29.1	
	comp=N,3μm,0.3s						
CFAA	**Coronel Fontan**	**4.22**	**50**	Pn	Pn	18 51 36.2	+4.1
	comp=N,0.8nm,0.3s,baz=227,slow=15,SNR=13						
CFAA				Lg	Lg	18 52 40.8	
	comp=N,1.4nm,0.3s,baz=144,slow=19,SNR=5.8						
PLCA	**Paso Flores**	**6.45**	**170**	Pn	**Pn**	**18 52 04.3**	**+1.6**
	comp=N,0.7nm,0.3s,baz=322,slow=13,SNR=4.2						
PLCA				Lg	Lg	18 53 43.9	
	comp=N,0.6nm,0.3s,baz=270,slow=18,SNR=5.0						
TRQA	**Tornquist**	**8.91**	**117**	*e*Pn	**Pn**	**18 52 36.8**	**+0.3**
TRQA				*e*Sn	**Sn**	**18 54 17.5**	**+0.9**
LVC	**Limon Verde**	**12.04**	**14**	Pn	**Pn**	**18 53 20.3**	**+0.7**
LPAZ	**La Paz**	**18.36**	**12**	P	**P**	**18 54 44.9**	**+1.9**
	comp=N,0.2nm,0.3s,baz=192,slow=9.3,SNR=11						
LPAZ	**La Paz**	**18.36**	**12**	*e*Pn	**P**	**18 54 43.3**	**+0.3**
	comp=N,7.8nm,0.8s						
EFI	**East Falkland**	**20.02**	**154**	P	**P**	**18 54 58.1**	**-2.1**
	comp=N,30nm,1.2s						
SIV	**San Ignacio**	**20.80**	**31**	P	**P**	**18 55 08.9**	**-0.1**
	comp=N,1.7nm,0.6s,baz=208,slow=9.4,SNR=4.7						
SAML	**Samuel**	**26.59**	**20**	*e*P	**P**	**18 56 06.1**	**+0.2**
	comp=N,2.8nm,0.8s						
OTAV	**Otavalo**	**34.96**	**349**	P	**P**	**18 57 18.5**	**-1.8**
	comp=N,6.7nm,1.1s						
SDV	**Santo Domingo**	**43.05**	**2**	P	**P**	**18 58 25.8**	**-1.9**
BCIP	**Isla Barro Col**	**43.94**	**349**	P	**P**	**18 58 34.8**	**+0.1**
SNAA	**Sanae**	**51.23**	**158**	P	**P**	**18 59 31.3**	**+0.4**
	comp=N,1.2nm,1.0s,baz=315,slow=13,SNR=7.1						
QSPA	**South Pole Qui**	**55.86**	**180**	P	**P**	**19 00 05.8**	**+0.8**
	comp=N,3.0nm,0.8s,baz=153,slow=2.9,SNR=14						
QSPA	**South Pole Qui**	**55.86**	**180**	*e*P	**P**	**19 00 05.6**	**+0.7**
	comp=N,7.7nm,1.1s						
TXAR	**Lajitas Array**	**70.07**	**331**	P	**P**	**19 01 40.7**	**+0.9**
	comp=N,0.3nm,0.6s,baz=157,slow=9.2,SNR=5.6						
DBIC	**Dimbokro**	**75.30**	**71**	P	**P**	**19 02 10.9**	**-0.2**
	comp=N,2.3nm,0.6s,baz=256,slow=7.0,SNR=4.3						
TSUM	**Tsumeb**	**79.11**	**106**	P	**P**	**19 02 32.2**	**-0.5**
	comp=N,1.5nm,0.8s,baz=247,slow=5.0,SNR=3.1						
TSUM	**Tsumeb**	**79.11**	**106**	P	**P**	**19 02 31.4**	**-1.3**
	comp=N,7.0nm,1.3s						
BOSA	**Boshof**	**79.89**	**118**	P	**P**	**19 02 37.1**	**+0.2**
	comp=N,4.0nm,0.9s,baz=267,slow=6.5,SNR=6.4						
LBTB	**Lobatse**	**82.14**	**115**	*e*P	**P**	**19 02 49.0**	**+0.1**
	comp=N,3.4nm,0.7s						
PDAR	**Pinedale Array**	**84.10**	**333**	P	**P**	**19 02 59.2**	**+0.7**
	comp=N,0.5nm,0.8s,baz=180,slow=4.0,SNR=3.9						
NVAR	**Mina Array Bea**	**84.20**	**325**	P	**P**	**19 03 00.1**	**+1.0**
	comp=N,0.2nm,0.3s,baz=170,slow=7.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**84.34**	**70**	P	**P**	**19 03 00.2**	**+0.1**
	comp=N,2.3nm,0.9s,baz=258,slow=4.7,SNR=9.5						
YKA	**Yellowknife Ar**	**102.42**	**341**	P	**Pdif**	**19 04 22.8**	**0.0**
	comp=N,0.2nm,0.7s,baz=142,slow=4.7,SNR=3.7						
WRA	**Warramunga Arr**	**120.43**	**209**	PKP	**PKPdf**	**19 09 18.6**	**-1.0**
	comp=N,0.4nm,0.5s,baz=163,slow=1.7,SNR=13						
H11S2	**WAKE ISLAND Hyl**	**25.77**	**269**	T	T	21 27 51.2	
	baz=120,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hyl**	**25.78**	**269**	T	T	21 27 51.4	
	baz=120,slow=75,SNR=29						
H11S3	**WAKE ISLAND Hyl**	**25.78**	**269**	T	T	21 27 45.1	
	baz=120,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hyl**	**26.19**	**270**	T	T	21 28 14.7	
	baz=116,slow=78,SNR=27						
H11N1	**WAKE ISLAND Hyl**	**26.20**	**270**	T	T	21 28 13.9	
	baz=116,slow=78,SNR=74						
H11N2	**WAKE ISLAND Hyl**	**26.21**	**270**	T	T	21 28 18.8	
	baz=116,slow=78,SNR=34						
KKAR	**Karatay Array**	**149.72**	**62**	*e*PKPbc	**PKPbc**	**19 10 17.3**	**0.0**
EKS2	**Erkin-Say**	**152.15**	**63**	*e*PKPbc	**PKPbc**	**19 10 23.7**	**+0.6**
AAK	**Ala-Archa**	**152.68**	**62**	PKPdf	**PKPdf**	**19 10 16.4**	**-0.9**
AAK				*e*PKPbc	**PKiKP**	**19 10 25.0**	**+0.4**
ZALV	**Zalesovo Beam**	**154.54**	**33**	PKP	**PKPdf**	**19 10 19.2**	**-0.1**
	comp=N,0.3nm,0.5s,baz=339,slow=7.7,SNR=2.6						
ZALV				PKPbc	**PKiKP**	**19 10 28.1**	**+0.3**
	comp=N,1.6nm,0.7s,baz=300,slow=3.3,SNR=8.5						
ZALV				PKPab	**PKPab**	**19 10 42.9**	**+0.5**
	comp=N,1.9nm,0.8s,baz=304,slow=4.9,SNR=6.6						
MKAR	**Makanchi Array**	**157.01**	**50**	PKPab	**PKPab**	**19 10 52.5**	**-0.8**
	comp=N,0.6nm,0.7s,baz=307,slow=3.5,SNR=6.0						

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*IDC **06** 18:55:41.3±1.1, 35°.25S×71°.88W, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.8/34, mbtmp3.9/6, ML3.7/2, Error ellipse: s-maj=35.1km s-min=26.8km az=103.0*
*NEIC **06** 18:55:46.8±0.8, 35°.07S×71°.92W, h35km, mb4.5/5, Error ellipse: s-maj=20.6km s-min=12.3km az=89.0*
*ISCJB **06** 18:55:49.0±0.7, 35°.06S±0°.04×71°.6W±0°.1, h66km±4km, mb4.1/7, Error ellipse: s-maj=19.4km s-min=5.4km az=10.0*
*GUC **06** 18:55:49.6±0.6, 35°.06S×71°.53W, h61km±4km, ML4.4*
ISC 06 18:55:49.5±1.1, 35°.04S±0°.04×71°.7W±0°.1, h55km±8km, n27, σ1°20/36, mb4.3/7, 5C-5D, Central Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.39**	**85**	⇓*i*P	**Pn**	**18 55 59.6**	**-0.3**
NICH				*i* S	**Sn**	**18 56 07.2**	**-0.2**
LNCH	**Linares**	**0.81**	**174**	⇑*i*P	**Pn**	**18 56 05.2**	**+0.3**
LNCH				*e*S	**Sn**	**18 56 17.2**	**+1.0**
LNV	**Longovilo**	**1.11**	**13**	⇑*i*P	**Pn**	**18 56 08.7**	**-0.1**
LNV				*i* S1	**Sn**	**18 56 24.3**	**+1.3**
CACH	**El Canelo**	**1.29**	**45**	⇓*i*P	**Pn**	**18 56 10.9**	**-0.5**
CACH				*i* S1	**Sn**	**18 56 27.4**	**-0.4**
CHCH	**Chadas Angostu**	**1.40**	**39**	⇑*i*P	**Pn**	**18 56 12.3**	**-0.4**
ANTU	**Antumapu**	**1.71**	**31**	⇑*i*P	**Pn**	**18 56 17.0**	**0.0**
ANTU				*i* S	**Sn**	**18 56 37.9**	**+0.1**
ANTU				AML	AML	18 56 40.3	
	comp=N,7μm,0.5s						
RCDM	**Rinconada Maip**	**1.71**	**26**	*e*P	**Pn**	**18 56 17.1**	**+0.2**
RCDM				*e*S	**Sn**	**18 56 38.2**	**+0.4**
RCDM				AML	AML	18 56 43.1	
	comp=E,5μm,0.1s						
SAN	**Santiago**	**1.80**	**29**	⇓*i*P	**Pn**	**18 56 18.2**	**+0.1**
SAN				*e*S	**Sn**	**18 56 39.9**	**0.0**
CLCH	**Cerro Calan**	**1.90**	**31**	⇓*i*P	**Pn**	**18 56 19.7**	**+0.1**
CLCH				*e*S	**Sn**	**18 56 42.5**	**+0.1**
CLCH				AML	AML	18 56 47.9	
	comp=E,5μm,0.7s						
FCH	**Farellones**	**2.07**	**35**	⇑*i*P	Pn	18 56 27.2	+5.1
FCH				*e*S	**Sn**	**18 56 52.5**	**+5.6**
FCH				AML	AML	18 56 55.8	
	comp=N,3μm,0.3s						
PEL	**Peldehue**	**2.07**	**24**	⇓*i*P	**Pn**	**18 56 22.2**	**+0.3**
PEL				*i* S	**Sn**	**18 56 47.2**	**+0.7**
PEL				AML	AML	18 56 56.2	
	comp=E,4μm,0.2s						
CFAA	**Coronel Fontan**	**4.49**	**41**	Pn	**Pn**	**18 56 55.7**	**+0.7**
	comp=E,2.8nm,0.3s,baz=215,slow=15,SNR=17						
CFAA				Sn	Sn	18 57 52.8	+6.9
	comp=E,2.5nm,0.3s,baz=300,slow=23,SNR=14						
TRQA	**Tornquist**	**8.38**	**114**	*e*Pn	**Pn**	**18 57 49.7**	**+1.4**
LPAZ	**La Paz**	**18.94**	**11**	P	**Pn**	**19 00 07.6**	**-0.2**
	comp=E,0.1nm,0.3s,baz=192,slow=9.3,SNR=4.0						
LPAZ	**La Paz**	**18.94**	**11**	*e*P	**P**	**19 00 06.8**	**+0.2**
	comp=E,11nm,1.3s						
EFI	**East Falkland**	**19.31**	**154**	*e*P	**P**	**19 00 09.2**	**-0.5**
	comp=E,33nm,1.1s						
SIV	**San Ignacio**	**21.23**	**29**	P	**P**	**19 00 29.8**	**-1.0**
	comp=E,2.4nm,0.6s,baz=196,slow=8.7,SNR=4.9						
SNAA	**Sanae**	**50.52**	**158**	P	**P**	**19 04 40.4**	**-1.3**
	comp=E,6.3nm,0.9s						
QSPA	**South Pole Qui**	**55.20**	**180**	*e*P	**P**	**19 05 17.7**	**+1.4**
	comp=E,5.9nm,1.0s						
TXAR	**Lajitas Array**	**70.77**	**331**	P	**P**	**19 07 00.4**	**+0.4**
	comp=E,0.2nm,0.5s,baz=148,slow=8.6,SNR=4.0						
DBIC	**Dimbokro**	**75.25**	**71**	P	**P**	**19 07 25.8**	**-0.9**
TSUM	**Tsumeb**	**78.67**	**105**	*e*P	**P**	**19 07 45.1**	**-1.0**
BOSA	**Boshof**	**79.35**	**117**	P	**P**	**19 07 50.0**	**+0.3**
	comp=E,2.2nm,0.5s,baz=240,slow=4.1,SNR=9.1						
LBTB	**Lobatse**	**81.62**	**115**	*e*P	**P**	**19 08 02.0**	**0.0**
	comp=E,2.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P	**P**	**19 08 15.8**	**+0.2**
	comp=E,2.7nm,0.7s,baz=240,slow=5.0,SNR=28						
WRA	**Warramunga Arr**	**119.99**	**208**	PKP	**PKPdf**	**19 14 33.6**	**-0.7**
	comp=E,2.2nm,0.4s,baz=164,slow=1.7,SNR=2.6						
AAK	**Ala-Archa**	**152.73**	**64**	PKPbc	**PKPbc**	**19 15 40.8**	**+0.8**
	comp=E,2.5nm,0.6s,baz=207,slow=3.9,SNR=10.0						

GUC 06 19:07:12.3±0.7, 34°.63S×71°.53W, h46km±1km, ML3.7, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.45**	**146**	⇑*i*P	Pn	19 07 22.9	+0.3
NICH				*i* S	Sn	19 07 31.1	+1.0
LNV	**Longovilo**	**0.68**	**8**	⇑*i*P	Pn	19 07 25.6	0.0
LNV				*i* S1	Sn	19 07 36.0	+0.8
CACH	**El Canelo**	**0.92**	**57**	⇓*i*P	Pn	19 07 29.5	+0.4
CACH				*i* S1	Sn	19 07 43.0	+1.6
CHCH	**Chadas Angostu**	**1.01**	**46**	⇑*i*P	Pn	19 07 30.7	+0.6
CHCH				*i* S1	Sn	19 07 44.4	+1.2
LNCH	**Linares**	**1.22**	**183**	⇓*i*P	Pn	19 07 33.3	+0.4
LNCH				*i* S	Sn	19 07 49.4	+1.2
ANTU	**Antumapu**	**1.29**	**35**	⇓*i*P	Pn	19 07 34.9	+0.9
ANTU				*i* S	Sn	19 07 51.7	+1.4
CLCH	**Cerro Calan**	**1.48**	**34**	*e*P1	Pn	19 07 37.3	+0.7
CLCH				*e*S	Sn	19 07 56.6	+1.7
CLCH				AML	AML	19 07 59.2	
	comp=E,2μm,0.4s						
PEL	**Peldehue**	**1.64**	**26**	⇓*i*P	Pn	19 07 39.8	+1.0
PEL				*i* S	Sn	19 08 00.3	+1.5
PEL				AML	AML	19 08 08.6	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**1.66**	**39**	⇑*i*P	Pn	19 07 37.7	-1.7
FCH				*i* S4	Sn	19 07 55.5	-4.2
COCH	**Cobquecura**	**1.82**	**214**	*e*P	Pn	19 07 41.6	+0.6

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*IDC **06** 19:08:08.9±1.4, 43°.51N×105°.23W, h0km, mb3.9/3, mb1 3.7/8, mb1mx3.5/50, mbtmp3.5/8, ML2.8/4, Error ellipse: s-maj=41.1km s-min=7.7km az=152.0*
*ISCJB **06** 19:08:09.5±0.1, 43°.72N±0°.01×105°.32W±0°.02, h0km, mb4.0/3, Error ellipse: s-maj=1.8km s-min=1.7km az=145.9*
*NEIC **06** 19:08:10.4±0.3, 43°.78N×105°.24W, h0km, ML3.3, Error ellipse: s-maj=4.1km s-min=3.5km az=148.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
ISC 06 19:08:10.1±0.5, 43°.72N±0°.02×105°.29W±0°.02, h0km, n145, σ0°94/161, mb4.0/3, 50C-38D, Wyoming

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.27**	**333**	⇓P	**Pg**	**19 08 16.5**	**+1.2**
	baz=0.2,SNR=268						
J23A	**Dilts Ranch, B**	**0.37**	**211**	⇓P	**Pg**	**19 08 18.0**	**+0.8**
	baz=0.4,SNR=439						
I24A	**Kuemmerle Ranc**	**0.50**	**74**	P	**Pb**	**19 08 20.8**	**-1.1**
	baz=0.5,SNR=243						
I24A				⇓S	**Sg**	**19 08 26.9**	**+0.7**
	baz=0.5						
J24A	**Dixon Ranch, L**	**0.60**	**130**	P	**Pb**	**19 08 22.4**	**-1.1**
	baz=0.6,SNR=184						
J24A				⇑S	**Sg**	**19 08 29.8**	**+0.4**
	baz=0.6						
H23A	**Clabaugh Cattl**	**0.84**	**355**	⇓P	**Pg**	**19 08 26.5**	**+0.2**
	baz=0.8						
H23A				⇑S	**Sg**	**19 08 37.7**	**+0.5**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.88**	**282**	P	**Pg**	**19 08 27.1**	**+0.1**
	baz=0.9,SNR=1000						
I22A				⇑S	**Sg**	**19 08 38.3**	**0.0**
	baz=0.9						
J22A	**Midwest**	**0.92**	**251**	P	**Pg**	**19 08 27.3**	**-0.3**
	baz=1.0,SNR=369						
J22A				⇑S	**Sg**	**19 08 39.6**	**+0.2**
	baz=1.0						
RSSD	**Black Hills**	**0.99**	**66**	*e*Pg	**Pg**	**19 08 29.1**	**+0.1**
K23A	**Bowen Ranch, D**	**1.00**	**194**	⇑P	**Pg**	**19 08 28.9**	**-0.3**
	baz=1.1,SNR=12						
K23A				⇑S	**Sg**	**19 08 42.9**	**+0.8**
	baz=1.1						
K24A	**Anderson Ranch**	**1.06**	**161**	⇓P	**Pg**	**19 08 30.2**	**-0.1**
	baz=1.1,SNR=50						
K24A				⇓S	**Sb**	**19 08 45.0**	**-0.8**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.13**	**107**	⇑P	**Pb**	**19 08 32.1**	**-0.5**
	baz=1.1,SNR=238						
J25A				⇓S	**Sb**	**19 08 47.7**	**-0.2**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.16**	**27**	P	**Pg**	**19 08 31.9**	**-0.3**
	baz=1.1,SNR=627						
H24A				⇓S	**Sb**	**19 08 48.2**	**-0.4**
	baz=1.1						
H22A	**Clearmont**	**1.16**	**319**	⇓P	**Pg**	**19 08 32.2**	**0.0**
	baz=1.1,SNR=278						
I25A	**Rochford**	**1.17**	**75**	⇑P	**Pb**	**19 08 32.5**	**-0.7**
	baz=1.1,SNR=153						
K22A	**Casper**	**1.40**	**220**	⇑P	**Pn**	**19 08 36.0**	**-1.0**
	baz=1.5,SNR=280						
K22A				⇓S	**Sg**	**19 08 56.1**	**+1.1**
	baz=1.5						
K22A	**Casper**	**1.40**	**220**	*e*Pn	**Pn**	**19 08 35.9**	**-1.2**
I21A	**Big Trails, Te**	**1.45**	**274**	⇓P	**Pn**	**19 08 36.1**	**-1.7**
	baz=1.5						
I21A				⇓S	**Sg**	**19 08 57.0**	**+0.3**
	baz=1.5						
G23A	**Biddle**	**1.48**	**357**	⇑P	**Pn**	**19 08 37.6**	**-0.5**
	baz=1.4,SNR=262						
G23A				⇑S	**Sn**	**19 08 58.6**	**+0.4**
	baz=1.4						
H25A	**Fruitdale**	**1.52**	**53**	⇓P	**Pb**	**19 08 38.7**	**-0.4**
	baz=1.4,SNR=73						
H25A				⇑S	**Sn**	**19 08 59.5**	**+0.5**
	baz=1.4						
K25A	**Mack Ranch, Ha**	**1.52**	**136**	⇑Pb	**Pg**	**19 08 39.4**	**+0.2**
	baz=1.5,SNR=274						
K25A				⇓S	**Sn**	**19 08 59.9**	**+0.7**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.55**	**306**	⇓Pb	**Pn**	**19 08 39.1**	**0.0**
	baz=1.5,SNR=272						
H21A				⇑S	**Sn**	**19 08 59.9**	**-0.1**
	baz=1.5						
J21A	**Lysite**	**1.61**	**257**	⇑P	**Pn**	**19 08 39.2**	**-0.8**
	baz=1.7,SNR=122						
J21A				⇑S	**Sn**	**19 09 01.2**	**-0.4**
	baz=1.7						
L23A	**Garrett**	**1.64**	**191**	⇑P	**Pn**	**19 08 40.1**	**-0.3**
	baz=1.7,SNR=455						
L23A				⇑Sb	**Sg**	**19 09 03.7**	**+1.2**
	baz=1.7						
G22A	**Birney**	**1.66**	**335**	Pb	**Pn**	**19 08 41.0**	**+0.4**
	baz=1.6,SNR=374						
J26A	**Sides Ranch, S**	**1.66**	**103**	⇓Pb	**Pg**	**19 08 41.3**	**-0.7**
	baz=1.6,SNR=96						
J26A				⇑Sb	**Sg**	**19 09 05.2**	**+1.7**
	baz=1.6						
L24A	**Wheatland**	**1.70**	**171**	⇓Pb	**Pb**	**19 08 41.6**	**-0.7**
	baz=1.8,SNR=69						
L24A				⇓S	**Sb**	**19 09 03.9**	**-0.4**
	baz=1.8						
G24A	**Alzada**	**1.72**	**21**	⇑Pb	**Pb**	**19 08 42.2**	**-0.5**
	baz=1.7						
I26A	**New Underwood**	**1.79**	**79**	Pb	**Pg**	**19 08 43.6**	**-0.7**
	baz=1.7,SNR=91						
K21A	**Alcova**	**1.80**	**233**	⇑Pb	**Pn**	**19 08 43.0**	**+0.5**
	baz=1.9,SNR=902						
L25A	**Engebretsen Ra**	**1.84**	**148**	⇑Pb	**Pb**	**19 08 44.7**	**0.0**
	baz=1.9,SNR=71						
K26A	**Motz Farm, Whi**	**1.85**	**123**	⇓Pb	**Pg**	**19 08 44.7**	**-0.9**
	baz=1.9,SNR=17						
L22A	**Ellis Ranch, M**	**1.89**	**207**	⇓Pb	**Pn**	**19 08 44.5**	**+0.8**
	baz=2.0,SNR=247						
G25A	**Newell**	**1.99**	**42**	⇑Pb	**Pb**	**19 08 46.8**	**-0.4**
	baz=1.9,SNR=47						
F23A	**Volborg**	**2.00**	**358**	⇑P	**Pn**	**19 08 45.7**	**+0.5**
	baz=1.9,SNR=236						
H26A	**Fairpoint**	**2.02**	**63**	Pb	**Pb**	**19 08 47.6**	**-0.2**
	baz=2.0						
G21A	**Lodge Grass**	**2.03**	**318**	⇓P	**Pn**	**19 08 45.4**	**-0.3**
	baz=2.0,SNR=135						
J20A	**Shoshoni**	**2.06**	**261**	Pb	**Pn**	**19 08 47.9**	**+1.8**
	baz=2.1						
I20A	**Worland**	**2.06**	**277**	Pb	**Pn**	**19 08 47.0**	**+0.8**
	baz=2.1,SNR=494						
H20A	**Greybull**	**2.09**	**292**	⇓P	**Pn**	**19 08 46.7**	**+0.2**
	baz=2.1,SNR=50						
F22A	**Rosebud**	**2.17**	**342**	⇓P	**Pn**	**19 08 47.4**	**-0.1**
	baz=2.1,SNR=94						
F24A	**Ekalaka**	**2.21**	**16**	⇓P	**Pn**	**19 08 48.5**	**+0.4**
	baz=2.1,SNR=120						
M23A	**Laramie**	**2.27**	**188**	⇓Pb	**Pb**	**19 08 51.1**	**-1.0**
	baz=2.3,SNR=148						
G26A	**Maurine**	**2.49**	**50**	⇓P	**Pn**	**19 08 52.5**	**+0.7**
	baz=2.4,SNR=60						
G20A	**Bridger**	**2.57**	**307**	P	**Pn**	**19 08 53.0**	**-0.2**
	baz=2.

H17A	Grant Village	3.87	282	*e*Pn	Pn	19 09 12.8 +1.8
ISCO	Idaho Springs	3.93	184	⇑P	Pn	19 09 13.4 +1.6
	baz=4.0,SNR=23					
ISCO	Idaho Springs	3.93	184	*e*Pn	Pn	19 09 13.3 +1.4
YNR	Norris Junctio	4.00	286	*e*Pn	Pn	19 09 10.7 -2.1
C22A	Vida	4.04	354	⇑P	Pn	19 09 14.7 +1.4
	baz=4.0,SNR=28					
YFT	Old Faithful	4.06	282	*e*Pn	Pn	19 09 15.3 +1.7
C23A	Lambert	4.08	1	P	Pn	19 09 15.2 +1.4
	baz=4.0,SNR=146					
YMR	Madison River	4.19	285	*e*Pn	Pn	19 09 14.9 -0.5
O20A	White River Ci	4.21	213	*e*Pn	Pn	19 09 08.7 -7.0
AHID	Auburn Hatcher	4.35	259	*e*Pn	Pn	19 09 19.9 +2.2
P26A	Davis Ranch, A	4.41	160	P	Pn	19 09 19.8 +1.4
	baz=4.5,SNR=26					
O28A	Krutsinger Ran	4.45	143	⇑P	Pn	19 09 19.6 +0.7
	baz=4.5,SNR=8.3					
QLMT	Earthquake Lak	4.54	286	*e*Pn	Pn	19 09 20.9 +0.6
P27A	Ficken Ranch,	4.63	153	⇑P	Pn	19 09 22.4 +1.0
	baz=4.7,SNR=17					
C19A	Slack Wire Ran	4.80	328	⇑P	Pn	19 09 23.4 -0.3
	baz=4.8,SNR=26					
DGMT	Dagmar	4.81	9	⇓P	Pn	19 09 24.5 +0.8
	baz=4.7,SNR=21					
DGMT	Dagmar	4.81	9	*e*Pn	Pn	19 09 23.5 -0.2
Q25A	Bedland, Calha	4.87	170	⇑P	Pn	19 09 25.6 +0.9
	baz=4.9,SNR=12					
BOZ	Bozeman (W)	4.91	295	*e*Pn	Pn	19 09 24.5 -0.8
P28A	Saint Francis	4.92	146	⇑P	Pn	19 09 26.1 +0.7
	baz=5.0,SNR=16					
B20A	Solberg Farm,	5.08	339	⇑P	Pn	19 09 27.5 -0.1
	baz=5.0,SNR=39					
KSCO	Kaye Shedlock'	5.12	156	*e*Pn	Pn	19 09 28.4 +0.3
	59nm,0.5s					
TCUT	Toone Canyon	5.22	242	*e*Pn	Pn	19 09 29.9 +0.3
	42nm,0.4s					
P29A	Atwood	5.25	140	⇑P	Pn	19 09 30.5 +0.6
	baz=5.3					
A22A	Carney Farms,	5.29	356	⇑P	Pn	19 09 30.9 +0.5
	baz=5.2,SNR=6.5					
EGMT	Eagleton	5.31	326	⇓P	Pn	19 09 30.7 0.0
	baz=5.3,SNR=9.2					
EGMT	Eagleton	5.31	326	*e*Pn	Pn	19 09 30.3 -0.4
	14nm,0.4s					
HRY	Holter Researc	5.50	305	*e*Pn	Pn	19 09 33.4 +0.1
	14nm,0.3s					
LRM	Limekiln Ridge	5.51	295	*e*Pn	Pn	19 09 33.8 +0.2
	23nm,0.3s					
DAU	Daniels Canyon	5.53	235	*e*Pn	Pn	19 09 36.3 +2.3
	0.9nm,0.4s					
JLU	Jordanelle	5.54	238	*e*Pn	Pn	19 09 34.2 +0.2
	8.1nm,0.6s					
MCMT	McKenzie Canyo	5.54	284	Pn	Pn	19 09 37.8 +3.9
	1.7nm,0.3s					
R26A	Arlington	5.59	165	⇓P	Pn	19 09 35.2 +0.6
	baz=5.6,SNR=51					
CTU	Camp Tracy	5.67	240	*e*Pn	Pn	19 09 36.6 +0.9
	3.8nm,0.4s					
A19A	Klindworth Far	5.73	337	⇑P	Pn	19 09 35.5 -0.9
	baz=5.7,SNR=8.1					
MDND	Maddock	5.73	42	*e*Pn	Pn	19 09 33.1 -3.3
	33nm,0.4s					
R27A	Eads	5.75	160	⇑P	Pn	19 09 37.8 +1.0
	baz=5.8					
BGNE	Belgrade	5.76	111	*e*Pn	Pn	19 09 35.7 -1.1
	44nm,0.3s					
SPUT	South Promonto	5.81	248	*e*Pn	Pn	19 09 38.6 +1.0
	6.5nm,0.5s					
HVU	Hansel Valley	5.84	253	*e*Pn	Pn	19 09 38.1 +0.1
	5.7nm,0.6s					
SDCO	Great Sand Dun	5.97	182	*e*Pn	Pn	19 09 41.1 +1.1
	2.6nm,0.5s					
PV04	Paradox Valley	5.98	208	*e*Pn	Pn	19 09 41.6 +1.6
R28A	Tribune	5.98	153	⇓P	Pn	19 09 40.3 +0.3
	baz=6.0,SNR=32					
MPU	Maple Canyon	6.01	234	*e*Pn	Pn	19 09 41.2 +0.8
	7.1nm,0.4s					
SRU	San Rafael Swe	6.06	222	*e*Pn	Pn	19 09 41.4 +0.3
	22nm,0.4s					
S25A	Robets Cordova	6.09	174	⇓P	Pn	19 09 41.9 +0.4
	baz=6.2,SNR=17					
PV01	Paradox Valley	6.11	205	*e*Pn	Pn	19 09 43.1 +1.3
	420nm,0.5s					
S26A	Kim	6.25	167	⇑P	Pn	19 09 44.1 +0.5
	baz=6.3,SNR=14					
TMUT	Trail Mountain	6.26	227	*e*Pn	Pn	19 09 45.2 +1.2
	11nm,0.5s					
ECSD	EROS Data Cent	6.29	87	*e*Pn	Pn	19 09 44.5 +0.4
	9.2nm,0.4s					
BGU	Big Grassy Mou	6.38	247	*e*Pn	Pn	19 09 45.7 +0.3
	2.4nm,0.3s					
CHMT	Chamberlain Mo	6.46	302	*e*Pn	Pn	19 09 47.0 +0.4
	2.4nm,0.3s					
DUG	Dugway, Tooele	6.62	240	*e*Pn	Pn	19 09 49.0 +0.3
	4.7nm,0.4s					
HLID	Hailey	6.62	272	*e*Pn	Pn	19 09 51.4 +2.6
	2.2nm,1.0s					
SLMT	Seeley Lake	6.75	304	*e*Pn	Pn	19 09 50.4 -0.2
	3.7nm,0.5s					
T27A	Campo	6.94	163	⇑P	Pn	19 09 53.3 +0.3
	baz=7.0,SNR=17					
MVCO	Mesa Verde	6.95	202	*e*Pn	Pn	19 09 56.3 +3.0
	5.8nm,0.5s					
T28A	Walsh	7.03	159	⇓P	Pn	19 09 54.6 +0.3
	baz=7.1,SNR=5.7					
SWMT	Swartz Lake	7.18	305	*e*Pn	Pn	19 09 56.8 +0.4
	3.7nm,0.3s					
YBMT	Yellow Bay	7.37	307	*e*Pn	Pn	19 09 59.7 +0.7
	6.9nm,0.3s					
JTMT	Jette	7.47	306	*e*Pn	Pn	19 10 02.0 +1.7
	2.0nm,0.4s					
U28A	Mallet	7.70	161	⇑P	Pn	19 10 04.3 +0.7
	baz=7.8,SNR=6.7					
ELK	Elko	7.96	251	Pn	Pn	19 10 08.3 +1.1
	0.3nm,0.3s,baz=355,slow=12,SNR=3.9					
CCUT	Cedar City	8.69	228	*e*Pn	Pn	19 10 19.1 +1.8
	1.9nm,0.7s					
SPMN	Marine on St.	9.06	76	*e*Pn	Pn	19 10 22.1 +0.1
I10CA	LAC DU BONNET	9.06	41	*i*		20 07 01.7
	baz=224,slow=334,SNR=1.0					
ULM	Lac du Bonnet	9.16	41	Pn	Pn	19 10 22.1 -1.3
	0.7nm,0.3s,baz=232,slow=13,SNR=4.6					
ULM				Lg	Lg	19 12 57.0
	0.5nm,0.3s,baz=323,slow=20,SNR=2.9					
WUAZ	Wupatki	9.44	212	*e*Pn	Pn	19 10 28.6 +1.2
	4.8nm,0.5s					
EYMN	Ely	10.51	62	*e*Pn	Pn	19 10 42.8 +0.9
NVAR	Mina Array Bea	11.15	246	Pn	Pn	19 10 51.9 +1.0
	0.1nm,0.3s,baz=53,slow=10,SNR=3.3					
FFC	Flin Flon	11.22	10	*e*Pn	Pn	19 10 49.0 -2.6
YKA	Yellowknife Ar	19.58	347	P	P	19 12 38.7 -0.6
	0.1nm,0.3s,baz=160,slow=13,SNR=4.8					
ARCES	ARCESS Array B	61.44	18	P	P	19 18 26.8 -0.9
	2.4nm,0.8s,baz=321,slow=7.1,SNR=5.8					
FINES	FINESS Array B	68.05	23	P	P	19 19 11.8 +0.9
	0.2nm,0.3s,baz=347,slow=5.7,SNR=6.1					
AKASG	Malin Array Be	77.98	28	P	P	19 20 10.0 +0.1
	0.4nm,0.3s,baz=336,slow=4.3,SNR=2.2					

BJI ***06*** *19:09:25.3, 14°.65N×144°.47E, h10km, mB5.1/33, mb4.5/35, Ms4.8/35, Ms7 4.6/36*
IDC ***06*** *19:09:27.8±0.9, 14°.52N×144°.37E, h0km, mb4.1/19, mb1 4.2/19, mb1mx4.1/29, mbtmp4.1/19, MS4.2/4, Ms1 4.2/4, ms1mx3.9/12, Error ellipse: s-maj=28.8km s-min=15.8km az=97.0*
ISCJB ***06*** *19:09:28.1±0.3, 14°.64N±0°.04×144°.18E±0°.06, h10km, mb4.4/41, MS4.3/3, Error ellipse: s-maj=8.4km s-min=4.7km az=152.9*
NEIC ***06*** *19:09:29.0±0.6, 14°.65N×144°.21E, h10km, mb4.9/21, Error ellipse: s-maj=18.9km s-min=10.6km az=84.0*
GCMT ***06*** *19:09:29.0±0.2, 14°.65N×144°.04E, h12km, MW5.1/104, Moment Tensor Solution. s56,c83; s104,c174; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.98±.10; $M_{\theta\theta}$0.90±.09; $M_{\phi\phi}$5.08±.10; $M_{r\theta}$0.05±.33; $M_{r\phi}$1.98±.08; $M_{\theta\phi}$1.85±.29; Best double couple: $M_0$6.20600×10^{16} NP1:ϕ_s196.00000°, δ53.00000°, λ-97.00000°. NP2: ϕ_s27.00000°, δ37.00000°, λ-81.00000°. Principal axes: T 6.1190, Plg8.0000°, Azm291.0000°; N 0.1700, Plg5.0000°, Azm200.0000°; P -6.2920, Plg80.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 06 19:09:29.8±0.4, 14°.66N±0°.05×144°.13E±0°.06, h10km, n89,

σ1§96/118, mb4.5/41, MS4.2/3, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.28	146	*e*P	Pn	19 09 49.7	-4.2
GUMO				*e*S	Sb	19 10 08.5	-2.2
JOW	Kunigami	19.12	312	LR	LR	19 20 07.8	
	comp=Z,348nm,20.3s,baz=140,slow=33						
H11S3	WAKE ISLAND Hy	21.95	77	T	T	19 37 19.9	
	baz=273,slow=74						
H11S1	WAKE ISLAND Hy	21.96	77	T	T	19 37 14.1	
	baz=273						
H11S2	WAKE ISLAND Hy	21.96	77	T	T	19 37 14.7	
	baz=273,slow=74						
JNU	Nakatsue	21.97	329	P	P	19 14 25.3	+1.3
	12nm,0.8s,baz=183,slow=18,SNR=2.1						
MJAR	Matsushiro Arr	22.42	347	P	P	19 14 28.9	+0.1
	4.7nm,0.9s,baz=169,slow=8.9,SNR=11						
MAJO	Matsushiro	22.42	347	*e*P	P	19 14 30.6	+1.8
	181nm,2.1s						
MAT	Matsushiro	22.42	347	P	P	19 14 29.5	+0.7
MAT				S	S	19 18 32.4	-2.8
BCPH	Baguio City Da	22.75	277	‖*e*P	P	19 14 33.8	+1.1
PMG	Port Moresby	24.10	173	P	P	19 14 47.3	+1.5
	15nm,1.0s,baz=336,slow=12,SNR=5.7						
QZH	Quanzhou	26.07	297	P	P	19 15 04.2	+0.5
QZH				S	S	19 19 33.4	-1.6
QZH				LZ			
	2μm,16.4s						
KSRS	Korea Array	26.88	331	P	P	19 15 11.6	+0.7
	1.9nm,0.8s,baz=139,slow=9.6,SNR=3.8						
KSAR	Wonju Array Be	26.89	331	P	P	19 15 11.6	+0.6
COEN	Coen	28.45	182	*e*P	P	19 15 26.2	+1.1
	60nm,1.1s						
NJ2	Nanjing	28.83	311	*e*P	P	19 15 27.1	-1.4
NJ2				S	S	19 20 17.5	-1.0
NJ2				sS	sS	19 20 24.0	+0.4
NJ2				PMZ			
	20nm,0.8s						
NJ2				PMZ			
	190nm,5.3s						
NJ2				LN			
	870nm,18.4s						
NJ2				LE			
	940nm,17.6s						
NJ2				LZ			
	940nm,17.7s						
USRK	Ussuriysk Ar.	31.21	343	P	P	19 15 52.3	+3.0
	1.1nm,0.6s,baz=139,slow=6.8,SNR=3.2						
BATI	Baumata	31.97	221	P	P	19 15 58.0	+1.6
	4.2nm,0.6s,baz=327,slow=3.6,SNR=5.4						
MDJ	Mudanjiang	32.31	340	P	P	19 15 57.6	-1.4
MDJ				pP	pP	19 16 00.5	-1.6
MDJ				sP	sP	19 16 01.9	-1.4
MDJ				S	S	19 21 13.4	+0.7
MDJ				PMZ			
	3.0nm,1.1s						
MDJ				PMZ			
	79nm,4.0s						
MDJ				LN			
	360nm,28.7s						
MDJ				LE			
	680nm,26.9s						
MDJ				LZ			
	780nm,27.3s						
QIZ	Qiongzhong	33.07	282	P	P	19 16 05.8	-0.2
QIZ				pP	pP	19 16 08.3	-0.8
QIZ				S	S	19 21 26.5	+1.4
QIZ				PMZ			
	270nm,3.4s						
QIZ				LN			
	730nm,19.5s						
QIZ				LE			
	520nm,19.2s						
QIZ				LZ			
	1μm,18.5s						
SBUM	Sibu	33.74	252	*e*P	P	19 16 13.2	+1.3
	14nm,1.3s						
CTAO	Charters Tower	34.60	176	*e*P	P	19 16 18.7	-0.5
	22nm,1.4s						
BJI	Beijing	35.16	321	P	P	19 16 22.6	-1.3
BJI				S	S	19 21 57.0	0.0
BJI				PMZ			
	15nm,0.6s						
BJI				PMZ			
	160nm,6.3s						
BJI				LN			
	800nm,15.4s						
BJI				LE			
	480nm,20.0s						
BJI				LZ			
	1μm,32.2s						
WRAB	Tennant Creek	35.70	196	*e*P	P	19 16 29.7	+1.0
	8.5nm,0.9s						
WB2	Warramunga Arr	35.71	196	*e*P	P	19 16 26.4	-2.4
WRA	Warramunga Arr	35.71	196	P	P	19 16 26.1	-2.7
	5.5nm,1.0s,baz=15,slow=9.7,SNR=5.0						
WRA				LR	LR	19 31 42.5	
	comp=Z,442nm,19.2s,baz=15,slow=38						
KSM	Kuching	35.88	252	P	P	19 16 29.2	-1.2
	7.4nm,0.9s						
GYA	Guiyang	36.86	295	P	P	19 16 39.2	+0.4
GYA				PP	PnPn	19 18 04.5	+1.8
GYA				PcP	PcP	19 19 00.2	-0.5
GYA				S	S	19 22 23.6	0.0
GYA				ScP	ScP	19 22 46.0	-1.8
GYA				SS	SnSn	19 24 52.3	-3.2
GYA				PMZ			
	20nm,0.8s						
GYA				PMZ			
	120nm,5.0s						
GYA				LN			
	540nm,17.6s						
GYA				LE			
	470nm,18.2s						
GYA				LZ			
	520nm,17.8s						
XAN	Xi'an	37.17	308	P	P	19 16 43.0	+1.7
XAN				pP	pP	19 16 51.2	+6.8
XAN				PP	PnPn	19 18 10.9	+4.5
XAN				S	S	19 22 27.6	-0.5
XAN				PcS	PcS	19 22 52.1	+2.4
XAN				SS	SnSn	19 24 56.9	-5.9
XAN				PMZ			
	2.0nm,0.8s						
XAN				PMZ			
	45nm,4.2s						
XAN				LN			
	370nm,19.4s						
XAN				LE			
	230nm,19.4s						
XAN				LZ			
	350nm,18.4s						
HHC	Hu-ho-hao-te	38.49	319	*e*P	P	19 16 50.9	-1.5
HHC				pP	pP	19 16 56.4	+0.9
HHC				sP	sP	19 17 00.3	+3.5
HHC				PP	PnPn	19 18 23.2	+0.8
HHC				PcP	PcP	19 19 03.5	-1.9
HHC				S	S	19 22 42.0	-6.1
HHC				ScS	ScS	19 26 59.6	-4.3
HHC				PMZ			
	8.0nm,0.6s						
HHC				PMZ			
	200nm,5.5s						
HHC				LN			
	1μm,14.3s						
HHC				LE			
	1μm,16.4s						
HHC				LZ			
	2μm,17.3s						
ASAR	Alice Springs	39.38	195	P	P	19 16 58.5	-1.5
	0.4nm,0.6s,baz=18,slow=10,SNR=8.5						
ASAR				LR	LR	19 34 07.6	
	comp=Z,303nm,20.2s,baz=20,slow=38						
KMI	Kunming	40.15	292	P	P	19 17 06.4	-0.2
KMI				pP	pP	19 17 12.1	+2.4
KMI				PP	PnPn	19 18 42.9	+0.5
KMI				S	S	19 23 13.9	+0.4
KMI				PMZ			
	12nm,1.2s						
KMI				PMZ			
	270nm,5.1s						
KMI				LN			
	700nm,19.1s						
KMI				LE			
	760nm,22.1s						
KMI				LZ			
	940nm,20.6s						
CD2	Chengdu	40.33	301	*e*P	P	19 17 06.6	-1.2
CD2				pP	pP	19 17 10.4	-0.5
CD2				PP	PP	19 18 42.3	+1.7
CD2				S	S	19 23 15.7	-0.1
CD2				sS	sS	19 23 23.6	+2.6
CD2				SS	SS	19 26 09.4	-5.1
CD2				PMZ			
	10.0nm,1.0s						
CD2				PMZ			
	250nm,8.2s						
CD2				LN			
	1μm,17.8s						
CD2				LE			
	1μm,16.6s						
CD2				LZ			
	1μm,20.2s						
LZH	Lanzhou	41.80	308	*e*P	P	19 17 18.7	-1.3
LZH				pP	pP	19 17 22.0	-1.1
LZH				sP	sP	19 17 23.5	-0.8
LZH				PP	PnPn	19 18 59.2	-2.4
LZH				eS	S	19 23 36.2	-1.5
LZH				*e*SS	SS	19 26 37.5	-6.2
LZH				PMZ			
	38nm,1.4s						
LZH				PMZ			
	210nm,5.3s						
LZH				LN			
	500nm,13.5s						
LZH				LE			
	430nm,13.4s						
LZH				LZ			
	880nm,16.2s						
MBWA	Marble Bar	42.91	214	*e*P	P	19 17 29.6	+0.7
	16nm,0.9s						
CM01	Chiang Mai Arr	43.38	281	*e*P	P	19 17 34.9	+2.0
CMAR	Chiang Mai Arr	43.40	281	P	P	19 17 34.4	+1.4
	6.9nm,1.1s,baz=83,slow=6.8,SNR=4.8						
IPM	Ipoh	43.61	261	*e*P	P	19 17 33.7	-1.1
	46nm,1.7s						
KULM	Kulim	43.75	262	*e*P	P	19 17 34.6	-1.3
	27nm,1.1s						
ULN	Ulaanbaatar	45.10	325	*e*P	P	19 17 39.1	-7.3
SONM	Songino Array	45.45	325	P	P	19 17 49.3	+0.1
	0.5nm,0.7s,baz=126,slow=7.3,SNR=2.7						
SONA1	Songino Array	45.45	325	*e*P	P	19 17 45.1	-4.1
GTA	Gaotai	45.93	311	*e*P	P	19 17 54.4	+1.3
GTA				pP	pP	19 17 58.9	+2.6
GTA				sP	sP	19 18 01.3	+3.8
GTA				S	S	19 24 41.1	+3.1
GTA				sS	sS	19 24 48.4	+5.3
GTA				SS	SS	19 27 58.9	-3.8
GTA				PMZ			
	7.0nm,2.3s						
GTA				PMZ			
	210nm,5.7s						
GTA				LN			
	390nm,19.0s						
GTA				LE			
	600nm,20.9s						
GTA				LZ			
	650nm,20.4s						
YAK	Yakutsk	48.42	351	*e*P	P	19 18 11.3	-0.6
	26nm,0.9s						
SEY	Seymchan	48.56	5	P	P	19 18 14.2	+1.2
	1.0nm,0.5s,baz=183,slow=9.6,SNR=3.7						
TLY	Talaya	49.07	328	P	P	19 18 19.6	+2.4
	2.0nm,0.6s,baz=113,slow=7.7,SNR=2.7						
LSA	Lhasa	50.88	296	*e*P	P	19 18 33.4	+1.6
	9.8nm,0.9s						
TAPN	Taplejung	53.77	293	*e*P	P	19 18 53.8	+0.6
	43nm,1.2s						
ODAN	Odare	54.04	293	*e*P	P	19 18 55.8	+0.7
RAMN	Ramite	54.75	293	*e*P	P	19 19 01.2	+0.9
JIRN	Jiri	55.12	294	*e*P	P	19 19 04.0	+0.9
	24nm,0.8s						
BILL	Bilibino	55.23	10	*e*P	P	19 19 02.7	-0.1
GUN	Gumba	55.40	294	*e*P	P	19 19 06.5	+1.4
	48nm,0.9s						
PKI	Pulchoki	55.81	293	*e*P	P	19 19 08.9	+0.8
WMQ	Urumqi	55.88	313	P	P	19 19 09.9	+1.9
WMQ				sP	sP	19 19 17.2	+4.8
WMQ				PP	PP	19 21 16.0	+3.4
WMQ				S	S	19 26 56.1	+0.4
WMQ				sS	sS	19 27 03.5	+2.5
WMQ				ScS	ScS	19 28 54.2	-3.4
WMQ				PMZ			
	8.0nm,1.2s						
WMQ				PMZ			
	140nm,3.5s						
WMQ				LN			
	160nm,20.0s						
WMQ				LE			
	560nm,20.0s						
WMQ				LZ			
	600nm,21.0s						
KKN	Kakani	55.93	294	*e*P	P	19 19 09.8	+1.0
	21nm,1.1s						
DMN	Daman	56.08	294	*e*P	P	19 19 10.8	+0.9
	31nm,1.0s						
GKN	Gorkha	56.50	294	*e*P	P	19 19 13.7	+0.9
	31nm,0.9s						
DANN	Dangsing	57.28	294	*e*P	P	19 19 19.2	+0.8
	65nm,0.9s						
KOLN	Koldanda	57.42	294	*e*P	P	19 19 20.5	+1.2
	27nm,0.8s						
TIXI	Tiksi	57.70	354	P	P	19 19 14.8	-5.5
	10.0nm,0.7s						
MK01	Makanchi Array	60.21	316	*e*P	P	19 19 35.4	-2.8
MKAR	Makanchi Array	60.23	316	P	P	19 19 39.6	+1.3
	1.7nm,0.6s,baz=91,slow=8.6,SNR=7.3						
MKAR	Makanchi Array	60.23	316	*e*P	P	19 19 35.4	-2.9
ZAA0	Zalesovo Array	60.34	324	*e*P	P	19 19 38.2	-0.7
ZALV	Zalesovo Beam	60.34	324	P	P	19 19 39.6	+0.8
	0.9nm,0.5s,baz=95,slow=4.6,SNR=3.4						
PALK	Pallekele	62.54	271	P	P	19 19 52.1	-2.4
	27nm,1.1s						
KURK	Kurchatov	63.31	320	*e*P	P	19 19 59.6	+0.7
	8.7nm,0.9s						
KSH	Kashi	64.03	307	*e*P	P	19 20 07.6	+3.5
KSH				sP	sP	19 20 13.1	+4.5
KSH				PP	PP	19 22 29.4	+4.6
KSH				S	S	19 28 45.2	+4.4
KSH				sS	sS	19 28 52.7	+6.6
KSH				SS	SS	19 32 57.1	+7.7
KSH				PMZ			
	6.0nm,1.2s						
KSH				PMZ			
	210nm,5.8s						
KSH				LN			
	140nm,7.6s						
KSH				LE			
	100nm,6.3s						
KSH				LZ			
	440nm,22.6s						
TKM2	Tokmak 2	64.48	311	*e*P	P	19 20 00.8	-6.3
AAK	Ala-Archa	65.27	310	P	P	19 20 10.9	-1.3
	1.6nm,1.0s,baz=39,slow=6.5,SNR=3.1						
AAK	Ala-Archa	65.27	310	*e*P	P	19 20 10.3	-2.0
	5.8nm,1.3s						
AAK				*e*		19 20 20.5	
EKS2	Erkin-Say	65.80	310	*e*P	P	19 20 13.7	-1.9
	3.8nm,1.0s						
ILAR	Eielson Array	67.91	26	P	P	19 20 27.1	-1.4
	0.4nm,0.6s,baz=252,slow=6.3,SNR=6.4						
KKAR	Karatay Array	68.21	311	*e*P	P	19 20 27.0	-3.8
	7.1nm,0.9s						
BRVK	Borovoye	68.71	322	*e*P	P	19 20 30.6	-3.1
	6.9nm,0.8s						
KBL	Kabul	69.66	302	*e*P	P	19 20 40.0	-0.2
	7.8nm,1.0s						
PPT2	Papeete2	72.81	114	*e*S	S	19 30 18.6	-7.1
	208nm,30.2s						
PPT2	Papeete2	72.81	114	*e*LR	LR	19 43 05.2	
	2μm,32.2s,baz=291						
INK	Inuvik	73.66	23	P	P	19 21 04.3	+1.0
	1.1nm,0.9s,baz=351,slow=5.1,SNR=2.7						
ABKAR	Akbulak array	75.27	318	*e*P	P	19 21 09.4	-3.7
ARU	Arti	75.48	325	*e*P	P	19 21 12.3	-1.9
	27nm,1.7s						
GEYT	Alibeck	78.04	306	P	P	19 21 30.6	+1.5
	1.0nm,0.7s,baz=96,slow=4.3,SNR=4.1						
YKA	Yellowknife Ar	82.24	27	P	P	19 21 51.3	+0.2
	0.8nm,1.0s,baz=285,slow=4.6,SNR=5.7						
BSMT	Bassoo Peak	86.53	41	*e*P	P	19 22 09.6	-3.9
	3.9nm,1.0s						

RKT Rikitea 87.55 115 *e*LR LR 19 49 40.7
838nm,32.8s,baz=283
FINES FINESS Array B 89.89 335 P **P 19 22 29.8 +0.9**
1.5nm,0.8s,baz=86,slow=4.6,SNR=2.9
BRTR Keskin Array B 95.81 313 P **P 19 22 57.9 +1.0**
0.7nm,0.9s,baz=36,slow=11,SNR=2.8
ULM Lac du Bonnet 96.76 34 LR LR 20 02 21.1
comp=Z,141nm,19.1s,baz=288,slow=33

*IDC **06** 19:10:09.5±1.0, 14°.70N×144°.18E, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.1/26, mbtmp4.1/12, Error ellipse: s-maj=38.7km s-min=18.6km az=95.0*
*NEIC **06** 19:10:10.4±0.4, 14°.66N×144°.26E, h10km, mb4.9/13, Error ellipse: s-maj=12.6km s-min=6.8km az=82.0*
*ISCJB **06** 19:10:11.1±0.4, 14°.70N±0°.05×144°.26E±0°.10, h27km, mb4.5/25, Error ellipse: s-maj=14.1km s-min=6.5km az=163.1*
ISC 06 19:10:12.8±0.5, 14°.68N±0°.07×144°.4E±0°.1, h27km, n28, σ1§04/28, mb4.5/25, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.20**	**155**	Pg	**Pn**	**19 10 32.9**	**-1.0**
GUMO				*e*Sg	**Sn**	**19 10 49.1**	**-0.1**
MJAR	**Matsushiro Arr**	**22.45**	**347**	P	**P**	**19 15 10.3**	**+0.5**
	9.2nm,1.1s,baz=175,slow=8.1,SNR=5.0						
MAJO	**Matsushiro**	**22.45**	**347**	P	**P**	**19 15 06.2**	**-3.6**
	53nm,1.4s						
CTAO	**Charters Tower**	**34.60**	**177**	P	**P**	**19 17 00.6**	**+0.8**
	33nm,1.5s						
WRAB	**Tennant Creek**	**35.78**	**196**	*e*P	**P**	**19 17 09.8**	**-0.1**
	37nm,1.3s						
WRA	**Warramunga Arr**	**35.79**	**196**	P	**P**	**19 17 10.3**	**+0.3**
	8.8nm,1.0s,baz=16,slow=9.2,SNR=5.9						
KSM	**Kuching**	**36.09**	**252**	P	P	19 17 09.4	-3.3
	9.7nm,1.0s						
ASAR	**Alice Springs**	**39.46**	**195**	P	**P**	**19 17 41.6**	**+0.6**
	0.9nm,0.6s,baz=18,slow=12,SNR=6.0						
PETK	**Petropavlovsk-**	**39.77**	**13**	P	**P**	**19 17 43.2**	**0.0**
	3.8nm,1.0s,baz=224,slow=8.0,SNR=2.7						
MBWA	**Marble Bar**	**43.05**	**215**	P	**P**	**19 18 09.4**	**-1.1**
	34nm,1.2s						
KULM	**Kulim**	**43.96**	**262**	P	**P**	**19 18 19.5**	**+1.4**
	49nm,1.4s						
ULN	**Ulaanbaatar**	**45.20**	**325**	P	**P**	**19 18 26.8**	**-0.9**
	6.9nm,1.1s						
SONM	**Songino Array**	**45.55**	**325**	P	**P**	**19 18 30.7**	**+0.3**
	0.8nm,0.6s,baz=128,slow=9.3,SNR=2.2						
YAK	**Yakutsk**	**48.43**	**351**	P	**P**	**19 18 52.4**	**-0.1**
SEY	**Seymchan**	**48.52**	**5**	P	**P**	**19 18 54.6**	**+1.4**
	3.6nm,0.9s,baz=174,slow=8.9,SNR=5.5						
TLY	**Talaya**	**49.17**	**328**	P	**P**	**19 18 58.2**	**-0.2**
	1.4nm,0.2s,baz=118,slow=12,SNR=2.5						
LSA	**Lhasa**	**51.06**	**296**	*e*P	**P**	**19 19 13.5**	**-0.1**
	8.3nm,0.8s						
BILL	**Bilibino**	**55.17**	**10**	*e*P	**P**	**19 19 42.2**	**-0.5**
	16nm,1.2s						
TIXI	**Tiksi**	**57.70**	**354**	*e*P	**P**	**19 20 00.7**	**0.0**
	1.1nm,0.3s						
MKAR	**Makanchi Array**	**60.36**	**316**	P	**P**	**19 20 19.7**	**+0.1**
	2.1nm,0.7s,baz=89,slow=9.2,SNR=4.6						
ZALV	**Zalesovo Beam**	**60.45**	**324**	P	**P**	**19 20 18.9**	**-1.1**
	1.9nm,0.7s,baz=119,slow=5.2,SNR=3.9						
KURK	**Kurchatov**	**63.43**	**320**	*e*P	**P**	**19 20 39.7**	**-0.4**
	16nm,1.3s						
EKS2	**Erkin-Say**	**65.95**	**310**	P	**P**	**19 20 56.6**	**-0.3**
	3.1nm,1.0s						
SML	**Sawmill**	**66.49**	**29**	P	**P**	**19 20 59.6**	**-0.3**
ILAR	**Eielson Array**	**67.80**	**26**	P	**P**	**19 21 09.9**	**+1.7**
	0.4nm,0.7s,baz=255,slow=5.4,SNR=2.7						
BRVK	**Borovoye**	**68.83**	**322**	*e*P	**P**	**19 21 14.6**	**-0.2**
	13nm,1.2s						
GEYT	**Alibeck**	**78.20**	**306**	P	**P**	**19 22 10.5**	**+0.2**
	1.5nm,0.9s,baz=82,slow=3.1,SNR=2.8						
YKA	**Yellowknife Ar**	**82.13**	**27**	P	**P**	**19 22 31.7**	**+0.8**
	0.9nm,0.8s,baz=289,slow=5.4,SNR=4.7						

*BKK **06** 19:11:00.1±0.9, 21°.5N×9°.5E±°, h10km, M4.9/10, mb4.4/5, mB5.2/2, MLv5.1/10, Mw(mB)4.5/2*
*ISCJB **06** 19:11:15.6±0.2, 19°.84N±0°.04×95°.78E±0°.04, h12km, mb4.4/66, Error ellipse: s-maj=7.4km s-min=3.6km az=37.0*
*IDC **06** 19:11:15.6±0.5, 19°.79N×95°.78E, h0km, mb4.1/22, mb1 4.2/23, mb1mx4.1/42, mbtmp4.1/23, ML3.8/1, Error ellipse: s-maj=19.5km s-min=10.6km az=35.0*
*NEIC **06** 19:11:20.3±2.0, 19°.84N×95°.84E, h33km±14km, mb4.4/17, Error ellipse: s-maj=8.1km s-min=5.0km az=52.0*
*SZGRF **06** 19:11:37.5, 22°.00N×93°.21E, h33km, mb4.9, Myanmar*
ISC 06 19:11:17.8±0.4, 19°.89N±0°.05×95°.76E±0°.04, h12km, n151, σ1§07/158, mb4.5/66, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHMT	**Maesarieng**	**2.67**	**129**	P	**Pn**	**19 11 58.5**	**-2.2**
MHMT				S	**Sb**	**19 12 39.4**	**+1.1**
CMAI	**Chiengmai2**	**3.09**	**89**	P	**Pn**	**19 12 05.9**	**-0.7**
CMAI				S	**Sb**	**19 12 51.4**	**+0.8**
CHTO	**Chiang Mai**	**3.19**	**109**	*e*Pn	Pn	19 12 04.4	-3.4
CHTO				*e*Sg	**Sb**	**19 12 52.7**	**-0.7**
CMMT	**Chiang Mai**	**3.19**	**109**	P	**Pn**	**19 12 05.9**	**-2.0**
CMMT				S	**Sb**	**19 12 52.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**3.33**	**115**	Pn	**Pn**	**19 12 08.5**	**-1.2**
	2.7nm,0.3s,baz=287,slow=14,SNR=20						
CMAR				Pg	**Pb**	**19 12 17.1**	**+0.2**
	17nm,0.3s,baz=297,slow=16,SNR=93						
CMAR				Lg	Lg	19 12 58.1	
	21nm,0.3s,baz=287,slow=31,SNR=6.5						
LAMP	**Lampang**	**3.90**	**110**	P	**Pn**	**19 12 17.2**	**-0.4**
	62nm,0.7s,4μm1.7nm						
LAMP				S	**Sn**	**19 13 08.1**	**+4.7**
	62nm,0.7s,4μm1.7nm						
PAYA	**Payao**	**3.91**	**97**	P	**Pn**	**19 12 16.0**	**-1.7**
PAYA				S	**Sb**	**19 13 15.8**	**+1.8**
CRAI	**Chiangrai**	**4.35**	**85**	P	**Pn**	**19 12 21.8**	**-2.0**
	69nm,0.9s,1.4nm						
CRAI				S	**Sb**	**19 13 22.7**	**-4.0**
	69nm,0.9s,1.4nm						
SUKH	**Sukhothai**	**4.38**	**123**	P	Pn	19 12 21.6	-2.6
	26nm,1.1s,974nm0.4nm						
SUKH				S	**Sb**	**19 13 26.4**	**-1.2**
	26nm,1.1s,974nm0.4nm						
UMPA	**Umpang Tak**	**4.71**	**141**	P	Pg	19 12 55.9	+7.9
UMPA				S	Sg	19 13 59.7	+11
UTTA	**Uttaradit**	**5.02**	**114**	P	Sg	19 13 52.2	-6.8
UTTA				S	**Sb**	**19 13 47.2**	**+1.3**
UTHA	**Uthaitani**	**5.56**	**140**	P	**Pn**	**19 12 39.5**	**-0.9**
UTHA				S	**Sb**	**19 14 03.6**	**+2.1**
KHLT	**Khaolaem Dam**	**5.74**	**152**	P	Pn	19 12 40.1	-2.8
	6.6nm,0.7s,0.2nm						
KHLT				S	**Sb**	**19 14 04.5**	**-2.3**
	6.6nm,0.7s,0.2nm						
PBKT	**Sadao Pong**	**5.95**	**123**	P	**Pn**	**19 12 44.3**	**-1.5**
PBKT				S	**Sb**	**19 14 15.6**	**+2.8**
SRDT	**SRDT**	**6.38**	**149**	P	**Pb**	**19 13 08.9**	**0.0**
SRDT				S	Sb	19 14 33.0	+7.8
SHL	**Shillong**	**6.69**	**328**	*e*P	**Pn**	**19 12 56.9**	**+0.9**
SHL				AMB	AMB	19 12 59.2	
	comp=Z,23nm,0.0s						
DGPR	**DIGLIPUR**	**7.21**	**203**	*e*P	**Pn**	**19 13 02.5**	**-0.5**
DGPR				AMB	AMB	19 13 19.2	
	comp=Z,12nm,1.9s						
PBA	**Port Blair**	**8.69**	**200**	*e*P	Pn	19 13 23.7	+0.3
PBA				AMB	AMB	19 13 35.6	
	comp=Z,16nm,0.7s						
BOK	**Bokaro**	**9.96**	**295**	*e*P	**Pn**	**19 13 42.3**	**+1.5**
BOK				AMB	AMB	19 13 45.8	
	comp=Z,9.7nm,0.5s						
UBPT	**Khong Chiam**	**10.33**	**115**	S	Sn	19 16 29.5	+48
ODAN	**Odare**	**10.35**	**314**	*e*P	**Pn**	**19 13 47.1**	**+0.7**
	comp=Z,26nm,0.4s						
TAPN	**Taplejung**	**10.46**	**317**	*e*P	**Pn**	**19 13 49.2**	**+1.2**
	comp=Z,29nm,0.4s						
LSA	**Lhasa**	**10.62**	**338**	*e*Pn	**Pn**	**19 13 51.9**	**+1.5**
	comp=Z,9.2nm,0.6s						
RAMN	**Ramite**	**10.96**	**312**	*e*P	**Pn**	**19 13 55.7**	**+1.0**
	comp=Z,37nm,0.4s						
JIRN	**Jiri**	**11.68**	**313**	*e*P	**Pn**	**19 14 05.2**	**+0.5**
	comp=Z,20nm,0.4s						
VIS	**Vishakhapatnam**	**11.97**	**262**	*e*x	Pn	19 14 01.6	-6.8
VIS				AMB	AMB	19 14 04.8	
	comp=Z,24nm,1.4s						
GUN	**Gumba**	**12.05**	**313**	*e*P	**Pn**	**19 14 10.3**	**+0.5**
	comp=Z,36nm,0.6s						
PKI	**Pulchoki**	**12.17**	**311**	*e*P	**Pn**	**19 14 11.8**	**+0.4**
	comp=Z,28nm,0.6s						
PKIN	**Phulchoki**	**12.19**	**311**	*e*P	**Pn**	**19 14 12.2**	**+0.6**
	comp=Z,14nm,0.4s						
KKN	**Kakani**	**12.40**	**311**	*e*P	**Pn**	**19 14 14.2**	**-0.2**
	comp=Z,8.4nm,0.3s						
DMN	**Daman**	**12.41**	**310**	*e*P	**Pn**	**19 14 15.3**	**+0.7**
GKN	**Gorkha**	**12.98**	**311**	*e*P	**Pn**	**19 14 21.8**	**-0.5**
	comp=Z,27nm,0.4s						
KOLN	**Koldanda**	**13.61**	**307**	*e*P	**Pn**	**19 14 31.2**	**+0.3**
	comp=Z,29nm,0.6s						
DANN	**Dangsing**	**13.81**	**310**	*e*P	**Pn**	**19 14 32.9**	**-0.9**
	comp=Z,25nm,0.4s						
HYB	**Hyderabad**	**16.49**	**264**	*i*P	**P**	**19 15 13.5**	**+1.6**
PSI	**Prapat**	**17.27**	**169**	Pn	**P**	**19 15 21.7**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=320,slow=12,SNR=4.7						
DDI	**Dehra Dun**	**19.08**	**306**	*e*P	**P**	**19 15 38.9**	**-1.4**
DDI				AMB	AMB	19 15 52.8	
	comp=Z,15nm,0.8s						
SMLA	**Simla**	**20.14**	**307**	*i*P	Pn	19 15 53.9	+0.2
SMLA				*i*x	x	19 15 53.9	
	baz=174,slow=28						
SMLA	**Simla**	**20.14**	**307**	*e*P	**P**	**19 15 52.1**	**+0.2**
SMLA				AMB	AMB	19 15 54.9	
	comp=Z,21nm,0.8s						
SMLA				*ex*	x	19 19 30.2	
DHRM	**DHARAMSHALA**	**21.34**	**309**	*e*P	**P**	**19 16 06.0**	**+0.9**
DHRM				AMB	AMB	19 16 17.7	
	comp=Z,21nm,0.2s						
KBL	**Kabul**	**27.77**	**307**	*e*P	**P**	**19 17 08.1**	**+1.2**
	comp=Z,6.9nm,0.8s						
TKM2	**Tokmak 2**	**28.55**	**328**	P	**P**	**19 17 14.1**	**+0.3**
	comp=Z,1.7nm,0.8s						
AAK	**Ala-Archa**	**28.90**	**326**	P	**P**	**19 17 18.2**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=117,slow=12,SNR=4.3						
AAK	**Ala-Archa**	**28.90**	**326**	*e*P	**P**	**19 17 17.6**	**+0.8**
	comp=Z,3.0nm,1.0s						
MKAR	**Makanchi Array**	**29.01**	**341**	P	**P**	**19 17 18.2**	**+0.7**
	comp=Z,3.0nm,0.7s,baz=148,slow=9.6,SNR=41						
SONM	**Songino Array**	**29.18**	**15**	P	**P**	**19 17 20.8**	**+1.6**
	comp=Z,1.6nm,0.9s,baz=194,slow=12,SNR=8.5						
EKS2	**Erkin-Say**	**29.30**	**326**	*e*P	**P**	**19 17 20.2**	**-0.1**
	comp=Z,3.4nm,0.8s						
JOW	**Kunigami**	**30.57**	**71**	P	**P**	**19 17 31.2**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=277,slow=17,SNR=3.9						
KKAR	**Karatay Array**	**31.39**	**323**	P	**P**	**19 17 38.9**	**+0.2**
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**33.62**	**340**	*e*P	**P**	**19 17 58.2**	**+0.2**
	comp=Z,3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**35.02**	**349**	P	**P**	**19 18 11.3**	**+1.2**
	comp=Z,3.2nm,0.6s,baz=169,slow=8.9,SNR=22						
GEYT	**Alibeck**	**37.22**	**307**	P	**P**	**19 18 30.9**	**+1.6**
	comp=Z,4.2nm,1.0s,baz=156,slow=4.4,SNR=12						
BRVK	**Borovoye**	**38.51**	**335**	*e*P	**P**	**19 18 39.8**	**-0.1**
ABKAR	**Akbulak array**	**40.93**	**324**	*e*P	**P**	**19 18 60.0**	**-0.1**
	comp=Z,3.1nm,0.6s						
ARU	**Arti**	**45.76**	**332**	*e*P	**P**	**19 19 38.5**	**-0.5**
	comp=Z,5.4nm,0.8s						
YAK	**Yakutsk**	**48.20**	**21**	P	**P**	**19 19 58.3**	**+0.4**
KBZ	**Khabaz**	**49.85**	**311**	P	**P**	**19 20 11.5**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=149,slow=5.9,SNR=3.1						
KIV	**Kislovodsk**	**50.04**	**311**	*e*P	**P**	**19 20 13.6**	**+1.1**
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**54.73**	**134**	P	**P**	**19 20 46.6**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=323,slow=7.4,SNR=14						
WRA				PcP	**PcP**	**19 21 49.3**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=327,slow=3.4,SNR=5.7						
WRAB	**Tennant Creek**	**54.73**	**134**	*e*P	**P**	**19 20 46.6**	**-0.9**
	comp=Z,3.2nm,0.8s						
TIXI	**Tiksi**	**55.21**	**12**	*e*P	**P**	**19 20 50.0**	**-0.2**
	comp=Z,8.3nm,0.6s						
BRTR	**Keskin Array B**	**56.31**	**305**	P	**P**	**19 20 59.2**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=92,slow=4.6,SNR=3.9						
ASAR	**Alice Springs**	**57.07**	**138**	P	**P**	**19 21 03.7**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=319,slow=6.9,SNR=11						
ASAR				PcP	**PcP**	**19 21 59.0**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=308,slow=3.3,SNR=4.0						
AKASG	**Malin Array Be**	**60.05**	**318**	P	**P**	**19 21 23.3**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=75,slow=7.4,SNR=4.8						
JOF	**Joensuu**	**60.89**	**332**	*e*p	**P**	**19 21 30.7**	**+0.6**
	comp=Z,2.0nm,0.5s						
KMBO	**Kilima Mbogo**	**61.00**	**257**	P	**P**	**19 21 30.8**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=40,slow=8.6,SNR=3.6						
KAF	**Kangasniemi**	**63.01**	**330**	*e*p	**P**	**19 21 43.4**	**-1.0**
	comp=Z,0.4nm,0.3s						
FINES	**FINESS Array B**	**63.02**	**330**	P	**P**	**19 21 44.2**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=111,slow=5.7,SNR=16						
KWP	**Kalwaria Pacla**	**64.19**	**316**	*e*P	**P**	**19 21 52.5**	**0.0**
	comp=Z,16nm,0.9s						
BILL	**Bilibino**	**64.44**	**23**	*e*P	**P**	**19 21 52.9**	**-0.8**
	comp=Z,3.0nm,1.0s						
BRG	**Berggiesshubel**	**69.72**	**318**	*e*P	**P**	**19 22 28.2**	**+0.6**
	comp=Z,4.4nm,0.7s						
BRG	**Berggiesshubel**	**69.72**	**318**	*e*P	**P**	**19 22 28.5**	**+0.9**
	comp=Z,5.0nm,0.7s						
GEC2	**GERESS Array S**	**70.14**	**316**	*e*P	**P**	**19 22 31.1**	**+0.8**
	comp=Z,7.0nm,0.9s						
GERES	**GERESS Array B**	**70.14**	**316**	P	**P**	**19 22 30.5**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=77,slow=6.0,SNR=12						
NB2	**NORSAR Subarra**	**70.18**	**329**	P	**P**	**19 22 29.5**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=86,slow=6.5						
NOA	**NORSAR Array B**	**70.18**	**329**	P	**P**	**19 22 29.8**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=86,slow=6.2,SNR=5.8						
CLL	**Collm**	**70.26**	**319**	*e*P	**P**	**19 22 31.4**	**+0.5**
	comp=Z,7.0nm,1.2s						
CLL	**Collm**	**70.26**	**319**	*e*P	**P**	**19 22 31.0**	**+0.1**
	comp=Z,7.0nm,1.1s						
CLL	**Collm**	**70.26**	**319**	*e*P	**P**	**19 22 31.0**	**+0.1**
	comp=Z,7.0nm,1.1s						
CLL				Lm	MLR	20 10 00.0	
	comp=Z,400nm,20.9s						
CLL				LmV		20 12 00.0	
	comp=Z,400nm,19.6s						
CLL				Lm	MLR	20 48 00.0	
	comp=Z,100nm,20.0s						
CLL				LmV		22 14 00.0	
	comp=Z,100nm,20.8s						
CLL				Lm	MLR	22 18 00.0	
	comp=N,100nm,20.0s						
CLL				Lm	MLR	22 18 00.0	
	comp=E,100nm,18.9s						
CLL				Lm	MLR	22 18 00.0	
	comp=Z,100nm,19.2s						
WET	**Wettzell**	**70.63**	**316**	*e*P	**P**	**19 22 34.1**	**+0.8**
	comp=Z,5.0nm,1.0s						
TANN	**Tannenbergstha**	**70.72**	**318**	*e*P	**P**	**19 22 34.5**	**+0.7**
	comp=Z,6.0nm,1.2s						
ROTZ	**Rotzenmuhle**	**70.97**	**317**	*e*P	**P**	**19 22 36.8**	**+1.5**
	comp=Z,8.0nm,0.9s						
MOX	**Moxa**	**71.22**	**318**	*e*P	**P**	**19 22 37.6**	**+0.8**
	comp=Z,3.0nm,1.0s						
BSEG	**Bad Segeberg**	**71.52**	**322**	*e*P	**P**	**19 22 39.8**	**+1.3**
	comp=Z,7.0nm,0.8s						
GRF	**Grafenberg Arr**	**71.62**	**317**	*e*P	**P**	**19 22 40.5**	**+1.3**
FUR	**Furstenfeldbru**	**71.83**	**315**	*e*P	**P**	**19 22 41.3**	**+0.7**
	comp=Z,11nm,0.5s						
NRDL	**Niedersach Rie**	**71.86**	**320**	*e*P	**P**	**19 22 41.7**	**+1.2**
	comp=Z,40nm,2.1s						
CDF	**Champ du Feu**	**74.41**	**316**	*e*P	**P**	**19 22 55.4**	**-0.5**
	comp=Z,8.8nm,1.0s						
CDF	**Champ du Feu**	**74.41**	**316**	*e*P	**P**	**19 22 55.4**	**-0.5**
	comp=Z,8.8nm,1.0s						
PGF	**Pioggiola**	**74.50**	**310**	*e*P	**P**	**19 22 55.5**	**-1.1**
	comp=Z,57nm,1.2s						
PGF	**Pioggiola**	**74.50**	**310**	*e*P	**P**	**19 22 55.5**	**-1.1**
	comp=Z,57nm,1.2s						
HINF	**Hinteralfeld**	**74.81**	**316**	*e*P	**P**	**19 22 57.7**	**-0.5**
HINF	**Hinteralfeld**	**74.81**	**316**	*e*P	**P**	**19 22 57.7**	**-0.5**
LSZ	**Lusaka**	**75.05**	**247**	P	P	19 22 56.3	-3.9
	comp=Z,2.4nm,0.6s						
HAU	**Haudompre**	**75.10**	**316**	*e*P	**P**	**19 22 59.2**	**-0.6**
HAU	**Haudompre**	**75.10**	**316**	*e*P	**P**	**19 22 59.2**	**-0.6**
PAGF	**Fort de Pagny**	**75.38**	**317**	*e*P	**P**	**19 23 00.6**	**-0.8**
PAGF	**Fort de Pagny**	**75.38**	**317**	*e*P	**P**	**19 23 00.6**	**-0.8**
LPG	**La Plagne**	**75.41**	**313**	*e*P	**P**	**19 23 02.0**	**0.0**
	comp=Z,17nm,1.0s						
LPG	**La Plagne**	**75.41**	**313**	*e*P	**P**	**19 23 02.0**	**0.0**
	comp=Z,17nm,1.0s						
LPL	**La Plagne**	**75.42**	**313**	*e*P	**P**	**19 23 01.2**	**-0.8**
LPL	**La Plagne**	**75.42**	**313**	*e*P	**P**	**19 23 01.2**	**-0.8**
GIVF	**Givet**	**75.59**	**318**	*e*P	**P**	**19 23 01.2**	**-1.3**
GIVF	**Givet**	**75.59**	**318**	*e*P	**P**	**19 23 01.2**	**-1.3**
CABF	**La Chapelle**	**75.60**	**315**	*e*P	**P**	**19 23 01.6**	**-1.2**
	comp=Z,85nm,1.6s						
CABF	**La Chapelle**	**75.60**	**315**	*e*P	**P**	**19 23 01.6**	**-1.2**
	comp=Z,85nm,1.6s						
MEZF	**Maizieres J'vi**	**75.83**	**317**	*e*P	**P**	**19 23 03.8**	**-0.1**
	comp=Z,11nm,0.8s						
MEZF	**Maizieres J'vi**	**75.83**	**317**	*e*P	**P**	**19 23 03.8**	**-0.1**
	comp=Z,11nm,0.8s						
KEST	**Kesra**	**75.85**	**303**	P	**P**	**19 23 05.2**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=346,slow=4.2,SNR=3.4						
SFTF	**Sexfontaines**	**75.91**	**316**	*e*P	**P**	**19 23 03.3**	**-1.1**
	comp=Z,25nm,1.1s						
SFTF	**Sexfontaines**	**75.91**	**316**	*e*P	**P**	**19 23 03.3**	**-1.1**
	comp=Z,25nm,1.1s						
BAIF	**Baives**	**75.98**	**318**	*e*P	**P**	**19 23 04.9**	**+0.1**
	comp=Z,12nm,1.0s						
BAIF	**Baives**	**75.98**	**318**	*e*P	**P**	**19 23 04.9**	**+0.1**
	comp=Z,12nm,1.0s						
LOR	**Lormes**	**76.91**	**316**	*e*P	**P**	**19 23 08.9**	**-1.3**
	comp=Z,5.0nm,0.8s						
LOR	**Lormes**	**76.91**	**316**	*e*P	**P**	**19 23 08.9**	**-1.3**
	comp=Z,5.0nm,0.8s						
SMF	**Signal de Mont**	**77.09**	**315**	*e*P	**P**	**19 23 10.7**	**-0.5**
	comp=Z,12nm,1.0s						
SMF	**Signal de Mont**	**77.09**	**315**	*e*P	**P**	**19 23 10.7**	**-0.5**
	comp=Z,12nm,1.0s						
SSF	**Saint Saulge**	**77.20**	**316**	*e*P	**P**	**19 23 11.5**	**-0.3**
	comp=Z,14nm,1.1s						
SSF	**Saint Saulge**	**77.20**	**316**	*e*P	**P**	**19 23 11.5**	**-0.3**
	comp=Z,14nm,1.0s						
AVF	**Avril sur Loir**	**77.38**	**315**	*e*P	**P**	**19 23 12.3**	**-0.4**
	comp=Z,22nm,1.4s						
AVF	**Avril sur Loir**	**77.38**	**315**	*e*P	**P**	**19 23 12.3**	**-0.4**
	comp=Z,22nm,1.4s						
TCF	**Toulx Ste Croi**	**78.27**	**315**	*e*P	**P**	**19 23 17.0**	**-0.8**
	comp=Z,13nm,1.0s						
TCF	**Toulx Ste Croi**	**78.27**	**315**	*e*P	**P**	**19 23 17.0**	**-0.8**
	comp=Z,13nm,1.0s						
RJF	**Les Rejaudoux**	**79.02**	**314**	*e*P	**P**	**19 23 22.4**	**+0.5**
RJF	**Les Rejaudoux**	**79.02**	**314**	*e*P	**P**	**19 23 22.4**	**+0.5**
LDF	**La Druitiere**	**79.11**	**318**	*e*P	**P**	**19 23 21.9**	**-0.4**
	comp=Z,15nm,0.9s						
LDF	**La Druitiere**	**79.11**	**318**	*e*P	**P**	**19 23 21.9**	**-0.4**
	comp=Z,15nm,0.9s						
FLN	**La Foliniere**	**79.29**	**318**	*e*P	**P**	**19 23 22.9**	**-0.4**
FLN	**La Foliniere**	**79.29**	**318**	*e*P	**P**	**19 23 22.9**	**-0.4**
ROSF	**Rostrenen**	**81.18**	**318**	*e*P	**P**	**19 23 33.4**	**-0.1**
	comp=Z,25nm,1.0s						
ROSF	**Rostrenen**	**81.18**	**318**	*e*P	**P**	**19 23 33.4**	**-0.1**
	comp=Z,25nm,1.0s						
ETSF	**Etsaut**	**81.18**	**312**	*e*P	**P**	**19 23 32.8**	**-0.9**
	comp=Z,9.6nm,1.0s						
ETSF	**Etsaut**	**81.18**	**312**	*e*P	**P**	**19 23 32.8**	**-0.9**
	comp=Z,9.6nm,1.0s						
QUIF	**Quistinic**	**81.25**	**318**	*e*P	**P**	**19 23 33.7**	**-0.2**
QUIF	**Quistinic**	**81.25**	**318**	*e*P	**P**	**19 23 33.7**	**-0.2**
LBTB	**Lobatse**	**81.52**	**240**	*e*P	**P**	**19 23 35.7**	**0.0**
	comp=Z,3.4nm,0.6s						
MCK	**McKinley**	**82.88**	**24**	P	**P**	**19 23 40.1**	**-2.1**
	comp=Z,18nm,1.4s						
ILAR	**Eielson Array**	**83.09**	**23**	P	**P**	**19 23 42.5**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=301,slow=4.3,SNR=15						
BOSA	**Boshof**	**83.40**	**237**	P	**P**	**19 23 44.2**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=98,slow=7.1,SNR=3.0						
BOSA	**Boshof**	**83.40**	**237**	*e*P	**P**	**19 23 44.0**	**-1.5**
ESDC	**Sonseca Array**	**84.70**	**310**	P	**P**	**19 23 52.8**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=51,slow=4.9,SNR=4.1						
ESDC				PP	**PP**	**19 27 07.6**	**0.0**
	comp=Z,0.3nm,0.5s,baz=41,slow=8.2,SNR=3.7						
INK	**Inuvik**	**85.08**	**16**	P	**P**	**19 23 53.0**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=2.8,slow=3.4,SNR=5.7						
TSUM	**Tsumeb**	**85.89**	**248**	P	**P**	**19 23 57.9**	**-0.4**
	comp=Z,5.1nm,1.2s						
SUR	**Sutherland**	**88.48**	**235**	P	**P**	**19 24 08.6**	**-2.0**
TORD	**Torodi Ar. Bea**	**89.34**	**284**	P	**P**	**19 24 15.2**	**+0.2**
	comp=Z,0.7nm,0.

SKO	**Skopje**	**1.19**	**51**	P	**Pg**	19 30 05.0	-0.3
SKO	**Skopje**	**1.19**	**51**	*e*Pg	**Pg**	19 30 04.7	-0.6
SKO				*e*Sg	**Sb**	19 30 21.6	+0.4
SKO	**Skopje**	**1.19**	**51**	*e*Pn	**Pb**	19 30 05.6	+0.1
SKO				*e*Sn	**Sb**	19 30 22.0	+0.8
SKO				*e*Lg	Lg	19 30 22.2	
	comp=N,658nm,0.4s						
SKO				*e*Lg	Lg	19 30 22.2	
	comp=E,770nm,0.7s						
SKO	**Skopje**	**1.19**	**51**	*e*Pg	**Pg**	19 30 04.7	-0.6
SKO	**Skopje**	**1.19**	**51**	P	**Pg**	19 30 05.0	-0.3
SKO	**Skopje**	**1.19**	**51**	*e*Pn	**Pb**	19 30 05.6	+0.1
SKO				*e*Sg	**Sb**	19 30 21.6	+0.4
SKO				*e*Sn	**Sb**	19 30 22.0	+0.8
SKO				*e*Lg	Lg	19 30 22.2	
	comp=E,770nm,0.7s						
DRME	**Dracevica, Mon**	**1.23**	**322**	⇓*i*Pg	**Pg**	19 30 04.1	-2.1
DRME				*e*Sg	**Sb**	19 30 22.9	+0.4
SRN	**Sarande**	**1.35**	**187**	*i* PN	**Pn**	19 30 07.9	-0.1
SRN				*i* SN	**Sn**	19 30 28.4	+2.1
SRN	**Sarande**	**1.35**	**187**	P	**Pn**	19 30 07.4	-0.6
SRN	**Sarande**	**1.35**	**187**	P	**Pn**	19 30 07.4	-0.6
SRN	**Sarande**	**1.35**	**187**	*i* Pn	**Pn**	19 30 07.9	-0.1
	SNR=40						
SRN				*i* Sn	**Sn**	19 30 28.4	+2.1
	SNR=40						
PVY	**Plav**	**1.38**	**352**	⇓*i*Pg	**Pn**	19 30 07.4	-1.2
PVY				*e*Sg	**Sn**	19 30 28.8	+1.5
PVY	**Plav**	**1.38**	**352**	⇓*i*Pg	**Pn**	19 30 07.4	-1.2
PVY				*e*Sg	**Sn**	19 30 28.8	+1.5
PDG	**Podgorica**	**1.40**	**330**	P	**Pn**	19 30 07.6	-1.1
PDG	**Podgorica**	**1.40**	**330**	*e*Pg	**Pn**	19 30 07.3	-1.5
PDG				*e*Sg	**Sn**	19 30 28.8	+1.2
PDG	**Podgorica**	**1.40**	**330**	⇓*i*Pg	**Pn**	19 30 07.2	-1.5
PDG	**Podgorica**	**1.40**	**330**	P	**Pn**	19 30 07.6	-1.1
PDG				*e*Sg	**Sn**	19 30 28.8	+1.2
TTG	**Podgorica**	**1.40**	**330**	⇓*i*Pg	**Pn**	19 30 07.2	-1.5
TTG				*e*Sg	**Sn**	19 30 28.9	+1.3
BUM	**Brajici-Budva**	**1.46**	**318**	⇓*i*Pg	**Pn**	19 30 09.1	-0.5
BUM				*e*Sg	**Sn**	19 30 31.0	+1.9
BUM	**Brajici-Budva**	**1.46**	**318**	⇓*i*Pg	**Pn**	19 30 09.1	-0.5
BUM				*e*Sg	**Sn**	19 30 31.0	+1.9
KZN	**Kozani**	**1.50**	**127**	P	**Pn**	19 30 09.1	-1.0
KZN				S	**Sn**	19 30 30.6	+0.5
KZN	**Kozani**	**1.50**	**127**	*e*PG	**Pn**	19 30 09.8	-0.3
KZN				*e*SN	**Sg**	19 30 35.6	+4.9
KZN	**Kozani**	**1.50**	**127**	P	**Pn**	19 30 09.1	-1.0
KZN	**Kozani**	**1.50**	**127**	*e*Pg	**Pn**	19 30 09.8	-0.3
KZN				S	**Sn**	19 30 30.6	+0.5
KEK	**Kerkira**	**1.54**	**192**	P	**Pn**	19 30 10.1	-0.6
KEK				S	**Sn**	19 30 32.0	+1.0
KEK	**Kerkira**	**1.54**	**192**	*e*PN	**Pn**	19 30 10.7	0.0
KEK				*e*SN	**Sg**	19 30 33.7	+1.6
KEK	**Kerkira**	**1.54**	**192**	P	**Pn**	19 30 10.1	-0.6
KEK	**Kerkira**	**1.54**	**192**	*e*Pn	**Pn**	19 30 10.7	0.0
KEK				*e*Sn	**Sg**	19 30 33.7	+1.6
JAN	**Janina**	**1.64**	**162**	*e*PN	**Pb**	19 30 13.6	+0.3
JAN				*e*SN	**Sg**	19 30 38.8	+3.5
JAN	**Janina**	**1.64**	**162**	*e*Pn	**Pb**	19 30 13.6	+0.3
BEY	**Berane**	**1.66**	**352**	⇓*i*Pn	**Pn**	19 30 13.0	+0.6
BEY				*e*Sn	**Sg**	19 30 38.2	+2.2
IVA	**Berane**	**1.66**	**352**	⇓*i*Pn	**Pn**	19 30 13.0	+0.6
IVA				*e*Sn	**Sg**	19 30 38.2	+2.2
GRG	**Griva**	**1.68**	**98**	P	**Pn**	19 30 11.4	-1.2
GRG				S	**Sn**	19 30 34.3	-0.1
GRG	**Griva**	**1.68**	**98**	P	**Pn**	19 30 11.4	-1.2
GRG				S	**Sn**	19 30 34.3	-0.1
HCY	**Herceg Novi**	**1.77**	**314**	⇓*i*Pn	**Pn**	19 30 13.6	-0.2
HCY				*e*Sn	**Sg**	19 30 40.2	+0.7
HCY	**Herceg Novi**	**1.77**	**314**	⇓*i*Pn	**Pn**	19 30 13.6	-0.2
HCY				*e*Sn	**Sg**	19 30 40.2	+0.7
VAY	**Valandovo**	**1.78**	**86**	P	**Pn**	19 30 12.8	-1.1
VAY				S	**Sn**	19 30 36.8	-0.1
VAY	**Valandovo**	**1.78**	**86**	*e*Pg	**Pn**	19 30 13.4	-0.5
VAY				*e*Sg	**Sg**	19 30 39.8	0.0
VAY	**Valandovo**	**1.78**	**86**	*e*Pn	**Pn**	19 30 14.4	+0.4
VAY				*e*Sn	**Sg**	19 30 40.9	+1.1
VAY				*e*Lg	Lg	19 30 41.0	
	comp=N,259nm,0.8s						
VAY				*e*Lg	Lg	19 30 41.1	
	comp=E,146nm,0.5s						
VAY	**Valandovo**	**1.78**	**86**	P	**Pn**	19 30 12.8	-1.1
VAY	**Valandovo**	**1.78**	**86**	*e*Pn	**Pn**	19 30 14.3	+0.4
VAY				S	**Sn**	19 30 36.8	-0.1
VAY				*e*Sn	**Sg**	19 30 40.9	+1.1
VAY				*e*Lg	Lg	19 30 41.1	
	comp=E,146nm,0.5s						
NKME	**Niksic**	**1.80**	**329**	⇓*i*Pn	**Pn**	19 30 14.6	+0.3
NKME				*e*Sn	**Sg**	19 30 41.7	+1.1
NKME	**Niksic**	**1.80**	**329**	⇓*i*Pn	**Pn**	19 30 14.6	+0.3
NKME				*e*Sn	**Sg**	19 30 41.7	+1.1
NKY	**Niksic**	**1.83**	**331**	⇓*i*Pn	**Pn**	19 30 15.8	+1.1
NKY				*e*Sn	**Sg**	19 30 42.2	+0.9
NKY	**Niksic**	**1.83**	**331**	⇓*i*Pn	**Pn**	19 30 15.8	+1.1
NKY				*e*Sn	**Sg**	19 30 42.2	+0.9
BARS	**Barje**	**1.99**	**36**	*e*Pg	**Pb**	19 30 19.2	0.0
BARS				*e*Sg	**Sg**	19 30 48.0	+1.5
BARS	**Barje**	**1.99**	**36**	*e*Pg	**Pb**	19 30 19.2	0.0
BARS				*e*Sg	**Sg**	19 30 48.0	+1.5
KNT	**Kendrikon**	**2.03**	**91**	P	**Pn**	19 30 16.5	-0.9
KNT				S	**Sn**	19 30 43.2	+0.1
KNT	**Kendrikon**	**2.03**	**91**	*e*PN	**Pn**	19 30 17.5	+0.1
KNT				*e*SN	**Sg**	19 30 47.1	-0.6
KNT	**Kendrikon**	**2.03**	**91**	P	**Pn**	19 30 16.5	-0.9
KNT				S	**Sn**	19 30 43.2	+0.1
KNT				*e*Sn	**Sg**	19 30 47.1	-0.6
TREB	**Trebinje**	**2.04**	**318**	*e*Pg	**Pn**	19 30 17.7	+0.2
TREB				*e*Sg	**Sg**	19 30 48.8	+0.8
TREB	**Trebinje**	**2.04**	**318**	*e*Pg	**Pn**	19 30 17.7	+0.2
TREB				*e*Sg	**Sg**	19 30 48.8	+0.8
SJES	**Sjenica**	**2.04**	**355**	*e*Pg	**Pb**	19 30 20.9	+0.7
SJES				*e*Sg	**Sg**	19 30 49.3	+1.1
LIT	**Litokhoron**	**2.06**	**122**	*e*PN	**Pn**	19 30 18.3	+0.4
LIT				*e*SN	**Sg**	19 30 49.0	+0.1
LIT	**Litokhoron**	**2.06**	**122**	*e*Pn	**Pn**	19 30 18.3	+0.4
BRY	**Bratogost**	**2.09**	**324**	⇑*i*Pn	**Pn**	19 30 19.5	+1.2
BRY				*e*Sn	**Sb**	19 30 47.5	+0.2
BRY	**Bratogost**	**2.09**	**324**	⇑*i*Pn	**Pn**	19 30 19.5	+1.2
BRY				*e*Sn	**Sb**	19 30 47.5	+0.2
SELS	**Selova**	**2.10**	**18**	*e*Pg	**Pb**	19 30 20.2	-1.0
THL	**Klokotos Trika**	**2.15**	**140**	P	**Pn**	19 30 18.6	-0.5
THL				S	**Sn**	19 30 46.5	+0.4
THL	**Klokotos Trika**	**2.15**	**140**	*e*PN	**Pn**	19 30 20.4	+1.3
THL				*e*SN	**Sg**	19 30 51.7	-0.1
THL	**Klokotos Trika**	**2.15**	**140**	P	**Pn**	19 30 18.6	-0.5
THL	**Klokotos Trika**	**2.15**	**140**	*e*Pn	**Pn**	19 30 20.4	+1.3
THL				S	**Sn**	19 30 46.5	+0.4
THE	**Thessaloniki**	**2.17**	**105**	*e*PN	**Pn**	19 30 19.4	+0.1
THE				*e*SN	**Sg**	19 30 51.4	-0.8
PLE	**Pljevlja**	**2.19**	**344**	*e*Pn	**Pn**	19 30 20.2	+0.5
PLE				*e*Sn	**Sb**	19 30 49.8	-0.4
PLE	**Pljevlja**	**2.19**	**344**	*e*Pn	**Pn**	19 30 20.2	+0.5
PLE				*e*Sn	**Sb**	19 30 49.8	-0.4
UPM	**Unac-Piva**	**2.20**	**334**	*e*Pn	**Pn**	19 30 21.0	+1.1
UPM				*e*Sn	**Sb**	19 30 50.9	+0.3
UPM	**Unac-Piva**	**2.20**	**334**	*e*Pn	**Pn**	19 30 21.0	+1.1
UPM				*e*Sn	**Sb**	19 30 50.9	+0.3
HORT	**Hortiatis**	**2.28**	**105**	*e*PN	**Pn**	19 30 20.9	0.0
HORT				*e*SN	**Sb**	19 30 53.8	+1.2
IVAS	**Ivanjica**	**2.35**	**359**	*e*Pg	**Pb**	19 30 24.1	-1.3
IVAS	**Ivanjica**	**2.35**	**359**	*e*Pg	**Pb**	19 30 24.1	-1.3
SOH	**Sokhos**	**2.41**	**99**	*e*PN	**Pn**	19 30 23.5	+0.8
SOH				*e*SN	**Sb**	19 30 57.0	+0.5
SOH	**Sokhos**	**2.41**	**99**	*e*Pn	**Pn**	19 30 23.5	+0.8
SOH				*e*Sn	**Sb**	19 30 57.0	+0.5
LKD2	**Lefkada island**	**2.46**	**172**	*e*PN	**Pn**	19 30 23.4	+0.1
LKD2				*e*SN	**Sb**	19 30 57.8	+0.1
LKD2	**Lefkada island**	**2.46**	**172**	*e*Pn	**Pn**	19 30 23.4	+0.1
STON	**Ston**	**2.49**	**312**	*e*Pn	**Pn**	19 30 23.2	-0.5
STON				Sn	**Sn**	19 30 54.5	+0.1
STON	**Ston**	**2.49**	**312**	*e*Pn	**Pn**	19 30 24.2	+0.5
STON	**Ston**	**2.49**	**312**	*e*Pn	**Pn**	19 30 24.2	+0.5
STON				Sn	**Sn**	19 30 54.5	+0.1
SRS	**Serrai**	**2.56**	**91**	*e*PN	**Pn**	19 30 24.8	+0.2
SRS				*e*SN	**Sb**	19 31 00.1	-0.5
SRS	**Serrai**	**2.56**	**91**	*e*Pn	**Pn**	19 30 24.8	+0.2
SRS				*e*Sn	**Sb**	19 31 00.1	-0.5
PLG	**Polygyros**	**2.60**	**108**	*e*PN	**Pn**	19 30 25.7	+0.5
PLG				*e*SN	**Sb**	19 31 01.4	-0.4
PLG	**Polygyros**	**2.60**	**108**	*e*Pn	**Pn**	19 30 25.7	+0.5
PLG				*e*Sn	**Sb**	19 31 01.4	-0.4
EVR	**Evrytania**	**2.61**	**151**	*e*PN	**Pn**	19 30 27.9	+2.4
EVR				*e*SN	**Sb**	19 31 02.8	+0.6
EVR	**Evrytania**	**2.61**	**151**	*e*Pn	**Pn**	19 30 27.9	+2.4
VTS	**Vitosha**	**2.62**	**58**	*e*Pg	**Pn**	19 30 28.1	+2.4
VTS				*e*Sn	**Sn**	19 30 59.3	+1.4
VTS	**Vitosha**	**2.62**	**58**	⇑*i*P	**Pn**	19 30 27.9	+2.2
VTS	**Vitosha**	**2.62**	**58**	S	**Sn**	19 30 59.8	+1.9
VTS	**Vitosha**	**2.62**	**58**	⇑*i*P	**Pn**	19 30 27.9	+2.2
VTS				*e*Sn	**Sn**	19 30 59.3	+1.4
MAKR	**Makrakomi, Fth**	**2.65**	**146**	*e*PN	**Pn**	19 30 26.9	+0.9
MAKR				*e*SN	**Sb**	19 31 04.3	+0.9
MAKR	**Makrakomi, Fth**	**2.65**	**146**	*e*Pn	**Pn**	19 30 26.9	+0.9
MMB	**Musomiste**	**2.67**	**81**	⇓*i*P	**Pn**	19 30 28.2	+2.0
MMB	**Musomiste**	**2.67**	**81**	⇓*i*P	**Pn**	19 30 28.2	+2.0
GRUS	**Gruza**	**2.69**	**8**	*e*Pg	**Pb**	19 30 29.9	-1.2
GRUS	**Gruza**	**2.69**	**8**	*e*Pg	**Pb**	19 30 29.9	-1.2
BBLS	**Lazići**	**2.71**	**348**	*e*Pg	**Pb**	19 30 31.4	-0.1
BBLS	**Lazići**	**2.71**	**348**	*e*Pg	**Pb**	19 30 31.4	-0.1
ZAPS	**Zavoj**	**2.73**	**40**	*e*Pg	**Pb**	19 30 30.4	-1.4
ZAPS	**Zavoj**	**2.73**	**40**	*e*Pg	**Pb**	19 30 30.4	-1.4
PDO	**Prodromos**	**2.73**	**164**	*e*PB	**Pn**	19 30 27.4	+0.4
PDO	**Prodromos**	**2.73**	**164**	*e*Pb	**Pn**	19 30 27.4	+0.4
AGG	**Agios Georgios**	**2.73**	**143**	*e*PB	**Pn**	19 30 28.0	+0.9
AGG				*e*SN	**Sb**	19 31 05.9	+0.2
AGG	**Agios Georgios**	**2.73**	**143**	*e*Pb	**Pn**	19 30 28.0	+0.9
NVR	**Nevrokopi**	**2.75**	**86**	*e*PN	**Pn**	19 30 27.7	+0.3
NVR				*e*SN	**Sb**	19 31 04.2	-2.1
NVR	**Nevrokopi**	**2.75**	**86**	*e*Pn	**Pn**	19 30 27.7	+0.3
NVR				*e*Sn	**Sb**	19 31 04.2	-2.1
DIVS	**Divibare**	**2.88**	**357**	*e*Pg	**Pb**	19 30 34.2	-0.2
DIVS	**Divibare**	**2.88**	**357**	*e*Pg	**Pb**	19 30 34.2	-0.2
BOLS	**Boljevac**	**2.90**	**26**	*e*PN	**Pn**	19 30 29.7	+0.3
BOLS	**Boljevac**	**2.90**	**26**	*e*Pn	**Pn**	19 30 29.7	+0.3
XOR	**Xorichti**	**2.94**	**128**	*e*PN	**Pn**	19 30 31.2	+1.3
XOR				*e*SN	**Sb**	19 31 09.6	-2.0
PAIG	**Paliouri**	**2.94**	**115**	*e*PN	**Pn**	19 30 31.5	+1.6
PAIG				*e*SN	**Sb**	19 31 10.2	-1.5
PAIG	**Paliouri**	**2.94**	**115**	*e*Pn	**Pn**	19 30 31.5	+1.6
CDT	**Castel del Mon**	**2.98**	**269**	*e*Pn	**Pn**	19 30 28.8	-1.6
CDT				Sn	Sn	19 31 01.1	-5.4
NEO	**Neokhori**	**3.00**	**129**	*e*PB	**Pn**	19 30 31.7	+1.0
NEO	**Neokhori**	**3.00**	**129**	*e*Pb	**Pn**	19 30 31.7	+1.0
OUR	**Ouranopolis**	**3.00**	**106**	*e*PB	**Pn**	19 30 30.6	-0.1
OUR				*e*SN	**Sb**	19 31 11.2	-2.1
OUR	**Ouranopolis**	**3.00**	**106**	*e*Pb	**Pn**	19 30 30.6	-0.1
OUR				*e*Sn	**Sb**	19 31 11.2	-2.1
TRUS	**Trudelj**	**3.00**	**3**	*e*Pn	**Pn**	19 30 32.4	+1.7
TRUS	**Trudelj**	**3.00**	**3**	*e*Pn	**Pn**	19 30 32.4	+1.7
VLS	**Valsamata**	**3.06**	**174**	*e*PN	**Pn**	19 30 32.8	+1.3
VLS				*e*SN	**Sb**	19 31 13.0	-2.0
VLS	**Valsamata**	**3.06**	**174**	*e*Pn	**Pn**	19 30 32.8	+1.3
EFP	**Efpalio**	**3.08**	**154**	*e*PN	**Pn**	19 30 34.3	+2.4
EFP	**Efpalio**	**3.08**	**154**	*e*Pn	**Pn**	19 30 34.3	+2.4
AXAR	**Agios Charalam**	**3.09**	**142**	*e*PB	**Pn**	19 30 34.2	+2.2
AXAR				*e*SN	**Sb**	19 31 13.9	-2.1
AXAR	**Agios Charalam**	**3.09**	**142**	*e*Pb	**Pn**	19 30 34.2	+2.2
SVIS	**Svilajnac**	**3.13**	**13**	*e*Pn	**Pn**	19 30 33.8	+1.3
KALE	**Kalithea**	**3.20**	**152**	*e*PB	**Pn**	19 30 35.2	+1.7
KALE	**Kalithea**	**3.20**	**152**	*e*Pb	**Pn**	19 30 35.2	+1.7
KAVA	**Kavala**	**3.26**	**93**	*e*PN	**Pn**	19 30 34.3	0.0
KAVA				*e*SN	**Sn**	19 31 17.2	+3.8
KAVA	**Kavala**	**3.26**	**93**	*e*Pn	**Pn**	19 30 34.3	0.0
KAVA				*e*Sn	**Sn**	19 31 17.2	+3.8
LAKA	**Lakka**	**3.28**	**155**	*e*PN	**Pn**	19 30 36.2	+1.6
LAKA	**Lakka**	**3.28**	**155**	*e*Pn	**Pn**	19 30 36.2	+1.6
RLS	**Riolos of Patr**	**3.31**	**163**	*e*PB	**Pn**	19 30 36.7	+1.8
RLS	**Riolos of Patr**	**3.31**	**163**	*e*Pb	**Pn**	19 30 36.7	+1.8
DSF	**Desfina**	**3.33**	**147**	*e*PN	**Pn**	19 30 36.6	+1.3
DSF	**Desfina**	**3.33**	**147**	*e*Pn	**Pn**	19 30 36.6	+1.3
LKR	**Lokris**	**3.35**	**139**	*e*PB	**Pn**	19 30 37.9	+2.4
LKR				*e*SN	**Sb**	19 31 20.4	-2.9
LKR	**Lokris**	**3.35**	**139**	*e*Pb	**Pn**	19 30 37.9	+2.4
DRO	**Drossia**	**3.47**	**160**	*e*PN	**Pn**	19 30 38.7	+1.5
DRO	**Drossia**	**3.47**	**160**	*e*Pn	**Pn**	19 30 38.7	+1.5
KLV	**Kalavryta, Ach**	**3.51**	**154**	*e*PN	**Pn**	19 30 39.7	+1.9
KLV	**Kalavryta, Ach**	**3.51**	**154**	*e*Pn	**Pn**	19 30 39.7	+1.9
MRKA	**Markates**	**3.61**	**133**	*e*PN	**Pn**	19 30 41.4	+2.2
MRKA				*e*SN	**Sb**	19 31 27.6	-3.4
MRKA	**Markates**	**3.61**	**133**	*e*Pn	**Pn**	19 30 41.4	+2.2
GUR	**Goura**	**3.67**	**153**	*e*PN	**Pn**	19 30 42.0	+1.9
AMT	**Artemida-Makis**	**3.87**	**162**	*e*PN	**Pn**	19 30 44.2	+1.6
AMT	**Artemida-Makis**	**3.87**	**162**	*e*Pn	**Pn**	19 30 44.2	+1.6
KDZ	**Kurdzhali**	**3.94**	**82**	⇑*i*P	**Pn**	19 30 44.9	+1.3
KDZ	**Kurdzhali**	**3.94**	**82**	⇑*i*P	**Pn**	19 30 44.9	+1.3
RDO	**Rodhopi**	**4.02**	**89**	*e*PN	**Pn**	19 30 45.4	+0.7
RDO	**Rodhopi**	**4.02**	**89**	*e*Pn	**Pn**	19 30 45.4	+0.7
VLX	**Vlachokerasia**	**4.20**	**156**	*e*PN	**Pn**	19 30 48.2	+0.9
VLX				*e*SN	**Sn**	19 31 41.7	+4.9
ITM	**Ithomi**	**4.25**	**161**	*e*PN	**Pn**	19 30 48.9	+0.9
DID	**Didima**	**4.39**	**147**	*e*PN	**Pn**	19 30 51.5	+1.6
DID	**Didima**	**4.39**	**147**	*e*Pn	**Pn**	19 30 51.5	+1.6
ALN	**Alexandroupoli**	**4.42**	**92**	*e*PN	**Pn**	19 30 51.8	+1.5
ALN	**Alexandroupoli**	**4.42**	**92**	*e*Pn	**Pn**	19 30 51.8	+1.5
BZS	**Buzias**	**4.51**	**13**	⇓*i*P	**Pn**	19 30 54.3	+2.9
BZS	**Buzias**	**4.51**	**13**	⇓*i*P	**Pn**	19 30 54.3	+2.9
GZR	**Gura Zlata**	**4.57**	**23**	⇓*i*P	**Pn**	19 30 54.6	+2.3
GZR	**Gura Zlata**	**4.57**	**23**	⇓*i*P	**Pn**	19 30 54.6	+2.3
UDBI	**Udbina**	**4.64**	**317**	*e*Pn	**Pn**	19 30 53.9	+0.5
UDBI				Sn	**Sn**	19 31 47.8	+0.1
UDBI	**Udbina**	**4.64**	**317**	*e*Pn	**Pn**	19 30 53.8	+0.5
UDBI				Sn	**Sn**	19 31 47.7	+0.1
PKSM	**Moragy**	**5.11**	**348**	⇓*i*P	**Pn**	19 31 02.2	+2.5
PKSM	**Moragy**	**5.11**	**348**	⇓*i*P	**Pn**	19 31 02.2	+2.5
NVLJ	**Novalja**	**5.15**	**312**	*e*Pn	**Pn**	19 30 58.9	-1.3
NVLJ				Sn	**Sn**	19 31 58.4	-1.6
NVLJ	**Novalja**	**5.15**	**312**	*e*Pn	**Pn**	19 30 58.9	-1.3
NVLJ				Sn	**Sn**	19 31 58.3	-1.6
VOIR		**5.49**	**38**	⇑*i*P	**Pn**	19 31 06.3	+1.2
VOIR		**5.49**	**38**	⇑*i*P	**Pn**	19 31 06.3	+1.2
BOJS	**Bojanci**	**5.60**	**321**	*i* Pn	**Pn**	19 31 06.4	0.0
BOJS				*i* Sn	**Sn**	19 32 10.6	-0.5
BOJS	**Bojanci**	**5.60**	**321**	*i* Pn	**Pn**	19 31 06.4	0.0
BOJS				*i* Sn	**Sn**	19 32 10.6	-0.5
VISS	**Visnje**	**6.02**	**321**	*i* Pn	**Pn**	19 31 13.1	+0.9
VISS				*e*Sn	**Sn**	19 32 20.6	-0.8
VISS	**Visnje**	**6.02**	**321**	*i* Pn	**Pn**	19 31 13.1	+0.9
VISS				*e*Sn	**Sn**	19 32 20.6	-0.8
JAVS	**Javornik**	**6.46**	**318**	*i* Pn	**Pn**	19 31 18.1	-0.2
JAVS				*i* Sn	**Sn**	19 32 29.7	-2.7
JAVS	**Javornik**	**6.46**	**318**	*i* Pn	**Pn**	19 31 18.1	-0.2
VRI	**Vrincioaia**	**6.63**	**43**	⇑*i*P	**Pn**	19 31 23.4	+2.8
VRI	**Vrincioaia**	**6.63**	**43**	⇑*i*P	**Pn**	19 31 23.4	+2.8
ARSA	**Arzberg**	**6.90**	**332**	⇑*i*Pn	**Pn**	19 31 26.2	+1.9
ARSA	**Arzberg**	**6.90**	**332**	Pn	**Pn**	19 31 26.2	+1.9
IDI	**Anoyia**	**6.98**	**147**	Pn	**Pn**	19 31 26.2	+0.8
	comp=E,0.2nm,0.3s,baz=326,slow=18,SNR=2.4						
IDI				Sn	**Sn**	19 32 47.9	+2.8
	comp=E,0.7nm,0.3s,baz=179,slow=16,SNR=4.7						
VYHS	**Vyhne**	**7.33**	**353**	*e*PN	Pn	19 31 35.5	+5.2
ABTA	**Abfaltersbach**	**7.83**	**317**	⇑*i*Pn	**Pn**	19 31 37.1	0.0
ABTA	**Abfaltersbach**	**7.83**	**317**	Pn	**Pn**	19 31 37.1	0.0
KOLS	**Kolonicke sedl**	**7.84**	**10**	*e*Pn	**Pn**	19 31 38.9	+1.6
KOLS	**Kolonicke sedl**	**7.84**	**10**	*e*PN	**Pn**	19 31 38.8	+1.5
STHS	**Stebnicka Huta**	**8.22**	**5**	*e*PN	Pn	19 31 47.6	+5.1
VRAC	**Vranov**	**8.48**	**344**	Pn	**Pn**	19 31 47.5	+1.6
	comp=E,0.1nm,0.3s,baz=156,slow=12,SNR=1.9						
GERES	**GERESS Array B**	**8.90**	**331**	Pn	Pn	19 31 56.0	+4.1
	comp=E,0.2nm,0.3s,baz=158,slow=14,SNR=4.0						
GERES				Sn	**Sn**	19 33 33.3	+0.8
	comp=E,0.2nm,0.3s,baz=142,slow=16,SNR=2.4						
DAVOX	**Davos/Dischmat**	**9.29**	**310**	Pn	**Pn**	19 31 59.8	+2.6
	comp=E,0.7nm,0.3s,baz=137,slow=16,SNR=7.8						
BRTR	**Keskin Array B**	**10.34**	**94**	Pn	**Pn**	19 32 10.9	-0.8
	comp=E,0.0nm,0.3s,baz=274,slow=12,SNR=2.5						
HFS	**Hagfors**	**19.36**	**350**	P	**P**	19 34 08.0	-0.7
	comp=E,0.1nm,0.3s,baz=156,slow=12,SNR=3.9						
FINES	**FINESS Array B**	**20.56**	**8**	P	**P**	19 34 20.6	-1.1
	comp=E,0.4nm,0.3s,baz=178,slow=12,SNR=7.1						
NOA	**NORSAR Array B**	**20.59**	**348**	P	**P**	19 34 20.0	-2.2
	comp=E,0.8nm,0.7s,baz=166,slow=7.8,SNR=3.0						
EKA	**Eskdalemuir Ar**	**20.86**	**320**	P	**P**	19 34 24.3	-0.8
	comp=E,1.0nm,0.7s,baz=117,slow=12,SNR=3.3						
GEYT	**Alibeck**	**29.25**	**84**	P	**P**	19 35 44.3	-1.1
	comp=E,0.3nm,0.5s,baz=275,slow=5.4,SNR=2.8						
ZALV	**Zalesovo Beam**	**43.88**	**50**	P	**P**	19 37 49.8	+0.1
	comp=E,0.6nm,0.4s,baz=270,slow=8.1,SNR=5.7						
MKAR	**Makanchi Array**	**43.97**	**61**	P	**P**	19 37 49.3	-1.2
	comp=E,0.1nm,0.5s,baz=278,slow=7.5,SNR=4.8						
SONM	**Songino Array**	**58.74**	**52**	P	**P**	19 39 40.5	-0.9
	comp=E,0.5nm,0.7s,baz=289,slow=4.4,SNR=3.2						
CMAR	**Chiang Mai Arr**	**69.73**	**83**	P	**P**	19 40 54.1	+0.4
	comp=E,0.4nm,0.7s,baz=301,slow=9.2,SNR=4.3						

*ATH **06** 19:46:53.8, 37°59N×19°39E, h5km±2km, MD3.6/22*
*CSEM **06** 19:47:00.3±0.5, 37°71N×19°82E, h2km, ML2.8, Error ellipse: s-maj=9.3km s-min=5.3km az=69.0*
*THE **06** 19:47:01.0, 37°75N×19°90E, h0km±1km, ML2.8/4, Error ellipse: s-maj=1.6km s-min=0.7km az=271.0*
ISC 06 19:46:55.6±2.1, 37°61N±0°05×19°53E±0°07, h5km±10km, n100, σ1§61/126, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**1.01**	**56**	P	**Pg**	**19 47 13.9**	**-1.2**
VLS				S	**Sg**	**19 47 24.4**	**-3.8**
VLS	**Valsamata**	**1.01**	**56**	*e*PB	**Pg**	**19 47 15.4**	**+0.3**
VLS	

ellipse: s-maj=12.5km s-min=6.4km az=104.0
ISC 06 20:00:41.7±0.5, 8°96S±0'06×32°5E±0'1, h10km, n40, σ1°93/39, mb4.0/16, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.56**	**213**	Pn	Pn	20 02 37.2	+5.0
	11nm,0.3s,baz=23,slow=12,SNR=108						
LSZ				Sn	**Sn**	**20 03 58.0**	**0.0**
	40nm,0.3s,baz=99,slow=20,SNR=7.4						
LSZ				Lg	Lg	20 04 45.7	
	53nm,0.3s,baz=110,slow=14,SNR=6.5						
KMBO	**Kilima Mbogo**	**9.11**	**32**	Pn	**Pn**	**20 02 50.4**	**-3.1**
	5.3nm,0.3s,baz=204,slow=16,SNR=60						
KMBO				Sn	Sn	20 04 24.9	-12
	22nm,0.3s,baz=138,slow=23,SNR=15						
KMBO				Lg	Lg	20 05 20.3	
	12nm,0.3s,baz=287,slow=22,SNR=8.5						
KMBO	**Kilima Mbogo**	**9.11**	**32**	*e*Pn	Pn	20 02 50.0	-3.5
	20nm,0.4s						
KMBO				*e*Sn	Sn	20 04 21.1	-15
KMBO				Sn	Sn	20 04 24.9	-12
KMBO				*e*Lg	Lg	20 05 17.6	
KMBO				Lg	Lg	20 05 20.3	
MSNA	**Messina**	**13.52**	**190**	P	**Pn**	**20 03 55.3**	**+1.6**
MSNA				S	**Sn**	**20 06 26.7**	**+2.6**
OPO	**Ambohidratompo**	**17.15**	**125**	LR	LR	20 11 12.6	
	comp=Z,152nm,19.9s,baz=0.0,slow=37						
SLR	**Silverton**	**17.16**	**193**	P	**Pn**	**20 04 41.9**	**+0.1**
SLR				S	**Sn**	**20 07 50.1**	**-2.7**
LBTB	**Lobatse**	**17.27**	**202**	Pn	**Pn**	**20 04 42.1**	**-1.0**
	0.8nm,0.3s,baz=34,slow=13,SNR=15						
LBTB				Sn	Sn	20 07 45.4	-10
	0.5nm,0.3s,baz=114,slow=20,SNR=2.4						
LBTB				Lg	Lg	20 09 41.3	
	0.2nm,0.3s,baz=301,slow=19,SNR=4.9						
LBTB				LR	LR	20 11 20.6	
	comp=Z,396nm,18.1s,baz=62,slow=37						
LBTB	**Lobatse**	**17.27**	**202**	*e*Pn	**Pn**	**20 04 41.3**	**-1.8**
LBTB				Sn	Sn	20 07 45.4	-10
LBTB				*e*Sn	Sn	20 07 45.5	-10
LBTB				Lg	Lg	20 09 41.3	
ABPO	**Ambohimpanom**	**17.42**	**127**	Pn	**P**	**20 04 48.5**	**+2.0**
TSUM	**Tsumeb**	**17.68**	**233**	P	**P**	**20 04 49.2**	**0.0**
	0.7nm,0.3s,baz=38,slow=12,SNR=25						
TSUM				S	Sn	20 07 57.5	-8.0
	0.5nm,0.3s,baz=116,slow=7.1,SNR=5.5						
TSUM				Lg	Lg	20 10 05.9	
	1.0nm,0.3s,baz=287,slow=18,SNR=2.5						
TSUM	**Tsumeb**	**17.68**	**233**	P	**P**	**20 04 49.2**	**0.0**
TSUM				*e*Sn	Sn	20 07 55.1	-10
TSUM				S	Sn	20 07 57.5	-8.0
TSUM				Lg	Lg	20 10 05.9	
ERPM	**east rand prop**	**17.75**	**193**	P	**P**	**20 04 50.1**	**+0.1**
ERPM				S	**Sn**	**20 08 05.0**	**-2.3**
KLOF	**Kloof**	**17.91**	**194**	P	**P**	**20 04 54.5**	**+2.7**
KLOF				S	**Sn**	**20 08 13.0**	**+2.0**
SWZ	**Schweizer**	**19.35**	**200**	P	**Pn**	**20 05 09.8**	**+1.1**
SWZ				S	Sn	20 08 36.6	-9.3
SEK	**Senekal**	**19.80**	**193**	P	**Pn**	**20 05 15.7**	**+1.6**
SEK				S	S	20 08 47.9	-7.9
BOSA	**Boshof**	**20.70**	**198**	P	Pn	20 05 24.8	0.0
	6.3nm,0.6s,baz=26,slow=10.0,SNR=33						
BOSA				S	**S**	**20 09 08.0**	**-5.8**
	9.0nm,0.8s,baz=130,slow=10,SNR=4.4						
BOSA				Lg	Lg	20 11 26.2	
	10nm,0.8s,baz=270,slow=20,SNR=1.6						
BOSA				LR	LR	20 13 43.1	
	comp=Z,303nm,19.2s,baz=37,slow=38						
BOSA	**Boshof**	**20.70**	**198**	*e*P	Pn	20 05 24.4	-0.4
BOSA				*e*S	S	20 09 02.8	-11
BOSA				S	**S**	**20 09 08.0**	**-5.8**
BOSA				Lg	Lg	20 11 26.2	
KSD	**Kokstad**	**21.66**	**187**	P	P	20 05 44.6	+12
KSD				S	**S**	**20 09 33.3**	**+0.6**
UPI	**Upington**	**22.02**	**207**	P	P	20 05 47.4	+11
UPI				S	Sn	20 09 49.2	-0.8
GRM	**Grahamstown**	**24.86**	**192**	P	P	20 05 59.0	-5.5
GRM				S	S	20 11 00.0	+32
SUR	**Sutherland**	**25.70**	**203**	P	**P**	**20 06 14.7**	**+2.4**
	3.0nm,0.7s,baz=271,slow=21,SNR=2.5						
SUR				Lg	Lg	20 14 03.6	
	20nm,1.0s,baz=126,slow=18,SNR=3.9						
SUR	**Sutherland**	**25.70**	**203**	*e*P	**P**	**20 06 11.0**	**-1.4**
	12nm,0.8s						
SUR				Lg	Lg	20 14 03.6	
TORD	**Torodi Ar. Bea**	**37.66**	**305**	P	**P**	**20 07 58.1**	**+0.7**
	2.5nm,0.6s,baz=112,slow=7.4,SNR=32						
DBIC	**Dimbokro**	**40.34**	**291**	P	**P**	**20 08 20.8**	**+0.9**
	6.0nm,1.1s,baz=107,slow=14,SNR=2.4						
BRTR	**Keskin Array B**	**48.45**	**1**	P	**P**	**20 09 24.8**	**+0.3**
	1.3nm,0.9s,baz=170,slow=7.1,SNR=4.8						
GEYT	**Alibeck**	**52.43**	**26**	P	**P**	**20 09 54.6**	**0.0**
	0.4nm,0.6s,baz=160,slow=11,SNR=3.1						
KBZ	**Khabaz**	**53.28**	**9**	P	**P**	**20 10 00.9**	**+0.2**
	1.1nm,0.8s,baz=207,slow=5.1,SNR=3.5						
MLR	**Muntele Rosu**	**54.52**	**354**	P	**P**	**20 10 10.3**	**+0.4**
	0.3nm,0.3s,baz=270,slow=20,SNR=2.5						
ESDC	**Sonseca Array**	**59.02**	**328**	P	**P**	**20 10 42.9**	**+1.0**
	1.6nm,0.7s,baz=139,slow=5.9,SNR=7.4						
AKASG	**Malin Array Be**	**59.48**	**358**	P	**P**	**20 10 44.4**	**-0.4**
	1.1nm,0.6s,baz=176,slow=6.0,SNR=4.2						
GERES	**GERESS Array B**	**59.89**	**346**	P	**P**	**20 10 47.9**	**+0.2**
	0.8nm,0.7s,baz=184,slow=5.4,SNR=3.7						
FINES	**FINESS Array B**	**70.37**	**357**	P	**P**	**20 11 55.5**	**0.0**
	2.0nm,0.8s,baz=142,slow=4.3,SNR=5.6						
CMAR	**Chiang Mai Arr**	**70.97**	**67**	P	**P**	**20 11 59.4**	**-0.6**
	0.3nm,0.7s,baz=278,slow=8.1,SNR=3.9						
MKAR	**Makanchi Array**	**70.99**	**34**	P	**P**	**20 11 59.6**	**0.0**
	0.7nm,0.8s,baz=228,slow=6.0,SNR=8.4						
NOA	**NORSAR Array B**	**71.77**	**349**	P	**P**	**20 12 04.4**	**+0.4**
	1.0nm,0.8s,baz=138,slow=6.0,SNR=3.4						
SONM	**Songino Array**	**85.97**	**40**	P	**P**	**20 13 22.7**	**+0.2**
	0.4nm,0.6s,baz=270,slow=4.3,SNR=2.5						
ASAR	**Alice Springs**	**96.74**	**115**	P	**P**	**20 14 13.1**	**-0.1**
	0.9nm,0.8s,baz=269,slow=4.3,SNR=14						
WRA	**Warramunga Arr**	**97.94**	**112**	P	Pdif	20 14 19.5	+0.7
	0.3nm,0.8s,baz=264,slow=2.5,SNR=5.7						
YKA	**Yellowknife Ar**	**121.48**	**343**	PKP	**PKPdf**	**20 19 35.9**	**+0.8**
	0.3nm,0.7s,baz=24,slow=1.3,SNR=5.8						
ILAR	**Eielson Array**	**124.28**	**360**	PKP	**PKPdf**	**20 19 40.0**	**-0.5**
	0.3nm,0.8s,baz=280,slow=2.7,SNR=3.2						

IDC 06 20:08:57.1±2.3, 37°55S×75°47W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.7/19, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=53.5km s-min=28.0km az=54.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.97**	**131**	Pn	Pn	20 10 12.9	-0.2
	0.4nm,0.3s,baz=301,slow=12,SNR=13						
PLCA				Sn	Sn	20 11 12.8	+1.3
	1.3nm,0.3s,baz=200,slow=22,SNR=4.6						
CFAA	**Coronel Fontan**	**8.40**	**47**	Pn	Pn	20 10 54.2	-6.0
	0.1nm,0.3s,baz=232,slow=13,SNR=10						
LPAZ	**La Paz**	**22.14**	**19**	P	P	20 13 54.8	-0.4
	1.1nm,0.8s,baz=211,slow=7.1,SNR=4.5						
SIV	**San Ignacio**	**24.96**	**35**	P	P	20 14 22.5	+0.2
	4.3nm,0.9s,baz=226,slow=3.0,SNR=7.0						
TXAR	**Lajitas Array**	**71.58**	**334**	P	P	20 20 20.2	+0.1
	0.3nm,0.7s,baz=147,slow=8.6,SNR=3.3						

WEL 06 20:24:15.8±0.4, 38°15S×176°01E, h149km±4km, ML3.5/15, 4C-2D, Error ellipse: s-maj=4.1km s-min=3.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.88**	**98**	PN	Pn	20 24 39.5	+0.1
URZ				SN	Sn	20 24 57.9	+0.4
BKZ	**Black Stump Fm**	**1.08**	**160**	⇑PN	Pn	20 24 41.2	0.0
BKZ				SN	Sn	20 25 00.3	-0.5
TUVZ	**Tukino**	**1.15**	**194**	PN	Pn	20 24 42.3	+0.3
MWZ	**Matawai**	**1.21**	**99**	⇓PN	Pn	20 24 42.4	0.0
MWZ				SN	Sn	20 25 02.5	-0.3
MWZ				AML	AML	20 25 03.4	
WNVZ	**Wahianoa**	**1.22**	**195**	PN	Pn	20 24 42.8	+0.1
PKVZ	**Pokaka**	**1.25**	**204**	PN	Pn	20 24 42.9	+0.1
MOVZ	**Moawhango**	**1.27**	**189**	⇑PN	Pn	20 24 42.7	-0.3
BHHZ	**Black Hill Sta**	**1.34**	**178**	PN	Pn	20 24 43.3	-0.4
MCHZ	**McNeill Hill**	**1.40**	**158**	PN	Pn	20 24 44.7	+0.5
MCHZ				SN	Sn	20 25 06.8	+0.7
RIGZ	**Rimuhau**	**1.48**	**112**	PN	Pn	20 24 45.2	+0.1
KRHZ	**Kereru**	**1.52**	**169**	PN	Pn	20 24 45.2	-0.3
KNZ	**Kokohu**	**1.57**	**124**	PN	Pn	20 24 45.9	-0.1
CNGZ	**Carnagh Statio**	**1.76**	**102**	PN	Pn	20 24 48.4	+0.3
PNHZ	**Pukenui**	**1.77**	**175**	PN	Pn	20 24 47.4	-0.8
PUZ	**Puketiti**	**1.77**	**88**	PN	Pn	20 24 47.7	-0.6
PUZ				AML	AML	20 24 57.0	
PUZ				AML	AML	20 25 25.2	
KAHZ	**Kahuranaki**	**1.78**	**158**	PN	Pn	20 24 48.0	-0.3
WAZ	**Wanganui**	**1.79**	**206**	PN	Pn	20 24 47.0	-1.5
TSZ	**Takapari Road**	**1.91**	**181**	PN	Pn	20 24 48.7	-1.1
WMGZ	**Waiomatatini S**	**1.93**	**81**	PN	Pn	20 24 49.6	-0.4
DVHZ	**Dannevirke**	**2.15**	**177**	⇑PN	Pn	20 24 51.0	-1.7
POWZ	**Post Office Ro**	**2.25**	**185**	PN	Pn	20 24 52.0	-1.7
PRWZ	**Pori Road**	**2.40**	**181**	PN	Pn	20 24 54.0	-1.6
MRZ	**Mangatainoka R**	**2.53**	**187**	⇑PN	Pn	20 24 54.9	-2.3
BFZ	**Birch Farm**	**2.54**	**176**	PN	Pn	20 24 55.1	-2.1
TIWZ	**Tintock**	**2.63**	**182**	⇓PN	Pn	20 24 56.1	-2.3
OGWZ	**Otaki Gorge**	**2.74**	**193**	PN	Pn	20 24 57.5	-2.3
HOWZ	**Holdsworth Sta**	**2.77**	**188**	PN	Pn	20 24 57.4	-2.8
KIW	**Kapiti Island**	**2.84**	**197**	PN	Pn	20 24 58.2	-2.8
TMWZ	**Te Maipa**	**2.96**	**182**	PN	Pn	20 24 59.6	-2.9
MTW	**Mount Morrison**	**3.03**	**187**	PN	Pn	20 25 00.2	-3.3
CAW	**Cannon Point**	**3.04**	**194**	PN	Pn	20 25 00.6	-3.0
TRWZ	**Traveller**	**3.25**	**184**	PN	Pn	20 25 03.0	-3.3
PAWZ	**Paruwai Farm**	**3.26**	**188**	PN	Pn	20 25 02.8	-3.5
TCW	**Tory Channel**	**3.34**	**203**	PN	Pn	20 25 04.1	-3.3
PLWZ	**Palliser**	**3.47**	**189**	PN	Pn	20 25 05.1	-3.9
TUWZ	**Tuamarina**	**3.64**	**205**	PN	Pn	20 25 07.7	-3.6
NNZ	**Nelson**	**3.67**	**213**	PN	Pn	20 25 08.1	-3.6
QRZ	**Quartz Range**	**3.79**	**224**	PN	Pn	20 25 09.1	-4.2
KHZ	**Kahutara**	**4.66**	**203**	PN	Pn	20 25 20.3	-4.3

IDC 06 20:28:13.0±2.5, 4°27N×126°76E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/40, mbtmp3.2/3, Error ellipse: s-maj=208.6km s-min=26.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.18**	**163**	P	P	20 33 39.0	-1.4
	0.4nm,0.6s,baz=341,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**28.62**	**166**	P	P	20 34 12.8	+1.4
	0.2nm,0.8s,baz=346,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**57.13**	**325**	P	P	20 38 01.5	0.0
	0.2nm,0.5s,baz=121,slow=7.8,SNR=5.4						

IDC 06 20:32:50.7±3.7, 24°52S×177°63W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/18, mbtmp4.1/3, MS3.5/3, Ms1 3.5/3, ms1mx3.0/35, Error ellipse: s-maj=175.8km s-min=37.7km az=153.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.72**	**183**	LR	LR	20 35 21.6	
	comp=Z,289nm,19.8s,baz=275,slow=32						
ASAR	**Alice Springs**	**44.08**	**261**	P	P	20 41 00.5	-0.3
	0.4nm,0.4s,baz=95,slow=7.6,SNR=25						
ASAR				pP		20 41 30.9	
	0.2nm,0.4s,baz=89,slow=7.0,SNR=2.6						
WRA	**Warramunga Arr**	**44.53**	**266**	P	P	20 41 04.3	-0.1
	0.7nm,0.4s,baz=97,slow=8.2,SNR=38						
WRA				pP		20 41 33.5	
	0.2nm,0.3s,baz=102,slow=8.0,SNR=2.2						
NWAO	**Narrogin (SRO)**	**56.95**	**246**	LR	LR	21 06 03.6	
	comp=Z,93nm,18.0s,baz=6.5,slow=35						
BATI	**Baumata**	**57.43**	**273**	P	P	20 42 42.4	+0.7
	4.4nm,0.5s,baz=135,slow=7.1						
SMRI	**Semarang**	**70.69**	**271**	S	S	20 53 24.9	+0.1
	baz=13,SNR=3.3						
MJAR	**Matsushiro Arr**	**73.65**	**324**	LR	LR	21 13 24.3	
	comp=Z,17nm,20.5s,baz=245,slow=33						
HFS	**Hagfors**	**143.54**	**350**	PKhKP	PKPpre	20 52 21.7	
	1.1nm,0.4s,baz=87,slow=3.1,SNR=12						
EKA	**Eskdalemuir Ar**	**148.95**	**6**	PKPab	PKPab	20 52 45.6	+1.4
	0.2nm,0.4s,baz=338,slow=2.4,SNR=4.0						
BRTR	**Keskin Array B**	**149.67**	**308**	PKPbc	PKPdf	20 52 40.4	+2.3
	0.5nm,0.7s,baz=163,slow=1.5,SNR=3.3						
BRTR				PKPab	PKPab	20 52 48.7	+0.8
	0.7nm,0.9s,baz=67,slow=5.4,SNR=3.9						
MMAI	**Mount Meron Ar**	**149.93**	**294**	PKPbc	PKPbc	20 52 42.2	-1.3
	0.7nm,0.3s,baz=79,slow=7.8,SNR=5.4						

IDC 06 20:38:31.0±1.6, 36°62S×73°22W, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.8/26, mbtmp3.7/7, ML3.6/2, MS2.2/2, Ms1 2.2/2, ms1mx2.2/27, Error ellipse: s-maj=42.2km s-min=19.9km az=73.0
ISCJB 06 20:38:33.5±1.3, 36°6S±0'1×73°1W±0'3, h25km, mb4.1/5, Error ellipse: s-maj=32.2km s-min=14.6km az=176.8
ISC 06 20:38:35.2±1.5, 36°6S±0'1×73°2W±0'2, h25km, n8, σ0°77/7, mb4.0/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.60**	**155**	Pn	**Pn**	**20 39 43.5**	**+0.2**
	1.0nm,0.3s,baz=330,slow=14,SNR=2.4						
PLCA				LR	LR	20 40 54.5	
	comp=Z,27nm,19.6s,baz=268,slow=31						
PLCA				Lg	Lg	20 40 57.2	
	1.7nm,0.3s,baz=237,slow=14,SNR=3.8						
CFAA	**Coronel Fontan**	**6.43**	**41**	Pn	**Pn**	**20 40 08.4**	**+0.1**
	0.4nm,0.3s,baz=212,slow=13,SNR=8.8						
CFAA				LR	LR	20 42 45.9	
	comp=Z,20nm,21.4s,baz=224,slow=39						
LPAZ	**La Paz**	**20.71**	**14**	P	**P**	**20 43 15.4**	**+1.0**
	1.4nm,0.7s,baz=174,slow=9.2,SNR=4.9						
SIV	**San Ignacio**	**23.16**	**31**	P	**P**	**20 43 39.3**	**-0.6**
	2.8nm,0.9s,baz=239,slow=12,SNR=3.7						
ROSC	**El Rosal**	**41.25**	**358**	P	P	20 46 23.9	+5.2
	23nm,0.3s,baz=98,slow=20,SNR=14						
TXAR	**Lajitas Array**	**71.58**	**332**	P	**P**	**20 49 54.0**	**-0.2**
	0.1nm,0.5s,baz=144,slow=7.8,SNR=2.9						
DBIC	**Dimbokro**	**76.87**	**71**	P	**P**	**20 50 25.9**	**+0.5**
	6.3nm,0.9s,baz=173,slow=11,SNR=3.8						
TORD	**Torodi Ar. Bea**	**85.94**	**70**	P	**P**	**20 51 12.6**	**-0.8**
	0.8nm,0.7s,baz=215,slow=6.3,SNR=7.5						

IDC 06 20:39:30.9±5.4, 36°99N×71°57E, h202km±37km, mb1 2.7/6, mb1mx2.6/31, mbtmp3.4/6, Error ellipse: s-maj=70.3km s-min=22.8km az=150.0
ISC 06 20:39:22.4±3.0, 36°6N±0'2×71°4E±0'1, h114km, n8, σ2°28/10, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.03**	**319**	⇑Pn	**Pn**	**20 40 09.2**	**+0.2**
DZET				⇑Sn	**Sn**	**20 40 47.2**	**+2.4**
AAK	**Ala-Archa**	**6.53**	**21**	P	**Pn**	**20 40 58.8**	**+2.8**
	0.8nm,0.3s,baz=161,slow=5.2,SNR=14						
AAK				S	**Sn**	**20 42 09.6**	**+0.5**
	0.3nm,0.3s,baz=318,slow=22,SNR=11						
KK31	**Karatay Array**	**6.58**	**354**	⇓Pn	**Pn**	**20 40 58.2**	**+1.7**
	1.0nm,0.4s,baz=176,slow=12,SNR=64						
KK31				⇑Sn	**Sn**	**20 42 07.4**	**-2.6**
	2.0nm,0.4s,baz=172,slow=22,SNR=3.6						
GEYT	**Alibeck**	**10.67**	**281**	P	Pn	20 42 00.2	+8.3
	0.1nm,0.3s,baz=96,slow=13,SNR=3.5						
MKAR	**Makanchi Array**	**13.07**	**35**	P	**Pn**	**20 42 24.8**	**+1.3**
	0.0nm,0.3s,baz=212,slow=13,SNR=4.6						
BVAR	**Borovoye Array**	**16.48**	**358**	P	**Pn**	**20 43 05.7**	**-1.0**
	0.1nm,0.3s,baz=144,slow=9.8,SNR=4.4						
AKTO	**Aktyubinsk**	**16.89**	**329**	P	**Pn**	**20 43 10.0**	**-1.6**
	0.2nm,0.3s,baz=102,slow=9.3,SNR=4.5						
ZALV	**Zalesovo Beam**	**19.74**	**24**	P	**P**	**20 43 40.2**	**-2.7**
	0.4nm,0.3s,baz=220,slow=12,SNR=7.5						

ISCJB 06 20:47:28.0±0.4, 5°55S±0'02×123°35E±0'03, h33km±4km, mb4.6/46, MS3.6/6, Error ellipse: s-maj=4.7km s-min=3.7km az=151.0
MOS 06 20:47:28.1±0.8, 5°50S×123°34E, h33km, mb4.9/18, Error ellipse: s-maj=15.8km s-min=8.1km az=114.3
BJI 06 20:47:28.8, 5°60S×123°30E, h35km, mB4.9/27, mb4.6/36, Ms4.5/12, Ms7 4.3/12
DJA 06 20:47:29.7±0.2, 6°S±2°×12°3E±°, h10km, M4.8/26, mb5.0/22, mB5.3/11, MLv4.9/26, Mw(mB)4.8/11
IDC 06 20:47:30.1±5.0, 5°52S×123°36E, h33km±37km, mb4.2/26, mb1 4.3/27, mb1mx4.2/44, mbtmp4.4/27, MS3.7/6, Ms1 3.7/6, ms1mx3.3/32, Error ellipse: s-maj=17.8km s-min=10.9km az=74.0

NEIC 06 20:47:30.0±1.3, 5°54S×123°31E, h34km±10km, mb4.7/17, Error ellipse: s-maj=6.3km s-min=4.4km az=67.0
KLM 06 20:47:30.6, 5°57S×123°35E, h44km, mb4.7, ML5.0, MS5.5
ISC 06 20:47:30.3±0.4, 5°58S±0'04×123°28E±0'04, h38km±1km, n195, σ1°46/212, mb4.5/46, MS3.7/6, 10C-12D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**2.83**	**258**	P	**Pn**	**20 48 12.9**	**-0.1**
BKSI	**Bulukumba**	**3.15**	**274**	P	**Pn**	**20 48 16.9**	**-0.5**
BKSI				S	**Sn**	**20 48 54.7**	**+0.9**
MMRI	**Maumere**	**3.21**	**199**	P	**Pn**	**20 48 16.9**	**-1.3**
MMRI	**Maumere**	**3.21**	**199**	*e*Pn	**Pn**	**20 48 16.8**	**-1.4**
BNSI	**Bone**	**3.37**	**290**	P	**Pn**	**20 48 20.4**	**0.0**
BNSI				S	**Sn**	**20 48 59.8**	**+0.7**
KAPI	**Kappang**	**3.55**	**279**	*e*Pn	**Pn**	**20 48 23.1**	**+0.1**
KAPI				*e*Sn	**Sn**	**20 49 00.8**	**-2.9**
SPSI	**Sidrap Palu**	**3.84**	**294**	P	**Pn**	**20 48 27.1**	**+0.1**
SOEI	**Soe**	**4.26**	**167**	P	**Pn**	**20 48 35.0**	**+2.1**
SOEI	**Soe**	**4.26**	**167**	P	**Pn**	**20 48 35.2**	**+2.4**
	baz=4.3,SNR=64						
SOEI	**Soe**	**4.26**	**167**	*e*Pn	**Pn**	**20 48 34.6**	**+1.8**
TTSI	**Tana Toraja**	**4.27**	**306**	P	**Pn**	**20 48 33.5**	**+0.7**
SANI	**Sanana**	**4.43**	**38**	P	**Pn**	**20 48 33.3**	**-1.7**
NLAI	**Namlea**	**4.46**	**59**	P	**Pn**	**20 48 35.7**	**+0.2**
LUWI	**Luwuk**	**4.54**	**354**	P	**Pn**	**20 48 35.6**	**-0.9**
LUWI	**Luwuk**	**4.54**	**354**	P	**Pn**	**20 48 35.6**	**-0.9**
	baz=4.5,SNR=24						
LUWI	**Luwuk**	**4.54**	**354**	*e*Pn	**Pn**	**20 48 35.3**	**-1.2**
LUWI				*e*Sn	**Sn**	**20 49 26.3**	**-1.7**
BATI	**Baumata**	**4.61**	**175**	P	**Pn**	**20 48 40.1**	**+2.5**
BATI	**Baumata**	**4.61**	**175**	Pn	**Pn**	**20 48 40.4**	**+2.8**
	baz=11,slow=2.6						
BATI				LR	LR	20 50 54.8	
	comp=Z,783nm,19.7s,baz=35,slow=44						
APSI	**Ampana**	**4.91**	**341**	P	**Pn**	**20 48 41.2**	**-0.5**
WSI	**Waingapu**	**5.02**	**216**	P	**Pn**	**20 48 44.2**	**+1.0**
WSI	**Waingapu**	**5.02**	**216**	P	**Pn**	**20 48 46.3**	**+3.1**
	baz=5.2,SNR=5.1						
BASI	**Baing, Sumba**	**5.33**	**210**	P	Pn	20 48 53.3	+5.9
WBSI	**Waikabubak, Su**	**5.58**	**223**	P	Pn	20 48 55.3	+4.4
	130nm,0.7s,15μm1.6nm						
MSAI	**Masohi**	**6.06**	**69**	P	**Pn**	**20 49 00.1**	**+2.7**
	23nm,0.7s,0.1nm						
KMSI	**Cibinong**	**6.15**	**7**	P	**Pn**	**20 49 01.9**	**+3.2**
	803nm,1.1s,7μm2.8nm						
MRSI	**Marisa**	**6.16**	**347**	P	**Pn**	**20 48 58.2**	**-0.6**
	108nm,0.7s,2μm0.9nm						
GTOI	**Gorontalo**	**6.18**	**358**	P	**Pn**	**20 48 59.9**	**+0.8**
	424nm,0.7s,4μm1.6nm						
LBMI	**Labuha**	**6.47**	**41**	P	Pn	20 49 06.4	+3.3
	112nm,0.9s,1μm0.3nm						
MPSI	**Mapaga**	**6.78**	**330**	P	**Pn**	**20 49 06.5**	**-0.8**
	111nm,0.8s,1μm0.4nm						
TOLI	**Toli-Toli**	**7.10**	**340**	*e*Pn	**Pn**	**20 49 13.3**	**+1.5**
TOLI				*e*Sn	**Sn**	**20 50 30.8**	**-0.5**
TNTI	**Ternate**	**7.52**	**33**	P	**Pn**	**20 49 20.4**	**+3.0**
	143nm,1.1s,2μm0.5nm						
TNTI	**Ternate**	**7.52**	**33**	*e*Pn	**Pn**	**20 49 15.8**	**-1.6**
TNTI				*e*Sn	**Sn**	**20 50 41.3**	**-0.2**
SWI	**Sorong**	**9.24**	**60**	P	Pn	20 49 45.2	+4.0
	43nm,0.6s						
SWI	**Sorong**	**9.24**	**60**	P	**Pn**	**20 49 41.5**	**+0.3**
	baz=9.1,SNR=4.4						
ABJI	**Asem Bagus**	**9.25**	**256**	P	Pn	20 49 54.5	+13
FAKI	**Fak Fak**	**9.33**	**74**	P	**Pn**	**20 49 43.5**	**+1.2**
	baz=9.1,SNR=7.7						
FAKI	**Fak Fak**	**9.33**	**74**	*e*Pn	**Pn**	**20 49 42.0**	**-0.3**
JAGI	**Jajag, Banyuwa**	**9.50**	**252**	P	Pn	20 49 57.8	+13
JAGI	**Jajag, Banyuwa**	**9.50**	**252**	P	Pn	20 49 49.4	+4.7
	baz=9.7,SNR=4.6						
JAGI	**Jajag, Banyuwa**	**9.50**	**252**	*e*Pn	**Pn**	**20 49 45.3**	**+0.6**
MTN	**Manton Dam**	**10.59**	**134**	P	**Pn**	**20 49 58.5**	**-1.2**
	baz=10,SNR=12						
TSM	**Tawau**	**11.19**	**331**	⇓P	**Pn**	**20 50 07.2**	**-0.7**
KNRA	**Kununurra**	**11.39**	**152**	P	**Pn**	**20 50

HTT Hallett 31.30 154 P **P** **20 53 47.4 +0.4**
baz=31,SNR=10
UMPA Umpang Tak 32.44 312 P P 20 53 53.3 -3.9
comp=Z,85nm,1.1s,comp=Z,8μm
CM01 Chiang Mai Arr 33.82 315 *e*P **P** **20 54 07.6 -1.6**
CM01 *e*PcP **PcP** **20 56 49.1 +1.2**
CMAR Chiang Mai Arr 33.86 315 P **P** **20 54 10.5 +0.9**
comp=Z,2.1nm,0.6s,baz=143,slow=7.3,SNR=27
CMAR PcP **PcP** **20 56 49.0 +1.0**
comp=Z,0.8nm,0.8s,baz=193,slow=2.8,SNR=5.4
CMAR LR LR 21 11 58.6
comp=Z,97nm,18.5s,baz=175,slow=43
GYA Guiyang 35.69 334 *e*P **P** **20 54 28.0 +2.6**
GYA PMZ
comp=Z,10.0nm,0.8s
CBIJ Chichi jima 37.28 28 *e*P **P** **20 54 36.0 -2.8**
comp=Z,1μm,2.4s
JCJ Chichijima 37.28 28 P **P** **20 54 36.9 -1.9**
comp=Z,49nm,0.9s,baz=287,slow=19,SNR=2.1
NJ2 Nanjing 37.66 354 *e*P **P** **20 54 41.9 0.0**
NJ2 PMZ
comp=Z,20nm,0.8s
CD2 Chengdu 40.80 334 P **P** **20 55 08.7 +0.4**
CD2 PP **PP** **20 56 44.0 +1.1**
CD2 S **S** **21 01 15.5 -1.4**
CD2 SS **SS** **21 04 16.6 -2.5**
CD2 PMZ
comp=Z,10.0nm,0.7s
CD2 PMZ
comp=Z,60nm,4.8s
CD2 LE
comp=Z,310nm,15.5s
CD2 LZ
comp=Z,230nm,14.3s
XAN Xi'an 41.68 342 P **P** **20 55 15.4 -0.1**
XAN pP **pP** **20 55 25.3 -1.0**
XAN PMZ
comp=Z,3.0nm,0.9s
XAN PMZ
comp=Z,25nm,6.9s
MJAR Matsushiro Arr 44.17 17 P **P** **20 55 34.0 -1.6**
comp=Z,2.4nm,0.9s,baz=190,slow=9.3,SNR=6.8
DZM Mont Dzumac 44.81 116 LR LR 21 16 30.8
comp=Z,133nm,19.5s,baz=357,slow=39
LZH Lanzhou 45.28 338 *e*P **P** **20 55 46.0 +1.4**
LZH pP **pP** **20 55 57.1 +1.6**
LZH sP **sP** **20 56 01.0 +1.0**
LZH PMZ
comp=Z,21nm,1.3s
LZH PMZ
comp=Z,76nm,6.4s
LZH LN
comp=Z,390nm,14.0s
LZH LE
comp=Z,420nm,13.8s
LZH LZ
comp=Z,540nm,18.0s
LSA Lhasa 46.70 321 P **P** **20 55 57.1 +0.8**
ODAN Odare 47.39 315 *e*P **P** **20 56 01.9 +0.4**
HHC Hu-ho-hao-te 47.44 348 *e*P **P** **20 56 03.4 +2.0**
HHC pP **pP** **20 56 13.9 +1.5**
HHC sP **sP** **20 56 17.2 +0.4**
HHC PP **PP** **20 57 53.8 +0.7**
HHC S **S** **21 02 54.7 +1.4**
HHC sS **sS** **21 03 14.1 +2.6**
HHC ScS **ScS** **21 05 51.9 -0.6**
HHC PMZ
comp=Z,10.0nm,0.6s
HHC PMZ
comp=Z,76nm,5.5s
HHC LN
comp=Z,320nm,17.5s
HHC LE
comp=Z,250nm,17.5s
HHC LZ
comp=Z,93nm,15.6s
TAPN Taplejung 47.47 315 *e*P **P** **20 56 02.6 +0.5**
comp=Z,14nm,0.6s
RAMN Ramite 48.01 314 *e*P **P** **20 56 06.9 +0.6**
comp=Z,23nm,0.7s
NFK Norfolk Island 48.20 124 S S 21 02 40.8 -24
baz=48,SNR=4.0
JIRN Jiri 48.72 315 *e*P **P** **20 56 12.4 +0.5**
comp=Z,14nm,0.7s
GUN Gumba 49.09 315 *e*P **P** **20 56 15.2 +0.5**
comp=Z,27nm,0.8s
CN2 Changchun 49.19 2 *e*P P 20 56 18.5 +3.8
CN2 PMZ
comp=Z,10.0nm,0.6s
PKI Pulchoki 49.23 314 *e*P **P** **20 56 15.8 +0.1**
comp=Z,11nm,0.5s
PKIN Phulchoki 49.24 314 *e*P **P** **20 56 16.1 +0.3**
comp=Z,6.5nm,0.7s
KKN Kakani 49.45 314 *e*P **P** **20 56 17.5 +0.2**
comp=Z,11nm,0.8s
DMN Daman 49.47 314 *e*P **P** **20 56 17.8 +0.3**
HYB Hyderabad 49.73 298 *i*P **P** **20 56 18.5 -0.8**
GTA Gaotai 49.74 336 *e*P **P** **20 56 20.5 +1.3**
GTA pP **pP** **20 56 30.5 +0.3**
GTA sP **sP** **20 56 34.3 -0.4**
GTA PcP **PcP** **20 57 39.4 -0.5**
GTA S **S** **21 03 28.1 +2.2**
GTA sS **sS** **21 03 44.0 -0.1**
GTA SS **SS** **21 06 56.9 -2.0**
GTA PMZ
comp=Z,9.0nm,1.1s
GTA PMZ
comp=Z,140nm,4.5s
GTA LN
comp=Z,130nm,14.5s
GTA LE
comp=Z,130nm,14.7s
GTA LZ
comp=Z,76nm,13.3s
GKN Gorkha 50.03 314 *e*P **P** **20 56 21.9 +0.2**
comp=Z,14nm,0.7s
USRK Ussuriysk Ar. 50.17 8 P **P** **20 56 21.8 -0.3**
comp=Z,4.9nm,0.6s,baz=192,slow=6.9,SNR=15
MDJ Mudanjiang 50.29 6 P **P** **20 56 23.0 -0.1**
MDJ PMZ
comp=Z,9.0nm,1.1s
MDJ PMZ
comp=Z,51nm,4.4s
KOLN Koldanda 50.65 313 *e*P **P** **20 56 26.5 +0.1**
comp=Z,17nm,0.7s
DANN Dangsing 50.87 314 *e*P **P** **20 56 28.3 +0.2**
comp=Z,40nm,0.6s
HIA Hailar 54.70 357⇓ *e*P **P** **20 56 56.3 +0.5**
HIA pmax pmax
comp=Z,12nm,2.1s
ULN Ulaanbaatar 55.10 347 *c i*P **P** **20 56 59.5 +0.7**
ULN pmax pmax
comp=Z,13nm,1.2s
ULN MLR MLR
comp=Z,54nm,16.0s
ULN Ulaanbaatar 55.10 347 *e*P **P** **20 56 59.1 +0.3**
comp=Z,15nm,1.3s
SONM Songino Array 55.23 346 P **P** **20 57 00.4 +0.7**
comp=Z,3.6nm,0.8s,baz=168,slow=9.6,SNR=23
SONM PcP **PcP** **20 58 00.0 -0.3**
comp=Z,1.5nm,0.7s,baz=162,slow=6.1,SNR=3.7
SONA1 Songino Array 55.23 346 *e*P **P** **20 57 00.2 +0.5**
RPZ Rata Peaks 56.53 140 *e*P **P** **20 57 08.9 -0.1**
comp=Z,29nm,0.9s
WMQ Urumqi 58.72 330 P **P** **20 57 25.3 +0.9**
WMQ pP **pP** **20 57 35.3 -0.4**
WMQ PMZ
comp=Z,11nm,1.0s
WMQ PMZ
comp=Z,160nm,6.0s
TLY Talaya 59.46 346 *e*P **P** **20 57 30.4 +1.0**
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY Talaya 59.46 346 P **P** **20 57 28.6 -0.8**
comp=Z,2.4nm,0.6s,baz=216,slow=1.5,SNR=4.2
MOY Mondy 60.13 344 *e*P **P** **20 57 35.1 +1.0**
HVS Khovu-Aksy 61.94 339 *de*P **P** **20 57 47.1 +0.8**
HVS pmax pmax
comp=Z,84nm,1.1s
KSH Kashi 62.55 320 P **P** **20 57 51.6 +0.8**
KSH sP **sP** **20 58 05.6 -0.8**
KSH S **S** **21 06 12.7 -3.4**
KSH SS **SS** **21 10 19.7 -1.3**
KSH PMZ
comp=Z,5.0nm,1.1s
KSH PMZ
comp=Z,74nm,4.5s
KSH LN
comp=Z,57nm,4.7s
KSH LE
comp=Z,83nm,5.0s
KSH LZ
comp=Z,120nm,5.1s
MK01 Makanchi Array 63.49 330 *e*P **P** **20 57 56.9 +0.2**
MKAR Makanchi Array 63.51 330 *e*P **P** **20 57 57.3 +0.5**
MKAR Makanchi Array 63.51 330 P **P** **20 57 57.5 +0.7**
comp=Z,2.7nm,0.7s,baz=133,slow=7.6,SNR=39
MKAR Makanchi Array 63.51 330 *e*P **P** **20 57 57.3 +0.5**
BOD Bodaibo 63.63 354 *e*P **P** **20 57 56.5 -0.8**
BOD pmax pmax
comp=Z,4.0nm,1.3s
TKM2 Tokmak 2 64.74 323 *e*P **P** **20 58 05.0 -0.2**
TKM2 pmax pmax
comp=Z,4.0nm,0.9s
TKM2 Tokmak 2 64.74 323 *e*P **P** **20 58 05.0 -0.2**
comp=Z,3.6nm,0.9s
KBL Kabul 64.80 312 *e*P **P** **20 58 05.4 -0.4**
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 64.80 312 P **P** **20 58 06.1 +0.3**
baz=65,SNR=12
KBL Kabul 64.80 312 *e*P **P** **20 58 05.4 -0.4**
comp=Z,15nm,0.8s
AAK Ala-Archa 65.24 322⇑ *i*P **P** **20 58 09.5 +1.1**
AAK pmax pmax
comp=Z,11nm,0.8s
AAK Ala-Archa 65.24 322 P **P** **20 58 09.2 +0.8**
comp=Z,3.5nm,0.8s,baz=136,slow=5.8,SNR=17
AAK Ala-Archa 65.24 322 *e*P **P** **20 58 08.6 +0.2**
comp=Z,54nm,2.4s
PETK Petropavlovsk- 65.30 22 P **P** **20 58 08.9 +0.6**
comp=Z,2.8nm,0.8s,baz=160,slow=6.0,SNR=3.1
PET Petropavlovsk 65.59 23 *e*P **P** **20 58 10.3 +0.1**
EKS2 Erkin-Say 65.69 322 *e*P **P** **20 58 12.0 +0.7**
EKS2 pmax pmax
comp=Z,4.0nm,0.9s
EKS2 Erkin-Say 65.69 322 *e*P **P** **20 58 12.0 +0.7**
comp=Z,4.4nm,0.9s
ZAA0 Zalesovo Array 67.49 337 *e*P **P** **20 58 21.3 -1.0**
ZALV Zalesovo Beam 67.49 337 P **P** **20 58 21.9 -0.5**
comp=Z,6.4nm,0.8s,baz=127,slow=4.7,SNR=33
YAK Yakutsk 67.59 3 *e*P **P** **20 58 21.9 -0.9**
YAK pmax pmax
comp=Z,13nm,1.3s
YAK Yakutsk 67.59 3 *e*P **P** **20 58 22.6 -0.2**
comp=Z,12nm,0.8s
KURBB Kurchatov Arra 67.92 331 P **P** **20 58 25.4 +0.3**
comp=Z,2.0nm,0.6s,baz=132,slow=5.9,SNR=17
KURK Kurchatov 67.94 331 *e*P **P** **20 58 25.1 -0.2**
KURK pmax pmax
comp=Z,6.0nm,1.0s
KURK Kurchatov 67.94 331 *e*P **P** **20 58 25.1 -0.2**
comp=Z,6.2nm,1.0s
NVS Novosibirsk 68.78 336 *e*P **P** **20 58 28.9 -1.5**
NVS pmax pmax
comp=N,6.0nm,1.8s
NVS pmax pmax
comp=E,7.0nm,1.8s
NVS pmax pmax
comp=Z,8.0nm,1.8s
SEY Seymchan 71.82 14 P **P** **20 58 49.6 +0.8**
comp=Z,2.8nm,0.6s,baz=209,slow=4.2,SNR=19
VOSK Vostochnaya 72.93 330 *e*P **P** **20 58 55.3 -0.4**
VOSK pmax pmax
comp=Z,11nm,0.7s
VOSK Vostochnaya 72.93 330 *e*P **P** **20 58 55.3 -0.4**
comp=Z,11nm,0.7s
BVAR Borovoye Array 73.39 330 P **P** **20 58 58.7 +0.2**
comp=Z,7.0nm,0.8s,baz=146,slow=8.4,SNR=37
BRVK Borovoye 73.46 330 *c i*P **P** **20 58 58.0 -0.8**
BRVK pmax pmax
comp=Z,20nm,1.2s
BRVK Borovoye 73.46 330 *e*P **P** **20 58 59.0 +0.1**
comp=Z,25nm,1.3s
GEYT Alibeck 74.24 312 P **P** **20 59 04.0 +0.2**
comp=Z,3.8nm,1.0s,baz=202,slow=2.7,SNR=11
GEYT LR LR 21 40 21.3
comp=Z,40nm,19.2s,baz=140,slow=43
VNDA Vanda 74.72 172 P **P** **20 59 05.6 -0.2**
comp=Z,1.5nm,0.6s,baz=312,slow=6.9,SNR=11
TIXI Tiksi 77.16 2 *e*P **P** **20 59 19.0 -0.7**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 77.16 2 *e*P **P** **20 59 19.0 -0.7**
comp=Z,3.1nm,0.8s
ABKAR Akbulak array 77.31 323 *e*P **P** **20 59 21.0 +0.1**
AKTO Aktyubinsk 78.92 324 P **P** **20 59 29.8 -0.1**
comp=Z,2.1nm,0.7s,baz=104,slow=8.2,SNR=10.0
ARU Arti 81.03 329 *c i*P **P** **20 59 40.1 -1.1**
ARU 21 02 45.7
ARU S **S** **21 09 48.8 +1.1**
ARU SS **SS** **21 14 57.5 -5.4**
ARU pmax pmax
comp=Z,8.0nm,1.7s
SYO Syowa Base 82.56 201⇓ *e*P **P** **20 59 48.6 -0.4**
GAMB Gambell 84.25 24 *e*P **P** **20 59 59.1 +1.4**
comp=Z,11nm,1.2s
QSPA South Pole Qui 84.39 180 P **P** **20 59 58.3 -0.4**
comp=Z,2.0nm,0.7s,baz=268,slow=1.3,SNR=7.3
KMBO Kilima Mbogo 85.93 269 *e*P **P** **21 00 08.6 +0.9**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 85.93 269 P **P** **21 00 08.2 +0.5**
comp=Z,1.9nm,0.8s,baz=24,slow=5.1,SNR=6.2
KMBO Kilima Mbogo 85.93 269 *e*P **P** **21 00 08.6 +0.9**
comp=Z,3.2nm,0.9s
KBZ Khabaz 86.90 314 P **P** **21 00 11.2 -0.2**
comp=Z,0.9nm,0.7s,baz=56,slow=3.3,SNR=5.5
BRTR Keskin Array B 93.25 309 P **P** **21 00 42.1 +0.7**
comp=Z,0.6nm,0.8s,baz=160,slow=42,SNR=3.0
BOSA Boshof 94.36 241 P **P** **21 00 47.2 +0.4**
comp=Z,2.0nm,0.7s,baz=94,slow=1.9,SNR=4.6
ILAR Eielson Array 94.94 25 P **P** **21 00 47.5 -1.0**
comp=Z,0.3nm,0.9s,baz=235,slow=6.4,SNR=2.7
KIEV Kiev 96.86 320 P **P** **21 01 00.0 +2.5**
YKA Yellowknife Ar 109.34 25 PKiKP **PKiKP** **21 05 56.1 -0.1**
comp=Z,0.2nm,0.6s,baz=301,slow=2.0,SNR=3.5
NVAR Mina Array Bea 115.58 50 PKP **PKPdf** **21 06 09.7 +0.5**
comp=Z,0.3nm,0.3s,baz=262,slow=1.8,SNR=3.4
TORD Torodi Ar. Bea 121.98 282 PKP **PKPdf** **21 06 21.9 0.0**
comp=Z,2.1nm,0.7s,baz=67,slow=1.8,SNR=12
ULM Lac du Bonnet 124.72 30 PKP **PKPdf** **21 06 25.8 -0.3**
comp=Z,2.4nm,0.7s,baz=32,slow=22,SNR=5.1
ANMO Albuquerque 125.70 51⇑ *i*PKIKP **PKPdf** **21 06 30.0 +1.3**
ANMO pmax pmax
comp=Z,19nm,2.5s
TXAR Lajitas Array 129.82 56 PKP **PKPdf** **21 06 37.9 +1.3**
comp=Z,0.8nm,0.9s,baz=194,slow=3.3,SNR=3.8
SWET Sewanee 140.07 38 *e*PKPdf **PKPdf** **21 06 54.3 -1.2**
CPUP Villa Florida 148.28 179 *e*PKP2 **PKPbc** **21 07 13.3 0.0**
CPUP Villa Florida 148.28 179 PKPbc **PKPbc** **21 07 13.9 +0.7**
comp=Z,1.3nm,0.4s,baz=62,slow=3.0,SNR=6.3
CPUP Villa Florida 148.28 179 *e*PKPbc **PKPbc** **21 07 13.3 0.0**
LPAZ La Paz 155.52 153 PKPab **PKPab** **21 07 48.6 +1.2**
comp=Z,1.6nm,0.6s,baz=198,slow=4.7,SNR=6.4
SIV San Ignacio 158.14 169 PKPab **PKPab** **21 07 58.0 0.0**
comp=Z,1.9nm,0.7s,baz=241,slow=4.7,SNR=3.8

*IDC **06** 20:48:12.1±0.8, 37°.57S×73°.71W, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/25, mbtmp4.0/10, ML3.7/1, MS3.2/3, Ms1 3.2/3, ms1mx3.1/23, Error ellipse: s-maj=27.2km s-min=16.7km az=71.0*
*ISCJB **06** 20:48:14.5±0.7, 37°.55S±0°.07×73°.4W±0°.2, h23km, mb4.2/11, MS3.7/1, Error ellipse: s-maj=18.3km s-min=9.3km az=164.3*
*NEIC **06** 20:48:17.0±3.6, 37°.55S×73°.49W, h32km±24km, mb4.7/5, Error ellipse: s-maj=20.5km s-min=8.7km az=80.0*
ISC 06 20:48:16.3±0.7, 37°.49S±0°.08×73°.4W±0°.1, h23km, n33, σ1$25/31, mb4.1/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.90**	**147**	Pn	**Pn**	**20 49 16.2**	**+1.4**
	1.2nm,0.3s,baz=327,slow=14,SNR=16						
PLCA				Lg	Lg	20 50 17.9	
	6.2nm,0.3s,baz=229,slow=22,SNR=4.8						
CFAA	**Coronel Fontan**	**7.23**	**37**	LR	LR	20 52 39.2	
	comp=Z,22nm,20.0s,baz=211,slow=36						
TRQA	**Tornquist**	**9.02**	**97**	Pn	**Pn**	**20 50 24.9**	**-0.2**
	6.0nm,0.9s						
LVC	**Limon Verde**	**15.32**	**16**	P	**Pn**	**20 51 50.8**	**-0.4**
CPUP	**Villa Florida**	**17.55**	**55**	LR	LR	20 59 48.9	
	comp=Z,143nm,21.1s,baz=83,slow=39						
CPUP	**Villa Florida**	**17.55**	**55**	P	**Pn**	**20 52 15.5**	**-3.8**
EFI	**East Falkland**	**17.82**	**148**	*e*P	**Pn**	**20 52 22.4**	**-0.1**
	19nm,0.7s						
LPAZ	**La Paz**	**21.62**	**14**	P	**P**	**20 53 07.9**	**+2.5**
	5.7nm,0.8s,baz=179,slow=11,SNR=16						
SIV	**San Ignacio**	**24.01**	**30**	P	**P**	**20 53 29.5**	**0.0**
	4.6nm,0.8s,baz=222,slow=12,SNR=9.5						
BDFB	**Brasilia**	**31.24**	**53**	P	**P**	**20 54 36.2**	**+1.8**
	2.5nm,0.9s,baz=231,slow=6.5,SNR=2.3						
BDFB				LR	LR	21 08 57.8	
	comp=Z,169nm,19.0s,baz=239,slow=40						
OTAV	**Otavalo**	**37.84**	**352**	*e*P	**P**	**20 55 33.1**	**+1.4**
SDV	**Santo Domingo**	**46.21**	**4**	P	**P**	**20 56 40.1**	**+0.4**
SNAA	**Sanae**	**48.78**	**157**	P	**P**	**20 56 58.7**	**-0.3**
	13nm,1.2s						
QSPA	**South Pole Qui**	**52.75**	**180**	P	**P**	**20 57 28.0**	**-1.1**
	3.8nm,1.0s,baz=135,slow=2.9,SNR=5.4						
TXAR	**Lajitas Array**	**72.30**	**332**	P	**P**	**20 59 38.3**	**-1.6**
	0.7nm,0.8s,baz=153,slow=8.4,SNR=6.7						
DBIC	**Dimbokro**	**77.31**	**71**	P	**P**	**21 00 10.8**	**+1.6**
	9.2nm,1.1s,baz=221,slow=5.9,SNR=4.8						
DBIC	**Dimbokro**	**77.31**	**71**	P	**P**	**21 00 10.6**	**+1.4**
	7.8nm,0.8s						
LBTB	**Lobatse**	**81.80**	**115**	*e*P	**P**	**21 00 33.4**	**-0.3**
	19nm,1.4s						
NVAR	**Mina Array Bea**	**86.16**	**326**	P	**P**	**21 00 54.9**	**-0.7**
	0.8nm,0.8s,baz=144,slow=3.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**86.39**	**71**	P	**P**	**21 00 56.6**	**-0.4**
	0.9nm,0.7s,baz=220,slow=5.3,SNR=7.1						
PDAR	**Pinedale Array**	**86.42**	**334**	P	**P**	**21 00 55.7**	**-1.1**
	0.8nm,0.9s,baz=123,slow=5.5,SNR=5.0						
BRTR	**Keskin Array B**	**124.41**	**63**	PKP	**PKPdf**	**21 07 13.6**	**+0.2**
	0.3nm,0.6s,baz=202,slow=4.3,SNR=4.0						
AKTO	**Aktyubinsk**	**143.33**	**53**	PKhKP	PKPpre	21 07 45.4	
	1.5nm,1.1s,baz=271,slow=5.7,SNR=3.6						
TIXI	**Tiksi**	**143.91**	**348**	*e*PKPpre	PKPpre	21 07 43.0	
ABKAR	**Akbulak array**	**144.61**	**55**	*e*PKPdf	PKPbc	21 07 49.2	+0.1
BRVK	**Borovoye**	**150.44**	**47**	*e*PKPbc	**PKPbc**	**21 08 05.7**	**+0.5**
BVAR	**Borovoye Array**	**150.51**	**47**	PKP	**PKPdf**	**21 07 58.8**	**-1.2**
BVAR				PKPbc	**PKiKP**	**21 08 06.3**	**+0.1**
	2.1nm,0.7s,baz=286,slow=4.1,SNR=17						
AAK	**Ala-Archa**	**154.95**	**68**	PKP	**PKPdf**	**21 08 07.2**	**+0.1**
	0.4nm,0.5s,baz=272,slow=5.7,SNR=2.9						
AAK				PKPab	**PKPab**	**21 08 32.5**	**+1.1**
	1.9nm,0.7s,baz=259,slow=1.4,SNR=7.1						
KURBB	**Kurchatov Arra**	**156.07**	**48**	PKPab	**PKPab**	**21 08 36.2**	**+0.5**
	0.1nm,0.3s,baz=297,slow=5.2,SNR=4.5						
KURK	**Kurchatov**	**156.09**	**47**	PKPab	**PKPab**	**21 08 36.2**	**+0.5**
ZALV	**Zalesovo Beam**	**157.72**	**35**	PKPab	**PKPab**	**21 08 43.4**	**+0.8**
	1.2nm,0.7s,baz=290,slow=5.5,SNR=6.0						
MKAR	**Makanchi Array**	**159.75**	**55**	PKP	**PKPdf**	**21 08 11.7**	**-1.2**
	0.3nm,0.9s,baz=252,slow=1.4,SNR=3.2						
MKAR				PKPab	**PKPab**	**21 08 52.3**	**+0.5**
	0.8nm,0.8s,baz=289,slow=3.7,SNR=7.4						
CMAR	**Chiang Mai Arr**	**159.87**	**158**	PKPab	**PKPab**	**21 08 52.8**	**0.0**
	0.1nm,0.4s,baz=185,slow=6.0,SNR=4.1						

WEL 06 20:56:46.6±0.8, 36°.31S×179°.61E, h33km, ML4.0/5, 1C, Error ellipse: s-maj=7.8km s-min=5.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.78**	**212**	PN	Pn	20 57 15.1	0.0
WMGZ				SN	Sn	20 57 35.4	-1.1
HAZ	**Te Kaha**	**2.05**	**225**	PN	Pn	20 57 16.1	-2.7
PUZ	**Puketiti**	**2.06**	**211**	⇑PN	Pn	20 57 18.3	-0.7
PUZ				SN	Sn	20 57 42.1	-1.5
PUZ				AML	AML	20 57 50.5	
TWGZ	**Tauwhareparae**	**2.27**	**214**	PN	Pn	20 57 21.5	-0.3
CNGZ	**Carnagh Statio**	**2.44**	**207**	PN	Pn	20 57 23.7	-0.4
MWZ	**Matawai**	**2.61**	**219**	PN	Pn	20 57 26.0	-0.5
MWZ				AML	AML	20 58 02.0	
MWZ				AML	AML	20 58 03.0	
URZ	**Urewera**	**2.79**	**225**	PN	Pn	20 57 27.5	-1.3
URZ				SN	Sn	20 57 59.6	-1.6
URZ				AML	AML	20 58 04.4	
RIGZ	**Rimuhau**	**2.81**	**211**	PN	Pn	20 57 27.7	-1.5
OPRZ	**Ohinepanea**	**2.88**	**237**	PN	Pn	20 57 29.9	-0.3
SNGZ	**Shannon Statio**	**3.06**	**215**	PN	Pn	20 57 32.6	0.0
KNZ	**Kokohu**	**3.11**	**209**	PN	Pn	20 57 31.2	-2.1
MHGZ	**Mahia Peninsul**	**3.14**	**205**	PN	Pn	20 57 32.3	-1.4
RAHZ	**Arahi**	**3.28**	**217**	PN	Pn	20 57 35.4	-0.3
TOZ	**Tahuroa Road**	**3.58**	**245**	PN	Pn	20 57 38.3	-1.4
MKAZ	**Moumakai**	**3.66**	**256**	PN	Pn	20 57 40.0	-0.8
BKZ	**Black Stump Fm**	**3.77**	**220**	PN	Pn	20 57 41.1	-1.4
BKZ				AML	AML	20 58 42.7	
KAHZ	**Kahuranaki**	**4.09**	**211**	PN	Pn	20 57 44.0	-2.8
BHHZ	**Black Hill Sta**	**4.23**	**220**	PN	Pn	20 57 48.3	-0.6
BFZ	**Birch Farm**	**5.10**	**210**	PN	Pn	20 57 57.4	-3.3
MRZ	**Mangatainoka R**	**5.37**	**215**	PN	Pn	20 58 00.9	-3.5
QRZ	**Quartz Range**	**7.15**	**229**	PN	Pn	20 58 25.4	-3.3

*IDC **06** 21:08:15.4±0.6, 37°.48S×73°.58W, h0km, mb4.5/13, mb1 4.6/16, mb1mx4.4/36, mbtmp4.5/16, ML4.4/3, MS4.0/9, Ms1 4.0/9, ms1mx3.9/18, Error ellipse: s-maj=20.0km s-min=12.4km az=85.0*
*ISCJB **06** 21:08:17.5±0.4, 37°.47S±0°.04×73°.53W±0°.08, h23km, mb4.6/21, MS4.1/7, Error ellipse: s-maj=9.7km s-min=6.2km az=176.6*
*BJI **06** 21:08:20.7, 37°.50S×73°.50W, h35km, mB5.0/8, Ms5.0/8, Ms7 4.8/8*
*NEIC **06** 21:08:20.6±0.2, 37°.47S×73°.57W, h35km, mb4.9/13, Error ellipse: s-maj=8.6km s-min=5.6km az=79.0*
NEIC Felt at Concepcion.
ISC 06 21:08:19.1±0.4, 37°.46S±0°.06×73°.48W±0°.08, h23km, n92, σ1$28/109, mb4.8/22, MS4.2/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.98**	**146**	Pn	**Pn**	**21 09 20.2**	**+1.4**
	10nm,0.3s,baz=314,slow=12,SNR=23						
PLCA				Lg	Lg	21 10 22.9	
	43nm,0.3s,baz=44,slow=18,SNR=3.9						
CFAA	**Coronel Fontan**	**7.27**	**38**	Pn	**Pn**	**21 10 02.4**	**-1.6**
	0.4nm,0.3s,baz=138,slow=23,SNR=6.3						
CFAA				Sn	**Sn**	**21 11 28.8**	**+2.8**
	0.3nm,0.3s,baz=232,slow=19,SNR=1.8						
CFAA				Lg	Lg	21 12 08.1	
	0.4nm,0.3s,baz=315,slow=16,SNR=3.6						
CFAA				LR	LR	21 13 41.0	
	comp=Z,143nm,18.4s,baz=226,slow=44						
TRQA	**Tornquist**	**9.13**	**97**	*e*Pn	**Pn**	**21 10 32.4**	**+2.9**
LVC	**Limon Verde**	**15.32**	**16**	*e*Pn	**Pn**	**21 11 53.6**	**-0.5**
	32nm,1.3s						
CPUP	**Villa Florida**	**17.62**	**56**	P	**Pn**	**21 12 23.3**	**+0.2**
	0.5nm,0.3s,baz=210,slow=8.8,SNR=5.0						
CPUP	**Villa Florida**	**17.62**	**56**	*e*Pn	**P**	**21 12 24.2**	**+0.2**
USHA	**Ushuaia**	**17.71**	**170**	P	**Pn**	**21 12 23.8**	**-0.3**
	0.2nm,0.3s,baz=321,slow=7.1,SNR=15						
USHA				LR	LR	21 19 56.9	
	comp=Z,467nm,20.6s,baz=326,slow=40						
EFI	**East Falkland**	**17.91**	**147**	*e*Pn	**Pn**	**21 12 26.6**	**+0.1**
	58nm,0.6s						
LPAZ	**La Paz**	**21.62**	**14**	P	**P**	**21 13 09.3**	**+1.1**
	11nm,0.9s,baz=159,slow=8.9,SNR=15						
SIV	**San Ignacio**	**24.04**	**30**	P	**P**	**21 13 33.3**	**+0.6**
	14nm,0.8s,baz=227,slow=12,SNR=24						
SIV				LR	LR	21 24 46.3	
	comp=Z,805nm,19.3s,baz=223,slow=41						
NNA	**Nana**	**25.55**	**352**	P	**P**	**21 13 46.1**	**-0.2**
	4.2nm,0.3s,baz=202,slow=16,SNR=2.6						
NNA				LR	LR	21 21 49.0	
	comp=Z,258nm,19.2s,baz=172,slow=32						
PMSA	**Palmer Station**	**27.92**	**171**	LR	LR	21 24 26.0	
	comp=Z,466nm,18.8s,baz=336,slow=35						
SAML	**Samuel**	**29.88**	**21**	*e*P	**P**	**21 14 25.3**	**+0.3**
	14nm,1.4s						
BDFB	**Brasilia**	**31.31**	**53**	P	**P**	**21 14 37.4**	**-0.5**
	3.7nm,0.7s,baz=238,slow=7.3,SNR=4.8						
BDFB				LR	LR	21 28 11.3	
	comp=Z,581nm,20.8s,baz=222,slow=38						
BDFB	**Brasilia**	**31.31**	**53**	*e*P	**P**	**21 14 37.5**	**-0.3**
OTAV	**Otavalo**	**37.79**	**352**	*e*P	**P**	**21 15 36.2**	**+2.0**
	38nm,1.7s						
SDV	**Santo Domingo**	**46.18**	**4**	*e*P	**P**	**21 16 42.1**	**-0.3**
	7.1nm,0.9s						

RCBR	Riachuelo	46.49	57	LR	LR	21 36 43.6		
	comp=Z,458nm,18.7s,baz=216,slow=37							
VNA3	Neumayer Olymp	46.63	156	P	P	21 16 46.2	+1.1	
VNA2	Neumayer--Watz	47.31	156	P	P	21 16 51.4	+1.0	
	baz=340,slow=15							
SNAA	Sanae	48.85	157	P	P	21 17 02.9	+0.4	
SNAA	Sanae	48.85	157	eP	P	21 17 02.3	-0.2	
SNAA	Sanae	48.85	157	P	P	21 17 02.3	-0.2	
	5.1nm,0.9s,baz=299,slow=8.0,SNR=9.1							
SNAA	Sanae	48.85	157	eP	P	21 17 02.7	+0.2	
	27nm,1.1s							
QSPA	South Pole Qui	52.78	180	P	P	21 17 32.2	0.0	
	12nm,1.0s,baz=133,slow=3.7,SNR=12							
QSPA				LR	LR	21 40 23.9		
	comp=Z,79nm,20.0s,baz=144,slow=36							
QSPA	South Pole Qui	52.78	180	eP	P	21 17 32.1	-0.1	
	14nm,1.0s							
RKT	Rikitea	54.12	267	eLR	LR	21 33 27.1		
	409nm,27.0s							
RKT	Rikitea	54.12	267	eT	T	22 15 39.8		
	2.4nm,0.2s							
TIAR	Tiarei	68.47	264	eT	T	22 33 35.4		
	4.4nm,0.2s							
PAE	Paea	68.59	264	eT	T	22 33 44.2		
	1.0nm,0.3s							
PPT2	Papeete2	68.63	264	eS	S	21 28 23.7	+1.2	
	132nm,22.5s							
PPT2	Papeete2	68.63	264	eLR	LR	21 40 04.1		
	289nm,25.0s,baz=110							
TXAR	Lajitas Array	72.22	333	P	P	21 19 43.3	+1.0	
	1.8nm,0.8s,baz=159,slow=6.9,SNR=2.4							
TX31	Lajitas Ar. Si	72.22	333	eP	P	21 19 42.7	+0.3	
CER	Ceres	72.59	119	eP	P	21 19 44.2	-0.5	
CER				AMB	AMB	21 19 46.8		
	comp=Z,35nm,1.1s							
DBIC	Dimbokro	77.40	71	eP	P	21 20 13.3	+0.7	
DBIC	Dimbokro	77.40	71	P	P	21 20 13.4	+0.8	
	comp=Z,22nm,1.0s,baz=196,slow=6.4,SNR=12							
DBIC	Dimbokro	77.40	71	eP	P	21 20 13.3	+0.7	
	comp=Z,18nm,0.8s							
ANMO	Albuquerque	78.29	333	eP	P	21 20 17.6	+0.3	
	comp=Z,74nm,2.8s							
BOSA	Boshof	79.50	118	eP	P	21 20 24.3	0.0	
BOSA				AMB	AMB	21 20 26.1		
	comp=Z,32nm,4.8s							
BOSA	Boshof	79.50	118	P	P	21 20 24.6	+0.4	
	comp=Z,9.2nm,1.0s,baz=222,slow=4.8,SNR=8.8							
BOSA	Boshof	79.50	118	eP	P	21 20 24.9	+0.6	
	comp=Z,12nm,1.0s							
SWZ	Schweizer	80.41	117	eP	P	21 20 27.0	-2.2	
SDCO	Great Sand Dun	80.47	335	eP	P	21 20 28.4	-0.8	
	comp=Z,52nm,3.0s							
SEK	Senekal	81.33	119	eP	P	21 20 32.5	-1.7	
SEK				AMB	AMB	21 20 44.6		
	comp=Z,21nm,2.0s							
LBTB	Lobatse	81.91	115	eP	P	21 20 37.1	-0.1	
LBTB				AMB	AMB	21 20 37.3		
	comp=Z,12nm,1.2s							
LBTB	Lobatse	81.91	115	eP	P	21 20 37.1	-0.1	
	comp=Z,11nm,0.8s							
SLR	Silverton	83.38	117	eP	P	21 20 45.1	+0.2	
SLR				AMB	AMB	21 20 45.9		
	comp=Z,23nm,4.2s							
HWUT	Hardware Ranch	86.04	332	eP	P	21 20 57.6	-0.2	
	comp=Z,9.1nm,1.2s							
NV01	Mina Array Sit	86.08	326	eP	P	21 20 56.5	-1.6	
NVAR	Mina Array Bea	86.08	326	P	P	21 20 57.3	-0.8	
	comp=Z,0.8nm,0.8s,baz=146,slow=6.6,SNR=3.3							
BW06	Boulder Array	86.34	334	eP	P	21 20 58.8	-0.4	
PDAR	Pinedale Array	86.34	334	P	P	21 20 59.2	0.0	
	comp=Z,1.5nm,1.1s,baz=150,slow=6.2,SNR=4.8							
TOA0	Torodi Ar. Sit	86.48	71	eP	P	21 21 00.3	0.0	
TORD	Torodi Ar. Bea	86.48	71	P	P	21 21 00.1	-0.2	
	comp=Z,4.8nm,0.9s,baz=229,slow=4.6,SNR=15							
ULM	Lac du Bonnet	89.55	346	P	P	21 21 12.9	-1.1	
	comp=Z,3.1nm,1.0s,baz=151,slow=1.3,SNR=3.2							
ESDC	Sonseca Array	99.80	47	LR	LR	22 05 32.2		
	comp=Z,86nm,19.5s,baz=255,slow=34							
GERES	GERESS Array B	115.40	47	PKP	PKPdf	21 26 57.3	-1.3	
	comp=Z,0.5nm,0.6s,baz=240,slow=1.6,SNR=3.5							
WRA	Warramunga Arr	117.17	210	PKP	PKPdf	21 27 02.6	-0.3	
	comp=Z,0.4nm,1.0s,baz=160,slow=1.5,SNR=3.0							
BR231	Keskin MP Arra	123.92	63	ePKPdf	PKPdf	21 27 15.6	+0.3	
BRTR	Keskin Array B	124.49	63	PKP	PKPdf	21 27 16.6	+0.2	
	comp=Z,1.5nm,0.8s,baz=199,slow=3.4,SNR=6.1							
GEYT	Alibeck	142.05	74	PKhKP	PKPpre	21 27 44.6		
	comp=Z,2.1nm,0.8s,baz=266,slow=7.0,SNR=6.1							
KSM	Kuching	144.02	186	ePKPdf	PKPbc	21 27 50.8	-0.4	
ABKAR	Akbulak array	144.68	55	ePKPdf	PKPbc	21 27 52.2	0.0	
SBUM	Sibu	144.76	190	ePKPdf	PKPbc	21 27 53.4	-0.2	
HYB	Hyderabad	148.34	121	i PKP	PKPbc	21 28 03.0	-1.0	
KBL	Kabul	149.67	84	ePKPdf	PKPdf	21 28 02.3	-0.2	
BRVK	Borovoye	150.49	46	ePKPdf	PKPdf	21 28 02.0	-0.8	
BVAR	Borovoye Array	150.56	46	PKPbc	PKPbc	21 28 08.7	+0.3	
	comp=Z,7.9nm,0.8s,baz=287,slow=4.0,SNR=34							
VOSK	Vostochnaya	151.00	47	ePKPbc	PKPbc	21 28 10.0	+0.5	
KKAR	Karatay Array	152.11	67	ePKPdf	PKPdf	21 28 05.8	0.0	
EKS2	Erkin-Say	154.51	68	ePKPdf	PKPdf	21 28 09.7	+0.3	
EKS2				ePKPab	PKPab	21 28 31.4	-1.0	
TKM2	Tokmak 2	155.84	67	ePKPdf	PKPdf	21 28 11.1	-0.1	
TKM2				ePKPab	PKPab	21 28 37.9	-0.3	
KSH	Kashi	156.06	76	PKP	PKPdf	21 28 11.6	+0.1	
KSH				sPKP		21 28 26.4		
KSH				PKS	PKSdf	21 31 45.3	-0.3	
KSH				PP	PP	21 32 13.6	-3.5	
KSH				SKS	SKSdf	21 35 15.0	-1.4	
KSH				SKKS	SKKSac	21 39 02.1	-2.7	
KSH				SS	SS	21 52 01.4	-3.7	
KSH				PPMZ				
	comp=Z,72nm,6.6s							
KSH				LN				
	comp=Z,17nm,3.9s							
KSH				LE				
	comp=Z,30nm,5.6s							
KSH				LZ				
	comp=Z,130nm,6.3s							
KURK	Kurchatov	156.15	47	ePKPdf	PKPdf	21 28 11.0	-0.1	
KURK				ePKPab	PKPab	21 28 39.2	+0.3	
ZAA0	Zalesovo Array	157.75	35	ePKPdf	PKPdf	21 28 11.9	-1.1	
ZAA0				ePKPab	PKPab	21 28 46.0	+0.3	
ZALV	Zalesovo Beam	157.75	35	PKP	PKPdf	21 28 11.7	-1.3	
	comp=Z,4.4nm,1.0s,baz=285,slow=2.3,SNR=14							
ZALV				PKPab	PKPab	21 28 46.2	+0.5	
	comp=Z,4.1nm,0.7s,baz=309,slow=5.5,SNR=9.4							
MKAR	Makanchi Array	159.82	55	PKP	PKPdf	21 28 15.2	-0.5	
	comp=Z,2.2nm,1.0s,baz=287,slow=4.9,SNR=4.8							
MKAR				PKPab	PKPab	21 28 55.4	+0.4	
	comp=Z,2.5nm,0.9s,baz=289,slow=3.7,SNR=12							
MKAR	Makanchi Array	159.82	55	ePKPdf	PKPdf	21 28 15.3	-0.5	
MKAR				ePKPab	PKPab	21 28 54.9	-0.2	
MK01	Makanchi Array	159.84	55	ePKPdf	PKPdf	21 28 14.8	-1.0	
MK01				ePKPab	PKPab	21 28 55.3	+0.2	
CM01	Chiang Mai Arr	159.90	159	ePKPdf	PKPdf	21 28 15.6	-1.1	
CM01				ePKPab	PKPab	21 28 54.5	-1.4	
CMAR	Chiang Mai Arr	159.93	159	PKP	PKPdf	21 28 16.0	-0.7	
	comp=Z,0.4nm,0.8s,baz=201,slow=0.8,SNR=4.2							
CMAR				PKPab	PKPab	21 28 55.3	-0.7	
	comp=Z,1.5nm,1.0s,baz=227,slow=4.8,SNR=7.7							
CN2	Changchun	164.31	300	ePKP	PKPdf	21 28 19.5	-0.9	
WMQ	Urumqi	164.38	60	ePKP	PKPdf	21 28 19.2	-1.4	
WMQ				PKS	PKSdf	21 31 51.0	-2.4	
WMQ				PP	PP	21 33 04.2	+2.6	
WMQ				SKKS		21 39 46.1		
WMQ				PPMZ				
	comp=Z,120nm,4.0s							
WMQ				LN				
	comp=Z,63nm,21.0s							
WMQ				LE				
	comp=Z,98nm,21.5s							
WMQ				LZ				
	comp=Z,79nm,19.5s							
LSA	Lhasa	165.05	117	ePKPdf	PKPdf	21 28 22.2	+0.1	
LSA				ePKPab	PKPab	21 29 19.1	+0.1	
GYA	Guiyang	169.03	181	ePKP	PKPdf	21 28 24.2	-0.5	
GYA				pPKP	pPKPdf	21 28 35.0	+2.5	
GYA				PKPab	PKPab	21 29 37.4	+1.5	
GYA				PKS	PKSdf	21 31 55.8	-1.6	
GYA				PP	PP	21 33 27.5	+3.2	
GYA				SKKS		21 40 09.0		
GYA				SS	SS	21 54 16.3	-0.5	
GYA				PPMZ				
	comp=Z,120nm,8.4s							
GYA				LN				
	comp=Z,120nm,22.8s							
GYA				LE				
	comp=Z,110nm,22.4s							
GYA				LZ				
	comp=Z,120nm,21.6s							
SONM	Songino Array	169.63	0	PKPab	PKPab	21 29 38.0	-0.1	
	comp=Z,0.8nm,0.9s,baz=302,slow=2.8,SNR=3.7							
CD2	Chengdu	173.08	160	ePKP	PKPdf	21 28 25.8	-0.8	
GTA	Gaotai	174.39	68	ePKP	PKPdf	21 28 27.2	+0.3	
GTA				pPKP	pPKPdf	21 28 38.0	+3.3	
GTA				sPKP		21 28 41.6		
HHC	Hu-ho-hao-te	174.82	312	ePKP	PKPdf	21 28 26.0	-0.9	
HHC				pPKP	pPKPdf	21 28 36.3	+1.5	
HHC				sPKP		21 28 40.7		
HHC				PP	PP	21 33 56.9	+3.0	
HHC				SS	SS	21 55 13.9	-1.4	
HHC				PPMZ				
	comp=Z,65nm,6.1s							
HHC				LN				
	comp=Z,120nm,19.7s							
HHC				LE				
	comp=Z,140nm,19.7s							
HHC				LZ				
	comp=Z,190nm,19.1s							
XAN	Xi'an	176.06	211	PKP	PKPdf	21 28 27.9	+0.5	
XAN				pPKP	pPKPdf	21 28 38.3	+3.1	
LZH	Lanzhou	177.45	122	ePKP	PKPdf	21 28 26.2	-1.6	
LZH				pPKP	pPKPdf	21 28 37.5	+1.9	
LZH				sPKP		21 28 42.0		
LZH				LN				
	comp=Z,190nm,18.3s							
LZH				LE				
	comp=Z,190nm,18.0s							
LZH				LZ				
	comp=Z,240nm,20.5s							

MAN 06 21:13:53,11°.22N×124°.60E,h12km,mb4.5,ML3.4,MS3.5, 2D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.16	176	eP	Pb	21 13 58.4	+0.4
OCLP				eS	Sg	21 14 02.8	+3.4
PLP	Palo	0.38	98	⇓i P	Pb	21 14 01.8	+0.2
PLP				i S	Sb	21 14 08.3	+0.8
LLP	Lapu-Lapu	1.09	215	eP	Pb	21 14 13.2	-0.6
LLP				eS	Sn	21 14 29.2	+0.1
MSLP	Maasin	1.10	167	eP	Pn	21 14 14.7	+0.4
MSLP				eS	Sb	21 14 27.5	-0.9
CNP	Catarman	1.29	3	eP	Pn	21 14 16.0	-0.9
RCP	Roxas	1.85	281	⇓eP	Pn	21 14 25.1	+0.6
GUIM	Jordan	2.06	254	eP	Pb	21 14 29.3	-1.0
PVCP	Virac	2.41	350	eP	Pb	21 14 35.8	-0.5

*IDC **06** 21:14:46.7±1.1,35°.80S×73°.15W,h0km,mb3.6/4, mb1 3.6/6,mb1mx3.6/32,mbtmp3.5/6,ML4.0/1,Error ellipse: s-maj=40.6km s-min=23.3km az=96.0*
*ISCJB **06** 21:14:49.4±1.0,35°.84S±0°.09×73°.0W±0°.2,h28km,mb3.9/6, Error ellipse: s-maj=21.7km s-min=13.4km az=2.4*
*NEIC **06** 21:14:51.7±0.8,35°.83S×73°.08W,h35km,mb4.4/3,Error ellipse: s-maj=18.2km s-min=11.6km az=93.0*

ISC 06 21:14:50.6±1.0,35°.8S±0°.1×73°.2W±0°.2,h28km,n11, σ0 95/11,mb3.9/6,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.33	158	Pn	Pn	21 16 07.2	-1.2
	1.1nm,0.3s,baz=325,slow=13,SNR=8.6						
CFAA	Coronel Fontan	5.86	46	Pn	Pn	21 16 14.6	-1.0
	0.1nm,0.3s,baz=234,slow=8.7,SNR=4.0						
TRQA	Tornquist	9.23	107	ePn	Pn	21 17 02.1	+0.2
SIV	San Ignacio	22.49	32	P	P	21 19 48.9	+1.0
	1.6nm,0.7s,baz=204,slow=18,SNR=3.2						
RCBR	Riachuelo	45.37	58	eP	P	21 23 06.4	-0.3
	8.8nm,1.0s						
QSPA	South Pole Qui	54.44	180	P	P	21 24 16.3	+1.2
	1.9nm,1.1s,baz=233,slow=6.7,SNR=6.0						
QSPA	South Pole Qui	54.44	180	eP	P	21 24 15.6	+0.5
	2.1nm,0.9s						
TXAR	Lajitas Array	70.87	332	P	P	21 26 05.6	+0.6
	0.1nm,0.5s,baz=148,slow=6.5,SNR=2.8						
BOSA	Boshof	80.04	118	eP	P	21 26 58.4	+0.4
	3.4nm,0.7s						
TORD	Torodi Ar. Bea	85.68	71	P	P	21 27 27.6	+0.5
	0.4nm,0.8s,baz=241,slow=4.7,SNR=3.9						
BVAR	Borovoye Array	149.21	45	PKPbc	PKPbc	21 34 34.8	-1.1
	0.4nm,0.5s,baz=280,slow=2.6,SNR=3.9						

MEX 06 21:22:17.9±0.7,15°.10N×91°.74W,h176km±7km,MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.54	249	i P	Pn	21 22 40.4	-2.1
THIG				i S	Sn	21 22 59.1	-2.1
CCIG	Comitan	1.23	342	i P	Pn	21 22 46.3	-1.1
CCIG				eS	Sn	21 23 07.5	-2.6
PCIG		1.54	293	eP	Pn	21 22 48.8	-1.1
PCIG				i S	Sn	21 23 12.7	-2.0
CMIG	Matias Romero	3.61	304	eP	Pn	21 23 13.3	-0.6
CMIG				i S	Sn	21 23 55.1	-2.7
HUIG	Huatulco	4.26	279	eP	Pn	21 23 20.0	-2.3
HUIG				i S	Sn	21 24 08.9	-3.7

*IDC **06** 21:24:22.6±0.8,35°.92S×73°.44W,h0km,mb4.0/8, mb1 4.2/12,mb1mx4.1/31,mbtmp4.0/12,ML4.0/4,MS3.9/10, Ms1 3.9/10,ms1mx3.8/22,Error ellipse: s-maj=25.7km s-min=15.4km az=86.0*
*ISCJB **06** 21:24:25.6±0.7,35°.97S±0°.06×73°.4W±0°.1,h33km,mb4.1/8, MS4.0/7,Error ellipse: s-maj=15.0km s-min=9.2km az=3.2*
*NEIC **06** 21:24:27.4±0.5,35°.92S×73°.42W,h35km,mb4.6/3,Error ellipse: s-maj=12.7km s-min=8.0km az=94.0*

ISC 06 21:24:27.5±0.7,35°.92S±0°.08×73°.4W±0°.1,h35km,n30, σ0 80/23,mb4.2/8,MS4.0/7,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.31	156	Pn	Pn	21 25 43.6	-0.8
	1.7nm,0.3s,baz=331,slow=11,SNR=31						
PLCA				LR	LR	21 27 11.5	
	comp=Z,243nm,18.6s,baz=338,slow=32						
PLCA				Lg	Lg	21 27 12.3	
	2.1nm,0.3s,baz=264,slow=22,SNR=6.1						
CFAA	Coronel Fontan	6.10	47	Pn	Pn	21 25 55.3	+0.1
	1.8nm,0.3s,baz=216,slow=3.0,SNR=83						
CFAA				Lg	Lg	21 27 31.9	
	0.2nm,0.3s,baz=44,slow=6.8,SNR=5.5						
TRQA	Tornquist	9.41	106	ePn	Pn	21 26 41.4	+0.8
LVC	Limon Verde	13.83	18	ePn	Pn	21 27 39.3	-2.0
CPUP	Villa Florida	16.76	60	Pn	Pn	21 28 19.8	+0.3
	0.4nm,0.3s,baz=208,slow=9.6,SNR=3.4						
CPUP				LR	LR	21 34 11.5	
	comp=Z,202nm,20.6s,baz=222,slow=35						
USHA	Ushuaia	19.23	171	P	P	21 28 47.5	-0.9
	0.1nm,0.3s,baz=343,slow=7.3,SNR=3.1						
USHA				LR	LR	21 35 51.5	
	comp=Z,840nm,18.1s,baz=326,slow=36						
LPAZ	La Paz	20.12	15	P	P	21 28 58.7	-0.3
	3.3nm,0.8s,baz=183,slow=7.4,SNR=9.4						
LPAZ	La Paz	20.12	15	ePn	Pn	21 29 00.7	-0.5
	13nm,1.1s						
SIV	San Ignacio	22.70	32	P	P	21 29 25.7	-0.6
	9.3nm,1.0s,baz=229,slow=14,SNR=17						
SIV				LR	LR	21 40 08.2	
	comp=Z,1μm,18.5s,baz=227,slow=42						
NNA	Nana	24.03	352	LR	LR	21 37 05.3	
	comp=Z,175nm,18.1s,baz=174,slow=32						
ATAH	Atahualpa	29.01	350	LR	LR	21 39 48.3	
	comp=Z,134nm,18.3s,baz=188,slow=32						
PMSA	Palmer Station	29.44	172	LR	LR	21 43 10.7	
	comp=Z,503nm,18.1s,baz=336,slow=38						
BDFB	Brasilia	30.37	55	P	P	21 30 36.5	+0.2
	4.9nm,1.0s,baz=302,slow=6.8,SNR=3.3						
RPN	Rapa Nui	31.69	276	LR	LR	21 39 40.3	
	comp=Z,385nm,18.5s,baz=88,slow=29						
SNAA	Sanae	50.25	157	eP	P	21 33 19.8	0.0
	8.9nm,1.0s						
RKT	Rikitea	54.26	266	eLR	LR	21 48 57.3	
	252nm,36.5s						
QSPA	South Pole Qui	54.32	180	P	P	21 33 50.5	+0.3
	3.8nm,0.8s,baz=289,slow=0.3,SNR=18						
QSPA	South Pole Qui	54.32	180	eP	P	21 33 50.2	0.0
	6.5nm,1.0s						
MEH	Mehetia	67.48	264	eT	T	22 48 39.6	
	22nm,0.2s						
PPT2	Papeete2	68.85	263	eLR	LR	21 56 09.8	
	227nm,25.5s						
TXAR	Lajitas Array	70.87	332	P	P	21 35 41.1	+0.2
	0.7nm,0.6s,baz=153,slow=8.4,SNR=11						
TXAR				LR	LR	22 01 27.9	
	comp=Z,75nm,20.6s,baz=0.0,slow=31						
DBIC	Dimbokro	76.87	72	LR	LR	22 08 59.6	
	comp=Z,73nm,18.4s,baz=218,slow=35						
NVAR	Mina Array Bea	84.82	326	P	P	21 36 59.0	+0.6
	0.5nm,0.7s,baz=142,slow=5.2,SNR=3.8						
PDAR	Pinedale Array	84.97	334	P	P	21 37 00.8	+1.8
	0.5nm,0.9s,baz=94,slow=11,SNR=3.0						
TORD	Torodi Ar. Bea	85.93	71	P	P	21 37 04.0	-0.2
	1.4nm,1.0s,baz=205,slow=6.6,SNR=4.3						
ABKAR	Akbulak array	143.75	54	ePKPdf	PKPbc	21 43 55.9	-0.1
BVAR	Borovoye Array	149.46	45	PKPbc	PKPbc	21 44 13.2	+0.9
	0.5nm,0.4s,baz=250,slow=4.4,SNR=7.1						
YAK	Yakutsk	150.12	338	ePKPbc	PKPbc	21 44 13.4	-0.1
YAK				ePKPab	PKPab	21 44 20.3	+0.6
ZALV	Zalesovo Beam	156.46	33	PKP	PKPdf	21 44 17.6	-0.4
	0.4nm,0.5s,baz=352,slow=2.9,SNR=2.8						
ZALV				PKPab	PKPab	21 44 45.9	-0.8
	0.7nm,0.7s,baz=324,slow=4.8,SNR=3.0						
MKAR	Makanchi Array	158.87	52	PKP	PKPdf	21 44 21.4	+0.2
	0.5nm,0.8s,baz=203,slow=0.9,SNR=5.1						
MKAR				PKPab	PKPab	21 44 58.1	+0.7
	0.4nm,0.9s,baz=302,slow=2.7,SNR=3.0						

GUC 06 21:41:37.6±0.4,34°.82S×72°.35W,h32km±3km,ML3.8,4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.94	101	eP	Pn	21 41 54.7	+0.1
NICH				eS	Sb	21 42 07.5	0.0
LNV	Longovilo	1.16	42	eP9	Pn	21 41 57.3	-0.4
LNV				i S1	Sn	21 42 12.8	+0.3
LNCH	Linares	1.19	149	⇑i P	Pn	21 41 58.5	+0.5
LNCH				i S	Sb	21 42 14.2	-0.5
CACH	El Canelo	1.61	64	⇑i P	Pb	21 42 05.8	-1.0
CACH				i S1	Sn	21 42 27.1	+3.4
CHCH	Chadas Angostu	1.66	58	⇑i P	Pn	21 42 05.9	+1.3
CHCH				i S1	Sn	21 42 27.8	+2.9
RCDM	Rinconada Maip	1.85	44	eP9	Pn	21 42 07.5	+0.4
RCDM				i S1	Sn	21 42 30.9	+1.5
ANTU	Antumapu	1.89	49	eP	Pb	21 42 09.7	-1.9
ANTU				i S4	Sn	21 42 33.1	+2.4
ANTU				AML	AML	21 42 41.0	
	comp=N,1μm,0.7s						
CLCH	Cerro Calan	2.07	47	eP1	Pn	21 42 12.2	+2.0
CLCH				i S4	Sn	21 42 37.5	+2.5
CLCH				AML	AML	21 42 44.9	
	comp=N,1μm,0.8s						
PEL	Peldehue	2.17	40	⇑i P	Pn	21 42 13.8	+2.1
PEL				i S	Sb	21 42 41.2	-1.8
PEL				AML	AML	21 42 52.2	
	comp=E,1μm,0.4s						

*IDC **06** 21:46:25.3±3.1,36°.21N×71°.09E,h113km±26km,mb3.2/8, mb1 3.3/13,mb1mx3.1/38,mbtmp3.6/13,Error ellipse: s-maj=23.4km s-min=17.0km az=171.0*
*ISCJB **06** 21:46:31.7±0.8,36°.66N±0°.07×70°.91E±0°.06,h188km, mb3.3/7,Error ellipse: s-maj=9.6km s-min=6.8km az=157.7*
*NNC **06** 21:46:31.9±8.4,36°.87N×71°.25E,h0km,mb4.0,mpv3.8, Error ellipse: s-maj=68.8km s-min=35.1km az=170.0*

ISC 06 21:46:32.3±1.1,36°.66N±0°.10×70°.90E±0°.08,h188km,n27, σ1 43/28,mb3.3/7,2C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.70	323	⇑Pn	Pn	21 47 16.9	-1.0
DZET				⇓Sn	Sn	21 47 53.3	-0.2
AML	Almayashu	5.87	21	P	Pn	21 47 56.9	-1.2
	SNR=68						
UCH	Uchtor	6.22	26	P	Pn	21 48 02.5	-0.1
	SNR=14						
KZA	Kyzart	6.37	31	P	Pn	21 48 03.4	-1.2
	SNR=7.3						
EKS2	Erkin-Say	6.39	19	P	Pn	21 48 05.8	+1.3
	SNR=9.8						
KK31	Karatay Array	6.44	357	⇓Pn	Pn	21 48 04.8	-0.3
	1.3nm,0.2s,baz=181,slow=14,SNR=70						
KK31				⇓Sn	Sn	21 49 16.8	-1.7
	2.9nm,0.3s,baz=181,slow=22,SNR=9.9						
AAK	Ala-Archa	6.58	24	⇑Pn	Pn	21 48 07.4	+0.4
	6.1nm,0.5s						
AAK				⇓Sn	Sn	21 49 19.7	-2.2
	11nm,0.8s						
AAK	Ala-Archa	6.58	24	P	Pn	21 48 06.7	-0.3
	SNR=12						
AAK	Ala-Archa	6.58	24	P	Pn	21 48 05.7	-1.3
	3.2nm,0.3s,baz=174,slow=5.8,SNR=57						
AAK				S	Sn	21 49 19.5	-2.3
	1.5nm,0.3s,baz=120,slow=22,SNR=8.6						
KBK	Karagaybulak	6.75	26	P	Pn	21 48 11.1	+1.8
	SNR=7.7						
ULHL	Ulahol	6.94	35	P	Pn	21 48 10.6	-1.2
	SNR=6.9						
CHMS	Chumysh	6.99	24	P	Pn	21 48 12.1	-0.1
	SNR=9.5						
USP	Ospenovka	7.15	22	P	Pn	21 48 15.6	+1.2
	SNR=6.8						
TKM2	Tokmak 2	7.22	29	P	Pn	21 48 15.7	+0.2
	SNR=27						
GEYT	Alibeck	10.27	281	P	Pn	21 48 53.5	-1.7
	1.2nm,0.3s,baz=120,slow=9.7,SNR=13						
GEYT				S	Sn	21 50 47.6	-2.0
	0.9nm,0.3s,baz=166,slow=13,SNR=5.6						

ellipse: s-maj=0.8km s-min=0.3km az=267.0
*PDG **06** 22:06:43.5±0.7, 40.12N×20.79E, h12km, 1km, ML3.2/12, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
*SKO **06** 22:06:43.5, 39.94N×20.75E, h0km, M1.3, ML3.0*
*CSEM **06** 22:06:43.8±0.1, 40.05N×20.79E, h2km, MD3.8, Error ellipse: s-maj=2.7km s-min=1.9km az=61.0*
*BEO **06** 22:06:44.6±1.2, 40.05N×20.74E, h5km, ML3.0/7*
ISC 06 22:06:43.4±1.0, 40.07N±0.01×20.80E±0.01, h3km±8km, n257, σ1§18/356, mb3.6/10, 24C-17D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.40**	**29**	P	**Pg**	**22 06 50.9**	**-0.2**
NEST				S	**Sg**	**22 06 56.7**	**+0.4**
NEST	**Nestorio**	**0.40**	**29**	*e*PB	**Pg**	**22 06 51.1**	**0.0**
NEST				*e*SB	**Sg**	**22 06 55.9**	**-0.4**
NEST	**Nestorio**	**0.40**	**29**	P	**Pg**	**22 06 50.9**	**-0.2**
NEST				S	**Sg**	**22 06 56.7**	**+0.4**
JAN	**Janina**	**0.41**	**174**	P	**Pg**	**22 06 50.7**	**-0.6**
JAN				S	**Sg**	**22 06 57.0**	**+0.4**
JAN	**Janina**	**0.41**	**174**	*e*PG	**Pg**	**22 06 50.7**	**-0.6**
JAN				*e*SB	**Sg**	**22 06 57.6**	**+1.0**
MEV	**Metsovon**	**0.43**	**130**	P	**Pg**	**22 06 50.9**	**-0.8**
MEV	**Metsovon**	**0.43**	**130**	P	**Pg**	**22 06 50.9**	**-0.8**
KBN	**Korca**	**0.56**	**359**	*i* PG	**Pg**	**22 06 52.0**	**-2.1**
KBN				*i* SG	Sg	22 06 53.1	-8.2
KBN	**Korca**	**0.56**	**359**	P	**Pg**	**22 06 53.2**	**-0.9**
KBN				S	**Sg**	**22 07 02.0**	**+0.7**
SRN	**Sarande**	**0.64**	**253**	*i* PG	**Pg**	**22 06 54.8**	**-0.9**
SRN				*i* SG	**Sb**	**22 07 06.1**	**-0.4**
SRN	**Sarande**	**0.64**	**253**	P	**Pg**	**22 06 54.8**	**-0.9**
SRN				S	**Sg**	**22 07 04.4**	**+0.4**
SRN	**Sarande**	**0.64**	**253**	P	**Pg**	**22 06 54.8**	**-0.9**
SRN				S	**Sg**	**22 07 04.4**	**+0.4**
SRN				*i* Sg	**Sb**	**22 07 06.1**	**-0.4**
KZN	**Kozani**	**0.78**	**72**	P	**Pg**	**22 06 57.8**	**-0.6**
KZN				S	**Sg**	**22 07 09.7**	**+1.2**
KZN	**Kozani**	**0.78**	**72**	*e*PB	**Pg**	**22 06 58.4**	**0.0**
KZN				*e*SB	**Sg**	**22 07 09.6**	**+1.1**
FNA	**Florina**	**0.84**	**31**	P	**Pg**	**22 06 58.7**	**-0.8**
FNA				S	**Sb**	**22 07 11.8**	**-0.6**
FNA	**Florina**	**0.84**	**31**	*e*PB	**Pg**	**22 06 58.8**	**-0.8**
FNA				*e*SB	**Sg**	**22 07 10.0**	**-0.4**
KEK	**Kerkira**	**0.85**	**246**	P	**Pg**	**22 06 58.7**	**-0.9**
KEK				S	**Sg**	**22 07 11.4**	**+0.8**
KEK	**Kerkira**	**0.85**	**246**	*e*PG	**Pg**	**22 06 58.7**	**-0.9**
KEK				*e*SB	**Sg**	**22 07 10.7**	**+0.1**
KEK	**Kerkira**	**0.85**	**246**	P	**Pg**	**22 06 58.7**	**-0.9**
KEK				*e*Sb	**Sg**	**22 07 10.7**	**+0.1**
KEK				S	**Sg**	**22 07 11.4**	**+0.8**
DSL	**Palaion Diasel**	**0.96**	**166**	P	**Pg**	**22 07 00.9**	**-0.9**
DSL	**Palaion Diasel**	**0.96**	**166**	P	**Pg**	**22 07 00.9**	**-0.9**
OHR	**Ohrid**	**1.04**	**360**	*e*Pg	**Pn**	**22 07 05.3**	**+0.4**
OHR				*e*Sg	**Sn**	**22 07 20.3**	**+0.2**
OHR	**Ohrid**	**1.04**	**360**	*e*Pg	**Pn**	**22 07 05.3**	**+0.4**
OHR				*e*Sg	**Sn**	**22 07 20.2**	**+0.2**
THL	**Klokotos Trika**	**1.06**	**118**	P	**Pg**	**22 07 02.5**	**-1.2**
THL				S	**Sg**	**22 07 18.4**	**+0.9**
THL	**Klokotos Trika**	**1.06**	**118**	*e*PN	**Pg**	**22 07 03.8**	**+0.1**
THL				*e*SB	**Sb**	**22 07 18.6**	**0.0**
VLO	**Vlora**	**1.07**	**292**	*i* PN	**Pg**	**22 07 03.9**	**-0.1**
VLO				*i* SN	**Sn**	**22 07 22.2**	**+1.5**
VLO	**Vlora**	**1.07**	**292**	P	**Pg**	**22 07 02.8**	**-1.2**
VLO				S	**Sb**	**22 07 19.2**	**+0.2**
VLO	**Vlora**	**1.07**	**292**	P	**Pg**	**22 07 02.8**	**-1.2**
VLO	**Vlora**	**1.07**	**292**	*i* Pn	**Pg**	**22 07 03.9**	**-0.1**
VLO				S	**Sb**	**22 07 19.2**	**+0.2**
VLO				*i* Sn	**Sn**	**22 07 22.2**	**+1.5**
LKD2	**Lefkada island**	**1.28**	**185**	P	**Pg**	**22 07 06.8**	**-1.1**
LKD2				S	**Sb**	**22 07 25.6**	**+0.6**
LKD2	**Lefkada island**	**1.28**	**185**	*e*PB	**Pg**	**22 07 07.8**	**-0.1**
LKD2				*e*SB	**Sb**	**22 07 25.8**	**+0.8**
LKD2	**Lefkada island**	**1.28**	**185**	P	**Pg**	**22 07 06.8**	**-1.1**
LKD2	**Lefkada island**	**1.28**	**185**	*e*Pb	**Pg**	**22 07 07.8**	**-0.1**
LKD2				S	**Sb**	**22 07 25.6**	**+0.6**
LIT	**Litokhoron**	**1.30**	**88**	P	**Pg**	**22 07 07.2**	**-1.1**
LIT				S	**Sb**	**22 07 26.1**	**+0.6**
LIT	**Litokhoron**	**1.30**	**88**	*e*PB	**Pg**	**22 07 07.6**	**-0.7**
LIT				*e*SB	**Sb**	**22 07 26.1**	**+0.6**
LIT	**Litokhoron**	**1.30**	**88**	*e*Pb	**Pg**	**22 07 07.6**	**-0.7**
LIT				S	**Sb**	**22 07 26.1**	**+0.6**
EVR	**Evrytania**	**1.39**	**145**	P	**Pn**	**22 07 08.6**	**-1.1**
EVR				S	**Sb**	**22 07 28.9**	**+0.8**
EVR	**Evrytania**	**1.39**	**145**	*e*PG	**Pn**	**22 07 09.3**	**-0.4**
EVR				*e*SB	**Sb**	**22 07 29.0**	**+0.8**
EVR	**Evrytania**	**1.39**	**145**	P	**Pn**	**22 07 08.6**	**-1.1**
EVR	**Evrytania**	**1.39**	**145**	*e*Pg	**Pn**	**22 07 09.3**	**-0.4**
EVR				*e*Sb	**Sb**	**22 07 29.0**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.47**	**135**	*e*PB	**Pn**	**22 07 11.1**	**+0.3**
MAKR				*e*SB	**Sn**	**22 07 31.6**	**+1.0**
MAKR	**Makrakomi, Fth**	**1.47**	**135**	*e*Pb	**Pn**	**22 07 11.1**	**+0.3**
MAKR				*e*Sb	**Sn**	**22 07 31.6**	**+1.0**
PDO	**Prodromos**	**1.50**	**168**	P	**Pn**	**22 07 10.2**	**-0.9**
PDO	**Prodromos**	**1.50**	**168**	*e*PB	**Pb**	**22 07 12.1**	**+0.3**
PDO				*e*SB	**Sn**	**22 07 32.4**	**+1.3**
PDO	**Prodromos**	**1.50**	**168**	P	**Pn**	**22 07 10.2**	**-0.9**
PDO	**Prodromos**	**1.50**	**168**	*e*Pb	**Pb**	**22 07 12.1**	**+0.3**
PDO				*e*Sb	**Sn**	**22 07 32.4**	**+1.3**
GRG	**Griva**	**1.51**	**53**	P	**Pn**	**22 07 10.5**	**-0.9**
GRG				S	**Sg**	**22 07 31.9**	**0.0**
GRG	**Griva**	**1.51**	**53**	P	**Pn**	**22 07 10.5**	**-0.9**
GRG				S	**Sg**	**22 07 31.9**	**0.0**
AGG	**Agios Georgios**	**1.58**	**131**	*e*PB	**Pb**	**22 07 13.2**	**0.0**
AGG	**Agios Georgios**	**1.58**	**131**	*e*Pb	**Pb**	**22 07 13.2**	**0.0**
PHP	**Peshkopia**	**1.64**	**351**	*i* PN	**Pg**	**22 07 15.4**	**+0.6**
PHP				*i* SN	Sg	22 07 45.1	+9.1
PHP	**Peshkopia**	**1.64**	**351**	*i* Pn	**Pg**	**22 07 15.4**	**+0.6**
THE	**Thessaloniki**	**1.75**	**70**	P	**Pn**	**22 07 13.8**	**-0.8**
THE				S	**Sn**	**22 07 37.9**	**+0.6**
THE	**Thessaloniki**	**1.75**	**70**	*e*PG	**Pb**	**22 07 15.7**	**-0.4**
THE				*e*SN	**Sg**	**22 07 39.5**	**-0.1**
THE	**Thessaloniki**	**1.75**	**70**	P	**Pn**	**22 07 13.8**	**-0.8**
THE	**Thessaloniki**	**1.75**	**70**	*e*Pg	**Pb**	**22 07 15.7**	**-0.4**
THE				S	**Sn**	**22 07 37.9**	**+0.6**
THE				*e*Sn	**Sg**	**22 07 39.5**	**-0.1**
HORT	**Hortiatis**	**1.84**	**72**	P	**Pn**	**22 07 15.3**	**-0.6**
HORT				S	**Sn**	**22 07 40.3**	**+0.6**
HORT	**Hortiatis**	**1.84**	**72**	*e*PN	**Pn**	**22 07 16.0**	**+0.1**
HORT				*e*SN	**Sb**	**22 07 41.4**	**+0.3**
HORT	**Hortiatis**	**1.84**	**72**	P	**Pn**	**22 07 15.3**	**-0.6**
HORT	**Hortiatis**	**1.84**	**72**	*e*Pn	**Pn**	**22 07 16.0**	**+0.1**
HORT				S	**Sn**	**22 07 40.3**	**+0.6**
HORT				*e*Sn	**Sb**	**22 07 41.4**	**+0.3**
VAY	**Valandovo**	**1.84**	**46**	P	**Pn**	**22 07 15.3**	**-0.5**
VAY	**Valandovo**	**1.84**	**46**	*e*Pn	**Pb**	**22 07 17.4**	**-0.2**
VAY				*e*Sn	**Sg**	**22 07 44.6**	**+2.1**
VAY				*e*Lg	Lg	22 07 44.8	
	comp=E,0.0nm,0.5s						
VAY				*e*Lg	Lg	22 07 45.2	
	comp=N,132nm,0.7s						
VAY	**Valandovo**	**1.84**	**46**	P	**Pn**	**22 07 15.3**	**-0.5**
VAY	**Valandovo**	**1.84**	**46**	*e*Pn	**Pb**	**22 07 17.4**	**-0.2**
VAY				*e*Sn	**Sg**	**22 07 44.6**	**+2.1**
VAY				*e*Lg	Lg	22 07 45.2	
	comp=N,132nm,0.7s						
EFP	**Efpalio**	**1.85**	**152**	*e*PG	**Pb**	**22 07 17.5**	**-0.3**
EFP				*e*SN	**Sb**	**22 07 42.1**	**+0.8**
EFP	**Efpalio**	**1.85**	**152**	*e*Pg	**Pb**	**22 07 17.5**	**-0.3**
EFP				*e*Sn	**Sb**	**22 07 42.1**	**+0.8**
VLS	**Valsamata**	**1.89**	**185**	*e*PN	**Pn**	**22 07 17.4**	**+0.8**
VLS				*e*SN	**Sb**	**22 07 43.1**	**+0.5**
VLS	**Valsamata**	**1.89**	**185**	*e*Pn	**Pn**	**22 07 17.4**	**+0.8**
VLS				*e*Sn	**Sb**	**22 07 43.1**	**+0.5**
KNT	**Kendrikon**	**1.94**	**55**	P	**Pn**	**22 07 16.5**	**-0.7**
KNT	**Kendrikon**	**1.94**	**55**	*e*PN	**Pn**	**22 07 17.2**	**0.0**
KNT				*e*SN	**Sb**	**22 07 43.5**	**-0.4**
KNT	**Kendrikon**	**1.94**	**55**	P	**Pn**	**22 07 16.5**	**-0.7**
KNT	**Kendrikon**	**1.94**	**55**	*e*Pn	**Pn**	**22 07 17.2**	**0.0**
KNT				*e*Sn	**Sb**	**22 07 43.5**	**-0.4**
AXAR	**Agios Charalam**	**1.94**	**131**	*e*PN	**Pn**	**22 07 18.5**	**+1.3**
AXAR				*e*SN	**Sb**	**22 07 44.4**	**+0.5**
AXAR	**Agios Charalam**	**1.94**	**131**	*e*Pn	**Pn**	**22 07 18.5**	**+1.3**
AXAR				*e*Sn	**Sb**	**22 07 44.4**	**+0.5**
SKO	**Skopje**	**1.96**	**14**	*e*Pn	**Pn**	**22 07 18.4**	**+0.8**
SKO	**Skopje**	**1.96**	**14**	*e*Pn	**Pg**	**22 07 20.9**	**-0.1**
SKO				*e*Sn	**Sg**	**22 07 47.9**	**+1.3**
SKO				*e*Lg	Lg	22 07 48.3	
	comp=E,145nm,0.6s						
SKO				*e*Lg	Lg	22 07 48.9	
	comp=N,128nm,0.8s						
SKO	**Skopje**	**1.96**	**14**	*e*Pn	**Pn**	**22 07 18.4**	**+0.8**
SKO				*e*Sn	**Sg**	**22 07 47.8**	**+1.3**
SKO				*e*Lg	Lg	22 07 48.8	
	comp=N,128nm,0.8s						
KALE	**Kalithea**	**1.97**	**148**	*e*PN	**Pb**	**22 07 19.4**	**-0.5**
KALE	**Kalithea**	**1.97**	**148**	*e*Pn	**Pb**	**22 07 19.4**	**-0.5**
XOR	**Xorichti**	**1.97**	**110**	P	**Pn**	**22 07 17.1**	**-0.6**
XOR				S	**Sn**	**22 07 43.0**	**+0.1**
XOR	**Xorichti**	**1.97**	**110**	*e*PN	**Pn**	**22 07 18.2**	**+0.5**
XOR				*e*SN	**Sb**	**22 07 45.2**	**+0.3**
XOR	**Xorichti**	**1.97**	**110**	P	**Pn**	**22 07 17.1**	**-0.6**
XOR	**Xorichti**	**1.97**	**110**	*e*Pn	**Pn**	**22 07 18.2**	**+0.5**
XOR				S	**Sn**	**22 07 43.0**	**+0.1**
XOR				*e*Sn	**Sb**	**22 07 45.2**	**+0.3**
NEO	**Neokhori**	**2.02**	**111**	*e*PN	**Pn**	**22 07 19.2**	**+0.9**
NEO	**Neokhori**	**2.02**	**111**	*e*Pn	**Pn**	**22 07 19.2**	**+0.9**
LAKA	**Lakka**	**2.04**	**153**	*e*PN	**Pn**	**22 07 19.4**	**+0.8**
LAKA	**Lakka**	**2.04**	**153**	*e*Pn	**Pn**	**22 07 19.4**	**+0.8**
PLG	**Polygyros**	**2.05**	**81**	*e*PN	**Pn**	**22 07 19.3**	**+0.5**
PLG	**Polygyros**	**2.05**	**81**	*e*Pn	**Pn**	**22 07 19.3**	**+0.5**
RLS	**Riolos of Patr**	**2.07**	**165**	*e*PN	**Pb**	**22 07 20.8**	**-0.8**
RLS	**Riolos of Patr**	**2.07**	**165**	*e*Pn	**Pb**	**22 07 20.8**	**-0.8**
PUK	**Puka**	**2.09**	**341**	*i* PN	**Pn**	**22 07 20.7**	**+1.4**
PUK				*i* SN	**Sg**	**22 07 55.4**	**+4.8**
PUK	**Puka**	**2.09**	**341**	*i* Pn	**Pn**	**22 07 20.7**	**+1.4**
SOH	**Sokhos**	**2.09**	**68**	P	**Pn**	**22 07 18.5**	**-0.8**
SOH				S	**Sn**	**22 07 46.2**	**+0.3**
SOH	**Sokhos**	**2.09**	**68**	*e*PN	**Pn**	**22 07 20.3**	**+1.0**
SOH	**Sokhos**	**2.09**	**68**	P	**Pn**	**22 07 18.5**	**-0.8**
SOH	**Sokhos**	**2.09**	**68**	*e*Pn	**Pn**	**22 07 20.3**	**+1.0**
SOH				S	**Sn**	**22 07 46.2**	**+0.3**
DSF	**Desfina**	**2.13**	**140**	*e*PN	**Pn**	**22 07 21.5**	**+1.6**
DSF	**Desfina**	**2.13**	**140**	*e*Pn	**Pn**	**22 07 21.5**	**+1.6**
SMIA	**Simia**	**2.21**	**122**	*e*PN	**Pn**	**22 07 22.2**	**+1.3**
SMIA	**Simia**	**2.21**	**122**	*e*Pn	**Pn**	**22 07 22.2**	**+1.3**
LKR	**Lokris**	**2.22**	**129**	*e*PN	**Pn**	**22 07 22.0**	**+1.0**
LKR	**Lokris**	**2.22**	**129**	*e*Pn	**Pn**	**22 07 22.0**	**+1.0**
PAIG	**Paliouri**	**2.22**	**93**	*e*PN	**Pn**	**22 07 21.8**	**+0.8**
PAIG	**Paliouri**	**2.22**	**93**	*e*Pn	**Pn**	**22 07 21.8**	**+0.8**
DRO	**Drossia**	**2.23**	**161**	*e*PN	**Pn**	**22 07 23.0**	**+1.8**
DRO	**Drossia**	**2.23**	**161**	*e*Pn	**Pn**	**22 07 23.0**	**+1.8**
ULC	**Ulcinj**	**2.23**	**329**	*e*Pn	**Pn**	**22 07 21.9**	**+0.7**
ULC				*e*Sn	**Sb**	**22 07 52.6**	**+0.3**
ULC	**Ulcinj**	**2.23**	**329**	*e*Pn	**Pn**	**22 07 21.9**	**+0.7**
ULC				*e*Sn	**Sb**	**22 07 52.6**	**+0.3**
SKIA	**Skiathos**	**2.25**	**113**	*e*PN	**Pn**	**22 07 22.1**	**+0.7**
SKIA	**Skiathos**	**2.25**	**113**	*e*Pn	**Pn**	**22 07 22.1**	**+0.7**
KLV	**Kalavryta, Ach**	**2.28**	**152**	*e*PN	**Pn**	**22 07 23.5**	**+1.6**
KLV	**Kalavryta, Ach**	**2.28**	**152**	*e*Pn	**Pn**	**22 07 23.5**	**+1.6**
SRS	**Serrai**	**2.37**	**63**	*e*PN	**Pn**	**22 07 24.1**	**+0.9**
SRS	**Serrai**	**2.37**	**63**	*e*Pn	**Pn**	**22 07 24.1**	**+0.9**
GUR	**Goura**	**2.44**	**150**	*e*PN	**Pb**	**22 07 26.6**	**-1.4**
GUR	**Goura**	**2.44**	**150**	*e*Pn	**Pb**	**22 07 26.6**	**-1.4**
DRME	**Dracevica, Mon**	**2.44**	**331**	⇑*i*PN	**Pn**	**22 07 25.1**	**+0.9**
DRME				*e*Sn	**Sb**	**22 07 57.6**	**-0.9**
DRME	**Dracevica, Mon**	**2.44**	**331**	⇑*i*Pn	**Pn**	**22 07 25.1**	**+0.9**
DRME				*e*Sn	**Sb**	**22 07 57.6**	**-0.9**
OUR	**Ouranopolis**	**2.45**	**83**	*e*PN	**Pn**	**22 07 25.8**	**+1.6**
OUR	**Ouranopolis**	**2.45**	**83**	*e*Pn	**Pn**	**22 07 25.8**	**+1.6**
AOS	**Alonnisos**	**2.54**	**110**	*e*PB	**Pn**	**22 07 25.9**	**+0.4**
AOS	**Alonnisos**	**2.54**	**110**	*e*Pb	**Pn**	**22 07 25.9**	**+0.4**
MRKA	**Markates**	**2.55**	**121**	*e*PN	**Pn**	**22 07 26.8**	**+1.1**
MRKA	**Markates**	**2.55**	**121**	*e*Pn	**Pn**	**22 07 26.8**	**+1.1**
PVY	**Plav**	**2.60**	**346**	⇓*i*PN	**Pn**	**22 07 27.9**	**+1.4**
PVY				*e*Sn	**Sb**	**22 08 01.4**	**-1.8**
PVY	**Plav**	**2.60**	**346**	⇓*i*Pn	**Pn**	**22 07 27.9**	**+1.4**
PVY				*e*Sn	**Sb**	**22 08 01.4**	**-1.8**
AMT	**Artemida-Makis**	**2.63**	**164**	*e*PB	**Pn**	**22 07 27.8**	**+1.1**
AMT	**Artemida-Makis**	**2.63**	**164**	*e*Pb	**Pn**	**22 07 27.8**	**+1.1**
PDG	**Podgorica**	**2.63**	**334**	*e*Pn	**Pn**	**22 07 26.7**	**0.0**
PDG	**Podgorica**	**2.63**	**334**	⇓*i*PN	**Pn**	**22 07 27.9**	**+1.2**
PDG				*e*Sn	**Sb**	**22 08 02.3**	**-1.6**
TTG	**Podgorica**	**2.63**	**334**	⇓*i*PN	**Pn**	**22 07 27.9**	**+1.2**
TTG				*e*Sn	**Sb**	**22 08 02.3**	**-1.6**
LTK	**Loutraki**	**2.65**	**140**	*e*PB	**Pn**	**22 07 27.9**	**+0.9**
LTK	**Loutraki**	**2.65**	**140**	*e*Pb	**Pn**	**22 07 27.9**	**+0.9**
BUM	**Brajici-Budva**	**2.66**	**328**	⇑*i*PN	**Pn**	**22 07 27.1**	**0.0**
BUM				*e*Sn	**Sn**	**22 08 02.0**	**+2.2**
BUM	**Brajici-Budva**	**2.66**	**328**	⇑*i*Pn	**Pn**	**22 07 27.1**	**0.0**
BUM				*e*Sn	**Sn**	**22 08 02.0**	**+2.2**
NVR	**Nevrokopi**	**2.66**	**60**	P	**Pn**	**22 07 26.4**	**-0.7**
NVR	**Nevrokopi**	**2.66**	**60**	*e*PB	**Pn**	**22 07 27.7**	**+0.6**
NVR	**Nevrokopi**	**2.66**	**60**	P	**Pn**	**22 07 26.4**	**-0.7**
NVR	**Nevrokopi**	**2.66**	**60**	*e*Pb	**Pn**	**22 07 27.7**	**+0.6**
PE1	**Pezze di Greco**	**2.68**	**287**	*e*Pn	**Pn**	**22 07 26.2**	**-1.2**
PE1				Sn	**Sb**	**22 08 04.0**	**-1.2**
MMB	**Musomiste**	**2.69**	**55**	⇑*i*P	**Pn**	**22 07 28.7**	**+1.1**
MMB	**Musomiste**	**2.69**	**55**	S	**Sn**	**22 07 59.6**	**-1.1**
MMB	**Musomiste**	**2.69**	**55**	⇑*i*P	**Pn**	**22 07 28.7**	**+1.1**
BARS	**Barje**	**2.85**	**15**	*e*Pn	**Pn**	**22 07 29.8**	**0.0**
BARS				*e*Sn	**Sn**	**22 08 05.1**	**+0.5**
BARS	**Barje**	**2.85**	**15**	*e*Pn	**Pn**	**22 07 29.8**	**0.0**
BARS				*e*Sn	**Sn**	**22 08 05.1**	**+0.5**
BEY	**Berane**	**2.88**	**347**	⇑*i*PN	**Pn**	**22 07 31.1**	**+0.8**
BEY				*e*Sn	**Sn**	**22 08 08.4**	**+2.9**
IVA	**Berane**	**2.88**	**347**	⇑*i*Pn	**Pn**	**22 07 31.1**	**+0.8**
IVA				*e*Sn	**Sn**	**22 08 08.4**	**+2.9**
HCY	**Herceg Novi**	**2.95**	**325**	⇑*i*PN	**Pn**	**22 07 31.7**	**+0.7**
HCY				*e*Sn	**Sn**	**22 08 09.0**	**+2.1**
HCY	**Herceg Novi**	**2.95**	**325**	⇑*i*PN	**Pn**	**22 07 31.7**	**+0.7**
HCY				*e*Sn	**Sn**	**22 08 09.0**	**+2.1**
VLX	**Vlachokerasia**	**2.96**	**155**	*e*PN	**Pn**	**22 07 32.3**	**+0.9**
VLX	**Vlachokerasia**	**2.96**	**155**	*e*Pn	**Pn**	**22 07 32.3**	**+0.9**
KAVA	**Kavala**	**2.98**	**71**	*e*PN	**Pn**	**22 07 31.7**	**+0.2**
KAVA	**Kavala**	**2.98**	**71**	*e*Pn	**Pn**	**22 07 31.7**	**+0.2**
ITM	**Ithomi**	**3.02**	**163**	*e*PB	**Pn**	**22 07 34.1**	**+2.1**
ITM	**Ithomi**	**3.02**	**163**	*e*Pb	**Pn**	**22 07 34.1**	**+2.1**
NKME	**Niksic**	**3.03**	**333**	⇑*i*PN	**Pn**	**22 07 33.1**	**+0.8**
NKME				*e*Sn	**Sn**	**22 08 12.0**	**+2.8**
NKME	**Niksic**	**3.03**	**333**	⇑*i*Pn	**Pn**	**22 07 33.1**	**+0.8**
NKME				*e*Sn	**Sn**	**22 08 12.0**	**+2.8**
NKY	**Niksic**	**3.06**	**334**	⇓*i*Pn	**Pn**	**22 07 33.7**	**+1.0**
NKY				*e*Sn	**Sn**	**22 08 12.4**	**+2.5**
NKY	**Niksic**	**3.06**	**334**	⇓*i*Pn	**Pn**	**22 07 33.7**	**+1.0**
NKY				*e*Sn	**Sn**	**22 08 12.4**	**+2.5**
ATH	**Athens Observa**	**3.09**	**132**	*e*PN	**Pn**	**22 07 34.0**	**+1.0**
ATH	**Athens Observa**	**3.09**	**132**	*e*Pn	**Pn**	**22 07 34.0**	**+1.0**
VTS	**Vitosha**	**3.11**	**35**	*e*Pn	**Pn**	**22 07 34.6**	**+1.2**
VTS	**Vitosha**	**3.11**	**35**	⇑*i*P	**Pn**	**22 07 35.0**	**+1.6**
VTS	**Vitosha**	**3.11**	**35**	S	**Sn**	**22 08 11.4**	**+0.3**
VTS	**Vitosha**	**3.11**	**35**	*e*Pn	**Pn**	**22 07 34.6**	**+1.2**
VTS	**Vitosha**	**3.11**	**35**	⇑*i*P	**Pn**	**22 07 35.0**	**+1.6**
PTL	**Penteli**	**3.12**	**129**	*e*PN	**Pn**	**22 07 35.2**	**+1.7**
PTL	**Penteli**	**3.12**	**129**	*e*Pn	**Pn**	**22 07 35.2**	**+1.7**
SELS	**Selova**	**3.16**	**4**	*e*Pn	**Pn**	**22 07 35.0**	**+1.0**
BAI	**Bari**	**3.16**	**290**	*e*Pn	**Pn**	**22 07 33.4**	**-0.6**
DID	**Didima**	**3.19**	**143**	*e*PN	**Pn**	**22 07 36.0**	**+1.6**
DID	**Didima**	**3.19**	**143**	*e*Pn	**Pn**	**22 07 36.0**	**+1.6**
TREB	**Trebinje**	**3.23**	**326**	*e*Pn	**Pn**	**22 07 35.0**	**+0.1**
TREB	**Trebinje**	**3.23**	**326**	*e*Pn	**Pn**	**22 07 35.0**	**+0.1**
PYL	**PYLOS**	**3.25**	**167**	*e*PN	**Pn**	**22 07 36.6**	**+1.4**
PYL	**PYLOS**	**3.25**	**167**	*e*Pn	**Pn**	**22 07 36.6**	**+1.4**
SJES	**Sjenica**	**3.25**	**349**	*e*PN	**Pn**	**22 07 37.0**	**+1.6**
SJES	**Sjenica**	**3.25**	**349**	*e*Pn	**Pn**	**22 07 37.0**	**+1.6**
BRY	**Bratogost**	**3.30**	**330**	⇓*i*PN	**Pn**	**22 07 37.1**	**+1.0**
BRY				*e*Sn	**Sn**	**22 08 17.7**	**+1.8**
BRY	**Bratogost**	**3.30**	**330**	⇓*i*Pn	**Pn**	**22 07 37.1**	**+1.0**
BRY				*e*Sn	**Sn**	**22 08 17.7**	**+1.8**
PLE	**Pljevlja**	**3.43**	**343**	⇑*i*PN	**Pn**	**22 07 38.7**	**+0.9**
PLE				*e*Sn	**Sn**	**22 08 21.0**	**+2.0**
PLE	**Pljevlja**	**3.43**	**343**	⇑*i*Pn	**Pn**	**22 07 38.7**	**+0.9**
PLE				*e*Sn	**Sn**	**22 08 21.0**	**+2.0**
UPM	**Unac-Piva**	**3.44**	**336**	⇓*i*PN	**Pn**	**22 07 39.0**	**+1.0**
UPM				*e*Sn	**Sn**	**22 08 21.6**	**+2.2**
UPM	**Unac-Piva**	**3.44**	**336**	⇓*i*Pn	**Pn**	**22 07 39.0**	**+1.0**
UPM				*e*Sn	**Sn**	**22 08 21.6**	**+2.2**
ZAPS	**Zavoj**	**3.49**	**23**	*e*Pn	**Pn**	**22 07 40.3**	**+1.8**
IVAS	**Ivanjica**	**3.54**	**352**	*e*Pn	**Pn**	**22 07 41.1**	**+1.8**
IVAS	**Ivanjica**	**3.54**	**352**	*e*Pn	**Pn**	**22 07 41.1**	**+1.8**
CDT	**Castel del Mon**	**3.59**	**288**	*e*Pn	**Pn**	**22 07 39.4**	**-0.6**
STON	**Ston**	**3.64**	**321**	*e*PN	**Pn**	**22 07 39.9**	**-0.7**
STON				Sn	**Sn**	**22 08 22.7**	**-1.3**
STON	**Ston**	**3.64**	**321**	*e*Pn	**Pn**	**22 07 40.4**	**-0.2**
STON				*e*Sn	**Sn**	**22 08 24.3**	**+0.2**
STON	**Ston**	**3.64**	**321**	*e*Pn	**Pn**	**22 07 40.4**	**-0.2**
STON				*e*Sn	**Sn**	**22 08 24.3**	**+0.2**
VLI	**Veliai**	**3.74**	**153**	*e*PN	**Pn**	**22 07 43.6**	**+1.6**
VLI	**Veliai**	**3.74**	**153**	*e*Pn	**Pn**	**22 07 43.6**	**+1.6**
RDO	**Rodhopi**	**3.77**	**72**	*e*PN	**Pn**	**22 07 42.7**	**+0.4**
RDO	**Rodhopi**	**3.77**	**72**	*e*Pn	**Pn**	**22 07 42.7**	**+0.4**
GRUS	**Gruza**	**3.82**	**359**	*e*PN	**Pn**	**22 07 44.5**	**+1.4**
GRUS	**Gruza**	**3.82**	**359**	*e*Pn	**Pn**	**22 07 44.5**	**+1.4**
BOLS	**Boljevac**	**3.86**	**13**	*e*Pn	**Pn**	**22 07 45.3**	**+1.7**
BOLS	**Boljevac**	**3.86**	**13**	*e*Pn	**Pn**	**22 07 45.3**	**+1.7**
DIVS	**Divibare**	**4.07**	**352**	*e*Pn	**Pn**	**22 07 47.7**	**+1.1**
DIVS	**Divibare**	**4.07**	**352**	*e*Pn	**Pn**	**22 07 47.7**	**+1.1**
ALN	**Alexandroupoli**	**4.09**	**77**	*e*PN	**Pn**	**22 07 48.0**	**+1.3**
ALN	**Alexandroupoli**	**4.09**	**77**	*e*Pn	**Pn**	**22 07 48.0**	**+1.3**
TRUS	**Trudelj**	**4.16**	**356**	*e*Pn	**Pn**	**22 07 48.6**	**+0.8**
TRUS	**Trudelj**	**4.16**	**356**	*e*Pn	**Pn**	**22 07 48.6**	**+0.8**
KYTH	**Kithira**	**4.17**	**154**	*e*PN	**Pn**	**22 07 51.1**	**+3.2**
KYTH	**Kithira**	**4.17**	**154**

WRKA	**Warakurna**	18.02	184	P	P	22 36 32.2 +5.3
	baz=18,SNR=7.8					
WRKA				S	Sn	22 39 42.2 -5.4
	baz=18,SNR=4.1					
MANU	**Manus Island**	18.44	76	S	Sn	22 39 54.5 -3.4
	baz=18,SNR=4.9					
MKAR	**Makanchi Array**	67.92	327	P	P	22 43 14.7 0.0
	0.9nm,0.5s,baz=120,slow=7.9,SNR=22					
KURBB	**Kurchatov Arra**	72.22	329	P	P	22 43 40.0 -0.9
	0.5nm,0.4s,baz=126,slow=5.1,SNR=9.7					

*IDC **06** 22:37:20.3±8.3, 26°.28S×178°.66W, h384km±75km, mb3.1/2, mb1 3.5/4, mb1mx3.2/38, mbtmp4.2/4, Error ellipse: s-maj=59.5km s-min=36.9km az=50.0*

ISC 06 22:37:20.8±1.4, 26°.39S±0°.09×178°.5W±0°.2, h400km, n19, σ1°09/21, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	11.97	192	PN	P	22 39 59.3	-0.7
PUZ				SN	S	22 42 10.9	-0.6
MWZ	**Matawai**	12.37	195	*e*PN	P	22 40 04.3	-0.2
URZ	**Urewera**	12.40	196	P	Pn	22 40 05.3	-1.1
	7.9nm,0.3s,baz=277,slow=3.9,SNR=18						
URZ				S	S	22 42 21.1	+0.9
	1.9nm,0.3s,baz=214,slow=23,SNR=7.6						
RIGZ	**Rimuhau**	12.68	193	SN	S	22 42 25.4	-0.5
BKZ	**Black Stump Fm**	13.41	197	*e*PN	P	22 40 16.2	+0.3
KAHZ	**Kahuranaki**	13.91	195	PN	Pn	22 40 23.2	-0.8
DZM	**Mont Dzumac**	14.38	284	P	P	22 40 26.7	0.0
	0.6nm,0.3s,baz=95,slow=11,SNR=7.2						
TSZ	**Takapari Road**	14.39	197	*e*PN	P	22 40 28.1	+1.5
TSZ				SN	S	22 43 02.0	+1.7
BFZ	**Birch Farm**	14.90	196	PN	P	22 40 34.0	+2.0
MRZ	**Mangatainoka R**	15.06	198	PN	P	22 40 34.1	+0.4
TIWZ	**Tintock**	15.09	197	PN	P	22 40 36.0	+2.0
OGWZ	**Otaki Gorge**	15.32	198	PN	P	22 40 36.1	-0.4
ASAR	**Alice Springs**	43.01	263	P	P	22 44 43.1	0.0
	0.3nm,0.4s,baz=93,slow=8.1,SNR=13						
WRA	**Warramunga Arr**	43.63	268	P	P	22 44 46.9	-1.1
	0.6nm,0.3s,baz=101,slow=7.5,SNR=8.0						
ARCES	**ARCESS Array B**	134.59	348	PKP	PKPdf	22 55 50.5	-1.0
	4.1nm,1.0s,baz=48,slow=1.3,SNR=2.5						
FINES	**FINESS Array B**	141.22	341	PKhKP	PKPpre	22 55 59.3	
	0.9nm,0.7s,baz=48,slow=2.8,SNR=5.0						
NB2	**NORSAR Subarra**	144.73	352	PKP	PKPab	22 56 11.3	+0.9
	comp=Z,1.2nm,0.6s,baz=10,slow=3.8						
NOA	**NORSAR Array B**	144.73	352	PKP	PKPab	22 56 10.9	+0.5
	comp=Z,1.8nm,0.8s,baz=16,slow=2.4,SNR=5.8						
BRTR	**Keskin Array B**	150.12	305	PKPbc	PKPbc	22 56 26.3	+1.0
	comp=Z,0.9nm,1.0s,baz=102,slow=1.9,SNR=3.9						

GUC 06 22:38:33.1±0.6, 33°.93S×71°.34W, h48km±5km, ML3.7, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	0.06	248	⇑*i*P	Pn	22 38 40.5	0.0
CHCH	**Chadas Angostu**	0.57	90	⇑*i*P	Pn	22 38 45.7	+0.4
RCDM	**Rinconada Maip**	0.63	45	⇓*i*P	Pn	22 38 46.1	+0.2
RCDM				*i* S	Sn	22 38 55.9	+0.8
RCDM				AML	AML	22 38 56.4	
	comp=E,19μm,0.1s						
CACH	**El Canelo**	0.65	107	⇓*i*P	Pn	22 38 47.1	+0.8
ANTU	**Antumapu**	0.69	59	⇓*i*P	Pn	22 38 47.3	+0.5
ANTU				*i* S	Sn	22 38 58.0	+1.4
ANTU				AML	AML	22 39 02.0	
	comp=N,4μm,0.3s						
STL	**Santa Lucia**	0.77	50	⇑*i*P	Pn	22 38 47.3	-0.5
STL				*i* S	Sn	22 38 58.6	+0.3
FSR	**Penalolen**	0.82	57	⇑*i*P	Pn	22 38 50.0	+1.6
FSR				*i* S	Sn	22 39 01.8	+2.1
LACH	**Col Las Americ**	0.83	55	*e*P1	Pn	22 38 48.7	+0.1
LACH				*i* S	Sn	22 39 00.7	+0.8
CLCH	**Cerro Calan**	0.86	52	⇓*i*P	Pn	22 38 49.6	+0.6
CLCH				*i* S	Sn	22 39 01.8	+1.1
CLCH				AML	AML	22 39 03.1	
	comp=E,3μm,0.3s						
IHA	**Instituto Hidr**	0.94	345	⇑*i*P	Pn	22 38 50.2	+0.2
FCH	**Farellones**	1.07	56	*i* P9	Pn	22 38 57.8	+5.7
FCH				*i* S	Sn	22 39 12.5	+6.3
FCH				AML	AML	22 39 13.4	
	comp=N,3μm,0.3s						
NICH	**Los Niches**	1.07	175	⇑*i*P	Pn	22 38 52.2	+0.4
NICH				*i* S	Sn	22 39 06.5	+1.0

*IDC **06** 22:55:58.7±1.4, 34°.59S×73°.80W, h0km, mb4.2/6, mb1 4.3/9, mb1mx4.1/30, mbtmp4.0/9, ML3.9/3, MS2.8/3, Ms1 2.8/3, ms1mx2.8/21, Error ellipse: s-maj=41.4km s-min=25.8km az=4.0*

*ISCJB **06** 22:56:02.0±0.6, 34°.54S±0°.07×73°.64W±0°.09, h33km, mb4.3/11, Error ellipse: s-maj=11.9km s-min=9.5km az=44.7*

*NEIC **06** 22:56:04.0±0.4, 34°.58S×73°.65W, h35km, mb4.6/7, Error ellipse: s-maj=9.6km s-min=7.7km az=72.0*

ISC 06 22:56:04.0±0.7, 34°.57S±0°.10×73°.7W±0°.1, h35km, n23, σ0°61/25, mb4.4/11, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	5.43	59	Pn	Pn	22 57 22.2	-0.3
	0.5nm,0.3s,baz=235,slow=11,SNR=15						
CFAA				Sn	Sn	22 58 23.8	0.0
	0.9nm,0.3s,baz=125,slow=18,SNR=12						
CFAA				LR	LR	22 59 37.9	
	comp=Z,32nm,18.3s,baz=210,slow=40						
PLCA	**Paso Flores**	6.63	159	LR	LR	23 00 14.7	
	comp=Z,92nm,21.9s,baz=84,slow=38						
TRQA	**Tornquist**	10.05	114	*e*Pn	Pn	22 58 24.4	-1.5
CPUP	**Villa Florida**	16.29	64	Pn	Pn	22 59 50.9	+0.8
	0.4nm,0.3s,baz=280,slow=11,SNR=4.4						
CPUP				LR	LR	23 05 32.7	
	comp=Z,77nm,18.4s,baz=205,slow=35						
LPAZ	**La Paz**	18.87	17	P	P	23 00 22.2	+0.3
	0.2nm,0.3s,baz=186,slow=5.7,SNR=13						
EFI	**East Falkland**	20.47	151	*e*Pn	Pn	23 00 39.8	-1.0
	9.8nm,0.6s						
SIV	**San Ignacio**	21.68	35	P	P	23 00 51.8	-0.1
	5.0nm,0.8s,baz=234,slow=14,SNR=9.1						
SNAA	**Sanae**	51.57	158	*e*P	P	23 05 06.8	+0.5
	3.0nm,0.6s						
QSPA	**South Pole Qui**	55.67	180	*e*P	P	23 05 36.9	+0.5
	9.3nm,1.1s						
TEIG	**Tepich**	56.23	343	*e*P	P	23 05 40.1	-0.7
	6.6nm,0.8s						
TXAR	**Lajitas Array**	69.59	332	P	P	23 07 09.7	+0.1
	0.8nm,0.5s,baz=159,slow=8.2,SNR=16						
WVT	**Waverly**	71.57	348	*e*P	P	23 07 20.3	-1.0
	3.6nm,0.8s						
DBIC	**Dimbokro**	76.63	72	P	P	23 07 52.4	+0.9
	12nm,0.8s,baz=221,slow=4.4,SNR=13						
DBIC	**Dimbokro**	76.63	72	*e*P	P	23 07 51.3	-0.2
	10.0nm,0.7s						
BOSA	**Boshof**	80.99	118	*e*P	P	23 08 15.4	-0.1
	4.8nm,0.9s						
NVAR	**Mina Array Bea**	83.59	326	P	P	23 08 29.1	+0.3
	0.2nm,0.3s,baz=336,slow=27,SNR=3.4						
PDAR	**Pinedale Array**	83.67	334	P	P	23 08 28.0	-1.1
	0.5nm,0.9s,baz=150,slow=6.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	85.67	71	P	P	23 08 39.8	+0.3
	2.6nm,0.8s,baz=285,slow=4.3,SNR=19						
BRVK	**Borovoye**	148.54	43	*e*PKPbc	PKPbc	23 15 47.0	+0.4
KKAR	**Karatay Array**	151.00	62	*e*PKPbc	PKPbc	23 15 53.5	+0.6
AAK	**Ala-Archa**	153.96	62	*e*PKPdf	PKPdf	23 15 51.7	-0.1
AAK				*e*PKPbc	PKiKP	23 16 00.1	+0.3
AAK				*e*PKPab	PKPab	23 16 13.4	+0.2
ZALV	**Zalesovo Beam**	155.42	31	PKP	PKPdf	23 15 53.1	-0.1
	0.6nm,0.6s,baz=324,slow=2.8,SNR=3.4						
ZALV				PKPbc	PKPab	23 16 02.7	-16
	1.7nm,0.6s,baz=320,slow=2.2,SNR=10						
ZALV				PKPab	PKPab	23 16 19.8	+1.0
	0.3nm,0.4s,baz=293,slow=7.6,SNR=3.5						
MKAR	**Makanchi Array**	158.15	49	PKP	PKPdf	23 15 57.4	+0.4
	0.5nm,0.9s,baz=329,slow=2.1,SNR=4.8						
MKAR				PKPab	PKPab	23 16 31.4	+0.5
	0.9nm,0.7s,baz=302,slow=4.2,SNR=11						

*ISCJB **06** 23:16:51.6±0.5, 32°.55N±0°.08×131°.28E±0°.07, h150km, mb3.5/9, Error ellipse: s-maj=12.3km s-min=6.4km az=145.7*

*IDC **06** 23:16:52.8±0.6, 32°.68N×131°.11E, h130km±3km, mb3.4/9, mb1 3.5/11, mb1mx3.3/44, mbtmp3.8/11, MS2.8/1, Ms1 3.0/1, ms1mx2.3/21, Error ellipse: s-maj=16.6km s-min=14.2km az=84.0*

*JMA **06** 23:16:54.0±0.1, 32°.65N×131°.17E, h123km±1km, M3.4*

JMA Felt I J1.

ISC 06 23:16:53.7±0.7, 32°.57N±0°.07×131°.17E±0°.06, h150km, n19, σ2°84/27, mb3.7/9, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU2	**Izumi 2**	0.30	266	P	Pn	23 17 11.6	-2.6
JIU2				S	Sn	23 17 24.8	-5.0
JNU	**Nakatsue**	0.60	337	P	Pn	23 17 12.9	-2.8
	491nm,0.3s,baz=334,slow=1.4,SNR=3576						
JNU				LR	LR	23 17 26.5	
	comp=Z,104nm,18.6s,baz=140,slow=70						
JNU				S	Sn	23 17 27.6	-4.9
	89nm,0.3s,baz=250,slow=20,SNR=23						
JZO	**Okuchi**	0.64	229	P	Pn	23 17 13.7	-2.2
JZO				S	Sn	23 17 28.6	-4.1
JTZ	**Takazaki**	0.67	186	P	Pn	23 17 13.8	-2.2
JTZ				S	Sn	23 17 28.8	-4.1
JTO	**Tosashimizu**	1.41	78	*e*S	Sn	23 17 38.3	-5.9
JSJ	**Shimokoshiki**	1.52	235	P	Pn	23 17 22.4	-1.0
KSRS	**Korea Array**	5.55	332	P	Pn	23 18 13.0	-1.4
	0.8nm,0.3s,baz=150,slow=14,SNR=7.1						
MAT	**Matsushiro**	7.03	54	P	Pn	23 18 34.0	-0.2
MAT				*e*S	Sn	23 19 48.4	-4.6
MJAR	**Matsushiro Arr**	7.04	54	P	Pn	23 18 34.8	+0.6
	2.5nm,0.3s,baz=242,slow=13,SNR=40						
MJAR				S	Sn	23 19 50.0	-2.9
	1.4nm,0.3s,baz=236,slow=23,SNR=4.8						
SONM	**Songino Array**	24.16	316	P	P	23 21 56.9	+1.0
	1.0nm,0.8s,baz=126,slow=9.2,SNR=6.4						
CMAR	**Chiang Mai Arr**	32.15	252	P	P	23 23 08.1	+0.9
	0.8nm,0.4s,baz=46,slow=6.4,SNR=4.1						
CMAR				LR	LR	23 38 02.5	
	comp=Z,14nm,19.2s,baz=340,slow=40						
MKAR	**Makanchi Array**	39.57	306	P	P	23 24 10.9	+0.8
	0.2nm,0.4s,baz=92,slow=11,SNR=9.4						
MKAR				PcP	PcP	23 26 15.3	+0.9
	0.2nm,0.4s,baz=79,slow=3.8,SNR=7.5						
MKAR				ScP	ScP	23 29 50.3	+1.3
	0.1nm,0.2s,baz=83,slow=5.1,SNR=3.7						
WRA	**Warramunga Arr**	52.30	176	P	P	23 25 51.3	+1.4
	1.2nm,0.8s,baz=353,slow=7.9,SNR=14						
ASAR	**Alice Springs**	55.98	177	P	P	23 26 19.1	+2.6
	1.2nm,0.7s,baz=10,slow=14,SNR=16						
FINES	**FINESS Array B**	68.64	330	P	P	23 27 40.4	+0.1
	0.9nm,0.4s,baz=74,slow=5.3,SNR=18						
RES	**Resolute Bay**	68.86	12	P	P	23 27 43.2	+1.8
	0.7nm,0.8s,baz=1.6,slow=3.7,SNR=3.8						
YKA	**Yellowknife Ar**	71.73	26	P	P	23 28 00.4	+1.4
	0.2nm,0.6s,baz=303,slow=5.2,SNR=4.8						
AKASG	**Malin Array Be**	72.40	319	P	P	23 28 02.6	-0.6
	0.7nm,0.5s,baz=55,slow=5.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	113.69	305	PKiKP	PKiKP	23 35 14.9	0.0
	0.7nm,1.0s,baz=62,slow=1.4,SNR=5.1						

*ISK **06** 23:28:58.8, 39°.49N×28°.41E, h3km, MD3.4*

*DDA **06** 23:28:59.1, 39°.49N×28°.40E, h7km, MD3.3*

*ISCJB **06** 23:28:59.0±0.5, 39°.49N±0°.02×28°.40E±0°.02, h2km±4km, Error ellipse: s-maj=3.1km s-min=2.8km az=165.5*

*CSEM **06** 23:28:59.3±0.2, 39°.49N×28°.41E, h0km±1km, MD3.4, Error ellipse: s-maj=2.3km s-min=2.2km az=170.0*

*SOF **06** 23:29:00.0, 39°.53N×28°.46E, h10km, MD2.7*

*ATH **06** 23:29:01.2, 39°.66N×28°.11E, h13km±1km, MD3.6/7*

ISC 06 23:28:59.8±1.0, 39°.50N±0°.02×28°.41E±0°.02, h11km±9km, n129, σ1°03/158, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	0.43	289	PG	Pg	23 29 08.1	-0.3
BALB				*e*SG	Sg	23 29 14.7	+0.6
BALB	**Balikesir**	0.43	289	*i* Pg	Pg	23 29 08.1	-0.3
BALB				*e*Sg	Sg	23 29 14.7	+0.6
ORLT	**Orhaneli**	0.66	34	PG	Pg	23 29 12.3	-0.4
ORLT	**Orhaneli**	0.66	34	*i* Pg	Pg	23 29 12.3	-0.4
KCTX	**Karacabey (Bur**	0.77	357	PG	Pg	23 29 14.3	-0.4
KCTX				*e*SG	Sg	23 29 24.9	+0.2
KCTX	**Karacabey (Bur**	0.77	357	*i* Pg	Pg	23 29 14.3	-0.4
KCTX				*e*Sg	Sg	23 29 24.9	+0.2
AKHS	**Akhisar**	0.77	217	*i* P	Pg	23 29 14.0	-0.8
AKHS				*i* S	Sg	23 29 25.1	+0.2
AKHS	**Akhisar**	0.77	217	*i* P	Pg	23 29 14.0	-0.8
AKHS				*i* S	Sg	23 29 25.1	+0.2
AKS	**Akhisar**	0.77	217	*e*PG	Pg	23 29 14.4	-0.3
AKS	**Akhisar**	0.77	217	*e*Pg	Pg	23 29 14.5	-0.3
TVSB	**Tavsanli**	0.81	93	*e*PG	Pg	23 29 15.1	-0.4
TVSB	**Tavsanli**	0.81	93	*e*Pg	Pg	23 29 15.1	-0.4
ULDT	**Uludag**	0.85	41	*i* P	Pg	23 29 15.9	-0.4
ULDT				*i* S	Sg	23 29 26.9	-0.6
ULDT	**Uludag**	0.85	41	*i* P	Pg	23 29 15.9	-0.4
ULDT				*i* S	Sg	23 29 26.9	-0.6
GDZ	**Gediz**	0.93	116	*i* P	Pg	23 29 17.0	-0.7
GDZ				*i* S	Sb	23 29 30.0	-0.4
GDZ	**Gediz**	0.93	116	*i* P	Pg	23 29 17.0	-0.7
GDZ				*i* S	Sb	23 29 30.0	-0.4
MDNY	**Mudanya-Bursa**	0.94	23	*e*PG	Pg	23 29 17.6	-0.4
MDNY	**Mudanya-Bursa**	0.94	23	*e*Pg	Pg	23 29 17.6	-0.4
EDC	**Edincik**	0.95	334	*e*PG	Pg	23 29 17.8	-0.3
EDC	**Edincik**	0.95	334	*e*Pg	Pg	23 29 17.8	-0.3
KULA	**Kula-Manisa**	1.00	169	*e*PG	Pg	23 29 18.1	-0.9
KULA	**Kula-Manisa**	1.00	169	*e*Pg	Pg	23 29 18.2	-0.9
MANT	**Manisa**	1.01	174	*i* P	Pg	23 29 18.4	-1.0
MANT				*i* S	Sg	23 29 31.2	-1.3
MANT	**Manisa**	1.01	174	*i* P	Pg	23 29 18.4	-1.0
MANT				*i* S	Sg	23 29 31.2	-1.3
GEMT	**Gemlik**	1.11	32	*e*PN	Pg	23 29 20.7	-0.5
GEMT	**Gemlik**	1.11	32	*e*Pn	Pg	23 29 20.7	-0.5
ARMT	**Armutlu**	1.12	18	*e*PN	Pg	23 29 20.9	-0.5
ARMT	**Armutlu**	1.12	18	*e*Pn	Pg	23 29 20.9	-0.5
KRBG	**Karabiga-Canak**	1.24	317	*e*PN	Pg	23 29 23.1	-0.5
KRBG	**Karabiga-Canak**	1.24	317	*e*Pn	Pg	23 29 23.1	-0.5
MRMT	**Marmara Adasi**	1.27	331	*e*PN	Pn	23 29 23.5	-0.1
MRMT	**Marmara Adasi**	1.27	331	*e*Pn	Pn	23 29 23.5	-0.1
CAVI	**Cavuskoy**	1.31	57	*e*PN	Pn	23 29 24.4	+0.3
CAVI	**Cavuskoy**	1.31	57	*e*Pn	Pn	23 29 24.4	+0.3
AYVA	**Ayvalik**	1.35	262	*i* P	Pn	23 29 24.6	0.0
AYVA				*i* S	Sb	23 29 42.9	+0.5
AYVA	**Ayvalik**	1.35	262	*i* P	Pn	23 29 24.6	0.0
AYVA				*i* S	Sb	23 29 42.9	+0.5
ADVT	**Abdulvahap**	1.38	47	*e*PN	Pn	23 29 25.6	+0.5
ADVT	**Abdulvahap**	1.38	47	*e*Pn	Pn	23 29 25.6	+0.5
ALT	**Altintas**	1.39	108	*e*PN	Pn	23 29 25.6	+0.3
ALT	**Altintas**	1.39	108	*e*Pn	Pn	23 29 25.6	+0.3
KHL	**Karahalli**	1.46	143	*e*PN	Pn	23 29 26.6	+0.4
KHL	**Karahalli**	1.46	143	*e*Pn	Pn	23 29 26.6	+0.4
RKY	**Sarkoy-Tekirda**	1.52	322	*e*PN	Pn	23 29 27.9	+0.9
RKY	**Sarkoy-Tekirda**	1.52	322	*e*Pn	Pn	23 29 27.9	+0.9
SART	**Tekirdag**	1.52	322	*i* P	Pb	23 29 28.4	+0.3
SART				*i* S	Sg	23 29 49.3	+0.6
SART	**Tekirdag**	1.52	322	*i* P	Pb	23 29 28.4	+0.3
SART				*i* S	Sg	23 29 49.3	+0.6
LPK	**Lapseki**	1.54	305	*e*PN	Pn	23 29 27.9	+0.6
LPK	**Lapseki**	1.54	305	*e*Pn	Pn	23 29 27.9	+0.6
AYDB	**Zeytinkoy-Aydi**	1.60	195	*e*PN	Pn	23 29 28.5	+0.2
AYDB	**Zeytinkoy-Aydi**	1.60	195	*e*Pn	Pn	23 29 28.5	+0.2
BORA	**Eskisehir**	1.62	76	*i* P	Pn	23 29 29.1	+0.6
BORA				*i* S	Sg	23 29 53.1	+1.1
BORA	**Eskisehir**	1.62	76	*i* P	Pn	23 29 29.1	+0.6
BORA				*i* S	Sg	23 29 53.1	+1.1
TKR	**Tekirdag**	1.63	336	*e*PN	Pn	23 29 29.4	+0.9
TKR	**Tekirdag**	1.63	336	*e*Pn	Pn	23 29 29.4	+0.9
ISK	**Istanbul-Kandi**	1.64	17	*e*PN	Pn	23 29 29.3	+0.7
ISK	**Istanbul-Kandi**	1.64	17	*e*Pn	Pn	23 29 29.3	+0.7
EZN	**Ezine**	1.64	282	*e*PN	Pn	23 29 28.6	-0.1
EZN	**Ezine**	1.64	282	*e*Pn	Pn	23 29 28.6	-0.1
GPA	**Golpazari**	1.66	61	*e*PN	Pn	23 29 29.4	+0.5
GPA	**Golpazari**	1.66	61	*e*Pn	Pn	23 29 29.4	+0.5
PRK	**Paraskevi**	1.68	262	*e*PG	Pn	23 29 28.9	-0.2
PRK				*e*SB	Sn	23 29 49.7	-0.9
PRK	**Paraskevi**	1.68	262	*e*Pg	Pn	23 29 28.9	-0.2
PRK				*e*Sb	Sn	23 29 49.7	-0.9
BGKT	**Bogazkoy**	1.70	9	*e*PN	Pn	23 29 29.8	+0.3
BGKT	**Bogazkoy**	1.70	9	*e*Pn	Pn	23 29 29.8	+0.3
CRLT	**Corlu**	1.71	343	*e*PN	Pb	23 29 30.9	-0.4
CRLT	**Corlu**	1.71	343	*e*Pn	Pb	23 29 30.9	-0.4
SLVT	**Silivri**	1.74	355	*e*PN	Pn	23 29 30.9	+0.9
SLVT	**Silivri**	1.74	355	*e*Pn	Pn	23 29 30.9	+0.9
CTKS	**Kestanelik-??a**	1.74	2	*e*PN	Pn	23 29 30.9	+0.9
CTKS	**Kestanelik-??a**	1.74	2	*e*Pn	Pn	23 29 30.9	+0.9
GELI	**Tayfur-Gelibol**	1.74	302	*e*PN	Pn	23 29 30.5	+0.5
GELI	**Tayfur-Gelibol**	1.74	302	*e*Pn	Pn	23 29 30.5	+0.5
KLYT	**Kilyos**	1.82	15	*e*PN	Pn	23 29 31.8	+0.7
KLYT	**Kilyos**	1.82	15	*e*Pn	Pn	23 29 31.8	+0.7
BOZC	**Bozcaada**	1.85	281	*i* P	Pn	23 29 31.6	0.0
BOZC				*i* S	Sn	23 29 54.0	-1.0
GULT	**Gulveren**	1.87	59	*e*PN	Pn	23 29 33.1	+1.3
GULT	**Gulveren**	1.87	59	*e*Pn	Pn	23 29 33.1	+1.3
SPNC	**Sapanca-Adapaz**	1.88	50	*e*PN	Pn	23 29 33.1	+1.2
SPNC	**Sapanca-Adapaz**	1.88	50	*e*Pn	Pn	23 29 33.1	+1.2
SILT	**Sile**	1.90	29	*e*PN	Pn	23 29 33.1	+0.9
SILT	**Sile**	1.90	29	*e*Pn	Pn	23 29 33.1	+0.9
SHUT	**Suhut-Afyon**	1.92	119	*e*PN	Pn	23 29 33.1	+0.6
SHUT	**Suhut-Afyon**	1.92	119	*e*Pn	Pn	23 29 33.1	+0.6
CTYL	**Yal??k??y-??at**	1.98	357	*e*PN	Pn	23 29 34.2	+1.0
CTYL	**Yal??k??y-??at**	1.98	357	*e*Pn	Pn	23 29 34.2	+1.0
SIGR	**SIGRI**	2.00	263	*e*PN	Pn	23 29 34.7	+1.1
SIGR	**SIGRI**	2.00	263	*e*PN	Pn	23 29 33.6	0.0
SIGR				*e*SN	Sn	23 29 58.3	-0.4
SIGR	**SIGRI**	2.00	263	*e*Pn	Pn	23 29 34.7	+1.1
SIGR				*e*Sn	Sn	23 29 58.3	-0.4
ENEZ	**Enez**	2.13	306	*e*PN	Pn	23 29 36.8	+1.5
ENEZ	**Enez**	2.13	306	*e*Pn	Pn	23 29 36.8	+1.5
CHOS	**Chios island**	2.15	240	*e*PN	Pn	23 29 36.5	+0.8
CHOS	**Chios island**	2.15	240	*e*Pn	Pn	23 29 37.5	+1.8
CHOS				*e*SN	Sn	23 30 04.4	+2.0
CHOS	**Chios island**	2.15	240	*e*Pn	Pn	23 29 36.5	+0.8
CHOS				*e*Sn	Sn	23 30 04.4	+2.0
SMG	**Samos**	2.17	215	*e*PN	Pb	23 29 39.6	+0.4
SMG	**Samos**	2.17	215	*e*Pn	Pb	23 29 39.6	+0.4
ALN	**Alexandroupoli**	2.29	308	*e*PN	Pn	23 29 39.0	+1.5
ALN	**Alexandroupoli**	2.29	308	*e*PN	Pn	23 29 37.5	0.0
ALN				*e*SN	Sn	23 30 02.9	-2.8
ALN	**Alexandroupoli**	2.29	308	*e*Pn	Pn	23 29 39.1	+1.5
ALN				*e*Sn	Sn	23 30 02.9	-2.8
MDUB	**Mudurnu**	2.35	65	*e*PN	Pn	23 29 40.1	+1.6
MDUB	**Mudurnu**	2.35	65	*e*Pn	Pn	23 29 40.1	+1.6
SVRH	**Sivrihisar-ESK**	2.41	90	*e*PN	Pn	23 29 39.9	+0.6
SVRH	**Sivrihisar-ESK**	2.41	90	*e*Pn	Pn	23 29 39.9	+0.6
SMTH	**Samothraki Isl**	2.42	295	*e*PN	Pn	23 29 39.3	0.0
SMTH				*e*SN	Sn	23 30 06.3	-2.6
SMTH	**Samothraki Isl**	2.42	295	*e*Pn	Pn	23 29 39.3	0.0
SMTH				*e*Sn	Sn	23 30 06.3	-2.6
LIA	**Limnos Island**	2.52	280	*e*PN	Pn	23 29 40.3	-0.5
LIA	**Limnos Island**	2.52	280	*e*Pn	Pn	23 29 40.3	-0.5
BODT	**Bodrum**	2.58	200	*e*PN	Pn	23 29 43.1	+1.5
BODT	**Bodrum**	2.58	200	*e*Pn	Pn	23 29 43.1	+1.5
EDRB	**Edirne**	2.67	332	*e*PN	Pn	23 29 44.6	+1.8
EDRB	**Edirne**	2.67	332	*e*Pn	Pn	23 29 44.6	+1.8
RDO	**Rodhopi**	2.75	308	*e*PN	Pn	23 29 45.5	+1.7
RDO	**Rodhopi**	2.75	308	*e*Pn	Pn	23 29 43.6	-0.2
RDO	**Rodhopi**	2.75	308	*e*Pn	Pn	23 29 45.5	+1.7
ELL	**Elmali**	2.99	156	*e*PN	Pn	23 29 48.3	+1.0
ELL	**Elmali**	2.99	156	*e*Pn	Pn	23 29 48.3	+1.0
JMB	**Yambol**	3.27	336	*i* P	Pn	23 29 53.4

comp=N,5μm,0.5s
LNCH **Linares** 1.75 48 ⇓iP Pn 23 43 16.5 +0.3
LNCH i S Sn 23 43 39.4 +1.2
NICH **Los Niches** 2.58 39 i P Pn 23 43 28.2 +0.5
NICH i S Sn 23 43 59.1 +0.4
NICH AML AML 23 44 18.0
comp=N,2μm,0.3s
NICH **Los Niches** 2.58 39 eP Pn 23 43 28.7 +1.0
NICH i S Sn 23 44 00.2 +1.5
PLCA **Paso Flores** 4.23 152 Pn Pn 23 43 52.7 +2.2
comp=N,0.8nm,0.3s,baz=329,slow=11,SNR=3.2
PLCA Lg Lg 23 44 56.1
comp=N,2.9nm,0.3s,baz=58,slow=21,SNR=3.3
CLCH **Cerro Calan** 4.23 32 i P Pn 23 43 51.3 +0.8
PEL **Peldehue** 4.39 29 eP Pn 23 43 53.4 +0.7
PEL **Peldehue** 4.39 29 eP Pn 23 43 53.4 +0.7
PEL eS Sn 23 44 43.1 -0.6
CFAA **Coronel Fontan** 6.79 39 Pn Pn 23 44 25.1 -0.6
comp=N,0.3nm,0.3s,baz=193,slow=6.9,SNR=6.9
CFAA Sn Sn 23 45 39.8 -2.9
comp=N,0.1nm,0.3s,baz=304,slow=18,SNR=2.6
CFAA Lg Lg 23 46 17.3
comp=N,0.1nm,0.3s,baz=180,slow=12,SNR=3.7
TRQA **Tornquist** 8.96 100 ePn Pn 23 44 57.3 +1.9
CPUP **Villa Florida** 17.19 56 P Pn 23 46 45.1 -0.9
comp=N,0.2nm,0.3s,baz=214,slow=7.3,SNR=1.6
CPUP **Villa Florida** 17.19 56 Pn Pn 23 46 46.4 +0.4
LPAZ **La Paz** 21.15 14 P P 23 47 32.0 +0.3
comp=N,0.9nm,0.8s,baz=179,slow=8.4,SNR=4.0
SIV **San Ignacio** 23.56 30 P P 23 47 55.6 -0.8
comp=N,1.1nm,0.6s,baz=218,slow=14,SNR=5.2
SAML **Samuel** 29.40 20 eP P 23 48 48.6 -0.7
comp=N,0.8nm,0.6s
QSPA **South Pole Qui** 53.21 180 eP P 23 52 04.6 +0.7
comp=N,3.2nm,0.9s
TXAR **Lajitas Array** 71.95 332 P P 23 54 10.3 +1.0
comp=N,0.5nm,0.7s,baz=151,slow=7.7,SNR=6.8
TORD **Torodi Ar. Bea** 86.12 70 P P 23 55 25.9 -1.2
comp=N,0.4nm,0.9s,baz=222,slow=5.7,SNR=3.7

*IDC **06** 23:45:51.2±1.7, 34°.75S×73°.20W, h0km, mb3.8/3, mb1 3.9/6, mb1mx3.7/36, mbtmp3.7/6, ML3.5/3, Error ellipse: s-maj=42.8km s-min=30.2km az=89.0*
*ISCJB **06** 23:45:54.6±1.3, 34°.8S±0°.1×73°.1W±0°.3, h33km, mb3.8/3, Error ellipse: s-maj=29.9km s-min=15.1km az=3.1*
ISC 06 23:45:56.7±1.3, 34°.7S±0°.1×73°.1W±0°.2, h35km, n7, σ0s57/7, mb4.0/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	5.12	54	Pn		Pn	Pn	23 47 10.8	-0.1
	0.4nm,0.3s,baz=231,slow=14,SNR=4.1								
PLCA	**Paso Flores**	6.32	162	Pn		Pn	Pn	23 47 27.8	+0.3
	0.3nm,0.3s,baz=329,slow=15,SNR=2.9								
LPAZ	**La Paz**	18.89	15	P		Pn	Pn	23 50 16.3	+0.7
	0.1nm,0.3s,baz=191,slow=7.8,SNR=7.4								
SIV	**San Ignacio**	21.55	33	P		P	P	23 50 43.2	+0.1
	6.4nm,0.9s,baz=222,slow=9.4,SNR=9.4								
TXAR	**Lajitas Array**	69.95	332	P		P	P	23 57 04.2	-0.2
	0.3nm,0.7s,baz=148,slow=7.4,SNR=4.2								
TORD	**Torodi Ar. Bea**	85.27	71	P		P	P	23 58 29.4	-0.7
	1.3nm,0.8s,baz=236,slow=4.7,SNR=6.6								
ZALV	**Zalesovo Beam**	155.30	32	PKPab		PKPab	PKPab	00 06 11.2	+0.2
	1.1nm,0.6s,baz=284,slow=6.0,SNR=5.8								

GUC 06 23:59:18.4±0.3, 34°.01S×72°.17W, h38km±2km, ML3.5, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	0.64	86	⇓iP		Pn	Pn	23 59 31.5	+0.5
LNV				i S1		Sn	Sn	23 59 41.3	+1.4
RCDM	**Rinconada Maip**	1.25	66	⇓iP		Pn	Pn	23 59 39.8	+0.4
RCDM				i S		Sn	Sn	23 59 57.2	+2.2
NICH	**Los Niches**	1.26	142	eP		Pn	Pn	23 59 41.1	+1.6
NICH				i S		Sn	Sn	23 59 58.5	+3.2
CHCH	**Chadas Angostu**	1.27	87	⇓iP		Pn	Pn	23 59 41.6	+1.9
CACH	**El Canelo**	1.31	95	⇑iP		Pn	Pn	23 59 42.8	+2.4
CACH				i S4		Sn	Sn	00 00 03.5	+6.7
ANTU	**Antumapu**	1.36	72	⇑iP		Pn	Pn	23 59 42.7	+1.9
ANTU				i S		Sn	Sn	00 00 01.1	+3.4
CLCH	**Cerro Calan**	1.50	66	eP		Pn	Pn	23 59 45.0	+2.2
CLCH				i S		Sn	Sn	00 00 05.2	+4.0
CLCH				AML		AML	AML	00 00 22.4
	comp=N,808nm,0.7s								
PEL	**Peldehue**	1.51	56	⇓iP		Pn	Pn	23 59 45.0	+2.0
PEL				eS		Sn	Sn	00 00 05.5	+3.9
PEL				AML		AML	AML	00 00 13.5
	comp=N,1μm,0.5s								

*IDC **07** 00:20:06.1±0.9, 37°.49S×73°.68W, h0km, mb3.9/7, mb1 4.0/10, mb1mx4.0/27, mbtmp3.9/10, ML3.5/3, MS3.6/4, Ms1 3.5/4, ms1mx3.2/23, Error ellipse: s-maj=25.7km s-min=15.6km az=83.0*
*ISCJB **07** 00:20:08.2±0.8, 37°.45S±0°.06×73°.6W±0°.2, h23km, mb3.9/7, MS3.6/3, Error ellipse: s-maj=17.6km s-min=9.1km az=175.0*
*NEIC **07** 00:20:11.2±0.6, 37°.45S×73°.63W, h35km, mb4.2/4, Error ellipse: s-maj=15.0km s-min=8.0km az=85.0*
ISC 07 00:20:09.7±0.8, 37°.46S±0°.09×73°.7W±0°.2, h23km, n21, σ0s91/18, mb3.8/7, MS3.5/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	4.07	144	Pn		Pn	Pn	00 21 11.0	+0.5
	1.2nm,0.3s,baz=319,slow=11,SNR=29								
PLCA				Lg		Lg	Lg	00 22 14.7	
	2.9nm,0.3s,baz=44,slow=24,SNR=5.1								
CFAA	**Coronel Fontan**	7.36	39	Pn		Pn	Pn	00 21 56.0	+0.2
	0.2nm,0.3s,baz=200,slow=12,SNR=5.5								
CFAA				Lg		Lg	Lg	00 24 03.1	
	0.0nm,0.3s,baz=274,slow=14,SNR=4.9								
CFAA				LR		LR	LR	00 24 30.9	
	comp=Z,7.1nm,19.6s,baz=224,slow=36								
TRQA	**Tornquist**	9.27	97	ePn		Pn	Pn	00 22 23.3	+1.3
LVC	**Limon Verde**	15.36	17	ePn		Pn	Pn	00 23 43.7	-1.6
	2.6nm,0.7s								
CPUP	**Villa Florida**	17.74	56	LR		LR	LR	00 31 48.6	
	comp=Z,118nm,18.8s,baz=202,slow=40								
USHA	**Ushuaia**	17.74	170	P		Pn	Pn	00 24 15.1	+0.2
	0.1nm,0.3s,baz=340,slow=6.0,SNR=5.2								
EFI	**East Falkland**	17.98	147	ePn		Pn	Pn	00 24 17.0	-1.0
	8.7nm,0.6s								
LPAZ	**La Paz**	21.65	15	P		P	P	00 24 59.7	+0.5
	1.9nm,0.9s,baz=150,slow=8.3,SNR=6.2								
SIV	**San Ignacio**	24.11	31	P		P	P	00 25 22.0	-1.8
	2.4nm,0.8s,baz=217,slow=12,SNR=8.4								
SIV				LR		LR	LR	00 36 37.2	
	comp=Z,147nm,19.4s,baz=222,slow=41								
BDFB	**Brasilia**	31.42	53	LR		LR	LR	00 40 41.0	
	comp=Z,70nm,21.1s,baz=270,slow=39								
QSPA	**South Pole Qui**	52.78	180	P		P	P	00 29 22.0	-0.8
	3.0nm,0.9s,baz=302,slow=2.0,SNR=6.7								
QSPA				LR		LR	LR	00 50 08.0	
	comp=Z,104nm,18.4s,baz=274,slow=34								
QSPA	**South Pole Qui**	52.78	180	eP		P	P	00 29 22.6	-0.1
	3.8nm,1.0s								
TXAR	**Lajitas Array**	72.15	333	P		P	P	00 31 33.5	+1.0
	0.7nm,0.8s,baz=152,slow=8.2,SNR=7.5								
DBIC	**Dimbokro**	77.54	72	P		P	P	00 32 04.6	+0.7
	4.0nm,0.8s,baz=193,slow=6.7,SNR=4.9								
DBIC	**Dimbokro**	77.54	72	eP		P	P	00 32 04.0	+0.1
	4.3nm,0.7s								
NVAR	**Mina Array Bea**	86.00	326	P		P	P	00 32 48.6	+0.4
	0.2nm,0.5s,baz=134,slow=7.7,SNR=3.3								
TORD	**Torodi Ar. Bea**	86.62	71	P		P	P	00 32 51.4	-0.1
	0.5nm,0.6s,baz=226,slow=5.0,SNR=5.6								
ABKAR	**Akbulak array**	144.80	55	ePKPdf		PKPbc	PKPab	00 39 43.6	+0.4
PSI	**Prapat**	144.84	167	PKP		PKPab	PKPab	00 39 43.9	-0.5
	3.9nm,0.6s,baz=204,slow=20,SNR=3.5								
ZALV	**Zalesovo Beam**	157.84	35	PKPab		PKPab	PKPab	00 40 37.2	+0.6
	0.2nm,0.2s,baz=292,slow=7.3,SNR=3.6								
MKAR	**Makanchi Array**	159.94	55	PKPab		PKPab	PKPab	00 40 45.4	-0.7
	0.3nm,0.8s,baz=311,slow=3.3,SNR=3.9								

*IDC **07** 00:31:50.7±0.9, 33°.99S×73°.29W, h0km, mb4.1/8, mb1 4.2/11, mb1mx4.0/27, mbtmp4.1/11, ML4.3/3, MS2.2/2, Ms1 2.2/2, ms1mx2.2/24, Error ellipse: s-maj=29.9km s-min=16.8km az=99.0*
*GUC **07** 00:31:52.7±0.7, 34°.03S×73°.15W, h32km±7km, ML3.5*
*ISCJB **07** 00:31:54.0±0.6, 34°.06S±0°.04×73°.21W±0°.06, h33km, mb4.2/8, Error ellipse: s-maj=7.5km s-min=5.5km az=39.1*
*NEIC **07** 00:31:56.3±0.7, 34°.02S×73°.16W, h35km, mb4.5/5, Error ellipse: s-maj=15.9km s-min=9.3km az=99.0*
ISC 07 00:31:56.3±0.8, 34°.04S±0°.06×73°.15W±0°.09, h35km, n32, σ1s11/37, mb4.2/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	1.45	87	eP		Pn	Pn	00 32 17.6	-2.4
NICH	**Los Niches**	1.85	122	eP		Pn	Pn	00 32 24.3	-1.3
NICH				i S		Sn	Sn	00 32 47.6	-0.2
PACH	**Papudo**	2.08	44	eP		Pn	Pn	00 32 27.9	-0.8
CHCH	**Chadas Angostu**	2.08	88	eP		Pn	Pn	00 32 27.8	-1.0
CACH	**El Canelo**	2.12	93	eP		Pn	Pn	00 32 29.1	-0.3
ANTU	**Antumapu**	2.15	78	i S		Sn	Sn	00 32 55.6	+0.4
ANTU				AML		AML	AML	00 32 57.7
	comp=E,460nm,0.2s								
STL	**Santa Lucia**	2.18	75	eP9		Pn	Pn	00 32 28.3	-1.8
STL				i S		Sn	Sn	00 32 55.5	-0.4
LNCH	**Linares**	2.21	145	eP		Pn	Pn	00 32 28.9	-1.5
LNCH				i S		Sn	Sn	00 32 56.3	-0.1
CLCH	**Cerro Calan**	2.27	74	eP		Pn	Pn	00 32 30.4	-1.1
CLCH				i S		Sn	Sn	00 32 58.3	0.0
CLCH				AML		AML	AML	00 33 01.7
	comp=N,423nm,0.7s								
CFAA	**Coronel Fontan**	4.80	61	Pn		Pn	Pn	00 33 06.3	+0.2
	comp=N,0.3nm,0.3s,baz=199,slow=11,SNR=18								
CFAA				Sn		Sn	Sn	00 34 03.1	+2.6
	comp=N,0.4nm,0.3s,baz=320,slow=24,SNR=6.2								
CFAA				LR		LR	LR	00 34 35.7
	comp=N,4.8nm,19.9s,baz=234,slow=34								
PLCA	**Paso Flores**	6.99	164	Pn		Pn	Pn	00 33 35.8	-0.5
	comp=N,3.6nm,0.3s,baz=332,slow=11,SNR=76								
PLCA				LR		LR	LR	00 36 21.7
	comp=N,88nm,18.8s,baz=65,slow=38								
TRQA	**Tornquist**	9.89	117	ePn		Pn	Pn	00 34 15.8	-0.2
CPUP	**Villa Florida**	15.68	65	Pn		Pn	Pn	00 35 34.1	-0.5
	comp=N,0.2nm,0.3s,baz=204,slow=19,SNR=3.6								
LPAZ	**La Paz**	18.25	16	P		P	P	00 36 06.9	-0.5
	comp=N,0.1nm,0.3s,baz=187,slow=6.0,SNR=8.4								
EFI	**East Falkland**	20.73	153	eP		P	P	00 36 33.2	-0.4
	comp=N,7.1nm,0.6s								
USHA	**Ushuaia**	21.05	172	P		P	P	00 36 38.1	+1.2
	comp=N,6.5nm,0.8s,baz=340,slow=11,SNR=5.3								
PMSA	**Palmer Station**	31.26	172	P		P	P	00 38 14.0	+1.7
	comp=N,12nm,0.7s,baz=315,slow=19,SNR=3.8								
PMSA	**Palmer Station**	31.26	172	eP		P	P	00 38 14.7	+2.4
	comp=N,43nm,1.1s								
VNA3	**Neumayer Olymp**	49.67	158	P		P	P	00 40 43.8	-0.4
VNA2	**Neumayer--Watz**	50.33	157	P		P	P	00 40 49.8	+0.6
	baz=286,slow=9.9								
SNAA	**Sanae**	51.90	158	P		P	P	00 41 01.0	0.0
SNAA	**Sanae**	51.90	158	P		P	P	00 41 01.0	0.0
	comp=N,1.3nm,0.5s,baz=255,slow=6.8,SNR=18								
SNAA	**Sanae**	51.90	158	eP		P	P	00 41 00.4	-0.6
	comp=N,3.6nm,0.5s								
QSPA	**South Pole Qui**	56.19	180	P		P	P	00 41 31.0	-1.5
	comp=N,0.8nm,0.9s,baz=100,slow=6.1,SNR=2.9								
TXAR	**Lajitas Array**	69.33	332	P		P	P	00 43 00.1	-0.2
	comp=N,0.5nm,0.7s,baz=157,slow=7.2,SNR=6.2								
DBIC	**Dimbokro**	76.07	72	P		P	P	00 43 40.6	0.0
	comp=N,4.0nm,1.0s,baz=240,slow=7.0,SNR=3.6								
DBIC	**Dimbokro**	76.07	72	eP		P	P	00 43 40.6	0.0
	comp=N,2.9nm,0.7s								
BOSA	**Boshof**	80.87	118	P		P	P	00 44 07.6	+0.5
	comp=N,2.2nm,0.8s,baz=225,slow=2.9,SNR=2.9								
BOSA	**Boshof**	80.87	118	eP		P	P	00 44 09.0	+1.9
	comp=N,6.7nm,1.2s								
TORD	**Torodi Ar. Bea**	85.10	71	P		P	P	00 44 29.2	+0.3
	comp=N,1.0nm,0.7s,baz=253,slow=4.7,SNR=10								
ZALV	**Zalesovo Beam**	154.75	31	PKPbc		PKPbc	PKPbc	00 51 52.2	-0.9
	comp=N,0.7nm,0.5s,baz=313,slow=3.3,SNR=5.9								
MKAR	**Makanchi Array**	157.49	48	PKPab		PKPab	PKPab	00 52 20.1	-0.3
	comp=N,0.4nm,0.7s,baz=293,slow=6.2,SNR=4.7								

*ISCJB **07** 00:36:14.7±0.6, 27°.76N±0°.08×140°.4E±0°.2, h500km, mb3.0/3, Error ellipse: s-maj=20.7km s-min=8.3km az=159.4*
*IDC **07** 00:36:15.0±0.8, 27°.63N×140°.02E, h476km±64km, mb2.6/3, mb1 2.8/5, mb1mx2.5/38, mbtmp3.4/5, Error ellipse: s-maj=182.4km s-min=17.5km az=71.0*
*JMA **07** 00:36:15.7±0.1, 27°.92N×140°.81E, h508km, M3.6*
ISC 07 00:36:15.4±0.9, 27°.8N±0°.1×140°.5E±0°.2, h500km, n12, σ1s64/15, mb3.0/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	1.69	115	P		P	P	00 37 19.7	+0.6
CBIJ				eS		S	S	00 38 09.7	-1.1
JCJ	**Chichijima**	1.69	115	P		P	P	00 37 19.6	+0.5
	7.6nm,0.3s,baz=359,slow=18,SNR=10.0								
JCJ				S		S	S	00 38 09.1	-1.7
	50nm,0.3s,baz=311,slow=23,SNR=18								
JHHJ	**Haha-jima-NKT**	1.93	128	eS		S	S	00 38 13.4	+0.6
JIE	**Ise**	7.30	335	P		P	P	00 38 07.2	+2.7
JKN2	**Miekihoku**	7.34	332	P		P	P	00 38 07.2	+2.3
JRY	**Ryogami san**	8.28	351	P		P	P	00 38 15.9	+1.4
JAG	**Ashikaga**	8.62	355	P		P	P	00 38 18.1	0.0
JAG				eS		S	S	00 39 56.3	-2.6
JHO	**Hitachi**	8.76	1	P		P	P	00 38 21.7	+2.1
MJAR	**Matsushiro Arr**	8.90	348	P		P	P	00 38 21.8	+0.7
	0.4nm,0.3s,baz=172,slow=11,SNR=3.5								
WRA	**Warramunga Arr**	47.85	188	P		P	P	00 44 06.6	-0.8
	0.7nm,0.4s,baz=6.5,slow=7.4,SNR=18								
MKAR	**Makanchi Array**	48.84	309	P		P	P	00 44 14.2	-0.3
	0.1nm,0.4s,baz=86,slow=7.4,SNR=2.2								
ASAR	**Alice Springs**	51.58	188	P		P	P	00 44 34.6	-0.2
	0.3nm,0.4s,baz=1.1,slow=6.3,SNR=11								

*IDC **07** 00:44:51.0±0.8, 36°.96S×73°.03W, h0km, mb4.2/7, mb1 4.3/9, mb1mx4.1/29, mbtmp4.1/9, ML3.5/3, MS3.4/5, Ms1 3.4/5, ms1mx3.2/23, Error ellipse: s-maj=23.3km s-min=15.7km az=84.0*
*NEIC **07** 00:44:54.8, 36°.95S×73°.32W, h44km, mb4.5/3, After GUC. NEIC Felt [III] at Concepcion and Talcahuano.*
*GUC **07** 00:44:54.9±0.5, 37°.02S×73°.22W, h34km±2km, ML4.8*
ISC 07 00:44:52.9±2.0, 36°.95S±0°.05×73°.18W±0°.09, h14km±12km, n33, σ1s17/42, mb4.2/8, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	0.88	21	i P		Pn	Pn	00 45 11.0	+0.3
COCH				i S		Sn	Sn	00 45 23.9	+0.7
AGCH	**Angol**	0.94	156	⇑iP		Pg	Pn	00 45 10.8	-0.2
AGCH				i S		Sb	Sn	00 45 22.1	-1.1
LNCH	**Linares**	1.68	50	eP		Pb	Pn	00 45 23.8	+0.1
LNCH				eS		Sb	Sn	00 45 45.5	+0.8
LNCH				AML		AML	AML	00 45 53.4
	comp=N,8μm,0.5s								
LNCH	**Linares**	1.68	50	⇑iP		Pb	Pn	00 45 23.8	+0.1
LNCH				i S		Sb	Sn	00 45 45.5	+0.8
NICH	**Los Niches**	2.51	40	i P9		Pb	Pn	00 45 36.4	-1.3
NICH				eS		Sb	Sn	00 46 07.2	-1.1
NICH				AML		AML	AML	00 46 17.4
	comp=N,5μm,0.7s								
NICH	**Los Niches**	2.51	40	⇓iP		Pb	Pn	00 45 36.6	-1.0
NICH				i S		Sb	Sn	00 46 07.8	-0.6
VLCH	**Valdivia**	2.85	181	eP		Pn	Pn	00 45 38.0	+0.1
VLCH				IAML				00 46 37.1
	comp=N,6μm,1.2s								
VLCH	**Valdivia**	2.85	181	⇓iP		Pn	Pn	00 45 38.5	+0.6
RCDM	**Rinconada Maip**	3.96	30	⇑iP		Pn	Pn	00 45 54.7	+1.4
RCDM				i S		Sn	Sn	00 46 39.9	+0.3
PLCA	**Paso Flores**	4.30	152	Pn		Pn	Pn	00 45 59.0	+1.1
	comp=N,0.4nm,0.3s,baz=337,slow=16,SNR=1.9								
PLCA				Lg		Lg	Lg	00 47 05.5
	comp=N,4.7nm,0.3s,baz=256,slow=22,SNR=4.0								
PLCA				LR		LR	LR	00 47 50.3
	comp=N,311nm,19.9s,baz=270,slow=42								
PEL	**Peldehue**	4.32	29	eP		Pn	Pn	00 46 00.2	+2.1
PEL				eS		Sn	Sn	00 46 49.9	+1.7
PEL	**Peldehue**	4.32	29	eP		Pn	Pn	00 45 59.2	+1.1
FCH	**Farellones**	4.32	34	eP		Pn	Pn	00 45 56.5	-1.9
FCH				i S		Sn	Sn	00 46 45.8	-3.0
CFAA	**Coronel Fontan**	6.72	39	Pn		Pn	Pn	00 46 31.3	+0.1
	comp=N,0.3nm,0.3s,baz=207,slow=13,SNR=12								
CFAA				Sn		Sn	Sn	00 47 48.1	+0.6
	comp=N,0.3nm,0.3s,baz=277,slow=17,SNR=2.0								
CFAA				Lg		Lg	Lg	00 48 24.3
	comp=N,0.3nm,0.3s,baz=129,slow=22,SNR=7.1								
CFAA				LR		LR	LR	00 48 37.2
	comp=N,11nm,18.6s,baz=231,slow=34								
TRQA	**Tornquist**	8.97	100	ePn		Pn	Pn	00 47 03.9	+1.9
LVC	**Limon Verde**	14.76	16	eP		Pn	Pn	00 48 22.4	+0.9
CPUP	**Villa Florida**	17.13	56	Pn		Pn	Pn	00 48 52.2	+0.3
	comp=N,0.2nm,0.3s,baz=198,slow=13,SNR=2.9								
CPUP				LR		LR	LR	00 55 59.5
	comp=N,129nm,21.6s,baz=228,slow=39								
USHA	**Ushuaia**	18.18	171	LR		LR	LR	00 56 57.5
	comp=N,183nm,18.4s,baz=23,slow=40								
SIV	**San Ignacio**	23.48	30	LR		LR	LR	00 59 24.9
	comp=N,78nm,18.4s,baz=265,slow=37								
BDFB	**Brasilia**	30.80	53	LR		LR	LR	01 03 53.8
	comp=N,115nm,20.8s,baz=231,slow=37								
QSPA	**South Pole Qui**	53.29	180	P		P	P	00 54 12.0	+1.0
	comp=N,4.4nm,0.8s,baz=165,slow=3.1,SNR=15								
QSPA	**South Pole Qui**	53.29	180	eP		P	P	00 54 11.1	0.0
	comp=N,4.6nm,0.9s								
TEIG	**Tepich**	58.63	343	P		P	P	00 54 50.0	+0.5
	comp=N,7.6nm,0.7s,baz=120,slow=8.4,SNR=3.5								
TXAR	**Lajitas Array**	71.88	332	P		P	P	00 56 17.0	+1.5
	comp=N,1.3nm,0.7s,baz=152,slow=8.4,SNR=17								
DBIC	**Dimbokro**	77.00	71	P		P	P	00 56 44.5	-1.0
	comp=N,3.4nm,0.7s,baz=217,slow=6.3,SNR=5.0								
DBIC	**Dimbokro**	77.00	71	eP		P	P	00 56 44.2	-1.3
	comp=N,4.0nm,0.6s								
ANMO	**Albuquerque**	77.95	333	eP		P	P	00 56 49.5	-1.1
	comp=N,1.1nm,0.4s								
NVAR	**Mina Array Bea**	85.79	326	P		P	P	00 57 33.0	+1.1
	comp=N,0.6nm,0.8s,baz=162,slow=6.7,SNR=5.3								
PDAR	**Pinedale Array**	85.99	334	P		P	P	00 57 33.4	+0.6
	comp=N,0.7nm,0.8s,baz=150,slow=5.4,SNR=6.0								
TORD	**Torodi Ar. Bea**	86.08	70	P		P	P	00 57 32.6	-0.9
	comp=N,0.5nm,0.8s,baz=219,slow=4.5,SNR=4.9								
ABKAR	**Akbulak array**	144.19	55	ePKPdf		PKPab	PKPab	01 04 25.4	-0.2
ZALV	**Zalesovo Beam**	157.19	35	PKP		PKPdf	PKPab	01 04 46.0	-1.5
	comp=N,1.0nm,0.8s,baz=318,slow=2.0,SNR=4.4								
ZALV				PKPab		PKPab	PKPab	01 05 18.4	0.0
	comp=N,0.8nm,0.7s,baz=306,slow=5.0,SNR=3.1								
MKAR	**Makanchi Array**	159.33	54	PKP		PKPdf	PKPab	01 04 48.9	-1.5
	comp=N,0.6nm,0.8s,baz=284,slow=0.5,SNR=6.0								
MKAR				PKPab		PKPab	PKPab	01 05 27.6	-0.4
	comp=N,0.3nm,0.8s,baz=269,slow=2.1,SNR=2.6								

*ISCJB **07** 00:47:58.7±1.0, 17°.8S±0°.2×69°.3W±0°.1, h152km, mb4.1/5, Error ellipse: s-maj=24.2km s-min=13.6km az=164.0*
*IDC **07** 00:47:59.9±2.2, 17°.72S×69°.35W, h152km±17km, mb4.0/6, mb1 4.0/7, mb1mx3.6/27, mbtmp4.4/7, Error ellipse: s-maj=25.3km s-min=23.7km az=140.0*
ISC 07 00:48:00.0±1.1, 17°.7S±0°.2×69°.3W±0°.1, h152km, n8, σ1s00/9, mb4.5/5, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	1.81	39	P		Pn	Pn	00 48 34.1	+0.3
	111nm,0.3s,baz=249,slow=5.6,SNR=2642								
SIV	**San Ignacio**	8.08	79	P		Pn	Pn	00 49 55.5	+1.0
	3.3nm,0.3s,baz=278,slow=11,SNR=30								
SIV				S		Sn	Sn	00 51 22.9	-1.8
	0.6nm,0.3s,baz=300,slow=20,SNR=6.1								
BDFB	**Brasilia**	20.51	87	P		P	P	00 52 27.4	+0.8
	3.3nm,0.5s,baz=268,slow=9.5,SNR=7.4								
PMSA	**Palmer Station**	47.16	177	P		P	P	00 56 16.2	-0.5
	14nm,0.6s,baz=45,slow=5.9,SNR=9.4								
DBIC	**Dimbokro**	68.08	75	P		P	P	00 58 44.0	+0.1
	6.3nm,0.5s,baz=232,slow=6.2,SNR=25								
TORD	**Torodi Ar. Bea**	76.48	71	P		P	P	00 59 33.9	+0.2
	7.3nm,0.7s,baz=260,slow=5.1,SNR=74								
ESDC	**Sonseca Array**	83.42	45	P		P	P	01 00 11.0	+0.5
	0.3nm,0.7s,baz=259,slow=7.5,SNR=4.7								
YKA	**Yellowknife Ar**	87.50	341	P		P	P	01 00 29.3	-0.7
	0.4nm,0.5s,baz=133,slow=4.8,SNR=20								

IDC 07 00:57:02.7±5.3, 18°.76N×145°.33E, h328km±54km, mb3.0/10, mb1 3.2/11, mb1mx3.1/38, mbtmp3.7/11, Error ellipse: s-maj=25.6km s-min=13.7km az=88.0, Mariana Islands

| Code |

TRQA	Tornquist	10.05	116	*e*Pn	Pn	01 15 37.3	+0.3
	comp=N,14nm,0.8s						
LVC	Limon Verde	12.13	20	*e*Pn	Pn	01 16 06.7	+0.9
CPUP	Villa Florida	15.91	65	Pn	P	01 16 59.3	-1.0
	comp=N,0.2nm,0.3s,baz=196,slow=17,SNR=3.0						
CPUP				LR	LR	01 23 24.8	
	comp=N,358nm,18.2s,baz=227,slow=38						
CPUP	Villa Florida	15.91	65	*e*Pn	Pn	01 16 54.8	-1.8
LPAZ	La Paz	18.38	16	P	P	01 17 29.4	+1.1
	comp=N,0.1nm,0.3s,baz=183,slow=6.9,SNR=6.9						
LPAZ	La Paz	18.38	16	*e*P	P	01 17 29.6	+1.1
	comp=N,5.7nm,0.7s						
USHA	Ushuaia	21.00	172	P	P	01 17 57.3	+1.3
	comp=N,8.7nm,0.9s,baz=340,slow=8.3,SNR=7.5						
USHA				LR	LR	01 27 21.4	
	comp=N,285nm,18.1s,baz=320,slow=40						
SIV	San Ignacio	21.20	35	P	P	01 17 58.9	+0.4
	comp=N,3.6nm,0.8s,baz=218,slow=11,SNR=9.0						
SIV				LR	LR	01 27 29.4	
	comp=N,146nm,19.1s,baz=230,slow=40						
NNA	Nana	22.25	351	LR	LR	01 25 16.4	
	comp=N,99nm,18.8s,baz=160,slow=33						
SAML	Samuel	26.76	23	*e*P	P	01 18 53.5	+0.9
	comp=N,3.4nm,0.8s						
BDFB	Brasilia	29.35	57	P	P	01 19 17.8	+1.8
	comp=N,2.3nm,0.7s,baz=225,slow=16,SNR=3.5						
BDFB				LR	LR	01 32 02.7	
	comp=N,208nm,19.2s,baz=216,slow=38						
OTAV	Otavalo	34.50	351	*e*P	P	01 20 02.1	+0.6
	comp=N,4.9nm,1.1s						
ROSC	El Rosal	38.78	359	LR	LR	01 34 22.6	
	comp=N,40nm,21.7s,baz=60,slow=33						
SDV	Santo Domingo	42.85	4	*e*P	P	01 21 10.8	-0.5
	comp=N,19nm,1.5s						
JTS	JuntasAbangare	45.51	344	*e*P	P	01 21 29.8	-2.6
	comp=N,12nm,1.1s						
SNAA	Sanae	51.91	158	P	P	01 22 20.6	-0.4
	comp=N,2.5nm,0.9s,baz=295,slow=9.7,SNR=9.7						
SNAA	Sanae	51.91	158	*e*P	P	01 22 21.4	+0.4
	comp=N,7.8nm,0.7s						
QSPA	South Pole Qui	56.11	180	P	P	01 22 52.1	+0.2
	comp=N,2.3nm,1.0s,baz=90,slow=20,SNR=4.1						
QSPA	South Pole Qui	56.11	180	*e*P	P	01 22 52.6	+0.7
	comp=N,6.8nm,1.1s						
HKT	Hockley	67.16	339	*e*P	P	01 24 05.8	-0.7
	comp=N,2.4nm,0.8s						
JCT	Junction City	68.92	336	*e*P	P	01 24 17.5	-0.2
	comp=N,5.6nm,1.0s						
TXAR	Lajitas Array	69.29	332	P	P	01 24 19.8	-0.3
	comp=N,0.4nm,0.6s,baz=159,slow=8.3,SNR=7.7						
TXAR				LR	LR	01 50 26.8	
	comp=N,68nm,18.0s,baz=0.0,slow=32						
SWET	Sewanee	69.97	349	*e*P	P	01 24 24.6	+0.5
	comp=N,2.8nm,0.6s						
ABTX	Abilene, Hawle	70.83	337	*e*P	P	01 24 29.2	-0.2
	comp=N,3.0nm,0.6s						
WVT	Waverly	71.17	348	*e*P	P	01 24 30.8	-0.6
	comp=N,9.2nm,1.0s						
MNTX	Cornudas Mount	72.06	332	*e*P	P	01 24 36.4	-0.5
	comp=N,1.6nm,1.1s						
LAZ	Ladron	75.14	332	*e*P	P	01 24 54.5	-0.6
SUR	Sutherland	75.77	119	*e*P	P	01 24 58.7	-0.4
	comp=N,9.3nm,0.9s						
DBIC	Dimbokro	76.30	72	P	P	01 25 02.9	+0.8
	comp=N,7.0nm,1.1s,baz=274,slow=6.6,SNR=4.0						
DBIC	Dimbokro	76.30	72	*e*P	P	01 25 00.3	-1.7
	comp=N,21nm,1.3s						
SDCO	Great Sand Dun	77.48	334	*e*P	P	01 25 09.0	+0.5
	comp=N,5.2nm,1.3s						
WUAZ	Wupatki	77.84	329	*e*P	P	01 25 11.2	+0.8
	comp=N,10nm,1.4s						
MVCO	Mesa Verde	78.13	332	*e*P	P	01 25 11.8	-0.3
	comp=N,3.5nm,1.0s						
TSUM	Tsumeb	80.28	107	*e*P	P	01 25 24.3	0.0
	comp=N,3.6nm,1.0s						
BOSA	Boshof	81.02	118	P	P	01 25 29.0	+0.9
	comp=N,2.3nm,0.8s,baz=207,slow=4.5,SNR=2.9						
DUG	Dugway, Tooele	82.41	331	*e*P	P	01 25 34.9	-0.1
	comp=N,9.5nm,1.6s						
HWUT	Hardware Ranch	83.11	332	*e*P	P	01 25 38.7	+0.1
	comp=N,2.6nm,0.8s						
LBTB	Lobatse	83.29	116	*e*P	P	01 25 39.7	-0.3
	comp=N,3.5nm,0.8s						
NVAR	Mina Array Bea	83.34	326	P	P	01 25 40.7	+0.8
	comp=N,0.5nm,0.8s,baz=112,slow=4.0,SNR=3.4						
PDAR	Pinedale Array	83.36	334	P	P	01 25 40.3	+0.3
	comp=N,0.3nm,0.3s,baz=149,slow=4.2,SNR=3.5						
TORD	Torodi Ar. Bea	85.33	71	P	P	01 25 50.5	+0.2
	comp=N,1.7nm,0.9s,baz=252,slow=4.7,SNR=7.5						
LSZ	Lusaka	90.85	109	*e*P	P	01 26 17.1	+0.1
	comp=N,2.7nm,0.9s						
TAM	Tamanrasset	93.91	65	*e*P	P	01 26 31.3	+0.4
	comp=N,1.9nm,1.0s						
WRA	Warrarmunga Arr	120.09	210	PKP	PKPdf	01 32 03.6	-0.7
	comp=N,0.5nm,0.6s,baz=165,slow=1.5,SNR=6.1						
WRAB	Tennant Creek	120.09	210	*e*PKPdf	PKPdf	01 32 05.2	+1.0
SUW	Suwalki	120.46	43	*e*PKPdf	PKPdf	01 32 02.4	-1.3
COEN	Coen	120.85	222	*e*PKPdf	PKPdf	01 32 06.1	+0.4
TNA	Tin City	122.34	331	*e*PKPdf	PKPdf	01 32 05.7	-1.2
MBWA	Marble Bar	123.62	195	*e*PKPdf	PKPdf	01 32 10.8	-0.2
KAPI	Kappang	139.14	200	*e*PKPdf	PKPdf	01 32 39.6	-0.7
ABKAR	Akbulak array	142.66	52	*e*PKPdf	PKPdf	01 32 41.5	-4.1
PALK	Pallekele	144.16	132	*e*PKPdf	PKPdf	01 32 48.8	-0.6
BRVK	Borovoye	148.07	43	*e*PKPbc	PKPbc	01 32 58.6	+0.7
IPM	Ipoh	150.06	169	*e*PKPbc	PKPbc	01 33 04.0	-0.2
IPM				*e*PKPab	PKPab	01 33 11.2	+1.4
KKAR	Karatay Array	150.61	61	*e*PKPbc	PKPbc	01 33 04.6	-0.1
KKM	Kota Kinabalu	150.67	200	*e*PKPdf	PKPdf	01 32 58.2	-2.1
KKM				*e*PKPbc	PKPbc	01 33 05.2	-0.5
EKS2	Erkin-Say	153.04	62	*e*PKPbc	PKPbc	01 33 10.6	+0.3
AAK	Ala-Archa	153.57	62	*e*PKPdf	PKPdf	01 33 03.6	-0.2
AAK				*e*PKPbc	PKiKP	01 33 12.3	+0.7
KURK	Kurchatov	153.74	42	*e*PKPbc	PKPbc	01 33 11.5	+0.1
TKM2	Tokmak 2	154.33	61	*e*PKPdf	PKPdf	01 33 05.6	+0.6
TKM2				*e*PKPbc	PKiKP	01 33 13.9	+0.6
TKM2				*e*PKPab	PKPab	01 33 26.8	-0.5
ZALV	Zalesovo Beam	154.93	31	PKPbc	PKPbc	01 33 14.3	+0.5
	comp=N,1.3nm,0.8s,baz=336,slow=3.3,SNR=5.4						
ZALV				PKPab	PKPab	01 33 31.8	+2.5
	comp=N,1.6nm,0.6s,baz=317,slow=2.6,SNR=5.4						
MKAR	Makanchi Array	157.70	48	PKPab	PKPab	01 33 41.6	+0.2
	comp=N,0.7nm,0.7s,baz=297,slow=4.0,SNR=7.5						
ULN	Ulaanbaatar	166.26	359	*e*PKPdf	PKPdf	01 33 17.7	-0.1

ISCJB ***07*** *01:39:48.7±2.1,37.°02S±0.°03×73.°97W±0.°06, h3km±13km, mb4.2/19, MS3.7/1, Error ellipse: s-maj=8.2km s-min=5.6km az=6.9*
GUC ***07*** *01:39:49.8±0.4,37.°01S×74.°18W, h21km±2km, ML4.7*
IDC ***07*** *01:39:50.8±0.8,36.°94S×73.°62W, h0km, mb3.9/8, mb1 4.1/10, mb1mx4.0/29, mbtmp4.0/10, ML3.3/3, MS3.3/3, Ms1 3.3/3, ms1mx3.1/23, Error ellipse: s-maj=27.7km s-min=15.1km az=78.0*
NEIC ***07*** *01:39:55.7±1.1,36.°97S×73.°63W, h36km±9km, mb4.5/15, Error ellipse: s-maj=13.0km s-min=6.2km az=81.0*

ISC 07 01:39:53.1±1.9, 37.°01S±0.°04×73.°80W±0.°07, h20km±9km, n44, σ1°00/52, mb4.4/19, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	Angol	1.19	133	*e*P	Pn	01 40 13.6	-1.0
AGCH				*i* S	Sn	01 40 31.6	+1.4
COCH	Cobquecura	1.20	43	*i* P	Pn	01 40 13.3	-1.4
COCH				*i* S	Sg	01 40 31.7	-0.2
LNCH	Linares	2.12	58	*i* P	Pn	01 40 27.9	+0.6
LNCH				*i* S	Sb	01 40 57.2	+0.5
LNCH				IAML		01 41 10.8	
	comp=N,5μm,0.9s						
VLCH	Valdivia	2.83	171	*i* P	Pn	01 40 35.2	-1.9
VLCH				*i* S	Sn	01 41 09.4	-1.2
PLCA	Paso Flores	4.50	147	Pn	Pn	01 41 00.8	+0.6
	comp=N,0.8nm,0.3s,baz=322,slow=11,SNR=22						
PLCA				Lg	Lg	01 42 16.1	
	comp=N,7.2nm,0.3s,baz=21,slow=9.8,SNR=6.8						
PEL	Peldehue	4.62	34	*i* P	Pn	01 41 01.9	-0.1
PEL				*i* S	Sn	01 41 56.5	+1.5
CFAA	Coronel Fontan	7.09	42	Pn	Pn	01 41 33.9	-1.8
	comp=N,0.1nm,0.3s,baz=227,slow=13,SNR=6.8						
CFAA				Sn	Sn	01 42 52.4	-3.3
	comp=N,0.1nm,0.3s,baz=248,slow=16,SNR=7.3						
CFAA				LR	LR	01 44 27.7	
	comp=N,64nm,18.1s,baz=222,slow=40						
TRQA	Tornquist	9.45	100	*e*Pn	Pn	01 42 08.8	+0.7
	comp=N,7.4nm,0.6s						
TRQA				*e*Lg	Lg	01 44 51.2	
LVC	Limon Verde	14.96	18	*e*Pn	Pn	01 43 23.2	-0.4
CPUP	Villa Florida	17.58	57	LR	LR	01 49 58.2	
	comp=N,85nm,20.5s,baz=222,slow=35						
CPUP	Villa Florida	17.58	57	*e*Pn	Pn	01 43 57.0	+0.1
USHA	Ushuaia	18.20	170	P	P	01 44 05.7	+1.2
	comp=N,0.1nm,0.3s,baz=263,slow=12,SNR=5.2						
LPAZ	La Paz	21.24	15	P	P	01 44 38.8	+0.2
	comp=N,2.8nm,0.8s,baz=176,slow=6.5,SNR=13						
LPAZ	La Paz	21.24	15	*e*P	P	01 44 39.4	+0.8
	comp=N,9.6nm,1.2s						
SIV	San Ignacio	23.78	32	LR	LR	01 56 24.4	
	comp=N,223nm,18.1s,baz=222,slow=42						
SAML	Samuel	29.55	22	*e*P	P	01 45 56.3	-0.2
	comp=N,8.6nm,1.6s						
SDV	Santo Domingo	45.75	4	*e*P	P	01 48 13.0	-0.4
	comp=N,3.7nm,0.7s						
SNAA	Sanae	49.37	157	P	P	01 48 40.9	+0.1
	comp=N,1.3nm,0.8s,baz=339,slow=12,SNR=3.7						
SNAA	Sanae	49.37	157	*e*P	P	01 48 40.8	0.0
	comp=N,11nm,1.2s						
QSPA	South Pole Qui	53.23	180	P	P	01 49 10.7	+0.8
	comp=N,3.6nm,0.9s,baz=150,slow=2.9,SNR=8.2						
QSPA	South Pole Qui	53.23	180	*e*P	P	01 49 10.2	+0.3
	comp=N,5.6nm,1.0s						
HKT	Hockley	69.74	340	*e*P	P	01 51 01.6	+0.2
	comp=N,2.8nm,0.9s						
TXAR	Lajitas Array	71.70	333	P	P	01 51 14.8	+1.1
	comp=N,0.5nm,0.8s,baz=153,slow=6.7,SNR=5.7						
WHTX	Lake Whitney,	72.12	339	*e*P	P	01 51 16.6	+0.6
	comp=N,4.4nm,0.7s						
SWET	Sewanee	72.74	350	*e*P	P	01 51 19.7	0.0
	comp=N,7.8nm,0.8s						
WVT	Waverly	73.93	348	*e*P	P	01 51 25.9	-0.7
	comp=N,5.6nm,1.2s						
MNTX	Cornudas Mount	74.46	332	*e*P	P	01 51 30.5	+0.7
	comp=N,2.9nm,1.2s						
TUL1	Leonard	75.37	342	*e*P	P	01 51 34.5	-0.5
	comp=N,3.4nm,0.5s						
DBIC	Dimbokro	77.50	72	P	P	01 51 47.9	+0.4
	comp=N,5.9nm,1.0s,baz=280,slow=17,SNR=3.1						
DBIC	Dimbokro	77.50	72	*e*P	P	01 51 47.3	-0.3
	comp=N,30nm,1.4s						
ANMO	Albuquerque	77.77	333	*e*P	P	01 51 50.6	+1.8
	comp=N,1.8nm,0.8s						
BOSA	Boshof	79.94	118	*e*P	P	01 52 01.0	0.0
	comp=N,11nm,1.2s						
LBTB	Lobatse	82.33	115	*e*P	P	01 52 13.5	-0.4
	comp=N,7.0nm,0.8s						
NVAR	Mina Array Bea	85.56	326	P	P	01 52 30.9	+1.0
	comp=N,0.2nm,0.3s,baz=186,slow=5.1,SNR=2.9						
PDAR	Pinedale Array	85.82	334	P	P	01 52 33.4	+2.2
	comp=N,0.7nm,1.0s,baz=134,slow=2.6,SNR=2.6						
TORD	Torodi Ar. Bea	86.57	71	P	P	01 52 34.8	-0.3
	comp=N,1.1nm,0.8s,baz=246,slow=3.7,SNR=5.5						
ABKAR	Akbulak array	144.63	55	*e*PKPdf	PKPbc	01 59 26.5	-0.1
KBL	Kabul	149.87	83	*e*PKPbc	PKPbc	01 59 42.4	+0.3
BRVK	Borovoye	150.36	46	*e*PKPdf	PKPdf	01 59 37.0	-0.1
BRVK				*e*PKPbc	PKPbc	01 59 41.9	-0.5
KKAR	Karatay Array	152.16	66	*e*PKPbc	PKPbc	01 59 46.6	-0.3
KKAR				*e*PKPab	PKPab	01 59 56.4	-0.3
TKM2	Tokmak 2	155.89	66	*e*PKPdf	PKPdf	01 59 45.9	+0.1
TKM2				*e*PKPab	PKPab	02 00 12.3	-0.6
KURK	Kurchatov	156.02	46	*e*PKPdf	PKPdf	01 59 44.7	-0.6
KURK				*e*PKPab	PKPab	02 00 11.5	-1.3
ZALV	Zalesovo Beam	157.52	34	PKP	PKPdf	01 59 46.1	-1.1
	comp=N,0.6nm,0.5s,baz=352,slow=3.0,SNR=4.5						
ZALV				PKPab	PKPab	02 00 19.3	+0.2
	comp=N,1.0nm,0.8s,baz=280,slow=5.3,SNR=3.9						
MKAR	Makanchi Array	159.76	54	PKPab	PKPab	02 00 28.8	-0.4
	comp=N,0.7nm,0.8s,baz=288,slow=4.7,SNR=8.7						

NNC 07 01:49:13.4±4.2, 36.°87N×70.°91E, h0km, mb3.6, mpv3.2, 4C-4D, Error ellipse: s-maj=34.2km s-min=19.4km az=179.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.54	320	⇓Pn	Pn	01 49 56.2	+0.2
DZET				⇑Sn	Sn	01 50 28.9	+1.2
KK31	Karatay Array	6.23	357	Pn	Pn	01 50 47.8	+1.2
	0.8nm,0.3s,baz=175,slow=12,SNR=45						
KK31				⇓Sn	Sn	01 51 57.9	-0.7
	0.6nm,0.3s,baz=189,slow=25,SNR=5.6						
AAK	Ala-Archa	6.38	25	⇑Pn	Pn	01 50 48.7	-0.3
	1.0nm,0.5s						
AAK				⇓Sn	Sn	01 52 05.1	+2.4
	7.3nm,1.2s						
AB31	Akbulak array	14.72	331	⇑Pn	Pn	01 52 38.5	-4.3
	0.6nm,0.5s,baz=153,slow=12,SNR=26						
AB31				⇑Sn	Sn	01 55 21.2	-5.5
	0.3nm,0.5s,baz=157,slow=23,SNR=4.7						
AKTO	Aktyubinsk	16.42	330	⇓Pn	Pn	01 53 02.0	-3.2
	2.1nm,1.4s						

IDC ***07*** *01:53:08.8±1.2,33.°64S×72.°12W, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.7/24, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=42.4km s-min=21.5km az=152.0*
ISCJB ***07*** *01:53:11.3±1.2,33.°42S±0.°04×72.°36W±0.°06, h26km±7km, mb3.5/3, Error ellipse: s-maj=8.8km s-min=6.1km az=151.3*
GUC ***07*** *01:53:12.1±0.4,33.°42S×72.°35W, h39km±1km, ML3.7*

ISC 07 01:53:12.6±2.0, 33.°43S±0.°05×72.°27W±0.°08, h23km±13km, n24, σ0°93/33, mb3.9/3, 5C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.67	53	⇓*i*P	Pb	01 53 25.4	-0.2
IHA				*i* S	Sb	01 53 35.1	+0.7
LNV	Longovilo	0.89	126	*i* P9	Pn	01 53 28.1	-1.6
LNV				*i* S	Sb	01 53 40.6	-0.1
RCDM	Rinconada Maip	1.23	93	⇓*i*P	Pn	01 53 33.7	-0.7
RCDM				*i* S	Sn	01 53 50.3	+0.1
RCDM				AML	AML	01 53 51.9	
	comp=N,2μm,0.1s						
PEL	Peldehue	1.36	78	⇓*i*P	Pn	01 53 36.5	+0.3
PEL				*i* S	Sb	01 53 54.9	+0.5
PEL				IAML		01 54 00.9	
	comp=E,2μm,0.6s						
STL	Santa Lucia	1.36	91	⇓*i*P	Pn	01 53 35.8	-0.5
STL				*i* S	Sn	01 53 54.3	+0.6
ANTU	Antumapu	1.38	96	⇑*i*P	Pn	01 53 36.2	-0.3
ANTU				*i* S	Sn	01 53 54.8	+0.8
ANTU				AML	AML	01 53 58.7	
	comp=E,2μm,0.6s						
CHCH	Chadas Angostu	1.44	111	*i* P	Pn	01 53 37.0	-0.3
CHCH				*i* S	Sn	01 53 56.5	+1.0
CLCH	Cerro Calan	1.45	89	*e*P	Pn	01 53 37.4	-0.1
CLCH				*i* S	Sn	01 53 56.7	+0.8
CLCH				AML	AML	01 54 02.2	
	comp=E,2μm,0.7s						
CLCH				IAML		01 54 05.7	
	comp=E,2μm,1.0s						
CACH	El Canelo	1.55	117	⇑*i*P	Pn	01 53 39.6	+0.7
CACH				*i* S	Sb	01 54 00.1	+0.2
FCH	Farellones	1.66	87	⇑*i*P	Pn	01 53 38.1	-2.5
FCH				*e*S	Sn	01 53 59.7	-1.7
FCH				IAML		01 54 10.3	
	comp=N,1μm,0.5s						
CHNG	Los Chungos	1.68	23	⇑*i*P	Pn	01 53 39.6	-0.9
CHNG				*i* S	Sn	01 54 00.6	-0.7
NICH	Los Niches	1.79	151	⇑*i*P	Pn	01 53 41.8	-0.3
NICH				*i* S	Sn	01 54 04.2	+0.1
CFAA	Coronel Fontan	3.86	63	Pn	Pn	01 54 11.3	+0.6
	comp=N,0.1nm,0.3s,baz=245,slow=14,SNR=2.9						
CFAA				Lg	Lg	01 55 12.2	
	comp=N,1.3nm,0.3s,baz=53,slow=8.5,SNR=7.1						
LPAZ	La Paz	17.48	13	P	Pn	01 57 15.8	+0.3
	comp=N,0.1nm,0.3s,baz=211,slow=5.2,SNR=6.8						
SIV	San Ignacio	20.10	33	P	P	01 57 45.4	+0.7
	comp=N,1.9nm,0.8s,baz=221,slow=2.1,SNR=6.0						
BDFB	Brasilia	28.18	57	P	P	01 59 02.0	-1.6
	comp=N,1.4nm,0.5s,baz=228,slow=14,SNR=2.6						
TXAR	Lajitas Array	69.14	331	P	P	02 04 18.9	+1.7
	comp=N,0.1nm,0.6s,baz=158,slow=9.7,SNR=2.6						
TORD	Torodi Ar. Bea	84.20	70	P	P	02 05 42.0	-0.5
	comp=N,0.5nm,0.7s,baz=240,slow=4.9,SNR=4.7						
WRA	Warrarmunga Arr	121.16	210	PKP	PKPdf	02 12 03.9	-0.2
	comp=N,0.2nm,0.8s,baz=162,slow=1.8,SNR=2.8						
H11S2	WAKE ISLAND Hyl	25.58	270	T	T	04 31 07.3	
	baz=115						
H11S1	WAKE ISLAND Hyl	25.60	270	T	T	04 31 10.3	
	baz=115						
H11S3	WAKE ISLAND Hyl	25.60	270	T	T	04 31 09.4	
	baz=115						
ZALV	Zalesovo Beam	153.85	31	PKPbc	PKPbc	02 13 09.5	+0.1
	comp=N,0.4nm,0.5s,baz=306,slow=2.7,SNR=2.7						
MKAR	Makanchi Array	156.53	48	PKPab	PKPab	02 13 34.7	+0.4
	comp=N,0.4nm,0.6s,baz=292,slow=3.9,SNR=5.8						

IDC 07 02:05:40.5±2.9, 32.°45S×177.°97W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.8/18, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=69.9km s-min=35.9km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.05	213	Pn	Pn	02 07 25.6	+0.6
	0.5nm,0.3s,baz=302,slow=13,SNR=7.7						
URZ				Sn	Sn	02 08 44.7	-1.1
	1.8nm,0.3s,baz=66,slow=21,SNR=11						
ASAR	Alice Springs	43.06	269	P	P	02 13 42.5	+0.1
	0.7nm,0.6s,baz=111,slow=7.6,SNR=13						
WRA	Warramunga Arr	44.24	274	P	P	02 13 51.6	-0.2
	0.9nm,0.3s,baz=115,slow=7.7,SNR=37						
FINES	FINESS Array B	147.07	339	PKPbc	PKPbc	02 25 23.6	-1.0
	1.3nm,0.8s,baz=69,slow=4.6,SNR=9.3						

IDC 07 02:11:29.5±7.9, 5.°91S×128.°88E, h280km±86km, mb2.9/1, mb1 3.3/4, mb1mx2.9/30, mbtmp3.9/4, Error ellipse: s-maj=81.6km s-min=25.0km az=46.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.70	230	P	Pn	02 13 08.5	+1.6
	5.7nm,0.3s,baz=59,slow=5.9,SNR=4.6						
BATI				S	S	02 14 23.9	-1.5
	5.7nm,0.3s,baz=24,slow=20,SNR=4.3						
WRA	Warramunga Arr	14.92	160	P	P	02 14 47.0	+0.1
	0.5nm,0.3s,baz=340,slow=12,SNR=14						
ASAR	Alice Springs	18.30	165	P	P	02 15 23.6	0.0
	0.6nm,0.3s,baz=346,slow=11,SNR=35						
MKAR	Makanchi Array	66.71	327	P	P	02 21 50.7	-0.1
	0.3nm,0.6s,baz=114,slow=7.6,SNR=4.3						

IDC ***07*** *02:23:15.5±1.8,6.°14S×129.°79E, h0km, mb4.0/2, mb1 4.0/4, mb1mx3.6/28, mbtmp3.9/4, ML4.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/24, Error ellipse: s-maj=143.5km s-min=28.4km az=70.0*
NEIC ***07*** *02:23:19.1±0.4,5.°90S×130.°68E, h35km, mb4.3/6, Error ellipse: s-maj=12.1km s-min=5.3km az=62.0*
ISCJB ***07*** *02:23:23.3±0.5,6.°34S±0.°04×130.°28E±0.°07, h90km, mb4.0/7, Error ellipse: s-maj=10.0km s-min=5.3km az=174.5*
DJA ***07*** *02:23:29.4±0.7,6.°S±5.°×13.°0E±.°, h179km±29km, M4.5/6, mb4.5/3, mB5.3/1, MLv4.5/6, Mw(mB)4.7/1*

ISC 07 02:23:24.6±0.7, 6.°47S±0.°06×130.°39E±0.°08, h90km, n26, σ2°85/26, mb4.0/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.75	149	P	Pn	02 24 05.1	+11
FAKI	Fak Fak	3.99	28	P	Pn	02 24 29.0	+5.5
FAKI	Fak Fak	3.99	28	P	Pn	02 24 28.8	+5.2
	baz=4.2,SNR=9.8						
FAKI				S	Sn	02 25 14.4	+5.2
	baz=4.2,SNR=20						
SWI	Sorong	5.64	9	S	Sn	02 25 48.4	-1.0
	baz=5.7,SNR=14						
MTN	Manton Dam	6.38	173	P	Pn	02 25 02.2	+6.1
	baz=6.5,SNR=27						
MTN				S	Sn	02 26 10.5	+3.1
	baz=6.5,SNR=13						
SOEI	Soe	6.88	241	P	Pn	02 25 06.1	+3.0
	109nm,0.8s,0.4nm						
SOEI	Soe	6.88	241	P	Pn	02 25 05.9	+2.8
	baz=6.6,SNR=20						
SOEI	Soe	6.88	241	*e*Pn	Pn	02 25 05.5	+2.4
	59nm,0.6s						
SOEI				*e*Sn	Sn	02 26 18.5	-1.5
BATI	Baumata	7.62	240	P	Pn	02 25 15.5	+2.5
KNRA	Kununurra	9.29	190	P	Pn	02 25 38.5	+2.8
	baz=9.3,SNR=9.8						
KNRA				S	Sn	02 27 10.3	-8.2
	baz=9.3,SNR=12						
WRAB	Tennant Creek	13.92	164	*e*Pn	P	02 26 40.8	-2.5
	3.6nm,0.8s						
WRA	Warramunga Arr	13.93	164	Pn	Pn	02 26 40.0	+1.8
	0.9nm,0.3s,baz=344,slow=13,SNR=40						
WRA				Sn	Sn	02 29 07.3	-4.2
	1.8nm,0.3s,baz=340,slow=22,SNR=11						
WB2	Warramunga Arr	13.93	164	*e*Pn	Pn	02 26 39.6	+1.4
COEN	Coen	14.61	122	*e*Pn	Pn	02 26 45.0	-2.0
AS31

JIH Iheya 1.26 332 P **Pg 02 41 21.8 -0.3**
JIH S **Sg 02 41 37.0 -1.4**
JAGN Aguni-jima 1.41 298 P **Pb 02 41 24.0 -0.1**
JAGN S **Sb 02 41 41.3 -0.8**
JOKE Okinoerabujima 1.43 358 P **Pb 02 41 24.0 -0.5**
JOKE S **Sn 02 41 40.2 -2.2**
JKE Kume jima 2 1.71 284 P **Pb 02 41 27.8 -1.4**
JKE S **Sn 02 41 46.7 -2.4**
JTK Tokunoshima 1.88 9 P **Pn 02 41 30.1 +0.3**
JTK S **Sn 02 41 50.8 -2.6**
JMZ Minamidaito 2 2.34 92 P **Pn 02 41 35.3 -0.8**
JMZ S **Sn 02 42 01.0 -3.7**
JAMN Amaminishikomi 2.36 12 P **Pn 02 41 36.9 +0.5**
JAMN S **Sn 02 42 03.7 -1.6**
JAM Amami Oshima 2.63 19 P **Pn 02 41 40.1 0.0**
JAM S **Sn 02 42 08.7 -3.1**
JZK Kikaishima 2.67 26 P **Pn 02 41 41.1 +0.5**
JZK S **Sn 02 42 11.4 -1.4**
JIKM Ikemajima 3.22 253 S **Sn 02 42 25.1 -1.3**
JTJ Tarama 3.78 251 P **Pn 02 41 56.1 +0.2**
JTJ S **Sn 02 42 36.7 -3.6**
JISG Ishigakijimahi 4.13 252 P **Pn 02 41 59.9 -0.9**
JISG eS **Sn 02 42 45.3 -3.7**
JIJ Ishigaki jima 4.35 250 P **Pn 02 42 05.6 +1.8**
JIJ eS **Sn 02 42 51.0 -3.5**
JKRS Kuro-shima 4.51 249 P **Pn 02 42 06.5 +0.5**
JNU Nakatsue 7.43 15 Pn **Pn 02 42 47.8 +1.6**
0.7nm,0.3s,baz=238,slow=3.6,SNR=11
JNU Sn **Sn 02 44 07.9 -2.6**
0.5nm,0.3s,baz=153,slow=18,SNR=3.8
TGY Tagaytay City 13.80 213 LR LR 02 48 19.1
comp=Z,9.4nm,21.0s,baz=126,slow=32
SONM Songino Array 28.00 327 P **P 02 46 51.3 +2.6**
1.4nm,0.4s,baz=144,slow=11,SNR=27
MKAR Makanchi Array 42.01 312 P **P 02 48 49.1 +0.1**
0.4nm,0.5s,baz=98,slow=11,SNR=9.3
WRA Warramunga Arr 45.93 173 P **P 02 49 21.4 +0.8**
0.8nm,0.6s,baz=353,slow=8.4,SNR=15
ASAR Alice Springs 49.56 174 P **P 02 49 50.0 +1.1**
0.2nm,0.5s,baz=356,slow=7.3,SNR=5.7
ASAR LR LR 03 13 29.8
comp=Z,49nm,18.1s,baz=186,slow=39
FINES FINESS Array B 73.31 331 P **P 02 52 29.2 +0.2**
0.5nm,0.4s,baz=69,slow=6.3,SNR=12
AKASG Malin Array Be 76.00 320 P **P 02 52 45.1 +0.3**
1.3nm,0.6s,baz=67,slow=5.6,SNR=2.9
YKA Yellowknife Ar 78.65 25 P **P 02 53 00.9 +1.5**
0.2nm,0.9s,baz=299,slow=5.7,SNR=2.4

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*IDC **07** 02:57:08.5±12.0, 37°.67N×142°.42E, h0km, mb3.4/3, mb1 3.3/4, mb1mx3.2/26, mbtmp3.3/4, ML2.4/1, Error ellipse: s-maj=226.1km s-min=44.2km az=135.0*
*JMA **07** 02:57:09.1±0.2, 37°.31N×142°.58E, h37km, M3.5*
ISC 07 02:57:08.3±2.9, 37°.49N±0°.07×142°.47E±0°.10, h8km±13km, n18, σ1=03/25, mb3.2/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.28**	**265**	P	**Pb**	**02 57 32.4**	**-0.2**
JFK				eS	**Sb**	**02 57 49.1**	**-0.1**
JIO	**Ouri**	**1.31**	**318**	P	**Pg**	**02 57 34.4**	**+0.9**
JIO				eS	**Sg**	**02 57 52.5**	**+2.0**
JMM	**Marumori**	**1.39**	**286**	P	**Pg**	**02 57 34.6**	**-0.3**
JMM				S	**Sg**	**02 57 53.5**	**+0.6**
ONAJ	**Iwakimizuishiy**	**1.39**	**254**	P	**Pn**	**02 57 33.4**	**-0.6**
ONAJ				S	**Sn**	**02 57 50.6**	**-2.0**
JOU	**Okura**	**1.68**	**302**	P	**Pg**	**02 57 39.9**	**-0.6**
JOU				S	**Sg**	**02 58 02.8**	**+0.6**
JFT	**Otama**	**1.70**	**272**	P	**Pb**	**02 57 39.4**	**-0.4**
JFT				S	**Sb**	**02 58 01.2**	**-0.1**
JMK	**Ichinoseki**	**1.76**	**326**	P	**Pb**	**02 57 41.0**	**+0.1**
JMK				eS	**Sg**	**02 58 04.4**	**-0.6**
JYS	**Shiratake**	**2.04**	**292**	eS	**Sg**	**02 58 12.6**	**-1.3**
JOM	**Ohasama**	**2.19**	**335**	P	**Pb**	**02 57 46.8**	**-1.3**
JOM				S	**Sb**	**02 58 15.1**	**-0.3**
JYK	**Kaneyama**	**2.19**	**311**	P	**Pb**	**02 57 47.4**	**-0.8**
JYK				S	**Sb**	**02 58 15.7**	**+0.2**
JRG	**Rokugo**	**2.39**	**323**	P	**Pb**	**02 57 50.3**	**-1.3**
MJAR	**Matsushiro Arr**	**3.54**	**256**	Pn	**Pn**	**02 58 04.6**	**+1.0**
0.3nm,0.3s,baz=101,slow=11,SNR=4.3							
MJAR				Sn	**Sn**	**02 58 47.7**	**+2.0**
1.8nm,0.3s,baz=101,slow=21,SNR=8.5							
H11N2	**WAKE ISLAND Hy**	**27.67**	**123**	T	T	03 31 44.5	
baz=318,slow=76,SNR=4.5							
H11N1	**WAKE ISLAND Hy**	**27.68**	**123**	T	T	03 31 47.0	
baz=318							
H11N3	**WAKE ISLAND Hy**	**27.69**	**123**	T	T	03 31 49.9	
baz=318,slow=76,SNR=4.6							
SONM	**Songino Array**	**28.24**	**303**	P	**P**	**03 03 02.1**	**+0.3**
0.3nm,0.7s,baz=99,slow=8.9,SNR=2.6							
MKAR	**Makanchi Array**	**44.60**	**302**	P	**P**	**03 05 21.3**	**+0.4**
0.3nm,0.8s,baz=79,slow=6.6,SNR=2.8							
KURBB	**Kurchatov Arra**	**46.39**	**308**	P	**P**	**03 05 34.9**	**-0.1**
0.5nm,0.4s,baz=81,slow=7.9,SNR=7.1							

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*ISCJB **07** 03:11:22.4±0.6, 34°.87S±0°.10×74°.4W±0°.2, h33km, mb4.2/20, MS3.5/1, Error ellipse: s-maj=21.6km s-min=10.6km az=149.7*
*NEIC **07** 03:11:24.0±0.4, 35°.01S×74°.65W, h35km, mb4.3/15, Error ellipse: s-maj=17.8km s-min=8.9km az=60.0*
*IDC **07** 03:11:24.5±0.8, 34°.69S×72°.65W, h0km, mb4.0/7, mb1 4.3/9, mb1mx4. 1/21, mbtmp4. 1/9, ML4.2/2, MS3.5/3, Ms1 3.5/3, ms1mx3. 1/28, Error ellipse: s-maj=32.0km s-min=21.3km az=82.0*
ISC 07 03:11:23.8±0.8, 35°.00S±0°.1×74°.5W±0°.2, h35km, n37, σ1=23/29, mb4.4/20, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**6.23**	**59**	Lg	Lg	03 13 53.2	
0.7nm,0.3s,baz=306,slow=14,SNR=3.3							
CFAA				LR	LR	03 14 07.1	
comp=Z,10nm,18.2s,baz=212,slow=34							
PLCA	**Paso Flores**	**6.54**	**153**	Pn	**Pn**	**03 12 58.6**	**+1.1**
0.8nm,0.3s,baz=343,slow=9.6,SNR=15							
PLCA				Lg	Lg	03 14 37.6	
0.4nm,0.3s,baz=64,slow=22,SNR=2.9							
PLCA				LR	LR	03 15 24.1	
comp=Z,270nm,18.7s,baz=294,slow=38							
TRQA	**Tornquist**	**10.53**	**111**	ePn	**Pn**	**03 13 54.2**	**+1.8**
CPUP	**Villa Florida**	**17.09**	**64**	LR	LR	03 22 16.8	
comp=Z,117nm,18.1s,baz=219,slow=42							
LPAZ	**La Paz**	**19.47**	**19**	P	**P**	**03 15 46.8**	**-1.6**
0.6nm,0.3s,baz=188,slow=8.7,SNR=23							
LPAZ	**La Paz**	**19.47**	**19**	eP	**P**	**03 15 47.1**	**-1.2**
4.7nm,0.6s							
USHA	**Ushuaia**	**20.29**	**170**	P	Pn	03 16 02.7	+4.2
5.8nm,0.9s,baz=66,slow=1.0,SNR=6.4							
SIV	**San Ignacio**	**22.42**	**36**	P	P	03 16 12.2	-7.4
5.3nm,0.8s,baz=200,slow=10,SNR=12							
SIV				LR	LR	03 26 10.7	
comp=Z,200nm,19.5s,baz=224,slow=42							
SAML	**Samuel**	**27.91**	**24**	eP	**P**	**03 17 11.3**	**+0.6**
1.8nm,0.7s							
SDV	**Santo Domingo**	**43.78**	**6**	eP	**P**	**03 19 28.0**	**+1.6**
9.4nm,1.0s							
JTS	**JuntasAbangare**	**46.10**	**346**	eP	**P**	**03 19 45.3**	**+0.7**
17nm,1.2s							
LRAL	**Lakeview Retre**	**68.67**	**349**	eP	**P**	**03 22 25.4**	**+1.9**
7.1nm,1.3s							
TXAR	**Lajitas Array**	**69.64**	**333**	P	P	03 22 38.9	+9.1
0.7nm,0.6s,baz=159,slow=8.8,SNR=13							
WHTX	**Lake Whitney,**	**70.03**	**339**	eP	**P**	**03 22 32.4**	**+0.4**
3.5nm,0.8s							
SWET	**Sewanee**	**70.65**	**350**	eP	**P**	**03 22 36.2**	**+0.5**
4.1nm,0.8s							
WVT	**Waverly**	**71.83**	**349**	eP	**P**	**03 22 43.6**	**+0.8**
4.2nm,1.0s							
MNTX	**Cornudas Mount**	**72.41**	**333**	eP	**P**	**03 22 46.2**	**-0.1**
0.9nm,0.7s							
WMOK	**Wichita Mounta**	**72.98**	**339**	eP	**P**	**03 22 49.4**	**-0.3**
2.6nm,0.8s							
TUL1	**Leonard**	**73.27**	**342**	eP	**P**	**03 22 52.2**	**+0.9**
2.3nm,0.4s							
ANMO	**Albuquerque**	**75.71**	**333**	eP	**P**	**03 23 05.2**	**-0.6**
1.7nm,1.0s							
DBIC	**Dimbokro**	**77.42**	**73**	P	**P**	**03 23 13.1**	**-2.6**
12nm,1.3s,baz=220,slow=6.3,SNR=4.0							
ISCO	**Idaho Springs**	**79.76**	**336**	eP	**P**	**03 23 27.8**	**-0.6**
1.8nm,0.9s							
DUG	**Dugway, Tooele**	**82.73**	**331**	eP	**P**	**03 23 42.5**	**-1.4**
4.0nm,1.1s							
HWUT	**Hardware Ranch**	**83.47**	**333**	eP	**P**	**03 23 48.1**	**+0.3**
2.5nm,0.9s							
NVAR	**Mina Array Bea**	**83.56**	**327**	P	P	03 23 57.8	+9.4
0.8nm,0.8s,baz=136,slow=5.5,SNR=5.5							
PDAR	**Pinedale Array**	**83.75**	**335**	P	P	03 23 57.2	+7.9
0.5nm,0.9s,baz=123,slow=3.3,SNR=3.1							
TORD	**Torodi Ar. Bea**	**86.45**	**71**	P	**P**	**03 24 01.6**	**-1.6**
1.8nm,0.7s,baz=290,slow=5.8,SNR=21							
WRA	**Warramunga Arr**	**118.89**	**211**	PKP	PKPdf	03 30 16.0	+6.9
0.3nm,1.0s,baz=159,slow=1.7,SNR=3.8							
KAPI	**Kappang**	**138.01**	**202**	ePKPdf	**PKPdf**	**03 30 44.9**	**-0.6**
BRVK	**Borovoye**	**149.31**	**43**	ePKPbc	**PKPbc**	**03 31 08.9**	**+0.6**
BVAR	**Borovoye Array**	**149.39**	**43**	PKPbc	**PKPab**	**03 31 12.0**	**-1.4**
0.7nm,0.5s,baz=298,slow=6.4,SNR=6.1							
KULM	**Kulim**	**150.11**	**170**	ePKPab	**PKPab**	**03 31 16.0**	**-1.3**
KBL	**Kabul**	**150.15**	**80**	ePKPdf	**PKPdf**	**03 31 06.4**	**+0.2**
KKAR	**Karatay Array**	**151.80**	**63**	ePKPbc	**PKPbc**	**03 31 15.7**	**+1.1**
TKM2	**Tokmak 2**	**155.53**	**62**	ePKPdf	**PKPdf**	**03 31 14.4**	**+0.6**
ZALV	**Zalesovo Beam**	**156.13**	**31**	PKPab	**PKPab**	**03 31 43.5**	**+1.8**
1.8nm,0.7s,baz=299,slow=4.2,SNR=6.6							
MKAR	**Makanchi Array**	**158.94**	**49**	PKPab	**PKPab**	**03 31 53.8**	**-0.3**
0.6nm,0.8s,baz=270,slow=1.0,SNR=4.9							

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*IDC **07** 03:17:28.1±0.7, 9°.62N×126°.31E, h0km, mb4.0/18, mb1 4.1/19, mb1mx4.0/40, mbtmp4.0/19, ML5.1/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/36, Error ellipse: s-maj=34.5km s-min=14.1km az=79.0*
*MAN **07** 03:17:32, 9°.69N×126°.55E, h6km, mb4.9, ML3.8, MS3.8*
*NEIC **07** 03:17:33.2±0.3, 9°.62N×126°.35E, h35km, mb4.4/12, Error ellipse: s-maj=12.7km s-min=5.8km az=71.0*
ISC 07 03:17:30.6±1.7, 9°.61N±0°.04×126°.48E±0°.07, h17km±10km, n52, σ1=01/48, mb4.2/30, MS3.7/3, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.99**	**280**	↓iP	**Pg**	**03 17 51.3**	**+1.6**
SCPH				i S	**Sn**	**03 18 03.7**	**+0.5**
MSLP	**Maasin**	**1.68**	**288**	eP	**Pg**	**03 18 03.1**	**+0.3**
MSLP				eS	**Sn**	**03 18 19.9**	**-0.3**
CGP	**Cagayan de Oro**	**2.10**	**237**	↓iP	**Pb**	**03 18 08.9**	**+0.7**
CGP				i S	**Sg**	**03 18 37.7**	**-0.6**
PLP	**Palo**	**2.13**	**316**	↑eP	**Pb**	**03 18 08.2**	**-0.6**
PLP				i S	**Sg**	**03 18 37.2**	**-2.1**
BUKP	**Musuan**	**2.22**	**219**	eP	**Pg**	**03 18 11.8**	**-1.3**
BUKP				eS	**Sg**	**03 18 42.6**	**+0.6**
LLP	**Lapu-Lapu**	**2.57**	**286**	eP	**Pb**	**03 18 17.1**	**+0.8**
LLP				eS	**Sb**	**03 18 49.1**	**+1.5**
CTBH	**Cotabato--PC H**	**3.24**	**223**	↑iP	**Pb**	**03 18 26.0**	**-1.7**
PAGZ	**Pagadian**	**3.52**	**240**	eP	Pn	03 18 16.2	-8.4
BATI	**Baumata**	**19.89**	**188**	P	**P**	**03 22 01.8**	**+0.5**
5.7nm,0.3s,baz=59,slow=1.8,SNR=13							
IPM	**Ipoh**	**25.76**	**260**	eP	**P**	**03 23 01.1**	**+0.4**
8.5nm,0.8s							
KSRS	**Korea Array**	**27.75**	**2**	LR	LR	03 34 35.5	
comp=Z,19nm,20.9s,baz=205,slow=37							
COEN	**Coen**	**28.68**	**144**	eP	**P**	**03 23 27.7**	**+0.8**
28nm,1.1s							
WRAB	**Tennant Creek**	**30.36**	**165**	eP	**P**	**03 23 41.0**	**-0.7**
3.8nm,1.1s							
WRA	**Warramunga Arr**	**30.37**	**165**	P	**P**	**03 23 43.4**	**+1.6**
0.2nm,0.6s,baz=350,slow=9.4,SNR=3.3							
MBWA	**Marble Bar**	**31.29**	**192**	eP	**P**	**03 23 50.9**	**+1.0**
8.1nm,0.6s							
ASAR	**Alice Springs**	**33.86**	**168**	P	**P**	**03 24 12.5**	**0.0**
0.4nm,0.6s,baz=351,slow=6.9,SNR=6.6							
CTAO	**Charters Tower**	**35.36**	**147**	eP	**P**	**03 24 25.6**	**+0.2**
1.9nm,0.6s							
H11S3	**WAKE ISLAND Hy**	**39.92**	**73**	T	T	04 08 10.0	
baz=247,slow=74,SNR=11							
H11S1	**WAKE ISLAND Hy**	**39.93**	**73**	T	T	04 08 10.0	
baz=247,slow=74,SNR=4.6							
H11S2	**WAKE ISLAND Hy**	**39.93**	**73**	T	T	04 08 09.4	
baz=247							
H11N1	**WAKE ISLAND Hy**	**40.27**	**71**	T	T	04 08 36.8	
baz=265,slow=74,SNR=5.7							
H11N2	**WAKE ISLAND Hy**	**40.28**	**71**	T	T	04 08 36.8	
baz=265,slow=74,SNR=4.2							
H11N3	**WAKE ISLAND Hy**	**40.29**	**71**	T	T	04 08 36.4	
baz=265,slow=74,SNR=3.7							
ULN	**Ulaanbaatar**	**41.51**	**340**	eP	**P**	**03 25 16.4**	**-0.6**
SONM	**Songino Array**	**41.70**	**340**	P	**P**	**03 25 19.2**	**+0.6**
0.6nm,0.5s,baz=157,slow=11,SNR=6.2							
NWAO	**Narrogin (SRO)**	**43.21**	**191**	P	**P**	**03 25 31.1**	**+0.3**
4.7nm,0.6s,baz=356,slow=10,SNR=3.6							
TLY	**Talaya**	**45.92**	**340**	P	**P**	**03 25 53.4**	**+1.1**
2.0nm,0.7s,baz=201,slow=7.1,SNR=4.9							
DZM	**Mont Dzumac**	**50.28**	**129**	eP	**P**	**03 26 28.1**	**+1.6**
16nm,1.2s							
MKAR	**Makanchi Array**	**52.67**	**323**	P	**P**	**03 26 43.5**	**-0.5**
1.2nm,0.6s,baz=124,slow=8.0,SNR=19							
ZALV	**Zalesovo Beam**	**55.30**	**331**	P	**P**	**03 27 02.3**	**-0.8**
0.5nm,0.4s,baz=136,slow=7.3,SNR=3.0							
SEY	**Seymchan**	**56.41**	**14**	P	**P**	**03 27 12.9**	**+2.1**
0.4nm,0.4s,baz=239,slow=8.0,SNR=4.1							
EKS2	**Erkin-Say**	**56.44**	**315**	eP	**P**	**03 27 10.8**	**-0.9**
1.0nm,0.6s							
KURK	**Kurchatov**	**56.72**	**326**	P	**P**	**03 27 12.8**	**-0.5**
KURBB	**Kurchatov Arra**	**56.73**	**326**	P	**P**	**03 27 12.8**	**-0.6**
0.6nm,0.4s,baz=123,slow=6.9,SNR=5.4							
KKAR	**Karatay Array**	**58.86**	**315**	eP	**P**	**03 27 27.8**	**-0.7**
0.4nm,0.4s							
BVAR	**Borovoye Array**	**62.32**	**326**	P	**P**	**03 27 51.7**	**-0.3**
0.5nm,0.5s,baz=121,slow=7.1,SNR=4.2							
BRVK	**Borovoye**	**62.39**	**326**	eP	**P**	**03 27 51.6**	**-0.8**
4.0nm,1.1s							
GEYT	**Alibeck**	**67.10**	**307**	P	**P**	**03 28 23.8**	**+0.3**
0.6nm,0.3s,baz=127,slow=3.8,SNR=3.6							
ABKAR	**Akbulak array**	**67.50**	**319**	eP	**P**	**03 28 24.6**	**-1.1**
RAYN	**Ar Rayn**	**78.00**	**292**	eP	**P**	**03 29 27.7**	**-1.0**
2.3nm,0.6s							
KBZ	**Khabaz**	**78.80**	**313**	LR	LR	04 09 47.2	
comp=Z,34nm,18.6s,baz=262,slow=40							
ILAR	**Eielson Array**	**79.94**	**26**	P	**P**	**03 29 38.1**	**-0.4**
0.2nm,0.6s,baz=247,slow=4.2,SNR=5.5							
ARCES	**ARCESS Array B**	**84.88**	**340**	P	**P**	**03 30 04.0**	**-0.1**
5.3nm,0.9s,baz=79,slow=6.3,SNR=6.6							
BRTR	**Keskin Array B**	**86.10**	**309**	P	**P**	**03 30 10.8**	**-0.3**
1.8nm,1.2s,baz=30,slow=8.9,SNR=3.1							
FINES	**FINESS Array B**	**86.56**	**332**	P	**P**	**03 30 12.0**	**-0.6**
1.5nm,0.6s,baz=66,slow=4.7,SNR=17							
AKASG	**Malin Array Be**	**87.20**	**321**	LR	LR	04 14 24.9	
comp=Z,40nm,18.3s,baz=50,slow=39							
KMBO	**Kilima Mbogo**	**89.42**	**269**	P	**P**	**03 30 27.0**	**-0.6**
1.6nm,0.8s,baz=42,slow=23,SNR=3.8							
RES	**Resolute Bay**	**92.11**	**10**	eP	**P**	**03 30 38.8**	**+0.2**
2.1nm,0.9s							
NOA	**NORSAR Array B**	**93.44**	**334**	P	**P**	**03 30 43.7**	**-1.3**
0.7nm,0.9s,baz=66,slow=4.5,SNR=2.6							
PSZ	**Piszkesteto**	**93.82**	**320**	eP	**P**	**03 30 45.9**	**-1.2**
2.3nm,0.9s							
YKA	**Yellowknife Ar**	**94.27**	**24**	P	**P**	**03 30 49.5**	**+0.8**
0.6nm,0.6s,baz=298,slow=4.3,SNR=15							
TORD	**Torodi Ar. Bea**	**120.70**	**291**	PKP	**PKPdf**	**03 36 20.8**	**-1.9**
0.3nm,0.7s,baz=99,slow=1.3,SNR=8.3							

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*IDC **07** 03:32:02.0±0.4, 34°.70S×72°.51W, h0km, mb4.4/14, mb1 4.6/17, mb1mx4.4/38, mbtmp4.4/17, ML4.4/3, MS3.7/12, Ms1 3.7/12, ms1mx3.6/21, Error ellipse: s-maj=20.4km s-min=12.7km az=89.0*
*ISCJB **07** 03:32:02.2±1.5, 34°.70S±0°.03×72°.64W±0°.03, h9km±9km, mb4.7/48, MS3.7/9, Error ellipse: s-maj=5.3km s-min=4.2km az=43.2*
*GUC **07** 03:32:03.2±0.6, 34°.64S×72°.72W, h27km±4km, ML4.9*
*BJI **07** 03:32:07.5, 34°.60S×72°.40W, h35km, mB4.9/5, Ms5.5/5, Ms7 5.4/5*
*NEIC **07** 03:32:07.5±0.9, 34°.67S×72°.39W, h35km±8km, mb4.8/35, Error ellipse: s-maj=7.8km s-min=4.3km az=76.0*
NEIC Felt at Rancagua and Santiago.
ISC 07 03:32:07.5±0.4, 34°.71S±0°.04×72°.54W±0°.08, h38km±2km, n149, σ1=12/167, mb4.7/48, MS3.8/9, 8C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.12**	**106**	↓iP	**Pn**	**03 32 25.3**	**-1.2**
NICH				i S	**Sn**	**03 32 42.1**	**+1.4**
LNV	**Longovilo**	**1.20**	**51**	↑iP	**Pn**	**03 32 25.7**	**-2.0**
LNCH	**Linares**	**1.37**	**146**	↑iP	**Pn**	**03 32 27.6**	**-2.4**
LNCH				i S	**Sn**	**03 32 47.8**	**+0.8**
COCH	**Cobquecura**	**1.43**	**188**	↑iP	Pn	03 32 28.5	-2.4
COCH				i S	**Sn**	**03 32 47.9**	**-0.6**
CACH	**El Canelo**	**1.71**	**70**	↑iP	**Pn**	**03 32 34.9**	**0.0**
CHCH	**Chadas Angostu**	**1.74**	**64**	↑iP	**Pn**	**03 32 34.6**	**-0.6**
RCDM	**Rinconada Maip**	**1.89**	**50**	↑iP	**Pn**	**03 32 35.8**	**-1.4**
RCDM				eS	**Sn**	**03 33 00.3**	**+0.7**
ANTU	**Antumapu**	**1.95**	**55**	↓iP	**Pn**	**03 32 37.1**	**-0.9**
ANTU				i S	**Sn**	**03 33 03.1**	**+1.8**
ANTU				AML	AML	03 33 09.6	
comp=N,12μm,0.5s							
STL	**Santa Lucia**	**2.02**	**52**	eP9		03 32 37.1	
STL				eS	**Sn**	**03 33 03.6**	**+0.4**
CLCH	**Cerro Calan**	**2.12**	**52**	↓iP	**Pn**	**03 32 39.4**	**-1.0**
CLCH				i S	**Sn**	**03 33 07.2**	**+1.7**
CLCH				AML	AML	03 33 18.1	
comp=E,10μm,0.9s							
CLCH				AML	AML	03 33 18.7	
comp=E,11μm,0.8s							
PEL	**Peldehue**	**2.19**	**45**	↑iP	**Pn**	**03 32 40.4**	**-1.1**
PEL				i S	**Sn**	**03 33 08.3**	**+0.9**
PEL				AML	AML	03 33 19.8	
comp=N,15μm,0.6s							
FCH	**Farellones**	**2.32**	**54**	↑iP	**Pn**	**03 32 42.0**	**-1.5**
FCH				i S	**Sn**	**03 33 11.6**	**+0.7**
FCH				AML	AML	03 33 23.6	
comp=E,5μm,0.2s							
CFAA	**Coronel Fontan**	**4.75**	**51**	Pn	**Pn**	**03 33 16.5**	**-0.1**
comp=E,4.4nm,0.3s,baz=232,slow=5.0,SNR=151							
PLCA	**Paso Flores**	**6.21**	**166**	Pn	**Pn**	**03 33 36.8**	**+0.1**
comp=E,4.6nm,0.3s,baz=352,slow=12,SNR=22							
PLCA				Lg	Lg	03 35 16.6	
comp=E,2.5nm,0.3s,baz=273,slow=19,SNR=3.3							
PLCA				LR	LR	03 36 04.1	
comp=E,940nm,18.1s,baz=358,slow=39							
TRQA	**Tornquist**	**9.15**	**114**	ePn	**Pn**	**03 34 17.6**	**+0.7**
LVC	**Limon Verde**	**12.47**	**16**	ePn	Pn	03 34 56.6	-6.0
CPUP	**Villa Florida**	**15.53**	**62**	LR	LR	03 41 07.3	
comp=E,105nm,20.2s,baz=222,slow=35							
CPUP	**Villa Florida**	**15.53**	**62**	ePn	Pn	03 35 36.9	-6.8
LPAZ	**La Paz**	**18.77**	**13**	P	**P**	**03 36 23.9**	**-0.2**
comp=E,0.4nm,0.3s,baz=181,slow=7.7,SNR=36							
LPAZ				LR	LR	03 45 04.0	
comp=E,209nm,19.3s,baz=184,slow=42							
USHA	**Ushuaia**	**20.32**	**173**	P	**P**	**03 36 39.9**	**-0.2**
comp=E,11nm,0.8s,baz=346,slow=4.5,SNR=13							
USHA				LR	LR	03 45 04.3	
comp=E,307nm,20.7s,baz=324,slow=38							
SIV	**San Ignacio**	**21.30**	**32**	P	**P**	**03 36 49.7**	**-1.2**
comp=E,15nm,0.8s,baz=224,slow=13,SNR=18							
SIV				LR	LR	03 46 39.5	
comp=E,356nm,18.8s,baz=225,slow=41							
NNA	**Nana**	**22.96**	**349**	P	**P**	**03 37 09.2**	**+0.5**
comp=E,5.3nm,0.6s,baz=213,slow=8.2,SNR=6.5							
NNA				LR	LR	03 44 02.3	
comp=E,105nm,19.5s,baz=159,slow=31							
SAML	**Samuel**	**27.04**	**21**	eP	**P**	**03 37 45.1**	**-1.1**
comp=E,3.5nm,0.8s							
ATAH	**Atahualpa**	**27.97**	**348**	LR	LR	03 47 02.1	
comp=E,77nm,18.2s,baz=198,slow=32							
BDFB	**Brasilia**	**29.08**	**55**	P	**P**	**03 38 02.9**	**-1.7**
comp=E,5.5nm,0.8s,baz=238,slow=8.2,SNR=6.7							
ROSC	**El Rosal**	**39.39**	**357**	P	**P**	**03 39 36.5**	**+2.5**
comp=E,7.8nm,0.5s,baz=101,slow=2.9,SNR=8.0							
ROSC				LR	LR	03 55 22.1	
comp=E,57nm,18.4s,baz=277,slow=36							
ROSC	**El Rosal**	**39.39**	**357**	eP	P	03 39 37.5	+3.4
SDV	**Santo Domingo**	**43.40**	**3**	eP	**P**	**03 40 05.1**	**-1.5**
comp=E,11nm,1.0s							
BCIP	**Isla Barro Col**	**44.18**	**350**	eP	**P**	**03 40 12.5**	**-0.2**
comp=E,62nm,1.2s							
VNA3	**Neumayer Olymp**	**48.86**	**158**	P	**P**	**03 40 50.0**	**+1.2**
VNA2	**Neumayer--Watz**	**49.52**	**157**	P	**P**	**03 40 54.9**	**+1.0**
SNAA	**Sanae**	**51.09**	**158**	P	**P**	**03 41 06.7**	**+0.9**
SNAA	**Sanae**	**51.09**	**158**	P	**P**	**03 41 05.7**	**-0.1**
comp=E,5.7nm,0.9s,baz=277,slow=6.7,SNR=13							
SNAA	**Sanae**	**51.09**	**158**	eP	**P**	**03 41 06.3**	**+0.5**
comp=E,23nm,1.0s							
QSPA	**South Pole Qui**	**55.53**	**180**	P	**P**	**03 41 38.7**	**+0.1**
comp=E,5.9nm,1.0s,baz=172,slow=1.9,SNR=14							
ASCN	**Ascension**	**59.47**	**78**	eP	**P**	**03 42 06.2**	**-0.7**
SBA	**Scott Base**	**62.30**	**192**	eP	**P**	**03 42 26.9**	**+1.7**
comp=E,20nm,1.4s							
VNDA	**Vanda**	**63.33**	**191**	P	**P**	**03 42 33.7**	**+1.7**
comp=E,2.7nm,0.8s,baz=109,slow=4.7,SNR=8.2							
VNDA	**Vanda**	**63.33**	**191**	eP	**P**	**03 42 33.7**	**+1.7**
comp=E,4.2nm,0.9s					

	comp=E,4.7nm,0.6s						
YMR	Madison River	86.37	334	eP	P	03 44 47.1	+1.5
	comp=E,35nm,1.8s						
HLID	Hailey	86.75	331	eP	P	03 44 48.6	+1.1
	comp=E,2.7nm,0.8s						
MCMT	McKenzie Canyo	87.20	333	eP	P	03 44 50.6	+0.9
	comp=E,2.6nm,1.0s						
DGMT	Dagmar	87.50	340	eP	P	03 44 50.7	0.0
MOD	Modoc Plateau	87.92	326	eP	P	03 44 53.6	+0.5
	comp=E,118nm,2.8s						
TAM	Tamanrasset	93.50	65	eP	P	03 45 20.3	+0.7
	comp=E,1.8nm,0.8s						
ESDC	Sonseca Array	97.37	46	LR	LR	04 28 14.9	
	comp=E,29nm,20.7s,baz=160,slow=35						
YKA	Yellowknife Ar	102.60	341	P	Pdif	03 45 59.0	-0.4
	comp=E,0.2nm,0.8s,baz=140,slow=4.3,SNR=3.8						
YKA	Yellowknife Ar	102.60	341	P	Pdif	03 45 59.0	-0.4
ILAR	Eielson Array	114.64	333	PKP	PKPdf	03 50 42.4	-0.3
	comp=E,0.3nm,0.8s,baz=151,slow=2.1,SNR=3.3						
ASAR	Alice Springs	116.75	207	PKP	PKPdf	03 50 47.4	-0.8
	comp=E,0.8nm,0.6s,baz=134,slow=2.0,SNR=14						
KWP	Kalwaria Pacla	118.66	48	ePKPdf	PKPdf	03 50 51.1	+0.2
WB2	Warramunga Arr	119.94	209	ePKPdf	PKPdf	03 50 53.4	-1.0
WRA	Warramunga Arr	119.94	209	PKP	PKPdf	03 50 53.9	-0.5
	comp=E,2.0nm,0.6s,baz=168,slow=1.6,SNR=61						
WRAB	Tennant Creek	119.94	209	ePKPdf	PKPdf	03 50 53.6	-0.8
COEN	Coen	120.90	221	ePKPdf	PKPdf	03 50 57.6	+1.3
BRTR	Keskin Array B	122.54	61	PKP	PKPdf	03 50 58.9	0.0
	comp=E,1.2nm,0.7s,baz=220,slow=3.8,SNR=5.9						
KIEV	Kiev	122.96	48	ePKPdf	PKPdf	03 50 58.4	-0.7
AKASG	Malin Array Be	122.97	48	PKP	PKPdf	03 50 58.5	-0.6
	comp=E,0.6nm,0.5s,baz=259,slow=2.5,SNR=4.0						
TNA	Tin City	123.20	330	ePKPdf	PKPdf	03 50 59.2	+0.2
SPITS	Spitsbergen Ar	123.47	14	PKP	PKPdf	03 50 59.1	-0.3
	comp=E,29nm,1.2s,baz=208,slow=1.6,SNR=7.0						
FINES	FINESS Array B	123.81	35	PKP	PKPdf	03 51 00.4	+0.1
	comp=E,1.0nm,0.8s,baz=337,slow=1.8,SNR=7.2						
ARCES	ARCESS Array B	124.83	25	PKP	PKPdf	03 51 02.0	-0.1
	comp=E,1.8nm,0.7s,baz=241,slow=4.4,SNR=7.0						
H11S2	WAKE ISLAND Hy	25.34	269	T	T	06 08 51.0	
	baz=118,slow=74,SNR=5.4						
H11S1	WAKE ISLAND Hy	25.36	269	T	T	06 08 48.9	
	baz=118,slow=74,SNR=7.2						
H11S3	WAKE ISLAND Hy	25.36	269	T	T	06 08 52.4	
	baz=118,slow=74,SNR=3.7						
H11N3	WAKE ISLAND Hy	25.78	270	T	T	06 09 15.1	
	baz=115,slow=78,SNR=5.8						
H11N1	WAKE ISLAND Hy	25.79	270	T	T	06 09 17.0	
	baz=115,slow=78,SNR=6.2						
H11N2	WAKE ISLAND Hy	25.79	270	T	T	06 09 16.6	
	baz=115,slow=78,SNR=5.7						
KIV	Kislovodsk	130.21	59	ePKPdf	PKPdf	03 51 12.4	-0.9
KBZ	Khabaz	130.31	59	PKP	PKPdf	03 51 14.4	+1.1
	comp=E,2.8nm,1.0s,baz=334,slow=7.1,SNR=4.3						
KAPI	Kappang	138.82	199	ePKPdf	PKPdf	03 51 31.9	+1.7
SEY	Seymchan	140.44	330	PKP	PKPdf	03 51 32.5	+0.9
	comp=E,2.3nm,0.5s,baz=18,slow=0.5,SNR=6.0						
ABKAR	Akbulak array	142.44	52	ePKPpre	PKPpre	03 51 30.8	
KSM	Kuching	146.83	185	ePKPbc	PKPbc	03 51 46.3	+0.2
BRVK	Borovoye	148.01	44	ePKPbc	PKPbc	03 51 49.1	+0.8
BVAR	Borovoye Array	148.08	44	PKPbc	PKPbc	03 51 49.5	+1.0
	baz=302,slow=3.4						
KBL	Kabul	148.51	79	ePKPbc	PKPbc	03 51 50.5	0.0
KBL				ePKPab	PKPab	03 51 53.8	-0.2
HYB	Hyderabad	149.00	116	i PKP	PKPbc	03 51 51.0	-0.9
YAK	Yakutsk	149.25	340	ePKPbc	PKPbc	03 51 50.6	-0.5
YAK				ePKPab	PKPab	03 51 56.0	+0.2
IPM	Ipoh	149.33	167	ePKPbc	PKPbc	03 51 52.8	-0.1
JCJ	Chichijima	149.37	265	PKPbc	PKPbc	03 51 52.9	+0.4
	comp=E,29nm,0.9s,baz=196,slow=15,SNR=2.0						
CBIJ	Chichi jima	149.37	265	PKPbc	PKPbc	03 51 52.9	+0.4
KULM	Kulim	150.05	166	ePKPbc	PKPbc	03 51 54.2	-0.4
KULM				ePKPab	PKPab	03 52 00.8	+0.5
KKAR	Karatay Array	150.24	63	ePKPbc	PKPbc	03 51 53.9	-0.4
KKM	Kota Kinabalu	150.35	198	ePKPbc	PKPbc	03 51 55.2	-0.2
EKS2	Erkin-Say	152.67	63	ePKPbc	PKPbc	03 52 00.9	+0.9
AAK	Ala-Archa	153.20	63	ePKPdf	PKPdf	03 51 54.2	+0.5
AAK				ePKPbc	PKiKP	03 52 01.9	+0.5
AAK				ePKPab	PKPab	03 52 12.9	-0.2
KURBB	Kurchatov Arra	153.67	44	PKPbc	PKPbc	03 52 02.2	+0.5
	comp=E,4.1nm,0.5s,baz=301,slow=2.8,SNR=50						
KURK	Kurchatov	153.68	44	ePKPdf	PKPdf	03 51 54.2	+0.3
KURK				ePKPbc	PKiKP	03 52 02.0	+0.2
KURK				PKPbc	PKPbc	03 52 02.2	+0.5
TKM2	Tokmak 2	153.97	62	ePKPdf	PKPdf	03 51 55.4	+0.5
TKM2				ePKPbc	PKiKP	03 52 03.3	+0.3
TKM2				ePKPab	PKPab	03 52 16.6	+0.1
KSH	Kashi	154.51	70	PKPbc	PKPdf	03 51 56.8	+1.2
KSH				sPKP		03 52 09.7	
KSH				PKS	PKSdf	03 55 29.9	0.0
KSH				PP	PP	03 55 53.1	-1.6
KSH				SKS	SKSdf	03 59 00.1	+0.7
KSH				SS	SS	04 15 29.0	-4.2
KSH				PPMZ			
	comp=E,120nm,5.0s						
KSH				LN			
	comp=E,34nm,4.3s						
KSH				LE			
	comp=E,30nm,5.3s						
KSH				LZ			
	comp=E,160nm,5.9s						
ZALV	Zalesovo Beam	155.05	33	PKP	PKPdf	03 51 55.7	0.0
	comp=E,1.5nm,0.7s,baz=318,slow=2.0,SNR=8.0						
ZALV				PKPbc		03 52 04.8	
	comp=E,2.7nm,0.6s,baz=300,slow=3.0,SNR=9.3						
ZALV				PKPab	PKPab	03 52 20.5	+0.2
	comp=E,6.4nm,0.7s,baz=299,slow=4.7,SNR=10						
MKAR	Makanchi Array	157.54	50	PKP	PKPdf	03 51 59.3	0.0
	comp=E,0.7nm,0.6s,baz=341,slow=0.4,SNR=12						
MKAR				PKPab	PKPab	03 52 31.5	+0.1
	comp=E,1.4nm,0.7s,baz=288,slow=4.9,SNR=8.4						
CMAR	Chiang Mai Arr	162.12	153	PKP	PKPdf	03 52 05.1	-0.2
	comp=E,0.8nm,0.3s,baz=236,slow=1.9,SNR=4.9						
CMAR				PKPab	PKPab	03 52 51.7	-0.1
	comp=E,0.9nm,0.4s,baz=207,slow=5.0,SNR=3.1						
WMQ	Urumqi	162.23	53	ePKP	PKPdf	03 52 05.2	+0.5
WMQ				pPKP	pPKPdf	03 52 15.3	-1.7
TLY	Talaya	162.81	8	PKPab	PKPab	03 52 54.7	+0.7
	comp=E,1.8nm,0.6s,baz=4.4,slow=8.8,SNR=5.5						
CN2	Changchun	163.40	308	ePKP	PKPdf	03 52 06.8	+1.1
ULN	Ulaanbaatar	166.85	1	ePKPdf	PKPdf	03 52 08.4	-0.4
ULN				ePKPab	PKPab	03 53 13.1	+1.1
SONM	Songino Array	166.86	3	PKP	PKPdf	03 52 08.0	-0.7
	comp=E,0.8nm,0.8s,baz=328,slow=0.4,SNR=5.8						
SONM				PKPab	PKPab	03 53 12.7	+0.6
	comp=E,1.1nm,0.9s,baz=354,slow=2.3,SNR=6.0						
NJ2	Nanjing	170.11	258	ePKP	PKPdf	03 52 11.2	0.0
GTA	Gaotai	172.30	50	ePKP	PKPdf	03 52 13.2	+0.9
GTA				pPKP	pPKPdf	03 52 23.9	-0.7
GTA				sPKP		03 52 27.5	
GTA				PKPab	PKPab	03 53 37.5	+0.9
HHC	Hu-ho-hao-te	173.06	333	ePKP	PKPdf	03 52 10.3	-2.2
HHC				pPKP	pPKPdf	03 52 21.1	-3.7
HHC				sPKP		03 52 24.7	
HHC				PP	PP	03 57 31.8	+0.8
HHC				SKS	SKSdf	03 59 08.2	-4.6
HHC				SS	SS	04 18 39.8	-2.2
HHC				PPMZ			
	comp=E,71nm,7.0s						
LZH	Lanzhou	176.74	64	ePKP	PKPdf	03 52 14.5	+0.7
LZH				pPKP	pPKPdf	03 52 26.1	0.0
LZH				sPKP		03 52 30.2	
LZH				PKPab	PKPab	03 53 58.6	+2.1
LZH				LN			
	comp=E,170nm,18.0s						
LZH				LE			
	comp=E,170nm,18.1s						
LZH				LZ			
	comp=E,200nm,20.2s						
XAN	Xi'an	178.62	241	PKP	PKPdf	03 52 18.9	+4.9

*ISCJB **07** 03:38:36.9±0.5, 40.82N±0.02×25.42E±0.02, h7km±4km, Error ellipse: s-maj=3.9km s-min=3.1km az=13.5*
*ISK **07** 03:38:36.1, 40.84N×25.44E, h5km, MD2.9*
*ATH **07** 03:38:36.4, 40.81N×25.41E, h16km±1km, MD2.9/9*
*THE **07** 03:38:37.0, 40.80N×25.40E, h0km±1km, ML2.0/6, Error ellipse: s-maj=1.3km s-min=0.4km az=64.0*
*CSEM **07** 03:38:37.1±0.1, 40.81N×25.40E, h5km, MD2.9, Error ellipse: s-maj=3.3km s-min=2.2km az=5.0*

ISC 07 03:38:37.1±1.0, 40.81N±0.02×25.39E±0.02, h5km±10km, n65, σ0.54/91, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDO	Rodhopi	0.35	18	P	Pg	03 38 43.9	-0.1
RDO	Rodhopi	0.35	18	ePG	Pg	03 38 43.5	-0.4
RDO				eSG	Sg	03 38 49.2	+0.6
RDO	Rodhopi	0.35	18	ePB	Pg	03 38 43.7	-0.3
RDO				eSB	Sg	03 38 48.7	+0.1
RDO	Rodhopi	0.35	18	ePb	Pg	03 38 43.7	-0.3
RDO				eSb	Sg	03 38 48.7	+0.1
RDO				eSg	Sg	03 38 49.2	+0.6
SMTH	Samothraki Isl	0.35	163	P	Pg	03 38 43.9	0.0
SMTH				S	Sg	03 38 49.0	+0.4
SMTH	Samothraki Isl	0.35	163	ePB	Pg	03 38 43.9	0.0
SMTH				eSB	Sg	03 38 48.9	+0.4
SMTH	Samothraki Isl	0.35	163	P	Pg	03 38 43.9	0.0
SMTH				eSb	Sg	03 38 48.9	+0.4
ALN	Alexandroupoli	0.50	80	P	Pg	03 38 46.5	-0.2
ALN				S	Sg	03 38 54.0	+0.7
ALN	Alexandroupoli	0.50	80	ePG	Pg	03 38 45.9	-0.9
ALN				eSG	Sg	03 38 53.8	+0.5
ALN	Alexandroupoli	0.50	80	ePB	Pg	03 38 46.6	-0.2
ALN				eSB	Sg	03 38 53.0	-0.3
ALN	Alexandroupoli	0.50	80	ePg	Pg	03 38 45.9	-0.9
ALN	Alexandroupoli	0.50	80	ePb	Pg	03 38 46.6	-0.2
ALN				eSb	Sg	03 38 53.0	-0.3
ENEZ	Enez	0.58	97	ePG	Pg	03 38 48.2	-0.1
ENEZ	Enez	0.58	97	ePg	Pg	03 38 48.2	-0.1
KAVA	Kavala	0.69	286	P	Pg	03 38 49.9	-0.5
KAVA				S	Sg	03 39 00.7	+1.4
KAVA	Kavala	0.69	286	ePB	Pg	03 38 49.7	-0.7
KAVA	Kavala	0.69	286	P	Pg	03 38 49.9	-0.5
KAVA				S	Sg	03 39 00.7	+1.4
GELI	Tayfur-Gelibol	0.92	116	ePG	Pg	03 38 54.5	-0.2
GELI	Tayfur-Gelibol	0.92	116	ePg	Pg	03 38 54.5	-0.2
LIA	Limnos Island	0.92	190	P	Pg	03 38 54.4	-0.4
LIA				S	Sb	03 39 07.8	-0.4
LIA	Limnos Island	0.92	190	P	Pg	03 38 54.4	-0.4
LIA				S	Sb	03 39 07.8	-0.4
LPK	Lapseki	1.13	112	ePN	Pb	03 38 58.9	-0.2
LPK	Lapseki	1.13	112	ePn	Pb	03 38 58.9	-0.2
OUR	Ouranopolis	1.17	247	ePN	Pn	03 39 00.1	-0.1
OUR	Ouranopolis	1.17	247	ePB	Pg	03 38 58.2	-1.4
OUR				eSN	Sb	03 39 15.4	0.0
OUR	Ouranopolis	1.17	247	ePb	Pg	03 38 58.2	-1.4
OUR	Ouranopolis	1.17	247	ePn	Pn	03 39 00.1	-0.1
OUR				eSn	Sb	03 39 15.4	0.0
EZN	Ezine	1.22	144	ePN	Pn	03 39 01.2	+0.5
EZN	Ezine	1.22	144	ePn	Pn	03 39 01.2	+0.5
NVR	Nevrokopi	1.28	296	P	Pn	03 39 00.9	-0.8
NVR				S	Sn	03 39 19.6	+0.4
NVR	Nevrokopi	1.28	296	ePN	Pn	03 39 00.8	-0.9
NVR				eSN	Sg	03 39 17.5	-0.6
NVR	Nevrokopi	1.28	296	P	Pn	03 39 00.9	-0.8
NVR				eSn	Sg	03 39 17.5	-0.6
NVR				S	Sn	03 39 19.6	+0.4
RKY	Sarkoy-Tekirda	1.36	95	ePN	Pn	03 39 02.3	-0.6
RKY	Sarkoy-Tekirda	1.36	95	ePn	Pn	03 39 02.3	-0.6
PLD	Plovdiv	1.39	338	P	Pb	03 39 03.5	-0.2
PLD	Plovdiv	1.39	338	P	Pb	03 39 03.5	-0.2
SRS	Serrai	1.40	283	P	Pn	03 39 03.1	-0.2
SRS				S	Sg	03 39 23.3	+1.3
SRS	Serrai	1.40	283	ePN	Pn	03 39 03.4	+0.1
SRS	Serrai	1.40	283	P	Pn	03 39 03.1	-0.2
SRS	Serrai	1.40	283	ePn	Pn	03 39 03.4	+0.1
SRS				S	Sg	03 39 23.3	+1.3
EDRB	Edirne	1.45	44	P	Pn	03 39 04.0	-0.1
EDRB	Edirne	1.45	44	ePN	Pn	03 39 03.9	-0.2
EDRB	Edirne	1.45	44	P	Pn	03 39 04.0	-0.1
KRBG	Karabiga-Canak	1.51	105	ePN	Pg	03 39 05.7	-0.3
KRBG	Karabiga-Canak	1.51	105	ePn	Pg	03 39 05.7	-0.3
PLG	Polygyros	1.54	254	ePN	Pn	03 39 05.6	+0.2
PLG	Polygyros	1.54	254	ePn	Pn	03 39 05.6	+0.2
SOH	Sokhos	1.55	271	P	Pn	03 39 05.0	-0.4
SOH				S	Sb	03 39 26.6	+0.4
SOH	Sokhos	1.55	271	ePN	Pb	03 39 06.2	-0.1
SOH				eSN	Sb	03 39 26.9	+0.7
SOH	Sokhos	1.55	271	P	Pn	03 39 05.0	-0.4
SOH	Sokhos	1.55	271	ePn	Pb	03 39 06.2	-0.1
SOH				S	Sb	03 39 26.6	+0.4
SIGR	SIGRI	1.64	167	ePN	Pb	03 39 07.9	+0.1
SIGR	SIGRI	1.64	167	ePn	Pb	03 39 07.9	+0.1
PRK	Paraskevi	1.70	156	ePN	Pn	03 39 06.7	-0.8
PRK	Paraskevi	1.70	156	ePn	Pn	03 39 06.7	-0.8
HORT	Hortiatis	1.75	264	ePN	Pb	03 39 09.6	-0.3
HORT	Hortiatis	1.75	264	ePn	Pb	03 39 09.6	-0.3
CRLT	Corlu	1.80	79	ePN	Pn	03 39 09.2	+0.3
CRLT	Corlu	1.80	79	ePn	Pn	03 39 09.2	+0.3
KNT	Kendrikon	1.92	281	ePN	Pn	03 39 11.3	+0.8
KNT	Kendrikon	1.92	281	ePn	Pn	03 39 11.3	+0.8
EDC	Edincik	1.94	103	ePN	Pn	03 39 10.9	+0.2
EDC	Edincik	1.94	103	ePn	Pn	03 39 10.9	+0.2
SLVT	Silivri	2.17	78	ePN	Pn	03 39 14.2	+0.2
SLVT	Silivri	2.17	78	ePn	Pn	03 39 14.2	+0.2

GUC 07 03:48:33.3±0.4, 34.18S×71.98W, h11km±11km, ML3.5, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	1.03	143	i S	Sn	03 49 08.2	+0.2
ANTU	Antumapu	1.27	62	↑i P	Pb	03 48 57.5	+0.2
ANTU				i S	Sg	03 49 15.8	+1.3
ANTU				AML	AML	03 49 24.4	
	comp=E,1μm,0.3s						
CLCH	Cerro Calan	1.43	57	↑i P	Pb	03 48 60.0	-0.1
CLCH				eS	Sg	03 49 20.2	+0.6
PEL	Peldehue	1.49	47	↑i P	Pb	03 49 01.0	-0.1
PEL				i S	Sg	03 49 22.2	+0.7
PEL				AML	AML	03 49 30.9	
	comp=E,2μm,0.5s						

*IDC **07** 03:59:04.5±1.3, 53.89N×169.54E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.3/45, mbtmp3.4/7, ML3.2/2, Error ellipse: s-maj=32.5km s-min=13.3km az=28.0*
*ISCJB **07** 03:59:06.3±0.5, 53.58N±0.09×169.50E±0.06, h30km, mb3.3/5, Error ellipse: s-maj=12.7km s-min=4.9km az=7.2*
*KRSC **07** 03:59:10.5±1.1, 53.52N×168.58E, h15km±6km, ML3.8*

ISC 07 03:59:07.4±0.8, 53.5N±0.1×169.43E±0.05, h30km, n30, σ2.04/30, mb3.2/5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	Attu Island--F	2.34	105	Pn	Pn	03 59 43.4	-0.3
	25nm,0.3s,baz=310,slow=5.1,SNR=53						
FX1				Sn	Sn	04 00 11.2	-0.2
	128nm,0.3s,baz=12,slow=18,SNR=18						
BKI	Bering	2.63	311	eP	Pn	03 59 49.7	+1.9
BKI				eS	Sn	04 00 17.9	-0.7
MKZ	Mys Kozlova	4.66	286	eP	Pn	04 00 16.9	+1.3
MKZ				eS	Sn	04 01 05.9	-2.6
KBTR	Krutoberegovo	4.67	308	eP	Pn	04 00 18.3	+2.5
SPN	Mys Shipunski	5.66	269	eS	Sn	04 01 30.7	-2.5
TUMR	Tumrok	5.70	292	eP	Pn	04 00 33.2	+3.1
KII	Karymskiy	5.94	279	eP	Pn	04 00 35.4	+2.1
SDLR	Sedlovina	6.32	272	eP	Pn	04 00 40.1	+1.6
SDLR				eS	Sn	04 01 47.2	-2.4
UGLR	Uglovaya	6.36	271	eP	Pn	04 00 41.3	+2.2
SMAR	Somma	6.37	272	eP	Pn	04 00 40.9	+1.6
KRER	Koryakskii	6.39	272	eP	Pn	04 00 41.5	+1.9
AVH	Avacha	6.40	272	eP	Pn	04 00 41.5	+1.8
KRX	Arik	6.45	273	eP	Pn	04 00 42.3	+2.0
KOK	Koryaka	6.46	272	eP	Pn	04 00 42.7	+2.2
RUS	Russkaya	6.69	265	eP	Pn	04 00 45.6	+2.1
GNL	Ganaly	6.84	276	eP	Pn	04 00 48.5	+2.8
MTVR	Mutnovka	6.87	266	eP	Pn	04 00 48.5	+2.3
MTVR				eS	Sn	04 02 01.1	-2.2
PETK	Petropavlovsk-	7.04	271	Pn	Pn	04 00 50.9	+2.5
	0.8nm,0.3s,baz=93,slow=19,SNR=23						
PETK				Sn	Sn	04 02 08.1	+0.7
	0.3nm,0.3s,baz=85,slow=24,SNR=3.4						
ASAK	Asacha	7.06	265	eP	Pn	04 00 51.5	+2.8
ILAR	Eielson Array	24.52	46	P	P	04 04 23.4	-0.4
	0.6nm,0.9s,baz=254,slow=7.6,SNR=8.2						
H11N2	WAKE ISLAND Hy	33.79	184	T	T	04 41 47.9	
	baz=3.3,slow=76,SNR=12						
H11N3	WAKE ISLAND Hy	33.80	184	T	T	04 41 46.7	
	baz=3.3,slow=76,SNR=11						
H11N1	WAKE ISLAND Hy	33.81	184	T	T	04 41 49.6	
	baz=3.3,slow=76,SNR=13						
H11S1	WAKE ISLAND Hy	35.01	185	T	T	04 43 20.7	
	baz=3.5,slow=76,SNR=6.1						
H11S3	WAKE ISLAND Hy	35.03	185	T	T	04 43 21.6	
	baz=3.5,slow=76,SNR=3.3						
H11S2	WAKE ISLAND Hy	35.03	185	T	T	04 43 21.2	
	baz=3.5,slow=76,SNR=6.9						
YKA	Yellowknife Ar	38.95	46	P	P	04 06 29.1	-1.0
	0.1nm,0.6s,baz=294,slow=8.0,SNR=2.5						
MKAR	Makanchi Array	52.89	301	P	P	04 08 20.0	-0.3
	0.2nm,0.8s,baz=44,slow=4.4,SNR=2.9						
ULM	Lac du Bonnet	54.29	52	P	P	04 08 29.1	-1.3
	0.7nm,0.4s,baz=337,slow=7.7,SNR=2.0						
TXAR	Lajitas Array	65.22	74	P	P	04 09 47.0	+1.0
	0.3nm,0.4s,baz=304,slow=5.7,SNR=12						

IDC 07 04:15:11.8±1.2, 11.61N×85.89W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.6/23, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=96.4km s-min=17.7km az=53.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	1.60	145	Pn	Pn	04 15 41.0	-0.4
	5.7nm,0.3s,baz=302,slow=18,SNR=24						
JTS				Sn	Sg	04 16 04.0	+0.7
	38nm,0.3s,baz=298,slow=16,SNR=7.1						
CMIG	Matias Romero	10.28	303	Pn	Pn	04 17 39.7	-1.0
	0.2nm,0.3s,baz=108,slow=9.6,SNR=3.7						
TXAR	Lajitas Array	24.20	319	P	P	04 20 30.2	-0.1
	0.9nm,0.8s,baz=135,slow=10,SNR=9.0						
NVAR	Mina Array Bea	39.34	318	P	P	04 22 43.2	-0.1
	0.8nm,0.9s,baz=137,slow=8.0,SNR=6.1						
NVAR				PcP	PcP	04 24 52.4	+0.4
	0.5nm,0.7s,baz=131,slow=3.7,SNR=5.6						
YKA	Yellowknife Ar	54.83	344	P	P	04 24 43.3	-0.2
	0.2nm,0.8s,baz=134,slow=7.2,SNR=4.4						

*IDC **07** 04:24:19.8±0.7, 34.39S×73.86W, h0km, mb4.2/7, mb1 4.3/11, mb1mx4.1/25, mbtmp4.1/11, ML3.9/4, MS2.6/3, Ms1 2.7/3, ms1mx2.6/27, Error ellipse: s-maj=25.8km s-min=20.1km az=93.0*
*NEIC **07** 04:24:22.4±3.5, 34.34S×73.82W, h17km±20km, mb4.6/25, Error ellipse: s-maj=12.1km s-min=6.3km az=75.0*
*ISCJB **07** 04:24:23.3±0.4, 34.26S±0.06×73.78W±0.07, h33km, mb4.3/30, Error ellipse: s-maj=9.0km s-min=8.2km az=158.9*

ISC 07 04:24:25.0±0.5, 34.36S±0.07×73.77W±0.09, h35km, n59, σ0.85/65, mb4.4/30, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.40	61	Pn	Pn	04 25 42.1	-1.0
	0.5nm,0.3s,baz=235,slow=14,SNR=47						
CFAA				Sn	Sn	04 26 44.0	0.0
	0.3nm,0.3s,baz=140,slow=18,SNR=4.0						
CFAA				LR	LR	04 27 42.3	
	comp=Z,8.4nm,18.2s,baz=256,slow=37						
PLCA	Paso Flores	6.86	159	Pn	Pn	04 26 00.7	-2.5
	1.7nm,0.3s,baz=332,slow=13,SNR=35						
PLCA				LR	LR	04 28 51.3	
	comp=Z,136nm,20.6s,baz=294,slow=40						
TRQA	Tornquist	10.22	115	ePn	Pn	04 26 47.5	-1.6
	6.6nm,0.8s						
LVC	Limon Verde	12.45	21	ePn	Pn	04 27 19.4	-0.6
CPUP	Villa Florida	16.28	65	Pn	Pn	04 28 10.8	-0.1
	0.2nm,0.3s,baz=214,slow=15,SNR=2.3						
CPUP				LR	LR	04 34 49.3	
	comp=Z,57nm,21.5s,baz=228,slow=38						
LPAZ	La Paz	18.69	17	P	Pn	04 28 41.3	-0.2
	0.1nm,0.3s,baz=187,slow=8.6,SNR=6.5						
LPAZ	La Paz	18.69	17	eP	Pn	04 28 42.5	+1.0
	3.9nm,0.9s						
USHA	Ushuaia	20.81	171	P	Pn	04 29 05.4	-0.4
	4.5nm,0.9s,baz=329,slow=12,SNR=2.9						
SIV	San Ignacio	21.56	35	P	P	04 29 11.6	+0.1
	3.2nm,0.9s,baz=196,slow=7.4,SNR=2.4						
SAML	Samuel	27.09	23	eP	P	04 30 06.0	+1.4
	1.7nm,1.0s						
OTAV	Otavalo	34.69	352	eP	P	04 31 12.4	+0.3
	45nm,2.0s						
SDV	Santo Domingo	43.11	5	eP	P	04 32 20.8	-1.4
	7.6nm,0.9s						
SNAA	Sanae	51.80	158	eP	P	04 33 29.1	+0.1
	13nm,1.3s						
QSPA	South Pole Qui	55.88	180	P	P	04 33 58.9	-0.1
	5.9nm,0.9s,baz=116,slow=5.5						
QSPA	South Pole Qui	55.88	180	eP	P

ZALV Zalesovo Beam 155.28 31 PKP **PKPdf 04 44 14.7 +0.7**
0.6nm,0.6s,baz=325,slow=1.8,SNR=3.2
ZALV PKPbc PKPbc 04 44 22.6
2.0nm,0.6s,baz=304,slow=4.3,SNR=8.5
MKAR Makanchi Array 158.07 48 PKP **PKPdf 04 44 18.8 +0.9**
0.2nm,0.7s,baz=17,slow=1.3,SNR=3.5
MKAR PKPab **PKPab 04 44 51.3 -0.3**
1.1nm,0.7s,baz=298,slow=4.3,SNR=11
SONM Songino Array 166.53 360 PKP **PKPdf 04 44 27.1 +0.7**
0.3nm,0.8s,baz=75,slow=1.6,SNR=3.1
SONM PKPab **PKPab 04 45 29.3 +0.8**
0.5nm,0.9s,baz=354,slow=5.1,SNR=3.5

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*ISCJB **07** 04:27:47.4±0.1,46°.22N±0°.01×12°.49E±0°.01,h12km±1km, Error ellipse: s-maj=1.8km s-min=1.2km az=175.3*
*VIE **07** 04:27:47.9±0.2,46°.22N×12°.50E,h10km,mb2.7/15, ML3.6/17, Error ellipse: s-maj=1.6km s-min=0.9km az=13.0 19 km SE of Ospitale*
*CSEM **07** 04:27:48.0±0.1,46°.19N×12°.53E,h5km,ML3.3, Error ellipse: s-maj=2.2km s-min=1.4km az=175.0*
*LDG **07** 04:27:48.1±0.1,46°.16N×12°.60E,h2km,Ml3.1/31, Error ellipse: s-maj=2.3km s-min=1.7km az=3.0*
*ROM **07** 04:27:48.0±0.2,46°.22N×12°.55E,h9km±2km,Ml3.3/28, Error ellipse: s-maj=2.3km s-min=1.4km az=155.0*
*PRU **07** 04:27:49.8,46°.33N×12°.62E,h1km*
*BGR **07** 04:27:51.3±0.3,46°.25N×12°.53E,h10km,ML3.6/23, Error ellipse: s-maj=8.9km s-min=4.4km az=173.0*
*STR **07** 04:27:54.0±0.3,46°.15N×11°.90E,h5km,Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 07 04:27:47.9±0.7,46°.22N±0°.01×12°.51E±0°.01,h12km±4km, n324,σ1$37/494,48C-30D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLNI	**Malnisio**	**0.10**	**134⇓**	*e*Pg	**Pg**	**04 27 50.7**	**-0.2**
MLNI				*e*Sg	**Sg**	**04 27 52.6**	**-0.3**
MLNI	**Malnisio**	**0.10**	**134⇓**	*e*Pg	**Pg**	**04 27 50.7**	**-0.2**
MLNI				*e*Sg	**Sg**	**04 27 52.6**	**-0.3**
CIMO	**Cimolais**	**0.11**	**332⇑**	*e*Pg	**Pg**	**04 27 50.6**	**-0.4**
CIMO				*e*Sg	**Sg**	**04 27 52.5**	**-0.7**
CIMO	**Cimolais**	**0.11**	**332⇑**	*e*Pg	**Pg**	**04 27 50.6**	**-0.4**
CIMO				*e*Sg	**Sg**	**04 27 52.5**	**-0.7**
POLC	**Polcenigo**	**0.19**	**182**	Pg	**Pg**	**04 27 52.5**	**+0.4**
POLC				Sg	**Sb**	**04 27 56.3**	**+1.3**
	10μm,0.6s						
POLC	**Polcenigo**	**0.19**	**182⇓**	*e*Pg	**Pg**	**04 27 52.3**	**+0.2**
CAE	**Caneva**	**0.22**	**194⇓**	*e*Pg	**Pg**	**04 27 52.5**	**-0.2**
CAE				*e*Sg	**Sg**	**04 27 56.2**	**+0.3**
CAE	**Caneva**	**0.22**	**194⇓**	*e*Pg	**Pg**	**04 27 52.5**	**-0.2**
CAE				*e*Sg	**Sg**	**04 27 56.2**	**+0.3**
CSMI	**Casera Mimoias**	**0.31**	**18⇑**	*e*Pg	**Pg**	**04 27 54.0**	**-0.4**
CSMI				*e*Sg	**Sg**	**04 27 58.8**	**+0.1**
CSMI	**Casera Mimoias**	**0.31**	**18⇑**	*e*Pg	**Pg**	**04 27 54.0**	**-0.4**
CSMI				*e*Sg	**Sg**	**04 27 58.8**	**+0.1**
AGOR	**Agordo**	**0.33**	**282⇑**	*e*Pg	**Pg**	**04 27 54.1**	**-0.5**
AGOR	**Agordo**	**0.33**	**282**	Pg	**Pg**	**04 27 54.3**	**-0.3**
AGOR				Sg	**Sg**	**04 27 59.6**	**+0.5**
	1μm,0.3s						
MPRI	**Monte Prat**	**0.33**	**85⇓**	*e*Pg	**Pg**	**04 27 54.5**	**-0.2**
MPRI				*e*Sg	**Sg**	**04 28 00.2**	**+1.0**
MPRI	**Monte Prat**	**0.33**	**85⇓**	*e*Pg	**Pg**	**04 27 54.5**	**-0.2**
MPRI				*e*Sg	**Sg**	**04 28 00.2**	**+1.0**
VARN	**Col Varnada, M**	**0.36**	**232⇑**	*e*Pg	**Pg**	**04 27 54.4**	**-0.8**
VARN				*e*Sg	**Sg**	**04 28 00.5**	**+0.4**
VARN	**Col Varnada, M**	**0.36**	**232⇑**	*e*Pg	**Pg**	**04 27 54.4**	**-0.8**
VARN				*e*Sg	**Sg**	**04 28 00.5**	**+0.4**
FUSE	**Fusea**	**0.39**	**60⇓**	*e*Pg	**Pg**	**04 27 55.4**	**-0.4**
FUSE				*e*Sg	**Sg**	**04 28 01.5**	**+0.4**
FUSE	**Fusea**	**0.39**	**60⇓**	*e*Pg	**Pg**	**04 27 55.4**	**-0.4**
FUSE				*e*Sg	**Sg**	**04 28 01.5**	**+0.4**
BOO	**Bordano**	**0.42**	**76⇓**	*e*Pg	**Pg**	**04 27 55.8**	**-0.5**
BOO	**Bordano**	**0.42**	**76⇓**	*e*Pg	**Pg**	**04 27 55.8**	**-0.5**
FVI	**Forni Avoltri**	**0.42**	**26**	Pg	**Pg**	**04 27 56.5**	**+0.1**
FVI				Sg	**Sg**	**04 28 02.5**	**+0.4**
	2μm,0.4s						
FVI	**Forni Avoltri**	**0.42**	**26**	Pg	**Pg**	**04 27 56.5**	**+0.1**
BUA	**Buia**	**0.42**	**90⇑**	*e*Pg	**Pg**	**04 27 56.5**	**+0.1**
BUA				*e*Sg	**Sb**	**04 28 03.3**	**-0.4**
BUA	**Buia**	**0.42**	**90⇑**	*e*Pg	**Pg**	**04 27 56.5**	**+0.1**
BUA				*e*Sg	**Sb**	**04 28 03.3**	**-0.4**
ZOU	**Zoufplan**	**0.47**	**43⇑**	*e*Pg	**Pg**	**04 27 56.9**	**-0.3**
ZOU				*e*Sg	**Sg**	**04 28 04.4**	**+0.9**
TLI	**Talmassons**	**0.51**	**125⇑**	*e*Pg	**Pg**	**04 27 57.7**	**-0.1**
TLI	**Talmassons**	**0.51**	**125⇑**	*e*Pg	**Pg**	**04 27 57.7**	**-0.1**
BAD	**Bernadia**	**0.51**	**87⇑**	*e*Pg	**Pg**	**04 27 57.4**	**-0.5**
BAD				*e*Sg	**Sb**	**04 28 05.6**	**-0.6**
BAD	**Bernadia**	**0.51**	**87⇑**	*e*Pg	**Pg**	**04 27 57.4**	**-0.5**
BAD				*e*Sg	**Sb**	**04 28 05.6**	**-0.6**
ABTA	**Abfaltersbach**	**0.53**	**0**	*e*Pg	**Pg**	**04 27 58.4**	**0.0**
	SNR=200						
ABTA				⇓*i*Sg	**Sg**	**04 28 05.4**	**-0.1**
	2μm,0.6s						
ABTA	**Abfaltersbach**	**0.53**	**0**	Pg	**Pg**	**04 27 58.4**	**0.0**
	SNR=200						
VINO	**Villanova**	**0.54**	**85⇑**	*e*Pg	**Pg**	**04 27 58.0**	**-0.5**
VINO				*e*Sg	**Sb**	**04 28 06.8**	**-0.2**
VINO	**Villanova**	**0.54**	**85**	Pg	**Pg**	**04 27 58.1**	**-0.3**
VINO				Sg	**Sb**	**04 28 07.1**	**+0.1**
	728nm,0.5s						
VINO	**Villanova**	**0.54**	**85⇑**	*e*Pg	**Pg**	**04 27 58.0**	**-0.5**
VINO				*e*Sg	**Sb**	**04 28 06.8**	**-0.2**
PLRO	**Paularo**	**0.55**	**53⇑**	*e*Pg	**Pg**	**04 27 58.5**	**-0.3**
PLRO				*e*Sg	**Sg**	**04 28 07.2**	**+1.0**
PLRO	**Paularo**	**0.55**	**53⇑**	*e*Pg	**Pg**	**04 27 58.5**	**-0.3**
PLRO				*e*Sg	**Sg**	**04 28 07.2**	**+1.0**
CGRP	**Cima Grappa**	**0.60**	**236⇓**	*e*Pg	**Pg**	**04 27 58.9**	**-0.7**
CGRP				*e*Sg	**Sb**	**04 28 09.0**	**+0.1**
CGRP	**Cima Grappa**	**0.60**	**236**	Pg	**Pg**	**04 27 59.2**	**-0.5**
CGRP				Sg	**Sb**	**04 28 09.0**	**+0.1**
	885nm,0.5s						
CGRP	**Cima Grappa**	**0.60**	**236**	Pg	**Pg**	**04 27 59.2**	**-0.5**
CGRP				Sg	**Sb**	**04 28 09.0**	**+0.1**
	885nm,0.5s						
COLI	**Coloredo**	**0.61**	**98⇑**	*e*Pg	**Pg**	**04 27 59.3**	**-0.5**
COLI				*e*Sg	**Sb**	**04 28 09.2**	**+0.2**
COLI	**Coloredo**	**0.61**	**98⇑**	*e*Pg	**Pg**	**04 27 59.3**	**-0.5**
COLI				*e*Sg	**Sb**	**04 28 09.2**	**+0.2**
PTCC	**Patocco-Chiusa**	**0.61**	**72**	Pg	**Pg**	**04 27 59.2**	**-0.7**
PTCC				Sg	**Sb**	**04 28 08.9**	**-0.3**
	297nm,0.4s						
PTCC	**Patocco-Chiusa**	**0.61**	**72**	Pg	**Pg**	**04 27 59.2**	**-0.7**
PTCC				Sg	**Sb**	**04 28 08.9**	**-0.3**
	297nm,0.4s						
ROBS	**Robic**	**0.69**	**87**	*i* Pg	**Pg**	**04 28 00.6**	**-0.8**
ROBS				*i*		04 28 01.0	
ROBS				*i* Sg	**Sb**	**04 28 12.3**	**+0.8**
	comp=Z,51nm,0.1s						
ROBS	**Robic**	**0.69**	**87**	Pg	**Pg**	**04 28 00.6**	**-0.8**
ROBS				*i* Sg	**Sb**	**04 28 12.3**	**+0.8**
	comp=Z,51nm,0.1s						
LSR	**Lussari**	**0.75**	**69⇑**	*e*Pg	**Pg**	**04 28 01.8**	**-0.7**
LSR				*e*Sg	**Sb**	**04 28 13.5**	**+0.2**
LSR	**Lussari**	**0.75**	**69⇑**	*e*Pg	**Pg**	**04 28 01.8**	**-0.7**
LSR				*e*Sg	**Sb**	**04 28 13.5**	**+0.2**
ACOM	**Acomizza, Ital**	**0.77**	**64⇓**	*e*Pg	**Pg**	**04 28 02.1**	**-0.7**
ACOM	**Acomizza, Ital**	**0.77**	**64**	Pg	**Pg**	**04 28 02.4**	**-0.5**
	comp=Z,663nm,0.2s						
ACOM	**Acomizza, Ital**	**0.77**	**64**	Pg	**Pg**	**04 28 02.4**	**-0.5**
	comp=Z,663nm,0.2s						
DRE	**Drenchia**	**0.79**	**93⇑**	*e*Pg	**Pg**	**04 28 02.7**	**-0.5**
DRE				*e*Sg	**Sn**	**04 28 15.7**	**-1.0**
DRE	**Drenchia**	**0.79**	**93⇑**	*e*Pg	**Pg**	**04 28 02.7**	**-0.5**
RISI	**Rein**	**0.79**	**338**	Pg	**Pg**	**04 28 03.7**	**+0.4**
	comp=Z,2μm,0.4s						
RISI	**Rein**	**0.79**	**338**	Pg	**Pg**	**04 28 03.7**	**+0.4**
	comp=Z,2μm,0.4s						
RISI				*e*Sg	**Sb**	**04 28 14.8**	**+0.4**
SABO	**M.te Sabotino**	**0.79**	**107⇑**	*e*Pg	**Pg**	**04 28 03.1**	**-0.2**
SABO	**M.te Sabotino**	**0.79**	**107**	Pg	**Pg**	**04 28 03.4**	**+0.1**
	comp=Z,771nm,0.2s						
SABO	**M.te Sabotino**	**0.79**	**107⇑**	*e*Pg	**Pg**	**04 28 03.1**	**-0.2**
KOSI	**Kohlern**	**0.82**	**288**	Pg	**Pg**	**04 28 04.0**	**+0.1**
	comp=Z,1μm,0.5s						
KOSI	**Kohlern**	**0.82**	**288**	Pg	**Pg**	**04 28 04.0**	**+0.1**
	comp=Z,1μm,0.5s						
KOSI				*e*Sg	**Sg**	**04 28 15.5**	**+0.8**
CADS	**Cadrg**	**0.85**	**89**	*i* Pg	**Pg**	**04 28 03.5**	**-0.9**
CADS				*i* Sg	**Sn**	**04 28 17.1**	**-1.1**
	comp=Z,246nm,0.2s						
CADS	**Cadrg**	**0.85**	**89**	*i* Pg	**Pg**	**04 28 03.5**	**-0.9**
	comp=Z,246nm,0.2s						
PANI	**Panarotta**	**0.85**	**259**	*e*Pg	**Pg**	**04 28 04.3**	**-0.2**
PANI				*e*Sg	**Sb**	**04 28 16.9**	**+0.7**
PANI	**Panarotta**	**0.85**	**259**	*e*Pg	**Pg**	**04 28 04.3**	**-0.2**
PANI				*e*Sg	**Sb**	**04 28 16.9**	**+0.7**
BOSI	**Bolzano**	**0.87**	**289**	Pg	**Pg**	**04 28 04.7**	**-0.1**
	comp=Z,2μm,0.5s						
BOSI	**Bolzano**	**0.87**	**289**	Pg	**Pg**	**04 28 04.7**	**-0.1**
	comp=Z,2μm,0.5s						
MYKA	**Terra Mystica**	**0.89**	**62⇑**	*e*Pg	**Pg**	**04 28 04.5**	**-0.6**
	SNR=25						
MYKA				⇑*i*Sg	**Sb**	**04 28 17.7**	**+0.7**
	comp=Z,121nm,0.3s						
MYKA	**Terra Mystica**	**0.89**	**62**	Pg	**Pg**	**04 28 04.5**	**-0.6**
	SNR=25						
MYKA				Sg	**Sb**	**04 28 17.7**	**+0.7**
	comp=Z,121nm,0.3s						
APPI	**Appiano**	**0.93**	**287**	Pg	**Pb**	**04 28 05.8**	**-0.2**
	comp=Z,604nm,0.6s						
APPI	**Appiano**	**0.93**	**287**	Pg	**Pb**	**04 28 05.8**	**-0.2**
	comp=Z,604nm,0.6s						
ABSI	**Aberstueckl**	**0.97**	**302**	Pg	**Pb**	**04 28 06.8**	**0.0**
	comp=Z,1μm,0.5s						
ABSI	**Aberstueckl**	**0.97**	**302**	Pg	**Pb**	**04 28 06.8**	**0.0**
	comp=Z,1μm,0.5s						
DDS	**Dosso del Somm**	**0.98**	**250**	*e*Pg	**Pb**	**04 28 07.0**	**+0.1**
DDS	**Dosso del Somm**	**0.98**	**250**	*e*Pg	**Pb**	**04 28 07.0**	**+0.1**
TRI	**Trieste**	**1.01**	**120**	*e*Pg	**Pb**	**04 28 06.5**	**-0.8**
TRI				*e*Sg	**Sn**	**04 28 21.8**	**-0.2**
TRI	**Trieste**	**1.01**	**120**	*e*Pg	**Pb**	**04 28 06.5**	**-0.8**
TRI				*e*Sg	**Sn**	**04 28 21.8**	**-0.2**
KBA	**Koelnbreinsper**	**1.04**	**33**	*e*Pg	**Pb**	**04 28 08.2**	**+0.3**
KBA				*e*Sg	**Sb**	**04 28 21.9**	**+0.4**
KBA	**Koelnbreinsper**	**1.04**	**33⇑**	*e*Pg	**Pb**	**04 28 07.5**	**-0.4**
	SNR=119						
KBA				⇓*i*Sg	**Sb**	**04 28 21.8**	**+0.4**
	comp=Z,71nm,0.2s						
KBA	**Koelnbreinsper**	**1.04**	**33**	Pg	**Pb**	**04 28 08.2**	**+0.3**
KBA				Sg	**Sb**	**04 28 21.8**	**+0.3**
	comp=Z,71nm,0.2s						
TEOL	**Teolo**	**1.04**	**215**	Pg	**Pn**	**04 28 08.7**	**+0.4**
	comp=Z,3μm,0.7s						
TEOL	**Teolo**	**1.04**	**215**	Pg	**Pn**	**04 28 08.7**	**+0.4**
	comp=Z,3μm,0.7s						
ROSI	**Rosskopf**	**1.04**	**314**	Pg	**Pb**	**04 28 08.4**	**+0.4**
ROSI	**Rosskopf**	**1.04**	**314**	Pg	**Pb**	**04 28 08.4**	**+0.4**
ROSI				*e*Sg	**Sn**	**04 28 23.3**	**+0.2**
MARN	**Marana (Italy)**	**1.08**	**238**	*e*Pg	**Pg**	**04 28 09.1**	**+0.4**
MARN				*e*Sg	**Sn**	**04 28 25.0**	**+1.3**
MARN	**Marana (Italy)**	**1.08**	**238**	*e*Pg	**Pg**	**04 28 09.1**	**+0.4**
JAVS	**Javornik**	**1.13**	**106**	*i* Pg	**Pb**	**04 28 09.1**	**-0.3**
JAVS				*i*		04 28 10.1	
JAVS				*i* Sg	**Sn**	**04 28 26.0**	**+0.9**
	comp=Z,434nm,0.2s						
JAVS	**Javornik**	**1.13**	**106**	*i* Pg	**Pb**	**04 28 09.1**	**-0.3**
JAVS				*i* Sg	**Sn**	**04 28 26.0**	**+0.9**
	comp=Z,434nm,0.2s						
ROVR	**Rover~¤ Verone**	**1.16**	**241**	Pg	**Pn**	**04 28 10.2**	**+0.2**
ROVR				Sg	**Sn**	**04 28 26.4**	**+0.7**
	comp=Z,829nm,0.3s						
ROVR	**Rover~¤ Verone**	**1.16**	**241**	Pg	**Pn**	**04 28 10.2**	**+0.2**
ROVR				Sg	**Sn**	**04 28 26.4**	**+0.7**
	comp=Z,829nm,0.3s						
CRNS	**Crni Vrh**	**1.22**	**96**	*i* Pg	**Pn**	**04 28 10.5**	**-0.4**
CRNS				*i*		04 28 11.8	
CRNS				*i* Sg	**Sg**	**04 28 30.1**	**+2.7**
	comp=Z,303nm,0.2s						
ADRI	**Adria, Italy**	**1.23**	**197⇑**	*e*Pg	**Pg**	**04 28 12.4**	**+0.9**
ADRI				*e*Sg	**Sg**	**04 28 29.8**	**+2.3**
ADRI	**Adria, Italy**	**1.23**	**197⇑**	*e*Pg	**Pg**	**04 28 12.4**	**+0.9**
SKDS	**Skadanscina**	**1.25**	**122**	*i* Pg	**Pn**	**04 28 10.1**	**-1.1**
SKDS				*i*		04 28 11.6	
SKDS				*i* Sg	**Sg**	**04 28 29.4**	**+1.3**
	comp=Z,504nm,0.2s						
SKDS	**Skadanscina**	**1.25**	**122**	*i* Pg	**Pn**	**04 28 10.1**	**-1.1**
SKDS				*i* Sg	**Sg**	**04 28 29.4**	**+1.3**
	comp=Z,504nm,0.2s						
WATA	**Walderalm**	**1.29**	**330⇓**	*e*Pg	**Pg**	**04 28 13.0**	**+0.2**
	SNR=251						
WATA	**Walderalm**	**1.29**	**330**	Pg	**Pg**	**04 28 13.0**	**+0.2**
	SNR=251						
RNI	**Roncone**	**1.32**	**260⇑**	*e*Pg	**Pg**	**04 28 13.7**	**+0.4**
RNI	**Roncone**	**1.32**	**260⇑**	*e*Pg	**Pg**	**04 28 13.7**	**+0.4**
MAGA	**Magasa**	**1.38**	**252**	Pg	**Pb**	**04 28 14.3**	**+0.5**
	comp=Z,2μm,0.4s						
MAGA	**Magasa**	**1.38**	**252**	Pg	**Pb**	**04 28 14.3**	**+0.5**
	comp=Z,2μm,0.4s						
MABI	**Malga Bissina**	**1.40**	**264**	Pg	**Pb**	**04 28 14.7**	**+0.6**
	comp=Z,264nm,0.3s						
MABI	**Malga Bissina**	**1.40**	**264**	Pg	**Pb**	**04 28 14.7**	**+0.6**
	comp=Z,264nm,0.3s						
MOSI	**Grossmontoni**	**1.42**	**287⇓**	*e*Pg	**Pb**	**04 28 14.8**	**+0.4**
MOSI				*e*Sg	**Sg**	**04 28 34.9**	**+1.4**
CEY	**Cerknica**	**1.42**	**109**	*i* Pg	**Pb**	**04 28 14.5**	**+0.2**
CEY				*i* Sg	**Sg**	**04 28 34.6**	**+1.0**
	comp=Z,110nm,0.2s						
CEY	**Cerknica**	**1.42**	**109**	*i* Pg	**Pb**	**04 28 14.5**	**+0.2**
CEY				*i* Sg	**Sg**	**04 28 34.6**	**+1.0**
	comp=Z,110nm,0.2s						
OBKA	**Obir**	**1.44**	**78**	*e*Pn	**Pg**	**04 28 15.6**	**0.0**
OBKA				*e*Sg	**Sg**	**04 28 35.6**	**+1.3**
OBKA	**Obir**	**1.44**	**78⇓**	*e*Pn	**Pb**	**04 28 14.6**	**-0.1**
	SNR=39						
OBKA				⇓*i*Pg	**Pg**	**04 28 15.7**	**0.0**
OBKA				⇑*i*Sg	**Sg**	**04 28 35.9**	**+1.5**
	comp=Z,117nm,0.2s						
OBKA	**Obir**	**1.44**	**78**		**Sg**	**04 28 35.8**	**+1.5**
OBKA	**Obir**	**1.44**	**78**	Pn	**Pb**	**04 28 14.6**	**-0.1**
	SNR=39						
FETA	**Feichten**	**1.47**	**304**	*e*Pg	**Pb**	**04 28 15.7**	**+0.5**
	SNR=177						
FETA				⇑*i*Sn	**Sn**	**04 28 34.0**	**+0.4**
FETA				⇓*i*Sg	**Sg**	**04 28 35.9**	**+0.7**
	comp=Z,149nm,0.4s						
FETA	**Feichten**	**1.47**	**304**	Pg	**Pb**	**04 28 15.7**	**+0.5**
	SNR=177						
MOTA	**Moosalm**	**1.49**	**320⇓**	*e*Pg	**Pb**	**04 28 16.4**	**+0.8**
	SNR=139						
MOTA				⇓*i*Sg	**Sg**	**04 28 37.1**	**+1.3**
	comp=Z,310nm,0.5s						
MOTA	**Moosalm**	**1.49**	**320**	Pg	**Pb**	**04 28 16.4**	**+0.8**
	SNR=139						
BRMO	**Bormio**	**1.50**	**281**	Pg	**Pb**	**04 28 16.3**	**+0.5**
	comp=Z,430nm,0.8s						
BRMO	**Bormio**	**1.50**	**281**	Pg	**Pb**	**04 28 16.3**	**+0.5**
	comp=Z,430nm,0.8s						
SALO	**Salr**	**1.51**	**247**	Pg	**Pg**	**04 28 16.7**	**-0.2**
SALO	**Salr**	**1.51**	**247**	Pg	**Pg**	**04 28 16.7**	**-0.2**
RJOB	**Jochberg**	**1.53**	**7**	*e*Pn	**Pg**	**04 28 17.3**	**-0.1**
RJOB				*e*Sg	**Sg**	**04 28 41.0**	**+3.7**
RJOB	**Jochberg**	**1.53**	**7**	Pn	**Pg**	**04 28 17.3**	**-0.1**
RJOB				Sg	**Sg**	**04 28 41.0**	**+3.7**
FUORN	**Ofenpass-Fuorn**	**1.61**	**285**	Pg	**Pb**	**04 28 17.9**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**1.61**	**285**	Pg	**Pb**	**04 28 17.9**	**+0.2**
SBPO	**S.Benedetto Po**	**1.61**	**224**	Pg	**Pn**	**04 28 16.8**	**+0.7**
SBPO	**S.Benedetto Po**	**1.61**	**224**	Pg	**Pn**	**04 28 16.8**	**+0.7**
BERNI	**Berninapass**	**1.74**	**277**	Pg	**Pb**	**04 28 20.2**	**+0.3**
BERNI	**Berninapass**	**1.74**	**277**	Pg	**Pb**	**04 28 20.2**	**+0.3**
SOKA	**Soboth**	**1.80**	**74⇑**	*e*Pn	**Pb**	**04 28 20.2**	**-0.7**
	SNR=26						
SOKA				⇑*i*Sn	**Sb**	**04 28 43.4**	**-0.1**
SOKA	**Soboth**	**1.80**	**74**	Pn	**Pb**	**04 28 20.2**	**-0.7**
	SNR=26						
SOKA				Sn	**Sb**	**04 28 43.4**	**-0.1**
DAVOX	**Davos/Dischmat**	**1.90**	**288**	Pg	**Pb**	**04 28 22.9**	**+0.2**
DAVOX	**Davos/Dischmat**	**1.90**	**288**	Pg	**Pb**	**04 28 22.9**	**+0.2**
MDI	**Monti di Nese**	**2.00**	**258**	Pg	**Pn**	**04 28 22.9**	**+1.3**
	comp=Z,219nm,0.6s						
MOA	**Molln**	**2.03**	**36**	*e*Pn	**Pb**	**04 28 24.6**	**-0.1**
MOA				*e*Sg	**Sg**	**04 28 52.5**	**-0.6**
MOA	**Molln**	**2.03**	**36⇓**	*e*Pn	**Pb**	**04 28 23.4**	**-1.3**
	SNR=44						
MOA				⇑*i*Sn	**Sb**	**04 28 49.6**	**-0.3**
MOA	**Molln**	**2.03**	**36**	Pn	**Pb**	**04 28 23.4**	**-1.3**
	SNR=44						
MOA				Sn	**Sb**	**04 28 49.6**	**-0.3**
DAVA	**Damuels**	**2.10**	**302**	*e*Pn	**Pb**	**04 28 27.1**	**+1.0**
DAVA				*e*Sg	**Sg**	**04 28 56.6**	**+1.0**
DAVA	**Damuels**	**2.10**	**302⇓**	*i*Pn	**Pn**	**04 28 23.6**	**+0.5**
DAVA				⇓*i*Pg	**Pg**	**04 28 28.1**	**-0.1**
DAVA				⇓*i*Sn	**Sn**	**04 28 50.6**	**+1.5**
DAVA	**Damuels**	**2.10**	**302**	Pn	**Pn**	**04 28 23.6**	**+0.5**
FUR	**Furstenfeldbru**	**2.12**	**337**	*e*Pn	**Pb**	**04 28 26.2**	**-0.1**
FUR				*e*Pg	**Pg**	**04 28 29.6**	**+0.9**
FUR				*e*Sg	**Sg**	**04 28 55.3**	**-0.9**
FUR	**Furstenfeldbru**	**2.12**	**337**	Pn	**Pb**	**04 28 26.2**	**-0.1**
TUE	**Stuetta**	**2.21**	**278**	Pg	**Pb**	**04 28 27.0**	**-0.9**
PLONS	**Plons/SG**	**2.31**	**292**	*e*Pn	**Pb**	**04 28 29.5**	**-0.1**
PLONS				*e*Sg	**Sg**	**04 29 02.1**	**-0.1**
PLONS	**Plons/SG**	**2.31**	**292**	Pg	**Pn**	**04 28 27.1**	**+1.2**
PLONS	**Plons/SG**	**2.31**	**292**	Pn	**Pb**	**04 28 29.5**	**-0.1**
ARSA	**Arzberg**	**2.32**	**62**	*e*Pn	**Pn**	**04 28 27.3**	**+1.5**
ARSA	**Arzberg**	**2.32**	**62**	*e*Pn	**Pn**	**04 28 27.4**	**+1.5**
	SNR=14						
ARSA				⇑*i*Sn	**Sn**	**04 28 55.7**	**+1.4**
ARSA	**Arzberg**	**2.32**	**62**	Pg	**Pn**	**04 28 27.2**	**+1.3**
ARSA	**Arzberg**	**2.32**	**62**	Pn	**Pn**	**04 28 27.3**	**+1.5**
ARSA				Sn	**Sn**	**04 28 55.7**	**+1.4**
NVLJ	**Novalja**	**2.34**	**134**	*e*Pn	**Pn**	**04 28 26.9**	**+0.6**
NVLJ				Sn	**Sn**	**04 28 55.3**	**+0.4**
NVLJ	**Novalja**	**2.34**	**134**	*e*Pn	**Pn**	**04 28 26.8**	**+0.6**
NVLJ				Sn	**Sn**	**04 28 55.2**	**+0.4**
VMG	**Vicchio**	**2.36**	**197**	Pg	**Pn**	**04 28 27.4**	**+1.0**
	comp=Z,45nm,0.5s						
VMG	**Vicchio**	**2.36**	**197**	Pg	**Pn**	**04 28 27.4**	**+1.0**
	comp=Z,45nm,0.5s						
SFI	**Santa Sofia**	**2.36**	**192**	Pg	**Pn**	**04 28 26.7**	**+0.2**
	comp=Z,140nm,0.5s						
FSSB	**Fossombrone**	**2.53**	**176**	Pg	**Pn**	**04 28 29.1**	**+0.3**
	comp=Z,193nm,0.4s						
CODM	**Codolo**	**2.62**	**227**	P	**Pn**	**04 28 31.7**	**+1.7**
VARE	**Varese**	**2.63**	**264**	Pg	**Pn**	**04 28 32.4**	**+2.2**
	comp=Z,198nm,1.2s						
PIEI	**Pieia**	**2.68**	**180**	Pg	**Pn**	**04 28 31.1**	**+0.2**
	comp=Z,60nm,0.4s						
MAIM	**Mastiano**	**2.71**	**213**	P	**Pn**	**04 28 32.1**	**+0.8**
ARVD	**Arcevia**	**2.73**	**173**	Pg	**Pn**	**04 28 32.1**	**+0.5**
	comp=Z,49nm,0.5s						
WILA	**Wila**	**2.75**	**297**	*e*Pn	**Pb**	**04 28 35.4**	**-1.7**
WILA				*e*Sg	**Sg**	**04 29 16.7**	**+0.5**
WILA	**Wila**	**2.75**	**297**	Pn	**Pb**	**04 28 35.4**	**-1.7**
GEC2	**GERESS Array S**	**2.75**	**17**	*e*Pn	**Pn**	**04 28 33.5**	**+1.6**
GEC2	**GERESS Array S**	**2.75**	**17**	Pn	**Pn**	**04 28 33.5**	**+1.6**
AOI	**Ancona**	**2.78**	**163**	Pg	**Pn**	**04 28 33.1**	**+0.9**
	comp=Z,89nm,0.4s						
UDBI	**Udbina**	**2.85**	**125**	*e*Pn	**Pn**	**04 28 34.5**	**+1.3**
UDBI				Sn	**Sn**	**04 29 08.7**	**+1.3**
UDBI	**Udbina**	**2.85**	**125**	*e*Pn	**Pn**	**04 28 34.5**	**+1.3**
UDBI				Sn	**Sn**	**04 29 08.7**	**+1.3**
CONA	**Conrad Observa**	**2.86**	**52⇑**	*e*Pn	**Pn**	**04 28 35.1**	**+1.7**
	SNR=12						
CONA				⇑*i*Sn	**Sn**	**04 29 09.0**	**+1.2**
CONA	**Conrad Observa**	**2.86**	**52**	Pn	**Pn**	**04 28 35.1**	**+1.7**
	SNR=12						
CONA				Sn	**Sn**	**04 29 09.0**	**+1.2**
CING	**Cingoli**	**

CDF Champ du Feu 4.18 304 *e*Pg **Pg 04 29 07.4 -0.6**
HINF Hinteralfeld 4.19 295 *e*Pn **Pn 04 28 53.6 +2.0**
SNR=1.0
HINF *e*Sn **Sn 04 29 39.5 -0.9**
comp=Z,15nm,0.3s
HINF Hinteralfeld 4.19 295 *e*Pn **Pn 04 28 53.6 +2.0**
SNR=1.0
TANN Tannenbergstha 4.20 360 *e*Pn **Pn 04 28 53.7 +1.9**
TANN Tannenbergstha 4.20 360 Pn **Pn 04 28 53.7 +1.9**
PKSG 4.21 72 *e*Pn **Pn 04 28 53.7 +1.9**
PKSG *e*Sn **Sn 04 29 41.8 +1.0**
PKSG 4.21 72 *e* **Pn 04 28 53.7 +1.9**
PKSG *e* 04 29 41.8
TOD Tromm 4.21 325 P Pn 04 28 56.0 +4.1
TOD S **Sb 04 29 47.9 -4.7**
LANF Langenberg 4.22 313 P **Pn 04 28 54.9 +2.9**
LANF Langenberg 4.22 313 P **Pn 04 28 54.9 +2.9**
AUTN L'Aution 4.23 240 P **Pn 04 28 54.2 +1.9**
AUTN L'Aution 4.23 240 P **Pn 04 28 54.2 +1.9**
PKSM Moragy 4.26 88⇑*i*P **Pn 04 28 51.9 -0.6**
PKSM Moragy 4.26 88⇑*i*P **Pn 04 28 51.9 -0.6**
PKSM Moragy 4.26 88⇑*e* **Pn 04 28 51.9 -0.6**
PKSM *e* 04 29 40.3
SBF Sospel 4.30 239 *e*Pn **Pn 04 28 52.9 -0.2**
SNR=1.0
SBF *e*Sn **Sn 04 29 41.0 -2.2**
comp=Z,18nm,0.4s,SNR=1.0
SBF Sospel 4.30 239 *e*Pn **Pn 04 28 52.9 -0.2**
SNR=1.0
MBDF Montbardon 4.30 252 *e*Pn **Pn 04 28 53.6 +0.3**
SNR=1.0
MBDF *e*Sn **Sn 04 29 41.6 -1.9**
comp=Z,6.0nm,0.5s,SNR=1.0
MBDF Montbardon 4.30 252 *e*Pn **Pn 04 28 53.6 +0.3**
SNR=1.0
TOUF Mont Tournerai 4.33 241 P **Pn 04 28 54.2 +0.5**
TOUF S **Sn 04 29 45.2 +1.1**
TOUF Mont Tournerai 4.33 241 P **Pn 04 28 54.2 +0.5**
TOUF S **Sn 04 29 45.2 +1.1**
PGF Pioggiola 4.45 216 *e*Pn **Pn 04 28 54.6 -0.6**
SNR=1.0
PGF *e*Sn **Sn 04 29 43.8 -3.1**
comp=Z,4.7nm,0.3s,SNR=1.0
PGF Pioggiola 4.45 216 *e*Pn **Pn 04 28 54.6 -0.6**
SNR=1.0
MVIF Mont Vial 4.45 240 P **Pn 04 28 56.4 +1.1**
MVIF S **Sn 04 29 48.0 +1.0**
MVIF Mont Vial 4.45 240 P **Pn 04 28 56.4 +1.1**
MVIF S **Sn 04 29 48.0 +1.0**
CABF La Chapelle 4.46 277 *e*Pn **Pn 04 28 57.0 +1.6**
SNR=1.0
CABF *e*Sn **Sn 04 29 46.1 -1.1**
comp=Z,14nm,0.6s
CABF La Chapelle 4.46 277 *e*Pn **Pn 04 28 57.0 +1.6**
SNR=1.0
MOX Moxa 4.47 353 *e*Pn **Pn 04 28 56.6 +1.1**
MOX *e*Sn **Sn 04 29 47.4 +0.1**
MOX Moxa 4.47 353 Pn **Pn 04 28 56.6 +1.1**
PVCC Panska Ves 4.53 17 *e*PN **Pn 04 28 55.9 -0.3**
PVCC *e*SN **Sn 04 29 48.6 -0.1**
PVCC *e*SG **Sg 04 30 10.3 -2.9**
comp=Z,75nm,0.7s
PVCC Panska Ves 4.53 17 Pn **Pn 04 28 55.9 -0.3**
PVCC Sn **Sn 04 29 48.6 -0.1**
PVCC Sg **Sg 04 30 10.3 -2.9**
comp=Z,75nm,0.7s
HAU Haudompre 4.57 295 *e*Pn **Pn 04 28 58.5 +1.6**
SNR=1.0
HAU *e*Sn **Sn 04 29 48.7 -1.2**
comp=Z,34nm,0.5s
HAU Haudompre 4.57 295 *e*Pn **Pn 04 28 58.5 +1.6**
SNR=1.0
BRG Berggiesshubel 4.76 11 PN **Pn 04 29 00.4 +1.1**
BRG PG **Pg 04 29 17.3 -1.7**
BRG SN **Sn 04 29 53.8 -0.6**
BRG SG **Sg 04 30 16.3 -4.2**
comp=Z,30nm,0.8s
BRG Berggiesshubel 4.76 11 *e*Pn **Pn 04 29 00.5 +1.1**
BRG *e*Sn **Sn 04 29 54.8 +0.4**
BRG Berggiesshubel 4.76 11 Pn **Pn 04 29 00.5 +1.1**
ORIF Oris-en-Rattie 4.83 257 *e*Pn **Pn 04 29 01.4 +0.9**
SNR=1.0
ORIF *e*Sn **Sn 04 29 54.4 -2.0**
comp=Z,6.1nm,0.4s,SNR=1.0
ORIF Oris-en-Rattie 4.83 257 *e*Pn **Pn 04 29 01.4 +0.9**
SNR=1.0
TNS Taunus Mts 4.84 327 *e*Pn **Pn 04 29 03.3 +2.7**
TNS Taunus Mts 4.84 327 Pn **Pn 04 29 03.3 +2.7**
DPC Dobruska-Polom 4.86 30 *e*PN **Pn 04 29 00.5 -0.3**
DPC *e*SN **Sn 04 29 54.9 -2.0**
DPC *e*SG **Sg 04 30 19.8 -3.9**
DPC Dobruska-Polom 4.86 30 Pn **Pn 04 29 00.5 -0.3**
DPC Sn **Sn 04 29 54.9 -2.0**
DPC Sg **Sg 04 30 19.8 -3.9**
VYHS Vyhne 4.87 60 *e*PN **Pn 04 28 59.9 -1.0**
VYHS *e*SN **Sn 04 29 55.2 -1.9**
THEF They Montfort 4.88 297 P **Pn 04 29 02.5 +1.4**
THEF They Montfort 4.88 297 P **Pn 04 29 02.5 +1.4**
UPC Upice 4.89 27 *e*PN **Pn 04 29 02.5 +1.3**
UPC Upice 4.89 27 Pn **Pn 04 29 02.5 +1.3**
UBBA Unterbreizbach 4.90 341 *e*Pn Pn 04 29 04.7 +3.5
UBBA Unterbreizbach 4.90 341 Pn Pn 04 29 04.7 +3.5
FRF La Foret Royal 4.94 240 *e*Pn **Pn 04 29 02.4 +0.5**
SNR=1.0
FRF *e*Sn **Sn 04 29 56.3 -2.6**
comp=Z,2.2nm,0.3s
FRF La Foret Royal 4.94 240 *e*Pn **Pn 04 29 02.4 +0.5**
SNR=1.0
STON Ston 4.99 130 *e*Pn **Pn 04 29 03.4 +0.8**
STON Sn **Sn 04 29 59.1 -1.1**
STON Ston 4.99 130 *e*Pn **Pn 04 29 03.4 +0.8**
STON Sn **Sn 04 29 59.1 -1.1**
RUP Ruppelstein 5.06 316 P Pn 04 29 07.1 +3.6
CLL Collm 5.11 3 *e*Pn **Pn 04 29 05.1 +1.0**
CLL Collm 5.11 3 *e*Pn **Pn 04 29 06.0 +1.9**
CLL *e*Sn **Sn 04 30 03.0 0.0**
CLL *e*Sg **Sg 04 30 32.0 +0.3**
comp=Z,39nm,0.9s
CLL LmH 05 51 00.0
comp=N,100nm,20.8s
CLL LmH 05 51 00.0
comp=E,200nm,19.5s
CLL LmH 05 51 00.0
comp=Z,200nm,19.9s
CLL Collm 5.11 3 Pn **Pn 04 29 05.1 +1.0**
LMR La Mourre 5.15 238 *e*Pn **Pn 04 29 04.7 -0.1**
SNR=1.0
LMR *e*Sn **Sn 04 30 01.3 -2.9**
comp=Z,5.8nm,0.3s
LMR La Mourre 5.15 238 *e*Pn **Pn 04 29 04.7 -0.1**
SNR=1.0
PSZ Piszkesteto 5.32 69⇓*i*P Pn 04 29 11.9 +4.7
PSZ Piszkesteto 5.32 69⇓*i*P Pn 04 29 11.9 +4.7
SMRF Simiane la Rot 5.40 248 *e*Pn **Pn 04 29 09.5 +1.3**
SNR=1.0
SMRF *e*Sn **Sn 04 30 07.5 -2.7**
comp=Z,1.8nm,0.3s
SMRF Simiane la Rot 5.40 248 *e*Pn **Pn 04 29 09.5 +1.3**
SNR=1.0
WLF Walferdange 5.49 311 P Pn 04 29 13.6 +4.2
WLF Walferdange 5.49 311 *e*Pn Pn 04 29 13.7 +4.2
MEZF Maizieres J'vi 5.56 297 *e*Pn **Pn 04 29 10.5 +0.1**
MEZF *e*Sn **Sn 04 30 12.3 -1.9**
comp=Z,7.4nm,0.5s
MEZF Maizieres J'vi 5.56 297 *e*Pn **Pn 04 29 10.5 +0.1**
VIVF Saint-Julien-l 5.67 259 *e*Pn **Pn 04 29 12.5 +0.5**
SNR=1.0
VIVF *e*Sn **Sn 04 30 14.4 -2.6**
comp=Z,3.1nm,0.4s
VIVF Saint-Julien-l 5.67 259 *e*Pn **Pn 04 29 12.5 +0.5**
SNR=1.0
SMF Signal de Mont 6.01 277 *e*Pn **Pn 04 29 17.7 +1.1**
SNR=1.0
SMF *e*Sn **Sn 04 30 22.8 -2.5**
comp=Z,8.7nm,0.5s,SNR=1.0
SMF Signal de Mont 6.01 277 *e*Pn **Pn 04 29 17.7 +1.1**
SNR=1.0
LOR Lormes 6.04 283 *e*Pn **Pn 04 29 18.4 +1.4**
baz=101,SNR=1.0
LOR *e*Sn **Sn 04 30 23.8 -2.2**
LOR *e*Sg **Sg 04 30 59.5 -2.2**
comp=Z,3.0nm,0.4s
LOR Lormes 6.04 283 *e*Pn **Pn 04 29 18.4 +1.4**
SNR=1.0

MEM Membach 6.17 318 P Pn 04 29 22.8 +4.0
MEM Membach 6.17 318 P Pn 04 29 22.7 +4.0
PLDF La Plantade 6.19 271 P **Pn 04 29 20.0 +0.9**
PLDF La Plantade 6.19 271 P **Pn 04 29 20.0 +0.9**
SSF Saint Saulge 6.26 281 *e*Pn **Pn 04 29 20.6 +0.6**
SSF *e*Sn **Sn 04 30 28.9 -2.5**
SSF *e*Sg **Sg 04 31 06.3 -2.4**
comp=Z,1.3nm,0.3s
SSF Saint Saulge 6.26 281 *e*Pn **Pn 04 29 20.6 +0.6**
AVF Avril sur Loir 6.35 278 *e*Pn **Pn 04 29 22.5 +1.3**
SNR=1.0
AVF *e*Sn **Sn 04 30 30.9 -2.7**
comp=Z,4.2nm,0.5s
AVF Avril sur Loir 6.35 278 *e*Pn **Pn 04 29 22.5 +1.3**
SNR=1.0
BZS Buzias 6.38 92⇓*i*P **Pn 04 29 20.5 -1.2**
BZS Buzias 6.38 92⇓*i*P **Pn 04 29 20.5 -1.2**
BCLA Clavier 6.39 314 P Pn 04 29 26.1 +4.3
GIVF Givet 6.45 310 *e*Pn **Pn 04 29 24.5 +2.0**
SNR=1.0
GIVF *e*Sn **Sn 04 30 33.4 -2.6**
GIVF *e*Sg **Sg 04 31 12.2 -2.5**
comp=Z,3.4nm,0.3s
GIVF Givet 6.45 310 *e*Pn **Pn 04 29 24.5 +2.0**
SNR=1.0
LASF Ste Croix 6.48 254 *e*Pn **Pn 04 29 23.3 +0.2**
SNR=1.0
LASF *e*Sn **Sn 04 30 33.7 -3.3**
comp=Z,1.4nm,0.3s,SNR=1.0
LASF Ste Croix 6.48 254 *e*Pn **Pn 04 29 23.3 +0.2**
SNR=1.0
AGO Saint Agoulin 6.52 272 P **Pn 04 29 24.8 +1.2**
AGO Saint Agoulin 6.52 272 P **Pn 04 29 24.8 +1.2**
LBL Lubilhac 6.56 265 P **Pn 04 29 24.3 +0.1**
LBL Lubilhac 6.56 265 P **Pn 04 29 24.3 +0.1**
DOU Dourbes 6.56 309 P Pn 04 29 28.0 +3.8
DOU Dourbes 6.56 309 P Pn 04 29 28.0 +3.8
PYM Petit Puy Mans 6.64 269 P **Pn 04 29 26.3 +1.0**
PYM Petit Puy Mans 6.64 269 P **Pn 04 29 26.3 +1.0**
BGF Bois d'Agland 6.69 276 *e*Pn **Pn 04 29 26.6 +0.6**
SNR=1.0
BGF *e*Sn **Sn 04 30 39.0 -3.1**
comp=Z,13nm,0.4s,SNR=1.0
BGF Bois d'Agland 6.69 276 *e*Pn **Pn 04 29 26.6 +0.6**
SNR=1.0
BAIF Baives 6.75 308 *e*Pn **Pn 04 29 29.5 +2.7**
SNR=1.0
BAIF *e*Sn **Sn 04 30 40.9 -2.7**
SNR=1.0
BAIF *e*Sg **Sg 04 31 22.1 -2.5**
comp=Z,2.8nm,0.4s
BAIF Baives 6.75 308 *e*Pn **Pn 04 29 29.5 +2.7**
SNR=1.0
DRGR 7.06 82⇑*i*P **Pn 04 29 34.1 +3.0**
DRGR 7.06 82⇑*i*P **Pn 04 29 34.1 +3.0**
TCF Toulx Ste Croi 7.14 274 *e*Pn **Pn 04 29 33.5 +1.3**
SNR=1.0
TCF *e*Sn **Sn 04 30 49.8 -3.4**
comp=Z,2.2nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 7.14 274 *e*Pn **Pn 04 29 33.5 +1.3**
SNR=1.0
GZR Gura Zlata 7.22 93⇑*i*P **Pn 04 29 31.2 -2.1**
FLN La Foliniere 9.16 291 *e*Pn **Pn 04 30 00.5 +0.7**
SNR=1.0
FLN *e*Sn **Sn 04 31 38.2 -4.5**
comp=Z,0.7nm,0.2s

IDC 07 04:30:46.4±3.4, 32°.41S×178°.13W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.7/18, mbtmp3.6/3, ML2.8/1, Error ellipse: s-maj=75.8km s-min=38.0km az=113.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.01**	**212**	Pn	Pn	04 32 29.4	-1.0
	0.2nm,0.3s,baz=115,slow=16,SNR=1.6						
URZ				Sn	Sn	04 33 49.4	-1.5
	1.0nm,0.3s,baz=227,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**42.93**	**269**	P	P	04 38 47.5	+0.3
	0.3nm,0.6s,baz=103,slow=7.7,SNR=5.3						
WRA	**Warramunga Arr**	**44.10**	**274**	P	P	04 38 56.5	-0.1
	0.4nm,0.4s,baz=113,slow=8.0,SNR=16						
FINES	**FINESS Array B**	**146.98**	**339**	PKPbc	PKPbc	04 50 29.4	-0.8
	1.6nm,1.0s,baz=16,slow=2.0,SNR=1.7						

NNC 07 04:31:16.7±0.5, 46°.75N×83°.08E, h0km, mb3.5, mpv3.1, 24C-3D, Error ellipse: s-maj=4.9km s-min=2.6km az=6.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK07	**Makanchi Array**	**0.53**	**271**	⇑P	Pg	04 31 27.3	+0.4
MK07				⇑S	Sg	04 31 34.8	+1.0
MK06	**Makanchi Array**	**0.53**	**274**	⇑P	Pg	04 31 27.3	+0.4
MK06				⇑S	Sg	04 31 34.9	+1.0
MK02	**Makanchi Array**	**0.53**	**273**	⇑P	Pg	04 31 27.2	+0.2
MK02				⇑S	Sg	04 31 34.9	+0.9
MK03	**Makanchi Array**	**0.54**	**272**	⇑P	Pg	04 31 27.5	+0.4
MK03				⇑S	Sg	04 31 35.0	+0.9
MK01	**Makanchi Array**	**0.54**	**273**	⇑P	Pg	04 31 27.5	+0.4
MK01				⇑S	Sg	04 31 35.1	+1.0
MK04	**Makanchi Array**	**0.54**	**273**	⇑P	Pg	04 31 27.5	+0.3
MK04				⇑S	Sg	04 31 35.2	+0.9
MK05	**Makanchi Array**	**0.55**	**275**	⇑P	Pg	04 31 27.6	+0.4
MK05				⇓S	Sg	04 31 34.9	+0.5
MK31	**Makanchi Array**	**0.55**	**275**	⇑P	Pg	04 31 27.6	+0.4
	11nm,0.2s,baz=94,slow=17,SNR=6588						
MK31				⇑S	Sg	04 31 35.0	+0.5
	52nm,0.2s,baz=85,slow=16,SNR=87						
MK08	**Makanchi Array**	**0.55**	**271**	⇑P	Pg	04 31 27.7	+0.4
MK08				⇑S	Sg	04 31 35.2	+0.8
MK09	**Makanchi Array**	**0.56**	**273**	⇑P	Pg	04 31 27.8	+0.3
MK09				⇑S	Sg	04 31 35.5	+0.8
PDGK	**Podgornoye**	**4.26**	**218**	⇑Pn	Pn	04 32 23.2	+0.3
PDGK				⇑Sn	Sn	04 33 13.0	-0.2
PDGK				⇑Lg	Lg	04 33 28.8	
KURBB	**Kurchatov Arra**	**4.91**	**324**	Pn	Pn	04 32 31.2	-0.6
KURBB				⇓Pg	Pb	04 32 45.5	+1.9
	1.9nm,0.5s						
KURBB				⇑Lg	Lg	04 33 49.7	
	60nm,0.6s						
KURK	**Kurchatov**	**4.95**	**325**	Pn	Pn	04 32 31.2	-1.1
KURK				⇑Pg	Pb	04 32 45.1	+0.9
	2.2nm,1.1s						
KURK				⇓Lg	Lg	04 33 51.1	
	5.0nm,0.5s						

*ISCJB **07** 04:41:44.1±1.2, 67°.55N±0°.04×33°.5E±0°.2, h0km, Error ellipse: s-maj=10.1km s-min=5.2km az=0.2*
*HEL **07** 04:41:44.4±0.5, 67°.61N×33°.92E, h0km, ML2.0, Explosion*
*KOLA **07** 04:41:45.8, 67°.69N×33°.75E, h0km*
*NAO **07** 04:41:45.6±1.1, 67°.66N×33°.74E, ML2.6*
*CSEM **07** 04:41:46.2±0.7, 67°.54N×33°.39E, h2km, ML2.6, Error ellipse: s-maj=12.5km s-min=6.4km az=86.0, Mining explosion.*

ISC 07 04:41:43.1±1.6, 67°.59N±0°.04×33°.92E±0°.08, h0km, n37, σ1§33/62, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.20**	**263**	P	**Pg**	**04 41 48.9**	**+1.9**
APA				S	**Sg**	**04 41 51.2**	**+1.7**
APA0	**Apatity Array**	**0.36**	**273**	Pg	**Pg**	**04 41 48.7**	**-1.3**
APA0				Pg	**Pb**	**04 41 50.9**	**-1.4**
	baz=81,slow=18						
APA0				Lg	Lg	04 41 51.1	
APA0				Lg	Lg	04 41 55.1	
	baz=78,slow=37						
APA0				Rg	Rg	04 41 56.6	
	baz=83,slow=37						
APA0	**Apatity Array**	**0.36**	**273**	Pg	**Pg**	**04 41 48.7**	**-1.3**
APA0				Pg	**Pb**	**04 41 50.9**	**-1.4**
	baz=81,slow=18						
APA0				Lg	Lg	04 41 51.1	
APA0				Lg	Lg	04 41 55.1	
	baz=78,slow=37						
APA0				Rg	Rg	04 41 56.6	
	baz=83,slow=37						
APA0	**Apatity Array**	**0.36**	**273**	Pg	**Pg**	**04 41 48.7**	**-1.3**
	SNR=91						
APA0				Lg	Lg	04 41 51.1	
	baz=78,slow=33						
APA0	**Apatity Array**	**0.36**	**273**	P	**Pg**	**04 41 51.1**	**+1.1**
APA0				S	**Sg**	**04 41 55.0**	**+0.4**
VRF	**Varrio**	**1.66**	**277**	PG	**Pn**	**04 42 13.7**	**+0.3**
	baz=96						
VRF				SG	**Sn**	**04 42 34.3**	**-1.0**
VRF				MSG		04 42 34.3	
	comp=Z,16nm,0.2s						
VRF	**Varrio**	**1.66**	**277**	Pg	**Pn**	**04 42 13.7**	**+0.3**
VRF				Sg	**Sn**	**04 42 34.3**	**-1.0**
KU6	**Riekki**	**2.24**	**227**	PG	**Pb**	**04 42 24.4**	**-0.1**
	baz=47						
KU6				SG	**Sb**	**04 42 54.5**	**+1.7**
KU6	**Riekki**	**2.24**	**227**	Pg	**Pb**	**04 42 24.3**	**-0.1**
KU6				Sg	**Sb**	**04 42 54.4**	**+1.7**
MSF	**Maaselka**	**2.57**	**231**	PB	**Pb**	**04 42 29.2**	**-0.8**
MSF				SG	**Sg**	**04 43 04.9**	**-0.7**
MSF				MSG		04 43 04.9	
	comp=Z,2.9nm,0.2s						
MSF	**Maaselka**	**2.57**	**231**	Pb	**Pb**	**04 42 29.2**	**-0.8**
MSF				Sg	**Sg**	**04 43 04.9**	**-0.7**
SGF	**Sodankyl**	**2.85**	**270**	PN	**Pn**	**04 42 30.8**	**+1.0**
SGF				SG	**Sb**	**04 43 09.6**	**-0.6**
SGF				MSG		04 43 09.6	
	comp=Z,20nm,0.3s						
SGF	**Sodankyl**	**2.85**	**270**	Pn	**Pn**	**04 42 30.7**	**+1.0**
SGF				Sg	**Sb**	**04 43 09.5**	**-0.6**
RNF	**Rovaniemi**	**3.25**	**256**	PN	**Pn**	**04 42 37.0**	**+1.7**
	baz=70						
RNF	**Rovaniemi**	**3.25**	**256**	Pn	**Pn**	**04 42 36.9**	**+1.7**
KEV	**Kevo**	**3.33**	**314**	PN	**Pn**	**04 42 37.7**	**+1.2**
KEV				SN	**Sn**	**04 43 16.3**	**-0.3**
KEV				MSG		04 43 16.3	
	comp=Z,5.0nm,0.2s						
KEV	**Kevo**	**3.33**	**314**	Pn	**Pn**	**04 42 37.6**	**+1.2**
KEV				Sn	**Sn**	**04 43 16.3**	**-0.3**
ARA0	**ARCESS Array S**	**3.65**	**306**	Pn	**Pn**	**04 42 41.6**	**+0.8**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**04 42 50.0**	**+1.5**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**04 43 22.5**	**-2.1**
	baz=117,slow=22						
ARA0				Lg	Lg	04 43 32.5	
	baz=107,slow=37						
ARA0	**ARCESS Array S**	**3.65**	**306**	Pn	**Pn**	**04 42 41.6**	**+0.8**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**04 42 50.0**	**+1.5**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**04 43 22.5**	**-2.1**
	baz=117,slow=22						
ARA0				Lg	Lg	04 43 32.5	
	baz=107,slow=37						
ARA0	**ARCESS Array S**	**3.65**	**306**	PN	**Pn**	**04 42 41.3**	**+0.4**
	baz=121						
ARA0				SN	**Sn**	**04 43 24.0**	**-0.6**
ARA0				MSG		04 43 24.0	
	comp=Z,3.5nm,0.1s						
ARA0	**ARCESS Array S**	**3.65**	**306**	Pn	**Pn**	**04 42 41.7**	**+0.8**
	SNR=50						
ARA0	**ARCESS Array S**	**3.65**	**306**	Pg	**Pb**	**04 42 50.0**	**+1.5**
	SNR=0.6						
ARA0				Sn	**Sn**	**04 43 24.0**	**-0.6**
ARA0				Lg	Lg	04 43 32.5	
	SNR=26						
HEF	**Hetta**	**3.95**	**287**	PN	**Pn**	**04 42 45.5**	**+0.6**
HEF				SN	**Sn**	**04 43 30.7**	**-1.2**
HEF				MSG		04 43 30.7	
	comp=Z,1.1nm,0.2s						
HEF	**Hetta**	**3.95**	**287**	Pn	**Pn**	**04 42 45.5**	**+0.6**
HEF				Sn	**Sn**	**04 43 30.6**	**-1.2**
OUL	**Oulu**	**4.10**	**236**	PB	**Pb**	**04 42 54.5**	**-1.6**
OUL	**Oulu**	**4.10**	**236**	Pb	**Pb**	**04 42 54.4**	**-1.6**
KTK1	**Kautokeino**	**4.21**	**295**	*e*P	**Pn**	**04 42 50.6**	**+2.1**
KTK1	**Kautokeino**	**4.21**	**295**	*e*P	**Pn**	**04 42 50.6**	**+2.1**
	SNR=49						
KALU	**Kalix**	**4.54**	**252**	PG	**Pb**	**04 43 06.0**	**+2.5**
KALU	**Kalix**	**4.54**	**252**	Pg	**Pb**	**04 43 06.0**	**+2.5**
LANU	**Lannavaara**	**4.55**	**281**	PN	**Pn**	**04 42 53.0**	**-0.2**
LANU	**Lannavaara**	**4.55**	**281**	Pn	**Pn**	**04 42 52.9**	**-0.2**
FIA0	**FINESS Array S**	**7.03**	**212**	Pn	**Pn**	**04 43 28.5**	**+1.3**
	baz=25,slow=14						
FIA0				Sn	**Sn**	**04 44 46.9**	**-0.9**
	baz=34,slow=22						
FIA0				Lg	Lg	04 45 21.8	
	baz=38,slow=28						
FIA0	**FINESS Array S**	**7.03**	**212**	Pn	**Pn**	**04 43 28.5**	**+1.3**
	baz=25,slow=14						
FIA0				Sn	**Sn**	**04 44 46.9**	**-0.9**
	baz=34,slow=22						
FIA0				Lg	Lg	04 45 21.8	
	baz=38,slow=28						
FIA0	**FINESS Array S**	**7.03**	**212**	Pn	**Pn**	**04 43 28.5**	**+1.3**
	SNR=50						
FIA0				Sn	**Sn**	**04 44 46.9**	**-0.9**
	SNR=50						
SPA0	**Spitsbergen Ar**	**11.73**	**342**	Pn	**Pn**	**04 44 29.2**	**-2.2**
	baz=141,slow=14						
SPA0	**Spitsbergen Ar**	**11.73**	**342**	P	**Pn**	**04 44 29.2**	**-2.2**
	baz=141,slow=14						

*IDC **07** 04:46:28.9±0.4, 33°.09S×71°.90W, h0km, mb4.9/18, mb1 5.0/22, mb1mx4.9/32, mbtmp4.9/22, ML5.0/4, MS4.3/19, Ms1 4.3/19, ms1mx4.2/24, Error ellipse: s-maj=19.2km s-min=12.2km az=85.0*
*ISCJB **07** 04:46:30.3±0.1, 33°.14S±0°.02×72°.04W±0°.03, h15km, mb5.0/111, MS4.3/16, Error ellipse: s-maj=4.1km s-min=2.5km az=35.6*
*NEIC **07** 04:46:31.7, 33°.17S×72°.06W, h19km, mb5.1/89, ML5.3(GUC), After GUC.*
NEIC Felt [IV] at San Antonio, Valparaiso and Vina del Mar; [III] at Quillota, Rancagua, San Felipe and Santiago; [II] at Constitucion, Petorca and Pichilemu. Also felt at Buin, Calera, Lampa, Limache, Los Andes, Melipilla, Puente Alto, San Bernardo, Talagante and Villa Alemana.
*GUC **07** 04:46:31.7±0.6, 33°.13S×72°.05W, h26km±4km, ML5.5*
*GCMT **07** 04:46:31.7±0.3, 33°.14S×72°.18W, h29km±1km, MW5.1/58, Moment Tensor Solution. s37,c48; s58,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.30±.22; $M_{\theta\theta}$-0.14±.14; $M_{\phi\phi}$-4.17±.15; $M_{r\theta}$-0.21±.20; $M_{\theta\phi}$-0.42±.10; $M_{\phi r}$-3.31±.23; Best double couple: $M_0$5.39600×10^{16} NP1:ϕ_s185.00000°, δ64.00000°, λ89.00000°. NP2: ϕ_s7.00000°, δ26.00000°, λ92.00000°. Principal axes: T 5.4410, Plg71.0000°, Azm92.0000°; N -0.0980, Plg1.0000°, Azm185.0000°; P -5.3520, Plg19.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **07** 04:46:33.1±1.2, 33°.08S×71°.85W, h33km, mb5.3/28 Error ellipse: s-maj=14.1km s-min=7.8km az=101.4*
*BJI **07** 04:46:34.0, 33°.00S×71°.70W, h31km, mB5.0/15, Ms5.4/12, Ms7 5.1/12*

ISC 07 04:46:31.2±0.2, 33°.12S±0°.04×71°.93W±0°.04, h15km, n704, σ1§14/754, mb5.1/112, MS4.4/16, 192C-192D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.26**	**70**	*i*P	**Pn**	**04 46 39.4**	**-1.0**
IHA				*i*S	**Sn**	**04 46 45.4**	**-0.7**
IHA	**Instituto Hidr**	**0.26**	**70**	⇓*i*P	**Pn**	**04 46 39.4**	**-1.0**
RCDM	**Rinconada Maip**	**1.01**	**112**	⇓*i*P	**Pb**	**04 46 50.5**	**+0.2**
RCDM				*e*S1	**Sn**	**04 47 05.4**	**+0.6**
RCDM	**Rinconada Maip**	**1.01**	**112**	⇓*i*P	**Pb**	**04 46 50.5**	**+0.2**
RCDM				*e*S	**Sn**	**04 47 05.4**	**+0.6**
PEL	**Peldehue**	**1.04**	**92**⇑*i*P	**Pg**	**Pg**	**04 46 52.3**	**+1.0**
PEL				*i*S	**Sn**	**04 47 07.2**	**+1.6**
PEL	**Peldehue**	**1.04**	**92**⇑*i*P	**Pg**	**Pg**	**04 46 52.3**	**+1.0**
PEL				*i*S	**Sn**	**04 47 07.2**	**+1.6**
PEL				AML	AML	04 47 10.1	
	comp=N,141μm,0.3s						
PEL	**Peldehue**	**1.04**	**92**⇑*i*P	**Pg**	**Pg**	**04 46 52.3**	**+1.0**
PEL				*i*S	**Sn**	**04 47 07.2**	**+1.6**
STL	**Santa Lucia**	**1.12**	**107**	⇓*i*P	**Pb**	**04 46 51.9**	**-0.4**
STL				*i*S	**Sg**	**04 47 08.0**	**+0.5**
ANTU	**Antumapu**	**1.17**	**113**	⇓*i*P	**Pb**	**04 46 53.6**	**+0.5**
ANTU	**Antumapu**	**1.17**	**113**	⇓*i*P	**Pb**	**04 46 53.6**	**+0.5**
CLCH	**Cerro Calan**	**1.20**	**104**	⇓*i*P	**Pg**	**04 46 54.4**	**+0.1**
CLCH				*i*S	**Sg**	**04 47 11.2**	**+1.3**
CLCH				IAML		04 47 15.8	
	comp=N,123μm,0.5s						

CLCH IAML 04 47 16.4
comp=N,143µm,0.5s
LACH Col Las Americ 1.22 106⇓*i*P Pb 04 46 54.2 +0.3
LACH *i* S Sg 04 47 11.6 +1.1
CHNG Los Chungos 1.28 16⇑*i*P Pn 04 46 54.8 +0.3
CHNG *i* S Sb 04 47 11.7 +0.5
NICH Los Niches 1.97 163⇓*i*P Pn 04 47 04.6 +0.5
NICH AML AML 04 47 40.9
comp=N,54µm,0.7s
NICH Los Niches 1.97 163⇓*i*P Pn 04 47 04.6 +0.5
CMCH Combarbala 2.09 22⇓*i*P Pn 04 47 06.3 +0.6
CMCH *i* S Sn 04 47 33.3 +1.8
LNCH Linares 2.74 174⇓*i*P Pn 04 47 15.0 +0.5
LNCH *i* S1 Sn 04 47 48.3 +0.8
LNCH AML AML 04 48 01.3
comp=N,25µm,0.6s
LNCH Linares 2.74 174⇓*i*P Pn 04 47 15.0 +0.5
LNCH *i* S Sn 04 47 48.3 +0.8
CFAA Coronel Fontan 3.46 65 Pn Pn 04 47 27.9 +3.3
comp=N,14nm,0.3s,baz=239,slow=14,SNR=118
CFAA Lg Lg 04 48 19.4
comp=N,52nm,0.3s,baz=342,slow=20,SNR=6.7
CFAA LR LR 04 49 03.3
comp=N,1µm,18.7s,baz=278,slow=45
PLCA Paso Flores 7.68 172 Pn Pn 04 48 23.2 +0.6
comp=N,4.6nm,0.3s,baz=350,slow=13,SNR=74
PLCA LR LR 04 51 55.3
comp=N,478nm,21.3s,baz=345,slow=42
TRQA Tornquist 9.48 124 *e*Pn Pn 04 48 48.4 +1.2
LVC Limon Verde 10.80 15 *e*Pn Pn 04 49 01.6 -3.9
LVC *e*Lg Lg 04 51 35.4
CPUP Villa Florida 14.37 66 *e*P Pn 04 49 52.8 -1.2
CPUP pmax pmax
comp=Z,4.0nm,0.6s
CPUP Villa Florida 14.37 66 Pn **Pn 04 49 54.4 +0.3**
comp=Z,6.2nm,0.3s,baz=231,slow=14,SNR=20
CPUP Villa Florida 14.37 66 *e*Pn Pn 04 49 52.8 -1.2
comp=Z,3.5nm,0.6s
LPAZ La Paz 17.10 12 P **Pn 04 50 30.7 +0.3**
comp=Z,1.6nm,0.3s,baz=198,slow=7.9,SNR=67
SIV San Ignacio 19.68 33 P **P 04 50 59.2 -0.6**
SIV LR LR 04 59 53.2
comp=Z,2.0nm,0.3s,baz=212,slow=10,SNR=73
comp=Z,2µm,18.7s,baz=227,slow=41
EFI East Falkland 21.12 156 P **P 04 51 15.2 +0.1**
comp=Z,1µm,0.6s,SNR=36
EFI East Falkland 21.12 156 *e*P P 04 51 14.8 -0.3
EFI pmax pmax
comp=Z,134nm,0.8s
EFI East Falkland 21.12 156 *e*P P 04 51 14.8 -0.3
comp=Z,134nm,0.8s
NNA Nana 21.51 347 P **P 04 51 21.0 +1.3**
NNA pmax pmax
comp=Z,22nm,0.7s
NNA MLR MLR
comp=Z,481nm,19.2s
NNA Nana 21.51 347 P **P 04 51 21.0 +1.3**
comp=Z,22nm,0.7s,baz=189,slow=10,SNR=11
NNA LR LR 04 58 12.4
comp=Z,481nm,19.1s,baz=183,slow=33
NNA Nana 21.51 347 *e*P P 04 51 21.2 +1.5
comp=Z,32nm,0.9s
USHA Ushuaia 21.85 175 P **P 04 51 23.6 +0.6**
comp=Z,32nm,0.8s,baz=356,slow=12,SNR=25
USHA LR LR 05 01 27.5
comp=Z,967nm,19.0s,baz=340,slow=41
SAML Samuel 25.37 21 *e*P P 04 51 57.2 -0.6
comp=Z,89nm,0.8s
ATAH Atahualpa 26.54 346 P **P 04 52 12.0 +3.1**
ATAH LR LR 05 00 57.2
comp=Z,421nm,18.8s,baz=196,slow=33
BDFB Brasilia 27.77 57 P **P 04 52 18.8 -0.9**
BDFB LR LR 05 05 14.9
comp=Z,1µm,18.9s,baz=226,slow=41
RPN Rapa Nui 32.78 270 LR LR 05 02 49.0
comp=Z,871nm,18.4s,baz=80,slow=30
OTAV Otavalo 33.74 348 *e*P P 04 53 14.4 +1.7
OTAV *e*PcP **PcP 04 55 53.0 +0.7**
ROSC El Rosal 37.83 356 P **P 04 53 50.4 +2.7**
comp=Z,14nm,0.7s,baz=116,slow=8.7,SNR=12
ROSC El Rosal 37.83 356 *e*P P 04 53 52.1 +4.4
SDV Santo Domingo 41.78 2 *e*P P 04 54 20.4 0.0
comp=Z,32nm,0.9s
BCIP Isla Barro Col 42.72 348 *e*P P 04 54 27.8 0.0
comp=Z,290nm,1.7s
RCBR Riachuelo 43.10 59 P **P 04 54 31.2 +0.1**
comp=Z,24nm,1.2s,baz=233,slow=6.8,SNR=4.7
RCBR PcP **PcP 04 56 21.3 +0.4**
comp=Z,14nm,0.8s,baz=217,slow=4.4,SNR=4.4
RCBR Riachuelo 43.10 59 *e*P P 04 54 30.5 -0.6
RCBR PcP **PcP 04 56 21.3 +0.4**
GRGR Grenville 46.05 14 *e*P P 04 54 54.5 +0.1
comp=Z,187nm,1.1s
VNA3 Neumayer Olymp 50.14 158 P **P 04 55 26.6 +1.1**
VNA2 Neumayer--Watz 50.79 157 P **P 04 55 31.3 +0.9**
OBIP Obispado Ponce 51.12 7 *e*P P 04 55 32.8 -0.6
comp=Z,38nm,0.9s
CELP Cerrillos 51.16 7 *e*P P 04 55 33.7 0.0
SDDR Presa de Saban 51.81 1 *e*P P 04 55 39.0 +0.4
comp=Z,16nm,0.9s
SNAA Sanae 52.37 158 P **P 04 55 42.8 +0.6**
SNAA Sanae 52.37 158⇑*i*P P 04 55 43.0 +0.7
SNAA AMB AMB 04 55 52.5
comp=Z,40nm,5.9s
SNAA Sanae 52.37 158⇑*i*P P 04 55 42.7 +0.4
SNAA pmax pmax
comp=Z,16nm,0.6s
SNAA Sanae 52.37 158 P **P 04 55 42.8 +0.6**
comp=Z,9.1nm,0.7s,baz=276,slow=6.8,SNR=38
SNAA Sanae 52.37 158 *e*P P 04 55 42.9 +0.6
comp=Z,28nm,0.8s
GTBY Guantanamo Bay 52.83 356 *e*P P 04 55 45.9 -0.2
comp=Z,41nm,1.0s
CMIG Matias Romero 54.53 333 P **P 04 55 58.5 -0.1**
comp=Z,4.7nm,0.8s,baz=130,slow=7.9,SNR=3.8
TEIG Tepich 55.29 341 *e*P P 04 56 04.2 +0.1
comp=Z,40nm,0.8s
RKT Rikitea 55.77 263 *e*LR LR 05 12 36.0
comp=Z,336nm,26.2s
RKT Rikitea 55.77 263 *e*T T 05 56 29.3
comp=Z,1.9nm,0.3s
NVL N'lazarevskaya 57.09 157 *e*P P 04 56 16.0 -0.4
NVL pmax pmax
comp=Z,9.0nm,0.6s
QSPA South Pole Qui 57.12 180 P **P 04 56 17.6 +0.8**
comp=Z,37nm,0.9s,baz=150,slow=6.3,SNR=125
QSPA LR LR 05 18 37.3
comp=Z,186nm,19.5s,baz=160,slow=34
ASCN Ascension 58.64 78 *e*P P 04 56 27.9 -0.2
035A Encino 64.70 334 ⇑P **P 04 57 10.2 +1.6**
baz=65
VNDA Vanda 64.98 191 P **P 04 57 10.5 +0.6**
comp=Z,2.1nm,0.8s,baz=131,slow=5.4,SNR=6.2
VNDA LR LR 05 24 41.6
comp=Z,104nm,18.1s,baz=140,slow=35
VNDA Vanda 64.98 191 *e*P P 04 57 11.8 +1.9
034A Hebbronville 65.03 334 ⇑P **P 04 57 12.5 +1.7**
baz=65
TIGA Tifton 65.15 349 *e*P P 04 57 10.4 -1.0
comp=Z,32nm,0.9s
934A Benavides 65.45 334 ⇓P **P 04 57 15.7 +2.2**
baz=66
933A Laredo 65.75 333 ⇑P **P 04 57 16.6 +1.2**
baz=66,SNR=7.9
835A Beeville 65.83 335 ⇑P **P 04 57 18.2 +2.3**
baz=66
834A Tilden 65.94 334 ⇓P **P 04 57 18.4 +1.8**
baz=66,SNR=6.8
735A Kenedy 66.34 335 ⇓P **P 04 57 20.9 +1.8**
baz=67,SNR=5.5
833A Chaparral WMA, 66.43 334 ⇑P **P 04 57 21.0 +1.3**
baz=67,SNR=22
734A La Parita Cree 66.60 335 ⇓P **P 04 57 22.0 +1.2**
baz=67
832A Faith Ranch, C 66.61 333 ⇓P **P 04 57 21.9 +1.0**
baz=67,SNR=18
SYO Syowa Base 66.65 159⇑*e*P P 04 57 19.4 -1.3
SYO Syowa Base 66.65 159⇑*e*pP pP 04 57 28.4 +2.8
636A Smothers Creek 66.66 336 ⇓P **P 04 57 22.7 +1.5**
baz=67,SNR=5.7
HKT Hockley 66.68 337 *e*P P 04 57 22.7 +1.4
HKT pmax pmax
comp=Z,26nm,1.6s
HKT Hockley 66.68 337 *e*P P 04 57 22.6 +1.4
comp=Z,26nm,1.6s
733A Divot King Ran 66.75 334 ⇓P **P 04 57 23.3 +1.5**
baz=67
635A Leesville 66.82 336 ⇓P **P 04 57 23.6 +1.4**
baz=67
537A Green Hill Far 66.96 337 ⇓P **P 04 57 25.0 +1.9**
baz=67
634A China Grove, S 67.01 335 ⇑P **P 04 57 25.6 +2.1**
baz=67
732A Laxson Ranch, 67.01 333 ⇓P **P 04 57 24.6 +1.1**
baz=67,SNR=24
GOGA Godfrey 67.06 350 *e*P P 04 57 22.8 -0.9
GOGA pmax pmax
comp=Z,13nm,0.8s
GOGA Godfrey 67.06 350 *e*P P 04 57 22.8 -0.9
comp=Z,13nm,0.8s
536A Bastrop 67.20 336 ⇓P **P 04 57 26.3 +1.7**
baz=68
438A Sam Houston St 67.31 338 ⇓P **P 04 57 27.1 +1.8**
baz=68
LRAL Lakeview Retre 67.31 346 *e*P P 04 57 25.5 +0.2
535A Dale 67.33 336 ⇑P **P 04 57 26.6 +1.2**
baz=68
633A Saathoff Ranch 67.38 334 ⇑P **P 04 57 26.8 +1.0**
baz=68
340A Bronson 67.46 340 ⇓P **P 04 57 27.5 +1.3**
baz=68
339A Huntington 67.57 339 ⇓P **P 04 57 28.4 +1.5**
baz=68,SNR=5.7
534A Blanco 67.65 335 ⇓P **P 04 57 28.4 +0.9**
baz=68
632A Uvalde 67.65 334 ⇓P **P 04 57 28.6 +1.1**
baz=68,SNR=18
436A Wall Ranch, Ga 67.75 337 ⇑P **P 04 57 29.3 +1.2**
baz=68
338A Crockett 67.83 338 ⇑P **P 04 57 30.2 +1.7**
baz=68
533A Kerrville 67.88 335 ⇓P **P 04 57 30.0 +1.0**
baz=68,SNR=6.6
337A Centerville 67.97 338 ⇑P **P 04 57 31.0 +1.6**
baz=68
435B Jarrell 68.03 336 ⇓P **P 04 57 31.0 +1.2**
baz=68
239A Gary 68.19 339 ⇓P **P 04 57 31.9 +1.1**
baz=68
CNNC Cliffs of the 68.23 355 *e*P P 04 57 31.0 0.0
comp=Z,9.0nm,0.6s
532A Rocksprings 68.25 334 ⇑P **P 04 57 32.3 +0.9**
baz=69,SNR=25
434A Burnet 68.29 336 ⇑P **P 04 57 32.3 +0.8**
baz=69,SNR=15
336A Riesel 68.34 337 ⇑P **P 04 57 33.3 +1.6**
baz=69
238A Jacksonville 68.37 339 ⇑P **P 04 57 33.5 +1.6**
baz=69
335A Moody 68.43 337 ⇑P **P 04 57 33.4 +1.1**
baz=69
KMSC Kings Mountain 68.47 352 ⇑P **P 04 57 32.6 +0.1**
baz=69,SNR=5.8
KMSC Kings Mountain 68.47 352 *e*P P 04 57 31.9 -0.7
comp=Z,15nm,0.9s
531A Rocksprings 68.52 334 ⇓P **P 04 57 34.0 +0.9**
baz=69,SNR=9.8
433A Art 68.52 335 ⇓P **P 04 57 33.6 +0.6**
baz=69,SNR=21
JCT Junction City 68.53 334 *e*P P 04 57 33.8 +0.7
JCT pmax pmax
comp=Z,27nm,0.9s
JCT Junction City 68.53 334 ⇑P **P 04 57 33.8 +0.7**
baz=69,SNR=19
JCT Junction City 68.53 334 *e*P P 04 57 33.8 +0.7
comp=Z,27nm,0.9s
237A Washetta, Mont 68.58 338 ⇑P **P 04 57 34.5 +1.2**
baz=69
334A Lometa 68.75 336 ⇑P **P 04 57 35.2 +0.8**
baz=69,SNR=13
530A J-C Ranch, Com 68.81 333 ⇓P **P 04 57 35.6 +0.8**
baz=69,SNR=18
432A Menard 68.89 334 ⇑P **P 04 57 35.9 +0.6**
baz=69,SNR=6.2
138A Matatall Enter 68.97 339 ⇓P **P 04 57 36.7 +1.0**
baz=69
333A Richland Sprin 69.00 335 ⇓P **P 04 57 36.5 +0.5**
baz=69,SNR=15
431A Sonora 69.01 334 ⇓P **P 04 57 36.6 +0.6**
baz=69,SNR=5.3
TXAR Lajitas Array 69.01 331 P **P 04 57 37.0 +0.8**
TXAR Lajitas Array 69.01 331 P **P 04 57 37.0 +0.8**
comp=Z,5.7nm,0.8s,baz=151,slow=8.2,SNR=68
TXAR LR LR 05 23 47.7
comp=Z,280nm,18.2s,baz=0.0,slow=32
WHTX Lake Whitney, 69.09 337 ⇑P **P 04 57 37.2 +0.7**
baz=69,SNR=7.9
WHTX Lake Whitney, 69.09 337 *e*P P 04 57 35.7 -0.8
comp=Z,26nm,1.0s
137A Heron Place, G 69.11 339 ⇓P **P 04 57 37.4 +0.8**
baz=69
529A Stev Forest Ra 69.13 332 ⇓P **P 04 57 37.7 +0.9**
baz=69,SNR=35
CPCT Cooper Cave 69.22 349 *e*P P 04 57 39.2 +2.0
SWET Sewanee 69.23 348 *e*P P 04 57 37.2 -0.1
comp=Z,26nm,0.8s
OXF Oxford 69.25 345 *e*P P 04 57 37.3 -0.1
OXF pmax pmax
comp=Z,62nm,1.0s
OXF Oxford 69.25 345 *e*P P 04 57 37.3 -0.1
comp=Z,62nm,1.0s
TKL Tuckaleechee C 69.31 350 *e*P P 04 57 36.8 -0.9
TKL Tuckaleechee C 69.31 350 *e*P P 04 57 36.8 -0.9
332A Millersview 69.33 335 ⇓P **P 04 57 38.4 +0.4**
baz=70,SNR=15
234A Clairette 69.33 336 ⇓P **P 04 57 38.7 +0.7**
baz=70,SNR=16
430A Baggett Ranch, 69.34 333 ⇑P **P 04 57 38.8 +0.7**
baz=70,SNR=16
429A Davenport Ranc 69.44 333 ⇓P **P 04 57 39.3 +0.5**
baz=70,SNR=13
331A San Angelo 69.51 334 ⇑P **P 04 57 39.6 +0.5**
baz=70,SNR=20
233A Rising Star 69.61 336 ⇓P **P 04 57 40.2 +0.5**
baz=70,SNR=12
232A Coleman 69.75 335 ⇑P **P 04 57 41.1 +0.5**
baz=70,SNR=15
134A White-Moore Ra 69.83 337 ⇓P **P 04 57 41.6 +0.6**
baz=70
330A Mertzon 69.87 334 ⇑P **P 04 57 41.6 +0.2**
baz=70,SNR=15
231A Bronte 70.03 335 ⇑P **P 04 57 42.8 +0.5**
baz=70,SNR=16
133A Hamilton Ranch 70.15 336 ⇑P **P 04 57 43.4 +0.4**
baz=70,SNR=10
UALR University of 70.20 342 *e*P P 04 57 43.7 +0.5
comp=Z,8.9nm,0.8s
329A Wagon Wheel Ra 70.25 333 ⇑P **P 04 57 44.5 +0.8**
baz=70,SNR=16
Z35A Perchaven, San 70.26 338 ⇑P **P 04 57 44.1 +0.5**
baz=71,SNR=13
230A Sterling City 70.28 334 ⇓P **P 04 57 44.2 +0.3**
baz=71
MIAR Mount Ida 70.31 341 *e*P P 04 57 44.3 +0.4
MIAR pmax pmax
comp=Z,15nm,1.1s
MIAR Mount Ida 70.31 341 *e*P P 04 57 44.3 +0.4
comp=Z,14nm,1.1s
ABTX Abilene, Hawle 70.42 335 ⇓P **P 04 57 45.2 +0.5**
baz=71,SNR=11
ABTX Abilene, Hawle 70.42 335 *e*P P 04 57 45.3 +0.6
comp=Z,26nm,0.8s
PPT2 Papeete2 70.46 261 *e*S S 05 06 57.3 -0.9
comp=Z,210nm,24.5s
PPT2 Papeete2 70.46 261 *e*LR LR 05 19 17.0
comp=Z,376nm,27.5s
PPT Papeete 70.47 261 LR LR 05 21 51.0
comp=Z,172nm,20.7s,baz=106,slow=30
WVT Waverly 70.47 346 *e*P P 04 57 44.9 0.0
WVT pmax pmax
comp=Z,62nm,0.9s
WVT Waverly 70.47 346 *e*P P 04 57 44.9 0.0
comp=Z,62nm,0.9s
Z34A Collier Ranch, 70.51 337 ⇑P **P 04 57 45.8 +0.6**
baz=71,SNR=6.7
229A Bryant Ranch, 70.61 333 ⇓P **P 04 57 46.4 +0.4**
baz=71,SNR=7.0
JSRW J. Sargeant Re 70.67 355 *e*P P 04 57 46.8 +0.8
Z33A Whitaker Ranch 70.72 336 ⇓P **P 04 57 47.0 +0.5**
baz=71,SNR=13
131A Roby 70.72 335 ⇑P **P 04 57 47.1 +0.5**
baz=71,SNR=13
130A Snyder 70.86 334 ⇓P **P 04 57 47.8 +0.3**
baz=71,SNR=8.3
Z32A Haskell 70.98 336 ⇓P **P 04 57 48.8 +0.8**
baz=71,SNR=16
Y34A Reagan Ranch, 71.00 337 ⇑P **P 04 57 48.6 +0.5**
baz=71,SNR=7.5
228A UT Block 9, Go 71.04 333 ⇓P **P 04 57 49.2 +0.7**
baz=71,SNR=16
Z31A Sharp Cattle R 71.22 335 ⇑P **P 04 57 50.2 +0.6**
baz=72,SNR=16
129A Stewart Farms, 71.22 334 ⇓P **P 04 57 50.1 +0.4**
baz=72,SNR=13
Y33A Hilltop Ranch, 71.33 337 ⇑P **P 04 57 50.6 +0.4**
baz=72,SNR=7.5
PARMO Parma 71.39 345 *e*P P 04 57 50.7 +0.2
128A Castleberry Fa 71.45 333 ⇑P **P 04 57 51.7 +0.7**
baz=72,SNR=18
Z30A Sanderson Ranc 71.54 334 ⇓P **P 04 57 51.9 +0.3**
baz=72,SNR=12
Y32A R-V Farms, Ver 71.60 336 ⇓P **P 04 57 52.2 +0.4**
baz=72,SNR=8.9
X34A Smith Ranch, M 71.62 338 ⇑P **P 04 57 52.5 +0.6**
baz=72,SNR=10
PBMO Poplar Bluff 71.65 344 *e*P P 04 57 52.0 0.0
comp=Z,16nm,0.8s
Z29A Hungry Hill Ra 71.73 334 ⇓P **P 04 57 53.0 +0.3**
baz=72,SNR=16
X33A Lawton 71.78 337 ⇓P **P 04 57 53.0 +0.2**
baz=72
MNTX Cornudas Mount 71.79 330 *e*P P 04 57 52.4 -0.6
comp=Z,12nm,0.8s
Y31A Rekieta Farm, 71.84 335 ⇑P **P 04 57 53.8 +0.5**
baz=72,SNR=15
X32A Elmer 71.93 336 ⇓P **P 04 57 54.1 +0.3**
baz=72,SNR=6.2
Y30A Stafford Cattl 71.99 335 ⇑P **P 04 57 54.9 +0.7**
baz=72
Z28A Tucker Farm, M 72.01 333 ⇓P **P 04 57 54.8 +0.4**
baz=72,SNR=7.5
WMOK Wichita Mounta 72.05 337 *e*P P 04 57 54.0 -0.5
WMOK pmax pmax
comp=Z,75nm,2.5s
WMOK Wichita Mounta 72.05 337 *e*P P 04 57 54.0 -0.5
comp=Z,75nm,2.5s
W34A Bridge Creek, 72.18 338 ⇑P **P 04 57 55.3 +0.1**
baz=72
TUL1 Leonard 72.21 340 ⇓P **P 04 57 55.6 +0.2**
baz=73,SNR=8.7
TUL1 Leonard 72.21 340 *e*P P 04 57 55.0 -0.4
comp=Z,20nm,0.7s
USIN University of 72.22 347 *e*P P 04 57 54.6 -0.8
comp=Z,39nm,1.0s
WCI Wyandotte Cave 72.23 348 *e*P P 04 57 54.8 -0.7
WCI pmax pmax
comp=Z,12nm,1.0s
WCI Wyandotte Cave 72.23 348 *e*P P 04 57 54.8 -0.7
comp=Z,12nm,1.0s
Y29A Porterfield Fa 72.25 334 ⇑P **P 04 57 56.4 +0.6**
baz=73,SNR=21
SIUC Southern Illin 72.29 346 *e*P P 04 57 56.0 +0.2
W33A Caddo, Fort Co 72.33 337 ⇓P **P 04 57 56.8 +0.7**
baz=73,SNR=14
X31A McDonald Ranch 72.35 336 ⇓P **P 04 57 56.7 +0.4**
baz=73,SNR=14
X30A Coker Ranch, T 72.50 335 ⇓P **P 04 57 57.6 +0.4**
baz=73
Y28A McKinney Farm, 72.51 334 ⇑P **P 04 57 57.9 +0.5**
baz=73
W32A Sentinel 72.56 337 ⇓P **P 04 57 58.1 +0.5**
baz=73,SNR=29
V34A Guthrie 72.66 338 ⇓P **P 04 57 58.4 +0.3**
baz=73,SNR=7.1
V34A Guthrie 72.66 338 *e*P P 04 57 57.6 -0.5
comp=Z,31nm,1.2s
MSTX Muleshoe 72.76 334 ⇑P **P 04 57 59.4 +0.5**
baz=73,SNR=19
MSTX Muleshoe 72.76 334 *e*P P 04 57 59.2 +0.3
comp=Z,37nm,0.8s
X29A Tulia 72.79 335 ⇑P **P 04 57 59.5 +0.4**
baz=73,SNR=15
Y27A Causey 72.83 333 ⇑P **P 04 57 59.4 +0.1**
baz=73,SNR=6.5
W31A Holland Ranch, 72.85 336 ⇑P **P 04 57 59.7 +0.4**
baz=73,SNR=5.8
MVL Millersville 72.86 356 *e*P P 04 58 00.5 +1.3
V33A Lossen Ranch, 72.88 338 ⇑P **P 04 58 00.0 +0.6**
baz=73,SNR=9.1
Z25A Roswell 72.90 332 ⇑P **P 04 58 00.3 +0.6**
baz=73,SNR=10
V32A Arapaho 73.03 337 ⇑P **P 04 58 00.8 +0.4**
baz=73
X28A Dimmitt 73.04 334 ⇓P **P 04 58 01.0 +0.5**
baz=73
OLIL Olney 73.05 347 *e*P P 04 58 00.1 -0.2
comp=Z,26nm,1.3s
Y26A Elida 73.12 333 ⇓P **P 04 58 01.6 +0.6**
baz=73
AMTX Amarillo 73.18 335 ⇑P **P 04 58 02.0 +0.7**
baz=74
AMTX Amarillo 73.18 335 *e*P P 04 58 02.3 +1.0
comp=Z,24nm,0.9s
BLO Bloomington 73.19 348 *e*P P 04 58 01.0 -0.1
BLO pmax pmax
comp=Z,12nm,0.8s
BLO Bloomington 73.19 348 *e*P P 04 58 01.0 -0.1
comp=Z,12nm,0.8s
319A Douglas 73.21 327 ⇑P **P 04 58 02.8 +1.2**
baz=74,SNR=5.0
U34A Anderson Ranch 73.22 339 ⇓P **P 04 58 02.1 +0.7**
baz=74
U34A Anderson Ranch 73.22 339 *e*P P 04 58 02.1 +0.7
V31A Spring Creek L 73.35 337 ⇑P **P 04 58 03.4 +1.1**
baz=74
W29A Amarillo 73.38 335 ⇓P **P 04 58 03.3 +0.8**
baz=74,SNR=9.4
U33A Lingo Farm, Me 73.39 338 ⇓P **P 04 58 03.0 +0.6**
baz=74
Y25A Mesa, Roswell 73.46 332 ⇑P **P 04 58 03.1 +0.1**
baz=74
X27A F and S Farms, 73.48 334 ⇑P **P 04 58 03.5 +0.4**
baz=74
121A Cookes Peak, D 73.53 329 ⇑P **P 04 58 05.3 +1.7**
baz=74,SNR=11
121A Cookes Peak, D 73.53 329 *e*P P 04 58 04.5 +1.0
comp=Z,17nm,0.9s
CER Ceres 73.58 119 *e*P P 04 58 06.8 +2.9
CER AMB AMB 04 58 07.3
comp=Z,46nm,4.3s
CER Ceres 73.58 119 P **P 04 58 06.8 +2.9**
comp=Z,46nm,4.3s
U32A Winter Ranch, 73.62 337 ⇑P **P 04 58 04.7 +0.9**
baz=74
X26A CR and CF Fran 73.67 333 ⇓P **P 04 58 05.4 +1.1**
baz=74,SNR=6.5
ACSO Alum Creek Sta 73.69 351 *e*P P 04 58 04.0 -0.1
comp=Z,31nm,0.8s
Y24A Capitan 73.75 331 ⇑P **P 04 58 05.9 +1.0**
baz=74,SNR=15
Z22A Elephant Butte 73.80 330 ⇓P **P 04 58 06.9 +1.8**
baz=74,SNR=10
W27A Bowe Ranch, En 73.84 334 ⇓P **P 04 58 06.1 +0.9**
baz=74,SNR=15
KOMG Komaggas 73.96 115 *e*P P 04 58 06.8 +0.7
KOMG AMB AMB 04 58 07.8
comp=Z,29nm,1.2s
KOMG Komaggas 73.96 115 P **P 04 58 06.8 +0.7**
comp=Z,29nm,1.2s
X25A Clemmons Ranch 73.97 332 ⇓P **P 04 58 06.5 +0.4**
baz=74,SNR=5.0
MAW Mawson 74.00 164 LR LR 05 33 27.4
comp=Z,336nm,18.2s,baz=238,slow=38
Y23A Lovelace Mesa, 74.01 331 ⇑P **P 04 58 07.8 +1.5**
baz=74,SNR=12
T33A Patterson Ranc 74.03 338 ⇑P **P 04 58 07.0 +0.8**
baz=74,SNR=5.5
W26A Owens Ranch, T 74.13 333 ⇑P **P 04 58 07.9 +1.0**
baz=74,SNR=14
V28A Channing 74.15 335 ⇑P **P 04 58 08.1 +1.0**
baz=74
U30A WK&E Inc. Balk 74.31 336 ⇑P **P 04 58 09.3 +1.5**
baz=75
X24A Lazy VL Ranch, 74.31 332 ⇑P **P 04 58 09.0 +0.9**
baz=75
T32A Huddler Ranch, 74.33 338 ⇓P **P 04 58 08.7 +0.8**
baz=75
V27A Dan Oppiter Fa 74.38 334 ⇑P **P 04 58 09.4 +1.0**
baz=75

LIC Lamto 74.41 72 eP P 04 58 08.8 -0.1
comp=Z,88nm,1.0s
S33A Kaszmaul Farm, 74.43 339 ⇑P P 04 58 09.4 +0.9
baz=75
SFIN Lafayette 74.46 348 ⇑P P 04 58 07.8 -0.7
baz=75
W25A X Bar L Ranch, 74.50 333 ⇑P P 04 58 09.9 +0.7
baz=75,SNR=6.7
LPM Los Pinos Moun 74.58 331 eP P 04 58 10.5 +0.9
TIC Toumodi 74.66 71 eP P 04 58 10.4 0.0
comp=Z,33nm,0.8s
TUC Tucson 74.68 327 eP P 04 58 11.5 +1.3
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC Tucson 74.68 327 eP P 04 58 11.5 +1.3
comp=Z,6.9nm,1.1s
U28A Mallet 74.71 335 ⇓P P 04 58 10.9 +0.7
baz=75
KIC Kosan Boka 74.72 72 eP P 04 58 10.8 +0.1
comp=Z,110nm,1.0s
V26A Tequesquite Ra 74.76 334 ⇑P P 04 58 11.3 +0.7
baz=75,SNR=10
DBIC Dimbokro 74.81 71⇑iP P 04 58 11.5 +0.3
DBIC Dimbokro 74.81 71 eP P 04 58 11.5 +0.3
DBIC pmax pmax
comp=Z,41nm,0.8s
DBIC Dimbokro 74.81 71 P P 04 58 11.5 +0.3
comp=Z,22nm,0.6s,baz=210,slow=5.7,SNR=44
DBIC LR LR 05 31 42.3
comp=Z,209nm,18.3s,baz=214,slow=36
DBIC Dimbokro 74.81 71 eP P 04 58 11.5 +0.3
comp=Z,41nm,0.8s
LAZ Ladron 74.86 330 eP P 04 58 12.6 +1.3
comp=Z,5.1nm,1.0s
W24A Lazy 6 Ranch, 74.87 332 ⇑P P 04 58 12.3 +1.0
baz=75,SNR=13
S31A Mullinville 74.91 338 ⇑P P 04 58 12.2 +0.9
baz=75
U27A Thompson Grove 74.97 335 ⇓P P 04 58 12.5 +0.7
baz=75
ANMO Albuquerque 75.05 331⇑iP P 04 58 13.6 +1.2
ANMO pmax pmax
comp=Z,37nm,1.0s
ANMO Albuquerque 75.05 331 eP P 04 58 12.9 +0.5
comp=Z,10nm,1.1s
R33A Olander Ranch, 75.08 339 ⇓P P 04 58 12.8 +0.6
baz=75
T29A Hugoton 75.09 336 ⇓P P 04 58 13.4 +1.0
baz=75
V25A Rancho No Teng 75.11 333 ⇓P P 04 58 13.5 +0.8
baz=75,SNR=13
W23A Werner Place, 75.12 332 ⇓P P 04 58 14.1 +1.3
baz=75,SNR=8.2
SUR Sutherland 75.17 119 P P 04 58 14.5 +1.1
comp=Z,183nm,0.7s,SNR=9.6
SUR Sutherland 75.17 119 LR LR 05 28 00.0
comp=Z,188nm,18.4s,baz=224,slow=33
SUR Sutherland 75.17 119 eP P 04 58 14.2 +0.8
comp=Z,31nm,1.1s
S30A Montezuma 75.25 337 ⇑P P 04 58 14.4 +1.1
baz=76
V24A Rampart Ranch, 75.26 332 ⇓P P 04 58 14.5 +0.8
baz=76,SNR=8.0
U26A Atchley Ranch, 75.28 334 ⇑P P 04 58 14.4 +0.8
baz=76,SNR=9.7
T28A Walsh 75.34 335 ⇓P P 04 58 14.4 +0.5
baz=76,SNR=13
R32A Long Quarter, 75.41 339 ⇓P P 04 58 14.9 +0.8
baz=76,SNR=10.0
KSU1 Kansas State U 75.42 340 eP P 04 58 14.4 +0.3
comp=Z,21nm,1.3s
S29A Ulysses 75.45 336 ⇑P P 04 58 15.4 +1.0
baz=76,SNR=6.4
T27A Campo 75.50 335 ⇑P P 04 58 15.7 +0.9
baz=76,SNR=12
U25A Circle Dot Ran 75.53 333 ⇓P P 04 58 16.0 +0.9
baz=76,SNR=9.0
R31A Burdett 75.54 338 ⇑P P 04 58 15.7 +0.8
baz=76,SNR=9.1
Q33A Connelly Farm, 75.67 339 ⇑P P 04 58 16.0 +0.3
baz=76
MMNY Mt. Morris Dam 75.68 355 eP P 04 58 16.2 +0.7
comp=Z,86nm,1.4s
S28A Manter 75.69 336 ⇑P P 04 58 16.7 +0.8
baz=76,SNR=14
R30A Dighton 75.77 337 ⇓P P 04 58 17.3 +1.0
baz=76
U24A Moreno Valley 75.87 333 ⇓P P 04 58 18.4 +1.3
baz=76
Q32A Meitler Ranch, 75.88 339 ⇑P P 04 58 17.5 +0.7
baz=76,SNR=15
T26A Comanche Natio 75.91 334 ⇓P P 04 58 18.6 +1.3
baz=76,SNR=8.4
V22A San Miguel Ran 76.08 331 ⇑P P 04 58 20.2 +1.9
baz=76,SNR=11
ACCN Adirondack Com 76.15 359 eP P 04 58 18.4 +0.2
comp=Z,21nm,1.2s
U23A El Rito 76.15 332 ⇓P P 04 58 20.4 +1.7
baz=76,SNR=8.0
Q31A Ellis 76.15 338 ⇑P P 04 58 19.4 +1.0
baz=76,SNR=10
T25A Trinidad 76.18 334 ⇑P P 04 58 20.3 +1.5
baz=76,SNR=22
R29A Marienthal 76.18 337 ⇓P P 04 58 20.2 +1.6
baz=76
S26A Kim 76.27 335 ⇑P P 04 58 20.6 +1.4
baz=77,SNR=26
R28A Tribune 76.33 336 ⇓P P 04 58 20.5 +0.9
baz=77,SNR=7.4
Q30A Quinter 76.39 338 ⇑P P 04 58 20.8 +1.0
baz=77,SNR=19
U22A Llaves 76.46 332 ⇓P P 04 58 22.3 +1.8
baz=77,SNR=8.0
P32A Huiting Farm, 76.48 339 ⇑P P 04 58 20.8 +0.6
baz=77,SNR=5.4
T24B San Luis 76.48 333 ⇓P P 04 58 22.1 +1.5
baz=77,SNR=9.9
Q29A Oakley 76.55 337 ⇑P P 04 58 21.2 +0.5
baz=77,SNR=7.9
P31A Stockton 76.62 338 ⇓P P 04 58 21.8 +0.8
baz=77,SNR=10
R27A Eads 76.62 335 ⇓P P 04 58 22.1 +0.9
baz=77,SNR=15
S25A Robets Cordova 76.65 334 ⇓P P 04 58 22.8 +1.3
baz=77,SNR=12
T23A Casias Ranch, 76.71 333 ⇓P P 04 58 23.2 +1.3
baz=77,SNR=5.8
X16A Lo Mia Camp, P 76.74 327 ⇑P P 04 58 23.6 +1.6
baz=77,SNR=11
R26A Arlington 76.86 335 ⇑P P 04 58 23.7 +1.1
baz=77,SNR=11
P30A Selden 76.91 338 ⇑P P 04 58 23.6 +0.9
baz=77
S24A Houchin Ranch, 76.92 333 ⇓P P 04 58 25.0 +1.9
baz=77,SNR=16
O32A Brockman Farm, 76.97 340 ⇓P P 04 58 23.9 +0.9
baz=77
Q28A Sharon Springs 76.99 337 ⇓P P 04 58 24.4 +1.2
baz=77
R25A Fountain Ranch 77.03 334 ⇓P P 04 58 24.5 +1.0
baz=77
SDCO Great Sand Dun 77.12 333 eP P 04 58 24.9 +0.6
comp=Z,6.8nm,0.9s
SCIA State Center 77.18 344 eP P 04 58 24.5 +0.4
O31A Woolen Ranch, 77.18 339 ⇑P P 04 58 25.0 +0.8
baz=78,SNR=5.5
P29A Atwood 77.18 337 ⇑P P 04 58 25.5 +1.2
baz=78,SNR=9.1
S23A Nye Farm, Mont 77.28 333 ⇓P P 04 58 26.5 +1.4
baz=78
LONY Lake Ozonia 77.40 358 eP P 04 58 24.9 -0.4
comp=Z,12nm,1.0s
R24A Sanders Place, 77.41 334 ⇓P P 04 58 27.5 +1.7
baz=78,SNR=17
P28A Saint Francis 77.43 337 ⇓P P 04 58 26.8 +1.2
baz=78,SNR=6.4
O30A MW Ranch, Wils 77.43 338 ⇑P P 04 58 26.7 +1.1
baz=78
Q26A Hugo 77.44 335 ⇑P P 04 58 27.1 +1.2
baz=78
JFWS Jewell Farm 77.50 346 eP P 04 58 25.9 0.0
JFWS pmax pmax
comp=Z,22nm,1.1s
JFWS Jewell Farm 77.50 346 eP P 04 58 25.9 0.0
comp=Z,22nm,1.1s
UPI Upington 77.53 116 eP P 04 58 27.4 +0.7
UPI AMB AMB 04 58 29.5
comp=Z,42nm,5.1s

UPI Upington 77.53 116 P P 04 58 27.4 +0.7
comp=Z,42nm,5.1s
WUAZ Wupatki 77.63 328 ⇑P P 04 58 28.6 +1.6
baz=78,SNR=6.2
WUAZ Wupatki 77.63 328 eP P 04 58 28.1 +1.1
comp=Z,24nm,1.5s
S22A 4UR Ranch, Cre 77.63 332 ⇓P P 04 58 28.4 +1.2
baz=78,SNR=5.5
R23A Moffat 77.64 333 ⇓P P 04 58 28.1 +1.0
baz=78,SNR=6.6
Q25A Bedland, Calha 77.69 335 ⇑P P 04 58 28.2 +0.9
baz=78,SNR=5.3
SADO Sadowa 77.79 355 P P 04 58 26.8 -0.7
comp=Z,7.0nm,0.6s,baz=252,slow=4.7,SNR=5.5
MVCO Mesa Verde 77.84 331 ⇑P P 04 58 29.4 +1.2
baz=78,SNR=5.9
MVCO Mesa Verde 77.84 331 eP P 04 58 29.4 +1.2
comp=Z,13nm,1.1s
O28A Krutsinger Ran 77.93 337 ⇑P P 04 58 29.5 +1.1
baz=78,SNR=6.3
P26A Davis Ranch, A 77.95 336 ⇓P P 04 58 29.9 +1.2
baz=78,SNR=5.4
BGNE Belgrade 77.99 340 ⇓P P 04 58 29.2 +0.5
baz=78,SNR=5.6
BGNE Belgrade 77.99 340 eP P 04 58 29.1 +0.4
comp=Z,37nm,1.0s
BC3 Big Chuckawall 78.02 324 ⇑P P 04 58 30.8 +1.7
baz=78
Q24A Divide 78.07 334 ⇓P P 04 58 30.9 +1.4
baz=78
M31A Lambtecht Ranc 78.17 340 ⇓P P 04 58 30.8 +1.1
baz=78,SNR=8.5
P25A Willow Gulch B 78.20 335 ⇑P P 04 58 31.6 +1.5
baz=78,SNR=18
O27A Beecher Island 78.22 337 ⇑P P 04 58 31.6 +1.5
baz=79,SNR=5.8
IRM Iron Mountain 78.28 325 ⇑P P 04 58 32.2 +1.8
baz=78
N28A Pribbeno Ranch 78.36 337 ⇑P P 04 58 32.3 +1.4
baz=79
W13A Hualapai Mount 78.44 326 ⇓P P 04 58 33.1 +1.6
baz=79
P24A Kohler Place, 78.46 335 ⇓P P 04 58 33.2 +1.6
baz=79
PFO Pinyon Flats O 78.48 323 ⇓P P 04 58 34.0 +2.3
baz=79
BELC Belle Mtn. Jos 78.56 324 ⇑P P 04 58 33.8 +1.7
baz=79
M30A Dale-Ortello V 78.62 339 ⇓P P 04 58 33.4 +1.2
baz=79
PV01 Paradox Valley 78.66 331 eP P 04 58 33.6 +0.9
comp=Z,181nm,0.5s
P23A Jefferson 78.68 334 ⇑P P 04 58 34.1 +1.2
baz=79
O25A Wiggins 78.71 335 ⇓P P 04 58 34.6 +1.7
baz=79
OGNE Ogallala 78.75 337 ⇑P P 04 58 34.4 +1.4
baz=79
M29A Burnside Ranch 78.78 338 ⇓P P 04 58 34.6 +1.5
baz=79
N27A Anderson Farm, 78.80 337 ⇑P P 04 58 34.5 +1.3
baz=79,SNR=5.2
U15A North Rim 78.80 328 ⇑P P 04 58 34.9 +1.3
baz=79
GRM Grahamstown 78.80 122 eP P 04 58 34.0 +0.3
GRM AMB AMB 04 58 35.1
comp=Z,30nm,1.0s
GRM Grahamstown 78.80 122 P P 04 58 34.0 +0.3
GRM pmax pmax
comp=Z,30nm,1.0s
GRM Grahamstown 78.80 122 P P 04 58 34.0 +0.3
comp=Z,30nm,1.0s
MURC Murrieta 78.85 323 ⇑P P 04 58 35.0 +1.4
baz=79
L31A Butterfield Fa 78.90 340 ⇓P P 04 58 34.8 +1.1
baz=79,SNR=10
SMCO Snowmass 78.94 333 eP P 04 58 35.9 +1.5
L30A Spencer Herefo 78.95 339 ⇓P P 04 58 35.2 +1.2
baz=79
ISCO Idaho Springs 78.97 334 eP P 04 58 35.9 +1.4
ISCO pmax pmax
comp=Z,11nm,1.4s
ISCO Idaho Springs 78.97 334 ⇑P P 04 58 35.7 +1.2
baz=79,SNR=5.7
ISCO Idaho Springs 78.97 334 eP P 04 58 35.9 +1.4
comp=Z,11nm,1.4s
LDFC Landfair 79.00 325 eP P 04 58 34.9 +0.3
comp=Z,16nm,1.1s
GMRC Granite Mounta 79.02 325 ⇓P P 04 58 36.4 +1.7
baz=79
P22A Eagle 79.22 333 ⇑P P 04 58 37.2 +1.4
baz=80
M27A Reverse DX Ran 79.40 337 ⇑P P 04 58 38.0 +1.5
baz=80
O23A Lake Granby, G 79.44 334 ⇑P P 04 58 38.3 +1.2
baz=80,SNR=10
K30A Basset 79.58 340 ⇓P P 04 58 38.8 +1.4
baz=80,SNR=8.7
BFSC Mount Baldy Ra 79.58 323 ⇓P P 04 58 39.4 +1.6
baz=80
N24A Carr 79.61 335 ⇓P P 04 58 39.5 +1.7
baz=80
O22A Kremmling 79.63 334 ⇓P P 04 58 39.2 +1.1
baz=80,SNR=6.6
TUQ Turquoise Moun 79.68 325 ⇑P P 04 58 40.2 +1.9
baz=80
ECSD EROS Data Cent 79.74 342 ⇓P P 04 58 38.6 +0.4
baz=80,SNR=27
ECSD EROS Data Cent 79.74 342 eP P 04 58 38.3 +0.1
comp=Z,25nm,0.8s
M25A Palm-Egli Farm 79.87 336 ⇑P P 04 58 40.2 +1.1
baz=80
K29A Lazy Trails An 79.87 339 ⇑P P 04 58 40.2 +1.2
baz=80
GSC Goldstone, Bar 80.00 324 ⇓P P 04 58 41.2 +1.2
baz=80
N23A Red Feather La 80.05 334 ⇑P P 04 58 41.5 +1.1
baz=80
J30A Dallas 80.14 340 ⇑P P 04 58 40.8 +0.4
baz=80,SNR=6.5
K28A Ten Mile Ranch 80.14 338 ⇓P P 04 58 41.9 +1.4
baz=80,SNR=6.4
N22A Wattenberg Ran 80.16 334 ⇓P P 04 58 42.3 +1.4
baz=80,SNR=5.7
M24A Cheyenne 80.16 336 ⇑P P 04 58 42.3 +1.5
baz=80
SHPR Sheep Range 80.18 326 eP P 04 58 42.1 +1.1
CCUT Cedar City 80.21 328 eP P 04 58 43.1 +1.9
PHWY Pilot Hill 80.24 335 eP P 04 58 42.4 +1.1
comp=Z,12nm,1.0s
SPMN Nine on St. 80.24 345 ⇑P P 04 58 40.7 -0.2
baz=81
SPMN Marine on St. 80.24 345 eP P 04 58 40.4 -0.5
O20A White River Ci 80.25 333 ⇓P P 04 58 42.3 +1.0
baz=81
SRU San Rafael Swe 80.29 331 eP P 04 58 41.1 -0.4
SRU San Rafael Swe 80.29 331 eP P 04 58 41.1 -0.4
BOSA Boshof 80.40 118 eP P 04 58 42.6 +0.1
BOSA AMB AMB 04 58 43.2
comp=Z,37nm,0.9s
BOSA Boshof 80.40 118 eP P 04 58 42.3 -0.2
BOSA pmax pmax
comp=Z,31nm,0.8s
BOSA Boshof 80.40 118 P P 04 58 42.7 +0.1
comp=Z,26nm,0.7s,baz=250,slow=5.0,SNR=68
BOSA LR LR 05 29 58.0
comp=Z,182nm,20.4s,baz=181,slow=32
BOSA Boshof 80.40 118 eP P 04 58 42.3 -0.2
comp=Z,31nm,0.8s
K27A Flueckinger Fa 80.41 338 ⇓P P 04 58 43.2 +1.3
baz=81,SNR=6.2
OSI Osito Audit: C 80.42 322 ⇑P P 04 58 43.5 +1.3
baz=81
J29A Okreek 80.46 339 ⇑P P 04 58 42.9 +0.7
baz=81,SNR=20
L25A Engebretsen Ra 80.48 336 ⇓P P 04 58 43.7 +1.3
baz=81
I30A Oacoma 80.67 340 ⇓P P 04 58 43.6 +0.4
baz=81,SNR=8.5
TMUT Trail Mountain 80.73 330 eP P 04 58 45.7 +1.7
comp=Z,6.7nm,0.9s
M22A Cedar Creek Ra 80.73 334 ⇑P P 04 58 45.1 +1.2
baz=81
J28A Allard Ranch, 80.75 339 ⇑P P 04 58 44.8 +1.1
baz=81,SNR=7.8
J27A Elkhorn Farm, 80.83 338 ⇑P P 04 58 45.5 +1.3
baz=81,SNR=8.8
N20A Spence Gulch, 80.86 333 ⇑P P 04 58 45.9 +1.3
baz=81

I29A Vivian Onida 81.02 340 ⇑P P 04 58 45.2 +0.1
baz=81,SNR=6.1
BRSD Miller 81.02 341 ⇓P P 04 58 45.2 +0.1
baz=81,SNR=5.4
BRSD Miller 81.02 341 eP P 04 58 44.8 -0.3
comp=Z,13nm,0.8s
L23A Garrett 81.04 335 ⇑P P 04 58 46.3 +0.8
baz=81
ISA Isabella, Lake 81.12 323 P P 04 58 47.5 +1.6
baz=81
DAC Darwin (Calif) 81.17 324 eP P 04 58 47.7 +1.4
DAC Darwin (Calif) 81.17 324 eP P 04 58 47.7 +1.4
SWZ Schweizer 81.22 117 eP P 04 58 46.5 -0.5
SWZ AMB AMB 04 58 47.2
comp=Z,27nm,0.8s
SWZ Schweizer 81.22 117 P P 04 58 46.5 -0.5
comp=Z,27nm,0.8s
J26A Sides Ranch, S 81.22 338 ⇓P P 04 58 47.7 +1.4
baz=82
I28A Midland 81.25 339 ⇓P P 04 58 47.1 +0.7
baz=82,SNR=7.1
MPU Maple Canyon 81.51 330 eP P 04 58 49.4 +1.3
comp=Z,9.3nm,1.2s
J25A Sunshine Ranch 81.53 337 ⇑P P 04 58 49.2 +1.2
baz=82
H29A Onida 81.54 340 ⇓P P 04 58 48.2 +0.4
baz=82,SNR=11
VES Vestal, Richgr 81.56 323 ⇓P P 04 58 49.3 +1.2
baz=82
K23A Bowen Ranch, D 81.58 336 ⇓P P 04 58 49.7 +1.4
baz=82
I27A Quinn 81.58 339 ⇑P P 04 58 48.8 +0.7
baz=82,SNR=6.1
GRAC Grapevine Rang 81.63 325 ⇓P P 04 58 49.8 +1.2
baz=82
G30A Faulkton 81.71 341 ⇓P P 04 58 49.3 +0.6
baz=82,SNR=6.8
J24A Dixon Ranch, L 81.76 337 ⇑P P 04 58 50.2 +1.1
baz=82
I26A New Underwood 81.80 338 ⇑P P 04 58 50.2 +0.9
baz=82
K22A Casper 81.80 335 ⇓P P 04 58 50.2 +0.8
baz=82
K22A Casper 81.80 335 eP P 04 58 50.0 +0.5
comp=Z,21nm,1.4s
H28A Mission Ridge 81.82 339 ⇑P P 04 58 49.8 +0.5
baz=82,SNR=11
R11A Troy Canyon, C 81.87 327 ⇑P P 04 58 51.4 +1.5
baz=82,SNR=10
JLU Jordanelle 81.93 331 eP P 04 58 50.7 +0.4
comp=Z,3.7nm,0.9s
G29A Hoven 81.98 340 ⇓P P 04 58 50.5 +0.4
baz=82
K21A Alcova 82.05 334 ⇓P P 04 58 51.4 +0.6
baz=82,SNR=6.6
I25A Rochford 82.07 337 ⇑P P 04 58 51.7 +0.9
baz=82,SNR=5.5
H27A Howes 82.10 339 ⇑P P 04 58 51.3 +0.4
baz=82,SNR=12
J23A Dilts Ranch, B 82.12 336 ⇓P P 04 58 52.0 +0.9
baz=82
DUG Dugway, Tooele 82.16 330 eP P 04 58 52.5 +1.1
DUG pmax pmax
comp=Z,10.0nm,1.1s
DUG Dugway, Tooele 82.16 330 ⇑P P 04 58 52.0 +0.6
baz=82,SNR=6.1
DUG Dugway, Tooele 82.16 330 eP P 04 58 52.5 +1.1
comp=Z,9.5nm,1.1s
G28A Parade 82.16 340 ⇓P P 04 58 51.8 +0.7
baz=82,SNR=12
RSSD Black Hills 82.26 337 eP P 04 58 51.8 -0.1
RSSD pmax pmax
comp=Z,5.0nm,0.9s
RSSD Black Hills 82.26 337 eP P 04 58 51.8 -0.1
comp=Z,4.8nm,0.9s
SEK Senekal 82.31 119 eP P 04 58 52.5 -0.2
SEK AMB AMB 04 58 53.4
comp=Z,35nm,1.0s
SEK Senekal 82.31 119 P P 04 58 52.5 -0.2
comp=Z,35nm,1.0s
F30A Leola 82.33 341 ⇓P P 04 58 52.3 +0.4
baz=83,SNR=6.3
TPH Tonopah 82.42 326 eP P 04 58 54.1 +1.3
TPH Tonopah 82.42 326 eP P 04 58 54.1 +1.3
J22A Midwest 82.45 335 ⇑P P 04 58 53.1 +0.3
baz=83
F29A Eureka 82.54 341 ⇓P P 04 58 53.4 +0.4
baz=83,SNR=11
H25A Fruitdale 82.56 338 ⇓P P 04 58 54.6 +1.3
baz=83
EYMN Ely 82.58 347 eP P 04 58 51.3 -1.9
comp=Z,19nm,1.3s
LBTB Lobatse 82.59 115 eP P 04 58 54.4 +0.3
LBTB AMB AMB 04 58 55.2
comp=Z,42nm,1.2s
LBTB Lobatse 82.59 115 eP P 04 58 53.9 -0.2
LBTB pmax pmax
comp=Z,61nm,1.0s
LBTB Lobatse 82.59 115 eP P 04 58 53.9 -0.2
comp=Z,61nm,1.0s
G27A Dupree 82.73 339 ⇓P P 04 58 54.3 +0.2
baz=83,SNR=5.5
HWUT Hardware Ranch 82.82 331 eP P 04 58 55.3 +0.5
comp=Z,9.7nm,0.9s
F28A McLaughlin 82.83 340 ⇑P P 04 58 55.2 +0.6
baz=83,SNR=9.8
BGU Big Grassy Mou 82.86 330 eP P 04 58 55.8 +0.8
G26A Maurine 82.86 339 ⇓P P 04 58 54.9 +0.2
baz=83,SNR=9.8
I22A 9 Mile Ranch, 82.88 336 ⇑P P 04 58 55.3 +0.3
baz=83,SNR=5.3
E30A Jud 82.91 342 ⇑P P 04 58 55.5 +0.5
baz=83
J20A Shoshoni 82.97 334 ⇓P P 04 58 56.1 +0.5
baz=83,SNR=6.5
H24A Dirks Ranch, A 82.98 337 ⇓P P 04 58 55.6 +0.1
baz=83,SNR=5.7
PDAR Pinedale Array 83.02 333 P P 04 58 55.8 -0.1
comp=Z,1.5nm,0.8s,baz=136,slow=7.2,SNR=11
G25A Newell 83.02 338 ⇓P P 04 58 56.2 +0.5
baz=83,SNR=11
I21A Big Trails, Te 83.09 335 ⇓P P 04 58 56.5 +0.4
baz=83
KSR Koster 83.12 116 eP P 04 58 57.2 +0.2
KSR AMB AMB 04 58 57.6
comp=Z,19nm,0.8s
KSR Koster 83.12 116 P P 04 58 57.2 +0.2
comp=Z,19nm,0.8s
E29A Napoleon 83.17 341 ⇓P P 04 58 56.7 +0.3
baz=84
WDLM Western Deep L 83.20 117 eP P 04 58 57.6 +0.2
WDLM AMB AMB 04 58 57.9
comp=Z,22nm,0.8s
F27A Lemmon 83.21 339 ⇑P P 04 58 56.7 +0.2
baz=84,SNR=6.6
NVAR Mina Array Bea 83.21 325 P P 04 58 57.5 +0.5
comp=Z,2.9nm,0.7s,baz=158,slow=6.4,SNR=28
J19A Crowheart 83.25 334 ⇑P P 04 58 57.2 +0.2
baz=84,SNR=8.1
KLOF Kloof 83.38 117 eP P 04 58 58.1 -0.2
KLOF AMB AMB 04 58 59.2
comp=Z,40nm,3.0s
KLOF Kloof 83.38 117 P P 04 58 58.1 -0.2
comp=Z,40nm,3.0s
F26A Lodgepole 83.38 339 ⇓P P 04 58 58.0 +0.5
baz=84
D30A Buchanan 83.43 342 ⇑P P 04 58 58.0 +0.4
baz=84,SNR=11
H22A Clearmont 83.45 336 ⇑P P 04 58 58.1 +0.2
baz=84
G24A Alzada 83.46 338 ⇑P P 04 58 58.4 +0.5
baz=84
HVU Hansel Valley 83.46 331 eP P 04 58 58.1 0.0
HVU pmax pmax
comp=Z,9.0nm,0.9s
HVU Hansel Valley 83.46 331 eP P 04 58 58.1 0.0
comp=Z,8.8nm,0.9s
E28A Huff 83.46 340 ⇑P P 04 58 58.2 +0.3
baz=84
I20A Worland 83.51 335 ⇓P P 04 58 58.4 +0.2
baz=84
E27A Carson 83.58 340 ⇑P P 04 58 58.6 +0.2
baz=84
D29A Pettibone, Tap 83.61 341 ⇑P P 04 58 58.7 +0.1
baz=84,SNR=6.0
F25A Bowman 83.69 338 ⇑P P 04 58 59.5 +0.4
baz=84

H21A	Big Horn, Sher	83.71	336	⇓P	P	04 58 59.3	0.0
	baz=84						
CRWM	Crown Mines	83.75	117	eP	P	04 59 00.2	0.0
CRWM				AMB	AMB	04 59 00.6	
	comp=Z,41nm,0.8s						
OBSV	Observatory	83.82	117	eP	P	04 59 00.6	-0.1
OBSV				AMB	AMB	04 59 00.9	
	comp=Z,29nm,0.8s						
TORD	Torodi Ar. Bea	83.82	70	P	P	04 59 00.5	+0.1
	comp=Z,41nm,0.8s,baz=251,slow=4.7,SNR=262						
TORD				LR	LR	05 33 42.9	
	comp=Z,288nm,21.3s,baz=230,slow=34						
WAKR	Walker	83.82	324	eP	P	04 59 00.8	+0.7
ERPM	east rand prop	83.86	117	eP	P	04 59 00.6	-0.2
ERPM				AMB	AMB	04 59 09.6	
	comp=Z,27nm,2.2s						
ERPM	east rand prop	83.86	117	P	P	04 59 00.6	-0.2
	comp=Z,27nm,2.2s						
E26A	Carlson Angus	83.88	339	⇑P	P	04 59 00.3	+0.3
	baz=84						
C30A	Mose, Pekin	83.91	342	⇓P	P	04 59 00.8	+0.7
	baz=84,SNR=11						
F24A	Ekalaka	83.93	338	⇓P	P	04 59 00.7	+0.3
	baz=84						
H20A	Greybull	83.93	335	⇓P	P	04 59 00.4	0.0
	baz=84,SNR=5.4						
D28A	Regan	83.99	341	⇑P	P	04 59 01.1	+0.6
	baz=84,SNR=9.2						
F23A	Volborg	84.12	337	⇑P	P	04 59 01.5	+0.2
	baz=84						
D27A	Center	84.19	340	⇓P	P	04 59 02.1	+0.6
	baz=84						
E25A	Miller Ranch,	84.19	339	⇑P	P	04 59 02.3	+0.8
	baz=84						
SLR	Silverton	84.22	117	eP	P	04 59 02.3	-0.3
SLR				AMB	AMB	04 59 02.9	
	comp=Z,44nm,0.8s						
SLR	Silverton	84.22	117	P	P	04 59 02.3	-0.3
SLR				pmax	pmax		
	comp=Z,44nm,0.8s						
SLR	Silverton	84.22	117	P	P	04 59 02.3	-0.3
	comp=Z,44nm,0.8s						
G21A	Lodge Grass	84.29	336	⇑P	P	04 59 02.4	+0.2
	baz=85						
MDND	Maddock	84.33	342	⇑P	P	04 59 02.9	+0.7
	baz=85						
D26A	Manning	84.38	340	⇓P	P	04 59 03.5	+1.0
	baz=85						
I17A	Pilgrim Ck.	84.39	333	⇓P	P	04 59 03.7	+0.8
	baz=85,SNR=5.5						
H19A	Powell	84.44	334	⇑P	P	04 59 03.4	+0.3
	baz=85						
F22A	Rosebud	84.46	337	⇓P	P	04 59 03.5	+0.5
	baz=85						
B30A	Myrvik Farm, E	84.56	343	⇓P	P	04 59 03.6	+0.2
	baz=85,SNR=17						
G20A	Bridger	84.64	335	⇓P	P	04 59 04.0	0.0
	baz=85,SNR=6.0						
H18A	Shoshone NF, C	84.69	334	⇓P	P	04 59 04.8	+0.3
	baz=85,SNR=9.6						
C27A	Sayler Ranch,	84.73	340	⇑P	P	04 59 04.9	+0.7
	baz=85,SNR=6.9						
D25A	Fairfield	84.75	339	⇓P	P	04 59 05.3	+0.9
	baz=85,SNR=5.3						
B29A	Wagenman Farm,	84.84	342	⇑P	P	04 59 05.0	+0.2
	baz=85,SNR=9.3						
E22A	Miles City	84.94	337	⇑P	P	04 59 05.6	+0.2
	baz=85						
C26A	Wahner Farm, P	85.00	340	⇑P	P	04 59 06.2	+0.5
	baz=85						
A30A	Hoffart Farm,	85.01	343	⇑P	P	04 59 05.6	0.0
	baz=85,SNR=8.3						
D24A	Glendive	85.02	338	⇑P	P	04 59 06.5	+0.7
	baz=85						
B28A	Dugan Ranch, T	85.09	341	⇓P	P	04 59 06.5	+0.4
	baz=85,SNR=7.8						
A29A	Manning Farm,	85.23	342	⇑P	P	04 59 06.7	-0.1
	baz=86,SNR=10						
D23A	Lindsay	85.35	338	⇓P	P	04 59 08.1	+0.7
	baz=86,SNR=6.5						
E21A	Keefer Ranch,	85.40	337	⇓P	P	04 59 08.3	+0.6
	baz=86						
C24A	Savage	85.42	339	⇑P	P	04 59 08.4	+0.6
	baz=86,SNR=11						
F19A	Roth Farm, Mol	85.44	335	⇑P	P	04 59 08.1	+0.1
	baz=86,SNR=5.4						
A28A	Rude Farm, Bot	85.48	342	⇓P	P	04 59 08.2	+0.2
	baz=86						
HLID	Hailey	85.61	330	⇑P	P	04 59 10.1	+1.1
	baz=86,SNR=8.3						
HLID	Hailey	85.61	330	eP	P	04 59 10.4	+1.4
D22A	Cohagen	85.64	337	⇑P	P	04 59 09.2	+0.3
	baz=86						
GCMT	Greycliff	85.65	335	eP	P	04 59 09.1	0.0
	comp=Z,5.4nm,1.1s						
ULM	Lac du Bonnet	85.67	345	P	P	04 59 08.4	-0.4
	comp=Z,5.2nm,0.8s,baz=158,slow=3.6,SNR=9.0						
E20A	Meyer Farm, Mu	85.72	336	⇓P	P	04 59 10.0	+0.7
	baz=86,SNR=14						
D21A	La Casta Ranch	85.83	337	⇑P	P	04 59 10.5	+0.7
	baz=86						
C23A	Lambert	85.90	338	⇑P	P	04 59 10.4	+0.2
	baz=86,SNR=6.6						
E19A	Rath Farm, Rou	85.91	335	⇓P	P	04 59 10.6	+0.3
	baz=86,SNR=14						
A26A	Wade Farm, Ken	85.95	341	⇓P	P	04 59 10.4	0.0
	baz=86						
MCMT	McKenzie Canyo	86.03	332	eP	P	04 59 11.9	+0.8
	comp=Z,6.3nm,1.2s						
C22A	Vida	86.07	338	⇓P	P	04 59 10.9	0.0
	baz=86						
MFID	Camas Ranch	86.09	330	eP	P	04 59 12.3	+1.1
DGMT	Dagmar	86.19	339	⇓P	P	04 59 11.9	+0.4
	baz=86,SNR=8.8						
DGMT	Dagmar	86.19	339	eP	P	04 59 11.5	0.0
	comp=Z,45nm,1.3s						
D20A	Manuel Ranch,	86.23	336	⇓P	P	04 59 11.6	-0.2
	baz=87						
A25A	Svangstu Ranch	86.30	340	⇓P	P	04 59 12.3	+0.3
	baz=87						
B23A	Brockton	86.43	339	⇑P	P	04 59 13.2	+0.5
	baz=87						
A24A	Westby	86.54	339	⇓P	P	04 59 13.7	+0.5
	baz=87						
D19A	Cripps Ranch,	86.55	336	⇑P	P	04 59 13.4	0.0
	baz=87,SNR=5.4						
B22A	Reddig Ranch S	86.59	338	⇓P	P	04 59 13.9	+0.3
	baz=87,SNR=6.0						
LRM	Limekiln Ridge	86.71	333	eP	P	04 59 14.8	+0.4
	comp=Z,50nm,1.0s						
C20A	Veseth Ranch,	86.73	337	⇑P	P	04 59 14.1	-0.2
	baz=87,SNR=6.5						
A23A	Redstone	86.83	339	⇑P	P	04 59 15.3	+0.6
	baz=87						
B21A	Ellsworth Farm	87.03	337	⇓P	P	04 59 15.9	+0.2
	baz=87,SNR=12						
C19A	Slack Wire Ran	87.10	336	⇑P	P	04 59 16.5	+0.4
	baz=87						
A22A	Carney Farms,	87.18	338	⇑P	P	04 59 16.7	+0.3
	baz=88,SNR=12						
HRY	Holter Researc	87.22	334	eP	P	04 59 17.1	+0.4
	comp=Z,2.2nm,0.6s						
MSNA	Messina	87.44	115	eP	P	04 59 19.2	+0.7
MSNA				AMB	AMB	04 59 21.3	
	comp=Z,31nm,5.7s						
MSNA	Messina	87.44	115	P	P	04 59 19.2	+0.7
	comp=Z,31nm,5.7s						
A21A	Bergtoll Ranch	87.50	338	⇑P	P	04 59 17.6	-0.3
	baz=88,SNR=9.8						
M04C	Macdoel	87.52	325	⇓P	P	04 59 18.8	+0.5
	baz=88						
EGMT	Eagleton	87.59	336	⇓P	P	04 59 18.8	+0.3
	baz=88						
B19A	Brinkman Farms	87.69	336	⇓P	P	04 59 19.4	+0.5
	baz=88						
SCHQ	Schefferville	87.70	3	P	P	04 59 18.6	0.0
	comp=Z,7.8nm,0.6s,baz=201,slow=4.5,SNR=18						
SCHQ				LR	LR	05 39 34.4	
	comp=Z,89nm,20.4s,baz=58,slow=36						
A20A	Cobblestone Ra	87.72	337	⇓P	P	04 59 19.0	0.0
	baz=88,SNR=14						
CHMT	Chamberlain Mo	87.93	333	eP	P	04 59 20.6	+0.4
	comp=Z,15nm,2.1s						
A19A	Klindworth Far	88.03	337	⇑P	P	04 59 20.1	-0.4
	baz=88,SNR=6.9						
MSO	Missoula	88.12	333	⇓P	P	04 59 22.2	+1.1
	baz=88						
SLMT	Seeley Lake	88.29	333	eP	P	04 59 21.7	-0.2
	comp=Z,14nm,1.5s						
J05D	Fort Rock, OR	88.39	326	⇑P	P	04 59 24.0	+1.6
	baz=89						
YBMT	Yellow Bay	89.00	333	eP	P	04 59 24.9	-0.3
	comp=Z,3.5nm,1.0s						
JTMT	Jette	89.01	333	eP	P	04 59 25.2	0.0
	comp=Z,9.9nm,1.4s						
I05D	Terrebonne, OR	89.25	327	⇓P	P	04 59 28.3	+2.0
	baz=90						
BLMT	Blacktail Moun	89.26	333	eP	P	04 59 26.8	+0.3
	comp=Z,4.1nm,0.8s						
BSMT	Bassoo Peak	89.29	333	eP	P	04 59 26.8	+0.2
	comp=Z,7.4nm,1.3s						
NEW	Newport	90.54	332	⇑P	P	04 59 32.7	+0.4
	baz=91						
TAM	Tamanrasset	92.36	64	eP	P	04 59 41.6	+0.1
TAM				pmax	pmax		
	comp=Z,12nm,1.2s						
TAM	Tamanrasset	92.36	64	eP	P	04 59 41.6	+0.1
	comp=Z,12nm,1.2s						
ESDC	Sonseca Array	95.90	46	P	P	04 59 56.3	-0.9
	comp=Z,0.6nm,0.7s,baz=276,slow=4.3,SNR=5.5						
ESDC				LR	LR	05 42 41.0	
	comp=Z,158nm,19.0s,baz=205,slow=35						
YKA	Yellowknife Ar	101.25	341	P	Pdif	05 00 20.0	-0.5
	comp=Z,0.4nm,0.7s,baz=145,slow=4.3,SNR=9.0						
YKA				PKKPbc	PKKPbc	05 16 29.4	-2.7
	comp=Z,0.2nm,0.4s,baz=321,slow=3.3,SNR=8.1						
GERES	GERESS Array B	111.47	45	PKiKP	PKiKP	05 05 04.3	-0.2
	comp=Z,0.5nm,0.8s,baz=220,slow=2.4,SNR=3.0						
ILAR	Eielson Array	113.45	333	PKiKP	PKiKP	05 05 07.9	+0.3
	comp=Z,0.8nm,0.9s,baz=134,slow=2.6,SNR=6.5						
ILAR				PKKPbc	PKKPbc	05 15 51.1	-2.5
	comp=Z,0.4nm,0.7s,baz=301,slow=3.7,SNR=4.7						
KWP	Kalwaria Pacla	117.21	47	ePKiKP	PKPdf	05 05 15.2	-0.2
KWP	Kalwaria Pacla	117.21	47	ePKPdf	PKPdf	05 05 15.2	-0.2
ASAR	Alice Springs	118.40	207	PKP	PKPdf	05 05 17.1	-1.5
	comp=Z,0.9nm,0.8s,baz=159,slow=2.1,SNR=9.5						
ASAR				PKKPbc	PKKPbc	05 15 35.2	-0.4
	comp=Z,0.9nm,0.8s,baz=331,slow=3.9,SNR=5.7						
BRTR	Keskin Array B	121.32	60	PKP	PKPdf	05 05 23.6	-0.2
	comp=Z,1.8nm,0.8s,baz=188,slow=3.1,SNR=8.0						
KIEV	Kiev	121.51	47	⇓iPKIKP	PKPdf	05 05 22.8	-0.8
KIEV	Kiev	121.51	47	ePKPdf	PKPdf	05 05 22.4	-1.2
AKASG	Malin Array Be	121.52	47	PKP	PKPdf	05 05 22.5	-1.1
	comp=Z,1.3nm,0.6s,baz=259,slow=2.1,SNR=4.1						
WB2	Warramunga Arr	121.57	209	ePKPdf	PKPdf	05 05 24.1	-0.8
WRA	Warramunga Arr	121.58	209	PKP	PKPdf	05 05 24.1	-0.7
	comp=Z,3.7nm,0.9s,baz=162,slow=1.7,SNR=25						
WRA				PKKPbc	PKKPbc	05 15 22.9	-0.9
	comp=Z,0.5nm,0.8s,baz=340,slow=4.5,SNR=7.7						
WRAB	Tennant Creek	121.58	209	⇓iPKIKP	PKPdf	05 05 24.1	-0.7
WRAB				pmax	pmax		
	comp=Z,43nm,2.5s						
WRAB	Tennant Creek	121.58	209	ePKPdf	PKPdf	05 05 24.0	-0.8
VSU	Vasula	121.94	38	PKIKP	PKPdf	05 05 22.6	-1.5
TNA	Tin City	122.07	331	ePKPdf	PKPdf	05 05 24.0	-0.2
FINES	FINESS Array B	122.21	34	PKP	PKPdf	05 05 24.5	-0.1
	comp=Z,0.6nm,0.6s,baz=176,slow=5.4,SNR=4.9						
FINES				PKKPbc	PKKPbc	05 15 20.8	-1.1
	comp=Z,3.9nm,1.1s,baz=112,slow=3.7,SNR=4.2						
COEN	Coen	122.43	221	ePKPdf	PKPdf	05 05 26.4	-0.1
MBWA	Marble Bar	124.89	193	ePKPdf	PKPdf	05 05 30.1	-1.0
H11S2	WAKE ISLAND Hyl	25.87	270	T	T	07 24 42.4	
	baz=118,slow=75,SNR=255						
H11S1	WAKE ISLAND Hyl	25.89	270	T	T	07 24 19.6	
	baz=118,slow=75,SNR=264						
H11S3	WAKE ISLAND Hyl	25.89	270	T	T	07 24 43.8	
	baz=118,slow=75,SNR=159						
H11N3	WAKE ISLAND Hyl	26.27	271	T	T	07 24 53.2	
	baz=114,slow=78,SNR=13						
H11N1	WAKE ISLAND Hyl	26.28	271	T	T	07 24 53.3	
	baz=114,slow=78,SNR=12						
H11N2	WAKE ISLAND Hyl	26.28	271	T	T	07 25 05.3	
	baz=114,slow=78,SNR=53						
OBN	Obninsk	126.73	43	iPKIKP	PKPdf	05 05 34.0	+0.6
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KLMR	Klimovskoe	128.63	36	ePKIKP	PKPdf	05 05 36.0	-0.9
KLMR				pmax	pmax		
	comp=Z,26nm,1.4s						
GOF	Gofitskoye	129.40	56	ePKIKP	PKPdf	05 05 39.5	+0.6
BILL	Bilibino	132.08	334	⇑iPKIKP	PKPdf	05 05 44.7	+1.4
BILL				pmax	pmax		
	comp=Z,15nm,1.6s						
BILL	Bilibino	132.08	334	ePKPdf	PKPdf	05 05 44.2	+1.0
ARU	Arti	139.01	40	ePKIKP	PKPdf	05 05 56.4	-0.1
ARU	Arti	139.01	40	ePKPdf	PKPdf	05 05 56.4	-0.1
GEYT	Alibeck	139.45	69	PKhKP	PKPpre	05 05 48.2	
	comp=Z,14nm,0.5s,baz=255,slow=4.3,SNR=3.3						
PETK	Petropavlovsk-	139.60	315	PKP	PKPdf	05 05 58.3	+0.5
	comp=Z,6.7nm,0.9s,baz=188,slow=4.4,SNR=5.3						
TIXI	Tiksi	139.84	350	⇑iPKIKP	PKPdf	05 05 56.7	-0.8
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TIXI	Tiksi	139.84	350	ePKPdf	PKPdf	05 05 56.8	-0.8
KAPI	Kappang	140.50	198	ePKPdf	PKPdf	05 05 60.0	-0.6
AB31	Akbulak array	141.06	51	iPKHKP	PKPpre	05 05 53.4	
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ABKAR	Akbulak array	141.06	51	ePKPpre	PKPpre	05 05 53.2	
LUWI	Luwuk	143.31	205	ePKPdf	PKPdf	05 06 06.4	+0.8
PALK	Pallekele	143.88	129	iPKIKP	PKPbc	05 06 05.3	+1.0
PALK	Pallekele	143.88	129	ePKPdf	PKPab	05 06 03.9	+0.2
POO	Poona	146.11	107	⇓iP	PKPdf	05 06 09.0	-1.3
	comp=Z,159nm,1.2s						
BRVK	Borovoye	146.50	42	⇑iPKIKP	PKPdf	05 06 09.4	-0.5
BRVK				pmax	pmax		
	comp=Z,22nm,1.0s						
BRVK	Borovoye	146.50	42	ePKPdf	PKPdf	05 06 10.5	+0.6
BRVK				ePKPbc	PKPab	05 06 12.1	-0.2
BVA0	Borovoye Array	146.57	42	iPKP2	PKPdf	05 06 10.6	+0.6
BVA0				pmax	pmax		
	comp=Z,11nm,0.7s						
KBL	Kabul	147.68	76	ePKIKP	PKPdf	05 06 13.4	+0.6
KBL				e		05 06 17.0	
KBL	Kabul	147.68	76	ePKPdf	PKPdf	05 06 13.3	+0.6
KBL				ePKPbc	PKiKP	05 06 17.0	-0.5
YAK	Yakutsk	147.93	341	ePKP2	PKPbc	05 06 14.5	-0.5
YAK				pmax	pmax		
	comp=Z,79nm,1.0s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.0s						
YAK	Yakutsk	147.93	341	ePKPbc	PKPbc	05 06 14.8	-0.2
KSM	Kuching	148.45	184	ePKPdf	PKPdf	05 06 13.9	-0.5
KSM				ePKPbc	PKPbc	05 06 17.5	-0.3
KSM				ePKPab	PKPab	05 06 21.6	+0.6
PSI	Prapat	148.65	162	PKPbc	PKPbc	05 06 17.8	-0.7
	comp=E,35nm,0.8s,baz=200,slow=8.1,SNR=7.3						
KK31	Karatay Array	149.03	60	iPKP2	PKPbc	05 06 17.4	-1.1
KK31				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KKAR	Karatay Array	149.03	60	ePKIKP	PKPdf	05 06 14.5	+0.1
KKAR				e		05 06 21.7	
KKAR	Karatay Array	149.03	60	ePKPdf	PKPdf	05 06 14.5	+0.1
KKAR				ePKPbc	PKPbc	05 06 18.1	-0.4
KKAR				ePKPab	PKPab	05 06 21.7	-1.1
HYB	Hyderabad	149.20	113	iPKP	PKPbc	05 06 18.5	-1.2
YSS	Yuzh-Sakhalins	150.33	308	ePKIKP	PKPbc	05 06 20.0	-1.5
YSS				e		05 06 29.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
IPM	Ipoh	150.76	165	ePKPdf	PKPdf	05 06 18.3	+0.3
IPM				ePKPbc	PKPbc	05 06 22.9	-0.7
IPM				ePKPab	PKPab	05 06 30.8	+0.4
ASAJ	Asahikawa	151.07	302	ePKPdf	PKPdf	05 06 17.9	+0.4
ASAJ				ePKPbc	PKPbc	05 06 23.2	-0.1
KULM	Kulim	151.46	164	ePKPbc	PKPbc	05 06 24.4	-0.8
EKS2	Erkin-Say	151.47	60	P	PKPdf	05 06 17.9	-0.5
	SNR=7.2						
EKS2	Erkin-Say	151.47	60	iPKIKP	PKPdf	05 06 17.9	-0.5
EKS2	Erkin-Say	151.47	60	ePKPdf	PKPdf	05 06 17.9	-0.5
EKS2				ePKPbc	PKPbc	05 06 24.6	+0.1
EKS2				ePKPab	PKPab	05 06 32.6	-0.4
AML	Almayashu	151.48	62	P	PKPbc	05 06 25.6	+0.6
	SNR=12						
USP	Ospenovka	151.90	59	P	PKPdf	05 06 19.9	+0.9
	SNR=5.6						
USP	Ospenovka	151.90	59	iPKIKP	PKPdf	05 06 19.8	+0.9
AAK	Ala-Archa	152.00	60	P	PKPbc	05 06 26.8	+1.0
	SNR=18						
AAK	Ala-Archa	152.00	60	ePKIKP	PKPdf	05 06 19.5	+0.3
AAK				e		05 06 26.5	
AAK	Ala-Archa	152.00	60	ePKPdf	PKPdf	05 06 19.5	+0.3
AAK				ePKPbc	PKiKP	05 06 26.5	+0.3
KKM	Kota Kinabalu	152.02	197	ePKPdf	PKPdf	05 06 21.0	+1.0
KKM				ePKPbc	PKPbc	05 06 26.0	-0.6
FRU	Bishkek	152.06	60	iPKIKP	PKPbc	05 06 26.0	+0.3
FRU				pmax	pmax		
	comp=Z,40nm,1.4s						
UCH	Uchtor	152.07	61	P	PKPdf	05 06 21.2	+1.4
	SNR=5.1						
UCH	Uchtor	152.07	61	iPKIKP	PKPdf	05 06 21.1	+1.4
CHMS	Chumysh	152.13	60	P	PKPbc	05 06 26.5	+0.6
	SNR=7.7						
NVS	Novosibirsk	152.14	31	⇑iPKIKP	PKPbc	05 06 25.1	-0.3
NVS				pmax	pmax		
	comp=E,4.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,31nm,1.0s						
KURK	Kurchatov	152.16	42	ePKIKP	PKPdf	05 06 18.5	-0.5
KURK				e		05 06 25.5	
KURK	Kurchatov	152.16	42	ePKPdf	PKPdf	05 06 18.5	-0.5
KURK				ePKPbc	PKPbc	05 06 25.5	-0.1
KURK				ePKPab	PKPab	05 06 36.1	+0.7
KBK	Karagaybulak	152.32	60	P	PKPbc	05 06 27.3	+0.8
	SNR=5.7						
KZA	Kyzart	152.63	61	P	PKPbc	05 06 26.5	-1.1
	SNR=8.3						
KZA	Kyzart	152.63	61	iPKIKP	PKPbc	05 06 26.4	-1.1
TKM2	Tokmak 2	152.75	59	P	PKPbc	05 06 27.9	+0.4
	SNR=7.9						
TKM2	Tokmak 2	152.75	59	ePKIKP	PKPdf	05 06 20.0	-0.4
TKM2				e		05 06 27.6	
TKM2				e		05 06 37.9	
TKM2	Tokmak 2	152.75	59	ePKPdf	PKPdf	05 06 20.0	-0.4
TKM2				ePKPbc	PKPbc	05 06 27.6	0.0
TKM2				ePKPab	PKPab	05 06 37.9	-0.5
ULHL	Ulahol	153.34	61	P	PKPbc	05 06 29.5	+0.6
	SNR=10.0						
ZALV	Zalesovo Beam	153.43	31	PKP	PKPdf	05 06 20.6	-0.1
	comp=Z,4.1nm,0.9s,baz=318,slow=1.9,SNR=14						
ZALV				PKPbc	PKPbc	05 06 28.3	-0.1
	comp=Z,6.7nm,0.5s,baz=298,slow=3.2,SNR=26						
KSH	Kashi	153.45	67	PKPbc	PKPdf	05 06 21.8	+0.4
KSH				sPKP		05 06 35.2	
KSH				PKS	PKSdf	05 09 55.8	0.0
KSH				PP	PP	05 10 14.0	-1.7
KSH				SKS	SKSdf	05 13 26.2	-1.8
KSH				SKKS	SKKSac	05 17 00.6	-4.6
KSH				SS	SS	05 29 44.9	-6.0
KSH				PPMZ			
	comp=Z,79nm,5.0s						
KSH				LN			
	comp=Z,46nm,4.0s						
KSH				LE			
	comp=Z,45nm,4.5s						
KSH				LZ			
	comp=Z,140nm,5.2s						
BOD	Bodaibo	154.97	352	ePKIKP	PKPdf	05 06 26.8	+4.0
BOD				pmax	pmax		
	comp=Z,16nm,1.0s						
MK31	Makanchi Array	156.11	48	iPKIKP	PKPdf	05 06 32.7	+8.0
MK31				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MKAR	Makanchi Array	156.11	48	PKP	PKPdf	05 06 24.8	0.0
	comp=Z,2.1nm,0.9s,baz=318,slow=1.9,SNR=16						
MKAR				PKPbc	PKPbc	05 06 34.3	
	comp=Z,2.4nm,0.9s,baz=89,slow=0.4,SNR=9.1						
MKAR				PKPab	PKPab	05 06 52.2	-0.1
	comp=Z,9.5nm,0.6s,baz=294,slow=4.1,SNR=28						
PYUN	Piuthan	157.86	96	eP	PKPdf	05 06 27.1	-0.7
	comp=Z,24nm,0.9s						
KOLN	Koldanda	158.26	98	eP	PKPdf	05 06 28.1	-0.2
DANN	Dangsing	158.58	96	eP	PKPdf	05 06 28.9	+0.1
	comp=Z,48nm,0.9s						
HVS	Khovu-Aksy	159.14	26	⇓ePKIKP	PKPdf	05 06 28.5	+0.1
GKN	Gorkha	159.20	98	eP	PKPdf	05 06 29.1	-0.2
DMN	Daman	159.45	99	eP	PKPdf	05 06 29.5	-0.3
KKN	Kakani	159.66	99	eP	PKPdf	05 06 29.9	-0.1
PKI	Pulchoki	159.69	100	eP	PKPdf	05 06 29.4	-0.7
MDJ	Mudanjiang	159.75	311	PKP	PKPdf	05 06 27.4	-1.8
GUN	Gumba	160.20	99	eP	PKPdf	05 06 30.5	-0.2
JIRN	Jiri	160.37	100	eP	PKPdf	05 06 30.5	-0.4
	comp=Z,26nm,1.1s						
RAMN	Ramite	160.43	103	eP	PKPdf	05 06 31.1	+0.2
	comp=Z,26nm,0.9s						
WMQ	Urumqi	160.84	50	ePKP	PKPdf	05 06 29.4	-1.2
WMQ				PKPab	PKPab	05 07 13.8	+0.8
WMQ				PKS	PKSdf	05 10 01.4	-2.5
WMQ				PP	PP	05 10 57.5	+1.5
WMQ				SKS	SKSdf	05 13 29.5	-5.6
WMQ				SKKS	SKKSac	05 17 40.0	-3.9
WMQ				LN			
	comp=Z,92nm,23.0s						
WMQ				LE			
	comp=Z,14nm,21.0s						
WMQ				LZ			
	comp=Z,85nm,19.5s						
ODAN	Odare	161.04	104	eP	PKPdf	05 06 31.6	+0.1
	comp=Z,25nm,0.8s						
TLY	Talaya	161.17	9	ePKP2	PKPab	05 07 15.9	+1.9
TLY				pmax	pmax		
	comp=Z,11nm,0.9s						
TAPN	Taplejung	161.50	103	eP	PKPdf	05 06 32.0	-0.1
	comp=Z,8.1nm,0.8s						
ZAK	Zakamensk	162.39	10

comp=Z,110nm,22.7s
GYA LZ
comp=Z,120nm,21.4s
LZH Lanzhou 175.42 48 *e*PKP **PKPdf 05 06 40.6 -0.2**
LZH pPKP **pPKPdf 05 06 53.0 +7.0**
LZH sPKP 05 06 56.2
LZH PKPab **PKPab 05 08 18.5 +0.8**
LZH PP **PP 05 12 12.3 +2.0**
LZH SKKS 05 18 54.4
LZH *e*SS **SS 05 33 31.3 -4.2**
LZH PPMZ
comp=Z,140nm,9.3s
LZH LN
comp=Z,170nm,18.0s
LZH LE
comp=Z,180nm,18.2s
LZH LZ
comp=Z,190nm,20.1s
CD2 Chengdu 175.72 120 *e*PKP **PKPdf 05 06 40.8 -0.1**
XAN Xi'an 178.84 323 PKP **PKPdf 05 06 39.7 -1.6**
XAN pPKP **pPKPdf 05 06 50.1 +3.6**

IDC 07 04:46:54.2±8.2, 12°.80S×166°.51E, h156km±81km, mb3.3/4, mb1 3.4/5, mb1mx3.2/34, mbtmp3.7/5, Error ellipse: s-maj=62.0km s-min=33.9km az=163.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.22**	**180**	P	Pn	04 49 04.3	+0.4
	0.5nm,0.3s,baz=341,slow=18,SNR=12						
DZM				S	Sn	04 50 46.0	-0.3
	0.2nm,0.3s,baz=14,slow=15,SNR=3.6						
WRA	**Warramunga Arr**	**31.63**	**253**	P	P	04 53 02.7	-0.1
	0.4nm,0.8s,baz=84,slow=9.3,SNR=3.7						
ASAR	**Alice Springs**	**32.72**	**246**	P	P	04 53 12.3	0.0
	0.6nm,0.6s,baz=69,slow=9.8,SNR=13						
SONM	**Songino Array**	**80.52**	**324**	P	P	04 58 48.8	-0.3
	0.4nm,0.8s,baz=120,slow=6.1,SNR=3.9						
MKAR	**Makanchi Array**	**95.31**	**317**	P	P	05 00 00.8	+0.3
	0.6nm,0.7s,baz=93,slow=6.5,SNR=8.0						
ARCES	**ARCESS Array B**	**118.21**	**345**	PKP	PKPdf	05 05 21.9	-0.4
	7.2nm,1.1s,baz=49,slow=3.2,SNR=8.3						
KEST	**Kesra**	**149.25**	**322**	PKPbc	PKPbc	05 06 24.8	-0.2
	1.0nm,0.8s,baz=128,slow=2.4,SNR=5.2						
ESDC	**Sonseca Array**	**151.94**	**344**	PKPab	PKPab	05 06 40.5	-0.4
	0.8nm,0.8s,baz=27,slow=5.2,SNR=4.6						

IDC 07 05:04:59.8±1.8, 1°.93N×125°.23E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/48, mbtmp3.4/3, Error ellipse: s-maj=169.8km s-min=24.3km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.50**	**158**	P	P	05 10 11.9	+0.4
	0.9nm,0.3s,baz=337,slow=11,SNR=39						
ASAR	**Alice Springs**	**26.80**	**162**	P	P	05 10 41.8	-0.2
	0.4nm,0.5s,baz=338,slow=7.6,SNR=8.1						
MKAR	**Makanchi Array**	**58.20**	**327**	P	P	05 14 55.6	-0.2
	0.1nm,0.4s,baz=120,slow=6.3,SNR=4.1						

MAN 07 05:12:21, 8°.26N×124°.83E, h64km, mb4.1, ML2.9, MS2.6, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.24**	**325**	⇑*i*P	Pn	05 12 34.6	+3.5
CGP				*i* S	Sn	05 12 41.6	+3.1
BUKP	**Musuan**	**0.44**	**149**	*e*P	Pn	05 12 34.6	+1.8
BUKP				*e*S	Sn	05 12 46.0	+4.6
BUTP	**Butuan**	**1.05**	**48**	*e*P	Pn	05 12 41.4	+1.6
CTBH	**Cotabato--PC H**	**1.19**	**209**	⇑*i*P	Pn	05 12 39.3	-2.4
PAGZ	**Pagadian**	**1.49**	**254**	*e*P	Pn	05 12 47.3	+1.6

IDC 07 05:15:04.8±5.8, 4°.95S×152°.45E, h77km±47km, mb3.4/3, mb1 3.7/4, mb1mx3.2/34, mbtmp3.8/4, ML2.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/18, Error ellipse: s-maj=114.1km s-min=30.2km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.87**	**230**	P	Pn	05 16 43.9	+0.9
	1.2nm,0.3s,baz=52,slow=18,SNR=3.8						
PMG				S	Sn	05 18 00.9	+1.2
	0.9nm,0.3s,baz=117,slow=16,SNR=3.6						
PMG				LR	LR	05 19 10.1	
	comp=Z,87nm,22.0s,baz=227,slow=36						
WRA	**Warramunga Arr**	**23.09**	**228**	P	P	05 20 03.5	-0.8
	1.8nm,1.0s,baz=52,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**25.81**	**222**	P	P	05 20 29.1	+0.1
	1.4nm,0.8s,baz=57,slow=8.7,SNR=17						
ILAR	**Eielson Array**	**82.42**	**22**	P	P	05 27 17.7	-0.6
	0.7nm,0.9s,baz=248,slow=4.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**150.02**	**288**	PKPbc	PKPbc	05 34 48.0	+0.4
	0.5nm,0.8s,baz=66,slow=2.4,SNR=7.1						

*ISCJB **07** 05:15:44.5±2.1, 34°.69S±0°.03×72°.51W±0°.06, h10km±14km, mb3.8/8, Error ellipse: s-maj=8.2km s-min=5.4km az=17.9*
*IDC **07** 05:15:44.2±0.7, 34°.67S×72°.19W, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.9/23, mbtmp3.8/9, ML4.2/1, MS1.8/1, Ms1 1.8/1, ms1mx1.8/22, Error ellipse: s-maj=31.9km s-min=18.9km az=88.0*
*GUC **07** 05:15:46.9±0.4, 34°.66S×72°.48W, h28km±3km, ML4.2*
ISC 07 05:15:44.4±1.9, 34°.71S±0°.04×72°.37W±0°.07, h1km±11km, n32, σ0°.87/32, mb3.9/8, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.98**	**108**	⇑*i*P	**Pn**	**05 16 05.6**	**+0.4**
NICH				*i* S	**Sn**	**05 16 19.3**	**-0.4**
LNCH	**Linares**	**1.30**	**151**	⇑*i*P	**Pb**	**05 16 09.9**	**+0.4**
LNCH				*e*S	**Sn**	**05 16 27.8**	**+0.2**
COCH	**Cobquecura**	**1.46**	**194**	*i* P	**Pn**	**05 16 11.6**	**-0.3**
COCH				*i* S	**Sb**	**05 16 30.7**	**-0.8**
TACH	**Talagante**	**1.58**	**49**	*e*P	**Pn**	**05 16 13.8**	**+0.2**
IHA	**Instituto Hidr**	**1.78**	**20**	*e*P	**Pn**	**05 16 16.3**	**0.0**
IHA				*i* S	**Sn**	**05 16 38.5**	**-1.0**
ANTU	**Antumapu**	**1.83**	**52**	*i* P9	**Pg**	**05 16 19.4**	**-0.1**
ANTU				*i* S	**Sg**	**05 16 43.0**	**-0.2**
ANTU				AML	AML	05 16 52.0	
	comp=E,2μm,0.6s						
LACH	**Col Las Americ**	**1.97**	**51**	*i* P	**Pn**	**05 16 19.8**	**+0.9**
LACH				*i* S	**Sb**	**05 16 45.1**	**-1.1**
CLCH	**Cerro Calan**	**2.00**	**50**	*e*P9	**Pg**	**05 16 22.0**	**-0.8**
CLCH				*i* S	**Sb**	**05 16 47.4**	**+0.3**
CLCH				AML	AML	05 16 57.1	
	comp=N,2μm,0.7s						
PEL	**Peldehue**	**2.09**	**42**	AML	AML	05 16 56.1	
	comp=N,3μm,0.5s						
FCH	**Farellones**	**2.21**	**52**	AML	AML	05 16 53.9	
	comp=N,2μm,0.2s						
CFAA	**Coronel Fontan**	**4.64**	**49**	Pn	**Pn**	**05 16 57.2**	**+1.6**
	comp=N,0.3nm,0.3s,baz=237,slow=20,SNR=16						
CFAA				Lg	Lg	05 18 06.8	
	comp=N,1.0nm,0.3s,baz=353,slow=22,SNR=6.9						
CFAA				LR	LR	05 19 06.1	
	comp=N,10nm,18.5s,baz=202,slow=45						
PLCA	**Paso Flores**	**6.18**	**167**	Pn	**Pn**	**05 17 18.1**	**+1.2**
	comp=N,1.3nm,0.3s,baz=333,slow=12,SNR=40						
PLCA				Lg	Lg	05 18 54.0	
	comp=N,0.7nm,0.3s,baz=255,slow=19,SNR=2.9						
LPAZ	**La Paz**	**18.73**	**13**	P	**Pn**	**05 20 07.2**	**+1.7**
	comp=N,0.2nm,0.3s,baz=192,slow=9.0,SNR=10						
SIV	**San Ignacio**	**21.22**	**31**	P	**P**	**05 20 31.0**	**-0.7**
	comp=N,2.6nm,0.8s,baz=216,slow=11,SNR=7.7						
QSPA	**South Pole Qui**	**55.53**	**180**	P	**P**	**05 25 21.2**	**+0.3**
	comp=N,2.3nm,1.1s,baz=266,slow=2.0,SNR=4.5						
VNDA	**Vanda**	**63.36**	**191**	P	**P**	**05 26 15.4**	**+0.9**
	comp=N,0.6nm,0.7s,baz=172,slow=7.1,SNR=3.7						
TXAR	**Lajitas Array**	**70.22**	**331**	P	**P**	**05 26 59.5**	**+0.5**
	comp=N,1.1nm,0.8s,baz=156,slow=8.7,SNR=8.3						
BOSA	**Boshof**	**79.98**	**118**	P	**P**	**05 27 55.2**	**-0.5**
	comp=N,2.1nm,1.0s,baz=202,slow=5.4,SNR=3.3						
PDAR	**Pinedale Array**	**84.27**	**333**	P	**P**	**05 28 18.4**	**+0.6**
	comp=N,0.3nm,0.6s,baz=123,slow=9.8,SNR=3.2						
NVAR	**Mina Array Bea**	**84.31**	**325**	P	**P**	**05 28 18.5**	**+0.4**
	comp=N,0.6nm,0.7s,baz=149,slow=5.7,SNR=5.7						
TORD	**Torodi Ar. Bea**	**84.70**	**70**	P	**P**	**05 28 19.1**	**-1.2**
	comp=N,0.3nm,0.8s,baz=264,slow=5.0,SNR=4.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**120.01**	**209**	PKP	**PKPdf**	**05 34 35.6**	**-1.7**
	comp=N,0.3nm,0.5s,baz=166,slow=1.5,SNR=8.2						
H11S2	**WAKE ISLAND Hyd**	**125.49**	**269**	T	T	07 52 58.0	
	baz=150						
H11S1	**WAKE ISLAND Hyd**	**125.50**	**269**	T	T	07 52 57.4	
	baz=150						
H11S3	**WAKE ISLAND Hyd**	**125.50**	**269**	T	T	07 52 58.6	
	baz=150						
H11N3	**WAKE ISLAND Hyd**	**125.92**	**270**	T	T	07 53 28.2	
	baz=124						
H11N1	**WAKE ISLAND Hyd**	**125.93**	**270**	T	T	07 53 27.3	
	baz=124,slow=74,SNR=4.1						
H11N2	**WAKE ISLAND Hyd**	**125.94**	**270**	T	T	07 53 29.7	
	baz=124,slow=74						
BVAR	**Borovoye Array**	**147.98**	**44**	PKPbc	**PKPdf**	**05 35 29.2**	**+1.3**
	comp=N,0.8nm,0.6s,baz=298,slow=3.1,SNR=6.2						
AAK	**Ala-Archa**	**153.07**	**63**	PKPbc	**PKPbc**	**05 35 43.6**	**-0.1**
	comp=N,0.5nm,0.5s,baz=111,slow=6.2,SNR=5.0						
KURBB	**Kurchatov Arra**	**153.57**	**44**	PKPbc	**PKPbc**	**05 35 43.6**	**-0.6**
	comp=N,0.2nm,0.5s,baz=296,slow=3.0,SNR=7.6						
KURBB				PKPab	**PKPab**	**05 35 56.3**	**-0.5**
	comp=N,0.2nm,0.5s,baz=288,slow=2.9,SNR=5.6						
MKAR	**Makanchi Array**	**157.43**	**50**	PKPab	**PKPab**	**05 36 13.0**	**-0.5**
	comp=N,0.2nm,0.5s,baz=295,slow=3.3,SNR=3.4						

IDC 07 05:18:25.9±2.4, 54°.12N×86°.35E, h0km, mb1 3.2/2, mb1mx3.0/30, mbtmp3.2/2, ML2.9/2, 3C-3D, Error ellipse: s-maj=18.8km s-min=11.6km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**260**	*i*		05 24 01.7	
	baz=78,slow=337,SNR=17						
ZALV	**Zalesovo Beam**	**0.92**	**260**	Pg	Pg	05 18 42.4	-1.1
	2.5nm,0.3s,baz=84,slow=18,SNR=40						
ZALV				Lg	Lg	05 18 56.5	
	3.5nm,0.3s,baz=79,slow=30,SNR=20						
KURK	**Kurchatov**	**5.83**	**237**	⇑Pn	Pn	05 19 56.5	+3.0
	0.2nm,0.3s						
KURK				⇓Lg	Lg	05 21 35.8	
	1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**5.93**	**237**	⇓Pn	Pn	05 19 56.3	+1.4
	0.8nm,0.3s,baz=56,slow=14						
KURBB				⇑Lg	Lg	05 21 38.9	
	2.2nm,0.7s,baz=52,slow=28						
KURBB	**Kurchatov Arra**	**5.93**	**237**	Pn	Pn	05 19 55.9	+1.0
	0.2nm,0.3s,baz=54,slow=13,SNR=14						
KURBB				Lg	Lg	05 21 34.8	
	0.0nm,0.3s,baz=54,slow=34,SNR=3.8						
MK31	**Makanchi Array**	**7.77**	**201**	⇑Pn	Pn	05 20 21.0	+0.7
	0.1nm,0.2s,baz=26,slow=14,SNR=17						
MK31				⇓Sn	Sn	05 20 47.6	-61
	0.1nm,0.2s,baz=120,slow=32,SNR=5.6						
MKAR	**Makanchi Array**	**7.77**	**201**	Pn	Pn	05 20 21.0	+0.7
	0.2nm,0.3s,baz=20,slow=11,SNR=12						
MKAR				Sn	Sn	05 21 48.9	-0.1
	0.1nm,0.3s,baz=22,slow=24,SNR=2.3						
MKAR				Lg	Lg	05 22 34.3	
	0.0nm,0.3s,baz=18,slow=33,SNR=4.8						

GUC 07 05:23:25.5±0.4, 34°.40S×72°.25W, h10km±4km, ML3.8, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.83**	**58**	⇓*i*P	Pg	05 23 40.5	-1.0
LNV				*i* S	Sg	05 23 51.5	-0.8
NICH	**Los Niches**	**1.04**	**126**	*e*P	Pg	05 23 43.4	-2.1
NICH				*i* S	Sg	05 23 57.3	-1.7
CACH	**El Canelo**	**1.40**	**79**	⇓*i*P	Pn	05 23 49.8	-1.4
CACH				*i* S	Sn	05 24 08.2	-1.6
CHCH	**Chadas Angostu**	**1.41**	**71**	⇑*i*P	Pn	05 23 49.5	-1.7
CHCH				*i* S	Sn	05 24 07.7	-2.1
LNCH	**Linares**	**1.54**	**160**	*e*P	Pn	05 23 51.5	-1.5
LNCH				*e*S	Sn	05 24 11.2	-1.8
LACH	**Col Las Americ**	**1.72**	**57**	*e*P	Pn	05 23 54.3	-1.2
LACH				*i* S	Sn	05 24 16.3	-1.2
CLCH	**Cerro Calan**	**1.74**	**55**	*i* P	Pn	05 23 54.9	-1.0
CLCH				*i* S	Sn	05 24 17.2	-1.1
CLCH				IAML		05 24 25.1	
	comp=N,1μm,0.6s						
COCH	**Cobquecura**	**1.78**	**194**	*i* P	Pn	05 23 55.0	-1.2
COCH				*i* S	Sn	05 24 17.9	-1.1
PEL	**Peldehue**	**1.81**	**47**	*e*P	Pn	05 23 55.9	-0.9
PEL				*e*S	Sn	05 24 18.9	-0.9
PEL				IAML		05 24 24.3	
	comp=N,3μm,0.3s						
FCH	**Farellones**	**1.95**	**57**	IAML		05 24 38.9	
	comp=N,1μm,0.2s						

IDC 07 05:25:07.2±1.9, 4°.19N×126°.53E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.2/49, mbtmp3.2/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/15, Error ellipse: s-maj=172.2km s-min=22.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.18**	**163**	P	P	05 30 34.2	-0.5
	0.4nm,0.6s,baz=342,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**28.61**	**166**	P	P	05 31 06.0	+0.5
	0.1nm,0.4s,baz=341,slow=6.8,SNR=4.6						
PETK	**Petropavlovsk-**	**55.08**	**22**	LR	LR	05 56 47.1	
	comp=Z,26nm,21.1s,baz=68,slow=34						
MKAR	**Makanchi Array**	**57.06**	**325**	P	P	05 34 55.3	0.0
	0.1nm,0.5s,baz=115,slow=6.9,SNR=4.4						
KURBB	**Kurchatov Arra**	**61.24**	**327**	P	P	05 35 24.0	-0.1
	0.2nm,0.6s,baz=125,slow=6.7,SNR=3.7						

IDC 07 05:28:57.1±1.3, 33°.72N×90°.95E, h0km, mb3.6/3, mb1 3.5/5, mb1mx3.2/55, mbtmp3.4/5, ML2.5/2, Error ellipse: s-maj=63.4km s-min=25.0km az=61.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.62**	**336**	Pn	Pn	05 32 23.9	-1.4
	0.0nm,0.3s,baz=148,slow=12,SNR=2.8						
KURBB	**Kurchatov Arra**	**19.19**	**335**	P	P	05 33 22.4	+0.1
	0.0nm,0.3s,baz=144,slow=12,SNR=5.1						
ZALV	**Zalesovo Beam**	**20.68**	**350**	P	P	05 33 37.8	-0.8
	0.8nm,0.5s,baz=163,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**70.20**	**138**	P	P	05 40 12.1	+0.1
	0.9nm,0.8s,baz=320,slow=7.0,SNR=8.3						
TORD	**Torodi Ar. Bea**	**82.21**	**281**	P	P	05 41 20.5	-0.1
	0.3nm,0.6s,baz=47,slow=5.7,SNR=3.6						

*IDC **07** 06:11:14.0±0.9, 5°.30S×133°.93E, h0km, mb4.1/3, mb1 4.5/6, mb1mx3.9/30, mbtmp4.4/6, ML4.4/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/26, Error ellipse: s-maj=40.1km s-min=23.6km az=70.0*
*ISCJB **07** 06:11:16.0±0.5, 5°.40S±0°.03×133°.98E±0°.06, h32km, mb4.1/5, Error ellipse: s-maj=8.1km s-min=4.2km az=164.9*
*DJA **07** 06:11:17.8±2.0, 5°S±3°×13°4E±°, h10km±17km, M4.9/15, mB5.4/10, mb4.9/15, MLv4.9/9, Mw(mB)4.9/10*
*NEIC **07** 06:11:19.0±0.6, 5°.49S×133°.86E, h35km, mb4.2/2, Error ellipse: s-maj=12.8km s-min=7.2km az=53.0*
ISC 07 06:11:18.1±0.6, 5°.36S±0°.05×133°.92E±0°.07, h32km, n44, σ1°.87/52, mb4.2/5, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.71**	**353**	P	**Pn**	**06 11 46.0**	**+0.4**
KMPI				S	**Sn**	**06 12 04.4**	**-1.9**
FAKI	**Fak Fak**	**2.95**	**325**	P	**Pn**	**06 12 03.2**	**+0.5**
FAKI				S	**Sn**	**06 12 34.7**	**-2.3**
FAKI	**Fak Fak**	**2.95**	**325**	P	**Pn**	**06 12 02.7**	**0.0**
	baz=3.0,SNR=58						
FAKI				S	**Sn**	**06 12 35.1**	**-1.9**
	baz=3.0,SNR=12						
FAKI	**Fak Fak**	**2.95**	**325**	*e*Pn	**Pn**	**06 12 02.9**	**+0.2**
FAKI				*e*Sn	**Sn**	**06 12 34.1**	**-2.9**
RKPI	**Ransiki, Papua**	**3.84**	**4**	P	**Pn**	**06 12 15.5**	**+0.6**
BNDI	**Bandanaira**	**4.09**	**282**	P	**Pn**	**06 12 19.5**	**+1.1**
SWI	**Sorong**	**5.20**	**329**	P	**Pn**	**06 12 34.6**	**+0.9**
	108nm,0.7s,6μm1.4nm						
SWI	**Sorong**	**5.20**	**329**	P	**Pn**	**06 12 34.9**	**+1.1**
	baz=5.3,SNR=22						
SWI				S	**Sn**	**06 13 28.5**	**-4.1**
	baz=5.3,SNR=11						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**5.37**	**292**	P	**Pn**	**06 12 37.2**	**+1.2**
	60nm,0.8s,739nm0.2nm						
NLAI	**Namlea**	**7.12**	**287**	P	**Pn**	**06 13 02.5**	**+2.4**
	92nm,0.5s,5μm						
KDU	**Kakadu**	**7.42**	**191**	P	**Pn**	**06 13 05.4**	**+1.2**
	baz=7.4,SNR=60						
MTN	**Manton Dam**	**7.93**	**200**	P	**Pn**	**06 13 13.8**	**+2.7**
	baz=8.0,SNR=17						
MTN				S	**Sn**	**06 14 41.5**	**+1.7**
	baz=8.0,SNR=4.5						
SANI	**Sanana**	**8.57**	**292**	P	**Pn**	**06 13 18.8**	**-1.3**
	69nm,0.6s,1μm0.3nm						
TNTI	**Ternate**	**8.94**	**313**	*e*Pn	**Pn**	**06 13 26.3**	**+1.2**
SOEI	**Soe**	**10.52**	**245**	P	**Pn**	**06 13 47.8**	**+1.0**
	89nm,0.9s						
SOEI	**Soe**	**10.52**	**245**	*e*Pn	**Pn**	**06 13 47.1**	**+0.3**
	95nm,0.9s						
BATI	**Baumata**	**11.24**	**244**	P	**Pn**	**06 13 58.9**	**+2.2**
	47nm,0.7s						
BATI	**Baumata**	**11.24**	**244**	Pn	**Pn**	**06 13 56.5**	**-0.2**
	15nm,0.3s,baz=92,slow=4.7,SNR=13						
BATI				Sn	**Sn**	**06 15 58.3**	**-3.1**
	6.7nm,0.3s,baz=169,slow=22,SNR=6.0						
LUWI	**Luwuk**	**11.93**	**291**	P	**Pn**	**06 14 05.1**	**-0.9**
	46nm,0.7s,10μm						
LUWI	**Luwuk**	**11.93**	**291**	*e*Pn	**Pn**	**06 14 05.2**	**-0.9**
	28nm,0.5s						
COEN	**Coen**	**12.49**	**134**	*e*Pn	**Pn**	**06 14 12.3**	**-1.4**
	54nm,0.6s						
COEN				*e*Sn	Sn	06 16 22.1	-10
MRSI	**Marisa**	**13.30**	**296**	P	**Pn**	**06 14 25.2**	**+0.4**
	19nm,0.7s,1μm						
PMG	**Port Moresby**	**13.73**	**108**	LR	LR	06 21 12.4	
	comp=Z,188nm,18.6s,baz=230,slow=44						
BKSI	**Bulukumba**	**13.74**	**270**	P	**P**	**06 14 37.4**	**-1.6**
KAPI	**Kappang**	**14.12**	**271**	Pn	**Pn**	**06 14 35.8**	**-0.1**
SPSI	**Sidrap Palu**	**14.17**	**275**	P	**Pn**	**06 14 38.9**	**+2.2**
	28nm,0.9s						
WRAB	**Tennant Creek**	**14.49**	**178**	*e*Pn	**Pn**	**06 14 38.2**	**-2.8**
	17nm,0.7s						
WRAB				*e*Sn	**Sn**	**06 17 20.8**	**+0.1**
WRA	**Warramunga Arr**	**14.50**	**178**	Pn	**Pn**	**06 14 38.3**	**-2.9**
	0.4nm,0.3s,baz=357,slow=13,SNR=24						
WRA				Sn	Sn	06 17 12.1	-8.8
	0.5nm,0.3s,baz=359,slow=23,SNR=4.0						
WRA				LR	LR	06 21 18.7	
	comp=Z,54nm,21.5s,baz=10.0,slow=42						
WB2	**Warramunga Arr**	**14.50**	**178**	*e*Pn	**Pn**	**06 14 38.9**	**-2.2**
WB2				*e*Sn	**Sn**	**06 17 15.2**	**-5.6**
MPSI	**Mapaga**	**15.11**	**292**	P	**Pn**	**06 14 50.4**	**+1.1**
	22nm,1.1s,2μm						
AS31	**Alice Springs**	**18.20**	**180**	*e*Pn	**Pn**	**06 15 27.1**	**-1.2**
ASAR	**Alice Springs**	**18.20**	**180**	P	**Pn**	**06 15 27.1**	**-1.3**
	0.3nm,0.3s,baz=356,slow=12,SNR=31						
ASAR				S	Sn	06 18 38.9	-12
	0.0nm,0.3s,baz=357,slow=27,SNR=3.0						
CTA	**Charters Tower**	**18.92**	**142**	P	**Pn**	**06 15 38.1**	**+0.9**
	0.7nm,0.3s,baz=318,slow=13,SNR=9.3						
CTAO	**Charters Tower**	**18.92**	**142**	*e*P	**Pn**	**06 15 38.0**	**+0.8**
	14nm,1.0s						
BBKI	**Banjar Baru**	**19.12**	**275**	P	**Pn**	**06 15 41.3**	**+1.7**
KMMI	**Kalianget**	**19.91**	**264**	P	**Pn**	**06 15 52.1**	**+3.1**
KSM	**Kuching**	**24.54**	**285**	*e*P	**P**	**06 16 36.8**	**+1.6**
	13nm,0.9s						
MKAR	**Makanchi Array**	**69.07**	**325**	P	**P**	**06 22 21.9**	**+0.9**
	1.5nm,0.6s,baz=116,slow=7.2,SNR=22						
VNDA	**Vanda**	**73.62**	**174**	P	**P**	**06 22 49.4**	**+1.5**
	2.2nm,0.8s,baz=300,slow=4.8,SNR=6.7						
KKAR	**Karatay Array**	**74.74**	**317**	*e*P	**P**	**06 22 56.3**	**+1.3**
	1.0nm,0.6s						
ILAR	**Eielson Array**	**90.22**	**25**	P	**P**	**06 24 14.7**	**-0.5**
	0.6nm,1.0s,baz=267,slow=4.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**132.29**	**283**	PKP	**PKPdf**	**06 30 31.1**	**+1.1**
	0.7nm,0.6s,baz=74,slow=2.0,SNR=4.5						
CPUP	**Villa Florida**	**146.66**	**161**	PKPbc	**PKPbc**	**06 30 57.9**	**+0.6**
	4.6nm,0.6s,baz=214,slow=4.0,SNR=11						
LPAZ	**La Paz**	**149.36**	**135**	PKPbc	**PKPbc**	**06 31 06.7**	**+1.1**
	3.4nm,0.8s,baz=232,slow=2.0,SNR=5.9						

IDC 07 06:11:58.1±2.2, 55°.12N×83°.87E, h0km, mb1 2.8/3, mb1mx2.8/31, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=21.6km s-min=13.8km az=17.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**154**	*i*		06 19 24.2	
	baz=333,slow=348						
ZALV	**Zalesovo Beam**	**1.30**	**154**	Pg	Pg	06 12 22.8	-0.2
	2.3nm,0.3s,baz=335,slow=15,SNR=14						
ZALV				Lg	Lg	06 12 40.6	
	8.2nm,0.3s,baz=337,slow=28,SNR=23						
KURBB	**Kurchatov Arra**	**5.55**	**218**	Pn	Pn	06 13 21.7	-0.1
	0.1nm,0.3s,baz=38,slow=14,SNR=3.5						
KURBB				Lg	Lg	06 14 55.5	
	0.1nm,0.3s,baz=40,slow=28,SNR=2.7						
BVAR	**Borovoye Array**	**8.21**	**261**	Pn	Pn	06 13 57.6	-0.7
	0.1nm,0.3s,baz=70,slow=17,SNR=2.5						
MKAR	**Makanchi Array**	**8.40**	**187**	Pn	Pn	06 14 00.1	-1.0
	0.1nm,0.3s,baz=14,slow=14,SNR=3.7						

*ISCJB **07** 06:14:10.1±0.7, 36°.72N±0°.04×121°.66W±0°.05, h11km±4km, Error ellipse: s-maj=7.7km s-min=4.3km az=140.6*
*NEIC **07** 06:14:12.3, 36°.81N×121°.54W, h5km, MW3.6(BRK), After NCEDC.*
*NEIC Felt [III] at San Juan Bautista and [II] at Hollister,

GSC	Goldstone, Bar	4.13	110	*e*Pn		Pn	06 15 15.2 +1.0
CIS	Catalina Islan	4.26	142	⇓P		Pn	06 15 16.2 +0.2
	baz=4.3						
CIS				⇓S		Sn	06 16 04.8 -0.9
	baz=4.3						
KHMM	Horse Mountain	4.41	338	*e*Pn		Pn	06 15 19.7 +1.6
HEC	Hector,Ludlow	4.68	113	⇑P		Pn	06 15 22.9 +1.1
	baz=4.7,SNR=15						
TUQ	Turquoise Moun	4.75	105	⇑P		Pn	06 15 23.9 +1.0
	baz=4.7						
BMN	Battle Mountai	4.96	42	Pn		Pn	06 15 28.1 +2.4
R11A	Troy Canyon, C	4.98	70	*e*Pn		Pn	06 15 30.6 +4.5
R11A				*e*Sg		Sg	06 16 49.1 -2.1
SHPR	Sheep Range	5.15	91	*e*Pn		Pn	06 15 30.2 +1.9
	10nm,0.8s						
MOD	Modoc Plateau	5.18	10	Pn		Pn	06 15 28.4 -0.3
	9.8nm,0.7s						
GMRC	Granite Mounta	5.20	111	⇓P		Pn	06 15 29.1 +0.1
	baz=5.2,SNR=13						
PFO	Pinyon Flats O	5.25	126	*e*Pn		Pn	06 15 31.1 +1.4
	9.9nm,0.8s						
PFO				*e*Sn		Sn	06 16 34.0 +3.8
LDFC	Landfair	5.50	106	*e*Pn		Pn	06 15 34.4 +1.2
	29nm,1.0s						

ATH ***07*** *06:18:56.7, 33°.72N×25°.20E, h6km±2km, MD3.4/7*
CSEM ***07*** *06:19:02.7±1.6, 34°.14N×25°.19E, h2km, ML2.7, Error ellipse: s-maj=31.3km s-min=11.5km az=5.0*
IDC ***07*** *06:19:04.6±1.6, 34°.48N×25°.70E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.4/38, mbtmp3.6/5, ML4.0/2, MS3.4/1, Ms1 3.4/1, ms1mx2.2/46, Error ellipse: s-maj=27.5km s-min=26.4km az=127.0*
ISCJB ***07*** *06:19:08.5±1.2, 34°.5N±0°.1×25°.27E±0°.08, h25km, mb3.5/3, MS3.2/1, Error ellipse: s-maj=15.2km s-min=9.0km az=164.4*
THE ***07*** *06:19:09.5, 34°.51N×25°.24E, h18km±4km, ML2.7/1, Error ellipse: s-maj=5.5km s-min=1.3km az=188.0*

ISC 07 06:19:09.8±1.3, 34°.6N±0°.1×25°.22E±0°.04, h25km, n31, σ1§38/30, mb3.7/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	0.54	321	P	Pn	06 19 22.0	+0.1
SIVA	Sivas	0.54	321	*e*PB	Pn	06 19 21.7	-0.2
SIVA	Sivas	0.54	321	*e*Pb	Pn	06 19 21.7	-0.2
SIVA	Sivas	0.54	321	P	Pn	06 19 22.0	+0.1
LAST	Lasithi	0.60	21	P	Pn	06 19 22.0	-0.9
LAST	Lasithi	0.60	21	*e*PG	Pn	06 19 23.5	+0.6
LAST	Lasithi	0.60	21	P	Pn	06 19 22.0	-0.9
LAST	Lasithi	0.60	21	*e*Pg	Pn	06 19 23.5	+0.6
NPS	Neapolis	0.74	26	P	Pn	06 19 24.4	-0.3
NPS	Neapolis	0.74	26	*e*PB	Pn	06 19 25.4	+0.7
NPS	Neapolis	0.74	26	P	Pn	06 19 24.4	-0.3
NPS	Neapolis	0.74	26	*e*Pb	Pn	06 19 25.4	+0.7
IDI	Anoyia	0.74	339	Pn	Pn	06 19 25.7	+1.0
	7.9nm,0.3s,baz=163,slow=18,SNR=45						
ZKR	Zakros	0.97	57	P	Pb	06 19 27.4	-0.6
ZKR	Zakros	0.97	57	*e*PB	Pb	06 19 27.4	-0.6
ZKR				*e*SB	Sn	06 19 49.8	+9.0
ZKR	Zakros	0.97	57	*e*Pb	Pb	06 19 27.4	-0.6
ZKR				*e*Sb	Sn	06 19 49.8	+9.0
VAM	Vamos	1.16	314	P	Pb	06 19 30.4	-0.9
VAM	Vamos	1.16	314	*e*PG	Pb	06 19 31.1	-0.2
VAM				*e*SN	Sb	06 19 57.0	+11
VAM	Vamos	1.16	314	P	Pb	06 19 30.4	-0.9
VAM	Vamos	1.16	314	*e*Pg	Pb	06 19 31.1	-0.2
VAM				*e*Sn	Sb	06 19 57.0	+11
KARP	Karpathos	1.85	59	P	Pn	06 19 39.8	-0.2
KARP				S	Sb	06 20 03.4	-2.4
KARP	Karpathos	1.85	59	*e*PN	Pn	06 19 39.8	-0.2
KARP				*e*SN	Sb	06 20 09.8	+4.0
KARP	Karpathos	1.85	59	*e*Pn	Pn	06 19 39.8	-0.2
KARP				S	Sb	06 20 03.4	-2.4
KARP				*e*Sn	Sb	06 20 09.8	+4.0
VLI	Veliai	2.82	319	*e*PB	Pb	06 19 55.2	-4.2
VLI	Veliai	2.82	319	*e*Pb	Pb	06 19 55.2	-4.2
AKASG	Malin Array Be	16.36	9	Pn	Pn	06 22 57.4	-0.2
	0.7nm,0.3s,baz=202,slow=10,SNR=5.4						
GERES	GERESS Array B	16.60	333	Pn	P	06 23 02.9	-0.3
	0.2nm,0.3s,baz=143,slow=12,SNR=7.2						
FINES	FINESS Array B	26.87	1	LR	LR	06 36 19.5	
	comp=Z,69nm,18.3s,baz=154,slow=38						
EKA	Eskdalemuir Ar	28.53	325	P	P	06 25 05.7	+2.5
	1.9nm,0.9s,baz=116,slow=7.7,SNR=3.5						
TORD	Torodi Ar. Bea	30.17	231	P	P	06 25 18.7	+0.7
	0.2nm,0.7s,baz=32,slow=9.7,SNR=2.4						
MKAR	Makanchi Array	44.05	56	P	P	06 27 11.4	-4.1
	0.7nm,0.5s,baz=274,slow=7.0,SNR=10						

IDC ***07*** *06:23:01.0±2.5, 34°.72S×74°.73W, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/14, mbtmp4.1/4, MS3.5/2, Ms1 3.5/2, ms1mx2.9/24, Error ellipse: s-maj=115.6km s-min=35.4km az=24.0*

ISC 07 06:23:05.9±2.7, 34°.8S±0°.8×74°.8W±0°.4, h35km, n10, σ1§35/8, mb4.0/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	17.24	65	LR	LR	06 34 17.7	
	comp=Z,124nm,19.8s,baz=217,slow=40						
BDFB	Brasilia	30.70	58	LR	LR	06 43 24.8	
	comp=Z,140nm,21.2s,baz=216,slow=40						
TXAR	Lajitas Array	69.41	333	P	P	06 34 10.7	+0.4
	0.5nm,0.7s,baz=149,slow=8.7,SNR=6.7						
DBIC	Dimbokro	77.60	73	P	P	06 34 58.7	-0.1
	8.5nm,0.8s,baz=207,slow=8.0,SNR=7.7						
NVAR	Mina Array Bea	83.31	327	P	P	06 35 28.2	-1.0
	0.3nm,0.6s,baz=140,slow=7.1,SNR=2.7						
TORD	Torodi Ar. Bea	86.63	72	P	P	06 35 44.6	-1.5
	1.8nm,0.8s,baz=223,slow=4.5,SNR=7.6						
GERES	GERESS Array B	114.37	46	PKP	PKPdf	06 41 42.8	+1.2
	0.1nm,0.4s,baz=266,slow=2.9,SNR=3.6						
BRTR	Keskin Array B	124.23	62	PKP	PKPdf	06 42 01.9	+1.0
	1.3nm,0.8s,baz=81,slow=1.6,SNR=3.6						
ZALV	Zalesovo Beam	156.13	31	PKP	PKPdf	06 42 56.7	+0.7
	0.5nm,0.5s,baz=358,slow=4.5,SNR=3.8						
MKAR	Makanchi Array	159.02	48	PKP	PKPdf	06 42 59.7	-0.2
	0.3nm,0.6s,baz=298,slow=3.1,SNR=6.0						
MKAR				PKPab	PKPab	06 43 38.6	+2.1
	0.9nm,0.8s,baz=308,slow=3.4,SNR=6.0						

SJA ***07*** *06:36:43.3±0.8, 24°.07S×67°.35W, h194km±41km, ML3.4*
ISCJB ***07*** *06:36:46.7±0.6, 24°.13S±0°.08×67°.21W±0°.05, h177km±4km, mb3.3/5, Error ellipse: s-maj=13.8km s-min=4.6km az=23.5*
IDC ***07*** *06:36:47.7±3.7, 24°.21S×67°.00W, h174km±29km, mb3.2/5, mb1 3.6/9, mb1mx3.5/19, mbtmp3.8/9, Error ellipse: s-maj=39.0km s-min=19.7km az=30.0*
GUC ***07*** *06:36:49.1±0.2, 24°.09S×67°.63W, h205km±14km, ML4.6*

ISC 07 06:36:46.9±0.9, 24°.23S±0°.08×67°.28W±0°.05, h169km±7km, n24, σ1§53/34, mb3.2/5, 4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.69	107	*i* P	Pn	06 37 20.8	+0.7
SLA				*i* S	Sn	06 37 47.2	+1.6
SLA				AML	AML	06 37 48.4	
	comp=Z,208nm,0.8s						
AZAP	Zapla	2.02	90	*i* P	Pn	06 37 23.3	-0.4
AZAP				*i* S	Sn	06 37 53.3	+1.2
AZAP				AML	AML	06 37 55.5	
	comp=Z,105nm,0.7s						
ASTB	Santa Barbara	2.57	84	*i* P	Pn	06 37 29.1	-0.9
ASTB				*i* S	Sn	06 38 03.9	+0.6
PB06	IPOC Station P	2.60	305	⇑*i* P	Pn	06 37 32.2	+1.8
PB06				*i* S	Sn	06 38 05.1	+1.0
ANCH	Antofagasta	2.92	280	⇑*i* P	Pn	06 37 31.8	-2.2
ANCH				*i* S	Sn	06 38 07.2	-3.5
PB09	IPOC Station P	3.02	323	*i* P	Pn	06 37 37.7	+2.1
PB09				*i* S	Sn	06 38 14.8	+1.4
PB09				IAML		06 38 17.1	
	comp=E,1μm,0.4s						
ALOL	LOMAS DE OLMED	3.05	83	*i* P	Pn	06 37 34.4	-1.3
ALOL				*i* S	Sn	06 38 12.2	-1.5
PB10	IPOC Station P	3.08	283	*i* P	Pn	06 37 37.6	+1.5
PB10				*i* S	Sn	06 38 14.4	-0.1
PB10				IAML		06 38 20.1	
	comp=N,990nm,0.4s						
PB01	IPOC Station P	3.77	327	⇑*i* P	Pn	06 37 45.5	+0.6
PB01				*i* S	Sn	06 38 29.5	-0.7
PATCX	Punta Patache	4.31	321	*e*P9	Pn	06 37 51.9	+0.1
PATCX				*i* S	Sn	06 38 41.0	-1.5
HMBC	Humberstone	4.62	328	⇑*i* P	Pn	06 37 55.1	-0.8
HMBC				*i* S	Sn	06 38 47.2	-2.6
LPAZ	La Paz	7.94	354	P	Pn	06 38 41.1	+0.9
	comp=N,2.4nm,0.3s,baz=162,slow=7.0,SNR=63						
CPUP	Villa Florida	9.24	105	P	Pn	06 38 54.5	-2.2
	comp=N,0.5nm,0.3s,baz=288,slow=12,SNR=3.3						
SIV	San Ignacio	10.05	37	P	Pn	06 39 05.1	-2.4
	comp=N,1.6nm,0.3s,baz=226,slow=14,SNR=21						
BDFB	Brasilia	20.00	68	P	P	06 41 05.3	-1.4
	comp=N,1.4nm,0.3s,baz=238,slow=11,SNR=16						
TXAR	Lajitas Array	63.72	325	P	P	06 47 01.8	+1.1
	comp=N,0.2nm,0.6s,baz=153,slow=8.1,SNR=5.5						
TORD	Torodi Ar. Bea	76.89	69	P	P	06 48 19.8	-1.0
	comp=N,0.4nm,0.4s,baz=259,slow=5.7,SNR=8.6						
PDAR	Pinedale Array	77.22	329	P	P	06 48 23.5	+1.2
	comp=N,0.2nm,0.5s,baz=132,slow=6.6,SNR=3.7						
NVAR	Mina Array Bea	78.56	321	P	P	06 48 31.3	+1.4
	comp=N,0.4nm,0.8s,baz=153,slow=5.0,SNR=3.8						
YKA	Yellowknife Ar	94.25	340	P	P	06 49 46.8	+0.6
	comp=N,0.3nm,0.5s,baz=133,slow=4.7,SNR=11						
ASAR	Alice Springs	128.14	205	PKP	PKPdf	06 55 33.7	0.0
	comp=N,0.6nm,0.7s,baz=143,slow=1.9,SNR=8.6						
WRA	Warramunga Arr	131.31	207	PKP	PKPdf	06 55 40.0	+0.3
	comp=N,0.5nm,0.5s,baz=162,slow=1.7,SNR=22						
ZALV	Zalesovo Beam	143.71	28	PKP	PKPab	06 55 59.5	+0.9
	comp=N,1.1nm,0.5s,baz=300,slow=4.0,SNR=4.4						
MKAR	Makanchi Array	146.86	40	PKPbc	PKPdf	06 56 07.8	+0.8
	comp=N,1.4nm,0.6s,baz=299,slow=3.2,SNR=19						

WEL 07 06:39:45.3±0.1, 38°.48S×177°.87E, h33km, ML3.5/8, 4C-10D, Error ellipse: s-maj=1.5km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIGZ	Rimuhau	0.24	201	⇓P*	Pn	06 39 52.3	-0.1
RIGZ				S*	Sb	06 39 58.5	+1.3
CNGZ	Carnagh Statio	0.27	90	P*	Pn	06 39 52.8	0.0
MWZ	Matawai	0.31	299	⇑P*	Pb	06 39 52.5	-0.7
MWZ				S*	Sb	06 39 58.4	-0.2
MWZ				AML	AML	06 39 58.8	
MWZ				AML	AML	06 39 58.8	
TWGZ	Tauwhareparae	0.32	16	⇓P*	Pb	06 39 53.1	-0.3
TWGZ				S*	Sn	06 40 00.2	+1.1
RAGZ	Rawiri	0.35	268	⇓PN	Pb	06 39 53.7	-0.3
RAGZ				S*	Sn	06 40 00.8	+0.6
PRGZ	Paritu Road	0.44	178	PN	Pb	06 39 54.9	-0.1
SNGZ	Shannon Statio	0.51	234	⇓PN	Pb	06 39 56.1	-0.1
PUZ	Puketiti	0.51	37	⇓PN	Pb	06 39 55.6	-0.5
PUZ				AML	AML	06 40 06.0	
PUZ				AML	AML	06 40 06.4	
KNZ	Kokohu	0.56	196	⇓PN	Pb	06 39 56.2	-0.6
URZ	Urewera	0.64	290	⇑PN	Pn	06 39 57.5	-0.5
URZ				AML	AML	06 40 09.6	
URZ				AML	AML	06 40 10.5	
MHGZ	Mahia Peninsul	0.67	177	PN	Pn	06 39 58.2	-0.3
HAZ	Te Kaha	0.73	355	⇓PN	Pn	06 39 58.6	-0.7
RAHZ	Arahi	0.75	234	PN	Pn	06 39 59.2	-0.4
WHHZ	Waihua	0.77	220	PN	Pn	06 39 59.7	-0.3
WMGZ	Waiomatatini S	0.79	33	⇓PN	Pn	06 39 59.7	-0.5
EDRZ	Edgecumbe	0.96	293	PN	Pn	06 40 02.7	0.0
EDRZ				AML	AML	06 40 21.4	
EDRZ				AML	AML	06 40 28.7	
MXZ	Matakaoa Point	0.98	21	⇑PN	Pn	06 40 02.6	-0.2
MXZ				AML	AML	06 40 18.0	
MXZ				AML	AML	06 40 18.0	
MXZ				AML	AML	06 40 19.4	
NMHZ	Naumai	1.03	233	PN	Pn	06 40 03.3	-0.3
PRRZ	Plateau Road	1.16	269	PN	Pn	06 40 05.7	+0.4
ALRZ	Allen Road	1.20	266	PN	Pn	06 40 05.9	+0.1
OPRZ	Ohinepanea	1.22	301	⇑PN	Pn	06 40 05.3	-0.7
BKZ	Black Stump Fm	1.27	237	⇓PN	Pn	06 40 06.6	-0.3
BKZ				AML	AML	06 40 40.5	
BKZ				AML	AML	06 40 43.8	
MCHZ	McNeill Hill	1.32	223	PN	Pn	06 40 07.2	-0.3
KAHZ	Kahuranaki	1.52	210	PN	Pn	06 40 08.9	-1.4
KRHZ	Kereru	1.64	225	PN	Pn	06 40 10.8	-1.2
BHHZ	Black Hill Sta	1.73	234	⇓PN	Pn	06 40 12.5	-0.7
PXZ	Pawanui	1.73	206	PN	Pn	06 40 11.3	-1.8
PXZ				SN	Sn	06 40 32.6	-1.5
PXZ				AML	AML	06 40 33.1	
PNHZ	Pukenui	1.93	222	PN	Pn	06 40 14.1	-1.8
WNVZ	Wahianoa	1.96	244	PN	Pn	06 40 16.4	-0.1
TSZ	Takapari Road	2.16	223	PN	Pn	06 40 17.0	-2.0
ANWZ	Angora Road	2.25	208	PN	Pn	06 40 17.4	-2.9
PRWZ	Pori Road	2.54	215	PN	Pn	06 40 21.9	-2.3
MRZ	Mangatainoka R	2.80	218	PN	Pn	06 40 24.8	-3.1
OGWZ	Otaki Gorge	3.13	221	PN	Pn	06 40 28.9	-3.4
MTW	Mount Morrison	3.23	214	PN	Pn	06 40 30.0	-3.7
KIW	Kapiti Island	3.29	223	PN	Pn	06 40 31.3	-3.3
THZ	Tophouse	5.02	228	PN	Pn	06 40 54.4	-4.0
LTZ	Lake Taylor	6.05	223	AML	AML	06 43 38.4	

IDC 07 06:50:25.2±8.0, 21°.73S×170°.61E, h100km±50km, mb3.5/2, mb1 3.8/3, mb1mx3.4/24, mbtmp3.9/3, Error ellipse: s-maj=138.6km s-min=51.9km az=160.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.88	264	P	Pn	06 51 22.2	-0.8
	14nm,0.3s,baz=88,slow=19,SNR=196						
DZM				S	Sn	06 52 08.7	+1.0
	13nm,0.3s,baz=214,slow=23,SNR=3.7						
ASAR	Alice Springs	33.86	260	P	P	06 56 58.2	-0.2
	2.0nm,0.7s,baz=82,slow=9.3,SNR=31						
WRA	Warramunga Arr	33.90	266	P	P	06 56 58.2	-0.6
	0.2nm,0.3s,baz=97,slow=8.1,SNR=11						
GERES	GERESS Array B	147.29	331	PKPbc	PKPbc	07 09 57.0	0.0
	0.7nm,0.7s,baz=29,slow=3.0,SNR=4.2						

GUC 07 06:54:38.2±0.3, 34°.34S×72°.01W, h39km±1km, ML3.6, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.63	53	⇓*i* P	Pn	06 54 50.6	-0.1
LNV				*i* S	Sn	06 54 59.8	+0.2
NICH	Los Niches	0.92	136	⇓*i* P	Pn	06 54 55.1	+0.4
NICH				*i* S	Sn	06 55 07.9	+1.1
TACH	Talagante	1.12	53	⇑*i* P	Pn	06 54 58.0	+0.5
TACH				*i* S	Sn	06 55 13.2	+1.5
CACH	El Canelo	1.19	80	⇓*i* P	Pn	06 55 00.0	+1.5
CACH				*i* S	Sn	06 55 16.4	+2.8
CHCH	Chadas Angostu	1.20	71	⇓*e*P	Pn	06 54 59.5	+1.0
CHCH				*i* S	Sn	06 55 16.6	+2.0
ANTU	Antumapu	1.38	57	*e*P1	Pn	06 55 02.3	+1.3
ANTU				*i* S	Sn	06 55 20.5	+2.4
ANTU				IAML		06 55 22.5	
	comp=E,2μm,0.3s						
SAN	Santiago	1.43	52	⇓*i* P	Pn	06 55 03.1	+1.4
SAN				*i* S	Sn	06 55 22.0	+2.7
STL	Santa Lucia	1.45	52	*i* P9	Pn	06 55 02.9	+0.9
STL				*i* S	Sn	06 55 21.9	+2.0
LACH	Col Las Americ	1.52	55	⇑*i* P	Pn	06 55 04.3	+1.4
LACH				*i* S	Sn	06 55 24.3	+2.8
LNCH	Linares	1.54	168	⇓*i* P	Pn	06 55 04.5	+1.3
LNCH				*e*S1	Sn	06 55 24.7	+2.8
CLCH	Cerro Calan	1.55	53	*e*P	Pn	06 55 05.0	+1.6
CLCH				*i* S	Sn	06 55 25.2	+2.9
CLCH				IAML		06 55 33.6	
	comp=E,1μm,0.3s						
PEL	Peldehue	1.63	43	*e*P1	Pn	06 55 06.1	+1.7
PEL				*i* S	Sn	06 55 27.5	+3.3
PEL				IAML		06 55 32.9	
	comp=E,1μm,0.4s						

IDC 07 06:58:45.5±8.0, 20°.24S×179°.72E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/40, mbtmp3.6/3, Error ellipse: s-maj=350.0km s-min=37.2km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.49	257	P	P	07 06 42.8	-0.1
	0.8nm,0.5s,baz=93,slow=7.8,SNR=23						
WRA	Warramunga Arr	42.52	262	P	P	07 06 42.8	-0.2
	0.2nm,0.2s,baz=98,slow=8.2,SNR=24						
ILAR	Eielson Array	88.55	14	P	P	07 11 39.6	0.0
	0.5nm,1.0s,baz=228,slow=5.5,SNR=6.3						

IDC ***07*** *07:00:15.5±1.2, 36°.72S×73°.33W, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.7/34, mbtmp3.6/6, ML3.6/2, Error ellipse: s-maj=41.7km s-min=19.7km az=66.0*
GUC ***07*** *07:00:17.9±0.5, 36°.81S×73°.69W, h31km±3km, ML4.5*

ISC 07 07:00:17.1±0.9, 36°.78S±0°.05×73°.45W±0°.09, h14km, n14, σ1§15/18, mb3.7/3, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.84	40	⇑*i* P	Pn	07 00 34.9	+0.4
COCH				*i* S	Sn	07 00 47.9	+1.4
AGCH	Angol	1.20	150	*i* P	Pn	07 00 39.5	+0.1
AGCH				*i* S	Sb	07 00 55.3	+0.4
LNCH	Linares	1.76	59	⇑*i* P	Pb	07 00 49.1	-0.1
LNCH				*i* S	Sg	07 01 13.6	-0.1
LNCH				IAML		07 01 21.6	
	comp=N,5μm,0.5s						
NICH	Los Niches	2.53	46	*e*P9	Pg	07 01 03.4	-2.2
NICH				*i* S	Sb	07 01 35.5	+2.3
NICH				AML	AML	07 01 54.7	
	comp=N,3μm,0.7s						
OSCH	Osorno	3.80	176	*e*P1	Pn	07 01 15.2	-0.1
PLCA	Paso Flores	4.56	151	Pn	Pn	07 01 26.9	+1.1
	comp=N,1.5nm,0.3s,baz=331,slow=12,SNR=36						
PLCA				Lg	Lg	07 02 39.4	
	comp=N,3.6nm,0.3s,baz=43,slow=19,SNR=5.0						
CFAA	Coronel Fontan	6.73	41	Pn	Pn	07 01 53.6	-2.0
	comp=N,0.2nm,0.3s,baz=208,slow=14,SNR=14						
LPAZ	La Paz	20.95	14	P	P	07 05 00.7	+0.5
	comp=N,1.4nm,0.8s,baz=192,slow=9.3,SNR=4.6						
TXAR	Lajitas Array	71.62	332	P	P	07 11 39.0	+0.8
	comp=N,0.8nm,0.6s,baz=150,slow=8.9,SNR=12						
PDAR	Pinedale Array	85.73	334	P	P	07 12 55.5	-0.3
	comp=N,0.3nm,0.7s,baz=146,slow=6.6,SNR=4.0						
TORD	Torodi Ar. Bea	86.23	71	P	P	07 12 58.1	-0.4
	comp=N,0.4nm,0.8s,baz=260,slow=4.4,SNR=2.9						
BVAR	Borovoye Array	150.07	46	PKPbc	PKPbc	07 20 07.5	+0.8
	comp=N,1.5nm,0.8s,baz=302,slow=2.8,SNR=6.9						
KURBB	Kurchatov Arra	155.65	47	PKPbc	PKPdf	07 20 19.4	+10
	comp=N,0.5nm,0.2s,baz=299,slow=3.3,SNR=4.5						
KURBB				PKPab	PKPab	07 20 35.5	-0.7
	comp=N,0.3nm,0.3s,baz=298,slow=5.6,SNR=3.3						
MKAR	Makanchi Array	159.40	53	PKPab	PKPab	07 20 52.9	+0.3
	comp=N,0.6nm,0.7s,baz=277,slow=5.7,SNR=6.4						

ISCJB ***07*** *07:05:21.8±0.2, 16°.21S±0°.03×115°.28W±0°.03, h10km, mb5.7/259, MS5.7/351, Error ellipse: s-maj=4.8km s-min=4.0km az=9.8*
IDC ***07*** *07:05:22.1±0.4, 16°.19S×115°.47W, h0km, mb5.0/27, mb1 5.2/27, mb1mx5.1/34, mbtmp5.0/27, MS5.6/22, Ms1 5.6/22, ms1mx5.6/22, Error ellipse: s-maj=13.6km s-min=11.3km az=76.0*
MOS ***07*** *07:05:22.9±1.2, 16°.04S×115°.22W, h10km, mb5.9/70, MS5.7/79, Error ellipse: s-maj=10.8km s-min=5.2km az=78.6*
BJI ***07*** *07:05:23.1, 16°.30S×115°.30W, h10km, mB6.0/43, Ms6.2/56, Ms7 6.0/60*
GCMT ***07*** *07:05:23.3±0.1, 16°.34S×115°.45W, h13km, MW6.2/131, Moment Tensor Solution. s123,c281; s131,c493; Duration: 3s2 Moment tensor: Scale 10^{18}Nm; M_{rr}=3.38±.02; $M_{\theta\theta}$2.15±.02; $M_{\phi\phi}$1.23±.02; $M_{r\theta}$0.04±.04; $M_{\theta\phi}$0.39±.01; $M_{r\phi}$0.74±.04; Best double couple: $M_0$2.90100×10^{18} NP1:ϕ_s240.00000°, δ49.00000°, λ-101.00000°. NP2:ϕ_s77.00000°, δ42.00000°, λ-78.00000°. Principal axes: T 2.3070, Plg3.0000°, Azm338.0000°; N 1.1880, Plg8.0000°, Azm248.0000°; P -3.4950, Plg81.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***07*** *07:05:24.6±0.1, 16°.24S×115°.30W, h18km, mb5.8/229, ME5.7, MS5.7/295, MW6.0, MW6.3 Error ellipse: s-maj=4.3km s-min=3.1km az=98.0 Best double couple: NP1:ϕ_s218.00000°, δ47.00000°, λ-114.00000°. NP2: ϕ_s70.00000°, δ48.00000°, λ-67.00000°. Principal axes: T 1.3500, Plg0.0000°, Azm144.0000°; N -0.3700, Plg16.0000°, Azm234.0000°; P -0.9700, Plg72.0000°, Azm51.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC ***07*** *07:05:45.4±0.0, 16°.09S×115°.43W, h23km, Moment Tensor Solution. s104 Moment tensor: Scale 10^{18}Nm; M_{rr}=4.66; $M_{\theta\theta}$2.42; $M_{\phi\phi}$2.25; $M_{r\theta}$0.79; $M_{\theta\phi}$0.58; $M_{\phi r}$0.36; Best double couple: $M_0$3.90000×10^{18} NP1:ϕ_s232.00000°, δ51.00000°, λ-86.00000°. NP2:ϕ_s48.00000°, δ39.00000°, λ-92.00000°. Principal axes: T 3.0100, Plg6.0000°, Azm320.0000°; N 1.7600, Plg1.0000°, Azm50.0000°; P -4.7600, Plg83.0000°, Azm158.0000°;*

ISC 07 07:05:24.9±0.9, 16°.29S±0°.05×115°.29W±0°.04, h18km±4km, n1713, σ1§46/1619, mb5.8/259, MS5.8/354, 305C-258D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	12.12	154	Pn	P	07 08 26.8	-2.6
	4μm,2.3s,SNR=7.0						
RPN	Rapa Nui	12.12	154

JTS PcP **PcP** **07 15 07.7 +3.6**
comp=Z,38nm,0.9s,baz=260,slow=5.1,SNR=7.5
JTS JuntasAbangare 39.99 51 *e*P **P** **07 12 58.4 -0.5**
comp=Z,542nm,2.3s
JTS PcP **PcP** **07 15 07.7 +3.6**
JTS *e*S **S** **07 19 04.0 +0.1**
JTS LR LR
comp=Z,2µm,19.0s
BCIP Isla Barro Col 43.26 57 PFAKE 07 13 40.0 +14
BCIP LR LR
comp=Z,3µm,19.0s
LVC Limon Verde 44.05 106 *e*P **P** **07 13 34.2 +1.8**
comp=Z,100nm,1.3s
LVC *e*S **S** **07 20 08.8 +4.4**
LVC LR LR
comp=Z,7µm,18.0s
TEIG Tepich 44.96 37 P **P** **07 13 41.8 +2.6**
comp=Z,46nm,0.8s,baz=203,slow=7.8,SNR=4.2
TEIG PcP **PP** **07 15 23.4 -1.1**
comp=Z,55nm,0.9s,baz=226,slow=2.7,SNR=6.7
TEIG LR LR 07 29 44.1
comp=Z,4µm,20.0s,baz=221,slow=32
TEIG Tepich 44.96 37 *e*P **P** **07 13 37.9 -1.3**
TEIG PcP **PP** **07 15 23.4 -1.1**
LPAZ La Paz 45.19 97 *e*P **P** **07 13 43.2 +1.2**
LPAZ pmax pmax
comp=Z,304nm,1.8s
LPAZ La Paz 45.19 97 P **P** **07 13 43.4 +1.4**
comp=Z,24nm,0.9s,baz=267,slow=6.4,SNR=26
LPAZ LR LR 07 28 29.7
comp=Z,5µm,18.3s,baz=257,slow=31
LPAZ La Paz 45.19 97 *e*P **P** **07 13 43.1 +1.2**
comp=Z,304nm,1.8s
CFAA Coronel Fontan 45.28 118 P **P** **07 13 42.6 +0.8**
comp=Z,6.0nm,0.9s,baz=282,slow=7.2,SNR=12
XMAS Kiritimati 45.44 290 *e*P **P** **07 13 43.1 -0.1**
PLCA Paso Flores 45.60 132 P **P** **07 13 46.1 +1.8**
comp=Z,24nm,0.9s,baz=293,slow=9.1,SNR=9.4
PLCA PcP **PP** **07 15 27.8 -3.4**
comp=Z,22nm,0.9s,baz=260,slow=2.6,SNR=6.0
PLCA LR LR 07 28 13.7
comp=Z,9µm,20.0s,baz=264,slow=30
ROSC El Rosal 45.64 66 P **P** **07 13 47.4 +2.2**
comp=Z,25nm,0.8s,baz=277,slow=7.2,SNR=28
ROSC LR LR 07 28 58.6
comp=Z,4µm,21.8s,baz=238,slow=31
035Z Hargill 45.68 22 ⇑P **P** **07 13 47.7 +2.8**
baz=46
034A Hebbronville 46.02 21 ⇓P **P** **07 13 49.2 +1.7**
baz=46,SNR=23
035A Encino 46.10 21 ⇑P **P** **07 13 49.9 +1.7**
baz=46,SNR=17
933A Laredo 46.33 20 ⇓P **P** **07 13 50.8 +0.8**
baz=46,SNR=27
934A Benavides 46.56 21 ⇓P **P** **07 13 53.5 +1.7**
baz=47,SNR=19
TX31 Lajitas Ar. Si 46.73 14 *e*P **P** **07 13 53.1 -0.1**
TXAR Lajitas Array 46.73 14 P **P** **07 13 52.8 -0.4**
comp=Z,9.5nm,1.1s,baz=187,slow=8.8,SNR=35
TXAR PcP **PcP** **07 15 30.6 +4.0**
comp=Z,8.4nm,1.0s,baz=190,slow=4.4,SNR=3.4
TXAR LR LR 07 29 55.0
comp=Z,4µm,18.6s,baz=0.0,slow=32
TXAR PKPPKP **P'P'df** **07 45 10.6 +0.2**
comp=Z,0.4nm,0.8s,baz=76,slow=4.1,SNR=4.0
832A Faith Ranch, C 46.73 19 ⇑P **P** **07 13 54.4 +1.3**
baz=47,SNR=60
833A Chaparral WMA, 46.95 19 ⇓P **P** **07 13 55.8 +1.0**
baz=47,SNR=80
834A Tilden 47.04 20 ⇓P **P** **07 13 57.2 +1.7**
baz=47,SNR=28
732A Laxson Ranch, 47.15 18 ⇓P **P** **07 13 56.9 +0.5**
baz=47,SNR=22
733A Divot King Ran 47.35 19 ⇓P **P** **07 13 57.9 0.0**
baz=48,SNR=16
835A Beeville 47.43 21 ⇓P **P** **07 13 58.9 +0.3**
baz=48,SNR=11
631A Perdido Creek 47.61 17 ⇑P **P** **07 13 60.0 0.0**
baz=48,SNR=19
734A La Parita Cree 47.70 20 ⇑P **P** **07 14 00.7 0.0**
baz=48,SNR=9.3
319A Douglas 47.74 7 ⇑P **P** **07 14 01.8 +0.7**
baz=48,SNR=15
529A Stev Forest Ra 47.84 15 ⇓P **P** **07 14 02.4 +0.6**
baz=48,SNR=43
632A Uvalde 47.93 18 ⇑P **P** **07 14 02.8 +0.3**
baz=48,SNR=21
735A Kenedy 47.96 21 ⇓P **P** **07 14 03.6 +0.9**
baz=48
214A Organ Pipe Nat 48.03 3 ⇑P **P** **07 14 03.2 0.0**
baz=48
214A Organ Pipe Nat 48.03 3 *e*P **P** **07 14 03.2 0.0**
comp=Z,68nm,1.4s
633A Saathoff Ranch 48.07 19 ⇓P **P** **07 14 03.9 +0.4**
baz=48
530A J-C Ranch, Com 48.09 16 ⇓P **P** **07 14 04.4 +0.7**
baz=48,SNR=33
634A China Grove, S 48.26 20 ⇑P **P** **07 14 05.9 +0.9**
baz=48
531A Rocksprings 48.32 17 ⇑P **P** **07 14 05.6 0.0**
baz=48,SNR=28
429A Davenport Ranc 48.40 15 ⇓P **P** **07 14 06.8 +0.7**
baz=49,SNR=36
635A Leesville 48.46 21 ⇑P **P** **07 14 06.9 +0.4**
baz=49,SNR=8.1
532A Rocksprings 48.47 18 ⇓P **P** **07 14 07.1 +0.3**
baz=49,SNR=46
TUC Tucson 48.52 5 *e*P **P** **07 14 07.3 +0.2**
TUC pmax pmax
comp=Z,124nm,1.9s
TUC MLR MLR
comp=Z,11µm,22.0s
TUC Tucson 48.52 5 *e*P **P** **07 14 07.2 +0.2**
comp=Z,124nm,1.9s
TUC LR LR
comp=Z,11µm,22.0s
MNTX Cornudas Mount 48.65 11 *e*P **P** **07 14 07.2 -0.8**
comp=Z,88nm,0.9s
MNTX *e*S **S** **07 21 13.8 +4.3**
MNTX LR LR
comp=Z,6µm,21.0s
533A Kerrville 48.69 19 ⇑P **P** **07 14 08.3 0.0**
baz=49,SNR=34
BAR Barrett 48.71 358 PFAKE 07 14 20.0 +12
BAR LR LR
comp=Z,2µm,20.6s
430A Baggett Ranch, 48.72 16 ⇑P **P** **07 14 08.7 +0.1**
baz=49,SNR=84
636A Smothers Creek 48.79 21 ⇑P **P** **07 14 09.0 -0.1**
baz=49,SNR=17
431A Sonora 48.79 17 ⇑P **P** **07 14 08.9 -0.3**
baz=49,SNR=304
113A Mohawk Valley, 48.80 2 ⇑P **P** **07 14 09.0 -0.1**
baz=49,SNR=14
534A Blanco 48.82 19 ⇓P **P** **07 14 09.1 -0.3**
baz=49,SNR=31
JCT Junction City 48.83 18 *e*P **P** **07 14 09.3 -0.2**
JCT Junction City 48.83 18 ⇑P **P** **07 14 09.3 -0.2**
baz=49,SNR=80
JCT Junction City 48.83 18 *e*P **P** **07 14 09.2 -0.2**
MONP Monument Peak, 48.91 359 ⇑P **P** **07 14 10.5 +0.3**
baz=49,SNR=7.1
109C Camp Elliot, M 48.93 358 ⇑P **P** **07 14 10.8 +0.7**
baz=49
SWSC Sam W. Stewart 48.96 359 ⇑P **P** **07 14 11.1 +0.9**
baz=49
GLA Glamis 49.07 1 *e*P **P** **07 14 12.0 +0.8**
GLA pmax pmax
comp=Z,51nm,1.0s
GLA MLR MLR
comp=Z,10µm,21.4s
GLA Glamis 49.07 1 ⇓P **P** **07 14 11.6 +0.5**
baz=49
GLA Glamis 49.07 1 *e*P **P** **07 14 12.0 +0.8**
comp=Z,50nm,1.0s
GLA LR LR
comp=Z,10µm,21.4s
121A Cookes Peak, D 49.08 8 ⇑P **P** **07 14 11.3 -0.1**
baz=49,SNR=35
121A Cookes Peak, D 49.08 8 *e*P **P** **07 14 11.1 -0.4**
comp=Z,152nm,1.2s
SCI San Clemente I 49.09 356 ⇑P **P** **07 14 11.9 +0.5**
baz=49
535A Dale 49.12 20 ⇓P **P** **07 14 12.1 +0.6**
baz=49,SNR=19
329A Wagon Wheel Ra 49.19 15 ⇑P **P** **07 14 12.5 +0.2**
baz=49,SNR=35
432A Menard 49.21 18 ⇑P **P** **07 14 12.4 +0.1**
baz=49,SNR=44
433A Art 49.30 18 ⇑P **P** **07 14 13.3 +0.2**
baz=50,SNR=43
330A Mertzon 49.32 16 ⇓P **P** **07 14 13.3 +0.1**
baz=50,SNR=121
536A Bastrop 49.33 21 ⇓P **P** **07 14 13.8 +0.6**
baz=50,SNR=17
GDL2 Guadalupe Moun 49.34 12 *e*P **P** **07 14 13.5 +0.1**
Z14A Wintersburg 49.42 3 ⇓P **P** **07 14 14.1 +0.2**
baz=50
331A San Angelo 49.44 17 ⇑P **P** **07 14 14.3 +0.3**
baz=50,SNR=38
CLNB Carlsbad 49.50 13 *e*P **P** **07 14 13.3 -1.4**
comp=Z,37nm,0.8s
CIS Catalina Islan 49.51 357 ⇓P **P** **07 14 15.2 +0.6**
baz=50
537A Green Hill Far 49.60 22 ⇑P **P** **07 14 15.8 +0.6**
baz=50,SNR=26
434A Burnet 49.62 19 ⇑P **P** **07 14 15.5 +0.1**
baz=50,SNR=42
PFO Pinyon Flats O 49.63 359 P **P** **07 14 14.7 -0.9**
PFO *e* 07 15 40.5
PFO MLR MLR
comp=Z,8µm,20.0s
PFO Pinyon Flats O 49.63 359 P **P** **07 14 14.7 -0.9**
comp=Z,5.9nm,0.9s,baz=159,slow=5.0,SNR=8.0
PFO Pinyon Flats O 49.63 359 ⇑P **P** **07 14 16.2 +0.6**
baz=50
PFO Pinyon Flats O 49.63 359 P **P** **07 14 14.7 -0.9**
PFO *e*PcP **PcP** **07 15 40.5 +3.5**
PFO LR LR
comp=Z,8µm,20.0s
MURC Murrieta 49.65 358 ⇓P **P** **07 14 15.9 +0.3**
baz=50
228A UT Block 9, Go 49.65 14 ⇓P **P** **07 14 15.8 +0.1**
baz=50,SNR=23
HKT Hockley 49.65 22 *e*P **P** **07 14 15.5 -0.1**
HKT MLR MLR
comp=Z,9µm,21.0s
HKT Hockley 49.65 22 *e*P **P** **07 14 15.5 -0.1**
HKT LR LR
comp=Z,9µm,21.0s
BC3 Big Chuckawall 49.67 360 ⇑P **P** **07 14 16.6 +0.7**
baz=50,SNR=18
229A Bryant Ranch, 49.69 15 ⇑P **P** **07 14 16.6 +0.6**
baz=50,SNR=17
332A Millersview 49.70 17 ⇓P **P** **07 14 16.3 +0.3**
baz=50,SNR=66
Y12C Blythe 49.77 1 ⇓P **P** **07 14 17.7 +1.2**
baz=50,SNR=20
230A Sterling City 49.80 16 ⇑P **P** **07 14 17.1 +0.2**
baz=50,SNR=21
FMP Fort Macarthur 49.81 357 ⇓P **P** **07 14 17.5 +0.7**
baz=50
435B Jarrell 49.81 20 ⇓P **P** **07 14 16.9 +0.1**
baz=50,SNR=55
333A Richland Sprin 49.87 18 ⇓P **P** **07 14 17.4 +0.1**
baz=50,SNR=77
Z22A Elephant Butte 49.91 9 ⇓P **P** **07 14 17.7 -0.1**
baz=50,SNR=37
Y14A Wickenburg 50.00 2 ⇑P **P** **07 14 18.8 +0.5**
baz=50,SNR=14
BELC Belle Mtn. Jos 50.02 359 ⇑P **P** **07 14 18.9 +0.4**
baz=50,SNR=30
538A Harpers Horsep 50.02 22 ⇓P **P** **07 14 19.0 +0.6**
baz=50
231A Bronte 50.06 17 ⇑P **P** **07 14 18.7 0.0**
baz=50,SNR=25
436A Wall Ranch, Ga 50.06 21 ⇓P **P** **07 14 19.3 +0.6**
baz=50
334A Lometa 50.10 19 ⇓P **P** **07 14 19.1 -0.1**
baz=50,SNR=52
128A Castleberry Fa 50.16 14 ⇑P **P** **07 14 19.7 +0.1**
baz=50,SNR=62
IRM Iron Mountain 50.17 0 ⇓P **P** **07 14 20.0 +0.4**
baz=50,SNR=22
BSC Santa Cruz Isl 50.18 355 ⇑P **P** **07 14 19.7 +0.1**
baz=50
232A Coleman 50.20 17 ⇑P **P** **07 14 20.3 +0.5**
baz=50,SNR=100
PASC Pasadena Art C 50.26 357 *e*P **P** **07 14 18.7 -1.5**
comp=Z,84nm,1.2s
PASC LR LR
comp=Z,9µm,22.0s
BBRC Big Bear Solar 50.30 358 ⇑P **P** **07 14 21.2 +0.4**
baz=50
BFSC Mount Baldy Ra 50.30 357 ⇓P **P** **07 14 21.2 +0.6**
baz=50,SNR=24
MWC Mount Wilson 50.30 357 *e*P **P** **07 14 20.9 +0.1**
MWC pmax pmax
comp=Z,124nm,1.3s
MWC MLR MLR
comp=Z,7µm,20.0s
MWC Mount Wilson 50.30 357 *e*P **P** **07 14 20.9 +0.1**
comp=Z,124nm,1.3s
MWC LR LR
comp=Z,7µm,20.0s
129A Stewart Farms, 50.31 15 ⇓P **P** **07 14 21.4 +0.7**
baz=50,SNR=64
Z25A Roswell 50.32 12 ⇓P **P** **07 14 21.1 +0.3**
baz=50,SNR=55
335A Moody 50.32 20 ⇑P **P** **07 14 21.5 +0.8**
baz=50,SNR=23
PDMCI Parker Dam,Lak 50.32 1 ⇑P **P** **07 14 21.6 +0.9**
baz=51,SNR=13
437A Phantom Ranch, 50.34 22 ⇓P **P** **07 14 22.0 +1.1**
baz=50
DECC Green Verdugo 50.34 357 ⇑P **P** **07 14 21.8 +0.9**
baz=51,SNR=6.1
130A Snyder 50.51 16 ⇓P **P** **07 14 22.9 +0.7**
baz=51,SNR=65
438A Sam Houston St 50.51 22 ⇓P **P** **07 14 22.7 +0.6**
baz=51,SNR=8.0
233A Rising Star 50.54 18 ⇓P **P** **07 14 22.4 0.0**
baz=51,SNR=35
X16A Lo Mia Camp, P 50.56 4 ⇓P **P** **07 14 22.7 0.0**
baz=51,SNR=25
MTDJ Mount Denham 50.58 49 *e*P **P** **07 14 22.9 -0.2**
comp=Z,99nm,0.9s
336A Riesel 50.61 20 ⇓P **P** **07 14 23.6 +0.7**
baz=51,SNR=33
SBC Santa Barbara 50.62 355 ⇑P **P** **07 14 24.2 +1.3**
baz=51
Y23A Lovelace Mesa, 50.71 10 ⇑P **P** **07 14 24.1 +0.2**
baz=51,SNR=107
Y22D IRIS PASSCAL I 50.72 9 ⇓P **P** **07 14 24.3 +0.5**
baz=51,SNR=24
OSI Osito Audit: C 50.73 356 ⇑P **P** **07 14 24.5 +0.7**
baz=51
OSI Osito Audit: C 50.73 356 *e*P **P** **07 14 21.3 -2.5**
comp=Z,21nm,1.1s
OSI LR LR
comp=Z,3µm,19.5s
131A Roby 50.73 16 ⇑P **P** **07 14 24.1 +0.2**
baz=51,SNR=42
234A Clairette 50.76 19 ⇓P **P** **07 14 24.7 +0.6**
baz=51,SNR=104
NEE2 Needles Airpor 50.78 1 ⇓P **P** **07 14 25.0 +0.9**
baz=51
SDV Santo Domingo 50.78 64 *e*P **P** **07 14 24.7 -0.1**
GMRC Granite Mounta 50.79 360 ⇓P **P** **07 14 24.7 +0.3**
baz=51,SNR=36
X18A Snowflake 50.79 6 ⇑P **P** **07 14 24.9 +0.5**
baz=51,SNR=38
LENM Lemitar 50.80 9 *e*P **P** **07 14 24.8 +0.3**
Y24A Capitan 50.81 11 ⇓P **P** **07 14 24.9 +0.2**
baz=51,SNR=117
Z28A Tucker Farm, M 50.82 14 ⇑P **P** **07 14 24.4 -0.2**
baz=51,SNR=26
HEC Hector,Ludlow 50.85 359 ⇓P **P** **07 14 25.2 +0.5**
baz=51,SNR=15
337A Centerville 50.87 22 ⇑P **P** **07 14 25.3 +0.4**
baz=51,SNR=18
ABTX Abilene, Hawle 50.89 17 ⇑P **P** **07 14 24.9 -0.2**
baz=51,SNR=20
ABTX Abilene, Hawle 50.89 17 *e*P **P** **07 14 24.2 -0.8**
comp=Z,87nm,0.9s
RRX Edison Barstow 50.91 358 ⇓P **P** **07 14 25.9 +0.7**
baz=51
Y25A Mesa, Roswell 50.95 11 ⇓P **P** **07 14 25.4 -0.2**
baz=51,SNR=124
EDW2 Edwards Air Fo 50.95 357 ⇓P **P** **07 14 25.6 0.0**
baz=51,SNR=24
Z29A Hungry Hill Ra 50.95 15 ⇑P **P** **07 14 25.4 -0.2**
baz=51,SNR=66
WHTX Lake Whitney, 50.96 20 ⇓P **P** **07 14 26.3 +0.7**
baz=51,SNR=47
WHTX Lake Whitney, 50.96 20 *e*P **P** **07 14 24.9 -0.6**
comp=Z,201nm,0.8s
LPM Los Pinos Moun 50.99 9 *e*P **P** **07 14 26.0 0.0**
LPM *e*PcP **PcP** **07 15 43.3 +1.3**
LDFC Landfair 51.09 0 *e*P **P** **07 14 27.6 +1.1**
LDFC LR LR
comp=Z,11µm,20.8s
133A Hamilton Ranch 51.09 18 ⇓P **P** **07 14 27.3 +0.8**
baz=51,SNR=24
338A Crockett 51.12 22 ⇓P **P** **07 14 26.7 -0.1**
baz=51,SNR=12
Y26A Elida 51.12 12 ⇑P **P** **07 14 27.5 +0.7**
baz=51,SNR=43
Z30A Sanderson Ranc 51.12 15 ⇓P **P** **07 14 26.9 +0.1**
baz=51,SNR=88
W13A Hualapai Mount 51.12 1 ⇑P **P** **07 14 27.1 +0.1**
baz=51,SNR=19
Y27A Causey 51.22 13 ⇓P **P** **07 14 27.7 +0.1**
baz=51,SNR=107
ARVC Arvin 51.24 356 ⇓P **P** **07 14 28.4 +0.8**
baz=52
SAML Samuel 51.26 88 *e*P **P** **07 14 27.7 -0.5**
comp=Z,112nm,0.9s
SAML LR LR
comp=Z,4µm,22.0s
134A White-Moore Ra 51.30 19 ⇑P **P** **07 14 28.1 0.0**
baz=52,SNR=39
X23A Hourglass Bar 51.33 10 ⇑P **P** **07 14 28.7 +0.2**
baz=52
GSC Goldstone, Bar 51.33 358 ⇓P **P** **07 14 29.0 +0.6**
baz=52,SNR=23
GSC Goldstone, Bar 51.33 358 PFAKE 07 14 40.0 +12
GSC LR LR
comp=Z,8µm,20.4s
339A Huntington 51.37 23 ⇑P **P** **07 14 29.1 +0.4**
baz=52,SNR=7.1
MSTX Muleshoe 51.38 13 ⇓P **P** **07 14 28.5 -0.4**
baz=52,SNR=91
MSTX Muleshoe 51.38 13 *e*P **P** **07 14 28.1 -0.8**
TRQA Tornquist 51.38 126 *e*P **P** **07 14 29.9 +1.1**
TRQA LR LR
comp=Z,17µm,21.0s
W18A Petrified Fore 51.40 6 ⇓P **P** **07 14 29.8 +0.8**
baz=52
W18A Petrified Fore 51.40 6 *e*P **P** **07 14 30.2 +1.2**
W18A LR LR
comp=Z,10µm,19.6s
Z31A Sharp Cattle R 51.41 16 ⇑P **P** **07 14 28.6 -0.3**
baz=52,SNR=56
X24A Lazy VL Ranch, 51.44 10 ⇑P **P** **07 14 29.4 +0.1**
baz=52
Y28A McKinney Farm, 51.45 14 ⇓P **P** **07 14 29.6 +0.3**
baz=52,SNR=44
TUQ Turquoise Moun 51.45 359 ⇓P **P** **07 14 29.6 +0.3**
baz=52,SNR=26
135A Vickery Place, 51.50 19 ⇓P **P** **07 14 29.9 +0.3**
baz=52
SMMC Simmler 51.51 355 ⇑P **P** **07 14 30.4 +0.8**
baz=52
237A Washetta, Mont 51.52 21 ⇑P **P** **07 14 30.4 +0.6**
baz=52
LRMC Laurel Mtn Rad 51.53 358 ⇑P **P** **07 14 30.4 +0.5**
baz=52,SNR=16
Y29A Porterfield Fa 51.53 14 ⇓P **P** **07 14 29.3 -0.7**
baz=52,SNR=73
X25A Clemmons Ranch 51.54 11 ⇓P **P** **07 14 29.8 -0.2**
baz=52,SNR=40
Z32A Haskell 51.58 17 ⇑P **P** **07 14 30.1 -0.1**
baz=52,SNR=82
ANMO Albuquerque 51.64 9 *d*P **P** **07 14 30.7 -0.2**
ANMO pmax pmax
comp=Z,618nm,2.5s
ANMO Albuquerque 51.64 9 LR LR 07 32 13.1
comp=Z,8µm,21.1s,baz=200,slow=31
ANMO Albuquerque 51.64 9 *e*P **P** **07 14 30.6 -0.2**
WUAZ Wupatki 51.66 4 ⇓P **P** **07 14 31.6 +0.7**
baz=52,SNR=19
WUAZ Wupatki 51.66 4 *e*P **P** **07 14 31.8 +0.8**
comp=Z,719nm,2.5s
WUAZ LR LR
comp=Z,3µm,19.0s
340A Bronson 51.70 23 ⇑P **P** **07 14 31.7 +0.6**
baz=52,SNR=26
NATX Nacogdoches 51.72 22 *e*P **P** **07 14 30.6 -0.6**
comp=Z,164nm,1.0s
X26A CR and CF Fran 51.73 12 ⇓P **P** **07 14 31.2 -0.2**
baz=52,SNR=17
Y30A Stafford Cattl 51.74 15 ⇑P **P** **07 14 31.5 0.0**
baz=52
ISA Isabella, Lake 51.76 357 P **P** **07 14 31.9 +0.4**
baz=52
Z33A Whitaker Ranch 51.77 18 ⇑P **P** **07 14 31.4 -0.1**
baz=52,SNR=88
238A Jacksonville 51.77 22 ⇓P **P** **07 14 32.1 +0.5**
baz=52
W23A Werner Place, 51.90 10 ⇑P **P** **07 14 32.9 +0.1**
baz=52,SNR=56
SHOC Shoshone, Teco 51.91 359 ⇓P **P** **07 14 32.9 +0.3**
baz=52,SNR=19
SIV San Ignacio 51.95 98 P **P** **07 14 34.2 +0.8**
comp=Z,28nm,1.1s,baz=270,slow=9.0,SNR=21
X27A F and S Farms, 51.97 13 ⇑P **P** **07 14 33.2 0.0**
baz=52,SNR=19
VES Vestal, Richgr 51.97 356 ⇓P **P** **07 14 33.4 +0.3**
baz=52,SNR=23
Y31A Rekieta Farm, 51.99 16 ⇓P **P** **07 14 33.1 -0.1**
baz=52,SNR=58
239A Gary 52.02 23 P **P** **07 14 33.4 -0.1**
baz=52
X28A Dimmitt 52.04 14 ⇓P **P** **07 14 33.7 0.0**
baz=52,SNR=24
W24A Lazy 6 Ranch, 52.07 10 ⇑P **P** **07 14 34.3 +0.3**
baz=52,SNR=141
137A Heron Place, G 52.08 21 ⇑P **P** **07 14 34.3 +0.3**
baz=52,SNR=19
X29A Tulia 52.09 14 ⇑P **P** **07 14 34.4 +0.3**
baz=52,SNR=47
Z34A Collier Ranch, 52.10 18 ⇓P **P** **07 14 34.2 +0.2**
baz=52,SNR=24
Y32A R-V Farms, Ver 52.25 17 ⇑P **P** **07 14 35.1 -0.1**
baz=52,SNR=81
W25A X Bar L Ranch, 52.25 11 ⇓P **P** **07 14 35.3 0.0**
baz=52,SNR=114
W26A Owens Ranch, T 52.26 12 ⇓P **P** **07 14 35.0 -0.3**
baz=52,SNR=32
Z35A Perchaven, San 52.26 19 ⇓P **P** **07 14 34.7 -0.6**
baz=52,SNR=30
X30A Coker Ranch, T 52.29 15 ⇑P **P** **07 14 35.4 -0.1**
baz=52,SNR=33
DAC Darwin (Calif) 52.33 358 *e*P **P** **07 14 35.9 0.0**
DAC MLR MLR
comp=Z,8µm,21.0s
DAC Darwin (Calif) 52.33 358 *e*P **P** **07 14 35.9 0.0**
DAC LR LR
comp=Z,8µm,21.0s
138A Matatall Enter 52.37 22 ⇓P **P** **07 14 36.3 +0.2**
baz=53,SNR=22
W27A Bowe Ranch, En 52.38 13 ⇓P **P** **07 14 36.2 0.0**
baz=53,SNR=102
V23A Ortiz Mt. (NFS 52.47 9 ⇑P **P** **07 14 37.4 +0.4**
baz=53,SNR=21
Y33A Hilltop Ranch, 52.48 17 ⇑P **P** **07 14 36.6 -0.3**
baz=53,SNR=58
FURC Furnace Creek, 52.50 358 ⇑P **P** **07 14 37.6 +0.7**
baz=53,SNR=16
U15A North Rim 52.51 3 ⇓P **P** **07 14 37.3 -0.1**
baz=53,SNR=31
AMTX Amarillo 52.51 14 ⇑P **P** **07 14 37.4 +0.2**
baz=53
AMTX Amarillo 52.51 14 *e*P **P** **07 14 36.9 -0.3**
AMTX LR LR
comp=Z,4µm,21.0s
SHPR Sheep Range 52.51 0 *e*P **P** **07 14 37.4 +0.2**
V22A San Miguel Ran 52.52 9 ⇓P **P** **07 14 37.9 +0.4**
baz=53,SNR=27
V24A Rampart Ranch, 52.60 10 ⇑P **P** **07 14 37.7 -0.3**
baz=53,SNR=26
USHA Ushuaia 52.60 148 P **P** **07 14 38.7 +1.1**
comp=Z,9.6nm,0.8s,baz=263,slow=8.3,SNR=6.5
X32A Elmer 52.68 17 ⇓P **P** **07 14 38.0 -0.4**
baz=53,SNR=26
Y34A Reagan Ranch, 52.69 18 ⇑P **P** **07 14 37.5 -0.9**
baz=53,SNR=17
X31A McDonald Ranch 52.69 16 ⇑P **P** **07 14 38.1 -0.4**
baz=53,SNR=52
W29A Amarillo 52.74 14 ⇓P **P** **07 14 38.3 -0.6**
baz=53,SNR=36
W28A Vega 52.75 13 ⇑P **P** **07 14 38.8 -0.1**
baz=53

V25A Rancho No Teng 52.82 11 ⇑P P 07 14 39.2 -0.4
baz=53,SNR=36
V26A Tequesquite Ra 52.94 12 ⇑P P 07 14 39.9 -0.5
baz=53,SNR=62
U22A Llaves 52.99 9 ⇑P P 07 14 41.0 +0.1
baz=53,SNR=61
X33A Lawton 53.02 17 ⇑P P 07 14 40.7 -0.1
baz=53
U23A El Rito 53.04 9 ⇑P P 07 14 41.2 -0.1
baz=53,SNR=124
GRAC Grapevine Rang 53.04 358 ⇓P P 07 14 41.4 +0.4
baz=53,SNR=30
W30A Crocket Farms 53.06 15 ⇓P P 07 14 41.8 +0.5
baz=53
KNB Kanab 53.07 2 eP P 07 14 42.2 +0.8
KNB pmax pmax
comp=Z,115nm,1.4s
KNB MLR MLR
comp=Z,6μm,19.9s
KNB Kanab 53.07 2 eP P 07 14 42.2 +0.8
comp=Z,115nm,1.4s
KNB LR LR
comp=Z,6μm,19.9s
SAO San Andreas Ge 53.09 354 eP P 07 14 41.9 +0.6
SAO MLR MLR
comp=Z,8μm,18.0s
SAO San Andreas Ge 53.09 354 eP P 07 14 41.9 +0.6
SAO LR LR
comp=Z,8μm,18.0s
V27A Dan Oppiter Fa 53.09 13 ⇑P P 07 14 42.0 +0.5
baz=53
WMOK Wichita Mounta 53.12 17 eP P 07 14 40.6 -1.0
WMOK MLR MLR
comp=Z,4μm,20.0s
WMOK Wichita Mounta 53.12 17 eP P 07 14 40.6 -1.0
WMOK LR LR
comp=Z,4μm,20.0s
TIN Tinemaha, Big 53.13 357 ⇑P P 07 14 42.6 +0.8
baz=53
V28A Channing 53.22 13 ⇑P P 07 14 42.3 -0.1
baz=53,SNR=34
W31A Holland Ranch, 53.23 16 ⇑P P 07 14 42.0 -0.4
baz=54,SNR=39
U24A Moreno Valley 53.26 10 ⇑P P 07 14 43.3 +0.3
baz=54,SNR=35
X34A Smith Ranch, M 53.27 18 ⇑P P 07 14 42.8 +0.1
baz=54,SNR=13
W32A Sentinel 53.35 16 ⇓P P 07 14 43.3 -0.1
baz=54,SNR=32
POHA Pohakuloa 53.36 311 PFAKE 07 14 50.0 +6.0
POHA LR LR
comp=Z,10μm,22.0s
U25A Circle Dot Ran 53.41 11 ⇑P P 07 14 43.6 -0.4
baz=54,SNR=92
GTBY Guantanamo Bay 53.42 49 eP P 07 14 48.6 +4.5
GTBY LR LR
comp=Z,5μm,22.0s
MTUM Tungsten Hills 53.45 357 eP P 07 14 44.3 +0.1
V29A Stinnett 53.49 14 ⇑P P 07 14 44.3 -0.1
baz=54,SNR=17
U26A Atchley Ranch, 53.52 12 ⇑P P 07 14 44.4 -0.4
baz=54,SNR=57
CCUT Cedar City 53.58 2 eP P 07 14 45.8 +0.6
CCUT LR LR
comp=Z,9μm,20.7s
V30A Spur Ranch, Mi 53.59 15 ⇑P P 07 14 45.2 +0.1
baz=54
W33A Caddo, Fort Co 53.59 17 ⇑P P 07 14 45.2 +0.1
baz=54,SNR=47
MVCO Mesa Verde 53.60 7 ⇑P P 07 14 45.2 -0.2
baz=54,SNR=31
MVCO Mesa Verde 53.60 7 eP P 07 14 45.3 -0.1
MVCO LR LR
comp=Z,8μm,20.0s
U27A Thompson Grove 53.73 12 ⇓P P 07 14 45.6 -0.6
baz=54,SNR=42
MLAC Mammoth, Mammo 53.74 357 ⇑P P 07 14 46.4 +0.1
baz=54
T23A Casias Ranch, 53.75 9 ⇓P P 07 14 46.8 +0.2
baz=54,SNR=32
VBMS Vicksburg 53.76 26 eP P 07 14 46.7 +0.4
V31A Spring Creek L 53.81 16 ⇓P P 07 14 47.3 +0.6
baz=54,SNR=13
ARUT Antelope Range 53.82 2 eP P 07 14 47.4 +0.5
ARUT pmax pmax
comp=Z,1μm,0.9s
ARUT Antelope Range 53.82 2 eP P 07 14 47.4 +0.5
comp=Z,74nm,0.9s
U28A Mallet 53.82 13 ⇑P P 07 14 47.4 +0.5
baz=54
W34A Bridge Creek, 53.87 18 ⇑P P 07 14 47.1 -0.1
baz=54,SNR=18
W34A Bridge Creek, 53.87 18 eP P 07 14 47.0 -0.1
comp=Z,185nm,1.1s
W34A LR LR
comp=Z,3μm,21.0s
T24B San Luis 53.88 10 ⇑P P 07 14 48.0 +0.5
baz=54,SNR=61
V32A Arapaho 53.97 16 ⇓P P 07 14 48.4 +0.6
baz=54,SNR=10
U29A Oasis Ranch, S 54.10 14 ⇑P P 07 14 49.5 +0.6
baz=54
TPH Tonopah 54.11 358 PFAKE 07 15 00.0 +11
TPH LR LR
comp=Z,2μm,19.0s
T25A Trinidad 54.12 11 ⇓P P 07 14 49.1 0.0
baz=54,SNR=62
CMB Columbia Colle 54.25 355 eP P 07 14 49.5 -0.4
CMB MLR MLR
comp=Z,12μm,21.0s
CMB Columbia Colle 54.25 355 eP P 07 14 49.5 -0.4
CMB LR LR
comp=Z,12μm,21.0s
V33A Lossen Ranch, 54.27 17 ⇑P P 07 14 49.8 -0.2
baz=54,SNR=30
BRAL Brewton 54.30 30 eP P 07 14 52.2 +1.9
T26A Comanche Natio 54.31 12 ⇑P P 07 14 50.3 -0.2
baz=54,SNR=67
U30A WK&E Inc. Balk 54.33 15 ⇑P P 07 14 50.6 +0.1
baz=55,SNR=24
S22A 4UR Ranch, Cre 54.34 8 ⇑P P 07 14 51.2 +0.4
baz=55,SNR=48
R11A Troy Canyon, C 54.35 360 ⇓P P 07 14 50.7 0.0
baz=55,SNR=39
R11A Troy Canyon, C 54.35 360 eP P 07 14 50.9 +0.1
comp=Z,42nm,1.0s
R11A LR LR
comp=Z,8μm,20.1s
U31A Nine Bar Ranch 54.37 15 ⇑P P 07 14 50.6 -0.2
baz=55,SNR=22
T27A Campo 54.37 12 ⇓P P 07 14 51.1 +0.2
baz=55,SNR=25
PV05 Paradox Valley 54.39 6 eP P 07 14 51.6 +0.4
S23A Nye Farm, Mont 54.41 9 ⇓P P 07 14 51.6 +0.3
baz=55,SNR=19
AFI Afiamalu 54.44 264 eP P 07 14 51.3 -0.5
AFI pmax pmax
comp=Z,258nm,0.8s
AFI MLR MLR
comp=Z,17μm,21.0s
AFI Afiamalu 54.44 264 eP P 07 14 51.3 -0.5
comp=Z,43nm,0.8s
AFI LR LR
comp=Z,17μm,21.0s
S24A Houchin Ranch, 54.48 10 ⇓P P 07 14 51.7 -0.1
baz=55,SNR=37
NV11 Mina Array Sit 54.50 357 eP P 07 14 50.8 -1.0
PV01 Paradox Valley 54.50 7 eP P 07 14 50.5 -1.5
comp=Z,5μm,1.0s
NV01 Mina Array Sit 54.50 357 eP P 07 14 51.2 -0.8
NVAR Mina Array Bea 54.50 357 P P 07 14 51.9 -0.1
comp=Z,44nm,1.0s,baz=181,slow=8.0,SNR=60
NVAR PcP PcP 07 16 01.2 +6.0
comp=Z,4.3nm,0.5s,baz=180,slow=5.1,SNR=3.7
NVAR LR LR 07 32 35.9
comp=Z,5μm,19.5s,baz=206,slow=30
NVAR PKPPKP P'P'df 07 45 06.0 +6.3
comp=Z,0.9nm,1.0s,baz=26,slow=3.8,SNR=3.7
V34A Guthrie 54.51 18 ⇓P P 07 14 51.5 -0.2
baz=55,SNR=18
V34A Guthrie 54.51 18 eP P 07 14 50.9 -0.8
V34A LR LR
comp=Z,4μm,20.0s
SDCO Great Sand Dun 54.53 10 eP P 07 14 51.6 -0.6
comp=Z,149nm,0.9s
SDCO LR LR
comp=Z,8μm,21.0s

CPUP Villa Florida 54.54 111 P P 07 14 52.9 +0.6
comp=Z,20nm,0.8s,baz=250,slow=7.8,SNR=18
CPUP LR LR 07 33 27.5
comp=Z,8μm,22.0s,baz=272,slow=31
CPUP Villa Florida 54.54 111 eP P 07 14 52.5 +0.2
comp=Z,9.1nm,1.2s
T28A Walsh 54.56 13 ⇓P P 07 14 52.0 -0.2
baz=55,SNR=84
MSU Marysvale 54.59 3 eP P 07 14 53.1 +0.5
MSU Marysvale 54.59 3 eP P 07 14 53.1 +0.5
U32A Winter Ranch, 54.60 16 ⇓P P 07 14 52.9 +0.4
baz=55
MCCM Marconi Confer 54.61 353 PFAKE 07 15 00.0 +7.6
MCCM LR LR
comp=Z,8μm,22.0s
MIAR Mount Ida 54.62 22 PFAKE 07 15 00.0 +7.5
MIAR LR LR
comp=Z,4μm,19.0s
S25A Robets Cordova 54.63 11 ⇓P P 07 14 52.8 0.0
baz=55,SNR=70
WAKR Walker 54.64 356 eP P 07 14 53.4 +0.5
PV10 Paradox Valley 54.69 6 eP P 07 14 52.8 -0.6
PV04 Paradox Valley 54.72 6 eP P 07 14 53.7 +0.2
S26A Kim 54.77 11 ⇑P P 07 14 53.7 -0.1
baz=55,SNR=56
T29A Hugoton 54.77 14 ⇑P P 07 14 53.5 -0.2
baz=55,SNR=21
PV09 Paradox Valley 54.80 6 eP P 07 14 54.2 0.0
T30A Plains 54.85 14 ⇑P P 07 14 54.7 +0.4
baz=55
U33A Lingo Farm, Me 54.90 17 ⇓P P 07 14 54.7 +0.1
baz=55
OWUT Old Woman Plat 54.90 4 eP P 07 14 55.2 +0.3
R23A Moffat 54.92 9 ⇑P P 07 14 55.4 +0.4
baz=55,SNR=37
S27A Las Animas 54.94 12 ⇓P P 07 14 55.2 +0.2
baz=55
S28A Manter 55.06 13 ⇑P P 07 14 55.4 -0.4
baz=55,SNR=30
U34A Anderson Ranch 55.06 17 ⇓P P 07 14 55.1 -0.7
baz=55,SNR=33
U34A Anderson Ranch 55.06 17 eP P 07 14 55.2 -0.5
comp=Z,169nm,1.0s
U34A LR LR
comp=Z,5μm,18.0s
R24A Sanders Place, 55.07 10 ⇑P P 07 14 56.4 +0.3
baz=55,SNR=54
TUL1 Leonard 55.10 19 ⇑P P 07 14 55.5 -0.5
baz=55,SNR=51
TUL1 Leonard 55.10 19 eP P 07 14 54.8 -1.3
comp=Z,81nm,0.7s
TUL1 LR LR
comp=Z,3μm,21.0s
T31A Randall Ranch, 55.10 15 ⇓P P 07 14 55.7 -0.3
baz=55,SNR=18
R25A Fountain Ranch 55.13 11 ⇑P P 07 14 56.0 -0.4
baz=55,SNR=20
S29A Ulysses 55.26 14 ⇑P P 07 14 57.5 +0.3
baz=56
UALR University of 55.27 23 eP P 07 14 56.5 -0.8
comp=Z,120nm,1.3s
UALR LR LR
comp=Z,6μm,21.7s
SRU San Rafael Swe 55.29 5 eP P 07 14 57.5 -0.1
SRU pmax pmax
comp=Z,92nm,1.0s
SRU MLR MLR
comp=Z,6μm,21.0s
SRU San Rafael Swe 55.29 5 eP P 07 14 57.5 -0.1
comp=Z,92nm,1.0s
SRU LR LR
comp=Z,6μm,21.0s
T32A Huddler Ranch, 55.38 16 ⇑P P 07 14 58.0 0.0
baz=56
SNO Snow College 55.42 4 eP P 07 14 59.1 +0.4
S30A Montezuma 55.43 14 ⇓P P 07 14 58.3 -0.2
baz=56,SNR=15
TMUT Trail Mountain 55.43 4 eP P 07 14 59.1 +0.4
comp=Z,115nm,1.0s
R26A Arlington 55.43 11 ⇓P P 07 14 58.1 -0.4
baz=56,SNR=56
FLU Fool Peak 55.45 3 eP P 07 14 59.2 +0.4
T33A Patterson Ranc 55.47 17 ⇓P P 07 14 59.5 +0.8
baz=56
HOPS Hopland Field 55.47 353 P P 07 14 58.3 -0.4
comp=Z,26nm,1.2s
HOPS LR LR
comp=Z,10μm,18.0s
R27A Eads 55.54 12 ⇑P P 07 14 59.2 0.0
baz=56,SNR=39
Q23A Hartsel 55.62 9 ⇑P P 07 15 00.6 +0.6
baz=56
OHCM Honcut 55.64 354 eP P 07 15 00.2 +0.4
S31A Mullinville 55.65 15 ⇓P P 07 14 60.0 0.0
baz=56
SDDR Presa de Saban 55.70 53 eP P 07 15 00.8 0.0
comp=Z,458nm,1.7s
SDDR LR LR
comp=Z,2μm,19.0s
SMCO Snowmass 55.72 8 eP P 07 15 01.0 +0.1
comp=Z,62nm,1.0s
SMCO LR LR
comp=Z,10μm,18.8s
FSU Fish Springs 55.75 2 eP P 07 15 01.2 +0.4
Q24A Divide 55.78 10 ⇑P P 07 15 01.2 -0.1
baz=56,SNR=18
R28A Tribune 55.80 13 ⇑P P 07 15 00.6 -0.5
baz=56,SNR=45
ROA Roan Cliffs 55.85 5 eP P 07 15 01.3 -0.4
S32A Newby Ranch, P 55.86 16 ⇓P P 07 15 01.0 -0.5
baz=56,SNR=19
Q25A Bedland, Calha 55.88 10 ⇑P P 07 15 01.7 -0.1
baz=56,SNR=41
ARGU Argyle Ridge 56.00 4 eP P 07 15 02.7 -0.1
LRAL Lakeview Retre 56.01 29 eP P 07 15 02.2 -0.4
comp=Z,107nm,0.9s
LRAL LR LR
comp=Z,2μm,19.0s
S33A Kaszmaul Farm, 56.01 17 ⇓P P 07 15 02.4 -0.2
baz=56
Q26A Hugo 56.02 11 ⇓P P 07 15 02.5 -0.2
baz=56,SNR=32
R29A Marienthal 56.02 13 ⇑P P 07 15 03.0 +0.3
baz=56,SNR=30
NLU North Lily Min 56.03 3 eP P 07 15 03.1 +0.2
comp=Z,59nm,1.0s
NLU LR LR
comp=Z,9μm,21.1s
P23A Jefferson 56.08 9 ⇓P P 07 15 03.3 -0.1
baz=56,SNR=57
R30A Dighton 56.09 14 ⇑P P 07 15 02.5 -0.6
baz=56,SNR=58
MPU Maple Canyon 56.12 3 eP P 07 15 03.6 +0.1
comp=Z,218nm,1.0s
P22A Eagle 56.16 8 ⇓P P 07 15 03.6 -0.3
baz=56,SNR=34
OXF Oxford 56.20 26 eP P 07 15 03.0 -1.0
OXF pmax pmax
comp=Z,222nm,1.0s
OXF MLR MLR
comp=Z,3μm,21.0s
OXF Oxford 56.20 26 eP P 07 15 03.0 -1.0
comp=Z,222nm,1.0s
OXF LR LR
comp=Z,3μm,21.0s
KIP Kipapa 56.21 310 PFAKE 07 15 10.0 +5.7
KIP LR LR
comp=Z,12μm,22.0s
KCPM Cahto Peak 56.22 352 PFAKE 07 15 10.0 +5.8
KCPM LR LR
comp=Z,5μm,19.1s
DUG Dugway, Tooele 56.24 2 eP P 07 15 04.3 0.0
DUG pmax pmax
comp=Z,127nm,1.0s
DUG MLR MLR
comp=Z,8μm,22.0s
DUG Dugway, Tooele 56.24 2 ⇓P P 07 15 05.0 +0.7
baz=56,SNR=85
DUG Dugway, Tooele 56.24 2 eP P 07 15 04.3 0.0
comp=Z,128nm,1.0s
DUG LR LR
comp=Z,8μm,22.0s
R31A Burdett 56.27 15 ⇓P P 07 15 03.8 -0.6
baz=56,SNR=19
KSCO Kaye Shedlock' 56.27 12 ⇑P P 07 15 04.4 -0.2
baz=56,SNR=21
KSCO Kaye Shedlock' 56.27 12 eP P 07 15 04.0 -0.6

comp=Z,89nm,0.9s
KSCO LR LR
comp=Z,7μm,20.7s
KIPM Iron Peak 56.33 352 eP P 07 15 07.2 +2.3
comp=Z,614nm,2.2s
P24A Kohler Place, 56.35 10 ⇓P P 07 15 05.1 -0.1
baz=57
TIGA Tifton 56.38 33 ⇑P P 07 15 05.0 -0.3
baz=57
TIGA Tifton 56.38 33 eP P 07 15 04.5 -0.8
comp=Z,175nm,1.0s
TIGA LR LR
comp=Z,3μm,21.2s
BMN Battle Mountai 56.46 358 eP P 07 15 05.5 -0.4
BMN pmax pmax
comp=Z,67nm,1.0s
BMN MLR MLR
comp=Z,8μm,22.0s
BMN Battle Mountai 56.46 358 eP P 07 15 05.5 -0.4
comp=Z,67nm,1.0s
BMN LR LR
comp=Z,8μm,22.0s
P25A Willow Gulch B 56.48 10 ⇓P P 07 15 05.7 -0.4
baz=57,SNR=13
Q28A Sharon Springs 56.49 13 ⇑P P 07 15 05.0 -1.0
baz=57,SNR=24
Q29A Oakley 56.50 13 ⇑P P 07 15 05.3 -0.8
baz=57,SNR=41
O20A White River Ci 56.52 6 ⇑P P 07 15 06.1 -0.2
baz=57,SNR=22
O20A White River Ci 56.52 6 eP P 07 15 05.6 -0.7
comp=Z,40nm,0.8s
O20A ⇑e 07 45 18.6
O20A LR LR
comp=Z,5μm,20.0s
ISCO Idaho Springs 56.52 9 eP P 07 15 06.1 -0.4
ISCO pmax pmax
comp=Z,91nm,1.0s
ISCO MLR MLR
comp=Z,7μm,20.0s
ISCO Idaho Springs 56.52 9 ⇓P P 07 15 06.7 +0.1
baz=57,SNR=78
ISCO Idaho Springs 56.52 9 eP P 07 15 06.1 -0.4
comp=Z,91nm,1.0s
ISCO LR LR
comp=Z,7μm,20.0s
DAU Daniels Canyon 56.54 4 eP P 07 15 06.2 -0.5
DAU pmax pmax
comp=Z,172nm,1.0s
DAU Daniels Canyon 56.54 4 eP P 07 15 06.2 -0.5
comp=Z,11nm,1.0s
R32A Long Quarter, 56.60 16 ⇑P P 07 15 06.2 -0.6
baz=57,SNR=23
HBAR Harrisburg 56.60 24 eP P 07 15 06.4 -0.4
P26A Davis Ranch, A 56.67 11 ⇑P P 07 15 06.9 -0.5
baz=57,SNR=39
R33A Olander Ranch, 56.69 16 ⇓P P 07 15 07.6 +0.2
baz=57,SNR=22
JLU Jordanelle 56.71 3 eP P 07 15 07.8 0.0
comp=Z,133nm,1.0s
JLU LR LR
comp=Z,8μm,20.1s
ELK Elko 56.74 0 eP P 07 15 08.1 +0.1
ELK pmax pmax
comp=Z,83nm,1.0s
ELK Elko 56.74 0 LR LR 07 34 40.8
comp=Z,8μm,20.2s,baz=185,slow=31
ELK Elko 56.74 0 eP P 07 15 08.1 +0.1
comp=Z,83nm,1.0s
KLJ Keetly 56.74 4 eP P 07 15 08.2 +0.2
O22A Kremmling 56.75 8 ⇑P P 07 15 08.4 +0.3
baz=57,SNR=92
MHD Mile High Driv 56.75 3 eP P 07 15 08.3 +0.3
Q30A Quinter 56.76 14 ⇓P P 07 15 07.1 -0.8
baz=57,SNR=44
KMRM Mail Ridge 56.77 352 eP P 07 15 07.4 -0.5
comp=Z,118nm,1.0s
KMRM LR LR
comp=Z,13μm,21.7s
CTU Camp Tracy 56.79 3 eP P 07 15 08.3 +0.1
comp=Z,225nm,1.1s
CTU LR LR
comp=Z,7μm,19.4s
HTU Hoyt Peak 56.80 4 eP P 07 15 08.6 +0.1
P27A Ficken Ranch, 56.81 12 ⇑P P 07 15 07.9 -0.5
baz=57,SNR=21
RBU Red Butte Cany 56.87 3 eP P 07 15 08.8 0.0
O23A Lake Granby, G 56.88 9 ⇓P P 07 15 08.6 -0.5
baz=57,SNR=60
O24A Longmont 56.92 9 ⇓P P 07 15 09.3 +0.1
baz=57,SNR=16
SAIU Southern Antel 56.93 3 eP P 07 15 09.1 -0.1
BGU Big Grassy Mou 56.96 2 eP P 07 15 09.1 -0.4
comp=Z,74nm,1.1s
BGU LR LR
comp=Z,1μm,18.2s
WDC Whiskeytown Da 56.98 353 eP P 07 15 08.5 -0.9
WDC pmax pmax
comp=Z,50nm,1.0s
WDC MLR MLR
comp=Z,8μm,21.0s
WDC Whiskeytown Da 56.98 353 eP P 07 15 08.5 -0.9
comp=Z,50nm,1.0s
WDC LR LR
comp=Z,8μm,21.0s
Q31A Ellis 56.98 15 ⇓P P 07 15 09.0 -0.5
baz=57,SNR=12
P28A Saint Francis 56.99 12 ⇑P P 07 15 09.1 -0.5
baz=57,SNR=20
O25A Wiggins 57.07 10 ⇑P P 07 15 09.9 -0.3
baz=57,SNR=21
NAIU Northern Antel 57.09 3 eP P 07 15 10.2 -0.1
Q32A Meitler Ranch, 57.18 15 ⇑P P 07 15 10.7 -0.1
baz=57,SNR=18
EFI East Falkland 57.19 141 eP P 07 15 12.0 +1.2
EFI pmax pmax
comp=Z,224nm,1.6s
EFI MLR MLR
comp=Z,16μm,22.0s
EFI East Falkland 57.19 141 eP P 07 15 12.0 +1.2
comp=Z,224nm,1.6s
EFI LR LR
comp=Z,16μm,22.0s
P29A Atwood 57.20 13 ⇑P P 07 15 11.5 +0.5
baz=57,SNR=9.1
N20A Spence Gulch, 57.21 6 ⇑P P 07 15 11.2 -0.1
baz=57,SNR=91
TCUT Toone Canyon 57.23 3 eP P 07 15 10.9 -0.5
comp=Z,106nm,1.0s
TCUT LR LR
comp=Z,8μm,19.7s
P30A Selden 57.29 14 ⇓P P 07 15 10.8 -0.9
baz=58,SNR=30
GRTK Grand Turk 57.32 50 PFAKE 07 15 20.0 +7.9
GRTK LR LR
comp=Z,3μm,18.0s
O26A Horse Wrangler 57.34 11 ⇑P P 07 15 11.6 -0.5
baz=58
SPUT South Promonto 57.37 3 eP P 07 15 11.7 -0.6
comp=Z,133nm,0.9s
SPUT LR LR
comp=Z,7μm,21.7s
SMN1 Samana, DR 57.37 54 P P 07 15 10.8 -1.8
Q33A Connelly Farm, 57.38 16 ⇑P P 07 15 11.3 -0.9
baz=58,SNR=27
N02D Trinity Center 57.39 353 ⇑P P 07 15 12.2 -0.1
baz=58
N22A Wattenberg Ran 57.39 8 ⇓P P 07 15 12.5 -0.1
baz=58,SNR=48
KHMM Horse Mountain 57.41 352 eP P 07 15 12.8 +0.2
comp=Z,106nm,1.1s
KHMM LR LR
comp=Z,12μm,20.4s
HALT Halls 57.44 25 eP P 07 15 11.3 -1.4
O27A Beecher Island 57.44 12 ⇑P P 07 15 12.3 -0.5
baz=58,SNR=14
EPU East Promontor 57.45 3 eP P 07 15 12.6 -0.3
P31A Stockton 57.48 15 ⇑P P 07 15 12.2 -0.8
baz=58,SNR=49
GZU Grizzly Peak 57.51 3 eP P 07 15 13.1 -0.4
O28A Krutsinger Ran 57.52 12 ⇓P P 07 15 13.0 -0.3
baz=58,SNR=27
N23A Red Feather La 57.55 8 ⇑P P 07 15 13.6 -0.1
baz=58,SNR=44
MCU Monte Cristo P 57.57 3 eP P 07 15 13.4 -0.5
N24A Carr 57.64 9 ⇑P P 07 15 14.1 -0.2
baz=58,SNR=19

WVUT	Wellsville	57.69	3	eP	P	07 15 13.8	-0.8
O29A	4D Ranch, Culb	57.73	13	⇓P	P	07 15 14.6	-0.1
	baz=58,SNR=23						
PVMO	Portageville	57.73	24	eP	P	07 15 14.5	-0.3
	comp=Z,162nm,0.3s						
PVMO				LR	LR		
	comp=Z,4μm,20.4s						
RSUT	Red Spur Mount	57.75	3	eP	P	07 15 14.3	-0.8
N25A	Grover	57.76	10	⇑P	P	07 15 15.2	+0.1
	baz=58,SNR=40						
P32A	Huiting Farm,	57.76	15	⇑P	P	07 15 14.2	-0.7
	baz=58,SNR=24						
PBMO	Poplar Bluff	57.77	24	eP	P	07 15 14.2	-0.8
	comp=Z,388nm,2.3s						
PBMO				⇑e		07 45 12.2	
PBMO				LR	LR		
	comp=Z,4μm,19.9s						
GLAT	Glass	57.77	25	eP	P	07 15 14.5	-0.6
KSU1	Kansas State U	57.81	17	⇓P	P	07 15 15.2	-0.1
	baz=58						
KSU1	Kansas State U	57.81	17	eP	P	07 15 14.4	-0.9
	comp=Z,63nm,0.9s						
KSU1				ePcP	PcP	07 16 13.2	+5.4
KSU1				LR	LR		
	comp=Z,4μm,18.0s						
M02C	Callahan	57.82	353	⇓P	P	07 15 15.7	+0.4
	baz=58						
HVU	Hansel Valley	57.82	2	eP	P	07 15 14.8	-0.7
HVU				e		07 16 09.7	
HVU				pmax	pmax		
	comp=Z,69nm,1.0s						
HVU				MLR	MLR		
	comp=Z,3μm,19.5s						
HVU	Hansel Valley	57.82	2	eP	P	07 15 14.8	-0.7
	comp=Z,57nm,1.0s						
HVU				ePcP	PcP	07 16 09.7	+1.7
HVU				LR	LR		
	comp=Z,3μm,19.5s						
P33A	Williams Farm,	57.82	16	⇑P	P	07 15 15.3	-0.1
	baz=58						
N26A	Koester Ranch,	57.92	11	⇑P	P	07 15 16.5	+0.4
	baz=58						
PARMO	Parma	57.93	24	eP	P	07 15 15.7	-0.4
PARMO				ePP	PP	07 17 19.3	-5.5
O30A	MW Ranch, Wils	57.94	14	⇓P	P	07 15 16.5	+0.2
	baz=58,SNR=16						
M22A	Cedar Creek Ra	57.96	8	⇑P	P	07 15 16.5	-0.1
	baz=58,SNR=16						
GOGA	Godfrey	58.01	31	eP	P	07 15 16.4	-0.4
GOGA				pmax	pmax		
	comp=Z,102nm,0.9s						
GOGA				MLR	MLR		
	comp=Z,2μm,18.0s						
GOGA	Godfrey	58.01	31	eP	P	07 15 16.4	-0.4
	comp=Z,102nm,0.9s						
GOGA				LR	LR		
	comp=Z,2μm,18.0s						
PHWY	Pilot Hill	58.02	9	eP	P	07 15 16.1	-0.9
	comp=Z,59nm,0.8s						
PHWY				LR	LR		
	comp=Z,6μm,19.9s						
N27A	Anderson Farm,	58.03	11	⇑P	P	07 15 16.9	0.0
	baz=58,SNR=19						
MOD	Modoc Plateau	58.09	356	eP	P	07 15 17.1	-0.3
	comp=Z,139nm,1.0s						
MOD				LR	LR		
	comp=Z,11μm,22.0s						
O31A	Woolen Ranch,	58.09	14	⇓P	P	07 15 17.3	+0.1
	baz=58,SNR=36						
M04C	Macdoel	58.10	354	⇑P	P	07 15 17.5	+0.1
	baz=58						
N28A	Pribbeno Ranch	58.11	12	⇓P	P	07 15 17.2	-0.3
	baz=58,SNR=12						
YBH	Yreka Blue Hor	58.14	353	P	P	07 15 16.9	-0.7
YBH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YBH				MLR	MLR		
	comp=Z,10μm,19.0s						
YBH	Yreka Blue Hor	58.14	353	P	P	07 15 16.9	-0.7
	comp=Z,8.1nm,0.9s,baz=179,slow=5.0,SNR=8.4						
YBH	Yreka Blue Hor	58.14	353	P	P	07 15 16.9	-0.7
	comp=Z,2.0nm,0.9s						
YBH				LR	LR		
	comp=Z,10μm,19.0s						
M23A	Laramie	58.15	8	⇑P	P	07 15 18.1	+0.3
	baz=58,SNR=40						
RWWY	Rawlins	58.17	7	PFAKE		07 15 30.0	+12
RWWY				LR	LR		
	comp=Z,6μm,20.6s						
WVT	Waverly	58.25	26	eP	P	07 15 16.9	-1.5
WVT				pmax	pmax		
	comp=Z,37nm,0.8s						
WVT				MLR	MLR		
	comp=Z,3μm,18.0s						
WVT	Waverly	58.25	26	eP	P	07 15 16.9	-1.5
	comp=Z,37nm,0.8s						
WVT				LR	LR		
	comp=Z,3μm,18.0s						
M24A	Cheyenne	58.28	9	⇓P	P	07 15 19.0	+0.3
	baz=58,SNR=22						
SWET	Sewanee	58.31	28	eP	P	07 15 17.9	-1.1
	comp=Z,109nm,0.8s						
M25A	Palm-Egli Farm	58.37	10	⇑P	P	07 15 19.5	+0.2
	baz=59						
CRPR	Cabo Rojo, PR	58.42	56	eP	P	07 15 16.8	-3.1
	comp=Z,311nm,1.3s						
CRPR				LR	LR		
	comp=Z,2μm,20.0s						
N29A	Votaw Ranch, W	58.43	13	⇓P	P	07 15 20.1	+0.4
	baz=59,SNR=23						
O32A	Brockman Farm,	58.45	15	⇓P	P	07 15 19.7	-0.1
	baz=59,SNR=14						
MPR	Mayaguez	58.51	56	eP	P	07 15 19.6	-0.9
	comp=Z,670nm,2.7s						
MPR				LR	LR		
	comp=Z,1μm,18.6s						
WVOR	Wild Horse Val	58.51	357	eP	P	07 15 20.4	+0.1
WVOR				pmax	pmax		
	comp=Z,101nm,1.0s						
WVOR				MLR	MLR		
	comp=Z,12μm,21.0s						
WVOR	Wild Horse Val	58.51	357	eP	P	07 15 20.4	+0.1
	comp=Z,101nm,1.0s						
WVOR				⇑e		07 45 11.3	
WVOR				LR	LR		
	comp=Z,12μm,21.0s						
N30A	Hueftle Ranch,	58.52	13	⇑P	P	07 15 20.2	-0.1
	baz=59						
LSP	Las Mesas	58.53	56	P	P	07 15 22.8	+2.1
M26A	McRoberts Ranc	58.55	11	⇑P	P	07 15 20.6	0.0
	baz=59						
L22A	Ellis Ranch, M	58.60	8	⇑P	P	07 15 20.8	-0.2
	baz=59,SNR=35						
AGP	Aguadilla	58.61	56	PFAKE		07 15 30.0	+8.7
AGP				LR	LR		
	comp=Z,3μm,20.9s						
L02D	Cave Junction,	58.66	353	⇑P	P	07 15 22.0	+0.8
	baz=59						
M27A	Reverse DX Ran	58.75	11	⇓P	P	07 15 22.8	+0.9
	baz=59						
L23A	Garrett	58.78	8	⇓P	P	07 15 22.7	+0.4
	baz=59,SNR=14						
LRS	Lares	58.78	56	eP	P	07 15 21.4	-1.1
KBO	Bosley Butte	58.79	352	eP	P	07 15 22.2	0.0
	comp=Z,83nm,1.1s						
KBO				LR	LR		
	comp=Z,7μm,19.8s						
N31A	Bailey Ranch,	58.81	14	⇑P	P	07 15 22.7	+0.4
	baz=59						
ICMP	Isla Caja de M	58.82	57	eP	P	07 15 25.0	+2.3
L24A	Wheatland	58.82	9	⇓P	P	07 15 22.4	-0.1
	baz=59						
M28A	Bar X Bar Ranc	58.83	12	⇑P	P	07 15 22.5	+0.1
	baz=59						
OBIP	Obispado Ponce	58.84	57	eP	P	07 15 21.3	-1.6
	comp=Z,72nm,0.8s						
CELP	Cerrillos	58.88	57	eP	P	07 15 22.8	-0.3
AOPR	Arecibo Observ	58.89	56	eP	P	07 15 22.6	-0.6
	comp=Z,110nm,1.0s						
AHID	Auburn Hatcher	58.89	4	eP	P	07 15 21.5	-1.5
	comp=Z,73nm,0.9s						
AHID				ePcP	PcP	07 16 14.4	+2.2
AHID				LR	LR		
	comp=Z,8μm,21.0s						
N32A	Stulken Farm,	58.92	15	⇑P	P	07 15 23.3	+0.3
	baz=59						
K04D	Chiloquin, OR	58.92	354	⇓P	P	07 15 23.5	+0.3
	baz=59						
K05A	Summer Lake	58.95	355	eP	P	07 15 23.8	+0.4
	comp=Z,144nm,1.0s						
K05A				LR	LR		
	comp=Z,7μm,18.8s						
BW06	Boulder Array	59.00	5	eP	P	07 15 22.5	-1.3
	comp=Z,60nm,0.9s						
BW06				⇑e		07 45 05.2	
BW06				LR	LR		
	comp=Z,7μm,21.0s						
PDAR	Pinedale Array	59.00	5	P	P	07 15 22.6	-1.2
	comp=Z,30nm,1.0s,baz=172,slow=8.2,SNR=63						
PDAR				LR	LR	07 36 15.5	
	comp=Z,5μm,21.2s,baz=194,slow=32						
PDAR				PKPPKP	P'P'df	07 44 57.2	+4.1
	comp=Z,0.6nm,0.9s,baz=66,slow=3.7,SNR=3.7						
M29A	Burnside Ranch	59.01	13	⇑P	P	07 15 23.7	-0.1
	baz=59						
HUMO	Hull Mountain	59.03	353	eP	P	07 15 23.3	-0.5
	comp=Z,85nm,1.3s						
HUMO				LR	LR		
	comp=Z,12μm,20.0s						
SIUC	Southern Illin	59.05	24	eP	P	07 15 23.1	-0.9
	comp=Z,68nm,1.0s						
SIUC				LR	LR		
	comp=Z,4μm,20.9s						
L25A	Engebretsen Ra	59.09	10	⇓P	P	07 15 24.2	-0.1
	baz=59,SNR=18						
K21A	Alcova	59.10	7	⇑P	P	07 15 23.5	-1.0
	baz=59,SNR=39						
L26A	Underwood Farm	59.12	11	⇑P	P	07 15 24.4	-0.1
	baz=59						
CPCT	Cooper Cave	59.15	29	eP	P	07 15 24.0	-0.8
K22A	Casper	59.20	8	⇓P	P	07 15 24.5	-0.6
	baz=59,SNR=48						
K22A	Casper	59.20	8	eP	P	07 15 24.2	-0.9
	comp=Z,146nm,0.9s						
K22A				⇑e		07 45 09.2	
M30A	Dale-Ortello V	59.28	13	⇓P	P	07 15 25.8	+0.3
	baz=60						
M31A	Lambtecht Ranc	59.30	14	⇑P	P	07 15 25.5	-0.2
	baz=60,SNR=15						
L27A	T5 Ranch, Ells	59.30	11	⇑P	P	07 15 26.2	+0.4
	baz=60						
RGRS	Roger Stewart	59.32	34	eP	P	07 15 24.5	-1.4
	comp=Z,2.2nm,0.4s						
PMSA	Palmer Station	59.37	157	P	P	07 15 27.3	+1.5
	comp=Z,29nm,0.9s,baz=307,slow=5.1,SNR=2.4						
PMSA	Palmer Station	59.37	157	P	P	07 15 27.3	+1.5
PMSA				LR	LR		
	comp=Z,8μm,19.0s						
L28A	Connealy Angus	59.38	12	⇑P	P	07 15 26.4	+0.1
	baz=60						
MFID	Camas Ranch	59.41	360	eP	P	07 15 26.2	-0.3
	comp=Z,116nm,0.8s						
MFID				LR	LR		
	comp=Z,5μm,21.0s						
K23A	Bowen Ranch, D	59.42	8	⇑P	P	07 15 26.5	-0.1
	baz=60,SNR=62						
CSU	Charleston Sou	59.45	34	eP	P	07 15 26.4	-0.4
KEBM	Edson Butte	59.45	352	eP	P	07 15 26.5	-0.2
	comp=Z,97nm,1.0s						
KEBM				LR	LR		
	comp=Z,9μm,19.1s						
SLM	Saint Louis	59.47	23	eP	P	07 15 25.5	-1.4
SLM				e		07 16 15.3	
SLM				pmax	pmax		
	comp=Z,47nm,0.6s						
SLM				MLR	MLR		
	comp=Z,4μm,19.6s						
SLM	Saint Louis	59.47	23	eP	P	07 15 25.5	-1.4
	comp=Z,47nm,0.6s						
SLM				ePcP	PcP	07 16 15.3	+0.9
SLM				LR	LR		
	comp=Z,4μm,19.6s						
REDW	Red Top Meadow	59.50	4	eP	P	07 15 26.1	-1.1
	comp=Z,77nm,1.0s						
REDW				LR	LR		
	comp=Z,8μm,18.9s						
HUMP	Col San Antoni	59.50	57	eP	P	07 15 31.3	+3.8
	comp=Z,70nm,0.9s						
HUMP				LR	LR		
	comp=Z,4μm,21.8s						
K24A	Anderson Ranch	59.51	9	⇑P	P	07 15 27.1	-0.1
	baz=60						
J05D	Fort Rock, OR	59.53	355	⇓P	P	07 15 27.7	+0.3
	baz=60						
J19A	Crowheart	59.54	5	⇓P	P	07 15 26.7	-0.7
	baz=60,SNR=59						
K25A	Mack Ranch, Ha	59.55	10	⇑P	P	07 15 27.7	+0.2
	baz=60,SNR=7.5						
BGNE	Belgrade	59.56	15	⇓P	P	07 15 27.4	0.0
	baz=60,SNR=24						
BGNE	Belgrade	59.56	15	eP	P	07 15 26.3	-1.2
	comp=Z,219nm,1.0s						
BGNE				LR	LR		
	comp=Z,2μm,19.9s						
HLID	Hailey	59.56	1	⇓P	P	07 15 27.7	+0.1
	baz=60,SNR=135						
HLID	Hailey	59.56	1	eP	P	07 15 27.4	-0.2
	comp=Z,91nm,0.8s						
HLID				⇑e		07 45 09.2	
HLID				LR	LR		
	comp=Z,6μm,19.0s						
J04D	Umpqua Nationa	59.57	354	⇑P	P	07 15 27.9	+0.3
	baz=60						
SNOW	Snow King Moun	59.60	4	eP	P	07 15 27.3	-0.7
	comp=Z,108nm,0.9s						
SNOW				LR	LR		
	comp=Z,7μm,19.0s						
TPAW	Teton Pass	59.62	4	eP	P	07 15 26.9	-1.3
	comp=Z,143nm,1.1s						
TPAW				⇑e		07 45 09.2	
TPAW				LR	LR		
	comp=Z,7μm,19.3s						
L29A	Maesberg Ranch	59.65	13	⇓P	P	07 15 28.6	+0.4
	baz=60,SNR=16						
TKL	Tuckaleechee C	59.67	30	eP	P	07 15 27.1	-1.2
TKL	Tuckaleechee C	59.67	30	eP	P	07 15 27.1	-1.2
L30A	Spencer Herefo	59.71	13	⇓P	P	07 15 28.0	-0.5
	baz=60						
J20A	Shoshoni	59.72	6	⇑P	P	07 15 27.8	-0.9
	baz=60,SNR=64						
K26A	Motz Farm, Whi	59.75	10	⇓P	P	07 15 28.8	-0.1
	baz=60						
FXWY	Fox Creek	59.76	4	eP	P	07 15 27.9	-1.2
	comp=Z,68nm,0.8s						
FXWY				LR	LR		
	comp=Z,7μm,19.4s						
LOHW	Long Hollow	59.76	4	eP	P	07 15 27.9	-1.2
	comp=Z,70nm,1.0s						
LOHW				LR	LR		
	comp=Z,7μm,20.8s						
J21A	Lysite	59.78	7	⇓P	P	07 15 28.8	-0.3
	baz=60,SNR=36						
USIN	University of	59.89	25	eP	P	07 15 29.3	-0.4
	comp=Z,84nm,0.8s						
USIN				LR	LR		
	comp=Z,4μm,19.7s						
K27A	Flueckinger Fa	59.92	11	⇓P	P	07 15 29.3	-0.7
	baz=60,SNR=35						
J22A	Midwest	59.96	7	⇑P	P	07 15 29.1	-1.2
	baz=60,SNR=18						
IMW	Indian Meadow	60.03	4	eP	P	07 15 30.0	-0.9
	comp=Z,156nm,1.0s						
IMW				⇑e		07 45 09.2	
IMW				LR	LR		
	comp=Z,7μm,20.3s						
J23A	Dilts Ranch, B	60.07	8	⇓P	P	07 15 31.3	+0.2
	baz=60						
I17A	Pilgrim Ck.	60.07	4	⇓P	P	07 15 30.6	-0.6
	baz=60,SNR=48						
GRGR	Grenville	60.09	65	PFAKE		07 15 40.0	+8.4
GRGR				LR	LR		
	comp=Z,4μm,22.0s						
K28A	Ten Mile Ranch	60.09	12	⇓P	P	07 15 31.0	-0.2
	baz=60,SNR=13						
L31A	Butterfield Fa	60.12	14	⇑P	P	07 15 31.0	-0.4
	baz=60,SNR=21						
J24A	Dixon Ranch, L	60.12	9	⇑P	P	07 15 31.0	-0.4
	baz=60,SNR=19						
I04A	Tendick Farm,	60.15	354	⇑P	P	07 15 31.6	+0.1
	baz=60						
I03D	Drain, OR	60.15	353	P	P	07 15 31.5	+0.1
	baz=60						
I07A	Izee	60.20	357	eP	P	07 15 31.8	-0.2
	comp=Z,76nm,1.0s						
I07A				LR	LR		
	comp=Z,14μm,21.0s						
FLWY	Flagg Ranch	60.23	4	eP	P	07 15 31.4	-0.8
	comp=Z,113nm,1.0s						
FLWY				LR	LR		
	comp=Z,6μm,20.2s						
I21A	Big Trails, Te	60.26	7	⇑P	P	07 15 31.5	-0.9
	baz=60,SNR=67						
I20A	Worland	60.30	6	⇓P	P	07 15 31.8	-0.8
	baz=60,SNR=29						
I19A	Meeteetse	60.31	5	⇓P	P	07 15 32.0	-0.8
	baz=61,SNR=54						
J25A	Sunshine Ranch	60.32	10	⇑P	P	07 15 32.0	-0.7
	baz=61						
STVI	Saint Thomas	60.34	57	PFAKE		07 15 40.0	+6.8
STVI				LR	LR		
	comp=Z,2μm,21.3s						
K29A	Lazy Trails An	60.35	13	⇓P	P	07 15 32.4	-0.5
	baz=61,SNR=22						
J26A	Sides Ranch, S	60.36	10	⇑P	P	07 15 33.5	+0.5
	baz=61						
OLIL	Olney	60.37	24	eP	P	07 15 32.6	-0.5
	comp=Z,83nm,1.0s						
K30A	Basset	60.42	13	⇓P	P	07 15 33.4	0.0
	baz=61,SNR=18						
I22A	9 Mile Ranch,	60.43	7	⇑P	P	07 15 32.8	-0.7
	baz=61,SNR=31						
KMSC	Kings Mountain	60.46	32	⇓P	P	07 15 33.2	-0.5
	baz=61,SNR=19						
KMSC	Kings Mountain	60.46	32	eP	P	07 15 32.6	-1.1
	comp=Z,99nm,1.1s						
KMSC				LR	LR		
	comp=Z,4μm,19.6s						
J27A	Elkhorn Farm,	60.49	11	⇑P	P	07 15 34.0	+0.1
	baz=61,SNR=26						
TZTN	Tazewell	60.50	29	eP	P	07 15 33.5	-0.5
	comp=Z,165nm,0.9s						
H17A	Grant Village	60.54	4	⇑P	P	07 15 34.6	+0.2
	baz=61,SNR=6.0						
H17A	Grant Village	60.54	4	eP	P	07 15 33.9	-0.5
	comp=Z,24nm,1.0s						
H17A				LR	LR		
	comp=Z,8μm,20.5s						
YTP	The Promontory	60.56	4	eP	P	07 15 33.8	-0.8
YFT	Old Faithful	60.58	4	eP	P	07 15 33.9	-0.8
	comp=Z,41nm,0.9s						
I05D	Terrebonne, OR	60.59	355	⇓P	P	07 15 35.1	+0.6
	baz=61						
I23A	Meade Ranch, G	60.63	8	⇓P	P	07 15 35.1	+0.3
	baz=61						
I24A	Kuemmerle Ranc	60.65	9	⇓P	P	07 15 34.3	-0.7
	baz=61,SNR=14						
WCI	Wyandotte Cave	60.68	26	eP	P	07 15 33.4	-1.8
WCI				pmax	pmax		
	comp=Z,99nm,0.9s						
WCI				MLR	MLR		
	comp=Z,2μm,22.0s						
WCI	Wyandotte Cave	60.68	26	eP	P	07 15 33.4	-1.8
	comp=Z,99nm,0.9s						
WCI				LR	LR		
	comp=Z,2μm,22.0s						
LKWY	Lake	60.73	4	eP	P	07 15 35.7	0.0
LKWY				pmax	pmax		
	comp=Z,48nm,1.0s						
LKWY				MLR	MLR		
	comp=Z,10μm,22.0s						
LKWY	Lake	60.73	4	eP	P	07 15 35.7	0.0
	comp=Z,48nm,1.0s						
LKWY				eScP	ScP	07 20 19.3	-1.0
LKWY				LR	LR		
	comp=Z,10μm,22.0s						
YMR	Madison River	60.79	4	eP	P	07 15 34.8	-1.3
	comp=Z,96nm,1.0s						
YMR				LR	LR		
	comp=Z,6μm,19.6s						
J28A	Allard Ranch,	60.80	12	⇑P	P	07 15 35.7	-0.3
	baz=61,SNR=61						
H20A	Greybull	60.85	6	⇓P	P	07 15 35.9	-0.5
	baz=61						
YNR	Norris Junctio	60.86	4	eP	P	07 15 36.9	+0.3
	comp=Z,38nm,1.1s						
YNR				LR	LR		
	comp=Z,9μm,21.5s						
MCMT	McKenzie Canyo	60.86	2	P	P	07 15 36.3	-0.3
BMO	Blue Mountains	60.88	358	eP	P	07 15 35.6	-0.8
	comp=Z,153nm,1.2s						
BMO				LR	LR		
	comp=Z,8μm,21.0s						
H18A	Shoshone NF, C	60.89	5	⇑P	P	07 15 36.3	-0.5
	baz=61,SNR=34						
YHH	Holmes Hill	60.92	4	eP	P	07 15 36.5	-0.5
QLMT	Earthquake Lak	60.93	3	eP	P	07 15 36.4	-0.6
	comp=Z,9.5nm,1.1s						
H19A	Powell	60.94	5	⇓P	P	07 15 36.5	-0.5
	baz=61,SNR=27						
I25A	Rochford	60.94	10	⇓P	P	07 15 36.5	-0.6
	baz=61,SNR=36						
SVB	Belmont	60.96	64	eP	P	07 15 36.5	-1.0
J29A	Okreek	60.97	12	⇓P	P	07 15 36.3	-0.8
	baz=61,SNR=54						
RSSD	Black Hills	60.99	9	eP	P	07 15 36.0	-1.4
RSSD				pmax	pmax		
	comp=Z,64nm,1.0s						
RSSD				MLR	MLR		
	comp=Z,10μm,22.0s						
RSSD	Black Hills	60.99	9	eP	P	07 15 36.0	-1.4
	comp=Z,64nm,1.0s						
RSSD				LR	LR		
	comp=Z,10μm,22.0s						
H04A	Detroit Lake	61.01	354	eP	P	07 15 36.6	-0.6
	comp=Z,70nm,0.9s						
H04A				LR	LR		
	comp=Z,8μm,19.9s						
COR	Corvallis	61.02	353	eP	P	07 15 38.8	+1.5
COR				pmax	pmax		
	comp=Z,313nm,1.8s						
COR				MLR	MLR		
	comp=Z,4μm,18.0s						
COR	Corvallis	61.02	353	eP	P	07 15 38.8	+1.5
	comp=Z,313nm,1.8s						
COR				LR	LR		
	comp=Z,4μm,18.0s						
J30A	Dallas	61.07	13	⇑P	P	07 15 37.4	-0.3
	baz=61,SNR=30						
H21A	Big Horn, Sher	61.09	7	⇓P	P	07 15 37.5	-0.5
	baz=61,SNR=21						
I26A	New Underwood	61.09	10	⇓P	P	07 15 38.5	+0.5
	baz=61,SNR=23						
H22A	Clearmont	61.14	7	P	P	07 15 37.2	-1.1
	baz=61						
H23A	Clabaugh Cattl	61.23	8	⇑P	P	07 15 39.4	+0.5
	baz=62						
I27A	Quinn	61.27	11	⇑P	P	07 15 38.1	-1.1
	baz=62,SNR=34						
SABA	Saba	61.36	59	PFAKE		07 15 50.0	+10
SABA				LR	LR		
	comp=Z,3μm,21.3s						
RLMT	Red Lodge	61.36	5	eP	P	07 15 38.5	-1.4
	comp=Z,55nm,1.1s						
RLMT				LR	LR		
	comp=Z,6μm,22.0s						
I28A	Midland	61.37	12	⇑P	P	07 15 39.8	0.0
	baz=62,SNR=28						
BLO	Bloomington	61.38	25	eP	P	07 15 38.9	-1.0
BLO				pmax	pmax		
	comp=Z,103nm,1.3s						
BLO	Bloomington	61.38	25	eP	P	07 15 38.9	-1.0
	comp=Z,92nm,1.3s						
SCIA	State Center	61.39	19	eP	P	07 15 39.1	-0.8
	comp=Z,112nm,0.9s						
SCIA				LR	LR		
	comp=Z,3μm,20.0s						
DLMT	Dillon	61.41	2	PFAKE		07 15 50.0	+10
DLMT				LR	LR		
	comp=Z,6μm,21.3s						
G06A	Carlson Farm,	61.42	356	eP	P	07 15 39.6	-0.5
	comp=Z,448nm,2.3s						
G06A				LR	LR		
	comp=Z,2μm,18.6s						
G05D	Wamic, OR	61.48	355	⇑P	P	07 15 41.2	+0.7
	baz=62						
H24A	Dirks Ranch, A	61.53	9	⇑P	P	07 15 39.5	-1.4
	baz=62,SNR=25						
H25A	Fruitdale	61.55	9	⇓P	P	07 15 41.1	0.0
	baz=62,SNR=28						
G20A	Bridger	61.55	6	⇑P	P	07 15 40.6	-0.5
	baz=62,SNR=41						
I29A	Vivian Onida	61.56	12	⇓P	P	07 15 41.1	0.0
	baz=62,SNR=44						

VFP	Flag Point	61.57	355	P	P	07 15 40.7	-0.6
I30A	Oacoma	61.65	13	⇑P	P	07 15 42.3	+0.7
	baz=62,SNR=17						
G21A	Lodge Grass	61.66	6	⇓P	P	07 15 42.3	+0.5
	baz=62,SNR=58						
H26A	Fairpoint	61.68	10	⇑P	P	07 15 41.9	0.0
	baz=62,SNR=14						
SMRT	St. Maarten	61.71	59	PFAKE		07 15 50.0	+7.4
SMRT				LR	LR		
	comp=Z,2μm,18.5s						
FDF	Fort de France	61.72	63	eP	P	07 15 33.7	-9.0
BOZ	Bozeman (W)	61.73	3	eP	P	07 15 40.6	-1.7
BOZ				pmax	pmax		
	comp=Z,12nm,0.7s						
BOZ				MLR	MLR		
	comp=Z,4μm,19.0s						
BOZ	Bozeman (W)	61.73	3	eP	P	07 15 40.6	-1.7
	comp=Z,10nm,0.7s						
BOZ				LR	LR		
	comp=Z,4μm,19.0s						
G22A	Birney	61.76	7	⇓P	P	07 15 42.3	-0.1
	baz=62,SNR=25						
H27A	Howes	61.82	11	⇑P	P	07 15 42.2	-0.6
	baz=62,SNR=32						
HMG	Houelmont	61.84	61	eP	P	07 15 40.2	-3.3
G23A	Biddle	61.86	8	⇑P	P	07 15 42.0	-1.1
	baz=62,SNR=27						
MLG	Mont-d'or	61.87	61	eP	P	07 15 40.7	-3.0
LRM	Limekiln Ridge	61.87	2	eP	P	07 15 42.5	-0.9
	comp=Z,216nm,1.0s						
SCG	Saint Claude	61.88	61	eP	P	07 15 43.5	-0.3
FNG	Fond-Bernard	61.89	61	eP	P	07 15 43.5	-0.3
TAG	Tarade	61.90	61	eP	P	07 15 44.1	+0.1
LKG	Breislack	61.90	61	eP	P	07 15 45.2	+1.1
ECG	Echelle	61.91	61	eP	P	07 15 44.0	-0.1
CRG	Carmichael	61.91	61	eP	P	07 15 43.8	-0.2
SSG	Sans Toucher	61.91	61	eP	P	07 15 42.6	-1.5
DOG	Dongo Capester	61.93	61	eP	P	07 15 44.1	0.0
F10A	Beach Ranch, E	61.99	358	PFAKE		07 15 50.0	+6.0
F10A				LR	LR		
	comp=Z,7μm,20.7s						
GCMT	Greycliff	62.00	4	eP	P	07 15 42.9	-1.2
	comp=Z,104nm,1.7s						
H28A	Mission Ridge	62.05	11	⇑P	P	07 15 43.6	-0.7
	baz=62,SNR=36						
G24A	Alzada	62.12	9	⇑P	P	07 15 44.1	-0.8
	baz=62,SNR=20						
F19A	Roth Farm, Mol	62.12	5	⇓P	P	07 15 44.3	-0.6
	baz=62,SNR=35						
ECSD	EROS Data Cent	62.13	15	⇑P	P	07 15 44.4	-0.5
	baz=62,SNR=43						
ECSD	EROS Data Cent	62.13	15	eP	P	07 15 43.3	-1.6
	comp=Z,89nm,0.9s						
ECSD				⇑e		07 44 53.7	
ECSD				LR	LR		
	comp=Z,4μm,21.0s						
F20A	Billings	62.13	6	⇓P	P	07 15 43.9	-1.1
	baz=62,SNR=29						
G25A	Newell	62.13	9	⇑P	P	07 15 44.5	-0.4
	baz=62,SNR=22						
H29A	Onida	62.16	12	⇑P	P	07 15 44.4	-0.7
	baz=62,SNR=54						
SFIN	Lafayette	62.18	24	⇓P	P	07 15 44.5	-0.8
	baz=62,SNR=24						
SFIN	Lafayette	62.18	24	eP	P	07 15 44.0	-1.3
	comp=Z,70nm,1.0s						
SFIN				⇑e		07 45 00.8	
SFIN				LR	LR		
	comp=Z,3μm,20.7s						
SEG	Port Louis	62.20	61	eP	P	07 15 45.0	-0.8
BRSD	Miller	62.25	13	⇓P	P	07 15 45.6	-0.1
	baz=62,SNR=19						
BRSD	Miller	62.25	13	eP	P	07 15 44.4	-1.3
	comp=Z,128nm,1.0s						
BRSD				LR	LR		
	comp=Z,5μm,21.8s						
F21A	Absaloka Mine,	62.26	6	⇑P	P	07 15 45.1	-0.7
	baz=62,SNR=14						
F04A	Amboy	62.26	354	eP	P	07 15 45.1	-0.6
	comp=Z,84nm,1.0s						
F04A				LR	LR		
	comp=Z,5μm,19.6s						
F22A	Rosebud	62.32	7	⇓P	P	07 15 45.8	-0.4
	baz=63,SNR=15						
CNNC	Cliffs of the	62.33	34	eP	P	07 15 45.6	-0.7
	comp=Z,137nm,0.9s						
CNNC				LR	LR		
	comp=Z,2μm,19.0s						
F23A	Volborg	62.37	8	⇓P	P	07 15 45.6	-0.9
	baz=63,SNR=70						
G26A	Maurine	62.37	10	⇑P	P	07 15 45.7	-0.7
	baz=63,SNR=38						
BBGH	Gun Hill	62.37	65	PFAKE		07 16 00.0	+13
BBGH				LR	LR		
	comp=Z,6μm,22.0s						
F03A	Seaside	62.38	353	eP	P	07 15 50.0	+3.5
	comp=Z,85nm,1.1s						
F03A				LR	LR		
	comp=Z,5μm,21.5s						
ASR	Mount Adams--S	62.41	355	P	P	07 15 46.9	+0.1
G28A	Parade	62.46	11	⇑P	P	07 15 46.2	-0.9
	baz=63,SNR=34						
F04D	Rainier, OR	62.47	354	⇑P	P	07 15 46.7	-0.4
	baz=63						
HAWA	Hanford	62.51	357	eP	P	07 15 46.9	-0.4
	comp=Z,45nm,0.9s						
HAWA				LR	LR		
	comp=Z,6μm,20.0s						
FL2	Flat Top 2	62.52	354	P	P	07 15 47.5	-0.1
BLA	Blacksburg	62.54	31	eP	P	07 15 45.8	-2.0
BLA				pmax	pmax		
	comp=Z,103nm,0.9s						
BLA	Blacksburg	62.54	31	eP	P	07 15 45.8	-2.0
	comp=Z,104nm,0.9s						
E09A	Wood Farm, Sta	62.56	358	PFAKE		07 16 00.0	+12
E09A				LR	LR		
	comp=Z,11μm,21.3s						
G27A	Dupree	62.56	11	⇓P	P	07 15 46.7	-1.1
	baz=63,SNR=30						
ANWB	Willy Bob	62.58	60	PFAKE		07 16 00.0	+12
ANWB				LR	LR		
	comp=Z,2μm,22.0s						
URZ	Urewera	62.61	235	P	P	07 15 48.3	-0.1
	comp=Z,28nm,0.9s,baz=4.4,slow=7.1,SNR=6.5						
URZ	Urewera	62.61	235	P	P	07 15 48.3	-0.1
URZ				LR	LR		
	comp=Z,8μm,22.0s						
F24A	Ekalaka	62.62	9	⇑P	P	07 15 46.6	-1.6
	baz=63,SNR=29						
E07A	Sunnyside	62.69	356	eP	P	07 15 48.8	+0.2
	comp=Z,106nm,1.3s						
E19A	Rath Farm, Rou	62.73	5	⇓P	P	07 15 47.8	-1.2
	baz=63,SNR=33						
G29A	Hoven	62.76	12	⇑P	P	07 15 49.8	+0.7
	baz=63,SNR=6.9						
HRY	Holter Researc	62.78	3	eP	P	07 15 48.4	-0.9
	comp=Z,38nm,0.8s						
VWCC	Virginia Weste	62.78	31	eP	P	07 15 48.5	-0.9
E20A	Meyer Farm, Mu	62.83	6	⇓P	P	07 15 48.6	-1.0
	baz=63,SNR=28						
MSO	Missoula	62.84	1	⇓P	P	07 15 48.6	-1.0
	baz=63,SNR=61						
MSO	Missoula	62.84	1	eP	P	07 15 48.9	-0.8
	comp=Z,119nm,1.0s						
MSO				⇑e		07 44 59.6	
F25A	Bowman	62.84	9	⇓P	P	07 15 49.6	-0.1
	baz=63,SNR=16						
G30A	Faulkton	62.87	13	⇓P	P	07 15 48.2	-1.5
	baz=63,SNR=20						
F26A	Lodgepole	62.90	10	⇑P	P	07 15 48.8	-1.2
	baz=63,SNR=46						
CHMT	Chamberlain Mo	62.94	2	P	P	07 15 49.5	-0.9
E21A	Keefer Ranch,	62.98	6	⇑P	P	07 15 49.8	-0.7
	baz=63,SNR=22						
E03A	Lebam	62.99	354	eP	P	07 15 50.4	-0.1
	comp=Z,106nm,0.9s						
E03A				LR	LR		
	comp=Z,6μm,21.9s						
E22A	Miles City	63.00	7	⇓P	P	07 15 49.7	-1.0
	baz=63,SNR=22						
LON	Longmire	63.02	355	eP	P	07 15 49.8	-1.0
LON				pmax	pmax		
	comp=Z,56nm,1.0s						
LON				MLR	MLR		
	comp=Z,1μm,18.3s						
LON	Longmire	63.02	355	eP	P	07 15 49.8	-1.0
	comp=Z,56nm,1.0s						
LON				LR	LR		
	comp=Z,1μm,18.3s						
F27A	Lemmon	63.03	10	⇓P	P	07 15 50.1	-0.7
	baz=63,SNR=67						
BKZ	Black Stump Fm	63.10	234	eP	P	07 15 52.6	+0.9
	comp=Z,88nm,1.3s						
BKZ				LR	LR		
	comp=Z,10μm,21.0s						
D08A	Wollman Farm,	63.14	357	eP	P	07 15 51.0	-0.5
	comp=Z,173nm,1.6s						
D08A				LR	LR		
	comp=Z,10μm,20.6s						
E23A	Ismay	63.14	8	⇑P	P	07 15 50.3	-1.3
	baz=63,SNR=20						
LAO	LASA Array	63.22	7	eP	P	07 15 50.8	-1.4
	comp=Z,105nm,0.9s						
LAO				⇑e		07 44 59.0	
F28A	McLaughlin	63.22	11	⇓P	P	07 15 51.8	-0.4
	baz=64						
JFWS	Jewell Farm	63.25	20	eP	P	07 15 51.2	-1.2
JFWS				pmax	pmax		
	comp=Z,100nm,0.9s						
JFWS	Jewell Farm	63.25	20	eP	P	07 15 51.2	-1.2
	comp=Z,100nm,0.9s						
JFWS				⇑e		07 44 57.0	
SLMT	Seeley Lake	63.26	1	eP	P	07 15 51.6	-0.9
	comp=Z,131nm,1.2s						
BFZ	Birch Farm	63.31	232	PFAKE		07 16 00.0	+7.0
BFZ				LR	LR		
	comp=Z,7μm,21.0s						
E24A	Baker	63.34	8	⇑P	P	07 15 52.4	-0.6
	baz=64						
F29A	Eureka	63.40	12	⇓P	P	07 15 52.3	-1.0
	baz=64,SNR=39						
E25A	Miller Ranch,	63.41	9	⇑P	P	07 15 52.9	-0.6
	baz=64,SNR=17						
D20A	Manuel Ranch,	63.41	5	⇓P	P	07 15 52.4	-1.0
	baz=64						
D19A	Cripps Ranch,	63.42	5	⇓P	P	07 15 53.2	-0.4
	baz=64,SNR=66						
LTY	Liberty	63.44	356	eP	P	07 15 52.8	-0.8
	comp=Z,41nm,1.0s						
LTY				LR	LR		
	comp=Z,9μm,21.1s						
MSVF	Nonsavu	63.45	258	P	P	07 15 58.6	+4.3
	comp=Z,211nm,1.8s,SNR=5.3						
MSVF	Nonsavu	63.45	258	eP	P	07 15 54.8	+0.5
MSVF				pmax	pmax		
	comp=Z,57nm,1.3s						
MSVF	Nonsavu	63.45	258	eP	P	07 15 54.8	+0.5
	comp=Z,57nm,1.3s						
OD2	Odessa Site #2	63.46	357	P	P	07 15 53.0	-0.7
D05A	Enumclaw	63.47	355	eP	P	07 15 53.4	-0.3
	comp=Z,122nm,1.0s						
D05A				LR	LR		
	comp=Z,8μm,21.1s						
D21A	La Casta Ranch	63.50	6	⇓P	P	07 15 53.3	-0.7
	baz=64,SNR=103						
SWMT	Swartz Lake	63.52	1	eP	P	07 15 52.9	-1.3
	comp=Z,31nm,1.0s						
E26A	Carlson Angus	63.53	10	⇓P	P	07 15 53.7	-0.6
	baz=64,SNR=54						
F30A	Leola	63.56	13	⇑P	P	07 15 53.9	-0.6
	baz=64,SNR=42						
E27A	Carson	63.65	11	⇑P	P	07 15 53.8	-1.2
	baz=64,SNR=29						
D22A	Cohagen	63.68	7	⇓P	P	07 15 54.5	-0.7
	baz=64,SNR=30						
JTMT	Jette	63.75	1	eP	P	07 15 54.9	-0.9
	comp=Z,59nm,1.0s						
JTMT				ePcP	PcP	07 16 31.7	0.0
ACSO	Alum Creek Sta	63.77	27	eP	P	07 15 54.0	-1.8
	comp=Z,90nm,0.9s						
ACSO				LR	LR		
	comp=Z,3μm,22.0s						
D23A	Lindsay	63.82	8	⇓P	P	07 15 55.6	-0.5
	baz=64,SNR=71						
WTV	Waterville	63.83	356	P	P	07 15 55.7	-0.5
BSMT	Bassoo Peak	63.85	0	eP	P	07 15 55.1	-1.3
	comp=Z,48nm,0.8s						
C09A	Chrisman Ranch	63.85	358	eP	P	07 15 56.0	-0.2
	comp=Z,264nm,1.5s						
C09A				LR	LR		
	comp=Z,10μm,20.3s						
NLWA	Neilton Lookou	63.85	354	eP	P	07 15 55.4	-0.9
	comp=Z,93nm,1.1s						
NLWA				LR	LR		
	comp=Z,7μm,21.0s						
YBMT	Yellow Bay	63.87	1	eP	P	07 15 55.5	-1.0
	comp=Z,56nm,1.2s						
D24A	Glendive	63.88	8	⇓P	P	07 15 56.6	+0.1
	baz=64,SNR=22						
E28A	Huff	63.94	11	⇑P	P	07 15 56.7	-0.2
	baz=64						
C19A	Slack Wire Ran	63.98	5	⇑P	P	07 15 56.8	-0.3
	baz=64,SNR=82						
BLMT	Blacktail Moun	64.01	1	eP	P	07 15 56.6	-0.9
	comp=Z,41nm,1.0s						
C20A	Veseth Ranch,	64.04	5	⇑P	P	07 15 56.6	-1.0
	baz=64,SNR=30						
D25A	Fairfield	64.06	9	⇓P	P	07 15 57.6	-0.1
	baz=64,SNR=42						
D26A	Manning	64.08	10	⇓P	P	07 15 57.3	-0.5
	baz=64,SNR=41						
E29A	Napoleon	64.14	12	⇑P	P	07 15 57.0	-1.2
	baz=64,SNR=34						
JSRW	J. Sargeant Re	64.19	32	eP	P	07 15 57.6	-1.0
EGMT	Eagleton	64.21	4	⇓P	P	07 15 58.4	-0.3
	baz=64,SNR=40						
EGMT	Eagleton	64.21	4	eP	P	07 15 58.0	-0.7
	comp=Z,68nm,0.9s						
E30A	Jud	64.22	12	⇓P	P	07 15 57.5	-1.2
	baz=64,SNR=42						
C24A	Savage	64.27	8	⇑P	P	07 15 58.2	-0.8
	baz=64,SNR=58						
NEW	Newport	64.28	359	eP	P	07 15 58.3	-0.8
NEW				pmax	pmax		
	comp=Z,77nm,1.1s						
NEW				MLR	MLR		
	comp=Z,11μm,21.0s						
NEW	Newport	64.28	359	⇑P	P	07 15 58.8	-0.3
	baz=64,SNR=71						
NEW	Newport	64.28	359	eP	P	07 15 58.3	-0.8
	comp=Z,77nm,1.1s						
NEW				⇑e		07 44 57.4	
NEW				LR	LR		
	comp=Z,11μm,21.0s						
C22A	Vida	64.30	7	⇑P	P	07 15 58.4	-0.8
	baz=64,SNR=93						
D27A	Center	64.31	10	⇑P	P	07 15 59.4	+0.1
	baz=64						
BDFB	Brasilia	64.40	100	P	P	07 16 00.7	0.0
	comp=Z,22nm,0.7s,baz=258,slow=7.7,SNR=22						
BDFB				LR	LR	07 41 47.7	
	comp=Z,3μm,19.6s,baz=260,slow=34						
BDFB	Brasilia	64.40	100	eP	P	07 16 00.5	-0.2
C23A	Lambert	64.44	8	⇓P	P	07 15 59.5	-0.7
	baz=65,SNR=46						
B08A	Colville Reser	64.46	357	eP	P	07 15 59.1	-1.1
	comp=Z,59nm,0.9s						
B08A				LR	LR		
	comp=Z,4μm,20.9s						
SNZO	South Karori	64.49	232	PFAKE		07 16 10.0	+9.3
SNZO				LR	LR		
	comp=Z,10μm,22.0s						
SPMN	Marine on St.	64.54	17	⇓P	P	07 16 00.2	-0.6
	baz=65,SNR=24						
SPMN	Marine on St.	64.54	17	eP	P	07 15 59.9	-1.0
	comp=Z,55nm,0.9s						
SPMN				LR	LR		
	comp=Z,5μm,19.9s						
D28A	Regan	64.56	11	⇓P	P	07 16 00.4	-0.5
	baz=65,SNR=32						
C25A	Freed Ranch, W	64.62	9	⇓P	P	07 16 01.0	-0.3
	baz=65,SNR=18						
D29A	Pettibone, Tap	64.62	12	⇓P	P	07 16 00.8	-0.5
	baz=65,SNR=49						
B19A	Brinkman Farms	64.70	5	⇑P	P	07 16 01.5	-0.3
	baz=65,SNR=38						
B06A	Marblemount	64.75	355	PFAKE		07 16 10.0	+7.9
B06A				LR	LR		
	comp=Z,10μm,21.1s						
B20A	Solberg Farm,	64.76	5	⇑P	P	07 16 01.6	-0.6
	baz=65,SNR=20						
B22A	Reddig Ranch S	64.83	7	⇓P	P	07 16 02.5	-0.2
	baz=65,SNR=26						
D30A	Buchanan	64.83	12	⇑P	P	07 16 01.9	-0.8
	baz=65,SNR=35						
CBN	Corbin Frederi	64.84	32	eP	P	07 16 00.3	-2.6
	comp=Z,79nm,0.8s						
B21A	Ellsworth Farm	64.85	6	⇓P	P	07 16 03.0	+0.2
	baz=65						
C27A	Sayler Ranch,	64.90	10	⇓P	P	07 16 02.8	-0.3
	baz=65,SNR=18						
C26A	Wahner Farm, P	64.91	10	⇑P	P	07 16 02.5	-0.7
	baz=65,SNR=56						
PGC	Sidney	65.06	354	eP	P	07 16 03.3	-0.7
	comp=Z,111nm,1.0s						
PGC				LR	LR		
	comp=Z,4μm,18.7s						
WALA	Waterton Lakes	65.07	1	eP	P	07 16 03.3	-1.0
	comp=Z,58nm,1.0s						
C28A	Hausauer Farms	65.10	11	⇓P	P	07 16 04.1	-0.3
	baz=65						
B23A	Brockton	65.11	8	⇓P	P	07 16 04.5	0.0
	baz=65,SNR=29						
B25A	Knox Farm, Ray	65.18	9	⇓P	P	07 16 04.6	-0.3
	baz=65						
A19A	Klindworth Far	65.19	5	⇑P	P	07 16 05.0	0.0
	baz=65,SNR=45						
AAM	Ann Arbor	65.19	25	eP	P	07 16 04.0	-1.1
AAM				pmax	pmax		
	comp=Z,151nm,0.8s						
AAM				MLR	MLR		
	comp=Z,4μm,21.0s						
AAM	Ann Arbor	65.19	25	eP	P	07 16 04.0	-1.1
	comp=Z,151nm,0.8s						
AAM				LR	LR		
	comp=Z,4μm,21.0s						
A20A	Cobblestone Ra	65.21	5	⇑P	P	07 16 04.8	-0.3
	baz=66,SNR=55						
DGMT	Dagmar	65.22	8	⇓P	P	07 16 04.8	-0.5
	baz=66,SNR=57						
DGMT	Dagmar	65.22	8	eP	P	07 16 04.5	-0.8
	comp=Z,230nm,0.8s						
DGMT				LR	LR		
	comp=Z,8μm,20.0s						
KHZ	Kahutara	65.36	230	eP	P	07 16 11.5	+5.1
	comp=Z,106nm,1.2s						
KHZ				LR	LR		
	comp=Z,5μm,20.0s						
MDND	Maddock	65.37	12	⇑P	P	07 16 05.7	-0.5
	baz=66						
MDND	Maddock	65.37	12	eP	P	07 16 04.8	-1.4
	comp=Z,162nm,1.0s						
A21A	Bergtoll Ranch	65.41	6	⇑P	P	07 16 06.2	-0.3
	baz=66,SNR=25						
B26A	Jensen Ranch,	65.42	10	⇑P	P	07 16 06.2	-0.3
	baz=66,SNR=32						
C30A	Mose, Pekin	65.46	12	⇓P	P	07 16 05.9	-0.8
	baz=66,SNR=65						
OUZ	Omahuta	65.51	238	eP	P	07 16 08.9	+1.5
	comp=Z,139nm,1.2s						
OUZ				LR	LR		
	comp=Z,35μm,21.0s						
A22A	Carney Farms,	65.52	7	⇓P	P	07 16 06.9	-0.3
	baz=66,SNR=62						
B27A	Peters Farms,	65.61	10	⇑P	P	07 16 07.4	-0.3
	baz=66,SNR=17						
A23A	Redstone	65.61	8	⇑P	P	07 16 07.8	0.0
	baz=66,SNR=9.6						
A24A	Westby	65.69	8	⇓P	P	07 16 08.0	-0.3
	baz=66,SNR=15						
B28A	Dugan Ranch, T	65.81	11	⇑P	P	07 16 08.7	-0.3
	baz=66,SNR=34						
A25A	Svangstu Ranch	65.83	9	⇓P	P	07 16 09.0	-0.1
	baz=66,SNR=55						
A26A	Wade Farm, Ken	65.96	10	⇓P	P	07 16 09.0	-1.0
	baz=66,SNR=56						
B29A	Wagenman Farm,	66.01	12	⇓P	P	07 16 09.2	-1.1
	baz=66,SNR=40						
SDMD	Soldier's Deli	66.02	32	eP	P	07 16 10.4	-0.1
	comp=Z,106nm,0.9s						
A27A	Ledoux Ranch,	66.14	10	⇑P	P	07 16 10.5	-0.6
	baz=66						
ALLY	Alegheny Colle	66.18	28	eP	P	07 16 11.0	-0.5
	comp=Z,79nm,0.9s						
B30A	Myrvik Farm, E	66.20	12	⇑P	P	07 16 12.1	+0.6
	baz=66,SNR=56						
A28A	Rude Farm, Bot	66.27	11	⇑P	P	07 16 12.0	0.0
	baz=66,SNR=49						
SSPA	Standing Stone	66.44	30	eP	P	07 16 12.5	-0.7
	comp=Z,48nm,0.8s						
A29A	Manning Farm,	66.47	11	⇓P	P	07 16 14.2	+0.9
	baz=67,SNR=33						
AGMN	Agassiz Nation	66.59	14	⇑P	P	07 16 15.0	+0.9
	baz=67,SNR=78						
AGMN	Agassiz Nation	66.59	14	eP	P	07 16 12.8	-1.2
	comp=Z,68nm,0.9s						
AGMN				eP'P'df	P'P'df	07 44 49.2	+8.3
ERPA	Erie	66.62	28	eP	P	07 16 13.6	-0.8
	comp=Z,81nm,0.9s						
A30A	Hoffart Farm,	66.67	12	⇑P	P	07 16 14.6	+0.1
	baz=67,SNR=21						
MVL	Millersville	66.72	32	eP	P	07 16 14.5	-0.5
	comp=Z,232nm,1.8s						
RPZ	Rata Peaks	67.17	229	eP	P	07 16 19.8	+1.8
	comp=Z,133nm,1.2s						
RPZ				LR	LR		
	comp=Z,10μm,21.0s						
EYMN	Ely	67.39	17	eP	P	07 16 18.1	-1.1
	comp=Z,114nm,0.8s						
EYMN				eP'P'df	P'P'df	07 44 48.1	+8.2
EYMN				LR	LR		
	comp=Z,2μm,18.0s						
ODZ	Otahua Downs	67.45	228	eP	P	07 16 22.4	+2.7
	comp=Z,429nm,2.4s						
ODZ				LR	LR		
	comp=Z,9μm,22.0s						
LUPA	Lehigh Univers	67.66	32	eP	P	07 16 20.7	-0.2
	comp=Z,12nm,1.1s						
MMNY	Mt. Morris Dam	68.05	29	eP	P	07 16 22.0	-1.4
	comp=Z,102nm,1.0s						
BRNJ	Basking Ridge	68.13	32	eP	P	07 16 23.9	+0.1
	comp=Z,143nm,0.8s						
KSPA	Keystone Colle	68.18	31	eP	P	07 16 23.8	-0.4
	comp=Z,34nm,0.8s						
ODNJ	Ogdensburg	68.41	32	eP	P	07 16 25.0	-0.7
	comp=Z,345nm,1.8s						
ULM	Lac du Bonnet	68.43	13	P	P	07 16 24.3	-1.3
ULM				pmax	pmax		
	comp=Z,54nm,0.8s						
ULM	Lac du Bonnet	68.43	13	P	P	07 16 24.2	-1.3
	comp=Z,34nm,0.9s,baz=210,slow=5.8,SNR=29						
ULM				LR	LR	07 42 44.9	
	comp=Z,5μm,21.8s,baz=186,slow=33						
ULM				PKPPKP	P'P'df	07 44 42.6	+4.7
	comp=Z,4.0nm,1.0s,baz=31,slow=7.5,SNR=5.5						
ULM	Lac du Bonnet	68.43	13	P	P	07 16 24.2	-1.3
	comp=Z,54nm,0.8s						
ULM				P'P'		07 44 42.6	
ULM				eP'P'df	P'P'df	07 44 43.4	+5.5
CPNY	Central Park	68.53	33	eP	P	07 16 25.5	-0.9
	comp=Z,32nm,0.8s						
BINY	Binghamton	68.56	30	eP	P	07 16 25.8	-0.8
	comp=Z,60nm,0.9s						
PAL	Palisades	68.71	32	eP	P	07 16 26.9	-0.6
PAL				pmax	pmax		
	comp=Z,1μm,2.9s						
PAL	Palisades	68.71	32	eP	P	07 16 26.9	-0.6
	comp=Z,1μm,2.9s						
EDM	Edmonton	69.25	1	eP	P	07 16 29.2	-1.5
EDM				MLR	MLR		
	comp=Z,6μm,20.6s						
EDM	Edmonton	69.25	1	eP	P	07 16 29.1	-1.5
	comp=Z,144nm,0.9s						
EDM				eP'P'df	P'P'df	07 44 41.8	+5.5
EDM				LR	LR		
	comp=Z,6μm,20.6s						
WHZ	Wether Hill Ro	69.32	227	eP	P	07 16 33.0	+1.6
	comp=Z,181nm,1.3s						
WHZ				LR	LR		
	comp=Z,5μm,20.0s						
YLE	Yale	69.44	33	eP	P	07 16 31.7	-0.3
	comp=Z,324nm,1.8s						
DCZ	Deep Cove	69.90	227	eP	P	07 16 36.6	+1.7
	comp=Z,61nm,1.2s						
DCZ				LR	LR		
	comp=Z,8μm,21.0s			

comp=Z,6μm,20.0s
QUA2 Belchertown 70.43 32 PFAKE 07 16 50.0 +12
QUA2 LR LR
comp=Z,3μm,19.2s
ACCN Adirondack Com 70.58 31 *e*P **P 07 16 38.4 -0.7**
comp=Z,72nm,1.1s
ACCN LR LR
comp=Z,4μm,21.1s
BRYW Bryant College 70.60 33 *e*P **P 07 16 38.8 -0.4**
comp=Z,142nm,1.8s
NCB Newcomb 70.74 30 PFAKE 07 16 50.0 +10
NCB LR LR
comp=Z,2μm,22.0s
PTN Potsdam (NY) 70.83 29 *e*P **P 07 16 40.2 -0.3**
PTN pmax pmax
comp=Z,327nm,1.9s
PTN Potsdam (NY) 70.83 29 *e*P **P 07 16 40.2 -0.3**
comp=Z,327nm,1.9s
HRV Adam Dziewonsk 71.01 33 *e*P **P 07 16 41.2 -0.4**
HRV pmax pmax
comp=Z,29nm,0.9s
HRV MLR MLR
comp=Z,4μm,22.0s
HRV Adam Dziewonsk 71.01 33 *e*P **P 07 16 41.2 -0.4**
comp=Z,29nm,0.9s
HRV LR LR
comp=Z,4μm,22.0s
WES Weston 71.04 33 *e*P **P 07 16 40.7 -1.1**
WES pmax pmax
comp=Z,900nm,2.8s
WES MLR MLR
comp=Z,5μm,21.2s
WES Weston 71.04 33 *e*P **P 07 16 40.7 -1.1**
comp=Z,900nm,2.8s
WES LR LR
comp=Z,5μm,21.2s
LONY Lake Ozonia 71.05 30 *e*P **P 07 16 41.1 -0.8**
comp=Z,38nm,1.0s
LONY LR LR
comp=Z,5μm,21.0s
MDV Middlebury 71.27 31 *e*P **P 07 16 44.1 +1.0**
HNH Hanover 71.50 31 *e*P **P 07 16 44.3 -0.2**
comp=Z,42nm,0.8s
FFC Flin Flon 71.64 8 P **P 07 16 43.0 -2.2**
comp=Z,302nm,0.9s,SNR=19
FFC Flin Flon 71.64 8 *e*P **P 07 16 43.4 -1.8**
FFC pmax pmax
comp=Z,64nm,1.0s
FFC MLR MLR
comp=Z,4μm,18.0s
FFC Flin Flon 71.64 8 *e*P **P 07 16 43.4 -1.8**
comp=Z,58nm,1.0s
FFC LR LR
comp=Z,4μm,18.0s
SBA Scott Base 71.64 193 *e*P **P 07 16 45.4 +0.4**
SBA pmax pmax
comp=Z,140nm,1.5s
SBA MLR MLR
comp=Z,4μm,20.0s
SBA Scott Base 71.64 193 *e*P **P 07 16 45.4 +0.4**
comp=Z,140nm,1.5s
SBA LR LR
comp=Z,4μm,20.0s
LBNH Lisbon 72.06 31 *e*P **P 07 16 45.7 -2.3**
LBNH MLR MLR
comp=Z,3μm,19.0s
LBNH Lisbon 72.06 31 *e*P **P 07 16 45.7 -2.3**
LBNH LR LR
comp=Z,3μm,19.0s
VNDA Vanda 72.66 193 P **P 07 16 51.9 +0.8**
comp=Z,7.7nm,0.9s,baz=76,slow=4.4,SNR=16
VNDA LR LR 07 42 50.9
comp=Z,4μm,19.9s,baz=94,slow=31
VNDA PKPPKP **P'P'df 07 44 32.9 -5.2**
comp=Z,1.4nm,0.9s,baz=274,slow=7.2,SNR=4.2
CRAG Craig 73.06 349 PFAKE 07 17 00.0 +6.4
CRAG LR LR
comp=Z,18μm,21.7s
DZM Mont Dzumac 73.42 251 P **P 07 16 58.5 +1.8**
comp=Z,16nm,1.0s,baz=85,slow=8.7,SNR=8.0
DZM Mont Dzumac 73.42 251 *e*P **P 07 16 57.7 +1.0**
comp=Z,37nm,1.1s
WVL Waterville 73.44 32 *e*P **P 07 16 53.3 -2.8**
comp=Z,540nm,2.1s
WVL LR LR
comp=Z,3μm,18.4s
QSPA South Pole Qui 73.82 180 P **P 07 16 59.2 +0.9**
comp=Z,66nm,0.9s,baz=123,slow=1.8,SNR=70
WRAK Wrangell Islan 73.83 350 *e*P P 07 17 03.3 +5.1
comp=Z,33nm,1.0s
MCQ Macquarie Isla 74.46 217 PFAKE 07 17 10.0 +8.0
MCQ LR LR
comp=Z,71μm,19.2s
SIT Sitka 74.96 349 *e*P **P 07 17 03.2 -1.5**
SIT pmax pmax
comp=Z,131nm,0.9s
SIT Sitka 74.96 349 *e*P **P 07 17 03.1 -1.5**
comp=Z,130nm,0.9s
DLBC Dease Lake 75.44 352 *e*P **P 07 17 07.3 -0.2**
comp=Z,87nm,1.1s
FCC Fort Churchill 76.78 11 *e*P **P 07 17 14.1 -0.9**
FCC pmax pmax
comp=Z,2.0nm,0.8s
FCC MLR MLR
comp=Z,6μm,19.5s
FCC Fort Churchill 76.78 11 *e*P **P 07 17 14.1 -0.9**
comp=Z,72nm,0.8s
FCC LR LR
comp=Z,6μm,19.5s
RCBR Riachuelo 78.23 93 PFAKE 07 17 30.0 +5.7
RCBR LR LR
comp=Z,8μm,21.0s
YKA Yellowknife Ar 78.53 0 P **P 07 17 23.6 -1.1**
comp=Z,27nm,0.9s,baz=175,slow=5.3,SNR=130
YKA PKKPbc **PKKPbc 07 36 26.2 +1.7**
comp=Z,0.6nm,0.9s,baz=8.3,slow=2.3,SNR=7.4
YKA PKPPKP **P'P'df 07 44 18.7 -1.4**
comp=Z,0.3nm,0.8s,baz=26,slow=2.0,SNR=5.8
YKB5 Yellowknife Ar 78.53 0 *e*P **P 07 17 23.7 -1.0**
HYT Haines Junctio 78.90 349 *e*P **P 07 17 26.7 -0.3**
comp=Z,57nm,1.0s
SII Sitkinak Islan 79.53 339 *e*P P 07 17 35.0 +4.5
comp=Z,110nm,1.1s
SII LR LR
comp=Z,6μm,20.1s
VNA3 Neumayer Olymp 79.62 162 P **P 07 17 31.2 +0.3**
OHAK Old Harbor 79.76 340 *e*P **P 07 17 31.1 -0.5**
comp=Z,129nm,1.2s
OHAK LR LR
comp=Z,8μm,21.9s
KDAK Kodiak Island 79.99 341 *c e*P P 07 17 37.7 +4.9
KDAK Kodiak Island 79.99 341 *e*P **P 07 17 31.2 -1.6**
comp=Z,96nm,1.1s
KDAK LR LR
comp=Z,7μm,21.0s
RAGM Ragged Mountai 80.00 346 *e*P P 07 17 36.6 +3.7
comp=Z,154nm,1.1s
RAGM LR LR
comp=Z,10μm,21.6s
KWAJ Kwajalein Atol 80.24 282 PFAKE 07 17 40.0 +4.8
KWAJ LR LR
comp=Z,3μm,21.3s
VNA2 Neumayer--Watz 80.43 162 P **P 07 17 35.5 +0.2**
baz=260,slow=5.4
BMRM Bremner River 80.50 346 *e*P **P 07 17 34.5 -1.1**
comp=Z,92nm,1.1s
BMRM LR LR
comp=Z,10μm,21.0s
CHGN Chignik 80.84 337 *e*P **P 07 17 36.6 -0.8**
CHGN *e*PP **PP 07 20 42.0 -0.1**
CHGN *e*PKiKP **PKiKP 07 23 04.8 +0.4**
DRV Dumont d'Urvil 80.87 203 P P 07 17 25.0 -13
DRV PP **PP 07 20 42.0 +0.4**
DRV S S 07 27 21.0 -24
DRV SS SS 07 32 47.0 -11
DRV L L 07 39 00.0
DRV R 07 42 00.0
DIV Divide 80.92 346 *e*P **P 07 17 36.4 -1.5**
comp=Z,38nm,0.8s
DIV LR LR
comp=Z,12μm,21.7s
SDPT Sand Point 80.92 336 *e*P **P 07 17 36.1 -1.8**
comp=Z,171nm,0.9s
SDPT LR LR
comp=Z,6μm,19.4s
SEW Seward 80.98 343 *e*P **P 07 17 37.4 -0.7**
comp=Z,131nm,1.0s
SEW LR LR
comp=Z,5μm,20.0s
SNAA Sanae 81.46 163 P **P 07 17 40.9 +0.1**
SNAA Sanae 81.46 163 *c e*P **P 07 17 41.5 +0.7**
SNAA pmax pmax
comp=Z,107nm,1.7s
SNAA Sanae 81.46 163 *e*P **P 07 17 40.7 -0.1**
comp=Z,120nm,1.1s
SNAA LR LR
comp=Z,3μm,20.0s
FALS False Pass 81.77 334 P **P 07 17 42.5 +0.1**
comp=Z,31nm,1.0s
FALS LR LR
comp=Z,3μm,21.9s
RC01 Rabbit Creek A 81.88 344 *e*P **P 07 17 41.4 -1.5**
comp=Z,80nm,1.0s
RC01 LR LR
comp=Z,5μm,20.3s
SCHQ Schefferville 81.89 26 P **P 07 17 42.3 -0.8**
comp=Z,42nm,1.0s,baz=239,slow=6.2,SNR=13
SCHQ LR LR 07 52 23.3
comp=Z,4μm,20.5s,baz=222,slow=34
SCHQ Schefferville 81.89 26 *e*P **P 07 17 42.5 -0.6**
MENT Mentasta 82.05 347 *e*P **P 07 17 42.7 -1.1**
PMR Palmer 82.15 344 *e*P **P 07 17 42.5 -1.8**
PMR pmax pmax
comp=Z,102nm,0.9s
PMR MLR MLR
comp=Z,5μm,20.1s
PMR Palmer 82.15 344 *e*P **P 07 17 42.5 -1.8**
comp=Z,102nm,0.9s
PMR LR LR
comp=Z,5μm,20.1s
RSO Redoubt South 82.21 342 *e*P **P 07 17 43.6 -1.3**
comp=Z,244nm,1.0s
DAWY Dawson 82.24 350 *e*P **P 07 17 43.5 -1.2**
comp=Z,81nm,0.9s
DAWY LR LR
comp=Z,4μm,20.4s
AKUT Akutan 82.29 333 PFAKE 07 17 50.0 +4.9
AKUT LR LR
comp=Z,6μm,20.5s
HNR Honiara 82.42 262 PFAKE 07 18 00.0 +13
HNR LR LR
comp=Z,200nm,20.0s
UNV Unalaska Valle 82.42 332 *e*P **P 07 17 44.4 -1.5**
comp=Z,149nm,1.1s
UNV LR LR
comp=Z,5μm,19.2s
PAX Paxson 82.46 347 *e*P **P 07 17 44.1 -1.9**
PAX pmax pmax
comp=Z,66nm,1.0s
PAX MLR MLR
comp=Z,4μm,21.6s
PAX Paxson 82.46 347 *e*P **P 07 17 44.1 -1.9**
comp=Z,66nm,1.0s
PAX LR LR
comp=Z,4μm,21.6s
DOT Dot Lake 82.75 347 *e*P **P 07 17 46.2 -1.3**
comp=Z,161nm,0.9s
DOT *e*PKKPbc **PKKPbc 07 36 18.6 +3.6**
DRLN Deer Lake 82.83 34 *e*P **P 07 17 48.0 -0.2**
comp=Z,135nm,1.0s
EGAK Eagle 83.20 349 *e*P **P 07 17 48.1 -1.6**
comp=Z,43nm,0.8s
EGAK LR LR
comp=Z,3μm,20.0s
SVW2 Sparrevohn 83.56 342 *e*P **P 07 17 49.8 -1.8**
comp=Z,90nm,1.0s
SVW2 LR LR
comp=Z,5μm,21.2s
MCK McKinley 83.91 346 *e*P **P 07 17 51.9 -1.5**
MCK pmax pmax
comp=Z,124nm,0.9s
MCK MLR MLR
comp=Z,7μm,20.6s
MCK McKinley 83.91 346 *e*P **P 07 17 51.9 -1.5**
comp=Z,124nm,0.9s
MCK LR LR
comp=Z,7μm,20.6s
TRF Thorofare Moun 84.00 345 *e*P **P 07 17 52.4 -1.7**
comp=Z,130nm,1.0s
TRF LR LR
comp=Z,4μm,21.0s
PPLA Purkeypile 84.03 344 *e*P **P 07 17 52.0 -2.2**
comp=Z,114nm,0.9s
PPLA LR LR
comp=Z,4μm,20.9s
H11S2 WAKE ISLAND Hy 84.17 291 T T 08 50 34.6
baz=110,slow=75,SNR=287
H11S1 WAKE ISLAND Hy 84.18 291 T T 08 50 38.1
baz=110,slow=75,SNR=143
H11S3 WAKE ISLAND Hy 84.19 291 T T 08 50 37.4
baz=110,slow=75,SNR=176
KTH Kantishna Hill 84.25 345 *e*P **P 07 17 53.5 -1.6**
comp=Z,395nm,0.9s
KTH LR LR
comp=Z,4μm,20.5s
IL1 Eielson Array 84.34 347 *e*P **P 07 17 53.9 -1.6**
IL1 *e*PKKPbc **PKKPbc 07 36 09.4 -1.7**
ILAR Eielson Array 84.34 347 P **P 07 17 54.0 -1.5**
comp=Z,11nm,0.8s,baz=166,slow=4.9,SNR=55
ILAR PKKPbc **PKKPbc 07 36 10.6 -0.6**
comp=Z,2.0nm,0.9s,baz=314,slow=3.7,SNR=10
ILAR PKPPKP **P'P'df 07 44 11.2 +1.3**
comp=Z,0.6nm,1.0s,baz=291,slow=3.1,SNR=4.4
ILAR LR LR 07 47 20.2
comp=Z,5μm,21.1s,baz=132,slow=30
TAU Tasmania Unive 84.35 227 PFAKE 07 18 10.0 +14
TAU LR LR
comp=Z,7μm,21.0s
H11N3 WAKE ISLAND Hy 84.39 292 T T 08 50 52.3
baz=123,slow=73,SNR=28
H11N1 WAKE ISLAND Hy 84.41 292 T T 08 50 55.4
baz=123,slow=73,SNR=19
H11N2 WAKE ISLAND Hy 84.41 292 T T 08 50 56.1
baz=123,slow=73,SNR=40
CAST Castle Rocks 84.43 344 *e*P **P 07 17 54.3 -1.8**
comp=Z,76nm,0.8s
CAST LR LR
comp=Z,4μm,22.0s
WAKE Wake Island 84.48 292 PFAKE 07 18 10.0 +13
WAKE LR LR
comp=Z,6μm,21.0s
ARMA Armidale 84.50 240 *e*P **P 07 17 56.5 -1.0**
comp=Z,80nm,1.4s
ARMA LR LR
comp=Z,4μm,21.9s
COLA College 84.64 347 *d i*P **P 07 17 55.4 -1.6**
COLA pmax pmax
comp=Z,122nm,0.8s
COLA College 84.64 347 *e*P **P 07 17 55.0 -1.9**
comp=Z,123nm,0.9s
COLA LR LR
comp=Z,6μm,20.0s
CAN Canberra 85.28 235 *e*P **P 07 18 01.5 +0.3**
CAN pmax pmax
comp=Z,35nm,1.1s
CAN Canberra 85.28 235 *e*P **P 07 18 01.5 +0.3**
comp=Z,35nm,1.1s
INK Inuvik 85.39 353 LR LR 07 49 04.3
comp=Z,3μm,20.0s,baz=148,slow=31
NVL N'lazarevskaya 85.93 165 ‖ *i*P P 07 18 09.7 +6.1
NVL *e* 07 18 13.5
NVL *e*S S 07 28 29.5 -6.6
NVL *e*SS SS 07 34 22.6 +10
NVL pmax pmax
comp=Z,83nm,0.8s
SPIA Saint Paul Isl 86.19 333 PFAKE 07 18 10.0 +5.1
SPIA LR LR
comp=Z,5μm,22.0s
EIDS Eidsvold 86.34 245 *e*P **P 07 18 06.8 +0.3**
comp=Z,300nm,2.3s
EIDS LR LR
comp=Z,3μm,21.9s
IM04 Indian Mountai 86.94 345 *e*P **P 07 18 06.9 -1.5**
COLD Coldfoot 87.15 347 *e*P **P 07 18 08.7 -0.7**
comp=Z,126nm,0.9s
COLD LR LR
comp=Z,6μm,21.3s
TNA Tin City 90.63 341 *e*P **P 07 18 24.7 -1.1**
comp=Z,38nm,1.1s
TNA LR LR
comp=Z,4μm,20.8s
GAMB Gambell 90.79 338 *e*P **P 07 18 25.0 -1.6**
comp=Z,198nm,1.8s
GAMB LR LR
comp=Z,7μm,21.9s
SMY Shemya 91.57 325 PFAKE 07 18 40.0 +9.5
SMY LR LR
comp=Z,3μm,21.5s
RES Resolute Bay 91.69 5 *e*P **P 07 18 28.8 -1.8**
RES pmax pmax
comp=Z,37nm,1.0s
RES Resolute Bay 91.69 5 *e*P **P 07 18 28.8 -1.8**
comp=Z,37nm,1.0s
FX1 Attu Island--F 92.15 325 LR LR 07 51 34.7
comp=Z,2μm,21.3s,baz=138,slow=30
CTA Charters Tower 92.15 248 P **P 07 18 34.6 +0.5**
comp=Z,8.9nm,1.0s,baz=116,slow=3.5,SNR=14
CTAO Charters Tower 92.15 248 *e*P **P 07 18 35.3 +1.2**
CTAO pmax pmax
comp=Z,48nm,1.5s
CTAO Charters Tower 92.15 248 *e*P **P 07 18 35.3 +1.2**
comp=Z,48nm,1.5s
SYO Syowa Base 93.05 171 ‖ *e*P P 07 18 33.6 -3.6
PMG Port Moresby 94.55 259 LR LR 07 55 01.3
comp=Z,3μm,19.3s,baz=66,slow=32
SFJD Kangerlussuaq 95.44 21 LR LR 08 00 45.6
comp=Z,3μm,18.5s,baz=243,slow=35
SACV Santiago Islan 95.67 76 PFAKE 07 19 00.0 +10
SACV LR LR
comp=Z,2μm,21.0s
BBOO Buckleboo 96.22 233 PFAKE 07 19 00.0 +7.5
BBOO LR LR
comp=Z,26μm,18.9s
MAW Mawson 96.33 179 LR LR 07 56 48.6
comp=Z,2μm,20.0s,baz=177,slow=32
COEN Coen 96.87 253 *e*P **P 07 18 54.2 -1.6**
comp=Z,23nm,1.3s
COEN LR LR
comp=Z,13μm,19.9s
KULLO Kullorsuaq 97.63 13 *i*P **P 07 18 57.0 -0.8**
KULLO pmax pmax
comp=Z,48nm,1.0s
KULLO Kullorsuaq 97.63 13 *i*P **P 07 18 57.0 -0.8**
comp=Z,48nm,0.9s
PET Petropavlovsk 100.50 322 *e*P **Pdif 07 19 08.1 -3.0**
PET *e* 07 23 17.9
PET *e*S **Sdif 07 30 37.2 -10**
PET *e*SS **SS 07 37 49.4 +6.2**
PET pmax pmax
comp=Z,600nm,12.6s
PET pmax pmax
comp=Z,500nm,9.6s
PET pmax pmax
comp=Z,500nm,16.3s
PET Petropavlovsk 100.50 322 PFAKE 07 19 20.0 +8.9
PET LR LR
comp=Z,2μm,19.0s
BILL Bilibino 100.72 338 *i*P **Pdif 07 19 12.3 +0.6**
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 100.72 338 PFAKE 07 19 20.0 +8.3
BILL LR LR
comp=Z,4μm,20.0s
SUMG Summit 101.53 17 *i*P **Pdif 07 19 17.6 +1.8**
SUMG pmax pmax
comp=Z,13nm,1.0s
SUMG Summit 101.53 17 *i*P **Pdif 07 19 17.6 +1.8**
comp=Z,13nm,1.0s
SUMG Summit 101.53 17 *e*Pdif **Pdif 07 19 14.6 -1.2**
comp=Z,19nm,1.0s
SUMG *e*PP **PP 07 23 28.6 +2.7**
AS01 Alice Springs 101.58 241 *e*Pdif **Pdif 07 19 20.7 +3.9**
AS01 *e*PP **PP 07 23 22.5 -4.3**
AS01 *e*PKiKP **PKiKP 07 23 38.9 -1.8**
AS01 *e*PKKPbc **PKKPbc 07 35 26.6 +2.6**
ASAR Alice Springs 101.62 241 P **Pdif 07 19 16.6 -0.4**
comp=Z,1.2nm,1.0s,baz=100,slow=5.2,SNR=3.4
ASAR PP **PP 07 23 23.1 -4.0**
comp=Z,1.6nm,1.1s,baz=132,slow=8.0,SNR=4.7
ASAR PKKPbc **PKKPbc 07 35 23.8 -0.2**
comp=Z,2.6nm,1.0s,baz=299,slow=2.3,SNR=8.8
WRAB Tennant Creek 102.70 245 *e*PP PP 07 23 35.3 0.0
WRA Warramunga Arr 102.71 245 Pdiff **Pdif 07 19 20.8 -1.0**
comp=Z,2.3nm,0.9s,baz=113,slow=4.3,SNR=12
WRA PKKPbc **PKKPbc 07 35 22.2 +1.5**
comp=Z,1.2nm,0.5s,baz=308,slow=2.0,SNR=11
WRA PKKPab PKKPdf 07 35 43.2 +15
comp=Z,3.7nm,0.9s,baz=303,slow=3.4,SNR=4.2
GUMO Guam 102.98 281 PFAKE 07 19 30.0 +7.0
GUMO LR LR
comp=Z,2μm,20.0s
FORT Forrest 103.22 232 PFAKE 07 19 30.0 +6.1
FORT LR LR
comp=Z,3μm,20.0s
CBIJ Chichi jima 108.18 294 PFAKE 07 24 00.0
CBIJ LR LR
comp=Z,5μm,21.8s
ERM Erimo 109.22 309 PFAKE 07 24 00.0
ERM LR LR
comp=Z,6μm,22.0s
ASAJ Asahikawa 109.79 312 PFAKE 07 24 00.0
ASAJ LR LR
comp=Z,6μm,21.5s
FAKI Fak Fak 110.63 260 PFAKE 07 24 10.0
FAKI LR LR
comp=Z,3μm,22.0s
JMIC Jan Mayen 110.75 20 *e*PP PP 07 24 31.5 -1.8
LIC Lamto 111.14 90 *e*P **PP 07 24 39.8 +2.1**
comp=Z,152nm,1.8s
TIC Toumodi 111.26 89 *e*P **PP 07 24 39.3 +0.7**
comp=Z,5.9nm,0.2s
DBIC Dimbokro 111.42 89 PFAKE 07 24 10.0
DBIC LR LR
comp=Z,2μm,21.9s
KIC Kosan Boka 111.45 89 *e*P **PP 07 24 42.9 +2.9**
comp=Z,140nm,1.7s
LIS Lisbon 112.49 54 *e*PP PP 07 24 46.1 -0.7
LIS AMS AMS 08 12 46.3
comp=Z,1μm,20.7s
MJAR Matsushiro Arr 112.64 303 PKiKP **PKiKP 07 24 00.7 0.0**
comp=Z,2.4nm,0.9s,baz=165,slow=1.3,SNR=6.2
MJAR PKKPbc **PKKPbc 07 34 53.3 +3.3**
comp=Z,0.9nm,0.9s,baz=283,slow=4.8,SNR=3.3
MAJO Matsushiro 112.64 303 PFAKE 07 24 10.0
MAJO LR LR
comp=Z,4μm,22.0s
KBS Kingsbay 112.70 10 *e* 07 24 56.6
KBS Kingsbay 112.70 10 PFAKE 07 24 10.0
KBS LR LR
comp=Z,2μm,20.0s
MORF Marmelete 112.80 56 *e*PP PP 07 24 48.8 -0.4
MORF AMS AMS 08 02 23.1
comp=Z,1μm,21.5s
MESJ Messejana 113.17 55 *e*PP PP 07 24 51.5 -0.3
MESJ AMS AMS 08 09 51.6
comp=Z,758nm,21.2s
TIXI Tiksi 113.39 342 *c i*PKiKP **PKiKP 07 24 01.7 +0.6**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 113.39 342 *e*PKPdf **PKiKP 07 23 58.6 -2.5**
TIXI *e*PKKPbc **PKKPab 07 34 51.7 -0.6**
TIXI LR LR
comp=Z,3μm,22.0s
RTC Rabat Centre 114.05 60 PFAKE 07 24 10.0 +6.5
RTC LR LR
comp=Z,1μm,21.0s
DSB Dublin 114.20 39 PFAKE 07 24 10.0 +6.8
DSB LR LR
comp=Z,1μm,20.0s
HSPB Hornsund (broa 114.44 11 *e*PP **PP 07 24 55.7 -3.7**
MBWA Marble Bar 114.44 237 PFAKE 07 24 10.0 +5.3
MBWA LR LR
comp=Z,5μm,21.0s
PAF Port-aux-Franc 114.47 184 PP PP 07 24 50.0 -9.1
PAF SP SP 07 34 15.0 -20
PAF SS **SS 07 40 45.0 -5.1**
PAF L L 07 53 00.0
PAF R 08 00 00.0
SOEI Soe 115.64 251 PFAKE 07 24 20.0 +13
SOEI LR LR
comp=Z,2μm,22.0s
EKA Eskdalemuir Ar 115.82 36 PKP **PKPdf 07 24 07.0 +0.8**
comp=Z,2.2nm,0.8s,baz=310,slow=4.4,SNR=3.1
YAK Yakutsk 115.94 332 *e*PKiKP **PKPdf 07 24 08.5 +2.3**
YAK Yakutsk 115.94 332 PFAKE 07 24 20.0 +14
YAK LR LR
comp=Z,6μm,22.0s
PAB San Pablo 116.25 54 PFAKE 07 24 20.0 +12
PAB LR LR
comp=Z,2μm,19.0s

HOPEN	Hopen	116.39	10	e	PP	07 25 08.2	-4.9
TNTI	Ternate	116.41	263	PFAKE		07 24 20.0	+11
TNTI				LR	LR		
comp=Z,2μm,21.0s							
CRZF	Crozet Islands	116.50	170	PP	PP	07 25 09.0	-4.5
CRZF				SKKS		07 34 10.0	
CRZF				SS	SS	07 40 59.0	-18
CRZF				L	L	07 54 00.0	
CRZF				R		08 00 00.0	
ESDC	Sonseca Array	116.54	53	PKP	PKPdf	07 24 08.0	-0.2
comp=Z,6.9nm,0.9s,baz=285,slow=3.0,SNR=12							
ESDC				PKKPbc	PKKPbc	07 34 37.1	+0.3
comp=Z,0.9nm,0.7s,baz=49,slow=4.5,SNR=4.4							
ES19	SONSECA Array	116.59	53	ePKPdf	PKPdf	07 24 08.2	-0.1
ROSF	Rostrenen	116.61	44	ePKIKP	PKPdf	07 24 06.3	-1.7
ROSF	Rostrenen	116.61	44	ePKIKP	PKPdf	07 24 06.3	-1.7
ROSF	Rostrenen	116.61	44	ePKPdf	PKPdf	07 24 06.3	-1.7
QUIF	Quistinic	116.72	44	ePKIKP	PKPdf	07 24 06.5	-1.7
QUIF	Quistinic	116.72	44	ePKIKP	PKPdf	07 24 06.5	-1.7
QUIF	Quistinic	116.72	44	ePKPdf	PKPdf	07 24 06.5	-1.7
KLR	Kul'dur	117.14	317	ePKIKP	PKPdf	07 24 04.2	-4.8
USRK	Ussuriysk Ar.	117.42	312	PKP	PKPdf	07 24 08.3	-1.3
comp=Z,5.3nm,1.0s,baz=117,slow=1.6,SNR=4.7							
GRR	Gorron	118.20	44	ePKIKP	PKPdf	07 24 09.3	-1.7
comp=Z,40nm,1.0s							
GRR	Gorron	118.20	44	ePKIKP	PKPdf	07 24 09.3	-1.7
GRR	Gorron	118.20	44	ePKPdf	PKPdf	07 24 09.3	-1.7
FLN	La Foliniere	118.40	43	ePKIKP	PKPdf	07 24 09.8	-1.6
FLN				eR			
comp=Z,2μm,21.5s							
FLN	La Foliniere	118.40	43	ePKIKP	PKPdf	07 24 09.8	-1.6
FLN	La Foliniere	118.40	43	ePKPdf	PKPdf	07 24 09.8	-1.6
SJPF	Ste Jean	118.47	50	ePKIKP	PKPdf	07 24 09.9	-1.8
comp=Z,43nm,1.1s							
SJPF	Ste Jean	118.47	50	ePKIKP	PKPdf	07 24 09.9	-1.8
SJPF	Ste Jean	118.47	50	ePKPdf	PKPdf	07 24 09.9	-1.8
FOO	Floro	118.47	28	ePP	PP	07 25 26.0	-1.9
FOO				eSS	SS	07 41 43.8	-0.1
JNU	Nakatsue	118.50	299	PFAKE		07 24 20.0	+7.8
JNU				LR	LR		
comp=Z,2μm,19.2s							
SUE	Sulen	118.52	29	ePP	PP	07 25 29.9	+1.6
LDF	La Druitiere	118.66	43	ePKIKP	PKPdf	07 24 10.1	-1.8
comp=Z,85nm,1.4s							
LDF	La Druitiere	118.66	43	ePKIKP	PKPdf	07 24 10.1	-1.8
LDF	La Druitiere	118.66	43	ePKPdf	PKPdf	07 24 10.1	-1.8
MFF	Saint Martin d	118.90	45	ePKIKP	PKPdf	07 24 10.5	-1.9
comp=Z,72nm,1.2s							
MFF	Saint Martin d	118.90	45	ePKIKP	PKPdf	07 24 10.5	-1.9
MFF	Saint Martin d	118.90	45	ePKPdf	PKPdf	07 24 10.5	-1.9
ASK	Askoy	118.91	29	ePP	PP	07 25 30.8	-0.3
ETSF	Etsaut	118.97	50	ePKIKP	PKPdf	07 24 11.9	-0.9
comp=Z,26nm,0.9s							
ETSF	Etsaut	118.97	50	ePKIKP	PKPdf	07 24 11.9	-0.9
ETSF	Etsaut	118.97	50	ePKPdf	PKPdf	07 24 11.9	-0.9
BER	Bergen	119.01	29	ePP	PP	07 25 33.3	+1.6
BER				eSS	SS	07 41 52.8	+1.9
MDJ	Mudanjiang	119.10	312	PKP	PKPdf	07 24 14.1	+1.2
MDJ				sPKP		07 24 18.3	
MDJ				PP	PP	07 25 32.8	-0.2
MDJ				PKS	PKSdf	07 27 50.1	+0.7
MDJ				SKS	SKSdf	07 31 24.2	0.0
MDJ				PPMZ			
comp=Z,580nm,14.6s							
MDJ				LN			
comp=Z,830nm,32.8s							
MDJ				LE			
comp=Z,6μm,30.7s							
MDJ				LZ			
comp=Z,8μm,32.8s							
MDJ	Mudanjiang	119.10	312	ePKPdf	PKPdf	07 24 12.2	-0.7
MDJ				LR	LR		
comp=Z,4μm,22.0s							
AKN	Aaknes	119.14	27	ePP	PP	07 25 32.5	-0.1
AKN				eSS	SS	07 41 56.0	+3.5
TOA0	Torodi Ar. Sit	119.18	84	ePKPdf	PKPdf	07 24 12.4	-1.4
TOA0				ePP	PP	07 25 31.5	-2.9
TOA0				ePKKPbc	PKKPab	07 34 30.4	+1.4
TORD	Torodi Ar. Bea	119.18	84	PKP	PKPdf	07 24 12.8	-1.0
comp=Z,10nm,1.2s,baz=304,slow=3.2,SNR=13							
TORD				PP	PP	07 25 29.8	-4.6
comp=Z,9.3nm,1.1s,baz=261,slow=7.0,SNR=4.3							
TORD				PKKPab	PKKPab	07 34 28.6	-0.4
comp=Z,2.9nm,1.0s,baz=84,slow=2.6,SNR=6.7							
EPF	Esparros	119.62	50	ePKIKP	PKPdf	07 24 12.7	-1.3
comp=Z,34nm,0.9s							
EPF	Esparros	119.62	50	ePKIKP	PKPdf	07 24 12.7	-1.3
EPF	Esparros	119.62	50	ePKPdf	PKPdf	07 24 12.7	-1.3
LFF	La Frestale	119.71	47	ePKIKP	PKPdf	07 24 12.5	-1.5
comp=Z,25nm,0.9s							
LFF	La Frestale	119.71	47	ePKIKP	PKPdf	07 24 12.5	-1.5
LFF	La Frestale	119.71	47	ePKPdf	PKPdf	07 24 12.5	-1.5
TRO	Tromso	119.71	17	ePP	PP	07 25 32.6	-3.7
BLS5	Blasjo	119.86	30	ePP	PP	07 25 36.1	-1.6
DAV	Davao City (W)	119.87	269	PFAKE		07 24 20.0	+4.7
DAV				LR	LR		
comp=Z,2μm,19.0s							
TBLU	Trondheim	120.08	25	ePP	PP	07 25 38.5	-0.5
NSS	Namsos	120.18	23	ePP	PP	07 25 44.8	+5.2
LUWI	Luwuk	120.19	259	ePKPdf	PKPdf	07 24 16.1	+0.2
RJF	Les Rejaudoux	120.21	47	ePKIKP	PKPdf	07 24 13.5	-1.5
comp=Z,90nm,1.6s							
RJF	Les Rejaudoux	120.21	47	ePKIKP	PKPdf	07 24 13.5	-1.5
RJF	Les Rejaudoux	120.21	47	ePKPdf	PKPdf	07 24 13.5	-1.5
JOW	Kunigami	120.48	292	PFAKE		07 24 30.0	+14
JOW				LR	LR		
comp=Z,4μm,21.8s							
TCF	Toulx Ste Croi	120.56	46	ePKIKP	PKPdf	07 24 13.9	-1.8
TCF	Toulx Ste Croi	120.56	46	ePKIKP	PKPdf	07 24 13.9	-1.8
TCF	Toulx Ste Croi	120.56	46	ePKPdf	PKPdf	07 24 13.9	-1.8
CAF	Calviac	120.64	47	ePKIKP	PKPdf	07 24 14.2	-1.7
comp=Z,11nm,0.8s							
CAF	Calviac	120.64	47	ePKIKP	PKPdf	07 24 14.2	-1.7
CAF	Calviac	120.64	47	ePKPdf	PKPdf	07 24 14.2	-1.7
KSRS	Korea Array	120.88	304	PKP	PKPdf	07 24 16.2	-0.3
comp=Z,21nm,0.9s,baz=123,slow=2.3,SNR=17							
KSRS				PKKPbc	PKKPbc	07 34 21.1	+0.3
comp=Z,1.3nm,0.8s,baz=260,slow=3.9,SNR=3.3							
KS01	Wonju Array Si	120.90	304	ePKPdf	PKPdf	07 24 14.7	-1.8
KSAR	Wonju Array Be	120.91	304	PKIKP	PKPdf	07 24 16.2	-0.4
KSAR	Wonju Array Be	120.91	304	PKP	PKPdf	07 24 16.2	-0.4
KSAR				PKKPbc	PKKPbc	07 34 21.1	+0.4
MTLF	Montolieu	120.95	49	ePKIKP	PKPdf	07 24 15.1	-1.4
comp=Z,41nm,1.2s							
MTLF	Montolieu	120.95	49	ePKIKP	PKPdf	07 24 15.1	-1.4
MTLF	Montolieu	120.95	49	ePKPdf	PKPdf	07 24 15.1	-1.4
BGF	Bois d'Agland	120.95	45	ePKIKP	PKPdf	07 24 14.8	-1.6
comp=Z,42nm,0.8s							
BGF	Bois d'Agland	120.95	45	ePKIKP	PKPdf	07 24 14.8	-1.6
BGF	Bois d'Agland	120.95	45	ePKPdf	PKPdf	07 24 14.8	-1.6
SNF	Seneffe	121.14	40	APKP	PKPdf	07 24 19.2	+2.6
BAIF	Baives	121.19	41	ePKIKP	PKPdf	07 24 15.4	-1.3
comp=Z,42nm,1.1s							
BAIF	Baives	121.19	41	ePKIKP	PKPdf	07 24 15.4	-1.3
BAIF	Baives	121.19	41	ePKPdf	PKPdf	07 24 15.4	-1.3
AVF	Avril sur Loir	121.26	45	ePKIKP	PKPdf	07 24 15.6	-1.4
comp=Z,19nm,0.9s							
AVF	Avril sur Loir	121.26	45	ePKIKP	PKPdf	07 24 15.6	-1.4
AVF	Avril sur Loir	121.26	45	ePKPdf	PKPdf	07 24 15.6	-1.4
KONO	Kongsberg	121.27	29	ePP	PP	07 25 46.7	-0.6
KONO				eSS	SS	07 42 20.2	+0.2
KONO	Kongsberg	121.27	29	PFAKE		07 24 30.0	+13
KONO				LR	LR		
comp=Z,2μm,21.0s							
BOSA	Boshof	121.28	139	ePKIKP	PKPdf	07 24 17.4	-0.4
BOSA				MLR	MLR		
comp=Z,2μm,20.4s							
BOSA	Boshof	121.28	139	PKP	PKPdf	07 24 17.5	-0.4
comp=Z,4.4nm,0.9s,baz=258,slow=2.2,SNR=3.9							
BOSA	Boshof	121.28	139	ePKPdf	PKPdf	07 24 17.4	-0.4
BOSA				LR	LR		
comp=Z,2μm,20.4s							
SSF	Saint Saulge	121.31	45	ePKIKP	PKPdf	07 24 15.2	-1.9
comp=Z,25nm,0.9s							
SSF	Saint Saulge	121.31	45	ePKIKP	PKPdf	07 24 15.2	-1.9
SSF	Saint Saulge	121.31	45	ePKPdf	PKPdf	07 24 15.2	-1.9
DOU	Dourbes	121.43	41	PKP	PKPdf	07 24 16.5	-0.7
DOU	Dourbes	121.43	41	APKP	PKPdf	07 24 19.7	+2.6
NB2	NORSAR Subarra	121.44	27	PKPdf	PKPdf	07 24 15.9	-1.0
comp=Z,7.9nm,1.2s,baz=295,slow=2.0							
NB2	NORSAR Subarra	121.44	27	PKPdf	PKPdf	07 24 15.9	-1.0
baz=295,slow=2.0							
NOA	NORSAR Array B	121.44	27	PKP	PKPdf	07 24 16.2	-0.7
comp=Z,2.5nm,1.0s,baz=306,slow=2.0,SNR=4.0							
NOA				PP	PP	07 25 49.9	+1.4
comp=Z,2.3nm,0.9s,baz=296,slow=6.7,SNR=4.1							
ARCES	ARCESS Array B	121.52	15	PKP	PKPdf	07 24 16.5	-0.3
comp=Z,12nm,1.1s,baz=343,slow=2.9,SNR=5.7							
ARE0	ARCESS Array S	121.52	15	ePP	PP	07 25 50.1	+1.5
ARE0				eSS	SS	07 42 23.9	+1.4
LOR	Lormes	121.52	44	ePKIKP	PKPdf	07 24 15.8	-1.7
comp=Z,22nm,1.0s							
LOR				eR			
comp=Z,1μm,22.0s							
LOR	Lormes	121.52	44	ePKIKP	PKPdf	07 24 15.8	-1.7
LOR	Lormes	121.52	44	ePKPdf	PKPdf	07 24 15.8	-1.7
GIVF	Givet	121.57	41	ePKIKP	PKPdf	07 24 16.1	-1.4
GIVF	Givet	121.57	41	ePKIKP	PKPdf	07 24 16.1	-1.4
GIVF	Givet	121.57	41	ePKPdf	PKPdf	07 24 16.1	-1.4
KAPI	Kappang	121.60	253	ePKPdf	PKPdf	07 24 19.0	+0.4
KAPI				LR	LR		
comp=Z,1μm,19.0s							
SMF	Signal de Mont	121.61	45	ePKIKP	PKPdf	07 24 16.6	-1.1
comp=Z,47nm,1.4s							
SMF	Signal de Mont	121.61	45	ePKIKP	PKPdf	07 24 16.6	-1.1
SMF	Signal de Mont	121.61	45	ePKPdf	PKPdf	07 24 16.6	-1.1
NC602	NORSAR Array S	121.72	28	ePP	PP	07 25 48.3	-1.9
NC602				eSS	SS	07 42 30.4	+4.9
KEV	Kevo	121.72	14	ePKIKP	PKPdf	07 24 30.2	+13
KEV	Kevo	121.72	14	ep	PKPdf	07 24 30.2	+13
TSUM	Tsumeb	121.76	125	eP	PKPdf	07 24 18.5	-0.4
BCLA	Clavier	121.80	40	PKP	PKPdf	07 24 17.7	-0.1
INCN	Inchon	121.90	304	PFAKE		07 24 30.0	+11
INCN				LR	LR		
comp=Z,3μm,20.0s							
LASF	Ste Croix	122.03	48	ePKIKP	PKPdf	07 24 17.7	-0.9
comp=Z,70nm,1.1s							
LASF	Ste Croix	122.03	48	ePKPdf	PKPdf	07 24 17.7	-0.9
MEZF	Maizieres J'vi	122.06	43	ePKIKP	PKPdf	07 24 17.2	-1.2
comp=Z,74nm,1.1s							
MEZF	Maizieres J'vi	122.06	43	ePKPdf	PKPdf	07 24 17.2	-1.2
SFTF	Sexfontaines	122.12	43	ePKIKP	PKPdf	07 24 17.3	-1.3
comp=Z,57nm,1.3s							
SFTF	Sexfontaines	122.12	43	ePKPdf	PKPdf	07 24 17.3	-1.3
CN2	Changchun	122.15	312	ePKP	PKPdf	07 24 16.4	-2.4
CN2				ePP	PP	07 25 55.8	+1.9
CN2				LN			
comp=Z,3μm,24.0s							
CN2				LE			
comp=Z,1μm,24.0s							
CN2				LZ			
comp=Z,1μm,26.0s							
MEM	Membach	122.19	40	APKP	PKPdf	07 24 21.1	+2.5
MEM	Membach	122.19	40	PFAKE		07 24 30.0	+11
MEM				LR	LR		
comp=Z,1835μm,19.0s							
MUD	Monsted U'grnd	122.25	33	i P	PP	07 25 55.3	+1.3
VIVF	Saint-Julien-l	122.49	47	ePKIKP	PKPdf	07 24 17.5	-1.9
comp=Z,37nm,1.3s							
VIVF	Saint-Julien-l	122.49	47	ePKIKP	PKPdf	07 24 17.5	-1.9
VIVF	Saint-Julien-l	122.49	47	ePKPdf	PKPdf	07 24 17.5	-1.9
PAGF	Fort de Pagny	122.49	42	ePKIKP	PKPdf	07 24 18.2	-1.1
comp=Z,8.4nm,0.9s							
PAGF	Fort de Pagny	122.49	42	ePKPdf	PKPdf	07 24 18.2	-1.1
WLF	Walferdange	122.51	41	APKP	PKPdf	07 24 21.7	+2.4
WLF	Walferdange	122.51	41	ePKIKP	PKPdf	07 24 22.2	+2.9
WLF				MLR	MLR		
comp=Z,1μm,20.0s							
WLF	Walferdange	122.51	41	ePKPdf	PKPdf	07 24 19.1	-0.2
WLF	Walferdange	122.51	41	ePKPdf	PKPdf	07 24 22.2	+2.9
WLF				LR	LR		
comp=Z,1μm,20.0s							
TOLI	Toli-Toli	122.76	261	PFAKE		07 24 30.0	+9.1
TOLI				LR	LR		
comp=Z,900nm,22.0s							
IBBN	Ibbenburen	122.79	38	ePKPdf	PKPdf	07 24 19.2	-0.5
HFS	Hagfors	122.94	28	PKP	PKPdf	07 24 18.2	-1.6
comp=Z,4.1nm,1.0s,baz=289,slow=4.4,SNR=3.7							
HAU	Haudompre	123.02	43	ePKIKP	PKPdf	07 24 18.8	-1.6
comp=Z,44nm,1.3s							
HAU				eR			
comp=Z,1μm,20.0s							
HAU	Haudompre	123.02	43	ePKIKP	PKPdf	07 24 18.8	-1.6
HAU	Haudompre	123.02	43	ePKPdf	PKPdf	07 24 18.8	-1.6
CABF	La Chapelle	123.14	45	ePKIKP	PKPdf	07 24 19.4	-1.3
comp=Z,44nm,0.9s							
CABF	La Chapelle	123.14	45	ePKIKP	PKPdf	07 24 19.4	-1.3
CABF	La Chapelle	123.14	45	ePKPdf	PKPdf	07 24 19.4	-1.3
SMRF	Simiane la Rot	123.27	48	ePKIKP	PKPdf	07 24 19.4	-1.6
comp=Z,39nm,1.1s							
SMRF	Simiane la Rot	123.27	48	ePKPdf	PKPdf	07 24 19.4	-1.6
ORIF	Oris-en-Rattie	123.32	47	ePKIKP	PKPdf	07 24 19.4	-1.7
comp=Z,24nm,0.8s							
ORIF				eR			
comp=Z,2μm,21.5s							
ORIF	Oris-en-Rattie	123.32	47	ePKIKP	PKPdf	07 24 19.4	-1.7
ORIF	Oris-en-Rattie	123.32	47	ePKPdf	PKPdf	07 24 19.4	-1.7
HINF	Hinteralfeld	123.39	43	ePKIKP	PKPdf	07 24 19.4	-1.7
comp=Z,38nm,1.1s							
HINF	Hinteralfeld	123.39	43	ePKIKP	PKPdf	07 24 19.4	-1.7
HINF	Hinteralfeld	123.39	43	ePKPdf	PKPdf	07 24 19.4	-1.7
CDF	Champ du Feu	123.53	42	ePKIKP	PKPdf	07 24 19.9	-1.5
CDF	Champ du Feu	123.53	42	ePKIKP	PKPdf	07 24 19.9	-1.5
CDF	Champ du Feu	123.53	42	ePKPdf	PKPdf	07 24 19.9	-1.5
BSEG	Bad Segeberg	123.74	35	ePKPdf	PKPdf	07 24 20.9	-0.6
TNS	Taunus Mts	123.80	40	ePKPdf	PKPdf	07 24 21.6	-0.2
LPL	La Plagne	123.80	46	ePKIKP	PKPdf	07 24 21.7	-0.5
comp=Z,56nm,0.9s							
LPL	La Plagne	123.80	46	ePKIKP	PKPdf	07 24 21.7	-0.5
LPL	La Plagne	123.80	46	ePKPdf	PKPdf	07 24 21.7	-0.5
LPG	La Plagne	123.82	46	ePKIKP	PKPdf	07 24 22.0	-0.3
comp=Z,65nm,1.0s							
LPG	La Plagne	123.82	46	ePKIKP	PKPdf	07 24 22.0	-0.3
LPG	La Plagne	123.82	46	ePKPdf	PKPdf	07 24 22.0	-0.3
BNI	Bardonecchia	123.85	46	ePKIKP	PKPdf	07 24 24.9	+2.7
BNI				MLR	MLR		
comp=Z,2μm,22.0s							
BNI	Bardonecchia	123.85	46	ePKPdf	PKPdf	07 24 24.9	+2.7
BNI				LR	LR		
comp=Z,2μm,22.0s							
LBTB	Lobatse	123.97	136	ePKIKP	PKPdf	07 24 22.7	-0.3
LBTB				MLR	MLR		
comp=Z,2μm,21.6s							
LBTB	Lobatse	123.97	136	ePKPdf	PKPdf	07 24 22.7	-0.3
LBTB				LR	LR		
comp=Z,2μm,21.6s							
MBDF	Montbardon	123.98	47	ePKIKP	PKPdf	07 24 20.9	-1.6
comp=Z,46nm,1.2s							
MBDF	Montbardon	123.98	47	ePKIKP	PKPdf	07 24 20.9	-1.6
MBDF	Montbardon	123.98	47	ePKPdf	PKPdf	07 24 20.9	-1.6
SENIN	Lac Senin/Sane	124.01	45	ePKPdf	PKPdf	07 24 22.9	+0.3
LMR	La Mourre	124.05	48	ePKIKP	PKPdf	07 24 20.9	-1.5
comp=Z,120nm,1.5s							
LMR	La Mourre	124.05	48	ePKIKP	PKPdf	07 24 20.9	-1.5
LMR	La Mourre	124.05	48	ePKPdf	PKPdf	07 24 20.9	-1.5
NRDL	Niedersach Rie	124.11	37	ePKPdf	PKPdf	07 24 21.7	-0.4
FRF	La Foret Royal	124.11	48	ePKIKP	PKPdf	07 24 21.2	-1.3
comp=Z,92nm,1.1s							
FRF	La Foret Royal	124.11	48	ePKIKP	PKPdf	07 24 21.2	-1.3
FRF	La Foret Royal	124.11	48	ePKPdf	PKPdf	07 24 21.2	-1.3
TAM	Tamanrasset	124.15	73	ePKIKP	PKPdf	07 24 23.3	-0.1
TAM	Tamanrasset	124.15	73	ePKPdf	PKPdf	07 24 23.3	-0.1
BFO	Black Forest	124.23	42	ePKIKP	PKPdf	07 24 22.2	-0.5
BFO				MLR	MLR		
comp=Z,1μm,22.0s							
BFO	Black Forest	124.23	42	ePKPdf	PKPdf	07 24 22.0	-0.7
BFO	Black Forest	124.23	42	ePKPdf	PKPdf	07 24 22.2	-0.5
BFO				LR	LR		
comp=Z,1μm,22.0s							
COP	Copenhagen	124.23	33	i P	PP	07 26 09.3	+2.0
CLZ	Clausthal	124.47	38	ePKPdf	PKPdf	07 24 22.8	-0.2
UBBA	Unterbreizbach	124.57	39	ePKPdf	PKPdf	07 24 22.9	-0.2
SBF	Sospel	124.61	48	ePKIKP	PKPdf	07 24 22.1	-1.5
comp=Z,96nm,1.0s							
SBF	Sospel	124.61	48	ePKIKP	PKPdf	07 24 22.1	-1.5
SBF	Sospel	124.61	48	ePKPdf	PKPdf	07 24 22.1	-1.5
STU	Stuttgart	124.67	42	ePKIKP	PKPdf	07 24 23.4	0.0
STU				MLR	MLR		
comp=Z,1μm,20.0s							
STU	Stuttgart	124.67	42	ePKPdf	PKPdf	07 24 23.4	0.0
STU	Stuttgart	124.67	42	ePKPdf	PKPdf	07 24 23.4	0.0
STU				LR	LR		
comp=Z,1μm,20.0s							
BOD	Bodaibo	124.80	330	ePKIKP	PKPdf	07 24 20.5	-2.9
BOD				e		07 26 07.6	
BOD				pmax	pmax		
comp=Z,37nm,1.1s							
HIA	Hailar	124.83	319	ePKIKP	PKPdf	07 24 25.5	+1.7
HIA				MLR	MLR		
comp=Z,5μm,22.0s							
HIA	Hailar	124.83	319	ePKPdf	PKPdf	07 24 25.5	+1.7
HIA				LR	LR		
comp=Z,5μm,22.0s							
AIS	Amsterdam Isla	124.86	192	SP	SP	07 36 06.0	-2.4
AIS				R		08 05 00.0	
APA	Apatity	124.91	14⇓	i PKIKP	PKPdf	07 24 26.2	+2.9
APA				i		07 31 24.0	
APA				i		07 36 02.0	
APA				MLR	MLR		
comp=Z,2μm,13.0s							
LVZ	Lovozero	124.93	13	PFAKE		07 24 30.0	+6.5
LVZ				LR	LR		
comp=Z,2μm,19.0s							
YOJ	Yonaguni jima	125.08	289	PFAKE		07 24 30.0	+5.1
YOJ				LR	LR		
comp=Z,2μm,19.9s							
RGN	Rugen	125.15	34	PFAKE		07 24 30.0	+5.9
RGN				LR	LR		
comp=Z,1μm,22.0s							
JAGI	Jajag, Banyuwa	125.23	247	PFAKE		07 24 40.0	+14
JAGI				LR	LR		
comp=Z,2μm,22.0s							
TUE	Stuetta	125.36	44	ePKPdf	PKPdf	07 24 24.7	-0.5
TUE				ePP	PP	07 26 22.1	+6.4
TUE				LR	LR		
comp=Z,2μm,20.0s							
MOX	Moxa	125.60	39	ePKPdf	PKPdf	07 24 24.7	-0.5
MOX				eL	L	08 16 19.3	
comp=Z,1μm,21.7s							
DAVOX	Davos/Dischmat	125.64	44	PKP	PKPdf	07 24 26.4	+0.8
comp=Z,14nm,1.0s,baz=290,slow=6.4,SNR=10							
GRF	Grafenberg Arr	125.67	40	ePKPdf	PKPdf	07 24 25.4	0.0
GRF				ePP	PP	07 26 14.9	-2.4
GRF				eL	L	08 16 46.2	
comp=Z,2μm,21.1s							
GRFO	Grafenberg	125.67	40	ePKIKP	PKPdf	07 24 25.1	-0.3
GRFO				MLR	MLR		
comp=Z,2μm,21.0s							
GRFO	Grafenberg	125.67	40	ePKPdf	PKPdf	07 24 25.1	-0.3
GRFO				LR	LR		
comp=Z,2μm,21.0s							
DL2	Dalian	125.69	306	ePKP	PKPdf	07 24 32.8	+7.1
DL2				PP	PP	07 26 22.2	+4.4
DL2	Dalian	125.69	306	eSS	SS	07 43 26.3	+8.9
BSD	Bornholm Skovb	125.76	33	i P	PP	07 26 16.2	-1.3
FUORN	Ofenpass-Fuorn	125.94	44	ePKPdf	PKPdf	07 24 26.5	+0.2
FUORN				LR	LR		
comp=Z,2μm,22.0s							
PGF	Pioggiola	125.99	49	ePKIKP	PKPdf	07 24 25.1	-1.2
comp=Z,83nm,1.1s							
PGF	Pioggiola	125.99	49	ePKIKP	PKPdf	07 24 25.1	-1.2
PGF	Pioggiola	125.99	49	ePKPdf	PKPdf	07 24 25.1	-1.2
FETA	Feichten	126.14	43⇓	i PKIKP	PKPdf	07 24 26.7	+0.1
comp=Z,51nm,1.0s,SNR=11							
MYLDM	Lahad Datu	126.16	264	ePKPdf	PKPdf	07 24 32.2	+4.8
FUR	Furstenfeldbru	126.17	42	ePKPdf	PKPdf	07 24 26.0	-0.4
TANN	Tannenbergstha	126.19	39	ePKPdf	PKPdf	07 24 26.1	-0.3
CLL	Collm	126.20	38	ePKIKP	PKPdf	07 24 26.0	-0.3
CLL				i		07 24 31.9	
CLL				pmax	pmax		
comp=Z,24nm,1.3s							
CLL	Collm	126.20	38	ePKPdf	PKPdf	07 24 25.8	-0.5
CLL	Collm	126.20	38	epPdif	pPdif	07 21 10.0	-1.5
CLL				ePKPdf	PKPdf	07 24 26.0	-0.3
comp=Z,24nm,1.3s							
CLL				i sPKPdf	sPKPdf	07 24 31.9	-2.6
CLL				i		07 24 37.6	
CLL				ePP	PP	07 26 20.0	-0.7
CLL				esPP		07 26 28.0	
CLL				e		07 27 48.0	
CLL				ePPP	PPP	07 29 02.0	
CLL				esSKKSac		07 33 25.0	
CLL				ePS	PS	07 36 21.0	-2.9
CLL				eSKKPbc	SKKPbc	07 37 47.0	-5.6
CLL				ePKKSbc	P

comp=Z,30nm,1.0s,SNR=7.7
PVCC Panska Ves 127.41 38 *e*PP PP 07 26 28.2 -0.5
PVCC AMS AMS 08 11 20.0
comp=Z,3μm,24.6s
GEC2 GERESS Array S 127.48 40 *e*PKIKP **PKPdf 07 24 28.6 -0.4**
GEC2 *e* 07 24 28.8
GEC2 GERESS Array S 127.48 40 *e*PKPdf **PKPdf 07 24 28.4 -0.6**
GEC2 GERESS Array S 127.48 40 *e*PKPdf **PKPdf 07 24 28.6 -0.4**
GEC2 *e*PKPdf **PKiKP 07 24 28.8 -0.8**
GERES GERESS Array B 127.48 40 PKP **PKPdf 07 24 28.3 -0.7**
comp=Z,14nm,0.9s,baz=11,slow=1.0,SNR=25
GERES PP **PP 07 26 29.6 +0.2**
comp=Z,2.8nm,1.1s,baz=264,slow=4.8,SNR=4.2
PRA Prague 127.50 39 PKPdf **PKPdf 07 24 29.0 +0.2**
PRA PP PP 07 26 24.0 -5.3
PRU Pruhonice 127.59 39 *e*PKIKP **PKPdf 07 24 28.0 -1.0**
PRU *e* 07 24 31.6
PRU Pruhonice 127.59 39 *e*PKPdf **PKPdf 07 24 28.0 -1.0**
PRU *ep*PKP **PKiKP 07 24 31.6 +2.0**
PRU *e*PP PP 07 26 23.8 -6.1
PRU *ex* x 07 27 52.5
PRU AMS AMS 08 09 00.0
comp=Z,2μm,30.0s
GKP Gorka Klasztor 127.79 34 *e*PKIKP **PKPdf 07 24 29.5 +0.2**
GKP Gorka Klasztor 127.79 34 *e*PKP **PKPdf 07 24 29.4 +0.2**
KBA Koelnbreinsper 127.83 43⇑*i*PKPdf **PKPdf 07 24 29.1 -0.7**
comp=Z,31nm,0.9s
JOF Joensuu 127.94 19 *e*PKIKP **PKPdf 07 24 30.6 +1.3**
JOF Joensuu 127.94 19 *ep* **PKPdf 07 24 30.6 +1.3**
MOA Molln 128.17 41⇑*i*PKPdf **PKPdf 07 24 29.6 -0.6**
comp=Z,20nm,1.0s
UPC Upice 128.26 38 *e*PKIKP **PKPdf 07 24 30.9 +0.6**
UPC *e* 07 24 33.9
UPC Upice 128.26 38 *e*PKPdf **PKPdf 07 24 30.9 +0.6**
UPC *ep*PKP **pPKPdf 07 24 33.9 -2.5**
KSP Ksiaz 128.29 37 *e*PKIKP **PKPdf 07 24 30.5 +0.2**
KSP *e* 07 26 32.5
KSP *e*SP SP 07 36 34.0 -4.9
KSP *e*SS **SS 07 43 53.0 +4.2**
KSP Ksiaz 128.29 37 *e*PKP **PKPdf 07 24 31.6 +1.3**
CADS Cadrg 128.35 43 *e*PKPdf **PKPdf 07 24 32.0 +1.3**
CADS *i* PP **PP 07 26 38.0 +2.9**
TREC Trest 128.42 39 AMS AMS 08 15 30.0
comp=Z,2μm,21.9s
DPC Dobruska-Polom 128.51 38 *e*PKIKP **PKPdf 07 24 27.9 -2.9**
DPC *e* 07 24 32.9
DPC *e* 07 26 32.9
DPC Dobruska-Polom 128.51 38 *e*PKPdf **PKPdf 07 24 27.9 -2.9**
DPC *ep*PKP **PKiKP 07 24 32.9 +1.4**
DPC *e*PP **PP 07 26 32.9 -3.1**
DPC *e*SKP 07 27 57.0
DPC AMS AMS 08 12 10.0
KKM Kota Kinabalu 128.58 265 PFAKE 07 24 40.0 +7.9
KKM LR LR
comp=Z,1μm,20.0s
JAVS Javornik 128.67 44 *e*PKPdf **PKPdf 07 24 31.1 -0.2**
JAVS *e*PP **PP 07 26 40.6 +3.3**
NJ2 Nanjing 128.68 298 *e*PKP **PKPdf 07 24 31.5 -0.1**
NJ2 PP **PP 07 26 40.0 +2.1**
NJ2 PPMZ
comp=Z,590nm,10.8s
NJ2 LN
comp=Z,6μm,25.4s
NJ2 LE
comp=Z,2μm,24.8s
NJ2 LZ
comp=Z,2μm,24.6s
TMCR Tamitsa 128.80 15 *e*PKIKP **PKPdf 07 24 32.6 +1.8**
TMCR pmax pmax
comp=Z,18nm,0.4s
KRLC Kraliky 128.89 38 *e*PKIKP **PKPdf 07 24 31.5 -0.1**
KRLC Kraliky 128.89 38 *e*PKPdf **PKPdf 07 24 31.5 -0.1**
VRAC Vranov 129.08 39⇑*e*PKIKP **PKPdf 07 24 31.8 -0.1**
VRAC Vranov 129.08 39⇑*i*P **PKPdf 07 24 31.8 -0.1**
VRAC Vranov 129.08 39 PKP **PKPdf 07 24 31.7 -0.2**
comp=Z,8.0nm,1.0s,baz=26,slow=0.7,SNR=9.7
VRAC PP **PP 07 26 40.2 +0.5**
comp=Z,4.8nm,0.9s,baz=311,slow=5.3,SNR=3.3
PERS Pernice 129.12 43 *e*PKPdf **PKPdf 07 24 31.0 -1.1**
PERS *e* 07 27 59.3
PERS *e* 07 36 47.3
PERS *e* 07 38 27.9
CONA Conrad Observa 129.15 41⇑*i*PKPdf **PKPdf 07 24 28.2 -3.9**
comp=Z,30nm,1.3s,SNR=6.5
ARSA Arzberg 129.18 42⇑*i*PKPdf **PKPdf 07 24 31.5 -0.7**
comp=Z,25nm,0.8s,SNR=11
AQU L'Aquila 129.21 48 *e*PKIKP **PKPdf 07 24 33.0 +0.6**
AQU MLR MLR
comp=Z,2μm,20.0s
AQU L'Aquila 129.21 48 *e*PKPdf **PKPdf 07 24 33.0 +0.6**
AQU LR LR
comp=Z,2μm,20.0s
BJI Beijing 129.64 309 PKP **PKPdf 07 24 34.6 +1.4**
BJI PP **PP 07 26 44.8 +1.0**
BJI SS SS 07 44 03.7 -2.6
BJI PPMZ
comp=Z,690nm,10.5s
BJI LN
comp=Z,620nm,17.3s
BJI LE
comp=Z,1μm,20.4s
BJI LZ
comp=Z,3μm,40.9s
BJT Baijiatuau 129.65 309 PFAKE 07 24 40.0 +6.8
BJT LR LR
comp=Z,2μm,21.0s
OKC Ostrava-Krasne 129.79 38 *e*PKIKP **PKPdf 07 24 33.1 -0.1**
OKC MLR MLR
comp=Z,1μm,23.8s
OKC Ostrava-Krasne 129.79 38 *e*PKPdf **PKPdf 07 24 33.1 -0.1**
OKC *e*SKP 07 28 00.9
OKC AMS AMS 08 15 50.0
comp=Z,1μm,23.8s
SUW Suwalki 130.50 31 *e*PKIKP **PKPdf 07 24 34.8 +0.4**
SUW MLR MLR
comp=Z,2μm,20.0s
SUW Suwalki 130.50 31 *e*PKP **PKPdf 07 24 35.9 +1.5**
SUW Suwalki 130.50 31 *e*PKPdf **PKPdf 07 24 34.8 +0.4**
SUW LR LR
comp=Z,2μm,20.0s
OJC Ojcow 130.58 37 *e*PKIKP **PKPdf 07 24 34.1 -0.6**
OJC MLR MLR
comp=Z,2μm,21.3s
OJC Ojcow 130.58 37 *e*PKPdf **PKPdf 07 24 36.2 +1.5**
OJC Ojcow 130.58 37 *e*PKPdf **PKPdf 07 24 34.1 -0.6**
OJC LR LR
comp=Z,2μm,21.3s
VYHS Vyhne 130.76 39 *e*PKIKP **PKPdf 07 24 35.2 +0.1**
VYHS Vyhne 130.76 39 *e*PKP **PKPdf 07 24 35.2 +0.1**
ISAL Salakas 130.98 28 *e*P **PKPdf 07 24 30.7 -4.6**
ISAL AMB AMB 07 24 39.1
comp=Z,17nm,1.1s
IIGN Ignalina 131.16 28 *e*P **PKPdf 07 24 32.5 -3.1**
IIGN AMB AMB 07 24 45.0
comp=Z,19nm,0.9s
CISI Cisompet, Garu 131.20 244 PFAKE 07 24 50.0 +13
CISI LR LR
comp=Z,2μm,20.0s
NIE Niedzica 131.24 37 *e*PKIKP **PKPdf 07 24 37.6 +1.6**
NIE Niedzica 131.24 37 *e*PKPdf **PKPdf 07 24 37.6 +1.6**
SBUM Sibu 131.29 259 *e*PKPdf **PKPdf 07 24 39.7 +2.5**
SBUM LR LR
comp=Z,1μm,21.0s
IDID Didziasalis 131.42 28 *e*P **PKPdf 07 24 33.2 -2.9**
IDID AMB AMB 07 24 44.0
comp=Z,21nm,1.1s
WDD Wield Dalam 131.46 56 PFAKE 07 24 50.0 +13
WDD LR LR
comp=Z,1μm,20.8s
XMIS Christmas Isla 131.53 239 PFAKE 07 24 50.0 +12
XMIS LR LR
comp=Z,11μm,21.4s
PKSM Moragy 131.55 42⇓*e*PKIKP **PKPdf 07 24 37.2 +0.6**
PKSM Moragy 131.55 42⇓*i*P **PKPdf 07 24 37.2 +0.6**
CUC Castrocucco 131.57 51 PFAKE 07 24 50.0 +13
CUC LR LR
comp=Z,900nm,20.0s
PSZ Piszkesteto 131.65 39⇓*e*PKIKP **PKPdf 07 24 39.1 +2.2**
PSZ Piszkesteto 131.65 39⇓*i*P **PKPdf 07 24 39.1 +2.2**
PSZ Piszkesteto 131.65 39 *e*PKPdf **PKPdf 07 24 36.7 -0.2**
PSZ *e*PP PP 07 27 02.3 +5.8
PSZ LR LR
comp=Z,1μm,18.0s
NACGM Naroch 131.69 28 *e* **PKPdf 07 24 32.0 -4.6**

STHS Stebnicka Huta 131.78 37 *e*PKIKP **PKPdf 07 24 39.2 +2.2**
STHS Stebnicka Huta 131.78 37 *e*PKP **PKPdf 07 24 39.2 +2.2**
KLMR Klimovskoe 131.95 16 *e*PKIKP **PKPdf 07 24 37.7 +0.8**
KLMR *e* 07 26 57.6
KLMR pmax pmax
comp=Z,49nm,1.1s
CEL Celeste 132.05 53 PFAKE 07 24 50.0 +12
CEL LR LR
comp=Z,1μm,22.0s
CRVS Cervenica-Dubn 132.15 38 *e*PKIKP **PKPdf 07 24 37.6 -0.1**
CRVS Cervenica-Dubn 132.15 38 *e*PKP **PKPdf 07 24 37.6 -0.1**
LSZ Lusaka 132.21 129 *e*PKIKP **PKPdf 07 24 39.2 +0.2**
LSZ Lusaka 132.21 129 *e*PKPdf **PKPdf 07 24 39.2 +0.2**
MNK Minsk 132.42 28 *e*PKIKP **PKPdf 07 24 36.0 -2.0**
MICGM Minsk 132.44 28 *e* **PKPdf 07 24 36.0 -2.1**
IRK Irkutsk 132.46 328 *e*PKIKP **PKPdf 07 24 37.3 -0.9**
IRK *e* 07 26 59.7
IRK pmax pmax
comp=Z,146nm,2.1s
TIP Timpagrande 132.48 51 PFAKE 07 24 50.0 +11
TIP LR LR
comp=Z,1μm,22.0s
KWP Kalwaria Pacla 132.52 36⇓*e*PKIKP **PKPdf 07 24 42.1 +3.7**
KWP Kalwaria Pacla 132.52 36 *e*PKP **PKPdf 07 24 41.8 +3.4**
KWP Kalwaria Pacla 132.52 36⇓*i*P **PKPdf 07 24 42.1 +3.7**
KOLS Kolonicke sedl 132.61 37 *e*PKIKP **PKPdf 07 24 39.7 +1.1**
KOLS Kolonicke sedl 132.61 37 *e*PKP **PKPdf 07 24 39.7 +1.1**
WHN Wuhan 132.65 297 PKP **PKPdf 07 24 42.3 +3.1**
WHN PP **PP 07 27 07.5 +3.8**
WHN PKS **PKSdf 07 28 15.1 -0.6**
WHN LN
comp=Z,2μm,17.4s
WHN LE
comp=Z,8μm,23.1s
WHN LZ
comp=Z,5μm,19.5s
PRGR Permogore 132.72 12 *e*PKIKP **PKPdf 07 24 38.5 +0.2**
PRGR *e* 07 27 01.6
PRGR pmax pmax
comp=Z,281nm,1.8s
KSM Kuching 132.75 257 PFAKE 07 24 50.0 +10
KSM LR LR
comp=Z,1μm,22.0s
UZH Uzhgorod 132.76 38 *e*PKHKP PKPpre 07 24 26.8
UZH *i* 07 24 38.9
UZH *e*PPP PPP 07 29 55.8
HHC Hu-ho-hao-te 132.83 311 *e*PKP **PKPdf 07 24 35.6 -3.8**
HHC PP **PP 07 27 04.1 -0.4**
HHC PPMZ
comp=Z,1μm,9.4s
HHC LN
comp=Z,2μm,22.9s
HHC LE
comp=Z,3μm,24.9s
HHC LZ
comp=Z,6μm,25.1s
TLY Talaya 133.10 328 *e*PKIKP **PKPdf 07 24 39.3 -0.2**
TLY *e* 07 27 06.3
TLY *e*SS SS 07 45 10.8 +23
TLY pmax pmax
comp=Z,44nm,1.5s
TLY Talaya 133.10 328 *e*PKPdf **PKPdf 07 24 39.3 -0.2**
TLY LR LR
comp=Z,2μm,20.0s
TRPA Tarpa 133.14 38⇓*i*P **PKPdf 07 24 37.0 -2.6**
ULN Ulaanbaatar 133.16 322 *e*PKIKP **PKPdf 07 24 39.9 0.0**
ULN MLR MLR
comp=Z,6μm,22.0s
ULN Ulaanbaatar 133.16 322 *e*PKPdf **PKPdf 07 24 39.9 0.0**
ULN LR LR
comp=Z,6μm,22.0s
LVV L'vov 133.17 35 *e*PKIKP **PKPdf 07 24 40.3 +0.7**
LVV *e* 07 30 09.1
LVV MLR MLR
comp=N,600nm,22.0s
LVV MLR MLR
comp=Z,900nm,22.0s
LVV MLR MLR
comp=E,800nm,24.0s
BANR Banloc 133.48 42⇑*i*P PKPdf 07 24 47.6 +7.3
SONA1 Songino Array 133.56 322 *e*PKPpre PKPpre 07 24 28.7
SONM Songino Array 133.57 322 PKhKP PKPpre 07 24 32.0
comp=E,0.7nm,0.8s,baz=31,slow=3.5,SNR=4.1
SONM PKP **PKPdf 07 24 40.0 -0.6**
comp=E,8.8nm,0.8s,baz=93,slow=1.4,SNR=18
BZS Buzias 133.69 42⇑*e*PKIKP **PKPdf 07 24 39.1 -1.6**
BZS Buzias 133.69 42⇑*i*P **PKPdf 07 24 39.1 -1.6**
DRGR 133.86 40⇓*e*PKIKP **PKPdf 07 24 41.1 0.0**
DRGR 133.86 40⇓*i*P **PKPdf 07 24 41.1 0.0**
ZAK Zakamensk 134.02 326 *e*PKHKP PKPpre 07 24 30.1
ZAK *e* 07 24 41.8
ZAK *e* 07 27 08.4
ZAK pmax pmax
comp=Z,27nm,1.7s
BTO Baotou 134.02 311 *e*PKP **PKPdf 07 24 42.4 +0.8**
DEV Deva 134.39 41⇓*e*PKIKP **PKPdf 07 24 47.2 +5.2**
DEV Deva 134.39 41⇓*i*P **PKPdf 07 24 47.2 +5.2**
CJR Cluj-Napoca 134.44 39⇑*e*PKIKP **PKPdf 07 24 42.1 -0.1**
CJR Cluj-Napoca 134.44 39⇑*i*P **PKPdf 07 24 42.1 -0.1**
MOY Mondy 134.45 329 *e*PKIKP **PKPdf 07 24 42.5 +0.4**
GZR Gura Zlata 134.53 41⇑*e*PKIKP **PKPdf 07 24 42.7 +0.3**
GZR Gura Zlata 134.53 41⇑*i*P **PKPdf 07 24 42.7 +0.3**
GZR Gura Zlata 134.53 41⇑*i*P **PKPdf 07 24 43.6 +1.2**
KEK Kerkira 134.59 50 *e*P **PKPdf 07 24 46.9 +4.3**
BUR04 Bucovina Ar. S 134.96 37 *e*PKPdf **PKPdf 07 24 42.6 -0.6**
BURAR Bucovina Array 134.97 37⇓*e*PKIKP **PKPdf 07 24 45.9 +2.7**
BURAR Bucovina Array 134.97 37⇓*i*P **PKPdf 07 24 45.8 +2.6**
LOT Lotru 135.13 41⇓*i*P **PKPdf 07 24 43.1 -0.5**
MDB Medias 135.19 40⇑*e*PKIKP PKPdf 07 24 50.0 +6.5
MDB Medias 135.19 40⇑*i*P PKPdf 07 24 50.0 +6.5
NEST Nestorio 135.28 49 *e*P **PKPdf 07 24 43.2 -0.8**
JAN Janina 135.38 50 *e*P **PKPdf 07 24 47.3 +3.2**
FNA Florina 135.38 48 *e*P **PKPdf 07 24 44.8 +0.7**
AK11 Malin Array Si 135.42 32 *e*PKPdf **PKPdf 07 24 40.6 -3.2**
KIEV Kiev 135.43 32 *e*PKIKP **PKPdf 07 24 43.7 -0.1**
KIEV *e* 07 27 21.5
KIEV MLR MLR
comp=Z,2μm,20.0s
KIEV Kiev 135.43 32 *e*PKPdf **PKPdf 07 24 43.7 -0.1**
KIEV *e*PP **PP 07 27 21.4 +1.3**
KIEV LR LR
comp=Z,2μm,20.0s
AKASG Malin Array Be 135.43 32 PKIKP **PKPdf 07 24 44.8 +1.0**
AKASG 07 27 20.6
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 135.43 32 PKhKP PKPpre 07 24 34.3
comp=Z,1.4nm,0.6s,baz=295,slow=2.7,SNR=4.0
AKASG PKP **PKPdf 07 24 44.8 +1.0**
comp=Z,1.4nm,0.6s,baz=301,slow=2.3,SNR=5.7
AKASG PP **PP 07 27 20.6 +0.3**
comp=Z,3.8nm,0.9s,baz=310,slow=5.8,SNR=7.9
LKD2 Lefkada island 135.51 51 *e*P **PKPdf 07 24 43.2 -1.2**
MOS Moscow 135.52 22 *e*PKIKP **PKPdf 07 24 44.8 +1.0**
MOS pmax pmax
comp=Z,86nm,1.4s
MOS MLR MLR
comp=N,3μm,21.0s
MOS MLR MLR
comp=Z,3μm,21.0s
OBN Obninsk 135.62 23*c* *i*PKIKP **PKPdf 07 24 46.6 +2.6**
OBN *i* 07 27 21.9
OBN *i* SS SS 07 45 16.9 -0.2
OBN pmax pmax
comp=Z,31nm,1.5s
OBN MLR MLR
comp=Z,3μm,19.0s
OBN Obninsk 135.62 23 *e*PKPdf **PKPdf 07 24 45.8 +1.8**
OBN LR LR
comp=Z,3μm,20.0s
VLS Valsamata 135.64 52 *e*P PKPpre 07 24 38.8
PRAR RASCA 135.69 37⇓*i*P **PKPdf 07 24 49.4 +5.0**
ARR Arges 135.71 41⇑*i*P **PKPdf 07 24 44.4 -0.2**
KZN Kozani 135.83 48 *e*P **PKPdf 07 24 46.6 +1.6**
DOPR Dopca 135.89 39⇓*i*P PKPpre 07 24 37.3
VOIR 135.93 40⇑*e*PKHKP PKPpre 07 24 35.8
VOIR 135.93 40⇑*i*P PKPpre 07 24 35.8
PDO Prodromos 135.96 51 *e*P **PKPdf 07 24 49.0 +3.8**
VTS Vitosha 135.98 45⇓*e*PKIKP **PKPdf 07 24 45.5 +0.2**
VTS Vitosha 135.98 45⇓*i*P **PKPdf 07 24 45.5 +0.2**
VTS Vitosha 135.98 45 *e*P **PKPdf 07 24 50.0 +4.7**

MPEP Malo Peshtene 136.02 44 *e*P **PKPdf 07 24 47.1 +1.9**
KKB Krupnik 136.18 46 *e*P **PKPdf 07 24 47.9 +2.4**
THL Klokotos Trika 136.26 49 *e*P PKPpre 07 24 36.4
HUMR Humele 136.31 41⇑*i*P **PKPdf 07 24 47.7 +2.1**
EVR Evrytania 136.32 50 *e*P **PKPdf 07 24 46.6 +0.6**
KNT Kendrikon 136.32 47 *e*P **PKPdf 07 24 44.3 -1.5**
SOKR Solikamsk 136.37 6⇑*i*PKIKP **PKPdf 07 24 44.0 -1.2**
SOKR 07 27 23.6
SOKR SS SS 07 45 30.2 +4.7
SOKR pmax pmax
comp=Z,40nm,1.3s
TESR Tescani 136.37 38⇑*i*P **PKPdf 07 24 45.9 +0.2**
LIT Litokhoron 136.42 48 *e*P **PKPdf 07 24 44.8 -1.2**
MLR Muntele Rosu 136.46 40⇑*e*PKIKP PKPdf 07 24 39.9 -6.2
MLR Muntele Rosu 136.46 40⇑*i*P PKPdf 07 24 39.9 -6.2
MLR Muntele Rosu 136.46 40 PKhKP PKPpre 07 24 38.7
comp=Z,0.6nm,0.6s,baz=269,slow=5.6,SNR=5.3
MLR PP **PP 07 27 27.4 +0.3**
comp=Z,0.6nm,0.8s,baz=63,slow=4.5,SNR=2.5
MAKR Makrakomi, Fth 136.53 50 *e*P **PKPdf 07 24 45.0 -1.3**
IAS Iasi 136.55 37⇓*e*PKIKP PKPdf 07 24 53.3 +7.3
IAS Iasi 136.55 37⇓*i*P PKPdf 07 24 53.3 +7.3
EFP Efpalio 136.55 51 *e*P **PKPdf 07 24 42.5 -3.8**
EFP Efpalio 136.55 51 *e*P **PKPdf 07 24 42.5 -3.8**
DRO Drossia 136.55 52 *e*P **PKPdf 07 24 47.0 +0.7**
THE Thessaloniki 136.57 47 *e*P **PKPdf 07 24 48.8 +2.6**
XAN Xi'an 136.63 303 PKP **PKPdf 07 24 46.4 -0.2**
XAN PP **PP 07 27 28.8 0.0**
XAN PKS PKSdf 07 28 17.0 -6.0
XAN SKKS 07 34 22.1
XAN PPMZ
comp=Z,170nm,13.3s
XAN LN
comp=Z,950nm,27.7s
XAN LE
comp=Z,1μm,29.7s
XAN LZ
comp=Z,930nm,30.8s
LAKA Lakka 136.66 51 *e*P **PKPdf 07 24 44.7 -1.8**
AGG Agios Georgios 136.67 50 *e*P PKPpre 07 24 39.8
HORT Hortiatis 136.68 47 *e*P **PKPdf 07 24 47.0 +0.4**
AMT Artemida-Makis 136.68 52 *e*P **PKPdf 07 24 46.1 -0.5**
PLOR Plostina 136.71 39⇓*e*PKIKP **PKPdf 07 24 48.8 +2.4**
PLOR Plostina 136.71 39⇓*i*P **PKPdf 07 24 48.8 +2.4**
KALE Kalithea 136.74 51 *e*P **PKPdf 07 24 44.8 -1.9**
MMB Musomiste 136.74 46⇓*e*PKIKP PKPpre 07 24 39.6
MMB Musomiste 136.74 46⇓*i*P PKPpre 07 24 39.6
MMB Musomiste 136.74 46 *e*P PKPdf 07 24 52.8 +6.2
VRI Vrincioaia 136.75 39⇑*e*PKIKP **PKPdf 07 24 46.3 -0.1**
VRI Vrincioaia 136.75 39⇑*i*P **PKPdf 07 24 46.3 -0.1**
SOH Sokhos 136.77 47 *e*P **PKPdf 07 24 49.5 +2.8**
SRS Serrai 136.83 47 *e*P **PKPdf 07 24 48.5 +1.8**
ENH Enshi 136.85 297 PFAKE 07 25 00.0 +13
ENH LR LR
comp=Z,5μm,22.0s
KLV Kalavryta, Ach 136.85 51 *e*P **PKPdf 07 24 48.6 +1.7**
PYL PYLOS 136.89 53 *e*P **PKPdf 07 24 45.7 -1.3**
NVR Nevrokopi 136.92 46 *e*P **PKPdf 07 24 42.8 -4.1**
ITM Ithomi 136.95 53 *e*P **PKPdf 07 24 48.7 +1.6**
MNAI Manna 136.97 245 PFAKE 07 25 00.0 +12
MNAI LR LR
comp=Z,2μm,21.0s
QIZ Qiongzhong 136.99 281 PKP **PKPdf 07 24 48.6 +1.0**
QIZ sPKP 07 24 53.0
QIZ PP **PP 07 27 31.0 -0.6**
QIZ SS SS 07 45 38.5 +1.6
QIZ PPMZ
comp=Z,410nm,8.2s
QIZ LZ
comp=Z,3μm,26.9s
QIZ Qiongzhong 136.99 281 PFAKE 07 25 00.0 +12
QIZ LR LR
comp=Z,3μm,22.0s
AXAR Agios Charalam 137.00 50 *e*P **PKPdf 07 24 49.2 +2.1**
PLG Polygyros 137.00 48 *e*P **PKPdf 07 24 44.4 -2.7**
ISR Istrita 137.01 40⇑*e*PKIKP **PKPdf 07 24 46.9 -0.1**
ISR Istrita 137.01 40⇑*i*P **PKPdf 07 24 46.9 -0.1**
DSF Desfina 137.02 51 *e*P **PKPdf 07 24 44.7 -2.5**
DESF Desfina 137.02 51 *e*P **PKPdf 07 24 45.1 -2.1**
SULR 137.05 41⇑*i*P **PKPdf 07 24 50.3 +3.3**
XOR Xorichti 137.18 49 *e*P **PKPdf 07 24 48.6 +1.1**
NEO Neokhori 137.23 49 *e*P PKPpre 07 24 42.4
VLX Vlachokerasia 137.23 52 *e*P **PKPdf 07 24 51.4 +3.7**
LKR Lokris 137.29 50 *e*P PKPpre 07 24 41.9
PAIG Paliouri 137.34 48 *e*P **PKPdf 07 24 47.4 -0.3**
SMIA Simia 137.37 50 *e*P **PKPdf 07 24 47.4 -0.4**
KIS Kishinev 137.37 36 *e*PKIKP **PKPdf 07 24 44.0 -3.5**
KIS *e* 07 31 53.0
KIS *e*PS PS 07 37 50.0 -10
KIS *e*PPS PPS 07 39 42.0
KIS pmax pmax
comp=Z,130nm,2.0s
KIS MLR MLR
comp=N,1μm,22.0s
KIS MLR MLR
comp=E,1μm,22.0s
KIS MLR MLR
comp=Z,2μm,22.0s
KIS MLR MLR
comp=Z,2μm,22.0s
KIS Kishinev 137.37 36 *e*PKP **PKPdf 07 24 44.0 -3.5**
comp=Z,100nm,2.0s
KIS Kishinev 137.37 36 *e*PP PP 07 27 44.0 +11
KIS Kishinev 137.37 36 *e*PKS **PKSab 07 28 26.0 -3.1**
KIS *e*SKS **SKSdf 07 31 53.0 -4.5**
KIS *e*SKSP x 07 37 40.0
KIS Kishinev 137.37 36 *e*PPS PPS 07 39 42.0
KIS *e*SS SS 07 45 48.0 +9.1
KIS *e*L L 08 08 32.0
KIS LRM MLR 08 25 00.0
comp=Z,2μm,22.0s
DLV T Lat 137.38 270 PFAKE 07 25 00.0 +11
DLV LR LR
comp=Z,2μm,21.0s
OUR Ouranopolis 137.40 47 *e*P **PKPdf 07 24 48.8 +1.0**
COCO West Island 137.45 230 PFAKE 07 25 00.0 +11
COCO LR LR
comp=Z,2μm,20.0s
SKIA Skiathos 137.45 49 *e*P **PKPdf 07 24 47.0 -0.9**
LTK Loutraki 137.47 51 *e*P PKPpre 07 24 40.3
KAVA Kavala 137.51 46 *e*P **PKPdf 07 24 44.7 -3.3**
MRKA Markates 137.70 50 *e*P **PKPdf 07 24 46.9 -1.5**
AMRR Amara 137.75 40⇑*e*PKIKP **PKPdf 07 24 51.8 +3.5**
AMRR Amara 137.75 40⇑*i*P **PKPdf 07 24 51.8 +3.5**
AOS Alonnisos 137.75 49 *e*P PKPpre 07 24 43.2
GIUM Giurgiulesti 137.84 39⇓*i*P PKPdf 07 24 53.7 +5.3
DID Didima 137.84 52 *e*P **PKPdf 07 24 47.2 -1.5**
KDZ Kurdzhali 137.87 45⇓*e*PKIKP **PKPdf 07 24 48.2 -0.4**
KDZ Kurdzhali 137.87 45⇓*i*P **PKPdf 07 24 48.2 -0.4**
NAIG Nisos Aigina 137.95 51 *e*P **PKPdf 07 24 51.5 +2.6**
CFR Carcaliu 137.95 39⇑*e*PKIKP **PKPdf 07 24 45.5 -3.1**
CFR Carcaliu 137.95 39⇑*i*P **PKPdf 07 24 45.5 -3.1**
ATH Athens Observa 138.05 51 *e*P **PKPdf 07 24 49.9 +0.9**
PTL Penteli 138.13 51 *e*P **PKPdf 07 24 49.2 -0.1**
RDO Rodhopi 138.16 46 *e*P **PKPdf 07 24 46.1 -3.0**
TLB Topalu 138.20 40⇓*e*PKIKP **PKPdf 07 24 49.2 +0.1**
TLB Topalu 138.20 40⇓*i*P **PKPdf 07 24 49.2 +0.1**
JMB Yambol 138.29 43⇑*e*PKIKP PKPpre 07 24 43.6
JMB Yambol 138.29 43⇑*i*P PKPpre 07 24 43.6
ANKY Antikythira Is 138.39 54 *e*P **PKPdf 07 24 47.4 -2.3**
LIA Limnos Island 138.42 48 *e*P **PKPdf 07 24 46.7 -2.9**
PRD Provadia 138.48 42⇑*e*PKIKP **PKPdf 07 24 50.5 +0.8**
TIRR Tirgusor 138.49 40 *e*PKIKP **PKPdf 07 24 49.1 -0.5**
TIRR MLR MLR
comp=Z,1μm,20.0s
TIRR Tirgusor 138.49 40⇑*i*P **PKPdf 07 24 51.5 +1.9**
TIRR Tirgusor 138.49 40 *e*PKPdf **PKPdf 07 24 49.1 -0.5**
TIRR LR LR
comp=Z,1μm,20.0s
ALN Alexandroupoli 138.61 46 *e*P PKPpre 07 24 43.5
MYKOM Kota Tinggi 138.86 254 PFAKE 07 25 00.0 +8.7
MYKOM LR LR
comp=Z,2μm,22.0s
NVS Novosibirsk 138.95 344 *e*PKHKP PKPpre 07 24 40.5
NVS *e* 07 27 39.1
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,3.0nm,0.9s
NVS pmax pmax
comp=Z,27nm,0.9s
GELI Tayfur-Gelibol 139.12 46 *e*P **PKPdf 07 24 50.7 -0.3**

SIGR	SIGRI	139.16	48	eP	PKPdf	07 24 47.7	-3.3
VAM	Vamos	139.22	54	eP	PKPpre	07 24 42.8	
ZAA0	Zalesovo Array	139.28	342	ePKPpre	PKPdf	07 24 40.2	
ZALV	Zalesovo Beam	139.28	342	PKhKP	PKPpre	07 24 40.2	
	comp=Z,8.4nm,0.9s,baz=28,slow=3.5,SNR=13						
SVE	Sverdlovsk	139.42	3	ePKIKP	PKPdf	07 24 48.8	-2.2
SVE				pmax	pmax		
	comp=Z,35nm,2.0s						
PRK	Paraskevi	139.44	48	eP	PKPdf	07 24 48.7	-2.9
VSR	Storozhevoye	139.62	25	ePKIKP	PKPdf	07 24 49.4	-2.1
VSR				e		07 27 45.6	
VSR				pmax	pmax		
	comp=N,20nm,0.9s						
VSR				pmax	pmax		
	comp=E,6.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,20nm,0.9s						
VSR				pmax	pmax		
	comp=N,70nm,2.8s						
VSR				pmax	pmax		
	comp=E,120nm,2.8s						
VSR				pmax	pmax		
	comp=Z,200nm,2.8s						
CHOS	Chios island	139.62	49	eP	PKPpre	07 24 44.4	
ARU	Arti	139.66	5	i PKIKP	PKPpre	07 24 46.0	
ARU				MLR	MLR		
	comp=Z,4μm,21.0s						
ARU	Arti	139.66	5	ePKPdf	PKPpre	07 24 45.3	
ARU				LR	LR		
	comp=Z,4μm,22.0s						
APE	Apeiranthos	139.71	51	⇓PKIKP	PKPpre	07 24 47.7	
APE	Apeiranthos	139.71	51	eP	PKPpre	07 24 46.7	
APE	Apeiranthos	139.71	51	⇓iP	PKPpre	07 24 47.7	
IDI	Anoyia	139.80	54	PKhKP	PKPpre	07 24 50.1	
	comp=Z,36nm,0.8s,baz=23,slow=5.0,SNR=9.4						
GYA	Guiyang	139.80	292	Pdif	Pdif	07 22 06.8	+0.1
GYA				PKP	PKPdf	07 24 52.6	-0.2
GYA				PP	PP	07 27 52.0	+3.1
GYA				PKS	PKSdf	07 28 27.4	-1.6
GYA				SKKS		07 34 41.6	
GYA				SS	SS	07 46 11.8	+1.9
GYA				PPMZ			
	comp=Z,2μm,7.8s						
GYA				LN			
	comp=Z,420nm,22.4s						
GYA				LE			
	comp=Z,310nm,22.8s						
GYA				LZ			
	comp=Z,520nm,21.6s						
SIVA	Sivas	139.82	55	eP	PKPdf	07 24 57.5	+5.1
SIVA	Sivas	139.82	55	eP	PKPdf	07 24 52.4	0.0
VORD	Divnogorie	139.86	25	ePKIKP	PKPdf	07 24 50.4	-1.5
VORD				pmax	pmax		
	comp=N,60nm,0.8s						
VORD				pmax	pmax		
	comp=E,90nm,0.8s						
VORD				pmax	pmax		
	comp=Z,20nm,0.8s						
VORD				MLR	MLR		
	comp=N,2μm,19.0s						
VORD				MLR	MLR		
	comp=E,710nm,19.0s						
VORD				MLR	MLR		
	comp=Z,2μm,19.0s						
SANT	Santorini	139.89	52	eP	PKPdf	07 24 51.2	-1.3
SANT	Santorini	139.89	52	ePKPdf	PKPdf	07 24 52.4	-0.1
SANT				LR	LR		
	comp=Z,900nm,20.0s						
LZH	Lanzhou	140.07	307	ePKP	PKPdf	07 24 51.9	-1.2
LZH				sPKP		07 24 56.5	
LZH				PP	PP	07 27 53.5	+3.4
LZH				PKS	PKSdf	07 28 26.1	-3.1
LZH				SKS	SKSdf	07 31 58.0	-4.9
LZH				SKKS	SKKSac	07 34 40.0	-3.6
LZH				SS	SS	07 46 10.2	-2.1
LZH				PPMZ			
	comp=Z,590nm,9.0s						
LZH				LN			
	comp=Z,1μm,18.5s						
LZH				LE			
	comp=Z,4μm,19.0s						
LZH				LZ			
	comp=Z,4μm,20.3s						
LAST	Lasithi	140.29	54	eP	PKPpre	07 24 47.4	
BGKT	Bogazkoy	140.34	44	eP	PKPdf	07 24 56.6	+3.5
NPS	Neapolis	140.37	54	eP	PKPdf	07 24 49.8	-3.6
BALB	Balikesir	140.42	47	eP	PKPdf	07 24 51.7	-1.7
KCTX	Karacabey (Bur	140.47	45	eP	PKPdf	07 24 58.1	+4.6
VRHR	Novokhopersk	140.67	23	ePKIKP	PKPdf	07 24 53.2	-0.2
VRHR				e		07 27 53.8	
VRHR				pmax	pmax		
	comp=N,20nm,0.9s						
VRHR				pmax	pmax		
	comp=E,20nm,0.9s						
VRHR				pmax	pmax		
	comp=Z,60nm,0.9s						
VRHR				pmax	pmax		
	comp=N,170nm,3.0s						
VRHR				pmax	pmax		
	comp=E,250nm,3.0s						
VRHR				pmax	pmax		
	comp=Z,350nm,3.0s						
VRHR				MLR	MLR		
	comp=N,630nm,23.0s						
VRHR				MLR	MLR		
	comp=E,3μm,23.0s						
VRHR				MLR	MLR		
	comp=Z,3μm,23.0s						
ARMT	Armutlu	140.68	45	eP	PKPdf	07 24 52.2	-1.7
BKNI	Bangkinang	140.83	250	ePKPdf	PKPdf	07 24 55.4	+0.5
BKNI				LR	LR		
	comp=Z,2μm,20.0s						
ZKR	Zakros	140.88	54	eP	PKPdf	07 24 50.6	-3.7
ABPO	Ambohimpanom	140.92	153	ePKIKP	PKPdf	07 24 53.3	-1.8
ABPO				MLR	MLR		
	comp=Z,4μm,22.0s						
ABPO	Ambohimpanom	140.92	153	ePKPdf	PKPdf	07 24 53.2	-1.8
ABPO				LR	LR		
	comp=Z,4μm,22.0s						
AYDB	Zeytinkoy-Aydi	141.12	49	eP	PKPdf	07 24 51.7	-3.2
KARP	Karpathos	141.47	53	eP	PKPdf	07 24 49.5	-5.9
CAVI	Cavuskoy	141.51	45	eP	PKPdf	07 24 54.1	-1.2
SIM	Simferopol'	141.57	36	PKIKP	PKPdf	07 24 56.5	+1.3
SIM				pmax	pmax		
	comp=Z,300nm,8.9s						
CD2	Chengdu	141.59	299	PKP	PKPdf	07 24 55.5	-0.3
CD2				PP	PP	07 28 00.5	+1.0
CD2				PKS	PKSdf	07 28 33.8	+2.0
CD2				SKS	SKSdf	07 32 01.7	-3.6
CD2				SKKS	SKKSac	07 34 51.8	-0.6
CD2				SS	SS	07 46 31.6	+1.4
CD2				PPMZ			
	comp=Z,1μm,9.5s						
CD2				LN			
	comp=Z,1μm,19.0s						
CD2				LE			
	comp=Z,2μm,20.2s						
CD2				LZ			
	comp=Z,2μm,17.8s						
GTA	Gaotai	141.72	314	⇓PKP	PKPdf	07 24 49.2	-6.7
GTA				sPKP		07 24 55.8	
GTA				SKS	SKSdf	07 31 57.6	-7.7
GTA				SKKS	SKKSac	07 34 46.8	-6.1
GTA				PPMZ			
	comp=Z,810nm,9.0s						
GTA				LN			
	comp=Z,1μm,21.4s						
GTA				LE			
	comp=Z,3μm,21.4s						
GTA				LZ			
	comp=Z,3μm,20.4s						
GULT	Gulveren	141.85	44	eP	PKPdf	07 24 52.6	-3.4
ARG	Arkhangelos	141.96	51	eP	PKPdf	07 24 51.6	-4.6
KHL	Karahalli	142.14	48	eP	PKPdf	07 24 56.1	-0.5
ALT	Altintas	142.23	46	eP	PKPdf	07 24 53.1	-3.6
MDUB	Mudurnu	142.29	44	eP	PKPdf	07 25 02.0	+5.2
IPM	Ipoh	142.48	256	ePKPdf	PKPdf	07 24 54.1	-3.7
IPM				LR	LR		
	comp=Z,2μm,20.0s						
FETY	Fethiye	142.52	50	eP	PKPdf	07 24 55.1	-2.1
SLVN	Son La	142.63	284	ePKPdf	PKPdf	07 24 55.6	-2.3
SLVN				LR	LR		
	comp=Z,2μm,21.0s						
SHUT	Suhut-Afyon	142.76	47	eP	PKPdf	07 24 58.6	+0.8
SVRH	Sivrihisar-ESK	143.01	45	eP	PKPab	07 24 53.6	+0.3
BRVK	Borovoye	143.05	354	ePKPdf	PKPab	07 24 51.9	-1.0
BRVK				LR	LR		
	comp=Z,4μm,22.0s						
ISP	Isparta	143.07	48	eP	PKPbc	07 24 54.7	-0.4
ISP	Isparta	143.07	48	⇑PKIKP	PKPdf	07 24 58.1	-0.2
ISP	Isparta	143.07	48	⇑iP	PKPdf	07 24 58.1	-0.2
ISP	Isparta	143.07	48	ePKPdf	PKPbc	07 24 55.7	+0.5
ISP				LR	LR		
	comp=Z,700nm,20.0s						
BVA0	Borovoye Array	143.08	354	i PKHKP	PKPpre	07 24 51.8	
BVA0				pmax	pmax		
	comp=Z,63nm,1.0s						
BVAR	Borovoye Array	143.08	354	PKhKP	PKPpre	07 24 54.0	
	comp=Z,6.1nm,0.6s,baz=311,slow=0.6,SNR=20						
ELL	Elmali	143.08	50	eP	PKPdf	07 24 57.1	-1.3
KULM	Kulim	143.11	257	ePKPdf	PKPbc	07 24 56.2	+0.5
KULM				LR	LR		
	comp=Z,2μm,20.0s						
BCK	Bucak	143.27	48	eP	PKPab	07 24 53.1	-1.3
VOSK	Vostochnaya	143.31	354	ePKIKP	PKPab	07 24 53.7	-0.3
VOSK				MLR	MLR		
	comp=Z,3μm,21.9s						
VOSK	Vostochnaya	143.31	354	ePKPpre	PKPpre	07 24 53.7	
VOSK				LR	LR		
	comp=Z,3μm,21.9s						
KMI	Kunming	143.46	290	PKP	PKPdf	07 24 58.5	-1.0
KMI				pPKP	PKiKP	07 25 03.9	+1.1
KMI				PP	PP	07 28 17.9	+6.5
KMI				PPMZ			
	comp=Z,500nm,10.0s						
KMI				LN			
	comp=Z,1μm,24.6s						
KMI				LE			
	comp=Z,970nm,31.0s						
KMI				LZ			
	comp=Z,4μm,40.1s						
ANN	Anapa	143.46	33	ePKIKP	PKPdf	07 24 58.0	-0.6
ANN				e		07 28 12.1	
ANN				e		07 32 07.3	
ANN				eSSS	SSS	07 52 11.1	
ANN				pmax	pmax		
	comp=Z,591nm,8.1s						
ANN				pmax	pmax		
	comp=Z,238nm,1.2s						
ANN				MLR	MLR		
	comp=Z,2μm,18.0s						
LOD	Lodumlu	143.62	43	eP	PKPab	07 24 55.6	-0.1
ANTO	Ankara	143.65	43	eP	PKPab	07 24 55.5	-0.3
ANTO	Ankara	143.65	43	⇑PKIKP	PKPab	07 24 56.1	+0.3
ANTO	Ankara	143.65	43	⇑iP	PKPab	07 24 56.1	+0.3
ANTO	Ankara	143.65	43	ePKPdf	PKPbc	07 24 57.8	+1.1
BR231	Keskin MP Arra	143.65	43	ePKPpre	PKPpre	07 24 56.8	
CANT	Cankiri	143.79	42	eP	PKPab	07 24 56.1	-0.2
KURK	Kurchatov	143.88	345	PKHKP	PKPpre	07 24 54.5	
KURK				pmax	pmax		
	comp=Z,44nm,1.1s						
KURK	Kurchatov	143.88	345	ePKPdf	PKPpre	07 24 53.9	
KURK				PKPpre	PKPpre	07 24 54.8	
KURK				LR	LR		
	comp=Z,2μm,21.0s						
KURBB	Kurchatov Arra	143.99	345	PKhKP	PKPpre	07 24 54.8	
	comp=Z,17nm,0.9s,baz=5.1,slow=2.3,SNR=45						
BYBT	Boyabat	144.03	40	eP	PKPab	07 24 54.6	-2.5
AFSR	Af´ar-Bala (A	144.05	44	eP	PKPab	07 24 55.6	-1.8
LADK	Ladik-KONYA	144.19	46	eP	PKPab	07 24 57.1	-0.9
DIKM	Dikmen	144.22	39	eP	PKPbc	07 24 58.1	-0.1
BRTR	Keskin Array B	144.28	43	PKhKP	PKPpre	07 24 57.4	
	comp=Z,95nm,1.0s,baz=254,slow=2.4,SNR=72						
KONT	Konya--Tatoy	144.31	46	eP	PKPab	07 24 58.1	-0.2
GSI	Gunungsitoli	144.36	249	ePKPdf	PKPbc	07 24 59.6	+0.1
CORM	Corum	144.67	42	eP	PKPab	07 24 57.1	-2.6
SULT	Sultanhani-AKS	144.98	45	eP	PKPab	07 25 00.5	-0.4
KVT	Kavak	145.04	39	eP	PKPab	07 25 01.1	+0.1
PBKT	Sadao Pong	145.25	276	P	PKPdf	07 25 05.0	+2.5
	comp=Z,467nm,1.0s,comp=Z,5μm						
SOC	Sochi	145.49	33	dePKHKP	PKPpre	07 24 56.4	
SOC				i		07 25 02.6	
SOC				eSSS	SSS	07 52 43.8	
SOC				pmax	pmax		
	comp=Z,258nm,1.5s						
SOC				MLR	MLR		
	comp=Z,3μm,21.0s						
AKTO	Aktyubinsk	145.52	8	PKIKP	PKPdf	07 25 01.0	-1.0
AKTO				pmax	pmax		
	comp=Z,282nm,1.2s						
AKTO	Aktyubinsk	145.52	8	PKPbc	PKPdf	07 25 01.2	-0.8
	comp=Z,98nm,1.0s,baz=351,slow=3.7,SNR=78						
UTTA	Uttaradit	145.72	278	P	PKPdf	07 25 03.4	+0.1
	comp=Z,100nm,0.9s,comp=Z,640nm						
NIG	Nigde	145.77	45	eP	PKPdf	07 25 01.1	-2.1
CRAI	Chiangrai	145.95	282	P	PKPdf	07 25 02.6	-1.1
	comp=Z,94nm,1.6s,comp=Z,2μm						
LEF	Lefka	145.96	51	eP	PKPbc	07 25 04.0	+0.1
GOF	Gofitskoye	146.02	28	ePKP2	PKPdf	07 25 02.2	-0.8
GOF				pmax	pmax		
	comp=Z,175nm,0.9s						
BNN	Bunyan	146.19	43	eP	PKPdf	07 25 02.0	-1.7
RSDY	Resadiye-TOKAT	146.23	39	eP	PKPbc	07 25 04.5	-0.1
MK31	Makanchi Array	146.26	338	i PKIKP	PKPdf	07 25 01.9	-1.5
MK31				pmax	pmax		
	comp=Z,100nm,0.9s						
MKAR	Makanchi Array	146.26	338	ePKIKP	PKPdf	07 25 02.1	-1.3
MKAR						07 25 02.5	
MKAR	Makanchi Array	146.26	338	PKPbc	PKPdf	07 25 02.5	-0.9
	comp=Z,28nm,0.9s,baz=48,slow=3.8,SNR=53						
MKAR	Makanchi Array	146.26	338	ePKPdf	PKPdf	07 25 02.1	-1.3
MKAR				PKPbc	PKPdf	07 25 02.5	-0.9
MK01	Makanchi Array	146.28	338	ePKPdf	PKPdf	07 25 02.3	-1.2
SVSK	Karacayir	146.31	40	eP	PKPdf	07 25 03.5	-0.1
MERS	Mersin	146.33	47	eP	PKPdf	07 25 04.5	+0.6
WMQ	Urumqi	146.34	329	PKPbc	PKPdf	07 25 03.6	-0.1
WMQ				PP	PP	07 28 30.8	+3.9
WMQ				PKS	PKSdf	07 28 37.6	-1.5
WMQ				SKS	SKSdf	07 32 11.0	-1.0
WMQ				SKKS	SKKSac	07 35 19.1	+0.3
WMQ				SS	SS	07 47 25.6	+2.8
WMQ				PPMZ			
	comp=Z,1μm,7.0s						
WMQ				LN			
	comp=Z,4μm,26.0s						
WMQ				LE			
	comp=Z,2μm,28.0s						
WMQ				LZ			
	comp=Z,3μm,24.0s						
CSS	Prodhromos	146.35	51	eP	PKPab	07 25 06.5	+0.5
CSS	Prodhromos	146.35	51	ePKPdf	PKPdf	07 25 04.5	+0.5
CSS				LR	LR		
	comp=Z,300nm,21.0s						
LFK	Lefkose	146.36	50	eP	PKPab	07 25 09.0	+2.9
KARA	Karaisali	146.50	46	eP	PKPab	07 25 09.0	+2.5
LHMI	Lhok Sumawe	146.53	254	ePKPdf	PKPbc	07 25 05.7	-0.6
LHMI				LR	LR		
	comp=Z,2μm,20.0s						
SUKH	Sukhothai	146.59	277	P	PKPbc	07 25 06.0	-0.3
	comp=Z,68nm,1.0s,comp=Z,482nm						
LAMP	Lampang	146.63	279	P	PKPbc	07 25 06.2	-0.2
	comp=Z,38nm,0.9s,comp=Z,244nm						
KIV	Kislovodsk	146.70	30	eP	PKPab	07 25 08.3	+1.1
KIV	Kislovodsk	146.70	30	i PKIKP	PKPdf	07 25 03.9	-0.5
KIV				i		07 25 09.1	
KIV				i		07 28 36.3	
KIV				i PPP	PPP	07 31 45.3	
KIV				i PPS	PPS	07 41 13.9	
KIV				pmax	pmax		
	comp=Z,85nm,1.6s						
KIV				pmax	pmax		
	comp=Z,193nm,1.5s						
KIV				MLR	MLR		
	comp=Z,1μm,18.0s						
KIV	Kislovodsk	146.70	30	⇓iP	PKPbc	07 25 05.5	-0.5
	SNR=8.8						
KIV	Kislovodsk	146.70	30	ePKPdf	PKPdf	07 25 05.0	+0.6
KIV				LR	LR		
	comp=Z,2μm,21.0s						
EREN	Erenkoy	146.72	49	eP	PKPab	07 25 07.5	+0.1
ESPY	Espiye-Giresun	146.73	37	eP	PKPbc	07 25 05.5	-0.6
AB31	Akbulak array	146.89	6	i PKIKP	PKPdf	07 25 04.0	-0.4
AB31				pmax	pmax		
	comp=Z,147nm,0.8s						
ABKAR	Akbulak array	146.89	6	ePKPdf	PKPdf	07 25 04.1	-0.2
KBZ	Khabaz	146.97	30	PKPbc	PKPbc	07 25 06.1	-0.5
	comp=Z,69nm,0.9s,baz=230,slow=2.4,SNR=23						
CEYT	Ceyhan	147.11	46	eP	PKPdf	07 25 06.0	+0.9
CMAI	Chiengmai2	147.20	282	P	PKPbc	07 25 07.3	-0.9
	comp=Z,148nm,1.0s,comp=Z,3μm						
CM01	Chiang Mai Arr	147.27	279	ePKPdf	PKPdf	07 25 02.5	-3.4
CMAR	Chiang Mai Arr	147.28	279	PKP2	PKPbc	07 25 07.5	-0.8
CMAR				pmax	pmax		
	comp=Z,89nm,0.9s						
CMAR	Chiang Mai Arr	147.28	279	PKPbc	PKPbc	07 25 07.5	-0.8
	comp=Z,89nm,0.9s,baz=77,slow=1.1,SNR=42						
KTUT	Trabzon	147.28	36	eP	PKPab	07 25 11.4	+2.0
CMMT	Chiang Mai	147.29	280	P	PKPdf	07 25 06.9	+0.9
	comp=Z,190nm,1.3s,comp=Z,5μm						
CHTO	Chiang Mai	147.29	280	ePKP2	PKPbc	07 25 07.2	-1.1
CHTO				MLR	MLR		
	comp=Z,2μm,22.0s						
CHTO	Chiang Mai	147.29	280	ePKPdf	PKPbc	07 25 07.2	-1.1
CHTO				ePKPbc	PKPab	07 25 10.1	0.0
CHTO				LR	LR		
	comp=Z,2μm,22.0s						
DARE	Darende-Malaty	147.41	42	eP	PKPbc	07 25 09.0	+0.8
GUMT	Gumushane	147.47	37	eP	PKPdf	07 25 05.5	-0.3
ILIC	ilic-Erzincan	147.56	39	eP	PKPab	07 25 13.4	+2.7
KMRS	Kahramanmaras	147.62	44	eP	PKPbc	07 25 08.5	-0.3
KMBO	Kilima Mbogo	147.84	120	c iPKP2	PKPbc	07 25 11.3	+1.0
KMBO				pmax	pmax		
	comp=Z,25nm,1.0s						
KMBO	Kilima Mbogo	147.84	120	PKPbc	PKPbc	07 25 10.4	+0.2
	comp=Z,25nm,1.0s,baz=235,slow=1.5,SNR=18						
KMBO	Kilima Mbogo	147.84	120	ePKPdf	PKPdf	07 25 07.9	+0.5
KMBO				PKPbc	PKPbc	07 25 10.4	+0.2
KMBO				ePKPbc	PKPbc	07 25 11.2	+1.0
KMBO				LR	LR		
	comp=Z,2μm,20.0s						
ARNB	Al Arnab	147.85	47	eP	PKPbc	07 25 08.4	-1.0
BAYT	Ayd¨–ntepe-Bay	147.89	37	eP	PKPbc	07 25 10.6	+1.1
ONI	Oni	148.10	30	P	PKPbc	07 25 08.6	-1.2
BTCH	Batrach	148.10	47	eP	PKPbc	07 25 09.3	-0.8
MALT	Malatya	148.16	41	eP	PKPbc	07 25 10.8	+0.6
MALT	Malatya	148.16	41	⇑PKP2	PKPdf	07 25 08.2	+1.2
MALT	Malatya	148.16	41	⇑iP	PKPdf	07 25 08.2	+1.2
ZEI	Tsey	148.16	30	i PKP2	PKPbc	07 25 11.6	+1.4
ZEI				pmax	pmax		
	comp=Z,71nm,1.2s						
ERZN	Erzincan	148.17	38	eP	PKPbc	07 25 09.0	-1.3
MHMT	Maesarieng	148.24	278	P	PKPbc	07 25 11.5	+0.7
BIDA	Albida	148.51	48	eP	PKPbc	07 25 09.6	-1.6
BHL	Bhannes	148.54	51	eP	PKPbc	07 25 10.1	-1.2
HWQ	Hawqa	148.59	50	eP	PKPdf	07 25 09.4	+1.6
MMAI	Mount Meron Ar	148.74	52	PKPbc	PKPbc	07 25 12.1	+0.2
	comp=Z,38nm,0.9s,baz=292,slow=4.4,SNR=16						
HAWK	Haweek	148.81	49	eP	PKPdf	07 25 08.7	+0.6
HAWK	Haweek	148.81	49	eP	PKPbc	07 25 10.7	-1.4
EZM	Erzurum	148.91	36	eP	PKPbc	07 25 12.9	+0.6
URFA	Urfa	148.92	42	eP	PKPdf	07 25 09.9	+1.7
FKH	Fakeheh	148.94	50	eP	PKPbc	07 25 11.6	-0.8
BRBR	Barbar	148.98	51	eP	PKPbc	07 25 10.9	-1.7
AKH	Akhalkalaki	149.00	32	eP	PKPbc	07 25 10.9	-1.5
AKH	Akhalkalaki	149.00	32	P	PKPbc	07 25 12.1	-0.3
MARH	Ras Al Marh	149.10	50	eP	PKPbc	07 25 11.2	-1.8
BNGB	Bing¨¶l	149.12	38	eP	PKPdf	07 25 09.9	+1.4
TCHB	Talchebab	149.31	53	eP	PKPdf	07 25 10.8	+1.9
KARS	Kars	149.35	33	eP	PKPdf	07 25 10.4	+1.5
TOTH	TOTAH	149.36	51	eP	PKPdf	07 25 09.7	+0.7
TBLG	Delisi	149.37	30	P	PKPbc	07 25 14.4	+1.3
DYBB	Diyarbakir	149.45	40	eP	PKPdf	07 25 10.9	+1.9
VRTB	Varto-Mus	149.47	37	eP	PKPdf	07 25 10.4	+1.3
MAK	Makhachkala	149.63	25	ePKHKP	PKPpre	07 25 06.8	
MAK				e		07 28 50.3	
MAK				ePPP	PPP	07 32 08.1	
MAK				eSS	SS	07 48 05.2	+5.9
MAK				pmax	pmax		
	comp=Z,33nm,0.5s						
MAK				MLR	MLR		
	comp=Z,3μm,22.0s						
EIL	Elat	149.64	59	PKPbc	PKPbc	07 25 14.4	+0.3
	comp=Z,107nm,1.0s,baz=333,slow=3.9,SNR=22						
DGRG	David-gareji	149.89	30	P	PKPdf	07 25 11.8	+2.2
MAZI	Mazidag	149.94	41	eP	PKPbc	07 25 13.4	-1.4
SVAN	Silvan-Diyarba	149.97	39	eP	PKPdf	07 25 10.4	+0.6
AGRB	Hanur-Agry	150.05	35	eP	PKPbc	07 25 12.9	-2.2
ZALF	Zalf	150.24	51	eP	PKPdf	07 25 10.9	+0.6
ASF	Jabal al Asfar	150.24	53	PKPbc	PKPbc	07 25 15.8	+0.2
	comp=Z,24nm,0.8s,baz=292,slow=0.9,SNR=29						
KBSD	Kabsdagh	150.29	41	eP	PKPdf	07 25 10.7	+0.3
SFNV	Sufian	150.36	43	eP	PKPdf	07 25 09.6	-0.9
SFNV	Sufian	150.36	43	eP	PKPdf	07 25 09.7	-0.8
GNI	Garni	150.56	32	eP	PKPbc	07 25 17.7	+1.5
GNI	Garni	150.56	32	ePKIKP	PKPdf	07 25 12.4	+1.5
GNI						07 25 16.4	
GNI				e		07 25 17.9	
GNI				MLR	MLR		
	comp=Z,2μm,22.0s						
GNI	Garni	150.56	32	PKPbc	PKPbc	07 25 16.4	+0.2
	comp=Z,67nm,0.8s,baz=77,slow=1.6,SNR=8.7						
GNI	Garni	150.56	32	⇑iP	PKPdf	07 25 11.5	+0.7
	SNR=14						
GNI	Garni	150.56	32	ePKPdf	PKPdf	07 25 12.4	+1.5
GNI				PKPbc	PKPbc	07 25 16.4	+0.2
GNI				ePKPbc	PKiKP	07 25 17.9	+1.0
GNI				LR	LR		
	comp=Z,2μm,22.0s						
CLDR	Caldiran	150.86	35	eP	PKPdf	07 25 12.4	+1.0
VANB	Van	150.96	36	eP	PKPbc	07 25 17.9	+0.7
MZRK	Al-Mazaregh	151.06	43	eP	PKPdf	07 25 14.4	+2.8
SIRT	Sirnak	151.14	39	eP	PKPdf	07 25 12.4	+0.7
USP	Ospenovka	151.85	345	P	PKPdf	07 25 12.5	-0.1
	SNR=20						
TKM2	Tokmak 2	151.88	343	P	PKPdf	07 25 11.9	-0.9
	SNR=28						
TKM2	Tokmak 2	151.88	343	ePKIKP	PKPdf	07 25 12.5	-0.3
TKM2				e		07 25 19.5	
TKM2				MLR	MLR		
	comp=Z,4μm,22.0s						
TKM2	Tokmak 2	151.88	343	ePKPdf	PKPdf	07 25 12.5	-0.3
TKM2				ePKPbc	PKiKP	07 25 19.5	-0.1
TKM2				ePKPab	PKPab	07 25 28.7	+0.5
TKM2				LR	LR		
	comp=Z,4μm,22.0s						
CUKT	Cukurca	152.00	38	eP	PKPbc	07 25 24.3	+4.6
CHMS	Chumysh	152.03	344	P	PKPdf	07 25 12.3	-0.5
	SNR=11						
FRU	Bishkek	152.22	344	ePKIKP	PKPdf	07 25 16.0	+2.9
FRU				i		07 25 20.0	
FRU				e		07 29 02.0	
FRU				ePPP	PPP	07 32 30.0	
FRU				pmax	pmax		
	comp=Z,125nm,2.1s						
FRU				pmax	pmax		
	comp=

EKS2				*e*			07 25 21.3
EKS2				*e*			07 25 30.2
EKS2				MLR	MLR		
	comp=Z,3μm,21.0s						
EKS2	**Erkin-Say**	**152.59**	**345**	*e*PKPdf	**PKPdf**	**07 25 14.4**	**+0.6**
EKS2				*e*PKPbc	**PKiKP**	**07 25 21.3**	**+0.3**
EKS2				*e*PKPab	**PKPab**	**07 25 30.1**	**-1.0**
EKS2				LR	LR		
	comp=Z,3μm,21.0s						
KZA	**Kyzart**	**152.75**	**343**	P	**PKPbc**	**07 25 18.0**	**-3.5**
	SNR=14						
KZA	**Kyzart**	**152.75**	**343**	*i* PKIKP	**PKPbc**	**07 25 18.0**	**-3.5**
UCH	**Uchtor**	**152.81**	**344**	P	**PKPdf**	**07 25 14.4**	**-0.2**
	SNR=26						
KK31	**Karatay Array**	**152.82**	**351**	*i* PKIKP	**PKPdf**	**07 25 14.1**	**+0.1**
KK31				pmax	pmax		
	comp=Z,34nm,1.0s						
KKAR	**Karatay Array**	**152.82**	**351**	*e*PKIKP	**PKPdf**	**07 25 13.3**	**-0.7**
KKAR				*e*		07 25 21.7	
KKAR	**Karatay Array**	**152.82**	**351**	*e*PKPdf	**PKPdf**	**07 25 13.3**	**-0.7**
KKAR				*e*PKPbc	**PKiKP**	**07 25 21.6**	**+0.3**
SHL	**Shillong**	**153.04**	**295**	*e*PKP	**PKPdf**	**07 25 14.0**	**-1.0**
SHL				*e*PP	**PP**	**07 29 06.0**	**-1.2**
AML	**Almayashu**	**153.12**	**345**	P	**PKPdf**	**07 25 14.7**	**-0.2**
	SNR=16						
KSH	**Kashi**	**154.86**	**339**	PKP	**PKPdf**	**07 25 17.5**	**+0.4**
KSH				sPKP		07 25 23.8	
KSH				PKS	**PKSdf**	**07 28 48.8**	**-2.6**
KSH				PP	**PP**	**07 29 17.2**	**+1.5**
KSH				SKS	**SKSdf**	**07 32 25.6**	**+2.4**
KSH				SKKS	**SKKSac**	**07 36 11.8**	**+5.9**
KSH				SS	**SS**	**07 49 01.0**	**+4.1**
KSH				PPMZ			
	comp=Z,830nm,6.6s						
KSH				LN			
	comp=Z,2μm,16.9s						
KSH				LE			
	comp=Z,3μm,20.7s						
KSH				LZ			
	comp=Z,4μm,26.9s						
TAPN	**Taplejung**	**156.02**	**301**	*e*P	**PKPdf**	**07 25 18.3**	**-1.0**
	comp=Z,157nm,1.4s						
ODAN	**Odare**	**156.47**	**300**	*e*P	**PKPdf**	**07 25 19.4**	**-0.4**
	comp=Z,113nm,1.1s						
RAMN	**Ramite**	**157.09**	**301**	*e*P	**PKPdf**	**07 25 20.4**	**-0.2**
	comp=Z,88nm,0.9s						
JIRN	**Jiri**	**157.13**	**303**	*e*P	**PKPdf**	**07 25 20.2**	**-0.6**
MSEY	**Mahe Island**	**157.26**	**156**	PFAKE		07 25 30.0	+9.1
MSEY				LR	LR		
	comp=Z,3μm,21.0s						
GUN	**Gumba**	**157.27**	**304**	*e*P	**PKPdf**	**07 25 19.8**	**-1.1**
GEYT	**Alibeck**	**157.68**	**14**	PKP	**PKPdf**	**07 25 21.1**	**+0.3**
	comp=Z,8.2nm,0.6s,baz=153,slow=1.3,SNR=5.6						
GEYT				PKPab	**PKPab**	**07 25 52.9**	**+0.1**
	comp=Z,22nm,0.9s,baz=262,slow=5.2,SNR=4.6						
PKI	**Pulchoki**	**157.79**	**304**	*e*P	**PKPdf**	**07 25 20.4**	**-1.2**
	comp=Z,41nm,1.1s						
KKN	**Kakani**	**157.80**	**305**	*e*P	**PKPdf**	**07 25 20.8**	**-0.6**
DMN	**Daman**	**158.02**	**304**	*e*P	**PKPdf**	**07 25 20.6**	**-1.2**
	comp=Z,162nm,1.8s						
GKN	**Gorkha**	**158.21**	**306**	*e*P	**PKPdf**	**07 25 21.6**	**-0.3**
	comp=Z,54nm,1.0s						
DANN	**Dangsing**	**158.71**	**308**	*e*P	**PKPdf**	**07 25 22.0**	**-0.6**
	comp=Z,127nm,0.9s						
KOLN	**Koldanda**	**159.12**	**306**	*e*P	**PKPdf**	**07 25 22.8**	**-0.2**
PYUN	**Piuthan**	**159.43**	**308**	*e*P	**PKPdf**	**07 25 22.6**	**-0.8**
	comp=Z,161nm,1.0s						
RAYN	**Ar Rayn**	**160.57**	**65**	*e*PKPdf	**PKPdf**	**07 25 24.1**	**-0.4**
KBL	**Kabul**	**161.41**	**349**	*e*PKIKP	**PKPdf**	**07 25 25.3**	**-0.1**
KBL				*e*		07 26 09.5	
KBL	**Kabul**	**161.41**	**349**	*e*PKPdf	**PKPdf**	**07 25 25.3**	**-0.1**
KBL				*e*PKPab	**PKPab**	**07 26 09.5**	**+0.1**
BHK	**Bhakra**	**161.55**	**327**	*ex*	x	07 25 32.0	
PALK	**Pallekele**	**161.97**	**242**	*e*PKIKP	**PKPdf**	**07 25 27.6**	**+1.3**
PALK				*e*		07 26 14.0	
PALK	**Pallekele**	**161.97**	**242**	*e*PKPdf	**PKPdf**	**07 25 27.6**	**+1.3**
PALK				*e*PKPab	**PKPab**	**07 26 14.0**	**+1.7**
NGP	**Nagpur**	**165.58**	**292**	*ex*	**PKPdf**	**07 25 30.6**	**+1.2**
NGP				*ex*	x	07 25 34.2	
NGP				*ex*	x	07 31 26.0	
HYB	**Hyderabad**	**166.70**	**277**	*i* PKP	**PKPdf**	**07 25 28.5**	**-1.9**
ASUD	**Al Ashush, Dub**	**167.92**	**45**	⇓*iP*	**PKPdf**	**07 25 30.7**	**-0.3**
	SNR=5.7						
HATD	**Hatta, Dubai**	**168.32**	**42**	⇑*iP*	**PKPdf**	**07 25 30.8**	**-0.5**
	SNR=6.7						

IDC 07 07:10:03.7±4.8, 24°.22S×178°.30W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/18, mbtmp4.1/3, MS4.2/1, Ms1 4.2/1, ms1mx3.5/21, Error ellipse: s-maj=221.1km s-min=67.4km az=159.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.20**	**276**	LR	LR	07 17 21.8	
	comp=Z,887nm,18.2s,baz=16,slow=31						
CTA	**Charters Tower**	**33.03**	**270**	P	P	07 16 42.3	+1.3
	3.3nm,0.5s,baz=100,slow=10,SNR=10						
ASAR	**Alice Springs**	**43.52**	**261**	P	P	07 18 08.9	-0.4
	1.0nm,0.7s,baz=99,slow=8.3,SNR=14						
WRA	**Warramunga Arr**	**43.94**	**266**	P	P	07 18 11.6	-1.1
	1.1nm,0.3s,baz=103,slow=8.3,SNR=66						
HFS	**Hagfors**	**143.14**	**350**	PKhKP	PKPpre	07 29 33.1	
	2.8nm,1.0s,baz=48,slow=2.1,SNR=9.5						
BRTR	**Keskin Array B**	**149.01**	**308**	PKPbc	PKPbc	07 29 53.7	-0.4
	0.6nm,0.6s,baz=77,slow=3.7,SNR=0.9						

*IDC **07** 07:21:10.8±1.1, 34°.94S×71°.62W, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.0/33, mbtmp4.3/8, Error ellipse: s-maj=36.5km s-min=26.0km az=104.0*
*NEIC **07** 07:21:16.0±0.6, 35°.00S×71°.96W, h35km, mb4.5/4, ML4.6(GUC), Error ellipse: s-maj=11.3km s-min=8.3km az=94.0*
NEIC Felt [IV] at Talca and [III] at Curico and Parral.
*ISCJB **07** 07:21:17.4±0.6, 34°.99S±0°.04×71°.69W±0°.10, h66km±5km, mb4.2/12, Error ellipse: s-maj=13.3km s-min=5.5km az=10.6*
*GUC **07** 07:21:17.8±0.8, 35°.00S×71°.67W, h57km±9km, ML4.6*
ISC 07 07:21:18.1±0.9, 34°.99S±0°.03×71°.68W±0°.08, h57km±7km, n41, σ0°85/57, mb4.4/12, 6C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.37**	**92**	⇓*iP*	**Pn**	**07 21 28.4**	**-0.1**
NICH				*i* S	**Sn**	**07 21 36.2**	**+0.2**
NICH				AML	AML	07 21 36.9	
	comp=N,70μm,0.1s						
NICH	**Los Niches**	**0.37**	**92**	⇓*iP*	**Pn**	**07 21 28.4**	**-0.1**
NICH				*i* S	**Sn**	**07 21 36.2**	**+0.2**
LNCH	**Linares**	**0.86**	**176**	⇓*iP*	**Pn**	**07 21 34.4**	**+0.1**
LNCH				*i* S	**Sn**	**07 21 46.2**	**+0.2**
LNCH	**Linares**	**0.86**	**176**	⇓*iP*	**Pn**	**07 21 34.4**	**+0.1**
LNCH				*i* S	**Sn**	**07 21 46.2**	**+0.2**
LNV	**Longovilo**	**1.05**	**12**	⇓*iP*	**Pn**	**07 21 36.9**	**+0.2**
LNV	**Longovilo**	**1.05**	**12**	⇓*iP*	**Pn**	**07 21 36.9**	**+0.2**
CACH	**El Canelo**	**1.25**	**46**	⇓*iP*	**Pn**	**07 21 39.4**	**-0.1**
CACH				*e*S1	**Sn**	**07 21 56.4**	**+1.1**
CACH	**El Canelo**	**1.25**	**46**	⇓*iP*	**Pn**	**07 21 39.4**	**-0.1**
CACH				*e*S	**Sn**	**07 21 56.4**	**+1.1**
CHCH	**Chadas Angostu**	**1.35**	**39**	⇑*iP*	**Pn**	**07 21 40.8**	**0.0**
CHCH				*e*S1	**Sn**	**07 21 58.9**	**+1.1**
CHCH	**Chadas Angostu**	**1.35**	**39**	⇑*iP*	**Pn**	**07 21 40.8**	**0.0**
CHCH				*e*S	**Sn**	**07 21 58.9**	**+1.1**
ANTU	**Antumapu**	**1.66**	**32**	⇑*iP*	**Pn**	**07 21 45.4**	**+0.4**
ANTU				*e*S1	**Sn**	**07 22 06.1**	**+0.9**
ANTU				AML	AML	07 22 08.4	
	comp=N,12μm,0.3s						
ANTU	**Antumapu**	**1.66**	**32**	⇑*iP*	**Pn**	**07 21 45.4**	**+0.4**
ANTU				*e*S	**Sn**	**07 22 06.1**	**+0.9**
RCDM	**Rinconada Maip**	**1.66**	**26**	*e*P1	**Pn**	**07 21 44.9**	**-0.1**
RCDM				*e*S1	**Sn**	**07 22 05.6**	**+0.3**
RCDM				AML	AML	07 22 10.8	
	comp=E,7μm,0.1s						
RCDM	**Rinconada Maip**	**1.66**	**26**	*e*P	**Pn**	**07 21 44.9**	**-0.1**
RCDM				*e*S	**Sn**	**07 22 05.6**	**+0.3**
CLCH	**Cerro Calan**	**1.85**	**31**	⇓*iP*	**Pn**	**07 21 47.9**	**+0.3**
CLCH				*i* S4	**Sn**	**07 22 11.6**	**+1.7**
CLCH				AML	AML	07 22 13.5	
	comp=E,6μm,0.3s						
IHA	**Instituto Hidr**	**1.96**	**1**	⇑*iP*	**Pn**	**07 21 48.6**	**-0.3**
IHA	**Instituto Hidr**	**1.96**	**1**	⇑*iP*	**Pn**	**07 21 48.6**	**-0.3**
PEL	**Peldehue**	**2.02**	**24**	⇓*iP*	**Pn**	**07 21 50.6**	**+0.7**
PEL				*e*S1	**Sn**	**07 22 15.4**	**+1.4**
PEL				AML	AML	07 22 22.8	
	comp=E,6μm,0.3s						
PEL				AML	AML	07 22 23.8	
	comp=N,7μm,0.3s						
PEL	**Peldehue**	**2.02**	**24**	⇓*iP*	**Pn**	**07 21 50.6**	**+0.7**
PEL				*e*S	**Sn**	**07 22 15.4**	**+1.4**
CFAA	**Coronel Fontan**	**4.44**	**41**	Pn	**Pn**	**07 22 23.0**	**0.0**
	comp=N,1.3nm,0.3s,baz=217,slow=13,SNR=30						
CFAA				Lg	Lg	07 23 18.1	
	comp=N,1.1nm,0.3s,baz=288,slow=9.2,SNR=3.5						
PLCA	**Paso Flores**	**5.80**	**171**	Pn	**Pn**	**07 22 44.0**	**+2.3**
	comp=N,1.3nm,0.3s,baz=328,slow=9.8,SNR=8.1						
TRQA	**Tornquist**	**8.39**	**114**	*e*Pn	**Pn**	**07 23 18.7**	**+1.7**
	comp=N,5.7nm,0.6s						
TRQA				*e*Sn	**Sn**	**07 24 49.2**	**-1.1**
CPUP	**Villa Florida**	**15.05**	**59**	*e*Pn	**Pn**	**07 24 46.7**	**-0.7**
	comp=N,0.3nm,0.9s						
LPAZ	**La Paz**	**18.89**	**11**	P	**Pn**	**07 25 36.0**	**+0.2**
	comp=N,0.3nm,0.3s,baz=192,slow=9.3,SNR=6.1						
SIV	**San Ignacio**	**21.17**	**29**	P	**P**	**07 25 57.9**	**-0.9**
	comp=N,4.8nm,0.8s,baz=204,slow=8.7,SNR=7.8						
BDFB	**Brasilia**	**28.66**	**54**	P	**P**	**07 27 08.4**	**-1.4**
	comp=N,1.7nm,0.5s,baz=220,slow=12,SNR=4.0						
OTAV	**Otavalo**	**35.61**	**348**	*e*P	**P**	**07 28 10.4**	**-0.5**
SDV	**Santo Domingo**	**43.65**	**2**	*e*P	**P**	**07 29 16.9**	**-0.6**
	comp=N,3.0nm,0.7s						
QSPA	**South Pole Qui**	**55.25**	**180**	P	**P**	**07 30 46.8**	**+1.5**
	comp=N,2.2nm,0.9s,baz=132,slow=6.5,SNR=3.8						
JCT	**Junction City**	**70.30**	**334**	P	**P**	**07 32 24.5**	**-1.1**
	comp=N,39nm,2.3s						
TXAR	**Lajitas Array**	**70.74**	**331**	P	**P**	**07 32 28.9**	**+0.6**
	comp=N,0.3nm,0.7s,baz=154,slow=9.8,SNR=3.9						
ABTX	**Abilene, Hawle**	**72.20**	**335**	*e*P	**P**	**07 32 37.8**	**+0.8**
	comp=N,2.1nm,0.5s						
WVT	**Waverly**	**72.34**	**346**	*e*P	**P**	**07 32 36.0**	**-1.6**
	comp=N,5.8nm,0.7s						
DBIC	**Dimbokro**	**75.22**	**71**	P	**P**	**07 32 55.6**	**+0.5**
	comp=N,8.0nm,1.0s,baz=198,slow=4.8,SNR=4.4						
BOSA	**Boshof**	**79.35**	**117**	P	**P**	**07 33 18.8**	**+0.5**
	comp=N,3.4nm,0.6s,baz=228,slow=4.9,SNR=11						
LBTB	**Lobatse**	**81.62**	**115**	P	**P**	**07 33 30.9**	**+0.5**
	comp=N,3.0nm,0.6s,baz=249,slow=5.1,SNR=5.2						
TORD	**Torodi Ar. Bea**	**84.27**	**70**	P	**P**	**07 33 44.3**	**+0.2**
	comp=N,3.2nm,0.7s,baz=247,slow=5.3,SNR=22						
WRA	**Warramunga Arr**	**120.04**	**208**	PKP	**PKPdf**	**07 40 02.8**	**-0.2**
	comp=N,0.2nm,0.4s,baz=165,slow=1.5,SNR=2.7						
KKAR	**Karatay Array**	**149.74**	**63**	*e*PKPbc	**PKPbc**	**07 41 00.9**	**-0.5**
AAK	**Ala-Archa**	**152.69**	**64**	*e*PKPbc	**PKPbc**	**07 41 09.7**	**+1.2**
MKAR	**Makanchi Array**	**157.17**	**51**	PKPab	**PKPab**	**07 41 38.4**	**+0.2**
	comp=N,0.4nm,0.6s,baz=277,slow=3.7,SNR=4.4						

*DJA **07** 07:50:49.3±1.1, 13°N±10°×14°2E±1°0, h10km, M5.3/25, mB5.8/13, mb5.3/25, Mw(mB)5.3/13*
*IDC **07** 07:51:01.1±0.5, 11°.34N×140°.62E, h0km, mb4.7/25, mb1 4.8/25, mb1mx4.7/37, mbtmp4.7/25, ML3.3/1, MS4.8/2, Ms1 4.8/2, ms1mx3.9/40, Error ellipse: s-maj=20.0km s-min=10.3km az=79.0*
*BJI **07** 07:51:04.5, 10°.95N×141°.08E, h68km, mB5.2/30, mb4.8/47, Ms5.2/26, Ms7 5.0/25*
*ISCJB **07** 07:51:08.0±0.8, 11°.31N±0°.03×140°.59E±0°.04, h61km±7km, mb4.9/79, Error ellipse: s-maj=6.3km s-min=5.1km az=4.1*
*MOS **07** 07:51:08.1±1.0, 11°.32N×140°.66E, h70km, mb5.2/23, Error ellipse: s-maj=13.3km s-min=6.4km az=106.1*
*NEIC **07** 07:51:09.8±1.1, 11°.28N×140°.60E, h66km±10km, mb5.1/38, Error ellipse: s-maj=6.8km s-min=4.8km az=90.0*
ISC 07 07:51:11.4±0.4, 11°.32N±0°.04×140°.69E±0°.06, h81km±2km, h81km:pP-P, n195, σ1s36/217, mb4.8/79, 3C-7D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.67**	**61**	*e*P	**Pn**	**07 52 19.1**	**-0.4**
GUMO	**Guam**	**4.67**	**61**	*e*Pn	**Pn**	**07 52 19.1**	**-0.4**
BAKI	**Biak**	**13.23**	**200**	P	**P**	**07 54 23.0**	**0.0**
	152nm,1.2s						
SMPI	**Sarmi**	**13.37**	**189**	P	**Pn**	**07 54 17.9**	**0.0**
	136nm,1.0s						
GENI	**Genyem**	**13.83**	**182**	P	**Pn**	**07 54 23.3**	**-0.6**
	522nm,0.7s,5μm						
SWI	**Sorong**	**15.30**	**218**	P	**P**	**07 54 45.3**	**-0.7**
	78nm,1.2s						
CBIJ	**Chichi jima**	**15.76**	**5**	*e*P	**Pn**	**07 54 49.7**	**+1.0**
JCJ	**Chichijima**	**15.76**	**5**	Pn	**Pn**	**07 54 49.5**	**+0.8**
	7.3nm,0.3s,baz=176,slow=5.2,SNR=20						
FAKI	**Fak Fak**	**16.45**	**211**	P	**Pn**	**07 54 57.6**	**+0.3**
	268nm,1.2s,3μm						
FAKI	**Fak Fak**	**16.45**	**211**	*e*Pn	**Pn**	**07 54 56.5**	**-0.8**
	287nm,1.1s						
TNTI	**Ternate**	**16.88**	**233**	P	P	07 55 17.0	+14
	136nm,1.1s,4μm						
TNTI	**Ternate**	**16.88**	**233**	*e*P	**P**	**07 55 03.0**	**-0.4**
	104nm,0.6s						
MSAI	**Masohi**	**18.68**	**219**	P	**Pn**	**07 55 24.6**	**0.0**
	125nm,1.1s,1μm						
BNDI	**Bandanaira**	**19.05**	**215**	P	Pn	07 55 40.8	+12
	443nm,1.2s						
JOW	**Kunigami**	**19.36**	**325**	P	**P**	**07 55 28.2**	**-2.5**
	0.1nm,0.3s,baz=122,slow=13,SNR=2.3						
NLAI	**Namlea**	**19.80**	**224**	P	**Pn**	**07 55 37.4**	**-0.3**
	63nm,0.8s,1μm						
SZP	**Santa**	**20.54**	**290**	*e*P	**P**	**07 55 43.1**	**-0.4**
	63nm,1.0s						
PMG	**Port Moresby**	**21.57**	**162**	*ce*P	**P**	**07 55 53.4**	**-1.1**
PMG				pmax	pmax		
	comp=Z,195nm,1.2s						
PMG	**Port Moresby**	**21.57**	**162**	P	**P**	**07 55 52.5**	**-2.0**
	comp=Z,113nm,0.9s,baz=359,slow=10,SNR=29						
PMG				LR	LR	08 04 15.0	
	comp=Z,2μm,18.5s,baz=308,slow=37						
PMG	**Port Moresby**	**21.57**	**162**	*e*P	**P**	**07 55 52.6**	**-2.0**
	comp=Z,130nm,0.9s						
TOLI	**Toli-Toli**	**22.20**	**244**	*e*P	**P**	**07 55 59.1**	**-2.2**
APSI	**Ampana**	**22.49**	**239**	P	P	07 56 10.0	+5.6
	comp=Z,233nm,1.0s,comp=Z,3μm						
SSLB	**Suanglung**	**22.50**	**306**	*e*P	**P**	**07 56 03.6**	**-0.9**
	comp=Z,52nm,1.1s						
YHNB	**Yeheng**	**22.63**	**309**	*e*P	**P**	**07 56 07.4**	**+1.5**
	comp=Z,108nm,1.1s						
MYLDM	**Lahad Datu**	**22.78**	**256**	⇓P	**P**	**07 56 07.7**	**+0.3**
MYLDM	**Lahad Datu**	**22.78**	**256**	*e*P	**P**	**07 56 07.3**	**-0.2**
MPSI	**Mapaga**	**23.36**	**244**	P	**P**	**07 56 12.2**	**-0.8**
	comp=Z,35nm,1.5s						
JNU	**Nakatsue**	**23.50**	**339**	P	**P**	**07 56 12.8**	**-1.4**
	comp=Z,23nm,0.8s,baz=190,slow=6.1,SNR=12						
TTSI	**Tana Toraja**	**25.19**	**237**	P	P	07 56 43.0	+13
	comp=Z,82nm,1.0s,comp=Z,2μm						
MJAR	**Matsushiro Arr**	**25.21**	**355**	P	**P**	**07 56 27.3**	**-2.4**
	comp=Z,9.0nm,0.9s,baz=177,slow=10,SNR=13						
MAJO	**Matsushiro**	**25.22**	**355**	*e*P	**P**	**07 56 27.6**	**-2.1**
MAJO	**Matsushiro**	**25.22**	**355**	*e*P	**P**	**07 56 27.6**	**-2.1**
MAT	**Matsushiro**	**25.22**	**355**	P	**P**	**07 56 27.3**	**-2.4**
COEN	**Coen**	**25.23**	**174**	*e*P	**P**	**07 56 28.9**	**-1.0**
BNSI	**Bone**	**25.75**	**234**	P	**P**	**07 56 34.1**	**-0.6**
	comp=Z,54nm,1.1s						
SPSI	**Sidrap Palu**	**25.76**	**235**	P	**P**	**07 56 32.8**	**-2.0**
	comp=Z,23nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**26.09**	**71**	T	T	08 25 22.8	
	baz=244						
H11S1	**WAKE ISLAND Hy**	**26.11**	**71**	T	T	08 25 20.4	
	baz=244						
H11S2	**WAKE ISLAND Hy**	**26.11**	**71**	T	T	08 25 20.4	
	baz=244						
KAPI	**Kappang**	**26.41**	**233**	*e*P	**P**	**07 56 38.2**	**-2.4**
	comp=Z,32nm,1.2s						
SOEI	**Soe**	**26.55**	**219**	P	**P**	**07 56 43.8**	**+1.8**
	comp=Z,52nm,1.1s,comp=Z,2μm						
SOEI	**Soe**	**26.55**	**219**	*e*P	**P**	**07 56 41.3**	**-0.7**
	comp=Z,109nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**26.56**	**68**	T	T	08 25 50.8	
	baz=244						
H11N2	**WAKE ISLAND Hy**	**26.57**	**68**	T	T	08 25 52.0	
	baz=244						
H11N3	**WAKE ISLAND Hy**	**26.58**	**68**	T	T	08 25 53.2	
	baz=244						
SSE	**Sheshan**	**26.71**	**320**	P	**P**	**07 56 44.5**	**+1.3**
SSE				PMZ			
	comp=Z,20nm,0.8s						
SSE				PMZ			
	comp=Z,110nm,4.7s						
SSE				LN			
	comp=Z,960nm,37.2s						
SSE				LE			
	comp=Z,3μm,37.2s						
SSE				LZ			
	comp=Z,4μm,33.0s						
MMRI	**Maumere**	**27.01**	**224**	*e*P	**P**	**07 56 43.3**	**-2.8**
	comp=Z,35nm,0.6s						
BATI	**Baumata**	**27.27**	**219**	P	**P**	**07 56 50.4**	**+2.0**
	comp=Z,79nm,1.0s						
BATI	**Baumata**	**27.27**	**219**	P	**P**	**07 56 46.5**	**-1.9**
	comp=Z,68nm,0.9s,baz=106,slow=6.8,SNR=3.6						
MTKI	**Muara Teweh, K**	**28.38**	**246**	P	**P**	**07 56 58.3**	**-0.1**
KSRS	**Korea Array**	**28.44**	**338**	P	**P**	**07 56 57.1**	**-1.4**
	comp=Z,4.4nm,1.0s,baz=170,slow=9.6,SNR=6.1						
KSAR	**Wonju Array Be**	**28.45**	**338**	P	**P**	**07 56 57.2**	**-1.4**
KSAR	**Wonju Array Be**	**28.45**	**338**	P	**P**	**07 56 57.1**	**-1.4**
NJ2	**Nanjing**	**28.83**	**319**	*e*P	**P**	**07 57 01.8**	**-0.3**
NJ2				S	**S**	**08 01 47.0**	**+0.8**
NJ2				PMZ			
	comp=Z,10.0nm,0.8s						
NJ2				LN			
	comp=Z,10μm,20.1s						
NJ2				LE			
	comp=Z,5μm,24.5s						
NJ2				LZ			
	comp=Z,4μm,24.3s						
SBUM	**Sibu**	**29.58**	**255**	⇓P	P	07 57 03.9	-5.0
WRAB	**Tennant Creek**	**31.67**	**191**	P	**P**	**07 57 25.6**	**-1.7**
	comp=Z,246nm,1.0s,SNR=24						
WRAB	**Tennant Creek**	**31.67**	**191**	*e*P	**P**	**07 57 25.7**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,64nm,1.1s						
WRAB	**Tennant Creek**	**31.67**	**191**	*e*P	**P**	**07 57 25.7**	**-1.6**
	comp=Z,64nm,1.1s						
WB2	**Warramunga Arr**	**31.68**	**191**	*e*P	**P**	**07 57 25.8**	**-1.6**
CTA	**Charters Tower**	**31.68**	**170**	P	**P**	**07 57 26.9**	**-0.5**
	comp=Z,29nm,0.9s,baz=339,slow=10,SNR=51						
CTAO	**Charters Tower**	**31.68**	**170**	*e*P	**P**	**07 57 27.3**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,38nm,0.9s						
CTAO	**Charters Tower**	**31.68**	**170**	*e*P	**P**	**07 57 27.3**	**-0.1**
	comp=Z,38nm,0.9s						
WRA	**Warramunga Arr**	**31.68**	**191**	P	**P**	**07 57 25.9**	**-1.5**
	comp=Z,34nm,0.9s,baz=11,slow=9.3,SNR=99						
WRA				PcP	**PcP**	**08 00 18.5**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=6.8,slow=3.0,SNR=4.8						
WRA				ScP	ScP	08 04 02.3	+8.5
	comp=Z,2.5nm,1.2s,baz=7.6,slow=4.0,SNR=4.6						
WRA				LR	LR	08 10 14.6	
	comp=Z,2μm,19.4s,baz=85,slow=36						
KSM	**Kuching**	**31.70**	**254**	⇓P	P	07 57 24.2	-3.5
ASAJ	**Asahikawa**	**32.72**	**3**	P	**P**	**07 57 34.7**	**-1.6**
	comp=Z,4.6nm,0.8s,baz=209,slow=10,SNR=2.8						
USRK	**Ussuriysk Ar.**	**33.62**	**349**	P	**P**	**07 57 43.5**	**-0.6**
	comp=Z,6.4nm,0.8s,baz=173,slow=9.1,SNR=12						
ENH	**Enshi**	**34.56**	**308**	P	**P**	**07 57 53.5**	**+1.1**
	comp=Z,11nm,0.8s						
CN2	**Changchun**	**34.95**	**341**	*e*P	P	07 57 59.0	+3.4
CN2				*e*pP	pP	07 58 18.0	+3.3
CN2				PMZ			
	comp=Z,10.0nm,1.0s						
AS31	**Alice Springs**	**35.39**	**191**	*e*P	**P**	**07 57 58.1**	**-1.5**
AS31				*e*PP	**PnPn**	**07 59 19.9**	**-1.0**
ASAR	**Alice Springs**	**35.40**	**191**	P	**P**	**07 57 58.7**	**-1.0**
	comp=Z,12nm,0.6s,baz=15,slow=12,SNR=186						
ASAR				PP	**PnPn**	**07 59 19.4**	**-1.4**
	comp=Z,7.7nm,0.9s,baz=13,slow=10,SNR=5.7						
ASAR				PcP	**PcP**	**08 00 28.9**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=30,slow=2.9,SNR=5.7						
GYA	**Guiyang**	**35.40**	**300**	P	**P**	**07 58 01.0**	**+1.1**
GYA				pP	**pP**	**07 58 20.2**	**+1.2**
GYA				sP	**sP**	**07 58 30.4**	**+1.9**
GYA				PP	**PP**	**07 59 22.6**	**+0.9**
GYA				PcP	**PcP**	**08 00 29.0**	**+0.7**
GYA				S	**S**	**08 03 28.7**	**-0.3**
GYA				ScP	**ScP**	**08 04 07.5**	**+0.4**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,5.2s						
GYA				LN			
	comp=Z,580nm,17.4s						
GYA				LE			
	comp=Z,490nm,18.0s						
GYA				LZ			
	comp=Z,560nm,17.6s						
YSS	**Yuzh-Sakhalins**	**35.56**	**2**	*e*P	**P**	**07 57 59.0**	**-1.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
BJT	**Baijiatuau**	**35.89**	**327**	*e*P	**P**	**07 58 03.7**	**0.0**

LZH				LE			
	comp=Z,750nm,13.0s						
LZH				LZ			
	comp=Z,2μm,17.6s						
HIA	**Hailar**	**41.64 339**	*d*	*iP*	**P**	**07 58 52.1**	**+0.4**
HIA				pmax	pmax		
	comp=Z,16nm,0.8s						
HIA	**Hailar**	**41.64 339**		*eP*	**P**	**07 58 52.2**	**+0.5**
	comp=Z,18nm,0.9s						
DZM	**Mont Dzumac**	**41.70 143**		P	**P**	**07 58 53.5**	**+0.9**
	comp=Z,38nm,0.9s,baz=352,slow=9.0,SNR=16						
DZM	**Mont Dzumac**	**41.70 143**		*eP*	**P**	**07 58 52.9**	**+0.3**
	comp=Z,49nm,1.0s						
ARMA	**Armidale**	**42.81 166**		*eP*	**P**	**07 59 01.3**	**-0.1**
	comp=Z,44nm,1.0s						
FORT	**Forrest**	**43.58 196**		*eP*	**P**	**07 59 06.9**	**-0.7**
	comp=Z,92nm,0.9s						
PETK	**Petropavlovsk-**	**43.86**	**15**	P	**P**	**07 59 09.8**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=198,slow=9.0,SNR=4.9						
GTA	**Gaotai**	**45.75 315**		⇑P	**P**	**07 59 24.7**	**-0.2**
GTA				pP	**pP**	**07 59 43.5**	**-1.3**
GTA				sP	**sP**	**07 59 52.2**	**-1.9**
GTA				PcP	**PcP**	**08 01 01.7**	**+0.2**
GTA				S	**S**	**08 06 01.9**	**-0.7**
GTA				sS	**sS**	**08 06 34.0**	**-2.5**
GTA				PMZ			
	comp=Z,8.0nm,1.0s						
GTA				PMZ			
	comp=Z,380nm,5.5s						
GTA				LN			
	comp=Z,1μm,23.8s						
GTA				LE			
	comp=Z,2μm,23.8s						
GTA				LZ			
	comp=Z,4μm,24.7s						
ULN	**Ulaanbaatar**	**46.05 329**		*eP*	**P**	**07 59 27.3**	**+0.1**
ULN				pmax	pmax		
	comp=Z,16nm,1.1s						
ULN	**Ulaanbaatar**	**46.05 329**		*eP*	**P**	**07 59 27.3**	**+0.1**
	comp=Z,16nm,1.1s						
SONM	**Songino Array**	**46.37 328**		P	**P**	**07 59 30.0**	**+0.3**
	comp=Z,5.5nm,0.8s,baz=142,slow=8.9,SNR=16						
MSVF	**Nonsavu**	**46.84 128**		P	**P**	**07 59 35.6**	**+1.9**
	comp=Z,388nm,0.7s,SNR=9.4						
MSVF	**Nonsavu**	**46.84 128**		*eP*	**P**	**07 59 34.9**	**+1.2**
MSVF				pmax	pmax		
	comp=Z,49nm,0.8s						
MSVF	**Nonsavu**	**46.84 128**		*eP*	**P**	**07 59 34.9**	**+1.2**
	comp=Z,49nm,0.8s						
CLNS	**Chul'man**	**47.03 348**		*eP*	**P**	**07 59 34.5**	**-0.1**
CLNS				pmax	pmax		
	comp=Z,11nm,1.0s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.9s						
CAN	**Canberra**	**47.04 171**		*eP*	**P**	**07 59 35.5**	**+0.5**
CAN				pmax	pmax		
	comp=Z,107nm,1.6s						
CAN	**Canberra**	**47.04 171**		*eP*	**P**	**07 59 35.5**	**+0.5**
	comp=Z,108nm,1.6s						
ZAK	**Zakamensk**	**49.57 329**		*eP*	**P**	**07 59 53.4**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,15nm,1.2s						
TLY	**Talaya**	**50.21 331**		P	**P**	**07 59 58.6**	**-0.4**
	comp=Z,5.3nm,0.8s,baz=162,slow=6.7,SNR=11						
BOD	**Bodaibo**	**50.68 342**		*eP*	**P**	**08 00 01.7**	**-0.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s						
YAK	**Yakutsk**	**51.26 353**		*eP*	**P**	**08 00 05.9**	**-0.7**
YAK				*e**PP	pP	08 00 19.4	-7.4
YAK				*e*S	**S**	**08 07 18.5**	**-0.6**
YAK				*e*SS	**SS**	**08 10 51.9**	**-3.5**
YAK				pmax	pmax		
	comp=N,16nm,1.0s						
YAK				pmax	pmax		
	comp=Z,60nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
YAK				smax	smax		
	comp=E,99nm,2.1s						
YAK	**Yakutsk**	**51.26 353**		*eP*	**P**	**08 00 06.2**	**-0.5**
	comp=E,63nm,0.8s						
MOY	**Mondy**	**51.50 329**		*eP*	**P**	**08 00 08.8**	**0.0**
HVS	**Khovu-Aksy**	**55.05 326**	*d*	*iP*	**P**	**08 00 35.9**	**+1.1**
WMQ	**Urumqi**	**55.82 316**		P	**P**	**08 00 41.1**	**+0.6**
WMQ				pP	**pP**	**08 01 01.0**	**+0.1**
WMQ				sP	**sP**	**08 01 10.1**	**0.0**
WMQ				PcP	**PcP**	**08 01 39.1**	**+0.5**
WMQ				PP	**PP**	**08 02 48.0**	**+2.2**
WMQ				S	**S**	**08 08 20.5**	**-1.1**
WMQ				sS	**sS**	**08 08 55.0**	**-1.5**
WMQ				ScS	**ScS**	**08 10 19.5**	**-2.7**
WMQ				PMZ			
	comp=E,19nm,1.2s						
WMQ				PMZ			
	comp=E,210nm,6.0s						
WMQ				LN			
	comp=E,2μm,21.0s						
WMQ				LE			
	comp=E,1μm,23.0s						
WMQ				LZ			
	comp=E,3μm,24.0s						
BILL	**Bilibino**	**59.11**	**11**	*d*	*iP*	**P**	**08 01 03.2**	**+0.1**
BILL				pmax	pmax		
	comp=Z,21nm,0.7s						
BILL	**Bilibino**	**59.11**	**11**		*eP*	**P**	**08 01 02.8**	**-0.3**
	comp=Z,23nm,0.8s						
HYB	**Hyderabad**	**60.29 284**		*i*	P	**P**	**08 01 11.0**	**-1.1**
MKAR	**Makanchi Array**	**60.35 318**		P	**P**	**08 01 11.8**	**-0.2**
	comp=Z,4.1nm,0.8s,baz=98,slow=8.0,SNR=31						
TIXI	**Tiksi**	**60.73 356**		*eP*	**P**	**08 01 13.1**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TIXI	**Tiksi**	**60.73 356**		*eP*	**P**	**08 01 13.1**	**-0.9**
	comp=Z,8.4nm,0.8s						
ZALV	**Zalesovo Beam**	**61.15 326**		P	**P**	**08 01 16.6**	**-0.6**
	comp=Z,3.8nm,0.7s,baz=104,slow=6.3,SNR=16						
NVS	**Novosibirsk**	**62.34 327**		*eP*	P	08 01 20.8	-4.4
NVS				pmax	pmax		
	comp=N,5.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,15nm,1.3s						
KSH	**Kashi**	**63.41 309**		P	**P**	**08 01 35.4**	**+2.6**
KSH				sP	**sP**	**08 02 03.6**	**+0.9**
KSH				PP	**PP**	**08 03 57.5**	**+4.4**
KSH				S	**S**	**08 09 59.6**	**0.0**
KSH				sS	**sS**	**08 10 33.8**	**-1.4**
KSH				PMZ			
	comp=Z,4.0nm,0.9s						
KSH				PMZ			
	comp=Z,170nm,8.5s						
KSH				LN			
	comp=Z,1μm,21.0s						
KSH				LE			
	comp=Z,920nm,18.2s						
KSH				LZ			
	comp=Z,3μm,29.4s						
KURK	**Kurchatov**	**63.73 321**		P	**P**	**08 01 34.2**	**-0.3**
	comp=Z,147nm,0.9s,SNR=12						
KURK	**Kurchatov**	**63.73 321**		*eP*	**P**	**08 01 34.8**	**+0.2**
KURK				pmax	pmax		
	comp=Z,22nm,0.9s						
KURK	**Kurchatov**	**63.73 321**		*eP*	**P**	**08 01 34.8**	**+0.2**
	comp=Z,22nm,0.9s						
TKM2	**Tokmak 2**	**64.17 312**		*eP*	**P**	**08 01 37.7**	**-0.2**
TKM2	**Tokmak 2**	**64.17 312**		*eP*	**P**	**08 01 37.7**	**-0.2**
TNA	**Tin City**	**64.41**	**21**	*eP*	**P**	**08 01 39.1**	**+0.4**
	comp=Z,7.1nm,1.0s						
AAK	**Ala-Archa**	**64.93 312**		*eP*	**P**	**08 01 43.1**	**+0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AAK	**Ala-Archa**	**64.93 312**		*eP*	**P**	**08 01 43.1**	**+0.3**
	comp=Z,4.2nm,1.0s						
KKAR	**Karatay Array**	**67.89 312**		*eP*	**P**	**08 02 01.5**	**0.0**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**67.89 312**		*eP*	**P**	**08 02 01.5**	**0.0**
	comp=Z,3.3nm,0.8s						
BRVK	**Borovoye**	**69.27 323**		*eP*	**P**	**08 02 10.1**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,19nm,1.2s						
BRVK	**Borovoye**	**69.27 323**		*eP*	**P**	**08 02 10.1**	**+0.3**
	comp=Z,15nm,0.9s						
MCK	**McKinley**	**71.27**	**26**	*eP*	**P**	**08 02 21.3**	**-0.6**
MCK				pmax	pmax		
	comp=Z,18nm,1.2s						
MCK	**McKinley**	**71.27**	**26**	*eP*	**P**	**08 02 21.3**	**-0.6**
	comp=Z,18nm,1.2s						
COLD	**Coldfoot**	**71.59**	**23**	*eP*	**P**	**08 02 24.9**	**+1.2**
	comp=Z,16nm,1.0s						
ILAR	**Eielson Array**	**72.36**	**25**	P	**P**	**08 02 27.1**	**-1.2**
	comp=Z,2.9nm,0.8s,baz=248,slow=5.8,SNR=51						
MENT	**Mesta**	**73.44**	**28**	*eP*	**P**	**08 02 35.5**	**+0.7**
SVE	**Sverdlovsk**	**75.17 326**		⇓*iP*	**P**	**08 02 45.8**	**+0.9**
SVE				pmax	pmax		
	comp=Z,20nm,1.4s						
ABKAR	**Akbulak array**	**75.49 318**		*eP*	**P**	**08 02 46.4**	**-0.5**
	comp=Z,1.6nm,0.5s						
HYT	**Haines Junctio**	**76.21**	**30**	*eP*	**P**	**08 02 52.0**	**+1.1**
ARU	**Arti**	**76.31 326**	*c*	*iP*	**P**	**08 02 49.2**	**-2.2**
ARU				*PP	**pP**	**08 03 12.9**	**0.0**
ARU				S	**S**	**08 12 26.3**	**-3.3**
ARU				pmax	pmax		
	comp=Z,14nm,1.7s						
ARU	**Arti**	**76.31 326**		*eP*	**P**	**08 02 50.7**	**-0.7**
	comp=Z,8.5nm,0.9s						
GEYT	**Alibeck**	**77.31 307**		P	**P**	**08 02 57.4**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=47,slow=6.9,SNR=4.8						
PRGR	**Permogore**	**82.53 331**		*eP*	**P**	**08 03 23.1**	**-2.0**
PRGR				pmax	pmax		
	comp=Z,123nm,1.6s						
NLWA	**Neilton Lookou**	**85.42**	**43**	*eP*	**P**	**08 03 42.2**	**+2.0**
	comp=Z,16nm,1.0s						
YKA	**Yellowknife Ar**	**86.73**	**27**	P	**P**	**08 03 46.9**	**+0.7**
	comp=Z,7.9nm,0.9s,baz=285,slow=4.9,SNR=54						
I04A	**Tendick Farm,**	**87.18**	**46**	P	**P**	**08 03 50.6**	**+1.6**
	baz=87						
ZEI	**Tsey**	**87.33 313**		*eP*	P	08 03 54.0	+4.2
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
M02C	**Callahan**	**87.40**	**48**	P	**P**	**08 03 51.5**	**+1.4**
	baz=87						
J04D	**Umpqua Nationa**	**87.52**	**47**	P	**P**	**08 03 51.7**	**+0.9**
	baz=88						
N02D	**Trinity Center**	**87.60**	**49**	P	**P**	**08 03 52.9**	**+1.9**
	baz=88						
K04D	**Chiloquin, OR**	**87.92**	**47**	P	**P**	**08 03 53.5**	**+0.9**
	baz=88						
ARCES	**ARCESS Array B**	**87.95 341**		P	**P**	**08 03 50.7**	**-1.3**
	comp=Z,6.5nm,0.8s,baz=53,slow=4.7,SNR=9.2						
J05D	**Fort Rock, OR**	**88.13**	**46**	P	**P**	**08 03 55.2**	**+1.6**
	baz=88						
JOF	**Joensuu**	**88.60 334**		*eP*	**P**	**08 03 53.6**	**-1.6**
JOF	**Joensuu**	**88.60 334**		*ep*	**P**	**08 03 53.6**	**-1.6**
OBN	**Obninsk**	**88.73 326**		*eP*	**P**	**08 03 56.2**	**+0.3**
OBN				*i*		08 04 15.0	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MOD	**Modoc Plateau**	**89.14**	**48**	*eP*	**P**	**08 03 59.1**	**+0.8**
	comp=Z,16nm,1.1s						
VNDA	**Vanda**	**89.50 175**		P	**P**	**08 03 59.7**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=282,slow=5.2,SNR=6.2						
RAYN	**Ar Rayn**	**90.23 294**		*eP*	**P**	**08 04 04.0**	**+0.3**
	comp=Z,8.2nm,0.9s						
KAF	**Kangasniemi**	**91.05 335**		*eP*	**P**	**08 04 04.9**	**-1.7**
KAF	**Kangasniemi**	**91.05 335**		*ep*	**P**	**08 04 04.9**	**-1.7**
BSMT	**Bassoo Peak**	**91.23**	**41**	*eP*	**P**	**08 04 10.1**	**+2.0**
	comp=Z,4.5nm,1.0s						
FINES	**FINESS Array B**	**91.45 334**		*i* P	**P**	**08 04 07.0**	**-1.5**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**91.45 334**		P	**P**	**08 04 07.1**	**-1.3**
	comp=Z,3.0nm,0.6s,baz=77,slow=4.2,SNR=22						
NVAR	**Mina Array Bea**	**91.51**	**50**	P	**P**	**08 04 11.3**	**+1.7**
	comp=Z,4.0nm,0.9s,baz=268,slow=5.4,SNR=15						
MFID	**Camas Ranch**	**91.90**	**45**	*eP*	**P**	**08 04 12.5**	**+1.4**
	comp=Z,10nm,1.1s						
TPH	**Tonopah**	**92.43**	**51**	*eP*	**P**	**08 04 15.7**	**+1.9**
TPH				pmax	pmax		
	comp=Z,8.0nm,1.2s						
TPH	**Tonopah**	**92.43**	**51**	*eP*	**P**	**08 04 15.7**	**+1.9**
	comp=Z,8.1nm,1.2s						
HLID	**Hailey**	**92.83**	**45**	P	**P**	**08 04 16.4**	**+0.8**
	baz=93						
LRM	**Limekiln Ridge**	**93.41**	**42**	*eP*	**P**	**08 04 19.8**	**+1.6**
	comp=Z,36nm,1.0s						
MCMT	**McKenzie Canyo**	**93.49**	**43**	*eP*	**P**	**08 04 18.8**	**+0.2**
	comp=Z,1.1nm,1.0s						
HEC	**Hector,Ludlow**	**94.04**	**53**	P	**P**	**08 04 22.4**	**+1.3**
	baz=94						
QLMT	**Earthquake Lak**	**94.43**	**43**	*eP*	**P**	**08 04 24.7**	**+1.8**
	comp=Z,0.2nm,0.4s						
GMRC	**Granite Mounta**	**94.58**	**53**	P	**P**	**08 04 23.9**	**+0.2**
	baz=95						
A19A	**Klindworth Far**	**94.63**	**38**	P	**P**	**08 04 23.7**	**+0.1**
	baz=95						
C19A	**Slack Wire Ran**	**94.90**	**39**	P	**P**	**08 04 26.1**	**+1.3**
	baz=95						
DUG	**Dugway, Tooele**	**95.05**	**48**	P	**P**	**08 04 26.2**	**+0.4**
	baz=95						
A20A	**Cobblestone Ra**	**95.14**	**38**	P	**P**	**08 04 26.3**	**+0.5**
	baz=95						
H17A	**Grant Village**	**95.16**	**43**	*eP*	P	08 04 29.9	+3.7
	comp=Z,4.6nm,1.1s						
D19A	**Cripps Ranch,**	**95.23**	**40**	P	**P**	**08 04 27.1**	**+0.8**
	baz=95						
C20A	**Veseth Ranch,**	**95.56**	**39**	P	**P**	**08 04 29.1**	**+1.3**
	baz=96						
A21A	**Bergtoll Ranch**	**95.70**	**38**	P	**P**	**08 04 28.7**	**+0.4**
	baz=96						
D20A	**Manuel Ranch,**	**95.72**	**40**	P	**P**	**08 04 29.2**	**+0.7**
	baz=96						
W13A	**Hualapai Mount**	**95.87**	**53**	P	**P**	**08 04 31.1**	**+1.4**
	baz=96						
PDAR	**Pinedale Array**	**96.44**	**44**	P	**P**	**08 04 33.8**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=270,slow=2.3,SNR=2.6						
D21A	**La Casta Ranch**	**96.45**	**40**	P	**P**	**08 04 32.4**	**+0.5**
	baz=96						
TORD	**Torodi Ar. Bea**	**132.61 300**		PKP	**PKPdf**	**08 10 18.4**	**+0.6**
	comp=Z,0.9nm,1.1s,baz=33,slow=3.4,SNR=2.9						
SDV	**Santo Domingo**	**142.94**	**58**	*e*PKPdf	**PKPdf**	**08 10 35.6**	**-1.5**
LVC	**Limon Verde**	**149.60 116**		*e*PKPbc	**PKPbc**	**08 10 55.0**	**+2.2**
LPAZ	**La Paz**	**151.59 103**		PKPbc	**PKPbc**	**08 11 00.1**	**+2.0**
	comp=Z,12nm,0.7s,baz=310,slow=1.9,SNR=39						
SAML	**Samuel**	**156.38**	**86**	*e*PKPab	**PKPab**	**08 11 27.8**	**+1.2**

*NNC **07** 07:56:42.1±15.0, 40°.52N×78°.53E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=116.6km s-min=56.7km az=163.0*
*KRNET **07** 07:56:48.3±0.1, 41°.01N×78°.39E, h3km, mb3.6*

ISC 07 07:56:49.4±3.5, 41°.0N±0°.2×78°.48E±0°.10, h20km, n6, σ1§54/9, 9C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.91**	**283**	⇓*iP*	**Pb**	**07 57 23.6**	**-0.2**
	baz=284						
NRN				⇓*i*S	**Sb**	**07 57 49.4**	**+2.0**
	baz=284						
BOOM	**Boomskoye usch**	**2.40**	**309**	*eP*	**Pb**	**07 57 31.4**	**-0.6**
	baz=310						
BOOM				*e*S	**Sb**	**07 58 01.4**	**+0.2**
	baz=310						
PDGK	**Podgornoye**	**2.42**	**18**	⇓Pn	**Pb**	**07 57 31.4**	**-0.9**
PDGK				⇑Sn	**Sb**	**07 58 03.6**	**+2.0**
TKM2	**Tokmak 2**	**2.87**	**312**	⇑Pn	**Pb**	**07 57 38.2**	**-1.8**
	0.9nm,0.4s						
TKM2				⇑Pg	Pn	07 57 41.4	+7.3
	2.4nm,0.5s						
TKM2				⇑Sn	**Sb**	**07 58 15.4**	**+0.8**
	2.0nm,0.4s						
TKM2				⇑Lg	Lg	07 58 21.1	
	8.1nm,0.5s						
AAK	**Ala-Archa**	**3.38**	**300**	⇑Pg	Pb	07 57 50.7	+2.0
	1.4nm,0.7s						
AAK				⇑Lg	Lg	07 58 37.0	
	6.8nm,0.8s						
KK31	**Karatay Array**	**6.28**	**292**	⇑Pg	**Pb**	**07 58 37.0**	**-1.1**
	1.2nm,1.1s,baz=135,slow=18						
KK31				⇑Lg	Lg	08 00 10.7	
	0.2nm,0.4s,baz=129,slow=29,SNR=3.8						

*IDC **07** 08:11:41.5±0.8, 26°.19N×96°.96E, h0km, mb3.6/10, mb1 3.8/11, mb1mx3.6/44, mbtmp3.7/11, ML4.2/1, Error ellipse: s-maj=41.2km s-min=15.6km az=61.0*
*ISCJB **07** 08:11:42.0±0.7, 26°.2N±0°.1×97°.0E±0°.2, h16km, mb3.6/10, Error ellipse: s-maj=31.2km s-min=11.0km az=156.9*

ISC 07 08:11:43.8±0.9, 26°.2N±0°.1×97°.0E±0°.2, h16km, n11, σ0§83/11, mb3.7/10, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.92**	**166**	Pn	**Pn**	**08 13 38.3**	**-0.1**
	0.8nm,0.3s,baz=340,slow=12,SNR=12						
CMAR				Pg	Pb	08 14 09.4	+8.6
	1.1nm,0.3s,baz=337,slow=17,SNR=7.8						
CMAR				Lg	Lg	08 15 49.1	
	0.7nm,0.3s,baz=352,slow=23,SNR=3.3						
SONM	**Songino Array**	**22.83**	**17**	P	**P**	**08 16 46.3**	**0.0**
	0.8nm,0.7s,baz=199,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	**23.62**	**334**	P	**P**	**08 16 55.2**	**+1.1**
	0.8nm,0.4s,baz=149,slow=9.3,SNR=19						
AAK	**Ala-Archa**	**24.63**	**317**	P	**P**	**08 17 04.7**	**+0.9**
	2.0nm,0.9s,baz=141,slow=6.5,SNR=4.6						
KURBB	**Kurchatov Arra**	**28.18**	**335**	P	**P**	**08 17 35.8**	**+0.3**
	0.2nm,0.2s,baz=136,slow=10,SNR=4.4						
ZALV	**Zalesovo Beam**	**29.15**	**345**	P	**P**	**08 17 44.1**	**+0.1**
	0.7nm,0.5s,baz=145,slow=7.2,SNR=4.8						
BVAR	**Borovoye Array**	**33.35**	**331**	P	**P**	**08 18 20.8**	**-0.2**
	0.9nm,0.7s,baz=134,slow=6.2,SNR=3.5						
AKASG	**Malin Array Be**	**56.27**	**315**	P	**P**	**08 21 21.9**	**-1.6**
	0.4nm,0.4s,baz=78,slow=5.9,SNR=2.0						
WRA	**Warramunga Arr**	**58.48**	**138**	P	**P**	**08 21 39.3**	**-0.1**
	0.6nm,0.6s,baz=327,slow=7.7,SNR=8.0						
ASAR	**Alice Springs**	**61.11**	**141**	P	**P**	**08 21 57.8**	**+0.2**
	0.5nm,0.6s,baz=323,slow=6.8,SNR=7.1						
TORD	**Torodi Ar. Bea**	**88.92**	**284**	P	**P**	**08 24 39.1**	**+0.9**
	0.2nm,0.6s,baz=68,slow=5.0,SNR=2.6						

*IDC **07** 08:13:40.1±0.7, 25°.97N×128°.35E, h0km, mb4.2/22, mb1 4.3/25, mb1mx4.2/41, mbtmp4.2/25, ML3.5/3, MS2.5/1, Ms1 2.5/1, ms1mx2.5/42, Error ellipse: s-maj=18.3km s-min=14.2km az=99.0*
*ISCJB **07** 08:13:41.8±0.8, 25°.93N±0°.03×128°.44E±0°.03, h25km±4km, mb4.3/40, Error ellipse: s-maj=6.3km s-min=3.4km az=44.6*
*BJI **07** 08:13:42.9, 26°.17N×128°.03E, h10km, mB5.2/10, mb4.4/31, Ms4.5/17, Ms7 4.3/15*
*JMA **07** 08:13:42.0±0.2, 25°.94N×128°.59E, h34km, M4.2*
*NEIC **07** 08:13:43.3±1.5, 26°.01N×128°.24E, h16km±8km, mb4.5/7, Error ellipse: s-maj=10.2km s-min=6.1km az=133.0*
NEIC Felt at Chatan and Ginowan, Okinawa.
*MOS **07** 08:13:44.0±1.1, 26°.04N×128°.30E, h33km, mb4.7/18, Error ellipse: s-maj=10.6km s-min=6.4km az=104.4*

ISC 07 08:13:43.8±0.6, 26°.06N±0°.04×128°.36E±0°.04, h20km±1km, n140, σ1§51/177, mb4.4/40, 8C-15D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.55**	**327**	P	**Pn**	**08 13 56.0**	**-0.5**
JNTH				S	**Sn**	**08 14 06.7**	**+1.5**
JJT2	**Tamagusuku 2**	**0.56**	**279**	P	**Pn**	**08 13 56.6**	**0.0**
JJT2				S	**Sn**	**08 14 07.5**	**+2.2**
JOW	**Kunigami**	**0.78**	**354**	P	**Pg**	**08 13 59.2**	**+0.2**
JOW				S	**Sn**	**08 14 10.7**	**-0.1**
JOW	**Kunigami**	**0.78**	**354**	Pn	**Pn**	**08 13 59.4**	**-0.3**
	baz=172,slow=18						
JOW				Sn	**Sn**	**08 14 10.5**	**-0.3**
	baz=241,slow=19						
JOW	**Kunigami**	**0.78**	**354**	*e*Pg	**Pg**	**08 13 59.2**	**+0.2**
JOW				Pn	**Pn**	**08 13 59.4**	**-0.3**
JOW				Sn	**Sn**	**08 14 10.5**	**-0.3**
JIH	**Iheya**	**1.04**	**340**	P	**Pg**	**08 14 03.6**	**-0.3**
JIH				S	**Sg**	**08 14 18.8**	**+1.2**
JAGN	**Aguni-jima**	**1.14**	**298**	P	**Pg**	**08 14 05.3**	**-0.5**
JAGN				S	**Sg**	**08 14 22.0**	**+1.3**
JOKE	**Okinoerabujima**	**1.31**	**8**	P	**Pn**	**08 14 06.4**	**-0.6**
JOKE				S	**Sn**	**08 14 23.6**	**-0.4**
JKE	**Kume jima 2**	**1.44**	**281**	P	**Pn**	**08 14 08.7**	**-0.1**
JKE				S	**Sb**	**08 14 27.5**	**-0.4**
JTK	**Tokunoshima**	**1.80**	**17**	P	**Pn**	**08 14 13.0**	**-0.8**
JAMN	**Amaminishikomi**	**2.29**	**18**	P	**Pn**	**08 14 19.7**	**-0.8**
JAMN				S	**Sn**	**08 14 47.5**	**-0.7**
JMZ	**Minamidaito 2**	**2.59**	**95**	P	Pn	08 14 19.3	-5.2
JMZ				S	Sn	08 14 45.7	-10
JAM	**Amami Oshima**	**2.59**	**25**	P	**Pn**	**08 14 23.1**	**-1.5**
JAM				S	**Sn**	**08 14 53.9**	**-1.7**
JZK	**Kikaishima**	**2.67**	**32**	P	**Pn**	**08 14 25.2**	**-0.5**
JOGS	**Gusukube**	**2.97**	**245**	P	**Pn**	**08 14 29.4**	**-0.4**
JIKM	**Ikemajima**	**3.03**	**249**	P	**Pn**	**08 14 30.1**	**-0.5**
JIKM				S	**Sn**	**08 15 05.1**	**-1.3**
JIRB	**Irabujima**	**3.13**	**248**	P	**Pn**	**08 14 30.8**	**-1.2**
JIRB				S	**Sn**	**08 15 06.8**	**-2.1**
JTAJ	**Takarajima**	**3.17**	**13**	P	**Pn**	**08 14 31.6**	**-1.0**
JTAJ				S	**Sn**	**08 15 07.6**	**-2.3**
JTJ	**Tarama**	**3.60**	**248**	P	**Pn**	**08 14 36.9**	**-1.5**
JTJ				S	**Sn**	**08 15 18.0**	**-2.4**
JISG	**Ishigakijimahi**	**3.95**	**249**	P	**Pn**	**08 14 41.4**	**-1.8**
JISG				S	**Sn**	**08 15 27.0**	**-2.0**
JIJ	**Ishigaki jima**	**4.18**	**247**	P	**Pn**	**08 14 44.3**	**-2.1**
JIJ				S	**Sn**	**08 15 29.9**	**-4.8**
JKRS	**Kuro-shima**	**4.34**	**246**	P	**Pn**	**08 14 47.1**	**-1.5**
IRIF	**Iriomote-Funau**	**4.53**	**249**	P	**Pn**	**08 14 49.6**	**-1.7**
YOJ	**Yonaguni jima**	**5.10**	**253**	*e*P	**Pn**	**08 14 57.3**	**-1.8**
YOJ	**Yonaguni jima**	**5.10**	**253**	*e*Pn	**Pn**	**08 14 57.3**	**-1.8**
NACB	**Ninganchiao**	**6.41**	**254**	*e*Pn	**Pn**	**08 15 14.8**	**-2.4**
SSLB	**Suanglung**	**7.09**	**253**	*e*Pn	**Pn**	**08 15 23.8**	**-2.7**
JNU	**Nakatsue**	**7.37**	**17**	Pn	**Pn**	**08 15 30.7**	**+0.3**
	1.9nm,0.3s,baz=178,slow=2.9,SNR=21						
JNU				Sn	**Sn**	**08 16 50.5**	**-3.0**
	0.6nm,0.3s,baz=221,slow=20,SNR=4.2						
JNU	**Nakatsue**	**7.37**	**17**	*e*Pn	**Pn**	**08 15 31.1**	**+0.7**
JNU				*e*Sn	**Sn**	**08 16 50.3**	**-3.2**
JNU				Sn	**Sn**

LZH eS S 08 22 53.1 -7.6
LZH sS sS 08 23 01.2 -9.3
LZH PMZ
comp=Z,21nm,1.3s
LZH PMZ
comp=Z,93nm,4.6s
LZH LN
comp=Z,600nm,12.0s
LZH LE
comp=Z,600nm,12.3s
LZH LZ
comp=Z,820nm,15.0s
KLR Kul'dur 23.28 6 eP **P 08 18 53.7 +3.6**
YSS Yuzh-Sakhalins 23.78 25⇑ eP **P 08 18 55.1 +0.2**
YSS e 08 19 10.9
YSS pmax pmax
comp=Z,40nm,1.1s
HIA Hailar 24.12 346 eP **P 08 18 58.0 -0.3**
HIA pmax pmax
comp=Z,3.0nm,1.2s
GTA Gaotai 27.33 306 P **P 08 19 26.4 -1.1**
GTA pP **pP 08 19 30.8 -2.7**
GTA sP **sP 08 19 33.4 -2.6**
GTA PMZ
comp=Z,35nm,0.9s
ULN Ulaanbaatar 27.47 328 eP **P 08 19 30.4 +1.7**
ULN e*PP pP 08 19 44.5 +10
ULN pmax pmax
comp=Z,12nm,1.2s
ULN Ulaanbaatar 27.47 328 eP **P 08 19 30.6 +1.9**
comp=Z,7.2nm,0.8s
SONM Songino Array 27.76 327 P **P 08 19 30.4 -0.9**
comp=Z,5.5nm,0.7s,baz=141,slow=9.3,SNR=33
CHTO Chiang Mai 28.09 261 eP **P 08 19 34.5 +0.2**
CHTO pmax pmax
comp=Z,8.0nm,1.1s
CHTO Chiang Mai 28.09 261 eP **P 08 19 34.5 +0.2**
comp=Z,8.4nm,1.1s
CMAR Chiang Mai Arr 28.21 260 P **P 08 19 35.7 +0.2**
comp=Z,1.6nm,0.7s,baz=54,slow=7.4,SNR=9.5
TLY Talaya 31.72 330 eP **P 08 20 05.5 -0.7**
TLY pmax pmax
comp=Z,2.0nm,0.9s
PETK Petropavlovsk- 34.78 31 P **P 08 20 33.7 +0.8**
comp=Z,2.6nm,0.8s,baz=218,slow=8.8,SNR=2.8
YAK Yakutsk 35.98 1 eP **P 08 20 42.8 -0.2**
TAPN Taplejung 36.23 281 eP **P 08 20 46.0 0.0**
comp=Z,27nm,1.0s
HVS Khovu-Aksy 36.35 323 eP **P 08 20 47.3 +0.8**
HVS pmax pmax
comp=Z,19nm,1.2s
ODAN Odare 36.58 281 eP **P 08 20 49.1 +0.2**
comp=Z,74nm,0.9s
RAMN Ramite 37.26 281 eP **P 08 20 54.9 +0.2**
WMQ Urumqi 37.31 309 P **P 08 20 54.0 -0.8**
WMQ sP **sP 08 21 00.8 -2.5**
WMQ PMZ
comp=Z,9.0nm,1.2s
JIRN Jiri 37.53 282 eP **P 08 20 57.3 +0.2**
GUN Gumba 37.77 283 eP **P 08 20 59.3 +0.2**
comp=Z,38nm,1.0s
PKI Pulchoki 38.22 282 eP **P 08 21 03.0 0.0**
comp=Z,54nm,1.0s
PKIN Phulchoki 38.23 282 eP **P 08 21 03.4 +0.4**
KKN Kakani 38.31 283 eP **P 08 21 03.7 +0.2**
comp=Z,43nm,0.9s
DMN Daman 38.48 282 eP **P 08 21 04.8 -0.3**
GKN Gorkha 38.84 283 eP **P 08 21 08.0 0.0**
comp=Z,38nm,0.8s
DANN Dangsing 39.57 284 eP **P 08 21 14.5 +0.3**
comp=Z,42nm,0.6s
KOLN Koldanda 39.78 283 eP **P 08 21 16.0 +0.1**
comp=Z,32nm,0.9s
SEY Seymchan 40.15 17 P **P 08 21 18.2 +0.1**
comp=Z,1.1nm,0.5s,baz=174,slow=6.3,SNR=5.4
PYUN Piuthan 40.27 283 eP **P 08 21 20.4 +0.5**
comp=Z,52nm,0.8s
MKAR Makanchi Array 41.74 312 P **P 08 21 30.9 -0.6**
comp=Z,2.4nm,0.7s,baz=99,slow=10,SNR=30
MKAR PcP **PcP 08 23 27.5 -0.3**
comp=Z,0.6nm,0.6s,baz=84,slow=5.0,SNR=4.0
ZALV Zalesovo Beam 42.45 323 P **P 08 21 35.9 -1.4**
comp=Z,1.6nm,0.5s,baz=112,slow=8.9,SNR=8.4
KURK Kurchatov 45.03 317 P **P 08 21 57.0 -1.0**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 45.03 317 eP **P 08 21 58.2 +0.2**
KURBB Kurchatov Arra 45.06 317 P **P 08 21 57.0 -1.2**
comp=Z,3.8nm,0.8s,baz=104,slow=8.3,SNR=17
KSH Kashi 45.45 301 eP **P 08 22 03.8 +2.1**
KSH sP **sP 08 22 10.8 +0.6**
KSH PP **PP 08 23 50.7 +2.7**
KSH S **S 08 28 43.5 +1.2**
KSH sS **sS 08 28 52.0 -0.5**
KSH SS **ScS 08 31 59.0 +1.5**
KSH PMZ
comp=Z,3.0nm,1.0s
KSH PMZ
comp=Z,51nm,3.0s
KSH LN
comp=Z,120nm,5.7s
KSH LE
comp=Z,140nm,6.4s
KSH LZ
comp=Z,640nm,15.7s
TIXI Tiksi 45.63 0 ceP **P 08 22 02.2 -0.2**
TIXI pmax pmax
comp=Z,10.0nm,2.5s
TIXI Tiksi 45.63 0 eP **P 08 22 02.5 +0.1**
comp=Z,3.5nm,0.8s
TKM2 Tokmak 2 45.87 305 P **P 08 22 04.4 -0.7**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 45.87 305 P **P 08 22 04.4 -0.7**
comp=Z,6.0nm,0.8s
WRAB Tennant Creek 46.08 172 eP **P 08 22 08.6 +2.0**
WRAB Tennant Creek 46.08 172 eP **P 08 22 08.6 +2.0**
WRA Warramunga Arr 46.09 172 P **P 08 22 04.8 -1.9**
comp=Z,1.2nm,0.6s,baz=354,slow=8.5,SNR=15
AAK Ala-Archa 46.66 305 P **P 08 22 12.3 +1.1**
comp=Z,0.7nm,0.4s,baz=151,slow=10,SNR=2.9
BILL Bilibino 47.80 18 ⇓ iP **P 08 22 19.8 +0.3**
BILL pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 49.61 305 eP **P 08 22 34.4 +0.6**
KKAR Karatay Array 49.61 305 eP **P 08 22 34.4 +0.6**
ASAR Alice Springs 49.72 173 P **P 08 22 33.8 -1.0**
comp=Z,0.8nm,0.7s,baz=3.0,slow=14,SNR=9.2
BVAR Borovoye Array 50.48 318 P **P 08 22 39.9 -0.3**
comp=Z,3.6nm,0.8s,baz=76,slow=9.3,SNR=15
BRVK Borovoye 50.55 318 eP **P 08 22 41.6 +0.8**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
TNA Tin City 55.74 27 eP **P 08 23 20.0 +1.3**
comp=Z,4.1nm,0.8s
ABKAR Akbulak array 56.85 313 eP **P 08 23 26.9 -0.1**
ARU Arti 57.60 322 d iP **P 08 23 32.3 +0.2**
ARU 08 25 43.3
ARU S **S 08 31 26.9 -2.2**
ARU SS **SS 08 35 16.7 -2.2**
ARU pmax pmax
comp=Z,11nm,2.5s
GEYT Alibeck 59.48 300 P **P 08 23 45.1 -0.5**
comp=Z,2.5nm,0.6s,baz=88,slow=4.7,SNR=6.4
ILAR Eielson Array 64.53 28 P **P 08 24 17.9 -1.2**
comp=Z,0.4nm,0.7s,baz=268,slow=5.7,SNR=7.4
KBZ Khabaz 69.36 309 P **P 08 24 50.5 +0.4**
comp=Z,5.7nm,0.9s,baz=52,slow=12,SNR=5.0
KIV Kislovodsk 69.44 310 ceP **P 08 24 51.5 +0.7**
KIV i 08 25 02.4
KIV pmax pmax
comp=Z,15nm,1.2s
OBN Obninsk 70.04 322 eP **P 08 24 54.9 +0.8**
OBN i 08 25 06.7
OBN pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 70.21 339 P **P 08 24 56.0 +1.1**
comp=Z,5.4nm,1.1s,baz=54,slow=9.1,SNR=3.3
FINES FINESS Array B 73.07 331 ceP **P 08 25 12.0 -0.3**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 73.07 331 P **P 08 25 11.7 -0.6**
comp=Z,3.8nm,0.8s,baz=79,slow=6.0,SNR=14
MALT Malatya 74.30 305 ⇓ P **P 08 25 19.9 -0.2**
MALT Malatya 74.30 305 ⇓ iP **P 08 25 19.9 -0.2**
AKASG Malin Array Be 75.74 320 ceP **P 08 25 27.5 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 75.74 320 P **P 08 25 27.5 -0.5**
comp=Z,5.2nm,0.6s,baz=55,slow=6.1,SNR=11
KIEV Kiev 75.75 320 eP **P 08 25 27.4 -0.7**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 75.75 320 eP **P 08 25 27.4 -0.7**
comp=Z,3.1nm,0.6s
BRTR Keskin Array B 77.23 308 ceP **P 08 25 37.2 +0.3**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 77.23 308 P **P 08 25 36.8 -0.1**
comp=Z,6.0nm,0.9s,baz=94,slow=4.8,SNR=17
YKA Yellowknife Ar 78.63 25 P **P 08 25 43.6 -0.4**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 78.63 25 P **P 08 25 43.6 -0.4**
comp=Z,0.5nm,0.6s,baz=304,slow=5.3,SNR=11
TESR Tescani 79.06 316 ⇓ iP **P 08 25 46.7 0.0**
VRI Vrincioaia 79.29 316 ⇓ P **P 08 25 49.5 +1.5**
VRI Vrincioaia 79.29 316 ⇓ iP **P 08 25 49.5 +1.5**
PLOR Plostina 79.35 316 ⇓ P P 08 25 54.0 +5.7
PLOR Plostina 79.35 316 ⇓ iP P 08 25 54.0 +5.7
BURAR Bucovina Array 79.44 318 ⇓ P **P 08 25 49.4 +0.5**
BURAR Bucovina Array 79.44 318 ⇓ iP **P 08 25 49.4 +0.5**
NB2 NORSAR Subarra 79.52 334 P **P 08 25 47.7 -1.3**
comp=Z,1.4nm,0.6s,baz=52,slow=5.9
NOA NORSAR Array B 79.52 334 P **P 08 25 48.1 -0.9**
comp=Z,3.3nm,0.8s,baz=52,slow=5.6,SNR=8.1
MLR Muntele Rosu 79.95 316 ⇓ P **P 08 25 52.3 +0.6**
MLR Muntele Rosu 79.95 316 ⇓ iP **P 08 25 52.3 +0.6**
DOPR Dopca 80.08 316 ⇑ iP **P 08 25 53.2 +0.9**
ARR Arges 80.83 316 ⇑ iP **P 08 25 57.5 +1.1**
STHS Stebnicka Huta 80.91 321 eP P 08 25 52.7 -4.0
STHS Stebnicka Huta 80.91 321 e P 08 25 52.7 -4.0
SUMG Summit 81.22 356 P **P 08 25 58.4 +0.1**
SUMG pmax pmax
comp=Z,16nm,1.1s
SUMG Summit 81.22 356 i P P 08 26 02.5 +4.2
comp=Z,9.1nm,0.9s
SUMG Summit 81.22 356 P **P 08 25 58.4 +0.1**
comp=Z,16nm,1.1s
DRGR 81.33 318 ⇓ P **P 08 25 59.8 +0.8**
DRGR 81.33 318 ⇓ iP **P 08 25 59.8 +0.8**
BRG Berggiesshubel 84.12 325 eP **P 08 26 14.8 +1.5**
comp=Z,1.1nm,0.6s
BRG Berggiesshubel 84.12 325 eP **P 08 26 14.8 +1.5**
BRG pmax pmax
comp=Z,1.0nm,0.6s
CLL Collm 84.36 325 eP **P 08 26 14.0 -0.6**
CLL pmax pmax
comp=Z,9.0nm,1.4s
CLL Collm 84.36 325 eP **P 08 26 14.0 -0.6**
comp=Z,9.0nm,1.4s
CLL i PcP **PcP 08 26 17.7 -0.5**
CLL LmV 09 09 00.0
comp=Z,600nm,22.0s
GERES GERESS Array B 85.41 323 P **P 08 26 20.2 +0.2**
comp=Z,0.5nm,0.7s,baz=66,slow=9.8,SNR=3.8

*IDC **07** 08:25:57.7±1.5, 13°.32N×91°.05W, h0km, mb3.6/8, mb1 3.9/10, mb1mx3.7/42, mbtmp3.6/10, ML3.5/2, Error ellipse: s-maj=30.8km s-min=22.9km az=37.0*
*CASC **07** 08:26:06.6±1.4, 13°.57N×91°.33W, h13km±7km, MD4.0, ML3.4*
ISC 07 08:26:00.0±1.7, 13°.34N±0°.08×91°.37W±0°.05, h16km±10km, n28, σ1$51/35, mb3.7/8, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.01**	**345**	⇓ eP	**Pg**	**08 26 20.2**	**+0.6**
NBG	**Las Nubes**	**1.59**	**38**	eP	**Pg**	**08 26 32.5**	**+1.8**
RTR	**El Retiro**	**1.76**	**71**	eP	**Pg**	**08 26 35.1**	**+1.2**
SBLS	**San Blas**	**1.77**	**73**	eP	**Pg**	**08 26 35.2**	**+1.2**
SNJE	**San Jose**	**1.79**	**73**	eP	**Pg**	**08 26 35.8**	**+1.3**
RBDL	**Robledal**	**1.80**	**65**	eP	**Pg**	**08 26 36.1**	**+1.3**
RBDL				eS	**Sg**	**08 26 57.8**	**-0.4**
APG	**El Apazote**	**1.87**	**28**	Pn	**Pn**	**08 26 30.3**	**-1.4**
	22nm,0.3s,baz=252,slow=10,SNR=370						
APG				Sn	**Sn**	**08 26 53.6**	**-1.6**
	37nm,0.3s,baz=0.6,slow=21,SNR=10						
BOQS	**Boqueron**	**2.07**	**79**	eP	**Pg**	**08 26 39.8**	**+0.1**
BOQS				eS	**Sg**	**08 27 06.0**	**-0.6**
SNET	**Serv Nac Est T**	**2.10**	**80**	eP	**Pg**	**08 26 40.7**	**+0.2**
SNET				eS	**Sg**	**08 27 06.8**	**-1.0**
SNET				AML	AML	08 27 17.2	
	comp=Z,322nm,0.3s						
MTO2	**Montecristo 2**	**2.21**	**61**	eP	**Pg**	**08 26 41.3**	**-1.2**
LFRS	**El Faro**	**2.26**	**83**	eP	**Pg**	**08 26 42.5**	**-0.9**
LFRS				eS	**Sg**	**08 27 11.1**	**-1.7**
LBRS	**Las Brisas**	**2.29**	**80**	eP	**Pg**	**08 26 43.6**	**-0.4**
LBRS				eS	**Sg**	**08 27 11.9**	**-2.0**
MRL	**Marmol**	**2.36**	**43**	eP	**Pg**	**08 26 43.8**	**-1.6**
VSM	**San Miguel**	**3.01**	**88**	eP	**Pb**	**08 26 54.3**	**+0.8**
CNCH	**Conchagua**	**3.44**	**91**	eP	**Pb**	**08 27 00.4**	**-0.3**
CMIG	**Matias Romero**	**5.04**	**318**	Pn	**Pn**	**08 27 13.8**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=158,slow=14,SNR=20						
CMIG				Sn	**Sn**	**08 28 08.6**	**-4.5**
	comp=Z,3.8nm,0.3s,baz=87,slow=18,SNR=3.8						
JTS	**JuntasAbangare**	**6.97**	**115**	Pn	Pn	08 27 36.4	-5.3
	comp=Z,0.5nm,0.3s,baz=311,slow=20,SNR=2.2						
JTS				Pg	**Pb**	**08 28 00.6**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=328,slow=12,SNR=5.4						
JTS				Lg	Lg	08 29 40.5	
	comp=Z,0.2nm,0.3s,baz=53,slow=20,SNR=3.6						
TEIG	**Tepich**	**7.46**	**23**	Pn	**Pn**	**08 27 50.9**	**+2.6**
	comp=Z,7.8nm,0.3s,baz=15,slow=0.5,SNR=27						
TEIG				Sn	**Sn**	**08 29 11.6**	**-1.1**
	baz=119,slow=19,SNR=1.9						
TXAR	**Lajitas Array**	**19.59**	**326**	P	**Pn**	**08 30 29.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=147,slow=9.1,SNR=18						
TKL	**Tuckaleechee C**	**23.25**	**16**	P	**P**	**08 31 07.3**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=183,slow=11,SNR=7.0						
ANMO	**Albuquerque**	**25.48**	**330**	P	**P**	**08 31 29.9**	**+2.1**
	comp=Z,0.9nm,0.5s,baz=142,slow=11,SNR=7.7						
PDAR	**Pinedale Array**	**33.27**	**335**	P	**P**	**08 32 38.1**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=130,slow=14,SNR=2.9						
ELK	**Elko**	**34.38**	**327**	P	P	08 32 50.3	+3.5
	comp=Z,0.4nm,0.4s,baz=204,slow=5.4,SNR=4.0						
NVAR	**Mina Array Bea**	**34.57**	**321**	P	**P**	**08 32 50.8**	**+2.3**
	comp=Z,1.0nm,0.8s,baz=134,slow=8.1,SNR=7.0						
YKA	**Yellowknife Ar**	**51.81**	**347**	P	**P**	**08 35 06.4**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=150,slow=7.9,SNR=8.5						
INK	**Inuvik**	**61.24**	**343**	P	**P**	**08 36 13.9**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=120,slow=4.7						
ILAR	**Eielson Array**	**63.69**	**337**	P	**P**	**08 36 30.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=175,slow=4.6,SNR=11						
CMAR	**Chiang Mai Arr**	**146.81**	**342**	PKPbc	**PKPab**	**08 45 43.8**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=348,slow=3.8,SNR=5.4						

IDC 07 08:28:38.3±1.2, 8°.74S×76°.18W, h179km±21km, mb3.4/3, mb1 3.4/7, mb1mx3.1/46, mbtmp3.8/7, Error ellipse: s-maj=36.1km s-min=9.0km az=66.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.71**	**306**	P	Pn	08 29 22.5	-1.4
	12nm,0.3s,baz=148,slow=19,SNR=113						
ATAH				S	Sn	08 29 59.9	+0.5
	20nm,0.3s,baz=337,slow=21,SNR=13						
NNA	**Nana**	**3.29**	**191**	P	Pn	08 29 30.2	-0.4
	8.0nm,0.3s,baz=11,slow=10,SNR=13						
NNA				S	Sn	08 30 11.8	+0.4
	128nm,0.3s,baz=29,slow=9.4,SNR=44						
LPAZ	**La Paz**	**10.86**	**134**	P	Pn	08 31 09.7	-0.2
	0.2nm,0.3s,baz=296,slow=11,SNR=3.8						
SIV	**San Ignacio**	**16.42**	**117**	P	Pn	08 32 20.2	+1.4
	0.4nm,0.3s,baz=304,slow=12,SNR=3.9						
TXAR	**Lajitas Array**	**46.20**	**326**	P	P	08 36 45.7	+0.1
	0.2nm,0.4s,baz=130,slow=11,SNR=5.1						
DBIC	**Dimbokro**	**72.72**	**80**	P	P	08 39 46.9	-0.6
	1.6nm,0.3s,baz=240,slow=7.2,SNR=9.8						
TORD	**Torodi Ar. Bea**	**80.32**	**75**	P	P	08 40 30.6	+0.5
	0.3nm,0.3s,baz=265,slow=5.9,SNR=9.4						

*IDC **07** 08:30:47.2±0.9, 33°.73S×72°.46W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/36, mbtmp4.0/6, ML4.5/1, Error ellipse: s-maj=43.0km s-min=23.5km az=87.0*
*NEIC **07** 08:30:52.4±0.7, 33°.79S×72°.51W, h35km, mb4.5/1, Error ellipse: s-maj=33.4km s-min=14.9km az=81.0*
*ISCJB **07** 08:30:56.3±1.9, 33°.98S±0°.08×72°.7W±0°.2, h89km±17km, mb4.0/6, Error ellipse: s-maj=29.0km s-min=10.4km az=17.1*
*GUC **07** 08:31:05.8±0.6, 34°.59S×70°.46W, h115km±18km, ML3.7*
ISC 07 08:30:55.8±2.2, 34°.02S±0°.10×72°.8W±0°.2, h68km±18km, n18, σ2$00/18, mb4.1/6, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.73**	**73⇑**	iP	Pn	08 31 28.9	+5.1
RCDM				i S	**Sn**	**08 31 45.5**	**+0.6**
RCDM				AML	AML	08 31 48.6	
	comp=E,1μm,0.0s						
STL	**Santa Lucia**	**1.88**	**72⇑**	iP	**Pn**	**08 31 27.8**	**+2.1**
STL				i S	**Sn**	**08 31 45.6**	**-2.9**
CLCH	**Cerro Calan**	**1.97**	**72⇑**	iP	**Pn**	**08 31 29.2**	**+2.2**
CLCH				i S	**Sn**	**08 31 47.3**	**-3.5**
CLCH				AML	AML	08 31 48.7	
	comp=N,2μm,0.5s						
LNCH	**Linares**	**2.06**	**152⇑**	iP	**Pn**	**08 31 27.9**	**-0.3**
LNCH				i S	**Sn**	**08 31 54.2**	**+1.3**
COCH	**Cobquecura**	**2.11**	**180**	eP4	**Pn**	**08 31 28.7**	**-0.1**
COCH				eS4	Sn	08 31 47.6	-6.3
COCH				AML	AML	08 31 49.9	
	comp=N,366nm,0.6s						
PLCA	**Paso Flores**	**6.93**	**166**	Pn	**Pn**	**08 32 33.3**	**-1.4**
	comp=N,2.1nm,0.3s,baz=329,slow=10.0,SNR=5.4						
SNAA	**Sanae**	**51.80**	**158**	P	**P**	**08 39 58.8**	**+2.5**
	comp=N,1.3nm,0.5s,baz=274,slow=8.0,SNR=16						
QSPA	**South Pole Qui**	**56.22**	**180**	P	**P**	**08 40 30.3**	**+1.7**
	comp=N,1.8nm,1.1s,baz=166,slow=8.3,SNR=2.7						
JCT	**Junction City**	**69.04**	**335**	eP	**P**	**08 41 52.9**	**-1.4**
	comp=N,1.2nm,0.3s						
TXAR	**Lajitas Array**	**69.45**	**331**	P	**P**	**08 41 57.2**	**+0.3**
	comp=N,0.2nm,0.5s,baz=153,slow=6.9,SNR=4.8						
DBIC	**Dimbokro**	**75.77**	**72**	P	**P**	**08 42 32.6**	**-2.0**
	comp=N,2.4nm,0.6s,baz=207,slow=7.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**84.80**	**70**	P	**P**	**08 43 21.8**	**-1.3**
	comp=N,0.9nm,0.6s,baz=275,slow=6.8,SNR=8.4						
WRA	**Warramunga Arr**	**120.44**	**210**	PKP	**PKPdf**	**08 49 40.1**	**+0.1**
	comp=N,0.3nm,0.7s,baz=164,slow=1.3,SNR=2.4						
H11S2	**WAKE ISLAND Hyl**	**25.16**	**270**	T	T	11 09 02.4	
	baz=117,slow=75,SNR=4.5						
H11S1	**WAKE ISLAND Hyl**	**25.17**	**270**	T	T	11 09 11.5	
	baz=117,slow=75,SNR=6.0						
H11S3	**WAKE ISLAND Hyl**	**25.17**	**270**	T	T	11 09 12.1	
	baz=117,slow=75,SNR=4.7						
ZALV	**Zalesovo Beam**	**154.57**	**32**	PKPbc	**PKPbc**	**08 50 50.2**	**+2.0**
	comp=N,1.0nm,0.4s,baz=316,slow=4.1,SNR=5.0						
MKAR	**Makanchi Array**	**157.24**	**48**	PKPab	**PKPab**	**08 51 13.6**	**-1.2**
	comp=N,0.3nm,0.7s,baz=270,slow=2.9,SNR=3.1						

*ISCJB **07** 08:31:04.4±0.3, 30°.48N±0°.04×138°.85E±0°.08, h396km±4km, mb3.8/31, Error ellipse: s-maj=11.0km s-min=5.0km az=161.6*
*MOS **07** 08:31:04.3±0.8, 30°.45N×138°.67E, h394km, mb4.1/17, Error ellipse: s-maj=14.9km s-min=7.4km az=101.9*
*JMA **07** 08:31:05.2±0.1, 30°.61N×139°.23E, h407km, M3.9*
*IDC **07** 08:31:05.2±1.3, 30°.48N×138°.62E, h384km±14km, mb3.4/20, mb1 3.5/25, mb1mx3.4/46, mbtmp4.1/25, Error ellipse: s-maj=12.9km s-min=9.9km az=82.0*
ISC 07 08:31:04.5±0.6, 30°.45N±0°.05×138°.66E±0°.08, h377km±6km, n77, σ1$22/89, mb3.8/31, 4C-4D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.83**	**20**	P	**Pn**	**08 32 06.4**	**+2.0**
JHJ2				S	**S**	**08 32 53.8**	**+1.0**
TK02	**Tokai 2**	**3.57**	**348**	P	Pn	08 32 15.0	+4.3
JIE	**Ise**	**4.26**	**338**	P	Pn	08 32 21.7	+4.1
JKN2	**Miekihoku**	**4.28**	**333**	P	Pn	08 32 21.7	+3.9
JHMK	**Hamakita**	**4.42**	**350**	P	**Pn**	**08 32 21.9**	**+2.8**
HMMJ	**Hamamatsu 2**	**4.46**	**350**	P	**Pn**	**08 32 22.6**	**+2.9**
CBIJ	**Chichi jima**	**4.56**	**136**	P	**Pn**	**08 32 21.3**	**+0.4**
CBIJ				S	**S**	**08 33 21.0**	**-1.6**
JCJ	**Chichijima**	**4.56**	**136**	P	**Pn**	**08 32 21.4**	**+0.6**
	22nm,0.3s,baz=357,slow=17,SNR=69						
JCJ				S	**S**	**08 33 20.8**	**-1.9**
	175nm,0.3s,baz=263,slow=23,SNR=27						
JWY	**Kouya**	**4.56**	**326**	P	Pn	08 32 25.1	+4.3
BSO3	**Boso 3**	**4.61**	**19**	P	**Pn**	**08 32 20.8**	**-0.1**
BSO3				S	**S**	**08 33 20.8**	**-2.1**
BSO1	**Boso 1**	**4.62**	**24**	P	**Pn**	**08 32 21.4**	**+0.6**
BSO1				S	**S**	**08 33 21.6**	**-1.1**
TSUJ	**Tsu 2**	**4.65**	**337**	P	Pn	08 32 25.9	+4.3
BSO4	**Boso 4**	**4.74**	**17**	P	**Pn**	**08 32 22.3**	**-0.2**
BSO4				S	**S**	**08 33 24.2**	**-1.5**
JOD2	**Odawara 2**	**4.81**	**4**	P	**Pn**	**08 32 25.4**	**+2.1**
JOD2				S	**S**	**08 33 27.0**	**-0.3**
JHHJ	**Haha-jima-NKT**	**4.91**	**140**	P	**Pn**	**08 32 25.2**	**+0.7**
JHHJ				S	**S**	**08 33 28.3**	**-1.0**
MJA0	**Matsu Arr-Jizo**	**6.08**	**357**	eP	**Pn**	**08 32 37.7**	**+0.5**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**6.08**	**357**	P	**Pn**	**08 32 37.7**	**+0.6**
MJAR				S	**S**	**08 33 48.1**	**-4.5**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				smax	smax		
	comp=N,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**6.08**	**357**	P	**Pn**	**08 32 37.7**	**+0.6**
	comp=N,1.9nm,0.3s,baz=171,slow=9.6,SNR=26						
MJAR				S	**S**	**08 33 48.1**	**-4.5**
	comp=N,0.9nm,0.3s,baz=184,slow=16,SNR=3.4						
MAJO	**Matsushiro**	**6.09**	**357**	eP	**Pn**	**08 32 38.3**	**+1.1**
MAT	**Matsushiro**	**6.09**	**357**	P	**Pn**	**08 32 37.9**	**+0.7**
MAT				S	**S**	**08 33 51.8**	**-0.8**
KSRS	**Korea Array**	**11.32**	**311**	eP	**Pn**	**08 33 40.6**	**+2.8**
KSRS	**Korea Array**	**11.32**	**311**	P	**Pn**	**08 33 39.1**	**+1.3**
	comp=N,0.3nm,0.3s,baz=125,slow=9.8,SNR=4.7						
ERM	**Erimo**	**12.09**	**16**	eP	**Pn**	**08 33 47.5**	**+0.6**
ERM				pmax	pmax		
	comp=Z,69nm,1.0s						
ASAJ	**Asahikawa**	**13.99**	**12**	P	**P**	**08 34 07.8**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**13.99**	**12**	P	**P**	**08 34 07.8**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=230,slow=8.7,SNR=15						
USRK	**Ussuriysk Ar.**	**14.70**	**341**	P	**P**	**08 34 14.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=144,slow=8.6,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**16.78**	**10**	⇓ iP	**P**	**08 34 38.0**	**+1.1**
ULN	**Ulaanbaatar**	**29.77**	**315**	eP	**P**	**08 36 39.1**	**+1.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SONM	**Songino Array**	**30.16**	**314**	eP	**P**	**08 36 42.0**	**+0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**30.16**	**314**	P	**P**	**08 36 41.6**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=122,slow=8.4,SNR=8.5						
ZAK	**Zakamensk**	**33.05**	**317**	eP	**P**	**08 37 05.6**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
FX1	**Attu Island--F**	**33.66**	**38**	P	**P**	**08 37 11.5**	**+0.3**
FX1				pmax	pmax		
	comp=Z,12nm,0.6s						
FX1	**Attu Island--F**	**33.66**	**38**	P	**P**	**08 37 11.5**	**+0.3**
	comp=Z,12nm,0.6s,baz=306,slow=2.2,SNR=6.2						
SEY	**Seymchan**	**33.68**	**11**	P	**P**	**08 37 11.3**	**0.0**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SEY	**Seymchan**	**33.68**	**11**	P	**P**	**08 37 11.2**	**0.0**
	comp=Z,1.5nm,0.8s,baz=214,slow=6.6,SNR=9.9						
CMAR	**Chiang Mai Arr**	**37.89**	**261**	P	**P**	**08 37 45.9**	**-1.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**37.89**	**261**	P	**P**	**08 37 45.9**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=57,slow=6.6,SNR=4.2						
HVS	**Khovu-Aksy**	**39.05**	**315**	c iP	**P

MKAR Makanchi Array 45.97 307 P P 08 38 51.5 0.0
MKAR 08 40 21.0
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 45.97 307 P P 08 38 51.5 0.0
comp=Z,2.1nm,0.7s,baz=94,slow=9.5,SNR=22
MKAR PcP **PcP 08 40 20.9 -0.1**
comp=Z,0.9nm,0.7s,baz=110,slow=4.7,SNR=6.1
KURK Kurchatov 48.44 313 P P **08 39 10.0 -0.2**
KURK pmax pmax
comp=Z,2.0nm,0.4s
KURBB Kurchatov Arra 48.49 312 P P **08 39 10.0 -0.6**
comp=Z,2.2nm,0.4s,baz=91,slow=7.1,SNR=17
WRAB Tennant Creek 50.27 185 ⇓*iP* P **08 39 24.2 0.0**
WRAB pmax pmax
comp=Z,11nm,1.2s
WRA Warramunga Arr 50.28 185 P P **08 39 24.6 +0.3**
WRA pmax pmax
comp=Z,4.0nm,0.5s
WRA Warramunga Arr 50.28 185 P P **08 39 24.6 +0.3**
comp=Z,4.4nm,0.5s,baz=1.8,slow=7.7,SNR=37
AAK Ala-Archa 51.83 302 ⇑*iP* P **08 39 36.2 +0.5**
AAK pmax pmax
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 53.48 316 P P **08 39 47.0 -0.3**
BVAR 08 40 48.5
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 53.48 316 P P **08 39 47.0 -0.3**
comp=Z,2.3nm,0.6s,baz=96,slow=8.9,SNR=16
BVAR PcP **PcP 08 40 48.5 -0.1**
comp=Z,1.8nm,0.6s,baz=105,slow=4.1,SNR=7.8
BRVK Borovoye 53.55 316 ⇑*iP* P **08 39 48.1 +0.4**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
ASAR Alice Springs 54.00 185 P P **08 39 51.8 +0.5**
ASAR pmax pmax
comp=Z,2.0nm,0.4s
ASAR Alice Springs 54.00 185 P P **08 39 51.8 +0.5**
comp=Z,1.8nm,0.4s,baz=358,slow=5.9,SNR=68
ILAR Eielson Array 56.30 30 *eP* P **08 40 06.5 -0.5**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 56.30 30 P P **08 40 06.0 -1.0**
comp=Z,0.7nm,0.8s,baz=258,slow=5.1,SNR=9.5
ARU Arti 59.88 321 *diP* P **08 40 31.2 -0.5**
ARU *PP **pP 08 41 51.4 -0.2**
ARU 08 42 46.7
ARU S S **08 48 12.7 -0.2**
ARU SS **SS 08 52 18.7 +2.6**
ARU pmax pmax
comp=Z,17nm,2.5s
INK Inuvik 61.29 25 P P **08 40 40.6 -0.3**
comp=Z,0.4nm,0.3s
PRGR Permogore 65.08 328 P P **08 41 03.6 -2.0**
PRGR pmax pmax
comp=Z,28nm,1.0s
ARCES ARCESS Array B 69.35 340 P P **08 41 32.2 +0.2**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 69.35 340 P P **08 41 32.2 +0.2**
comp=Z,5.5nm,0.9s,baz=61,slow=9.4,SNR=4.5
KBZ Khabaz 73.47 311 P P **08 41 56.6 -0.2**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 73.47 311 P P **08 41 56.5 -0.2**
comp=Z,4.1nm,0.8s,baz=52,slow=3.2,SNR=4.4
KIV Kislovodsk 73.50 311 *eP* P **08 41 58.0 +0.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
FINES FINESS Array B 73.56 332 *eP* P **08 41 56.7 -0.3**
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 73.56 332 P P **08 41 56.4 -0.6**
comp=Z,3.0nm,0.8s,baz=82,slow=4.3,SNR=11
AKASG Malin Array Be 78.08 322 *ceP* P **08 42 21.8 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 78.08 322 P P **08 42 21.6 -0.9**
comp=Z,2.3nm,0.6s,baz=52,slow=5.5,SNR=6.8
NB2 NORSAR Subarra 79.34 337 P P **08 42 28.3 -0.9**
comp=Z,1.1nm,0.8s,baz=43,slow=5.3
NOA NORSAR Array B 79.34 337 P P **08 42 28.5 -0.7**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 79.34 337 P P **08 42 28.5 -0.7**
comp=Z,1.4nm,0.7s,baz=45,slow=5.4,SNR=5.7
BRTR Keskin Array B 81.46 311 *eP* P **08 42 41.0 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 81.46 311 P P **08 42 40.7 -0.2**
comp=Z,2.2nm,0.8s,baz=57,slow=4.6,SNR=7.3
PDAR Pinedale Array 83.96 43 P P **08 42 54.4 +0.7**
comp=Z,0.3nm,0.6s,baz=259,slow=1.8,SNR=2.8
TXAR Lajitas Array 95.99 51 P P **08 43 50.5 +0.4**
comp=Z,0.1nm,0.5s,baz=319,slow=4.8,SNR=2.1
LPAZ La Paz 151.75 66 PKIKP **PKPbc 08 50 17.1 +0.7**
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 151.75 66 PKPbc **PKPbc 08 50 17.1 +0.7**
comp=Z,0.6nm,0.5s,baz=293,slow=0.4,SNR=5.0

IDC 07 08:32:44.1±8.5, 19°.23S×177°.65W, h530km±98km, mb2.8/4, mb1 3.1/5, mb1mx2.8/43, mbtmp3.8/5, Error ellipse: s-maj=44.5km s-min=27.7km az=32.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.50**	**192**	P	P	08 36 36.5	0.0
	1.1nm,0.3s,baz=348,slow=9.3,SNR=10						
WRA	**Warramunga Arr**	**45.12**	**261**	P	P	08 40 13.0	-0.4
	0.5nm,0.3s,baz=97,slow=7.5,SNR=5.2						
ASAR	**Alice Springs**	**45.14**	**255**	P	P	08 40 13.7	+0.1
	0.4nm,0.4s,baz=86,slow=8.1,SNR=5.6						
QSPA	**South Pole Qui**	**70.83**	**180**	P	P	08 43 07.0	-0.1
	0.6nm,0.3s,baz=46,slow=0.9,SNR=6.5						
TXAR	**Lajitas Array**	**86.10**	**57**	P	P	08 44 29.2	0.0
	0.2nm,0.6s,baz=225,slow=6.2,SNR=2.8						

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*GUC **07** 08:36:10.2±0.6, 35°.83S×73°.78W, h43km±3km, ML4.9*
*IDC **07** 08:36:11.8±0.8, 35°.82S×73°.16W, h0km, mb4.1/8, mb1 4.1/13, mb1mx4.0/31, mbtmp4.0/13, ML4.0/5, MS3.3/1, Ms1 3.3/1, ms1mx3.2/28, Error ellipse: s-maj=28.5km s-min=16.2km az=98.0*
*ISCJB **07** 08:36:13.5±0.7, 35°.74S±0°.05×73°.54W±0°.07, h33km, mb4.1/8, Error ellipse: s-maj=8.7km s-min=7.3km az=14.6*
*NEIC **07** 08:36:17.1±0.6, 35°.79S×73°.19W, h35km, mb4.0/1, Error ellipse: s-maj=15.6km s-min=9.9km az=97.0*
ISC 07 08:36:15.7±0.8, 35°.76S±0°.06×73°.47W±0°.09, h35km, n27, σ1§37/31, mb4.2/8, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.66**	**124**	⇑*iP*	**Pn**	**08 36 26.2**	**-2.4**
COCH				*i* S	**Sn**	**08 36 38.3**	**+0.4**
LNCH	**Linares**	**1.52**	**94**	⇑*iP*	**Pn**	**08 36 39.4**	**-1.0**
LNCH				*i* S	**Sn**	**08 37 00.8**	**+1.9**
NICH	**Los Niches**	**1.98**	**68**	*eP*1	**Pn**	**08 36 45.9**	**-0.8**
NICH				*i* S	**Sn**	**08 37 12.5**	**+2.2**
TACH	**Talagante**	**2.96**	**45**	*eP*	**Pn**	**08 36 58.8**	**-1.4**
IHA	**Instituto Hidr**	**3.12**	**30**	*eP*1	**Pn**	**08 36 59.9**	**-2.5**
RCDM	**Rinconada Maip**	**3.15**	**45**	*eP*1	**Pn**	**08 37 01.2**	**-1.7**
ANTU	**Antumapu**	**3.20**	**48**	*eP*1	**Pn**	**08 37 01.7**	**-1.8**
ANTU				AML	AML	08 38 16.0	
	comp=E,2μm,0.4s						
PLCA	**Paso Flores**	**5.47**	**156**	Pn	**Pn**	**08 37 34.3**	**-0.4**
	comp=E,1.6nm,0.3s,baz=326,slow=12,SNR=29						
PLCA				Lg	Lg	08 38 59.5	
	comp=E,1.3nm,0.3s,baz=260,slow=23,SNR=3.0						
PLCA				LR	LR	08 39 12.8	
	comp=E,330nm,20.7s,baz=320,slow=34						
CFAA	**Coronel Fontan**	**6.01**	**48**	Pn	**Pn**	**08 37 41.7**	**-0.5**
	comp=E,1.2nm,0.3s,baz=212,slow=13,SNR=18						
CFAA				Sn	**Sn**	**08 38 50.8**	**+0.9**
	comp=E,0.3nm,0.3s,baz=223,slow=18,SNR=2.4						
TRQA	**Tornquist**	**9.48**	**107**	*ePn*	**Pn**	**08 38 30.4**	**+0.6**
	comp=E,24nm,0.8s						
CPUP	**Villa Florida**	**16.70**	**60**	Pn	**Pn**	**08 40 04.7**	**-2.3**
	comp=E,0.3nm,0.3s,baz=270,slow=9.1,SNR=2.5						
USHA	**Ushuaia**	**19.39**	**171**	P	**Pn**	**08 40 39.9**	**+0.2**
	comp=E,0.2nm,0.3s,baz=271,slow=4.9,SNR=6.1						
LPAZ	**La Paz**	**19.97**	**15**	P	**Pn**	**08 40 48.0**	**+0.5**
	comp=E,0.1nm,0.3s,baz=187,slow=6.1,SNR=8.3						
LPAZ	**La Paz**	**19.97**	**15**	*eP*	**Pn**	**08 40 48.5**	**+1.0**
	comp=E,5.8nm,0.8s						
SIV	**San Ignacio**	**22.59**	**33**	P	**P**	**08 41 12.7**	**-0.5**
	comp=E,7.8nm,1.1s,baz=230,slow=13,SNR=9.5						
BDFB	**Brasilia**	**30.30**	**55**	P	**P**	**08 42 22.9**	**-1.0**
	comp=E,4.1nm,1.0s,baz=212,slow=9.5,SNR=3.1						
SNAA	**Sanae**	**50.41**	**157**	P	**P**	**08 45 09.2**	**0.0**
	comp=E,4.1nm,1.0s,baz=289,slow=7.4,SNR=6.8						
QSPA	**South Pole Qui**	**54.48**	**180**	P	**P**	**08 45 39.8**	**+0.3**
	comp=E,5.8nm,0.9s,baz=341,slow=0.7,SNR=13						
TXAR	**Lajitas Array**	**70.72**	**332**	P	**P**	**08 47 30.5**	**+2.3**
	comp=E,0.3nm,0.6s,baz=158,slow=8.2,SNR=4.5						
DBIC	**Dimbokro**	**76.85**	**72**	P	**P**	**08 48 04.8**	**+0.4**
	comp=E,3.1nm,0.8s,baz=179,slow=3.7,SNR=3.6						
NVAR	**Mina Array Bea**	**84.67**	**326**	P	P	08 48 49.2	+3.3
	comp=E,0.2nm,0.5s,baz=144,slow=7.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**85.91**	**71**	P	**P**	**08 48 52.2**	**-0.1**
	comp=E,1.7nm,1.0s,baz=269,slow=2.4,SNR=5.7						
KIEV	**Kiev**	**124.23**	**49**	*e*PKPdf	**PKPdf**	**08 55 08.0**	**-2.1**
ABKAR	**Akbulak array**	**143.68**	**53**	*e*PKPdf	PKPbc	08 55 43.9	-0.2
TKM2	**Tokmak 2**	**155.13**	**64**	*e*PKPdf	**PKPdf**	**08 56 06.5**	**+1.4**
ZALV	**Zalesovo Beam**	**156.34**	**33**	PKP	**PKPdf**	**08 56 05.9**	**-0.1**
	comp=E,0.6nm,0.4s,baz=22,slow=4.7,SNR=3.6						
ZALV				PKPab	**PKPab**	**08 56 34.9**	**+0.5**
	comp=E,1.2nm,0.4s,baz=291,slow=4.1,SNR=5.7						
MKAR	**Makanchi Array**	**158.79**	**51**	PKP	**PKPdf**	**08 56 09.6**	**+0.2**
	comp=E,0.4nm,0.8s,baz=293,slow=3.4,SNR=3.9						
MKAR				PKPab	**PKPab**	**08 56 45.6**	**+0.3**
	comp=E,0.6nm,0.8s,baz=298,slow=2.6,SNR=4.7						

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*KRNET **07** 08:55:06.9±0.1, 39°.45N×74°.84E, h3km, mb3.5*
*NNC **07** 08:55:18.4±9.8, 39°.89N×74°.75E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=78.6km s-min=50.7km az=156.0*
ISC 07 08:55:11.4±3.3, 39°.6N±0°.1×74°.82E±0°.07, h6km±17km, n9, σ1§84/15, 6C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.10**	**293**	*eP*	Pg	08 55 29.2	-3.3
	baz=299						
SFK				*e*S	**Sg**	**08 55 46.5**	**-0.2**
	baz=299						
OHH	**Osh**	**1.82**	**301**	*eP*	**Pn**	**08 55 43.6**	**+0.4**
	baz=305						
OHH				*e*S	**Sg**	**08 56 10.9**	**+1.1**
	baz=305						
NRN	**Naryn**	**2.05**	**26**	⇓*iP*	**Pn**	**08 55 48.0**	**+1.4**
	baz=24						
NRN				⇓*e*S	**Sg**	**08 56 17.6**	**+0.4**
	baz=24						
ARLS	**Aral**	**2.30**	**351**	⇓*iP*	**Pb**	**08 55 51.9**	**-1.4**
	baz=351						
ARLS				⇓*i*S	**Sg**	**08 56 25.0**	**-0.2**
	baz=351						
DRK	**Karamyk**	**2.34**	**268**	*eP*	**Pn**	**08 55 49.6**	**-1.0**
	baz=272						
DRK				*e*S	**Sn**	**08 56 20.4**	**+0.7**
	baz=272						
AAK	**Ala-Archa**	**3.05**	**355**	⇑Pn	**Pb**	**08 56 07.0**	**+1.0**
	1.4nm,0.6s						
AAK				⇑Lg	Lg	08 56 49.3	
	5.5nm,0.9s						
AAK	**Ala-Archa**	**3.05**	**355**	*e*PKPdf	**Pb**	**08 56 06.6**	**+0.5**
TKM2	**Tokmak 2**	**3.38**	**10**	⇑Pn	**Pn**	**08 56 05.8**	**+1.0**
	1.9nm,0.3s						
TKM2				⇑Sn	**Sb**	**08 56 48.4**	**-4.6**
	3.0nm,0.5s						
KK31	**Karatay Array**	**4.78**	**319**	⇑Pn	**Pn**	**08 56 26.0**	**+2.2**
	0.5nm,0.6s,baz=131,slow=15,SNR=4.1						
KK31				⇑Sn	**Sn**	**08 57 20.8**	**+1.4**
	0.9nm,0.5s						
KK31				⇓Lg	Lg	08 57 42.5	
	0.8nm,0.4s,baz=126,slow=31						

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*IDC **07** 08:55:24.0±0.7, 11°.35N×140°.61E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/31, mbtmp3.9/12, MS4.0/1, Ms1 4.0/1, ms1mx2.9/34, Error ellipse: s-maj=33.0km s-min=15.1km az=84.0*
*ISCJB **07** 08:55:28.3±0.6, 11°.27N±0°.09×140°.5E±0°.2, h43km, mb3.8/13, MS4.0/1, Error ellipse: s-maj=31.2km s-min=12.5km az=174.5*
ISC 07 08:55:30.1±0.7, 11°.3N±0°.1×140°.6E±0°.2, h43km, n20, σ1§04/13, mb3.9/13, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**23.46**	**339**	P	**P**	**09 00 36.8**	**+1.0**
	3.2nm,0.7s,baz=110,slow=17,SNR=2.5						
MJAR	**Matsushiro Arr**	**25.20**	**356**	P	**P**	**09 00 51.1**	**-0.7**
	0.7nm,0.7s,baz=182,slow=9.4,SNR=2.6						
H11S3	**WAKE ISLAND Hy**	**26.19**	**71**	T	T	09 29 35.7	
	baz=256,slow=74						
H11S1	**WAKE ISLAND Hy**	**26.21**	**71**	T	T	09 29 35.7	
	baz=256						
H11S2	**WAKE ISLAND Hy**	**26.21**	**71**	T	T	09 29 38.3	
	baz=256,slow=74						
H11N1	**WAKE ISLAND Hy**	**26.66**	**69**	T	T	09 30 11.7	
	baz=256						
H11N2	**WAKE ISLAND Hy**	**26.67**	**68**	T	T	09 30 16.1	
	baz=256						
H11N3	**WAKE ISLAND Hy**	**26.68**	**69**	T	T	09 30 14.7	
	baz=256						
WRA	**Warramunga Arr**	**31.67**	**191**	P	**P**	**09 01 49.2**	**-0.4**
	3.5nm,0.8s,baz=9,0,slow=9.7,SNR=15						
CTA	**Charters Tower**	**31.70**	**170**	P	**P**	**09 01 49.9**	**0.0**
	3.4nm,0.9s,baz=343,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**35.38**	**191**	P	**P**	**09 02 22.2**	**+0.2**
	1.3nm,0.6s,baz=16,slow=13,SNR=29						
ASAR				LR	LR	09 15 48.3	
	comp=Z,249nm,19.3s,baz=287,slow=35						
CMAR	**Chiang Mai Arr**	**40.79**	**285**	P	P	09 03 12.8	+5.1
	0.4nm,0.2s,baz=87,slow=6.4,SNR=4.8						
SONM	**Songino Array**	**46.31**	**328**	P	**P**	**09 03 53.3**	**+1.4**
	1.0nm,0.7s,baz=137,slow=7.7,SNR=6.8						
MKAR	**Makanchi Array**	**60.27**	**318**	P	**P**	**09 05 33.0**	**-1.3**
	0.4nm,0.7s,baz=94,slow=8.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**61.09**	**326**	P	**P**	**09 05 39.4**	**-0.3**
	0.3nm,0.3s,baz=104,slow=4.6,SNR=3.3						
ILAR	**Eielson Array**	**72.40**	**25**	P	**P**	**09 06 50.4**	**-1.2**
	0.6nm,0.8s,baz=256,slow=5.4,SNR=10.0						
YKA	**Yellowknife Ar**	**86.77**	**27**	P	**P**	**09 08 10.5**	**+0.9**
	1.0nm,0.8s,baz=291,slow=5.2,SNR=14						
FINES	**FINESS Array B**	**91.40**	**334**	P	**P**	**09 08 30.5**	**-0.9**
	1.9nm,0.8s,baz=90,slow=3.8,SNR=5.0						
NVAR	**Mina Array Bea**	**91.59**	**50**	P	**P**	**09 08 33.1**	**-0.1**
	0.1nm,0.6s,baz=280,slow=5.3,SNR=2.5						
LPAZ	**La Paz**	**151.70**	**103**	PKPbc	**PKPbc**	**09 15 23.2**	**+1.4**
	2.0nm,0.7s,baz=285,slow=3.5,SNR=8.1						

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*ISCJB **07** 08:59:19.7±0.5, 36°.47S±0°.05×72°.26W±0°.07, h35km, mb4.1/11, Error ellipse: s-maj=8.1km s-min=6.4km az=34.9*
*GUC **07** 08:59:21.9±0.4, 36°.35S×72°.33W, h44km±1km, ML5.0*
*IDC **07** 08:59:22.2±0.7, 36°.25S×72°.21W, h48km±5km, mb3.9/11, mb1 4.0/13, mb1mx3.9/26, mbtmp4.1/13, MS2.1/1, Ms1 2.1/1, ms1mx2.1/22, Error ellipse: s-maj=21.9km s-min=14.0km az=89.0*
ISC 07 08:59:21.4±0.5, 36°.34S±0°.07×72°.33W±0°.06, h35km, n26, σ1§51/35, mb4.2/11, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.43**	**300**	⇓*iP*	**Pn**	**08 59 32.3**	**+1.3**
COCH				*i* S	**Sn**	**08 59 39.6**	**+2.0**
LNCH	**Linares**	**0.77**	**50**	⇓*iP*	**Pn**	**08 59 36.8**	**+1.1**
LNCH				*i* S	**Sn**	**08 59 48.0**	**+1.9**
NICH	**Los Niches**	**1.61**	**34**	⇓*iP*	**Pn**	**08 59 48.8**	**+1.5**
NICH				*i* S	**Sn**	**09 00 09.3**	**+2.4**
CLCH	**Cerro Calan**	**3.29**	**27**	⇑*iP*	**Pn**	**09 00 11.9**	**+1.4**
CLCH				AML	AML	09 01 10.4	
	comp=N,2μm,0.6s						
CLCH				AML	AML	09 01 16.1	
	comp=N,2μm,0.7s						
PEL	**Peldehue**	**3.47**	**23**	⇓*iP*	**Pn**	**09 00 14.2**	**+1.3**
PEL				AML	AML	09 01 08.7	
	comp=N,3μm,0.3s						
PLCA	**Paso Flores**	**4.60**	**163**	P	**Pn**	**09 00 30.6**	**+2.1**
	comp=N,4.7nm,0.3s,baz=330,slow=10,SNR=45						
CFAA	**Coronel Fontan**	**5.82**	**37**	P	**Pn**	**09 00 45.2**	**0.0**
	comp=N,0.7nm,0.3s,baz=200,slow=7.1,SNR=35						
CFAA				S	**Sn**	**09 01 52.0**	**+1.2**
	comp=N,1.9nm,0.3s,baz=208,slow=14,SNR=6.2						
CFAA				LR	LR	09 03 40.9	
	comp=N,18nm,19.8s,baz=356,slow=45						
CPUP	**Villa Florida**	**16.23**	**56**	P	**Pn**	**09 03 07.4**	**+0.8**
	comp=N,0.4nm,0.3s,baz=212,slow=15,SNR=3.8						
USHA	**Ushuaia**	**18.68**	**173**	P	**P**	**09 03 37.9**	**+1.6**
	comp=N,0.3nm,0.3s,baz=4.4,slow=11,SNR=4.1						
LPAZ	**La Paz**	**20.32**	**12**	P	**P**	**09 03 56.5**	**+1.4**
	comp=N,3.1nm,0.8s,baz=215,slow=5.8,SNR=13						
SIV	**San Ignacio**	**22.61**	**29**	P	**P**	**09 04 18.0**	**-1.2**
	comp=N,8.9nm,0.7s,baz=224,slow=9.6,SNR=20						
BDFB	**Brasilia**	**29.90**	**53**	P	P	09 05 23.9	-2.2
	comp=N,2.0nm,0.6s,baz=193,slow=6.8,SNR=5.8						
SNAA	**Sanae**	**49.52**	**157**	P	**P**	**09 08 07.6**	**-0.6**
	comp=N,1.1nm,0.7s,baz=306,slow=0.7,SNR=6.6						
QSPA	**South Pole Qui**	**53.90**	**180**	P	**P**	**09 08 41.1**	**+0.1**
	comp=N,2.4nm,0.8s,baz=312,slow=2.7,SNR=11						
QSPA				pP	**pP**	**09 08 54.6**	**+3.1**
	comp=N,2.1nm,0.7s,baz=317,slow=3.9,SNR=4.1						
TXAR	**Lajitas Array**	**71.67**	**331**	P	**P**	**09 10 38.9**	**-0.7**
	comp=N,0.5nm,0.7s,baz=150,slow=9.1,SNR=8.3						
TXAR				pP	**pP**	**09 10 52.1**	**+1.7**
	comp=N,0.6nm,0.7s,baz=156,slow=9.6,SNR=7.1						
DBIC	**Dimbokro**	**76.16**	**71**	P	**P**	**09 11 04.9**	**-1.3**
	comp=N,5.4nm,0.6s,baz=198,slow=3.8,SNR=8.7						
DBIC				pP	**PcP**	**09 11 19.1**	**+0.9**
	comp=N,4.4nm,0.8s,baz=217,slow=4.8,SNR=2.5						
BOSA	**Boshof**	**79.20**	**117**	P	**P**	**09 11 21.8**	**-1.4**
	comp=N,4.7nm,0.9s,baz=217,slow=5.8,SNR=6.6						
TORD	**Torodi Ar. Bea**	**85.23**	**70**	P	**P**	**09 11 53.2**	**-1.5**
	comp=N,1.3nm,0.8s,baz=233,slow=3.5,SNR=5.9						
TORD				pP	**pP**	**09 12 06.8**	**+1.1**
	comp=N,1.5nm,1.0s,baz=235,slow=3.4,SNR=3.4						
NVAR	**Mina Array Bea**	**85.67**	**326**	P	**P**	**09 11 56.6**	**+0.1**
	comp=N,0.5nm,0.6s,baz=159,slow=5.9,SNR=4.7						
PDAR	**Pinedale Array**	**85.75**	**333**	P	**P**	**09 11 55.5**	**-1.4**
	comp=N,0.6nm,1.0s,baz=101,slow=4.8,SNR=3.8						
ULM	**Lac du Bonnet**	**88.70**	**345**	P	**P**	**09 12 08.8**	**-1.7**
	comp=N,2.1nm,0.8s,baz=324,slow=3.3,SNR=3.8						
WRA	**Warramunga Arr**	**118.60**	**209**	PKP	**PKPdf**	**09 18 04.3**	**-1.7**
	comp=N,0.2nm,0.3s,baz=165,slow=1.7,SNR=7.0						
SEY	**Seymchan**	**141.92**	**329**	PKP	**PKPdf**	**09 18 49.2**	**+0.7**
	comp=N,0.5nm,0.5s,baz=41,slow=14,SNR=3.5						
BVAR	**Borovoye Array**	**149.12**	**45**	PKPbc	**PKPbc**	**09 19 04.7**	**-0.7**
	comp=N,0.9nm,0.6s,baz=318,slow=2.0,SNR=6.5						
BVAR				pPKPbc	**pPKPbc**	**09 19 18.7**	**+1.9**
	comp=N,0.8nm,0.7s,baz=264,slow=3.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**156.31**	**35**	PKP	**PKPdf**	**09 19 10.0**	**-1.6**
	comp=N,0.3nm,0.3s,baz=198,slow=0.9,SNR=3.2						
MKAR	**Makanchi Array**	**158.42**	**53**	PKP	**PKPdf**	**09 19 13.6**	**-1.0**
	comp=N,0.4nm,0.6s,baz=158,slow=1.3,SNR=4.5						
MKAR				PKPab	**PKPab**	**09 19 47.9**	**-1.5**
	comp=N,0.6nm,0.8s,baz=299,slow=3.7,SNR=5.8						

GUC 07 09:15:23.1±0.4, 35°.10S×72°.40W, h12km±3km, ML3.8, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.96**	**84**	⇑*iP*	Pg	09 15 39.7	-2.0
NICH				*i* S	Sg	09 15 52.6	-1.7
LNCH	**Linares**	**0.99**	**139**	⇑*iP*	Pb	09 15 39.2	-2.9
LNCH				*i* S	Sg	09 15 52.4	-2.7
COCH	**Cobquecura**	**1.07**	**197**	⇑*iP*	Pb	09 15 38.5	-5.2
COCH				*i* S	Sb	09 15 52.6	-5.0
COCH				AML	AML	09 15 55.9	
	comp=E,2μm,0.3s						
RCDM	**Rinconada Maip**	**2.08**	**40**	⇑*iP*	Pn	09 15 56.2	-1.6
RCDM				*i* S4	Sn	09 16 22.5	-1.2
CLCH	**Cerro Calan**	**2.29**	**43**	⇑*iP*	Pn	09 16 01.2	+0.4
CLCH				*i* S	Sn	09 16 30.1	+0.9
CLCH				AML	AML	09 16 36.8	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**2.42**	**36**	⇑*iP*	Pn	09 16 02.8	+0.3
PEL				*i* S	Sn	09 16 32.8	+0.7
PEL				AML	AML	09 16 42.8	
	comp=N,1μm,0.6s						

WEL 07 09:28:08.1±0.1, 38°.35S×176°.98E, h60km±1km, ML3.5/8, 16C-11D, Error ellipse: s-maj=0.9km s-min=0.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.13**	**49**	⇓P*	Pn	09 28 16.6	-0.6
URZ				S*	Sn	09 28 23.5	-0.2
URZ				AML	AML	09 28 24.2	
EDRZ	**Edgecumbe**	**0.31**	**321**	⇓P*	Pn	09 28 17.9	-0.4
RRRZ	**Republican Roa**	**0.37**	**271**	⇓P*	Pn	09 28 18.6	-0.2
RAGZ	**Rawiri**	**0.37**	**114**	⇑P*	Pn	09 28 18.6	-0.3
RAGZ				S*	Sn	09 28 27.5	+0.8
TARZ	**Mount Tarawera**	**0.39**	**286**	P*	Pn	09 28 19.1	0.0
MWZ	**Matawai**	**0.43**	**89**	P*	Pn	09 28 18.7	-0.6
MWZ				S*	Sn	09 28 27.7	+0.2
MWZ				AML	AML	09 28 30.4	
MARZ	**Manawahe**	**0.43**	**326**	P*	Pn	09 28 19.2	-0.2
PRRZ	**Plateau Road**	**0.49**	**252**	⇑P*	Pn	09 28 19.7	-0.3
PRRZ				S*	Sn	09 28 28.8	+0.3
SNGZ	**Shannon Statio**	**0.52**	**147**	⇑PN	Pn	09 28 20.5	+0.2
ALRZ	**Allen Road**	**0.55**	**246**	⇑P*	Pn	09 28 20.4	-0.2
HRRZ	**Handcock Road**	**0.55**	**265**	⇓P*	Pn	09 28 20.5	-0.1
RAHZ	**Arahi**	**0.58**	**172**	⇑PN	Pn	09 28 21.1	+0.1
OPRZ	**Ohinepanea**	**0.60**	**326**	⇓P*	Pn	09 28 20.4	-0.8
OPRZ				S*	Sn	09 28 30.5	-0.2
KARZ	**Kaharoa**	**0.67**	**299**	⇓P*	Pn	09 28 21.6	-0.4
RIGZ	**Rimuhau**	**0.71**	**121**	⇓PN	Pn	09 28 22.4	-0.1
WHHZ	**Waihua**	**0.76**	**165**	PN	Pn	09 28 23.2	+0.2
NMHZ	**

TIWZ			AML	AML	09 29 19.7	
HOWZ	**Holdsworth Sta**	**2.79 204**	PN	Pn	09 28 46.9	-3.4
OGWZ	**Otaki Gorge**	**2.84 209**	PN	Pn	09 28 48.4	-2.6
KIW	**Kapiti Island**	**2.98 212**	PN	Pn	09 28 50.2	-2.7
MTW	**Mount Morrison**	**3.03 202**	PN	Pn	09 28 50.0	-3.6

*ISCJB **07** 10:02:38.5±0.9, 34.°87S±0.°06×72.°82W±0.°09, h18km, mb3.5/2, Error ellipse: s-maj=10.6km s-min=8.2km az=13.2*
*IDC **07** 10:02:38.1±1.7, 34.°79S×72.°61W, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.6/24, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=59.2km s-min=32.1km az=73.0*
*GUC **07** 10:02:41.6±0.4, 35.°04S×72.°63W, h35km±25km, ML3.5*
ISC 07 10:02:40.1±1.1, 34.°92S±0.°07×72.°67W±0.°08, h18km, n7, σ0.°87/10, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.19**	**94**	⇑*iP*	**Pg**	**10 03 02.6**	**-0.5**
NICH				*i* S	**Sg**	**10 03 18.6**	**0.0**
NICH				IAML		10 03 23.3	
	comp=E,5μm,0.3s						
COCH	**Cobquecura**	**1.21**	**184**	⇑*iP*	**Pn**	**10 03 01.7**	**-0.4**
COCH				*i* S	**Sb**	**10 03 16.9**	**-1.0**
COCH				IAML		10 03 21.2	
	comp=E,996nm,0.4s						
LNCH	**Linares**	**1.27**	**137**	*eP*	**Pn**	**10 03 03.0**	**0.0**
LNCH				*i* S4	**Sg**	**10 03 21.6**	**+0.2**
PLCA	**Paso Flores**	**6.04**	**165**	Pn	**Pn**	**10 04 10.2**	**+1.6**
	comp=E,0.3nm,0.3s,baz=342,slow=9.6,SNR=5.6						
PLCA				Lg	Lg	10 05 46.6	
	comp=E,0.8nm,0.3s,baz=41,slow=22,SNR=2.9						
LPAZ	**La Paz**	**19.00**	**14**	P	**P**	**10 07 00.5**	**-0.9**
	comp=E,0.1nm,0.3s,baz=207,slow=3.7,SNR=2.6						
TXAR	**Lajitas Array**	**70.28**	**331**	P	**P**	**10 13 52.7**	**+0.3**
	comp=E,0.3nm,0.5s,baz=149,slow=7.2,SNR=6.2						
TORD	**Torodi Ar. Bea**	**85.01**	**70**	P	**P**	**10 15 15.5**	**+0.7**
	comp=E,0.4nm,0.8s,baz=234,slow=4.5,SNR=3.3						

IDC 07 10:10:26.8±2.3, 1.°28N×127.°13E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/29, mbtmp3.3/3, Error ellipse: s-maj=185.3km s-min=26.4km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.25**	**162**	P	P	10 15 25.6	+0.1
	0.8nm,0.6s,baz=341,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**25.66**	**166**	P	P	10 15 58.4	-0.1
	0.2nm,0.9s,baz=346,slow=13,SNR=3.1						
MKAR	**Makanchi Array**	**59.79**	**326**	P	P	10 20 33.8	0.0
	0.1nm,0.5s,baz=134,slow=7.6,SNR=5.1						

*ISCJB **07** 10:19:03.4±0.5, 35.°63S±0.°05×72.°18W±0.°08, h56km±5km, mb3.8/7, Error ellipse: s-maj=11.8km s-min=5.8km az=29.5*
*GUC **07** 10:19:03.4±0.5, 35.°68S×72.°15W, h54km±5km, ML4.4*
*NEIC **07** 10:19:03.2±0.8, 35.°54S×72.°37W, h35km, mb4.0/4, Error ellipse: s-maj=20.2km s-min=12.6km az=84.0*
*IDC **07** 10:19:04.2±0.8, 35.°59S×72.°06W, h49km±8km, mb3.6/6, mb1 3.8/9, mb1mx3.6/26, mbtmp3.8/9, ML4.2/2, Error ellipse: s-maj=32.1km s-min=16.3km az=89.0*
ISC 07 10:19:04.0±0.7, 35.°62S±0.°05×72.°22W±0.°06, h48km±7km, n25, σ0.°90/34, mb3.8/7, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.55**	**115**	⇓*iP*	**Pn**	**10 19 14.9**	**-0.9**
LNCH				*i* S	**Sn**	**10 19 23.6**	**-0.7**
COCH	**Cobquecura**	**0.69**	**222**	⇓*iP*	**Pn**	**10 19 17.6**	**0.0**
COCH				*i* S	**Sn**	**10 19 27.8**	**+0.5**
NICH	**Los Niches**	**1.02**	**53**	⇓*iP*	**Pn**	**10 19 21.8**	**-0.1**
LNV	**Longovilo**	**1.79**	**22**	*eP*1	**Pn**	**10 19 32.6**	**+0.2**
LNV				*i* S1	**Sn**	**10 19 55.4**	**+1.5**
CACH	**El Canelo**	**2.00**	**42**	*eP*1	**Pn**	**10 19 35.6**	**0.0**
CHCH	**Chadas Angostu**	**2.12**	**38**	⇑*iP*	**Pn**	**10 19 37.4**	**+0.3**
TACH	**Talagante**	**2.23**	**29**	*eP*	**Pn**	**10 19 38.5**	**0.0**
ANTU	**Antumapu**	**2.43**	**33**	⇑*iP*	**Pn**	**10 19 41.7**	**+0.4**
ANTU				*i* S	**Sn**	**10 20 10.4**	**+0.6**
ANTU				AML	AML	10 20 26.7	
	comp=E,1μm,0.5s						
SAN	**Santiago**	**2.51**	**31**	*eP*	**Pn**	**10 19 42.8**	**+0.3**
SAN				*i* S	**Sn**	**10 20 12.8**	**+0.9**
CLCH	**Cerro Calan**	**2.62**	**33**	⇑*iP*	**Pn**	**10 19 44.1**	**+0.2**
CLCH				AML	AML	10 20 31.5	
	comp=E,2μm,0.2s						
CLCH				AML	AML	10 20 39.5	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**2.78**	**28**	⇓*iP*	**Pn**	**10 19 46.2**	**+0.2**
PEL				AML	AML	10 20 36.9	
	comp=E,2μm,0.6s						
CFAA	**Coronel Fontan**	**5.20**	**41**	P	**Pn**	**10 20 18.9**	**-0.5**
	comp=E,0.5nm,0.3s,baz=215,slow=13,SNR=23						
CFAA				S	**Sn**	**10 21 19.8**	**+1.7**
	comp=E,0.1nm,0.3s,baz=253,slow=11,SNR=2.1						
PLCA	**Paso Flores**	**5.27**	**166**	P	**Pn**	**10 20 21.7**	**+1.4**
	comp=E,2.2nm,0.3s,baz=336,slow=11,SNR=8.8						
TRQA	**Tornquist**	**8.56**	**110**	*eP*n	**Pn**	**10 21 07.8**	**+2.4**
	comp=E,5.0nm,0.6s						
LPAZ	**La Paz**	**19.59**	**12**	P	**Pn**	**10 23 30.2**	**-0.4**
	comp=E,0.3nm,0.3s,baz=174,slow=8.0,SNR=12						
LPAZ	**La Paz**	**19.59**	**12**	*eP*	**Pn**	**10 23 30.2**	**-0.4**
	comp=E,3.2nm,0.8s						
SIV	**San Ignacio**	**21.94**	**30**	P	**P**	**10 23 51.9**	**-1.7**
	comp=E,2.0nm,0.8s,baz=210,slow=10.0,SNR=3.8						
QSPA	**South Pole Qui**	**54.62**	**180**	P	**P**	**10 28 28.1**	**+0.6**
	comp=E,0.7nm,0.3s,baz=353,slow=2.5,SNR=24						
QSPA				pP	**pP**	**10 28 40.9**	**0.0**
	comp=E,1.4nm,0.7s,baz=130,slow=2.8,SNR=3.0						
QSPA	**South Pole Qui**	**54.62**	**180**	*eP*	**P**	**10 28 28.4**	**+0.8**
	comp=E,2.0nm,0.8s						
TXAR	**Lajitas Array**	**71.07**	**331**	P	**P**	**10 30 18.2**	**+1.0**
	comp=E,0.2nm,0.6s,baz=149,slow=8.4,SNR=3.8						
TXAR				pP	**pP**	**10 30 31.4**	**+0.4**
	comp=E,0.3nm,0.5s,baz=158,slow=7.7,SNR=4.0						
BOSA	**Boshof**	**79.45**	**118**	P	**P**	**10 31 05.1**	**-0.6**
	comp=E,4.7nm,0.9s,baz=269,slow=0.7,SNR=6.9						
BOSA	**Boshof**	**79.45**	**118**	*eP*	**P**	**10 31 05.2**	**-0.6**
	comp=E,6.9nm,1.0s						
ECSD	**EROS Data Cent**	**82.04**	**342**	*eP*	**P**	**10 31 18.9**	**+0.1**
	comp=E,0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**84.90**	**70**	P	**P**	**10 31 32.8**	**-1.4**
	comp=E,0.6nm,0.8s,baz=234,slow=4.7,SNR=4.2						
PDAR	**Pinedale Array**	**85.14**	**333**	P	**P**	**10 31 34.4**	**-0.6**
	comp=E,0.2nm,0.6s,baz=163,slow=1.5,SNR=2.7						
PDAR				pP	**pP**	**10 31 49.1**	**+0.1**
	comp=E,0.4nm,0.8s,baz=125,slow=4.5,SNR=2.7						

*IDC **07** 10:29:36.4±1.0, 34.°56S×73.°60W, h0km, mb3.9/6, mb1 3.9/9, mb1mx3.8/32, mbtmp3.8/9, ML3.7/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/27, Error ellipse: s-maj=35.4km s-min=19.3km az=94.0*
*GUC **07** 10:29:38.0±0.7, 34.°45S×73.°45W, h35km±13km, ML4.2*
*ISCJB **07** 10:29:39.4±0.7, 34.°48S±0.°05×73.°53W±0.°06, h33km, mb4.0/7, MS3.9/1, Error ellipse: s-maj=7.6km s-min=6.7km az=142.6*
*NEIC **07** 10:29:39.3±5.5, 34.°57S×73.°59W, h19km±33km, mb4.3/2, Error ellipse: s-maj=21.1km s-min=9.3km az=94.0*
ISC 07 10:29:41.6±0.8, 34.°49S±0.°06×73.°50W±0.°08, h35km, n22, σ1.°04/31, mb4.1/7, 6C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.81**	**74**	⇑*iP*	**Pn**	**10 30 07.9**	**-2.5**
LNV				*i* S1	**Sn**	**10 30 31.0**	**-1.1**
NICH	**Los Niches**	**1.94**	**106**	⇑*iP*	**Pn**	**10 30 10.9**	**-1.2**
NICH				*i* S	**Sn**	**10 30 35.8**	**+0.5**
LNCH	**Linares**	**2.07**	**132**	⇑*iP*	**Pn**	**10 30 12.7**	**-1.2**
LNCH				*i* S	**Sn**	**10 30 38.8**	**+0.5**
CHCH	**Chadas Angostu**	**2.43**	**78**	⇑*iP*	**Pn**	**10 30 17.7**	**-1.1**
CHCH				*i* S1	**Sn**	**10 30 47.6**	**+0.3**
CACH	**El Canelo**	**2.43**	**82**	⇑*iP*	**Pn**	**10 30 18.5**	**-0.5**
CACH				*i* S1	**Sn**	**10 30 49.3**	**+1.7**
ANTU	**Antumapu**	**2.55**	**70**	*eP*	**Pn**	**10 30 19.0**	**-1.5**
ANTU				*i* S	**Sn**	**10 30 50.3**	**-0.2**
ANTU				AML	AML	10 30 51.1	
	comp=N,1μm,0.3s						
CLCH	**Cerro Calan**	**2.70**	**67**	⇑*iP*	**Pn**	**10 30 21.1**	**-1.5**
CLCH				*i* S	**Sn**	**10 30 53.8**	**-0.2**
CLCH				AML	AML	10 30 55.1	
	comp=E,610nm,0.4s						
CLCH				AML	AML	10 30 55.7	
	comp=E,754nm,0.4s						
PEL	**Peldehue**	**2.70**	**61**	⇓*iP*	**Pn**	**10 30 21.5**	**-1.1**
PEL				*i* S	**Sn**	**10 30 54.0**	**-0.1**
PEL				AML	AML	10 30 56.1	
	comp=N,2μm,0.5s						
CFAA	**Coronel Fontan**	**5.27**	**58**	Pn	**Pn**	**10 30 57.7**	**-0.3**
	comp=N,0.5nm,0.3s,baz=226,slow=12,SNR=14						
CFAA				Sn	**Sn**	**10 31 57.7**	**+0.1**
	comp=N,1.0nm,0.3s,baz=320,slow=22,SNR=8.1						
PLCA	**Paso Flores**	**6.66**	**160**	Pn	**Pn**	**10 31 14.7**	**-2.3**
	comp=N,0.6nm,0.3s,baz=320,slow=9.1,SNR=11						
PLCA				LR	LR	10 33 50.5	
	comp=N,130nm,20.9s,baz=239,slow=38						
TRQA	**Tornquist**	**9.96**	**114**	*eP*n	**Pn**	**10 32 02.4**	**+0.1**
LPAZ	**La Paz**	**18.75**	**16**	P	**Pn**	**10 33 59.5**	**+0.7**
	comp=N,0.1nm,0.3s,baz=171,slow=10,SNR=6.1						
SIV	**San Ignacio**	**21.54**	**34**	P	**P**	**10 34 29.6**	**+1.6**
	comp=N,2.5nm,0.8s,baz=238,slow=13,SNR=7.0						
SNAA	**Sanae**	**51.60**	**158**	P	**P**	**10 38 44.0**	**0.0**
	comp=N,0.9nm,0.8s,baz=253,slow=11,SNR=4.0						
QSPA	**South Pole Qui**	**55.75**	**180**	P	**P**	**10 39 14.6**	**-0.1**
	comp=N,1.6nm,0.9s,baz=146,slow=2.7,SNR=6.8						
QSPA	**South Pole Qui**	**55.75**	**180**	*eP*	**P**	**10 39 14.8**	**+0.2**
	comp=N,3.2nm,0.8s						
TXAR	**Lajitas Array**	**69.58**	**332**	P	**P**	**10 40 47.1**	**0.0**
	comp=N,0.7nm,0.8s,baz=152,slow=8.4,SNR=8.9						
TXAR				LR	LR	11 07 23.0	
	comp=N,68nm,19.4s,baz=0.0,slow=33						
DBIC	**Dimbokro**	**76.48**	**72**	P	**P**	**10 41 28.4**	**+0.2**
	comp=N,8.1nm,1.2s,baz=204,slow=10,SNR=3.0						
ECSD	**EROS Data Cent**	**80.65**	**343**	*eP*	**P**	**10 41 50.1**	**-0.4**
	comp=N,1.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**85.52**	**71**	P	**P**	**10 42 16.4**	**+0.1**
	comp=N,0.9nm,0.8s,baz=256,slow=3.3,SNR=4.5						
BVAR	**Bovoye Array**	**148.46**	**43**	PKPbc	**PKPbc**	**10 49 24.6**	**+0.6**
	comp=N,0.4nm,0.6s,baz=232,slow=1.6,SNR=3.4						
MKAR	**Makanchi Array**	**158.00**	**49**	PKPab	**PKPab**	**10 50 07.7**	**-0.1**
	comp=N,0.4nm,0.6s,baz=305,slow=4.3,SNR=4.6						

*ISCJB **07** 10:40:50.8±0.8, 13.°2N±0.°1×50.°80E±0.°06, h16km, mb3.7/13, MS3.3/1, Error ellipse: s-maj=21.1km s-min=8.8km az=177.0*
*IDC **07** 10:40:50.2±1.1, 13.°16N×50.°95E, h0km, mb3.7/13, mb1 3.9/13, mb1mx3.6/49, mbtmp3.7/13, MS3.5/1, Ms1 3.5/1, ms1mx2.7/41, Error ellipse: s-maj=26.9km s-min=22.1km az=3.0*
ISC 07 10:40:52.4±1.1, 13.°2N±0.°2×50.°83E±0.°08, h16km, n17, σ0.°94/15, mb3.8/13, 1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**5.18**	**280**	⇓*iP*	**Pn**	**10 42 09.8**	**+0.1**
BDHA				*e*		10 42 09.9	
	baz=115,slow=16						
BDHA				*i* S	**Sn**	**10 43 07.4**	**-1.9**
GEYT	**Alibeck**	**25.52**	**13**	P	**P**	**10 46 21.4**	**+1.2**
	1.2nm,0.5s,baz=224,slow=6.0,SNR=4.6						
GEYT				LR	LR	10 58 09.8	
	comp=Z,89nm,18.2s,baz=240,slow=41						
H08N2	**Diego Garcia H**	**27.85**	**133**	T	T	11 15 49.5	
	baz=313,slow=76,SNR=27						
H08N3	**Diego Garcia H**	**27.86**	**133**	T	T	11 15 48.1	
	baz=313,slow=76,SNR=23						
H08N1	**Diego Carcia H**	**27.88**	**133**	T	T	11 15 51.3	
	baz=313,slow=76,SNR=27						
AKTO	**Aktyubinsk**	**37.64**	**8**	P	**P**	**10 48 06.4**	**-0.2**
	1.1nm,0.7s,baz=174,slow=3.4,SNR=3.9						
MKAR	**Makanchi Array**	**42.68**	**32**	P	**P**	**10 48 48.5**	**+0.1**
	0.2nm,0.5s,baz=222,slow=8.5,SNR=4.8						
BVAR	**Borovoye Array**	**42.72**	**17**	P	**P**	**10 48 48.9**	**+0.2**
	0.5nm,0.5s,baz=198,slow=8.9,SNR=3.8						
KURBB	**Kurchatov Arra**	**43.64**	**25**	P	**P**	**10 48 55.9**	**-0.2**
	0.3nm,0.4s,baz=217,slow=6.9,SNR=3.2						
CMAR	**Chiang Mai Arr**	**46.49**	**77**	P	**P**	**10 49 17.8**	**-1.5**
	0.9nm,0.5s,baz=271,slow=8.4,SNR=6.8						
TORD	**Torodi Ar. Bea**	**47.78**	**276**	P	**P**	**10 49 30.5**	**+1.0**
	1.4nm,0.7s,baz=89,slow=7.4,SNR=9.4						
ZALV	**Zalesovo Beam**	**48.72**	**26**	P	**P**	**10 49 35.1**	**-0.9**
	0.5nm,0.6s,baz=232,slow=7.1,SNR=3.5						
FINES	**FINESS Array B**	**51.44**	**345**	P	**P**	**10 49 56.1**	**-0.5**
	0.8nm,0.7s,baz=167,slow=6.6,SNR=3.0						
ESDC	**Sonseca Array**	**54.75**	**309**	P	**P**	**10 50 22.5**	**+1.0**
	0.3nm,0.5s,baz=96,slow=6.7,SNR=3.9						
SONM	**Songino Array**	**57.44**	**41**	P	**P**	**10 50 40.6**	**0.0**
	0.3nm,0.6s,baz=253,slow=8.4,SNR=3.9						
WRA	**Warramunga Arr**	**88.45**	**111**	P	**P**	**10 53 45.0**	**+0.4**
	1.3nm,1.0s,baz=291,slow=4.2,SNR=5.0						
ASAR	**Alice Springs**	**89.00**	**114**	P	**P**	**10 53 47.1**	**0.0**
	1.0nm,1.0s,baz=284,slow=4.1,SNR=6.8						

*IDC **07** 10:51:58.4±0.9, 35.°59S×73.°01W, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.0/31, mbtmp4.0/8, ML3.9/2, MS3.2/6, Ms1 3.2/6, ms1mx3.1/26, Error ellipse: s-maj=35.4km s-min=21.0km az=95.0*
*ISCJB **07** 10:51:59.2±0.5, 35.°67S±0.°04×73.°11W±0.°05, h17km, mb4.2/14, MS3.3/3, Error ellipse: s-maj=6.5km s-min=5.6km az=142.1*
*GUC **07** 10:52:00.3±0.5, 35.°78S×73.°06W, h33km±7km, ML4.9*
*NEIC **07** 10:52:03.8±0.5, 35.°60S×73.°02W, h35km, mb4.4/9, Error ellipse: s-maj=13.0km s-min=9.4km az=68.0*
ISC 07 10:52:00.9±0.6, 35.°68S±0.°05×72.°97W±0.°07, h17km, n29, σ1.°07/29, mb4.4/14, MS3.5/3, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.47**	**162**	⇑*iP*	**Pg**	**10 52 09.4**	**-1.0**
COCH				*i* S	**Sg**	**10 52 15.9**	**-0.9**
LNCH	**Linares**	**1.12**	**99**	⇑*iP*	**Pb**	**10 52 21.3**	**-0.6**
LNCH				*i* S	**Sg**	**10 52 37.2**	**-0.1**
NICH	**Los Niches**	**1.57**	**65**	⇑*iP*	**Pb**	**10 52 29.1**	**-0.4**
NICH				*i* S	**Sg**	**10 52 50.6**	**-1.0**
CLCH	**Cerro Calan**	**3.04**	**42**	⇑*iP*	**Pn**	**10 52 49.2**	**+1.0**
CLCH				AML	AML	10 53 39.9	
	comp=N,2μm,0.6s						
CLCH				AML	AML	10 53 43.8	
	comp=N,3μm,0.6s						
PEL	**Peldehue**	**3.16**	**37**	⇑*iP*	**Pn**	**10 52 50.8**	**+1.0**
PEL				AML	AML	10 53 51.1	
	comp=E,3μm,0.4s						
PLCA	**Paso Flores**	**5.39**	**160**	Pn	**Pn**	**10 53 22.0**	**+1.5**
	comp=E,0.8nm,0.3s,baz=339,slow=12,SNR=3.9						
PLCA				Lg	Lg	10 54 45.8	
	comp=E,1.2nm,0.3s,baz=275,slow=20,SNR=5.7						
PLCA				LR	LR	10 55 15.1	
	comp=E,68nm,18.5s,baz=330,slow=36						
CFAA	**Coronel Fontan**	**5.66**	**45**	Pn	**Pn**	**10 53 25.2**	**+0.9**
	comp=E,0.2nm,0.3s,baz=192,slow=13,SNR=9.6						
CFAA				Sn	**Sn**	**10 54 31.1**	**+2.2**
	comp=E,0.3nm,0.3s,baz=234,slow=15,SNR=3.1						
CFAA				Lg	Lg	10 54 47.7	
	comp=E,0.7nm,0.3s,baz=126,slow=22,SNR=7.0						
CFAA				LR	LR	10 55 51.0	
	comp=E,53nm,19.0s,baz=222,slow=41						
TRQA	**Tornquist**	**9.12**	**108**	*eP*n	Pn	10 54 15.2	+3.5
	comp=E,12nm,0.6s						
CPUP	**Villa Florida**	**16.31**	**59**	LR	LR	11 02 36.0	
	comp=E,230nm,18.2s,baz=222,slow=39						
LPAZ	**La Paz**	**19.79**	**14**	P	**P**	**10 56 32.1**	**+1.1**
	comp=E,0.2nm,0.3s,baz=180,slow=11,SNR=10						
SIV	**San Ignacio**	**22.30**	**31**	P	**P**	**10 56 56.8**	**-0.8**
	comp=E,12nm,0.9s,baz=233,slow=15,SNR=26						
SIV				LR	LR	11 07 12.8	
	comp=E,170nm,20.2s,baz=209,slow=41						
NNA	**Nana**	**23.85**	**351**	LR	LR	11 04 52.1	
	comp=E,50nm,18.6s,baz=156,slow=33						
PMSA	**Palmer Station**	**29.62**	**172**	LR	LR	11 09 45.0	
	comp=E,127nm,19.6s,baz=290,slow=36						
QSPA	**South Pole Qui**	**54.56**	**180**	P	**P**	**11 01 29.6**	**+1.7**
	comp=E,1.8nm,1.0s,baz=154,slow=2.8,SNR=2.7						
QSPA	**South Pole Qui**	**54.56**	**180**	*eP*	**P**	**11 01 29.8**	**+1.9**
	comp=E,11nm,1.4s						
TXAR	**Lajitas Array**	**70.84**	**332**	P	**P**	**11 03 16.7**	**0.0**
	comp=E,0.3nm,0.6s,baz=152,slow=8.5,SNR=5.5						
SWET	**Sewanee**	**71.56**	**349**	*eP*	**P**	**11 03 19.9**	**-1.0**
	comp=E,4.3nm,0.6s						
WVT	**Waverly**	**72.77**	**347**	*eP*	**P**	**11 03 27.3**	**-0.7**
	comp=E,3.2nm,0.8s						
TUL1	**Leonard**	**74.33**	**341**	*eP*	**P**	**11 03 36.7**	**-0.6**
	comp=E,3.9nm,0.7s						
ACSO	**Alum Creek Sta**	**76.10**	**352**	*eP*	**P**	**11 03 46.4**	**-0.9**
	comp=E,6.6nm,0.6s						
ANMO	**Albuquerque**	**76.90**	**332**	*eP*	**P**	**11 03 52.9**	**+0.7**
	comp=E,2.7nm,1.1s						
ECSD	**EROS Data Cent**	**81.92**	**343**	*eP*	**P**	**11 04 18.1**	**-1.0**
	comp=E,3.6nm,0.7s						
R11A	**Troy Canyon, C**	**83.55**	**328**	*eP*	**P**	**11 04 28.8**	**+0.8**
	comp=E,1.7nm,1.0s						
DUG	**Dugway, Tooele**	**83.94**	**330**	*eP*	**P**	**11 04 30.6**	**+0.7**
	comp=E,2.5nm,1.1s						
NVAR	**Mina Array Bea**	**84.83**	**326**	P	**P**	**11 04 34.9**	**+0.4**
	comp=E,0.2nm,0.5s,baz=134,slow=7.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**85.50**	**70**	P	**P**	**11 04 37.1**	**-1.0**
	comp=E,1.3nm,0.9s,baz=243,slow=2.9,SNR=6.1						
ULM	**Lac du Bonnet**	**87.92**	**346**	P	**P**	**11 04 47.8**	**-1.3**
	comp=E,2.2nm,0.7s,baz=171,slow=4.9,SNR=5.5						
BVAR	**Borovoye Array**	**149.02**	**44**	PKPbc	**PKPbc**	**11 11 46.9**	**-0.5**
	comp=E,0.5nm,0.5s,baz=298,slow=3.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**156.05**	**33**	PKPab	**PKPab**	**11 12 20.8**	**-0.3**
	comp=E,0.9nm,0.5s,baz=329,slow=2.6,SNR=4.2						

IDC 07 11:01:22.8±1.9, 37.°61S×73.°84W, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/27, mbtmp3.3/4, ML3.5/2, MS2.5/1, Ms1 2.5/1, ms1mx2.3/12, Error ellipse: s-maj=54.3km s-min=33.8km az=54.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.03**	**142**	Pn	Pn	11 02 26.4	+0.5
	1.3nm,0.3s,baz=316,slow=9.6,SNR=5.0						
PLCA				Sn	Sb	11 03 21.3	-2.8
	4.8nm,0.3s,baz=255,slow=14,SNR=2.8						
PLCA				LR	LR	11 04 22.1	
	comp=Z,55nm,18.5s,baz=190,slow=44						
CFAA	**Coronel Fontan**	**7.56**	**39**	Pn	Pn	11 03 14.9	+0.5
	0.3nm,0.3s,baz=209,slow=12,SNR=13						
CFAA				Sn	Sn	11 04 36.0	-5.0
	0.2nm,0.3s,baz=107,slow=20,SNR=3.2						
TXAR	**Lajitas Array**	**72.22**	**333**	P	P	11 12 49.9	+0.2
	0.1nm,0.6s,baz=153,slow=6.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**86.80**	**71**	P	P	11 14 08.7	-0.6
	0.4nm,0.9s,baz=216,slow=4.0,SNR=4.1						

KRSC 07 11:01:39.1±1.4, 49.°66N×155.°58E, h78km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.08**	**19**	*eP*	Pn	11 01 59.7	+0.7
SKR				*eS*	Sn	11 02 15.7	+1.8
PAU	**Pauzhetka**	**1.97**	**23**	*eP*	Pn	11 02 12.4	+1.9
PAU				*eS*	Sn	11 02 36.4	+1.9
MIPR	**Malaya Ipel'ka**	**2.72**	**15**	*eP*	Pn	11 02 23.1	+2.5
MTVR	**Mutnovka**	**3.27**	**29**	*eP*	Pn	11 02 29.6	+1.4
MTVR				*eS*	Sn	11 03 08.3	+2.2
UGLR	**Uglovaya**	**4.09**	**29**	*eP*	Pn	11 02 43.7	+4.3
KOK	**Koryaka**	**4.11**	**27**	*eP*	Pn	11 02 42.1	+2.5
AVH	**Avacha**	**4.12**	**28**	*eP*	Pn	11 02 42.5	+2.9
SMAR	**Somma**	**4.13**	**28**	*eP*	Pn	11 02 42.8	+2.8
KRER	**Koryakskii**	**4.15**	**27**	*eP*	Pn	11 02 42.6	+2.3
KRX	**Arik**	**4.17**	**26**	*eP*	Pn	11 02 43.1	+2.6
SDLR	**Sedlovina**	**4.17**	**28**	*eP*	Pn	11 02 43.9	+3.5
GNL	**Ganaly**	**4.30**	**19**	*eP*	Pn	11 02 44.5	+2.3
MKZ	**Mys Kozlova**	**6.20**	**35**	*eP*	Pn	11 03 10.9	+3.1
TUMR	**Tumrok**	**6.28**	**25**	P	Pn	11 03 12.3	+3.1
KBTR	**Krutoberegovo**	**7.88**	**31**	*eP*	Pn	11 03 33.9	+3.1

WEL 07 11:06:45.1±0.5, 37.°57S×176.°13E, h270km±6km, ML3.3/10, 2C, Error ellipse: s-maj=15.3km s-min=11.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.04**	**132**	PN	Pn	11 07 22.5	+0.1
URZ				SN	S	11 07 51.7	-0.2
MWZ	**Matawai**	**1.34**	**125**	PN	Pn	11 07 24.5	+0.2
MWZ				SN	S	11 07 54.1	-1.2
NMHZ	**Naumai**	**1.62**	**161**	PN	Pn	11 07 26.8	+0.5
BKZ	**Black Stump Fm**	**1.62**	**170**	⇑PN	Pn	11 07 26.2	-0.1
BKZ				SN	S	11 07 58.6	-0.3
WNVZ	**Wahianoa**	**1.81**	**193**	PN	Pn	11 07 28.0	+0.2
BHHZ	**Black Hill Sta**	**

6.6nm,0.7s,baz=1.0,slow=12,SNR=4.2
WRA Warramunga Arr 48.88 259 P P 11 43 54.7 -0.5
1.0nm,0.5s,baz=97,slow=8.5,SNR=20
ASAR Alice Springs 48.90 254 P P 11 43 55.5 +0.2
2.0nm,0.9s,baz=93,slow=8.0,SNR=25
ILAR Eielson Array 85.51 11 P P 11 47 46.4 -0.2
0.7nm,0.8s,baz=229,slow=6.6,SNR=11
GERES GERESS Array B 149.11 350 PKPbc PKPbc 11 54 57.3 -0.3
0.3nm,0.5s,baz=351,slow=3.2,SNR=4.0

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*IDC **07** 12:04:17.8±0.8, 36°.93S×73°.75W, h0km, mb4.1/11, mb1 4.2/14, mb1mx4.1/36, mbtmp4.1/14, ML3.5/3, MS3.5/3, Ms1 3.5/3, ms1mx3.2/27, Error ellipse: s-maj=24.5km s-min=15.2km az=76.0*
*ISCJB **07** 12:04:21.7±0.5, 36°.89S±0°.06×73°.7W±0°.1, h35km, mb4.3/20, MS4.2/1, Error ellipse: s-maj=12.9km s-min=8.7km az=164.3*
*NEIC **07** 12:04:23.5±1.6, 36°.87S×73°.70W, h38km±13km, mb4.5/10, Error ellipse: s-maj=17.4km s-min=8.4km az=82.0*
ISC 07 12:04:23.0±0.7, 36°.87S±0°.08×73°.7W±0°.1, h35km, n35, σ0§93/35, mb4.3/20, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.59**	**148**	Pn	**Pn**	**12 05 29.4**	**-0.6**
	0.3nm,0.3s,baz=321,slow=14,SNR=18						
PLCA				Lg	Lg	12 06 40.8	
	1.0nm,0.3s,baz=266,slow=16,SNR=2.9						
PLCA	**Paso Flores**	**4.59**	**148**	*e*Pn	**Pn**	**12 05 30.5**	**+0.5**
PLCA				Lg	Lg	12 06 40.8	
CFAA	**Coronel Fontan**	**6.95**	**43**	Pn	**Pn**	**12 06 01.6**	**-0.9**
	0.3nm,0.3s,baz=214,slow=13,SNR=18						
CFAA				LR	LR	12 09 03.4	
	comp=Z,62nm,18.5s,baz=230,slow=41						
TRQA	**Tornquist**	**9.43**	**101**	*e*Pn	**Pn**	**12 06 37.4**	**+1.1**
	21nm,1.0s						
LVC	**Limon Verde**	**14.81**	**18**	*e*Pn	**Pn**	**12 07 49.1**	**-1.1**
	8.7nm,0.9s						
CPUP	**Villa Florida**	**17.46**	**58**	P	**P**	**12 08 24.6**	**-0.2**
	0.2nm,0.3s,baz=204,slow=15,SNR=3.7						
CPUP				LR	LR	12 15 55.8	
	comp=Z,213nm,19.8s,baz=220,slow=40						
EFI	**East Falkland**	**18.52**	**148**	*e*P	**P**	**12 08 35.5**	**-0.7**
	35nm,1.0s						
LPAZ	**La Paz**	**21.10**	**15**	P	**P**	**12 09 06.3**	**+1.1**
	8.1nm,0.8s,baz=169,slow=7.2,SNR=18						
LPAZ	**La Paz**	**21.10**	**15**	*e*P	**P**	**12 09 06.8**	**+1.6**
	15nm,1.1s						
SIV	**San Ignacio**	**23.64**	**32**	P	**P**	**12 09 30.9**	**-0.3**
	8.8nm,0.9s,baz=228,slow=12,SNR=23						
BDFB	**Brasilia**	**31.12**	**54**	P	**P**	**12 10 37.9**	**-0.6**
	3.2nm,0.9s,baz=177,slow=5.6,SNR=3.2						
RCBR	**Riachuelo**	**46.34**	**58**	LR	LR	12 32 11.3	
	comp=Z,241nm,19.8s,baz=218,slow=36						
SNAA	**Sanae**	**49.48**	**157**	P	**P**	**12 13 08.4**	**-1.1**
	1.8nm,0.9s,baz=251,slow=9.3,SNR=3.9						
QSPA	**South Pole Qui**	**53.37**	**180**	P	**P**	**12 13 38.3**	**-0.5**
	2.5nm,0.9s,baz=157,slow=4.3,SNR=5.7						
QSPA	**South Pole Qui**	**53.37**	**180**	*e*P	**P**	**12 13 38.5**	**-0.3**
	18nm,1.6s						
TXAR	**Lajitas Array**	**71.60**	**333**	P	**P**	**12 15 41.7**	**+0.9**
	0.9nm,0.8s,baz=146,slow=9.1,SNR=11						
SWET	**Sewanee**	**72.61**	**350**	*e*P	**P**	**12 15 46.4**	**-0.3**
	6.4nm,0.7s						
LIC	**Lamto**	**76.99**	**72**	*e*PKP2	**P**	**12 16 13.4**	**+0.9**
	72nm,1.9s						
ACSO	**Alum Creek Sta**	**77.20**	**353**	*e*P	**P**	**12 16 12.6**	**-0.4**
	5.3nm,0.9s						
TIC	**Toumodi**	**77.27**	**72**	*e*PKP2	**P**	**12 16 14.9**	**+0.8**
	6.7nm,0.2s						
KIC	**Kosan Boka**	**77.30**	**72**	*e*PKP2	**P**	**12 16 14.3**	**+0.1**
	11nm,0.7s						
DBIC	**Dimbokro**	**77.41**	**72**	P	**P**	**12 16 15.2**	**+0.4**
	7.0nm,0.8s,baz=207,slow=5.7,SNR=6.8						
DBIC	**Dimbokro**	**77.41**	**72**	*e*P	**P**	**12 16 15.7**	**+0.8**
	11nm,0.9s						
ANMO	**Albuquerque**	**77.67**	**333**	*e*P	**P**	**12 16 17.1**	**+1.1**
	2.5nm,1.1s						
SDCO	**Great Sand Dun**	**79.84**	**335**	*e*P	**P**	**12 16 30.3**	**+2.3**
	1.1nm,0.9s						
BOSA	**Boshof**	**79.96**	**118**	P	**P**	**12 16 30.7**	**+1.8**
	4.5nm,0.9s,baz=201,slow=8.6,SNR=2.7						
LBTB	**Lobatse**	**82.35**	**115**	*e*P	**P**	**12 16 41.9**	**+0.2**
	6.0nm,0.9s						
ECSD	**EROS Data Cent**	**82.88**	**344**	*e*P	**P**	**12 16 43.1**	**-0.5**
	3.4nm,1.0s						
NVAR	**Mina Array Bea**	**85.47**	**326**	P	**P**	**12 16 57.6**	**+0.4**
	0.2nm,0.4s,baz=142,slow=7.5,SNR=3.2						
PDAR	**Pinedale Array**	**85.72**	**334**	P	**P**	**12 16 58.7**	**+0.4**
	0.4nm,0.9s,baz=101,slow=8.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**86.48**	**71**	P	**P**	**12 17 01.8**	**-0.6**
	1.4nm,0.9s,baz=229,slow=3.6,SNR=5.1						
GERES	**GERESS Array B**	**115.14**	**47**	PKP	**PKPdf**	**12 23 00.6**	**+0.5**
	0.1nm,0.3s,baz=297,slow=6.5,SNR=2.9						
ABKAR	**Akbulak array**	**144.51**	**55**	*e*PKPdf	**PKPab**	**12 23 53.9**	**+0.2**
ZALV	**Zalesovo Beam**	**157.38**	**34**	PKP	**PKPdf**	**12 24 13.2**	**-1.4**
	0.3nm,0.4s,baz=294,slow=1.5,SNR=3.8						
ZALV				PKPab	**PKPab**	**12 24 46.8**	**+0.6**
	1.0nm,0.8s,baz=289,slow=4.5,SNR=3.8						
MKAR	**Makanchi Array**	**159.65**	**53**	PKPab	**PKPab**	**12 24 55.2**	**-1.2**
	0.3nm,0.7s,baz=274,slow=3.2,SNR=3.7						

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*IDC **07** 12:08:37.2±0.9, 34°.12S×71°.42W, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/36, mbtmp3.8/8, ML3.4/2, Error ellipse: s-maj=36.5km s-min=18.3km az=89.0*
*GUC **07** 12:08:37.2±0.7, 34°.04S×72°.37W, h34km±3km, ML4.1*
*ISCJB **07** 12:08:38.3±1.8, 34°.20S±0°.07×72°.22W±0°.09, h20km±13km, mb3.9/5, Error ellipse: s-maj=14.8km s-min=8.4km az=40.4*
*NEIC **07** 12:08:42.2±3.5, 34°.13S×71°.31W, h34km±25km, mb4.5/1, Error ellipse: s-maj=24.3km s-min=9.4km az=96.0*
ISC 07 12:08:36.2±2.2, 34°.02S±0°.05×72°.28W±0°.08, h7km±12km, n20, σ0§93/24, mb4.1/5, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.73**	**85**	⇑*i*P	**Pn**	**12 08 52.2**	**-0.8**
LNV				*i* S1	**Sn**	12 09 03.6	-0.8
IHA	**Instituto Hidr**	**1.13**	**28**	*e*P1	**Pn**	12 08 58.0	-0.5
NICH	**Los Niches**	**1.31**	**139**	⇑*i*P	**Pn**	12 09 00.4	-0.6
NICH				*i* S	**Sg**	12 09 18.5	+0.1
CHCH	**Chadas Angostu**	**1.36**	**87**	⇓*i*P	**Pg**	12 09 02.2	-0.1
CACH	**El Canelo**	**1.40**	**94**	*e*P	**Pn**	12 09 03.1	+0.8
CACH				⇓*i*P	**Pn**	12 09 03.1	+0.8
CACH				*i* S4	**Sn**	12 09 22.0	+0.8
ANTU	**Antumapu**	**1.44**	**72**	⇑*i*P	**Pb**	12 09 03.4	-0.2
ANTU				*i* S	**Sg**	12 09 23.2	+0.5
ANTU				AML	AML	12 09 32.7	
	comp=E,3μm,0.3s						
LACH	**Col Las Americ**	**1.56**	**69**	*e*P	**Pn**	12 09 05.0	+0.4
LACH				*i* S	**Sg**	12 09 26.2	-0.4
PEL	**Peldehue**	**1.59**	**57**	⇓*i*P	**Pb**	12 09 05.8	-0.2
PEL				*i* S	**Sg**	12 09 27.6	+0.1
PEL				AML	AML	12 09 36.7	
	comp=N,5μm,0.4s						
CFAA	**Coronel Fontan**	**4.17**	**56**	Pn	Pn	12 09 35.5	-4.9
	comp=N,0.0nm,0.3s,baz=191,slow=16,SNR=1.5						
PLCA	**Paso Flores**	**6.84**	**169**	Pn	**Pn**	**12 10 16.8**	**-0.3**
	comp=N,0.1nm,0.3s,baz=339,slow=14,SNR=1.3						
LPAZ	**La Paz**	**18.05**	**13**	P	**P**	**12 12 51.3**	**+2.5**
	comp=N,0.1nm,0.3s,baz=205,slow=7.4,SNR=4.4						
SIV	**San Ignacio**	**20.60**	**32**	P	**P**	**12 13 14.7**	**-1.4**
	comp=N,2.0nm,0.6s,baz=227,slow=10,SNR=4.6						
SNAA	**Sanae**	**51.64**	**158**	P	**P**	**12 17 43.2**	**0.0**
	comp=N,0.7nm,0.9s,baz=263,slow=17,SNR=1.8						
APG	**El Apazote**	**51.74**	**337**	P	P	12 17 49.2	+4.4
	comp=N,2.6nm,0.8s,baz=174,slow=18,SNR=2.5						
QSPA	**South Pole Qui**	**56.21**	**180**	P	**P**	**12 18 17.8**	**+0.9**
	comp=N,2.2nm,1.1s,baz=157,slow=2.6,SNR=3.8						
QSPA	**South Pole Qui**	**56.21**	**180**	*e*P	**P**	**12 18 18.0**	**+1.1**
	comp=N,6.1nm,1.3s						
TXAR	**Lajitas Array**	**69.66**	**331**	P	P	12 19 52.0	+5.4
	comp=N,0.2nm,0.6s,baz=150,slow=9.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**84.41**	**70**	P	**P**	**12 21 08.4**	**-1.4**
	comp=N,1.0nm,0.9s,baz=226,slow=5.9,SNR=5.3						
BRVK	**Borovoye**	**147.36**	**43**	*e*PKPdf	**PKPdf**	**12 28 18.3**	**+0.5**
ZALV	**Zalesovo Beam**	**154.35**	**32**	PKPbc	**PKPbc**	**12 28 36.4**	**-0.4**
	comp=N,1.0nm,0.7s,baz=350,slow=4.4,SNR=4.9						

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*IDC **07** 12:14:57.0±1.1, 35°.58S×73°.42W, h0km, mb3.8/4, mb1 3.9/7, mb1mx3.7/26, mbtmp3.7/7, ML3.8/3, MS3.8/6, Ms1 3.8/6, ms1mx3.4/32, Error ellipse: s-maj=36.5km s-min=17.6km az=86.0*
*ISCJB **07** 12:15:00.9±0.8, 35°.57S±0°.08×73°.2W±0°.2, h33km, mb4.2/8, MS3.8/5, Error ellipse: s-maj=18.3km s-min=10.9km az=179.0*
*NEIC **07** 12:15:02.8±0.5, 35°.55S×73°.23W, h35km, mb4.7/3, Error ellipse: s-maj=13.9km s-min=8.6km az=91.0*
ISC 07 12:15:02.7±0.8, 35°.52S±0°.09×73°.2W±0°.1, h35km, n19, σ0§67/15, mb4.2/8, MS3.7/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.61**	**159**	Pn	**Pn**	**12 16 23.9**	**+0.1**
	1.6nm,0.3s,baz=331,slow=10,SNR=11						
PLCA				Lg	Lg	12 17 57.1	
	2.0nm,0.3s,baz=251,slow=23,SNR=4.0						
PLCA	**Paso Flores**	**5.61**	**159**	*e*Pn	**Pn**	**12 16 23.9**	**+0.1**
	39nm,1.1s						
PLCA				Lg	Lg	12 17 57.1	
CFAA	**Coronel Fontan**	**5.71**	**48**	Pn	**Pn**	**12 16 24.7**	**-0.4**
	0.4nm,0.3s,baz=22,slow=5.4,SNR=7.9						
CFAA				Lg	Lg	12 17 57.4	
	0.2nm,0.3s,baz=75,slow=21,SNR=4.5						
CFAA				LR	LR	12 18 30.2	
	comp=Z,19nm,19.8s,baz=232,slow=36						
TRQA	**Tornquist**	**9.37**	**109**	*e*Pn	**Pn**	**12 17 15.2**	**-0.1**
CPUP	**Villa Florida**	**16.42**	**60**	LR	LR	12 25 20.1	
	comp=Z,126nm,21.1s,baz=220,slow=38						
LPAZ	**La Paz**	**19.69**	**15**	P	**Pn**	**12 19 31.0**	**-0.2**
	0.1nm,0.3s,baz=197,slow=8.2,SNR=6.2						
SIV	**San Ignacio**	**22.28**	**32**	P	**P**	**12 19 58.1**	**+1.1**
	5.1nm,1.0s,baz=224,slow=12,SNR=6.5						
SIV				LR	LR	12 30 26.7	
	comp=Z,590nm,18.1s,baz=226,slow=42						
NNA	**Nana**	**23.66**	**351**	LR	LR	12 26 57.0	
	comp=Z,110nm,21.6s,baz=172,slow=30						
ATAH	**Atahualpa**	**28.65**	**349**	LR	LR	12 29 41.7	
	comp=Z,84nm,21.1s,baz=202,slow=31						
PMSA	**Palmer Station**	**29.80**	**172**	P	**P**	**12 21 04.7**	**-1.2**
	26nm,1.0s,baz=22,slow=22,SNR=6.4						
PMSA				LR	LR	12 33 08.1	
	comp=Z,190nm,19.5s,baz=318,slow=37						
QSPA	**South Pole Qui**	**54.72**	**180**	*e*P	**P**	**12 24 29.5**	**+1.1**
	10nm,1.4s						
TXAR	**Lajitas Array**	**70.60**	**332**	P	**P**	**12 26 14.1**	**-0.3**
	0.2nm,0.6s,baz=147,slow=7.5,SNR=4.0						
DBIC	**Dimbokro**	**76.59**	**72**	*e*P	**P**	**12 26 50.7**	**+0.7**
	48nm,1.8s						
BOSA	**Boshof**	**80.23**	**118**	P	**P**	**12 27 10.1**	**0.0**
	2.0nm,0.9s,baz=254,slow=4.3,SNR=3.9						
ECSD	**EROS Data Cent**	**81.71**	**343**	*e*P	**P**	**12 27 17.1**	**-0.1**
	3.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**85.64**	**71**	P	**P**	**12 27 37.7**	**-0.4**
	0.7nm,0.9s,baz=232,slow=4.9,SNR=3.3						
YBH	**Yreka Blue Hor**	**89.25**	**325**	LR	LR	13 01 41.5	
	comp=Z,248nm,19.8s,baz=334,slow=31						
WRA	**Warramunga Arr**	**118.96**	**210**	PKP	**PKPdf**	**12 33 47.7**	**-0.4**
	0.2nm,0.3s,baz=169,slow=1.4,SNR=10						
BRVK	**Borovoye**	**148.99**	**44**	*e*PKPbc	**PKPbc**	**12 34 46.8**	**+0.4**

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*IDC **07** 12:31:09.9±2.0, 36°.38S×74°.87W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/16, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=110.3km s-min=30.1km az=52.0*
*ISCJB **07** 12:31:14.7±0.7, 35°.82S±0°.05×72°.61W±0°.08, h35km, mb4.2/6, Error ellipse: s-maj=10.8km s-min=5.4km az=33.0*
*GUC **07** 12:31:14.0±0.6, 35°.72S×72°.62W, h12km±2km, ML4.4*
*NEIC **07** 12:31:15.0±0.7, 35°.67S×72°.83W, h35km, mb4.7/4, Error ellipse: s-maj=26.1km s-min=13.4km az=56.0*
ISC 07 12:31:15.1±0.8, 35°.80S±0°.05×72°.64W±0°.07, h35km, n15, σ1§81/18, mb4.3/6, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.36**	**199**	⇑*i*P	**Pn**	**12 31 22.8**	**-0.9**
COCH				*i* S	**Sn**	12 31 30.0	+0.3
LNCH	**Linares**	**0.85**	**94**	⇑*i*P	**Pn**	12 31 28.8	-1.8
LNCH				*i* S	**Sn**	12 31 40.9	-0.9
NICH	**Los Niches**	**1.40**	**56**	*e*P9	**Pn**	12 31 35.9	-2.2
NICH				*i* S	**Sn**	12 31 53.7	-1.7
ANTU	**Antumapu**	**2.77**	**37**	*e*P1	**Pn**	12 31 58.0	+0.9
ANTU				*e*S	**Sn**	12 32 31.9	+2.6
CLCH	**Cerro Calan**	**2.96**	**37**	*e*P	**Pn**	12 32 01.1	+1.4
CLCH				AML	AML	12 32 45.6	
	comp=N,1μm,0.7s						
CLCH				AML	AML	12 32 46.2	
	comp=N,1μm,0.5s						
PEL	**Peldehue**	**3.10**	**32**	⇑*i*P	**Pn**	**12 32 02.8**	**+1.2**
PEL				*e*S	**Sn**	**12 32 39.8**	**+2.4**
PLCA	**Paso Flores**	**5.20**	**162**	Pn	**Pn**	**12 32 32.9**	**+2.4**
	comp=N,1.4nm,0.3s,baz=324,slow=12,SNR=15						
PLCA				Lg	Lg	12 33 51.6	
	comp=N,1.4nm,0.3s,baz=263,slow=21,SNR=4.1						
TRQA	**Tornquist**	**8.83**	**108**	*e*Pn	**Pn**	**12 33 22.8**	**+2.5**
	comp=N,3.0nm,0.6s						
QSPA	**South Pole Qui**	**54.45**	**180**	*e*P	**P**	**12 40 39.1**	**+0.3**
	comp=N,50nm,2.2s						
TXAR	**Lajitas Array**	**71.06**	**332**	P	**P**	**12 42 27.9**	**-1.8**
	comp=N,0.6nm,0.7s,baz=150,slow=7.9,SNR=7.8						
BOSA	**Boshof**	**79.68**	**118**	P	P	12 43 26.9	+7.3
	comp=N,1.7nm,0.7s,baz=232,slow=5.6,SNR=5.1						
BOSA	**Boshof**	**79.68**	**118**	*e*P	**P**	**12 43 20.2**	**+0.7**
	comp=N,26nm,1.7s						
ECSD	**EROS Data Cent**	**82.11**	**343**	*e*P	**P**	**12 43 29.9**	**-1.8**
	comp=N,1.5nm,0.8s						
JLU	**Jordanelle**	**83.98**	**331**	*e*P	**P**	**12 43 42.4**	**+0.6**
	comp=N,1.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**85.29**	**70**	P	P	12 43 58.5	+10
	comp=N,0.5nm,0.9s,baz=242,slow=4.3,SNR=2.6						

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*NNC **07** 12:40:48.0±5.3, 37°.76N×71°.92E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=48.8km s-min=16.7km az=159.0*
ISC 07 12:40:47.9±3.3, 37°.5N±0°.2×72°.0E±0°.1, h130km, n10, σ1§24/13, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.80**	**298**	⇓Pn	**Pn**	**12 41 31.9**	**0.0**
DZET				⇑Sn	**Sn**	**12 42 06.9**	**+1.0**
AML	**Almayashu**	**4.77**	**15**	P	**Pn**	**12 41 58.6**	**+0.5**
	SNR=53						
UCH	**Uchtor**	**5.07**	**22**	P	**Pn**	**12 42 02.4**	**+0.2**
	SNR=10						
EKS2	**Erkin-Say**	**5.29**	**14**	P	**Pn**	**12 42 06.3**	**+1.4**
	SNR=10						
AAK	**Ala-Archa**	**5.43**	**20**	⇑Pn	**Pn**	**12 42 07.4**	**+0.5**
	3.5nm,0.4s						
AAK				⇑Sn	**Sn**	**12 43 10.1**	**+1.6**
	5.2nm,0.6s						
AAK	**Ala-Archa**	**5.43**	**20**	P	**Pn**	**12 42 07.7**	**+0.8**
	SNR=6.8						
KK31	**Karatay Array**	**5.67**	**349**	Pn	**Pn**	**12 42 09.7**	**-0.2**
	0.9nm,0.3s,baz=168,slow=11,SNR=30						
KK31				⇓Sn	**Sn**	**12 43 12.2**	**-1.6**
	1.2nm,0.3s,baz=171,slow=23,SNR=9.8						
TKM2	**Tokmak 2**	**6.04**	**26**	⇑Pn	**Pn**	**12 42 14.6**	**-0.4**
	1.3nm,0.7s						
TKM2				⇑Sn	Sn	12 43 30.2	+7.2
	0.8nm,0.6s						
TKM2	**Tokmak 2**	**6.04**	**26**	P	**Pn**	**12 42 12.6**	**-2.4**
	SNR=7.4						
AB31	**Akbulak array**	**14.60**	**327**	⇑Pn	**Pn**	**12 44 07.7**	**-0.3**
	0.2nm,0.5s						

IDC 07 13:03:16.0±2.7, 21°.45S×179°.67E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/26, mbtmp3.9/3, Error ellipse: s-maj=252.7km s-min=33.7km az=162.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.19**	**258**	P	P	13 11 10.1	-0.8
	1.0nm,0.8s,baz=92,slow=6.8,SNR=20						
WRA	**Warramunga Arr**	**42.32**	**264**	P	P	13 11 12.4	+0.5
	2.1nm,0.5s,baz=99,slow=8.3,SNR=38						
TXAR	**Lajitas Array**	**89.40**	**58**	P	P	13 16 15.1	0.0
	0.4nm,0.8s,baz=223,slow=3.4,SNR=4.8						

IDC 07 13:21:58.0±2.2, 6°.68S×129°.30E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/29, mbtmp3.3/3, ML3.8/3, Error ellipse: s-maj=52.5km s-min=32.0km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.84**	**238**	P	Pn	13 23 28.1	+2.0
	baz=5.2,SNR=26						
BATI	**Baumata**	**6.59**	**237**	Pn	Pn	13 23 37.5	+1.4
	16nm,0.3s,baz=25,slow=9.7,SNR=22						
BATI				Sn	Sn	13 24 37.8	-14
	0.9nm,0.3s,baz=96,slow=9.2,SNR=2.9						
KNRA	**Kununurra**	**8.96**	**183**	P	Pn	13 24 09.3	+0.6
	baz=8.2,SNR=9.8						
KNRA				S	Sn	13 25 33.6	-17
	baz=8.2,SNR=7.4						
WSI	**Waingapu**	**9.39**	**251**	S	Sn	13 26 01.1	-0.1
	baz=8.9,SNR=3.4						
WRA	**Warramunga Arr**	**14.06**	**160**	Pn	Pn	13 25 18.1	-0.5
	0.4nm,0.3s,baz=338,slow=13,SNR=12						
WRA				Sn	Sn	13 27 41.6	-14
	0.5nm,0.3s,baz=330,slow=23,SNR=8.2						
ASAR	**Alice Springs**	**17.46**	**166**	P	Pn	13 26 02.3	-0.8
	0.1nm,0.3s,baz=334,slow=11,SNR=12						
ASAR				S	Sn	13 29 05.7	-13
	0.1nm,0.3s,baz=313,slow=17,SNR=7.6						
MKAR	**Makanchi Array**	**67.58**	**327**	P	P	13 32 56.4	-0.1
	0.2nm,0.4s,baz=121,slow=6.6,SNR=3.8						

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*IDC **07** 13:30:14.2±3.5, 19°.09S×70°.17W, h74km±29km, mb3.4/2, mb1 3.5/5, mb1mx3.3/19, mbtmp3.6/5, MS2.6/1, Ms1 2.8/1, ms1mx2.4/19, Error ellipse: s-maj=39.8km s-min=31.4km az=123.0*
*ISCJB **07** 13:30:16.0±1.0, 18°.86S±0°.08×70°.1W±0°.1, h100km, mb3.5/2, Error ellipse: s-maj=16.2km s-min=8.1km az=35.2*
*GUC **07** 13:30:15.7±0.3, 19°.80S×69°.23W, h75km, ML3.4*
ISC 07 13:30:15.8±1.3, 18°.84S±0°.09×70°.2W±0°.1, h100km, n11, σ2§18/14, 4C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minimini**	**0.62**	**118**	⇑*i*P	**Pn**	**13 30 32.0**	**-0.9**
MNMC				*i* S	**Sn**	**13 30 44.4**	**-1.3**
MNMC				IAML		13 30 49.5	
	comp=N,4μm,0.1s						
PSGC	**Pisagua**	**0.76**	**176**	⇑*i*P	**Pn**	**13 30 33.3**	**-0.7**
PSGC				⇓*i*S	**Sn**	**13 30 46.7**	**-0.8**
PSGC				IAML		13 30 48.8	
	comp=E,3μm,0.4s						
HMBC	**Humberstone**	**1.46**	**169**	⇑*i*P	**Pn**	**13 30 42.1**	**+0.3**
HMBC				*i* S4	**Sn**	**13 30 59.2**	**-2.1**
HMBC				IAML		13 31 07.9	
	comp=E,823nm,0.4s						
PATCX	**Punta Patache**	**1.98**	**179**	⇑*i*P	**Pn**	**13 30 48.9**	**+0.7**
PATCX				⇓*i*S	**Sn**	**13 31 16.0**	**+3.2**
LPAZ	**La Paz**	**3.20**	**38**	P	**Pn**	**13 31 05.7**	**+0.9**
	comp=E,1.7nm,0.3s,baz=227,slow=8.6,SNR=29						
LPAZ				LR	LR	13 32 40.5	
	comp=E,103nm,21.0s,baz=237,slow=43						
SIV	**San Ignacio**	**9.14**	**73**	P	**Pn**	**13 32 25.0**	**0.0**
	comp=E,1.3nm,0.3s,baz=269,slow=7.2,SNR=16						
SIV				S	**Sn**	**13 34 06.6**	**+0.5**
	comp=E,0.1nm,0.3s,baz=301,slow=18,SNR=2.6						
CFAA	**Coronel Fontan**	**12.83**	**173**	P	Pn	13 33 09.6	-5.0
	comp=E,0.0nm,0.3s,baz=339,slow=9.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**77.61**	**71**	P	**P**	**13 42 02.6**	**+0.9**
	comp=E,1.2nm,0.9s,baz=260,slow=5.2,SNR=3.9						
YKA	**Yellowknife Ar**	**88.29**	**341**	P	P	13 42 57.2	+1.5
	comp=E,0.2nm,0.6s,baz=135,slow=4.8,SNR=10						
MKAR	**Makanchi Array**	**144.12**	**33**	PKP	**PKPdf**	**13 49 42.8**	**+2.9**
	comp=E,0.6nm,0.9s,baz=304,slow=2.6,SNR=3.8						
SONM	**Songino Array**	**150.94**	**5**	PKPbc	**PKPab**	**13 49 59.9**	**-4.8**
	comp=E,0.2nm,0.6s,baz=318,slow=0.9,SNR=2.8						

GUC 07 13:30:41.9±0.6, 35°.77S×72°.82W, h75km±14km, ML3.7, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.36**	**176**	⇑*i*P	Pn	13 30 53.2	-0.8
COCH				*i* S	Sn	13 31 02.6	-0.4
LNCH	**Linares**	**1.00**	**95**	*e*P1	Pn	13 31 01.0	+0.4
LNCH				*i* S	Sn	13 31 14.5	-0.1
NICH	**Los Niches**	**1.51**	**60**	⇑*i*P	Pn	13 31 07.4	+0.2
NICH				*i* S4	Sn	13 31 23.6	-2.6
NICH				IAML		13 31 27.9	
	comp=N,1μm,0.7s						

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*ISCJB **07** 13:35:00.2±0.7, 34°.77N±0°.04×134°.83E±0°.04, h12km±5km, Error ellipse: s-maj=6.4km s-min=6.1km az=33.8*
*JMA **07** 13:35:00.5, 34°.77N×134°.84E, h12km±1km, M3.6 Broadband fault plane solution: P waves. NP1: ϕ_s=39.00000°, δ80.00000°, λ-161.00000°. NP2: ϕ_s=305.00000°, δ72.00000°, λ-10.00000°. Principal axes: T Plg6.0000°, Azm171.0000°; N Plg69.0000°, Azm65.0000°; P Plg20.0000°, Azm263.0000°; JMA Felt II J1.*
*NIED **07** 13:35:00, 34

KALE	**Kalithea**	**0.27**	**22**	*eP*	**Pn**	14 12 14.9	+0.9
KALE				S	**Sn**	14 12 21.4	+0.6
DRO	**Drossia**	**0.30**	**232**	P	**Pn**	14 12 14.5	+0.3
DRO	**Drossia**	**0.30**	**232**	*eP*	**Pn**	14 12 14.5	+0.3
DRO	**Drossia**	**0.30**	**232**	*eP*	**Pn**	14 12 14.5	+0.3
DRO				S	**Sn**	14 12 21.8	+0.8
EFP	**Efpalio**	**0.30**	**345**	P	**Pn**	14 12 15.1	+0.9
EFP				S	**Sn**	14 12 22.0	+1.0
EFP	**Efpalio**	**0.30**	**345**	*eP*	**Pn**	14 12 15.0	+0.9
EFP				*eS*	**Sn**	14 12 22.7	+1.7
EFP	**Efpalio**	**0.30**	**345**	*eP*	**Pn**	14 12 15.0	+0.9
EFP				S	**Sn**	14 12 22.0	+1.0
GUR	**Goura**	**0.33**	**127**	P	**Pn**	14 12 15.2	+0.6
GUR				S	**Sn**	14 12 21.9	+0.2
GUR	**Goura**	**0.33**	**127**	*eP*	**Pn**	14 12 15.1	+0.5
GUR				*eS*	**Sn**	14 12 22.5	+0.8
GUR	**Goura**	**0.33**	**127**	P	**Pn**	14 12 15.2	+0.6
GUR				S	**Sn**	14 12 21.9	+0.2
RLS	**Riolos of Patr**	**0.43**	**260**	P	**Pn**	14 12 15.8	+0.4
RLS	**Riolos of Patr**	**0.43**	**260**	*eP*	**Pn**	14 12 15.8	+0.4
RLS				*eS*	**Sn**	14 12 24.5	+1.3
RLS	**Riolos of Patr**	**0.43**	**260**	*eP*	**Pn**	14 12 15.8	+0.4
RLS				S	**Sn**	14 12 24.2	+1.0
PVO	**Paravola**	**0.61**	**322**	P	**Pn**	14 12 19.1	+1.6
PVO	**Paravola**	**0.61**	**322**	P	**Pn**	14 12 19.1	+1.6
PVO				S	**Sn**	14 12 29.6	+2.8
AMT	**Artemida-Makis**	**0.65**	**201**	P	**Pn**	14 12 18.8	+0.7
AMT				S	**Sn**	14 12 29.1	+1.5
AMT	**Artemida-Makis**	**0.65**	**201**	*eP*	**Pn**	14 12 18.7	+0.7
AMT				*eS*	**Sn**	14 12 30.2	+2.6
AMT	**Artemida-Makis**	**0.65**	**201**	*eP*	**Pn**	14 12 18.7	+0.7
AMT				S	**Sn**	14 12 28.8	+1.2
LTK	**Loutraki**	**0.77**	**98**	P	**Pn**	14 12 20.0	+0.5
LTK				S	**Sn**	14 12 30.4	+0.1
LTK	**Loutraki**	**0.77**	**98**	*eP*	**Pn**	14 12 20.0	+0.5
LTK				*eS*	**Sn**	14 12 30.8	+0.5
LTK	**Loutraki**	**0.77**	**98**	*eP*	**Pn**	14 12 20.0	+0.5
LTK				*eS*	**Sn**	14 12 30.8	+0.5
EVR	**Evrytania**	**0.79**	**349**	*eP*	**Pn**	14 12 22.2	+2.3
EVR	**Evrytania**	**0.79**	**349**	P	**Pn**	14 12 21.9	+2.0
EVR				S	**Sn**	14 12 34.8	+3.8
PDO	**Prodromos**	**0.79**	**306**	P	**Pn**	14 12 21.5	+1.7
PDO	**Prodromos**	**0.79**	**306**	*eP*	**Pn**	14 12 21.7	+1.9
PDO	**Prodromos**	**0.79**	**306**	P	**Pn**	14 12 21.5	+1.7
PDO				S	**Sn**	14 12 34.0	+3.1
AXAR	**Agios Charalam**	**0.81**	**39**	P	**Pn**	14 12 20.9	+0.8
AXAR				S	**Sn**	14 12 32.0	+0.7
AXAR	**Agios Charalam**	**0.81**	**39**	P	**Pn**	14 12 20.9	+0.8
AXAR				S	**Sn**	14 12 32.0	+0.7
VLX	**Vlachokerasia**	**0.82**	**159**	P	**Pn**	14 12 21.6	+1.3
VLX				S	**Sn**	14 12 32.5	+0.9
VLX	**Vlachokerasia**	**0.82**	**159**	*eP*	**Pn**	14 12 21.6	+1.3
VLX	**Vlachokerasia**	**0.82**	**159**	P	**Pn**	14 12 21.5	+1.3
VLX				S	**Sn**	14 12 32.5	+0.9
MAKR	**Makrakomi, Fth**	**0.88**	**6**	P	**Pn**	14 12 22.7	+1.7
MAKR				S	**Sn**	14 12 34.3	+1.4
MAKR	**Makrakomi, Fth**	**0.88**	**6**	*eP*	**Pn**	14 12 22.6	+1.6
MAKR	**Makrakomi, Fth**	**0.88**	**6**	*eP*	**Pn**	14 12 22.6	+1.6
MAKR				S	**Sn**	14 12 34.3	+1.4
AGG	**Agios Georgios**	**0.92**	**16**	P	**Pn**	14 12 22.6	+1.0
AGG	**Agios Georgios**	**0.92**	**16**	*eP*	**Pn**	14 12 22.5	+1.0
AGG				*eS*	**Sn**	14 12 35.2	+1.4
AGG	**Agios Georgios**	**0.92**	**16**	*eP*	**Pn**	14 12 22.5	+1.0
AGG				*eS*	**Sn**	14 12 35.2	+1.4
LKR	**Lokris**	**0.93**	**56**	P	**Pn**	14 12 22.3	+0.6
LKR				S	**Sn**	14 12 34.8	+0.7
LKR	**Lokris**	**0.93**	**56**	*eP*	**Pn**	14 12 22.2	+0.6
LKR				*eS*	**Sn**	14 12 34.5	+0.4
LKR	**Lokris**	**0.93**	**56**	P	**Pn**	14 12 22.3	+0.6
LKR				S	**Sn**	14 12 34.8	+0.7
ITM	**Ithomi**	**0.96**	**184**	P	**Pn**	14 12 23.6	+1.6
ITM	**Ithomi**	**0.96**	**184**	*eP*	**Pn**	14 12 23.6	+1.6
ITM				*eS*	**Sn**	14 12 37.3	+2.6
ITM	**Ithomi**	**0.96**	**184**	*eP*	**Pn**	14 12 23.6	+1.6
ITM				*eS*	**Sn**	14 12 37.3	+2.6
KFL	**Anninata**	**0.96**	**269**	P	**Pn**	14 12 23.5	+1.5
KFL	**Anninata**	**0.96**	**269**	P	**Pn**	14 12 23.5	+1.5
VLS	**Valsamata**	**1.12**	**272**	P	**Pn**	14 12 25.1	+1.0
VLS	**Valsamata**	**1.12**	**272**	*eP*	**Pn**	14 12 24.9	+0.8
VLS				*eS*	**Sn**	14 12 41.9	+3.4
VLS	**Valsamata**	**1.12**	**272**	*eP*	**Pn**	14 12 24.9	+0.8
DID	**Didima**	**1.16**	**123**	P	**Pn**	14 12 25.0	+0.3
DID	**Didima**	**1.16**	**123**	*eP*	**Pn**	14 12 24.9	+0.3
DID				*eS*	**Sn**	14 12 41.0	+1.4
DID	**Didima**	**1.16**	**123**	P	**Pn**	14 12 25.0	+0.3
DID				*eS*	**Sn**	14 12 41.0	+1.4
SFD	**Strofades**	**1.18**	**222**	*eP*	**Pn**	14 12 26.9	+1.9
SFD	**Strofades**	**1.18**	**222**	*eP*	**Pn**	14 12 26.9	+1.9
SMIA	**Simia**	**1.20**	**52**	P	**Pn**	14 12 26.0	+0.8
SMIA				S	**Sn**	14 12 41.1	+0.6
SMIA	**Simia**	**1.20**	**52**	*eP*	**Pn**	14 12 26.0	+0.8
SMIA				*eS*	**Sn**	14 12 42.0	+1.5
SMIA	**Simia**	**1.20**	**52**	*eP*	**Pn**	14 12 26.0	+0.8
SMIA				S	**Sn**	14 12 41.1	+0.6
DSL	**Palaion Diasel**	**1.22**	**325**	P	**Pn**	14 12 27.9	+2.3
DSL	**Palaion Diasel**	**1.22**	**325**	P	**Pn**	14 12 27.8	+2.2
DSL				S	**Sn**	14 12 44.8	+3.7
NAIG	**Nisos Aigina**	**1.23**	**107**	*eP*	**Pn**	14 12 26.4	+0.8
NAIG	**Nisos Aigina**	**1.23**	**107**	*eP*	**Pn**	14 12 26.4	+0.8
LKD2	**Lefkada island**	**1.24**	**302**	P	**Pn**	14 12 27.4	+1.6
LKD2	**Lefkada island**	**1.24**	**302**	*eP*	**Pn**	14 12 27.5	+1.6
LKD2	**Lefkada island**	**1.24**	**302**	P	**Pn**	14 12 27.4	+1.6
PYL	**PYLOS**	**1.26**	**190**	P	**Pn**	14 12 27.7	+1.7
PYL	**PYLOS**	**1.26**	**190**	*eP*	**Pn**	14 12 27.7	+1.7
PYL	**PYLOS**	**1.26**	**190**	*eP*	**Pn**	14 12 27.7	+1.7
ATH	**Athens Observa**	**1.36**	**96**	*eP*	**Pn**	14 12 28.0	+0.7
ATH				*eS*	**Sn**	14 12 44.8	+0.5
ATH	**Athens Observa**	**1.36**	**96**	*eP*	**Pn**	14 12 28.0	+0.7
ATH				*eS*	**Sn**	14 12 44.8	+0.5
MRKA	**Markates**	**1.36**	**65**	P	**Pn**	14 12 28.1	+0.7
MRKA	**Markates**	**1.36**	**65**	*eP*	**Pn**	14 12 28.2	+0.8
MRKA				*eS*	**Sn**	14 12 46.0	+1.5
MRKA	**Markates**	**1.36**	**65**	*eP*	**Pn**	14 12 28.2	+0.8
MRKA				*eS*	**Sn**	14 12 46.0	+1.5
ATHU	**Athens Univers**	**1.41**	**96**	P	**Pn**	14 12 28.8	+0.7
ATHU	**Athens Univers**	**1.41**	**96**	P	**Pn**	14 12 28.8	+0.7
THL	**Klokotos Trika**	**1.43**	**0**	P	**Pn**	14 12 29.7	+1.5
THL				S	**Sn**	14 12 47.6	+1.7
THL	**Klokotos Trika**	**1.43**	**0**	*eP*	**Pn**	14 12 29.8	+1.5
THL	**Klokotos Trika**	**1.43**	**0**	P	**Pn**	14 12 29.7	+1.5
THL				S	**Sn**	14 12 47.6	+1.7
PTL	**Penteli**	**1.47**	**93**	P	**Pn**	14 12 29.6	+0.7
PTL	**Penteli**	**1.47**	**93**	*eP*	**Pn**	14 12 29.6	+0.7
PTL				*eS*	**Sn**	14 12 47.5	+0.5
PTL	**Penteli**	**1.47**	**93**	*eP*	**Pn**	14 12 29.6	+0.7
PTL				*eS*	**Sn**	14 12 47.5	+0.5
NEO	**Neokhori**	**1.51**	**39**	P	**Pn**	14 12 30.1	+0.7
NEO	**Neokhori**	**1.51**	**39**	*eP*	**Pn**	14 12 30.2	+0.8
NEO				*eS*	**Sn**	14 12 48.5	+0.6
NEO	**Neokhori**	**1.51**	**39**	*eP*	**Pn**	14 12 30.2	+0.8
NEO				*eS*	**Sn**	14 12 48.5	+0.6
SKIA	**Skiathos**	**1.54**	**48**	P	**Pn**	14 12 30.5	+0.7
SKIA				S	**Sn**	14 12 49.5	+0.9
SKIA	**Skiathos**	**1.54**	**48**	*eP*	**Pn**	14 12 30.5	+0.7
SKIA				*eS*	**Sn**	14 12 49.6	+0.9
SKIA	**Skiathos**	**1.54**	**48**	*eP*	**Pn**	14 12 30.5	+0.7
SKIA				S	**Sn**	14 12 49.5	+0.9
XOR	**Xorichti**	**1.54**	**37**	P	**Pn**	14 12 30.6	+0.8
XOR				S	**Sn**	14 12 49.8	+1.1
XOR	**Xorichti**	**1.54**	**37**	*eP*	**Pn**	14 12 30.5	+0.8
XOR				*eS*	**Sn**	14 12 49.6	+0.9
XOR	**Xorichti**	**1.54**	**37**	P	**Pn**	14 12 30.6	+0.8
XOR				*eS*	**Sn**	14 12 49.6	+0.9
VLI	**Veliai**	**1.60**	**152**	P	**Pn**	14 12 31.1	+0.5
VLI				S	**Sn**	14 12 51.3	+1.2
VLI	**Veliai**	**1.60**	**152**	*eP*	**Pn**	14 12 31.3	+0.7
VLI	**Veliai**	**1.60**	**152**	P	**Pn**	14 12 31.1	+0.5
VLI				S	**Sn**	14 12 51.3	+1.2
JAN	**Janina**	**1.77**	**330**	P	**Pn**	14 12 35.3	+2.3
JAN	**Janina**	**1.77**	**330**	*eP*	**Pn**	14 12 35.2	+2.3
JAN	**Janina**	**1.77**	**330**	*eP*	**Pn**	14 12 35.2	+2.3
AOS	**Alonnisos**	**1.79**	**54**	P	**Pn**	14 12 33.6	+0.4
AOS				S	**Sn**	14 12 55.6	+0.7
AOS	**Alonnisos**	**1.79**	**54**	*eP*	**Pn**	14 12 33.6	+0.4
AOS	**Alonnisos**	**1.79**	**54**	*eP*	**Pn**	14 12 33.6	+0.4
AOS				S	**Sn**	14 12 55.6	+0.7
LIT	**Litokhoron**	**2.00**	**11**	P	**Pn**	14 12 37.1	+1.0
LIT	**Litokhoron**	**2.00**	**11**	*eP*	**Pn**	14 12 37.0	+1.0
LIT	**Litokhoron**	**2.00**	**11**	*eP*	**Pn**	14 12 37.0	+1.0
KYTH	**Kithira**	**2.03**	**156**	*eP*	**Pn**	14 12 39.5	+3.0
KYTH	**Kithira**	**2.03**	**156**	*eP*	**Pn**	14 12 39.5	+3.0
KZN	**Kozani**	**2.17**	**355**	P	**Pn**	14 12 40.5	+2.0
KZN				S	**Sn**	14 13 06.4	+2.1
KZN	**Kozani**	**2.17**	**355**	*eP*	**Pn**	14 12 40.5	+2.0
KZN	**Kozani**	**2.17**	**355**	*eP*	**Pn**	14 12 40.5	+2.0
KZN				S	**Sn**	14 13 06.4	+2.1
PAIG	**Paliouri**	**2.21**	**36**	P	**Pn**	14 12 39.3	+0.3
PAIG				S	**Sn**	14 13 06.8	+1.7
PAIG	**Paliouri**	**2.21**	**36**	*eP*	**Pn**	14 12 39.4	+0.4
PAIG				*eS*	**Sn**	14 13 05.5	+0.4
PAIG	**Paliouri**	**2.21**	**36**	*eP*	**Pn**	14 12 39.4	+0.4
PAIG				*eS*	**Sn**	14 13 05.5	+0.4
KEK	**Kerkira**	**2.33**	**313**	*eP*	**Pn**	14 12 41.4	+0.8
KEK				*eS*	**Sn**	14 13 10.2	+2.1
KEK	**Kerkira**	**2.33**	**313**	*eP*	**Pn**	14 12 41.4	+0.8
KEK				*eS*	**Sn**	14 13 10.2	+2.1
NEST	**Nestorio**	**2.39**	**342**	P	**Pn**	14 12 44.1	+2.5
NEST				S	**Sn**	14 13 12.2	+2.5
NEST	**Nestorio**	**2.39**	**342**	*eP*	**Pn**	14 12 44.0	+2.5
NEST	**Nestorio**	**2.39**	**342**	*eP*	**Pn**	14 12 44.0	+2.5
NEST				S	**Sn**	14 13 12.2	+2.5
ANKY	**Antikythira Is**	**2.49**	**155**	*eP*	**Pn**	14 12 44.2	+1.4
ANKY	**Antikythira Is**	**2.49**	**155**	*eP*	**Pn**	14 12 44.2	+1.4
PLG	**Polygyros**	**2.50**	**26**	P	**Pn**	14 12 43.6	+0.7
PLG	**Polygyros**	**2.50**	**26**	*eP*	**Pn**	14 12 43.3	+0.4
PLG				*eS*	**Sn**	14 13 12.2	0.0
PLG	**Polygyros**	**2.50**	**26**	P	**Pn**	14 12 43.6	+0.7
PLG				*eS*	**Sn**	14 13 12.2	0.0
HORT	**Hortiatis**	**2.60**	**19**	*eP*	**Pn**	14 12 44.7	+0.4
HORT	**Hortiatis**	**2.60**	**19**	*eP*	**Pn**	14 12 44.7	+0.4
THE	**Thessaloniki**	**2.60**	**16**	*eP*	**Pn**	14 12 44.6	+0.3
THE	**Thessaloniki**	**2.60**	**16**	*eP*	**Pn**	14 12 44.6	+0.3
OUR	**Ouranopolis**	**2.68**	**34**	P	**Pn**	14 12 46.0	+0.7
OUR	**Ouranopolis**	**2.68**	**34**	*eP*	**Pn**	14 12 46.0	+0.7
OUR				*eS*	**Sn**	14 13 17.8	+1.3
OUR	**Ouranopolis**	**2.68**	**34**	*eP*	**Pn**	14 12 46.0	+0.7
OUR				*eS*	**Sn**	14 13 17.8	+1.3
FNA	**Florina**	**2.69**	**350**	P	**Pn**	14 12 47.2	+1.7
FNA				S	**Sn**	14 13 19.5	+2.6
FNA	**Florina**	**2.69**	**350**	*eP*	**Pn**	14 12 47.2	+1.7
FNA				*eS*	**Sn**	14 13 19.1	+2.2
FNA	**Florina**	**2.69**	**350**	*eP*	**Pn**	14 12 47.2	+1.7
FNA				*eS*	**Sn**	14 13 19.1	+2.2
GRG	**Griva**	**2.83**	**6**	P	**Pn**	14 12 49.4	+1.9
GRG	**Griva**	**2.83**	**6**	P	**Pn**	14 12 49.4	+1.9
SOH	**Sokhos**	**2.88**	**21**	P	**Pn**	14 12 49.3	+1.2
SOH	**Sokhos**	**2.88**	**21**	*eP*	**Pn**	14 12 49.3	+1.2
SOH				*eS*	**Sn**	14 13 23.0	+1.5
SOH	**Sokhos**	**2.88**	**21**	*eP*	**Pn**	14 12 49.3	+1.2
SOH				*eS*	**Sn**	14 13 23.0	+1.5
APE	**Apeiranthos**	**3.00**	**110**	P	**Pn**	14 12 50.5	+0.8
APE	**Apeiranthos**	**3.00**	**110**	*eP*	**Pn**	14 12 50.5	+0.8
APE				*eS*	**Sn**	14 13 24.6	+0.2
APE	**Apeiranthos**	**3.00**	**110**	⇑*P*	**Pn**	14 12 50.3	+0.6
APE	**Apeiranthos**	**3.00**	**110**	S	**Sn**	14 13 23.6	-0.8
APE	**Apeiranthos**	**3.00**	**110**	*eP*	**Pn**	14 12 50.5	+0.8
APE				*eS*	**Sn**	14 13 24.6	+0.2
LIA	**Limnos Island**	**3.04**	**54**	*eP*	**Pn**	14 12 50.8	+0.6
LIA				*eS*	**Sn**	14 13 25.0	-0.3
LIA	**Limnos Island**	**3.04**	**54**	*eP*	**Pn**	14 12 50.8	+0.6
LIA				*eS*	**Sn**	14 13 25.0	-0.3
KNT	**Kendrikon**	**3.10**	**13**	P	**Pn**	14 12 52.7	+1.6
KNT	**Kendrikon**	**3.10**	**13**	*eP*	**Pn**	14 12 52.5	+1.4
KNT				*eS*	**Sn**	14 13 28.0	+1.1
KNT	**Kendrikon**	**3.10**	**13**	*eP*	**Pn**	14 12 52.5	+1.4
KNT				*eS*	**Sn**	14 13 28.0	+1.1
OHR	**Ohrid**	**3.11**	**343**	*i* Pn	**Pn**	14 12 51.8	+0.4
OHR				*eSg*	**Sn**	14 13 26.8	-0.5
OHR	**Ohrid**	**3.11**	**343**	*i* Pn	**Pn**	14 12 51.7	+0.4
OHR				*eSg*	**Sn**	14 13 26.8	-0.5
CHOS	**Chios island**	**3.20**	**84**	P	**Pn**	14 12 53.3	+0.8
CHOS	**Chios island**	**3.20**	**84**	*eP*	**Pn**	14 12 53.9	+1.4
CHOS	**Chios island**	**3.20**	**84**	P	**Pn**	14 12 53.3	+0.8
SIGR	**SIGRI**	**3.20**	**69**	*eP*	**Pn**	14 12 53.5	+1.1
SIGR				*eS*	**Sn**	14 13 29.3	0.0
SIGR	**SIGRI**	**3.20**	**69**	*eP*	**Pn**	14 12 53.5	+1.1
SIGR				*eS*	**Sn**	14 13 29.3	0.0
VAY	**Valandovo**	**3.21**	**8**	*i* Pn	**Pn**	14 12 54.5	+1.9
VAY				*eSg*	**Sn**	14 13 31.2	+1.6
VAY	**Valandovo**	**3.21**	**8**	*i* Pn	**Pn**	14 12 54.5	+1.9
VAY				*eSg*	**Sn**	14 13 31.1	+1.6
SRS	**Serrai**	**3.22**	**22**	P	**Pn**	14 12 53.7	+0.9
SRS	**Serrai**	**3.22**	**22**	*eP*	**Pn**	14 12 53.6	+0.8
SRS				*eS*	**Sn**	14 13 30.7	+0.9
SRS	**Serrai**	**3.22**	**22**	*eP*	**Pn**	14 12 53.6	+0.8
SRS				*eS*	**Sn**	14 13 30.7	+0.9
VAM	**Vamos**	**3.25**	**146**	*eP*	**Pn**	14 12 54.5	+1.4
VAM	**Vamos**	**3.25**	**146**	*eP*	**Pn**	14 12 54.5	+1.4
KAVA	**Kavala**	**3.45**	**33**	*eP*	**Pn**	14 12 56.0	+0.1
KAVA	**Kavala**	**3.45**	**33**	*eP*	**Pn**	14 12 56.0	+0.1
NVR	**Nevrokopi**	**3.51**	**23**	*eP*	**Pn**	14 12 58.1	+1.3
NVR	**Nevrokopi**	**3.51**	**23**	*eP*	**Pn**	14 12 58.1	+1.3
PRK	**Paraskevi**	**3.52**	**70**	*eP*	**Pn**	14 12 57.6	+0.8
PRK				*eS*	**Sn**	14 13 37.5	+0.4
PRK	**Paraskevi**	**3.52**	**70**	*eP*	**Pn**	14 12 57.6	+0.8
PRK				*eS*	**Sn**	14 13 37.5	+0.4
SMTH	**Samothraki Isl**	**3.59**	**48**	*eP*	**Pn**	14 12 59.4	+1.5
SMTH	**Samothraki Isl**	**3.59**	**48**	*eP*	**Pn**	14 12 59.4	+1.5
IDI	**Anoyia**	**3.67**	**140**	P	**Pn**	14 13 00.4	+1.4
IDI	1.5nm,0.3s,baz=280,slow=10,SNR=11			S	**Sn**	14 13 40.5	-0.5
IDI	8.6nm,0.3s,baz=290,slow=22,SNR=7.2			LR	LR	14 14 23.4	
IDI	comp=Z,55nm,19.8s,baz=302,slow=37						
MMB	**Musomiste**	**3.69**	**20**	⇓*iP*	**Pn**	14 13 00.6	+1.3
MMB	**Musomiste**	**3.69**	**20**	S	**Sn**	14 13 41.1	-0.5
MMB	**Musomiste**	**3.69**	**20**	⇓*iP*	**Pn**	14 13 00.6	+1.3
SMG	**Samos**	**3.84**	**95**	*eP*	**Pn**	14 13 02.7	+1.4
SMG	**Samos**	**3.84**	**95**	*eP*	**Pn**	14 13 02.7	+1.4
SIVA	**Sivas**	**3.84**	**143**	*eP*	**Pn**	14 13 04.3	+3.0
SIVA	**Sivas**	**3.84**	**143**	*eP*	**Pn**	14 13 04.3	+3.0
SKO	**Skopje**	**3.85**	**354**	*e*Pn	**Pn**	14 13 00.6	-0.9
SKO				*e*Sg	**Sn**	14 13 44.9	-0.7
SKO	**Skopje**	**3.85**	**354**	*e*Pn	**Pn**	14 13 00.5	-0.9
SKO				*e*Sg	**Sn**	14 13 44.8	-0.7
RDO	**Rodhopi**	**4.06**	**41**	*eP*	**Pn**	14 13 06.0	+1.8
RDO				*eS*	**Sn**	14 13 50.6	+0.2
RDO	**Rodhopi**	**4.06**	**41**	*eP*	**Pn**	14 13 06.0	+1.8
RDO				*eS*	**Sn**	14 13 50.6	+0.2
LAST	**Lasithi**	**4.08**	**136**	*eP*	**Pn**	14 13 06.4	+1.8
LAST				*eS*	**Sn**	14 13 51.6	+0.5
LAST	**Lasithi**	**4.08**	**136**	*eP*	**Pn**	14 13 06.4	+1.8
LAST				*eS*	**Sn**	14 13 51.6	+0.5
ALN	**Alexandroupoli**	**4.17**	**47**	*eP*	**Pn**	14 13 07.1	+1.4
ALN	**Alexandroupoli**	**4.17**	**47**	*eP*	**Pn**	14 13 07.1	+1.4
TAR1	**Taranto**	**4.37**	**305**	*e*Pn	**Pn**	14 13 08.2	-0.3
TAR1				Sn	**Sn**	14 13 54.8	-3.3
ULC	**Ulcinj**	**4.37**	**332**	⇑*i*Pn	**Pn**	14 13 08.6	+0.1
ULC				*e*Sn	**Sn**	14 13 58.2	0.0
ULC	**Ulcinj**	**4.37**	**332**	⇑*i*Pn	**Pn**	14 13 08.6	+0.1
ULC				*e*Sn	**Sn**	14 13 58.2	0.0
KDZ	**Kurdzhali**	**4.38**	**36**	⇑*iP*	**Pn**	14 13 08.6	-0.1
KDZ	**Kurdzhali**	**4.38**	**36**	⇑*iP*	**Pn**	14 13 08.6	-0.1
PE1	**Pezze di Greco**	**4.44**	**308**	*e*Pn	**Pn**	14 13 09.2	-0.2
PE1				Sn	**Sn**	14 13 56.0	-3.7
ZKR	**Zakros**	**4.54**	**130**	*eP*	**Pn**	14 13 12.9	+2.1
ZKR	**Zakros**	**4.54**	**130**	*eP*	**Pn**	14 13 12.9	+2.1
VTS	**Vitosha**	**4.54**	**11**	⇑*iP*	**Pn**	14 13 13.6	+2.6
VTS	**Vitosha**	**4.54**	**11**	⇑*iP*	**Pn**	14 13 13.6	+2.6
DRME	**Dracevica, Mon**	**4.59**	**333**	⇑*i*Pn	**Pn**	14 13 11.8	+0.3
DRME				*e*Sn	**Sn**	14 14 04.4	+1.0
DRME	**Dracevica, Mon**	**4.59**	**333**	⇑*i*Pn	**Pn**	14 13 11.8	+0.3
DRME				*e*Sn	**Sn**	14 14 04.4	+1.0
BARS	**Barje**	**4.68**	**358**	⇑*i*Pn	**Pn**	14 13 13.8	+1.1
PVY	**Plav**	**4.72**	**341**	⇓*i*Pn	**Pn**	14 13 14.4	+1.0
PVY				*e*Sn	**Sn**	14 14 07.4	+0.5
PVY	**Plav**	**4.72**	**341**	⇓*i*Pn	**Pn**	14 13 14.4	+1.0
PVY				*e*Sn	**Sn**	14 14 07.4	+0.5
PDG	**Podgorica**	**4.78**	**335**	⇑*i*Pn	**Pn**	14 13 15.1	+1.0
PDG				*e*Sn	**Sn**	14 14 08.3	+0.2
TTG	**Podgorica**	**4.78**	**335**	⇑*i*Pn	**Pn**	14 13 15.1	+1.0
TTG				*e*Sn	**Sn**	14 14 08.3	+0.2
BUM	**Brajici-Budva**	**4.79**	**331**	⇓*i*Pn	**Pn**	14 13 14.0	-0.4
BUM				*e*Sn	**Sn**	14 14 07.4	-1.2
BUM	**Brajici-Budva**	**4.79**	**331**	⇓*i*Pn	**Pn**	14 13 14.0	-0.4
BUM				*e*Sn	**Sn**	14 14 07.4	-1.2
KARP	**Karpathos**	**4.88**	**120**	*eP*	**Pn**	14 13 18.0	+2.5
KARP	**Karpathos**	**4.88**	**120**	*eP*	**Pn**	14 13 18.0	+2.5
SG1	**Sgolgore (BA)**	**4.93**	**305**	*e*Pn	**Pn**	14 13 16.0	-0.2
BAI	**Bari**	**4.95**	**308**	*e*Pn	**Pn**	14 13 16.1	-0.3
BEY	**Berane**	**5.00**	**342**	⇑*i*Pn	**Pn**	14 13 18.1	+0.9
BEY				*e*Sn	**Sn**	14 14 13.7	+0.1
IVA	**Berane**	**5.00**	**342**	⇑*i*Pn	**Pn**	14 13 18.1	+0.9
IVA				*e*Sn	**Sn**	14 14 13.7	+0.1
HCY	**Herceg Novi**	**5.07**	**329**	⇑*i*Pn	**Pn**	14 13 17.3	-0.9
HCY				*e*Sn	**Sn**	14 14 12.2	-3.2
HCY	**Herceg Novi**	**5.07**	**329**	⇑*i*Pn	**Pn**	14 13 17.3	-0.9
HCY				*e*Sn	**Sn**	14 14 12.2	-3.2
NKME	**Niksic**	**5.18**	**334**	⇓*i*Pn	**Pn**	14 13 19.8	+0.2
NKME				*e*Sn	**Sn**	14 14 17.1	-0.9
NKME	**Niksic**	**5.18**	**334**	⇓*i*Pn	**Pn**	14 13 19.8	+0.2
NKME				*e*Sn	**Sn**	14 14 17.1	-0.9
NKY	**Niksic**	**5.20**	**335**	⇑*i*Pn	**Pn**	14 13 20.6	+0.5
NKY				*e*Sn	**Sn**	14 14 17.9	-0.9
NKY	**Niksic**	**5.20**	**335**	⇑*i*Pn	**Pn**	14 13 20.6	+0.5
NKY				*e*Sn	**Sn**	14 14 17.9	-0.9
CDT	**Castel del Mon**	**5.31**	**305**	*e*Pn	**Pn**	14 13 21.1	-0.4
BRY	**Bratogost**	**5.44**	**332**	⇓*i*Pn	**Pn**	14 13 22.7	-0.7
BRY				*e*Sn	**Sn**	14 14 24.2	-0.5
BRY	**Bratogost**	**5.44**	**332**	⇓*i*Pn	**Pn**	14 13 22.7	-0.7
BRY				*e*Sn	**Sn**	14 14 24.2

comp=Z,1.8nm,0.3s,baz=221,slow=9.1,SNR=12
CPUP Villa Florida 17.90 54 *e*P **P 14 26 54.7 -0.2**
LPAZ La Paz 22.14 14 P **P 14 27 42.5 +0.8**
comp=Z,13nm,1.1s,baz=182,slow=8.3,SNR=24
SIV San Ignacio 24.49 30 P **P 14 28 04.2 -0.3**
comp=Z,15nm,1.0s,baz=219,slow=7.7,SNR=22
SIV LR LR 14 39 18.3
comp=Z,1µm,19.5s,baz=206,slow=41
PMSA Palmer Station 27.37 171 LR LR 14 38 30.8
comp=Z,747nm,21.1s,baz=322,slow=35
SAML Samuel 30.38 20 *e*P **P 14 28 57.1 -0.2**
comp=Z,8.7nm,1.2s
BDFB Brasilia 31.60 52 P **P 14 29 07.5 -0.7**
comp=Z,4.9nm,0.8s,baz=209,slow=4.4,SNR=5.9
BDFB LR LR 14 43 27.4
comp=Z,1µm,20.1s,baz=218,slow=39
RPN Rapa Nui 31.97 279 LR LR 14 38 29.5
comp=Z,588nm,20.3s,baz=126,slow=30
OTAV Otavalo 38.34 352 *e*P **P 14 30 08.6 +1.9**
comp=Z,35nm,1.4s
ROSC El Rosal 42.66 359 LR LR 14 48 03.8
comp=Z,278nm,19.1s,baz=214,slow=36
VNA3 Neumayer Olymp 46.11 156 P **P 14 31 09.7 +0.8**
SDV Santo Domingo 46.73 4 *e*P **P 14 31 14.0 -0.5**
comp=Z,12nm,0.9s
RCBR Riachuelo 46.76 56 *e*P **P 14 31 15.3 +0.6**
comp=Z,36nm,1.8s
VNA2 Neumayer--Watz 46.79 156 P **P 14 31 15.3 +1.0**
SNAA Sanae 48.33 156 P **P 14 31 27.1 +0.9**
SNAA Sanae 48.33 156*ce*P **P 14 31 27.4 +1.2**
SNAA pmax pmax
comp=Z,53nm,1.7s
SNAA Sanae 48.33 156 LR LR 14 51 38.3
comp=Z,78nm,19.4s,baz=267,slow=36
SNAA Sanae 48.33 156 *e*P **P 14 31 27.0 +0.7**
comp=Z,87nm,1.6s
QSPA South Pole Qui 52.23 180 P **P 14 31 56.6 +0.7**
comp=Z,5.5nm,0.9s,baz=154,slow=1.3,SNR=14
QSPA South Pole Qui 52.23 180 *e*P **P 14 31 56.6 +0.7**
comp=Z,18nm,1.0s
NVL N'lazarevskaya 53.11 156 *e*P **P 14 32 02.4 +0.2**
NVL pmax pmax
comp=Z,19nm,0.9s
RKT Rikitea 54.13 267 *e*S S 14 39 32.7 -13
RKT *e*LR LR 14 47 33.9
comp=Z,871nm,25.5s
RKT Rikitea 54.13 267 *e*T T 15 29 34.5
VNDA Vanda 59.95 192 LR LR 14 55 32.2
comp=Z,142nm,18.9s,baz=128,slow=33
PPT2 Papeete2 68.62 264 *e*S S 14 42 38.7 -11
comp=Z,176nm,23.0s
PPT2 Papeete2 68.62 264 *e*LR LR 14 54 11.3
comp=Z,470nm,25.2s
PPT Papeete 68.63 264 LR LR 14 57 59.5
comp=Z,231nm,18.6s,baz=96,slow=31
MAW Mawson 69.66 164 LR LR 15 03 43.8
comp=Z,349nm,21.2s,baz=235,slow=35
832A Faith Ranch, C 70.48 335 ⇑P **P 14 34 01.1 +1.5**
baz=71
732A Laxson Ranch, 70.89 335 ⇑P **P 14 34 03.5 +1.4**
baz=71
632A Uvalde 71.55 336 ⇑P **P 14 34 07.3 +1.3**
baz=72
631A Perdido Creek 71.72 335 ⇑P **P 14 34 08.7 +1.7**
baz=72
LRAL Lakeview Retre 71.81 348 *e*P **P 14 34 06.9 -0.5**
comp=Z,13nm,1.4s
LRAL *ep*P **pP 14 34 15.3 +0.1**
533A Kerrville 71.84 337 ⇑P **P 14 34 09.0 +1.2**
baz=72
532A Rocksprings 72.17 336 ⇑P **P 14 34 10.3 +0.5**
baz=72,SNR=6.2
434A Burnet 72.30 338 ⇓P **P 14 34 10.9 +0.5**
baz=73,SNR=5.4
531A Rocksprings 72.41 336 ⇑P **P 14 34 12.0 +0.8**
baz=73
336A Riesel 72.42 339 ⇑P **P 14 34 12.1 +1.0**
baz=73
433A Art 72.49 337 ⇑P **P 14 34 11.6 0.0**
baz=73,SNR=5.4
530A J-C Ranch, Com 72.66 335 ⇓P **P 14 34 13.8 +1.1**
baz=73
TXAR Lajitas Array 72.73 333 P **P 14 34 14.1 +0.9**
comp=Z,1.0nm,0.6s,baz=158,slow=8.5,SNR=14
TXAR LR LR 15 01 17.8
comp=Z,228nm,18.8s,baz=0.0,slow=32
334A Lometa 72.77 338 ⇓P **P 14 34 13.9 +0.7**
baz=73,SNR=6.4
432A Menard 72.82 336 ⇓P **P 14 34 14.4 +0.8**
baz=73
431A Sonora 72.91 336 ⇓P **P 14 34 15.0 +0.9**
baz=73
529A Stev Forest Ra 72.93 334 ⇑P **P 14 34 15.2 +0.8**
baz=73
333A Richland Sprin 72.99 337 ⇑P **P 14 34 15.3 +0.7**
baz=73
KMSC Kings Mountain 73.16 353 ⇑P **P 14 34 15.9 +0.5**
baz=74
WHTX Lake Whitney, 73.16 339 ⇓P **P 14 34 16.0 +0.5**
baz=73
WHTX Lake Whitney, 73.16 339 *e*P **P 14 34 15.4 -0.1**
comp=Z,22nm,1.2s
WHTX *ep*P **pP 14 34 24.3 +0.9**
430A Baggett Ranch, 73.21 335 ⇓P **P 14 34 16.7 +0.8**
baz=74,SNR=5.4
332A Millersview 73.28 337 ⇑P **P 14 34 16.3 0.0**
baz=74,SNR=6.1
429A Davenport Ranc 73.28 335 ⇑P **P 14 34 17.2 +0.9**
baz=74
234A Clairette 73.37 338 ⇑P **P 14 34 17.6 +0.8**
baz=74
331A San Angelo 73.42 336 ⇓P **P 14 34 16.9 -0.3**
baz=74,SNR=6.7
233A Rising Star 73.61 338 ⇓P **P 14 34 19.0 +0.7**
baz=74
232A Coleman 73.72 337 ⇑P **P 14 34 19.6 +0.7**
baz=74
330A Mertzon 73.76 336 ⇑P **P 14 34 19.8 +0.7**
baz=74
SWET Sewanee 73.78 349 *e*P **P 14 34 19.5 +0.3**
comp=Z,14nm,0.8s
SWET *ep*P **pP 14 34 26.1 -0.8**
134A White-Moore Ra 73.89 338 ⇑P **P 14 34 20.6 +0.8**
baz=74
SUR Sutherland 73.89 119 *e*P **P 14 34 21.3 +0.9**
231A Bronte 73.97 336 ⇑P **P 14 34 21.1 +0.7**
baz=74
329A Wagon Wheel Ra 74.10 335 ⇓P **P 14 34 21.7 +0.5**
baz=74
133A Hamilton Ranch 74.17 338 ⇑P **P 14 34 22.2 +0.8**
baz=74
230A Sterling City 74.18 336 ⇓P **P 14 34 22.3 +0.7**
baz=74
Z35A Perchaven, San 74.36 339 ⇓P **P 14 34 23.5 +1.0**
baz=75
ABTX Abilene, Hawle 74.40 337 ⇑P **P 14 34 23.3 +0.5**
baz=75
ABTX Abilene, Hawle 74.40 337 *e*P **P 14 34 22.8 -0.1**
comp=Z,5.0nm,0.9s
ABTX *ep*P **pP 14 34 30.9 +0.2**
229A Bryant Ranch, 74.48 335 ⇑P **P 14 34 24.0 +0.6**
baz=75
Z34A Collier Ranch, 74.59 339 ⇓P **P 14 34 24.7 +0.8**
baz=75
131A Roby 74.68 337 ⇑P **P 14 34 25.2 +0.7**
baz=75
Z33A Whitaker Ranch 74.75 338 ⇑P **P 14 34 25.5 +0.7**
baz=75
130A Snyder 74.79 336 ⇑P **P 14 34 26.2 +1.1**
baz=75
228A UT Block 9, Go 74.88 335 ⇓P **P 14 34 26.3 +0.6**
baz=75
WVT Waverly 74.97 348 *e*P **P 14 34 25.5 -0.5**
WVT *e**PP **pP 14 34 32.9 -0.9**
WVT pmax pmax
comp=Z,9.0nm,1.0s
WVT Waverly 74.97 348 *e*P **P 14 34 25.5 -0.5**
comp=Z,9.3nm,1.0s
WVT *ep*P **pP 14 34 32.9 -0.9**
Z32A Haskell 74.98 338 ⇓P **P 14 34 26.9 +0.7**
baz=75
Y34A Reagan Ranch, 75.09 339 ⇑P **P 14 34 27.8 +1.0**
baz=75
129A Stewart Farms, 75.11 335 ⇑P **P 14 34 27.7 +0.7**
baz=75
Z31A Sharp Cattle R 75.20 337 ⇓P **P 14 34 28.2 +0.8**
baz=76
128A Castleberry Fa 75.31 335 ⇓P **P 14 34 28.8 +0.6**
baz=76
Y33A Hilltop Ranch, 75.39 339 ⇓P **P 14 34 29.2 +0.7**
baz=76
Z30A Sanderson Ranc 75.48 336 ⇑P **P 14 34 29.8 +0.7**
baz=76
Y32A R-V Farms, Ver 75.62 338 ⇑P **P 14 34 30.8 +0.9**
baz=76
Z29A Hungry Hill Ra 75.64 336 ⇓P **P 14 34 30.3 +0.3**
baz=76,SNR=8.1
X34A Smith Ranch, M 75.72 339 ⇑P **P 14 34 31.2 +0.8**
baz=76
Y31A Rekieta Farm, 75.83 337 ⇑P **P 14 34 31.8 +0.8**
baz=76
X32A Elmer 75.97 338 ⇓P **P 14 34 32.6 +0.8**
baz=76
Y29A Porterfield Fa 76.18 336 ⇓P **P 14 34 33.8 +0.7**
baz=76
W34A Bridge Creek, 76.30 340 ⇑P **P 14 34 34.4 +0.7**
baz=77
X31A McDonald Ranch 76.37 338 ⇓P **P 14 34 35.1 +1.0**
baz=77
Y28A McKinney Farm, 76.41 336 ⇑P **P 14 34 35.3 +0.9**
baz=77
W33A Caddo, Fort Co 76.41 339 ⇑P **P 14 34 35.7 +1.3**
baz=77
TUL1 Leonard 76.42 341 ⇑P **P 14 34 35.2 +0.9**
baz=77
TUL1 Leonard 76.42 341 *e*P **P 14 34 34.5 +0.2**
comp=Z,9.4nm,0.8s
TUL1 *ep*P **pP 14 34 42.0 -0.2**
W32A Sentinel 76.61 338 ⇑P **P 14 34 36.9 +1.4**
baz=77
MSTX Muleshoe 76.64 335 ⇑P **P 14 34 37.0 +1.2**
baz=77
MSTX Muleshoe 76.64 335 *e*P **P 14 34 36.4 +0.7**
comp=Z,24nm,1.4s
MSTX *ep*P **pP 14 34 43.0 -0.5**
X29A Tulia 76.73 336 ⇑P **P 14 34 37.0 +0.8**
baz=77
V34A Guthrie 76.79 340 ⇓P **P 14 34 37.3 +0.9**
baz=77
W31A Holland Ranch, 76.87 338 ⇓P **P 14 34 37.7 +0.8**
baz=77
Y26A Elida 76.95 334 ⇑P **P 14 34 38.5 +0.9**
baz=77,SNR=5.7
V33A Lossen Ranch, 76.99 339 ⇑P **P 14 34 38.7 +1.1**
baz=77
V32A Arapaho 77.11 339 ⇑P **P 14 34 39.6 +1.3**
baz=77
LIC Lamto 77.11 71 *e*P **P 14 34 39.6 +0.8**
comp=Z,106nm,1.0s
AMTX Amarillo 77.12 336 ⇓P **P 14 34 39.6 +1.2**
baz=77
AMTX Amarillo 77.12 336 *e*P **P 14 34 39.2 +0.8**
comp=Z,18nm,1.1s
Y25A Mesa, Roswell 77.25 334 ⇓P **P 14 34 39.5 +0.3**
baz=78
W29A Amarillo 77.33 337 ⇑P **P 14 34 40.5 +0.9**
baz=78
TIC Toumodi 77.39 71 *e*P **P 14 34 41.3 +0.9**
comp=Z,82nm,0.9s
KIC Kosan Boka 77.42 72 *e*P **P 14 34 41.4 +0.9**
comp=Z,111nm,0.9s
Y24A Capitan 77.51 333 ⇑P **P 14 34 41.9 +1.1**
baz=78
X26A CR and CF Fran 77.51 335 ⇓P **P 14 34 41.8 +1.1**
baz=78
DBIC Dimbokro 77.53 71 *e*P **P 14 34 42.1 +1.0**
DBIC pmax pmax
comp=Z,35nm,0.9s
DBIC Dimbokro 77.53 71 P **P 14 34 42.2 +1.1**
comp=Z,32nm,0.8s,baz=207,slow=6.6,SNR=28
DBIC LR LR 15 05 54.8
comp=Z,162nm,19.0s,baz=199,slow=33
DBIC Dimbokro 77.53 71 *e*P **P 14 34 42.1 +1.0**
comp=Z,35nm,0.9s
W27A Bowe Ranch, En 77.73 335 ⇑P **P 14 34 43.1 +1.2**
baz=78
Y23A Lovelace Mesa, 77.74 333 ⇓P **P 14 34 43.5 +1.4**
baz=78
T33A Patterson Ranc 78.16 340 ⇓P **P 14 34 45.7 +1.6**
baz=78
U30A WK&E Inc. Balk 78.33 338 ⇑P **P 14 34 46.2 +1.1**
baz=79
W25A X Bar L Ranch, 78.34 334 ⇓P **P 14 34 46.2 +0.9**
baz=79
LAZ Ladron 78.56 332 *e*P **P 14 34 48.3 +1.7**
comp=Z,3.7nm,1.1s
S33A Kaszmaul Farm, 78.58 340 ⇑P **P 14 34 47.5 +1.1**
baz=79
V26A Tequesquite Ra 78.64 335 ⇓P **P 14 34 47.8 +0.8**
baz=79
ANMO Albuquerque 78.80 333 *e*P **P 14 34 49.0 +1.1**
ANMO *e**PP **PcP 14 34 57.2 +0.6**
ANMO pmax pmax
comp=Z,5.0nm,0.9s
ANMO Albuquerque 78.80 333 *e*P **P 14 34 49.0 +1.1**
comp=Z,5.0nm,0.9s
ANMO *ep*P **PcP 14 34 57.2 +0.6**
W23A Werner Place, 78.88 333 ⇑P **P 14 34 50.1 +1.8**
baz=79
U27A Thompson Grove 78.90 336 ⇓P **P 14 34 49.7 +1.4**
baz=79
V25A Rancho No Teng 78.96 335 ⇑P **P 14 34 50.1 +1.4**
baz=79
S31A Mullinville 79.01 339 ⇑P **P 14 34 50.0 +1.2**
baz=79
V24A Rampart Ranch, 79.08 334 ⇑P **P 14 34 50.8 +1.3**
baz=79
U26A Atchley Ranch, 79.17 336 ⇓P **P 14 34 51.2 +1.3**
baz=80
BOSA Boshof 79.20 118 *e*P **P 14 34 50.5 +0.1**
BOSA *e**PP **pP 14 34 57.2 -1.1**
BOSA pmax pmax
comp=Z,15nm,1.0s
BOSA Boshof 79.20 118 P **P 14 34 50.8 +0.4**
comp=Z,12nm,0.9s,baz=212,slow=4.4,SNR=12
BOSA LR LR 15 06 32.8
comp=Z,144nm,18.9s,baz=232,slow=33
BOSA Boshof 79.20 118 *e*P **P 14 34 50.5 +0.1**
comp=Z,15nm,1.0s
BOSA *ep*P **pP 14 34 57.2 -1.1**
R33A Olander Ranch, 79.25 341 ⇑P **P 14 34 51.3 +1.2**
baz=80
S30A Montezuma 79.31 338 ⇓P **P 14 34 51.7 +1.3**
baz=80
T28A Walsh 79.32 337 ⇑P **P 14 34 51.7 +1.2**
baz=80
U25A Circle Dot Ran 79.40 335 ⇓P **P 14 34 52.6 +1.5**
baz=80
T27A Campo 79.45 337 ⇑P **P 14 34 53.1 +1.7**
baz=80
X18A Snowflake 79.75 330 ⇓P **P 14 34 54.2 +1.1**
baz=80
V22A San Miguel Ran 79.83 333 ⇓P **P 14 34 54.8 +1.3**
baz=80
T26A Comanche Natio 79.83 336 ⇓P **P 14 34 54.8 +1.3**
baz=80
Q33A Connelly Farm, 79.86 341 ⇑P **P 14 34 55.0 +1.6**
baz=80
U23A El Rito 79.94 334 ⇑P **P 14 34 55.7 +1.5**
baz=80
Q32A Meitler Ranch, 80.04 340 ⇑P **P 14 34 55.6 +1.2**
baz=80
T25A Trinidad 80.07 335 ⇓P **P 14 34 56.0 +1.2**
baz=80
S26A Kim 80.20 336 ⇓P **P 14 34 56.9 +1.5**
baz=80
X16A Lo Mia Camp, P 80.25 329 ⇓P **P 14 34 57.0 +1.2**
baz=80
Q31A Ellis 80.28 340 ⇑P **P 14 34 56.8 +1.2**
baz=81
T24B San Luis 80.33 335 ⇓P **P 14 34 57.5 +1.2**
baz=81
R28A Tribune 80.35 338 ⇑P **P 14 34 57.6 +1.4**
baz=81
Q30A Quinter 80.48 339 ⇑P **P 14 34 57.9 +1.2**
baz=81
Y14A Wickenburg 80.48 328 ⇓P **P 14 34 58.5 +1.6**
baz=81
GLA Glamis 80.52 326 ⇓P **P 14 34 58.9 +1.8**
baz=81
S25A Robets Cordova 80.55 336 ⇑P **P 14 34 58.7 +1.4**
baz=81
R27A Eads 80.60 337 ⇓P **P 14 34 58.5 +1.0**
baz=81
Q29A Oakley 80.62 339 ⇓P **P 14 34 58.6 +1.1**
baz=81
S24A Houchin Ranch, 80.79 335 ⇑P **P 14 34 60.0 +1.2**
baz=81
R26A Arlington 80.82 336 ⇓P **P 14 35 00.3 +1.6**
baz=81
SDCO Great Sand Dun 80.98 335 *e*P **P 14 35 00.6 +0.8**
comp=Z,3.9nm,1.0s
R24A Sanders Place, 81.29 335 ⇓P **P 14 35 02.9 +1.6**
baz=82
S22A 4UR Ranch, Cre 81.44 334 ⇑P **P 14 35 03.8 +1.6**
baz=82
R23A Moffat 81.49 335 ⇑P **P 14 35 04.2 +1.7**
baz=82
O30A MW Ranch, Wils 81.56 340 ⇓P **P 14 35 03.2 +0.8**
baz=82
MVCO Mesa Verde 81.56 332 ⇓P **P 14 35 04.1 +1.4**
baz=82
Q25A Bedland, Calha 81.63 336 ⇓P **P 14 35 04.0 +0.9**
baz=82
LBTB Lobatse 81.63 115 *e*P **P 14 35 03.8 +0.3**
LBTB pmax pmax
comp=Z,10.0nm,0.9s
LBTB Lobatse 81.63 115 *e*P **P 14 35 03.8 +0.3**
comp=Z,10nm,0.9s
P25A Willow Gulch B 82.15 336 ⇓P **P 14 35 07.4 +1.7**
baz=82
U15A North Rim 82.33 329 ⇑P **P 14 35 08.5 +1.6**
baz=83
ISCO Idaho Springs 82.88 336 ⇑P **P 14 35 11.2 +1.5**
baz=83
TUQ Turquoise Moun 83.02 326 ⇓P **P 14 35 12.2 +1.9**
baz=83
L31A Butterfield Fa 83.10 341 ⇓P **P 14 35 12.2 +1.7**
baz=83
GSC Goldstone, Bar 83.29 326 ⇓P **P 14 35 12.7 +1.0**
baz=84
O23A Lake Granby, G 83.35 336 ⇓P **P 14 35 13.2 +1.1**
baz=84
O22A Kremmling 83.51 335 ⇓P **P 14 35 13.9 +1.0**
baz=84
CCUT Cedar City 83.73 329 P **P 14 35 14.6 +0.6**
comp=Z,2.9nm,1.0s
ECSD EROS Data Cent 84.04 343 ⇑P **P 14 35 16.1 +0.9**
baz=84
ECSD EROS Data Cent 84.04 343 *e*P **P 14 35 15.6 +0.4**
comp=Z,14nm,0.9s
SPMN Marine on St. 84.68 346 ⇑P **P 14 35 18.7 +0.3**
baz=85
SPMN Marine on St. 84.68 346 *e*P **P 14 35 18.3 -0.1**
R11A Troy Canyon, C 85.33 328 ⇑P **P 14 35 24.1 +2.0**
baz=86
R11A Troy Canyon, C 85.33 328 *e*P **P 14 35 23.8 +1.7**
comp=Z,4.4nm,1.5s
H29A Onida 85.75 341 ⇓P **P 14 35 24.9 +1.1**
baz=86
J24A Dixon Ranch, L 85.78 338 ⇓P **P 14 35 25.9 +1.7**
baz=86
DUG Dugway, Tooele 85.79 331 ⇓P **P 14 35 25.8 +1.5**
baz=86
TPH Tonopah 85.79 327 *e*P **P 14 35 25.8 +1.4**
TPH pmax pmax
comp=Z,10.0nm,1.3s
TPH Tonopah 85.79 327 *e*P **P 14 35 25.8 +1.4**
comp=Z,10nm,1.3s
NVAR Mina Array Bea 86.56 326 P **P 14 35 29.3 +1.0**
comp=Z,0.3nm,0.6s,baz=169,slow=5.1,SNR=3.3
TORD Torodi Ar. Bea 86.62 71 P **P 14 35 29.1 +0.3**
comp=Z,12nm,1.0s,baz=236,slow=4.2,SNR=42
TORD LR LR 15 10 54.9
comp=Z,114nm,21.4s,baz=225,slow=33
F29A Eureka 86.78 342 ⇑P **P 14 35 29.5 +0.7**
baz=87
PDAR Pinedale Array 86.85 334 P **P 14 35 29.5 -0.1**
comp=Z,0.9nm,0.8s,baz=138,slow=5.4,SNR=6.1
J20A Shoshoni 86.88 335 ⇓P **P 14 35 30.6 +1.0**
baz=87
J19A Crowheart 87.12 335 ⇑P **P 14 35 31.6 +0.8**
baz=87
F27A Lemmon 87.38 340 ⇓P **P 14 35 32.3 +0.5**
baz=88
C30A Mose, Pekin 88.22 343 ⇑P **P 14 35 36.6 +0.9**
baz=88
I17A Pilgrim Ck. 88.22 334 ⇑P **P 14 35 37.0 +1.0**
baz=88
AGMN Agassiz Nation 88.22 345 ⇑P **P 14 35 36.4 +0.8**
baz=88
D26A Manning 88.56 341 ⇓P **P 14 35 38.7 +1.4**
baz=89
H18A Shoshone NF, C 88.58 335 ⇓P **P 14 35 38.4 +0.6**
baz=89
B30A Myrvik Farm, E 88.89 344 ⇑P **P 14 35 39.4 +0.6**
baz=89
B29A Wagenman Farm, 89.13 343 ⇓P **P 14 35 41.2 +1.2**
baz=89
HLID Hailey 89.30 332 ⇓P **P 14 35 41.7 +0.6**
baz=90
A30A Hoffart Farm, 89.35 344 ⇑P **P 14 35 41.7 +0.7**
baz=90
A29A Manning Farm, 89.54 343 ⇓P **P 14 35 42.7 +0.8**
baz=90
ULM Lac du Bonnet 90.09 346 P **P 14 35 44.8 +0.4**
comp=Z,1.2nm,0.6s,baz=258,slow=4.2,SNR=3.0
SCHQ Schefferville 92.65 4 LR LR 15 19 19.7
comp=Z,57nm,18.9s,baz=84,slow=37
GERES GERESS Array B 115.74 47 PKP **PKPdf 14 41 26.6 -0.4**
comp=Z,1.9nm,0.9s,baz=197,slow=1.4,SNR=8.3
CLL Collm 116.52 44 *e*PKiKP **PKPdf 14 41 29.0 +0.8**
CLL MLR MLR
comp=Z,200nm,19.5s
CLL Collm 116.52 44 *e*PKiKP **PKPdf 14 41 29.0 +0.8**
CLL *e* 14 41 50.0
comp=Z,50nm,2.6s
CLL Lm MLR 15 31 00.0
comp=Z,200nm,19.5s
WRA Warramunga Arr 116.72 209 PKIKP **PKPdf 14 41 29.0 -0.8**
WRA Warramunga Arr 116.72 209 PKP **PKPdf 14 41 29.0 -0.8**
comp=Z,0.4nm,0.9s,baz=158,slow=1.7,SNR=7.4
COLA College 117.65 332 *e*PKIKP **PKPdf 14 41 29.6 -0.4**
VYHS Vyhne 118.60 49 *e*PKIKP **PKPdf 14 41 32.8 +0.4**
VYHS Vyhne 118.60 49 *e*PKP **PKPdf 14 41 32.8 +0.4**
GZR Gura Zlata 119.69 54 ⇑PKIKP **PKPdf 14 41 35.1 +0.5**
GZR Gura Zlata 119.69 54 ⇑*i*P **PKPdf 14 41 35.1 +0.5**
NOA NORSAR Array B 119.99 34 PKP **PKPdf 14 41 34.5 -0.2**
comp=Z,0.8nm,0.7s,baz=139,slow=11,SNR=4.5
TRPA Tarpa 120.68 51 ⇓*i*P **PKPdf 14 41 37.0 +0.7**
ARR Arges 120.87 54 ⇓*i*P **PKPdf 14 41 37.1 +0.2**
VOIR 121.16 54 ⇑PKIKP **PKPdf 14 41 38.1 +0.6**
VOIR 121.16 54 ⇑*i*P **PKPdf 14 41 38.1 +0.6**
DOPR Dopca 121.59 54 ⇓*i*P **PKPdf 14 41 40.5 +2.3**
MLR Muntele Rosu 121.76 55 ⇓PKIKP **PKPdf 14 41 38.9 +0.2**
MLR Muntele Rosu 121.76 55 ⇓*i*P **PKPdf 14 41 38.9 +0.2**
BURAR Bucovina Array 122.13 52 ⇓PKIKP **PKPdf 14 41 40.3 +1.0**
BURAR Bucovina Array 122.13 52 ⇓*i*P **PKPdf 14 41 40.3 +1.0**
PLOR Plostina 122.36 55 ⇓PKIKP **PKPdf 14 41 38.7 -1.0**
PLOR Plostina 122.36 55 ⇓*i*P **PKPdf 14 41 38.7 -1.0**
VRI Vrincioaia 122.41 55 ⇑PKIKP **PKPdf 14 41 39.8 0.0**
VRI Vrincioaia 122.41 55 ⇑*i*P **PKPdf 14 41 39.8 0.0**
TESR Tescani 122.61 54 ⇑*i*P **PKPdf 14 41 39.9 -0.2**
TIRR Tirgusor 122.96 57 ⇑PKIKP **PKPdf 14 41 41.3 +0.5**
TIRR Tirgusor 122.96 57 ⇑*i*P **PKPdf 14 41 41.3 +0.5**
CFR Carcaliu 123.06 56 ⇓PKIKP **PKPdf 14 41 41.5 +0.5**
CFR Carcaliu 123.06 56 ⇓*i*P **PKPdf 14 41 41.5 +0.5**
BRTR Keskin Array B 124.69 64 PKP **PKPdf 14 41 45.0 +0.5**
comp=Z,2.4nm,0.7s,baz=203,slow=3.1,SNR=10
AKASG Malin Array Be 125.68 50 PKP **PKPdf 14 41 45.5 -0.3**
comp=Z,0.7nm,0.4s,baz=264,slow=2.3,SNR=5.8
FINES FINESS Array B 126.91 36 PKP **PKPdf 14 41 48.4 +0.6**
comp=Z,3.0nm,0.9s,baz=333,slow=2.1,SNR=9.0
KAF Kangasniemi 127.16 36 *e*PKIKP **PKPdf 14 41 48.1 -0.2**
KAF Kangasniemi 127.16 36 *ep* **PKPdf 14 41 48.1 -0.2**
MALT Malatya 127.58 67 ⇑PKIKP **PKPdf 14 41 51.3 +1.2**
MALT Malatya 127.58 67 ⇑*i*P **PKPdf 14 41 51.3 +1.2**
ARCES ARCESS Array B 128.11 26 PKP **PKPdf 14 41 50.7 +0.7**
comp=Z,4.0nm,1.0s,baz=345,slow=1.0,SNR=3.1
JOF Joensuu 129.59 35 *e*PKIKP **PKPdf 14 41 53.1 +0.2**
JOF Joensuu 129.59 35 *ep* **PKPdf 14 41 53.1 +0.2**
OBN Obninsk 131.08 46 *e*PKIKP **PKPdf 14 41 54.3 -1.7**
OBN pmax pmax
comp=Z,27nm,2.3s
KBZ Khabaz 132.56 62 PKP **PKPdf 14 42 00.9 +1.7**
comp=Z,2.3nm,0.7s,baz=243,slow=9.0,SNR=3.3
KLMR Klimovskoe 133.27 38 *e*PKIKP **PKPdf 14 41 58.5 -1.5**
KLMR pmax pmax
comp=Z,46nm,2.3s
BILL Bilibino 135.90 332 *e*PKIKP **PKPdf 14 42 07.2 +2.5**

BILL					pmax	pmax	
	comp=Z,6.0nm,2.0s						
PRGR	**Permogore**	**136.22**	**37**	PKIKP	**PKPdf**	**14 42 05.3**	**-0.1**
PRGR					pmax	pmax	
	comp=Z,37nm,0.9s						
GEYT	**Alibeck**	**142.15**	**75**	PKP	**PKPdf**	**14 42 18.4**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=298,slow=3.2,SNR=5.4						
ARU	**Arti**	**143.46**	**44**	*i* PKIKP	PKPbc	14 42 16.5	+0.4
ARU	**Arti**	**143.46**	**44**	*e*PKPpre	PKPpre	14 42 15.7	
AKTO	**Aktyubinsk**	**143.69**	**54**	PKIKP	PKPbc	14 42 16.8	-0.2
AKTO					pmax	pmax	
	comp=Z,9.0nm,0.9s						
TIXI	**Tiksi**	**144.41**	**348**	*e*PKIKP	**PKPab**	**14 42 17.5**	**-0.7**
TIXI	**Tiksi**	**144.41**	**348**	*e*PKP	**PKPab**	**14 42 17.5**	**-0.7**
SVE	**Sverdlovsk**	**144.51**	**43**	*e*PKIKP	PKPbc	14 42 19.4	+0.1
SVE					pmax	pmax	
	comp=Z,28nm,1.5s						
AB31	**Akbulak array**	**144.95**	**56**	*i* PKIKP	PKPbc	14 42 21.3	+0.4
AB31					pmax	pmax	
	comp=Z,35nm,0.8s						
ABKAR	**Akbulak array**	**144.95**	**56**	*e*PKPdf	PKPbc	14 42 21.3	+0.4
HYB	**Hyderabad**	**148.01**	**122**	*i* PKP	**PKPbc**	**14 42 30.5**	**-0.4**
BRVK	**Borovoye**	**150.84**	**47**	*e*PKIKP	**PKPbc**	**14 42 37.8**	**+1.0**
BRVK	**Borovoye**	**150.84**	**47**	*e*PKPbc	**PKPbc**	**14 42 37.8**	**+1.0**
BVA0	**Borovoye Array**	**150.91**	**47**	PKIKP	**PKPdf**	**14 42 32.2**	**+0.9**
BVA0					pmax	pmax	
	comp=Z,17nm,0.8s						
YAK	**Yakutsk**	**152.05**	**337**	*e*PKIKP	**PKPbc**	**14 42 36.9**	**-2.4**
YAK					pmax	pmax	
	comp=Z,15nm,1.1s						
YAK	**Yakutsk**	**152.05**	**337**	*e*PKPbc	**PKPbc**	**14 42 38.6**	**-0.7**
KK31	**Karatay Array**	**152.28**	**68**	*i* PKIKP	**PKPbc**	**14 42 37.9**	**-2.6**
KK31					pmax	pmax	
	comp=Z,5.0nm,0.8s						
KKAR	**Karatay Array**	**152.28**	**68**	*e*PKPbc	**PKPbc**	**14 42 40.6**	**+0.1**
EKS2	**Erkin-Say**	**154.67**	**69**	*e*PKIKP	**PKPdf**	**14 42 38.3**	**+1.0**
EKS2				*e*		14 42 46.8	
EKS2	**Erkin-Say**	**154.67**	**69**	*e*PKPdf	**PKPdf**	**14 42 38.3**	**+1.0**
EKS2				*e*PKPbc	**PKiKP**	**14 42 46.8**	**+0.9**
AAK	**Ala-Archa**	**155.20**	**69***c*	*i* PKIKP	**PKPdf**	**14 42 39.5**	**+1.4**
AAK					pmax	pmax	
	comp=Z,13nm,1.7s						
AAK	**Ala-Archa**	**155.20**	**69**	*e*PKPdf	**PKPdf**	**14 42 38.9**	**+0.8**
TKM2	**Tokmak 2**	**156.00**	**68**	*e*PKIKP	**PKPdf**	**14 42 39.6**	**+0.3**
TKM2	**Tokmak 2**	**156.00**	**68**	*e*PKPdf	**PKPdf**	**14 42 39.6**	**+0.3**
KSH	**Kashi**	**156.14**	**77**	*e*PKP	**PKPdf**	**14 42 39.7**	**+0.3**
KSH				sPKP		14 42 49.0	
KSH				PKS	**PKSdf**	**14 46 11.9**	**-1.5**
KSH				PP	**PP**	**14 46 44.1**	**-1.2**
KSH				SKS	**SKSdf**	**14 49 45.6**	**+1.5**
KSH				SKKS	**SKKSac**	**14 53 29.2**	**-3.7**
KSH				SS	**SS**	**15 06 30.5**	**-3.2**
KSH				PPMZ			
	comp=Z,210nm,5.3s						
KSH				LN			
	comp=Z,45nm,5.5s						
KSH				LE			
	comp=Z,30nm,4.9s						
KSH				LZ			
	comp=Z,220nm,5.9s						
KURK	**Kurchatov**	**156.48**	**48**	*e*PKP2	**PKPab**	**14 43 07.8**	**-0.3**
KURK	**Kurchatov**	**156.48**	**48**	*e*PKPab	**PKPab**	**14 43 07.8**	**-0.3**
NVS	**Novosibirsk**	**156.89**	**36**⇑	*i*PKIKP	**PKPdf**	**14 42 38.5**	**-1.2**
NVS					pmax	pmax	
	comp=Z,7.0nm,1.2s						
NVS					pmax	pmax	
	comp=N,3.0nm,0.8s						
NVS					pmax	pmax	
	comp=E,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**158.17**	**36**	PKP	**PKPdf**	**14 42 41.2**	**-0.1**
	comp=E,2.0nm,0.7s,baz=274,slow=2.4,SNR=12						
ZALV				PKPab	**PKPab**	**14 43 15.5**	**+0.3**
	comp=E,4.6nm,0.9s,baz=289,slow=5.5,SNR=7.7						
CMAR	**Chiang Mai Arr**	**159.41**	**159**	PKP	**PKPdf**	**14 42 44.5**	**+0.6**
	comp=E,0.7nm,0.9s,baz=267,slow=2.9,SNR=5.5						
CMAR				PKPab	**PKPab**	**14 43 21.4**	**0.0**
	comp=E,1.6nm,1.0s,baz=224,slow=4.8,SNR=4.8						
MK31	**Makanchi Array**	**160.10**	**56**	*i* PKIKP	**PKPdf**	**14 42 44.6**	**+0.7**
MKAR	**Makanchi Array**	**160.10**	**56**	PKP	**PKPdf**	**14 42 44.5**	**+0.6**
	comp=E,3.4nm,1.1s,baz=318,slow=1.6,SNR=15						
MKAR				PKPab	**PKPab**	**14 43 24.3**	**+0.3**
	comp=E,2.2nm,0.7s,baz=293,slow=3.7,SNR=8.6						
MKAR				PP	**PP**	**14 47 08.3**	**+1.9**
	comp=E,1.0nm,0.9s,baz=282,slow=5.7,SNR=4.9						
WMQ	**Urumqi**	**164.60**	**62**	*e*PKP	**PKPdf**	**14 42 46.4**	**-2.1**
WMQ				pPKP	**pPKPdf**	**14 42 54.0**	**-2.7**
WMQ				PKPab	**PKPab**	**14 43 44.0**	**+0.1**
WMQ				PKS	**PKSdf**	**14 46 18.0**	**-3.4**
WMQ				PP	**PP**	**14 47 31.4**	**+0.8**
WMQ				SKS	**SKSdf**	**14 49 45.4**	**-5.8**
WMQ				SKKS	**SKKSac**	**14 54 13.3**	**-3.1**
WMQ				SS	**SS**	**15 07 58.4**	**-3.7**
WMQ				PPMZ			
	comp=E,150nm,6.0s						
WMQ				LN			
	comp=E,53nm,23.0s						
WMQ				LE			
	comp=E,88nm,24.0s						
WMQ				LZ			
	comp=E,120nm,21.0s						
CN2	**Changchun**	**164.61**	**298**	*e*PKP	**PKPdf**	**14 42 48.0**	**-0.4**
LSA	**Lhasa**	**164.75**	**118**	*e*PKIKP	**PKPdf**	**14 42 50.1**	**+0.5**
LSA	**Lhasa**	**164.75**	**118**	*e*PKPdf	**PKPdf**	**14 42 50.1**	**+0.5**
NJ2	**Nanjing**	**168.31**	**243**	*e*PKP	**PKPdf**	**14 42 51.9**	**+0.3**
SONM	**Songino Array**	**170.18**	**1**	PKPab	**PKPab**	**14 44 08.3**	**0.0**
	comp=E,0.8nm,0.8s,baz=335,slow=4.5,SNR=5.5						
CD2	**Chengdu**	**172.54**	**161**	*e*PKP	**PKPdf**	**14 42 55.1**	**+1.0**
GTA	**Gaotai**	**174.53**	**73**	*e*PKP	**PKPdf**	**14 42 55.2**	**+0.5**
GTA				pPKP	**pPKPdf**	**14 43 03.6**	**+0.7**
GTA				sPKP		14 43 07.5	
GTA				PKPab	**PKPab**	**14 44 29.6**	**+1.5**
HHC	**Hu-ho-hao-te**	**175.21**	**308**	*e*PKP	**PKPdf**	**14 42 50.0**	**-4.8**
HHC				pPKP	**pPKPdf**	**14 43 00.8**	**-2.2**
HHC				sPKP		14 43 04.4	
HHC				PP	**PP**	**14 48 21.8**	**-1.9**
HHC				SKS	SKSdf	14 49 47.8	-8.5
HHC				SS	SS	15 09 39.6	-7.3
HHC				PPMZ			
	comp=E,140nm,8.6s						
HHC				LN			
	comp=E,210nm,17.3s						
HHC				LE			
	comp=E,420nm,17.3s						
HHC				LZ			
	comp=E,290nm,19.7s						

ISCJB ***07*** *14:27:54.0±0.6, 20°.36S±0°.09×178°.76W±0°.09, h650km, mb3.8/14, Error ellipse: s-maj=13.1km s-min=9.4km az=136.6*

IDC ***07*** *14:27:56.2±2.1, 20°.19S×178°.85W, h656km±25km, mb3.3/13, mb1 3.6/14, mb1mx3.4/35, mbtmp4.4/14, Error ellipse: s-maj=18.3km s-min=11.8km az=155.0*

ISC 07 14:27:55.3±0.6, 20°.4S±0°.1×178°.7W±0°.1, h650km, n38, σ0°93/40, mb3.8/14, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.96**	**260**	P	**P**	**14 30 53.3**	**+1.1**
	4.6nm,0.3s,baz=116,slow=21,SNR=46						
URZ	**Urewera**	**18.21**	**191**	P	**P**	**14 31 27.4**	**-3.2**
	2.8nm,0.3s,baz=266,slow=3.0,SNR=30						
URZ				S	**S**	**14 34 24.5**	**-0.3**
	0.3nm,0.3s,baz=18,slow=20,SNR=3.0						
CTA	**Charters Tower**	**32.85**	**264**	P	**P**	**14 33 38.2**	**-0.5**
	12nm,0.5s,baz=92,slow=11,SNR=42						
QLP	**Quilpie**	**34.48**	**252**	P	**P**	**14 33 52.1**	**-0.1**
	baz=38,SNR=9.7						
PMG	**Port Moresby**	**34.67**	**283**	P	**P**	**14 33 53.3**	**-0.7**
	16nm,0.6s,baz=117,slow=4.5,SNR=13						
COEN	**Coen**	**36.92**	**274**	P	**P**	**14 34 12.5**	**+0.1**
	baz=40,SNR=32						
QIS	**Mount Isa**	**38.99**	**262**	P	**P**	**14 34 28.4**	**-0.6**
	baz=42,SNR=3.8						
HTT	**Hallett**	**39.72**	**242**	P	**P**	**14 34 35.1**	**+0.5**
	baz=43,SNR=3.8						
BBOO	**Buckleboo**	**42.03**	**243**	P	**P**	**14 34 52.7**	**0.0**
	baz=45,SNR=12						
ASAR	**Alice Springs**	**43.92**	**257**	P	**P**	**14 35 07.3**	**-0.1**
	9.0nm,0.7s,baz=88,slow=7.8,SNR=312						
ASAR				PcP	**PcP**	**14 36 39.2**	**+0.7**
	0.8nm,0.5s,baz=109,slow=4.0,SNR=6.4						
ASAR				S	**S**	**14 40 53.5**	**-0.7**
	0.7nm,0.7s,baz=90,slow=16,SNR=6.3						
WRA	**Warramunga Arr**	**43.97**	**262**	P	**P**	**14 35 07.4**	**-0.5**
	5.8nm,0.3s,baz=97,slow=7.7,SNR=166						
WRA				S	**S**	**14 40 53.7**	**-1.3**
	0.3nm,0.8s,baz=101,slow=14,SNR=3.7						
KDU	**Kakadu**	**47.29**	**271**	P	**P**	**14 35 32.6**	**-0.4**
	baz=50,SNR=13						
MTN	**Manton Dam**	**48.51**	**271**	P	**P**	**14 35 41.4**	**-0.6**
	baz=51,SNR=11						
WRKA	**Warakurna**	**48.88**	**254**	P	**P**	**14 35 44.6**	**-0.1**
	baz=52,SNR=40						
KNRA	**Kununurra**	**50.02**	**266**	P	**P**	**14 35 52.8**	**-0.2**
	baz=53,SNR=10						
SOEI	**Soe**	**55.84**	**272**	P	**P**	**14 36 35.7**	**+1.4**
	baz=59,SNR=6.6						
MEEK	**Meekatharra**	**57.35**	**251**	P	**P**	**14 36 43.6**	**-0.6**
	baz=60,SNR=5.8						
VNDA	**Vanda**	**58.00**	**185**	P	**P**	**14 36 49.2**	**+1.6**
	1.1nm,0.5s,baz=359,slow=6.3,SNR=8.1						
MJAR	**Matsushiro Arr**	**69.71**	**324**	P	**P**	**14 38 01.4**	**-0.7**
	2.1nm,0.6s,baz=46,slow=3.6,SNR=7.0						
PETK	**Petropavlovsk-**	**75.97**	**346**	P	**P**	**14 38 36.6**	**-0.8**
	2.7nm,0.7s,baz=258,slow=7.4,SNR=4.6						
KSRS	**Korea Array**	**76.35**	**319**	P	**P**	**14 38 40.5**	**+0.7**
	0.9nm,0.6s,baz=128,slow=5.8,SNR=4.7						
NVAR	**Mina Array Bea**	**81.37**	**44**	P	**P**	**14 39 07.2**	**+0.6**
	0.8nm,0.7s,baz=222,slow=9.7,SNR=5.0						
TXAR	**Lajitas Array**	**87.53**	**58**	P	**P**	**14 39 37.1**	**+0.6**
	0.4nm,0.8s,baz=191,slow=5.7,SNR=4.4						
ILAR	**Eielson Array**	**88.32**	**13**	P	**P**	**14 39 38.1**	**-1.0**
	1.3nm,0.7s,baz=218,slow=5.3,SNR=24						
PDAR	**Pinedale Array**	**89.31**	**43**	P	**P**	**14 39 44.5**	**0.0**
	0.6nm,0.6s,baz=201,slow=2.8,SNR=4.6						
CMAR	**Chiang Mai Arr**	**89.45**	**290**	P	**P**	**14 39 47.4**	**+1.8**
	1.8nm,0.9s,baz=121,slow=3.0,SNR=13						
YKA	**Yellowknife Ar**	**96.65**	**25**	P	**P**	**14 40 16.5**	**-0.8**
	0.2nm,0.7s,baz=235,slow=4.3,SNR=4.4						
MKAR	**Makanchi Array**	**110.62**	**314**	PKiKP	**PKiKP**	**14 45 16.0**	**+0.2**
	0.3nm,0.6s,baz=295,slow=0.7,SNR=3.0						
GEYT	**Alibeck**	**128.16**	**303**	PKP	**PKPdf**	**14 45 49.1**	**-0.6**
	1.3nm,0.4s,baz=80,slow=1.8,SNR=4.9						
ARCES	**ARCESS Array B**	**128.66**	**349**	PKP	**PKPdf**	**14 45 49.0**	**-0.7**
	5.7nm,1.0s,baz=347,slow=5.0,SNR=5.2						
FINES	**FINESS Array B**	**135.45**	**343**	PKP	**PKPdf**	**14 46 01.7**	**-0.9**
	0.5nm,0.6s,baz=90,slow=5.7,SNR=5.5						
AKASG	**Malin Array Be**	**142.57**	**331**	PKhKP	PKPpre	14 46 12.7	
	3.9nm,0.5s,baz=43,slow=4.1,SNR=18						
MALT	**Malatya**	**143.32**	**307**⇓	*i*PKP	PKPbc	14 46 17.8	+1.1
BRTR	**Keskin Array B**	**146.26**	**312**	PKPbc	**PKPbc**	**14 46 25.4**	**+0.2**
	1.2nm,0.6s,baz=138,slow=4.8,SNR=5.3						
BURAR	**Bucovina Array**	**146.61**	**330**⇓	*i*P	**PKPbc**	**14 46 26.7**	**+0.8**
MLR	**Muntele Rosu**	**147.75**	**327**⇓	*i*P	**PKPdf**	**14 46 25.1**	**+0.1**
GERES	**GERESS Array B**	**149.88**	**344**	PKPbc	**PKPbc**	**14 46 33.7**	**-0.2**
	1.1nm,0.6s,baz=37,slow=3.3,SNR=9.4						
TORD	**Torodi Ar. Bea**	**172.82**	**183**	PKPab	**PKPab**	**14 48 24.2**	**+1.0**
	0.3nm,0.7s,baz=217,slow=2.9,SNR=2.4						

JMA 07 14:36:28.0±0.1, 39°.31N×142°.40E, h47km±1km, M3.6, 3C-5D Broadband fault plane solution: P waves. NP1: ϕ_S77.00000°, δ88.00000°, λ97.00000°. **NP2:** ϕ_S180.00000°, δ7.00000°, λ13.00000°. **Principal axes:** T Plg46.0000°, Azm354.0000°; N Plg7.0000°, Azm257.0000°; P Plg43.0000°, Azm161.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.52**	**301**	⇓*P*	Pn	14 36 39.3	-0.1
MIYJ				S	Sn	14 36 47.2	-0.3
OFUJ	**Ofunato**	**0.61**	**248**	⇑*P*	Pn	14 36 40.5	0.0
OFUJ				S	Sn	14 36 49.4	-0.1
JTH	**Tanohata**	**0.75**	**327**	⇓*P*	Pn	14 36 42.3	0.0
JTH				S	Sn	14 36 52.7	0.0
JOM	**Ohasama**	**0.87**	**281**	⇓*P*	Pn	14 36 44.2	+0.2
JOM				S	Sn	14 36 55.8	+0.2
JMK	**Ichinoseki**	**0.98**	**249**	⇑*P*	Pn	14 36 45.6	+0.2
JMK				S	Sn	14 36 58.4	+0.1
JKZ	**Kuzumaki**	**1.07**	**310**	⇓*P*	Pn	14 36 47.1	+0.5
JKZ				S	Sn	14 37 00.8	+0.4
JIO	**Ouri**	**1.19**	**224**	⇑*P*	Pn	14 36 48.1	0.0
JIO				S	Sn	14 37 02.7	-0.4
JANG	**Nango**	**1.26**	**328**	⇓*P*	Pn	14 36 49.0	-0.2
JANG				S	Sn	14 37 04.0	-1.1
JRG	**Rokugo**	**1.37**	**274**	P	Pn	14 36 51.2	+0.5
JRG				*e*S	Sn	14 37 08.3	+0.6
JAH	**Hinai**	**1.62**	**303**	P	Pn	14 36 54.5	+0.4
JYK	**Kaneyama**	**1.64**	**257**	P	Pn	14 36 55.1	+0.8
JOU	**Okura**	**1.65**	**236**	P	Pn	14 36 55.0	+0.4

ISCJB ***07*** *14:38:41.4±0.7, 34°.94S±0°.04×71°.7W±0°.1, h62km±5km, mb4.2/9 Error ellipse: s-maj=16.8km s-min=5.2km az=10.7*

NEIC ***07*** *14:38:41.3, 34°.91S×71°.78W, h45km, mb4.6/2, After GUC.*

NEIC Felt [III] at Talca and [II] at Rancagua and Santiago.

GUC ***07*** *14:38:41.3±0.8, 34°.91S×71°.78W, h45km±3km, MD4.3, ML4.6*

IDC ***07*** *14:38:42.7±2.8, 34°.92S×71°.68W, h61km±24km, mb3.8/8, mb1 3.9/11, mb1mx3.8/20, mbtmp4.0/11, ML4.1/3, MS3.7/2, Ms1 3.7/2, ms1mx3.1/23, Error ellipse: s-maj=30.5km s-min=16.0km az=93.0*

ISC 07 14:38:41.5±0.8, 34°.91S±0°.03×71°.78W±0°.08, h48km±7km, n43, σ0°96/58, mb4.3/9, 2C-13D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.46**	**101**⇓	*i*P	**Pn**	**14 38 52.2**	**0.0**
NICH				*i* S	**Sn**	**14 39 00.1**	**+0.3**
NICH				AML	AML	14 39 00.5	
	comp=E,246μm,0.2s						
NICH	**Los Niches**	**0.46**	**101**⇓	*i*P	**Pn**	**14 38 52.2**	**0.0**
NICH				*i* S	**Sn**	**14 39 00.1**	**+0.3**
LNCH	**Linares**	**0.94**	**171**⇓	*i*P	**Pn**	**14 38 58.6**	**+0.2**
LNCH				*i* S1	**Sn**	**14 39 12.3**	**+1.5**
LNCH				AML	AML	14 39 13.9	
	comp=N,13μm,0.3s						
LNCH	**Linares**	**0.94**	**171**⇓	*i*P	**Pn**	**14 38 58.6**	**+0.2**
LNCH				*i* S	**Sn**	**14 39 12.3**	**+1.5**
LNV	**Longovilo**	**1.00**	**18**⇓	*i*P	**Pn**	**14 38 59.5**	**+0.3**
LNV	**Longovilo**	**1.00**	**18**⇓	*i*P	**Pn**	**14 38 59.5**	**+0.3**
TACH	**Talagante**	**1.44**	**29**⇓	*i*P	**Pn**	**14 39 05.4**	**+0.3**
TACH	**Talagante**	**1.44**	**29**⇓	*i*P	**Pn**	**14 39 05.4**	**+0.3**
ANTU	**Antumapu**	**1.64**	**36**⇓	*i*P	**Pn**	**14 39 08.3**	**+0.3**
ANTU				*i* S	**Sn**	**14 39 29.2**	**+1.3**
ANTU				AML	AML	14 39 31.0	
	comp=E,11μm,0.4s						
ANTU	**Antumapu**	**1.64**	**36**⇓	*i*P	**Pn**	**14 39 08.3**	**+0.3**
ANTU				*i* S	**Sn**	**14 39 29.2**	**+1.3**
PCH	**Pirque**	**1.66**	**39**	*e*P1	**Pn**	**14 39 08.9**	**+0.6**
PCH				*i* S1	**Sn**	**14 39 29.3**	**+0.8**
PCH	**Pirque**	**1.66**	**39**	*e*P	**Pn**	**14 39 08.9**	**+0.6**
PCH				*i* S	**Sn**	**14 39 29.3**	**+0.8**
SAN	**Santiago**	**1.73**	**33**⇑	*i*P	**Pn**	**14 39 09.4**	**+0.2**
SAN				*e*S1	**Sn**	**14 39 30.9**	**+0.9**
SAN				AML	AML	14 39 36.2	
	comp=E,8μm,0.4s						
SAN	**Santiago**	**1.73**	**33**⇑	*i*P	**Pn**	**14 39 09.4**	**+0.2**
SAN				*e*S	**Sn**	**14 39 30.9**	**+0.9**
FSR	**Penalolen**	**1.77**	**36**	*e*P9	**Pn**	**14 39 11.1**	**+1.4**
FSR				*i* S1	**Sn**	**14 39 32.3**	**+1.2**
FSR	**Penalolen**	**1.77**	**36**	*e*P	**Pn**	**14 39 11.1**	**+1.4**
FSR				*i* S	**Sn**	**14 39 32.3**	**+1.2**
CLCH	**Cerro Calan**	**1.83**	**35**⇓	*i*P	**Pn**	**14 39 11.0**	**+0.4**
CLCH				*i* S1	**Sn**	**14 39 34.0**	**+1.3**
CLCH				AML	AML	14 39 40.8	
	comp=E,7μm,0.4s						
IHA	**Instituto Hidr**	**1.89**	**3**	*e*P1	**Pn**	**14 39 11.3**	**0.0**
IHA	**Instituto Hidr**	**1.89**	**3**	*e*P	**Pn**	**14 39 11.3**	**0.0**
PEL	**Peldehue**	**1.98**	**27**⇓	*i*P	**Pn**	**14 39 13.5**	**+0.8**
PEL				*i* S1	**Sn**	**14 39 37.9**	**+1.5**
PEL				AML	AML	14 39 46.3	
	comp=N,8μm,0.5s						
PEL	**Peldehue**	**1.98**	**27**⇓	*i*P	**Pn**	**14 39 13.5**	**+0.8**
PEL				*i* S	**Sn**	**14 39 37.9**	**+1.5**
FCH	**Farellones**	**2.01**	**38**	AML	AML	14 39 40.5	
	comp=N,4μm,0.4s						
CFAA	**Coronel Fontan**	**4.44**	**43**	P	**Pn**	**14 39 46.3**	**0.0**
	comp=N,1.8nm,0.3s,baz=224,slow=8.5,SNR=104						
CFAA				LR	LR	14 41 41.3	
	comp=N,26nm,19.1s,baz=222,slow=41						
PLCA	**Paso Flores**	**5.89**	**171**	P	**Pn**	**14 40 07.5**	**+1.3**
	comp=N,2.0nm,0.3s,baz=329,slow=10,SNR=10						
TRQA	**Tornquist**	**8.49**	**115**	*e*P	**Pn**	**14 40 43.1**	**+1.2**
	comp=N,6.3nm,0.6s						
LPAZ	**La Paz**	**18.83**	**11**	P	**Pn**	**14 42 58.9**	**-0.1**
	comp=N,0.4nm,0.3s,baz=184,slow=7.7,SNR=16						
LPAZ				LR	LR	14 50 19.7	
	comp=N,118nm,20.7s,baz=139,slow=37						
SIV	**San Ignacio**	**21.15**	**30**	P	**P**	**14 43 21.5**	**-1.1**
	comp=N,5.3nm,0.7s,baz=219,slow=9.5,SNR=16						
PCRV	**Puerto La Cruz**	**45.35**	**10**	LR	LR	15 09 02.2	
	comp=N,159nm,18.0s,baz=143,slow=40						
SNAA	**Sanae**	**50.66**	**158**	P	**P**	**14 47 34.5**	**-1.1**
	comp=N,1.1nm,0.9s,baz=252,slow=3.5,SNR=7.1						
QSPA	**South Pole Qui**	**55.33**	**180**	P	**P**	**14 48 10.5**	**+0.4**
	comp=N,3.0nm,1.0s,baz=320,slow=1.5,SNR=15						
QSPA	**South Pole Qui**	**55.33**	**180**	*e*P	**P**	**14 48 10.9**	**+0.7**
VNDA	**Vanda**	**63.25**	**191**	*e*P	**P**	**14 49 07.1**	**+2.6**
	comp=N,26nm,0.6s						
TXAR	**Lajitas Array**	**70.64**	**331**	P	**P**	**14 49 52.7**	**+0.6**
	comp=N,0.2nm,0.4s,baz=154,slow=7.2,SNR=6.4						
TXAR				pP	**pP**	**14 50 05.7**	**-0.1**
	comp=N,0.5nm,0.5s,baz=156,slow=8.6,SNR=8.6						
DBIC	**Dimbokro**	**75.27**	**71**	P	**P**	**14 50 19.7**	**-0.1**
	comp=N,5.2nm,0.8s,baz=211,slow=6.6,SNR=4.2						
DBIC	**Dimbokro**	**75.27**	**71**	*e*P	**P**	**14 50 19.4**	**-0.4**
	comp=N,14nm,1.2s						
BOSA	**Boshof**	**79.46**	**117**	P	**P**	**14 50 42.8**	**-0.4**
	comp=N,3.0nm,0.5s,baz=225,slow=5.0,SNR=9.8						
BOSA	**Boshof**	**79.46**	**117**	*e*P	**P**	**14 50 42.7**	**-0.6**
	comp=N,2.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**84.32**	**70**	P	**P**	**14 51 07.9**	**-0.8**
	comp=N,2.1nm,0.7s,baz=268,slow=4.9,SNR=18						
PDAR	**Pinedale Array**	**84.67**	**333**	P	**P**	**14 51 09.7**	**-0.5**
	comp=N,0.3nm,0.6s,baz=198,slow=0.9,SNR=3.2						
ASAR	**Alice Springs**	**116.85**	**206**	PKP	**PKPdf**	**14 57 19.4**	**-1.8**
	comp=N,0.2nm,0.8s,baz=118,slow=1.7,SNR=3.1						
WRA	**Warramunga Arr**	**120.07**	**209**	PKP	**PKPdf**	**14 57 26.0**	**-1.5**
	comp=N,0.3nm,0.7s,baz=160,slow=1.7,SNR=9.1						
WRA				pPKP	**pPKPdf**	**14 57 40.5**	**-1.6**
	comp=N,0.2nm,0.5s,baz=168,slow=1.6,SNR=2.9						
AAK	**Ala-Archa**	**152.73**	**63**	*e*PKPbc	**PKPbc**	**14 58 33.3**	**+0.2**
MKAR	**Makanchi Array**	**157.19**	**51**	PKPab	**PKPab**	**14 59 02.5**	**-0.2**
	comp=N,0.3nm,0.7s,baz=302,slow=3.2,SNR=2.8						

ISCJB ***07*** *14:56:02.5±1.8, 34°.60S±0°.04×71°.93W±0°.08, h5km±12km, mb3.6/2, Error ellipse: s-maj=12.1km s-min=6.4km az=18.4*

IDC ***07*** *14:56:03.9±1.6, 34°.49S×71°.74W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.7/25, mbtmp3.6/5, ML3.8/2, Error ellipse: s-maj=46.8km s-min=29.6km az=86.0*

GUC ***07*** *14:56:04.8±0.7, 34°.64S×71°.86W, h20km±8km, ML3.6*

ISC 07 14:56:04.0±2.4, 34°.62S±0°.05×71°.89W±0°.09, h10km±15km, n12, σ1°08/18, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.66**	**125**⇑	*i*P	**Pg**	**14 56 16.8**	**-0.1**
NICH				*i* S	**Sg**	**14 56 25.6**	**+0.1**
LNCH	**Linares**	**1.25**	**169**⇓	*i*P	**Pn**	**14 56 26.3**	**-1.2**
LNCH				*e*S	**Sb**	**14 56 43.0**	**-0.8**
ANTU	**Antumapu**	**1.48**	**45**⇑	*i*P	**Pn**	**14 56 30.8**	**+0.1**
ANTU				*i* S	**Sn**	**14 56 49.6**	**-0.6**
ANTU				IAML		14 56 52.5	
	comp=N,1μm,0.7s						
STL	**Santa Lucia**	**1.57**	**42**	*e*P4	Pg	14 56 40.0	+5.8
STL				*i* S4	**Sn**	**14 56 51.4**	**-1.1**
IHA	**Instituto Hidr**	**1.60**	**7**⇑	*i*P	**Pn**	**14 56 32.1**	**-0.3**
CLCH	**Cerro Calan**	**1.66**	**43**⇑	*i*P	**Pn**	**14 56 33.5**	**+0.2**
CLCH				⇑*i*P	Pg	14 56 44.0	+8.1
CLCH				*i* S	**Sb**	**14 56 55.2**	**-0.5**
CLCH				*i* S4	**Sb**	**14 56 55.7**	**0.0**
CLCH				IAML		14 56 59.9	
	comp=N,1μm,0.7s						
CLCH				IAML		14 57 01.1	
	comp=E,2μm,0.8s						
**COCH

FAKI Fak Fak 14.83 71 *eP* **P 15 07 27.1 -0.6**
34nm,1.1s
GIRL Giralia 15.00 195 P **Pn 15 07 24.5 -0.2**
baz=15,SNR=3.9
MEEK Meekatharra 18.47 179 P **Pn 15 08 09.4 +0.9**
baz=18,SNR=6.6
MEEK S Sn 15 11 17.7 -16
baz=18,SNR=6.6
WRKA Warakurna 19.41 152 P **P 15 08 17.1 -1.4**
baz=19,SNR=9.9
WRA Warramunga Arr 19.54 129 P **P 15 08 19.1 -0.9**
0.4nm,0.3s,baz=302,slow=13,SNR=23
WRA S **Sn 15 11 59.7 -0.1**
0.1nm,0.3s,baz=299,slow=24,SNR=5.0
WRAB Tennant Creek 19.54 129 *eP* **P 15 08 19.3 -0.6**
12nm,1.0s
WB2 Warramunga Arr 19.55 129 *eP* **P 15 08 19.1 -0.9**
AS31 Alice Springs 21.57 138 *eP* **P 15 08 42.0 0.0**
ASAR Alice Springs 21.57 138 P **P 15 08 42.0 0.0**
7.1nm,0.7s,baz=312,slow=9.4,SNR=83
ASAR PcP **PcP 15 12 43.9 +0.4**
0.9nm,0.5s,baz=316,slow=1.7,SNR=11
QIS Mount Isa 24.08 123 P **P 15 09 08.1 +0.5**
baz=24,SNR=8.7
QIS S **S 15 13 21.2 -1.8**
baz=24,SNR=4.0
NWAO Narrogin (SRO) 24.76 182 P **P 15 09 13.0 -0.6**
12nm,0.9s,baz=351,slow=12,SNR=4.2
COEN Coen 25.13 106 P **P 15 09 17.5 +0.3**
baz=25,SNR=14
COEN Coen 25.13 106 *eP* **P 15 09 17.1 -0.1**
102nm,0.9s
CTA Charters Tower 29.61 117 P **P 15 09 58.2 +0.9**
2.7nm,1.0s,baz=274,slow=13,SNR=3.4
CMAR Chiang Mai Arr 32.53 324 P **P 15 10 23.2 +0.2**
0.5nm,0.4s,baz=145,slow=6.4,SNR=3.8
CMAR LR LR 15 24 50.3
comp=Z,118nm,19.1s,baz=168,slow=38
KSAR Wonju Array Be 46.16 11 P P 15 12 20.2 +3.9
KSRS Korea Array 46.17 11 P P 15 12 20.2 +3.8
3.5nm,0.9s,baz=199,slow=9.4,SNR=5.5
SONM Songino Array 56.64 350 P **P 15 13 36.0 +1.2**
0.8nm,0.8s,baz=182,slow=9.2,SNR=6.5
MKAR Makanchi Array 63.30 333 P **P 15 14 20.9 +0.4**
1.2nm,0.9s,baz=132,slow=7.2,SNR=7.4
ZALV Zalesovo Beam 67.92 339 P **P 15 14 50.2 +0.1**
2.7nm,0.9s,baz=132,slow=4.4,SNR=8.2
CPUP Villa Florida 145.54 187 PKPbc **PKPab 15 23 31.3 +0.5**
1.5nm,0.6s,baz=153,slow=2.3,SNR=3.3

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*BJI **07** 15:04:33.7, 34.°40S×72.°20W, h35km, mB5.1/3, Ms5.4/4, Ms7 5.2/4*
*GUC **07** 15:04:33.1±0.5, 34.°32S×72.°16W, h34km±2km, mL4.7*
*ISCJB **07** 15:04:34.0±0.8, 34.°37S±0.°03×72.°15W±0.°08, h44km±7km, mb4.4/16, MS3.7/5, Error ellipse: s-maj=10.9km s-min=5.4km az=10.8*
*IDC **07** 15:04:34.4±0.6, 34.°28S×71.°93W, h28km±3km, mb4.2/14, mb1 4.3/16, mb1mx4.1/31, mbtmp4.3/16, ML4.0/2, MS3.7/8, Ms1 3.7/8, ms1mx3.6/23, Error ellipse: s-maj=22.6km s-min=12.4km az=77.0*
*NEIC **07** 15:04:35.0±0.3, 34.°35S×72.°14W, h35km, mb4.7/4, Error ellipse: s-maj=8.4km s-min=5.4km az=82.0*
ISC 07 15:04:34.1±0.5, 34.°34S±0.°04×72.°17W±0.°06, h32km±3km, h32km:pP-P, n66, σ1°33/94, mb4.4/16, MS3.7/5, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.02**	**131**	⇓*iP*	**Pn**	**15 04 51.7**	**-0.5**
NICH				*i* S	**Sn**	**15 05 05.2**	**-0.2**
IHA	**Instituto Hidr**	**1.38**	**19**	⇑*iP*	**Pn**	**15 04 57.0**	**-0.2**
IHA				*i* S1	**Sn**	**15 05 14.4**	**+0.1**
RCDM	**Rinconada Maip**	**1.42**	**54**	⇑*iP*	**Pn**	**15 04 56.3**	**-1.3**
RCDM				*i* S	**Sn**	**15 05 14.4**	**-0.9**
ANTU	**Antumapu**	**1.49**	**60**	*eP*	**Pn**	**15 04 58.5**	**-0.2**
ANTU				*i* S	**Sn**	**15 05 18.1**	**+1.0**
STL	**Santa Lucia**	**1.56**	**55**	⇑*iP*	**Pn**	**15 04 59.5**	**-0.1**
STL				*i* S1	**Sn**	**15 05 19.9**	**+1.1**
LNCH	**Linares**	**1.58**	**163**	*e*P9	**Pn**	**15 05 00.9**	**+1.0**
LNCH				*e*S	**Sb**	**15 05 21.6**	**-0.7**
LACH	**Col Las Americ**	**1.63**	**58**	⇑*iP*	**Pn**	**15 05 00.8**	**+0.2**
LACH				*i* S	**Sn**	**15 05 21.8**	**+1.3**
CLCH	**Cerro Calan**	**1.65**	**56**	⇓*iP*	**Pn**	**15 05 01.2**	**+0.2**
CLCH				*i* S	**Sn**	**15 05 22.3**	**+1.2**
CLCH				AML	AML	15 05 29.0	
	comp=E,14μm,0.7s						
PEL	**Peldehue**	**1.72**	**47**	⇑*iP*	**Pn**	**15 05 02.0**	**+0.2**
PEL				*e*S	**Sn**	**15 05 24.0**	**+1.3**
COCH	**Cobquecura**	**1.86**	**196**	⇓*iP*	**Pn**	**15 05 03.6**	**-0.1**
CFAA	**Coronel Fontan**	**4.29**	**52**	Pn	**Pn**	**15 05 39.1**	**+2.0**
	comp=E,0.7nm,0.3s,baz=228,slow=11,SNR=17						
CFAA				Lg	Lg	15 06 36.0	
	comp=E,2.5nm,0.3s,baz=324,slow=19,SNR=5.1						
CFAA				LR	LR	15 07 34.1	
	comp=E,66nm,20.3s,baz=236,slow=44						
PLCA	**Paso Flores**	**6.51**	**169**	Pn	**Pn**	**15 06 08.9**	**+1.1**
	comp=E,0.7nm,0.3s,baz=335,slow=13,SNR=4.4						
PLCA				Lg	Lg	15 07 45.5	
	baz=19,slow=14,SNR=2.1						
PLCA				LR	LR	15 08 36.3	
	comp=E,351nm,19.0s,baz=334,slow=37						
TRQA	**Tornquist**	**9.04**	**117**	*eP*	**Pn**	**15 06 43.0**	**+0.7**
	comp=E,22nm,0.8s						
LVC	**Limon Verde**	**12.03**	**15**	P	Pn	15 07 18.3	-5.3
CPUP	**Villa Florida**	**15.09**	**62**	Pn	**P**	**15 08 09.8**	**0.0**
	comp=E,0.4nm,0.3s,baz=218,slow=17,SNR=2.5						
CPUP				Lg	Lg	15 12 08.5	
	comp=E,0.3nm,0.3s,baz=137,slow=15,SNR=2.4						
CPUP				LR	LR	15 14 21.3	
	comp=E,345nm,20.6s,baz=227,slow=40						
CPUP	**Villa Florida**	**15.09**	**62**	P	**Pn**	**15 08 05.8**	**+0.9**
CPUP				Lg	Lg	15 12 08.5	
LPAZ	**La Paz**	**18.34**	**12**	P	**Pn**	**15 08 47.8**	**+1.2**
	comp=E,0.3nm,0.3s,baz=185,slow=7.7,SNR=13						
LPAZ				LR	LR	15 17 37.2	
	comp=E,130nm,18.6s,baz=164,slow=43						
EFI	**East Falkland**	**20.11**	**154**	*eP*	**P**	**15 09 04.4**	**-0.6**
USHA	**Ushuaia**	**20.66**	**174**	P	**P**	**15 09 11.5**	**+0.6**
	comp=E,14nm,1.0s,baz=20,slow=16,SNR=4.1						
USHA				LR	LR	15 17 46.0	
	comp=E,286nm,18.3s,baz=335,slow=38						
SIV	**San Ignacio**	**20.82**	**31**	P	**P**	**15 09 12.5**	**-0.5**
	comp=E,3.8nm,0.8s,baz=226,slow=13,SNR=10						
SIV				LR	LR	15 18 36.6	
	comp=E,196nm,21.0s,baz=206,slow=41						
NNA	**Nana**	**22.65**	**348**	P	**P**	**15 09 34.6**	**+1.9**
	comp=E,4.5nm,0.7s,baz=176,slow=9.8,SNR=4.1						
NNA				LR	LR	15 16 16.2	
	comp=E,120nm,19.4s,baz=152,slow=31						
SAML	**Samuel**	**26.58**	**20**	*eP*	**P**	**15 10 09.2**	**-0.2**
BDFB	**Brasilia**	**28.61**	**55**	P	**P**	**15 10 27.1**	**-0.7**
	comp=E,3.3nm,0.8s,baz=216,slow=12,SNR=4.6						
BDFB				LR	LR	15 23 00.2	
	comp=E,299nm,19.3s,baz=227,slow=39						
VNA3	**Neumayer Olymp**	**49.09**	**158**	P	**P**	**15 13 18.9**	**+1.0**
VNA2	**Neumayer--Watz**	**49.74**	**157**	P	**P**	**15 13 23.6**	**+0.7**
	baz=290,slow=7.8						
SNAA	**Sanae**	**51.32**	**158**	P	**P**	**15 13 35.7**	**+0.8**
SNAA	**Sanae**	**51.32**	**158**	P	**P**	**15 13 35.6**	**+0.8**
	comp=E,4.1nm,0.9s,baz=230,slow=2.5,SNR=13						
SNAA	**Sanae**	**51.32**	**158**	*eP*	**P**	**15 13 35.5**	**+0.7**
QSPA	**South Pole Qui**	**55.90**	**180**	P	**P**	**15 14 10.0**	**+1.4**
	comp=E,9.0nm,0.9s,baz=147,slow=1.6,SNR=20						
QSPA				pP	**pP**	**15 14 20.3**	**+1.9**
	comp=E,5.6nm,0.9s,baz=136,slow=7.4,SNR=5.4						
TEIG	**Tepich**	**56.38**	**342**	P	**P**	**15 14 12.9**	**+0.6**
	comp=E,7.9nm,1.0s,baz=76,slow=14,SNR=3.9						
SYO	**Syowa Base**	**65.59**	**158**	⇓*eP*	**P**	**15 15 12.8**	**-1.5**
TXAR	**Lajitas Array**	**69.97**	**331**	P	**P**	**15 15 43.8**	**+1.3**
	comp=E,0.6nm,0.5s,baz=155,slow=8.4,SNR=14						
TXAR				pP	**pP**	**15 15 52.2**	**-0.3**
	comp=E,0.7nm,0.7s,baz=160,slow=7.1,SNR=5.2						
TXAR				LR	LR	15 42 17.5	
	comp=E,80nm,18.7s,baz=0.0,slow=32						
WVT	**Waverly**	**71.61**	**347**	*eP*	**P**	**15 15 52.1**	**0.0**
	comp=E,15nm,0.8s						
DBIC	**Dimbokro**	**75.39**	**71**	P	**P**	**15 16 13.3**	**-1.6**
	comp=E,5.0nm,0.8s,baz=230,slow=3.0,SNR=4.6						
DBIC	**Dimbokro**	**75.39**	**71**	*eP*	**P**	**15 16 15.0**	**+0.1**
BOSA	**Boshof**	**80.01**	**118**	P	**P**	**15 16 41.3**	**+0.5**
	comp=E,5.8nm,0.8s,baz=214,slow=5.8,SNR=9.0						
BOSA				pP	**PcP**	**15 16 48.9**	**+0.8**
	comp=E,3.0nm,0.8s,baz=148,slow=0.5,SNR=3.2						
BOSA	**Boshof**	**80.01**	**118**	*eP*	**P**	**15 16 40.6**	**-0.1**
BOSA				pP	**PcP**	**15 16 48.9**	**+0.8**
ECSD	**EROS Data Cent**	**80.83**	**342**	*eP*	**P**	**15 16 44.7**	**+0.3**
	comp=E,14nm,1.1s						
ECSD				*e*pP	**pP**	**15 16 53.4**	**-1.3**
LBTB	**Lobatse**	**82.26**	**115**	*eP*	**P**	**15 16 53.1**	**+0.4**
	comp=E,5.4nm,0.9s						
PDAR	**Pinedale Array**	**84.01**	**333**	P	**P**	**15 17 01.9**	**+0.6**
	comp=E,0.9nm,0.8s,baz=150,slow=3.5,SNR=7.5						
PDAR				pP	**pP**	**15 17 11.8**	**+0.1**
	comp=E,0.6nm,0.7s,baz=159,slow=6.2,SNR=3.9						
NVAR	**Mina Array Bea**	**84.10**	**325**	P	**P**	**15 17 02.7**	**+0.9**
	comp=E,1.6nm,0.8s,baz=156,slow=5.9,SNR=8.4						
NVAR				pP	**pP**	**15 17 12.4**	**+0.3**
	comp=E,0.9nm,0.7s,baz=152,slow=6.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**84.43**	**70**	P	**P**	**15 17 03.7**	**-0.1**
	comp=E,2.6nm,0.9s,baz=257,slow=3.6,SNR=12						
ULM	**Lac du Bonnet**	**86.79**	**345**	P	**P**	**15 17 14.7**	**0.0**
	comp=E,1.5nm,0.6s,baz=167,slow=3.0,SNR=4.4						
MCMT	**McKenzie Canyo**	**87.01**	**332**	*eP*	**P**	**15 17 17.3**	**+1.1**
	comp=E,1.1nm,0.8s						
YKA	**Yellowknife Ar**	**102.34**	**341**	P	**Pdif**	**15 18 25.7**	**+0.1**
	comp=E,0.3nm,0.7s,baz=140,slow=4.2,SNR=8.6						
WRA	**Warramunga Arr**	**120.41**	**209**	PKP	**PKPdf**	**15 23 22.5**	**-0.3**
	comp=E,0.6nm,0.7s,baz=167,slow=1.5,SNR=14						
H11S2	**WAKE ISLAND Hyl**	**25.65**	**269**	T	T	17 42 01.5	
	baz=119,slow=75,SNR=9.6						
H11S1	**WAKE ISLAND Hyl**	**25.67**	**269**	T	T	17 42 01.0	
	baz=119,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hyl**	**25.67**	**269**	T	T	17 41 60.0	
	baz=119,slow=75,SNR=5.6						
H11N3	**WAKE ISLAND Hyl**	**26.08**	**270**	T	T	17 42 33.2	
	baz=116,slow=78,SNR=3.5						
H11N1	**WAKE ISLAND Hyl**	**26.09**	**270**	T	T	17 42 32.0	
	baz=116,slow=78,SNR=10.0						
H11N2	**WAKE ISLAND Hyl**	**26.09**	**270**	T	T	17 42 34.2	
	baz=116,slow=78,SNR=5.5						
BRVK	**Borovoye**	**147.53**	**43**	*e*PKPbc	**PKPbc**	**15 24 14.8**	**+0.4**
HYB	**Hyderabad**	**148.89**	**115**	*i* PKP	**PKPbc**	**15 24 18.0**	**-1.1**
AAK	**Ala-Archa**	**152.76**	**62**	*e*PKPdf	**PKPdf**	**15 24 21.1**	**+0.6**
AAK				*e*PKPbc	**PKiKP**	**15 24 28.4**	**+0.5**
KSH	**Kashi**	**154.10**	**69**	*e*PKPbc	**PKPdf**	**15 24 22.6**	**+0.1**
KSH				sPKP		15 24 36.4	
KSH				PKS	**PKSdf**	**15 27 56.8**	**0.0**
KSH				PP	**PP**	**15 28 18.9**	**-0.8**
KSH				SKS	**SKSdf**	**15 31 27.3**	**+0.3**
KSH				SKKS	**SKKSac**	**15 35 05.5**	**-1.5**
KSH				SS	**SS**	**15 47 55.3**	**-1.3**
KSH				PPMZ			
	comp=E,160nm,5.9s						
KSH				LN			
	comp=E,86nm,6.2s						
KSH				LE			
	comp=E,49nm,4.9s						
KSH				LZ			
	comp=E,170nm,12.9s						
ZALV	**Zalesovo Beam**	**154.57**	**33**	PKP	**PKPdf**	**15 24 22.2**	**-0.3**
	comp=E,0.8nm,0.8s,baz=325,slow=2.3,SNR=3.8						
ZALV				PKPbc	**PKiKP**	**15 24 31.7**	**+0.7**
	comp=E,2.8nm,0.7s,baz=288,slow=3.3,SNR=15						
ZALV				pPKPbc	**pPKPbc**	**15 24 39.5**	**-2.2**
	comp=E,1.3nm,0.7s,baz=316,slow=4.1,SNR=4.3						
ZALV				PKPab	**PKPab**	**15 24 46.5**	**+0.9**
	comp=E,2.8nm,0.7s,baz=305,slow=5.2,SNR=7.7						
MKAR	**Makanchi Array**	**157.07**	**49**	PKP	**PKPdf**	**15 24 26.4**	**+0.3**
	comp=E,0.3nm,0.7s,baz=20,slow=3.9,SNR=3.7						
MKAR				PKPab	**PKPab**	**15 24 56.2**	**-0.5**
	comp=E,1.1nm,0.7s,baz=299,slow=3.9,SNR=9.1						
WMQ	**Urumqi**	**161.76**	**53**	*e*PKP	**PKPdf**	**15 24 30.6**	**-1.1**
WMQ				pPKP	**pPKPdf**	**15 24 41.0**	**-1.4**
CN2	**Changchun**	**163.40**	**310**	*e*PKP	**PKPdf**	**15 24 32.8**	**-0.4**
SONM	**Songino Array**	**166.47**	**4**	PKPab	**PKPab**	**15 25 38.8**	**+1.0**
	comp=E,0.5nm,0.9s,baz=345,slow=5.1,SNR=4.1						
NJ2	**Nanjing**	**170.48**	**259**	*e*PKP	**PKPdf**	**15 24 38.1**	**-0.7**
GTA	**Gaotai**	**171.82**	**49**	*e*PKP	**PKPdf**	**15 24 40.6**	**+1.1**
GTA				pPKP	**pPKPdf**	**15 24 51.4**	**+1.2**
GTA				sPKP		15 24 54.9	
GTA				PKPab	**PKPab**	**15 26 03.6**	**+1.7**
HHC	**Hu-ho-hao-te**	**172.85**	**337**	*e*PKP	**PKPdf**	**15 24 36.0**	**-3.9**
HHC				pPKP	**pPKPdf**	**15 24 46.8**	**-3.8**
HHC				sPKP		15 24 50.4	
HHC				PP	**PP**	**15 29 57.0**	**-0.3**
HHC				SKS	**SKSdf**	**15 31 33.9**	**-6.8**
HHC				SS	**SS**	**15 51 04.5**	**-3.3**
HHC				PPMZ			
	comp=E,170nm,8.6s						
HHC				LN			
	comp=E,330nm,19.7s						
HHC				LE			
	comp=E,450nm,19.7s						
HHC				LZ			
	comp=E,830nm,21.0s						
LZH	**Lanzhou**	**176.30**	**61**	*e*PKP	**PKPdf**	**15 24 40.7**	**-0.5**
LZH				pPKP	**pPKPdf**	**15 24 52.3**	**+0.4**
LZH				sPKP		15 24 55.8	
LZH				PKPab	**PKPab**	**15 26 23.5**	**+1.5**
LZH				LN			
	comp=E,170nm,18.3s						
LZH				LE			
	comp=E,170nm,19.0s						
LZH				LZ			
	comp=E,200nm,20.1s						
XAN	**Xi'an**	**179.05**	**252**	PKP	**PKPdf**	**15 24 41.7**	**+0.2**

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*IDC **07** 15:07:48.2±1.1, 33.°95N×136.°63E, h349km±11km, mb2.9/8, mb1 3.0/10, mb1mx2.8/50, mbtmp3.6/10, Error ellipse: s-maj=26.0km s-min=13.9km az=96.0*
*JMA **07** 15:07:48.1±0.1, 33.°99N×137.°13E, h381km, M3.2*
*ISCJB **07** 15:07:50.1±0.6, 33.°90N±0.°09×137.°16E±0.°08, h350km, mb3.1/8, Error ellipse: s-maj=13.2km s-min=7.9km az=149.2*
ISC 07 15:07:49.6±0.8, 34.°04N±0.°09×137.°07E±0.°08, h350km, n27, σ2°09/31, mb3.2/8, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO2	**TONANKAI O.B.S**	**0.30**	**186**	P	**Pn**	**15 08 36.1**	**+2.8**
TTO4	**TONANKAI O.B.S**	**0.39**	**94**	P	**Pn**	**15 08 36.3**	**+3.0**
JIE	**Ise**	**0.46**	**320**	P	**Pn**	**15 08 36.1**	**+2.4**
JWZ	**Kozaga**	**1.23**	**246**	P	**Pn**	**15 08 37.7**	**+1.3**
JWY	**Kouya**	**1.23**	**279**	P	**Pn**	**15 08 38.6**	**+2.1**
JWT	**Wachi**	**1.85**	**313**	P	**Pn**	**15 08 41.9**	**+2.1**
JWT				*e*S	**S**	**15 09 22.0**	**+1.8**
JYN	**Shimob**	**1.90**	**39**	P	**Pn**	**15 08 42.5**	**+2.2**
JOD2	**Odawara 2**	**2.07**	**53**	P	**Pn**	**15 08 43.3**	**+1.9**
JAI	**Aioi**	**2.19**	**264**	P	**Pn**	**15 08 43.8**	**+1.5**
JRY	**Ryogami san**	**2.49**	**37**	P	**Pn**	**15 08 46.5**	**+2.0**
JRY				*e*S	**S**	**15 09 31.6**	**+2.9**
JMN	**Monobe**	**2.67**	**264**	P	**Pn**	**15 08 47.7**	**+1.6**
MAT	**Matsushiro**	**2.67**	**20**	P	**Pn**	**15 08 47.7**	**+1.7**
MAT				S	**S**	**15 09 33.2**	**+1.7**
MAT	**Matsushiro**	**2.67**	**20**	P	**Pn**	**15 08 47.7**	**+1.7**
MAT				*e*S	**S**	**15 09 33.2**	**+1.7**
MJAR	**Matsushiro Arr**	**2.67**	**20**	P	**Pn**	**15 08 47.5**	**+1.5**
	5.6nm,0.3s,baz=195,slow=9.6,SNR=118						
MJAR				S	**S**	**15 09 33.4**	**+1.9**
	baz=218,slow=22,SNR=4.6						
JAG	**Ashikaga**	**3.08**	**39**	P	**Pn**	**15 08 49.9**	**+0.3**
BSO1	**Boso 1**	**3.30**	**78**	*e*S	**S**	**15 09 41.2**	**+0.6**
JHS	**Saijyo**	**3.40**	**288**	P	**Pn**	**15 08 54.5**	**+1.8**
JCJ	**Chichijima**	**8.20**	**146**	S	S	15 11 09.3	-12
	4.0nm,0.3s,baz=80,slow=23,SNR=1.8						
ASAJ	**Asahikawa**	**10.94**	**21**	P	**Pn**	**15 10 18.5**	**-0.1**
	0.4nm,0.3s,baz=222,slow=9.1,SNR=11						
ASAJ				S	**S**	**15 12 15.9**	**-5.2**
	0.1nm,0.3s,baz=262,slow=18,SNR=1.9						
PETK	**Petropavlovsk-**	**24.07**	**31**	P	**P**	**15 12 35.1**	**+0.7**
	0.6nm,0.7s,baz=251,slow=9.0,SNR=2.6						
WRA	**Warramunga Arr**	**53.74**	**183**	P	**P**	**15 16 34.9**	**-2.1**
	0.3nm,0.3s,baz=360,slow=7.6,SNR=13						
ILAR	**Eielson Array**	**53.90**	**31**	P	**P**	**15 16 37.7**	**+0.1**
	0.1nm,0.7s,baz=280,slow=5.4,SNR=4.0						
ASAR	**Alice Springs**	**57.46**	**183**	P	**P**	**15 17 00.9**	**-2.2**
	0.2nm,0.6s,baz=354,slow=5.1,SNR=5.0						
FINES	**FINESS Array B**	**69.78**	**331**	P	**P**	**15 18 21.6**	**-0.8**
	0.5nm,0.4s,baz=72,slow=5.6,SNR=11						
HFS	**Hagfors**	**75.30**	**334**	P	**P**	**15 18 53.8**	**-0.9**
	0.4nm,0.3s,baz=94,slow=11,SNR=3.5						
BRTR	**Keskin Array B**	**78.11**	**310**	P	P	15 19 06.5	-4.4
	0.9nm,0.6s,baz=40,slow=9.8,SNR=3.8						
NVAR	**Mina Array Bea**	**79.62**	**51**	P	**P**	**15 19 20.0**	**+0.8**
	0.2nm,0.4s,baz=284,slow=3.6,SNR=2.6						

IDC 07 15:10:25.5±8.6, 18.°94S×174.°87W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/28, mbtmp3.4/3, Error ellipse: s-maj=377.0km s-min=38.3km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**47.75**	**260**	P	P	15 19 04.4	-0.3
	0.1nm,0.4s,baz=98,slow=6.8,SNR=4.1						
ASAR	**Alice Springs**	**47.76**	**255**	P	P	15 19 04.7	0.0
	0.7nm,0.4s,baz=91,slow=8.0,SNR=33						
ILAR	**Eielson Array**	**86.18**	**12**	P	P	15 23 08.2	0.0
	0.2nm,0.7s,baz=239,slow=5.3,SNR=5.6						

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*IDC **07** 15:33:45.2±0.4, 36.°11S×73.°32W, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.5/29, mbtmp3.4/5, ML3.4/2, Error ellipse: s-maj=9.7km s-min=3.9km az=119.0*
*ISCJB **07** 15:33:48.7±1.1, 36.°18S±0.°10×73.°2W±0.°2, h33km, mb3.5/3, Error ellipse: s-maj=24.7km s-min=10.5km az=25.0*
ISC 07 15:33:50.2±1.1, 36.°2S±0.°1×73.°3W±0.°2, h35km, n7, σ0°99/7, mb3.8/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**5.02**	**156**	Pn	**Pn**	**15 35 03.4**	**+0.3**
	0.6nm,0.3s,baz=330,slow=12,SNR=9.3						
PLCA				Lg	Lg	15 36 20.4	
	0.9nm,0.3s,baz=286,slow=22,SNR=4.6						
CFAA	**Coronel Fontan**	**6.20**	**44**	Pn	**Pn**	**15 35 19.4**	**+0.1**
	0.2nm,0.3s,baz=215,slow=13,SNR=11						
CFAA				Sn	**Sn**	**15 36 28.9**	**-0.1**
	0.4nm,0.3s,baz=272,slow=17,SNR=11						
CFAA				Lg	Lg	15 36 50.3	
	0.1nm,0.3s,baz=110,slow=15,SNR=4.4						
LPAZ	**La Paz**	**20.34**	**14**	P	Pn	15 38 28.4	+1.9
	1.0nm,0.8s,baz=182,slow=5.7,SNR=2.5						
QSPA	**South Pole Qui**	**54.06**	**180**	P	**P**	**15 43 11.3**	**+0.3**
	0.8nm,0.8s,baz=180,slow=15,SNR=5.6						
TXAR	**Lajitas Array**	**71.16**	**332**	P	**P**	**15 45 06.1**	**+0.7**
	0.1nm,0.6s,baz=145,slow=9.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**85.90**	**71**	P	**P**	**15 46 26.8**	**-0.1**
	0.9nm,1.2s,baz=234,slow=4.8,SNR=2.4						
WRA	**Warramunga Arr**	**118.36**	**210**	PKP	**PKPdf**	**15 52 32.7**	**-1.8**
	0.2nm,0.6s,baz=159,slow=1.5,SNR=4.5						

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*ISCJB **07** 15:38:59.4±1.3, 33.°0N±0.°3×39.°5W±0.°2, h8km, mb3.3/6, Error ellipse: s-maj=47.8km s-min=19.8km az=14.3*
*IDC **07** 15:39:00.1±0.6, 32.°90N×39.°55W, h0km, mb3.3/6, mb1 3.6/6, mb1mx3.4/34, mbtmp3.3/6, Error ellipse: s-maj=21.5km s-min=9.6km az=14.0*
ISC 07 15:39:01.2±1.4, 32.°9N±0.°4×39.°6W±0.°2, h8km, n13, σ1°35/6, mb3.4/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**42.41**	**108**	P	**P**	**15 46 56.0**	**-0.6**
	0.5nm,0.8s,baz=315,slow=6.3,SNR=3.5						
H10N2	**ASCENSION HYDR**	**47.00**	**145**	T	T	16 37 56.9	
	baz=331,slow=75,SNR=38						
H10N3	**ASCENSION HYDR**	**47.00**	**145**	T	T	16 37 58.2	
	baz=331,slow=75,SNR=31						
H10N1	**ASCENSION HYDR**	**47.02**	**145**	T	T	16 37 55.2	
	baz=331,slow=75,SNR=47						
H10S1	**ASCENSION HYDR**	**47.89**	**146**	T	T	16 39 03.3	
	baz=332,slow=75,SNR=10						
H10S3	**ASCENSION HYDR**	**47.89**	**146**	T	T	16 39 03.8	
	baz=332,slow=75,SNR=12						
H10S2	**ASCENSION HYDR**	**47.91**	**146**	T	T	16 39 06.9	
	baz=332,slow=75,SNR=8.5						
AKASG	**Malin Array Be**	**52.36**	**48**	P	**P**	**15 48 13.0**	**-0.6**
	0.2nm,0.3s,baz=274,slow=7.0,SNR=2.2						
TXAR	**Lajitas Array**	**54.26**	**285**	P	**P**	**15 48 28.5**	**+0.5**
	0.3nm,0.8s,baz=126,slow=2.5,SNR=3.3						
YKA	**Yellowknife Ar**	**54.59**	**327**	P	**P**	**15 48 28.8**	**-1.0**
	0.1nm,0.6s,baz=90,slow=7.7,SNR=3.0						
PDAR	**Pinedale Array**	**54.72**	**302**	P	**P**	**15 48 31.1**	**-0.3**
	0.7nm,0.8s,baz=88,slow=8.4,SNR=4.7						
H09N1	**TRISTAN DA CUN**	**74.10**	**158**	T	T	17 12 02.2	
	SNR=9.0						
MKAR	**Makanchi Array**	**84.97**	**36**	P	**P**	**15 51 38.9**	**+1.9**
	0.1nm,0.5s,baz=298,slow=3.1,SNR=3.0						

IDC 07 15:40:47.5±2.5, 33.°38S×178.°52W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.8/25, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=63.9km s-min=35.3km az=122.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.02**	**215**	Pn	Pn	15 42 18.4	+0.5
	1.1nm,0.3s,baz=276,slow=4.5,SNR=17						
URZ			

ISCJB ***07*** *15:59:42.6±0.9, 38°.00S±0°.02×73°.31W±0°.05, h22km±6km, mb5.3/166, MS5.6/172, Error ellipse: s-maj=6.1km s-min=3.8km az=170.4*

GCMT ***07*** *15:59:44.6±0.1, 38°.22S×73°.78W, h25km, MW5.9/119, Moment Tensor Solution. s108, c206; s119, c285; Duration: 2≅1 Moment tensor: Scale 10^{17}Nm; M_{rr}3.02±.04; $M_{\theta\theta}$0.42±.04; $M_{\phi\phi}$-3.44±.04; $M_{r\theta}$0.73±.09; $M_{r\phi}$0.60±.03; $M_{\theta r}$-7.20±.09; Best double couple: $M_0$7.94400×10^{17} NP1:ϕ_s174.00000°, δ78.00000°, λ91.00000°. NP2:ϕ_s348.00000°, δ12.00000°, λ84.00000°. Principal axes: T 7.6930, Plg57.0000°, Azm86.0000°; N 0.4980, Plg1.0000°, Azm354.0000°; P -8.1950, Plg33.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***07*** *15:59:44.8, 38°.00S×73°.30W, h27km, mB5.9/45, Ms5.9/50, Ms7 5.9/50*

IDC ***07*** *15:59:44.3±0.4, 38°.01S×73°.40W, h23km±2km, mb4.9/25, mb1 4.9/29, mb1mx4.9/33, mbtmp5.0/29, ML5.1/3, MS5.4/24, Ms1 5.4/24, ms1mx5.3/29, Error ellipse: s-maj=13.2km s-min=9.8km az=92.0*

GUC ***07*** *15:59:44.4±0.6, 38°.11S×73°.44W, h42km±2km, ML6.0*

NEIC ***07*** *15:59:44.6±0.1, 37°.99S×73°.30W, mb5.5/137, MS5.6/135, MW5.8, MW5.8, Error ellipse: s-maj=6.0km s-min=3.5km az=61.0, Moment Tensor Solution. s38 Moment tensor: Scale 10^{17}Nm; M_{rr}3.52; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$-3.50; $M_{r\theta}$-0.83; $M_{\theta\phi}$-2.40; $M_{\theta r}$-3.77; Best double couple: $M_0$5.70000×10^{17} NP1:ϕ_s195.00000°, δ67.00000°, λ78.00000°. NP2: ϕ_s44.00000°, δ26.00000°, λ116.00000°. Principal axes: T 5.1700, Plg65.0000°, Azm83.0000°; N 1.0100, Plg11.0000°, Azm199.0000°; P -6.1800, Plg21.0000°, Azm294.0000°;*

NEIC Felt [IV] at Puerto Saavedra, Queule, Temuco and Villarrica; [III] at Concepcion and Valdivia. Also felt at Angol, Chiguayante, Concepcion, Santiago and Victoria.

MOS ***07*** *15:59:45.0±1.1, 37°.90S×73°.45W, h33km, mb5.7/53, MS5.6/33 Error ellipse: s-maj=13.5km s-min=7.1km az=97.7*

NEIC ***07*** *15:59:56.4±0.0, 38°.05S×73°.23W, h32km, Moment Tensor Solution. s113 Moment tensor: Scale 10^{17}Nm; M_{rr}3.91; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$-3.61; $M_{r\theta}$1.53; $M_{\phi\theta}$0.20; $M_{\theta r}$-4.48; Best double couple: $M_0$6.00000×10^{17} NP1:ϕ_s165.00000°, δ71.00000°, λ83.00000°. NP2:ϕ_s5.00000°, δ20.00000°, λ109.00000°. Principal axes: T 6.2600, Plg63.0000°, Azm63.0000°; N -0.4300, Plg6.0000°, Azm167.0000°; P -5.8300, Plg25.0000°, Azm260.0000°;*

ISC 07 15:59:44.3±0.3, 38°.01S±0°.03×73°.34W±0°.05, h26km±2km, h25km:pP-P, n1114, σ1.08/1121, mb5.4/166, MS5.6/172, 279C-251D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
PSCH	**Puerto Saavedr**	**0.79**	**183**	⇓*iP*	**Pb**	**15 59 58.0**	**-1.4**
PSCH				*i* S	**Sb**	**16 00 08.3**	**-1.4**
VLCH	**Valdivia**	**1.80**	**178**	*e*P	**Pn**	**16 00 12.9**	**-0.7**
VLCH				*e*S	**Sn**	**16 00 33.9**	**-1.6**
VLCH				AML	AML	16 00 49.5	
	comp=E,253μm,0.4s						
COCH	**Cobquecura**	**1.93**	**13**	⇑*i*P	**Pn**	**16 00 15.8**	**+0.5**
COCH				*i* S	**Sb**	**16 00 40.8**	**-1.4**
LNCH	**Linares**	**2.57**	**33**	*e*P	**Pn**	**16 00 26.2**	**+2.0**
LNCH				AML	AML	16 01 17.8	
	comp=E,55μm,0.6s						
OSCH	**Osorno**	**2.57**	**176**	*e*P	**Pn**	**16 00 23.2**	**-0.9**
OSCH				*i* S	**Sn**	**16 00 52.4**	**-2.2**
NICH	**Los Niches**	**3.45**	**30**	*e*P	**Pn**	**16 00 37.7**	**+1.5**
NICH				AML	AML	16 01 43.2	
	comp=N,30μm,0.5s						
PLCA	**Paso Flores**	**3.47**	**142**	P	**Pn**	**16 00 38.3**	**+1.6**
PLCA						16 01 19.6	
PLCA				pmax	pmax		
	comp=Z,36nm,0.3s						
PLCA				pmax	pmax		
	comp=Z,127nm,0.3s						
PLCA				smax	smax		
	comp=N,245nm,0.3s						
PLCA	**Paso Flores**	**3.47**	**142**	Pn	**Pn**	**16 00 38.2**	**+1.6**
	comp=N,36nm,0.3s,baz=314,slow=13,SNR=192						
PLCA				Pg	**Pb**	**16 00 44.2**	**-0.9**
	comp=N,127nm,0.3s,baz=317,slow=16,SNR=75						
PLCA				Sn	**Sn**	**16 01 19.6**	**+2.6**
	comp=N,245nm,0.3s,baz=113,slow=16,SNR=3.5						
PLCA				Lg	Lg	16 01 31.4	
	comp=N,241nm,0.3s,baz=228,slow=22,SNR=8.3						
CFAA	**Coronel Fontan**	**7.64**	**35**	Pn	**Pn**	**16 01 33.5**	**-0.5**
	comp=N,1.4nm,0.3s,baz=219,slow=9.5,SNR=66						
CFAA				Sn	**Sn**	**16 03 01.6**	**+1.9**
	comp=N,3.2nm,0.3s,baz=122,slow=21,SNR=6.2						
CFAA				Lg	Lg	16 03 47.1	
	comp=N,1.2nm,0.3s,baz=118,slow=20,SNR=4.9						
CFAA				LR	LR	16 04 50.2	
	comp=N,5μm,18.3s,baz=223,slow=40						
TRQA	**Tornquist**	**8.96**	**94**	*e*Pn	**Pn**	**16 01 54.9**	**+2.9**
	comp=N,441nm,1.0s						
LVC	**Limon Verde**	**15.81**	**15**	*e*Pn	**Pn**	**16 03 21.5**	**-3.9**
	comp=N,340nm,1.5s						
USHA	**Ushuaia**	**17.16**	**170**	Pn	**Pn**	**16 03 42.2**	**+0.2**
	comp=N,2.2nm,0.3s,baz=330,slow=11,SNR=21						
USHA				Lg	Lg	16 08 30.3	
	comp=N,0.1nm,0.3s,baz=330,slow=14,SNR=1.8						
USHA				LR	LR	16 10 54.5	
	comp=N,20μm,18.1s,baz=330,slow=39						
EFI	**East Falkland**	**17.38**	**147**	Pn	**Pn**	**16 03 45.0**	**+0.2**
	comp=N,2μm,0.8s,SNR=24						
EFI	**East Falkland**	**17.38**	**147**	*e*P	**Pn**	**16 03 43.5**	**-1.3**
EFI	**East Falkland**	**17.38**	**147**	*e*P	**Pn**	**16 03 43.5**	**-1.3**
	comp=N,769nm,1.2s						
CPUP	**Villa Florida**	**17.84**	**54**	*e*P	**Pn**	**16 03 50.2**	**-0.4**
CPUP				pmax	pmax		
	comp=Z,8.0nm,1.2s						
CPUP	**Villa Florida**	**17.84**	**54**	Pn	**P**	**16 03 51.8**	**+0.6**
	comp=Z,3.4nm,0.3s,baz=211,slow=8.1,SNR=20						
CPUP				PcP	**PcP**	**16 08 29.0**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=148,slow=6.5,SNR=3.2						
CPUP				Lg	Lg	16 09 24.0	
	comp=Z,0.3nm,0.3s,baz=112,slow=15,SNR=1.8						
CPUP	**Villa Florida**	**17.84**	**54**	*e*P	**Pn**	**16 03 50.2**	**-0.4**
	comp=Z,7.5nm,1.2s						
CPUP				PcP	**PcP**	**16 08 29.0**	**+2.3**
CPUP				Lg	Lg	16 09 24.0	
LPAZ	**La Paz**	**22.12**	**13**	P	**P**	**16 04 39.8**	**+1.4**
	comp=Z,40nm,1.1s,baz=182,slow=8.3,SNR=71						
LPAZ				PcP	**PcP**	**16 08 35.8**	**+0.4**
	comp=Z,5.3nm,0.9s,baz=211,slow=5.9,SNR=2.2						
LPAZ				LR	LR	16 13 42.8	
	comp=Z,6μm,21.2s,baz=155,slow=38						
SIV	**San Ignacio**	**24.45**	**30**	P	**P**	**16 05 00.6**	**-0.5**
	comp=Z,52nm,1.0s,baz=230,slow=9.8,SNR=49						
SIV				PcP	**PcP**	**16 08 41.8**	**+2.3**
	comp=Z,2.6nm,0.6s,baz=204,slow=10.0,SNR=2.3						
SIV				LR	LR	16 16 25.2	
	comp=Z,18μm,19.0s,baz=216,slow=41						
NNA	**Nana**	**26.10**	**352**	P	**P**	**16 05 15.7**	**-0.4**
	comp=Z,17nm,0.7s,baz=197,slow=10,SNR=12						
NNA				LR	LR	16 13 50.0	
	comp=Z,5μm,18.1s,baz=175,slow=32						
NNA	**Nana**	**26.10**	**352**	*e*P	**P**	**16 05 14.7**	**-1.3**
	comp=Z,56nm,1.1s						
PMSA	**Palmer Station**	**27.36**	**171**	LR	LR	16 15 37.9	
	comp=Z,12μm,20.7s,baz=333,slow=35						
HOPE	**Hope Point**	**29.84**	**135**	*e*P	**P**	**16 05 50.1**	**+1.0**
	comp=Z,89nm,1.1s						
HOPE				LR	LR		
	comp=Z,5μm,19.0s						
SAML	**Samuel**	**30.35**	**20**	*e*P	**P**	**16 05 53.7**	**-0.2**
	comp=Z,45nm,1.2s						
SAML				LR	LR		
	comp=Z,15μm,20.0s						
ATAH	**Atahualpa**	**31.07**	**350**	P	**P**	**16 06 00.8**	**-0.1**
	comp=Z,20nm,1.0s,baz=195,slow=6.3,SNR=12						
ATAH				LR	LR	16 17 36.9	
	comp=Z,5μm,19.1s,baz=175,slow=34						
BDFB	**Brasilia**	**31.55**	**52**	P	**P**	**16 06 04.4**	**-0.2**
	comp=Z,11nm,0.9s,baz=224,slow=7.2,SNR=12						
BDFB				LR	LR	16 20 24.7	
	comp=Z,24μm,19.7s,baz=216,slow=39						
OTAV	**Otavalo**	**38.35**	**352**	*e*P	**P**	**16 07 06.0**	**+2.3**
	comp=Z,69nm,1.2s						
OTAV				LR	LR		
	comp=Z,2μm,21.0s						
PAYG	**Puerto Ayora**	**40.30**	**333**	PFAKE		16 07 30.0	+11
PAYG				LR	LR		
	comp=Z,6μm,20.0s						
ROSC	**El Rosal**	**42.66**	**359**	P	**P**	**16 07 40.3**	**+1.1**
	comp=Z,22nm,0.8s,baz=193,slow=4.6,SNR=11						
VNA3	**Neumayer Olymp**	**46.08**	**156**	P	**P**	**16 08 06.6**	**+1.0**
VNA1	**Neumayer--Stat**	**46.44**	**155**	P	**P**	**16 08 09.8**	**+1.4**
RCBR	**Riachuelo**	**46.69**	**56**	P	**P**	**16 08 12.2**	**+1.1**
	comp=Z,70nm,1.2s,baz=202,slow=8.4,SNR=21						
RCBR				pP	**pP**	**16 08 20.2**	**+1.1**
	comp=Z,34nm,1.0s,baz=189,slow=14,SNR=5.9						
RCBR	**Riachuelo**	**46.69**	**56**	*e*P	**P**	**16 08 11.8**	**+0.7**
	comp=Z,225nm,1.6s						
RCBR				pP	**pP**	**16 08 20.2**	**+1.1**
RCBR				LR	LR		
	comp=Z,10μm,19.0s						
SDV	**Santo Domingo**	**46.72**	**4**	*e*P	**P**	**16 08 10.3**	**-1.1**
	comp=Z,46nm,0.8s						
SDV				LR	LR		
	comp=Z,5μm,19.0s						
VNA2	**Neumayer--Watz**	**46.77**	**156**	P	**P**	**16 08 12.0**	**+1.1**
BCIP	**Isla Barro Col**	**47.32**	**351**	PFAKE		16 08 30.0	+14
BCIP				LR	LR		
	comp=Z,2μm,20.0s						
TRIS	**Tristan da Cun**	**47.61**	**109**	PFAKE		16 08 30.0	+12
TRIS				LR	LR		
	comp=Z,5μm,20.0s						
SNAA	**Sanae**	**48.31**	**156**	P	**P**	**16 08 24.0**	**+1.0**
SNAA	**Sanae**	**48.31**	**156**	*e*P	**P**	**16 08 23.6**	**+0.7**
SNAA	**Sanae**	**48.31**	**156**	*c i*P	**P**	**16 08 23.3**	**+0.3**
SNAA				pmax	pmax		
	comp=Z,447nm,1.7s						
SNAA	**Sanae**	**48.31**	**156**	P	**P**	**16 08 23.6**	**+0.7**
	comp=Z,41nm,1.0s,baz=278,slow=6.5,SNR=68						
SNAA				LR	LR	16 28 25.0	
	comp=Z,2μm,19.1s,baz=284,slow=36						
SNAA	**Sanae**	**48.31**	**156**	*e*P	**P**	**16 08 23.4**	**+0.5**
	comp=Z,563nm,1.4s						
PCRV	**Puerto La Cruz**	**48.62**	**11**	P	**P**	**16 08 26.4**	**+0.5**
	comp=Z,7.5nm,0.6s,baz=251,slow=0.6,SNR=4.9						
JTS	**JuntasAbangare**	**49.26**	**345**	*c i*P	**P**	**16 08 31.7**	**+0.9**
JTS				pmax	pmax		
	comp=Z,33nm,1.0s						
JTS	**JuntasAbangare**	**49.26**	**345**	P	**P**	**16 08 32.0**	**+1.2**
	comp=Z,16nm,0.8s,baz=120,slow=5.9,SNR=6.2						
JTS	**JuntasAbangare**	**49.26**	**345**	*e*P	**P**	**16 08 32.8**	**+2.0**
	comp=Z,131nm,1.5s						
JTS				LR	LR		
	comp=Z,2μm,20.0s						
PTCN	**Pitcairn Islan**	**49.38**	**268**	PFAKE		16 08 40.0	+8.3
PTCN				LR	LR		
	comp=Z,13μm,22.0s						
GRGR	**Grenville**	**51.06**	**15**	PFAKE		16 09 00.0	+16
GRGR				LR	LR		
	comp=Z,5μm,20.0s						
QSPA	**South Pole Qui**	**52.23**	**180**	P	**P**	**16 08 53.3**	**+0.4**
	comp=Z,33nm,0.8s,baz=143,slow=3.2,SNR=117						
QSPA				LR	LR	16 30 00.0	
	comp=Z,2μm,19.8s,baz=172,slow=35						
QSPA	**South Pole Qui**	**52.23**	**180**	*e*P	**P**	**16 08 53.3**	**+0.4**
	comp=Z,91nm,1.1s						
BBGH	**Gun Hill**	**52.50**	**17**	PFAKE		16 09 10.0	+15
BBGH				LR	LR		
	comp=Z,6μm,21.0s						
NVL	**N'lazarevskaya**	**53.09**	**156**	⇑*i*P	**P**	**16 08 57.2**	**-1.7**
NVL				*e*PP	pP	16 09 14.8	+7.9
NVL				*e*		16 10 05.5	
NVL				*i* S	**S**	**16 16 27.7**	**+0.6**
NVL				*e*		16 18 44.6	
NVL				*e*SS	**SKiKP**	**16 20 15.6**	**+0.7**
NVL				*e*SSS	SSS	16 22 00.3	
NVL				pmax	pmax		
	comp=Z,71nm,0.8s						
NVL				MLR	MLR		
	comp=Z,3μm,16.0s						
FDF	**Fort de France**	**53.70**	**15**	PFAKE		16 09 20.0	+16
FDF				LR	LR		
	comp=Z,6μm,20.0s						
RKT	**Rikitea**	**54.21**	**267**	*e*S	**S**	**16 16 43.1**	**-0.4**
	comp=Z,4μm,26.8s						
RKT				*e*SS	**SS**	**16 20 24.2**	**-1.1**
	comp=Z,1μm,28.8s						
RKT				*e*LR	LR	16 24 51.2	
	comp=Z,14μm,25.0s,baz=124						
RKT	**Rikitea**	**54.21**	**267**	*e*T	T	17 06 47.8	
	comp=Z,3.1nm,0.2s						
MTDJ	**Mount Denham**	**56.07**	**355**	PFAKE		16 09 30.0	+8.8
MTDJ				LR	LR		
	comp=Z,2μm,19.0s						
CELP	**Cerrillos**	**56.15**	**8**	*e*P	**P**	**16 09 21.3**	**-0.4**
LRS	**Lares**	**56.33**	**7**	*e*P	**P**	**16 09 22.3**	**-0.7**
ANWB	**Willy Bob**	**56.44**	**13**	PFAKE		16 09 40.0	+16
ANWB				LR	LR		
	comp=Z,3μm,22.0s						
SDDR	**Presa de Saban**	**56.72**	**2**	PFAKE		16 09 40.0	+14
SDDR				LR	LR		
	comp=Z,2μm,21.0s						
GTBY	**Guantanamo Bay**	**57.65**	**358**	*e*P	**P**	**16 09 32.7**	**+0.5**
	comp=Z,106nm,1.1s						
GTBY				LR	LR		
	comp=Z,2μm,20.0s						
SBA	**Scott Base**	**58.94**	**192**	*e*P	**P**	**16 09 41.8**	**+1.1**
SBA				pmax	pmax		
	comp=Z,329nm,2.2s						
SBA				MLR	MLR		
	comp=Z,2μm,19.0s						
SBA	**Scott Base**	**58.94**	**192**	*e*P	**P**	**16 09 41.8**	**+1.1**
	comp=Z,329nm,2.2s						
SBA				LR	LR		
	comp=Z,2μm,19.0s						
GRTK	**Grand Turk**	**59.24**	**2**	PFAKE		16 10 00.0	+17
GRTK				LR	LR		
	comp=Z,2μm,21.0s						
TEIG	**Tepich**	**59.60**	**344**	*e*P	**P**	**16 09 45.9**	**0.0**
	comp=Z,56nm,1.0s						
TEIG				LR	LR		
	comp=Z,1μm,20.0s						
VNDA	**Vanda**	**59.97**	**192**	*e*P	**P**	**16 09 48.9**	**+1.1**
VNDA				pmax	pmax		
	comp=Z,114nm,0.5s						
VNDA	**Vanda**	**59.97**	**192**	P	**P**	**16 09 48.9**	**+1.1**
	comp=Z,9.0nm,1.0s,baz=146,slow=4.3,SNR=15						
VNDA				PKKP	**PKKPdf**	**16 30 51.6**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=50,slow=1.9,SNR=13						
VNDA				LR	LR	16 33 13.7	
	comp=Z,2μm,18.3s,baz=127,slow=34						
VNDA	**Vanda**	**59.97**	**192**	*e*P	**P**	**16 09 48.9**	**+1.1**
	comp=Z,114nm,0.5s						
VNDA				PKKP	**PKKPdf**	**16 30 51.6**	**+0.5**
ASCN	**Ascension**	**60.83**	**76**	PFAKE		16 10 10.0	+15
ASCN				LR	LR		
	comp=Z,6μm,21.0s						
SYO	**Syowa Base**	**62.54**	**158**	⇑*e*P	P	16 10 01.6	-3.6
SHEL	**Horse Pasture**	**62.79**	**89**	PFAKE		16 10 20.0	+12
SHEL				LR	LR		
	comp=Z,6μm,21.0s						
MEH	**Mehetia**	**67.34**	**265**	*e*T	T	17 23 16.3	
	comp=Z,44nm,0.3s						
035Z	**Hargill**	**68.20**	**336**	⇑P	**P**	**16 10 43.1**	**+0.8**
	baz=68						
VAH	**Vaihoa**	**68.50**	**267**	*e*P	**P**	**16 10 45.4**	**+0.9**
	comp=Z,59nm,1.1s						
VAH	**Vaihoa**	**68.50**	**267**	*e*T	T	17 24 43.9	
	comp=Z,4.5nm,0.2s						
TIAR	**Tiarei**	**68.53**	**264**	*e*P	**P**	**16 10 45.8**	**+1.0**
	comp=Z,12nm,0.9s						
TIAR	**Tiarei**	**68.53**	**264**	*e*T	T	17 24 45.6	
	comp=Z,14nm,0.3s						
PAE	**Paea**	**68.65**	**264**	*e*P	**P**	**16 10 46.3**	**+0.8**
	comp=Z,28nm,1.6s						
PAE	**Paea**	**68.65**	**264**	*e*T	T	17 24 53.4	
	comp=Z,2.0nm,0.2s						
035A	**Encino**	**68.66**	**336**	⇓P	**P**	**16 10 46.3**	**+1.1**
	baz=69						
PPT2	**Papeete2**	**68.69**	**264**	*e*P	**P**	**16 10 46.8**	**+0.9**
	comp=Z,94nm,1.3s						
PPT2				*e*S	**S**	**16 19 45.0**	**-2.6**
	comp=Z,3μm,23.2s						
PPT2	**Papeete2**	**68.69**	**264**	*e*LR	LR	16 31 33.9	
	comp=Z,8μm,25.2s,baz=117						
PPT2	**Papeete2**	**68.69**	**264**	*e*T	T	17 24 57.7	
	comp=Z,3.3nm,0.2s						
PPT	**Papeete**	**68.70**	**264**	P	**P**	**16 10 45.8**	**-0.1**
	comp=Z,28nm,0.9s,baz=160,slow=5.2,SNR=1.8						
PPT				LR	LR	16 33 06.9	
	comp=Z,3μm,19.8s,baz=106,slow=29						
034A	**Hebbronville**	**68.96**	**336**	⇑P	**P**	**16 10 48.3**	**+1.2**
	baz=69						
KVTX	**Kingsville**	**69.16**	**337**	PFAKE		16 11 00.0	+12
KVTX				LR	LR		
	comp=Z,2μm,20.0s						
MAW	**Mawson**	**69.64**	**164**	P	**P**	**16 10 51.8**	**+1.0**
	comp=Z,30nm,0.9s,baz=188,slow=10,SNR=3.5						
MAW				LR	LR	16 43 17.6	
	comp=Z,3μm,18.3s,baz=227,slow=38						
933A	**Laredo**	**69.66**	**336**	⇓P	**P**	**16 10 52.1**	**+0.7**
	baz=70,SNR=6.9						
TIGA	**Tifton**	**69.75**	**351**	⇓P	**P**	**16 10 51.6**	**-0.2**
	baz=70						
TIGA	**Tifton**	**69.75**	**351**	*e*P	**P**	**16 10 51.7**	**-0.1**
	comp=Z,31nm,0.9s						
835A	**Beeville**	**69.83**	**337**	⇑P	**P**	**16 10 53.9**	**+1.6**
	baz=70						
BRAL	**Brewton**	**69.85**	**347**	PFAKE		16 11 00.0	+7.5
BRAL				LR	LR		
	comp=Z,1μm,19.0s						
834A	**Tilden**	**69.90**	**336**	⇑P	**P**	**16 10 53.8**	**+0.9**
	baz=70,SNR=12						
735A	**Kenedy**	**70.35**	**337**	⇑P	**P**	**16 10 56.8**	**+1.2**
	baz=71						
833A	**Chaparral WMA,**	**70.36**	**336**	⇓P	**P**	**16 10 56.3**	**+0.6**
	baz=71,SNR=8.9						
SACV	**Santiago Islan**	**70.36**	**52**	PFAKE		16 11 10.0	+14
SACV				LR	LR		
	comp=Z,12μm,20.0s						
BBSR	**BB Station**	**70.48**	**8**	PFAKE		16 11 10.0	+14
BBSR				LR	LR		
	comp=Z,1μm,19.0s						
832A	**Faith Ranch, C**	**70.51**	**335**	⇓P	**P**	**16 10 57.1**	**+0.5**
	baz=71,SNR=9.2						
734A	**La Parita Cree**	**70.58**	**337**	⇑P	**P**	**16 10 57.9**	**+0.9**
	baz=71						
733A	**Divot King Ran**	**70.69**	**336**	⇓P	**P**	**16 10 58.3**	**+0.7**
	baz=71						
636A	**Smothers Creek**	**70.71**	**338**	⇓P	**P**	**16 10 58.5**	**+0.7**
	baz=71,SNR=8.5						
HKT	**Hockley**	**70.81**	**339**	*e*P	**P**	**16 10 58.3**	**+0.1**
HKT				pmax	pmax		
	comp=Z,67nm,1.8s						
HKT	**Hockley**	**70.81**	**339**	*e*P	**P**	**16 10 58.3**	**+0.1**
	comp=Z,67nm,1.8s						
635A	**Leesville**	**70.84**	**338**	⇑P	**P**	**16 10 58.9**	**+0.3**
	baz=71						
LPIG	**La Paz**	**70.87**	**324**	LR	LR	16 35 16.0	
	comp=Z,6μm,18.6s,baz=156,slow=30						
732A	**Laxson Ranch,**	**70.92**	**335**	⇓P	**P**	**16 10 59.5**	**+0.4**
	baz=71,SNR=16						
538A	**Harpers Horsep**	**70.97**	**340**	⇑P	**P**	**16 11 00.6**	**+1.3**
	baz=71						
634A	**China Grove, S**	**71.01**	**337**	⇓P	**P**	**16 11 00.0**	**+0.4**
	baz=71						
NHSC	**New Hope**	**71.04**	**354**	PFAKE		16 11 10.0	+10
NHSC				LR	LR		
	comp=Z,2μm,22.0s						
536A	**Bastrop**	**71.27**	**338**	⇑P	**P**	**16 11 01.9**	**+0.7**
	baz=72						
633A	**Saathoff Ranch**	**71.34**	**336**	⇓P	**P**	**16 11 02.2**	**+0.5**
	baz=72						
535A	**Dale**	**71.38**	**338**	⇓P	**P**	**16 11 02.3**	**+0.5**
	baz=72						
438A	**Sam Houston St**	**71.46**	**340**	⇓P	**P**	**16 11 03.3**	**+1.0**
	baz=72						
632A	**Uvalde**	**71.58**	**336**	⇑P	**P**	**16 11 03.4**	**+0.3**
	baz=72,SNR=14						
534A	**Blanco**	**71.65**	**337**	⇑P	**P**	**16 11 03.6**	**0.0**
	baz=72						
GOGA	**Godfrey**	**71.68**	**351**	*e*P	**P**	**16 11 02.8**	**-0.7**
GOGA				pmax	pmax		
	comp=Z,38nm,1.1s						
GOGA				MLR	MLR		
	comp=Z,1μm,21.0s						
GOGA	**Godfrey**	**71.68**	**351**	*e*P	**P**	**16 11 02.8**	**-0.7**
	comp=Z,38nm,1.1s						
GOGA				LR	LR		
	comp=Z,1μm,21.0s						
340A	**Bronson**	**71.68**	**342**	⇑P	**P**	**16 11 04.6**	**+0.9**
	baz=72						
437A	**Phantom Ranch,**	**71.72**	**339**	⇑P	**P**	**16 11 04.6**	**+0.8**
	baz=72						
631A	**Perdido Creek**	**71.75**	**335**	⇑P	**P**	**16 11 04.2**	**+0.1**
	baz=72,SNR=11						
339A	**Huntington**	**71.77**	**341**	⇑P	**P**	**16 11 04.8**	**+0.7**
	baz=72						
LRAL	**Lakeview Retre**	**71.82**	**348**	*e*P	**P**	**16 11 04.3**	**-0.1**
	comp=Z,104nm,1.5s						
436A	**Wall Ranch, Ga**	**71.85**	**339**	⇑P	**P**	**16 11 05.3**	**+0.6**
	baz=72						
533A	**Kerrville**	**71.86**	**337**	⇑P	**P**	**16 11 05.3**	**+0.5**
	baz=72,SNR=11						
338A	**Crockett**	**71.99**	**340**	⇓P	**P**	**16 11 06.5**	**+1.0**
	baz=72,SNR=8.0						
435B	**Jarrell**	**72.09**	**338**	⇓P	**P**	**16 11 06.6**	**+0.5**
	baz=72						
337A	**Centerville**	**72.11**	**340**	⇓P	**P**	**16 11 07.1**	**+0.9**
	baz=72,SNR=7.4						
532A	**Rocksprings**	**72.19**	**336**	⇑P	**P**	**16 11 07.3**	**+0.5**
	baz=72,SNR=33						
NATX	**Nacogdoches**	**72.21**	**341**	PFAKE		16 11 20.0	+13
NATX				LR	LR		
	comp=Z,1μm,20.0s						
434A	**Burnet**	**72.32**	**338**	⇓P	**P**	**16 11 07.8**	**+0.3**
	baz=73,SNR=42						
239A	**Gary**	**72.40**	**341**	⇑P	**P**	**16 11 08.1**	**+0.2**
	baz=73						
531A	**Rocksprings**	**72.43**	**335**	⇓P	**P**	**16 11 08.3**	**+0.1**
	baz=73,SNR=21						
336A	**Riesel**	**72.44**	**339**	⇑P	**P**	**16 11 08.2**	**0.0**
	baz=73,SNR=19						
JCT	**Junction City**	**72.48**	**336**	*e*P	**P**	**16 11 07.6**	**-0.9**
JCT				pmax	pmax		
	comp=Z,93nm,1.1s						
JCT				MLR	MLR		
	comp=Z,749nm,21.0s						
JCT	**Junction City**	**72.48**	**336**	⇓P	**P**	**16 11 08.7**	**+0.1**
	baz=73,SNR=28						
JCT	**Junction City**	**72.48**	**336**	*e*P	**P**	**16 11 07.6**	**-0.9**
	comp=Z,93nm,1.1s						
JCT				LR	LR		
	comp=Z,749nm,21.0s						
335A	**Moody**	**72.51**	**339**	⇑P	**P**	**16 11 08.8**	**+0.2**
	baz=73,SNR=6.6						
433A	**Art**	**72.52**	**337**	⇑P	**P**	**16 11 08.6**	**-0

WHTX **Lake Whitney,** 73.18 339 ⇓P P 16 11 12.6 0.0
baz=74,SNR=19
WHTX **Lake Whitney,** 73.18 339 *e*P P 16 11 12.4 -0.1
comp=Z,71nm,1.0s
430A **Baggett Ranch,** 73.23 335 ⇑P P 16 11 13.0 0.0
baz=74,SNR=25
137A **Heron Place, G** 73.29 340 ⇑P P 16 11 13.6 +0.4
baz=74,SNR=7.2
332A **Millersview** 73.30 337 ⇓P P 16 11 13.4 0.0
baz=74,SNR=43
429A **Davenport Ranc** 73.31 335 ⇓P P 16 11 13.8 +0.3
baz=74,SNR=30
234A **Clairette** 73.39 338 ⇓P P 16 11 13.9 +0.1
baz=74,SNR=17
331A **San Angelo** 73.45 336 ⇓P P 16 11 14.1 -0.1
baz=74,SNR=33
233A **Rising Star** 73.63 338 ⇑P P 16 11 15.1 -0.2
baz=74,SNR=21
OXF **Oxford** 73.68 346 *e*P P 16 11 14.9 -0.6
OXF pmax pmax
comp=Z,102nm,1.1s
OXF **Oxford** 73.68 346 *e*P P 16 11 14.9 -0.6
comp=Z,102nm,1.1s
135A **Vickery Place,** 73.70 339 ⇓P P 16 11 15.5 -0.1
baz=74
232A **Coleman** 73.74 337 ⇓P P 16 11 15.7 -0.2
baz=74,SNR=34
330A **Mertzon** 73.78 335 ⇓P P 16 11 16.3 +0.1
baz=74,SNR=13
SWET **Sewanee** 73.79 349 *e*P P 16 11 15.2 -0.9
comp=Z,11nm,0.9s
CPCT **Cooper Cave** 73.82 351 *e*P P 16 11 18.3 +2.1
SUR **Sutherland** 73.83 119 LR LR 16 38 36.8
comp=Z,5μm,21.1s,baz=232,slow=32
SUR **Sutherland** 73.83 119 *e*P P 16 11 18.1 +1.2
comp=Z,70nm,1.0s
134A **White-Moore Ra** 73.91 338 ⇓P P 16 11 16.8 0.0
baz=74,SNR=9.8
TKL **Tuckaleechee C** 73.93 351 *e*P P 16 11 16.3 -0.6
TKL **Tuckaleechee C** 73.93 351 *e*P P 16 11 16.3 -0.6
231A **Bronte** 74.00 336 ⇑P P 16 11 17.2 -0.2
baz=74,SNR=24
329A **Wagon Wheel Ra** 74.13 335 ⇓P P 16 11 18.4 +0.2
baz=74,SNR=20
133A **Hamilton Ranch** 74.19 338 ⇓P P 16 11 18.5 0.0
baz=74,SNR=19
230A **Sterling City** 74.21 336 ⇓P P 16 11 18.4 -0.3
baz=74,SNR=12
Z35A **Perchaven, San** 74.39 339 ⇑P P 16 11 19.6 0.0
baz=75,SNR=15
ABTX **Abilene, Hawle** 74.42 337 ⇑P P 16 11 19.9 +0.1
baz=75,SNR=16
ABTX **Abilene, Hawle** 74.42 337 *e*P P 16 11 19.4 -0.5
comp=Z,71nm,1.0s
229A **Bryant Ranch,** 74.51 335 ⇓P P 16 11 20.3 -0.2
baz=75,SNR=13
UALR **University of** 74.54 344 *e*P P 16 11 20.6 +0.2
comp=Z,26nm,1.1s
MIAR **Mount Ida** 74.60 343 *e*P P 16 11 19.7 -1.1
MIAR pmax pmax
comp=Z,32nm,1.1s
MIAR MLR MLR
comp=Z,728nm,21.0s
MIAR **Mount Ida** 74.60 343 *e*P P 16 11 19.7 -1.1
comp=Z,32nm,1.1s
MIAR LR LR
comp=Z,728nm,21.0s
Z34A **Collier Ranch,** 74.61 339 ⇓P P 16 11 20.8 -0.1
baz=75,SNR=9.0
BBTS **Babate** 74.67 57 LR LR 16 42 50.2
comp=Z,7μm,21.1s,baz=196,slow=35
131A **Roby** 74.70 337 ⇑P P 16 11 21.6 0.0
baz=75,SNR=13
Z33A **Whitaker Ranch** 74.78 338 ⇓P P 16 11 22.1 +0.2
baz=75,SNR=18
130A **Snyder** 74.81 336 ⇑P P 16 11 22.1 -0.1
baz=75,SNR=14
228A **UT Block 9, Go** 74.91 335 ⇑P P 16 11 22.7 -0.1
baz=75,SNR=15
WVT **Waverly** 74.98 348 *e*P P 16 11 22.2 -0.8
WVT pmax pmax
comp=Z,86nm,1.1s
WVT **Waverly** 74.98 348 *e*P P 16 11 22.2 -0.8
comp=Z,86nm,1.1s
Z32A **Haskell** 75.01 338 ⇑P P 16 11 23.2 0.0
baz=75,SNR=28
Y34A **Reagan Ranch,** 75.12 339 ⇓P P 16 11 23.7 -0.1
baz=75,SNR=14
BLA **Blacksburg** 75.13 354 *e*P P 16 11 22.0 -1.9
BLA pmax pmax
comp=Z,23nm,1.1s
BLA MLR MLR
comp=Z,1μm,19.0s
BLA **Blacksburg** 75.13 354 *e*P P 16 11 21.9 -1.9
comp=Z,23nm,1.1s
BLA LR LR
comp=Z,1μm,19.0s
VWCC **Virginia Weste** 75.13 355 *e*P P 16 11 23.8 -0.1
129A **Stewart Farms,** 75.14 335 ⇓P P 16 11 23.9 -0.2
baz=76,SNR=13
Z31A **Sharp Cattle R** 75.22 337 ⇓P P 16 11 24.6 +0.1
baz=76,SNR=28
128A **Castleberry Fa** 75.33 335 ⇑P P 16 11 25.4 +0.2
baz=76,SNR=26
Y33A **Hilltop Ranch,** 75.41 338 ⇓P P 16 11 25.3 -0.2
baz=76,SNR=14
JSRW **J. Sargeant Re** 75.45 356 *e*P P 16 11 26.4 +0.8
CLNB **Carlsbad** 75.49 334 P P 16 11 27.0 +0.9
comp=Z,6.2nm,1.1s
Z30A **Sanderson Ranc** 75.50 336 ⇓P P 16 11 25.8 -0.4
baz=76,SNR=28
MNTX **Cornudas Mount** 75.52 332 *e*P P 16 11 25.3 -0.9
comp=Z,12nm,1.0s
MNTX LR LR
comp=Z,2μm,20.0s
GDL2 **Guadalupe Moun** 75.60 333 *e*P P 16 11 27.9 +1.0
comp=Z,18nm,1.2s
Y32A **R-V Farms, Ver** 75.65 338 ⇓P P 16 11 26.8 -0.1
baz=76,SNR=5.2
Z29A **Hungry Hill Ra** 75.66 336 ⇓P P 16 11 26.9 -0.1
baz=76,SNR=37
X34A **Smith Ranch, M** 75.74 339 ⇑P P 16 11 27.4 0.0
baz=76,SNR=16
Y31A **Rekieta Farm,** 75.86 337 ⇑P P 16 11 28.2 +0.1
baz=76,SNR=7.8
X33A **Lawton** 75.87 339 ⇓P P 16 11 27.7 -0.5
baz=76,SNR=9.1
Z28A **Tucker Farm, M** 75.91 335 ⇑P P 16 11 28.5 -0.1
baz=76,SNR=6.2
CBN **Corbin Frederi** 75.93 357 PFAKE 16 11 40.0 +12
CBN LR LR
comp=Z,2μm,21.0s
Y30A **Stafford Cattl** 75.97 337 ⇑P P 16 11 28.7 -0.1
baz=76,SNR=10
X32A **Elmer** 75.99 338 ⇓P P 16 11 28.7 -0.1
baz=76,SNR=5.4
WMOK **Wichita Mounta** 76.14 339 *e*P P 16 11 29.1 -0.6
WMOK pmax pmax
comp=Z,43nm,1.1s
WMOK MLR MLR
comp=Z,733nm,21.0s
WMOK **Wichita Mounta** 76.14 339 *e*P P 16 11 29.1 -0.6
comp=Z,43nm,1.1s
WMOK LR LR
comp=Z,733nm,21.0s
Y29A **Porterfield Fa** 76.20 336 ⇓P P 16 11 29.9 -0.3
baz=76,SNR=18
W34A **Bridge Creek,** 76.32 340 ⇓P P 16 11 30.7 0.0
baz=77,SNR=6.4
W34A **Bridge Creek,** 76.32 340 *e*P P 16 11 30.4 -0.3
comp=Z,74nm,1.1s
X31A **McDonald Ranch** 76.39 338 ⇑P P 16 11 31.1 0.0
baz=77,SNR=24
Y28A **McKinney Farm,** 76.44 336 ⇑P P 16 11 31.3 -0.2
baz=77,SNR=8.7
TUL1 **Leonard** 76.44 341 ⇑P P 16 11 31.0 -0.3
baz=77,SNR=24
TUL1 **Leonard** 76.44 341 *e*P P 16 11 30.3 -1.1
comp=Z,87nm,1.0s
W33A **Caddo, Fort Co** 76.44 339 ⇑P P 16 11 31.6 +0.3
baz=77,SNR=29
UPI **Upington** 76.46 115 *e*P P 16 11 32.8 +0.8
UPI AMB AMB 16 11 42.7
comp=Z,91nm,2.1s
UPI **Upington** 76.46 115 P P 16 11 32.8 +0.8
comp=Z,91nm,2.1s
X30A **Coker Ranch, T** 76.49 337 ⇓P P 16 11 31.7 -0.1
baz=77,SNR=23

W32A **Sentinel** 76.63 338 ⇑P P 16 11 32.6 +0.1
baz=77
MSTX **Muleshoe** 76.66 335 ⇓P P 16 11 32.9 +0.1
baz=77,SNR=16
MSTX **Muleshoe** 76.66 335 *e*P P 16 11 32.2 -0.6
comp=Z,51nm,1.1s
MSTX *e*pP **pP** 16 11 41.2 0.0
Z25A **Roswell** 76.70 333 ⇑P P 16 11 33.2 +0.1
baz=77,SNR=8.0
Y27A **Causey** 76.72 335 ⇑P P 16 11 33.3 +0.2
baz=77
319A **Douglas** 76.75 329 ⇑P P 16 11 34.1 +0.8
baz=77,SNR=8.2
USIN **University of** 76.75 348 *e*P P 16 11 31.9 -1.2
comp=Z,118nm,1.2s
X29A **Tulia** 76.75 336 ⇑P P 16 11 33.3 0.0
baz=77,SNR=27
SIUC **Southern Illin** 76.76 347 *e*P P 16 11 32.6 -0.5
comp=Z,30nm,0.8s
SIUC *e*pP **pP** 16 11 40.8 -0.6
WCI **Wyandotte Cave** 76.80 350 *e*P P 16 11 31.8 -1.6
WCI pmax pmax
comp=Z,9.0nm,0.7s
WCI **Wyandotte Cave** 76.80 350 *e*P P 16 11 31.8 -1.6
comp=Z,8.9nm,0.7s
V34A **Guthrie** 76.81 340 ⇓P P 16 11 33.1 -0.4
baz=77,SNR=15
V34A **Guthrie** 76.81 340 *e*P P 16 11 33.1 -0.4
comp=Z,83nm,1.0s
W31A **Holland Ranch,** 76.90 338 ⇓P P 16 11 33.8 -0.2
baz=77,SNR=8.1
Y26A **Elida** 76.98 334 ⇑P P 16 11 34.6 0.0
baz=77,SNR=29
X28A **Dimmitt** 76.98 336 ⇑P P 16 11 34.8 +0.2
baz=77
V33A **Lossen Ranch,** 77.01 339 ⇓P P 16 11 34.8 +0.2
baz=77,SNR=21
LIC **Lamto** 77.04 71 *e*P P 16 11 35.4 +0.1
comp=Z,488nm,1.1s
W30A **Crocket Farms** 77.08 337 ⇑P P 16 11 35.2 +0.2
baz=77
SDMD **Soldier's Deli** 77.11 357 *e*P P 16 11 35.8 +0.8
comp=Z,24nm,0.9s
V32A **Arapaho** 77.13 339 ⇓P P 16 11 35.4 +0.1
baz=78,SNR=10
AMTX **Amarillo** 77.15 336 ⇓P P 16 11 36.1 +0.6
baz=78
AMTX **Amarillo** 77.15 336 *e*P P 16 11 35.6 +0.1
comp=Z,82nm,0.9s
AMTX *e*pP **pP** 16 11 44.1 +0.2
GRM **Grahamstown** 77.17 122 *e*P P 16 11 35.9 0.0
GRM AMB AMB 16 11 37.0
comp=Z,166nm,2.5s
GRM **Grahamstown** 77.17 122 P P 16 11 35.9 0.0
GRM pmax pmax
comp=Z,166nm,2.5s
GRM **Grahamstown** 77.17 122 P P 16 11 35.9 0.0
comp=Z,166nm,2.5s
121A **Cookes Peak, D** 77.17 331 ⇑P P 16 11 36.8 +1.0
baz=78,SNR=7.0
Y25A **Mesa, Roswell** 77.28 334 ⇓P P 16 11 36.4 +0.1
baz=78,SNR=7.9
TIC **Toumodi** 77.32 71 *e*P P 16 11 37.9 +1.0
comp=Z,131nm,0.8s
KIC **Kosan Boka** 77.35 72 *e*P P 16 11 36.9 -0.1
comp=Z,415nm,1.0s
W29A **Amarillo** 77.36 337 ⇓P P 16 11 37.1 +0.5
baz=78,SNR=17
U34A **Anderson Ranch** 77.39 340 ⇓P P 16 11 36.5 -0.2
baz=78,SNR=5.9
U34A **Anderson Ranch** 77.39 340 *e*P P 16 11 37.1 +0.5
comp=Z,74nm,1.2s
X27A **F and S Farms,** 77.39 335 ⇓P P 16 11 37.1 +0.2
baz=78
V31A **Spring Creek L** 77.41 338 ⇓P P 16 11 37.8 +1.0
baz=78,SNR=5.9
DBIC **Dimbokro** 77.46 71 *e*P P 16 11 38.7 +1.1
DBIC **Dimbokro** 77.46 71 *e*P P 16 11 38.7 +1.1
DBIC *PP **PcP** 16 11 47.2 -0.8
DBIC pmax pmax
comp=Z,234nm,1.1s
DBIC **Dimbokro** 77.46 71 P P 16 11 38.8 +1.1
comp=Z,101nm,0.9s,baz=206,slow=6.1,SNR=69
DBIC pP **PcP** 16 11 47.1 -0.8
comp=Z,63nm,0.9s,baz=185,slow=7.3,SNR=9.5
DBIC LR LR 16 44 20.8
comp=Z,4μm,18.1s,baz=212,slow=34
DBIC **Dimbokro** 77.46 71 *e*P P 16 11 38.7 +1.1
comp=Z,234nm,1.1s
DBIC pP **PcP** 16 11 47.1 -0.8
Z22A **Elephant Butte** 77.50 332 ⇓P P 16 11 38.4 +0.8
baz=78,SNR=7.2
U33A **Lingo Farm, Me** 77.54 340 ⇓P P 16 11 37.6 0.0
baz=78,SNR=8.0
X26A **CR and CF Fran** 77.54 335 ⇑P P 16 11 38.1 +0.4
baz=78,SNR=22
Y24A **Capitan** 77.54 333 ⇓P P 16 11 38.5 +0.6
baz=78,SNR=9.5
OLIL **Olney** 77.57 348 *e*P P 16 11 36.8 -0.8
comp=Z,27nm,0.2s
V30A **Spur Ranch, Mi** 77.65 338 ⇑P P 16 11 38.8 +0.5
baz=78
W28A **Vega** 77.66 336 ⇓P P 16 11 39.0 +0.6
baz=78
U32A **Winter Ranch,** 77.73 339 ⇑P P 16 11 38.8 +0.1
baz=78,SNR=11
BLO **Bloomington** 77.76 350 *e*P P 16 11 37.6 -1.1
BLO pmax pmax
comp=Z,74nm,1.1s
BLO **Bloomington** 77.76 350 *e*P P 16 11 37.6 -1.1
comp=Z,74nm,1.1s
W27A **Bowe Ranch, En** 77.76 335 ⇑P P 16 11 39.1 +0.2
baz=78,SNR=26
Y23A **Lovelace Mesa,** 77.77 333 ⇓P P 16 11 40.0 +0.9
baz=78,SNR=9.9
X25A **Clemmons Ranch** 77.81 334 ⇑P P 16 11 39.4 +0.1
baz=78
SLM **Saint Louis** 77.84 347 *e*P P 16 11 39.4 +0.3
SLM pmax pmax
comp=Z,117nm,1.1s
SLM **Saint Louis** 77.84 347 *e*P P 16 11 39.4 +0.3
comp=Z,117nm,1.1s
U31A **Nine Bar Ranch** 77.97 338 ⇑P P 16 11 40.7 +0.7
baz=78
V29A **Stinnett** 78.01 337 ⇓P P 16 11 40.9 +0.6
baz=78
W26A **Owens Ranch, T** 78.02 335 ⇓P P 16 11 40.8 +0.4
baz=78,SNR=7.5
X24A **Lazy VL Ranch,** 78.12 333 ⇑P P 16 11 41.8 +0.8
baz=78
V28A **Channing** 78.12 336 ⇑P P 16 11 41.2 +0.3
baz=78,SNR=7.1
TUC **Tucson** 78.18 328 *e*P P 16 11 43.1 +1.8
TUC pmax pmax
comp=Z,25nm,1.2s
TUC MLR MLR
comp=Z,2μm,19.0s
TUC **Tucson** 78.18 328 *e*P P 16 11 43.1 +1.8
comp=Z,25nm,1.2s
TUC LR LR
comp=Z,2μm,19.0s
T33A **Patterson Ranc** 78.18 340 ⇑P P 16 11 41.5 +0.4
baz=78,SNR=28
Y22D **IRIS PASSCAL I** 78.22 332 ⇓P P 16 11 43.0 +1.4
baz=78
LENM **Lemitar** 78.32 332 *e*P P 16 11 43.1 +0.9
comp=Z,31nm,1.5s
LPM **Los Pinos Moun** 78.32 332 *e*P P 16 11 43.2 +1.0
comp=Z,15nm,1.0s
V27A **Dan Oppiter Fa** 78.32 336 ⇓P P 16 11 42.6 +0.6
baz=79,SNR=7.0
U30A **WK&E Inc. Balk** 78.36 338 ⇑P P 16 11 42.6 +0.4
baz=79,SNR=10
ACSO **Alum Creek Sta** 78.36 352 *e*P P 16 11 41.2 -0.8
comp=Z,49nm,0.8s
ACSO LR LR
comp=Z,1μm,19.0s
W25A **X Bar L Ranch,** 78.37 334 ⇓P P 16 11 42.5 +0.1
baz=79,SNR=18
SSPA **Standing Stone** 78.38 356 *e*P P 16 11 41.8 -0.3
comp=Z,24nm,1.1s
X23A **Hourglass Bar** 78.40 333 ⇓P P 16 11 43.8 +1.1
baz=79,SNR=5.8
T32A **Huddler Ranch,** 78.46 339 ⇓P P 16 11 42.8 +0.1
baz=79,SNR=6.1
U29A **Oasis Ranch, S** 78.47 337 ⇑P P 16 11 43.2 +0.4
baz=79
LAZ **Ladron** 78.59 332 *e*P P 16 11 44.2 +0.5

comp=Z,14nm,0.6s
T31A **Randall Ranch,** 78.60 339 ⇓P P 16 11 43.9 +0.5
baz=79
S33A **Kaszmaul Farm,** 78.60 340 ⇑P P 16 11 43.9 +0.5
baz=79
V26A **Tequesquite Ra** 78.67 335 ⇓P P 16 11 44.0 0.0
baz=79,SNR=5.6
W24A **Lazy 6 Ranch,** 78.69 334 ⇑P P 16 11 44.9 +0.7
baz=79,SNR=16
U28A **Mallet** 78.70 337 ⇑P P 16 11 44.6 +0.5
baz=79,SNR=6.1
214A **Organ Pipe Nat** 78.74 327 ⇓P P 16 11 45.4 +1.0
baz=79
214A **Organ Pipe Nat** 78.74 327 *e*P P 16 11 45.5 +1.2
comp=Z,37nm,1.1s
T30A **Plains** 78.80 338 ⇑P P 16 11 45.5 +0.9
baz=79
ANMO **Albuquerque** 78.83 333*c i*P P 16 11 45.8 +0.9
ANMO pmax pmax
comp=Z,89nm,1.0s
ANMO **Albuquerque** 78.83 333 *e*P P 16 11 45.8 +0.9
comp=Z,49nm,1.2s
ANMO LR LR
comp=Z,3μm,20.0s
W23A **Werner Place,** 78.91 333 ⇑P P 16 11 45.8 +0.4
baz=79,SNR=6.1
U27A **Thompson Grove** 78.92 336 ⇓P P 16 11 46.3 +0.9
baz=79
S32A **Newby Ranch, P** 78.95 340 ⇓P P 16 11 45.9 +0.5
baz=79
V25A **Rancho No Teng** 78.98 335 ⇑P P 16 11 46.2 +0.4
baz=79,SNR=29
SFIN **Lafayette** 79.03 349 ⇓P P 16 11 45.0 -0.6
baz=79
SFIN **Lafayette** 79.03 349 *e*P P 16 11 44.8 -0.8
comp=Z,29nm,1.3s
S31A **Mullinville** 79.03 339 ⇓P P 16 11 46.3 +0.5
baz=79,SNR=9.4
V24A **Rampart Ranch,** 79.11 334 ⇓P P 16 11 47.0 +0.5
baz=79,SNR=12
T29A **Hugoton** 79.13 338 ⇑P P 16 11 46.7 +0.3
baz=80
BOSA **Boshof** 79.14 118 AMB AMB 16 11 46.8
comp=Z,126nm,1.5s
BOSA ⇑*i*P P 16 11 47.2 +0.2
BOSA **Boshof** 79.14 118 *e*P P 16 11 46.7 -0.3
BOSA pmax pmax
comp=Z,136nm,1.3s
BOSA **Boshof** 79.14 118 P P 16 11 47.2 +0.2
comp=Z,52nm,1.0s,baz=228,slow=5.4,SNR=48
BOSA LR LR 16 41 48.3
comp=Z,3μm,20.9s,baz=235,slow=32
BOSA **Boshof** 79.14 118 *e*P P 16 11 46.6 -0.3
comp=Z,136nm,1.3s
U26A **Atchley Ranch,** 79.20 335 ⇓P P 16 11 47.3 +0.3
baz=80,SNR=9.4
R33A **Olander Ranch,** 79.27 340 ⇓P P 16 11 47.2 +0.2
baz=80,SNR=8.3
S30A **Montezuma** 79.33 338 ⇓P P 16 11 48.0 +0.6
baz=80,SNR=12
T28A **Walsh** 79.34 337 ⇑P P 16 11 47.7 +0.1
baz=80,SNR=30
U25A **Circle Dot Ran** 79.42 335 ⇓P P 16 11 48.9 +0.7
baz=80,SNR=18
V23A **Ortiz Mt. (NFS** 79.44 333 ⇓P P 16 11 49.7 +1.4
baz=80,SNR=5.3
T27A **Campo** 79.48 336 ⇓P P 16 11 48.8 +0.4
baz=80,SNR=7.7
S29A **Ulysses** 79.50 338 ⇓P P 16 11 49.0 +0.5
baz=80,SNR=6.7
R32A **Long Quarter,** 79.57 340 ⇑P P 16 11 49.2 +0.5
baz=80,SNR=10.0
SNZO **South Karori** 79.59 225 PFAKE 16 12 00.0 +11
SNZO LR LR
comp=Z,3μm,20.0s
KSU1 **Kansas State U** 79.66 342 ⇓P P 16 11 49.4 +0.2
baz=80
KSU1 **Kansas State U** 79.66 342 *e*P P 16 11 49.4 +0.2
comp=Z,37nm,1.0s
KSU1 LR LR
comp=Z,749nm,19.0s
R31A **Burdett** 79.67 339 ⇓P P 16 11 49.5 +0.2
baz=80,SNR=8.0
S28A **Manter** 79.71 337 ⇓P P 16 11 50.2 +0.6
baz=80,SNR=7.9
U24A **Moreno Valley** 79.73 334 ⇑P P 16 11 50.9 +0.9
baz=80
X18A **Snowflake** 79.78 330 ⇑P P 16 11 51.6 +1.4
baz=80,SNR=6.1
113A **Mohawk Valley,** 79.85 326 ⇑P P 16 11 51.2 +0.9
baz=80
V22A **San Miguel Ran** 79.86 333 ⇓P P 16 11 51.9 +1.3
baz=80,SNR=17
T26A **Comanche Natio** 79.86 336 ⇑P P 16 11 51.1 +0.6
baz=80,SNR=25
BINY **Binghamton** 79.87 358 PFAKE 16 12 00.0 +10
BINY LR LR
comp=Z,2μm,20.0s
R30A **Dighton** 79.87 339 ⇑P P 16 11 50.6 +0.2
baz=80
Q33A **Connelly Farm,** 79.88 341 ⇑P P 16 11 50.6 +0.3
baz=80,SNR=7.6
U23A **El Rito** 79.97 334 ⇑P P 16 11 52.7 +1.5
baz=80,SNR=15
ERPA **Erie** 79.98 355 *e*P P 16 11 50.5 -0.3
comp=Z,14nm,0.8s
ERPA LR LR
comp=Z,1μm,19.0s
Z14A **Wintersburg** 80.00 327 ⇑P P 16 11 52.2 +1.1
baz=80
Q32A **Meitler Ranch,** 80.06 340 ⇓P P 16 11 52.0 +0.7
baz=80
SWZ **Schweizer** 80.06 117 *e*P P 16 11 51.6 -0.4
SWZ AMB AMB 16 11 52.7
comp=Z,134nm,2.5s
SWZ **Schweizer** 80.06 117 P P 16 11 51.6 -0.4
comp=Z,134nm,2.5s
T25A **Trinidad** 80.10 335 ⇓P P 16 11 52.9 +1.0
baz=80,SNR=25
S27A **Las Animas** 80.11 337 ⇓P P 16 11 52.6 +0.8
baz=80
HRV **Adam Dziewonsk** 80.15 1 *e*P P 16 11 53.6 +1.9
HRV pmax pmax
comp=Z,79nm,1.3s
HRV **Adam Dziewonsk** 80.15 1 *e*P P 16 11 53.6 +1.9
comp=Z,79nm,1.3s
W18A **Petrified Fore** 80.21 330 ⇑P P 16 11 53.4 +1.0
baz=80
W18A **Petrified Fore** 80.21 330 *e*P P 16 11 53.1 +0.6
comp=Z,53nm,1.1s
URZ **Urewera** 80.21 229 LR LR 16 39 29.0
comp=Z,3μm,20.2s,baz=164,slow=30
S26A **Kim** 80.23 336 ⇑P P 16 11 53.4 +0.9
baz=81,SNR=36
U22A **Llaves** 80.25 333 ⇓P P 16 11 54.2 +1.5
baz=81,SNR=6.1
P33A **Williams Farm,** 80.25 341 ⇑P P 16 11 52.8 +0.4
baz=81
R29A **Marienthal** 80.25 338 ⇓P P 16 11 52.9 +0.4
baz=81
X16A **Lo Mia Camp, P** 80.28 329 ⇓P P 16 11 54.4 +1.5
baz=81,SNR=15
Q31A **Ellis** 80.30 340 ⇓P P 16 11 53.1 +0.5
baz=81
T24B **San Luis** 80.35 334 ⇓P P 16 11 54.5 +1.2
baz=81,SNR=14
R28A **Tribune** 80.38 338 ⇑P P 16 11 53.7 +0.5
baz=81,SNR=12
AAM **Ann Arbor** 80.48 352 *e*P P 16 11 53.4 -0.1
AAM pmax pmax
comp=Z,64nm,1.1s
AAM MLR MLR
comp=Z,2μm,22.0s
AAM **Ann Arbor** 80.48 352 *e*P P 16 11 53.4 -0.1
comp=Z,64nm,1.1s
AAM LR LR
comp=Z,2μm,22.0s
Q30A **Quinter** 80.50 339 ⇑P P 16 11 54.4 +0.6
baz=81,SNR=17
Y14A **Wickenburg** 80.52 327 ⇓P P 16 11 54.8 +0.8
baz=81,SNR=6.8
T23A **Casias Ranch,** 80.55 334 ⇑P P 16 11 55.3 +0.9
baz=81
GLA **Glamis** 80.56 326 *e*P P 16 11 55.0 +0.8
GLA pmax pmax
comp=Z,30nm,1.3s
GLA **Glamis** 80.56 326 ⇓P P 16 11 55.3 +1.1
baz=81

GLA	Glamis	80.56	326	eP	P	16 11 55.0 +0.8
	comp=Z,30nm,1.3s					
S25A	Robets Cordova	80.58	335	⇑P	P	16 11 55.2 +0.8
	baz=81,SNR=21					
R27A	Eads	80.63	337	⇑P	P	16 11 54.7 +0.2
	baz=81,SNR=21					
Q29A	Oakley	80.64	338	⇑P	P	16 11 55.1 +0.6
	baz=81					
P32A	Huiting Farm,	80.66	340	⇑P	P	16 11 55.4 +0.8
	baz=81					
P31A	Stockton	80.78	340	⇓P	P	16 11 55.6 +0.4
	baz=81,SNR=8.4					
KSD	Kokstad	80.81	122	eP	P	16 11 57.3 +1.2
KSD				AMB	AMB	16 11 57.8
	comp=Z,36nm,1.8s					
KSD	Kokstad	80.81	122	P	P	16 11 57.3 +1.2
	comp=Z,36nm,1.8s					
S24A	Houchin Ranch,	80.82	335	⇓P	P	16 11 56.6 +0.8
	baz=81,SNR=20					
R26A	Arlington	80.84	336	⇑P	P	16 11 56.5 +0.8
	baz=81,SNR=29					
SWSC	Sam W. Stewart	80.90	325	⇑P	P	16 11 57.1 +1.2
	baz=81					
SEK	Senekal	80.97	119	eP	P	16 11 55.9 -1.1
SEK				AMB	AMB	16 11 57.9
	comp=Z,142nm,1.5s					
SEK	Senekal	80.97	119	P	P	16 11 55.9 -1.1
	comp=Z,142nm,1.5s					
R25A	Fountain Ranch	80.97	336	⇓P	P	16 11 57.3 +0.9
	baz=81					
SDCO	Great Sand Dun	81.01	335	eP	P	16 11 57.1 +0.3
	comp=Z,27nm,1.3s					
SDCO				LR	LR	
	comp=Z,2µm,20.0s					
ACCN	Adirondack Com	81.02	360	eP	P	16 11 56.6 +0.3
	comp=Z,72nm,1.3s					
Y12C	Blythe	81.02	326	⇓P	P	16 11 57.8 +1.2
	baz=81,SNR=9.5					
P30A	Selden	81.04	339	⇓P	P	16 11 57.2 +0.6
	baz=81,SNR=7.1					
Q28A	Sharon Springs	81.05	338	⇓P	P	16 11 57.2 +0.5
	baz=81					
S23A	Nye Farm, Mont	81.14	334	⇑P	P	16 11 58.5 +1.0
	baz=82					
O32A	Brockman Farm,	81.18	341	⇑P	P	16 11 57.3 0.0
	baz=82					
WUAZ	Wupatki	81.21	329	⇓P	P	16 11 58.8 +1.1
	baz=82,SNR=12					
WUAZ	Wupatki	81.21	329	eP	P	16 11 57.6 -0.1
	comp=Z,36nm,1.2s					
WUAZ				LR	LR	
	comp=Z,2µm,20.0s					
KSCO	Kaye Shedlock'	81.24	337	⇑P	P	16 11 58.8 +0.9
	baz=82					
KSCO	Kaye Shedlock'	81.24	337	eP	P	16 11 59.2 +1.4
	comp=Z,78nm,1.3s					
P29A	Atwood	81.29	339	⇑P	P	16 11 59.0 +1.0
	baz=82					
PDMCI	Parker Dam,Lak	81.31	327	⇓P	P	16 11 59.4 +1.3
	baz=82					
R24A	Sanders Place,	81.32	335	⇓P	P	16 11 59.1 +0.8
	baz=82,SNR=33					
BC3	Big Chuckawall	81.35	326	⇓P	P	16 11 59.1 +0.7
	baz=82					
O31A	Woolen Ranch,	81.35	340	⇓P	P	16 11 58.5 +0.3
	baz=82,SNR=6.3					
Q26A	Hugo	81.44	337	⇓P	P	16 11 59.7 +0.8
	baz=82,SNR=7.1					
109C	Camp Elliot, M	81.46	324	⇑P	P	16 11 59.5 +0.5
	baz=82					
S22A	4UR Ranch, Cre	81.47	334	⇑P	P	16 12 00.0 +0.8
	baz=82,SNR=14					
P28A	Saint Francis	81.50	338	⇓P	P	16 11 59.9 +0.8
	baz=82					
R23A	Moffat	81.52	335	⇓P	P	16 12 00.5 +0.9
	baz=82,SNR=9.0					
LBTB	Lobatse	81.57	115	eP	P	16 12 00.5 +0.4
LBTB				AMB	AMB	16 12 01.2
	comp=Z,153nm,1.8s					
LBTB	Lobatse	81.57	115	eP	P	16 12 00.1 0.0
LBTB				pmax	pmax	
	comp=Z,209nm,1.5s					
LBTB	Lobatse	81.57	115	eP	P	16 12 00.1 0.0
	comp=Z,209nm,1.5s					
O30A	MW Ranch, Wils	81.58	340	⇑P	P	16 12 00.1 +0.6
	baz=82,SNR=8.3					
SCIA	State Center	81.58	345	eP	P	16 11 58.7 -0.7
	comp=Z,68nm,1.3s					
SCIA				LR	LR	
	comp=Z,1µm,20.0s					
MVCO	Mesa Verde	81.59	332	⇑P	P	16 12 00.5 +0.7
	baz=82,SNR=9.6					
MVCO	Mesa Verde	81.59	332	eP	P	16 12 00.3 +0.5
	comp=Z,33nm,1.1s					
MVCO				LR	LR	
	comp=Z,5µm,20.0s					
NCB	Newcomb	81.61	359	PFAKE		16 12 10.0 +11
NCB				LR	LR	
	comp=Z,1µm,21.0s					
MDV	Middlebury	81.63	0	eP	P	16 11 59.7 +0.1
IRM	Iron Mountain	81.64	326	⇓P	P	16 12 01.0 +1.1
	baz=82					
N32A	Stulken Farm,	81.66	341	⇑P	P	16 12 00.2 +0.4
	baz=82					
Q25A	Bedland, Calha	81.66	336	⇑P	P	16 12 00.7 +0.6
	baz=82,SNR=7.6					
P27A	Ficken Ranch,	81.73	338	⇑P	P	16 12 01.2 +0.8
	baz=82					
O29A	4D Ranch, Culb	81.73	339	⇓P	P	16 12 01.2 +0.9
	baz=82					
PFO	Pinyon Flats O	81.76	325	P	P	16 12 02.5 +1.8
	comp=Z,102nm,1.2s,SNR=5.2					
PFO	Pinyon Flats O	81.76	325	eP	P	16 12 02.1 +1.4
PFO				pmax	pmax	
	comp=Z,33nm,1.2s					
PFO				MLR	MLR	
	comp=Z,2µm,19.0s					
PFO	Pinyon Flats O	81.76	325	⇓P	P	16 12 02.2 +1.4
	baz=82,SNR=5.5					
PFO	Pinyon Flats O	81.76	325	eP	P	16 12 02.0 +1.4
	comp=Z,33nm,1.2s					
PFO				LR	LR	
	comp=Z,2µm,19.0s					
LBNH	Lisbon	81.88	1	eP	P	16 12 01.5 +0.6
LBNH				pmax	pmax	
	comp=Z,39nm,1.1s					
LBNH				MLR	MLR	
	comp=Z,1µm,19.0s					
LBNH	Lisbon	81.88	1	eP	P	16 12 01.5 +0.6
	comp=Z,39nm,1.1s					
LBNH				LR	LR	
	comp=Z,1µm,19.0s					
N31A	Bailey Ranch,	81.88	341	⇑P	P	16 12 01.9 +0.9
	baz=82					
W13A	Hualapai Mount	81.89	327	⇓P	P	16 12 02.8 +1.3
	baz=82					
NEE2	Needles Airpor	81.92	327	⇑P	P	16 12 02.4 +1.1
	baz=82					
P26A	Davis Ranch, A	81.97	337	⇑P	P	16 12 02.7 +1.0
	baz=82,SNR=6.6					
KSR	Koster	81.98	116	eP	P	16 12 00.6 -1.8
KSR				AMB	AMB	16 12 03.5
	comp=Z,64nm,1.7s					
KSR	Koster	81.98	116	P	P	16 12 00.6 -1.8
	comp=Z,64nm,1.7s					
Q24A	Divide	82.00	335	⇑P	P	16 12 02.8 +0.8
	baz=82,SNR=14					
WDLM	Western Deep L	82.00	117	eP	P	16 12 02.1 -0.4
WDLM				AMB	AMB	16 12 03.3
	comp=Z,70nm,2.2s					
JFWS	Jewell Farm	82.00	348	eP	P	16 12 01.1 -0.5
JFWS				pmax	pmax	
	comp=Z,49nm,1.2s					
JFWS				MLR	MLR	
	comp=Z,1µm,20.0s					
JFWS	Jewell Farm	82.00	348	eP	P	16 12 01.1 -0.5
	comp=Z,49nm,1.2s					
JFWS				LR	LR	
	comp=Z,1µm,20.0s					
O28A	Krutsinger Ran	82.01	338	⇑P	P	16 12 02.3 +0.5
	baz=82					
MURC	Murrieta	82.09	324	⇓P	P	16 12 03.5 +1.2
	baz=82					
N30A	Hueftle Ranch,	82.16	340	⇑P	P	16 12 03.1 +0.6
	baz=82					
Q23A	Hartsel	82.17	335	⇑P	P	16 12 03.7 +0.8
	baz=82					
P25A	Willow Gulch B	82.18	336	⇑P	P	16 12 03.9 +1.1
	baz=82,SNR=10					
SCI	San Clemente I	82.21	323	⇓P	P	16 12 03.4 +0.5
	baz=82					
BGNE	Belgrade	82.23	341	⇓P	P	16 12 03.2 +0.4
	baz=83					
BGNE	Belgrade	82.23	341	eP	P	16 12 03.5 +0.6
	comp=Z,42nm,0.8s					
LONY	Lake Ozonia	82.26	359	eP	P	16 12 03.5 +0.7
LONY				LR	LR	
	comp=Z,67nm,1.2s					
	comp=Z,1µm,19.0s					
O27A	Beecher Island	82.28	338	⇓P	P	16 12 04.2 +1.0
	baz=83					
N29A	Votaw Ranch, W	82.33	339	⇑P	P	16 12 04.6 +1.2
	baz=83					
U15A	North Rim	82.37	329	⇓P	P	16 12 05.2 +1.2
	baz=83,SNR=14					
M31A	Lambtecht Ranc	82.38	341	⇓P	P	16 12 04.7 +1.1
	baz=83					
GMRC	Granite Mounta	82.39	326	⇑P	P	16 12 05.2 +1.3
	baz=83,SNR=8.6					
LDFC	Landfair	82.39	327	eP	P	16 12 06.2 +2.2
	comp=Z,65nm,1.4s					
P24A	Kohler Place,	82.42	336	⇑P	P	16 12 05.1 +1.1
	baz=83					
PV01	Paradox Valley	82.43	333	eP	P	16 12 05.2 +0.9
	comp=Z,2µm,1.1s					
N28A	Pribbeno Ranch	82.47	339	⇓P	P	16 12 04.8 +0.7
	baz=83					
CIS	Catalina Islan	82.50	323	⇓P	P	16 12 05.6 +1.2
	baz=83					
BBRC	Big Bear Solar	82.52	325	⇑P	P	16 12 06.0 +1.2
	baz=83					
CRWM	Crown Mines	82.53	117	eP	P	16 12 04.3 -0.9
CRWM				AMB	AMB	16 12 05.9
	comp=Z,110nm,2.2s					
O26A	Horse Wrangler	82.58	337	⇑P	P	16 12 05.8 +0.9
	baz=83,SNR=7.6					
P23A	Jefferson	82.59	335	⇑P	P	16 12 06.3 +1.1
	baz=83					
OBSV	Observatory	82.60	117	eP	P	16 12 05.7 +0.1
OBSV				AMB	AMB	16 12 06.4
	comp=Z,91nm,2.1s					
ERPM	east rand prop	82.62	118	eP	P	16 12 05.9 +0.2
ERPM				AMB	AMB	16 12 06.9
	comp=Z,125nm,2.1s					
ERPM	east rand prop	82.62	118	P	P	16 12 05.9 +0.2
	comp=Z,125nm,2.1s					
CRZF	Crozet Islands	82.65	145	P	P	16 11 53.0 -12
CRZF	Crozet Islands	82.65	145	S	S	16 22 02.0 -19
CRZF				R		16 35 00.0
FMP	Fort Macarthur	82.69	324	⇑P	P	16 12 06.9 +1.5
	baz=83					
O25A	Wiggins	82.71	337	⇓P	P	16 12 06.8 +1.3
	baz=83					
HEC	Hector,Ludlow	82.72	326	⇓P	P	16 12 07.1 +1.4
	baz=83					
PV04	Paradox Valley	82.78	333	eP	P	16 12 06.5 +0.5
M30A	Dale-Ortello V	82.79	340	⇑P	P	16 12 06.8 +1.0
	baz=83					
BFSC	Mount Baldy Ra	82.83	324	⇓P	P	16 12 07.3 +1.0
	baz=83					
OGNE	Ogallala	82.85	338	⇑P	P	16 12 07.1 +1.0
	baz=83					
RAO	Raoul Island	82.86	238	LR	LR	16 39 48.4
	comp=Z,2µm,21.8s,baz=114,slow=29					
N27A	Anderson Farm,	82.86	338	⇑P	P	16 12 07.2 +1.0
	baz=83					
ISCO	Idaho Springs	82.90	336	eP	P	16 12 06.4 -0.3
ISCO				pmax	pmax	
	comp=Z,22nm,1.3s					
ISCO				MLR	MLR	
	comp=Z,966nm,20.0s					
ISCO	Idaho Springs	82.90	336	⇑P	P	16 12 07.3 +0.5
	baz=83,SNR=14					
ISCO	Idaho Springs	82.90	336	eP	P	16 12 06.4 -0.3
	comp=Z,22nm,1.3s					
ISCO				LR	LR	
	comp=Z,966nm,20.0s					
M29A	Burnside Ranch	82.93	340	⇓P	P	16 12 07.3 +0.8
	baz=83					
PKME	Peaks-Kenny Pk	82.97	3	PFAKE		16 12 20.0 +13
PKME				LR	LR	
	comp=Z,1µm,19.0s					
O24A	Longmont	83.02	336	⇑P	P	16 12 08.4 +1.2
	baz=83					
SLR	Silverton	83.03	117	eP	P	16 12 07.5 -0.3
SLR				AMB	AMB	16 12 08.4
	comp=Z,140nm,2.1s					
SLR	Silverton	83.03	117	P	P	16 12 07.5 -0.3
SLR				pmax	pmax	
	comp=Z,140nm,2.1s					
SLR	Silverton	83.03	117	P	P	16 12 07.5 -0.3
	comp=Z,140nm,2.1s					
TUQ	Turquoise Moun	83.05	326	⇑P	P	16 12 08.4 +1.0
	baz=83,SNR=13					
RRX	Edison Barstow	83.07	325	⇑P	P	16 12 08.5 +1.1
	baz=83					
M28A	Bar X Bar Ranc	83.07	339	⇓P	P	16 12 08.4 +1.1
	baz=83					
N26A	Koester Ranch,	83.09	338	⇓P	P	16 12 08.5 +1.1
	baz=83					
P22A	Eagle	83.10	335	⇓P	P	16 12 08.5 +0.9
	baz=83,SNR=9.0					
L31A	Butterfield Fa	83.12	341	⇓P	P	16 12 08.1 +0.6
	baz=84,SNR=8.9					
L30A	Spencer Herefo	83.14	340	⇑P	P	16 12 08.4 +0.8
	baz=84					
DECC	Green Verdugo	83.16	324	⇑P	P	16 12 09.2 +1.4
	baz=84					
GSC	Goldstone, Bar	83.33	325	eP	P	16 12 10.0 +1.2
GSC				pmax	pmax	
	comp=Z,38nm,1.5s					
GSC	Goldstone, Bar	83.33	325	⇓P	P	16 12 09.8 +1.0
	baz=84					
GSC	Goldstone, Bar	83.33	325	eP	P	16 12 10.0 +1.2
	comp=Z,38nm,1.5s					
N25A	Grover	83.34	337	⇓P	P	16 12 09.4 +0.6
	baz=84					
O23A	Lake Granby, G	83.38	335	⇑P	P	16 12 10.0 +0.8
	baz=84,SNR=20					
L29A	Maesberg Ranch	83.45	340	⇓P	P	16 12 09.9 +0.7
	baz=84,SNR=6.8					
M27A	Reverse DX Ran	83.49	338	⇑P	P	16 12 10.3 +0.9
	baz=84					
EDW2	Edwards Air Fo	83.52	324	⇓P	P	16 12 10.7 +0.9
	baz=84,SNR=6.0					
O22A	Kremmling	83.54	335	⇓P	P	16 12 10.8 +0.8
	baz=84,SNR=18					
N24A	Carr	83.60	336	⇓P	P	16 12 11.2 +1.1
	baz=84					
SHOC	Shoshone, Teco	83.60	326	⇑P	P	16 12 11.3 +1.3
	baz=84					
SHPR	Sheep Range	83.62	327	eP	P	16 12 11.3 +1.0
	comp=Z,78nm,1.6s					
OSI	Osito Audit: C	83.64	324	⇓P	P	16 12 11.4 +1.0
	baz=84					
OSI	Osito Audit: C	83.64	324	P	P	16 12 12.4 +2.1
	comp=Z,39nm,1.1s					
M26A	McRoberts Ranc	83.65	338	⇓P	P	16 12 11.0 +0.7
	baz=84					
L28A	Connealy Angus	83.68	339	⇑P	P	16 12 11.3 +0.9
	baz=84					
CCUT	Cedar City	83.77	329	eP	P	16 12 12.0 +0.9
	comp=Z,55nm,1.4s					
K30A	Basset	83.79	341	⇑P	P	16 12 11.7 +0.9
	baz=84					
LRMC	Laurel Mtn Rad	83.88	325	⇑P	P	16 12 12.7 +1.1
	baz=84					
M25A	Palm-Egli Farm	83.90	337	⇓P	P	16 12 12.0 +0.4
	baz=84,SNR=5.7					
L27A	T5 Ranch, Ells	83.98	339	⇑P	P	16 12 12.9 +1.0
	baz=84					
ARUT	Antelope Range	84.00	329	eP	P	16 12 13.5 +1.2
ARUT				pmax	pmax	
	comp=Z,534nm,1.3s					
ARUT	Antelope Range	84.00	329	eP	P	16 12 13.4 +1.2
	comp=Z,534nm,1.3s					
N23A	Red Feather La	84.00	336	⇓P	P	16 12 13.0 +0.7
	baz=84,SNR=8.9					
SRU	San Rafael Swe	84.01	332	eP	P	16 12 12.5 +0.2
SRU				pmax	pmax	
	comp=Z,17nm,0.9s					
SRU	San Rafael Swe	84.01	332	eP	P	16 12 12.5 +0.2
	comp=Z,17nm,0.9s					
K29A	Lazy Trails An	84.06	340	⇓P	P	16 12 13.0 +0.7
	baz=84					
ECSD	EROS Data Cent	84.06	343	⇑P	P	16 12 12.6 +0.4
	baz=84,SNR=85					
ECSD	EROS Data Cent	84.06	343	eP	P	16 12 11.9 -0.2
	comp=Z,108nm,1.1s					
ECSD				LR	LR	
	comp=Z,1µm,22.0s					
N22A	Wattenberg Ran	84.08	335	⇑P	P	16 12 13.7 +0.9
	baz=84,SNR=7.8					
O20A	White River Ci	84.09	334	⇑P	P	16 12 13.3 +0.6
	baz=84,SNR=6.3					
O20A	White River Ci	84.09	334	eP	P	16 12 12.8 0.0
	comp=Z,54nm,1.4s					
ARVC	Arvin	84.11	324	⇑P	P	16 12 14.2 +1.5
	baz=84					
L26A	Underwood Farm	84.16	338	⇑P	P	16 12 13.7 +0.8
	baz=84					
M24A	Cheyenne	84.16	337	⇑P	P	16 12 14.0 +1.0
	baz=84,SNR=7.4					
K28A	Ten Mile Ranch	84.29	340	⇑P	P	16 12 14.8 +1.3
	baz=85					
FURC	Furnace Creek,	84.33	326	⇓P	P	16 12 14.8 +1.1
	baz=85					
J30A	Dallas	84.37	341	⇓P	P	16 12 13.9 +0.1
	baz=85,SNR=5.4					
TMUT	Trail Mountain	84.43	331	eP	P	16 12 15.2 +0.6
	comp=Z,43nm,1.3s					
M23A	Laramie	84.45	336	⇑P	P	16 12 14.9 +0.4
	baz=85,SNR=6.3					
DAC	Darwin (Calif)	84.50	325	eP	P	16 12 15.6 +0.7
DAC				pmax	pmax	
	comp=Z,21nm,1.1s					
DAC	Darwin (Calif)	84.50	325	eP	P	16 12 15.6 +0.7
	comp=Z,21nm,1.1s					
K27A	Flueckinger Fa	84.53	339	⇑P	P	16 12 15.5 +0.7
	baz=85					
L25A	Engebretsen Ra	84.53	338	⇓P	P	16 12 15.8 +1.0
	baz=85					
J29A	Okreek	84.66	341	⇓P	P	16 12 15.5 +0.2
	baz=85,SNR=13					
M22A	Cedar Creek Ra	84.67	336	⇓P	P	16 12 16.5 +0.8
	baz=85					
SPMN	Marine on St.	84.69	346	⇓P	P	16 12 14.7 -0.6
	baz=85,SNR=13					
SPMN	Marine on St.	84.69	346	eP	P	16 12 14.3 -1.1
	comp=Z,21nm,0.8s					
L24A	Wheatland	84.72	337	⇑P	P	16 12 16.3 +0.5
	baz=85					
N20A	Spence Gulch,	84.72	334	⇓P	P	16 12 16.3 +0.3
	baz=85,SNR=7.1					
K26A	Motz Farm, Whi	84.80	338	⇓P	P	16 12 17.0 +1.0
	baz=85					
VES	Vestal, Richgr	84.81	324	⇓P	P	16 12 17.2 +1.0
	baz=85					
I30A	Oacoma	84.90	341	⇑P	P	16 12 16.4 -0.1
	baz=85,SNR=7.5					
J28A	Allard Ranch,	84.92	340	⇑P	P	16 12 17.7 +1.1
	baz=85					
K25A	Mack Ranch, Ha	84.92	338	⇓P	P	16 12 17.9 +1.2
	baz=85					
COWI	Conover	84.93	349	eP	P	16 12 16.5 -0.1
	comp=Z,31nm,1.1s					
COWI				LR	LR	
	comp=Z,1µm,22.0s					
J27A	Elkhorn Farm,	84.97	339	⇓P	P	16 12 17.9 +1.0
	baz=85,SNR=14					
GRAC	Grapevine Rang	85.00	326	⇓P	P	16 12 18.6 +1.4
	baz=85,SNR=8.1					
L23A	Garrett	85.03	336	⇑P	P	16 12 18.0 +0.6
	baz=85					
L22A	Ellis Ranch, M	85.18	336	⇑P	P	16 12 18.7 +0.5
	baz=86					
MPU	Maple Canyon	85.22	331	eP	P	16 12 19.0 +0.6
	comp=Z,35nm,1.3s					
I29A	Vivian Onida	85.23	341	⇑P	P	16 12 18.2 +0.1
	baz=86					
RCTC	Rector, Farmer	85.27	324	⇑P	P	16 12 19.2 +0.8
	baz=86					
BRSD	Miller	85.28	342	⇑P	P	16 12 18.6 +0.3
	baz=86					
K24A	Anderson Ranch	85.30	337	⇑P	P	16 12 19.6 +0.9
	baz=86					
J26A	Sides Ranch, S	85.33	339	⇑P	P	16 12 19.3 +0.6
	baz=86,SNR=13					
NLU	North Lily Min	85.33	331	eP	P	16 12 19.8 +0.8
	comp=Z,51nm,1.5s					
R11A	Troy Canyon, C	85.36	328	⇓P	P	16 12 20.2 +1.1
	baz=86,SNR=20					
R11A	Troy Canyon, C	85.36	328	eP	P	16 12 19.9 +0.8
	comp=Z,50nm,1.4s					
TIN	Tinemaha, Big	85.43	325	⇓P	P	16 12 20.4 +1.0
	baz=86					
I28A	Midland	85.43	340	⇑P	P	16 12 19.4 +0.2
	baz=86,SNR=6.4					
K23A	Bowen Ranch, D	85.58	337	⇑P	P	16 12 20.4 +0.4
	baz=86,SNR=10					
J25A	Sunshine Ranch	85.61	338	⇓P	P	16 12 20.6 +0.4
	baz=86,SNR=13					
JLU	Jordanelle	85.66	332	eP	P	16 12 21.8 +1.2
	comp=Z,43nm,1.5s					
I27A	Quinn	85.74	340	⇑P	P	16 12 20.9 +0.2
	baz=86					
H29A	Onida	85.77	341	⇓P	P	16 12 20.9 +0.1
	baz=86,SNR=8.0					
K22A	Casper	85.77	336	⇑P	P	16 12 21.6 +0.6
	baz=86,SNR=8.5					
K22A	Casper	85.77	336	eP	P	16 12 21.6 +0.6
	comp=Z,75nm,1.3s					
J24A	Dixon Ranch, L	85.81	338	⇓P	P	16 12 21.4 +0.3
	baz=86,SNR=8.0					
DUG	Dugway, Tooele	85.82	331	eP	P	16 12 21.7 +0.4
DUG				pmax	pmax	
	comp=Z,61nm,1.4s					
DUG				MLR	MLR	
	comp=Z,2µm,19.0s					
DUG	Dugway, Tooele	85.82	331	⇓P	P	16 12 21.9 +0.6
	baz=86,SNR=26					
DUG	Dugway, Tooele	85.82	331	eP	P	16 12 21.7 +0.4
	comp=Z,61nm,1.4s					
DUG				LR	LR	
	comp=Z,2µm,19.0s					
TPH	Tonopah	85.83	327	eP	P	16 12 21.4 -0.1
TPH				pmax	pmax	
	comp=Z,54nm,1.4s					
TPH	Tonopah	85.83	327	eP	P	16 12 21.4 -0.1
	comp=Z,54nm,1.4s					
CTU	Camp Tracy	85.85	332	eP	P	16 12 21.5 0.0
	comp=Z,5.6nm,0.8s					
I26A	New Underwood	85.93	339	⇓P	P	16 12 22.0 +0.4
	baz=86					
G30A	Faulkton	85.97	342	⇓P	P	16 12 21.8 0.0
	baz=86,SNR=11					
K21A	Alcova	85.99	336	⇓P	P	16 12 22.6 +0.4
	baz=86,SNR=14					
H28A	Mission Ridge	86.02	341	⇑P	P	16 12 22.4 +0.3
	baz=86,SNR=12					
TCUT	Toone Canyon	86.09	332	eP	P	16 12 24.0 +1.2
	comp=Z,72nm,1.4s					
J23A	Dilts Ranch, B	86.15	337	⇓P	P	16 12 23.3 +0.5
	baz=86					
I25A	Rochford	86.17	339	⇑P	P	16 12 23.3 +0.3
	baz=86,SNR=12					
MLAC	Mammoth, Mammo	86.17	325	⇑P	P	16 12 24.0 +0.7
	baz=86					
G29A	Hoven	86.22	342	⇑P	P	16 12 23.3 +0.2
	baz=87					
H27A	Howes	86.27	340	⇓P	P	16 12 23.3 +0.1
	baz=87,SNR=8.8					
I24A	Kuemmerle Ranc	86.28	338	⇑P	P	16 12 24.0 +0.5
	baz=87					
RSSD	Black Hills	86.35	338	eP	P	16 12 23.4 -0.5
RSSD				pmax	pmax	
	comp=Z,11nm,0.8s					
RSSD	Black Hills	86.35	338	eP	P	16 12 23.4 -0.5
	comp=Z,11nm,0.8s					
G28A	Parade	86.37	341	⇑P	P	16 12 23.8 +0.1
	baz=87,SNR=7.9					
MSNA	Messina	86.40	116	eP	P	16 12 25.1 +0.4
MSNA				AMB	AMB	16 12 26.4
	comp=Z,131nm,2.0s					
MSNA	Messina	86.40	116	P	P	16 12 25.1 +0.4
	comp=Z,131nm,2.0s					
H26A	Fairpoint	86.44	339	⇓P	P	16 12 24.2 0.0
	baz=87					
J22A	Midwest	86.44	336	⇓P	P	16 12 24.4 +0.1
	baz=87					
BGU	Big Grassy Mou	86.54	331	eP	P	16 12 25.1 +0.2
	comp=Z,19nm,1.5s					
TORD	Torodi Ar. Bea	86.55	71	P	P	16 12 25.6 +0.2
	comp=Z,38nm,1.0s,baz=233,slow=4.3,SNR=129					

TORD PP **PP** **16 15 45.9 -1.6**
comp=Z,5.8nm,1.2s,baz=225,slow=5.3,SNR=3.1
TORD LR LR 16 48 02.5
comp=Z,2μm,20.6s,baz=220,slow=34
NVAR Mina Array Bea 86.60 326 P **P** **16 12 26.4 +1.2**
comp=Z,3.4nm,0.8s,baz=151,slow=5.2,SNR=28
F30A Leola 86.61 342 ⇑P **P** **16 12 25.1 +0.2**
baz=87
I23A Meade Ranch, G 86.62 337 ⇑P **P** **16 12 24.8 -0.4**
baz=87
SPUT South Promonto 86.65 332 *e*P **P** **16 12 25.7 +0.3**
comp=Z,82nm,1.5s
H25A Fruitdale 86.68 339 ⇓P **P** **16 12 25.8 +0.5**
baz=87
J21A Lysite 86.69 336 ⇓P **P** **16 12 26.0 +0.4**
baz=87
F29A Eureka 86.80 342 ⇓P **P** **16 12 25.8 0.0**
baz=87,SNR=12
I22A 9 Mile Ranch, 86.88 337 ⇑P **P** **16 12 26.4 0.0**
baz=87
BW06 Boulder Array 86.88 334 *e*P **P** **16 12 26.3 -0.3**
comp=Z,33nm,1.4s
BW06 LR LR
comp=Z,4μm,19.0s
PDAR Pinedale Array 86.88 334 P **P** **16 12 26.8 +0.1**
comp=Z,6.0nm,0.8s,baz=147,slow=5.2,SNR=38
J20A Shoshoni 86.91 335 ⇑P **P** **16 12 27.4 +0.8**
baz=87,SNR=16
G27A Dupree 86.92 340 ⇑P **P** **16 12 26.5 0.0**
baz=87,SNR=6.6
G26A Maurine 87.02 340 ⇓P **P** **16 12 26.9 -0.1**
baz=87,SNR=16
F28A McLaughlin 87.06 341 ⇓P **P** **16 12 27.6 +0.5**
baz=87
I21A Big Trails, Te 87.06 336 ⇓P **P** **16 12 27.0 -0.3**
baz=87,SNR=7.5
H24A Dirks Ranch, A 87.07 338 ⇑P **P** **16 12 27.3 +0.1**
baz=87
EYMN Ely 87.10 348 *e*P **P** **16 12 26.6 -0.6**
comp=Z,27nm,1.1s
EYMN LR LR
comp=Z,1μm,20.0s
J19A Crowheart 87.15 335 ⇑P **P** **16 12 27.7 -0.1**
baz=88,SNR=17
G25A Newell 87.15 339 ⇓P **P** **16 12 27.9 +0.2**
baz=88
WAKR Walker 87.16 326 *e*P **P** **16 12 29.4 +1.4**
comp=Z,26nm,1.3s
HVU Hansel Valley 87.18 332 *e*P **P** **16 12 27.9 -0.1**
HVU pmax pmax
comp=Z,128nm,1.9s
HVU Hansel Valley 87.18 332 *e*P **P** **16 12 27.9 -0.1**
comp=Z,128nm,1.9s
E30A Jud 87.20 343 ⇑P **P** **16 12 27.9 +0.1**
baz=88,SNR=5.8
CMB Columbia Colle 87.21 325 *e*P **P** **16 12 28.5 +0.4**
CMB pmax pmax
comp=Z,15nm,1.2s
CMB Columbia Colle 87.21 325 *e*P **P** **16 12 28.5 +0.4**
comp=Z,15nm,1.2s
PAF Port-aux-Franc 87.22 157 P P 16 12 14.0 -14
PAF Port-aux-Franc 87.22 157 S Sx 16 22 22.0
PAF SS SS 16 28 36.0 -13
PAF R 16 40 00.0
PAF Port-aux-Franc 87.22 157 PFAKE 16 12 40.0 +12
PAF LR LR
comp=Z,2μm,20.0s
ELK Elko 87.25 329 P **P** **16 12 28.9 +0.5**
comp=Z,8.0nm,0.9s,baz=174,slow=3.9,SNR=24
F27A Lemmon 87.40 340 ⇑P **P** **16 12 28.8 0.0**
baz=88,SNR=8.7
AHID Auburn Hatcher 87.42 333 *e*P **P** **16 12 28.9 -0.3**
comp=Z,47nm,1.6s
AHID LR LR
comp=Z,3μm,20.0s
E29A Napoleon 87.44 342 ⇑P **P** **16 12 29.1 +0.2**
baz=88
I20A Worland 87.45 336 ⇓P **P** **16 12 29.3 +0.1**
baz=88,SNR=6.9
H22A Clearmont 87.47 337 ⇑P **P** **16 12 29.0 -0.2**
baz=88
F26A Lodgepole 87.55 340 ⇑P **P** **16 12 29.5 0.0**
baz=88,SNR=5.4
G24A Alzada 87.56 339 ⇓P **P** **16 12 29.6 -0.1**
baz=88
E28A Huff 87.71 342 ⇓P **P** **16 12 30.1 -0.1**
baz=88,SNR=6.7
H21A Big Horn, Sher 87.71 337 ⇑P **P** **16 12 30.4 0.0**
baz=88
G23A Biddle 87.73 338 ⇓P **P** **16 12 30.2 -0.2**
baz=88
D30A Buchanan 87.74 343 ⇑P **P** **16 12 30.4 +0.1**
baz=88,SNR=12
E27A Carson 87.79 341 ⇑P **P** **16 12 31.1 +0.4**
baz=88
I19A Meeteetse 87.82 335 ⇑P **P** **16 12 31.1 +0.1**
baz=88
F25A Bowman 87.83 339 ⇑P **P** **16 12 30.6 -0.3**
baz=88
H20A Greybull 87.89 336 ⇑P **P** **16 12 31.1 -0.2**
baz=88
D29A Pettibone, Tap 87.89 342 ⇑P **P** **16 12 30.9 -0.2**
baz=88,SNR=8.0
G22A Birney 88.02 337 ⇑P **P** **16 12 32.1 +0.3**
baz=88
F24A Ekalaka 88.04 339 ⇓P **P** **16 12 31.8 -0.1**
baz=88
AFI Afiamalu 88.06 254 PFAKE 16 12 40.0 +7.2
AFI LR LR
comp=Z,5μm,21.0s
E26A Carlson Angus 88.07 340 ⇓P **P** **16 12 32.3 +0.4**
baz=88
F23A Volborg 88.20 338 ⇑P **P** **16 12 32.3 -0.3**
baz=88
C30A Mose, Pekin 88.23 343 ⇓P **P** **16 12 32.8 +0.1**
baz=89,SNR=20
AGMN Agassiz Nation 88.24 345 ⇑P **P** **16 12 32.8 +0.2**
baz=89,SNR=14
AGMN Agassiz Nation 88.24 345 *e*P **P** **16 12 32.1 -0.5**
comp=Z,65nm,1.4s
AGMN LR LR
comp=Z,2μm,19.0s
I17A Pilgrim Ck. 88.25 334 ⇑P **P** **16 12 33.9 +0.8**
baz=89,SNR=8.5
D28A Regan 88.25 342 ⇓P **P** **16 12 33.0 +0.2**
baz=89,SNR=6.5
G21A Lodge Grass 88.30 337 ⇓P **P** **16 12 33.0 -0.1**
baz=89
E25A Miller Ranch, 88.35 340 ⇑P **P** **16 12 33.4 +0.1**
baz=89
H19A Powell 88.38 335 ⇑P **P** **16 12 34.0 +0.4**
baz=89
D27A Center 88.41 341 ⇓P **P** **16 12 33.8 +0.3**
baz=89
F22A Rosebud 88.51 338 ⇑P **P** **16 12 34.0 -0.1**
baz=89
D26A Manning 88.58 341 ⇑P **P** **16 12 34.5 +0.1**
baz=89,SNR=8.1
H18A Shoshone NF, C 88.61 335 ⇑P **P** **16 12 34.6 -0.2**
baz=89,SNR=9.2
G20A Bridger 88.61 336 ⇑P **P** **16 12 34.3 -0.4**
baz=89
MDND Maddock 88.63 343 ⇓P **P** **16 12 34.4 -0.2**
baz=89
E24A Baker 88.65 339 ⇓P **P** **16 12 35.1 +0.3**
baz=89
H17A Grant Village 88.67 334 ⇑P **P** **16 12 35.5 +0.4**
baz=89
C28A Hausauer Farms 88.69 342 ⇓P **P** **16 12 34.9 +0.1**
baz=89
YFT Old Faithful 88.81 334 P **P** **16 12 35.2 -0.5**
comp=Z,18nm,1.0s
F21A Absaloka Mine, 88.81 337 ⇓P **P** **16 12 35.6 0.0**
baz=89
RLMT Red Lodge 88.87 335 *e*P **P** **16 12 35.5 -0.5**
comp=Z,46nm,1.7s
RLMT LR LR
comp=Z,2μm,20.0s
E23A Ismay 88.88 339 ⇓P **P** **16 12 35.4 -0.4**
baz=89
B30A Myrvik Farm, E 88.91 344 ⇓P **P** **16 12 35.7 -0.1**
baz=89,SNR=24
D25A Fairfield 88.92 340 ⇓P **P** **16 12 35.9 -0.1**
baz=89
C27A Sayler Ranch, 88.97 341 ⇓P **P** **16 12 36.1 -0.1**
baz=89,SNR=8.6
E22A Miles City 89.02 338 ⇑P **P** **16 12 36.5 +0.1**
baz=89

YMR Madison River 89.04 334 *e*P **P** **16 12 37.3 +0.5**
comp=Z,56nm,1.3s
F20A Billings 89.11 336 ⇓P **P** **16 12 37.1 +0.1**
baz=89
B29A Wagenman Farm, 89.15 343 ⇑P **P** **16 12 36.8 -0.1**
baz=90,SNR=7.2
D24A Glendive 89.17 339 ⇑P **P** **16 12 37.5 +0.4**
baz=90
C26A Wahner Farm, P 89.22 341 ⇓P **P** **16 12 37.5 +0.2**
baz=90
LAO LASA Array 89.32 338 PFAKE 16 12 50.0 +12
LAO LR LR
comp=Z,904nm,19.0s
HLID Hailey 89.33 331 ⇑P **P** **16 12 38.5 +0.4**
baz=90,SNR=17
HLID Hailey 89.33 331 *e*P **P** **16 12 39.0 +0.8**
comp=Z,37nm,1.5s
HLID LR LR
comp=Z,1μm,20.0s
QLMT Earthquake Lak 89.34 334 *e*P **P** **16 12 39.5 +1.3**
comp=Z,2.7nm,1.3s
A30A Hoffart Farm, 89.36 344 ⇓P **P** **16 12 37.4 -0.5**
baz=90,SNR=9.7
B28A Dugan Ranch, T 89.37 342 ⇓P **P** **16 12 38.1 +0.1**
baz=90,SNR=6.3
F19A Roth Farm, Mol 89.41 336 ⇑P **P** **16 12 38.4 0.0**
baz=90
C25A Freed Ranch, W 89.42 340 ⇑P **P** **16 12 38.3 0.0**
baz=90
E21A Keefer Ranch, 89.44 337 ⇑P **P** **16 12 38.5 +0.1**
baz=90
D23A Lindsay 89.47 339 ⇓P **P** **16 12 38.9 +0.3**
baz=90
B27A Peters Farms, 89.55 342 ⇑P **P** **16 12 39.5 +0.7**
baz=90
A29A Manning Farm, 89.55 343 ⇓P **P** **16 12 38.7 -0.1**
baz=90,SNR=16
C24A Savage 89.57 340 ⇑P **P** **16 12 39.1 +0.1**
baz=90
GCMT Greycliff 89.59 336 *e*P **P** **16 12 39.5 +0.2**
comp=Z,24nm,1.7s
D22A Cohagen 89.73 338 ⇓P **P** **16 12 40.3 +0.6**
baz=90
E20A Meyer Farm, Mu 89.73 337 ⇓P **P** **16 12 40.0 +0.2**
baz=90
MFID Camas Ranch 89.74 331 *e*P **P** **16 12 40.3 +0.3**
comp=Z,48nm,1.6s
B26A Jensen Ranch, 89.77 341 ⇑P **P** **16 12 39.9 0.0**
baz=90
A28A Rude Farm, Bot 89.78 343 ⇑P **P** **16 12 40.4 +0.4**
baz=90
MCMT McKenzie Canyo 89.84 333 *e*P **P** **16 12 41.3 +0.7**
comp=Z,16nm,1.4s
D21A La Casta Ranch 89.89 338 ⇓P **P** **16 12 40.9 +0.3**
baz=90
E19A Rath Farm, Rou 89.90 336 ⇓P **P** **16 12 41.3 +0.6**
baz=90
B25A Knox Farm, Ray 89.91 341 ⇓P **P** **16 12 41.7 +1.1**
baz=90
C23A Lambert 90.03 339 ⇓P **P** **16 12 41.8 +0.6**
baz=90
WVOR Wild Horse Val 90.05 328 *e*P **P** **16 12 42.8 +1.3**
WVOR pmax pmax
comp=Z,41nm,1.4s
WVOR MLR MLR
comp=Z,2μm,19.0s
WVOR Wild Horse Val 90.05 328 *e*P **P** **16 12 42.8 +1.3**
comp=Z,41nm,1.4s
WVOR LR LR
comp=Z,2μm,19.0s
A27A Ledoux Ranch, 90.06 342 ⇓P **P** **16 12 41.9 +0.7**
baz=90
ULM Lac du Bonnet 90.10 346 P **P** **16 12 41.2 -0.1**
comp=Z,9.0nm,1.1s,baz=154,slow=3.9,SNR=12
BOZ Bozeman (W) 90.12 334 PFAKE 16 12 50.0 +8.2
BOZ LR LR
comp=Z,3μm,21.0s
C22A Vida 90.18 339 ⇑P **P** **16 12 42.2 +0.4**
baz=90
A26A Wade Farm, Ken 90.20 342 ⇑P **P** **16 12 42.4 +0.6**
baz=90
D20A Manuel Ranch, 90.26 337 ⇓P **P** **16 12 42.7 +0.4**
baz=91
MOD Mcoc Plateau 90.32 327 *e*P **P** **16 12 43.2 +0.4**
comp=Z,26nm,1.4s
DGMT Dagmar 90.37 340 ⇑P **P** **16 12 43.1 +0.4**
baz=91
A25A Svangstu Ranch 90.51 341 ⇓P **P** **16 12 44.4 +1.0**
baz=91
LRM Limekiln Ridge 90.56 334 *e*P **P** **16 12 44.3 +0.3**
comp=Z,271nm,1.7s
B23A Brockton 90.58 340 ⇓P **P** **16 12 44.4 +0.7**
baz=91
A24A Westby 90.73 340 ⇓P **P** **16 12 44.9 +0.5**
baz=91
C20A Veseth Ranch, 90.78 337 ⇓P **P** **16 12 44.7 +0.1**
baz=91
C19A Slack Wire Ran 91.12 337 ⇓P **P** **16 12 46.6 +0.4**
baz=92
HRY Holter Researc 91.12 335 P **P** **16 12 46.1 -0.2**
comp=Z,10nm,1.2s
YBH Yreka Blue Hor 91.24 325 P **P** **16 12 48.5 +1.5**
comp=Z,2.4nm,0.9s,baz=155,slow=6.1,SNR=3.8
A22A Carney Farms, 91.32 339 ⇑P **P** **16 12 47.6 +0.5**
baz=92
TAU Tasmania Unive 91.39 209 PFAKE 16 13 00.0 +12
TAU LR LR
comp=Z,2μm,20.0s
B20A Solberg Farm, 91.43 338 ⇑P **P** **16 12 48.2 +0.6**
baz=92
BMO Blue Mountains 91.53 330 PFAKE 16 13 00.0 +12
BMO LR LR
comp=Z,1μm,21.0s
EGMT Eagleton 91.59 337 ⇓P **P** **16 12 48.6 +0.1**
baz=92
EGMT Eagleton 91.59 337 PFAKE 16 13 00.0 +12
EGMT LR LR
comp=Z,823nm,21.0s
A21A Bergtoll Ranch 91.60 339 ⇑P **P** **16 12 48.7 +0.2**
baz=92
B19A Brinkman Farms 91.72 337 ⇓P **P** **16 12 49.2 +0.2**
baz=92
CHMT Chamberlain Mo 91.78 334 *e*P **P** **16 12 50.6 +1.0**
comp=Z,14nm,1.5s
A20A Cobblestone Ra 91.80 338 ⇓P **P** **16 12 50.0 +0.7**
baz=92
J05D Fort Rock, OR 91.85 327 ⇓P **P** **16 12 50.0 +0.2**
baz=92
MSO Missoula 91.95 333 ⇓P **P** **16 12 50.8 +0.6**
baz=92
A19A Kindworth Far 92.08 338 ⇑P **P** **16 12 51.2 +0.5**
baz=92
SLMT Seeley Lake 92.15 334 P **P** **16 12 51.7 +0.6**
comp=Z,16nm,1.4s
SWMT Swartz Lake 92.56 334 *e*P **P** **16 12 53.7 +0.7**
comp=Z,16nm,1.5s
SCHQ Schefferville 92.64 4 P **P** **16 12 53.3 +0.2**
comp=Z,2.0nm,0.7s,baz=200,slow=9.0,SNR=3.6
SCHQ LR LR 16 56 08.3
comp=Z,538nm,19.3s,baz=180,slow=36
I05D Terrebonne, OR 92.74 328 ⇑P **P** **16 12 54.2 +0.3**
baz=93
I04A Tendick Farm, 92.76 327 ⇑P **P** **16 12 54.7 +0.8**
baz=93
JTMT Jette 92.86 334 *e*P **P** **16 12 54.3 -0.1**
comp=Z,29nm,1.8s
YBMT Yellow Bay 92.86 334 *e*P **P** **16 12 55.2 +0.8**
comp=Z,10nm,1.3s
BLMT Blacktail Moun 93.11 334 *e*P **P** **16 12 56.3 +0.6**
comp=Z,16nm,1.2s
BSMT Bassoo Peak 93.12 333 *e*P **P** **16 12 56.1 +0.4**
comp=Z,9.4nm,1.2s
HAWA Hanford 93.68 330 PFAKE 16 13 10.0 +12
HAWA LR LR
comp=Z,2μm,19.0s
NEW Newport 94.31 332 P **P** **16 13 00.6 -0.4**
NEW MLR MLR
comp=Z,2μm,19.0s
NEW Newport 94.31 332 P **P** **16 13 00.6 -0.4**
comp=Z,2.4nm,0.9s,baz=202,slow=5.8,SNR=5.1
NEW Newport 94.31 332 ⇓P **P** **16 13 01.8 +0.8**
baz=95
NEW Newport 94.31 332 P **P** **16 13 00.6 -0.4**
NEW LR LR
comp=Z,2μm,19.0s
RTC Rabat Centre 94.55 50 PFAKE 16 13 10.0 +7.7
RTC LR LR
comp=Z,9μm,19.0s

TAM Tamanrasset 95.47 65 *e*P **P** **16 13 07.7 +0.7**
TAM pmax pmax
comp=Z,14nm,1.0s
TAM MLR MLR
comp=Z,3μm,19.0s
TAM Tamanrasset 95.47 65 *e*P **P** **16 13 07.7 +0.7**
comp=Z,14nm,1.0s
TAM LR LR
comp=Z,3μm,19.0s
FFC Flin Flon 95.59 344 PFAKE 16 13 20.0 +13
FFC LR LR
comp=Z,1μm,19.0s
POHA Pohakuloa 96.03 290 PFAKE 16 13 20.0 +10
POHA LR LR
comp=Z,3μm,19.0s
NLWA Neilton Lookou 96.25 328 PFAKE 16 13 20.0 +10
NLWA LR LR
comp=Z,2μm,19.0s
CAN Canberra 97.16 214 PFAKE 16 13 30.0 +15
CAN LR LR
comp=Z,2μm,19.0s
DZM Mont Dzumac 98.03 234 LR LR 16 48 14.8
comp=Z,3μm,20.4s,baz=142,slow=30
MTE Manteigas 98.54 45 PFAKE 16 13 30.0 +10
MTE LR LR
comp=Z,6μm,20.0s
PAB San Pablo 99.78 47 PFAKE 16 13 40.0 +14
PAB LR LR
comp=Z,3μm,20.0s
ESDC Sonseca Array 100.09 47 P **Pdif** **16 13 27.1 -0.2**
comp=Z,1.3nm,0.9s,baz=252,slow=3.3,SNR=6.0
ESDC PP **PP** **16 17 34.5 +1.1**
comp=Z,0.2nm,0.5s,baz=203,slow=9.1,SNR=2.6
ABPO Ambohimpanom 100.45 124 PFAKE 16 13 40.0 +10
ABPO LR LR
comp=Z,3μm,19.0s
RER Riviere de l'E 104.17 132 PFAKE 16 14 00.0 +14
RER LR LR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 105.41 104 PP PP 16 18 13.6 0.0
comp=Z,0.4nm,0.2s,baz=232,slow=13,SNR=3.6
KMBO Kilima Mbogo 105.41 104 PP PP 16 18 13.6 0.0
KMBO LR LR
comp=Z,4μm,22.0s
YKA Yellowknife Ar 105.51 341 Pdiff **Pdif** **16 13 51.2 +0.5**
comp=Z,0.2nm,0.6s,baz=143,slow=4.7,SNR=8.1
YKA PKiKP **PKiKP** **16 18 02.8 -1.1**
comp=Z,0.2nm,0.7s,baz=129,slow=1.7,SNR=3.0
SFJD Kangerlussuaq 106.11 9 PFAKE 16 18 20.0
SFJD LR LR
comp=Z,1μm,19.0s
VSL Villasalto 108.12 54 PFAKE 16 18 20.0
VSL LR LR
comp=Z,3μm,19.0s
SSB Saint Sauveur 108.49 47 PFAKE 16 18 20.0
SSB LR LR
comp=Z,3μm,22.0s
TARA Tarawa 109.41 256 PFAKE 16 18 20.0
TARA LR LR
comp=Z,2μm,21.0s
WDD Wield Dalam 109.50 59 PFAKE 16 18 20.0
WDD LR LR
comp=Z,12μm,19.0s
BNI Bardonecchia 109.60 48 PFAKE 16 18 20.0
BNI LR LR
comp=Z,3μm,20.0s
ESK Eskdalemuir 110.47 35 PFAKE 16 18 30.0
ESK LR LR
comp=Z,2μm,19.0s
CTAO Charters Tower 111.27 220 PFAKE 16 18 30.0
CTAO LR LR
comp=Z,1μm,20.0s
VLC Villacollemand 111.32 50 PFAKE 16 18 30.0
VLC LR LR
comp=Z,3μm,19.0s
HNR Honiara 111.48 238 PFAKE 16 18 30.0
HNR LR LR
comp=Z,241nm,22.0s
ECH Echery 111.63 45 PFAKE 16 18 30.0
ECH LR LR
comp=Z,6μm,20.0s
CEL Celeste 111.70 58 PFAKE 16 18 30.0
CEL LR LR
comp=Z,6μm,22.0s
WLF Walferdange 111.87 44 PFAKE 16 18 30.0
WLF LR LR
comp=Z,7μm,20.0s
TUE Stuetta 111.94 48 PFAKE 16 18 30.0
TUE LR LR
comp=Z,2μm,19.0s
AQU L'Aquila 112.23 53 PFAKE 16 18 30.0
AQU LR LR
comp=Z,3μm,20.0s
BFO Black Forest 112.35 46 PFAKE 16 18 30.0
BFO LR LR
comp=Z,3μm,19.0s
DAVOX Davos/Dischmat 112.42 48 PKiKP **PKiKP** **16 18 18.5 +0.8**
comp=Z,1.4nm,0.3s,baz=301,slow=5.9,SNR=4.7
CUC Castrocucco 112.55 56 PFAKE 16 18 30.0
CUC LR LR
comp=Z,4μm,20.0s
TIP Timpagrande 112.76 57 PFAKE 16 18 30.0
TIP LR LR
comp=Z,5μm,21.0s
RES Resolute Bay 113.33 354 Pdiff **Pdif** **16 14 22.5 -2.8**
comp=Z,0.6nm,0.7s,baz=78,slow=9.3,SNR=3.6
MOTA Moosalm 113.42 48 ⇓*i*PKiKP **PKiKP** **16 18 20.1 +0.5**
comp=Z,12nm,1.1s
ASAR Alice Springs 113.53 207 PKiKP **PKiKP** **16 18 19.9 -0.6**
comp=Z,2.0nm,0.8s,baz=160,slow=2.5,SNR=17
ASAR PKKPbc **PKKPbc** **16 29 03.9 +0.5**
comp=Z,2.1nm,0.7s,baz=339,slow=2.8,SNR=19
ASAR PKKPab **PKKPab** **16 29 12.2 -2.1**
comp=Z,3.0nm,0.8s,baz=340,slow=3.8,SNR=12
ASAR PKKP **PKKPdf** **16 29 19.6 -4.0**
comp=Z,1.3nm,0.8s,baz=334,slow=2.9,SNR=4.6
EGAK Eagle 115.23 334 PFAKE 16 18 30.0 +7.8
EGAK LR LR
comp=Z,2μm,22.0s
GERES GERESS Array B 115.68 47 PKP **PKPdf** **16 18 23.9 +0.2**
comp=Z,7.2nm,0.8s,baz=212,slow=1.4,SNR=53
KHC Kasperske Hory 115.75 47 *e*PKiKP **PKPdf** **16 18 23.8 0.0**
KHC *e* 16 18 33.5
KHC *e* 16 19 38.8
KHC MLR MLR
comp=Z,3μm,19.1s
KHC Kasperske Hory 115.75 47 *e*PKP **PKPdf** **16 18 23.8 0.0**
KHC *e*pPKP PKiKP 16 18 33.5 +10
KHC *e*x x 16 19 38.8
KHC *e*PKKP **PKKPdf** **16 29 21.5 -0.3**
KHC AMS AMS 17 07 20.0
comp=Z,3μm,19.1s
KHC Kasperske Hory 115.75 47 *e*PKPdf **PKPdf** **16 18 23.7 -0.1**
ARSA Arzberg 115.99 49 ⇑*i*PKPdf **PKPdf** **16 18 24.5 +0.2**
comp=Z,7.8nm,0.8s
KDAK Kodiak Island 116.03 324 PFAKE 16 18 40.0 +16
KDAK LR LR
comp=Z,1μm,20.0s
MSEY Mahe Island 116.35 120 PFAKE 16 18 40.0 +14
MSEY LR LR
comp=Z,4μm,19.0s
CLL Collm 116.47 44 ⇑*e*P **Pdif** **16 14 39.0 -0.7**
CLL *i* 16 18 25.2
CLL *i* 16 18 34.3
CLL pmax pmax
comp=Z,18nm,1.2s
CLL MLR MLR
comp=Z,4μm,19.7s
CLL Collm 116.47 44 *e*Pdif **Pdif** **16 14 39.0 -0.7**
CLL ⇑*i*PKiKP **PKiKP** **16 18 25.2 +0.2**
comp=Z,18nm,1.2s
CLL *i* pPKiKP **pPKiKP** **16 18 34.3 +0.5**
comp=Z,20nm,1.2s
CLL *e*PP **PP** **16 19 33.0 +0.4**
CLL *e*PPP PPP 16 22 12.0
CLL *e*SKKSac SKKSac 16 26 36.0 +5.1
CLL *e*SSdiff **sSdif** **16 27 31.0 +0.4**
CLL *e*PS **PKKPdf** **16 29 19.0 -1.4**
CLL *e*PPS PPS 16 30 36.0
CLL *e*SS **SS** **16 35 34.0 -2.0**
CLL *e*SSS SSS 16 39 54.0
CLL *e* 16 43 42.0
CLL Lm MLR 17 08 00.0
comp=N,2μm,20.3s
CLL Lm MLR 17 08 00.0

comp=E,2μm,19.6s
CLL Lm MLR 17 08 00.0
comp=Z,4μm,19.7s
CONA Conrad Observa 116.51 49⇓*i*PKPdf PKPdf 16 18 25.4 0.0
comp=Z,8.5nm,0.9s
PRA Prague 116.69 46 PKP PKPdf 16 18 27.0 +1.5
PRU Pruhonice 116.71 46 *e*PKIKP PKPdf 16 18 26.3 +0.8
PRU *e* 16 18 35.8
PRU MLR MLR
comp=Z,3μm,19.2s
PRU Pruhonice 116.71 46 *e*PKP PKPdf 16 18 26.3 +0.8
PRU *ep*PKP pPKPdf 16 18 35.8 +1.5
PRU *e*PS **PKKPdf 16 29 24.9 +5.0**
PRU AMS AMS 17 09 10.0
comp=Z,3μm,19.2s
WRA Warramunga Arr 116.76 209 PKP PKPdf 16 18 26.1 -0.7
comp=Z,3.6nm,0.9s,baz=158,slow=1.6,SNR=28
WRA pPKP pPKPdf 16 18 33.3 -2.1
comp=Z,1.6nm,0.6s,baz=173,slow=1.5,SNR=6.4
WRA PKKPbc **PKKPbc 16 28 52.4 +0.2**
comp=Z,3.5nm,1.2s,baz=339,slow=4.3,SNR=6.1
WRA PKKPab **PKKPab 16 28 59.2 -0.7**
comp=Z,1.6nm,1.0s,baz=348,slow=4.5,SNR=5.1
WRAB Tennant Creek 116.76 209 *e*PKIKP PKPdf 16 18 26.1 -0.6
WRAB Tennant Creek 116.76 209 *e*PKPdf PKPdf 16 18 26.1 -0.6
WRAB LR LR
comp=Z,3μm,20.0s
BRG Berggiesshubel 116.79 45 *e*PKP PKPdf 16 18 24.2 -1.4
comp=Z,13nm,1.2s
BRG PP PP 16 19 28.0 -6.9
BRG PS **PS 16 29 13.0 -4.6**
BRG SS SS 16 35 24.0 -16
BRG Berggiesshubel 116.79 45 *e*PKIKP PKPdf 16 18 24.2 -1.4
BRG PS **PS 16 29 13.0 -4.6**
BRG pmax pmax
comp=Z,13nm,1.2s
BRG MLR MLR
comp=N,1μm,16.0s
BRG MLR MLR
comp=E,2μm,21.7s
BRG MLR MLR
comp=Z,2μm,17.4s
TREC Trest 116.93 47 *e*PKIKP PKPdf 16 18 26.8 +0.8
TREC *e*PS PKKPdf 16 29 25.8 +6.3
TREC MLR MLR
comp=Z,2μm,17.4s
TREC Trest 116.93 47 *e*PKP PKPdf 16 18 26.8 +0.8
TREC *e*PS PKKPdf 16 29 25.8 +6.3
TREC AMS AMS 17 08 20.0
comp=Z,2μm,17.4s
PVCC Panska Ves 116.98 46 *e*PKIKP PKPdf 16 18 26.8 +0.8
PVCC *e* 16 18 35.3
PVCC MLR MLR
comp=Z,4μm,18.9s
PVCC Panska Ves 116.98 46 *e*PKP PKPdf 16 18 26.8 +0.8
PVCC *ep*PKP pPKPdf 16 18 35.3 +0.5
PVCC AMS AMS 17 08 50.0
comp=Z,4μm,18.9s
ILAR Eielson Array 117.27 332 PKP PKPdf 16 18 25.7 -0.5
comp=Z,1.1nm,0.8s,baz=191,slow=2.6,SNR=8.3
ILAR pPKP **pPKPdf 16 18 33.9 -1.0**
comp=Z,1.7nm,0.8s,baz=176,slow=2.6,SNR=8.1
ILAR PP PP 16 19 47.3 +9.4
comp=Z,2.1nm,1.0s,baz=109,slow=4.0,SNR=6.5
SANT Santorini 117.36 64 PFAKE 16 18 40.0 +13
SANT LR LR
comp=Z,2μm,19.0s
PKSM Moragy 117.40 51 ⇑PKIKP PKPdf 16 18 27.8 +0.8
PKSM Moragy 117.40 51⇑*i*P PKPdf 16 18 27.8 +0.8
VRAC Vranov 117.58 48 ⇑PKIKP PKPdf 16 18 28.2 +0.9
VRAC Vranov 117.58 48⇑*i*P PKPdf 16 18 28.2 +0.9
VRAC Vranov 117.58 48 PKP PKPdf 16 18 25.6 -1.7
comp=Z,6.2nm,0.8s,baz=260,slow=4.0,SNR=9.5
VRAC pPKP **pPKPdf 16 18 35.7 -0.3**
comp=Z,8.1nm,1.0s,baz=332,slow=0.6,SNR=5.6
COLA College 117.68 332 PFAKE 16 18 40.0 +13
COLA LR LR
comp=Z,935nm,20.0s
UPC Upice 117.79 46 *e*PKIKP PKPdf 16 18 28.4 +0.8
UPC *e* 16 18 37.7
UPC Upice 117.79 46 *e*PKP PKPdf 16 18 28.4 +0.8
UPC *ep*PKP **pPKPdf 16 18 37.7 +1.3**
DPC Dobruska-Polom 117.89 46 *e*PKIKP PKPdf 16 18 28.8 +0.9
DPC *e* 16 18 37.2
DPC *e*PS **PS 16 29 33.5 +5.7**
DPC Dobruska-Polom 117.89 46 *e*PKP PKPdf 16 18 28.8 +0.9
DPC *ep*PKP **pPKPdf 16 18 37.2 +0.6**
DPC *e*PS **PS 16 29 33.5 +5.7**
DPC AMS AMS 17 08 20.0
KRLC Kraliky 118.03 47 *e*PKIKP PKPdf 16 18 29.0 +0.8
KRLC *e* 16 18 37.8
KRLC Kraliky 118.03 47 *e*PKP PKPdf 16 18 29.0 +0.8
KRLC *ep*PKP **pPKPdf 16 18 37.8 +0.9**
VYHS Vyhne 118.54 49 *e*PKIKP PKPdf 16 18 29.6 +0.4
VYHS Vyhne 118.54 49 *e*PKP PKPdf 16 18 29.5 +0.4
MMB Musomiste 118.58 58 ⇑PKIKP PKPdf 16 18 29.7 +0.2
MMB Musomiste 118.58 58⇑*i*P PKPdf 16 18 29.7 +0.2
KONO Kongsberg 118.61 35 PFAKE 16 18 40.0 +11
KONO LR LR
comp=Z,3μm,22.0s
VTS Vitosha 118.68 57 ⇓PKIKP PKPdf 16 18 30.4 +0.6
VTS Vitosha 118.68 57⇓*i*P PKPdf 16 18 30.4 +0.6
OKC Ostrava-Krasne 118.72 48 *e*PKIKP PKPdf 16 18 30.1 +0.7
OKC *e* 16 18 38.4
OKC MLR MLR
comp=Z,1μm,18.5s
OKC Ostrava-Krasne 118.72 48 *e*PKP PKPdf 16 18 30.1 +0.7
OKC *ep*PKP **pPKPdf 16 18 38.4 +0.2**
OKC AMS AMS 17 05 30.0
comp=Z,1μm,18.5s
PSZ Piszkesteto 118.93 50 PFAKE 16 18 40.0 +10
PSZ LR LR
comp=Z,2μm,22.0s
BZS Buzias 118.99 53 ⇓PKIKP PKPdf 16 18 30.5 +0.4
BZS Buzias 118.99 53⇓*i*P PKPdf 16 18 30.5 +0.4
PMG Port Moresby 119.55 227 PFAKE 16 18 40.0 +7.8
PMG LR LR
comp=Z,2μm,20.0s
GZR Gura Zlata 119.63 54 ⇑PKIKP PKPdf 16 18 31.4 0.0
GZR Gura Zlata 119.63 54⇑*i*P PKPdf 16 18 31.4 0.0
GKP Gorka Klasztor 119.67 44 *e*PKIKP PKPdf 16 18 32.0 +0.9
GKP Gorka Klasztor 119.67 44 *e*PKP PKPdf 16 18 32.0 +0.9
KDZ Kurdzhali 119.74 59 ⇑PKIKP PKPdf 16 18 32.3 +0.6
KDZ Kurdzhali 119.74 59⇑*i*P PKPdf 16 18 32.3 +0.6
NIE Niedzica 119.82 49 *e*PKIKP PKPdf 16 18 32.3 +0.7
NIE Niedzica 119.82 49 *e*PKPdf PKPdf 16 18 32.3 +0.7
OJC Ojcow 119.85 48 *e*PKIKP PKPdf 16 18 32.4 +0.8
OJC Ojcow 119.85 48 *e*PKPdf PKPdf 16 18 32.4 +0.8
MBWA Marble Bar 119.88 194 PFAKE 16 18 40.0 +7.3
MBWA LR LR
comp=Z,1μm,19.0s
DEV Deva 119.92 53 ⇓PKIKP PKPdf 16 18 32.7 +0.9
DEV Deva 119.92 53⇓*i*P PKPdf 16 18 32.7 +0.9
NB2 NORSAR Subarra 119.94 34 PKPdf PKPdf 16 18 31.8 +0.3
baz=248,slow=1.9
NOA NORSAR Array B 119.94 34 PKP PKPdf 16 18 32.1 +0.6
comp=Z,4.1nm,0.8s,baz=249,slow=2.1,SNR=15
NOA pPKP **pPKPdf 16 18 39.6 -0.7**
comp=Z,6.4nm,1.0s,baz=239,slow=1.6,SNR=7.8
CRVS Cervenica-Dubn 120.29 50 *e*PKIKP PKPdf 16 18 33.3 +0.8
CRVS Cervenica-Dubn 120.29 50 *e*PKP PKPdf 16 18 33.3 +0.8
STHS Stebnicka Huta 120.37 49 *e*PKIKP PKPdf 16 18 33.6 +1.0
STHS Stebnicka Huta 120.37 49 *e*PKP PKPdf 16 18 33.6 +1.0
TRPA Tarpa 120.63 51⇓*i*P PKPdf 16 18 33.6 +0.5
UZH Uzhgorod 120.68 50 *i* PKIKP PKPdf 16 18 32.0 -1.2
UZH *e* 16 18 40.6
UZH *e* 16 25 25.9
UZH *e*SSS SSS 16 41 06.2
UZH MLR MLR
comp=N,2μm,16.0s
UZH MLR MLR
comp=E,1μm,16.0s
UZH MLR MLR
comp=Z,970nm,16.0s
HUMR Humele 120.68 55⇑*i*P PKPdf 16 18 34.2 +0.8
HFS Hagfors 120.69 36 PKP PKPdf 16 18 33.0 +0.1
comp=Z,11nm,0.7s,baz=192,slow=4.2,SNR=24
HFS pPKP **pPKPdf 16 18 39.2 -2.4**
comp=Z,7.6nm,0.8s,baz=197,slow=1.5,SNR=6.4
KOLS Kolonicke sedl 120.79 50 *e*PKIKP PKPdf 16 18 33.6 +0.1
KOLS Kolonicke sedl 120.79 50 *e*PKP PKPdf 16 18 33.6 +0.1
ARR Arges 120.81 54⇓*i*P PKPdf 16 18 34.0 +0.3
JMB Yambol 120.88 58 ⇓PKIKP PKPdf 16 18 35.9 +2.1
JMB Yambol 120.88 58⇓*i*P PKPdf 16 18 35.9 +2.1

BMR Baia Mare 121.03 52 ⇑PKIKP PKPdf 16 18 36.5 +2.6
BMR Baia Mare 121.03 52⇑*i*P PKPdf 16 18 36.5 +2.6
VOIR 121.10 54 ⇓PKIKP PKPdf 16 18 34.9 +0.6
VOIR 121.10 54⇓*i*P PKPdf 16 18 34.9 +0.6
KWP Kalwaria Pacla 121.33 49 ⇑PKIKP PKPdf 16 18 35.5 +1.0
KWP Kalwaria Pacla 121.33 49 *e*PKP PKPdf 16 18 35.2 +0.8
KWP Kalwaria Pacla 121.33 49⇑*i*P PKPdf 16 18 35.5 +1.0
KWP Kalwaria Pacla 121.33 49 *e*PKPdf PKPdf 16 18 35.3 +0.8
KWP LR LR
comp=Z,4μm,20.0s
DOPR Dopca 121.53 54⇑*i*P PKPdf 16 18 35.8 +0.8
SECR 121.60 55⇑*i*P PKPdf 16 18 36.3 +1.2
ISP Isparta 121.62 65 PFAKE 16 18 50.0 +14
ISP LR LR
comp=Z,4μm,20.0s
MLR Muntele Rosu 121.70 55 ⇓PKIKP PKPdf 16 18 35.7 +0.2
MLR Muntele Rosu 121.70 55⇓*i*P PKPdf 16 18 35.7 +0.2
PRD Provadia 121.73 58 ⇓PKIKP PKPdf 16 18 36.3 +0.9
ISR Istrita 121.94 55 ⇑PKIKP PKPdf 16 18 36.8 +1.0
ISR Istrita 121.94 55⇑*i*P PKPdf 16 18 36.8 +1.0
BURAR Bucovina Array 122.08 52 ⇑PKIKP PKPdf 16 18 37.2 +1.1
BURAR Bucovina Array 122.08 52⇑*i*P PKPdf 16 18 37.2 +1.1
LVV L'vov 122.19 49 *e*PKIKP PKPdf 16 18 36.3 +0.2
LVV MLR MLR
comp=Z,3μm,20.0s
LVV MLR MLR
comp=N,800nm,21.0s
LVV MLR MLR
comp=E,3μm,20.0s
PLOR Plostina 122.30 55 ⇑PKIKP PKPdf 16 18 36.3 -0.2
PLOR Plostina 122.30 55⇑*i*P PKPdf 16 18 36.3 -0.2
VRI Vrincioaia 122.35 55 ⇑PKIKP PKPdf 16 18 36.6 0.0
VRI Vrincioaia 122.35 55⇑*i*P PKPdf 16 18 36.6 0.0
CSS Prodhromos 122.40 69 PFAKE 16 18 50.0 +13
CSS LR LR
comp=Z,442nm,20.0s
PSN Preselentsi 122.44 57 ⇑PKIKP PKPdf 16 18 37.1 +0.3
PSN Preselentsi 122.44 57⇑*i*P PKPdf 16 18 37.1 +0.3
TESR Tescani 122.55 54⇑*i*P PKPdf 16 18 37.4 +0.5
HARR Harsova 122.67 56 ⇓PKIKP PKPdf 16 18 38.4 +1.2
HARR Harsova 122.67 56⇓*i*P PKPdf 16 18 38.4 +1.2
MANR Mangalia 122.77 57⇑*i*P PKPdf 16 18 38.9 +1.5
TIRR Tirgusor 122.90 57 ⇓PKIKP PKPdf 16 18 38.1 +0.5
TIRR Tirgusor 122.90 57⇓*i*P PKPdf 16 18 38.1 +0.5
CFR Carcaliu 123.00 56 ⇓PKIKP PKPdf 16 18 38.1 +0.3
CFR Carcaliu 123.00 56⇓*i*P PKPdf 16 18 38.1 +0.3
SUW Suwalki 123.22 45 *e*PKIKP PKPdf 16 18 37.6 -0.3
SUW *e* 16 18 45.8
SUW Suwalki 123.22 45 *e*PKP PKPdf 16 18 37.6 -0.3
SUW *e* 16 18 45.8
SUW Suwalki 123.22 45 *e*PKPdf PKPdf 16 18 38.1 +0.2
TLCR 123.44 56 ⇑PKIKP PKPdf 16 18 39.9 +1.3
TLCR 123.44 56⇑*i*P PKPdf 16 18 39.9 +1.3
LEOM Leova 123.56 54 ⇑PKIKP PKPdf 16 18 39.8 +1.0
LEOM Leova 123.56 54⇑*i*P PKPdf 16 18 39.8 +1.0
ANTO Ankara 124.08 63 ⇑PKIKP PKPdf 16 18 41.6 +1.4
ANTO Ankara 124.08 63⇑*i*P PKPdf 16 18 41.6 +1.4
ANTO Ankara 124.08 63 PFAKE 16 18 50.0 +10
ANTO LR LR
comp=Z,2μm,19.0s
KIS Kishinev 124.12 54 *e*PKIKP PKPdf 16 18 40.0 +0.1
KIS *e* 16 18 50.0
KIS *e* 16 20 26.0
KIS *e*PPP PPP 16 23 06.0
KIS *e*PS **PS 16 30 26.0 +2.6**
KIS MLR MLR
comp=N,2μm,20.0s
KIS MLR MLR
comp=E,2μm,20.0s
KIS MLR MLR
comp=Z,3μm,20.0s
KIS MLR MLR
comp=Z,3μm,20.0s
KIS Kishinev 124.12 54 *e*PKP PKPdf 16 18 40.0 +0.1
KIS Kishinev 124.12 54 *e*PP PP 16 20 26.0 +0.8
KIS Kishinev 124.12 54 *e*PPP PPP 16 23 06.0
KIS Kishinev 124.12 54 *e*PS PS 16 30 26.0 +2.6
KIS *e*SS SS 16 35 52.0 -82
KIS *e*L L 17 02 00.0
KIS LRM MLR 17 15 00.0
comp=Z,2μm,20.0s
H11S2 WAKE ISLAND Hyl 124.59 267 T T 18 35 30.4
baz=126,slow=75,SNR=44
H11S1 WAKE ISLAND Hyl 124.60 267 T T 18 35 30.0
baz=126,slow=75,SNR=10.0
H11S3 WAKE ISLAND Hyl 124.61 267 T T 18 35 29.0
baz=126,slow=75,SNR=11
BRTR Keskin Array B 124.62 64 PKP PKPdf 16 18 41.2 -0.1
comp=Z,9.4nm,0.8s,baz=194,slow=3.1,SNR=36
BRTR pPKP **pPKPdf 16 18 49.4 -0.6**
comp=Z,7.7nm,0.8s,baz=180,slow=1.2,SNR=9.4
BRTR PP **PP 16 20 29.9 +0.9**
comp=Z,2.5nm,1.2s,baz=298,slow=3.1,SNR=2.3
DGAR Diego Garcia 124.70 137 PFAKE 16 18 50.0 +7.9
DGAR LR LR
comp=Z,2μm,20.0s
H11N3 WAKE ISLAND Hyl 125.10 268 T T 18 36 09.8
baz=131
H11N1 WAKE ISLAND Hyl 125.11 268 T T 18 36 00.6
baz=131
H11N2 WAKE ISLAND Hyl 125.12 268 T T 18 36 18.7
baz=131,SNR=4.3
IIGN Ignalina 125.33 44 *e*P PKPdf 16 18 41.5 -0.4
IIGN AMB AMB 16 18 52.4
comp=Z,14nm,1.2s
ISAL Salakas 125.34 43 *e*P PKPdf 16 18 40.9 -1.0
ISAL AMB AMB 16 18 51.9
comp=Z,14nm,1.2s
NACGM Naroch 125.50 44 *e* PKPdf 16 18 39.0 -3.2
IDID Didziasalis 125.60 44 *e*P PKPdf 16 18 42.2 -0.2
IDID AMB AMB 16 18 52.1
comp=Z,12nm,1.2s
KIEV Kiev 125.61 50 *e*PKIKP PKPdf 16 18 41.7 -0.9
KIEV MLR MLR
comp=Z,2μm,20.0s
KIEV Kiev 125.61 50 *e*PKPdf PKPdf 16 18 41.7 -0.9
KIEV LR LR
comp=Z,2μm,20.0s
AKASG Malin Array Be 125.63 50*c* *i*PKIKP PKPdf 16 18 42.2 -0.4
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 125.63 50 PKP PKPdf 16 18 42.0 -0.6
comp=Z,4.3nm,0.6s,baz=263,slow=3.0,SNR=23
AKASG pPKP **pPKPdf 16 18 49.8 -1.6**
comp=Z,3.6nm,0.6s,baz=266,slow=2.8,SNR=6.7
AKASG PP **PP 16 20 31.1 -4.1**
comp=Z,0.5nm,0.4s,baz=254,slow=6.8,SNR=6.1
TNA Tin City 125.73 329 *e*PKPdf PKPdf 16 18 43.2 +0.8
MNK Minsk 125.97 45 *e*PKIKP PKPdf 16 18 41.0 -2.2
MNK MLR MLR
comp=Z,4μm,18.0s
MICGM Minsk 125.99 45 *e* PKPdf 16 18 41.0 -2.2
RAYN Ar Rayn 126.38 87 *e*PKPdf PKPdf 16 18 45.6 +0.5
VSU Vasula 126.46 40 *e*PKIKP PKPdf 16 18 44.0 0.0
SPITS Spitsbergen Ar 126.81 15 PKP PKPdf 16 18 45.8 +1.6
comp=Z,7.5nm,0.7s,baz=220,slow=8.8,SNR=2.6
FINES FINESS Array B 126.86 36 PKP PKPdf 16 18 44.7 +0.1
comp=Z,11nm,0.9s,baz=236,slow=1.4,SNR=22
FINES pPKP **pPKPdf 16 18 52.4 -1.0**
comp=Z,16nm,1.1s,baz=225,slow=1.3,SNR=7.0
SIM Simferopol' 126.87 58 PKIKP PKPdf 16 18 45.8 +0.6
SIM 16 20 42.9
SIM SS SS 16 37 52.2 +3.0
SIM pmax pmax
comp=Z,31nm,1.0s
GAMB Gambell 126.90 327 PKPdf PKPdf 16 18 44.4 -0.2
KAF Kangasniemi 127.11 36 *e*PKIKP PKPdf 16 18 44.3 -0.8
KAF pmax pmax
comp=Z,11nm,0.8s
KAF Kangasniemi 127.11 36 *e*p PKPdf 16 18 44.3 -0.8
comp=Z,11nm,0.8s
MALT Malatya 127.52 67 ⇓PKIKP PKPdf 16 18 48.2 +1.4
MALT Malatya 127.52 67⇓*i*P PKPdf 16 18 48.2 +1.4
ARCES ARCESS Array B 128.08 26 PKP PKPdf 16 18 46.6 -0.2
comp=Z,10.0nm,0.7s,baz=259,slow=2.4,SNR=5.6
ARCES pPKP **pPKPdf 16 18 54.2 -1.3**
comp=Z,5.1nm,0.8s,baz=270,slow=2.4,SNR=2.3
KEV Kevo 128.63 26 PFAKE 16 19 00.0 +12
KEV LR LR
comp=Z,2μm,21.0s
ANN Anapa 129.05 59 *i* PKIKP PKPdf 16 18 50.0 +0.7
ANN *e* 16 20 54.9
ANN pmax pmax
comp=Z,139nm,1.4s

COCO West Island 129.22 168 PFAKE 16 19 00.0 +9.3
COCO LR LR
comp=Z,2μm,21.0s
BATI Baumata 129.47 202 PKP PKPdf 16 18 51.9 +0.7
comp=Z,22nm,1.0s,baz=172,slow=5.1,SNR=6.9
JOF Joensuu 129.54 35 *e*PKIKP PKPdf 16 18 49.0 -0.7
JOF pmax pmax
comp=Z,14nm,0.9s
JOF Joensuu 129.54 35 *e*p PKPdf 16 18 49.0 -0.7
comp=Z,14nm,0.9s
SOC Sochi 130.24 61 *e*PKIKP PKPdf 16 18 49.8 -1.9
SOC *e*PPP PPP 16 23 53.7
SOC *e* 16 25 56.4
SOC *e*PS **PS 16 31 10.9 -6.2**
SOC *e*SS SS 16 38 29.5 -1.5
SOC pmax pmax
comp=Z,118nm,1.1s
SOC MLR MLR
comp=Z,1μm,18.0s
APA Apatity 130.81 29⇓*i*PKIKP PKPdf 16 18 52.4 +0.4
APA MLR MLR
comp=Z,2μm,22.0s
OBN Obninsk 131.03 46*d* *i*PKIKP PKPdf 16 18 53.0 +0.2
OBN *i* 16 19 03.2
OBN *i* 16 21 13.1
OBN *e* 16 26 06.1
OBN pmax pmax
comp=Z,110nm,2.0s
OBN Obninsk 131.03 46 PKP PKPdf 16 18 52.5 -0.2
comp=Z,8.3nm,0.4s,baz=60,slow=1.6,SNR=3.1
OBN SKPbc **SKPab 16 22 15.7 0.0**
comp=Z,7.0nm,0.4s,baz=222,slow=13,SNR=7.6
OBN Obninsk 131.03 46 PKP PKPdf 16 18 52.5 -0.2
OBN *e*PKPdf **PKPdf 16 18 53.0 +0.2**
OBN SKPbc **SKPab 16 22 15.7 0.0**
OBN LR LR
comp=Z,3μm,20.0s
LVZ Lovozero 131.29 29 PFAKE 16 19 00.0 +7.0
LVZ LR LR
comp=Z,2μm,22.0s
MOS Moscow 131.72 45 *e*PKIKP PKPdf 16 18 48.8 -5.3
VSR Storozhevoye 131.83 51 *e*PKIKP PKPdf 16 18 53.6 -0.8
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,6.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.9s
KIV Kislovodsk 132.41 62⇑*i*PKIKP PKPdf 16 18 56.2 +0.3
KIV *i* 16 19 06.7
KIV *i* 16 21 19.0
KIV *e*SS SS 16 39 22.4 +25
KIV pmax pmax
comp=Z,58nm,1.9s
KBZ Khabaz 132.49 62 PKP PKPdf 16 18 55.0 -0.9
comp=Z,6.0nm,0.7s,baz=242,slow=2.8,SNR=7.9
TMCR Tamitsa 132.64 34 *e*PKIKP PKPdf 16 18 56.2 +0.7
TMCR *e* 16 21 18.6
TMCR pmax pmax
comp=Z,24nm,0.7s
GNI Garni 132.75 67 *e*PKIKP PKPdf 16 18 57.8 +1.0
GNI MLR MLR
comp=Z,1μm,20.0s
GNI Garni 132.75 67 *e*PKPdf PKPdf 16 18 57.8 +1.0
GNI LR LR
comp=Z,1μm,20.0s
GOF Gofitskoye 132.95 60 *e*PKIKP PKPdf 16 18 55.3 -1.5
GOF pmax pmax
comp=Z,39nm,0.7s
KLMR Klimovskoe 133.23 38 *e*PKIKP PKPdf 16 18 55.3 -1.5
KLMR pmax pmax
comp=Z,60nm,1.1s
VRHR Novokhopersk 133.32 52 *e*PKIKP PKPdf 16 18 57.6 +0.4
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,20nm,1.0s
VRHR pmax pmax
comp=Z,20nm,1.0s
FAQ Al Faqa, Dubai 134.96 92⇑*i*PKPdf PKPdf 16 19 01.3 +0.1
SNR=5.3
NAZ Nazwa, Dubai 135.13 91⇑*i*PKPdf PKPdf 16 19 01.3 -0.2
SNR=5.5
KAPI Kappang 135.50 199 *e*PKPdf PKPdf 16 19 03.5 +0.9
KAPI LR LR
comp=Z,1μm,19.0s
MAK Makhachkala 135.53 64 *e*PKIKP PKPdf 16 19 00.6 -1.0
MAK *e* 16 26 10.1
MAK pmax pmax
comp=Z,78nm,1.1s
BILL Bilibino 135.93 332 *e*PKHKP PKPpre 16 18 49.1
BILL *i* 16 19 02.0
BILL *i* 16 21 44.2
BILL pmax pmax
comp=Z,12nm,2.2s
BILL pmax pmax
comp=Z,18nm,1.9s
BILL MLR MLR
comp=Z,901nm,16.0s
BILL Bilibino 135.93 332 *e*PKPdf PKPdf 16 19 01.7 +0.1
BILL LR LR
comp=Z,1μm,19.0s
PRGR Permogore 136.17 37 *e*PKIKP PKPdf 16 19 01.6 -0.6
PRGR *e* 16 19 10.0
PRGR pmax pmax
comp=Z,86nm,1.5s
GUMO Guam 138.31 245 PFAKE 16 19 20.0 +12
GUMO LR LR
comp=Z,1μm,19.0s
TRD Trivandrum 140.24 130⇑*e*P PKPdf 16 19 09.9 -1.3
PET Petropavlovsk 141.49 310 PFAKE 16 19 20.0 +7.8
PET LR LR
comp=Z,2μm,20.0s
SOKR Solikamsk 141.90 39⇑*i*PKHKP PKPpre 16 19 08.2
SOKR pmax pmax
comp=Z,20nm,1.0s
PETK Petropavlovsk- 142.07 310 PKhKP PKPpre 16 19 09.0
comp=Z,3.7nm,0.8s,baz=123,slow=5.5,SNR=4.1
PETK PKP **PKPdf 16 19 14.4 +1.0**
comp=Z,4.5nm,0.8s,baz=106,slow=9.4,SNR=6.3
GEYT Alibeck 142.08 75 PKhKP PKPpre 16 19 10.0
comp=Z,11nm,1.0s,baz=253,slow=1.5,SNR=20
GEYT PKP **PKPdf 16 19 14.8 +0.9**
comp=Z,12nm,1.0s,baz=264,slow=4.2,SNR=21
GEYT pPKP pPKPdf 16 19 20.0 -2.6
comp=Z,4.6nm,0.6s,baz=249,slow=4.0,SNR=5.4
GEYT PP **PP 16 22 20.2 -0.2**
comp=Z,5.9nm,1.1s,baz=258,slow=7.4,SNR=5.1
SEY Seymchan 142.90 327 PKhKP PKPpre 16 19 11.1
comp=Z,9.3nm,0.9s,baz=106,slow=7.0,SNR=14
ARU Arti 143.41 44 *i* PKHKP PKPpre 16 19 11.8
ARU 16 22 37.7
ARU MLR MLR
comp=Z,3μm,23.0s
ARU Arti 143.41 44 *e*PKPpre PKPpre 16 19 11.7
ARU LR LR
comp=Z,3μm,22.0s
KSM Kuching 143.49 186 PFAKE 16 19 30.0 +13
KSM LR LR
comp=Z,1μm,20.0s
AKTO Aktyubinsk 143.63 54 PKIKP PKPab 16 19 13.1 +0.3
AKTO pmax pmax
comp=Z,90nm,1.4s
PSI Prapat 144.25 167 PKP PKPab 16 19 15.9 -0.5
comp=Z,44nm,0.8s,baz=189,slow=5.5,SNR=29
TIXI Tiksi 144.42 348*c* *i*PKIKP PKPab 16 19 14.1 -1.1
TIXI Tiksi 144.42 348 *e*PKPpre PKPpre 16 19 13.9
TIXI LR LR
comp=Z,881nm,21.0s
SVE Sverdlovsk 144.46 43*d* *i*PKIKP PKPbc 16 19 16.5 +0.5
SVE *e* 16 22 43.4
SVE *e* 16 35 00.0
SVE *e* 16 41 23.1
SVE pmax pmax
comp=Z,167nm,1.6s
SVE pmax pmax
comp=Z,732nm,15.5s
SVE MLR MLR
comp=E,2μm,25.0s
SVE MLR MLR
comp=Z,3μm,22.0s
DAV Davao City (W) 144.75 214 PFAKE 16 19 30.0 +11
DAV LR LR
comp=Z,616nm,19.0s
AB31 Akbulak array 144.89 56 PKIKP PKPab 16 19 17.3 -0.3

AB31					pmax	pmax		
	comp=Z,306nm,1.2s							
ABKAR	**Akbulak array**	**144.89**	**56**	*e*PKPdf		PKPbc	16 19 17.9	+0.3
POO	**Poona**	**145.44**	**115**	⇓*i*P		**PKPbc**	**16 19 18.0**	**-2.3**
	comp=Z,679nm,1.5s							
CTBH	**Cotabato--PC H**	**145.46**	**212**	⇑*i*P		**PKPbc**	**16 19 19.4**	**-1.0**
BUKP	**Musuan**	**145.70**	**214**	*e*P		**PKPdf**	**16 19 21.1**	**+0.1**
MDRS	**Chennai**	**145.80**	**130**	⇑*e*P		**PKPdf**	**16 19 20.2**	**-0.8**
MDRS				*ex*		x	16 20 12.2	
MDRS				*ex*		x	16 22 11.2	
MDRS				*ex*		x	16 25 01.2	
MDRS				*ex*		x	16 27 37.2	
MDRS				*ex*		x	16 29 55.2	
LHMI	**Lhok Sumawe**	**146.19**	**162**	*e*PKPdf		**PKPdf**	**16 19 22.0**	**+0.3**
IPM	**Ipoh**	**146.23**	**170**	*e*PKPdf		**PKPbc**	**16 19 22.6**	**-0.3**
PAGZ	**Pagadian**	**146.38**	**211**	*e*P		**PKPbc**	**16 19 22.9**	**-0.4**
KULM	**Kulim**	**146.97**	**169**	*e*PKPdf		**PKPdf**	**16 19 23.4**	**+0.4**
KKM	**Kota Kinabalu**	**147.02**	**198**	*e*PKPdf		**PKPbc**	**16 19 24.6**	**-0.7**
MSLP	**Maasin**	**147.79**	**215**	*e*P		**PKPbc**	**16 19 27.1**	**-0.1**
HYB	**Hyderabad**	**147.95**	**122**	*i* PKP		**PKPdf**	**16 19 23.5**	**-1.1**
	comp=Z,100nm,1.0s							
PKDT	**Phuket**	**149.08**	**164**	P		**PKPbc**	**16 19 32.2**	**+1.6**
	comp=Z,74nm,0.9s							
GUIM	**Jordan**	**149.22**	**212**	*e*P		**PKPbc**	**16 19 32.7**	**+1.8**
BATP	**Bataraza**	**149.23**	**202**	*e*P		**PKPbc**	**16 19 31.0**	**0.0**
KBL	**Kabul**	**149.61**	**85**	*e*PKPdf		**PKPdf**	**16 19 27.1**	**0.0**
KBL				*e*PKPbc		**PKPbc**	**16 19 31.9**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**150.03**	**294***c*	*i*PKIKP		PKPdf	16 19 19.1	-8.0
SURT	**Suratani**	**150.22**	**164**	P		**PKPbc**	**16 19 33.6**	**+0.2**
BRVK	**Borovoye**	**150.78**	**47***c*	*i*PKIKP		**PKPdf**	**16 19 28.6**	**+0.6**
BRVK				pmax		pmax		
	comp=Z,51nm,2.5s							
BRVK	**Borovoye**	**150.78**	**47**	*e*PKPdf		**PKPdf**	**16 19 28.3**	**+0.4**
BRVK				*e*PKPbc		**PKiKP**	**16 19 34.2**	**0.0**
BRVK				LR		LR		
	comp=Z,2μm,21.0s							
NGP	**Nagpur**	**150.85**	**117**	*e*P		**PKPdf**	**16 19 28.8**	**-0.3**
NGP				*ex*		x	16 20 05.1	
	comp=Z,128nm,1.5s							
NGP				*ex*		x	16 23 16.8	
BVA0	**Borovoye Array**	**150.85**	**47**	*i* PKIKP		**PKPdf**	**16 19 28.2**	**+0.1**
BVA0				pmax		pmax		
	comp=Z,129nm,1.3s							
ENPP	**El Nido**	**150.96**	**207**	*e*P		**PKPdf**	**16 19 30.8**	**+1.4**
PVCP	**Virac**	**151.14**	**217**	*e*P		**PKPbc**	**16 19 35.2**	**-0.3**
SJMP	**San Jose**	**151.47**	**211**	*e*P		**PKPdf**	**16 19 32.0**	**+1.8**
ERM	**Erimo**	**151.90**	**290***c*	*i*PKIKP		**PKPab**	**16 19 46.7**	**+0.9**
ERM				pmax		pmax		
	comp=Z,98nm,1.7s							
YAK	**Yakutsk**	**152.07**	**337***c*	*i*PKIKP		**PKPdf**	**16 19 27.6**	**-2.0**
YAK				*e*			16 23 17.8	
YAK				*e*PPP		PPP	16 26 30.6	
YAK				*e*SSS		SSS	16 48 35.8	
YAK				pmax		pmax		
	comp=Z,10.0nm,1.3s							
YAK				pmax		pmax		
	comp=N,124nm,3.2s							
YAK				pmax		pmax		
	comp=Z,155nm,3.0s							
YAK				pmax		pmax		
	comp=E,44nm,1.9s							
YAK	**Yakutsk**	**152.07**	**337**	*e*PKPdf		**PKPdf**	**16 19 28.0**	**-1.6**
YAK				*e*PKPbc		**PKPbc**	**16 19 36.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**152.13**	**300**	⇑*i*PKIKP		**PKPbc**	**16 19 37.1**	**+0.3**
YSS				*e*			16 19 44.0	
YSS				*e*			16 23 26.0	
YSS				pmax		pmax		
	comp=Z,30nm,0.9s							
KK31	**Karatay Array**	**152.21**	**68**	*i* PKIKP		**PKPdf**	**16 19 30.2**	**-0.3**
KK31				pmax		pmax		
	comp=Z,61nm,1.5s							
KKAR	**Karatay Array**	**152.21**	**68**	*e*PKIKP		**PKPdf**	**16 19 30.9**	**+0.4**
KKAR				*e*			16 19 37.7	
KKAR	**Karatay Array**	**152.21**	**68**	*e*PKPdf		**PKPdf**	**16 19 30.9**	**+0.4**
KKAR				*e*PKPbc		**PKiKP**	**16 19 37.7**	**+0.1**
ASAJ	**Asahikawa**	**152.38**	**294**	PKIKP		**PKPdf**	**16 19 30.7**	**0.0**
ASAJ							16 19 38.1	
ASAJ				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ASAJ				pmax		pmax		
	comp=Z,19nm,0.8s							
ASAJ	**Asahikawa**	**152.38**	**294**	PKP		**PKPdf**	**16 19 30.7**	**0.0**
	comp=Z,6.1nm,1.0s,baz=0.0,slow=2.0,SNR=3.0							
ASAJ				PKPbc		**PKiKP**	**16 19 38.1**	**+0.3**
	comp=Z,19nm,0.8s,baz=101,slow=3.1,SNR=13							
ASAJ	**Asahikawa**	**152.38**	**294**	PKPdf		**PKPdf**	**16 19 30.1**	**-0.5**
ASAJ				PKP		**PKPdf**	**16 19 30.7**	**0.0**
ASAJ				*e*PKPbc		**PKiKP**	**16 19 37.8**	**0.0**
ASAJ				PKPbc		**PKiKP**	**16 19 38.1**	**+0.3**
KHET	**Khetri**	**152.41**	**102**	*e*P		**PKPdf**	**16 19 30.6**	**-0.7**
KUDL	**Kundal**	**152.97**	**102**	*e*P		**PKPdf**	**16 19 31.5**	**-0.5**
TGY	**Tagaytay City**	**153.03**	**212**	PKPbc		**PKPbc**	**16 19 39.9**	**+0.1**
	comp=Z,146nm,0.3s,baz=119,slow=13,SNR=3.3							
RTK	**Rohtak**	**153.33**	**101**	*e*P		**PKPdf**	**16 19 31.2**	**-1.3**
SONA	**Sohna**	**153.48**	**103**	*e*P		**PKPdf**	**16 19 31.1**	**-1.6**
AYAN	**Aya Nagar**	**153.62**	**102**	*e*P		**PKPdf**	**16 19 31.9**	**-1.1**
AGRA	**Agra**	**153.63**	**106**	*e*P		**PKPdf**	**16 19 31.2**	**-1.8**
NDI	**New Delhi**	**153.79**	**102**	*e*PP		PP	16 23 30.0	+1.1
AML	**Almayashu**	**154.53**	**70**	P		**PKPdf**	**16 19 34.9**	**+0.5**
	SNR=14							
AML	**Almayashu**	**154.53**	**70**	P		**PP**	**16 23 33.7**	**+0.2**
	SNR=5.8							
EKS2	**Erkin-Say**	**154.60**	**69**	P		**PKPdf**	**16 19 35.6**	**+1.5**
	SNR=16							
EKS2	**Erkin-Say**	**154.60**	**69**	P		**PP**	**16 23 33.8**	**+0.3**
	SNR=6.3							
EKS2	**Erkin-Say**	**154.60**	**69**	*e*PKIKP		**PKPdf**	**16 19 34.7**	**+0.6**
EKS2				*e*			16 19 43.5	
EKS2	**Erkin-Say**	**154.60**	**69**	*e*PKPdf		**PKPdf**	**16 19 34.7**	**+0.6**
EKS2				*e*PKPbc		**PKiKP**	**16 19 43.5**	**+0.9**
SMLA	**Simla**	**154.83**	**97**	*i* P		**PKPdf**	**16 19 35.0**	**+0.4**
MJAR	**Matsushiro Arr**	**154.91**	**276**	PKP		**PKPdf**	**16 19 34.2**	**-0.4**
	comp=Z,2.7nm,1.1s,baz=113,slow=3.3,SNR=4.8							
MJAR				PKPbc		**PKiKP**	**16 19 43.5**	**+0.2**
	comp=Z,3.8nm,0.9s,baz=138,slow=2.9,SNR=6.6							
MJAR				PKPab		**PKPab**	**16 19 59.9**	**+1.1**
	comp=Z,4.1nm,1.1s,baz=79,slow=5.4,SNR=4.6							
MJAR				pPKPab		**pPKPab**	**16 20 06.4**	**-1.0**
	comp=Z,5.4nm,0.9s,baz=149,slow=2.9,SNR=5.7							
MJAR				PP		PP	16 23 42.8	+7.5
	comp=Z,0.7nm,0.7s,baz=111,slow=2.7,SNR=2.8							
USP	**Ospenovka**	**155.13**	**68**	P		**PKPdf**	**16 19 34.8**	**+0.1**
	SNR=19							
USP	**Ospenovka**	**155.13**	**68**	P		**PP**	**16 23 36.2**	**-0.1**
	SNR=5.1							
AAK	**Ala-Archa**	**155.13**	**69**	P		**PKPdf**	**16 19 35.9**	**+1.0**
	SNR=7.7							
AAK	**Ala-Archa**	**155.13**	**69**	P		**PP**	**16 23 36.7**	**+0.2**
	SNR=5.8							
AAK	**Ala-Archa**	**155.13**	**69**	*e*PKIKP		**PKPdf**	**16 19 35.4**	**+0.5**
AAK				MLR		MLR		
	comp=Z,2μm,19.0s							
AAK	**Ala-Archa**	**155.13**	**69**	*e*PKPdf		**PKPdf**	**16 19 35.4**	**+0.5**
AAK				LR		LR		
	comp=Z,2μm,19.0s							
UCH	**Uchtor**	**155.14**	**70**	P		**PKPdf**	**16 19 36.3**	**+1.0**
	SNR=24							
UCH	**Uchtor**	**155.14**	**70**	P		**PP**	**16 23 37.5**	**+0.6**
	SNR=5.6							
FRU	**Bishkek**	**155.22**	**69**	*e*PKIKP		**PKPdf**	**16 19 36.0**	**+1.2**
FRU				*i*			16 23 36.0	
FRU				*e*SS		SS	16 43 17.0	-3.0
FRU				pmax		pmax		
	comp=Z,195nm,2.3s							
FRU				pmax		pmax		
	comp=Z,410nm,2.3s							
FRU				pmax		pmax		
	comp=N,2μm,19.5s							
CHMS	**Chumysh**	**155.32**	**68**	P		**PKPdf**	**16 19 35.4**	**+0.4**
	SNR=6.4							
CHMS	**Chumysh**	**155.32**	**68**	P		**PP**	**16 23 37.5**	**+0.2**
	SNR=7.1							
KBK	**Karagaybulak**	**155.46**	**69**	P		**PKPdf**	**16 19 36.7**	**+1.3**
	SNR=8.0							
KBK	**Karagaybulak**	**155.46**	**69**	P		**PP**	**16 23 39.0**	**+0.6**
	SNR=11							
KZA	**Kyzart**	**155.68**	**70**	P		**PKPdf**	**16 19 37.0**	**+1.0**
	SNR=17							
KZA	**Kyzart**	**155.68**	**70**	P		**PP**	**16 23 40.8**	**+0.9**
	SNR=7.1							
TKM2	**Tokmak 2**	**155.94**	**68**	P		**PKPdf**	**16 19 36.5**	**+0.4**
	SNR=18							
TKM2	**Tokmak 2**	**155.94**	**68**	P		**PP**	**16 23 42.1**	**+1.0**
	SNR=9.1							
TKM2	**Tokmak 2**	**155.94**	**68**	*e*PKIKP		**PKPdf**	**16 19 36.2**	**+0.2**
TKM2				*e*			16 19 45.3	
TKM2				MLR		MLR		
	comp=Z,2μm,19.0s							
TKM2	**Tokmak 2**	**155.94**	**68**	*e*PKPdf		**PKPdf**	**16 19 36.2**	**+0.2**
TKM2				*e*PKPbc		PKPbc	16 19 45.3	
TKM2				LR		LR		
	comp=Z,2μm,19.0s							
KSH	**Kashi**	**156.07**	**77**	PKP		**PKPdf**	**16 19 36.4**	**+0.2**
KSH				sPKP			16 19 46.2	
KSH				PKS		**PKSdf**	**16 23 08.3**	**-1.9**
KSH				PP		**PP**	**16 23 38.8**	**-3.0**
KSH				SKS		**SKSdf**	**16 26 36.0**	**-4.8**
KSH				SKKS		**SKKSac**	**16 30 25.8**	**-3.4**
KSH				SS		**SS**	**16 43 25.5**	**-4.2**
KSH				PPMZ				
	comp=Z,380nm,4.0s							
KSH				LN				
	comp=Z,180nm,9.5s							
KSH				LE				
	comp=Z,230nm,6.6s							
KSH				LZ				
	comp=Z,1μm,22.6s							
ULHL	**Ulahol**	**156.42**	**70**	P		**PKPdf**	**16 19 37.6**	**+0.9**
	SNR=15							
ULHL	**Ulahol**	**156.42**	**70**	P		**PP**	**16 23 45.4**	**+1.7**
	SNR=13							
KURK	**Kurchatov**	**156.43**	**48**	*e*PKIKP		**PKPdf**	**16 19 36.3**	**+0.2**
KURK	**Kurchatov**	**156.43**	**48**	*e*PKPdf		**PKPdf**	**16 19 36.3**	**+0.2**
JOSI	**Joshimath**	**156.46**	**100**	*ex*		**PKPab**	**16 20 01.2**	**-4.6**
UTHA	**Uthaitani**	**156.75**	**162**	P		**PKPab**	**16 20 06.7**	**-0.2**
	comp=Z,5.4nm,1.1s							
NVS	**Novosibirsk**	**156.85**	**36**	⇑*i*PKIKP		**PKPdf**	**16 19 34.4**	**-2.1**
NVS				*i*			16 23 42.8	
NVS				pmax		pmax		
	comp=N,9.0nm,1.6s							
NVS				pmax		pmax		
	comp=E,20nm,1.6s							
NVS				pmax		pmax		
	comp=N,4.0nm,1.0s							
NVS				pmax		pmax		
	comp=E,48nm,2.5s							
ZALV	**Zalesovo Beam**	**158.13**	**36**	PKP		**PKPdf**	**16 19 37.9**	**-0.3**
	comp=E,14nm,0.8s,baz=278,slow=2.2,SNR=60							
ZALV				pPKP		**pPKPdf**	**16 19 46.2**	**-0.7**
	comp=E,21nm,1.1s,baz=294,slow=1.5,SNR=7.9							
ZALV				PKPab		**PKPab**	**16 20 13.3**	**+1.4**
	comp=E,18nm,0.9s,baz=306,slow=5.0,SNR=8.5							
ZALV				PP		PP	16 23 57.4	+5.4
	comp=E,1.1nm,0.7s,baz=267,slow=7.2,SNR=3.0							
KLR	**Kul'dur**	**158.76**	**310**	*e*PKIKP		PKPdf	16 19 32.2	-6.9
KLR				pmax		pmax		
	comp=Z,63nm,2.0s							
CMAR	**Chiang Mai Arr**	**159.38**	**159**	PKP		**PKPdf**	**16 19 40.9**	**+0.1**
	comp=Z,4.2nm,1.0s,baz=243,slow=2.4,SNR=28							
BOD	**Bodaibo**	**159.60**	**349**	*e*PKIKP		**PKPdf**	**16 19 35.3**	**-4.5**
BOD				*e*			16 20 17.4	
BOD				pmax		pmax		
	comp=Z,6.0nm,1.3s							
CHTO	**Chiang Mai**	**159.72**	**158**	*e*PKIKP		**PKPdf**	**16 19 40.7**	**-0.4**
CHTO				*e*			16 20 18.9	
CHTO	**Chiang Mai**	**159.72**	**158**	*e*PKPdf		**PKPdf**	**16 19 40.7**	**-0.4**
CHTO				*e*PKPab		**PKPab**	**16 20 18.9**	**-0.8**
USRK	**Ussuriysk Ar.**	**159.98**	**296**	PKPab		**PKPab**	**16 20 25.3**	**+4.9**
	comp=Z,1.1nm,0.7s,baz=82,slow=2.9,SNR=4.6							
MKAR	**Makanchi Array**	**160.04**	**56**	PKP		**PKPdf**	**16 19 40.8**	**+0.2**
	comp=Z,13nm,1.0s,baz=294,slow=1.7,SNR=66							
MKAR				pPKP		**pPKPdf**	**16 19 50.2**	**+0.7**
	comp=Z,24nm,1.1s,baz=291,slow=2.7,SNR=17							
MKAR				PKPab		**PKPab**	**16 20 21.1**	**+0.5**
	comp=Z,8.7nm,1.0s,baz=278,slow=2.8,SNR=8.5							
MKAR				pPKPab		**pPKPab**	**16 20 29.8**	**+0.7**
	comp=Z,11nm,0.9s,baz=284,slow=2.6,SNR=5.5							
MKAR				PP		**PP**	**16 24 03.2**	**+0.2**
	comp=Z,4.6nm,1.0s,baz=290,slow=6.0,SNR=5.6							
QIZ	**Qiongzhong**	**160.89**	**189**	PKP		**PKPdf**	**16 19 43.4**	**+1.0**
QIZ				PP		**PP**	**16 24 09.3**	**+2.9**
QIZ				SS		SS	16 44 22.8	+5.0
QIZ				PPMZ				
	comp=Z,470nm,4.1s							
QIZ				LZ				
	comp=Z,2μm,19.7s							
CRAI	**Chiangrai**	**161.46**	**161**	P		**PKPab**	**16 20 26.4**	**-0.9**
MDJ	**Mudanjiang**	**161.59**	**298**	PKP		**PKPdf**	**16 19 43.7**	**+1.3**
MDJ				pPKP		**pPKPdf**	**16 19 50.6**	**-0.5**
MDJ				sPKP			16 19 53.1	
MDJ				PP		**PP**	**16 24 13.4**	**+2.0**
MDJ				SS		SS	16 44 29.9	+2.5
MDJ				PPMZ				
	comp=Z,430nm,7.4s							
MDJ				LN				
	comp=Z,310nm,23.6s							
MDJ				LE				
	comp=Z,1μm,23.6s							
MDJ				LZ				
	comp=Z,2μm,22.1s							
TATO	**Taipei**	**161.90**	**228**	PFAKE			16 19 50.0	+6.7
TATO				LR		LR		
	comp=Z,869nm,19.0s							
SHL	**Shillong**	**162.37**	**130**	⇑*i*PKP		**PKPdf**	**16 19 45.0**	**+1.0**
SHL				*i* x		x	16 20 31.0	
KSRS	**Korea Array**	**163.17**	**275**	PKIKP		**PKPdf**	**16 19 43.2**	**-1.0**
KSRS							16 20 35.1	
KSRS				pmax		pmax		
	comp=Z,4.0nm,0.9s							
KSRS				pmax		pmax		
	comp=Z,2.0nm,0.8s							
KSRS				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KSRS	**Korea Array**	**163.17**	**275**	PKP		**PKPdf**	**16 19 43.2**	**-1.0**
	comp=Z,3.6nm,0.9s,baz=162,slow=0.9,SNR=7.4							
KSRS				PKPab		**PKPab**	**16 20 35.0**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=94,slow=4.7,SNR=3.5							
KSRS				pPKPab		**pPKPab**	**16 20 42.2**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=107,slow=4.9,SNR=3.8							
KSAR	**Wonju Array Be**	**163.20**	**275**	PKIKP		**PKPdf**	**16 19 43.2**	**-1.0**
KSAR							16 20 35.1	
KSAR	**Wonju Array Be**	**163.20**	**275**	PKP		**PKPdf**	**16 19 43.2**	**-1.0**
KSAR				PKPab		**PKPab**	**16 20 35.0**	**+0.3**
KSAR				pPKPab		**pPKPab**	**16 20 42.2**	**-1.1**
SLVN	**Son La**	**163.21**	**171**	*e*PKPdf		**PKPdf**	**16 19 45.8**	**+1.0**
QZH	**Quanzhou**	**163.49**	**221**	PKP		**PKPdf**	**16 19 43.6**	**-1.3**
QZH				*e*PP		**PP**	**16 24 24.1**	**+3.1**
QZH				SS		SS	16 44 42.6	-3.5
QZH				LZ				
	comp=Z,2μm,13.9s							
WMQ	**Urumqi**	**164.54**	**62**	PKP		**PKPdf**	**16 19 44.0**	**-1.3**
WMQ				pPKP		**pPKPdf**	**16 19 53.0**	**-1.1**
WMQ				PKPab		**PKPab**	**16 20 41.7**	**+1.2**
WMQ				PKS		**PKSdf**	**16 23 15.5**	**-2.7**
WMQ				PP		**PP**	**16 24 28.3**	**+1.1**
WMQ				SKKS			16 31 11.3	
WMQ				SS		**SS**	**16 44 56.4**	**-1.7**
WMQ				PPMZ				
	comp=Z,1μm,8.0s							
WMQ				LN				
	comp=Z,1μm,18.0s							
WMQ				LE				
	comp=Z,920nm,19.0s							
WMQ				LZ				
	comp=Z,2μm,21.0s							
CN2	**Changchun**	**164.68**	**298**	*e*PKP		**PKPdf**	**16 19 42.9**	**-2.5**
LSA	**Lhasa**	**164.69**	**118**	PKP		**PKPdf**	**16 19 46.2**	**-0.2**
LSA	**Lhasa**	**164.69**	**118**	*e*PKIKP		**PKPdf**	**16 19 46.7**	**+0.3**
LSA	**Lhasa**	**164.69**	**118**	*e*PKPdf		**PKPdf**	**16 19 46.7**	**+0.3**
IRK	**Irkutsk**	**165.67**	**6**	*e*PKIKP		**PKPdf**	**16 19 43.5**	**-2.4**
IRK				*e*			16 20 45.1	
IRK				*e*			16 24 31.7	
IRK				pmax		pmax		
	comp=Z,48nm,2.7s							
MOY	**Mondy**	**165.77**	**15**	*e*PKIKP		**PKPdf**	**16 19 46.7**	**+0.5**
TLY	**Talaya**	**166.16**	**8**	*i* PKIKP		**PKPdf**	**16 19 45.2**	**-1.2**
TLY				*e*			16 20 47.3	
TLY				*e*			16 24 36.0	
TLY				*e*SS		SS	16 45 13.5	+1.2
TLY				pmax		pmax		
	comp=Z,25nm,2.3s							
TLY	**Talaya**	**166.16**	**8**	PKP		**PKPdf**	**16 19 45.1**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=291,slow=8.6,SNR=4.5							
TLY				PKPab		**PKPab**	**16 20 45.9**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=327,slow=7.2,SNR=5.1							
TLY	**Talaya**	**166.16**	**8**	PKP		**PKPdf**	**16 19 45.1**	**-1.3**
TLY				PKPdf		PKPdf	16 19 45.3	-1.1
TLY				PKPab		**PKPab**	**16 20 45.9**	**-1.3**
KMI	**Kunming**	**166.73**	**164**	PKP		**PKPdf**	**16 19 48.3**	**+0.4**
KMI				pPKP		**pPKPdf**	**16 19 55.9**	**-0.8**
ZAK	**Zakamensk**	**167.40**	**10**	*e*PKIKP		**PKPdf**	**16 19 46.8**	**-0.7**
ZAK				*e*			16 20 52.3	
ZAK				pmax		pmax		
	comp=Z,7.0nm,2.3s							
ZAK				pmax		pmax		
	comp=Z,9.0nm,2.0s							
DL2	**Dalian**	**168.23**	**279**	*e*PKPab		PKPdf	16 19 55.0	+6.8
NJ2	**Nanjing**	**168.38**	**243**	*e*PKP		**PKPdf**	**16 19 49.0**	**+0.4**
GYA	**Guiyang**	**168.48**	**180**	PKP		**PKPdf**	**16 19 48.0**	**-1.0**
GYA				PKPab		**PKPab**	**16 21 00.8**	**+2.7**
GYA				PKS		**PKSdf**	**16 23 20.4**	**-1.4**
GYA				PP		**PP**	**16 24 50.6**	**+4.4**
GYA				SKKS			16 31 33.0	
GYA				SS		**SS**	**16 45 38.2**	**+2.4**
GYA				PPMZ				
	comp=Z,170nm,8.8s							
GYA				LN				
	comp=Z,340nm,22.5s							
GYA				LE				
	comp=Z,280nm,22.6s							
GYA				LZ				
	comp=Z,360nm,21.9s							
ULN	**Ulaanbaatar**	**170.15**	**358**	*e*PKIKP		**PKPdf**	**16 19 48.2**	**-1.2**
ULN	**Ulaanbaatar**	**170.15**	**358**	*e*PKPdf		**PKPdf**	**16 19 48.2**	**-1.2**
SONM	**Songino Array**	**170.18**	**1**	PKP		**PKPdf**	**16 19 48.6**	**-0.8**
	comp=Z,3.1nm,1.0s,baz=36,slow=3.3,SNR=15							
SONM				PKPab		**PKPab**	**16 21 06.2**	**+1.0**
	comp=Z,5.1nm,0.9s,baz=338,slow=4.8,SNR=6.9							
WHN	**Wuhan**	**170.21**	**223**	PKP		**PKPdf**	**16 19 50.9**	**+1.2**
WHN				PKPab		**PKPab**	**16 21 08.1**	**+2.4**
WHN				PP		**PP**	**16 24 59.7**	**+4.1**
WHN				SS		SS	16 45 55.7	+1.6
WHN				LZ				
	comp=Z,3μm,19.4s							
TIA	**Tai'an**	**171.45**	**261**	PKP		**PKPdf**	**16 19 49.7**	**-0.6**
TIA				PP		PP	16 25 08.3	+5.6
TIA				PPMZ				
	comp=Z,1μm,6.1s							
TIA				LN				
	comp=Z,1μm,19.8s							
TIA				LE				
	comp=Z,2μm,16.5s							
TIA				LZ				
	comp=Z,2μm,19.4s							
BJI	**Beijing**	**172.32**	**288**	PKP		**PKPdf**	**16 19 49.6**	**-0.9**
BJI				PP		**PP**	**16 25 09.5**	**+2.7**
BJI				SS		SS	16 46 17.2	+1.0
BJI				PPMZ				
	comp=Z,920nm,7.2s							
BJI				LN				
	comp=Z,1μm,19.4s							
BJI				LE				
	comp=Z,2μm,19.7s							
CD2	**Chengdu**	**172.52**	**160**	*e*PKP		**PKPdf**	**16 19 51.3**	**+0.3**
CD2				PKPab		**PKPab**	**16 21 15.2**	**-0.7**
CD2				PKS		**PKSdf**	**16 23 20.0**	**-3.4**
CD2				PP		**PP**	**16 25 05.9**	**-0.6**
CD2				SKS		**SKSdf**	**16 26 51.9**	**-0.6**
CD2				SKKS		**SKKSac**	**16 31 54.9**	**+2.8**
CD2				PPMZ				
	comp=Z,680nm,10.2s							
CD2				LN				
	comp=Z,1μm,19.0s							
CD2				LE				
	comp=Z,840nm,19.0s							
CD2				LZ				
	comp=Z,2μm,17.8s							
GTA	**Gaotai**	**174.46**	**73**	⇑PKP		**PKPdf**	**16 19 51.8**	**+0.2**
GTA				pPKP		**pPKPdf**	**16 20 00.0**	**-0.3**
GTA				sPKP			16 20 04.3	
GTA				PKPab		**PKPab**	**16 21 25.9**	**+1.2**
GTA				PP		**PP**	**16 25 19.0**	**+1.5**
GTA				SKS		**SKSdf**	**16 26 49.0**	**-3.9**
GTA				SKKS		**SKKSac**	**16 32 00.6**	**-1.2**
GTA				SS		**SS**	**16 46 32.6**	**-4.8**
GTA				PPMZ				
	comp=Z,1μm,6.4s							
GTA				LN				
	comp=Z,2μm,20.9s							
GTA				LE				
	comp=Z,920nm,22.8s							
GTA				LZ				
	comp=Z,2μm,22.8s							
XAN	**Xi'an**	**175.64**	**205**	PKP		**PKPdf**	**16 19 51.7**	**-0.2**
XAN				pPKP		**pPKPdf**	**16 20 01.7**	**+1.0**
XAN				PKPab		**PKPab**	**16 21 30.2**	**+0.5**
XAN				PP		**PP**	**16 25 24.0**	**+2.2**
XAN				SKKS			16 32 05.0	
XAN				PPMZ				
	comp=Z,140nm,5.8s							
XAN				LN				
	comp=Z,980nm,20.5s							
XAN				LZ				
	comp=Z,390nm,21.5s							
LZH	**Lanzhou**	**177.04**	**130**	*e*PKP		**PKPdf**	**16 19 53.0**	**+0.7**
LZH				pPKP		**pPKPdf**	**16 20 02.0**	**+0.9**
LZH				sPKP			16 20 04.8	
LZH				PKPab		PKPab	16 21 36.0

CGLM	Capps Glacier	3.02	2	P	Pn	16 10 52.7	+1.3
FIB	Fire Island	3.05	19	P	Pn	16 10 53.1	+1.3
RC01	Rabbit Creek A	3.07	23	P	Pn	16 10 52.5	+0.5
STLK	Strandline Lak	3.22	3	P	Pn	16 10 55.0	+0.9
PWL	Port Wells	3.23	36	P	Pn	16 10 54.7	+0.4
SUA	Susitna One	3.26	12	P	Pn	16 10 55.2	+0.4
SVW2	Sparrevohn	3.29	330	P	Pn	16 10 55.0	0.0
PMR	Palmer	3.65	24	P	Pn	16 10 60.0	+0.1
GLI	Glacier Island	3.67	43	P	Pn	16 11 00.1	-0.1
SKT	Skwentna	3.71	5	P	Pn	16 11 01.5	+0.7
CHGN	Chignik	3.92	242	eP	Pn	16 11 02.9	-0.8
JPK	Jack Peak	3.96	43	P	Pn	16 11 04.6	+0.3
EYAK	Cordova Ski Ar	4.00	53	P	Pn	16 11 05.1	+0.4
VLZ	Valdez	4.11	44	P	Pn	16 11 07.0	+0.8
SGAM	Sherman Glacie	4.20	55	P	Pn	16 11 08.3	+0.8
SCM	Sheep Creek Mo	4.30	32	P	Pn	16 11 09.8	+0.7
DIV	Divide	4.32	46	P	Pn	16 11 09.7	+0.5
RAGM	Ragged Mountai	4.39	58	P	Pn	16 11 10.6	+0.5
GOAT	Goat Mountain	4.45	56	P	Pn	16 11 12.0	+1.0
KLU	Klutina	4.50	42	P	Pn	16 11 12.4	+0.7
PPLA	Purkeypile	4.61	0	P	Pn	16 11 14.2	+0.9
BMRM	Bremner River	4.69	52	P	Pn	16 11 14.6	+0.2
TT01	Tatalina	4.99	339	P	Pn	16 11 18.4	+0.1
PS11	TAPS Pump St11	5.06	39	P	Pn	16 11 20.8	+1.4
TRF	Thorofare Moun	5.25	9	P	Pn	16 11 22.6	+0.4
GLB	Gilahina Butte	5.27	50	P	Pn	16 11 22.4	+0.1
KTH	Kantishna Hill	5.31	6	eP	Pn	16 11 23.2	+0.4
DHY	Denali Highway	5.35	24	P	Pn	16 11 24.1	+0.6
RND	Reindeer	5.38	16	P	Pn	16 11 24.1	+0.3
HAARP	HAARP	5.40	37	P	Pn	16 11 25.0	+0.9
SDPT	Sand Point 83nm,0.6s	5.42	240	eP	Pn	16 11 23.3	-1.0
MCK	McKinley	5.68	15	P	Pn	16 11 28.5	+0.6
PAX	Paxson 49nm,0.6s	5.74	32	eP	Pn	16 11 29.4	+0.7
BWN	Browne	6.04	11	P	Pn	16 11 32.8	+0.1
MENT	Mentasta	6.25	38	eP	Pn	16 11 37.1	+1.4
DDM	Donnelly Dome	6.31	27	P	Pn	16 11 37.4	+0.9
WRH	Wood River Hil	6.50	16	P	Pn	16 11 38.8	-0.3
HDA	Harding Lake	6.62	20	P	Pn	16 11 41.0	+0.2
DOT	Dot Lake 26nm,0.6s	6.67	33	eP	Pn	16 11 44.2	+2.8
CCB	Clear Creek Bu	6.71	16	P	Pn	16 11 41.6	-0.3
PS08	TAPS Pump Stn8	6.77	22	P	Pn	16 11 43.4	+0.6
MLY	Manley	6.79	5	P	Pn	16 11 42.7	-0.4
GCSA	Galena City Sc	6.84	343	P	Pn	16 11 43.5	-0.2
COLA	College	6.92	16	P	Pn	16 11 44.6	-0.2
MDM	Murphy Dome	6.95	14	P	Pn	16 11 45.3	+0.1
IL1	Eielson Array	6.97	19	P	Pn	16 11 45.6	+0.1
ILAR	Eielson Array 1.6nm,0.3s,baz=206,slow=14,SNR=76	6.97	19	Pn	Pn	16 11 45.5	0.0
ILAR				Sn	Sn	16 13 00.1	-3.3
	2.9nm,0.3s,baz=324,slow=9.1,SNR=8.1						
ILAR				LR	LR	16 14 52.7	
	comp=Z,241nm,20.1s,baz=191,slow=42						
ILB	Eielson Array	6.97	19	P	Pn	16 11 45.6	0.0
BCA3	Beaver Creek A	7.00	43	P	Pn	16 11 45.5	-0.4
IM3	Indian Mountai	7.75	355	P	Pn	16 11 56.2	0.0
EGAK	Eagle 14nm,0.7s	8.36	34	eP	Pn	16 12 04.9	+0.4
COLD	Coldfoot	9.01	5	P	Pn	16 12 12.5	-0.9
BM3	Burnt Mountain	9.78	17	P	Pn	16 12 22.2	-1.8
TNA	Tin City	10.36	321	eP	Pn	16 12 34.4	+2.6
DLBC	Dease Lake 1.0nm,0.3s,baz=292,slow=6.0,SNR=27	11.63	80	Pn	Pn	16 12 51.7	+2.3
DLBC				Sn	Sn	16 14 54.7	-3.1
	0.7nm,0.3s,baz=250,slow=25,SNR=5.3						
DLBC	Dease Lake	11.63	80	eP	Pn	16 12 50.6	+1.2
DLBC				Sn	Sn	16 14 54.7	-3.1
BBB	Bella Bella comp=Z,196nm,18.0s,baz=160,slow=34	14.99	104	LR	LR	16 18 36.4	
YKA	Yellowknife Ar 0.2nm,0.3s,baz=272,slow=9.9,SNR=36	18.85	61	P	Pn	16 14 23.8	+0.6
YKA				PcP	PcP	16 18 47.3	-0.3
	0.1nm,0.3s,baz=280,slow=1.4,SNR=6.1						
NEW	Newport 3.9nm,0.7s,baz=316,slow=9.1,SNR=8.8	22.99	101	P	P	16 15 09.9	+2.6
YBH	Yreka Blue Hor 6.2nm,0.7s,baz=328,slow=5.1,SNR=16	24.88	119	P	P	16 15 28.6	+3.4
HRY	Holter Researc 2.0nm,0.5s	26.74	98	eP	P	16 15 42.0	0.0
SEY	Seymchan 0.8nm,0.7s,baz=70,slow=15,SNR=5.8	26.84	303	P	P	16 15 43.9	+1.4
GCMT	Greycliff	28.48	97	eP	P	16 15 59.2	+1.6
ELK	Elko 1.7nm,0.9s,baz=10,slow=11,SNR=4.2	29.23	111	P	P	16 16 06.9	+2.6
NVAR	Mina Array Bea 3.0nm,0.8s,baz=307,slow=8.6,SNR=14	29.55	117	P	P	16 16 09.9	+2.6
PDAR	Pinedale Array 1.6nm,0.7s,baz=304,slow=4.9,SNR=7.2	30.62	102	P	P	16 16 18.6	+2.0
SRU	San Rafael Swe	32.82	107	eP	P	16 16 38.2	+2.2
BGNE	Belgrade	37.56	93	eP	P	16 17 17.7	+1.3
SPITS	Spitsbergen Ar 2.7nm,0.3s,baz=19,slow=5.3,SNR=42	43.59	3	P	P	16 18 04.6	-1.2
SPITS				pP	pP	16 18 16.7	0.0
	25nm,1.2s,baz=25,slow=4.1,SNR=1.5						
TXAR	Lajitas Array 0.9nm,0.9s,baz=328,slow=4.5,SNR=5.1	44.01	110	P	P	16 18 11.6	+1.8
SCHQ	Schefferville 2.2nm,0.7s,baz=290,slow=8.9,SNR=5.4	44.17	56	P	P	16 18 11.1	+0.4
OLIL	Olney 27nm,1.0s	44.80	87	eP	P	16 18 16.7	+0.7
JCT	Junction City 8.8nm,0.8s	45.03	105	eP	P	16 18 19.5	+1.6
ARCES	ARCESS Array B	52.45	1	P	P	16 19 13.3	-1.0
	9.4nm,1.0s,baz=19,slow=5.8,SNR=6.1						
SONM	Songino Array 0.6nm,0.8s,baz=38,slow=5.1,SNR=6.8	56.14	307	P	P	16 19 40.5	-1.1
ZALV	Zalesovo Beam 4.8nm,0.7s,baz=14,slow=5.1,SNR=4.5	59.00	325	P	P	16 20 00.2	-1.1
FINES	FINESS Array B 1.2nm,0.3s,baz=1.3,slow=7.3,SNR=12	60.59	1	P	P	16 20 11.1	-1.0
FINES				pP	pP	16 20 22.9	-0.5
	4.3nm,0.9s,baz=354,slow=9.9,SNR=3.0						
HFS	Hagfors 0.9nm,0.3s,baz=3.9,slow=4.3,SNR=10	61.39	8	P	P	16 20 16.6	-1.0
HFS				pP	pP	16 20 27.5	-1.4
	3.1nm,0.8s,baz=5.7,slow=4.3,SNR=3.0						
EKA	Eskdalemuir Ar 0.4nm,0.4s,baz=334,slow=5.8,SNR=6.7	64.01	19	P	P	16 20 34.8	-0.4
EKA				pP	pP	16 20 46.7	+0.2
	1.4nm,0.7s,baz=335,slow=5.7,SNR=4.3						
AKASG	Malin Array Be 1.1nm,0.4s,baz=0.4,slow=5.7,SNR=5.4	71.36	359	P	P	16 21 20.0	-1.5
AKASG				pP	pP	16 21 32.6	-0.3
	1.8nm,0.6s,baz=1.5,slow=5.9,SNR=4.5						
GERES	GERESS Array B 0.3nm,0.5s,baz=347,slow=4.0,SNR=3.5	72.59	10	P	P	16 21 28.8	-0.3
ESDC	Sonseca Array 0.9nm,0.8s,baz=0.1,slow=5.4,SNR=3.0	78.84	24	pP	pP	16 22 17.6	+1.1
BRTR	Keskin Array B 0.7nm,0.7s,baz=45,slow=0.6,SNR=3.5	82.22	355	P	P	16 22 22.6	-0.6
BRTR				pP	pP	16 22 35.4	+0.7
	2.1nm,0.8s,baz=0.0,slow=1.2,SNR=5.2						
CMAR	Chiang Mai Ar 1.3nm,1.1s,baz=51,slow=7.1,SNR=2.5	83.96	295	P	P	16 22 32.6	+0.3
CMAR				pP	pP	16 22 43.6	-0.3
	1.6nm,0.7s,baz=14,slow=5.1,SNR=6.1						
QSPA	South Pole Qui 2.1nm,0.8s,baz=9.3,slow=0.9,SNR=3.9	148.09	180	PKPbc	PKPbc	16 29 45.4	-0.7

*TIF **07** 16:10:48.9, 42.°57N×43.°45E, h13km*
*DDA **07** 16:10:49.4, 42.°47N×43.°44E, h7km, MD3.1*
*CSEM **07** 16:10:49.9±0.2, 42.°54N×43.°44E, h2km, mb3.8, Error ellipse: s-maj=4.1km s-min=2.8km az=101.0*
*MOS **07** 16:10:51.1±1.8, 42.°64N×43.°42E, h16km, mb3.8/1, Error ellipse: s-maj=11.0km s-min=6.2km az=76.3*

ISC 07 16:10:49.6±0.8, 42.°55N±0.°01×43.°44E±0.°02, h9km±5km, n67, σ1§12/113, 4C-7D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.05	15	P	Pg	16 10 51.6	+0.1
ONI				S	Sg	16 10 53.3	+0.4
DIGR	Digorskoe uzhe	0.37	17	‖iPG	Pg	16 10 56.6	-0.4
DIGR				i S	Sg	16 11 02.0	+0.1
DIGR	Digorskoe uzhe	0.37	17	i Pg	Pg	16 10 56.6	-0.4
DIGR				i Sg	Sg	16 11 02.0	+0.1
ZEI	Tsey	0.42	55	‖iPG	Pg	16 10 57.5	-0.4
ZEI				i S	Sg	16 11 03.4	-0.1
ZEI	Tsey	0.42	55	i Pg	Pg	16 10 57.5	-0.4
ZEI				i Sg	Sg	16 11 03.4	-0.1
LACR	Lac	0.69	66	‖iPG	Pg	16 11 02.3	-0.7
LACR				i S	Sg	16 11 11.6	-0.5
LACR	Lac	0.69	66	i Pg	Pg	16 11 02.3	-0.7
LACR				i Sg	Sg	16 11 11.6	-0.5
KORR	Kora	0.71	40	⇑iPG	Pb	16 11 03.4	-0.8
KORR				eS	Sb	16 11 13.2	-0.9
KORR	Kora	0.71	40	i Pg	Pb	16 11 03.4	-0.8
KORR				eSg	Sb	16 11 13.2	-0.9
LSNR	Lesken	0.79	21	‖ePG	Pb	16 11 04.8	-0.7
LSNR				eS	Sn	16 11 16.3	-2.6
LSNR	Lesken	0.79	21	ePg	Pb	16 11 04.8	-0.7
LSNR				eSg	Sn	16 11 16.3	-2.6
NEY	Neytrino	0.88	324	⇑ePG	Pg	16 11 05.9	-0.6
NEY				eS	Sb	16 11 17.9	-1.1
NEY	Neytrino	0.88	324	ePg	Pg	16 11 05.9	-0.6
NEY				eSg	Sb	16 11 17.9	-1.1
ARNR	Ardon	0.89	44	‖iPG	Pn	16 11 07.4	-0.9
ARNR				eS	Sn	16 11 19.6	-1.7
ARNR	Ardon	0.89	44	i Pg	Pn	16 11 07.4	-0.9
ARNR				eSg	Sn	16 11 19.6	-1.7
STDR	Stavd-Durt	0.94	29	‖iPG	Pn	16 11 09.2	+0.2
STDR				eS	Sn	16 11 22.3	-0.4
STDR	Stavd-Durt	0.94	29	i Pg	Pn	16 11 09.2	+0.2
STDR				eSg	Sn	16 11 22.3	-0.4
DUS	Dusheti	1.04	115	P	Pb	16 11 08.7	-1.1
DUS	Dusheti	1.04	115	P	Pb	16 11 08.7	-1.1
AKH	Akhalkalaki	1.14	178	ePN	Pb	16 11 10.6	-0.9
AKH				eSN	Sg	16 11 26.5	+0.3
AKH	Akhalkalaki	1.14	178	P	Pb	16 11 10.9	-0.6
AKH				S	Sn	16 11 27.2	-0.4
AKH	Akhalkalaki	1.14	178	ePn	Pb	16 11 10.6	-0.9
AKH	Akhalkalaki	1.14	178	P	Pb	16 11 10.9	-0.6
AKH				eSn	Sg	16 11 26.5	+0.3
AKH				S	Sn	16 11 27.2	-0.4
BTKR	Batakoyurt	1.16	44	⇑iPG	Pg	16 11 13.4	+1.6
BTKR				eS	Sn	16 11 28.8	+0.8
BTKR	Batakoyurt	1.16	44	i Pg	Pg	16 11 13.4	+1.6
BTKR				eSg	Sn	16 11 28.8	+0.8
KUBR	Kubataba	1.25	359	⇑ePG	Pg	16 11 14.1	+0.4
KUBR				eS	Sg	16 11 31.7	+1.7
KUBR	Kubataba	1.25	359	ePg	Pg	16 11 14.1	+0.4
KUBR				eSg	Sg	16 11 31.7	+1.7
TBLG	Delisi	1.27	130	ePN	Pn	16 11 12.6	-0.9
TBLG	Delisi	1.27	130	ePn	Pn	16 11 12.6	-0.9
SEAG	Tbilisi Sea	1.28	127	P	Pg	16 11 14.2	0.0
SEAG				S	Sg	16 11 31.0	+0.2
SEAG	Tbilisi Sea	1.28	127	P	Pg	16 11 14.2	0.0
SEAG				S	Sg	16 11 31.0	+0.2
PRTR	Priterechnaya	1.35	27	ePG	Pg	16 11 16.7	+1.1
PRTR				eS	Sg	16 11 35.2	+2.0
PRTR	Priterechnaya	1.35	27	ePg	Pg	16 11 16.7	+1.1
PRTR				eSg	Sg	16 11 35.2	+2.0
KZR	Kazreti	1.37	148	P	Pg	16 11 16.3	+0.4
KZR				S	Sb	16 11 32.8	-0.3
KZR	Kazreti	1.37	148	P	Pg	16 11 16.3	+0.4
KZR				S	Sb	16 11 32.8	-0.3
KIV	Kislovodsk	1.51	339	i PG	Pg	16 11 18.2	-0.4
KIV				i S	Sg	16 11 37.9	-0.3
KIV				pmax	pmax		
	comp=Z,25nm,1.1s						
KIV	Kislovodsk comp=Z,25nm,1.1s	1.51	339	i Pg	Pg	16 11 18.2	-0.4
KIV				i Sg	Sg	16 11 37.9	-0.3
TRKR	Terskaya comp=Z,46nm,0.2s	1.51	38	ePG	Pg	16 11 18.0	-0.6
TRKR				pmax	pmax		
TRKR	Terskaya comp=Z,46nm,0.2s	1.51	38	ePg	Pg	16 11 18.0	-0.6
PYA	Pyatigorsk	1.51	350	‖ePG	Pg	16 11 17.9	-0.7
PYA				eS	Sg	16 11 38.2	0.0
PYA	Pyatigorsk	1.51	350	ePg	Pg	16 11 17.9	-0.7
PYA				eSg	Sg	16 11 38.2	0.0
ARTV	Artvin	1.77	220	i P	Pb	16 11 21.5	-0.8
ARTV				i S	Sb	16 11 45.6	+1.0
ARTV	Artvin	1.77	220	i P	Pb	16 11 21.5	-0.8
ARTV				i S	Sb	16 11 45.6	+1.0
DBOC	Borcka	1.78	228	i P	Pb	16 11 21.9	-0.6
DBOC				i S	Sg	16 11 46.6	-0.3
DBOC	Borcka	1.78	228	i P	Pb	16 11 21.9	-0.6
DBOC				i S	Sg	16 11 46.6	-0.3
DGRG	David-gareji	1.81	126	P	Pg	16 11 23.4	-0.9
DGRG				S	Sg	16 11 50.0	+2.2
DGRG	David-gareji	1.81	126	P	Pg	16 11 23.4	-0.9
DGRG				S	Sg	16 11 50.0	+2.2
DAGI	Agillar	1.86	218	i P	Pb	16 11 23.3	-0.5
DAGI				i S	Sg	16 11 48.8	-0.4
EAK	Akyaka	1.86	176	i P	Pb	16 11 24.0	+0.1
EAK				i S	Sb	16 11 48.1	+0.8
EAK	Akyaka	1.86	176	i P	Pb	16 11 24.0	+0.1
EAK				i S	Sb	16 11 48.1	+0.8
DBAD	Bademkaya	2.01	221	i P	Pb	16 11 25.6	-0.7
DBAD				i S	Sg	16 11 53.0	-1.1
DBAD	Bademkaya	2.01	221	i P	Pb	16 11 25.6	-0.7
DBAD				i S	Sg	16 11 53.0	-1.1
DDEM	Demirkent	2.08	218	i P	Pb	16 11 27.4	-0.1
DDEM				i S	Sg	16 11 56.1	-0.3
DDEM	Demirkent	2.08	218	i P	Pb	16 11 27.4	-0.1
DDEM				i S	Sg	16 11 56.1	-0.3
GNI	Garni	2.59	157	ePN	Pb	16 11 37.2	+0.9
GNI	Garni	2.59	157	ePN	Pg	16 11 37.9	-1.3
GNI	Garni	2.59	157	ePn	Pb	16 11 37.2	+0.9
ANN	Anapa	4.90	299	ePN	Pn	16 12 04.2	+0.8
ANN				eS	Sn	16 13 04.7	+4.5
ANN				pmax	pmax		
	comp=Z,297nm,1.7s						
ANN	Anapa comp=Z,297nm,1.7s	4.90	299	ePn	Pn	16 12 04.2	+0.8
KIEV	Kiev	12.71	315	eP	Pn	16 13 52.8	+2.4
KIEV	Kiev	12.71	315	eP	Pn	16 13 52.8	+2.4
OBN	Obninsk	13.36	343	eP	Pn	16 14 00.0	+0.8
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OBN	Obninsk comp=Z,3.0nm,1.0s	13.36	343	eP	Pn	16 14 00.0	+0.8
APE	Apeiranthos	14.80	254	eP	P	16 14 22.3	-2.8
KURK	Kurchatov	25.31	59	eP	P	16 16 19.3	+3.0
KURK	Kurchatov	25.31	59	eP	P	16 16 19.3	+3.0
SUKH	Sukhothai comp=Z,6.7nm,1.0s	53.59	100	P	P	16 20 15.0	+3.9

DJA 07 16:12:08.0±0.4, 9.°S±8.°×11.°9E±.°, h97km±7km, M3.5/7, mb3.3/1, mMB4.5/1, MLv3.5/7, Mw(mB)3.6/1, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	1.80	118	P	Pn	16 12 33.2	-4.7
MMRI	Maumere	3.52	87	P	Pn	16 13 01.7	+1.0
BKSI	Bulukumba	3.77	22	P	Pn	16 13 03.4	-0.6
JAGI	Jajag, Banyuwa	4.49	274	P	Pn	16 13 12.8	-1.0
BATI	Baumata	5.10	106	P	Pn	16 13 22.6	+0.4
BATI				S	Sn	16 14 20.9	+1.0

MAN 07 16:14:50, 18.°09N×122.°24E, h2km, mb4.5, ML3.4, MS3.3, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	0.24	311	eP	Pg	16 14 55.9	+1.3
CVP	Callao Caves	0.55	226	⇑iP	Pb	16 15 03.0	+0.7
CVP				i S	Sn	16 15 14.0	-0.6
APYP	Conner	0.97	257	eP	Pb	16 15 09.7	+0.1
APYP				eS	Sn	16 15 25.6	+0.6
ABRA	Dolores	1.51	254	eP	Pn	16 15 18.1	0.0
ABRA				eS	Sg	16 15 41.1	+2.4
PIP	Pasuquin	1.55	279	⇑eP	Pn	16 15 18.2	-0.5
BCPH	Baguio City Da	2.32	223	⇑iP	Pn	16 15 30.8	+1.3
BCPH				i S	Sg	16 16 03.6	-1.4
BALP	Baler	2.42	195	eP	Pn	16 15 31.5	+0.9
PCPH	Palayan	2.74	204	‖eP	Pn	16 15 37.2	+2.2
BOLP	Bolinao	2.79	233	eP	Pn	16 15 37.0	+1.3

*BJI **07** 16:15:28.0, 15.°75N×147.°98E, h10km, mB5.1/37, mb5.0/44, Ms4.9/28, Ms7 4.5/27*
*IDC **07** 16:15:30.8±0.4, 15.°88N×147.°58E, h0km, mb4.8/33, mb1 4.9/34, mb1mx4.9/37, mbtmp4.8/34, ML4.9/1, MS3.7/5, Ms1 3.7/5, ms1mx3.5/38, Error ellipse: s-maj=15.3km s-min=9.4km az=84.0*

*NEIC **07** 16:15:33.8±3.1, 15.°85N×147.°55E, h20km±19km, mb5.0/46, Error ellipse: s-maj=6.2km s-min=4.0km az=104.0*
*ISCJB **07** 16:15:34.5±0.2, 15.°85N±0.°04×147.°53E±0.°03, h33km, mb4.9/106, MS4.4/11, Error ellipse: s-maj=5.4km s-min=3.7km az=173.3*
*MOS **07** 16:15:34.1±0.9, 15.°88N×147.°52E, h33km, mb5.2/34, MS5.1/4, Error ellipse: s-maj=10.5km s-min=6.0km az=103.5*

ISC 07 16:15:34.5±0.5, 15.°88N±0.°04×147.°62E±0.°05, h24km±2km, h24km:pP-P, n367, σ1§19/403, mb5.0/107, MS4.5/11, 63C-77D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	3.50	230	eP	Pn	16 16 26.9	-0.6
CBIJ	Chichi jima	12.25	337	ePn	Pn	16 18 25.8	-1.8
CBIJ				Sn	Sn	16 20 39.3	-4.1
JCJ	Chichijima 7.9nm,0.3s,baz=251,slow=21,SNR=5.9	12.25	337	Pn	Pn	16 18 26.5	-1.0
JCJ				Sn	Sn	16 20 39.3	-4.1
	11nm,0.3s,baz=255,slow=21,SNR=6.0						
H11S3	WAKE ISLAND Hy 18.40 baz=263,slow=74,SNR=4.0	79		T	T	16 38 05.9	
H11S1	WAKE ISLAND Hy 18.42 baz=263,slow=74,SNR=3.3	79		T	T	16 38 07.5	
H11S2	WAKE ISLAND Hy 18.42 baz=263,slow=74,SNR=6.4	79		T	T	16 38 08.3	
WAKE	Wake Island	18.46	77	eP	P	16 19 45.6	-3.0
H11N1	WAKE ISLAND Hy 18.74 baz=264,slow=74,SNR=8.5	75		T	T	16 36 34.1	
H11N2	WAKE ISLAND Hy 18.75 baz=264,slow=74,SNR=9.3	75		T	T	16 36 43.2	
H11N3	WAKE ISLAND Hy 18.76 baz=264,slow=74,SNR=7.0	75		T	T	16 36 32.3	
JOW	Kunigami 1.6nm,0.3s,baz=129,slow=16,SNR=7.0	21.03	304	P	P	16 20 17.1	+0.5
JOW				LR	LR	16 27 15.6	
	comp=Z,78nm,20.9s,baz=116,slow=34						
JOW	Kunigami 25nm,1.0s	21.03	304	eP	P	16 20 16.9	+0.3
MJAR	Matsushiro Arr 4.5nm,0.4s,baz=166,slow=8.5,SNR=28	22.22	340	P	P	16 20 28.5	-0.8
MJAR				S	S	16 24 33.3	+0.5
	3.0nm,0.9s,baz=170,slow=16,SNR=3.3						
MAJO	Matsushiro	22.22	340	eP	P	16 20 26.7	-2.7
MAJO				pmax	pmax		
	comp=Z,24nm,0.6s						
MAJO	Matsushiro comp=Z,24nm,0.6s	22.22	340	eP	P	16 20 26.7	-2.7
MAT	Matsushiro	22.22	340	P	P	16 20 28.7	-0.7
MAT				S	S	16 24 33.0	+0.2
JNU	Nakatsue comp=Z,17nm,0.9s,baz=124,slow=1.0,SNR=7.4	22.90	322	P	P	16 20 35.8	-0.8
JNU				LR	LR	16 28 48.6	
	comp=Z,293nm,18.4s,baz=129,slow=35						
JNU	Nakatsue	22.90	322	eP	P	16 20 36.2	-0.4
FAKI	Fak Fak comp=Z,83nm,1.1s	24.08	220	eP	P	16 20 48.0	-0.3
PMG	Port Moresby	25.12	181	c iP	P	16 20 57.5	-0.2
PMG				pmax	pmax		
	comp=Z,27nm,0.8s						
PMG	Port Moresby	25.12	181	P	P	16 20 57.5	-0.2
	comp=Z,23nm,0.6s,baz=17,slow=13,SNR=16						
PMG	Port Moresby comp=Z,26nm,0.8s	25.12	181	eP	P	16 20 57.4	-0.3
YULB	Yu-li	25.86	291	eP	P	16 21 05.1	+0.6
KSRS	Korea Array comp=Z,4.9nm,0.6s,baz=141,slow=9.1,SNR=14	27.67	325	P	P	16 21 20.0	-0.5
KSAR	Wonju Array Be	27.68	325	P	P	16 21 20.0	-0.7
KSAR	Wonju Array Be	27.68	325	P	P	16 21 20.0	-0.7
HNR	Honiara comp=Z,422nm,19.1s,baz=28,slow=35	27.95	153	LR	LR	16 31 53.3	
ASAJ	Asahikawa comp=Z,35nm,0.9s,baz=188,slow=7.5,SNR=16	28.47	352	P	P	16 21 29.4	+1.7
ASAJ	Asahikawa	28.47	352	eP	P	16 21 29.6	+1.9
NJ2	Nanjing	30.69	307	eP	P	16 21 48.6	+1.1
NJ2				PMZ			
	comp=Z,20nm,0.7s						
USRK	Ussuriysk Ar. comp=Z,9.5nm,0.8s,baz=141,slow=8.8,SNR=8.0	31.19	338	P	P	16 21 52.6	+0.9
YSS	Yuzh-Sakhalins	31.25	354	⇑iP	P	16 21 53.0	+0.8
YSS				e		16 22 08.0	
MDJ	Mudanjiang	32.45	336	P	P	16 22 04.1	+1.3
MDJ				PMZ			
	comp=Z,10.0nm,0.9s						
MDJ				PMZ			
	comp=Z,160nm,4.7s						
MDJ	Mudanjiang	32.45	336	eP	P	16 22 02.8	0.0
CN2	Changchun	33.62	330	eP	P	16 22 15.0	+2.0
WHN	Wuhan	33.73	302	P	P	16 22 16.0	+1.8
SOEI	Soe comp=Z,37nm,0.9s	34.40	224	eP	P	16 22 18.6	-1.6
KAPI	Kappang comp=Z,72nm,1.0s	34.52	235	P	P	16 22 19.9	-1.2
BATI	Baumata comp=Z,57nm,1.0s,baz=333,slow=4.2,SNR=13	35.13	224	P	P	16 22 25.1	-1.4
KLR	Kul'dur	35.70	342	eP	P	16 22 27.3	-3.6
KLR				pmax	pmax		
	comp=E,24nm,1.0s						
KLR				pmax	pmax		
	comp=Z,44nm,1.0s						
CTA	Charters Tower comp=Z,10.0nm,0.8s,baz=1.9,slow=9.8,SNR=18	35.76	182	P	P	16 22 32.1	+0.4
CTAO	Charters Tower	35.76	182	eP	P	16 22 32.0	+0.2
CTAO				pmax	pmax		
	comp=Z,13nm,0.9s						
CTAO	Charters Tower

HHC PMZ
comp=Z,110nm,3.9s
HHC LN
comp=Z,330nm,17.3s
HHC LE
comp=Z,2µm,17.5s
HHC LZ
comp=Z,320nm,18.5s
HIA Hailar 40.30 332 *e*P **P 16 23 07.9 -1.9**
HIA pmax pmax
comp=Z,10.0nm,0.9s
HIA Hailar 40.30 332 *e*P **P 16 23 09.7 -0.1**
comp=Z,8.0nm,0.6s
AS31 Alice Springs 41.52 199 *e*P **P 16 23 19.8 -0.3**
ASAR Alice Springs 41.52 199 P **P 16 23 19.8 -0.3**
comp=Z,5.8nm,0.8s,baz=24,slow=7.3,SNR=52
ASAR PcP **PcP 16 25 18.1 +0.6**
comp=Z,2.2nm,0.8s,baz=15,slow=2.8,SNR=4.2
SLVN Son La 41.69 284 *e*P **P 16 23 21.6 -0.1**
comp=Z,8.6nm,0.8s
FX1 Attu Island--F 42.06 23 LR LR 16 36 46.2
comp=Z,84nm,21.9s,baz=166,slow=30
CD2 Chengdu 42.66 299 *e*P **P 16 23 28.6 -0.9**
CD2 PMZ
comp=Z,10.0nm,1.1s
KMI Kunming 42.87 290 P **P 16 23 33.4 +2.0**
KMI PMZ
comp=Z,8.0nm,1.0s
LZH Lanzhou 43.76 306 *e*P **P 16 23 39.2 +0.8**
LZH pP **pP 16 23 44.5 -1.3**
LZH sP **sP 16 23 47.1 -1.7**
LZH PP **PP 16 25 22.7 +2.3**
LZH *e*S **S 16 30 08.2 +0.5**
LZH sS **sS 16 30 17.5 -2.4**
LZH *e*SS SS 16 33 15.6 -8.2
LZH PMZ
comp=Z,38nm,1.3s
LZH PMZ
comp=Z,160nm,5.4s
LZH LN
comp=Z,610nm,12.5s
LZH LE
comp=Z,710nm,13.7s
LZH LZ
comp=Z,1µm,17.5s
CLNS Chul'man 44.36 342 *e*P **P 16 23 42.2 -0.5**
CLNS pmax pmax
comp=Z,20nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS pmax pmax
comp=N,15nm,1.3s
PBKT Sadao Pong 44.72 278 P **P 16 23 48.0 +1.9**
comp=N,20nm,0.9s
UTTA Uttaradit 45.00 279 P **P 16 23 49.8 +1.4**
comp=N,6.3nm,0.8s
CRAI Chiangrai 45.02 283 P P 16 23 54.0 +5.5
comp=N,39nm,1.9s
PAYA Payao 45.53 282 P **P 16 23 54.6 +2.0**
comp=N,8.2nm,0.9s
ULN Ulaanbaatar 46.11 323⇑*i*P **P 16 23 57.2 +0.2**
ULN pmax pmax
comp=Z,19nm,1.2s
ULN Ulaanbaatar 46.11 323 *e*P **P 16 23 57.0 +0.1**
comp=Z,11nm,0.7s
CMAI Chiengmai2 46.28 283 P **P 16 24 00.5 +1.9**
comp=Z,38nm,0.7s
CHTO Chiang Mai 46.44 281 *e*P **P 16 24 00.4 +0.6**
CHTO Chiang Mai 46.44 281 P **P 16 24 01.1 +1.3**
CHTO Chiang Mai 46.44 281 *e*P **P 16 24 00.3 +0.6**
CMAR Chiang Mai Arr 46.47 281 P **P 16 24 01.0 +1.0**
comp=Z,15nm,0.9s,baz=76,slow=6.3,SNR=59
SONM Songino Array 46.48 322 P **P 16 23 59.9 0.0**
comp=Z,3.8nm,0.6s,baz=132,slow=6.3,SNR=40
SONM PcP **PcP 16 25 34.7 +0.6**
comp=Z,3.3nm,0.8s,baz=142,slow=1.9,SNR=3.8
SEY Seymchan 47.12 3 P **P 16 24 06.1 +1.7**
comp=Z,25nm,0.9s,baz=173,slow=7.3,SNR=26
IPM Ipoh 47.13 261 *e*P **P 16 24 05.3 +0.1**
comp=Z,30nm,1.0s
KULM Kulim 47.25 262 *e*P **P 16 24 07.5 +1.3**
GTA Gaotai 47.73 309⇑P **P 16 24 10.8 +1.1**
GTA pP **pP 16 24 15.5 -1.7**
GTA sP **sP 16 24 17.9 -2.2**
GTA PcP **PcP 16 25 40.1 +1.4**
GTA PP **PP 16 26 02.5 +1.0**
GTA S **S 16 31 06.5 +1.7**
GTA SS **SS 16 34 28.9 -4.3**
GTA PMZ
comp=Z,9.0nm,1.3s
GTA PMZ
comp=Z,78nm,5.2s
GTA LN
comp=Z,340nm,17.1s
GTA LE
comp=Z,380nm,18.5s
GTA LZ
comp=Z,650nm,19.9s
YAK Yakutsk 47.83 349 *e*P **P 16 24 09.6 -0.3**
YAK *e* 16 25 38.3
YAK *e* 16 26 02.5
YAK *e*S **S 16 31 07.6 +2.5**
YAK *e**SS **sS 16 31 13.3 -4.1**
YAK *e* 16 33 58.1
YAK *e*SSS SSS 16 35 44.7
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,15nm,1.1s
YAK smax smax
comp=N,24nm,1.5s
YAK smax smax
comp=E,100nm,2.5s
YAK MLR MLR
comp=N,980nm,20.0s
YAK MLR MLR
comp=Z,1µm,20.0s
YAK MLR MLR
comp=E,711nm,24.0s
YAK Yakutsk 47.83 349 *e*P **P 16 24 10.1 +0.2**
PSI Prapat 49.63 260 LR LR 16 46 03.2
comp=E,91nm,19.9s,slow=37
BBOO Buckleboo 49.66 193 *e*P **P 16 24 24.1 -0.2**
comp=E,642nm,0.6s
TLY Talaya 49.92 326 P **P 16 24 26.3 +0.1**
TLY pmax pmax
comp=Z,3.0nm,0.6s
TLY Talaya 49.92 326 P **P 16 24 26.3 +0.1**
comp=Z,2.9nm,0.6s
MOY Mondy 51.37 325 *e*P **P 16 24 38.1 +0.9**
LSA Lhasa 53.38 295 P P 16 24 57.8 +4.9
LSA Lhasa 53.38 295 *e*P **P 16 24 53.5 +0.6**
LSA pmax pmax
comp=Z,13nm,0.4s
LSA Lhasa 53.38 295 *e*P **P 16 24 53.5 +0.6**
comp=Z,13nm,0.4s
BILL Biiibino 53.50 9*d i*P **P 16 24 53.5 +0.9**
BILL *i* 16 25 09.2
BILL pmax pmax
comp=Z,50nm,1.2s
BILL Biiibino 53.50 9 *e*P **P 16 24 53.5 +0.9**
comp=Z,42nm,1.1s
GAMB Gambell 55.41 21 *e*P **P 16 25 07.6 +1.1**
comp=Z,25nm,1.4s
TAPN Taplejung 56.40 292 *e*P **P 16 25 15.3 +0.6**
comp=Z,48nm,1.0s
ODAN Odare 56.70 292 *e*P **P 16 25 16.9 +0.2**
TIXI Tiksi 56.87 353 *e*P **P 16 25 16.7 -0.2**
TIXI Tiksi 56.87 353 *e*P **P 16 25 16.7 -0.2**
RAMN Ramite 57.40 292 *e*P **P 16 25 22.4 +0.7**
comp=Z,22nm,0.7s
WMQ Urumqi 57.54 312 P **P 16 25 23.2 +1.0**
WMQ PcP **PcP 16 26 16.5 +1.0**
WMQ PP **PP 16 27 32.5 +2.6**
WMQ S **S 16 33 18.4 -0.3**
WMQ ScS **ScS 16 35 09.0 -1.4**
WMQ SS **SS 16 37 10.4 +1.7**
WMQ PMZ
comp=Z,33nm,1.2s
WMQ PMZ
comp=Z,230nm,4.0s
WMQ LN
comp=Z,490nm,23.0s
WMQ LE
comp=Z,230nm,23.0s
WMQ LZ
comp=Z,580nm,23.0s
JIRN Jiri 57.74 293 *e*P **P 16 25 24.4 +0.2**
comp=Z,45nm,0.6s
TNA Tin City 57.79 20 *e*P **P 16 25 23.5 +0.1**
comp=Z,10nm,1.2s
GUN Gumba 58.01 293 *e*P **P 16 25 26.4 +0.3**
PKI Pulchoki 58.44 293 *e*P **P 16 25 28.6 -0.5**
comp=Z,46nm,1.0s
PKIN Phulchoki 58.45 293 *e*P **P 16 25 29.4 +0.3**
KKN Kakani 58.54 293 *e*P **P 16 25 30.0 +0.3**
comp=Z,25nm,0.8s
DMN Daman 58.70 293 *e*P **P 16 25 31.3 +0.5**
comp=Z,17nm,0.5s
GKN Gorkha 59.10 293 *e*P **P 16 25 33.4 -0.1**
comp=Z,54nm,0.9s
DANN Dangsing 59.86 294 *e*P **P 16 25 39.1 +0.2**
comp=Z,75nm,0.8s
KOLN Koldanda 60.03 293 *e*P **P 16 25 40.0 +0.1**
comp=Z,19nm,0.7s
ZALV Zalesovo Beam 61.36 323 P **P 16 25 47.7 -0.5**
comp=Z,3.5nm,0.4s,baz=111,slow=6.5,SNR=12
ZALV PcP **PcP 16 26 30.0 -0.4**
comp=Z,6.0nm,0.7s,baz=116,slow=4.8,SNR=6.1
MK31 Makanchi Array 61.74 315 P **P 16 25 51.6 +0.6**
MK31 pmax pmax
comp=Z,6.0nm,0.5s
MKAR Makanchi Array 61.74 315 P **P 16 25 51.5 +0.5**
comp=Z,8.1nm,0.5s,baz=90,slow=8.1,SNR=48
NVS Novosibirsk 62.46 324 *e*P **P 16 25 55.9 +0.3**
NVS pmax pmax
comp=Z,12nm,1.0s
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,11nm,1.1s
KTH Kantishna Hill 63.32 26 *e*P **P 16 26 01.7 +0.3**
comp=E,37nm,1.0s
TRF Thorofare Moun 63.56 26 *e*P **P 16 26 03.0 0.0**
comp=E,4.8nm,0.7s
KURK Kurchatov 64.59 319 P **P 16 26 09.6 -0.2**
comp=E,152nm,0.8s,SNR=7.3
KURK Kurchatov 64.59 319 *e*P **P 16 26 09.7 -0.1**
KURK pmax pmax
comp=Z,29nm,1.0s
KURK Kurchatov 64.59 319 *e*P **P 16 26 09.7 -0.1**
comp=Z,29nm,1.0s
COLD Coldfoot 64.83 22 *e*P **P 16 26 12.5 +1.4**
comp=Z,12nm,1.1s
COLA College 65.01 25 *e*P **P 16 26 11.1 -1.1**
COLA pmax pmax
comp=Z,30nm,1.2s
ILAR Eielson Array 65.37 25 P **P 16 26 13.6 -1.1**
comp=Z,8.5nm,1.0s,baz=259,slow=5.0,SNR=50
PAX Paxson 65.53 28 *e*P **P 16 26 16.5 +0.7**
PAX pmax pmax
comp=Z,7.0nm,0.7s
PAX Paxson 65.53 28 *e*P **P 16 26 16.4 +0.7**
comp=Z,7.1nm,0.7s
HYB Hyderabad 65.85 282 *i*P **P 16 26 17.5 -1.1**
KSH Kashi 66.00 307 P **P 16 26 22.0 +2.6**
KSH sP **sP 16 26 31.1 +1.1**
KSH PP PP 16 28 50.0 +5.3
KSH S **S 16 35 08.1 +2.1**
KSH sS **sS 16 35 18.2 -0.5**
KSH SS **SS 16 39 25.1 +3.8**
KSH PMZ
comp=Z,11nm,0.6s
KSH PMZ
comp=Z,81nm,6.3s
KSH LN
comp=Z,110nm,4.9s
KSH LE
comp=Z,100nm,5.3s
KSH LZ
comp=Z,340nm,9.1s
TKM2 Tokmak 2 66.26 310 *e*P **P 16 26 20.8 -0.3**
TKM2 Tokmak 2 66.26 310 *e*P **P 16 26 20.8 -0.3**
MENT Mentasta 66.30 28 P **P 16 26 19.2 -1.5**
AAK Ala-Archa 67.07 310 *e*P **P 16 26 26.9 +0.7**
AAK pmax pmax
comp=Z,8.0nm,1.0s
EGAK Eagle 67.77 26 *e*P **P 16 26 29.8 -0.2**
comp=Z,22nm,1.1s
BVA0 Borovoye Array 69.81 321 *i*P **P 16 26 42.6 -0.3**
BVA0 pmax pmax
comp=Z,12nm,0.6s
BRVK Borovoye 69.87 321*ce*P **P 16 26 44.0 +0.7**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 69.87 321 *e*P **P 16 26 43.1 -0.2**
KK31 Karatay Array 69.98 311 *i*P **P 16 26 43.8 -0.4**
KK31 pmax pmax
comp=Z,14nm,0.9s
KKAR Karatay Array 69.98 311 *e*P **P 16 26 44.4 +0.2**
KKAR Karatay Array 69.98 311 *e*P **P 16 26 44.4 +0.2**
KBL Kabul 71.89 302 P **P 16 26 55.6 -0.6**
KBL pmax pmax
comp=Z,21nm,0.9s
KBL Kabul 71.89 302 P **P 16 26 55.6 -0.6**
comp=Z,21nm,0.9s
DLBC Dease Lake 72.63 33 P **P 16 27 01.1 +1.1**
comp=Z,12nm,1.0s,baz=285,slow=6.4,SNR=12
SVE Sverdlovsk 75.23 325⇓*i*P **P 16 27 15.6 +0.5**
SVE pmax pmax
comp=Z,17nm,0.9s
ARU Arti 76.42 325 P **P 16 27 22.7 +0.8**
comp=Z,143nm,0.7s,SNR=6.5
ARU Arti 76.42 325*d i*P **P 16 27 21.7 -0.2**
ARU 16 30 11.5
ARU S **S 16 37 05.8 +0.1**
ARU SS **SS 16 41 58.9 -1.0**
ARU pmax pmax
comp=Z,45nm,1.7s
ARU Arti 76.42 325 *e*P **P 16 27 21.0 -0.9**
AB31 Akbulak array 76.65 318 P **P 16 27 24.9 +1.6**
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 76.65 318 *e*P **P 16 27 22.9 -0.4**
AKTO Aktyubinsk 77.69 319 P **P 16 27 32.0 +2.8**
AKTO pmax pmax
comp=Z,3.0nm,0.7s
I03D Drain, OR 78.53 48⇓P **P 16 27 35.2 +1.2**
baz=78
MBW Mount Baker 78.55 42 P **P 16 27 35.1 +0.9**
JCW Jim Creek 78.64 43 P **P 16 27 35.7 +1.2**
TDL Tradedollar La 78.81 45 P **P 16 27 36.4 +0.8**
I04A Tendick Farm, 79.17 48⇑P **P 16 27 38.5 +0.9**
baz=79
M02C Callahan 79.34 50⇓P **P 16 27 39.0 +0.4**
baz=79
J04D Umpqua Nationa 79.50 48⇑P **P 16 27 39.9 +0.3**
baz=80
YKA Yellowknife Ar 79.61 28 P **P 16 27 39.3 -0.1**
comp=Z,12nm,0.8s,baz=285,slow=5.4,SNR=132
NLW Nelson Butte 79.71 43 P **P 16 27 41.0 +0.5**
TBM Table Mountain 79.73 44 P **P 16 27 41.4 +0.8**
ETW Entiat 79.81 43 P **P 16 27 41.7 +0.6**
M04C Macdoel 80.00 49⇑P **P 16 27 42.9 +0.7**
baz=80
GEYT Alibeck 80.04 307 P **P 16 27 43.1 +0.7**
comp=Z,7.2nm,0.9s,baz=46,slow=4.2,SNR=10
J05D Fort Rock, OR 80.11 48⇓P **P 16 27 43.4 +0.6**
baz=80
MDW Midway 80.41 44 P **P 16 27 45.1 +1.0**
MDW Midway 80.41 44 P **P 16 27 45.1 +1.0**
OD2 Odessa Site #2 80.93 43 P **P 16 27 47.4 +0.4**
RES Resolute Bay 81.72 14 P **P 16 27 51.1 +0.5**
comp=Z,11nm,0.8s,baz=326,slow=5.0,SNR=39
PRGR Permogore 81.76 332 *e*P **P 16 27 50.2 -0.8**
NEW Newport 81.76 42⇑P **P 16 27 52.1 +0.8**
baz=82
WVOR Wild Horse Val 82.17 48 *e*P **P 16 27 54.1 +0.4**
WVOR pmax pmax
comp=Z,5.0nm,1.0s
WVOR Wild Horse Val 82.17 48 *e*P **P 16 27 54.1 +0.4**
comp=Z,5.5nm,1.0s
SPITS Spitsbergen Ar 82.23 351 P **P 16 27 53.6 +0.4**
comp=Z,13nm,1.0s,baz=86,slow=6.8,SNR=5.1
BMO Blue Mountains 82.50 46 *e*P **P 16 27 55.3 -0.1**
comp=Z,12nm,1.2s
EDM Edmonton 82.74 37 P **P 16 27 56.2 -0.2**
EDM Edmonton 82.74 37 P **P 16 27 56.1 -0.2**
BSMT Bassoo Peak 83.38 42 *e*P **P 16 28 00.7 +0.7**
comp=Z,14nm,1.1s
NVAR Mina Array Bea 83.42 52 P **P 16 28 01.0 +0.5**
comp=Z,3.9nm,0.9s,baz=268,slow=6.1,SNR=18
VES Vestal, Richgr 83.48 55⇑P **P 16 28 00.7 +0.2**
baz=83
BLMT Blacktail Moun 83.61 42 *e*P **P 16 28 01.8 +0.6**
comp=Z,9.2nm,1.0s
JTMT Jette 83.74 42 *e*P **P 16 28 01.8 0.0**
comp=Z,4.9nm,1.2s
YBMT Yellow Bay 83.88 42 *e*P **P 16 28 02.7 +0.2**
comp=Z,4.3nm,0.9s
ISA Isabella, Lake 84.01 55⇓P **P 16 28 03.5 +0.2**
baz=84
TMCR Tamitsa 84.09 335 *e*P **P 16 28 02.7 -0.3**
TMCR *e* 16 31 17.8
TMCR pmax pmax
comp=Z,36nm,0.4s
APA Apatity 84.29 339⇓*i*P **P 16 28 04.0 0.0**
APA MLR MLR
comp=Z,1µm,25.0s
GRAC Grapevine Rang 84.51 53⇑P **P 16 28 06.3 +0.5**
baz=84
EDW2 Edwards Air Fo 84.60 55⇑P **P 16 28 06.8 +0.5**
baz=85
KLMR Klimovskoe 84.80 332 *e*P **P 16 28 05.3 -1.4**
KLMR pmax pmax
comp=Z,50nm,1.3s
HLID Hailey 84.85 46⇓P **P 16 28 07.8 +0.2**
baz=85
BFSC Mount Baldy Ra 85.03 56⇓P **P 16 28 08.3 -0.3**
baz=85
FURC Furnace Creek, 85.05 54⇓P **P 16 28 08.9 +0.4**
baz=85
GSC Goldstone, Bar 85.42 55⇑P **P 16 28 10.6 +0.1**
baz=85
R11A Troy Canyon, C 85.50 52⇑P **P 16 28 11.2 +0.3**
baz=86
MCMT McKenzie Canyo 85.55 45 *e*P **P 16 28 11.5 +0.4**
comp=Z,4.5nm,1.2s
HRY Holter Researc 85.64 43 *e*P **P 16 28 11.8 +0.4**
comp=Z,17nm,1.1s
ARCES ARCESS Array B 85.72 343 P **P 16 28 11.5 +0.3**
comp=Z,14nm,0.9s,baz=64,slow=6.1,SNR=28
109C Camp Elliot, M 85.84 57⇓P **P 16 28 12.7 +0.2**
baz=86
HEC Hector,Ludlow 85.92 55⇑P **P 16 28 12.9 0.0**
baz=86
TUQ Turquoise Moun 86.07 54⇑P **P 16 28 13.7 -0.1**
baz=86
PFO Pinyon Flats O 86.17 56⇑P **P 16 28 14.3 0.0**
baz=86
MONP Monument Peak, 86.40 57⇓P **P 16 28 15.7 +0.1**
baz=86
BELC Belle Mtn. Jos 86.42 56⇓P **P 16 28 15.2 -0.4**
baz=86
GMRC Granite Mounta 86.47 55⇑P **P 16 28 15.7 0.0**
baz=86
QLMT Earthquake Lak 86.51 44 *e*P **P 16 28 16.9 +1.1**
comp=Z,0.7nm,0.6s
EGMT Eagleton 86.54 41⇓P **P 16 28 15.5 -0.3**
baz=86,SNR=5.6
EGMT Eagleton 86.54 41 *e*P **P 16 28 16.0 +0.2**
comp=Z,18nm,1.2s
A19A Klindworth Far 86.86 40⇑P **P 16 28 17.3 0.0**
baz=87,SNR=13
YMR Madison River 86.87 44 *e*P **P 16 28 18.6 +0.9**
comp=Z,18nm,1.0s
B19A Brinkman Farms 86.91 40⇑P **P 16 28 17.7 +0.2**
baz=87,SNR=5.9
DUG Dugway, Tooele 87.01 49 *e*P **P 16 28 18.4 +0.1**
DUG pmax pmax
comp=Z,7.0nm,1.0s
DUG Dugway, Tooele 87.01 49⇓P **P 16 28 18.6 +0.3**
baz=87
DUG Dugway, Tooele 87.01 49 *e*P **P 16 28 18.4 +0.1**
comp=Z,6.9nm,1.0s
YFT Old Faithful 87.03 45 P **P 16 28 20.0 +1.5**
comp=Z,14nm,1.0s
IRM Iron Mountain 87.05 55⇓P **P 16 28 19.0 +0.5**
baz=87
YNR Norris Junctio 87.05 44 *e*P **P 16 28 20.1 +1.6**
comp=Z,22nm,1.2s
C19A Slack Wire Ran 87.09 41⇓P **P 16 28 18.9 +0.5**
baz=87,SNR=7.3
DAG Danmarks Havn 87.18 357 *i*P **P 16 28 17.8 -0.4**
DAG pmax pmax
comp=Z,7.0nm,0.8s
DAG MLR MLR
comp=Z,2µm,22.0s
DAG Danmarks Havn 87.18 357 *i*P **P 16 28 17.8 -0.4**
comp=Z,9.2nm,0.8s
H17A Grant Village 87.23 45 *e*P **P 16 28 21.3 +1.8**
comp=Z,12nm,1.2s
ARUT Antelope Range 87.28 52 *e*P **P 16 28 19.8 +0.1**
ARUT pmax pmax
comp=Z,93nm,1.0s
ARUT Antelope Range 87.28 52 *e*P **P 16 28 19.8 +0.1**
comp=Z,93nm,1.0s
JOF Joensuu 87.33 336 *e*P **P 16 28 17.0 -2.2**
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 87.33 336 *e*p **P 16 28 17.0 -2.2**
comp=Z,5.7nm,0.6s
I17A Pilgrim Ck. 87.38 45⇑P **P 16 28 20.9 +0.7**
baz=87
A20A Cobblestone Ra 87.39 40⇓P **P 16 28 20.2 +0.4**
baz=87
D19A Cripps Ranch, 87.40 42⇓P **P 16 28 20.0 +0.1**
baz=87,SNR=6.7
E19A Rath Farm, Rou 87.70 42⇑P **P 16 28 21.6 +0.2**
baz=88,SNR=5.2
H18A Shoshone NF, C 87.75 44⇓P **P 16 28 22.6 +0.7**
baz=88
C20A Veseth Ranch, 87.76 41⇓P **P 16 28 22.1 +0.5**
baz=88
W13A Hualapai Mount 87.76 54⇓P **P 16 28 22.1 0.0**
baz=88
PDMCI Parker Dam,Lak 87.81 55⇑P **P 16 28 22.5 +0.4**
baz=88
F19A Roth Farm, Mol 87.81 43⇑P **P 16 28 22.3 +0.2**
baz=88
RLMT Red Lodge 87.86 44 *e*P **P 16 28 23.4 +1.0**
comp=Z,5.2nm,0.6s
JLU Jordanelle 87.86 48 *e*P **P 16 28 22.9 +0.4**
comp=Z,2.9nm,0.5s
D20A Manuel Ranch, 87.90 42⇑P **P 16 28 22.6 +0.3**
baz=88
A21A Bergtoll Ranch 87.96 39⇓P **P 16 28 22.8 +0.2**
baz=88
E20A Meyer Farm, Mu 88.11 42⇓P **P 16 28 23.3 -0.1**
baz=88
H19A Powell 88.20 44⇑P **P 16 28 24.3 +0.4**
baz=88
F20A Billings 88.35 43⇑P **P 16 28 24.9 +0.4**
baz=88
KULLO Kullorsuaq 88.38 6 *i*P **P 16 28 24.1 +0.2**
KULLO pmax pmax
comp=Z,11nm,0.8s
KULLO MLR MLR
comp=Z,1µm,26.0s
KULLO Kullorsuaq 88.38 6 *i*P **P 16 28 24.1 +0.2**
comp=Z,11nm,0.8s
I19A Meeteetse 88.42 45⇓P **P 16 28 25.5 +0.5**
baz=88
FFC Flin Flon 88.46 33 P **P 16 28 25.0 +0.2**
comp=Z,72nm,0.9s,SNR=5.1
FFC Flin Flon 88.46 33 *e*P **P 16 28 24.9 +0.2**
FFC pmax pmax
comp=Z,10.0nm,0.8s
FFC Flin Flon 88.46 33 *e*P **P 16 28 24.9 +0.1**
comp=Z,10.0nm,0.8s
PDAR Pinedale Array 88.47 46 P **P 16 28 25.2 -0.1**
comp=Z,0.9nm,0.8s,baz=256,slow=2.4,SNR=5.1
G20A Bridger 88.52 43⇑P **P 16 28 26.0 +0.6**
baz=88
113A Mohawk Valley, 88.57 56⇑P **P 16 28 26.1 +0.4**
baz=88
A22A Carney Farms, 88.57 39⇓P **P 16 28 24.9 -0.6**
baz=88
U15A North Rim 88.58 53⇓P **P 16 28 26.5 +0.4**
baz=88
OBN Obninsk 88.63 328⇑*i*P **P 16 28 24.7 -0.8**
OBN pmax pmax
comp=Z,18nm,1.0s
D21A La Casta Ranch 88.63 41⇑P **P 16 28 26.2 +0.4**
baz=88
J19A Crowheart 88.65 45⇓P **P 16 28 26.3 +0.2**

baz=89
Y14A Wickenburg 88.81 55 ⇓P P 16 28 27.2 +0.3
baz=89
VSR Storozhevoye 88.87 323 *e*P P 16 28 25.5 -1.2
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
H20A Greybull 88.92 44 ⇑P P 16 28 27.7 +0.4
baz=89
SRU San Rafael Swe 89.03 50 *e*P P 16 28 28.0 0.0
SRU pmax pmax
comp=Z,2.0nm,0.5s
SRU San Rafael Swe 89.03 50 *e*P P 16 28 28.0 0.0
comp=Z,2.3nm,0.5s
I20A Worland 89.03 44 ⇓P P 16 28 28.3 +0.4
baz=89
Z14A Wintersburg 89.04 56 ⇓P P 16 28 28.5 +0.6
baz=89
J20A Shoshoni 89.28 45 ⇓P P 16 28 29.3 +0.3
baz=89
B23A Brockton 89.34 39 ⇓P P 16 28 29.3 +0.2
baz=89
KBZ Khabaz 89.43 315 P P 16 28 28.6 -0.8
comp=Z,3.7nm,0.9s,baz=68,slow=5.4,SNR=3.2
C23A Lambert 89.49 40 ⇓P P 16 28 30.0 +0.2
baz=89
H21A Big Horn, Sher 89.51 44 ⇑P P 16 28 30.4 +0.3
baz=89
E22A Miles City 89.54 42 ⇓P P 16 28 30.2 +0.2
baz=89
214A Organ Pipe Nat 89.59 57 ⇓P P 16 28 30.8 +0.2
baz=90
I21A Big Trails, Te 89.64 44 ⇑P P 16 28 30.7 0.0
baz=90,SNR=5.1
J21A Lysite 89.71 45 ⇓P P 16 28 31.3 +0.2
baz=90
D23A Lindsay 89.72 41 ⇑P P 16 28 31.4 +0.5
baz=90
KAF Kangasniemi 89.73 336 *e*P P 16 28 27.9 -2.6
KAF pmax pmax
comp=Z,8.0nm,0.6s
KAF Kangasniemi 89.73 336 *e*p P 16 28 27.9 -2.6
comp=Z,7.5nm,0.6s
X16A Lo Mia Camp, P 89.89 54 ⇓P P 16 28 32.6 +0.5
baz=90
N20A Spence Gulch, 90.06 47 ⇓P P 16 28 33.1 +0.2
baz=90
K21A Alcova 90.11 45 ⇑P P 16 28 33.0 0.0
baz=90,SNR=5.7
I22A 9 Mile Ranch, 90.16 44 ⇓P P 16 28 33.5 +0.4
baz=90
FINES FINESS Array B 90.20 336 P P 16 28 31.8 -0.9
comp=Z,13nm,0.6s,baz=80,slow=4.3,SNR=50
FINES LR LR 17 13 05.1
comp=Z,2μm,19.9s,baz=245,slow=38
O20A White River Ci 90.33 48 ⇓P P 16 28 34.0 -0.1
baz=90
J22A Midwest 90.34 44 ⇓P P 16 28 34.1 +0.1
baz=90
G23A Biddle 90.38 43 ⇑P P 16 28 34.5 +0.4
baz=90
D25A Fairfield 90.91 40 ⇓P P 16 28 36.8 +0.4
baz=91
A26A Wade Farm, Ken 90.95 38 ⇓P P 16 28 36.5 -0.1
baz=91
M22A Cedar Creek Ra 91.02 46 ⇓P P 16 28 37.2 -0.2
baz=91
H24A Dirks Ranch, A 91.10 43 ⇑P P 16 28 37.5 0.0
baz=91
K23A Bowen Ranch, D 91.17 45 ⇓P P 16 28 38.1 +0.2
baz=91
F25A Bowman 91.33 41 ⇓P P 16 28 38.9 +0.5
baz=91
L23A Garrett 91.37 45 ⇓P P 16 28 38.5 -0.4
baz=91,SNR=6.8
I24A Kuemmerle Ranc 91.41 44 ⇓P P 16 28 39.3 +0.4
baz=91
O22A Kremmling 91.52 48 ⇑P P 16 28 39.5 -0.3
baz=91
P22A Eagle 91.58 48 ⇑P P 16 28 39.9 -0.1
baz=92
M23A Laramie 91.60 46 ⇓P P 16 28 40.3 +0.3
baz=92,SNR=5.6
VSU Vasula 91.63 333 ⇓*i*P P 16 28 38.3 -1.1
SUMG Summit 91.67 2 *i* P P 16 28 40.4 +0.5
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 91.67 2 *i* P P 16 28 40.4 +0.5
comp=Z,5.3nm,0.9s
N23A Red Feather La 91.67 47 ⇓P P 16 28 40.7 +0.3
baz=92,SNR=5.4
H25A Fruitdale 91.78 43 ⇑P P 16 28 41.1 +0.6
baz=92
C27A Sayler Ranch, 91.78 39 ⇓P P 16 28 40.8 +0.4
baz=92
F26A Lodgepole 91.86 41 ⇓P P 16 28 41.2 +0.3
baz=92
I25A Rochford 91.93 43 ⇓P P 16 28 41.6 +0.1
baz=92
G26A Maurine 92.14 42 ⇓P P 16 28 42.5 +0.3
baz=92
B28A Dugan Ranch, T 92.14 38 ⇓P P 16 28 42.1 0.0
baz=92
J25A Sunshine Ranch 92.14 44 ⇓P P 16 28 42.4 +0.1
baz=92
S22A 4UR Ranch, Cre 92.22 50 ⇑P P 16 28 43.2 +0.2
baz=92,SNR=5.3
M24A Cheyenne 92.22 46 ⇑P P 16 28 43.3 +0.5
baz=92
F27A Lemmon 92.26 41 ⇓P P 16 28 43.1 +0.3
baz=92
E27A Carson 92.31 40 ⇓P P 16 28 43.1 +0.2
baz=92
ISCO Idaho Springs 92.32 48 ⇑P P 16 28 43.4 -0.1
baz=92
P23A Jefferson 92.33 48 ⇓P P 16 28 43.7 +0.1
baz=92
L25A Engebretsen Ra 92.54 45 ⇓P P 16 28 44.3 +0.1
baz=92
A29A Manning Farm, 92.59 37 ⇓P P 16 28 44.2 0.0
baz=92
J26A Sides Ranch, S 92.66 44 ⇑P P 16 28 44.8 +0.1
baz=93
H27A Howes 92.75 42 ⇓P P 16 28 45.0 -0.1
baz=93
I27A Quinn 93.01 43 ⇓P P 16 28 46.4 +0.1
baz=93
A30A Hoffart Farm, 93.12 37 ⇑P P 16 28 47.0 +0.4
baz=93
SDCO Great Sand Dun 93.20 49 *e*P P 16 28 47.7 +0.2
comp=Z,0.6nm,0.6s
U23A El Rito 93.23 51 ⇓P P 16 28 47.6 0.0
baz=93
D29A Pettibone, Tap 93.23 39 ⇑P P 16 28 47.0 -0.2
baz=93
B30A Myrvik Farm, E 93.34 38 ⇓P P 16 28 47.7 +0.1
baz=93
S24A Houchin Ranch, 93.45 49 ⇑P P 16 28 48.9 +0.2
baz=93
ANMO Albuquerque 93.55 52 *c*e P 16 28 50.3 +1.2
ANMO pmax pmax
comp=Z,22nm,2.5s
T24B San Luis 93.55 50 ⇓P P 16 28 49.6 +0.4
baz=94
VNDA Vanda 93.58 177 P P 16 28 47.9 0.0
comp=Z,2.8nm,1.0s,baz=324,slow=4.8,SNR=5.6
C30A Mose, Pekin 93.61 38 ⇓P P 16 28 49.1 +0.2
baz=94
I28A Midland 93.62 42 ⇓P P 16 28 49.0 0.0
baz=94
D30A Buchanan 93.72 39 ⇑P P 16 28 48.7 -0.7
baz=94
Z22A Elephant Butte 93.78 54 ⇑P P 16 28 50.3 +0.2
baz=94
ULM Lac du Bonnet 93.86 35 P P 16 28 49.3 -0.6
comp=Z,3.2nm,0.8s,baz=300,slow=4.5,SNR=7.2
E30A Jud 93.91 39 ⇑P P 16 28 49.4 -0.9
baz=94
H29A Onida 93.95 42 ⇑P P 16 28 49.6 -0.9
baz=94
S25A Robets Cordova 94.01 49 ⇑P P 16 28 50.9 -0.2
baz=94
P26A Davis Ranch, A 94.02 47 ⇑P P 16 28 51.1 0.0
baz=94
Q26A Hugo 94.16 48 ⇑P P 16 28 51.5 -0.3
baz=94
T25A Trinidad 94.23 50 ⇓P P 16 28 52.2 0.0
baz=94
Y23A Lovelace Mesa, 94.24 53 ⇑P P 16 28 52.4 +0.1
baz=94
W24A Lazy 6 Ranch, 94.24 52 ⇑P P 16 28 52.5 +0.2
baz=94
J29A Okreek 94.43 43 ⇓P P 16 28 52.6 -0.1
baz=94
RAYN Ar Rayn 94.45 296 *e*P P 16 28 52.0 -1.2
comp=Z,6.6nm,1.1s
R26A Arlington 94.47 48 ⇓P P 16 28 52.1 -1.0
baz=94
U25A Circle Dot Ran 94.53 50 ⇑P P 16 28 53.3 -0.3
baz=94
V25A Rancho No Teng 94.59 51 ⇓P P 16 28 53.7 -0.1
baz=94
AKASG Malin Array Be 94.66 326 P P 16 28 51.7 -1.9
comp=Z,1.1nm,0.6s,baz=52,slow=6.0,SNR=3.7
S26A Kim 94.73 49 ⇑P P 16 28 54.4 +0.1
baz=95
T26A Comanche Natio 94.82 49 ⇑P P 16 28 54.4 -0.5
baz=95
AGMN Agassiz Nation 94.85 37 ⇑P P 16 28 54.2 -0.3
baz=95
J30A Dallas 95.01 42 ⇓P P 16 28 55.1 -0.3
baz=95
U26A Atchley Ranch, 95.02 50 ⇑P P 16 28 55.6 -0.3
baz=95
R28A Tribune 95.62 48 ⇓P P 16 28 58.0 -0.4
baz=96
HFS Hagfors 95.67 339 P P 16 28 57.0 -1.0
HFS Hagfors 95.67 339 P P 16 28 57.0 -1.0
comp=Z,2.2nm,0.5s,baz=97,slow=3.4,SNR=9.1
NOA NORSAR Array B 95.84 340 P P 16 28 57.1 -1.7
comp=Z,3.1nm,0.9s,baz=52,slow=4.3,SNR=7.8
FRB Frobisher Bay 95.86 15 P P 16 28 58.0 -0.7
FRB Frobisher Bay 95.86 15 P P 16 28 58.0 -0.7
comp=Z,4.2nm,0.8s,baz=330,slow=5.0,SNR=10
CLL Collm 102.28 333 *e*PP PP 16 33 41.0 +1.6
GERES GERESS Array B 103.70 331 Pdiff Pdif 16 29 32.6 -1.7
comp=Z,0.4nm,0.7s,baz=46,slow=5.8,SNR=3.6
SNAA Sanae 121.52 191 P PKPdf 16 34 25.3 -0.1
LSZ Lusaka 121.84 262 PKP PKPdf 16 34 28.4 +0.8
comp=Z,2.2nm,0.6s,baz=67,slow=7.2,SNR=4.6
VNA2 Neumayer--Watz 122.92 190 P PKPdf 16 34 28.4 +0.4
baz=350,slow=1.2
VNA3 Neumayer Olymp 122.98 189 P PKPdf 16 34 28.3 +0.1
TORD Torodi Ar. Bea 135.65 309 PKhKP PKPpre 16 34 47.6
comp=Z,0.4nm,0.5s,baz=27,slow=2.4,SNR=2.2
TORD PKP **PKPdf 16 34 52.7 -1.1**
comp=Z,2.2nm,1.1s,baz=25,slow=3.5,SNR=4.8
TORD PP **PP 16 37 33.2 +2.4**
comp=Z,0.8nm,0.9s,baz=29,slow=3.3,SNR=3.5
TORD SKPbc **SKPbc 16 38 17.2 -6.7**
comp=Z,0.7nm,1.0s,baz=35,slow=3.0,SNR=2.4
DBIC Dimbokro 144.72 307 PKP PKPbc 16 35 09.1 0.0
comp=Z,31nm,0.6s,baz=36,slow=3.7,SNR=54
KIC Kosan Boka 144.83 307 *e*PKP1 PKPab 16 35 09.3 -0.1
comp=Z,94nm,0.8s
TIC Toumodi 144.86 308 *e*PKP1 PKPab 16 35 09.3 -0.3
comp=Z,67nm,0.7s
LVC Limon Verde 144.93 107 *e*PKPbc PKPdf 16 35 11.0 +0.3
LIC Lamto 145.13 307 *e*PKP1 PKPbc 16 35 10.3 -0.2
comp=Z,179nm,0.8s
LPAZ La Paz 145.67 96 PKPbc PKPab 16 35 13.7 +0.4
comp=Z,12nm,0.7s,baz=284,slow=2.5,SNR=35
TRQA Tornquist 145.84 136 *e*PKPdf PKPdf 16 35 10.9 -0.7
TRQA *e*PKPbc **PKPbc 16 35 11.9 -0.2**
BBTS Babate 145.86 332 PKPbc PKPab 16 35 13.8 +0.7
comp=Z,64nm,1.0s,baz=83,slow=0.9,SNR=3.3
SAML Samuel 149.17 81 *e*PKPdf PKPdf 16 35 17.4 -0.3
SAML *e*PKPbc **PKPbc 16 35 21.6 -0.3**
SAML *e*PKPab **PKPab 16 35 25.2 -1.0**
SIV San Ignacio 152.42 94 PKPbc PKPbc 16 35 29.3 -0.2
comp=Z,8.5nm,0.8s,baz=270,slow=3.4,SNR=13
SIV PKPab **PKPab 16 35 40.1 +0.3**
comp=Z,1.7nm,0.6s,baz=254,slow=7.4,SNR=4.7
CPUP Villa Florida 154.55 118 PKPab PKPab 16 35 48.6 +0.2
comp=Z,4.5nm,0.9s,baz=278,slow=7.1,SNR=4.3

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*ISCJB **07** 16:18:27.6±0.8, 37°.98S±0°.06×73°.4W±0°.1, h22km, mb4.3/12, MS4.4/1, Error ellipse: s-maj=15.8km s-min=8.5km az=12.5*
*NEIC **07** 16:18:28.8±0.3, 38°.05S×73°.50W, mb5.0/5, Error ellipse: s-maj=10.0km s-min=7.0km az=82.0*
*IDC **07** 16:18:29.1±0.8, 38°.16S×73°.34W, h22km±4km, mb4.1/11, mb1 4.1/13, mb1mx4.0/33, mbtmp4.2/13, ML4.3/2, MS4.4/1, Ms1 4.4/1, ms1mx3.9/26, Error ellipse: s-maj=21.3km s-min=13.2km az=75.0*
ISC 07 16:18:28.9±0.6, 38°.04S±0°.06×73°.5W±0°.1, h22km, n40, σ0§91/44, mb4.4/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.51**	**141**	Pn	**Pn**	**16 19 23.4**	**+1.1**
	7.4nm,0.3s,baz=312,slow=8.8,SNR=142						
PLCA				Pg	**Pb**	**16 19 29.7**	**-0.7**
	20nm,0.3s,baz=312,slow=14,SNR=36						
PLCA				Lg	Lg	16 20 15.1	
	32nm,0.3s,baz=226,slow=22,SNR=5.7						
PLCA	**Paso Flores**	**3.51**	**141**	*e*P	**Pn**	**16 19 23.0**	**+0.8**
PLCA				Pg	**Pb**	**16 19 29.7**	**-0.7**
PLCA				Lg	Lg	16 20 15.1	
CFAA	**Coronel Fontan**	**7.72**	**35**	Pn	**Pn**	**16 20 19.1**	**-1.0**
	0.7nm,0.3s,baz=223,slow=9.6,SNR=29						
CFAA				Sn	**Sn**	**16 21 46.2**	**-0.7**
	0.7nm,0.3s,baz=303,slow=23,SNR=5.9						
CFAA				Lg	Lg	16 22 29.2	
	0.2nm,0.3s,baz=138,slow=16,SNR=1.7						
TRQA	**Tornquist**	**9.06**	**94**	*e*P	**Pn**	**16 20 40.2**	**+1.8**
	71nm,1.3s						
EFI	**East Falkland**	**17.42**	**146**	*e*P	**Pn**	**16 22 30.0**	**-0.3**
	22nm,0.6s						
CPUP	**Villa Florida**	**17.94**	**54**	P	**Pn**	**16 22 35.7**	**-1.2**
	0.8nm,0.3s,baz=196,slow=11,SNR=5.1						
CPUP	**Villa Florida**	**17.94**	**54**	*e*P	**P**	**16 22 37.0**	**-0.3**
LPAZ	**La Paz**	**22.17**	**14**	P	**P**	**16 23 26.9**	**+2.7**
	3.2nm,0.7s,baz=182,slow=8.9,SNR=5.7						
LPAZ	**La Paz**	**22.17**	**14**	*e*P	**P**	**16 23 25.1**	**+1.0**
	24nm,0.3s						
SIV	**San Ignacio**	**24.53**	**30**	P	**P**	**16 23 46.7**	**-0.3**
	3.5nm,0.8s,baz=207,slow=8.0,SNR=6.4						
BDFB	**Brasilia**	**31.65**	**52**	P	**P**	**16 24 50.4**	**-0.3**
	2.2nm,0.6s,baz=172,slow=7.1,SNR=2.7						
SNAA	**Sanae**	**48.32**	**156**	P	**P**	**16 27 05.8**	**-2.5**
	2.5nm,0.9s,baz=246,slow=10,SNR=8.3						
SNAA	**Sanae**	**48.32**	**156**	*e*P	**P**	**16 27 08.5**	**+0.3**
	25nm,1.4s						
QSPA	**South Pole Qui**	**52.20**	**180**	P	**P**	**16 27 37.3**	**-0.5**
	1.7nm,0.8s,baz=224,slow=0.7,SNR=11						
QSPA	**South Pole Qui**	**52.20**	**180**	*e*P	**P**	**16 27 37.1**	**-0.7**
CMIG	**Matias Romero**	**58.41**	**336**	LR	LR	16 45 41.1	
	comp=Z,350nm,21.4s,baz=113,slow=28						
TXAR	**Lajitas Array**	**72.73**	**333**	P	**P**	**16 29 56.7**	**+1.4**
	0.3nm,0.5s,baz=156,slow=8.9,SNR=3.7						
TXAR				pP	**pP**	**16 30 03.1**	**+0.6**
	0.7nm,0.7s,baz=147,slow=5.3,SNR=4.6						
SWET	**Sewanee**	**73.80**	**349**	*e*P	**P**	**16 30 01.5**	**+0.1**
	24nm,1.3s						
DBIC	**Dimbokro**	**77.57**	**71**	P	**P**	**16 30 24.0**	**+0.5**
	5.9nm,0.6s,baz=212,slow=4.8,SNR=10						
DBIC	**Dimbokro**	**77.57**	**71**	*e*P	**P**	**16 30 23.9**	**+0.4**
	6.6nm,0.7s						
BOSA	**Boshof**	**79.22**	**118**	P	**P**	**16 30 32.4**	**-0.2**
	3.5nm,0.9s,baz=241,slow=5.8,SNR=3.1						
TSUM	**Tsumeb**	**79.23**	**106**	P	**P**	**16 30 33.8**	**+1.0**
	2.7nm,1.2s,baz=242,slow=17,SNR=2.2						
TSUM				pP	**pP**	**16 30 39.6**	**-0.4**
	0.8nm,0.6s,baz=221,slow=5.7,SNR=2.5						
LBTB	**Lobatse**	**81.65**	**115**	P	**P**	**16 30 45.5**	**-0.2**
	2.4nm,0.6s,baz=250,slow=4.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**86.66**	**71**	P	**P**	**16 31 10.9**	**-0.1**
	2.2nm,0.6s,baz=219,slow=5.3,SNR=16						
TORD				pP	**pP**	**16 31 18.9**	**+0.6**
	1.9nm,0.8s,baz=216,slow=4.4,SNR=5.8						
PDAR	**Pinedale Array**	**86.86**	**334**	pP	pP	16 31 20.1	+1.1
	1.7nm,1.1s,baz=162,slow=5.9,SNR=3.6						
ASAR	**Alice Springs**	**113.45**	**207**	PKKPbc	PKKPbc	16 47 49.3	+0.4
	0.2nm,0.5s,baz=338,slow=3.4,SNR=8.4						
GERES	**GERESS Array B**	**115.78**	**47**	PKP	**PKPdf**	**16 37 09.1**	**-0.1**
	0.5nm,0.6s,baz=232,slow=4.8,SNR=4.0						
WRA	**Warramunga Arr**	**116.68**	**209**	PKP	**PKPdf**	**16 37 11.0**	**-0.8**
	0.4nm,0.9s,baz=163,slow=1.7,SNR=3.5						
HFS	**Hagfors**	**120.78**	**36**	PKP	**PKPdf**	**16 37 17.5**	**-0.8**
	1.1nm,0.7s,baz=183,slow=5.6,SNR=4.9						
H11S2	**WAKE ISLAND Hyl**	**24.48**	**267**	T	T	18 54 14.6	
	baz=126,slow=74,SNR=2.9						
H11S1	**WAKE ISLAND Hyl**	**24.50**	**267**	T	T	18 54 15.4	
	baz=126,slow=74,SNR=4.1						
H11S3	**WAKE ISLAND Hyl**	**24.50**	**267**	T	T	18 54 13.3	
	baz=126,slow=74,SNR=3.7						
BRTR	**Keskin Array B**	**124.73**	**64**	PKP	**PKPdf**	**16 37 26.6**	**-0.1**
	0.6nm,0.6s,baz=195,slow=4.1,SNR=3.0						
AKASG	**Malin Array Be**	**125.72**	**50**	PKP	**PKPdf**	**16 37 27.3**	**-0.7**
	0.5nm,0.4s,baz=258,slow=3.3,SNR=3.3						
FINES	**FINESS Array B**	**126.94**	**36**	PKP	**PKPdf**	**16 37 30.6**	**+0.6**
	1.2nm,0.7s,baz=325,slow=1.7,SNR=5.3						
ABKAR	**Akbulak array**	**144.99**	**56**	*e*PKPbc	**PKPab**	**16 38 03.2**	**0.0**
BRVK	**Borovoye**	**150.88**	**47**	*e*PKPbc	**PKPbc**	**16 38 19.8**	**+0.8**
KKAR	**Karatay Array**	**152.32**	**68**	*e*PKPbc	**PKPbc**	**16 38 22.4**	**-0.3**
ZALV	**Zalesovo Beam**	**158.21**	**36**	PKP	**PKPdf**	**16 38 22.6**	**-0.8**
	0.9nm,0.7s,baz=298,slow=3.2,SNR=4.5						
ZALV				pPKP	**pPKPdf**	**16 38 30.3**	**-0.7**
	0.5nm,0.5s,baz=214,slow=1.0,SNR=2.4						
ZALV				PKPab	**PKPab**	**16 38 58.3**	**+0.7**
	0.5nm,0.4s,baz=336,slow=4.3,SNR=2.7						
MKAR	**Makanchi Array**	**160.14**	**56**	PKP	**PKPdf**	**16 38 26.4**	**+0.4**
	0.4nm,0.9s,baz=299,slow=5.4,SNR=3.5						
MKAR				PKPab	**PKPab**	**16 39 06.2**	**-0.1**
	0.6nm,0.6s,baz=277,slow=5.0,SNR=5.9						
MKAR				pPKPab	**pPKPab**	**16 39 13.7**	**+0.1**
	0.2nm,0.5s,baz=254,slow=2.8,SNR=2.2						

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*IDC **07** 16:20:13.0±2.2, 53°.43N×31°.73W, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/34, mbtmp3.6/4, ML3.7/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/49, Error ellipse: s-maj=57.8km s-min=48.8km az=63.0*
ISC 07 16:20:14.8±2.1, 53°.5N±0°.3×31°.6W±0°.3, h10km, n7, σ1§25/6, mb3.7/3, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**16.41**	**333**	LR	LR	16 29 10.9	
	comp=Z,329nm,21.6s,baz=33,slow=33						
EKA	**Eskdalemuir Ar**	**16.59**	**72**	Pn	**P**	**16 24 10.1**	**+0.4**
	baz=275,slow=13,SNR=4.4						
BRTR	**Keskin Array B**	**45.27**	**80**	P	**P**	**16 28 31.1**	**-1.3**
	1.1nm,0.8s,baz=292,slow=7.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**48.09**	**134**	P	**P**	**16 28 55.1**	**+0.5**
	0.5nm,0.8s,baz=318,slow=7.3,SNR=3.1						
MKAR	**Makanchi Array**	**65.38**	**44**	P	**P**	**16 30 58.3**	**+1.2**
	0.4nm,0.7s,baz=326,slow=5.9,SNR=3.1						
WRA	**Warramunga Arr**	**144.79**	**23**	PKP	**PKPab**	**16 39 49.7**	**-1.0**
	0.2nm,0.7s,baz=344,slow=3.1,SNR=2.9						
ASAR	**Alice Springs**	**148.25**	**26**	PKPbc	**PKPbc**	**16 40 00.8**	**-0.1**
	0.2nm,0.7s,baz=341,slow=3.7,SNR=2.6						

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*ISCJB **07** 16:21:27.6±0.3, 50°.07N±0°.02×19°.01E±0°.02, h0km, Error ellipse: s-maj=3.5km s-min=1.9km az=10.8*
*CSEM **07** 16:21:28.8±0.2, 50°.08N×19°.08E, h2km, ML3.4/4, Error ellipse: s-maj=5.8km s-min=2.9km az=12.0*
*IDC **07** 16:21:29.7±0.8, 49°.92N×19°.27E, h0km, mb1 3.4/6, mb1mx3.2/45, mbtmp3.3/6, ML2.9/6, Error ellipse: s-maj=13.4km s-min=6.8km az=150.0*
*BGR **07** 16:21:29.8±0.2, 50°.12N×19°.13E, h1km, ML3.2/14, Error ellipse: s-maj=5.6km s-min=2.2km az=10.0*
*PRU **07** 16:21:29.4, 50°.10N×19°.08E, h0km*
*VIE **07** 16:21:29.2±0.6, 49°.80N×19°.18E, h0km, mb2.4/3, ML2.9/3, Error ellipse: s-maj=5.6km s-min=4.1km az=163.0 52 km SSE of Katowice Suspected Mining induced.*
*SIGU **07** 16:21:30.7±0.3, 49°.61N±0°.03×18°.93E±0°.02, h4km, mb2.7/10*
ISC 07 16:21:28.7±0.6, 50°.05N±0°.02×19°.11E±0°.01, h0km, n99, σ1§26/163, 9C-9D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.25**	**342**	*e*Pg	**Pg**	**16 21 34.1**	**+0.6**
CHZP				*e*		16 21 34.5	
CHZP				*e*		16 21 35.2	
CHZP				*e*Sg	**Sg**	**16 21 38.0**	**+1.3**
OJC	**Ojcow**	**0.47**	**69**	*e*Pg	**Pg**	**16 21 37.5**	**-0.3**
OJC				*e*Sg	**Sg**	**16 21 43.6**	**-0.2**
OJC	**Ojcow**	**0.47**	**69**	*e*Pg	**Pg**	**16 21 37.3**	**-0.4**
OJC				*e*Sg	**Sg**	**16 21 43.6**	**-0.2**
OJC	**Ojcow**	**0.47**	**69**	Pg	**Pg**	**16 21 37.5**	**-0.3**
OJC				Sg	**Sg**	**16 21 43.6**	**-0.2**
RAC	**Raciborz**	**0.59**	**273**	*e*Pg	**Pb**	**16 21 42.4**	**+0.5**
RAC				*e*Sg	**Sb**	**16 21 51.4**	**+0.6**
OKC	**Ostrava-Krasne**	**0.66**	**251**	*e*Pg	**Pb**	**16 21 42.9**	**-0.1**
OKC				*e*Sg	**Sb**	**16 21 53.0**	**+0.3**
OKC	**Ostrava-Krasne**	**0.66**	**251**	*e*PG	**Pb**	**16 21 42.8**	**-0.3**
OKC				*e*SG	**Sg**	**16 21 51.2**	**+1.4**
	comp=Z,178nm,0.5s						
OKC	**Ostrava-Krasne**	**0.66**	**251**	Pg	**Pb**	**16 21 42.8**	**-0.3**
OKC				Sg	**Sg**	**16 21 51.2**	**+1.4**
	178nm,0.5s						
NIE	**Niedzica**	**1.01**	**129**	*e*Pg	**Pg**	**16 21 48.2**	**+0.3**
NIE				*e*Sg	**Sn**	**16 22 04.1**	**-0.9**
NIE	**Niedzica**	**1.01**	**129**	*e*Pg	**Pg**	**16 21 48.2**	**+0.3**
NIE				*e*Sg	**Sn**	**16 22 04.1**	**-0.9**
MORC	**Moravsky Berou**	**1.05**	**255**	*e*Pg	**Pg**	**16 21 49.2**	**+0.4**
MORC				*e*Sg	**Sb**	**16 22 04.6**	**+0.5**
KRLC	**Kraliky**	**1.50**	**272**	*e*PG	**Pn**	**16 21 55.9**	**-1.0**
KRLC				*e*SG	**Sg**	**16 22 16.0**	**-0.9**
KRLC	**Kraliky**	**1.50**	**272**	Pg	**Pn**	**16 21 55.9**	**-1.0**
KRLC				Sg	**Sg**	**16 22 16.0**	**-0.9**
STHS	**Stebnicka Huta**	**1.52**	**114**	*e*Pn	**Pb**	**16 21 57.8**	**0.0**
STHS				*e*Sn	**Sn**	**16 22 19.4**	**+1.7**
STHS	**Stebnicka Huta**	**1.52**	**114**	*e*PN	**Pb**	**16 21 57.8**	**0.0**
STHS				*e*SN	**Sn**	**16 22 19.4**	**+1.7**
VYHS	**Vyhne**	**1.57**	**187**	*e*Pg	**Pn**	**16 21 57.7**	**-0.1**
VYHS				*e*Sg	**Sn**	**16 22 18.7**	**-0.2**
VYHS	**Vyhne**	**1.57**	**187**	*e*PG	**Pn**	**16 21 57.7**	**-0.1**
VYHS				*e*SG	**Sn**	**16 22 18.7**	**-0.2**
VRAC	**Vranov**	**1.80**	**246**	*e*Pn	**Pb**	**16 22 02.5**	**0.0**
VRAC	**Vranov**	**1.80**	**246**	⇓*i*P	**Pb**	**16 22 02.7**	**+0.2**
VRAC	**Vranov**	**1.80**	**246**	S	**Sg**	**16 22 27.5**	**+1.1**
VRAC	**Vranov**	**1.80**	**246**	Pn	**Pg**	**16 22 03.3**	**+0.2**
	7.2nm,0.3s,baz=63,slow=15,SNR=47						
VRAC				Lg	Lg	16 22 27.3	
	10nm,0.3s,baz=98,slow=18,SNR=6.9						
VRAC	**Vranov**	**1.80**	**246**	Pn	**Pb**	**16 22 02.5**	**0.0**
VRAC				*e*Sg	**Sg**	**16 22 27.3**	**+0.9**
DPC	**Dobruska-Polom**	**1.82**	**280**	*e*Pn	**Pn**	**16 22 01.2**	**0.0**
DPC				*e*Pg	**Pb**	**16 22 02.9**	**+0.1**
DPC				*e*Sg	**Sb**	**16 22 25.8**	**-0.3**
DPC	**Dobruska-Polom**	**1.82**	**280**	*e*PG	**Pn**	**16 22 01.1**	**-0.2**
DPC				*e*SG	**Sn**	**16 22 25.4**	**+0.4**
DPC	**Dobruska-Polom**	**1.82**	**280**	Pn	**Pn**	**16 22 01.2**	**0.0**
CRVS	**Cervenica-Dubn**	**1.92**	**126**	*e*Pn	**Pb**	**16 22 04.6**	**+0.1**
CRVS				*e*Sn	**Sb**	**16 22 29.2**	**+0.2**
CRVS	**Cervenica-Dubn**	**1.92**	**126**	*e*PN	**Pb**	**16 22 04.6**	**+0.1**
CRVS				*e*SN	**Sb**	**16 22 29.2**	**+0.2**
KSP	**Ksiaz**	**1.97**	**295**	*e*Pn	**Pn**	**16 22 03.3**	**0.0**
KSP				*e*Pg	**Pg**	**16 22 06.4**	**0.0**
KSP				*e*Sg	**Sg**	**16 22 31.3**	**-0.5**
KSP	**Ksiaz**	**1.97**	**295**	*e*Pn	**Pn**	**16 22 03.2**	**0.0**
KSP				*e*Pg	**Pg**	**16 22 06.4**	**0.0**
KSP				*e*Sg	**Sb**	**16 22 31.2**	**+0.8**
KSP	**Ksiaz**	**1.97**	**295**	Pn	**Pn**	**16 22 03.3**	**0.0**
KRUC	**Moravsky**	**2.03**	**242**	*e*Pn	**Pn**	**16 22 05.0**	**+0.9**
KRUC				*e*Pg	**Pg**	**16 22 07.2**	**-0.4**
KRUC				*e*Sg	**Sg**	**16 22 34.7**	**+0.9**
KRUC	**Moravsky**	**2.03**	**242**	Pn	**Pn**	**16 22 05.0**	**+0.9**
UPC	**Upice**	**2.04**	**284**	*e*PG	**Pn**	**16 22 05.1**	**+0.8**
UPC				*e*SG	**Sn**	**16 22 30.4**	**0.0**
UPC	**Upice**	**2.04**	**284**	Pg	**Pn**	**16 22 05.1**	**+0.8**
UPC				Sg	**Sn**	**16 22 30.4**	**0

KWP	Kalwaria Pacla	2.37	99	S	Sb	16 22 40.7	-1.2
KWP	Kalwaria Pacla	2.37	99	⇓iP	Pn	16 22 10.5	+1.7
KWP				Sg	Sb	16 22 43.3	+1.4
TREC	Trest	2.47	254	eSG	Sg	16 22 47.2	-0.9
	comp=Z,57nm,0.5s						
TREC	Trest	2.47	254	Sg	Sg	16 22 47.2	-0.9
	57nm,0.5s						
UZH	Uzhgorod	2.52	123	ePn	Pb	16 22 15.0	+0.2
UZH				Pnm		16 22 16.8	
UZH				eSn	Sb	16 22 47.6	+1.3
UZH				Snm		16 22 59.8	
ONO	Onokovtsy	2.52	122	ePn	Pb	16 22 15.4	+0.6
ONO				eSn	Sg	16 22 48.6	-1.1
MUKU	Mukachevo	2.84	123	ePn	Pb	16 22 20.6	+0.4
MUKU				eSn	Sb	16 22 57.2	+1.8
SHIU	Shidnytsya	2.88	105	ePn	Pg	16 22 23.9	-0.1
SHIU				eSn	Sg	16 23 02.2	+0.9
PRU	Pruhonice	2.95	270	ePn	Pn	16 22 16.4	-0.3
PRU				eSg	Sg	16 23 03.0	-0.4
PRU	Pruhonice	2.95	270	ePN	Pn	16 22 14.7	-2.0
PRU				ePG	Pb	16 22 21.4	-0.7
PRU				eSG	Sg	16 23 01.2	-2.1
	comp=Z,22nm,0.4s						
PRU	Pruhonice	2.95	270	Pn	Pn	16 22 16.4	-0.3
PRU	Pruhonice	2.95	270	Pg	Pb	16 22 21.4	-0.7
PRU				Sg	Sg	16 23 03.0	-0.4
BERU	Beregovo	2.95	127	ePn	Pb	16 22 21.8	-0.3
BERU				eSn	Sb	16 23 00.4	+1.7
PVCC	Panska Ves	2.95	281	eSg	Sg	16 23 02.9	-0.6
PVCC	Panska Ves	2.95	281	eSG	Sg	16 23 01.5	-2.0
	comp=Z,74nm,0.4s						
PVCC	Panska Ves	2.95	281	Sg	Sg	16 23 02.9	-0.6
TRPA	Tarpa	2.96	129	⇓iP	Pn	16 22 18.2	+1.3
TRPA	Tarpa	2.96	129	⇓iP	Pn	16 22 18.2	+1.3
CONA	Conrad Observa	3.02	226	⇑iPn	Pn	16 22 16.9	-0.9
CONA				⇑iSn	Sn	16 22 53.2	-1.5
CONA	Conrad Observa	3.02	226	Pn	Pn	16 22 16.9	-0.9
CONA				Sn	Sn	16 22 53.2	-1.5
LVV	L'vov	3.19	92	ePn	Pg	16 22 31.1	+1.4
LVV				Pnm		16 22 34.5	
LVV				eSn	Sg	16 23 14.7	+3.7
LVV				Snm		16 23 23.7	
KORU	Korolevo	3.25	124	iPn	Pb	16 22 26.9	-0.4
KORU				eSn	Sb	16 23 09.1	+1.7
MEZ	Mezhgor'ye	3.27	116	ePn	Pb	16 22 27.7	+0.2
MEZ				eSn	Sb	16 23 10.5	+2.6
BRG	Berggiesshubel	3.40	286	PN	Pb	16 22 31.7	+1.9
BRG				PG	Pg	16 22 37.8	+3.9
BRG				SG	Sg	16 23 18.0	0.0
	19nm,0.4s						
KHC	Kasperske Hory	3.72	258	ePn	Pn	16 22 27.8	+0.4
KHC				ePg	Pg	16 22 39.3	-0.6
KHC				eSg	Sg	16 23 28.8	+0.8
KHC	Kasperske Hory	3.72	258	ePN	Pn	16 22 27.3	-0.1
KHC				ePG	Pg	16 22 38.0	-1.9
KHC				eSG	Sg	16 23 27.7	-0.3
	comp=Z,30nm,0.5s						
KHC	Kasperske Hory	3.72	258	Pn	Pn	16 22 27.3	-0.1
KHC	Kasperske Hory	3.72	258	Pg	Pg	16 22 39.3	-0.6
KHC				Sg	Sg	16 23 27.7	-0.3
	30nm,0.5s						
GEC2	GERESS Array S	3.73	253	ePn	Pn	16 22 30.3	+2.7
GEC2				ePg	Pb	16 22 37.8	+2.3
GERES	GERESS Array B	3.73	253	Pn	Pn	16 22 28.4	+0.8
	0.3nm,0.3s,baz=70,slow=16,SNR=7.9						
GERES				Pg	Pb	16 22 37.4	+1.9
	0.8nm,0.3s,baz=67,slow=15,SNR=19						
GERES				Lg	Lg	16 23 29.2	
	4.4nm,0.3s,baz=72,slow=30,SNR=10						
PKSM	Moragy	3.86	185	⇑iP	Pn	16 22 28.6	-0.6
PKSM	Moragy	3.86	185	⇑iP	Pn	16 22 28.6	-0.6
MOA	Molln	3.88	237	⇓iPn	Pn	16 22 28.8	-0.8
MOA				⇓iSg	Sg	16 23 33.9	+0.6
	13nm,0.5s						
MOA	Molln	3.88	237	Pn	Pn	16 22 28.8	-0.8
MOA				Sg	Sg	16 23 33.9	+0.6
	13nm,0.5s						
NSLU	Nyzhne Selyshc	3.97	116	ePn	Pn	16 22 30.9	+0.1
NSLU				eSn	Sn	16 23 14.5	-3.5
CLL	Collm	4.08	290	ePg	Pg	16 22 50.0	+3.1
CLL				eSg	Sg	16 23 38.0	-1.8
	comp=Z,23nm,0.6s						
WET	Wettzell	4.16	260	ePn	Pn	16 22 33.9	+0.5
WET	Wettzell	4.16	260	Pn	Pn	16 22 33.9	+0.5
KSV	Kosov	4.28	112	ePn	Pb	16 22 45.4	+0.7
KSV				Pnm		16 22 53.2	
KSV				eSn	Sg	16 23 42.0	-4.0
KSV				Snm		16 23 49.8	
BURAR	Bucovina Array	4.71	119	⇑iP	Pn	16 22 41.2	+0.1
BURAR	Bucovina Array	4.71	119	⇑iP	Pn	16 22 41.2	+0.1
BZS	Buzias	4.75	158	⇑iP	Pn	16 22 41.8	+0.3
BZS	Buzias	4.75	158	⇑iP	Pn	16 22 41.8	+0.3
HORU	Horodok	4.83	97	ePn	Pb	16 22 56.0	+1.9
HORU				eSn	Sg	16 24 01.8	-1.9
KMPD	K-Podol'skiy	5.03	104	ePn	Pb	16 23 00.0	+2.4
KMPD				eSn	Sg	16 24 05.0	-5.3
GZR	Gura Zlata	5.28	151	⇓iP	Pn	16 22 49.8	+1.0
GZR				S	Sn	16 23 49.5	-0.9
GZR	Gura Zlata	5.28	151	⇓iP	Pn	16 22 49.8	+1.0
GZR				S	Sn	16 23 49.5	-0.9
BSD	Bornholm Skovb	5.68	335	iP	Pn	16 22 53.1	-1.1
BSD				iS	Sn	16 23 53.5	-6.5
BSD	Bornholm Skovb	5.68	335	iP	Pn	16 22 53.1	-1.1
AKASG	Malin Array Be	6.50	80	Pn	Pn	16 23 02.9	-2.6
	comp=Z,0.8nm,0.3s,baz=261,slow=13,SNR=2.6						
AKASG				Sn	Sn	16 24 13.4	-7.0
	comp=Z,1.5nm,0.3s,baz=263,slow=22,SNR=5.0						
AKASG				Lg	Lg	16 24 46.4	
	comp=Z,1.3nm,0.3s,baz=271,slow=24,SNR=3.3						
NACGM	Naroch	6.74	41	e	Sg	16 25 01.0	-4.1
DAVOX	Davos/Dischmat	6.96	245	Pn	Pn	16 23 13.8	+1.8
	comp=Z,0.3nm,0.3s,baz=29,slow=19,SNR=4.7						
DAVOX				Lg	Lg	16 25 11.6	
	comp=Z,0.3nm,0.3s,baz=253,slow=20,SNR=2.6						
HFS	Hagfors	10.56	345	Pn	Pn	16 24 00.3	-0.9
	comp=Z,0.1nm,0.3s,baz=143,slow=12,SNR=4.4						
HFS				Sn	Sn	16 25 53.1	-7.0
	comp=Z,0.1nm,0.3s,baz=161,slow=27,SNR=3.5						
FINES	FINESS Array B	12.06	16	Pn	Pn	16 24 17.6	-4.0
	comp=Z,0.2nm,0.3s,baz=191,slow=14,SNR=8.3						
FINES				Sn	Sn	16 26 25.6	-11
	comp=Z,0.4nm,0.3s,baz=198,slow=21,SNR=6.3						
KAF	Kangasniemi	12.73	16	ep	Pn	16 24 25.7	-5.0
JOF	Joensuu	14.51	23	ep	Pn	16 24 48.9	-6.1
ARCES	ARCESS Array B	19.79	7	Pn	P	16 25 59.7	-0.4
	comp=Z,0.1nm,0.3s,baz=187,slow=14,SNR=3.5						

KRNET 07 16:26:03.9±0.1, 42°.43N×75°.65E, h18km, mb2.0, 7C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOOM	Boomskoye usch	0.22	75	eP	Pg	16 26 09.4	0.0
	baz=77						
BOOM				eS	Sg	16 26 13.2	+0.1
	baz=77						
KZA	Kyzart	0.46	220	⇑iP	Pg	16 26 13.4	-0.5
	baz=220						
KZA				⇑iS	Sg	16 26 20.2	-0.4
	baz=220						
ULHL	Ulahol	0.47	113	⇑iP	Pg	16 26 13.3	-0.5
	baz=113						
ULHL				⇑iS	Sg	16 26 20.1	-0.4
	baz=113						
TKM2	Tokmak 2	0.49	355	⇑iP	Pg	16 26 13.9	-0.2
	baz=355						
KBK	Karagaybulak	0.57	294	⇑iP	Pg	16 26 15.5	0.0
	baz=293						
KBK				⇑iS	Sg	16 26 22.8	-0.5
	baz=293						
AAK	Ala-Archa	0.88	284	eP	Pb	16 26 20.7	-0.2
	baz=284						
AAK				iS	Sb	16 26 32.5	0.0
	baz=284						

*ISCJB **07** 16:27:27.9±0.9, 11°.68S±0°.08×166°.5E±0°.2, h59km, mb3.9/10, Error ellipse: s-maj=24.1km s-min=10.7km az=174.5*
*IDC **07** 16:27:31.2±5.1, 11°.64S×166°.48E, h75km±43km, mb3.6/10, mb1 3.8/11, mb1mx3.6/21, mbtmp3.9/11, ML3.5/1, MS4.0/1, Ms1 4.0/1, ms1mx3.1/34, Error ellipse: s-maj=32.0km s-min=23.4km az=61.0*

ISC 07 16:27:29.6±1.0, 11°.58S±0°.09×166°.5E±0°.2, h59km, n15, σ1§33/14, mb3.6/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.43	180	P	Pn	16 29 58.8	+2.3
	0.4nm,0.3s,baz=119,slow=10,SNR=9.0						
DZM				S	Sn	16 31 49.4	-2.7
	0.2nm,0.3s,baz=306,slow=18,SNR=2.2						
PMG	Port Moresby	19.12	275	LR	LR	16 38 00.3	
	comp=Z,463nm,21.7s,baz=330,slow=33						
CTA	Charters Tower	21.20	244	P	P	16 32 11.4	+0.9
	2.1nm,0.7s,baz=96,slow=12,SNR=4.4						
H11S2	WAKE ISLAND Hy	29.88	0	T	T	17 04 36.7	
	baz=185						
H11S3	WAKE ISLAND Hy	29.88	0	T	T	17 04 36.7	
	baz=185						
H11S1	WAKE ISLAND Hy	29.90	0	T	T	17 04 37.9	
	baz=185,SNR=2.7						
WRA	Warramunga Arr	31.99	251	P	P	16 33 50.0	-0.4
	0.7nm,0.7s,baz=83,slow=8.7,SNR=7.8						
WRA				PcP	PcP	16 36 39.6	+0.1
	0.5nm,0.8s,baz=72,slow=2.6,SNR=6.0						
ASAR	Alice Springs	33.21	244	P	P	16 34 00.3	-0.8
	0.7nm,0.7s,baz=71,slow=9.5,SNR=11						
ASAR				PcP	PcP	16 36 42.9	0.0
	1.0nm,0.8s,baz=73,slow=2.3,SNR=9.5						
VNDA	Vanda	65.97	181	P	P	16 38 10.7	+1.4
	1.3nm,1.0s,baz=332,slow=6.6,SNR=3.4						
CMAR	Chiang Mai Arr	72.99	293	P	P	16 38 54.2	+0.6
	0.4nm,0.7s,baz=127,slow=4.1,SNR=5.2						
QSPA	South Pole Qui	78.43	180	P	P	16 39 22.4	-1.5
	6.3nm,0.9s,baz=286,slow=1.0,SNR=12						
SONM	Songino Array	79.52	324	P	P	16 39 29.9	-0.2
	0.8nm,1.0s,baz=118,slow=4.2,SNR=4.3						
ILAR	Eielson Array	83.79	18	P	P	16 39 52.0	-0.1
	0.2nm,0.5s,baz=209,slow=7.2,SNR=3.4						
MKAR	Makanchi Array	94.41	317	P	P	16 40 42.6	-0.5
	1.7nm,0.8s,baz=104,slow=5.2,SNR=12						
ZALV	Zalesovo Beam	94.41	324	P	P	16 40 42.1	-0.8
	0.6nm,0.8s,baz=91,slow=6.1,SNR=2.9						

*IDC **07** 16:35:10.9±2.1, 35°.12N×5°.32W, h65km±22km, mb3.2/10, mb1 3.5/14, mb1mx3.3/38, mbtmp3.6/14, Error ellipse: s-maj=38.0km s-min=13.6km az=88.0*
*ISCJB **07** 16:35:10.9±0.2, 35°.24N±0°.01×5°.02W±0°.02, h72km±4km, mb3.4/9, Error ellipse: s-maj=2.8km s-min=2.4km az=7.5*
*SFS **07** 16:35:12.0, 35°.13N×4°.97W, h74km, ML4.1*
*CNRM **07** 16:35:12.5, 35°.16N×4°.88W, h18km, MD3.9*
*CSEM **07** 16:35:12.4±0.1, 35°.19N×4°.96W, h60km, ML4.8/4, Error ellipse: s-maj=2.5km s-min=2.0km az=121.0*
*LDG **07** 16:35:13.3±0.2, 35°.16N×5°.01W, h25km, Ml3.1/5, Error ellipse: s-maj=4.8km s-min=2.1km az=1.0*
*IGIL **07** 16:35:13.1, 35°.13N×4°.97W, h74km, ML4.1*
*MDD **07** 16:35:13.1±0.4, 35°.19N×4°.95W, h72km±8km, mb4.2/30, Error ellipse: s-maj=3.5km s-min=3.1km az=101.0, PRXIMO*
*INMG **07** 16:35:15.2±2.0, 35°.45N×5°.04W, h20km±12km, ML3.7, Error ellipse: s-maj=10.0km s-min=3.5km az=176.0*

ISC 07 16:35:12.2±0.8, 35°.20N±0°.03×4°.98W±0°.03, h74km±8km, n243, σ1§99/375, mb3.6/9, 5C-11D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECEU	Ceuta	0.77	335	⇓P	Pn	16 35 29.1	+0.9
	125nm,0.2s,SNR=18						
ECEU				S	Sn	16 35 41.3	+1.3
	170nm,0.2s,SNR=13						
ECEU	Ceuta	0.77	335	P	Pn	16 35 29.1	+0.9
	125nm,0.2s,SNR=18						
ECEU				S	Sn	16 35 41.3	+1.3
	170nm,0.2s,SNR=13						
TSY	Tnine Yamani	0.83	282	P	Pn	16 35 30.0	+1.1
TSY				S	Sn	16 35 42.0	+0.8
TSY	Tnine Yamani	0.83	282	P	Pn	16 35 30.0	+1.1
TSY				S	Sn	16 35 42.0	+0.8
TOU	Touzarine	1.03	103	P	Pn	16 35 30.5	-1.0
TOU				S	Sn	16 35 43.0	-2.8
TOU	Touzarine	1.03	103	P	Pn	16 35 30.5	-1.0
TOU				S	Sn	16 35 43.0	-2.8
TGT	Taghat	1.13	183	P	Pn	16 35 33.0	+0.3
TGT				S	Sn	16 35 47.0	-0.9
TGT	Taghat	1.13	183	P	Pn	16 35 33.0	+0.3
TGT				S	Sn	16 35 47.0	-0.9
REAL	Reales	1.29	352	P	Pn	16 35 34.0	-0.8
REAL	Reales	1.29	352	P	Pn	16 35 34.0	-0.8
EMIJ	Mijas	1.37	7	⇓P	Pn	16 35 34.0	-1.6
	85nm,0.2s,SNR=18						
EMIJ				S	Sn	16 35 50.1	-3.2
	88nm,0.2s,SNR=12						
EMIJ	Mijas	1.37	7	P	Pn	16 35 34.0	-1.6
	85nm,0.2s,SNR=18						
EMAL	Malaga-Limoner	1.62	16	⇓P	Pn	16 35 37.6	-1.3
EMAL				S	Sn	16 35 52.6	-6.4
EMAL	Malaga-Limoner	1.62	16	P	Pn	16 35 37.6	-1.3
EMEL	Melilla	1.66	86	P	Pn	16 35 38.2	-1.1
	263nm,0.1s,SNR=12						
EMEL				S	Sn	16 35 57.1	-2.9
	183nm,0.1s,SNR=11						
EMLI	Melilla	1.66	86	P	Pn	16 35 38.2	-1.2
	263nm,0.1s,SNR=12						
EMLI				S	Sn	16 35 57.1	-3.0
	183nm,0.1s,SNR=11						
MIF	Mishlifen	1.80	187	P	Pn	16 35 41.0	-0.6
MIF				S	Sn	16 36 03.0	-0.8
MIF	Mishlifen	1.80	187	P	Pn	16 35 41.0	-0.6
MIF				S	Sn	16 36 03.0	-0.8
ESPR	Espera	1.81	337	⇓P	Pn	16 35 42.3	+0.9
	13nm,0.2s,SNR=18						
ESPR				S	Sn	16 36 03.6	+0.1
	33nm,0.2s,SNR=5.3						
ESPR	Espera	1.81	337	P	Pn	16 35 42.3	+0.9
	13nm,0.2s,SNR=18						
ESPR				S	Sn	16 36 03.6	+0.1
	33nm,0.2s,SNR=5.3						
ZAI	Zaio	1.84	97	P	Pn	16 35 41.0	-1.0
ZAI				S	Sn	16 36 02.0	-2.5
ZAI	Zaio	1.84	97	P	Pn	16 35 41.0	-1.0
ZAI				S	Sn	16 36 02.0	-2.5
RTC	Rabat Centre	1.97	233	P	Pn	16 35 44.0	+0.5
RTC				S	Sn	16 36 07.0	-0.3
RTC	Rabat Centre	1.97	233	P	Pn	16 35 44.0	+0.5
RTC				S	Sn	16 36 07.0	-0.3
SELV	Sierra Elvira	2.27	26	P	Pn	16 35 47.5	-0.1
	7.2nm,0.2s,SNR=7.9						
SELV				S	Sn	16 36 14.7	0.0
	11nm,0.2s,SNR=7.9						
SELV	Sierra Elvira	2.27	26	P	Pn	16 35 47.5	-0.1
	7.2nm,0.2s,SNR=7.9						
SELV				S	Sn	16 36 14.7	0.0
	11nm,0.2s,SNR=7.9						
EQUE	Quentar	2.35	31	P	Pn	16 35 49.0	+0.2
	17nm,0.2s,SNR=33						
EQUE				S	Sn	16 36 16.3	-0.5
	20nm,0.2s						
EQUE	Quentar	2.35	31	P	Pn	16 35 49.0	+0.2
	17nm,0.2s,SNR=33						
EQUE				S	Sn	16 36 16.3	-0.5
	20nm,0.2s						
ECOG	Cogollos-Vega	2.36	28	P	Pn	16 35 49.3	+0.3
	46nm,0.2s,SNR=70						
ECOG				S	Sn	16 36 17.1	0.0
	82nm,0.4s,SNR=5.4						
ECOG	Cogollos-Vega	2.36	28	P	Pn	16 35 49.3	+0.3
	46nm,0.2s,SNR=70						
ECOG				S	Sn	16 36 17.1	0.0
	82nm,0.4s,SNR=5.4						
EBER	Berja	2.39	44	P	Pn	16 35 48.5	-0.9
	32nm,0.3s,SNR=192						
EBER				S	Sn	16 36 16.6	-1.3
	21nm,0.2s						
EBER	Berja	2.39	44	P	Pn	16 35 48.5	-0.9
	32nm,0.3s,SNR=192						
EBER				S	Sn	16 36 16.6	-1.3
	21nm,0.2s						
MDT	Midelt	2.40	173	P	Pn	16 35 49.7	+0.2
	19nm,0.3s,baz=240,slow=7.2,SNR=807						
MDT				S	Sn	16 36 16.1	-1.9
	126nm,0.3s,baz=169,slow=16,SNR=39						
KIB	El Ksiba	2.77	199	P	Pn	16 35 55.0	+0.6
KIB				S	Sn	16 36 26.0	-0.8
KIB	El Ksiba	2.77	199	P	Pn	16 35 55.0	+0.6
KIB				S	Sn	16 36 26.0	-0.8
ENIJ	Nijar	2.85	51	P	Pn	16 35 55.3	-0.2
	9.8nm,0.3s,SNR=7.9						
ENIJ				S	Sn	16 36 26.5	-2.4
	SNR=7.9						
ENIJ	Nijar	2.85	51	P	Pn	16 35 55.3	-0.2
	9.8nm,0.3s,SNR=7.9						
ENIJ				S	Sn	16 36 26.5	-2.4
	SNR=7.9						
ECAB	El Cabril	2.89	353	⇑P	Pn	16 35 55.9	-0.1
	7.0nm,0.2s,SNR=18						
ECAB				S	Sn	16 36 26.5	-3.2
	17nm,0.1s,SNR=6.7						
ECAB	El Cabril	2.89	353	P	Pn	16 35 55.9	-0.1
	7.0nm,0.2s,SNR=18						
EMIN	Mina Concepcio	2.90	332	⇓P	Pn	16 35 56.1	0.0
	8.4nm,0.1s,SNR=18						
EMIN				S	Sn	16 36 26.8	-3.1
	31nm,0.1s						
EMIN	Mina Concepcio	2.90	332	P	Pn	16 35 56.1	0.0
	8.4nm,0.1s,SNR=18						
EQES	Quesada	3.02	30	P	Pn	16 35 58.7	+0.9
	16nm,0.1s,SNR=23						
EQES				S	Sn	16 36 33.0	+0.1
	6.1nm,0.2s						
EQES	Quesada	3.02	30	P	Pn	16 35 58.7	+0.9
	16nm,0.1s,SNR=23						
EQES				S	Sn	16 36 33.0	+0.1
	6.1nm,0.2s						
EGRO	El Granado	3.08	320	⇓P	Pn	16 35 58.9	+0.3
	18nm,0.1s,SNR=18						
EGRO				S	Sn	16 36 31.9	-2.4
	162nm,0.1s						
EGRO	El Granado	3.08	320	P	Pn	16 35 58.9	+0.3
	18nm,0.1s,SNR=18						
EBAN	Banos Encina	3.11	18	⇓P	Pn	16 35 59.4	+0.4
	9.7nm,0.2s,SNR=18						
EBAN				S	Sn	16 36 33.8	-1.2
	9.5nm,0.1s						
EBAN	Banos Encina	3.11	18	P	Pn	16 35 59.4	+0.4
	9.7nm,0.2s,SNR=18						
EBAN				S	Sn	16 36 33.8	-1.2
	9.5nm,0.1s						
PVAQ	Vaqueiros	3.12	316	ePn	Pn	16 35 59.4	+0.3
PVAQ				eSn	Sn	16 36 33.1	-2.1
PVAQ				A	A	16 36 33.5	
	728nm,0.2s						
PVAQ	Vaqueiros	3.12	316	P	Pn	16 35 59.4	+0.3
PVAQ				S	Sn	16 36 33.1	-2.1
	728nm,0.2s						
PVAQ	Vaqueiros	3.12	316	P	Pn	16 35 59.4	+0.3
PVAQ				eSn	Sn	16 36 33.1	-2.1
	728nm,0.2s						
PBDV	Barranco-do-Ve	3.14	311	iPn	Pn	16 35 59.7	+0.3
PBDV				eSn	Sn	16 36 33.5	-2.2
PBDV				A	A	16 36 39.1	
	157nm,0.7s						
PBDV	Barranco-do-Ve	3.14	311	⇑P	Pn	16 35 59.7	+0.3
PBDV				S	Sn	16 36 33.5	-2.2
	157nm,0.7s						
PBDV	Barranco-do-Ve	3.14	311	P	Pn	16 35 59.7	+0.3
PBDV				eSn	Sn	16 36 33.5	-2.2
	157nm,0.7s						
ZFT	Errachidia	3.20	170	P	Pn	16 36 00.5	0.0
ZFT				S	Sn	16 36 36.0	-1.6
ZFT	Errachidia	3.20	170	P	Pn	16 36 00.5	0.0
ZFT				S	Sn	16 36 36.0	-1.6
TZC	Tazercounte	3.30	203	P	Pn	16 36 02.0	+0.3
TZC				S	Sn	16 36 39.0	-0.9
TZC	Tazercounte	3.30	203	P	Pn	16 36 02.0	+0.3
TZC				S	Sn	16 36 39.0	-0.9
PBAR	Barrancos	3.40	331	ePn	Pn	16 36 02.9	0.0
PBAR				eSn	Sn	16 36 39.2	-2.8
PBAR				A	A	16 36 42.0	
	324nm,0.1s						
PBAR	Barrancos	3.40	331	P	Pn	16 36 02.9	0.0
PBAR				S	Sn	16 36 39.2	-2.8
	324nm,0.1s						
PBAR	Barrancos	3.40	331	P	Pn	16 36 02.9	0.0
PBAR				eSn	Sn	16 36 39.2	-2.8
	324nm,0.1s						
SESP	Santiago Espad	3.51	33	P	Pn	16 36 05.2	+0.6
	6.3nm,0.2s,SNR=7.9						
SESP				S	Sn	16 36 44.2	-0.8
	3.1nm,0.1s,SNR=7.9						
SESP	Santiago Espad	3.51	33	P	Pn	16 36 05.2	+0.6
	6.3nm,0.2s,SNR=7.9						
SESP				S	Sn	16 36 44.2	-0.8
	3.1nm,0.1s,SNR=7.9						
MORF	Marmelete	3.63	306	eP	Pn	16 36 06.0	-0.2
MORF				eS	Sn	16 36 45.1	-2.8
MORF				AML	AML	16 36 50.1	
	comp=N,498nm,0.2s						
MORF	Marmelete	3.63	306	ePn	Pn	16 36 06.2	0.0
MORF				eSn	Sn	16 36 45.8	-2.1
MORF				A	A	16 36 49.1	
	comp=N,166nm,0.1s						
MORF	Marmelete	3.63	306	P	Pn	16 36 06.2	0.0
MORF				S	Sn	16 36 45.8	-2.1
	comp=N,166nm,0.1s						
MORF	Marmelete	3.63	306	P	Pn	16 36 06.2	0.0
MORF				eSn	Sn	16 36 45.8	-2.1
	comp=N,166nm,0.1s						
MESJ	Messejana	3.71	316	eP	Pn	16 36 07.2	+0.1
MESJ				eS	Sn	16 36 46.5	-3.0
MESJ				AML	AML	16 36 49.8	
	comp=N,352nm,0.2s						
MESJ	Messejana	3.71	316	ePn	Pn	16 36 07.5	+0.4
MESJ				eSn	Sn	16 36 46.7	-2.9
MESJ				A	A	16 36 50.1	
	comp=N,221nm,0.5s						
MESJ	Messejana	3.71	316	P	Pn	16 36 07.5	+0.4
MESJ				S	Sn	16 36 46.7	-2.9
	comp=N,221nm,0.5s						
MESJ	Messejana	3.71	316	P	Pn	16 36 07.5	+0.4
MESJ				eSn	Sn	16 36 46.7	-2.9
	comp=N,221nm,0.5s						
PTEO	Sao Teotonio	3.82	309	iPn	Pn	16 36 09.1	+0.5
PTEO				eSn	Sn	16 36 50.0	-2.4
PTEO				A	A	16 36 53.4	
	comp=N,164nm,0.3s						
PTEO	Sao Teotonio	3.82	309	⇑P	Pn	16 36 09.1	+0.5
PTEO				S	Sn	16 36 50.0	-2.4
	comp=N,82nm,0.3s						
PTEO	Sao Teotonio	3.82	309	P	Pn	16 36 09.1	+0.5
PTEO			

PESTR *e*Sn **Sn** **16 36 58.5 -3.4**
comp=N,81nm,0.4s
ETOB Tobarra 4.40 38 ⇑P **Pn** **16 36 17.5 +0.9**
comp=N,7.0nm,0.2s,SNR=18
ETOB S **Sn** **16 37 05.6 -1.0**
comp=N,1.0nm,0.1s,SNR=7.9
ETOB Tobarra 4.40 38 P **Pn** **16 36 17.5 +0.9**
comp=N,7.0nm,0.2s,SNR=18
ETOB S **Sn** **16 37 05.6 -1.0**
comp=N,1.0nm,0.1s,SNR=7.9
ESDC Sonseca Array 4.54 10 P **Pn** **16 36 18.6 +0.1**
comp=N,7.0nm,0.3s,baz=194,slow=13,SNR=143
ESDC S **Sn** **16 37 05.7 -4.3**
comp=N,2.5nm,0.3s,baz=192,slow=23,SNR=4.5
ESDC Sonseca Array 4.54 10 P **Pn** **16 36 18.5 +0.1**
comp=N,12nm,0.3s,baz=194,slow=13,SNR=128
ESDC S **Sn** **16 37 06.1 -3.8**
comp=N,5.6nm,0.3s,baz=197,slow=24,SNR=13
ESDC Sonseca Array 4.54 10 P **Pn** **16 36 18.6 +0.1**
comp=N,7.0nm,0.3s,SNR=143
PMRV Marv??o 4.63 336 *e*Pn **Pn** **16 36 20.2 +0.4**
PMRV *e*Sn **Sn** **16 37 08.5 -3.8**
PMRV A A 16 37 23.4
comp=N,52nm,0.8s
PMRV Marv??o 4.63 336 P **Pn** **16 36 20.2 +0.4**
PMRV S **Sn** **16 37 08.5 -3.8**
comp=N,52nm,0.8s
PMRV Marv??o 4.63 336 P **Pn** **16 36 20.2 +0.4**
PMRV *e*Sn **Sn** **16 37 08.5 -3.8**
comp=N,52nm,0.8s
PMTG Montargil 4.65 327 *e*Pn **Pn** **16 36 20.2 +0.3**
PMTG *e*Sn **Sn** **16 37 09.0 -3.6**
PMTG A A 16 37 11.7
comp=N,79nm,0.7s
PMTG Montargil 4.65 327 *e*Pn **Pn** **16 36 20.2 +0.3**
PMTG *e*Sn **Sn** **16 37 09.0 -3.6**
comp=N,79nm,0.7s
OKGL Djebel Kef Gue 4.65 78 P **Pn** **16 36 20.0 -0.1**
comp=N,5.8nm,0.1s,SNR=7.9
OKGL S **Sn** **16 37 10.1 -2.7**
comp=N,96nm,0.3s,SNR=7.9
OKGL Djebel Kef Gue 4.65 78 P **Pn** **16 36 20.0 -0.1**
comp=N,5.8nm,0.1s,SNR=7.9
OUK Oukaimeden 4.66 212 P **Pn** **16 36 20.5 0.0**
OUK S **Sn** **16 37 11.0 -2.4**
OUK Oukaimeden 4.66 212 P **Pn** **16 36 20.5 0.0**
OUK S **Sn** **16 37 11.0 -2.4**
CIA Chichaoua 4.81 222 P **Pn** **16 36 23.0 +0.7**
CIA S **Sn** **16 37 15.0 -1.7**
CIA Chichaoua 4.81 222 P **Pn** **16 36 23.0 +0.7**
CIA S **Sn** **16 37 15.0 -1.7**
LIS Lisbon 4.84 318 *e*S **Sn** **16 37 16.3 -1.0**
LIS Lisbon 4.84 318 S **Sn** **16 37 16.3 -1.0**
LIS Lisbon 4.84 318 *e*S **Sn** **16 37 16.3 -1.0**
EPLA Plasencia 4.93 350 ⇓P **Pn** **16 36 24.0 +0.2**
comp=N,12nm,0.1s,SNR=18
EPLA S **Sn** **16 37 15.6 -4.0**
comp=N,19nm,0.2s,SNR=15
EPLA Plasencia 4.93 350 P **Pn** **16 36 24.0 +0.2**
comp=N,12nm,0.1s,SNR=18
PCBR Castelo Branco 5.04 338 *e*Pn **Pn** **16 36 26.0 +0.8**
PCBR *e*Sn **Sn** **16 37 18.0 -4.1**
PCBR A A 16 37 18.4
comp=N,78nm,0.2s
PCBR Castelo Branco 5.04 338 P **Pn** **16 36 26.0 +0.8**
PCBR S **Sn** **16 37 18.0 -4.1**
comp=N,39nm,0.2s
PCBR Castelo Branco 5.04 338 P **Pn** **16 36 26.0 +0.8**
PCBR *e*Sn **Sn** **16 37 18.0 -4.1**
comp=N,78nm,0.2s
PMAFR Mafra 5.09 319 *e*Pn **Pn** **16 36 26.8 +0.9**
PMAFR *e*Sn **Sn** **16 37 20.4 -2.9**
PMAFR A A 16 37 27.0
comp=N,94nm,0.3s
PMAFR Mafra 5.09 319 P **Pn** **16 36 26.9 +0.9**
comp=N,6.3nm,0.1s,SNR=7.9
PMAFR S **Sn** **16 37 19.7 -3.6**
comp=N,325nm,0.4s,SNR=7.9
PMAFR Mafra 5.09 319 *e*Pn **Pn** **16 36 26.8 +0.9**
PMAFR *e*Sn **Sn** **16 37 20.4 -2.9**
comp=N,94nm,0.3s
EBEN Beniarda 5.17 46 P **Pn** **16 36 27.2 +0.1**
comp=N,1.7nm,0.4s,SNR=9.9
EBEN S **Sn** **16 37 21.8 -3.5**
comp=N,0.4nm,0.4s,SNR=7.9
EBEN Beniarda 5.17 46 P **Pn** **16 36 27.2 +0.1**
comp=N,1.7nm,0.4s,SNR=9.9
PTOM Tomar 5.18 329 *i* Pn **Pn** **16 36 27.9 +0.6**
PTOM *e*Sn **Sn** **16 37 21.5 -4.2**
PTOM A A 16 37 24.6
comp=N,84nm,0.2s
PTOM Tomar 5.18 329 ⇓P **Pn** **16 36 27.9 +0.6**
PTOM S **Sn** **16 37 21.5 -4.2**
comp=N,42nm,0.2s
PTOM Tomar 5.18 329 P **Pn** **16 36 27.9 +0.6**
PTOM *e*Sn **Sn** **16 37 21.5 -4.2**
comp=N,84nm,0.2s
GUD Guadarrama 5.47 7 P **Pn** **16 36 32.0 +0.7**
comp=N,4.2nm,0.1s,SNR=14
GUD S **Sn** **16 37 27.2 -5.7**
comp=N,3.2nm,0.3s,SNR=5.7
GUD Guadarrama 5.47 7 P **Pn** **16 36 32.0 +0.7**
comp=N,4.2nm,0.1s,SNR=14
MTE Manteigas 5.57 339 *e*Pn **Pn** **16 36 33.1 +0.5**
MTE *e*Sn **Sn** **16 37 31.5 -3.8**
MTE A A 16 37 48.9
comp=N,58nm,0.6s
MTE Manteigas 5.57 339 P **Pn** **16 36 33.1 +0.5**
MTE S **Sn** **16 37 31.5 -3.8**
comp=N,29nm,0.6s
MTE Manteigas 5.57 339 P **Pn** **16 36 33.1 +0.5**
PCAS Casmilo, Conde 5.59 331 *e*Pn **Pn** **16 36 33.4 +0.6**
PCAS *e*Sn **Sn** **16 37 30.9 -4.7**
PCAS A A 16 37 34.4
comp=N,39nm,0.4s
PCAS Casmilo, Conde 5.59 331 *e*Pn **Pn** **16 36 33.4 +0.6**
PVIS Viseu 5.97 338 *i* Pn **Pn** **16 36 38.2 +0.2**
PVIS *e*Sn **Sn** **16 37 40.4 -4.5**
PVIS A A 16 37 43.5
comp=N,37nm,0.1s
PVIS Viseu 5.97 338 ⇑P **Pn** **16 36 38.2 +0.2**
PVIS S **Sn** **16 37 40.4 -4.5**
comp=N,19nm,0.1s
PVIS Viseu 5.97 338 P **Pn** **16 36 38.2 +0.2**
ETOR Torete 6.06 21 P **Pn** **16 36 39.7 +0.4**
comp=N,44nm,0.3s,SNR=65
ETOR S **Sn** **16 37 43.2 -4.1**
comp=N,7.2nm,0.1s
ETOR Torete 6.06 21 P **Pn** **16 36 39.7 +0.4**
comp=N,44nm,0.3s,SNR=65
MVO Moncorvo 6.17 345 *e*Pn **Pn** **16 36 41.1 +0.4**
MVO *e*Sn **Sn** **16 37 44.5 -5.3**
MVO A A 16 37 46.9
comp=N,25nm,0.2s
MVO Moncorvo 6.17 345 ⇓P **Pn** **16 36 41.1 +0.4**
comp=N,20nm,0.1s,SNR=18
MVO S **Sn** **16 37 44.5 -5.3**
comp=N,8.1nm,0.2s
MVO Moncorvo 6.17 345 P **Pn** **16 36 41.1 +0.4**
comp=N,20nm,0.1s,SNR=18
EMOS Mosqueruela 6.27 33 P **Pn** **16 36 42.9 +0.7**
comp=N,6.5nm,0.2s,SNR=34
EMOS S **Sn** **16 37 49.1 -3.4**
comp=N,0.6nm,0.2s,SNR=6.2
EMOS Mosqueruela 6.27 33 P **Pn** **16 36 42.9 +0.7**
comp=N,6.5nm,0.2s,SNR=34
EIBI Ibiza 6.33 51 P **Pn** **16 36 43.1 +0.2**
comp=N,0.6nm,0.1s,SNR=8.4
EIBI S **Sn** **16 37 49.5 -4.2**
comp=N,0.9nm,0.2s,SNR=7.9
EIBI Ibiza 6.33 51 P **Pn** **16 36 43.1 +0.2**
comp=N,0.6nm,0.1s,SNR=8.4
PVRL Vila Real 6.43 341 *e*Pn **Pn** **16 36 44.9 +0.5**
PVRL *e*Sn **Sn** **16 37 52.3 -4.0**
PVRL A A 16 37 55.1
comp=N,94nm,0.1s
PVRL Vila Real 6.43 341 P **Pn** **16 36 44.9 +0.5**
PVRL S **Sn** **16 37 52.3 -4.0**
comp=N,47nm,0.1s
PVRL Vila Real 6.43 341 P **Pn** **16 36 44.9 +0.5**
POLO Lamas de Olo 6.55 341 *e*Pn **Pn** **16 36 46.6 +0.7**
POLO *e*Sn **Sn** **16 37 54.2 -5.0**
POLO A A 16 37 55.9
comp=N,18nm,0.5s
POLO Lamas de Olo 6.55 341 *e*Pn **Pn** **16 36 46.6 +0.7**
YBT Youssef Ben Ta 6.56 217 P **Pn** **16 36 47.0 +0.9**

YBT S **Sn** **16 37 57.0 -2.6**
YBT Youssef Ben Ta 6.56 217 P **Pn** **16 36 47.0 +0.9**
YBT S **Sn** **16 37 57.0 -2.6**
PTO Porto 6.58 335 *e*Pn **Pn** **16 36 47.1 +0.9**
PTO *e*Sn **Sn** **16 37 55.1 -4.6**
PTO A A 16 37 56.5
comp=N,75nm,0.1s
PTO Porto 6.58 335 P **Pn** **16 36 47.1 +0.9**
PTO S **Sn** **16 37 55.1 -4.6**
comp=N,38nm,0.1s
PTO Porto 6.58 335 P **Pn** **16 36 47.1 +0.9**
PBRG Braganca 6.74 349 *e*Pn **Pn** **16 36 49.2 +0.7**
PBRG *e*Sn **Sn** **16 37 59.2 -4.5**
PBRG A A 16 38 02.0
comp=N,15nm,0.3s
PBRG Braganca 6.74 349 P **Pn** **16 36 49.2 +0.7**
PBRG S **Sn** **16 37 59.2 -4.5**
comp=N,7.6nm,0.3s
PBRG Braganca 6.74 349 P **Pn** **16 36 49.2 +0.7**
ECAL Calabor 6.87 349 P **Pn** **16 36 51.0 +0.7**
comp=N,8.0nm,0.2s,SNR=23
ECAL S **Sn** **16 38 01.9 -5.1**
comp=N,1.9nm,0.2s,SNR=7.9
ECAL Calabor 6.87 349 P **Pn** **16 36 51.0 +0.7**
comp=N,8.0nm,0.2s,SNR=23
PCAB Cabril 6.92 341 *e*Pn **Pn** **16 36 51.6 +0.6**
PCAB *e*Sn **Sn** **16 38 02.9 -5.4**
PCAB A A 16 38 05.1
comp=N,18nm,0.3s
PCAB Cabril 6.92 341 P **Pn** **16 36 51.6 +0.6**
PCAB S **Sn** **16 38 02.9 -5.4**
comp=N,9.1nm,0.3s
PCAB Cabril 6.92 341 P **Pn** **16 36 51.6 +0.6**
ELOB Lobios 7.08 341 P **Pn** **16 36 53.8 +0.6**
comp=N,5.9nm,0.2s,SNR=29
ELOB S **Sn** **16 38 06.6 -5.5**
comp=N,6.2nm,0.2s,SNR=7.0
ELOB Lobios 7.08 341 P **Pn** **16 36 53.8 +0.6**
comp=N,5.9nm,0.2s,SNR=29
ERTA Horta de San J 7.11 35 P **Pn** **16 36 54.6 +1.0**
comp=N,1.9nm,0.2s,SNR=7.9
ERTA S **Sn** **16 38 08.1 -4.7**
comp=N,0.6nm,0.2s,SNR=7.9
ERTA Horta de San J 7.11 35 P **Pn** **16 36 54.6 +1.0**
comp=N,1.9nm,0.2s,SNR=7.9
PGAV Gavieira, Arco 7.23 340 *e*Pn **Pn** **16 36 55.9 +0.7**
PGAV *e*Sn **Sn** **16 38 10.4 -5.4**
PGAV A A 16 38 12.4
comp=N,25nm,0.3s
PGAV Gavieira, Arco 7.23 340 *e*Pn **Pn** **16 36 55.9 +0.7**
ETOS Mallorca 7.69 51 P **Pn** **16 37 02.0 +0.5**
comp=N,0.4nm,0.2s,SNR=4.9
ETOS S Sn 16 38 20.7 -6.3
comp=N,0.2nm,0.2s,SNR=7.9
ETOS Mallorca 7.69 51 P **Pn** **16 37 02.0 +0.5**
comp=N,0.4nm,0.2s,SNR=4.9
EPOB Poblet 7.77 36 P **Pn** **16 37 03.2 +0.6**
comp=N,0.1nm,0.1s,SNR=13
EPOB S **Sn** **16 38 23.7 -5.4**
comp=N,0.1nm,0.2s,SNR=7.9
EPOB Poblet 7.77 36 P **Pn** **16 37 03.2 +0.6**
comp=N,0.1nm,0.1s,SNR=13
EARA Aranguren 8.01 18 P **Pn** **16 37 06.6 +0.8**
comp=N,1.7nm,0.1s,SNR=7.9
EARA Aranguren 8.01 18 P **Pn** **16 37 06.6 +0.8**
comp=N,1.7nm,0.1s,SNR=7.9
EARI Arriondas 8.09 359 P **Pn** **16 37 07.6 +0.6**
comp=N,2.8nm,0.5s,SNR=14
EARI S Sn 16 38 30.1 -6.7
comp=N,1.0nm,0.3s,SNR=7.9
EARI Arriondas 8.09 359 P **Pn** **16 37 07.6 +0.6**
comp=N,2.8nm,0.5s,SNR=14
ELAN Lanestosa 8.11 8 P **Pn** **16 37 07.5 +0.4**
comp=N,0.9nm,0.2s,SNR=24
ELAN S **Sn** **16 38 31.6 -5.6**
comp=N,0.6nm,0.2s,SNR=6.0
ELAN Lanestosa 8.11 8 P **Pn** **16 37 07.5 +0.4**
comp=N,0.9nm,0.2s,SNR=24
STS Santiago 8.16 341 P **Pn** **16 37 08.9 +1.0**
comp=N,1.6nm,0.1s,SNR=7.9
STS S Sn 16 38 32.6 -5.8
comp=N,3.8nm,0.2s,SNR=7.9
STS Santiago 8.16 341 P **Pn** **16 37 08.9 +1.0**
comp=N,1.6nm,0.1s,SNR=7.9
IELO Elcoad 8.16 20 P **Pn** **16 37 08.5 +0.5**
comp=N,14nm,0.5s,SNR=7.9
IELO S **Sn** **16 38 33.9 -4.8**
comp=N,0.5nm,0.2s,SNR=7.9
IELO Elcoad 8.16 20 P **Pn** **16 37 08.5 +0.5**
comp=N,14nm,0.5s,SNR=7.9
EPON Pontenova 8.29 349 P **Pn** **16 37 09.6 0.0**
comp=N,0.6nm,0.2s,SNR=7.9
EPON S Sn 16 38 35.2 -6.4
comp=N,0.3nm,0.1s,SNR=7.9
EPON Pontenova 8.29 349 P **Pn** **16 37 09.6 0.0**
comp=N,0.6nm,0.2s,SNR=7.9
EMAZ Mazaricos 8.34 339 P **Pn** **16 37 09.9 -0.4**
comp=N,0.9nm,0.1s,SNR=8.2
EMAZ S Sn 16 38 36.4 -6.4
comp=N,1.0nm,0.2s,SNR=7.9
EMAZ Mazaricos 8.34 339 P **Pn** **16 37 09.9 -0.4**
comp=N,0.9nm,0.1s,SNR=8.2
ELIZ Elizondo 8.39 18 P **Pn** **16 37 12.4 +1.4**
comp=N,3.0nm,0.2s,SNR=7.9
ELIZ Elizondo 8.39 18 P **Pn** **16 37 12.4 +1.4**
comp=N,3.0nm,0.2s,SNR=7.9
EMIR Miracle 8.41 35 P **Pn** **16 37 12.1 +0.6**
comp=N,9.5nm,0.4s,SNR=14
EMIR Miracle 8.41 35 P **Pn** **16 37 12.1 +0.6**
comp=N,9.5nm,0.4s,SNR=14
ETSF Etsaut 8.42 23 *e*Pn **Pn** **16 37 13.6 +2.1**
ETSF *e*Sn **Sn** **16 38 42.6 -2.3**
comp=N,1.9nm,0.4s
ETSF Etsaut 8.42 23 P **Pn** **16 37 13.6 +2.1**
ETSF S **Sn** **16 38 42.6 -2.3**
comp=N,0.9nm,0.4s
ETSF Etsaut 8.42 23 P **Pn** **16 37 13.6 +2.1**
SJPF Ste Jean 8.42 19 *e*Pn **Pn** **16 37 12.3 +0.9**
SJPF *e*Sn **Sn** **16 38 42.7 -2.1**
comp=N,2.2nm,0.2s
SJPF Ste Jean 8.42 19 P **Pn** **16 37 12.3 +0.9**
SJPF S **Sn** **16 38 42.7 -2.1**
comp=N,1.1nm,0.2s
SJPF Ste Jean 8.42 19 P **Pn** **16 37 12.3 +0.9**
EALK Alkurruntz 8.45 18 P **Pn** **16 37 12.8 +1.1**
comp=N,4.1nm,0.2s,SNR=33
EALK S **Sn** **16 38 41.3 -4.1**
comp=N,20nm,0.6s,SNR=7.9
EALK Alkurruntz 8.45 18 P **Pn** **16 37 12.8 +1.1**
comp=N,4.1nm,0.2s,SNR=33
OSSF Osses 8.54 19 *e*P **Pn** **16 37 14.2 +1.1**
OSSF Osses 8.54 19 *e*P **Pn** **16 37 14.2 +1.1**
CSOR Sort 8.60 32 P **Pn** **16 37 15.3 +1.2**
comp=N,2.3nm,0.3s,SNR=10.0
CSOR S **Sn** **16 38 44.6 -4.9**
comp=N,0.5nm,0.3s,SNR=7.9
CSOR Sort 8.60 32 P **Pn** **16 37 15.3 +1.2**
comp=N,2.3nm,0.3s,SNR=10.0
REYF Montagne du Re 8.62 23 *e*P **Pn** **16 37 16.3 +2.0**
REYF Montagne du Re 8.62 23 *e*P **Pn** **16 37 16.3 +2.0**
EPF Esparros 8.84 26 *e*Pn **Pn** **16 37 17.8 +0.6**
EPF *e*Sn **Sn** **16 38 52.6 -2.6**
comp=N,1.7nm,0.2s
EPF Esparros 8.84 26 P **Pn** **16 37 17.8 +0.6**
EPF S **Sn** **16 38 52.6 -2.6**
comp=N,0.9nm,0.2s
EPF Esparros 8.84 26 P **Pn** **16 37 17.8 +0.6**
CLLI Llivia 9.06 35 P **Pn** **16 37 21.5 +1.2**
comp=N,0.9nm,0.2s,SNR=10
CLLI Llivia 9.06 35 P **Pn** **16 37 21.5 +1.2**
comp=N,0.9nm,0.2s,SNR=10
EFAM Famara 9.44 232 S Sn 16 39 01.0 -9.0
comp=N,46nm,0.5s,SNR=7.9
PMPS Porto Santo 9.65 260 *e*Pn **Pn** **16 37 27.7 -0.6**
PMPS Porto Santo 9.65 260 P **Pn** **16 37 27.7 -0.6**
PMPS Porto Santo 9.65 260 P **Pn** **16 37 27.7 -0.6**
MTLF Montolieu 9.85 32 *e*Pn **Pn** **16 37 31.1 +0.1**
MTLF *e*Sn **Sn** **16 39 16.7 -3.2**
comp=N,0.2nm,0.2s
MTLF Montolieu 9.85 32 P **Pn** **16 37 31.1 +0.1**
MTLF S **Sn** **16 39 16.7 -3.2**
comp=N,0.1nm,0.2s
MTLF Montolieu 9.85 32 P **Pn** **16 37 31.1 +0.1**
CFUE Fuerteventura 10.03 232 S Sn 16 39 15.6 -8.8
comp=N,15nm,0.2s,SNR=7.9
CFTV Fuerteventura 10.28 231 S Sn 16 39 20.9 -10
comp=N,6.2nm,0.2s,SNR=7.9
PMOZ Porto Moniz, M 10.42 260 *e*Pn **Pn** **16 37 38.8 0.0**
PMOZ Porto Moniz, M 10.42 260 *e*Pn **Pn** **16 37 38.8 0.0**
LFF La Frestale 10.66 22 *e*Pn **Pn** **16 37 42.8 +0.8**
LFF La Frestale 10.66 22 P **Pn** **16 37 42.8 +0.8**
LFF La Frestale 10.66 22 P **Pn** **16 37 42.8 +0.8**
CAF Calviac 11.10 27 *e*Pn **Pn** **16 37 47.9 -0.2**
CAF Calviac 11.10 27 P **Pn** **16 37 47.9 -0.2**
CAF Calviac 11.10 27 P **Pn** **16 37 47.9 -0.2**
EOSO Osorio 11.47 235 S Sn 16 39 50.1 -10
comp=N,8.9nm,0.2s,SNR=7.9
EBAJ Bajamar 11.72 239 S Sn 16 39 56.1 -9.4
comp=N,3.5nm,0.2s,SNR=7.9
EGOM La Gomera 12.56 239 S Sn 16 40 16.1 -10
comp=N,9.4nm,0.3s,SNR=7.9
QUIF Quistinic 12.78 6 *e*Pn **Pn** **16 38 10.7 0.0**
QUIF Quistinic 12.78 6 P **Pn** **16 38 10.7 0.0**
QUIF Quistinic 12.78 6 P **Pn** **16 38 10.7 0.0**
SGMF Saint Gilles 13.16 7 *e*Pn **Pn** **16 38 15.9 -0.1**
SGMF Saint Gilles 13.16 7 P **Pn** **16 38 15.9 -0.1**
SGMF Saint Gilles 13.16 7 P **Pn** **16 38 15.9 -0.1**
ROSF Rostrenen 13.18 5 *e*Pn **Pn** **16 38 16.5 +0.3**
ROSF Rostrenen 13.18 5 P **Pn** **16 38 16.5 +0.3**
ROSF Rostrenen 13.18 5 P **Pn** **16 38 16.5 +0.3**
DAVOX Davos/Dischmat 16.08 40 P **P** **16 38 57.5 +1.6**
comp=N,0.3nm,0.3s,baz=257,slow=13,SNR=3.5
GERES GERESS Array B 19.38 40 P **P** **16 39 32.7 +0.6**
comp=N,0.4nm,0.3s,baz=224,slow=11,SNR=21
EKA Eskdalemuir Ar 20.17 3 P Pn 16 39 42.1 -0.8
comp=N,1.2nm,0.8s,baz=203,slow=12,SNR=4.1
TORD Torodi Ar. Bea 22.77 163 P **P** **16 40 10.0 +1.3**
comp=N,0.3nm,0.8s,baz=333,slow=11,SNR=3.0
MLR Muntele Rosu 25.57 57 P **P** **16 40 35.9 +1.6**
comp=N,0.4nm,0.8s,baz=207,slow=5.0,SNR=3.7
HFS Hagfors 27.73 20 P **P** **16 40 54.4 +0.9**
comp=N,1.3nm,0.7s,baz=208,slow=9.2,SNR=9.3
NOA NORSAR Array B 27.86 17 P **P** **16 40 56.1 +1.5**
comp=N,1.5nm,0.9s,baz=220,slow=8.0,SNR=3.0
ARCES ARCESS Array B 38.24 17 P **P** **16 42 26.0 +1.3**
comp=N,2.9nm,0.9s,baz=218,slow=10.0,SNR=3.1
KURBB Kurchatov Arra 59.91 47 P **P** **16 45 11.3 +0.9**
comp=N,0.3nm,0.5s,baz=293,slow=7.4,SNR=3.1
ZALV Zalesovo Beam 62.31 42 P **P** **16 45 28.2 +1.7**
comp=N,0.3nm,0.4s,baz=324,slow=12,SNR=2.6
MKAR Makanchi Array 63.65 50 P **P** **16 45 36.9 +1.3**
comp=N,0.3nm,0.6s,baz=295,slow=6.0,SNR=3.6
YKA Yellowknife Ar 67.63 332 P **P** **16 45 58.6 -2.2**
comp=N,0.1nm,0.3s,baz=53,slow=7.2,SNR=3.3

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*ISCJB **07** 16:41:53.1±0.9, 5°.50N±0°.07×126°.51E±0°.10, h66km, mb3.5/6, Error ellipse: s-maj=14.6km s-min=9.2km az=152.4*
*MAN **07** 16:41:54, 5°.63N×126°.69E, h52km, mb5.0, ML4.0, MS4.1*
*IDC **07** 16:41:57.0±8.9, 5°.55N×126°.09E, h100km±82km, mb3.1/5, mb1 3.3/5, mb1mx3.1/23, mbtmp3.4/5, Error ellipse: s-maj=159.8km s-min=18.0km az=68.0*
ISC 07 16:41:53.2±0.9, 5°.52N±0°.09×126°.5E±0°.1, h66km, n12, σ1§68/13, mb3.4/6, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.43**	**352**	*e*P	**Pn**	**16 42 18.2**	**+1.1**
MATI				*e*S	**Sn**	**16 42 35.9**	**+0.8**
GSPH	**General Santos**	**1.60**	**291**	⇓*e*P	**Pn**	**16 42 20.4**	**+0.9**
GSPH				*e*S	**Sn**	**16 42 39.9**	**+0.5**
BUKP	**Musuan**	**2.72**	**329**	*e*P	**Pn**	**16 42 37.0**	**+2.4**
CTBH	**Cotabato--PC H**	**2.77**	**308**	⇓*i*P	Pn	16 42 39.1	+3.9
PAGZ	**Pagadian**	**3.83**	**307**	*e*P	Pn	16 42 55.0	+5.3
WRA	**Warramunga Arr**	**26.47**	**163**	P	**P**	**16 47 25.8**	**+1.5**
	0.4nm,0.6s,baz=349,slow=10,SNR=10						
ASAR	**Alice Springs**	**29.91**	**166**	P	**P**	**16 47 56.8**	**+1.7**
	0.4nm,0.7s,baz=342,slow=7.5,SNR=13						
ASAR				PcP	**PcP**	**16 50 57.0**	**+0.4**
	0.2nm,0.6s,baz=350,slow=2.8,SNR=6.4						
SONM	**Songino Array**	**45.52**	**341**	P	**P**	**16 50 07.0**	**+0.6**
	0.2nm,0.5s,baz=153,slow=7.4,SNR=2.1						
MKAR	**Makanchi Array**	**55.94**	**325**	P	**P**	**16 51 23.1**	**-1.5**
	0.4nm,0.4s,baz=118,slow=7.8,SNR=8.1						
KURBB	**Kurchatov Arra**	**60.09**	**327**	P	**P**	**16 51 51.8**	**-1.7**
	0.2nm,0.5s,baz=130,slow=6.3,SNR=6.4						
ARCES	**ARCESS Array B**	**88.68**	**340**	P	**P**	**16 54 36.2**	**-2.8**
	7.1nm,1.0s,baz=70,slow=5.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**122.09**	**289**	PKP	**PKPdf**	**17 00 40.5**	**-0.9**
	0.3nm,0.6s,baz=95,slow=1.8,SNR=2.3						

IDC 07 16:41:59.2±1.0, 36°.51S×74°.47W, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.7/26, mbtmp3.6/6, ML2.9/1, Error ellipse: s-maj=30.2km s-min=17.4km az=72.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.22**	**145**	Pn	Pn	16 43 23.2	+4.6
	0.5nm,0.3s,baz=319,slow=15,SNR=3.1						
PLCA				Pg	Pg	16 43 35.9	-3.4
	2.3nm,0.3s,baz=323,slow=12,SNR=7.0						
PLCA				Sn	Sn	16 44 17.7	-1.9
	3.2nm,0.3s,baz=308,slow=15,SNR=4.6						
PLCA				Lg	Lg	16 44 41.1	
	3.0nm,0.3s,baz=41,slow=18,SNR=4.1						
CFAA	**Coronel Fontan**	**7.11**	**48**	Pn	Pn	16 43 43.2	-1.4
	0.2nm,0.3s,baz=202,slow=14,SNR=7.3						
CFAA				Pg	Pg	16 44 09.9	-5.6
	0.1nm,0.3s,baz=235,slow=12,SNR=4.8						
LPAZ	**La Paz**	**20.91**	**17**	P	Pn	16 46 45.3	-1.2
	1.4nm,0.8s,baz=211,slow=5.1,SNR=3.6						
QSPA	**South Pole Qui**	**53.73**	**180**	P	P	16 51 23.9	+1.0
	1.6nm,1.0s,baz=127,slow=5.0,SNR=3.0						
TXAR	**Lajitas Array**	**71.01**	**333**	P	P	16 53 17.4	-1.4
	0.4nm,0.7s,baz=146,slow=8.3,SNR=3.6						
NVAR	**Mina Array Bea**	**84.85**	**327**	P	P	16 54 35.7	0.0
	0.2nm,0.5s,baz=128,slow=9.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**86.91**	**71**	P	P	16 54 47.0	+0.7
	0.7nm,1.1s,baz=237,slow=7.7,SNR=2.4						
ZALV	**Zalesovo Beam**	**157.40**	**33**	PKPab	PKPab	17 02 27.6	-0.4
	0.3nm,0.5s,baz=308,slow=10,SNR=2.6						

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*ISCJB **07** 16:44:06.3±2.0, 34°.64S±0°.04×71°.93W±0°.08, h10km±12km, mb3.9/7, Error ellipse: s-maj=11.2km s-min=6.1km az=23.3*
*IDC **07** 16:44:06.1±0.9, 34°.66S×71°.81W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.9/25, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=30.7km s-min=17.9km az=124.0*
*GUC **07** 16:44:07.8±0.4, 34°.64S×71°.84W, h12km±4km, ML4.0*
*NEIC **07** 16:44:11.4±2.5, 34°.67S×71°.95W, h35km, mb4.3/2, Error ellipse: s-maj=18.1km s-min=11.5km az=97.0*
ISC 07 16:44:07.4±2.2, 34°.68S±0°.05×71°.88W±0°.09, h10km±14km, n19, σ1§28/26, mb4.0/7, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.62**	**121**	⇓*i*P	**Pg**	**16 44 19.6**	**+0.1**
NICH				*i* S	**Sb**	**16 44 28.9**	**-0.4**
LNCH	**Linares**	**1.19**	**169**	⇑*i*P	**Pb**	**16 44 29.4**	**-0.6**
LNCH				*i* S	**Sb**	**16 44 45.6**	**+0.1**
ANTU	**Antumapu**	**1.52**	**43**	*e*P	**Pn**	**16 44 33.4**	**-1.3**
ANTU				*e*S	**Sn**	**16 44 52.4**	**-2.1**
CLCH	**Cerro Calan**	**1.70**	**41**	⇓*i*P	**Pn**	**16 44 36.2**	**-1.0**
CLCH				*e*S	**Sn**	**16 44 57.5**	**-1.6**
CLCH				AML	AML	16 45 05.8	
	comp=N,3μm,0.7s						
PEL	**Peldehue**	**1.83**	**33**	⇑*i*P	**Pn**	**16 44 38.0**	**-1.0**
PEL				*i* S	**Sn**	**16 45 01.4**	**-0.8**
CFAA	**Coronel Fontan**	**4.33**	**46**	Pn	**Pn**	**16 45 16.2**	**+2.9**
	comp=N,0.8nm,0.3s,baz=215,slow=14,SNR=9.8						
CFAA				Pg	**Pb**	**16 45 23.5**	**-0.1**
	comp=N,0.7nm,0.3s,baz=228,slow=19,SNR=7.9						
CFAA				Sn	**Sn**	**16 46 06.9**	**+2.9**
	comp=N,0.4nm,0.3s,baz=220,slow=11,SNR=3.3						
CFAA				Lg	Lg	16 46 20.2	
	comp=N,0.7nm,0.3s,baz=125,slow=22,SNR=6.4						
PLCA	**Paso Flores**	**6.13**	**171**	Lg	Lg	16 47 16.3	
	comp=N,0.1nm,0.3s,baz=85,slow=18,SNR=1.8						
LPAZ	**La Paz**	**18.62**	**11**	P	**Pn**	**16 48 27.0**	**+0.9**
	comp=N,0.1nm,0.3s,baz=161,slow=6.3,SNR=2.7						
EFI	**East Falkland**	**19.69**	**154**	*e*P	**Pn**	**16 48 37.8**	**-0.3**
	comp=N,8.1nm,0.8s						
SIV	**San Ignacio**	**20.99**	**30**	P	**P**	**16 48 50.6**	**-0.5**
	comp=N,1.5nm,0.5s,baz=190,slow=9.0,SNR=4.6						
QSPA	**South Pole Qui**	**55.56**	**180**	P	**P**	**16 53 43.9**	**+1.1**

comp=N,1.4nm,0.9s,baz=214,slow=3.6,SNR=5.2
TXAR Lajitas Array 70.39 331 P **P 16 55 22.3 +0.6**
comp=N,0.6nm,0.5s,baz=153,slow=7.9,SNR=8.6
WVT Waverly 72.00 346 *e*P **P 16 55 30.5 -0.7**
comp=N,4.4nm,0.7s
TORD Torodi Ar. Bea 84.32 70 P **P 16 56 39.9 -0.1**
comp=N,0.7nm,0.8s,baz=240,slow=4.0,SNR=3.7
PDAR Pinedale Array 84.43 333 P **P 16 56 40.5 +0.3**
comp=N,0.6nm,1.0s,baz=97,slow=7.4,SNR=3.2
NVAR Mina Array Bea 84.52 325 P **P 16 56 41.4 +0.6**
comp=N,0.2nm,0.4s,baz=138,slow=6.9,SNR=4.0
ULM Lac du Bonnet 87.19 345 P **P 16 56 52.9 -0.5**
comp=N,0.9nm,0.7s,baz=150,slow=8.1,SNR=3.9
WRA Warramunga Arr 120.23 209 PKP **PKPdf 17 02 57.7 -1.7**
comp=N,0.1nm,0.6s,baz=162,slow=1.6,SNR=4.6
ZALV Zalesovo Beam 154.73 33 PKPbc **PKPbc 17 04 08.9 +0.7**
comp=N,0.3nm,0.4s,baz=344,slow=4.7,SNR=2.4
ZALV PKPab **PKPab 17 04 23.4 +0.2**
comp=N,0.4nm,0.5s,baz=329,slow=5.0,SNR=2.3

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*IDC **07** 16:48:23.9±1.0,34°.79S×72°.28W,h0km,mb3.6/4,*
mb1 3.8/6,mb1mx3.7/27,mbtmp3.6/6,ML3.8/2,Error
ellipse: s-maj=30.9km s-min=19.3km az=113.0
ISC 07 16:48:26.5±0.9,34.7S±0.1×71.8W±0.2,h16km,n8,σ1.8 87/9,
mb3.7/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.34**	**45**	Pn	**Pb**	**16 49 41.2**	**-1.3**
	0.2nm,0.3s,baz=219,slow=12,SNR=7.9						
CFAA				Pg	**Pg**	**16 49 49.2**	**-0.5**
	0.7nm,0.3s,baz=208,slow=14,SNR=12						
CFAA				Lg	Lg	16 50 49.4	
	0.3nm,0.3s,baz=335,slow=9.7,SNR=1.8						
PLCA	**Paso Flores**	**6.08**	**171**	Pn	**Pn**	**16 49 56.0**	**+0.1**
	0.7nm,0.3s,baz=350,slow=9.9,SNR=6.4						
PLCA				Lg	Lg	16 51 28.9	
	baz=271,slow=2.5,SNR=2.9						
LPAZ	**La Paz**	**18.66**	**11**	P	**Pn**	**16 52 47.4**	**+2.6**
	0.1nm,0.3s,baz=220,slow=7.9,SNR=3.4						
QSPA	**South Pole Qui**	**55.51**	**180**	P	**P**	**16 57 59.7**	**-0.9**
	1.3nm,1.1s,baz=135,slow=8.6,SNR=3.4						
TXAR	**Lajitas Array**	**70.44**	**331**	P	**P**	**16 59 39.6**	**-0.5**
	0.3nm,0.6s,baz=164,slow=13,SNR=3.7						
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P	**P**	**17 01 00.9**	**+2.9**
	0.4nm,0.7s,baz=290,slow=4.3,SNR=2.5						
NVAR	**Mina Array Bea**	**84.57**	**325**	P	**P**	**17 00 58.0**	**-1.0**
	0.3nm,0.6s,baz=160,slow=2.9,SNR=2.4						
ZALV	**Zalesovo Beam**	**154.75**	**33**	PKPab	**PKPab**	**17 08 40.1**	**-1.2**
	0.2nm,0.4s,baz=330,slow=8.3,SNR=2.7						

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*IDC **07** 16:51:03.5±0.8,36°.88S×73°.43W,h0km,mb3.8/7,*
mb1 3.8/9,mb1mx3.8/27,mbtmp3.7/9,ML3.2/2,Error
ellipse: s-maj=28.3km s-min=16.2km az=99.0
*ISCJB **07** 16:51:04.7±0.9,36°.94S±0°.07×73°.3W±0°.1,h14km,mb3.8/8,*
Error ellipse: s-maj=17.7km s-min=9.1km az=15.6
*NEIC **07** 16:51:08.2±4.8,36°.93S×73°.33W,h30km±31km,mb4.4/1,*
Error ellipse: s-maj=27.5km s-min=11.4km az=90.0
ISC 07 16:51:05.7±0.8,36.90S±0°.07×73.5W±0°.1,h14km,n18,
σ0.9 93/22,mb3.8/8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.45**	**150**	Pn	**Pn**	**16 52 12.6**	**-0.3**
	0.6nm,0.3s,baz=305,slow=12,SNR=4.2						
PLCA				Pg	**Pb**	**16 52 24.4**	**+0.8**
	2.1nm,0.3s,baz=341,slow=16,SNR=8.5						
PLCA				Lg	Lg	16 53 18.0	
	2.9nm,0.3s,baz=34,slow=19,SNR=2.8						
CFAA	**Coronel Fontan**	**6.83**	**41**	Pn	**Pn**	**16 52 43.9**	**-1.6**
	0.1nm,0.3s,baz=193,slow=14,SNR=2.2						
CFAA				Sn	**Sn**	**16 54 04.0**	**+0.9**
	0.3nm,0.3s,baz=202,slow=14,SNR=2.2						
CFAA				Lg	Lg	16 54 37.5	
	0.1nm,0.3s,baz=19,slow=6.6,SNR=3.3						
TRQA	**Tornquist**	**9.21**	**101**	*e*P	**Pn**	**16 53 17.3**	**-0.7**
	6.8nm,0.8s						
LPAZ	**La Paz**	**21.07**	**14**	P	**P**	**16 55 53.0**	**+2.8**
	2.5nm,0.9s,baz=163,slow=10,SNR=5.7						
SIV	**San Ignacio**	**23.56**	**31**	P	**P**	**16 56 16.1**	**+0.3**
	2.6nm,0.7s,baz=226,slow=8.3,SNR=5.6						
SNAA	**Sanae**	**49.36**	**157**	P	**P**	**16 59 54.4**	**+0.2**
	0.5nm,0.8s,baz=245,slow=14,SNR=2.1						
QSPA	**South Pole Qui**	**53.34**	**180**	P	**P**	**17 00 24.2**	**0.0**
	2.1nm,1.0s,baz=160,slow=6.3,SNR=8.5						
TXAR	**Lajitas Array**	**71.73**	**332**	P	**P**	**17 02 27.6**	**+0.3**
	0.2nm,0.8s,baz=167,slow=5.6,SNR=3.2						
DBIC	**Dimbokro**	**77.21**	**72**	P	**P**	**17 02 59.7**	**+0.2**
	2.7nm,0.9s,baz=236,slow=5.1,SNR=4.5						
DBIC	**Dimbokro**	**77.21**	**72**	*e*P	**P**	**17 02 59.4**	**-0.1**
	2.3nm,0.6s						
BOSA	**Boshof**	**79.75**	**118**	P	**P**	**17 03 14.2**	**+0.6**
	2.4nm,0.9s,baz=302,slow=9.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**86.29**	**71**	P	**P**	**17 03 46.3**	**-1.1**
	0.3nm,0.6s,baz=228,slow=5.6,SNR=3.2						
WRA	**Warramunga Arr**	**117.66**	**210**	PKP	**PKPdf**	**17 09 50.9**	**-1.0**
	0.1nm,0.5s,baz=152,slow=1.8,SNR=2.8						
ABKAR	**Akbulak array**	**144.35**	**55**	*e*PKP	**PKPab**	**17 10 38.8**	**-0.1**
AAK	**Ala-Archa**	**154.82**	**67**	PKPbc	**PKPbc**	**17 11 05.7**	**-0.8**
	0.5nm,0.5s,baz=214,slow=3.1,SNR=2.9						
AAK				PKPab	**PKPab**	**17 11 21.8**	**+0.1**
	1.3nm,0.9s,baz=272,slow=5.0,SNR=3.9						
KURBB	**Kurchatov Arra**	**155.75**	**47**	PKPab	**PKPab**	**17 11 25.6**	**+0.5**
	0.1nm,0.6s,baz=291,slow=5.2,SNR=5.1						
KURK	**Kurchatov**	**155.76**	**46**	PKPab	**PKPab**	**17 11 25.6**	**+0.4**
MKAR	**Makanchi Array**	**159.49**	**54**	PKP	**PKPdf**	**17 11 03.4**	**-0.1**
	0.3nm,0.8s,baz=56,slow=0.5,SNR=2.8						
MKAR				PKPab	**PKPab**	**17 11 41.1**	**-0.4**
	0.7nm,0.9s,baz=283,slow=2.1,SNR=4.6						

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*IDC **07** 17:02:21.5±0.6,35°.03S×72°.77W,h0km,mb4.4/11,*
mb1 4.4/15,mb1mx4.4/21,mbtmp4.3/15,ML4.5/3,MS4.5/14,
Ms1 4.4/14,ms1mx4.2/29,Error ellipse: s-maj=22.4km
s-min=18.2km az=100.0
*GUC **07** 17:02:22.2±0.6,34°.93S×73°.02W,h17km±5km,ML5.2*
*ISCJB **07** 17:02:25.2±0.3,35°.04S±0°.03×72°.70W±0°.05,h33km,*
mb4.7/44,MS4.5/13,Error ellipse: s-maj=6.1km
s-min=4.8km az=168.2
*NEIC **07** 17:02:27.0±0.2,34°.98S×72°.66W,h35km,mb4.8/35,Error*
ellipse: s-maj=7.1km s-min=5.8km az=64.0
*BJI **07** 17:02:28.1,34°.80S×72°.60W,h35km,mB5.3/9,Ms5.3/8,*
Ms7 5.1/8
ISC 07 17:02:26.1±0.4,35.05S±0°.04×72.87W±0°.06,h35km,n106,
σ1.9 38/96,mb4.8/45,MS4.5/13,5C-4D,Near coast of
central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.08**	**176**	⇑*i*P	**Pn**	**17 02 42.9**	**-1.8**
COCH				*i* S	**Sn**	**17 02 59.0**	**+0.6**
LNCH	**Linares**	**1.31**	**128**	⇑*i*P	**Pn**	**17 02 47.4**	**-0.4**
LNCH				*i* S	**Sn**	**17 03 06.3**	**+2.3**
NICH	**Los Niches**	**1.35**	**88**	⇓*i*P	**Pn**	**17 02 48.5**	**+0.1**
NICH				*i* S	**Sn**	**17 03 07.2**	**+2.1**
LNV	**Longovilo**	**1.63**	**48**	⇓*i*P	**Pn**	**17 02 50.3**	**-1.9**
CACH	**El Canelo**	**2.09**	**64**	*e*P1	**Pn**	**17 02 58.6**	**-0.1**
CHCH	**Chadas Angostu**	**2.15**	**59**	⇓*i*P	**Pn**	**17 02 59.2**	**-0.2**
ANTU	**Antumapu**	**2.37**	**52**	*e*P	**Pn**	**17 03 01.8**	**-0.7**
ANTU				*e*S	**Sn**	**17 03 31.8**	**+1.4**
CLCH	**Cerro Calan**	**2.54**	**50**	⇓*i*P	**Pn**	**17 03 03.9**	**-1.0**
CLCH				AML	AML	17 03 55.5	
	comp=N,13μm,0.7s						
PEL	**Peldehue**	**2.63**	**44**	⇑*i*P	**Pn**	**17 03 05.1**	**-1.0**
PEL				*i* S1	**Sn**	**17 03 38.1**	**+1.3**
CFAA	**Coronel Fontan**	**5.18**	**50**	Pn	**Pn**	**17 03 40.8**	**-0.3**
	baz=225,slow=13						
CFAA				Lg	Lg	17 04 55.6	
	comp=N,1.5nm,0.3s,baz=135,slow=19,SNR=5.0						
PLCA	**Paso Flores**	**5.96**	**163**	Pn	**Pn**	**17 03 52.9**	**+1.0**
	comp=N,2.4nm,0.3s,baz=329,slow=9.7,SNR=33						
PLCA				Lg	Lg	17 05 26.2	
	comp=N,2.4nm,0.3s,baz=256,slow=19,SNR=2.7						
PLCA	**Paso Flores**	**5.96**	**163**	*e*Pn	**Pn**	**17 03 52.6**	**+0.8**
	comp=N,282nm,1.2s						
PLCA				*e*Sn	**Sn**	**17 04 57.9**	**-1.1**
PLCA				Lg	Lg	17 05 26.2	
TRQA	**Tornquist**	**9.26**	**112**	*e*Pn	**Pn**	**17 04 36.1**	**-1.0**
TRQA				*e*Sn	**Sn**	**17 06 19.4**	**-0.7**
LVC	**Limon Verde**	**12.87**	**17**	*e*Pn	**Pn**	**17 05 25.0**	**-1.7**
CPUP	**Villa Florida**	**15.93**	**61**	Pn	**Pn**	**17 06 05.7**	**-1.8**
	comp=N,0.5nm,0.3s,baz=219,slow=14,SNR=3.2						
CPUP				LR	LR	17 12 19.5	
	comp=N,969nm,21.8s,baz=219,slow=38						
LPAZ	**La Paz**	**19.16**	**14**	P	**Pn**	**17 06 48.6**	**+0.4**
	comp=N,0.7nm,0.3s,baz=183,slow=9.7,SNR=28						
LPAZ	**La Paz**	**19.16**	**14**	*e*Pn	**Pn**	**17 06 48.1**	**-0.1**
	comp=N,18nm,0.8s						
USHA	**Ushuaia**	**20.02**	**172**	LR	LR	17 15 41.3	
	comp=N,1μm,18.4s,baz=334,slow=40						
SIV	**San Ignacio**	**21.73**	**32**	P	**P**	**17 07 13.8**	**-0.6**
	comp=N,25nm,0.7s,baz=231,slow=12,SNR=43						
SIV				LR	LR	17 17 18.5	
	comp=N,2μm,19.4s,baz=232,slow=41						
NNA	**Nana**	**23.24**	**350**	LR	LR	17 14 22.3	
	comp=N,781nm,20.3s,baz=176,slow=31						
SAML	**Samuel**	**27.45**	**21**	*e*P	**P**	**17 08 08.0**	**-0.9**
	comp=N,6.4nm,0.9s						
ATAH	**Atahualpa**	**28.24**	**348**	LR	LR	17 16 32.8	
	comp=N,528nm,20.9s,baz=199,slow=30						
BDFB	**Brasília**	**29.50**	**55**	P	**P**	**17 08 25.6**	**-1.5**
	comp=N,4.8nm,0.9s,baz=210,slow=7.2,SNR=4.7						
BDFB				LR	LR	17 19 53.2	
	comp=N,1μm,18.1s,baz=227,slow=36						
SDV	**Santo Domingo**	**43.75**	**3**	*e*P	**P**	**17 10 26.9**	**-1.5**
	comp=N,9.0nm,0.9s						
RCBR	**Riachuelo**	**44.78**	**58**	P	**P**	**17 10 36.9**	**+0.4**
	comp=N,6.0nm,0.9s,baz=207,slow=9.0,SNR=5.5						
VNA3	**Neumayer Olymp**	**48.65**	**157**	P	P	17 11 07.5	+1.3
VNA2	**Neumayer--Watz**	**49.32**	**157**	P	P	17 11 13.1	+1.9
SNAA	**Sanae**	**50.88**	**157**	P	P	17 11 24.9	+1.8
SNAA	**Sanae**	**50.88**	**157**	*e*P	**P**	**17 11 24.3**	**+1.2**
	comp=N,29nm,1.1s						
APG	**El Apazote**	**52.51**	**338**	LR	LR	17 29 28.7	
	comp=N,232nm,18.9s,slow=31						
QSPA	**South Pole Qui**	**55.19**	**180**	P	P	17 11 57.1	+2.1
	comp=N,1.5nm,0.9s,baz=140,slow=7.6,SNR=5.4						
QSPA				LR	LR	17 35 02.7	
	comp=N,328nm,19.1s,baz=152,slow=36						
QSPA	**South Pole Qui**	**55.19**	**180**	*e*P	P	17 11 57.2	+2.1
	comp=N,176nm,2.7s						
VNDA	**Vanda**	**62.94**	**192**	LR	LR	17 35 54.8	
	comp=N,214nm,20.6s,baz=128,slow=32						
SYO	**Syowa Base**	**65.14**	**158**⇑	*e*P	**P**	**17 13 01.1**	**-1.8**
SYO	**Syowa Base**	**65.14**	**158**⇑	*e*pP	pP	17 13 11.7	-2.0
JCT	**Junction City**	**69.94**	**335**	*e*P	P	17 13 35.0	+1.2
	comp=N,14nm,1.3s						
TXAR	**Lajitas Array**	**70.32**	**332**	P	**P**	**17 13 37.1**	**+1.0**
	comp=N,14nm,0.9s,baz=155,slow=7.8,SNR=9.4						
WVT	**Waverly**	**72.18**	**347**	*e*P	**P**	**17 13 46.4**	**-0.6**
	comp=N,15nm,1.0s						
MAW	**Mawson**	**72.37**	**164**	LR	LR	17 44 05.2	
	comp=N,504nm,21.4s,baz=238,slow=35						
BBTS	**Babate**	**72.76**	**58**	LR	LR	17 45 53.9	
	comp=N,341nm,18.5s,baz=196,slow=36						
MNTX	**Cornudas Mount**	**73.09**	**331**	*e*P	**P**	**17 13 53.3**	**+0.6**
	comp=N,2.3nm,0.9s						
MSTX	**Muleshoe**	**74.15**	**334**	*e*P	P	17 14 00.3	+1.4
	comp=N,9.8nm,0.9s						
AMTX	**Amarillo**	**74.60**	**336**	*e*P	P	17 14 03.3	+1.8
	comp=N,9.9nm,1.0s						
ACSO	**Alum Creek Sta**	**75.49**	**352**	*e*P	**P**	**17 14 06.4**	**+0.1**
	comp=N,12nm,0.8s						
LIC	**Lamto**	**75.76**	**72**	*e*P	**P**	**17 14 08.7**	**+0.1**
	comp=N,38nm,1.0s						
TIC	**Toumodi**	**76.02**	**71**	*e*P	**P**	**17 14 10.4**	**+0.3**
	comp=N,20nm,0.2s						
KIC	**Kosan Boka**	**76.06**	**72**	*e*P	**P**	**17 14 10.1**	**-0.2**
	comp=N,51nm,1.1s						
DBIC	**Dimbokro**	**76.17**	**72**	P	**P**	**17 14 11.6**	**+0.7**
	comp=N,10nm,0.9s,baz=207,slow=7.0,SNR=10						
DBIC	**Dimbokro**	**76.17**	**72**	*e*P	**P**	**17 14 10.6**	**-0.2**
	comp=N,16nm,1.0s						
ANMO	**Albuquerque**	**76.38**	**332**	*e*P	**P**	**17 14 12.7**	**+0.9**
	comp=N,4.8nm,1.0s						
SDCO	**Great Sand Dun**	**78.51**	**334**	*e*P	**P**	**17 14 24.4**	**+0.6**
	comp=N,2.9nm,0.9s						
LONY	**Lake Ozonia**	**79.31**	**359**	*e*P	P	17 14 29.2	+1.5
	comp=N,25nm,1.3s						
TSUM	**Tsumeb**	**79.59**	**106**	LR	LR	17 43 22.9	
	comp=N,253nm,19.7s,baz=218,slow=31						
BOSA	**Boshof**	**80.19**	**118**	P	**P**	**17 14 33.4**	**+0.2**
	comp=N,6.0nm,0.8s,baz=219,slow=5.3,SNR=11						
BOSA	**Boshof**	**80.19**	**118**	*e*P	**P**	**17 14 33.9**	**+0.7**
ISCO	**Idaho Springs**	**80.38**	**335**	*e*P	P	17 14 35.2	+1.3
	comp=N,2.8nm,0.8s						
CCUT	**Cedar City**	**81.43**	**329**	*e*P	P	17 14 41.7	+2.1
	comp=N,6.6nm,1.1s						
SRU	**San Rafael Swe**	**81.59**	**331**	*e*P	**P**	**17 14 41.2**	**+0.9**
	comp=N,6.3nm,1.1s						
O20A	**White River Ci**	**81.61**	**333**	*e*P	P	17 14 42.6	+2.2
	comp=N,22nm,1.6s						
TMUT	**Trail Mountain**	**82.03**	**331**	*e*P	**P**	**17 14 43.7**	**+1.0**
	comp=N,92nm,2.6s						
LBTB	**Lobatse**	**82.48**	**115**	LR	LR	17 46 22.4	
	comp=N,339nm,19.5s,baz=10,slow=32						
LBTB	**Lobatse**	**82.48**	**115**	*e*P	**P**	**17 14 45.9**	**+0.5**
	comp=N,227nm,3.0s						
R11A	**Troy Canyon, C**	**83.06**	**328**	*e*P	P	17 14 49.6	+1.6
	comp=N,26nm,2.1s						
K22A	**Casper**	**83.23**	**336**	*e*P	**P**	**17 14 49.9**	**+1.2**
	comp=N,12nm,1.1s						
DUG	**Dugway, Tooele**	**83.44**	**330**	*e*P	**P**	**17 14 50.3**	**+0.5**
	comp=N,8.5nm,1.0s						
RSSD	**Black Hills**	**83.74**	**338**	*e*P	**P**	**17 14 51.4**	**0.0**
	comp=N,2.9nm,0.8s						
HWUT	**Hardware Ranch**	**84.14**	**332**	*e*P	**P**	**17 14 54.5**	**+1.1**
	comp=N,8.4nm,1.0s						
NVAR	**Mina Array Bea**	**84.36**	**326**	P	P	17 14 56.0	+1.3
	comp=N,1.5nm,0.9s,baz=139,slow=5.9,SNR=4.8						
PDAR	**Pinedale Array**	**84.39**	**334**	P	P	17 14 56.4	+1.6
	comp=N,0.7nm,0.8s,baz=156,slow=6.9,SNR=5.1						
HVU	**Hansel Valley**	**84.76**	**331**	*e*P	**P**	**17 14 57.1**	**+0.6**
	comp=N,6.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**85.21**	**70**	P	**P**	**17 14 59.5**	**+0.2**
	comp=N,4.3nm,0.8s,baz=246,slow=4.5,SNR=18						
TORD				LR	LR	17 52 17.0	
	comp=N,358nm,18.1s,baz=210,slow=35						
IMW	**Indian Meadow**	**85.88**	**333**	*e*P	P	17 15 04.2	+2.0
	comp=N,63nm,2.8s						
RLMT	**Red Lodge**	**86.34**	**335**	*e*P	**P**	**17 15 05.5**	**+1.1**
	comp=N,2.8nm,0.7s						
LAO	**LASA Array**	**86.73**	**338**	*e*P	P	17 15 07.9	+1.8
	comp=N,7.8nm,1.0s						
HLID	**Hailey**	**86.92**	**331**	*e*P	P	17 15 08.9	+1.6
	comp=N,8.0nm,1.4s						
ULM	**Lac du Bonnet**	**87.34**	**345**	P	**P**	**17 15 09.5**	**+0.7**
	comp=N,3.2nm,0.8s,baz=168,slow=3.7,SNR=5.8						
ULM	**Lac du Bonnet**	**87.34**	**345**	*e*P	**P**	**17 15 09.7**	**+0.8**
	comp=N,47nm,2.2s						
MCMT	**McKenzie Canyo**	**87.38**	**333**	*e*P	P	17 15 11.3	+1.7
	comp=N,2.6nm,1.0s						
DGMT	**Dagmar**	**87.72**	**340**	*e*P	**P**	**17 15 11.2**	**+0.4**
	comp=N,18nm,0.9s						
MOD	**Modoc Plateau**	**88.06**	**327**	*e*P	**P**	**17 15 13.2**	**+0.4**
	comp=N,1.7nm,0.7s						
ASAR	**Alice Springs**	**116.32**	**207**	PKP	**PKPdf**	**17 21 06.8**	**+0.5**
	comp=N,0.3nm,0.8s,baz=129,slow=1.7,SNR=4.1						
ASAR				PKKPbc	**PKKPbc**	**17 31 35.0**	**+0.4**
	comp=N,0.6nm,0.9s,baz=344,slow=3.1,SNR=4.5						
WRA	**Warramunga Arr**	**119.51**	**210**	PKP	**PKPdf**	**17 21 12.0**	**-0.6**
	comp=N,0.5nm,0.7s,baz=161,slow=1.6,SNR=7.2						
BRTR	**Keskin Array B**	**122.94**	**62**	PKP	**PKPdf**	**17 21 19.2**	**+0.7**
	comp=N,1.6nm,0.8s,baz=182,slow=3.1,SNR=7.0						
H11S2	**WAKE ISLAND Hyl**	**25.06**	**269**	T	T	19 39 04.8	
	baz=118						
H11S1	**WAKE ISLAND Hyl**	**25.08**	**269**	T	T	19 39 15.7	
	baz=118						
H11S3	**WAKE ISLAND Hyl**	**25.08**	**269**	T	T	19 39 20.1	
	baz=118						
H11N3	**WAKE ISLAND Hyl**	**25.50**	**270**	T	T	19 39 38.2	
	baz=122						
H11N1	**WAKE ISLAND Hyl**	**25.52**	**270**	T	T	19 39 34.0	
	baz=122,slow=74						
H11N2	**WAKE ISLAND Hyl**	**25.52**	**270**	T	T	19 39 38.0	
	baz=122,slow=74						
SEY	**Seymchan**	**140.59**	**329**	PKP	**PKPdf**	**17 21 49.9**	**-0.9**
	comp=N,1.8nm,0.8s,baz=74,slow=7.0,SNR=5.6						
BVAR	**Borovoye Array**	**148.51**	**44**	PKPbc	**PKPbc**	**17 22 07.4**	**-1.1**
	comp=N,2.5nm,0.7s,baz=306,slow=3.4,SNR=14						
HYB	**Hyderabad**	**149.09**	**117**	*i* PKP	**PKPab**	**17 22 12.5**	**-2.9**
AAK	**Ala-Archa**	**153.60**	**64**	PKPbc	**PKPbc**	**17 22 21.4**	**+0.4**
	comp=N,4.8nm,0.8s,baz=150,slow=2.3,SNR=17						
KURBB	**Kurchatov Arra**	**154.10**	**44**	PKP	**PKPdf**	**17 22 14.6**	**+1.2**
	comp=N,0.4nm,0.5s,baz=296,slow=2.3,SNR=6.8						
KURBB				PKPbc	**PKiKP**	**17 22 22.5**	**+0.8**
	comp=N,2.1nm,0.7s,baz=293,slow=2.7,SNR=14						
KURK	**Kurchatov**	**154.11**	**44**	PKP	**PKPdf**	**17 22 14.6**	**+1.2**
KURK				PKPbc	**PKiKP**	**17 22 22.5**	**+0.8**
KSH	**Kashi**	**154.88**	**71**	*e*PKPbc	**PKPdf**	**17 22 16.4**	**+1.3**
KSH				sPKP		17 22 31.0	
KSH				PKS	**PKSdf**	**17 25 49.6**	**+0.3**
KSH				PP	**PP**	**17 26 14.1**	**-1.6**
KSH				SKS	**SKSdf**	**17 29 19.3**	**+0.2**
KSH				SKKS	**SKKSac**	**17 33 01.0**	**-1.5**
KSH				SS	**SS**	**17 45 51.5**	**-5.0**
KSH				PPMZ			
	comp=N,160nm,5.7s						
KSH				LN			
	comp=N,83nm,7.2s						
KSH				LE			
	comp=N,57nm,6.3s						
KSH				LZ			
	comp=N,180nm,6.4s						
ZALV	**Zalesovo Beam**	**155.48**	**33**	PKP	**PKPdf**	**17 22 16.1**	**+0.9**
	comp=N,1.6nm,0.8s,baz=321,slow=2.0,SNR=7.4						
ZALV				PKPab	**PKPab**	**17 22 41.8**	**+0.8**
	comp=N,3.3nm,0.7s,baz=307,slow=4.2,SNR=4.6						
MKAR	**Makanchi Array**	**157.97**	**50**	PKP	**PKPdf**	**17 22 20.7**	**+1.9**
	comp=N,0.5nm,0.8s,baz=316,slow=0.2,SNR=4.3						
MKAR				PKPab	**PKPab**	**17 22 52.6**	**+0.5**
	comp=N,0.4nm,0.6s,baz=261,slow=4.5,SNR=3.9						
WMQ	**Urumqi**	**162.65**	**54**	*e*PKP	**PKPdf**	**17 22 24.2**	**+0.1**
WMQ				pPKP	**pPKPdf**	**17 22 34.5**	**-1.1**
CN2	**Changchun**	**163.39**	**307**	*e*PKP	**PKPdf**	**17 22 27.2**	**+2.5**
SONM	**Songino Array**	**167.22**	**2**	PKPab	**PKPab**	**17 23 33.5**	**+0.9**
	comp=N,1.1nm,0.9s,baz=340,slow=3.6,SNR=8.6						
GTA	**Gaotai**	**172.72**	**51**	*e*PKP	**PKPdf**	**17 22 34.3**	**+2.9**
GTA				pPKP	**pPKPdf**	**17 22 45.1**	**+2.2**
GTA				sPKP		17 22 48.7	
GTA				PKPab	**PKPab**	**17 23 59.2**	**+1.8**
HHC	**Hu-ho-hao-te**	**173.23**	**330**	*e*PKP	**PKPdf**	**17 22 30.0**	**-1.5**
HHC				pPKP	**pPKPdf**	**17 22 40.8**	**-2.3**
HHC				sPKP		17 22 44.4	
HHC				PP	**PP**	**17 27 52.0**	**+1.1**
HHC				SKS	**SKSdf**	**17 29 27.9**	**-4.2**
HHC				SS	**SS**	**17 49 00.4**	**-2.6**
HHC				PPMZ			
	comp=N,880nm,8.8s						
HHC				LN			
	comp=N,190nm,19.7s						
HHC				LE			
	comp=N,230nm,17.3s						
HHC				LZ			
	comp=N,66nm,18.5s						
CD2	**Chengdu**	**174.99**	**145**	*e*PKP	**PKPdf**	**17 22 34.2**	**+1.8**
LZH	**Lanzhou**	**177.13**	**68**	*e*PKP	**PKPdf**	**17 22 33.8**	**+0.9**
LZH				pPKP	**pPKPdf**	**17 22 45.3**	**+0.9**
LZH				sPKP		17 22 49.0	
LZH				PKPab	PKPab	17 24 19.0	+1.8
LZH				LN			
	comp=N,180nm,18.5s						
LZH				LE			
	comp=N,190nm,19.0s						
LZH				LZ			
	comp=N,210nm,20.3s						
XAN	**Xi'an**	**178.21**	**236**	PKP	**PKPdf**	**17 22 35.4**	**+2.5**

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*GUC **07** 17:16:24.2±0.6,38°.41S×72°.83W,h12km±5km,ML5.1*
*IDC **07** 17:16:25.6±0.7,38°.47S×73°.74W,h0km,mb4.1/12,*
mb1 4.3/16,mb1mx4.3/21,mbtmp4.2/16,ML4.0/4,MS4.3/7,
Ms1 4.2/7,ms1mx4.0/23,Error ellipse: s-maj=23.0km
s-min=16.1km az=94.0
*ISCJB **07** 17:16:28.7±0.4,38°.42S±0°.03×73°.67W±0°.08,h33km,*
mb4.5/20,MS4.4/5,Error ellipse: s-maj=8.7km
s-min=4.4km az=172.5
*BJI **07** 17:16:28.2,38°.40S×74°.10W,h35km,Ms5.3/4,Ms7 5.0/4*
*NEIC **07** 17:16:30.6±0.5,38°.39S×73°.68W,h35km,mb4.5/7,Error*
ellipse: s-maj=13.0km s-min=7.8km az=80.0
NEIC Felt at Valdivia.
ISC 07 17:16:28.7±0.5,38.48S±0°.04×73.89W±0°.08,h35km,n54,
σ2.9 20/54,mb4.5/20,MS4.2/5,2D,Near coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**

TORD	**Torodi Ar. Bea**	**87.12**	**71**	P		**P**	**17 29 12.2**	**+1.0**
	comp=E,1.4nm,0.6s,baz=230,slow=5.0,SNR=7.4							
H11S2	**WAKE ISLAND Hyl**	**24.13**	**267**	T		T	19 51 41.8	
	baz=126,slow=75,SNR=47							
H11S1	**WAKE ISLAND Hyl**	**24.14**	**267**	T		T	19 51 41.5	
	baz=126,slow=75,SNR=40							
H11S3	**WAKE ISLAND Hyl**	**24.14**	**267**	T		T	19 51 43.0	
	baz=126,slow=75,SNR=28							
H11N3	**WAKE ISLAND Hyl**	**24.65**	**269**	T		T	19 52 25.7	
	baz=129							
H11N1	**WAKE ISLAND Hyl**	**24.66**	**268**	T		T	19 52 30.4	
	baz=129							
H11N2	**WAKE ISLAND Hyl**	**24.67**	**269**	T		T	19 52 41.8	
	baz=129							
KSH	**Kashi**	**156.60**	**78**	*e*PKP		**PKPdf**	**17 36 21.0**	**+1.1**
KSH				sPKP			17 36 33.6	
KSH				PKS		**PKSdf**	**17 39 54.5**	**+0.6**
KSH				PP		**PP**	**17 40 27.8**	**-0.1**
KSH				SKS		**SKSdf**	**17 43 23.8**	**+0.4**
KSH				SKKS		**SKKSac**	**17 47 13.4**	**-0.8**
KSH				SS		**SS**	**18 00 14.9**	**-2.7**
KSH				PPMZ				
	comp=E,550nm,14.5s							
KSH				LN				
	comp=E,72nm,8.3s							
KSH				LE				
	comp=E,62nm,4.8s							
KSH				LZ				
	comp=E,87nm,5.3s							
KURBB	**Kurchatov Arra**	**157.05**	**49**	PKPab		**PKPab**	**17 36 52.7**	**+2.2**
	comp=E,0.9nm,0.7s,baz=292,slow=4.7,SNR=8.1							
KURK	**Kurchatov**	**157.06**	**49**	PKPab		**PKPab**	**17 36 52.7**	**+2.1**
ZALV	**Zalesovo Beam**	**158.76**	**36**	PKPab		PKPab	17 37 01.4	+3.7
	comp=E,0.7nm,0.6s,baz=316,slow=4.1,SNR=4.1							
MKAR	**Makanchi Array**	**160.66**	**57**	PKPab		**PKPab**	**17 37 07.3**	**+0.9**
	comp=E,0.5nm,0.6s,baz=276,slow=3.3,SNR=4.6							
MKAR				PP		**PP**	**17 40 52.0**	**+2.5**
	comp=E,0.5nm,0.8s,baz=289,slow=4.4,SNR=3.6							
CN2	**Changchun**	**164.50**	**296**	*e*PKP		**PKPdf**	**17 36 29.2**	**+1.0**
WMQ	**Urumqi**	**165.15**	**63**	*e*PKP		**PKPdf**	**17 36 25.9**	**-3.0**
WMQ				pPKP		**pPKPdf**	**17 36 37.0**	**-3.4**
NJ2	**Nanjing**	**167.78**	**242**	*e*PKP		**PKPdf**	**17 36 31.2**	**0.0**
SONM	**Songino Array**	**170.64**	**359**	PKPab		**PKPab**	**17 37 52.9**	**+2.6**
	comp=E,0.3nm,0.8s,baz=8.5,slow=2.9,SNR=2.3							
HHC	**Hu-ho-hao-te**	**175.17**	**301**	*e*PKP		**PKPdf**	**17 36 31.0**	**-3.7**
HHC				pPKP		**pPKPdf**	**17 36 41.8**	**-4.4**
HHC				sPKP			17 36 45.4	
HHC				PP		**PP**	**17 42 02.4**	**-1.3**
HHC				SKS		**SKSdf**	**17 43 28.8**	**-6.2**
HHC				SS		**SS**	**18 03 19.8**	**-6.0**
HHC				LN				
	comp=E,170nm,17.3s							
HHC				LE				
	comp=E,410nm,17.3s							
HHC				LZ				
	comp=E,200nm,18.5s							
LZH	**Lanzhou**	**177.01**	**142**	*e*PKP		**PKPdf**	**17 36 34.7**	**-0.7**
LZH				pPKP		**pPKPdf**	**17 36 46.2**	**-0.7**
LZH				sPKP			17 36 50.0	
LZH				PKPab		PKPab	17 38 20.5	+1.5
LZH				LN				
	comp=E,160nm,18.3s							
LZH				LE				
	comp=E,160nm,18.6s							
LZH				LZ				
	comp=E,190nm,20.5s							

GUC 07 17:25:35.7±0.3, 35°.79S×70°.95W, h7km±1km, ML3.8, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.53**	**263**	⇑*i*P	Pg	17 25 46.5	+0.6
LNCH				*i* S	Sb	17 25 54.8	-0.4
LNCH				IAML		17 25 55.5	
	comp=N,12μm,0.3s						
NICH	**Los Niches**	**0.82**	**344**	*i* P	Pg	17 25 51.3	-0.1
NICH				*i* S	Sb	17 26 03.2	-0.2
NICH				IAML		17 26 08.0	
	comp=N,9μm,0.4s						
COCH	**Cobquecura**	**1.53**	**257**	*e*P9	Pn	17 26 03.0	-0.3
COCH				*i* S	Sn	17 26 23.4	-0.1

*ISCJB **07** 17:28:08.2±0.4, 51°.53N±0°.08×176°.03W±0°.05, h47km, mb4.0/20, Error ellipse: s-maj=12.0km s-min=3.3km az=167.5*

*IDC **07** 17:28:11.8±3.0, 51°.64N×176°.00W, h64km±25km, mb3.7/17, mb1 3.9/20, mb1mx3.7/33, mbtmp4.0/20, ML3.9/3, Error ellipse: s-maj=24.3km s-min=10.3km az=173.0*

*NEIC **07** 17:28:11.2±0.7, 51°.60N×175°.95W, h60km±5km, mb4.2/6, ML4.3(AEIC), Error ellipse: s-maj=12.4km s-min=4.8km az=176.0*

ISC 07 17:28:09.8±0.6, 51°.5N±0°.1×176°.01W±0°.05, h47km, n67, σ1§06/71, mb4.1/20, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOKL	**Mount Kliuchef**	**1.40**	**52**	P	**Pn**	**17 28 31.9**	**-1.0**
KOKL				S	**Sn**	**17 28 49.7**	**-0.5**
KOWE	**Korovin West**	**1.40**	**50**	P	**Pn**	**17 28 32.4**	**-0.5**
KOFP	**Korovin Flat P**	**1.42**	**56**	P	**Pn**	**17 28 32.1**	**-1.1**
KOKV	**Korovin Volcan**	**1.44**	**52**	P	**Pn**	**17 28 32.1**	**-1.4**
NIKH	**Nikolski High**	**4.64**	**68**	P	**Pn**	**17 29 17.7**	**+0.4**
NIKH				S	**Sn**	**17 30 12.2**	**+2.4**
OKFG	**Magazine Ridge**	**5.31**	**66**	P	**Pn**	**17 29 27.1**	**+0.6**
OKFG				S	**Sn**	**17 30 27.8**	**+1.4**
MSOM	**Makushin Julie**	**5.99**	**64**	P	**Pn**	**17 29 36.4**	**+0.7**
MREP	**Makushin Rep't**	**6.10**	**64**	P	**Pn**	**17 29 38.8**	**+1.4**
SMY	**Shemya**	**6.22**	**285**	P	**Pn**	**17 29 41.3**	**+2.4**
UNV	**Unalaska Valle**	**6.25**	**64**	P	**Pn**	**17 29 39.9**	**+0.6**
UNV				S	**Sn**	**17 30 52.6**	**+3.3**
ZRO	**Akutan Zero**	**6.62**	**63**	P	**Pn**	**17 29 44.7**	**+0.3**
SPIA	**Saint Paul Isl**	**6.62**	**28**	P	**Pn**	**17 29 45.6**	**+1.2**
AKUT	**Akutan**	**6.75**	**63**	P	**Pn**	**17 29 46.5**	**+0.3**
FX1	**Attu Island--F**	**6.80**	**286**	P	**Pn**	**17 29 49.5**	**+2.6**
	6.3nm,0.3s,baz=99,slow=13,SNR=15						
FX1				S	**Sn**	**17 31 04.7**	**+1.6**
	baz=52,slow=19,SNR=2.6						
FX1	**Attu Island--F**	**6.80**	**286**	*e*Pn	**Pn**	**17 29 48.1**	**+1.2**
FX1				S	**Sn**	**17 31 04.7**	**+1.6**
WESE	**West Dahl East**	**7.51**	**62**	P	**Pn**	**17 29 58.4**	**+1.6**
SSLW	**Shishaldin Wes**	**7.87**	**61**	P	**Pn**	**17 30 02.4**	**+0.9**
FALS	**False Pass**	**8.28**	**61**	*e*Pn	**Pn**	**17 30 07.1**	**-0.1**
DTNA	**Dutton South F**	**9.01**	**61**	P	**Pn**	**17 30 17.1**	**-0.1**
SDPT	**Sand Point**	**10.04**	**61**	P	**Pn**	**17 30 31.5**	**+0.2**
GAMB	**Gambell**	**12.53**	**9**	*e*Pn	**Pn**	**17 31 04.5**	**-0.7**
	7.5nm,0.8s						
PETK	**Petropavlovsk-**	**16.14**	**286**	P	**P**	**17 31 55.8**	**0.0**
	0.3nm,0.3s,baz=95,slow=14,SNR=8.5						
KTH	**Kantishna Hill**	**17.94**	**38**	*e*P	**P**	**17 32 15.9**	**+0.3**
	24nm,1.1s						
TRF	**Thorofare Moun**	**18.14**	**39**	*e*P	**P**	**17 32 17.9**	**-0.1**
	13nm,1.1s						
ILAR	**Eielson Array**	**20.08**	**37**	P	**P**	**17 32 36.5**	**-2.5**
	0.9nm,0.3s,baz=239,slow=9.9,SNR=19						
ILAR				PcP	**PcP**	**17 36 51.5**	**-0.9**
	0.0nm,0.3s,baz=258,slow=3.1,SNR=4.1						
SEY	**Seymchan**	**20.35**	**316**	P	Pn	17 32 43.4	-1.0
	4.6nm,0.9s,baz=104,slow=13,SNR=18						
INK	**Inuvik**	**26.38**	**34**	P	**P**	**17 33 39.6**	**-1.6**
	1.1nm,0.3s						
YKA	**Yellowknife Ar**	**33.88**	**47**	P	**P**	**17 34 47.4**	**-0.1**
	0.5nm,0.5s,baz=284,slow=8.6,SNR=10						
YKA				PcP	**PcP**	**17 37 25.7**	**+0.7**
	0.3nm,0.5s,baz=284,slow=3.1,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**34.42**	**209**	T	T	18 11 32.2	
	baz=18,slow=76,SNR=236						
H11N3	**WAKE ISLAND Hy**	**34.43**	**209**	T	T	18 11 35.4	
	baz=18,slow=76,SNR=266						
H11N1	**WAKE ISLAND Hy**	**34.44**	**209**	T	T	18 11 36.1	
	baz=18,slow=76,SNR=243						
USRK	**Ussurisk Ar.**	**35.01**	**279**	P	**P**	**17 34 57.2**	**-0.3**
	2.4nm,0.6s,baz=51,slow=9.4,SNR=6.7						
MJAR	**Matsushiro Arr**	**35.53**	**263**	P	**P**	**17 35 02.5**	**+0.4**
	1.2nm,0.8s,baz=49,slow=7.4,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**35.63**	**209**	T	T	18 13 17.5	
	baz=19,slow=76,SNR=296						
H11S2	**WAKE ISLAND Hy**	**35.65**	**209**	T	T	18 13 18.5	
	baz=19,slow=76,SNR=148						
H11S3	**WAKE ISLAND Hy**	**35.65**	**209**	T	T	18 13 21.8	
	baz=19,slow=76,SNR=80						
NEW	**Newport**	**37.20**	**71**	P	**P**	**17 35 16.4**	**+0.2**
	1.7nm,0.5s,baz=300,slow=8.1,SNR=5.3						
KSRS	**Korea Array**	**41.38**	**273**	P	**P**	**17 35 50.5**	**-0.6**
	2.3nm,0.8s,baz=66,slow=8.8,SNR=5.1						
KSAR	**Wonju Array Be**	**41.41**	**273**	P	**P**	**17 35 50.5**	**-0.9**
MCMT	**McKenzie Canyo**	**41.48**	**73**	*e*P	**P**	**17 35 52.2**	**0.0**
	1.3nm,0.7s						
NVAR	**Mina Array Bea**	**41.80**	**85**	P	**P**	**17 35 55.4**	**+0.5**
	0.1nm,0.3s,baz=291,slow=8.5,SNR=2.5						
NVAR				PcP	**PcP**	**17 37 50.8**	**+0.6**
	0.1nm,0.3s,baz=296,slow=2.9,SNR=4.8						
PDAR	**Pinedale Array**	**44.60**	**74**	P	**P**	**17 36 17.4**	**-0.1**
	2.0nm,0.7s,baz=298,slow=3.9,SNR=15						
SONM	**Songino Array**	**48.15**	**298**	P	**P**	**17 36 45.2**	**+0.1**
	0.5nm,0.7s,baz=60,slow=9.3,SNR=5.3						
SONM				PcP	**PcP**	**17 38 12.1**	**+0.3**
	1.3nm,0.8s,baz=55,slow=2.6,SNR=9.4						
ZALV	**Zalesovo Beam**	**55.21**	**315**	P	**P**	**17 37 35.5**	**-1.9**
	0.3nm,0.3s,baz=43,slow=6.9,SNR=2.6						
ZALV				PcP	**PcP**	**17 38 38.5**	**+0.6**
	1.2nm,0.7s,baz=48,slow=4.3,SNR=5.1						
TXAR	**Lajitas Array**	**56.91**	**83**	P	**P**	**17 37 50.0**	**0.0**
	0.5nm,0.6s,baz=304,slow=6.2,SNR=10						
KURK	**Kurchatov**	**60.20**	**315**	P	**P**	**17 38 12.6**	**+0.1**
KURBB	**Kurchatov Arra**	**60.30**	**315**	P	**P**	**17 38 12.6**	**-0.6**
	2.9nm,0.7s,baz=44,slow=6.7,SNR=20						
MKAR	**Makanchi Array**	**61.32**	**310**	P	**P**	**17 38 18.8**	**-1.4**
	1.0nm,0.5s,baz=49,slow=5.8,SNR=16						
AAK	**Ala-Archa**	**68.12**	**311**	*e*P	**P**	**17 39 04.0**	**-0.8**
	2.7nm,0.6s						
EKS2	**Erkin-Say**	**68.44**	**312**	*e*P	**P**	**17 39 05.7**	**-1.0**
	2.8nm,0.6s						
KKAR	**Karatay Array**	**69.58**	**314**	*e*P	**P**	**17 39 12.8**	**-0.8**
	1.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**72.73**	**278**	P	**P**	**17 39 33.6**	**+0.6**
	1.7nm,0.6s,baz=28,slow=6.9,SNR=16						
TAPN	**Taplejung**	**72.80**	**292**	*e*P	**P**	**17 39 34.1**	**+0.4**
	10nm,0.8s						
GUN	**Gumba**	**73.42**	**294**	*e*P	**P**	**17 39 37.8**	**+0.4**
	16nm,0.4s						
JIRN	**Jiri**	**73.44**	**294**	*e*P	**P**	**17 39 37.8**	**+0.3**
	14nm,0.6s						
RAMN	**Ramite**	**73.74**	**293**	*e*P	**P**	**17 39 39.0**	**-0.2**
KKN	**Kakani**	**73.86**	**294**	*e*P	**P**	**17 39 39.2**	**-0.6**
PKI	**Pulchoki**	**73.95**	**294**	*e*P	**P**	**17 39 39.7**	**-0.8**
GKN	**Gorkha**	**74.06**	**295**	*e*P	**P**	**17 39 40.7**	**-0.2**
	6.4nm,0.8s						
DMN	**Daman**	**74.09**	**294**	*e*P	**P**	**17 39 40.8**	**-0.5**
DANN	**Dangsing**	**74.29**	**296**	*e*P	**P**	**17 39 42.0**	**-0.4**
KOLN	**Koldanda**	**74.83**	**295**	*e*P	**P**	**17 39 45.0**	**-0.4**
WRA	**Warramunga Arr**	**83.33**	**226**	P	**P**	**17 40 31.2**	**-0.3**
	2.4nm,0.4s,baz=33,slow=5.9,SNR=12						
ASAR	**Alice Springs**	**86.77**	**225**	P	**P**	**17 40 49.1**	**+0.4**
	1.0nm,0.8s,baz=20,slow=4.8,SNR=13						
TORD	**Torodi Ar. Bea**	**115.61**	**2**	PKP	**PKPdf**	**17 46 45.5**	**-1.3**
	0.5nm,0.5s,baz=340,slow=2.3,SNR=7.8						
LBTB	**Lobatse**	**148.83**	**320**	PKPbc	**PKPbc**	**17 47 52.2**	**+0.2**
	9.5nm,0.8s,baz=25,slow=2.5,SNR=15						
BOSA	**Boshof**	**152.14**	**317**	PKPbc	**PKPbc**	**17 47 59.6**	**-0.3**
	6.0nm,0.9s,baz=38,slow=3.3,SNR=12						

*IDC **07** 17:31:06.3±0.9, 36°.73S×73°.38W, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.9/37, mbtmp3.8/9, ML3.6/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/25, Error ellipse: s-maj=29.6km s-min=16.2km az=83.0*

*ISCJB **07** 17:31:09.0±0.8, 36°.72S±0°.08×73°.3W±0°.2, h27km, mb3.9/6, Error ellipse: s-maj=19.3km s-min=9.9km az=20.1*

ISC 07 17:31:10.3±0.9, 36°.73S±0°.1×73°.4W±0°.2, h27km, n11, σ0§78/12, mb4.0/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.58**	**152**	Pn	**Pn**	**17 32 18.0**	**+0.1**
	1.3nm,0.3s,baz=324,slow=10.0,SNR=5.3						
PLCA				Lg	Lg	17 33 31.4	
	6.9nm,0.3s,baz=252,slow=19,SNR=5.9						
PLCA				LR	LR	17 34 22.1	
	comp=Z,683nm,18.9s,baz=327,slow=43						
CFAA	**Coronel Fontan**	**6.67**	**42**	Pn	**Pn**	**17 32 46.0**	**-0.7**
	0.3nm,0.3s,baz=219,slow=13,SNR=8.7						
CFAA				Sn	**Sn**	**17 34 02.8**	**+1.0**
	0.1nm,0.3s,baz=279,slow=19,SNR=1.6						
LPAZ	**La Paz**	**20.90**	**14**	P	**P**	**17 35 51.9**	**+0.6**
	1.3nm,0.8s,baz=180,slow=12,SNR=3.4						
SIV	**San Ignacio**	**23.39**	**31**	P	**P**	**17 36 17.1**	**+0.1**
	1.2nm,0.5s,baz=227,slow=9.4,SNR=3.1						
QSPA	**South Pole Qui**	**53.51**	**180**	P	**P**	**17 40 28.6**	**+0.4**
	3.1nm,0.8s,baz=139,slow=9.3,SNR=14						
TXAR	**Lajitas Array**	**71.59**	**332**	P	**P**	**17 42 30.2**	**+1.0**
	0.9nm,0.7s,baz=150,slow=8.2,SNR=12						
LBTB	**Lobatse**	**82.17**	**115**	P	**P**	**17 43 29.6**	**+0.4**
	1.1nm,0.5s,baz=260,slow=6.9,SNR=4.1						
PDAR	**Pinedale Array**	**85.70**	**334**	P	**P**	**17 43 45.9**	**-0.8**
	0.5nm,0.7s,baz=159,slow=5.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**86.19**	**71**	P	**P**	**17 43 49.0**	**-0.5**
	0.8nm,0.9s,baz=245,slow=3.0,SNR=3.0						
ZALV	**Zalesovo Beam**	**157.12**	**34**	PKP	**PKPdf**	**17 51 02.4**	**-0.4**
	0.8nm,0.8s,baz=310,slow=1.1,SNR=4.5						
MKAR	**Makanchi Array**	**159.35**	**53**	PKPab	**PKPab**	**17 51 42.4**	**-1.1**
	0.4nm,0.9s,baz=282,slow=2.8,SNR=3.3						

*ISCJB **07** 17:35:09.4±1.2, 22°.8N±0°.1×12°.4W±0°.2, h10km, mb3.6/5, MS4.3/1, Error ellipse: s-maj=30.3km s-min=11.4km az=144.4*

*IDC **07** 17:35:10.1±1.6, 22°.78N×12°.27W, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.6/27, mbtmp3.7/7, ML3.7/2, MS4.4/1, Ms1 4.4/1, ms1mx3.3/32, Error ellipse: s-maj=50.4km s-min=27.0km az=70.0*

ISC 07 17:35:10.9±1.4, 22°.7N±0°.2×12°.4W±0°.2, h10km, n10, σ1§36/10, mb3.7/5, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.42**	**123**	Pn	**Pn**	**17 38 59.4**	**-2.1**
	0.2nm,0.3s,baz=316,slow=12,SNR=10						
TORD				Sn	**Sn**	**17 42 05.8**	**+1.9**
	0.2nm,0.3s,baz=310,slow=23,SNR=5.0						
DBIC	**Dimbokro**	**17.51**	**154**	P	**P**	**17 39 15.9**	**-0.5**
	0.3nm,0.3s,baz=313,slow=8.6,SNR=4.3						
GERES	**GERESS Array B**	**33.30**	**32**	P	**P**	**17 41 47.8**	**-1.0**
	0.4nm,0.4s,baz=219,slow=8.8,SNR=6.0						
AKASG	**Malin Array Be**	**42.69**	**39**	LR	LR	18 00 37.1	
	comp=Z,441nm,19.8s,baz=340,slow=36						
FINES	**FINESS Array B**	**46.86**	**24**	P	**P**	**17 43 40.4**	**-0.5**
	0.8nm,0.5s,baz=243,slow=6.1,SNR=12						
YKA	**Yellowknife Ar**	**75.58**	**332**	P	**P**	**17 46 55.6**	**+0.1**
	0.2nm,0.7s,baz=67,slow=6.8,SNR=2.9						
MKAR	**Makanchi Array**	**76.89**	**45**	P	**P**	**17 47 03.8**	**+0.4**
	0.4nm,0.5s,baz=282,slow=4.7,SNR=7.4						
SONM	**Songino Array**	**90.93**	**36**	P	**P**	**17 48 16.9**	**+1.7**
	0.3nm,0.9s,baz=294,slow=1.4,SNR=2.8						
WRA	**Warramunga Arr**	**148.93**	**91**	PKPbc	**PKPbc**	**17 54 59.7**	**-0.1**
	0.5nm,0.7s,baz=294,slow=2.3,SNR=9.3						
ASAR	**Alice Springs**	**149.04**	**98**	PKPbc	**PKPbc**	**17 55 00.8**	**+0.8**
	0.6nm,0.7s,baz=292,slow=2.3,SNR=7.3						

TAP 07 17:41:50.6, 22°.96N×120°.54E, h16km, ML1.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.12**	**17**	P	Pb	17 41 55.3	+0.6
	baz=20						
TWM1	**Shoushan**	**0.18**	**219**	*e*P	Pb	17 41 57.3	+1.7
	baz=217						
CHN1	**Nanshi**	**0.22**	**356**	*e*P	Pb	17 41 56.7	+0.4
	baz=2.0						
CHN1				*e*S	Sb	17 42 01.2	+1.1
	baz=2.0						
SSD	**Sandimen**	**0.23**	**159**	*e*P	Pb	17 41 56.7	+0.2
	baz=152						
SSD				*e*S	Sb	17 42 00.4	+0.1
	baz=152						
STYT	**Tauyuan**	**0.28**	**45**	*e*P	Pb	17 41 57.9	+0.5
	baz=46						
WTP	**Ta-pu**	**0.29**	**13**	*e*P	Pb	17 41 57.9	+0.3
	baz=14						
TWK	**Hsinying**	**0.31**	**350**	*e*P	Pb	17 41 59.0	+1.2
	baz=5.0						
CHN4	**Tsaushan**	**0.39**	**7**	*e*P	Pb	17 41 59.6	+0.5
	baz=7.0						
CHN4				*e*S	Sb	17 42 05.9	+0.9
	baz=7.0						

IDC 07 17:43:42.7±2.0, 19°.10S×177°.85W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, ML4.4/1, MS4.1/1, Ms1 4.1/1, ms1mx3.2/16, Error ellipse: s-maj=54.1km s-min=36.4km az=123.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.59**	**192**	P	P	17 48 12.5	0.0
	1.2nm,0.3s,baz=6.3,slow=9.2,SNR=7.4						
PMG	**Port Moresby**	**35.19**	**281**	LR	LR	18 02 41.8	
	comp=Z,288nm,18.3s,baz=324,slow=32						
WRA	**Warramunga Arr**	**44.95**	**261**	P	P	17 52 00.0	+0.1
	0.1nm,0.3s,baz=96,slow=7.6,SNR=19						
ASAR	**Alice Springs**	**44.99**	**255**	P	P	17 51 59.9	-0.4
	0.9nm,0.6s,baz=93,slow=8.2,SNR=25						
ILAR	**Eielson Array**	**86.92**	**13**	P	P	17 56 29.1	0.0
	0.2nm,0.6s,baz=207,slow=5.0,SNR=4.2						

*IDC **07** 17:51:39.3±0.9, 33°.51S×72°.33W, h0km, mb4.0/6, mb1 4.1/10, mb1mx3.9/27, mbtmp3.9/10, ML4.2/3, MS3.9/2, Ms1 3.9/2, ms1mx3.4/21, Error ellipse: s-maj=29.5km s-min=21.3km az=103.0*

*ISCJB **07** 17:51:41.8±1.0, 33°.69S±0°.04×72°.15W±0°.05, h31km±6km, mb4.1/7, MS3.9/1, Error ellipse: s-maj=7.5km s-min=7.2km az=38.7*

*GUC **07** 17:51:43.8±0.4, 33°.77S×72°.02W, h45km±5km, ML4.5*

*NEIC **07** 17:51:44.1±0.6, 33°.59S×72°.18W, h35km, mb4.2/2, Error ellipse: s-maj=13.4km s-min=8.8km az=96.0*

ISC 07 17:51:42.4±1.0, 33°.65S±0°.05×72°.13W±0°.08, h22km±6km, n31, σ1§42/31, mb4.2/7, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.67**	**117**	⇓*i*P	**Pb**	**17 51 55.0**	**-0.5**
LNV				*i* S	**Sb**	**17 52 03.4**	**-1.0**
IHA	**Instituto Hidr**	**0.75**	**33**	⇓*i*P	**Pb**	**17 51 56.3**	**-0.4**
IHA				*i* S	**Sb**	**17 52 07.8**	**+1.4**
ANTU	**Antumapu**	**1.25**	**87**	⇑*i*P	**Pn**	**17 52 03.9**	**-0.8**
ANTU				*i* S	**Sn**	**17 52 19.3**	**-1.6**
CHCH	**Chadas Angostu**	**1.26**	**103**	*e*P	**Pn**	**17 52 03.8**	**-1.0**
CHCH				*i* S	**Sn**	**17 52 18.5**	**-2.6**
PEL	**Peldehue**	**1.31**	**68**	⇑*i*P	**Pn**	**17 52 05.4**	**0.0**
PEL				⇑*i*S	**Sn**	**17 52 21.8**	**-0.5**
PEL				IAML		17 52 28.7	
	comp=N,21μm,0.4s						
LACH	**Col Las Americ**	**1.35**	**82**	*e*P	**Pn**	**17 52 05.3**	**-0.7**
LACH				*i* S	**Sn**	**17 52 21.9**	**-1.4**
CLCH	**Cerro Calan**	**1.36**	**80**	⇓*i*P	**Pn**	**17 52 05.5**	**-0.6**
CLCH				*i* S	**Sn**	**17 52 22.2**	**-1.3**
CLCH				IAML		17 52 30.5	
	comp=N,12μm,0.6s						
FCH	**Farellones**	**1.57**	**79**	IAML		17 52 32.9	
	comp=E,9μm,0.4s						
CFAA	**Coronel Fontan**	**3.87**	**59**	Pn	**Pn**	**17 52 42.4**	**+1.8**
	comp=E,0.6nm,0.3s,baz=230,slow=14,SNR=33						
CFAA				Lg	Lg	17 53 35.9	
	comp=E,4.0nm,0.3s,baz=21,slow=18,SNR=10.0						
PLCA	**Paso Flores**	**7.18**	**170**	Pn	**Pn**	**17 53 27.8**	**+1.7**
	comp=E,1.0nm,0.3s,baz=343,slow=13,SNR=6.4						
PLCA				Lg	Lg	17 55 15.5	
	comp=E,0.2nm,0.3s,baz=286,slow=18,SNR=1.5						
TRQA	**Tornquist**	**9.34**	**121**	*e*Pn	**Pn**	**17 53 56.6**	**+0.9**
	comp=E,24nm,1.0s						
TRQA				*e*Sn	**Sn**	**17 55 43.0**	**+3.0**
CPUP	**Villa Florida**	**14.75**	**64**	Pn	**Pn**	**17 55 10.9**	**+1.3**
	comp=E,0.4nm,0.3s,baz=244,slow=13,SNR=2.3						
CPUP				Sn	**Sn**	**17 57 55.5**	**+3.1**
	comp=E,0.2nm,0.3s,baz=170,slow=18,SNR=2.2						
CPUP				LR	LR	18 01 31.3	
	comp=E,417nm,20.6s,baz=291,slow=40						
LPAZ	**La Paz**	**17.66**	**13**	Pn	**Pn**	**17 55 46.6**	**-1.1**
	comp=E,0.2nm,0.3s,baz=199,slow=9.0,SNR=9.0						
SIV	**San Ignacio**	**20.22**	**32**	P	**P**	**17 56 14.1**	**-1.9**
	comp=E,1.7nm,0.9s,baz=225,slow=11,SNR=3.7						
SAML	**Samuel**	**25.93**	**21**	*e*P	**P**	**17 57 12.8**	**-0.3**
	comp=E,5.1nm,0.8s						
BDFB	**Brasilia**	**28.21**	**56**	LR	LR	18 10 07.6	
	comp=E,330nm,19.2s,baz=196,slow=39						
SNAA	**Sanae**	**51.94**	**158**	*e*P	**P**	**18 00 48.5**	**-0.7**
	comp=E,2.9nm,0.9s						
QSPA	**South Pole Qui**	**56.58**	**180**	P	**P**	**18 01 23.9**	**+0.7**
	comp=E,2.6nm,0.9s,baz=134,slow=3.3,SNR=4.0						
TXAR	**Lajitas Array**	**69.39**	**331**	P	**P**	**18 02 49.5**	**+0.9**
	comp=E,0.2nm,0.5s,baz=165,slow=7.5,SNR=4.4					

MSWZ	Moikau Station	2.06 157	AML	AML	17 54 54.2	
PAWZ	Paruwai Farm	2.09 153	AML	AML	17 55 03.6	
BSWZ	Blackbirch Sta	2.20 186	PN	Pn	17 54 28.2	+0.2
PLWZ	Palliser	2.21 159	PN	Pn	17 54 27.4	-0.6
THZ	Tophouse	2.44 203	PN	Pn	17 54 29.8	-0.7
URZ	Urewera	2.61 62	AML	AML	17 55 07.2	
KNZ	Kokohu	2.75 81	PN	Pn	17 54 34.1	+0.2
DSZ	Denniston Nort	2.87 218	⇑PN	Pn	17 54 34.5	-0.8
RIGZ	Rimuhau	2.90 75	PN	Pn	17 54 35.5	-0.1
KHZ	Kahutara	2.94 189	PN	Pn	17 54 35.8	-0.1
LTZ	Lake Taylor	3.56 203	PN	Pn	17 54 42.7	-0.7
OXZ	Oxford	4.13 202	PN	Pn	17 54 48.8	-1.4
MQZ	McQueen's Vall	4.34 195	PN	Pn	17 54 50.5	-2.2
WVZ	Waitaha Valley	4.40 215	PN	Pn	17 54 51.9	-1.6
FOZ	Fox Glacier	5.26 218	PN	Pn	17 55 01.2	-3.2

GUC 07 18:05:36.4±0.2, 34°32'S×72°08'W, h33km±1km, ML3.8, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.98	134	eP	Pn	18 05 54.0	+0.2
NICH				i S	Sb	18 06 07.4	-0.2
IHA	Instituto Hidr	1.34	16	i P	Pn	18 05 59.4	+0.7
IHA				i S	Sb	18 06 17.2	-0.5
ANTU	Antumapu	1.42	59	i P	Pn	18 06 01.1	+1.1
ANTU				i S	Sb	18 06 19.6	-0.6
STL	Santa Lucia	1.49	54	i P	Pn	18 06 02.0	+1.2
LACH	Col Las Americ	1.55	57	i P	Pn	18 06 03.1	+1.3
LACH				i S	Sb	18 06 23.4	-0.6
LNCH	Linares	1.58	166	⇑i P	Pn	18 06 03.3	+1.2
LNCH				i S	Sb	18 06 23.9	-0.7
CLCH	Cerro Calan	1.58	55	⇑i P	Pn	18 06 03.6	+1.4
CLCH				i S	Sb	18 06 24.2	-0.7
CLCH				IAML		18 06 28.8	
	comp=E,2μm,0.7s						
PEL	Peldehue	1.65	45	⇓eP	Pn	18 06 04.6	+1.4
PEL				eS	Sb	18 06 25.9	-0.9
PEL				IAML		18 06 31.5	
	comp=E,2μm,0.9s						
COCH	Cobquecura	1.90	197	i P9	Pn	18 06 06.5	+0.1
COCH				i S	Sn	18 06 30.4	+1.2

GUC 07 18:23:20.1±0.3, 35°30'S×72°85'W, h15km±999km, ML3.7, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.83	177	⇑iP	Pb	18 23 34.9	-1.3
COCH				i S	Sg	18 23 46.2	-0.9
LNCH	Linares	1.15	118	eP	Pn	18 23 40.3	-1.4
LNCH				i S	Sb	18 23 55.4	-1.1
LNCH				IAML		18 23 58.9	
	comp=N,3μm,0.4s						
NICH	Los Niches	1.36	78	i P	Pn	18 23 43.6	-1.0
NICH				i S	Sn	18 24 01.2	-1.1
NICH				IAML		18 24 06.0	
	comp=E,2μm,0.4s						

GUC 07 18:25:32.9±0.5, 33°40'S×72°35W, h32km±3km, ML4.0, 1C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.70	58	i P	Pn	18 25 45.9	-0.8
IHA				i S	Sb	18 25 56.0	-0.1
LNV	Longovilo	0.96	126	i P	Pn	18 25 50.3	+0.1
LNV				i S	Sb	18 26 03.4	-0.1
PEL	Peldehue	1.42	80	eP	Pn	18 25 57.6	+1.0
PEL				eS	Sb	18 26 16.4	-0.3
PEL				IAML		18 26 23.1	
	comp=E,4μm,0.3s						
STL	Santa Lucia	1.43	92	⇑iP	Pn	18 25 56.9	+0.2
STL				i S	Sb	18 26 15.8	-1.2
ANTU	Antumapu	1.45	97	⇓iP	Pn	18 25 58.0	+1.1
ANTU				i S	Sb	18 26 17.0	-0.5
CLCH	Cerro Calan	1.52	90	⇓iP	Pb	18 25 59.4	-1.2
CLCH				i S	Sb	18 26 19.1	-0.4
FSR	Penalolen	1.53	94	i P	Pn	18 25 59.0	+0.9
FSR				i S	Sb	18 26 19.3	-0.5
CACH	El Canelo	1.63	117	⇓iP	Pb	18 26 01.6	-0.9
CACH				i S	Sb	18 26 23.3	+0.5
FCH	Farellones	1.73	88	IAML		18 26 31.6	
	comp=N,3μm,0.3s						
NICH	Los Niches	1.85	150	i P	Pn	18 26 04.1	+1.6
NICH				i S	Sb	18 26 28.4	-0.5

*MOS **07** 18:25:50.3±1.1, 54°28N×162°81E, h12km, mb4.2/5, Error ellipse: s-maj=14.8km s-min=10.2km az=87.1*
*KRSC **07** 18:25:52.0±1.2, 54°27N×162°71E, h40km±12km, ML4.1*
*ISCJB **07** 18:25:53.4±0.8, 54°27N±0°02×162°74E±0°05, h33km±6km, mb3.6/11, Error ellipse: s-maj=5.3km s-min=2.9km az=27.1*
*IDC **07** 18:26:00.5±1.0, 55°47N×159°88E, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.6/35, mbtmp3.6/12, ML2.6/1, Error ellipse: s-maj=31.7km s-min=17.1km az=104.0*

ISC 07 18:25:53.0±1.5, 54°30N±0°03×162°71E±0°04, h23km±11km, n74, σ1°34/102, mb3.7/11, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.63	295	PN	Pb	18 26 05.3	+0.1
MKZ				S	Sb	18 26 13.0	-0.6
MKZ	Mys Kozlova	0.63	295	i P	Pb	18 26 05.3	+0.1
MKZ				i S	Sb	18 26 13.0	-0.6
TUMR	Tumrok	1.78	305	i P	Pn	18 26 22.8	+0.4
TUMR				i S	Sn	18 26 44.3	0.0
KBTR	Krutoberegovo	1.92	2	PN	Pn	18 26 24.4	+0.3
KBTR				S	Sn	18 26 47.4	-0.1
KBTR	Krutoberegovo	1.92	2	i P	Pn	18 26 24.4	+0.3
KBTR				i S	Sn	18 26 47.4	-0.1
KII	Karymskiy	1.93	264	eP	Pn	18 26 24.9	+0.5
KII				i S	Sn	18 26 47.3	-0.7
SPN	Mys Shipunski	2.00	234	PN	Pn	18 26 25.4	+0.2
SPN				S	Sn	18 26 48.6	-0.8
SPN	Mys Shipunski	2.00	234	eP	Pn	18 26 25.4	+0.2
SPN				eS	Sn	18 26 48.6	-0.8
BZGR	Bezymyannyi-Gr	2.01	326	i P	Pn	18 26 26.8	+1.3
BZGR				i S	Sn	18 26 51.8	+1.8
KMNR	Kamenistaya	2.04	317	i P	Pn	18 26 27.3	+1.4
KMNR				i S	Sn	18 26 52.2	+1.6
BZMR	Bezymyannaya	2.08	323	i P	Pn	18 26 27.0	+0.5
BKI	Bering	2.10	63	PN	Pn	18 26 28.4	+1.8
BKI				S	Sn	18 26 52.8	+0.8
BKI	Bering	2.10	63	eP	Pn	18 26 28.4	+1.8
BKI				eS	Sn	18 26 52.8	+0.8
KIRR	Kirishev	2.14	322	i P	Pn	18 26 28.6	+1.2
KIRR				i S	Sn	18 26 54.3	+1.0
KPT	Kopyto	2.20	321	i P	Pn	18 26 29.7	+1.6
KPT				eS	Sn	18 26 56.1	+1.6
KRSR	Krestovskiy	2.28	328	eP	Pn	18 26 30.9	+1.7
KRSR				eS	Sb	18 26 59.5	-1.7
KLY	Klyuchi	2.34	331	PN	Pn	18 26 30.4	+0.5
KLY				S	Sn	18 26 58.4	+0.6
KLY	Klyuchi	2.34	331	i P	Pn	18 26 30.4	+0.5
KLY				i S	Sn	18 26 58.4	+0.6
KOZR	Kozyr	2.40	319	PN	Pn	18 26 32.6	+1.9
KOZR				S	Sn	18 27 02.2	+2.9
SMKR	Semkarok	2.40	343	i P	Pn	18 26 31.9	+1.1
SMKR				i S	Sn	18 27 02.2	+0.8
KOZ	Kozyrevsk	2.40	319	i P	Pn	18 26 32.6	+1.8
KOZ				i S	Sn	18 27 02.2	+2.8
BDR	Baidarnaya	2.43	340	i P	Pn	18 26 32.8	+1.5
BDR				i S	Sn	18 27 03.2	+2.9
SDLR	Sedlovina	2.49	247	eP	Pn	18 26 33.3	+1.3
SDLR				eS	Sn	18 27 02.3	+0.6
SRKR	Sorokina	2.52	340	i P	Pn	18 26 33.4	+0.9
SRKR				eS	Sn	18 27 03.0	+0.6
SMAR	Somma	2.54	247	eP	Pn	18 26 34.1	+1.3
SMAR				eS	Sn	18 27 03.2	+0.1
KRER	Koryakskii	2.55	249	i P	Pn	18 26 34.5	+1.5
KRER				i S	Sn	18 27 04.2	+0.9
UGLR	Uglovaya	2.55	246	i P	Pn	18 26 34.3	+1.4
UGLR				i S	Sn	18 27 04.1	+0.9
AVH	Avacha	2.57	248	i P	Pn	18 26 34.5	+1.3
AVH				i S	Sn	18 27 05.0	+1.3
KRX	Arik	2.58	250	i P	Pn	18 26 34.8	+1.4
KRX				eS	Sn	18 27 04.2	+0.1
SRDR	Sredinnyy	2.65	321	i P	Pn	18 26 35.0	+0.8
SRDR				eS	Sn	18 27 05.7	+0.1
PET	Petropavlovsk	2.73	244	ePN	Pn	18 26 36.8	+1.6
PET				eS	Sn	18 27 07.5	+0.1
PET				smax	smax		
	comp=E,165nm,0.5s						
PET				smax	smax		
	comp=N,252nm,0.7s						
PET	Petropavlovsk	2.73	244	eP	Pn	18 26 35.7	+0.5
PET				eS	Sn	18 27 07.5	+0.1
ESO	Esso	2.82	307	PN	Sn	18 26 37.6	+1.1
ESO				S	Sn	18 27 10.3	+0.5
ESO	Esso	2.82	307	i P	Pn	18 26 37.6	+1.1
ESO				eS	Sn	18 27 10.3	+0.5
GNL	Ganaly	2.88	260	i P	Pn	18 26 39.2	+1.8
GNL				eS	Sn	18 27 11.6	+0.3
RUS	Russkaya	3.13	235	PN	Pn	18 26 41.7	+1.0
RUS				S	Sn	18 27 17.9	+0.6
RUS	Russkaya	3.13	235	eP	Pn	18 26 41.7	+1.0
RUS				eS	Sn	18 27 17.9	+0.6
PETK	Petropavlovsk-	3.21	250	PN	Pn	18 26 43.9	+2.1
PETK						18 27 21.2	
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK				smax	smax		
	comp=N,7.0nm,0.3s						
PETK	Petropavlovsk-	3.21	250	Pn	Pn	18 26 43.9	+2.1
	comp=N,5.2nm,0.3s,baz=68,slow=13,SNR=161						
PETK				Sn	Sn	18 27 21.2	+1.9
	comp=N,7.4nm,0.3s,baz=84,slow=32,SNR=13						
MTVR	Mutnovka	3.26	238	eP	Pn	18 26 44.2	+1.5
MTVR				eS	Sn	18 27 20.8	0.0
ASAK	Asacha	3.46	238	i P	Pn	18 26 46.7	+1.3
ASAK				i S	Sn	18 27 28.6	+3.0
APC	Apacha	3.58	250	i P	Pn	18 26 49.0	+2.1
APC				eS	Sn	18 27 32.0	+3.6
PAU	Pauzhetka	4.56	234	PN	Pn	18 27 02.3	+1.9
PAU	Pauzhetka	4.56	234	eP	Pn	18 27 02.3	+1.9
OSSR	Ossora	4.97	2	eP	Pn	18 27 06.6	+0.6
PALN	Palana	5.04	344	P	Pn	18 27 09.2	+2.3
SKR	Severo-Kuril's	5.41	231	eS	Sn	18 28 15.1	+1.5
ILAR	Eielson Array	26.86	47	P	P	18 31 46.8	+15
	comp=N,0.4nm,0.8s,baz=265,slow=8.9,SNR=4.2						
H11N2	WAKE ISLAND Hy	34.65	173	T	T	19 10 02.2	
	baz=355,slow=76,SNR=98						
H11N3	WAKE ISLAND Hy	34.67	173	T	T	19 10 00.3	
	baz=355,slow=76,SNR=119						
H11N1	WAKE ISLAND Hy	34.67	173	T	T	19 10 03.7	
	baz=355,slow=76,SNR=112						
H11S1	WAKE ISLAND Hy	35.85	174	T	T	19 11 29.9	
	baz=352,slow=76						
H11S3	WAKE ISLAND Hy	35.87	174	T	T	19 11 23.6	
	baz=352,slow=76						
H11S2	WAKE ISLAND Hy	35.87	174	T	T	19 11 33.8	
	baz=352,slow=76						
MKAR	Makanchi Array	49.02	296	P	P	18 34 35.0	-2.6
MKAR	Makanchi Array	49.02	296	P	P	18 34 35.0	-2.6
	comp=N,0.3nm,0.7s,baz=49,slow=9.8,SNR=2.6						
FINES	FINESS Array B	59.62	338	eP	P	18 35 54.3	0.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	59.62	338	P	P	18 35 53.9	-0.4
	comp=Z,2.3nm,0.5s,baz=35,slow=8.5,SNR=23						
CMAR	Chiang Mai Arr	59.94	260	P	P	18 35 57.9	+0.7
	comp=Z,0.2nm,0.4s,baz=21,slow=7.7,SNR=3.4						
NB2	NORSAR Subarra	62.80	345	P	P	18 36 15.5	-0.5
	comp=Z,0.5nm,0.4s,baz=20,slow=6.9						
NOA	NORSAR Array B	62.80	345	P	P	18 36 15.6	-0.4
	comp=Z,0.2nm,0.6s,baz=20,slow=7.1,SNR=7.9						
AKASG	Malin Array Be	68.36	330	P	P	18 36 50.9	-1.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	68.36	330	P	P	18 36 50.9	-1.0
	comp=Z,0.5nm,0.5s,baz=30,slow=7.5,SNR=2.5						
KBZ	Khabaz	69.71	318	P	P	18 37 00.5	+0.1
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KBZ	Khabaz	69.71	318	P	P	18 37 00.5	+0.1
	comp=Z,2.4nm,0.9s,baz=96,slow=4.9,SNR=4.2						
GERES	GERESS Array B	73.96	339	P	P	18 37 26.9	+0.9
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	73.96	339	P	P	18 37 26.9	+0.9
	comp=Z,0.6nm,0.7s,baz=33,slow=5.9,SNR=5.9						
BRTR	Keskin Array B	76.65	322	P	P	18 37 41.5	-0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BRTR	Keskin Array B	76.65	322	P	P	18 37 41.5	-0.3
	comp=Z,1.3nm,1.0s,baz=32,slow=7.6,SNR=3.4						
WRA	Warramunga Arr	77.85	207	P	P	18 38 01.5	+13
	comp=Z,0.3nm,0.9s,baz=21,slow=6.1,SNR=2.7						
ASAR	Alice Springs	81.51	207	P	P	18 38 22.0	+14
ASAR	Alice Springs	81.51	207	P	P	18 38 22.0	+14
	comp=Z,0.2nm,0.7s,baz=22,slow=5.2,SNR=3.7						
PLCA	Paso Flores	142.48	91	PKIKP	PKPdf	18 45 36.2	+13
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
PLCA	Paso Flores	142.48	91	PKP	PKPdf	18 45 36.2	+13
	comp=Z,3.1nm,0.4s,baz=326,slow=11,SNR=4.7						

*GUC **07** 18:35:58.4±0.6, 34°62S×72°02W, h38km±3km, ML5.5*
*MOS **07** 18:35:58.9±1.4, 34°59S×71°91W, h33km, mb5.3/19, MS4.7/4, Error ellipse: s-maj=16.5km s-min=7.9km az=93.2*
*IDC **07** 18:35:59.5±0.4, 34°67S×71°75W, h30km±2km, mb4.5/20, mb1 4.6/23, mb1mx4.5/33, mbtmp4.7/23, ML4.9/3, MS4.7/20, Ms1 4.7/20, ms1mx4.6/28, Error ellipse: s-maj=15.9km s-min=10.3km az=80.0*
*GCMT **07** 18:36:00.2±0.2, 34°65S×72°22W, h47km±1km, MW5.3/79, Moment Tensor Solution. s77,c118; s79,c125; Duration: 1s1 Moment tensor: Scale 10^17 Nm; M_{rr}0.71±.03; $M_{\theta\theta}$0.16±.02; $M_{\phi\phi}$-0.86±.02; $M_{r\theta}$0.08±.02; $M_{\theta\phi}$-0.16±.02; $M_{\phi r}$-0.66±.02; Best double couple: $M_0$1.04400×10^17 NP1:ϕ_s177.00000°, δ65.00000°, λ78.00000°. NP2:ϕ_s24.00000°, δ27.00000°, λ114.00000°. Principal axes: T 0.9680, Plg67.0000°, Azm64.0000°; N 0.1500, Plg11.0000°, Azm182.0000°; P -1.1190, Plg19.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **07** 18:36:00.6, 34°60S×71°80W, h35km, mB5.2/15, Ms5.3/11, Ms7 5.2/13*
*NEIC **07** 18:36:00.2±0.2, 34°61S×71°91W, h35km, mb5.1/56, ML5.5(GUC), Error ellipse: s-maj=6.3km s-min=4.8km az=84.0*
NEIC Felt [V] at Pichilemu and San Fernando; [IV] at Rancagua and Talca; [III] at Cauquenes, Melipilla, Parral, Quillota, San Antonio, San Javier, Santiago and Valparaiso; [II] at Puente Alto. Also felt at Buin, Chillan, Colina, Graneros, Limache, Linares, San Vicente and Villa Alemana.
*ISCJB **07** 18:36:00.5±0.5, 34°71S±0°02×71°85W±0°05, h50km±4km, mb5.0/76, MS4.7/21, Error ellipse: s-maj=6.8km s-min=3.9km az=5.9*

ISC 07 18:35:59.6±0.3, 34°64S±0°02×71°91W±0°04, h33km±1km, h32km: pP-P, n568, σ1°27/636, mb5.1/75, MS4.7/21, 167C-194D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.66	123	⇓iP	Pb	18 36 13.4	+0.5
NICH				i S	Sn	18 36 24.4	+2.4
LNV	Longovilo	0.80	31	⇓iP	Pn	18 36 15.0	+0.5
CACH	El Canelo	1.20	65	eP	Pb	18 36 22.2	+0.4
CACH	El Canelo	1.20	65	⇓iP	Pb	18 36 22.4	+0.5
LNCH	Linares	1.23	168	i P	Pb	18 36 21.5	-0.8
LNCH				i S	Sb	18 36 38.8	+0.9
LNCH	Linares	1.23	168	⇓iP	Pb	18 36 22.4	+0.1
LNCH				i S	Sb	18 36 39.5	+1.6
CHCH	Chadas Angostu	1.25	56	eP	Pb	18 36 22.4	-0.3
CHCH	Chadas Angostu	1.25	56	⇑iP	Pb	18 36 23.0	+0.3
ANTU	Antumapu	1.50	45	i P	Pb	18 36 26.0	-1.0
ANTU				i S	Sb	18 36 46.3	+0.6
ANTU				IAML		18 36 49.1	
	comp=N,110μm,0.4s						
ANTU	Antumapu	1.50	45	⇓iP	Pb	18 36 26.3	-0.6
ANTU				i S	Sb	18 36 47.0	+1.3
STL	Santa Lucia	1.60	42	⇑iP	Pn	18 36 26.2	+0.6
STL				eS	Sb	18 36 48.3	0.0
IHA	Instituto Hidr	1.63	8	i P	Pn	18 36 26.2	+0.3
IHA				i S	Sn	18 36 47.5	+1.8
IHA	Instituto Hidr	1.63	8	⇑iP	Pn	18 36 26.5	+0.6
LACH	Col Las Americ	1.65	44	eP	Pn	18 36 28.0	+1.7
LACH				eS	Sb	18 36 50.4	+0.7
COCH	Cobquecura	1.65	206	⇑iP	Pn	18 36 25.8	-0.5
COCH				i S	Sn	18 36 47.3	+0.9
CLCH	Cerro Calan	1.68	43	⇑iP	Pn	18 36 28.7	+1.9
CLCH				i S	Sb	18 36 51.2	+0.3
CLCH				IAML		18 36 57.3	
	comp=E,83μm,0.5s						
CLCH				IAML		18 36 58.0	
	comp=E,97μm,0.5s						
PEL	Peldehue	1.81	35	⇓iP	Pn	18 36 30.4	+1.9
PEL				i S	Sb	18 36 55.6	+1.3
PEL	Peldehue	1.81	35	⇓iP	Pn	18 36 30.3	+1.9
PEL				eS	Sb	18 36 54.2	-0.1
PEL				IAML		18 37 01.1	
	comp=E,82μm,0.5s						
PEL	Peldehue	1.81	35	⇓iP	Pn	18 36 30.4	+1.9
PEL				i S	Sb	18 36 55.6	+1.3
FCH	Farellones	1.88	46	⇓iP	Pb	18 36 32.3	-1.1
CFAA	Coronel Fontan	4.32	46	Pn	Pn	18 37 00.6	-2.4
	comp=E,0.1nm,0.3s,baz=225,slow=12,SNR=8.6						
CFAA				Lg	Lg	18 38 05.0	
	comp=E,41nm,0.3s,baz=286,slow=19,SNR=12						
CFAA				LR	LR	18 38 58.9	
	comp=E,2μm,19.9s,baz=228,slow=42						
PLCA	Paso Flores	6.18	170	eP	Pn	18 37 28.2	-0.3
PLCA				e		18 38 37.6	
PLCA				pmax	pmax		
	comp=Z,115nm,0.6s						
PLCA	Paso Flores	6.18	170	Pn	Pn	18 37 28.2	-0.3
	comp=Z,12nm,0.3s,baz=341,slow=12,SNR=53						
PLCA				Lg	Lg	18 39 11.3	
	comp=Z,10.0nm,0.3s,baz=66,slow=20,SNR=4.8						
PLCA				LR	LR	18 40 00.9	
	comp=Z,7μm,19.7s,baz=353,slow=39						
PLCA	Paso Flores	6.18	170	ePn	Pn	18 37 28.2	-0.3
	comp=Z,115nm,0.6s						
PLCA				eSn	Sn	18 38 37.6	-0.5
PLCA				Lg	Lg	18 39 11.3	
TRQA	Tornquist	8.70	116	ePn	Pn	18 38 05.4	+2.2
	comp=Z,73nm,0.8s						
TRQA				eSn	Sn	18 39 41.4	+1.2
LVC	Limon Verde	12.27	13	ePn	Pn	18 38 50.3	-2.0
	comp=Z,36nm,0.6s						
LVC				eSn	Sn	18 41 05.0	-3.0
CPUP	Villa Florida	15.04	61	eP	Pn	18 39 28.7	-1.0
CPUP	Villa Florida	15.04	61	Pn	Pn	18 39 29.7	0.0
	comp=Z,1.0nm,0.3s,baz=216,slow=12,SNR=5.9						
CPUP				Lg	Lg	18 43 59.6	
	comp=Z,2.4nm,0.3s,baz=336,slow=20,SNR=4.0						
CPUP				LR	LR	18 45 52.8	
	comp=Z,8μm,18.2s,baz=220,slow=40						
CPUP	Villa Florida	15.04	61	ePn	Pn	18 39 28.7	-1.0
CPUP				Lg	Lg	18 43 59.6	
LPAZ	La Paz	18.59	11	eP	P	18 40 13.8	-0.9
LPAZ				S	Sn	18 43 40.3	-1.9
LPAZ				pmax	pmax		
	comp=Z,176nm,1.4s						
LPAZ	La Paz	18.59	11	P	Pn	18 40 16.8	+1.7
	comp=Z,0.8nm,0.3s,baz=172,slow=9.5,SNR=51						
LPAZ				S	Sn	18 43 40.3	-1.9
	baz=153,slow=18,SNR=1.4						
LPAZ	La Paz	18.59	11	eP	P	18 40 13.8	-0.9
	comp=Z,176nm,1.4s						
LPAZ				S	Sn	18 43 40.3	-1.9
EFI	East Falkland	19.74	154	P	P	18 40 25.2	-1.1
	comp=Z,249nm,0.6s,SNR=9.6						
EFI	East Falkland	19.74	154	eP	P	18 40 24.7	-1.6
EFI				pmax	pmax		
	comp=Z,63nm,0.8s						
EFI	East Falkland	19.74	154	eP	P	18 40 24.7	-1.6
	comp=Z,63nm,0.8s						
USHA	Ushuaia	20.34	174	P	P	18 40 33.6	+0.8
	comp=Z,25nm,0.8s,baz=353,slow=11,SNR=7.6						
USHA				LR	LR	18 49 01.9	
	comp=Z,3μm,19.3s,baz=329,slow=38						
SIV	San Ignacio	20.97	30	P	P	18 40 39.9	-0.1
	comp=Z,47nm,0.9s,baz=212,slow=11,SNR=82						
SIV				LR	LR	18 50 11.2	
	comp=Z,3μm,20.0s,baz=222,slow=41						
NNA	Nana	22.99	348	eP	P	18 41 01.7	0.0
NNA				pmax	pmax		
	comp=Z,62nm,0.9s						
NNA	Nana	22.99	348	P	P	18 41 03.1	+1.5
	comp=Z,22nm,0.8s,baz=186,slow=12,SNR=12						
NNA				LR	LR	18 48 03.0	
	comp=Z,1μm,19.9s,baz=158,slow=31						
NNA	Nana	22.99	348	eP	P	18 41 01.6	0.0
	comp=Z,62nm,0.9s						
SAML	Samuel	26.79	19	eP	P	18 41 36.1	-0.6
	comp=Z,35nm,0.8s						
ATAH	Atahualpa	28.02	346	P	P	18 41 48.8	+0.6
	comp=Z,3.9nm,0.6s,baz=180,slow=10,SNR=2.5						
ATAH				LR	LR	18 51 06.6	
	comp=Z,622nm,19.4s,baz=195,slow=32						
BDFB	Brasilia	28.61	55	P	P	18 41 51.6	-1.5
	comp=Z,15nm,0.8s,baz=209,slow=9.3,SNR=16						
BDFB				LR	LR	18 54 33.2	
	comp=Z,4μm,18.8s,baz=218,slow=39						
OTAV	Otavalo	35.23	349	eP	P	18 42 52.1	+0.5
	comp=Z,19nm,1.0s						
ROSC	El Rosal	39.35	356	P	P	18 43 27.8	+1.4
	comp=Z,6.0nm,0.4s,baz=109,slow=10.0,SNR=6.0						
SDV	Santo Domingo	43.30	2	eP	P	18 43 58.0	-0.7
	comp=Z,20nm,0.8s						
RCBR	Riachuelo	43.89	58	P	P	18 44 01.8	-1.5
	comp=Z,19nm,1.1s,baz=213,slow=8.7,SNR=6.3						
PCRV	Puerto La Cruz	45.10	10	P	P	18 44 13.1	+0.3
	comp=Z,7.5nm,0.7s,baz=188,slow=7.1,SNR=3.6						
JTS	JuntasAbangare	46.37	342	P	P	18 44 24.2	+1.4
	comp=Z,2.6nm,0.6s,baz=301,slow=13,SNR=2.2						
GRGR	Grenville	47.52	14	eP	P	18 44 30.9	-0.9
VNA3	Neumayer Olymp	48.73	158	P	P	18 44 41.3	+0.7
VNA2	Neumayer--Watz	49.38	157	P	P	18 44 46.2	+0.6
SNAA	Sanae	50.95	158	P	P	18 44 57.8	+0.3
SNAA	Sanae	50.95	158c	iP	P	18 44 57.8	+0.3
SNAA				pmax	pmax		
	comp=Z,28nm,1.2s						
SNAA	Sanae	50.95	158	P	P	18 44 57.5	0.0
	comp=Z,5.3nm,0.8s,baz=284,slow=7.0,SNR=17						

baz=69
535A **Dale** 68.73 336 ⇑P P 18 47 01.3 +1.3
baz=69
633A **Saathoff Ranch** 68.76 335 ⇑P P 18 47 01.3 +1.1
baz=69,SNR=5.7
LRAL **Lakeview Retre** 68.80 346 *e*P P 18 46 59.8 -0.5
comp=Z,11nm,0.9s
LRAL *ep*P **pP** 18 47 11.0 +0.5
340A **Bronson** 68.89 340 ⇓P P 18 47 02.7 +1.7
baz=69
339A **Huntington** 69.00 339 ⇓P P 18 47 03.1 +1.5
baz=69
632A **Uvalde** 69.02 334 ⇑P P 18 47 02.8 +0.9
baz=69,SNR=9.6
534A **Blanco** 69.03 335 ⇑P P 18 47 03.2 +1.2
baz=69
436A **Wall Ranch, Ga** 69.16 337 ⇑P P 18 47 03.8 +1.2
baz=70
631A **Perdido Creek** 69.22 333 ⇓P P 18 47 04.3 +1.2
baz=70
533A **Kerrville** 69.27 335 ⇓P P 18 47 05.1 +1.7
baz=70
337A **Centerville** 69.38 338 ⇓P P 18 47 05.8 +1.8
baz=70
435B **Jarrell** 69.43 337 ⇑P P 18 47 05.6 +1.3
baz=70
239A **Gary** 69.62 340 ⇑P P 18 47 06.9 +1.5
baz=70
532A **Rocksprings** 69.63 334 ⇑P P 18 47 06.5 +0.9
baz=70,SNR=14
434A **Burnet** 69.69 336 ⇑P P 18 47 06.4 +0.5
baz=70,SNR=8.8
336A **Riesel** 69.75 337 ⇓P P 18 47 07.1 +0.8
baz=70
238A **Jacksonville** 69.80 339 ⇓P P 18 47 07.6 +1.1
baz=70
335A **Moody** 69.84 337 ⇓P P 18 47 08.0 +1.1
baz=70
531A **Rocksprings** 69.89 334 ⇑P P 18 47 08.2 +0.9
baz=70,SNR=12
JCT **Junction City** 69.91 335 *e*P P 18 47 07.3 -0.1
JCT *e**PP **pP** 18 47 18.7 +1.1
JCT pmax pmax
comp=Z,42nm,1.3s
JCT **Junction City** 69.91 335 ⇓P P 18 47 08.3 +0.9
baz=70
JCT **Junction City** 69.91 335 *e*P P 18 47 07.3 -0.1
comp=Z,42nm,1.3s
JCT *ep*P **pP** 18 47 18.6 +1.1
433A **Art** 69.91 335 ⇑P P 18 47 07.9 +0.6
baz=70,SNR=15
KMSC **Kings Mountain** 69.98 352 ⇓P P 18 47 08.3 +0.7
baz=70
237A **Washetta, Mont** 70.00 339 ⇓P P 18 47 08.5 +0.7
baz=70
334A **Lometa** 70.15 336 ⇓P P 18 47 09.5 +0.7
baz=70,SNR=7.4
530A **J-C Ranch, Com** 70.17 333 ⇓P P 18 47 09.9 +0.9
baz=70,SNR=9.1
PPT2 **Papeete2** 70.25 262 *e*LR LR 19 08 32.2
comp=Z,2µm,26.5s
PPT **Papeete** 70.26 262 LR LR 19 10 33.0
comp=Z,529nm,18.1s,baz=126,slow=30
432A **Menard** 70.27 335 ⇓P P 18 47 09.9 +0.3
baz=71
TXAR **Lajitas Array** 70.34 331 P P 18 47 10.5 +0.3
comp=Z,2.0nm,0.4s,baz=155,slow=8.7,SNR=74
TXAR LR LR 19 13 25.3
comp=Z,693nm,19.1s,baz=0.0,slow=32
431A **Sonora** 70.38 334 ⇑P P 18 47 10.7 +0.4
baz=71
333A **Richland Sprin** 70.40 336 ⇓P P 18 47 10.9 +0.6
baz=71,SNR=8.1
529A **Stev Forest Ra** 70.48 332 ⇓P P 18 47 11.9 +1.0
baz=71,SNR=12
WHTX **Lake Whitney,** 70.50 337 ⇑P P 18 47 11.7 +0.8
baz=71
WHTX **Lake Whitney,** 70.50 337 *e*P P 18 47 10.2 -0.7
comp=Z,33nm,1.1s
WHTX *ep*P **pP** 18 47 21.7 +0.6
137A **Heron Place, G** 70.54 339 ⇑P P 18 47 11.9 +0.8
baz=71
430A **Baggett Ranch,** 70.71 333 ⇓P P 18 47 12.8 +0.5
baz=71,SNR=9.8
332A **Millersview** 70.71 335 ⇑P P 18 47 12.4 +0.2
baz=71,SNR=7.5
OXF **Oxford** 70.72 345 *e*P P 18 47 11.6 -0.5
OXF *e**PP **pP** 18 47 21.9 -0.4
OXF pmax pmax
comp=Z,65nm,0.9s
OXF **Oxford** 70.72 345 *e*P P 18 47 11.6 -0.5
comp=Z,65nm,0.9s
OXF *ep*P **pP** 18 47 21.9 -0.4
SWET **Sewanee** 70.72 348 *e*P P 18 47 12.1 -0.1
comp=Z,39nm,0.8s
234A **Clairette** 70.73 337 ⇓P P 18 47 12.9 +0.5
baz=71
429A **Davenport Ranc** 70.81 333 ⇓P P 18 47 13.2 +0.4
baz=71
TKL **Tuckaleechee C** 70.81 350 *e*P P 18 47 11.8 -0.9
TKL *e**PP **pP** 18 47 22.2 -0.7
TKL **Tuckaleechee C** 70.81 350 *e*P P 18 47 11.8 -0.9
TKL *ep*P **pP** 18 47 22.2 -0.7
331A **San Angelo** 70.88 334 ⇑P P 18 47 13.7 +0.4
baz=71,SNR=8.5
233A **Rising Star** 71.00 336 ⇑P P 18 47 14.5 +0.5
baz=71,SNR=7.6
135A **Vickery Place,** 71.01 337 ⇓P P 18 47 14.7 +0.7
baz=71
232A **Coleman** 71.14 335 ⇓P P 18 47 15.0 +0.2
baz=71,SNR=6.5
134A **White-Moore Ra** 71.24 337 ⇓P P 18 47 15.9 +0.5
baz=72
330A **Mertzon** 71.24 334 ⇓P P 18 47 15.8 +0.3
baz=72,SNR=7.4
231A **Bronte** 71.41 335 ⇑P P 18 47 16.8 +0.3
baz=72,SNR=8.9
133A **Hamilton Ranch** 71.55 336 ⇓P P 18 47 17.8 +0.5
baz=72
329A **Wagon Wheel Ra** 71.61 333 ⇓P P 18 47 18.1 +0.4
baz=72,SNR=5.7
230A **Sterling City** 71.65 334 ⇑P P 18 47 18.4 +0.4
baz=72
Z35A **Perchaven, San** 71.68 338 ⇑P P 18 47 18.6 +0.6
baz=72,SNR=6.7
MIAR **Mount Ida** 71.75 341 *e*P P 18 47 18.1 -0.3
MIAR pmax pmax
comp=Z,19nm,1.2s
MIAR **Mount Ida** 71.75 341 *e*P P 18 47 18.1 -0.3
comp=Z,19nm,1.2s
ABTX **Abilene, Hawle** 71.81 336 ⇓P P 18 47 19.2 +0.4
baz=72,SNR=5.8
ABTX **Abilene, Hawle** 71.81 336 *e*P P 18 47 17.7 -1.1
comp=Z,42nm,1.2s
Z34A **Collier Ranch,** 71.92 337 ⇓P P 18 47 20.0 +0.5
baz=72
WVT **Waverly** 71.96 346 *e*P P 18 47 19.2 -0.4
WVT pmax pmax
comp=Z,85nm,0.8s
WVT **Waverly** 71.96 346 *e*P P 18 47 19.2 -0.4
comp=Z,85nm,0.8s
229A **Bryant Ranch,** 71.98 334 ⇑P P 18 47 20.3 +0.4
baz=72
131A **Roby** 72.11 335 ⇑P P 18 47 21.1 +0.4
baz=72
Z33A **Whitaker Ranch** 72.12 337 ⇑P P 18 47 20.9 +0.3
baz=72,SNR=8.1
130A **Snyder** 72.24 334 ⇓P P 18 47 21.9 +0.4
baz=72
Z32A **Haskell** 72.37 336 ⇑P P 18 47 22.6 +0.4
baz=73,SNR=8.4
228A **UT Block 9, Go** 72.41 333 ⇓P P 18 47 22.9 +0.4
baz=73,SNR=6.5
Y34A **Reagan Ranch,** 72.41 338 ⇓P P 18 47 22.8 +0.4
baz=73
MAW **Mawson** 72.54 163 LR LR 19 19 07.0
comp=Z,784nm,20.3s,baz=238,slow=36
129A **Stewart Farms,** 72.60 334 ⇓P P 18 47 23.9 +0.3
baz=73
Z31A **Sharp Cattle R** 72.61 335 ⇑P P 18 47 24.0 +0.3
baz=73,SNR=9.7
Y33A **Hilltop Ranch,** 72.74 337 ⇑P P 18 47 24.4 0.0
baz=73
128A **Castleberry Fa** 72.81 333 ⇑P P 18 47 25.2 +0.2
baz=73,SNR=6.3
Z30A **Sanderson Ranc** 72.92 335 ⇓P P 18 47 25.2 -0.3
baz=73,SNR=6.9
Y32A **R-V Farms, Ver** 73.00 336 ⇓P P 18 47 26.0 +0.1
baz=73
X34A **Smith Ranch, M** 73.03 338 ⇓P P 18 47 26.5 +0.4
baz=73
Z29A **Hungry Hill Ra** 73.11 334 ⇓P P 18 47 26.4 -0.2
baz=73,SNR=8.5
MNTX **Cornudas Mount** 73.12 331 *e*P P 18 47 26.0 -0.7
comp=Z,6.2nm,0.9s
X33A **Lawton** 73.19 337 ⇓P P 18 47 26.8 -0.2
baz=74
Y31A **Rekieta Farm,** 73.24 336 ⇓P P 18 47 27.8 +0.5
baz=74
X32A **Elmer** 73.33 337 ⇓P P 18 47 28.5 +0.6
baz=74
Y30A **Stafford Cattl** 73.38 335 ⇑P P 18 47 28.5 +0.3
baz=74
Z28A **Tucker Farm, M** 73.38 334 ⇑P P 18 47 28.9 +0.6
baz=74
WMOK **Wichita Mounta** 73.46 337 *e*P P 18 47 27.6 -1.0
WMOK pmax pmax
comp=Z,12nm,1.1s
WMOK **Wichita Mounta** 73.46 337 *e*P P 18 47 27.6 -1.0
comp=Z,12nm,1.1s
W34A **Bridge Creek,** 73.60 338 ⇓P P 18 47 29.3 -0.1
baz=74
Y29A **Porterfield Fa** 73.63 334 ⇑P P 18 47 29.9 +0.1
baz=74,SNR=6.7
TUL1 **Leonard** 73.64 340 ⇓P P 18 47 29.9 +0.2
baz=74
TUL1 **Leonard** 73.64 340 *e*P P 18 47 29.4 -0.3
comp=Z,33nm,1.0s
WCI **Wyandotte Cave** 73.72 348 *e*P P 18 47 26.8 -3.3
WCI pmax pmax
comp=Z,4.0nm,0.8s
WCI **Wyandotte Cave** 73.72 348 *e*P P 18 47 26.8 -3.3
comp=Z,4.5nm,0.8s
W33A **Caddo, Fort Co** 73.74 338 ⇓P P 18 47 30.6 +0.4
baz=74,SNR=8.2
X31A **McDonald Ranch** 73.75 336 ⇓P P 18 47 30.2 -0.1
baz=74,SNR=5.2
Y28A **McKinney Farm,** 73.88 334 ⇓P P 18 47 31.6 +0.4
baz=74
X30A **Coker Ranch, T** 73.89 335 ⇓P P 18 47 31.9 +0.7
baz=74
W32A **Sentinel** 73.96 337 ⇓P P 18 47 31.8 +0.3
baz=74,SNR=14
V34A **Guthrie** 74.08 339 ⇓P P 18 47 32.9 +0.7
baz=74
V34A **Guthrie** 74.08 339 *e*P P 18 47 33.0 +0.9
comp=Z,53nm,1.3s
MSTX **Muleshoe** 74.13 334 ⇑P P 18 47 32.6 0.0
baz=74,SNR=5.8
MSTX **Muleshoe** 74.13 334 *e*P P 18 47 32.7 0.0
comp=Z,22nm,1.0s
X29A **Tulia** 74.17 335 ⇓P P 18 47 33.4 +0.5
baz=74
Y27A **Causey** 74.20 333 ⇑P P 18 47 33.4 +0.3
baz=74
W31A **Holland Ranch,** 74.25 336 ⇓P P 18 47 34.0 +0.7
baz=74
Z25A **Roswell** 74.25 332 ⇑P P 18 47 34.1 +0.7
baz=74
V33A **Lossen Ranch,** 74.30 338 ⇑P P 18 47 33.8 +0.3
baz=75,SNR=6.0
V32A **Arapaho** 74.44 337 ⇓P P 18 47 35.5 +1.1
baz=75
Y26A **Elida** 74.48 333 ⇑P P 18 47 35.8 +1.0
baz=75
AMTX **Amarillo** 74.56 335 ⇓P P 18 47 36.4 +1.3
baz=75
AMTX **Amarillo** 74.56 335 *e*P P 18 47 35.6 +0.5
comp=Z,60nm,1.2s
U34A **Anderson Ranch** 74.64 339 ⇑P P 18 47 36.3 +0.8
baz=75
V31A **Spring Creek L** 74.75 337 ⇓P P 18 47 37.5 +1.4
baz=75
W29A **Amarillo** 74.76 335 ⇑P P 18 47 37.7 +1.4
baz=75
121A **Cookes Peak, D** 74.84 329 ⇑P P 18 47 37.5 +0.5
baz=75,SNR=6.1
121A **Cookes Peak, D** 74.84 329 *e*P P 18 47 37.9 +1.0
comp=Z,30nm,1.2s
LIC **Lamto** 74.87 71 *e*P P 18 47 36.3 -1.0
comp=Z,75nm,1.4s
X26A **CR and CF Fran** 75.03 333 ⇑P P 18 47 38.6 +0.7
baz=75,SNR=5.3
U32A **Winter Ranch,** 75.04 338 ⇑P P 18 47 38.8 +1.0
baz=75
Y24A **Capitan** 75.10 332 ⇑P P 18 47 39.6 +1.2
baz=75
TIC **Toumodi** 75.14 71 *e*P P 18 47 38.5 -0.4
comp=Z,5.7nm,0.2s
KIC **Kosan Boka** 75.18 71 *e*P P 18 47 38.4 -0.7
comp=Z,79nm,1.0s
ACSO **Alum Creek Sta** 75.20 351 *e*P P 18 47 36.8 -1.8
comp=Z,19nm,0.6s
W27A **Bowe Ranch, En** 75.22 334 ⇓P P 18 47 39.2 +0.2
baz=76,SNR=8.5
DBIC **Dimbokro** 75.28 71 *e*P P 18 47 39.9 +0.2
DBIC *PP **pP** 18 47 47.8 -2.2
DBIC **Dimbokro** 75.28 71 P P 18 47 39.0 -0.7
comp=Z,12nm,0.9s,baz=220,slow=6.2,SNR=9.3
DBIC pP **pP** 18 47 47.8 -2.2
comp=Z,15nm,0.8s,baz=212,slow=5.6,SNR=8.8
DBIC LR LR 19 18 20.6
comp=Z,692nm,19.9s,baz=219,slow=34
DBIC **Dimbokro** 75.28 71 *e*P P 18 47 39.9 +0.2
DBIC pP **pP** 18 47 47.8 -2.2
X25A **Clemmons Ranch** 75.33 332 ⇓P P 18 47 40.1 +0.4
baz=76
Y23A **Lovelace Mesa,** 75.35 331 ⇑P P 18 47 40.3 +0.4
baz=76
T33A **Patterson Ranc** 75.45 338 ⇑P P 18 47 41.1 +0.9
baz=76,SNR=6.0
W26A **Owens Ranch, T** 75.49 333 ⇑P P 18 47 41.5 +0.9
baz=76
V28A **Channing** 75.53 335 ⇑P P 18 47 41.6 +0.9
baz=76
X24A **Lazy VL Ranch,** 75.66 332 ⇓P P 18 47 42.3 +0.7
baz=76
U30A **WK&E Inc. Balk** 75.70 336 ⇑P P 18 47 43.0 +1.3
baz=76
T32A **Huddler Ranch,** 75.75 338 ⇓P P 18 47 42.9 +1.0
baz=76
V27A **Dan Oppiter Fa** 75.75 334 ⇓P P 18 47 43.4 +1.3
baz=76
W25A **X Bar L Ranch,** 75.87 333 ⇑P P 18 47 43.7 +1.0
baz=76
U28A **Mallet** 76.10 335 ⇑P P 18 47 45.0 +1.0
baz=76
V26A **Tequesquite Ra** 76.13 334 ⇓P P 18 47 45.1 +0.9
baz=76
W24A **Lazy 6 Ranch,** 76.22 332 ⇓P P 18 47 45.9 +1.1
baz=76
S32A **Newby Ranch, P** 76.23 338 ⇓P P 18 47 45.7 +1.2
baz=76
S31A **Mullinville** 76.33 338 ⇑P P 18 47 45.9 +0.8
baz=77
U27A **Thompson Grove** 76.35 335 ⇓P P 18 47 46.2 +0.8
baz=77
ANMO **Albuquerque** 76.40 331 *d*P P 18 47 47.6 +1.8
ANMO **Albuquerque** 76.40 331 LR LR 19 17 12.4
comp=Z,624nm,19.2s,baz=168,slow=32
ANMO **Albuquerque** 76.40 331 *e*P P 18 47 46.6 +0.8
comp=Z,13nm,1.0s
W23A **Werner Place,** 76.46 332 ⇓P P 18 47 46.9 +0.7
baz=77
V25A **Rancho No Teng** 76.47 333 ⇑P P 18 47 46.9 +0.7
baz=77,SNR=9.0
R33A **Olander Ranch,** 76.51 339 ⇑P P 18 47 47.3 +1.2
baz=77
V24A **Rampart Ranch,** 76.62 333 ⇓P P 18 47 48.1 +1.0
baz=77
U26A **Atchley Ranch,** 76.65 334 ⇓P P 18 47 48.2 +1.0
baz=77
S30A **Montezuma** 76.66 337 ⇑P P 18 47 48.3 +1.2
baz=77
T28A **Walsh** 76.73 336 ⇑P P 18 47 48.0 +0.5
baz=77,SNR=10
R32A **Long Quarter,** 76.83 339 ⇓P P 18 47 48.9 +0.9
baz=77
S29A **Ulysses** 76.85 337 ⇓P P 18 47 48.7 +0.6
baz=77,SNR=6.7
KSU1 **Kansas State U** 76.86 340 ⇑P P 18 47 49.0 +1.0
baz=77
KSU1 **Kansas State U** 76.86 340 *e*P P 18 47 48.6 +0.6
comp=Z,18nm,0.7s
T27A **Campo** 76.89 335 ⇑P P 18 47 49.4 +1.0
baz=77,SNR=6.1
U25A **Circle Dot Ran** 76.90 334 ⇑P P 18 47 49.6 +1.0
baz=77,SNR=6.8
R31A **Burdett** 76.95 338 ⇓P P 18 47 49.9 +1.3
baz=77
V23A **Ortiz Mt. (NFS** 76.99 332 ⇓P P 18 47 49.9 +0.8
baz=77
S28A **Manter** 77.08 336 ⇓P P 18 47 50.9 +1.4
baz=77,SNR=8.7
Q33A **Connelly Farm,** 77.10 340 ⇑P P 18 47 50.4 +0.9
baz=77
R30A **Dighton** 77.19 337 ⇑P P 18 47 50.8 +0.9
baz=78
U24A **Moreno Valley** 77.23 333 ⇓P P 18 47 51.7 +1.1
baz=78
T26A **Comanche Natio** 77.29 335 ⇑P P 18 47 52.1 +1.2
baz=78
Q32A **Meitler Ranch,** 77.31 339 ⇓P P 18 47 51.9 +1.3
baz=78
V22A **San Miguel Ran** 77.42 332 ⇑P P 18 47 53.6 +2.0
baz=78,SNR=9.9
P33A **Williams Farm,** 77.47 340 ⇓P P 18 47 52.7 +1.2
baz=78
X18A **Snowflake** 77.48 329 ⇑P P 18 47 52.8 +0.9
baz=78
U23A **El Rito** 77.50 332 ⇓P P 18 47 53.2 +1.2
baz=78
T25A **Trinidad** 77.56 334 ⇑P P 18 47 53.7 +1.5
baz=78,SNR=8.7
Q31A **Ellis** 77.57 338 ⇓P P 18 47 53.4 +1.3
baz=78
R29A **Marienthal** 77.59 337 ⇑P P 18 47 53.0 +0.7
baz=78
S26A **Kim** 77.65 335 ⇑P P 18 47 54.0 +1.3
baz=78,SNR=9.6
R28A **Tribune** 77.73 336 ⇑P P 18 47 54.1 +1.0
baz=78,SNR=5.5
Q30A **Quinter** 77.80 338 ⇓P P 18 47 54.2 +0.7
baz=78
U22A **Llaves** 77.80 332 ⇓P P 18 47 54.5 +0.8
baz=78
T24B **San Luis** 77.84 333 ⇓P P 18 47 55.5 +1.5
baz=78,SNR=5.3
W18A **Petrified Fore** 77.89 329 ⇑P P 18 47 54.8 +0.6
baz=78
P32A **Hulting Farm,** 77.91 339 ⇓P P 18 47 55.1 +1.2
baz=78
Q29A **Oakley** 77.96 337 ⇓P P 18 47 55.3 +1.0
baz=78
R27A **Eads** 78.01 336 ⇓P P 18 47 55.8 +1.1
baz=78,SNR=7.9
S25A **Robets Cordova** 78.03 334 ⇓P P 18 47 56.2 +1.4
baz=78,SNR=7.1
X16A **Lo Mia Camp, P** 78.03 327 ⇑P P 18 47 56.8 +1.8
baz=78,SNR=6.3
P31A **Stockton** 78.04 339 ⇓P P 18 47 56.1 +1.4
baz=78
R26A **Arlington** 78.25 335 ⇓P P 18 47 57.7 +1.7
baz=79,SNR=6.6
S24A **Houchin Ranch,** 78.29 334 ⇓P P 18 47 57.8 +1.3
baz=79,SNR=8.0
P30A **Selden** 78.33 338 ⇑P P 18 47 58.2 +1.9
baz=79
Y14A **Wickenburg** 78.34 326 ⇑P P 18 47 58.2 +1.7
baz=79
Q28A **Sharon Springs** 78.39 337 ⇓P P 18 47 58.3 +1.5
baz=79
O32A **Brockman Farm,** 78.40 340 ⇓P P 18 47 57.7 +1.0
baz=79
SDCO **Great Sand Dun** 78.49 333 *e*P P 18 47 58.6 +1.0
comp=Z,11nm,0.9s
LBNH **Lisbon** 78.51 360 *e*P P 18 47 57.6 +0.5
LBNH pmax pmax
comp=Z,9.0nm,0.8s
LBNH **Lisbon** 78.51 360 *e*P P 18 47 57.6 +0.5
comp=Z,8.5nm,0.8s
P29A **Atwood** 78.59 338 ⇓P P 18 47 59.1 +1.3
baz=79
O31A **Woolen Ranch,** 78.61 339 ⇑P P 18 47 59.3 +1.5
baz=79
KSCO **Kaye Shedlock'** 78.61 336 ⇑P P 18 47 59.6 +1.6
baz=79
SCIA **State Center** 78.65 344 *e*P P 18 47 58.1 +0.2
comp=Z,54nm,1.1s
R24A **Sanders Place,** 78.78 334 ⇓P P 18 48 00.7 +1.7
baz=79,SNR=10
P28A **Saint Francis** 78.83 337 ⇓P P 18 48 01.1 +1.9
baz=79
Q26A **Hugo** 78.83 335 ⇓P P 18 48 00.6 +1.3
baz=79
O30A **MW Ranch, Wils** 78.85 338 ⇑P P 18 48 00.7 +1.5
baz=79
Y12C **Blythe** 78.89 325 ⇓P P 18 48 00.8 +1.3
baz=79
WUAZ **Wupatki** 78.93 328 ⇑P P 18 48 01.0 +1.1
baz=79
WUAZ **Wupatki** 78.93 328 *e*P P 18 48 01.3 +1.4
comp=Z,27nm,1.1s
JFWS **Jewell Farm** 78.98 346 *e*P P 18 47 59.4 -0.4
JFWS pmax pmax
comp=Z,42nm,1.0s
JFWS **Jewell Farm** 78.98 346 *e*P P 18 47 59.4 -0.4
comp=Z,42nm,1.0s
S22A **4UR Ranch, Cre** 78.99 332 ⇑P P 18 48 01.8 +1.4
baz=79
R23A **Moffat** 79.00 333 ⇓P P 18 48 01.6 +1.2
baz=79
O29A **4D Ranch, Culb** 79.03 338 ⇑P P 18 48 01.6 +1.5
baz=79
Q25A **Bedland, Calha** 79.08 335 ⇓P P 18 48 02.3 +1.6
baz=79
MVCO **Mesa Verde** 79.18 331 ⇑P P 18 48 03.0 +1.7
baz=80
MVCO **Mesa Verde** 79.18 331 *e*P P 18 48 02.2 +0.9
comp=Z,7.0nm,1.3s
BC3 **Big Chuckawall** 79.26 324 ⇓P P 18 48 02.8 +1.1
baz=80
O28A **Krutsinger Ran** 79.34 337 ⇑P P 18 48 03.4 +1.5
baz=80
P26A **Davis Ranch, A** 79.35 336 ⇑P P 18 48 03.6 +1.5
baz=80
BGNE **Belgrade** 79.43 340 ⇓P P 18 48 03.7 +1.4
baz=80
N30A **Hueftle Ranch,** 79.43 339 ⇓P P 18 48 04.2 +1.8
baz=80
Q24A **Divide** 79.44 334 ⇑P P 18 48 04.2 +1.4
baz=80
IRM **Iron Mountain** 79.53 325 ⇓P P 18 48 04.8 +1.8
baz=80
P25A **Willow Gulch B** 79.58 335 ⇑P P 18 48 05.1 +1.8
baz=80,SNR=8.3
M31A **Lambtecht Ranc** 79.60 340 ⇑P P 18 48 04.9 +1.6
baz=80
BOSA **Boshof** 79.68 118 P P 18 48 04.0 -0.3
comp=Z,25nm,0.9s,baz=239,slow=4.5,SNR=26
BOSA pP **pP** 18 48 13.8 -0.8
comp=Z,25nm,1.0s,baz=244,slow=5.4,SNR=9.4
BOSA LR LR 19 21 20.5
comp=Z,320nm,18.4s,baz=218,slow=34
BOSA **Boshof** 79.68 118 *e*P P 18 48 04.3 0.0
BOSA pP **pP** 18 48 13.8 -0.8
W13A **Hualapai Mount** 79.71 326 ⇓P P 18 48 06.1 +1.9
baz=80
PFO **Pinyon Flats O** 79.71 323 LR LR 19 15 59.7
comp=Z,418nm,21.6s,baz=146,slow=30
PFO **Pinyon Flats O** 79.71 323 ⇓P P 18 48 05.9 +1.8
baz=80
N28A **Pribbeno Ranch** 79.78 338 ⇑P P 18 48 06.4 +2.2
baz=80
O26A **Horse Wrangler** 79.95 336 ⇑P P 18 48 07.1 +1.8
baz=80
M30A **Dale-Ortello V** 80.04 339 ⇓P P 18 48 08.1 +2.5
baz=80
P23A **Jefferson** 80.05 334 ⇓P P 18 48 07.8 +1.6
baz=80
MURC **Murrieta** 80.07 323 ⇑P P 18 48 07.3 +1.4
baz=80
U15A **North Rim** 80.10 328 ⇓P P 18 48 08.1 +1.7
baz=80,SNR=8.2
O25A **Wiggins** 80.11 335 ⇓P P 18 48 07.8 +1.7
baz=80
N27A **Anderson Farm,** 80.20 337 ⇓P P 18 48 08.7 +2.1
baz=80
GMRC **Granite Mounta** 80.28 325 ⇓P P 18 48 09.0 +1.8
baz=80
L31A **Butterfield Fa** 80.33 340 ⇑P P 18 48 08.9 +1.8
baz=81,SNR=7.0
ISCO **Idaho Springs** 80.35 334 *e*P P 18 48 07.1 -0.6
ISCO pmax pmax

comp=Z,17nm,1.2s
ISCO **Idaho Springs** **80.35 334** ⇑P **P** **18 48 08.7 +1.1**
baz=81,SNR=5.9
ISCO **Idaho Springs** **80.35 334** *e*P **P** **18 48 07.1 -0.6**
comp=Z,17nm,1.2s
L30A **Spencer Herefo** **80.38 339** ⇓P **P** **18 48 09.3 +1.9**
baz=81
P22A **Eagle** **80.58 333** ⇑P **P** **18 48 10.5 +1.6**
baz=81
HEC **Hector,Ludlow** **80.64 324** ⇑P **P** **18 48 10.8 +1.7**
baz=81
L29A **Maesberg Ranch** **80.71 339** ⇓P **P** **18 48 10.8 +1.6**
baz=81
M27A **Reverse DX Ran** **80.81 337** ⇑P **P** **18 48 11.8 +2.0**
baz=81
BFSC **Mount Baldy Ra** **80.81 323** ⇑P **P** **18 48 11.7 +1.6**
baz=81
O23A **Lake Granby, G** **80.82 334** ⇑P **P** **18 48 11.9 +1.7**
baz=81,SNR=8.0
TUQ **Turquoise Moun** **80.93 325** ⇑P **P** **18 48 12.7 +2.0**
baz=81
O22A **Kremmling** **81.00 334** ⇓P **P** **18 48 12.6 +1.4**
baz=81,SNR=5.3
K30A **Basset** **81.01 340** ⇓P **P** **18 48 13.1 +2.2**
baz=81,SNR=6.0
ECSD **EROS Data Cent** **81.19 342** ⇑P **P** **18 48 13.0 +1.3**
baz=82,SNR=22
ECSD **EROS Data Cent** **81.19 342** *e*P **P** **18 48 11.5 -0.2**
comp=Z,59nm,1.0s
GSC **Goldstone, Bar** **81.25 324** ⇑P **P** **18 48 13.8 +1.5**
baz=82
L27A **T5 Ranch, Ells** **81.29 338** ⇑P **P** **18 48 14.2 +1.9**
baz=82,SNR=5.5
K29A **Lazy Trails An** **81.30 339** ⇓P **P** **18 48 13.8 +1.5**
baz=82
N23A **Red Feather La** **81.43 335** ⇓P **P** **18 48 14.9 +1.5**
baz=82,SNR=5.4
EDW2 **Edwards Air Fo** **81.49 323** ⇑P **P** **18 48 14.7 +1.1**
baz=82
CCUT **Cedar City** **81.50 328** *e*P **P** **18 48 15.4 +1.6**
comp=Z,21nm,1.1s
N22A **Wattenberg Ran** **81.53 334** ⇑P **P** **18 48 15.8 +1.8**
baz=82
M24A **Cheyenne** **81.55 336** ⇓P **P** **18 48 15.9 +2.0**
baz=82
K28A **Ten Mile Ranch** **81.57 339** ⇓P **P** **18 48 15.8 +2.0**
baz=82
J30A **Dallas** **81.58 340** ⇑P **P** **18 48 15.4 +1.6**
baz=82
O20A **White River Ci** **81.61 333** ⇑P **P** **18 48 15.5 +1.3**
baz=82
SRU **San Rafael Swe** **81.62 331** *e*P **P** **18 48 14.6 +0.3**
SRU pmax pmax
comp=Z,15nm,1.0s
SRU **San Rafael Swe** **81.62 331** *e*P **P** **18 48 14.6 +0.3**
comp=Z,15nm,1.0s
LRMC **Laurel Mtn Rad** **81.81 324** ⇓P **P** **18 48 16.7 +1.4**
baz=82
K27A **Flueckinger Fa** **81.82 338** ⇑P **P** **18 48 16.8 +1.6**
baz=82
COWI **Conover** **81.86 348** *e*P **P** **18 48 15.2 +0.1**
comp=Z,24nm,1.0s
M23A **Laramie** **81.86 335** ⇑P **P** **18 48 17.0 +1.4**
baz=82
J29A **Okreek** **81.89 339** ⇑P **P** **18 48 17.2 +1.7**
baz=82,SNR=12
LBTB **Lobatse** **81.94 115** *e*P **P** **18 48 16.6 +0.2**
LBTB pmax pmax
comp=Z,21nm,0.8s
LBTB **Lobatse** **81.94 115** *e*P **P** **18 48 16.6 +0.2**
comp=Z,21nm,0.8s
I30A **Oacoma** **82.10 340** ⇑P **P** **18 48 17.5 +1.0**
baz=82
M22A **Cedar Creek Ra** **82.11 334** ⇓P **P** **18 48 17.9 +1.0**
baz=82
J28A **Allard Ranch,** **82.17 339** ⇓P **P** **18 48 18.1 +1.2**
baz=82
MPMC **Manual Prospec** **82.19 324** ⇓P **P** **18 48 18.7 +1.3**
baz=82
N20A **Spence Gulch,** **82.22 333** ⇓P **P** **18 48 18.2 +0.7**
baz=82
J27A **Elkhorn Farm,** **82.25 338** ⇑P **P** **18 48 19.0 +1.6**
baz=83,SNR=5.6
ISA **Isabella, Lake** **82.35 323** ⇓P **P** **18 48 19.4 +1.3**
baz=83
DAC **Darwin (Calif)** **82.41 324** *e*P **P** **18 48 19.5 +1.0**
DAC pmax pmax
comp=Z,18nm,1.0s
DAC **Darwin (Calif)** **82.41 324** *e*P **P** **18 48 19.5 +1.0**
comp=Z,18nm,1.0s
L23A **Garrett** **82.43 335** ⇓P **P** **18 48 19.8 +1.3**
baz=83
I29A **Vivian Onida** **82.45 340** ⇓P **P** **18 48 19.7 +1.4**
baz=83
BRSD **Miller** **82.46 341** ⇑P **P** **18 48 19.8 +1.4**
baz=83
BRSD **Miller** **82.46 341** *e*P **P** **18 48 18.6 +0.3**
comp=Z,48nm,0.8s
J26A **Sides Ranch, S** **82.64 338** ⇓P **P** **18 48 21.3 +1.9**
baz=83
I28A **Midland** **82.68 339** ⇓P **P** **18 48 21.0 +1.5**
baz=83,SNR=7.5
VES **Vestal, Richgr** **82.79 323** ⇑P **P** **18 48 21.6 +1.3**
baz=83
GRAC **Grapevine Rang** **82.88 325** ⇑P **P** **18 48 23.0 +2.2**
baz=83
K23A **Bowen Ranch, D** **82.97 336** ⇑P **P** **18 48 22.5 +1.2**
baz=83
H29A **Onida** **82.98 340** ⇓P **P** **18 48 22.2 +1.1**
baz=83,SNR=6.7
G30A **Faulkton** **83.15 341** ⇑P **P** **18 48 23.3 +1.4**
baz=84
R11A **Troy Canyon, C** **83.15 327** ⇓P **P** **18 48 23.7 +1.4**
baz=83
J24A **Dixon Ranch, L** **83.16 337** ⇑P **P** **18 48 23.7 +1.6**
baz=84
K22A **Casper** **83.19 335** ⇓P **P** **18 48 23.7 +1.3**
baz=84
K22A **Casper** **83.19 335** *e*P **P** **18 48 23.0 +0.6**
comp=Z,88nm,1.5s
H28A **Mission Ridge** **83.25 340** ⇓P **P** **18 48 23.7 +1.2**
baz=84,SNR=5.1
G29A **Hoven** **83.42 340** ⇓P **P** **18 48 24.7 +1.4**
baz=84
K21A **Alcova** **83.43 335** ⇑P **P** **18 48 24.6 +0.9**
baz=84,SNR=5.4
DUG **Dugway, Tooele** **83.48 330** *e*P **P** **18 48 25.1 +1.2**
DUG pmax pmax
comp=Z,39nm,1.5s
DUG **Dugway, Tooele** **83.48 330** ⇓P **P** **18 48 25.0 +1.2**
baz=84,SNR=8.7
DUG **Dugway, Tooele** **83.48 330** *e*P **P** **18 48 25.1 +1.2**
comp=Z,40nm,1.5s
I25A **Rochford** **83.48 337** ⇑P **P** **18 48 24.6 +0.7**
baz=84,SNR=6.0
H27A **Howes** **83.53 339** ⇑P **P** **18 48 25.2 +1.3**
baz=84
G28A **Parade** **83.59 340** ⇓P **P** **18 48 25.9 +1.7**
baz=84
RSSD **Black Hills** **83.67 337** *e*P **P** **18 48 24.9 0.0**
RSSD **Black Hills** **83.67 337** *e*P **P** **18 48 24.9 0.0**
TPH **Tonopah** **83.68 326** *e*P **P** **18 48 25.5 +0.4**
TPH pmax pmax
comp=Z,19nm,1.1s
TPH **Tonopah** **83.68 326** *e*P **P** **18 48 25.4 +0.4**
comp=Z,19nm,1.1s
F30A **Leola** **83.77 341** ⇓P **P** **18 48 25.9 +0.7**
baz=84
J22A **Midwest** **83.84 335** ⇓P **P** **18 48 26.9 +1.2**
baz=84
H25A **Fruitdale** **83.98 338** ⇓P **P** **18 48 27.1 +0.9**
baz=84
F29A **Eureka** **83.98 341** ⇓P **P** **18 48 26.8 +0.6**
baz=84,SNR=5.5
J21A **Lysite** **84.12 335** ⇓P **P** **18 48 28.3 +1.1**
baz=84
G27A **Dupree** **84.16 339** ⇑P **P** **18 48 28.7 +1.5**
baz=84
SPUT **South Promonto** **84.27 331** *e*P **P** **18 48 28.3 +0.4**
comp=Z,7.1nm,1.1s
I22A **9 Mile Ranch,** **84.27 336** ⇓P **P** **18 48 29.3 +1.5**
baz=85
G26A **Maurine** **84.28 339** ⇑P **P** **18 48 28.3 +0.5**
baz=85,SNR=5.7
TORD **Torodi Ar. Bea** **84.33 70** P **P** **18 48 28.4 -0.3**
comp=Z,20nm,1.2s,baz=248,slow=3.6,SNR=34
TORD pP **pP** **18 48 39.6 +0.5**
comp=Z,16nm,0.9s,baz=252,slow=4.5,SNR=16
TORD LR LR 19 25 00.7
comp=Z,700nm,18.6s,baz=235,slow=35
J20A **Shoshoni** **84.35 334** ⇓P **P** **18 48 29.6 +1.3**
baz=85,SNR=8.1
E30A **Jud** **84.36 342** ⇓P **P** **18 48 29.6 +1.5**
baz=85
BW06 **Boulder Array** **84.38 333** *e*P **P** **18 48 28.4 -0.2**
comp=Z,11nm,1.2s
PDAR **Pinedale Array** **84.38 333** P **P** **18 48 28.9 +0.4**
comp=Z,2.0nm,0.9s,baz=148,slow=5.3,SNR=9.6
PDAR pP **pP** **18 48 40.1 +1.1**
comp=Z,4.3nm,0.8s,baz=159,slow=2.7,SNR=13
PDAR LR LR 19 22 24.5
comp=Z,402nm,18.7s,baz=158,slow=33
H24A **Dirks Ranch, A** **84.39 337** ⇓P **P** **18 48 29.7 +1.3**
baz=85
G25A **Newell** **84.44 338** ⇑P **P** **18 48 30.3 +1.7**
baz=85
NVAR **Mina Array Bea** **84.47 325** P **P** **18 48 30.6 +1.5**
comp=Z,1.2nm,0.9s,baz=134,slow=5.2,SNR=7.1
NVAR pP **pP** **18 48 38.4 -1.1**
comp=Z,6.3nm,0.8s,baz=155,slow=5.0,SNR=17
I21A **Big Trails, Te** **84.48 335** ⇑P **P** **18 48 29.6 +0.7**
baz=85,SNR=7.1
E29A **Napoleon** **84.61 341** ⇑P **P** **18 48 30.5 +1.1**
baz=85
J19A **Crowheart** **84.63 334** ⇑P **P** **18 48 30.5 +0.8**
baz=85,SNR=8.7
F27A **Lemmon** **84.64 339** ⇓P **P** **18 48 30.5 +0.9**
baz=85,SNR=8.0
HVU **Hansel Valley** **84.79 331** *e*P **P** **18 48 30.1 -0.5**
HVU pmax pmax
comp=Z,22nm,0.9s
HVU **Hansel Valley** **84.79 331** *e*P **P** **18 48 30.1 -0.5**
comp=Z,22nm,0.9s
H22A **Clearmont** **84.84 336** ⇑P **P** **18 48 31.2 +0.5**
baz=85
D30A **Buchanan** **84.88 342** ⇓P **P** **18 48 31.4 +0.7**
baz=85,SNR=6.5
I20A **Worland** **84.89 335** ⇑P **P** **18 48 31.4 +0.5**
baz=85,SNR=7.9
E28A **Huff** **84.90 341** ⇓P **P** **18 48 32.2 +1.3**
baz=85
ELK **Elko** **84.96 328** LR LR 19 24 14.8
comp=Z,237nm,18.1s,baz=178,slow=34
AHID **Auburn Hatcher** **84.97 332** *e*P **P** **18 48 32.6 +1.2**
comp=Z,12nm,0.9s
E27A **Carson** **85.01 340** ⇑P **P** **18 48 32.7 +1.3**
baz=85
D29A **Pettibone, Tap** **85.06 341** ⇑P **P** **18 48 32.3 +0.7**
baz=85,SNR=6.4
G23A **Biddle** **85.07 337** ⇓P **P** **18 48 32.7 +0.9**
baz=85
H21A **Big Horn, Sher** **85.11 336** ⇑P **P** **18 48 32.9 +0.9**
baz=85
F25A **Bowman** **85.11 338** ⇓P **P** **18 48 33.7 +1.7**
baz=85
I19A **Meeteetse** **85.27 334** ⇑P **P** **18 48 34.5 +1.5**
baz=86
AGMN **Agassiz Nation** **85.30 344** ⇓P **P** **18 48 34.4 +1.6**
baz=86
E26A **Carlson Angus** **85.31 339** ⇑P **P** **18 48 34.3 +1.4**
baz=86
H20A **Greybull** **85.31 335** ⇑P **P** **18 48 33.7 +0.6**
baz=86,SNR=12
F24A **Ekalaka** **85.34 338** ⇓P **P** **18 48 34.4 +1.3**
baz=86
C30A **Mose, Pekin** **85.36 342** ⇑P **P** **18 48 33.8 +0.7**
baz=86,SNR=14
G22A **Birney** **85.38 336** ⇑P **P** **18 48 34.5 +1.1**
baz=86
F23A **Volborg** **85.53 337** ⇓P **P** **18 48 35.5 +1.4**
baz=86
E25A **Miller Ranch,** **85.61 339** ⇑P **P** **18 48 36.0 +1.6**
baz=86
G21A **Lodge Grass** **85.69 336** ⇑P **P** **18 48 36.4 +1.5**
baz=86
I17A **Pilgrim Ck.** **85.75 333** ⇑P **P** **18 48 36.1 +0.7**
baz=86,SNR=6.5
D26A **Manning** **85.81 340** ⇓P **P** **18 48 36.6 +1.3**
baz=86
H19A **Powell** **85.82 334** ⇓P **P** **18 48 36.7 +1.1**
baz=86
F22A **Rosebud** **85.86 337** ⇑P **P** **18 48 36.3 +0.6**
baz=86,SNR=6.0
E24A **Baker** **85.94 338** ⇑P **P** **18 48 37.0 +1.0**
baz=86
B30A **Myrvik Farm, E** **86.02 343** ⇑P **P** **18 48 36.7 +0.4**
baz=86,SNR=15
G20A **Bridger** **86.03 335** ⇑P **P** **18 48 36.7 +0.1**
baz=86,SNR=8.7
H18A **Shoshone NF, C** **86.07 334** ⇓P **P** **18 48 36.8 -0.2**
baz=86,SNR=14
H17A **Grant Village** **86.16 333** ⇓P **P** **18 48 38.6 +1.1**
baz=86
C27A **Sayler Ranch,** **86.17 340** ⇑P **P** **18 48 38.7 +1.5**
baz=86
D25A **Fairfield** **86.17 339** ⇑P **P** **18 48 38.6 +1.4**
baz=86
F21A **Absaloka Mine,** **86.18 336** ⇑P **P** **18 48 38.6 +1.3**
baz=86
E23A **Ismay** **86.19 338** ⇓P **P** **18 48 38.3 +1.0**
baz=86
B29A **Wagenman Farm,** **86.29 342** ⇓P **P** **18 48 38.8 +1.1**
baz=87
RLMT **Red Lodge** **86.31 334** *e*P **P** **18 48 38.0 -0.1**
comp=Z,20nm,1.0s
E22A **Miles City** **86.34 337** ⇓P **P** **18 48 39.2 +1.2**
baz=87
C26A **Wahner Farm, P** **86.44 340** ⇑P **P** **18 48 39.7 +1.3**
baz=87
D24A **Glendive** **86.44 338** ⇓P **P** **18 48 39.9 +1.4**
baz=87
A30A **Hoffart Farm,** **86.47 343** ⇑P **P** **18 48 39.1 +0.6**
baz=87,SNR=5.0
F20A **Billings** **86.51 336** ⇑P **P** **18 48 40.3 +1.4**
baz=87
B28A **Dugan Ranch, T** **86.54 341** ⇓P **P** **18 48 39.7 +0.8**
baz=87,SNR=5.1
YMR **Madison River** **86.54 333** *e*P **P** **18 48 39.3 0.0**
comp=Z,42nm,1.0s
C25A **Freed Ranch, W** **86.66 339** ⇑P **P** **18 48 40.9 +1.4**
baz=87
A29A **Manning Farm,** **86.68 342** ⇑P **P** **18 48 41.0 +1.4**
baz=87
D23A **Lindsay** **86.76 338** ⇓P **P** **18 48 40.9 +0.8**
baz=87,SNR=12
E21A **Keefer Ranch,** **86.80 337** ⇓P **P** **18 48 41.5 +1.2**
baz=87
F19A **Roth Farm, Mol** **86.83 335** ⇓P **P** **18 48 41.6 +1.1**
baz=87
C24A **Savage** **86.84 339** ⇓P **P** **18 48 41.2 +0.7**
baz=87,SNR=14
A28A **Rude Farm, Bot** **86.94 342** ⇓P **P** **18 48 42.7 +1.9**
baz=87
HLID **Hailey** **86.95 331** ⇑P **P** **18 48 42.9 +1.6**
baz=87
HLID **Hailey** **86.95 331** *e*P **P** **18 48 42.2 +0.9**
comp=Z,28nm,1.4s
D22A **Cohagen** **87.05 337** ⇑P **P** **18 48 42.4 +0.9**
baz=87
E20A **Meyer Farm, Mu** **87.12 336** ⇓P **P** **18 48 42.7 +0.9**
baz=87,SNR=10.0
B25A **Knox Farm, Ray** **87.14 340** ⇓P **P** **18 48 42.4 +0.5**
baz=88,SNR=5.7
ULM **Lac du Bonnet** **87.14 345** P **P** **18 48 41.9 +0.1**
comp=Z,7.7nm,0.8s,baz=145,slow=3.6,SNR=13
ULM pP **pP** **18 48 52.3 +0.1**
comp=Z,16nm,0.8s,baz=156,slow=5.1,SNR=17
A27A **Ledoux Ranch,** **87.23 341** ⇑P **P** **18 48 43.8 +1.5**
baz=88
D21A **La Casta Ranch** **87.23 337** ⇑P **P** **18 48 43.0 +0.7**
baz=88,SNR=5.6
E19A **Rath Farm, Rou** **87.30 335** ⇑P **P** **18 48 43.2 +0.5**
baz=88,SNR=10
C23A **Lambert** **87.32 338** ⇓P **P** **18 48 43.4 +0.7**
baz=88,SNR=7.4
MCMT **McKenzie Canyo** **87.39 332** *e*P **P** **18 48 44.5 +1.1**
comp=Z,12nm,1.1s
A26A **Wade Farm, Ken** **87.39 341** ⇓P **P** **18 48 43.8 +0.8**
baz=88,SNR=6.0
MFID **Camas Ranch** **87.41 330** *e*P **P** **18 48 42.9 -0.5**
comp=Z,19nm,1.4s
DGMT **Dagmar** **87.62 339** ⇓P **P** **18 48 45.6 +1.5**
baz=88
D20A **Manuel Ranch,** **87.63 336** ⇓P **P** **18 48 45.7 +1.4**
baz=88
A25A **Svangstu Ranch** **87.73 340** ⇑P **P** **18 48 45.5 +0.9**
baz=88,SNR=5.6
B23A **Brockton** **87.85 339** ⇓P **P** **18 48 46.5 +1.2**
baz=88
D19A **Cripps Ranch,** **87.95 336** ⇑P **P** **18 48 47.0 +1.2**
baz=88
A24A **Westby** **87.97 339** ⇓P **P** **18 48 47.5 +1.7**
baz=88
B22A **Reddig Ranch S** **88.01 338** ⇓P **P** **18 48 47.6 +1.5**
baz=88,SNR=6.7
C20A **Veseth Ranch,** **88.13 337** ⇑P **P** **18 48 47.0 +0.4**
baz=88,SNR=6.6
MOD **Modoc Plateau** **88.16 326** *e*P **P** **18 48 47.3 +0.2**
comp=Z,34nm,1.4s
WDC **Whiskeytown Da** **88.19 324** *e*P **P** **18 48 47.5 +0.5**
WDC pmax pmax
comp=Z,11nm,0.8s
WDC **Whiskeytown Da** **88.19 324** *e*P **P** **18 48 47.5 +0.5**
comp=Z,11nm,0.8s
C19A **Slack Wire Ran** **88.50 336** ⇓P **P** **18 48 48.6 +0.2**
baz=89,SNR=5.3
N02D **Trinity Center** **88.57 324** ⇓P **P** **18 48 49.5 +0.6**
baz=89
A22A **Carney Farms,** **88.60 338** ⇓P **P** **18 48 49.5 +0.6**
baz=89,SNR=6.1
B20A **Solberg Farm,** **88.77 337** ⇑P **P** **18 48 50.2 +0.5**
baz=89,SNR=5.1
M04C **Macdoel** **88.78 325** ⇓P **P** **18 48 50.1 +0.1**
baz=89
A21A **Bergtoll Ranch** **88.91 338** ⇓P **P** **18 48 51.2 +0.9**
baz=89
B19A **Brinkman Farms** **89.09 336** ⇓P **P** **18 48 51.5 +0.4**
baz=89,SNR=6.1
A20A **Cobblestone Ra** **89.13 337** ⇑P **P** **18 48 52.7 +1.4**
baz=89
SCHQ **Schefferville** **89.22 3** LR LR 19 30 08.2
comp=Z,124nm,21.6s,baz=207,slow=36
A19A **Klindworth Far** **89.44 337** ⇓P **P** **18 48 52.8 0.0**
baz=90,SNR=5.1
MSO **Missoula** **89.48 333** ⇓P **P** **18 48 54.9 +1.8**
baz=90
J05D **Fort Rock, OR** **89.67 326** ⇑P **P** **18 48 55.9 +1.8**
baz=90
SWMT **Swartz Lake** **90.07 333** *e*P **P** **18 48 57.1 +1.2**
comp=Z,4.7nm,1.0s
I05D **Terrebonne, OR** **90.53 327** ⇑P **P** **18 48 59.4 +1.4**
baz=91
NEW **Newport** **91.89 332** ⇑P **P** **18 49 05.3 +1.1**
baz=92
FCC **Fort Churchill** **94.88 349** *e*P **P** **18 49 16.7 -0.9**
FCC **Fort Churchill** **94.88 349** *e*P **P** **18 49 16.7 -0.9**
comp=Z,0.3nm,0.8s
ESDC **Sonseca Array** **96.94 46** LR LR 19 31 37.9
comp=Z,251nm,20.6s,baz=210,slow=34
YKA **Yellowknife Ar** **102.70 341** P **Pdif** **18 49 51.9 -0.7**
comp=Z,0.5nm,0.9s,baz=148,slow=4.9,SNR=8.4
YKA pP 18 50 02.9
comp=Z,1.3nm,0.8s,baz=140,slow=4.4,SNR=14
GERES **GERESS Array B** **112.53 45** PKKP **PKKPdf** **19 05 40.6 -2.0**
comp=Z,1.0nm,0.8s,baz=55,slow=3.7,SNR=7.5
CLL **Collm** **113.24 43** *e*PKIKP **PKiKP** **18 54 37.0 +3.8**
CLL pmax pmax
comp=Z,43nm,2.3s
CLL MLR MLR
comp=Z,300nm,20.7s
CLL **Collm** **113.24 43** *e*PKiKP **PKiKP** **18 54 37.0 +3.8**
comp=Z,43nm,2.3s
CLL *e*PS **PS** **19 05 04.0 +4.3**
CLL *e*PPS PPS 19 06 09.0
CLL *e*SSS SSS 19 15 21.0
CLL LmV 19 38 00.0
comp=Z,300nm,20.7s
CLL LmH 19 41 00.0
comp=Z,300nm,21.1s
ILAR **Eielson Array** **114.81 333** PKP PKPdf 18 54 34.6 -1.2
comp=Z,0.3nm,0.8s,baz=72,slow=2.9,SNR=2.7
ILAR pPKP PKiKP 18 54 45.9 +10
comp=Z,1.0nm,0.9s,baz=182,slow=2.7,SNR=6.8
NOA **NORSAR Array B** **116.50 33** PKKPab PKKPab 19 05 21.7 +12
comp=Z,1.1nm,0.8s,baz=67,slow=4.5,SNR=4.3
ASAR **Alice Springs** **117.05 207** PKP **PKPdf** **18 54 40.4 -1.3**
comp=Z,0.2nm,0.4s,baz=126,slow=1.6,SNR=13
ASAR pPKP **pPKPdf** **18 54 50.8 -1.6**
comp=Z,0.6nm,0.6s,baz=130,slow=1.7,SNR=5.1
ASAR PKKPbc **PKKPbc** **19 05 06.0 0.0**
comp=Z,0.3nm,0.3s,baz=335,slow=3.6,SNR=21
ASAR PKKPab **PKKPab** **19 05 16.8 +3.6**
comp=Z,0.6nm,0.5s,baz=339,slow=3.4,SNR=16
WRA **Warramunga Arr** **120.26 209** PKP **PKPdf** **18 54 46.5 -1.3**
comp=Z,0.7nm,0.4s,baz=156,slow=1.7,SNR=44
WRA pPKP **pPKPdf** **18 54 56.9 -1.7**
comp=Z,1.5nm,0.6s,baz=164,slow=1.5,SNR=10
WRA PKKPbc **PKKPbc** **19 04 54.0 -0.3**
comp=Z,0.7nm,1.0s,baz=339,slow=4.5,SNR=5.0
BRTR **Keskin Array B** **122.05 61** PKP **PKPdf** **18 54 50.5 -0.2**
comp=Z,0.7nm,0.8s,baz=137,slow=1.1,SNR=3.3
BRTR pPKP **pPKPdf** **18 55 01.5 0.0**
comp=Z,1.6nm,0.8s,baz=228,slow=3.3,SNR=4.8
AKASG **Malin Array Be** **122.54 48** PKP **PKPdf** **18 54 49.4 -1.8**
comp=Z,0.4nm,0.4s,baz=249,slow=3.9,SNR=2.7
AKASG pPKP **pPKPdf** **18 55 01.0 -0.8**
comp=Z,0.7nm,0.4s,baz=255,slow=3.3,SNR=3.6
VSU **Vasula** **123.13 38** *e*PKIKP **PKPdf** **18 54 52.8 +0.8**
FINES **FINESS Array B** **123.45 35** PKP **PKPdf** **18 54 52.3 -0.2**
comp=Z,2.3nm,0.9s,baz=98,slow=2.8,SNR=4.9
FINES pPKP **pPKPdf** **18 55 03.0 -0.2**
comp=Z,1.5nm,0.8s,baz=162,slow=1.2,SNR=2.1
FINES PKKPbc PKKPbc 19 04 50.1 +7.6
comp=Z,0.8nm,0.5s,baz=83,slow=4.6,SNR=10
ARCES **ARCESS Array B** **124.55 25** PKP **PKPdf** **18 54 54.1 -0.3**
comp=Z,5.4nm,0.9s,baz=256,slow=3.6,SNR=4.2
ARCES pPKP **pPKPdf** **18 55 05.6 +0.4**
comp=Z,1.9nm,0.7s,baz=251,slow=2.8,SNR=1.0
H11S2 **WAKE ISLAND Hy** **125.87 269** T T 21 13 28.5
baz=119,slow=75,SNR=39
H11S1 **WAKE ISLAND Hy** **125.88 269** T T 21 13 25.8
baz=119,slow=75,SNR=42
H11S3 **WAKE ISLAND Hy** **125.89 269** T T 21 13 25.0
baz=119,slow=75,SNR=29
H11N3 **WAKE ISLAND Hy** **126.30 270** T T 21 13 53.2
baz=115,slow=78,SNR=37
H11N1 **WAKE ISLAND Hy** **126.31 270** T T 21 13 54.2
baz=115,slow=78,SNR=73
H11N2 **WAKE ISLAND Hy** **126.31 270** T T 21 13 55.7
baz=115,slow=78,SNR=38
OBN **Obninsk** **127.82 44** *e*PKIKP **PKPdf** **18 55 01.9 +0.8**
OBN pmax pmax
comp=Z,30nm,2.3s
OBN MLR MLR
comp=Z,315nm,20.0s
KIV **Kislovodsk** **129.73 59** *e*PKIKP **PKPdf** **18 55 05.8 +0.6**
KIV pmax pmax
comp=Z,12nm,1.3s
KIV MLR MLR
comp=Z,109nm,22.0s
KLMR **Klimovskoe** **129.85 36** *e*PKIKP PKPdf 18 55 16.1 +11
KLMR pmax pmax
comp=Z,15nm,1.2s
BILL **Bilibino** **133.46 334** *e*PKIKP **PKPdf** **18 55 11.8 +0.4**
BILL pmax pmax
comp=Z,3.0nm,1.6s
BILL MLR MLR
comp=Z,123nm,17.0s
GEYT **Alibeck** **139.97 70** PKP **PKPdf** **18 55 24.2 -0.2**
comp=Z,1.0nm,0.7s,baz=264,slow=2.8,SNR=2.6
GEYT pPKP **pPKPdf** **18 55 37.3 +2.0**
comp=Z,2.0nm,0.6s,baz=270,slow=2.2,SNR=4.5
SEY **Seymchan** **140.64 330** PKP **PKPdf** **18 55 26.2 +1.4**
comp=Z,1.0nm,0.3s,baz=153,slow=2.3,SNR=6.8
SEY pPKP **pPKPdf** **18 55 36.0 +0.4**
comp=Z,5.7nm,0.8s,baz=162,slow=4.8,SNR=7.6
PETK **Petropavlovsk-** **140.68 314** PKP **PKPdf** **18 55 26.9 +1.7**
comp=Z,3.1nm,0.8s,baz=73,slow=1.5,SNR=4.8
TIXI **Tiksi** **141.34 350** *e*PKIKP **PKPdf** **18 55 27.2 +1.4**
ABKAR **Akbulak array** **141.99 52** *e*PKPdf **PKPdf** **18 55 29.8 +2.1**
POO **Poona** **145.63 109** ⇓*i*P **PKPdf** **18 55 34.0 -1.1**
comp=Z,179nm,1.5s
KSM **Kuching** **146.94 184** *e*PKPdf **PKPbc** **18 55 40.0 +0.7**
KSM *e*PKPbc **PKiKP** **18 55 42.2 +0.3**
PSI **Prapat** **147.19 163** PKPbc **PKPbc** **18 55 39.6 -0.6**
comp=Z,12nm,0.8s,baz=190,slow=2.1,SNR=5.8
PSI pPKPbc **pPKPbc** **18 55 48.1 -2.8**
comp=Z,20nm,0.8s,baz=245,slow=1.3,SNR=3.7
BRVK **Borovoye** **147.60 44** *e*PKP2 **PKPab** **18 55 41.8 -0.5**
BRVK **Borovoye** **147.60 44** *e*PKPbc **PKPab** **18 55 41.8 -0.5**
KBL **Kabul** **147.99 79** *e*PKP2 **PKPbc** **18 55 41.0 -0.9**
KBL **Kabul** **147.99 79** *e*PKPdf **PKPbc** **18 55 41.0 -0.9**
HYB **Hyderabad** **148.56 116** *i* PKP **PKPbc** **18 55 43.0 -0.6**

YAK	**Yakutsk**	**149.37**	**340**	*e*PKP2	**PKPbc**	**18 55 43.4**	**-0.8**
YAK				pmax	pmax		
	comp=Z,20nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.5s						
YAK	**Yakutsk**	**149.37**	**340**	*e*PKPbc	**PKPbc**	**18 55 44.9**	**+0.7**
KKAR	**Karatay Array**	**149.75**	**62**	*e*PKP2	**PKPbc**	**18 55 46.9**	**+1.0**
KKAR	**Karatay Array**	**149.75**	**62**	*e*PKPbc	**PKPbc**	**18 55 46.9**	**+1.0**
YSS	**Yuzh-Sakhalins**	**151.26**	**306**	*e*PKIKP	**PKPbc**	**18 55 48.5**	**-0.8**
YSS				*e*		18 55 58.5	
ASAJ	**Asahikawa**	**151.88**	**300**	*e*PKPab	**PKPab**	**18 56 01.2**	**+1.2**
EKS2	**Erkin-Say**	**152.18**	**63**	*e*PKIKP	**PKPdf**	**18 55 46.4**	**+1.4**
EKS2				*e*		18 55 53.2	
EKS2	**Erkin-Say**	**152.18**	**63**	*e*PKPdf	**PKPdf**	**18 55 46.4**	**+1.4**
EKS2				*e*PKPbc	**PKiKP**	**18 55 53.2**	**+1.1**
AAK	**Ala-Archa**	**152.71**	**63**	*e*PKIKP	**PKPdf**	**18 55 47.3**	**+1.5**
AAK	**Ala-Archa**	**152.71**	**63**	*e*PKPdf	**PKPdf**	**18 55 47.3**	**+1.5**
FRU	**Bishkek**	**152.77**	**62**	*e*PKIKP	**PKPbc**	**18 55 54.0**	**+1.1**
NVS	**Novosibirsk**	**153.42**	**33**	*e*PKIKP	**PKPdf**	**18 55 45.4**	**-0.8**
NVS				pmax	pmax		
	comp=N,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,29nm,1.0s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.8s						
TKM2	**Tokmak 2**	**153.48**	**62**	*e*PKIKP	**PKPbc**	**18 55 55.5**	**+0.8**
TKM2	**Tokmak 2**	**153.48**	**62**	*e*PKPbc	**PKPbc**	**18 55 55.5**	**+0.8**
KSH	**Kashi**	**154.00**	**70**	PKPbc	**PKPdf**	**18 55 48.8**	**+1.0**
KSH				sPKP		18 56 02.3	
KSH				PKS	**PKSdf**	**18 59 22.5**	**+0.4**
KSH				PP	**PP**	**18 59 42.6**	**-2.0**
KSH				SKS	**SKSdf**	**19 02 52.2**	**0.0**
KSH				SKKS	**SKKSac**	**19 06 30.6**	**-1.2**
KSH				SS	**SS**	**19 19 19.4**	**-1.5**
KSH				PPMZ			
	comp=E,330nm,4.8s						
KSH				LN			
	comp=E,39nm,4.9s						
KSH				LE			
	comp=E,31nm,4.9s						
KSH				LZ			
	comp=E,180nm,7.2s						
ZALV	**Zalesovo Beam**	**154.70**	**33**	PKP	**PKPdf**	**18 55 48.5**	**+0.4**
	comp=E,3.4nm,0.9s,baz=318,slow=1.9,SNR=9.1						
ZALV				PKPbc	**PKiKP**	**18 55 57.6**	**+0.9**
	comp=E,4.4nm,0.8s,baz=302,slow=3.2,SNR=17						
ZALV				PKPab	**PKPab**	**18 56 06.9**	**-4.7**
	comp=E,6.2nm,0.7s,baz=306,slow=3.4,SNR=11						
MJAR	**Matsushiro Arr**	**155.48**	**283**	PKPab	PKPab	18 56 10.1	-5.5
	comp=E,1.0nm,0.6s,baz=96,slow=2.1,SNR=4.3						
BOD	**Bodaibo**	**156.48**	**352**	*e*PKIKP	PKPdf	18 55 58.8	+8.5
BOD				pmax	pmax		
	comp=Z,15nm,1.6s						
MKAR	**Makanchi Array**	**157.09**	**50**	PKP	**PKPdf**	**18 55 51.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=276,slow=2.6,SNR=2.2						
MKAR				PKPab	**PKPab**	**18 56 22.6**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=296,slow=1.8,SNR=7.6						
WMQ	**Urumqi**	**161.77**	**54**	*e*PKP	**PKPdf**	**18 55 54.9**	**-2.2**
WMQ				pPKP	**pPKPdf**	**18 56 06.8**	**-1.1**
WMQ				PKPab	**PKPab**	**18 56 43.2**	**+0.5**
WMQ				PKS	**PKSdf**	**18 59 26.9**	**-3.4**
WMQ				PP	**PP**	**19 00 27.0**	**+0.3**
WMQ				SKS	**SKSdf**	**19 02 55.0**	**-4.5**
WMQ				SKKS	**SKKSac**	**19 07 09.8**	**-2.5**
WMQ				SS	**SS**	**19 20 38.5**	**-4.4**
WMQ				PPMZ			
	comp=Z,190nm,7.4s						
WMQ				LN			
	comp=Z,190nm,23.0s						
WMQ				LE			
	comp=Z,220nm,24.0s						
WMQ				LZ			
	comp=Z,280nm,21.0s						
CMAR	**Chiang Mai Arr**	**161.94**	**151**	PKP	**PKPdf**	**18 55 57.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=222,slow=1.2,SNR=5.7						
CN2	**Changchun**	**163.76**	**309**	*e*PKP	**PKPdf**	**18 55 58.8**	**-0.1**
ZAK	**Zakamensk**	**163.88**	**11**	*e*PKP2	**PKPab**	**18 56 52.0**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.8s						
LSA	**Lhasa**	**164.83**	**104**	P	**PKPab**	**18 56 56.8**	**-0.3**
SONM	**Songino Array**	**166.76**	**5**	PKP	**PKPdf**	**18 56 00.8**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=345,slow=1.3,SNR=5.3						
SONM				PKPab	**PKPab**	**18 57 05.8**	**+1.3**
	comp=Z,1.5nm,0.9s,baz=333,slow=3.1,SNR=8.7						
NJ2	**Nanjing**	**170.64**	**257**	*e*PKP	**PKPdf**	**18 56 04.7**	**+0.4**
GYA	**Guiyang**	**171.75**	**171**	*e*PKP	**PKPdf**	**18 56 05.4**	**+0.1**
GYA				pPKP	**pPKPdf**	**18 56 17.0**	**+0.9**
GYA				PKPab	**PKPab**	**18 57 29.5**	**+2.5**
GYA				PKS	**PKSdf**	**18 59 36.0**	**-1.8**
GYA				PP	**PP**	**19 01 21.2**	**+4.2**
GYA				SKKS		19 08 02.9	
GYA				SS	**SS**	**19 22 22.4**	**+0.5**
GYA				PPMZ			
	comp=Z,120nm,8.4s						
GYA				LN			
	comp=Z,120nm,22.6s						
GYA				LE			
	comp=Z,110nm,22.4s						
GYA				LZ			
	comp=Z,120nm,21.8s						
GTA	**Gaotai**	**171.85**	**52**	*e*PKP	**PKPdf**	**18 56 06.5**	**+1.6**
GTA				pPKP	**pPKPdf**	**18 56 17.2**	**+1.5**
GTA				sPKP		18 56 21.0	
GTA				PKPab	**PKPab**	**18 57 27.9**	**+0.5**
GTA				PP	**PP**	**19 01 22.0**	**+3.4**
GTA				SKS	**SKSdf**	**19 03 05.3**	**-0.6**
GTA				SKKS	**SKKSac**	**19 08 04.4**	**+1.6**
GTA				SS	**SS**	**19 22 23.0**	**-1.9**
GTA				PPMZ			
	comp=Z,170nm,7.6s						
GTA				LN			
	comp=Z,220nm,18.5s						
GTA				LE			
	comp=Z,210nm,18.0s						
GTA				LZ			
	comp=Z,230nm,19.5s						
HHC	**Hu-ho-hao-te**	**173.22**	**337**	*e*PKP	**PKPdf**	**18 56 02.0**	**-3.4**
HHC				pPKP	**pPKPdf**	**18 56 12.8**	**-3.4**
HHC				sPKP		18 56 16.4	
HHC				PP	**PP**	**19 01 24.9**	**+0.4**
HHC				SKS	**SKSdf**	**19 02 59.9**	**-6.3**
HHC				SS	**SS**	**19 22 34.1**	**-2.6**
HHC				PPMZ			
	comp=Z,180nm,9.2s						
HHC				LN			
	comp=Z,170nm,19.7s						
HHC				LE			
	comp=Z,680nm,18.5s						
HHC				LZ			
	comp=Z,240nm,18.5s						
CD2	**Chengdu**	**174.79**	**134**	*e*PKP	**PKPdf**	**18 56 06.2**	**0.0**
LZH	**Lanzhou**	**176.24**	**66**	*e*PKP	**PKPdf**	**18 56 05.6**	**-1.0**
LZH				pPKP	**pPKPdf**	**18 56 17.2**	**-0.2**
LZH				sPKP		18 56 20.7	
LZH				PKPab	**PKPab**	**18 57 47.5**	**+0.4**
LZH				LN			
	comp=Z,190nm,18.3s						
LZH				LE			
	comp=Z,200nm,18.2s						
LZH				LZ			
	comp=Z,250nm,20.1s						
XAN	**Xi'an**	**179.09**	**229**	PKP	**PKPdf**	**18 56 06.0**	**-0.9**
XAN				pPKP	**pPKPdf**	**18 56 17.0**	**-0.7**

GUC 07 18:44:04.4±0.4, 35°.17S×72°.76W, h27km±8km, ML3.8, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.96**	**181**	⇑*i*P		Pb	18 44 22.3	-0.1
COCH				*i* S		Sn	18 44 36.2	+1.4
LNCH	**Linares**	**1.16**	**126**	*i* P		Pb	18 44 25.9	+0.1
LNCH				*i* S		Sb	18 44 42.1	+1.6
NICH	**Los Niches**	**1.27**	**83**	*i* P9		Pn	18 44 26.4	0.0
NICH				*i* S		Sb	18 44 43.9	+0.3
ANTU	**Antumapu**	**2.38**	**48**	*i* P		Pb	18 44 44.3	-2.3
ANTU				*i* S		Sb	18 45 14.9	-0.8
ANTU				IAML			18 45 21.7	
	comp=E,599nm,0.3s							

DJA 07 18:45:41.8±0.7, 4°S±5°×10°2E±°, h19km±8km, M3.5/7, MLv3.5/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.56**	**88**	P		Pg	18 45 53.4	+0.2
MASI	**Maura Aman, Be**	**1.24**	**353**	P		Pn	18 46 04.4	+0.2
LHSI	**Lahat**	**1.26**	**64**	P		Pn	18 46 04.4	0.0
LHSI				S		Sb	18 46 20.5	-0.2
LWLI	**Liwa**	**1.78**	**111**	P		Pn	18 46 11.0	-0.7
MDSI	**Maura Dua**	**1.79**	**93**	P		Pn	18 46 11.2	-0.4
MDSI				S		Sn	18 46 33.7	-0.1
KASI	**Kota Agung**	**2.39**	**119**	P		Pn	18 46 19.5	-0.4

IDC 07 19:10:03.8±4.9, 13°.56S×108°.71W, h0km, mb3.7/2, mb1 4.2/2, mb1mx3.6/15, mbtmp3.7/2, Error ellipse: s-maj=321.0km s-min=58.7km az=102.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**52.49**	**351**	P		P	19 19 19.1	+0.1
	1.1nm,0.8s,baz=159,slow=7.7,SNR=5.4							
PDAR	**Pinedale Array**	**56.05**	**359**	P		P	19 19 44.4	-0.4
	0.3nm,0.5s,baz=142,slow=4.6,SNR=3.4							
H11S2	**WAKE ISLAND Hy**	**89.22**	**289**	T		T	21 03 27.4	
	baz=105,slow=74,SNR=4.9							
H11S1	**WAKE ISLAND Hy**	**89.23**	**289**	T		T	21 03 27.4	
	baz=105,slow=74,SNR=4.6							
H11S3	**WAKE ISLAND Hy**	**89.24**	**289**	T		T	21 03 27.4	
	baz=105,SNR=3.3							
MKAR	**Makanchi Array**	**145.61**	**347**	PKPbc		PKPdf	19 29 44.0	-0.3
	0.4nm,0.6s,baz=5.7,slow=1.4,SNR=5.0							
CMAR	**Chiang Mai Arr**	**152.99**	**284**	PKPbc		PKPbc	19 30 04.0	-0.3
	0.4nm,0.8s,baz=69,slow=1.4,SNR=5.9							

*IDC **07** 19:32:55.0±1.0, 23°.27S×169°.23E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/18, mbtmp3.8/7, ML3.4/1, MS2.6/1, Ms1 2.6/1, ms1mx2.6/33, Error ellipse: s-maj=32.3km s-min=23.6km az=13.0*

*ISCJB **07** 19:32:58.3±0.9, 23°.4S±0°.2×169°.2E±0°.1, h33km, mb3.9/6, Error ellipse: s-maj=28.3km s-min=9.5km az=25.6*

ISC 07 19:32:59.9±0.9, 23°.2S±0°.2×169°.3E±0°.1, h35km, n10, σ1§13/12, mb3.8/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.86**	**294**	Pn		**Pn**	**19 33 42.6**	**-0.6**
	5.4nm,0.3s,baz=121,slow=14,SNR=44							
DZM				Sn		**Sn**	**19 34 17.2**	**+0.8**
	10nm,0.3s,baz=67,slow=18,SNR=4.0							
DZM				LR		LR	19 34 38.3	
	comp=Z,110nm,18.8s,baz=218,slow=36							
NOUC	**Port Laguerre**	**2.97**	**292**	*e*P		**Pn**	**19 33 43.6**	**-0.9**
NOUC				*e*S		**Sn**	**19 34 20.4**	**+1.4**
ASAR	**Alice Springs**	**32.40**	**262**	P		**P**	**19 39 27.3**	**+0.6**
	1.5nm,1.0s,baz=93,slow=9.4,SNR=12							
WRA	**Warramunga Arr**	**32.60**	**269**	P		**P**	**19 39 27.5**	**-0.9**
	0.2nm,0.4s,baz=98,slow=8.4,SNR=9.0							
QSPA	**South Pole Qui**	**66.83**	**180**	P		**P**	**19 43 48.3**	**+0.2**
	2.4nm,0.8s,baz=38,slow=2.0,SNR=9.4							
CMAR	**Chiang Mai Arr**	**80.19**	**295**	P		**P**	**19 45 07.2**	**0.0**
	0.5nm,0.7s,baz=121,slow=4.0,SNR=3.7							
NVAR	**Mina Array Bea**	**91.42**	**49**	P		**P**	**19 46 04.6**	**+1.9**
	1.2nm,0.8s,baz=232,slow=6.7,SNR=6.0							
ILAR	**Eielson Array**	**94.03**	**17**	P		**P**	**19 46 13.5**	**-0.4**
	0.3nm,0.8s,baz=224,slow=3.8,SNR=3.1							
EKA	**Eskdalemuir Ar**	**147.46**	**352**	PKPbc		**PKPab**	**19 52 40.5**	**-1.4**
	0.5nm,0.6s,baz=8.4,slow=3.3,SNR=5.7							
GERES	**GERESS Array B**	**147.97**	**329**	PKPbc		**PKPbc**	**19 52 40.6**	**-0.9**
	0.2nm,0.6s,baz=26,slow=2.5,SNR=3.0							

*ISCJB **07** 20:10:18.2±1.4, 34°.46S±0°.04×72°.85W±0°.06, h9km±9km, mb4.0/8, MS3.6/1, Error ellipse: s-maj=8.6km s-min=4.9km az=31.7*

*IDC **07** 20:10:18.8±0.8, 34°.53S×72°.68W, h0km, mb4.0/8, mb1 4.1/12, mb1mx4.0/30, mbtmp3.9/12, ML4.0/4, MS3.5/2, Ms1 3.5/2, ms1mx3.1/17, Error ellipse: s-maj=27.4km s-min=15.5km az=89.0*

*GUC **07** 20:10:19.5±0.4, 34°.41S×72°.94W, h32km±2km, ML4.4*

*NEIC **07** 20:10:24.1±0.4, 34°.54S×72°.64W, h35km, mb4.0/1, Error ellipse: s-maj=10.3km s-min=7.3km az=94.0*

ISC 07 20:10:20.8±1.8, 34°.53S±0°.04×72°.67W±0°.07, h14km±10km, n33, σ0§88/46, mb4.0/8, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.19**	**62**	*i* P		**Pb**	**20 10 42.4**	**-0.8**
LNV				*i* S		**Sn**	**20 10 59.2**	**+0.2**
LNCH	**Linares**	**1.58**	**147**	*i* P		**Pb**	**20 10 49.1**	**-0.9**
LNCH				*i* S		**Sg**	**20 11 11.9**	**0.0**
COCH	**Cobquecura**	**1.61**	**183**	*e*P		**Pn**	**20 10 47.9**	**-0.9**
COCH				*e*S		**Sn**	**20 11 09.6**	**+0.2**
TACH	**Talagante**	**1.68**	**59**	⇑*i*P		**Pn**	**20 10 49.4**	**-0.5**
TACH				*i* S		**Sb**	**20 11 12.7**	**0.0**
CACH	**El Canelo**	**1.76**	**77**	⇑*i*P		**Pb**	**20 10 52.0**	**-1.1**
CACH				*i* S		**Sg**	**20 11 16.8**	**-0.8**
CHCH	**Chadas Angostu**	**1.77**	**71**	*i* P		**Pn**	**20 10 51.5**	**+0.3**
CHCH				*i* S		**Sg**	**20 11 15.9**	**-2.1**
ANTU	**Antumapu**	**1.94**	**61**	*i* P		**Pn**	**20 10 53.6**	**+0.1**
ANTU				*i* S		**Sb**	**20 11 19.2**	**-1.0**
SAN	**Santiago**	**1.98**	**58**	*i* P		**Pn**	**20 10 53.9**	**-0.2**
SAN				*i* S		**Sn**	**20 11 19.5**	**+0.8**
STL	**Santa Lucia**	**2.01**	**58**	*i* P		**Pn**	**20 10 54.0**	**-0.4**
STL				*i* S		**Sn**	**20 11 20.4**	**+1.0**
LACH	**Col Las Americ**	**2.08**	**60**	*i* P		**Pn**	**20 10 55.1**	**-0.2**
LACH				*i* S		**Sn**	**20 11 22.3**	**+1.2**
LACH				IAML			20 11 30.2	
	comp=N,3μm,0.4s							
CLCH	**Cerro Calan**	**2.10**	**58**	*e*P		**Pn**	**20 10 55.5**	**-0.3**
CLCH				*i* S		**Sn**	**20 11 22.6**	**+0.9**
FCH	**Farellones**	**2.31**	**60**	⇑*i*P		**Pg**	**20 11 06.2**	**+1.0**
FCH				*i* S		**Sg**	**20 11 36.2**	**+0.9**
FCH				IAML			20 11 47.1	
	comp=E,2μm,0.6s							
CHNG	**Los Chungos**	**2.81**	**21**	⇓*i*P		**Pn**	**20 11 04.2**	**-1.2**
CHNG				*i* S		**Sn**	**20 11 37.2**	**-1.9**
CFAA	**Coronel Fontan**	**4.73**	**53**	Pn		**Pn**	**20 11 33.0**	**+1.2**
	comp=E,1.4nm,0.3s,baz=224,slow=12,SNR=29							
CFAA				Lg		Lg	20 12 42.1	
	comp=E,1.8nm,0.3s,baz=252,slow=20,SNR=6.6							
PLCA	**Paso Flores**	**6.42**	**165**	Pn		**Pn**	**20 11 56.1**	**+1.0**
	comp=E,1.6nm,0.3s,baz=346,slow=13,SNR=28							
PLCA				Lg		Lg	20 13 41.5	
	comp=E,1.2nm,0.3s,baz=257,slow=18,SNR=3.7							
TRQA	**Tornquist**	**9.32**	**115**	*e*Pn		**Pn**	**20 12 35.7**	**+0.8**
	comp=E,13nm,0.6s							
TRQA				*e*Sn		**Sn**	**20 14 18.6**	**-0.9**
CPUP	**Villa Florida**	**15.54**	**62**	Pn		**Pn**	**20 14 00.1**	**+0.5**
	comp=E,0.3nm,0.3s,baz=225,slow=13,SNR=2.1							
CPUP				LR		LR	20 20 22.3	
	comp=E,138nm,19.1s,baz=224,slow=39							
LPAZ	**La Paz**	**18.61**	**14**	P		**Pn**	**20 14 40.3**	**+1.5**
	comp=E,0.2nm,0.3s,baz=191,slow=8.6,SNR=13							
SIV	**San Ignacio**	**21.20**	**32**	P		**P**	**20 15 06.3**	**+0.2**
	comp=E,4.0nm,0.7s,baz=218,slow=12,SNR=9.8							
BDFB	**Brasilia**	**29.06**	**56**	LR		LR	20 29 17.3	
	comp=E,138nm,19.8s,baz=236,slow=39							
SNAA	**Sanae**	**51.30**	**158**	P		**P**	**20 19 24.5**	**+0.3**
	comp=E,1.7nm,0.8s,baz=249,slow=8.6,SNR=9.7							
SNAA	**Sanae**	**51.30**	**158**	*e*P		**P**	**20 19 24.6**	**+0.5**
QSPA	**South Pole Qui**	**55.71**	**180**	P		**P**	**20 19 57.8**	**+1.1**
	comp=E,1.7nm,1.0s,baz=178,slow=1.8,SNR=12							
QSPA	**South Pole Qui**	**55.71**	**180**	*e*P		**P**	**20 19 56.8**	**+0.1**
	comp=E,1.0nm,0.7s							
TXAR	**Lajitas Array**	**69.94**	**331**	P		**P**	**20 21 31.6**	**-0.1**
	comp=E,0.8nm,0.9s,baz=153,slow=9.0,SNR=5.3							
DBIC	**Dimbokro**	**75.84**	**72**	P		**P**	**20 22 06.8**	**-0.3**
	comp=E,4.9nm,0.9s,baz=231,slow=7.3,SNR=5.3							
BOSA	**Boshof**	**80.29**	**118**	P		**P**	**20 22 31.8**	**0.0**
	comp=E,3.0nm,0.8s,baz=249,slow=4.8,SNR=3.5							
NVAR	**Mina Array Bea**	**84.02**	**326**	P		**P**	**20 22 51.8**	**+0.8**
	comp=E,0.5nm,0.8s,baz=147,slow=5.4,SNR=2.8							
TORD	**Torodi Ar. Bea**	**84.88**	**70**	P		**P**	**20 22 55.5**	**-0.1**
	comp=E,1.4nm,0.9s,baz=247,slow=3.9,SNR=6.2							
WRA	**Warramunga Arr**	**120.05**	**210**	PKP		**PKPdf**	**20 29 10.8**	**-0.9**
	comp=E,0.3nm,0.6s,baz=162,slow=1.6,SNR=7.6							
ZALV	**Zalesovo Beam**	**154.95**	**32**	PKPbc		**PKPbc**	**20 30 21.2**	**-0.3**
	comp=E,0.4nm,0.4s,baz=323,slow=2.2,SNR=3.2							
MKAR	**Makanchi Array**	**157.50**	**49**	PKPab		**PKPab**	**20 30 46.8**	**-1.4**
	comp=E,0.2nm,0.5s,baz=287,slow=4.0,SNR=2.7							
SONM	**Songino Array**	**166.68**	**3**	PKPab		**PKPab**	**20 31 28.5**	**+0.2**
	comp=E,0.2nm,0.7s,baz=14,slow=3.0,SNR=2.1							

WEL 07 20:14:40.8±0.3, 38°.75S×175°.73E, h146km±2km, ML3.5/12, 9C-2D, Error ellipse: s-maj=2.4km s-min=2.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.38**	**197**	PN		Pn	20 15 01.2	-0.2
WTVZ				SN		Sn	20 15 16.9	-0.2
TWVZ	**Taurewa**	**0.40**	**216**	PN		Pn	20 15 01.0	-0.4
OTVZ	**Oturere**	**0.42**	**187**	PN		Pn	20 15 01.7	+0.1
OTVZ				SN		Sn	20 15 17.9	+0.5
COVZ	**Chateau Observ**	**0.47**	**198**	PN		Pn	20 15 01.5	-0.2
WPVZ	**Whakapapa**	**0.48**	**198**	⇑PN		Pn	20 15 01.7	-0.1
TUVZ	**Tukino**	**0.52**	**187**	PN		Pn	20 15 02.1	0.0
TUVZ				SN		Sn	20 15 18.1	-0.3
FWVZ	**Far West T-bar**	**0.53**	**196**	⇑PN		Pn	20 15 02.0	-0.2
FWVZ				SN		Sn	20 15 18.1	-0.4
WNVZ	**Wahianoa**	**0.59**	**190**	⇑PN		Pn	20 15 02.5	0.0
PKVZ	**Pokaka**	**0.62**	**209**	⇑PN		Pn	20 15 02.3	-0.2
MOVZ	**Moawhango**	**0.66**	**179**	⇑PN		Pn	20 15 02.5	-0.3
MOVZ				SN		Sn	20 15 18.4	-1.2
MTVZ	**Mangateitei**	**0.67**	**198**	⇓PN		Pn	20 15 02.8	0.0
BKZ	**Black Stump Fm**	**0.72**	**125**	⇑PN		Pn	20 15 02.8	-0.3
BKZ				SN		Sn	20 15 19.3	-0.9
BHHZ	**Black Hill Sta**	**0.78**	**161**	PN		Pn	20 15 03.4	-0.2
BHHZ				SN		Sn	20 15 19.9	-1.2
NMHZ	**Naumai**	**0.91**	**113**	PN		Pn	20 15 05.2	+0.7
NMHZ				SN		Sn	20 15 23.3	+0.7
KRHZ	**Kereru**	**1.02**	**151**	⇑PN		Pn	20 15 05.6	+0.2
MCHZ	**McNeill Hill**	**1.02**	**133**	PN		Pn	20 15 06.3	+0.9
WAZ	**Wanganui**	**1.16**	**210**	PN		Pn	20 15 06.6	-0.1
PNHZ	**Pukenui**	**1.22**	**163**	PN		Pn	20 15 07.3	0.0
KAHZ	**Kahuranaki**	**1.37**	**140**	PN		Pn	20 15 09.1	+0.3
WPHZ	**Waipukurau**	**1.42**	**158**	PN		Pn	20 15 09.3	0.0
WPHZ				SN		Sn	20 15 30.1	-1.0
MWZ	**Matawai**	**1.47**	**74**	PN		Pn	20 15 08.7	-1.1
KNZ	**Kokohu**	**1.54**	**101**	PN		Pn	20 15 10.1	-0.4
PXZ	**Pawanui**	**1.55**	**146**	PN		Pn	20 15 10.6	0.0
PXZ				AML		AML	20 15 34.4	
DVHZ	**Dannevirke**	**1.58**	**168**	PN		Pn	20 15 10.5	-0.6
RIGZ	**Rimuhau**	**1.59**	**89**	PN		Pn	20 15 10.4	-0.7
POWZ	**Post Office Ro**	**1.64**	**179**	PN		Pn	20 15 11.0	-0.6
ANWZ	**Angora Road**	**1.80**	**162**	PN		Pn	20 15 13.2	-0.2
PRWZ	**Pori Road**	**1.81**	**174**	⇓PN		Pn	20 15 13.3	-0.3
MRZ	**Mangatainoka R**	**1.91**	**184**	⇑PN		Pn	20 15 13.8	-0.9
BFZ	**Birch Farm**	**1.97**	**169**	PN		Pn	20 15 14.9	-0.5
TIWZ	**Tintock**	**2.03**	**177**	PN		Pn	20 15 15.3	-0.8
OGWZ	**Otaki Gorge**	**2.11**	**192**	⇑PN		Pn	20 15 16.1	-1.0
HOWZ	**Holdsworth Sta**	**2.15**	**184**	PN		Pn	20 15 16.3	-1.3
KIW	**Kapiti Island**	**2.20**	**196**	PN		Pn	20 15 16.7	-1.4
TMWZ	**Te Maipa**	**2.36**	**177**	PN		Pn	20 15 18.8	-1.3
CAW	**Cannon Point**	**2.41**	**192**	PN		Pn	20 15 19.1	-1.5
MTW	**Mount Morrison**	**2.41**	**184**	PN		Pn	20 15 19.0	-1.7
DUWZ	**D'Urville Isla**	**2.48**	**214**	PN		Pn	20 15 20.0	-1.6
PAWZ	**Paruwai Farm**	**2.64**	**185**	PN		Pn	20 15 21.7	-1.8
TRWZ	**Traveller**	**2.65**	**181**	PN		Pn	20 15 21.8	-1.7
TCW	**Tory Channel**	**2.70**	**204**	PN		Pn	20 15 22.4	-1.8
PLWZ	**Palliser**	**2.84**	**187**	PN		Pn	20 15 23.7	-2.3
TUWZ	**Tuamarina**	**3.01**	**207**	PN		Pn	20 15 25.8	-2.3
QRZ	**Quartz Range**	**3.22**	**229**	PN		Pn	20 15 27.9	-3.0

KRSC 07 20:23:49.8±1.6, 50°.22N×157°.24E, h52km±24km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.86**	**303**	*i* P		Pn	20 24 06.5	+0.9
SKR				*i* S		Sn	20 24 16.5	-0.8
PAU	**Pauzhetka**	**1.28**	**348**	*i* P		Pn	20 24 13.6	+2.3
PAU				*i* S		Sn	20 24 28.7	+1.3
MIPR	**Malaya Ipel'ka**	**2.08**	**352**	*e*P		Pn	20 24 25.3	+3.0
MIPR				*e*S		Sn	20 24 49.6	+2.5
ASAK	**Asacha**	**2.21**	**10**	*e*P		Pn	20 24 26.0	+1.9
ASAK				*e*S		Sn	20 24 53.5	+3.2
MTVR	**Mutnovka**	**2.34**	**14**	*e*P		Pn	20 24 28.7	+2.7
MTVR				*e*S		Sn	20 24 56.8	+3.1
RUS	**Russkaya**	**2.36**	**19**	*e*P		Pn

KRER	Koryakskii	4.18	228	eP	Pn	20 47 27.4 +1.7
KRX	Arik	4.19	229	eP	Pn	20 47 26.6 +0.9
SMAR	Somma	4.19	227	eP	Pn	20 47 26.9 +1.1
AVH	Avacha	4.22	228	eP	Pn	20 47 27.8 +1.7
UGLR	Uglovaya	4.22	227	eP	Pn	20 47 27.6 +1.4
KOK	Koryaka	4.24	228	eP	Pn	20 47 28.0 +1.6
GNL	Ganaly	4.28	236	eP	Pn	20 47 29.0 +2.1
PET	Petropavlovsk	4.43	226	ePN	Pn	20 47 30.3 +1.4
PET				eS	Sn	20 48 22.5 +2.2
PET				pmax	pmax	
	comp=Z,40nm,0.5s					
PET				smax	smax	
	comp=E,53nm,0.7s					
PET				smax	smax	
	comp=N,73nm,0.7s					
PET	Petropavlovsk	4.43	226	eP	Pn	20 47 30.4 +1.5
PET				eS	Sn	20 48 21.5 +1.2
PET	Petropavlovsk	4.43	226	ePn	Pn	20 47 28.2 -0.6
PET				eSn	Sn	20 48 20.3 0.0
PETK	Petropavlovsk-	4.77	232	PN	Pn	20 47 35.4 +1.8
PETK						20 48 35.4
PETK				pmax	pmax	
	comp=Z,2.0nm,0.3s					
PETK				smax	smax	
	comp=N,1.0nm,0.3s					
PETK	Petropavlovsk-	4.77	232	Pn	Pn	20 47 35.4 +1.8
	comp=N,1.7nm,0.3s,baz=72,slow=14,SNR=13					
PETK				Sn	Sn	20 48 35.4 +6.7
	comp=N,0.5nm,0.3s,baz=45,slow=22,SNR=2.5					
RUS	Russkaya	4.94	222	PN	Pn	20 47 37.1 +1.2
RUS	Russkaya	4.94	222	eP	Pn	20 47 37.1 +1.2
MTVR	Mutnovka	5.03	224	eP	Pn	20 47 39.4 +2.2
APC	Apacha	5.13	233	eP	Pn	20 47 41.6 +3.0
ASAK	Asacha	5.21	225	eP	Pn	20 47 42.2 +2.4
MIPR	Malaya Ipel'ka	5.76	230	eP	Pn	20 47 50.1 +2.9
FX1	Attu Island--F	6.33	118	Pn	Pn	20 47 56.0 +1.0
	comp=N,1.0nm,0.3s,baz=332,slow=7.9,SNR=13					
FX1				Sn	Sn	20 49 03.0 -4.1
	comp=N,1.4nm,0.3s,baz=338,slow=18,SNR=3.6					
SEY	Seymchan	8.91	324	ePN	Pn	20 48 30.0 -0.3
BILL	Bilibino	11.91	4	ePN	Pn	20 49 13.4 +2.1
BILL				pmax	pmax	
	comp=Z,1.0nm,1.0s					
ASAJ	Asahikawa	18.16	237	P	P	20 50 34.8 +0.8
	comp=Z,0.4nm,0.3s,baz=43,slow=9.1,SNR=9.1					
YAK	Yakutsk	18.34	303	eP	P	20 50 36.5 +0.6
HABR	Khabarovsk	19.15	258	eP	P	20 50 42.5 -2.3
HABR				S	Sn	20 54 15.5 -4.5
HABR				pmax	pmax	
	comp=Z,37nm,3.0s					
HABR				MLR	MLR	
	comp=Z,59nm,17.0s					
ERM	Erimo	19.55	232	eP	Pn	20 50 50.6 0.0
TIXI	Tiksi	21.32	330	eP	P	20 51 09.3 +1.1
TIXI				pmax	pmax	
	comp=Z,6.0nm,1.2s					
TIXI	Tiksi	21.32	330	P	P	20 51 08.3 +0.1
	comp=Z,3.7nm,0.8s					
KDAK	Kodiak Island	23.44	68	ceP	P	20 51 33.0 +2.3
COLA	College	24.64	50	eP	P	20 51 42.4 +0.5
COLA				pmax	pmax	
	comp=Z,16nm,1.2s					
ILAR	Eielson Array	25.06	50	P	P	20 51 46.2 +0.5
ILAR				pmax	pmax	
	comp=Z,2.0nm,0.9s					
ILAR	Eielson Array	25.06	50	P	P	20 51 46.1 +0.5
	comp=Z,1.9nm,0.8s,baz=245,slow=5.1,SNR=26					
MJA0	Matsu Arr-Jizo	26.21	232	eP	P	20 51 57.3 +0.9
MJA0				pmax	pmax	
	comp=Z,4.0nm,0.9s					
MAJO	Matsushiro	26.23	232	eP	P	20 51 56.2 -0.3
MJAR	Matsushiro Arr	26.23	232	P	P	20 51 57.0 +0.5
MJAR				pmax	pmax	
	comp=Z,4.0nm,0.9s					
MJAR	Matsushiro Arr	26.23	232	P	P	20 51 57.0 +0.5
	comp=Z,3.9nm,0.9s,baz=28,slow=7.7,SNR=8.2					
INK	Inuvik	30.04	41	P	P	20 52 31.2 +1.0
INK				pmax	pmax	
	comp=Z,1.0nm,0.5s					
INK	Inuvik	30.04	41	P	P	20 52 31.2 +1.0
	comp=Z,1.3nm,0.5s,baz=301,slow=7.4,SNR=14					
SONM	Songino Array	35.41	281	P	P	20 53 17.2 -0.3
	comp=Z,0.5nm,0.5s,baz=63,slow=7.9,SNR=15					
SONM				PcP	PcP	20 55 46.8 -0.3
	comp=Z,0.5nm,0.8s,baz=33,slow=1.2,SNR=3.9					
H11N2	WAKE ISLAND Hy	36.50	175	T	T	21 32 14.7
	baz=357,slow=76,SNR=676					
H11N3	WAKE ISLAND Hy	36.52	175	T	T	21 32 22.0
	baz=357,slow=76,SNR=341					
H11N1	WAKE ISLAND Hy	36.52	175	T	T	21 32 23.6
	baz=357,slow=76,SNR=363					
YKA	Yellowknife Ar	39.37	46	P	P	20 53 51.7 +1.0
YKA				pmax	pmax	
	comp=Z,1.0nm,0.4s					
YKA	Yellowknife Ar	39.37	46	P	P	20 53 51.7 +1.0
	comp=Z,0.7nm,0.4s,baz=300,slow=8.2,SNR=15					
GTA	Gaotai	44.48	276	eP	P	20 54 32.4 -0.5
GTA				pP	pP	20 54 36.0 -1.0
GTA				sP	sP	20 54 38.5 0.0
JTMT	Jette	48.25	64	eP	P	20 55 04.0 +1.5
	comp=Z,3.5nm,0.7s					
SWMT	Swartz Lake	48.55	64	eP	P	20 55 05.7 +0.9
	comp=Z,2.5nm,0.9s					
MKAR	Makanchi Array	48.81	295	eP	P	20 55 05.5 -1.1
MKAR				pmax	pmax	
	comp=Z,1.0nm,0.4s					
MKAR	Makanchi Array	48.81	295	P	P	20 55 05.2 -1.4
	comp=Z,0.6nm,0.4s,baz=54,slow=6.6,SNR=16					
ARU	Arti	52.59	318	d iP	P	20 55 34.6 -0.3
ARU						20 57 29.8
ARU				S	S	21 02 57.3 -4.0
ARU				pmax	pmax	
	comp=Z,13nm,2.5s					
NVAR	Mina Array Bea	52.68	75	P	P	20 55 38.0 +1.9
	comp=Z,1.0nm,0.7s,baz=301,slow=6.3,SNR=6.4					
PDAR	Pinedale Array	54.12	65	P	P	20 55 47.7 +1.1
	comp=Z,1.4nm,0.8s,baz=329,slow=3.0,SNR=11					
AAK	Ala-Archa	55.68	297	ceP	P	20 55 57.7 -0.2
AAK				pmax	pmax	
	comp=Z,5.0nm,1.2s					
LSA	Lhasa	56.44	274	P	P	20 56 02.9 -0.9
LSA	Lhasa	56.44	274	eP	P	20 56 02.8 -1.1
	comp=Z,3.1nm,0.6s					
ABKAR	Akbulak array	57.44	311	eP	P	20 56 09.8 -0.3
	comp=Z,1.0nm,0.5s					
FINES	FINESS Array B	58.10	338	P	P	20 56 14.4 -0.1
FINES				pmax	pmax	
	comp=Z,1.0nm,0.9s					
FINES	FINESS Array B	58.10	338	P	P	20 56 14.4 -0.1
	comp=Z,1.4nm,0.9s,baz=18,slow=5.0,SNR=4.5					
TAPN	Taplejung	60.17	275	eP	P	20 56 28.5 -1.2
	comp=Z,3.4nm,0.3s					
GUN	Gumba	60.75	277	eP	P	20 56 32.4 -1.3
	comp=Z,9.0nm,0.5s					
JIRN	Jiri	60.77	277	eP	P	20 56 32.6 -1.3
	comp=Z,6.6nm,0.9s					
CMAR	Chiang Mai Arr	60.97	260	P	P	20 56 34.9 0.0
	comp=Z,0.5nm,0.7s,baz=15,slow=7.5,SNR=5.5					
CMAR				PcP	PcP	20 57 18.6 +0.4
	comp=Z,0.7nm,0.7s,baz=16,slow=2.9,SNR=7.2					
RAMN	Ramite	61.09	276	eP	P	20 56 34.8 -1.2
	comp=Z,12nm,0.4s					
NOA	NORSAR Array B	61.12	345	P	P	20 56 35.4 0.0
NOA				pmax	pmax	
	comp=Z,1.0nm,0.8s					
NOA	NORSAR Array B	61.12	345	P	P	20 56 35.4 0.0
	comp=Z,0.8nm,0.8s,baz=19,slow=6.1,SNR=4.6					
KKN	Kakani	61.17	277	eP	P	20 56 35.4 -1.1
	comp=Z,8.3nm,0.5s					
PKI	Pulchoki	61.27	277	eP	P	20 56 36.0 -1.3
	comp=Z,6.5nm,0.6s					
GKN	Gorkha	61.36	278	eP	P	20 56 36.6 -1.1
DANN	Dangsing	61.58	279	eP	P	20 56 38.6 -0.7
	comp=Z,8.7nm,0.7s					
SCHQ	Schefferville	61.83	31	P	P	20 56 40.1 -0.1
	comp=Z,1.4nm,0.6s,baz=343,slow=7.5,SNR=6.6					
KOLN	Koldanda	62.12	279	eP	P	20 56 41.8 -1.0
	comp=Z,6.1nm,0.6s					
AKASG	Malin Array Be	67.03	331	P	P	20 57 14.5 +0.2
AKASG				pmax	pmax	
	comp=Z,1.0nm,0.6s					
AKASG	Malin Array Be	67.03	331	P	P	20 57 14.5 +0.2
	comp=Z,1.2nm,0.6s,baz=31,slow=6.8,SNR=2.7					
GEYT	Alibeck	67.21	304	P	P	20 57 15.3 -0.4
	comp=Z,1.6nm,0.7s,baz=335,slow=6.6,SNR=3.5					
TXAR	Lajitas Array	67.43	71	P	P	20 57 18.8 +1.5
TXAR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
TXAR	Lajitas Array	67.43	71	P	P	20 57 18.8 +1.5
	comp=Z,0.9nm,0.8s,baz=288,slow=4.4,SNR=9.2					
MLR	Muntele Rosu	72.68	330	P	P	20 57 51.2 +1.8
	comp=Z,0.4nm,0.8s,baz=169,slow=5.2,SNR=4.9					
WRA	Warramunga Arr	79.88	208	eP	P	20 58 32.0 +1.8
WRA	Warramunga Arr	79.88	208	P	P	20 58 30.3 +0.1
	comp=Z,0.8nm,0.9s,baz=11,slow=5.6,SNR=5.0					
MMAI	Mount Meron Ar	80.94	318	P	P	20 58 36.5 +0.5
	comp=Z,0.5nm,0.4s,baz=28,slow=6.5,SNR=4.1					
ASAR	Alice Springs	83.55	207	P	P	20 58 50.4 +0.9
ASAR				pmax	pmax	
	comp=Z,1.0nm,0.9s					
ASAR	Alice Springs	83.55	207	P	P	20 58 50.4 +0.9
	comp=Z,1.3nm,0.9s,baz=19,slow=4.7,SNR=9.5					

*IDC **07** 20:56:32.7±6.2, 35.°77N×70.°90E, h127km±45km, mb3.3/4, mb1 3.3/7, mb1mx3.0/28, mbtmp3.6/7, Error ellipse: s-maj=66.0km s-min=26.1km az=150.0*
*NNC **07** 20:56:39.3±4.4, 36.°78N×70.°83E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=37.8km s-min=20.3km az=7.0*
ISC 07 20:56:40.4±1.9, 36.°6N±0.°2×70.°51E±0.°09, h150km, n21, σ1°34/24, mb3.3/3, 7C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.59	329	⇑Pn	Pn	20 57 22.9	+0.2
DZET				⇑Sn	Sn	20 57 55.7	+0.3
AML	Almayashu	6.06	23	P	Pn	20 58 07.3	-0.9
SNR=85							
UCH	Uchtor	6.43	28	P	Pn	20 58 12.1	-1.1
SNR=18							
KK31	Karatay Array	6.51	360	⇑Pn	Pn	20 58 13.7	-0.2
	1.4nm,0.4s,baz=182,slow=13,SNR=26						
KK31				Sn	Sn	20 59 25.7	-1.4
	6.4nm,0.7s,baz=188,slow=21,SNR=11						
EKS2	Erkin-Say	6.57	22	P	Pn	20 58 14.5	-0.3
SNR=11							
KZA	Kyzart	6.60	32	P	Pn	20 58 13.7	-1.7
SNR=7.5							
AAK	Ala-Archa	6.78	26	⇑Pn	Pn	20 58 17.0	-0.6
	5.7nm,0.4s						
AAK				⇑Sn	Sn	20 59 33.9	+0.3
	3.6nm,0.8s						
AAK	Ala-Archa	6.78	26	P	Pn	20 58 17.2	-0.3
SNR=11							
CHMS	Chumysh	7.19	26	P	Pn	20 58 22.1	-0.8
SNR=11							
USP	Ospenovka	7.34	23	P	Pn	20 58 24.3	-0.7
SNR=22							
TKM2	Tokmak 2	7.44	30	⇑Pn	Pn	20 58 25.3	-1.1
	2.4nm,0.5s						
TKM2	Tokmak 2	7.44	30	P	Pn	20 58 25.6	-0.9
SNR=7.3							
GEYT	Alibeck	9.97	281	P	Pn	20 58 59.7	-0.4
	0.2nm,0.3s,baz=95,slow=15,SNR=2.5						
GEYT				S	Sn	21 00 48.2	-2.3
	0.5nm,0.3s,baz=114,slow=24,SNR=4.2						
MKAR	Makanchi Array	13.45	37	P	Pn	20 59 44.1	-1.2
	0.0nm,0.3s,baz=226,slow=12,SNR=2.4						
AB31	Akbulak array	14.82	332	⇑Pn	P	21 00 03.6	-0.9
	0.7nm,0.6s,baz=156,slow=10,SNR=17						
AKTO	Aktyubinsk	16.51	331	⇓Pn	P	21 00 26.1	+2.9
	2.5nm,0.7s						
AKTO	Aktyubinsk	16.51	331	P	P	21 00 25.7	+2.5
	0.2nm,0.3s,baz=152,slow=10,SNR=8.7						
ZALV	Zalesovo Beam	20.00	25	P	P	21 01 01.8	+0.7
	2.6nm,0.4s,baz=215,slow=12,SNR=17						
FINES	FINESS Array B	37.19	326	P	P	21 03 38.5	+1.8
	1.6nm,0.9s,baz=122,slow=10,SNR=4.1						
NOA	NORSAR Array B	44.08	323	P	P	21 04 34.2	+1.0
	0.6nm,0.7s,baz=98,slow=7.9,SNR=2.5						
TORD	Torodi Ar. Bea	65.33	268	P	P	21 07 03.3	-3.5
	0.2nm,0.8s,baz=56,slow=6.1,SNR=4.0						

*SKHL **07** 20:59:27.3±1.0, 51.°50N×142.°20E, h10km, mb4.2/7, ms3.3/1*
*IDC **07** 20:59:29.6±1.0, 51.°16N×142.°35E, h0km, mb3.3/6, mb1 3.5/7, mb1mx3.4/24, mbtmp3.3/7, ML2.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/30, Error ellipse: s-maj=32.5km s-min=21.9km az=138.0*
*MOS **07** 20:59:29.5±1.4, 51.°28N×142.°32E, h10km, mb4.1/1, Error ellipse: s-maj=28.9km s-min=13.2km az=88.3*
MOS Felt (II-III) at Aleksandrovsk-Sakhalinskiy.
ISC 07 20:59:29.6±1.4, 51.°31N±0.°03×142.°27E±0.°04, h2km±10km, n25, σ1°56/36, mb3.2/6, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	Tymovskoe	0.51	152	ePN	Pb	20 59 40.8	-0.4
TYV				eS	Sb	20 59 49.0	-0.1
TYV				smax	smax		
	comp=N,1.0nm,0.5s						
TYV	Tymovskoe	0.51	152	ePg	Pb	20 59 40.8	-0.4
TYV				AMB	AMB	20 59 43.0	
	comp=N,390nm,0.5s						
TYV				eSg	Sb	20 59 49.5	+0.4
TYV				A	A	20 59 51.8	
	comp=N,820nm,0.5s						
NKL	Nikolayevsk	2.09	333	i Pg	Pn	21 00 05.0	-0.5
NKL				AMB	AMB	21 00 05.7	
	comp=N,43nm,0.4s						
NKL				AMB	AMB	21 00 05.7	
	comp=N,17nm,0.4s						
NKL				AMB	AMB	21 00 05.7	
	comp=N,130nm,0.4s						
NKL				eSg	Sn	21 00 31.8	-0.2
NKL				A	A	21 00 39.0	
	comp=N,290nm,0.4s						
NKL				A	A	21 00 43.0	
	comp=N,500nm,2.0s						
NKL				A	A	21 00 43.0	
	comp=N,1μm,2.0s						
NKL				AMS	AMS	21 01 08.0	
	comp=N,500nm,6.0s						
UGL	Uglegorsk	2.24	184	ePN	Pg	21 00 12.8	+0.3
UGL				S	Sn	21 00 34.0	-1.8
UGL	Uglegorsk	2.24	184	ePb	Pb	21 00 11.0	+0.3
UGL				ePg	Pg	21 00 14.8	+2.3
UGL				AMB	AMB	21 00 15.5	
	comp=N,74nm,0.3s						
OKH	Okha	2.28	10	ePN	Pb	21 00 09.8	-1.6
OKH				eS	Sn	21 00 37.5	+0.7
OKH	Okha	2.28	10	ePg	Pb	21 00 11.0	-0.4
OKH				eSg	Sg	21 00 42.0	-0.8
GRNR	Gornyy	3.73	264	eP	Pn	21 00 25.5	-2.7
GRNR				ePg	Pb	21 00 36.0	-0.2
GRNR				AMB	AMB	21 00 36.6	
	comp=N,210nm,0.2s						
GRNR				AMB	AMB	21 00 36.6	
	comp=N,100nm,0.2s						
GRNR				eSg	Sg	21 01 30.5	+1.0
GRNR				A	A	21 01 31.5	
	comp=N,140nm,0.4s						
GRNR				A	A	21 01 31.5	
	comp=N,110nm,0.4s						
YSS	Yuzh-Sakhalins	4.37	176	ePN	Pn	21 00 37.2	+0.2
YSS				eS	Sb	21 01 36.6	-3.6
YSS	Yuzh-Sakhalins	4.37	176	eP	Pn	21 00 38.0	+1.0
YSS				ePg	Pg	21 00 58.0	+4.6
YSS				AMB	AMB	21 00 59.0	
	comp=N,18nm,0.5s						
YSS				eS	Sn	21 01 30.0	+1.6
YSS				A	A	21 01 31.0	
	comp=N,23nm,0.6s						
YSS				eSg	Sg	21 02 00.5	+11
YSS				A	A	21 02 04.0	
	comp=N,20nm,0.8s						
HABR	Khabarovsk	5.46	241	ePN	Pn	21 00 53.7	+1.8
HABR				pmax	pmax		
	comp=Z,12nm,0.3s						
EKMR	Ekimchan	6.00	291	eP	Pn	21 00 57.0	-2.3
EKMR				ePg	Pg	21 01 24.9	+0.4
EKMR				AMB	AMB	21 01 25.4	
	comp=Z,4.0nm,0.5s						
EKMR				AMB	AMB	21 01 25.4	
	comp=Z,5.0nm,0.5s						
EKMR				AMB	AMB	21 01 25.4	
	comp=Z,8.0nm,0.5s						
EKMR				eSg	Sg	21 02 44.8	+2.7
EKMR				A	A	21 02 48.1	
	comp=Z,98nm,0.8s						
EKMR				A	A	21 02 48.1	
	comp=Z,15nm,0.8s						
EKMR				A	A	21 02 48.1	
	comp=Z,19nm,0.8s						
KLR	Kul'dur	7.06	257	ePN	Pb	21 01 31.6	-1.2
TEY	Ternei	7.33	213	eSg	Sg	21 03 21.5	-3.4
TEY				A	A	21 03 23.0	
	comp=Z,34nm,0.9s						
BMKR	Bomnak	8.78	298	ePg	Pn	21 01 56.3	+19
BMKR				eSg	Sg	21 04 12.5	+1.1
BMKR				A	A	21 04 13.3	
	comp=Z,8.0nm,0.6s						
YASR	Yasnyy	8.98	288	eSg	Sn	21 04 09.0	+47
YASR				A	A	21 04 10.0	
	comp=Z,20nm,0.7s						
KROS	Kirovskiy	9.77	295	eP	Pn	21 01 51.5	+0.6
KROS				AMB	AMB	21 01 55.6	
	comp=Z,1.0nm,0.7s						
KROS				eSg	Sn	21 04 39.9	+59
KROS				A	A	21 04 41.7	
	comp=Z,5.0nm,0.7s						
USRK	Ussuriysk Ar.	9.92	228	Pn	Pn	21 01 52.1	-1.0
	comp=Z,0.1nm,0.3s,baz=32,slow=14,SNR=2.0						
KSRS	Korea Array	17.19	222	LR	LR	21 10 18.2	
	comp=Z,47nm,18.2s,baz=14,slow=38						
SONM	Songino Array	23.38	276	P	P	21 04 41.0	+1.6
	comp=Z,0.4nm,0.7s,baz=66,slow=8.7,SNR=4.8						
ILAR	Eielson Array	37.66	42	P	P	21 06 47.6	+2.0
	comp=Z,0.6nm,0.7s,baz=294,slow=8.0,SNR=8.6						
MKAR	Makanchi Array	38.61	288	P	P	21 06 54.5	+0.6
	comp=Z,0.3nm,0.5s,baz=58,slow=6.5,SNR=5.2						
YKA	Yellowknife Ar	51.44	35	P	P	21 08 35.0	-0.6
	comp=Z,0.2nm,0.7s,baz=301,slow=6.7,SNR=4.0						
WRA	Warramunga Arr	71.28	188	P	P	21 10 49.4	-1.0
	comp=Z,0.2nm,0.9s,baz=5.6,slow=6.7,SNR=3.5						
ASAR	Alice Springs	75.01	188	P	P	21 11 12.2	-0.1
	comp=Z,0.2nm,0.6s,baz=7.9,slow=6.0,SNR=5.2						

*IDC **07** 21:04:43.3±2.6, 14.°22N×93.°27W, h0km, mb3.4/3, mb1 3.8/7, mb1mx3.6/38, mbtmp3.5/7, ML3.4/4, MS3.3/2, Ms1 3.2/2, ms1mx2.7/26, Error ellipse: s-maj=49.0km s-min=26.9km az=4.0*
ISC 07 21:04:45.5±1.8, 14.°1N±0.°2×93.°32W±0.°09, h22km, n9, σ1°06/9, mb3.5/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	2.90	72	Pn	Pn	21 05 29.2	-1.4
2.8nm,0.3s,baz=258,slow=18,SNR=24							
CMIG	Matias Romero	3.32	333	Pn	Pn	21 05 34.6	-1.6
3.3nm,0.3s,baz=155,slow=12,SNR=28							
TEIG	Tepich	7.75	38	Pn	Pn	21 06 37.5	+0.4
2.0nm,0.3s,baz=203,slow=15,SNR=20							
TEIG				Sn	Sn	21 08 03.9	-0.5
1.0nm,0.3s,baz=180,slow=20,SNR=2.7							
TEIG				LR	LR	21 10 07.6	
comp=Z,108nm,18.2s,baz=272,slow=42							
TXAR	Lajitas Array	17.92	329	P	P	21 08 53.9	-0.1
0.0nm,0.3s,baz=148,slow=13,SNR=5.0							
PDAR	Pinedale Array	31.80	337	P	P	21 11 09.9	+1.2
0.3nm,0.9s,baz=142,slow=10,SNR=2.1							
NVAR	Mina Array Bea	32.79	322	P	P	21 11 17.6	+0.2
0.2nm,0.3s,baz=146,slow=10,SNR=3.0							
SCHQ	Schefferville	45.57	21	LR	LR	21 33 18.3	
comp=Z,50nm,19.2s,baz=23,slow=38							
YKA	Yellowknife Ar	50.63	347	P	P	21 13 43.1	+0.5
0.7nm,0.8s,baz=150,slow=7.6,SNR=9.6							
CMAR	Chiang Mai Arr	145.45	339	PKPbc	PKPab	21 24 23.4	+0.5
1.0nm,0.8s,baz=342,slow=3.3,SNR=8.3							

WEL 07 21:09:33.3±0.3, 36.°90S×177.°39E, h135km±3km, ML3.5/13, 1C-1D, Error ellipse: s-maj=3.8km s-min=3.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.91	160	PN	Pn	21 09 56.0	+0.2
HAZ				SN	Sn	21 10 12.9	-0.1
MXZ	Matakaoa Point	0.99	132	PN	Pn	21 09 56.6	+0.1
MXZ				SN	Sn	21 10 14.2	0.0
WMGZ	Waiomatatini S	1.23	139	⇑PN	Pn	21 09 58.8	-0.1
WMGZ				SN	Sn	21 10 18.2	-0.2
TWGZ	Tauwhareparae	1.36	160	PN	Pn	21 10 00.7	+0.4
TWGZ				SN	Sn	21 10 21.0	+0.1
PUZ	Puketiti	1.36	150	PN	Pn	21 09 59.9	-0.4
URZ	Urewera	1.38	189	PN	Pn	21 10 00.6	+0.2
URZ				SN	Sn	21 10 21.0	-0.1
URZ				AML	AML	21 10 22.0	
MWZ	Matawai	1.44	176	⇓PN	Pn	21 10 01.1	0.0
MWZ				AML	AML	21 10 22.0	
MWZ				AML	AML	21 10 22.6	
CNGZ	Carnagh Statio	1.71	158	PN	Pn	21 10 03.9	-0.2
RIGZ	Rimuhau	1.83	171	PN	Pn	21 10 04.9	-0.6
KNZ	Kokohu	2.13	174	PN	Pn	21 10 08.2	-0.9
NMHZ	Naumai	2.25	192	PN	Pn	21 10 10.2	-0.4
MHGZ	Mahia Peninsul	2.29	170	PN	Pn	21 10 10.0	-1.1
BKZ	Black Stump Fm	2.37	197	AML	AML	21 10 15.2	
FWVZ	Far West T-bar	2.77	211	PN	Pn	21 10 16.7	-0.6
BHHZ	Black Hill Sta	2.79	202	PN	Pn	21 10 16.1	-1.4
WNVZ	Wahianoa	2.81	210	PN	Pn	21 10 17.4	-0.4
MOVZ	Moawhango	2.82	207	PN	Pn	21 10 16.3	-1.6
KRHZ	Kereru	2.86	196	PN	Pn	21 10 16.2	-2.0
KAHZ	Kahuranaki	2.92	188	PN	Pn	21 10 17.5	-1.6
PNHZ	Pukenui	3.15	197	PN	Pn	21 10 19.8	-2.3
PXZ	Pawanui	3.16	187	PN	Pn	21 10 19.6	-2.4
PXZ				AML	AML	21 10 57.8	
ANWZ	Angora Road	3.63	191	PN	Pn	21 10 25.5	-2.8
BFZ	Birch Farm	3.88	193	PN	Pn	21 10 28.4	-3.2
MRZ	Mangatainoka R	4.02	200	PN	Pn	21 10 29.8	-3.6
HOWZ	Holdsworth Sta	4.25	200	PN	Pn	21 10 32.5	-4.1
OGWZ	Otaki Gorge	4.28	203	PN	Pn	21 10 33.3	-3.5
TMWZ	Te Maipa	4.36	195	PN	Pn	21 10 34.2	-3.8
KIW	Kapiti Island	4.41	205	PN	Pn	21 10 34.9	-3.6
MTW	Mount Morrison	4.50	198	PN	Pn	21 10 35.4	-4.4
CAW	Cannon Point	4.58	203	PN	Pn	21 10 36.4	-4.4
PAWZ	Paruwai Farm	4.73	198	PN	Pn	21 10 38.1	-4.7
TCW	Tory Channel	4.94	208	AML	AML	21 11 39.2	
PLWZ	Palliser	4.95	199	PN	Pn	21 10 40.8	-5.0
TUWZ	Tuamarina	5.26	210	AML	AML	21 11 45.7	
NNZ	Nelson	5.32	215	PN	Pn	21 10 46.9	-3.8
THZ	Tophouse	5.97	214

NOUC	Port Laguerre	4.18 218	eP	Pn	21 24 28.1	+2.0
NOUC			eS	Sn	21 25 16.4	-0.1
CTA	Charters Tower	21.56 263	P	P	21 27 57.5	+1.3
	2.7nm,0.6s,baz=92,slow=12,SNR=4.0					
WRA	Warramunga Arr	32.76 262	P	P	21 29 36.6	+0.1
	0.4nm,0.3s,baz=82,slow=6.4,SNR=19					
WRA			PcP	PcP	21 32 16.6	-0.4
	0.6nm,0.7s,baz=90,slow=3.4,SNR=4.3					
WRA			S	S	21 34 35.4	-3.2
	0.9nm,1.0s,baz=92,slow=14,SNR=4.7					
ASAR	Alice Springs	33.09 255	P	P	21 29 40.1	+0.8
	3.5nm,0.3s,baz=78,slow=8.7,SNR=95					
ASAR			PcP	PcP	21 32 17.1	-0.9
	0.3nm,0.6s,baz=95,slow=4.0,SNR=4.1					
ASAR			S	S	21 34 42.0	-1.6
	0.9nm,0.8s,baz=82,slow=18,SNR=7.0					
MJAR	Matsushiro Arr	62.32 332	P	P	21 33 24.1	+0.9
	1.3nm,0.8s,baz=144,slow=3.5,SNR=4.3					
FX1	Attu Island--F	71.49 3	P	P	21 34 21.0	+0.3
	43nm,1.1s,baz=218,slow=19,SNR=3.8					
PETK	Petropavlovsk-	72.31 353	P	P	21 34 26.6	+1.0
	5.6nm,0.7s,baz=159,slow=10,SNR=8.5					
CMAR	Chiang Mai Arr	78.20 294	P	P	21 35 00.7	+0.8
	1.0nm,0.9s,baz=124,slow=4.2,SNR=6.9					
SONM	Songino Array	86.80 323	P	P	21 35 44.4	+0.5
	1.6nm,0.8s,baz=151,slow=6.2,SNR=17					
NVAR	Mina Array Bea	88.64 49	P	P	21 35 52.3	-0.6
	0.6nm,0.7s,baz=214,slow=7.7,SNR=3.7					
ILAR	Eielson Array	89.88 17	P	P	21 35 55.8	-2.0
	0.9nm,0.7s,baz=241,slow=5.0,SNR=20					
TXAR	Lajitas Array	96.69 61	P	P	21 36 27.2	-2.9
	0.2nm,0.6s,baz=198,slow=4.7,SNR=2.9					
YKA	Yellowknife Ar	100.37 27	P	Pdif	21 36 45.0	-0.6
	0.4nm,0.6s,baz=254,slow=4.5,SNR=9.3					
MKAR	Makanchi Array	101.34 316	P	Pdif	21 36 51.2	+0.9
	0.2nm,0.5s,baz=65,slow=7.5,SNR=4.3					
ARCES	ARCESS Array B	124.63 340	PKP	PKPdf	21 41 55.5	-1.6
	3.7nm,0.9s,baz=68,slow=2.3,SNR=11					
FINES	FINESS Array B	130.15 338	PKP	PKPdf	21 42 07.4	-0.4
	1.9nm,1.0s,baz=355,slow=4.8,SNR=4.3					
EKA	Eskdalemuir Ar	143.08 353	PKhKP	PKPpre	21 42 27.1	
	0.2nm,0.4s,baz=2.9,slow=2.4,SNR=6.8					
GERES	GERESS Array B	144.06 332	PKP	PKPab	21 42 31.9	0.0
	1.1nm,0.5s,baz=40,slow=4.0,SNR=12					
IDI	Anoyia	144.38 305	PKP	PKPab	21 42 33.3	-0.2
	14nm,1.0s,baz=66,slow=10.0,SNR=4.6					
MOA	Molln	144.53 330	⇑iPKPdf	PKPbc	21 42 34.1	+0.3
	7.9nm,0.9s					
FETA	Feichten	146.75 333	⇑iPKPbc	PKPbc	21 42 40.4	-0.3
	2.1nm,0.5s					
DAVOX	Davos/Dischmat	147.30 333	PKPbc	PKPbc	21 42 42.1	-0.2
	4.5nm,0.4s,baz=259,slow=2.1,SNR=21					

*IDC **07** 21:41:16.8±0.9, 36°.61S×73°.26W, h0km, mb3.8/7, mb1 4.1/9, mb1mx3.9/32, mbtmp3.8/9, ML3.6/2, MS3.6/5, Ms1 3.6/5, ms1mx3.3/33, Error ellipse: s-maj=29.6km s-min=19.3km az=104.0*

*ISCJB **07** 21:41:19.6±0.8, 36°.57S±0°.08×73°.0W±0°.1, h27km, mb4.0/8, MS3.5/2, Error ellipse: s-maj=18.2km s-min=9.7km az=22.5*

ISC 07 21:41:21.1±0.9, 36°.58S±0°.10×73°.2W±0°.2, h27km, n17, σ0°78/11, mb4.1/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.62	155	Pn	Pn	21 42 29.5	+0.3
	1.1nm,0.3s,baz=313,slow=9.1,SNR=16						
PLCA				Lg	Lg	21 43 38.0	
	5.3nm,0.3s,baz=270,slow=16,SNR=5.5						
PLCA				LR	LR	21 44 30.7	
	comp=Z,535nm,18.4s,baz=298,slow=42						
CFAA	Coronel Fontan	6.42	41	Pn	Pn	21 42 54.0	+0.1
	0.4nm,0.3s,baz=208,slow=13,SNR=11						
CFAA				Sn	Sn	21 44 05.7	-0.7
	0.7nm,0.3s,baz=304,slow=18,SNR=3.6						
CFAA				Lg	Lg	21 44 41.9	
	0.2nm,0.3s,baz=294,slow=23,SNR=4.6						
CPUP	Villa Florida	16.91	57	LR	LR	21 52 41.0	
	comp=Z,282nm,18.1s,baz=218,slow=40						
USHA	Ushuaia	18.54	171	LR	LR	21 52 39.5	
	comp=Z,134nm,18.8s,baz=70,slow=37						
LPAZ	La Paz	20.70	14	P	P	21 46 00.9	+1.0
	1.9nm,0.8s,baz=166,slow=4.7,SNR=8.7						
SIV	San Ignacio	23.15	31	P	P	21 46 26.6	+1.2
	1.5nm,0.7s,baz=232,slow=10,SNR=4.1						
PMSA	Palmer Station	28.75	172	LR	LR	21 58 17.1	
	comp=Z,164nm,19.4s,baz=130,slow=36						
QSPA	South Pole Qui	53.66	180	P	P	21 50 39.9	-0.2
	2.5nm,1.1s,baz=153,slow=2.3,SNR=5.5						
CMIG	Matias Romero	57.20	335	LR	LR	22 09 28.9	
	comp=Z,30nm,18.9s,baz=188,slow=30						
PPT2	Papeete2	69.00	263	eLR	LR	22 13 29.8	
	83nm,23.5s						
TXAR	Lajitas Array	71.56	332	P	P	21 52 40.0	+0.2
	1.0nm,0.8s,baz=156,slow=9.8,SNR=8.7						
DBIC	Dimbokro	76.87	71	P	P	21 53 16.4	+5.4
	3.4nm,0.9s,baz=146,slow=7.8,SNR=3.2						
BOSA	Boshof	79.67	118	P	P	21 53 31.2	+4.6
	2.4nm,1.0s,baz=275,slow=11,SNR=3.2						
NVAR	Mina Array Bea	85.50	326	P	P	21 53 55.6	-0.9
	1.2nm,0.8s,baz=140,slow=7.2,SNR=5.0						
PDAR	Pinedale Array	85.67	334	P	P	21 53 57.4	+0.1
	1.0nm,1.0s,baz=156,slow=4.0,SNR=3.7						
TORD	Torodi Ar. Bea	85.94	70	P	P	21 53 58.2	-0.8
	0.4nm,0.8s,baz=235,slow=5.1,SNR=3.6						
MKAR	Makanchi Array	159.09	53	PKPab	PKPab	22 01 53.5	+0.3
	0.2nm,0.6s,baz=298,slow=3.1,SNR=2.7						

*IDC **07** 21:52:08.5±0.9, 38°.06S×73°.47W, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.9/26, mbtmp3.9/8, ML3.6/3, Error ellipse: s-maj=27.5km s-min=16.4km az=77.0*

*NEIC **07** 21:52:13.3±0.6, 38°.01S×73°.32W, h35km, mb4.6/4, Error ellipse: s-maj=13.6km s-min=10.7km az=74.0*

ISC 07 21:52:16.0±0.7, 38°.5S±0°.1×72°.6W±0°.1, h35km, n182, σ0°86/174, mb4.3/11, 87C-72D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	2.76	145	Pn	Pn	21 53 05.8	+8.0
	0.7nm,0.3s,baz=292,slow=10,SNR=18						
PLCA				Lg	Lg	21 53 59.5	
	2.2nm,0.3s,baz=232,slow=20,SNR=3.4						
CFAA	Coronel Fontan	7.75	29	Pn	Pn	21 54 01.6	-4.8
	0.1nm,0.3s,baz=211,slow=11,SNR=8.3						
CFAA				Sn	Sn	21 55 33.8	+0.8
	0.1nm,0.3s,baz=234,slow=18,SNR=3.4						
TRQA	Tornquist	8.39	90	ePn	Pn	21 54 19.9	+4.8
	7.5nm,0.8s						
CPUP	Villa Florida	17.69	51	P	Pn	21 56 18.2	-1.3
	0.5nm,0.3s,baz=243,slow=4.5,SNR=2.2						
CPUP	Villa Florida	17.69	51	eP	Pn	21 56 18.3	-1.2
	0.2nm,0.6s						
LPAZ	La Paz	22.47	11	P	P	21 57 05.9	-7.0
	3.0nm,0.8s,baz=171,slow=6.9,SNR=13						
SAML	Samuel	30.62	19	P	P	21 58 22.1	-4.7
	0.7nm,0.5s						
QSPA	South Pole Qui	51.76	180	P	P	22 01 19.8	+0.1
	1.2nm,1.0s,baz=104,slow=2.0,SNR=2.5						
QSPA	South Pole Qui	51.76	180	eP	P	22 01 19.2	-0.6
	5.3nm,1.1s						
833A	Chaparral WMA,	71.02	335	⇑P	P	22 03 30.4	+0.3
	baz=71						
832A	Faith Ranch, C	71.18	335	⇑P	P	22 03 31.4	+0.3
	baz=71						
633A	Saathoff Ranch	72.00	336	⇓P	P	22 03 36.8	+0.8
	baz=72						
631A	Perdido Creek	72.42	335	⇓P	P	22 03 38.3	-0.2
	baz=72						
533A	Kerrville	72.52	336	⇑P	P	22 03 38.7	-0.5
	baz=72,SNR=5.3						
337A	Centerville	72.75	339	⇓P	P	22 03 41.1	+0.7
	baz=72						
532A	Rocksprings	72.85	335	⇑P	P	22 03 41.0	-0.1
	baz=72						
434A	Burnet	72.97	337	⇓P	P	22 03 41.2	-0.6
	baz=73,SNR=5.4						
336A	Riesel	73.09	338	⇑P	P	22 03 42.1	-0.3
	baz=73						
531A	Rocksprings	73.10	335	⇑P	P	22 03 41.9	-0.7
	baz=73						
JCT	Junction City	73.14	336	⇑P	P	22 03 42.5	-0.3
	baz=73						
JCT	Junction City	73.14	336	P	P	22 03 36.9	-6.0
	18nm,1.2s						
433A	Art	73.17	336	⇑P	P	22 03 42.3	-0.7
	baz=73						
530A	J-C Ranch, Com	73.35	334	⇓P	P	22 03 43.8	-0.3
	baz=73						
TXAR	Lajitas Array	73.44	332	P	P	22 03 38.3	-6.4
	0.6nm,0.9s,baz=148,slow=7.4,SNR=4.7						
334A	Lometa	73.45	337	⇓P	P	22 03 44.4	-0.2
	baz=73						
432A	Menard	73.51	336	⇓P	P	22 03 44.6	-0.4
	baz=73						
431A	Sonora	73.60	335	⇓P	P	22 03 45.1	-0.5
	baz=73						
529A	Stev Forest Ra	73.63	334	⇑P	P	22 03 45.1	-0.6
	baz=73						
333A	Richland Sprin	73.67	337	⇑P	P	22 03 45.4	-0.5
	baz=73						
WHTX	Lake Whitney,	73.83	338	⇓P	P	22 03 46.5	-0.3
	baz=74						
430A	Baggett Ranch,	73.90	335	⇑P	P	22 03 46.6	-0.7
	baz=74						
137A	Heron Place, G	73.92	340	⇑P	P	22 03 47.5	+0.2
	baz=74						
332A	Millersview	73.96	336	⇓P	P	22 03 46.9	-0.7
	baz=74,SNR=7.5						
429A	Davenport Ranc	73.98	334	⇓P	P	22 03 47.5	-0.3
	baz=74						
234A	Clairette	74.04	338	⇑P	P	22 03 47.5	-0.5
	baz=74						
331A	San Angelo	74.11	335	⇓P	P	22 03 47.9	-0.7
	baz=74						
233A	Rising Star	74.29	337	⇓P	P	22 03 49.2	-0.3
	baz=74						
232A	Coleman	74.40	336	⇓P	P	22 03 49.6	-0.6
	baz=74						
330A	Mertzon	74.45	335	⇓P	P	22 03 49.8	-0.7
	baz=74						
134A	White-Moore Ra	74.56	338	⇑P	P	22 03 50.8	-0.2
	baz=74						
231A	Bronte	74.66	336	⇓P	P	22 03 51.1	-0.6
	baz=74						
329A	Wagon Wheel Ra	74.80	334	⇑P	P	22 03 51.8	-0.7
	baz=74						
133A	Hamilton Ranch	74.84	337	⇓P	P	22 03 52.3	-0.4
	baz=74						
230A	Sterling City	74.87	335	⇑P	P	22 03 52.4	-0.5
	baz=74						
ABTX	Abilene, Hawle	75.08	337	⇑P	P	22 03 53.6	-0.5
	baz=75,SNR=5.2						
ABTX	Abilene, Hawle	75.08	337	eP	P	22 03 47.7	-6.4
	16nm,1.3s						
229A	Bryant Ranch,	75.18	335	⇑P	P	22 03 54.1	-0.6
	baz=75						
Z34A	Collier Ranch,	75.26	338	⇑P	P	22 03 54.2	-0.8
	baz=75						
131A	Roby	75.36	336	⇑P	P	22 03 55.0	-0.7
	baz=75						
130A	Snyder	75.47	336	⇑P	P	22 03 55.6	-0.8
	baz=75						
228A	UT Block 9, Go	75.58	334	⇓P	P	22 03 56.4	-0.7
	baz=75						
Z32A	Haskell	75.66	337	⇓P	P	22 03 56.9	-0.5
	baz=75						
Y34A	Reagan Ranch,	75.76	339	⇑P	P	22 03 57.4	-0.5
	baz=76						
129A	Stewart Farms,	75.80	335	⇓P	P	22 03 57.6	-0.7
	baz=76						
Z31A	Sharp Cattle R	75.88	336	⇓P	P	22 03 58.0	-0.6
	baz=76						
128A	Castleberry Fa	76.00	334	⇓P	P	22 03 58.7	-0.7
	baz=76						
Y33A	Hilltop Ranch,	76.06	338	⇑P	P	22 03 59.0	-0.6
	baz=76						
Z30A	Sanderson Ranc	76.16	336	⇑P	P	22 03 59.5	-0.8
	baz=76,SNR=5.9						
Z29A	Hungry Hill Ra	76.33	335	⇑P	P	22 04 00.2	-1.1
	baz=76,SNR=6.7						
X34A	Smith Ranch, M	76.38	339	⇑P	P	22 04 01.2	-0.2
	baz=76						
X32A	Elmer	76.64	338	⇑P	P	22 04 02.8	-0.1
	baz=76						
Y29A	Porterfield Fa	76.87	335	⇑P	P	22 04 03.9	-0.4
	baz=76						
W34A	Bridge Creek,	76.96	339	⇑P	P	22 04 04.5	-0.2
	baz=77						
X31A	McDonald Ranch	77.04	337	⇑P	P	22 04 04.7	-0.5
	baz=77						
TUL1	Leonard	77.06	341	⇓P	P	22 04 05.3	0.0
	baz=77						
TUL1	Leonard	77.06	341	eP	P	22 03 60.0	-5.3
	21nm,1.2s						
W33A	Caddo, Fort Co	77.08	339	⇑P	P	22 04 06.4	+1.0
	baz=77						
DBIC	Dimbokro	77.10	71	P	P	22 04 07.0	+1.0
	5.6nm,1.0s,baz=185,slow=8.8,SNR=3.5						
DBIC	Dimbokro	77.10	71	eP	P	22 04 05.6	-0.4
	6.6nm,0.8s						
Y28A	McKinney Farm,	77.10	335	⇑P	P	22 04 05.2	-0.4
	baz=77						
X30A	Coker Ranch, T	77.15	336	⇓P	P	22 04 05.7	-0.2
	baz=77						
W32A	Sentinel	77.28	338	⇓P	P	22 04 06.1	-0.5
	baz=77						
MSTX	Muleshoe	77.33	335	⇑P	P	22 04 06.5	-0.4
	baz=77						
Z25A	Roswell	77.38	333	⇑P	P	22 04 07.1	-0.1
	baz=77						
Y27A	Causey	77.38	334	⇓P	P	22 04 07.1	-0.2
	baz=77						
X29A	Tulia	77.41	336	⇓P	P	22 04 07.0	-0.4
	baz=77						
W31A	Holland Ranch,	77.55	337	⇓P	P	22 04 07.8	-0.3
	baz=77						
Y26A	Elida	77.65	334	⇑P	P	22 04 08.3	-0.5
	baz=77						
V33A	Lossen Ranch,	77.65	339	⇑P	P	22 04 08.4	-0.2
	baz=77						
AMTX	Amarillo	77.81	336	⇓P	P	22 04 09.5	-0.1
	baz=78						
121A	Cokes Peak, D	77.86	330	⇓P	P	22 04 11.2	+1.1
	baz=78						
W29A	Amarillo	78.02	336	⇓P	P	22 04 10.6	-0.1
	baz=78						
X27A	F and S Farms,	78.06	335	⇑P	P	22 04 11.6	+0.6
	baz=78						
U33A	Lingo Farm, Me	78.18	339	⇓P	P	22 04 12.4	+0.9
	baz=78						
X26A	CR and CF Fran	78.21	334	⇓P	P	22 04 12.6	+0.7
	baz=78						
Y24A	Capitan	78.22	333	⇑P	P	22 04 12.6	+0.6
	baz=78						
W27A	Bowe Ranch, En	78.42	335	⇑P	P	22 04 13.1	+0.1
	baz=78						
BOSA	Boshof	78.43	117	P	P	22 04 15.5	+2.0
	2.6nm,0.8s,baz=244,slow=10,SNR=4.6						
X25A	Clemmons Ranch	78.48	333	⇑P	P	22 04 13.2	-0.2
	baz=78						
W26A	Owens Ranch, T	78.68	334	⇑P	P	22 04 14.9	+0.5
	baz=78						
V28A	Channing	78.78	336	⇑P	P	22 04 15.6	+0.7
	baz=78						
T33A	Patterson Ranc	78.82	339	⇓P	P	22 04 15.8	+0.8
	baz=78						
W25A	X Bar L Ranch,	79.04	334	⇑P	P	22 04 16.8	+0.3
	baz=79						
T32A	Huddler Ranch,	79.10	339	⇑P	P	22 04 17.4	+0.8
	baz=79						
T31A	Randall Ranch,	79.24	338	⇓P	P	22 04 18.1	+0.8
	baz=79						
U28A	Mallet	79.36	336	⇑P	P	22 04 18.7	+0.6
	baz=79						
W24A	Lazy 6 Ranch,	79.36	333	⇑P	P	22 04 19.2	+0.9
	baz=79						
U27A	Thompson Grove	79.59	336	⇓P	P	22 04 19.7	+0.3
	baz=79						
V25A	Rancho No Teng	79.65	334	⇑P	P	22 04 19.8	-0.1
	baz=79,SNR=6.2						
S31A	Mullinville	79.67	339	⇓P	P	22 04 20.4	+0.6
	baz=79						
T29A	Hugoton	79.78	337	⇓P	P	22 04 21.1	+0.8
	baz=80						
U26A	Atchley Ranch,	79.86	335	⇓P	P	22 04 20.8	-0.2
	baz=80						
R33A	Olander Ranch,	79.90	340	⇑P	P	22 04 21.4	+0.5
	baz=80						
S30A	Montezuma	79.98	338	⇓P	P	22 04 22.0	+0.6
	baz=80						
T28A	Walsh	80.00	336	⇓P	P	22 04 22.0	+0.4
	baz=80						
U25A	Circle Dot Ran	80.09	334	⇓P	P	22 04 22.7	+0.5
	baz=80						
V23A	Ortiz Mt. (NFS	80.12	333	⇓P	P	22 04 23.2	+0.8
	baz=80						
T27A	Campo	80.14	336	⇓P	P	22 04 23.1	+0.7
	baz=80						
S29A	Ulysses	80.15	337	⇑P	P	22 04 23.2	+0.8
	baz=80						
R32A	Long Quarter,	80.21	339	⇑P	P	22 04 23.5	+1.0
	baz=80						
R31A	Burdett	80.31	339	⇑P	P	22 04 24.2	+1.1
	baz=80						
S28A	Manter	80.36	337	⇓P	P	22 04 24.4	+0.9
	baz=80						
V22A	San Miguel Ran	80.53	332	⇑P	P	22 04 25.9	+1.3
	baz=80						
U23A	El Rito	80.65	333	⇑P	P	22 04 26.4	+1.2
	baz=80						
Q32A	Meitler Ranch,	80.70	340	⇑P	P	22 04 26.3	+1.1
	baz=80						
T25A	Trinidad	80.76	335	⇓P	P	22 04 26.8	+1.0
	baz=80						
P33A	Williams Farm,	80.89	341	⇑P	P	22 04 27.5	+1.3
	baz=81						
S26A	Kim	80.89	336	⇓P	P	22 04 26.1	-0.2
	baz=81,SNR=5.8						
W18A	Petrified Fore	80.90	330	⇑P	P	22 04 27.1	+0.6
	baz=80						
R29A	Marienthal	80.90	338	⇑P	P	22 04 27.7	+1.4
	baz=81						
U22A	Llaves	80.93	333	⇓P	P	22 04 27.9	+1.2
	baz=81						
Q31A	Ellis	80.94	339	⇑P	P	22 04 27.5	+1.0
	baz=81						
X16A	Lo Mia Camp, P	80.97	328	⇓P	P	22 04 27.6	+0.7
	baz=81						
R28A	Tribune	81.03	337	⇓P	P	22 04 27.7	+0.6
	baz=81						
Q30A	Quinter	81.15	339	⇓P	P	22 04 28.1	+0.5
	baz=81						
S25A	Robets Cordova	81.24	335	⇑P	P	22 04 28.6	+0.3
	baz=81						
R27A	Eads	81.28	336	⇑P	P	22 04 28.9	+0.5
	baz=81						
P31A	Stockton	81.42	339	⇓P	P	22 04 30.3	+1.3
	baz=81						
S24A	Houchin Ranch,	81.49	334	⇑P	P	22 04 30.5	+0.8
	baz=81						
R26A	Arlington	81.50	336	⇑P	P	22 04 30.7	+1.1
	baz=81						
P30A	Selden	81.68	339	⇑P	P	22 04 32.3	+1.9
	baz=81						
Y12C	Blythe	81.72	326	⇓P	P	22 04 32.5	+1.8
	baz=81						
KSCO	Kaye Shedlock'	81.89	337	⇓P	P	22 04 33.0	+1.3
	baz=82						
WUAZ	Wupatki	81.90	329	⇑P	P	22 04 32.8	+1.0
	baz=82						
R24A	Sanders Place,	81.98	335	⇑P	P	22 04 32.9	+0.7
	baz=82,SNR=6.9						
BC3	Big Chuckawall	82.05	325	⇓P	P	22 04 33.7	+1.2
	baz=82						
Q26A	Hugo	82.09	336	⇓P	P	22 04 34.0	+1.3
	baz=82						
S22A	4UR Ranch, Cre	82.14	333	⇓P	P	22 04 34.0	+0.8
	baz=82						
R23A	Moffat	82.19	334	⇓P	P	22 04 34.5	+1.1
	baz=82						
MVCO	Mesa Verde	82.27	332	⇓P	P	22 04 34.8	+1.0
	baz=82						
U15A	North Rim	83.06	329	⇑P	P	22 04 38.4	+0.4
	baz=83						
ISCO	Idaho Springs	83.57	335	⇓P	P	22 04 42.5	+1.9
	baz=83						
TUQ	Turquoise Moun	83.76	326	⇑P	P	22 04 43.1	+1.7
	baz=83						
P22A	Eagle	83.77	334	⇓P	P	22 04 42.4	+0.9
	baz=83						
O23A	Lake Granby, G	84.04	335	⇑P	P	22 04 44.0	+1.1
	baz=84						
O22A	Kremmling	84.21	335	⇓P	P	22 04 44.4	+0.6
	baz=84,SNR=5.2						
K30A	Basset	84.42	340	⇑P	P	22 04 46.8	+2.3
	baz=84						
N23A	Red Feather La	84.66	335	⇑P	P	22 04 47.1	+1.0
	baz=84						
ECSD	EROS Data Cent	84.67	343	⇓P	P	22 04 46.4	+0.7
	baz=84						
N22A	Wattenberg Ran	84.75	335	⇑P	P	22 04 47.1	+0.6
	baz=84						
K28A	Ten Mile Ranch	84.93	339	⇑P	P	22 04 47.9	+0.8
	baz=85						
J29A	Okreek	85.29	340	⇑P	P	22 04 49.6	+0.8
	baz=85						
VES	Vestal, Richgr	85.53	324	⇓P	P	22 04 50.1	0.0
	baz=85						
J26A	Sides Ranch, S	85.97	338	⇓P	P	22 04 53.5	+1.2
	baz=86						
R11A	Troy Canyon, C	86.06	328	⇑P	P	22 04 53.8	+0.8
	baz=86						
I28A	Midland	86.07	340	⇑P	P	22 04 54.0	+1.3
	baz=86						
TORD	Torodi Ar. Bea	86.19	70	P	P	22 04 54.0	+0.1
	0.6nm,0.7s,baz=218,slow=5.0,SNR=3.5						
H29A	Onida	86.40	341	⇑P	P	22 04 55.0	+0.7
	baz=86						
J24A	Dixon Ranch, L	86.46	337	⇓P	P	22 04 55.4	+0.6
	baz=86						
DUG	Dugway, Tooele	86.51	330	⇑P	P	22 04 55.3	+0.2
	baz=86						
K21A	Alcova	86.65	335	⇑P	P	22 04 56.4	+0.6
	baz=86						
H28A	Mission Ridge	86.66	340	⇓P	P	22 04 56.5	+1.0
	baz=86						
J23A	Dilts Ranch, B	86.80	337	⇑P	P	22 04 57.3	+0.8
	baz=86						
I25A	Rochford	86.81	338	⇑P	P	22 04 57.5	+0.9
	baz=86						
H25A	Fruitdale	87.32	338	⇑P	P	22 05 00.2	+1.4
	baz=87						
PDAR	Pinedale Array	87.55	334	P	P	22 04 58.2	-2.0
	2.1nm,1.1s,baz=138,slow=6.9,SNR=9.2						
J20A	Shoshoni	87.57	335	⇓P	P	22 05 01.3	+1.1
	baz=87						
F28A	McLaughlin	87.69	341	⇑P	P	22 05 01.9	+1.4
	baz=87						
J19A	Crowheart	87.82	334	⇑P	P	22 05 02.3	+0.9
	baz=88						
I20A	Worland	88.12	335	⇑P	P	22 05 04.0	+1.3
	baz=88						
D30A	Buchanan	88.36	342	⇑P	P	22 05 04.6	+0.9
	baz=88						
C30A	Mose, Pekin	88.85	343	⇑P	P	22 05 06.5	+0.6
	baz=89						
I17A	Pilgrim Ck.	88.92	334	⇑P	P	22 05 06.6	-0.1
	baz=89						
D26A	Manning	89.21	340	⇓P	P	22 05 08.2	+0.5
	baz=89						
H18A	Shoshone NF, C

NP1:ϕ_0=176.00000°, δ52.00000°, λ71.00000°. NP2: ϕ_0=26.00000°, δ42.00000°, λ113.00000°. Principal axes: T 6.7400, Plg74.0000°, Azm29.0000°; N 0.8930, Plg15.0000°, Azm189.0000°; P -7.6250, Plg5.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

NEIC **07** 22:00:35.6, 34.°11S×71.°98W, h10km, mb5.6/190, MS4.8/87, ML5.1(GUC), After GUC.

NEIC Felt [III] at Rancagua, San Antonio, Santiago and Valparaiso; [II] at Talca and Vina del Mar. Also felt at Graneros, Melipilla, Quilpue and Talcahuano.

BJI **07** 22:00:36.2, 34.°10S×71.°80W, h25km, mB5.3/26, Ms5.5/22, Ms7 5.2/23

MOS **07** 22:00:36.4±1.0, 33.°98S×71.°97W, h33km, mb5.7/56, MS4.7/24, Error ellipse: s-maj=12.9km s-min=6.6km az=98.1

ISCJB **07** 22:00:37.6±0.5, 34.°04S±0.°03×71.°83W±0.°05, h49km±4km, mb5.4/212, MS4.7/116, Error ellipse: s-maj=7.1km s-min=4.1km az=164.7

ISC 07 22:00:36.6±0.5, 34.°11S±0.°03×71.°91W±0.°04, h33km±2km, h33km; pP-P, n1070, σ0s97/1072, mb5.5/212, MS4.8/116, 246C-245D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.44**	**70**	⇓*i*P	**Pb**	**22 00 46.2**	**0.0**
LNV	**Longovilo**	**0.44**	**70**	⇓*i*P	**Pb**	**22 00 46.2**	**0.0**
NICH	**Los Niches**	**1.05**	**148**	⇑*i*P	**Pn**	**22 00 55.3**	**+0.2**
NICH				*i* S1	**Sb**	**22 01 10.7**	**+0.8**
NICH				AML	AML	22 01 11.7	
	comp=E,88μm,0.4s						
NICH	**Los Niches**	**1.05**	**148**	⇑*i*P	**Pn**	**22 00 55.3**	**+0.2**
NICH				*i* S	**Sb**	**22 01 10.7**	**+0.8**
CHCH	**Chadas Angostu**	**1.06**	**81**	⇑*i*P	**Pn**	**22 00 55.7**	**+0.5**
CHCH	**Chadas Angostu**	**1.06**	**81**	⇑*i*P	**Pn**	**22 00 55.7**	**+0.5**
CACH	**El Canelo**	**1.09**	**91**	⇓*i*P	**Pb**	**22 00 56.7**	**-0.2**
CACH	**El Canelo**	**1.09**	**91**	⇓*i*P	**Pb**	**22 00 56.7**	**-0.2**
IHA	**Instituto Hidr**	**1.10**	**12**	⇑*i*P	**Pn**	**22 00 55.7**	**0.0**
IHA				*e*S1	**Sb**	**22 01 11.3**	**+0.1**
IHA	**Instituto Hidr**	**1.10**	**12**	⇑*i*P	**Pn**	**22 00 55.7**	**0.0**
IHA				*e*S	**Sb**	**22 01 11.3**	**+0.1**
ANTU	**Antumapu**	**1.19**	**64**	⇑*i*P	**Pn**	**22 00 57.7**	**+0.7**
ANTU				*e*S1	**Sb**	**22 01 14.2**	**+0.5**
ANTU				AML	AML	22 01 24.8	
	comp=E,95μm,0.4s						
ANTU	**Antumapu**	**1.19**	**64**	⇑*i*P	**Pn**	**22 00 57.7**	**+0.7**
ANTU				*e*S	**Sb**	**22 01 14.2**	**+0.5**
LACH	**Col Las Americ**	**1.32**	**61**	*e*P1	**Pn**	**22 00 59.5**	**+0.7**
LACH				*i* S1	**Sb**	**22 01 18.3**	**+0.8**
LACH				AML	AML	22 01 29.5	
	comp=N,40μm,0.5s						
LACH	**Col Las Americ**	**1.32**	**61**	*e*P	**Pn**	**22 00 59.5**	**+0.7**
LACH				*i* S	**Sb**	**22 01 18.3**	**+0.8**
CLCH	**Cerro Calan**	**1.35**	**59**	⇓*i*P	**Pb**	**22 01 00.2**	**-1.1**
CLCH				*i* S1	**Sb**	**22 01 18.8**	**+0.5**
CLCH				AML	AML	22 01 29.4	
	comp=E,60μm,0.8s						
PEL	**Peldehue**	**1.40**	**47**	⇑*i*P	**Pb**	**22 01 01.2**	**-1.0**
PEL				S	**Sb**	**22 01 21.8**	**+2.0**
PEL	**Peldehue**	**1.40**	**47**	⇑*i*P	**Pb**	**22 01 01.2**	**-1.0**
PEL				*i* S4	**Sb**	**22 01 21.8**	**+2.0**
PEL				AML	AML	22 01 27.2	
	comp=N,95μm,0.6s						
PEL	**Peldehue**	**1.40**	**47**	⇑*i*P	**Pb**	**22 01 01.2**	**-1.0**
PEL				S	**Sb**	**22 01 21.8**	**+2.0**
FCH	**Farellones**	**1.56**	**60**	AML	AML	22 01 27.9	
	comp=E,39μm,0.5s						
LNCH	**Linares**	**1.75**	**172**	⇑*i*P	**Pn**	**22 01 05.2**	**+0.5**
LNCH				*i* S	**Sb**	**22 01 29.2**	**-0.6**
LNCH				AML	AML	22 01 37.6	
	comp=N,36μm,0.4s						
LNCH	**Linares**	**1.75**	**172**	⇑*i*P	**Pn**	**22 01 05.2**	**+0.5**
LNCH				*i* S	**Sb**	**22 01 29.2**	**-0.6**
CFAA	**Coronel Fontan**	**3.97**	**52**	Pn	**Pn**	**22 01 36.9**	**+1.7**
	comp=N,2.7nm,0.3s,baz=230,slow=12,SNR=214						
CFAA				Lg	Lg	22 02 33.4	
	comp=N,20nm,0.3s,baz=308,slow=19,SNR=6.4						
CFAA				LR	LR	22 02 35.6	
	comp=N,210nm,20.5s,baz=225,slow=31						
PLCA	**Paso Flores**	**6.70**	**171**	Pn	**Pn**	**22 02 13.2**	**+0.5**
	comp=N,5.8nm,0.3s,baz=338,slow=9.7,SNR=88						
PLCA				Lg	Lg	22 04 00.2	
	comp=N,1.8nm,0.3s,baz=0.0,slow=17,SNR=1.8						
PLCA				LR	LR	22 05 10.8	
	comp=N,6μm,21.5s,baz=352,slow=42						
TRQA	**Tornquist**	**8.95**	**119**	*e*Pn	**Pn**	**22 02 45.4**	**+1.8**
LVC	**Limon Verde**	**11.75**	**14**	*e*Pn	Pn	22 03 17.8	-4.4
CPUP	**Villa Florida**	**14.79**	**62**	*e*P	**Pn**	**22 04 05.1**	**+1.8**
CPUP	**Villa Florida**	**14.79**	**62**	Pn	**Pn**	**22 04 02.9**	**-0.5**
	comp=N,1.1nm,0.3s,baz=243,slow=12,SNR=7.9						
CPUP				LR	LR	22 10 10.0	
	comp=N,4μm,21.9s,baz=224,slow=39						
CPUP	**Villa Florida**	**14.79**	**62**	*e*Pn	**Pn**	**22 04 05.1**	**+1.8**
LPAZ	**La Paz**	**18.07**	**12**	P	**P**	**22 04 46.0**	**+0.1**
	comp=N,2.1nm,0.3s,baz=178,slow=9.0,SNR=61						
EFI	**East Falkland**	**20.22**	**154**	P	**P**	**22 05 08.7**	**+0.2**
	comp=N,393nm,0.6s,SNR=9.1						
EFI	**East Falkland**	**20.22**	**154**	*e*P	**P**	**22 05 08.8**	**+0.2**
EFI	**East Falkland**	**20.22**	**154**	*e*P	**P**	**22 05 08.8**	**+0.2**
	comp=N,85nm,0.8s						
EFI				LR	LR		
	comp=Z,4μm,18.0s						
SIV	**San Ignacio**	**20.51**	**31**	P	**P**	**22 05 11.8**	**-0.3**
	comp=Z,54nm,0.8s,baz=228,slow=13,SNR=102						
SIV				LR	LR	22 14 32.8	
	comp=Z,3μm,19.8s,baz=216,slow=41						
USHA	**Ushuaia**	**20.86**	**174**	P	**P**	**22 05 16.7**	**+1.2**
	comp=Z,34nm,1.0s,baz=348,slow=2.5,SNR=8.0						
USHA				LR	LR	22 14 11.5	
	comp=Z,4μm,18.7s,baz=319,slow=39						
NNA	**Nana**	**22.48**	**347**	P	**P**	**22 05 34.1**	**+0.9**
	comp=Z,701nm,0.9s,SNR=5.0						
NNA	**Nana**	**22.48**	**347**	*e*P	**P**	**22 05 34.2**	**+1.0**
NNA	**Nana**	**22.48**	**347**	P	**P**	**22 05 33.9**	**+0.7**
	comp=Z,85nm,0.9s,baz=185,slow=11,SNR=32						
NNA				LR	LR	22 12 35.3	
	comp=Z,2μm,18.9s,baz=164,slow=32						
NNA	**Nana**	**22.48**	**347**	*e*P	**P**	**22 05 34.2**	**+1.0**
	comp=Z,116nm,0.9s						
SAML	**Samuel**	**26.30**	**20**	*e*P	**P**	**22 06 09.1**	**-0.1**
	comp=Z,69nm,0.9s						
SAML				LR	LR		
	comp=Z,700nm,20.0s						
ATAH	**Atahualpa**	**27.50**	**346**	P	**P**	**22 06 22.2**	**+1.7**
	comp=Z,9.5nm,0.7s,baz=173,slow=5.0,SNR=11						
ATAH				LR	LR	22 15 39.3	
	comp=Z,1μm,18.9s,baz=187,slow=33						
BDFB	**Brasilia**	**28.31**	**55**	*e*P	**P**	**22 06 27.1**	**-0.4**
BDFB	**Brasilia**	**28.31**	**55**	P	**P**	**22 06 26.3**	**-1.1**
	comp=Z,30nm,0.8s,baz=219,slow=8.5,SNR=26						
BDFB				LR	LR	22 18 57.9	
	comp=Z,4μm,18.4s,baz=224,slow=39						
BDFB	**Brasilia**	**28.31**	**55**	*e*P	**P**	**22 06 27.1**	**-0.4**
PMSA	**Palmer Station**	**31.07**	**173**	PFAKE		22 07 10.0	+19
PMSA				LR	LR		
	comp=Z,2μm,19.0s						
HOPE	**Hope Point**	**31.94**	**140**	PFAKE		22 07 10.0	+11
HOPE				LR	LR		
	comp=Z,2μm,19.4s						
OTAV	**Otavalo**	**34.71**	**348**	*e*P	**P**	**22 07 26.2**	**+2.1**
	comp=Z,106nm,1.4s						
OTAV				*e*PcP	**PcP**	**22 09 59.1**	**+1.5**
OTAV				LR	LR		
	comp=Z,470nm,19.0s						
PAYG	**Puerto Ayora**	**37.45**	**329**	PFAKE		22 08 00.0	+13
PAYG				LR	LR		
	comp=Z,1μm,20.0s						
ROSC	**El Rosal**	**38.82**	**356**	P	**P**	**22 08 00.6**	**+1.6**
	comp=Z,24nm,0.7s,baz=160,slow=4.2,SNR=16						
ROSC				PcP	**PcP**	**22 10 10.5**	**+0.6**
	comp=Z,7.1nm,0.5s,baz=255,slow=12,SNR=2.9						
ROSC				LR	LR	22 24 17.4	
	comp=Z,802nm,20.1s,baz=258,slow=37						
ROSC	**El Rosal**	**38.82**	**356**	*e*P	P	22 08 03.2	+4.2
ROSC				PcP	**PcP**	**22 10 10.5**	**+0.6**
SDV	**Santo Domingo**	**42.77**	**2**	*e*P	**P**	**22 08 31.0**	**-0.4**
	comp=Z,83nm,1.1s						
SDV				LR	LR		
	comp=Z,1μm,19.0s						
RCBR	**Riachuelo**	**43.61**	**58**	P	**P**	**22 08 38.7**	**+0.6**
	comp=Z,21nm,0.9s,baz=217,slow=11,SNR=9.9						
RCBR				LR	LR	22 27 59.9	
	comp=Z,3μm,18.5s,baz=215,slow=38						
RCBR	**Riachuelo**	**43.61**	**58**	*e*P	**P**	**22 08 38.6**	**+0.6**
	comp=Z,120nm,1.6s						
BCIP	**Isla Barro Col**	**43.69**	**349**	PFAKE		22 08 50.0	+11
BCIP				LR	LR		
	comp=Z,397nm,21.0s						
PCRV	**Puerto La Cruz**	**44.58**	**10**	P	**P**	**22 08 46.2**	**+0.5**
	comp=Z,38nm,0.9s,baz=250,slow=5.6,SNR=6.2						
PCRV				LR	LR	22 31 02.2	
	comp=Z,1μm,18.4s,slow=41						
JTS	**JuntasAbangare**	**45.86**	**342**	*c i*P	**P**	**22 08 57.0**	**+1.2**
JTS				pmax	pmax		
	comp=Z,127nm,1.7s						
JTS	**JuntasAbangare**	**45.86**	**342**	P	**P**	**22 08 56.7**	**+0.9**
	comp=Z,25nm,1.0s,baz=185,slow=3.6,SNR=7.3						
JTS				LR	LR	22 24 13.3	
	comp=Z,326nm,20.1s,baz=156,slow=31						
JTS	**JuntasAbangare**	**45.86**	**342**	*e*P	**P**	**22 08 57.6**	**+1.8**
	comp=Z,56nm,1.2s						
GRGR	**Grenville**	**47.01**	**14**	*e*P	**P**	**22 09 04.8**	**0.0**
	comp=Z,208nm,0.9s						
GRGR				LR	LR		
	comp=Z,817nm,20.0s						
BBGH	**Gun Hill**	**48.44**	**16**	PFAKE		22 09 30.0	+14
BBGH				LR	LR		
	comp=Z,1μm,20.0s						
VNA3	**Neumayer Olymp**	**49.22**	**158**	P	**P**	**22 09 23.0**	**+1.7**
VNA1	**Neumayer--Stat**	**49.53**	**157**	P	**P**	**22 09 26.0**	**+2.3**
FDF	**Fort de France**	**49.64**	**14**	*e*P	**P**	**22 09 24.5**	**-0.6**
FDF				pmax	pmax		
	comp=Z,102nm,1.0s						
FDF				MLR	MLR		
	comp=Z,764nm,20.0s						
FDF	**Fort de France**	**49.64**	**14**	*e*P	**P**	**22 09 24.5**	**-0.6**
	comp=Z,102nm,1.0s						
FDF				LR	LR		
	comp=Z,764nm,20.0s						
VNA2	**Neumayer--Watz**	**49.87**	**157**	P	**P**	**22 09 27.3**	**+1.0**
PTCN	**Pitcairn Islan**	**50.81**	**264**	PFAKE		22 09 50.0	+16
PTCN				LR	LR		
	comp=Z,1μm,20.0s						
SNAA	**Sanae**	**51.45**	**158**	P	**P**	**22 09 39.6**	**+1.4**
SNAA	**Sanae**	**51.45**	**158**	*e*P	**P**	**22 09 39.0**	**+0.8**
SNAA	**Sanae**	**51.45**	**158**	*c i*P	**P**	**22 09 38.6**	**+0.4**
SNAA				pmax	pmax		
	comp=Z,110nm,1.2s						
SNAA	**Sanae**	**51.45**	**158**	P	**P**	**22 09 39.2**	**+1.0**
	comp=Z,27nm,1.1s,baz=279,slow=5.9,SNR=43						
SNAA				LR	LR	22 30 12.3	
	comp=Z,196nm,20.6s,baz=286,slow=35						
SNAA	**Sanae**	**51.45**	**158**	*e*P	**P**	**22 09 38.9**	**+0.8**
	comp=Z,75nm,1.0s						
APG	**El Apazote**	**51.94**	**337**	P	P	22 09 38.1	-4.5
	comp=Z,43nm,0.8s,baz=162,slow=5.8,SNR=27						
ICMP	**Isla Caja de M**	**51.96**	**7**	*e*P	**P**	**22 09 41.8**	**-0.7**
CRPR	**Cabo Rojo, PR**	**52.02**	**6**	*e*P	**P**	**22 09 42.6**	**-0.3**
	comp=Z,124nm,0.9s						
SABA	**Saba**	**52.10**	**10**	*e*P	**P**	**22 09 43.6**	**0.0**
	comp=Z,331nm,0.9s						
OBIP	**Obispado Ponce**	**52.10**	**6**	*e*P	**P**	**22 09 43.4**	**-0.1**
	comp=Z,148nm,0.9s						
CELP	**Cerrillos**	**52.14**	**6**	*e*P	**P**	**22 09 43.3**	**-0.6**
LSP	**Las Mesas**	**52.19**	**6**	*e*P	**P**	**22 09 44.0**	**-0.3**
MPR	**Mayaguez**	**52.23**	**6**	*e*P	**P**	**22 09 44.4**	**-0.1**
	comp=Z,48nm,1.0s						
LRS	**Lares**	**52.33**	**6**	*e*P	**P**	**22 09 44.6**	**-0.7**
CBYP	**Canovanas**	**52.41**	**7**	*e*P	**P**	**22 09 45.4**	**-0.5**
	comp=Z,74nm,0.9s						
SDDR	**Presa de Saban**	**52.80**	**1**	*e*P	**P**	**22 09 49.2**	**+0.4**
	comp=Z,28nm,0.8s						
SDDR				LR	LR		
	comp=Z,462nm,20.0s						
SMN1	**Samana, DR**	**53.06**	**3**	*e*P	**P**	**22 09 50.6**	**-0.1**
GTBY	**Guantanamo Bay**	**53.82**	**356**	PFAKE		22 10 10.0	+14
GTBY				LR	LR		
	comp=Z,457nm,20.0s						
GRTK	**Grand Turk**	**55.31**	**1**	PFAKE		22 10 20.0	+13
GRTK				LR	LR		
	comp=Z,621nm,19.0s						
CMIG	**Matias Romero**	**55.42**	**333**	P	**P**	**22 10 08.7**	**+0.8**
	baz=166,slow=8.3						
RKT	**Rikitea**	**55.67**	**264**	*e*LR	LR	22 26 30.4	
	comp=Z,468nm,24.8s						
QSPA	**South Pole Qui**	**56.13**	**180**	P	**P**	**22 10 13.4**	**+0.7**
	comp=Z,47nm,1.0s,baz=150,slow=3.7,SNR=59						
QSPA	**South Pole Qui**	**56.13**	**180**	*e*P	**P**	**22 10 13.5**	**+0.9**
	comp=Z,54nm,1.0s						
NVL	**N'lazarevskaya**	**56.18**	**157**	⇓*i*P	**P**	**22 10 12.6**	**-0.1**
TEIG	**Tepich**	**56.24**	**341**	*e*P	**P**	**22 10 13.7**	**+0.1**
	comp=Z,191nm,0.8s						
TEIG				LR	LR		
	comp=Z,314nm,20.0s						
VNDA	**Vanda**	**64.02**	**191**	*e*P	**P**	**22 11 08.2**	**+1.9**
VNDA				pmax	pmax		
	comp=Z,20nm,1.3s						
VNDA	**Vanda**	**64.02**	**191**	P	**P**	**22 11 07.9**	**+1.6**
	comp=Z,11nm,1.2s,baz=144,slow=5.9,SNR=14						
VNDA				LR	LR	22 36 01.0	
	comp=Z,261nm,19.0s,baz=128,slow=33						
VNDA	**Vanda**	**64.02**	**191**	*e*P	**P**	**22 11 08.2**	**+1.9**
	comp=Z,20nm,1.3s						
H06S1	**SOCORRO T**	**64.38**	**319**	T	T	23 21 03.4	
	SNR=4.6						
H06E1	**SOCORRO T-PHAS**	**64.39**	**319**	T	T	23 21 06.3	
	SNR=7.9						
035Z	**Hargill**	**65.15**	**334**	⇓P	**P**	**22 11 15.7**	**+1.4**
	baz=65						
035A	**Encino**	**65.60**	**334**	⇓P	**P**	**22 11 18.6**	**+1.5**
	baz=66,SNR=5.4						
SYO	**Syowa Base**	**65.73**	**158**	⇓*e*P	**P**	**22 11 15.8**	**-1.7**
SYO	**Syowa Base**	**65.73**	**158**	⇑*e*pP	pP	22 11 23.4	-4.2
936A	**North Padre Is**	**65.76**	**335**	⇓P	**P**	**22 11 19.2**	**+1.0**
	baz=66						
034A	**Hebbronville**	**65.92**	**334**	⇓P	**P**	**22 11 20.5**	**+1.2**
	baz=66,SNR=14						
KVTX	**Kingsville**	**66.08**	**335**	PFAKE		22 11 30.0	+10
KVTX				LR	LR		
	comp=Z,351nm,19.0s						
TIGA	**Tifton**	**66.12**	**349**	⇑P	**P**	**22 11 20.2**	**-0.2**
	baz=66,SNR=11						
TIGA	**Tifton**	**66.12**	**349**	*e*P	**P**	**22 11 20.4**	**-0.1**
	comp=Z,79nm,0.9s						
BRAL	**Brewton**	**66.33**	**346**	*e*P	**P**	**22 11 23.4**	**+1.6**
	comp=Z,117nm,1.0s						
934A	**Benavides**	**66.35**	**334**	⇑P	**P**	**22 11 23.5**	**+1.4**
	baz=67,SNR=7.7						
933A	**Laredo**	**66.64**	**334**	⇓P	**P**	**22 11 25.0**	**+1.1**
	baz=67,SNR=25						
835A	**Beeville**	**66.73**	**335**	⇑P	**P**	**22 11 26.2**	**+1.8**
	baz=67,SNR=5.1						
834A	**Tilden**	**66.84**	**334**	⇑P	**P**	**22 11 26.5**	**+1.4**
	baz=67,SNR=26						
SACV	**Santiago Islan**	**67.04**	**52**	PFAKE		22 11 40.0	+13
SACV				LR	LR		
	comp=Z,479nm,19.0s						
735A	**Kenedy**	**67.25**	**335**	⇓P	**P**	**22 11 28.9**	**+1.2**
	baz=68,SNR=11						
NHSC	**New Hope**	**67.31**	**352**	*e*P	**P**	**22 11 28.7**	**+0.7**
	comp=Z,157nm,1.1s						
NHSC				LR	LR		
	comp=Z,377nm,19.0s						
833A	**Chaparral WMA,**	**67.33**	**334**	⇓P	**P**	**22 11 29.0**	**+0.7**
	baz=68,SNR=39						
734A	**La Parita Cree**	**67.50**	**335**	⇓P	**P**	**22 11 30.0**	**+0.7**
	baz=68,SNR=8.0						
832A	**Faith Ranch, C**	**67.50**	**333**	⇓P	**P**	**22 11 30.0**	**+0.6**
	baz=68,SNR=35						
636A	**Smothers Creek**	**67.57**	**336**	⇓P	**P**	**22 11 31.0**	**+1.3**
	baz=68,SNR=23						
HKT	**Hockley**	**67.60**	**338**	*e*P	**P**	**22 11 30.3**	**+0.4**
HKT				pmax	pmax		
	comp=Z,56nm,1.3s						
HKT	**Hockley**	**67.60**	**338**	*e*P	**P**	**22 11 30.2**	**+0.4**
	comp=Z,56nm,1.3s						
733A	**Divot King Ran**	**67.65**	**334**	⇑P	**P**	**22 11 30.9**	**+0.6**
	baz=68,SNR=13						
635A	**Leesville**	**67.72**	**336**	⇓P	**P**	**22 11 31.4**	**+0.7**
	baz=68						
538A	**Harpers Horsep**	**67.75**	**338**	⇓P	**P**	**22 11 32.4**	**+1.6**
	baz=68						
537A	**Green Hill Far**	**67.88**	**337**	⇑P	**P**	**22 11 32.7**	**+1.0**
	baz=68,SNR=9.0						
732A	**Laxson Ranch,**	**67.91**	**334**	⇓P	**P**	**22 11 32.5**	**+0.6**
	baz=68,SNR=27						
634A	**China Grove, S**	**67.92**	**335**	⇑P	**P**	**22 11 32.2**	**+0.3**
	baz=68						
GOGA	**Godfrey**	**68.04**	**350**	*e*P	**P**	**22 11 32.1**	**-0.5**
GOGA				pmax	pmax		
	comp=Z,63nm,1.1s						
GOGA				MLR	MLR		
	comp=Z,333nm,19.0s						
GOGA	**Godfrey**	**68.04**	**350**	*e*P	**P**	**22 11 32.1**	**-0.5**
	comp=Z,63nm,1.1s						
GOGA				LR	LR		
	comp=Z,333nm,19.0s						
536A	**Bastrop**	**68.12**	**337**	⇑P	**P**	**22 11 34.0**	**+0.8**
	baz=68,SNR=8.7						
438A	**Sam Houston St**	**68.24**	**338**	⇑P	**P**	**22 11 35.1**	**+1.2**
	baz=68,SNR=7.9						
535A	**Dale**	**68.24**	**336**	⇓P	**P**	**22 11 34.5**	**+0.5**
	baz=68,SNR=14						
VBMS	**Vicksburg**	**68.26**	**343**	*e*P	**P**	**22 11 35.4**	**+1.4**
	comp=Z,117nm,0.8s						
633A	**Saathoff Ranch**	**68.28**	**335**	⇑P	**P**	**22 11 35.0**	**+0.7**
	baz=69,SNR=31						
LRAL	**Lakeview Retre**	**68.28**	**346**	*e*P	**P**	**22 11 33.9**	**-0.3**
	comp=Z,45nm,1.0s						
340A	**Bronson**	**68.39**	**340**	⇑P	**P**	**22 11 35.5**	**+0.7**
	baz=69,SNR=18						
LPIG	**La Paz**	**68.43**	**322**	LR	LR	22 34 52.0	
	comp=Z,94nm,18.7s,baz=200,slow=30						
339A	**Huntington**	**68.50**	**339**	⇑P	**P**	**22 11 36.6**	**+1.0**
	baz=69,SNR=9.3						
437A	**Phantom Ranch,**	**68.52**	**338**	⇑P	**P**	**22 11 36.8**	**+1.1**
	baz=69						
632A	**Uvalde**	**68.54**	**334**	⇑P	**P**	**22 11 36.5**	**+0.6**
	baz=69,SNR=51						
534A	**Blanco**	**68.55**	**335**	⇓P	**P**	**22 11 36.1**	**+0.1**
	baz=69						
436A	**Wall Ranch, Ga**	**68.67**	**337**	⇓P	**P**	**22 11 37.3**	**+0.6**
	baz=69						
631A	**Perdido Creek**	**68.75**	**333**	⇑P	**P**	**22 11 37.4**	**+0.2**
	baz=69,SNR=21						
338A	**Crockett**	**68.75**	**339**	⇑P	**P**	**22 11 38.3**	**+1.2**
	baz=69,SNR=12						
533A	**Kerrville**	**68.79**	**335**	⇓P	**P**	**22 11 38.1**	**+0.7**
	baz=69,SNR=32						
337A	**Centerville**	**68.89**	**338**	⇑P	**P**	**22 11 39.1**	**+1.1**
	baz=69,SNR=14						
NATX	**Nacogdoches**	**68.94**	**339**	*e*P	**P**	**22 11 39.9**	**+1.6**
	comp=Z,132nm,1.0s						
435B	**Jarrell**	**68.94**	**336**	⇓P	**P**	**22 11 39.1**	**+0.7**
	baz=69,SNR=8.0						
239A	**Gary**	**69.12**	**340**	⇓P	**P**	**22 11 40.2**	**+0.8**
	baz=69,SNR=7.7						
532A	**Rocksprings**	**69.15**	**334**	⇓P	**P**	**22 11 40.4**	**+0.7**
	baz=69,SNR=78						
434A	**Burnet**	**69.20**	**336**	⇑P	**P**	**22 11 40.4**	**+0.4**
	baz=70,SNR=36						
CNNC	**Cliffs of the**	**69.21**	**355**	*e*P	**P**	**22 11 40.7**	**+0.8**
	comp=Z,72nm,0.8s						
CNNC				LR	LR		
	comp=Z,273nm,20.0s						
336A	**Riesel**	**69.26**	**337**	⇑P	**P**	**22 11 40.8**	**+0.5**
	baz=70,SNR=18						
238A	**Jacksonville**	**69.30**	**339**	⇓P	**P**	**22 11 41.3**	**+0.8**
	baz=70,SNR=6.0						
335A	**Moody**	**69.35**	**337**	⇑P	**P**	**22 11 41.3**	**+0.5**
	baz=70,SNR=14						
531A	**Rocksprings**	**69.41**	**334**	⇑P	**P**	**22 11 42.0**	**+0.7**
	baz=70,SNR=41						
433A	**Art**	**69.43**	**335**	⇑P	**P**	**22 11 41.5**	**+0.1**
	baz=70,SNR=73						
JCT	**Junction City**	**69.43**	**334**	*e*P	**P**	**22 11 42.1**	**+0.7**
JCT				pmax	pmax		
	comp=Z,102nm,1.0s						
JCT				MLR	MLR		
	comp=Z,126nm,20.0s						
JCT	**Junction City**	**69.43**	**334**	⇑P	**P**	**22 11 41.6**	**+0.2**
	baz=70,SNR=27						
JCT	**Junction City**	**69.43**	**334**	*e*P	**P**	**22 11 42.1**	**+0.7**
	comp=Z,102nm,1.0s						
JCT				LR	LR		
	comp=Z,126nm,20.0s						
KMSC	**Kings Mountain**	**69.45**	**352**	⇓P	**P**	**22 11 41.0**	**-0.4**
	baz=70,SNR=22						
KMSC	**Kings Mountain**	**69.45**	**352**	*e*P	**P**	**22 11 41.1**	**-0.3**
	comp=Z,45nm,0.9s						
237A	**Washetta, Mont**	**69.50**	**338**	⇑P	**P**	**22 11 42.3**	**+0.5**
	baz=70,SNR=12						
334A	**Lometa**	**69.66**	**336**	⇓P	**P**	**22 11 43.1**	**+0.3**
	baz=70,SNR=24						
530A	**J-C Ranch, Com**	**69.69**	**333**	⇓P	**P**	**22 11 43.7**	**+0.6**
	baz=70,SNR=65						
432A	**Menard**	**69.78**	**335**	⇓P	**P**	**22 11 43.9**	**+0.2**
	baz=70,SNR=21						
TXAR	**Lajitas Array**	**69.88**	**331**	P	**P**	**22 11 45.1**	**+0.8**
	comp=Z,13nm,0.8s,baz=151,slow=9.0,SNR=91						
TXAR				LR	LR	22 38 09.1	
	comp=Z,790nm,18.4s,baz=0.0,slow=32						
TX31	**Lajitas Ar. Si**	**69.88**	**331**	*e*P	**P**	**22 11 44.8**	**+0.5**
138A	**Matatall Enter**	**69.90**	**339**	⇑P	**P**	**22 11 45.0**	**+0.8**
	baz=70,SNR=8.3						
431A	**Sonora**	**69.90**	**334**	⇓P	**P**	**22 11 44.6**	**+0.3**
	baz=70,SNR=21						
333A	**Richland Sprin**	**69.91**	**335**	⇑P	**P**	**22 11 44.5**	**+0.2**
	baz=70,SNR=34						
529A	**Stev Forest Ra**	**70.01**	**332**	⇑P	**P**	**22 11 45.4**	**+0.4**
	baz=70,SNR=62						
WHTX	**Lake Whitney,**	**70.01**	**337**

ABTX **Abilene, Hawle** 71.32 336 *eP* P 22 11 53.2 +0.3
comp=Z,84nm,0.9s
VWCC **Virginia Weste** 71.39 353 *eP* P 22 11 53.3 +0.1
BLA **Blacksburg** 71.40 353 *eP* P 22 11 53.7 +0.4
BLA pmax pmax
comp=Z,26nm,0.9s
BLA MLR MLR
comp=Z,404nm,19.0s
BLA **Blacksburg** 71.40 353 *eP* P 22 11 53.7 +0.4
comp=Z,26nm,0.9s
BLA LR LR
comp=Z,404nm,19.0s
Z34A **Collier Ranch,** 71.43 337 ⇓P P 22 11 53.7 +0.2
baz=72,SNR=15
WVT **Waverly** 71.44 346 *eP* P 22 11 53.2 -0.3
WVT pmax pmax
comp=Z,227nm,0.9s
WVT **Waverly** 71.44 346 *eP* P 22 11 53.2 -0.3
comp=Z,227nm,0.9s
229A **Bryant Ranch,** 71.50 333 ⇓P P 22 11 54.0 -0.1
baz=72,SNR=17
URVA **University of** 71.51 355 *eP* P 22 11 54.7 +0.9
131A **Roby** 71.63 335 ⇓P P 22 11 55.0 +0.2
baz=72,SNR=14
Z33A **Whitaker Ranch** 71.63 337 ⇓P P 22 11 55.0 +0.3
baz=72,SNR=26
JSRW **J. Sargeant Re** 71.65 355 *eP* P 22 11 55.4 +0.7
130A **Snyder** 71.76 334 ⇑P P 22 11 55.5 -0.1
baz=72,SNR=12
Z32A **Haskell** 71.89 336 ⇓P P 22 11 56.4 +0.1
baz=72,SNR=41
Y34A **Reagan Ranch,** 71.92 338 ⇑P P 22 11 56.4 -0.1
baz=72,SNR=16
228A **UT Block 9, Go** 71.93 333 ⇓P P 22 11 56.7 0.0
baz=72,SNR=24
129A **Stewart Farms,** 72.12 334 ⇓P P 22 11 57.5 -0.3
baz=72,SNR=12
CBN **Corbin Frederi** 72.13 355 *eP* P 22 11 58.5 +0.9
comp=Z,32nm,0.8s
CBN LR LR
comp=Z,284nm,21.0s
Z31A **Sharp Cattle R** 72.13 335 ⇑P P 22 11 57.9 +0.1
baz=72,SNR=32
Y33A **Hilltop Ranch,** 72.25 337 ⇑P P 22 11 58.3 -0.2
baz=73,SNR=9.8
128A **Castleberry Fa** 72.34 333 ⇑P P 22 11 59.4 +0.3
baz=73,SNR=19
Z30A **Sanderson Ranc** 72.44 335 ⇑P P 22 11 59.4 -0.3
baz=73,SNR=37
Y32A **R-V Farms, Ver** 72.51 336 ⇑P P 22 12 00.2 +0.2
baz=73,SNR=12
X34A **Smith Ranch, M** 72.54 338 ⇓P P 22 12 00.4 +0.3
baz=73,SNR=20
PBMO **Poplar Bluff** 72.61 344 *eP* P 22 12 00.6 +0.1
comp=Z,66nm,0.9s
Z29A **Hungry Hill Ra** 72.62 334 ⇑P P 22 12 00.5 -0.3
baz=73,SNR=50
MNTX **Cornudas Mount** 72.66 330 *eP* P 22 12 00.2 -0.8
comp=Z,22nm,0.8s
MNTX LR LR
comp=Z,718nm,20.0s
X33A **Lawton** 72.70 337 ⇑P P 22 12 00.5 -0.6
baz=73
Y31A **Rekieta Farm,** 72.75 336 ⇑P P 22 12 01.7 +0.3
baz=73,SNR=18
X32A **Elmer** 72.84 337 ⇑P P 22 12 01.7 -0.3
baz=73,SNR=11
Y30A **Stafford Cattl** 72.89 335 ⇑P P 22 12 02.2 -0.2
baz=73,SNR=11
Z28A **Tucker Farm, M** 72.90 334 ⇓P P 22 12 02.1 -0.3
baz=73,SNR=20
WMOK **Wichita Mounta** 72.97 337 *eP* P 22 12 02.8 +0.1
WMOK pmax pmax
comp=Z,55nm,1.4s
WMOK **Wichita Mounta** 72.97 337 *eP* P 22 12 02.8 +0.1
comp=Z,55nm,1.4s
MAW **Mawson** 73.05 163 LR LR 22 43 47.6
comp=Z,900nm,20.2s,baz=234,slow=36
W34A **Bridge Creek,** 73.11 338 ⇓P P 22 12 03.5 0.0
baz=73,SNR=5.5
W34A **Bridge Creek,** 73.11 338 *eP* P 22 12 04.0 +0.5
comp=Z,119nm,1.4s
TUL1 **Leonard** 73.14 340 ⇓P P 22 12 03.4 -0.3
baz=74,SNR=19
TUL1 **Leonard** 73.14 340 *eP* P 22 12 03.3 -0.4
comp=Z,63nm,0.9s
Y29A **Porterfield Fa** 73.15 334 ⇓P P 22 12 03.9 0.0
baz=74,SNR=30
USIN **University of** 73.19 347 *eP* P 22 12 03.6 -0.3
comp=Z,136nm,1.0s
WCI **Wyandotte Cave** 73.20 348 *eP* P 22 12 02.8 -1.2
WCI pmax pmax
comp=Z,35nm,1.0s
WCI **Wyandotte Cave** 73.20 348 *eP* P 22 12 02.8 -1.2
comp=Z,35nm,1.0s
W33A **Caddo, Fort Co** 73.25 338 ⇓P P 22 12 04.8 +0.4
baz=74,SNR=27
SIUC **Southern Illin** 73.25 346 *eP* P 22 12 04.3 0.0
comp=Z,74nm,0.9s
X31A **McDonald Ranch** 73.26 336 ⇑P P 22 12 04.4 -0.1
baz=74,SNR=24
X30A **Coker Ranch, T** 73.40 335 ⇑P P 22 12 05.3 0.0
baz=74,SNR=8.1
Y28A **McKinney Farm,** 73.41 334 ⇓P P 22 12 05.2 -0.2
baz=74,SNR=9.6
W32A **Sentinel** 73.47 337 ⇑P P 22 12 05.8 +0.1
baz=74,SNR=60
KOMG **Komaggas** 73.53 115 *eP* P 22 12 07.5 +1.1
KOMG AMB AMB 22 12 09.1
comp=Z,47nm,1.3s
V34A **Guthrie** 73.58 339 ⇑P P 22 12 06.0 -0.3
baz=74,SNR=11
V34A **Guthrie** 73.58 339 *eP* P 22 12 06.6 +0.3
comp=Z,89nm,1.1s
MSTX **Muleshoe** 73.65 334 ⇑P P 22 12 06.7 -0.2
baz=74,SNR=26
MSTX **Muleshoe** 73.65 334 *eP* P 22 12 07.0 +0.1
comp=Z,65nm,0.9s
X29A **Tulia** 73.69 335 ⇓P P 22 12 07.2 +0.1
baz=74,SNR=12
Y27A **Causey** 73.72 333 ⇓P P 22 12 06.9 -0.4
baz=74,SNR=9.6
W31A **Holland Ranch,** 73.76 336 ⇓P P 22 12 07.3 -0.1
baz=74,SNR=10
Z25A **Roswell** 73.78 332 ⇓P P 22 12 07.6 0.0
baz=74,SNR=17
V33A **Lossen Ranch,** 73.81 338 ⇓P P 22 12 07.9 +0.3
baz=74,SNR=26
X28A **Dimmitt** 73.93 334 ⇑P P 22 12 08.6 +0.1
baz=74
V32A **Arapaho** 73.95 337 ⇑P P 22 12 08.8 +0.3
baz=74,SNR=7.6
W30A **Crocket Farms** 73.97 336 ⇑P P 22 12 08.7 +0.1
baz=74
Y26A **Elida** 74.00 333 ⇓P P 22 12 08.9 -0.1
baz=74,SNR=11
OLIL **Olney** 74.02 347 *eP* P 22 12 08.3 -0.4
comp=Z,97nm,1.3s
319A **Douglas** 74.05 327 ⇓P P 22 12 10.2 +0.9
baz=74,SNR=12
AMTX **Amarillo** 74.08 335 ⇓P P 22 12 09.5 +0.2
baz=74
AMTX **Amarillo** 74.08 335 *eP* P 22 12 09.6 +0.3
comp=Z,116nm,1.3s
U34A **Anderson Ranch** 74.14 339 ⇑P P 22 12 09.6 0.0
baz=74,SNR=7.3
U34A **Anderson Ranch** 74.14 339 *eP* P 22 12 10.1 +0.5
comp=Z,62nm,0.9s
BLO **Bloomington** 74.16 348 *eP* P 22 12 08.2 -1.4
BLO pmax pmax
comp=Z,26nm,0.7s
BLO **Bloomington** 74.16 348 *eP* P 22 12 08.2 -1.4
comp=Z,26nm,0.7s
V31A **Spring Creek L** 74.26 337 ⇑P P 22 12 11.1 +0.7
baz=75,SNR=8.9
W29A **Amarillo** 74.28 335 ⇓P P 22 12 10.8 +0.2
baz=75,SNR=17
U33A **Lingo Farm, Me** 74.32 338 ⇓P P 22 12 10.3 -0.3
baz=75,SNR=6.0
SLM **Saint Louis** 74.35 345 *eP* P 22 12 11.0 +0.3
SLM pmax pmax
comp=Z,132nm,1.0s
SLM **Saint Louis** 74.35 345 *eP* P 22 12 11.0 +0.3
comp=Z,132nm,1.0s
X27A **F and S Farms,** 74.38 334 ⇓P P 22 12 11.1 0.0
baz=75
121A **Cookes Peak, D** 74.38 329 ⇑P P 22 12 12.4 +1.1
baz=75,SNR=25
121A **Cookes Peak, D** 74.38 329 *eP* P 22 12 12.8 +1.5
comp=Z,70nm,1.1s
LUPA **Lehigh Univers** 74.41 357 *eP* P 22 12 12.2 +1.2
comp=Z,4.3nm,0.9s
V30A **Spur Ranch, Mi** 74.53 336 ⇑P P 22 12 13.0 +1.1
baz=75,SNR=6.1
U32A **Winter Ranch,** 74.54 338 ⇑P P 22 12 12.2 +0.2
baz=75,SNR=13
X26A **CR and CF Fran** 74.56 333 ⇑P P 22 12 12.8 +0.6
baz=75,SNR=13
SSPA **Standing Stone** 74.58 355 *eP* P 22 12 12.5 +0.5
comp=Z,36nm,1.0s
W28A **Vega** 74.60 335 ⇓P P 22 12 12.5 +0.1
baz=75
Y24A **Capitan** 74.63 332 ⇑P P 22 12 13.2 +0.5
baz=75,SNR=29
Z22A **Elephant Butte** 74.66 330 ⇓P P 22 12 14.0 +1.1
baz=75,SNR=9.9
ACSO **Alum Creek Sta** 74.67 351 *eP* P 22 12 12.1 -0.4
comp=Z,87nm,0.8s
SUR **Sutherland** 74.68 119 P P 22 12 15.0 +1.7
comp=Z,283nm,0.8s,SNR=9.8
SUR **Sutherland** 74.68 119 *eP* P 22 12 16.0 +2.6
comp=Z,44nm,0.9s
SUR LR LR
comp=Z,455nm,21.0s
LIC **Lamto** 74.71 71 *eP* P 22 12 13.3 -0.1
comp=Z,86nm,1.4s
W27A **Bowe Ranch, En** 74.74 334 ⇓P P 22 12 13.4 +0.2
baz=75,SNR=28
U31A **Nine Bar Ranch** 74.81 337 ⇑P P 22 12 13.9 +0.4
baz=75
X25A **Clemmons Ranch** 74.86 332 ⇓P P 22 12 14.1 +0.2
baz=75,SNR=12
ODNJ **Ogdensburg** 74.86 358 *eP* P 22 12 14.6 +1.0
comp=Z,33nm,1.0s
Y23A **Lovace Mesa,** 74.88 331 ⇑P P 22 12 15.1 +0.9
baz=75,SNR=27
V29A **Stinnett** 74.92 335 ⇓P P 22 12 14.0 -0.1
baz=75
T33A **Patterson Ranc** 74.96 338 ⇓P P 22 12 14.7 +0.4
baz=75,SNR=25
TIC **Toumodi** 74.97 71 *eP* P 22 12 14.8 -0.1
comp=Z,40nm,1.1s
KIC **Kosan Boka** 75.02 71 *eP* P 22 12 15.3 +0.1
comp=Z,212nm,1.5s
W26A **Owens Ranch, T** 75.02 333 ⇑P P 22 12 15.2 +0.4
baz=75,SNR=9.0
V28A **Channing** 75.05 335 ⇑P P 22 12 15.5 +0.5
baz=75,SNR=18
YLE **Yale** 75.06 359 *eP* P 22 12 16.3 +1.6
comp=Z,137nm,1.1s
DBIC **Dimbokro** 75.11 71 *eP* P 22 12 16.1 +0.3
DBIC **Dimbokro** 75.11 71 *eP* P 22 12 16.4 +0.7
DBIC pmax pmax
comp=Z,25nm,0.9s
DBIC **Dimbokro** 75.11 71 P P 22 12 16.0 +0.3
comp=Z,18nm,0.8s,baz=205,slow=5.7,SNR=21
DBIC LR LR 22 43 38.4
comp=Z,407nm,18.9s,baz=220,slow=34
DBIC **Dimbokro** 75.11 71 *eP* P 22 12 16.4 +0.7
comp=Z,25nm,0.9s
X24A **Lazy VL Ranch,** 75.19 332 ⇑P P 22 12 16.2 +0.3
baz=76
U30A **WK&E Inc. Balk** 75.22 336 ⇓P P 22 12 16.2 +0.3
baz=76
T32A **Huddler Ranch,** 75.25 338 ⇓P P 22 12 16.2 +0.2
baz=76,SNR=9.0
V27A **Dan Oppiter Fa** 75.27 334 ⇓P P 22 12 16.9 +0.6
baz=76,SNR=9.3
BNM **Barren Site** 75.30 331 *eP* P 22 12 17.5 +0.9
U29A **Oasis Ranch, S** 75.35 336 ⇓P P 22 12 17.1 +0.4
baz=76
S33A **Kaszmaul Farm,** 75.36 339 ⇑P P 22 12 16.8 +0.2
baz=76
Y22D **IRIS PASSCAL I** 75.36 331 ⇓P P 22 12 17.2 +0.4
baz=76
W25A **X Bar L Ranch,** 75.39 333 ⇓P P 22 12 17.3 +0.3
baz=76,SNR=34
T31A **Randall Ranch,** 75.42 337 ⇓P P 22 12 17.2 +0.2
baz=76,SNR=7.6
SFIN **Lafayette** 75.43 348 ⇑P P 22 12 15.7 -1.2
baz=76,SNR=9.3
SFIN **Lafayette** 75.43 348 *eP* P 22 12 16.1 -0.8
comp=Z,37nm,1.0s
LPM **Los Pinos Moun** 75.45 331 *eP* P 22 12 18.9 +1.5
LENM **Lemitar** 75.46 331 *eP* P 22 12 19.1 +1.6
X23A **Hourglass Bar** 75.50 331 ⇓P P 22 12 18.4 +0.7
baz=76
TUC **Tucson** 75.52 327 *eP* P 22 12 18.6 +0.9
TUC pmax pmax
comp=Z,43nm,1.3s
TUC MLR MLR
comp=Z,284nm,20.0s
TUC **Tucson** 75.52 327 *eP* P 22 12 18.6 +0.9
comp=Z,44nm,1.3s
TUC LR LR
comp=Z,284nm,20.0s
U28A **Mallet** 75.62 335 ⇓P P 22 12 18.4 +0.2
baz=76,SNR=12
T30A **Plains** 75.65 337 ⇑P P 22 12 18.8 +0.5
baz=76
V26A **Tequesquite Ra** 75.65 334 ⇑P P 22 12 18.6 +0.2
baz=76,SNR=13
BRYW **Bryant College** 75.66 0 *eP* P 22 12 19.6 +1.4
comp=Z,74nm,1.1s
S32A **Newby Ranch, P** 75.74 338 ⇑P P 22 12 19.1 +0.3
baz=76
W24A **Lazy 6 Ranch,** 75.75 332 ⇓P P 22 12 19.8 +0.6
baz=76,SNR=20
ALLY **Alegheny Colle** 75.77 354 *eP* P 22 12 18.9 +0.1
comp=Z,59nm,1.0s
S31A **Mulnville** 75.83 338 ⇑P P 22 12 19.7 +0.4
baz=76,SNR=10.0
U27A **Thompson Grove** 75.86 335 ⇑P P 22 12 20.2 +0.5
baz=76,SNR=13
ANMO **Albuquerque** 75.93 331 *c iP* P 22 12 21.0 +0.9
ANMO pmax pmax
comp=Z,191nm,1.2s
ANMO **Albuquerque** 75.93 331 LR LR 22 41 28.3
comp=Z,720nm,18.9s,baz=158,slow=32
ANMO **Albuquerque** 75.93 331 *eP* P 22 12 21.1 +1.0
comp=Z,44nm,1.1s
W23A **Werner Place,** 75.99 332 ⇑P P 22 12 21.5 +1.0
baz=76,SNR=22
T29A **Hugoton** 76.00 336 ⇑P P 22 12 20.6 +0.3
baz=76,SNR=10.0
V25A **Rancho No Teng** 76.00 333 ⇓P P 22 12 21.0 +0.5
baz=76,SNR=42
R33A **Olander Ranch,** 76.01 339 ⇑P P 22 12 20.4 +0.1
baz=76,SNR=11
QUA2 **Belchertown** 76.02 360 *eP* P 22 12 21.3 +1.1
comp=Z,51nm,1.0s
BINY **Binghamton** 76.03 357 *eP* P 22 12 21.0 +0.7
comp=Z,41nm,1.1s
WES **Weston** 76.12 0 *eP* P 22 12 22.1 +1.3
WES *e* 22 15 10.9
WES pmax pmax
comp=Z,575nm,1.4s
WES **Weston** 76.12 0 *eP* P 22 12 22.1 +1.3
comp=Z,574nm,1.4s
WES *e*PP PP 22 15 10.9 -1.5
V24A **Rampart Ranch,** 76.15 333 ⇑P P 22 12 21.8 +0.4
baz=76,SNR=19
214A **Organ Pipe Nat** 76.17 325 ⇓P P 22 12 22.7 +1.3
baz=76,SNR=6.8
214A **Organ Pipe Nat** 76.17 325 *eP* P 22 12 22.0 +0.6
comp=Z,64nm,1.4s
S30A **Montezuma** 76.17 337 ⇓P P 22 12 21.6 +0.3
baz=76,SNR=14
U26A **Atchley Ranch,** 76.17 334 ⇑P P 22 12 21.8 +0.3
baz=76,SNR=24
ERPA **Erie** 76.22 354 *eP* P 22 12 21.7 +0.4
comp=Z,53nm,0.9s
ERPA LR LR
comp=Z,352nm,19.0s
HRV **Adam Dziewonsk** 76.25 0 *eP* P 22 12 22.9 +1.4
HRV pmax pmax
comp=Z,49nm,1.0s
HRV **Adam Dziewonsk** 76.25 0 *eP* P 22 12 22.9 +1.4
comp=Z,49nm,1.0s
T28A **Walsh** 76.25 336 ⇑P P 22 12 22.0 +0.2
baz=77,SNR=44
R32A **Long Quarter,** 76.33 339 ⇓P P 22 12 22.4 +0.3
baz=77,SNR=21
KSU1 **Kansas State U** 76.35 340 ⇑P P 22 12 22.0 -0.3
baz=77,SNR=5.8
KSU1 **Kansas State U** 76.35 340 *eP* P 22 12 22.3 0.0
comp=Z,33nm,0.8s
KSU1 LR LR
comp=Z,379nm,19.0s
S29A **Ulysses** 76.36 337 ⇑P P 22 12 22.8 +0.4
baz=77,SNR=20
T27A **Campo** 76.40 335 ⇑P P 22 12 23.1 +0.4
baz=77,SNR=44
U25A **Circle Dot Ran** 76.42 334 ⇑P P 22 12 23.5 +0.6
baz=77,SNR=36
R31A **Burdett** 76.46 338 ⇑P P 22 12 23.3 +0.4
baz=77,SNR=14
TRY **Troy** 76.49 359 *eP* P 22 12 23.7 +0.9
comp=Z,87nm,1.0s
V23A **Ortiz Mt. (NFS** 76.52 332 ⇑P P 22 12 24.4 +0.9
baz=77,SNR=9.3
S28A **Manter** 76.59 336 ⇑P P 22 12 24.1 +0.4
baz=77,SNR=30
Q33A **Connelly Farm,** 76.61 340 ⇑P P 22 12 23.8 +0.2
baz=77,SNR=6.7
MMNY **Mt. Morris Dam** 76.67 355 *eP* P 22 12 24.4 +0.5
comp=Z,152nm,1.0s
R30A **Dighton** 76.69 337 ⇑P P 22 12 24.4 +0.1
baz=77,SNR=11
RAR **Rarotonga** 76.72 253 PFAKE 22 12 40.0 +15
RAR LR LR
comp=Z,3.0nm,20.0s
U24A **Moreno Valley** 76.75 333 ⇑P P 22 12 26.1 +1.2
baz=77,SNR=5.2
AAM **Ann Arbor** 76.80 351 *eP* P 22 12 24.4 -0.2
AAM pmax pmax
comp=Z,36nm,1.0s
AAM MLR MLR
comp=Z,385nm,20.0s
AAM **Ann Arbor** 76.80 351 *eP* P 22 12 24.4 -0.2
comp=Z,36nm,1.0s
AAM LR LR
comp=Z,385nm,20.0s
Q32A **Meitler Ranch,** 76.81 339 ⇓P P 22 12 25.1 +0.2
baz=77,SNR=24
T26A **Comanche Natio** 76.81 334 ⇑P P 22 12 25.7 +0.6
baz=77,SNR=19
V22A **San Miguel Ran** 76.95 331 ⇓P P 22 12 27.5 +1.5
baz=77,SNR=42
P33A **Williams Farm,** 76.97 340 ⇓P P 22 12 26.1 +0.4
baz=77,SNR=7.8
X18A **Snowflake** 77.02 329 ⇓P P 22 12 27.5 +1.2
baz=77,SNR=11
S27A **Las Animas** 77.02 335 ⇓P P 22 12 26.5 +0.3
baz=77
U23A **El Rito** 77.03 332 ⇓P P 22 12 27.8 +1.3
baz=77,SNR=28
T25A **Trinidad** 77.08 334 ⇓P P 22 12 27.8 +1.1
baz=77,SNR=40
Q31A **Ellis** 77.08 338 ⇑P P 22 12 26.9 +0.6
baz=77,SNR=16
UPI **Upington** 77.09 115 *eP* P 22 12 27.6 +0.7
UPI AMB AMB 22 12 36.8
comp=Z,48nm,3.1s
R29A **Marienthal** 77.10 337 ⇓P P 22 12 26.9 +0.4
baz=77,SNR=11
S26A **Kim** 77.17 335 ⇓P P 22 12 27.9 +0.9
baz=78,SNR=42
R28A **Tribune** 77.25 336 ⇓P P 22 12 27.7 +0.3
baz=78,SNR=31
113A **Mohawk Valley,** 77.29 325 ⇓P P 22 12 28.6 +0.9
baz=78,SNR=5.6
Q30A **Quinter** 77.31 338 ⇑P P 22 12 28.3 +0.6
baz=78,SNR=29
U22A **Llaves** 77.33 332 ⇓P P 22 12 29.9 +1.8
baz=78
T24B **San Luis** 77.37 333 ⇓P P 22 12 29.4 +1.1
baz=78,SNR=19
Z14A **Wintersburg** 77.39 326 ⇑P P 22 12 29.3 +1.1
baz=78,SNR=6.1
P32A **Huiting Farm,** 77.41 339 ⇓P P 22 12 28.3 +0.1
baz=78,SNR=6.7
W18A **Petrified Fore** 77.43 329 ⇑P P 22 12 29.7 +1.0
baz=78,SNR=11
W18A **Petrified Fore** 77.43 329 *eP* P 22 12 30.2 +1.6
comp=Z,96nm,1.3s
HNH **Hanover** 77.44 360 *eP* P 22 12 29.7 +1.5
comp=Z,42nm,1.0s
Q29A **Oakley** 77.47 337 ⇓P P 22 12 29.1 +0.5
baz=78,SNR=24
R27A **Eads** 77.53 336 ⇑P P 22 12 29.4 +0.4
baz=78,SNR=44
P31A **Stockton** 77.55 339 ⇑P P 22 12 29.4 +0.5
baz=78,SNR=23
S25A **Robets Cordova** 77.55 334 ⇑P P 22 12 30.2 +1.0
baz=78,SNR=35
X16A **Lo Mia Camp, P** 77.58 327 ⇓P P 22 12 30.8 +1.3
baz=78,SNR=34
T23A **Casias Ranch,** 77.59 333 ⇓P P 22 12 30.7 +1.1
baz=78,SNR=12
NCB **Newcomb** 77.74 358 PFAKE 22 12 40.0 +10
NCB LR LR
comp=Z,411nm,20.0s
MDV **Middlebury** 77.75 359 *eP* P 22 12 30.3 +0.5
R26A **Arlington** 77.77 335 ⇓P P 22 12 31.1 +0.7
baz=78,SNR=25
S24A **Houchin Ranch,** 77.82 334 ⇑P P 22 12 32.1 +1.3
baz=78,SNR=53
P30A **Selden** 77.83 338 ⇑P P 22 12 31.0 +0.4
baz=78,SNR=8.3
Y14A **Wickenburg** 77.90 326 ⇓P P 22 12 32.1 +1.1
baz=78,SNR=19
O32A **Brockman Farm,** 77.90 340 ⇑P P 22 12 30.9 0.0
baz=78,SNR=7.1
Q28A **Sharon Springs** 77.90 337 ⇑P P 22 12 31.6 +0.5
baz=78,SNR=15
R25A **Fountain Ranch** 77.93 334 ⇑P P 22 12 31.9 +0.6
baz=78,SNR=18
LBNH **Lisbon** 77.98 360 *eP* P 22 12 32.5 +1.3
LBNH pmax pmax
comp=Z,51nm,0.9s
LBNH **Lisbon** 77.98 360 *eP* P 22 12 32.5 +1.3
comp=Z,52nm,0.9s
SDCO **Great Sand Dun** 78.02 333 *eP* P 22 12 32.6 +0.7
comp=Z,21nm,0.9s
SDCO LR LR
comp=Z,414nm,19.0s
GLA **Glamis** 78.03 324 *eP* P 22 12 33.7 +1.9
GLA pmax pmax
comp=Z,88nm,1.6s
GLA **Glamis** 78.03 324 ⇓P P 22 12 33.1 +1.3
baz=78
GLA **Glamis** 78.03 324 *eP* P 22 12 33.7 +1.9
comp=Z,88nm,1.6s
P29A **Atwood** 78.10 337 ⇑P P 22 12 32.7 +0.6
baz=78,SNR=13
O31A **Woolen Ranch,** 78.11 339 ⇓P P 22 12 32.2 +0.1
baz=78,SNR=12
KSCO **Kaye Shedlock'** 78.12 336 ⇓P P 22 12 33.2 +0.9
baz=78,SNR=11
KSCO **Kaye Shedlock'** 78.12 336 *eP* P 22 12 33.8 +1.4
comp=Z,73nm,0.9s
SCIA **State Center** 78.14 344 *eP* P 22 12 32.1 0.0
comp=Z,114nm,1.3s
S23A **Nye Farm, Mont** 78.17 333 ⇓P P 22 12 33.8 +1.1
baz=78,SNR=5.7
R24A **Sanders Place,** 78.30 334 ⇑P P 22 12 34.7 +1.3
baz=79,SNR=84
WVL **Waterville** 78.33 2 *eP* P 22 12 34.6 +1.5
comp=Z,81nm,1.1s
P28A **Saint Francis** 78.34 337 ⇓P P 22 12 34.3 +0.8
baz=79,SNR=9.2
Q26A **Hugo** 78.35 335 ⇓P P 22 12 34.5 +0.9
baz=79,SNR=14
O30A **MW Ranch, Wils** 78.36 338 ⇓P P 22 12 33.8 +0.4
baz=79
PTN **Potsdam (NY)** 78.36 358 *eP* P 22 12 34.0 +0.7
PTN pmax pmax
comp=Z,65nm,1.0s
PTN **Potsdam (NY)** 78.36 358 *eP* P 22 12 34.0 +0.7
comp=Z,65nm,1.0s
N32A **Stulken Farm,** 78.37 340 ⇓P P 22 12 33.6 +0.1
baz=79,SNR=6.3
LONY **Lake Ozonia** 78.39 358 *eP* P 22 12 34.3 +0.8
comp=Z,51nm,1.0s
SWSC **Sam W. Stewart** 78.42 323 ⇑P P 22 12 35.1 +1.2
baz=79
Y12C **Blythe** 78.46 325 ⇓P P 22 12 35.7 +1.6
baz=79,SNR=9.1
JFWS **Jewell Farm** 78.47 346 *eP* P 22 12 33.6 -0.3
JFWS pmax pmax
comp=Z,62nm,0.9s
JFWS MLR MLR
comp=Z,322nm,19.0s

JFWS Jewell Farm 78.47 346 eP P 22 12 33.6 -0.3
comp=Z,62nm,0.9s
JFWS LR LR
comp=Z,322nm,19.0s
WUAZ Wupatki 78.48 328 ⇓P P 22 12 35.6 +1.3
baz=79,SNR=33
WUAZ Wupatki 78.48 328 eP P 22 12 35.7 +1.3
comp=Z,60nm,1.1s
WUAZ LR LR
comp=Z,346nm,19.0s
S22A 4UR Ranch, Cre 78.52 332 ⇓P P 22 12 35.6 +0.9
baz=79,SNR=23
R23A Moffat 78.53 333 ⇑P P 22 12 35.7 +1.0
baz=79,SNR=24
O29A 4D Ranch, Culb 78.54 338 ⇓P P 22 12 35.2 +0.7
baz=79
EMMW East Machias 78.55 3 eP P 22 12 36.0 +1.6
comp=Z,67nm,0.9s
EMMW epP PcP 22 12 43.7 +0.4
baz=81
Q25A Bedland, Calha 78.60 335 ⇓P P 22 12 35.7 +0.6
baz=79,SNR=8.0
P27A Ficken Ranch, 78.60 336 ⇓P P 22 12 35.7 +0.8
baz=79,SNR=5.9
N31A Bailey Ranch, 78.62 339 ⇑P P 22 12 35.5 +0.6
baz=79
BAR Barrett 78.64 323 eP P 22 12 36.8 +1.6
comp=Z,32nm,1.0s
BAR epP pP 22 12 45.4 -0.1
MONP Monument Peak, 78.69 323 ⇑P P 22 12 36.7 +1.0
baz=79
MVCO Mesa Verde 78.71 331 ⇑P P 22 12 36.6 +0.9
baz=79,SNR=32
MVCO Mesa Verde 78.71 331 eP P 22 12 36.6 +0.9
comp=Z,54nm,1.1s
MVCO LR LR
comp=Z,961nm,20.0s
PDMCI Parker Dam,Lak 78.72 325 ⇑P P 22 12 36.8 +1.2
baz=79
BC3 Big Chuckawall 78.83 324 ⇑P P 22 12 37.7 +1.4
baz=79,SNR=19
O28A Krutsinger Ran 78.85 337 ⇓P P 22 12 37.0 +0.8
baz=79,SNR=11
P26A Davis Ranch, A 78.86 336 ⇑P P 22 12 37.4 +1.0
baz=79,SNR=14
BGNE Belgrade 78.93 340 ⇓P P 22 12 36.7 +0.1
baz=79,SNR=10
BGNE Belgrade 78.93 340 eP P 22 12 37.2 +0.6
comp=Z,102nm,0.9s
N30A Hueftle Ranch, 78.93 339 ⇑P P 22 12 36.9 +0.3
baz=79
Q24A Divide 78.96 334 ⇓P P 22 12 38.0 +0.9
baz=79,SNR=22
109C Camp Elliot, M 79.03 323 ⇓P P 22 12 38.0 +0.7
baz=79
PKME Peaks-Kenny Pk 79.04 2 eP P 22 12 38.3 +1.3
comp=Z,24nm,0.9s
PKME LR LR
comp=Z,551nm,22.0s
TSUM Tsumeb 79.08 106 eP P 22 12 38.7 +0.5
comp=Z,41nm,1.0s
TSUM LR LR
comp=Z,680nm,20.0s
IRM Iron Mountain 79.09 325 ⇓P P 22 12 38.9 +1.3
baz=79,SNR=18
P25A Willow Gulch B 79.10 335 ⇑P P 22 12 38.9 +1.1
baz=79,SNR=24
M31A Lambtecht Ranc 79.11 340 ⇑P P 22 12 38.1 +0.5
baz=79,SNR=16
N29A Votaw Ranch, W 79.12 338 ⇑P P 22 12 38.1 +0.5
baz=79
O27A Beecher Island 79.14 337 ⇑P P 22 12 39.0 +1.2
baz=80,SNR=5.9
Q23A Hartsel 79.16 334 ⇑P P 22 12 39.0 +0.7
baz=80
W13A Hualapai Mount 79.26 326 ⇑P P 22 12 40.0 +1.2
baz=80
PFO Pinyon Flats O 79.28 323 P P 22 12 40.0 +1.2
comp=Z,257nm,0.9s,SNR=7.7
PFO Pinyon Flats O 79.28 323 eP P 22 12 40.8 +2.0
PFO pmax pmax
comp=Z,51nm,1.0s
PFO Pinyon Flats O 79.28 323 LR LR 22 41 59.6
comp=Z,352nm,18.1s,baz=131,slow=31
PFO Pinyon Flats O 79.28 323 ⇑P P 22 12 40.5 +1.6
baz=80,SNR=12
PFO Pinyon Flats O 79.28 323 eP P 22 12 40.8 +2.0
comp=Z,51nm,1.0s
N28A Pribbeno Ranch 79.28 338 ⇑P P 22 12 39.1 +0.5
baz=80,SNR=5.4
NEE2 Needles Airpor 79.33 325 ⇓P P 22 12 39.8 +0.8
baz=80
P24A Kohler Place, 79.36 335 ⇓P P 22 12 40.2 +1.0
baz=80,SNR=6.6
BELC Belle Mtn. Jos 79.37 324 ⇑P P 22 12 40.7 +1.3
baz=80,SNR=7.4
O26A Horse Wrangler 79.46 336 ⇓P P 22 12 40.8 +1.2
baz=80,SNR=14
PV01 Paradox Valley 79.53 331 eP P 22 12 41.2 +0.9
M30A Dale-Ortello V 79.55 339 ⇓P P 22 12 40.7 +0.7
baz=80
P23A Jefferson 79.58 334 ⇓P P 22 12 41.6 +1.1
baz=80,SNR=10
O25A Wiggins 79.62 335 ⇓P P 22 12 41.6 +1.1
baz=80,SNR=11
MURC Murrieta 79.64 323 ⇓P P 22 12 41.8 +1.2
baz=80,SNR=7.1
U15A North Rim 79.65 328 ⇑P P 22 12 42.3 +1.3
baz=80,SNR=42
OGNE Ogallala 79.67 337 ⇓P P 22 12 41.3 +0.6
baz=80
OGNE Ogallala 79.67 337 PFAKE 22 12 50.0 +9.3
OGNE LR LR
comp=Z,221nm,19.0s
PV05 Paradox Valley 79.70 331 eP P 22 12 41.8 +0.6
M29A Burnside Ranch 79.71 338 ⇑P P 22 12 41.2 +0.3
baz=80
N27A Anderson Farm, 79.71 337 ⇓P P 22 12 41.9 +0.9
baz=80,SNR=12
LDFC Landfair 79.82 325 eP P 22 12 44.1 +2.4
comp=Z,67nm,1.1s
SMCO Snowmass 79.82 333 eP P 22 12 43.1 +1.1
comp=Z,61nm,1.0s
L31A Butterfield Fa 79.83 340 ⇓P P 22 12 42.2 +0.7
baz=80,SNR=16
GMRC Granite Mounta 79.84 325 ⇑P P 22 12 43.2 +1.3
baz=80,SNR=28
ISCO Idaho Springs 79.87 334 eP P 22 12 42.8 +0.7
ISCO pmax pmax
comp=Z,32nm,1.0s
ISCO MLR MLR
comp=Z,268nm,20.0s
ISCO Idaho Springs 79.87 334 ⇓P P 22 12 42.7 +0.7
baz=80,SNR=30
ISCO Idaho Springs 79.87 334 eP P 22 12 42.8 +0.7
comp=Z,32nm,1.0s
ISCO LR LR
comp=Z,268nm,20.0s
M28A Bar X Bar Ranc 79.87 338 ⇓P P 22 12 42.8 +1.0
baz=80
L30A Spencer Herefo 79.88 339 ⇑P P 22 12 42.5 +0.7
baz=80,SNR=7.6
PV04 Paradox Valley 79.89 331 eP P 22 12 43.4 +1.3
BOSA Boshof 79.93 118 eP P 22 12 43.1 +0.4
BOSA AMB AMB 22 12 43.7
comp=Z,60nm,1.4s
BOSA Boshof 79.93 118 eP P 22 12 43.4 +0.8
BOSA pmax pmax
comp=Z,76nm,1.1s
BOSA Boshof 79.93 118 P P 22 12 43.5 +0.8
comp=Z,46nm,1.0s,baz=231,slow=6.3,SNR=34
BOSA LR LR 22 45 06.5
comp=Z,238nm,18.3s,baz=200,slow=34
BOSA Boshof 79.93 118 eP P 22 12 43.4 +0.8
comp=Z,76nm,1.1s
PV10 Paradox Valley 79.93 331 eP P 22 12 43.0 +0.6
N26A Koester Ranch, 79.96 336 ⇑P P 22 12 43.2 +0.9
baz=80
O24A Longmont 79.96 335 ⇑P P 22 12 43.1 +0.7
baz=80
PV09 Paradox Valley 80.07 331 eP P 22 12 44.2 +1.0
CIS Catalina Islan 80.10 322 ⇑P P 22 12 44.2 +1.0
baz=80
P22A Eagle 80.11 333 ⇓P P 22 12 44.2 +0.9
baz=80,SNR=16
HEC Hector,Ludlow 80.20 324 ⇑P P 22 12 45.0 +1.3
baz=80,SNR=22
L29A Maesberg Ranch 80.21 339 ⇓P P 22 12 44.4 +0.8
baz=80,SNR=6.6

N25A Grover 80.23 336 ⇑P P 22 12 44.7 +0.8
baz=80
M27A Reverse DX Ran 80.31 337 ⇓P P 22 12 44.9 +0.7
baz=81,SNR=7.3
O23A Lake Granby, G 80.34 334 ⇑P P 22 12 45.6 +0.9
baz=81,SNR=44
KNB Kanab 80.37 328 eP P 22 12 45.6 +0.9
KNB pmax pmax
comp=Z,92nm,1.1s
KNB Kanab 80.37 328 eP P 22 12 45.5 +0.9
comp=Z,92nm,1.1s
BFSC Mount Baldy Ra 80.38 323 ⇓P P 22 12 45.8 +1.0
baz=81,SNR=9.5
L28A Connealy Angus 80.47 338 ⇑P P 22 12 45.7 +0.7
baz=81
TUQ Turquoise Moun 80.50 325 ⇑P P 22 12 46.6 +1.2
baz=81,SNR=28
M26A McRoberts Ranc 80.50 337 ⇓P P 22 12 46.0 +0.8
baz=81
K30A Basset 80.52 340 ⇑P P 22 12 45.6 +0.4
baz=81,SNR=18
N24A Carr 80.52 335 ⇓P P 22 12 46.1 +0.7
baz=81
O22A Kremmling 80.53 334 ⇓P P 22 12 46.4 +0.8
baz=81,SNR=46
RRX Edison Barstow 80.57 324 ⇓P P 22 12 46.9 +1.3
baz=81
MWC Mount Wilson 80.57 323 eP P 22 12 47.5 +1.6
MWC pmax pmax
comp=Z,42nm,1.0s
MWC Mount Wilson 80.57 323 eP P 22 12 47.5 +1.6
comp=Z,42nm,1.0s
PASC Pasadena Art C 80.59 323 eP P 22 12 48.1 +2.3
comp=Z,60nm,1.2s
ECSD EROS Data Cent 80.68 342 ⇑P P 22 12 46.0 0.0
baz=81,SNR=94
ECSD EROS Data Cent 80.68 342 eP P 22 12 46.0 0.0
comp=Z,101nm,0.9s
DECC Green Verdugo 80.73 323 ⇑P P 22 12 47.6 +1.1
baz=81
SWZ Schweizer 80.77 116 eP P 22 12 47.1 -0.1
SWZ AMB AMB 22 12 47.9
comp=Z,28nm,1.2s
M25A Palm-Egli Farm 80.78 336 ⇓P P 22 12 47.4 +0.7
baz=81,SNR=6.2
L27A T5 Ranch, Ells 80.79 338 ⇑P P 22 12 47.6 +0.9
baz=81,SNR=7.4
K29A Lazy Trails An 80.80 339 ⇓P P 22 12 47.3 +0.6
baz=81,SNR=11
GSC Goldstone, Bar 80.81 324 eP P 22 12 48.9 +1.9
GSC pmax pmax
comp=Z,29nm,0.9s
GSC Goldstone, Bar 80.81 324 ⇓P P 22 12 48.1 +1.1
baz=81,SNR=15
GSC Goldstone, Bar 80.81 324 eP P 22 12 48.9 +1.9
comp=Z,29nm,0.9s
N23A Red Feather La 80.95 335 ⇑P P 22 12 48.6 +0.7
baz=81,SNR=26
L26A Underwood Farm 81.00 337 ⇓P P 22 12 48.5 +0.7
baz=81
SHPR Sheep Range 81.01 326 eP P 22 12 49.4 +1.2
SHOC Shoshone, Teco 81.04 325 ⇓P P 22 12 49.0 +0.8
baz=81
CCUT Cedar City 81.05 328 eP P 22 12 50.1 +1.7
comp=Z,56nm,1.1s
N22A Wattenberg Ran 81.06 334 ⇓P P 22 12 49.4 +1.0
baz=81,SNR=36
EDW2 Edwards Air Fo 81.06 323 ⇓P P 22 12 49.1 +0.8
baz=81,SNR=11
M24A Cheyenne 81.07 336 ⇓P P 22 12 49.4 +1.0
baz=81,SNR=16
K28A Ten Mile Ranch 81.07 338 ⇑P P 22 12 49.1 +0.9
baz=81,SNR=19
J30A Dallas 81.08 340 ⇓P P 22 12 48.1 -0.1
baz=81,SNR=11
O20A White River Ci 81.14 333 ⇑P P 22 12 49.3 +0.6
baz=81,SNR=16
O20A White River Ci 81.14 333 eP P 22 12 49.8 +1.1
comp=Z,33nm,1.0s
PHWY Pilot Hill 81.14 335 eP P 22 12 49.4 +0.6
comp=Z,48nm,1.1s
SRU San Rafael Swe 81.16 331 eP P 22 12 49.3 +0.4
SRU pmax pmax
comp=Z,32nm,0.9s
SRU San Rafael Swe 81.16 331 eP P 22 12 49.3 +0.4
comp=Z,32nm,0.9s
SPMN Marine on St. 81.20 345 ⇓P P 22 12 47.9 -0.8
baz=82,SNR=14
SPMN Marine on St. 81.20 345 eP P 22 12 47.9 -0.8
comp=Z,44nm,0.9s
OSI Osito Audit: C 81.22 323 ⇑P P 22 12 50.3 +1.1
baz=82,SNR=6.2
OSI Osito Audit: C 81.22 323 eP P 22 12 50.8 +1.7
comp=Z,66nm,0.9s
OWUT Old Woman Plat 81.25 330 eP P 22 12 50.9 +1.4
ARUT Antelope Range 81.28 328 eP P 22 12 51.5 +1.9
ARUT Antelope Range 81.28 328 eP P 22 12 51.5 +1.9
K27A Flueckinger Fa 81.33 338 ⇑P P 22 12 50.5 +0.9
baz=82,SNR=19
COWI Conover 81.34 348 eP P 22 12 49.7 +0.3
comp=Z,36nm,1.1s
MVU Marysvale 81.35 329 eP P 22 12 51.6 +1.6
comp=Z,41nm,1.2s
M23A Laramie 81.38 335 ⇓P P 22 12 50.4 +0.4
baz=82,SNR=11
LRMC Laurel Mtn Rad 81.39 324 ⇓P P 22 12 51.2 +1.1
baz=82,SNR=19
L25A Engebretsen Ra 81.39 336 ⇓P P 22 12 50.8 +0.9
baz=82
J29A Okreek 81.39 339 ⇓P P 22 12 50.3 +0.4
baz=82,SNR=63
ROA Roan Cliffs 81.56 331 eP P 22 12 51.9 +0.7
TMUT Trail Mountain 81.60 330 eP P 22 12 52.6 +1.2
comp=Z,45nm,1.3s
I30A Oacoma 81.60 340 ⇑P P 22 12 50.6 -0.3
baz=82,SNR=28
L24A Wheatland 81.62 336 ⇑P P 22 12 51.9 +0.8
baz=82,SNR=6.3
K26A Motz Farm, Whi 81.63 337 ⇓P P 22 12 51.9 +0.8
baz=82,SNR=7.4
M22A Cedar Creek Ra 81.63 334 ⇑P P 22 12 52.1 +0.7
baz=82,SNR=12
ARVC Arvin 81.67 323 ⇑P P 22 12 52.6 +1.1
baz=82
J28A Allard Ranch, 81.68 339 ⇑P P 22 12 52.1 +0.7
baz=82,SNR=41
N20A Spence Gulch, 81.75 333 ⇓P P 22 12 52.2 +0.2
baz=82,SNR=20
J27A Elkhorn Farm, 81.76 338 ⇓P P 22 12 52.8 +0.9
baz=82,SNR=28
K25A Mack Ranch, Ha 81.77 337 ⇓P P 22 12 52.9 +0.9
baz=82,SNR=7.7
FURC Furnace Creek, 81.78 325 ⇑P P 22 12 53.3 +1.4
baz=82,SNR=8.0
SEK Senekal 81.82 119 eP P 22 12 53.3 +0.5
SEK AMB AMB 22 12 54.6
comp=Z,62nm,1.3s
ISA Isabella, Lake 81.92 323 ⇓P P 22 12 54.3 +1.5
baz=82
L23A Garrett 81.94 335 ⇑P P 22 12 53.2 +0.2
baz=82,SNR=11
I29A Vivian Onida 81.95 340 ⇓P P 22 12 52.6 -0.1
baz=82,SNR=12
BRSD Miller 81.96 341 ⇓P P 22 12 52.5 -0.3
baz=82,SNR=5.9
BRSD Miller 81.96 341 eP P 22 12 53.1 +0.3
comp=Z,111nm,1.0s
DAC Darwin (Calif) 81.98 324 eP P 22 12 54.5 +1.2
DAC pmax pmax
comp=Z,46nm,1.0s
DAC Darwin (Calif) 81.98 324 eP P 22 12 54.5 +1.2
comp=Z,46nm,1.0s
L22A Ellis Ranch, M 82.13 335 ⇓P P 22 12 55.1 +1.1
baz=82,SNR=7.1
J26A Sides Ranch, S 82.14 338 ⇑P P 22 12 54.7 +0.9
baz=82,SNR=28
LBTB Lobatse 82.16 115 eP P 22 12 54.8 +0.2
LBTB AMB AMB 22 13 04.0
comp=Z,54nm,1.2s
LBTB Lobatse 82.16 115 eP P 22 12 54.7 +0.1
LBTB pmax pmax
comp=Z,72nm,1.1s
LBTB Lobatse 82.16 115 eP P 22 12 54.7 +0.1
comp=Z,72nm,1.1s
K24A Anderson Ranch 82.18 336 ⇓P P 22 12 55.1 +0.9
baz=82,SNR=16
I28A Midland 82.18 339 ⇑P P 22 12 54.1 +0.2
baz=82,SNR=36

VES Vestal, Richgr 82.36 323 ⇓P P 22 12 56.1 +1.0
baz=83,SNR=15
MPU Maple Canyon 82.38 330 eP P 22 12 56.5 +1.2
comp=Z,46nm,1.1s
SMMC Simmler 82.41 322 ⇑P P 22 12 56.8 +1.5
baz=83
J25A Sunshine Ranch 82.44 337 ⇓P P 22 12 56.0 +0.6
baz=83
GRAC Grapevine Rang 82.45 325 ⇑P P 22 12 56.9 +1.4
baz=83
H29A Onida 82.48 340 ⇓P P 22 12 55.3 -0.1
baz=83,SNR=33
K23A Bowen Ranch, D 82.48 336 ⇑P P 22 12 56.1 +0.3
baz=83,SNR=22
I27A Quinn 82.51 339 ⇓P P 22 12 56.2 +0.5
baz=83,SNR=18
NLU North Lily Min 82.51 330 eP P 22 12 57.4 +1.4
comp=Z,60nm,1.4s
DAU Daniels Canyon 82.56 331 eP P 22 12 57.7 +1.3
DAU Daniels Canyon 82.56 331 eP P 22 12 57.7 +1.3
G30A Faulkton 82.65 341 ⇓P P 22 12 56.1 -0.2
baz=83,SNR=24
J24A Dixon Ranch, L 82.67 337 ⇑P P 22 12 57.8 +1.1
baz=83,SNR=18
K22A Casper 82.70 335 ⇓P P 22 12 57.3 +0.4
baz=83,SNR=22
K22A Casper 82.70 335 eP P 22 12 57.5 +0.6
comp=Z,71nm,1.1s
R11A Troy Canyon, C 82.71 327 ⇑P P 22 12 58.2 +1.2
baz=83,SNR=55
R11A Troy Canyon, C 82.71 327 eP P 22 12 58.2 +1.2
comp=Z,46nm,1.1s
I26A New Underwood 82.72 338 ⇓P P 22 12 57.0 +0.2
baz=83
WDLM Western Deep L 82.74 117 eP P 22 12 57.6 -0.1
WDLM AMB AMB 22 12 58.6
comp=Z,18nm,1.3s
H28A Mission Ridge 82.76 340 ⇑P P 22 12 57.0 0.0
baz=83,SNR=26
JLU Jordanelle 82.80 331 eP P 22 12 58.6 +1.0
comp=Z,26nm,0.9s
RCTC Rector, Farmer 82.81 323 ⇑P P 22 12 57.9 +0.5
baz=83
TIN Tinemaha, Big 82.90 324 ⇓P P 22 12 58.8 +0.8
baz=83
TIN Tinemaha, Big 82.90 324 ePKiKP PKiKP 22 18 19.0 +1.7
G29A Hovey 82.92 340 ⇑P P 22 12 57.7 0.0
baz=83,SNR=8.7
KLOF Kloof 82.92 117 eP P 22 12 59.1 +0.5
KLOF AMB AMB 22 12 60.0
comp=Z,26nm,2.5s
K21A Alcova 82.95 335 ⇑P P 22 12 58.6 +0.4
baz=83,SNR=36
I25A Rochford 82.99 337 ⇑P P 22 12 59.0 +0.7
baz=83,SNR=34
CTU Camp Tracy 83.00 331 eP P 22 12 59.3 +0.8
comp=Z,12nm,0.9s
DUG Dugway, Tooele 83.02 330 eP P 22 12 59.4 +0.8
DUG pmax pmax
comp=Z,100nm,1.5s
DUG MLR MLR
comp=Z,351nm,21.0s
DUG Dugway, Tooele 83.02 330 ⇓P P 22 12 59.4 +0.8
baz=83,SNR=46
DUG Dugway, Tooele 83.02 330 eP P 22 12 59.4 +0.8
comp=Z,100nm,1.5s
DUG LR LR
comp=Z,351nm,21.0s
H27A Howes 83.03 339 ⇑P P 22 12 58.4 0.0
baz=83,SNR=30
J23A Dilts Ranch, B 83.03 336 ⇓P P 22 12 58.8 +0.3
baz=83
G28A Parade 83.09 340 ⇓P P 22 12 58.8 +0.2
baz=83,SNR=24
I24A Kuemmerle Ranc 83.13 337 ⇑P P 22 12 59.2 +0.2
baz=83,SNR=11
RSSD Black Hills 83.17 337 eP P 22 12 59.6 +0.2
RSSD pmax pmax
comp=Z,35nm,0.9s
RSSD Black Hills 83.17 337 eP P 22 12 59.6 +0.2
comp=Z,35nm,0.9s
TCUT Toone Canyon 83.22 331 eP P 22 13 00.3 +0.6
comp=Z,83nm,1.3s
H26A Fairpoint 83.23 338 ⇑P P 22 12 59.4 0.0
baz=84
TPH Tonopah 83.24 326 eP P 22 13 00.9 +1.1
TPH pmax pmax
comp=Z,54nm,1.0s
TPH Tonopah 83.24 326 eP P 22 13 00.9 +1.1
comp=Z,54nm,1.0s
F30A Leola 83.27 341 ⇑P P 22 12 59.3 -0.2
baz=84,SNR=15
CRWM Crown Mines 83.28 117 eP P 22 13 00.0 -0.5
CRWM AMB AMB 22 13 01.8
comp=Z,34nm,2.5s
OBSV Observatory 83.36 117 eP P 22 13 01.0 +0.1
OBSV AMB AMB 22 13 09.4
comp=Z,22nm,1.2s
J22A Midwest 83.36 335 ⇓P P 22 12 60.0 -0.3
baz=84,SNR=16
ERPM east rand prop 83.39 117 eP P 22 13 00.8 -0.3
ERPM AMB AMB 22 13 10.6
comp=Z,20nm,2.3s
F29A Eureka 83.48 341 ⇓P P 22 13 00.4 -0.2
baz=84,SNR=29
H25A Fruitdale 83.49 338 ⇓P P 22 13 01.2 +0.4
baz=84,SNR=16
I23A Meade Ranch, G 83.50 336 ⇑P P 22 13 00.1 -0.8
baz=84
EYMN Ely 83.55 347 eP P 22 13 00.8 -0.2
comp=Z,51nm,1.1s
MCU Monte Cristo P 83.55 331 eP P 22 13 01.8 +0.4
RPZ Rata Peaks 83.63 221 eP P 22 13 03.2 +1.4
comp=Z,53nm,1.1s
J21A Lysite 83.64 335 ⇓P P 22 13 01.8 0.0
baz=84,SNR=9.9
MLAC Mammoth, Mammo 83.65 324 ⇓P P 22 13 03.1 +1.1
baz=84,SNR=8.5
G27A Dupree 83.66 339 ⇓P P 22 13 01.5 -0.1
baz=84,SNR=26
URZ Urewera 83.67 228 LR LR 22 41 07.3
comp=Z,462nm,21.1s,baz=153,slow=29
HWUT Hardware Ranch 83.69 331 eP P 22 13 02.2 +0.2
comp=Z,54nm,1.0s
HWUT LR LR
comp=Z,784nm,19.0s
BGU Big Grassy Mou 83.72 330 eP P 22 13 02.3 +0.2
comp=Z,33nm,1.6s
F28A McLaughlin 83.77 340 ⇑P P 22 13 02.3 +0.2
baz=84,SNR=18
I22A 9 Mile Ranch, 83.78 336 ⇑P P 22 13 02.3 -0.1
baz=84,SNR=21
G26A Maurine 83.78 339 ⇓P P 22 13 02.3 0.0
baz=84,SNR=30
SPUT South Promonto 83.80 330 eP P 22 13 02.4 -0.2
comp=Z,89nm,1.3s
E30A Jud 83.85 342 ⇓P P 22 13 02.5 0.0
baz=84,SNR=20
J20A Shoshoni 83.87 334 ⇑P P 22 13 03.7 +0.8
baz=84,SNR=37
H24A Dirks Ranch, A 83.90 337 ⇓P P 22 13 02.7 -0.2
baz=84,SNR=20
BW06 Boulder Array 83.91 333 eP P 22 13 03.5 +0.3
comp=Z,38nm,1.3s
BW06 LR LR
comp=Z,664nm,19.0s
PDAR Pinedale Array 83.91 333 P P 22 13 03.4 +0.2
comp=Z,13nm,0.9s,baz=159,slow=3.9,SNR=62
PDAR PKKPbc PKKPbc 22 31 18.6 -1.5
comp=Z,0.5nm,0.7s,baz=271,slow=1.9,SNR=3.5
HDU Hyde Park 83.94 331 eP P 22 13 03.0 -0.3
G25A Newell 83.94 338 ⇓P P 22 13 03.2 +0.1
baz=84,SNR=19
DRLN Deer Lake 83.98 9 eP P 22 13 03.8 +0.7
comp=Z,91nm,1.0s
I21A Big Trails, Te 83.99 335 ⇓P P 22 13 03.2 -0.2
baz=84,SNR=27
H23A Clabaugh Cattl 84.01 337 ⇑P P 22 13 03.3 -0.2
baz=84
NV01 Mina Array Sit 84.03 325 eP P 22 13 04.8 +0.8
NVAR Mina Array Bea 84.03 325 P P 22 13 05.3 +1.4
comp=Z,15nm,0.9s,baz=150,slow=6.0,SNR=54
E29A Napoleon 84.11 341 ⇑P P 22 13 03.9 0.0
baz=84,SNR=9.2
F27A Lemmon 84.14 339 ⇓P P 22 13 04.3 +0.3
baz=84,SNR=18
TOA0 Torodi Ar. Sit 84.15 70 eP P 22 13 04.0 -0.7
TORD Torodi Ar. Bea 84.15 70 P P 22 13 04.8 +0.1

comp=Z,35nm,0.9s,baz=249,slow=4.4,SNR=105
TORD PKKPbc **PKKPbc** **22 31 18.6 +1.1**
comp=Z,0.8nm,1.0s,baz=35,slow=2.1,SNR=4.7
TORD LR LR 22 49 59.1
comp=Z,422nm,18.4s,baz=235,slow=35
J19A Crowheart 84.15 334 ⇓P **P** **22 13 04.2 -0.1**
baz=84,SNR=67
F26A Lodgepole 84.31 339 ⇓P **P** **22 13 05.1 +0.2**
baz=85,SNR=16
HVU Hansel Valley 84.33 331 *e*P **P** **22 13 05.4 +0.2**
HVU pmax pmax
comp=Z,44nm,0.9s
HVU Hansel Valley 84.33 331 *e*P **P** **22 13 05.4 +0.2**
comp=Z,44nm,0.9s
H22A Clearmont 84.36 336 ⇓P **P** **22 13 05.2 -0.1**
baz=85
D30A Buchanan 84.38 342 ⇓P **P** **22 13 05.3 +0.1**
baz=85,SNR=41
G24A Alzada 84.38 338 ⇑P **P** **22 13 05.3 0.0**
baz=85,SNR=7.1
E28A Huff 84.40 341 ⇑P **P** **22 13 05.5 +0.2**
baz=85,SNR=13
I20A Worland 84.41 335 ⇑P **P** **22 13 05.9 +0.3**
baz=85,SNR=29
AHID Auburn Hatcher 84.49 332 *e*P **P** **22 13 06.7 +0.6**
comp=Z,33nm,1.0s
AHID LR LR
comp=Z,492nm,19.0s
ELK Elko 84.51 328 *e*P **P** **22 13 06.9 +0.6**
ELK pmax pmax
comp=Z,29nm,1.0s
ELK Elko 84.51 328 *e*P **P** **22 13 06.9 +0.6**
comp=Z,29nm,1.0s
E27A Carson 84.51 340 ⇓P **P** **22 13 06.0 +0.1**
baz=85,SNR=9.7
D29A Pettibone, Tap 84.55 341 ⇓P **P** **22 13 05.8 -0.2**
baz=85,SNR=26
G23A Biddle 84.58 337 ⇑P **P** **22 13 06.0 -0.3**
baz=85,SNR=10
F25A Bowman 84.61 338 ⇑P **P** **22 13 06.3 -0.1**
baz=85,SNR=8.4
H21A Big Horn, Sher 84.62 336 ⇓P **P** **22 13 06.1 -0.5**
baz=85,SNR=5.7
WAKR Walker 84.64 324 *e*P **P** **22 13 08.5 +1.5**
CMB Columbia Colle 84.73 324 *e*P **P** **22 13 08.5 +1.3**
CMB pmax pmax
comp=Z,25nm,1.1s
CMB Columbia Colle 84.73 324 *e*P **P** **22 13 08.5 +1.3**
comp=Z,24nm,1.1s
AGMN Agassiz Nation 84.79 344 ⇑P **P** **22 13 06.9 -0.3**
baz=85,SNR=22
AGMN Agassiz Nation 84.79 344 *e*P **P** **22 13 06.7 -0.5**
comp=Z,33nm,0.9s
I19A Meeteetse 84.79 334 ⇑P **P** **22 13 07.8 +0.2**
baz=85,SNR=21
E26A Carlson Angus 84.81 339 ⇓P **P** **22 13 07.5 +0.1**
baz=85,SNR=12
H20A Greybull 84.83 335 ⇓P **P** **22 13 07.3 -0.4**
baz=85,SNR=12
F24A Ekalaka 84.85 338 ⇑P **P** **22 13 07.6 0.0**
baz=85,SNR=5.4
C30A Mose, Pekin 84.86 342 ⇑P **P** **22 13 07.7 +0.1**
baz=85,SNR=59
G22A Birney 84.89 336 ⇑P **P** **22 13 07.6 -0.4**
baz=85,SNR=7.4
REDW Red Top Meadow 84.91 333 *e*P **P** **22 13 08.3 +0.1**
comp=Z,28nm,1.0s
D28A Regan 84.93 341 ⇑P **P** **22 13 07.9 0.0**
baz=85,SNR=8.2
SNOW Snow King Moun 84.95 333 *e*P **P** **22 13 09.3 +0.8**
comp=Z,21nm,0.8s
LOHW Long Hollow 85.03 333 *e*P **P** **22 13 09.0 +0.2**
comp=Z,17nm,0.8s
F23A Volborg 85.04 337 ⇓P **P** **22 13 08.6 0.0**
baz=85,SNR=22
TPAW Teton Pass 85.05 333 *e*P **P** **22 13 09.2 +0.2**
comp=Z,33nm,1.0s
E25A Miller Ranch, 85.12 339 ⇑P **P** **22 13 09.2 +0.3**
baz=85,SNR=7.6
D27A Center 85.12 340 ⇑P **P** **22 13 09.2 +0.3**
baz=85
BMN Battle Mountai 85.13 327 *e*P **P** **22 13 09.7 +0.4**
BMN pmax pmax
comp=Z,9.0nm,1.3s
BMN Battle Mountai 85.13 327 *e*P **P** **22 13 09.7 +0.4**
comp=Z,8.7nm,1.3s
G21A Lodge Grass 85.20 336 ⇑P **P** **22 13 09.2 -0.2**
baz=86,SNR=13
FXWY Fox Creek 85.21 333 *e*P **P** **22 13 09.8 +0.1**
comp=Z,12nm,0.9s
I17A Pilgrim Ck. 85.28 333 ⇓P **P** **22 13 10.7 +0.6**
baz=86,SNR=37
MDND Maddock 85.28 342 ⇓P **P** **22 13 09.9 +0.3**
baz=86,SNR=11
MDND Maddock 85.28 342 *e*P **P** **22 13 10.5 +0.8**
comp=Z,34nm,0.8s
D26A Manning 85.31 340 ⇓P **P** **22 13 10.1 +0.3**
baz=86,SNR=18
H19A Powell 85.34 334 ⇓P **P** **22 13 10.4 +0.2**
baz=86,SNR=34
C28A Hausauer Farms 85.36 341 ⇓P **P** **22 13 10.4 +0.2**
baz=86
MSKU Masuku 85.37 89 PFAKE 22 13 30.0 +19
MSKU LR LR
comp=Z,1.0nm,19.0s
F22A Rosebud 85.37 337 ⇓P **P** **22 13 10.1 -0.2**
baz=86,SNR=29
IMW Indian Meadow 85.39 333 *e*P **P** **22 13 11.5 +0.8**
comp=Z,44nm,1.1s
E24A Baker 85.44 338 ⇓P **P** **22 13 10.9 +0.3**
baz=86,SNR=12
FLWY Flagg Ranch 85.46 333 *e*P **P** **22 13 11.6 +0.7**
comp=Z,48nm,0.8s
B30A Myrvik Farm, E 85.51 343 ⇑P **P** **22 13 10.8 0.0**
baz=86,SNR=50
G20A Bridger 85.54 335 ⇓P **P** **22 13 11.1 -0.2**
baz=86,SNR=53
H18A Shoshone NF, C 85.59 334 ⇑P **P** **22 13 11.8 +0.2**
baz=86,SNR=112
C27A Sayler Ranch, 85.67 340 ⇓P **P** **22 13 12.2 +0.5**
baz=86,SNR=18
D25A Fairfield 85.68 339 ⇑P **P** **22 13 12.3 +0.5**
baz=86,SNR=22
H17A Grant Village 85.68 333 ⇑P **P** **22 13 12.9 +0.8**
baz=86,SNR=8.5
H17A Grant Village 85.68 333 *e*P **P** **22 13 13.8 +1.7**
comp=Z,9.1nm,0.8s
F21A Absaloka Mine, 85.70 336 ⇓P **P** **22 13 12.0 +0.1**
baz=86,SNR=6.8
E23A Ismay 85.70 338 ⇓P **P** **22 13 11.9 0.0**
baz=86
LKWY Lake 85.76 334 *e*P **P** **22 13 14.2 +1.7**
LKWY pmax pmax
comp=Z,15nm,0.9s
LKWY Lake 85.76 334 *e*P **P** **22 13 14.2 +1.7**
comp=Z,15nm,0.9s
B29A Wagenman Farm, 85.78 342 ⇓P **P** **22 13 12.1 -0.1**
baz=86,SNR=20
YFT Old Faithful 85.83 333 *e*P **P** **22 13 14.9 +2.1**
comp=Z,156nm,2.0s
RLMT Red Lodge 85.83 334 *e*P **P** **22 13 12.9 +0.1**
comp=Z,39nm,0.8s
E22A Miles City 85.85 337 ⇓P **P** **22 13 12.2 -0.4**
baz=86,SNR=14
C26A Wahner Farm, P 85.94 340 ⇑P **P** **22 13 13.4 +0.5**
baz=86,SNR=14
D24A Glendive 85.95 338 ⇓P **P** **22 13 13.5 +0.5**
baz=86,SNR=24
A30A Hoffart Farm, 85.96 343 ⇓P **P** **22 13 12.8 -0.3**
baz=86,SNR=24
YNR Norris Junctio 86.00 333 *e*P **P** **22 13 15.0 +1.4**
comp=Z,18nm,1.2s
F20A Billings 86.03 336 ⇓P **P** **22 13 13.4 -0.1**
baz=86,SNR=7.1
B28A Dugan Ranch, T 86.03 341 ⇑P **P** **22 13 13.7 +0.3**
baz=86,SNR=19
YMR Madison River 86.06 333 *e*P **P** **22 13 15.3 +1.3**
comp=Z,88nm,0.9s
YMC Maple Creek 86.15 333 *e*P **P** **22 13 15.2 +0.8**
LAO LASA Array 86.16 337 *e*P **P** **22 13 14.3 +0.1**
comp=Z,74nm,1.0s
C25A Freed Ranch, W 86.17 339 ⇓P **P** **22 13 14.5 +0.4**
baz=86,SNR=9.0
A29A Manning Farm, 86.18 342 ⇓P **P** **22 13 13.8 -0.3**
baz=86,SNR=17
B27A Peters Farms, 86.23 341 ⇑P **P** **22 13 14.7 +0.3**
baz=87
D23A Lindsay 86.27 338 ⇑P **P** **22 13 15.3 +0.6**
baz=87,SNR=67
E21A Keefer Ranch, 86.31 337 ⇑P **P** **22 13 14.9 0.0**
baz=87,SNR=19
F19A Roth Farm, Mol 86.35 335 ⇑P **P** **22 13 15.0 -0.1**
baz=87,SNR=22
C24A Savage 86.35 339 ⇑P **P** **22 13 15.4 +0.3**
baz=87,SNR=54
QLMT Earthquake Lak 86.37 333 *e*P **P** **22 13 16.6 +1.1**
A28A Rude Farm, Bot 86.43 342 ⇑P **P** **22 13 15.3 -0.1**
baz=87,SNR=11
B26A Jensen Ranch, 86.47 340 ⇓P **P** **22 13 15.9 +0.2**
baz=87
HLID Hailey 86.48 331 ⇑P **P** **22 13 16.8 +0.8**
baz=87,SNR=51
HLID Hailey 86.48 331 *e*P **P** **22 13 16.8 +0.8**
comp=Z,41nm,1.0s
GCMT Greycliff 86.55 335 *e*P **P** **22 13 16.5 +0.3**
D22A Cohagen 86.56 337 ⇑P **P** **22 13 16.4 +0.4**
baz=87,SNR=41
ULM Lac du Bonnet 86.63 345 *e*P **P** **22 13 15.4 -0.9**
ULM pmax pmax
comp=Z,47nm,1.1s
ULM Lac du Bonnet 86.63 345 P **P** **22 13 15.9 -0.3**
comp=Z,29nm,0.9s,baz=156,slow=3.2,SNR=36
ULM Lac du Bonnet 86.63 345 *e*P **P** **22 13 15.3 -0.9**
comp=Z,47nm,1.1s
E20A Meyer Farm, Mu 86.63 336 ⇓P **P** **22 13 16.8 +0.3**
baz=87,SNR=76
B25A Knox Farm, Ray 86.64 340 ⇑P **P** **22 13 16.9 +0.4**
baz=87
A27A Ledoux Ranch, 86.73 341 ⇓P **P** **22 13 17.4 +0.6**
baz=87,SNR=6.6
D21A La Casta Ranch 86.75 337 ⇑P **P** **22 13 17.0 0.0**
baz=87,SNR=32
E19A Rath Farm, Rou 86.82 335 ⇑P **P** **22 13 17.4 0.0**
baz=87,SNR=64
C23A Lambert 86.82 338 ⇓P **P** **22 13 17.4 +0.1**
baz=87,SNR=60
A26A Wade Farm, Ken 86.89 341 ⇑P **P** **22 13 17.9 +0.3**
baz=87
MCMT McKenzie Canyo 86.91 332 *e*P **P** **22 13 19.1 +0.9**
MFID Camas Ranch 86.95 330 *e*P **P** **22 13 18.8 +0.6**
comp=Z,27nm,1.0s
C22A Vida 86.99 338 ⇑P **P** **22 13 18.2 0.0**
baz=87,SNR=22
MSNA Messina 87.01 115 *e*P **P** **22 13 19.8 +0.7**
MSNA AMB AMB 22 13 29.1
comp=Z,29nm,1.2s
DGMT Dagmar 87.12 339 ⇓P **P** **22 13 19.1 +0.3**
baz=87,SNR=45
DGMT Dagmar 87.12 339 *e*P **P** **22 13 19.3 +0.5**
comp=Z,161nm,0.9s
BOZ Bozeman (W) 87.14 333 *e*P **P** **22 13 19.1 0.0**
BOZ pmax pmax
comp=Z,20nm,1.0s
BOZ MLR MLR
comp=Z,561nm,19.0s
BOZ Bozeman (W) 87.14 333 *e*P **P** **22 13 19.1 0.0**
comp=Z,20nm,1.0s
BOZ LR LR
comp=Z,561nm,19.0s
D20A Manuel Ranch, 87.15 336 ⇑P **P** **22 13 19.0 0.0**
baz=88,SNR=72
A25A Svangstu Ranch 87.23 340 ⇑P **P** **22 13 19.8 +0.5**
baz=88,SNR=21
DLMT Dillon 87.27 333 *e*P **P** **22 13 20.8 +1.1**
comp=Z,64nm,1.3s
B23A Brockton 87.36 339 ⇓P **P** **22 13 20.2 +0.2**
baz=88,SNR=24
WVOR Wild Horse Val 87.37 327 *e*P **P** **22 13 21.5 +1.2**
WVOR pmax pmax
comp=Z,34nm,1.3s
WVOR MLR MLR
comp=Z,562nm,20.0s
WVOR Wild Horse Val 87.37 327 *e*P **P** **22 13 21.5 +1.2**
comp=Z,34nm,1.3s
WVOR LR LR
comp=Z,562nm,20.0s
D19A Cripps Ranch, 87.46 336 ⇓P **P** **22 13 20.2 -0.3**
baz=88
A24A Westby 87.47 339 ⇑P **P** **22 13 20.8 +0.3**
baz=88,SNR=23
B22A Reddig Ranch S 87.52 338 ⇑P **P** **22 13 20.9 +0.1**
baz=88,SNR=6.7
LRM Limekiln Ridge 87.60 333 *e*P **P** **22 13 22.1 +0.6**
C20A Veseth Ranch, 87.64 337 ⇑P **P** **22 13 21.0 -0.3**
baz=88,SNR=33
MOD Modoc Plateau 87.71 326 *e*P **P** **22 13 22.7 +0.8**
comp=Z,29nm,0.8s
WDC Whiskeytown Da 87.75 324 *e*P **P** **22 13 22.2 +0.2**
WDC pmax pmax
comp=Z,30nm,0.8s
WDC Whiskeytown Da 87.75 324 *e*P **P** **22 13 22.2 +0.2**
comp=Z,30nm,0.8s
A23A Redstone 87.76 339 ⇑P **P** **22 13 21.7 -0.2**
baz=88,SNR=10
B21A Ellsworth Farm 87.95 337 ⇓P **P** **22 13 22.6 -0.1**
baz=88,SNR=20
C19A Slack Wire Ran 88.01 336 ⇑P **P** **22 13 23.0 -0.1**
baz=88,SNR=27
A22A Carney Farms, 88.11 338 ⇓P **P** **22 13 23.4 -0.1**
baz=88,SNR=40
HRY Holter Researc 88.12 334 *e*P **P** **22 13 24.6 +0.9**
N02D Trinity Center 88.14 324 ⇑P **P** **22 13 24.1 +0.2**
baz=88
B20A Solberg Farm, 88.28 337 ⇓P **P** **22 13 24.3 -0.1**
baz=89
M04C Macdoel 88.34 325 ⇑P **P** **22 13 25.7 +0.8**
baz=89
A21A Bergtoll Ranch 88.42 338 ⇓P **P** **22 13 24.7 -0.3**
baz=89,SNR=26
EGMT Eagleton 88.50 336 ⇓P **P** **22 13 24.9 -0.6**
baz=89,SNR=18
EGMT Eagleton 88.50 336 *e*P **P** **22 13 25.4 0.0**
comp=Z,36nm,1.1s
M02C Callahan 88.53 324 ⇑P **P** **22 13 26.2 +0.5**
baz=89
KHMM Horse Mountain 88.56 323 *e*P **P** **22 13 28.5 +2.5**
comp=Z,43nm,1.0s
LAMM Antelope Mount 88.58 325 P **P** **22 13 26.6 +0.4**
B19A Brinkman Farms 88.60 336 ⇑P **P** **22 13 25.7 -0.2**
baz=89,SNR=28
K05A Summer Lake 88.63 326 *e*P **P** **22 13 28.1 +1.7**
comp=Z,62nm,1.0s
A20A Cobblestone Ra 88.64 337 ⇑P **P** **22 13 26.1 0.0**
baz=89
SCHQ Schefferville 88.69 3 P **P** **22 13 25.6 -0.5**
comp=Z,12nm,1.1s,baz=136,slow=1.0,SNR=6.8
SCHQ LR LR 22 56 04.7
comp=Z,126nm,19.5s,baz=197,slow=38
SCHQ Schefferville 88.69 3 *e*P **P** **22 13 26.0 -0.1**
comp=Z,75nm,1.6s
YBH Yreka Blue Hor 88.72 325 *e*P **P** **22 13 25.9 -0.7**
YBH pmax pmax
comp=Z,17nm,0.8s
YBH Yreka Blue Hor 88.72 325 *e*P **P** **22 13 25.9 -0.7**
comp=Z,17nm,0.8s
BMO Blue Mountains 88.73 330 *e*P **P** **22 13 27.0 +0.3**
comp=Z,17nm,1.0s
BMO LR LR
comp=Z,388nm,20.0s
CHMT Chamberlain Mo 88.81 333 *e*P **P** **22 13 27.4 +0.3**
A19A Klindworth Far 88.95 337 ⇓P **P** **22 13 27.1 -0.4**
baz=89,SNR=30
K04D Chiloquin, OR 88.95 326 ⇑P **P** **22 13 28.4 +0.6**
baz=89
MSO Missoula 89.00 333 ⇓P **P** **22 13 28.1 +0.2**
baz=89,SNR=11
MSO Missoula 89.00 333 *e*P **P** **22 13 28.4 +0.5**
comp=Z,37nm,1.6s
I07A Izee 89.07 328 *e*P **P** **22 13 29.3 +1.1**
comp=Z,42nm,1.3s
SLMT Seeley Lake 89.18 333 *e*P **P** **22 13 29.5 +0.7**
J05D Fort Rock, OR 89.22 326 ⇓P **P** **22 13 30.0 +1.0**
baz=90
PINOR Pine Mountain 89.47 327 *e*P **P** **22 13 31.4 +1.5**
comp=Z,63nm,1.4s
L02D Cave Junction, 89.47 324 ⇓P **P** **22 13 31.2 +1.1**
baz=90
HUMO Hull Mountain 89.51 325 *e*P **P** **22 13 30.8 +0.6**
comp=Z,25nm,1.5s
J04D Umpqua Nationa 89.59 326 ⇑P **P** **22 13 31.7 +0.8**
baz=90
SWMT Swartz Lake 89.59 333 *e*P **P** **22 13 31.4 +0.7**
F10A Beach Ranch, E 89.61 330 *e*P **P** **22 13 31.2 +0.5**
comp=Z,14nm,0.9s
LSZ Lusaka 89.67 108 *e*P **P** **22 13 33.8 +1.9**
LSZ pmax pmax
comp=Z,5.0nm,1.0s
LSZ MLR MLR
comp=Z,628nm,20.0s
LSZ Lusaka 89.67 108 *e*P **P** **22 13 33.8 +1.9**
comp=Z,5.0nm,1.0s
LSZ LR LR
comp=Z,628nm,20.0s
YBMT Yellow Bay 89.89 333 *e*P **P** **22 13 32.8 +0.8**
JTMT Jette 89.90 333 *e*P **P** **22 13 32.8 +0.7**
I05D Terrebonne, OR 90.09 327 ⇑P **P** **22 13 34.0 +1.1**
baz=90
BLMT Blacktail Moun 90.15 333 *e*P **P** **22 13 34.0 +0.6**
I04A Tendick Farm, 90.16 326 ⇑P **P** **22 13 33.5 +0.2**
baz=90
BSMT Bassoo Peak 90.17 333 *e*P **P** **22 13 34.0 +0.6**
AFI Afiamalu 90.27 253 *e*PKiKP **PKiKP** **22 18 26.1 -3.9**
E09A Wood Farm, Sta 90.42 330 *e*P **P** **22 13 34.6 +0.2**
comp=Z,15nm,1.3s
G06A Carlson Farm, 90.47 328 *e*P **P** **22 13 36.3 +1.6**
comp=Z,82nm,1.8s
H04A Detroit Lake 90.74 327 *e*P **P** **22 13 36.6 +0.7**
comp=Z,16nm,1.0s
G05D Wamic, OR 90.78 328 ⇓P **P** **22 13 36.4 +0.3**
baz=91
WALA Waterton Lakes 90.85 334 *e*P **P** **22 13 33.5 -2.9**
HAWA Hanford 90.91 329 *e*P **P** **22 13 37.8 +1.2**
comp=Z,42nm,1.2s
RTC Rabat Centre 91.14 49 PFAKE 22 13 50.0 +12
RTC LR LR
comp=Z,479nm,19.0s
E07A Sunnyside 91.17 329 *e*P **P** **22 13 39.0 +1.1**
comp=Z,18nm,1.0s
D08A Wollman Farm, 91.17 330 *e*P **P** **22 13 38.8 +0.9**
comp=Z,26nm,1.1s
TRW Toppenish Ridg 91.26 329 P **P** **22 13 39.5 +1.2**
OD2 Odessa Site #2 91.35 330 P **P** **22 13 39.4 +0.7**
NEW Newport 91.42 332 *e*P **P** **22 13 38.9 -0.1**
NEW pmax pmax
comp=Z,18nm,1.3s
NEW Newport 91.42 332 ⇓P **P** **22 13 38.3 -0.7**
baz=92,SNR=8.5
NEW Newport 91.42 332 *e*P **P** **22 13 38.9 -0.1**
comp=Z,18nm,1.3s
C09A Chrisman Ranch 91.50 331 *e*P **P** **22 13 40.0 +0.6**
comp=Z,28nm,0.9s
LTY Liberty 92.07 329 *e*P **P** **22 13 42.5 +0.4**
comp=Z,25nm,1.4s
LON Longmire 92.17 328 *e*P **P** **22 13 42.6 +0.1**
LON pmax pmax
comp=Z,7.0nm,1.0s
LON Longmire 92.17 328 *e*P **P** **22 13 42.6 +0.1**
comp=Z,7.3nm,1.0s
FFC Flin Flon 92.19 343 *e*P **P** **22 13 41.1 -1.2**
FFC pmax pmax
comp=Z,8.0nm,1.0s
FFC Flin Flon 92.19 343 *e*P **P** **22 13 41.1 -1.2**
comp=Z,8.4nm,1.0s
ETW Entiat 92.20 330 P **P** **22 13 43.4 +0.7**
B08A Colville Reser 92.38 331 *e*P **P** **22 13 43.6 +0.2**
comp=Z,32nm,1.4s
TAM Tamanrasset 92.77 64 *e*P **P** **22 13 46.4 +0.4**
TAM pmax pmax
comp=Z,15nm,1.1s
TAM MLR MLR
comp=Z,507nm,20.0s
TAM Tamanrasset 92.77 64 *e*P **P** **22 13 46.4 +0.4**
comp=Z,15nm,1.1s
TAM LR LR
comp=Z,507nm,20.0s
EDM Edmonton 94.13 336 *e*P **P** **22 13 50.3 -1.1**
EDM Edmonton 94.13 336 *e*P **P** **22 13 50.3 -1.1**
FCC Fort Churchill 94.36 349 *e*P **P** **22 13 52.0 -0.2**
FCC pmax pmax
comp=Z,18nm,0.8s
FCC Fort Churchill 94.36 349 *e*P **P** **22 13 52.0 -0.2**
comp=Z,18nm,0.8s
ESDC Sonseca Array 96.58 46 P **P** **22 14 03.5 +0.5**
comp=Z,2.8nm,0.9s,baz=244,slow=3.9,SNR=9.9
ESDC LR LR 22 57 21.5
comp=Z,210nm,18.8s,baz=235,slow=35
ES19 SONSECA Array 96.63 46 *e*P **P** **22 14 02.9 -0.3**
BBB Bella Bella 98.96 329 LR LR 22 53 37.6
comp=Z,794nm,20.8s,baz=236,slow=32
ABPO Ambohimpanom 101.62 122 PFAKE 22 14 40.0 +14
ABPO LR LR
comp=Z,258nm,20.0s
YKA Yellowknife Ar 102.19 341 P **Pdif** **22 14 27.0 -0.4**
comp=Z,2.6nm,0.8s,baz=141,slow=4.5,SNR=57
YKA PP **PP** **22 18 35.4 -4.8**
comp=Z,2.0nm,1.0s,baz=138,slow=7.7,SNR=9.9
VSL Villasalto 104.85 52 PFAKE 22 14 50.0 +10
VSL LR LR
comp=Z,477nm,20.0s
SSB Saint Sauveur 104.95 45 PFAKE 22 14 50.0 +10
SSB LR LR
comp=Z,584nm,20.0s
KMBO Kilima Mbogo 105.15 102 PFAKE 22 19 10.0
KMBO LR LR
comp=Z,359nm,19.0s
BNI Bardonecchia 106.10 46 PFAKE 22 19 10.0
BNI LR LR
comp=Z,881nm,21.0s
WDD Wield Dalam 106.48 58 PFAKE 22 19 10.0
WDD LR LR
comp=Z,1μm,19.0s
ECH Echery 108.04 44 PFAKE 22 19 10.0
ECH LR LR
comp=Z,334nm,20.0s
WLF Walferdange 108.23 42 PFAKE 22 19 20.0
WLF LR LR
comp=Z,624nm,20.0s
TUE Stuetta 108.44 46 *e*P PKiKP 22 19 13.1 +12
TUE LR LR
comp=Z,509nm,20.0s
CEL Celeste 108.61 56 PFAKE 22 19 20.0
CEL LR LR
comp=Z,912nm,19.0s
SUMG Summit 108.89 10 *i* P **PP** **22 19 31.9 +1.9**
comp=Z,3.7nm,1.0s
AQU L'Aquila 108.93 51 PFAKE 22 19 20.0
AQU LR LR
comp=Z,382nm,22.0s
CUC Castrocucco 109.39 54 PFAKE 22 19 20.0
CUC LR LR
comp=Z,319nm,19.0s
TIP Timpagrande 109.65 56 PFAKE 22 19 20.0
TIP LR LR
comp=Z,550nm,21.0s
TARA Tarawa 111.46 256 PFAKE 22 19 20.0
TARA LR LR
comp=Z,3μm,21.0s
GERES GERESS Array B 112.16 45 PKiKP **PKiKP** **22 19 08.8 +0.4**
comp=Z,2.0nm,0.9s,baz=204,slow=2.2,SNR=13
NWAO Narrogin (SRO) 112.77 188 PFAKE 22 19 20.0
NWAO LR LR
comp=Z,1.0nm,22.0s
CLL Collm 112.85 43 *e*PKiKP **PKiKP** **22 19 10.0 +0.5**
CLL MLR MLR
comp=Z,200nm,21.7s
CLL Collm 112.85 43 *e*(PKiKP) **PKiKP** **22 19 10.0 +0.5**
CLL *e*(PP) 22 19 51.0
CLL *e*PS **PS** **22 29 32.0 -1.2**
CLL Lm MLR 23 05 00.0
comp=Z,200nm,21.7s
IL1 Eielson Array 114.34 333 *e*PKiKP PKPdf 22 19 11.1 -0.8
ILAR Eielson Array 114.34 333 PKP PKPdf 22 19 11.7 -0.3
comp=Z,1.9nm,0.9s,baz=197,slow=2.2,SNR=16
ILAR PP **PP** **22 20 08.7 -0.1**
comp=Z,1.9nm,0.9s,baz=114,slow=5.8,SNR=7.0
SANT Santorini 114.55 62 PFAKE 22 19 30.0 +17
SANT LR LR
comp=Z,536nm,20.0s
CTAO Charters Tower 115.00 220 PFAKE 22 19 30.0 +15
CTAO LR LR
comp=Z,269nm,20.0s
TRF Thorofare Moun 115.06 331 *e*PP PP 22 20 17.6 +3.6
VYHS Vyhne 115.08 47 *e*PKiKP **PKPdf** **22 19 14.4 +0.5**
VYHS Vyhne 115.08 47 *e*PKP **PKPdf** **22 19 14.4 +0.5**
PSZ Piszkesteto 115.51 48 PFAKE 22 19 30.0 +15
PSZ LR LR
comp=Z,422nm,20.0s
MSEY Mahe Island 117.19 117 PFAKE 22 19 30.0 +11
MSEY LR LR
comp=Z,399nm,19.0s
KOLS Kolonicke sedl 117.36 48 *e*PKiKP **PKPdf** **22 19 18.7 +0.4**
KOLS Kolonicke sedl 117.36 48 *e*PKP **PKPdf** **22 19 18.7 +0.4**

AS01	Alice Springs	117.50	207	*e*PKPdf	PKPdf	22 19 18.4	-1.1
AS01				*ep*PKPdf	pPKPdf	22 19 27.8	-2.4
ASAR	Alice Springs	117.52	207	PKIKP	PKPdf	22 19 19.0	-0.6
ASAR	Alice Springs	117.52	207	PKP	PKPdf	22 19 18.9	-0.6
	comp=Z,1.9nm,0.9s,baz=146,slow=1.4,SNR=15						
ASAR				PKKPbc	PKKPbc	22 29 41.6	+0.4
	comp=Z,1.0nm,0.6s,baz=339,slow=3.2,SNR=12						
KWP	Kalwaria Pacla	117.87	47	*e*PKIKP	PKPdf	22 19 19.8	+0.5
KWP	Kalwaria Pacla	117.87	47	*e*PKP	PKPdf	22 19 19.7	+0.5
MLR	Muntele Rosu	118.46	52⇑	*i*P	PKPdf	22 19 10.8	-10
BUR04	Bucovina Ar. S	118.73	50	*e*PKPdf	PKPdf	22 19 21.0	-0.1
ISP	Isparta	118.84	62	PFAKE		22 19 40.0	+18
ISP				LR	LR		
	comp=Z,360nm,21.0s						
PLOR	Plostina	119.05	52⇑	*i*P	PKPdf	22 19 12.4	-9.3
VRI	Vrincioaia	119.10	52⇓	*i*P	PKPdf	22 19 13.9	-7.8
SUW	Suwalki	119.61	43	*e*PKIKP	PKPdf	22 19 21.9	-0.5
SUW	Suwalki	119.61	43	*e*PKP	PKPdf	22 19 21.8	-0.6
SUW	Suwalki	119.61	43	*e*PKPdf	PKPdf	22 19 22.2	-0.2
CSS	Prodhromos	119.84	66	*e*PKPdf	PKPdf	22 19 24.1	+0.6
CSS				LR	LR		
	comp=Z,60nm,22.0s						
WB2	Warramunga Arr	120.71	209	*e*PKPdf	PKPdf	22 19 25.2	-0.5
WRA	Warramunga Arr	120.72	209	PKP	PKPdf	22 19 24.7	-1.0
	comp=Z,5.2nm,1.0s,baz=150,slow=1.6,SNR=23						
WRA				PKKPab	PKKPbc	22 29 30.5	+0.9
	comp=Z,1.0nm,0.8s,baz=344,slow=4.5,SNR=6.1						
WRAB	Tennant Creek	120.72	209	PFAKE		22 19 40.0	+14
WRAB				LR	LR		
	comp=Z,238nm,19.0s						
BR231	Keskin MP Arra	121.21	61	*e*PKPdf	PKPdf	22 19 26.6	+0.5
ANTO	Ankara	121.23	61	PFAKE		22 19 40.0	+14
ANTO				LR	LR		
	comp=Z,278nm,20.0s						
BRTR	Keskin Array B	121.79	61	PKP	PKPdf	22 19 27.3	0.0
	comp=Z,4.9nm,0.8s,baz=194,slow=3.6,SNR=25						
BRTR				PP	PP	22 20 59.9	-1.4
	comp=Z,2.1nm,1.1s,baz=242,slow=5.0,SNR=3.7						
AK11	Malin Array Si	122.14	48	*e*PKPdf	PKPdf	22 19 26.6	-0.8
KIEV	Kiev	122.17	48	*e*PKIKP	PKPdf	22 19 26.6	-0.8
KIEV	Kiev	122.17	48	*e*PKPdf	PKPdf	22 19 26.6	-0.8
AKASG	Malin Array Be	122.19	47	*c i*PKIKP	PKPdf	22 19 26.8	-0.6
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AKASG	Malin Array Be	122.19	47	PKP	PKPdf	22 19 26.9	-0.6
	comp=Z,6.5nm,0.8s,baz=264,slow=2.5,SNR=17						
TNA	Tin City	122.94	330	*e*PKPdf	PKPdf	22 19 29.5	+1.0
FINES	FINESS Array B	123.02	35	PKP	PKPdf	22 19 28.8	+0.1
	comp=Z,4.5nm,0.9s,baz=237,slow=3.0,SNR=9.2						
PMG	Port Moresby	123.03	228	PFAKE		22 19 40.0	+10
PMG				LR	LR		
	comp=Z,263nm,19.0s						
KAF	Kangasniemi	123.26	34	*e*PKIKP	PKPdf	22 19 27.3	-1.8
KAF	Kangasniemi	123.26	34	*ep*	PKPdf	22 19 27.3	-1.8
MBWA	Marble Bar	123.93	193	PFAKE		22 19 50.0	+18
MBWA				LR	LR		
	comp=Z,272nm,20.0s						
ARCES	ARCESS Array B	124.07	25	PKIKP	PKPdf	22 19 31.0	+0.4
ARCES	ARCESS Array B	124.07	25	PKP	PKPdf	22 19 30.9	+0.4
	comp=Z,13nm,1.1s,baz=250,slow=3.5,SNR=9.5						
GAMB	Gambell	124.25	328	*e*PKPdf	PKPdf	22 19 31.8	+0.8
PUL	Pulkovo	124.78	37	*c i*PKIKP	PKPdf	22 19 33.2	+1.1
PUL				pmax	pmax		
	comp=Z,28nm,0.4s						
RAYN	Ar Rayn	124.90	83	*e*PKPdf	PKPdf	22 19 34.4	+0.8
JOF	Joensuu	125.67	33	*e*PKIKP	PKPdf	22 19 32.0	-1.8
JOF	Joensuu	125.67	33	*ep*	PKPdf	22 19 32.0	-1.8
H11S2	WAKE ISLAND Hyd	125.88	269	T	T	00 38 06.2	
	baz=118,slow=74,SNR=36						
H11S1	WAKE ISLAND Hyd	125.89	269	T	T	00 38 07.4	
	baz=118,slow=74,SNR=28						
H11S3	WAKE ISLAND Hyd	125.89	269	T	T	00 38 05.7	
	baz=118,slow=74,SNR=27						
H11N3	WAKE ISLAND Hyd	126.29	270	T	T	00 38 38.9	
	baz=115						
H11N1	WAKE ISLAND Hyd	126.31	270	T	T	00 38 39.5	
	baz=115						
H11N2	WAKE ISLAND Hyd	126.31	270	T	T	00 38 39.5	
	baz=115						
OBN	Obninsk	127.44	43	*i*PKIKP	PKPdf	22 19 37.5	+0.2
OBN				*i*		22 19 44.9	
OBN				pmax	pmax		
	comp=Z,44nm,1.6s						
OBN	Obninsk	127.44	43	*e*PKPdf	PKPdf	22 19 37.7	+0.3
OBN				LR	LR		
	comp=Z,624nm,19.0s						
MOS	Moscow	128.12	43	*e*PKIKP	PKPdf	22 19 37.4	-1.2
MOS				*e*		22 21 40.8	
MOS				pmax	pmax		
	comp=Z,45nm,1.2s						
KLMR	Klimovskoe	129.43	36	*e*PKIKP	PKPdf	22 19 39.2	-1.8
KLMR				pmax	pmax		
	comp=Z,94nm,1.5s						
KIV	Kislovodsk	129.46	58⇓	*i*PKIKP	PKPdf	22 19 42.5	+0.8
KIV				pmax	pmax		
	comp=Z,22nm,1.0s						
KBZ	Khabaz	129.56	59	PKP	PKPdf	22 19 42.4	+0.6
	comp=Z,6.4nm,1.0s,baz=218,slow=4.0,SNR=6.7						
GNI	Garni	130.07	64	*i*PKIKP	PKPdf	22 19 41.5	-1.6
GNI				pmax	pmax		
	comp=Z,31nm,1.7s						
GNI	Garni	130.07	64	*e*PKPdf	PKPdf	22 19 44.2	+1.1
GNI				LR	LR		
	comp=Z,329nm,22.0s						
PRGR	Permogore	132.35	35	*e*PKIKP	PKPdf	22 19 46.1	-0.4
PRGR				pmax	pmax		
	comp=Z,121nm,1.5s						
SAUI	Saumlaki	132.71	212	*ep*PKPdf	pPKPdf	22 20 01.5	+2.0
BILL	Bilibino	132.98	334	*e*PKIKP	PKPdf	22 19 47.5	0.0
BILL				MLR	MLR		
	comp=Z,231nm,22.0s						
BILL	Bilibino	132.98	334	*e*PKPdf	PKPdf	22 19 47.5	0.0
BILL				LR	LR		
	comp=Z,231nm,22.0s						
SOKR	Solikamsk	138.11	36⇑	*i*PKIKP	PKPdf	22 19 58.8	+1.5
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s						
KAPI	Kappang	139.56	198	PFAKE		22 20 20.0	+19
KAPI				LR	LR		
	comp=Z,341nm,21.0s						
PET	Petropavlovsk	139.75	314	*e*PKIKP	PKPdf	22 20 00.8	+0.3
ARU	Arti	139.76	41	*i*PKIKP	PKPdf	22 20 00.7	+0.3
ARU						22 22 54.4	
ARU	Arti	139.76	41	*e*PKPpre	PKPpre	22 19 55.3	
ARU				LR	LR		
	comp=Z,363nm,19.0s						
GEYT	Alibeck	139.79	70	PKP	PKPdf	22 20 00.6	-0.6
	comp=Z,3.0nm,0.7s,baz=288,slow=1.4,SNR=4.3						
SEY	Seymchan	140.18	330	PKhKP	PKPpre	22 19 52.8	
	comp=Z,2.0nm,0.7s,baz=83,slow=4.7,SNR=2.5						
SEY				PKP	PKPdf	22 20 00.6	-0.4
	comp=Z,14nm,0.9s,baz=82,slow=3.6,SNR=12						
PETK	Petropavlovsk-	140.31	314	PKP	PKPdf	22 20 02.8	+1.2
	comp=Z,5.2nm,0.8s,baz=97,slow=6.0,SNR=5.3						
AKTO	Aktyubinsk	140.32	50	PKhKP	PKPpre	22 19 54.5	
	comp=Z,1.2nm,0.8s,baz=294,slow=4.6,SNR=5.9						
AKTO				PKP	PKPdf	22 20 02.7	+1.0
	comp=Z,5.0nm,0.9s,baz=250,slow=3.9,SNR=8.1						
SVE	Sverdlovsk	140.78	40	*e*PKHKP	PKPpre	22 19 57.3	
SVE				pmax	pmax		
	comp=Z,13nm,1.4s						
TIXI	Tiksi	140.82	350	*c i*PKIKP	PKPdf	22 20 02.7	+0.8
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TIXI	Tiksi	140.82	350	PFAKE		22 20 20.0	+18
TIXI				LR	LR		
	comp=Z,178nm,19.0s						
ABKAR	Akbulak array	141.67	52	*e*PKPpre	PKPpre	22 19 58.5	
PALK	Pallekele	143.23	130	*e*PKIKP	PKPbc	22 20 06.0	+0.9
PALK	Pallekele	143.23	130	*e*PKPdf	PKPbc	22 20 06.0	+1.0
BKNI	Bangkinang	145.75	167	*e*PKPdf	PKPdf	22 20 12.2	-0.2
POO	Poona	145.80	108	⇓*i*P	PKPdf	22 20 11.0	-1.4
	comp=Z,341nm,1.2s						
GSI	Gunungsitoli	145.91	161	*e*PKPdf	PKPab	22 20 14.0	+0.2
BRVK	Borovoye	147.22	43	*e*PKIKP	PKPbc	22 20 14.9	-1.0
BRVK				MLR	MLR		
	comp=Z,289nm,19.0s						
BRVK	Borovoye	147.22	43	*e*PKPdf	PKPbc	22 20 14.9	-1.0
BRVK				LR	LR		
	comp=Z,289nm,19.0s						
KSM	Kuching	147.47	184	*e*PKPdf	PKPbc	22 20 17.9	+0.1
KSM				LR	LR		
	comp=Z,177nm,20.0s						
PSI	Prapat	147.70	163	PKPbc	PKPdf	22 20 17.2	+1.3
	comp=Z,50nm,0.9s,baz=200,slow=10,SNR=6.2						
VOSK	Vostochnaya	147.73	43	*e*PKIKP	PKPdf	22 20 15.4	+0.9
VOSK	Vostochnaya	147.73	43	*e*PKPdf	PKPdf	22 20 15.4	+0.9
KBL	Kabul	147.88	78	*e*PKIKP	PKPdf	22 20 16.9	+1.2
KBL	Kabul	147.88	78	*e*PKPdf	PKPdf	22 20 16.9	+1.2
SBUM	Sibu	148.27	188	*e*PKPdf	PKPbc	22 20 19.9	-0.1
HYB	Hyderabad	148.79	115	*i* PKP	PKPbc	22 20 20.0	-1.2
	comp=Z,90nm,1.0s						
YAK	Yakutsk	148.87	340	*e*PKIKP	PKPdf	22 20 15.7	-0.3
YAK				MLR	MLR		
	comp=Z,189nm,19.0s						
YAK	Yakutsk	148.87	340	*e*PKPdf	PKPdf	22 20 15.7	-0.3
YAK				LR	LR		
	comp=Z,189nm,19.0s						
KKAR	Karatay Array	149.50	62	*e*PKPdf	PKPdf	22 20 18.6	+0.8
MYLDM	Lahad Datu	149.64	201	*e*PKPbc	PKPbc	22 20 24.9	+1.4
IPM	Ipoh	149.80	166	*e*PKPdf	PKPdf	22 20 18.6	-0.6
IPM				*e*PKPbc	PKPbc	22 20 23.4	-0.4
KULM	Kulim	150.50	165	*e*PKPbc	PKPbc	22 20 25.4	-0.1
KKM	Kota Kinabalu	151.08	197	*e*PKPbc	PKPbc	22 20 26.6	-0.4
ERM	Erimo	151.44	296	*e*PKIKP	PKPbc	22 20 27.8	+1.0
ERM				MLR	MLR		
	comp=Z,319nm,20.0s						
ERM	Erimo	151.44	296	*e*PKPbc	PKPbc	22 20 27.8	+1.0
ERM				LR	LR		
	comp=Z,319nm,20.0s						
ASAJ	Asahikawa	151.60	301	PKPbc	PKPbc	22 20 27.1	-0.1
	comp=Z,52nm,1.0s,baz=72,slow=20,SNR=18						
ASAJ				PKPab	PKPab	22 20 37.0	+1.0
	comp=Z,20nm,0.8s,baz=39,slow=4.6,SNR=6.7						
ASAJ	Asahikawa	151.60	301	*e*PKPbc	PKPbc	22 20 26.4	-0.7
ASAJ				PKPab	PKPab	22 20 37.0	+1.0
AML	Almayashu	151.93	63	P	PKPdf	22 20 23.2	+1.1
	SNR=6.9						
EKS2	Erkin-Say	151.93	62	P	PKPdf	22 20 22.7	+1.0
	SNR=7.5						
EKS2	Erkin-Say	151.93	62	*e*PKIKP	PKPdf	22 20 22.9	+1.2
EKS2	Erkin-Say	151.93	62	*e*PKPdf	PKPdf	22 20 22.9	+1.2
USP	Ospenovka	152.38	61	P	PKPdf	22 20 23.2	+1.0
	SNR=10						
AAK	Ala-Archa	152.46	62	P	PKPbc	22 20 30.2	+0.8
	SNR=15						
AAK	Ala-Archa	152.46	62	*e*PKIKP	PKPdf	22 20 23.3	+0.8
AAK				MLR	MLR		
	comp=Z,177nm,20.0s						
AAK	Ala-Archa	152.46	62	*e*PKPdf	PKPdf	22 20 23.3	+0.8
AAK				*e*PKPdf	PKPdf	22 20 23.8	+1.3
AAK				LR	LR		
	comp=Z,177nm,20.0s						
UCH	Uchtor	152.52	63	P	PKPdf	22 20 24.4	+1.4
	SNR=9.9						
FRU	Bishkek	152.53	62	*i* PKIKP	PKPdf	22 20 23.0	+0.6
FRU				pmax	pmax		
	comp=Z,120nm,1.9s						
CHMS	Chumysh	152.60	61	P	PKPbc	22 20 30.1	+0.5
	SNR=11						
CHMS	Chumysh	152.60	61	*i* PKIKP	PKPbc	22 20 30.0	+0.5
KBK	Karagaybulak	152.79	62	P	PKPbc	22 20 30.8	+0.6
	SNR=9.7						
KURK	Kurchatov	152.88	43	*e*PKIKP	PKPdf	22 20 22.5	-0.1
KURK				MLR	MLR		
	comp=Z,137nm,21.0s						
KURK	Kurchatov	152.88	43	*e*PKPdf	PKPdf	22 20 22.5	-0.1
KURK				LR	LR		
	comp=Z,137nm,21.0s						
NVS	Novosibirsk	152.97	32⇓	*i*PKIKP	PKPdf	22 20 22.4	-0.2
NVS				*i*		22 20 38.0	
NVS				pmax	pmax		
	comp=Z,84nm,1.2s						
NVS				pmax	pmax		
	comp=N,8.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,20nm,1.2s						
KZA	Kyzart	153.08	63	P	PKPdf	22 20 25.2	+1.4
	SNR=7.1						
TKM2	Tokmak 2	153.23	61	P	PKPdf	22 20 24.3	+0.6
	SNR=7.4						
TKM2	Tokmak 2	153.23	61	*e*PKIKP	PKPdf	22 20 24.3	+0.6
TKM2				MLR	MLR		
	comp=Z,203nm,19.0s						
TKM2	Tokmak 2	153.23	61	*e*PKPdf	PKPdf	22 20 24.3	+0.6
TKM2				LR	LR		
	comp=Z,203nm,19.0s						
ULHL	Ulahol	153.79	63	P	PKPdf	22 20 25.3	+0.7
	SNR=7.2						
KSH	Kashi	153.81	69	PKPbc	PKPdf	22 20 24.7	+0.2
KSH				sPKP		22 20 38.4	
KSH				PKS	PKSdf	22 23 58.3	-0.6
KSH				PP	PP	22 24 19.1	-1.4
KSH				SKS	SKSdf	22 27 28.9	-0.1
KSH				SKKS	SKKSac	22 31 05.4	-2.5
KSH				SS	SS	22 43 51.1	-4.8
KSH				PPMZ			
	comp=Z,210nm,4.6s						
KSH				LN			
	comp=Z,180nm,8.3s						
KSH				LE			
	comp=Z,130nm,4.7s						
KSH				LZ			
	comp=Z,120nm,5.3s						
ZALV	Zalesovo Beam	154.26	33	PKP	PKPdf	22 20 24.1	-0.4
	comp=Z,9.0nm,0.9s,baz=279,slow=2.9,SNR=39						
ZALV				PKPbc	PKPbc	22 20 32.8	+0.1
	comp=Z,40nm,0.8s,baz=298,slow=3.2,SNR=71						
ZALV				PKPab	PKPab	22 20 46.9	+0.1
	comp=Z,40nm,0.8s,baz=306,slow=5.3,SNR=17						
HABR	Khabarovsk	155.34	314	*ce*PKIKP	PKPdf	22 20 25.2	-0.9
HABR				*e*		22 20 36.0	
HABR				*e*		22 20 51.1	
HABR				*e*		22 24 28.0	
HABR				*e*		22 27 29.4	
HABR				*e*PPP	PPP	22 27 59.8	
HABR				*e*SS	SS	22 44 12.3	+1.3
HABR				*e*SSS	SSS	22 50 08.6	
HABR				pmax	pmax		
	comp=N,26nm,2.0s						
HABR				pmax	pmax		
	comp=E,44nm,2.0s						
HABR				pmax	pmax		
	comp=Z,61nm,2.0s						
MJAR	Matsushiro Arr	155.35	284	PKP	PKPdf	22 20 26.4	-0.2
	comp=Z,1.9nm,1.0s,baz=20,slow=1.6,SNR=4.4						
MJAR				PKPab	PKPab	22 20 51.6	-0.5
	comp=Z,5.1nm,1.0s,baz=116,slow=2.7,SNR=4.5						
MAJO	Matsushiro	155.35	284	PFAKE		22 20 40.0	-12
MAJO				LR	LR		
	comp=Z,149nm,19.0s						
BOD	Bodaibo	155.95	352	*e*PKIKP	PKPdf	22 20 24.5	-2.2
BOD				pmax	pmax		
	comp=Z,37nm,0.9s						
MKAR	Makanchi Array	156.75	49	PKP	PKPdf	22 20 28.1	-0.1
	comp=Z,4.0nm,0.9s,baz=313,slow=1.7,SNR=29						
MKAR				PKPab	PKPab	22 20 58.1	+0.4
	comp=Z,9.3nm,0.8s,baz=271,slow=3.0,SNR=18						
MKAR				PP	PP	22 24 35.0	-1.3
	comp=Z,4.2nm,1.1s,baz=269,slow=6.1,SNR=4.1						
MK01	Makanchi Array	156.77	49	*e*PKPdf	PKPdf	22 20 27.7	-0.5
KOLN	Koldanda	158.09	100	*e*P	PKPdf	22 20 30.1	-0.6
	comp=Z,27nm,1.3s						
DANN	Dangsing	158.44	99	*e*P	PKPdf	22 20 31.0	-0.2
	comp=Z,67nm,1.1s						
USRK	Ussuriysk Ar.	158.97	306	PKPab	PKPab	22 21 08.2	+0.8
	comp=Z,8.2nm,1.1s,baz=72,slow=8.2,SNR=9.0						
GKN	Gorkha	159.03	101	*e*P	PKPdf	22 20 30.8	-0.9
	comp=Z,47nm,1.2s						
DMN	Daman	159.25	102	*e*P	PKPdf	22 20 31.7	-0.4
	comp=Z,20nm,1.1s						
KKN	Kakani	159.47	102	*e*P	PKPdf	22 20 31.7	-0.6
	comp=Z,19nm,1.0s						
PKI	Pulchoki	159.49	102	*e*P	PKPdf	22 20 31.6	-0.9
	comp=Z,41nm,1.3s						
GUN	Gumba	160.00	102	*e*P	PKPdf	22 20 32.7	-0.4
	comp=Z,78nm,1.6s						
JIRN	Jiri	160.15	103	*e*P	PKPdf	22 20 32.7	-0.6
	comp=Z,36nm,1.3s						
RAMN	Ramite	160.18	105	*e*P	PKPdf	22 20 33.2	0.0
	comp=Z,71nm,1.3s						
MDJ	Mudanjiang	160.40	309	PKP	PKPdf	22 20 31.7	-0.8
MDJ				pPKP	pPKPdf	22 20 42.2	-1.1
MDJ				sPKP		22 20 46.7	
MDJ				PP	PP	22 24 56.7	+0.5
MDJ				SKS	SKSdf	22 27 35.7	+0.5
MDJ				SS	SS	22 45 05.4	+0.1
MDJ				PPMZ			
	comp=Z,89nm,5.3s						
MDJ				LN			
	comp=Z,28nm,24.2s						
MDJ				LE			
	comp=Z,47nm,26.0s						
MDJ				LZ			
	comp=Z,95nm,25.1s						
MDJ	Mudanjiang	160.40	309	PFAKE		22 20 50.0	+17
MDJ				LR	LR		
	comp=Z,117nm,19.0s						
ODAN	Odare	160.77	107	*e*P	PKPdf	22 20 33.8	0.0
	comp=Z,50nm,1.3s						
TAPN	Taplejung	161.25	106	*e*P	PKPdf	22 20 34.0	-0.4
	comp=Z,37nm,1.3s						
WMQ	Urumqi	161.45	52	*e*PKP	PKPdf	22 20 31.8	-2.0
WMQ				pPKP	pPKPdf	22 20 42.5	-2.0
WMQ				PKPab	PKPab	22 21 18.5	+0.2
WMQ				PKS	PKSdf	22 24 03.8	-3.2
WMQ				PP	PP	22 25 03.0	+1.0
WMQ				SKS	SKSdf	22 27 31.8	-4.5
WMQ				SKKS	SKKSac	22 31 45.9	-1.8
WMQ				SS	SS	22 45 13.4	-3.2
WMQ				PPMZ			
	comp=Z,180nm,4.0s						
WMQ				LN			
	comp=Z,180nm,26.0s						
WMQ				LE			
	comp=Z,220nm,24.0s						
WMQ				LZ			
	comp=Z,170nm,20.0s						
CIT	Chita	161.67	349	*e*PKP2	PKPab	22 21 19.0	+0.1
IRK	Irkutsk	161.67	7	*e*PKIKP	PKPdf	22 20 32.5	-1.1
IRK				*e*		22 21 18.6	
IRK				*e*		22 25 04.0	
IRK				pmax	pmax		
	comp=Z,34nm,1.3s						
TLY	Talaya	162.14	9	*i* PKIKP	PKPdf	22 20 34.5	+0.3
TLY				*e*		22 21 22.1	
TLY				pmax	pmax		
	comp=Z,6.0nm,1.3s						
TLY	Talaya	162.14	9	PKPab	PKPab	22 21 20.4	-0.5
	comp=Z,5.0nm,0.8s,baz=322,slow=3.6,SNR=8.2						
TLY	Talaya	162.14	9	*e*PKPab	PKPab	22 21 22.0	+1.1
TLY				LR	LR		
	comp=Z,243nm,19.0s						
CM01	Chiang Mai Arr	162.38	150	*e*PKPdf	PKPdf	22 20 34.7	-0.6
CMAR	Chiang Mai Arr	162.40	150	PKP	PKPdf	22 20 35.8	+0.4
	comp=Z,6.3nm,1.1s,baz=251,slow=2.3,SNR=28						
CMAR				PKPab	PKPab	22 21 22.9	0.0
	comp=Z,2.3nm,0.9s,baz=221,slow=5.1,SNR=6.2						
HIA	Hailar	162.56	334	PFAKE		22 20 50.0	+15
HIA				LR	LR		
	comp=Z,283nm,19.0s						
CHTO	Chiang Mai	162.72	150	*e*PKIKP	PKPdf	22 20 35.9	+0.2
CHTO				MLR	MLR		
	comp=Z,194nm,21.0s						
CHTO	Chiang Mai	162.72	150	*e*PKPdf	PKPdf	22 20 35.9	+0.2
CHTO				LR	LR		
	comp=Z,194nm,21.0s						
ZAK	Zakamensk	163.36	11	*e*PKIKP	PKPdf	22 20 34.2	-1.3
ZAK				*e*		22 21 25.7	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KSRS	Korea Array	163.56	287	PKP	PKPdf	22 20 35.5	-0.4
	comp=Z,3.2nm,0.9s,baz=169,slow=1.2,SNR=9.1						
KSRS				PKPab	PKPab	22 21 29.2	+1.5
	comp=Z,5.6nm,0.9s,baz=103,slow=3.7,SNR=7.7						
KS01	Wonju Array Si	163.58	287	*e*PKPdf	PKPdf	22 20 34.8	-1.1
KSAR	Wonju Array Be	163.60	287	PKIKP	PKPdf	22 20 35.6	-0.4
KSAR	Wonju Array Be	163.60	287	PKP	PKPdf	22 20 35.5	-0.4
KSAR				PKPab	PKPab	22 21 29.2	+1.3
QIZ	Qiongzhong	164.90	186	PKP	PKPdf	22 20 37.9	+0.2
QIZ				PP	PP	22 25 20.3	+1.3
QIZ				SS	SS	22 45 52.9	+2.9
LSA	Lhasa	164.96	102	PKP	PKPdf	22 20 38.0	-0.1
LSA	Lhasa	164.96	102	*e*PKIKP	PKPdf	22 20 38.2	+0.1
LSA				MLR	MLR		
	comp=Z,260nm,20.0s						
LSA	Lhasa	164.96	102	*e*PKPdf	PKPdf	22 20 38.2	+0.1
LSA				LR	LR		
	comp=Z,260nm,20.0s						
YHNB	Yeheng	165.09	234	PFAKE		22 20 50.0	+12
YHNB				LR	LR		
	comp=Z,547nm,19.0s						
SONA1	Songino Array	166.22	5	*e*PKPdf	PKPdf	22 20 37.3	-0.9
SONA1				*e*PKPab	PKPab	22 21 39.4	+0.3
SONM	Songino Array	166.23	5	PKP	PKPdf	22 20 37.8	-0.3
	comp=Z,1.4nm,1.0s,baz=41,slow=0.2,SNR=9.5						
SONM				PKPab	PKPab	22 21 40.3	+1.2
	comp=Z,5.4nm,0.9s,baz=344,slow=4.0,SNR=21						
SONM				PP	PP	22 25 27.2	+1.1
	comp=Z,2.2nm,1.1s,baz=347,slow=4.4,SNR=8.0						
ULN	Ulaanbaatar	166.23	3	*e*PKIKP	PKPdf	22 20 37.8	-0.4
ULN				*e*		22 21 39.6	
ULN				MLR	MLR		
	comp=Z,236nm,22.0s						
ULN	Ulaanbaatar	166.23	3	*e*PKPdf	PKPdf	22 20 37.8	-0.4
ULN				*e*PKPab	PKPab	22 21 39.6	+0.5
ULN				LR	LR		
	comp=Z,236nm,22.0s						
SLVN	Son La	166.75	163	*e*PKPdf	PKPdf	22 20 39.6	+0.4
NJ2	Nanjing	170.74	260	*e*PKP	PKPdf	22 20 40.6	-0.8
BJT	Baijiatuau	171.26	315	PFAKE		22 20 50.0	+8.6
BJT				LR	LR		
	comp=Z,288nm,19.0s						
GTA	Gaotai	171.51	49	⇑PKP	PKPdf	22 20 41.8	0.0
GTA				pPKP	pPKPdf	22 20 52.5

LZH LN
comp=Z,550nm,18.5s
LZH LE
comp=Z,310nm,18.2s
LZH LZ
comp=Z,610nm,20.3s
XAN Xi'an 179.31 265 PKP **PKPdf 22 20 43.6 -0.3**
XAN pPKP **pPKPdf 22 20 53.8 -0.9**
XAN PKPab 22 22 39.5
XAN SKS **SKSdf 22 27 38.9 -5.5**
XAN PPMZ
comp=Z,84nm,15.4s

*IDC **07** 22:18:14.9±1.9, 5°.09S×129°.12E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.4/40, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=161.2km s-min=27.0km az=69.0*
*ISCJB **07** 22:18:34.1±0.7, 5°.43S±0°.04×129°.84E±0°.10, h200km, mb3.2/2, Error ellipse: s-maj=13.4km s-min=6.2km az=0.4*
*DJA **07** 22:18:41.5±1.2, 5°.5±10°×13°.0E±°, h10km, M4.1/3, MLv4.1/3*
ISC 07 22:18:34.3±0.9, 5°.47S±0°.06×129°.88E±0°.09, h200km, n11, σ2°.08/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.47**	**43**	P	**Pn**	**22 19 31.3**	**+1.7**
FAKI				S	**Sn**	**22 20 12.5**	**-0.4**
FAKI	**Fak Fak**	**3.47**	**43**	P	**Pn**	**22 19 31.2**	**+1.7**
baz=3.7,SNR=42							
FAKI				S	**Sn**	**22 20 13.0**	**0.0**
baz=3.7,SNR=14							
SWI	**Sorong**	**4.78**	**17**	P	**Pn**	**22 19 46.7**	**+0.7**
SWI				S	**Sn**	**22 20 38.8**	**-3.7**
SWI	**Sorong**	**4.78**	**17**	P	**Pn**	**22 19 46.9**	**+0.9**
baz=4.9,SNR=3.8							
SWI				S	Sn	22 20 34.1	-8.4
baz=4.9,SNR=5.1							
SANI	**Sanana**	**5.16**	**311**	P	**Pn**	**22 19 52.1**	**+1.3**
MTN	**Manton Dam**	**7.43**	**170**	P	Pn	22 20 22.5	+2.4
baz=7.5,SNR=19							
KDU	**Kakadu**	**7.61**	**160**	P	**Pn**	**22 20 24.4**	**+1.9**
baz=7.7,SNR=43							
WRA	**Warramunga Arr**	**15.02**	**164**	Pn	**P**	**22 21 57.4**	**-0.1**
0.2nm,0.3s,baz=344,slow=13,SNR=7.5							
WRA				Sn	**S**	**22 24 39.0**	**-4.9**
0.2nm,0.3s,baz=332,slow=23,SNR=3.8							
ASAR	**Alice Springs**	**18.50**	**168**	P	**Pn**	**22 22 38.4**	**+0.1**
0.4nm,0.3s,baz=346,slow=10,SNR=14							
ASAR				S	**S**	**22 25 55.0**	**-1.3**
0.1nm,0.3s,baz=351,slow=22,SNR=3.9							
MKAR	**Makanchi Array**	**66.89**	**327**	P	**P**	**22 29 04.9**	**-0.1**
0.3nm,0.4s,baz=122,slow=7.5,SNR=6.3							
KURBB	**Kurchatov Arra**	**71.15**	**328**	P	**P**	**22 29 30.5**	**-0.5**
0.2nm,0.4s,baz=128,slow=4.2,SNR=3.4							

*MOS **07** 22:25:43.4±1.0, 63°.37N×150°.90W, h116km, mb4.6/30, Error ellipse: s-maj=12.2km s-min=5.2km az=99.5*
*BJI **07** 22:25:43.2, 63°.50N×150°.50W, h130km, mB4.9/12, mb4.8/22*
*ISCJB **07** 22:25:44.9±0.1, 63°.28N±0°.02×150°.83W±0°.03, h130km±1km, mb4.5/132, Error ellipse: s-maj=2.7km s-min=2.4km az=37.0*
*IDC **07** 22:25:45.7±1.1, 63°.35N×150°.83W, h124km±9km, mb4.0/33, mb1 4.1/37, mb1mx4.1/55, mbtmp4.4/37, MS3.8/2, Ms1 3.8/2, ms1mx2.9/33, Error ellipse: s-maj=10.6km s-min=8.0km az=21.0*
*NEIC **07** 22:25:46.1, 63°.21N×150°.66W, h132km, mb4.6/86, After AEIC.*
ISC 07 22:25:46.0±0.5, 63°.23N±0°.03×150°.73W±0°.03, h131km±3km, n721, σ1°.10/742, mb4.6/132, 189C-175D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.30**	**41**	P	**Pn**	**22 26 04.7**	**+0.2**
TRF				S	**Sn**	**22 26 18.4**	**0.0**
KTH	**Kantishna Hill**	**0.34**	**345**	*e*Pn	**Pn**	**22 26 04.6**	**+0.2**
KTH				*e*Sn	**Sn**	**22 26 18.2**	**-0.2**
HUR	**Hurricane**	**0.56**	**116**	P	**Pn**	**22 26 05.3**	**-0.2**
CAST	**Castle Rocks**	**0.64**	**288**	P	**Pn**	**22 26 06.1**	**+0.1**
CAST				S	**Sn**	**22 26 20.7**	**-0.6**
PPLA	**Purkeypile**	**0.74**	**244**	P	**Pn**	**22 26 07.1**	**+0.1**
PPLA				S	**Sn**	**22 26 23.1**	**+0.3**
CUT	**Chulitna**	**0.85**	**166**	P	**Pn**	**22 26 07.8**	**+0.2**
RND	**Reindeer**	**0.86**	**77**	P	**Pn**	**22 26 07.7**	**-0.1**
RND				S	**Sn**	**22 26 24.4**	**0.0**
RND	**Reindeer**	**0.86**	**77**	P	**Pn**	**22 26 07.7**	**-0.1**
RND				S	**Sn**	**22 26 24.4**	**0.0**
MCK	**McKinley**	**0.95**	**57**	P	**Pn**	**22 26 08.4**	**-0.1**
MCK				S	**Sn**	**22 26 25.1**	**-0.5**
MCK	**McKinley**	**0.95**	**57**	P	**Pn**	**22 26 08.4**	**-0.1**
MCK				S	**Sn**	**22 26 25.1**	**-0.5**
CHUM	**Lake Minchumin**	**0.97**	**313**	P	**Pn**	**22 26 09.0**	**+0.4**
BWN	**Browne**	**1.10**	**30**	P	**Pn**	**22 26 10.6**	**+0.7**
SKT	**Skwentna**	**1.31**	**197**	P	**Pn**	**22 26 11.8**	**-0.2**
DHY	**Denali Highway**	**1.53**	**94**	P	**Pn**	**22 26 14.6**	**-0.1**
WRH	**Wood River Hil**	**1.71**	**42**	P	**Pn**	**22 26 16.3**	**-0.1**
SUA	**Susitna One**	**1.77**	**180**	P	**Pn**	**22 26 17.6**	**+0.2**
PMR	**Palmer**	**1.80**	**155**	P	**Pn**	**22 26 16.9**	**-0.7**
PMR	**Palmer**	**1.80**	**155**	P	**Pn**	**22 26 16.9**	**-0.7**
MLY	**Manley**	**1.81**	**360**	P	**Pn**	**22 26 17.7**	**0.0**
STLK	**Strandline Lak**	**1.81**	**197**	P	**Pn**	**22 26 17.5**	**-0.3**
CCB	**Clear Creek Bu**	**1.92**	**41**	P	**Pn**	**22 26 18.8**	**-0.2**
CGLM	**Capps Glacier**	**2.02**	**198**	P	**Pn**	**22 26 20.6**	**+0.3**
SPCG	**Spurr Capps Gl**	**2.04**	**198**	P	**Pn**	**22 26 20.9**	**+0.3**
HDA	**Harding Lake**	**2.05**	**53**	P	**Pn**	**22 26 20.2**	**-0.3**
MDM	**Murphy Dome**	**2.05**	**31**	P	**Pn**	**22 26 20.5**	**-0.1**
COLA	**College**	**2.08**	**36**	*e* i P	**Pn**	**22 26 20.7**	**-0.1**
COLA	**College**	**2.08**	**36**	P	**Pn**	**22 26 20.8**	**-0.1**
FIB	**Fire Island**	**2.09**	**173**	P	**Pn**	**22 26 21.4**	**+0.4**
FIB	**Fire Island**	**2.09**	**173**	P	**Pn**	**22 26 21.4**	**+0.4**
SCM	**Sheep Creek Mo**	**2.11**	**130**	P	**Pn**	**22 26 20.5**	**-0.9**
SCM	**Sheep Creek Mo**	**2.11**	**130**	P	**Pn**	**22 26 20.5**	**-0.9**
BGL	**Barrier Glacie**	**2.12**	**202**	P	**Pn**	**22 26 22.1**	**+0.5**
SPBG	**Spurr Blockage**	**2.12**	**202**	P	**Pn**	**22 26 22.2**	**+0.6**
SPU	**Mount Spurr**	**2.15**	**197**	*e*Pn	**Pn**	**22 26 22.2**	**+0.4**
SPU				*e*Sn	**Sn**	**22 26 48.5**	**-0.8**
PS08	**TAPS Pump Stn8**	**2.17**	**51**	P	**Pn**	**22 26 21.6**	**-0.5**
CKL	**Chakachamna La**	**2.17**	**201**	P	**Pn**	**22 26 22.4**	**+0.1**
RC01	**Rabbit Creek A**	**2.20**	**167**	*e*Pn	**Pn**	**22 26 21.9**	**-0.5**
RC01				*e*Sn	**Sn**	**22 26 48.5**	**-1.8**
PS10	**TAPS Pump St10**	**2.25**	**83**	P	**Pn**	**22 26 23.8**	**+0.8**
DDM	**Donnelly Dome**	**2.25**	**73**	P	**Pn**	**22 26 23.1**	**0.0**
ILAR	**Eielson Array**	**2.29**	**46**	P	**Pn**	**22 26 23.2**	**-0.3**
105nm,0.3s,baz=227,slow=12,SNR=7567							
ILAR				S	**Sn**	**22 26 50.6**	**-1.8**
73nm,0.3s,baz=228,slow=22,SNR=19							
ILB	**Eielson Array**	**2.29**	**46**	P	**Pn**	**22 26 23.2**	**-0.3**
GLM	**Gilmore Dome**	**2.29**	**38**	P	**Pn**	**22 26 23.7**	**+0.1**
IL1	**Eielson Array**	**2.29**	**46**	P	**Pn**	**22 26 23.2**	**-0.3**
PAX	**Paxson**	**2.41**	**94**	P	**Pn**	**22 26 25.0**	**-0.1**
PAX	**Paxson**	**2.41**	**94**	P	**Pn**	**22 26 25.0**	**-0.1**
TT01	**Tatalina**	**2.43**	**265**	P	**Pn**	**22 26 24.6**	**-0.6**
PTE	**Portage**	**2.50**	**161**	P	**Pn**	**22 26 25.5**	**-0.7**
NKA	**Nikishka**	**2.51**	**186**	P	**Pn**	**22 26 28.4**	**+2.2**
PWL	**Port Wells**	**2.63**	**154**	P	**Pn**	**22 26 27.1**	**-0.8**
PS06	**TAPS Pump Stn6**	**2.67**	**9**	P	**Pn**	**22 26 28.6**	**+0.3**
PS11	**TAPS Pump St11**	**2.69**	**113**	P	**Pn**	**22 26 28.6**	**+0.1**
HARP	**HAARP**	**2.69**	**105**	P	**Pn**	**22 26 28.4**	**-0.2**
SLKM	**Skilak Lake**	**2.74**	**175**	P	**Pn**	**22 26 29.5**	**+0.2**
SLKM	**Skilak Lake**	**2.74**	**175**	P	**Pn**	**22 26 29.5**	**+0.2**
DFR	**Drift River**	**2.80**	**200**	P	**Pn**	**22 26 30.2**	**0.0**
KLU	**Klutina**	**2.84**	**126**	P	**Pn**	**22 26 29.3**	**-1.3**
NCT	**North Crescent**	**2.87**	**202**	P	**Pn**	**22 26 31.6**	**+0.5**
RDN	**Redoubt North**	**2.89**	**200**	P	**Pn**	**22 26 31.2**	**-0.1**
GLI	**Glacier Island**	**2.91**	**142**	P	**Pn**	**22 26 30.3**	**-1.2**
JPK	**Jack Peak**	**2.92**	**137**	P	**Pn**	**22 26 30.4**	**-1.2**
RDWB	**Redoubt West**	**2.93**	**201**	P	**Pn**	**22 26 31.9**	**+0.1**
RSO	**Redoubt South**	**2.94**	**200**	*e*Pn	**Pn**	**22 26 31.9**	**0.0**
VLZ	**Valdez**	**2.95**	**134**	P	**Pn**	**22 26 30.4**	**-1.5**
VMT	**TAPS TI Valdez**	**2.97**	**135**	P	**Pn**	**22 26 31.0**	**-1.1**
DOT	**Dot Lake**	**3.02**	**79**	P	**Pn**	**22 26 32.3**	**-0.6**
IM04	**Indian Mountai**	**3.06**	**336**	*e*Pn	**Pn**	**22 26 32.9**	**-0.4**
IM04				*e*Sn	**Sn**	**22 27 05.0**	**-4.8**
IM3	**Indian Mountai**	**3.06**	**336**	P	**Pn**	**22 26 32.9**	**-0.4**
SCRK	**Sand Creek**	**3.10**	**73**	P	**Pn**	**22 26 33.4**	**-0.6**
GCSA	**Galena City Sc**	**3.11**	**302**	P	**Pn**	**22 26 34.0**	**+0.1**
SVW2	**Sparrevohn**	**3.12**	**229**	P	**Pn**	**22 26 33.8**	**-0.4**
DIV	**Divide**	**3.14**	**130**	P	**Pn**	**22 26 32.9**	**-1.5**
PS12	**TAPS Pump St12**	**3.14**	**122**	P	**Pn**	**22 26 33.5**	**-0.9**
SEW	**Seward**	**3.19**	**168**	*e*Pn	**Pn**	**22 26 34.3**	**-0.8**
SEW				*e*Sn	**Sn**	**22 27 09.5**	**-3.5**
MENT	**Mentasta**	**3.20**	**92**	*e*Pn	**Pn**	**22 26 34.6**	**-0.6**
MENT				*e*Sn	Sn	22 27 07.5	-5.7
WASW	**Wrangell South**	**3.30**	**110**	P	**Pn**	**22 26 36.3**	**-0.4**
ILW	**Iliamna West**	**3.38**	**201**	P	**Pn**	**22 26 37.5**	**-0.2**
BRLK	**Bradley Lake**	**3.48**	**181**	P	**Pn**	**22 26 38.5**	**-0.3**
LTI	**Latouche**	**3.48**	**156**	P	**Pn**	**22 26 37.5**	**-1.3**
EYAK	**Cordova Ski Ar**	**3.58**	**137**	P	**Pn**	**22 26 39.4**	**-0.7**
HOM	**Homer**	**3.61**	**187**	P	**Pn**	**22 26 40.1**	**-0.5**
BMRM	**Bremner River**	**3.67**	**126**	P	**Pn**	**22 26 40.0**	**-1.3**
GLB	**Gilahina Butte**	**3.69**	**116**	P	**Pn**	**22 26 41.1**	**-0.5**
OPT	**Oil Point**	**3.79**	**200**	P	**Pn**	**22 26 43.0**	**+0.1**
SGAM	**Sherman Glacie**	**3.79**	**134**	P	**Pn**	**22 26 41.5**	**-1.3**
GOAT	**Goat Mountain**	**3.89**	**130**	P	**Pn**	**22 26 43.2**	**-1.1**
COLD	**Coldfoot**	**4.02**	**3**	*e*Pn	**Pn**	**22 26 45.7**	**-0.2**
COLD				*e*Sn	**Sn**	**22 27 31.3**	**-1.1**
RAGM	**Ragged Mountai**	**4.05**	**132**	P	**Pn**	**22 26 45.4**	**-1.0**
BCA3	**Beaver Creek A**	**4.06**	**88**	P	**Pn**	**22 26 45.5**	**-1.0**
FYU	**Fort Yukon**	**4.09**	**33**	P	**Pn**	**22 26 47.0**	**+0.3**
AUP	**Augustine Pinn**	**4.09**	**200**	P	**Pn**	**22 26 47.3**	**+0.3**
AUP	**Augustine Pinn**	**4.09**	**200**	P	**Pn**	**22 26 47.3**	**+0.3**
AUI	**Augustine Isla**	**4.12**	**200**	P	**Pn**	**22 26 48.0**	**+0.7**
MID	**Middleton Isla**	**4.36**	**149**	P	**Pn**	**22 26 50.1**	**-0.3**
MID	**Middleton Isla**	**4.36**	**149**	P	**Pn**	**22 26 50.1**	**-0.3**
MCNL	**McNeil River**	**4.42**	**205**	P	**Pn**	**22 26 51.2**	**0.0**
EGAK	**Eagle**	**4.49**	**66**	P	**Pn**	**22 26 51.3**	**-0.8**
BM3	**Burnt Mountain**	**4.93**	**29**	P	**Pn**	**22 26 57.9**	**-0.1**
KAPH	**Katmai Pasha**	**4.97**	**202**	P	**Pn**	**22 26 58.7**	**0.0**
KAHC	**Katmai Hardscr**	**5.05**	**206**	P	**Pn**	**22 26 59.3**	**-0.5**
KVTA	**Katmai Vly 10**	**5.35**	**207**	P	**Pn**	**22 27 04.1**	**+0.3**
KAKN	**Katmai Knife C**	**5.38**	**205**	P	**Pn**	**22 27 04.1**	**-0.1**
KELA	**Mount Kelaz**	**5.39**	**209**	P	**Pn**	**22 27 04.9**	**+0.6**
KCE	**Katmai Mt Cerb**	**5.46**	**206**	P	**Pn**	**22 27 05.7**	**+0.5**
KABR	**Katmai Barrier**	**5.52**	**204**	P	**Pn**	**22 27 05.5**	**-0.6**
KDAK	**Kodiak Island**	**5.54**	**190**	*ce*P	**Pn**	**22 27 04.6**	**-1.7**
KDAK	**Kodiak Island**	**5.54**	**190**	*e*Pn	**Pn**	**22 27 04.5**	**-1.7**
KDAK				Sn	Sn	22 27 55.7	-13
OHAK	**Old Harbor**	**6.16**	**193**	P	**Pn**	**22 27 12.3**	**-2.2**
PLK1	**Peulik 1**	**6.17**	**211**	P	**Pn**	**22 27 15.3**	**+0.7**
PLK3	**Peulik 3**	**6.20**	**209**	P	**Pn**	**22 27 15.1**	**0.0**
HYT	**Haines Junctio**	**6.67**	**105**	P	**Pn**	**22 27 21.0**	**-0.5**
WHY	**Whitehorse**	**7.90**	**102**	P	**Pn**	**22 27 37.4**	**-0.6**
DLBC	**Dease Lake**	**11.16**	**106**	P	**Pn**	**22 28 21.6**	**+0.1**
0.4nm,0.3s,baz=305,slow=11,SNR=11							
WRAK	**Wrangell Islan**	**11.46**	**118**	*e*Pn	**Pn**	**22 28 26.0**	**+0.5**
CRAG	**Craig**	**11.85**	**123**	*e*Pn	**Pn**	**22 28 30.1**	**-0.5**
CRAG				*e*Sn	**Sn**	**22 30 38.0**	**-2.9**
BBB	**Bella Bella**	**16.27**	**122**	P	**Pn**	**22 29 27.8**	**+1.1**
0.6nm,0.3s,baz=330,slow=11,SNR=3.6							
YKA	**Yellowknife Ar**	**16.36**	**76**	P	**Pn**	**22 29 26.9**	**-0.8**
2.0nm,0.3s,baz=287,slow=9.8,SNR=84							
YKA				ScP	**ScP**	**22 37 32.8**	**-1.0**
0.1nm,0.3s,baz=285,slow=2.3,SNR=7.2							
BILL	**Bilibino**	**18.07**	**304**	*e*P	**P**	**22 29 46.9**	**0.0**
BILL				pmax	pmax		
comp=Z,3.0nm,0.4s							
BILL	**Bilibino**	**18.07**	**304**	*e*P	**P**	**22 29 46.6**	**-0.3**
comp=Z,6.7nm,0.8s							
VDB	**Vedder Mountai**	**21.12**	**119**	P	**P**	**22 30 21.6**	**+1.6**
A05A	**Maple Falls**	**21.14**	**119**	*e*P	**P**	**22 30 22.1**	**+1.8**
comp=Z,107nm,1.6s							
FX1	**Attu Island--F**	**21.42**	**258**	P	**P**	**22 30 22.4**	**-0.8**
comp=Z,7.9nm,0.4s,baz=346,slow=4.2,SNR=11							
FX1	**Attu Island--F**	**21.42**	**258**	*e*P	**P**	**22 30 23.0**	**-0.2**
RES	**Resolute Bay**	**22.01**	**36**	*e*P	**P**	**22 30 28.8**	**-0.4**
RES	**Resolute Bay**	**22.01**	**36**	P	**P**	**22 30 28.9**	**-0.3**
comp=Z,4.3nm,0.4s,baz=255,slow=8.8,SNR=30							
RES	**Resolute Bay**	**22.01**	**36**	*e*P	**P**	**22 30 28.8**	**-0.4**
D05A	**Enumclaw**	**22.65**	**122**	*e*P	**P**	**22 30 37.5**	**+1.7**
comp=Z,29nm,0.9s							
B08A	**Colville Reser**	**22.76**	**116**	*e*P	**P**	**22 30 38.0**	**+1.1**
comp=Z,11nm,0.9s							
ETW	**Entiat**	**22.96**	**119**	P	**P**	**22 30 39.9**	**+0.9**
LTY	**Liberty**	**23.11**	**120**	*e*P	**P**	**22 30 41.0**	**+0.8**
comp=Z,8.5nm,0.6s							
TDL	**Tradedollar La**	**23.26**	**123**	P	**P**	**22 30 43.2**	**+1.5**
F04A	**Amboy**	**23.54**	**124**	*e*P	**P**	**22 30 45.9**	**+1.8**
comp=Z,21nm,0.8s							
C09A	**Chrisman Ranch**	**23.64**	**116**	*e*P	**P**	**22 30 47.5**	**+2.5**
comp=Z,13nm,1.1s							
NEW	**Newport**	**23.74**	**113**	*e*P	**P**	**22 30 47.0**	**+1.0**
NEW				pmax	pmax		
comp=Z,19nm,1.0s							
NEW	**Newport**	**23.74**	**113**	P	**P**	**22 30 47.0**	**+1.0**
comp=Z,12nm,0.8s,baz=327,slow=8.5,SNR=21							
NEW	**Newport**	**23.74**	**113**	⇑P	**P**	**22 30 46.6**	**+0.6**
baz=24,SNR=17							
NEW	**Newport**	**23.74**	**113**	*e*P	**P**	**22 30 47.0**	**+1.0**
comp=Z,19nm,1.0s							
OD2	**Odessa Site #2**	**23.79**	**117**	P	**P**	**22 30 46.9**	**+0.6**
G03D	**McMinnville, O**	**23.84**	**126**	⇓P	**P**	**22 30 48.3**	**+1.5**
baz=24							
TRW	**Toppenish Ridg**	**23.95**	**121**	P	**P**	**22 30 49.4**	**+1.5**
D08A	**Wollman Farm,**	**23.97**	**118**	*e*P	**P**	**22 30 48.9**	**+0.9**
comp=Z,14nm,0.8s							
E07A	**Sunnyside**	**24.00**	**119**	*e*P	**P**	**22 30 49.5**	**+1.2**
SNIWA	**Snively Ranch**	**24.16**	**119**	P	**P**	**22 30 50.7**	**+1.0**
WALA	**Waterton Lakes**	**24.49**	**108**	*e*P	**P**	**22 30 53.8**	**+1.0**
E09A	**Wood Farm, Sta**	**24.72**	**117**	*e*P	**P**	**22 30 55.7**	**+0.9**
comp=Z,14nm,1.3s							
SEY	**Seymchan**	**25.04**	**295**	P	**P**	**22 30 56.6**	**-0.9**
comp=Z,9.7nm,0.4s,baz=71,slow=12,SNR=128							
BSMT	**Bassoo Peak**	**25.05**	**111**	*e*P	**P**	**22 30 59.3**	**+1.4**
BLMT	**Blacktail Moun**	**25.10**	**110**	*e*P	**P**	**22 30 59.5**	**+1.1**
I03D	**Drain, OR**	**25.12**	**128**	⇑P	**P**	**22 30 59.6**	**+1.2**
baz=25							
I05D	**Terrebonne, OR**	**25.30**	**125**	⇓P	**P**	**22 31 01.1**	**+1.1**
baz=25							
JTMT	**Jette**	**25.34**	**110**	*e*P	**P**	**22 31 01.9**	**+1.4**
YBMT	**Yellow Bay**	**25.37**	**110**	*e*P	**P**	**22 31 01.8**	**+1.0**
I04A	**Tendick Farm,**	**25.37**	**127**	⇑P	**P**	**22 31 02.1**	**+1.4**
baz=25							
F10A	**Beach Ranch, E**	**25.53**	**117**	*e*P	**P**	**22 31 03.0**	**+0.8**
comp=Z,10nm,1.1s							
SWMT	**Swartz Lake**	**25.65**	**110**	*e*P	**P**	**22 31 03.8**	**+0.5**
comp=Z,16nm,0.8s							
FFC	**Flin Flon**	**25.91**	**86**	*e*P	**P**	**22 31 05.9**	**+0.4**
FFC				pmax	pmax		
comp=Z,19nm,1.3s							
FFC	**Flin Flon**	**25.91**	**86**	*e*P	**P**	**22 31 05.9**	**+0.4**
comp=Z,19nm,1.3s							
J04D	**Umpqua Nationa**	**25.96**	**127**	⇓P	**P**	**22 31 07.0**	**+0.8**
baz=26							
SLMT	**Seeley Lake**	**26.07**	**110**	*e*P	**P**	**22 31 07.0**	**-0.1**
comp=Z,18nm,0.8s							
MSO	**Missoula**	**26.20**	**111**	⇓P	**P**	**22 31 08.8**	**+0.5**
baz=26,SNR=14							
HUMO	**Hull Mountain**	**26.21**	**129**	*e*P	**P**	**22 31 10.7**	**+2.5**
comp=Z,55nm,2.0s							
J05D	**Fort Rock, OR**	**26.24**	**126**	⇓P	**P**	**22 31 09.9**	**+1.2**
baz=26							
CHMT	**Chamberlain Mo**	**26.43**	**110**	*e*P	**P**	**22 31 11.2**	**+0.7**
A19A	**Klindworth Far**	**26.85**	**102**	⇑P	**P**	**22 31 14.5**	**+0.5**
baz=27,SNR=7.7							
FCC	**Fort Churchill**	**27.04**	**73**	*e*P	**P**	**22 31 15.8**	**+0.3**
FCC	**Fort Churchill**	**27.04**	**73**	*e*P	**P**	**22 31 15.8**	**+0.3**
YBH	**Yreka Blue Hor**	**27.07**	**129**	*e*P	**P**	**22 31 18.5**	**+2.5**
YBH	**Yreka Blue Hor**	**27.07**	**129**	P	**P**	**22 31 18.0**	**+2.0**
comp=Z,9.5nm,1.0s,baz=343,slow=2.2,SNR=12							
YBH	**Yreka Blue Hor**	**27.07**	**129**	*e*P	**P**	**22 31 18.5**	**+2.5**
EGMT	**Eagleton**	**27.08**	**105**	⇑P	**P**	**22 31 16.6**	**+0.5**
baz=27,SNR=11							
EGMT	**Eagleton**	**27.08**	**105**	*e*P	**P**	**22 31 16.8**	**+0.6**
comp=Z,19nm,1.0s							
B19A	**Brinkman Farms**	**27.11**	**103**	⇓P	**P**	**22 31 17.0**	**+0.6**
baz=27,SNR=7.4							
HRY	**Holter Researc**	**27.19**	**109**	*e*P	**P**	**22 31 18.3**	**+1.1**
A20A	**Cobblestone Ra**	**27.25**	**102**	⇑P	**P**	**22 31 18.6**	**+1.1**
baz=27							
M02C	**Callahan**	**27.32**	**130**	⇑P	**P**	**22 31 20.1**	**+1.9**
baz=27							
M04C	**Macdoel**	**27.33**	**128**	⇓P	**P**	**22 31 20.0**	**+1.5**
baz=27							
B20A	**Solberg Farm,**	**27.53**	**102**	⇓P	**P**	**22 31 21.5**	**+1.4**
baz=27							
A21A	**Bergtoll Ranch**	**27.61**	**100**	⇓P	**P**	**22 31 21.7**	**+1.0**
baz=28,SNR=12							
C19A	**Slack Wire Ran**	**27.61**	**104**	⇓P	**P**	**22 31 21.8**	**+1.0**
baz=28,SNR=6.5							
LRM	**Limekiln Ridge**	**27.63**	**111**	*e*P	**P**	**22 31 22.6**	**+1.4**
N02D	**Trinity Center**	**27.74**	**130**	⇑P	**P**	**22 31 24.4**	**+2.4**
baz=28							
MOD	**Modoc Plateau**	**27.78**	**126**	*e*P	**P**	**22 31 24.3**	**+1.9**
comp=Z,3.4nm,0.8s							
DLMT	**Dillon**	**27.94**	**112**	*e*P	**P**	**22 31 25.1**	**+1.2**
comp=Z,12nm,1.3s							
WVOR	**Wild Horse Val**	**27.94**	**123**	*e*P	**P**	**22 31 25.5**	**+1.6**
WVOR	**Wild Horse Val**	**27.94**	**123**	*e*P	**P**	**22 31 25.5**	**+1.6**
B21A	**Ellsworth Farm**	**27.99**	**101**	⇑P	**P**	**22 31 25.2**	**+1.1**
baz=28							
A22A	**Carney Farms,**	**28.06**	**99**	⇑P	**P**	**22 31 25.9**	**+1.1**
baz=28							
C20A	**Veseth Ranch,**	**28.09**	**103**	⇑P	**P**	**22 31 25.6**	**+0.6**
baz=28							
WDC	**Whiskeytown Da**	**28.15**	**130**	*e*P	**P**	**22 31 27.5**	**+1.9**
WDC				pmax	pmax		
comp=Z,13nm,1.0s							
WDC	**Whiskeytown Da**	**28.15**	**130**	*e*P	**P**	**22 31 27.5**	**+1.9**
comp=Z,13nm,1.0s							
MFID	**Camas Ranch**	**28.21**	**118**	*e*P	**P**	**22 31 27.4**	**+1.2**
comp=Z,14nm,1.3s							
PETK	**Petropavlovsk-**	**28.23**	**273**	P	**P**	**22 31 25.6**	**-0.6**
comp=Z,4.8nm,0.7s,baz=77,slow=11,SNR=7.7							
MCMT	**McKenzie Canyo**	**28.26**	**113**	*e*P	**P**	**22 31 26.8**	**-0.1**
comp=Z,0.9nm,0.4s							
D20A	**Manuel Ranch,**	**28.50**	**104**	⇑P	**P**	**22 31 29.7**	**+1.0**
baz=28,SNR=15							
A23A	**Redstone**	**28.55**	**98**	⇓P	**P**	**22 31 29.7**	**+0.6**
baz=28							
HLID	**Hailey**	**28.66**	**116**	⇓P	**P**	**22 31 30.6**	**+0.3**
baz=28,SNR=6.0							
HLID	**Hailey**	**28.66**	**116**	*e*P	**P**	**22 31 31.5**	**+1.2**
comp=Z,4.4nm,0.9s							
E19A	**Rath Farm, Rou**	**28.70**	**106**	⇓P	**P**	**22 31 31.4**	**+0.8**
baz=29							
QLMT	**Earthquake Lak**	**28.86**	**111**	*e*P	**P**	**22 31 33.9**	**+1.9**
B23A	**Brockton**	**28.86**	**99**	⇑P	**P**	**22 31 32.5**	**+0.6**
baz=29							
E20A	**Meyer Farm, Mu**	**28.96**	**105**	⇑P	**P**	**22 31 33.4**	**+0.6**
baz=29							
A24A	**Westby**	**28.97**	**97**	⇓P	**P**	**22 31 33.3**	**+0.5**
baz=29							
C22A	**Vida**	**29.00**	**101**	⇑P	**P**	**22 31 33.2**	**+0.1**
baz=29,SNR=6.0							
D21A	**La Casta Ranch**	**29.02**	**103**	⇓P	**P**	**22 31 34.0**	**+0.6**
baz=29							
F19A	**Roth Farm, Mol**	**29.11**	**107**	⇑P	**P**	**22 31 34.9**	**+0.7**
baz=29,SNR=6.8							
YMR	**Madison River**	**29.18**	**111**	*e*P	**P**	**22 31 37.2**	**+2.3**
comp=Z,20nm,0.9s							
DGMT	**Dagmar**	**29.21**	**98**	⇑P	**P**	**22 31 36.4**	**+1.5**
baz=29							
DGMT	**Dagmar**	**29.21**	**98**	*e*P	P	22 31 38.6	+3.6
comp=Z,11nm,1.0s							
C23A	**Lambert**	**29.27**	**100**	⇑P	**P**	**22 31 36.3**	**+0.8**
baz=29,SNR=13							
YNR	**Norris Junctio**	**29.27**	**110**	*e*P	**P**	**22

baz=31,SNR=7.0
BGU Big Grassy Mou 31.43 117 eP P 22 31 56.6 +1.9
comp=Z,19nm,2.6s
I21A Big Trails, Te 31.45 107 ⇑P P 22 31 55.7 +0.9
baz=31,SNR=21
HWUT Hardware Ranch 31.45 115 eP P 22 31 56.5 +1.6
comp=Z,7.9nm,1.3s
F25A Bowman 31.47 101 ⇑P P 22 31 56.2 +1.3
baz=31
J20A Shoshoni 31.47 109 ⇓P P 22 31 56.7 +1.6
baz=31,SNR=13
E26A Carlson Angus 31.49 99 ⇑P P 22 31 56.1 +1.0
baz=31
G24A Alzada 31.50 103 ⇓P P 22 31 55.9 +0.6
baz=31
A30A Hoffart Farm, 31.53 92 ⇓P P 22 31 55.7 +0.4
baz=31,SNR=5.9
NVAR Mina Array Bea 31.56 126 P P 22 31 57.9 +2.0
comp=Z,6.5nm,0.7s,baz=316,slow=8.5,SNR=30
NVAR ScP ScP 22 38 17.1 +1.4
comp=Z,1.1nm,0.8s,baz=198,slow=1.8,SNR=4.0
ULM Lac du Bonnet 31.68 88 eP P 22 31 57.4 +0.8
ULM Lac du Bonnet 31.68 88 P P 22 31 56.7 0.0
comp=Z,5.8nm,0.5s,baz=317,slow=9.7,SNR=9.9
ULM Lac du Bonnet 31.68 88 eP P 22 31 57.4 +0.8
I22A 9 Mile Ranch, 31.73 106 ⇓P P 22 31 58.7 +1.4
baz=32,SNR=20
MDND Maddock 31.74 95 ⇑P P 22 31 58.2 +1.0
baz=32
MDND Maddock 31.74 95 eP P 22 31 58.6 +1.4
J21A Lysite 31.75 108 ⇓P P 22 31 59.0 +1.4
baz=32,SNR=30
B30A Myrvik Farm, E 31.87 93 ⇓P P 22 31 59.2 +0.9
baz=32
F26A Lodgepole 31.87 100 ⇓P P 22 31 59.5 +1.0
baz=32,SNR=5.3
H24A Dirks Ranch, A 31.90 103 ⇓P P 22 31 59.4 +0.6
baz=32,SNR=8.5
E27A Carson 31.93 98 ⇑P P 22 31 59.9 +1.0
baz=32
J22A Midwest 32.12 107 ⇓P P 22 32 01.6 +0.9
baz=32,SNR=11
DUG Dugway, Tooele 32.13 118 ⇓P P 22 32 02.1 +1.3
baz=32,SNR=7.6
CTU Camp Tracy 32.14 116 eP P 22 32 02.6 +1.6
comp=Z,9.7nm,0.8s
E28A Huff 32.21 97 ⇓P P 22 32 03.0 +1.7
baz=32
TPH Tonopah 32.27 125 eP P 22 32 03.8 +1.7
TPH pmax pmax
comp=Z,10.0nm,0.8s
TPH Tonopah 32.27 125 eP P 22 32 03.8 +1.7
comp=Z,9.8nm,0.8s
D29A Pettibone, Tap 32.33 96 ⇓P P 22 32 03.7 +1.3
baz=32
C30A Mose, Pekin 32.36 94 ⇑P P 22 32 03.5 +0.9
baz=32
K21A Alcova 32.41 109 ⇓P P 22 32 04.3 +0.9
baz=32,SNR=7.2
H25A Fruitdale 32.42 103 ⇑P P 22 32 04.1 +0.9
baz=32
I24A Kuemmerle Ranc 32.57 104 ⇑P P 22 32 04.8 +0.2
baz=32
G27A Dupree 32.57 100 ⇑P P 22 32 05.4 +0.9
baz=32,SNR=6.2
RSSD Black Hills 32.62 104 eP P 22 32 05.5 +0.3
RSSD pmax pmax
comp=Z,14nm,0.6s
RSSD Black Hills 32.62 104 eP P 22 32 05.5 +0.3
comp=Z,14nm,0.6s
NLU North Lily Min 32.63 117 eP P 22 32 07.0 +1.7
comp=Z,7.1nm,1.1s
R11A Troy Canyon, C 32.64 123 ⇓P P 22 32 06.5 +1.2
baz=32,SNR=12
R11A Troy Canyon, C 32.64 123 eP P 22 32 05.4 0.0
comp=Z,12nm,1.3s
D30A Buchanan 32.67 95 ⇓P P 22 32 06.0 +0.7
baz=32
E29A Napoleon 32.68 96 ⇑P P 22 32 06.5 +1.0
baz=32
F28A McLaughlin 32.71 98 ⇑P P 22 32 06.7 +1.0
baz=33
K22A Casper 32.71 108 ⇑P P 22 32 06.9 +1.0
baz=33
K22A Casper 32.71 108 eP P 22 32 07.0 +1.1
comp=Z,18nm,1.1s
MPU Maple Canyon 32.76 116 eP P 22 32 08.1 +1.7
comp=Z,8.3nm,1.2s
H26A Fairpoint 32.79 102 ⇑P P 22 32 07.4 +1.0
baz=33
TIN Tinemaha, Big 32.81 128 ⇓P P 22 32 08.2 +1.4
baz=33
I25A Rochford 32.83 103 ⇑P P 22 32 08.1 +1.1
baz=33
J24A Dixon Ranch, L 32.98 105 ⇑P P 22 32 09.2 +1.1
baz=33,SNR=11
K23A Bowen Ranch, D 33.02 107 ⇓P P 22 32 09.1 +0.6
baz=33
H27A Howes 33.08 101 ⇑P P 22 32 09.9 +0.9
baz=33
AGMN Agassiz Nation 33.10 91 ⇓P P 22 32 09.7 +0.6
baz=33
AGMN Agassiz Nation 33.10 91 eP P 22 32 09.9 +0.8
comp=Z,4.6nm,0.6s
F29A Eureka 33.16 97 ⇓P P 22 32 10.8 +1.1
baz=33
L22A Ellis Ranch, M 33.26 108 ⇓P P 22 32 12.9 +2.2
baz=33,SNR=26
K24A Anderson Ranch 33.40 106 ⇓P P 22 32 12.4 +0.6
baz=33
N20A Spence Gulch, 33.47 112 ⇓P P 22 32 14.3 +1.8
baz=33,SNR=39
L23A Garrett 33.51 108 ⇓P P 22 32 13.9 +1.0
baz=33,SNR=8.8
F30A Leola 33.52 97 ⇑P P 22 32 13.7 +1.0
baz=33
H28A Mission Ridge 33.52 100 ⇓P P 22 32 13.8 +1.0
baz=33
I27A Quinn 33.54 102 ⇑P P 22 32 14.2 +1.3
baz=33
VES Vestal, Richgr 33.59 130 ⇓P P 22 32 14.5 +1.1
baz=34
J26A Sides Ranch, S 33.69 103 ⇓P P 22 32 15.5 +1.3
baz=34,SNR=13
M22A Cedar Creek Ra 33.70 109 ⇑P P 22 32 15.4 +0.7
baz=34
MVU Marysvale 33.82 119 eP P 22 32 17.8 +2.2
comp=Z,14nm,1.0s
FURC Furnace Creek, 33.82 126 ⇑P P 22 32 17.1 +1.8
baz=34
L24A Wheatland 33.90 107 ⇑P P 22 32 16.9 +0.7
baz=34
K25A Mack Ranch, Ha 33.90 105 ⇑P P 22 32 16.7 +0.6
baz=34
H29A Onida 33.92 99 ⇑P P 22 32 17.0 +0.8
baz=34
ARUT Antelope Range 33.96 121 eP P 22 32 17.6 +0.9
ARUT pmax pmax
comp=Z,196nm,1.0s
ARUT Antelope Range 33.96 121 eP P 22 32 17.6 +0.9
comp=Z,196nm,1.0s
SRU San Rafael Swe 33.98 116 eP P 22 32 18.8 +1.8
SRU pmax pmax
comp=Z,20nm,1.0s
SRU San Rafael Swe 33.98 116 eP P 22 32 18.8 +1.8
comp=Z,20nm,1.0s
I28A Midland 33.98 101 ⇑P P 22 32 17.7 +0.9
baz=34,SNR=5.6
G30A Faulkton 34.01 97 ⇑P P 22 32 17.8 +0.9
baz=34,SNR=8.1
M23A Laramie 34.02 108 ⇓P P 22 32 18.6 +1.3
baz=34
O20A White River Ci 34.06 112 ⇓P P 22 32 18.6 +1.0
baz=34
O20A White River Ci 34.06 112 eP P 22 32 18.7 +1.0
comp=Z,40nm,2.0s
CCUT Cedar City 34.19 121 eP P 22 32 20.6 +1.8
comp=Z,8.9nm,0.9s
J27A Elkhorn Farm, 34.20 102 ⇑P P 22 32 20.0 +1.2
baz=34
N22A Wattenberg Ran 34.26 110 ⇓P P 22 32 20.4 +1.0
baz=34,SNR=6.9
FRB Frobisher Bay 34.31 51 P P 22 32 18.8 -0.5
comp=Z,6.7nm,0.6s,baz=306,slow=9.7,SNR=18
I29A Vivian Onida 34.35 100 ⇑P P 22 32 21.0 +1.0
baz=34
N23A Red Feather La 34.40 109 ⇓P P 22 32 22.0 +1.3
baz=34
J28A Allard Ranch, 34.41 101 ⇑P P 22 32 21.7 +1.3
baz=34
M24A Cheyenne 34.41 107 ⇓P P 22 32 22.3 +1.7
baz=34
LRMC Laurel Mtn Rad 34.41 128 ⇑P P 22 32 22.1 +1.5
baz=34
SHPR Sheep Range 34.42 124 eP P 22 32 22.3 +1.5
YAK Yakutsk 34.43 305 eP P 22 32 19.6 -0.7
YAK pmax pmax
comp=Z,12nm,0.6s
YAK Yakutsk 34.43 305 eP P 22 32 19.6 -0.7
comp=Z,12nm,0.6s
K27A Flueckinger Fa 34.54 103 ⇓P P 22 32 22.9 +1.2
baz=34
L26A Underwood Farm 34.71 105 ⇓P P 22 32 24.6 +1.5
baz=35
O22A Kremmling 34.75 110 ⇓P P 22 32 25.0 +1.3
baz=35
M25A Palm-Egli Farm 34.77 106 ⇑P P 22 32 24.2 +0.4
baz=35
J29A Okreek 34.83 101 ⇑P P 22 32 24.7 +0.7
baz=35
I30A Oacoma 34.83 99 ⇑P P 22 32 24.8 +0.8
baz=35
GSC Goldstone, Bar 34.89 127 eP P 22 32 25.9 +1.3
GSC Goldstone, Bar 34.89 127 ⇓P P 22 32 26.0 +1.4
baz=35,SNR=7.1
GSC Goldstone, Bar 34.89 127 eP P 22 32 25.9 +1.3
N24A Carr 34.91 108 ⇑P P 22 32 25.9 +0.9
baz=35,SNR=11
K28A Ten Mile Ranch 34.92 102 ⇑P P 22 32 25.9 +1.0
baz=35
O23A Lake Granby, G 34.98 110 ⇓P P 22 32 27.6 +1.9
baz=35,SNR=8.3
TUQ Turquoise Moun 35.09 126 ⇑P P 22 32 28.2 +1.8
baz=35,SNR=6.1
P22A Eagle 35.13 111 ⇓P P 22 32 27.7 +0.8
baz=35
PV04 Paradox Valley 35.25 115 eP P 22 32 29.4 +1.6
K29A Lazy Trails An 35.34 101 ⇑P P 22 32 29.1 +0.6
baz=35
O24A Longmont 35.41 109 ⇑P P 22 32 31.1 +1.9
baz=35
ISCO Idaho Springs 35.45 110 eP P 22 32 31.5 +1.8
ISCO pmax pmax
comp=Z,7.0nm,1.3s
ISCO Idaho Springs 35.45 110 ⇓P P 22 32 31.0 +1.3
baz=35,SNR=6.2
ISCO Idaho Springs 35.45 110 eP P 22 32 31.5 +1.8
comp=Z,7.3nm,1.3s
BFSC Mount Baldy Ra 35.54 129 ⇓P P 22 32 32.5 +2.2
baz=35
U15A North Rim 35.59 121 ⇓P P 22 32 32.2 +1.3
baz=36,SNR=7.8
PV01 Paradox Valley 35.61 115 eP P 22 32 30.5 -0.6
comp=Z,1µm,0.9s
P23A Jefferson 35.71 110 ⇑P P 22 32 33.2 +1.3
baz=36,SNR=6.5
K30A Basset 35.73 101 ⇓P P 22 32 32.6 +0.9
baz=36
GMRC Granite Mounta 35.77 126 ⇓P P 22 32 33.9 +1.6
baz=36,SNR=5.2
O25A Wiggins 35.83 108 ⇓P P 22 32 34.4 +1.6
baz=36
N27A Anderson Farm, 35.95 105 ⇑P P 22 32 34.8 +1.1
baz=36
M28A Bar X Bar Ranc 35.98 104 ⇑P P 22 32 35.1 +1.1
baz=36
P24A Kohler Place, 35.99 109 ⇓P P 22 32 35.1 +0.9
baz=36
OGNE Ogallala 36.05 105 ⇓P P 22 32 35.8 +1.3
baz=36
O26A Horse Wrangler 36.07 107 ⇓P P 22 32 36.0 +1.2
baz=36
W13A Hualapai Mount 36.15 124 ⇑P P 22 32 37.2 +1.7
baz=36
ECSD EROS Data Cent 36.23 96 ⇓P P 22 32 36.4 +0.4
baz=36,SNR=8.9
ECSD EROS Data Cent 36.23 96 eP P 22 32 35.8 -0.2
comp=Z,14nm,1.1s
L30A Spencer Herefo 36.26 101 ⇓P P 22 32 37.2 +0.9
baz=36
Q24A Divide 36.34 110 ⇑P P 22 32 38.5 +1.2
baz=36
BELC Belle Mtn. Jos 36.34 127 ⇓P P 22 32 38.8 +1.6
baz=36
SCI San Clemente I 36.37 131 ⇓P P 22 32 37.7 +0.5
baz=36
MVCO Mesa Verde 36.43 115 ⇓P P 22 32 39.0 +1.0
baz=36,SNR=5.6
MVCO Mesa Verde 36.43 115 eP P 22 32 39.2 +1.2
comp=Z,5.1nm,0.8s
O27A Beecher Island 36.48 106 ⇑P P 22 32 39.2 +1.0
baz=36
N28A Pribbeno Ranch 36.48 105 ⇓P P 22 32 39.3 +1.1
baz=36
IRM Iron Mountain 36.51 126 ⇑P P 22 32 40.4 +2.0
baz=36,SNR=5.4
M30A Dale-Ortello V 36.52 102 ⇓P P 22 32 39.7 +1.1
baz=36
P26A Davis Ranch, A 36.62 108 ⇑P P 22 32 41.0 +1.5
baz=36,SNR=8.0
S22A 4UR Ranch, Cre 36.66 113 ⇑P P 22 32 41.7 +1.6
baz=36,SNR=14
R23A Moffat 36.71 111 ⇑P P 22 32 41.9 +1.5
baz=37,SNR=12
WUAZ Wupatki 36.74 120 ⇑P P 22 32 42.0 +1.4
baz=37,SNR=6.3
WUAZ Wupatki 36.74 120 eP P 22 32 42.3 +1.7
comp=Z,26nm,1.1s
PDMCI Parker Dam,Lak 36.76 124 ⇑P P 22 32 41.8 +1.3
baz=37
Q25A Bedland, Calha 36.77 109 ⇑P P 22 32 41.9 +1.0
baz=37
N29A Votaw Ranch, W 36.77 103 ⇓P P 22 32 41.7 +1.0
baz=37
SPMN Marine on St. 36.80 91 ⇑P P 22 32 42.0 +1.2
baz=37,SNR=7.7
SPMN Marine on St. 36.80 91 eP P 22 32 41.7 +0.9
comp=Z,16nm,1.0s
O28A Krutsinger Ran 36.84 105 ⇑P P 22 32 42.3 +1.0
baz=37
BC3 Big Chuckawall 36.85 127 ⇓P P 22 32 43.1 +1.6
baz=37
109C Camp Elliot, M 36.95 129 ⇓P P 22 32 43.5 +1.3
baz=37
P27A Ficken Ranch, 36.95 107 ⇓P P 22 32 43.5 +1.2
baz=37
R24A Sanders Place, 36.98 111 ⇑P P 22 32 43.8 +1.2
baz=37,SNR=7.0
SUMG Summit 37.02 28 iP P 22 32 43.1 +0.3
SUMG pmax pmax
comp=Z,3.0nm,0.7s
SUMG Summit 37.02 28 iP P 22 32 43.1 +0.3
comp=Z,3.4nm,0.7s
S23A Nye Farm, Mont 37.04 112 ⇑P P 22 32 45.0 +1.8
baz=37
Q26A Hugo 37.07 108 ⇑P P 22 32 44.3 +1.0
baz=37,SNR=6.1
M31A Lambtbtecht Ranc 37.08 101 ⇓P P 22 32 44.0 +0.8
baz=37,SNR=6.2
DAG Danmarks Havn 37.09 16 iP P 22 32 42.6 -0.2
DAG pmax pmax
comp=Z,6.0nm,0.7s
DAG Danmarks Havn 37.09 16 iP P 22 32 42.6 -0.2
comp=Z,8.8nm,0.7s
Y12C Blythe 37.11 125 ⇓P P 22 32 44.8 +1.4
baz=37
MONP Monument Peak, 37.19 128 ⇓P P 22 32 45.8 +1.4
baz=37,SNR=5.2
O29A 4D Ranch, Culb 37.26 104 ⇑P P 22 32 45.5 +0.7
baz=37
P28A Saint Francis 37.30 106 ⇑P P 22 32 45.9 +0.8
baz=37
KSCO Kaye Shedlock' 37.38 107 ⇓P P 22 32 46.9 +1.0
baz=37,SNR=6.1
KSCO Kaye Shedlock' 37.38 107 eP P 22 32 47.7 +1.8
comp=Z,23nm,1.0s
R25A Fountain Ranch 37.40 110 ⇓P P 22 32 46.9 +0.9
baz=37,SNR=10
S24A Houchin Ranch, 37.43 111 ⇓P P 22 32 47.5 +1.0
baz=37,SNR=7.3
Y14A Wickenburg 37.51 123 ⇑P P 22 32 48.4 +1.5
baz=37,SNR=5.5
O30A MW Ranch, Wils 37.55 103 ⇓P P 22 32 47.6 +0.4
baz=37
GLA Glamis 37.62 126 ⇑P P 22 32 49.1 +1.2
baz=38
R26A Arlington 37.62 109 ⇑P P 22 32 48.7 +0.8
baz=38,SNR=5.6
X16A Lo Mia Camp, P 37.68 121 ⇑P P 22 32 50.5 +1.9
baz=38,SNR=7.4
Q28A Sharon Springs 37.69 106 ⇓P P 22 32 49.1 +0.7
baz=38
W18A Petrified Fore 37.74 119 ⇓P P 22 32 50.3 +1.3
baz=38
S25A Robets Cordova 37.74 110 ⇑P P 22 32 50.2 +1.2
baz=38,SNR=7.5
U22A Llaves 37.82 114 ⇓P P 22 32 51.1 +1.4
baz=38
T24B San Luis 37.85 112 ⇑P P 22 32 51.8 +1.8
baz=38,SNR=6.2
N32A Stulken Farm, 37.85 101 ⇓P P 22 32 50.1 +0.4
baz=38
O31A Woolen Ranch, 37.89 103 ⇓P P 22 32 51.0 +0.9
baz=38
R27A Eads 37.92 108 ⇓P P 22 32 51.5 +1.2
baz=38
P30A Selden 37.98 104 ⇑P P 22 32 51.7 +0.8
baz=38,SNR=6.9
Z14A Wintersburg 38.04 124 ⇑P P 22 32 53.0 +1.7
baz=38
U23A El Rito 38.13 113 ⇓P P 22 32 53.9 +1.5
baz=38
X18A Snowflake 38.17 119 ⇓P P 22 32 54.3 +1.6
baz=38,SNR=9.5
S26A Kim 38.18 109 ⇓P P 22 32 53.8 +1.2
baz=38,SNR=9.5
T25A Trinidad 38.19 111 ⇑P P 22 32 54.7 +1.8
baz=38
V22A San Miguel Ran 38.19 115 ⇓P P 22 32 54.4 +1.5
baz=38,SNR=5.9
Q29A Oakley 38.20 106 ⇑P P 22 32 53.9 +1.2
baz=38,SNR=10
O32A Brockman Farm, 38.27 102 ⇓P P 22 32 53.7 +0.6
baz=38
113A Mohawk Valley, 38.27 125 ⇓P P 22 32 55.1 +1.9
baz=38
R28A Tribune 38.30 107 ⇑P P 22 32 55.1 +1.5
baz=38,SNR=14
P31A Stockton 38.38 103 ⇑P P 22 32 55.4 +1.2
baz=38,SNR=5.6
U24A Moreno Valley 38.45 112 ⇑P P 22 32 56.8 +1.8
baz=38
Q30A Quinter 38.46 105 ⇑P P 22 32 56.3 +1.4
baz=38,SNR=5.2
T26A Comanche Natio 38.51 110 ⇑P P 22 32 56.6 +1.1
baz=38,SNR=9.5
R29A Marienthal 38.52 106 ⇑P P 22 32 56.6 +1.2
baz=38,SNR=6.1
SPITS Spitsbergen Ar 38.61 4 P P 22 32 55.8 +0.1
comp=Z,4.2nm,0.3s,baz=18,slow=5.6,SNR=56
V23A Ortiz Mt. (NFS 38.64 114 ⇑P P 22 32 59.0 +2.4
baz=38,SNR=7.7
P32A Huiting Farm, 38.64 102 ⇑P P 22 32 56.8 +0.5
baz=38,SNR=7.8
Q31A Ellis 38.80 104 ⇓P P 22 32 59.3 +1.6
baz=39
U25A Circle Dot Ran 38.82 111 ⇑P P 22 32 59.8 +1.8
baz=39,SNR=38
S28A Manter 38.89 108 ⇑P P 22 33 00.0 +1.6
baz=39,SNR=6.7
T27A Campo 38.98 109 ⇑P P 22 33 00.6 +1.3
baz=39,SNR=10
R30A Dighton 39.01 105 ⇓P P 22 33 01.0 +1.6
baz=39,SNR=11
V24A Rampart Ranch, 39.03 113 ⇓P P 22 33 01.9 +2.0
baz=39,SNR=15
U26A Atchley Ranch, 39.11 111 ⇑P P 22 33 01.9 +1.5
baz=39,SNR=15
W23A Werner Place, 39.16 114 ⇑P P 22 33 02.7 +1.8
baz=39,SNR=6.2
Q32A Meitler Ranch, 39.18 103 ⇑P P 22 33 01.8 +1.0
baz=39,SNR=5.3
T28A Walsh 39.19 108 ⇑P P 22 33 02.1 +1.1
baz=39,SNR=14
P33A Williams Farm, 39.20 102 ⇑P P 22 33 01.9 +1.0
baz=39
S29A Ulysses 39.20 107 ⇓P P 22 33 02.4 +1.3
baz=39
V25A Rancho No Teng 39.21 112 ⇓P P 22 33 03.1 +1.8
baz=39,SNR=17
ANMO Albuquerque 39.22 115 eP P 22 33 03.2 +1.9
ANMO pmax pmax
comp=Z,26nm,0.9s
ANMO Albuquerque 39.22 115 eP P 22 33 02.0 +0.7
comp=Z,6.8nm,1.0s
R31A Burdett 39.34 105 ⇓P P 22 33 03.1 +1.0
baz=39,SNR=5.0
YSS Yuzh-Sakhalins 39.36 278 eP P 22 33 02.0 -0.2
W24A Lazy 6 Ranch, 39.42 114 ⇓P P 22 33 04.7 +1.7
baz=39,SNR=6.8
S30A Montezuma 39.47 106 ⇓P P 22 33 04.6 +1.3
baz=39
U27A Thompson Grove 39.47 110 ⇑P P 22 33 04.4 +0.9
baz=39,SNR=8.1
Q33A Connelly Farm, 39.49 102 ⇓P P 22 33 04.1 +0.7
baz=39,SNR=7.8
T29A Hugoton 39.51 107 ⇑P P 22 33 04.9 +1.2
baz=39
R32A Long Quarter, 39.58 104 ⇓P P 22 33 04.9 +0.7
baz=39,SNR=13
V26A Tequesquite Ra 39.60 111 ⇑P P 22 33 06.0 +1.6
baz=40,SNR=16
U28A Mallet 39.77 109 ⇓P P 22 33 06.5 +0.7
baz=40,SNR=7.1
W25A X Bar L Ranch, 39.81 112 ⇓P P 22 33 07.4 +1.2
baz=40,SNR=10
S31A Mullinville 39.91 105 ⇓P P 22 33 07.5 +0.6
baz=40
T30A Plains 39.93 107 ⇑P P 22 33 08.2 +1.1
baz=40
KSU1 Kansas State U 39.95 101 ⇑P P 22 33 07.7 +0.5
baz=40,SNR=10
KSU1 Kansas State U 39.95 101 eP P 22 33 07.7 +0.5
comp=Z,67nm,1.1s
R33A Olander Ranch, 40.00 103 ⇑P P 22 33 08.1 +0.5
baz=40,SNR=5.9
V27A Dan Oppiter Fa 40.03 110 ⇓P P 22 33 09.0 +1.0
baz=40
S32A Newby Ranch, P 40.08 105 ⇑P P 22 33 09.2 +0.9
baz=40
U29A Oasis Ranch, S 40.11 108 ⇑P P 22 33 09.9 +1.2
baz=40
W26A Owens Ranch, T 40.21 112 ⇓P P 22 33 10.7 +1.2
baz=40
Y23A Lovelace Mesa, 40.26 115 ⇑P P 22 33 11.6 +1.6
baz=40,SNR=7.3
T31A Randall Ranch, 40.26 106 ⇑P P 22 33 10.8 +1.0
baz=40
V28A Channing 40.30 110 ⇑P P 22 33 11.1 +0.9
baz=40,SNR=7.2
U30A WK&E Inc. Balk 40.31 107 ⇓P P 22 33 10.9 +0.6
baz=40,SNR=7.3
X25A Clemmons Ranch 40.32 113 ⇓P P 22 33 11.8 +1.4
baz=40,SNR=6.2
Z22A Elephant Butte 40.48 117 ⇑P P 22 33 13.5 +1.8
baz=40
V29A Stinnett 40.50 109 ⇑P P 22 33 12.9 +1.1
baz=40
Y24A Capitan 40.52 115 ⇓P P 22 33 13.8 +1.7
baz=40,SNR=16
T32A Huddler Ranch, 40.52 105 ⇑P P 22 33 12.4 +0.5
baz=40,SNR=5.1
W27A Bowe Ranch, En 40.53 111 ⇑P P 22 33 13.2 +1.1
baz=40,SNR=6.1
S33A Kaszmaul Farm, 40.58 104 ⇓P P 22 33 13.1 +0.8
baz=40
X26A CR and CF Fran 40.65 112 ⇑P P 22 33 14.2 +1.0
baz=40,SNR=9.9
W28A Vega 40.73 110 ⇑P P 22 33 14.8 +1.1
baz=41
121A Cookes Peak, D 40.78 118 ⇓P P 22 33 15.8 +1.6
baz=41
U31A Nine Bar Ranch 40.80 107 ⇓P P 22 33 15.2 +1.0
baz=41
X27A F and S Farms, 40.87 111 ⇓P P 22 33 16.2 +1.3
baz=41
T33A Patterson Ranc 40.90 104 ⇑P P 22 33 15.7 +0.7
baz=41,SNR=7.9
V30A Spur Ranch, Mi 40.95 108 ⇓P P 22 33 16.2 +0.8
baz=41
SCHQ Schefferville 40.97 61 P P 22 33 15.1 -0.2
comp=Z,4.4nm,0.9s,baz=312,slow=7.1,SNR=11
W29A Amarillo 41.08 110 ⇑P P 22 33 18.5 +1.9
baz=41

U32A	Winter Ranch,	41.16 106	⇓P	P	22 33 18.0	+0.9
	baz=41,SNR=5.7					
Y26A	Elida	41.19 113	⇓P	P	22 33 19.1	+1.5
	baz=41					
319A	Douglas	41.21 121	⇑P	P	22 33 19.6	+1.8
	baz=41					
AMTX	Amarillo	41.27 110	⇑P	P	22 33 19.5	+1.4
	baz=41					
V31A	Spring Creek L	41.30 107	⇑P	P	22 33 19.5	+1.2
	baz=41,SNR=6.2					
X28A	Dimmitt	41.36 111	⇑P	P	22 33 19.6	+0.7
	baz=41					
Z25A	Roswell	41.37 114	⇑P	P	22 33 20.5	+1.4
	baz=41					
Y27A	Causey	41.50 112	⇑P	P	22 33 21.2	+1.2
	baz=41,SNR=15					
U33A	Lingo Farm, Me	41.50 105	⇑P	P	22 33 20.5	+0.5
	baz=41					
MSTX	Muleshoe	41.59 112	⇓P	P	22 33 21.8	+1.1
	baz=42,SNR=15					
MSTX	Muleshoe	41.59 112	eP	P	22 33 21.9	+1.1
	comp=Z,30nm,0.8s					
X29A	Tulia	41.63 110	⇑P	P	22 33 22.2	+1.0
	baz=42,SNR=10					
V32A	Arapaho	41.70 106	⇑P	P	22 33 22.6	+1.1
	baz=42					
U34A	Anderson Ranch	41.75 104	⇓P	P	22 33 22.4	+0.4
	baz=42,SNR=8.6					
U34A	Anderson Ranch	41.75 104	eP	P	22 33 22.6	+0.6
	comp=Z,51nm,0.8s					
W31A	Holland Ranch,	41.76 108	⇑P	P	22 33 22.6	+0.6
	baz=42					
Y28A	McKinney Farm,	41.86 111	⇓P	P	22 33 23.9	+0.9
	baz=42					
V33A	Lossen Ranch,	41.94 105	⇑P	P	22 33 24.3	+0.8
	baz=42,SNR=5.4					
X30A	Coker Ranch, T	41.99 109	⇓P	P	22 33 24.9	+1.0
	baz=42,SNR=11					
W32A	Sentinel	42.11 107	⇑P	P	22 33 26.0	+1.1
	baz=42,SNR=5.4					
Y29A	Porterfield Fa	42.15 111	⇓P	P	22 33 26.2	+0.9
	baz=42,SNR=12					
X31A	McDonald Ranch	42.21 108	⇓P	P	22 33 26.7	+1.0
	baz=42,SNR=6.2					
Z28A	Tucker Farm, M	42.34 112	⇑P	P	22 33 27.8	+1.0
	baz=42					
W33A	Caddo, Fort Co	42.42 106	⇑P	P	22 33 28.6	+1.2
	baz=42					
Y30A	Stafford Cattl	42.46 110	⇓P	P	22 33 28.3	+0.5
	baz=42,SNR=9.1					
WMOK	Wichita Mounta	42.64 107	eP	P	22 33 29.9	+0.7
WMOK			pmax	pmax		
	comp=Z,17nm,0.9s					
WMOK	Wichita Mounta	42.64 107	eP	P	22 33 29.9	+0.7
	comp=Z,17nm,0.9s					
Z29A	Hungry Hill Ra	42.65 111	⇑P	P	22 33 30.1	+0.7
	baz=42,SNR=20					
W34A	Bridge Creek,	42.66 105	⇑P	P	22 33 29.9	+0.6
	baz=42,SNR=6.8					
W34A	Bridge Creek,	42.66 105	eP	P	22 33 30.0	+0.6
	comp=Z,32nm,0.9s					
Y31A	Rekieta Farm,	42.66 109	⇑P	P	22 33 29.7	+0.4
	baz=42					
X32A	Elmer	42.69 108	⇑P	P	22 33 30.2	+0.6
	baz=43					
Z30A	Sanderson Ranc	42.87 110	⇑P	P	22 33 31.5	+0.4
	baz=43,SNR=8.7					
128A	Castleberry Fa	42.87 112	⇑P	P	22 33 32.0	+0.9
	baz=43,SNR=7.4					
X33A	Lawton	42.93 107	⇓P	P	22 33 32.1	+0.6
	baz=43					
TUL1	Leonard	42.96 103	⇓P	P	22 33 32.2	+0.4
	baz=43					
TUL1	Leonard	42.96 103	eP	P	22 33 32.1	+0.4
Y32A	R-V Farms, Ver	42.98 108	⇓P	P	22 33 32.0	+0.1
	baz=43,SNR=5.1					
BOD	Bodaibo	43.04 309	eP	P	22 33 30.1	-1.9
BOD			pmax	pmax		
	comp=Z,7.0nm,1.2s					
X34A	Smith Ranch, M	43.17 106	⇑P	P	22 33 33.9	+0.5
	baz=43					
SFIN	Lafayette	43.20 91	⇓P	P	22 33 33.6	0.0
	baz=43,SNR=5.4					
SFIN	Lafayette	43.20 91	eP	P	22 33 33.9	+0.3
	comp=Z,8.8nm,0.6s					
Z31A	Sharp Cattle R	43.26 109	⇓P	P	22 33 34.2	0.0
	baz=43,SNR=6.2					
228A	UT Block 9, Go	43.27 113	⇑P	P	22 33 34.9	+0.6
	baz=43,SNR=5.2					
Y33A	Hilltop Ranch,	43.33 107	⇑P	P	22 33 35.2	+0.5
	baz=43					
130A	Snyder	43.53 111	⇓P	P	22 33 37.0	+0.5
	baz=43,SNR=5.2					
Z32A	Haskell	43.56 109	⇑P	P	22 33 36.6	0.0
	baz=43,SNR=13					
131A	Roby	43.71 110	⇑P	P	22 33 38.1	+0.3
	baz=44,SNR=7.6					
229A	Bryant Ranch,	43.72 112	⇑P	P	22 33 38.5	+0.5
	baz=44					
Y34A	Reagan Ranch,	43.75 106	⇓P	P	22 33 39.1	+1.0
	baz=44					
Z33A	Whitaker Ranch	43.88 108	⇓P	P	22 33 39.1	-0.1
	baz=44					
329A	Wagon Wheel Ra	44.07 113	⇓P	P	22 33 41.5	+0.8
	baz=44,SNR=11					
ABTX	Abilene, Hawle	44.07 109	⇓P	P	22 33 41.0	+0.2
	baz=44,SNR=5.2					
ABTX	Abilene, Hawle	44.07 109	eP	P	22 33 40.9	+0.2
OLIL	Olney	44.08 93	eP	P	22 33 40.7	+0.2
230A	Sterling City	44.09 111	⇓P	P	22 33 41.3	+0.4
	baz=44,SNR=10					
Z34A	Collier Ranch,	44.18 107	⇓P	P	22 33 41.6	+0.2
	baz=44,SNR=5.2					
231A	Bronte	44.38 110	⇓P	P	22 33 43.2	+0.1
	baz=44,SNR=8.7					
133A	Hamilton Ranch	44.40 109	⇓P	P	22 33 43.3	+0.1
	baz=44,SNR=5.2					
SIUC	Southern Illin	44.40 95	eP	P	22 33 43.7	+0.5
BLO	Bloomington	44.43 91	eP	P	22 33 43.3	-0.1
BLO			pmax	pmax		
	comp=Z,9.0nm,0.6s					
BLO	Bloomington	44.43 91	eP	P	22 33 43.3	-0.1
	comp=Z,9.0nm,0.6s					
330A	Mertzon	44.48 112	⇑P	P	22 33 44.3	+0.3
	baz=44,SNR=9.8					
Z35A	Perchaven, San	44.50 106	⇓P	P	22 33 44.5	+0.4
	baz=44					
PBMO	Poplar Bluff	44.63 97	eP	P	22 33 44.8	-0.2
	comp=Z,23nm,0.7s					
232A	Coleman	44.71 110	⇑P	P	22 33 46.3	+0.6
	baz=45,SNR=25					
134A	White-Moore Ra	44.79 108	⇓P	P	22 33 46.6	+0.3
	baz=45					
429A	Davenport Ranc	44.86 113	⇑P	P	22 33 47.3	+0.3
	baz=45,SNR=18					
331A	San Angelo	44.88 111	⇑P	P	22 33 47.6	+0.5
	baz=45					
USIN	University of	44.90 93	eP	P	22 33 47.5	+0.4
	comp=Z,43nm,1.0s					
233A	Rising Star	44.91 109	⇓P	P	22 33 47.7	+0.3
	baz=45,SNR=6.8					
430A	Baggett Ranch,	44.99 112	⇓P	P	22 33 48.5	+0.5
	baz=45,SNR=9.4					
MIAR	Mount Ida	45.09 102	eP	P	22 33 48.7	0.0
MIAR			pmax	pmax		
	comp=Z,19nm,0.9s					
MIAR	Mount Ida	45.09 102	eP	P	22 33 48.7	0.0
	comp=Z,18nm,0.9s					
332A	Millersview	45.10 110	⇓P	P	22 33 49.2	+0.3
	baz=45,SNR=14					
529A	Stev Forest Ra	45.16 114	⇓P	P	22 33 50.1	+0.7
	baz=45,SNR=5.9					
ACSO	Alum Creek Sta	45.18 87	eP	P	22 33 49.7	+0.4
	comp=Z,16nm,0.8s					
234A	Clairette	45.25 108	⇑P	P	22 33 50.1	+0.1
	baz=45,SNR=7.6					
TXAR	Lajitas Array	45.26 116	P	P	22 33 51.5	+1.4
	comp=Z,4.7nm,0.7s,baz=327,slow=6.1,SNR=36					
WCI	Wyandotte Cave	45.30 92	eP	P	22 33 50.2	-0.2
WCI			pmax	pmax		
	comp=Z,9.0nm,0.7s					
WCI	Wyandotte Cave	45.30 92	eP	P	22 33 50.2	-0.2
	comp=Z,9.3nm,0.7s					
431A	Sonora	45.34 112	⇑P	P	22 33 51.5	+0.7
	baz=45,SNR=23					
UALR	University of	45.44 100	eP	P	22 33 51.4	0.0
333A	Richland Sprin	45.48 110	⇑P	P	22 33 52.3	+0.5
	baz=45,SNR=7.1					
530A	J-C Ranch, Com	45.50 113	⇓P	P	22 33 52.7	+0.6
	baz=45,SNR=6.2					
432A	Menard	45.52 111	⇓P	P	22 33 52.8	+0.6
	baz=45					
334A	Lometa	45.79 109	⇑P	P	22 33 54.5	+0.2
	baz=46,SNR=7.5					
531A	Rocksprings	45.82 112	⇑P	P	22 33 55.3	+0.7
	baz=46,SNR=17					
JCT	Junction City	45.86 111	⇑P	P	22 33 55.3	+0.5
	baz=46,SNR=7.3					
433A	Art	45.92 110	⇑P	P	22 33 55.2	-0.1
	baz=46,SNR=6.3					
138A	Matatall Enter	46.02 105	⇑P	P	22 33 56.2	+0.2
	baz=46					
532A	Rocksprings	46.12 111	⇑P	P	22 33 57.7	+0.7
	baz=46,SNR=17					
335A	Moody	46.18 108	⇑P	P	22 33 57.9	+0.6
	baz=46					
434A	Burnet	46.22 109	⇑P	P	22 33 58.0	+0.4
	baz=46,SNR=13					
USRK	Ussuriysk Ar.	46.28 284	P	P	22 33 57.0	-0.9
	comp=Z,1.1nm,0.5s,baz=53,slow=11,SNR=8.8					
WVT	Waverly	46.34 95	eP	P	22 33 57.3	-1.2
WVT			pmax	pmax		
	comp=Z,3.0nm,0.5s					
WVT	Waverly	46.34 95	eP	P	22 33 57.2	-1.2
	comp=Z,3.1nm,0.5s					
336A	Riesel	46.34 107	⇓P	P	22 33 59.0	+0.4
	baz=46					
631A	Perdido Creek	46.47 112	⇓P	P	22 33 59.8	+0.2
	baz=46					
533A	Kerrville	46.54 110	⇑P	P	22 34 01.0	+0.9
	baz=46					
435B	Jarrell	46.54 108	⇓P	P	22 34 00.6	+0.4
	baz=46					
632A	Uvalde	46.71 112	⇓P	P	22 34 01.8	+0.3
	baz=47,SNR=8.6					
534A	Blanco	46.81 110	⇓P	P	22 34 03.2	+0.9
	baz=47					
239A	Gary	46.83 104	⇓P	P	22 34 03.6	+1.2
	baz=47					
OXF	Oxford	46.97 98	eP	P	22 34 04.1	+0.7
OXF			pmax	pmax		
	comp=Z,105nm,1.1s					
OXF	Oxford	46.97 98	eP	P	22 34 04.1	+0.7
	comp=Z,105nm,1.1s					
633A	Saathoff Ranch	47.01 111	⇓P	P	22 34 04.4	+0.6
	baz=47,SNR=8.8					
SSPA	Standing Stone	47.15 83	eP	P	22 34 04.4	-0.4
	comp=Z,5.8nm,0.9s					
PKME	Peaks-Kenny Pk	47.24 72	eP	P	22 34 05.5	+0.1
438A	Sam Houston St	47.48 106	⇑P	P	22 34 08.4	+1.0
	baz=47					
ARCES	ARCESS Array B	47.49 2	P	P	22 34 06.5	-0.5
	comp=Z,4.0nm,0.8s,baz=17,slow=8.9,SNR=11					
340A	Bronson	47.60 104	⇓P	P	22 34 08.6	+0.2
	baz=48,SNR=6.1					
733A	Divot King Ran	47.61 112	⇓P	P	22 34 09.5	+1.1
	baz=48					
635A	Leesville	47.67 110	⇑P	P	22 34 10.0	+1.2
	baz=48					
832A	Faith Ranch, C	47.70 113	⇓P	P	22 34 09.9	+0.8
	baz=48,SNR=7.4					
636A	Smothers Creek	47.90 109	⇓P	P	22 34 11.7	+1.1
	baz=48,SNR=6.7					
833A	Chaparral WMA,	47.91 112	⇓P	P	22 34 12.3	+1.5
	baz=48					
SWET	Sewanee	47.95 94	eP	P	22 34 10.4	-0.7
	comp=Z,4.2nm,0.4s					
834A	Tilden	48.44 111	⇓P	P	22 34 16.7	+1.9
	baz=48					
933A	Laredo	48.59 112	⇓P	P	22 34 17.8	+1.9
	baz=48					
934A	Benavides	48.91 111	⇑P	P	22 34 20.6	+2.2
	baz=49					
LRAL	Lakeview Retre	49.30 96	eP	P	22 34 21.3	0.0
	comp=Z,61nm,2.5s					
034A	Hebbronville	49.32 112	⇑P	P	22 34 23.7	+2.2
	baz=49					
CN2	Changchun	49.44 289	eP	P	22 34 25.2	+3.0
MAT	Matsushiro	49.69 273	P	P	22 34 24.1	-0.2
MJAR	Matsushiro Arr	49.69 273	P	P	22 34 24.3	+0.1
	comp=Z,3.0nm,0.7s,baz=9.2,slow=8.2,SNR=7.5					
TLY	Talaya	51.56 310	eP	P	22 34 36.9	-1.2
TLY			pmax	pmax		
	comp=Z,3.0nm,0.6s					
TIGA	Tifton	52.18 94	⇑P	P	22 34 42.4	-0.5
	baz=52					
ZAK	Zakamensk	52.77 309	eP	P	22 34 46.7	-0.4
ZAK			pmax	pmax		
	comp=Z,2.0nm,0.8s					
ULN	Ulaanbaatar	53.51 305	eP	P	22 34 53.3	+0.6
ULN			pmax	pmax		
	comp=Z,4.0nm,0.5s					
ULN	Ulaanbaatar	53.51 305	eP	P	22 34 52.7	0.0
	comp=Z,5.3nm,0.6s					
KSRS	Korea Array	53.55 282	P	P	22 34 53.4	+0.5
	comp=Z,4.4nm,0.6s,baz=28,slow=7.2,SNR=10					
KSRS			LR	LR	22 57 47.4	
	comp=Z,28nm,21.5s,baz=218,slow=36					
KSAR	Wonju Array Be	53.58 282	P	P	22 34 53.4	+0.3
KSAR	Wonju Array Be	53.58 282	P	P	22 34 53.4	+0.3
SONM	Songino Array	53.78 306	P	P	22 34 55.5	+0.9
	comp=Z,6.3nm,0.8s,baz=23,slow=6.2,SNR=67					
JOF	Joensuu	54.16 359	eP	P	22 34 56.6	-0.3
JOF			pmax	pmax		
	comp=Z,2.0nm,0.3s					
JOF	Joensuu	54.16 359	ep	P	22 34 56.6	-0.3
	comp=Z,2.1nm,0.3s					
PRGR	Permogore	54.84 351	P	P	22 35 01.1	-0.7
PRGR			pmax	pmax		
	comp=Z,45nm,1.2s					
KAF	Kangasniemi	54.95 2	eP	P	22 35 01.6	-1.1
KAF			pmax	pmax		
	comp=Z,2.0nm,0.4s					
KAF	Kangasniemi	54.95 2	ep	P	22 35 01.6	-1.1
	comp=Z,1.9nm,0.4s					
NVS	Novosibirsk	55.03 325	i P	P	22 35 00.8	-2.5
NB2	NORSAR Subarra	55.30 11	P	P	22 35 04.8	-0.4
	comp=Z,1.6nm,0.6s,baz=351,slow=7.4					
NOA	NORSAR Array B	55.30 11	P	P	22 35 05.0	-0.2
NOA	NORSAR Array B	55.30 11	P	P	22 35 05.0	-0.2
	comp=Z,1.4nm,0.5s,baz=350,slow=7.2,SNR=8.9					
ZALV	Zalesovo Beam	55.41 324	P	P	22 35 05.3	-0.8
	comp=Z,8.5nm,0.5s,baz=19,slow=7.1,SNR=48					
FINES	FINESS Array B	55.62 2	P	P	22 35 06.8	-0.7
	comp=Z,1.9nm,0.5s,baz=360,slow=6.4,SNR=30					
HFS	Hagfors	56.39 9	P	P	22 35 11.7	-1.2
	comp=Z,1.6nm,0.4s,baz=44,slow=4.5,SNR=23					
SVE	Sverdlovsk	57.84 340	eP	P	22 35 22.8	-0.4
SVE			pmax	pmax		
	comp=Z,14nm,0.6s					
ARU	Arti	58.54 341	c iP	P	22 35 27.5	-0.5
ARU					22 37 33.6	
ARU			S	S	22 43 21.6	+0.6
ARU			SS	SS	22 47 18.3	+3.8
ARU			pmax	pmax		
	comp=Z,14nm,0.6s					
BRVK	Borovoye	59.69 333	eP	P	22 35 35.3	-0.8
BRVK			pmax	pmax		
	comp=Z,9.0nm,1.2s					
KURK	Kurchatov	59.95 326	eP	P	22 35 36.0	-1.8
KURK			pmax	pmax		
	comp=Z,5.0nm,0.8s					
KURK	Kurchatov	59.95 326	eP	P	22 35 36.0	-1.8
	comp=Z,5.0nm,0.8s					
OBN	Obninsk	61.86 355	P	P	22 35 50.4	-0.2
	comp=Z,38nm,0.4s,baz=214,slow=0.8,SNR=14					
MKAR	Makanchi Array	62.57 322	P	P	22 35 54.4	-1.2
	comp=Z,5.9nm,0.5s,baz=47,slow=7.0,SNR=91					
GTA	Gaotai	63.45 305	eP	P	22 36 01.9	+0.2
GTA			pP	PcP	22 36 37.5	+0.3
GTA			sP	sP	22 36 52.5	+5.2
GTA			PMZ			
	comp=Z,15nm,1.0s					
AKTO	Aktyubinsk	64.44 340	P	P	22 36 07.2	-0.5
	comp=Z,6.8nm,0.6s,baz=32,slow=7.9,SNR=32					
LZH	Lanzhou	64.83 300	eP	P	22 36 10.2	-0.5
LZH			pP	pP	22 36 41.7	-0.6
LZH			sP	sP	22 36 55.8	-0.7
LZH			PP	PP	22 38 35.5	+1.1
LZH			PMZ			
	comp=Z,19nm,1.3s					
LZH			PMZ			
	comp=Z,52nm,7.4s					
LZH			LN			
	comp=Z,140nm,15.2s					
LZH			LE			
	comp=Z,120nm,16.0s					
LZH			LZ			
	comp=Z,160nm,19.3s					
ABKAR	Akbulak array	65.27 338	eP	P	22 36 12.3	-0.9
	comp=Z,4.8nm,0.6s					
AKASG	Malin Array Be	66.41 0	P	P	22 36 19.6	-0.8
	comp=Z,2.0nm,0.3s,baz=0.1,slow=6.3,SNR=18					
KIEV	Kiev	66.42 0	eP	P	22 36 20.2	-0.2
KIEV			pmax	pmax		
	comp=Z,4.0nm,0.6s					
KIEV	Kiev	66.42 0	eP	P	22 36 20.2	-0.2
	comp=Z,3.9nm,0.6s					
GERES	GERESS Array B	67.59 11	P	P	22 36 27.2	-0.9
	comp=Z,0.3nm,0.5s,baz=19,slow=6.2,SNR=4.7					
USP	Ospenovka	67.92 326	P	P	22 36 30.0	-0.2
	SNR=6.2					
USP	Ospenovka	67.92 326	i P	P	22 36 29.9	-0.2
TKM2	Tokmak 2	67.96 325	P	P	22 36 30.6	0.0
	SNR=7.0					
TKM2	Tokmak 2	67.96 325	i P	P	22 36 30.6	0.0
TKM2	Tokmak 2	67.96 325	eP	P	22 36 29.9	-0.7
	comp=Z,6.9nm,0.9s					
CHMS	Chumysh	68.11 326	P	P	22 36 31.4	+0.1
	SNR=6.7					
CHMS	Chumysh	68.11 326	i P	P	22 36 31.3	+0.1
KBK	Karagaybulak	68.38 325	P	P	22 36 33.3	+0.2
	SNR=7.5					
KBK	Karagaybulak	68.38 325	i P	P	22 36 33.3	+0.2
AAK	Ala-Archa	68.51 326	eP	P	22 36 34.0	0.0
AAK			pmax	pmax		
	comp=Z,21nm,1.2s					
AAK	Ala-Archa	68.51 326	eP	P	22 36 33.3	-0.7
	comp=Z,6.2nm,0.9s					
EKS2	Erkin-Say	68.67 326	P	P	22 36 34.7	-0.2
	SNR=18					
EKS2	Erkin-Say	68.67 326	i P	P	22 36 34.7	-0.2
EKS2	Erkin-Say	68.67 326	eP	P	22 36 34.6	-0.3
	comp=Z,10nm,0.8s					
KZA	Kyzart	68.84 325	P	P	22 36 36.1	-0.2
	SNR=6.3					
KZA	Kyzart	68.84 325	i P	P	22 36 36.1	-0.2
KKAR	Karatay Array	69.04 329	eP	P	22 36 35.6	-1.5
KKAR			pmax	pmax		
	comp=Z,5.0nm,0.9s					
KKAR	Karatay Array	69.04 329	eP	P	22 36 35.6	-1.5
	comp=Z,4.6nm,0.9s					
AML	Almayashu	69.19 326	P	P	22 36 38.8	+0.3
	SNR=7.9					
AML	Almayashu	69.19 326	i P	P	22 36 38.8	+0.3
DAVOX	Davos/Dischmat	69.26 14	P	P	22 36 39.3	+0.7
	comp=Z,1.7nm,0.9s,baz=336,slow=20,SNR=2.6					
KSH	Kashi	71.05 323	P	P	22 36 51.9	+2.4
KSH			PMZ			
	comp=Z,7.0nm,0.8s					
KSH			PMZ			
	comp=Z,340nm,5.0s					
MLR	Muntele Rosu	71.59 2	P	P	22 36 52.5	-0.1
	comp=Z,0.7nm,0.9s,baz=339,slow=12,SNR=7.4					
KBZ	Khabaz	72.84 350	P	P	22 37 00.2	+0.3
	comp=Z,1.5nm,0.5s,baz=287,slow=9.6,SNR=11					
ESDC	Sonseca Array	74.06 26	P	P	22 37 08.0	+0.8
	comp=Z,0.6nm,0.6s,baz=344,slow=6.5,SNR=4.4					
LSA	Lhasa	75.30 308	P	P	22 37 16.2	+1.2
LSA	Lhasa	75.30 308	eP	P	22 37 14.6	-0.4
LSA			pmax	pmax		
	comp=Z,4.0nm,0.6s					
LSA	Lhasa	75.30 308	eP	P	22 37 14.6	-0.4
	comp=Z,3.9nm,0.6s					
GEYT	Alibeck	76.58 337	P	P	22 37 22.3	+0.7
	comp=Z,1.3nm,0.7s,baz=317,slow=6.1,SNR=4.3					
BRTR	Keskin Array B	77.33 357	ceP	P	22 37 26.5	+0.6
BRTR			pmax	pmax		
	comp=Z,1.0nm,0.5s					
BRTR	Keskin Array B	77.33 357	P	P	22 37 25.6	-0.3
	comp=Z,0.7nm,0.5s,baz=358,slow=3.5,SNR=13					
BRTR			LR	LR	23 14 23.5	
	comp=Z,224nm,21.4s,baz=253,slow=38					
SLVN	Son La	77.84 293	eP	P	22 37 28.6	-0.3
	comp=Z,8.8nm,0.8s					
TAPN	Taplejung	78.66 309	eP	P	22 37 33.7	+0.1
	comp=Z,19nm,0.5s					
GUN	Gumba	78.78 311	eP	P	22 37 34.4	+0.1
	comp=Z,18nm,0.8s					
JIRN	Jiri	78.90 311	eP	P	22 37 35.1	0.0
	comp=Z,34nm,0.7s					
DANN	Dangsing	79.09 313	eP	P	22 37 36.0	0.0
	comp=Z,33nm,0.6s					
KKN	Kakani	79.09 312	eP	P	22 37 35.9	0.0
	comp=Z,12nm,0.6s					
GKN	Gorkha	79.11 312	eP	P	22 37 35.9	0.0
ODAN	Odare	79.22 309	eP	P	22 37 36.3	-0.3
PKIN	Phulchoki	79.25 311	eP	P	22 37 37.4	+0.6
	comp=Z,5.8nm,0.5s					
PKI	Pulchoki	79.25 311	eP	P	22 37 36.5	-0.4
	comp=Z,8.1nm,0.5s					
DMN	Daman	79.32 312	eP	P	22 37 37.3	+0.1
	comp=Z,11nm,0.5s					
RAMN	Ramite	79.41 310	eP	P	22 37 37.4	-0.3
	comp=Z,13nm,0.5s					
KOLN	Koldanda	79.67 313	eP	P	22 37 38.7	-0.3
	comp=Z,12nm,0.6s					
CMAR	Chiang Mai Arr	82.46 296	P	P	22 37 53.2	-0.4
	comp=Z,3.0nm,0.6s,baz=8.6,slow=6.2,SNR=20					
BOSA	Boshof	145.28 6	PKPbc	PKPbc	22 45 08.2	+0.5
	comp=Z,3.0nm,0.6s,baz=7.7,slow=3.2,SNR=9.5					
QSPA	South Pole Qui	153.04 180	PKPbc	PKPbc	22 45 25.5	-0.7
	comp=Z,2.0nm,0.7s,baz=333,slow=6.8,SNR=12					

*IDC **07** 22:42:04.5±1.9, 34°.56S×71°.99W, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.8/17, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=52.2km s-min=40.5km az=16.0*
*ISCJB **07** 22:42:11.9±1.4, 34°.13S±0°.06×71°.9W±0°.2, h54km±14km, mb3.8/3, Error ellipse: s-maj=22.4km s-min=6.6km az=18.0*

ISC 07 22:42:13.5±2.0, 34°.16S±0°.07×71°.8W±0°.2, h52km±17km, n14, σ0°92/20, mb3.8/3, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.98	149	i P	Pn	22 42 29.9	-1.0
NICH				i S	Sn	22 42 44.3	+0.5
ANTU	Antumapu	1.17	60	eP	Pn	22 42 32.5	-1.1
ANTU				i S	Sn	22 42 49.1	+0.6
LACH	Col Las Americ	1.30	57	⇑iP	Pn	22 42 34.4	-1.0
LACH				i S	Sn	22 42 52.7	+1.0
CLCH	Cerro Calan	1.33	55	⇓iP	Pn	22 42 35.0	-0.8
CLCH				i S	Sn	22 42 53.6	+1.2
CLCH				IAML		22 43 00.1	
	comp=E,3μm,0.5s						
PEL	Peldehue	1.40	44	eP	Pn	22 42 35.6	-1.1
PEL				eS	Sn	22 42 54.7	+0.6
PEL				IAML		22 43 00.6	
	comp=E,4μm,0.5s						
FCH	Farellones	1.54	58	i P9	Pn	22 42 56.3	+17
FCH				i S	Sn	22 43 18.0	+20
FCH				IAML		22 43 27.1	
	comp=N,3μm,0.5s						
LNCH	Linares	1.69	173	i P	Pn	22 42 40.0	-0.6
LNCH				i S	Sn	22 43 03.0	+1.8
CFAA	Coronel Fontan	3.96	51	Pn	Pn	22 43 12.5	+0.7
	comp=N,2.0nm,0.3s,baz=227,slow=9.3,SNR=41						
CFAA				Sn	Sn	22 44 08.7	+12
	comp=N,2.9nm,0.3s,baz=252,slow=16,SNR=6.4						
LPAZ	La Paz	18.11	12	P	P	22 46 22.1	+0.4
	comp=N,0.1nm,0.3s,baz=172,slow=7.2,SNR=10						
TXAR	Lajitas Array	69.96	331	P	P	22 53 19.6	+0.

s-min=23.4km az=164.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.83**	**181**	P	Pn	23 24 22.8	+0.1
	0.9nm,0.3s,baz=118,slow=21,SNR=13						
CTA	**Charters Tower**	**21.06**	**245**	P	P	23 26 30.6	+0.3
	2.6nm,0.4s,baz=87,slow=14,SNR=6.2						
WRA	**Warramunga Arr**	**31.91**	**252**	P	P	23 28 06.8	-0.6
	0.8nm,0.7s,baz=85,slow=8.9,SNR=10.0						
ASAR	**Alice Springs**	**33.07**	**245**	P	P	23 28 17.3	0.0
	1.3nm,0.7s,baz=74,slow=9.8,SNR=14						
TGY	**Tagaytay City**	**52.26**	**299**	LR	LR	23 52 48.8	
	comp=Z,10nm,20.3s,baz=122,slow=35						
SONM	**Songino Array**	**80.08**	**324**	P	P	23 33 46.5	-0.1
	0.5nm,0.9s,baz=138,slow=5.1,SNR=5.3						
ILAR	**Eielson Array**	**84.32**	**18**	P	P	23 34 07.6	-0.3
	0.3nm,0.5s,baz=242,slow=4.8,SNR=8.0						
MKAR	**Makanchi Array**	**94.93**	**317**	P	P	23 34 59.0	+0.8
	0.4nm,0.5s,baz=94,slow=6.1,SNR=5.7						
TXAR	**Lajitas Array**	**95.63**	**61**	P	P	23 35 01.7	-0.2
	0.2nm,0.7s,baz=194,slow=3.3,SNR=3.9						

*DDA **07** 23:28:53.6, 36.°61N×36.°30E, h7km, MD3.6*
*ISCJB **07** 23:28:54.6±0.5, 36.°56N±0.°01×36.°38E±0.°02, h4km±4km, mb3.5/5, Error ellipse: s-maj=3.1km s-min=2.4km az=7.0*
*NSSC **07** 23:28:54.1±3.8, 36.°55N×36.°63E, h0km±13km, MD1.8, ML3.7*
*ISK **07** 23:28:55.9, 36.°64N×36.°29E, h8km, ML3.9*
*CSEM **07** 23:28:55.2±0.1, 36.°55N×36.°39E, h2km, ML3.7, Error ellipse: s-maj=4.3km s-min=3.5km az=89.0*
*IDC **07** 23:28:55.2±1.0, 36.°63N×36.°32E, h0km, mb3.5/6, mb1 3.6/11, mb1mx3.4/30, mbtmp3.6/11, ML3.5/5, MS2.8/1, Ms1 2.8/1, ms1mx2.3/32, Error ellipse: s-maj=22.0km s-min=15.9km az=93.0*
*NIC **07** 23:28:57.6, 37.°47N×35.°35E, h14km, mb4.4, ML4.1*
*ISN **07** 23:30:19.9±1.2, 37.°46N×42.°22E, h0km±36km, ML3.6*
ISC 07 23:28:55.1±1.1, 36.°59N±0.°02×36.°38E±0.°02, h2km±8km, n143, σ1§76/180, mb3.6/5, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTCH	**Batrach**	**0.56**	**173**	*e*P	**Pg**	**23 29 05.9**	**+0.1**
	SNR=91						
BTCH				*e*S	**Sg**	**23 29 12.3**	**-0.7**
	12μm,0.6s,SNR=59						
BTCH	**Batrach**	**0.56**	**173**	*e*P	**Pg**	**23 29 05.9**	**+0.1**
BTCH				*e*S	**Sg**	**23 29 12.3**	**-0.7**
BTCH				AML	AML	23 29 15.2	
	comp=Z,8μm,0.5s						
BTCH				AML	AML	23 29 15.6	
	comp=E,12μm,0.3s						
BTCH				AML	AML	23 29 24.1	
	comp=N,12μm,0.6s						
KUZU	**Kuzuini**	**0.59**	**72**	*i* P	**Pg**	**23 29 05.3**	**-1.1**
KUZU				*i* S	**Sg**	**23 29 12.3**	**-1.7**
KUZU	**Kuzuini**	**0.59**	**72**	*i* P	**Pg**	**23 29 05.3**	**-1.1**
KUZU				*i* S	**Sg**	**23 29 12.3**	**-1.7**
CEYT	**Ceyhan**	**0.65**	**310**	PG	**Pg**	**23 29 07.5**	**-0.1**
CEYT	**Ceyhan**	**0.65**	**310**	*i* Pg	**Pg**	**23 29 07.5**	**-0.1**
ARNB	**Al Arnab**	**0.80**	**204**	*e*P	**Pg**	**23 29 10.9**	**+0.5**
	SNR=75						
ARNB				*e*S	**Sg**	**23 29 21.4**	**+0.6**
	comp=N,3μm,0.5s,SNR=59						
ARNB	**Al Arnab**	**0.80**	**204**	*e*P	**Pg**	**23 29 10.9**	**+0.5**
ARNB				*e*S	**Sg**	**23 29 21.4**	**+0.6**
ARNB				AML	AML	23 29 24.5	
	comp=E,7μm,0.5s						
ARNB				AML	AML	23 29 24.5	
	comp=Z,5μm,0.3s						
ARNB				AML	AML	23 29 27.8	
	comp=N,3μm,0.5s						
ANDN	**Andirin**	**0.98**	**359**	*i* P	**Pg**	**23 29 12.9**	**-1.1**
ANDN				*i* S	**Sg**	**23 29 25.6**	**-1.1**
ANDN	**Andirin**	**0.98**	**359**	*i* P	**Pg**	**23 29 12.9**	**-1.1**
ANDN				*i* S	**Sg**	**23 29 25.6**	**-1.1**
KOZT	**Kozan**	**0.99**	**334**	*e*PG	**Pg**	**23 29 13.9**	**-0.1**
KOZT				*e*SG	**Sg**	**23 29 27.2**	**+0.4**
KOZT	**Kozan**	**0.99**	**334**	*e*Pg	**Pg**	**23 29 13.9**	**-0.1**
KOZT				*e*Sg	**Sg**	**23 29 27.2**	**+0.4**
GZT	**Gaziantep**	**1.22**	**51**	*i* P	**Pn**	**23 29 16.9**	**-2.3**
GZT				*i* S	**Sn**	**23 29 36.8**	**+0.5**
KARA	**Karaisali**	**1.25**	**303**	*e*PN	**Pn**	**23 29 18.5**	**-1.0**
KARA				*e*SN	**Sg**	**23 29 35.6**	**+0.3**
KARA	**Karaisali**	**1.25**	**303**	*e*Pn	**Pn**	**23 29 18.5**	**-1.0**
KARA				*e*Sn	**Sg**	**23 29 35.6**	**+0.3**
SLMH	**Al Salmeh**	**1.31**	**106**	*e*P	**Pn**	23 29 14.1	-6.2
SLMH				*e*S	Sb	23 29 30.7	-6.9
SLMH				AML	AML	23 29 32.9	
	comp=N,5μm,0.4s						
SLMH				AML	AML	23 29 33.0	
	comp=E,15μm,0.5s						
SLMH				AML	AML	23 29 37.1	
	comp=Z,3μm,0.4s						
KFRA	**Kufra**	**1.42**	**166**	*e*P	**Pn**	**23 29 19.1**	**-2.8**
	SNR=57						
KFRA				*e*S	**Sn**	**23 29 36.5**	**-4.7**
	comp=Z,3μm,0.5s,SNR=49						
KFRA	**Kufra**	**1.42**	**166**	*e*P	**Pn**	**23 29 19.1**	**-2.8**
KFRA				*e*S	**Sn**	**23 29 36.5**	**-4.7**
KFRA				AML	AML	23 29 40.3	
	comp=N,7μm,0.3s						
KFRA				AML	AML	23 29 42.0	
	comp=E,8μm,0.2s						
KFRA				AML	AML	23 29 44.9	
	comp=Z,3μm,0.5s						
MERS	**Mersin**	**1.51**	**281**	*e*PN	**Pn**	**23 29 23.0**	**-0.2**
MERS	**Mersin**	**1.51**	**281**	*e*Pn	**Pn**	**23 29 23.0**	**-0.2**
BIDA	**Albida**	**1.58**	**182**	*e*P	**Pn**	**23 29 23.2**	**-0.9**
	SNR=57						
BIDA				*e*S	**Sn**	**23 29 42.1**	**-3.0**
	comp=Z,5μm,0.5s,SNR=49						
BIDA	**Albida**	**1.58**	**182**	*e*P	**Pn**	**23 29 23.2**	**-0.9**
BIDA				*e*S	**Sn**	**23 29 42.1**	**-3.0**
BIDA				AML	AML	23 29 48.2	
	comp=N,4μm,0.6s						
BIDA				AML	AML	23 29 49.8	
	comp=E,2μm,0.7s						
BIDA				AML	AML	23 29 50.7	
	comp=Z,5μm,0.5s						
ATAB	**Bozova**	**1.77**	**60**	*i* P	**Pn**	**23 29 25.4**	**-1.2**
ATAB				*i* S	**Sn**	**23 29 46.7**	**-3.0**
ATAB	**Bozova**	**1.77**	**60**	*i* P	**Pn**	**23 29 25.4**	**-1.2**
ATAB				*i* S	**Sn**	**23 29 46.7**	**-3.0**
KIZK	**Mersin**	**1.80**	**267**	*i* P	**Pn**	**23 29 27.2**	**+0.1**
KIZK				*i* S	**Sb**	**23 29 51.0**	**-0.7**
KIZK	**Mersin**	**1.80**	**267**	*i* P	**Pn**	**23 29 27.2**	**+0.1**
KIZK				*i* S	**Sb**	**23 29 51.0**	**-0.7**
NIG	**Nigde**	**2.07**	**318**	*e*PN	**Pn**	**23 29 30.6**	**-0.4**
NIG	**Nigde**	**2.07**	**318**	*e*Pn	**Pn**	**23 29 30.6**	**-0.4**
HAWK	**Haweek**	**2.07**	**179**	*e*P	**Pn**	**23 29 30.1**	**-0.8**
	SNR=45						
HAWK				*e*S	**Sn**	**23 29 55.4**	**-1.8**
	comp=Z,578nm,0.4s,SNR=40						
HAWK	**Haweek**	**2.07**	**179**	*e*P	**Pn**	**23 29 30.1**	**-0.8**
HAWK				*e*S	**Sn**	**23 29 55.4**	**-1.8**
HAWK				AML	AML	23 30 01.5	
	comp=E,2μm,0.5s						
HAWK				AML	AML	23 30 01.6	
	comp=N,1μm,0.3s						
HAWK				AML	AML	23 30 01.6	
	comp=Z,578nm,0.4s						
EREN	**Erenkoy**	**2.08**	**240**	*e*PN	**Pn**	**23 29 31.6**	**+0.7**
URFA	**Urfa**	**2.13**	**66**	*e*PN	**Pb**	**23 29 33.8**	**-0.6**
URFA	**Urfa**	**2.13**	**66**	*e*Pn	**Pb**	**23 29 33.8**	**-0.6**
DARE	**Darende-Malaty**	**2.16**	**24**	*e*PN	**Pn**	**23 29 33.2**	**+1.1**
DARE	**Darende-Malaty**	**2.16**	**24**	*e*Pn	**Pn**	**23 29 33.2**	**+1.1**
KSRV	**Kasrt alli**	**2.25**	**108**	*e*P	**Pn**	**23 29 32.0**	**-1.2**
	SNR=45						
KSRV				*e*S	**Sn**	**23 30 01.1**	**-0.3**
	comp=Z,1μm,0.6s,SNR=40						
KSRV	**Kasrt alli**	**2.25**	**108**	*e*P	**Pn**	**23 29 32.0**	**-1.2**
KSRV				*e*S	**Sn**	**23 30 01.1**	**-0.3**
KSRV				AML	AML	23 30 06.7	
	comp=E,2μm,0.5s						
KSRV				AML	AML	23 30 07.4	
	comp=N,2μm,0.4s						
KSRV				AML	AML	23 30 13.1	
	comp=Z,1μm,0.6s						
BNN	**Bunyan**	**2.29**	**350**	*e*PN	**Pn**	**23 29 34.5**	**+0.5**
BNN	**Bunyan**	**2.29**	**350**	*e*Pn	**Pn**	**23 29 34.5**	**+0.5**
HWQ	**Hawqa**	**2.34**	**189**	*e*P	**Pn**	**23 29 33.9**	**-0.7**
HWQ	**Hawqa**	**2.34**	**189**	*e*P	**Pn**	**23 29 33.9**	**-0.7**
FKH	**Fakeheh**	**2.34**	**179**	*e*P	**Pn**	**23 29 33.1**	**-1.6**
MALT	**Malatya**	**2.37**	**43**	*e*PN	**Pb**	**23 29 36.9**	**-1.6**
MALT	**Malatya**	**2.37**	**43**	*e*Pn	**Pb**	**23 29 36.9**	**-1.6**
MNKR	**ALMNKUR**	**2.43**	**105**	*e*P	**Pn**	**23 29 33.9**	**-1.8**
	SNR=45						
MNKR	**ALMNKUR**	**2.43**	**105**	*e*P	**Pn**	**23 29 33.9**	**-1.8**
MNKR				*e*S	Sn	23 29 58.6	-7.4
MNKR				AML	AML	23 30 17.8	
	comp=N,1μm,0.3s						
MNKR				AML	AML	23 30 22.2	
	comp=Z,5μm,0.4s						
MNKR				AML	AML	23 30 23.7	
	comp=E,5μm,0.4s						
PHNC	**Paralimni**	**2.48**	**231**	P	**Pb**	**23 29 39.9**	**-0.4**
	baz=22						
PHNC				S	**Sb**	**23 30 12.8**	**+1.5**
PHNC	**Paralimni**	**2.48**	**231**	P	**Pb**	**23 29 39.9**	**-0.4**
PHNC				S	**Sb**	**23 30 12.8**	**+1.5**
ROOS	**tl_alroos**	**2.53**	**163**	*e*P	**Pn**	**23 29 36.3**	**-0.9**
	SNR=45						
ROOS				*e*S	**Sn**	**23 30 06.2**	**-2.4**
	comp=E,6.2nm,0.5s,SNR=40						
ROOS	**tl_alroos**	**2.53**	**163**	*e*P	**Pn**	**23 29 36.4**	**-0.9**
ROOS				*e*S	**Sn**	**23 30 06.2**	**-2.4**
ROOS				AML	AML	23 30 21.7	
	comp=N,4.2nm,0.4s						
ROOS				AML	AML	23 30 21.7	
	comp=Z,9.4nm,0.3s						
ROOS				AML	AML	23 30 27.6	
	comp=E,6.2nm,0.5s						
MARH	**Ras Al Marh**	**2.56**	**178**	*e*P	**Pn**	**23 29 37.2**	**-0.7**
	SNR=45						
MARH				*e*S	**Sn**	**23 30 10.6**	**+0.8**
	comp=E,292nm,0.4s,SNR=40						
MARH	**Ras Al Marh**	**2.56**	**178**	*e*P	**Pn**	**23 29 37.2**	**-0.7**
MARH				*e*S	**Sn**	**23 30 10.6**	**+0.8**
MARH				AML	AML	23 30 22.9	
	comp=E,520nm,0.9s						
MARH				AML	AML	23 30 23.8	
	comp=Z,608nm,0.4s						
MARH				AML	AML	23 30 30.1	
	comp=N,292nm,0.4s						
LFK	**Lefkose**	**2.66**	**241**	*e*PN	**Pn**	**23 29 39.3**	**+0.4**
LFK	**Lefkose**	**2.66**	**241**	*e*Pn	**Pn**	**23 29 39.3**	**+0.4**
BHL	**Bhannes**	**2.75**	**193**	*e*P	**Pn**	**23 29 39.3**	**-0.9**
BHL	**Bhannes**	**2.75**	**193**	*e*P	**Pn**	**23 29 39.3**	**-0.9**
SULT	**Sultanhani-AKS**	**2.79**	**306**	*e*PN	**Pn**	**23 29 41.1**	**+0.4**
SULT	**Sultanhani-AKS**	**2.79**	**306**	*e*Pn	**Pn**	**23 29 41.1**	**+0.4**
ERMK	**Ermenek**	**2.79**	**272**	*i* P	**Pn**	**23 29 41.9**	**+1.1**
ERMK	**Ermenek**	**2.79**	**272**	*i* P	**Pn**	**23 29 41.9**	**+1.1**
MAMC	**Mammari**	**2.93**	**242**	P	**Pn**	**23 29 43.0**	**+0.4**
	baz=36						
MAMC	**Mammari**	**2.93**	**242**	P	**Pn**	**23 29 43.0**	**+0.4**
CSS	**Prodhromos**	**2.96**	**238**	*e*PN	**Pn**	**23 29 44.8**	**+1.7**
CSS	**Prodhromos**	**2.96**	**238**	*e*Pn	**Pn**	**23 29 44.8**	**+1.7**
SFNV	**Sufian**	**3.01**	**92**	*e*P	**Pn**	**23 29 41.3**	**-2.5**
	SNR=45						
SFNV	**Sufian**	**3.01**	**92**	*e*P	**Pn**	**23 29 41.3**	**-2.5**
SFNV				*e*S	**Sn**	**23 30 15.7**	**-4.8**
SFNV				AML	AML	23 30 32.2	
	comp=N,2μm,0.6s						
SFNV				AML	AML	23 30 33.2	
	comp=Z,737nm,0.5s						
SFNV				AML	AML	23 30 46.6	
	comp=E,2μm,0.6s						
QASN	**Qassioun**	**3.06**	**182**	*e*S	**Sn**	**23 30 22.0**	**+0.4**
	comp=E,667nm,0.6s,SNR=40						
QASN	**Qassioun**	**3.06**	**182**	*e*P	Pn	23 29 40.5	-4.0
QASN				*e*S	**Sn**	**23 30 22.0**	**+0.4**
QASN				AML	AML	23 30 33.8	
	comp=Z,323nm,0.6s						
QASN				AML	AML	23 30 35.5	
	comp=E,1μm,0.6s						
QASN				AML	AML	23 30 38.8	
	comp=N,667nm,0.6s						
RCY	**Rachaya**	**3.12**	**188**	*e*P	**Pn**	**23 29 44.7**	**-0.7**
YOZ	**Yozgat**	**3.15**	**345**	*e*PN	**Pn**	**23 29 46.2**	**+0.4**
YOZ	**Yozgat**	**3.15**	**345**	*e*Pn	**Pn**	**23 29 46.2**	**+0.4**
LEF	**Lefka**	**3.19**	**244**	*e*PN	**Pn**	**23 29 47.2**	**+1.0**
BRBR	**Barbar**	**3.19**	**186**	*e*P	**Pn**	**23 29 46.8**	**+0.4**
	SNR=45						
BRBR				*e*S	**Sn**	**23 30 23.4**	**-1.8**
	SNR=40						
BRBR	**Barbar**	**3.19**	**186**	*e*P	**Pn**	**23 29 46.8**	**+0.4**
BRBR				*e*S	**Sn**	**23 30 23.4**	**-1.8**
TOTH	**TOTAH**	**3.23**	**179**	*e*P	**Pn**	**23 29 47.0**	**+0.3**
	SNR=45						
TOTH				*e*S	**Sn**	**23 30 23.8**	**-1.9**
	comp=N,194nm,0.6s,SNR=40						
TOTH	**TOTAH**	**3.23**	**179**	*e*P	**Pn**	**23 29 47.0**	**+0.3**
TOTH				*e*S	**Sn**	**23 30 23.8**	**-1.9**
TOTH				AML	AML	23 30 40.2	
	comp=E,318nm,0.5s						
TOTH				AML	AML	23 30 41.2	
	comp=N,320nm,0.6s						
TOTH				AML	AML	23 30 50.5	
	comp=Z,194nm,0.6s						
DYBB	**Diyarbakir**	**3.29**	**65**	*e*PN	**Pn**	**23 29 50.0**	**+2.3**
GAZI	**Gazipasa**	**3.29**	**265**	*i* P	**Pn**	**23 29 48.7**	**+1.0**
GAZI	**Gazipasa**	**3.29**	**265**	*i* P	**Pn**	**23 29 48.7**	**+1.0**
DIY	**Diyarbakir**	**3.33**	**66**	*e*Pn	**Pn**	**23 29 50.0**	**+1.7**
ILIC	**ilic-Erzincan**	**3.34**	**31**	*e*PN	**Pn**	**23 29 49.8**	**+1.5**
ILIC	**ilic-Erzincan**	**3.34**	**31**	*e*Pn	**Pn**	**23 29 49.8**	**+1.5**
SVSK	**Karacayir**	**3.35**	**8**	*e*PN	**Pn**	**23 29 49.2**	**+0.9**
SVSK	**Karacayir**	**3.35**	**8**	*e*Pn	**Pn**	**23 29 49.3**	**+0.9**
MAZI	**Mazidag**	**3.37**	**74**	*e*PN	**Pn**	**23 29 51.2**	**+2.4**
MAZI	**Mazidag**	**3.37**	**74**	*e*Pn	**Pn**	**23 29 51.2**	**+2.4**
SZAC	**Souni-Zanaja**	**3.38**	**238**	P	**Pn**	**23 29 50.8**	**+1.9**
	baz=35						
SZAC				S	**Sn**	**23 30 31.3**	**+1.7**
ALFC	**Alevga**	**3.39**	**246**	P	**Pn**	**23 29 46.7**	**-2.2**
	baz=43						
ALFC				S	**Sn**	**23 30 26.1**	**-3.5**
KONT	**Konya--Tatoy**	**3.48**	**294**	*e*PN	**Pn**	**23 29 50.3**	**+0.1**
KONT	**Konya--Tatoy**	**3.48**	**294**	*e*Pn	**Pn**	**23 29 50.3**	**+0.1**
LADK	**Ladik-KONYA**	**3.57**	**298**	*e*PN	**Pn**	**23 29 52.3**	**+0.7**
LADK	**Ladik-KONYA**	**3.57**	**298**	*e*Pn	**Pn**	**23 29 52.3**	**+0.7**
AKMC	**Akamas**	**3.64**	**246**	P	**Pn**	**23 29 51.1**	**-1.3**
	baz=44						
AKMC	**Akamas**	**3.64**	**246**	P	**Pn**	**23 29 51.1**	**-1.3**
MMAI	**Mount Meron Ar**	**3.66**	**193**	Pn	**Pn**	**23 29 52.4**	**-0.4**
	comp=Z,15nm,0.3s,baz=12,slow=15,SNR=70						
MMAI				Sn	**Sb**	**23 30 45.7**	**+0.4**
	comp=Z,28nm,0.3s,baz=19,slow=27,SNR=5.2						
PPCY	**Paphos**	**3.70**	**244**	P	**Pn**	**23 29 55.3**	**+2.2**
	baz=42						
PPCY	**Paphos**	**3.70**	**244**	P	**Pn**	**23 29 55.3**	**+2.2**
BRTR	**Keskin Array B**	**3.80**	**326**	Pn	**Pn**	**23 29 56.0**	**+1.3**
	comp=Z,2.1nm,0.3s,baz=148,slow=13,SNR=72						
CORM	**Corum**	**3.83**	**340**	*e*PN	**Pn**	**23 29 56.0**	**+0.8**
CORM	**Corum**	**3.83**	**340**	*e*Pn	**Pn**	**23 29 56.0**	**+0.8**
AFSR	**Af¨ar-Bala (A**	**3.86**	**318**	*e*PN	**Pn**	**23 29 56.4**	**+0.9**
AFSR	**Af¨ar-Bala (A**	**3.86**	**318**	*e*Pn	**Pn**	**23 29 56.4**	**+0.9**
RSDY	**Resadiye-TOKAT**	**3.87**	**11**	*e*PN	**Pn**	**23 29 57.1**	**+1.5**
RSDY	**Resadiye-TOKAT**	**3.87**	**11**	*e*Pn	**Pn**	**23 29 57.1**	**+1.5**
ERZN	**Erzincan**	**3.99**	**40**	*e*Pn	**Pn**	**23 29 59.2**	**+1.9**
BNGB	**Bing¶ll**	**4.16**	**54**	*e*PN	**Pn**	**23 30 02.1**	**+2.5**
ANTO	**Ankara**	**4.32**	**320**	*e*PN	**Pn**	**23 30 03.6**	**+1.8**
ANTO	**Ankara**	**4.32**	**320**	*e*Pn	**Pn**	**23 30 03.6**	**+1.8**
LOD	**Lodumlu**	**4.35**	**320**	*e*PN	**Pn**	**23 30 03.0**	**+0.8**
LOD	**Lodumlu**	**4.35**	**320**	*e*Pn	**Pn**	**23 30 03.0**	**+0.8**
BTMT	**Batman**	**4.37**	**67**	*e*PN	**Pn**	**23 30 05.3**	**+2.8**
BTMT	**Batman**	**4.37**	**67**	*e*Pn	**Pn**	**23 30 05.3**	**+2.8**
ASF	**Jabal al Asfar**	**4.43**	**174**	Pn	**Pn**	**23 30 03.3**	**0.0**
	comp=Z,0.6nm,0.3s,baz=314,slow=10,SNR=12						
ASF				Lg	Lg	23 31 13.6	
	comp=Z,7.6nm,0.3s,baz=81,slow=21,SNR=6.0						
KVT	**Kavak**	**4.49**	**357**	*e*PN	**Pn**	**23 30 05.6**	**+1.6**
KVT	**Kavak**	**4.49**	**357**	*e*Pn	**Pn**	**23 30 05.6**	**+1.6**
ANTB	**Antalya**	**4.61**	**275**	*e*PN	**Pn**	**23 30 07.0**	**+1.4**
ANTB	**Antalya**	**4.61**	**275**	*e*Pn	**Pn**	**23 30 07.0**	**+1.4**
VRTB	**Varto-Mus**	**4.76**	**56**	*e*PN	**Pn**	**23 30 10.8**	**+2.8**
VRTB	**Varto-Mus**	**4.76**	**56**	*e*Pn	**Pn**	**23 30 10.8**	**+2.8**
SVRH	**Sivrihisar-ESK**	**4.77**	**308**	*e*PN	**Pn**	**23 30 09.3**	**+1.3**
SVRH	**Sivrihisar-ESK**	**4.77**	**308**	*e*Pn	**Pn**	**23 30 09.3**	**+1.3**
BAYT	**Ayd¨–ntepe-Bay**	**4.81**	**37**	*e*PN	**Pn**	**23 30 11.0**	**+2.4**
BAYT	**Ayd¨–ntepe-Bay**	**4.81**	**37**	*e*Pn	**Pn**	**23 30 11.0**	**+2.4**
SIRN	**S¨–rnak**	**4.91**	**78**	*i* P	Pb	23 30 25.9	+4.1
SIRN				*i* S	**Sb**	**23 31 25.8**	**+4.5**
SIRN	**S¨–rnak**	**4.91**	**78**	*i* P	Pb	23 30 25.9	+4.1
SIRN				*i* S	**Sb**	**23 31 25.8**	**+4.5**
EZM	**Erzurum**	**5.13**	**48**	*e*PN	**Pn**	**23 30 15.5**	**+2.4**
GEVA	**Gevas**	**5.59**	**70**	*i* P	Pb	23 30 29.0	-4.3
GEVA				*i* S	**Sb**	**23 31 43.8**	**+3.0**
GEVA	**Gevas**	**5.59**	**70**	*i* P	Pb	23 30 29.0	-4.3
GEVA				*i* S	**Sb**	**23 31 43.8**	**+3.0**
CUKT	**Cukurca**	**5.83**	**81**	*e*PN	Pn	23 30 26.3	+3.7
TVAN	**Van**	**5.91**	**69**	*i* P	**Pg**	**23 30 46.4**	**-1.9**
TVAN				*i* S	**Sg**	**23 32 09.2**	**+4.4**
TVAN	**Van**	**5.91**	**69**	*i* P	**Pg**	**23 30 46.4**	**-1.9**
TVAN				*i* S	**Sg**	**23 32 09.2**	**+4.4**
AGRB	**Hanur-Agry**	**6.01**	**58**	*e*PN	Pn	23 30 28.4	+3.3
IKRK	**Kirkuk**	**6.56**	**98**	*e*PN	Pg	23 31 04.9	+4.1
IKRK				*e*SN	Sn	23 31 36.4	-12
EIL	**Elat**	**7.01**	**190**	Pn	**Pn**	**23 30 41.3**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=15,slow=15,SNR=2.6						
EIL				Sn	**Sn**	**23 32 01.7**	**+2.8**
	comp=Z,0.6nm,0.3s,baz=12,slow=13,SNR=2.4						
EIL				LR	LR	23 33 36.7	
	comp=Z,79nm,21.1s,baz=260,slow=40						
BHD	**Baghdad**	**7.36**	**114**	*e*PN	Pg	23 31 30.6	+15
BHD				*e*SN	Sb	23 32 20.5	-11
BHD	**Baghdad**	**7.36**	**114**	*e*Pn	Pg	23 31 30.6	+15
	SNR=39						
BHD				*e*Sn	Sb	23 32 20.5	-11
	SNR=39						
IDI	**Anoyia**	**9.41**	**265**	Pn	**Pn**	**23 31 10.9**	**-0.7**
	comp=Z,2.8nm,0.3s,baz=82,slow=15,SNR=11						
IDI				Sn	**Sn**	**23 32 52.4**	**-5.5**
	comp=Z,0.5nm,0.3s,baz=333,slow=23,SNR=1.3						
GERES	**GERESS Array B**	**20.58**	**314**	P	**P**	**23 33 35.1**	**0.0**
	comp=Z,1.5nm,1.0s,baz=118,slow=11,SNR=6.8						
FINES	**FINESS Array B**	**25.71**	**349**	P	**P**	**23 34 26.1**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=147,slow=11,SNR=8.0						
HFS	**Hagfors**	**27.68**	**335**	P	**P**	**23 34 44.7**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=138,slow=9.0,SNR=2.3						
KURBB	**Kurchatov Arra**	**33.11**	**51**	P	**P**	**23 35 32.9**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=263,slow=8.4,SNR=5.0						
MKAR	**Makanchi Array**	**35.31**	**59**	P	**P**	**23 35 52.2**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=282,slow=7.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**38.85**	**242**	P	**P**	**23 36 22.5**	**+0.8**
	comp=Z,0.7nm,1.0s,baz=27,slow=9.4,SNR=5.9						

*IDC **07** 23:46:54.4±0.4, 36.°16S×73.°08W, h0km, mb4.8/20, mb1 4.9/23, mb1mx4.9/27, mbtmp4.8/23, ML4.7/3, MS4.5/11, Ms1 4.5/11, ms1mx4.4/16, Error ellipse: s-maj=19.3km s-min=10.6km az=86.0*
*BJI **07** 23:46:56.6, 36.°20S×73.°00W, h17km, mB5.2/14, Ms5.5/10, Ms7 5.2/9*
*GUC **07** 23:46:56.6±0.6, 36.°18S×73.°17W, h24km±3km, ML5.6*
*GCMT **07** 23:46:57.8±0.3, 36.°17S×73.°36W, h29km±1km, MW5.1/70, Moment Tensor Solution. s30,c34; s70,c91; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.82±.23; Mθθ1.24±.14; Mφφ1.58±.16; Mrθ3.48±.29; Mφθ1.76±.10; Mφr1.98±.24; Best double couple: M0:5.01100×10^16 NP1:φ=237.00000°, δ72.00000°, λ=80.00000°. NP2: φ=26.00000°, δ21.00000°, λ=119.00000°. Principal axes: T 5.0800, Plg26.0000°, Azm319.0000°; N -0.1380, Plg10.0000°, Azm54.0000°; P -4.9420, Plg62.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 23:46:57.8±0.1, 36.°16S×73.°04W, mb5.4/21 Error ellipse: s-maj=5.9km s-min=3.6km az=71.0*
NEIC Felt [III] at Concepcion. Also felt at Angol, Cauquenes, Chiguayante, Chillan, Coronel, Linares, San Antonio, San Carlos, Santiago, Talca, Temuco, Valdivia and Vina del Mar.
*MOS **07** 23:46:58.2±0.9, 36.°05S×73.°02W, h33km, mb5.5/12, Error ellipse: s-maj=17.4km s-min=6.8km az=101.2*
*ISCJB **07** 23:46:58.8±0.5, 36.°11S±0.°04×72.°91W±0.°06, h39km±4km, mb5.1/37, MS4.5/9, Error ellipse: s-maj=8.4km s-min=5.6km az=162.8*
ISC 07 23:46:57.7±0.3, 36.°16S±0.°04×73.°13W±0.°05, h26km±1km, h25km:pP-P, n751, σ1§15/1015, mb5.2/37, MS4.4/9, 180C-170D, Near coast of central Chile

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

ROSC **El Rosal** 40.81 358 eP P 23 54 38.0 +0.4
ROSC epP pP 23 54 47.1 +1.8
SDV **Santo Domingo** 44.86 3 eP P 23 55 10.3 +0.2
SDV epP pP 23 55 17.4 -0.5
RCBR **Riachuelo** 45.54 57 eP P 23 55 15.7 +0.3
comp=Z,20nm,0.9s
JTS **JuntasAbangare** 47.52 344 eP P 23 55 32.6 +1.7
JTS pmax pmax
comp=Z,17nm,1.0s
JTS **JuntasAbangare** 47.52 344 P P 23 55 32.3 +1.4
comp=Z,6.0nm,0.7s,baz=162,slow=19,SNR=3.0
JTS **JuntasAbangare** 47.52 344 eP P 23 55 31.0 +0.1
JTS epP pP 23 55 39.8 +1.1
VNA3 **Neumayer Olymp** 47.72 157 P P 23 55 32.8 +1.0
VNA1 **Neumayer--Stat** 48.06 156 P P 23 55 35.6 +1.2
VNA2 **Neumayer--Watz** 48.39 156 P P 23 55 38.1 +1.1
GRGR **Grenville** 49.23 15 eP P 23 55 44.7 +0.7
comp=Z,246nm,1.0s
SNAA **Sanae** 49.94 157 P P 23 55 49.9 +0.9
SNAA **Sanae** 49.94 157 ceP P 23 55 50.0 +1.1
SNAA pmax pmax
comp=Z,168nm,1.7s
SNAA **Sanae** 49.94 157 P P 23 55 49.8 +0.9
comp=Z,24nm,0.9s,baz=285,slow=6.5,SNR=57
SNAA **Sanae** 49.94 157 eP P 23 55 49.5 +0.5
comp=Z,92nm,1.0s
SNAA epP pP 23 55 56.2 -0.6
QSPA **South Pole Qui** 54.09 180 P P 23 56 21.1 +1.2
comp=Z,47nm,1.0s,baz=139,slow=2.6,SNR=67
CRPR **Cabo Rojo, PR** 54.16 7 eP P 23 56 21.0 +0.2
comp=Z,67nm,0.8s
OBIP **Obispado Ponce** 54.25 8 eP P 23 56 21.4 -0.1
OBIP epP pP 23 56 28.4 -1.0
CELP **Cerrillos** 54.29 8 eP P 23 56 21.6 -0.1
CELP epP pP 23 56 28.6 -1.1
MPR **Mayaguez** 54.37 7 eP P 23 56 20.4 -1.8
comp=Z,73nm,1.3s
HUMP **Col San Antoni** 54.44 9 eP P 23 56 22.3 -0.4
HUMP epP pP 23 56 29.9 -0.8
LRS **Lares** 54.47 7 eP P 23 56 23.4 +0.3
LRS epP pP 23 56 29.6 -1.4
RKT **Rikitea** 54.49 266 eS S 00 04 01.1 +0.3
comp=Z,211nm,29.0s
RKT eLR LR 00 12 13.5
comp=Z,345nm,28.2s
AOPR **Arecibo Observ** 54.54 7 eP P 23 56 23.7 +0.1
AOPR epP pP 23 56 29.8 -1.7
CBYP **Canovanas** 54.56 8 eP P 23 56 23.1 -0.7
CBYP epP pP 23 56 29.1 -2.6
TEIG **Tepich** 57.88 343 eP P 23 56 47.1 -0.2
TEIG epP pP 23 56 55.5 +0.1
SBA **Scott Base** 60.79 192 eP P 23 57 08.9 +2.1
SBA pmax pmax
comp=Z,373nm,2.8s
SBA **Scott Base** 60.79 192 eP P 23 57 08.9 +2.1
comp=Z,373nm,2.8s
VNDA **Vanda** 61.82 192 eP P 23 57 15.6 +1.8
VNDA pmax pmax
comp=Z,12nm,0.9s
VNDA **Vanda** 61.82 192 P P 23 57 15.9 +2.1
comp=Z,9.1nm,0.8s,baz=129,slow=5.2,SNR=38
VNDA LR LR 00 19 33.5
comp=Z,172nm,20.1s,baz=144,slow=32
VNDA **Vanda** 61.82 192 eP P 23 57 15.6 +1.8
comp=Z,12nm,0.9s
SYO **Syowa Base** 64.20 158⇑ eP P 23 57 28.4 -1.3
H06E1 **SOCORRO T-PHAS** 65.30 320 T T 01 08 37.0
034A **Hebbronville** 67.34 335 ⇑P P 23 57 52.3 +1.9
baz=68
TIGA **Tifton** 67.95 350 ⇓P P 23 57 54.2 0.0
baz=68,SNR=5.2
TIGA **Tifton** 67.95 350 eP P 23 57 52.8 -1.4
TIGA epP pP 23 58 01.4 -0.9
933A **Laredo** 68.05 335 ⇑P P 23 57 56.5 +1.6
baz=68
BRAL **Brewton** 68.08 347 eP P 23 57 56.3 +1.3
BRAL epP pP 23 58 04.1 +1.0
835A **Beeville** 68.19 337 ⇓P P 23 57 57.3 +1.6
baz=68
834A **Tilden** 68.28 336 ⇑P P 23 57 58.2 +1.9
baz=69
735A **Kenedy** 68.71 337 ⇑P P 23 58 00.8 +1.8
baz=69
833A **Chaparral WMA,** 68.74 335 ⇑P P 23 57 60.0 +0.8
baz=69,SNR=6.1
832A **Faith Ranch, C** 68.90 335 ⇓P P 23 58 01.5 +1.3
baz=69
734A **La Parita Cree** 68.95 336 ⇓P P 23 58 01.2 +0.8
baz=69
636A **Smothers Creek** 69.06 338 ⇑P P 23 58 02.7 +1.6
baz=69
PPT2 **Papeete2** 69.07 263 eS S 00 07 04.2 -1.4
comp=Z,120nm,22.2s
PPT2 **Papeete2** 69.07 263 eLR LR 00 18 58.3
comp=Z,569nm,24.0s,baz=125
733A **Divot King Ran** 69.07 335 ⇑P P 23 58 02.3 +1.0
baz=69
HKT **Hockley** 69.13 339 eP P 23 58 02.1 +0.6
HKT e*PP pP 23 58 10.5 +0.8
HKT **Hockley** 69.13 339 eP P 23 58 02.1 +0.6
HKT epP pP 23 58 10.4 +0.8
NHSC **New Hope** 69.22 354 eP P 23 58 02.0 0.0
NHSC epP pP 23 58 10.3 +0.1
732A **Laxson Ranch,** 69.31 335 ⇓P P 23 58 03.6 +0.9
baz=70,SNR=9.9
537A **Green Hill Far** 69.40 339 ⇑P P 23 58 05.0 +1.9
baz=70
536A **Bastrop** 69.62 338 ⇑P P 23 58 06.2 +1.6
baz=70
633A **Saathoff Ranch** 69.71 336 ⇑P P 23 58 06.7 +1.5
baz=70
535A **Dale** 69.73 338 ⇑P P 23 58 07.1 +1.8
baz=70
438A **Sam Houston St** 69.78 340 ⇓P P 23 58 06.2 +0.6
baz=70
GOGA **Godfrey** 69.88 351 eP P 23 58 06.3 +0.2
GOGA e*PP pP 23 58 12.4 -1.9
GOGA **Godfrey** 69.88 351 eP P 23 58 06.3 +0.2
GOGA epP pP 23 58 12.4 -1.9
VBMS **Vicksburg** 69.94 344 eP P 23 58 07.2 +0.7
VBMS epP pP 23 58 15.3 +0.7
632A **Uvalde** 69.96 335 ⇑P P 23 58 07.8 +1.0
baz=70,SNR=6.0
340A **Bronson** 69.98 341 ⇑P P 23 58 07.7 +0.9
baz=70,SNR=6.8
534A **Blanco** 70.01 337 ⇑P P 23 58 08.1 +1.0
baz=70
LRAL **Lakeview Retre** 70.04 348 eP P 23 58 07.8 +0.7
LRAL epP pP 23 58 13.2 -2.1
339A **Huntington** 70.08 341 ⇑P P 23 58 08.9 +1.5
baz=70
631A **Perdido Creek** 70.14 335 ⇓P P 23 58 08.7 +0.9
baz=70
533A **Kerrville** 70.23 336 ⇑P P 23 58 09.5 +1.1
baz=71,SNR=6.7
337A **Centerville** 70.43 339 ⇑P P 23 58 11.3 +1.7
baz=71,SNR=5.6
435B **Jarrell** 70.44 338 ⇓P P 23 58 11.0 +1.5
baz=71
NATX **Nacogdoches** 70.51 341 eP P 23 58 11.2 +1.2
NATX epP pP 23 58 18.3 +0.1
532A **Rocksprings** 70.57 336 ⇑P P 23 58 11.4 +0.9
baz=71,SNR=13
434A **Burnet** 70.68 337 ⇑P P 23 58 11.8 +0.7
baz=71,SNR=13
239A **Gary** 70.71 341 ⇓P P 23 58 12.8 +1.7
baz=71
336A **Riesel** 70.78 339 ⇑P P 23 58 13.0 +1.4
baz=71
531A **Rocksprings** 70.82 335 ⇓P P 23 58 13.0 +1.0
baz=71,SNR=9.0
335A **Moody** 70.85 338 ⇑P P 23 58 13.3 +1.2
baz=71
JCT **Junction City** 70.86 336 eP P 23 58 13.2 +1.0
JCT e*PP pP 23 58 21.0 +0.6
JCT **Junction City** 70.86 336 ⇓P P 23 58 12.8 +0.5
baz=71,SNR=6.3
JCT **Junction City** 70.86 336 eP P 23 58 13.2 +1.0
JCT epP pP 23 58 21.0 +0.6
433A **Art** 70.88 336 ⇓P P 23 58 12.9 +0.5
baz=71,SNR=11
237A **Washetta, Mont** 71.06 340 ⇑P P 23 58 14.9 +1.6
baz=71,SNR=5.4
530A **J-C Ranch, Com** 71.08 334 ⇑P P 23 58 14.7 +1.1
baz=71,SNR=13

334A **Lometa** 71.15 337 ⇓P P 23 58 14.6 +0.7
baz=72,SNR=14
CNNC **Cliffs of the** 71.17 356 eP P 23 58 14.5 +0.6
CNNC epP pP 23 58 21.9 -0.1
TXAR **Lajitas Array** 71.19 332 P P 23 58 15.6 +1.2
comp=Z,2.8nm,0.7s,baz=151,slow=7.9,SNR=34
TX31 **Lajitas Ar. Si** 71.20 332 eP P 23 58 15.3 +1.0
TX31 epP pP 23 58 21.9 -0.7
432A **Menard** 71.22 336 ⇓P P 23 58 15.2 +0.8
baz=72
431A **Sonora** 71.32 335 ⇓P P 23 58 15.5 +0.5
baz=72
KMSC **Kings Mountain** 71.34 353 ⇓P P 23 58 15.1 +0.1
baz=72,SNR=9.9
KMSC **Kings Mountain** 71.34 353 eP P 23 58 15.3 +0.3
KMSC epP pP 23 58 22.8 -0.4
MAW **Mawson** 71.37 164 P P 23 58 15.7 +0.9
comp=Z,49nm,0.9s,baz=201,slow=8.6,SNR=4.9
MAW LR LR 00 28 45.3
comp=Z,506nm,19.8s,baz=238,slow=35
529A **Stev Forest Ra** 71.37 334 ⇑P P 23 58 16.0 +0.6
baz=72,SNR=11
333A **Richland Sprin** 71.38 337 ⇑P P 23 58 15.7 +0.4
baz=72,SNR=6.7
WHTX **Lake Whitney,** 71.52 338 ⇓P P 23 58 16.9 +0.7
baz=72
WHTX **Lake Whitney,** 71.52 338 eP P 23 58 16.8 +0.6
WHTX epP pP 23 58 24.1 -0.3
137A **Heron Place, G** 71.60 340 ⇓P P 23 58 17.7 +1.1
baz=72,SNR=5.9
430A **Baggett Ranch,** 71.63 335 ⇓P P 23 58 17.5 +0.6
baz=72,SNR=10
332A **Millersview** 71.67 336 ⇑P P 23 58 17.4 +0.3
baz=72,SNR=7.9
429A **Davenport Ranc** 71.71 334 ⇓P P 23 58 18.1 +0.7
baz=72,SNR=8.7
234A **Clairette** 71.74 338 ⇑P P 23 58 17.9 +0.5
baz=72,SNR=5.8
331A **San Angelo** 71.83 336 ⇑P P 23 58 18.6 +0.5
baz=72,SNR=12
OXF **Oxford** 71.93 346 eP P 23 58 18.3 -0.2
OXF e*PP pP 23 58 25.8 -0.9
OXF **Oxford** 71.93 346 eP P 23 58 18.3 -0.2
OXF epP pP 23 58 25.8 -0.9
233A **Rising Star** 71.99 337 ⇓P P 23 58 19.6 +0.5
baz=72,SNR=6.4
135A **Vickery Place,** 72.04 339 ⇓P P 23 58 19.7 +0.5
baz=72
232A **Coleman** 72.11 336 ⇓P P 23 58 19.9 +0.2
baz=72,SNR=10
TKL **Tuckaleechee C** 72.13 351 eP P 23 58 19.8 +0.1
TKL e*PP pP 23 58 27.1 -0.8
TKL **Tuckaleechee C** 72.13 351 eP P 23 58 19.8 +0.1
TKL epP pP 23 58 27.1 -0.8
330A **Mertzon** 72.17 335 ⇓P P 23 58 20.6 +0.5
baz=72,SNR=6.5
134A **White-Moore Ra** 72.25 338 ⇓P P 23 58 21.8 +1.2
baz=73,SNR=5.9
231A **Bronte** 72.37 336 ⇑P P 23 58 21.6 +0.3
baz=73,SNR=10.0
329A **Wagon Wheel Ra** 72.53 334 ⇓P P 23 58 22.9 +0.6
baz=73,SNR=9.3
133A **Hamilton Ranch** 72.54 337 ⇓P P 23 58 22.7 +0.5
baz=73,SNR=8.3
230A **Sterling City** 72.59 335 ⇑P P 23 58 22.9 +0.2
baz=73
Z35A **Perchaven, San** 72.72 339 ⇑P P 23 58 23.9 +0.6
baz=73,SNR=7.7
ABTX **Abilene, Hawle** 72.79 337 ⇑P P 23 58 24.3 +0.6
baz=73,SNR=5.5
ABTX **Abilene, Hawle** 72.79 337 eP P 23 58 24.2 +0.4
ABTX epP pP 23 58 31.5 -0.5
UALR **University of** 72.81 344 eP P 23 58 24.0 +0.3
UALR epP pP 23 58 30.9 -1.1
MIAR **Mount Ida** 72.88 342 eP P 23 58 24.4 +0.2
MIAR e*PP pP 23 58 31.7 -0.7
MIAR **Mount Ida** 72.88 342 eP P 23 58 24.4 +0.2
MIAR epP pP 23 58 31.7 -0.7
229A **Bryant Ranch,** 72.90 335 ⇓P P 23 58 24.7 +0.2
baz=73
Z34A **Collier Ranch,** 72.95 338 ⇑P P 23 58 24.6 0.0
baz=73,SNR=6.0
TZTN **Tazewell** 72.98 351 eP P 23 58 24.9 +0.2
TZTN epP pP 23 58 32.2 -0.7
131A **Roby** 73.07 336 ⇑P P 23 58 26.0 +0.5
baz=73
Z33A **Whitaker Ranch** 73.12 338 ⇓P P 23 58 26.2 +0.5
baz=74,SNR=5.7
HBAR **Harrisburg** 73.19 345 eP P 23 58 25.5 -0.5
HBAR epP pP 23 58 34.0 -0.3
130A **Snyder** 73.19 336 ⇑P P 23 58 26.3 +0.1
baz=74,SNR=5.1
WVT **Waverly** 73.21 348 eP P 23 58 26.5 +0.4
WVT e*PP pP 23 58 34.0 -0.3
WVT **Waverly** 73.21 348 eP P 23 58 26.5 +0.4
WVT epP pP 23 58 34.0 -0.3
VWCC **Virginia Weste** 73.31 354 eP P 23 58 26.7 0.0
VWCC epP pP 23 58 34.8 -0.1
BLA **Blacksburg** 73.31 354 eP P 23 58 27.6 +0.8
BLA e*PP pP 23 58 34.5 -0.5
BLA **Blacksburg** 73.31 354 eP P 23 58 27.6 +0.8
BLA epP pP 23 58 34.5 -0.5
228A **UT Block 9, Go** 73.31 334 ⇑P P 23 58 27.9 +0.9
baz=74
Z32A **Haskell** 73.36 337 ⇑P P 23 58 27.6 +0.5
baz=74,SNR=8.3
Y34A **Reagan Ranch,** 73.45 339 ⇓P P 23 58 28.1 +0.5
baz=74,SNR=7.1
URVA **University of** 73.47 356 eP P 23 58 28.6 +1.0
URVA epP pP 23 58 35.8 -0.1
Z31A **Sharp Cattle R** 73.59 337 ⇓P P 23 58 28.9 +0.4
baz=74,SNR=7.6
JSRW **J. Sargeant Re** 73.61 356 eP P 23 58 29.5 +1.0
JSRW epP pP 23 58 36.9 +0.2
128A **Castleberry Fa** 73.73 334 ⇓P P 23 58 30.0 +0.6
baz=74,SNR=8.9
Y33A **Hilltop Ranch,** 73.75 338 ⇑P P 23 58 30.0 +0.6
baz=74,SNR=5.2
Z30A **Sanderson Ranc** 73.88 336 ⇑P P 23 58 30.6 +0.4
baz=74,SNR=8.8
MNTX **Cornudas Mount** 73.96 332 eP P 23 58 30.3 -0.4
MNTX epP pP 23 58 38.0 -0.9
Y32A **R-V Farms, Ver** 74.00 337 ⇓P P 23 58 31.2 +0.3
baz=74,SNR=5.4
Z29A **Hungry Hill Ra** 74.05 335 ⇓P P 23 58 31.6 +0.3
baz=74,SNR=12
X34A **Smith Ranch, M** 74.07 339 ⇓P P 23 58 32.1 +0.9
baz=74,SNR=5.1
Y31A **Rekieta Farm,** 74.22 337 ⇑P P 23 58 33.0 +0.8
baz=75,SNR=5.7
Z28A **Tucker Farm, M** 74.31 335 ⇑P P 23 58 33.3 +0.6
baz=75,SNR=6.0
PBMO **Poplar Bluff** 74.32 346 eP P 23 58 32.8 +0.2
PBMO epP pP 23 58 40.5 -0.4
X32A **Elmer** 74.34 338 ⇓P P 23 58 33.7 +0.8
baz=75,SNR=7.3
Y30A **Stafford Cattl** 74.34 336 ⇑P P 23 58 33.3 +0.4
baz=75
WMOK **Wichita Mounta** 74.48 338 eP P 23 58 34.2 +0.5
WMOK e*PP pP 23 58 41.5 -0.4
WMOK **Wichita Mounta** 74.48 338 eP P 23 58 34.1 +0.5
WMOK epP pP 23 58 41.5 -0.4
SUR **Sutherland** 74.57 119 P P 23 58 36.4 +1.7
comp=Z,312nm,0.8s,SNR=6.1
SUR **Sutherland** 74.57 119 eP P 23 58 36.3 +1.5
comp=Z,47nm,0.9s
Y29A **Porterfield Fa** 74.58 336 ⇓P P 23 58 34.9 +0.6
baz=75,SNR=6.9
W34A **Bridge Creek,** 74.65 339 ⇓P P 23 58 35.3 +0.7
baz=75
W34A **Bridge Creek,** 74.65 339 eP P 23 58 34.8 +0.2
W34A epP pP 23 58 42.7 -0.1
TUL1 **Leonard** 74.74 341 ⇓P P 23 58 35.4 +0.3
baz=75,SNR=5.9
TUL1 **Leonard** 74.74 341 eP P 23 58 35.2 +0.2
TUL1 epP pP 23 58 42.6 -0.7
X31A **McDonald Ranch** 74.75 337 ⇑P P 23 58 36.0 +0.8
baz=75,SNR=5.1
W33A **Caddo, Fort Co** 74.77 339 ⇓P P 23 58 36.9 +1.6
baz=75,SNR=8.0
Y28A **McKinney Farm,** 74.82 335 ⇓P P 23 58 36.8 +1.1
baz=75
X30A **Coker Ranch, T** 74.86 337 ⇑P P 23 58 36.8 +0.9
baz=75
USIN **University of** 74.97 348 eP P 23 58 36.0 -0.3

USIN epP pP 23 58 43.8 -0.8
W32A **Sentinel** 74.97 338 ⇑P P 23 58 37.6 +1.1
baz=75,SNR=12
SIUC **Southern Illin** 75.00 347 eP P 23 58 36.6 +0.1
SIUC epP pP 23 58 43.9 -0.9
WCI **Wyandotte Cave** 75.01 349 eP P 23 58 37.1 +0.5
WCI e*PP pP 23 58 43.6 -1.3
WCI **Wyandotte Cave** 75.01 349 eP P 23 58 37.1 +0.5
WCI epP pP 23 58 43.6 -1.3
MSTX **Muleshoe** 75.06 335 ⇑P P 23 58 38.0 +0.9
baz=75
MSTX **Muleshoe** 75.06 335 eP P 23 58 37.8 +0.7
MSTX epP pP 23 58 44.8 -0.6
Z25A **Roswell** 75.13 333 ⇓P P 23 58 38.8 +1.2
baz=76,SNR=6.0
X29A **Tulia** 75.13 336 ⇓P P 23 58 38.3 +0.8
baz=76
V34A **Guthrie** 75.13 340 ⇑P P 23 58 37.9 +0.5
baz=76,SNR=6.6
V34A **Guthrie** 75.13 340 eP P 23 58 37.7 +0.3
V34A epP pP 23 58 45.4 -0.2
W31A **Holland Ranch,** 75.25 338 ⇑P P 23 58 38.4 +0.3
baz=74,SNR=6.2
319A **Douglas** 75.25 329 ⇑P P 23 58 40.5 +2.1
baz=76
V33A **Lossen Ranch,** 75.34 339 ⇓P P 23 58 39.3 +0.7
baz=76,SNR=8.0
Y26A **Elida** 75.38 334 ⇓P P 23 58 40.3 +1.2
baz=76
V32A **Arapaho** 75.47 338 ⇓P P 23 58 40.3 +1.0
baz=76
AMTX **Amarillo** 75.52 336 ⇓P P 23 58 41.0 +1.2
baz=76
AMTX **Amarillo** 75.52 336 eP P 23 58 39.9 +0.2
AMTX epP pP 23 58 48.0 0.0
121A **Cookes Peak, D** 75.64 330 ⇓P P 23 58 42.0 +1.4
baz=76
U34A **Anderson Ranch** 75.70 340 ⇓P P 23 58 41.6 +1.0
baz=76,SNR=6.1
U34A **Anderson Ranch** 75.70 340 eP P 23 58 39.7 -0.9
U34A epP pP 23 58 48.5 -0.4
W29A **Amarillo** 75.73 336 ⇓P P 23 58 42.0 +1.1
baz=76,SNR=7.0
V31A **Spring Creek L** 75.76 338 ⇓P P 23 58 43.3 +2.3
baz=76
X27A **F and S Farms,** 75.78 335 ⇓P P 23 58 42.2 +0.9
baz=76
OLIL **Olney** 75.79 348 eP P 23 58 42.3 +1.2
OLIL epP pP 23 58 48.0 -1.3
MVL **Millersville** 75.84 357 eP P 23 58 40.3 -1.0
MVL epP pP 23 58 49.4 -0.1
U33A **Lingo Farm, Me** 75.86 339 ⇓P P 23 58 42.4 +0.9
baz=76
X26A **CR and CF Fran** 75.94 334 ⇑P P 23 58 43.1 +0.9
baz=76,SNR=5.7
Z22A **Elephant Butte** 75.95 331 ⇓P P 23 58 45.9 +3.5
baz=76,SNR=5.7
BLO **Bloomington** 75.97 349 eP P 23 58 41.8 -0.2
BLO e*PP pP 23 58 49.0 -1.3
BLO **Bloomington** 75.97 349 eP P 23 58 41.8 -0.2
BLO epP pP 23 58 49.0 -1.3
Y24A **Capitan** 75.97 333 ⇓P P 23 58 43.7 +1.3
baz=76,SNR=6.0
V30A **Spur Ranch, Mi** 76.01 337 ⇓P P 23 58 44.9 +2.4
baz=76
U32A **Winter Ranch,** 76.07 339 ⇓P P 23 58 43.9 +1.1
baz=76,SNR=5.9
SLM **Saint Louis** 76.08 346 eP P 23 58 43.1 +0.4
SLM e*PP pP 23 58 50.6 -0.4
SLM **Saint Louis** 76.08 346 eP P 23 58 43.1 +0.4
SLM epP pP 23 58 50.6 -0.4
W27A **Bowe Ranch, En** 76.15 335 ⇑P P 23 58 44.4 +1.0
baz=76,SNR=8.4
Y23A **Lovelace Mesa,** 76.21 332 ⇑P P 23 58 44.8 +1.0
baz=77
X25A **Clemmons Ranch** 76.23 334 ⇑P P 23 58 45.0 +1.1
baz=77
LIC **Lamto** 76.30 72 eP P 23 58 45.1 +0.5
comp=Z,123nm,1.4s
LUPA **Lehigh Univers** 76.41 358 eP P 23 58 43.9 -0.6
LUPA epP pP 23 58 53.1 +0.3
W26A **Owens Ranch, T** 76.41 335 ⇑P P 23 58 46.0 +1.1
baz=77,SNR=7.3
V28A **Channing** 76.49 336 ⇑P P 23 58 46.5 +1.2
baz=77,SNR=5.8
T33A **Patterson Ranc** 76.50 340 ⇑P P 23 58 46.7 +1.5
baz=77,SNR=7.4
X24A **Lazy VL Ranch,** 76.54 333 ⇓P P 23 58 47.2 +1.5
baz=77,SNR=8.8
SSPA **Standing Stone** 76.54 356 eP P 23 58 46.2 +0.9
SSPA epP pP 23 58 53.1 -0.4
ACSO **Alum Creek Sta** 76.55 352 eP P 23 58 45.4 0.0
ACSO epP pP 23 58 53.3 -0.3
TIC **Toumodi** 76.57 71 eP P 23 58 46.6 +0.5
comp=Z,39nm,0.9s
KIC **Kosan Boka** 76.61 72 eP P 23 58 47.0 +0.7
comp=Z,97nm,1.0s
BNM **Barren Site** 76.62 332 eP P 23 58 46.0 -0.2
BNM epP pP 23 58 54.5 0.0
TUC **Tucson** 76.70 328 eP P 23 58 47.8 +1.3
TUC e*PP pP 23 58 56.1 +1.3
TUC **Tucson** 76.70 328 eP P 23 58 47.8 +1.3
TUC epP pP 23 58 56.0 +1.3
V27A **Dan Oppiter Fa** 76.70 336 ⇓P P 23 58 48.2 +1.7
baz=77
U30A **WK&E Inc. Balk** 76.71 338 ⇑P P 23 58 47.4 +1.0
baz=77,SNR=7.1
DBIC **Dimbokro** 76.71 71 eP P 23 58 46.2 -0.7
DBIC pmax pmax
comp=Z,36nm,0.9s
DBIC **Dimbokro** 76.71 71 P P 23 58 47.5 +0.7
comp=Z,24nm,0.8s,baz=209,slow=5.8,SNR=25
DBIC **Dimbokro** 76.71 71 eP P 23 58 46.2 -0.7
comp=Z,36nm,0.9s
LPM **Los Pinos Moun** 76.76 332 eP P 23 58 48.2 +1.3
LPM epP pP 23 58 54.0 -1.2
LENM **Lemitar** 76.76 332 eP P 23 58 47.2 +0.3
LENM epP pP 23 58 55.5 +0.3
W25A **X Bar L Ranch,** 76.77 334 ⇓P P 23 58 47.8 +0.9
baz=77,SNR=5.5
T32A **Huddler Ranch,** 76.79 339 ⇓P P 23 58 47.8 +1.0
baz=77,SNR=6.2
U29A **Oasis Ranch, S** 76.83 337 ⇓P P 23 58 49.0 +1.9
baz=77
X23A **Hourglass Bar** 76.83 332 ⇑P P 23 58 48.6 +1.3
baz=77
ODNJ **Ogdensburg** 76.88 359 eP P 23 58 47.4 +0.2
ODNJ epP pP 23 58 54.4 -1.0
S33A **Kaszmaul Farm,** 76.92 340 ⇑P P 23 58 48.4 +0.9
baz=77
T31A **Randall Ranch,** 76.94 338 ⇓P P 23 58 48.5 +0.8
baz=77
LAZ **Ladron** 77.04 332 eP P 23 58 47.0 -1.5
V26A **Tequesquite Ra** 77.06 335 ⇓P P 23 58 48.7 +0.2
baz=77,SNR=5.2
U28A **Mallet** 77.07 336 ⇓P P 23 58 49.6 +1.1
baz=77
YLE **Yale** 77.10 0 eP P 23 58 47.6 -0.7
YLE epP pP 23 58 57.6 +1.0
W24A **Lazy 6 Ranch,** 77.11 333 ⇓P P 23 58 50.3 +1.4
baz=78,SNR=8.1
SFIN **Lafayette** 77.24 349 eP P 23 58 49.2 0.0
SFIN epP pP 23 58 55.9 -1.6
ANMO **Albuquerque** 77.26 332 ceP P 23 58 51.6 +1.9
ANMO pmax pmax
comp=Z,26nm,1.2s
ANMO **Albuquerque** 77.26 332 eP P 23 58 51.0 +1.3
ANMO epP pP 23 58 58.5 +0.5
S32A **Newby Ranch, P** 77.28 339 ⇑P P 23 58 53.1 +3.6
baz=78,SNR=6.1
U27A **Thompson Grove** 77.30 336 ⇑P P 23 58 50.7 +0.8
baz=78
W23A **Werner Place,** 77.33 333 ⇓P P 23 58 54.4 +4.2
baz=78,SNR=5.7
S31A **Mullinville** 77.36 339 ⇑P P 23 58 52.6 +2.6
baz=78,SNR=5.4
KSPA **Keystone Colle** 77.38 358 eP P 23 58 48.7 -1.3
comp=Z,105nm,2.2s
V25A **Rancho No Teng** 77.39 334 ⇓P P 23 58 51.4 +0.9
baz=78,SNR=8.7
T29A **Hugoton** 77.48 337 ⇓P P 23 58 52.0 +1.3
baz=78,SNR=5.2
R33A **Olander Ranch,** 77.58 340 ⇑P P 23 58 52.1 +0.9
baz=78,SNR=7.6
U26A **Atchley Ranch,** 77.59 335 ⇓P P 23 58 52.9 +1.3

baz=78,SNR=5.5
S30A Montezuma 77.67 338 ⇑P P 23 58 52.9 +1.0
baz=78,SNR=6.1
ALLY Alegheny Colle 77.70 355 eP P 23 58 50.6 -1.2
ALLY epP pP 23 58 59.6 -0.4
T28A Walsh 77.71 337 ⇓P P 23 58 53.2 +1.1
baz=78,SNR=8.0
BRYW Bryant College 77.71 1 eP P 23 58 52.1 +0.2
BRYW epP PcP 23 59 01.2 -0.6
U25A Circle Dot Ran 77.82 335 ⇓P P 23 58 54.1 +1.3
baz=78,SNR=5.0
T27A Campo 77.85 336 ⇑P P 23 58 54.3 +1.4
baz=78,SNR=7.6
S29A Ulysses 77.85 338 ⇓P P 23 58 53.9 +1.0
baz=78,SNR=6.8
V23A Ortiz Mt. (NFS 77.87 333 ⇑P P 23 58 54.3 +1.1
baz=78
R32A Long Quarter, 77.89 340 ⇓P P 23 58 54.1 +1.1
baz=78,SNR=8.7
KSU1 Kansas State U 77.96 342 ⇑P P 23 58 54.5 +1.2
baz=78
KSU1 Kansas State U 77.96 342 eP P 23 58 53.5 +0.2
KSU1 epP pP 23 59 00.3 -1.2
R31A Burdett 78.00 339 ⇓P P 23 58 54.6 +1.1
baz=78,SNR=7.0
BINY Binghamton 78.02 358 eP P 23 58 52.3 -1.3
comp=Z,26nm,1.1s
QUA2 Belchertown 78.06 1 eP P 23 58 53.9 +0.2
QUA2 epP pP 23 59 02.3 +0.3
S28A Manter 78.07 337 ⇓P P 23 58 55.3 +1.2
baz=78,SNR=9.1
ERPA Erie 78.15 355 eP P 23 58 54.4 +0.1
ERPA epP pP 23 59 02.2 -0.3
WES Weston 78.18 1 eP P 23 58 53.0 -1.4
WES e*PP pP 23 59 02.3 -0.4
WES Weston 78.18 1 eP P 23 58 53.0 -1.4
WES epP pP 23 59 02.3 -0.4
Q33A Connelly Farm, 78.18 341 ⇑P P 23 58 55.2 +0.6
baz=79,SNR=6.1
T26A Comanche Natio 78.24 336 ⇑P P 23 58 56.5 +1.3
baz=79,SNR=5.9
X18A Snowflake 78.26 330 ⇑P P 23 58 56.8 +1.5
baz=79
V22A San Miguel Ran 78.29 333 ⇓P P 23 58 57.7 +2.2
baz=79,SNR=6.4
HRV Adam Dziewonsk 78.30 1 eP P 23 58 54.0 -1.1
HRV e*PP PcP 23 59 04.1 -0.2
HRV Adam Dziewonsk 78.30 1 eP P 23 58 54.0 -1.1
HRV epP PcP 23 59 04.1 -0.2
Q32A Meitler Ranch, 78.38 340 ⇓P P 23 58 56.6 +1.0
baz=79,SNR=6.3
U23A El Rito 78.39 333 ⇑P P 23 58 57.9 +1.9
baz=79,SNR=7.7
113A Mohawk Valley, 78.41 326 ⇓P P 23 58 58.4 +2.5
baz=79
T25A Trinidad 78.49 335 ⇓P P 23 58 58.3 +1.8
baz=79,SNR=6.8
TRY Troy 78.51 360 eP P 23 58 56.1 -0.1
TRY epP pP 23 59 02.8 -1.7
P33A Williams Farm, 78.56 341 ⇑P P 23 58 57.6 +1.0
baz=79
R29A Marienthal 78.60 338 ⇓P P 23 58 58.2 +1.3
baz=79
S26A Kim 78.61 336 ⇓P P 23 58 58.7 +1.7
baz=79,SNR=8.3
Q31A Ellis 78.62 339 ⇓P P 23 58 58.3 +1.3
baz=79,SNR=6.7
MMNY Mt. Morris Dam 78.63 356 eP P 23 58 57.0 +0.1
MMNY epP pP 23 59 04.2 -1.0
AAM Ann Arbor 78.67 352 eP P 23 58 58.1 +1.0
AAM e*PP pP 23 59 04.7 -0.7
AAM Ann Arbor 78.67 352 eP P 23 58 58.1 +1.0
AAM epP pP 23 59 04.7 -0.7
U22A Llaves 78.68 333 ⇑P P 23 58 59.6 +2.0
baz=79,SNR=8.9
W18A Petrified Fore 78.69 330 ⇑P P 23 58 58.9 +1.2
baz=79
W18A Petrified Fore 78.69 330 eP P 23 58 56.8 -0.8
W18A epP PcP 23 59 06.3 -0.1
R28A Tribune 78.73 337 ⇓P P 23 58 58.8 +1.1
baz=79,SNR=7.3
T24B San Luis 78.76 334 ⇑P P 23 58 59.9 +1.8
baz=79,SNR=7.0
X16A Lo Mia Camp, P 78.79 328 ⇓P P 23 58 59.8 +1.6
baz=79
Q30A Quinter 78.84 339 ⇓P P 23 58 59.6 +1.4
baz=79,SNR=6.3
T23A Casias Ranch, 78.97 334 ⇑P P 23 59 00.4 +1.2
baz=79,SNR=6.2
S25A Robets Cordova 78.97 335 ⇓P P 23 59 00.6 +1.4
baz=79,SNR=7.0
P32A Huiting Farm, 78.98 340 ⇓P P 23 59 00.4 +1.5
baz=79,SNR=6.1
Q29A Oakley 78.98 338 ⇓P P 23 59 00.1 +1.0
baz=79
R27A Eads 78.99 337 ⇓P P 23 59 00.6 +1.4
baz=79,SNR=7.8
Y14A Wickenburg 79.05 327 ⇑P P 23 59 01.7 +2.2
baz=79
P31A Stockton 79.10 340 ⇑P P 23 59 01.2 +1.6
baz=80,SNR=6.4
GLA Glamis 79.13 325 eP P 23 59 00.0 +0.1
GLA e*PP PcP 23 59 09.4 +1.2
GLA Glamis 79.13 325 ⇓P P 23 59 02.6 +2.6
baz=80
GLA Glamis 79.13 325 eP P 23 59 00.0 +0.1
GLA epP PcP 23 59 09.4 +1.2
ACCN Adirondack Com 79.17 360 eP P 23 58 59.9 +0.1
ACCN epP PcP 23 59 05.8 -2.3
R26A Arlington 79.22 336 ⇓P P 23 59 02.4 +2.0
baz=80,SNR=9.1
S24A Houchin Ranch, 79.22 335 ⇑P P 23 59 02.9 +2.3
baz=80,SNR=6.8
FFD Franklin Falls 79.26 1 eP P 23 58 59.6 -0.7
FFD epP pP 23 59 09.8 +1.2
R25A Fountain Ranch 79.35 335 ⇓P P 23 59 03.4 +2.2
baz=80
P30A Selden 79.37 339 ⇑P P 23 59 03.5 +2.4
baz=80
Q28A Sharon Springs 79.40 338 ⇑P P 23 59 03.6 +2.2
baz=80
SDCO Great Sand Dun 79.41 334 eP P 23 59 02.9 +1.2
SDCO epP pP 23 59 09.9 0.0
TSUM Tsumeb 79.48 106 eP P 23 59 03.0 +0.6
TSUM epP pP 23 59 10.7 -0.1
O32A Brockman Farm, 79.48 341 ⇓P P 23 59 04.5 +2.8
baz=80
Y12C Blythe 79.57 326 ⇓P P 23 59 05.0 +2.7
baz=80
KSCO Kaye Shedlock' 79.60 337 ⇑P P 23 59 05.3 +2.8
baz=80
KSCO Kaye Shedlock' 79.60 337 eP P 23 59 03.8 +1.3
KSCO epP pP 23 59 11.4 +0.6
P29A Atwood 79.62 339 ⇑P P 23 59 05.0 +2.5
baz=80
WUAZ Wupatki 79.70 329 ⇑P P 23 59 05.5 +2.3
baz=80
WUAZ Wupatki 79.70 329 eP P 23 59 05.2 +2.1
WUAZ epP pP 23 59 11.9 +0.5
R24A Sanders Place, 79.71 335 ⇑P P 23 59 05.2 +2.0
baz=80,SNR=8.6
MDV Middlebury 79.78 360 eP P 23 59 02.6 -0.5
MDV epP PcP 23 59 10.4 -0.3
Q26A Hugo 79.81 336 ⇑P P 23 59 06.0 +2.4
baz=80
SCIA State Center 79.83 345 eP P 23 59 04.0 +0.5
SCIA epP PcP 23 59 11.3 +0.2
P28A Saint Francis 79.84 338 ⇓P P 23 59 05.8 +2.1
baz=80
BOSA Boshof 79.86 118 eP P 23 59 04.6 +0.2
BOSA e*PP PcP 23 59 11.7 -0.2
BOSA pmax pmax
comp=Z,55nm,0.9s
BOSA Boshof 79.86 118 P P 23 59 04.9 +0.5
comp=Z,47nm,0.9s,baz=237,slow=4.6,SNR=46
BOSA LR LR 00 32 20.6
comp=Z,273nm,18.7s,baz=198,slow=34
BOSA Boshof 79.86 118 eP P 23 59 04.6 +0.2
comp=Z,55nm,0.9s
BOSA epP PcP 23 59 11.7 -0.2
PDMCI Parker Dam,Lak 79.86 327 ⇑P P 23 59 06.8 +3.0
baz=80
S22A 4UR Ranch, Cre 79.88 333 ⇑P P 23 59 06.2 +1.9
baz=80,SNR=10
O30A MW Ranch, Wils 79.90 339 ⇑P P 23 59 05.9 +1.9
baz=80,SNR=7.8

BC3 Big Chuckawall 79.92 325 ⇑P P 23 59 06.5 +2.2
baz=80
R23A Moffat 79.92 334 ⇓P P 23 59 06.1 +1.7
baz=80,SNR=6.4
N32A Stulken Farm, 79.96 341 ⇑P P 23 59 05.6 +1.3
baz=80
LBNH Lisbon 80.03 1 eP P 23 59 04.0 -0.5
LBNH e*PP pP 23 59 12.9 +0.1
LBNH Lisbon 80.03 1 eP P 23 59 04.0 -0.5
LBNH epP pP 23 59 12.9 +0.1
MVCO Mesa Verde 80.03 332 ⇓P P 23 59 07.2 +2.2
baz=80,SNR=7.0
MVCO Mesa Verde 80.03 332 eP P 23 59 04.8 -0.2
MVCO epP pP 23 59 13.5 +0.2
Q25A Bedland, Calha 80.03 336 ⇓P P 23 59 07.4 +2.4
baz=80,SNR=5.8
IRM Iron Mountain 80.20 326 ⇑P P 23 59 07.1 +1.4
baz=80
JFWS Jewell Farm 80.23 347 eP P 23 59 06.0 +0.4
JFWS e*PP PcP 23 59 13.3 +0.6
JFWS Jewell Farm 80.23 347 eP P 23 59 06.0 +0.4
JFWS epP PcP 23 59 13.3 +0.6
P26A Davis Ranch, A 80.33 337 ⇓P P 23 59 08.1 +1.6
baz=81
PFO Pinyon Flats O 80.35 324 eP P 23 59 06.0 -0.7
PFO e*PP pP 23 59 15.7 +0.8
PFO Pinyon Flats O 80.35 324 ⇑P P 23 59 09.1 +2.4
baz=81
PFO Pinyon Flats O 80.35 324 eP P 23 59 06.0 -0.7
PFO epP pP 23 59 15.7 +0.8
O28A Krutsinger Ran 80.36 338 ⇓P P 23 59 09.1 +2.6
baz=81,SNR=5.6
PTN Potsdam (NY) 80.37 359 eP P 23 59 06.3 0.0
PTN e*PP pP 23 59 14.2 -0.4
PTN Potsdam (NY) 80.37 359 eP P 23 59 06.3 0.0
PTN epP pP 23 59 14.2 -0.4
Q24A Divide 80.38 335 ⇑P P 23 59 08.8 +1.9
baz=81,SNR=5.9
WVL Waterville 80.41 3 eP P 23 59 05.3 -1.1
WVL epP pP 23 59 15.3 +0.5
LONY Lake Ozonia 80.41 359 eP P 23 59 05.0 -1.6
LONY epP pP 23 59 14.9 0.0
W13A Hualapai Mount 80.42 327 ⇑P P 23 59 09.3 +2.2
baz=81
BELC Belle Mtn. Jos 80.46 325 ⇓P P 23 59 09.3 +2.0
baz=81
BGNE Belgrade 80.53 341 ⇑P P 23 59 08.9 +1.6
baz=81
BGNE Belgrade 80.53 341 eP P 23 59 07.6 +0.3
BGNE epP pP 23 59 15.2 -0.4
P25A Willow Gulch B 80.55 336 ⇓P P 23 59 09.2 +1.6
baz=81,SNR=5.6
O27A Beecher Island 80.63 338 ⇓P P 23 59 09.9 +1.9
baz=81
N29A Votaw Ranch, W 80.66 339 ⇓P P 23 59 10.1 +2.0
baz=81
M31A Lambtecht Ranc 80.69 341 ⇑P P 23 59 09.6 +1.4
baz=81,SNR=5.1
MURC Murrieta 80.69 324 ⇑P P 23 59 10.4 +2.0
baz=81
U15A North Rim 80.86 329 ⇓P P 23 59 11.6 +2.0
baz=81,SNR=9.2
PV01 Paradox Valley 80.87 332 eP P 23 59 10.9 +1.4
PV01 epP pP 23 59 18.3 +0.5
O26A Horse Wrangler 80.94 337 ⇑P P 23 59 11.9 +2.3
baz=81
LDFC Landfair 80.95 326 eP P 23 59 10.8 +1.0
LDFC epP pP 23 59 19.7 +1.6
GMRC Granite Mounta 80.95 326 ⇑P P 23 59 12.0 +2.2
baz=81
P23A Jefferson 80.99 335 ⇑P P 23 59 12.7 +2.5
baz=81
PV05 Paradox Valley 81.02 332 eP P 23 59 11.0 +0.8
PV05 epP pP 23 59 19.0 +0.4
OGNE Ogallala 81.19 338 ⇓P P 23 59 13.0 +2.1
baz=82
SMCO Snowmass 81.21 334 eP P 23 59 11.0 -0.5
SMCO epP pP 23 59 20.7 +0.9
N27A Anderson Farm, 81.21 338 ⇓P P 23 59 13.0 +1.9
baz=82
PV04 Paradox Valley 81.22 332 eP P 23 59 11.4 +0.1
PV04 epP pP 23 59 20.0 +0.4
PV10 Paradox Valley 81.25 332 eP P 23 59 12.4 +0.9
PV10 epP pP 23 59 20.6 +0.8
ISCO Idaho Springs 81.29 335 eP P 23 59 11.7 -0.1
ISCO e*PP pP 23 59 19.9 -0.2
ISCO Idaho Springs 81.29 335 ⇓P P 23 59 13.8 +2.0
baz=82,SNR=5.4
ISCO Idaho Springs 81.29 335 eP P 23 59 11.7 -0.1
ISCO epP pP 23 59 19.9 -0.2
HEC Hector,Ludlow 81.30 325 ⇓P P 23 59 14.3 +2.7
baz=82
BKZ Black Stump Fm 81.35 227 eP P 23 59 13.0 +0.9
comp=Z,47nm,1.3s
PV09 Paradox Valley 81.40 332 eP P 23 59 13.1 +0.8
PV09 epP pP 23 59 20.4 -0.3
L31A Butterfield Fa 81.42 341 ⇓P P 23 59 13.8 +1.7
baz=82
BFSC Mount Baldy Ra 81.43 324 ⇑P P 23 59 14.7 +2.2
baz=82
L30A Spencer Herefo 81.45 340 ⇑P P 23 59 13.7 +1.4
baz=82
P22A Eagle 81.50 334 ⇓P P 23 59 15.0 +2.2
baz=82,SNR=5.4
KNB Kanab 81.59 329 eP P 23 59 14.9 +1.7
KNB e*PP pP 23 59 22.0 +0.5
KNB Kanab 81.59 329 eP P 23 59 14.9 +1.7
KNB epP pP 23 59 22.0 +0.5
TUQ Turquoise Moun 81.61 326 ⇑P P 23 59 15.4 +2.0
baz=82
O23A Lake Granby, G 81.76 335 ⇑P P 23 59 16.1 +1.9
baz=82,SNR=8.2
L29A Maesberg Ranch 81.77 340 ⇑P P 23 59 15.8 +1.9
baz=82
GSC Goldstone, Bar 81.90 325 eP P 23 59 16.4 +1.5
GSC pmax pmax
comp=Z,17nm,1.4s
GSC Goldstone, Bar 81.90 325 ⇓P P 23 59 17.0 +2.2
baz=82
GSC Goldstone, Bar 81.90 325 eP P 23 59 16.4 +1.5
comp=Z,17nm,1.4s
O22A Kremmling 81.93 335 ⇑P P 23 59 16.8 +1.6
baz=82,SNR=9.2
K30A Basset 82.10 341 ⇑P P 23 59 17.4 +1.8
baz=82,SNR=6.3
EDW2 Edwards Air Fo 82.11 324 ⇑P P 23 59 18.0 +2.1
baz=82
SHPR Sheep Range 82.16 327 eP P 23 59 17.4 +1.2
SHPR epP pP 23 59 25.4 +0.8
LBTB Lobatse 82.20 115 eP P 23 59 17.0 +0.1
LBTB e*PP pP 23 59 25.1 -0.1
LBTB pmax pmax
comp=Z,57nm,1.1s
LBTB Lobatse 82.20 115 eP P 23 59 17.0 +0.1
comp=Z,57nm,1.1s
LBTB epP pP 23 59 25.1 -0.1
OSI Osito Audit: C 82.25 324 eP P 23 59 16.0 -0.6
OSI epP pP 23 59 25.9 +1.0
CCUT Cedar City 82.27 329 eP P 23 59 19.2 +2.4
CCUT epP pP 23 59 26.4 +1.2
ECSD EROS Data Cent 82.33 343 ⇑P P 23 59 17.9 +1.1
baz=83,SNR=22
ECSD EROS Data Cent 82.33 343 eP P 23 59 17.2 +0.4
ECSD epP pP 23 59 24.2 -0.9
K29A Lazy Trails An 82.37 340 ⇓P P 23 59 18.6 +1.5
baz=83
N23A Red Feather La 82.38 336 ⇓P P 23 59 18.9 +1.4
baz=83,SNR=7.0
LRMC Laurel Mtn Rad 82.46 325 ⇑P P 23 59 19.7 +1.9
baz=83
SRU San Rafael Swe 82.46 332 eP P 23 59 18.8 +1.0
SRU e*PP pP 23 59 26.2 +0.1
SRU San Rafael Swe 82.46 332 eP P 23 59 18.8 +1.0
SRU epP pP 23 59 26.2 +0.1
N22A Wattenberg Ran 82.47 335 ⇓P P 23 59 20.0 +2.0
baz=83,SNR=6.7
ARUT Antelope Range 82.50 329 eP P 23 59 20.0 +2.0
ARUT e*PP pP 23 59 27.6 +1.3
ARUT Antelope Range 82.50 329 eP P 23 59 20.0 +2.0
ARUT epP pP 23 59 27.6 +1.3
O20A White River Ci 82.51 334 ⇓P P 23 59 19.8 +1.7
baz=83,SNR=7.6
O20A White River Ci 82.51 334 eP P 23 59 18.4 +0.3
O20A epP pP 23 59 26.2 -0.2

M24A Cheyenne 82.53 337 ⇓P P 23 59 19.8 +1.7
baz=83,SNR=5.3
PHWY Pilot Hill 82.59 336 eP P 23 59 19.7 +1.2
PHWY epP pP 23 59 26.1 -0.8
MVU Marysvale 82.61 330 eP P 23 59 19.9 +1.3
MVU epP pP 23 59 27.9 +0.9
K28A Ten Mile Ranch 82.62 339 ⇓P P 23 59 20.5 +2.1
baz=83
J30A Dallas 82.67 341 ⇓P P 23 59 19.5 +0.9
baz=83,SNR=5.6
TMUT Trail Mountain 82.89 331 eP P 23 59 22.0 +1.8
TMUT epP pP 23 59 28.6 +0.1
SPMN Marine on St. 82.94 346 ⇑P P 23 59 20.3 +0.4
baz=83,SNR=6.7
SPMN Marine on St. 82.94 346 eP P 23 59 19.8 0.0
SPMN epP pP 23 59 27.0 -1.1
J29A Okreek 82.97 340 ⇑P P 23 59 21.4 +1.3
baz=83,SNR=5.9
DAC Darwin (Calif) 83.07 325 eP P 23 59 22.8 +1.7
DAC e*PP pP 23 59 29.6 +0.2
DAC Darwin (Calif) 83.07 325 eP P 23 59 22.8 +1.7
DAC epP pP 23 59 29.6 +0.2
N20A Spence Gulch, 83.13 334 ⇑P P 23 59 22.7 +1.4
baz=84,SNR=7.1
COWI Conover 83.14 349 eP P 23 59 21.0 +0.1
COWI epP pP 23 59 28.9 -0.3
I30A Oacoma 83.20 341 ⇓P P 23 59 21.6 +0.3
baz=84
J28A Allard Ranch, 83.24 340 ⇑P P 23 59 22.9 +1.4
baz=84,SNR=5.7
J27A Elkhorn Farm, 83.30 339 ⇑P P 23 59 23.9 +1.9
baz=84,SNR=6.7
L23A Garrett 83.40 336 ⇓P P 23 59 23.4 +0.7
baz=84
VES Vestal, Richgr 83.41 324 ⇓P P 23 59 24.8 +2.3
baz=84
I29A Vivian Onida 83.53 341 ⇑P P 23 59 25.1 +2.0
baz=84
BRSD Miller 83.57 342 eP P 23 59 23.0 -0.2
BRSD epP pP 23 59 30.8 -0.7
J26A Sides Ranch, S 83.66 338 ⇓P P 23 59 25.6 +1.8
baz=84,SNR=5.9
MPU Maple Canyon 83.67 331 eP P 23 59 25.6 +1.6
MPU epP pP 23 59 32.4 0.0
I28A Midland 83.75 340 ⇓P P 23 59 25.7 +1.5
baz=84,SNR=7.0
NLU North Lily Min 83.80 331 eP P 23 59 25.5 +0.8
NLU epP pP 23 59 33.5 +0.5
DAU Daniels Canyon 83.87 332 eP P 23 59 26.0 +0.8
DAU e*PP pP 23 59 33.5 0.0
DAU Daniels Canyon 83.87 332 eP P 23 59 26.0 +0.8
DAU epP pP 23 59 33.5 0.0
R11A Troy Canyon, C 83.89 328 ⇓P P 23 59 27.3 +2.1
baz=84,SNR=11
R11A Troy Canyon, C 83.89 328 eP P 23 59 26.8 +1.7
R11A epP pP 23 59 34.2 +0.7
K23A Bowen Ranch, D 83.95 337 ⇓P P 23 59 27.2 +1.8
baz=84
J25A Sunshine Ranch 83.95 338 ⇑P P 23 59 27.1 +1.8
baz=84
I27A Quinn 84.06 339 ⇑P P 23 59 26.9 +1.1
baz=84
H29A Onida 84.07 341 ⇑P P 23 59 26.8 +1.0
baz=84,SNR=7.6
JLU Jordanelle 84.11 332 eP P 23 59 25.9 -0.4
JLU epP pP 23 59 35.2 +0.5
K22A Casper 84.15 336 ⇑P P 23 59 27.8 +1.4
baz=84,SNR=6.2
K22A Casper 84.15 336 eP P 23 59 26.6 +0.3
K22A epP pP 23 59 34.3 -0.4
J24A Dixon Ranch, L 84.16 337 ⇓P P 23 59 27.9 +1.5
baz=84,SNR=6.2
G30A Faulkton 84.26 342 ⇑P P 23 59 28.0 +1.3
baz=85,SNR=9.4
DUG Dugway, Tooele 84.29 331 eP P 23 59 28.2 +1.0
DUG e*PP pP 23 59 35.8 +0.3
DUG Dugway, Tooele 84.29 331 ⇑P P 23 59 28.7 +1.6
baz=85,SNR=7.0
DUG Dugway, Tooele 84.29 331 eP P 23 59 28.1 +1.0
DUG epP pP 23 59 35.8 +0.3
CTU Camp Tracy 84.30 332 eP P 23 59 26.4 -0.8
CTU epP pP 23 59 36.0 +0.4
H28A Mission Ridge 84.33 340 ⇑P P 23 59 28.5 +1.4
baz=85
K21A Alcova 84.38 335 ⇓P P 23 59 28.8 +1.2
baz=85,SNR=7.4
TPH Tonopah 84.38 327 eP P 23 59 27.8 +0.1
TPH e*PP pP 23 59 36.5 +0.4
TPH Tonopah 84.38 327 eP P 23 59 27.8 +0.1
TPH epP pP 23 59 36.5 +0.4
I25A Rochford 84.50 338 ⇑P P 23 59 29.3 +1.2
baz=85,SNR=6.1
J23A Dilts Ranch, B 84.51 337 ⇓P P 23 59 29.6 +1.4
baz=85
TCUT Toone Canyon 84.54 332 eP P 23 59 28.3 -0.2
TCUT epP pP 23 59 37.0 +0.2
H27A Howes 84.59 340 ⇑P P 23 59 29.8 +1.4
baz=85
I24A Kuemmerle Ranc 84.63 338 ⇓P P 23 59 30.0 +1.2
baz=85
G28A Parade 84.67 341 ⇑P P 23 59 29.6 +0.8
baz=85,SNR=5.5
RSSD Black Hills 84.69 338 eP P 23 59 29.6 +0.4
RSSD e*PP pP 23 59 37.1 -0.4
RSSD Black Hills 84.69 338 eP P 23 59 29.6 +0.4
RSSD epP pP 23 59 37.1 -0.4
J22A Midwest 84.81 336 ⇓P P 23 59 30.3 +0.5
baz=85,SNR=6.0
F30A Leola 84.89 342 ⇑P P 23 59 30.4 +0.5
baz=85
H25A Fruitdale 85.01 339 ⇑P P 23 59 32.0 +1.4
baz=85
HWUT Hardware Ranch 85.02 332 eP P 23 59 31.8 +0.9
HWUT epP pP 23 59 38.7 -0.5
F29A Eureka 85.09 342 ⇓P P 23 59 31.9 +1.0
baz=86,SNR=6.8
SPUT South Promonto 85.10 331 eP P 23 59 31.5 +0.3
SPUT epP pP 23 59 38.8 -0.7
NV01 Mina Array Sit 85.15 326 eP P 23 59 33.3 +1.6
NV01 epP pP 23 59 40.9 +0.9
NVAR Mina Array Bea 85.15 326 P P 23 59 33.5 +1.9
comp=Z,4.4nm,0.7s,baz=152,slow=6.0,SNR=46
NVAR PKKPbc **PKKPbc 00 17 38.8 0.0**
comp=Z,0.6nm,0.7s,baz=294,slow=0.7,SNR=4.0
I22A 9 Mile Ranch, 85.25 336 ⇓P P 23 59 32.7 +0.8
baz=86,SNR=6.6
PD31 Pinedale Array 85.29 334 eP P 23 59 32.1 -0.1
PD31 epP pP 23 59 40.5 0.0
PDAR Pinedale Array 85.29 334 P P 23 59 32.8 +0.5
comp=Z,0.9nm,0.6s,baz=108,slow=4.8,SNR=7.2
PDAR PKKPbc **PKKPbc 00 17 36.9 -1.8**
comp=Z,0.5nm,0.8s,baz=254,slow=1.1,SNR=3.6
BW06 Boulder Array 85.29 334 eP P 23 59 31.6 -0.6
BW06 epP pP 23 59 39.9 -0.7
J20A Shoshoni 85.30 335 ⇓P P 23 59 33.5 +1.4
baz=86,SNR=11
EYMN Ely 85.32 348 eP P 23 59 32.5 +0.5
EYMN epP pP 23 59 39.5 -0.8
G26A Maurine 85.34 340 ⇑P P 23 59 32.4 +0.2
baz=86,SNR=6.1
F28A McLaughlin 85.36 341 ⇓P P 23 59 34.0 +1.8
baz=86,SNR=6.8
H24A Dirks Ranch, A 85.41 338 ⇑P P 23 59 33.1 +0.5
baz=86,SNR=5.7
I21A Big Trails, Te 85.44 336 ⇓P P 23 59 33.6 +0.8
baz=86,SNR=6.6
G25A Newell 85.48 339 ⇑P P 23 59 34.1 +1.2
baz=86,SNR=6.5
J19A Crowheart 85.55 335 ⇓P P 23 59 34.5 +1.1
baz=86,SNR=7.7
HVU Hansel Valley 85.63 331 eP P 23 59 34.2 +0.4
HVU e*PP pP 23 59 42.5 +0.3
HVU Hansel Valley 85.63 331 eP P 23 59 34.2 +0.4
HVU ePcP PcP 23 59 34.9 -1.8
HVU epP pP 23 59 42.5 +0.3
F27A Lemmon 85.71 340 ⇓P P 23 59 35.1 +1.1
baz=86,SNR=5.4
E29A Napoleon 85.73 342 ⇑P P 23 59 34.8 +0.8
baz=86
WAKR Walker 85.73 325 eP P 23 59 35.9 +1.4
WAKR epP pP 23 59 43.8 +1.0
ELK Elko 85.74 329 eP P 23 59 35.7 +1.1
ELK e*PP pP 23 59 43.0 +0.1
ELK Elko 85.74 329 eP P 23 59 35.7 +1.1

ELK eP pP 23 59 43.0 +0.1
TOA0 Torodi Ar. Sit 85.78 71 eP P 23 59 34.9 -0.1
TOA0 eP pP 23 59 42.4 -0.9
TORD Torodi Ar. Bea 85.78 71 P P 23 59 35.2 +0.2
comp=Z,15nm,0.9s,baz=247,slow=3.5,SNR=59
CMB Columbia Colle 85.80 324 eP P 23 59 36.1 +1.5
CMB pmax pmax
comp=Z,15nm,1.3s
CMB Columbia Colle 85.80 324 eP P 23 59 36.1 +1.5
comp=Z,15nm,1.3s
H22A Clearmont 85.83 337 ⇓P P 23 59 35.6 +0.8
baz=86
I20A Worland 85.84 335 ⇑P P 23 59 36.0 +1.2
baz=86,SNR=7.2
AHID Auburn Hatcher 85.85 333 eP P 23 59 34.3 -0.7
AHID eP pP 23 59 43.5 +0.2
F26A Lodgepole 85.87 340 ⇓P P 23 59 36.1 +1.3
baz=86,SNR=6.7
G24A Alzada 85.90 338 ⇑P P 23 59 36.4 +1.4
baz=86,SNR=6.3
E28A Huff 86.00 341 ⇑P P 23 59 36.7 +1.3
baz=86
D30A Buchanan 86.02 343 ⇓P P 23 59 36.9 +1.4
baz=86,SNR=5.4
G23A Biddle 86.08 338 ⇓P P 23 59 36.5 +0.6
baz=86,SNR=5.6
H21A Big Horn, Sher 86.08 336 ⇑P P 23 59 36.5 +0.6
baz=86,SNR=6.5
F25A Bowman 86.16 339 ⇑P P 23 59 37.2 +0.9
baz=86,SNR=6.8
D29A Pettibone, Tap 86.18 342 ⇓P P 23 59 37.1 +0.9
baz=87,SNR=5.9
I19A Meeteetse 86.21 335 ⇓P P 23 59 37.9 +1.2
baz=87,SNR=6.0
H20A Greybull 86.27 336 ⇑P P 23 59 37.6 +0.7
baz=87,SNR=7.2
REDW Red Top Meadow 86.27 333 eP P 23 59 38.0 +0.9
REDW eP pP 23 59 45.8 +0.4
BMN Battle Mountai 86.32 328 eP P 23 59 38.0 +0.7
BMN e*PP pP 23 59 44.7 -0.9
BMN Battle Mountai 86.32 328 eP P 23 59 38.0 +0.7
BMN eP pP 23 59 44.7 -0.9
SNOW Snow King Moun 86.33 334 eP P 23 59 36.9 -0.5
SNOW eP pP 23 59 45.8 +0.1
G22A Birney 86.37 337 ⇓P P 23 59 37.5 +0.1
baz=87,SNR=5.7
F24A Ekalaka 86.37 339 ⇓P P 23 59 38.2 +0.9
baz=87,SNR=7.0
E26A Carlson Angus 86.38 340 ⇓P P 23 59 38.4 +1.1
baz=87,SNR=8.4
LOHW Long Hollow 86.40 334 eP P 23 59 38.3 +0.6
LOHW eP pP 23 59 45.8 -0.2
TPAW Teton Pass 86.42 333 eP P 23 59 38.5 +0.6
TPAW eP pP 23 59 46.4 +0.2
AGMN Agassiz Nation 86.49 345 eP P 23 59 38.1 +0.4
AGMN eP pP 23 59 45.9 -0.1
C30A Mose, Pekin 86.51 343 ⇓P P 23 59 39.1 +1.3
baz=87,SNR=6.8
F23A Volborg 86.55 338 ⇑P P 23 59 38.9 +0.8
baz=87,SNR=7.7
FXWY Fox Creek 86.58 333 eP P 23 59 39.8 +1.2
FXWY eP pP 23 59 46.9 0.0
I17A Pilgrim Ck. 86.66 334 ⇑P P 23 59 40.2 +1.2
baz=87,SNR=7.4
G21A Lodge Grass 86.67 337 ⇑P P 23 59 40.0 +1.2
baz=87,SNR=5.4
E25A Miller Ranch, 86.67 340 ⇑P P 23 59 39.9 +1.2
baz=87,SNR=7.3
H19A Powell 86.76 335 ⇑P P 23 59 40.1 +0.8
baz=87,SNR=6.4
IMW Indian Meadow 86.77 334 eP P 23 59 40.1 +0.5
IMW eP pP 23 59 48.4 +0.5
FLWY Flagg Ranch 86.84 334 eP P 23 59 41.7 +1.9
FLWY eP pP 23 59 48.5 +0.3
F22A Rosebud 86.86 337 ⇑P P 23 59 40.3 +0.6
baz=87,SNR=6.8
D26A Manning 86.89 340 ⇓P P 23 59 41.1 +1.3
baz=87,SNR=8.6
MDND Maddock 86.92 342 ⇑P P 23 59 40.8 +1.0
baz=87,SNR=7.6
MDND Maddock 86.92 342 eP P 23 59 40.5 +0.7
MDND eP pP 23 59 48.2 0.0
E24A Baker 86.98 339 ⇑P P 23 59 41.5 +1.3
baz=87,SNR=7.5
G20A Bridger 86.99 336 ⇑P P 23 59 40.9 +0.5
baz=87,SNR=5.8
H18A Shoshone NF, C 87.00 335 ⇓P P 23 59 41.5 +0.9
baz=87,SNR=7.2
H17A Grant Village 87.07 334 eP P 23 59 40.5 -0.5
comp=Z,30nm,1.9s
B30A Myrvik Farm, E 87.18 344 ⇓P P 23 59 42.2 +1.1
baz=88,SNR=16
YFT Old Faithful 87.21 334 eP P 23 59 41.1 -0.6
YFT eP pP 23 59 50.9 +0.8
D25A Fairfield 87.24 340 ⇑P P 23 59 42.8 +1.3
baz=88,SNR=8.7
RLMT Red Lodge 87.25 335 eP P 23 59 42.5 +0.7
RLMT eP pP 23 59 49.7 -0.4
C27A Sayler Ranch, 87.27 341 ⇓P P 23 59 43.3 +1.7
baz=88,SNR=9.0
E22A Miles City 87.36 338 ⇓P P 23 59 43.2 +1.1
baz=88,SNR=5.4
B29A Wagenman Farm, 87.43 343 ⇓P P 23 59 43.6 +1.3
baz=88,SNR=7.1
YMR Madison River 87.45 334 eP P 23 59 44.3 +1.5
YMR eP pP 23 59 51.8 +0.6
D24A Glendive 87.49 339 ⇓P P 23 59 43.8 +1.2
baz=88
C26A Wahner Farm, P 87.53 341 ⇑P P 23 59 43.9 +1.1
baz=88,SNR=5.6
A30A Hoffart Farm, 87.63 344 ⇑P P 23 59 44.4 +1.1
baz=88,SNR=5.6
B28A Dugan Ranch, T 87.66 342 ⇓P P 23 59 44.8 +1.4
baz=88,SNR=8.0
LAO LASA Array 87.67 338 eP P 23 59 44.3 +0.7
LAO eP pP 23 59 51.7 -0.2
QLMT Earthquake Lak 87.75 334 eP P 23 59 45.0 +0.8
QLMT eP pP 23 59 53.5 +0.9
HLID Hailey 87.78 331 ⇑P P 23 59 45.8 +1.5
baz=88,SNR=10
HLID Hailey 87.78 331 eP P 23 59 44.5 +0.1
HLID eP pP 23 59 53.4 +0.7
F19A Roth Farm, Mol 87.79 336 ⇑P P 23 59 45.9 +1.6
baz=88,SNR=6.1
D23A Lindsay 87.80 339 ⇑P P 23 59 45.5 +1.4
baz=88,SNR=9.0
A29A Manning Farm, 87.83 343 ⇑P P 23 59 45.3 +1.1
baz=88,SNR=10
C24A Savage 87.90 339 ⇑P P 23 59 45.9 +1.3
baz=88,SNR=6.7
GCMT Greycliff 87.98 335 eP P 23 59 47.0 +1.8
GCMT eP pP 23 59 53.2 -0.4
A28A Rude Farm, Bot 88.07 342 ⇓P P 23 59 46.2 +0.8
baz=88,SNR=6.1
D22A Cohagen 88.07 338 ⇓P P 23 59 46.6 +1.1
baz=88,SNR=6.3
E20A Meyer Farm, Mu 88.10 337 ⇓P P 23 59 46.8 +1.2
baz=88,SNR=8.1
MFID Camas Ranch 88.22 330 eP P 23 59 47.3 +1.0
MFID eP pP 23 59 54.7 0.0
B25A Knox Farm, Ray 88.22 340 ⇑P P 23 59 47.5 +1.4
baz=89,SNR=6.6
MCMT McKenzie Canyo 88.27 333 eP P 23 59 48.3 +1.6
MCMT eP pP 23 59 55.5 +0.4
E19A Rath Farm, Rou 88.27 336 ⇑P P 23 59 47.4 +0.9
baz=89,SNR=8.8
ULM Lac du Bonnet 88.35 346 eP P 23 59 47.0 +0.4
ULM e*PP pP 23 59 54.1 -0.9
ULM Lac du Bonnet 88.35 346 P P 23 59 47.2 +0.6
comp=Z,5.0nm,0.7s,baz=170,slow=3.9,SNR=11
ULM Lac du Bonnet 88.35 346 eP P 23 59 47.0 +0.4
ULM eP pP 23 59 54.1 -0.9
C23A Lambert 88.36 339 ⇑P P 23 59 48.1 +1.3
baz=89,SNR=11
A26A Wade Farm, Ken 88.50 341 ⇑P P 23 59 48.8 +1.4
baz=89,SNR=9.2
C22A Vida 88.52 339 ⇑P P 23 59 49.8 +2.2
baz=89,SNR=6.4
BOZ Bozeman (W) 88.53 334 eP P 23 59 49.3 +1.5
BOZ pmax pmax
comp=Z,14nm,1.4s
BOZ Bozeman (W) 88.53 334 eP P 23 59 49.2 +1.5
comp=Z,14nm,1.4s
WVOR Wild Horse Val 88.57 328 eP P 23 59 48.3 +0.3
WVOR e*PP pP 23 59 57.1 +0.7
WVOR Wild Horse Val 88.57 328 eP P 23 59 48.3 +0.3
WVOR eP pP 23 59 57.1 +0.7
D20A Manuel Ranch, 88.62 337 ⇑P P 23 59 49.7 +1.6
baz=89,SNR=7.1
DLMT Dillon 88.63 333 eP P 23 59 49.5 +1.2
DLMT eP pP 23 59 57.7 +1.1
DGMT Dagmar 88.69 340 ⇑P P 23 59 50.5 +2.2
baz=89,SNR=10
DGMT Dagmar 88.69 340 eP P 23 59 48.8 +0.5
DGMT eP pP 23 59 56.5 -0.2
A25A Svangstu Ranch 88.82 341 ⇑P P 23 59 50.8 +1.9
baz=89,SNR=6.7
MOD Modoc Plateau 88.86 327 eP P 23 59 51.1 +1.6
MOD eP pP 23 59 58.3 +0.5
B23A Brockton 88.91 339 ⇑P P 23 59 49.7 +0.4
baz=89,SNR=6.3
LRM Limekiln Ridge 88.97 334 eP P 23 59 50.2 +0.2
LRM eP pP 23 59 58.1 -0.3
C20A Veseth Ranch, 89.13 337 ⇑P P 23 59 51.7 +1.2
baz=90
J08A Circle Bar Ran 89.25 329 eP P 23 59 52.4 +1.2
J08A eP pP 00 00 00.7 +1.1
M04C Macdoel 89.46 326 ⇑P P 23 59 52.9 +0.6
baz=90
C19A Slack Wire Ran 89.48 337 ⇑P P 23 59 53.7 +1.6
baz=90,SNR=5.7
A22A Carney Farms, 89.65 339 ⇑P P 23 59 53.7 +0.9
baz=90,SNR=6.0
B20A Solberg Farm, 89.78 338 ⇑P P 23 59 53.8 +0.3
baz=90,SNR=5.9
K05A Summer Lake 89.78 327 eP P 23 59 55.7 +1.9
K05A eP pP 00 00 03.0 +0.7
A21A Bergtoll Ranch 89.94 339 ⇑P P 23 59 54.6 +0.4
baz=90,SNR=6.5
EGMT Eagleton 89.96 336 ⇓P P 23 59 54.9 +0.5
baz=90
LSZ Lusaka 89.97 109 eP P 23 59 54.9 -0.5
LSZ e*PP pP 00 00 03.4 -0.4
LSZ Lusaka 89.97 109 eP P 23 59 54.9 -0.5
LSZ eP pP 00 00 03.4 -0.4
BMO Blue Mountains 90.00 330 eP P 23 59 53.8 -0.9
BMO eP pP 00 00 03.8 +0.7
A20A Cobblestone Ra 90.14 338 ⇓P P 23 59 55.9 +0.7
baz=90
CHMT Chamberlain Mo 90.19 334 eP P 23 59 55.5 -0.1
CHMT eP pP 00 00 04.4 +0.3
I07A Izee 90.28 329 eP P 23 59 56.7 +0.7
I07A eP pP 00 00 05.0 +0.6
MSO Missoula 90.37 333 ⇓P P 23 59 57.9 +1.6
baz=91
MSO Missoula 90.37 333 eP P 23 59 54.0 -2.4
MSO eP pP 00 00 04.7 0.0
J05D Fort Rock, OR 90.38 327 ⇑P P 23 59 58.2 +1.6
baz=91
A19A Klindworth Far 90.44 337 ⇓P P 23 59 56.7 +0.2
baz=91,SNR=6.5
SLMT Seeley Lake 90.56 334 eP P 23 59 57.8 +0.5
SLMT eP pP 00 00 06.2 +0.6
SCHQ Schefferville 90.78 4 P P 23 59 57.2 -0.7
comp=Z,2.0nm,0.8s,baz=190,slow=6.1,SNR=2.6
F10A Beach Ranch, E 90.90 331 eP P 23 59 58.2 -0.6
F10A eP pP 00 00 07.1 -0.1
SWMT Swartz Lake 90.97 334 eP P 23 59 59.4 +0.3
SWMT eP pP 00 00 07.7 +0.1
G08A Pilot Rock 91.03 330 eP P 23 59 59.0 -0.5
G08A eP pP 00 00 08.0 +0.1
I05D Terrebonne, OR 91.27 328 ⇓P P 00 00 02.4 +1.9
baz=92
JTMT Jette 91.27 334 eP P 00 00 01.2 +0.6
JTMT eP pP 00 00 09.1 +0.2
YBMT Yellow Bay 91.27 334 eP P 00 00 01.9 +1.3
YBMT eP pP 00 00 08.9 0.0
BLMT Blacktail Moun 91.53 334 eP P 00 00 03.0 +1.2
BLMT eP pP 00 00 10.4 +0.2
BSMT Bassoo Peak 91.54 333 eP P 00 00 02.4 +0.5
BSMT eP pP 00 00 10.7 +0.4
HAWA Hanford 92.16 330 eP P 00 00 04.2 -0.3
HAWA eP pP 00 00 13.0 +0.1
WALA Waterton Lakes 92.25 335 eP P 00 00 05.2 +0.2
WALA eP pP 00 00 13.6 +0.2
E07A Sunnyside 92.43 330 eP P 00 00 04.8 -1.0
E07A eP pP 00 00 14.4 +0.2
D08A Wollman Farm, 92.45 331 eP P 00 00 06.7 +0.8
D08A eP pP 00 00 14.7 +0.5
NEW Newport 92.75 332 eP P 00 00 06.7 -0.6
NEW e*PP pP 00 00 14.8 -0.9
NEW Newport 92.75 332 ⇓P P 00 00 08.0 +0.7
baz=93
NEW Newport 92.75 332 eP P 00 00 06.7 -0.6
NEW eP pP 00 00 14.8 -0.9
C09A Chrisman Ranch 92.81 331 eP P 00 00 07.5 +0.1
C09A eP pP 00 00 16.2 +0.3
EDM Edmonton 95.61 337 eP P 00 00 19.2 -1.0
EDM e*PP pP 00 00 27.0 -1.7
EDM Edmonton 95.61 337 eP P 00 00 19.2 -1.0
EDM eP pP 00 00 27.0 -1.7
FCC Fort Churchill 96.17 349 eP P 00 00 22.7 +0.1
FCC e*PP pP 00 00 30.4 -0.6
FCC Fort Churchill 96.17 349 eP P 00 00 22.7 +0.1
FCC eP pP 00 00 30.4 -0.6
YKA Yellowknife Ar 103.81 342 Pdiff Pdif 00 00 56.6 0.0
comp=Z,0.1nm,0.8s,baz=133,slow=3.6,SNR=4.0
YKA PP PKiKP 00 05 13.5 -0.8
comp=Z,0.4nm,0.9s,baz=134,slow=7.2,SNR=3.1
YKA PKKPbc PKKPbc 00 16 46.9 -2.1
comp=Z,0.1nm,0.6s,baz=333,slow=4.1,SNR=3.6
GERES GERESS Array B 114.29 46 PKIKP PKPdf 00 05 35.0 +0.4
GERES GERESS Array B 114.29 46 PKiKP PKiKP 00 05 35.0 +0.4
comp=Z,0.7nm,0.9s,baz=278,slow=2.9,SNR=4.9
CLL Collm 115.02 44 eSS SS 00 22 36.0 +5.4
AS01 Alice Springs 115.23 207 ePKiKP PKiKP 00 05 36.6 -0.7
ASAR Alice Springs 115.25 207 PKP PKPdf 00 05 36.5 -0.8
comp=Z,1.0nm,0.7s,baz=148,slow=2.0,SNR=11
ASAR PKKPbc PKKPbc 00 16 11.0 -0.2
comp=Z,0.6nm,0.7s,baz=338,slow=3.1,SNR=6.1
IL1 Eielson Array 115.70 333 ePKPdf PKPdf 00 05 37.0 +0.3
ILAR Eielson Array 115.70 333 PKP PKPdf 00 05 37.1 +0.4
comp=Z,0.3nm,0.8s,baz=130,slow=1.4,SNR=3.7
ILAR PKKPbc PKKPbc 00 16 09.4 -0.9
comp=Z,0.5nm,0.8s,baz=290,slow=3.7,SNR=5.7
NOA NORSAR Array B 118.31 33 PKKPbc PKKPbc 00 16 02.0 +1.0
comp=Z,1.2nm,0.8s,baz=68,slow=4.5,SNR=4.3
WRA Warramunga Arr 118.45 210 PKiKP PKPdf 00 05 43.0 -0.5
WRA Warramunga Arr 118.45 210 PKP PKPdf 00 05 43.0 -0.5
comp=Z,2.9nm,0.7s,baz=160,slow=1.5,SNR=17
IM04 Indian Mountai 118.82 333 ePKPdf PKPdf 00 05 43.4 +0.8
BUR04 Bucovina Ar. S 120.79 51 ePKPdf PKPdf 00 05 48.1 +1.0
CSS Prodhromos 121.56 68 ePKPdf PKPdf 00 05 49.1 +0.2
MBWA Marble Bar 121.71 194 ePKPdf PKPdf 00 05 49.2 -0.5
BR231 Keskin MP Arra 123.06 62 ePKPdf PKPdf 00 05 52.0 +0.3
BRTR Keskin Array B 123.64 62 c iPKIKP PKPdf 00 05 53.2 +0.3
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 123.64 62 PKP PKPdf 00 05 52.1 -0.8
comp=Z,1.7nm,0.8s,baz=222,slow=1.7,SNR=9.1
AKASG Malin Array Be 124.29 49 PKP PKPdf 00 05 52.4 -1.2
comp=Z,0.2nm,0.3s,baz=277,slow=2.3,SNR=3.5
AKASG PP PP 00 07 37.0 -2.7
comp=Z,0.3nm,0.4s,baz=248,slow=9.1,SNR=4.5
H11S2 WAKE ISLAND Hyl 124.83 268 T T 02 23 07.8
baz=120
H11S1 WAKE ISLAND Hyl 124.84 268 T T 02 23 07.8
baz=120
H11S3 WAKE ISLAND Hyl 124.85 268 T T 02 23 07.6
baz=120
H11N3 WAKE ISLAND Hyl 125.30 270 T T 02 23 41.2
baz=112
H11N1 WAKE ISLAND Hyl 125.31 270 T T 02 23 40.5
baz=112
H11N2 WAKE ISLAND Hyl 125.31 270 T T 02 23 41.2
baz=112
RAYN Ar Rayn 126.09 86 ePKPdf PKPdf 00 05 57.4 -0.5
OBN Obninsk 129.60 45 ⇑ePKIKP PKPdf 00 06 04.7 +1.1
OBN e 00 13 14.6
OBN eSS SS 00 25 32.6 -3.3
OBN pmax pmax
comp=Z,27nm,2.7s
KLMR Klimovskoe 131.66 37 ePKIKP PKPdf 00 06 06.4 -0.9
KLMR pmax pmax
comp=Z,37nm,1.8s
PETK Petropavlovsk- 140.97 312 PKP PKPdf 00 06 24.9 0.0
comp=Z,3.3nm,0.9s,baz=108,slow=4.7,SNR=3.6
PETK PP PP 00 09 19.2 -7.3
comp=Z,1.7nm,0.8s,baz=112,slow=6.6,SNR=3.6
GEYT Alibeck 141.39 72 PKhKP PKPpre 00 06 19.2
comp=Z,3.8nm,1.1s,baz=296,slow=11,SNR=5.0
SEY Seymchan 141.42 328 PKhKP PKPpre 00 06 19.7
comp=Z,2.2nm,0.2s,baz=52,slow=19,SNR=1.7
SEY PKP PKPdf 00 06 25.1 -0.3
comp=Z,6.5nm,0.9s,baz=85,slow=4.6,SNR=3.8
TIXI Tiksi 142.64 349 ePKHKP PKPpre 00 06 21.9
TIXI e 00 06 27.4
TIXI Tiksi 142.64 349 ePKPpre PKPpre 00 06 21.9
TIXI ePKPdf PKPdf 00 06 27.4 +0.1
ABKAR Akbulak array 143.69 54 ePKPpre PKPpre 00 06 27.1
BKNI Bangkinang 143.94 170 ePKPpre PKPpre 00 06 28.4
KSM Kuching 145.34 186 ePKPbc PKPbc 00 06 32.9 -0.8
MYKOM Kota Tinggi 145.69 175 ePKPdf PKPab 00 06 34.9 -0.1
PSI Prapat 146.01 166 PKPbc PKPbc 00 06 35.6 -0.2
comp=Z,69nm,0.8s,baz=186,slow=3.4,SNR=39
POO Poona 146.03 112 eP PKPdf 00 06 34.0 -0.9
SBUM Sibu 146.10 190 ePKPdf PKPdf 00 06 34.6 -0.5
MYLDM Lahad Datu 147.37 202 ePKPbc PKPbc 00 06 40.5 +0.9
LHMI Lhok Sumawe 147.90 161 ePKPdf PKPdf 00 06 35.7 -2.4
IPM Ipoh 148.02 169 ePKPbc PKPbc 00 06 41.0 -0.5
KULM Kulim 148.75 168 ePKPbc PKPbc 00 06 42.3 -1.0
KKM Kota Kinabalu 148.83 198 ePKPdf PKPdf 00 06 40.0 +0.2
KBL Kabul 149.23 82 ePKIKP PKPdf 00 06 39.6 -0.3
KBL Kabul 149.23 82 ePKPdf PKPdf 00 06 39.6 -0.3
BRVK Borovoye 149.38 45 ePKPdf PKPdf 00 06 39.5 +0.2
VOSK Vostochnaya 149.88 45 ePKPdf PKPdf 00 06 40.8 +0.7
YAK Yakutsk 150.43 338 ePKIKP PKPbc 00 06 44.2 -1.7
YAK e 00 06 53.3
YAK e 00 10 28.1
YAK pmax pmax
comp=Z,54nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=N,4.0nm,1.4s
YAK pmax pmax
comp=Z,149nm,4.0s
YAK pmax pmax
comp=E,50nm,3.8s
YAK pmax pmax
comp=N,51nm,4.0s
YAK Yakutsk 150.43 338 ePKPbc PKPbc 00 06 46.3 +0.4
YAK ePKPab PKPab 00 06 53.8 +1.3
YSS Yuzh-Sakhalins 151.30 303 ⇓iPKIKP PKPab 00 06 56.0 -0.6
KKAR Karatay Array 151.31 65 ePKIKP PKPdf 00 06 43.1 +0.4
KKAR e 00 06 48.8
KKAR Karatay Array 151.31 65 ePKPdf PKPdf 00 06 43.1 +0.4
KKAR ePKPbc PKPbc 00 06 48.8 +0.1
ASAJ Asahikawa 151.73 297 PKPbc PKPbc 00 06 50.3 +0.7
comp=N,3.4nm,0.6s,baz=76,slow=4.2,SNR=3.7
ASAJ PKPab PKPab 00 06 58.6 +0.1
comp=N,12nm,0.8s,baz=49,slow=11,SNR=6.6
EKS2 Erkin-Say 153.73 66 ePKIKP PKPdf 00 06 46.8 +0.4
EKS2 e 00 06 54.7
EKS2 Erkin-Say 153.73 66 ePKPdf PKPdf 00 06 46.8 +0.4
EKS2 ePKPbc PKiKP 00 06 54.7 +0.4
AAK Ala-Archa 154.26 66 ePKIKP PKPdf 00 06 48.2 +1.0
AAK e 00 06 56.3
AAK e 00 07 09.4
AAK Ala-Archa 154.26 66 ePKPdf PKPdf 00 06 48.2 +1.0
AAK ePKPbc PKiKP 00 06 56.3 +0.8
AAK ePKPab PKPab 00 07 09.4 -0.1
KURBB Kurchatov Arra 155.03 46 PKP PKPdf 00 06 48.3 +0.6
comp=N,1.8nm,1.0s,baz=296,slow=2.1,SNR=2.2
KURBB PKPbc PKPbc 00 06 57.1
comp=N,1.6nm,0.6s,baz=298,slow=2.1,SNR=3.0
KURBB PP PP 00 10 49.4 +0.8
comp=N,1.7nm,0.9s,baz=283,slow=6.1,SNR=4.2
KURK Kurchatov 155.04 45 ePKIKP PKPdf 00 06 46.9 -0.8
KURK e 00 06 56.5
KURK 00 10 49.4
KURK Kurchatov 155.04 45 ePKPdf PKPdf 00 06 46.9 -0.8
KURK ePKPbc PKPbc 00 06 56.5
KURK ePKPab PKPab 00 07 12.8 +0.5
KURK PP PP 00 10 49.4 +0.7
TKM2 Tokmak 2 155.05 65 ePKIKP PKPdf 00 06 47.7 -0.6
TKM2 e 00 06 56.0
TKM2 e 00 07 12.6
TKM2 Tokmak 2 155.05 65 ePKPdf PKPdf 00 06 47.7 -0.6
TKM2 ePKPbc PKPbc 00 06 56.0
TKM2 ePKPab PKPab 00 07 12.6 -0.4
NVS Novosibirsk 155.23 34 ⇑iPKIKP PKPdf 00 06 47.3 -0.6
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=Z,27nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.7s
KSH Kashi 155.43 73 PKPbc PKPdf 00 06 49.4 +0.5
KSH sPKP 00 06 56.8
KSH PP PP 00 10 50.5 -1.2
KSH SKS SKSdf 00 13 49.0 -4.6
KSH SKKS SKKSac 00 17 34.6 -4.7
KSH SS SS 00 30 36.6 +0.4
KSH PPMZ
comp=E,300nm,5.0s
KSH LN
comp=E,80nm,5.0s
KSH LE
comp=E,120nm,5.6s
KSH LZ
comp=E,310nm,6.2s
ZAA0 Zalesovo Array 156.51 34 ePKPdf PKPdf 00 06 48.8 -0.8
ZAA0 ePKPab PKPab 00 07 19.3 +0.8
ZALV Zalesovo Beam 156.51 34 PKP PKPdf 00 06 49.4 -0.2
comp=E,6.5nm,1.0s,baz=281,slow=2.4,SNR=20
ZALV PKPab PKPab 00 07 19.5 +1.0
comp=E,3.9nm,0.8s,baz=294,slow=4.7,SNR=4.8
BOD Bodaibo 157.81 350 ePKP2 PKPab 00 07 19.4 -4.5
BOD pmax pmax
comp=Z,20nm,1.6s
KOLN Koldanda 158.59 106 eP PKPdf 00 06 53.2 -0.2
MKAR Makanchi Array 158.82 52 ePKIKP PKPdf 00 06 52.3 -0.5
MKAR 00 11 10.4
MKAR Makanchi Array 158.82 52 PKP PKPdf 00 06 53.2 +0.4
comp=Z,3.7nm,1.0s,baz=299,slow=2.5,SNR=17
MKAR PKPab PKPab 00 07 29.6 +0.8
comp=Z,1.8nm,0.7s,baz=282,slow=3.5,SNR=5.0
MKAR PP PP 00 11 10.4 +0.6
comp=Z,2.3nm,1.0s,baz=316,slow=3.3,SNR=5.7
MKAR Makanchi Array 158.82 52 ePKPdf PKPdf 00 06 52.3 -0.5
MKAR PKPab PKPab 00 07 29.6 +0.8
MKAR PP PP 00 11 10.4 +0.6
MK01 Makanchi Array 158.83 52 ePKPdf PKPdf 00 06 52.3 -0.5
DANN Dangsing 158.99 105 eP PKPdf 00 06 53.8 -0.1
comp=Z,52nm,1.2s
GKN Gorkha 159.51 107 eP PKPdf 00 06 55.2 +0.8
DMN Daman 159.68 109 eP PKPdf 00 06 54.5 -0.2
PKI Pulchoki 159.89 109 eP PKPdf 00 06 54.4 -0.6
KKN Kakani 159.90 108 eP PKPdf 00 06 55.3 +0.4
GUN Gumba 160.42 109 eP PKPdf 00 06 55.8 +0.2
RAMN Ramite 160.47 112 eP PKPdf 00 06 55.8 +0.2
JIRN Jiri 160.53 110 eP PKPdf 00 06 55.7 -0.1
CM01 Chiang Mai Arr 161.00 156 ePKPdf PKPdf 00 06 56.0 -0.1
CM01 ePKPab PKPab 00 07 38.1 -0.7
ODAN Odare 161.01 114 eP PKPdf 00 06 56.0 -0.2
CMAR Chiang Mai Arr 161.03 156 PKP PKPdf 00 06 56.3 +0.2
comp=Z,1.4nm,0.4s,baz=239,slow=2.6,SNR=9.9
CMAR PKPab PKPab 00 07 39.1 +0.2
comp=Z,5.8nm,1.0s,baz=225,slow=5.1,SNR=11
CHTO Chiang Mai 161.36 156 ePKIKP PKPdf 00 06 55.4 -1.0
CHTO e 00 07 39.8
CHTO Chiang Mai 161.36 156 ePKPdf PKPdf 00 06 55.4 -1.0
CHTO ePKPab PKPab 00 07 39.8 -0.6
TAPN Taplejung 161.51 113 eP PKPdf 00 06 57.8 +1.0
KS01 Wonju Array Si 163.12 281 ePKPdf PKPdf 00 06 56.6 -1.1
WMQ Urumqi 163.45 57 ePKP PKPdf 00 06 56.8 -1.1
WMQ PKPab PKPab 00 07 50.5 +1.3
WMQ PKS PKSdf 00 10 28.8 -2.0
WMQ PP PP 00 11 36.2 +1.4
WMQ SKS SKSdf 00 13 58.0 -2.7
WMQ SKKS SKKSac 00 18 20.8 0.0
WMQ SS SS 00 31 59.2 -1.0
WMQ PPMZ
comp=Z,220nm,4.5s
WMQ LN
comp=Z,130nm,21.0s
WMQ LE
comp=Z,230nm,25.0s
TLY Talaya 164.31 7 ePKP2 PKPab 00 08 02.0 +10
TLY pmax pmax
comp=Z,11nm,1.3s

LSA	**Lhasa**	**165.32**	**112**	*e*PKIKP	**PKPdf**	**00 06 59.4**	**-1.1**
LSA				*e*		00 07 58.8	
LSA	**Lhasa**	**165.32**	**112**	*e*PKPdf	**PKPdf**	**00 06 59.4**	**-1.1**
LSA				*e*PKPab	**PKPab**	**00 07 58.8**	**+0.4**
ZAK	**Zakamensk**	**165.54**	**9**	*e*PKP2	**PKPab**	**00 07 57.1**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.6s						
ULN	**Ulaanbaatar**	**168.30**	**359**	*e*PKIKP	**PKPdf**	**00 07 01.1**	**-0.7**
ULN				*e*		00 08 10.4	
ULN	**Ulaanbaatar**	**168.30**	**359**	*e*PKPdf	**PKPdf**	**00 07 01.1**	**-0.7**
ULN				*e*PKPab	**PKPab**	**00 08 10.3**	**0.0**
SONA1	**Songino Array**	**168.31**	**2**	*e*PKPdf	**PKPdf**	**00 07 00.6**	**-1.2**
SONA1				*e*PKPab	**PKPab**	**00 08 11.1**	**+0.7**
SONM	**Songino Array**	**168.32**	**2**	PKP	**PKPdf**	**00 07 01.2**	**-0.5**
	comp=Z,0.8nm,1.1s,baz=270,slow=1.0,SNR=3.8						
SONM				PKPab	**PKPab**	**00 08 11.9**	**+1.5**
	comp=Z,1.9nm,0.8s,baz=338,slow=4.5,SNR=13						
SONM				PP	PP	00 12 04.6	+5.7
	comp=Z,1.2nm,0.9s,baz=354,slow=3.6,SNR=5.3						
NJ2	**Nanjing**	**169.26**	**251**	*e*PKP	**PKPdf**	**00 07 03.8**	**+1.2**
GYA	**Guiyang**	**170.33**	**179**	PKP	**PKPdf**	**00 07 04.2**	**+0.6**
GYA				PKPab	**PKPab**	**00 08 22.0**	**+2.2**
GYA				PKS	**PKSdf**	**00 10 34.5**	**-1.8**
GYA				PP	**PP**	**00 12 13.8**	**+4.8**
GYA				SKKS		00 18 57.4	
GYA				SS	**SS**	**00 33 10.0**	**+2.3**
GYA				PPMZ			
	comp=Z,140nm,8.6s						
GYA				LN			
	comp=Z,140nm,22.6s						
GYA				LE			
	comp=Z,130nm,22.2s						
GTA	**Gaotai**	**173.53**	**58**	*e*PKP	**PKPdf**	**00 07 05.0**	**+0.3**
GTA				pPKP	**pPKPdf**	**00 07 13.8**	**+0.4**
GTA				sPKP		00 07 17.4	
GTA				PKPab	**PKPab**	**00 08 35.5**	**+1.5**
GTA				PP	**PP**	**00 12 29.3**	**+3.1**
GTA				SKS	**SKSdf**	**00 14 02.6**	**-3.6**
GTA				SKKS	**SKKSac**	**00 19 10.5**	**-0.3**
GTA				SS	**SS**	**00 33 39.6**	**-1.8**
GTA				PPMZ			
	comp=Z,110nm,6.2s						
GTA				LN			
	comp=Z,140nm,19.0s						
GTA				LE			
	comp=Z,190nm,18.5s						
HHC	**Hu-ho-hao-te**	**174.04**	**323**	*e*PKP	PKPdf	00 06 59.0	-5.8
HHC				pPKP	pPKPdf	00 07 09.8	-3.7
HHC				sPKP		00 07 13.4	
HHC				PPMZ			
	comp=Z,78nm,6.2s						
HHC				LN			
	comp=Z,370nm,18.5s						
HHC				LE			
	comp=Z,920nm,16.0s						
HHC				LZ			
	comp=Z,260nm,16.0s						
LZH	**Lanzhou**	**177.55**	**91**	*e*PKP	**PKPdf**	**00 07 07.1**	**+1.2**
LZH				PKPab	PKPab	00 08 54.0	+1.9
LZH				PP	**PP**	**00 12 48.0**	**+2.1**
LZH				SKKS		00 19 29.5	
LZH				*e*SS	**SS**	**00 34 16.7**	**-4.1**
LZH				PPMZ			
	comp=Z,270nm,9.3s						
LZH				LN			
	comp=Z,550nm,18.3s						
LZH				LE			
	comp=Z,420nm,18.2s						
LZH				LZ			
	comp=Z,610nm,20.1s						

IDC ***07*** *23:49:19.1±0.7, 35°.48S×71°.96W, h0km, mb4.6/12, mb1 4.7/14, mb1mx4.5/25, mbtmp4.6/14, ML3.9/2, MS4.5/2, Ms1 4.5/2, ms1mx3.8/14, Error ellipse: s-maj=26.2km s-min=20.1km az=78.0*

ISCJB ***07*** *23:49:22.9±0.3, 35°.53S±0°.05×72°.08W±0°.06, h35km, mb4.7/22, MS4.5/1, Error ellipse: s-maj=9.4km s-min=4.9km az=139.7*

NEIC ***07*** *23:49:24.4±0.5, 35°.40S×72°.11W, h35km, mb4.7/8, ML5.0(GUC), Error ellipse: s-maj=13.3km s-min=9.5km az=97.0*

GUC ***07*** *23:49:26.3±0.5, 35°.65S×70°.73W, h32km±5km, ML5.0*

ISC 07 23:49:24.6±0.5, 35°.38S±0°.05×72°.08W±0°.08, h35km, n164, σ1§24/174, mb4.7/22, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.61**	**141**	⇓*i*P	Pn	23 49 40.2	+3.5
LNCH				*i* S1	**Sn**	**23 49 50.2**	**+4.9**
LNCH				AML	AML	23 49 52.4	
	comp=N,35μm,0.4s						
LNCH	**Linares**	**0.61**	**141**	⇓*i*P	Pn	23 49 40.2	+3.5
LNCH				*i* S	**Sn**	**23 49 50.2**	**+4.9**
NICH	**Los Niches**	**0.79**	**62**	⇓*i*P	**Pn**	**23 49 40.4**	**+1.2**
NICH				*i* S	**Sn**	**23 49 51.1**	**+1.4**
NICH	**Los Niches**	**0.79**	**62**	⇓*i*P	**Pn**	**23 49 40.4**	**+1.2**
NICH				*i* S	**Sn**	**23 49 51.1**	**+1.4**
ANTU	**Antumapu**	**2.16**	**34**	*e*P1	**Pn**	**23 50 00.3**	**+2.2**
ANTU				*e*S1	**Sn**	**23 50 26.2**	**+2.5**
ANTU				AML	AML	23 50 31.4	
	comp=N,22μm,0.4s						
ANTU	**Antumapu**	**2.16**	**34**	*e*P	**Pn**	**23 50 00.3**	**+2.2**
ANTU				*e*S	**Sn**	**23 50 26.2**	**+2.5**
LACH	**Col Las Americ**	**2.31**	**34**	*e*S1	**Sn**	**23 50 29.4**	**+2.1**
LACH				AML	AML	23 50 36.7	
	comp=N,8μm,0.5s						
LACH	**Col Las Americ**	**2.31**	**34**	P	**Pn**	**23 50 00.0**	**-0.1**
LACH				*e*S	**Sn**	**23 50 29.4**	**+2.1**
CLCH	**Cerro Calan**	**2.35**	**33**	⇑*i*P	**Pn**	**23 50 02.8**	**+2.0**
CLCH				*e*S2	**Sn**	**23 50 30.7**	**+2.3**
CLCH				AML	AML	23 50 46.5	
	comp=E,26μm,0.7s						
PEL	**Peldehue**	**2.51**	**28**	*e*P1	**Pn**	**23 50 05.7**	**+2.8**
PEL				*i* S1	**Sn**	**23 50 36.5**	**+4.2**
PEL				AML	AML	23 50 40.9	
	comp=E,23μm,0.4s						
PEL	**Peldehue**	**2.51**	**28**	*e*P	**Pn**	**23 50 05.7**	**+2.8**
PEL				*i* S	**Sn**	**23 50 36.5**	**+4.2**
FCH	**Farellones**	**2.52**	**36**	AML	AML	23 51 03.5	
	comp=E,10μm,0.5s						
CFAA	**Coronel Fontan**	**4.94**	**42**	Pn	**Pn**	**23 50 36.3**	**0.0**
	comp=E,1.2nm,0.3s,baz=204,slow=12,SNR=2.9						
CFAA				Sn	Sn	23 51 42.2	+10
	comp=E,7.4nm,0.3s,baz=120,slow=20,SNR=9.0						
LPAZ	**La Paz**	**19.34**	**12**	P	**Pn**	**23 53 49.0**	**+0.2**
	comp=E,0.5nm,0.3s,baz=181,slow=4.1,SNR=6.1						
LPAZ				LR	LR	00 01 22.4	
	comp=E,2μm,21.0s,baz=157,slow=37						
SIV	**San Ignacio**	**21.67**	**30**	P	**P**	**23 54 11.2**	**-1.0**
	comp=E,25nm,0.8s,baz=124,slow=21,SNR=6.0						
NNA	**Nana**	**23.68**	**348**	*e*P	**P**	**23 54 33.7**	**+0.5**
	comp=E,10.0nm,0.7s						
SAML	**Samuel**	**27.53**	**19**	*e*P	**P**	**23 55 07.3**	**-0.8**
	comp=E,5.0nm,0.9s						
BDFB	**Brasilia**	**29.15**	**54**	P	**P**	**23 55 20.7**	**-1.9**
	comp=E,8.5nm,0.8s,baz=220,slow=9.8,SNR=4.2						
OTAV	**Otavalo**	**35.93**	**349**	*e*P	**P**	**23 56 23.4**	**+1.2**
	comp=E,11nm,1.1s						
ROSC	**El Rosal**	**40.08**	**357**	P	**P**	**23 56 56.9**	**-0.2**
	comp=E,10nm,0.7s,baz=201,slow=9.3,SNR=4.1						
SDV	**Santo Domingo**	**44.04**	**2**	*e*P	**P**	**23 57 28.9**	**-0.3**
	comp=E,24nm,1.0s						
RCBR	**Riachuelo**	**44.40**	**57**	*e*P	**P**	**23 57 29.1**	**-3.0**
	comp=E,8.1nm,0.9s						
SNAA	**Sanae**	**50.33**	**157**	P	**P**	**23 58 16.1**	**-1.4**
	comp=E,3.4nm,0.9s,baz=302,slow=9.5,SNR=7.4						
SNAA	**Sanae**	**50.33**	**157**	*e*P	**P**	**23 58 15.6**	**-1.9**
	comp=E,8.9nm,0.9s						
QSPA	**South Pole Qui**	**54.86**	**180**	*e*P	**P**	**23 58 51.2**	**0.0**
	comp=E,10nm,0.8s						
TEIG	**Tepich**	**57.40**	**342**	*e*P	**P**	**23 59 08.5**	**-1.0**
	comp=E,19nm,0.8s						
833A	**Chaparral WMA,**	**68.40**	**334**	P	**P**	**00 00 24.0**	**+1.4**
baz=69							
832A	**Faith Ranch, C**	**68.58**	**334**	P	**P**	**00 00 24.7**	**+0.9**
baz=69							
732A	**Laxson Ranch,**	**68.98**	**334**	P	**P**	**00 00 27.2**	**+1.0**
baz=69							
631A	**Perdido Creek**	**69.82**	**334**	P	**P**	**00 00 33.0**	**+1.5**
baz=70							
533A	**Kerrville**	**69.88**	**335**	P	**P**	**00 00 33.1**	**+1.3**
baz=70							
532A	**Rocksprings**	**70.23**	**335**	P	**P**	**00 00 35.2**	**+1.2**
baz=71							
434A	**Burnet**	**70.30**	**336**	P	**P**	**00 00 34.9**	**+0.6**
baz=71							
531A	**Rocksprings**	**70.49**	**334**	P	**P**	**00 00 36.5**	**+0.9**
baz=71							
JCT	**Junction City**	**70.51**	**335**	P	**P**	**00 00 36.4**	**+0.6**
baz=71							
433A	**Art**	**70.52**	**335**	P	**P**	**00 00 36.1**	**+0.4**
baz=71							
334A	**Lometa**	**70.77**	**336**	P	**P**	**00 00 37.7**	**+0.5**
baz=71							
TXAR	**Lajitas Array**	**70.92**	**331**	P	**P**	**00 00 39.1**	**+0.8**
	comp=E,1.5nm,0.7s,baz=154,slow=9.1,SNR=4.5						
529A	**Stev Forest Ra**	**71.07**	**333**	P	**P**	**00 00 39.7**	**+0.6**
baz=71							
430A	**Baggett Ranch,**	**71.30**	**334**	P	**P**	**00 00 41.3**	**+0.8**
baz=72							
331A	**San Angelo**	**71.49**	**335**	P	**P**	**00 00 42.2**	**+0.6**
baz=72							
330A	**Mertzon**	**71.84**	**334**	P	**P**	**00 00 44.1**	**+0.3**
baz=72							
231A	**Bronte**	**72.02**	**335**	P	**P**	**00 00 45.2**	**+0.4**
baz=72							
329A	**Wagon Wheel Ra**	**72.20**	**333**	P	**P**	**00 00 46.3**	**+0.4**
baz=72							
230A	**Sterling City**	**72.25**	**334**	P	**P**	**00 00 46.5**	**+0.3**
baz=73							
Z33A	**Whitaker Ranch**	**72.74**	**337**	P	**P**	**00 00 49.4**	**+0.4**
baz=73							
Z32A	**Haskell**	**72.99**	**336**	P	**P**	**00 00 50.8**	**+0.3**
baz=73							
Z31A	**Sharp Cattle R**	**73.22**	**336**	P	**P**	**00 00 52.0**	**+0.1**
baz=74							
128A	**Castleberry Fa**	**73.41**	**334**	P	**P**	**00 00 53.5**	**+0.4**
baz=74							
Z30A	**Sanderson Ranc**	**73.53**	**335**	P	**P**	**00 00 53.5**	**-0.2**
baz=74							
Y32A	**R-V Farms, Ver**	**73.62**	**337**	P	**P**	**00 00 54.1**	**0.0**
baz=74							
X34A	**Smith Ranch, M**	**73.66**	**338**	P	**P**	**00 00 54.7**	**+0.3**
baz=74							
Z29A	**Hungry Hill Ra**	**73.71**	**334**	P	**P**	**00 00 54.9**	**+0.1**
baz=74							
X32A	**Elmer**	**73.95**	**337**	P	**P**	**00 00 55.7**	**-0.4**
baz=74							
TUL1	**Leonard**	**74.29**	**340**	P	**P**	**00 00 57.7**	**-0.4**
baz=75							
W33A	**Caddo, Fort Co**	**74.37**	**338**	P	**P**	**00 00 59.5**	**+1.0**
baz=75							
Y28A	**McKinney Farm,**	**74.48**	**334**	P	**P**	**00 00 59.5**	**+0.2**
baz=75							
W32A	**Sentinel**	**74.58**	**337**	P	**P**	**00 01 00.3**	**+0.5**
baz=75							
V33A	**Lossen Ranch,**	**74.93**	**338**	P	**P**	**00 01 02.6**	**+0.9**
baz=75							
AMTX	**Amarillo**	**75.17**	**335**	P	**P**	**00 01 04.0**	**+0.7**
baz=76							
LIC	**Lamto**	**75.24**	**71**	*e*P	**P**	**00 01 03.8**	**-0.3**
	comp=E,55nm,1.0s						
U34A	**Anderson Ranch**	**75.28**	**339**	P	**P**	**00 01 04.0**	**+0.2**
baz=76							
W29A	**Amarillo**	**75.37**	**335**	P	**P**	**00 01 04.9**	**+0.4**
baz=76							
TIC	**Toumodi**	**75.51**	**71**	*e*P	**P**	**00 01 05.2**	**-0.5**
	comp=E,29nm,0.9s						
KIC	**Kosan Boka**	**75.55**	**71**	*e*P	**P**	**00 01 05.7**	**-0.2**
	comp=E,46nm,0.9s						
DBIC	**Dimbokro**	**75.65**	**71**	P	**P**	**00 01 06.3**	**-0.1**
	comp=E,20nm,0.8s,baz=198,slow=7.1,SNR=11						
W27A	**Bowe Ranch, En**	**75.81**	**334**	P	**P**	**00 01 07.9**	**+0.9**
baz=76							
T33A	**Patterson Ranc**	**76.08**	**339**	P	**P**	**00 01 09.6**	**+1.2**
baz=76							
V28A	**Channing**	**76.14**	**335**	P	**P**	**00 01 09.8**	**+1.0**
baz=76							
X24A	**Lazy VL Ranch,**	**76.25**	**332**	P	**P**	**00 01 10.5**	**+1.0**
baz=77							
T32A	**Huddler Ranch,**	**76.38**	**338**	P	**P**	**00 01 11.2**	**+1.1**
baz=77							
X23A	**Hourglass Bar**	**76.55**	**332**	P	**P**	**00 01 11.8**	**+0.5**
baz=77							
W24A	**Lazy 6 Ranch,**	**76.81**	**332**	P	**P**	**00 01 13.3**	**+0.6**
baz=77							
V25A	**Rancho No Teng**	**77.07**	**333**	P	**P**	**00 01 14.9**	**+0.7**
baz=77							
T29A	**Hugoton**	**77.10**	**336**	P	**P**	**00 01 15.2**	**+1.0**
baz=78							
S30A	**Montezuma**	**77.28**	**337**	P	**P**	**00 01 16.3**	**+1.1**
baz=78							
T28A	**Walsh**	**77.34**	**336**	P	**P**	**00 01 15.9**	**+0.3**
baz=78							
R32A	**Long Quarter,**	**77.46**	**339**	P	**P**	**00 01 16.7**	**+0.5**
baz=78							
S29A	**Ulysses**	**77.47**	**337**	P	**P**	**00 01 17.1**	**+0.8**
baz=78							
T26A	**Comanche Natio**	**77.90**	**335**	P	**P**	**00 01 19.6**	**+0.8**
baz=78							
T25A	**Trinidad**	**78.15**	**334**	P	**P**	**00 01 21.8**	**+1.6**
baz=78							
Q30A	**Quinter**	**78.43**	**338**	P	**P**	**00 01 22.5**	**+1.0**
baz=79							
R27A	**Eads**	**78.63**	**336**	P	**P**	**00 01 23.5**	**+0.8**
baz=79							
S24A	**Houchin Ranch,**	**78.89**	**334**	P	**P**	**00 01 25.4**	**+1.0**
baz=79							
R24A	**Sanders Place,**	**79.38**	**334**	P	**P**	**00 01 28.5**	**+1.5**
baz=80							
BOSA	**Boshof**	**79.46**	**118**	P	**P**	**00 01 27.4**	**-0.4**
	comp=E,10nm,0.8s,baz=249,slow=5.9,SNR=4.4						
BGNE	**Belgrade**	**80.08**	**340**	P	**P**	**00 01 31.7**	**+1.2**
baz=80							
O23A	**Lake Granby, G**	**81.42**	**334**	P	**P**	**00 01 39.4**	**+1.4**
baz=82							
O22A	**Kremmling**	**81.60**	**334**	P	**P**	**00 01 40.1**	**+1.1**
baz=82							
K30A	**Basset**	**81.66**	**340**	P	**P**	**00 01 40.2**	**+1.3**
baz=82							
ECSD	**EROS Data Cent**	**81.85**	**342**	P	**P**	**00 01 39.9**	**+0.1**
baz=82							
O20A	**White River Ci**	**82.20**	**333**	P	**P**	**00 01 43.4**	**+1.5**
baz=82							
J29A	**Okreek**	**82.53**	**340**	P	**P**	**00 01 44.6**	**+1.2**
baz=83							
J26A	**Sides Ranch, S**	**83.26**	**338**	P	**P**	**00 01 48.9**	**+1.6**
baz=84							
I28A	**Midland**	**83.32**	**339**	P	**P**	**00 01 48.2**	**+0.8**
baz=84							
G30A	**Faulkton**	**83.80**	**341**	P	**P**	**00 01 51.0**	**+1.1**
baz=84							
H28A	**Mission Ridge**	**83.89**	**340**	P	**P**	**00 01 51.2**	**+0.8**
baz=84							
K21A	**Alcova**	**84.03**	**335**	P	**P**	**00 01 52.0**	**+0.6**
baz=84							
I25A	**Rochford**	**84.11**	**338**	P	**P**	**00 01 53.0**	**+1.3**
baz=84							
J22A	**Midwest**	**84.45**	**336**	P	**P**	**00 01 54.0**	**+0.5**
baz=85							
TORD	**Torodi Ar. Bea**	**84.71**	**70**	P	**P**	**00 01 54.9**	**-0.3**
	comp=E,8.0nm,0.8s,baz=251,slow=4.0,SNR=11						
I22A	**9 Mile Ranch,**	**84.88**	**336**	P	**P**	**00 01 56.3**	**+0.7**
baz=85							
J20A	**Shoshoni**	**84.96**	**334**	P	**P**	**00 01 57.0**	**+1.0**
baz=85							
PDAR	**Pinedale Array**	**84.97**	**333**	P	**P**	**00 01 56.4**	**+0.2**
	comp=E,1.4nm,0.9s,baz=158,slow=4.3,SNR=3.8						
PDAR				LR	LR	00 34 10.5	
	comp=E,198nm,20.0s,baz=162,slow=32						
NVAR	**Mina Array Bea**	**85.00**	**325**	P	**P**	**00 01 58.2**	**+1.8**
	comp=E,1.0nm,0.8s,baz=148,slow=5.3,SNR=5.0						
I21A	**Big Trails, Te**	**85.08**	**335**	P	**P**	**00 01 57.4**	**+0.8**
baz=85							
J19A	**Crowheart**	**85.22**	**334**	P	**P**	**00 01 58.3**	**+0.9**
baz=86							
E29A	**Napoleon**	**85.26**	**341**	P	**P**	**00 01 58.2**	**+0.9**
baz=86							
I20A	**Worland**	**85.49**	**335**	P	**P**	**00 01 59.2**	**+0.6**
baz=86							
G23A	**Biddle**	**85.69**	**337**	P	**P**	**00 01 59.2**	**-0.3**
baz=86							
H21A	**Big Horn, Sher**	**85.72**	**336**	P	**P**	**00 01 59.4**	**-0.3**
baz=86							
H20A	**Greybull**	**85.92**	**335**	P	**P**	**00 02 00.9**	**+0.2**
baz=86							
F24A	**Ekalaka**	**85.97**	**338**	P	**P**	**00 02 01.3**	**+0.4**
baz=86							
G22A	**Birney**	**85.99**	**337**	P	**P**	**00 02 01.2**	**+0.1**
baz=86							
C30A	**Mose, Pekin**	**86.02**	**342**	P	**P**	**00 02 01.7**	**+0.7**
baz=86							
F23A	**Volborg**	**86.16**	**337**	P	**P**	**00 02 02.0**	**+0.2**
baz=86							
G21A	**Lodge Grass**	**86.30**	**336**	P	**P**	**00 02 03.4**	**+0.9**
baz=87							
I17A	**Pilgrim Ck.**	**86.34**	**333**	P	**P**	**00 02 04.1**	**+1.1**
baz=87							
H19A	**Powell**	**86.42**	**335**	P	**P**	**00 02 03.5**	**+0.3**
baz=87							
MDND	**Maddock**	**86.44**	**342**	P	**P**	**00 02 03.5**	**+0.5**
baz=87							
D26A	**Manning**	**86.45**	**340**	P	**P**	**00 02 03.7**	**+0.5**
baz=87							
F22A	**Rosebud**	**86.48**	**337**	P	**P**	**00 02 04.0**	**+0.7**
baz=87							
G20A	**Bridger**	**86.64**	**335**	P	**P**	**00 02 04.3**	**+0.1**
baz=87							
H18A	**Shoshone NF, C**	**86.67**	**334**	P	**P**	**00 02 04.9**	**+0.4**
baz=87							
B30A	**Myrvik Farm, E**	**86.68**	**343**	P	**P**	**00 02 04.8**	**+0.6**
baz=87							
D25A	**Fairfield**	**86.81**	**339**	P	**P**	**00 02 05.5**	**+0.6**
baz=87							
C27A	**Sayler Ranch,**	**86.81**	**341**	P	**P**	**00 02 06.0**	**+1.1**
baz=87							
B29A	**Wagenman Farm,**	**86.95**	**342**	P	**P**	**00 02 05.9**	**+0.4**
baz=87							
C26A	**Wahner Farm, P**	**87.08**	**340**	P	**P**	**00 02 07.5**	**+1.3**
baz=87							
A30A	**Hoffart Farm,**	**87.13**	**343**	P	**P**	**00 02 06.8**	**+0.4**
baz=88							
A29A	**Manning Farm,**	**87.34**	**342**	P	**P**	**00 02 07.6**	**+0.2**
baz=88							
D23A	**Lindsay**	**87.39**	**338**	P	**P**	**00 02 08.5**	**+0.7**
baz=88							
C24A	**Savage**	**87.48**	**339**	P	**P**	**00 02 09.2**	**+1.1**
baz=88							
HLID	**Hailey**	**87.52**	**331**	P	**P**	**00 02 09.4**	**+0.8**
baz=88							
E20A	**Meyer Farm, Mu**	**87.73**	**336**	P	**P**	**00 02 10.2**	**+0.8**
baz=88							
ULM	**Lac du Bonnet**	**87.82**	**345**	P	**P**	**00 02 09.4**	**-0.2**
	comp=E,6.9nm,0.8s,baz=194,slow=3.6,SNR=6.3						
D21A	**La Casta Ranch**	**87.86**	**337**	P	**P**	**00 02 11.0**	**+1.0**
baz=88							
E19A	**Rath Farm, Rou**	**87.92**	**336**	P	**P**	**00 02 10.8**	**+0.5**
baz=88							
C23A	**Lambert**	**87.95**	**338**	P	**P**	**00 02 10.9**	**+0.5**
baz=88							
A26A	**Wade Farm, Ken**	**88.04**	**341**	P	**P**	**00 02 11.3**	**+0.5**
baz=88							
C22A	**Vida**	**88.11**	**338**	P	**P**	**00 02 11.2**	**0.0**
baz=88							
D20A	**Manuel Ranch,**	**88.25**	**336**	P	**P**	**00 02 11.7**	**-0.1**
baz=89							
DGMT	**Dagmar**	**88.26**	**339**	P	**P**	**00 02 12.9**	**+1.0**
baz=89							
A22A	**Carney Farms,**	**89.23**	**338**	P	**P**	**00 02 17.1**	**+0.6**
baz=90							
ESDC	**Sonseca Array**	**97.55**	**46**	P	**P**	**00 02 54.8**	**-0.2**
	comp=E,1.6nm,0.9s,baz=271,slow=4.3,SNR=5.5						
YKA	**Yellowknife Ar**	**103.35**	**341**	Pdiff	**Pdif**	**00 03 17.8**	**-2.4**
	comp=E,0.2nm,0.7s,baz=146,slow=6.0,SNR=3.5						
WRA	**Warramunga Arr**	**119.55**	**209**	PKP	**PKPdf**	**00 08 10.6**	**-0.5**
	comp=E,0.4nm,0.5s,baz=158,slow=2.0,SNR=2.9						
BRTR	**Keskin Array B**	**122.52**	**62**	PKP	**PKPdf**	**00 08 16.1**	**-0.1**
	comp=E,1.7nm,0.8s,baz=169,slow=3.5,SNR=5.7						
AKASG	**Malin Array Be**	**123.14**	**48**	PKP	**PKPdf**	**00 08 16.1**	**-0.8**
	comp=E,0.8nm,0.5s,baz=262,slow=3.2,SNR=3.8						
KKAR	**Karatay Array**	**150.21**	**64**	*e*PKPbc	**PKPbc**	**00 09 10.7**	**-0.9**
AML	**Almayashu**	**152.60**	**65**	P	**PKPbc**	**00 09 18.6**	**+0.9**
SNR=5.9							
EKS2	**Erkin-Say**	**152.63**	**64**	P	**PKPbc**	**00 09 18.4**	**+1.1**
SNR=7.8							
EKS2	**Erkin-Say**	**152.63**	**64**	*e*PKPbc	**PKPbc**	**00 09 16.2**	**-1.2**
USP	**Ospenovka**	**153.10**	**63**	P	**PKPbc**	**00 09 19.1**	**+0.8**
SNR=5.7							
AAK	**Ala-Archa**	**153.16**	**64**	P	**PKPbc**	**00 09 19.4**	**+0.9**
SNR=7.5							
UCH	**Uchtor**	**153.20**	**65**	P	**PKPbc**	**00 09 20.1**	**+1.1**
SNR=5.8							
KURBB	**Kurchatov Arra**	**153.87**	**45**	PKPbc	**PKPbc**	**00 09 19.9**	**+0.4**
	comp=E,2.3nm,0.8s,baz=300,slow=2.8,SNR=5.0						
KURBB				PKPab	**PKPab**	**00 09 32.6**	**-0.2**
	comp=E,4.0nm,0.8s,baz=286,slow=4.7,SNR=9.3						
KURK	**Kurchatov**	**153.89**	**45**	PKPbc	**PKPbc**	**00 09 19.9**	**+0.3**
KURK				PKPab	**PKPab**	**00 09 32.6**	**-0.3**
TKM2	**Tokmak 2**	**153.94**	**63**	P	**PKPbc**	**00 09 21.8**	**+1.5**
SNR=6.0							
TKM2	**Tokmak 2**	**153.94**	**63**	*e*PKPbc	**PKPbc**	**00 09 20.3**	**0.0**
ZALV	**Zalesovo Beam**	**155.39**	**34**	PKP	**PKPdf**	**00 09 13.1**	**-0.5**
	comp=E,0.7nm,0.7s,baz=240,slow=5.8,SNR=2.2						
ZALV				PKPbc	PKPbc	00 09 23.1	
	comp=E,1.8nm,0.9s,baz=304,slow=3.3,SNR=2.8						
ZALV				PKPab	**PKPab**	**00 09 39.1**	**-0.1**
	comp=E,4.3nm,0.9s,baz=291,slow=6.2,SNR=5.3						
MKAR	**Makanchi Array**	**157.67**	**51**	PKPab	**PKPab**	**00 09 49.5**	**+0.1**
	comp=E,3.2nm,0.8s,baz=297,slow=5.3,SNR=6.6						
CMAR	**Chiang Mai Arr**	**161.36**	**152**	PKP	**PKPdf**	**00 09 22.1**	**+0.2**
	comp=E,0.8nm,0.3s,baz=256,slow=1.9,SNR=5.1						
SONM	**Songino Array**	**167.50**	**5**	PKPab	**PKPab**	**00 10 32.3**	**0.0**
	comp=E,1.9nm,0.8s,baz=329,slow=4.4,SNR=9.4						

GUC 08 00:02:41.0±0.5, 34°.31S×72°.24W, h31km±3km, ML3.8, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.77**	**63**	⇑*i*P	Pn	00 02 55.5	-0.3
NICH	**Los Niches**	**1.09**	**130**	⇓*i*P	Pn	00 03 00.3	+0.2
NICH				*i* S	Sn	00 03 14.6	+0.5
NICH				AML	AML	00 03 17.7	
	comp=N,5μm,0.4s						
TACH	**Talagante**	**1.27**	**59**	⇑*i*P	Pn	00 03 02.8	+0.2
TACH				*i* S1	Sn	00

PEL	**Peldehue**	**1.28**	**95**	⇑*iP*	**Pn**	**00 20 27.6**	**-0.5**
PEL				*i* S	**Sn**	**00 20 43.4**	**-1.6**
PEL				IAML		00 20 52.3	
	comp=E,3μm,0.3s						
ANTU	**Antumapu**	**1.42**	**112**	⇓*iP*	**Pn**	**00 20 30.0**	**0.0**
ANTU				*i* S	**Sn**	**00 20 47.7**	**-0.7**
ANTU				IAML		00 20 50.9	
	comp=E,2μm,0.4s						
CLCH	**Cerro Calan**	**1.44**	**105**	⇓*iP*	**Pn**	**00 20 30.2**	**-0.2**
CLCH				*i* S	**Sn**	**00 20 47.8**	**-1.3**
CLCH				IAML		00 20 57.3	
	comp=E,2μm,0.5s						
LACH	**Col Las Americ**	**1.46**	**107**	⇑*iP*	**Pn**	**00 20 30.2**	**-0.4**
LACH				*i* S	**Sn**	**00 20 48.5**	**-1.0**
CHCH	**Chadas Angostu**	**1.57**	**125**	*i* P9	**Pn**	**00 20 32.2**	**+0.1**
CHCH				*i* S	**Sn**	**00 20 52.4**	**+0.1**
FCH	**Farellones**	**1.63**	**101**	IAML		00 20 35.5	
	comp=N,2μm,0.3s						
CACH	**El Canelo**	**1.72**	**129**	*e*P9	**Pn**	**00 20 34.2**	**0.0**
CACH				*i* S	**Sb**	**00 20 57.1**	**-0.4**
CMCH	**Combarbala**	**2.12**	**29**	⇓*iP*	**Pn**	**00 20 39.2**	**-0.5**
CFAA	**Coronel Fontan**	**3.65**	**68**	Pn	Pn	00 21 04.4	+3.7
	comp=N,1.4nm,0.3s,baz=254,slow=9.2,SNR=43						
CFAA				Sn	**Sb**	**00 21 53.9**	**+0.9**
	comp=N,0.9nm,0.3s,baz=80,slow=2.5,SNR=6.2						
CFAA				LR	LR	00 22 38.6	
	comp=N,21nm,19.6s,baz=258,slow=39						
PLCA	**Paso Flores**	**7.79**	**171**	Pn	Pn	00 21 59.2	+1.5
	comp=N,0.5nm,0.3s,baz=336,slow=13,SNR=13						
TRQA	**Tornquist**	**9.72**	**124**	*e*Pn	Pn	00 22 28.7	+4.7
LVC	**Limon Verde**	**10.78**	**16**	*e*Pn	Pn	00 22 35.4	-3.5
CPUP	**Villa Florida**	**14.54**	**67**	Pn	**Pn**	**00 23 33.0**	**+3.0**
	comp=N,0.2nm,0.3s,baz=232,slow=14,SNR=3.6						
CPUP	**Villa Florida**	**14.54**	**67**	*e*Pn	**Pn**	**00 23 32.1**	**+2.1**
LPAZ	**La Paz**	**17.08**	**13**	P	**Pn**	**00 24 01.1**	**-2.5**
	comp=N,0.1nm,0.3s,baz=185,slow=8.9,SNR=4.0						
BDFB	**Brasilia**	**27.92**	**57**	P	**P**	**00 25 55.0**	**+0.4**
	comp=N,1.1nm,0.5s,baz=225,slow=4.3,SNR=3.0						
CMIG	**Matias Romero**	**54.36**	**333**	LR	LR	00 47 49.5	
	comp=N,42nm,18.7s,baz=66,slow=31						
BOSA	**Boshof**	**80.64**	**118**	*e*P	**P**	**00 32 16.9**	**-0.4**
	comp=N,2.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**84.01**	**70**	P	**P**	**00 32 35.2**	**+0.3**
	comp=N,0.6nm,0.8s,baz=283,slow=5.6,SNR=7.1						

*IDC **08** 00:27:05.4±0.9, 38.°08S×73.°53W, h0km, mb4.1/9, mb1 4.1/11, mb1mx4.0/24, mbtmp4.0/11, ML4.2/2, MS3.2/4, Ms1 3.3/4, ms1mx3.0/22, Error ellipse: s-maj=27.8km s-min=15.7km az=78.0*

*ISCJB **08** 00:27:07.2±0.8, 38.°06S±0.°08×73.°5W±0.°2, h22km, mb4.4/12, MS3.4/2, Error ellipse: s-maj=18.6km s-min=10.9km az=174.3*

*NEIC **08** 00:27:09.9±0.5, 38.°05S×73.°60W, h35km, mb4.4/6, Error ellipse: s-maj=14.8km s-min=10.1km az=79.0*

ISC 08 00:27:08.4±0.8, 38.°06S±0.°09×73.°6W±0.°1, h22km, n32, σ0.973/30, mb4.3/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.57**	**139**	Pn	**Pn**	**00 28 02.5**	**-0.1**
	3.0nm,0.3s,baz=315,slow=8.9,SNR=37						
PLCA				Lg	Lg	00 28 56.4	
	26nm,0.3s,baz=226,slow=23,SNR=3.7						
CFAA	**Coronel Fontan**	**7.81**	**36**	Pn	Pn	00 28 52.1	-8.7
	0.1nm,0.3s,baz=182,slow=21,SNR=12						
CFAA				Lg	Lg	00 31 12.2	
	0.0nm,0.3s,baz=25,slow=5.8,SNR=3.9						
CFAA				LR	LR	00 32 44.9	
	comp=Z,32nm,18.2s,baz=224,slow=44						
TRQA	**Tornquist**	**9.18**	**94**	*e*Pn	**Pn**	**00 29 20.5**	**+0.9**
EFI	**East Falkland**	**17.46**	**146**	*e*Pn	**Pn**	**00 31 10.6**	**+0.2**
	32nm,1.0s						
CPUP	**Villa Florida**	**18.05**	**54**	P	**Pn**	**00 31 17.6**	**-0.1**
	0.5nm,0.3s,baz=217,slow=8.5,SNR=5.2						
CPUP				LR	LR	00 38 48.2	
	comp=Z,144nm,20.8s,baz=205,slow=39						
CPUP	**Villa Florida**	**18.05**	**54**	*e*Pn	**Pn**	**00 31 16.8**	**-1.0**
	0.1nm,0.4s						
LPAZ	**La Paz**	**22.22**	**14**	P	**P**	**00 32 05.2**	**+1.0**
	3.8nm,0.6s,baz=195,slow=7.5,SNR=13						
LPAZ				LR	LR	00 41 51.1	
	comp=Z,61nm,19.4s,baz=69,slow=40						
LPAZ	**La Paz**	**22.22**	**14**	*e*P	**P**	**00 32 02.9**	**-1.3**
	3.3nm,0.6s						
SIV	**San Ignacio**	**24.61**	**30**	P	**P**	**00 32 27.2**	**-0.1**
	2.7nm,0.8s,baz=219,slow=10,SNR=5.6						
BDFB	**Brasilia**	**31.75**	**52**	P	**P**	**00 33 31.8**	**+0.6**
	1.6nm,0.6s,baz=248,slow=5.4,SNR=2.9						
BDFB				LR	LR	00 47 42.3	
	comp=Z,168nm,20.5s,baz=230,slow=39						
SNAA	**Sanae**	**48.35**	**156**	P	**P**	**00 35 48.6**	**+0.6**
	1.7nm,0.9s,baz=300,slow=7.9,SNR=5.9						
SNAA	**Sanae**	**48.35**	**156**	*e*P	**P**	**00 35 47.5**	**-0.6**
	4.5nm,0.8s						
QSPA	**South Pole Qui**	**52.18**	**180**	P	**P**	**00 36 18.1**	**+0.9**
	1.7nm,0.7s,baz=300,slow=1.2,SNR=12						
QSPA	**South Pole Qui**	**52.18**	**180**	*e*P	**P**	**00 36 18.0**	**+0.8**
	1.2nm,0.5s						
TXAR	**Lajitas Array**	**72.70**	**333**	P	**P**	**00 38 35.8**	**+1.1**
	0.2nm,0.5s,baz=157,slow=10,SNR=5.1						
LIC	**Lamto**	**77.27**	**72**	*e*P	**P**	**00 39 01.4**	**+0.1**
	21nm,0.7s						
TIC	**Toumodi**	**77.55**	**71**	*e*P	**P**	**00 39 02.9**	**0.0**
	19nm,0.8s						
KIC	**Kosan Boka**	**77.57**	**72**	*e*P	**P**	**00 39 03.1**	**+0.1**
	45nm,1.0s						
DBIC	**Dimbokro**	**77.69**	**71**	P	**P**	**00 39 04.2**	**+0.6**
	9.6nm,0.8s,baz=206,slow=5.7,SNR=15						
DBIC	**Dimbokro**	**77.69**	**71**	*e*P	**P**	**00 39 03.7**	**0.0**
	5.8nm,0.5s						
BOSA	**Boshof**	**79.31**	**118**	P	**P**	**00 39 12.5**	**-0.2**
	3.5nm,0.8s,baz=199,slow=1.9,SNR=4.3						
BOSA	**Boshof**	**79.31**	**118**	*e*P	**P**	**00 39 10.8**	**-1.8**
	4.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**86.78**	**71**	P	**P**	**00 39 50.7**	**-0.5**
	1.3nm,0.6s,baz=223,slow=4.0,SNR=21						
GERES	**GERESS Array B**	**115.88**	**47**	PKP	**PKPdf**	**00 45 48.4**	**-0.6**
	0.2nm,0.4s,baz=196,slow=3.5,SNR=4.5						
BRTR	**Keskin Array B**	**124.85**	**64**	PKP	**PKPdf**	**00 46 06.5**	**0.0**
	0.9nm,0.7s,baz=240,slow=4.2,SNR=5.1						
FINES	**FINESS Array B**	**127.03**	**36**	PKP	**PKPdf**	**00 46 10.1**	**+0.3**
	3.0nm,1.1s,baz=5.2,slow=2.1,SNR=4.1						
AKTO	**Aktyubinsk**	**143.84**	**54**	PKP	PKPbc	00 46 39.0	-0.1
	1.5nm,0.8s,baz=236,slow=1.9,SNR=6.6						
TIXI	**Tiksi**	**144.42**	**348**	*e*PKPdf	**PKPab**	**00 46 38.8**	**-1.2**
ABKAR	**Akbulak array**	**145.10**	**56**	*e*PKPdf	**PKPbc**	**00 46 43.0**	**-0.1**
BRVK	**Borovoye**	**150.98**	**47**	*e*PKPbc	**PKPbc**	**00 46 59.3**	**+0.4**
KKAR	**Karatay Array**	**152.43**	**68**	*e*PKPbc	**PKPbc**	**00 47 02.2**	**-0.3**
ZALV	**Zalesovo Beam**	**158.30**	**36**	PKP	**PKPdf**	**00 47 02.6**	**-0.5**
	0.5nm,0.6s,baz=310,slow=5.6,SNR=4.0						

GUC 08 00:31:01.8±0.5, 34.°94S×73.°10W, h13km±14km, ML3.6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.22**	**168**	*e*P	Pn	00 31 22.2	-2.3
COCH				*i* S	Sb	00 31 38.0	-2.3
LNCH	**Linares**	**1.52**	**127**	*e*P	Pn	00 31 27.3	-1.4
LNCH				*i* S	Sn	00 31 46.9	-1.6
LNCH				IAML		00 31 50.0	
	comp=E,2μm,0.7s						
NICH	**Los Niches**	**1.54**	**93**	*e*P	Pn	00 31 27.3	-1.6
NICH				*i* S	Sn	00 31 47.0	-1.8
NICH				IAML		00 31 49.6	
	comp=N,1μm,0.5s						
LNV	**Longovilo**	**1.71**	**55**	*e*P	Pn	00 31 30.1	-1.2
CACH	**El Canelo**	**2.22**	**69**	*e*P	Pn	00 31 39.3	+0.7
CHCH	**Chadas Angostu**	**2.26**	**64**	*e*P	Pn	00 31 39.3	+0.3

*IDC **08** 00:38:45.0±0.7, 37.°60S×73.°95W, h0km, mb4.2/12, mb1 4.3/16, mb1mx4.2/32, mbtmp4.1/16, ML4.1/4, MS3.6/6, Ms1 3.6/6, ms1mx3.4/19, Error ellipse: s-maj=21.2km s-min=13.9km az=83.0*

*ISCJB **08** 00:38:48.5±0.5, 37.°57S±0.°06×73.°8W±0.°1, h33km, mb4.2/17, MS3.5/5, Error ellipse: s-maj=13.1km s-min=7.8km az=166.7*

*NEIC **08** 00:38:50.2±0.3, 37.°59S×73.°90W, h35km, mb4.6/10, Error ellipse: s-maj=9.9km s-min=6.6km az=78.0*

ISC 08 00:38:50.3±0.6, 37.°56S±0.°08×73.°9W±0.°1, h35km, n43, σ0.991/42, mb4.1/17, MS3.5/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.09**	**142**	Pn	**Pn**	**00 39 49.4**	**-1.0**
	2.2nm,0.3s,baz=318,slow=9.9,SNR=27						
PLCA				Lg	Lg	00 40 53.4	
	10nm,0.3s,baz=53,slow=22,SNR=3.6						
CFAA	**Coronel Fontan**	**7.54**	**40**	Pn	**Pn**	**00 40 36.0**	**-1.8**
	0.5nm,0.3s,baz=211,slow=5.8,SNR=22						
CFAA				Lg	Lg	00 42 46.0	
	baz=121,slow=21,SNR=3.4						
TRQA	**Tornquist**	**9.42**	**97**	*e*Pn	**Pn**	**00 41 04.5**	**+0.9**
USHA	**Ushuaia**	**17.67**	**170**	P	**Pn**	**00 42 53.1**	**-0.3**
	0.6nm,0.3s,baz=340,slow=13,SNR=5.1						
USHA				LR	LR	00 50 36.8	
	comp=Z,370nm,19.8s,baz=328,slow=40						
CPUP	**Villa Florida**	**17.92**	**56**	P	**Pn**	**00 42 55.6**	**-1.1**
	0.5nm,0.3s,baz=212,slow=12,SNR=5.3						
CPUP	**Villa Florida**	**17.92**	**56**	*e*Pn	**P**	**00 42 56.2**	**-0.8**
	0.1nm,0.5s						
EFI	**East Falkland**	**17.99**	**147**	*e*Pn	**Pn**	**00 42 56.9**	**-0.5**
	14nm,0.5s						
LPAZ	**La Paz**	**21.79**	**15**	P	**P**	**00 43 40.6**	**+0.8**
	0.7nm,0.6s,baz=218,slow=2.3,SNR=3.6						
SIV	**San Ignacio**	**24.28**	**31**	P	**P**	**00 44 06.4**	**+2.0**
	3.1nm,0.7s,baz=230,slow=7.9,SNR=4.9						
SIV				LR	LR	00 55 05.0	
	comp=Z,134nm,18.9s,baz=210,slow=40						
NNA	**Nana**	**25.60**	**353**	LR	LR	00 52 07.6	
	comp=Z,108nm,18.7s,baz=184,slow=31						
SAML	**Samuel**	**30.08**	**21**	*e*P	**P**	**00 44 56.7**	**+0.3**
	2.1nm,0.7s						
ATAH	**Atahualpa**	**30.56**	**351**	LR	LR	00 54 03.8	
	comp=Z,76nm,20.5s,baz=197,slow=30						
RPN	**Rapa Nui**	**31.55**	**279**	LR	LR	00 54 55.5	
	comp=Z,90nm,18.6s,baz=7.0,slow=31						
BDFB	**Brasilia**	**31.61**	**53**	P	**P**	**00 45 12.2**	**+2.2**
	2.4nm,0.7s,baz=270,slow=12,SNR=3.0						
VNA3	**Neumayer Olymp**	**46.67**	**156**	P	**P**	**00 47 15.0**	**+0.1**
VNA1	**Neumayer--Stat**	**47.02**	**155**	P	**P**	**00 47 19.8**	**+2.1**
VNA2	**Neumayer--Watz**	**47.35**	**156**	P	**P**	**00 47 20.3**	**+0.1**
	baz=299,slow=12						
SNAA	**Sanae**	**48.89**	**157**	P	**P**	**00 47 32.2**	**0.0**
SNAA	**Sanae**	**48.89**	**157**	P	**P**	**00 47 32.3**	**0.0**
	2.6nm,0.8s,baz=284,slow=9.3,SNR=9.9						
SNAA	**Sanae**	**48.89**	**157**	*e*P	**P**	**00 47 31.8**	**-0.4**
	10nm,1.0s						
QSPA	**South Pole Qui**	**52.69**	**180**	P	**P**	**00 48 01.4**	**+0.4**
	17nm,0.8s,baz=186,slow=1.3,SNR=34						
QSPA	**South Pole Qui**	**52.69**	**180**	*e*P	**P**	**00 48 01.0**	**0.0**
	14nm,0.7s						
TXAR	**Lajitas Array**	**72.16**	**333**	P	**P**	**00 50 12.1**	**+0.7**
	0.7nm,0.7s,baz=154,slow=9.0,SNR=7.8						
SWET	**Sewanee**	**73.27**	**350**	*e*P	**P**	**00 50 17.4**	**-0.4**
	8.8nm,0.6s						
DBIC	**Dimbokro**	**77.72**	**72**	P	**P**	**00 50 44.9**	**+1.1**
	1.8nm,0.7s,baz=225,slow=8.6,SNR=4.4						
DBIC	**Dimbokro**	**77.72**	**72**	*e*P	**P**	**00 50 43.6**	**-0.2**
	4.2nm,0.6s						
ANMO	**Albuquerque**	**78.23**	**333**	*e*P	**P**	**00 50 46.5**	**+0.1**
	1.7nm,0.8s						
BOSA	**Boshof**	**79.72**	**118**	P	**P**	**00 50 53.8**	**-1.1**
	2.8nm,0.9s,baz=232,slow=4.7,SNR=3.1						
BOSA	**Boshof**	**79.72**	**118**	*e*P	**P**	**00 50 54.9**	**0.0**
	2.7nm,0.6s						
ECSD	**EROS Data Cent**	**83.50**	**344**	*e*P	**P**	**00 51 13.8**	**-0.3**
	4.3nm,0.6s						
HWUT	**Hardware Ranch**	**85.98**	**333**	*e*P	**P**	**00 51 26.1**	**-0.8**
	3.2nm,0.9s						
NVAR	**Mina Array Bea**	**85.99**	**327**	P	**P**	**00 51 25.9**	**-1.1**
	0.9nm,0.8s,baz=161,slow=5.9,SNR=7.0						
PDAR	**Pinedale Array**	**86.29**	**334**	P	**P**	**00 51 28.4**	**0.0**
	1.4nm,1.0s,baz=164,slow=6.0,SNR=6.9						
TORD	**Torodi Ar. Bea**	**86.80**	**71**	P	**P**	**00 51 30.7**	**-0.6**
	0.5nm,0.6s,baz=213,slow=4.6,SNR=7.6						
TORD				LR	LR	01 30 09.4	
	comp=Z,32nm,18.7s,baz=265,slow=36						
ULM	**Lac du Bonnet**	**89.56**	**346**	P	**P**	**00 51 43.1**	**-0.4**
	1.1nm,0.7s,baz=229,slow=5.9,SNR=3.2						
BRTR	**Keskin Array B**	**124.80**	**64**	PKP	**PKPdf**	**00 57 46.2**	**-0.1**
	0.7nm,0.7s,baz=154,slow=2.0,SNR=4.6						
ABKAR	**Akbulak array**	**144.99**	**55**	*e*PKPbc	PKPbc	00 58 22.6	0.0
BRVK	**Borovoye**	**150.78**	**46**	*e*PKPbc	**PKPbc**	**00 58 38.5**	**+0.3**
BVAR	**Borovoye Array**	**150.85**	**46**	PKPbc	**PKPbc**	**00 58 39.3**	**+0.8**
	2.2nm,0.6s,baz=295,slow=3.4,SNR=24						
BVAR				PKPab	**PKPab**	**00 58 44.3**	**-1.5**
	1.4nm,0.6s,baz=320,slow=3.9,SNR=8.5						
KKAR	**Karatay Array**	**152.43**	**67**	*e*PKPbc	**PKPbc**	**00 58 41.8**	**-0.6**
AAK	**Ala-Archa**	**155.36**	**68**	PKP	**PKPdf**	**00 58 40.6**	**+0.7**
	0.4nm,0.5s,baz=142,slow=2.9,SNR=3.8						
AAK				PKPab	**PKPab**	**00 59 05.9**	**+0.5**
	0.4nm,0.4s,baz=104,slow=2.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**158.00**	**35**	PKP	**PKPdf**	**00 58 41.9**	**-0.7**
	1.3nm,0.9s,baz=298,slow=3.2,SNR=5.9						
ZALV				PKPab	**PKPab**	**00 59 16.9**	**+0.8**
	1.7nm,0.8s,baz=306,slow=5.3,SNR=6.8						
MKAR	**Makanchi Array**	**160.13**	**55**	PKP	**PKPdf**	**00 58 45.4**	**-0.1**
	0.3nm,0.7s,baz=318,slow=1.6,SNR=4.7						

*MOS **08** 00:46:35.4±1.1, 49.°43N×156.°67E, h41km, mb4.3/1, Error ellipse: s-maj=92.8km s-min=17.6km az=81.2*

KRSC 08 00:46:36.5±3.2, 49.°47N×157.°20E, h40km±16km, ML4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.40**	**331**	*e*PN	Pn	00 46 51.2	-8.3
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				pmax	pmax		
	comp=E,120nm,0.3s						
SKR	**Severo-Kuril's**	**1.40**	**331**	*e*P	Pn	00 46 58.1	-1.4
SKR				*e*S	Sn	00 47 13.7	-3.0
PAU	**Pauzhetka**	**2.01**	**353**	PN	Pn	00 47 09.7	+1.8
PAU				S	Sn	00 47 34.1	+2.2
PAU	**Pauzhetka**	**2.01**	**353**	*e*P	Pn	00 47 09.7	+1.8
PAU				*e*S	Sn	00 47 34.1	+2.2
MIPR	**Malaya Ipel'ka**	**2.82**	**354**	*e*P	Pn	00 47 21.6	+2.5
MIPR				*e*S	Sn	00 47 54.0	+2.1
ASAK	**Asacha**	**2.95**	**8**	*e*P	Pn	00 47 24.9	+4.0
ASAK				*e*S	Sn	00 47 59.7	+4.5
MTVR	**Mutnovka**	**3.08**	**11**	*e*P	Pn	00 47 26.3	+3.5
MTVR				*e*S	Sn	00 48 03.1	+4.6
RUS	**Russkaya**	**3.08**	**15**	PN	Pn	00 47 25.8	+3.2
RUS				S	Sn	00 48 02.5	+4.4
RUS	**Russkaya**	**3.08**	**15**	*e*P	Pn	00 47 25.8	+3.2
RUS				*e*S	Sn	00 48 02.5	+4.4
APC	**Apacha**	**3.46**	**360**	*e*P	Pn	00 47 31.6	+3.8
PET	**Petropavlovsk**	**3.67**	**14**	*e*PN	Pn	00 47 34.5	+3.8
PET				*e*S	Sn	00 48 18.9	+6.2
PET				smax	smax		
	comp=E,90nm,0.6s						
PET				smax	smax		
	comp=N,95nm,0.5s						
PET	**Petropavlovsk**	**3.67**	**14**	*e*P	Pn	00 47 35.3	+4.6
PET				*e*S	Sn	00 48 19.0	+6.3
UGLR	**Uglovaya**	**3.88**	**15**	*e*P	Pn	00 47 38.3	+4.6
UGLR				*e*S	Sn	00 48 24.4	+6.3
AVH	**Avacha**	**3.92**	**14**	P	Pn	00 47 38.9	+4.7
AVH				*e*S	Sn	00 48 27.4	+8.4
SMAR	**Somma**	**3.93**	**14**	*e*P	Pn	00 47 39.5	+5.0
KOK	**Koryaka**	**3.93**	**13**	*e*P	Pn	00 47 39.6	+5.2
SDLR	**Sedlovina**	**3.96**	**15**	*e*P	Pn	00 47 38.5	+3.7
SDLR				*e*S	Sn	00 48 25.0	+5.0
KRER	**Koryakskii**	**3.96**	**14**	*e*P	Pn	00 47 39.7	+4.7
KRER				*e*S	Sn	00 48 26.5	+6.2
KRX	**Arik**	**4.00**	**13**	*e*P	Pn	00 47 40.1	+4.7
KRX				*e*S	Sn	00 48 27.3	+6.2
GNL	**Ganaly**	**4.26**	**6**	*e*P	Pn	00 47 43.1	+4.2
MKZ	**Mys Kozlova**	**5.81**	**27**	PN	Pn	00 48 03.4	+3.4
MKZ	**Mys Kozlova**	**5.81**	**27**	*e*P	Pn	00 48 03.4	+3.4
MKZ				*e*S	Sn	00 49 07.5	+2.2
TUMR	**Tumrok**	**6.09**	**16**	*e*P	Pn	00 48 09.8	+5.7
KBTR	**Krutoberegovo**	**7.56**	**25**	PN	Pn	00 48 27.6	+3.6
KBTR	**Krutoberegovo**	**7.56**	**25**	*e*P	Pn	00 48 27.6	+3.6

MEX 08 01:17:24.2±0.5, 16.°57N×100.°42W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.50**	**17**	*i* P	Pg	01 17 33.2	-0.6
CAIG				*e*S	Sg	01 17 40.7	+0.4
ACX	**Acapulco**	**0.62**	**61**	*e*P	Pg	01 17 32.3	-3.8
ACX				*e*S	Sg	01 17 41.0	-3.2
MEIG	**Mezcala**	**1.55**	**30**	*e*P	Pn	01 17 49.0	-3.6
MEIG				*e*S	Sn	01 18 08.4	-4.8
ARIG	**Puente Sto Nin**	**1.70**	**2**	*e*P	Pn	01 17 51.3	-3.3
ARIG				*e*S	Sn	01 18 12.5	-4.3
PLIG	**Platanillo**	**2.01**	**26**	*e*P	Pn	01 17 56.5	-2.5
PLIG				*e*S	Sn	01 18 19.4	-5.2
TLIG	**Tlapa**	**2.03**	**61**	*e*P	Pn	01 17 56.0	-3.2
TLIG				*e*S	Sn	01 18 20.7	-4.5
PNIG	**Pinotepa**	**2.21**	**94**	*e*P	Pn	01 17 58.8	-2.8
PNIG				*e*S	Sn	01 18 25.4	-4.0

*IDC **08** 01:24:14.7±2.1, 3.°73S×100.°86E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/35, mbtmp4.0/8, MS3.5/2, Ms1 3.5/2, ms1mx2.7/42, Error ellipse: s-maj=70.3km s-min=19.9km az=58.0*

*DJA **08** 01:24:15.3±1.8, 4.°S±15.°×10.°0E±1.°2, h10km, M4.3/5, MLv4.3/5*

ISC 08 01:24:17.7±1.4, 3.°8S±0.°2×100.°6E±0.°1, h27km, n22, σ1.926/14, mb4.1/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.76**	**67**	P	**Pb**	**01 24 49.0**	**-0.3**
MNAI	**Manna**	**2.39**	**103**	P	**Pn**	**01 24 55.7**	**+0.6**
MNAI				S	**Sb**	**01 25 28.3**	**-0.8**
LHSI	**Lahat**	**2.90**	**90**	P	**Pn**	**01 25 04.1**	**+2.0**
PDSI	**Padang**	**2.91**	**357**	P	Pn	01 25 05.8	+3.5
MDSI	**Maura Dua**	**3.61**	**100**	P	**Pn**	**01 25 13.3**	**+1.4**
PSI	**Prapat**	**6.80**	**346**	LR	LR	01 29 01.0	
	comp=Z,208nm,20.8s,baz=144,slow=43						
CMAR	**Chiang Mai Arr**	**22.21**	**356**	P	**P**	**01 29 10.1**	**-2.2**
	2.1nm,0.7s,baz=186,slow=8.3,SNR=11						
H08S2	**Diego Garcia H**	**28.23**	**261**	T	T	01 59 36.8	
	baz=84,slow=75,SNR=381						
H08S3	**Diego Garcia H**	**28.24**	**261**	T	T	01 59 39.0	
	baz=84,slow=75,SNR=295						
H08S1	**Diego Carcia H**	**28.25**	**261**	T	T	01 59 38.8	
	baz=84,slow=75,SNR=87						
H08N1	**Diego Carcia H**	**29.59**	**264**	T	T	02 01 59.5	
	baz=89,slow=75,SNR=11						
H08N2	**Diego Garcia H**	**29.61**	**264**	T	T	02 01 59.9	
	baz=89,slow=75,SNR=22						
H08N3	**Diego Garcia H**	**29.61**	**264**	T	T	02 01 57.0	
	baz=89,slow=75,SNR=24						
WRA	**Warramunga Arr**	**36.55**	**119**	P	**P**	**01 31 20.1**	**-1.4**
	1.1nm,0.9s,baz=296,slow=9.7,SNR=6.7						
ASAR	**Alice Springs**	**37.69**	**125**	P	**P**	**01 31 30.7**	**-0.5**
	0.3nm,0.5s,baz=303,slow=8.3,SNR=5.6						
KSRS	**Korea Array**	**48.29**	**29**	P	**P**	**01 32 56.3**	**-0.4**
	0.7nm,0.4s,baz=215,slow=7.6,SNR=5.0						
SONM	**Songino Array**	**51.70**	**5**	P	**P**	**01 33 23.5**	**+0.9**
	2.3nm,0.8s,baz=186,slow=9.6,SNR=23						
MKAR	**Makanchi Array**	**52.95**	**344**	P	**P**	**01 33 32.4**	**+0.6**
	2.4nm,0.8s,baz=152,slow=8.5,SNR=25						
USRK	**Ussuriysk Ar.**	**55.48**	**27**	P	**P**	**01 33 49.8**	**-0.4**
	3.0nm,0.5s,baz=212,slow=5.1,SNR=13						
GEYT	**Alibeck**	**57.24**	**321**	LR	LR	02 00 50.9	
	comp=Z,64nm,18.2s,baz=125,slow=38						
ZALV	**Zalesovo Beam**	**59.07**	**349**	P	**P**	**01 34 15.6**	**+0.2**
	3.8nm,0.8s,baz=160,slow=4.7,SNR=20						
TXAR	**Lajitas Array**	**145.74**	**40**	PKPbc	**PKPab**	**01 43 56.6**	**+1.2**
	2.2nm,0.8s,baz=268,slow=1.0,SNR=22						

IDC 08 01:27:17.7±4.7, 3.°31S×101.°12E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/35, mbtmp3.5/4, MS3.6/1, Ms1 3.6/1, ms1mx2.7/28, Error ellipse: s-maj=194.7km s-min=24.7km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**23.40**	**108**	LR	LR	01 41 59.5	
	comp=Z,165nm,21.6s,baz=340,slow=38						
H08S2	**Diego Garcia H**	**28.81**	**260**	T	T	02 02 32.1	
	baz=84,slow=75,SNR=44						
H08S3	**Diego Garcia H**	**28.82**	**260**	T	T

MRZ			AML	AML	01 36 27.4	
HOWZ	**Holdsworth Sta**	**3.98 198**	PN	Pn	01 35 44.5	-4.0
OGWZ	**Otaki Gorge**	**3.99 202**	PN	Pn	01 35 45.2	-3.4
TMWZ	**Te Maipa**	**4.10 193**	PN	Pn	01 35 46.5	-3.6
KIW	**Kapiti Island**	**4.11 204**	PN	Pn	01 35 46.6	-3.7
MTW	**Mount Morrison**	**4.22 197**	PN	Pn	01 35 47.4	-4.3
CAW	**Cannon Point**	**4.29 201** ⇑	PN	Pn	01 35 48.5	-4.0
TRWZ	**Traveller**	**4.42 194**	PN	Pn	01 35 50.3	-4.0
PAWZ	**Paruwai Farm**	**4.46 196**	PN	Pn	01 35 50.3	-4.5
MSWZ	**Moikau Station**	**4.53 198**	PN	Pn	01 35 51.2	-4.5
TCW	**Tory Channel**	**4.64 207**	*e*PN	Pn	01 35 53.3	-3.9
TCW			AML	AML	01 36 47.1	
PLWZ	**Palliser**	**4.67 197**	PN	Pn	01 35 52.7	-5.1
TUWZ	**Tuamarina**	**4.96 209**	*e*PN	Pn	01 35 57.3	-4.1

IDC ***08*** *02:05:20.1±0.8, 10.05N×126.07E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/43, mbtmp3.9/11, MS2.8/4, Ms1 2.9/4, ms1mx2.6/49, Error ellipse: s-maj=38.5km s-min=17.9km az=66.0*

NEIC ***08*** *02:05:25.4±0.4, 9.98N×125.99E, h35km, mb4.1/4, Error ellipse: s-maj=23.0km s-min=9.2km az=69.0*

ISCJB ***08*** *02:05:26.4±1.1, 10.02N±0.05×126.31E±0.08, h64km±10km, mb3.9/15, Error ellipse: s-maj=13.7km s-min=7.1km az=167.6*

MAN ***08*** *02:05:26, 9.99N×126.20E, h15km, mb4.9, ML3.8, MS3.8*

ISC 08 02:05:27.2±1.8, 10.01N±0.05×126.3E±0.1, h51km±16km, n38, σ1§48/36, mb4.0/15, MS3.1/3, 1C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.78**	**253**	*i* P	**Pn**	**02 05 40.3**	**-1.8**
SCPH				*i* S	**Sn**	**02 05 50.6**	**-2.4**
BUTP	**Butuan**	**1.21**	**211**	*e*P	**Pn**	**02 05 47.4**	**-0.4**
BUTP				*e*S	**Sn**	**02 06 04.4**	**+1.3**
MSLP	**Maasin**	**1.38**	**275**	*e*P	**Pn**	**02 05 49.6**	**-0.5**
PLP	**Palo**	**1.70**	**313** ⇓	*e*P	**Pn**	**02 05 53.7**	**-0.8**
PLP				*i* S	**Sn**	**02 06 17.6**	**+2.5**
PLP	**Palo**	**1.70**	**313** ⇓	*e*P	**Pn**	**02 05 53.7**	**-0.8**
PLP				*i* S	**Sn**	**02 06 17.6**	**+2.5**
OCLP	**Ormoc**	**1.92**	**303**	*e*P	**Pn**	**02 05 58.7**	**+1.2**
CGP	**Cagayan de Oro**	**2.18**	**225**	*e*P	**Pn**	**02 06 01.1**	**0.0**
CGP				*i* S	**Sn**	**02 06 28.6**	**+1.7**
LLP	**Lapu-Lapu**	**2.27**	**278** ⇑	*e*P	**Pn**	**02 06 03.2**	**+0.9**
LLP				*e*S	**Sn**	**02 06 31.1**	**+1.9**
TBP	**Tagbilaran**	**2.38**	**263**	*e*P	**Pn**	**02 06 04.7**	**+1.0**
TBP				*e*S	**Sn**	**02 06 33.8**	**+2.1**
BUKP	**Musuan**	**2.42**	**209**	*e*P	**Pn**	**02 06 06.8**	**+2.4**
PAGZ	**Pagadian**	**3.56**	**233**	*e*P	**Pn**	**02 06 21.7**	**+1.7**
GUIM	**Jordan**	**3.66**	**280**	*e*P	**Pn**	**02 06 22.5**	**+1.2**
PVCP	**Virac**	**4.11**	**330** ⇓	*e*P	**Pn**	**02 06 29.0**	**+1.4**
TGY	**Tagaytay City**	**6.60**	**309**	LR	LR	02 10 19.6	
	comp=Z,17nm,19.6s,baz=121,slow=46						
CMAR	**Chiang Mai Arr**	**27.74**	**291**	P	**P**	**02 11 09.2**	**-2.1**
	0.9nm,0.4s,baz=187,slow=28,SNR=5.0						
CMAR				LR	LR	02 20 58.7	
	comp=Z,46nm,19.1s,baz=153,slow=34						
MJAR	**Matsushiro Arr**	**28.55**	**20**	LR	LR	02 23 45.7	
	comp=Z,24nm,18.2s,baz=270,slow=39						
WRAB	**Tennant Creek**	**30.80**	**165**	*e*P	**P**	**02 11 38.3**	**-0.1**
	4.1nm,1.1s						
WRA	**Warramunga Arr**	**30.81**	**165**	P	**P**	**02 11 38.4**	**0.0**
	0.5nm,0.9s,baz=21,slow=9.4,SNR=2.6						
ASAR	**Alice Springs**	**34.30**	**167**	P	**P**	**02 12 09.6**	**+0.6**
	0.3nm,0.4s,baz=356,slow=7.2,SNR=7.9						
ASAJ	**Asahikawa**	**36.82**	**20**	LR	LR	02 29 30.9	
	comp=Z,28nm,18.1s,baz=172,slow=39						
H11S3	**WAKE ISLAND Hy 40.01**		**73**	T	T	02 55 56.8	
	baz=262,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy 40.03**		**73**	T	T	02 55 53.6	
	baz=262,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy 40.03**		**73**	T	T	02 55 54.4	
	baz=262,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy 40.35**		**71**	T	T	02 56 18.0	
	baz=264,slow=74,SNR=69						
H11N2	**WAKE ISLAND Hy 40.36**		**71**	T	T	02 56 21.0	
	baz=264,slow=74,SNR=48						
H11N3	**WAKE ISLAND Hy 40.37**		**71**	T	T	02 56 19.4	
	baz=264,slow=74,SNR=56						
ULN	**Ulaanbaatar**	**41.06**	**340**	*e*P	**P**	**02 13 05.8**	**-0.2**
	1.5nm,0.5s						
SONM	**Songino Array**	**41.26**	**340**	P	**P**	**02 13 07.5**	**0.0**
	0.6nm,0.5s,baz=159,slow=8.7,SNR=6.8						
MKAR	**Makanchi Array**	**52.22**	**323**	P	**P**	**02 14 32.5**	**-0.7**
	1.7nm,0.7s,baz=119,slow=8.5,SNR=23						
ZALV	**Zalesovo Beam**	**54.84**	**331**	P	**P**	**02 14 49.8**	**-2.4**
	0.9nm,0.6s,baz=130,slow=7.0,SNR=5.3						
KURK	**Kurchatov**	**56.27**	**326**	*e*P	**P**	**02 15 01.7**	**-0.8**
	1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**56.27**	**325**	P	**P**	**02 15 01.1**	**-1.4**
	1.6nm,0.6s,baz=127,slow=7.0,SNR=22						
TIXI	**Tiksi**	**61.61**	**1**	*e*P	**P**	**02 15 40.3**	**+1.2**
	3.5nm,0.8s						
BVAR	**Borovoye Array**	**61.87**	**325**	P	**P**	**02 15 40.6**	**-0.6**
	0.4nm,0.6s,baz=134,slow=8.5,SNR=4.7						
ILAR	**Eielson Array**	**79.68**	**26**	P	**P**	**02 17 29.1**	**-0.1**
	0.5nm,0.8s,baz=249,slow=3.9,SNR=8.1						
FINES	**FINESS Array B**	**86.11**	**332**	P	**P**	**02 18 01.4**	**-1.1**
	1.6nm,0.7s,baz=55,slow=5.6,SNR=6.8						
YKA	**Yellowknife Ar**	**94.00**	**24**	P	**P**	**02 18 40.7**	**+1.1**
	0.5nm,0.6s,baz=300,slow=4.6,SNR=16						
TORD	**Torodi Ar. Bea**	**120.34**	**292**	PKP	**PKPdf**	**02 24 13.1**	**-0.8**
	0.4nm,0.8s,baz=40,slow=2.5,SNR=3.9						

CASC 08 02:16:24.9±4.6, 8.77N×82.88W, h18km±24km, MD3.5, 2C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.19**	**82** ⇓	*i* P	Pb	02 16 30.9	+1.0
BRU2				*e*S	Sb	02 16 35.0	+1.7
ACR	**Cerro Adams**	**0.31**	**248** ⇓	*i* P	Pb	02 16 32.5	+0.5
ACR				*e*S	Sb	02 16 37.6	+0.9
BUS	**Buena Vista**	**1.17**	**312** ⇑	*e*P	Pb	02 16 47.2	0.0
BUS				*e*S	Sn	02 17 03.0	+0.1
URSC	**Urasca**	**1.38**	**320** ⇑	*e*P	Pb	02 16 50.8	+0.3
URSC				*e*S	Sg	02 17 09.4	-0.7
QCR	**Quepos**	**1.43**	**297**	*e*P	Pn	02 16 49.8	-0.1

NSSC ***08*** *02:32:22.0±5.5, 39.37N×40.56E, h0km±160km, ML5.1*

NIC ***08*** *02:32:26.8, 39.52N×40.46E, h4km, mb6.2, ML6.1, MW3.7*

DDA ***08*** *02:32:30.4, 38.77N×40.07E, h5km, ML5.8*

ISK ***08*** *02:32:31.1, 38.83N×40.13E, h2km, ML6.0*

BJI ***08*** *02:32:31.2, 39.12N×39.69E, h12km, mB5.8/50, mb5.6/72, Ms6.3/89, Ms7 6.1/78*

MOS ***08*** *02:32:32.8±0.9, 38.86N×39.95E, h10km, mb6.0/122, MS5.9/105, Error ellipse: s-maj=4.0km s-min=2.7km az=114.6*

IDC ***08*** *02:32:32.8±0.3, 38.82N×39.99E, h0km, mb5.4/44, mb1 5.4/56, mb1mx5.4/62, mbtmp5.3/56, ML4.2/11, MS5.9/41, Ms1 5.9/41, ms1mx5.9/42, Error ellipse: s-maj=5.9km s-min=4.2km az=169.0*

SZGRF ***08*** *02:32:33.7, 37.49N×39.27E, h33km, mb5.9, MS5.7, Turkey*

ISCJB ***08*** *02:32:33.5±0.1, 38.803N±0.010×40.034E±0.009, h15km, mb5.7/398, MS6.0/425, Error ellipse: s-maj=1.4km s-min=1.0km az=4.1*

NEIC ***08*** *02:32:34.7±0.1, 38.86N×39.99E, h12km, mb5.9/263, ME6.3, MS6.0/299, MW6.0, MW5.9, MW6.1, ML6.0(ISK), Error ellipse: s-maj=2.4km s-min=1.9km az=181.0, Moment Tensor Solution. s58 Moment tensor: Scale 10^{17}Nm; M_{rr}0.53; $M_{\theta\theta}$-9.23; $M_{\phi\phi}$8.70; $M_{r\theta}$-2.42; $M_{\theta\phi}$0.75; $M_{\phi r}$1.26; Best double couple: $M_0$9.40000×10^{17} NP1: ϕ_s138.00000°, δ86.00000°, λ-165.00000°. NP2: ϕ_s47.00000°, δ75.00000°, λ-4.00000°. Principal axes: T 8.9000, Plg8.0000°, Azm271.0000°; N 0.9500, Plg74.0000°, Azm150.0000°; P -9.8500, Plg13.0000°, Azm3.0000°; Broadband fault plane solution: P waves. NP1: ϕ_s79.00000°, δ70.00000°, λ-4.00000°. NP2: ϕ_s170.00000°, δ86.00000°, λ-160.00000°. Principal axes: T Plg11.0000°, Azm303.0000°; N Plg0.0000°, Azm0.0000°; P Plg17.0000°, Azm36.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC At least 42 people killed, 100 injured and 3,500 displaced, 287 buildings destroyed and 700 heavily damaged in the Basyurt-Demirci-Kovancilar-Okcular area. Felt [VI] at Elazig, [V] at Diyarbakir, [IV] at Gaziantep and Siirt, [III] at Erzurum and [II] at Ankara and Trabzon. Felt widely in eastern Turkey. Felt [III] at Mosul, Iraq. Also felt at Arbil and Sinjar. Felt [II] at Aleppo, Syria. Also felt at Al Qamishli, Manbij, Nubl and Ra's al 'Ayn.

GCMT ***08*** *02:32:34.7±0.1, 38.82N×40.04E, h15km, MW6.1/127, Moment Tensor Solution. s111, c230; s127, c446; Duration: 29s6 Moment tensor: Scale 10^{18}Nm; M_{rr}0.09±.01; $M_{\theta\theta}$-1.42±.01; $M_{\phi\phi}$1.33±.01; $M_{r\theta}$0.63±.04; $M_{\theta\phi}$0.18±.01; $M_{\phi r}$0.17±.03; Best double couple: $M_0$1.51800×10^{18} NP1: ϕ_s228.00000°, δ83.00000°, λ-21.00000°. NP2: ϕ_s321.00000°, δ69.00000°, λ-173.00000°. Principal axes: T 1.3790, Plg10.0000°, Azm276.0000°; N 0.2730, Plg68.0000°, Azm32.0000°; P -1.6560, Plg20.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

CSEM ***08*** *02:32:34.1±0.0, 38.83N×40.11E, h10km, mb5.8/99, Ms6.0, Mw6.1 Error ellipse: s-maj=1.8km s-min=1.3km az=1.0*

SFS ***08*** *02:32:35.0, 38.85N×39.95E, h10km, ML6.0*

NEIC ***08*** *02:32:35.0±0.0, 38.89N×39.97E, h15km Best double couple: NP1: ϕ_s231.00000°, δ86.00000°, λ-33.00000°. NP2: ϕ_s324.00000°, δ55.00000°, λ-174.00000°. Principal axes: T 1.0500, Plg20.0000°, Azm283.0000°; N 0.4300, Plg54.0000°, Azm46.0000°; P -1.4800, Plg26.0000°, Azm182.0000°;*

TEH ***08*** *02:32:35.0, 38.89N×39.97E, h6km, ML5.9*

DSN ***08*** *02:32:36.9±4.0, 38.56N×40.42E, h10km, mb5.8/9, ML6.8/1, Ms6.6/8, Error ellipse: s-maj=4.6km s-min=1.6km az=285.0*

NEIC ***08*** *02:32:48.5±0.0, 39.45N×40.18E, h10km, Moment Tensor Solution. s143 Moment tensor: Scale 10^{18}Nm; M_{rr}0.01; $M_{\theta\theta}$-1.15; $M_{\phi\phi}$1.14; $M_{r\theta}$1.32; $M_{\theta\phi}$0.11; $M_{\phi r}$0.48; Best double couple: $M_0$1.80000×10^{18} NP1: ϕ_s324.00000°, δ41.00000°, λ-177.00000°. NP2: ϕ_s233.00000°, δ89.00000°, λ-48.00000°. Principal axes: T 1.4900, Plg31.0000°, Azm290.0000°; N 0.5300, Plg40.0000°, Azm51.0000°; P -2.0200, Plg33.0000°, Azm176.0000°;*

ISN ***08*** *02:33:18.5±2.6, 38.41N×41.82E, h0km±8km, ML4.1*

ISC 08 02:32:35.0±0.3, 38.79N±0.01×40.04E±0.01, h12km±1km, h12km: pP-P, n2753, σ1§42/2896, mb5.8/400, MS6.0/427, 533C-208D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.36**	**76**	*i* Pg	**Pg**	**02 32 40.4**	**-1.9**
BINT				*e*Sg	**Sg**	**02 32 48.2**	**+1.0**
BNGB	**Bing¶‖**	**0.54**	**68**	PG	Pg	02 32 40.4	-5.2
BNGB				*e*SG	**Sg**	**02 32 48.2**	**-4.5**
ERZN	**Erzincan**	**0.83**	**343**	PG	Pg	02 32 47.1	-4.1
ERZN				*e*SG	**Sg**	**02 32 59.5**	**-2.7**
DYBB	**Diyarbakir**	**0.84**	**175**	PG	**Pg**	**02 32 48.8**	**-2.5**
BNGL	**BIŃGOL**	**0.88**	**79**	*i* P	Pg	02 32 47.2	-4.9
BNGL				*i* S	**Sg**	**02 33 02.0**	**-1.6**
DIY	**Diyarbakir**	**0.90**	**171**	*i* Pg	Pg	02 32 48.8	-3.7
EUZM	**Uzumlu**	**0.96**	**344**	*i* P	Pg	02 32 49.3	-4.2
EUZM				*i* S	**Sg**	**02 33 05.8**	**-0.2**
EUZM	**Uzumlu**	**0.96**	**344**	*i* P	Pg	02 32 49.3	-4.2
EUZM				*i* S	**Sg**	**02 33 05.8**	**-0.2**
EZC	**Erzincan**	**1.10**	**331**	*i* Pg	Pb	02 32 47.1	-9.0
EZC				*e*Sg	Sb	02 32 59.5	-11
SVAN	**Silvan-Diyarba**	**1.11**	**125**	PN	Pb	02 32 52.9	-3.2
VRTB	**Varto-Mus**	**1.16**	**71**	PN	Pb	02 32 52.8	-4.3
VRTB	**Varto-Mus**	**1.16**	**71**	*i* Pn	Pb	02 32 52.8	-4.3
VRT	**Varto**	**1.21**	**73**	Pn	Pn	02 32 53.7	-4.2
VRT	**Varto**	**1.21**	**73**	Pn	Pn	02 32 53.7	-4.2
KOPT	**Kop Dagi**	**1.28**	**16**	*i* P	Pn	02 32 55.1	-3.9
KOPT				*i* S	**Sg**	**02 33 17.4**	**+1.1**
KOPT	**Kop Dagi**	**1.28**	**16**	*i* P	Pn	02 32 55.1	-3.9
KOPT				*i* S	**Sg**	**02 33 17.4**	**+1.1**
BTMT	**Batman**	**1.28**	**117**	PN	Pn	02 32 55.6	-3.2
BTMT	**Batman**	**1.28**	**117**	*i* Pn	Pn	02 32 55.6	-3.2
KEMA	**Kemaliye**	**1.30**	**292**	*i* P	Pn	02 32 55.9	-3.2
KEMA				*i* S	**Sb**	**02 33 15.3**	**-0.8**
KEMA	**Kemaliye**	**1.30**	**292**	*i* P	Pn	02 32 55.9	-3.2
KEMA				*i* S	**Sb**	**02 33 15.3**	**-0.8**
BEST	**Besiri**	**1.32**	**133**	*i* P	**Pn**	**02 32 56.6**	**-2.7**
BEST				*i* S	**Sn**	**02 33 17.0**	**+0.2**
ILIC	**ilic-Erzincan**	**1.33**	**300**	PN	**Pn**	**02 32 57.9**	**-1.6**
ILIC	**ilic-Erzincan**	**1.33**	**300**	*i* Pn	**Pn**	**02 32 57.9**	**-1.6**
MALT	**Malatya**	**1.35**	**250**	PN	**Pn**	**02 32 58.3**	**-1.5**
MALT	**Malatya**	**1.35**	**250** ⇑	*i* P	**Pn**	**02 32 57.4**	**-2.4**
MALT	**Malatya**	**1.35**	**250** ⇑	*i* P	**Pn**	**02 32 57.4**	**-2.4**
MALT	**Malatya**	**1.35**	**250**	*i* Pn	**Pn**	**02 32 58.3**	**-1.5**
MALT	**Malatya**	**1.35**	**250**	Pn	**Pn**	**02 32 58.6**	**-1.2**
MAZI	**Mazidag**	**1.36**	**166**	PN	**Pn**	**02 32 58.3**	**-1.7**
MAZI	**Mazidag**	**1.36**	**166**	*i* Pn	**Pn**	**02 32 58.3**	**-1.7**
KELT	**Kelkit**	**1.49**	**336**	*i* P	**Pn**	**02 32 59.9**	**-1.9**
KELT				*i* S	**Sn**	**02 33 20.4**	**-0.9**
KELT	**Kelkit**	**1.49**	**336**	*i* P	**Pn**	**02 32 59.9**	**-1.9**
KELT				*i* S	**Sn**	**02 33 20.4**	**-0.9**
EZM	**Erzurum**	**1.51**	**42**	PN	**Pn**	**02 32 59.1**	**-3.1**
EZM	**Erzurum**	**1.51**	**42**	Pn	**Pn**	**02 32 59.1**	**-3.1**
MARD	**Mardin**	**1.58**	**158**	*i* P	**Pn**	**02 33 00.0**	**-3.0**
MARD				*i* S	**Sn**	**02 33 22.8**	**-0.6**
BAYT	**Ayd¯-ntepe-Bay**	**1.60**	**3**	PN	**Pn**	**02 33 00.6**	**-2.8**
BAYT	**Ayd¯-ntepe-Bay**	**1.60**	**3**	*i* Pn	**Pn**	**02 33 00.6**	**-2.8**
EKAR	**Karacoban**	**1.64**	**73**	*i* P	**Pn**	**02 33 01.5**	**-2.4**
EKAR				*i* S	**Sg**	**02 33 27.5**	**-0.4**
EKAR	**Karacoban**	**1.64**	**73**	*i* P	**Pn**	**02 33 01.5**	**-2.4**
EKAR				*i* S	**Sg**	**02 33 27.5**	**-0.4**
URFA	**Urfa**	**1.66**	**216**	PN	**Pn**	**02 33 03.0**	**-0.9**
URFA	**Urfa**	**1.66**	**216**	*i* Pn	**Pn**	**02 33 03.0**	**-0.9**
URFA	**Urfa**	**1.66**	**216**	Pn	**Pn**	**02 33 03.6**	**-0.4**
GUMT	**Gumushane**	**1.73**	**346**	PN	**Pn**	**02 33 03.4**	**-1.6**
GUMT	**Gumushane**	**1.73**	**346**	*i* Pn	**Pn**	**02 33 03.4**	**-1.6**
GUMT	**Gumushane**	**1.73**	**346**	Pn	**Pn**	**02 33 03.6**	**-1.4**
TATV	**Tatvan**	**1.76**	**98**	*i* P	**Pn**	**02 33 03.8**	**-1.8**
TATV				*i* S	**Sb**	**02 33 29.4**	**-0.1**
TATV	**Tatvan**	**1.76**	**98**	*i* P	**Pn**	**02 33 03.8**	**-1.8**
TATV				*i* S	**Sb**	**02 33 29.4**	**-0.1**
KBSD	**Kabsdagh**	**1.83**	**167**	*e*P	**Pn**	**02 33 03.9**	**-2.4**
	SNR=45						
KBSD	**Kabsdagh**	**1.83**	**167**	*e*P	**Pn**	**02 33 03.9**	**-2.4**
KBSD				AML	AML	02 33 42.0	
	comp=N,71μm,0.5s						
KBSD				AML	AML	02 33 43.4	
	comp=E,54μm,0.5s						
ATAB	**Bozova**	**1.91**	**227**	*i* P	**Pn**	**02 33 06.3**	**-1.1**
ATAB				*i* S	**Sb**	**02 33 33.5**	**0.0**
ATAB	**Bozova**	**1.91**	**227**	*i* P	**Pn**	**02 33 06.3**	**-1.1**
ATAB				*i* S	**Sb**	**02 33 33.5**	**0.0**
HOMI	**Horasan**	**1.91**	**48**	*i* P	**Pn**	**02 33 06.3**	**-1.3**
HOMI				*i* S	**Sg**	**02 33 36.0**	**-0.5**
SUSE	**Susehri**	**2.01**	**315**	*i* P	**Pn**	**02 33 08.6**	**-0.3**
SUSE				*i* S	**Sb**	**02 33 36.5**	**-0.2**
SUSE	**Susehri**	**2.01**	**315**	*i* P	**Pn**	**02 33 08.6**	**-0.3**
SUSE				*i* S	**Sb**	**02 33 36.5**	**-0.2**
DARE	**Darende-Malaty**	**2.02**	**265**	PN	**Pn**	**02 33 08.4**	**-0.5**
DARE	**Darende-Malaty**	**2.02**	**265**	*i* Pn	**Pn**	**02 33 08.4**	**-0.5**
MACK	**Trabzon**	**2.16**	**354**	*i* P	**Pn**	**02 33 10.3**	**-0.6**
MACK				*i* S	**Sb**	**02 33 40.5**	**-0.4**
MACK	**Trabzon**	**2.16**	**354**	*i* P	**Pn**	**02 33 10.3**	**-0.6**
MACK				*i* S	**Sb**	**02 33 40.5**	**-0.4**
EATA	**Eleskirt**	**2.18**	**60**	*i* P	**Pn**	**02 33 09.8**	**-1.6**
EATA				*i* S	**Sb**	**02 33 42.1**	**+0.4**
EATA	**Eleskirt**	**2.18**	**60**	*i* P	**Pn**	**02 33 09.8**	**-1.6**
EATA				*i* S	**Sb**	**02 33 42.1**	**+0.4**
KTUT	**Trabzon**	**2.21**	**355**	PN	**Pn**	**02 33 09.9**	**-1.5**
KTUT	**Trabzon**	**2.21**	**355**	*i* Pn	**Pn**	**02 33 09.9**	**-1.5**
TUTA	**Tutak**	**2.24**	**73**	*i* P	Pn	02 33 06.4	-5.7
TUTA				*i* S	**Sn**	**02 33 37.5**	**-2.3**
TUTA	**Tutak**	**2.24**	**73**	*i* P	Pn	02 33 06.4	-5.7
TUTA				*i* S	**Sn**	**02 33 37.5**	**-2.3**
SIRN	**S¯-rnak**	**2.27**	**124**	*i* P	**Pn**	**02 33 09.9**	**-2.5**
SIRN				*i* S	**Sb**	**02 33 45.5**	**+1.4**
SIRN	**S¯-rnak**	**2.27**	**124**	*i* P	**Pn**	**02 33 09.9**	**-2.5**
SIRN				*i* S	**Sb**	**02 33 45.5**	**+1.4**
SIRT	**Sirnak**	**2.28**	**123**	PN	**Pn**	**02 33 10.8**	**-1.8**
SIRT	**Sirnak**	**2.28**	**123**	*i* Pn	**Pn**	**02 33 10.8**	**-1.8**
SFNV	**Sufian**	**2.37**	**179**	*e*P	**Pn**	**02 33 11.7**	**-2.0**
	SNR=45						
SFNV	**Sufian**	**2.37**	**179**	*e*P	**Pn**	**02 33 11.7**	**-2.0**
GEVA	**Gevas**	**2.41**	**100**	*i* P	**Pn**	**02 33 13.0**	**-1.4**
GEVA				*i* S	**Sb**	**02 33 48.3**	**+0.1**
GEVA	**Gevas**	**2.41**	**100**	*i* P	**Pn**	**02 33 13.0**	**-1.4**
GEVA				*i* S	**Sb**	**02 33 48.3**	**+0.1**
AGRB	**Hanur-Agry**	**2.42**	**70**	PN	**Pn**	**02 33 11.7**	**-2.9**
AGRB	**Hanur-Agry**	**2.42**	**70**	*i* Pn	**Pn**	**02 33 11.7**	**-2.9**
GZT	**Gaziantep**	**2.42**	**235**	*i* P	**Pn**	**02 33 13.0**	**-1.6**
DDEM	**Demirkent**	**2.48**	**31**	*i* P	**Pn**	**02 33 13.8**	**-1.5**
DDEM	**Demirkent**	**2.48**	**31**	*i* P	**Pn**	**02 33 13.8**	**-1.5**
SCER	**sogukcermik**	**2.50**	**296**	*i* P	**Pn**	**02 33 15.0**	**-0.7**
SCER				*i* S	**Sb**	**02 33 51.6**	**+0.8**
SCER	**sogukcermik**	**2.50**	**296**	*i* P	**Pn**	**02 33 15.0**	**-0.7**
SCER				*i* S	**Sb**	**02 33 51.6**	**+0.8**
GRSN	**GIRESUNGRSN**	**2.53**	**328**	*i* P	**Pn**	**02 33 14.7**	**-1.3**
GRSN	**GIRESUNGRSN**	**2.53**	**328**	*i* P	**Pn**	**02 33 14.7**	**-1.3**
DBAD	**Bademkaya**	**2.56**	**29**	*i* P	**Pn**	**02 33 15.2**	**-1.3**
DBAD				*i* S	**Sn**	**02 33 48.1**	**+0.4**
DBAD	**Bademkaya**	**2.56**	**29**	*i* P	**Pn**	**02 33 15.2**	**-1.3**
DBAD				*i* S	**Sn**	**02 33 48.1**	**+0.4**
SVSK	**Karacayir**	**2.62**	**296**	*e*PN	**Pn**	**02 33 16.8**	**-0.3**
SVSK	**Karacayir**	**2.62**	**296**	*e*Pn	**Pn**	**02 33 16.8**	**-0.3**
VANB	**Van**	**2.62**	**93**	*e*PN	**Pn**	**02 33 15.1**	**-2.3**
VANB	**Van**	**2.62**	**93**	*e*Pn	**Pn**	**02 33 15.1**	**-2.3**
RSDY	**Resadiye-TOKAT**	**2.64**	**308**	*e*PN	**Pn**	**02 33 17.0**	**-0.5**
RSDY	**Resadiye-TOKAT**	**2.64**	**308**	*e*Pn	**Pn**	**02 33 17.0**	**-0.5**
TVAN	**Van**	**2.65**	**95**	*i* P	**Pn**	**02 33 15.6**	**-2.1**
TVAN				*i* S	**Sg**	**02 34 01.3**	**+1.2**
TVAN	**Van**	**2.65**	**95**	*i* P	**Pn**	**02 33 15.6**	**-2.1**
TVAN				*i* S	**Sg**	**02 34 01.3**	**+1.2**
DAGI	**Agillar**	**2.70**	**32**	*i* P	**Pn**	**02 33 17.0**	**-1.4**
DAGI				*i* S	Sg	02 34 09.4	+7.6
KMRS	**Kahramanmaras**	**2.79**	**244**	*e*PN	**Pn**	**02 33 19.6**	**+0.1**
KMRS	**Kahramanmaras**	**2.79**	**244**	*e*Pn	**Pn**	**02 33 19.6**	**+0.1**
ARTV	**Artvin**	**2.80**	**31**	*i* P	**Pn**	**02 33 18.3**	**-1.5**
ARTV				*i* S	**Sg**	**02 34 10.2**	**+5.3**
ARTV	**Artvin**	**2.80**	**31**	*i* P	**Pn**	**02 33 18.3**	**-1.5**
ARTV				*i* S	**Sg**	**02 34 10.2**	**+5.3**
DBOC	**Borcka**	**2.84**	**25**	*i* P	**Pn**	**02 33 18.3**	**-1.9**
DBOC				*i* S	Sg	02 34 13.9	+7.6
DBOC	**Borcka**	**2.84**	**25**	*i* P	**Pn**	**02 33 18.3**	**-1.9**
DBOC				*i* S	Sg	02 34 13.9	+7.6
MNKR	**ALMNKUR**	**2.91**	**192**	*e*P	**Pn**	**02 33 19.9**	**-1.2**
	SNR=45						
MNKR	**ALMNKUR**	**2.91**	**192**	*e*P	**Pn**	**02 33 19.9**	**-1.2**
MNKR				*e*S	**Sb**	**02 34 03.0**	**+0.7**
MNKR				AML	AML	02 34 13.5	
	comp=N,26μm,0.7s						
MNKR				AML	AML	02 34 17.5	
	comp=E,56μm,0.4s						
DYDN	**Diyadin**	**2.93**	**74**	*i* P	**Pn**	**02 33 19.6**	**-2.0**
DYDN				*i* S	**Sb**	**02 34 02.2**	**-1.0**
DYDN	**Diyadin**	**2.93**	**74**	*i* P	**Pn**	**02 33 19.6**	**-2.0**
DYDN				*i* S	**Sb**	**02 34 02.2**	**-1.0**
KARS	**Kars**	**2.98**	**51**	*e*PN	**Pn**	**02 33 20.3**	**-1.9**
KARS	**Kars**	**2.98**	**51**	*e*Pn	**Pn**	**02 33 20.3**	**-1.9**
MZRK	**Al-Mazaregh**	**3.00**	**170**	*e*P	**Pn**	**02 33 19.6**	**-2.7**
	SNR=45						
MZRK	**Al-Mazaregh**	**3.00**	**170**	*e*P	**Pn**	**02 33 19.6**	**-2.7**
KSRV	**Kasrt alli**	**3.04**	**196**	*e*P	**Pn**	**02 33 21.7**	**-1.2**
	SNR=45						
KSRV	**Kasrt alli**	**3.04**	**196**	*e*P	**Pn**	**02 33 21.7**	**-1.2**
CLDR	**Caldiran**	**3.04**	**82**	*e*PN	**Pn**	**02 33 21.6**	**-1.6**
CLDR	**Caldiran**	**3.04**	**82**	*e*Pn	**Pn**	**02 33 21.6**	**-1.6**
DIGO	**

ARNB	**Al Arnab**	**4.37 229**	*e*P		**Pn**	**02 33 40.2**	**-1.0**
	SNR=45						
ARNB			*e*S		**Sn**	**02 34 37.8**	**+5.7**
	comp=N,8μm,0.6s,SNR=40						
ARNB	**Al Arnab**	**4.37 229**	*e*P		**Pn**	**02 33 40.2**	**-1.0**
ARNB			*e*S		**Sn**	**02 34 37.8**	**+5.7**
ARNB			AML	AML		02 35 05.2	
	comp=N,5μm,0.7s						
ARNB			AML	AML		02 35 09.9	
	comp=E,8μm,0.6s						
WRDH	**Warideh**	**4.38 223**	*e*P		**Pn**	**02 33 42.5**	**+1.2**
	SNR=45						
WRDH	**Warideh**	**4.38 223**	*e*P		**Pn**	**02 33 42.5**	**+1.2**
WRDH			AML	AML		02 35 14.8	
	comp=N,12μm,0.8s						
WRDH			AML	AML		02 35 18.1	
	comp=E,6μm,0.7s						
CORM	**Corum**	**4.41 290**	*e*PN		**Pn**	**02 33 42.4**	**+0.5**
CORM	**Corum**	**4.41 290**	*e*Pn		**Pn**	**02 33 42.4**	**+0.5**
KFRA	**Kufra**	**4.41 217**	*e*P		**Pn**	**02 33 39.3**	**-2.6**
	SNR=45						
KFRA	**Kufra**	**4.41 217**	*e*P		**Pn**	**02 33 39.3**	**-2.6**
CTKT	**Corum**	**4.45 296**	*i* P		**Pn**	**02 33 42.2**	**-0.2**
CTKT	**Corum**	**4.45 296**	*i* P		**Pn**	**02 33 42.2**	**-0.2**
CDAG	**Cicekdag**	**4.48 282**	*i* P		**Pn**	**02 33 42.5**	**-0.4**
CDAG			*i* S		**Sg**	**02 34 59.8**	**+0.8**
CDAG	**Cicekdag**	**4.48 282**	*i* P		**Pn**	**02 33 42.5**	**-0.4**
CDAG			*i* S		**Sg**	**02 34 59.8**	**+0.8**
ONI	**Oni**	**4.60 33**	P		**Pn**	**02 33 43.5**	**-0.9**
ONI			S		**Sg**	**02 34 57.7**	**-4.9**
ONI	**Oni**	**4.60 33**	P		**Pn**	**02 33 43.5**	**-0.9**
TBLG	**Delisi**	**4.64 49**	*e*PN		**Pn**	**02 33 43.9**	**-1.0**
TBLG	**Delisi**	**4.64 49**	P		**Pn**	**02 33 44.2**	**-0.7**
TBLG			S		**Sg**	**02 35 04.6**	**+0.6**
TBLG	**Delisi**	**4.64 49**	*e*Pn		**Pn**	**02 33 43.9**	**-1.0**
TBLG	**Delisi**	**4.64 49**	P		**Pn**	**02 33 44.2**	**-0.7**
DIKM	**Dikmen**	**4.65 309**	*e*PN		**Pn**	**02 33 45.6**	**+0.6**
DIKM	**Dikmen**	**4.65 309**	*e*Pn		**Pn**	**02 33 45.6**	**+0.6**
SEAG	**Tbilisi Sea**	**4.70 49**	P		**Pn**	**02 33 44.4**	**-1.4**
SEAG			S		**Sg**	**02 35 01.6**	**-4.2**
SEAG	**Tbilisi Sea**	**4.70 49**	P		**Pn**	**02 33 44.4**	**-1.4**
MERS	**Mersin**	**4.77 248**	*e*PN		**Pn**	**02 33 47.9**	**+1.1**
MERS	**Mersin**	**4.77 248**	*e*Pn		**Pn**	**02 33 47.9**	**+1.1**
SOC	**Sochi**	**4.80 357**	*d i*P		**Pn**	**02 33 45.4**	**-1.6**
SOC			*i*			02 34 41.8	
SOC			pmax	pmax			
	comp=Z,1μm,0.9s						
SOC			MLR	MLR			
	comp=E,82μm,11.0s						
SOC			MLR	MLR			
	comp=Z,114μm,15.0s						
SOC			MLR	MLR			
	comp=N,71μm,15.0s						
SOC	**Sochi**	**4.80 357**	*i* P		**Pn**	**02 33 45.4**	**-1.6**
	comp=N,1μm,0.9s						
SOC			*i* S		**Sn**	**02 34 41.8**	**-0.7**
	comp=N,71μm,15.0s						
BIDA	**Albida**	**4.80 220**	*e*P		**Pn**	**02 33 45.7**	**-1.6**
	SNR=45						
BIDA			*e*S		**Sn**	**02 34 45.2**	**+2.3**
	comp=N,6μm,0.7s,SNR=40						
BIDA	**Albida**	**4.80 220**	*e*P		**Pn**	**02 33 45.7**	**-1.6**
BIDA			*e*S		**Sn**	**02 34 45.2**	**+2.3**
BIDA			AML	AML		02 35 13.4	
	comp=N,16μm,0.8s						
BIDA			AML	AML		02 35 37.2	
	comp=E,6μm,0.7s						
IKRK	**Kirkuk**	**4.82 133**	*e*PN		Pg	02 34 14.9	+7.5
IKRK			*e*SN		**Sb**	**02 34 57.7**	**+0.4**
DUS	**Dusheti**	**4.85 46**	P		**Pn**	**02 33 47.7**	**-0.1**
DUS	**Dusheti**	**4.85 46**	P		**Pn**	**02 33 47.7**	**-0.1**
DGRG	**David-gareji**	**4.87 55**	P		**Pn**	**02 33 48.2**	**0.0**
DGRG			S		**Sg**	**02 35 11.5**	**0.0**
DGRG	**David-gareji**	**4.87 55**	P		**Pn**	**02 33 48.2**	**0.0**
ZEI	**Tsey**	**4.95 35**	*e*P		**Pn**	**02 33 48.0**	**-1.4**
ZEI			pmax	pmax			
	comp=Z,2μm,1.0s						
BRTR	**Keskin Array B**	**5.06 283**	*ce*P		**Pn**	**02 33 49.7**	**-1.1**
BRTR			pmax	pmax			
	comp=Z,280nm,0.8s						
BRTR	**Keskin Array B**	**5.06 283**	Pn		**Pn**	**02 33 49.8**	**-1.1**
	comp=Z,20nm,0.3s,baz=104,slow=11,SNR=284						
BRTR			Pg		**Pb**	**02 34 04.0**	**+0.4**
	comp=Z,35nm,0.3s,baz=104,slow=15,SNR=19						
BRTR			Lg	Lg		02 35 10.0	
	baz=118,slow=31,SNR=2.2						
BRTR	**Keskin Array B**	**5.06 283**	Pg		**Pb**	**02 34 04.0**	**+0.4**
ROOS	**tl_alroos**	**5.12 207**	*e*P		**Pn**	**02 33 50.8**	**-0.8**
	SNR=45						
ROOS	**tl_alroos**	**5.12 207**	*e*P		**Pn**	**02 33 50.8**	**-0.8**
ROOS			AML	AML		02 35 32.3	
	comp=N,39nm,0.7s						
ROOS			AML	AML		02 35 40.0	
	comp=E,56nm,0.7s						
HAWK	**Haweek**	**5.17 216**	*e*P		**Pn**	**02 33 50.7**	**-1.5**
	SNR=45						
HAWK	**Haweek**	**5.17 216**	*e*P		**Pn**	**02 33 50.7**	**-1.5**
HAWK			AML	AML		02 35 31.4	
	comp=E,6μm,0.6s						
HAWK			AML	AML		02 35 32.2	
	comp=N,4μm,0.7s						
CANT	**Cankiri**	**5.28 292**	*e*PN		**Pn**	**02 33 54.8**	**+1.1**
ELDT	**Eldivan**	**5.38 290**	*i* P		**Pn**	**02 33 55.3**	**0.0**
ELDT	**Eldivan**	**5.38 290**	*i* P		**Pn**	**02 33 55.3**	**0.0**
KBZ	**Khabaz**	**5.38 23**	Pn		**Pn**	**02 33 54.6**	**-0.4**
	comp=N,3.1nm,0.3s,baz=195,slow=8.2,SNR=98						
KBZ			Lg	Lg		02 35 24.2	
	comp=N,3.3nm,0.3s,baz=89,slow=8.0,SNR=1.6						
KBZ			LR	LR		02 36 18.1	
	comp=N,124μm,19.5s,baz=212,slow=42						
FKH	**Fakeheh**	**5.40 214**	*e*P		**Pn**	**02 33 55.0**	**-0.5**
NCK	**Nalchik**	**5.41 29**	*e*P		**Pn**	**02 33 55.6**	**+0.1**
NCK	**Nalchik**	**5.41 29**	*e*P		**Pn**	**02 33 55.6**	**+0.1**
BBAL	**Bala**	**5.43 280**	*i* P		**Pn**	**02 33 55.6**	**-0.3**
BBAL	**Bala**	**5.43 280**	*i* P		**Pn**	**02 33 55.6**	**-0.3**
AFSR	**Af´ar-Bala (A**	**5.46 279**	*e*PN		**Pn**	**02 33 57.4**	**+1.1**
AFSR	**Af´ar-Bala (A**	**5.46 279**	*e*Pn		**Pn**	**02 33 57.4**	**+1.1**
KIV	**Kislovodsk**	**5.53 20**	Pn		**Pn**	**02 33 56.7**	**-0.5**
	comp=N,4μm,0.8s,SNR=55						
KIV	**Kislovodsk**	**5.53 20**	*e*P		**Pn**	**02 33 56.4**	**-0.8**
KIV			*e*S		**Sn**	**02 35 00.2**	**-0.6**
KIV			pmax	pmax			
	comp=Z,558nm,0.8s						
KIV	**Kislovodsk**	**5.53 20**	*e*P		**Pn**	**02 33 56.4**	**-0.8**
	comp=Z,558nm,0.8s						
KIV			*e*S		**Sn**	**02 35 00.2**	**-0.6**
MARH	**Ras Al Marh**	**5.55 212**	*e*P		**Pn**	**02 33 56.5**	**-1.2**
HWQ	**Hawqa**	**5.58 217**	*e*P		**Pn**	**02 33 57.6**	**-0.3**
HWQ	**Hawqa**	**5.58 217**	*e*P		**Pn**	**02 33 57.6**	**-0.3**
BZK	**Bozkurt**	**5.59 306**	*e*PN		**Pn**	**02 33 59.1**	**+1.1**
BZK	**Bozkurt**	**5.59 306**	*e*Pn		**Pn**	**02 33 59.1**	**+1.1**
BZK	**Bozkurt**	**5.59 306**	Pn		**Pn**	**02 33 60.0**	**+2.0**
EREN	**Erenkoy**	**5.71 237**	*e*PN		**Pn**	**02 34 01.1**	**+1.5**
EREN	**Erenkoy**	**5.71 237**	*e*Pn		**Pn**	**02 34 01.1**	**+1.5**
ANTO	**Ankara**	**5.72 283**	*e*PN		**Pn**	**02 34 01.1**	**+1.2**
ANTO	**Ankara**	**5.72 283**	*e*P		**Pn**	**02 33 59.9**	**0.0**
ANTO	**Ankara**	**5.72 283**	⇑*i*P		**Pn**	**02 34 00.4**	**+0.5**
ANTO	**Ankara**	**5.72 283**	⇑*i*P		**Pn**	**02 34 00.4**	**+0.5**
ANTO	**Ankara**	**5.72 283**	*e*Pn		**Pn**	**02 34 01.1**	**+1.2**
ANTO	**Ankara**	**5.72 283**	*e*Pn		**Pn**	**02 33 59.9**	**0.0**
BR231	**Keskin MP Arra**	**5.73 283**	*e*Pn		Pn	02 33 50.7	-9.4
BR231			*e*Sg		**Sb**	**02 35 22.8**	**-0.9**
BR231	**Keskin MP Arra**	**5.73 283**	*e*Pn		Pn	02 33 50.6	-9.4
BR231			*e*Sg		**Sb**	**02 35 22.8**	**-0.9**
LOD	**Lodumlu**	**5.75 283**	*e*PN		**Pn**	**02 34 01.5**	**+1.3**
LOD	**Lodumlu**	**5.75 283**	*e*Pn		**Pn**	**02 34 01.5**	**+1.3**
LOD	**Lodumlu**	**5.75 283**	Pn		**Pn**	**02 34 00.8**	**+0.6**
BHL	**Bhannes**	**6.03 217**	*e*P		**Pn**	**02 34 03.9**	**-0.2**
BHL	**Bhannes**	**6.03 217**	*e*P		**Pn**	**02 34 03.9**	**-0.2**
LADK	**Ladik-KONYA**	**6.05 267**	*e*PN		**Pn**	**02 34 05.6**	**+1.2**
LADK	**Ladik-KONYA**	**6.05 267**	*e*Pn		**Pn**	**02 34 05.6**	**+1.2**
QASN	**Qassioun**	**6.07 211**	*e*P		**Pn**	**02 34 01.6**	**-3.0**
KONT	**Konya--Tatoy**	**6.10 264**	*e*PN		**Pn**	**02 34 06.8**	**+1.8**
KONT	**Konya--Tatoy**	**6.10 264**	*e*Pn		**Pn**	**02 34 06.8**	**+1.8**
PHNC	**Paralimni**	**6.12 234**	P		**Pn**	**02 34 07.9**	**+2.6**
	baz=46						
PHNC			S		Sb	02 35 27.0	-7.8
PHNC	**Paralimni**	**6.12 234**	P		**Pn**	**02 34 07.9**	**+2.6**
PHNC			S		Sb	02 35 27.0	-7.8
SAFT	**Safranbolu**	**6.16 296**	*e*PN		**Pn**	**02 34 06.6**	**+0.9**
SAFT	**Safranbolu**	**6.16 296**	*e*Pn		**Pn**	**02 34 06.6**	**+0.9**
TOTH	**TOTAH**	**6.16 209**	*e*P		**Pn**	**02 34 05.2**	**-0.7**
ZALF	**Zalf**	**6.25 201**	*e*P		**Pn**	**02 34 04.4**	**-2.7**
ZALF			*e*S		**Sn**	**02 35 20.4**	**+1.9**
LFK	**Lefkose**	**6.28 238**	*e*PN		**Pn**	**02 34 09.3**	**+1.8**
LFK	**Lefkose**	**6.28 238**	*e*Pn		**Pn**	**02 34 09.3**	**+1.8**
RCY	**Rachaya**	**6.28 214**	*e*P		**Pn**	**02 34 07.9**	**+0.2**
BRBR	**Barbar**	**6.31 213**	*e*P		**Pn**	**02 34 07.3**	**-0.7**
ANN	**Anapa**	**6.32 343**	*e*P		**Pn**	**02 34 06.6**	**-1.3**
ANN			*e*S		**Sn**	**02 35 18.9**	**-1.0**
ANN			pmax	pmax			
	comp=Z,682nm,1.1s						
ANN			MLR	MLR			
	comp=Z,79μm,11.0s						
ANN			MLR	MLR			
	comp=N,92μm,11.0s						
ANN	**Anapa**	**6.32 343**	*e*P		**Pn**	**02 34 06.6**	**-1.3**
	comp=N,682nm,1.1s						
ANN			*e*S		**Sn**	**02 35 18.9**	**-1.0**
	comp=N,92μm,11.0s						
KIZT	**Kizilcal**	**6.38 273**	*e*PN		**Pn**	**02 34 09.5**	**+0.6**
KIZT	**Kizilcal**	**6.38 273**	*e*Pn		**Pn**	**02 34 09.5**	**+0.6**
MATL	**Matarih**	**6.52 217**	*e*P		**Pn**	**02 34 12.1**	**+1.4**
MATL	**Matarih**	**6.52 217**	*e*P		**Pn**	**02 34 12.1**	**+1.4**
IDHR	**Dehrash**	**6.53 127**	*e*Pn		**Pn**	**02 34 09.1**	**-2.0**
IDHR	**Dehrash**	**6.53 127**	*e*Pn		**Pn**	**02 34 09.0**	**-2.0**
BHD	**Baghdad**	**6.53 146**	*e*PN		Pg	02 34 44.2	+4.1
BHD			*e*SN		**Sb**	**02 35 43.3**	**-3.2**
BHD	**Baghdad**	**6.53 146**	*e*Pn		Pg	02 34 44.2	+4.1
	SNR=39						
BHD			*e*Sn		**Sb**	**02 35 43.3**	**-3.2**
	SNR=39						
MAMC	**Mammari**	**6.55 239**	P		**Pn**	**02 34 13.0**	**+1.9**
	baz=50						
MAMC	**Mammari**	**6.55 239**	P		**Pn**	**02 34 13.0**	**+1.9**
CSS	**Prodhromos**	**6.60 237**	P		**Pn**	**02 34 13.4**	**+1.6**
	baz=49						
CSS	**Prodhromos**	**6.60 237**	P		**Pn**	**02 34 10.8**	**-1.0**
CSS	**Prodhromos**	**6.60 237**	*e*PN		**Pn**	**02 34 13.7**	**+1.9**
CSS	**Prodhromos**	**6.60 237**	P		**Pn**	**02 34 13.4**	**+1.6**
CSS	**Prodhromos**	**6.60 237**	*e*Pn		**Pn**	**02 34 13.7**	**+1.9**
CSS			*e*Sn		Sb	02 35 40.3	-8.2
CSS	**Prodhromos**	**6.60 237**	*e*Pn		**Pn**	**02 34 12.7**	**+0.8**
CSS			*e*Sn		Sb	02 35 40.3	-8.2
SALA	**Sala**	**6.63 205**	*e*P		**Pn**	**02 34 10.9**	**-1.6**
SALA			AML	AML		02 36 19.2	
	comp=N,4μm,0.6s						
SALA			AML	AML		02 36 21.5	
	comp=E,209nm,0.7s						
GOF	**Gofitskoye**	**6.65 19**	*e*P		**Pn**	**02 34 13.3**	**+0.8**
GOF			pmax	pmax			
	comp=Z,600nm,0.8s						
GOF	**Gofitskoye**	**6.65 19**	*e*P		**Pn**	**02 34 13.3**	**+0.8**
	comp=Z,600nm,0.8s						
SVRH	**Sivrihisar-ESK**	**6.66 278**	*e*PN		**Pn**	**02 34 14.4**	**+1.7**
SVRH	**Sivrihisar-ESK**	**6.66 278**	*e*Pn		**Pn**	**02 34 14.4**	**+1.7**
ILIN	**Lien**	**6.76 123**	*e*Pn		**Pn**	**02 34 14.1**	**-0.2**
ILIN	**Lien**	**6.76 123**	*e*Pn		**Pn**	**02 34 14.1**	**-0.2**
LEF	**Lefka**	**6.80 240**	*e*PN		**Pn**	**02 34 16.1**	**+1.6**
LEF	**Lefka**	**6.80 240**	*e*Pn		**Pn**	**02 34 16.1**	**+1.6**
LEF	**Lefka**	**6.80 240**	Pn		**Pn**	**02 34 16.9**	**+2.3**
IGHG	**Ghaleghazi**	**6.88 128**	*e*Pn		**Pn**	**02 34 15.6**	**-0.4**
IGHG	**Ghaleghazi**	**6.88 128**	*e*Pn		**Pn**	**02 34 15.5**	**-0.4**
MMAI	**Mount Meron Ar**	**6.88 215**	Pn		**Pn**	**02 34 16.4**	**+0.6**
	comp=Z,64nm,0.3s,baz=62,slow=14,SNR=247						
MMAI			Pg	Pg		02 34 42.8	-4.0
	comp=Z,63nm,0.3s,baz=48,slow=15,SNR=6.5						
MMAI			Sn	Sn		02 35 44.3	+10
	baz=55,slow=19,SNR=2.1						
MMAI			Lg	Lg		02 36 12.5	
	comp=Z,47nm,0.3s,baz=72,slow=24,SNR=3.0						
MMAI			LR	LR		02 36 58.4	
	comp=Z,119μm,20.6s,baz=25,slow=39						
NAQL	**Naqoura**	**6.92 217**	*e*P		**Pn**	**02 34 16.5**	**+0.3**
NAQL	**Naqoura**	**6.92 217**	*e*P		**Pn**	**02 34 16.5**	**+0.3**
TCHB	**Talchebab**	**6.95 210**	*e*P		**Pn**	**02 34 16.0**	**-0.6**
SZAC	**Souni-Zanaja**	**7.01 237**	P		**Pn**	**02 34 19.7**	**+2.1**
	baz=49						
SZAC	**Souni-Zanaja**	**7.01 237**	P		**Pn**	**02 34 19.7**	**+2.1**
MAK	**Makhachkala**	**7.02 51**	*e*P		**Pn**	**02 34 18.1**	**+0.5**
MAK			*e*S		**Sn**	**02 35 40.5**	**+3.2**
MAK			pmax	pmax			
	comp=Z,2μm,1.8s						
MAK			MLR	MLR			
	comp=Z,206μm,8.0s						
MAK	**Makhachkala**	**7.02 51**	*e*P		**Pn**	**02 34 18.1**	**+0.5**
	comp=Z,2μm,1.8s						
MAK			*e*S		**Sn**	**02 35 40.5**	**+3.2**
	comp=Z,6μm,8.0s						
MDUB	**Mudurnu**	**7.03 287**	*e*PN		**Pn**	**02 34 19.0**	**+1.2**
MDUB	**Mudurnu**	**7.03 287**	*e*Pn		**Pn**	**02 34 19.0**	**+1.2**
KERU	**Kerch**	**7.04 339**	*e*P		**Pn**	**02 34 20.5**	**+2.7**
KERU	**Kerch**	**7.04 339**	*e*P		**Pn**	**02 34 20.5**	**+2.7**
KDZE	**Karadeniz Ereo**	**7.06 294**	*e*PN		**Pn**	**02 34 19.5**	**+1.3**
KDZE	**Karadeniz Ereo**	**7.06 294**	*e*Pn		**Pn**	**02 34 19.5**	**+1.3**
ASF	**Jabal al Asfar**	**7.08 202**	Pn		**Pn**	**02 34 17.9**	**-0.7**
	comp=Z,8.3nm,0.3s,baz=338,slow=7.1,SNR=158						
ASF			Pg		**Pg**	**02 34 49.4**	**-1.3**
	comp=Z,24nm,0.3s,baz=340,slow=14,SNR=7.2						
ASF			Sn	Sn		02 35 47.0	+8.0
	comp=Z,14nm,0.3s,baz=159,slow=8.5,SNR=2.3						
ASF			Lg	Lg		02 36 18.4	
	comp=Z,35nm,0.3s,baz=20,slow=21,SNR=3.3						
ASF			LR	LR		02 37 26.1	
	comp=Z,84μm,20.3s,baz=339,slow=41						
FEO	**Feodosiya**	**7.13 332**	*e*P		Pn	02 34 25.0	+6.0
FEO	**Feodosiya**	**7.13 332**	*e*P		Pn	02 34 25.0	+6.0
SUDU	**Sudak**	**7.16 330**	*e*P		**Pn**	**02 34 19.1**	**-0.4**
SUDU			*e*S		**Sn**	**02 35 45.8**	**+5.0**
SUDU	**Sudak**	**7.16 330**	*e*P		**Pn**	**02 34 19.1**	**-0.4**
SUDU			*e*S		**Sn**	**02 35 45.8**	**+5.0**
YAL	**Yalta**	**7.20 324**	*e*P		**Pn**	**02 34 20.3**	**+0.3**
YAL			*e*S		**Sn**	**02 35 47.4**	**+5.7**
YAL	**Yalta**	**7.20 324**	*e*P		**Pn**	**02 34 20.3**	**+0.3**
YAL			*e*S		**Sn**	**02 35 47.4**	**+5.7**
AKMC	**Akamas**	**7.23 241**	P		**Pn**	**02 34 22.0**	**+1.5**
	baz=52						
AKMC	**Akamas**	**7.23 241**	P		**Pn**	**02 34 22.0**	**+1.5**
ALU	**Alushta**	**7.24 326**	*e*P		Pn	02 34 24.2	+3.6
ALU			*e*S		Sn	02 35 51.7	+9.0
ALU	**Alushta**	**7.24 326**	*e*P		Pn	02 34 24.2	+3.6
ALU			*e*S		Sn	02 35 51.7	+9.0
PPCY	**Paphos**	**7.30 240**	P		**Pn**	**02 34 23.7**	**+2.3**
	baz=52						
PPCY	**Paphos**	**7.30 240**	P		**Pn**	**02 34 23.7**	**+2.3**
SHUT	**Suhut-Afyon**	**7.43 271**	*e*PN		**Pn**	**02 34 24.6**	**+1.2**
SHUT	**Suhut-Afyon**	**7.43 271**	*e*Pn		**Pn**	**02 34 24.6**	**+1.2**
SEV	**Sevastopol'**	**7.47 322**	*e*P		**Pn**	**02 34 25.0**	**+1.2**
SEV			*e*S		Sn	02 35 56.3	+7.9
SEV	**Sevastopol'**	**7.47 322**	*e*P		**Pn**	**02 34 25.0**	**+1.2**
SEV			*e*S		Sn	02 35 56.3	+7.9
ISP	**Isparta**	**7.55 266**	P		Pn	02 34 29.9	+4.9
ISP	**Isparta**	**7.55 266**	*e*PN		**Pn**	**02 34 26.1**	**+1.1**
ISP	**Isparta**	**7.55 266**	*e*P		**Pn**	**02 34 26.5**	**+1.5**
ISP	**Isparta**	**7.55 266**	⇑*i*P		**Pn**	**02 34 25.2**	**+0.2**
ISP	**Isparta**	**7.55 266**	⇑*i*P		**Pn**	**02 34 25.2**	**+0.2**
ISP	**Isparta**	**7.55 266**	*e*Pn		**Pn**	**02 34 26.1**	**+1.1**
ISP	**Isparta**	**7.55 266**	*e*Pn		**Pn**	**02 34 26.5**	**+1.5**
BCK	**Bucak**	**7.57 263**	*e*PN		**Pn**	**02 34 26.3**	**+1.1**
BCK	**Bucak**	**7.57 263**	*e*Pn		**Pn**	**02 34 26.3**	**+1.1**
IKOM	**Komasi**	**7.57 125**	*e*Pn		**Pn**	**02 34 24.3**	**-1.0**
IKOM	**Komasi**	**7.57 125**	*e*Pn		**Pn**	**02 34 24.3**	**-1.0**
SIM	**Simferopol'**	**7.58 326**	*e*P		**Pn**	**02 34 25.1**	**-0.1**
SIM	**Simferopol'**	**7.58 326**	*e*P		**Pn**	**02 34 25.1**	**-0.1**
IBZA	**Bozab**	**7.62 122**	*e*Pn		**Pn**	**02 34 25.7**	**-0.4**
IBZA	**Bozab**	**7.62 122**	*e*Pn		**Pn**	**02 34 25.7**	**-0.4**
ANTB	**Antalya**	**7.67 259**	*e*PN		**Pn**	**02 34 28.0**	**+1.6**
ANTB	**Antalya**	**7.67 259**	*e*Pn		**Pn**	**02 34 28.0**	**+1.6**
ALT	**Altintas**	**7.75 275**	P		**Pn**	**02 34 29.9**	**+2.2**
ALT	**Altintas**	**7.75 275**	*e*PN		**Pn**	**02 34 28.8**	**+1.1**
ALT	**Altintas**	**7.75 275**	*e*Pn		**Pn**	**02 34 28.8**	**+1.1**
CAVI	**Cavuskoy**	**8.01 283**	*e*PN		**Pn**	**02 34 32.3**	**+1.0**
CAVI	**Cavuskoy**	**8.01 283**	*e*Pn		**Pn**	**02 34 32.3**	**+1.0**
ADVT	**Abdulvahap**	**8.12 285**	*e*PN		**Pn**	**02 34 33.9**	**+1.2**
ADVT	**Abdulvahap**	**8.12 285**	*e*Pn		**Pn**	**02 34 33.9**	**+1.2**
HRT	**Hereke**	**8.24 288**	*e*PN		**Pn**	**02 34 35.3**	**+0.9**
HRT	**Hereke**	**8.24 288**	*e*Pn		**Pn**	**02 34 35.3**	**+0.9**
TVSB	**Tavsanli**	**8.25 278**	*e*PN		**Pn**	**02 34 35.6**	**+1.0**
TVSB	**Tavsanli**	**8.25 278**	*e*Pn		**Pn**	**02 34 35.6**	**+1.0**
KHL	**Karahalli**	**8.26 270**	*e*PN		**Pn**	**02 34 36.5**	**+1.8**
KHL	**Karahalli**	**8.26 270**	*e*Pn		**Pn**	**02 34 36.5**	**+1.8**
ELL	**Elmali**	**8.28 259**	*e*PN		**Pn**	**02 34 36.1**	**+1.0**
ELL	**Elmali**	**8.28 259**	*e*Pn		**Pn**	**02 34 36.1**	**+1.0**
SILT	**Sile**	**8.33 290**	*e*PN		**Pn**	**02 34 36.3**	**+0.8**
SILT	**Sile**	**8.33 290**	*e*Pn		**Pn**	**02 34 36.3**	**+0.8**
IGZV	**Ghazvin**	**8.43 103**	*e*Pn		**Pn**	**02 34 38.5**	**+1.4**
IGZV	**Ghazvin**	**8.43 103**	*e*Pn		**Pn**	**02 34 38.5**	**+1.4**
GEMT	**Gemlik**	**8.54 285**	*e*PN		**Pn**	**02 34 39.0**	**+0.6**
GEMT	**Gemlik**	**8.54 285**	*e*Pn		**Pn**	**02 34 39.0**	**+0.6**
IRAZ	**Razeghan**	**8.59 110**	*e*Pn		Pn	02 34 44.5	+5.2
IRAZ	**Razeghan**	**8.59 110**	*e*Pn		Pn	02 34 44.5	+5.2
AKAS	**Kas**	**8.68 256**	*i* P		**Pn**	**02 34 39.4**	**-1.1**
AKAS			*i* S		Sg	02 37 05.6	-7.9
AKAS	**Kas**	**8.68 256**	*i* P		**Pn**	**02 34 39.4**	**-1.1**
AKAS			*i* S		Sg	02 37 05.6	-7.9
ISK	**Istanbul-Kandi**	**8.74 289**	P		**Pn**	**02 34 41.5**	**+0.3**
ISK	**Istanbul-Kandi**	**8.74 289**	*e*PN		**Pn**	**02 34 42.4**	**+1.2**
ISK	**Istanbul-Kandi**	**8.74 289**	*e*Pn		**Pn**	**02 34 42.4**	**+1.2**
MDNY	**Mudanya-Bursa**	**8.76 284**	*e*PN		**Pn**	**02 34 42.4**	**+0.9**
MDNY	**Mudanya-Bursa**	**8.76 284**	*e*Pn		**Pn**	**02 34 42.4**	**+0.9**
KLYT	**Kilyos**	**8.79 290**	*e*PN		**Pn**	**02 34 42.6**	**+0.7**
KLYT	**Kilyos**	**8.79 290**	*e*Pn		**Pn**	**02 34 42.6**	**+0.7**
ARMT	**Armutlu**	**8.80 285**	*e*PN		**Pn**	**02 34 43.2**	**+1.1**
ARMT	**Armutlu**	**8.80 285**	*e*Pn		**Pn**	**02 34 43.2**	**+1.1**
KULA	**Kula-Manisa**	**8.91 272**	P		**Pn**	**02 34 44.9**	**+1.3**
KULA	**Kula-Manisa**	**8.91 272**	*e*PN		**Pn**	**02 34 44.1**	**+0.5**
KULA	**Kula-Manisa**	**8.91 272**	*e*Pn		**Pn**	**02 34 44.1**	**+0.5**
FETY	**Fethiye**	**8.95 259**	*e*PN		**Pn**	**02 34 45.1**	**+1.0**
FETY	**Fethiye**	**8.95 259**	*e*Pn		**Pn**	**02 34 45.1**	**+1.0**
BGKT	**Bogazkoy**	**8.98 289**	*e*PN		**Pn**	**02 34 45.1**	**+0.7**
BGKT	**Bogazkoy**	**8.98 289**	*e*Pn		**Pn**	**02 34 45.1**	**+0.7**
KCTX	**Karacabey (Bur**	**9.15 283**	*e*PN		**Pn**	**02 34 48.3**	**+1.5**
KCTX	**Karacabey (Bur**	**9.15 283**	*e*Pn		**Pn**	**02 34 48.3**	**+1.5**
CTKS	**Kestanelik-??a**	**9.18 289**	*e*PN		**Pn**	**02 34 48.3**	**+1.1**
CTKS	**Kestanelik-??a**	**9.18 289**	*e*Pn		**Pn**	**02 34 48.3**	**+1.1**
DALY	**Dalyan (Mu¨la**	**9.23 261**	*e*PN		**Pn**	**02 34 49.2**	**+1.3**
DALY	**Dalyan (Mu¨la**	**9.23 261**	*e*Pn		**Pn**	**02 34 49.2**	**+1.3**
NSR	**Nassriya**	**9.23 145**	*e*PN		Px	02 35 20.0	
NSR			*e*SN		Sn	02 36 48.1	+16
NSR	**Nassriya**	**9.23 145**	*e*Pn		Px	02 35 20.0	
	SNR=39						

KIS pmax pmax
comp=Z,2μm,5.4s
KIS Kishinev 11.61 319 ⇓*i*P **Pn 02 35 19.6 -0.9**
KIS Kishinev 11.61 319 *e*P **Pn 02 35 18.5 -2.0**
comp=Z,2μm,5.4s
KIS Kishinev 11.61 319 *i* PP Pn 02 35 28.0 +7.5
KIS *i* S **Sn 02 37 26.5 -3.5**
comp=Z,8μm,10.0s
KIS *i* Li 02 38 12.0
KIS *i* Lg1 02 38 28.0
KIS *i* Lg2 02 38 57.0
KIS *i* Rg Rg 02 39 28.0
KIS LRM MLR 02 43 24.0
comp=Z,50μm,16.0s
KIS Kishinev 11.61 319 *e*P **Pn 02 35 18.5 -2.0**
comp=Z,2μm,5.4s
KIS *i* S **Sn 02 37 26.5 -3.5**
ZKR Zakros 11.65 256 *e*PN **Pn 02 35 21.4 +0.3**
ZKR Zakros 11.65 256 *e*Pn **Pn 02 35 21.4 +0.3**
GRER 11.73 308 ⇑*i*P **Pn 02 35 22.0 -0.1**
GRER 11.73 308 ⇑*i*P **Pn 02 35 22.0 -0.1**
SANT Santorini 11.82 263 P **Pn 02 35 24.0 +0.5**
SANT Santorini 11.82 263 *e*PN **Pn 02 35 23.2 -0.2**
SANT Santorini 11.82 263 *e*Pn **Pn 02 35 23.2 -0.2**
SANT Santorini 11.82 263 P **Pn 02 35 24.0 +0.5**
SULR 11.86 304 ⇑*i*P **Pn 02 35 24.4 +0.6**
SULR 11.86 304 ⇑*i*P **Pn 02 35 24.4 +0.6**
ISR Istrita 11.87 307 ⇑*i*P **Pn 02 35 23.8 -0.3**
ISR Istrita 11.87 307 ⇑*i*P **Pn 02 35 23.8 -0.3**
ODBI Odobesti 11.87 310 ⇑*i*P **Pn 02 35 26.7 +2.7**
PVL Pavlikeni 11.96 296 P **Pn 02 35 26.8 +1.6**
PVL Pavlikeni 11.96 296 P **Pn 02 35 26.8 +1.6**
RZN Rozhen 12.07 289 P **Pn 02 35 27.8 +0.9**
RZN Rozhen 12.07 289 P **Pn 02 35 27.8 +0.9**
VRI Vrincioaia 12.12 310 ⇓*i*P **Pn 02 35 27.6 +0.1**
VRI Vrincioaia 12.12 310 ⇓*i*P **Pn 02 35 27.6 +0.1**
SECR 12.13 305 ⇑*i*P **Pn 02 35 26.9 -0.7**
SECR 12.13 305 ⇑*i*P **Pn 02 35 26.9 -0.7**
KAVA Kavala 12.13 285 P **Pn 02 35 29.0 +1.4**
KAVA Kavala 12.13 285 P **Pn 02 35 29.0 +1.4**
PLD Plovdiv 12.15 291 P **Pn 02 35 27.2 -0.6**
PLD Plovdiv 12.15 291 P **Pn 02 35 28.0 +0.2**
PLD Plovdiv 12.15 291 P **Pn 02 35 27.2 -0.6**
PLOR Plostina 12.16 310 ⇑*i*P **Pn 02 35 27.3 -0.7**
PLOR Plostina 12.16 310 ⇑*i*P **Pn 02 35 27.3 -0.7**
VORD Divnogorie 12.19 358 *e*P **Pn 02 35 27.9 -0.4**
VORD *e*S **Sn 02 37 46.1 +2.1**
VORD pmax pmax
comp=N,880nm,1.0s
VORD pmax pmax
comp=E,90nm,1.0s
VORD pmax pmax
comp=Z,260nm,1.0s
VORD pmax pmax
comp=N,1μm,1.3s
VORD pmax pmax
comp=Z,460nm,1.3s
VORD pmax pmax
comp=E,130nm,1.2s
VORD smax smax
comp=N,310nm,1.2s
VORD smax smax
comp=E,1μm,1.2s
VORD smax smax
comp=Z,270nm,1.2s
VORD MLR MLR
comp=N,26μm,16.0s
VORD MLR MLR
comp=E,21μm,16.0s
VORD MLR MLR
comp=Z,32μm,16.0s
VORD Divnogorie 12.19 358 *e*P **Pn 02 35 27.9 -0.4**
VORD *e*S **Sn 02 37 46.1 +2.1**
VRHR Novokhopersk 12.36 5 *e*P **Pn 02 35 31.3 +0.7**
VRHR *e*S Sn 02 37 54.7 +6.5
VRHR pmax pmax
comp=N,760nm,0.9s
VRHR pmax pmax
comp=E,210nm,0.9s
VRHR pmax pmax
comp=Z,520nm,0.9s
VRHR pmax pmax
comp=N,1μm,1.3s
VRHR pmax pmax
comp=E,340nm,1.3s
VRHR pmax pmax
comp=Z,990nm,1.3s
VRHR smax smax
comp=E,960nm,1.9s
VRHR smax smax
comp=N,860nm,2.1s
VRHR smax smax
comp=Z,280nm,2.1s
VRHR MLR MLR
comp=N,14μm,12.0s
VRHR MLR MLR
comp=E,8μm,12.0s
VRHR MLR MLR
comp=Z,26μm,12.0s
VRHR Novokhopersk 12.36 5 *e*P **Pn 02 35 31.3 +0.7**
VRHR *e*S Sn 02 37 54.7 +6.5
IAS Iasi 12.40 317 ⇑*i*P **Pn 02 35 31.0 -0.2**
IAS Iasi 12.40 317 ⇑*i*P **Pn 02 35 31.0 -0.2**
MLR Muntele Rosu 12.41 307 ⇑*i*P **Pn 02 35 32.0 +0.4**
MLR Muntele Rosu 12.41 307 Pn **Pn 02 35 30.6 -1.0**
comp=Z,0.1nm,0.3s,baz=184,slow=1.8,SNR=18
MLR Sn Sn 02 37 57.5 +7.7
comp=Z,0.1nm,0.3s,baz=268,slow=23,SNR=1.7
MLR LR LR 02 40 55.5
comp=Z,21μm,21.8s,baz=132,slow=41
VSR Storozhevoye 12.44 357 *e*P **Pn 02 35 30.5 -1.3**
VSR *e*S **Sn 02 37 50.0 -0.3**
VSR pmax pmax
comp=N,800nm,1.1s
VSR pmax pmax
comp=E,150nm,1.1s
VSR pmax pmax
comp=Z,310nm,1.1s
VSR pmax pmax
comp=N,1μm,1.4s
VSR pmax pmax
comp=E,240nm,1.4s
VSR pmax pmax
comp=Z,580nm,1.4s
VSR smax smax
comp=N,570nm,1.1s
VSR smax smax
comp=E,910nm,1.1s
VSR smax smax
comp=Z,340nm,1.1s
VSR MLR MLR
comp=N,20μm,12.0s
VSR MLR MLR
comp=E,13μm,12.0s
VSR MLR MLR
comp=Z,25μm,12.0s
VSR Storozhevoye 12.44 357 *e*P **Pn 02 35 30.5 -1.3**
VSR *e*S **Sn 02 37 50.0 -0.3**
OUR Ouranopolis 12.49 282 P **Pn 02 35 33.9 +1.3**
OUR Ouranopolis 12.49 282 *e*PN **Pn 02 35 32.5 -0.1**
OUR Ouranopolis 12.49 282 *e*Pn **Pn 02 35 32.5 -0.1**
OUR Ouranopolis 12.49 282 P **Pn 02 35 33.9 +1.3**
TESR Tescani 12.51 312 ⇑*i*P **Pn 02 35 31.7 -1.1**
TESR Tescani 12.51 312 ⇑*i*P **Pn 02 35 31.7 -1.1**
AOS Alonnisos 12.59 277 P **Pn 02 35 35.9 +2.0**
AOS Alonnisos 12.59 277 P **Pn 02 35 35.9 +2.0**
IDI Anoyia 12.60 259 Pn **Pn 02 35 33.5 -0.7**
comp=Z,2.1nm,0.3s,baz=70,slow=9.3,SNR=18
IDI Lg Lg 02 39 17.2
comp=Z,0.2nm,0.3s,baz=251,slow=20,SNR=1.6
IDI LR LR 02 41 36.0
comp=Z,88μm,18.7s,baz=59,slow=43
PGB Panagyurishte 12.63 292 P **Pn 02 35 37.5 +3.1**
HUMR Humele 12.63 302 ⇓*i*P **Pn 02 35 34.5 0.0**
HUMR Humele 12.63 302 ⇓*i*P **Pn 02 35 34.5 0.0**
NVR Nevrokopi 12.66 287 P **Pn 02 35 34.3 -0.6**
NVR Nevrokopi 12.66 287 P **Pn 02 35 34.3 -0.6**
PTL Penteli 12.71 272 P **Pn 02 35 36.9 +1.3**
PTL Penteli 12.71 272 P **Pn 02 35 36.9 +1.3**
PAIG Paliouri 12.72 280 P **Pn 02 35 37.3 +1.6**
PAIG Paliouri 12.72 280 P **Pn 02 35 37.3 +1.6**
SIVA Sivas 12.76 258 P **Pn 02 35 36.5 +0.3**
SIVA Sivas 12.76 258 *e*PN **Pn 02 35 36.3 +0.1**
SIVA Sivas 12.76 258 *e*Pn **Pn 02 35 36.3 +0.1**
GOLR 12.76 303 ⇑*i*P P 02 35 53.4 +6.0
MMB Musomiste 12.79 288 ⇑*i*P **Pn 02 35 35.9 -0.7**
MMB Musomiste 12.79 288 P **Pn 02 35 37.5 +0.9**
MMB Musomiste 12.79 288 ⇑*i*P **Pn 02 35 35.9 -0.7**
ATHU Athens Univers 12.79 271 P **Pn 02 35 39.0 +2.4**
ATHU Athens Univers 12.79 271 P **Pn 02 35 39.0 +2.4**
SRS Serrai 12.84 286 P **Pn 02 35 38.3 +1.0**
SRS Serrai 12.84 286 P **Pn 02 35 38.3 +1.0**
ATH Athens Observa 12.84 271 P **Pn 02 35 38.5 +1.2**
ATH Athens Observa 12.84 271 P **Pn 02 35 38.5 +1.2**
PLG Polygyros 12.91 282 P **Pn 02 35 40.0 +1.8**
PLG Polygyros 12.91 282 P **Pn 02 35 40.0 +1.8**
VOIR 12.95 306 ⇓*i*P **Pn 02 35 38.8 -0.1**
VOIR 12.95 306 ⇓*i*P **Pn 02 35 38.8 -0.1**
VOR Voronezh 12.96 358 *e*P **Pn 02 35 38.0 -0.8**
VOR pmax pmax
comp=Z,350nm,1.4s
VOR Voronezh 12.96 358 *e*P **Pn 02 35 38.0 -0.8**
comp=Z,350nm,1.4s
DOPR Dopca 12.98 308 ⇑*i*P **Pn 02 35 39.0 -0.3**
DOPR Dopca 12.98 308 ⇑*i*P **Pn 02 35 39.0 -0.3**
SOH Sokhos 13.00 284 P **Pn 02 35 40.7 +1.2**
SOH Sokhos 13.00 284 P **Pn 02 35 40.7 +1.2**
NEO Neokhori 13.09 278 P **Pn 02 35 42.1 +1.4**
NEO Neokhori 13.09 278 P **Pn 02 35 42.1 +1.4**
VAM Vamos 13.09 260 P Pn 02 35 44.2 +3.4
XOR Xorichti 13.11 278 P **Pn 02 35 42.5 +1.5**
XOR Xorichti 13.11 278 P **Pn 02 35 42.5 +1.5**
MPEP Malo Peshtene 13.12 296 P **Pn 02 35 41.9 +0.8**
MPEP Malo Peshtene 13.12 296 P **Pn 02 35 41.9 +0.8**
HORT Hortiatis 13.18 283 P **Pn 02 35 42.6 +0.6**
HORT Hortiatis 13.18 283 P **Pn 02 35 42.6 +0.6**
ARR Arges 13.19 305 ⇓*i*P **Pn 02 35 41.9 -0.2**
ARR Arges 13.19 305 ⇓*i*P **Pn 02 35 41.9 -0.2**
PRAR RASCA 13.23 315 ⇓*e*Pn **Pn 02 35 42.3 -0.3**
PRAR RASCA 13.23 315 ⇓*i*P **Pn 02 35 42.3 -0.3**
IKAZ Kazeroun 13.25 129 *e*Pn **Pn 02 35 40.3 -3.0**
IKAZ Kazeroun 13.25 129 *e*Pn **Pn 02 35 40.3 -3.0**
THE Thessaloniki 13.28 283 P **Pn 02 35 44.9 +1.6**
THE Thessaloniki 13.28 283 P **Pn 02 35 44.9 +1.6**
DID Didima 13.29 270 P **Pn 02 35 45.3 +1.7**
DID Didima 13.29 270 P **Pn 02 35 45.3 +1.7**
KKB Krupnik 13.30 289 P **Pn 02 35 45.5 +1.9**
KKB Krupnik 13.30 289 P **Pn 02 35 45.5 +1.9**
VTS Vitosha 13.33 292 P **Pn 02 35 43.5 -0.6**
VTS Vitosha 13.33 292 *e*PN **Pn 02 35 43.2 -0.9**
VTS Vitosha 13.33 292 ⇑*i*P **Pn 02 35 43.8 -0.3**
VTS Vitosha 13.33 292 P **Pn 02 35 45.2 +1.1**
VTS Vitosha 13.33 292 *e*Pn **Pn 02 35 43.2 -0.9**
VTS Vitosha 13.33 292 P **Pn 02 35 43.5 -0.6**
KNT Kendrikon 13.36 286 P **Pn 02 35 46.1 +1.6**
KNT Kendrikon 13.36 286 P **Pn 02 35 46.1 +1.6**
LTK Loutraki 13.42 272 P **Pn 02 35 46.9 +1.7**
LTK Loutraki 13.42 272 P **Pn 02 35 46.9 +1.7**
AXAR Agios Charalam 13.57 275 P **Pn 02 35 48.7 +1.4**
AXAR Agios Charalam 13.57 275 P **Pn 02 35 48.7 +1.4**
VAY Valandovo 13.62 286 P **Pn 02 35 48.0 0.0**
VAY Valandovo 13.62 286 *i* P **Pn 02 35 48.6 +0.6**
VAY Valandovo 13.62 286 P **Pn 02 35 48.0 0.0**
LIT Litokhoron 13.63 281 P **Pn 02 35 50.1 +1.9**
LIT Litokhoron 13.63 281 P **Pn 02 35 50.1 +1.9**
MDB Medias 13.69 307 ⇓*i*P P 02 36 00.9 +3.3
DSF Desfina 13.71 274 P **Pn 02 35 49.7 +0.5**
DSF Desfina 13.71 274 P **Pn 02 35 49.7 +0.5**
GRG Griva 13.72 285 P **Pn 02 35 51.1 +1.7**
GRG Griva 13.72 285 P **Pn 02 35 51.1 +1.7**
LOT Lotru 13.78 304 *e*PN **Pn 02 35 49.4 -0.8**
LOT Lotru 13.78 304 ⇓*i*P **Pn 02 35 49.9 -0.3**
LOT Lotru 13.78 304 *e*Pn **Pn 02 35 49.4 -0.8**
LOT Lotru 13.78 304 ⇓*i*P **Pn 02 35 49.9 -0.3**
AGG Agios Georgios 13.80 277 P **Pn 02 35 50.1 -0.4**
AGG Agios Georgios 13.80 277 P **Pn 02 35 50.1 -0.4**
GUR Goura 13.92 272 P **Pn 02 35 52.7 +0.5**
GUR Goura 13.92 272 P **Pn 02 35 52.7 +0.5**
BURAR Bucovina Array 13.94 314 ⇓*i*P **Pn 02 35 51.4 -0.9**
BURAR Bucovina Array 13.94 314 ⇓*i*P **Pn 02 35 51.4 -0.9**
BUR04 Bucovina Ar. S 13.94 314 *e*Pn Pn 02 35 48.5 -3.9
BUR04 Bucovina Ar. S 13.94 314 *e*Pn Pn 02 35 48.5 -3.9
MAKR Makrakomi, Fth 13.96 277 P **Pn 02 35 54.4 +1.8**
MAKR Makrakomi, Fth 13.96 277 P **Pn 02 35 54.4 +1.8**
IPAR Pars 13.96 126 *e*Pn **Pn 02 35 49.9 -3.0**
IPAR Pars 13.96 126 *e*Pn **Pn 02 35 49.9 -3.0**
VLX Vlachokerasia 13.99 270 P **Pn 02 35 54.9 +1.8**
VLX Vlachokerasia 13.99 270 P **Pn 02 35 54.9 +1.8**
THL Klokotos Trika 14.01 279 P **Pn 02 35 53.8 +0.5**
THL Klokotos Trika 14.01 279 P **Pn 02 35 53.8 +0.5**
KALE Kalithea 14.01 274 P **Pn 02 35 54.8 +1.4**
KALE Kalithea 14.01 274 P **Pn 02 35 54.8 +1.4**
KLV Kalavryta, Ach 14.05 273 P **Pn 02 35 54.5 +0.6**
AKASG Malin Array Be 14.16 331 *i* P **Pn 02 35 53.0 -2.2**
AKASG pmax pmax
comp=Z,45nm,0.9s
AKASG Malin Array Be 14.16 331 Pn **Pn 02 35 53.0 -2.2**
comp=Z,1.6nm,0.3s,baz=143,slow=13,SNR=113
AKASG Sn **Sn 02 38 30.6 -1.5**
baz=141,slow=24,SNR=6.0
AKASG LR LR 02 42 04.6
comp=Z,25μm,20.4s,baz=135,slow=40
KIEV Kiev 14.16 331 *d* *i*P Pn 02 35 51.9 -3.3
KIEV Kiev 14.16 331 *e*Pn Pn 02 35 51.9 -3.3
KIEV Kiev 14.16 331 *e*Pn Pn 02 35 51.9 -3.3
AK11 Malin Array Si 14.16 331 *e*Pn **Pn 02 35 52.1 -3.1**
AK11 Malin Array Si 14.16 331 *e*Pn **Pn 02 35 52.1 -3.1**
LAKA Lakka 14.16 273 P **Pn 02 35 57.2 +1.8**
KZN Kozani 14.18 282 P **Pn 02 35 57.1 +1.4**
EFP Efpalio 14.19 274 P **Pn 02 35 57.1 +1.3**
GEYT Alibeck 14.21 88 Pn **Pn 02 35 54.4 -1.7**
comp=Z,0.3nm,0.3s,baz=296,slow=14,SNR=24
GEYT Sn **Sn 02 38 34.7 +1.0**
comp=Z,0.1nm,0.3s,baz=325,slow=49,SNR=2.2
GEYT PcP **PcP 02 41 16.5 +2.3**
comp=Z,0.6nm,0.3s,baz=258,slow=4.4,SNR=5.4
GEYT LR LR 02 43 09.7
comp=Z,9μm,19.4s,baz=260,slow=45
ABKT Ailbek 14.21 88 Pn **Pn 02 35 55.0 -1.1**
comp=Z,1μm,1.1s,SNR=28
EVR Evrytania 14.21 276 P **Pn 02 35 57.6 +1.4**
ISFR Sfrayin 14.28 91 *e*Pn **Pn 02 35 56.7 -0.6**
ISFR Sfrayin 14.28 91 *e*Pn **Pn 02 35 56.7 -0.6**
ISRV Sarvestan 14.31 127 *e*Pn Pn 02 35 54.5 -3.3
ISRV Sarvestan 14.31 127 *e*Pn Pn 02 35 54.5 -3.3
ITM Ithomi 14.38 269 P **Pn 02 35 59.6 +1.2**
GZR Gura Zlata 14.41 303 ⇑*i*P **Pn 02 35 58.4 -0.4**
DRO Drossia 14.41 272 P **Pn 02 35 59.8 +1.0**
CJR Cluj-Napoca 14.43 309 ⇓*i*P **Pn 02 35 57.7 -1.3**
FNA Florina 14.49 284 P **Pn 02 36 00.6 +0.6**
DEV Deva 14.51 305 ⇓*i*P **Pn 02 36 00.0 -0.1**
SKO Skopje 14.53 289 P **Pn 02 36 01.4 +1.0**
SKO Skopje 14.53 289 *i* P **Pn 02 36 02.0 +1.6**
RLS Riolos of Patr 14.59 273 P **Pn 02 36 02.0 +0.8**
PYL PYLOS 14.59 268 P **Pn 02 36 00.8 -0.4**
PDO Prodromos 14.73 275 P **Pn 02 36 05.0 +1.8**
NEST Nestorio 14.74 282 P **Pn 02 36 04.3 +1.0**
IKRD Kardeh 14.75 92 *e*Pn P 02 36 15.0 +5.3
IKRD Kardeh 14.75 92 *e*Pn P 02 36 15.0 +5.3
DSL Palaion Diasel 14.75 277 P **Pn 02 36 05.9 +1.6**
JAN Janina 14.91 279 P **Pn 02 36 06.9 +1.4**
KBN Korca 14.94 283 P **Pn 02 36 07.3 +1.3**
OHR Ohrid 14.94 285 *i* P **Pn 02 36 06.7 +0.7**
BMR Baia Mare 14.95 312 ⇓*i*P **Pn 02 36 05.9 -0.2**
IAKL Akhelmad 14.98 93 *e*Pn **Pn 02 36 07.5 +0.8**
LKD2 Lefkada island 15.12 276 P **Pn 02 36 07.6 -0.8**
IPAY Payeh 15.20 93 *e*Pn **Pn 02 36 09.6 -0.1**
IPAY Payeh 15.20 93 *e*Pn **Pn 02 36 09.6 -0.1**
PHP Peshkopia 15.25 287 P **Pn 02 36 11.5 +1.4**
BZS Buzias 15.25 302 ⇑*i*P **Pn 02 36 09.1 -0.9**
BANR Banloc 15.49 301 ⇓*i*P **Pn 02 36 12.4 -0.8**
IMOG Moghan 15.56 94 *e*Pn **Pn 02 36 13.7 -0.7**
IMOG Moghan 15.56 94 *e*Pn **Pn 02 36 13.7 -0.7**
ISRO Mashad 15.61 93 *e*Pn **Pn 02 36 14.4 -0.5**
ISRO Mashad 15.61 93 *e*Pn **Pn 02 36 14.4 -0.5**
PVY Plav 15.70 290 ⇑*i*P **Pn 02 36 18.0 +2.0**
PVY Plav 15.70 290 ⇑*i*P **Pn 02 36 18.1 +2.0**
KEK Kerkira 15.71 280 P **Pn 02 36 15.8 -0.4**
TRPA Tarpa 15.74 312 ⇓*i*P **Pn 02 36 15.1 -1.3**
TRPA Tarpa 15.74 312 ⇓*e* **Pn 02 36 16.1 -0.3**
BEY Berane 15.78 291 ⇑*i*P **Pn 02 36 18.9 +1.8**
IVA Berane 15.78 291 ⇑*i*P **Pn 02 36 18.9 +1.8**
LVV L'vov 15.87 319 *e*P **Pn 02 36 15.0 -3.1**
LVV *e*S **Sn 02 39 18.4 +4.6**
LVV MLR MLR
comp=Z,10μm,10.0s
RAYN Ar Rayn 15.91 161 *e*Pn **Pn 02 36 14.6 -4.3**
comp=Z,2μm,2.4s
RAYN *e*Sn **Sn 02 39 20.0 +4.8**
RAYN Ar Rayn 15.91 161 *e*Pn **Pn 02 36 14.6 -4.3**
comp=Z,2μm,2.4s
RAYN *e*Sn **Sn 02 39 20.0 +4.8**
VLO Vlora 15.92 283 P **Pn 02 36 20.0 +1.2**
DIVS Divibare 15.93 296 P **Pn 02 36 19.3 +0.3**
IMYA Miami 16.09 92 *e*Pn **Pn 02 36 21.1 -0.1**
IMYA Miami 16.09 92 *e*Pn **Pn 02 36 21.2 -0.1**
UZH Uzhgorod 16.14 313 *e*P **Pn 02 36 18.6 -2.9**
UZH *e*S **Sn 02 39 15.0 -5.3**
UZH MLR MLR
comp=N,15μm,14.0s
UZH MLR MLR
comp=E,35μm,14.0s
UZH MLR MLR
comp=Z,16μm,14.0s
UZH Uzhgorod 16.14 313 *e*P **Pn 02 36 18.6 -2.9**
UZH *e*S **Sn 02 39 15.0 -5.3**
ULC Ulcinj 16.16 288 ⇑*i*P **Pn 02 36 23.4 +1.5**
ULC Ulcinj 16.16 288 ⇑*i*P **Pn 02 36 23.4 +1.5**
PDG Podgorica 16.20 290 P **P 02 36 23.9 -1.6**
PDG Podgorica 16.20 290 P **P 02 36 23.9 -1.6**
TTG Podgorica 16.20 290 ⇑*i*P **P 02 36 23.9 -1.6**
PLE Pljevlja 16.22 293 *e*P **Pn 02 36 24.2 +1.5**
PLE Pljevlja 16.22 293 *e*P **Pn 02 36 24.3 +1.5**
DRME Dracevica, Mon 16.22 289 ⇑*i*P **Pn 02 36 24.2 +1.5**
DRME Dracevica, Mon 16.22 289 ⇑*i*P **Pn 02 36 24.3 +1.5**
BBLS Lazići 16.30 295 ⇑*i*P **Pn 02 36 25.0 +1.3**
KOLS Kolonicke sedl 16.30 314 *e*P **Pn 02 36 23.0 -0.7**
KOLS pmax pmax
comp=Z,927nm,1.8s
KOLS Kolonicke sedl 16.30 314 *e*PN **Pn 02 36 23.0 -0.7**
KOLS Kolonicke sedl 16.30 314 *e*S **Sn 02 39 28.4 +4.0**
TEKS Tekeris 16.36 297 ⇑*i*P **Pn 02 36 25.6 +1.2**
NKY Niksic 16.43 291 ⇑*i*P **Pn 02 36 26.7 +1.3**
NKY Niksic 16.43 291 ⇑*i*P **Pn 02 36 26.8 +1.3**
BUM Brajici-Budva 16.45 289 ⇑*i*P **Pn 02 36 26.9 +1.3**
BUM Brajici-Budva 16.45 289 ⇑*i*P **Pn 02 36 27.0 +1.3**
KWP Kalwaria Pacla 16.45 317 *e*P **Pn 02 36 23.8 -1.7**
KWP MLR MLR
comp=Z,34μm,24.5s
KWP Kalwaria Pacla 16.45 317 *e*P **Pn 02 36 23.8 -1.7**
KWP *e*pP **P 02 36 27.7 -0.6**
KWP *e*S **S 02 39 42.3 +2.2**
KWP LMZ LR 02 43 10.2
KWP Kalwaria Pacla 16.45 317 ⇑*i*P **Pn 02 36 23.8 -1.7**
KWP Kalwaria Pacla 16.45 317 *e*P **Pn 02 36 23.8 -1.7**
comp=Z,34μm,24.5s
NKME Niksic 16.45 291 ⇑*i*P **P 02 36 27.1 -1.3**
NKME Niksic 16.45 291 ⇑*i*P **P 02 36 27.1 -1.3**
OBN Obninsk 16.50 353 Pn **Pn 02 36 23.2 -2.9**
comp=Z,3μm,1.4s,SNR=14
OBN Obninsk 16.50 353 *c* *i*P **Pn 02 36 23.1 -3.0**
OBN *e*S **Sn 02 39 26.3 -2.7**
OBN pmax pmax
comp=Z,1μm,1.7s
OBN MLR MLR
comp=Z,42μm,23.0s
OBN Obninsk 16.50 353 Pn **Pn 02 36 23.1 -3.0**
comp=Z,5.1nm,0.3s,baz=218,slow=0.4,SNR=68
OBN Sn **Sn 02 39 29.4 +0.4**
comp=Z,4.1nm,0.3s,baz=262,slow=12,SNR=2.3
OBN LR LR 02 43 21.3
comp=Z,41μm,20.8s,baz=176,slow=39
OBN Obninsk 16.50 353 *i* P **Pn 02 36 23.1 -3.0**
comp=Z,42μm,23.0s
OBN Obninsk 16.50 353 *e*Pn **Pn 02 36 23.5 -2.6**
comp=Z,1μm,1.3s
OBN *e*Sn Sn 02 39 16.5 -12
OBN *e*S S 02 39 26.3 -15
OBN Obninsk 16.50 353 *e*Pn **Pn 02 36 23.5 -2.6**
comp=Z,1μm,1.3s
OBN *e*Sn Sn 02 39 16.5 -12
UPM Unac-Piva 16.55 292 ⇑*i*P **Pn 02 36 27.8 +0.8**
UPM Unac-Piva 16.55 292 ⇑*i*P **Pn 02 36 27.9 +0.9**
IKOO Kooshah 16.66 107 *e*Pn **Pn 02 36 28.7 +0.1**
IKOO Kooshah 16.66 107 *e*Pn **Pn 02 36 28.7 +0.1**
CRVS Cervenica-Dubn 16.75 313 *e*P **Pn 02 36 27.8 -1.5**
CRVS pmax pmax
comp=Z,247nm,1.5s
CRVS Cervenica-Dubn 16.75 313 *e*P **Pn 02 36 27.8 -1.5**
comp=Z,247nm,1.5s
CRVS Cervenica-Dubn 16.75 313 *e*PN **Pn 02 36 27.8 -1.5**
CRVS Cervenica-Dubn 16.75 313 *e*S **S 02 39 46.2 +0.1**
HCY Herceg Novi 16.76 289 ⇑*i*P **Pn 02 36 30.1 +0.6**
HCY Herceg Novi 16.76 289 ⇑*i*P **Pn 02 36 30.1 +0.6**
BRY Bratogost 16.77 291 ⇑*i*P **Pn 02 36 30.8 +1.0**
BRY Bratogost 16.77 291 ⇑*i*P **Pn 02 36 30.9 +1.1**
PKSN Nyarlorinc 16.84 305 ⇑*i*Pn **P 02 36 33.2 +0.7**
PKS6 Bocsa 16.93 304 ⇓*e*Pn **P 02 36 33.2 -0.3**
MOS Moscow 17.04 355 *e*P **Pn 02 36 30.4 -2.5**
MOS *e*S **Sn 02 39 41.0 -1.0**
MOS pmax pmax
comp=Z,2μm,1.9s
MOS pmax pmax
comp=N,2μm,2.2s
MOS pmax pmax
comp=Z,1μm,1.4s
MOS MLR MLR
comp=Z,16μm,11.0s
MOS MLR MLR
comp=N,13μm,10.0s
PKS2 Kecel 17.12 303 ⇓*e*Pn **P 02 36 35.3 -0.4**
STHS Stebnicka Huta 17.13 314 *e*P **P 02 36 35.7 -0.1**
STHS pmax pmax
comp=Z,327nm,1.8s
STHS Stebnicka Huta 17.13 314 *e*P **P 02 36 35.7 -0.1**
comp=Z,327nm,1.8s
STHS Stebnicka Huta 17.13 314 *e*P **P 02 36 35.7 -0.1**
IDAH Dahanechah 17.17 105 *e*Pn **Pn 02 36 35.4 +0.4**
IDAH Dahanechah 17.17 105 *e*Pn **Pn 02 36 35.4 +0.4**
PSZ Piszkesteto 17.22 308 *e*P **Pn 02 36 33.1 -2.3**
PSZ pmax pmax
comp=Z,1μm,2.0s
PSZ Piszkesteto 17.22 308 ⇑*i*P **Pn 02 36 34.9 -0.4**
PSZ Piszkesteto 17.22 308 *e*Pn **Pn 02 36 33.0 -2.3**
comp=Z,1μm,2.0s
PSZ Piszkesteto 17.22 308 ⇑*e*Pn **Pn 02 36 35.0 -0.4**
PSZ Piszkesteto 17.22 308 *e*Pn **Pn 02 36 33.0 -2.3**
comp=Z,1μm,2.0s
AKTK Aktyubinsk 17.25 42 P **Pn 02 36 33.4 -2.2**
AKTK S **Sn 02 39 46.2 -1.1**
AKTO Aktyubinsk 17.25 42 P **Pn 02 36 33.4 -2.2**
comp=Z,0.9nm,0.3s,baz=238,slow=12,SNR=88
AKTO S **Sn 02 39 46.2 -1.0**
comp=Z,0.1nm,0.3s,baz=63,slow=18,SNR=1.5
AKTO LR LR 02 44 53.5
comp=Z,49μm,19.4s,baz=228,slow=43
PKS7 Kunszentmiklos 17.34 305 ⇓*i*Pn **P 02 36 38.3 +0.2**
STON Ston 17.38 291 P **Pn 02 36 37.1 -0.1**
PKSM Moragy 17.41 302 ⇓*i*P **Pn 02 36 36.2 -1.4**
PKSM Moragy 17.41 302 ⇑*e*Pn **Pn 02 36 38.1 +0.5**
PE1 Pezze di Greco 17.50 284 *e*P **Pn 02 36 38.0 -0.7**
BUD Budapest 17.59 306 ⇑*e*Pn **Pn 02 36 40.3 +0.4**
NIE Niedzica 17.66 313 ⇑*i*P **Pn 02 36 40.6 -0.1**
NIE MLR MLR
comp=Z,30μm,12.3s
NIE Niedzica 17.66 313 *i* P **Pn 02 36 40.6 -0.1**
NIE *e*S **S 02 40 03.8 -0.9**
NIE L L 02 45 16.0
comp=Z,30μm,12.3s
NIE Niedzica 17.66 313 *i* P **Pn 02 36 40.6 -0.1**
comp=Z,30μm,12.3s
AB31 Akbulak array 17.68 47 P **Pn 02 36 36.7 -4.2**
AB31 pmax pmax
comp=Z,273nm,1.2s
AB31 Akbulak array 17.68 47 P **Pn 02 36 36.7 -4.2**
comp=Z,273nm,1.2s
ABKAR Akbulak array 17.68 47 *e*Pn **Pn 02 36 36.6 -4.3**
ABKAR *e*Sn Sn 02 39 41.2 -16
ABKAR Akbulak array 17.68 47 *e*Pn **Pn 02 36 36.6 -4.3**
ABKAR *e*Sn Sn 02 39 41.2 -16
MICGM Minsk 17.75 336 ⇑*e*P Pn 02 36 37.0 -4.8
PKS9 Tamasi 17.76 303 ⇑*i*Pn **P 02 36 42.6 -0.2**
MNK Minsk 17.77 336 *c* *e*P Pn 02 36 37.0 -5.0
MNK *e*S Sn 02 39 52.0 -7.8
MNK pmax pmax
comp=E,2μm,2.0s
MNK pmax pmax
comp=Z,17μm,12.0s

MNK				pmax	pmax	
	comp=Z,810nm,1.6s					
MNK				pmax	pmax	
	comp=N,1μm,1.8s					
MNK				smax	smax	
	comp=N,19μm,10.0s					
MNK				smax	smax	
	comp=E,30μm,10.0s					
MNK				MLR	MLR	
	comp=Z,60μm,18.0s					
MNK				MLR	MLR	
	comp=E,50μm,12.0s					
MNK				MLR	MLR	
	comp=N,64μm,16.0s					
PKSG		**17.96 306**	⇑*i*Pn	**P**	**02 36 45.5 +0.6**	
SG1	**Sgolgore (BA)**	**18.06 284**	*e*P	**Pn**	**02 36 44.8 -0.9**	
TIP	**Timpagrande**	**18.10 279**	P	**Pn**	**02 36 44.5 -1.8**	
TIP	**Timpagrande**	**18.10 279**	*e*Pn	**Pn**	**02 36 42.1 -4.2**	
	comp=N,314nm,1.4s					
TIP	**Timpagrande**	**18.10 279**	P	**Pn**	**02 36 44.5 -1.8**	
TIP	**Timpagrande**	**18.10 279**	*e*Pn	**Pn**	**02 36 42.1 -4.2**	
	comp=N,314nm,1.4s					
VYHS	**Vyhne**	**18.11 309**	*e*P	**Pn**	**02 36 45.7 -0.5**	
VYHS			pmax	pmax		
	comp=Z,536nm,1.7s					
VYHS	**Vyhne**	**18.11 309**	*e*P	**Pn**	**02 36 45.7 -0.5**	
	comp=Z,536nm,1.7s					
VYHS	**Vyhne**	**18.11 309**	*e*P	**Pn**	**02 36 45.7 -0.5**	
VYHS			*e*S	**S**	**02 40 14.9 +1.1**	
PKST	**T"s**	**18.14 305**	⇑*i*Pn	**P**	**02 36 47.5 +0.5**	
OJC	**Ojcow**	**18.35 315**	⇑*i*P	**Pn**	**02 36 47.2 -2.0**	
OJC			MLR	MLR		
	comp=Z,51μm,16.6s					
OJC	**Ojcow**	**18.35 315**	*i* P	**Pn**	**02 36 47.2 -2.0**	
OJC			*e*S	**S**	**02 40 18.8 +0.1**	
OJC			L	L	02 45 42.0	
	comp=Z,51μm,16.6s					
OJC	**Ojcow**	**18.35 315**	*i* P	**Pn**	**02 36 47.2 -2.0**	
	comp=Z,51μm,16.6s					
OJC			*e*Sn	**S**	**02 40 20.1 +1.4**	
OJC	**Ojcow**	**18.35 315**	*e*Pn	**Pn**	**02 36 47.2 -2.0**	
	comp=Z,247nm,1.3s					
OJC			*e*Sn	**S**	**02 40 20.1 +1.4**	
NACGM	**Naroch**	**18.44 335**	*e*P	P	02 36 44.0 -6.2	
MS1	**Monte Sant'Ang**	**18.61 287**	*e*P	**P**	**02 36 51.3 -1.0**	
BEL	**Belsk**	**18.73 320**	*e*P	**P**	**02 36 52.0 -1.4**	
BEL			MLR	MLR		
	comp=Z,32μm,21.2s					
BEL	**Belsk**	**18.73 320**	*e*P	**P**	**02 36 51.9 -1.4**	
BEL			*e*S	**S**	**02 40 29.3 +3.1**	
BEL			LMZ	LR	02 44 44.5	
BEL	**Belsk**	**18.73 320**	*e*P	**P**	**02 36 52.0 -1.4**	
	comp=Z,32μm,21.2s					
SISC	**Sisak**	**18.75 298**	P	**Pn**	**02 36 54.0 0.0**	
BANOM	**Banah**	**18.75 128**	⇓P	**P**	**02 36 52.5 -1.4**	
	SNR=63					
BANOM	**Banah**	**18.75 128**	P	**P**	**02 36 52.5 -1.4**	
	SNR=63					
CUC	**Castrocucco**	**18.76 281**	*e*P	**P**	**02 36 53.2 -0.6**	
	comp=Z,1μm,1.9s					
CUC			*e*Sn	**S**	**02 40 33.8 +6.7**	
CUC	**Castrocucco**	**18.76 281**	*e*P	**P**	**02 36 53.2 -0.6**	
	comp=Z,1μm,1.9s					
CUC			*e*Sn	**S**	**02 40 33.8 +6.7**	
IDID	**Didziasalis**	**18.80 336**	*e*P	**P**	**02 36 52.4 -1.7**	
IDID			AMB	AMB	02 36 56.8	
	comp=Z,248nm,1.1s					
IDID	**Didziasalis**	**18.80 336**	*e*P	**P**	**02 36 52.4 -1.7**	
	comp=Z,248nm,1.1s,SNR=35					
CEL	**Celeste**	**18.90 276**	*e*P	**P**	**02 36 52.6 -2.8**	
	comp=Z,1μm,1.6s					
CEL			*e*Sn	**S**	**02 40 30.4 +0.4**	
CEL	**Celeste**	**18.90 276**	*e*P	**P**	**02 36 52.6 -2.8**	
	comp=Z,1μm,1.6s					
CEL			*e*Sn	**S**	**02 40 30.4 +0.4**	
IIGN	**Ignalina**	**18.99 335**	*e*P	**P**	**02 36 54.5 -1.8**	
IIGN			AMB	AMB	02 36 58.5	
	comp=Z,366nm,1.3s					
IIGN	**Ignalina**	**18.99 335**	*e*P	**P**	**02 36 54.5 -1.8**	
	comp=Z,366nm,1.3s,SNR=35					
UDBI	**Udbina**	**18.99 295**	P	**P**	**02 36 56.4 0.0**	
NAZ	**Nazwa, Dubai**	**19.07 132**	⇓*i*P	**P**	**02 36 55.4 -1.9**	
	SNR=171					
SUW	**Suwalki**	**19.08 328**	*e*P	**P**	**02 36 55.9 -1.3**	
SUW			*e*S	**S**	**02 40 32.6 -0.7**	
SUW			MLR	MLR		
	comp=Z,36μm,19.1s					
SUW	**Suwalki**	**19.08 328**	*e*P	**P**	**02 36 55.8 -1.4**	
SUW			*ep*P	**Pn**	**02 36 58.5 +0.5**	
SUW			*e*S	**S**	**02 40 32.6 -0.7**	
SUW			LMZ	LR	02 45 42.0	
SUW	**Suwalki**	**19.08 328**	*e*P	**P**	**02 36 55.9 -1.3**	
SUW			*e*Sn	**Sn**	**02 40 29.9 -1.6**	
SUW			*e*S	**S**	**02 40 32.6 -0.7**	
	comp=Z,36μm,19.1s					
SUW	**Suwalki**	**19.08 328**	*e*P	**P**	**02 36 52.9 -4.3**	
	comp=Z,999nm,1.0s					
SUW			*e*Sn	**Sn**	**02 40 29.9 -1.6**	
OKC	**Ostrava-Krasne**	**19.10 312**	⇑*i*P	**P**	**02 36 57.3 -0.1**	
OKC			*e*S	**S**	**02 40 34.3 +0.5**	
OKC			MLR	MLR		
	comp=Z,29μm,13.1s					
OKC	**Ostrava-Krasne**	**19.10 312**	⇑*i*P	**P**	**02 36 57.3 -0.1**	
OKC			*ep*P	**pP**	**02 37 02.3 +1.4**	
OKC			*e*S	**S**	**02 40 34.3 +0.5**	
OKC			AMS	AMS	02 46 10.0	
	comp=Z,29μm,13.1s					
OKC	**Ostrava-Krasne**	**19.10 312**	P	**P**	**02 36 57.3 -0.1**	
OKC			S	**S**	**02 40 34.3 +0.5**	
ASUD	**Al Ashush, Dub**	**19.16 133**	⇓*i*P	**P**	**02 36 57.0 -1.3**	
	SNR=60					
RAC	**Raciborz**	**19.18 313**	*e*P	**P**	**02 36 58.6 +0.2**	
RAC			*e*S	**Sn**	**02 40 33.1 -0.9**	
RAC			MLR	MLR		
	comp=Z,30μm,21.4s					
RAC	**Raciborz**	**19.18 313**	*e*P	**P**	**02 36 58.6 +0.2**	
	comp=Z,30μm,21.4s					
RAC			*e*S	**Sn**	**02 40 33.1 -0.9**	
ISAL	**Salakas**	**19.21 335**	*e*P	**P**	**02 36 56.9 -1.7**	
ISAL			AMB	AMB	02 37 01.5	
	comp=Z,250nm,1.2s					
ISAL	**Salakas**	**19.21 335**	*e*P	**P**	**02 36 56.9 -1.7**	
	comp=Z,250nm,1.2s,SNR=35					
FAQ	**Al Faqa, Dubai**	**19.22 132**	⇓*i*P	**P**	**02 36 57.1 -1.8**	
	SNR=65					
SOP	**Sopron**	**19.22 305**	⇑*e*P	**Pn**	**02 36 59.5 -0.3**	
UOSS	**Wadi Hilu**	**19.42 131**	P	**P**	**02 36 59.2 -2.0**	
	comp=Z,6μm,1.1s					
HATD	**Hatta, Dubai**	**19.47 131**	⇑*i*P	**P**	**02 36 59.7 -2.0**	
	SNR=168					
BOJS	**Bojanci**	**19.52 298**	*e*P	**P**	**02 37 02.6 +0.4**	
BOJS			*e*S	**S**	**02 40 43.9 +1.5**	
BOJS			*e*		02 44 57.7	
BOJS	**Bojanci**	**19.52 298**	*e*P	**P**	**02 37 02.6 +0.4**	
BOJS			*e*S	**S**	**02 40 43.9 +1.5**	
ASHO	**Ashiyiah**	**19.53 131**	⇑P	**P**	**02 37 00.5 -2.0**	
	SNR=381					
ASHO	**Ashiyiah**	**19.53 131**	P	**P**	**02 37 00.5 -2.0**	
	SNR=381					
NVLJ	**Novalja**	**19.63 295**	P	**P**	**02 37 02.7 -0.6**	
CONA	**Conrad Observa**	**19.75 305**	*i* Pn	**P**	**02 37 05.2 +0.5**	
	comp=Z,200nm,1.1s,SNR=242					
CONA	**Conrad Observa**	**19.75 305**	⇓*i*PcP	**PcP**	**02 41 24.5 +1.7**	
	comp=Z,26nm,1.2s					
CONA	**Conrad Observa**	**19.75 305**	P	**P**	**02 37 05.2 +0.5**	
	comp=Z,200nm,1.1s,SNR=242					
CONA	**Conrad Observa**	**19.75 305**	PcP	**PcP**	**02 41 24.5 +1.7**	
	comp=Z,26nm,1.2s					
ARSA	**Arzberg**	**19.76 303**	⇓*i*pP	**Pn**	**02 37 05.8 -0.5**	
	comp=Z,76nm,1.0s,SNR=45					
ARSA	**Arzberg**	**19.76 303**	P	**Pn**	**02 37 05.8 -0.5**	
	comp=Z,76nm,1.0s,SNR=45					
VRAC	**Vranov**	**19.79 310**	⇓*i*P	**P**	**02 37 04.2 -0.8**	
VRAC	**Vranov**	**19.79 310**	P	**P**	**02 37 03.3 -1.7**	
	comp=Z,0.3nm,0.3s,baz=106,slow=12,SNR=34					
VRAC			S	**Sn**	**02 40 48.8 +0.2**	
	comp=Z,0.1nm,0.3s,baz=272,slow=4.2,SNR=2.0					
VRAC			LR	LR	02 45 43.9	
	comp=Z,24μm,19.4s,baz=116,slow=40					
PERS	**Pernice**	**19.87 301**	*e*P	**P**	**02 37 05.9 -0.1**	
PERS			*e*		02 37 42.4	
PERS			*e*S	**Sn**	**02 40 53.1 +2.4**	
PERS	**Pernice**	**19.87 301**	*e*P	**P**	**02 37 05.9 -0.1**	
VISS	**Visnje**	**19.87 299**	*e*P	**P**	**02 37 06.1 +0.2**	
VISS			*e*		02 37 33.8	
VISS			*e*S	**Sn**	**02 40 53.1 +2.5**	
VISS	**Visnje**	**19.87 299**	*e*P	**P**	**02 37 06.1 +0.2**	
SOKA	**Soboth**	**19.93 301**	*i* Pn	**P**	**02 37 07.0 +0.3**	
	comp=Z,47nm,1.0s,SNR=43					
SOKA	**Soboth**	**19.93 301**	⇑*i*PcP	**PcP**	**02 41 23.6 +0.5**	
	comp=Z,62nm,1.1s					
SOKA	**Soboth**	**19.93 301**	P	**P**	**02 37 07.0 +0.3**	
	comp=Z,47nm,1.0s,SNR=43					
SOKA	**Soboth**	**19.93 301**	PcP	**PcP**	**02 41 23.6 +0.5**	
	comp=Z,62nm,1.1s					
KRLC	**Kraliky**	**19.99 312**	⇑*i*P	**P**	**02 37 07.0 -0.3**	
KRLC	**Kraliky**	**19.99 312**	⇑*i*P	**P**	**02 37 07.0 -0.3**	
KRLC	**Kraliky**	**19.99 312**	P	**P**	**02 37 07.0 -0.3**	
LJU	**Ljubljana**	**20.13 299**	*i* P	**P**	**02 37 09.4 +0.6**	
LJU	**Ljubljana**	**20.13 299**	*i* P	**P**	**02 37 09.4 +0.6**	
OBKA	**Obir**	**20.22 301**	⇑*i*Pn	**P**	**02 37 10.2 +0.4**	
	comp=Z,36nm,0.9s,SNR=13					
OBKA	**Obir**	**20.22 301**	⇑*i*PcP	**PcP**	**02 41 24.9 +1.2**	
	comp=Z,33nm,1.1s					
OBKA	**Obir**	**20.22 301**	P	**P**	**02 37 10.2 +0.4**	
	comp=Z,36nm,0.9s,SNR=13					
OBKA	**Obir**	**20.22 301**	PcP	**PcP**	**02 41 24.9 +1.2**	
	comp=Z,33nm,1.1s					
DPC	**Dobruska-Polom**	**20.38 312**	⇑*i*P	**P**	**02 37 11.3 -0.2**	
DPC			*e*		02 37 17.0	
DPC	**Dobruska-Polom**	**20.38 312**	⇑*i*P	**P**	**02 37 11.3 -0.2**	
DPC			*ep*P	**pP**	**02 37 17.0 +2.0**	
DPC			*e*S	Sn	02 41 02.6 -0.4	
DPC			AMS	AMS	02 48 20.0	
DPC	**Dobruska-Polom**	**20.38 312**	P	**P**	**02 37 11.3 -0.2**	
DPC			S	Sn	02 41 02.6 -0.4	
DPC	**Dobruska-Polom**	**20.38 312**	PFAKE		02 37 20.0 +6.4	
DPC			LR	LR		
	comp=Z,140μm,19.0s					
JAVS	**Javornik**	**20.42 299**	*e*P	**P**	**02 37 11.5 -0.5**	
JAVS			*e*		02 37 44.5	
JAVS			*e*S	Sn	02 41 03.2 -1.0	
JAVS	**Javornik**	**20.42 299**	*e*P	**P**	**02 37 11.5 -0.5**	
JAVS			*e*S	Sn	02 41 03.2 -0.9	
TREC	**Trest**	**20.45 309**	⇑*i*P	**P**	**02 37 12.4 +0.1**	
TREC			*e*		02 37 15.9	
TREC			*e*S	Sn	02 41 04.5 -0.2	
TREC			MLR	MLR		
	comp=Z,35μm,17.0s					
TREC	**Trest**	**20.45 309**	⇑*i*P	**P**	**02 37 12.4 +0.1**	
TREC			*ep*P	**pP**	**02 37 15.9 +0.2**	
TREC			*e*S	Sn	02 41 04.5 -0.2	
TREC			AMS	AMS	02 46 00.0	
	comp=Z,35μm,17.0s					
TREC	**Trest**	**20.45 309**	P	**P**	**02 37 12.4 +0.1**	
TREC			*e*S	Sn	02 41 04.5 -0.2	
	comp=Z,35μm,17.0s					
WDD	**Wield Dalam**	**20.48 270**	PFAKE		02 37 20.0 +5.2	
WDD			LR	LR		
	comp=Z,19μm,21.0s					
AQU	**L'Aquila**	**20.52 289**	*e*P	**P**	**02 37 13.2 +0.1**	
AQU			*e*S	**S**	**02 41 03.6 +1.2**	
AQU			pmax	pmax		
	comp=Z,630nm,1.2s					
AQU			MLR	MLR		
	comp=Z,67μm,18.0s					
AQU	**L'Aquila**	**20.52 289**	*e*P	**P**	**02 37 13.2 +0.1**	
	comp=Z,630nm,1.2s					
AQU			*e*S	**S**	**02 41 03.6 +1.2**	
	comp=Z,67μm,18.0s					
AQU	**L'Aquila**	**20.52 289**	*e*P	**P**	**02 37 13.2 +0.1**	
	comp=Z,630nm,1.2s					
AQU			*e*S	**S**	**02 41 03.6 +1.2**	
AQU			LR	LR		
	comp=Z,67μm,18.0s					
TRI	**Trieste**	**20.59 298**	*e*P	**P**	**02 37 12.5 -1.2**	
TRI			*e*S	**S**	**02 41 04.3 +0.7**	
TRI			pmax	pmax		
	comp=Z,457nm,1.3s					
TRI			MLR	MLR		
	comp=Z,23μm,18.5s					
TRI	**Trieste**	**20.59 298**	*e*P	**P**	**02 37 12.5 -1.2**	
	comp=Z,457nm,1.3s					
TRI			*e*S	**S**	**02 41 04.3 +0.7**	
	comp=Z,23μm,18.5s					
TRI	**Trieste**	**20.59 298**	*e*P	**P**	**02 37 12.5 -1.2**	
	comp=Z,457nm,1.3s					
TRI			*e*S	**S**	**02 41 04.3 +0.7**	
TRI			LR	LR		
	comp=Z,23μm,18.5s					
KSP	**Ksiaz**	**20.61 314**	⇑*e*P	**P**	**02 37 13.4 -0.6**	
KSP			*i* *PP	Pn	02 37 16.7 +0.5	
KSP			*e*S	Sn	02 41 06.5 -2.0	
KSP			MLR	MLR		
	comp=Z,165μm,23.9s					
KSP	**Ksiaz**	**20.61 314**	*e*P	**P**	**02 37 13.8 -0.2**	
KSP			*ep*P	Pn	02 37 16.2 0.0	
KSP			*e*S	Sn	02 41 07.6 -0.9	
KSP			LMZ	LR	02 45 45.6	
KSP	**Ksiaz**	**20.61 314**	*e*P	**P**	**02 37 13.4 -0.6**	
KSP			*e*S	Sn	02 41 06.5 -2.0	
	comp=Z,65μm,23.9s					
UPC	**Upice**	**20.62 312**	⇑*i*P	**P**	**02 37 13.7 -0.4**	
UPC			*e*		02 37 20.6	
UPC	**Upice**	**20.62 312**	⇑*i*P	**P**	**02 37 13.7 -0.4**	
UPC			*ep*P	**pP**	**02 37 20.6 +3.0**	
UPC	**Upice**	**20.62 312**	P	**P**	**02 37 13.7 -0.4**	
MOA	**Molln**	**20.75 304**	⇑*i*Pn	**P**	**02 37 15.6 +0.1**	
	comp=Z,177nm,1.1s,SNR=228					
MOA	**Molln**	**20.75 304**	P	**P**	**02 37 15.6 +0.1**	
	comp=Z,177nm,1.1s,SNR=228					
ARQ	**Araqi**	**20.84 133**	⇑P	**P**	**02 37 15.2 -1.4**	
	SNR=454					
ARQ	**Araqi**	**20.84 133**	P	**P**	**02 37 15.2 -1.4**	
	SNR=454					
MYKA	**Terra Mystica**	**20.86 301**	*i* pP	Pn	02 37 18.1 -1.1	
	comp=Z,75nm,1.5s,SNR=60					
MYKA	**Terra Mystica**	**20.86 301**	P	Pn	02 37 18.1 -1.1	
	comp=Z,75nm,1.5s,SNR=60					
HOQ	**Hoqain**	**21.11 131**	⇑P	**P**	**02 37 18.0 -1.6**	
	SNR=297					
HOQ	**Hoqain**	**21.11 131**	P	**P**	**02 37 18.0 -1.6**	
	SNR=297					
KBA	**Koelnbreinsper**	**21.15 302**	⇑*i*Pn	**P**	**02 37 20.2 +0.2**	
	comp=Z,371nm,1.1s,SNR=67					
KBA	**Koelnbreinsper**	**21.15 302**	P	**P**	**02 37 20.2 +0.2**	
	comp=Z,371nm,1.1s,SNR=67					
PRU	**Pruhonice**	**21.28 310**	⇑*i*P	**P**	**02 37 20.9 -0.3**	
PRU			*e*		02 37 27.8	
PRU			*e*S	Sn	02 41 23.3 -1.3	
PRU			MLR	MLR		
	comp=Z,35μm,15.0s					
PRU	**Pruhonice**	**21.28 310**	⇑*i*P	**P**	**02 37 20.9 -0.3**	
PRU			*ep*P	**pP**	**02 37 27.8 +3.1**	
PRU			*e*S	Sn	02 41 23.3 -1.3	
PRU			AMS	AMS	02 48 10.0	
	comp=Z,35μm,15.0s					
PRU	**Pruhonice**	**21.28 310**	P	**P**	**02 37 20.9 -0.3**	
PRU	**Pruhonice**	**21.28 310**	*e*PcP	**PcP**	**02 41 23.3 -2.2**	
	comp=Z,35μm,15.0s					
GKP	**Gorka Klasztor**	**21.33 320**	*e*P	**P**	**02 37 21.3 -0.3**	
GKP			*e**PP	**pP**	**02 37 24.6 -0.6**	
GKP			*e*S	**S**	**02 41 19.3 +1.2**	
GKP			MLR	MLR		
	comp=Z,42μm,19.2s					
GKP	**Gorka Klasztor**	**21.33 320**	*e*P	**P**	**02 37 21.3 -0.3**	
GKP			*ep*P	**pP**	**02 37 24.5 -0.6**	
GKP			*e*S	**S**	**02 41 19.2 +1.2**	
GKP			LMZ	LR	02 47 34.9	
GKP	**Gorka Klasztor**	**21.33 320**	*e*P	**P**	**02 37 21.3 -0.3**	
GKP			*e*S	**S**	**02 41 19.3 +1.2**	
	comp=Z,42μm,19.2s					
PRA	**Prague**	**21.38 310**	⇑P	**P**	**02 37 21.0 -1.2**	
GEC2	**GERESS Array S**	**21.40 307**	*e*P	**P**	**02 37 21.7 -0.9**	
GEC2	**GERESS Array S**	**21.40 307**	*e*P	**P**	**02 37 21.7 -0.9**	
GEC2	**GERESS Array S**	**21.40 307**	*e*P	**P**	**02 37 21.7 -0.9**	
GERES	**GERESS Array B**	**21.40 307**	P	**P**	**02 37 21.9 -0.7**	
	comp=Z,76nm,0.9s,baz=111,slow=7.3,SNR=74					
GERES			S	**S**	**02 41 20.8 +0.9**	
	comp=Z,1.8nm,1.0s,baz=46,slow=9.5,SNR=2.1					
GERES			PcP	**PcP**	**02 41 27.9 +2.0**	
	comp=Z,13nm,0.9s,baz=81,slow=1.8,SNR=9.3					
GERES			LR	LR	02 46 56.5	
	comp=Z,23μm,18.5s,baz=112,slow=40					
PVCC	**Panska Ves**	**21.47 311**	⇑*i*P	**P**	**02 37 22.8 -0.4**	
PVCC			*e*S	Sn	02 41 26.6 -2.6	
PVCC			MLR	MLR		
	comp=Z,36μm,15.5s					
PVCC	**Panska Ves**	**21.47 311**	⇑*i*P	**P**	**02 37 22.8 -0.4**	
PVCC			*e*S	Sn	02 41 26.6 -2.6	
PVCC			AMS	AMS	02 48 00.0	
	comp=Z,36μm,15.5s					
PVCC	**Panska Ves**	**21.47 311**	P	**P**	**02 37 22.8 -0.4**	
PVCC	**Panska Ves**	**21.47 311**	*e*PcP	**PcP**	**02 41 26.6 +0.8**	
VSU	**Vasula**	**21.49 341**	*c i*P	**P**	**02 37 22.3 -1.0**	
VSU			pmax	pmax		
	comp=Z,763nm,1.0s					
VSU			MLR	MLR		
	comp=Z,50μm,18.0s					
VSU	**Vasula**	**21.49 341**	*i* P	**P**	**02 37 22.3 -1.0**	
	comp=Z,50μm,18.0s					
ARU	**Arti**	**21.50 29**	P	**P**	**02 37 21.1 -2.3**	
	comp=Z,3μm,1.1s,SNR=85					
ARU	**Arti**	**21.50 29**	*c i*P	**P**	**02 37 19.9 -3.5**	
ARU			PPP	PPP	02 37 49.8	
ARU			S	**S**	**02 41 17.7 -3.7**	
ARU			SSS	SSS	02 41 56.7	
ARU			pmax	pmax		
	comp=Z,445nm,1.2s					
ARU			MLR	MLR		
	comp=Z,35μm,16.0s					
ARU	**Arti**	**21.50 29**	*e*P	**P**	**02 37 20.4 -3.0**	
	comp=Z,718nm,1.2s					
ARU			S	**S**	**02 41 17.7 -3.7**	
ARU	**Arti**	**21.50 29**	*e*P	**P**	**02 37 20.4 -3.0**	
	comp=Z,718nm,1.2s					
ARU			LR	LR		
	comp=Z,30μm,19.0s					
KHC	**Kasperske Hory**	**21.57 307**	⇑*i*P	**P**	**02 37 23.6 -0.8**	
KHC			*e*		02 37 29.8	
KHC			*e*S	**PcP**	**02 41 27.1 +1.0**	
KHC			MLR	MLR		
	comp=Z,29μm,20.8s					
KHC	**Kasperske Hory**	**21.57 307**	⇑*i*P	**P**	**02 37 23.6 -0.8**	
KHC			*ep*P	**pP**	**02 37 29.8 +2.0**	
KHC			*ex*	x	02 38 19.0	
KHC			*e*S	**PcP**	**02 41 27.1 +1.0**	
KHC			AMS	AMS	02 46 10.0	
	comp=Z,29μm,20.8s					
KHC	**Kasperske Hory**	**21.57 307**	P	**P**	**02 37 23.6 -0.8**	
KHC	**Kasperske Hory**	**21.57 307**	*e*PcP	**PcP**	**02 41 27.1 +1.0**	
KHC	**Kasperske Hory**	**21.57 307**	PFAKE		02 37 40.0 +16	
KHC			LR	LR		
	comp=Z,30μm,21.2s					
ABTA	**Abfaltersbach**	**21.64 300**	*i* P	**P**	**02 37 25.3 +0.1**	
	comp=Z,156nm,0.9s,SNR=49					
ABTA	**Abfaltersbach**	**21.64 300**	⇑*i*PcP	**PcP**	**02 41 27.1 +0.7**	
	comp=Z,39nm,1.1s					
ABTA	**Abfaltersbach**	**21.64 300**	P	**P**	**02 37 25.3 +0.1**	
	comp=Z,156nm,0.9s,SNR=49					
ABTA	**Abfaltersbach**	**21.64 300**	PcP	**PcP**	**02 41 27.1 +0.7**	
	comp=Z,39nm,1.1s					
RJOB	**Jochberg**	**21.67 303**	*e*P	**P**	**02 37 25.3 -0.2**	
	comp=Z,413nm,1.0s					
RJOB	**Jochberg**	**21.67 303**	*e*P	**P**	**02 37 25.3 -0.2**	
	comp=Z,413nm,1.0s					
PUL	**Pulkovo**	**21.89 347**	*c i*P	**P**	**02 37 27.0 -0.6**	
PUL			pmax	pmax		
	comp=Z,2μm,1.0s					
PUL			MLR	MLR		
	comp=Z,39μm,19.0s					
PUL	**Pulkovo**	**21.89 347**	*i* P	**P**	**02 37 27.0 -0.6**	
	comp=Z,39μm,19.0s					
SMDO	**Samad**	**21.95 130**	⇑P	**P**	**02 37 27.8 -0.8**	
	SNR=733					
SMDO	**Samad**	**21.95 130**	P	**P**	**02 37 27.8 -0.8**	
	SNR=733					
BRG	**Berggiesshubel**	**21.98 312**	*i* P	**P**	**02 37 28.3 -0.4**	
	comp=Z,331nm,1.9s					
BRG			*i*		02 37 39.1	
	comp=Z,386nm,1.6s					
BRG			*i* PCP	**PcP**	**02 41 28.0 +1.2**	
	comp=Z,105nm,1.8s					
BRG			S	Sn	02 41 37.0 -4.2	
BRG			*e*SCP	**ScP**	**02 44 59.3 -4.5**	
	comp=Z,56nm,1.8s					
	comp=N,36μm,15.1s					
	comp=E,39μm,15.0s					
	comp=Z,34μm,13.1s					
BRG	**Berggiesshubel**	**21.98 312**	*e*P	**P**	**02 37 28.2 -0.4**	
	comp=Z,387nm,1.6s					
BRG	**Berggiesshubel**	**21.98 312**	*e*P	**P**	**02 37 28.2 -0.4**	
	comp=Z,387nm,1.6s					
WET	**Wettzell**	**22.01 307**	*e*P	**P**	**02 37 28.1 -1.0**	
	comp=Z,356nm,1.3s					
WET	**Wettzell**	**22.01 307**	*e*P	**P**	**02 37 28.1 -1.0**	
	comp=Z,356nm,1.3s					
KLMR	**Klimovskoe**	**22.09 359**	*d i*P	**P**	**02 37 27.9 -1.8**	
KLMR			*e*S	**S**	**02 41 27.9 -5.0**	
KLMR			pmax	pmax		
	comp=Z,6μm,1.7s					
KLMR			pmax	pmax		
	comp=Z,4μm,1.8s					
KLMR			MLR	MLR		
	comp=Z,20μm,14.0s					
KLMR	**Klimovskoe**	**22.09 359**	*i* P	**P**	**02 37 27.9 -1.8**	
	comp=Z,20μm,14.0s					
FBE	**Freiberg**	**22.34 312**	*e*P	**P**	**02 37 32.2 -0.3**	
	comp=Z,632nm,1.5s					
FBE	**Freiberg**	**22.34 312**	*e*P	**P**	**02 37 32.2 -0.3**	
	comp=Z,632nm,1.5s					
WATA	**Walderalm**	**22.39 302**	⇓*i*P	**P**	**02 37 32.2 -1.1**	
	comp=Z,471nm,1.2s,SNR=272					
WATA	**Walderalm**	**22.39 302**	⇓*i*PcP	**PcP**	**02 41 27.2 -0.7**	
	comp=Z,38nm,1.0s					
WATA	**Walderalm**	**22.39 302**	P	**P**	**02 37 32.2 -1.1**	
	comp=Z,471nm,1.2s,SNR=272					
WATA	**Walderalm**	**22.39 302**	PcP	**PcP**	**02 41 27.2 -0.7**	
	comp=Z,38nm,1.0s					
TAS	**Tashkent**	**22.49 74**	*e*P	**P**	**02 37 33.1 -1.1**	
SVE	**Sverdlovsk**	**22.58 30**	*c i*P	**P**	**02 37 33.4 -1.6**	
SVE			*e*S	**S**	**02 41 41.5 -0.6**	
SVE			pmax	pmax		
	comp=Z,1μm,1.6s					
SVE			smax	smax		
	comp=E,34μm,16.3s					
SVE			smax	smax		
	comp=N,24μm,15.6s					
SVE			MLR	MLR		
	comp=Z,41μm,14.0s					
SVE	**Sverdlovsk**	**22.58 30**	*i* P	**P**	**02 37 33.4 -1.6**	
	comp=Z,1μm,1.6s					
SVE			*e*S	**S**	**02 41 41.5 -0.6**	
	comp=Z,41μm,14.0s					
ROTZ	**Rotzenmuhle**	**22.62 308**	*e*P	**P**	**02 37 35.1 -0.5**	
ROTZ	**Rotzenmuhle**	**22.62 308**	*e*P	**P**	**02 37 35.1 -0.5**	
TANN	**Tannenbergstha**	**22.68 310**	*e*P	**P**	**02 37 35.7 -0.6**	
	comp=Z,343nm,1.

MOTA Moosalm 22.70 302 P **P 02 37 35.4 -1.2**
comp=Z,464nm,0.9s,SNR=455
MOTA Moosalm 22.70 302 PcP **PcP 02 41 28.8 +0.2**
comp=Z,28nm,1.1s
FUR Furstenfeldbru 22.77 304 *e*P **P 02 37 36.4 -0.8**
comp=Z,850nm,1.2s
FUR Furstenfeldbru 22.77 304 *e*P **P 02 37 36.4 -0.8**
comp=Z,850nm,1.2s
VLC Villacollemand 22.79 293 *e*P **P 02 37 36.5 -0.9**
comp=Z,703nm,1.5s
VLC Villacollemand 22.79 293 *e*P **P 02 37 36.5 -0.9**
VLC comp=Z,703nm,1.5s LR LR
comp=Z,41µm,18.0s
WBK Wadi Bani Khal 22.84 129 ⇓P **P 02 37 37.4 -0.6**
SNR=225
WBK Wadi Bani Khal 22.84 129 P **P 02 37 37.4 -0.6**
SNR=225
FETA Feichten 22.89 301 *i* P **P 02 37 38.8 +0.2**
comp=Z,287nm,1.0s,SNR=153
FETA Feichten 22.89 301 ⇑*i*PcP **PcP 02 41 30.3 +1.3**
comp=Z,47nm,1.1s
FETA Feichten 22.89 301 P **P 02 37 38.8 +0.2**
comp=Z,287nm,1.0s,SNR=153
FETA Feichten 22.89 301 PcP **PcP 02 41 30.3 +1.3**
comp=Z,47nm,1.1s
PRGR Permogore 23.13 7⇑*i*P **P 02 37 38.7 -2.0**
PRGR S **S 02 41 48.2 -3.5**
PRGR pmax pmax
comp=Z,275nm,1.3s
PRGR Permogore 23.13 7 *i* P **P 02 37 38.7 -2.0**
comp=Z,275nm,1.3s
PRGR S **S 02 41 48.2 -3.5**
FUORN Ofenpass-Fuorn 23.14 299 *e*P **P 02 37 41.0 -0.3**
comp=Z,874nm,1.3s
FUORN Ofenpass-Fuorn 23.14 299 *e*P **P 02 37 41.0 -0.3**
comp=Z,874nm,1.3s
FUORN LR LR
comp=Z,28µm,18.2s
GRA1 Grafenberg Arr 23.21 307 *e*P **P 02 37 41.0 -0.7**
GRF Grafenberg Arr 23.21 307 *e*P **P 02 37 41.0 -0.7**
GRF *e*L L 02 47 44.2
comp=Z,22µm,20.9s
GRFO Grafenberg 23.21 307 *e*P **P 02 37 40.8 -0.9**
GRFO pmax pmax
comp=Z,2µm,1.1s
GRFO MLR MLR
comp=Z,20µm,20.0s
GRFO Grafenberg 23.21 307 *e*P **P 02 37 40.8 -0.9**
comp=Z,20µm,20.0s
GRFO Grafenberg 23.21 307 *e*P **P 02 37 40.8 -0.9**
comp=Z,2µm,1.1s
GRFO LR LR
comp=Z,20µm,20.0s
MOX Moxa 23.27 310 *e*P **P 02 37 41.3 -1.0**
comp=Z,151nm,1.2s
MOX *e*L L 02 47 56.3
comp=Z,35µm,21.4s
MOX Moxa 23.27 310 *e*P **P 02 37 41.3 -1.0**
comp=Z,151nm,1.2s
KK31 Karatay Array 23.34 70 P **P 02 37 42.0 -1.1**
KK31 pmax pmax
comp=Z,791nm,1.3s
KK31 Karatay Array 23.34 70 P **P 02 37 42.0 -1.1**
comp=Z,791nm,1.3s
KKAR Karatay Array 23.34 70 *e*P **P 02 37 42.1 -1.0**
KKAR Karatay Array 23.34 70 *e*P **P 02 37 42.1 -1.0**
KKAR Karatay Array 23.34 70 *e*P **P 02 37 42.1 -1.0**
NEUB Neuenburg 23.37 311 *e*P **P 02 37 42.3 -0.9**
comp=Z,377nm,1.6s
NEUB Neuenburg 23.37 311 *e*P **P 02 37 42.3 -0.9**
comp=Z,377nm,1.6s
SOKR Solikamsk 23.39 22*c i*P **P 02 37 42.9 -0.4**
SOKR S **S 02 41 55.7 -0.2**
SOKR pmax pmax
comp=Z,610nm,1.2s
SOKR MLR MLR
comp=Z,19µm,20.0s
DAVOX Davos/Dischmat 23.43 300 P **P 02 37 43.5 -0.6**
comp=Z,230nm,1.1s,baz=101,slow=8.3
DAVOX S **S 02 41 60.0 +2.8**
comp=Z,9.4nm,1.1s,baz=226,slow=9.0,SNR=2.5
DAVOX LR LR 02 49 44.7
comp=Z,16µm,18.6s,baz=95,slow=44
BSD Bornholm Skovb 23.49 322⇑*i*P **P 02 37 42.2 -2.2**
BSD pmax pmax
comp=Z,150nm,1.1s
BSD MLR MLR
comp=Z,21µm,12.0s
BSD Bornholm Skovb 23.49 322⇑*i*P **P 02 37 42.2 -2.2**
comp=Z,146nm,1.0s
BSD *i* S **S 02 42 01.6 +4.0**
comp=Z,21µm,11.0s
BSD Bornholm Skovb 23.49 322 *i* P **P 02 37 42.2 -2.2**
comp=Z,21µm,12.0s
DAVA Damuels 23.51 301 ⇓*i*P **P 02 37 43.7 -1.2**
comp=Z,240nm,1.0s,SNR=178
DAVA Damuels 23.51 301⇑*i*PcP **PcP 02 41 31.5 +1.2**
comp=Z,44nm,1.1s
DAVA Damuels 23.51 301 P **P 02 37 43.7 -1.2**
comp=Z,240nm,1.0s,SNR=178
DAVA Damuels 23.51 301 PcP **PcP 02 41 31.5 +1.2**
comp=Z,44nm,1.1s
KBL Kabul 23.60 91 *e*P **P 02 37 47.7 +1.8**
KBL pmax pmax
comp=Z,389nm,1.3s
KBL MLR MLR
comp=Z,29µm,19.4s
KBL Kabul 23.60 91 *e*P **P 02 37 47.7 +1.8**
comp=Z,29µm,19.4s
KBL Kabul 23.60 91 *e*P **P 02 37 47.7 +1.8**
comp=Z,389nm,1.3s
KBL LR LR
comp=Z,29µm,19.4s
SANA San'a 23.60 170⇓*e*P **P 02 37 47.0 +1.0**
SANA AMb AMB 02 37 48.8
comp=Z,2µm,2.4s
VSL Villasalto 23.74 281 *e*P **P 02 37 43.7 -3.4**
comp=Z,474nm,1.7s
VSL Villasalto 23.74 281 *e*P **P 02 37 43.7 -3.4**
comp=Z,474nm,1.7s
TUE Stuetta 23.75 299 *e*P **P 02 37 46.5 -0.7**
comp=Z,511nm,1.3s
TUE Stuetta 23.75 299 *e*P **P 02 37 46.5 -0.7**
comp=Z,511nm,1.3s
TUE LR LR
comp=Z,22µm,18.0s
PGF Pioggiola 23.77 289⇑*i*P **P 02 37 45.6 -1.9**
comp=Z,1µm,1.6s
PGF Pioggiola 23.77 289⇑*i*P **P 02 37 45.6 -1.9**
PGF pmax pmax
comp=Z,1µm,1.6s
PGF Pioggiola 23.77 289⇑*i*P **P 02 37 45.6 -1.9**
comp=Z,708nm,1.6s
PGF Pioggiola 23.77 289⇑*i*P **P 02 37 45.6 -1.9**
comp=Z,1µm,1.6s
RGN Rugen 23.97 320 *e*P **P 02 37 48.5 -0.5**
RGN Rugen 23.97 320 *e*P **P 02 37 48.3 -0.7**
comp=Z,1µm,1.2s
RGN Rugen 23.97 320 *e*P **P 02 37 48.3 -0.7**
comp=Z,1µm,1.2s
RGN LR LR
comp=Z,16µm,20.0s
STU Stuttgart 24.26 304 *e*P **P 02 37 51.1 -0.7**
STU pmax pmax
comp=Z,683nm,1.3s
STU MLR MLR
comp=Z,28µm,18.0s
STU Stuttgart 24.26 304 *e*P **P 02 37 50.5 -1.3**
comp=Z,693nm,1.3s
STU Stuttgart 24.26 304 *e*P **P 02 37 50.5 -1.3**
comp=Z,693nm,1.3s
STU Stuttgart 24.26 304 *e*P **P 02 37 51.1 -0.7**
comp=Z,683nm,1.3s
STU LR LR
comp=Z,28µm,18.0s
FINES FINESS Array B 24.28 344 P **P 02 37 50.8 -1.0**
comp=Z,53nm,0.7s,baz=151,slow=10,SNR=94
FINES S **S 02 42 11.1 +1.0**
comp=Z,3.9nm,0.7s,baz=7.3,slow=24,SNR=2.2
FINES LR LR 02 48 37.3
comp=Z,35µm,18.0s,baz=153,slow=40
ABTO Aybut 24.29 148 ⇑P **P 02 37 51.2 -1.2**
SNR=90
ABTO Aybut 24.29 148 P **P 02 37 51.2 -1.2**
SNR=90
RBK Rabkut 24.55 146 ⇓P **P 02 37 52.8 -1.9**
SNR=214
RBK Rabkut 24.55 146 P **P 02 37 52.8 -1.9**
SNR=214
KEST Kesra 24.57 272 P **P 02 37 55.0 +0.2**
comp=Z,135nm,1.2s,baz=22,slow=5.2,SNR=44
KEST S **S 02 42 17.5 +2.0**
comp=Z,2.3nm,1.0s,baz=278,slow=10,SNR=1.3
KEST LR LR 02 49 54.5
comp=Z,8µm,19.6s,baz=24,slow=42
TOD Tromm 24.70 306⇑*e*P **P 02 37 55.3 -0.5**
BFO Black Forest 24.73 303 P **P 02 37 55.5 -0.6**
comp=Z,358nm,1.4s,SNR=14
BFO Black Forest 24.73 303 *e*P **P 02 37 54.8 -1.3**
BFO pmax pmax
comp=Z,147nm,1.2s
BFO MLR MLR
comp=Z,22µm,21.0s
BFO Black Forest 24.73 303 *e*P **P 02 37 54.8 -1.3**
comp=Z,178nm,1.5s
BFO Black Forest 24.73 303 *e*P **P 02 37 54.8 -1.3**
comp=Z,22µm,21.0s
BFO Black Forest 24.73 303 *e*P **P 02 37 54.8 -1.3**
comp=Z,147nm,1.2s
BFO LR LR
comp=Z,22µm,21.0s
JOF Joensuu 24.73 350 *e*P **P 02 37 54.9 -1.1**
JOF pmax pmax
comp=Z,167nm,0.8s
JOF Joensuu 24.73 350 *e*p **P 02 37 54.9 -1.1**
comp=Z,167nm,0.8s
JOF Joensuu 24.73 350 *e*P **P 02 37 54.9 -1.1**
comp=Z,167nm,0.8s
KAF Kangasniemi 24.83 345 *e*P **P 02 37 55.4 -1.4**
KAF pmax pmax
comp=Z,67nm,0.7s
KAF Kangasniemi 24.83 345 *e*p **P 02 37 55.4 -1.4**
comp=Z,67nm,0.7s
KAF Kangasniemi 24.83 345 *e*P **P 02 37 55.4 -1.4**
comp=Z,67nm,0.7s
FELD Feldberg im Sc 24.86 302⇑*e*P **P 02 37 56.6 -0.9**
SBF Sospel 24.91 292⇑*i*P **P 02 37 57.4 -0.4**
comp=Z,768nm,1.1s
SBF Sospel 24.91 292⇑*i*P **P 02 37 57.4 -0.4**
SBF pmax pmax
comp=Z,769nm,1.1s
SBF Sospel 24.91 292⇑*i*P **P 02 37 57.4 -0.4**
comp=Z,384nm,1.1s
SBF Sospel 24.91 292⇑*i*P **P 02 37 57.4 -0.4**
comp=Z,768nm,1.1s
AUTN L'Aution 24.91 293⇑*e*P **P 02 37 57.3 -0.8**
AUTN L'Aution 24.91 293⇑*e*P **P 02 37 57.3 -0.8**
LLD Lille Linde 24.92 321 *i* P **P 02 37 59.2 +1.5**
LLD Lille Linde 24.92 321 *i* P **P 02 37 59.2 +1.5**
comp=Z,24nm,0.9s
LLD Lille Linde 24.92 321 *i* P **P 02 37 59.2 +1.5**
REVF Revere 24.96 292⇑*e*P **P 02 37 57.3 -0.9**
REVF Revere 24.96 292⇑*e*P **P 02 37 57.3 -0.9**
COP Copenhagen 24.99 322⇑*i*P **P 02 37 59.0 +0.7**
COP pmax pmax
comp=Z,54nm,0.9s
COP MLR MLR
comp=Z,12µm,12.0s
COP Copenhagen 24.99 322⇑*i*P **P 02 37 59.0 +0.7**
comp=Z,54nm,0.9s
COP *i* S **S 02 42 27.7 +6.0**
comp=Z,12µm,11.0s
COP Copenhagen 24.99 322⇑*i*P **P 02 37 59.0 +0.7**
comp=Z,54nm,0.9s,SNR=28
TOUF Mont Tournerai 25.05 293⇑*e*P **P 02 37 58.8 -0.4**
TOUF Mont Tournerai 25.05 293⇑*e*P **P 02 37 58.8 -0.4**
TNS Taunus Mts 25.08 307 *e*P **P 02 37 59.2 -0.1**
comp=Z,848nm,2.0s
TNS Taunus Mts 25.08 307 *e*P **P 02 37 59.2 -0.1**
comp=Z,848nm,2.0s
KTD Kalmit 25.09 305⇑*e*P **P 02 37 58.6 -0.8**
MVIF Mont Vial 25.11 292⇑*e*P **P 02 37 59.0 -0.8**
MVIF Mont Vial 25.11 292⇑*e*P **P 02 37 59.0 -0.8**
BBS Basel-Blauen 25.13 301⇑*e*P **P 02 37 59.0 -0.8**
SENIN Lac Senin/Sane 25.14 298 *e*P **P 02 37 58.5 -1.6**
SENIN Lac Senin/Sane 25.14 298 *e*P **P 02 37 58.5 -1.6**
LIBD Limburg 25.17 302 *e*P **P 02 38 02.2 +2.1**
BRVK Borovoye 25.18 46*d i*P **P 02 37 58.8 -1.3**
BRVK pmax pmax
comp=Z,115nm,1.7s
BRVK MLR MLR
comp=Z,40µm,20.0s
BRVK Borovoye 25.18 46 *i* P **P 02 37 58.8 -1.3**
comp=Z,40µm,20.0s
BRVK Borovoye 25.18 46 *e*P **P 02 37 59.1 -1.1**
comp=Z,121nm,1.0s
BRVK LR LR
comp=Z,40µm,20.0s
LANF Langenberg 25.20 304⇑*e*P **P 02 37 58.8 -1.5**
LANF Langenberg 25.20 304⇑*e*P **P 02 37 58.8 -1.5**
BVA0 Borovoye Array 25.23 46 *i* P **P 02 37 59.7 -0.9**
BVA0 pmax pmax
comp=Z,193nm,1.5s
BVA0 Borovoye Array 25.23 46 *i* P **P 02 37 59.7 -0.9**
comp=Z,193nm,1.5s
BVAR Borovoye Array 25.23 46 P **P 02 37 59.9 -0.6**
comp=Z,31nm,1.0s,baz=232,slow=6.8,SNR=89
BVAR S **S 02 42 29.2 +3.5**
comp=Z,6.7nm,1.0s,baz=294,slow=26,SNR=2.1
BVAR LR LR 02 49 25.7
comp=Z,36µm,20.0s,baz=252,slow=40
BSEG Bad Segeberg 25.25 317 *e*P **P 02 38 01.2 +0.5**
comp=Z,1µm,2.5s
BSEG Bad Segeberg 25.25 317 *e*P **P 02 38 01.2 +0.5**
comp=Z,1µm,2.5s
CALN Calern 25.30 292⇑*e*P **P 02 38 00.5 -1.0**
CALN Calern 25.30 292⇑*e*P **P 02 38 00.5 -1.0**
SURF Saint Ours 25.37 294 *e*P **P 02 38 02.0 -0.1**
SURF Saint Ours 25.37 294 *e*P **P 02 38 02.0 -0.1**
MBDF Montbardon 25.40 294⇑*i*P **P 02 38 01.8 -0.6**
comp=Z,388nm,1.1s
MBDF Montbardon 25.40 294⇑*i*P **P 02 38 01.8 -0.6**
MBDF pmax pmax
comp=Z,388nm,1.1s
MBDF Montbardon 25.40 294⇑*i*P **P 02 38 01.8 -0.6**
comp=Z,194nm,1.1s
MBDF Montbardon 25.40 294⇑*i*P **P 02 38 01.8 -0.6**
comp=Z,388nm,1.1s
CDF Champ du Feu 25.43 303⇑*i*P **P 02 38 00.8 -1.8**
comp=Z,241nm,1.1s
CDF Champ du Feu 25.43 303⇑*i*P **P 02 38 00.8 -1.8**
CDF pmax pmax
comp=Z,241nm,1.1s
CDF Champ du Feu 25.43 303⇑*i*P **P 02 38 00.8 -1.8**
comp=Z,120nm,1.1s
CDF Champ du Feu 25.43 303⇑*i*P **P 02 38 00.8 -1.8**
comp=Z,241nm,1.1s
MOF Molkenrain 25.44 302⇑*e*P **P 02 38 01.6 -1.0**
MOF Molkenrain 25.44 302⇑*e*P **P 02 38 01.6 -1.0**
TMCR Tamitsa 25.44 358 *e*P **P 02 38 01.5 -0.8**
TMCR pmax pmax
comp=Z,159nm,0.6s
TMCR Tamitsa 25.44 358 *e*P **P 02 38 01.5 -0.8**
comp=Z,159nm,0.6s
LPG La Plagne 25.45 296⇑*i*P **P 02 38 02.1 -0.9**
comp=Z,925nm,1.3s
LPG La Plagne 25.45 296⇑*i*P **P 02 38 02.1 -0.9**
LPG pmax pmax
comp=Z,925nm,1.3s
LPG La Plagne 25.45 296⇑*i*P **P 02 38 02.1 -0.9**
comp=Z,463nm,1.3s
LPG La Plagne 25.45 296⇑*i*P **P 02 38 02.1 -0.9**
comp=Z,925nm,1.3s
VOSK Vostochnaya 25.45 47 *e*P **P 02 38 01.6 -1.0**
VOSK pmax pmax
comp=Z,103nm,1.2s
VOSK MLR MLR
comp=Z,26µm,18.2s
VOSK Vostochnaya 25.45 47 *e*P **P 02 38 01.6 -1.0**
comp=Z,26µm,18.2s
VOSK Vostochnaya 25.45 47 *e*P **P 02 38 01.6 -1.0**
comp=Z,103nm,1.2s
VOSK LR LR
comp=Z,26µm,18.2s
LPL La Plagne 25.47 296⇑*i*P **P 02 38 02.0 -1.0**
comp=Z,622nm,1.3s
LPL La Plagne 25.47 296⇑*i*P **P 02 38 02.0 -1.0**
LPL pmax pmax
comp=Z,622nm,1.3s
LPL La Plagne 25.47 296⇑*i*P **P 02 38 02.0 -1.0**
comp=Z,311nm,1.3s
LPL La Plagne 25.47 296⇑*i*P **P 02 38 02.0 -1.0**
comp=Z,622nm,1.3s
ECH Echery 25.48 302⇑*e*P **P 02 38 01.6 -1.3**
ECH Echery 25.48 302⇑*e*P **P 02 38 01.6 -1.3**
BNI Bardonecchia 25.48 295 *e*P **P 02 38 03.1 0.0**
BNI pmax pmax
comp=Z,368nm,1.2s
BNI Bardonecchia 25.48 295 *e*P **P 02 38 03.1 0.0**
comp=Z,368nm,1.2s
BNI Bardonecchia 25.48 295 *e*P **P 02 38 03.1 0.0**
comp=Z,368nm,1.2s
FRF La Foret Royal 25.48 292⇑*i*P **P 02 38 02.4 -0.5**
comp=Z,900nm,1.4s
FRF La Foret Royal 25.48 292⇑*i*P **P 02 38 02.4 -0.5**
FRF pmax pmax
comp=Z,900nm,1.4s
FRF La Foret Royal 25.48 292⇑*i*P **P 02 38 02.4 -0.5**
comp=Z,450nm,1.4s
FRF La Foret Royal 25.48 292⇑*i*P **P 02 38 02.4 -0.5**
comp=Z,900nm,1.4s
MUKL Al Mukalla 25.49 159⇑*e*P **P 02 38 03.9 +0.8**
MUKL AMb AMB 02 38 06.3
comp=Z,566nm,1.9s
LOMF Lomont 25.57 300⇑*e*P **P 02 38 03.1 -0.7**
LOMF Lomont 25.57 300⇑*e*P **P 02 38 03.1 -0.7**
LMR La Mourre 25.59 291⇑*i*P **P 02 38 03.1 -0.8**
comp=Z,692nm,1.4s
LMR La Mourre 25.59 291⇑*i*P **P 02 38 03.1 -0.8**
LMR pmax pmax
comp=Z,692nm,1.4s
LMR La Mourre 25.59 291⇑*i*P **P 02 38 03.1 -0.8**
comp=Z,346nm,1.4s
LMR La Mourre 25.59 291⇑*i*P **P 02 38 03.1 -0.8**
comp=Z,692nm,1.4s
HINF Hinteralfeld 25.62 301⇑*i*P **P 02 38 03.0 -1.2**
comp=Z,279nm,1.1s
HINF Hinteralfeld 25.62 301⇑*i*P **P 02 38 03.0 -1.2**
HINF pmax pmax
comp=Z,279nm,1.1s
HINF Hinteralfeld 25.62 301⇑*i*P **P 02 38 03.0 -1.2**
comp=Z,139nm,1.1s
HINF Hinteralfeld 25.62 301⇑*i*P **P 02 38 03.0 -1.2**
comp=Z,279nm,1.1s
TRBA At Turbah 25.71 171⇓*e*P **P 02 38 06.3 +0.8**
TRBA AMb AMB 02 38 08.1
comp=Z,177nm,2.0s
AML Almayashu 25.72 72 P **P 02 38 06.2 +0.6**
SNR=159
AML Almayashu 25.72 72 *i* P **P 02 38 06.2 +0.6**
AML Almayashu 25.72 72 *i* P **P 02 38 06.2 +0.6**
EKS2 Erkin-Say 25.75 71 P **P 02 38 05.7 0.0**
SNR=240
EKS2 Erkin-Say 25.75 71 *i* P **P 02 38 05.6 0.0**
EKS2 Erkin-Say 25.75 71 *i* P **P 02 38 05.6 0.0**
EKS2 Erkin-Say 25.75 71 *e*P **P 02 38 06.1 +0.5**
comp=Z,300nm,1.1s
EKS2 LR LR
comp=Z,36µm,22.0s
RUP Ruppelstein 25.82 306⇑*e*P **P 02 38 04.8 -1.3**
GDM Grand'Maison 25.88 295 *e*P **P 02 38 05.7 -1.1**
GDM Grand'Maison 25.88 295 *e*P **P 02 38 05.7 -1.1**
HAU Haudompre 25.98 302⇑*i*P **P 02 38 06.1 -1.4**
comp=Z,469nm,1.4s
HAU *e*R
comp=Z,24µm,18.0s
HAU Haudompre 25.98 302⇑*i*P **P 02 38 06.1 -1.4**
HAU pmax pmax
comp=Z,469nm,1.4s
HAU Haudompre 25.98 302⇑*i*P **P 02 38 06.1 -1.4**
comp=Z,235nm,1.4s
HAU Haudompre 25.98 302⇑*i*P **P 02 38 06.1 -1.4**
comp=Z,469nm,1.4s
CABF La Chapelle 26.00 299⇑*i*P **P 02 38 07.1 -0.6**
comp=Z,840nm,1.0s
CABF La Chapelle 26.00 299⇑*i*P **P 02 38 07.1 -0.6**
CABF pmax pmax
comp=Z,840nm,1.0s
CABF La Chapelle 26.00 299⇑*i*P **P 02 38 07.1 -0.6**
comp=Z,420nm,1.0s
CABF La Chapelle 26.00 299⇑*i*P **P 02 38 07.1 -0.6**
comp=Z,840nm,1.0s
ORIF Oris-en-Rattie 26.04 295⇑*i*P **P 02 38 06.3 -1.8**
comp=Z,837nm,1.5s
ORIF *e*R
comp=Z,26µm,20.2s
ORIF Oris-en-Rattie 26.04 295⇑*i*P **P 02 38 06.3 -1.8**
ORIF pmax pmax
comp=Z,837nm,1.5s
ORIF Oris-en-Rattie 26.04 295⇑*i*P **P 02 38 06.3 -1.8**
comp=Z,418nm,1.5s
ORIF Oris-en-Rattie 26.04 295⇑*i*P **P 02 38 06.3 -1.8**
comp=Z,837nm,1.5s
IBBN Ibbenburen 26.09 312 *e*P **P 02 38 08.8 +0.4**
comp=Z,768nm,2.1s
IBBN Ibbenburen 26.09 312 *e*P **P 02 38 08.8 +0.4**
comp=Z,768nm,2.1s
GRN Grenoble 26.15 295 *e*P **P 02 38 07.7 -1.4**
GRN Grenoble 26.15 295 *e*P **P 02 38 07.7 -1.4**
CAEH 'Ain El Ouahch 26.23 276 P **P 02 38 10.0 +0.2**
CAEH 'Ain El Ouahch 26.23 276 P **P 02 38 10.0 +0.2**
SMRF Simiane la Rot 26.25 293⇑*i*P **P 02 38 09.4 -0.6**
comp=Z,221nm,1.3s
SMRF Simiane la Rot 26.25 293⇑*i*P **P 02 38 09.4 -0.6**
comp=Z,110nm,1.3s
SMRF Simiane la Rot 26.25 293⇑*i*P **P 02 38 09.4 -0.6**
comp=Z,221nm,1.3s
THEF They Montfort 26.25 302⇑*e*P **P 02 38 08.5 -1.4**
THEF They Montfort 26.25 302⇑*e*P **P 02 38 08.5 -1.4**
USP Ospenovka 26.26 69 P **P 02 38 09.9 -0.2**
SNR=51
USP Ospenovka 26.26 69 *i* P **P 02 38 09.8 -0.2**
USP Ospenovka 26.26 69 *i* P **P 02 38 09.8 -0.2**
AAK Ala-Archa 26.29 71 P **P 02 38 10.6 +0.2**
SNR=83
AAK Ala-Archa 26.29 71 P **P 02 38 10.6 +0.2**
AAK S **S 02 42 45.9 +3.0**
AAK pmax pmax
comp=Z,73nm,1.1s
AAK smax smax
comp=N,7.0nm,1.1s
AAK Ala-Archa 26.29 71 P **P 02 38 10.6 +0.2**
comp=N,73nm,1.1s,baz=248,slow=8.9,SNR=75
AAK S **S 02 42 45.9 +3.0**
comp=N,7.1nm,1.1s,baz=296,slow=23,SNR=1.5
AAK LR LR 02 50 16.2
comp=N,22µm,19.6s,baz=272,slow=40
AAK Ala-Archa 26.29 71 *e*P **P 02 38 11.2 +0.7**
comp=N,420nm,1.5s
AAK S **S 02 42 45.9 +3.0**
UCH Uchtor 26.32 71 P **P 02 38 12.8 +1.6**
SNR=36
UCH Uchtor 26.32 71 *i* P **P 02 38 12.7 +1.6**
UCH Uchtor 26.32 71 *i* P **P 02 38 12.7 +1.6**
FRU Bishkek 26.36 70⇓*i*P **P 02 38 12.0 +1.0**
FRU *i* 02 39 10.0
FRU *e*S **S 02 42 50.0 +6.1**
FRU *e* 02 42 54.0
FRU pmax pmax
comp=Z,2µm,1.8s
FRU MLR MLR
comp=Z,20µm,17.5s
FRU Bishkek 26.36 70 *i* P **P 02 38 12.0 +1.0**
comp=Z,2µm,1.8s
FRU *e*S **S 02 42 50.0 +6.1**
WLF Walferdange 26.39 305 P **P 02 38 09.7 -1.5**
comp=Z,154nm,1.4s
WLF Walferdange 26.39 305 *e*P **P 02 38 10.1 -1.0**
WLF pmax pmax
comp=Z,241nm,1.2s
WLF MLR MLR
comp=Z,17µm,22.0s
WLF Walferdange 26.39 305 *e*P **P 02 38 10.4 -0.7**
comp=Z,298nm,1.3s
WLF Walferdange 26.39 305 *e*P **P 02 38 10.1 -1.0**
comp=Z,241nm,1.2s
WLF Walferdange 26.39 305 *e*P **P 02 38 10.1 -1.0**
comp=Z,241nm,1.2s
WLF LR LR
comp=Z,17µm,22.0s
CKFL Kef-Lekhel 26.43 275 P **P 02 38 12.2 +0.4**
CKFL Kef-Lekhel 26.43 275 P **P 02 38 12.2 +0.4**
CHMS Chumysh 26.45 70 P **P 02 38 11.6 -0.2**
SNR=142
CHMS Chumysh 26.45 70 *i* P **P 02 38 11.6 -0.2**
CHMS Chumysh 26.45 70 *i* P **P 02 38 11.6 -0.2**
PAGF Fort de Pagny 26.48 303⇑*i*P **P 02 38 10.8 -1.1**
comp=Z,193nm,1.6s,baz=105

PAGF	**Fort de Pagny**	**26.48**	**303⇑**	*i* P	**P**	**02 38 10.8**	**-1.1**
	comp=Z,96nm,1.6s						
PAGF	**Fort de Pagny**	**26.48**	**303⇑**	*i* P	**P**	**02 38 10.8**	**-1.1**
	comp=Z,193nm,1.6s						
WTSB	**Winterswijk**	**26.55**	**311**	*e*P	**P**	**02 38 12.9**	**+0.4**
	comp=Z,503nm,1.2s						
KBK	**Karagaybulak**	**26.62**	**70**	P	**P**	**02 38 13.7**	**+0.2**
	SNR=111						
KBK	**Karagaybulak**	**26.62**	**70**	*i* P	**P**	**02 38 13.7**	**+0.2**
KBK	**Karagaybulak**	**26.62**	**70**	*i* P	**P**	**02 38 13.7**	**+0.2**
CASM	**Ain Smara**	**26.65**	**275**	P	**P**	**02 38 13.6**	**0.0**
CASM	**Ain Smara**	**26.65**	**275**	P	**P**	**02 38 13.6**	**0.0**
MEM	**Membach**	**26.68**	**307**	P	**P**	**02 38 13.7**	**-0.1**
	comp=Z,72nm,1.5s						
MEM	**Membach**	**26.68**	**307**	*e*P	**P**	**02 38 13.8**	**0.0**
MEM				pmax	pmax		
	comp=Z,113nm,1.1s						
MEM	**Membach**	**26.68**	**307**	P	**P**	**02 38 13.6**	**-0.1**
	comp=Z,72nm,1.5s						
MEM	**Membach**	**26.68**	**307**	*e*P	**P**	**02 38 13.8**	**-0.1**
	comp=Z,113nm,1.1s						
MEM				LR	LR		
	comp=Z,40815µm,20.0s						
HGN	**Heimansgroeve**	**26.77**	**308**	*e*P	**P**	**02 38 14.6**	**+0.2**
	comp=Z,572nm,1.7s						
HGN				*e*S	**S**	**02 42 54.0**	**+4.0**
HGN				*e*L	L	02 49 53.0	
	comp=Z,26µm,21.8s						
SFTF	**Sexfontaines**	**26.88**	**302⇑**	*i* P	**P**	**02 38 14.3**	**-1.3**
	comp=Z,494nm,1.5s,baz=86						
SFTF	**Sexfontaines**	**26.88**	**302⇑**	*i* P	**P**	**02 38 14.3**	**-1.3**
	comp=Z,247nm,1.5s						
SFTF	**Sexfontaines**	**26.88**	**302⇑**	*i* P	**P**	**02 38 14.3**	**-1.3**
	comp=Z,494nm,1.5s						
KZA	**Kyzart**	**26.88**	**72**	P	**P**	**02 38 16.5**	**+0.3**
	SNR=148						
KZA	**Kyzart**	**26.88**	**72**	*i* P	**P**	**02 38 16.4**	**+0.3**
KZA	**Kyzart**	**26.88**	**72**	*i* P	**P**	**02 38 16.4**	**+0.3**
VIVF	**Saint-Julien-l**	**26.90**	**294⇑**	*i* P	**P**	**02 38 14.3**	**-1.5**
	comp=Z,360nm,1.3s						
VIVF	**Saint-Julien-l**	**26.90**	**294⇑**	*i* P	**P**	**02 38 14.3**	**-1.5**
VIVF				pmax	pmax		
	comp=Z,360nm,1.3s						
VIVF	**Saint-Julien-l**	**26.90**	**294⇑**	*i* P	**P**	**02 38 14.3**	**-1.5**
	comp=Z,180nm,1.3s						
VIVF	**Saint-Julien-l**	**26.90**	**294⇑**	*i* P	**P**	**02 38 14.3**	**-1.5**
	comp=Z,360nm,1.3s						
MEZF	**Maizieres J'vi**	**26.91**	**303⇑**	*i* P	**P**	**02 38 14.7**	**-1.1**
	comp=Z,433nm,1.3s,baz=87						
MEZF	**Maizieres J'vi**	**26.91**	**303⇑**	*i* P	**P**	**02 38 14.7**	**-1.1**
	comp=Z,217nm,1.3s						
MEZF	**Maizieres J'vi**	**26.91**	**303⇑**	*i* P	**P**	**02 38 14.7**	**-1.1**
	comp=Z,433nm,1.3s						
BEBN	**Eben Emael**	**26.93**	**308**	P	**P**	**02 38 16.7**	**+0.8**
BEBN	**Eben Emael**	**26.93**	**308**	P	**P**	**02 38 16.7**	**+0.8**
MUD	**Monsted U'grnd**	**26.96**	**321⇑**	*i* P	**P**	**02 38 16.9**	**+0.8**
MUD				pmax	pmax		
	comp=Z,120nm,1.0s						
MUD				MLR	MLR		
	comp=Z,19µm,14.0s						
MUD	**Monsted U'grnd**	**26.96**	**321⇑**	*i* P	**P**	**02 38 16.9**	**+0.8**
	comp=Z,125nm,0.9s						
MUD				*i* S	S	02 43 09.1	+16
	comp=Z,19µm,13.0s						
MUD	**Monsted U'grnd**	**26.96**	**321⇑**	*i* P	**P**	**02 38 17.0**	**+0.8**
	comp=Z,126nm,1.0s,SNR=28						
HFS	**Hagfors**	**27.05**	**331**	P	**P**	**02 38 16.3**	**-0.6**
	comp=Z,159nm,1.1s,baz=139,slow=9.8,SNR=42						
HFS				LR	LR	02 50 36.6	
	comp=Z,33µm,19.6s,baz=130,slow=40						
TKM2	**Tokmak 2**	**27.08**	**70**	P	**P**	**02 38 19.0**	**+1.4**
	SNR=44						
TKM2	**Tokmak 2**	**27.08**	**70**	*e*P	**P**	**02 38 17.8**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,222nm,1.2s						
TKM2				MLR	MLR		
	comp=Z,26µm,20.0s						
TKM2	**Tokmak 2**	**27.08**	**70**	*e*P	**P**	**02 38 17.8**	**+0.1**
	comp=Z,26µm,20.0s						
TKM2	**Tokmak 2**	**27.08**	**70**	*e*P	**P**	**02 38 17.8**	**+0.1**
	comp=Z,222nm,1.2s						
TKM2				LR	LR		
	comp=Z,26µm,20.0s						
BCLA	**Clavier**	**27.08**	**307**	P	**P**	**02 38 17.2**	**-0.2**
	comp=Z,48nm,1.5s						
BCLA				PCP	**PcP**	**02 41 40.2**	**+2.2**
BCLA	**Clavier**	**27.08**	**307**	P	**P**	**02 38 17.1**	**-0.2**
	comp=Z,48nm,1.5s						
GIVF	**Givet**	**27.32**	**306⇑**	*i* P	**P**	**02 38 18.9**	**-0.6**
	comp=Z,496nm,1.4s						
GIVF	**Givet**	**27.32**	**306⇑**	*i* P	**P**	**02 38 18.9**	**-0.6**
GIVF				pmax	pmax		
	comp=Z,496nm,1.4s						
GIVF	**Givet**	**27.32**	**306⇑**	*i* P	**P**	**02 38 18.9**	**-0.6**
	comp=Z,248nm,1.4s						
GIVF	**Givet**	**27.32**	**306⇑**	*i* P	**P**	**02 38 18.9**	**-0.6**
	comp=Z,496nm,1.4s						
DOU	**Dourbes**	**27.46**	**306**	P	**P**	**02 38 20.2**	**-0.6**
	comp=Z,77nm,1.5s						
DOU				PCP	**PcP**	**02 41 39.3**	**+0.4**
DOU	**Dourbes**	**27.46**	**306**	P	**P**	**02 38 20.1**	**-0.6**
	comp=Z,77nm,1.5s						
LASF	**Ste Croix**	**27.49**	**293⇑**	*i* P	**P**	**02 38 20.1**	**-1.0**
	comp=Z,517nm,1.5s						
LASF	**Ste Croix**	**27.49**	**293⇑**	*i* P	**P**	**02 38 20.1**	**-1.0**
	comp=Z,258nm,1.5s						
LASF	**Ste Croix**	**27.49**	**293⇑**	*i* P	**P**	**02 38 20.1**	**-1.0**
	comp=Z,517nm,1.5s						
SET	**Setif**	**27.51**	**276**	P	**P**	**02 38 22.0**	**+0.5**
SET	**Setif**	**27.51**	**276**	P	**P**	**02 38 22.0**	**+0.5**
SMF	**Signal de Mont**	**27.54**	**298⇑**	*i* P	**P**	**02 38 20.3**	**-1.2**
	comp=Z,166nm,1.0s						
SMF	**Signal de Mont**	**27.54**	**298⇑**	*i* P	**P**	**02 38 20.3**	**-1.2**
SMF				pmax	pmax		
	comp=Z,166nm,1.0s						
SMF	**Signal de Mont**	**27.54**	**298⇑**	*i* P	**P**	**02 38 20.3**	**-1.2**
	comp=Z,83nm,1.0s						
SMF	**Signal de Mont**	**27.54**	**298⇑**	*i* P	**P**	**02 38 20.3**	**-1.2**
	comp=Z,166nm,1.0s						
LOR	**Lormes**	**27.57**	**300⇑**	*i* P	**P**	**02 38 20.5**	**-1.3**
	comp=Z,390nm,1.3s,baz=93						
LOR				*e*R			
	comp=Z,30µm,18.8s						
LOR	**Lormes**	**27.57**	**300⇑**	*i* P	**P**	**02 38 20.5**	**-1.3**
LOR				pmax	pmax		
	comp=Z,390nm,1.3s						
LOR	**Lormes**	**27.57**	**300⇑**	*i* P	**P**	**02 38 20.5**	**-1.3**
	comp=Z,195nm,1.3s						
LOR	**Lormes**	**27.57**	**300⇑**	*i* P	**P**	**02 38 20.5**	**-1.3**
	comp=Z,390nm,1.3s						
MAHO	**Mahon**	**27.58**	**284**	*i* P	**P**	**02 38 20.2**	**-1.7**
MAHO				*e*S	S	02 42 47.8	-15
ULHL	**Ulahol**	**27.60**	**71**	P	**P**	**02 38 22.8**	**+0.4**
	SNR=214						
ULHL	**Ulahol**	**27.60**	**71**	*i* P	**P**	**02 38 22.7**	**+0.4**
ULHL	**Ulahol**	**27.60**	**71**	*i* P	**P**	**02 38 22.7**	**+0.4**
PLDF	**La Plantade**	**27.66**	**297⇑**	*e*P	**P**	**02 38 21.8**	**-0.9**
PLDF	**La Plantade**	**27.66**	**297⇑**	*e*P	**P**	**02 38 21.8**	**-0.9**
BAIF	**Baives**	**27.70**	**306⇑**	*i* P	**P**	**02 38 22.3**	**-0.6**
	comp=Z,398nm,1.3s						
BAIF	**Baives**	**27.70**	**306⇑**	*i* P	**P**	**02 38 22.3**	**-0.6**
BAIF				pmax	pmax		
	comp=Z,398nm,1.3s						
BAIF	**Baives**	**27.70**	**306⇑**	*i* P	**P**	**02 38 22.3**	**-0.6**
	comp=Z,199nm,1.3s						
BAIF	**Baives**	**27.70**	**306⇑**	*i* P	**P**	**02 38 22.3**	**-0.6**
	comp=Z,398nm,1.3s						
SNF	**Seneffe**	**27.74**	**307**	P	**P**	**02 38 22.9**	**-0.3**
SNF				PCP	**PcP**	**02 41 42.3**	**+2.7**
SNF	**Seneffe**	**27.74**	**307**	P	**P**	**02 38 22.9**	**-0.3**
UCC	**Uccle**	**27.75**	**307**	P	**P**	**02 38 23.1**	**-0.2**
	comp=Z,86nm,1.7s						
UCC	**Uccle**	**27.75**	**307**	P	**P**	**02 38 23.1**	**-0.2**
	comp=Z,86nm,1.7s						
KSH	**Kashi**	**27.76**	**77**	P	**P**	**02 38 21.7**	**-2.0**
KSH				sP	**sP**	**02 38 28.8**	**-0.2**
KSH				PP	**PnPn**	**02 39 08.9**	**-0.6**
KSH				S	**S**	**02 43 01.4**	**-4.7**
KSH				sS	**sS**	**02 43 08.7**	**-3.6**
KSH				SS	**SnSn**	**02 44 18.9**	**+0.6**
KSH				ScS	**ScS**	**02 49 11.7**	**-0.9**
KSH				PMZ			
	comp=Z,120nm,1.2s						
KSH				LN			
	comp=Z,14µm,11.9s						
KSH				LE			
	comp=Z,11µm,10.4s						
KSH				LZ			
	comp=Z,17µm,15.6s						
SSF	**Saint Saulge**	**27.80**	**299⇑**	*i* P	**P**	**02 38 22.7**	**-1.1**
	comp=Z,430nm,1.4s						
SSF	**Saint Saulge**	**27.80**	**299⇑**	*i* P	**P**	**02 38 22.7**	**-1.1**
SSF				pmax	pmax		
	comp=Z,430nm,1.4s						
SSF	**Saint Saulge**	**27.80**	**299⇑**	*i* P	**P**	**02 38 22.7**	**-1.1**
	comp=Z,215nm,1.4s						
SSF	**Saint Saulge**	**27.80**	**299⇑**	*i* P	**P**	**02 38 22.7**	**-1.1**
	comp=Z,430nm,1.4s						
AVF	**Avril sur Loir**	**27.89**	**299⇑**	*i* P	**P**	**02 38 23.4**	**-1.2**
	comp=Z,598nm,1.4s						
AVF	**Avril sur Loir**	**27.89**	**299⇑**	*i* P	**P**	**02 38 23.4**	**-1.2**
AVF				pmax	pmax		
	comp=Z,598nm,1.4s						
AVF	**Avril sur Loir**	**27.89**	**299⇑**	*i* P	**P**	**02 38 23.4**	**-1.2**
	comp=Z,299nm,1.4s						
AVF	**Avril sur Loir**	**27.89**	**299⇑**	*i* P	**P**	**02 38 23.4**	**-1.2**
	comp=Z,598nm,1.4s						
LBL	**Lubilhac**	**27.91**	**295⇑**	*e*P	**P**	**02 38 24.1**	**-0.8**
LBL	**Lubilhac**	**27.91**	**295⇑**	*e*P	**P**	**02 38 24.1**	**-0.8**
AGO	**Saint Agoulin**	**28.01**	**297⇑**	*e*P	**P**	**02 38 24.8**	**-0.9**
AGO	**Saint Agoulin**	**28.01**	**297⇑**	*e*P	**P**	**02 38 24.8**	**-0.9**
AAA	**Alma-Ata**	**28.04**	**69**	*e*P	**P**	**02 38 27.5**	**+1.4**
AAA				*i* S	**S**	**02 43 14.7**	**+4.3**
AAA				pmax	pmax		
	comp=Z,1µm,2.8s						
AAA				smax	smax		
	comp=N,12µm,11.6s						
AAA				MLR	MLR		
	comp=Z,27µm,14.0s						
AAA	**Alma-Ata**	**28.04**	**69**	*e*P	**P**	**02 38 27.5**	**+1.4**
	comp=Z,1µm,2.8s						
AAA				*i* S	**S**	**02 43 14.7**	**+4.3**
	comp=Z,27µm,14.0s						
PYM	**Petit Puy Mans**	**28.09**	**296⇑**	*e*P	**P**	**02 38 25.5**	**-1.0**
PYM	**Petit Puy Mans**	**28.09**	**296⇑**	*e*P	**P**	**02 38 25.5**	**-1.0**
OSL	**Oslo**	**28.10**	**328**	*e*P	**P**	**02 38 26.8**	**+0.5**
OSL	**Oslo**	**28.10**	**328**	*e*P	**P**	**02 38 26.8**	**+0.5**
	SNR=28						
BGF	**Bois d'Agland**	**28.22**	**298⇑**	*i* P	**P**	**02 38 26.4**	**-1.2**
	comp=Z,164nm,1.2s						
BGF	**Bois d'Agland**	**28.22**	**298⇑**	*i* P	**P**	**02 38 26.4**	**-1.2**
BGF				pmax	pmax		
	comp=Z,164nm,1.3s						
BGF	**Bois d'Agland**	**28.22**	**298⇑**	*i* P	**P**	**02 38 26.4**	**-1.2**
	comp=Z,82nm,1.2s						
BGF	**Bois d'Agland**	**28.22**	**298⇑**	*i* P	**P**	**02 38 26.4**	**-1.2**
	comp=Z,164nm,1.3s						
NC602	**NORSAR Array S**	**28.26**	**330**	*e*P	**P**	**02 38 27.5**	**-0.2**
NC602				*e*S	**S**	**02 43 12.1**	**-1.1**
NC602	**NORSAR Array S**	**28.26**	**330**	*e*P	**P**	**02 38 27.5**	**-0.2**
	SNR=28						
NC602				*e*S	**S**	**02 43 12.1**	**-1.1**
	SNR=28						
HYF	**Humbligny**	**28.40**	**300**	*e*P	**P**	**02 38 28.6**	**-0.6**
HYF	**Humbligny**	**28.40**	**300**	*e*P	**P**	**02 38 28.6**	**-0.6**
HYF	**Humbligny**	**28.40**	**300**	*e*P	**P**	**02 38 28.6**	**-0.6**
KONO	**Kongsberg**	**28.41**	**327**	*e*P	**P**	**02 38 29.0**	**-0.1**
KONO	**Kongsberg**	**28.41**	**327**	*e*P	**P**	**02 38 28.1**	**-0.9**
KONO				pmax	pmax		
	comp=Z,230nm,1.3s						
KONO				MLR	MLR		
	comp=Z,17µm,21.0s						
KONO	**Kongsberg**	**28.41**	**327**	*e*P	**P**	**02 38 28.1**	**-0.9**
	comp=Z,17µm,21.0s						
KONO	**Kongsberg**	**28.41**	**327**	*e*P	**P**	**02 38 28.1**	**-0.9**
	comp=Z,230nm,1.3s						
KONO				LR	LR		
	comp=Z,17µm,21.0s						
NB2	**NORSAR Subarra**	**28.57**	**331**	P	**P**	**02 38 29.2**	**-1.4**
	comp=Z,159nm,1.4s,baz=128,slow=9.3						
NB2	**NORSAR Subarra**	**28.57**	**331**	P	**P**	**02 38 29.2**	**-1.4**
	baz=128,slow=9.3						
NB2	**NORSAR Subarra**	**28.57**	**331**	P	**P**	**02 38 29.2**	**-1.4**
	comp=Z,159nm,1.4s,SNR=7.1						
NOA	**NORSAR Array B**	**28.57**	**331**	P	**P**	**02 38 29.1**	**-1.4**
	comp=Z,71nm,1.2s,baz=128,slow=9.1,SNR=29						
NOA				LR	LR	02 51 32.9	
	comp=Z,30µm,19.4s,baz=130,slow=40						
TCF	**Toulx Ste Croi**	**28.65**	**297⇑**	*i* P	**P**	**02 38 30.6**	**-0.9**
	comp=Z,361nm,1.4s						
TCF	**Toulx Ste Croi**	**28.65**	**297⇑**	*i* P	**P**	**02 38 30.6**	**-0.9**
TCF				pmax	pmax		
	comp=Z,361nm,1.4s						
TCF	**Toulx Ste Croi**	**28.65**	**297⇑**	*i* P	**P**	**02 38 30.6**	**-0.9**
	comp=Z,180nm,1.4s						
TCF	**Toulx Ste Croi**	**28.65**	**297⇑**	*i* P	**P**	**02 38 30.6**	**-0.9**
	comp=Z,361nm,1.4s						
MTLF	**Montolieu**	**28.71**	**291⇑**	*i* P	**P**	**02 38 31.0**	**-1.0**
	comp=Z,164nm,1.4s						
MTLF	**Montolieu**	**28.71**	**291⇑**	*i* P	**P**	**02 38 31.0**	**-1.0**
MTLF				pmax	pmax		
	comp=Z,164nm,1.4s						
MTLF	**Montolieu**	**28.71**	**291⇑**	*i* P	**P**	**02 38 31.0**	**-1.0**
	comp=Z,82nm,1.4s						
MTLF	**Montolieu**	**28.71**	**291⇑**	*i* P	**P**	**02 38 31.0**	**-1.0**
	comp=Z,164nm,1.4s						
NBO02	**NORSAR Array S**	**28.71**	**330**	*e*P	**P**	**02 38 30.4**	**-1.4**
NBO02	**NORSAR Array S**	**28.71**	**330**	*e*P	**P**	**02 38 30.4**	**-1.4**
AKET	**Djebel Ketaf**	**28.74**	**276**	P	**P**	**02 38 29.3**	**-3.1**
AKET	**Djebel Ketaf**	**28.74**	**276**	P	**P**	**02 38 29.3**	**-3.1**
CAF	**Calviac**	**28.75**	**295⇑**	*i* P	**P**	**02 38 31.5**	**-0.9**
	comp=Z,126nm,1.3s						
CAF	**Calviac**	**28.75**	**295⇑**	*i* P	**P**	**02 38 31.5**	**-0.9**
CAF				pmax	pmax		
	comp=Z,126nm,1.3s						
CAF	**Calviac**	**28.75**	**295⇑**	*i* P	**P**	**02 38 31.5**	**-0.9**
	comp=Z,63nm,1.3s						
CAF	**Calviac**	**28.75**	**295⇑**	*i* P	**P**	**02 38 31.5**	**-0.9**
	comp=Z,126nm,1.3s						
SNART	**Snartemo**	**28.79**	**324**	*e*P	**P**	**02 38 34.0**	**+1.5**
SNART	**Snartemo**	**28.79**	**324**	*e*P	**P**	**02 38 34.0**	**+1.5**
	SNR=28						
ADJB	**Djebel Djouab**	**29.05**	**276**	P	**P**	**02 38 34.2**	**-1.0**
ADJB	**Djebel Djouab**	**29.05**	**276**	P	**P**	**02 38 34.2**	**-1.0**
APA	**Apatity**	**29.07**	**355⇑**	*i* P	**P**	**02 38 34.4**	**-0.5**
APA				*i*		02 39 25.0	
APA				*i* S	**S**	**02 43 24.0**	**-1.9**
APA				*i* SS	**SnSn**	**02 44 50.0**	**+0.5**
APA				MLR	MLR		
	comp=Z,25µm,20.0s						
APA	**Apatity**	**29.07**	**355**	*i* P	**P**	**02 38 34.4**	**-0.5**
APA				*i* S	**S**	**02 43 24.0**	**-1.9**
	comp=Z,25µm,20.0s						
RJF	**Les Rejaudoux**	**29.13**	**295⇑**	*i* P	**P**	**02 38 35.3**	**-0.4**
	comp=Z,554nm,1.5s						
RJF				*e*R			
	comp=Z,34µm,17.5s						
RJF	**Les Rejaudoux**	**29.13**	**295⇑**	*i* P	**P**	**02 38 35.3**	**-0.4**
RJF				pmax	pmax		
	comp=Z,554nm,1.5s						
RJF	**Les Rejaudoux**	**29.13**	**295⇑**	*i* P	**P**	**02 38 35.3**	**-0.4**
	comp=Z,277nm,1.5s						
RJF	**Les Rejaudoux**	**29.13**	**295⇑**	*i* P	**P**	**02 38 35.3**	**-0.4**
	comp=Z,554nm,1.5s						
LVZ	**Lovozero**	**29.32**	**356**	*e*P	**P**	**02 38 37.1**	**0.0**
LVZ				pmax	pmax		
	comp=Z,145nm,1.2s						
LVZ				MLR	MLR		
	comp=Z,17µm,21.0s						
LVZ	**Lovozero**	**29.32**	**356**	*e*P	**P**	**02 38 37.1**	**0.0**
	comp=Z,17µm,21.0s						
LVZ	**Lovozero**	**29.32**	**356**	*e*P	**P**	**02 38 37.1**	**0.0**
	comp=Z,145nm,1.2s						
LVZ				LR	LR		
	comp=Z,17µm,21.0s						
KURBB	**Kurchatov Arra**	**29.47**	**54**	P	**P**	**02 38 37.3**	**-1.3**
	comp=Z,75nm,1.1s,baz=269,slow=9.0,SNR=126						
KURBB				PcP	**PcP**	**02 41 45.9**	**+2.0**
	comp=Z,8.5nm,0.8s,baz=259,slow=3.2,SNR=5.4						
KURBB				S	S	02 43 39.3	+6.8
	comp=Z,2.7nm,1.0s,baz=81,slow=34,SNR=3.4						
KURK	**Kurchatov**	**29.54**	**54**	*e*P	**P**	**02 38 38.7**	**-0.5**
KURK						02 41 45.9	
KURK				S	**S**	**02 43 39.3**	**+5.7**
KURK				pmax	pmax		
	comp=Z,117nm,1.3s						
KURK				MLR	MLR		
	comp=Z,12µm,21.0s						
KURK	**Kurchatov**	**29.54**	**54**	*e*P	**P**	**02 38 38.7**	**-0.5**
	comp=Z,117nm,1.3s						
KURK	**Kurchatov**	**29.54**	**54**	PcP	**PcP**	**02 41 45.9**	**+1.8**
	comp=Z,12µm,21.0s						
KURK	**Kurchatov**	**29.54**	**54**	*e*P	**P**	**02 38 38.7**	**-0.5**
	comp=Z,117nm,1.3s						
KURK				PcP	**PcP**	**02 41 45.9**	**+1.8**
KURK				S	**S**	**02 43 39.3**	**+5.7**
KURK				LR	LR		
	comp=Z,12µm,21.0s						
BLS5	**Blasjo**	**29.66**	**325**	*e*P	**P**	**02 38 41.4**	**+1.2**
BLS5				IAmb	IAmb	02 38 45.3	
	comp=Z,133nm,1.4s						
BLS5				*e*S	**S**	**02 43 39.9**	**+4.6**
BLS5	**Blasjo**	**29.66**	**325**	*e*P	**P**	**02 38 41.4**	**+1.2**
	SNR=27						
LFF	**La Frestale**	**29.69**	**295⇑**	*i* P	**P**	**02 38 39.9**	**-0.7**
	comp=Z,451nm,1.6s						
LFF	**La Frestale**	**29.69**	**295⇑**	*i* P	**P**	**02 38 39.9**	**-0.7**
LFF				pmax	pmax		
	comp=Z,451nm,1.6s						
LFF	**La Frestale**	**29.69**	**295⇑**	*i* P	**P**	**02 38 39.9**	**-0.7**
	comp=Z,226nm,1.6s						
LFF	**La Frestale**	**29.69**	**295⇑**	*i* P	**P**	**02 38 39.9**	**-0.7**
	comp=Z,451nm,1.6s						
MELF	**Melles**	**29.82**	**291⇑**	*e*P	**P**	**02 38 40.3**	**-1.6**
MELF	**Melles**	**29.82**	**291⇑**	*e*P	**P**	**02 38 40.3**	**-1.6**
ODD1	**Odda**	**29.82**	**326**	*e*P	**P**	**02 38 43.0**	**+1.3**
ODD1				IAmb	IAmb	02 38 46.2	
	comp=Z,181nm,1.1s						
ODD1	**Odda**	**29.82**	**326**	*e*P	**P**	**02 38 43.0**	**+1.3**
	SNR=27						
KMY	**Karmoy**	**30.10**	**324**	*e*P	P	02 38 47.4	+3.3
EPF	**Esparros**	**30.11**	**291⇑**	*i* P	**P**	**02 38 42.2**	**-2.2**
	comp=Z,69nm,1.1s						
EPF	**Esparros**	**30.11**	**291⇑**	*i* P	**P**	**02 38 42.2**	**-2.2**
EPF				pmax	pmax		
	comp=Z,69nm,1.1s						
EPF	**Esparros**	**30.11**	**291⇑**	*i* P	**P**	**02 38 42.2**	**-2.2**
	comp=Z,35nm,1.1s						
EPF	**Esparros**	**30.11**	**291⇑**	*i* P	**P**	**02 38 42.2**	**-2.2**
	comp=Z,69nm,1.1s						
MFF	**Saint Martin d**	**30.29**	**298⇑**	*i* P	**P**	**02 38 44.3**	**-1.6**
	comp=Z,285nm,1.4s						
MFF	**Saint Martin d**	**30.29**	**298⇑**	*i* P	**P**	**02 38 44.3**	**-1.6**
MFF				pmax	pmax		
	comp=Z,285nm,1.4s						
MFF	**Saint Martin d**	**30.29**	**298⇑**	*i* P	**P**	**02 38 44.3**	**-1.6**
	comp=Z,142nm,1.4s						
MFF	**Saint Martin d**	**30.29**	**298⇑**	*i* P	**P**	**02 38 44.3**	**-1.6**
	comp=Z,285nm,1.4s						
LABF	**Labassere**	**30.30**	**291⇑**	*e*P	**P**	**02 38 44.1**	**-2.0**
LABF	**Labassere**	**30.30**	**291⇑**	*e*P	**P**	**02 38 44.1**	**-2.0**
TBLU	**Trondheim**	**30.31**	**334**	*e*P	**P**	**02 38 48.3**	**+2.4**
TBLU	**Trondheim**	**30.31**	**334**	*e*P	**P**	**02 38 48.3**	**+2.4**
	SNR=27						
LDF	**La Druitiere**	**30.34**	**302⇑**	*i* P	**P**	**02 38 44.7**	**-1.6**
	comp=Z,92nm,1.1s						
LDF	**La Druitiere**	**30.34**	**302⇑**	*i* P	**P**	**02 38 44.7**	**-1.6**
LDF				pmax	pmax		
	comp=Z,92nm,1.1s						
LDF	**La Druitiere**	**30.34**	**302⇑**	*i* P	**P**	**02 38 44.7**	**-1.6**
	comp=Z,46nm,1.1s						
LDF	**La Druitiere**	**30.34**	**302⇑**	*i* P	**P**	**02 38 44.7**	**-1.6**
	comp=Z,92nm,1.1s						
VIEF	**Viey**	**30.35**	**291**	*e*P	**P**	**02 38 45.5**	**-1.1**
VIEF	**Viey**	**30.35**	**291**	*e*P	**P**	**02 38 45.5**	**-1.1**
BHK	**Bhakra**	**30.50**	**93**	*e*P	**P**	**02 38 50.2**	**+2.2**
FLN	**La Foliniere**	**30.59**	**302**	*e*P	**P**	**02 38 47.0**	**-1.5**
	comp=Z,398nm,1.9s,baz=86						
FLN				*e*R			
	comp=Z,19µm,21.5s						
FLN	**La Foliniere**	**30.59**	**302**	*e*P	**P**	**02 38 47.0**	**-1.5**
FLN				pmax	pmax		
	comp=Z,398nm,1.9s						
FLN	**La Foliniere**	**30.59**	**302**	*e*P	**P**	**02 38 47.0**	**-1.5**
	comp=Z,199nm,1.9s						
FLN	**La Foliniere**	**30.59**	**302**	*e*P	**P**	**02 38 47.0**	**-1.5**
	comp=Z,398nm,1.9s						
NSS	**Namsos**	**30.60**	**336**	*e*P	**P**	**02 38 49.6**	**+1.1**
NSS				*e*S	**S**	**02 43 55.7**	**+5.7**
NSS	**Namsos**	**30.60**	**336**	*e*P	**P**	**02 38 49.6**	**+1.1**
	SNR=27						
BER	**Bergen**	**30.62**	**326**	*e*P	**P**	**02 38 48.8**	**+0.2**
BER	**Bergen**	**30.62**	**326**	*e*P	**P**	**02 38 48.8**	**+0.2**
	SNR=27						
RUND	**Rundenannen**	**30.62**	**326**	*e*P	**P**	**02 38 49.0**	**+0.3**
RUND	**Rundenannen**	**30.62**	**326**	*e*P	**P**	**02 38 49.0**	**+0.3**
	SNR=27						
HYA	**Hoyanger**	**30.65**	**328**	*e*P	**P**	**02 38 51.5**	**+2.6**
ASK	**Askoy**	**30.73**	**326**	*e*P	**P**	**02 38 50.3**	**+0.7**
ASK				IAmb	IAmb	02 38 53.9	
	comp=Z,210nm,1.4s						
ETSF	**Etsaut**	**30.78**	**291⇑**	*i* P	**P**	**02 38 49.3**	**-1.1**
	comp=Z,112nm,1.1s						
ETSF	**Etsaut**	**30.78**	**291⇑**	*i* P	**P**	**02 38 49.3**	**-1.1**
ETSF				pmax	pmax		
	comp=Z,112nm,1.1

comp=Z,20nm,0.8s
KEV Kevo 31.80 351 *e*P **P 02 38 57.6 -1.4**
comp=Z,750nm,2.3s
KEV Kevo 31.80 351 *e*P **P 02 38 57.6 -1.4**
comp=Z,750nm,2.3s
KEV LR LR
comp=Z,20µm,19.0s
SGMF Saint Gilles 31.95 301⇑ *i*P **P 02 38 59.0 -1.5**
comp=Z,628nm,1.3s
SGMF Saint Gilles 31.95 301⇑ *i*P **P 02 38 59.0 -1.5**
SGMF pmax pmax
comp=Z,628nm,1.3s
SGMF Saint Gilles 31.95 301⇑ *i*P **P 02 38 59.0 -1.5**
comp=Z,314nm,1.3s
SGMF Saint Gilles 31.95 301 *i*P **P 02 38 59.0 -1.5**
comp=Z,628nm,1.3s
HPK Haverah Park 31.97 312⇑ *e*P **P 02 38 59.7 -1.0**
HPK AMB AMB 02 39 05.2
comp=Z,183nm,1.5s
HPK AMS AMS 02 57 36.8
comp=Z,16µm,13.4s
HPK Haverah Park 31.97 312⇑ *e*P **P 02 38 59.7 -1.0**
KUDL Kundal 32.02 98 *e*P **P 02 39 02.7 +1.4**
KUDL AMB AMB 02 39 04.4
comp=Z,124nm,1.7s
CART Cartagena 32.09 281 *i*P **P 02 38 59.0 -2.9**
CART *i*S **S 02 44 12.5 -1.4**
BHGR Bahadurgarh 32.10 97 *e*P **P 02 39 01.4 -0.7**
BHGR AMB AMB 02 39 05.2
comp=Z,234nm,1.7s
NDI New Delhi 32.32 97 *e*P **P 02 39 03.5 -0.5**
NDI *e*S **S 02 44 20.0 +2.4**
AYAN Aya Nagar 32.35 97 *e*P **P 02 39 05.3 +1.1**
AYAN AMB AMB 02 39 07.3
comp=Z,150nm,1.6s
QUIF Quistinic 32.35 301⇑ *i*P **P 02 39 02.3 -1.7**
comp=Z,276nm,1.2s
QUIF Quistinic 32.35 301⇑ *i*P **P 02 39 02.3 -1.7**
QUIF pmax pmax
comp=Z,276nm,1.2s
QUIF Quistinic 32.35 301⇑ *i*P **P 02 39 02.3 -1.7**
comp=Z,138nm,1.2s
QUIF Quistinic 32.35 301⇑ *i*P **P 02 39 02.3 -1.7**
comp=Z,276nm,1.2s
SONA Sohna 32.42 98 *e*P **P 02 39 05.9 +1.1**
ROSF Rostrenen 32.42 301⇑ *i*P **P 02 39 03.1 -1.6**
comp=Z,193nm,1.3s
ROSF Rostrenen 32.42 301 *i*P **P 02 39 03.1 -1.6**
ROSF pmax pmax
comp=Z,193nm,1.3s
ROSF Rostrenen 32.42 301⇑ *i*P **P 02 39 03.1 -1.6**
comp=Z,97nm,1.3s
ROSF Rostrenen 32.42 301⇑ *i*P **P 02 39 03.1 -1.6**
comp=Z,193nm,1.3s
HLM1 Long Mynd 32.48 309⇑ *e*P **P 02 39 04.1 -1.1**
HLM1 AMB AMB 02 39 07.4
comp=Z,138nm,3.0s
HLM1 Long Mynd 32.48 309⇑ *e*P **P 02 39 04.1 -1.1**
MCH1 Michaelchurch 32.49 308⇑ *e*P **P 02 39 04.9 -0.3**
MCH1 AMB AMB 02 39 08.7
comp=Z,144nm,1.2s
MCH1 AMS AMS 02 53 45.9
comp=Z,11µm,16.9s
MCH1 Michaelchurch 32.49 308⇑ *e*P **P 02 39 04.9 -0.3**
XAL Allendale 32.49 314 *e*P **P 02 39 04.3 -1.0**
XAL Allendale 32.49 314 *e*P **P 02 39 04.3 -1.0**
BISR Bishrakh 32.55 97 *ex* P 02 38 59.6 -6.3
BISR AMB AMB 02 39 01.8
comp=Z,124nm,0.8s
FOEL Foel Wylfa 32.73 310⇑ *e*P **P 02 39 06.7 -0.6**
FOEL AMB AMB 02 39 11.6
comp=Z,152nm,1.3s
FOEL Foel Wylfa 32.73 310⇑ *e*P **P 02 39 06.7 -0.6**
HEX Exmoor 32.90 306⇑ *e*P **P 02 39 07.5 -1.3**
HEX Exmoor 32.90 306⇑ *e*P **P 02 39 07.5 -1.3**
TRO Tromso 32.90 347 *e*P **P 02 39 08.1 -0.5**
TRO *e*S **S 02 44 26.8 +1.2**
TRO Tromso 32.90 347 *e*P **P 02 39 08.1 -0.5**
SNR=27
TRO *e*S **S 02 44 26.8 +1.2**
SNR=28
ESY Stoneypath 32.95 315⇑ *e*P **P 02 39 08.0 -1.2**
ESY Stoneypath 32.95 315⇑ *e*P **P 02 39 08.0 -1.2**
KESW Keswick, Cumbr 32.95 313 *e*P **P 02 39 08.4 -0.8**
KESW AMB AMB 02 39 09.7
comp=Z,123nm,1.7s
KESW AMS AMS 02 52 51.4
comp=Z,16µm,24.4s
KESW Keswick, Cumbr 32.95 313 *e*P **P 02 39 08.4 -0.8**
NVS Novosibirsk 33.02 47⇑ *i*P **P 02 39 09.1 -0.7**
NVS *e*S **S 02 44 33.4 +5.5**
NVS smax smax
comp=N,47nm,1.3s
NVS smax smax
comp=E,18nm,0.5s
NVS Novosibirsk 33.02 47 *i*P **P 02 39 09.1 -0.7**
ECK Cauldkaine Hil 33.07 314⇑ *e*P **P 02 39 09.0 -1.3**
ECK Cauldkaine Hil 33.07 314⇑ *e*P **P 02 39 09.0 -1.3**
EKA Eskdalemuir Ar 33.12 314 P **P 02 39 09.3 -1.4**
comp=E,48nm,1.0s,baz=108,slow=9.8,SNR=32
EKA PcP **PcP 02 41 55.5 +1.9**
comp=E,10nm,0.9s,baz=98,slow=3.3,SNR=6.5
ESK Eskdalemuir 33.14 314 *e*P **P 02 39 09.5 -1.4**
ESK AMB AMB 02 39 14.4
comp=Z,57nm,1.2s
ESK AMS AMS 02 55 54.6
comp=Z,13µm,15.9s
ESK Eskdalemuir 33.14 314 *i*P **P 02 39 11.2 +0.3**
ESK Eskdalemuir 33.14 314 *e*P **P 02 39 10.2 -0.7**
comp=Z,231nm,1.1s
ESK Eskdalemuir 33.14 314 *e*P **P 02 39 10.2 -0.7**
comp=Z,231nm,1.1s
ESK LR LR
comp=Z,15µm,22.0s
EBL Broad Law 33.15 315⇑ *e*P **P 02 39 10.0 -1.0**
EBL Broad Law 33.15 315⇑ *e*P **P 02 39 10.0 -1.0**
LPW Lampeter 33.16 308⇑ *e*P **P 02 39 09.9 -1.1**
LPW AMB AMB 02 39 11.3
comp=Z,470nm,2.0s
LPW Lampeter 33.16 308⇑ *e*P **P 02 39 09.9 -1.1**
WPM1 Penmaenmawr 33.20 310⇑ *e*P **P 02 39 10.5 -0.9**
WPM1 Penmaenmawr 33.20 310⇑ *e*P **P 02 39 10.5 -0.9**
EDI Edinburgh 33.26 315 AMB AMB 02 39 03.1
comp=Z,290nm,1.2s
EDI AMS AMS 02 56 06.0
comp=Z,17µm,16.7s
EDI Edinburgh 33.26 315 PFAKE 02 39 20.0 +8.1
EDI LR LR
comp=Z,7µm,19.4s
WME Myndd Eilian 33.45 311⇑ *e*P **P 02 39 12.7 -0.9**
WME Myndd Eilian 33.45 311⇑ *e*P **P 02 39 12.7 -0.9**
MME1 Meikle Cairn 33.47 318⇑ *e*P **P 02 39 12.7 -1.1**
MME1 Meikle Cairn 33.47 318⇑ *e*P **P 02 39 12.7 -1.1**
YRE Yr Eifl 33.47 310⇑ *e*P **P 02 39 13.1 -0.7**
YRE Yr Eifl 33.47 310⇑ *e*P **P 02 39 13.1 -0.7**
AGRA Agra 33.59 99 *e*P **P 02 39 15.6 +0.6**
AGRA AMB AMB 02 39 17.8
comp=Z,131nm,1.8s
MCD Coleburn Disti 33.69 318⇑ *e*P **P 02 39 14.4 -1.3**
MCD Coleburn Disti 33.69 318⇑ *e*P **P 02 39 14.4 -1.3**
ZAA0 Zalesovo Array 33.78 48 *e*P **P 02 39 14.9 -1.6**
ZAA0 Zalesovo Array 33.78 48 *e*P **P 02 39 14.9 -1.6**
ZALV Zalesovo Beam 33.78 48 *i*P **P 02 39 15.1 -1.4**
ZALV pmax pmax
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 33.78 48 P **P 02 39 15.2 -1.3**
comp=Z,14nm,0.8s,baz=263,slow=8.8,SNR=59
ZALV LR LR 02 54 02.2
comp=Z,22µm,19.1s,baz=262,slow=38
ZALV Zalesovo Beam 33.78 48 *i*P **P 02 39 15.1 -1.4**
comp=Z,14nm,0.8s
ES19 SONSECA Array 33.79 286 *e*P **P 02 39 14.9 -1.9**
ES19 SONSECA Array 33.79 286 *e*P **P 02 39 14.9 -1.9**
ESDC Sonseca Array 33.84 286 P **P 02 39 15.8 -1.5**
comp=Z,39nm,1.1s,baz=68,slow=8.4,SNR=58
ESDC PcP **PcP 02 41 56.7 +0.7**
comp=Z,14nm,1.1s,baz=49,slow=2.4,SNR=6.2
ESDC S **S 02 44 44.4 +3.2**
comp=Z,0.3nm,0.6s,baz=168,slow=33,SNR=3.0
ESDC LR LR 02 55 15.6
comp=Z,11µm,18.9s,baz=75,slow=40
EAB Aberfoyle 33.95 316 *e*P **P 02 39 16.2 -1.7**
EAB Aberfoyle 33.95 316 *e*P **P 02 39 16.2 -1.7**
PGBU Glenifferbraes 33.95 315⇑ *e*P **P 02 39 17.3 -0.7**
PGBU AMB AMB 02 39 19.4
comp=Z,130nm,2.0s
PGBU AMS AMS 02 56 30.0
comp=Z,15µm,16.5s
PGBU Glenifferbraes 33.95 315⇑ *e*P **P 02 39 17.3 -0.7**
PAB San Pablo 34.16 286 *e*P **P 02 39 18.4 -1.7**
PAB pmax pmax
comp=Z,122nm,1.5s
PAB MLR MLR
comp=Z,22µm,18.0s
PAB San Pablo 34.16 286 *e*P **P 02 39 18.4 -1.7**
comp=Z,22µm,18.0s
PAB San Pablo 34.16 286 *e*P **P 02 39 18.4 -1.7**
comp=Z,122nm,1.5s
PAB LR LR
comp=Z,22µm,18.0s
ZAI Zaio 34.21 277 *i*P **P 02 39 20.0 -0.5**
MDO Dochfour 34.24 318⇑ *e*P **P 02 39 19.4 -1.0**
MDO Dochfour 34.24 318⇑ *e*P **P 02 39 19.4 -1.0**
MVH1 Achvaich 34.26 319⇑ *e*P **P 02 39 19.0 -1.6**
MVH1 Achvaich 34.26 319⇑ *e*P **P 02 39 19.0 -1.6**
BIGH Upper Bighouse 34.27 320 *e*P **P 02 39 18.8 -1.8**
BIGH AMB AMB 02 39 24.2
comp=Z,262nm,1.3s
BIGH Upper Bighouse 34.27 320 *e*P **P 02 39 18.8 -1.8**
DSB Dublin 34.67 310 *e*P **P 02 39 23.4 -0.8**
comp=Z,35nm,1.0s
DSB Dublin 34.67 310 *e*P **P 02 39 23.4 -0.8**
comp=Z,35nm,1.0s
DSB LR LR
comp=Z,10µm,20.0s
KAC Achnashellach 34.74 318⇑ *e*P **P 02 39 23.9 -0.9**
KAC Achnashellach 34.74 318⇑ *e*P **P 02 39 23.9 -0.9**
KPL Plockton 34.90 317 *e*P **P 02 39 24.3 -1.7**
KPL AMB AMB 02 39 33.8
comp=Z,96nm,3.9s
KPL AMS AMS 02 57 11.6
comp=Z,17µm,16.2s
KPL Plockton 34.90 317 *e*P **P 02 39 24.3 -1.7**
EMAL Malaga-Limoner 34.95 281 *i*P **P 02 39 24.0 -2.8**
EMAL *i*S **S 02 44 57.7 -0.5**
TOU Touzarine 34.99 278 *i*P **P 02 39 29.0 +1.6**
PBRG Braganca 35.47 290 *e*PP PP 02 40 54.8 +3.1
PBRG *e*S **S 02 45 09.8 +3.6**
POO Poona 35.59 115⇑ *i*PS **P 02 39 32.0 -0.5**
comp=Z,200nm,1.0s
WMQ Urumqi 35.75 66 P **P 02 39 34.5 +0.8**
WMQ sP **sP 02 39 41.3 +2.3**
WMQ PP **PP 02 40 55.6 +0.8**
WMQ PcP **PcP 02 41 59.3 -2.2**
WMQ S **S 02 45 13.8 +3.3**
WMQ sS **sS 02 45 18.3 +1.6**
WMQ SS **SnSn 02 47 31.0 -1.4**
WMQ ScS **ScS 02 49 50.4 -1.9**
WMQ PMZ
comp=Z,150nm,1.4s
WMQ PMZ
comp=Z,530nm,4.0s
WMQ LN
comp=Z,37µm,14.0s
WMQ LE
comp=Z,20µm,19.0s
WMQ LZ
comp=Z,20µm,17.6s
MVO Moncorvo 35.81 289 *e*P **P 02 39 32.5 -1.8**
comp=Z,108nm,1.8s
MVO Moncorvo 35.81 289 *e*PP PP 02 41 03.0 +7.5
MVO *e*S **S 02 45 14.4 +2.9**
MVO *e*LQ LQ 02 47 38.2
MVO *e*LR LR 02 50 48.2
comp=Z,13µm,16.0s
MVO Moncorvo 35.81 289 *e*P **P 02 39 32.5 -1.8**
comp=Z,108nm,1.8s
MVO *e*S **S 02 45 14.4 +2.9**
PVRL Vila Real 36.29 289 *e*P **P 02 39 37.4 -1.0**
comp=Z,133nm,1.8s
PVRL Vila Real 36.29 289 *e*P **P 02 39 37.4 -1.0**
comp=Z,133nm,1.8s
POLO Lamas de Olo 36.33 290 *e*P **P 02 39 37.5 -1.2**
comp=Z,59nm,1.6s
POLO Lamas de Olo 36.33 290 *e*PP PP 02 41 04.4 +3.1
POLO *e*S **S 02 45 24.1 +4.6**
POLO Lamas de Olo 36.33 290 *e*P **P 02 39 37.5 -1.2**
comp=Z,59nm,1.6s
MTE Manteigas 36.36 288 *e*P **P 02 39 38.1 -0.9**
comp=Z,320nm,1.5s
MTE Manteigas 36.36 288 *e*PP PP 02 41 00.6 -1.0
MTE *e*S **S 02 45 20.3 +0.4**
MTE *e*LQ LQ 02 47 59.7
MTE *e*LR LR 02 49 02.5
comp=Z,11µm,20.0s
MTE Manteigas 36.36 288 *e*P **P 02 39 37.7 -1.3**
comp=Z,183nm,1.3s
MTE Manteigas 36.36 288 *e*PP PP 02 41 00.6 -1.0
MTE *e*S **S 02 45 20.3 +0.4**
MTE Manteigas 36.36 288 *e*P **P 02 39 37.7 -1.3**
comp=Z,183nm,1.3s
MTE LR LR
comp=Z,12µm,20.0s
SFS San Fernando 36.41 281 *i*P **P 02 39 37.1 -2.2**
SFS *i*S **S 02 45 22.4 +1.9**
PCAB Cabril 36.43 290 *e*P **P 02 39 39.0 -0.5**
comp=Z,98nm,1.8s
PCAB Cabril 36.43 290 *e*P **P 02 39 39.0 -0.5**
comp=Z,98nm,1.8s
PCBR Castelo Branco 36.44 287 *e*P **P 02 39 38.7 -0.9**
comp=Z,198nm,1.5s
PCBR Castelo Branco 36.44 287 *e*P **P 02 39 38.7 -0.9**
comp=Z,198nm,1.5s
PMRV Marv??o 36.48 286 *e*P **P 02 39 38.6 -1.3**
comp=Z,174nm,1.6s
PMRV Marv??o 36.48 286 *e*PP PP 02 41 00.5 -2.4
PMRV *e*S **S 02 45 16.2 -5.4**
PMRV *e*LQ LQ 02 48 01.8
PMRV *e*LR LR 02 50 38.1
comp=Z,16µm,18.0s
PMRV Marv??o 36.48 286 *e*P **P 02 39 38.6 -1.3**
comp=Z,174nm,1.6s
ZFT Errachidia 36.52 273 *i*P **P 02 39 40.0 -0.6**
PBAR Barrancos 36.54 284 *e*P **P 02 39 38.8 -1.7**
comp=Z,269nm,1.4s
PBAR Barrancos 36.54 284 *e*PP PP 02 41 06.7 +3.2
PBAR *e*S S 02 45 16.1 -6.5
PBAR Barrancos 36.54 284 *e*P **P 02 39 38.8 -1.7**
comp=Z,269nm,1.4s
PVIS Viseu 36.55 289 *e*P **P 02 39 40.0 -0.5**
comp=Z,172nm,1.4s
PVIS Viseu 36.55 289 *e*P **P 02 39 40.0 -0.5**
comp=Z,172nm,1.4s
PGAV Gavieira, Arco 36.56 291 *e*P **P 02 39 39.7 -1.0**
comp=Z,158nm,1.7s
PGAV Gavieira, Arco 36.56 291 *e*PP PP 02 41 04.9 +1.1
PGAV *e*S **S 02 45 25.9 +3.0**
PGAV *e*LQ LQ 02 48 17.9
PGAV *e*LR LR 02 51 01.3
comp=Z,13µm,20.0s
PGAV Gavieira, Arco 36.56 291 *e*P **P 02 39 39.7 -1.0**
comp=Z,158nm,1.7s
PGAV Gavieira, Arco 36.56 291 *e*PP PP 02 41 04.9 +1.1
PGAV *e*S **S 02 45 25.9 +3.0**
PESTR Estremoz 36.77 286 *e*P **P 02 39 41.3 -1.1**
comp=Z,193nm,1.4s
PESTR Estremoz 36.77 286 *e*PP PP 02 41 04.3 -1.8
PESTR *e*S S 02 45 19.4 -6.7
PESTR Estremoz 36.77 286 *e*P **P 02 39 41.3 -1.1**
comp=Z,193nm,1.4s
PESTR Estremoz 36.77 286 *e*PP PP 02 41 04.3 -1.8
VAL Valentia 36.96 308 *e*P **P 02 39 43.9 +0.1**
VAL Valentia 36.96 308‖ *i*S **S 02 45 32.1 +3.6**
PCAS Casmilo, Conde 37.15 288 *e*P **P 02 39 47.5 +1.9**
comp=Z,141nm,1.7s
PCAS Casmilo, Conde 37.15 288 *e*PP PP 02 41 10.9 +0.7
PCAS *e*S **S 02 45 36.4 +4.6**
PCAS Casmilo, Conde 37.15 288 *e*P **P 02 39 47.5 +1.9**
comp=Z,141nm,1.7s
PCAS Casmilo, Conde 37.15 288 *e*PP PP 02 41 10.9 +0.7
EVO Evora 37.18 285 *e*P **P 02 39 44.3 -1.6**
comp=Z,61nm,1.6s
EVO Evora 37.18 285 *e*P **P 02 39 44.3 -1.6**
comp=Z,61nm,1.6s
PTOM Tomar 37.19 287 *e*P **P 02 39 45.6 -0.4**
comp=Z,311nm,1.4s
PTOM Tomar 37.19 287 *e*P **P 02 39 45.6 -0.4**
comp=Z,311nm,1.4s
PMTG Montargil 37.20 286 *e*P **P 02 39 44.2 -1.8**
comp=Z,144nm,1.7s
PMTG Montargil 37.20 286 *e*PP PP 02 41 12.4 +1.7
PMTG *e*S **S 02 45 34.8 +2.3**
PMTG Montargil 37.20 286 *e*P **P 02 39 44.2 -1.8**
comp=Z,144nm,1.7s
PMTG Montargil 37.20 286 *e*PP PP 02 41 12.4 +1.7
PMTG *e*S **S 02 45 34.8 +2.3**
PVAQ Vaqueiros 37.28 283 *e*P **P 02 39 45.3 -1.4**
comp=Z,259nm,1.5s
PVAQ Vaqueiros 37.28 283 *e*PP PP 02 41 16.5 +4.9
PVAQ *e*S **S 02 45 28.9 -4.9**
PVAQ *e*LQ LQ 02 48 22.0
PVAQ *e*LR LR 02 50 10.3
comp=Z,7µm,18.0s
PVAQ Vaqueiros 37.28 283 *e*P **P 02 39 45.3 -1.4**
comp=Z,259nm,1.5s
PBDV Barranco-do-Ve 37.49 283 *e*P **P 02 39 47.5 -1.0**
comp=Z,394nm,1.4s
PBDV Barranco-do-Ve 37.49 283 *e*PP PP 02 41 21.2 +7.2
PBDV *e*S **S 02 45 35.7 -1.3**
PBDV Barranco-do-Ve 37.49 283 *e*P **P 02 39 47.5 -1.0**
comp=Z,394nm,1.4s
PBDV *e*S **S 02 45 35.7 -1.3**
MESJ Messejana 37.53 284 *e*P **P 02 39 47.7 -1.1**
MESJ AMb AMB 02 39 51.1
comp=Z,119nm,1.7s
MESJ *e*S **S 02 45 38.8 +1.2**
MESJ Messejana 37.53 284 *e*P **P 02 39 47.6 -1.3**
comp=Z,119nm,1.6s
MESJ Messejana 37.53 284 *e*P **P 02 39 47.7 -1.1**
MESJ *e*S **S 02 45 38.8 +1.2**
MESJ Messejana 37.53 284 *e*P **P 02 39 47.7 -1.1**
MESJ *e*S **S 02 45 38.8 +1.2**
DANN Dangsing 37.57 93 *e*P **P 02 39 50.3 +0.6**
comp=Z,417nm,1.1s
LATR Latur 37.60 112 *ex* **P 02 39 49.0 -0.6**
KIB El Ksiba 37.63 275 *i*P **P 02 39 50.0 +0.1**
PNCL Nicolau / Gran 37.69 285 *e*P **P 02 39 49.0 -1.2**
comp=Z,89nm,1.4s
PNCL Nicolau / Gran 37.69 285 *e*PP PP 02 41 19.5 +3.4
PNCL *e*S **S 02 45 42.5 +2.5**
PNCL Nicolau / Gran 37.69 285 *e*P **P 02 39 49.0 -1.2**
comp=Z,89nm,1.4s
PNCL *e*S **S 02 45 42.5 +2.5**
KOLN Koldanda 37.72 94 *e*P **P 02 39 51.1 +0.3**
comp=Z,369nm,1.4s
RTC Rabat Centre 37.74 278 PFAKE 02 40 00.0 +9.4
RTC LR LR
comp=Z,4µm,22.0s
NGP Nagpur 37.75 106 *e*P **P 02 39 52.8 +1.9**
NGP *ex* x 02 45 35.9
LIS Lisbon 37.99 286 *e*P **P 02 39 52.0 -0.7**
LIS AMb AMB 02 39 55.4
comp=Z,362nm,1.2s
LIS *e*S **S 02 45 46.0 +1.5**
LIS Lisbon 37.99 286 *e*P **P 02 39 52.0 -0.7**
comp=Z,362nm,1.2s
LIS *e*S **S 02 45 46.0 +1.5**
LIS Lisbon 37.99 286 *e*P **P 02 39 51.9 -0.7**
LIS *e*S **S 02 45 45.9 +1.5**
LIS Lisbon 37.99 286 *e*P **P 02 39 52.0 -0.7**
comp=Z,362nm,1.2s
LIS *e*S **S 02 45 46.0 +1.5**
PTEO Sao Teotonio 38.00 284 *e*P **P 02 39 51.7 -1.1**
comp=Z,191nm,1.5s
PTEO Sao Teotonio 38.00 284 *e*P **P 02 39 51.7 -1.1**
comp=Z,191nm,1.5s
MORF Marmelete 38.02 283 *e*P **P 02 39 51.7 -1.3**
MORF AMb AMB 02 39 54.4
comp=Z,152nm,1.4s
MORF *e*S **S 02 45 46.0 +0.8**
MORF *e*S **S 02 45 46.6 +1.5**
MORF Marmelete 38.02 283 *e*P **P 02 39 52.0 -1.0**
comp=Z,147nm,1.5s
MORF Marmelete 38.02 283 *e*PP PP 02 41 26.5 +6.7
MORF *e*S S 02 45 51.7 +6.6
MORF Marmelete 38.02 283 *e*P **P 02 39 51.7 -1.3**
MORF *e*S **S 02 45 45.9 +0.8**
MORF Marmelete 38.02 283 *e*P **P 02 39 51.7 -1.3**
MORF *e*S **S 02 45 45.9 +0.8**
PMAFR Mafra 38.02 286 *e*P **P 02 39 53.8 +0.8**
comp=Z,317nm,1.7s
PMAFR Mafra 38.02 286 *e*PP PP 02 41 21.9 +2.1
PMAFR *e*S **S 02 45 45.4 +0.3**
PMAFR Mafra 38.02 286 *e*P **P 02 39 53.8 +0.8**
comp=Z,317nm,1.7s
PMAFR Mafra 38.02 286 *e*PP PP 02 41 21.9 +2.1
PMAFR *e*S **S 02 45 45.4 +0.3**
TZC Tazercounte 38.15 275 *i*P **P 02 39 53.5 -0.9**
GKN Gorkha 38.42 93 *e*P **P 02 39 56.8 +0.1**
comp=Z,675nm,1.4s
KRAR Krasnoyarsk 38.61 46⇑ *i*P **P 02 39 57.4 -0.3**
KRAR pmax pmax
comp=Z,166nm,1.7s
KRAR Krasnoyarsk 38.61 46 *i*P **P 02 39 57.4 -0.3**
comp=Z,166nm,1.7s
DMN Daman 38.97 93 *e*P **P 02 40 01.6 +0.2**
comp=Z,2µm,1.8s
KKN Kakani 39.02 92 *e*P **P 02 40 02.1 +0.3**
comp=Z,582nm,1.7s
HVS Khovu-Aksy 39.08 54 *d*/*i*P **P 02 40 01.4 -0.5**
HVS Khovu-Aksy 39.08 54 *i*P **P 02 40 01.4 -0.5**
PKIN Phulchoki 39.21 93 *e*P **P 02 40 03.6 +0.2**
comp=Z,897nm,1.8s
PKI Pulchoki 39.23 93 *e*P **P 02 40 03.8 +0.2**
comp=Z,1µm,1.8s
GUN Gumba 39.43 92 *e*P **P 02 40 05.4 0.0**
comp=Z,674nm,1.3s
OUK Oukaimeden 39.60 274 *i*P **P 02 40 06.0 -0.7**
HYB Hyderabad 39.70 111 *i*P **P 02 40 07.0 -0.3**
comp=Z,171nm,1.2s
HYB *e*PP **PnPn 02 41 44.0 +2.5**
HYB *e*S S 02 46 04.0 -6.7
HYB LR LR 02 56 36.0
comp=Z,16nm,22.0s
HSPB Hornsund (broa 39.77 352 *e*P **P 02 40 09.7 +2.6**
HSPB Hornsund (broa 39.77 352 *e*P **P 02 40 09.7 +2.6**
SNR=26
JIRN Jiri 39.79 92 *e*P **P 02 40 08.7 +0.3**
comp=Z,1µm,1.8s
KMBO Kilima Mbogo 39.80 184 *e*P **P 02 40 08.6 +0.2**
KMBO S **S 02 46 16.9 +4.3**
KMBO pmax pmax
comp=Z,202nm,2.3s
KMBO Kilima Mbogo 39.80 184 P **P 02 40 08.7 +0.4**
comp=Z,1nm,1.2s,baz=6.0,slow=8.2,SNR=20
KMBO S **S 02 46 16.9 +4.3**
comp=Z,0.6nm,0.6s,baz=8.1,slow=14,SNR=1.8
KMBO LR LR 02 55 43.4
comp=Z,20µm,19.7s,baz=355,slow=35
KMBO Kilima Mbogo 39.80 184 *e*P **P 02 40 08.6 +0.2**
comp=Z,202nm,2.3s
KMBO Kilima Mbogo 39.80 184 *e*P **P 02 40 08.6 +0.2**
comp=Z,202nm,2.3s
KMBO S **S 02 46 16.9 +4.3**
MBAR Mbarara 40.12 195 P **P 02 40 11.0 +0.1**
comp=Z,93nm,1.1s,SNR=7.8
RAMN Ramite 40.45 93 *e*P **P 02 40 13.7 0.0**
comp=Z,1µm,1.7s
SPA0 Spitsbergen Ar 40.71 353 *e*P **P 02 40 15.4 +0.4**
SPA0 Spitsbergen Ar 40.71 353 *e*P **P 02 40 15.4 +0.4**
SNR=25
SPITS Spitsbergen Ar 40.71 353 P **P 02 40 15.5 +0.6**
comp=Z,280nm,1.1s,baz=151,slow=7.6,SNR=28
SPITS LR LR 02 58 14.9
comp=Z,10µm,19.8s,baz=125,slow=38
ODAN Odare 41.11 92 *e*P **P 02 40 19.8 +0.6**
comp=Z,2µm,1.9s
TAPN Taplejung 41.13 91 *e*P **P 02 40 19.4 0.0**
comp=Z,442nm,1.5s
KBS Kingsbay 41.81 352 *e*P **P 02 40 25.8 +1.8**
KBS Kingsbay 41.81 352 *e*P **P 02 40 24.1 +0.2**
KBS pmax pmax
comp=Z,275nm,1.5s
KBS MLR MLR
comp=Z,17µm,18.8s
KBS Kingsbay 41.81 352 *e*P **P 02 40 24.1 +0.2**
comp=Z,17µm,18.8s
KBS Kingsbay 41.81 352 *e*P **P 02 40 24.1 +0.2**
comp=Z,275nm,1.5s
KBS LR LR
comp=Z,17µm,18.8s
TOA0 Torodi Ar. Sit 42.44 244 *e*P **P 02 40 27.5 -2.3**
TOA0 Torodi Ar. Sit 42.44 244 *e*P **P 02 40 27.5 -2.3**
TOA0 *e*PP **PP 02 42 04.6 -3.6**
TORD Torodi Ar. Bea 42.44 244 P **P 02 40 28.3 -1.5**

comp=Z,109nm,1.0s,baz=40,slow=5.9,SNR=101
TORD PP **PP** **02 42 07.5 -0.6**
comp=Z,42nm,1.2s,baz=42,slow=11,SNR=4.0
TORD S **S** **02 46 51.5 +0.2**
comp=Z,1.6nm,1.0s,baz=245,slow=30,SNR=2.1
TORD LR LR 03 00 39.3
comp=Z,10μm,21.9s,baz=45,slow=40
LSA Lhasa 42.74 86 P **P** **02 40 32.9 +0.2**
LSA LN
comp=Z,7μm,18.6s
LSA LE
comp=Z,8μm,29.6s
LSA LZ
comp=Z,21μm,31.7s
LSA Lhasa 42.74 86 *e*P **P** **02 40 32.9 +0.2**
LSA pmax pmax
comp=Z,243nm,1.8s
LSA MLR MLR
comp=Z,12μm,22.0s
LSA Lhasa 42.74 86 *e*P **P** **02 40 32.9 +0.2**
comp=Z,12μm,22.0s
LSA Lhasa 42.74 86 *e*P **P** **02 40 32.9 +0.2**
comp=Z,243nm,1.8s
LSA LR LR
comp=Z,12μm,22.0s
MOY Mondy 43.58 52 *e*P **P** **02 40 39.1 +0.3**
MOY pmax pmax
comp=Z,325nm,1.8s
MOY Mondy 43.58 52 *e*P **P** **02 40 39.1 +0.3**
comp=Z,325nm,1.8s
BORG Borgarnes 43.60 327 *e*P **P** **02 40 37.0 -1.6**
BORG pmax pmax
comp=Z,317nm,1.3s
BORG Borgarnes 43.60 327 *e*P **P** **02 40 37.0 -1.6**
comp=Z,317nm,1.3s
BORG Borgarnes 43.60 327 *e*P **P** **02 40 37.0 -1.6**
comp=Z,317nm,1.3s
ZAK Zakamensk 45.20 54 *e*P **P** **02 40 51.9 +0.1**
ZAK pmax pmax
comp=Z,87nm,1.7s
ZAK Zakamensk 45.20 54 *e*P **P** **02 40 51.9 +0.1**
comp=Z,87nm,1.7s
TLY Talaya 45.21 52 P **P** **02 40 52.4 +0.7**
comp=Z,823nm,1.4s,SNR=64
TLY Talaya 45.21 52*d i*P **P** **02 40 52.1 +0.4**
TLY *e* 02 42 34.2
TLY *e*S **S** **02 47 36.7 +5.5**
TLY *e* 02 50 45.5
TLY *e*SSS SSS 02 51 41.3
TLY pmax pmax
comp=Z,318nm,1.5s
TLY MLR MLR
comp=Z,13μm,15.0s
TLY Talaya 45.21 52 P **P** **02 40 51.7 -0.1**
comp=Z,106nm,1.2s,baz=267,slow=7.3,SNR=66
TLY S **S** **02 47 33.0 +1.8**
comp=Z,1.4nm,0.5s,baz=92,slow=22,SNR=3.0
TLY Talaya 45.21 52 *e*P **P** **02 40 51.6 -0.1**
comp=Z,342nm,1.4s
TLY S **S** **02 47 33.0 +1.8**
TLY Talaya 45.21 52 *e*P **P** **02 40 51.6 -0.1**
comp=Z,342nm,1.4s
TLY S **S** **02 47 33.0 +1.8**
TLY LR LR
comp=Z,16μm,18.0s
SHL Shillong 45.26 91⇓*i*P **P** **02 40 52.0 -0.7**
SHL *i* x x 02 47 28.0
PMPS Porto Santo 45.40 281 *e*P **P** **02 40 52.8 -0.7**
comp=Z,535nm,1.4s
PMPS Porto Santo 45.40 281 *e*P **P** **02 40 52.8 -0.7**
comp=Z,535nm,1.4s
IRK Irkutsk 45.50 51 *e*P **P** **02 40 53.7 -0.3**
IRK *e* 02 42 33.2
IRK *e*S S 02 47 41.8 +6.4
IRK pmax pmax
comp=Z,552nm,1.5s
IRK Irkutsk 45.50 51 *e*P **P** **02 40 53.7 -0.3**
comp=Z,552nm,1.5s
IRK Irkutsk 45.50 51 *e*PcP **PcP** **02 42 33.2 +0.5**
DAG Danmarks Havn 45.52 344 *i* P **P** **02 40 53.0 -0.9**
DAG pmax pmax
comp=Z,74nm,1.1s
DAG MLR MLR
comp=Z,12μm,20.0s
DAG Danmarks Havn 45.52 344 *i* P **P** **02 40 53.0 -0.9**
comp=Z,58nm,1.1s
comp=Z,11μm,19.0s
MSEY Mahe Island 45.54 158 *i* P **P** **02 40 56.0 +1.3**
MSEY Mahe Island 45.54 158 *e*P **P** **02 40 55.0 +0.3**
comp=Z,108nm,1.1s
MSEY Mahe Island 45.54 158⇓*i*P **P** **02 40 55.1 +0.3**
SNR=19
MSEY Mahe Island 45.54 158 *e*P **P** **02 40 55.0 +0.3**
comp=Z,108nm,1.1s
MSEY LR LR
comp=Z,14μm,22.0s
GTA Gaotai 45.63 69 ⇓P **P** **02 40 54.9 -0.5**
GTA pP **pP** **02 40 59.8 +0.6**
GTA sP **sP** **02 41 01.9 +1.2**
GTA PcP **PcP** **02 42 33.7 +0.2**
GTA PP **PP** **02 42 41.5 -0.5**
GTA ScP **ScP** **02 46 24.4 -1.8**
GTA PcS **PcS** **02 46 26.2 -1.6**
GTA S **S** **02 47 37.2 -0.6**
GTA sS **sS** **02 47 45.6 +1.5**
GTA SS **ScS** **02 50 52.7 +1.0**
GTA PMZ
comp=Z,870nm,5.7s
GTA LN
comp=Z,21μm,16.6s
GTA LE
comp=Z,12μm,18.5s
GTA LZ
comp=Z,15μm,17.1s
FUL Funchal 46.00 281 *e*P **P** **02 40 58.3 +0.1**
comp=Z,268nm,1.3s
PMOZ Porto Moniz, M 46.16 281 *e*P **P** **02 40 58.8 -0.8**
comp=Z,200nm,1.4s
PMOZ *e*S **S** **02 47 50.8 +5.2**
PMOZ *e*LR LR 02 56 01.9
comp=Z,4μm,22.0s
PMOZ Porto Moniz, M 46.16 281 *e*P **P** **02 40 58.8 -0.8**
comp=Z,200nm,1.4s
MSKU Masuku 47.03 217 PFAKE 02 41 20.0 +14
MSKU LR LR
comp=Z,5μm,20.0s
SONM Songino Array 47.76 56 P **P** **02 41 12.1 +0.1**
comp=Z,11nm,0.8s,baz=278,slow=7.0,SNR=60
SONM PcP **PcP** **02 42 41.7 +0.8**
comp=Z,8.5nm,0.9s,baz=275,slow=3.2,SNR=6.0
SONM S **S** **02 48 10.8 +2.6**
comp=Z,0.6nm,1.0s,baz=34,slow=38,SNR=2.2
SONM LR LR 03 03 55.2
comp=Z,43μm,18.6s,baz=291,slow=39
SONA1 Songino Array 47.76 56 *e*P **P** **02 41 11.7 -0.3**
SONA1 Songino Array 47.76 56 *e*PcP **PcP** **02 42 42.2 +1.3**
SONA1 Songino Array 47.76 56 *e*P **P** **02 41 11.7 -0.3**
SONA1 *e*PcP **PcP** **02 42 42.2 +1.3**
ULN Ulaanbaatar 48.18 56*d i*P **P** **02 41 14.8 -0.4**
ULN pmax pmax
comp=Z,519nm,1.7s
ULN MLR MLR
comp=Z,38μm,19.0s
ULN Ulaanbaatar 48.18 56 *i* P **P** **02 41 14.8 -0.4**
comp=Z,38μm,19.0s
ULN Ulaanbaatar 48.18 56 *e*P **P** **02 41 14.8 -0.4**
comp=Z,361nm,1.2s
ULN LR LR
comp=Z,38μm,20.0s
PALK Pallekele 48.19 120 *i* P **P** **02 41 16.6 +1.0**
PALK Pallekele 48.19 120 P **P** **02 41 14.8 -0.8**
comp=Z,100nm,1.0s,baz=312,slow=7.7,SNR=22
PALK S **S** **02 48 15.5 +0.8**
comp=Z,6.3nm,0.8s,baz=138,slow=15,SNR=1.8
PALK Pallekele 48.19 120 *e*P **P** **02 41 15.8 +0.3**
comp=Z,126nm,1.1s
PALK S **S** **02 48 15.5 +0.8**
PALK Pallekele 48.19 120⇑*i*P **P** **02 41 16.2 +0.6**
SNR=11
PALK Pallekele 48.19 120 *e*P **P** **02 41 15.8 +0.3**
comp=Z,126nm,1.1s
PALK S **S** **02 48 15.5 +0.8**
PALK LR LR
comp=Z,17μm,20.0s
LZH Lanzhou 49.81 72 ⇑P **P** **02 41 29.4 +1.5**
LZH pP **pP** **02 41 32.6 +0.8**
LZH sP **sP** **02 41 34.2 +0.9**
LZH PP **PP** **02 43 24.5 +2.1**
LZH S **S** **02 48 35.6 -1.7**
LZH SS **SS** **02 52 04.7 -4.9**
LZH PMZ
comp=Z,240nm,1.3s
LZH PMZ
comp=Z,2μm,6.2s
LZH LN
comp=Z,11μm,13.2s
LZH LE
comp=Z,10μm,13.0s
LZH LZ
comp=Z,17μm,17.2s
BOD Bodaibo 50.02 42 *e*P **P** **02 41 27.2 -1.7**
BOD pmax pmax
comp=Z,226nm,1.1s
BOD Bodaibo 50.02 42 *e*P **P** **02 41 27.2 -1.7**
comp=Z,226nm,1.1s
SUMG Summit 50.07 337 *i* P **P** **02 41 29.3 -0.3**
SUMG pmax pmax
comp=Z,55nm,1.2s
SUMG Summit 50.07 337 *i* P **P** **02 41 29.3 -0.3**
comp=Z,55nm,1.2s
SUMG Summit 50.07 337 *i* P **P** **02 41 29.3 -0.3**
comp=Z,55nm,1.2s
SUMG Summit 50.07 337 *e*P **P** **02 41 29.4 -0.3**
comp=Z,248nm,1.3s
CIT Chita 51.13 50 *e*P **P** **02 41 38.7 +1.2**
CIT *e* 02 41 45.3
CIT pmax pmax
comp=Z,480nm,1.4s
CIT Chita 51.13 50 *e*P **P** **02 41 38.7 +1.2**
comp=Z,480nm,1.4s
DBIC Dimbokro 51.55 244 *e*P **P** **02 41 39.6 -1.4**
DBIC Dimbokro 51.55 244 *e*P **P** **02 41 39.6 -1.4**
DBIC *e*S **S** **02 49 00.0 -1.5**
DBIC pmax pmax
comp=Z,164nm,1.0s
DBIC MLR MLR
comp=Z,9μm,19.5s
DBIC Dimbokro 51.55 244 P **P** **02 41 39.5 -1.4**
comp=Z,184nm,1.1s,baz=20,slow=8.3,SNR=49
DBIC S **S** **02 49 00.1 -1.5**
comp=Z,4.3nm,1.1s,baz=114,slow=20,SNR=3.0
DBIC Dimbokro 51.55 244 *e*P **P** **02 41 39.6 -1.4**
comp=Z,164nm,1.0s
DBIC *e*S **S** **02 49 00.0 -1.5**
DBIC Dimbokro 51.55 244 *e*P **P** **02 41 39.6 -1.4**
comp=Z,164nm,1.0s
DBIC *e*S **S** **02 49 00.0 -1.5**
DBIC LR LR
comp=Z,9μm,19.5s
TIC Toumodi 51.68 244 *e*P **P** **02 41 39.3 -2.7**
comp=Z,331nm,1.1s
KIC Kosan Boka 51.69 243 *e*P **P** **02 41 39.3 -2.8**
comp=Z,726nm,1.2s
CD2 Chengdu 51.95 78⇓*i*P **P** **02 41 44.9 +0.9**
CD2 sP sP 02 41 57.8 +8.5
CD2 PcP **PcP** **02 42 54.8 -1.6**
CD2 PP **PP** **02 43 43.2 +1.4**
CD2 S **S** **02 49 03.8 -3.1**
CD2 ScS **ScS** **02 51 33.7 -0.4**
CD2 SS **SS** **02 52 42.6 -1.0**
CD2 PMZ
comp=Z,110nm,1.6s
CD2 PMZ
comp=Z,810nm,11.4s
CD2 LN
comp=Z,13μm,15.2s
CD2 LE
comp=Z,10μm,19.0s
CD2 LN
comp=Z,14μm,18.0s
LIC Lamto 51.98 243⇑*i*P **P** **02 41 43.0 -1.3**
comp=Z,512nm,1.1s,baz=44
LIC *e*R
comp=Z,10μm,20.8s
LIC Lamto 51.98 243 *e*P **P** **02 41 42.2 -2.1**
comp=Z,594nm,1.1s
LIC Lamto 51.98 243⇑*i*P **P** **02 41 43.0 -1.3**
comp=Z,512nm,1.1s
LIC Lamto 51.98 243⇑*i*P **P** **02 41 43.0 -1.3**
comp=Z,512nm,1.1s
BTO Baotou 52.54 64 *e*P **P** **02 41 50.0 +1.7**
TIXI Tiksi 53.35 23 *e*P **P** **02 41 53.1 -0.6**
TIXI pmax pmax
comp=Z,101nm,1.7s
TIXI MLR MLR
comp=Z,13μm,18.0s
TIXI Tiksi 53.35 23 *e*P **P** **02 41 53.1 -0.6**
comp=Z,86nm,1.3s
TIXI Tiksi 53.35 23 *e*P **P** **02 41 53.1 -0.6**
comp=Z,86nm,1.3s
TIXI LR LR
comp=Z,11μm,20.0s
HHC Hu-ho-hao-te 53.53 63 *e*P **P** **02 41 56.4 +0.8**
HHC pP **pP** **02 42 00.9 +1.4**
HHC sP **sP** **02 42 03.4 +2.4**
HHC PP **PP** **02 43 58.4 +2.5**
HHC S **S** **02 49 26.5 -1.8**
HHC sS **sS** **02 49 34.1 -0.7**
HHC SS **SS** **02 53 05.8 -2.5**
HHC PMZ
comp=Z,200nm,1.6s
HHC PMZ
comp=Z,2μm,6.6s
HHC LN
comp=Z,20μm,19.4s
HHC LE
comp=Z,23μm,17.6s
HHC LZ
comp=Z,22μm,20.0s
CMAI Chiengmai2 53.84 93 P **P** **02 41 59.1 +1.0**
comp=Z,20nm,1.6s
MHMT Maesarieng 53.96 95 P **P** **02 41 59.8 +1.0**
comp=Z,54nm,1.9s,comp=Z,2μm
KMI Kunming 53.96 85 P **P** **02 41 59.9 +0.8**
KMI sP sP 02 42 13.0 +8.6
KMI S **S** **02 49 31.2 -3.5**
KMI SS **SKiKP** **02 53 11.5 -0.5**
KMI PMZ
comp=Z,110nm,2.0s
KMI LN
comp=Z,5μm,21.2s
KMI LE
comp=Z,8μm,17.8s
KMI LZ
comp=Z,9μm,21.9s
CHTO Chiang Mai 54.38 94 *e*P **P** **02 42 02.1 +0.1**
CHTO *e*S **S** **02 49 41.1 +1.0**
CHTO pmax pmax
comp=Z,587nm,2.4s
CHTO MLR MLR
comp=Z,6μm,20.0s
CHTO Chiang Mai 54.38 94 P **P** **02 42 02.3 +0.3**
comp=Z,341nm,2.4s,comp=Z,9μm
CHTO Chiang Mai 54.38 94 *e*P **P** **02 42 02.1 +0.1**
comp=Z,587nm,2.4s
CHTO *e*S **S** **02 49 41.1 +1.0**
comp=Z,6μm,20.0s
CHTO Chiang Mai 54.38 94 *e*P **P** **02 42 02.1 +0.1**
comp=Z,587nm,2.4s
CHTO *e*S **S** **02 49 41.1 +1.0**
CHTO LR LR
comp=Z,6μm,20.0s
XAN Xi'an 54.45 72 P **P** **02 42 03.3 +1.0**
XAN pP **pP** **02 42 10.9 +4.7**
XAN PP **PP** **02 44 05.8 +1.5**
XAN PcS **PcS** **02 47 03.3 -2.2**
XAN S **S** **02 49 39.3 -1.5**
XAN ScS **ScS** **02 51 47.8 -3.8**
XAN SS **SS** **02 53 20.6 -2.3**
XAN PMZ
comp=Z,36nm,1.6s
XAN PMZ
comp=Z,120nm,3.9s
XAN LN
comp=Z,10μm,22.4s
XAN LE
comp=Z,4μm,20.4s
XAN LZ
comp=Z,4μm,17.3s
CMAR Chiang Mai Arr 54.58 94 P **P** **02 42 01.9 -1.4**
comp=Z,28nm,0.9s,baz=296,slow=8.2,SNR=82
CMAR PP **PP** **02 44 07.5 +1.7**
comp=Z,9.8nm,0.9s,baz=296,slow=8.6,SNR=5.0
CMAR LR LR 03 10 54.4
comp=Z,5μm,18.0s,baz=284,slow=42
CMAR PKP2bc 03 12 24.9
comp=Z,1.0nm,0.3s,baz=136,slow=2.5,SNR=4.1
CMAR Chiang Mai Arr 54.58 94 P **P** **02 42 02.0 -1.4**
CM01 Chiang Mai Arr 54.62 94 *e*P **P** **02 42 03.5 -0.2**
CM01 Chiang Mai Arr 54.62 94 *e*PP PP 02 44 06.3 +0.2
CM01 Chiang Mai Arr 54.62 94 *e*P **P** **02 42 03.5 -0.2**
CM01 *e*PP **PP** **02 44 06.3 +0.3**
CRAI Chiangrai 54.71 92 P **P** **02 42 03.9 -0.4**
comp=Z,42nm,1.5s,comp=Z,3μm
ILULI Ilulissat 54.75 334 *i* P **P** **02 42 05.4 +1.5**
ILULI MLR MLR
comp=Z,7μm,12.0s
ILULI Ilulissat 54.75 334 *i* P **P** **02 42 05.4 +1.5**
comp=Z,7μm,12.0s
ILULI Ilulissat 54.75 334 *i* P **P** **02 42 05.4 +1.5**
comp=Z,7μm,12.0s
LSZ Lusaka 54.91 194 *e*P **P** **02 42 06.2 +0.4**
LSZ pmax pmax
comp=Z,90nm,1.4s
LSZ MLR MLR
comp=Z,22μm,20.0s
LSZ Lusaka 54.91 194 *e*P **P** **02 42 06.2 +0.4**
comp=Z,22μm,20.0s
LSZ Lusaka 54.91 194 *e*P **P** **02 42 06.2 +0.4**
comp=Z,90nm,1.4s
LSZ LR LR
comp=Z,22μm,20.0s
KULLO Kullorsuaq 54.92 341 *i* P **P** **02 42 05.4 +0.3**
KULLO MLR MLR
comp=Z,6μm,20.0s
KULLO Kullorsuaq 54.92 341 *i* P **P** **02 42 05.4 +0.3**
comp=Z,6μm,20.0s
KULLO Kullorsuaq 54.92 341 *i* P **P** **02 42 05.4 +0.3**
comp=Z,6μm,20.0s
DGAR Diego Garcia 54.94 140 *e*P **P** **02 42 06.2 +0.3**
DGAR pmax pmax
comp=Z,213nm,1.0s
DGAR MLR MLR
comp=Z,16μm,19.0s
DGAR Diego Garcia 54.94 140 *e*P **P** **02 42 06.2 +0.3**
comp=Z,16μm,19.0s
DGAR Diego Garcia 54.94 140 *e*P **P** **02 42 06.2 +0.3**
comp=Z,213nm,1.0s
DGAR LR LR
comp=Z,16μm,19.0s
BBTS Babate 55.00 260 P **P** **02 42 06.2 -0.3**
comp=Z,42nm,0.9s,baz=48,slow=4.1,SNR=3.9
LAMP Lampang 55.08 94 P **P** **02 42 08.3 +1.3**
comp=Z,30nm,1.0s,comp=Z,315nm
SFJD Kangerlussuaq 55.24 331 *e*P **P** **02 42 06.8 -0.7**
SFJD pmax pmax
comp=Z,64nm,1.1s
SFJD MLR MLR
comp=Z,5μm,19.0s
SFJD Kangerlussuaq 55.24 331 *i* P **P** **02 42 07.0 -0.4**
comp=Z,5μm,17.0s
SFJD Kangerlussuaq 55.24 331 P **P** **02 42 07.0 -0.4**
SFJD Kangerlussuaq 55.24 331 *e*P **P** **02 42 06.8 -0.7**
comp=Z,64nm,1.1s
SFJD Kangerlussuaq 55.24 331 *e*P **P** **02 42 06.8 -0.7**
comp=Z,64nm,1.1s
SFJD LR LR
comp=Z,5μm,19.0s
TIY Taiyuan 55.42 67 *e*P **P** **02 42 09.6 +0.3**
TIY S **S** **02 49 49.9 -3.9**
TIY ScS **ScS** **02 51 58.9 +0.4**
TIY SS **SS** **02 53 40.2 +2.1**
TIY PMZ
comp=Z,740nm,3.8s
TIY LN
comp=Z,7μm,11.8s
TIY LE
comp=Z,7μm,13.0s
TIY LZ
comp=Z,11μm,14.5s
SUKH Sukhothai 55.68 95 P **P** **02 42 12.1 +0.8**
comp=Z,20nm,0.9s,comp=Z,208nm
HIA Hailar 55.74 51 *e*P **P** **02 42 12.3 +0.9**
HIA pmax pmax
comp=Z,307nm,1.2s
HIA MLR MLR
comp=Z,14μm,20.0s
HIA Hailar 55.74 51 *e*P **P** **02 42 12.3 +0.9**
comp=Z,14μm,20.0s
HIA Hailar 55.74 51 *e*P **P** **02 42 12.3 +0.9**
comp=Z,307nm,1.2s
HIA LR LR
comp=Z,14μm,20.0s
NANT Nan 55.76 93 P **P** **02 42 11.8 -0.1**
comp=Z,61nm,1.2s,comp=Z,1μm
CLNS Chul'man 55.96 41 *e*P **P** **02 42 14.1 +1.2**
CLNS *e**PP pP 02 42 22.4 +5.6
CLNS *e* 02 43 10.9
CLNS *e* 02 44 18.0
CLNS *e*PPP PPP 02 45 32.8
CLNS *e*S **S** **02 50 00.9 +0.5**
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS pmax pmax
comp=Z,36nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS pmax pmax
comp=Z,13nm,0.9s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS pmax pmax
comp=N,24nm,1.1s
CLNS smax smax
comp=N,1μm,11.0s
CLNS smax smax
comp=E,1μm,12.3s
CLNS MLR MLR
comp=N,9μm,13.0s
CLNS MLR MLR
comp=E,7μm,13.0s
CLNS MLR MLR
comp=Z,14μm,15.0s
CLNS Chul'man 55.96 41 *e*P **P** **02 42 14.1 +1.2**
comp=Z,36nm,0.8s
CLNS Chul'man 55.96 41 *e*PcP **PcP** **02 43 10.9 -0.4**
CLNS *e*S **S** **02 50 00.9 +0.5**
comp=Z,14μm,15.0s
UTTA Uttaradit 56.25 94 P **P** **02 42 16.3 +0.9**
comp=Z,9.7nm,1.1s,comp=Z,178nm
GYA Guiyang 56.32 81⇓*i*P **P** **02 42 17.0 +1.0**
GYA PcP **PcP** **02 43 14.2 +0.9**
GYA PP **PP** **02 44 24.6 +3.3**
GYA ScP **ScP** **02 47 12.3 -0.1**
GYA S **S** **02 50 04.0 -2.2**
GYA SS **SS** **02 53 52.8 -0.1**
GYA PMZ
comp=Z,80nm,1.0s
GYA PMZ
comp=Z,3μm,6.2s
GYA LN
comp=Z,5μm,18.7s
GYA LE
comp=Z,3μm,19.6s
GYA LZ
comp=Z,5μm,18.8s
YAK Yakutsk 56.46 34 *e*P **P** **02 42 15.8 -0.5**
YAK *e**PP **pP** **02 42 22.5 +2.3**
YAK *e* 02 43 10.4
YAK *e* 02 44 21.8
YAK *e*PPP PPP 02 45 40.3
YAK *e*S **S** **02 50 05.4 -1.3**
YAK *e**SS sS 02 50 21.9 +8.7
YAK *e* 02 52 03.1
YAK *e*SSS SSS 02 55 57.7
YAK pmax pmax
comp=Z,42nm,1.3s
YAK pmax pmax
comp=N,19nm,1.3s
YAK pmax pmax
comp=E,41nm,1.4s
YAK pmax pmax
comp=Z,153nm,2.5s
YAK pmax pmax
comp=N,135nm,2.5s
YAK pmax pmax
comp=E,100nm,2.3s
YAK smax smax

comp=N,1μm,6.6s
YAK smax smax
comp=E,1μm,6.7s
YAK MLR MLR
comp=Z,17μm,18.0s
YAK MLR MLR
comp=N,10μm,14.0s
YAK MLR MLR
comp=E,9μm,17.0s
YAK Yakutsk 56.46 34 *e*P **P 02 42 15.8 -0.5**
comp=E,41nm,0.9s
YAK Yakutsk 56.46 34 *e*PcP **PcP 02 43 10.4 -2.6**
YAK *e*S **S 02 50 05.4 -1.3**
YAK *e*ScS **ScS 02 52 03.1 -1.8**
comp=E,17μm,18.0s
YAK Yakutsk 56.46 34 *e*P **P 02 42 15.8 -0.5**
comp=E,41nm,0.9s
YAK LR LR
comp=Z,17μm,19.0s
ENH Enshi 56.61 76 *e*P **P 02 42 18.5 +0.6**
comp=Z,79nm,1.2s
ENH Enshi 56.61 76 *e*P **P 02 42 18.5 +0.6**
comp=Z,79nm,1.2s
ENH LR LR
comp=Z,9μm,18.0s
UTHA Uthaitani 56.65 97 P **P 02 42 19.4 +1.1**
comp=Z,17nm,1.3s,comp=Z,228nm
SLVN Son La 56.86 88 *e*P **P 02 42 20.4 +0.5**
comp=Z,280nm,1.9s
SLVN Son La 56.86 88 *e*P **P 02 42 20.4 +0.5**
comp=Z,280nm,1.9s
BJI Beijing 57.07 63 P **P 02 42 20.6 -0.4**
BJI PP **PP 02 44 26.4 -1.1**
BJI S **S 02 50 16.1 +0.6**
BJI SS **SS 02 54 02.9 -0.9**
BJI PMZ
comp=Z,74nm,1.7s
BJI LN
comp=Z,26μm,19.4s
BJI LE
comp=Z,16μm,18.0s
BJI LZ
comp=Z,9μm,25.6s
BJT Baijiatuau 57.08 63 *e*P **P 02 42 21.3 +0.2**
BJT pmax pmax
comp=Z,139nm,1.3s
BJT MLR MLR
comp=Z,10μm,18.0s
BJT Baijiatuau 57.08 63 *e*P **P 02 42 21.2 +0.2**
comp=Z,139nm,1.3s
BJT Baijiatuau 57.08 63 *e*P **P 02 42 21.2 +0.2**
comp=Z,139nm,1.3s
BJT LR LR
comp=Z,10μm,18.0s
PBKT Sadao Pong 57.25 95 P **P 02 42 23.2 +0.7**
comp=Z,84nm,1.4s
OPO Ambohidratompo 57.45 172 P **P 02 42 24.3 +0.4**
comp=Z,34nm,1.0s,baz=354,slow=5.2,SNR=14
ABPO Ambohimpanom 57.89 172 *e*P **P 02 42 26.8 -0.2**
ABPO pmax pmax
comp=Z,138nm,1.5s
ABPO MLR MLR
comp=Z,14μm,19.0s
ABPO Ambohimpanom 57.89 172 *e*P **P 02 42 26.8 -0.2**
comp=Z,14μm,19.0s
ABPO Ambohimpanom 57.89 172 *e*P **P 02 42 26.8 -0.2**
comp=Z,138nm,1.5s
ABPO LR LR
comp=Z,14μm,19.0s
TIA Tai'an 59.45 66 ⇓P **P 02 42 39.0 +1.3**
TIA pP **pP 02 42 43.9 +2.3**
TIA sP **sP 02 42 46.2 +3.1**
TIA S **S 02 50 50.8 +4.1**
TIA PMZ
comp=Z,70nm,1.5s
TIA PMZ
comp=Z,810nm,3.5s
TIA LN
comp=Z,14μm,19.2s
TIA LE
comp=Z,13μm,18.6s
TIA LZ
comp=Z,9μm,21.1s
WHN Wuhan 60.14 73 ⇓P **P 02 42 43.8 +1.3**
WHN S **S 02 50 54.5 -1.2**
WHN PMZ
comp=Z,350nm,1.3s
WHN LN
comp=Z,20μm,13.2s
WHN LE
comp=Z,22μm,13.7s
WHN LZ
comp=Z,27μm,16.2s
SURT Suratani 60.20 103 P **P 02 42 44.3 +1.3**
comp=Z,19nm,2.3s
SACV Santiago Islan 60.30 266 PFAKE 02 43 00.0 +16
SACV LR LR
comp=Z,4μm,21.0s
SURA Surathani 60.70 102 P **P 02 42 48.0 +1.5**
comp=Z,36nm,1.4s,comp=Z,1μm
LHMI Lhok Sumawe 61.22 108 PFAKE 02 43 00.0 +10
LHMI LR LR
comp=Z,8μm,21.0s
SNY Shenyang 61.30 58 ⇑P **P 02 42 52.2 +2.0**
SNY PP **PP 02 45 06.1 +1.2**
SNY S **S 02 51 08.9 -1.2**
SNY sS sS 02 51 23.9 +7.3
SNY PMZ
comp=Z,250nm,3.9s
SNY LN
comp=Z,36μm,21.8s
SNY LE
comp=Z,25μm,22.0s
SNY LZ
comp=Z,24μm,20.8s
DL2 Dalian 61.35 62 P **P 02 42 51.6 +1.0**
DL2 S **S 02 51 15.0 +4.1**
DL2 PMZ
comp=Z,160nm,1.6s
DL2 PMZ
comp=Z,990nm,3.7s
DL2 LN
comp=Z,4μm,16.9s
DL2 LE
comp=Z,7μm,16.2s
DL2 LZ
comp=Z,8μm,15.1s
TSUM Tsumeb 61.41 204 *e*P **P 02 42 51.5 +0.3**
comp=Z,34nm,1.0s
TSUM Tsumeb 61.41 204 *e*P **P 02 42 51.5 +0.3**
comp=Z,34nm,1.0s
TSUM LR LR
comp=Z,17μm,21.0s
MSNA Messina 61.53 191 *e*P **P 02 42 52.3 +0.4**
MSNA AMB AMB 02 42 54.5
comp=Z,79nm,2.7s
MSNA AMS AMS 03 09 53.6
comp=Z,12μm,15.7s
MSNA Messina 61.53 191 P **P 02 42 52.3 +0.4**
comp=Z,79nm,2.7s
MSNA Messina 61.53 191 P **P 02 42 52.3 +0.4**
comp=Z,79nm,2.7s
CN2 Changchun 61.60 55 *e*P P 02 42 48.8 -3.4
CN2 *e*S **S 02 51 14.5 +0.5**
CN2 PMZ
comp=Z,20nm,1.0s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,43μm,20.0s
CN2 LE
comp=Z,27μm,20.0s
CN2 LZ
comp=Z,6μm,16.0s
NJ2 Nanjing 62.72 70 *e*P **P 02 43 01.0 +1.1**
NJ2 pP **pP 02 43 05.1 +1.2**
NJ2 S **S 02 51 29.0 +0.5**
NJ2 PMZ
comp=Z,110nm,0.8s
NJ2 PMZ
comp=Z,660nm,5.0s
NJ2 LN
comp=Z,17μm,21.9s
NJ2 LE
comp=Z,22μm,19.2s
NJ2 LZ
comp=Z,22μm,19.2s

QIZ Qiongzhong 62.77 87 P **P 02 43 00.4 -0.1**
QIZ pP **pP 02 43 03.7 -0.7**
QIZ S **S 02 51 29.9 +0.5**
QIZ PMZ
comp=Z,40nm,2.0s
QIZ PMZ
comp=Z,530nm,4.2s
QIZ LN
comp=Z,6μm,22.9s
QIZ LZ
comp=Z,9μm,21.2s
QIZ Qiongzhong 62.77 87 *e*P **P 02 43 01.0 +0.6**
comp=Z,428nm,2.0s
QIZ Qiongzhong 62.77 87 *e*P **P 02 43 01.0 +0.6**
comp=Z,428nm,2.0s
QIZ LR LR
comp=Z,10μm,22.0s
KLR Kul'dur 62.88 47 *e*P P 02 42 57.0 -3.7
KLR *e*S **S 02 51 24.5 -5.4**
KLR *e* 02 52 51.5
KLR pmax pmax
comp=E,62nm,1.6s
KLR pmax pmax
comp=Z,150nm,1.6s
KLR smax smax
comp=N,3μm,14.0s
KLR smax smax
comp=E,2μm,14.0s
KLR MLR MLR
comp=Z,26μm,12.5s
KLR Kul'dur 62.88 47 *e*P P 02 42 57.0 -3.7
KLR *e*ScS **ScS 02 52 51.5 -1.6**
comp=Z,26μm,12.5s
RES Resolute Bay 62.95 348 *e*P **P 02 43 00.5 -0.3**
RES pmax pmax
comp=Z,39nm,1.2s
RES MLR MLR
comp=Z,13μm,19.6s
RES Resolute Bay 62.95 348 P **P 02 42 60.0 -0.8**
comp=Z,13nm,0.9s,baz=29,slow=9.2,SNR=24
RES Resolute Bay 62.95 348 *e*P **P 02 43 00.5 -0.3**
comp=Z,39nm,1.2s
RES Resolute Bay 62.95 348 *e*P **P 02 43 00.5 -0.3**
comp=Z,39nm,1.2s
RES LR LR
comp=Z,13μm,19.6s
GZH Guangzhou 63.25 81 P **P 02 43 03.6 0.0**
GZH S **S 02 51 34.8 -0.5**
GZH LN
comp=Z,14μm,19.0s
GZH LE
comp=Z,10μm,18.2s
GZH LZ
comp=Z,19μm,16.9s
FRB Frobisher Bay 63.38 332 P **P 02 43 03.0 -0.8**
comp=Z,192nm,1.1s,baz=55,slow=7.3,SNR=39
MDJ Mudanjiang 63.83 53 P **P 02 43 07.9 +0.8**
MDJ pP **pP 02 43 11.1 +0.1**
MDJ sP **sP 02 43 12.4 -0.1**
MDJ PcP **PcP 02 43 44.5 +1.6**
MDJ PP **PP 02 45 27.1 0.0**
MDJ S **S 02 51 40.5 -1.4**
MDJ sS **sS 02 51 46.9 -1.5**
MDJ SS **SS 02 55 49.0 -0.4**
MDJ PMZ
comp=Z,31nm,1.8s
MDJ PMZ
comp=Z,200nm,4.5s
MDJ LN
comp=Z,20μm,20.0s
MDJ LE
comp=Z,17μm,20.0s
MDJ LZ
comp=Z,12μm,17.9s
MDJ Mudanjiang 63.83 53 *e*P **P 02 43 06.4 -0.7**
comp=Z,95nm,1.6s
MDJ Mudanjiang 63.83 53 *e*P **P 02 43 06.4 -0.7**
comp=Z,95nm,1.6s
MDJ LR LR
comp=Z,8μm,20.0s
KULM Kulim 63.95 105 *e*P **P 02 43 06.7 -1.6**
comp=Z,383nm,2.2s
KULM Kulim 63.95 105 ⇓P **P 02 43 08.0 -0.3**
KULM Kulim 63.95 105 *e*P **P 02 43 06.7 -1.6**
comp=Z,383nm,2.2s
KULM LR LR
comp=Z,6μm,21.0s
PSI Prapat 64.30 108 P **P 02 43 10.6 -0.1**
comp=Z,23nm,0.9s,baz=303,slow=6.9,SNR=24
GSI Gunungsitoli 64.31 111 PFAKE 02 43 20.0 +9.4
GSI LR LR
comp=Z,9μm,18.0s
WIN Windhoek 64.71 203 *e*P **P 02 43 13.1 -0.1**
WIN AMB AMB 02 43 16.0
comp=Z,38nm,1.0s
WIN AMS AMS 03 11 16.6
comp=Z,3μm,18.4s
WIN Windhoek 64.71 203 P **P 02 43 13.1 -0.1**
WIN pmax pmax
comp=Z,39nm,1.0s
WIN Windhoek 64.71 203 P **P 02 43 13.1 -0.1**
comp=Z,39nm,1.0s
WIN Windhoek 64.71 203 P **P 02 43 13.1 -0.1**
comp=Z,38nm,1.0s
IPM Ipoh 64.76 105 *e*P **P 02 43 12.4 -1.2**
comp=Z,331nm,1.9s
IPM Ipoh 64.76 105 ⇓P **P 02 43 13.7 +0.1**
IPM Ipoh 64.76 105 *e*P **P 02 43 12.4 -1.2**
comp=Z,331nm,1.9s
IPM LR LR
comp=Z,4μm,19.0s
LBTB Lobatse 64.89 194 ⇑*e*P **P 02 43 14.6 +0.3**
LBTB AMB AMB 02 43 18.3
comp=Z,122nm,1.1s
LBTB AMS AMS 03 12 29.1
comp=Z,17μm,14.8s
LBTB Lobatse 64.89 194 P **P 02 43 14.6 +0.3**
LBTB pmax pmax
comp=Z,101nm,0.9s
LBTB Lobatse 64.89 194 P **P 02 43 14.6 +0.3**
comp=Z,100nm,0.9s,baz=18,slow=5.9,SNR=63
LBTB Lobatse 64.89 194 *e*P **P 02 43 14.3 +0.1**
comp=Z,120nm,1.0s
LBTB Lobatse 64.89 194 *e*P **P 02 43 14.3 +0.1**
comp=Z,120nm,1.0s
LBTB LR LR
comp=Z,19μm,20.0s
SSE Sheshan 64.92 69 P **P 02 43 15.1 +0.7**
SSE sP **sP 02 43 19.6 -0.3**
SSE S **S 02 51 58.4 +2.6**
SSE sS **sS 02 52 03.9 +1.6**
SSE ScS **SKSac 02 53 04.3 -4.9**
SSE SS **SS 02 56 13.2 +6.1**
SSE PMZ
comp=Z,74nm,1.2s
SSE LN
comp=Z,9μm,22.1s
SSE LE
comp=Z,5μm,22.4s
SSE LZ
comp=Z,7μm,17.6s
SLR Silverton 65.12 192 *e*P **P 02 43 16.0 +0.2**
SLR AMB AMB 02 43 19.5
comp=Z,94nm,1.2s
SLR AMS AMS 03 10 41.6
comp=Z,14μm,26.2s
SLR Silverton 65.12 192 P **P 02 43 16.0 +0.2**
SLR pmax pmax
comp=Z,95nm,1.2s
SLR Silverton 65.12 192 P **P 02 43 16.0 +0.2**
comp=Z,95nm,1.2s
SLR Silverton 65.12 192 P **P 02 43 16.0 +0.2**
comp=Z,94nm,1.2s
HABR Khabarovsk 65.15 47 *e*P **P 02 43 13.6 -2.0**
HABR *e**PP **pP 02 43 16.8 -2.8**
HABR *e**SP **sP 02 43 18.1 -3.0**
HABR 02 43 46.1
HABR *e* 02 45 36.6
HABR *e*PPP PPP 02 47 08.8
HABR *e*S **S 02 51 56.3 -1.7**
HABR *e* 02 53 08.0
HABR *e*SS **SS 02 56 09.7 0.0**
HABR pmax pmax
comp=Z,670nm,3.5s
HABR MLR MLR
comp=Z,15μm,17.0s

HABR Khabarovsk 65.15 47 *e*P **P 02 43 13.6 -2.0**
comp=Z,670nm,3.5s
HABR Khabarovsk 65.15 47 PcP **PcP 02 43 46.1 -2.1**
HABR *e*S **S 02 51 56.3 -1.7**
HABR *e*ScS **SKSac 02 53 08.0 -2.3**
KSR Koster 65.47 193 *e*P **P 02 43 18.7 +0.7**
KSR AMB AMB 02 43 20.9
comp=Z,34nm,2.8s
KSR AMS AMS 03 11 06.2
comp=Z,5μm,19.0s
KSR Koster 65.47 193 P **P 02 43 18.7 +0.7**
comp=Z,34nm,2.8s
KSR Koster 65.47 193 P **P 02 43 18.7 +0.7**
comp=Z,34nm,2.8s
INCN Inchon 65.48 61 *e*P **P 02 43 17.8 -0.2**
comp=Z,197nm,1.4s
INCN Inchon 65.48 61 *e*P **P 02 43 17.8 -0.2**
comp=Z,197nm,1.4s
INCN LR LR
comp=Z,9μm,22.0s
USRK Ussuriysk Ar. 65.52 52 P **P 02 43 16.6 -1.5**
comp=Z,9.5nm,0.6s,baz=290,slow=4.0,SNR=31
USRK S **S 02 52 04.0 +1.2**
comp=Z,0.7nm,0.6s,baz=137,slow=45,SNR=2.0
USRK LR LR 03 14 56.8
comp=Z,11μm,18.2s,baz=302,slow=39
OBSV Observatory 65.60 192 *e*P **P 02 43 20.1 +1.2**
OBSV AMB AMB 02 43 22.4
comp=Z,86nm,1.1s
CRWM Crown Mines 65.66 192 *e*P **P 02 43 19.3 0.0**
CRWM AMB AMB 02 43 22.8
comp=Z,86nm,1.1s
ERPM east rand prop 65.73 192 *e*P **P 02 43 18.9 -0.8**
ERPM AMB AMB 02 43 22.6
comp=Z,96nm,1.3s
ERPM east rand prop 65.73 192 P **P 02 43 18.9 -0.8**
comp=Z,96nm,1.3s
ERPM east rand prop 65.73 192 P **P 02 43 18.9 -0.8**
comp=Z,96nm,1.3s
KTGM Kuala Trenggan 65.81 103 ⇓P **P 02 43 21.3 +0.9**
DLV T Lat 65.84 94 *e*P **P 02 43 21.3 +0.5**
comp=Z,114nm,1.6s
DLV T Lat 65.84 94 *e*P **P 02 43 21.3 +0.5**
comp=Z,114nm,1.6s
DLV LR LR
comp=Z,4μm,19.0s
WDLM Western Deep L 65.94 192 *e*P **P 02 43 21.0 -0.1**
WDLM AMB AMB 02 43 24.4
comp=Z,29nm,1.2s
FRIM Kepong 66.03 106 ⇑P **P 02 43 22.8 +1.1**
BILL Bilibino 66.15 19 *i* P **P 02 43 21.9 +0.1**
BILL pmax pmax
comp=Z,17nm,1.5s
BILL Bilibino 66.15 19 *i* P **P 02 43 21.9 +0.1**
comp=Z,17nm,1.5s
BILL Bilibino 66.15 19 *e*P **P 02 43 22.0 +0.1**
comp=Z,90nm,1.3s
BILL LR LR
comp=Z,10μm,19.0s
DRLN Deer Lake 66.17 315 *e*P **P 02 43 21.4 -0.8**
comp=Z,210nm,1.6s
DRLN Deer Lake 66.17 315 *e*P **P 02 43 21.4 -0.8**
comp=Z,210nm,1.6s
DRLN LR LR
comp=Z,7μm,21.5s
QZH Quanzhou 66.26 76 *e*P **P 02 43 24.8 +1.6**
QZH S **S 02 52 14.0 +1.6**
QZH LN
comp=Z,7μm,11.6s
QZH LE
comp=Z,8μm,14.4s
QZH LZ
comp=Z,16μm,15.1s
KS01 Wonju Array Si 66.34 60 *e*P **P 02 43 22.9 -0.6**
KS01 Wonju Array Si 66.34 60 *e*P **P 02 43 22.9 -0.6**
KSAR Wonju Array Be 66.35 60 P **P 02 43 23.0 -0.6**
KSAR Wonju Array Be 66.35 60 P **P 02 43 23.0 -0.6**
KSAR Wonju Array Be 66.35 60 P **P 02 43 22.9 -0.6**
KSRS Korea Array 66.37 60 P **P 02 43 23.0 -0.7**
KSRS pmax pmax
comp=Z,41nm,1.0s
KSRS MLR MLR
comp=Z,10μm,18.8s
KSRS Korea Array 66.37 60 P **P 02 43 22.9 -0.7**
comp=Z,42nm,1.0s,baz=296,slow=5.3,SNR=49
KSRS LR LR 03 15 21.5
comp=Z,10μm,18.8s,baz=308,slow=39
KSRS Korea Array 66.37 60 P **P 02 43 23.0 -0.7**
comp=Z,10μm,18.8s
SWZ Schweizer 67.06 194 *e*P **P 02 43 27.4 -0.7**
SWZ AMB AMB 02 43 29.7
comp=Z,90nm,2.7s
SWZ AMS AMS 03 11 51.5
comp=Z,16μm,21.5s
SWZ Schweizer 67.06 194 P **P 02 43 27.4 -0.7**
comp=Z,90nm,2.7s
SWZ Schweizer 67.06 194 P **P 02 43 27.4 -0.7**
comp=Z,90nm,2.7s
BKNI Bangkinang 67.51 109 PFAKE 02 43 40.0 +8.7
BKNI LR LR
comp=Z,6μm,20.0s
SEK Senekal 67.77 192 *e*P **P 02 43 32.3 -0.4**
SEK AMB AMB 02 43 35.9
comp=Z,86nm,1.1s
SEK AMS AMS 03 12 14.7
comp=Z,10μm,19.2s
SEK Senekal 67.77 192 P **P 02 43 32.3 -0.4**
comp=Z,86nm,1.1s
SEK Senekal 67.77 192 P **P 02 43 32.3 -0.4**
comp=Z,86nm,1.1s
SCHQ Schefferville 67.81 323 P **P 02 43 32.0 -0.6**
comp=Z,47nm,1.1s,baz=56,slow=6.4,SNR=20
SCHQ LR LR 03 16 00.5
comp=Z,4μm,18.4s,baz=58,slow=38
SCHQ Schefferville 67.81 323 P **P 02 43 32.0 -0.6**
comp=Z,106nm,1.2s
SCHQ Schefferville 67.81 323 P **P 02 43 32.0 -0.6**
comp=Z,106nm,1.2s
KGM Kluang 68.10 106 ⇑P **P 02 43 35.6 +0.7**
TATO Taipei 68.44 75 PFAKE 02 43 50.0 +13
TATO LR LR
comp=Z,7μm,18.0s
BOSA Boshof 68.46 194 *e*P **P 02 43 36.5 -0.5**
BOSA AMB AMB 02 43 38.1
comp=Z,80nm,2.6s
BOSA AMS AMS 03 13 05.9
comp=Z,11μm,17.0s
BOSA Boshof 68.46 194 *e*P **P 02 43 36.5 -0.5**
BOSA pmax pmax
comp=Z,62nm,1.0s
BOSA Boshof 68.46 194 P **P 02 43 36.4 -0.5**
comp=Z,51nm,0.9s,baz=14,slow=6.7,SNR=40
BOSA LR LR 03 13 23.4
comp=Z,15μm,19.6s,baz=14,slow=36
BOSA Boshof 68.46 194 *e*P **P 02 43 36.5 -0.5**
comp=Z,62nm,1.0s
BOSA Boshof 68.46 194 *e*P **P 02 43 36.5 -0.5**
comp=Z,62nm,1.0s
YHNB Yeheng 68.52 75 *e*P **P 02 43 36.7 -0.9**
comp=Z,100nm,1.0s
YHNB Yeheng 68.52 75 *e*P **P 02 43 36.7 -0.9**
comp=Z,100nm,1.0s
YHNB LR LR
comp=Z,6μm,22.0s
MYKOM Kota Tinggi 68.64 106 *e*P **P 02 43 38.1 -0.3**
comp=Z,37nm,1.0s
MYKOM Kota Tinggi 68.64 106 ⇓P **P 02 43 39.4 +1.0**
MYKOM Kota Tinggi 68.64 106 *e*P **P 02 43 38.1 -0.3**
comp=Z,37nm,1.0s
MYKOM LR LR
comp=Z,6μm,21.0s
SSLB Suanglung 68.69 76 PFAKE 02 43 50.0 +11
SSLB LR LR
comp=Z,5μm,18.9s
TPUB Ta-pu 68.72 77 *e*P **P 02 43 39.2 +0.4**
comp=Z,106nm,1.0s
TPUB Ta-pu 68.72 77 *e*P **P 02 43 39.2 +0.4**
comp=Z,106nm,1.0s
TPUB LR LR
comp=Z,6μm,19.9s
NACB Ninganchiao 68.97 75 PFAKE 02 43 50.0 +10
NACB LR LR
comp=Z,5μm,18.5s
UPI Upington 69.07 198 *e*P **P 02 43 40.6 -0.1**
UPI AMB AMB 02 43 43.0
comp=Z,98nm,2.6s
UPI AMS AMS 03 14 38.6

comp=Z,10μm,15.8s
UPI Upington 69.07 198 P P 02 43 40.7 -0.1
comp=Z,98nm,2.6s
UPI Upington 69.07 198 P P 02 43 40.6 -0.1
comp=Z,98nm,2.6s
YULB Yu-li 69.18 76 eP P 02 43 41.5 -0.1
comp=Z,716nm,2.6s
YULB Yu-li 69.18 76 eP P 02 43 41.5 -0.1
comp=Z,716nm,2.6s
YULB LR LR
comp=Z,6μm,18.8s
SHEL Horse Pasture 69.28 227 PFAKE 02 43 50.0 +7.8
SHEL LR LR
comp=Z,4μm,19.0s
TWG Pinlang 69.33 77 eP P 02 43 41.9 -0.6
comp=Z,934nm,1.6s
TWG Pinlang 69.33 77 eP P 02 43 41.9 -0.6
comp=Z,934nm,1.6s
TWG LR LR
comp=Z,20μm,20.4s
KSD Kokstad 69.68 190 eP P 02 43 45.9 +1.4
KSD AMB AMB 02 43 46.8
comp=Z,24nm,2.7s
KSD AMS AMS 03 14 51.8
comp=Z,8μm,21.1s
KSD Kokstad 69.68 190 P P 02 43 45.9 +1.4
comp=Z,24nm,2.7s
KSD Kokstad 69.68 190 P P 02 43 45.9 +1.4
comp=Z,24nm,2.7s
YOJ Yonaguni jima 69.87 74 PFAKE 02 44 00.0 +14
YOJ LR LR
comp=Z,6μm,19.9s
YSS Yuzh-Sakhalins 70.32 45⇑ iP P 02 43 49.0 +0.7
YSS *e*S **S 02 53 01.0 +0.9**
YSS *e* 02 53 44.0
YSS pmax pmax
comp=Z,500nm,2.0s
YSS pmax pmax
comp=E,130nm,1.6s
YSS pmax pmax
comp=Z,380nm,1.6s
YSS smax smax
comp=N,2μm,12.0s
YSS smax smax
comp=E,2μm,12.0s
YSS MLR MLR
comp=N,10μm,20.0s
YSS MLR MLR
comp=Z,19μm,20.0s
YSS MLR MLR
comp=E,14μm,18.0s
YSS Yuzh-Sakhalins 70.32 45 i P P 02 43 49.0 +0.7
comp=E,500nm,2.0s
YSS *e*S **S 02 53 01.0 +0.9**
JNU Nakatsue 70.75 63 P P 02 43 50.3 -0.9
comp=E,45nm,0.8s,baz=63,slow=3.6,SNR=13
JNU Nakatsue 70.75 63 eP P 02 43 50.8 -0.4
comp=E,830nm,2.4s
JNU Nakatsue 70.75 63 eP P 02 43 50.8 -0.4
comp=E,830nm,2.4s
JNU LR LR
comp=Z,11μm,18.7s
KOMG Komaggas 71.41 201 eP P 02 43 55.0 +0.1
KOMG AMB AMB 02 43 57.2
comp=Z,70nm,1.0s
KOMG AMS AMS 03 14 08.5
comp=Z,15μm,16.4s
KOMG Komaggas 71.41 201 P P 02 43 55.0 +0.1
comp=Z,70nm,1.0s
KOMG Komaggas 71.41 201 P P 02 43 55.0 +0.1
comp=Z,70nm,1.0s
ASAJ Asahikawa 71.91 48 P P 02 43 56.4 -1.6
ASAJ pmax pmax
comp=Z,27nm,0.8s
ASAJ Asahikawa 71.91 48 P P 02 43 56.4 -1.6
comp=Z,27nm,0.8s,baz=277,slow=14,SNR=11
ASAJ Asahikawa 71.91 48 eP P 02 43 57.8 -0.2
comp=Z,180nm,1.4s
ASAJ Asahikawa 71.91 48 eP P 02 43 57.8 -0.2
comp=Z,180nm,1.4s
ASAJ LR LR
comp=Z,15μm,20.2s
JKA Kamikawa-asahi 71.92 48 P P 02 43 56.4 -1.6
comp=Z,27nm,0.8s
MNAI Manna 72.08 111 PFAKE 02 44 10.0 +11
MNAI LR LR
comp=Z,6μm,21.0s
JOW Kunigami 72.44 70 PFAKE 02 44 10.0 +8.5
JOW LR LR
comp=Z,8μm,19.4s
PMBI Palembang 72.45 109 PFAKE 02 44 10.0 +8.4
PMBI LR LR
comp=Z,8μm,19.0s
SUR Sutherland 73.03 197 P P 02 44 05.3 +0.5
comp=Z,247nm,0.8s,SNR=12
SUR Sutherland 73.03 197 eP P 02 44 04.4 -0.4
comp=Z,50nm,1.0s
SUR Sutherland 73.03 197 eP P 02 44 04.4 -0.4
comp=Z,50nm,1.0s
SUR LR LR
comp=Z,11μm,18.0s
INK Inuvik 73.11 358 PFAKE 02 44 20.0 +15
INK LR LR
comp=Z,6μm,21.9s
COCO West Island 73.28 121 PFAKE 02 44 20.0 +14
COCO LR LR
comp=Z,5μm,18.0s
PQI Presque Isle 73.41 317 PFAKE 02 44 20.0 +13
PQI LR LR
comp=Z,6μm,20.4s
ERM Erimo 73.51 49 eP P 02 44 07.8 +0.3
ERM pmax pmax
comp=Z,194nm,1.3s
ERM MLR MLR
comp=Z,11μm,18.0s
ERM Erimo 73.51 49 eP P 02 44 07.8 +0.3
comp=Z,194nm,1.3s
ERM Erimo 73.51 49 eP P 02 44 07.8 +0.3
comp=Z,194nm,1.3s
ERM LR LR
comp=Z,11μm,18.0s
MAJO Matsushiro 73.71 56 eP P 02 44 09.1 +0.3
MAJO pmax pmax
comp=Z,160nm,1.3s
MAJO MLR MLR
comp=Z,15μm,19.0s
MAJO Matsushiro 73.71 56 eP P 02 44 09.1 +0.3
comp=Z,15μm,19.0s
MAJO Matsushiro 73.71 56 eP P 02 44 09.1 +0.3
comp=Z,160nm,1.3s
MAJO LR LR
comp=Z,15μm,19.0s
MAT Matsushiro 73.71 56 P P 02 44 08.7 -0.1
MAT S **S 02 53 40.6 +1.1**
MJAR Matsushiro Arr 73.71 56 P P 02 44 08.1 -0.7
comp=Z,57nm,1.1s,baz=305,slow=6.6,SNR=46
MJAR LR LR 03 19 37.9
comp=Z,14μm,18.9s,baz=330,slow=38
TNA Tin City 73.73 12 eP P 02 44 08.3 -0.1
comp=Z,116nm,1.2s
TNA Tin City 73.73 12 eP P 02 44 08.3 -0.1
comp=Z,116nm,1.2s
TNA LR LR
comp=Z,10μm,20.0s
KSM Kuching 73.75 101 eP P 02 44 09.7 +0.4
comp=Z,134nm,1.8s
KSM Kuching 73.75 101 ⇓P P 02 44 10.9 +1.6
KSM Kuching 73.75 101 eP P 02 44 09.7 +0.4
comp=Z,134nm,1.8s
KSM LR LR
comp=Z,4μm,18.0s
PEA0 Petropavlovsk- 73.80 34 eP P 02 44 08.6 -0.4
PEA0 Petropavlovsk- 73.80 34 *e*PP PP 02 46 54.7 +1.7
PEA0 Petropavlovsk- 73.80 34 eP P 02 44 08.6 -0.4
PEA0 *e*PP **PP 02 46 54.7 +1.7**
PETK Petropavlovsk- 73.80 34 P **P 02 44 08.0 -1.0**
comp=Z,20nm,1.0s,baz=333,slow=1.7,SNR=15
PETK PP **PP 02 46 54.2 +1.2**
comp=Z,16nm,1.1s,baz=316,slow=4.1,SNR=6.7
PETK LR LR 03 20 54.6
comp=Z,6μm,19.4s,baz=303,slow=39
YUK Yuzh-Kuril'sk 73.83 46 *d iP* P 02 44 02.5 -6.8
YUK *i* S **SKiKP 02 53 37.0 -1.2**
YUK pmax pmax
comp=N,237nm,1.4s
YUK pmax pmax
comp=E,92nm,1.4s
YUK pmax pmax
comp=Z,312nm,1.4s
YUK pmax pmax
comp=Z,581nm,1.4s
COLD Coldfoot 74.02 4 eP P 02 44 09.6 -0.5
comp=Z,203nm,1.1s
COLD Coldfoot 74.02 4 eP P 02 44 09.7 -0.5
comp=Z,203nm,1.1s
COLD LR LR
comp=Z,5μm,19.3s
PET Petropavlovsk 74.27 33 *d iP* **P 02 44 14.1 +2.4**
PET *e* 02 46 57.4
PET *e*S **SKiKP 02 53 41.1 +2.5**
PET *e*SS **SS 02 58 26.9 -2.8**
PET *e*SSS SSS 03 01 40.8
PET pmax pmax
comp=Z,8.0nm,0.8s
PET pmax pmax
comp=Z,200nm,15.5s
PET pmax pmax
comp=Z,200nm,16.6s
PET smax smax
comp=N,900nm,18.1s
PET MLR MLR
comp=Z,11μm,18.0s
PET MLR MLR
comp=Z,9μm,19.0s
PET Petropavlovsk 74.27 33 PFAKE 02 44 20.0 +8.3
PET LR LR
comp=Z,9μm,19.0s
EMMW East Machias 74.34 315 eP P 02 44 10.5 -1.9
comp=Z,192nm,1.6s
EMMW East Machias 74.34 315 eP P 02 44 10.5 -1.9
comp=Z,192nm,1.6s
EMMW LR LR
comp=Z,6μm,21.0s
SBUM Sibu 74.60 99 eP P 02 44 14.7 +0.4
comp=Z,595nm,2.7s
SBUM Sibu 74.60 99 eP P 02 44 14.7 +0.4
comp=Z,595nm,2.7s
SBUM LR LR
comp=Z,3μm,20.0s
GAMB Gambell 74.71 14 eP P 02 44 14.3 +0.2
comp=Z,26nm,1.0s
GAMB Gambell 74.71 14 eP P 02 44 14.3 +0.2
comp=Z,26nm,1.0s
GAMB LR LR
comp=Z,8μm,20.8s
PKME Peaks-Kenny Pk 74.99 316 eP P 02 44 15.8 -0.3
comp=Z,188nm,1.4s
PKME Peaks-Kenny Pk 74.99 316 eP P 02 44 15.8 -0.3
comp=Z,188nm,1.4s
PKME LR LR
comp=Z,5μm,20.0s
IM04 Indian Mountai 75.02 6 eP P 02 44 15.1 -0.8
IM04 Indian Mountai 75.02 6 eP P 02 44 15.1 -0.8
KKM Kota Kinabalu 75.46 94 ⇓P P 02 44 19.7 +0.3
KKM Kota Kinabalu 75.46 94 PFAKE 02 44 30.0 +11
KKM LR LR
comp=Z,6μm,21.0s
FCC Fort Churchill 75.59 337 eP P 02 44 18.7 -0.6
FCC pmax pmax
comp=Z,154nm,1.1s
FCC MLR MLR
comp=Z,8μm,20.5s
FCC Fort Churchill 75.59 337 eP P 02 44 18.7 -0.6
comp=Z,154nm,1.1s
FCC Fort Churchill 75.59 337 eP P 02 44 18.7 -0.6
comp=Z,154nm,1.1s
FCC LR LR
comp=Z,8μm,20.5s
WVL Waterville 75.64 316 eP P 02 44 19.4 -0.5
comp=Z,598nm,2.5s
WVL Waterville 75.64 316 eP P 02 44 19.4 -0.5
comp=Z,598nm,2.5s
WVL LR LR
comp=Z,1μm,18.2s
COLA College 76.49 3 eP P 02 44 23.8 -0.5
COLA pmax pmax
comp=Z,200nm,1.0s
COLA MLR MLR
comp=Z,5μm,20.0s
COLA College 76.49 3 eP P 02 44 23.8 -0.5
comp=Z,200nm,1.0s
COLA College 76.49 3 eP P 02 44 23.8 -0.5
comp=Z,200nm,1.0s
COLA LR LR
comp=Z,5μm,20.0s
IL1 Eielson Array 76.63 3 eP P 02 44 24.4 -0.8
IL1 Eielson Array 76.63 3 eP P 02 44 24.4 -0.8
ILAR Eielson Array 76.63 3 P P 02 44 25.0 -0.1
comp=Z,21nm,1.0s,baz=316,slow=3.8,SNR=59
ILAR PP **PP 02 47 18.5 +1.9**
comp=Z,8.6nm,1.1s,baz=352,slow=6.4,SNR=6.7
ILAR LR LR 03 20 16.0
comp=Z,2μm,21.8s,baz=358,slow=37
EGAK Eagle 76.77 1 eP P 02 44 26.0 +0.1
comp=Z,186nm,1.3s
EGAK Eagle 76.77 1 eP P 02 44 26.0 +0.1
comp=Z,186nm,1.3s
EGAK LR LR
comp=Z,4μm,20.0s
JHJ2 Mitsune 76.83 58 PFAKE 02 44 40.0 +13
JHJ2 LR LR
comp=Z,11μm,18.0s
YKA Yellowknife Ar 77.02 348 P P 02 44 26.3 -1.0
comp=Z,101nm,1.1s,baz=19,slow=5.9,SNR=102
YKB5 Yellowknife Ar 77.02 348 eP P 02 44 27.2 -0.1
YKB5 Yellowknife Ar 77.02 348 eP P 02 44 27.2 -0.1
LBNH Lisbon 77.08 317 eP P 02 44 26.5 -1.5
LBNH pmax pmax
comp=Z,79nm,1.3s
LBNH MLR MLR
comp=Z,6μm,20.0s
LBNH Lisbon 77.08 317 eP P 02 44 26.5 -1.5
comp=Z,79nm,1.3s
LBNH Lisbon 77.08 317 eP P 02 44 26.5 -1.5
comp=Z,79nm,1.3s
LBNH LR LR
comp=Z,6μm,20.0s
FFD Franklin Falls 77.45 316 PFAKE 02 44 40.0 +10
FFD LR LR
comp=Z,7μm,20.4s
DAWY Dawson 77.48 360 eP P 02 44 29.9 -0.1
DAWY Dawson 77.48 360 eP P 02 44 29.9 -0.1
DAWY LR LR
comp=Z,3μm,19.1s
FRNY Flat Rock 77.56 318 PFAKE 02 44 40.0 +9.3
FRNY LR LR
comp=Z,1μm,19.5s
MCK McKinley 77.57 4 PFAKE 02 44 40.0 +10
MCK LR LR
comp=Z,4μm,20.9s
KTH Kantishna Hill 77.63 5 PFAKE 02 44 40.0 +9.2
KTH LR LR
comp=Z,5μm,21.0s
HNH Hanover 77.63 317 eP P 02 44 30.0 -1.1
comp=Z,75nm,1.3s
HNH Hanover 77.63 317 eP P 02 44 29.9 -1.1
comp=Z,75nm,1.3s
HNH LR LR
comp=Z,5μm,21.4s
CAST Castle Rocks 77.67 6 eP P 02 44 30.3 -0.7
comp=Z,201nm,1.1s
CAST Castle Rocks 77.67 6 eP P 02 44 30.3 -0.7
comp=Z,201nm,1.1s
TRF Thorofare Moun 77.77 5 eP P 02 44 31.2 -0.5
comp=Z,258nm,1.8s
TRF Thorofare Moun 77.77 5 eP P 02 44 31.2 -0.5
comp=Z,258nm,1.8s
TRF LR LR
comp=Z,4μm,19.7s
MYLDM Lahad Datu 77.78 93 PFAKE 02 44 40.0 +7.6
MYLDM LR LR
comp=Z,12μm,19.0s
CISI Cisompet, Garu 77.78 110 PFAKE 02 44 40.0 +7.6
CISI LR LR
comp=Z,5μm,20.0s
DOT Dot Lake 77.85 2 eP P 02 44 30.7 -1.3
comp=Z,212nm,1.2s
DOT Dot Lake 77.85 2 eP P 02 44 30.7 -1.3
comp=Z,212nm,1.2s
DOT LR LR
comp=Z,5μm,19.9s
MDV Middlebury 77.91 317 eP P 02 44 32.1 -0.6
MDV Middlebury 77.91 317 eP P 02 44 32.1 -0.6
WES Weston 77.99 315 PFAKE 02 44 40.0 +6.9
WES LR LR
comp=Z,402μm,21.6s
HRV Adam Dziewonsk 78.04 315 PFAKE 02 44 40.0 +6.6
HRV LR LR
comp=Z,5μm,20.0s
PPLA Purkeypile 78.18 6 PFAKE 02 44 40.0 +5.9
PPLA LR LR
comp=Z,8μm,21.7s
XMIS Christmas Isla 78.19 114 PFAKE 02 44 50.0 +15
XMIS LR LR
comp=Z,22μm,20.1s
LONY Lake Ozonia 78.22 318 eP P 02 44 33.5 -0.9
comp=Z,60nm,1.0s
LONY Lake Ozonia 78.22 318 eP P 02 44 33.5 -0.9
comp=Z,60nm,1.0s
LONY LR LR
comp=Z,9μm,22.0s
PTN Potsdam (NY) 78.46 319 eP P 02 44 36.0 +0.3
PTN pmax pmax
comp=Z,219nm,1.1s
PTN MLR MLR
comp=Z,16μm,21.9s
PTN Potsdam (NY) 78.46 319 eP P 02 44 36.0 +0.3
comp=Z,219nm,1.1s
PTN Potsdam (NY) 78.46 319 eP P 02 44 36.0 +0.3
comp=Z,219nm,1.1s
PTN LR LR
comp=Z,16μm,21.9s
NCB Newcomb 78.48 318 PFAKE 02 44 50.0 +14
NCB LR LR
comp=Z,7μm,19.0s
ACCN Adirondack Com 78.59 317 eP P 02 44 35.5 -1.0
comp=Z,73nm,1.3s
ACCN Adirondack Com 78.59 317 eP P 02 44 35.5 -1.0
comp=Z,73nm,1.3s
ACCN LR LR
comp=Z,8μm,21.3s
QUA2 Belchertown 78.63 316 PFAKE 02 44 50.0 +13
QUA2 LR LR
comp=Z,6μm,20.6s
TRY Troy 79.03 317 eP P 02 44 37.9 -1.0
comp=Z,274nm,2.3s
TRY Troy 79.03 317 eP P 02 44 37.9 -1.0
comp=Z,274nm,2.3s
TRY LR LR
comp=Z,8μm,21.9s
SMRI Semarang 79.39 108 PFAKE 02 44 50.0 +8.8
SMRI LR LR
comp=Z,6μm,20.0s
YLE Yale 79.60 315 eP P 02 44 41.0 -1.0
comp=Z,31nm,0.8s
YLE Yale 79.60 315 eP P 02 44 41.0 -1.0
comp=Z,31nm,0.8s
YLE LR LR
comp=Z,8μm,21.5s
SVW2 Sparrevohn 79.65 8 PFAKE 02 44 50.0 +8.1
SVW2 LR LR
comp=Z,4μm,19.5s
PMR Palmer 79.69 4 eP P 02 44 41.9 -0.2
PMR pmax pmax
comp=Z,149nm,1.2s
PMR MLR MLR
comp=Z,4μm,22.0s
PMR Palmer 79.69 4 eP P 02 44 41.9 -0.2
comp=Z,149nm,1.2s
PMR Palmer 79.69 4 eP P 02 44 41.9 -0.2
comp=Z,149nm,1.2s
PMR LR LR
comp=Z,4μm,22.0s
UGM Wanagama 80.02 109 PFAKE 02 45 00.0 +15
UGM LR LR
comp=Z,5μm,20.0s
ATTU Attu Island--F 80.06 27 P P 02 44 44.2 -0.1
FX1 Attu Island--F 80.06 27 P P 02 44 44.2 -0.1
comp=Z,13nm,0.6s,baz=47,slow=2.6,SNR=6.8
FX1 LR LR 03 25 53.8
comp=Z,5μm,18.4s,baz=318,slow=40
RC01 Rabbit Creek A 80.15 5 eP P 02 44 44.9 +0.3
comp=Z,150nm,1.1s
RC01 Rabbit Creek A 80.15 5 eP P 02 44 44.9 +0.3
comp=Z,150nm,1.1s
RC01 LR LR
comp=Z,5μm,20.5s
DIV Divide 80.32 3 eP P 02 44 45.8 +0.2
comp=Z,224nm,1.2s
DIV Divide 80.32 3 eP P 02 44 45.9 +0.2
comp=Z,224nm,1.2s
DIV LR LR
comp=Z,4μm,21.0s
PAL Palisades 80.35 315 eP P 02 44 45.1 -1.0
PAL pmax pmax
comp=Z,292nm,2.4s
PAL MLR MLR
comp=Z,8μm,21.9s
PAL Palisades 80.35 315 eP P 02 44 45.1 -1.0
comp=Z,292nm,2.4s
PAL Palisades 80.35 315 eP P 02 44 45.1 -1.0
comp=Z,292nm,2.4s
PAL LR LR
comp=Z,8μm,21.9s
SMY Shemya 80.52 26 PFAKE 02 45 00.0 +13
SMY LR LR
comp=Z,12μm,19.8s
BMRM Bremner River 80.52 2 PFAKE 02 45 00.0 +13
BMRM LR LR
comp=Z,4μm,21.4s
RSO Redoubt South 80.54 6 eP P 02 44 47.0 0.0
RSO Redoubt South 80.54 6 eP P 02 44 47.0 0.0
BBSR BB Station 80.55 304 PFAKE 02 45 00.0 +13
BBSR LR LR
comp=Z,4μm,20.0s
BINY Binghamton 80.64 317 eP P 02 44 45.5 -2.1
comp=Z,85nm,1.3s
BINY Binghamton 80.64 317 eP P 02 44 45.5 -2.1
comp=Z,85nm,1.3s
BINY LR LR
comp=Z,7μm,20.0s
ODNJ Ogdensburg 80.67 316 eP P 02 44 46.5 -1.3
comp=Z,65nm,1.2s
ODNJ Ogdensburg 80.67 316 eP P 02 44 46.5 -1.3
comp=Z,65nm,1.2s
ODNJ LR LR
comp=Z,5μm,21.9s
HYT Haines Junctio 80.72 359 eP P 02 44 47.6 -0.3
HYT Haines Junctio 80.72 359 eP P 02 44 47.6 -0.3
BRNJ Basking Ridge 80.93 316 PFAKE 02 45 00.0 +11
BRNJ LR LR
comp=Z,7μm,20.6s
KSPA Keystone Colle 80.97 317 eP P 02 44 49.0 -0.4
comp=Z,141nm,1.8s
KSPA Keystone Colle 80.97 317 eP P 02 44 49.0 -0.4
comp=Z,141nm,1.8s
KSPA LR LR
comp=Z,8μm,20.6s
SPIA Saint Paul Isl 81.04 16 eP P 02 44 50.3 +0.9
comp=Z,181nm,1.6s
SPIA Saint Paul Isl 81.04 16 eP P 02 44 50.3 +0.9
comp=Z,181nm,1.6s
SPIA LR LR
comp=Z,6μm,20.5s
RAGM Ragged Mountai 81.10 2 eP P 02 44 50.0 +0.2
comp=Z,100nm,1.2s
RAGM Ragged Mountai 81.10 2 eP P 02 44 50.0 +0.2
comp=Z,100nm,1.2s
RAGM LR LR
comp=Z,4μm,21.4s
SEW Seward 81.15 5 eP P 02 44 50.5 +0.5
comp=Z,187nm,1.2s
SEW Seward 81.15 5 eP P 02 44 50.5 +0.5
comp=Z,187nm,1.2s
SEW LR LR
comp=Z,4μm,20.3s
MMNY Mt. Morris Dam 81.26 319 eP P 02 44 50.3 -0.6
comp=Z,167nm,1.1s
MMNY Mt. Morris Dam 81.26 319 eP P 02 44 50.3 -0.6
comp=Z,167nm,1.1s
MMNY LR LR
comp=Z,12μm,19.2s
FFC Flin Flon 81.32 339 eP P 02 44 50.1 -0.9
FFC pmax pmax
comp=Z,93nm,1.1s
FFC MLR MLR
comp=Z,7μm,21.0s
FFC Flin Flon 81.32 339 eP P 02 44 50.1 -0.9
comp=Z,93nm,1.1s
FFC Flin Flon 81.32 339 eP P 02 44 50.1 -0.9
comp=Z,93nm,1.1s

FFC LR LR
comp=Z,7μm,21.0s
LUPA Lehigh Univers 81.43 316 *e*P **P 02 44 51.3 -0.5**
comp=Z,16nm,1.5s
LUPA Lehigh Univers 81.43 316 *e*P **P 02 44 51.3 -0.5**
comp=Z,16nm,1.5s
TOLI Toli-Toli 82.08 95 PFAKE 02 45 10.0 +14
TOLI LR LR
comp=Z,3μm,20.0s
DAV Davao City (W) 82.14 87 PFAKE 02 45 10.0 +14
DAV LR LR
comp=Z,6μm,22.0s
CBIJ Chichi jima 82.18 62 PFAKE 02 45 10.0 +14
CBIJ LR LR
comp=Z,7μm,21.6s
JCJ Chichijima 82.18 62 LR LR 03 24 44.6
comp=Z,7μm,20.9s,baz=316,slow=38
MVL Millersville 82.38 316 *e*P **P 02 44 55.6 -1.2**
comp=Z,233nm,2.0s
MVL Millersville 82.38 316 *e*P **P 02 44 55.6 -1.2**
comp=Z,233nm,2.0s
MVL LR LR
comp=Z,7μm,20.1s
SSPA Standing Stone 82.75 317 *e*P **P 02 44 58.1 -0.7**
comp=Z,204nm,1.6s
SSPA Standing Stone 82.75 317 *e*P **P 02 44 58.1 -0.7**
comp=Z,204nm,1.6s
SSPA LR LR
comp=Z,6μm,20.0s
RCBR Riachuelo 82.77 257 P **P 02 44 59.5 +0.2**
comp=Z,24nm,1.2s,baz=25,slow=7.8,SNR=5.0
RCBR Riachuelo 82.77 257 P **P 02 44 59.5 +0.2**
comp=Z,60nm,1.4s
RCBR Riachuelo 82.77 257 P **P 02 44 59.5 +0.2**
comp=Z,60nm,1.4s
RCBR LR LR
comp=Z,6μm,20.0s
ERPA Erie 82.77 320 *e*P **P 02 44 57.7 -1.2**
comp=Z,158nm,1.2s
ERPA Erie 82.77 320 *e*P **P 02 44 57.7 -1.2**
comp=Z,158nm,1.2s
ERPA LR LR
comp=Z,6μm,20.0s
DLBC Dease Lake 82.78 355 P **P 02 44 59.0 +0.3**
comp=Z,37nm,1.1s,baz=12,slow=5.5,SNR=18
DLBC Dease Lake 82.78 355 *e*P **P 02 44 59.6 +0.9**
DLBC Dease Lake 82.78 355 *e*P **P 02 44 59.6 +0.9**
DLBC LR LR
comp=Z,6μm,21.9s
JAGI Jajag, Banyuwa 83.08 107 *e*P **P 02 44 59.2 -1.6**
comp=Z,59nm,1.4s
JAGI Jajag, Banyuwa 83.08 107 *e*P **P 02 44 59.2 -1.6**
comp=Z,59nm,1.4s
JAGI LR LR
comp=Z,5μm,22.0s
ALLY Alegheny Colle 83.19 319 *e*P **P 02 45 00.5 -0.6**
comp=Z,113nm,1.1s
ALLY Alegheny Colle 83.19 319 *e*P **P 02 45 00.5 -0.6**
comp=Z,113nm,1.1s
ALLY LR LR
comp=Z,10μm,21.5s
KDAK Kodiak Island 83.21 7 *c*e**P P 02 45 03.0 +2.2**
KDAK Kodiak Island 83.21 7 *e*P **P 02 44 59.7 -1.1**
comp=Z,243nm,1.3s
KDAK Kodiak Island 83.21 7 *e*P **P 02 44 59.7 -1.1**
comp=Z,244nm,1.3s
KDAK LR LR
comp=Z,6μm,20.0s
ULM Lac du Bonnet 83.23 333 P **P 02 45 00.6 -0.5**
ULM pmax pmax
comp=Z,82nm,1.0s
ULM Lac du Bonnet 83.23 333 P **P 02 45 00.6 -0.5**
comp=Z,47nm,0.9s,baz=38,slow=4.5,SNR=27
ULM LR LR 03 23 59.6
comp=Z,6μm,19.1s,baz=36,slow=37
ULM Lac du Bonnet 83.23 333 P **P 02 45 00.6 -0.5**
comp=Z,82nm,1.0s
ULM Lac du Bonnet 83.23 333 P **P 02 45 00.6 -0.5**
comp=Z,82nm,1.0s
EYMN Ely 83.49 330 *e*P **P 02 45 01.8 -0.7**
comp=Z,125nm,1.3s
EYMN Ely 83.49 330 *e*P **P 02 45 01.8 -0.7**
comp=Z,125nm,1.3s
EYMN LR LR
comp=Z,5μm,21.0s
AIS Amsterdam Isla 83.67 151 S S 02 55 19.0 -6.3
AIS L L 03 06 00.0
AIS R 03 10 00.0
OHAK Old Harbor 83.69 7 *e*P **P 02 45 03.6 +0.3**
comp=Z,222nm,1.3s
OHAK Old Harbor 83.69 7 *e*P **P 02 45 03.6 +0.3**
comp=Z,222nm,1.3s
OHAK LR LR
comp=Z,6μm,19.9s
COWI Conover 84.00 327 *e*P **P 02 45 04.2 -1.0**
comp=Z,260nm,1.2s
COWI Conover 84.00 327 *e*P **P 02 45 04.2 -1.0**
comp=Z,260nm,1.2s
COWI LR LR
comp=Z,4μm,20.0s
SII Sitkinak Islan 84.25 8 PFAKE 02 45 20.0 +14
SII LR LR
comp=Z,5μm,18.6s
AAM Ann Arbor 84.45 322 *e*P **P 02 45 07.0 -0.5**
AAM pmax pmax
comp=Z,105nm,1.1s
AAM MLR MLR
comp=Z,6μm,20.0s
AAM Ann Arbor 84.45 322 *e*P **P 02 45 06.9 -0.5**
comp=Z,105nm,1.1s
AAM Ann Arbor 84.45 322 *e*P **P 02 45 07.0 -0.5**
comp=Z,105nm,1.1s
AAM LR LR
comp=Z,6μm,20.0s
FALS False Pass 84.58 13 PFAKE 02 45 20.0 +12
FALS LR LR
comp=Z,2μm,20.4s
SDPT Sand Point 84.60 12 PFAKE 02 45 20.0 +12
SDPT LR LR
comp=Z,6μm,19.6s
URVA University of 84.76 315 *e*P **P 02 45 08.0 -1.1**
URVA University of 84.76 315 *e*P **P 02 45 08.0 -1.1**
AKUT Akutan 84.81 15 PFAKE 02 45 20.0 +11
AKUT LR LR
comp=Z,9μm,21.4s
AGMN Agassiz Nation 84.86 332 *e*P **P 02 45 09.0 -0.5**
comp=Z,88nm,1.2s
AGMN Agassiz Nation 84.86 332 ⇑P **P 02 45 08.1 -1.4**
baz=84,SNR=38
AGMN Agassiz Nation 84.86 332 *e*P **P 02 45 09.0 -0.5**
comp=Z,88nm,1.2s
AGMN LR LR
comp=Z,7μm,22.0s
JSRW J. Sargeant Re 84.86 315 *e*P **P 02 45 09.1 -0.5**
JSRW J. Sargeant Re 84.86 315 *e*P **P 02 45 09.1 -0.5**
UNV Unalaska Valle 84.93 15 PFAKE 02 45 20.0 +10
UNV LR LR
comp=Z,5μm,19.3s
WRAK Wrangell Islan 84.94 356 *e*P **P 02 45 09.1 -0.6**
comp=Z,76nm,1.0s
WRAK Wrangell Islan 84.94 356 *e*P **P 02 45 09.1 -0.6**
comp=Z,76nm,1.0s
WRAK LR LR
comp=Z,9μm,22.0s
LUWI Luwuk 84.97 95 PFAKE 02 45 20.0 +9.5
LUWI LR LR
comp=Z,3μm,22.0s
KAPI Kappang 85.13 100 *e*P **P 02 45 10.8 -0.5**
comp=Z,161nm,1.5s
KAPI Kappang 85.13 100 *e*P **P 02 45 10.8 -0.5**
comp=Z,161nm,1.5s
KAPI LR LR
comp=Z,4μm,22.0s
A30A Hoffart Farm, 85.18 334 ⇑P **P 02 45 10.0 -1.0**
baz=85,SNR=150
CRZF Crozet Islands 85.50 172 S S 02 55 35.0 -8.1
CRZF SS SS 03 01 02.0 -18
CRZF R 03 13 00.0
EDM Edmonton 85.51 344 *e*P **P 02 45 12.6 -0.1**
EDM MLR MLR
comp=Z,8μm,19.7s
EDM Edmonton 85.51 344 *e*P **P 02 45 12.6 -0.1**
EDM Edmonton 85.51 344 *e*P **P 02 45 12.6 -0.1**
EDM LR LR
comp=Z,8μm,19.7s
A29A Manning Farm, 85.51 334 ⇑P **P 02 45 11.7 -1.0**
baz=85,SNR=202

B30A Myrvik Farm, E 85.61 334 ⇑P **P 02 45 12.3 -0.9**
baz=85,SNR=76
ACSO Alum Creek Sta 85.68 320 *e*P **P 02 45 13.0 -0.7**
comp=Z,143nm,1.3s
ACSO Alum Creek Sta 85.68 320 *e*P **P 02 45 13.0 -0.7**
comp=Z,143nm,1.3s
ACSO LR LR
comp=Z,7μm,22.0s
A28A Rude Farm, Bot 85.87 335 ⇓P **P 02 45 13.7 -0.8**
baz=85,SNR=46
CRAG Craig 85.93 356 PFAKE 02 45 30.0 +15
CRAG LR LR
comp=Z,6μm,21.7s
B29A Wagenman Farm, 85.94 334 ⇓P **P 02 45 14.0 -0.9**
baz=86,SNR=48
SPMN Marine on St. 86.23 329 *e*P **P 02 45 15.7 -0.6**
comp=Z,204nm,1.4s
SPMN Marine on St. 86.23 329 ⇑P **P 02 45 15.3 -1.0**
baz=86,SNR=34
SPMN Marine on St. 86.23 329 *e*P **P 02 45 15.7 -0.6**
comp=Z,204nm,1.4s
SPMN LR LR
comp=Z,6μm,20.4s
B28A Dugan Ranch, T 86.30 335 ⇓P **P 02 45 16.1 -0.5**
baz=86,SNR=86
C30A Mose, Pekin 86.30 333 ⇓P **P 02 45 15.6 -1.0**
baz=86,SNR=77
VWCC Virginia Weste 86.33 316 *e*P **P 02 45 15.7 -1.3**
VWCC Virginia Weste 86.33 316 *e*P **P 02 45 15.7 -1.3**
A26A Wade Farm, Ken 86.45 336 ⇓P **P 02 45 16.7 -0.7**
baz=86,SNR=27
MDND Maddock 86.56 334 *e*P **P 02 45 17.4 -0.6**
comp=Z,62nm,1.3s
MDND Maddock 86.56 334 ⇓P **P 02 45 16.9 -1.0**
baz=86,SNR=6.0
MDND Maddock 86.56 334 *e*P **P 02 45 17.4 -0.6**
comp=Z,62nm,1.3s
MDND LR LR
comp=Z,1μm,21.4s
BLA Blacksburg 86.60 316 *e*P **P 02 45 17.2 -1.2**
BLA pmax pmax
comp=Z,439nm,3.0s
BLA MLR MLR
comp=Z,7μm,21.0s
BLA Blacksburg 86.60 316 *e*P **P 02 45 17.1 -1.2**
comp=Z,439nm,3.0s
BLA Blacksburg 86.60 316 *e*P **P 02 45 17.1 -1.2**
comp=Z,439nm,3.0s
BLA LR LR
comp=Z,7μm,21.0s
B27A Peters Farms, 86.63 335 ⇑P **P 02 45 18.1 -0.1**
baz=86,SNR=17
CNNC Cliffs of the 86.64 314 *e*P **P 02 45 15.4 -3.1**
comp=Z,218nm,1.9s
CNNC Cliffs of the 86.64 314 *e*P **P 02 45 15.4 -3.1**
comp=Z,218nm,1.9s
CNNC LR LR
comp=Z,9μm,21.0s
A25A Svangstu Ranch 86.75 337 ⇓P **P 02 45 18.1 -0.8**
baz=86,SNR=7.1
D30A Buchanan 86.91 333 ⇓P **P 02 45 18.9 -0.8**
baz=86,SNR=52
C28A Hausauer Farms 86.94 334 ⇑P **P 02 45 19.3 -0.5**
baz=86,SNR=23
B26A Jensen Ranch, 86.97 336 ⇓P **P 02 45 19.8 -0.2**
baz=86,SNR=7.6
JFWS Jewell Farm 87.02 326 *e*P **P 02 45 18.3 -1.9**
JFWS pmax pmax
comp=Z,86nm,1.4s
JFWS MLR MLR
comp=Z,7μm,22.0s
JFWS Jewell Farm 87.02 326 *e*P **P 02 45 18.3 -1.9**
comp=Z,86nm,1.4s
JFWS Jewell Farm 87.02 326 *e*P **P 02 45 18.3 -1.9**
comp=Z,86nm,1.4s
JFWS LR LR
comp=Z,7μm,22.0s
A24A Westby 87.04 337 ⇑P **P 02 45 19.8 -0.4**
baz=87,SNR=26
D29A Pettibone, Tap 87.24 334 ⇑P **P 02 45 20.4 -0.9**
baz=87,SNR=58
A23A Redstone 87.27 338 ⇓P **P 02 45 21.0 -0.4**
baz=87,SNR=8.3
C27A Sayler Ranch, 87.31 335 ⇓P **P 02 45 21.5 -0.2**
baz=87,SNR=7.0
B25A Knox Farm, Ray 87.36 336 ⇑P **P 02 45 21.7 -0.2**
baz=87,SNR=13
C26A Wahner Farm, P 87.41 336 ⇑P **P 02 45 21.8 -0.3**
baz=87,SNR=50
TNTI Ternate 87.43 91 PFAKE 02 45 30.0 +7.4
TNTI LR LR
comp=Z,1μm,21.0s
D28A Regan 87.46 334 ⇑P **P 02 45 21.8 -0.5**
baz=87,SNR=14
E30A Jud 87.48 333 ⇑P **P 02 45 21.7 -0.8**
baz=87,SNR=38
DGMT Dagmar 87.50 337 *e*P **P 02 45 22.6 +0.1**
comp=Z,295nm,1.6s
DGMT Dagmar 87.50 337 ⇓P **P 02 45 22.1 -0.4**
baz=87,SNR=20
DGMT Dagmar 87.50 337 *e*P **P 02 45 22.6 +0.1**
comp=Z,295nm,1.6s
DGMT LR LR
comp=Z,6μm,21.0s
A22A Carney Farms, 87.54 338 ⇓P **P 02 45 21.9 -0.8**
baz=87,SNR=34
SFIN Lafayette 87.58 322 *e*P **P 02 45 21.1 -1.9**
comp=Z,118nm,1.9s
SFIN Lafayette 87.58 322 ⇑P **P 02 45 21.7 -1.3**
baz=87
SFIN Lafayette 87.58 322 *e*P **P 02 45 21.1 -1.9**
comp=Z,118nm,1.9s
SFIN LR LR
comp=Z,7μm,20.6s
E29A Napoleon 87.68 333 ⇑P **P 02 45 22.8 -0.7**
baz=87,SNR=34
B23A Brockton 87.75 338 ⇓P **P 02 45 23.2 -0.5**
baz=87,SNR=25
A21A Bergtoll Ranch 87.83 339 ⇑P **P 02 45 23.1 -1.1**
baz=87,SNR=26
D27A Center 87.85 335 ⇑P **P 02 45 23.9 -0.3**
baz=87,SNR=5.7
C25A Freed Ranch, W 87.88 336 ⇑P **P 02 45 24.6 +0.2**
baz=88,SNR=15
ANWB Willy Bob 87.97 291 PFAKE 02 45 40.0 +15
ANWB LR LR
comp=Z,3μm,22.0s
E28A Huff 88.04 334 ⇑P **P 02 45 24.6 -0.5**
baz=88,SNR=5.8
F30A Leola 88.09 333 ⇓P **P 02 45 24.5 -0.9**
baz=88,SNR=19
B22A Reddig Ranch S 88.19 338 ⇑P **P 02 45 25.8 -0.1**
baz=88,SNR=5.8
A20A Cobblestone Ra 88.21 339 ⇓P **P 02 45 25.5 -0.4**
baz=88
D26A Manning 88.22 335 ⇑P **P 02 45 25.4 -0.6**
baz=88,SNR=17
BLO Bloomington 88.25 321 *e*P **P 02 45 24.9 -1.3**
BLO pmax pmax
comp=Z,93nm,1.5s
BLO MLR MLR
comp=Z,7μm,18.7s
BLO Bloomington 88.25 321 *e*P **P 02 45 24.9 -1.3**
comp=Z,93nm,1.5s
BLO Bloomington 88.25 321 *e*P **P 02 45 24.9 -1.3**
comp=Z,93nm,1.5s
BLO LR LR
comp=Z,7μm,18.7s
B21A Ellsworth Farm 88.37 339 ⇓P **P 02 45 26.1 -0.5**
baz=88,SNR=5.6
F29A Eureka 88.38 333 ⇓P **P 02 45 26.0 -0.8**
baz=88,SNR=15
A19A Klindworth Far 88.39 340 ⇓P **P 02 45 26.4 -0.3**
baz=88,SNR=109
C23A Lambert 88.39 337 ⇓P **P 02 45 26.3 -0.6**
baz=88,SNR=20
D25A Fairfield 88.40 336 ⇑P **P 02 45 26.3 -0.6**
baz=88,SNR=6.7
C24A Savage 88.41 337 ⇑P **P 02 45 26.4 -0.4**
baz=88
E27A Carson 88.46 335 ⇓P **P 02 45 26.7 -0.4**
baz=88,SNR=5.2
KMSC Kings Mountain 88.62 316 *e*P **P 02 45 27.0 -1.1**
comp=Z,77nm,1.4s
KMSC Kings Mountain 88.62 316 *e*P **P 02 45 27.0 -1.1**
comp=Z,77nm,1.4s
KMSC LR LR
comp=Z,4μm,20.4s

B20A Solberg Farm, 88.64 339 ⇑P **P 02 45 27.4 -0.6**
baz=88,SNR=66
C22A Vida 88.66 338 ⇑P **P 02 45 27.7 -0.3**
baz=88,SNR=16
SMRT St. Maarten 88.66 292 PFAKE 02 45 40.0 +12
SMRT LR LR
comp=Z,3μm,20.3s
F28A McLaughlin 88.70 334 ⇓P **P 02 45 27.0 -1.3**
baz=88,SNR=5.3
E26A Carlson Angus 88.72 335 ⇑P **P 02 45 27.3 -1.1**
baz=88,SNR=5.6
G30A Faulkton 88.74 332 ⇓P **P 02 45 26.8 -1.6**
baz=88,SNR=38
D24A Glendive 88.75 337 ⇓P **P 02 45 27.2 -1.3**
baz=88,SNR=18
TZTN Tazewell 88.76 318 *e*P **P 02 45 28.1 -0.6**
comp=Z,538nm,2.8s
TZTN Tazewell 88.76 318 *e*P **P 02 45 28.1 -0.6**
comp=Z,538nm,2.8s
TZTN LR LR
comp=Z,9μm,19.8s
WCI Wyandotte Cave 88.87 321 *e*P **P 02 45 27.8 -1.4**
WCI *e* 02 48 58.1
WCI pmax pmax
comp=Z,42nm,1.2s
WCI MLR MLR
comp=Z,5μm,18.0s
WCI Wyandotte Cave 88.87 321 *e*P **P 02 45 27.8 -1.4**
comp=Z,42nm,1.2s
WCI Wyandotte Cave 88.87 321 *e*PP PP 02 48 58.1 +0.4
WCI Wyandotte Cave 88.87 321 *e*P **P 02 45 27.8 -1.4**
comp=Z,42nm,1.2s
WCI *e*PP **PP 02 48 58.1 +0.4**
WCI LR LR
comp=Z,5μm,18.0s
B19A Brinkman Farms 88.87 340 ⇑P **P 02 45 28.4 -0.7**
baz=88,SNR=90
SEUS St. Eustatius 88.95 292 PFAKE 02 45 40.0 +10
SEUS LR LR
comp=Z,4μm,20.0s
D23A Lindsay 88.97 337 ⇓P **P 02 45 28.8 -0.7**
baz=88,SNR=21
ECSD EROS Data Cent 88.98 330 ⇑P **P 02 45 28.7 -0.9**
baz=89,SNR=12
ECSD EROS Data Cent 88.98 330 PFAKE 02 45 40.0 +10
ECSD LR LR
comp=Z,6μm,22.0s
E25A Miller Ranch, 89.00 336 ⇑P **P 02 45 29.5 -0.2**
baz=89,SNR=7.3
SABA Saba 89.06 292 PFAKE 02 45 40.0 +10
SABA LR LR
comp=Z,4μm,21.3s
F27A Lemmon 89.10 335 ⇑P **P 02 45 29.4 -0.8**
baz=89,SNR=31
SCIA State Center 89.12 327 *e*P **P 02 45 29.2 -1.1**
comp=Z,227nm,2.1s
SCIA State Center 89.12 327 *e*P **P 02 45 29.2 -1.1**
comp=Z,227nm,2.1s
SCIA LR LR
comp=Z,6μm,19.0s
BBGH Gun Hill 89.20 286 PFAKE 02 45 40.0 +8.9
BBGH LR LR
comp=Z,2μm,18.5s
E24A Baker 89.23 336 ⇓P **P 02 45 30.1 -0.7**
baz=89
BRSD Miller 89.26 332 *e*P **P 02 45 30.1 -0.9**
comp=Z,220nm,1.2s
BRSD Miller 89.26 332 ⇓P **P 02 45 30.0 -0.9**
baz=89,SNR=7.4
BRSD Miller 89.26 332 *e*P **P 02 45 30.1 -0.9**
comp=Z,220nm,1.2s
BRSD LR LR
comp=Z,6μm,19.8s
D22A Cohagen 89.28 338 ⇑P **P 02 45 31.0 0.0**
baz=89,SNR=21
C20A Veseth Ranch, 89.29 339 ⇓P **P 02 45 30.2 -0.8**
baz=89,SNR=32
MMRI Maumere 89.32 102 PFAKE 02 45 40.0 +8.5
MMRI LR LR
comp=Z,4μm,21.0s
F26A Lodgepole 89.33 335 ⇓P **P 02 45 30.7 -0.6**
baz=89,SNR=24
OLIL Olney 89.36 322 *e*P **P 02 45 30.1 -1.3**
comp=Z,117nm,1.2s
OLIL Olney 89.36 322 *e*P **P 02 45 30.1 -1.3**
comp=Z,117nm,1.2s
OLIL LR LR
comp=Z,7μm,18.4s
G28A Parade 89.42 333 ⇑P **P 02 45 30.6 -1.1**
baz=89,SNR=24
EGMT Eagleton 89.48 340 *e*P **P 02 45 31.1 -0.9**
comp=Z,114nm,1.5s
EGMT Eagleton 89.48 340 ⇑P **P 02 45 30.7 -1.2**
baz=89,SNR=23
EGMT Eagleton 89.48 340 *e*P **P 02 45 31.1 -0.9**
comp=Z,114nm,1.5s
EGMT LR LR
comp=Z,7μm,20.0s
NHSC New Hope 89.48 314 *e*P **P 02 45 31.4 -0.7**
comp=Z,93nm,1.3s
NHSC New Hope 89.48 314 *e*P **P 02 45 31.4 -0.7**
comp=Z,93nm,1.3s
NHSC LR LR
comp=Z,8μm,20.0s
G27A Dupree 89.50 334 ⇑P **P 02 45 30.6 -1.4**
baz=89,SNR=5.4
F25A Bowman 89.53 335 ⇑P **P 02 45 31.7 -0.5**
baz=89,SNR=6.9
WALA Waterton Lakes 89.54 343 *e*P **P 02 45 30.8 -1.5**
comp=Z,92nm,1.4s
WALA Waterton Lakes 89.54 343 *e*P **P 02 45 30.8 -1.5**
comp=Z,92nm,1.4s
TKL Tuckaleechee C 89.55 317 *e*P **P 02 45 30.9 -1.5**
TKL Tuckaleechee C 89.55 317 *e*P **P 02 45 30.9 -1.5**
TKL Tuckaleechee C 89.55 317 *e*P **P 02 45 30.9 -1.5**
H29A Onida 89.56 333 ⇓P **P 02 45 31.5 -0.8**
baz=89
C19A Slack Wire Ran 89.56 340 ⇓P **P 02 45 31.5 -0.9**
baz=89,SNR=42
D21A La Casta Ranch 89.59 338 ⇓P **P 02 45 31.6 -0.8**
baz=89,SNR=33
E23A Ismay 89.60 337 ⇑P **P 02 45 31.8 -0.7**
baz=89,SNR=6.3
LAO LASA Array 89.71 338 *e*P **P 02 45 33.6 +0.6**
comp=Z,272nm,1.4s
LAO LASA Array 89.71 338 *e*P **P 02 45 33.6 +0.6**
comp=Z,272nm,1.4s
LAO LR LR
comp=Z,8μm,20.0s
USIN University of 89.75 321 *e*P **P 02 45 31.8 -1.5**
comp=Z,88nm,1.1s
USIN University of 89.75 321 *e*P **P 02 45 31.8 -1.5**
comp=Z,88nm,1.1s
USIN LR LR
comp=Z,8μm,21.6s
G26A Maurine 89.80 335 ⇓P **P 02 45 32.4 -1.1**
baz=89,SNR=30
H28A Mission Ridge 89.80 333 ⇑P **P 02 45 32.7 -0.8**
baz=89
STVI Saint Thomas 89.82 293 PFAKE 02 45 40.0 +6.1
STVI LR LR
comp=Z,3μm,21.9s
E22A Miles City 89.85 337 ⇓P **P 02 45 33.7 0.0**
baz=89,SNR=7.6
I30A Oacoma 89.89 332 ⇓P **P 02 45 32.7 -1.2**
baz=90
D20A Manuel Ranch, 89.90 339 ⇑P **P 02 45 33.3 -0.6**
baz=90,SNR=29
F24A Ekalaka 89.92 336 ⇓P **P 02 45 33.9 -0.1**
baz=90,SNR=20
D19A Cripps Ranch, 90.04 339 ⇓P **P 02 45 34.0 -0.6**
baz=90,SNR=31
CDVI St. Croix 90.08 293 PFAKE 02 45 50.0 +15
CDVI LR LR
comp=Z,3μm,21.2s
E21A Keefer Ranch, 90.09 338 ⇑P **P 02 45 34.8 0.0**
baz=90,SNR=7.7
I29A Vivian Onida 90.12 333 ⇓P **P 02 45 34.0 -0.9**
baz=90,SNR=5.3
G25A Newell 90.16 335 ⇑P **P 02 45 34.2 -1.0**
baz=90,SNR=7.5
H27A Howes 90.21 334 ⇑P **P 02 45 34.3 -1.1**
baz=90,SNR=15
F23A Volborg 90.33 337 ⇓P **P 02 45 35.2 -0.7**
baz=90,SNR=36
G24A Alzada 90.37 336 ⇓P **P 02 45 35.6 -0.5**
baz=90,SNR=6.9
J30A Dallas 90.42 332 ⇓P **P 02 45 35.6 -0.8**

baz=90,SNR=6.6
E20A Meyer Farm, Mu 90.43 339 ⇓P **P 02 45 35.7 -0.7**
baz=90,SNR=15
I28A Midland 90.44 333 ⇑P **P 02 45 35.5 -0.9**
baz=90
SLM Saint Louis 90.44 323 *e*P **P 02 45 35.8 -0.7**
SLM pmax pmax
comp=Z,147nm,1.3s
SLM MLR MLR
comp=Z,8μm,19.1s
SLM Saint Louis 90.44 323 *e*P **P 02 45 35.8 -0.7**
comp=Z,147nm,1.3s
SLM Saint Louis 90.44 323 *e*P **P 02 45 35.8 -0.7**
comp=Z,148nm,1.3s
SLM LR LR
comp=Z,8μm,19.1s
H26A Fairpoint 90.46 334 ⇓P **P 02 45 35.6 -1.0**
baz=90,SNR=6.0
CBYP Canovanas 90.52 294 PFAKE 02 45 50.0 +13
CBYP LR LR
comp=Z,2μm,20.4s
F22A Rosebud 90.54 337 ⇑P **P 02 45 36.3 -0.6**
baz=90,SNR=26
HUMP Col San Antoni 90.60 294 PFAKE 02 45 50.0 +12
HUMP LR LR
comp=Z,2μm,20.6s
BLMT Blacktail Moun 90.63 343 *e*P **P 02 45 36.8 -0.7**
BLMT Blacktail Moun 90.63 343 *e*P **P 02 45 36.8 -0.7**
E19A Rath Farm, Rou 90.66 339 ⇑P **P 02 45 36.8 -0.6**
baz=90,SNR=36
J29A Okreek 90.66 332 ⇓P **P 02 45 36.4 -1.1**
baz=90,SNR=6.3
YBMT Yellow Bay 90.69 343 *e*P **P 02 45 38.0 +0.4**
YBMT Yellow Bay 90.69 343 *e*P **P 02 45 38.0 +0.4**
I27A Quinn 90.69 334 ⇓P **P 02 45 36.4 -1.2**
baz=90
SIUC Southern Illin 90.70 322 *e*P **P 02 45 36.7 -1.0**
comp=Z,161nm,1.3s
SIUC Southern Illin 90.70 322 *e*P **P 02 45 36.7 -1.0**
comp=Z,161nm,1.3s
SIUC LR LR
comp=Z,7μm,18.6s
H25A Fruitdale 90.73 335 ⇓P **P 02 45 37.0 -0.9**
baz=90,SNR=21
F21A Absaloka Mine, 90.76 338 ⇑P **P 02 45 37.2 -0.8**
baz=90
G23A Biddle 90.79 336 ⇓P **P 02 45 37.2 -0.9**
baz=90,SNR=16
JTMT Jette 90.86 343 *e*P **P 02 45 37.6 -0.9**
JTMT Jette 90.86 343 *e*P **P 02 45 37.6 -0.9**
BSMT Bassoo Peak 90.87 343 *e*P **P 02 45 38.4 -0.2**
BSMT Bassoo Peak 90.87 343 *e*P **P 02 45 38.4 -0.2**
H24A Dirks Ranch, A 90.93 336 ⇑P **P 02 45 37.6 -1.2**
baz=90,SNR=12
J28A Allard Ranch, 90.97 333 ⇓P **P 02 45 38.0 -1.0**
baz=90
NEW Newport 90.98 345 *e*P **P 02 45 38.9 0.0**
NEW pmax pmax
comp=Z,138nm,1.3s
NEW MLR MLR
comp=Z,7μm,21.0s
NEW Newport 90.98 345 P **P 02 45 37.7 -1.2**
comp=Z,51nm,1.1s,baz=9.4,slow=5.7,SNR=24
NEW Newport 90.98 345 *e*P **P 02 45 38.9 0.0**
comp=Z,138nm,1.3s
NEW Newport 90.98 345 ⇑P **P 02 45 38.1 -0.8**
baz=90,SNR=64
NEW Newport 90.98 345 *e*P **P 02 45 38.9 0.0**
comp=Z,138nm,1.3s
NEW LR LR
comp=Z,7μm,21.0s
I26A New Underwood 91.00 334 ⇑P **P 02 45 38.2 -0.9**
baz=91,SNR=5.9
SWMT Swartz Lake 91.02 343 *e*P **P 02 45 39.2 +0.1**
SWMT Swartz Lake 91.02 343 *e*P **P 02 45 39.2 +0.1**
K30A Basset 91.03 331 ⇓P **P 02 45 38.8 -0.5**
baz=91,SNR=5.9
G22A Birney 91.05 337 ⇓P **P 02 45 38.5 -0.9**
baz=91,SNR=6.8
F20A Billings 91.08 338 ⇑P **P 02 45 39.2 -0.3**
baz=91,SNR=25
GOGA Godfrey 91.09 316 *e*P **P 02 45 38.7 -0.9**
GOGA pmax pmax
comp=Z,22nm,1.1s
GOGA MLR MLR
comp=Z,4μm,20.0s
GOGA Godfrey 91.09 316 *e*P **P 02 45 38.7 -0.9**
comp=Z,22nm,1.1s
GOGA Godfrey 91.09 316 *e*P **P 02 45 38.7 -0.9**
comp=Z,22nm,1.1s
GOGA LR LR
comp=Z,4μm,20.0s
SLMT Seeley Lake 91.15 342 *e*P **P 02 45 39.3 -0.6**
SLMT Seeley Lake 91.15 342 *e*P **P 02 45 39.3 -0.6**
L31A Butterfield Fa 91.16 331 ⇑P **P 02 45 38.9 -1.0**
baz=91,SNR=5.4
K29A Lazy Trails An 91.21 332 ⇑P **P 02 45 39.6 -0.5**
baz=91,SNR=12
HRY Holter Researc 91.24 341 *e*P **P 02 45 40.2 0.0**
HRY Holter Researc 91.24 341 *e*P **P 02 45 40.2 0.0**
F19A Roth Farm, Mol 91.25 339 ⇑P **P 02 45 40.0 -0.3**
baz=91,SNR=28
WVT Waverly 91.27 320 *e*P **P 02 45 38.4 -2.0**
WVT pmax pmax
comp=Z,54nm,1.6s
WVT MLR MLR
comp=Z,7μm,22.0s
WVT Waverly 91.27 320 *e*P **P 02 45 38.4 -2.0**
comp=Z,54nm,1.6s
WVT Waverly 91.27 320 *e*P **P 02 45 38.4 -2.0**
comp=Z,54nm,1.6s
WVT LR LR
comp=Z,7μm,22.0s
I25A Rochford 91.31 335 ⇓P **P 02 45 40.0 -0.7**
baz=91,SNR=21
B08A Colville Reser 91.32 346 *e*P **P 02 45 39.5 -0.9**
comp=Z,80nm,1.8s
B08A Colville Reser 91.32 346 *e*PP PP 02 49 17.0 +0.3
B08A Colville Reser 91.32 346 *e*P **P 02 45 39.5 -0.9**
comp=Z,80nm,1.8s
B08A *e*PP **PP 02 49 17.0 +0.3**
B08A LR LR
comp=Z,6μm,18.5s
RSSD Black Hills 91.32 335 *e*P **P 02 45 40.2 -0.5**
comp=Z,123nm,1.6s
RSSD Black Hills 91.32 335 *e*P **P 02 45 40.2 -0.5**
comp=Z,123nm,1.6s
RSSD LR LR
comp=Z,6μm,19.0s
G21A Lodge Grass 91.32 338 ⇓P **P 02 45 40.1 -0.6**
baz=91,SNR=13
H23A Clabaugh Cattl 91.36 336 ⇓P **P 02 45 39.9 -0.9**
baz=91
J27A Elkhorn Farm, 91.39 333 ⇓P **P 02 45 40.4 -0.5**
baz=91
CHMT Chamberlain Mo 91.40 342 *e*P **P 02 45 39.2 -1.9**
CHMT Chamberlain Mo 91.40 342 *e*P **P 02 45 39.1 -1.9**
GRGR Grenville 91.41 287 PFAKE 02 45 50.0 +8.6
GRGR LR LR
comp=Z,1μm,20.0s
GCMT Greycliff 91.51 339 *e*P **P 02 45 41.0 -0.6**
GCMT Greycliff 91.51 339 *e*PP PP 02 49 20.4 +1.9
GCMT Greycliff 91.51 339 *e*P **P 02 45 41.0 -0.6**
GCMT *e*PP **PP 02 49 20.4 +1.9**
B06A Marblemount 91.54 348 *e*P **P 02 45 40.8 -0.6**
comp=Z,300nm,2.6s
B06A Marblemount 91.54 348 *e*P **P 02 45 40.8 -0.6**
comp=Z,300nm,2.6s
B06A LR LR
comp=Z,5μm,21.2s
BGNE Belgrade 91.55 330 ⇓P **P 02 45 40.5 -1.2**
baz=91,SNR=13
BGNE Belgrade 91.55 330 PFAKE 02 45 50.0 +8.3
BGNE LR LR
comp=Z,4μm,21.2s
SOEI Soe 91.58 101 PFAKE 02 45 50.0 +7.8
SOEI LR LR
comp=Z,5μm,22.0s
CRPR Cabo Rojo, PR 91.58 295 PFAKE 02 45 50.0 +7.9
CRPR LR LR
comp=Z,2μm,20.8s
G20A Bridger 91.62 338 ⇓P **P 02 45 41.1 -1.0**
baz=91,SNR=38
H22A Clearmont 91.63 337 ⇑P **P 02 45 41.6 -0.4**
baz=91,SNR=26
K28A Ten Mile Ranch 91.64 333 ⇓P **P 02 45 41.7 -0.4**
baz=91
MSO Missoula 91.64 342 *e*PP PP 02 49 19.9 +0.5
MSO Missoula 91.64 342 ⇓P **P 02 45 41.4 -0.7**
baz=91,SNR=36
MSO Missoula 91.64 342 *e*PP PP 02 49 19.9 +0.5
MSO LR LR
comp=Z,7μm,22.0s
C09A Chrisman Ranch 91.65 346 PFAKE 02 45 50.0 +8.0
C09A LR LR
comp=Z,8μm,19.2s
L30A Spencer Herefo 91.69 331 ⇑P **P 02 45 41.7 -0.6**
baz=91
J26A Sides Ranch, S 91.71 334 ⇑P **P 02 45 41.6 -0.8**
baz=91,SNR=14
PGC Sidney 91.72 349 PFAKE 02 45 50.0 +7.8
PGC LR LR
comp=Z,6μm,19.4s
I24A Kuemmerle Ranc 91.74 335 ⇓P **P 02 45 41.9 -0.7**
baz=91
H21A Big Horn, Sher 91.81 337 ⇓P **P 02 45 42.7 -0.2**
baz=91,SNR=25
L29A Maesberg Ranch 91.88 332 ⇑P **P 02 45 42.9 -0.3**
baz=92
J25A Sunshine Ranch 91.89 335 ⇓P **P 02 45 42.8 -0.4**
baz=92
I23A Meade Ranch, G 91.92 336 ⇓P **P 02 45 42.6 -0.9**
baz=92
M31A Lambtecht Ranc 91.93 330 ⇑P **P 02 45 42.6 -0.8**
baz=92
K27A Flueckinger Fa 91.95 333 ⇑P **P 02 45 42.5 -1.1**
baz=92
PVMO Portageville 91.97 322 PFAKE 02 45 50.0 +6.4
PVMO LR LR
comp=Z,7μm,21.4s
RLMT Red Lodge 92.02 339 PFAKE 02 45 50.0 +6.0
RLMT LR LR
comp=Z,8μm,22.0s
PBMO Poplar Bluff 92.03 322 PFAKE 02 45 50.0 +6.1
PBMO LR LR
comp=Z,6μm,18.4s
GRTK Grand Turk 92.03 300 PFAKE 02 45 50.0 +5.9
GRTK LR LR
comp=Z,4μm,19.0s
M30A Dale-Ortello V 92.11 331 ⇓P **P 02 45 43.3 -1.0**
baz=92
N32A Stulken Farm, 92.16 330 ⇑P **P 02 45 43.7 -0.8**
baz=92
BOZ Bozeman (W) 92.17 341 *e*P **P 02 45 44.8 +0.2**
BOZ pmax pmax
comp=Z,73nm,1.5s
BOZ MLR MLR
comp=Z,7μm,21.0s
BOZ Bozeman (W) 92.17 341 *e*P **P 02 45 44.8 +0.2**
comp=Z,72nm,1.5s
BOZ Bozeman (W) 92.17 341 *e*P **P 02 45 44.8 +0.2**
comp=Z,72nm,1.5s
BOZ LR LR
comp=Z,7μm,21.0s
LRM Limekiln Ridge 92.22 341 *e*P **P 02 45 44.9 -0.1**
LRM Limekiln Ridge 92.22 341 *e*PP PP 02 49 23.0 -1.2
LRM Limekiln Ridge 92.22 341 *e*P **P 02 45 44.9 -0.1**
LRM *e*PP **PP 02 49 23.1 -1.1**
J24A Dixon Ranch, L 92.23 335 ⇑P **P 02 45 44.0 -0.8**
baz=92
H20A Greybull 92.23 338 ⇑P **P 02 45 45.0 +0.2**
baz=92,SNR=40
K26A Motz Farm, Whi 92.28 334 ⇑P **P 02 45 44.1 -1.1**
baz=92
I22A 9 Mile Ranch, 92.31 336 ⇓P **P 02 45 44.5 -0.7**
baz=92,SNR=18
L28A Connealy Angus 92.31 332 ⇑P **P 02 45 44.7 -0.6**
baz=92
H19A Powell 92.35 338 ⇓P **P 02 45 45.6 +0.1**
baz=92,SNR=39
N31A Bailey Ranch, 92.37 330 ⇑P **P 02 45 44.7 -0.7**
baz=92
D08A Wollman Farm, 92.49 346 *e*P **P 02 45 45.8 -0.1**
comp=Z,48nm,1.4s
D08A Wollman Farm, 92.49 346 *e*P **P 02 45 45.8 -0.1**
comp=Z,48nm,1.4s
D08A LR LR
comp=Z,7μm,19.1s
M29A Burnside Ranch 92.49 332 ⇓P **P 02 45 45.3 -0.8**
baz=92
L27A T5 Ranch, Ells 92.53 333 ⇓P **P 02 45 45.1 -1.2**
baz=92
H18A Shoshone NF, C 92.54 339 ⇑P **P 02 45 45.8 -0.6**
baz=92,SNR=31
O32A Brookman Farm, 92.58 329 ⇑P **P 02 45 45.4 -1.1**
baz=92
K25A Mack Ranch, Ha 92.60 334 ⇓P **P 02 45 46.0 -0.6**
baz=92,SNR=5.9
LTY Liberty 92.62 347 *e*P **P 02 45 47.7 +1.2**
comp=Z,162nm,2.4s
LTY Liberty 92.62 347 *e*P **P 02 45 47.7 +1.2**
comp=Z,162nm,2.4s
LTY LR LR
comp=Z,5μm,21.8s
I21A Big Trails, Te 92.63 337 ⇑P **P 02 45 45.6 -1.2**
baz=92,SNR=55
TIGA Tifton 92.65 315 *e*P **P 02 45 44.9 -1.9**
comp=Z,63nm,1.4s
TIGA Tifton 92.65 315 ⇓P **P 02 45 45.8 -1.0**
baz=92
TIGA Tifton 92.65 315 *e*P **P 02 45 44.9 -1.9**
comp=Z,63nm,1.4s
TIGA LR LR
comp=Z,5μm,19.5s
DLMT Dillon 92.69 341 PFAKE 02 46 00.0 +13
DLMT LR LR
comp=Z,10μm,20.6s
J22A Midwest 92.74 336 ⇓P **P 02 45 45.9 -1.4**
baz=92,SNR=17
I20A Worland 92.76 338 ⇓P **P 02 45 47.1 -0.2**
baz=92,SNR=40
YNR Norris Junctio 92.78 340 *e*P **P 02 45 48.9 +1.3**
comp=Z,31nm,1.4s
YNR Norris Junctio 92.78 340 *e*P **P 02 45 48.9 +1.3**
comp=Z,31nm,1.4s
YNR LR LR
comp=Z,8μm,19.0s
M28A Bar X Bar Ranc 92.79 332 ⇓P **P 02 45 46.6 -0.8**
baz=92
GUMO Guam 92.80 70 PFAKE 02 46 00.0 +12
GUMO LR LR
comp=Z,3μm,22.0s
K24A Anderson Ranch 92.82 335 ⇑P **P 02 45 46.6 -1.0**
baz=92
N30A Hueftle Ranch, 92.83 331 ⇓P **P 02 45 46.5 -1.1**
baz=92
L26A Underwood Farm 92.84 333 ⇓P **P 02 45 46.5 -1.2**
baz=92
LKWY Lake 92.84 339 *e*P **P 02 45 48.6 +0.7**
LKWY pmax pmax
comp=Z,55nm,1.4s
LKWY MLR MLR
comp=Z,11μm,19.0s
LKWY Lake 92.84 339 *e*P **P 02 45 48.6 +0.7**
comp=Z,55nm,1.4s
LKWY Lake 92.84 339 *e*P **P 02 45 48.6 +0.7**
comp=Z,55nm,1.4s
LKWY LR LR
comp=Z,11μm,19.0s
E09A Wood Farm, Sta 92.86 345 *e*P **P 02 45 46.5 -1.1**
comp=Z,226nm,2.1s
E09A Wood Farm, Sta 92.86 345 *e*P **P 02 45 46.5 -1.1**
comp=Z,226nm,2.1s
E09A LR LR
comp=Z,7μm,19.7s
QLMT Earthquake Lak 92.88 340 *e*P **P 02 45 47.0 -1.0**
QLMT Earthquake Lak 92.88 340 *e*P **P 02 45 47.0 -1.0**
KSU1 Kansas State U 92.89 328 *e*P **P 02 45 47.2 -0.6**
comp=Z,75nm,1.5s
KSU1 Kansas State U 92.89 328 ⇓P **P 02 45 46.8 -1.1**
baz=92
KSU1 Kass State U 92.89 328 *e*P **P 02 45 47.2 -0.6**
comp=Z,75nm,1.5s
KSU1 LR LR
comp=Z,6μm,18.0s
YMR Madison River 92.90 340 *e*P **P 02 45 47.8 -0.3**
comp=Z,91nm,1.5s
YMR Madison River 92.90 340 *e*P **P 02 45 47.8 -0.3**
comp=Z,91nm,1.5s
YMR LR LR
comp=Z,6μm,19.2s
D05A Enumclaw 92.91 348 *e*P **P 02 45 48.0 +0.2**
comp=Z,98nm,1.5s
D05A Enumclaw 92.91 348 *e*P **P 02 45 48.0 +0.2**
comp=Z,98nm,1.5s
D05A LR LR
comp=Z,5μm,19.6s
I19A Meeteetse 92.93 338 ⇓P **P 02 45 48.1 -0.1**
baz=92,SNR=34
NLWA Neilton Lookou 93.01 349 PFAKE 02 46 00.0 +12
NLWA LR LR
comp=Z,6μm,20.0s
N29A Votaw Ranch, W 93.01 331 ⇓P **P 02 45 47.8 -0.7**
baz=93
L25A Engebretsen Ra 93.04 334 ⇓P **P 02 45 47.9 -0.7**
baz=93
M27A Reverse DX Ran 93.04 333 ⇓P **P 02 45 47.9 -0.7**
baz=93
P33A Williams Farm, 93.05 329 ⇑P **P 02 45 47.3 -1.3**
baz=93
H17A Grant Village 93.05 339 *e*P **P 02 45 49.0 +0.2**
comp=Z,82nm,1.5s
H17A Grant Village 93.05 339 ⇑P **P 02 45 48.5 -0.3**
baz=93,SNR=22
H17A Grant Village 93.05 339 *e*P **P 02 45 49.0 +0.2**
comp=Z,82nm,1.5s
H17A LR LR
comp=Z,10μm,18.1s
K23A Bowen Ranch, D 93.06 335 ⇓P **P 02 45 47.6 -1.2**
baz=93
YFT Old Faithful 93.07 340 PFAKE 02 46 00.0 +11
YFT LR LR
comp=Z,10μm,20.2s
O31A Woolen Ranch, 93.09 330 ⇑P **P 02 45 47.6 -1.2**
baz=93
J21A Lysite 93.10 337 ⇓P **P 02 45 48.0 -1.0**
baz=93,SNR=5.2
HBAR Harrisburg 93.12 322 *e*P **P 02 45 47.8 -1.1**
HBAR Harrisburg 93.12 322 *e*P **P 02 45 47.8 -1.1**
E07A Sunnyside 93.15 346 *e*P **P 02 45 47.7 -1.2**
comp=Z,41nm,1.5s
E07A Sunnyside 93.15 346 *e*P **P 02 45 47.7 -1.2**
comp=Z,41nm,1.5s
F10A Beach Ranch, E 93.19 344 *e*P **P 02 45 48.5 -0.7**
comp=Z,192nm,2.3s
F10A Beach Ranch, E 93.19 344 *e*P **P 02 45 48.5 -0.7**
comp=Z,192nm,2.3s
HAWA Hanford 93.25 346 *e*P **P 02 45 49.0 -0.3**
comp=Z,54nm,1.5s
HAWA Hanford 93.25 346 *e*P **P 02 45 49.0 -0.3**
comp=Z,54nm,1.5s
HAWA LR LR
comp=Z,5μm,19.0s
P32A Huiting Farm, 93.26 329 ⇓P **P 02 45 48.6 -1.0**
baz=93
LRAL Lakeview Retre 93.27 318 *e*P **P 02 45 48.0 -1.7**
comp=Z,45nm,1.2s
LRAL Lakeview Retre 93.27 318 *e*PP PP 02 49 32.5 -0.1
LRAL Lakeview Retre 93.27 318 *e*P **P 02 45 48.0 -1.7**
comp=Z,45nm,1.2s
LRAL *e*PP **PP 02 49 32.5 -0.1**
LRAL LR LR
comp=Z,7μm,22.0s
J20A Shoshoni 93.29 337 ⇓P **P 02 45 49.0 -0.8**
baz=93,SNR=17
LON Longmire 93.31 348 PFAKE 02 46 00.0 +10
LON LR LR
comp=Z,6μm,19.9s
OXF Oxford 93.34 320 *e*P **P 02 45 48.6 -1.4**
OXF *e* 02 49 35.1
OXF pmax pmax
comp=Z,81nm,1.3s
OXF MLR MLR
comp=Z,6μm,20.0s
OXF Oxford 93.34 320 *e*P **P 02 45 48.6 -1.4**
comp=Z,81nm,1.3s
OXF Oxford 93.34 320 *e*PP PP 02 49 35.1 +2.0
OXF Oxford 93.34 320 *e*P **P 02 45 48.6 -1.4**
comp=Z,81nm,1.3s
OXF *e*PP **PP 02 49 35.1 +2.0**
OXF LR LR
comp=Z,6μm,20.0s
O30A MW Ranch, Wils 93.35 331 ⇑P **P 02 45 48.9 -1.1**
baz=93,SNR=6.0
M26A McRoberts Ranc 93.36 333 ⇓P **P 02 45 49.3 -0.9**
baz=93
FLWY Flagg Ranch 93.37 339 *e*P **P 02 45 50.0 -0.3**
comp=Z,231nm,1.7s
FLWY Flagg Ranch 93.37 339 *e*P **P 02 45 50.0 -0.3**
comp=Z,231nm,1.7s
FLWY LR LR
comp=Z,6μm,20.1s
OGNE Ogallala 93.42 332 ⇑P **P 02 45 48.9 -1.4**
baz=93
K22A Casper 93.44 336 *e*P **P 02 45 48.8 -1.8**
comp=Z,65nm,1.3s
K22A Casper 93.44 336 ⇑P **P 02 45 49.2 -1.3**
baz=93,SNR=5.4
K22A Casper 93.44 336 *e*P **P 02 45 48.8 -1.8**
comp=Z,65nm,1.3s
K22A LR LR
comp=Z,6μm,20.3s
L24A Wheatland 93.47 335 ⇓P **P 02 45 49.9 -0.8**
baz=93
N28A Pribbeno Ranch 93.47 332 ⇓P **P 02 45 49.7 -0.9**
baz=93
Q33A Connelly Farm, 93.48 328 ⇓P **P 02 45 49.4 -1.2**
baz=93
I17A Pilgrim Ck. 93.49 339 ⇑P **P 02 45 50.2 -0.6**
baz=93,SNR=17
FAKI Fak Fak 93.53 91 PFAKE 02 46 00.0 +8.8
FAKI LR LR
comp=Z,2μm,22.0s
IMW Indian Meadow 93.61 339 *e*P **P 02 45 51.3 -0.2**
comp=Z,149nm,1.9s
IMW Indian Meadow 93.61 339 *e*P **P 02 45 51.3 -0.2**
comp=Z,149nm,1.9s
IMW LR LR
comp=Z,5μm,19.7s
P31A Stockton 93.65 330 ⇑P **P 02 45 50.4 -1.0**
baz=93,SNR=11
J19A Crowheart 93.66 338 ⇑P **P 02 45 50.8 -0.7**
baz=93,SNR=21
L23A Garrett 93.66 335 ⇑P **P 02 45 50.4 -1.3**
baz=93,SNR=5.2
O29A 4D Ranch, Culb 93.68 331 ⇓P **P 02 45 50.5 -1.0**
baz=93
K21A Alcova 93.69 336 ⇑P **P 02 45 50.7 -1.0**
baz=93
M25A Palm-Egli Farm 93.71 334 ⇓P **P 02 45 51.4 -0.4**
baz=93
N27A Anderson Farm, 93.73 332 ⇑P **P 02 45 51.5 -0.4**
baz=93
Q32A Meitler Ranch, 93.78 329 ⇑P **P 02 45 51.7 -0.2**
baz=93
LOHW Long Hollow 93.78 339 *e*P **P 02 45 50.7 -1.5**
comp=Z,91nm,1.8s
LOHW Long Hollow 93.78 339 *e*P **P 02 45 50.7 -1.5**
comp=Z,91nm,1.8s
LOHW LR LR
comp=Z,4μm,18.4s
E03A Lebam 93.79 349 PFAKE 02 46 00.0 +8.2
E03A LR LR
comp=Z,6μm,19.6s
SDDR Presa de Saban 93.86 298 PFAKE 02 46 00.0 +7.3
SDDR LR LR
comp=Z,4μm,20.0s
FXWY Fox Creek 93.87 339 *e*P **P 02 45 53.2 +0.6**
comp=Z,79nm,1.5s
FXWY Fox Creek 93.87 339 *e*P **P 02 45 53.2 +0.6**
comp=Z,79nm,1.5s
FXWY LR LR
comp=Z,5μm,19.8s
M24A Cheyenne 93.94 334 ⇑P **P 02 45 53.1 +0.2**
baz=94,SNR=5.3
N26A Koester Ranch, 93.95 333 ⇑P **P 02 45 52.0 -0.9**
baz=94
SNOW Snow King Moun 93.96 339 *e*P **P 02 45 53.0 0.0**
comp=Z,47nm,1.5s
SNOW Snow King Moun 93.96 339 *e*P **P 02 45 53.0 0.0**
comp=Z,47nm,1.5s
SNOW LR LR
comp=Z,5μm,18.4s
L22A Ellis Ranch, M 93.97 336 ⇑P **P 02 45 52.2 -0.9**
baz=94
P30A Selden 93.97 330 ⇑P **P 02 45 51.7 -1.2**
baz=94
TPAW Teton Pass 93.99 339 PFAKE 02 46 00.0 +6.8
TPAW LR LR
comp=Z,5μm,18.1s
O28A Krutsinger Ran 94.04 332 ⇓P **P 02 45 52.3 -1.0**
baz=94

REDW	Red Top Meadow	94.08 339	eP	P	02 45 54.7	+1.1
	comp=Z,102nm,1.5s					
REDW	Red Top Meadow	94.08 339	eP	P	02 45 54.7	+1.1
	comp=Z,102nm,1.5s					
REDW			LR	LR		
	comp=Z,6µm,18.2s					
Q31A	Ellis	94.10 329	⇓P	P	02 45 52.3	-1.1
	baz=94					
R33A	Olander Ranch,	94.13 328	⇓P	P	02 45 52.4	-1.2
	baz=94					
F04D	Rainier, OR	94.15 348	⇓P	P	02 45 52.5	-0.9
	baz=94					
P29A	Atwood	94.18 331	⇓P	P	02 45 52.8	-1.1
	baz=94					
G08A	Pilot Rock	94.19 345	eP	P	02 45 54.0	+0.1
	comp=Z,101nm,1.8s					
G08A	Pilot Rock	94.19 345	ePP	PP	02 49 40.9	+1.5
G08A	Pilot Rock	94.19 345	eP	P	02 45 54.0	+0.1
	comp=Z,101nm,1.8s					
G08A			ePP	PP	02 49 40.9	+1.5
M23A	Laramie	94.24 335	⇑P	P	02 45 53.2	-1.2
	baz=94					
O27A	Beecher Island	94.25 332	⇓P	P	02 45 53.5	-0.7
	baz=94,SNR=5.5					
BW06	Boulder Array	94.26 338	eP	P	02 45 53.5	-0.9
	comp=Z,36nm,1.4s					
BW06	Boulder Array	94.26 338	ePP	PP	02 49 39.7	-0.5
BW06	Boulder Array	94.26 338	eP	P	02 45 53.5	-0.9
	comp=Z,36nm,1.4s					
BW06			ePP	PP	02 49 39.6	-0.6
BW06			LR	LR		
	comp=Z,11µm,22.0s					
PDAR	Pinedale Array	94.26 338	P	P	02 45 53.2	-1.1
	comp=Z,10nm,1.2s,baz=80,slow=1.7,SNR=13					
PDAR			PP	PP	02 49 39.9	-0.3
	comp=Z,5.5nm,1.1s,baz=57,slow=6.6,SNR=5.5					
PDAR			LR	LR	03 30 06.3	
	comp=Z,9µm,21.3s,baz=36,slow=37					
BMO	Blue Mountains	94.27 344	eP	P	02 45 53.2	-1.0
	comp=Z,32nm,1.4s					
BMO	Blue Mountains	94.27 344	eP	P	02 45 53.2	-1.0
	comp=Z,32nm,1.4s					
BMO			LR	LR		
	comp=Z,8µm,22.0s					
N25A	Grover	94.27 334	⇓P	P	02 45 53.4	-0.9
	baz=94					
PHWY	Pilot Hill	94.31 335	eP	P	02 45 53.7	-1.0
	comp=Z,67nm,1.4s					
PHWY	Pilot Hill	94.31 335	eP	P	02 45 53.7	-1.0
	comp=Z,67nm,1.4s					
PHWY			ePP	PP	02 49 44.1	+3.4
PHWY			LR	LR		
	comp=Z,6µm,20.7s					
R32A	Long Quarter,	94.33 329	⇑P	P	02 45 53.4	-1.1
	baz=94					
F03A	Seaside	94.39 349	PFAKE		02 46 10.0	+15
F03A			LR	LR		
	comp=Z,6µm,19.6s					
Q30A	Quinter	94.45 330	⇑P	P	02 45 53.9	-1.2
	baz=94,SNR=13					
O26A	Horse Wrangler	94.50 333	⇑P	P	02 45 54.6	-0.8
	baz=94					
P28A	Saint Francis	94.52 331	⇑P	P	02 45 54.2	-1.2
	baz=94					
RWWY	Rawlins	94.53 336	PFAKE		02 46 10.0	+14
RWWY			LR	LR		
	comp=Z,7µm,19.0s					
N24A	Carr	94.53 334	⇑P	P	02 45 55.3	-0.3
	baz=94,SNR=5.4					
UALR	University of	94.56 322	eP	P	02 45 54.8	-0.8
	comp=Z,35nm,1.2s					
UALR	University of	94.56 322	eP	P	02 45 54.8	-0.8
	comp=Z,35nm,1.2s					
UALR			ePP	PP	02 49 47.9	+5.3
UALR			LR	LR		
	comp=Z,6µm,20.9s					
G06A	Carlson Farm,	94.57 346	eP	P	02 45 55.3	-0.2
G06A	Carlson Farm,	94.57 346	eP	P	02 45 55.3	-0.2
M22A	Cedar Creek Ra	94.59 335	⇓P	P	02 45 55.1	-0.8
	baz=94,SNR=6.9					
G05D	Wamic, OR	94.68 347	⇑P	P	02 45 55.4	-0.7
	baz=94					
AHID	Auburn Hatcher	94.70 339	PFAKE		02 46 10.0	+14
AHID			LR	LR		
	comp=Z,7µm,18.0s					
S33A	Kaszmaul Farm,	94.74 328	⇓P	P	02 45 55.4	-1.0
	baz=94					
R31A	Burdett	94.77 329	⇓P	P	02 45 55.8	-0.8
	baz=94					
Q29A	Oakley	94.82 330	⇑P	P	02 45 55.7	-1.1
	baz=94,SNR=5.7					
HLID	Hailey	94.83 342	eP	P	02 45 55.7	-1.2
HLID	Hailey	94.83 342	ePcP	P	02 45 56.6	-0.3
HLID	Hailey	94.83 342	eP	P	02 45 55.7	-1.2
HLID			ePcP	P	02 45 56.6	-0.3
HLID			ePP	PP	02 49 45.2	+0.8
HLID			LR	LR		
	comp=Z,10µm,21.0s					
N23A	Red Feather La	94.83 335	⇓P	P	02 45 56.4	-0.7
	baz=94,SNR=20					
P27A	Ficken Ranch,	94.84 332	⇑P	P	02 45 56.2	-0.8
	baz=94					
BRAL	Brewton	94.87 317	PFAKE		02 46 10.0	+13
BRAL			LR	LR		
	comp=Z,4µm,19.0s					
Q28A	Sharon Springs	95.00 331	⇑P	P	02 45 56.7	-1.0
	baz=95,SNR=9.4					
S32A	Newby Ranch, P	95.04 328	⇑P	P	02 45 56.6	-1.1
	baz=95					
R30A	Dighton	95.07 330	⇓P	P	02 45 56.8	-1.2
	baz=95,SNR=13					
N22A	Wattenberg Ran	95.08 335	⇓P	P	02 45 57.6	-0.6
	baz=95,SNR=5.6					
LGNH	LØogne	95.09 298	PFAKE		02 46 10.0	+12
LGNH			LR	LR		
	comp=Z,3µm,21.8s					
P26A	Davis Ranch, A	95.12 332	⇑P	P	02 45 57.7	-0.6
	baz=95,SNR=13					
TUL1	Leonard	95.21 325	eP	P	02 45 57.5	-1.1
	comp=Z,51nm,1.1s					
TUL1	Leonard	95.21 325	⇓P	P	02 45 57.3	-1.2
	baz=95,SNR=12					
TUL1	Leonard	95.21 325	eP	P	02 45 57.5	-1.1
	comp=Z,51nm,1.1s					
TUL1			LR	LR		
	comp=Z,5µm,18.9s					
JAKH	Jacmel	95.22 298	PFAKE		02 46 10.0	+11
JAKH			LR	LR		
	comp=Z,3µm,19.8s					
O24A	Longmont	95.23 334	⇑P	P	02 45 57.9	-0.8
	baz=95,SNR=5.4					
T33A	Patterson Ranc	95.28 328	⇓P	P	02 45 58.0	-0.9
	baz=95					
R29A	Marienthal	95.29 330	⇑P	P	02 45 57.8	-1.2
	baz=95					
MFID	Camas Ranch	95.31 343	eP	P	02 45 58.8	-0.2
	comp=Z,99nm,1.6s					
MFID	Camas Ranch	95.31 343	eP	P	02 45 58.8	-0.2
	comp=Z,99nm,1.6s					
MFID			LR	LR		
	comp=Z,7µm,20.0s					
MIAR	Mount Ida	95.33 323	eP	P	02 45 57.9	-1.2
MIAR			pmax	pmax		
	comp=Z,47nm,1.3s					
MIAR			MLR	MLR		
	comp=Z,8µm,22.0s					
MIAR	Mount Ida	95.33 323	eP	P	02 45 57.9	-1.2
	comp=Z,47nm,1.3s					
MIAR	Mount Ida	95.33 323	eP	P	02 45 57.9	-1.2
	comp=Z,47nm,1.3s					
MIAR			LR	LR		
	comp=Z,8µm,22.0s					
S31A	Mullinville	95.33 329	⇓P	P	02 45 58.1	-1.1
	baz=95					
KSCO	Kaye Shedlock'	95.34 332	eP	P	02 45 58.8	-0.5
	comp=Z,155nm,1.6s					
KSCO	Kaye Shedlock'	95.34 332	⇓P	P	02 45 58.1	-1.2
	baz=95					
KSCO	Kaye Shedlock'	95.34 332	eP	P	02 45 58.8	-0.5
	comp=Z,155nm,1.6s					
KSCO			LR	LR		
	comp=Z,6µm,18.1s					
MBWA	Marble Bar	95.35 113	PFAKE		02 46 10.0	+11
MBWA			LR	LR		
	comp=Z,5µm,20.0s					
H04A	Detroit Lake	95.38 347	PFAKE		02 46 10.0	+11
H04A			LR	LR		
	comp=Z,4µm,19.2s					
P25A	Willow Gulch B	95.45 333	⇑P	P	02 45 59.1	-0.7
	baz=95,SNR=5.9					
I07A	Izee	95.46 345	eP	P	02 45 59.0	-0.7
	comp=Z,28nm,1.4s					
I07A	Izee	95.46 345	eP	P	02 45 59.0	-0.7
	comp=Z,28nm,1.4s					
T32A	Huddler Ranch,	95.48 328	⇑P	P	02 45 58.5	-1.3
	baz=95					
U34A	Anderson Ranch	95.53 327	⇓P	P	02 45 59.0	-1.0
	baz=95					
U34A	Anderson Ranch	95.53 327	PFAKE		02 46 10.0	+10
U34A			LR	LR		
	comp=Z,4µm,19.0s					
R28A	Tribune	95.62 331	⇓P	P	02 45 59.4	-1.1
	baz=95,SNR=12					
N20A	Spence Gulch,	95.64 336	⇑P	P	02 45 59.5	-1.2
	baz=95					
O22A	Kremmling	95.69 335	⇓P	P	02 45 59.9	-1.2
	baz=95,SNR=14					
ISCO	Idaho Springs	95.70 334	eP	P	02 46 00.6	-0.5
ISCO			pmax	pmax		
	comp=Z,24nm,1.3s					
ISCO			MLR	MLR		
	comp=Z,8µm,20.0s					
ISCO	Idaho Springs	95.70 334	eP	P	02 46 00.6	-0.5
	comp=Z,24nm,1.3s					
ISCO	Idaho Springs	95.70 334	⇑P	P	02 46 00.1	-1.0
	baz=95,SNR=6.5					
ISCO	Idaho Springs	95.70 334	eP	P	02 46 00.6	-0.5
	comp=Z,24nm,1.3s					
ISCO			LR	LR		
	comp=Z,8µm,20.0s					
VBMS	Vicksburg	95.72 320	PFAKE		02 46 10.0	+9.1
VBMS			LR	LR		
	comp=Z,7µm,21.0s					
Q26A	Hugo	95.74 332	⇓P	P	02 46 00.2	-1.0
	baz=95					
U33A	Lingo Farm, Me	95.78 327	⇓P	P	02 46 00.5	-0.6
	baz=95					
GTBY	Guantanamo Bay	95.81 301	PFAKE		02 46 10.0	+8.5
GTBY			LR	LR		
	comp=Z,4µm,20.0s					
T31A	Randall Ranch,	95.86 329	⇑P	P	02 46 00.7	-0.8
	baz=95					
HWUT	Hardware Ranch	95.91 339	eP	P	02 46 00.6	-1.3
	comp=Z,69nm,1.5s					
HWUT	Hardware Ranch	95.91 339	eP	P	02 46 00.6	-1.3
	comp=Z,69nm,1.5s					
HWUT			LR	LR		
	comp=Z,9µm,22.0s					
J08A	Circle Bar Ran	95.95 344	PFAKE		02 46 10.0	+8.1
J08A			LR	LR		
	comp=Z,7µm,18.9s					
S29A	Ulysses	95.98 330	⇑P	P	02 46 00.9	-1.2
	baz=96					
PINOR	Pine Mountain	95.99 346	eP	P	02 46 01.4	-0.5
	comp=Z,44nm,1.6s					
PINOR	Pine Mountain	95.99 346	eP	P	02 46 01.4	-0.5
	comp=Z,44nm,1.6s					
PINOR			LR	LR		
	comp=Z,3µm,18.3s					
Q25A	Bedland, Calha	96.01 333	⇓P	P	02 46 00.9	-1.6
	baz=96					
V34A	Guthrie	96.03 327	PFAKE		02 46 10.0	+7.7
V34A			LR	LR		
	comp=Z,7µm,19.0s					
R27A	Eads	96.04 331	⇑P	P	02 46 00.9	-1.5
	baz=96					
HVU	Hansel Valley	96.08 340	eP	P	02 46 02.5	-0.1
HVU			e		02 49 56.0	
HVU			pmax	pmax		
HVU			MLR	MLR		
	comp=Z,72nm,1.4s					
	comp=Z,11µm,20.5s					
HVU	Hansel Valley	96.08 340	eP	P	02 46 02.5	-0.1
	comp=Z,72nm,1.4s					
HVU	Hansel Valley	96.08 340	ePP	PP	02 49 56.0	+1.8
HVU	Hansel Valley	96.08 340	eP	P	02 46 02.5	-0.1
	comp=Z,72nm,1.4s					
HVU			ePP	PP	02 49 56.0	+1.8
HVU			LR	LR		
	comp=Z,11µm,20.5s					
P23A	Jefferson	96.16 334	⇑P	P	02 46 02.7	-0.6
	baz=96					
U32A	Winter Ranch,	96.19 328	⇑P	P	02 46 01.8	-1.3
	baz=96					
O20A	White River Ci	96.26 336	eP	P	02 46 02.8	-0.7
	comp=Z,56nm,1.7s					
O20A	White River Ci	96.26 336	⇑P	P	02 46 01.9	-1.7
	baz=96					
O20A	White River Ci	96.26 336	eP	P	02 46 02.8	-0.7
	comp=Z,56nm,1.7s					
O20A			LR	LR		
	comp=Z,8µm,20.0s					
R26A	Arlington	96.27 332	⇑P	P	02 46 01.9	-1.6
	baz=96					
P22A	Eagle	96.27 335	⇓P	P	02 46 02.0	-1.6
	baz=96					
I04A	Tendick Farm,	96.28 347	⇓P	P	02 46 01.9	-1.5
	baz=96					
Q24A	Divide	96.29 333	⇓P	P	02 46 02.6	-1.2
	baz=96					
S28A	Manter	96.31 330	⇑P	P	02 46 02.9	-0.8
	baz=96,SNR=11					
TCUT	Toone Canyon	96.31 339	PFAKE		02 46 10.0	+6.2
TCUT			LR	LR		
	comp=Z,6µm,18.3s					
V33A	Lossen Ranch,	96.37 327	⇓P	P	02 46 02.1	-1.8
	baz=96					
SPUT	South Promonto	96.43 340	PFAKE		02 46 10.0	+5.8
SPUT			LR	LR		
	comp=Z,4µm,19.0s					
T29A	Hugoton	96.45 330	⇓P	P	02 46 02.7	-1.6
	baz=96					
J05D	Fort Rock, OR	96.56 346	⇓P	P	02 46 02.8	-2.0
	baz=96					
W34A	Bridge Creek,	96.65 326	PFAKE		02 46 20.0	+15
W34A			LR	LR		
	comp=Z,7µm,18.0s					
SMCO	Snowmass	96.72 335	eP	P	02 46 04.5	-1.4
	comp=Z,26nm,1.6s					
SMCO	Snowmass	96.72 335	ePP	PP	02 49 58.1	-1.5
SMCO	Snowmass	96.72 335	eP	P	02 46 04.5	-1.4
	comp=Z,26nm,1.6s					
SMCO			ePP	PP	02 49 58.1	-1.5
SMCO			LR	LR		
	comp=Z,6µm,20.9s					
T28A	Walsh	96.80 330	⇑P	P	02 46 05.1	-0.8
	baz=96					
JLU	Jordanelle	96.80 339	eP	P	02 46 04.6	-1.4
	comp=Z,38nm,1.6s					
JLU	Jordanelle	96.80 339	eP	P	02 46 04.6	-1.4
	comp=Z,38nm,1.6s					
JLU			LR	LR		
	comp=Z,6µm,19.7s					
CTU	Camp Tracy	96.81 339	eP	P	02 46 05.2	-0.7
	comp=Z,8.8nm,1.0s					
CTU	Camp Tracy	96.81 339	eP	P	02 46 05.2	-0.7
	comp=Z,8.8nm,1.0s					
CTU			LR	LR		
	comp=Z,10µm,22.0s					
WVOR	Wild Horse Val	96.87 344	eP	P	02 46 05.7	-0.4
WVOR			pmax	pmax		
	comp=Z,37nm,1.5s					
WVOR			MLR	MLR		
	comp=Z,7µm,19.0s					
WVOR	Wild Horse Val	96.87 344	eP	P	02 46 05.7	-0.4
	comp=Z,37nm,1.5s					
WVOR	Wild Horse Val	96.87 344	eP	P	02 46 05.7	-0.4
	comp=Z,37nm,1.5s					
WVOR			LR	LR		
	comp=Z,7µm,19.0s					
S26A	Kim	96.87 332	⇑P	P	02 46 05.2	-1.1
	baz=96					
DAU	Daniels Canyon	96.92 338	eP	P	02 46 06.3	-0.4
DAU	Daniels Canyon	96.92 338	eP	P	02 46 06.2	-0.4
DAU	Daniels Canyon	96.92 338	eP	P	02 46 06.2	-0.4
R24A	Sanders Place,	96.93 333	⇑P	P	02 46 04.9	-1.7
	baz=96					
BGU	Big Grassy Mou	96.94 340	eP	P	02 46 06.9	+0.4
BGU	Big Grassy Mou	96.94 340	eP	P	02 46 06.9	+0.4
BGU			LR	LR		
	comp=Z,3µm,19.9s					
K05A	Summer Lake	97.04 346	eP	P	02 46 05.5	-1.5
	comp=Z,122nm,2.0s					
K05A	Summer Lake	97.04 346	eP	P	02 46 05.5	-1.5
	comp=Z,122nm,2.0s					
S25A	Robets Cordova	97.19 332	⇓P	P	02 46 06.1	-1.7
	baz=97					
R23A	Moffat	97.22 334	⇑P	P	02 46 07.1	-0.9
	baz=97,SNR=10.0					
T26A	Comanche Natio	97.31 331	⇓P	P	02 46 07.2	-1.2
	baz=97					
MPU	Maple Canyon	97.40 338	eP	P	02 46 07.6	-1.1
	comp=Z,44nm,1.6s					
MPU	Maple Canyon	97.40 338	eP	P	02 46 07.5	-1.1
	comp=Z,44nm,1.6s					
MPU			LR	LR		
	comp=Z,9µm,21.9s					
KEBM	Edson Butte	97.49 348	PFAKE		02 46 20.0	+11
KEBM			LR	LR		
	comp=Z,5µm,18.6s					
SDCO	Great Sand Dun	97.50 333	eP	P	02 46 08.2	-1.1
	comp=Z,13nm,1.4s					
SDCO	Great Sand Dun	97.50 333	ePP	PP	02 50 07.6	+2.1
SDCO	Great Sand Dun	97.50 333	eP	P	02 46 08.2	-1.1
	comp=Z,13nm,1.4s					
SDCO			ePP	PP	02 50 07.6	+2.1
SDCO			LR	LR		
	comp=Z,6µm,20.0s					
WMOK	Wichita Mounta	97.50 327	eP	P	02 46 08.2	-0.8
WMOK			pmax	pmax		
	comp=Z,32nm,1.8s					
WMOK			MLR	MLR		
	comp=Z,6µm,19.0s					
WMOK	Wichita Mounta	97.50 327	eP	P	02 46 08.2	-0.8
	comp=Z,32nm,1.8s					
WMOK	Wichita Mounta	97.50 327	eP	P	02 46 08.2	-0.8
	comp=Z,32nm,1.8s					
WMOK			LR	LR		
	comp=Z,6µm,19.0s					
HUMO	Hull Mountain	97.52 347	eP	P	02 46 07.8	-1.2
	comp=Z,24nm,1.5s					
HUMO	Hull Mountain	97.52 347	eP	P	02 46 07.8	-1.2
	comp=Z,24nm,1.5s					
HUMO			LR	LR		
	comp=Z,4µm,21.0s					
DUG	Dugway, Tooele	97.56 339	eP	Pdif	02 46 09.8	+0.4
DUG			e		02 50 02.5	
DUG			pmax	pmax		
	comp=Z,46nm,1.5s					
DUG			MLR	MLR		
	comp=Z,6µm,22.0s					
DUG	Dugway, Tooele	97.56 339	eP	Pdif	02 46 09.8	+0.4
	comp=Z,46nm,1.5s					
DUG	Dugway, Tooele	97.56 339	⇑P	P	02 46 09.2	-0.2
	baz=97,SNR=5.6					
DUG	Dugway, Tooele	97.56 339	eP	Pdif	02 46 09.8	+0.4
	comp=Z,46nm,1.5s					
DUG			ePP	PP	02 50 02.5	-3.2
DUG			LR	LR		
	comp=Z,6µm,22.0s					
NLU	North Lily Min	97.58 339	PFAKE		02 46 20.0	+10
NLU			LR	LR		
	comp=Z,10µm,21.9s					
T25A	Trinidad	97.65 332	⇑P	P	02 46 09.0	-0.9
	baz=97,SNR=5.2					
ELK	Elko	97.69 341	eP	P	02 46 10.0	0.0
ELK			e		02 50 03.9	
ELK			pmax	pmax		
	comp=Z,64nm,1.7s					
ELK			MLR	MLR		
	comp=Z,6µm,19.9s					
ELK	Elko	97.69 341	eP	P	02 46 10.0	0.0
	comp=Z,64nm,1.7s					
ELK	Elko	97.69 341	eP	P	02 46 10.0	0.0
	comp=Z,64nm,1.7s					
ELK			ePP	PP	02 50 03.9	-2.8
ELK			LR	LR		
	comp=Z,6µm,19.9s					
U27A	Thompson Grove	97.69 331	⇓P	P	02 46 08.3	-1.6
	baz=97					
MOD	Modoc Plateau	97.72 345	eP	P	02 46 10.0	0.0
	comp=Z,77nm,2.1s					
MOD	Modoc Plateau	97.72 345	ePP	PP	02 50 09.0	+2.2
MOD	Modoc Plateau	97.72 345	eP	P	02 46 10.0	0.0
	comp=Z,77nm,2.1s					
MOD			ePP	PP	02 50 09.0	+2.2
MOD			LR	LR		
	comp=Z,4µm,21.0s					
SRU	San Rafael Swe	97.91 337	eP	P	02 46 09.5	-1.5
SRU			e		02 50 09.4	
SRU			pmax	pmax		
	comp=Z,20nm,1.4s					
SRU			MLR	MLR		
	comp=Z,7µm,20.1s					
SRU	San Rafael Swe	97.91 337	eP	P	02 46 09.5	-1.5
	comp=Z,20nm,1.4s					
SRU	San Rafael Swe	97.91 337	ePP	PP	02 50 09.4	+1.0
SRU	San Rafael Swe	97.91 337	eP	P	02 46 09.5	-1.5
	comp=Z,20nm,1.4s					
SRU			ePP	PP	02 50 09.3	+1.0
SRU			LR	LR		
	comp=Z,7µm,20.1s					
S22A	4UR Ranch, Cre	97.96 334	⇑P	P	02 46 09.4	-2.0
	baz=98					
Z35A	Perchaven, San	98.03 325	⇑P	P	02 46 10.1	-1.3
	baz=98					
PV09	Paradox Valley	98.04 336	eP	P	02 46 11.6	-0.1
PV09	Paradox Valley	98.04 336	eP	P	02 46 11.6	-0.1
V28A	Channing	98.04 330	⇓P	P	02 46 10.4	-1.1
	baz=98					
340A	Bronson	98.05 322	⇓P	P	02 46 10.6	-0.9
	baz=98					
Y33A	Hilltop Ranch,	98.06 326	⇑P	P	02 46 10.4	-1.1
	baz=98					
U26A	Atchley Ranch,	98.06 331	⇑P	P	02 46 10.3	-1.5
	baz=98,SNR=5.2					
PV04	Paradox Valley	98.06 336	eP	P	02 46 11.0	-0.7
PV04	Paradox Valley	98.06 336	eP	P	02 46 11.0	-0.7
T24B	San Luis	98.07 333	⇓P	P	02 46 10.8	-1.1
	baz=98,SNR=6.3					
KBO	Bosley Butte	98.12 348	PFAKE		02 46 20.0	+8.2
KBO			LR	LR		
	comp=Z,7µm,21.9s					
PV10	Paradox Valley	98.12 336	eP	P	02 46 11.6	-0.4
PV10	Paradox Valley	98.12 336	eP	P	02 46 11.7	-0.4
NATX	Nacogdoches	98.14 322	PFAKE		02 46 20.0	+8.1
NATX			LR	LR		
	comp=Z,7µm,22.0s					
BDFB	Brasilia	98.14 257	LR	LR	03 33 17.3	
	comp=Z,6µm,18.9s,baz=52,slow=37					
PV01	Paradox Valley	98.19 335	eP	P	02 46 11.6	-0.7
PV01	Paradox Valley	98.19 335	eP	P	02 46 11.6	-0.7
Z34A	Collier Ranch,	98.29 326	⇑P	P	02 46 11.2	-1.3
	baz=98					
U25A	Circle Dot Ran	98.30 332	⇑P	P	02 46 11.1	-1.7
	baz=98					
T23A	Casias Ranch,	98.32 333	⇑P	P	02 46 11.3	-1.7
	baz=98					
YBH	Yreka Blue Hor	98.33 347	PFAKE		02 46 20.0	+7.3
YBH			LR	LR		
	comp=Z,5µm,18.0s					
PV05	Paradox Valley	98.41 336	eP	P	02 46 12.8	-0.5
PV05	Paradox Valley	98.41 336	eP	P	02 46 12.8	-0.5
Y32A	R-V Farms, Ver	98.41 327	⇓P	P	02 46 11.8	-1.4
	baz=98					
BMN	Battle Mountai	98.46 343	eP	P	02 46 12.3	-1.1
BMN			pmax	pmax		
	comp=Z,23nm,1.4s					
BMN			MLR	MLR		
	comp=Z,6µm,19.0s					
BMN	Battle Mountai	98.46 343	eP	P	02 46 12.3	-1.1
	comp=Z,22nm,1.4s					
BMN	Battle Mountai	98.46 343	eP	P	02 46 12.3	-1.1
	comp=Z,22nm,1.4s					
BMN			LR	LR		
	comp=Z,6µm,19.0s					
AMTX	Amarillo	98.58 329	PFAKE		02 46 20.0	+6.0
AMTX			LR	LR		
	comp=Z,6µm,19.0s					
V26A	Tequesquite Ra	98.60 331	⇓P	P	02 46 12.7	-1.4
	baz=98					
MTDJ	Mount Denham	98.62 302	PFAKE		02 46 20.0	+5.6
MTDJ			LR	LR		
	comp=Z,3µm,22.0s					
X30A	Coker Ranch, T	98.63 328	⇓P	P	02 46 12.7	-1.4
	baz=98					
M02C	Callahan	98.69 347	⇑P	P	02 46 12.8	-1.5
	baz=98					
Z33A	Whitaker Ranch	98.73 326	⇓P	P	02 46 13.5	-1.1
	baz=98					
338A	Crockett	98.78 323	⇑Pdiff	P	02 46 13.5	-1.3

baz=98
MVU Marysvale 98.97 338 *e*P Pdif 02 46 16.3 +0.5
comp=Z,51nm,1.8s
MVU Marysvale 98.97 338 *e*P Pdif 02 46 16.3 +0.5
comp=Z,51nm,1.8s
MVU LR LR
comp=Z,6μm,19.0s
W27A Bowe Ranch, En 98.97 330 ⇑Pdiff **P 02 46 14.2 -1.5**
baz=99
MVCO Mesa Verde 99.01 335 *e*P **Pdif 02 46 14.5 -1.5**
comp=Z,17nm,1.3s
MVCO Mesa Verde 99.01 335 ⇑Pdiff **Pdif 02 46 14.3 -1.7**
baz=99
MVCO Mesa Verde 99.01 335 *e*P **Pdif 02 46 14.5 -1.5**
comp=Z,17nm,1.3s
MVCO *e*PP **PP 02 50 14.2 -2.7**
MVCO LR LR
comp=Z,6μm,20.0s
U23A El Rito 99.01 333 ⇓Pdiff **Pdif 02 46 14.5 -1.6**
baz=99
Z32A Haskell 99.02 327 ⇓Pdiff **Pdif 02 46 14.9 -1.0**
baz=99
134A White-Moore Ra 99.03 325 ⇑Pdiff **Pdif 02 46 14.6 -1.4**
baz=99
U22A Llaves 99.20 333 ⇑Pdiff **Pdif 02 46 15.8 -1.1**
baz=99
V24A Rampart Ranch, 99.22 332 ⇑Pdiff **Pdif 02 46 15.3 -1.7**
baz=99
WHTX Lake Whitney, 99.25 324 ⇑Pdiff **Pdif 02 46 16.0 -0.8**
baz=99
WHTX Lake Whitney, 99.25 324 PFAKE 02 46 30.0 +13
WHTX LR LR
comp=Z,5μm,21.4s
KHMM Horse Mountain 99.34 348 PFAKE 02 46 30.0 +13
KHMM LR LR
comp=Z,5μm,18.0s
438A Sam Houston St 99.36 322 ⇑Pdiff **Pdif 02 46 16.3 -1.1**
baz=99
W25A X Bar L Ranch, 99.37 331 ⇑Pdiff **Pdif 02 46 16.0 -1.6**
baz=99
133A Hamilton Ranch 99.38 326 ⇑Pdiff **Pdif 02 46 16.7 -0.8**
baz=99
WDC Whiskeytown Da 99.42 347 PFAKE 02 46 30.0 +13
WDC LR LR
comp=Z,4μm,19.0s
234A Clairette 99.54 325 ⇑Pdiff **Pdif 02 46 17.1 -1.1**
baz=99
V22A San Miguel Ran 99.64 333 ⇓Pdiff **Pdif 02 46 17.3 -1.6**
baz=99
ABTX Abilene, Hawle 99.68 326 *e*P **Pdif 02 46 16.7 -2.1**
comp=Z,15nm,1.2s
ABTX Abilene, Hawle 99.68 326 *e*PP PP 02 50 21.7 -0.3
ABTX Abilene, Hawle 99.68 326 *e*P **Pdif 02 46 16.7 -2.1**
comp=Z,15nm,1.2s
ABTX *e*PP **PP 02 50 21.7 -0.3**
ABTX LR LR
comp=Z,7μm,20.9s
MSTX Muleshoe 99.81 329 PFAKE 02 46 30.0 +10
MSTX LR LR
comp=Z,6μm,19.7s
131A Roby 99.96 327 ⇑Pdiff **Pdif 02 46 18.9 -1.2**
baz=100
R11A Troy Canyon, C 100.03 341 *e*PP PP 02 50 26.6 +2.0
R11A Troy Canyon, C 100.03 341 ⇑Pdiff **Pdif 02 46 18.6 -1.9**
baz=100
R11A Troy Canyon, C 100.03 341 *e*Pdif **Pdif 02 46 19.4 -1.0**
comp=Z,40nm,1.8s
R11A *e*PP **PP 02 50 26.6 +2.0**
R11A LR LR
comp=Z,7μm,20.1s
Y27A Causey 100.05 330 ⇑Pdiff **Pdif 02 46 18.7 -1.8**
baz=100
334A Lometa 100.16 325 ⇓Pdiff **Pdif 02 46 19.4 -1.5**
baz=100
CCUT Cedar City 100.18 339 *e*PP PP 02 50 26.5 +0.7
CCUT Cedar City 100.18 339 *e*Pdif **Pdif 02 46 20.4 -0.8**
CCUT *e*PP **PP 02 50 26.5 +0.7**
CCUT LR LR
comp=Z,7μm,21.3s
SDV Santo Domingo 100.19 290 PFAKE 02 46 30.0 +8.4
SDV LR LR
comp=Z,2μm,20.0s
HKT Hockley 100.19 322 PFAKE 02 46 30.0 +9.0
HKT LR LR
comp=Z,7μm,19.0s
232A Coleman 100.31 326 ⇓Pdiff **Pdif 02 46 20.0 -1.7**
baz=100
537A Green Hill Far 100.32 323 ⇓Pdiff **Pdif 02 46 20.2 -1.4**
baz=100
ANMO Albuquerque 100.35 333 PFAKE 02 46 30.0 +8.0
ANMO LR LR
comp=Z,4μm,19.0s
KCPM Cahto Peak 100.47 347 PFAKE 02 46 30.0 +7.7
KCPM LR LR
comp=Z,2μm,18.5s
333A Richland Sprin 100.50 325 ⇑Pdiff **Pdif 02 46 21.1 -1.4**
baz=100
KNB Kanab 100.53 338 PFAKE 02 46 30.0 +7.3
KNB LR LR
comp=Z,8μm,21.6s
434A Burnet 100.61 324 ⇑Pdiff **Pdif 02 46 21.5 -1.5**
baz=100
NV01 Mina Array Sit 100.62 343 *e*Pdif **Pdif 02 46 23.7 +0.6**
NV01 *e*PP **PP 02 50 24.7 -4.4**
NVAR Mina Array Bea 100.62 343 Pdiff **Pdif 02 46 24.3 +1.2**
comp=Z,2.6nm,1.1s,baz=64,slow=5.1,SNR=8.8
NVAR PP **PP 02 50 30.1 +1.1**
comp=Z,8.3nm,1.2s,baz=16,slow=4.2,SNR=12
NVAR PKKPbc **PKKPdf 03 02 42.6 +2.2**
comp=Z,0.4nm,0.7s,baz=175,slow=3.7,SNR=3.8
TPH Tonopah 100.70 342 *e*P **Pdif 02 46 23.0 -0.5**
TPH *e* 02 50 27.3
TPH MLR MLR
comp=Z,5μm,21.0s
TPH Tonopah 100.70 342 *e*PP PP 02 50 27.3 -2.4
TPH Tonopah 100.70 342 *e*Pdif **Pdif 02 46 23.0 -0.5**
TPH *e*PP **PP 02 50 27.3 -2.4**
TPH LR LR
comp=Z,5μm,21.0s
332A Millersview 100.78 326 ⇑Pdiff **Pdif 02 46 22.2 -1.6**
baz=100
Y24A Capitan 100.88 331 ⇑Pdiff **Pdif 02 46 22.6 -1.8**
baz=100
U15A North Rim 100.92 338 ⇑Pdiff **Pdif 02 46 23.4 -1.2**
baz=100
HOPS Hopland Field 101.06 347 PFAKE 02 46 40.0 +15
HOPS LR LR
comp=Z,5μm,22.0s
LAZ Ladron 101.08 333 *e*Pdif **Pdif 02 46 24.8 -0.4**
LAZ *e*PP PP 02 50 26.4 -6.2
BNM Barren Site 101.12 332 *e*Pdif **Pdif 02 46 23.4 -2.1**
636A Smothers Creek 101.17 323 ⇓Pdiff **Pdif 02 46 25.1 -0.3**
baz=101
Z25A Roswell 101.18 330 ⇓Pdiff **Pdif 02 46 24.7 -1.0**
baz=101
W18A Petrified Fore 101.32 335 *e*Pdif **Pdif 02 46 26.1 -0.2**
W18A *e*PP PP 02 50 24.9 -10
W18A LR LR
comp=Z,7μm,20.5s
228A UT Block 9, Go 101.36 328 ⇑Pdiff **Pdif 02 46 24.9 -1.5**
baz=101
330A Mertzon 101.39 327 ⇑Pdiff **Pdif 02 46 25.1 -1.4**
baz=101
CMB Columbia Colle 101.46 344 *e*PP PP 02 50 33.4 -1.8
CMB Columbia Colle 101.46 344 *e*PP PP 02 50 33.4 -1.8
CMB LR LR
comp=Z,4μm,20.0s
WUAZ Wupatki 101.48 337 *e*PP PP 02 50 34.7 -0.9
WUAZ Wupatki 101.48 337 ⇓Pdiff **Pdif 02 46 25.3 -1.7**
baz=101
WUAZ Wupatki 101.48 337 *e*Pdif **Pdif 02 46 25.9 -1.1**
WUAZ *e*PP **PP 02 50 34.7 -0.8**
WUAZ LR LR
comp=Z,6μm,19.0s
JCT Junction City 101.58 325 PFAKE 02 46 40.0 +13
JCT LR LR
comp=Z,5μm,20.0s
329A Wagon Wheel Ra 101.66 328 ⇓Pdiff **Pdif 02 46 26.1 -1.6**
baz=101
431A Sonora 101.76 326 ⇑Pdiff **Pdif 02 46 26.4 -1.7**
baz=101
MCCM Marconi Confer 101.85 346 PFAKE 02 46 40.0 +12
MCCM LR LR
comp=Z,5μm,19.0s
532A Rocksprings 101.93 325 ⇓Pdiff **Pdif 02 46 27.4 -1.5**
baz=102
531A Rocksprings 102.18 326 ⇑Pdiff **Pdif 02 46 29.0 -1.0**
baz=102
DAC Darwin (Calif) 102.50 342 PFAKE 02 46 40.0 +8.5
DAC LR LR
comp=Z,7μm,20.0s
530A J-C Ranch, Com 102.54 326 ⇑Pdiff **Pdif 02 46 30.0 -1.6**
baz=102
MNTX Cornudas Mount 102.84 330 PFAKE 02 46 40.0 +7.1
MNTX LR LR
comp=Z,3μm,19.0s
SAO San Andreas Ge 102.90 345 PFAKE 02 46 40.0 +6.9
SAO LR LR
comp=Z,5μm,18.0s
LDFC Landfair 102.99 339 PFAKE 02 46 40.0 +6.4
LDFC LR LR
comp=Z,6μm,19.0s
936A North Padre Is 103.01 322 ⇓Pdiff **Pdif 02 46 32.4 -1.2**
baz=103
GSC Goldstone, Bar 103.23 341 PFAKE 02 46 50.0 +15
GSC LR LR
comp=Z,7μm,20.5s
TEIG Tepich 103.92 311 PFAKE 02 46 50.0 +12
TEIG LR LR
comp=Z,3μm,20.0s
TUC Tucson 104.24 335 PFAKE 02 46 50.0 +11
TUC LR LR
comp=Z,7μm,20.0s
TXAR Lajitas Array 104.24 328 Pdiff **Pdif 02 46 40.9 +1.6**
comp=Z,0.9nm,0.9s,baz=22,slow=4.0,SNR=4.4
TXAR PP **PKiKP 02 50 54.3 -1.7**
comp=Z,4.9nm,1.2s,baz=33,slow=6.9,SNR=3.9
OSI Osito Audit: C 104.36 342 PFAKE 02 46 50.0 +10
OSI LR LR
comp=Z,6μm,19.9s
MWC Mount Wilson 104.57 341 PFAKE 02 46 50.0 +9.2
MWC LR LR
comp=Z,7μm,19.3s
PASC Pasadena Art C 104.65 341 PFAKE 02 46 50.0 +9.1
PASC LR LR
comp=Z,6μm,21.0s
PFO Pinyon Flats O 104.74 340 PFAKE 02 46 50.0 +8.6
PFO LR LR
comp=Z,5μm,19.0s
GLA Glamis 104.81 338 PFAKE 02 46 50.0 +8.4
GLA LR LR
comp=Z,5μm,21.5s
WRA Warramunga Arr 105.46 103 PKiKP **PKiKP 02 50 58.2 0.0**
comp=Z,0.5nm,0.8s,baz=309,slow=2.0,SNR=6.6
WRA PP **PP 02 51 07.3 +0.5**
comp=Z,3.3nm,1.0s,baz=313,slow=5.0,SNR=10
WRAB Tennant Creek 105.47 103 PFAKE 02 51 10.0
WRAB LR LR
comp=Z,3μm,21.0s
BAR Barrett 105.67 340 PFAKE 02 51 10.0
BAR LR LR
comp=Z,4μm,20.1s
SAML Samuel 105.85 271 PFAKE 02 51 10.0
SAML LR LR
comp=Z,2μm,19.0s
BCIP Isla Barro Col 106.60 297 PFAKE 02 51 10.0
BCIP LR LR
comp=Z,2μm,21.0s
FORT Forrest 107.12 116 PFAKE 02 51 10.0
FORT LR LR
comp=Z,5μm,19.0s
ASAR Alice Springs 107.29 107 Pdiff **Pdif 02 46 53.8 +1.1**
comp=Z,0.2nm,0.4s,baz=315,slow=5.9,SNR=4.6
ASAR PKiKP **PKiKP 02 51 00.7 -0.9**
comp=Z,1.0nm,0.9s,baz=319,slow=2.4,SNR=4.7
ASAR PKKPbc PKKPbc 03 02 05.4 -11
comp=Z,0.6nm,0.5s,baz=338,slow=3.1,SNR=9.9
AS01 Alice Springs 107.33 107 *e*PKiKP **PKiKP 02 51 02.1 +0.5**
AS01 Alice Springs 107.33 107 *e*PKiKP **PKiKP 02 51 02.1 +0.5**
AS01 *e*PP **PP 02 51 24.1 +3.5**
SYO Syowa Base 107.48 180 ⇑*e*P **PKiKP 02 51 04.6 +4.2**
COEN Coen 108.78 93 *e*PKiKP **PKiKP 02 51 04.3 -0.2**
COEN Coen 108.78 93 *e*PKiKP **PKiKP 02 51 04.3 -0.2**
COEN LR LR
comp=Z,17μm,21.9s
PMG Port Moresby 109.16 87 PFAKE 02 51 20.0
PMG LR LR
comp=Z,1μm,20.0s
JTS JuntasAbangare 109.29 301 PFAKE 02 51 20.0
JTS LR LR
comp=Z,3μm,20.0s
OTAV Otavalo 111.73 289 PFAKE 02 51 20.0
OTAV LR LR
comp=Z,2μm,21.0s
HOPE Hope Point 113.49 218 PFAKE 02 51 20.0
HOPE LR LR
comp=Z,7μm,20.0s
BBOO Buckleboo 113.92 114 PFAKE 02 51 30.0
BBOO LR LR
comp=Z,36μm,20.0s
SNAA Sanae 114.25 194 PFAKE 02 51 20.0 +6.7
SNAA LR LR
comp=Z,8μm,19.0s
CTAO Charters Tower 114.71 97 *e*PKiKP PKPdf 02 51 15.5 -0.1
CTAO *e* 02 52 15.2
CTAO MLR MLR
comp=Z,2μm,20.0s
CTAO Charters Tower 114.71 97 *e*PKiKP PKPdf 02 51 15.5 -0.1
CTAO Charters Tower 114.71 97 *e*PKiKP PKPdf 02 51 15.5 -0.1
CTAO *e*PP **PP 02 52 15.2 +1.5**
CTAO LR LR
comp=Z,2μm,20.0s
LVC Limon Verde 118.23 263 *e*PKiKP **PKPdf 02 51 22.6 -0.1**
LVC Limon Verde 118.23 263 *e*PKPdf **PKPdf 02 51 22.6 -0.1**
LVC LR LR
comp=Z,4μm,22.0s
NNA Nana 118.33 277 PFAKE 02 51 30.0 +7.2
NNA LR LR
comp=Z,2μm,20.0s
HNR Honiara 119.08 78 PFAKE 02 51 40.0 +16
HNR LR LR
comp=Z,2μm,21.0s
TRQA Tornquist 120.76 244 *e*PKiKP **PKPdf 02 51 26.6 -0.2**
TRQA Tornquist 120.76 244 *e*PKPdf **PKPdf 02 51 26.6 -0.2**
TRQA LR LR
comp=Z,3μm,20.0s
EIDS Eidsvold 121.31 99 PFAKE 02 51 40.0 +12
EIDS LR LR
comp=Z,3μm,20.8s
CFAA Coronel Fontan 122.31 253 PKP **PKPdf 02 51 29.3 -0.7**
comp=Z,1.7nm,1.1s,baz=58,slow=2.0,SNR=7.7
EFI East Falkland 123.83 228 PFAKE 02 51 40.0 +7.9
EFI LR LR
comp=Z,4μm,21.0s
ARMA Armidale 124.24 104 PFAKE 02 51 50.0 +16
ARMA LR LR
comp=Z,4μm,21.2s
TAU Tasmania Unive 126.42 119 PFAKE 02 51 50.0 +13
TAU LR LR
comp=Z,4μm,20.0s
PLCA Paso Flores 127.91 244 PKP **PKPdf 02 51 40.3 -0.2**
comp=Z,33nm,1.1s,baz=40,slow=2.8,SNR=11
DRV Dumont d'Urvil 128.76 150 SS SS 03 10 54.0 -12
DRV L L 03 25 00.0
DRV R 03 33 00.0
VNDA Vanda 134.31 165 *e*PKiKP **PKPdf 02 51 52.5 +1.1**
VNDA MLR MLR
comp=Z,5μm,18.4s
VNDA Vanda 134.31 165 *e*PKiKP **PKPdf 02 51 52.5 +1.1**
VNDA Vanda 134.31 165 *e*PKPdf **PKPdf 02 51 52.5 +1.1**
VNDA LR LR
comp=Z,5μm,18.4s
SBA Scott Base 135.13 166 PFAKE 02 52 00.0 +7.1
SBA LR LR
comp=Z,4μm,18.0s
XMAS Kiritimati 136.29 26 PFAKE 02 52 10.0 +13
XMAS LR LR
comp=Z,4μm,20.0s
OUZ Omahuta 143.04 99 PFAKE 02 52 20.0 +11
OUZ LR LR
comp=Z,23μm,19.5s
RPZ Rata Peaks 143.27 114 *e*PKiKP **PKPdf 02 52 09.6 +0.8**
RPZ Rata Peaks 143.27 114 *e*PKPdf **PKPdf 02 52 09.6 +0.8**
RPZ LR LR
comp=Z,4μm,18.0s
SNZO South Karori 145.50 109 PFAKE 02 52 20.0 +7.0
SNZO LR LR
comp=Z,4μm,20.0s
BKZ Black Stump Fm 146.38 105 *e*PKiKP **PKPdf 02 52 14.2 -0.1**
BKZ Black Stump Fm 146.38 105 *e*PKPdf **PKPdf 02 52 14.2 -0.1**
BKZ LR LR
comp=Z,4μm,20.0s
BFZ Birch Farm 146.52 107 PFAKE 02 52 30.0 +13
BFZ LR LR
comp=Z,3μm,20.0s
URZ Urewera 146.63 103 *e*PKIKP **PKPdf 02 52 14.2 -0.5**
URZ Urewera 146.63 103 *e*PKPdf **PKPdf 02 52 14.2 -0.5**
PPT2 Papeete2 157.27 24 *e*SS SS 03 16 28.8 -5.6
comp=Z,1μm,27.8s
PPT2 Papeete2 157.27 24 *e*LR LR 03 45 24.3
comp=Z,8μm,32.8s
RKT Rikitea 163.81 343 *e*PP PP 02 57 14.2 -0.8
comp=Z,410nm,24.0s
RKT Rikitea 163.81 343 *e*SS SS 03 17 42.1 -0.6
comp=Z,1μm,31.0s
RKT Rikitea 163.81 343 *e*LR LR 03 48 20.6
comp=Z,5μm,23.5s

IDC ***08*** *02:32:41.5±0.6, 38°.11S×73°.51W, h0km, mb4.3/10, mb1 4.4/14, mb1mx4.3/26, mbtmp4.2/14, ML4.2/4, MS3.7/9, Ms1 3.7/9, ms1mx3.7/24, Error ellipse: s-maj=22.1km s-min=15.9km az=102.0*
ISCJB ***08*** *02:32:45.5±0.2, 38°.10S±0°.04×73°.39W±0°.07, h33km, mb4.8/36, MS3.7/5, Error ellipse: s-maj=7.7km s-min=5.4km az=160.4*
BJI ***08*** *02:32:45.5, 38°.10S×73°.40W, h25km, mB5.6/2, Ms5.5/3, Ms7 5.0/3*
GUC ***08*** *02:32:46.1±0.6, 38°.30S×73°.30W, h27km±7km, ML4.8*
NEIC ***08*** *02:32:47.5±0.8, 38°.06S×73°.39W, h41km±6km, mb4.9/28, Error ellipse: s-maj=11.3km s-min=7.1km az=74.0*
NEIC Felt at Coronel and Temuco.
ISC 08 02:32:45.9±0.7, 38°.16S±0°.04×73°.49W±0°.09, h30km±4km, h30km:pP-P, n236, σ1§03/255, mb4.8/36, MS3.9/5, 73C-77D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.65**	**173**	⇓*i*P	**Pn**	**02 33 11.9**	**-0.9**
VLCH				*i* S1	**Sn**	**02 33 31.2**	**-1.8**
VLCH				AML	AML	02 33 46.7	
	comp=N,26μm,0.7s						
COCH	**Cobquecura**	**2.10**	**16**	*e*P1	**Pb**	**02 33 21.9**	**-1.4**
COCH				*e*S1	**Sb**	**02 33 49.4**	**+0.4**
COCH				AML	AML	02 33 55.6	
	comp=N,5μm,0.5s						
OSCH	**Osorno**	**2.43**	**173**	*e*P1	**Pn**	**02 33 22.9**	**-0.6**
OSCH				*e*S1	**Sn**	**02 33 51.2**	**-0.9**
OSCH				AML	AML	02 34 17.4	
	comp=N,14μm,0.5s						
PMCH	**Puerto Montt**	**3.36**	**172**	*e*P1	**Pn**	**02 33 36.4**	**+0.2**
PLCA	**Paso Flores**	**3.43**	**139**	Pn	**Pn**	**02 33 38.7**	**+1.3**
	comp=N,5.7nm,0.3s,baz=310,slow=9.2,SNR=83						
PLCA				LR	LR	02 34 23.3	
	comp=N,185nm,20.4s,baz=304,slow=29						
PLCA				Lg	Lg	02 34 27.6	
	comp=N,48nm,0.3s,baz=240,slow=15,SNR=4.5						
CFAA	**Coronel Fontan**	**7.83**	**35**	Pn	**Pn**	**02 34 35.2**	**-2.6**
	comp=N,0.4nm,0.3s,baz=209,slow=14,SNR=7.3						
CFAA				Sn	**Sn**	**02 36 07.5**	**+2.0**
	comp=N,0.5nm,0.3s,baz=241,slow=13,SNR=2.8						
CFAA				Lg	Lg	02 36 50.4	
	baz=122,slow=22,SNR=4.6						
CFAA				LR	LR	02 37 53.9	
	comp=N,122nm,18.4s,baz=222,slow=40						
TRQA	**Tornquist**	**9.08**	**93**	*e*Pn	**Pn**	**02 34 56.3**	**+1.5**
TRQA				*e*Sn	Sn	02 36 52.3	+16
LVC	**Limon Verde**	**15.99**	**16**	*e*Pn	**Pn**	**02 36 27.4**	**-1.5**
	comp=N,13nm,0.8s						
LVC				*e*S	S	02 39 47.4	+8.8
USHA	**Ushuaia**	**17.03**	**170**	P	**P**	**02 36 42.8**	**-0.3**
	comp=N,0.3nm,0.3s,baz=3.5,slow=10,SNR=3.0						
USHA				LR	LR	02 43 41.6	
	comp=N,375nm,19.4s,baz=322,slow=39						
EFI	**East Falkland**	**17.33**	**146**	*e*Pn	**P**	**02 36 47.3**	**+0.8**
CPUP	**Villa Florida**	**18.02**	**54**	P	**Pn**	**02 36 53.0**	**-1.1**
	comp=N,1.0nm,0.3s,baz=216,slow=11,SNR=11						
CPUP				PcP	**PcP**	**02 41 29.0**	**+1.1**
	comp=N,0.3nm,0.3s,baz=345,slow=5.6,SNR=5.6						
CPUP				LR	LR	02 44 00.1	
	comp=N,414nm,20.9s,baz=210,slow=38						
LPAZ	**La Paz**	**22.30**	**14**	P	**P**	**02 37 41.8**	**+0.3**
	comp=N,6.3nm,0.7s,baz=174,slow=8.3,SNR=15						
LPAZ				LR	LR	02 46 45.8	
	comp=N,160nm,21.0s,baz=164,slow=38						
SIV	**San Ignacio**	**24.65**	**30**	P	**P**	**02 38 04.7**	**+0.7**
	comp=N,12nm,0.8s,baz=231,slow=12,SNR=21						
SIV				LR	LR	02 49 19.8	
	comp=N,400nm,19.2s,baz=213,slow=41						
NNA	**Nana**	**26.24**	**353**	LR	LR	02 46 08.7	
	comp=N,139nm,20.0s,baz=184,slow=31						
PMSA	**Palmer Station**	**27.23**	**171**	LR	LR	02 48 33.5	
	comp=N,354nm,19.6s,baz=294,slow=35						
SAML	**Samuel**	**30.53**	**20**	*e*P	**P**	**02 38 55.9**	**-0.7**
	comp=N,6.0nm,1.1s						
BDFB	**Brasilia**	**31.74**	**52**	P	**P**	**02 39 06.4**	**-1.0**
	comp=N,2.7nm,0.5s,baz=191,slow=6.5,SNR=5.6						
BDFB				LR	LR	02 53 35.4	
	comp=N,256nm,18.8s,baz=178,slow=40						
OTAV	**Otavalo**	**38.48**	**352**	*e*P	**P**	**02 40 04.8**	**-1.0**
	comp=N,38nm,1.6s						
ROSC	**El Rosal**	**42.80**	**359**	P	**P**	**02 40 41.8**	**+0.4**
	comp=N,5.0nm,0.6s,baz=91,slow=12,SNR=6.0						
ROSC	**El Rosal**	**42.80**	**359**	*e*P	**P**	**02 40 43.5**	**+2.1**
VNA3	**Neumayer Olymp**	**46.00**	**156**	P	**P**	**02 41 06.8**	**+0.8**
VNA2	**Neumayer--Watz**	**46.68**	**156**	P	**P**	**02 41 12.8**	**+1.5**
	baz=280,slow=8.1						
SDV	**Santo Domingo**	**46.88**	**4**	*e*P	**P**	**02 41 12.5**	**-1.1**
	comp=N,9.6nm,0.9s						
RCBR	**Riachuelo**	**46.88**	**56**	P	**P**	**02 41 14.1**	**+0.5**
	comp=N,6.1nm,0.8s,baz=233,slow=10,SNR=4.6						
RCBR	**Riachuelo**	**46.88**	**56**	*e*P	**P**	**02 41 14.4**	**+0.9**
	comp=N,7.6nm,0.9s						
BCIP	**Isla Barro Col**	**47.45**	**351**	*e*P	**P**	**02 41 15.9**	**-2.0**
	comp=N,278nm,1.9s						
SNAA	**Sanae**	**48.22**	**156**	P	**P**	**02 41 24.8**	**+1.5**
SNAA	**Sanae**	**48.22**	**156**	*e*P	**P**	**02 41 24.1**	**+0.8**
	comp=N,16nm,1.0s						
QSPA	**South Pole Qui**	**52.08**	**180**	P	**P**	**02 41 53.7**	**+1.0**
	comp=N,1.3nm,0.6s,baz=160,slow=1.3,SNR=6.7						
QSPA	**South Pole Qui**	**52.08**	**180**	*e*P	**P**	**02 41 53.9**	**+1.2**
	comp=N,1.6nm,0.7s						
SYO	**Syowa Base**	**62.45**	**158**	⇑*e*P	**P**	**02 43 03.7**	**-1.9**
034A	**Hebbronville**	**69.05**	**336**	⇓P	**P**	**02 43 50.5**	**+1.9**
	baz=69						
834A	**Tilden**	**69.99**	**337**	⇓P	**P**	**02 43 56.1**	**+1.6**
	baz=70						
833A	**Chaparral WMA,**	**70.44**	**336**	⇓P	**P**	**02 43 58.0**	**+0.8**
	baz=71						
832A	**Faith Ranch, C**	**70.60**	**335**	⇓P	**P**	**02 43 58.9**	**+0.7**
	baz=71						
734A	**La Parita Cree**	**70.67**	**337**	⇑P	**P**	**02 43 59.7**	**+1.2**
	baz=71						
636A	**Smothers Creek**	**70.81**	**338**	⇓P	**P**	**02 44 00.6**	**+1.2**
	baz=71						
732A	**Laxson Ranch,**	**71.01**	**336**	⇓P	**P**	**02 44 01.5**	**+0.9**
	baz=71,SNR=5.7						
633A	**Saathoff Ranch**	**71.43**	**336**	⇓P	**P**	**02 44 04.5**	**+1.3**
	baz=72						
632A	**Uvalde**	**71.67**	**336**	⇓P	**P**	**02 44 05.6**	**+1.0**
	baz=72						
340A	**Bronson**	**71.79**	**342**	⇓P	**P**	**02 44 06.4**	**+1.2**
	baz=72						
631A	**Perdido Creek**	**71.84**	**335**	⇑P	**P**	**02 44 06.3**	**+0.6**
	baz=72						
339A	**Huntington**	**71.88**	**341**	⇓P	**P**	**02 44 07.3**	**+1.5**
	baz=72						
LRAL	**Lakeview Retre**	**71.94**	**348**	*e*P	**P**	**02 44 06.3**	**+0.2**
	comp=N,7.2nm,0.9s						
533A	**Kerrville**	**71.95**	**337**	⇓P	**P**	**02 44 07.4**	**+1.0**
	baz=72						
337A	**Centerville**	**72.21**	**340**	⇓P	**P**	**02 44 09.4**	**+1.6**
	baz=72						
532A	**Rocksprings**	**72.28**	**336**	⇑P	**P**	**02 44 09.3**	**+1.0**
	baz=72,SNR=8.0						
434A	**Burnet**	**72.41**	**338**	⇑P	**P**	**02 44 09.5**	**+0.4**
	baz=73,SNR=9.0						
531A	**Rocksprings**	**72.52**	**336**	⇑P	**P**	**02 44 10.4**	**+0.6**
	baz=73,SNR=5.3						
336A	**Riesel**	**72.54**	**339**	⇑P	**P**	**02 44 10.4**	**+0.6**
	baz=73,SNR=7.2						
JCT	**Junction City**	**72.57**	**336**	⇑P	**P**	**02 44 10.9**	**+0.9**
	baz=73						
JCT	**Junction City**	**72.57**	**336**	*e*P	**P**	**02 44 10.5**	**+0.5**
	comp=N,9.4nm,0.9s						
335A	**Moody**	**72.61**	**339**	⇑P	**P**	**02 44 11.2**	**+1.0**

	baz=73						
433A	Art	72.61	337	⇑P	P	02 44 10.4	+0.2
	baz=73,SNR=5.1						
530A	J-C Ranch, Com	72.77	335	⇑P	P	02 44 12.1	+0.8
	baz=73,SNR=6.9						
TXAR	Lajitas Array	72.83	333	P	P	02 44 11.9	+0.2
	comp=N,1.3nm,0.6s,baz=158,slow=10.0,SNR=12						
334A	Lometa	72.89	338	⇑P	P	02 44 12.3	+0.4
	baz=73,SNR=13						
432A	Menard	72.94	337	⇓P	P	02 44 12.2	0.0
	baz=73						
431A	Sonora	73.02	336	⇑P	P	02 44 13.3	+0.6
	baz=73						
529A	Stev Forest Ra	73.04	334	⇑P	P	02 44 13.8	+0.9
	baz=73						
333A	Richland Sprin	73.11	337	⇓P	P	02 44 13.0	-0.2
	baz=73						
WHTX	Lake Whitney,	73.28	339	⇑P	P	02 44 14.4	+0.3
	baz=74						
WHTX	Lake Whitney,	73.28	339	eP	P	02 44 13.4	-0.7
	comp=N,11nm,0.9s						
430A	Baggett Ranch,	73.32	335	⇓P	P	02 44 14.9	+0.3
	baz=74,SNR=7.8						
137A	Heron Place, G	73.39	341	⇑P	P	02 44 15.4	+0.7
	baz=74						
429A	Davenport Ranc	73.39	335	⇑P	P	02 44 15.5	+0.6
	baz=74,SNR=5.4						
332A	Millersview	73.39	337	⇓P	P	02 44 15.2	+0.3
	baz=74,SNR=7.1						
234A	Clairette	73.49	338	⇓P	P	02 44 16.0	+0.6
	baz=74						
331A	San Angelo	73.54	336	⇓P	P	02 44 15.8	0.0
	baz=74,SNR=11						
233A	Rising Star	73.73	338	⇓P	P	02 44 17.3	+0.4
	baz=74						
232A	Coleman	73.83	337	⇑P	P	02 44 17.5	0.0
	baz=74,SNR=8.1						
330A	Mertzon	73.87	336	⇑P	P	02 44 17.6	-0.1
	baz=74						
SWET	Sewanee	73.92	349	eP	P	02 44 17.6	-0.3
	comp=N,20nm,0.9s						
CPCT	Cooper Cave	73.95	351	eP	P	02 44 19.9	+1.8
134A	White-Moore Ra	74.00	339	⇑P	P	02 44 18.7	+0.2
	baz=74						
231A	Bronte	74.08	336	⇓P	P	02 44 18.9	-0.1
	baz=74,SNR=5.3						
329A	Wagon Wheel Ra	74.21	335	⇑P	P	02 44 20.2	+0.5
	baz=74,SNR=5.5						
133A	Hamilton Ranch	74.28	338	⇑P	P	02 44 20.4	+0.3
	baz=75						
230A	Sterling City	74.30	336	⇑P	P	02 44 20.3	+0.1
	baz=75						
Z35A	Perchaven, San	74.48	340	⇓P	P	02 44 21.6	+0.4
	baz=75						
ABTX	Abilene, Hawle	74.52	337	⇓P	P	02 44 21.7	+0.3
	baz=75						
ABTX	Abilene, Hawle	74.52	337	eP	P	02 44 21.4	0.0
	comp=N,14nm,1.2s						
229A	Bryant Ranch,	74.60	335	⇑P	P	02 44 22.2	+0.2
	baz=75						
Z34A	Collier Ranch,	74.71	339	⇑P	P	02 44 22.9	+0.4
	baz=75						
131A	Roby	74.79	337	⇓P	P	02 44 23.1	0.0
	baz=75						
Z33A	Whitaker Ranch	74.87	338	⇑P	P	02 44 23.6	+0.1
	baz=75,SNR=5.9						
130A	Snyder	74.90	336	⇓P	P	02 44 23.6	-0.1
	baz=75						
228A	UT Block 9, Go	74.99	335	⇑P	P	02 44 24.5	+0.2
	baz=75						
WVT	Waverly	75.10	348	eP	P	02 44 24.1	-0.5
	comp=N,12nm,1.1s						
Z32A	Haskell	75.10	338	⇓P	P	02 44 25.0	+0.2
	baz=75,SNR=6.2						
Y34A	Reagan Ranch,	75.21	339	⇓P	P	02 44 25.3	-0.1
	baz=76						
Z31A	Sharp Cattle R	75.31	337	⇓P	P	02 44 26.5	+0.4
	baz=76,SNR=7.0						
128A	Castleberry Fa	75.42	335	⇑P	P	02 44 26.8	+0.1
	baz=76						
Y33A	Hilltop Ranch,	75.51	339	⇓P	P	02 44 27.2	+0.1
	baz=76						
Z30A	Sanderson Ranc	75.59	336	⇑P	P	02 44 27.6	-0.1
	baz=76,SNR=5.2						
Y32A	R-V Farms, Ver	75.74	338	⇑P	P	02 44 28.7	+0.2
	baz=76						
Z29A	Hungry Hill Ra	75.75	336	⇑P	P	02 44 28.6	0.0
	baz=76,SNR=11						
X34A	Smith Ranch, M	75.84	339	⇓P	P	02 44 29.5	+0.5
	baz=76						
Y31A	Rekieta Farm,	75.95	337	⇓P	P	02 44 30.1	+0.5
	baz=76						
Y30A	Stafford Cattl	76.06	337	⇓P	P	02 44 31.0	+0.7
	baz=76						
X32A	Elmer	76.08	338	⇓P	P	02 44 30.8	+0.4
	baz=76						
PBMO	Poplar Bluff	76.19	346	eP	P	02 44 30.7	-0.2
	comp=N,6.8nm,0.7s						
PBMO				eP	pP	02 44 37.8	-2.7
Y29A	Porterfield Fa	76.29	336	⇓P	P	02 44 31.9	+0.2
	baz=77						
W34A	Bridge Creek,	76.42	340	⇑P	P	02 44 32.7	+0.4
	baz=77						
W34A	Bridge Creek,	76.42	340	eP	P	02 44 29.6	-2.7
	comp=N,9.0nm,0.8s						
X31A	McDonald Ranch	76.48	338	⇓P	P	02 44 32.9	+0.2
	baz=77,SNR=6.4						
W33A	Caddo, Fort Co	76.53	339	⇑P	P	02 44 33.3	+0.4
	baz=77,SNR=6.8						
TUL1	Leonard	76.54	342	⇓P	P	02 44 32.7	-0.2
	baz=77,SNR=9.2						
TUL1	Leonard	76.54	342	eP	P	02 44 32.5	-0.4
	comp=N,16nm,0.8s						
X30A	Coker Ranch, T	76.58	337	⇓P	P	02 44 34.1	+0.8
	baz=77,SNR=5.0						
W32A	Sentinel	76.73	339	⇑P	P	02 44 34.3	+0.2
	baz=77,SNR=9.6						
MSTX	Muleshoe	76.75	335	⇓P	P	02 44 34.6	+0.3
	baz=77						
X29A	Tulia	76.84	336	⇑P	P	02 44 35.1	+0.4
	baz=77,SNR=5.6						
W31A	Holland Ranch,	76.99	338	⇑P	P	02 44 35.9	+0.3
	baz=77						
V33A	Lossen Ranch,	77.11	340	⇑P	P	02 44 36.6	+0.4
	baz=77,SNR=6.4						
V32A	Arapaho	77.23	339	⇑P	P	02 44 37.1	+0.3
	baz=78						
AMTX	Amarillo	77.24	337	⇑P	P	02 44 37.5	+0.5
	baz=78						
AMTX	Amarillo	77.24	337	eP	P	02 44 37.4	+0.4
	comp=N,18nm,1.1s						
W29A	Amarillo	77.45	337	⇓P	P	02 44 39.0	+0.9
	baz=78						
X27A	F and S Farms,	77.48	335	⇓P	P	02 44 38.9	+0.6
	baz=78						
V31A	Spring Creek L	77.51	338	⇓P	P	02 44 39.8	+1.3
	baz=78						
Y24A	Capitan	77.62	333	⇓P	P	02 44 40.1	+0.8
	baz=78						
X26A	CR and CF Fran	77.63	335	⇑P	P	02 44 39.8	+0.5
	baz=78						
DBIC	Dimbokro	77.63	71	P	P	02 44 40.2	+0.6
	comp=N,30nm,0.8s,baz=197,slow=5.9,SNR=11						
DBIC	Dimbokro	77.63	71	eP	P	02 44 40.2	+0.6
	comp=N,27nm,0.7s						
U32A	Winter Ranch,	77.83	339	⇓P	P	02 44 41.0	+0.8
	baz=78						
W27A	Bowe Ranch, En	77.85	336	⇓P	P	02 44 41.0	+0.6
	baz=78						
Y23A	Lovelace Mesa,	77.85	333	⇑P	P	02 44 42.0	+1.4
	baz=78						
X24A	Lazy VL Ranch,	78.20	334	⇑P	P	02 44 43.5	+1.0
	baz=78						
V28A	Channing	78.21	336	⇑P	P	02 44 43.6	+1.2
	baz=78						
T33A	Patterson Ranc	78.28	340	⇓P	P	02 44 43.8	+1.2
	baz=79						
W25A	X Bar L Ranch,	78.45	335	⇑P	P	02 44 44.8	+1.0
	baz=79						
ACSO	Alum Creek Sta	78.50	353	eP	P	02 44 43.3	-0.5
	comp=N,143nm,1.3s						
S33A	Kaszmaul Farm,	78.70	340	⇑P	P	02 44 45.9	+0.9
	baz=79						
W24A	Lazy 6 Ranch,	78.77	334	⇓P	P	02 44 46.2	+0.6
	baz=79						
ANMO	Albuquerque	78.90	333	eP	P	02 44 47.7	+1.3
	comp=N,5.3nm,1.0s						
U27A	Thompson Grove	79.01	336	⇑P	P	02 44 47.9	+1.1
	baz=79						
V25A	Rancho No Teng	79.07	335	⇑P	P	02 44 48.0	+0.7
	baz=79						
T28A	Walsh	79.44	337	⇓P	P	02 44 49.6	+0.5
	baz=80						
U25A	Circle Dot Ran	79.51	335	⇓P	P	02 44 50.9	+1.2
	baz=80						
R32A	Long Quarter,	79.67	340	⇑P	P	02 44 51.6	+1.4
	baz=80						
R31A	Burdett	79.77	339	⇑P	P	02 44 51.5	+0.7
	baz=80						
S28A	Manter	79.80	337	⇓P	P	02 44 52.3	+1.3
	baz=80						
V22A	San Miguel Ran	79.93	333	⇑P	P	02 44 53.5	+1.5
	baz=80						
T26A	Comanche Natio	79.95	336	⇑P	P	02 44 52.6	+0.6
	baz=80						
U23A	El Rito	80.05	334	⇑P	P	02 44 53.9	+1.3
	baz=80						
Q32A	Meitler Ranch,	80.16	340	⇓P	P	02 44 53.6	+0.7
	baz=80						
T25A	Trinidad	80.18	335	⇓P	P	02 44 54.5	+1.2
	baz=80						
W18A	Petrified Fore	80.28	331	⇓P	P	02 44 55.2	+1.4
	baz=81						
S26A	Kim	80.32	336	⇓P	P	02 44 55.0	+1.1
	baz=81						
U22A	Llaves	80.33	333	⇓P	P	02 44 55.4	+1.3
	baz=81						
X16A	Lo Mia Camp, P	80.35	329	⇑P	P	02 44 55.6	+1.3
	baz=81						
T24B	San Luis	80.44	335	⇑P	P	02 44 56.1	+1.3
	baz=81						
R28A	Tribune	80.47	338	⇓P	P	02 44 55.9	+1.3
	baz=81						
Y14A	Wickenburg	80.58	328	⇓P	P	02 44 56.9	+1.6
	baz=81						
Q30A	Quinter	80.60	339	⇓P	P	02 44 56.3	+1.0
	baz=81						
S25A	Robets Cordova	80.67	336	⇑P	P	02 44 56.7	+0.9
	baz=81						
R27A	Eads	80.72	337	⇑P	P	02 44 56.6	+0.6
	baz=81						
Q29A	Oakley	80.73	339	⇑P	P	02 44 56.6	+0.6
	baz=81						
P32A	Huiting Farm,	80.77	341	⇓P	P	02 44 56.9	+0.8
	baz=81						
S24A	Houchin Ranch,	80.90	335	⇓P	P	02 44 58.8	+1.6
	baz=81						
R26A	Arlington	80.93	337	⇑P	P	02 44 58.9	+1.7
	baz=81						
P30A	Selden	81.14	339	⇓P	P	02 44 59.4	+1.2
	baz=81						
WUAZ	Wupatki	81.28	330	⇓P	P	02 45 01.1	+2.0
	baz=82						
R24A	Sanders Place,	81.40	335	⇑P	P	02 45 01.0	+1.2
	baz=82						
S22A	4UR Ranch, Cre	81.55	334	⇓P	P	02 45 02.1	+1.4
	baz=82						
R23A	Moffat	81.61	335	⇓P	P	02 45 02.1	+1.1
	baz=82						
MVCO	Mesa Verde	81.66	332	⇑P	P	02 45 02.3	+1.1
	baz=82						
W13A	Hualapai Mount	81.95	328	⇑P	P	02 45 04.3	+1.5
	baz=82						
U15A	North Rim	82.43	329	⇑P	P	02 45 07.1	+1.7
	baz=83						
CRZF	Crozet Islands	82.59	145	P	P	02 45 05.0	-0.9
SMCO	Snowmass	82.88	334	eP	P	02 45 09.2	+1.4
	comp=N,16nm,1.6s						
P22A	Eagle	83.19	335	⇓P	P	02 45 10.3	+1.2
	baz=84						
L31A	Butterfield Fa	83.23	341	⇓P	P	02 45 10.8	+1.8
	baz=84						
O23A	Lake Granby, G	83.46	336	⇑P	P	02 45 11.6	+1.0
	baz=84						
O22A	Kremmling	83.62	335	⇓P	P	02 45 12.6	+1.2
	baz=84						
K30A	Basset	83.89	341	⇑P	P	02 45 13.7	+1.2
	baz=84						
SRU	San Rafael Swe	84.09	332	eP	P	02 45 14.0	+0.3
	comp=N,29nm,1.9s						
ECSD	EROS Data Cent	84.17	343	⇓P	P	02 45 14.7	+0.9
	baz=84						
ECSD	EROS Data Cent	84.17	343	eP	P	02 45 14.1	+0.4
	comp=N,127nm,1.7s						
O20A	White River Ci	84.17	334	⇑P	P	02 45 15.0	+0.9
	baz=84						
J29A	Okreek	84.76	341	⇑P	P	02 45 17.7	+0.9
	baz=85						
I30A	Oacoma	85.01	342	⇓P	P	02 45 18.5	+0.5
	baz=85						
J28A	Allard Ranch,	85.02	340	⇑P	P	02 45 19.3	+1.2
	baz=85						
J27A	Elkhorn Farm,	85.07	340	⇑P	P	02 45 19.4	+1.0
	baz=85						
RWWY	Rawlins	85.22	335	epP	pP	02 45 37.8	+8.8
J26A	Sides Ranch, S	85.42	339	⇓P	P	02 45 20.6	+0.4
	baz=86						
R11A	Troy Canyon, C	85.43	328	⇓P	P	02 45 21.9	+1.4
	baz=86						
R11A	Troy Canyon, C	85.43	328	eP	P	02 45 21.3	+0.9
	comp=N,19nm,2.1s						
I28A	Midland	85.53	340	⇓P	P	02 45 21.4	+0.7
	baz=86						
K22A	Casper	85.86	336	⇑P	P	02 45 23.2	+0.7
	baz=86						
H29A	Onida	85.87	341	⇑P	P	02 45 22.8	+0.5
	baz=86						
TPH	Tonopah	85.89	327	eP	P	02 45 24.1	+1.3
	comp=N,8.7nm,1.4s						
DUG	Dugway, Tooele	85.90	331	⇓P	P	02 45 24.2	+1.5
	baz=86						
DUG	Dugway, Tooele	85.90	331	eP	P	02 45 23.2	+0.5
	comp=N,46nm,1.5s						
K21A	Alcova	86.08	336	⇓P	P	02 45 24.5	+0.9
	baz=86						
MLAC	Mammoth, Mammo	86.23	326	⇓P	P	02 45 24.4	-0.1
	baz=86						
I25A	Rochford	86.26	339	⇑P	P	02 45 24.8	+0.4
	baz=86						
G29A	Hoven	86.33	342	⇑P	P	02 45 25.1	+0.5
	baz=87						
G28A	Parade	86.47	341	⇓P	P	02 45 26.0	+0.7
	baz=87						
NVAR	Mina Array Bea	86.66	326	P	P	02 45 26.5	0.0
	comp=N,0.7nm,0.8s,baz=159,slow=6.0,SNR=5.1						
HWUT	Hardware Ranch	86.66	332	eP	P	02 45 26.5	+0.1
	comp=N,69nm,1.5s						
TORD	Torodi Ar. Bea	86.72	71	P	P	02 45 26.4	-0.7
	comp=N,6.3nm,0.7s,baz=227,slow=3.2,SNR=24						
PDAR	Pinedale Array	86.97	334	P	P	02 45 28.2	+0.2
	comp=N,1.0nm,0.9s,baz=149,slow=6.4,SNR=7.1						
J20A	Shoshoni	86.99	336	⇓P	P	02 45 29.4	+1.4
	baz=87						
PAF	Port-aux-Franc	87.13	157	S	S	02 56 07.0	+1.2
PAF				SS	SS	03 02 50.0	+62
PAF				L	L	03 10 00.0	
PAF				R		03 18 00.0	
J19A	Crowheart	87.24	335	⇓P	P	02 45 29.8	+0.6
	baz=88						
TPAW	Teton Pass	88.08	334	eP	P	02 45 34.0	+0.5
	comp=N,85nm,1.4s						
I17A	Pilgrim Ck.	88.33	334	⇑P	P	02 45 35.7	+1.2
	baz=89						
HLID	Hailey	89.40	332	epP	pP	02 45 52.0	+2.8
GERES	GERESS Array B	115.88	47	PKP	PKPdf	02 51 25.0	-0.1
	comp=N,1.3nm,0.7s,baz=202,slow=1.4,SNR=11						
AKASG	Malin Array Be	125.82	50	PKP	PKPdf	02 51 43.2	-0.8
	comp=N,2.0nm,0.6s,baz=260,slow=2.9,SNR=6.7						
FINES	FINESS Array B	127.06	36	PKP	PKPdf	02 51 45.4	-0.6
	comp=N,1.1nm,0.5s,baz=158,slow=1.1,SNR=9.9						
KBZ	Khabaz	132.67	62	PKP	PKPdf	02 51 58.9	+1.7
	comp=N,1.5nm,0.7s,baz=3.5,slow=4.5,SNR=4.0						
SEY	Seymchan	142.96	327	PKP	PKPdf	02 52 13.6	-2.0
	comp=N,0.9nm,0.2s,baz=128,slow=10,SNR=3.8						
ARU	Arti	143.61	44	ePKPdf	PKPbc	02 52 14.1	-0.3
AKTO	Aktyubinsk	143.82	54	PKP	PKPbc	02 52 15.4	+0.2
	comp=N,3.9nm,0.6s,baz=210,slow=2.2,SNR=19						
TIXI	Tiksi	144.54	348	ePKPdf	PKPab	02 52 15.9	-0.7
ABKAR	Akbulak array	145.08	56	ePKPdf	PKPab	02 52 19.4	+0.2
BRVK	Borovoye	150.97	47	ePKPbc	PKPbc	02 52 35.7	+0.7
BVAR	Borovoye Array	151.05	47	PKP	PKPdf	02 52 30.1	+0.7
	comp=N,1.8nm,0.9s,baz=340,slow=3.5,SNR=6.2						
BVAR				PKPbc	PKiKP	02 52 35.9	+0.2
	comp=N,12nm,0.7s,baz=288,slow=3.7,SNR=43						
BVAR				PKPab	PKPab	02 52 44.0	+1.1
	comp=N,5.2nm,0.7s,baz=299,slow=1.5,SNR=7.5						
KKAR	Karatay Array	152.38	68	ePKPbc	PKPbc	02 52 38.6	0.0
AAK	Ala-Archa	155.30	69	PKP	PKPdf	02 52 36.4	+0.3
	comp=N,0.8nm,0.7s,baz=158,slow=4.2,SNR=4.0						
AAK				PKPab	PKPab	02 53 01.3	-0.1
	comp=N,2.0nm,0.7s,baz=224,slow=7.6,SNR=4.2						
KSH	Kashi	156.23	77	ePKP	PKPdf	02 52 37.4	0.0
KSH				sPKP		02 52 51.1	
KSH				PKS	PKSdf	02 56 11.0	-0.4
KSH				PP	PP	02 56 42.3	-1.4
KSH				SKS	SKSdf	02 59 40.6	-0.9
KSH				SKKS	SKKSac	03 03 28.5	-2.1
KSH				SS	SS	03 16 29.9	-2.1
KSH				LN			
	comp=N,80nm,4.7s						
KSH				LE			
	comp=N,61nm,3.9s						
KSH				LZ			
	comp=N,810nm,17.6s						
KURBB	Kurchatov Arra	156.60	49	PKPab	PKPab	02 53 04.4	-2.1
	comp=N,4.2nm,0.7s,baz=281,slow=4.7,SNR=12						
KURK	Kurchatov	156.62	49	PKPab	PKPab	02 53 04.4	-2.1
ZALV	Zalesovo Beam	158.32	36	PKP	PKPdf	02 52 38.9	-0.5
	comp=N,2.5nm,0.8s,baz=270,slow=1.5,SNR=9.3						
ZALV				PKPab	PKPab	02 53 13.8	0.0
	comp=N,3.0nm,0.7s,baz=286,slow=5.5,SNR=6.7						
MKAR	Makanchi Array	160.22	56	PKP	PKPdf	02 52 41.9	0.0
	comp=N,1.3nm,1.0s,baz=252,slow=0.4,SNR=4.9						
MKAR				PKPab	PKPab	02 53 22.5	+0.1
	comp=N,1.6nm,0.7s,baz=286,slow=4.5,SNR=7.8						
MKAR				PP	PP	02 57 05.3	+0.3
	comp=N,0.7nm,0.7s,baz=297,slow=4.0,SNR=5.4						
CN2	Changchun	164.64	297	ePKP	PKPdf	02 52 47.0	+0.7
WMQ	Urumqi	164.72	62	ePKP	PKPdf	02 52 46.2	-0.3
WMQ				pPKP	pPKPdf	02 52 57.0	+0.5
TLY	Talaya	166.33	8	PKPab	PKPab	02 53 49.1	+0.2
	comp=N,0.5nm,0.3s,baz=299,slow=6.2,SNR=3.4						
SONM	Songino Array	170.33	0	PKPab	PKPab	02 54 06.4	-0.4
	comp=N,1.7nm,0.8s,baz=337,slow=3.0,SNR=10.0						
CD2	Chengdu	172.42	162	ePKP	PKPdf	02 52 52.4	+0.5
GTA	Gaotai	174.62	75	ePKP	PKPdf	02 52 52.6	0.0
GTA				pPKP	pPKPdf	02 53 03.4	+0.8
GTA				sPKP		02 53 06.9	
GTA				PKPab	PKPab	02 54 27.8	+1.4
HHC	Hu-ho-hao-te	175.26	306	ePKP	PKPdf	02 52 53.2	+0.5
HHC				pPKP	pPKPdf	02 53 04.0	+1.3
HHC				sPKP		02 53 07.6	
HHC				PP	PP	02 58 25.0	+3.1
HHC				SKS	SKSdf	02 59 51.0	-2.5
HHC				SS	SS	03 19 42.8	-2.0
HHC				PPMZ			
	comp=N,240nm,8.6s						
HHC				LN			
	comp=N,390nm,17.3s						
HHC				LE			
	comp=N,410nm,17.3s						
HHC				LZ			
	comp=N,310nm,18.5s						
LZH	Lanzhou	177.03	133	ePKP	PKPdf	02 52 53.5	+0.2
LZH				pPKP	pPKPdf	02 53 05.0	+1.7
LZH				sPKP		02 53 08.9	
LZH				LN			
	comp=N,170nm,18.0s						
LZH				LE			
	comp=N,180nm,18.0s						
LZH				LZ			
	comp=N,210nm,20.3s						

PRU 08 02:33:55.3, 50°.40N×18°.82E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.15	135	ePg	Pg	02 33 57.9	-0.4
CHZP				eSg	Sg	02 33 59.9	-0.4
OKC	Ostrava-Krasne	0.71	218	eSG	Sg	02 34 18.0	-0.2
	comp=Z,4.8nm,0.5s						
KRLC	Kraliky	1.35	257	ePG	Pg	02 34 20.0	-1.3
KRLC				eSG	Sg	02 34 38.3	-0.5
DPC	Dobruska-Polom	1.60	269	ePG	Pn	02 34 24.8	-0.1
DPC				eSG	Sn	02 34 46.3	0.0
PRU	Pruhonice	2.78	263	eSG	Sg	02 35 24.4	-0.2

NSSC ***08*** *02:37:54.4±2.1, 40°.30N×40°.74E, h0km±169km, ML4.6*
DDA ***08*** *02:38:13.3, 38°.79N×40°.01E, h5km, MD3.4*
CSEM ***08*** *02:38:16.2±0.2, 38°.82N×39°.95E, h2km, MD3.4, Error ellipse: s-maj=5.5km s-min=4.6km az=105.0*

ISC 08 02:38:14.1±1.2, 38°.81N±0°.02×40°.03E±0°.02, h3km±11km, n61, σ1.25/85, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	BINGOL	0.89	80	iP	Pg	02 38 30.5	-0.7
BNGL				iS	Sn	02 38 45.4	-1.9
EUZM	Uzumlu	0.94	344	iP	Pb	02 38 32.8	-0.3
EUZM				iS	Sn	02 38 47.4	-0.9
EUZM	Uzumlu	0.94	344	iP	Pb	02 38 32.8	-0.3
EUZM				iS	Sn	02 38 47.4	-0.9
KOPT	Kop Dagi	1.26	17	iS	Sn	02 38 57.5	+0.9
KOPT	Kop Dagi	1.26	17	iP	Pn	02 38 37.7	-1.3
KOPT				iS	Sn	02 38 57.5	+0.9
KEMA	Kemaliye	1.28	292	iP	Pn	02 38 37.9	-1.1
KEMA				iS	Sb	02 38 55.0	-0.8
KEMA	Kemaliye	1.28	292	iP	Pn	02 38 37.9	-1.1
KEMA				iS	Sb	02 38 55.0	-0.8
BEST	Besiri	1.34	133	iP	Pn	02 38 39.1	-0.7
BEST				iS	Sg	02 38 59.4	+2.3
KELT	Kelkit	1.47	336	iP	Pg	02 38 42.7	+0.4
KELT				iS	Sg	02 39 01.7	+0.4
KELT	Kelkit	1.47	336	iP	Pg	02 38 42.7	+0.4
KELT				iS	Sg	02 39 01.7	+0.4
ERZM	Erzurum	1.51	43	iP	Pb	02 38 42.5	-0.4
MARD	Mardin	1.60	158	iP	Pb	02 38 43.9	-0.6
MARD				iS	Sb	02 39 04.5	-0.7
EKAR	Karacoban	1.65	74	iP	Pg	02 38 47.0	+1.3
EKAR	Karacoban	1.65	74	iP	Pg	02 38 47.0	+1.3
TATV	Tatvan	1.78	99	iP	Pb	02 38 46.6	-0.9
TATV				iS	Sg	02 39 11.0	-0.3
KBSD	Kabsdagh	1.85	167	eP	Pb	02 38 47.3	-1.3
	SNR=45						
KBSD	Kabsdagh	1.85	167	eP	Pb	02 38 47.3	-1.3
HOMI	Horasan	1.91	49	iP	Pb	02 38 48.7	-1.1
ATAB	Bozova	1.91	226	iP	Pb	02 38 49.5	-0.1
ATAB				iS	Sb	02 39 14.3	+0.4
ATAB	Bozova	1.91	226	iP	Pb	02 38 49.5	-0.1
ATAB				iS	Sb	02 39 14.3	+0.4
SUSE	Susehri	1.99	315	iP	Pg	02 38 52.1	-0.1
SUSE				iS	Sg	02 39 17.2	-0.8
SUSE	Susehri	1.99	315	iP	Pg	02 38 52.1	-0.1
SUSE				iS	Sg	02

MNKR	ALMNKUR	2.92	192	eP		Pb	02 39 03.7 -3.1
DYDN	Diyadin	2.94	74	i P		Pb	02 39 07.9 +0.7
DIGO	Kars	3.04	57	i P		Pb	02 39 09.6 +0.6
SLMH	Al Salmeh	3.08	213	eP		Pn	02 39 05.3 +1.6
	SNR=45						
SLMH	Al Salmeh	3.08	213	eP		Pn	02 39 05.3 +1.6
SLMH				AML	AML		02 40 03.0
	comp=N,2μm,0.6s						
SLMH				AML	AML		02 40 05.4
	comp=E,3μm,0.6s						
TOKA	Tokat	3.13	300	i P		Pb	02 39 09.6 -0.9
BTCH	Batrach	3.96	227	eP		Pn	02 39 17.4 +1.5
	SNR=45						
BTCH	Batrach	3.96	227	eP		Pn	02 39 17.4 +1.5
BTCH				eS		Sg	02 40 18.5 -2.9
BTCH				AML	AML		02 40 30.2
	comp=E,2μm,0.6s						
BTCH				AML	AML		02 40 30.3
	comp=N,3μm,0.6s						
WRDH	Warideh	4.38	222	eP		Pn	02 39 24.0 +2.4
	SNR=45						
WRDH	Warideh	4.38	222	eP		Pn	02 39 24.0 +2.4
WRDH				eS		Sb	02 40 26.9 +1.9
WRDH				AML	AML		02 40 40.7
	comp=E,569nm,0.6s						
WRDH				AML	AML		02 40 40.9
	comp=N,1μm,0.6s						
CDAG	Cicekdag	4.47	282	i P		Pb	02 39 35.8 +2.6
BIDA	Albida	4.81	219	eP		Pn	02 39 30.1 +2.5
	SNR=45						
BIDA	Albida	4.81	219	eP		Pn	02 39 30.1 +2.5
BIDA				eS		Sb	02 40 37.7 +0.2
BIDA				AML	AML		02 40 59.5
	comp=N,1μm,0.6s						
BIDA				AML	AML		02 40 59.6
	comp=E,690nm,0.7s						
MARH	Ras Al Marh	5.56	212	eP		Pn	02 39 40.2 +2.1
	SNR=45						
MARH	Ras Al Marh	5.56	212	eP		Pn	02 39 40.2 +2.1
MARH				eS		Sb	02 40 58.8 -0.4
MARH				AML	AML		02 41 27.8
	comp=E,369nm,0.6s						

CSEM ***08*** *02:42:40.4, 38°.86N×40°.15E, h5km, MD2.8*
ISK 08 02:42:40.4, 38°.86N×40°.15E, h5km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.26	86	ePg	Pn	02 42 50.0	-1.2
BINT				eSg	Sb	02 42 57.1	+4.2
BNGB	Bing¨¶l	0.43	72	ePG	Pb	02 42 50.0	-0.7
BNGB				eSG	Sb	02 42 57.1	-0.5
ERZN	Erzincan	0.80	335	ePG	Pb	02 42 56.9	-0.1
DYBB	Diyarbakir	0.91	181	ePG	Pb	02 42 58.9	+0.2
DIY	Diyarbakir	0.96	176	ePg	Pg	02 42 58.9	-0.1
VRTB	Varto-Mus	1.06	73	ePG	Pn	02 43 01.9	-0.2
VRTB	Varto-Mus	1.06	73	ePg	Pn	02 43 01.9	-0.3
SVAN	Silvan-Diyarba	1.08	130	ePN	Pn	02 43 02.5	+0.1
EZC	Erzincan	1.09	325	ePg	Pg	02 42 56.9	-4.6
BTMT	Batman	1.24	122	ePN	Pn	02 43 05.2	+0.7
BTMT	Batman	1.24	122	ePn	Pn	02 43 05.2	+0.7
ILIC	ilic-Erzincan	1.37	296	ePN	Pg	02 43 07.6	+0.8
ILIC				eSN	Sn	02 43 27.5	+2.5
ILIC	ilic-Erzincan	1.37	296	ePn	Pg	02 43 07.6	+0.8
ILIC				eSn	Sn	02 43 27.5	+2.6
EZM	Erzurum	1.41	42	ePN	Pg	02 43 08.1	+0.3
MAZI	Mazidag	1.42	170	ePN	Pg	02 43 08.1	+0.3
MAZI	Mazidag	1.42	170	ePn	Pg	02 43 08.1	+0.3
MALT	Malatya	1.46	249	ePN	Pg	02 43 09.4	+0.9
MALT	Malatya	1.46	249	ePn	Pg	02 43 09.4	+0.9
BAYT	Ayd¨–ntepe-Bay	1.53	360	ePN	Pg	02 43 10.6	+0.5
BAYT	Ayd¨–ntepe-Bay	1.53	360	ePn	Pg	02 43 10.6	+0.5
GUMT	Gumushane	1.68	342	ePN	Pb	02 43 11.8	-0.2
GUMT	Gumushane	1.68	342	ePn	Pb	02 43 11.8	-0.2
DARE	Darende-Malaty	2.11	263	ePN	Pb	02 43 17.9	-1.3
DARE	Darende-Malaty	2.11	263	ePn	Pb	02 43 17.9	-1.3

MOS ***08*** *02:58:14.7±1.6, 41°.42N×48°.39E, h17km, mb4.2/1, Error ellipse: s-maj=14.2km s-min=7.9km az=123.7*
TIF ***08*** *02:58:18.1, 41°.11N×47°.68E, h8km±3km*
ISCJB ***08*** *02:58:21.5±0.5, 41°.68N±0°.04×47°.95E±0°.04, h28km, Error ellipse: s-maj=6.1km s-min=4.0km az=145.7*
CSEM ***08*** *02:58:21.3±0.3, 41°.69N×47°.77E, h5km, mb4.2, Error ellipse: s-maj=6.8km s-min=5.6km az=157.0*
NSSP ***08*** *02:58:24.5, 41°.48N×47°.67E, h10km, Ms2.9*
ISC 08 02:58:21.2±0.8, 41°.55N±0°.03×47°.76E±0°.03, h28km, n48, σ1§83/57, 13C-7D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKT	Akhty	0.07	200	⇑iPG	Pb	02 58 22.2	-4.0
AKT	Akhty	0.07	200	i Pg	Pb	02 58 22.2	-4.0
KSMR	Kasumkent	0.28	78	⇑iPG	Pb	02 58 27.0	-1.3
KSMR				i S	Sb	02 58 32.0	-1.1
KSMR				pmax	pmax		
	comp=Z,375nm,0.2s						
KSMR	Kasumkent	0.28	78	i Pg	Pb	02 58 27.0	-1.3
	comp=Z,375nm,0.2s						
KSMR				i Sg	Sb	02 58 32.0	-1.1
URKR	Urkarakh	0.63	351	⇓iPG	Pb	02 58 31.5	-2.2
URKR				pmax	pmax		
	comp=Z,250nm,0.1s						
URKR	Urkarakh	0.63	351	i Pg	Pb	02 58 31.5	-2.2
	comp=Z,250nm,0.1s						
KMKR	Kumukh	0.77	320	⇑iPG	Pb	02 58 33.8	-2.3
KMKR				pmax	pmax		
	comp=Z,226nm,0.3s						
KMKR	Kumukh	0.77	320	i Pg	Pb	02 58 33.8	-2.3
	comp=Z,226nm,0.3s						
GNBR	Gunib	1.03	325	⇑iPG	Pn	02 58 38.8	-1.1
GNBR	Gunib	1.03	325	i Pg	Pn	02 58 38.8	-1.1
XNZR	Khunzakh	1.27	322	⇓iPN	Pb	02 58 42.9	-0.3
XNZR				pmax	pmax		
	comp=Z,73nm,0.1s						
XNZR	Khunzakh	1.27	322	i Pn	Pn	02 58 42.9	-0.3
	comp=Z,73nm,0.1s						
UNCR	Uncukul	1.37	329	ePN	Pb	02 58 45.0	-1.2
UNCR				pmax	pmax		
	comp=Z,64nm,0.3s						
UNCR	Uncukul	1.37	329	ePn	Pb	02 58 45.0	-1.2
	comp=Z,64nm,0.3s						
MAK	Makhachkala	1.43	352	ePN	Pb	02 58 46.4	-0.7
MAK				e		02 59 06.8	
MAK				pmax	pmax		
	comp=Z,55nm,0.7s						
MAK				smax	smax		
	comp=E,781nm,0.5s						
MAK				smax	smax		
	comp=N,357nm,0.6s						
MAK	Makhachkala	1.43	352	ePn	Pb	02 58 46.4	-0.7
	comp=N,55nm,0.7s						
MAK				eSg	Sb	02 59 06.8	+1.9
	comp=N,357nm,0.6s						
KRNR	Karanay	1.43	334	ePN	Pb	02 58 46.8	-0.5
KRNR				pmax	pmax		
	comp=Z,29nm,0.2s						
KRNR	Karanay	1.43	334	ePn	Pb	02 58 46.8	-0.5
	comp=Z,29nm,0.2s						
DBC	Dubki	1.63	335	⇓iPN	Pb	02 58 49.8	-0.8
DBC	Dubki	1.63	335	i Pn	Pb	02 58 49.8	-0.8
DGRG	David-gareji	1.80	268	P	Pb	02 58 52.1	-1.4
DGRG				S	Sb	02 59 16.2	+0.6
DGRG	David-gareji	1.80	268	P	Pb	02 58 52.1	-1.4
DGRG				S	Sb	02 59 16.2	+0.6
TBLG	Delisi	2.27	276	P	Pn	02 58 58.4	+1.5
TBLG				S	Sb	02 59 28.9	-0.4
TBLG	Delisi	2.27	276	P	Pn	02 58 58.4	+1.5
TBLG				S	Sb	02 59 28.9	-0.4
GRS	Goris	2.32	209	⇑iP	Pb	02 59 01.0	-1.4
GRS				⇑iS	Sb	02 59 32.0	+1.4
GRS	Goris	2.32	209	⇑P	Pb	02 59 01.0	-1.4
GRS				S	Sb	02 59 32.0	+1.4
DUS	Dusheti	2.35	284	P	Pb	02 59 00.9	-2.0
DUS				S	Sb	02 59 33.8	+2.2
DUS	Dusheti	2.35	284	P	Pb	02 59 00.9	-2.0
KZR	Kazreti	2.52	267	P	Pn	02 59 01.6	+1.3
KZR				S	Sb	02 59 33.6	-2.8
KZR	Kazreti	2.52	267	P	Pn	02 59 01.6	+1.3
KZR				S	Sb	02 59 33.6	-2.8
GNI	Garni	2.68	240	⇓ePN	Pb	02 59 06.2	-2.4
GNI	Garni	2.68	240	⇑iP	Pb	02 59 06.2	-2.4
GNI				⇑iS	Sb	02 59 42.0	+0.8
GNI	Garni	2.68	240	⇑P	Pb	02 59 06.2	-2.4
GNI				S	Sb	02 59 42.0	+0.8
AKH	Akhalkalaki	3.21	269	P	Pb	02 59 14.0	-3.6
AKH				S	Sb	02 59 54.0	-2.4
AKH	Akhalkalaki	3.21	269	P	Pb	02 59 14.0	-3.6
AKH				S	Sb	02 59 54.0	-2.4
ONI	Oni	3.37	289	P	Pb	02 59 16.0	-4.4
ONI	Oni	3.37	289	P	Pb	02 59 16.0	-4.4
AKTO	Aktyubinsk	11.38	35	⇑Pn	Pn	03 01 04.0	+2.1
	comp=Z,2.1nm,1.1s						
AKTO				⇓Sn	Sn	03 03 06.8	-1.2
	comp=Z,1.4nm,0.8s						
AKTO	Aktyubinsk	11.38	35	Pn	Pn	03 01 04.0	+2.1
	comp=Z,2.1nm,1.1s						
AKTO				Sn	Sn	03 03 06.8	-1.2
	comp=Z,1.4nm,0.8s						
AB31	Akbulak array	11.51	44	⇑Pn	Pn	03 01 04.3	+0.8
	comp=Z,0.1nm,0.3s,baz=232,slow=11,SNR=8.3						
AB31				⇓Sn	Sn	03 03 08.2	-2.9
	comp=Z,0.2nm,0.4s,baz=226,slow=25,SNR=5.5						
AB31	Akbulak array	11.51	44	Pn	Pn	03 01 04.3	+0.8
	comp=Z,0.1nm,0.3s,SNR=8.3						
AB31				Sn	Sn	03 03 08.2	-2.9
	comp=Z,0.2nm,0.4s,SNR=5.5						
ISP	Isparta	13.79	260	eP	P	03 01 39.1	-3.9
ISP	Isparta	13.79	260	eP	P	03 01 39.1	-3.9
OBN	Obninsk	15.45	335	eS	Sn	03 04 51.2	+4.1
OBN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
OBN	Obninsk	15.45	335	eS	Sn	03 04 51.2	+4.1
ARU	Arti	16.46	22	eP	Pn	03 02 04.8	-5.2
BRVK	Borovoye	19.04	45	⇓eP	P	03 02 33.7	-7.2
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	Ala-Archa	19.84	78	⇑eP	P	03 02 43.7	-6.3
AAK				pmax	pmax		
	comp=Z,6.0nm,2.3s						

IDC ***08*** *03:15:11.1±1.6, 1°.68N×127°.35E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/40, mbtmp3.9/4, Error ellipse: s-maj=139.8km s-min=20.5km az=67.0*
ISCJB ***08*** *03:15:23.7±1.1, 1°.7N±0°.1×127°.52E±0°.10, h128km, mb3.8/4, Error ellipse: s-maj=14.7km s-min=13.1km az=31.3*
DJA ***08*** *03:15:33.3±2.2, 1°N±9°×12°7E±°, h30km±29km, M4.7/8, mb5.0/6, mB5.3/3, MLv4.6/8, Mw(mB)4.7/3*
ISC 08 03:15:24.4±1.7, 1°.7N±0°.1×127°.6E±0°.2, h128km, n15, σ0§77/13, mb3.9/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	2.28	182	P	Pn	03 16 04.6	+2.8
KMSI	Cibinong	3.75	253	P	Pn	03 16 20.3	-0.5
SANI	Sanana	4.00	203	P	Pn	03 16 23.6	-0.6
GTOI	Gorontalo	4.67	258	P	Pn	03 16 33.9	+0.8
LUWI	Luwuk	5.49	241	P	Pn	03 16 45.4	+1.3
	baz=4.5,SNR=15						
MRSI	Marisa	5.75	258	P	Pn	03 16 46.9	-0.7
	33nm,0.5s,0.3nm						
APSI	Ampana	6.45	247	P	Pn	03 16 55.9	-1.1
	78nm,0.6s,3μm0.4nm						
TTSI	Tana Toraja	9.04	239	P	Pn	03 17 31.0	-1.0
	83nm,0.7s,1μm						
BNSI	Bone	9.58	231	P	Pn	03 17 39.5	+0.3
	46nm,0.8s						
SPSI	Sidrap Palu	9.59	234	P	Pn	03 17 39.7	+0.4
	141nm,0.6s,2μm0.6nm						
BKSI	Bulukumba	10.17	227	P	Pn	03 17 47.2	+0.1
WRA	Warramunga Arr	22.47	163	P	P	03 20 13.4	+0.2
	2.9nm,0.3s,baz=343,slow=10,SNR=32						
ASAR	Alice Springs	25.91	167	P	P	03 20 45.1	+0.4
	0.4nm,0.3s,baz=343,slow=7.6,SNR=12						
MKAR	Makanchi Array	59.73	326	P	P	03 25 15.8	0.0
	0.5nm,0.4s,baz=114,slow=7.8,SNR=12						
KURBB	Kurchatov Arra	63.93	328	P	P	03 25 46.2	+2.5
	0.7nm,0.5s,baz=124,slow=6.0,SNR=6.9						

GUC 08 03:18:47.5±0.6, 35°.92S×73°.53W, h20km±17km, ML4.0, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.64	109	⇓iP	Pb	03 18 59.1	-0.9
COCH				i S1	Sn	03 19 08.5	-2.4
LNCH	Linares	1.57	88	eP1	Pn	03 19 14.4	+0.2
LNCH				i S1	Sn	03 19 34.6	+0.7
NICH	Los Niches	2.09	65	⇓iP	Pn	03 19 22.9	+1.5
CLCH	Cerro Calan	3.53	45	⇑iP	Pn	03 19 42.1	+0.8
CLCH				AML	AML	03 20 49.1	
	comp=N,200nm,0.7s						

DDA ***08*** *03:20:23.7, 38°.80N×40°.10E, h9km, ML4.4*
IDC ***08*** *03:20:24.3±0.7, 38°.65N×40°.06E, h0km, mb3.7/11, mb1 3.8/19, mb1mx3.6/44, mbtmp3.7/19, ML3.2/6, Error ellipse: s-maj=15.2km s-min=8.3km az=162.0*
ISK ***08*** *03:20:24.0, 38°.82N×40°.16E, h3km, ML4.1*
MOS ***08*** *03:20:24.8±1.3, 38°.71N×40°.01E, h10km, mb4.2/7, Error ellipse: s-maj=13.3km s-min=7.2km az=79.1*
NEIC ***08*** *03:20:24.9, 38°.87N×40°.23E, h5km, mb4.4/5, ML4.1(ISK), ML4.4(DDA), After ISK.*
CSEM ***08*** *03:20:25.2±0.1, 38°.79N×40°.15E, h2km, mb4.2/14, Error ellipse: s-maj=3.4km s-min=2.8km az=149.0*
NSSC ***08*** *03:20:34.7±1.7, 38°.29N×39°.90E, h36km±68km, ML3.8*
ISC 08 03:20:25.6±0.8, 38°.82N±0°.02×40°.13E±0°.01, h6km±6km, n238, σ1§29/289, mb4.1/22, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.29	78	ePg	Pb	03 20 33.1	-0.3
BNGB	Bing¨¶l	0.47	68	ePG	Pg	03 20 33.1	-1.5
BNGL	BINGOL	0.81	80	i P	Pg	03 20 39.7	-1.5
BNGL				i S	Sg	03 20 51.7	-0.1
ERZN	Erzincan	0.83	338	ePG	Pg	03 20 40.4	-1.2
ERZN				eSG	Sb	03 20 53.4	-0.8
DYBB	Diyarbakir	0.86	179	ePG	Pg	03 20 41.5	-0.7
DIY	Diyarbakir	0.92	175	ePg	Pg	03 20 41.5	-1.8
EUZM	Uzumlu	0.95	340	i P	Pg	03 20 42.5	-1.4
EUZM				i S	Sg	03 20 55.9	-0.4
EUZM	Uzumlu	0.95	340	i P	Pg	03 20 42.5	-1.4
EUZM				i S	Sg	03 20 55.9	-0.4
SVAN	Silvan-Diyarba	1.07	128	ePG	Pg	03 20 45.1	-1.1
SVAN				eSG	Sg	03 21 00.2	+0.1
VRTB	Varto-Mus	1.09	71	ePG	Pg	03 20 45.1	-1.5
VRTB				eSG	Sg	03 21 00.7	-0.1
VRTB	Varto-Mus	1.09	71	ePg	Pg	03 20 45.1	-1.5
VRTB				eSg	Sg	03 21 00.7	-0.1
KOPT	Kop Dagi	1.23	13	i P	Pg	03 20 47.6	-1.7
KOPT				i S	Sn	03 21 07.1	+0.2
KOPT	Kop Dagi	1.23	13	i P	Pg	03 20 47.6	-1.7
KOPT				i S	Sn	03 21 07.1	+0.2
BTMT	Batman	1.24	120	ePN	Pg	03 20 48.1	-1.3
BTMT	Batman	1.24	120	ePn	Pg	03 20 48.1	-1.3
BEST	Besiri	1.29	135	i P	Pg	03 20 49.4	-0.9
BEST	Besiri	1.29	135	i P	Pg	03 20 49.5	-0.9
BEST				i S	Sb	03 21 07.3	+0.1
BEST	Besiri	1.29	135	i P	Pg	03 20 49.4	-0.9
KEMA	Kemaliye	1.35	290	i P	Pn	03 20 47.7	-3.4
KEMA				i S	Sg	03 21 08.6	-0.4
KEMA	Kemaliye	1.35	290	i P	Pn	03 20 47.7	-3.4
KEMA				i S	Sg	03 21 08.6	-0.4
ILIC	ilic-Erzincan	1.37	298	ePN	Pn	03 20 51.1	-0.3
ILIC	ilic-Erzincan	1.37	298	ePn	Pn	03 20 51.1	-0.3
MAZI	Mazidag	1.38	169	ePN	Pn	03 20 50.4	-1.2
MAZI	Mazidag	1.38	169	ePn	Pn	03 20 50.4	-1.2
MALT	Malatya	1.42	250	ePN	Pn	03 20 52.0	-0.2
MALT	Malatya	1.42	250	ePn	Pn	03 20 52.0	-0.2
MALT	Malatya	1.42	250	Pn	Pg	03 20 53.3	+0.4
EZM	Erzurum	1.45	41	ePN	Pn	03 20 51.8	-0.9
EZM	Erzurum	1.45	41	Pn	Pn	03 20 51.9	-0.8
ERZM	Erzurum	1.45	41	i P	Pn	03 20 51.0	-1.7
ERZM	Erzurum	1.45	41	i P	Pn	03 20 51.0	-1.7
KELT	Kelkit	1.49	333	i P	Pn	03 20 52.4	-0.8
KELT				i S	Sb	03 21 12.4	-0.8
KELT	Kelkit	1.49	333	i P	Pn	03 20 52.4	-0.8
KELT				i S	Sb	03 21 12.4	-0.8
EKAR	Karacoban	1.57	73	i P	Pn	03 20 53.7	-0.6
EKAR				i S	Sg	03 21 18.2	+2.0
EKAR	Karacoban	1.57	73	i P	Pn	03 20 53.7	-0.6
EKAR				i S	Sg	03 21 18.2	+2.0
BAYT	Ayd¨–ntepe-Bay	1.58	0	ePN	Pn	03 20 53.5	-0.9
BAYT	Ayd¨–ntepe-Bay	1.58	0	ePn	Pn	03 20 53.5	-0.9
MARD	Mardin	1.58	161	i P	Pn	03 20 53.0	-1.4
MARD				i S	Sn	03 21 13.9	-1.4
TATV	Tatvan	1.70	100	i P	Pn	03 20 55.4	-0.7
TATV				i S	Sn	03 21 17.8	-0.5
TATV	Tatvan	1.70	100	i P	Pn	03 20 55.4	-0.7
TATV				i S	Sn	03 21 17.8	-0.5
GUMT	Gumushane	1.72	343	ePN	Pn	03 20 55.9	-0.3
GUMT	Gumushane	1.72	343	Pn	Pn	03 20 56.2	-0.1
GUMT	Gumushane	1.72	343	Pn	Pn	03 20 56.2	-0.1
KBSD	Kabsdagh	1.84	170	eP	Pn	03 20 57.1	-0.8
	SNR=91						
KBSD	Kabsdagh	1.84	170	eP	Pn	03 20 57.1	-0.8
KBSD				eS	Sn	03 21 14.6	-6.8
KBSD				AML	AML	03 21 34.2	
	comp=E,1μm,0.4s						
KBSD				AML	AML	03 21 35.8	
	comp=N,2μm,0.8s						
HOMI	Horasan	1.85	48	i P	Pn	03 20 58.3	+0.2
HOMI				i S	Sb	03 21 24.4	+0.9
ATAB	Bozova	1.97	228	i P	Pn	03 20 59.5	-0.2
ATAB				i S	Sb	03 21 26.2	-0.6
ATAB	Bozova	1.97	228	i P	Pn	03 20 59.5	-0.2
ATAB				i S	Sb	03 21 26.2	-0.6
SUSE	Susehri	2.04	314	i P	Pn	03 21 00.8	+0.1
SUSE				i S	Sb	03 21 29.5	+0.6
SUSE	Susehri	2.04	314	i P	Pn	03 21 00.8	+0.1
SUSE				i S	Sb	03 21 29.5	+0.6
DARE	Darende-Malaty	2.08	264	ePN	Pn	03 21 01.5	+0.2
DARE	Darende-Malaty	2.08	264	ePn	Pn	03 21 01.5	+0.2
EATA	Eleskirt	2.11	60	i P	Pb	03 21 03.9	-0.7
EATA	Eleskirt	2.11	60	i P	Pb	03 21 03.9	-0.7
EATA				i S	Sg	03 21 33.2	-0.3
MACK	Trabzon	2.14	353	i P	Pn	03 21 02.0	0.0
MACK				i S	Sg	03 21 34.0	-0.5
MACK	Trabzon	2.14	353	i P	Pn	03 21 02.0	0.0
MACK				i S	Sg	03 21 34.0	-0.5
TUTA	Tutak	2.17	73	i P	Pn	03 21 00.5	-2.1
TUTA				i S	Sn	03 21 27.0	-2.9
TUTA	Tutak	2.17	73	i P	Pn	03 21 00.5	-2.1
TUTA				i S	Sn	03 21 27.0	-2.9
SIRN	S¨–rnak	2.23	125	i P	Pn	03 21 03.1	-0.2
SIRN				i S	Sb	03 21 34.7	+0.3
SIRN	S¨–rnak	2.23	125	i P	Pn	03 21 03.1	-0.2
SIRN				i S	Sb	03 21 34.7	+0.3
SIRT	Sirnak	2.25	125	ePN	Pn	03 21 03.2	-0.3
SIRT	Sirnak	2.25	125	ePn	Pn	03 21 03.2	-0.3
AGRB	Hanur-Agry	2.35	70	ePN	Pn	03 21 04.5	-0.5
AGRB	Hanur-Agry	2.35	70	ePn	Pn	03 21 04.5	-0.5
GEVA	Gevas	2.35	101	i P	Pn	03 21 06.3	+1.3
GEVA	Gevas	2.35	101	i P	Pn	03 21 06.3	+1.3
GEVA				i S	Sb	03 21 39.6	+1.7
ESPY	Espiye-Giresun	2.36	333	ePN	Pn	03 21 05.1	+0.1
ESPY	Espiye-Giresun	2.36	333	ePn	Pn	03 21 05.1	+0.1
SFNV	Sufian	2.39	180	eP	Pn	03 21 04.8	-0.7
	SNR=91						
SFNV	Sufian	2.39	180	eP	Pn	03 21 04.8	-0.7
SFNV				AML	AML	03 21 52.2	
	comp=E,2μm,0.6s						
SFNV				AML	AML	03 21 57.3	
	comp=N,2μm,0.5s						
DDEM	Demirkent	2.42	31	i P	Pn	03 21 05.8	-0.1
DDEM				i S	Sn	03 21 36.6	+0.7
DDEM	Demirkent	2.42	31	i P	Pn	03 21 05.8	-0.1
DDEM				i S	Sn	03 21 36.6	+0.7
GZT	Gaziantep	2.49	235	i P	Sg	03 21 47.8	+2.1
DBAD	Bademkaya	2.51	28	i P	Pn	03 21 07.2	+0.1
DBAD	Bademkaya	2.51	28	i P	Pn	03 21 07.2	+0.1
DBAD				i S	Sg	03 21 44.8	-1.5
VANB	Van	2.56	94	ePN	Pn	03 21 07.5	-0.4
VANB	Van	2.56	94	ePn	Pn	03 21 07.5	-0.4
TVAN	Van	2.58	95	i P	Pb	03 21 11.8	-0.7
TVAN	Van	2.58	95	i P	Pb	03 21 11.8	-0.7
TVAN				i S	Sg	03 21 54.0	+5.4
DAGI	Agillar	2.65	31	i P	Pn	03 21 08.8	-0.2
DAGI				i S	Sg	03 21 50.2	-0.4
SVSK	Karacayir	2.66	295	ePN	Pn	03 21 09.7	+0.6
SVSK	Karacayir	2.66	295	ePn	Pn	03 21 09.7	+0.6
SVSK	Karacayir	2.66	295	Pn	Pb	03 21 12.9	-0.9
RSDY	Resadiye-TOKAT	2.68	307	ePN	Pn	03 21 09.9	+0.6
RSDY	Resadiye-TOKAT	2.68	307	ePn	Pn	03 21 10.0	+0.6
ARTV	Artvin	2.74	30	i P	Pn	03 21 10.1	-0.3
ARTV	Artvin	2.74	30	i P	Pn	03 21 10.1	-0.3
ARTV				i S	Sg	03 21 55.4	+1.6
DBOC	Borcka	2.79	25	i P	Pn	03 21 10.8	-0.1
DBOC				eS	Sn	03 21 46.0	+1.1
DBOC	Borcka	2.79	25	i P	Pn	03 21 10.8	-0.1
DBOC				eS	Sn	03 21 46.0	+1.1
KMRS	Kahramanmaras	2.86	244	ePN	Pn	03 21 12.8	+0.9
KMRS	Kahramanmaras	2.86	244	ePn	Pn	03 21 12.8	+0.9
DYDN	Diyadin	2.86	74	i P	Pb	03 21 15.7	-1.6
DYDN	Diyadin	2.86	74	i P	Pb	03 21 15.7	-1.6
DYDN				i S	Sb	03 21 54.5	+1.9
KARS	Kars	2.91	51	ePN	Pn	03 21 12.4	-0.2
KARS	Kars	2.91	51	ePn	Pn	03 21 12.4	-0.2
CLDR	Caldiran	2.97	82	ePN	Pn	03 21 13.3	-0.3
CLDR	Caldiran	2.97	82	ePn	Pn	03 21 13.3	-0.3
DIGO	Kars	2.97	56	i P	Pb	03 21 17.0	-2.2
DIGO	Kars	2.97	56	i P	Pb	03 21 17.0	-2.2
DIGO				i S	Sb	03 21 56.7	+0.8

ARNB AML AML 03 22 59.8
comp=N,224nm,0.6s
WRDH Warideh 4.44 223 *e*P **Pn 03 21 33.5 -0.1**
SNR=90
WRDH Warideh 4.44 223 *e*P **Pn 03 21 33.5 -0.1**
WRDH AML AML 03 22 53.6
comp=E,251nm,0.6s
WRDH AML AML 03 23 00.3
comp=N,689nm,0.6s
CORM Corum 4.46 289 *e*PN **Pn 03 21 35.1 +1.1**
CORM Corum 4.46 289 *e*Pn **Pn 03 21 35.1 +1.1**
ONI Oni 4.54 33 P **Pn 03 21 36.1 +1.2**
CDAG Cicekdag 4.54 282 *i* P Pn 03 21 39.0 +3.9
CDAG Cicekdag 4.54 282 *i* P Pn 03 21 39.0 +3.9
CDAG *i* S **Sg 03 22 50.2 -1.3**
TBLG Delisi 4.57 49 P **Pn 03 21 36.3 +0.9**
TBLG Delisi 4.57 49 P **Pn 03 21 36.3 +0.9**
DIKM Dikmen 4.68 309 *e*PN **Pn 03 21 38.3 +1.5**
DIKM Dikmen 4.68 309 *e*Pn **Pn 03 21 38.3 +1.5**
DUS Dusheti 4.78 45 P **Pn 03 21 40.1 +1.7**
DUS Dusheti 4.78 45 P **Pn 03 21 40.1 +1.7**
DGRG David-gareji 4.81 55 P **Pn 03 21 40.1 +1.5**
DGRG David-gareji 4.81 55 P **Pn 03 21 40.1 +1.5**
BIDA Albida 4.87 220 *e*P **Pn 03 21 38.9 -0.6**
SNR=90
BIDA Albida 4.87 220 *e*P **Pn 03 21 38.9 -0.6**
BIDA *e*S Sn 03 22 25.8 -11
BIDA AML AML 03 23 05.9
comp=N,759nm,0.7s
BIDA AML AML 03 23 11.5
comp=E,297nm,0.7s
BRTR Keskin Array B 5.12 282 Pn **Pn 03 21 43.4 +0.4**
comp=E,1.7nm,0.3s,baz=106,slow=15,SNR=100
BRTR Pg **Pb 03 21 58.0 +2.3**
comp=E,2.0nm,0.3s,baz=106,slow=17,SNR=9.8
BRTR Lg Lg 03 23 12.9
comp=E,1.0nm,0.3s,baz=119,slow=27,SNR=3.7
HAWK Haweek 5.22 216 *e*P **Pn 03 21 44.3 -0.1**
SNR=90
HAWK Haweek 5.22 216 *e*P **Pn 03 21 44.3 -0.1**
HAWK *e*S Sn 03 22 33.6 -12
HAWK AML AML 03 23 21.4
comp=N,207nm,0.6s
HAWK AML AML 03 23 26.4
comp=E,387nm,0.6s
KBZ Khabaz 5.33 22 Pn **Pn 03 21 48.8 +3.0**
comp=E,0.2nm,0.3s,baz=222,slow=1.8,SNR=7.2
KBZ Lg Lg 03 23 22.3
baz=88,slow=1.5,SNR=2.2
KIV Kislovodsk 5.48 20 *e*P Pn 03 21 51.5 +3.5
KIV pmax pmax
comp=Z,14nm,1.1s
KIV Kislovodsk 5.48 20 Pn **Pn 03 21 48.4 +0.4**
KIV Kislovodsk 5.48 20 Pn **Pn 03 21 48.4 +0.4**
BBAL Bala 5.49 280 *i* P **Pn 03 21 50.7 +2.6**
BBAL Bala 5.49 280 *i* P **Pn 03 21 50.7 +2.6**
BBAL *i* S **Sg 03 23 18.9 -3.1**
MARH Ras Al Marh 5.61 213 *e*P **Pn 03 21 51.0 +1.1**
SNR=90
MARH Ras Al Marh 5.61 213 *e*P **Pn 03 21 51.0 +1.1**
HWQ Hawqa 5.64 218 *e*P **Pn 03 21 50.4 +0.2**
HWQ Hawqa 5.64 218 *e*P **Pn 03 21 50.4 +0.2**
ANTO Ankara 5.78 283 *e*Pn **Pn 03 21 52.5 +0.4**
ANTO Ankara 5.78 283 *e*Pn **Pn 03 21 52.5 +0.4**
BHL Bhannes 6.08 218 *e*P **Pn 03 21 56.9 +0.6**
BHL Bhannes 6.08 218 *e*P **Pn 03 21 56.9 +0.6**
MMAI Mount Meron Ar 6.94 215 Pn Pn 03 22 03.5 -4.5
baz=242,slow=45,SNR=3.0
MMAI Lg Lg 03 24 08.7
comp=Z,5.2nm,0.3s,baz=47,slow=30,SNR=4.4
ASF Jabal al Asfar 7.13 203 Pn **Pn 03 22 09.1 -1.5**
comp=Z,0.6nm,0.3s,baz=334,slow=14,SNR=7.9
ASF Lg Lg 03 24 14.1
comp=Z,2.4nm,0.3s,baz=124,slow=19,SNR=6.1
EIL Elat 10.07 207 Pn **Pn 03 22 49.4 -1.6**
comp=Z,0.1nm,0.3s,baz=49,slow=11,SNR=1.9
EIL Lg Lg 03 25 49.2
comp=Z,0.2nm,0.3s,baz=350,slow=22,SNR=2.3
VORD Divnogorie 12.16 357 *e*P **Pn 03 23 19.7 +0.3**
VORD pmax pmax
comp=N,4.0nm,0.5s
VORD pmax pmax
comp=E,9.0nm,0.5s
VORD pmax pmax
comp=Z,5.0nm,0.5s
VORD Divnogorie 12.16 357 *e*P **Pn 03 23 19.7 +0.3**
VRHR Novokhopersk 12.32 4 *e*P **Pn 03 23 22.5 +0.9**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,8.0nm,0.7s
VRHR pmax pmax
comp=E,7.0nm,0.6s
VRHR Novokhopersk 12.32 4 *e*P **Pn 03 23 22.5 +0.9**
VSR Storozhevoye 12.42 357 *e*P **Pn 03 23 19.8 -3.1**
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,3.0nm,0.8s
VSR pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 14.16 331 *e*P **P 03 23 54.6 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 14.16 331 Pn **Pn 03 23 47.2 +0.5**
comp=Z,0.4nm,0.3s,baz=138,slow=10.0,SNR=3.1
KIEV Kiev 14.17 331 *e*P **Pn 03 23 47.0 +0.3**
RAYN Ar Rayn 15.92 162 *e*Pn **Pn 03 24 10.0 -0.4**
RAYN *e*S **S 03 27 18.0 -3.6**
RAYN Ar Rayn 15.92 162 *e*Pn **Pn 03 24 10.0 -0.4**
RAYN *e*S **S 03 27 18.0 -3.6**
OBN Obninsk 16.48 353⇑ *e*P **P 03 24 20.5 +0.5**
OBN *e*S **Sn 03 27 25.9 +5.5**
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,949nm,19.0s
OBN Obninsk 16.48 353 *e*P **P 03 24 20.5 +0.5**
comp=Z,949nm,19.0s
AKTK Aktyubinsk 17.18 42 P **Pn 03 24 26.3 0.0**
AKTO Aktyubinsk 17.18 42 P **Pn 03 24 26.2 0.0**
comp=Z,0.1nm,0.3s,baz=215,slow=10,SNR=5.7
ABKAR Akbulak array 17.61 47 *e*P **Pn 03 24 31.3 -0.2**
ABKAR Akbulak array 17.61 47 *e*P **Pn 03 24 31.3 -0.2**
GERES GERESS Array B 21.44 306 P **P 03 25 15.0 +0.5**
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 21.44 306 P **P 03 25 15.0 +0.5**
comp=Z,1.0nm,0.9s,baz=96,slow=12,SNR=5.4
ARU Arti 21.44 29 P **P 03 25 12.9 -1.5**
ARU S **S 03 29 10.1 -2.3**
ARU Arti 21.44 29 *e*P **P 03 25 12.0 -2.3**
comp=Z,5.1nm,0.8s
ARU Arti 21.44 29 *e*P **P 03 25 12.0 -2.3**
comp=Z,5.1nm,0.8s
VSU Vasula 21.48 341 *e*P **P 03 25 17.8 +3.0**
KLMR Klimovskoe 22.07 359 *e*P **P 03 25 23.9 +2.9**
KLMR pmax pmax
comp=Z,38nm,1.4s
KLMR Klimovskoe 22.07 359 *e*P **P 03 25 23.9 +2.9**
comp=Z,38nm,1.4s
SVE Sverdlovsk 22.53 30 *e*P **P 03 25 26.9 +0.9**
SVE Sverdlovsk 22.53 30 *e*P **P 03 25 26.9 +0.9**
GRFO Grafenberg 23.24 307 *e*P **P 03 25 33.3 -0.3**
comp=Z,15nm,1.0s
GRFO Grafenberg 23.24 307 *e*P **P 03 25 33.3 -0.3**
comp=Z,15nm,1.0s
KKAR Karatay Array 23.27 70 *e*P **P 03 25 34.4 +0.4**
comp=Z,5.7nm,1.0s
KKAR Karatay Array 23.27 70 *e*P **P 03 25 34.4 +0.4**
comp=Z,5.7nm,1.0s
PGF Pioggiola 23.83 289 *e*P **P 03 25 38.4 -1.1**
comp=Z,110nm,1.2s
PGF Pioggiola 23.83 289 *e*P **P 03 25 38.4 -1.1**
comp=Z,110nm,1.2s
PGF Pioggiola 23.83 289 *e*P **P 03 25 38.4 -1.1**
comp=Z,110nm,1.2s
FINES FINESS Array B 24.27 344 P **P 03 25 43.2 -0.1**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 24.27 344 P **P 03 25 43.2 -0.1**
comp=Z,2.1nm,0.7s,baz=150,slow=9.2,SNR=7.7
BVAR Borovoye Array 25.16 46 P **P 03 25 53.6 +2.1**
comp=Z,0.4nm,0.3s,baz=264,slow=13,SNR=6.8
CDF Champ du Feu 25.47 303 *e*P **P 03 25 53.0 -1.5**
comp=Z,18nm,1.3s
CDF Champ du Feu 25.47 303 *e*P **P 03 25 53.0 -1.5**
comp=Z,18nm,1.3s
CDF Champ du Feu 25.47 303 *e*P **P 03 25 53.0 -1.5**
comp=Z,18nm,1.3s
LPG La Plagne 25.50 296 *e*P **P 03 25 54.9 -0.1**
LPG La Plagne 25.50 296 *e*P **P 03 25 54.9 -0.1**
LPG La Plagne 25.50 296 *e*P **P 03 25 54.9 -0.1**
LPL La Plagne 25.51 296 *e*P **P 03 25 54.9 -0.1**
comp=Z,13nm,1.0s
LPL La Plagne 25.51 296 *e*P **P 03 25 54.9 -0.1**
comp=Z,13nm,1.0s
LPL La Plagne 25.51 296 *e*P **P 03 25 54.9 -0.1**
comp=Z,13nm,1.0s
CABF La Chapelle 26.04 298 *e*P **P 03 25 59.9 +0.2**
comp=Z,53nm,1.3s
CABF La Chapelle 26.04 298 *e*P **P 03 25 59.9 +0.2**
comp=Z,53nm,1.3s
CABF La Chapelle 26.04 298 *e*P **P 03 25 59.9 +0.2**
comp=Z,53nm,1.3s
AAK Ala-Archa 26.21 71 P **P 03 26 03.4 +2.0**
AAK pmax pmax
comp=Z,1.0nm,0.5s
AAK Ala-Archa 26.21 71 P **P 03 26 03.4 +2.0**
comp=Z,0.6nm,0.5s,baz=300,slow=14,SNR=2.8
HFS Hagfors 27.06 331 P **P 03 26 10.3 +1.7**
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 27.06 331 P **P 03 26 10.3 +1.7**
comp=Z,1.6nm,0.7s,baz=107,slow=7.7,SNR=2.2
BAIF Baives 27.74 306 *e*P **P 03 26 14.9 +0.1**
BAIF Baives 27.74 306 *e*P **P 03 26 14.9 +0.1**
BAIF Baives 27.74 306 *e*P **P 03 26 14.9 +0.1**
KURBB Kurchatov Arra 29.40 54 P **P 03 26 32.3 +2.7**
comp=Z,0.8nm,0.3s,baz=266,slow=9.0,SNR=7.4
KURK Kurchatov 29.47 54 P **P 03 26 32.3 +2.1**
KURK pmax pmax
comp=Z,1.0nm,0.2s
KURK Kurchatov 29.47 54 P **P 03 26 32.3 +2.1**
comp=Z,1.0nm,0.2s
MKAR Makanchi Array 31.63 62 *e*P **P 03 26 50.5 +1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 31.63 62 P **P 03 26 50.5 +1.1**
comp=Z,0.7nm,0.9s,baz=286,slow=4.5,SNR=6.7
ESDC Sonseca Array 33.90 286 P **P 03 27 08.2 -1.2**
comp=Z,2.1nm,0.9s,baz=68,slow=9.8,SNR=7.7
TORD Torodi Ar. Bea 42.50 244 P **P 03 28 19.1 -2.9**
comp=Z,0.9nm,0.9s,baz=45,slow=6.5,SNR=5.2
ULN Ulaanbaatar 48.11 56 *e*P **P 03 29 09.2 +2.9**
ULN pmax pmax
comp=Z,3.0nm,1.2s
BOD Bodaibo 49.95 42 *e*P **P 03 29 19.5 -0.6**
BOD pmax pmax
comp=Z,3.0nm,1.4s
BOD Bodaibo 49.95 42 *e*P **P 03 29 19.5 -0.6**
comp=Z,3.0nm,1.4s
DBIC Dimbokro 51.62 244 P **P 03 29 31.8 -1.4**
DBIC pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 51.62 244 P **P 03 29 31.8 -1.4**
comp=Z,4.1nm,0.9s,baz=61,slow=8.6,SNR=4.7
YKA Yellowknife Ar 77.00 348 P **P 03 32 19.9 +1.0**
comp=Z,0.4nm,0.8s,baz=22,slow=5.8,SNR=7.4

*IDC **08** 03:21:02.1±0.7,36°.02S×73°.39W,h0km,mb4.3/12,*
mb1 4.4/16,mb1mx4.3/29,mbtmp4.2/16,ML4.0/4,Error
ellipse: s-maj=23.1km s-min=13.7km az=83.0
*GUC **08** 03:21:03.2±0.7,35°.94S×73°.66W,h22km±20km,ML5.0*
*ISCJB **08** 03:21:05.5±0.5,36°.02S±0°.05×73°.35W±0°.09,h33km,*
mb4.4/15,Error ellipse: s-maj=10.5km s-min=7.6km
az=3.2
*NEIC **08** 03:21:07.2±0.3,36°.00S×73°.39W,h35km,mb4.8/8,Error*
ellipse: s-maj=9.6km s-min=7.0km az=85.0
ISC 08 03:21:07.1±0.6,**36°.01S**±0°.06×**73°.45W**±0°.08,**h35**km,**n44,**
σ0§96/45,mb4.4/15,2C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.55**	**103**	⇑*i*P	**Pn**	**03 21 16.5**	**-1.9**
COCH				*e*S1	**Sn**	**03 21 26.5**	**+0.1**
LNCH	**Linares**	**1.51**	**84**	*e*P1	**Pn**	**03 21 32.1**	**+0.4**
LNCH				*i* S1	**Sn**	**03 21 53.0**	**+2.9**
NICH	**Los Niches**	**2.07**	**62**	*e*P1	**Pn**	**03 21 39.9**	**+0.5**
LNV	**Longovilo**	**2.65**	**40**	⇓*i*P	**Pn**	**03 21 46.1**	**-1.2**
CACH	**El Canelo**	**3.00**	**52**	*e*P1	**Pn**	**03 21 52.4**	**0.0**
CHCH	**Chadas Angostu**	**3.09**	**49**	⇓*i*P	**Pn**	**03 21 53.7**	**+0.2**
ANTU	**Antumapu**	**3.36**	**44**	AML	AML	03 23 08.9	
comp=N,1μm,0.7s							
CLCH	**Cerro Calan**	**3.54**	**44**	*e*P1	**Pn**	**03 21 59.4**	**-0.3**
CLCH				AML	AML	03 23 03.7	
comp=N,2μm,0.9s							
PEL	**Peldehue**	**3.66**	**39**	⇑*i*P	**Pn**	**03 21 60.0**	**-1.3**
PEL				*i* S1	**Sn**	**03 22 44.2**	**+1.0**
PEL				AML	AML	03 23 20.8	
comp=E,2μm,0.8s							
PLCA	**Paso Flores**	**5.24**	**155**	Pn	**Pn**	**03 22 23.0**	**0.0**
comp=E,1.3nm,0.3s,baz=331,slow=12,SNR=10							
PLCA				Lg	Lg	03 23 46.5	
comp=E,3.2nm,0.3s,baz=353,slow=15,SNR=3.6							
CFAA	**Coronel Fontan**	**6.17**	**46**	Pn	**Pn**	**03 22 35.8**	**0.0**
comp=E,1.6nm,0.3s,baz=260,slow=1.3,SNR=39							
CFAA				Lg	Lg	03 24 12.8	
comp=E,0.3nm,0.3s,baz=78,slow=17,SNR=5.2							
TRQA	**Tornquist**	**9.40**	**106**	*e*Pn	**Pn**	**03 23 20.6**	**+0.5**
comp=E,28nm,1.1s							
TRQA				*e*S	Sn	03 25 26.1	+22
LVC	**Limon Verde**	**13.92**	**18**	Pn	Pn	03 24 17.9	-4.2
CPUP	**Villa Florida**	**16.82**	**59**	Pn	**Pn**	**03 24 56.7**	**-3.1**
comp=E,0.2nm,0.3s,baz=229,slow=12,SNR=2.4							
CPUP	**Villa Florida**	**16.82**	**59**	*e*Pn	**Pn**	**03 24 58.9**	**-1.0**
USHA	**Ushuaia**	**19.14**	**171**	P	**Pn**	**03 25 28.1**	**0.0**
comp=E,0.3nm,0.3s,baz=249,slow=4.2,SNR=4.1							
LPAZ	**La Paz**	**20.20**	**15**	P	**P**	**03 25 40.2**	**+0.6**
comp=E,6.9nm,0.7s,baz=184,slow=6.6,SNR=17							
LPAZ	**La Paz**	**20.20**	**15**	*e*P	**P**	**03 25 39.9**	**+0.3**
comp=E,14nm,0.9s							
SIV	**San Ignacio**	**22.79**	**32**	P	**P**	**03 26 07.1**	**+0.3**
comp=E,11nm,1.0s,baz=225,slow=14,SNR=21							
SAML	**Samuel**	**28.52**	**22**	*e*P	**P**	**03 26 59.4**	**0.0**
BDFB	**Brasilia**	**30.43**	**55**	P	**P**	**03 27 15.4**	**-1.1**
comp=E,3.7nm,0.9s,baz=187,slow=7.0,SNR=4.2							
VNA3	**Neumayer Olymp**	**47.95**	**157**	P	P	03 29 38.6	-3.3
VNA2	**Neumayer-Watz**	**48.63**	**156**	P	**P**	**03 29 47.7**	**+0.7**
baz=283,slow=8.5							
SNAA	**Sanae**	**50.18**	**157**	P	**P**	**03 29 59.1**	**+0.2**
SNAA	**Sanae**	**50.18**	**157**	P	**P**	**03 29 59.2**	**+0.2**
comp=E,4.5nm,1.1s,baz=264,slow=7.7,SNR=10							
SNAA	**Sanae**	**50.18**	**157**	*e*P	**P**	**03 29 58.9**	**0.0**
comp=E,18nm,1.2s							
QSPA	**South Pole Qui**	**54.23**	**180**	P	**P**	**03 30 29.3**	**+0.1**
comp=E,6.5nm,1.0s,baz=216,slow=0.2,SNR=15							
QSPA	**South Pole Qui**	**54.23**	**180**	*e*P	**P**	**03 30 29.4**	**+0.2**
comp=E,12nm,1.2s							
TXAR	**Lajitas Array**	**70.94**	**332**	P	**P**	**03 32 22.1**	**+1.1**
comp=E,1.5nm,0.7s,baz=157,slow=9.2,SNR=21							
SWET	**Sewanee**	**71.81**	**349**	*e*P	**P**	**03 32 26.4**	**+0.4**
comp=E,15nm,1.3s							
DBIC	**Dimbokro**	**76.92**	**72**	P	**P**	**03 32 56.7**	**+0.5**
comp=E,3.8nm,0.8s,baz=214,slow=5.2,SNR=7.6							
DBIC	**Dimbokro**	**76.92**	**72**	*e*P	**P**	**03 32 55.6**	**-0.6**
comp=E,17nm,1.2s							
BOSA	**Boshof**	**80.16**	**118**	P	**P**	**03 33 14.2**	**0.0**
comp=E,3.0nm,0.7s,baz=302,slow=3.1,SNR=6.1							
ECSD	**EROS Data Cent**	**82.12**	**343**	*e*P	**P**	**03 33 24.1**	**+0.3**
comp=E,14nm,1.3s							
HWUT	**Hardware Ranch**	**84.77**	**332**	*e*P	**P**	**03 33 37.0**	**-0.6**
comp=E,7.7nm,1.3s							
NVAR	**Mina Array Bea**	**84.89**	**326**	P	**P**	**03 33 39.6**	**+1.2**
comp=E,0.8nm,0.8s,baz=155,slow=6.3,SNR=6.6							
PDAR	**Pinedale Array**	**85.04**	**334**	P	**P**	**03 33 39.1**	**+0.1**
comp=E,1.5nm,1.1s,baz=151,slow=3.4,SNR=5.3							
TORD	**Torodi Ar. Bea**	**85.97**	**71**	P	**P**	**03 33 43.0**	**-1.1**
comp=E,1.6nm,1.0s,baz=261,slow=5.0,SNR=7.7							
MCMT	**McKenzie Canyo**	**88.02**	**333**	*e*P	**P**	**03 33 54.7**	**+1.1**
comp=E,2.4nm,1.3s							
ULM	**Lac du Bonnet**	**88.14**	**346**	P	**P**	**03 33 53.4**	**-0.3**
comp=E,2.2nm,0.5s,baz=214,slow=1.1,SNR=7.1							
WRA	**Warramunga Arr**	**118.45**	**210**	PKP	**PKPdf**	**03 39 50.7**	**-0.8**
comp=E,0.4nm,0.7s,baz=173,slow=1.5,SNR=5.1							
ABKAR	**Akbulak array**	**143.82**	**54**	*e*PKPdf	PKPbc	03 40 35.9	+0.1
ZALV	**Zalesovo Beam**	**156.54**	**33**	PKP	**PKPdf**	**03 40 57.3**	**-0.4**
comp=E,0.7nm,0.7s,baz=279,slow=2.9,SNR=4.8							
ZALV				PKPab	**PKPab**	**03 41 27.6**	**+0.9**
comp=E,1.7nm,0.7s,baz=288,slow=3.8,SNR=7.1							
MKAR	**Makanchi Array**	**158.94**	**52**	PKP	**PKPdf**	**03 41 01.5**	**+0.5**
comp=E,0.3nm,0.5s,baz=45,slow=0.2,SNR=4.6							
MKAR				PKPab	**PKPab**	**03 41 37.4**	**0.0**
comp=E,0.5nm,0.7s,baz=314,slow=4.4,SNR=5.1							

*ISK **08** 03:32:19.5,38°.84N×40°.16E,h8km,MD3.0*
*CSEM **08** 03:32:19.8±0.2,38°.82N×40°.15E,h2km,MD3.0,Error*
ellipse: s-maj=4.2km s-min=3.8km az=82.0
*DDA **08** 03:32:19.0,38°.80N×40°.09E,h12km,MD3.2*
*NSSC **08** 03:32:22.2±1.9,37°.59N×42°.79E,h38km±794km,ML2.5*
ISC 08 03:32:20.1±1.0,**38°.82N**±0°.02×**40°.14E**±0°.02,**h13**km±9km,
n56,σ1§03/87,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bing¨¶l**	**0.45**	**68**	PG	**Pg**	**03 32 27.9**	**-1.2**
BNGB				*e*SG	**Sg**	**03 32 35.0**	**-0.2**
BNGL	**BINGOL**	**0.80**	**80**	*i* P	**Pg**	**03 32 34.9**	**-0.7**
BNGL				*i* S	**Sb**	**03 32 47.5**	**+0.7**
ERZN	**Erzincan**	**0.83**	**337**	*e*PG	**Pg**	**03 32 35.4**	**-0.9**
DYBB	**Diyarbakir**	**0.86**	**180**	*e*PG	**Pb**	**03 32 37.0**	**0.0**
DYBB				*e*SG	**Sn**	**03 32 49.8**	**-0.8**
DIY	**Diyarbakir**	**0.92**	**176**	*e*Pg	**Pg**	**03 32 37.0**	**-0.9**
DIY				*e*Sg	**Sg**	**03 32 49.8**	**-0.2**
EUZM	**Uzumlu**	**0.95**	**339**	*i* P	**Pg**	**03 32 37.3**	**-1.2**
EUZM				*i* S	**Sb**	**03 32 51.7**	**+0.6**
EUZM	**Uzumlu**	**0.95**	**339**	*i* P	**Pg**	**03 32 37.3**	**-1.2**
EUZM				*i* S	**Sb**	**03 32 51.7**	**+0.6**
VRTB	**Varto-Mus**	**1.08**	**71**	*e*PG	**Pb**	**03 32 40.2**	**-0.5**
VRTB				*e*SG	**Sn**	**03 32 55.4**	**-0.7**
VRTB	**Varto-Mus**	**1.08**	**71**	*e*Pg	**Pb**	**03 32 40.2**	**-0.5**
VRTB				*e*Sg	**Sn**	**03 32 55.4**	**-0.7**
BTMT	**Batman**	**1.23**	**120**	*e*PN	**Pg**	**03 32 43.6**	**-0.1**
BTMT				*e*SN	**Sg**	**03 33 01.0**	**+1.3**
BTMT	**Batman**	**1.23**	**120**	*e*Pn	**Pg**	**03 32 43.6**	**-0.1**
BTMT				*e*Sn	**Sg**	**03 33 01.0**	**+1.3**
KOPT	**Kop Dagi**	**1.23**	**13**	*i* P	**Pn**	**03 32 43.1**	**-0.2**
KOPT				*i* S	**Sg**	**03 33 03.5**	**+3.7**
KOPT	**Kop Dagi**	**1.23**	**13**	*i* P	**Pn**	**03 32 43.1**	**-0.2**
KOPT				*i* S	**Sg**	**03 33 03.5**	**+3.7**
BEST	**Besiri**	**1.28**	**136**	*i* P	**Pb**	**03 32 44.1**	**0.0**
BEST				*i* S	**Sg**	**03 33 01.2**	**-0.2**
KEMA	**Kemaliye**	**1.36**	**290**	*i* P	**Pn**	**03 32 43.9**	**-1.0**
KEMA				*i* S	**Sg**	**03 33 03.8**	**-0.1**
KEMA	**Kemaliye**	**1.36**	**290**	*i* P	**Pn**	**03 32 43.9**	**-1.0**
KEMA				*i* S	**Sg**	**03 33 03.8**	**-0.1**
ILIC	**ilic-Erzincan**	**1.38**	**298**	*e*PN	**Pg**	**03 32 46.6**	**+0.1**
ILIC	**ilic-Erzincan**	**1.38**	**298**	*e*Pn	**Pg**	**03 32 46.6**	**+0.1**
MAZI	**Mazidag**	**1.38**	**170**	*e*PN	**Pb**	**03 32 45.7**	**-0.1**
MAZI				*e*SN	**Sg**	**03 33 04.8**	**+0.3**
MAZI	**Mazidag**	**1.38**	**170**	*e*Pn	**Pb**	**03 32 45.7**	**-0.1**
MAZI				*e*Sn	**Sg**	**03 33 04.8**	**+0.3**
MALT	**Malatya**	**1.44**	**250**	*e*PN	**Pn**	**03 32 46.4**	**+0.4**
MALT				*e*SN	**Sg**	**03 33 06.8**	**+0.5**
MALT	**Malatya**	**1.44**	**250**	*e*Pn	**Pn**	**03 32 46.4**	**+0.4**
MALT				*e*Sn	**Sg**	**03 33 06.8**	**+0.5**
EZM	**Erzurum**	**1.44**	**41**	*e*PN	**Pb**	**03 32 46.4**	**-0.5**
ERZM	**Erzurum**	**1.44**	**41**	*e*P	**Pb**	**03 32 46.7**	**-0.3**
ERZM	**Erzurum**	**1.44**	**41**	*e*P	**Pb**	**03 32 46.7**	**-0.3**
KELT	**Kelkit**	**1.49**	**333**	*i* P	**Pn**	**03 32 47.0**	**+0.1**
KELT				*i* S	**Sg**	**03 33 09.2**	**+1.0**
KELT	**Kelkit**	**1.49**	**333**	*i* P	**Pn**	**03 32 47.0**	**+0.1**
KELT				*i* S	**Sg**	**03 33 09.2**	**+1.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.57**	**0**	*e*PN	**Pb**	**03 32 49.0**	**-0.2**
BAYT	**Ayd¨–ntepe-Bay**	**1.57**	**0**	*e*Pn	**Pb**	**03 32 49.0**	**-0.2**
MARD	**Mardin**	**1.58**	**161**	*i* P	**Pb**	**03 32 48.8**	**-0.6**
MARD				*i* S	**Sb**	**03 33 09.2**	**-0.1**
GUMT	**Gumushane**	**1.72**	**343**	*e*PN	**Pb**	**03 32 50.9**	**-0.7**
GUMT	**Gumushane**	**1.72**	**343**	*e*Pn	**Pb**	**03 32 50.9**	**-0.7**
URFA	**Urfa**	**1.72**	**218**	*e*PN	**Pb**	**03 32 51.0**	**-0.7**
URFA				*e*SN	**Sb**	**03 33 13.9**	**+0.6**
URFA	**Urfa**	**1.72**	**218**	*e*Pn	**Pb**	**03 32 51.0**	**-0.7**
URFA				*e*Sn	**Sb**	**03 33 13.9**	**+0.6**
KBSD	**Kabsdagh**	**1.84**	**170**	*e*P	**Pb**	**03 32 52.8**	**-0.9**
KBSD				*e*S	**Sn**	**03 33 12.8**	**-1.9**
KBSD				AML	AML	03 33 25.4	
comp=E,43nm,0.3s							
KBSD				AML	AML	03 33 26.3	
comp=N,60nm,0.5s							
ATAB	**Bozova**	**1.98**	**228**	*i* P	**Pn**	**03 32 54.2**	**+0.8**
ATAB				*i* S	**Sb**	**03 33 21.4**	**+0.7**
ATAB	**Bozova**	**1.98**	**228**	*i* P	**Pn**	**03 32 54.2**	**+0.8**
ATAB				*i* S	**Sb**	**03 33 21.4**	**+0.7**
SUSE	**Susehri**	**2.04**	**313**	*i* P	**Pb**	**03 32 58.0**	**+0.8**
SUSE				*i* S	**Sg**	**03 33 25.3**	**-0.5**
SUSE	**Susehri**	**2.04**	**313**	*i* P	**Pb**	**03 32 58.0**	**+0.8**
SUSE				*i* S	**Sg**	**03 33 25.3**	**-0.5**
DARE	**Darende-Malaty**	**2.09**	**264**	*e*PN	**Pb**	**03 32 56.9**	**-1.1**
DARE	**Darende-Malaty**	**2.09**	**264**	*e*Pn	**Pb**	**03 32 56.9**	**-1.1**
MACK	**Trabzon**	**2.14**	**352**	*i* P	**Pg**	**03 33 00.5**	**-0.6**
MACK	**Trabzon**	**2.14**	**352**	*i* P	**Pg**	**03 33 00.5**	**-0.6**
SIRN	**S¨–rnak**	**2.23**	**126**	*i* P	**Pb**	**03 32 59.7**	**-0.5**
SIRN				*i* S	**Sb**	**03 33 29.2**	**+1.5**
SIRN	**S¨–rnak**	**2.23**	**126**	*i* P	**Pb**	**03 32 59.7**	**-0.5**
SIRN				*i* S	**Sb**	**03 33 29.2**	**+1.5**
SIRT	**Sirnak**	**2.24**	**125**	*e*PN	**Pb**	**03 32 58.4**	**-2.0**
SIRT	**Sirnak**	**2.24**	**125**	*e*Pn	**Pb**	**03 32 58.4**	**-2.0**
AGRB	**Hanur-Agry**	**2.34**	**70**	*e*PN	**Pn**	**03 32 59.2**	**+0.7**
AGRB	**Hanur-Agry**	**2.34**	**70**	*e*Pn	**Pn**	**03 32 59.2**	**+0.7**
SFNV	**Sufian**	**2.40**	**181**	*e*P	**Pn**	**03 33 00.1**	**+1.0**
SFNV				*e*S	**Sn**	**03 33 28.3**	**-0.1**
SFNV				AML	AML	03 33 47.3	
comp=E,68nm,0.4s							
SFNV				AML	AML	03 33 53.0	
comp=N,61nm,0.5s							
GZT	**Gaziantep**	**2.50**	**235**	*i* P	**Pn**	**03 33 01.8**	**+1.1**
DAGI	**Agillar**	**2.64**	**31**	*i* P	**Pb**	**03 33 04.7**	**-2.6**
DBOC	**Borcka**	**2.78**	**24**	*i* P	**Pn**	**03 33 04.9**	**+0.5**
DBOC	**Borcka**	**2.78**	**24**	*i* P	**Pn**	**03 33 04.9**	**+0.5**
MZRK	**Al-Mazaregh**	**3.01**	**172**	*e*P	Pn	03 32 59.4	-8.1
KUZU	**Kuzuini**	**3.17**	**231**	*e*P	**Pb**	**03 33 18.1**	**+1.8**

IDC 08 03:34:09.7±6.2,**21°.49N**×**143°.73E,h252**km±58km,**mb3.2/9,**
mb1 3.4/9,mb1mx3.2/34,mbtmp3.8/9,MS3.5/1,Ms1 3.5/1,
**ms1mx3.2/18,Error ellip

BTHS		5.92	187	P	Pn	03 43 03.6	+0.4
BRTR	Keskin Array B	17.71	308	P	P	03 45 43.3	+0.1
	0.1nm,0.3s,baz=124,slow=13,SNR=4.2						
FINES	FINESS Array B	35.74	339	P	P	03 48 34.1	-0.1
	0.9nm,0.9s,baz=145,slow=10.0,SNR=2.2						
TORD	Torodi Ar. Bea	49.01	261	P	P	03 50 22.0	-0.7
	0.4nm,0.5s,baz=58,slow=8.4,SNR=7.1						

*IDC **08** 03:54:30.0±0.9, 35°.22S×72°.76W, h0km, mb3.9/6, mb1 4.0/11, mb1mx3.9/41, mbtmp3.9/11, ML4.2/4, Error ellipse: s-maj=30.5km s-min=17.7km az=91.0*
*ISCJB **08** 03:54:30.6±1.1, 35°.17S±0°.03×73°.01W±0°.06, h26km±9km, mb4.2/10, Error ellipse: s-maj=9.0km s-min=5.5km az=15.8*
*GUC **08** 03:54:31.8±0.5, 35°.19S×72°.98W, h38km±6km, ML4.9*
*NEIC **08** 03:54:33.7±0.6, 35°.13S×72°.95W, h35km, mb4.6/7, ML4.9(GUC), Error ellipse: s-maj=13.6km s-min=8.2km az=93.0*

ISC 08 03:54:29.7±1.7, 35°.16S±0°.04×72°.95W±0°.07, h8km±11km, n43, σ1§18/50, mb4.3/10, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
COCH	Cobquecura	0.97	172	⇓iP		Pg	03 54 48.5	+0.1
COCH				i S		Sg	03 55 01.1	0.0
LNCH	Linares	1.30	122	⇑iP		Pn	03 54 53.9	-0.3
LNCH				i S		Sb	03 55 10.6	-0.6
LNCH				AML		AML	03 55 14.3	
	comp=N,50μm,0.4s							
LNCH	Linares	1.30	122	⇑iP		Pn	03 54 53.9	-0.3
LNCH				i S		Sb	03 55 10.8	-0.3
NICH	Los Niches	1.42	84	eP		Pn	03 54 56.1	+0.3
NICH				i S		Sn	03 55 14.8	0.0
NICH				AML		AML	03 55 18.9	
	comp=E,44μm,0.4s							
NICH	Los Niches	1.42	84	⇓iP		Pn	03 54 56.1	+0.3
NICH				i S		Sn	03 55 14.2	-0.6
TACH	Talagante	2.25	48	eP		Pn	03 55 08.0	+0.8
TACH				i S		Sn	03 55 35.1	0.0
TACH	Talagante	2.25	48	eP		Pn	03 55 07.6	+0.3
IHA	Instituto Hidr	2.40	27	⇑iP		Pn	03 55 09.4	+0.2
IHA				i S		Sn	03 55 38.3	-0.4
IHA	Instituto Hidr	2.40	27	⇑iP		Pn	03 55 09.4	+0.2
ANTU	Antumapu	2.49	51	IAML			03 55 57.2	
	comp=E,6μm,0.4s							
ANTU	Antumapu	2.49	51	P		Pb	03 55 13.2	-1.6
CLCH	Cerro Calan	2.67	49	eP		Pn	03 55 13.8	+0.7
CLCH				eS1		Sn	03 55 45.2	-0.4
CLCH				AML		AML	03 56 01.1	
	comp=E,4μm,0.1s							
CLCH				IAML			03 56 06.6	
	comp=N,5μm,0.7s							
PEL	Peldehue	2.76	44	eP		Pn	03 55 14.9	+0.7
PEL				eS		Sn	03 55 47.6	-0.2
PEL				AML		AML	03 56 03.2	
	comp=N,6μm,0.4s							
PEL	Peldehue	2.76	44	⇓iP		Pn	03 55 15.1	+0.8
PEL				eS		Sn	03 55 47.6	-0.2
CMCH	Combarbala	4.30	23	⇑iP		Pn	03 55 35.5	0.0
CFAA	Coronel Fontan	5.31	49	Pn		Pn	03 55 51.0	+1.7
	comp=N,0.5nm,0.3s,baz=185,slow=12,SNR=34							
CFAA				Lg		Lg	03 57 09.8	
	comp=N,1.8nm,0.3s,baz=115,slow=24,SNR=3.2							
PLCA	Paso Flores	5.87	162	Pn		Pn	03 55 58.5	+1.4
	comp=N,2.8nm,0.3s,baz=331,slow=10,SNR=24							
PLCA				Lg		Lg	03 57 27.5	
	comp=N,2.0nm,0.3s,baz=220,slow=19,SNR=2.8							
TRQA	Tornquist	9.28	111	ePn		Pn	03 56 46.4	+2.6
	comp=N,11nm,0.6s							
TRQA				eS		Sn	03 59 09.0	+40
LVC	Limon Verde	12.99	17	ePn		Pn	03 57 33.2	-1.7
CPUP	Villa Florida	16.05	61	Pn		Pn	03 58 17.3	+1.6
	comp=N,0.2nm,0.3s,baz=189,slow=17,SNR=1.7							
LPAZ	La Paz	19.29	14	P		Pn	03 58 58.9	+2.3
	comp=N,0.3nm,0.3s,baz=188,slow=6.7,SNR=21							
LPAZ	La Paz	19.29	14	eP		Pn	03 58 58.6	+2.0
	comp=N,3.5nm,0.6s							
EFI	East Falkland	19.67	152	eP		P	03 58 59.1	+0.2
	comp=N,21nm,1.1s							
USHA	Ushuaia	19.92	172	P		Pn	03 59 03.4	+0.2
	comp=N,0.3nm,0.3s,baz=346,slow=5.7,SNR=4.6							
SIV	San Ignacio	21.86	32	P		P	03 59 23.8	+0.9
	comp=N,9.4nm,0.8s,baz=226,slow=11,SNR=15							
SAML	Samuel	27.58	21	eP		P	04 00 16.0	-1.4
SDV	Santo Domingo	43.87	3	P		P	04 02 35.0	-1.8
	comp=N,12nm,1.2s							
VNA3	Neumayer Olymp	48.57	157	P		P	04 03 22.9	+10
VNA2	Neumayer--Watz	49.24	157	P		P	04 03 18.4	+0.2
	baz=294,slow=9.1							
SNAA	Sanae	50.80	157	P		P	04 03 31.2	+1.0
SNAA	Sanae	50.80	157	eP		P	04 03 29.0	-1.2
	comp=N,20nm,1.0s							
QSPA	South Pole Qui	55.07	180	P		P	04 04 03.2	+1.3
	comp=N,1.4nm,0.7s,baz=296,slow=2.7,SNR=6.8							
QSPA	South Pole Qui	55.07	180	eP		P	04 04 03.2	+1.3
	comp=N,11nm,1.1s							
TXAR	Lajitas Array	70.39	332	P		P	04 05 46.0	+1.7
	comp=N,0.3nm,0.6s,baz=150,slow=9.0,SNR=5.1							
WVT	Waverly	72.27	347	eP		P	04 05 56.5	+1.1
	comp=N,5.1nm,0.8s							
ANMO	Albuquerque	76.45	332	P		P	04 06 23.4	+3.3
	comp=N,0.3nm,0.3s,baz=338,slow=16,SNR=2.4							
BOSA	Boshof	80.19	118	P		P	04 06 41.4	+0.3
	comp=N,1.1nm,0.7s,baz=295,slow=2.6,SNR=2.7							
ECSD	EROS Data Cent	81.43	343	eP		P	04 06 44.9	-2.0
	comp=N,4.2nm,0.6s							
TORD	Torodi Ar. Bea	85.31	70	P		P	04 07 07.5	-0.1
	comp=N,0.4nm,0.8s,baz=264,slow=4.8,SNR=9.3							
ABKAR	Akbulak array	142.99	53	PKPdf		PKPdf	04 14 00.5	-3.1
KURBB	Kurchatov Arra	154.23	44	PKPbc		PKPbc	04 14 29.4	-0.4
	comp=N,0.6nm,0.7s,baz=299,slow=2.7,SNR=4.4							
KURK	Kurchatov	154.24	44	PKPbc		PKPbc	04 14 29.4	-0.5
ZALV	Zalesovo Beam	155.61	33	PKP		PKPdf	04 14 24.1	+0.7
	comp=N,0.3nm,0.5s,baz=267,slow=5.5,SNR=2.4							

LJU 08 03:56:19.3, 45°.99N×14°.57E, h10km, ML0.4, 3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LJU	Ljubljana	0.06	334	⇑iPg		Pg	03 56 21.7	+0.2
LJU				i Sg		Sg	03 56 23.2	+0.1
	comp=Z,10.0nm,0.1s							
VNDS	Vrh nad Dolski	0.15	39	⇑iPg		Pg	03 56 22.8	+0.1
VNDS				i Sg		Sg	03 56 25.1	0.0
	comp=Z,6.0nm,0.1s							
CRNS	Crni Vrh	0.23	294	⇑iPg		Pg	03 56 24.2	0.0
CRNS				i Sg		Sg	03 56 27.5	0.0
	comp=Z,2.0nm,0.1s							
VISS	Visnje	0.27	134	i Pg		Pg	03 56 24.9	+0.2
VISS				i Sg		Sg	03 56 28.6	+0.2
	comp=Z,2.0nm,0.1s							
MOZS	Mozjanca	0.32	344	i Pg		Pg	03 56 25.9	+0.1
MOZS				i Sg		Sg	03 56 30.5	+0.4
	comp=Z,1.0nm,0.1s							

BUC 08 03:58:41.7±0.8, 45°.47N×27°.20E, h17km±7km, MD2.5/2, 22C, Error ellipse: s-maj=11.3km s-min=5.3km az=34.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GRER		0.18	241	⇑iP		Pb	03 58 46.5	-0.1
GRER		0.18	241	S		Sb	03 58 51.0	+1.1
GRER		0.18	241	⇑iP		Pb	03 58 46.5	-0.1
GRER				i S		Sb	03 58 51.0	+1.1
VRI	Vrincioaia	0.52	321	⇑iP		Pb	03 58 52.8	+0.3
VRI	Vrincioaia	0.52	321	⇑iP		Pb	03 58 52.8	+0.3
VRI				i S		Sb	03 59 01.1	+1.4
PLOR	Plostina	0.54	315	⇑iP		Pb	03 58 53.2	+0.3
PLOR	Plostina	0.54	315	⇑iP		Pb	03 58 53.2	+0.3
PLOR				i S		Sn	03 59 02.3	-1.3
CFR	Carcaliu	0.72	113	⇑iP		Pb	03 58 56.3	+0.5
CFR	Carcaliu	0.72	113	⇑iP		Pb	03 58 56.3	+0.5
CFR				i S		Sn	03 59 08.1	+0.3
MLR	Muntele Rosu	0.88	272	⇑iP		Pg	03 58 59.0	-0.1
MLR	Muntele Rosu	0.88	272	⇑iP		Pg	03 58 59.0	-0.1
MLR				i S		Sn	03 59 13.1	+1.0
HARR	Harsova	0.93	146	⇑iP		Pn	03 59 00.0	-0.1
HARR	Harsova	0.93	146	⇑iP		Pn	03 59 00.0	-0.1
TLB	Topalu	1.06	145	⇑iP		Pg	03 59 02.1	-0.2
TLB	Topalu	1.06	145	⇑iP		Pg	03 59 02.1	-0.2
TLB				i S		Sn	03 59 17.9	+1.6
TLCR		1.18	103	⇑iP		Pg	03 59 04.9	+0.5
TLCR		1.18	103	⇑iP		Pg	03 59 04.9	+0.5
TIRR	Tirgusor	1.33	139	⇑iP		Pb	03 59 06.2	+0.1
TIRR	Tirgusor	1.33	139	⇑iP		Pb	03 59 06.2	+0.1
TIRR				i S		Sg	03 59 24.9	+0.3
DOPR	Dopca	1.36	292	⇑iP		Pn	03 59 06.3	+0.3
DOPR	Dopca	1.36	292	⇑iP		Pn	03 59 06.3	+0.3
DOPR				i S		Sn	03 59 23.4	-0.4
VOIR		1.51	270	⇑iP		Pb	03 59 09.9	+0.4
VOIR		1.51	270	S		Sg	03 59 29.9	-0.8
VOIR		1.51	270	⇑iP		Pb	03 59 09.9	+0.4
VOIR				i S		Sg	03 59 29.9	-0.8

*DDA **08** 04:06:06.1, 38°.84N×40°.13E, h21km, MD3.5*
*CSEM **08** 04:06:06.6±0.3, 38°.82N×40°.10E, h2km, MD3.5, Error ellipse: s-maj=8.3km s-min=6.9km az=83.0*
*NSSC **08** 04:06:14.3±2.2, 38°.02N×39°.33E, h119km±65km, ML3.2*

ISC 08 04:06:07.7±0.9, 38°.83N±0°.02×40°.07E±0°.02, h23km±13km, n48, σ1§56/73, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EUZM	Uzumlu	0.93	342	i P		Pn	04 06 23.6	-1.9
EUZM				i S		Sn	04 06 37.5	-0.6
EUZM	Uzumlu	0.93	342	i P		Pn	04 06 23.6	-1.9
EUZM				i S		Sn	04 06 37.5	-0.6
KOPT	Kop Dagi	1.23	15	i P		Pn	04 06 29.1	-0.8
KOPT				i S		Sb	04 06 47.1	+0.9
KOPT	Kop Dagi	1.23	15	i P		Pn	04 06 29.1	-0.8
KOPT				i S		Sb	04 06 47.1	+0.9
KEMA	Kemaliye	1.31	290	i P		Pn	04 06 30.0	-0.6
KEMA				i S		Sb	04 06 50.6	+2.5
KEMA	Kemaliye	1.31	290	i P		Pn	04 06 30.0	-0.6
KEMA				i S		Sb	04 06 50.6	+2.5
BEST	Besiri	1.32	134	i P		Pb	04 06 30.9	-1.1
BEST				i S		Sb	04 06 49.0	+0.5
KELT	Kelkit	1.47	335	i P		Pn	04 06 33.8	+0.8
KELT				i S		Sb	04 06 54.3	+1.6
KELT	Kelkit	1.47	335	i P		Pn	04 06 33.8	+0.8
KELT				i S		Sb	04 06 54.3	+1.6
ERZM	Erzurum	1.47	42	i P		Pn	04 06 32.7	-0.4
ERZM				i S		Sb	04 06 55.7	+2.7
ERZM	Erzurum	1.47	42	i P		Pn	04 06 32.7	-0.4
ERZM				i S		Sb	04 06 55.7	+2.7
MARD	Mardin	1.61	160	i P		Pb	04 06 35.5	-1.3
MARD				i S		Sb	04 06 58.2	+1.5
TATV	Tatvan	1.75	100	i P		Pb	04 06 37.7	-1.5
TATV				i S		Sb	04 07 02.0	+1.2
TATV	Tatvan	1.75	100	i P		Pb	04 06 37.7	-1.5
TATV				i S		Sb	04 07 02.0	+1.2
KBSD	Kabsdagh	1.86	168	eP		Pb	04 06 39.2	-1.8
	SNR=124							
KBSD				eS		Sn	04 07 00.3	-0.7
	528nm,0.6s,SNR=124							
KBSD	Kabsdagh	1.86	168	eP		Pb	04 06 39.2	-1.8
KBSD				eS		Sn	04 07 00.3	-0.7
KBSD				AML		AML	04 07 17.5	
	comp=E,282nm,0.6s							
KBSD				AML		AML	04 07 18.7	
	comp=N,528nm,0.6s							
HOMI	Horasan	1.87	49	i P		Pn	04 06 39.2	+0.7
HOMI				i S		Sb	04 07 06.5	+2.1
EATA	Eleskirt	2.14	60	i P		Pb	04 06 45.6	-0.4
EATA				i S		Sb	04 07 14.4	+2.1
EATA	Eleskirt	2.14	60	i P		Pb	04 06 45.6	-0.4
EATA				i S		Sb	04 07 14.4	+2.1
TUTA	Tutak	2.21	74	i P		Pn	04 06 43.0	-0.2
TUTA				i S		Sn	04 07 10.1	+0.2
TUTA	Tutak	2.21	74	i P		Pn	04 06 43.0	-0.2
TUTA				i S		Sn	04 07 10.1	+0.2
GEVA	Gevas	2.40	101	i P		Pb	04 06 48.9	-1.4
GEVA				i S		Sb	04 07 22.5	+3.1
GEVA	Gevas	2.40	101	i P		Pb	04 06 48.9	-1.4
GEVA				i S		Sb	04 07 22.5	+3.1
SFNV	Sufian	2.40	179	eP		Pn	04 06 46.0	+0.3
	SNR=118							
SFNV	Sufian	2.40	179	eP		Pn	04 06 46.0	+0.3
DDEM	Demirkent	2.44	31	i P		Pn	04 06 46.9	+0.7
DDEM				i S		Sb	04 07 22.5	+2.0
DDEM	Demirkent	2.44	31	i P		Pn	04 06 46.9	+0.7
DDEM				i S		Sb	04 07 22.5	+2.0
GZT	Gaziantep	2.46	234	i P		Pn	04 06 48.4	+1.8
GRSN	GIRESUNGRSN	2.52	327	i P		Pb	04 06 52.3	+0.1
GRSN				i S		Sb	04 07 22.2	-0.5
GRSN	GIRESUNGRSN	2.52	327	i P		Pb	04 06 52.3	+0.1
GRSN				i S		Sb	04 07 22.2	-0.5
DBAD	Bademkaya	2.52	29	i P		Pn	04 06 48.4	+1.0
DBAD				i S		Sb	04 07 25.1	+2.2
DBAD	Bademkaya	2.52	29	i P		Pn	04 06 48.4	+1.0
DBAD				i S		Sb	04 07 25.1	+2.2
TVAN	Van	2.62	95	i P		Pb	04 06 53.7	-0.5
TVAN				i S		Sb	04 07 33.4	+7.3
TVAN	Van	2.62	95	i P		Pb	04 06 53.7	-0.5
TVAN				i S		Sb	04 07 33.4	+7.3
DAGI	Agillar	2.66	32	i P		Pn	04 06 50.3	+1.0
DAGI				i S		Sb	04 07 30.1	+3.2
DBOC	Borcka	2.80	25	i P		Pn	04 06 52.3	+1.2
DBOC				i S		Sb	04 07 28.1	-2.8
DBOC	Borcka	2.80	25	i P		Pn	04 06 52.3	+1.2
DBOC				i S		Sb	04 07 28.1	-2.8
MNKR	ALMNKUR	2.95	193	eP		Pn	04 06 49.2	-3.9
	SNR=113							
MNKR	ALMNKUR	2.95	193	eP		Pn	04 06 49.2	-3.9
MNKR				AML		AML	04 07 42.3	
	comp=E,474nm,0.3s							
MNKR				AML		AML	04 07 47.8	
	comp=N,212nm,0.5s							
MZRK	Al-Mazaregh	3.03	171	eP		Pn	04 06 54.5	+0.2
	SNR=110							
MZRK				eS		Sn	04 07 21.5	-8.3
	comp=N,230nm,0.5s,SNR=110							
MZRK	Al-Mazaregh	3.03	171	eP		Pn	04 06 54.5	+0.2
MZRK				eS		Sn	04 07 21.5	-8.3
MZRK				AML		AML	04 07 44.2	
	comp=N,117nm,0.4s							
MZRK				AML		AML	04 07 46.7	
	comp=E,230nm,0.5s							
KSRV	Kasrt alli	3.08	196	eP		Pn	04 06 57.5	+2.6
	SNR=107							
KSRV	Kasrt alli	3.08	196	eP		Pn	04 06 57.5	+2.6
KUZU	Kuzuini	3.14	230	i P		Pn	04 06 57.9	+2.1
KUZU				i S		Sb	04 07 50.0	+9.4
KUZU	Kuzuini	3.14	230	i P		Pn	04 06 57.9	+2.1
KUZU				i S		Sb	04 07 50.0	+9.4
ANDN	Andirin	3.19	248	i P		Pb	04 07 08.5	+4.8
ANDN				i S		Sb	04 07 55.9	+14
ANDN	Andirin	3.19	248	i P		Pb	04 07 08.5	+4.8
ANDN				i S		Sb	04 07 55.9	+14
DGRG	David-gareji	4.83	55	P		Pn	04 07 11.3	-7.8

MEX 08 04:08:41.0±0.5, 16°.88N×100°.28W, h5km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.17	5	i P		Pg	04 08 43.8	-0.6
CAIG				eS		Sg	04 08 46.8	+0.2
ACX	Acapulco	0.41	91	eP		Pg	04 08 43.1	-5.8
ACX				i S		Sg	04 08 48.8	-5.6
MEIG	Mezcala	1.22	31	eP		Pg	04 09 01.0	-3.5
MEIG				i S		Sg	04 09 16.6	-3.9
ZIIG	Zihuatanejo	1.34	303	eP		Pn	04 09 03.3	-3.1
ZIIG				i S		Sb	04 09 19.6	-4.5
ARIG	Puente Sto Nin	1.40	358	eP		Pn	04 09 03.9	-3.3
ARIG				i S		Sb	04 09 20.2	-5.6
PLIG	Platanillo	1.68	26	eP		Pn	04 09 08.0	-3.2
PLIG				eS		Sn	04 09 28.5	-4.8
TLIG	Tlapa	1.78	67	eP		Pn	04 09 08.8	-3.8
TLIG				eS		Sn	04 09 31.4	-4.3
PNIG	Pinotepa	2.12	103	eP		Pn	04 09 13.4	-3.8
PNIG				eS		Sn	04 09 39.7	-4.3

*ISCJB **08** 04:10:53.3±1.3, 0°.08S±0°.07×123°.23E±0°.08, h35km, mb3.4/3, Error ellipse: s-maj=13.1km s-min=8.6km az=143.6*

*IDC **08** 04:10:54.1±9.1, 0°.07N×123°.27E, h49km±90km, mb3.3/3, mb1 3.5/3, mb1mx3.2/22, mbtmp3.5/3, Error ellipse: s-maj=195.8km s-min=29.3km az=62.0*
*DJA **08** 04:10:59.5±0.6, 0°.5±.3°×12°.3E±°, h23km±8km, M4.5/10, mb4.7/1, MLv4.3/10*

ISC 08 04:10:54.1±1.0, 0°.07S±0°.05×123°.16E±0°.07, h35km, n12, σ1§71/16, mb3.5/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GTOI	Gorontalo	0.72	348	P		Sn	04 11 16.6	-1.0
LUWI	Luwuk	1.04	202	P		Pn	04 11 14.1	+1.9
LUWI				S		Sn	04 11 26.6	+1.1
KMSI	Cibinong	1.05	52	P		Sn	04 11 28.3	+2.6
MRSI	Marisa	1.33	294	P		Pn	04 11 18.2	+2.0
MRSI				S		Sn	04 11 33.2	+0.5
APSI	Ampana	1.72	241	P		Pn	04 11 23.1	+1.5
APSI				S		Sn	04 11 43.1	+0.7
MPSI	Mapaga	3.28	277	P		Pn	04 11 45.8	+2.7
TTSI	Tana Toraja	4.45	228	P		Pn	04 11 59.4	+0.2
SPSI	Sidrap Palu	5.14	221	P		Pn	04 12 08.7	+0.1
BNSI	Bone	5.27	215	P		Pn	04 12 12.2	+1.8
WRA	Warramunga Arr	22.58	152	P		P	04 15 51.5	-0.2
	1.0nm,0.5s,baz=329,slow=10,SNR=13							
ASAR	Alice Springs	25.67	157	P		P	04 16 19.7	-1.3
	0.5nm,0.6s,baz=343,slow=14,SNR=11							
ASAR				PcP		PcP	04 19 49.5	-1.6
	0.4nm,0.5s,baz=357,slow=2.5,SNR=7.7							
MKAR	Makanchi Array	58.76	328	P		P	04 20 46.9	-1.8
	0.2nm,0.4s,baz=124,slow=8.5,SNR=5.9							

*IDC **08** 04:14:07.9±1.5, 27°.75N×134°.30E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.3/27, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=68.3km s-min=24.5km az=86.0*
*ISCJB **08** 04:14:39.1±1.0, 29°.61N±0°.08×139°.5E±0°.3, h500km, mb2.8/3, Error ellipse: s-maj=40.1km s-min=9.7km az=3.7*
*JMA **08** 04:14:40.6±0.5, 29°.55N×139°.70E, h457km, M3.7*

ISC 08 04:14:40.6±1.3, 29°.7N±0°.1×139°.5E±0°.3, h500km, n9, σ1§45/11, mb2.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JIE	Ise	5.29	334	P		P	04 16 10.7	+0.6
JRY	Ryogami san	6.37	356	P		P	04 16 20.9	+0.5
JRY				eS		S	04 17 40.4	-1.8
JAG	Ashikaga	6.76	360	P		P	04 16 23.9	-0.3
JAG				eS		S	04 17 44.9	-4.2
MJAR	Matsushiro Arr	6.96	351	Pn		P	04 16 25.1	-1.1
	0.5nm,0.3s,baz=190,slow=12,SNR=4.0							
JHO	Hitachi	7.00	7	P		P	04 16 28.5	+1.9
JHO				eS		S	04 17 52.1	-1.5
USRK	Ussuriysk Ar.	15.71	340	Pn		P	04 18 00.2	+2.3
	0.4nm,0.3s,baz=172,slow=12,SNR=5.7							
WRA	Warramunga Arr	49.55	186	P		P	04 22 44.5	-0.8
	0.1nm,0.3s,baz=1.9,slow=7.9,SNR=4.6							
KURBB	Kurchatov Arra	49.58	313	P		P	04 22 44.9	-0.1
	0.2nm,0.4s,baz=91,slow=6.6,SNR=3.1							
ASAR	Alice Springs	53.28	186	P		P	04 23 12.0	-0.3
	0.2nm,0.4s,baz=2.9,slow=7.4,SNR=4.5							

*DDA **08** 04:24:45.7, 38°.83N×40°.12E, h3km, MD3.1*
*ISK **08** 04:24:45.7, 38°.83N×40°.19E, h5km, MD3.0*
*CSEM **08** 04:24:46.6±0.2, 38°.82N×40°.17E, h2km, MD3.0, Error ellipse: s-maj=4.5km s-min=3.9km az=76.0*
*NSSC **08** 04:24:47.6±2.3, 38°.89N×39°.52E, h37km±414km, ML3.3*

ISC 08 04:24:46.9±1.1, 38°.83N±0°.02×40°.15E±0°.02, h6km±10km, n49, σ0§78/72, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BNGB	Bing¨¶l	0.45	69	ePG		Pg	04 24 54.9	-0.7
BNGL	BINGOL	0.79	81	i P		Pg	04 25 01.3	-0.9
BNGL				i S		Sb	04 25 13.6	-0.8
ERZN	Erzincan	0.82	337	ePG		Pg	04 25 01.8	-1.0
DYBB	Diyarbakir	0.88	180	ePG		Pg	04 25 03.6	-0.2
DYBB				eSG		Sb	04 25 16.6	0.0
DIY	Diyarbakir	0.94	176	ePg		Pg	04 25 03.6	-1.3
DIY				eSg		Sg	04 25 16.6	-0.4
EUZM	Uzumlu	0.94	338	i P		Pg	04 25 04.1	-0.9
EUZM				i S		Sb	04 25 18.7	+0.1
EUZM	Uzumlu	0.94	338	i P		Pg	04 25 04.1	-0.9
EUZM				i S		Sb	04 25 18.7	+0.1
SVAN	Silvan-Diyarba	1.07	129	ePG		Pg	04 25 06.7	-0.7
VRTB	Varto-Mus	1.07	72	ePG		Pg	04 25 06.8	-0.7
VRTB				eSG		Sb	04 25 22.1	-0.2
VRTB	Varto-Mus	1.07	72	ePg		Pg	04 25 06.8	-0.7
VRTB				eSg		Sb	04 25 22.1	-0.2
KOPT	Kop Dagi	1.22	13	i P		Pg	04 25 08.6	-1.7
KOPT				i S		Sb	04 25 27.3	+0.7
KOPT	Kop Dagi	1.22	13	i P		Pg	04 25 08.6	-1.7
KOPT				i S		Sb	04 25 27.3	+0.7
BTMT	Batman	1.23	121	ePN		Pg	04 25 09.8	-0.8
BTMT	Batman	1.23	121	ePn		Pg	04 25 09.8	-0.8
BEST	Besiri	1.29	136	i P		Pg	04 25 10.9	-0.8
BEST				i S		Sn	04 25 28.8	-0.4
KEMA	Kemaliye	1.36	289	i P		Pn	04 25 11.4	-1.1
KEMA				i S		Sb	04 25 30.5	0.0
KEMA	Kemaliye	1.36	289	i P		Pn	04 25 11.4	-1.1
KEMA				i S		Sb	04 25 30.5	0.0
ILIC	ilic-Erzincan	1.38	297	ePN		Pg	04 25 13.4	+

ANDN *i* S **Sn** **04 25 37.3 -1.8**
ANDN Andirin 0.57 69 *i* P **Pb** **04 25 27.2 -0.4**
KUZU Kuzuini 1.27 118 *i* P **Pg** **04 25 40.3 +0.1**
KUZU *i* S **Sg** **04 25 58.1 +1.3**
KUZU Kuzuini 1.27 118 *i* P **Pg** **04 25 40.3 +0.1**
KUZU *i* S **Sg** **04 25 58.1 +1.3**
BTCH Batrach 1.48 155 *eP* **Pn** **04 25 42.5 +0.3**
SNR=90
BTCH Batrach 1.48 155 *eP* **Pn** **04 25 42.5 +0.3**
BTCH AML AML 04 26 15.6
comp=E,351nm,0.4s
BTCH AML AML 04 26 15.8
comp=N,271nm,0.4s
KIZK Mersin 1.52 234 *i* P **Pn** **04 25 43.2 +0.5**
KIZK *i* S **Sg** **04 26 04.4 -0.2**
KIZK Mersin 1.52 234 *i* P **Pn** **04 25 43.2 +0.5**
KIZK *i* S **Sg** **04 26 04.4 -0.2**
WRDH Warideh 1.96 162 *eP* **Pb** **04 25 50.3 -1.1**
SNR=90
WRDH Warideh 1.96 162 *eP* **Pb** **04 25 50.3 -1.1**
WRDH AML AML 04 26 23.9
comp=E,64nm,0.4s
WRDH AML AML 04 26 25.7
comp=N,120nm,0.5s
ATAB Bozova 2.09 87 *i* P **Pn** **04 25 51.5 +1.0**
ATAB *i* S **Sg** **04 26 22.5 -0.3**
ERMK Ermenek 2.33 252 *i* P **Pb** **04 25 57.1 -0.6**
ERMK Ermenek 2.33 252 *i* P **Pb** **04 25 57.1 -0.6**
ERMK *i* S **Sg** **04 26 30.4 -0.1**
BIDA Albida 2.42 167 *eP* **Pn** **04 25 54.4 -0.7**
SNR=90
BIDA Albida 2.42 167 *eP* **Pn** **04 25 54.4 -0.8**
BIDA AML AML 04 26 38.8
comp=E,52nm,0.5s
BIDA AML AML 04 26 43.9
comp=N,142nm,0.5s
CDAG Cicekdag 2.46 336 *i* P **Pn** **04 25 54.2 -1.5**
CDAG Cicekdag 2.46 336 *i* P **Pn** **04 25 54.2 -1.5**
CDAG *i* S **Sb** **04 26 29.4 -0.8**
HAWK Haweek 2.92 168 *eP* **Pn** **04 26 02.8 +0.8**
SNR=90
HAWK Haweek 2.92 168 *eP* **Pn** **04 26 02.8 +0.9**
GAZI Gazipasa 2.93 248 *i* P **Pn** **04 26 03.3 +1.2**
GAZI Gazipasa 2.93 248 *i* P **Pn** **04 26 03.3 +1.2**
GAZI *i* S **Sb** **04 26 44.0 +0.4**
BBAL Bala 2.94 318 *i* P **Pn** **04 26 01.8 -0.6**
BBAL Bala 2.94 318 *i* P **Pn** **04 26 01.8 -0.6**
BBAL *i* S **Sb** **04 26 44.2 0.0**
KDHN Kadinhani 3.03 293 *i* P **Pn** **04 26 03.6 0.0**
KDHN Kadinhani 3.03 293 *i* P **Pn** **04 26 03.6 0.0**
CTKT Corum 3.31 348 *i* P **Pn** **04 26 08.0 +0.6**
CTKT Corum 3.31 348 *i* P **Pn** **04 26 08.0 +0.6**
ELDT Eldivan 3.56 331 *i* P **Pb** **04 26 17.8 -1.0**
ELDT *i* S **Sb** **04 27 04.1 +2.1**
BCAM Yenicaga 4.43 322 *i* P **Pb** **04 26 35.8 +2.3**

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*IDC **08** 04:35:40.8±1.1,25°.94N×128°.47E, h0km, mb3.7/7, mb1 3.7/8, mb1mx3.6/28, mbtmp3.7/8, ML3.4/1, Error ellipse: s-maj=53.1km s-min=16.5km az=77.0*
*JMA **08** 04:35:43.9±0.3,25°.96N×128°.57E, h36km±4km, M3.5*
ISC 08 04:35:41.9±1.7,25°.95N±0°.05×128°.55E±0°.04,h11km±10km, n20,σ1°.28/30,mb3.7/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.74**	**320**	P	**Pn**	**04 35 57.7**	**-0.6**
JNTH				*e*S	**Sn**	**04 36 07.9**	**-1.6**
JOW	**Kunigami**	**0.91**	**344**	P	**Pn**	**04 36 00.6**	**0.0**
JOW				*e*S	**Sg**	**04 36 11.8**	**+0.4**
JOW	**Kunigami**	**0.91**	**344**	Pn	**Pn**	**04 36 00.7**	**0.0**
	15nm,0.3s,baz=168,slow=18,SNR=110						
JOW				Sn	**Sb**	**04 36 11.1**	**-0.8**
	30nm,0.3s,baz=133,slow=19,SNR=28						
JIH	**Iheya**	**1.20**	**334**	P	**Pg**	**04 36 05.1**	**+0.1**
JIH				S	**Sn**	**04 36 19.7**	**-1.2**
JAGN	**Aguni-jima**	**1.34**	**299**	P	**Pg**	**04 36 07.2**	**-0.4**
JAGN				*e*S	**Sg**	**04 36 23.9**	**-1.1**
JOKE	**Okinoerabujima**	**1.41**	**1**	P	**Pn**	**04 36 07.6**	**+0.1**
JOKE				*e*S	**Sn**	**04 36 23.9**	**-2.1**
JKE	**Kume jima 2**	**1.63**	**284**	P	**Pn**	**04 36 10.7**	**+0.2**
JKE				*e*S	**Sn**	**04 36 30.3**	**-1.3**
JTK	**Tokunoshima**	**1.86**	**11**	P	**Pn**	**04 36 14.1**	**+0.4**
JTK				*e*S	**Sn**	**04 36 35.8**	**-1.5**
JAMN	**Amaminishikomi**	**2.35**	**14**	P	**Pn**	**04 36 20.9**	**+0.5**
JMZ	**Minamidaito 2**	**2.41**	**93**	P	**Pn**	**04 36 20.8**	**-0.4**
JMZ				*e*S	**Sn**	**04 36 47.6**	**-3.1**
JAM	**Amami Oshima**	**2.62**	**21**	P	**Pn**	**04 36 24.4**	**+0.2**
JAM				*e*S	**Sn**	**04 36 54.2**	**-1.9**
JZK	**Kikaishima**	**2.67**	**28**	*e*S	**Sn**	**04 36 57.0**	**-0.3**
JNU	**Nakatsue**	**7.43**	**15**	Pn	**Pn**	**04 37 31.5**	**+1.3**
	6.6nm,0.3s,baz=155,slow=17,SNR=2.6						
SONM	**Songino Array**	**27.94**	**327**	P	**P**	**04 41 34.4**	**+2.1**
	0.7nm,0.5s,baz=140,slow=11,SNR=9.5						
MKAR	**Makanchi Array**	**41.94**	**312**	P	**P**	**04 43 32.4**	**-0.2**
	0.3nm,0.4s,baz=90,slow=10,SNR=7.0						
WRA	**Warramunga Arr**	**45.96**	**172**	P	**P**	**04 44 04.3**	**-0.8**
	0.4nm,0.8s,baz=351,slow=8.5,SNR=3.9						
ASAR	**Alice Springs**	**49.60**	**174**	P	**P**	**04 44 35.4**	**+2.2**
	0.2nm,0.6s,baz=57,slow=14,SNR=3.2						
FINES	**FINESS Array B**	**73.25**	**331**	P	**P**	**04 47 13.3**	**+0.5**
	2.9nm,1.0s,baz=51,slow=5.5,SNR=3.5						
AKASG	**Malin Array Be**	**75.93**	**320**	P	**P**	**04 47 27.6**	**-1.1**
	0.6nm,0.5s,baz=58,slow=6.9,SNR=2.5						
BRTR	**Keskin Array B**	**77.43**	**308**	P	**P**	**04 47 38.8**	**+1.2**
	0.6nm,0.9s,baz=20,slow=4.6,SNR=3.1						

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*IDC **08** 04:40:19.1±0.6,33°.24S×72°.00W, h0km, mb4.3/11, mb1 4.4/14, mb1mx4.3/28, mbtmp4.3/14, ML4.6/3, MS4.5/11, Ms1 4.5/11, ms1mx4.3/22, Error ellipse: s-maj=25.0km s-min=13.6km az=84.0*
*GUC **08** 04:40:19.7±0.4,33°.39S×72°.47W, h29km±5km, ML4.4*
*ISCJB **08** 04:40:23.0±0.2,33°.37S±0°.04×72°.44W±0°.03, h33km, mb4.8/47, MS4.5/9, Error ellipse: s-maj=6.2km s-min=3.1km az=21.0*
*NEIC **08** 04:40:24.9±0.3,33°.23S×71°.91W, h35km, mb5.0/37, Error ellipse: s-maj=10.5km s-min=7.0km az=63.0*
NEIC Felt at San Bernardo, Santiago and Vina del Mar.
*BJI **08** 04:40:26.2,33°.10S×71°.90W, h35km, mB5.2/12, Ms5.4/10, Ms7 5.1/10*
ISC 08 04:40:25.0±0.8,33°.28S±0°.05×72°.23W±0°.05,h35km±3km, n157,σ1°.32/178,mb4.8/47,MS4.5/8,3C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.56**	**63⇑**	*i*P	**Pb**	**04 40 35.0**	**-1.6**
IHA				*i* S	**Sn**	**04 40 46.3**	**+1.8**
TACH	**Talagante**	**1.14**	**109**	*e*P1	**Pn**	**04 40 43.4**	**-1.2**
TACH				*i* S	**Sb**	**04 41 01.7**	**+0.7**
PEL	**Peldehue**	**1.30**	**84⇓**	*i*P	**Pn**	**04 40 46.8**	**0.0**
PEL				*i* S	**Sb**	**04 41 07.4**	**+1.8**
PEL				AML	AML	04 41 18.1	
	comp=E,12μm,0.7s						
SAN	**Santiago**	**1.32**	**98⇓**	*i*P	**Pn**	**04 40 46.7**	**-0.4**
SAN				*i* S	**Sb**	**04 41 06.9**	**+0.8**
STL	**Santa Lucia**	**1.34**	**97**	*e*P9	**Pn**	**04 40 46.2**	**-1.1**
STL				*i* S	**Sb**	**04 41 07.0**	**+0.5**
ANTU	**Antumapu**	**1.37**	**103**	*e*P1	**Pn**	**04 40 47.3**	**-0.4**
ANTU				*i* S	**Sb**	**04 41 08.1**	**+0.8**
ANTU				AML	AML	04 41 21.6	
	comp=N,8μm,0.4s						
CLCH	**Cerro Calan**	**1.42**	**95⇑**	*i*P	**Pn**	**04 40 48.4**	**-0.1**
CLCH				*e*S	**Sb**	**04 41 10.3**	**+1.3**
CLCH				AML	AML	04 41 21.4	
	comp=N,11μm,0.4s						
LACH	**Col Las Americ**	**1.43**	**97**	*e*P9	**Pn**	**04 40 48.2**	**-0.4**
LACH				*i* S	**Sb**	**04 41 10.1**	**+0.9**
LACH				AML	AML	04 41 27.3	
	comp=N,4μm,1.0s						
NICH	**Los Niches**	**1.91**	**154**	*i* P1	Pn	04 40 52.6	-2.5
NICH				*i* S	**Sn**	**04 41 17.5**	**-0.4**
CFAA	**Coronel Fontan**	**3.77**	**65**	Pn	Pn	04 41 15.4	-5.3
	comp=N,0.2nm,0.3s,baz=240,slow=14,SNR=3.8						
CFAA				LR	LR	04 42 08.5	
	comp=N,187nm,21.1s,baz=344,slow=31						
CFAA				Lg	Lg	04 42 20.7	
	comp=N,2.5nm,0.3s,baz=337,slow=5.6,SNR=5.5						
PLCA	**Paso Flores**	**7.56**	**170**	Pn	**Pn**	**04 42 10.8**	**-2.0**
	comp=N,5.8nm,0.3s,baz=332,slow=11,SNR=49						
PLCA				Lg	Lg	04 44 21.0	
	comp=N,0.3nm,0.3s,baz=302,slow=15,SNR=3.7						
PLCA				LR	LR	04 45 19.2	
	comp=N,4μm,18.2s,baz=350,slow=40						
TRQA	**Tornquist**	**9.60**	**123**	*e*Pn	**Pn**	**04 42 40.5**	**-0.3**
LVC	**Limon Verde**	**11.03**	**16**	*e*Pn	Pn	04 43 04.4	+3.9
CPUP	**Villa Florida**	**14.67**	**66**	Pn	**Pn**	**04 43 49.9**	**0.0**
	comp=N,0.3nm,0.3s,baz=196,slow=18,SNR=2.3						
CPUP				LR	LR	04 49 32.2	
	comp=N,767nm,19.9s,baz=228,slow=38						
CPUP	**Villa Florida**	**14.67**	**66**	*e*Pn	Pn	04 43 45.8	-4.2
LPAZ	**La Paz**	**17.32**	**13**	P	**Pn**	**04 44 22.6**	**-2.2**
	comp=N,0.3nm,0.3s,baz=154,slow=7.3,SNR=13						
SIV	**San Ignacio**	**19.95**	**33**	P	**P**	**04 44 51.4**	**-2.8**
	comp=N,0.9nm,0.3s,baz=229,slow=13,SNR=11						
SIV				LR	LR	04 53 52.7	
	comp=N,2μm,18.6s,baz=236,slow=41						
EFI	**East Falkland**	**21.07**	**155**	*e*P	**P**	**04 45 05.4**	**-0.7**
	comp=N,100nm,1.0s						
NNA	**Nana**	**21.61**	**348**	P	**P**	**04 45 10.7**	**-1.5**
	comp=N,1.7nm,0.3s,baz=161,slow=18,SNR=2.1						
NNA				LR	LR	04 51 53.8	
	comp=N,1μm,18.9s,baz=192,slow=32						
USHA	**Ushuaia**	**21.71**	**174**	P	**P**	**04 45 11.9**	**-0.9**
	comp=N,20nm,1.1s,baz=330,slow=14,SNR=3.0						
USHA				LR	LR	04 54 59.2	
	comp=N,2μm,20.3s,baz=328,slow=40						
SAML	**Samuel**	**25.62**	**21**	*e*P	**P**	**04 45 50.5**	**-0.8**
	comp=N,43nm,1.4s						
ATAH	**Atahualpa**	**26.64**	**346**	LR	LR	04 55 15.5	
	comp=N,880nm,18.4s,baz=213,slow=34						
BDFB	**Brasilia**	**28.07**	**57**	P	**P**	**04 46 10.9**	**-2.6**
	comp=N,1.4nm,0.4s,baz=191,slow=11,SNR=4.6						
PMSA	**Palmer Station**	**31.92**	**173**	LR	LR	05 00 03.1	
	comp=N,1μm,18.1s,baz=295,slow=37						
VNA3	**Neumayer Olymp**	**50.08**	**158**	P	P	04 49 21.1	+5.0
VNA2	**Neumayer--Watz**	**50.73**	**157**	P	**P**	**04 49 20.8**	**-0.2**
SNAA	**Sanae**	**52.31**	**158**	P	**P**	**04 49 32.3**	**-0.5**
SNAA	**Sanae**	**52.31**	**158**	P	**P**	**04 49 31.8**	**-1.0**
	comp=N,4.3nm,1.1s,baz=300,slow=7.2,SNR=12						
SNAA	**Sanae**	**52.31**	**158**	*e*P	**P**	**04 49 32.0**	**-0.8**
	comp=N,56nm,1.3s						
TEIG	**Tepich**	**55.37**	**342**	*e*P	**P**	**04 49 54.7**	**-0.9**
	comp=N,11nm,0.9s						
QSPA	**South Pole Qui**	**56.95**	**180**	P	**P**	**04 50 05.8**	**-0.9**
	comp=N,10nm,1.1s,baz=136,slow=4.1,SNR=12						
834A	**Tilden**	**65.98**	**335**	P	**P**	**04 51 09.3**	**+1.5**
baz=66							
SYO	**Syowa Base**	**66.59**	**159⇑**	*e*X	P	04 51 06.8	-4.4
832A	**Faith Ranch, C**	**66.65**	**333**	P	**P**	**04 51 12.6**	**+0.5**
baz=67							
732A	**Laxson Ranch,**	**67.05**	**334**	P	**P**	**04 51 15.1**	**+0.5**
baz=67							
633A	**Saathoff Ranch**	**67.42**	**335**	P	**P**	**04 51 17.2**	**+0.2**
baz=68							
632A	**Uvalde**	**67.68**	**334**	P	**P**	**04 51 18.8**	**+0.2**
baz=68							
631A	**Perdido Creek**	**67.89**	**333**	P	**P**	**04 51 20.6**	**+0.7**
baz=68							
533A	**Kerrville**	**67.93**	**335**	P	**P**	**04 51 20.4**	**+0.2**
baz=68							
532A	**Rocksprings**	**68.29**	**334**	P	**P**	**04 51 22.9**	**+0.4**
baz=69							
434A	**Burnet**	**68.34**	**336**	P	**P**	**04 51 23.2**	**+0.4**
baz=69							
531A	**Rocksprings**	**68.56**	**334**	P	**P**	**04 51 24.3**	**+0.1**
baz=69							
433A	**Art**	**68.57**	**335**	P	**P**	**04 51 24.0**	**-0.2**
baz=69							
JCT	**Junction City**	**68.57**	**335**	*e*P	**P**	**04 51 22.9**	**-1.3**
	comp=N,24nm,1.1s						
KMSC	**Kings Mountain**	**68.60**	**352**	P	**P**	**04 51 23.8**	**-0.5**
baz=69							
334A	**Lometa**	**68.80**	**336**	P	**P**	**04 51 25.4**	**-0.3**
baz=69							
530A	**J-C Ranch, Com**	**68.84**	**333**	P	**P**	**04 51 26.1**	**+0.2**
baz=69							
TXAR	**Lajitas Array**	**69.03**	**331**	P	**P**	**04 51 26.1**	**-1.2**
	comp=N,1.1nm,0.6s,baz=153,slow=8.2,SNR=16						
TXAR				LR	LR	05 17 30.3	
	comp=N,459nm,18.1s,baz=0.0,slow=32						
431A	**Sonora**	**69.05**	**334**	P	**P**	**04 51 27.2**	**0.0**
baz=69							
333A	**Richland Sprin**	**69.05**	**336**	P	**P**	**04 51 26.3**	**-0.8**
baz=69							
WHTX	**Lake Whitney,**	**69.15**	**337**	P	**P**	**04 51 26.6**	**-1.2**
baz=70							
WHTX	**Lake Whitney,**	**69.15**	**337**	*e*P	**P**	**04 51 26.5**	**-1.2**
	comp=N,29nm,1.4s						
529A	**Stev Forest Ra**	**69.16**	**332**	P	**P**	**04 51 28.2**	**+0.3**
baz=70							
OXF	**Oxford**	**69.34**	**345**	*e*P	**P**	**04 51 28.2**	**-0.7**
	comp=N,47nm,1.4s						
SWET	**Sewanee**	**69.34**	**348**	*e*P	**P**	**04 51 27.9**	**-1.0**
	comp=N,30nm,1.5s						
332A	**Millersview**	**69.37**	**335**	P	**P**	**04 51 29.1**	**-0.1**
baz=70							
430A	**Baggett Ranch,**	**69.37**	**334**	P	**P**	**04 51 29.3**	**+0.1**
baz=70							
234A	**Clairette**	**69.38**	**337**	P	**P**	**04 51 29.0**	**-0.3**
baz=70							
331A	**San Angelo**	**69.55**	**334**	P	**P**	**04 51 29.9**	**-0.4**
baz=70							
233A	**Rising Star**	**69.65**	**336**	P	**P**	**04 51 29.6**	**-1.3**
baz=70							
232A	**Coleman**	**69.79**	**335**	P	**P**	**04 51 31.3**	**-0.5**
baz=70							
133A	**Hamilton Ranch**	**70.20**	**336**	P	**P**	**04 51 33.8**	**-0.4**
baz=71							
329A	**Wagon Wheel Ra**	**70.28**	**333**	P	**P**	**04 51 34.1**	**-0.7**
baz=71							
Z35A	**Perchaven, San**	**70.32**	**338**	P	**P**	**04 51 35.0**	**+0.1**
baz=71							
MIAR	**Mount Ida**	**70.38**	**341**	*e*P	**P**	**04 51 35.1**	**-0.2**
	comp=N,9.9nm,1.4s						
ABTX	**Abilene, Hawle**	**70.46**	**336**	*e*P	**P**	**04 51 35.2**	**-0.6**
	comp=N,24nm,1.3s						
WVT	**Waverly**	**70.58**	**347**	*e*P	**P**	**04 51 34.1**	**-2.4**
	comp=N,82nm,1.8s						
Z33A	**Whitaker Ranch**	**70.77**	**337**	P	**P**	**04 51 37.2**	**-0.5**
baz=71							
Z32A	**Haskell**	**71.03**	**336**	P	**P**	**04 51 38.9**	**-0.4**
baz=71							
228A	**UT Block 9, Go**	**71.07**	**333**	P	**P**	**04 51 39.3**	**-0.3**
baz=72							
Z31A	**Sharp Cattle R**	**71.27**	**336**	P	**P**	**04 51 39.9**	**-0.9**
baz=72							
Y33A	**Hilltop Ranch,**	**71.38**	**337**	P	**P**	**04 51 41.1**	**-0.3**
baz=72							
Z30A	**Sanderson Ranc**	**71.58**	**335**	P	**P**	**04 51 42.0**	**-0.7**
baz=72							
Y32A	**R-V Farms, Ver**	**71.65**	**336**	P	**P**	**04 51 43.1**	**0.0**
baz=72							
X34A	**Smith Ranch, M**	**71.67**	**338**	P	**P**	**04 51 43.2**	**+0.1**
baz=72							
Y31A	**Rekieta Farm,**	**71.89**	**336**	P	**P**	**04 51 44.3**	**-0.2**
baz=72							
Z28A	**Tucker Farm, M**	**72.04**	**334**	P	**P**	**04 51 44.7**	**-0.8**
baz=72							
WMOK	**Wichita Mounta**	**72.10**	**337**	*e*P	**P**	**04 51 46.2**	**+0.5**
	comp=N,10nm,1.3s						
Y29A	**Porterfield Fa**	**72.29**	**335**	P	**P**	**04 51 46.3**	**-0.6**
baz=73							
X31A	**McDonald Ranch**	**72.40**	**336**	P	**P**	**04 51 46.9**	**-0.7**
baz=73							
W32A	**Sentinel**	**72.61**	**337**	P	**P**	**04 51 47.8**	**-0.9**
baz=73							
V34A	**Guthrie**	**72.72**	**339**	*e*P	**P**	**04 51 48.8**	**-0.5**
	comp=N,34nm,1.4s						
MSTX	**Muleshoe**	**72.79**	**334**	P	**P**	**04 51 49.3**	**-0.7**
baz=73							
MSTX	**Muleshoe**	**72.79**	**334**	*e*P	**P**	**04 51 50.3**	**+0.3**
	comp=N,20nm,1.2s						
MAW	**Mawson**	**73.91**	**164**	LR	LR	05 25 52.0	
	comp=N,625nm,18.1s,baz=230,slow=37						
Y23A	**Lovelace Mesa,**	**74.03**	**331**	P	**P**	**04 51 58.2**	**+0.8**
baz=74							
W26A	**Owens Ranch, T**	**74.16**	**334**	P	**P**	**04 51 58.1**	**+0.1**
baz=75							
X24A	**Lazy VL Ranch,**	**74.34**	**332**	P	**P**	**04 51 59.4**	**+0.2**
baz=75							
W25A	**X Bar L Ranch,**	**74.54**	**333**	P	**P**	**04 51 59.2**	**-1.0**
baz=75							
V26A	**Tequesquite Ra**	**74.80**	**334**	P	**P**	**04 52 01.5**	**-0.2**
baz=75							
LAZ	**Ladron**	**74.88**	**331**	*e*P	**P**	**04 52 02.4**	**+0.1**
	comp=N,8.0nm,1.5s						
W24A	**Lazy 6 Ranch,**	**74.89**	**332**	P	**P**	**04 52 03.0**	**+0.7**
baz=75							
ANMO	**Albuquerque**	**75.08**	**331**	*e*P	**P**	**04 52 04.0**	**+0.6**
	comp=N,14nm,1.5s						
DBIC	**Dimbokro**	**75.10**	**72**	LR	LR	05 22 51.4	
	comp=N,197nm,19.1s,baz=209,slow=34						
V25A	**Rancho No Teng**	**75.14**	**333**	P	**P**	**04 52 03.5**	**-0.3**
baz=76							
T28A	**Walsh**	**75.38**	**336**	P	**P**	**04 52 05.4**	**+0.3**
baz=76							
U23A	**El Rito**	**76.18**	**332**	P	**P**	**04 52 09.8**	**0.0**
baz=77							
T25A	**Trinidad**	**76.22**	**334**	P	**P**	**04 52 10.4**	**+0.5**
baz=77							
S26A	**Kim**	**76.31**	**335**	P	**P**	**04 52 10.3**	**-0.1**
baz=77							
U22A	**Llaves**	**76.48**	**332**	P	**P**	**04 52 12.9**	**+1.4**
baz=77							
R27A	**Eads**	**76.67**	**336**	P	**P**	**04 52 12.1**	**-0.3**
baz=77							
X16A	**Lo Mia Camp, P**	**76.75**	**328**	P	**P**	**04 52 13.6**	**+0.6**
baz=77							
NCB	**Newcomb**	**76.91**	**359**	*e*P	**P**	**04 52 14.4**	**+1.0**
	comp=N,15nm,0.7s						
R26A	**Arlington**	**76.91**	**335**	P	**P**	**04 52 14.4**	**+0.8**
baz=77							
S24A	**Houchin Ranch,**	**76.96**	**334**	P	**P**	**04 52 14.7**	**+0.5**
baz=77							
O31A	**Woolen Ranch,**	**77.25**	**339**	P	**P**	**04 52 15.8**	**+0.4**
baz=78							
R24A	**Sanders Place,**	**77.44**	**334**	P	**P**	**04 52 16.9**	**+0.1**
baz=78							
JFWS	**Jewell Farm**	**77.61**	**347**	*e*P	**P**	**04 52 17.6**	**+0.3**
	comp=N,51nm,1.9s						
WUAZ	**Wupatki**	**77.64**	**328**	*e*P	**P**	**04 52 18.7**	**+0.8**
	comp=N,12nm,1.3s						
S22A	**4UR Ranch, Cre**	**77.66**	**333**	P	**P**	**04 52 19.6**	**+1.4**
baz=78							
R23A	**Moffat**	**77.67**	**333**	P	**P**	**04 52 19.9**	**+1.7**
baz=78							
O28A	**Krutsinger Ran**	**77.98**	**337**	P	**P**	**04 52 20.8**	**+1.2**
baz=78							
U15A	**North Rim**	**78.81**	**328**	P	**P**	**04 52 25.5**	**+1.0**
baz=79							
SMCO	**Snowmass**	**78.97**	**333**	*e*P	**P**	**04 52 26.4**	**+0.9**
	comp=N,14nm,1.3s						
ISCO	**Idaho Springs**	**79.01**	**334**	P	**P**	**04 52 26.1**	**+0.6**
baz=79							
ISCO	**Idaho Springs**	**79.01**	**334**	*e*P	**P**	**04 52 26.4**	**+0.8**
	comp=N,19nm,1.9s						
TSUM	**Tsumeb**	**79.57**	**106**	*e*P	**P**	**04 52 28.8**	**-0.2**
	comp=N,21nm,1.4s						
ECSD	**EROS Data Cent**	**79.82**	**342**	*e*P	**P**	**04 52 30.4**	**+1.0**
	comp=N,103nm,2.7s						
SHPR	**Sheep Range**	**80.17**	**326**	*e*P	**P**	**04 52 33.4**	**+1.6**
	comp=N,15nm,1.5s						
CCUT	**Cedar City**	**80.21**	**328**	*e*P	**P**	**04 52 32.5**	**+0.4**
	comp=N,34nm,2.1s						
SRU	**San Rafael Swe**	**80.31**	**331**	*e*P	**P**	**04 52 32.3**	**-0.2**
	comp=N,3.9nm,1.0s						
BOSA	**Boshof**	**80.55**	**118**	P	**P**	**04 52 33.3**	**-0.9**
	comp=N,11nm,1.1s,baz=232,slow=6.6,SNR=6.9						
R11A	**Troy Canyon, C**	**81.87**	**327**	P	**P**	**04 52 42.0**	**+1.2**
baz=82							
DUG	**Dugway, Tooele**	**82.17**	**330**	*e*P	**P**	**04 52 44.2**	**+1.9**
	comp=N,21nm,1.8s						
TPH	**Tonopah**	**82.41**	**326**	*e*P	**P**	**04 52 45.6**	**+1.9**
	comp=N,18nm,1.6s						
LBTB	**Lobatse**	**82.75**	**115**	*e*P	**P**	**04 52 45.2**	**-0.6**
	comp=N,24nm,1.1s						
HWUT	**Hardware Ranch**	**82.84**	**331**	*e*P	**P**	**04 52 47.2**	**+1.4**
	comp=N,8.1nm,1.2s						
BGU	**Big Grassy Mou**	**82.87**	**330**	*e*P	**P**	**04 52 47.4**	**+1.5**
PDAR	**Pinedale Array**	**83.05**	**333**	P	**P**	**04 52 48.4**	**+1.5**
	comp=N,0.8nm,0.9s,baz=129,slow=2.1,SNR=5.1						
NVAR	**Mina Array Bea**	**83.20**	**325**	P	**P**	**04 52 48.5**	**+0.7**
	comp=N,1.6nm,0.9s,baz=143,slow=6.8,SNR=3.7						
HVU	**Hansel Valley**	**83.48**	**331**	*e*P	**P**	**04 52 51.5**	**+2.5**
	comp=N,11nm,1.4s						
ELK	**Elko**	**83.67**	**329**	*e*P	**P**	**04 52 51.1**	**+0.9**
	comp=N,58nm,2.8s						
URZ	**Urewera**	**84.02**	**228**	LR	LR	05 24 05.7	
	comp=N,233nm,18.2s,baz=7.0,slow=31						
TORD	**Torodi Ar. Bea**	**84.12**	**70**	P	**P**	**04 52 52.1**	**-0.7**
	comp=N,7.0nm,1.1s,baz=265,slow=5.9,SNR=25						
MDND	**Maddock**	**84.41**	**342**	*e*P	**P**	**04 52 53.9**	**+0.4**
	comp=N,8.2nm,1.4s						
HLID	**Hailey**	**85.63**	**331**	*e*P	**P**	**04 53 00.5**	**+0.6**
	comp=N,14nm,1.8s						
ULM	**Lac du Bonnet**	**85.77**	**345**	P	**P**	**04 53 00.6**	**+0.4**
	comp=N,1.9nm,0.9s,baz=42,slow=1.2,SNR=4.1						
ULM	**Lac du Bonnet**	**85.77**	**345**	*e*P	**P**	**04 53 01.9**	**+1.7**
MCMT	**McKenzie Canyo**	**86.06**	**332**	*e*P	**P**	**04 53 01.6**	**-0.5**
	comp=N,6.8nm,1.5s						
DLMT	**Dillon**	**86.41**	**333**	*e*P	**P**	**04 53 04.9**	**+1.2**
	comp=N,22nm,1.8s						
SCHQ	**Schefferville**	**87.88**	**3**	*e*P	**P**	**04 53 13.3**	**+2.9**
	comp=N,52nm,1.7s						
ABKAR	**Akbulak array**	**141.36**	**51**	*e*PKPdf	**PKPdf**	**04 59 51.1**	**-0.6**
POO	**Poona**	**146.31**	**107**	*ex*	**PKPdf**	**05 00 01.0**	**-0.4**
KKAR	**Karatay Array**	**149.34**	**60**	*e*PKPdf	**PKPdf**	**05 00 02.9**	**-2.8**
KKAR				*e*PKPbc	**PKPbc**	**05 00 09.4**	**-0.7**
HYB	**Hyderabad**	**149.37**	**114**	*i* PKP	**PKPdf**	**05 00 09.0**	**+2.6**
AAK	**Ala-Archa**	**152.30**	**61**	*e*PKPbc	**PKPbc**	**05 00 17.0**	**-0.2**
ZALV	**Zalesovo Beam**	**153.70**	**31**	PKP	**PKPdf**	**05 00 08.8**	**-3.0**
	comp=N,0.4nm,0.

GYA	**Guiyang**	**173.13**	**172**	*e*PKP	**PKPdf**	**05 00 32.2**	**+1.2**
GYA				pPKP	**pPKPdf**	**05 00 43.2**	**+0.8**
GYA				PKPab	**PKPab**	**05 02 02.8**	**+4.5**
GYA				PKS	**PKSdf**	**05 04 03.6**	**+0.1**
GYA				PP	PP	05 05 54.3	+5.4
GYA				SKKS		05 12 36.5	
GYA				SS	**SS**	**05 27 03.9**	**+3.6**
GYA				PPMZ			
	comp=N,120nnm,8.6s						
GYA				LN			
	comp=N,120nnm,22.4s						
GYA				LE			
	comp=N,110nnm,22.8s						
GYA				LZ			
	comp=N,120nnm,21.6s						
LZH	**Lanzhou**	**175.72**	**48**	*e*PKP	**PKPdf**	**05 00 34.0**	**+2.4**
LZH				LN			
	comp=N,190nnm,18.0s						
LZH				LE			
	comp=N,190nnm,18.6s						
LZH				LZ			
	comp=N,230nnm,20.5s						
CD2	**Chengdu**	**175.86**	**124**	*e*PKP	**PKPdf**	**05 00 33.7**	**+2.0**
XAN	**Xi'an**	**178.78**	**308**	PKP	**PKPdf**	**05 00 33.1**	**+1.1**

*ISCJB **08** 05:23:11.1±1.0, 20°.1S±0°.2×178°.2W±0°.2, h550km, mb3.7/6, Error ellipse: s-maj=24.6km s-min=18.1km az=145.7*
*IDC **08** 05:23:17.0±5.7, 20°.41S×178°.20W, h616km±73km, mb3.1/6, mb1 3.4/7, mb1mx3.1/19, mbtmp4.2/7, Error ellipse: s-maj=42.8km s-min=27.8km az=17.0*
ISC 08 05:23:11.5±1.0, 20°.2S±0°.2×178°.1W±0°.2, h550km, n13, σ1§38/13, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.53**	**260**	P	**P**	**05 26 14.4**	**-1.9**
	0.4nm,0.3s,baz=73,slow=17,SNR=3.2						
URZ	**Urewera**	**18.46**	**192**	P	**P**	**05 26 54.6**	**+1.2**
	1.8nm,0.3s,baz=319,slow=4.9,SNR=8.8						
CTA	**Charters Tower**	**33.42**	**264**	P	**P**	**05 29 05.8**	**+0.6**
	1.5nm,0.4s,baz=100,slow=6.1						
ASAR	**Alice Springs**	**44.49**	**256**	P	**P**	**05 30 34.6**	**0.0**
	3.5nm,0.7s,baz=96,slow=7.6,SNR=34						
WRA	**Warramunga Arr**	**44.54**	**262**	P	**P**	**05 30 34.9**	**-0.1**
	1.6nm,0.3s,baz=97,slow=7.7,SNR=85						
FAKI	**Fak Fak**	**51.34**	**283**	P	**P**	**05 31 27.0**	**+1.2**
	baz=9.7,SNR=9.3						
JAGI	**Jajag, Banyuwa**	**66.28**	**269**	P	**P**	**05 33 06.6**	**+0.4**
	baz=18,SNR=3.8						
MJAR	**Matsushiro Arr**	**69.92**	**324**	P	**P**	**05 33 29.4**	**+1.6**
	1.8nm,0.5s,baz=156,slow=7.4,SNR=5.0						
TXAR	**Lajitas Array**	**86.99**	**57**	P	**P**	**05 34 59.2**	**+0.1**
	0.2nm,0.7s,baz=225,slow=7.5,SNR=3.4						
ILAR	**Eielson Array**	**88.06**	**13**	P	**P**	**05 35 02.8**	**-0.3**
	0.3nm,0.4s,baz=215,slow=5.5,SNR=8.8						
AKASG	**Malin Array Be**	**142.71**	**331**	PKP	**PKPdf**	**05 41 39.3**	**-2.9**
	1.1nm,0.5s,baz=42,slow=4.2,SNR=4.2						
BRTR	**Keskin Array B**	**146.57**	**313**	PKPbc	**PKPbc**	**05 41 51.2**	**-0.8**
	0.9nm,0.9s,baz=350,slow=7.3,SNR=3.9						
GERES	**GERESS Array B**	**149.90**	**344**	PKPbc	**PKPbc**	**05 41 59.8**	**-0.2**
	0.8nm,0.7s,baz=0.0,slow=0.2,SNR=4.4						

*IDC **08** 05:25:09.3±0.8, 38°.64S×73°.63W, h0km, mb4.2/10, mb1 4.2/14, mb1mx4.1/20, mbtmp4.1/14, ML3.9/4, MS3.8/9, Ms1 3.8/9, ms1mx3.6/23, Error ellipse: s-maj=26.8km s-min=16.4km az=93.0*
*ISCJB **08** 05:25:10.9±0.5, 38°.55S±0°.06×73°.6W±0°.1, h18km, mb4.4/24, MS3.9/6, Error ellipse: s-maj=11.9km s-min=8.1km az=164.8*
*NEIC **08** 05:25:14.8±0.4, 38°.57S×73°.59W, h35km, mb4.5/12, Error ellipse: s-maj=11.1km s-min=7.8km az=74.0*
ISC 08 05:25:12.5±0.6, 38°.56S±0°.07×73°.56W±0°.09, h18km, n47, σ0§98/52, mb4.5/24, MS3.9/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.18**	**134**	Pn	**Pn**	**05 26 02.4**	**+0.7**
	3.3nm,0.3s,baz=306,slow=9.8,SNR=51						
PLCA				Lg	Lg	05 26 55.0	
	65nm,0.3s,baz=42,slow=21,SNR=9.4						
CFAA	**Coronel Fontan**	**8.20**	**34**	Pn	**Pn**	**05 27 12.1**	**+1.5**
	0.3nm,0.3s,baz=210,slow=8.1,SNR=6.6						
CFAA				Lg	Lg	05 29 32.9	
	baz=109,slow=22,SNR=3.0						
CFAA				LR	LR	05 31 12.1	
	comp=Z,77nm,18.5s,baz=220,slow=44						
TRQA	**Tornquist**	**9.12**	**90**	*e*Pn	**Pn**	**05 27 25.4**	**+2.2**
	42nm,0.8s						
TRQA				*e*Sn	**Sn**	**05 29 04.1**	**-1.4**
LVC	**Limon Verde**	**16.39**	**15**	*e*Pn	**Pn**	**05 29 01.5**	**-0.5**
LVC				*e*S	**S**	**05 32 14.4**	**-1.3**
USHA	**Ushuaia**	**16.64**	**170**	Pn	**Pn**	**05 29 04.9**	**+0.2**
	0.2nm,0.3s,baz=333,slow=12,SNR=2.2						
USHA				LR	LR	05 34 57.6	
	comp=Z,360nm,19.4s,baz=327,slow=36						
CPUP	**Villa Florida**	**18.31**	**53**	P	**Pn**	**05 29 25.3**	**-0.3**
	0.8nm,0.3s,baz=216,slow=11,SNR=5.6						
CPUP				LR	LR	05 36 27.4	
	comp=Z,317nm,19.2s,baz=212,slow=37						
CPUP	**Villa Florida**	**18.31**	**53**	*e*P	**Pn**	**05 29 25.5**	**0.0**
LPAZ	**La Paz**	**22.70**	**14**	P	**P**	**05 30 15.5**	**+1.6**
	4.0nm,0.8s,baz=200,slow=6.8,SNR=5.9						
SIV	**San Ignacio**	**25.03**	**29**	P	**P**	**05 30 35.9**	**+0.3**
	5.1nm,0.8s,baz=224,slow=11,SNR=8.2						
SIV				LR	LR	05 42 29.6	
	comp=Z,354nm,19.6s,baz=222,slow=41						
NNA	**Nana**	**26.63**	**353**	LR	LR	05 39 00.6	
	comp=Z,177nm,19.5s,baz=159,slow=31						
PMSA	**Palmer Station**	**26.84**	**171**	LR	LR	05 40 29.3	
	comp=Z,252nm,19.4s,baz=273,slow=34						
BDFB	**Brasilia**	**32.03**	**52**	P	**P**	**05 31 36.7**	**-1.5**
	4.2nm,1.1s,baz=222,slow=12,SNR=2.8						
BDFB				LR	LR	05 46 28.3	
	comp=Z,277nm,19.2s,baz=218,slow=40						
OTAV	**Otavalo**	**38.87**	**352**	*e*P	**P**	**05 32 37.3**	**-0.1**
	1.1nm,0.5s						
VNA2	**Neumayer--Watz**	**46.34**	**155**	P	**P**	**05 33 37.8**	**+0.9**
	baz=277,slow=6.0						
SNAA	**Sanae**	**47.87**	**156**	P	**P**	**05 33 49.6**	**+0.6**
SNAA	**Sanae**	**47.87**	**156**	P	**P**	**05 33 46.9**	**-2.1**
	1.6nm,0.9s,baz=266,slow=9.2,SNR=4.1						
QSPA	**South Pole Qui**	**51.68**	**180**	P	**P**	**05 34 18.0**	**-0.1**
	1.9nm,1.0s,baz=130,slow=3.9,SNR=3.5						
QSPA	**South Pole Qui**	**51.68**	**180**	*e*P	**P**	**05 34 18.0**	**-0.1**
	1.9nm,1.0s						
LRAL	**Lakeview Retre**	**72.32**	**348**	*e*P	**P**	**05 36 37.3**	**+0.5**
	7.2nm,1.1s						
JCT	**Junction City**	**72.92**	**336**	*e*P	**P**	**05 36 41.1**	**+0.6**
	7.1nm,1.1s						
TXAR	**Lajitas Array**	**73.17**	**333**	P	**P**	**05 36 40.7**	**-1.4**
	0.3nm,0.5s,baz=159,slow=9.0,SNR=7.7						
TXAR				LR	LR	06 03 01.4	
	comp=Z,117nm,20.2s,baz=0.0,slow=31						
SWET	**Sewanee**	**74.30**	**350**	*e*P	**P**	**05 36 48.8**	**+0.3**
	13nm,1.0s						
WVT	**Waverly**	**75.48**	**348**	*e*P	**P**	**05 36 53.4**	**-1.9**
	5.2nm,1.1s						
TUL1	**Leonard**	**76.90**	**342**	*e*P	**P**	**05 37 01.9**	**-1.5**
	4.9nm,0.9s						
LIC	**Lamto**	**77.39**	**71**	*e*P	**P**	**05 37 07.3**	**+0.6**
	54nm,1.5s						
TIC	**Toumodi**	**77.67**	**71**	*e*P	**P**	**05 37 09.1**	**+0.8**
	16nm,0.8s						
KIC	**Kosan Boka**	**77.69**	**72**	*e*P	**P**	**05 37 09.1**	**+0.7**
	48nm,1.1s						
DBIC	**Dimbokro**	**77.81**	**71**	P	**P**	**05 37 08.4**	**-0.6**
	5.3nm,0.6s,baz=161,slow=4.8,SNR=13						
DBIC	**Dimbokro**	**77.81**	**71**	*e*P	**P**	**05 37 08.9**	**-0.1**
	4.7nm,0.5s						
BOSA	**Boshof**	**79.04**	**118**	P	**P**	**05 37 14.1**	**-1.8**
	4.4nm,0.8s,baz=242,slow=5.3,SNR=7.6						
ANMO	**Albuquerque**	**79.24**	**333**	*e*P	**P**	**05 37 17.1**	**+0.5**
	0.8nm,0.7s						
LBTB	**Lobatse**	**81.50**	**115**	LR	LR	06 07 45.6	
	comp=Z,87nm,20.3s,baz=277,slow=31						
LBTB	**Lobatse**	**81.50**	**115**	*e*P	**P**	**05 37 29.6**	**+0.4**
	2.9nm,0.6s						
DUG	**Dugway, Tooele**	**86.22**	**331**	*e*P	**P**	**05 37 52.5**	**-0.2**
	5.8nm,1.4s						
TORD	**Torodi Ar. Bea**	**86.90**	**71**	P	**P**	**05 37 56.6**	**+0.1**
	2.1nm,0.7s,baz=229,slow=5.2,SNR=21						
NVAR	**Mina Array Bea**	**86.96**	**326**	P	P	05 38 01.5	+5.0
	0.7nm,0.8s,baz=165,slow=3.7,SNR=4.0						
HWUT	**Hardware Ranch**	**86.99**	**332**	*e*P	**P**	**05 37 57.6**	**+1.1**
	5.3nm,1.1s						
PDAR	**Pinedale Array**	**87.30**	**334**	P	**P**	**05 37 58.3**	**+0.2**
	1.0nm,1.1s,baz=126,slow=3.8,SNR=4.6						
ABKAR	**Akbulak array**	**145.35**	**57**	*e*PKPdf	**PKPab**	**05 44 49.1**	**+0.4**
BRVK	**Borovoye**	**151.29**	**48**	*e*PKPdf	**PKPdf**	**05 44 55.9**	**-2.3**
BRVK				*e*PKPbc	**PKiKP**	**05 45 05.0**	**+0.3**
BRVK				*e*PKPab	**PKPab**	**05 45 12.5**	**+0.2**
BVAR	**Borovoye Array**	**151.36**	**48**	PKPbc	**PKPbc**	**05 45 04.9**	**+0.5**
	1.0nm,0.6s,baz=278,slow=4.2,SNR=5.9						
BVAR				PKPab	**PKPab**	**05 45 13.2**	**+0.5**
	0.8nm,0.6s,baz=274,slow=5.6,SNR=4.5						
AAK	**Ala-Archa**	**155.49**	**70**	PKPab	**PKPab**	**05 45 31.4**	**+0.7**
	2.6nm,0.6s,baz=218,slow=6.0,SNR=12						
AAK	**Ala-Archa**	**155.49**	**70**	*e*PKPdf	**PKPdf**	**05 45 04.8**	**0.0**
AAK				PKPab	**PKPab**	**05 45 31.4**	**+0.7**
KURBB	**Kurchatov Arra**	**156.91**	**49**	PKPab	**PKPab**	**05 45 36.4**	**+0.1**
	1.0nm,0.7s,baz=290,slow=4.2,SNR=7.9						
KURK	**Kurchatov**	**156.93**	**49**	*e*PKPdf	**PKPdf**	**05 45 06.7**	**+0.4**
KURK				PKPab	**PKPab**	**05 45 36.4**	**0.0**
KURK				*e*PKPab	PKPab	05 45 37.1	+0.7
ZALV	**Zalesovo Beam**	**158.68**	**37**	PKP	**PKPdf**	**05 45 07.3**	**-1.0**
	0.7nm,0.7s,baz=336,slow=3.2,SNR=2.9						
ZALV				PKPab	**PKPab**	**05 45 44.6**	**+0.8**
	1.8nm,0.8s,baz=298,slow=4.4,SNR=6.8						
MKAR	**Makanchi Array**	**160.49**	**57**	PKP	**PKPdf**	**05 45 11.2**	**+0.6**
	1.2nm,1.1s,baz=43,slow=2.1,SNR=3.7						
MKAR				PKPab	**PKPab**	**05 45 52.3**	**+0.3**
	0.7nm,0.7s,baz=281,slow=3.4,SNR=5.6						

*IDC **08** 05:29:11.4±3.8, 3°.52N×125°.73E, h53km±32km, mb3.8/9, mb1 3.9/9, mb1mx3.7/22, mbtmp4.0/9, Error ellipse: s-maj=40.8km s-min=13.4km az=75.0*
*ISCJB **08** 05:29:16.4±0.5, 3°.50N±0°.06×125°.95E±0°.09, h116km, mb3.9/9, Error ellipse: s-maj=12.3km s-min=8.0km az=175.2*
*DJA **08** 05:29:19.6±0.8, 3°N±7°×12°6E±°, h83km±10km, M4.5/8, mb4.8/2, mB5.4/1, MLv4.4/8, Mw(mB)4.8/1*
ISC 08 05:29:18.2±0.6, 3°.53N±0°.08×125°.91E±0°.09, h116km, n19, σ1§41/22, mb3.8/9, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.41**	**293**	P	**Pn**	**05 29 34.5**	**-0.7**
SGSI				S	**Sn**	**05 29 47.2**	**-0.7**
TNTI	**Ternate**	**3.10**	**152**	P	**Pn**	**05 30 05.6**	**-0.1**
CTBH	**Cotabato--PC H**	**4.03**	**336**	⇓*i*P	Pn	05 30 21.5	+3.5
GTOI	**Gorontalo**	**4.08**	**225**	P	**Pn**	**05 30 17.7**	**-1.0**
LBMI	**Labuha**	**4.43**	**159**	P	**Pn**	**05 30 22.1**	**-1.4**
MRSI	**Marisa**	**4.99**	**233**	P	**Pn**	**05 30 29.7**	**-1.2**
APSI	**Ampana**	**6.12**	**224**	P	**Pn**	**05 30 47.5**	**+1.2**
	45nm,0.7s,0.2nm						
NLAI	**Namlea**	**6.83**	**170**	P	**Pn**	**05 30 53.5**	**-2.3**
WRA	**Warramunga Arr**	**24.75**	**161**	P	**P**	**05 34 28.8**	**-0.3**
	14nm,0.7s,baz=337,slow=10,SNR=75						
WRA				S	**S**	**05 38 47.3**	**+4.3**
	1.0nm,0.6s,baz=339,slow=19,SNR=8.4						
ASAR	**Alice Springs**	**28.13**	**164**	P	**P**	**05 34 59.0**	**-0.4**
	0.9nm,0.5s,baz=347,slow=7.7,SNR=15						
ASAR				PcP	**PcP**	**05 38 10.7**	**-0.3**
	0.5nm,0.4s,baz=346,slow=2.7,SNR=4.2						
ASAR				S	S	05 39 43.6	+7.3
	0.4nm,0.8s,baz=352,slow=20,SNR=2.9						
KSRS	**Korea Array**	**33.82**	**3**	P	**P**	**05 35 48.2**	**-1.1**
	0.7nm,0.4s,baz=176,slow=9.2,SNR=5.0						
MJAR	**Matsushiro Arr**	**34.76**	**18**	P	**P**	**05 35 56.6**	**-0.8**
	0.8nm,0.5s,baz=109,slow=16,SNR=2.8						
SONM	**Songino Array**	**47.23**	**342**	P	**P**	**05 37 40.3**	**+0.7**
	0.2nm,0.5s,baz=151,slow=7.3,SNR=3.3						
PETK	**Petropavlovsk-**	**55.93**	**23**	P	**P**	**05 38 45.0**	**+0.9**
	2.6nm,0.7s,baz=189,slow=3.9,SNR=3.6						
MKAR	**Makanchi Array**	**57.26**	**326**	P	**P**	**05 38 53.4**	**-0.3**
	0.5nm,0.3s,baz=119,slow=8.2,SNR=20						
MKAR				PcP	**PcP**	**05 39 46.5**	**-0.2**
	2.0nm,0.6s,baz=117,slow=4.0,SNR=17						
ILAR	**Eielson Array**	**85.64**	**25**	P	**P**	**05 41 44.5**	**+0.9**
	0.3nm,0.6s,baz=239,slow=5.1,SNR=11						
FINES	**FINESS Array B**	**91.62**	**332**	P	**P**	**05 42 11.2**	**-0.7**
	2.7nm,1.0s,baz=98,slow=3.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**122.20**	**288**	PKP	**PKPdf**	**05 47 59.9**	**-0.6**
	0.7nm,0.4s,baz=89,slow=1.7,SNR=24						
TXAR	**Lajitas Array**	**122.37**	**52**	PKP	**PKPdf**	**05 48 02.1**	**+1.6**
	0.1nm,0.5s,baz=351,slow=1.4,SNR=3.5						

*BJI **08** 05:39:38.0, 18°.00S×174°.00W, h8km, mB5.2/6, mb5.0/8, Ms5.2/2, Ms7 4.7/5*
*MOS **08** 05:39:41.3±0.8, 18°.02S×174°.03W, h33km, mb5.0/9, Error ellipse: s-maj=18.2km s-min=11.6km az=56.1*
*ISCJB **08** 05:39:41.0±0.2, 18°.15S±0°.06×173°.94W±0°.05, h35km, mb4.7/34, MS4.1/6, Error ellipse: s-maj=9.5km s-min=4.7km az=150.3*
*NEIC **08** 05:39:42.6±0.2, 18°.14S×173°.83W, h35km, mb4.7/21, Error ellipse: s-maj=11.7km s-min=5.8km az=138.0*
*SZGRF **08** 05:39:47.6, 18°.13S×173°.70W, h64km, Tonga Islands*
*IDC **08** 05:39:49.4±2.7, 18°.39S×173°.87W, h101km±23km, mb4.2/12, mb1 4.5/12, mb1mx4.3/22, mbtmp4.6/12, MS3.7/4, Ms1 3.7/4, ms1mx3.2/28, Error ellipse: s-maj=17.1km s-min=10.1km az=125.0*
ISC 08 05:39:42.6±0.4, 18°.06S±0°.07×173°.78W±0°.07, h35km, n279, σ1§04/277, mb4.6/34, MS4.1/6, 75C-61D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.79**	**106**	P	Pn	05 40 33.5	-5.1
	baz=3.2,SNR=136						
NIUE				S	Sn	05 41 10.2	-12
	baz=3.2,SNR=7.3						
AFI	**Afiamalu**	**4.56**	**25**	*e*P	**Pn**	**05 40 50.2**	**+1.0**
AFI				*e*		05 41 37.8	
AFI	**Afiamalu**	**4.56**	**25**	*e*Pn	**Pn**	**05 40 50.2**	**+1.0**
AFI				*e*Sn	**Sn**	**05 41 37.8**	**-3.2**
MSVF	**Nonsavu**	**7.78**	**271**	P	**Pn**	**05 41 36.4**	**+2.9**
MSVF				*e*		05 42 57.9	
MSVF	**Nonsavu**	**7.78**	**271**	Pn	**Pn**	**05 41 36.4**	**+2.9**
MSVF				*e*Sn	**Sn**	**05 42 57.9**	**-2.6**
RAO	**Raoul Island**	**11.76**	**198**	*e*Pn	Pn	05 42 18.2	-10
DZM	**Mont Dzumac**	**18.99**	**255**	P	**Pn**	**05 44 05.4**	**+3.0**
	0.3nm,0.3s,baz=90,slow=20,SNR=4.1						
URZ	**Urewera**	**21.64**	**200**	P	**P**	**05 44 28.8**	**-1.0**
	31nm,0.5s,baz=100,slow=7.1,SNR=28						
URZ				S	S	05 48 17.2	-10
	15nm,0.6s,baz=62,slow=21,SNR=11						
URZ	**Urewera**	**21.64**	**200**	*e*P	**P**	**05 44 29.4**	**-0.5**
	36nm,0.6s						
URZ				S	S	05 48 17.2	-10
URZ				*e*S	Sn	05 48 27.3	-10
BKZ	**Black Stump Fm**	**22.66**	**200**	*e*P	**P**	**05 44 40.0**	**-0.9**
	20nm,0.7s						
PAE	**Paea**	**23.04**	**93**	*e*T	T	06 08 02.4	
	7.3nm,0.2s						
PPT2	**Papeete2**	**23.05**	**93**	*e*LR	LR	05 50 07.4	
	432nm,26.8s						
PPT2	**Papeete2**	**23.05**	**93**	*e*T	T	06 08 03.6	
	5.8nm,0.3s						
PPT	**Papeete**	**23.05**	**93**	LR	LR	05 51 11.9	
	comp=Z,77nm,20.1s,baz=253,slow=30						
MEH	**Mehetia**	**24.46**	**94**	*e*T	T	06 09 50.8	
	13nm,0.2s						
VAH	**Vaihoa**	**25.21**	**88**	*e*T	T	06 10 39.0	
	10nm,0.2s						
RPZ	**Rata Peaks**	**28.60**	**203**	*e*P	**P**	**05 45 34.9**	**-0.6**
	191nm,2.2s						
TAOE	**Nuku Hiva Isla**	**33.91**	**79**	*e*T	T	06 21 22.4	
	229nm,0.3s						
RKT	**Rikitea**	**36.60**	**105**	*e*T	T	06 24 31.0	
	3.2nm,0.3s						
CTA	**Charters Tower**	**37.76**	**260**	P	**P**	**05 46 54.0**	**-1.5**
	8.5nm,0.7s,baz=83,slow=10,SNR=14						
CTAO	**Charters Tower**	**37.76**	**260**	*e*P	**P**	**05 46 55.4**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTAO	**Charters Tower**	**37.76**	**260**	*e*P	**P**	**05 46 55.4**	**-0.2**
	comp=Z,9.0nm,0.8s						
QLP	**Quilpie**	**39.61**	**250**	P	**P**	**05 47 10.7**	**-0.3**
	baz=40,SNR=11						
COEN	**Coen**	**41.51**	**269**	P	**P**	**05 47 28.4**	**+1.6**
	baz=42,SNR=8.0						
COEN	**Coen**	**41.51**	**269**	*e*P	**P**	**05 47 27.8**	**+1.0**
	comp=Z,45nm,0.8s						
WB2	**Warramunga Arr**	**48.92**	**259**	*e*P	**P**	**05 48 24.4**	**-1.2**
WRAB	**Tennant Creek**	**48.92**	**259**	*d i*P	**P**	**05 48 24.2**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s						
WRAB	**Tennant Creek**	**48.92**	**259**	*e*P	**P**	**05 48 24.4**	**-1.2**
	comp=Z,8.0nm,0.6s						
WRA	**Warramunga Arr**	**48.93**	**259**	P	**P**	**05 48 24.2**	**-1.5**
	comp=Z,7.3nm,0.6s,baz=97,slow=7.0,SNR=78						
WRA				S	S	05 55 21.3	-6.3
	comp=Z,1.3nm,0.9s,baz=97,slow=13,SNR=6.9						
AS31	**Alice Springs**	**48.98**	**254**	*e*P	**P**	**05 48 25.4**	**-0.7**
ASAR	**Alice Springs**	**48.98**	**254**	P	**P**	**05 48 24.9**	**-1.2**
	comp=Z,14nm,0.7s,baz=87,slow=8.7,SNR=138						
ASAR				PcP	**PcP**	**05 49 49.9**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=105,slow=4.0,SNR=5.7						
ASAR				S	S	05 55 21.9	-6.5
	comp=Z,0.9nm,0.7s,baz=93,slow=16,SNR=7.1						
WRKA	**Warakurna**	**53.98**	**252**	P	**P**	**05 49 02.1**	**-1.4**
	baz=55,SNR=22						
KNRA	**Kununurra**	**54.85**	**263**	P	**P**	**05 49 09.4**	**-0.4**
	baz=56,SNR=6.7						
SBA	**Scott Base**	**60.58**	**185**	*e*P	**P**	**05 49 50.1**	**+1.0**
SBA	**Scott Base**	**60.58**	**185**	*e*P	**P**	**05 49 50.1**	**+1.0**
VNDA	**Vanda**	**60.70**	**186**	*e*P	**P**	**05 49 50.7**	**+0.7**
VNDA	**Vanda**	**60.70**	**186**	P	**P**	**05 49 48.2**	**-1.8**
	comp=Z,2.8nm,0.8s,baz=22,slow=6.3,SNR=8.8						
VNDA	**Vanda**	**60.70**	**186**	*e*P	**P**	**05 49 50.7**	**+0.7**
MEEK	**Meekatharra**	**62.49**	**249**	P	**P**	**05 50 01.8**	**-1.2**
	baz=63,SNR=3.0						
BLDU	**Ballidu**	**63.69**	**244**	P	**P**	**05 50 09.8**	**-1.0**
	baz=54,SNR=5.3						
QSPA	**South Pole Qui**	**72.00**	**180**	P	**P**	**05 51 01.5**	**-1.2**
	comp=Z,16nm,0.9s,baz=28,slow=2.2,SNR=28						
CMB	**Columbia Colle**	**75.00**	**41**	*e*P	**P**	**05 51 21.2**	**+0.6**
CMB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CMB	**Columbia Colle**	**75.00**	**41**	*e*P	**P**	**05 51 21.2**	**+0.6**
	comp=Z,5.7nm,1.0s						
PETK	**Petropavlovsk-**	**75.05**	**343**	P	**P**	**05 51 21.0**	**+0.6**
PETK	**Petropavlovsk-**	**75.05**	**343**	P	**P**	**05 51 21.0**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=145,slow=10,SNR=6.1						
BC3	**Big Chuckawall**	**75.72**	**47**	⇓P	**P**	**05 51 25.9**	**+1.0**
	baz=76						
MLAC	**Mammoth, Mammo**	**75.73**	**42**	⇓P	**P**	**05 51 26.3**	**+1.2**
	baz=76						
WAKR	**Walker**	**75.88**	**41**	*e*P	**P**	**05 51 26.8**	**+1.0**
	comp=Z,5.9nm,1.0s						
GRAC	**Grapevine Rang**	**76.31**	**43**	⇓P	**P**	**05 51 29.2**	**+1.1**
	baz=77						
FURC	**Furnace Creek,**	**76.34**	**44**	⇓P	**P**	**05 51 29.2**	**+1.0**
	baz=77						
TUQ	**Turquoise Moun**	**76.39**	**45**	⇓P	**P**	**05 51 29.2**	**+0.5**
	baz=77						
M04C	**Macdoel**	**76.47**	**37**	⇓P	**P**	**05 51 29.8**	**+0.8**
	baz=77						
NVAR	**Mina Array Bea**	**76.55**	**42**	P	**P**	**05 51 30.1**	**+0.5**
	comp=Z,4.4nm,0.9s,baz=226,slow=8.8,SNR=25						
TPH	**Tonopah**	**77.03**	**43**	*e*P	**P**	**05 51 33.1**	**+0.7**
TPH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TPH	**Tonopah**	**77.03**	**43**	*e*P	**P**	**05 51 33.0**	**+0.7**
	comp=Z,9.1nm,1.0s						
J04D	**Umpqua Nationa**	**77.25**	**36**	⇑P	**P**	**05 51 34.0**	**+0.6**
	baz=78						
MOD	**Modoc Plateau**	**77.44**	**38**	*e*P	**P**	**05 51 34.8**	**+0.4**
	comp=Z,8.5nm,1.1s						
SHPR	**Sheep Range**	**77.50**	**45**	*e*P	**P**	**05 51 35.8**	**+0.8**
	comp=Z,8.6nm,1.4s						
K05A	**Summer Lake**	**77.61**	**37**	*e*P	**P**	**05 51 36.6**	**+1.1**
	comp=Z,94nm,2.3s						
J05D	**Fort Rock, OR**	**77.77**	**36**	⇓P	**P**	**05 51 37.3**	**+1.0**
	baz=78						
KSRS	**Korea Array**	**77.80**	**316**	LR	LR	06 23 33.3	
	comp=Z,14nm,18.0s,baz=165,slow=34						
R11A	**Troy Canyon, C**	**78.24**	**43**	⇑P	**P**	**05 51 39.8**	**+0.7**
	baz=78						
I05D	**Terrebonne, OR**	**78.38**	**36**	⇓P	**P**	**05 51 40.6**	**+1.0**
	baz=79						
WVOR	**Wild Horse Val**	**78.74**	**38**	*e*P	**P**	**05 51 42.4**	**+0.7**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WVOR	**Wild Horse Val**	**78.74**	**38**	*e*P	**P**	**05 51 42.4**	**+0.7**
	comp=Z,7.4nm,1.1s						
X16A	**Lo Mia Camp, P**	**78.95**	**48**	⇓P	**P**	**05 51 44.1**	**+1.0**
	baz=79						
CCUT	**Cedar City**	**79.27**	**45**	*e*P	**P**	**05 51 46.0**	**+1.2**
U15A	**North Rim**	**79.40**	**46**

PDAR LR LR 06 22 02.0
comp=Z,44nm,19.1s,baz=72,slow=30
V25A Rancho No Teng 84.53 50 ⇓P P 05 52 12.9 +0.4
baz=85
T24B San Luis 84.54 48 ⇓P P 05 52 13.1 +0.4
baz=85
530A J-C Ranch, Com 84.58 56 ⇑P P 05 52 13.5 +0.8
baz=85
329A Wagon Wheel Ra 84.63 55 ⇓P P 05 52 13.8 +0.8
baz=85
H17A Grant Village 84.69 40 ⇑P P 05 52 14.1 +0.9
baz=85
H17A Grant Village 84.69 40 *e*P P 05 52 12.7 -0.5
comp=Z,3.1nm,0.9s
128A Castleberry Fa 84.72 53 ⇓P P 05 52 14.1 +0.7
baz=85
R23A Moffat 84.75 47 ⇓P P 05 52 14.2 +0.6
baz=85
Y27A Causey 84.75 52 ⇑P P 05 52 14.2 +0.7
baz=85
P22A Eagle 84.76 46 ⇑P P 05 52 14.0 +0.3
baz=85
631A Perdido Creek 84.88 57 ⇓P P 05 52 14.4 +0.2
baz=85
LKWY Lake 84.89 40 *e*P P 05 52 16.2 +2.0
LKWY Lake 84.89 40 *e*P P 05 52 16.2 +2.0
832A Faith Ranch, C 84.91 58 ⇓P P 05 52 14.7 +0.3
baz=85
430A Baggett Ranch, 84.92 56 ⇑P P 05 52 15.0 +0.6
baz=85
S24A Houchin Ranch, 84.92 48 ⇓P P 05 52 15.1 +0.6
baz=85
U25A Circle Dot Ran 84.94 49 ⇓P P 05 52 14.6 0.0
baz=85
229A Bryant Ranch, 84.96 54 ⇑P P 05 52 14.7 +0.1
baz=85
SEY Seymchan 84.98 345 *i*P P 05 52 13.6 -0.2
COLA College 85.03 11 *e*P P 05 52 14.3 +0.2
COLA pmax pmax
comp=Z,19nm,0.9s
COLA College 85.03 11 *e*P P 05 52 14.2 +0.2
comp=Z,19nm,0.9s
MSTX Muleshoe 85.08 52 ⇓P P 05 52 15.8 +0.6
baz=85
Z28A Tucker Farm, M 85.08 53 ⇑P P 05 52 15.5 +0.3
baz=85
732A Laxson Ranch, 85.09 58 ⇑P P 05 52 15.6 +0.4
baz=85
ILAR Eielson Array 85.11 11 P P 05 52 14.4 -0.1
comp=Z,2.3nm,0.7s,baz=231,slow=6.3,SNR=40
V26A Tequesquite Ra 85.12 50 ⇓P P 05 52 15.7 +0.3
baz=85
HRY Holter Researc 85.17 38 *e*P P 05 52 15.7 +0.3
comp=Z,1.8nm,0.7s
O22A Kremmling 85.18 45 ⇓P P 05 52 15.6 -0.2
baz=85
129A Stewart Farms, 85.19 54 ⇓P P 05 52 16.0 +0.2
baz=85
531A Rocksprings 85.21 56 ⇓P P 05 52 16.3 +0.4
baz=85
933A Laredo 85.22 59 ⇑P P 05 52 16.5 +0.6
baz=85
330A Mertzon 85.22 55 ⇓P P 05 52 16.5 +0.6
baz=85
T25A Trinidad 85.27 49 ⇑P P 05 52 17.0 +0.8
baz=86
R24A Sanders Place, 85.27 47 ⇓P P 05 52 17.1 +0.9
baz=86
431A Sonora 85.37 56 ⇑P P 05 52 17.2 +0.6
baz=86
U26A Atchley Ranch, 85.41 50 ⇑P P 05 52 17.4 +0.5
baz=86
I19A Meeteetse 85.48 41 ⇑P P 05 52 17.9 +0.8
baz=86
S25A Robets Cordova 85.48 48 ⇓P P 05 52 18.0 +0.8
baz=86
034A Hebbronville 85.49 60 ⇑P P 05 52 18.0 +0.8
baz=86
N22A Wattenberg Ran 85.54 45 ⇑P P 05 52 18.3 +0.8
baz=86
632A Uvalde 85.55 57 ⇑P P 05 52 17.9 +0.4
baz=86,SNR=5.7
Z29A Hungry Hill Ra 85.58 53 ⇑P P 05 52 18.4 +0.7
baz=86
532A Rocksprings 85.70 57 ⇓P P 05 52 18.4 0.0
baz=86,SNR=9.1
J20A Shoshoni 85.71 42 ⇑P P 05 52 18.9 +0.7
baz=86
X28A Dimmitt 85.74 52 ⇑P P 05 52 19.2 +0.7
baz=86
331A San Angelo 85.77 55 ⇑P P 05 52 19.0 +0.5
baz=86
R25A Fountain Ranch 85.81 48 ⇑P P 05 52 19.1 +0.4
baz=86
Y29A Porterfield Fa 85.86 53 ⇑P P 05 52 19.8 +0.7
baz=86
T26A Comanche Natio 85.87 49 ⇓P P 05 52 19.7 +0.5
baz=86
130A Snyder 85.87 54 ⇑P P 05 52 19.5 +0.4
baz=86
K21A Alcova 85.89 43 ⇑P P 05 52 19.6 +0.4
baz=86
JCT Junction City 85.92 56 ⇑P P 05 52 19.6 +0.2
baz=86
834A Tilden 86.01 59 ⇑P P 05 52 20.6 +0.8
baz=86
633A Saathoff Ranch 86.02 57 ⇑P P 05 52 20.2 +0.3
baz=86
Z30A Sanderson Ranc 86.03 53 ⇑P P 05 52 19.7 -0.2
baz=86,SNR=5.8
432A Menard 86.09 56 ⇓P P 05 52 20.0 -0.2
baz=86,SNR=7.2
231A Bronte 86.11 55 ⇑P P 05 52 20.0 -0.2
baz=86,SNR=6.1
EGAK Eagle 86.28 13 *e*P P 05 52 21.2 +0.9
332A Millersview 86.33 55 ⇑P P 05 52 21.2 -0.1
baz=86,SNR=10
131A Roby 86.35 54 ⇑P P 05 52 21.3 -0.2
baz=87,SNR=5.5
533A Kerrville 86.37 57 ⇓P P 05 52 22.1 +0.5
baz=87
W29A Amarillo 86.40 51 ⇓P P 05 52 22.7 +1.0
baz=87
F19A Roth Farm, Mol 86.43 39 ⇓P P 05 52 22.4 +0.8
baz=87
I21A Big Trails, Te 86.44 42 ⇑P P 05 52 22.5 +0.7
baz=87
R26A Arlington 86.47 48 ⇑P P 05 52 22.6 +0.6
baz=87
P25A Willow Gulch B 86.50 47 ⇑P P 05 52 23.0 +0.8
baz=87
433A Art 86.59 56 ⇓P P 05 52 22.5 -0.2
baz=87,SNR=8.0
232A Coleman 86.61 55 ⇑P P 05 52 22.9 +0.1
baz=87,SNR=7.9
L23A Garrett 86.66 44 ⇑P P 05 52 23.5 +0.6
baz=87
X30A Coker Ranch, T 86.70 52 ⇓P P 05 52 23.5 +0.4
baz=87
Z31A Sharp Cattle R 86.80 54 ⇑P P 05 52 23.7 +0.1
baz=87,SNR=7.5
534A Blanco 86.80 57 ⇓P P 05 52 23.9 +0.2
baz=87,SNR=10
ABTX Abilene, Hawle 86.90 54 ⇑P P 05 52 24.3 +0.2
baz=87,SNR=9.3
ABTX Abilene, Hawle 86.90 54 *e*P P 05 52 24.5 +0.3
comp=Z,28nm,1.0s
333A Richland Sprin 86.90 56 ⇑P P 05 52 24.2 0.0
baz=87,SNR=7.6
Y31A Rekieta Farm, 86.97 53 ⇑P P 05 52 24.9 +0.5
baz=87
BILL Bilibino 87.09 353 *i*P P 05 52 25.0 +0.8
233A Rising Star 87.24 55 ⇓P P 05 52 25.9 +0.1
baz=88,SNR=7.2
434A Burnet 87.27 57 ⇓P P 05 52 25.8 -0.2
baz=88,SNR=7.1
Z32A Haskell 87.30 54 ⇑P P 05 52 26.5 +0.4
baz=88,SNR=18
133A Hamilton Ranch 87.46 55 ⇑P P 05 52 26.9 +0.1
baz=88,SNR=8.0
334A Lometa 87.50 56 ⇑P P 05 52 27.1 +0.1
baz=88,SNR=15
535A Dale 87.53 57 ⇑P P 05 52 28.5 +1.3
baz=88
Y32A R-V Farms, Ver 87.61 53 ⇑P P 05 52 28.2 +0.7
baz=88
234A Clairette 87.83 55 ⇑P P 05 52 28.9 +0.3
baz=88,SNR=7.2

Z33A Whitaker Ranch 87.84 54 ⇓P P 05 52 28.8 +0.1
baz=88,SNR=9.2
X32A Elmer 87.89 53 ⇑P P 05 52 29.2 +0.3
baz=88
134A White-Moore Ra 88.10 55 ⇑P P 05 52 30.5 +0.7
baz=88
A19A Klindworth Far 88.10 37 ⇓P P 05 52 30.6 +1.1
baz=88
335A Moody 88.12 56 ⇓P P 05 52 30.4 +0.4
baz=88
W32A Sentinel 88.20 52 ⇑P P 05 52 31.4 +1.1
baz=88
Z34A Collier Ranch, 88.53 54 ⇓P P 05 52 32.8 +0.9
baz=89
A20A Cobblestone Ra 88.55 37 ⇑P P 05 52 32.3 +0.7
baz=89
135A Vickery Place, 88.61 55 ⇑P P 05 52 33.0 +0.7
baz=89
H24A Dirks Ranch, A 88.62 42 ⇑P P 05 52 32.8 +0.7
baz=89
U32A Winter Ranch, 88.88 51 ⇑P P 05 52 34.8 +1.3
baz=89
GYA Guiyang 88.97 298 *e*P P 05 52 34.3 +0.1
GYA PMZ
comp=Z,10.0nm,1.0s
S31A Mullinville 89.02 50 ⇑P P 05 52 35.1 +1.0
baz=89
Q30A Quinter 89.04 48 ⇑P P 05 52 34.6 +0.4
baz=89
X34A Smith Ranch, M 89.07 53 ⇓P P 05 52 34.7 +0.3
baz=89
V33A Lossen Ranch, 89.20 52 ⇓P P 05 52 35.6 +0.6
baz=89
C23A Lambert 89.63 39 ⇓P P 05 52 37.4 +0.7
baz=90
C24A Savage 89.96 39 ⇓P P 05 52 39.6 +1.3
baz=90
G26A Maurine 90.10 42 ⇓P P 05 52 40.1 +1.1
baz=90
VNA3 Neumayer Olymp 90.25 175 P P 05 52 38.1 -1.3
SNAA Sanae 90.28 177 P P 05 52 37.7 -1.8
SNAA Sanae 90.28 177 *e*P P 05 52 40.6 +1.1
SNAA pmax pmax
comp=Z,7.0nm,1.2s
HHC Hu-ho-hao-te 90.56 313 *e*P P 05 52 40.7 -0.6
HHC pP PcP 05 52 45.5 +3.1
HHC sP sP 05 52 47.7 -8.8
HHC S S 06 03 33.1 -1.4
HHC PMZ
comp=Z,8.0nm,0.7s
HHC PMZ
comp=Z,120nm,7.4s
HHC LN
comp=Z,330nm,14.8s
HHC LE
comp=Z,280nm,12.3s
HHC LZ
comp=Z,180nm,13.6s
VNA2 Neumayer--Watz 90.74 176 P P 05 52 40.3 -1.3
YKA Yellowknife Ar 92.67 24 P P 05 52 50.6 +0.2
comp=Z,0.9nm,0.8s,baz=235,slow=4.3,SNR=19
NNA Nana 92.80 103 LR LR 06 26 04.0
comp=Z,2μm,18.3s,baz=317,slow=30
ECSD EROS Data Cent 93.39 45 ⇓P P 05 52 54.8 +0.5
baz=94
A29A Manning Farm, 93.70 40 ⇑P P 05 52 55.5 0.0
baz=94
LZH Lanzhou 94.50 306 *e*P P 05 52 59.7 0.0
LZH pP PcP 05 53 03.0 +2.9
LZH sP sP 05 53 04.3 -11
LZH PP PP 05 56 49.5 +1.5
LZH PMZ
comp=Z,15nm,1.6s
LZH PMZ
comp=Z,68nm,8.5s
LZH LN
comp=Z,210nm,16.5s
LZH LE
comp=Z,190nm,17.2s
LZH LZ
comp=Z,250nm,19.8s
ULM Lac du Bonnet 96.22 39 LR LR 06 31 04.1
comp=Z,128nm,19.5s,baz=303,slow=32
TIXI Tiksi 97.45 344 *i*P P 05 53 12.4 +0.3
TIXI pmax pmax
comp=Z,1.0nm,1.2s
MKAR Makanchi Array 112.41 314 PKiKP PKiKP 05 58 14.2 -0.8
comp=Z,0.6nm,0.7s,baz=42,slow=1.2,SNR=7.0
KSH Kashi 116.74 306 *e*PKP PKPdf 05 58 20.8 -2.8
KSH PP PP 05 59 34.3 +2.1
KSH PKS PKSdf 06 01 55.0 -5.4
KSH PPMZ
comp=Z,150nm,5.4s
KSH LZ
comp=Z,110nm,6.9s
AAK Ala-Archa 117.89 309 *e*PKIKP PKPdf 05 58 25.7 -0.1
BVAR Borovoye Array 119.73 321 PKP PKPdf 05 58 27.6 -1.2
comp=Z,2.0nm,0.7s,baz=70,slow=1.7,SNR=3.7
BRVK Borovoye 119.79 321 *e*PKiKP PKPdf 05 58 28.7 -0.2
BRVK Borovoye 119.79 321 *e*PKPdf PKPdf 05 58 28.6 -0.2
ARU Arti 125.39 327 *i*PKIKP PKPdf 05 58 38.7 -0.8
ARU 06 05 38.1
ARCES ARCESS Array B 127.18 352 PKP PKPdf 05 58 41.4 -1.2
comp=Z,2.7nm,0.7s,baz=48,slow=1.8,SNR=6.7
FINES FINESS Array B 134.44 347 PKP PKPdf 05 58 56.2 -0.4
comp=Z,1.3nm,0.7s,baz=104,slow=2.4,SNR=5.3
NOA NORSAR Array B 136.93 356 PKP PKPdf 05 59 00.5 -0.8
comp=Z,0.6nm,0.7s,baz=152,slow=3.4,SNR=3.0
AKASG Malin Array Be 142.62 336 PKhKP PKPpre 05 59 07.2
comp=Z,0.5nm,0.4s,baz=39,slow=4.2,SNR=3.6
KMBO Kilima Mbogo 143.99 241 PKP PKPab 05 59 13.6 +0.4
comp=Z,3.7nm,0.8s,baz=66,slow=6.4,SNR=9.9
KMBO Kilima Mbogo 143.99 241 PKP PKPab 05 59 13.6 +0.4
KMBO *e*PKPdf PKPbc 05 59 14.3 +0.6
NRDL Niedersach Rie 145.51 356 *e*PKPbc **PKPdf** 05 59 17.7 +0.9
IBBN Ibbenburen 145.81 358 *e*PKPbc **PKPab** 05 59 19.2 +0.9
CLZ Clausthal 146.14 355 *e*PKPbc **PKPab** 05 59 20.3 +0.7
CLZ *ep*PKPbc pPKPbc 05 59 38.2 +7.8
KSP Ksiaz 146.32 348 *e*PKP2 **PKPbc** 05 59 20.5 +1.0
CLL Collm 146.40 352 ⇓*i*PKP2 **PKPbc** 05 59 20.3 +0.6
CLL pmax pmax
comp=Z,30nm,1.2s
CLL Collm 146.40 352 *e*PKPbc **PKPbc** 05 59 20.6 +0.9
CLL *ep*PKPbc pPKPbc 05 59 39.3 +8.2
CLL Collm 146.40 352 ⇓*i*PKPbc **PKPbc** 05 59 20.3 +0.6
comp=Z,30nm,1.2s
CLL *i* sPKiKP sPKiKP 05 59 38.5 +0.4
comp=Z,17nm,1.0s
BRG Berggiesshubel 146.69 351 *e*PKP **PKPbc** 05 59 21.0 +0.4
comp=Z,9.5nm,1.0s
BRG Berggiesshubel 146.69 351 *e*PKPbc **PKPbc** 05 59 21.9 +1.3
UPC Upice 146.70 349 *i*PKP2 **PKPab** 05 59 22.4 +0.6
UPC Upice 146.70 349 *i*PKP **PKPab** 05 59 22.4 +0.6
DPC Dobruska-Polom 146.79 348 *i*PKP2 **PKPbc** 05 59 22.1 +1.1
DPC Dobruska-Polom 146.79 348 *i*PKP **PKPbc** 05 59 22.1 +1.1
PVCC Panska Ves 146.93 350 *i*PKP2 **PKPbc** 05 59 22.1 +0.8
PVCC Panska Ves 146.93 350 *i*PKP **PKPbc** 05 59 22.1 +0.8
KRLC Kraliky 146.96 347 *i*PKP2 **PKPbc** 05 59 22.4 +0.9
KRLC Kraliky 146.96 347 *i*PKP **PKPbc** 05 59 22.4 +0.9
MOX Moxa 147.21 354 *e*PKPbc **PKPbc** 05 59 23.3 +1.2
PRU Pruhonice 147.46 350 *i*PKP2 **PKPbc** 05 59 24.0 +1.2
PRU Pruhonice 147.46 350 *i*PKP **PKPbc** 05 59 24.0 +1.2
MEM Membach 147.53 0 PKP **PKPbc** 05 59 23.6 +0.6
SNF Seneffe 147.59 2 PKP **PKPbc** 05 59 24.2 +1.1
TNS Taunus Mts 147.87 357 *e*PKPbc **PKPbc** 05 59 25.2 +1.2
BRTR Keskin Array B 147.93 318 PKPbc **PKPdf** 05 59 21.9 +0.3
comp=Z,2.4nm,0.8s,baz=142,slow=2.5,SNR=9.5
ROTZ Rotzenmuhle 148.01 353 *e*PKPbc **PKPbc** 05 59 25.8 +1.5
DOU Dourbes 148.02 2 PKP **PKPbc** 05 59 24.8 +0.5
GRF Grafenberg Arr 148.19 354 *e*PKPbc **PKPbc** 05 59 25.6 +0.8
KHC Kasperske Hory 148.44 351 *i*PKP2 **PKPbc** 05 59 26.3 +0.8
KHC Kasperske Hory 148.44 351 *i*PKP **PKPbc** 05 59 26.3 +0.8
WLF Walferdange 148.48 0 PKP **PKPbc** 05 59 27.0 +1.5
WLF Walferdange 148.48 0 *e*PKPbc **PKPbc** 05 59 27.3 +1.8
GEC2 GERESS Array S 148.70 350 *e*PKPbc **PKPbc** 05 59 27.3 +1.0
GERES GERESS Array B 148.70 350 PKPbc **PKPbc** 05 59 26.6 +0.4
comp=Z,3.4nm,0.9s,baz=26,slow=3.4,SNR=14
CONA Conrad Observa 149.19 347 ⇑*i*PKiKP **PKPbc** 05 59 28.6 +1.1
comp=Z,21nm,1.2s
STU Stuttgart 149.27 356 *e*PKPbc **PKPbc** 05 59 28.9 +1.3
FUR Furstenfeldbru 149.69 353 *e*PKPbc **PKPbc** 05 59 29.8 +1.1
BFO Black Forest 149.76 357 *e*PKPbc **PKPbc** 05 59 29.9 +1.1
BFO Black Forest 149.76 357 *e*PKPdf **PKPdf** 05 59 25.0 +0.9
BFO *e*PKPbc **PKPbc** 05 59 29.4 +0.6
BFO *e*PKPab **PKPab** 05 59 34.3 +0.1

RJOB Jochberg 149.92 351 *e*PKPbc **PKPbc** 05 59 30.3 +1.0
DAVA Damuels 150.70 355 ⇓*i*PKiKP **PKPbc** 05 59 32.3 +1.0
comp=Z,23nm,1.0s
FETA Feichten 150.88 354 ⇓*i*PKiKP **PKPbc** 05 59 32.1 +0.4
comp=Z,20nm,1.0s
ABTA Abfaltersbach 150.93 351 ⇑*i*PKiKP **PKPbc** 05 59 31.8 0.0
comp=Z,21nm,0.8s
TORD Torodi Ar. Bea 173.45 138 PKP **PKPdf** 05 59 47.5 -1.7
comp=Z,2.9nm,0.9s,baz=316,slow=1.0,SNR=14
TORD PKPab **PKPab** 06 01 15.7 -2.2
comp=Z,2.0nm,0.9s,baz=243,slow=3.3,SNR=6.2

KRSC 08 05:47:01.6±0.5, 54°.47N×161°.02E, h82km±9km, ML3.6,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.43**	**78**	*i*P	P	Pn	05 47 16.6	+1.8
MKZ				S	S	Sn	05 47 26.5	+1.9
TUMR	**Tumrok**	**0.96**	**329**	P	P	Pn	05 47 21.8	+1.4
TUMR				S	S	Sn	05 47 36.0	+1.6
KII	**Karymskiy**	**1.02**	**245**	P	P	Pn	05 47 22.2	+1.2
KII				S	S	Sn	05 47 36.4	+0.9
KMNR	**Kamenistaya**	**1.37**	**341**	P	P	Pn	05 47 27.5	+2.1
KMNR				S	S	Sn	05 47 46.4	+3.1
SPN	**Mys Shipunski**	**1.49**	**204**	S	S	Sn	05 47 46.5	+0.6
KOZ	**Kozyrevsk**	**1.72**	**338**	P	P	Pn	05 47 31.3	+1.4
KOZ				S	S	Sn	05 47 52.1	+0.8
SDLR	**Sedlovina**	**1.73**	**228**	P	P	Pn	05 47 31.9	+1.7
SDLR				S	S	Sn	05 47 53.3	+1.5
KRER	**Koryakskii**	**1.78**	**230**	*i*P	P	Pn	05 47 33.0	+2.2
KRER				S	S	Sn	05 47 54.4	+1.4
SMAR	**Somma**	**1.78**	**228**	P	P	Pn	05 47 32.6	+1.7
SMAR				S	S	Sn	05 47 54.7	+1.6
KRX	**Arik**	**1.79**	**233**	*i*P	P	Pn	05 47 33.2	+2.3
KRX				S	S	Sn	05 47 54.4	+1.3
AVH	**Avacha**	**1.81**	**229**	*i*P	P	Pn	05 47 33.4	+2.4
AVH				S	S	Sn	05 47 55.9	+2.5
UGLR	**Uglovaya**	**1.81**	**227**	P	P	Pn	05 47 33.1	+2.0
UGLR				S	S	Sn	05 47 55.3	+1.7
KOK	**Koryaka**	**1.84**	**231**	P	P	Pn	05 47 33.3	+1.9
KOK				S	S	Sn	05 47 55.0	+0.9
KLY	**Klyuchi**	**1.86**	**354**	S	S	Sn	05 47 56.9	+2.4
GNL	**Ganaly**	**1.97**	**248**	*i*P	P	Pn	05 47 35.4	+2.2
ESO	**Esso**	**1.98**	**319**	P	P	Pn	05 47 34.4	+1.2
ESO				S	S	Sn	05 47 57.4	+0.2
SRDR	**Sredinnyy**	**2.00**	**339**	P	P	Pn	05 47 34.6	+1.1
SRDR				S	S	Sn	05 47 58.3	+0.4
PET	**Petropavlovsk**	**2.02**	**225**	*i*P	P	Pn	05 47 35.7	+2.1
PET				S	S	Sn	05 48 00.4	+2.3
KBTR	**Krutoberegovo**	**2.03**	**30**	P	P	Pn	05 47 36.3	+2.5
KBTR				S	S	Sn	05 48 00.8	+2.4
KBG	**Krutoberegovo**	**2.04**	**28**	P	P	Pn	05 47 35.8	+1.9
KBG				S	S	Sn	05 48 00.2	+1.7
BDR	**Baidarnaya**	**2.11**	**3**	P	P	Pn	05 47 37.7	+2.7
BDR				S	S	Sn	05 48 03.1	+2.5
SMKR	**Semkarok**	**2.14**	**7**	P	P	Pn	05 47 37.7	+2.3
SMKR				S	S	Sn	05 48 03.6	+2.4
SRKR	**Sorokina**	**2.19**	**2**	P	P	Pn	05 47 38.4	+2.3
SRKR				S	S	Sn	05 48 05.2	+2.6
RUS	**Russkaya**	**2.53**	**217**	P	P	Pn	05 47 41.9	+1.4
RUS				S	S	Sn	05 48 11.4	+1.0
MTVR	**Mutnovka**	**2.61**	**222**	*i*P	P	Pn	05 47 44.6	+2.8
MTVR				S	S	Sn	05 48 14.8	+2.1
APC	**Apacha**	**2.77**	**238**	P	P	Pn	05 47 46.1	+2.4
APC				S	S	Sn	05 48 18.4	+2.3
ASAK	**Asacha**	**2.80**	**223**	P	P	Pn	05 47 47.3	+3.0
ASAK				S	S	Sn	05 48 19.4	+2.3
BKI	**Bering**	**2.96**	**74**	P	P	Pn	05 47 48.4	+2.1
BKI				S	S	Sn	05 48 21.2	+0.4

*IDC **08** 06:07:16.7±1.7, 37°.71S×74°.09W, h0km, mb3.6/5,*
mb1 3.8/7, mb1mx3.8/16, mbtmp3.6/7, ML3.8/2, MS2.6/2,
Ms1 2.6/2, ms1mx2.5/20, Error ellipse: s-maj=40.0km
s-min=20.3km az=56.0
*ISCJB **08** 06:07:18.2±1.2, 37°.7S±0°.1×73°.9W±0°.2, h18km, mb3.5/5,*
MS3.4/1, Error ellipse: s-maj=26.3km s-min=16.0km
az=162.6

ISC 08 06:07:19.4±1.3, 37°.8S±0°.1×73°.9W±0°.2, h18km, n9, σ0.9 35/7,
mb3.3/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.96**	**139**	Pn	**Pn**		**06 08 19.2**	**-0.1**
	2.2nm,0.3s,baz=300,slow=12,SNR=11							
PLCA				Lg	Lg		06 09 28.6	
	3.0nm,0.3s,baz=41,slow=19,SNR=1.2							
CFAA	**Coronel Fontan**	**7.74**	**39**	Pn	**Pn**		**06 09 10.8**	**-0.4**
	0.5nm,0.3s,baz=213,slow=11,SNR=9.7							
CFAA				LR	LR		06 11 59.0	
	comp=Z,7.9nm,19.6s,baz=252,slow=36							
LPAZ	**La Paz**	**22.00**	**15**	P	**P**		**06 12 13.4**	**+0.1**
	1.1nm,0.8s,baz=180,slow=8.1,SNR=3.3							
BDFB	**Brasilia**	**31.78**	**53**	P	**P**		**06 13 43.5**	**+0.6**
	1.9nm,0.7s,baz=229,slow=11,SNR=2.8							
ROSC	**El Rosal**	**42.41**	**359**	LR	LR		06 31 05.1	
	comp=Z,51nm,21.0s,baz=184,slow=34							
H06S1	**SOCORRO T**	**66.11**	**321**	T	T		07 30 16.8	
	SNR=24							
TXAR	**Lajitas Array**	**72.32**	**333**	P	**P**		**06 18 43.9**	**-0.1**
	0.2nm,0.6s,baz=159,slow=8.7,SNR=4.2							
PDAR	**Pinedale Array**	**86.46**	**335**	P	**P**		**06 20 00.9**	**0.0**
	0.1nm,0.5s,baz=233,slow=42,SNR=3.0							
TORD	**Torodi Ar. Bea**	**86.93**	**71**	P	**P**		**06 20 03.5**	**0.0**
	0.4nm,0.6s,baz=222,slow=5.5,SNR=9.6							

*ISCJB **08** 06:15:08.2±0.7, 6°.99S±0°.04×130°.77E±0°.08, h47km,*
mb3.4/2, Error ellipse: s-maj=11.2km s-min=6.3km az=6.0
*IDC **08** 06:15:09.5±10.0, 6°.86S×130°.88E, h75km±114km, mb3.0/2,*
mb1 3.7/5, mb1mx3.5/19, mbtmp3.9/5, ML4.1/3, Error
ellipse: s-maj=108.6km s-min=38.2km az=42.0

ISC 08 06:15:09.5±0.8, 7°.03S±0°.06×130°.77E±0°.07, h47km, n13,
σ2.9 91/17, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.34**	**20**	P	**Pn**		**06 16 15.2**	**+2.1**
	baz=4.3,SNR=29							
FAKI				S		**Sn**	**06 17 01.3**	**-1.1**
	baz=4.3,SNR=5.7							
MTN	**Manton Dam**	**5.79**	**176**	P	Pn		06 16 38.3	+5.4
	baz=6.0,SNR=6.3							
MTN				S		**Sn**	**06 17 40.7**	**+2.6**
	baz=6.0,SNR=13							
KDU	**Kakadu**	**5.87**	**164**	P	Pn		06 16 38.8	+4.8
	baz=6.1,SNR=42							
KDU				S		**Sn**	**06 17 42.2**	**+2.2**
	baz=6.1,SNR=9.0							
SOEI	**Soe**	**6.98**	**247**	P	**Pn**		**06 16 51.2**	**+1.8**
	baz=6.9,SNR=5.5							
SOEI				S		**Sn**	**06 18 06.1**	**-1.5**
	baz=6.9,SNR=4.1							
BATI	**Baumata**	**7.70**	**245**	P	**Pn**		**06 17 01.5**	**+2.3**
	5.9nm,0.3s,baz=58,slow=5.8,SNR=2.5							
KNRA	**Kununurra**	**8.82**	**193**	P	**Pn**		**06 17 16.5**	**+2.0**
	baz=8.9,SNR=27							
KNRA				S		**Sn**	**06 18 49.0**	**-3.5**
	baz=8.9,SNR=15							
WRA	**Warramunga Arr**	**13.29**	**165**	P	**Pn**		**06 18 15.6**	**-0.2**
	0.7nm,0.3s,baz=349,slow=13,SNR=42							
WRA				S		Sn	06 20 36.0	-6.2
	2.1nm,0.3s,baz=332,slow=23,SNR=9.2							
COEN	**Coen**	**14.00**	**120**	P	**Pn**		**06 18 27.9**	**+2.6**
	baz=14,SNR=14							
COEN				S		**Sn**	**06 20 54.5**	**-4.9**
	baz=14,SNR=5.4							
QIS	**Mount Isa**	**15.94**	**148**	P	**P**		**06 18 55.0**	**+1.3**
	baz=16,SNR=3.1							
QIS				S		**Sn**	**06 21 41.0**	**-5.6**
	baz=16,SNR=4.7							
ASAR	**Alice Springs**	**16.81**	**170**	P	**P**		**06 19 03.5**	**+0.1**
	0.6nm,0.3s,baz=351,slow=9.9,SNR=30							
ASAR				S		Sn	06 22 00.2	-7.6
	0.8nm,0.3s,baz=352,slow=26,SNR=9.0							
WRKA	**Warakurna**	**18.06**	**187**	P	**P**		**06 19 17.1**	**-0.1**
	baz=18,SNR=9.9							
WRKA				S		Sn	06 22 27.0	-11
	baz=18,SNR=4.3							
SONM	**Songino Array**	**58.72**	**341**	P	**P**		**06 24 59.4**	**-3.2**
	0.2nm,0.6s,baz=168,slow=8.8,SNR=2.1							
MKAR	**Makanchi Array**	**68.67**	**326**	P	P		06 26 04.0	-4.1

0.3nm,0.6s,baz=137,slow=8.1,SNR=4.3

GUC 08 06:21:16.1±0.3,34°39S×71°89W,h42km±2km,ML3.7, 1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.82**	**138**	*i* P	Pn	06 21 31.3	+0.1
NICH				*i* S	Sn	06 21 43.0	+0.8
ANTU	**Antumapu**	**1.33**	**52**	*e*P	Pn	06 21 39.5	+1.2
ANTU				*i* S	Sn	06 21 57.3	+2.5
ANTU				AML	AML	06 22 09.9	
	comp=N,2μm,0.7s						
STL	**Santa Lucia**	**1.41**	**48**	*i* P9	Pn	06 21 39.5	+0.1
STL				*i* S	Sn	06 21 58.2	+1.4
FSR	**Penalolen**	**1.45**	**52**	*e*P9	Pn	06 21 42.5	+2.5
FSR				*i* S	Sn	06 22 01.6	+3.7
LACH	**Col Las Americ**	**1.47**	**51**	⇓*i*P	Pn	06 21 41.4	+1.2
LACH				*i* S	Sn	06 22 00.9	+2.6
LNCH	**Linares**	**1.47**	**171**	*e*P	Pn	06 21 41.7	+1.5
LNCH				*e*S	Sn	06 22 00.8	+2.5
CLCH	**Cerro Calan**	**1.50**	**49**	⇑*i*P	Pn	06 21 42.1	+1.5
CLCH				*i* S	Sn	06 22 01.9	+2.8
CLCH				AML	AML	06 22 15.8	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**1.60**	**39**	⇓*i*P	Pn	06 21 43.4	+1.4
PEL				*i* S	Sn	06 22 04.3	+2.9
PEL				AML	AML	06 22 10.9	
	comp=N,3μm,0.6s						

IDC 08 06:23:46.7±3.1,20°52S×177°73W,h550km±31km, mb3.1/5,mb1 3.3/6,mb1mx3.1/19,mbtmp4.0/6,Error ellipse: s-maj=84.7km s-min=18.1km az=157.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.84**	**261**	P	P	06 26 54.5	-0.2
	0.4nm,0.3s,baz=103,slow=22,SNR=2.0						
CTA	**Charters Tower**	**33.74**	**264**	P	P	06 29 43.5	+0.2
	2.5nm,0.5s,baz=77,slow=10.0,SNR=5.3						
ASAR	**Alice Springs**	**44.76**	**257**	P	P	06 31 12.2	+0.3
	1.0nm,0.7s,baz=88,slow=8.5,SNR=12						
ASAR				PcP	PcP	06 32 43.0	+0.8
	0.4nm,0.5s,baz=103,slow=4.1,SNR=5.0						
WRA	**Warramunga Arr**	**44.85**	**262**	P	P	06 31 12.1	-0.5
	0.4nm,0.3s,baz=95,slow=7.7,SNR=27						
WRA				PcP	PcP	06 32 42.6	+0.1
	0.4nm,1.0s,baz=99,slow=4.0,SNR=3.8						
WRA				S	S	06 37 08.5	-2.1
	0.4nm,0.9s,baz=96,slow=13,SNR=2.8						
ILAR	**Eielson Array**	**88.28**	**13**	P	P	06 35 37.9	-1.4
	0.4nm,0.5s,baz=186,slow=16,SNR=7.0						
CMAR	**Chiang Mai Arr**	**90.36**	**289**	P	P	06 35 51.2	+1.1
	0.6nm,0.3s,baz=104,slow=2.3,SNR=5.8						
AKASG	**Malin Array Be**	**143.15**	**331**	PKP	PKPab	06 42 15.4	-0.6
	0.3nm,0.3s,baz=43,slow=4.3,SNR=6.7						
EKA	**Eskdalemuir Ar**	**145.00**	**5**	PKPbc	PKPdf	06 42 21.3	+0.1
	0.4nm,0.5s,baz=344,slow=3.3,SNR=4.1						
BRTR	**Keskin Array B**	**147.04**	**312**	PKPbc	PKPbc	06 42 28.5	+0.1
	0.8nm,0.5s,baz=128,slow=4.4,SNR=4.5						
GERES	**GERESS Array B**	**150.29**	**345**	PKP	PKPdf	06 42 28.6	-1.6
	0.3nm,0.6s,baz=358,slow=29,SNR=1.5						
GERES				PKPbc	PKiKP	06 42 36.6	0.0
	0.6nm,0.7s,baz=64,slow=3.1,SNR=3.9						

*IDC **08** 06:31:33.8±0.8,52°34N×31°99W,h0km,mb3.7/12, mb1 3.9/13,mb1mx3.7/36,mbtmp3.8/13,ML3.9/1,Error ellipse: s-maj=25.8km s-min=17.4km az=3.0*
*ISCJB **08** 06:31:34.3±0.7,52°4N±0°1×32°0W±0°1,h13km,mb3.7/11, Error ellipse: s-maj=21.6km s-min=11.7km az=5.2*
ISC 08 06:31:36.0±0.8,52°4N±0°2×32°0W±0°1,h13km,n16, σ0§98/15,mb3.9/11,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**17.18**	**69**	Pn	**Pn**	**06 35 35.2**	**-0.3**
	baz=270,slow=10,SNR=13						
SCHQ	**Schefferville**	**20.71**	**291**	P	**P**	**06 36 15.6**	**-0.1**
	1.7nm,0.8s,baz=78,slow=9.3,SNR=4.0						
FRB	**Frobisher Bay**	**22.09**	**315**	P	**P**	**06 36 30.9**	**+0.5**
	2.2nm,0.9s,baz=76,slow=6.7,SNR=4.2						
GERES	**GERESS Array B**	**28.81**	**79**	P	**P**	**06 37 33.6**	**0.0**
	0.7nm,0.8s,baz=274,slow=11,SNR=4.4						
FINES	**FINESS Array B**	**31.91**	**50**	P	**P**	**06 37 59.5**	**-1.2**
	2.4nm,0.9s,baz=286,slow=7.1,SNR=2.7						
YKA	**Yellowknife Ar**	**42.59**	**317**	P	**P**	**06 39 30.5**	**-0.7**
	0.2nm,0.7s,baz=60,slow=10.0,SNR=2.5						
BRTR	**Keskin Array B**	**45.71**	**79**	P	**P**	**06 39 57.7**	**+1.0**
	2.2nm,0.7s,baz=301,slow=7.4,SNR=8.5						
TORD	**Torodi Ar. Bea**	**47.50**	**133**	P	**P**	**06 40 11.8**	**+1.1**
	0.9nm,0.8s,baz=333,slow=7.7,SNR=5.1						
PDAR	**Pinedale Array**	**50.84**	**292**	P	**P**	**06 40 38.1**	**+1.7**
	0.3nm,0.7s,baz=46,slow=4.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**61.70**	**37**	P	**P**	**06 41 53.4**	**+0.1**
	0.8nm,0.7s,baz=326,slow=7.0,SNR=2.5						
MKAR	**Makanchi Array**	**66.35**	**43**	P	**P**	**06 42 23.9**	**-0.2**
	0.8nm,0.6s,baz=330,slow=5.7,SNR=11						
SONM	**Songino Array**	**74.02**	**28**	P	**P**	**06 43 11.1**	**0.0**
	0.6nm,0.9s,baz=341,slow=5.9,SNR=5.6						
LPAZ	**La Paz**	**75.23**	**216**	P	**P**	**06 43 17.1**	**-1.9**
	1.3nm,0.4s,baz=31,slow=5.9,SNR=7.2						
H09N1	**TRISTAN DA CUN**	**90.72**	**164**	T	T	08 24 44.8	
	SNR=22						
WRA	**Warramunga Arr**	**145.91**	**23**	PKPbc	**PKPdf**	**06 51 14.9**	**+0.5**
	0.5nm,0.8s,baz=348,slow=3.6,SNR=8.3						
ASAR	**Alice Springs**	**149.36**	**26**	PKPbc	**PKPbc**	**06 51 24.2**	**-0.2**
	0.1nm,0.4s,baz=339,slow=4.4,SNR=1.9						

JMA 08 06:31:45.1±0.3,31°36N×140°73E,h6km,M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.91**	**336**	S	Sb	06 32 43.6	-0.9
BSO1	**Boso 1**	**3.29**	**4**	P	Pn	06 32 39.2	+2.7
BSO2	**Boso 2**	**3.38**	**1**	S	Sn	06 33 20.2	+1.9
BSO3	**Boso 3**	**3.44**	**357**	S	Sn	06 33 20.8	+1.1
BSO4	**Boso 4**	**3.63**	**355**	S	Sn	06 33 27.1	+2.2
TTO1	**TONANKAI O.B.S**	**4.03**	**305**	P	Pn	06 32 48.7	+1.8
JNY	**Yasuok**	**4.65**	**330**	P	Pn	06 32 58.7	+2.7
JHO	**Hitachi**	**5.24**	**359**	P	Pn	06 33 05.7	+1.7
JHO				S	Sn	06 34 05.7	+1.0

IDC 08 06:44:39.3±1.6,33°35S×72°20W,h0km,mb3.6/2, mb1 3.8/4,mb1mx3.7/16,mbtmp3.6/4,ML3.7/2,MS3.3/2, Ms1 3.3/2,ms1mx2.9/19,Error ellipse: s-maj=67.4km s-min=33.9km az=79.0,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**7.49**	**170**	Pn	Pn	06 46 30.6	+0.7
	0.4nm,0.3s,baz=326,slow=12,SNR=6.2						
PLCA				LR	LR	06 49 39.4	
	comp=Z,255nm,21.8s,baz=342,slow=40						
CPUP	**Villa Florida**	**14.67**	**65**	LR	LR	06 54 15.3	
	comp=Z,104nm,18.4s,baz=206,slow=39						
LPAZ	**La Paz**	**17.38**	**13**	P	P	06 48 45.2	-0.3
	0.1nm,0.3s,baz=199,slow=8.6,SNR=4.3						
TXAR	**Lajitas Array**	**69.10**	**331**	P	P	06 55 47.4	+0.1
	0.2nm,0.5s,baz=151,slow=8.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**84.11**	**70**	P	P	06 57 12.4	-0.1
	1.2nm,0.9s,baz=243,slow=4.7,SNR=4.3						
ZALV	**Zalesovo Beam**	**153.74**	**31**	PKPbc	PKPbc	07 04 39.1	-0.6
	0.3nm,0.4s,baz=293,slow=5.8,SNR=3.6						

*IDC **08** 06:57:13.8±3.1,22°31S×68°63W,h41km±26km,mb3.7/2, mb1 4.0/4,mb1mx3.5/17,mbtmp3.9/4,ML4.0/2,Error ellipse: s-maj=48.4km s-min=30.5km az=94.0*
*ISCJB **08** 06:57:26.1±0.5,21°23S±0°05×68°35W±0°07,h127km±9km, mb3.6/2,Error ellipse: s-maj=11.5km s-min=5.7km az=148.7*
*GUC **08** 06:57:27.7±0.3,21°22S×68°57W,h133km±2km,ML3.8*
*SJA **08** 06:57:27.5±0.6,21°23S×68°08W,h40km±999km,ML3.1*
ISC 08 06:57:26.8±0.9,21°23S±0°05×68°36W±0°07, h125km±10km,n18,σ0§91/28,5C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.99**	**235**	⇑*i*P	**Pn**	**06 57 50.3**	**+0.9**
PB09				*i* S	**Sn**	**06 58 07.2**	**+0.7**
PB09				AML	AML	06 58 08.2	
	comp=N,3μm,0.2s						
PB01	**IPOC Station P**	**1.07**	**280**	⇑*e*P	**Pn**	**06 57 50.3**	**+0.2**
PB01				*i* S	**Sn**	**06 58 07.3**	**-0.3**
LVC	**Limon Verde**	**1.47**	**200**	*i* P	**Pn**	**06 57 54.9**	**+0.4**
LVC				*i* S	**Sn**	**06 58 15.1**	**-0.4**
PB07	**IPOC Station P**	**1.50**	**251**	⇑*i*P	**Pn**	**06 57 54.8**	**0.0**
PB07				*i* S	**Sn**	**06 58 15.6**	**-0.5**
HMBC	**Humberstone**	**1.71**	**303**	⇑*i*P	**Pn**	**06 57 57.2**	**-0.1**
HMBC				*i* S	**Sn**	**06 58 19.9**	**-0.5**
HMBC				AML	AML	06 58 21.2	
	comp=N,1μm,0.5s						
PATCX	**Punta Patache**	**1.72**	**283**	*e*P	**Pn**	**06 57 57.0**	**-0.2**
PATCX				*e*S	**Sn**	**06 58 19.4**	**-1.1**
PATCX				AML	AML	06 58 21.5	
	comp=E,1μm,0.3s						
PB06	**IPOC Station P**	**1.85**	**217**	*e*P9	**Pn**	**06 57 59.1**	**+0.2**
PB06				*i* S	**Sn**	**06 58 23.4**	**+0.1**
PB06				AML	AML	06 58 24.2	
	comp=E,793nm,0.3s						
PSGC	**Pisagua**	**2.32**	**314**	*e*P9	**Pn**	**06 58 04.0**	**-0.6**
PSGC				*e*S	**Sn**	**06 58 32.4**	**-1.2**
PSGC				AML	AML	06 58 34.1	
	comp=E,405nm,0.4s						
MNMC	**Minimini**	**2.39**	**331**	⇑*i*P	**Pn**	**06 58 06.5**	**+0.8**
MNMC				*i* S	**Sn**	**06 58 36.2**	**+0.7**
MNMC				AML	AML	06 58 41.0	
	comp=N,818nm,0.3s						
AZAP	**Zapla**	**4.26**	**135**	*i* P	**Pn**	**06 58 30.5**	**+0.4**
SLA	**San Lorenzo**	**4.36**	**143**	*i* P	**Pn**	**06 58 32.9**	**+1.5**
SLA				AML	AML	06 58 34.9	
	comp=Z,24nm,0.7s						
ASTB	**Santa Barbara**	**4.49**	**128**	*i* P	**Pn**	**06 58 33.4**	**+0.2**
ASTB				AML	AML	06 58 36.4	
ASTB				*i* S	**Sn**	**06 59 22.8**	**-1.9**
ALOL	**LOMAS DE OLMED**	**4.80**	**123**	*i* P	**Pn**	**06 58 37.6**	**+0.4**
ALOL				AML	AML	06 58 51.0	
LPAZ	**La Paz**	**4.92**	**3**	P	**Pn**	**06 58 41.6**	**+2.2**
	comp=Z,3.6nm,0.3s,baz=182,slow=6.8,SNR=119						
SIV	**San Ignacio**	**8.65**	**54**	P	**Pn**	**06 59 27.6**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=246,slow=16,SNR=8.5						
TORD	**Torodi Ar. Bea**	**76.78**	**70**	P	**P**	**07 09 05.0**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=257,slow=5.4,SNR=10						
YKA	**Yellowknife Ar**	**91.11**	**340**	P	**P**	**07 10 16.9**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=133,slow=4.6,SNR=11						
MKAR	**Makanchi Array**	**145.12**	**36**	PKPbc	**PKPdf**	**07 16 49.8**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=307,slow=4.2,SNR=5.7						

*IDC **08** 07:06:03.1±0.8,34°30S×73°23W,h0km,mb4.3/11, mb1 4.3/14,mb1mx4.2/19,mbtmp4.2/14,ML4.0/3,MS3.1/8, Ms1 3.1/8,ms1mx3.0/20,Error ellipse: s-maj=25.3km s-min=22.1km az=8.0*
*GUC **08** 07:06:05.9±0.7,34°12S×73°12W,h24km±5km,ML4.0*
*ISCJB **08** 07:06:07.1±2.1,34°20S±0°04×73°09W±0°06,h33km±15km, mb4.4/37,MS3.2/5,Error ellipse: s-maj=8.2km s-min=7.2km az=175.0*
*BJI **08** 07:06:07.2,34°20S×72°99W,h33km,mB5.1/3,Ms5.2/3, Ms7 5.2/3*
*NEIC **08** 07:06:08.9±0.2,34°20S×73°09W,h35km,mb4.6/27,Error ellipse: s-maj=8.9km s-min=5.7km az=67.0*
ISC 08 07:06:08.5±0.9,34°17S±0°05×73°08W±0°06,h34km±5km, n76,σ1§14/98,mb4.5/37,MS3.2/5,1C-4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.66**	**47**	⇓*i*P	**Pn**	**07 06 33.4**	**-1.8**
NICH	**Los Niches**	**1.74**	**119**	⇓*i*P	**Pn**	**07 06 36.5**	**+0.1**
NICH				*i* S1	**Sn**	**07 06 59.2**	**+1.8**
LNCH	**Linares**	**2.07**	**144**	⇓*i*P	**Pn**	**07 06 41.4**	**+0.5**
LNCH				*i* S1	**Sn**	**07 07 07.4**	**+1.9**
ANTU	**Antumapu**	**2.12**	**74**	AML	AML	07 07 10.5	
	comp=E,1μm,0.5s						
STL	**Santa Lucia**	**2.16**	**71**	*e*P9	**Pn**	**07 06 41.1**	**-1.0**
STL				*i* S1	**Sn**	**07 07 08.4**	**+0.7**
LACH	**Col Las Americ**	**2.24**	**72**	*e*P1	**Pn**	**07 06 43.5**	**+0.2**
PEL	**Peldehue**	**2.24**	**64**	⇓*i*P	**Pn**	**07 06 43.1**	**-0.2**
PEL				*i* S	**Sn**	**07 07 11.4**	**+1.5**
PEL				AML	AML	07 07 14.3	
	comp=N,1μm,0.4s						
CLCH	**Cerro Calan**	**2.25**	**71**	⇑*i*P	**Pn**	**07 06 43.0**	**-0.5**
CLCH				*i* S1	**Sn**	**07 07 11.6**	**+1.4**
CLCH				AML	AML	07 07 28.9	
	comp=E,910nm,0.6s						
CFAA	**Coronel Fontan**	**4.81**	**59**	Pn	**Pn**	**07 07 19.6**	**+1.0**
	comp=E,0.9nm,0.3s,baz=221,slow=9.6,SNR=48						
CFAA				Sn	**Sn**	**07 08 15.5**	**+2.3**
	comp=E,0.9nm,0.3s,baz=110,slow=19,SNR=7.1						
CFAA				LR	LR	07 09 14.5	
	comp=E,29nm,18.1s,baz=227,slow=38						
PLCA	**Paso Flores**	**6.85**	**164**	Pn	**Pn**	**07 07 46.8**	**+0.1**
	comp=E,1.7nm,0.3s,baz=334,slow=11,SNR=47						
PLCA				LR	LR	07 09 53.4	
	comp=E,37nm,18.9s,baz=354,slow=34						
TRQA	**Tornquist**	**9.78**	**117**	*e*Pn	**Pn**	**07 08 27.6**	**+0.8**
	comp=E,7.9nm,0.8s						
TRQA				*e*Sn	**Sn**	**07 10 16.7**	**+1.3**
CPUP	**Villa Florida**	**15.68**	**64**	Pn	**P**	**07 09 48.6**	**-2.1**
	comp=E,0.4nm,0.3s,baz=220,slow=14,SNR=3.0						
CPUP				LR	LR	07 15 50.7	
	comp=E,86nm,20.7s,baz=228,slow=37						
LPAZ	**La Paz**	**18.36**	**15**	P	**Pn**	**07 10 21.9**	**+0.8**
	comp=E,0.4nm,0.3s,baz=185,slow=7.2,SNR=23						
EFI	**East Falkland**	**20.59**	**153**	*e*P	**P**	**07 10 43.6**	**-0.9**
	comp=E,57nm,1.0s						
USHA	**Ushuaia**	**20.91**	**172**	P	Pn	07 10 50.6	0.0
	comp=E,13nm,0.9s,baz=0.0,slow=9.1,SNR=2.5						
SIV	**San Ignacio**	**21.08**	**34**	P	**P**	**07 10 52.4**	**+2.3**
	comp=E,8.3nm,0.9s,baz=223,slow=11,SNR=13						
SIV				LR	LR	07 19 36.2	
	comp=E,67nm,19.8s,baz=196,slow=38						
NNA	**Nana**	**22.35**	**350**	P	**P**	**07 11 03.4**	**-0.3**
	comp=E,9.1nm,0.8s,baz=175,slow=12,SNR=3.7						
NNA				LR	LR	07 16 55.9	
	comp=E,57nm,21.2s,baz=178,slow=29						
NNA	**Nana**	**22.35**	**350**	*e*P	**P**	**07 11 03.6**	**-0.1**
SAML	**Samuel**	**26.70**	**22**	*e*P	**P**	**07 11 44.4**	**-0.3**
	comp=E,5.1nm,1.3s						
ATAH	**Atahualpa**	**27.35**	**348**	LR	LR	07 19 26.8	
	comp=E,61nm,20.2s,baz=177,slow=29						
BDFB	**Brasilia**	**29.15**	**57**	P	**P**	**07 12 06.5**	**-0.3**
	comp=E,1.5nm,0.5s,baz=316,slow=2.6,SNR=3.8						
BDFB				LR	LR	07 23 54.3	
	comp=E,83nm,18.9s,baz=236,slow=36						
HOPE	**Hope Point**	**32.52**	**139**	*e*P	**P**	**07 12 33.2**	**-2.7**
	comp=E,15nm,0.6s						
OTAV	**Otavalo**	**34.60**	**351**	*e*P	**P**	**07 12 56.1**	**+1.2**
	comp=E,31nm,1.8s						
SDV	**Santo Domingo**	**42.88**	**4**	*e*P	**P**	**07 14 04.3**	**+0.2**
	comp=E,5.7nm,0.9s						
JTS	**JuntasAbangare**	**45.63**	**344**	*e*P	**P**	**07 14 26.0**	**+0.2**
	comp=E,2.2nm,0.4s						
VNA3	**Neumayer Olymp**	**49.53**	**158**	P	P	07 15 06.6	+11
VNA2	**Neumayer--Watz**	**50.19**	**157**	P	P	07 15 10.8	+10
SNAA	**Sanae**	**51.75**	**158**	P	**P**	**07 15 13.0**	**+0.6**
SNAA	**Sanae**	**51.75**	**158**	*e*P	**P**	**07 15 13.6**	**+1.3**
	comp=E,4.8nm,0.9s						
TEIG	**Tepich**	**56.00**	**343**	*e*P	**P**	**07 15 43.2**	**-0.5**
	comp=E,9.2nm,0.5s						
QSPA	**South Pole Qui**	**56.07**	**180**	*e*P	**P**	**07 15 45.2**	**+1.1**
	comp=E,12nm,1.1s						
JCT	**Junction City**	**69.07**	**335**	*e*P	**P**	**07 17 10.8**	**-0.3**
	comp=E,1.4nm,0.3s						
TXAR	**Lajitas Array**	**69.47**	**332**	P	**P**	**07 17 14.1**	**+0.5**
	comp=E,1.1nm,0.6s,baz=151,slow=8.7,SNR=22						
TXAR				LR	LR	07 41 49.4	
	comp=E,35nm,20.4s,baz=0.0,slow=31						
SWET	**Sewanee**	**70.07**	**349**	*e*P	**P**	**07 17 16.8**	**-0.2**
	comp=E,6.3nm,0.8s						
MIAR	**Mount Ida**	**71.00**	**342**	*e*P	**P**	**07 17 22.9**	**+0.2**
	comp=E,2.9nm,1.0s						
WVT	**Waverly**	**71.28**	**347**	*e*P	**P**	**07 17 24.1**	**-0.2**
	comp=E,24nm,1.1s						
TUL1	**Leonard**	**72.88**	**341**	*e*P	**P**	**07 17 34.5**	**+0.6**
	comp=E,7.8nm,1.2s						
ACSO	**Alum Creek Sta**	**74.60**	**352**	*e*P	**P**	**07 17 43.4**	**-0.5**
	comp=E,14nm,1.1s						
ANMO	**Albuquerque**	**75.52**	**332**	*e*P	**P**	**07 17 50.5**	**+0.8**
	comp=E,1.6nm,1.0s						
DBIC	**Dimbokro**	**76.05**	**72**	P	**P**	**07 17 53.7**	**+0.8**
	comp=E,3.7nm,0.6s,baz=211,slow=5.4,SNR=8.4						
DBIC	**Dimbokro**	**76.05**	**72**	*e*P	**P**	**07 17 52.2**	**-0.7**
TSUM	**Tsumeb**	**80.00**	**106**	*e*P	**P**	**07 18 12.9**	**-2.0**
	comp=E,5.9nm,1.4s						
PASC	**Pasadena Art C**	**80.06**	**323**	*e*P	**P**	**07 18 15.5**	**+0.8**
	comp=E,4.7nm,0.5s						
CCUT	**Cedar City**	**80.59**	**329**	*e*P	**P**	**07 18 19.0**	**+1.2**
	comp=E,4.1nm,1.2s						
SRU	**San Rafael Swe**	**80.74**	**331**	*e*P	**P**	**07 18 18.8**	**+0.3**
	comp=E,0.3nm,0.4s						
BOSA	**Boshof**	**80.75**	**118**	P	**P**	**07 18 19.9**	**+1.0**
	comp=E,6.2nm,1.2s,baz=185,slow=10,SNR=3.6						
DUG	**Dugway, Tooele**	**82.59**	**330**	*e*P	**P**	**07 18 29.1**	**+1.0**
	comp=E,3.5nm,1.3s						
LBTB	**Lobatse**	**83.01**	**115**	*e*P	**P**	**07 18 31.9**	**+1.0**
	comp=E,14nm,1.4s						
HWUT	**Hardware Ranch**	**83.29**	**332**	*e*P	**P**	**07 18 32.0**	**+0.2**
	comp=E,2.5nm,0.8s						
SPUT	**South Promonto**	**83.38**	**331**	*e*P	**P**	**07 18 32.6**	**+0.3**
	comp=E,9.2nm,1.5s						
PDAR	**Pinedale Array**	**83.53**	**334**	P	**P**	**07 18 32.7**	**-0.4**
	comp=E,1.5nm,1.1s,baz=151,slow=3.4,SNR=5.9						
NVAR	**Mina Array Bea**	**83.53**	**326**	P	**P**	**07 18 33.9**	**+0.8**
	comp=E,0.7nm,0.8s,baz=146,slow=7.2,SNR=5.3						
HVU	**Hansel Valley**	**83.91**	**331**	*e*P	**P**	**07 18 35.2**	**+0.3**
MDND	**Maddock**	**85.04**	**342**	*e*P	**P**	**07 18 40.6**	**+0.3**
	comp=E,5.9nm,1.5s						
TORD	**Torodi Ar. Bea**	**85.08**	**71**	P	**P**	**07 18 42.1**	**+0.9**
	comp=E,3.6nm,0.7s,baz=260,slow=3.8,SNR=18						
ULM	**Lac du Bonnet**	**86.44**	**346**	P	**P**	**07 18 48.0**	**+0.9**
	comp=E,2.8nm,1.1s,baz=161,slow=3.5,SNR=4.8						
MCMT	**McKenzie Canyo**	**86.52**	**333**	*e*P	**P**	**07 18 49.0**	**+1.0**
	comp=E,1.9nm,1.1s						
DGMT	**Dagmar**	**86.84**	**340**	*e*P	**P**	**07 18 49.9**	**+0.6**
	comp=E,15nm,1.2s						
MDT	**Midelt**	**92.59**	**52**	P	**P**	**07 19 16.2**	**-0.5**
	comp=E,3.1nm,0.9s,baz=235,slow=9.1,SNR=4.2						
YKA	**Yellowknife Ar**	**101.94**	**342**	P	**Pdif**	**07 19 57.2**	**-0.9**
	comp=E,0.2nm,0.8s,baz=136,slow=4.9,SNR=4.0						
ILAR	**Eielson Array**	**113.96**	**333**	PKP	**PKiKP**	**07 24 42.8**	**-0.3**
	comp=E,0.3nm,0.8s,baz=147,slow=1.0,SNR=4.4						
ASAR	**Alice Springs**	**117.02**	**208**	PKP	**PKPdf**	**07 24 49.6**	**-0.8**
	comp=E,0.2nm,0.7s,baz=88,slow=1.2,SNR=1.9						
WRA	**Warramunga Arr**	**120.19**	**210**	PKP	**PKPdf**	**07 24 55.3**	**-1.2**
	comp=E,0.2nm,0.6s,baz=157,slow=1.6,SNR=12						
PALK	**Pallekele**	**143.92**	**132**	*e*PKPdf	**PKPdf**	**07 25 40.0**	**-1.1**
BRVK	**Borovoye**	**147.92**	**43**	*e*PKPbc	**PKPbc**	**07 25 50.7**	**+1.1**
BRVK				*e*PKPab	**PKPab**	**07 25 53.3**	**+1.0**
YAK	**Yakutsk**	**148.59**	**340**	*e*PKPdf	**PKPdf**	**07 25 47.9**	**+0.5**
YAK				*e*PKPbc	**PKPbc**	**07 25 51.1**	**-0.1**
HYB	**Hyderabad**	**149.64**	**116**	*i* PKP	**PKPbc**	**07 25 54.5**	**-0.7**
EKS2	**Erkin-Say**	**152.82**	**62**	*e*PKPbc	**PKPbc**	**07 26 02.6**	**+0.6**
EKS2				*e*PKPab	**PKPab**	**07 26 13.3**	**+0.2**
KSH	**Kashi**	**154.74**	**69**	*e*PKPbc	**PKPdf**	**07 25 58.4**	**+0.8**
KSH				sPKP		07 26 10.6	
KSH				PKS	**PKSdf**	**07 29 30.4**	**-1.4**
KSH				PP	**PP**	**07 29 56.1**	**-1.5**
KSH				SKS	**SKSdf**	**07 33 01.8**	**0.0**
KSH				SKKS	**SKKSac**	**07 36 42.0**	**-2.6**
KSH				SS	**SS**	**07 49 35.6**	**-2.1**
KSH				PPMZ			
	comp=E,130nm,6.7s						
KSH				LN			
	comp=E,48nm,5.0s						
KSH				LE			
	comp=E,31nm,3.6s						
KSH				LZ			
	comp=E,330nm,7.8s						
ZALV	**Zalesovo Beam**	**154.83**	**32**	PKP	**PKPdf**	**07 25 57.1**	**0.0**
	comp=E,1.1nm,0.8s,baz=321,slow=2.1,SNR=6.3						
ZALV				PKPbc	**PKiKP**	**07 26 06.3**	**+0.5**
	comp=E,2.6nm,0.7s,baz=280,slow=3.4,SNR=12						
ZALV				PKPab	**PKPab**	**07 26 20.6**	**-0.4**
	comp=E,0.8nm,0.6s,baz=305,slow=5.2,SNR=6.2						
MKAR	**Makanchi Array**	**157.53**	**49**	PKP	**PKPdf**	**07 26 01.1**	**+0.2**
	comp=E,0.3nm,0.7s,baz=22,slow=1.3,SNR=3.5						
MKAR				PKPab	**PKPab**	**07 26 33.4**	**+0.4**
	comp=E,1.0nm,0.7s,baz=297,slow=3.5,SNR=8.0						
WMQ	**Urumqi**	**162.25**	**51**	*e*PKP	**PKPdf**	**07 26 04.9**	**-1.5**
WMQ				pPKP	**pPKPdf**	**07 26 16.0**	**-1.5**
SONM	**Songino Array**	**166.34**	**2**	PKP	**PKPdf**	**07 26 09.6**	**-0.4**
	comp=E,0.2nm,0.5s,baz=212,slow=4.8,SNR=2.8		

BOYT			*i* S	Sn	07 41 27.0	-0.4
CDAG	**Cicekdag**	**1.50 154**	*i* P	Pb	07 41 17.1	0.0
CDAG			*i* S	Sg	07 41 37.1	-0.2
CDAG	**Cicekdag**	**1.50 154**	*i* P	Pb	07 41 17.1	-0.1
CDAG			*i* S	Sg	07 41 37.1	-0.2

HLW ***08*** *07:47:24.6, 40.37N×41.01E, h30km±15km, Md5.6, Ml5.2*
NSSC ***08*** *07:47:24.4±1.9, 39.77N×40.67E, h0km±71km, ML5.2*
BJI ***08*** *07:47:37.5, 38.49N×40.00E, h10km, mB5.5/45, mb5.0/62, Ms5.6/68, Ms7 5.1/64*
ISN ***08*** *07:47:37.8±1.3, 41.06N×41.10E, h0km±6km, ML3.9*
ISK ***08*** *07:47:38.2, 38.78N×40.06E, h5km, ML5.5*
DDA ***08*** *07:47:38.7, 38.75N×40.04E, h15km, ML5.6*
IDC ***08*** *07:47:39.7±0.4, 38.76N×40.06E, h0km, mb4.9/32, mb1 5.0/44, mb1mx5.0/44, mbtmp4.9/44, ML4.1/9, MS5.0/37, Ms1 5.0/37, ms1mx5.0/48, Error ellipse: s-maj=9.7km s-min=7.2km az=162.0*
CSEM ***08*** *07:47:40.3±0.1, 38.73N×40.12E, h2km, mb5.5/99, Ms5.2, Mw5.6, Error ellipse: s-maj=2.4km s-min=1.9km az=12.0*
MOS ***08*** *07:47:40.0±1.4, 38.82N×40.16E, h10km, mb5.6/109, MS5.0/72, Error ellipse: s-maj=4.3km s-min=2.8km az=118.2*
TEH ***08*** *07:47:40.0, 38.77N×40.24E, h10km, ML5.5*
ISCJB ***08*** *07:47:41.8±0.1, 38.68N±0.01×40.13E±0.01, h19km, mb5.3/301, MS5.2/185, Error ellipse: s-maj=1.7km s-min=1.2km az=14.3*
NEIC ***08*** *07:47:42.0±0.1, 38.71N×40.05E, h10km, mb5.5/185, MS5.2/138, ML5.5(ISK), ML5.6(DDA), Error ellipse: s-maj=3.9km s-min=3.1km az=184.0*
SZGRF ***08*** *07:47:41.6, 37.47N×39.31E, h33km, mb5.8, MS5.1, Turkey*
GCMT ***08*** *07:47:42.0±0.1, 38.73N×39.95E, h19km, MW5.6/119, Moment Tensor Solution. s84,c132; s119,c284; Duration: 18s Moment tensor: Scale 1017Nm; Mrr=0.05±.03; Mθθ=2.47±.03; Mφφ2.52±.03; Mrθ0.78±.08; Mrφ0.61±.03; Mθφ-0.10±.07; Best double couple: M0=2.68400×1017 NP1:φs=323.00000°, δ79.00000°, λ-168.00000°. NP2:φs=231.00000°, δ78.00000°, λ-11.00000°. Principal axes: T 2.5950, Plg0.0000°, Azm97.0000°; N 0.1800, Plg74.0000°, Azm6.0000°; P -2.7740, Plg16.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
DSN ***08*** *07:47:42.9±5.5, 38.67N×40.32E, h10km, mb5.5/8, ML6.2/1, Ms6.0/7 Error ellipse: s-maj=5.4km s-min=1.9km az=293.0*

ISC 08 07:47:41.6±0.3, 38.75N±0.01×40.06E±0.01, h11km±1km, h10km:pP-P, n1838, σ1962/1851, mb5.4/307, MS5.2/187, 246C-152D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
BINT	**Bingol**	**0.36**	**69**	*i* Pg	**Pb**	**07 47 49.6**		**-0.4**
BNGB	**Bing¶l**	**0.54**	**63**	PG	**Pg**	**07 47 49.5**		**-2.5**
DYBB	**Diyarbakir**	**0.80**	**176**	PG	**Pg**	**07 47 55.3**		**-1.7**
DYBB				SG	**Sb**	**07 48 08.0**		**-0.4**
DIY	**Diyarbakir**	**0.86**	**171**	*i* Pg	**Pg**	**07 47 55.3**		**-2.9**
DIY				*i* Sg	**Sg**	**07 48 08.0**		**-1.5**
BNGL	**BINGOL**	**0.87**	**76**	*i* P	**Pg**	**07 47 55.7**		**-2.7**
BNGL				*i* S	**Sg**	**07 48 09.8**		**-0.1**
ERZN	**Erzincan**	**0.88**	**343**	PG	**Pg**	**07 47 55.7**		**-2.7**
ERZN				SG	**Sg**	**07 48 08.3**		**-1.6**
EUZM	**Uzumlu**	**0.99**	**344**	*i* P	Pg	07 47 57.8		-3.0
EUZM				*i* S	**Sg**	**07 48 10.5**		**-3.2**
EUZM	**Uzumlu**	**0.99**	**344**	*i* P	Pg	07 47 57.8		-3.0
EUZM				*i* S	**Sg**	**07 48 10.5**		**-3.2**
VRTB	**Varto-Mus**	**1.16**	**69**	PN	**Pb**	**07 48 00.9**		**-2.9**
VRTB				SN	**Sb**	**07 48 18.1**		**-0.8**
VRTB	**Varto-Mus**	**1.16**	**69**	*i* Pn	**Pb**	**07 48 00.9**		**-2.9**
VRTB				*i* Sn	**Sb**	**07 48 18.1**		**-0.8**
BTMT	**Batman**	**1.25**	**116**	PN	**Pn**	**07 48 03.3**		**-1.8**
BTMT	**Batman**	**1.25**	**116**	*i* Pn	**Pn**	**07 48 03.3**		**-1.8**
BEST	**Besiri**	**1.28**	**132**	*i* P	**Pn**	**07 48 04.1**		**-1.4**
BEST	**Besiri**	**1.28**	**132**	*i* P	**Pn**	**07 48 03.9**		**-1.6**
BEST				*i* S	**Sb**	**07 48 21.6**		**-0.7**
BEST	**Besiri**	**1.28**	**132**	*i* P	**Pn**	**07 48 04.1**		**-1.4**
KOPT	**Kop Dagi**	**1.31**	**15**	*i* P	**Pn**	**07 48 03.8**		**-2.3**
KOPT				*i* S	**Sg**	**07 48 25.3**		**+1.5**
KOPT	**Kop Dagi**	**1.31**	**15**	*i* P	**Pn**	**07 48 03.8**		**-2.3**
KOPT				*i* S	**Sg**	**07 48 25.3**		**+1.5**
MAZI	**Mazidag**	**1.32**	**167**	PN	**Pn**	**07 48 04.5**		**-1.7**
MAZI	**Mazidag**	**1.32**	**167**	*i* Pn	**Pn**	**07 48 04.5**		**-1.7**
KEMA	**Kemaliye**	**1.33**	**293**	*i* P	Pn	07 48 02.5		-3.7
KEMA				*i* S	**Sb**	**07 48 22.4**		**-1.2**
KEMA	**Kemaliye**	**1.33**	**293**	*i* P	Pn	07 48 02.5		-3.7
KEMA				*i* S	**Sb**	**07 48 22.4**		**-1.2**
MALT	**Malatya**	**1.35**	**252**	PN	**Pn**	**07 48 05.2**		**-1.4**
MALT				SN	**Sg**	**07 48 25.4**		**+0.2**
MALT	**Malatya**	**1.35**	**252**	⇑*i*P	**Pn**	**07 48 05.1**		**-1.5**
MALT				S	**Sg**	**07 48 26.8**		**+1.6**
MALT	**Malatya**	**1.35**	**252**	⇑*i*P	**Pn**	**07 48 05.1**		**-1.5**
MALT	**Malatya**	**1.35**	**252**	Pn	**Pn**	**07 48 05.6**		**-1.0**
MALT				Sg	**Sn**	**07 48 24.5**		**-0.1**
MALT				*i* Sn	**Sg**	**07 48 25.4**		**+0.2**
MALT	**Malatya**	**1.35**	**252**	Pn	**Pn**	**07 48 05.5**		**-1.0**
MALT				Sg	**Sn**	**07 48 24.6**		**-0.1**
ILIC	**ilic-Erzincan**	**1.36**	**302**	PN	**Pn**	**07 48 05.0**		**-1.6**
ILIC	**ilic-Erzincan**	**1.36**	**302**	*i* Pn	**Pn**	**07 48 05.0**		**-1.6**
KELT	**Kelkit**	**1.53**	**336**	*i* P	**Pn**	**07 48 07.3**		**-1.8**
KELT				*i* S	**Sb**	**07 48 30.2**		**+0.6**
KELT	**Kelkit**	**1.53**	**336**	*i* P	**Pn**	**07 48 07.3**		**-1.8**
KELT				*i* S	**Sb**	**07 48 30.2**		**+0.6**
KELT				*i* S	**Sg**	**07 48 31.4**		**+0.6**
EZM	**Erzurum**	**1.53**	**41**	PN	**Pn**	**07 48 07.7**		**-1.4**
MARD	**Mardin**	**1.54**	**158**	*i* P	**Pn**	**07 48 07.4**		**-1.8**
MARD				*i* S	**Sn**	**07 48 26.8**		**-2.5**
URFA	**Urfa**	**1.63**	**217**	PN	**Pn**	**07 48 09.4**		**-0.9**
URFA	**Urfa**	**1.63**	**217**	*i* Pn	**Pn**	**07 48 09.4**		**-1.0**
URFA	**Urfa**	**1.63**	**217**	Pn	**Pn**	**07 48 09.4**		**-1.0**
EKAR	**Karacoban**	**1.64**	**71**	*i* P	**Pn**	**07 48 09.5**		**-1.1**
EKAR	**Karacoban**	**1.64**	**71**	*i* P	**Pn**	**07 48 09.5**		**-1.1**
EKAR				*i* S	**Sg**	**07 48 36.6**		**+2.2**
BAYT	**Ayd¯–ntepe-Bay**	**1.64**	**2**	PN	**Pn**	**07 48 09.0**		**-1.6**
BAYT	**Ayd¯–ntepe-Bay**	**1.64**	**2**	*i* Pn	**Pn**	**07 48 09.0**		**-1.6**
TATV	**Tatvan**	**1.74**	**97**	*i* P	**Pn**	**07 48 11.3**		**-0.9**
TATV				*i* S	**Sb**	**07 48 35.5**		**-0.2**
TATV	**Tatvan**	**1.74**	**97**	*i* P	**Pn**	**07 48 11.1**		**-0.9**
TATV				*i* S	**Sb**	**07 48 35.5**		**-0.2**
GUMT	**Gumushane**	**1.77**	**345**	PN	**Pn**	**07 48 11.2**		**-1.0**
GUMT	**Gumushane**	**1.77**	**345**	*i* Pn	**Pn**	**07 48 11.2**		**-1.0**
GUMT	**Gumushane**	**1.77**	**345**	Pn	**Pn**	**07 48 11.2**		**-1.0**
ATAB	**Bozova**	**1.89**	**228**	*i* P	**Pn**	**07 48 12.8**		**-1.1**
ATAB				*i* S	**Sb**	**07 48 39.8**		**0.0**
ATAB	**Bozova**	**1.89**	**228**	*i* P	**Pn**	**07 48 12.8**		**-1.1**
ATAB				*i* S	**Sb**	**07 48 39.8**		**0.0**
HOMI	**Horasan**	**1.93**	**47**	*i* P	**Pn**	**07 48 13.1**		**-1.5**
HOMI				*i* S	**Sg**	**07 48 43.7**		**+0.2**
DARE	**Darende-Malaty**	**2.03**	**266**	PN	**Pn**	**07 48 14.9**		**-0.9**
DARE	**Darende-Malaty**	**2.03**	**266**	*i* Pn	**Pn**	**07 48 14.9**		**-0.9**
SUSE	**Susehri**	**2.05**	**316**	*i* P	**Pn**	**07 48 15.3**		**-0.8**
SUSE				*i* S	**Sn**	**07 48 43.5**		**+1.7**
SUSE	**Susehri**	**2.05**	**316**	*i* P	**Pn**	**07 48 15.3**		**-0.8**
SUSE				*i* S	**Sn**	**07 48 43.5**		**+1.7**
EATA	**Eleskirt**	**2.19**	**59**	*i* P	**Pn**	**07 48 17.0**		**-1.2**
EATA	**Eleskirt**	**2.19**	**59**	*i* P	**Pn**	**07 48 17.0**		**-1.2**
EATA				*i* S	**Sg**	**07 48 51.5**		**-0.4**
SIRN	**S¯–rnak**	**2.24**	**123**	*i* P	**Pn**	**07 48 16.9**		**-1.8**
SIRN				*i* S	**Sn**	**07 48 45.9**		**-0.5**
SIRN	**S¯–rnak**	**2.24**	**123**	*i* P	**Pn**	**07 48 16.9**		**-1.8**
SIRN				*i* S	**Sn**	**07 48 45.9**		**-0.5**
TUTA	**Tutak**	**2.24**	**72**	*i* P	Pn	07 48 13.9		-4.9
TUTA				*i* S	**Sn**	**07 48 47.0**		**+0.4**
TUTA	**Tutak**	**2.24**	**72**	*i* P	Pn	07 48 13.9		-4.9
TUTA				*i* S	**Sn**	**07 48 47.0**		**+0.4**
SIRT	**Sirnak**	**2.25**	**123**	PN	**Pn**	**07 48 18.6**		**-0.3**
SIRT	**Sirnak**	**2.25**	**123**	*i* Pn	**Pn**	**07 48 18.6**		**-0.3**
GEVA	**Gevas**	**2.39**	**100**	*i* P	**Pn**	**07 48 20.0**		**-0.9**
GEVA	**Gevas**	**2.39**	**100**	*i* P	**Pn**	**07 48 20.0**		**-0.9**
GEVA				*i* S	**Sb**	**07 48 55.6**		**+1.3**
ESPY	**Espiye-Giresun**	**2.39**	**335**	PN	**Pn**	**07 48 19.7**		**-1.1**
ESPY	**Espiye-Giresun**	**2.39**	**335**	*i* Pn	**Pn**	**07 48 19.7**		**-1.1**
AGRB	**Hanur-Agry**	**2.42**	**69**	PN	**Pn**	**07 48 20.3**		**-1.0**
AGRB	**Hanur-Agry**	**2.42**	**69**	*i* Pn	**Pn**	**07 48 20.3**		**-1.0**
DDEM	**Demirkent**	**2.50**	**31**	*i* P	**Pn**	**07 48 21.1**		**-1.3**
DDEM	**Demirkent**	**2.50**	**31**	*i* P	**Pn**	**07 48 21.1**		**-1.3**
DDEM				*e*S	Sg	07 49 11.3		+9.4
SCER	**sogukcermik**	**2.53**	**297**	*i* P	**Pn**	**07 48 21.7**		**-1.1**
SCER	**sogukcermik**	**2.53**	**297**	*i* P	**Pn**	**07 48 21.7**		**-1.1**
SCER				*i* S	**Sb**	**07 49 01.1**		**+2.7**
GRSN	**GIRESUNGRSN**	**2.57**	**328**	*i* P	**Pn**	**07 48 22.4**		**-0.9**
GRSN	**GIRESUNGRSN**	**2.57**	**328**	*i* P	**Pn**	**07 48 22.4**		**-0.9**
DBAD	**Bademkaya**	**2.59**	**29**	*i* P	**Pn**	**07 48 22.6**		**-1.0**
DBAD	**Bademkaya**	**2.59**	**29**	*i* P	**Pn**	**07 48 22.6**		**-1.0**
DBAD				*i* S	**Sg**	**07 49 03.7**		**-1.0**
VANB	**Van**	**2.61**	**92**	PN	**Pn**	**07 48 23.1**		**-0.7**
VANB	**Van**	**2.61**	**92**	*i* Pn	**Pn**	**07 48 23.2**		**-0.7**
TVAN	**Van**	**2.63**	**94**	*i* P	**Pn**	**07 48 23.2**		**-1.0**
TVAN	**Van**	**2.63**	**94**	*i* P	**Pn**	**07 48 23.2**		**-1.0**
TVAN				*i* S	**Sg**	**07 49 04.3**		**-1.7**
DAGI	**Agillar**	**2.73**	**31**	*i* P	**Pn**	**07 48 24.3**		**-1.1**
DAGI				*i* S	**Sn**	**07 48 58.1**		**-0.3**
ARTV	**Artvin**	**2.82**	**30**	*i* P	**Pn**	**07 48 25.8**		**-1.0**
ARTV	**Artvin**	**2.82**	**30**	*i* P	**Pn**	**07 48 25.8**		**-1.0**
ARTV				*i* S	**Sb**	**07 49 06.8**		**-0.1**
DBOC	**Borcka**	**2.87**	**25**	*i* P	**Pn**	**07 48 26.4**		**-0.9**
DBOC	**Borcka**	**2.87**	**25**	*i* P	**Pn**	**07 48 26.4**		**-0.9**
DBOC				*i* S	**Sb**	**07 49 10.0**		**+2.0**
DYDN	**Diyadin**	**2.93**	**73**	*i* P	**Pn**	**07 48 26.7**		**-1.7**
DYDN	**Diyadin**	**2.93**	**73**	*i* P	**Pn**	**07 48 26.7**		**-1.7**
DYDN				*i* S	**Sg**	**07 49 15.2**		**-0.5**
MZRK	**Al-Mazaregh**	**2.96**	**171**	*e*P	**Pn**	**07 48 27.2**		**-1.3**
MZRK				*e*S	**Sb**	**07 49 11.9**		**+1.4**
MZRK	**Al-Mazaregh**	**2.96**	**171**	*e*P	**Pn**	**07 48 27.2**		**-1.3**
MZRK				*e*S	**Sb**	**07 49 11.9**		**+1.4**
MZRK				AML	AML	07 49 16.2		
MZRK				AML	AML	07 49 29.4		
KARS	**Kars**	**2.99**	**50**	PN	**Pn**	**07 48 28.3**		**-0.8**
KARS	**Kars**	**2.99**	**50**	*i* Pn	**Pn**	**07 48 28.3**		**-0.8**
CLDR	**Caldiran**	**3.03**	**81**	PN	**Pn**	**07 48 29.1**		**-0.6**
CLDR	**Caldiran**	**3.03**	**81**	*i* Pn	**Pn**	**07 48 29.1**		**-0.6**
SLMH	**Al Salmeh**	**3.05**	**214**	*e*P	**Pn**	**07 48 29.0**		**-0.8**
SLMH				*e*S	**Sg**	**07 49 16.3**		**-3.2**
SLMH	**Al Salmeh**	**3.05**	**214**	*e*P	**Pn**	**07 48 29.0**		**-0.8**
SLMH				*e*S	**Sg**	**07 49 16.3**		**-3.2**
SLMH				AML	AML	07 49 25.1		
SLMH				AML	AML	07 49 25.8		
DIGO	**Kars**	**3.05**	**56**	*i* P	**Pn**	**07 48 28.8**		**-1.2**
DIGO	**Kars**	**3.05**	**56**	*i* P	**Pn**	**07 48 28.8**		**-1.2**
DIGO				*i* S	**Sg**	**07 49 17.0**		**-2.6**
KUZU	**Kuzuini**	**3.08**	**231**	*i* P	**Pn**	**07 48 29.4**		**-0.9**
KUZU	**Kuzuini**	**3.08**	**231**	*i* P	**Pn**	**07 48 29.4**		**-0.9**
KUZU				*i* S	**Sg**	**07 49 17.7**		**-2.9**
HAKT	**HAKKARI**	**3.11**	**111**	*i* P	**Pn**	**07 48 29.6**		**-1.2**
HAKT	**HAKKARI**	**3.11**	**111**	*i* P	**Pn**	**07 48 29.6**		**-1.2**
HAKT				*i* S	**Sb**	**07 49 14.2**		**-1.0**
ANDN	**Andirin**	**3.15**	**249**	*i* P	**Pn**	**07 48 29.7**		**-1.6**
ANDN	**Andirin**	**3.15**	**249**	*i* P	**Pn**	**07 48 29.7**		**-1.6**
ANDN				*i* S	**Sg**	**07 49 20.8**		**-2.0**
TOKA	**Tokat**	**3.18**	**301**	*i* P	**Pn**	**07 48 30.6**		**-1.1**
TOKA	**Tokat**	**3.18**	**301**	*i* P	**Pn**	**07 48 30.6**		**-1.1**
TOKA				*i* S	**Sg**	**07 49 21.4**		**-2.5**
ERBA	**Erbaa**	**3.20**	**308**	*i* P	**Pn**	**07 48 31.0**		**-0.8**
ERBA	**Erbaa**	**3.20**	**308**	*i* P	**Pn**	**07 48 31.0**		**-0.8**
ERBA				*i* S	**Sb**	**07 49 20.0**		**+2.6**
AKH	**Akhalkalaki**	**3.74**	**44**	P	**Pn**	**07 48 38.7**		**-0.7**
AKH				S	**Sg**	**07 49 47.5**		**+5.8**
AKH	**Akhalkalaki**	**3.74**	**44**	P	**Pn**	**07 48 38.7**		**-0.7**
GNI	**Garni**	**3.88**	**67**	*c i*P	**Pn**	**07 48 38.8**		**-2.6**
GNI				pmax	pmax			
GNI	**Garni**	**3.88**	**67**	Pn	**Pn**	**07 48 40.8**		**-0.5**
GNI	**Garni**	**3.88**	**67**	*i* P	**Pn**	**07 48 38.8**		**-2.6**
GNI	**Garni**	**3.88**	**67**	*e*Pn	**Pn**	**07 48 41.0**		**-0.4**
GNI				*e*Sn	**Sn**	**07 49 30.5**		**+3.4**
GNI	**Garni**	**3.88**	**67**	⇑*i*P	**Pn**	**07 48 40.3**		**-1.1**
GNI	**Garni**	**3.88**	**67**	*e*Pn	**Pn**	**07 48 41.0**		**-0.4**
GNI				*e*Sn	**Sn**	**07 49 30.4**		**+3.4**
HAVZ	**Havza**	**4.07**	**306**	*i* P	**Pn**	**07 48 42.8**		**-1.0**
HAVZ	**Havza**	**4.07**	**306**	*i* P	**Pn**	**07 48 42.8**		**-1.0**
HAVZ				*i* S	**Sb**	**07 49 45.9**		**+3.5**
KZR	**Kazreti**	**4.25**	**50**	P	**Pn**	**07 48 46.2**		**-0.1**
KZR	**Kazreti**	**4.25**	**50**	P	**Pn**	**07 48 46.2**		**-0.1**
ARNB	**Al Arnab**	**4.35**	**230**	*e*P	**Pn**	**07 48 47.5**		**-0.3**
ARNB				*e*S	**Sb**	**07 49 47.7**		**-3.1**
ARNB	**Al Arnab**	**4.35**	**230**	*e*P	**Pn**	**07 48 47.5**		**-0.3**
ARNB				*e*S	**Sb**	**07 49 47.7**		**-3.1**
ARNB				AML	AML	07 50 06.8		
ARNB				AML	AML	07 50 14.4		
WRDH	**Warideh**	**4.36**	**223**	*e*P	**Pn**	**07 48 47.3**		**-0.5**
WRDH	**Warideh**	**4.36**	**223**	*e*P	**Pn**	**07 48 47.0**		**-0.8**
WRDH				*e*S	**Sb**	**07 49 47.2**		**-3.6**
WRDH				AML	AML	07 50 04.4		
WRDH				AML	AML	07 50 09.8		
WRDH	**Warideh**	**4.36**	**223**	*e*P	**Pn**	**07 48 47.3**		**-0.5**
WRDH				AML	AML	07 50 04.4		
WRDH				AML	AML	07 50 09.9		
CDAG	**Cicekdag**	**4.51**	**283**	*i* P	**Pn**	**07 48 48.4**		**-1.5**
CDAG	**Cicekdag**	**4.51**	**283**	*i* P	**Pn**	**07 48 48.4**		**-1.5**
CDAG				*i* S	**Sg**	**07 50 01.1**		**-5.1**
ONI	**Oni**	**4.62**	**33**	P	**Pn**	**07 48 51.0**		**-0.4**
ONI				S	**Sg**	**07 50 07.8**		**-2.1**
ONI	**Oni**	**4.62**	**33**	P	**Pn**	**07 48 51.0**		**-0.4**
TBLG	**Delisi**	**4.65**	**49**	P	**Pn**	**07 48 51.7**		**-0.2**
TBLG				S	Sg	07 50 19.1		+8.2
TBLG	**Delisi**	**4.65**	**49**	P	**Pn**	**07 48 51.7**		**-0.2**
SEAG	**Tbilisi Sea**	**4.71**	**49**	P	**Pn**	**07 48 51.9**		**-0.8**
SEAG	**Tbilisi Sea**	**4.71**	**49**	P	**Pn**	**07 48 51.9**		**-0.8**
IAZR	**Azarshahr**	**4.78**	**101**	*e*P	**Pb**	**07 49 04.1**		**-1.4**
BIDA	**Albida**	**4.79**	**220**	*e*P	**Pn**	**07 48 53.3**		**-0.5**
BIDA				*e*S	**Sb**	**07 49 57.2**		**-6.0**
BIDA	**Albida**	**4.79**	**220**	*e*P	**Pn**	**07 48 53.4**		**-0.3**
BIDA				*e*S	**Sb**	**07 49 57.7**		**-5.5**
BIDA				AML	AML	07 50 20.5		
BIDA				AML	AML	07 50 24.7		
BIDA	**Albida**	**4.79**	**220**	*e*P	**Pn**	**07 48 53.3**		**-0.5**
BIDA				*e*S	**Sb**	**07 49 57.2**		**-6.0**
BIDA				AML	AML	07 50 20.4		
BIDA				AML	AML	07 50 24.6		
ITBZ	**Tabriz**	**4.80**	**94**	*e*P	**Pn**	**07 48 54.4**		**+0.4**
ITBZ	**Tabriz**	**4.80**	**94**	*e*P	**Pn**	**07 48 54.4**		**+0.4**
SOC	**Sochi**	**4.83**	**357**	*d i*P	**Pn**	**07 48 53.0**		**-1.3**
SOC				*e*		07 49 48.8		
SOC				pmax	pmax			
SOC				MLR	MLR			
SOC				MLR	MLR			
SOC	**Sochi**	**4.83**	**357**	*i* P	**Pn**	**07 48 53.0**		**-1.3**
SOC				*e*S	**Sn**	**07 49 48.8**		**-1.5**
DUS	**Dusheti**	**4.86**	**45**	P	**Pn**	**07 48 55.0**		**+0.2**
DUS	**Dusheti**	**4.86**	**45**	P	**Pn**	**07 48 55.0**		**+0.2**
DGRG	**David-gareji**	**4.88**	**55**	P	**Pn**	**07 48 55.2**		**+0.1**
DGRG				S	Sg	07 50 33.6		+15
DGRG	**David-gareji**	**4.88**	**55**	P	**Pn**	**07 48 55.2**		**+0.1**
ZEI	**Tsey**	**4.97**	**35**	*e*P	**Pn**	**07 48 55.4**		**-1.0**
ZEI				pmax	pmax			
GUDG	**Gudauri**	**5.00**	**41**	P	**Pn**	**07 48 56.7**		**-0.2**
GUDG	**Gudauri**	**5.00**	**41**	P	**Pn**	**07 48 56.7**		**-0.2**
IFTB	**Fath-abad**	**5.03**	**96**	*e*P	**Pb**	**07 49 10.4**		**+0.6**
BRTR	**Keskin Array B**	**5.08**	**283**	Pn	**Pn**	**07 48 57.1**		**-0.7**
	comp=Z,17nm,0.3s,baz=100,slow=14,SNR=194							
BRTR				LR	LR	07 51 11.4		
	comp=Z,27μm,20.4s,baz=113,slow=42							
HAWK	**Haweek**	**5.14**	**216**	*e*P	**Pn**	**07 48 57.7**		**-1.0**
	SNR=45							
HAWK				*e*S	Sb	07 50 07.1		-6.4
	comp=Z,5μm,0.7s,SNR=40							
HAWK	**Haweek**	**5.14**	**216**	*e*P	**Pn**	**07 48 58.6**		**-0.1**
HAWK				*e*S	**Sb**	**07 50 07.6**		**-5.9**
HAWK				AML	AML	07 50 43.2		
	comp=N,4μm,0.7s							
HAWK				AML	AML	07 50 51.6		
	comp=E,5μm,0.7s							
HAWK	**Haweek**	**5.14**	**216**	*e*P	**Pn**	**07 48 57.7**		**-1.0**
HAWK				*e*S	Sb	07 50 07.1		-6.4
HAWK				AML	AML	07 50 43.2		
	comp=N,4μm,0.7s							
HAWK				AML	AML	07 50 51.7		
	comp=E,5μm,0.7s							
FKH	**Fakeheh**	**5.37**	**214**	*e*P	**Pn**	**07 49 01.2**		**-0.6**
KBZ	**Khabaz**	**5.41**	**22**	P	**Pn**	**07 49 02.4**		**+0.2**
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.3s							
KBZ	**Khabaz**	**5.41**	**22**	Pn	**Pn**	**07 49 02.4**		**+0.2**
	comp=Z,4.2nm,0.3s,baz=199,slow=8.9,SNR=69							
IBST	**Bostanabad**	**5.48**	**99**	*e*P	**Pn**	**07 49 02.8**		**-0.6**
IBST	**Bostanabad**	**5.48**	**99**	*e*P	**Pn**	**07 49 02.8**		**-0.6**
IHRS	**Heris**	**5.49**	**92**	*e*P	**Pn**	**07 49 03.6**		**+0.1**
IHRS	**Heris**	**5.49**	**92**	*e*P	**Pn**	**07 49 03.6**		**+0.1**
MARH	**Ras Al Marh**	**5.53**	**213**	*e*P	**Pn**	**07 49 04.6**		**+0.4**
	SNR=45							
MARH				*e*S	Sn	07 50 15.7		+7.8
	comp=Z,4μm,0.7s,SNR=40							
MARH	**Ras Al Marh**	**5.53**	**213**	*e*P	**Pn**	**07 49 05.0**		**+0.9**
MARH				*e*S	Sb	07 50 17.6		-7.2
MARH				AML	AML	07 50 51.7		
	comp=N,2μm,0.8s							
MARH				AML	AML	07 51 00.1		
	comp=E,4μm,0.7s							
MARH	**Ras Al Marh**	**5.53**	**213**	*e*P	**Pn**	**07 49 04.6**		**+0.4**
MARH				*e*S	Sn	07 50 15.7		+7.8
MARH				AML	AML	07 50 51.6		
	comp=N,2μm,0.8s							
MARH				AML	AML	07 51 00.1		
	comp=E,4μm,0.7s							
HWQ	**Hawqa**	**5.56**	**218**	*e*P	**Pn**	**07 49 03.5**		**-0.9**
HWQ	**Hawqa**	**5.56**	**218**	*e*P	**Pn**	**07 49 03.5**		**-0.9**
KIV	**Kislovodsk**	**5.56**	**20**	Pn	**Pn**	**07 49 04.0**		**-0.4**
	comp=E,2μm,0.9s,SNR=20							
KIV	**Kislovodsk**	**5.56**	**20**	*e*P	**Pn**	**07 49 04.2**		**-0.2**
KIV				*e*		07 50 10.2		
KIV				pmax	pmax			
	comp=Z,284nm,1.1s							
KIV	**Kislovodsk**	**5.56**	**20**	*e*P	**Pn**	**07 49 04.2**		**-0.2**
	comp=Z,284nm,1.1s							
KIV	**Kislovodsk**	**5.56**	**20**	*e*Pn	**Pn**	**07 49 04.6**		**+0.2**
KIV				*e*S	**Sn**	**07 50 10.2**		**+1.8**
KIV	**Kislovodsk**	**5.56**	**20**	*e*Pn	**Pn**	**07 49 04.6**		**+0.2**
KIV				*e*Sn	**Sn**	**07 50 10.2**		**+1.8**
RTB	**Rutbah**	**5.71**	**178**	*e*Pn	Pg	07 49 35.0		+4.0
	SNR=39							
RTB				*i* Sn	**Sb**	**07 50 33.0**		**+3.2**
	SNR=3.0							
ANTO	**Ankara**	**5.75**	**283**	*e*P	**Pn**	**07 49 06.4**		**-0.5**
ANTO				*e*		07 50 15.1		
ANTO	**Ankara**	**5.75**	**283**	‖*i*P	**Pn**	**07 49 08.0**		**+1.1**
ANTO	**Ankara**	**5.75**	**283**	*e*P	**Pn**	**07 49 06.4**		**-0.5**
ANTO				*e*S	**Sn**	**07 50 15.1**		**+2.2**
ANTO	**Ankara**	**5.75**	**283**	*e*Pn	**Pn**	**07 49 06.4**		**-0.5**
ANTO				*e*Sn	**Sn**	**07 50 15.1**		**+2.2**
BHL	**Bhannes**	**6.00**	**218**	*e*P	**Pn**	**07 49 09.7**		**-0.8**
BHL	**Bhannes**	**6.00**	**218**	*e*P	**Pn**	**07 49 09.7**		**-0.8**
ISRB	**Sarab**	**6.05**	**96**	*e*P	**Pn**	**07 49 11.5**		**+0.2**
ISRB	**Sarab**	**6.05**

IKOM Komasi 7.54 125 *eP* Pn 07 49 36.9 +5.3
ISP Isparta 7.56 266 *eP* **Pn 07 49 34.8 +2.9**
ISP *e* 07 50 52.5
ISP Isparta 7.56 266⇑ *iP* Pn 07 49 35.7 +3.8
ISP Isparta 7.56 266 *ePn* **Pn 07 49 34.8 +2.9**
ISP *eSn* **Sn 07 50 52.5 -5.2**
ISP Isparta 7.56 266 *ePn* **Pn 07 49 34.8 +2.9**
ISP *eSn* **Sn 07 50 52.5 -5.2**
IBZA Bozab 7.59 122 *eP* Pb 07 49 44.0 -9.3
SIM Simferopol' 7.62 326 *eP* Pn 07 49 41.7 +9.2
IKFM Kafar-mosalman 8.18 127 *eP* **Pn 07 49 37.7 -2.5**
IKFM Kafar-mosalman 8.18 127 *eP* **Pn 07 49 37.7 -2.5**
IDOB Doab 8.21 125 *eP* **Pn 07 49 39.2 -1.7**
IDOB Doab 8.21 125 *eP* **Pn 07 49 39.2 -1.7**
IGZV Ghazvin 8.40 103 *eP* Pn 07 49 46.8 +3.3
IKMR Kamar-syah 8.52 125 *eP* **Pn 07 49 42.1 -2.7**
IKMR Kamar-syah 8.52 125 *eP* **Pn 07 49 42.1 -2.7**
IRAZ Razeghan 8.56 110 *eP* Pn 07 49 48.6 +2.8
IMHD Mahdasht 9.00 107 *eP* Pn 07 49 57.9 +6.3
NSR Nassriya 9.19 145 *ePN* Pn 07 50 27.9 +34
NSR *eSN* Sn 07 52 00.8 +23
NSR Nassriya 9.19 145 *ePN* Pn 07 50 17.4 +23
NSR *eSN* Sn 07 52 09.0 +31
NSR Nassriya 9.19 145 *ePn* Pn 07 50 27.9 +34
SNR=39
NSR *eSn* Sn 07 52 00.8 +23
SNR=39
IR3 Iran Long-Peri 9.35 107 *eP* Pn 07 50 00.1 +3.7
EIL Elat 10.00 207 Pn **Pn 07 50 06.5 +1.4**
comp=Z,2.2nm,0.3s,baz=8.7,slow=7.8,SNR=15
EIL LR LR 07 54 14.9
comp=Z,15μm,20.0s,baz=14,slow=40
IDMV Damavand 10.06 105 *eP* Pn 07 50 10.4 +4.0
IVRN Varamin 10.07 108 *eP* Pn 07 50 10.4 +4.1
IPRN Peran 10.07 101 *eP* Pn 07 50 09.6 +3.3
HNKL Nakhl 10.13 212 S **Sn 07 52 06.0 +5.2**
baz=211
PSN Preselentsi 10.21 303⇑ *iP* **Pn 07 50 08.5 +0.4**
PSN Preselentsi 10.21 303 *i P* Pn 07 50 11.3 +3.2
PSN Preselentsi 10.21 303⇑ *iP* **Pn 07 50 08.5 +0.4**
TIRR Tirgusor 10.42 307 *eP* **Pn 07 50 10.8 -0.1**
TIRR *e* 07 52 06.7
TIRR Tirgusor 10.42 307⇑ *iP* **Pn 07 50 11.1 +0.3**
TIRR Tirgusor 10.42 307 *eP* **Pn 07 50 10.8 -0.1**
TIRR *eSn* **Sn 07 52 06.7 -0.9**
TIRR Tirgusor 10.42 307 *ePn* **Pn 07 50 10.8 -0.1**
TIRR *eSn* **Sn 07 52 06.7 -0.9**
IALA Alasht 10.48 101 *eP* Pn 07 50 15.2 +3.1
TLCR 10.55 311⇑ *iP* **Pn 07 50 13.5 +0.8**
TLCR 10.55 311⇑ *iP* **Pn 07 50 13.5 +0.8**
IFIR Firoozkooh 10.59 103 *eP* Pn 07 50 18.3 +4.8
IPIR Pirpir 10.68 121 *eP* Pn 07 50 10.3 -4.5
TLB Topalu 10.71 307⇑ *iP* **Pn 07 50 15.2 +0.3**
TLB Topalu 10.71 307⇑ *iP* **Pn 07 50 15.2 +0.3**
IKLH Kolahrood 10.78 117 *eP* Pn 07 50 19.5 +3.3
HARR Harsova 10.83 307⇑ *iP* **Pn 07 50 16.1 -0.4**
HARR Harsova 10.83 307⇑ *iP* **Pn 07 50 16.1 -0.4**
ILAS Lasjerd 10.84 104 *eP* **Pn 07 50 18.4 +1.5**
CFR Carcaliu 10.95 310⇑ *iP* **Pn 07 50 18.9 +0.7**
CFR Carcaliu 10.95 310⇑ *iP* **Pn 07 50 18.9 +0.7**
HHAG Hagoal 10.96 219 P **Pn 07 50 17.6 -0.8**
baz=218
HHAG Hagoal 10.96 219 P **Pn 07 50 17.6 -0.9**
IKIA Kiasar 11.12 99 *eP* **Pn 07 50 22.9 +2.2**
KOT Kottamia 11.12 220 P **Pn 07 50 20.1 -0.4**
baz=219
KOT Kottamia 11.12 220 P **Pn 07 50 20.1 -0.5**
IGLO Ghaloghah 11.15 97 *eP* **Pn 07 50 21.4 +0.2**
HKAT Jabal Katrina 11.38 208 P **Pn 07 50 23.7 -0.6**
baz=209
HKAT Jabal Katrina 11.38 208 P **Pn 07 50 23.7 -0.6**
GLL Jalalah 11.47 220 P **Pn 07 50 24.7 -0.6**
baz=218
GLL Jalalah 11.47 220 P **Pn 07 50 24.7 -0.6**
HSAF As Saff 11.51 220 P **Pn 07 50 25.2 -0.7**
baz=219
HSAF As Saff 11.51 220 P **Pn 07 50 25.2 -0.7**
IANJ Anjilo 11.54 102 *ePn* **Pn 07 50 27.5 +1.0**
IANJ Anjilo 11.54 102 *ePn* **Pn 07 50 27.5 +1.0**
IZEF Zefreh 11.54 117 *eP* **Pn 07 50 28.4 +1.8**
KDZ Kurdzhali 11.57 289⇓ *iP* Pn 07 50 30.6 +3.9
KDZ Kurdzhali 11.57 289 *i P* Pn 07 50 30.1 +3.4
SZH Strazhica 11.59 297 *i P* Pn 07 50 30.5 +3.6
APE Apeiranthos 11.60 266⇑ *eP* **Pn 07 50 29.8 +2.6**
APE pmax pmax
comp=Z,349nm,2.7s
APE Apeiranthos 11.60 266 *eP* **Pn 07 50 29.8 +2.6**
comp=Z,349nm,2.7s
TR2 11.61 209 P **Pn 07 50 26.8 -0.4**
baz=209
TR2 11.61 209 P **Pn 07 50 26.8 -0.4**
LEOM Leova 11.62 315⇓ *iP* **Pn 07 50 29.6 +2.3**
LEOM Leova 11.62 315⇓ *iP* **Pn 07 50 29.6 +2.3**
KIS Kishinev 11.65 319 *i P* **Pn 07 50 28.0 +0.3**
KIS *i* S **Sn 07 52 38.0 +0.2**
KIS MLR MLR
comp=Z,9μm,16.0s
KIS MLR MLR
comp=N,8μm,19.0s
KIS MLR MLR
comp=E,11μm,12.0s
KIS MLR MLR
comp=Z,8μm,16.0s
KIS Kishinev 11.65 319 *i P* **Pn 07 50 28.0 +0.3**
comp=Z,300nm,2.0s
KIS Kishinev 11.65 319 *i* PP PP 07 50 46.0
KIS *i* S **Sn 07 52 38.0 +0.2**
KIS *i* Li 07 53 34.0
KIS *i* Lg1 07 53 51.0
KIS *i* Lg2 07 54 14.0
KIS *i* Rg Rg 07 54 40.0
KIS LRM MLR 07 56 28.0
comp=Z,8μm,16.0s
KIS Kishinev 11.65 319 *i P* **Pn 07 50 28.0 +0.3**
KIS *i* S **Sn 07 52 38.0 +0.2**
comp=Z,8μm,16.0s
TR1 11.87 207 P **Pn 07 50 30.4 -0.3**
baz=208
TR1 11.87 207 P **Pn 07 50 30.4 -0.4**
ISR Istrita 11.90 307⇑ *iP* **Pn 07 50 32.3 +1.1**
ISR Istrita 11.90 307⇑ *iP* **Pn 07 50 32.3 +1.1**
SHRM 11.91 206 P **Pn 07 50 30.9 -0.4**
baz=207
SHRM 11.91 206 P **Pn 07 50 30.9 -0.4**
VRI Vrincioaia 12.15 310⇑ *iP* **Pn 07 50 35.6 +0.9**
VRI Vrincioaia 12.15 310⇑ *iP* **Pn 07 50 35.6 +0.9**
PLOR Plostina 12.19 310⇑ *iP* **Pn 07 50 36.1 +0.9**
PLOR Plostina 12.19 310⇑ *iP* **Pn 07 50 36.1 +0.9**
VRHR Novokhopersk 12.39 5 *eP* **Pn 07 50 37.9 +0.1**
VRHR *eS* **Sn 07 52 53.3 -2.6**
VRHR pmax pmax
comp=N,250nm,0.9s
VRHR pmax pmax
comp=E,60nm,0.9s
VRHR pmax pmax
comp=Z,130nm,0.9s
VRHR smax smax
comp=N,250nm,1.1s
VRHR smax smax
comp=Z,70nm,1.1s
VRHR smax smax
comp=E,190nm,1.0s
VRHR MLR MLR
comp=N,3μm,14.0s
VRHR MLR MLR
comp=E,2μm,14.0s
VRHR MLR MLR
comp=Z,5μm,14.0s
VRHR Novokhopersk 12.39 5 *eP* **Pn 07 50 37.9 +0.1**
MLR Muntele Rosu 12.45 307⇑ *iP* **Pn 07 50 40.6 +1.8**
MLR Muntele Rosu 12.45 307 Pn **Pn 07 50 40.1 +1.3**
comp=Z,0.1nm,0.3s,baz=101,slow=6.6,SNR=21
MLR LR LR 07 56 33.0
comp=Z,3μm,19.0s,baz=134,slow=43
VSR Storozhevoye 12.48 357 *eP* **Pn 07 50 36.5 -2.5**
VSR *eS* **Sn 07 52 54.1 -3.9**
VSR pmax pmax
comp=N,390nm,1.3s
VSR pmax pmax
comp=E,30nm,1.3s
VSR pmax pmax
comp=Z,160nm,1.3s
VSR smax smax
comp=N,220nm,1.4s
VSR smax smax
comp=E,350nm,1.4s
VSR smax smax
comp=Z,80nm,1.4s
VSR MLR MLR
comp=N,2μm,11.0s
VSR MLR MLR
comp=E,820nm,11.0s
VSR MLR MLR
comp=Z,3μm,11.0s
TESR Tescani 12.55 312⇑ *iP* **Pn 07 50 40.5 +0.5**
TESR Tescani 12.55 312⇑ *iP* **Pn 07 50 40.5 +0.5**
IDI Anoyia 12.61 259 Pn **Pn 07 50 41.5 +0.5**
comp=Z,1.7nm,0.3s,baz=93,slow=14,SNR=7.8
IDI LR LR 07 56 40.0
comp=Z,9μm,20.5s,baz=64,slow=43
HHRG Al Ghardaqah 12.72 207 P **Pn 07 50 42.1 -0.4**
baz=208
HHRG Al Ghardaqah 12.72 207 P **Pn 07 50 42.1 -0.4**
MMB Musomiste 12.81 288⇑ *iP* **Pn 07 50 46.4 +2.7**
MMB Musomiste 12.81 288 *i P* Pn 07 50 47.6 +3.9
MMB Musomiste 12.81 288⇑ *iP* **Pn 07 50 46.4 +2.7**
VOIR 12.99 306⇓ *iP* **Pn 07 50 47.1 +1.0**
VOIR 12.99 306⇓ *iP* **Pn 07 50 47.1 +1.0**
VOR Voronezh 12.99 358 *eP* **Pn 07 50 44.0 -2.1**
VOR pmax pmax
comp=Z,250nm,1.2s
VOR Voronezh 12.99 358 *eP* **Pn 07 50 44.0 -2.1**
comp=Z,250nm,1.2s
DOPR Dopca 13.02 308⇓ *iP* **Pn 07 50 47.2 +0.8**
DOPR Dopca 13.02 308⇓ *iP* **Pn 07 50 47.2 +0.8**
ISAD Sadrabad 13.04 117 *eP* **Pn 07 50 48.7 +1.6**
ARR Arges 13.22 305⇑ *iP* **Pn 07 50 52.2 +2.9**
ARR Arges 13.22 305⇑ *iP* **Pn 07 50 52.2 +2.9**
KKB Krupnik 13.33 289 *i P* Pn 07 50 54.2 +3.5
VTS Vitosha 13.36 292 P Pn 07 50 55.1 +3.9
VTS Vitosha 13.36 292 P Pn 07 50 55.1 +3.9
VTS Vitosha 13.36 292⇑ *iP* Pn 07 50 55.3 +4.1
VTS Vitosha 13.36 292 *i P* Pn 07 50 55.2 +4.1
VTS Vitosha 13.36 292 P Pn 07 50 55.1 +3.9
VTS Vitosha 13.36 292 P Pn 07 50 55.1 +3.9
ICHK Chekchek 13.36 115 *eP* **Pn 07 50 53.5 +2.1**
KNT Kendrikon 13.39 286 P Pn 07 50 55.3 +3.8
KNT Kendrikon 13.39 286 P Pn 07 50 55.3 +3.8
KNT Kendrikon 13.39 286 P Pn 07 50 55.3 +3.8
KNT Kendrikon 13.39 286 P Pn 07 50 55.3 +3.8
VAY Valandovo 13.65 286 *eP* **Pn 07 50 56.4 +1.3**
VAY Valandovo 13.65 286 *eP* **Pn 07 50 56.3 +1.3**
IPAR Pars 13.92 126 *eP* Pn 07 50 52.8 -6.4
GUR Goura 13.94 272 P **P 07 51 04.2 -3.1**
GUR Goura 13.94 272 P **P 07 51 04.2 -3.1**
GUR Goura 13.94 272 P **P 07 51 04.2 -3.1**
BURAR Bucovina Array 13.97 314⇑ *iP* Pn 07 51 03.5 +4.0
VLX Vlachokerasia 14.00 270 P **P 07 51 07.7 -0.3**
VLX Vlachokerasia 14.00 270 P **P 07 51 07.7 -0.3**
VLX Vlachokerasia 14.00 270 P **P 07 51 07.7 -0.3**
KALE Kalithea 14.03 274 P **P 07 51 08.4 +0.1**
KALE Kalithea 14.03 274 P **P 07 51 08.4 +0.1**
KALE Kalithea 14.03 274 P **P 07 51 08.4 +0.1**
THL Klokotos Trika 14.03 279 P **P 07 51 08.3 +0.1**
KLV Kalavryta, Ach 14.07 273 P **P 07 51 09.3 +0.6**
KLV Kalavryta, Ach 14.07 273 P **P 07 51 09.3 +0.6**
KLV Kalavryta, Ach 14.07 273 P **P 07 51 09.3 +0.6**
LAKA Lakka 14.18 274 P P 07 51 06.0 -3.9
LAKA Lakka 14.18 274 P P 07 51 06.0 -3.9
LAKA Lakka 14.18 274 P P 07 51 06.0 -3.9
AKASG Malin Array Be 14.20 331 P **Pn 07 51 00.1 -2.4**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 14.20 331 Pn **Pn 07 51 00.1 -2.4**
comp=Z,1.0nm,0.3s,baz=137,slow=13,SNR=50
KIEV Kiev 14.20 331 *e iP* **Pn 07 51 00.5 -2.0**
KIEV Kiev 14.20 331 *ePn* **Pn 07 51 00.8 -1.7**
KIEV Kiev 14.20 331 *ePn* **Pn 07 51 00.8 -1.7**
KIEV *eSn* **Sn 07 53 45.2 +5.4**
GEYT Alibeck 14.20 88 Pn **Pn 07 51 01.6 -1.0**
comp=Z,0.1nm,0.3s,baz=311,slow=14,SNR=11
GEYT LR LR 07 57 46.1
comp=Z,3μm,21.8s,baz=280,slow=43
ABKT Ailbek 14.20 88 Pn **Pn 07 51 01.4 -1.3**
comp=Z,254nm,1.0s,SNR=12
EFP Efpalio 14.21 274 P P 07 51 13.5 +3.3
EVR Evrytania 14.23 276 P P 07 51 06.9 -3.7
EVR Evrytania 14.23 276 P P 07 51 06.9 -3.7
EVR Evrytania 14.23 276 P P 07 51 06.9 -3.7
ISFR Sfrayin 14.27 91 *eP* **Pn 07 51 03.5 -0.4**
ISRV Sarvestan 14.28 127 *eP* Pn 07 50 60.0 -4.1
ITM Ithomi 14.40 269 P **P 07 51 09.7 -2.6**
ITM Ithomi 14.40 269 P **P 07 51 09.7 -2.6**
ITM Ithomi 14.40 269 P **P 07 51 09.7 -2.6**
DRO Drossia 14.43 273 P **P 07 51 10.8 -1.8**
DRO Drossia 14.43 273 P **P 07 51 10.8 -1.8**
GZR Gura Zlata 14.44 303⇓ *iP* P 07 51 09.4 -3.4
CJR Cluj-Napoca 14.46 309⇑ *iP* P 07 51 17.0 +4.0
FNA Florina 14.52 284 P **P 07 51 11.8 -1.9**
FNA Florina 14.52 284 P **P 07 51 11.8 -1.9**
FNA Florina 14.52 284 P **P 07 51 11.8 -1.9**
FNA Florina 14.52 284 P **P 07 51 11.8 -1.9**
DEV Deva 14.54 305⇑ *iP* **P 07 51 16.4 +2.5**
DEV Deva 14.54 305⇑ *iP* **P 07 51 16.4 +2.5**
IBAF Bafgh 14.54 115 *eP* **Pn 07 51 06.8 -0.7**
SKO Skopje 14.56 289 *eP* **P 07 51 11.3 -2.7**
IKRD Kardeh 14.73 92 *eP* P 07 51 21.6 +5.3
PDO Prodromos 14.75 275 P **P 07 51 16.1 -0.1**
PDO Prodromos 14.75 275 P **P 07 51 16.1 -0.1**
JAN Janina 14.93 280 P **P 07 51 18.9 +0.7**
JAN Janina 14.93 280 P **P 07 51 18.9 +0.7**
JAN Janina 14.93 280 P **P 07 51 18.9 +0.7**
JAN Janina 14.93 280 P **P 07 51 18.9 +0.7**
IAKL Akhelmad 14.96 92 *eP* **Pn 07 51 12.2 -1.0**
OHR Ohrid 14.97 285 *eP* **P 07 51 15.8 -2.9**
BMR Baia Mare 14.99 312⇑ *iP* **P 07 51 21.7 +2.9**
BMR Baia Mare 14.99 312⇑ *iP* **P 07 51 21.7 +2.9**
DRGR 15.04 308⇓ *iP* **Pn 07 51 14.1 0.0**
LKD2 Lefkada island 15.14 276 P **P 07 51 20.9 +0.3**
LKD2 Lefkada island 15.14 276 P **P 07 51 20.9 +0.3**
LKD2 Lefkada island 15.14 276 P **P 07 51 20.9 +0.3**
IPAY Payeh 15.19 93 *eP* **Pn 07 51 15.4 -0.8**
PHP Peshkopia 15.27 287 P **P 07 51 19.7 -2.4**
PHP Peshkopia 15.27 287 P **P 07 51 19.7 -2.4**
PHP Peshkopia 15.27 287 P **P 07 51 19.7 -2.4**
PHP Peshkopia 15.27 287 P **P 07 51 19.7 -2.4**
BZS Buzias 15.28 303⇑ *iP* **Pn 07 51 19.3 +2.1**
IMOG Moghan 15.54 94 *eP* **Pn 07 51 20.9 0.0**
SRN Sarande 15.57 280 P **Pn 07 51 23.0 +2.0**
SRN Sarande 15.57 280 P **Pn 07 51 23.0 +2.0**
SRN Sarande 15.57 280 P **Pn 07 51 23.0 +2.0**
ISRO Mashad 15.59 93 *eP* **Pn 07 51 21.4 -0.1**
PVY Plav 15.72 291⇑ *iP* **Pn 07 51 25.0 +1.9**
PVY Plav 15.72 291⇑ *iP* **Pn 07 51 25.1 +1.9**
KEK Kerkira 15.73 280 P **P 07 51 29.5 +2.4**
KEK Kerkira 15.73 280 P **P 07 51 29.5 +2.4**
KEK Kerkira 15.73 280 P **P 07 51 29.5 +2.4**
TRPA Tarpa 15.78 312⇑ *iP* **Pn 07 51 24.3 +0.7**
TRPA Tarpa 15.78 312⇑ *e* **P 07 51 31.0 +3.5**
IVA Berane 15.81 292 *eP* **Pn 07 51 25.8 +1.6**
RAYN Ar Rayn 15.87 161 Pn **Pn 07 51 21.9 -3.2**
comp=Z,392nm,1.7s,SNR=18
RAYN Ar Rayn 15.87 161 *ePn* **Pn 07 51 21.3 -3.8**
comp=Z,123nm,1.1s
RAYN *eSn* **Sn 07 54 19.7 -1.4**
RAYN Ar Rayn 15.87 161 *ePn* **Pn 07 51 21.3 -3.8**
comp=Z,123nm,1.1s
RAYN *eSn* **Sn 07 54 19.7 -1.4**
LVV L'vov 15.91 319 *eP* **P 07 51 28.1 -0.9**
LVV *eS* **Sn 07 54 26.1 +4.6**
LVV L'vov 15.91 319 *eP* **P 07 51 28.1 -0.9**
DIVS Divibare 15.96 296 P **Pn 07 51 27.5 +1.3**
IMYA Miami 16.08 92 *eP* **Pn 07 51 26.6 -1.2**
UZH Uzhgorod 16.17 313 *eP* **Pn 07 51 26.4 -2.3**
UZH *eS* **Sn 07 54 24.4 -3.6**
UZH MLR MLR
comp=Z,3μm,14.0s
UZH MLR MLR
comp=N,5μm,19.0s
UZH MLR MLR
comp=E,8μm,19.0s
ULC Ulcinj 16.19 288⇑ *iP* **P 07 51 30.8 -1.4**
ULC Ulcinj 16.19 288⇑ *iP* **P 07 51 30.9 -1.3**
PDG Podgorica 16.22 290 P **P 07 51 33.3 +0.8**
PDG Podgorica 16.22 290⇑ *iP* **P 07 51 31.4 -1.1**
TTG Podgorica 16.22 290⇑ *iP* **P 07 51 31.4 -1.1**
TTG Podgorica 16.22 290 P **P 07 51 33.3 +0.8**
TTG Podgorica 16.22 290 P **P 07 51 33.3 +0.8**
TTG Podgorica 16.22 290 P **P 07 51 33.3 +0.8**
PLE Pljevlja 16.25 293 *eP* **P 07 51 32.3 -0.6**
PLE Pljevlja 16.25 293 *eP* **P 07 51 32.3 -0.6**
DRME Dracevica, Mon 16.25 289⇑ *iP* **P 07 51 33.3 +0.5**
DRME Dracevica, Mon 16.25 289⇑ *iP* **P 07 51 33.4 +0.6**
KOLS Kolonicke sedl 16.34 314 *eP* **Pn 07 51 31.9 +1.0**
KOLS pmax pmax
comp=Z,446nm,1.5s
KOLS Kolonicke sedl 16.34 314 *ePN* **Pn 07 51 31.9 +1.0**
BUM Brajici-Budva 16.48 289⇑ *iP* **P 07 51 34.6 -0.8**
BUM Brajici-Budva 16.48 289⇑ *iP* **P 07 51 34.7 -0.7**
NKME Niksic 16.48 291⇑ *iP* **Pn 07 51 33.7 +1.0**
NKME Niksic 16.48 291⇑ *iP* **Pn 07 51 33.8 +1.0**
KWP Kalwaria Pacla 16.49 317 *eP* **Pn 07 51 31.5 -1.2**
KWP pmax pmax
comp=Z,495nm,1.2s
KWP Kalwaria Pacla 16.49 317 *eP* **Pn 07 51 33.8 +1.0**
KWP Kalwaria Pacla 16.49 317⇑ *iP* **Pn 07 51 32.8 0.0**
KWP Kalwaria Pacla 16.49 317 *ePn* **Pn 07 51 31.5 -1.2**
comp=Z,495nm,1.2s
KWP Kalwaria Pacla 16.49 317 *eP* **Pn 07 51 33.8 +1.0**
KWP *eS* **S 07 54 45.8 -1.9**
KWP Kalwaria Pacla 16.49 317 *ePn* **Pn 07 51 31.5 -1.2**
comp=Z,495nm,1.2s
KWP *eS* **S 07 54 45.8 -1.9**
OBN Obninsk 16.54 353 Pn **Pn 07 51 31.3 -2.0**
comp=Z,2μm,1.0s,SNR=14
OBN Obninsk 16.54 353 *d iP* **Pn 07 51 30.9 -2.4**
OBN *eS* **Sn 07 54 35.1 -1.7**
OBN pmax pmax
comp=Z,524nm,1.7s
OBN MLR MLR
comp=Z,5μm,19.0s
OBN Obninsk 16.54 353 Pn **Pn 07 51 31.2 -2.2**
comp=Z,4.6nm,0.3s,baz=133,slow=1.3,SNR=34
OBN LR LR 07 58 30.1
comp=Z,6μm,22.0s,baz=176,slow=39
OBN Obninsk 16.54 353 *ePn* **Pn 07 51 30.8 -2.5**
comp=Z,410nm,1.1s
OBN *eS* **S 07 54 46.6 -2.0**
OBN Obninsk 16.54 353 *ePn* **Pn 07 51 30.8 -2.5**
comp=Z,410nm,1.1s
OBN *eS* **S 07 54 46.6 -2.0**
UPM Unac-Piva 16.57 292⇑ *iP* **P 07 51 36.7 -0.5**
UPM Unac-Piva 16.57 292⇑ *iP* **P 07 51 36.2 -0.4**
CRVS Cervenica-Dubn 16.78 313 *eP* **P 07 51 37.8 -0.9**
CRVS pmax pmax
comp=Z,195nm,1.3s
CRVS Cervenica-Dubn 16.78 313 *eP* **P 07 51 37.8 -0.9**
comp=Z,195nm,1.3s
CRVS Cervenica-Dubn 16.78 313 *ePN* **P 07 51 37.8 -0.9**
HCY Herceg Novi 16.78 290⇑ *iP* **P 07 51 38.0 -0.8**
HCY Herceg Novi 16.78 290⇑ *iP* **P 07 51 38.0 -0.8**
BRY Bratogost 16.80 291⇑ *iP* **P 07 51 38.4 -0.7**
BRY Bratogost 16.80 291⇑ *iP* **P 07 51 38.4 -0.7**
PKSN Nyarlorinc 16.87 305⇓ *e* P 07 51 45.0 +5.3
PKS6 Bocsa 16.96 304⇓ *e* P 07 51 45.9 +5.2
MOS Moscow 17.07 355 *eP* **Pn 07 51 36.0 -4.1**
MOS *eS* **Sn 07 54 47.9 -1.8**
MOS pmax pmax
comp=Z,1μm,2.2s
MOS pmax pmax
comp=N,600nm,2.1s
MOS pmax pmax
comp=Z,557nm,1.6s
MOS pmax pmax
comp=N,384nm,1.4s
MOS MLR MLR
comp=Z,3μm,11.0s
MOS MLR MLR
comp=N,3μm,12.0s
PKS2 Kecel 17.15 304⇑ *ePn* **P 07 51 46.8 +4.0**
STHS Stebnicka Huta 17.17 314 *eP* **P 07 51 43.4 +0.4**
STHS pmax pmax
comp=Z,165nm,1.4s
STHS Stebnicka Huta 17.17 314 *eP* **P 07 51 43.4 +0.4**
comp=Z,164nm,1.4s
STHS Stebnicka Huta 17.17 314 *eP* **P 07 51 43.4 +0.4**
PSZ Piszkesteto 17.26 309 *eP* **P 07 51 43.5 -0.5**
PSZ pmax pmax
comp=Z,1μm,2.0s
PSZ Piszkesteto 17.26 309⇑ *iP* **P 07 51 45.7 +1.7**
PSZ Piszkesteto 17.26 309 *eP* **P 07 51 43.5 -0.5**
comp=Z,1μm,2.0s
PSZ *eS* **S 07 55 05.2 +1.7**
PSZ Piszkesteto 17.26 309⇑ *ePn* **P 07 51 45.8 +1.7**
PSZ Piszkesteto 17.26 309 *ePn* **P 07 51 43.5 -0.5**
comp=Z,1μm,2.0s
PSZ *eS* **S 07 55 05.2 +1.7**
AKTO Aktyubinsk 17.27 42 Pn **Pn 07 51 39.3 -3.3**
comp=Z,0.2nm,0.3s,baz=242,slow=12,SNR=29
AKTO LR LR 08 00 10.6
comp=Z,8μm,18.5s,baz=228,slow=44
PKS7 Kunszentmiklos 17.38 305⇑ *eP* **P 07 51 47.5 +2.2**
PKS7 Kunszentmiklos 17.38 305⇑ *ePn* **P 07 51 47.5 +2.2**
STON Ston 17.41 291 *i P* **Pn 07 51 43.9 -0.5**
STON Ston 17.41 291 *i P* **Pn 07 51 43.8 -0.5**
PKSM Moragy 17.44 302⇑ *iP* **P 07 51 46.2 +0.2**
PKSM Moragy 17.44 302⇑ *eP* **P 07 51 45.4 -0.6**
PKSM Moragy 17.44 302⇑ *ePn* **P 07 51 45.4 -0.6**
BUD Budapest 17.62 306⇑ *eP* **P 07 51 50.8 +2.8**
BUD Budapest 17.62 306⇑ *ePn* **P 07 51 50.8 +2.8**
AB31 Akbulak array 17.69 47 *i P* **Pn 07 51 44.3 -3.5**
AB31 pmax pmax
comp=Z,173nm,1.6s
ABKAR Akbulak array 17.69 47 *ePn* **Pn 07 51 43.9 -3.9**
comp=Z,138nm,1.2s
NIE Niedzica 17.69 313 *eP* **Pn 07 51 47.7 -0.2**
NIE MLR MLR
comp=Z,5μm,11.8s
NIE Niedzica 17.69 313 *eP* **Pn 07 51 47.7 -0.2**
NIE *eS* **S 07 55 19.4 +7.1**
NIE L L 08 02 31.0
comp=Z,5μm,11.8s
NIE Niedzica 17.69 313 *eP* **Pn 07 51 47.7 -0.2**
MICGM Minsk 17.79 336⇑ *eP* **P** Pn 07 51 43.0 -6.1
PKS9 Tamasi 17.79 303⇑ *eP* **P 07 51 52.4 +2.5**
PKS9 Tamasi 17.79 303⇑ *ePn* **P 07 51 52.4 +2.5**
MNK Minsk 17.81 336 *eP* Pn 07 51 43.0 -6.2
PKSG 17.99 306⇑ *eP* **P 07 51 55.0 +3.0**
PKSG 17.99 306⇑ *ePn* **P 07 51 55.0 +3.0**
TIP Timpagrande 18.12 279 P **Pn 07 51 53.1 -0.2**
TIP Timpagrande 18.12 279 *ePn* **Pn 07 51 52.1 -1.2**
comp=Z,220nm,1.2s
TIP Timpagrande 18.12 279 P **Pn 07 51 53.1 -0.2**
TIP Timpagrande 18.12 279 *ePn* **Pn 07 51 52.1 -1.2**
comp=Z,220nm,1.2s
VYHS Vyhne 18.14 309 *eP* **P 07 51 54.2 +0.5**
VYHS pmax pmax
comp=Z,394nm,1.6s
VYHS Vyhne 18.14 309 *eP* **P 07 51 54.2 +0.5**
comp=Z,394nm,1.6s
VYHS Vyhne 18.14 309 *eP* **P 07 51 54.2 +0.5**
PKST T''s 18.17 305 *eP* **P 07 51 55.4 +1.3**
PKST T''s 18.17 305 *ePn* **P 07 51 55.4 +1.3**
OJC Ojcow 18.39 315 *eP* **P 07 51 54.6 -1.8**
OJC MLR MLR
comp=Z,8μm,17.0s
OJC Ojcow 18.39 315 *eP* **P 07 51 54.6 -1.8**
OJC *eS* **S 07 55 32.3 +6.0**
OJC L L 08 00 51.0
comp=Z,8μm,17.0s
OJC Ojcow 18.39 315 *eP* **P 07 51 54.6 -1.8**
NACGM Naroch 18.48 335 *eP* P 07 51 52.0 -5.4
BANOM Banah 18.72 128⇓ *iP* **P 07 51 59.0 -1.3**
SNR=47
BANOM Banah 18.72 128 P **P 07 51 59.0 -1.3**
SNR=47
BEL Belsk 18.76 320 *eP* **Pn 07 52 01.5 +0.5**
BEL Belsk 18.76 320 *eP* **Pn 07 52 01.4 +0.5**
BEL Belsk 18.76 320 *eP* **Pn 07 52 01.5 +0.5**
CUC Castrocucco 18.78 281 *eP* **Pn 07 52 03.1 +1.8**
comp=Z,1μm,2.3s
CUC Castrocucco 18.78 281 *eP* **Pn 07 52 03.1 +1.8**
comp=Z,1μm,2.3s
IDID Didziasalis 18.84 336 *eP* **P 07 51 59.6 -1.7**
IDID AMB AMB 07 52 06.6
comp=Z,124nm,1.1s
IDID Didziasalis 18.84 336 *eP* **P 07 51 59.6 -1.7**
comp=Z,124nm,1.1s,SNR=34
CEL Celeste 18.91 276 *eP* **P 07 52 01.4 -0.9**

comp=Z,607nm,1.7s
CEL Celeste 18.91 276 eP P 07 52 01.4 -0.9
comp=Z,607nm,1.7s
UDBI Udbina 19.02 295 i P P 07 52 02.5 -1.1
UDBI Udbina 19.02 295 i P P 07 52 02.4 -1.1
IIGN Ignalina 19.03 335 eP P 07 52 01.7 -1.8
IIGN AMB AMB 07 52 08.4
comp=Z,131nm,1.0s
IIGN Ignalina 19.03 335 eP P 07 52 01.7 -1.8
comp=Z,131nm,1.0s,SNR=34
NAZ Nazwa, Dubai 19.04 132 P Pn 07 52 03.5 -0.9
SNR=48
NAZ Nazwa, Dubai 19.04 132⇓iP Pn 07 52 03.5 -0.9
SNR=48
ASUD Al Ashush, Dub 19.12 133 P P 07 52 03.0 -1.6
SNR=29
ASUD Al Ashush, Dub 19.12 133⇓iP P 07 52 03.0 -1.6
SNR=29
OKC Ostrava-Krasne 19.13 312 eP Pn 07 52 06.6 +1.2
OKC eS S 07 55 42.0 +0.6
OKC MLR MLR
comp=Z,6μm,16.5s
OKC Ostrava-Krasne 19.13 312 eP Pn 07 52 06.6 +1.2
OKC eS S 07 55 42.0 +0.6
OKC AMS AMS 08 01 50.0
comp=Z,6μm,16.5s
OKC Ostrava-Krasne 19.13 312 eP Pn 07 52 06.6 +1.2
comp=Z,6μm,16.5s
OKC eS S 07 55 42.0 +0.6
FAQ Al Faqa, Dubai 19.18 132 P P 07 52 04.5 -0.8
SNR=36
FAQ Al Faqa, Dubai 19.18 132⇑iP P 07 52 04.5 -0.8
SNR=36
RAC Raciborz 19.22 313 eP Pn 07 52 06.9 +0.4
RAC MLR MLR
comp=Z,6μm,17.5s
RAC Raciborz 19.22 313 eP Pn 07 52 06.9 +0.4
ISAL Salakas 19.25 335 eP P 07 52 04.0 -1.8
ISAL AMB AMB 07 52 11.3
comp=Z,94nm,1.3s
ISAL Salakas 19.25 335 eP P 07 52 04.0 -1.8
comp=Z,94nm,1.3s,SNR=34
SOP Sopron 19.26 305⇑eP Pn 07 52 09.5 +2.5
UOSS Wadi Hilu 19.39 131 Pn P 07 52 06.2 -1.4
comp=Z,1μm,1.0s,SNR=43
HATD Hatta, Dubai 19.43 131 P P 07 52 07.4 -0.7
SNR=50
HATD Hatta, Dubai 19.43 131 i P P 07 52 07.4 -0.7
SNR=50
ASHO Ashiyiah 19.50 131 P P 07 52 08.0 -0.8
SNR=110
ASHO Ashiyiah 19.50 131 P P 07 52 08.0 -0.8
SNR=110
BOJS Bojanci 19.55 298 eP Pn 07 52 12.6 +2.1
BOJS eS Sn 07 55 51.5 +1.5
CONA Conrad Observa 19.78 305⇓ipP pP 07 52 14.4 -0.4
comp=Z,127nm,1.0s,SNR=204
CONA Conrad Observa 19.78 305 P pP 07 52 14.4 -0.4
comp=Z,127nm,1.0s,SNR=204
ARSA Arzberg 19.79 303⇑ipP pP 07 52 15.0 +0.1
comp=Z,38nm,0.9s,SNR=14
ARSA Arzberg 19.79 303 P pP 07 52 15.0 +0.1
comp=Z,38nm,0.9s,SNR=14
VRAC Vranov 19.82 310⇓iP Pn 07 52 14.8 +1.1
VRAC Vranov 19.82 310 P Pn 07 52 14.7 +1.0
baz=110,slow=12,SNR=25
VRAC LR LR 08 01 10.7
comp=Z,5μm,19.9s,baz=114,slow=41
VRAC Vranov 19.82 310 eP P 07 52 12.7 +0.5
PERS Pernice 19.90 301 eP Pn 07 52 15.5 +0.8
PERS eS Sn 07 55 58.4 +0.1
PERS Pernice 19.90 301 eP Pn 07 52 15.5 +0.8
PERS eS Sn 07 55 58.4 +0.1
VISS Visnje 19.90 299 eP Pn 07 52 15.6 +0.9
VISS eS Sn 07 55 57.9 -0.3
VISS Visnje 19.90 299 eP Pn 07 52 15.6 +0.9
VISS eS Sn 07 55 57.9 -0.3
SOKA Soboth 19.96 301⇓iPn Pn 07 52 16.0 +0.5
comp=Z,19nm,0.7s,SNR=16
SOKA Soboth 19.96 301 P Pn 07 52 16.0 +0.5
comp=Z,19nm,0.7s,SNR=16
KRLC Kraliky 20.03 312 eP Pn 07 52 16.1 -0.1
KRLC Kraliky 20.03 312 eP Pn 07 52 16.1 -0.1
KRLC Kraliky 20.03 312 eP Pn 07 52 16.1 -0.1
LJU Ljubljana 20.16 299 eP Pn 07 52 19.4 +1.7
OBKA Obir 20.25 301⇓iP P 07 52 16.7 -0.2
comp=Z,32nm,0.9s,SNR=13
OBKA Obir 20.25 301 P P 07 52 16.7 -0.2
comp=Z,32nm,0.9s,SNR=13
DPC Dobruska-Polom 20.41 312 eP Pn 07 52 20.2 -0.5
DPC eS Sn 07 56 10.7 0.0
DPC Dobruska-Polom 20.41 312 eP Pn 07 52 20.2 -0.5
DPC ex x 07 52 30.5
DPC eS Sn 07 56 10.7 0.0
DPC AMS AMS 08 02 30.0
DPC Dobruska-Polom 20.41 312 eP Pn 07 52 20.2 -0.5
DPC eS Sn 07 56 10.7 0.0
DPC Dobruska-Polom 20.41 312 ePn Pn 07 52 20.2 -0.6
JAVS Javornik 20.45 299 eP Pn 07 52 22.3 +1.0
JAVS eS Sn 07 56 11.9 +0.2
TREC Trest 20.49 309 eP P 07 52 20.4 +1.0
TREC eS Sn 07 56 13.2 +0.8
TREC MLR MLR
comp=Z,6μm,17.8s
TREC Trest 20.49 309 eP P 07 52 20.4 +1.0
TREC epP pP 07 52 31.6 +9.2
TREC eS Sn 07 56 13.2 +0.8
TREC AMS AMS 08 01 10.0
comp=Z,6μm,17.8s
TREC Trest 20.49 309 eP P 07 52 20.4 +1.0
TREC eS Sn 07 56 13.2 +0.8
comp=Z,6μm,17.8s
WDD Wield Dalam 20.50 270 PFAKE 07 52 30.0 +8.3
WDD LR LR
comp=Z,3μm,20.0s
AQU L'Aquila 20.54 289 eP P 07 52 20.0 -0.1
AQU pmax pmax
comp=Z,516nm,1.2s
AQU MLR MLR
comp=Z,9μm,20.0s
AQU L'Aquila 20.54 289 eP P 07 52 20.0 -0.1
comp=Z,9μm,20.0s
AQU L'Aquila 20.54 289 eP P 07 52 20.0 -0.1
comp=Z,516nm,1.2s
AQU LR LR
comp=Z,9μm,20.0s
TRI Trieste 20.62 298 eP Pn 07 52 23.4 +0.3
TRI Trieste 20.62 298 eP Pn 07 52 23.4 +0.3
TRI Trieste 20.62 298 eP Pn 07 52 23.4 +0.3
KSP Ksiaz 20.65 314 eP P 07 52 22.0 +0.9
KSP i *PP pP 07 52 25.6 +1.5
KSP eS S 07 56 12.5 +0.9
KSP MLR MLR
comp=Z,31μm,24.1s
KSP Ksiaz 20.65 314 eP Pn 07 52 22.7 -0.7
KSP eS Sn 07 56 16.0 -0.2
KSP Ksiaz 20.65 314 eP P 07 52 22.0 +0.9
KSP eS S 07 56 12.5 +0.9
UPC Upice 20.66 312 eP P 07 52 22.0 +0.7
UPC Upice 20.66 312 eP P 07 52 22.0 +0.7
UPC Upice 20.66 312 eP P 07 52 22.0 +0.7
MOA Molln 20.78 304⇓iPn Pn 07 52 24.2 -0.9
comp=Z,106nm,0.7s,SNR=80
MOA Molln 20.78 304 P Pn 07 52 24.2 -0.8
comp=Z,106nm,0.7s,SNR=80
ARQ Araqi 20.80 133 ⇓P P 07 52 21.8 -1.2
SNR=100
ARQ Araqi 20.80 133 P P 07 52 21.8 -1.2
SNR=100
MYKA Terra Mystica 20.89 301⇑iP Pn 07 52 25.1 -1.3
comp=Z,28nm,0.9s,SNR=25
MYKA Terra Mystica 20.89 301 P Pn 07 52 25.1 -1.2
comp=Z,28nm,0.9s,SNR=25
HOQ Hoqain 21.07 131 ⇑P P 07 52 24.8 -1.1
SNR=161
HOQ Hoqain 21.07 131 P P 07 52 24.8 -1.1
SNR=161
KBA Koelnbreinsper 21.19 302⇓iPn P 07 52 28.5 +1.3
comp=Z,175nm,0.8s,SNR=57
KBA Koelnbreinsper 21.19 302 P P 07 52 28.5 +1.3
comp=Z,175nm,0.8s,SNR=57
PRU Pruhonice 21.32 310 eP P 07 52 29.2 +0.9
PRU eS S 07 56 26.6 +1.7
PRU MLR MLR
comp=Z,8μm,17.9s
PRU Pruhonice 21.32 310 eP P 07 52 29.2 +0.9
PRU ex x 07 52 41.0
PRU eS S 07 56 26.6 +1.7
PRU AMS AMS 08 03 00.0
comp=Z,8μm,17.9s
PRU Pruhonice 21.32 310 eP P 07 52 29.2 +0.9
PRU eS S 07 56 26.6 +1.7
comp=Z,8μm,17.9s
GKP Gorka Klasztor 21.36 320 eP P 07 52 30.9 +2.1
GKP Gorka Klasztor 21.36 320 eP P 07 52 30.8 +2.0
GKP Gorka Klasztor 21.36 320 eP P 07 52 30.9 +2.1
PRA Prague 21.41 310 P P 07 52 30.0 +0.7
GEC2 GERESS Array S 21.44 307 eP P 07 52 30.4 +0.7
comp=Z,314nm,1.8s
GEC2 GERESS Array S 21.44 307 eP P 07 52 30.4 +0.7
comp=Z,314nm,1.8s
GERES GERESS Array B 21.44 307 P P 07 52 30.8 +1.0
comp=Z,40nm,0.9s,baz=110,slow=10,SNR=80
GERES LR LR 08 01 53.8
comp=Z,5μm,20.3s,baz=111,slow=40
PVCC Panska Ves 21.51 311 eP P 07 52 31.1 +0.7
PVCC eS S 07 56 32.5 +3.8
PVCC MLR MLR
comp=Z,6μm,16.9s
PVCC Panska Ves 21.51 311 eP P 07 52 31.1 +0.7
PVCC eS S 07 56 32.5 +3.8
PVCC AMS AMS 08 02 50.0
comp=Z,6μm,16.9s
PVCC Panska Ves 21.51 311 eP P 07 52 31.1 +0.7
comp=Z,6μm,16.9s
PVCC eS S 07 56 32.5 +3.8
ARU Arti 21.52 29 P P 07 52 28.6 -1.8
comp=Z,916nm,0.8s,SNR=33
ARU Arti 21.52 29d iP P 07 52 28.6 -1.8
ARU PPP PPP 07 52 55.4
ARU S S 07 56 27.2 -1.6
ARU SS SnSn 07 56 52.0 -0.1
ARU SSS SSS 07 57 06.4
ARU pmax pmax
comp=Z,76nm,0.8s
ARU MLR MLR
comp=Z,5μm,16.0s
ARU Arti 21.52 29 i P P 07 52 28.6 -1.8
comp=Z,76nm,0.8s
ARU Arti 21.52 29 eP P 07 52 27.0 -3.5
ARU LR LR
comp=Z,4μm,20.0s
VSU Vasula 21.53 341⇓eP P 07 52 29.7 -0.8
VSU pmax pmax
comp=Z,1μm,1.5s
VSU MLR MLR
comp=Z,14μm,24.0s
VSU Vasula 21.53 341 eP P 07 52 29.7 -0.8
comp=Z,14μm,24.0s
KHC Kasperske Hory 21.60 307 eP P 07 52 31.9 +0.4
KHC eS S 07 56 35.1 +4.4
KHC MLR MLR
comp=Z,5μm,21.0s
KHC Kasperske Hory 21.60 307 eP P 07 52 31.9 +0.4
KHC ex x 07 52 42.8
KHC eS S 07 56 35.1 +4.4
KHC AMS AMS 08 01 00.0
comp=Z,5μm,21.0s
KHC Kasperske Hory 21.60 307 eP P 07 52 31.9 +0.4
KHC eS S 07 56 35.1 +4.4
comp=Z,5μm,21.0s
KHC Kasperske Hory 21.60 307 eP P 07 52 31.9 +0.4
comp=Z,344nm,1.6s
ABTA Abfaltersbach 21.67 301⇓iP P 07 52 34.6 +2.3
comp=Z,92nm,0.9s,SNR=42
ABTA Abfaltersbach 21.67 301 P P 07 52 34.6 +2.3
comp=Z,92nm,0.9s,SNR=42
SMDO Samad 21.91 130 ⇓P P 07 52 33.8 -1.2
SNR=186
SMDO Samad 21.91 130 P P 07 52 33.8 -1.2
SNR=186
PUL Pulkovo 21.93 347deP P 07 52 34.0 -0.8
PUL pmax pmax
comp=Z,994nm,1.0s
PUL MLR MLR
comp=Z,5μm,22.0s
PUL Pulkovo 21.93 347 eP P 07 52 34.0 -0.8
comp=Z,5μm,22.0s
BRG Berggiesshubel 22.01 312 i P P 07 52 38.2 +2.5
comp=Z,295nm,1.9s
BRG S S 07 56 42.0 +3.6
BRG ePCS PcS 08 00 15.1 +3.1
comp=Z,11nm,1.5s
comp=N,7μm,19.3s
comp=E,8μm,17.8s
comp=Z,6μm,23.0s
BRG Berggiesshubel 22.01 312 eP P 07 52 36.5 +0.7
comp=Z,348nm,1.9s
BRG Berggiesshubel 22.01 312 eP P 07 52 36.5 +0.7
comp=Z,348nm,1.9s
WET Wettzell 22.05 307 eP P 07 52 36.2 0.0
comp=Z,230nm,1.6s
WET Wettzell 22.05 307 eP P 07 52 36.2 0.0
comp=Z,230nm,1.6s
KLMR Klimovskoe 22.13 359 eP P 07 52 34.9 -2.0
KLMR S S 07 56 25.9 -15
KLMR pmax pmax
comp=Z,1μm,1.7s
KLMR MLR MLR
comp=Z,3μm,14.0s
WATA Walderalm 22.42 302⇑iP P 07 52 41.8 +1.4
comp=Z,133nm,0.9s,SNR=37
WATA Walderalm 22.42 302 P P 07 52 41.8 +1.4
comp=Z,133nm,0.9s,SNR=37
JMDO Jabal Madar 22.47 131 ⇓P P 07 52 39.3 -1.6
SNR=192
JMDO Jabal Madar 22.47 131 P P 07 52 39.3 -1.6
SNR=192
TAS Tashkent 22.48 74 eP P 07 52 39.3 -1.7
SVE Sverdlovsk 22.61 30ceP P 07 52 40.5 -1.6
SVE eS S 07 56 48.6 -0.9
SVE pmax pmax
comp=Z,249nm,1.1s
SVE MLR MLR
comp=Z,5μm,13.0s
SVE Sverdlovsk 22.61 30 eP P 07 52 40.5 -1.6
comp=Z,249nm,1.1s
ROTZ Rotzenmuhle 22.66 308 eP P 07 52 45.0 +2.3
comp=Z,464nm,1.1s
ROTZ Rotzenmuhle 22.66 308 eP P 07 52 45.0 +2.3
comp=Z,464nm,1.1s
TANN Tannenbergstha 22.72 310 eP P 07 52 43.7 +0.3
comp=Z,989nm,2.7s
TANN Tannenbergstha 22.72 310 eP P 07 52 43.7 +0.3
comp=Z,989nm,2.7s
CLL Collm 22.73 312 eP P 07 52 44.0 +0.6
CLL i 07 52 46.6
CLL i 07 52 50.7
CLL eS S 07 56 55.0 +3.2
CLL pmax pmax
comp=Z,136nm,1.3s
CLL Collm 22.73 312 eP P 07 52 43.8 +0.4
comp=Z,394nm,1.3s
CLL Collm 22.73 312 eP P 07 52 44.0 +0.6
comp=Z,136nm,1.3s
CLL i 07 52 46.6
CLL ePmax 07 52 49.0
CLL i 07 52 50.7
comp=Z,397nm,1.3s
CLL eS S 07 56 55.0 +3.2
CLL e(SS) 07 57 36.0
CLL Lmax 08 01 00.0
CLL Collm 22.73 312 eP P 07 52 41.7 -1.7
comp=Z,323nm,1.1s
CLL eS S 07 56 55.0 +3.2
CLL Collm 22.73 312 eP P 07 52 41.7 -1.7
comp=Z,323nm,1.1s
MOTA Moosalm 22.73 302 i P P 07 52 43.6 -0.1
comp=Z,196nm,0.8s,SNR=109
MOTA Moosalm 22.73 302 P P 07 52 43.6 -0.1
comp=Z,196nm,0.8s,SNR=109
FUR Furstenfeldbru 22.80 304 eP P 07 52 44.2 -0.1
comp=Z,482nm,1.1s
FUR Furstenfeldbru 22.80 304 eP P 07 52 44.2 -0.1
comp=Z,482nm,1.1s
WBK Wadi Bani Khal 22.80 129 ⇓P P 07 52 43.0 -1.5
SNR=90
WBK Wadi Bani Khal 22.80 129 P P 07 52 43.0 -1.5
SNR=90
VLC Villacollemand 22.82 293 PFAKE 07 53 00.0 +16
VLC LR LR
comp=Z,5μm,19.0s
FETA Feichten 22.92 301⇓iP P 07 52 46.8 +1.1
comp=Z,118nm,0.8s,SNR=49
FETA Feichten 22.92 301 P P 07 52 46.8 +1.1
comp=Z,118nm,0.8s,SNR=49
PRGR Permogore 23.17 7 eP P 07 52 44.9 -3.0
FUORN Ofenpass-Fuorn 23.17 299 eP P 07 52 48.6 +0.2
comp=Z,3μm,2.5s
FUORN Ofenpass-Fuorn 23.17 299 eP P 07 52 48.6 +0.2
comp=Z,3μm,2.5s
GRA1 Grafenberg Arr 23.24 307 eP P 07 52 49.3 +0.5
comp=Z,814nm,1.2s
GRF Grafenberg Arr 23.24 307 eP P 07 52 49.3 +0.5
comp=Z,814nm,1.2s
GRF eL L 08 02 50.4
comp=Z,4μm,20.7s
GRFO Grafenberg 23.24 307 eP P 07 52 49.0 +0.2
GRFO Grafenberg 23.24 307 eP P 07 52 49.0 +0.2
GRFO Grafenberg 23.24 307 eP P 07 52 49.0 +0.2
comp=Z,4μm,2.4s
MOX Moxa 23.30 310 eP P 07 52 49.6 +0.2
comp=Z,499nm,2.4s
MOX eL L 08 04 30.4
comp=Z,8μm,18.4s
MOX Moxa 23.30 310 eP P 07 52 49.6 +0.2
comp=Z,499nm,2.4s
KK31 Karatay Array 23.34 69 i P P 07 52 48.0 -1.9
KK31 pmax pmax
comp=Z,116nm,1.0s
KK31 Karatay Array 23.34 69 i P P 07 52 48.0 -1.9
comp=Z,116nm,1.0s
SOKR Solikamsk 23.42 22⇑iP P 07 52 48.7 -1.7
SOKR pmax pmax
comp=Z,90nm,1.1s
SOKR MLR MLR
comp=Z,2μm,14.0s
DAVOX Davos/Dischmat 23.46 300 P P 07 52 52.1 +0.9
DAVOX pmax pmax
comp=Z,60nm,0.9s
DAVOX Davos/Dischmat 23.46 300 P P 07 52 52.1 +0.9
comp=Z,60nm,0.9s,baz=104,slow=7.1,SNR=50
BSD Bornholm Skovb 23.52 322 i P P 07 52 53.2 +1.7
BSD pmax pmax
comp=Z,79nm,1.0s
BSD MLR MLR
comp=Z,3μm,18.0s
BSD Bornholm Skovb 23.52 322 i P P 07 52 53.2 +1.7
comp=Z,79nm,1.0s
comp=Z,3μm,18.0s
BSD Bornholm Skovb 23.52 322 i P P 07 52 53.2 +1.7
comp=Z,79nm,1.0s,SNR=28
DAVA Damuels 23.54 301⇑iP P 07 52 52.2 +0.2
comp=Z,111nm,0.8s,SNR=46
DAVA Damuels 23.54 301 P P 07 52 52.2 +0.2
comp=Z,111nm,0.8s,SNR=46
KBL Kabul 23.58 91 eP P 07 52 53.3 +0.8
KBL pmax pmax
comp=Z,126nm,1.2s
KBL Kabul 23.58 91 eP P 07 52 53.3 +0.8
comp=Z,126nm,1.2s
KBL Kabul 23.58 91 eP P 07 52 53.3 +0.8
comp=Z,126nm,1.2s
VSL Villasalto 23.76 282 eP P 07 52 54.5 +0.4
comp=Z,173nm,1.3s
VSL Villasalto 23.76 282 eP P 07 52 54.5 +0.4
comp=Z,174nm,1.3s
VSL LR LR
comp=Z,3μm,20.0s
TUE Stuetta 23.77 299 eP P 07 52 53.8 -0.5
comp=Z,2μm,2.5s
TUE Stuetta 23.77 299 eP P 07 52 53.8 -0.5
comp=Z,2μm,2.5s
TUE LR LR
comp=Z,3μm,19.0s
PGF Pioggiola 23.80 289 eP P 07 52 54.8 +0.3
comp=Z,247nm,1.2s
PGF Pioggiola 23.80 289 eP P 07 52 54.8 +0.3
PGF pmax pmax
comp=Z,247nm,1.2s
PGF Pioggiola 23.80 289 eP P 07 52 54.8 +0.3
comp=Z,123nm,1.2s
PGF Pioggiola 23.80 289 eP P 07 52 54.8 +0.3
comp=Z,247nm,1.2s
RGN Rugen 24.01 320 eP P 07 52 57.7 +1.5
comp=Z,703nm,1.4s
RGN Rugen 24.01 320 eP P 07 52 57.7 +1.5
comp=Z,703nm,1.4s
ABTO Aybut 24.25 148 ⇓P P 07 52 59.0 +0.2
SNR=51
ABTO Aybut 24.25 148 P P 07 52 59.0 +0.2
SNR=51
STU Stuttgart 24.29 304 eP P 07 53 00.2 +1.3
STU pmax pmax
comp=Z,107nm,1.0s
STU Stuttgart 24.29 304 eP P 07 52 58.7 -0.2
comp=Z,960nm,2.2s
STU Stuttgart 24.29 304 eP P 07 52 58.7 -0.2
comp=Z,960nm,2.2s
STU Stuttgart 24.29 304 eP P 07 53 00.2 +1.3
comp=Z,107nm,1.0s
FINES FINESS Array B 24.32 344 P P 07 52 58.3 -0.7
comp=Z,38nm,0.9s,baz=150,slow=12,SNR=56
FINES LR LR 08 03 43.9
comp=Z,4μm,18.2s,baz=152,slow=40
UBBA Unterbreizbach 24.33 310 eP P 07 52 59.8 +0.7
comp=Z,265nm,1.6s
UBBA Unterbreizbach 24.33 310 eP P 07 52 59.8 +0.7
comp=Z,265nm,1.6s
DHBB Dhamar BB 24.39 170⇑eP P 07 53 03.2 +2.9
DHBB AMb AMB 07 53 04.6
comp=Z,518nm,2.2s
DHBB i S S 07 57 25.1 +5.1
CLZ Clausthal 24.45 312 eP P 07 53 01.1 +0.8
comp=Z,206nm,1.2s
CLZ Clausthal 24.45 312 eP P 07 53 01.1 +0.8
comp=Z,206nm,1.2s
RBK Rabkut 24.51 146 ⇓P P 07 53 00.6 -0.5
SNR=85
RBK Rabkut 24.51 146 P P 07 53 00.6 -0.5
SNR=85
KEST Kesra 24.58 273 P P 07 53 02.4 +0.6
comp=Z,36nm,0.8s,baz=20,slow=3.1,SNR=38
KEST LR LR 08 04 59.3
comp=Z,824nm,20.9s,baz=24,slow=42
TOD Tromm 24.73 306 eP P 07 53 05.2 +2.3
BFO Black Forest 24.76 303 P P 07 53 05.6 +2.4
comp=Z,266nm,1.9s,SNR=7.9
BFO Black Forest 24.76 303 eP P 07 53 04.8 +1.6
BFO pmax pmax
comp=Z,150nm,1.4s
BFO MLR MLR
comp=Z,4μm,22.0s
BFO Black Forest 24.76 303 eP P 07 53 04.8 +1.6
comp=Z,4μm,22.0s
BFO Black Forest 24.76 303 eP P 07 53 04.8 +1.6
comp=Z,150nm,1.4s
BFO LR LR
comp=Z,4μm,22.0s
JOF Joensuu 24.77 350 eP P 07 53 01.2 -1.9
JOF pmax pmax
comp=Z,51nm,0.7s
JOF Joensuu 24.77 350 ep P 07 53 01.2 -1.9
comp=Z,50nm,0.7s
NRDL Niedersach Rie 24.84 313 eP P 07 53 04.9 +1.2
comp=Z,141nm,1.5s
NRDL Niedersach Rie 24.84 313 eP P 07 53 04.9 +1.2
comp=Z,141nm,1.5s
KAF Kangasniemi 24.87 345 eP P 07 53 02.0 -1.9
KAF pmax pmax
comp=Z,38nm,0.9s
KAF Kangasniemi 24.87 345 ep P 07 53 02.0 -1.9
comp=Z,38nm,0.9s
FELD Feldberg im Sc 24.89 302⇑eP P 07 53 07.5 +3.0
UDYN Al 'Udayn 24.93 171⇑eP P 07 53 08.0 +3.0
UDYN AMb AMB 07 53 09.1
comp=Z,117nm,1.4s
SBF Sospel 24.93 292 eP P 07 53 05.5 +0.7
comp=Z,562nm,1.1s
SBF Sospel 24.93 292 eP P 07 53 05.5 +0.7
SBF pmax pmax
comp=Z,562nm,1.1s
SBF Sospel 24.93 292 eP P 07 53 05.5 +0.7
comp=Z,281nm,1.1s
SBF Sospel 24.93 292 eP P 07 53 05.5 +0.7
comp=Z,562nm,1.1s
AUTN L'Aution 24.94 293⇑eP P 07 53 05.0 -0.1
AUTN L'Aution 24.94 293⇑eP P 07 53 05.0 -0.1

LLD Lille Linde 24.95 321 *i* P **P 07 53 07.3 +2.5**
LLD Lille Linde 24.95 321 *i* P **P 07 53 07.3 +2.5**
comp=Z,15nm,0.9s
LLD Lille Linde 24.95 321 *i* P **P 07 53 07.3 +2.5**
COP Copenhagen 25.03 322 *i* P **P 07 53 08.8 +3.4**
COP pmax pmax
comp=Z,32nm,1.0s
COP Copenhagen 25.03 322 *i* P **P 07 53 08.8 +3.4**
comp=Z,32nm,1.0s
COP Copenhagen 25.03 322 *i* P **P 07 53 08.9 +3.5**
comp=Z,32nm,1.0s,SNR=28
TOUF Mont Tournerai 25.07 293⇑ *eP* **P 07 53 06.9 +0.7**
TOUF Mont Tournerai 25.07 293⇑ *eP* **P 07 53 06.9 +0.7**
TNS Taunus Mts 25.11 307 *eP* **P 07 53 07.2 +0.8**
comp=Z,486nm,1.5s
TNS Taunus Mts 25.11 307 *eP* **P 07 53 07.2 +0.8**
comp=Z,486nm,1.5s
KTD Kalmit 25.12 305⇑ *eP* **P 07 53 08.4 +2.0**
MVIF Mont Vial 25.14 292 *eP* **P 07 53 07.5 +0.7**
MVIF Mont Vial 25.14 292 *eP* **P 07 53 07.5 +0.7**
BBS Basel-Blauen 25.16 301⇑ *eP* **P 07 53 07.5 +0.7**
SENIN Lac Senin/Sane 25.17 298 *eP* **P 07 53 07.2 +0.1**
SENIN Lac Senin/Sane 25.17 298 *eP* **P 07 53 07.2 +0.1**
BRVK Borovoye 25.20 46 P **P 07 53 07.6 +0.6**
comp=Z,103nm,1.1s,SNR=8.1
BRVK Borovoye 25.20 46 *ceP* **P 07 53 06.0 -1.0**
BRVK pmax pmax
comp=Z,42nm,2.5s
BRVK MLR MLR
comp=Z,8μm,21.0s
BRVK Borovoye 25.20 46 *eP* **P 07 53 06.2 -0.9**
comp=Z,12nm,1.1s
BRVK Borovoye 25.20 46 *eP* **P 07 53 06.2 -0.9**
comp=Z,12nm,1.1s
BRVK LR LR
comp=Z,8μm,20.0s
LIBD Limburg 25.21 302⇑ *eP* **P 07 53 09.2 +2.1**
LANF Langenberg 25.23 304⇑ *eP* **P 07 53 08.8 +1.4**
LANF Langenberg 25.23 304⇑ *eP* **P 07 53 08.8 +1.4**
BVA0 Borovoye Array 25.25 46 *i* P **P 07 53 11.1 +3.6**
BVA0 pmax pmax
comp=Z,108nm,1.9s
BVAR Borovoye Array 25.25 46 P **P 07 53 07.1 -0.4**
comp=Z,7.2nm,0.9s,baz=239,slow=8.0,SNR=19
BVAR PcP **PcP 07 56 40.6 +0.1**
comp=Z,4.0nm,0.8s,baz=275,slow=8.8,SNR=2.2
BVAR LR LR 08 04 34.0
comp=Z,7μm,19.7s,baz=252,slow=40
BSEG Bad Segeberg 25.29 317 *eP* **P 07 53 09.5 +1.7**
comp=Z,1μm,2.1s
BSEG Bad Segeberg 25.29 317 *eP* **P 07 53 09.5 +1.7**
comp=Z,1μm,2.1s
OG22 Abries 25.31 295 *eP* **P 07 53 09.3 +0.9**
OG22 Abries 25.31 295 *eP* **P 07 53 09.3 +0.9**
CALN Calern 25.33 292⇑ *eP* **P 07 53 09.7 +1.2**
CALN Calern 25.33 292⇑ *eP* **P 07 53 09.7 +1.2**
SURF Saint Ours 25.39 294⇑ *eP* **P 07 53 09.1 0.0**
SURF Saint Ours 25.39 294⇑ *eP* **P 07 53 09.1 0.0**
MBDF Montbardon 25.43 294 *eP* **P 07 53 10.2 +0.8**
comp=Z,136nm,0.8s
MBDF Montbardon 25.43 294 *eP* **P 07 53 10.2 +0.8**
MBDF pmax pmax
comp=Z,136nm,0.8s
MBDF Montbardon 25.43 294 *eP* **P 07 53 10.2 +0.8**
comp=Z,68nm,0.8s
MBDF Montbardon 25.43 294 *eP* **P 07 53 10.2 +0.8**
comp=Z,136nm,0.8s
MUKL Al Mukalla 25.45 159 *eP* **P 07 53 12.5 +2.9**
MUKL AMb AMB 07 53 13.2
comp=Z,185nm,1.2s
CDF Champ du Feu 25.47 303 *eP* **P 07 53 09.4 -0.2**
comp=Z,98nm,0.9s
CDF Champ du Feu 25.47 303 *eP* **P 07 53 09.4 -0.2**
CDF pmax pmax
comp=Z,98nm,0.9s
CDF Champ du Feu 25.47 303 *eP* **P 07 53 09.4 -0.2**
comp=Z,49nm,0.9s
CDF Champ du Feu 25.47 303 *eP* **P 07 53 09.4 -0.2**
comp=Z,98nm,0.9s
VOSK Vostochnaya 25.47 47 P **P 07 53 08.2 -1.3**
VOSK pmax pmax
comp=Z,158nm,1.8s
VOSK Vostochnaya 25.47 47 P **P 07 53 08.2 -1.3**
comp=Z,158nm,1.8s
MOF Molkenrain 25.47 302⇑ *eP* **P 07 53 11.4 +1.7**
MOF Molkenrain 25.47 302⇑ *eP* **P 07 53 11.4 +1.7**
TMCR Tamitsa 25.48 358 *eP* **P 07 53 09.1 -0.3**
TMCR *eS* **S 07 57 34.0 -2.2**
TMCR pmax pmax
comp=Z,59nm,0.9s
TMCR Tamitsa 25.48 358 *eP* **P 07 53 09.1 -0.3**
comp=Z,59nm,0.9s
LPG La Plagne 25.48 296 *eP* **P 07 53 10.6 +0.6**
comp=Z,256nm,1.1s
LPG La Plagne 25.48 296 *eP* **P 07 53 10.6 +0.6**
LPG pmax pmax
comp=Z,256nm,1.1s
LPG La Plagne 25.48 296 *eP* **P 07 53 10.6 +0.6**
comp=Z,128nm,1.1s
LPG La Plagne 25.48 296 *eP* **P 07 53 10.6 +0.6**
comp=Z,256nm,1.1s
LPL La Plagne 25.50 296 *eP* **P 07 53 10.5 +0.4**
comp=Z,150nm,0.9s
LPL La Plagne 25.50 296 *eP* **P 07 53 10.5 +0.4**
LPL pmax pmax
comp=Z,150nm,0.9s
LPL La Plagne 25.50 296 *eP* **P 07 53 10.5 +0.4**
comp=Z,75nm,0.9s
LPL La Plagne 25.50 296 *eP* **P 07 53 10.5 +0.4**
comp=Z,150nm,0.9s
BNI Bardonecchia 25.51 295 *eP* **P 07 53 10.7 +0.6**
BNI pmax pmax
comp=Z,192nm,1.1s
BNI MLR MLR
comp=Z,2μm,21.0s
BNI Bardonecchia 25.51 295 *eP* **P 07 53 10.7 +0.6**
comp=Z,2μm,21.0s
BNI Bardonecchia 25.51 295 *eP* **P 07 53 10.7 +0.6**
comp=Z,192nm,1.1s
BNI LR LR
comp=Z,2μm,21.0s
FRF La Foret Royal 25.51 292 *eP* **P 07 53 10.6 +0.6**
comp=Z,280nm,1.3s
FRF La Foret Royal 25.51 292 *eP* **P 07 53 10.6 +0.6**
FRF pmax pmax
comp=Z,280nm,1.3s
FRF La Foret Royal 25.51 292 *eP* **P 07 53 10.6 +0.6**
comp=Z,140nm,1.3s
FRF La Foret Royal 25.51 292 *eP* **P 07 53 10.6 +0.6**
comp=Z,280nm,1.3s
ECH Echery 25.51 302 *eP* **P 07 53 08.9 -1.1**
ECH pmax pmax
comp=Z,73nm,0.9s
ECH MLR MLR
comp=Z,3μm,19.0s
ECH Echery 25.51 302⇑ *eP* **P 07 53 10.3 +0.3**
ECH Echery 25.51 302 *eP* **P 07 53 08.9 -1.1**
comp=Z,3μm,19.0s
ECH Echery 25.51 302 *eP* **P 07 53 08.9 -1.1**
comp=Z,74nm,0.9s
ECH LR LR
comp=Z,3μm,19.0s
RSL Roselend 25.58 297⇑ *eP* **P 07 53 12.4 +1.6**
RSL Roselend 25.58 297⇑ *eP* **P 07 53 12.4 +1.6**
OG01 Vacheresse 25.59 298⇑ *eP* **P 07 53 12.5 +1.7**
OG01 Vacheresse 25.59 298⇑ *eP* **P 07 53 12.5 +1.7**
LOMF Lomont 25.60 300⇑ *eP* **P 07 53 11.6 +0.7**
LOMF Lomont 25.60 300⇑ *eP* **P 07 53 11.6 +0.7**
LMR La Mourre 25.61 291 *eP* **P 07 53 11.4 +0.5**
comp=Z,458nm,1.8s
LMR La Mourre 25.61 291 *eP* **P 07 53 11.4 +0.5**
LMR pmax pmax
comp=Z,458nm,1.8s
LMR La Mourre 25.61 291 *eP* **P 07 53 11.4 +0.5**
comp=Z,229nm,1.8s
LMR La Mourre 25.61 291 *eP* **P 07 53 11.4 +0.5**
comp=Z,458nm,1.8s
HINF Hinteralfeld 25.65 301 *eP* **P 07 53 11.5 +0.2**
comp=Z,54nm,0.8s
HINF Hinteralfeld 25.65 301 *eP* **P 07 53 11.5 +0.2**
HINF pmax pmax
comp=Z,54nm,0.8s
HINF Hinteralfeld 25.65 301 *eP* **P 07 53 11.5 +0.2**
comp=Z,27nm,0.8s
HINF Hinteralfeld 25.65 301 *eP* **P 07 53 11.5 +0.2**
comp=Z,54nm,0.8s

TRBA At Turbah 25.67 171⇑ *eP* **P 07 53 14.8 +3.0**
AML Almayashu 25.72 72 P **P 07 53 11.2 -1.2**
SNR=12
EKS2 Erkin-Say 25.75 70 P **P 07 53 11.7 -0.7**
SNR=35
EKS2 Erkin-Say 25.75 70 *eP* **P 07 53 12.5 +0.1**
EKS2 pmax pmax
comp=Z,69nm,0.9s
EKS2 MLR MLR
comp=Z,5μm,21.0s
EKS2 Erkin-Say 25.75 70 *eP* **P 07 53 12.5 +0.1**
comp=Z,5μm,21.0s
EKS2 Erkin-Say 25.75 70 *eP* **P 07 53 12.5 +0.1**
comp=Z,69nm,0.9s
EKS2 LR LR
comp=Z,5μm,21.0s
CMAH Djebel Manchou 25.85 276 P **P 07 53 13.9 +0.7**
CMAH Djebel Manchou 25.85 276 P **P 07 53 13.9 +0.7**
RUP Ruppelstein 25.86 306⇑ *eP* **P 07 53 14.9 +1.8**
ABSA Djebel Ababsia 25.89 275 P **P 07 53 15.1 +1.5**
ABSA Djebel Ababsia 25.89 275 P **P 07 53 15.1 +1.5**
GDM Grand'Maison 25.91 295⇑ *eP* **P 07 53 14.0 +0.2**
GDM Grand'Maison 25.91 295⇑ *eP* **P 07 53 14.0 +0.2**
HAU Haudompre 26.01 302 *eP* **P 07 53 14.7 +0.2**
comp=Z,120nm,0.9s
HAU *eR*
comp=Z,4μm,21.0s
HAU Haudompre 26.01 302 *eP* **P 07 53 14.7 +0.2**
HAU pmax pmax
comp=Z,120nm,0.9s
HAU Haudompre 26.01 302 *eP* **P 07 53 14.7 +0.2**
comp=Z,60nm,0.9s
HAU Haudompre 26.01 302 *eP* **P 07 53 14.7 +0.2**
comp=Z,120nm,0.9s
CABF La Chapelle 26.03 299 *eP* **P 07 53 15.0 +0.3**
comp=Z,550nm,0.9s
CABF La Chapelle 26.03 299 *eP* **P 07 53 15.0 +0.3**
CABF pmax pmax
comp=Z,550nm,0.9s
CABF La Chapelle 26.03 299 *eP* **P 07 53 15.0 +0.3**
comp=Z,275nm,0.9s
CABF La Chapelle 26.03 299 *eP* **P 07 53 15.0 +0.3**
comp=Z,550nm,0.9s
ORIF Oris-en-Rattie 26.07 295 *eP* **P 07 53 14.8 -0.4**
comp=Z,220nm,1.3s
ORIF *eR*
comp=Z,5μm,20.8s
ORIF Oris-en-Rattie 26.07 295 *eP* **P 07 53 14.8 -0.4**
ORIF pmax pmax
comp=Z,220nm,1.3s
ORIF Oris-en-Rattie 26.07 295 *eP* **P 07 53 14.8 -0.4**
comp=Z,110nm,1.3s
ORIF Oris-en-Rattie 26.07 295 *eP* **P 07 53 14.8 -0.4**
comp=Z,220nm,1.3s
IBBN Ibbenburen 26.13 312 *eP* **P 07 53 17.4 +2.0**
comp=Z,498nm,1.7s
IBBN Ibbenburen 26.13 312 *eP* **P 07 53 17.4 +2.0**
comp=Z,498nm,1.7s
GRN Grenoble 26.18 295 *eP* **P 07 53 17.4 +1.3**
GRN Grenoble 26.18 295 *eP* **P 07 53 17.4 +1.3**
CAEH 'Ain El Ouahch 26.25 276 P **P 07 53 18.1 +1.3**
CAEH 'Ain El Ouahch 26.25 276 P **P 07 53 18.1 +1.3**
USP Ospenovka 26.26 69 P **P 07 53 18.0 +1.2**
SNR=11
SMRF Simiane la Rot 26.28 293 *eP* **P 07 53 17.7 +0.7**
comp=Z,396nm,1.8s
SMRF Simiane la Rot 26.28 293 *eP* **P 07 53 17.7 +0.7**
comp=Z,198nm,1.8s
SMRF Simiane la Rot 26.28 293 *eP* **P 07 53 17.7 +0.7**
comp=Z,396nm,1.8s
AAK Ala-Archa 26.28 70 P **P 07 53 17.0 -0.2**
comp=Z,218nm,1.5s,SNR=12
AAK Ala-Archa 26.28 70 P P 07 53 22.2 +5.0
SNR=13
AAK Ala-Archa 26.28 70⇓ *eP* **P 07 53 17.0 -0.2**
AAK pmax pmax
comp=Z,119nm,1.7s
AAK MLR MLR
comp=Z,8μm,17.0s
AAK Ala-Archa 26.28 70 P **P 07 53 17.2 0.0**
comp=Z,19nm,0.9s,baz=230,slow=8.3,SNR=28
AAK LR LR 08 05 36.4
comp=Z,3μm,21.1s,baz=274,slow=41
AAK Ala-Archa 26.28 70 *eP* **P 07 53 17.0 -0.2**
comp=Z,8μm,17.0s
AAK Ala-Archa 26.28 70 *eP* **P 07 53 17.2 0.0**
comp=Z,101nm,1.4s
THEF They Montfort 26.29 302⇑ *eP* **P 07 53 18.5 +1.5**
THEF They Montfort 26.29 302⇑ *eP* **P 07 53 18.5 +1.5**
FRU Bishkek 26.36 70 *eP* **P 07 53 18.0 +0.2**
FRU *i* 07 54 18.0
FRU pmax pmax
comp=Z,460nm,1.8s
FRU Bishkek 26.36 70 *eP* **P 07 53 18.0 +0.2**
comp=Z,460nm,1.8s
WLF Walferdange 26.43 305 P **P 07 53 19.7 +1.5**
comp=Z,66nm,1.4s
WLF Walferdange 26.43 305 *eP* **P 07 53 18.2 0.0**
comp=Z,99nm,1.0s
WLF Walferdange 26.43 305 *eP* **P 07 53 18.2 0.0**
comp=Z,99nm,1.0s
WLF Walferdange 26.43 305 PFAKE 07 53 30.0 +12
WLF LR LR
comp=Z,3μm,22.0s
CKFL Kef-Lekhel 26.45 275 P **P 07 53 19.5 +0.8**
CKFL Kef-Lekhel 26.45 275 P **P 07 53 19.5 +0.8**
CHMS Chumysh 26.45 70 P **P 07 53 18.6 0.0**
SNR=21
PAGF Fort de Pagny 26.51 303 *eP* **P 07 53 19.4 +0.4**
comp=Z,45nm,1.1s,baz=93
PAGF Fort de Pagny 26.51 303 *eP* **P 07 53 19.4 +0.4**
comp=Z,22nm,1.1s
PAGF Fort de Pagny 26.51 303 *eP* **P 07 53 19.4 +0.4**
comp=Z,45nm,1.1s
WTSB Winterswijk 26.59 311 *eP* **P 07 53 20.9 +1.3**
comp=Z,594nm,2.1s
CASM Ain Smara 26.67 275 P **P 07 53 20.1 -0.5**
CASM Ain Smara 26.67 275 P **P 07 53 20.1 -0.5**
MEM Membach 26.72 307 P **P 07 53 22.7 +1.8**
MEM Membach 26.72 307 *eP* P 07 53 15.6 -5.3
MEM pmax pmax
comp=Z,84nm,1.3s
MEM Membach 26.72 307 P **P 07 53 22.6 +1.8**
MEM Membach 26.72 307 *eP* P 07 53 15.6 -5.3
comp=Z,84nm,1.3s
HGN Heimansgroeve 26.80 308 *eP* **P 07 53 23.3 +1.7**
comp=Z,280nm,1.4s
HGN *eS* **S 07 58 03.1 +5.7**
HGN *eL* L 08 04 59.7
comp=Z,4μm,21.6s
HGN Heimansgroeve 26.80 308 *eP* **P 07 53 23.3 +1.7**
comp=Z,280nm,1.4s
KZA Kyzart 26.88 72 P **P 07 53 23.5 +0.7**
SNR=20
SFTF Sexfontaines 26.91 302 *eP* **P 07 53 22.9 +0.3**
comp=Z,181nm,1.1s,baz=104
SFTF Sexfontaines 26.91 302 *eP* **P 07 53 22.9 +0.3**
comp=Z,91nm,1.1s
SFTF Sexfontaines 26.91 302 *eP* **P 07 53 22.9 +0.3**
comp=Z,181nm,1.1s
VIVF Saint-Julien-l 26.93 295 *eP* **P 07 53 22.7 -0.1**
comp=Z,169nm,1.2s
VIVF Saint-Julien-l 26.93 295 *eP* **P 07 53 22.7 -0.1**
VIVF pmax pmax
comp=Z,169nm,1.2s
VIVF Saint-Julien-l 26.93 295 *eP* **P 07 53 22.7 -0.1**
comp=Z,84nm,1.2s
VIVF Saint-Julien-l 26.93 295 *eP* **P 07 53 22.7 -0.1**
comp=Z,169nm,1.2s
MEZF Maizieres J'vi 26.94 303 *eP* **P 07 53 23.4 +0.5**
comp=Z,158nm,0.9s,baz=90
MEZF Maizieres J'vi 26.94 303 *eP* **P 07 53 23.4 +0.5**
comp=Z,79nm,0.9s
MEZF Maizieres J'vi 26.94 303 *eP* **P 07 53 23.4 +0.5**
comp=Z,158nm,0.9s
BEBN Eben Emael 26.97 308 P **P 07 53 26.2 +3.1**
comp=Z,38nm,2.2s
BEBN Eben Emael 26.97 308 P **P 07 53 26.1 +3.1**
comp=Z,38nm,2.2s
MUD Monsted U'grnd 27.00 321 *i* P **P 07 53 25.8 +2.6**
MUD pmax pmax
comp=Z,41nm,1.0s
MUD Monsted U'grnd 27.00 321 *i* P **P 07 53 25.8 +2.6**
comp=Z,41nm,1.0s
MUD Monsted U'grnd 27.00 321 *i* P **P 07 53 25.8 +2.6**
comp=Z,41nm,1.0s,SNR=28
SSB Saint Sauveur 27.03 295 *eP* **P 07 53 23.9 +0.2**

SSB pmax pmax
comp=Z,35nm,1.0s
SSB Saint Sauveur 27.03 295⇑ *eP* **P 07 53 23.7 0.0**
SSB Saint Sauveur 27.03 295 *eP* **P 07 53 23.9 +0.2**
comp=Z,35nm,1.0s
SSB Saint Sauveur 27.03 295 *eP* **P 07 53 23.9 +0.2**
comp=Z,35nm,1.0s
SSB LR LR
comp=Z,1μm,20.0s
DFRA Djebel Bou Aff 27.07 276 P **P 07 53 24.8 +0.5**
DFRA Djebel Bou Aff 27.07 276 P **P 07 53 24.8 +0.5**
TKM2 Tokmak 2 27.08 70 P **P 07 53 25.9 +1.4**
SNR=31
TKM2 Tokmak 2 27.08 70 PFAKE 07 53 40.0 +16
TKM2 LR LR
comp=Z,4μm,19.0s
HFS Hagfors 27.09 331 P **P 07 53 23.7 -0.3**
comp=Z,17nm,0.7s,baz=123,slow=5.5,SNR=23
HFS LR LR 08 05 53.4
comp=Z,4μm,19.1s,baz=128,slow=40
BCLA Clavier 27.12 307 P **P 07 53 25.4 +0.9**
BCLA Clavier 27.12 307 P **P 07 53 25.3 +0.9**
GIVF Givet 27.35 306 *eP* **P 07 53 26.0 -0.6**
comp=Z,212nm,1.2s
GIVF Givet 27.35 306 *eP* **P 07 53 26.0 -0.6**
GIVF pmax pmax
comp=Z,212nm,1.2s
GIVF Givet 27.35 306 *eP* **P 07 53 26.0 -0.6**
comp=Z,106nm,1.2s
GIVF Givet 27.35 306 *eP* **P 07 53 26.0 -0.6**
comp=Z,212nm,1.2s
CKHR Kef el Ahmar 27.49 275 P **P 07 53 28.5 +0.4**
CKHR Kef el Ahmar 27.49 275 P **P 07 53 28.5 +0.4**
DOU Dourbes 27.50 306 P **P 07 53 27.9 0.0**
comp=Z,45nm,1.6s
DOU Dourbes 27.50 306 P **P 07 53 27.8 0.0**
comp=Z,45nm,1.6s
LASF Ste Croix 27.52 293 *eP* **P 07 53 28.5 +0.4**
comp=Z,151nm,1.2s
LASF Ste Croix 27.52 293 *eP* **P 07 53 28.5 +0.4**
comp=Z,75nm,1.2s
LASF Ste Croix 27.52 293 *eP* **P 07 53 28.5 +0.4**
comp=Z,151nm,1.2s
SET Setif 27.53 276 P **P 07 53 30.0 +1.6**
SET Setif 27.53 276 P **P 07 53 30.0 +1.6**
SMF Signal de Mont 27.57 298 *eP* **P 07 53 28.9 +0.3**
comp=Z,177nm,1.1s
SMF Signal de Mont 27.57 298 *eP* **P 07 53 28.9 +0.3**
SMF pmax pmax
comp=Z,177nm,1.1s
SMF Signal de Mont 27.57 298 *eP* **P 07 53 28.9 +0.3**
comp=Z,88nm,1.1s
SMF Signal de Mont 27.57 298 *eP* **P 07 53 28.9 +0.3**
comp=Z,177nm,1.1s
ULHL Ulahol 27.60 71 P **P 07 53 29.3 +0.2**
SNR=35
LOR Lormes 27.60 300 *eP* **P 07 53 28.9 0.0**
comp=Z,106nm,0.9s,baz=93
LOR *eR*
comp=Z,4μm,21.0s
LOR Lormes 27.60 300 *eP* **P 07 53 28.9 0.0**
LOR pmax pmax
comp=Z,106nm,0.9s
LOR Lormes 27.60 300 *eP* **P 07 53 28.9 0.0**
comp=Z,53nm,0.9s
LOR Lormes 27.60 300 *eP* **P 07 53 28.9 0.0**
comp=Z,106nm,0.9s
COLF Collangettes 27.63 296⇑ *eP* **P 07 53 31.0 +1.9**
COLF Collangettes 27.63 296⇑ *eP* **P 07 53 31.0 +1.9**
PLDF La Plantade 27.69 297 *eP* **P 07 53 30.9 +1.2**
PLDF La Plantade 27.69 297 *eP* **P 07 53 30.9 +1.2**
BAIF Baives 27.74 306 *eP* **P 07 53 29.5 -0.5**
comp=Z,152nm,1.1s
BAIF Baives 27.74 306 *eP* **P 07 53 29.5 -0.5**
BAIF pmax pmax
comp=Z,152nm,1.1s
BAIF Baives 27.74 306 *eP* **P 07 53 29.5 -0.5**
comp=Z,76nm,1.1s
BAIF Baives 27.74 306 *eP* **P 07 53 29.5 -0.5**
comp=Z,152nm,1.1s
KSH Kashi 27.75 77 P **P 07 53 28.1 -2.3**
KSH sP **sP 07 53 35.1 +0.1**
KSH PP **PnPn 07 54 15.1 -1.1**
KSH S **S 07 58 06.8 -6.2**
KSH sS **sS 07 58 13.7 -4.6**
KSH SS **SnSn 07 59 23.1 -1.9**
KSH ScS **ScS 08 04 16.6 -3.0**
KSH PMZ
comp=Z,23nm,1.1s
KSH LN
comp=Z,4μm,12.2s
KSH LE
comp=Z,3μm,14.1s
KSH LZ
comp=Z,3μm,15.1s
SNF Seneffe 27.77 307 P **P 07 53 32.4 +2.1**
SNF Seneffe 27.77 307 P **P 07 53 32.4 +2.1**
UCC Uccle 27.78 307 P **P 07 53 33.4 +3.0**
UCC Uccle 27.78 307 P **P 07 53 33.3 +3.0**
SSF Saint Saulge 27.83 299 *eP* **P 07 53 31.1 +0.2**
SSF Saint Saulge 27.83 299 *eP* **P 07 53 31.1 +0.2**
SSF Saint Saulge 27.83 299 *eP* **P 07 53 31.1 +0.2**
SSF Saint Saulge 27.83 299 *eP* **P 07 53 31.1 +0.2**
AVF Avril sur Loir 27.92 299 *eP* **P 07 53 31.8 +0.2**
comp=Z,168nm,1.1s
AVF Avril sur Loir 27.92 299 *eP* **P 07 53 31.8 +0.2**
AVF pmax pmax
comp=Z,168nm,1.1s
AVF Avril sur Loir 27.92 299 *eP* **P 07 53 31.8 +0.2**
comp=Z,84nm,1.1s
AVF Avril sur Loir 27.92 299 *eP* **P 07 53 31.8 +0.2**
comp=Z,168nm,1.1s
LBL Lubilhac 27.94 295⇑ *eP* **P 07 53 33.9 +1.9**
LBL Lubilhac 27.94 295⇑ *eP* **P 07 53 33.9 +1.9**
AGO Saint Agoulin 28.04 297⇑ *eP* **P 07 53 33.2 +0.5**
AGO Saint Agoulin 28.04 297⇑ *eP* **P 07 53 33.2 +0.5**
AAA Alma-Ata 28.04 69 *eP* P 07 53 37.1 +4.2
AAA *eS* **S 07 58 17.5 +0.1**
AAA pmax pmax
comp=Z,200nm,0.8s
AAA smax smax
comp=N,2μm,8.7s
AAA MLR MLR
comp=Z,3μm,14.0s
PYM Petit Puy Mans 28.11 296⇑ *eP* **P 07 53 35.3 +1.8**
PYM Petit Puy Mans 28.11 296⇑ *eP* **P 07 53 35.3 +1.8**
OSL Oslo 28.14 328 *eP* **P 07 53 36.5 +3.1**
OSL lAmb lAmb 07 53 41.3
comp=Z,106nm,1.1s
OSL Oslo 28.14 328 *eP* **P 07 53 36.5 +3.1**
SNR=28
HOMB Homborsund 28.20 324 *eP* **P 07 53 35.0 +1.0**
HOMB lAmb lAmb 07 53 37.7
comp=Z,268nm,1.9s
HOMB Homborsund 28.20 324 *eP* **P 07 53 35.0 +1.0**
SNR=28
BGF Bois d'Agland 28.25 298 *eP* **P 07 53 34.9 +0.3**
comp=Z,56nm,1.2s
BGF Bois d'Agland 28.25 298 *eP* **P 07 53 34.9 +0.3**
BGF pmax pmax
comp=Z,56nm,1.2s
BGF Bois d'Agland 28.25 298 *eP* **P 07 53 34.9 +0.3**
comp=Z,28nm,1.2s
BGF Bois d'Agland 28.25 298 *eP* **P 07 53 34.9 +0.3**
comp=Z,56nm,1.2s
NC602 NORSAR Array S 28.30 330 *eP* **P 07 53 37.8 +2.9**
NC602 NORSAR Array S 28.30 330 *eP* **P 07 53 37.8 +2.9**
SNR=28
FRNF Fournols 28.42 296⇑ *eP* **P 07 53 37.6 +1.4**
FRNF Fournols 28.42 296⇑ *eP* **P 07 53 37.6 +1.4**
HYF Humbligny 28.43 300 *eP* **P 07 53 37.2 +1.0**
HYF Humbligny 28.43 300 *eP* **P 07 53 37.2 +1.0**
HYF Humbligny 28.43 300 *eP* **P 07 53 37.2 +1.0**
KONO Kongsberg 28.44 327 *eP* **P 07 53 36.0 -0.2**
KONO lAmb lAmb 07 53 44.2
comp=Z,254nm,1.6s
KONO Kongsberg 28.44 327 *eP* **P 07 53 38.2 +2.0**
KONO pmax pmax
comp=Z,494nm,2.1s
KONO MLR MLR
comp=Z,3μm,20.0s
KONO Kongsberg 28.44 327 *eP* **P 07 53 36.0 -0.2**
SNR=28
KONO Kongsberg 28.44 327 *eP* **P 07 53 38.2 +2.0**
comp=Z,494nm,2.1s

KONO LR LR
comp=Z,3μm,20.0s
NB2 NORSAR Subarra 28.61 331 P **P 07 53 37.1 -0.6**
comp=Z,53nm,1.2s,baz=127,slow=9.3
NB2 NORSAR Subarra 28.61 331 P **P 07 53 37.1 -0.6**
baz=127,slow=9.3
NB2 NORSAR Subarra 28.61 331 P **P 07 53 37.1 -0.6**
SNR=28
NOA NORSAR Array B 28.61 331 P **P 07 53 36.9 -0.8**
comp=Z,4.3nm,0.8s,baz=49,slow=24,SNR=18
NOA LR LR 08 06 49.9
comp=Z,4μm,19.5s,baz=130,slow=40
TCF Toulx Ste Croi 28.68 298 *e*P **P 07 53 39.1 +0.6**
comp=Z,166nm,1.2s
TCF Toulx Ste Croi 28.68 298 *e*P **P 07 53 39.1 +0.6**
TCF pmax pmax
comp=Z,166nm,1.2s
TCF Toulx Ste Croi 28.68 298 *e*P **P 07 53 39.1 +0.6**
comp=Z,83nm,1.2s
TCF Toulx Ste Croi 28.68 298 *e*P **P 07 53 39.1 +0.6**
comp=Z,166nm,1.2s
MTLF Montolieu 28.74 291 *e*P **P 07 53 39.4 +0.4**
comp=Z,75nm,1.4s
MTLF Montolieu 28.74 291 *e*P **P 07 53 39.4 +0.4**
MTLF pmax pmax
comp=Z,75nm,1.4s
MTLF Montolieu 28.74 291 *e*P **P 07 53 39.4 +0.4**
comp=Z,38nm,1.4s
MTLF Montolieu 28.74 291 *e*P **P 07 53 39.4 +0.4**
comp=Z,75nm,1.4s
CAF Calviac 28.78 295 *e*P **P 07 53 39.9 +0.5**
comp=Z,95nm,1.5s
CAF Calviac 28.78 295 *e*P **P 07 53 39.9 +0.5**
CAF pmax pmax
comp=Z,95nm,1.5s
CAF Calviac 28.78 295 *e*P **P 07 53 39.9 +0.5**
comp=Z,47nm,1.5s
CAF Calviac 28.78 295 *e*P **P 07 53 39.9 +0.5**
comp=Z,95nm,1.5s
APA Apatity 29.11 355⇓ *i*P P 07 53 46.4 +4.4
APA *i* 07 54 36.2
APA *i*S **S 07 58 38.0 +4.6**
APA MLR MLR
comp=Z,6μm,17.0s
RJF Les Rejaudoux 29.16 296 *e*P **P 07 53 43.8 +1.0**
comp=Z,312nm,1.6s
RJF *e*R
comp=Z,4μm,17.8s
RJF Les Rejaudoux 29.16 296 *e*P **P 07 53 43.8 +1.0**
RJF pmax pmax
comp=Z,312nm,1.6s
RJF Les Rejaudoux 29.16 296 *e*P **P 07 53 43.8 +1.0**
comp=Z,156nm,1.6s
RJF Les Rejaudoux 29.16 296 *e*P **P 07 53 43.8 +1.0**
comp=Z,312nm,1.6s
LVZ Lovozero 29.35 356⇑ *e*P **P 07 53 44.4 +0.2**
LVZ pmax pmax
comp=Z,131nm,1.6s
LVZ Lovozero 29.35 356 *e*P **P 07 53 44.4 +0.2**
comp=Z,131nm,1.6s
LVZ Lovozero 29.35 356 PFAKE 07 54 00.0 +16
LVZ LR LR
comp=Z,3μm,22.0s
KURBB Kurchatov Arra 29.48 54 P **P 07 53 45.1 -0.4**
comp=Z,10.0nm,0.6s,baz=265,slow=8.8,SNR=27
KURK Kurchatov 29.55 53 P **P 07 53 45.3 -0.8**
comp=Z,118nm,1.0s,SNR=11
KURK Kurchatov 29.55 53 *e*P **P 07 53 45.3 -0.8**
KURK pmax pmax
comp=Z,37nm,1.3s
KURK MLR MLR
comp=Z,2μm,20.0s
KURK Kurchatov 29.55 53 *e*P **P 07 53 45.3 -0.8**
comp=Z,2μm,20.0s
KURK Kurchatov 29.55 53 *e*P **P 07 53 45.3 -0.8**
comp=Z,37nm,1.3s
KURK LR LR
comp=Z,2μm,20.0s
BLS5 Blasjo 29.69 325 *e*P P 07 53 50.6 +3.3
BLS5 IAmb IAmb 07 53 55.6
comp=Z,18nm,0.7s
BLS5 Blasjo 29.69 325 *e*P P 07 53 50.6 +3.3
SNR=28
LFF La Frestale 29.72 295 *e*P **P 07 53 48.3 +0.6**
comp=Z,87nm,0.9s
LFF La Frestale 29.72 295 *e*P **P 07 53 48.3 +0.6**
LFF pmax pmax
comp=Z,87nm,0.9s
LFF La Frestale 29.72 295 *e*P **P 07 53 48.3 +0.6**
comp=Z,43nm,0.9s
LFF La Frestale 29.72 295 *e*P **P 07 53 48.3 +0.6**
comp=Z,87nm,0.9s
ODD1 Odda 29.86 326 *e*P P 07 53 52.4 +3.6
ODD1 IAmb IAmb 07 53 53.6
comp=Z,165nm,1.5s
ODD1 Odda 29.86 326 *e*P P 07 53 52.4 +3.6
SNR=28
EPF Esparros 30.13 291 *e*P **P 07 53 50.6 -0.8**
comp=Z,55nm,1.1s
EPF Esparros 30.13 291 *e*P **P 07 53 50.6 -0.8**
EPF pmax pmax
comp=Z,55nm,1.1s
EPF Esparros 30.13 291 *e*P **P 07 53 50.6 -0.8**
comp=Z,28nm,1.1s
EPF Esparros 30.13 291 *e*P **P 07 53 50.6 -0.8**
comp=Z,55nm,1.1s
MFF Saint Martin d 30.32 298 *e*P **P 07 53 52.8 -0.1**
comp=Z,188nm,1.4s
MFF Saint Martin d 30.32 298 *e*P **P 07 53 52.8 -0.1**
MFF pmax pmax
comp=Z,188nm,1.4s
MFF Saint Martin d 30.32 298 *e*P **P 07 53 52.8 -0.1**
comp=Z,94nm,1.4s
MFF Saint Martin d 30.32 298 *e*P **P 07 53 52.8 -0.1**
comp=Z,188nm,1.4s
LDF La Druitiere 30.37 302 *e*P **P 07 53 53.0 -0.4**
LDF La Druitiere 30.37 302 *e*P **P 07 53 53.0 -0.4**
LDF La Druitiere 30.37 302 *e*P **P 07 53 53.0 -0.4**
LDF La Druitiere 30.37 302 *e*P **P 07 53 53.0 -0.4**
BHK Bhakra 30.49 93 *ex* x 07 54 03.8
FLN La Foliniere 30.62 302 *e*P **P 07 53 55.4 -0.2**
comp=Z,104nm,1.1s,baz=91
FLN *e*R
comp=Z,4μm,22.2s
FLN La Foliniere 30.62 302 *e*P **P 07 53 55.4 -0.2**
FLN pmax pmax
comp=Z,104nm,1.0s
FLN La Foliniere 30.62 302 *e*P **P 07 53 55.4 -0.2**
comp=Z,52nm,1.1s
FLN La Foliniere 30.62 302 *e*P **P 07 53 55.4 -0.2**
comp=Z,104nm,1.0s
RUND Rundenannen 30.66 326 *e*P **P 07 53 57.6 +1.8**
RUND Rundenannen 30.66 326 *e*P **P 07 53 57.6 +1.8**
SNR=28
ETSF Etsaut 30.80 291 *e*P **P 07 53 57.3 -0.1**
comp=Z,66nm,1.0s
ETSF Etsaut 30.80 291 *e*P **P 07 53 57.3 -0.1**
ETSF pmax pmax
comp=Z,66nm,1.0s
ETSF Etsaut 30.80 291 *e*P **P 07 53 57.3 -0.1**
comp=Z,33nm,1.0s
ETSF Etsaut 30.80 291 *e*P **P 07 53 57.3 -0.1**
comp=Z,66nm,1.0s
GRR Gorron 30.85 302 *e*P **P 07 53 57.3 -0.3**
comp=Z,94nm,0.9s
GRR Gorron 30.85 302 *e*P **P 07 53 57.3 -0.3**
GRR pmax pmax
comp=Z,95nm,0.9s
GRR Gorron 30.85 302 *e*P **P 07 53 57.3 -0.3**
comp=Z,47nm,0.9s
GRR Gorron 30.85 302 *e*P **P 07 53 57.3 -0.3**
comp=Z,94nm,0.9s
SMLA Simla 31.19 93 *i*x x 07 53 56.2
SJPF Ste Jean 31.27 291 *e*P **P 07 54 01.3 -0.1**
comp=Z,105nm,1.2s
SJPF Ste Jean 31.27 291 *e*P **P 07 54 01.3 -0.1**
SJPF pmax pmax
comp=Z,105nm,1.2s
SJPF Ste Jean 31.27 291 *e*P **P 07 54 01.3 -0.1**
comp=Z,52nm,1.2s
SJPF Ste Jean 31.27 291 *e*P **P 07 54 01.3 -0.1**
comp=Z,105nm,1.2s
MK31 Makanchi Array 31.71 61 *i*P **P 07 54 04.9 -0.3**
MK31 pmax pmax
comp=Z,51nm,1.3s
MK31 Makanchi Array 31.71 61 *i*P **P 07 54 04.9 -0.3**
comp=Z,51nm,1.3s
MKAR Makanchi Array 31.71 61 P **P 07 54 05.0 -0.3**
MKAR 07 56 59.9
MKAR pmax pmax
comp=Z,21nm,0.9s
MKAR MLR MLR
comp=Z,2μm,19.1s
MKAR Makanchi Array 31.71 61 P **P 07 54 05.0 -0.3**
comp=Z,21nm,0.9s,baz=272,slow=6.8,SNR=54
MKAR PcP **PcP 07 56 59.9 +3.1**
comp=Z,4.0nm,0.8s,baz=262,slow=3.7,SNR=2.4
MKAR LR LR 08 08 20.9
comp=Z,2μm,19.1s,baz=271,slow=39
MKAR Makanchi Array 31.71 61 P **P 07 54 05.0 -0.3**
comp=Z,21nm,0.9s
ARCES ARCESS Array B 31.82 350 P **P 07 54 06.5 +0.6**
ARCES pmax pmax
comp=Z,18nm,0.8s
ARCES MLR MLR
comp=Z,5μm,22.0s
ARCES ARCESS Array B 31.82 350 P **P 07 54 06.5 +0.6**
comp=Z,18nm,0.8s,baz=167,slow=6.0,SNR=11
ARCES LR LR 08 07 55.0
comp=Z,5μm,22.0s,baz=156,slow=38
ARCES ARCESS Array B 31.82 350 P **P 07 54 06.5 +0.6**
comp=Z,5μm,22.0s
ARE0 ARCESS Array S 31.82 350 *e*P **P 07 54 03.2 -2.7**
KEV Kevo 31.84 351 *e*P **P 07 54 06.7 +0.6**
KEV MLR MLR
comp=Z,6μm,22.0s
KEV Kevo 31.84 351 *e*p **P 07 54 08.6 +2.5**
comp=Z,11nm,0.9s
KEV Kevo 31.84 351 *e*P **P 07 54 06.7 +0.6**
comp=Z,6μm,22.0s
KEV Kevo 31.84 351 *e*P **P 07 54 06.7 +0.6**
KEV LR LR
comp=Z,6μm,22.0s
SGMF Saint Gilles 31.98 301 *e*P **P 07 54 07.7 +0.2**
comp=Z,341nm,1.2s
SGMF Saint Gilles 31.98 301 *e*P **P 07 54 07.7 +0.2**
SGMF pmax pmax
comp=Z,341nm,1.2s
SGMF Saint Gilles 31.98 301 *e*P **P 07 54 07.7 +0.2**
comp=Z,170nm,1.2s
SGMF Saint Gilles 31.98 301 *e*P **P 07 54 07.7 +0.2**
comp=Z,341nm,1.2s
NDI New Delhi 32.30 97 *e*P **P 07 54 11.0 +0.4**
NDI *e*S S 07 59 32.0 +7.7
QUIF Quistinic 32.38 301 *e*P **P 07 54 10.9 -0.2**
comp=Z,269nm,1.4s
QUIF Quistinic 32.38 301 *e*P **P 07 54 10.9 -0.2**
QUIF pmax pmax
comp=Z,269nm,1.4s
QUIF Quistinic 32.38 301 *e*P **P 07 54 10.9 -0.2**
comp=Z,134nm,1.4s
QUIF Quistinic 32.38 301 *e*P **P 07 54 10.9 -0.2**
comp=Z,269nm,1.4s
ROSF Rostrenen 32.46 301 *e*P **P 07 54 11.6 -0.2**
comp=Z,104nm,1.0s
ROSF Rostrenen 32.46 301 *e*P **P 07 54 11.6 -0.2**
ROSF pmax pmax
comp=Z,104nm,1.0s
ROSF Rostrenen 32.46 301 *e*P **P 07 54 11.6 -0.2**
comp=Z,52nm,1.0s
ROSF Rostrenen 32.46 301 *e*P **P 07 54 11.6 -0.2**
comp=Z,104nm,1.0s
NVS Novosibirsk 33.03 47⇑ *i*P **P 07 54 15.0 -1.7**
NVS *e*S **S 07 59 35.8 +0.8**
NVS pmax pmax
comp=Z,47nm,1.0s
NVS pmax pmax
comp=N,26nm,1.6s
NVS pmax pmax
comp=E,26nm,1.5s
NVS smax smax
comp=N,37nm,1.9s
NVS smax smax
comp=E,40nm,1.9s
NVS Novosibirsk 33.03 47 *i*P **P 07 54 15.0 -1.7**
comp=E,26nm,1.6s
NVS *e*S **S 07 59 35.8 +0.8**
ESK Eskdalemuir 33.18 314 *e*P **P 07 54 18.7 +0.7**
ESK pmax pmax
comp=Z,866nm,2.1s
ESK MLR MLR
comp=Z,3μm,21.0s
ESK Eskdalemuir 33.18 314 *e*P **P 07 54 18.7 +0.7**
comp=Z,3μm,21.0s
ESK Eskdalemuir 33.18 314 *e*P **P 07 54 18.7 +0.7**
comp=Z,866nm,2.1s
ESK LR LR
comp=Z,3μm,21.0s
TAM Tamanrasset 33.44 252 *e*P **P 07 54 21.4 +0.7**
TAM pmax pmax
comp=Z,122nm,1.4s
TAM MLR MLR
comp=Z,2μm,19.0s
TAM Tamanrasset 33.44 252 *e*P **P 07 54 21.4 +0.7**
comp=Z,2μm,19.0s
TAM Tamanrasset 33.44 252 *e*P **P 07 54 21.4 +0.7**
comp=Z,122nm,1.4s
TAM LR LR
comp=Z,2μm,19.0s
ZALV Zalesovo Beam 33.80 48 P **P 07 54 23.0 -0.4**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 33.80 48 P **P 07 54 23.0 -0.4**
comp=Z,4.1nm,0.7s,baz=261,slow=8.9,SNR=16
ZALV LR LR 08 09 10.9
comp=Z,4μm,19.2s,baz=261,slow=38
ZALV Zalesovo Beam 33.80 48 P **P 07 54 23.0 -0.4**
comp=Z,4.0nm,0.7s
ESDC Sonseca Array 33.87 286 P **P 07 54 23.9 -0.4**
comp=Z,12nm,0.9s,baz=68,slow=8.6,SNR=34
ESDC LR LR 08 09 52.2
comp=Z,2μm,18.5s,baz=75,slow=39
PAB San Pablo 34.19 286 *e*P **P 07 54 27.6 +0.5**
PAB pmax pmax
comp=Z,57nm,1.4s
PAB MLR MLR
comp=Z,3μm,20.0s
PAB San Pablo 34.19 286 *e*P **P 07 54 27.6 +0.5**
comp=Z,3μm,20.0s
PAB San Pablo 34.19 286 *e*P **P 07 54 27.6 +0.5**
comp=Z,57nm,1.4s
PAB LR LR
comp=Z,3μm,20.0s
DSB Dublin 34.71 310 *e*P **P 07 54 33.0 +1.7**
comp=Z,50nm,1.1s
DSB Dublin 34.71 310 *e*P **P 07 54 33.0 +1.7**
comp=Z,50nm,1.1s
PBRG Braganca 35.50 290 *e*P **P 07 54 38.4 +0.1**
comp=Z,85nm,1.5s
PBRG Braganca 35.50 290 *e*P **P 07 54 38.4 +0.1**
comp=Z,85nm,1.5s
WMQ Urumqi 35.76 66 P **P 07 54 39.2 -1.3**
WMQ sP **sP 07 54 45.0 -0.1**
WMQ PP **PnPn 07 55 59.6 -0.6**
WMQ PcP **PcP 07 57 07.9 -0.4**
WMQ S **S 08 00 14.0 -3.5**
WMQ SS **SnSn 08 02 33.3 -6.0**
WMQ ScS **ScS 08 04 55.7 -3.6**
WMQ PMZ
comp=Z,65nm,1.5s
WMQ PMZ
comp=Z,520nm,4.0s
WMQ LN
comp=Z,4μm,17.0s
WMQ LE
comp=Z,4μm,14.0s
WMQ LZ
comp=Z,3μm,18.0s
MVO Moncorvo 35.84 289 *e*P **P 07 54 43.5 +2.2**
comp=Z,48nm,2.1s
MVO *e*S **S 08 00 23.3 +4.5**
MVO *e*LQ LQ 08 02 42.5
MVO *e*LR LR 08 05 57.4
comp=Z,2μm,20.0s
MVO Moncorvo 35.84 289 *e*P **P 07 54 43.5 +2.2**
comp=Z,48nm,2.1s
PVRL Vila Real 36.32 290 *e*P **P 07 54 47.2 +1.8**
comp=Z,47nm,1.8s
PVRL Vila Real 36.32 290 *e*P **P 07 54 47.2 +1.8**
comp=Z,47nm,1.8s
POLO Lamas de Olo 36.36 290 *e*P **P 07 54 47.2 +1.5**
comp=Z,30nm,1.7s
POLO *e*S S 08 00 37.4 +11
POLO Lamas de Olo 36.36 290 *e*P **P 07 54 47.2 +1.5**
comp=Z,30nm,1.7s
MTE Manteigas 36.38 288 *e*P **P 07 54 45.6 -0.4**
comp=Z,121nm,1.3s
MTE *e*S **S 08 00 32.7 +5.5**
MTE *e*LQ LQ 08 03 08.4
MTE *e*LR LR 08 04 56.6
comp=Z,2μm,16.0s
MTE Manteigas 36.38 288 *e*P **P 07 54 45.5 -0.4**
comp=Z,85nm,1.3s
MTE Manteigas 36.38 288 *e*P **P 07 54 45.5 -0.4**
comp=Z,85nm,1.3s
MTE LR LR
comp=Z,2μm,20.0s
PCAB Cabril 36.46 290 *e*P **P 07 54 48.7 +2.2**
comp=Z,40nm,2.2s
PCAB Cabril 36.46 290 *e*P **P 07 54 48.7 +2.2**
comp=Z,40nm,2.2s
PCBR Castelo Branco 36.47 287 *e*P **P 07 54 48.1 +1.5**
comp=Z,78nm,1.4s
PCBR Castelo Branco 36.47 287 *e*P **P 07 54 48.1 +1.5**
comp=Z,78nm,1.4s
PMRV Marv??o 36.50 286 *e*S **S 08 00 31.0 +2.1**
PMRV *e*LQ LQ 08 03 20.2
PMRV *e*LR LR 08 06 28.0
comp=Z,2μm,20.0s
PMRV Marv??o 36.50 286 *e*S **S 08 00 31.0 +2.1**
ZFT Errachidia 36.54 273 *i*P **P 07 54 48.0 +0.5**
PBAR Barrancos 36.56 284 *e*P **P 07 54 48.3 +0.9**
comp=Z,117nm,1.4s
PBAR *e*S **S 08 00 31.3 +1.5**
PBAR Barrancos 36.56 284 *e*P **P 07 54 48.3 +0.9**
comp=Z,117nm,1.4s
PBAR *e*S **S 08 00 31.3 +1.5**
PVIS Viseu 36.57 289 *e*P **P 07 54 49.1 +1.6**
comp=Z,77nm,1.3s
PVIS Viseu 36.57 289 *e*P **P 07 54 49.1 +1.6**
comp=Z,77nm,1.3s
PGAV Gavieira, Arco 36.59 291 *e*P **P 07 54 49.5 +1.8**
comp=Z,88nm,1.7s
PGAV *e*S S 08 00 37.8 +7.5
PGAV *e*LQ LQ 08 03 12.1
PGAV *e*LR LR 08 04 51.3
comp=Z,2μm,20.0s
PGAV Gavieira, Arco 36.59 291 *e*P **P 07 54 49.5 +1.8**
comp=Z,88nm,1.7s
PESTR Estremoz 36.80 286 *e*P **P 07 54 49.5 +0.1**
comp=Z,87nm,1.3s
PESTR *e*S **S 08 00 34.3 +0.9**
PESTR Estremoz 36.80 286 *e*P **P 07 54 49.5 +0.1**
comp=Z,87nm,1.3s
PESTR *e*S **S 08 00 34.3 +0.9**
PYUN Piuthan 37.07 94 *e*P **P 07 54 51.0 -1.1**
PCAS Casmilo, Conde 37.18 288 *e*S **S 08 00 42.0 +2.8**
PCAS Casmilo, Conde 37.18 288 *e*S **S 08 00 42.0 +2.8**
PMTG Montargil 37.22 286 *e*P **P 07 54 53.6 +0.6**
comp=Z,64nm,1.4s
PMTG *e*S **S 08 00 44.7 +4.9**
PMTG Montargil 37.22 286 *e*P **P 07 54 53.6 +0.6**
comp=Z,64nm,1.4s
PVAQ Vaqueiros 37.30 283 *e*P **P 07 54 54.7 +1.0**
comp=Z,81nm,1.6s
PVAQ *e*S **S 08 00 41.5 +0.4**
PVAQ *e*LQ LQ 08 03 30.6
PVAQ *e*LR LR 08 06 47.0
comp=Z,1μm,18.0s
PVAQ Vaqueiros 37.30 283 *e*P **P 07 54 54.7 +1.0**
comp=Z,81nm,1.6s
PVAQ *e*S **S 08 00 41.5 +0.4**
PBDV Barranco-do-Ve 37.51 283 *e*P **P 07 54 56.6 +1.1**
comp=Z,124nm,1.1s
PBDV *e*S **S 08 00 45.2 +0.9**
PBDV Barranco-do-Ve 37.51 283 *e*P **P 07 54 56.6 +1.1**
comp=Z,124nm,1.1s
PBDV *e*S **S 08 00 45.2 +0.9**
MESJ Messejana 37.55 284 *e*P **P 07 54 56.7 +0.9**
MESJ AMb AMB 07 54 59.1
comp=Z,46nm,1.6s
MESJ *e*S **S 08 00 48.4 +3.4**
MESJ Messejana 37.55 284 *e*P **P 07 54 56.4 +0.6**
comp=Z,54nm,1.6s
MESJ Messejana 37.55 284 *e*P **P 07 54 56.7 +0.9**
MESJ *e*S **S 08 00 48.3 +3.4**
MESJ Messejana 37.55 284 *e*P **P 07 54 56.4 +0.6**
comp=Z,54nm,1.6s
DANN Dangsing 37.56 93 *e*P **P 07 54 55.3 -1.0**
comp=Z,185nm,1.0s
KIB El Ksiba 37.65 275 *i*P **P 07 54 59.0 +2.2**
KOLN Koldanda 37.70 94 *e*P **P 07 54 56.7 -0.8**
PNCL Nicolau / Gran 37.71 285 *e*P **P 07 54 59.1 +2.0**
comp=Z,42nm,1.4s
PNCL *e*S **S 08 00 51.0 +3.7**
PNCL Nicolau / Gran 37.71 285 *e*P **P 07 54 59.1 +2.0**
comp=Z,42nm,1.4s
PNCL *e*S **S 08 00 51.0 +3.7**
RTC Rabat Centre 37.76 278 PFAKE 07 55 10.0 +12
RTC LR LR
comp=Z,866nm,20.0s
MORF Marmelete 38.04 284 *e*P **P 07 55 00.8 +0.7**
MORF AMb AMB 07 55 04.2
comp=Z,92nm,1.7s
MORF *e*S **S 08 00 55.7 +3.3**
MORF Marmelete 38.04 284 *e*P **P 07 55 00.9 +0.9**
comp=Z,93nm,1.7s
MORF *e*S S 08 01 00.4 +8.0
MORF Marmelete 38.04 284 *e*P **P 07 55 00.7 +0.7**
MORF *e*S **S 08 00 55.7 +3.3**
MORF Marmelete 38.04 284 *e*P **P 07 55 00.7 +0.7**
PMAFR Mafra 38.04 286 *e*S **S 08 00 54.8 +2.4**
PMAFR Mafra 38.04 286 *e*S **S 08 00 54.8 +2.4**
TZC Tazercounte 38.16 275 *i*P **P 07 55 04.0 +2.7**
GKN Gorkha 38.40 93 *e*P **P 07 55 01.9 -1.4**
comp=Z,285nm,1.3s
DMN Daman 38.95 93 *e*P **P 07 55 06.6 -1.5**
comp=Z,336nm,1.3s
KKN Kakani 39.01 92 *e*P **P 07 55 06.7 -1.7**
comp=Z,97nm,1.1s
HVS Khovu-Aksy 39.09 54 *d i*P **P 07 55 07.5 -1.2**
HVS Khovu-Aksy 39.09 54 *i*P **P 07 55 07.5 -1.2**
PKIN Phulchoki 39.20 93 *e*P **P 07 55 08.7 -1.4**
comp=Z,39nm,0.8s
PKI Pulchoki 39.21 93 *e*P **P 07 55 08.6 -1.7**
comp=Z,167nm,1.3s
GUN Gumba 39.42 92 *e*P **P 07 55 10.5 -1.5**
comp=Z,195nm,1.1s
HYB Hyderabad 39.67 111 *i*P **P 07 55 11.0 -2.8**
HYB *e*S S 08 01 08.0 -9.2
KMBO Kilima Mbogo 39.77 184 P **P 07 55 15.4 +0.6**
comp=Z,6.8nm,0.9s,baz=1.1,slow=8.9,SNR=22
KMBO LR LR 08 10 49.2
comp=Z,3μm,21.7s,baz=356,slow=35
KMBO Kilima Mbogo 39.77 184 *e*P **P 07 55 15.7 +0.9**
comp=Z,83nm,1.8s
JIRN Jiri 39.78 92 *e*P **P 07 55 13.7 -1.4**
comp=Z,213nm,1.4s
MBAR Mbarara 40.09 195 P **P 07 55 19.3 +1.9**
comp=Z,64nm,2.0s,SNR=8.8
RAMN Ramite 40.44 93 *e*P **P 07 55 18.8 -1.6**
comp=Z,240nm,1.2s
SPA0 Spitsbergen Ar 40.74 353 *e*P **P 07 55 22.9 +0.9**
SPA0 Spitsbergen Ar 40.74 353 *e*P **P 07 55 22.9 +0.9**
SNR=26
SPITS Spitsbergen Ar 40.74 353 P **P 07 55 23.1 +1.1**
SPITS pmax pmax
comp=Z,54nm,0.9s
SPITS Spitsbergen Ar 40.74 353 P **P 07 55 23.1 +1.1**
comp=Z,54nm,0.9s,baz=123,slow=9.1,SNR=13
ODAN Odare 41.10 92 *e*P **P 07 55 24.5 -1.3**
comp=Z,446nm,1.4s
TAPN Taplejung 41.11 91 *e*P **P 07 55 24.4 -1.6**
comp=Z,95nm,1.0s
KBS Kingsbay 41.84 352 *e*P **P 07 55 33.7 +2.7**
SNR=25
KBS Kingsbay 41.84 352 PFAKE 07 55 40.0 +9.0
KBS LR LR
comp=Z,4μm,19.0s
TORD Torodi Ar. Bea 42.43 244 P **P 07 55 35.5 -1.1**
comp=Z,12nm,0.9s,baz=41,slow=3.5,SNR=27
TORD LR LR 08 15 54.4
comp=Z,1μm,21.6s,baz=60,slow=40
LSA Lhasa 42.73 86 P **P 07 55 40.3 +0.8**
LSA LZ
comp=Z,4μm,29.5s
LSA Lhasa 42.73 86 *e*P **P 07 55 40.2 +0.8**
LSA pmax pmax
comp=Z,30nm,0.9s
LSA MLR MLR

	comp=Z,3μm,21.0s						
LSA	**Lhasa**	**42.73**	**86**	*e*P	**P**	**07 55 40.2**	**+0.8**
	comp=Z,3μm,21.0s						
LSA	**Lhasa**	**42.73**	**86**	*e*P	**P**	**07 55 40.2**	**+0.8**
	comp=Z,30nm,0.9s						
LSA				LR	LR		
	comp=Z,3μm,21.0s						
MOY	**Mondy**	**43.59**	**52**	*e*P	**P**	**07 55 45.9**	**+0.2**
MOY				pmax	pmax		
	comp=Z,83nm,3.0s						
MOY	**Mondy**	**43.59**	**52**	*e*P	**P**	**07 55 45.9**	**+0.2**
	comp=Z,83nm,3.0s						
BORG	**Borgarnes**	**43.64**	**327**	*e*P	P	07 55 49.6	+3.9
BORG				pmax	pmax		
	comp=Z,66nm,1.1s						
BORG				MLR	MLR		
	comp=Z,2μm,20.0s						
BORG	**Borgarnes**	**43.64**	**327**	*e*P	P	07 55 49.6	+3.9
	comp=Z,66nm,1.1s						
BORG				LR	LR		
	comp=Z,2μm,20.0s						
ZAK	**Zakamensk**	**45.22**	**54**⇑	*i*P	**P**	**07 55 58.4**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,20nm,1.3s						
ZAK	**Zakamensk**	**45.22**	**54**	*i* P	**P**	**07 55 58.4**	**-0.3**
	comp=Z,20nm,1.3s						
TLY	**Talaya**	**45.22**	**52**	P	**P**	**07 56 00.0**	**+1.4**
	comp=Z,238nm,1.2s,SNR=8.4						
TLY	**Talaya**	**45.22**	**52**	*c i*P	**P**	**07 55 56.3**	**-2.3**
TLY				*e*S	**S**	**08 02 42.5**	**+4.2**
TLY				*e*SSS	SSS	08 06 49.0	
TLY				pmax	pmax		
	comp=Z,57nm,1.1s						
TLY				MLR	MLR		
	comp=Z,2μm,15.0s						
TLY	**Talaya**	**45.22**	**52**	P	**P**	**07 56 00.4**	**+1.8**
	comp=Z,9.1nm,0.9s,baz=242,slow=10,SNR=13						
TLY	**Talaya**	**45.22**	**52**	*e*P	**P**	**07 56 00.1**	**+1.4**
	comp=Z,67nm,1.3s						
TLY	**Talaya**	**45.22**	**52**	*e*P	**P**	**07 56 00.1**	**+1.4**
	comp=Z,67nm,1.3s						
TLY				LR	LR		
	comp=Z,2μm,20.0s						
MSEY	**Mahe Island**	**45.51**	**158**	P	**P**	**07 56 01.4**	**+0.1**
	comp=Z,198nm,1.4s,SNR=5.7						
MSEY	**Mahe Island**	**45.51**	**158**	*i* P	**P**	**07 56 02.9**	**+1.6**
MSEY	**Mahe Island**	**45.51**	**158**	*e*P	**P**	**07 56 01.3**	**+0.1**
	comp=Z,39nm,1.0s						
MSEY	**Mahe Island**	**45.51**	**158**⇓	*i*P	**P**	**07 56 02.8**	**+1.6**
	SNR=6.2						
MSEY	**Mahe Island**	**45.51**	**158**	*e*P	**P**	**07 56 01.3**	**+0.1**
	comp=Z,39nm,1.0s						
MSEY				LR	LR		
	comp=Z,2μm,22.0s						
IRK	**Irkutsk**	**45.51**	**51**	*e*P	P	07 55 57.0	-3.9
IRK				pmax	pmax		
	comp=Z,137nm,1.3s						
DAG	**Danmarks Havn**	**45.56**	**344**	*i* P	**P**	**07 56 01.0**	**+0.1**
DAG				pmax	pmax		
	comp=Z,28nm,1.1s						
DAG				MLR	MLR		
	comp=Z,2μm,21.0s						
DAG	**Danmarks Havn**	**45.56**	**344**	*i* P	**P**	**07 56 01.0**	**+0.1**
	comp=Z,22nm,1.1s						
	comp=Z,2μm,20.0s						
GTA	**Gaotai**	**45.63**	**69**	*e*P	**P**	**07 56 01.6**	**-0.6**
GTA				pP	**pP**	**07 56 06.2**	**+0.7**
GTA				sP	**sP**	**07 56 08.6**	**+1.8**
GTA				PcP	**PcP**	**07 57 41.3**	**+0.9**
GTA				S	**S**	**08 02 45.0**	**+0.2**
GTA				sS	**sS**	**08 02 52.7**	**+2.5**
GTA				SS	**ScS**	**08 06 02.4**	**+3.8**
GTA				PMZ			
	comp=Z,7.0nm,1.5s						
GTA				PMZ			
	comp=Z,320nm,4.3s						
GTA				LN			
	comp=Z,3μm,19.5s						
GTA				LE			
	comp=Z,2μm,19.9s						
GTA				LZ			
	comp=Z,2μm,17.6s						
SONM	**Songino Array**	**47.77**	**56**	P	**P**	**07 56 19.5**	**+0.7**
SONM						07 57 49.8	
SONM				pmax	pmax		
	comp=Z,53nm,1.1s						
SONM				MLR	MLR		
	comp=Z,5μm,19.0s						
SONM	**Songino Array**	**47.77**	**56**	P	**P**	**07 56 19.5**	**+0.7**
	comp=Z,2.5nm,0.3s,baz=287,slow=8.6,SNR=10.0						
SONM				PcP	**PcP**	**07 57 49.8**	**+2.0**
	comp=Z,3.2nm,0.7s,baz=266,slow=3.6,SNR=4.0						
SONM				LR	LR	08 18 13.5	
	comp=Z,5μm,19.0s,baz=290,slow=38						
SONM	**Songino Array**	**47.77**	**56**	P	**P**	**07 56 19.5**	**+0.7**
	comp=Z,53nm,1.1s						
PALK	**Pallekele**	**48.16**	**120**	*i* P	**P**	**07 56 22.8**	**+0.7**
PALK	**Pallekele**	**48.16**	**120**	*e*P	**P**	**07 56 21.7**	**-0.4**
	comp=Z,63nm,1.1s						
PALK	**Pallekele**	**48.16**	**120**⇑	*i*P	**P**	**07 56 21.8**	**-0.3**
	SNR=7.7						
PALK	**Pallekele**	**48.16**	**120**	*e*P	**P**	**07 56 21.7**	**-0.3**
	comp=Z,63nm,1.1s						
ULN	**Ulaanbaatar**	**48.19**	**56**	*ce*P	**P**	**07 56 20.7**	**-1.4**
ULN				pmax	pmax		
	comp=Z,43nm,1.0s						
ULN				MLR	MLR		
	comp=Z,5μm,21.0s						
ULN	**Ulaanbaatar**	**48.19**	**56**	*e*P	**P**	**07 56 20.9**	**-1.2**
	comp=Z,70nm,1.0s						
ULN	**Ulaanbaatar**	**48.19**	**56**	*e*P	**P**	**07 56 20.9**	**-1.2**
	comp=Z,70nm,1.0s						
ULN				LR	LR		
	comp=Z,5μm,19.0s						
BOD	**Bodaibo**	**50.03**	**42**⇑	*i*P	**P**	**07 56 34.0**	**-1.9**
BOD				pmax	pmax		
	comp=Z,84nm,1.1s						
BOD	**Bodaibo**	**50.03**	**42**	*i* P	**P**	**07 56 34.0**	**-1.9**
	comp=Z,84nm,1.1s						
SUMG	**Summit**	**50.11**	**337**	*e*P	**P**	**07 56 38.1**	**+1.4**
SUMG				pmax	pmax		
	comp=Z,71nm,1.4s						
SUMG	**Summit**	**50.11**	**337**	*i* P	**P**	**07 56 38.6**	**+1.9**
	comp=Z,12nm,1.1s						
SUMG	**Summit**	**50.11**	**337**	*e*P	**P**	**07 56 38.1**	**+1.4**
	comp=Z,71nm,1.4s						
SUMG	**Summit**	**50.11**	**337**	*e*P	**P**	**07 56 38.1**	**+1.4**
	comp=Z,71nm,1.4s						
DBIC	**Dimbokro**	**51.54**	**244**	*e*P	**P**	**07 56 46.5**	**-1.2**
DBIC	**Dimbokro**	**51.54**	**244**	*e*P	**P**	**07 56 46.6**	**-1.2**
DBIC				pmax	pmax		
	comp=Z,112nm,1.4s						
DBIC	**Dimbokro**	**51.54**	**244**	P	**P**	**07 56 46.0**	**-1.7**
	comp=Z,24nm,0.7s,baz=24,slow=7.9,SNR=12						
DBIC				LR	LR	08 22 59.2	
	comp=Z,679nm,21.5s,baz=22,slow=41						
DBIC	**Dimbokro**	**51.54**	**244**	*e*P	**P**	**07 56 46.6**	**-1.2**
	comp=Z,112nm,1.4s						
DBIC	**Dimbokro**	**51.54**	**244**	*e*P	**P**	**07 56 46.6**	**-1.2**
	comp=Z,112nm,1.4s						
TIC	**Toumodi**	**51.68**	**244**	*e*P	**P**	**07 56 47.8**	**-1.0**
	comp=Z,64nm,0.9s						
KIC	**Kosan Boka**	**51.68**	**243**	*e*P	**P**	**07 56 46.7**	**-2.1**
	comp=Z,92nm,0.8s						
CD2	**Chengdu**	**51.94**	**78**	P	**P**	**07 56 49.0**	**-1.7**
CD2				sP	**sP**	**07 56 58.7**	**+3.4**
CD2				PcP	**PcP**	**07 58 03.3**	**+0.1**
CD2				PP	**PP**	**07 58 47.9**	**-0.6**
CD2				S	**S**	**08 04 09.5**	**-4.3**
CD2				sS	**sS**	**08 04 18.5**	**-0.8**
CD2				ScS	**ScS**	**08 06 37.5**	**-3.6**
CD2				SS	SS	08 07 41.8	-8.6
CD2				PMZ			
	comp=Z,50nm,1.6s						
CD2				PMZ			
	comp=Z,270nm,5.7s						
CD2				LN			
	comp=Z,2μm,19.0s						
CD2				LE			
	comp=Z,2μm,19.0s						
CD2				LZ			
	comp=Z,2μm,17.1s						
LIC	**Lamto**	**51.98**	**243**	*e*P	**P**	**07 56 49.0**	**-2.0**
	comp=Z,152nm,1.0s						
BTO	**Baotou**	**52.54**	**64**	*e*P	**P**	**07 56 55.8**	**+0.7**
TIXI	**Tiksi**	**53.38**	**23**⇓	*e*P	**P**	**07 56 59.3**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,48nm,1.7s						
TIXI				MLR	MLR		
	comp=Z,2μm,18.0s						
TIXI	**Tiksi**	**53.38**	**23**	*e*P	**P**	**07 57 02.0**	**+1.3**
	comp=Z,36nm,1.3s						
TIXI	**Tiksi**	**53.38**	**23**	*e*P	**P**	**07 57 02.0**	**+1.3**
	comp=Z,36nm,1.3s						
TIXI				LR	LR		
	comp=Z,3μm,19.0s						
HHC	**Hu-ho-hao-te**	**53.53**	**63**	*e*P	**P**	**07 57 00.7**	**-1.7**
HHC				pP	**pP**	**07 57 05.2**	**-0.6**
HHC				sP	**sP**	**07 57 07.7**	**+0.6**
HHC				PP	**PP**	**07 59 02.3**	**-0.5**
HHC				S	**S**	**08 04 29.6**	**-5.8**
HHC				PMZ			
	comp=Z,38nm,1.9s						
HHC				PMZ			
	comp=Z,610nm,7.4s						
HHC				LN			
	comp=Z,3μm,15.3s						
HHC				LE			
	comp=Z,3μm,17.5s						
HHC				LZ			
	comp=Z,2μm,21.0s						
CMAI	**Chiengmai2**	**53.82**	**93**	P	**P**	**07 57 07.6**	**+2.8**
	comp=Z,33nm,1.2s,comp=Z,2μm						
MHMT	**Maesarieng**	**53.94**	**95**	P	**P**	**07 57 06.6**	**+1.1**
	comp=Z,26nm,1.0s,comp=Z,408nm						
KMI	**Kunming**	**53.95**	**85**	P	**P**	**07 57 05.9**	**+0.1**
KMI				pP	**pP**	**07 57 10.0**	**+0.9**
KMI				S	**S**	**08 04 37.0**	**-4.6**
KMI				SS	**SS**	**08 08 21.9**	**-0.7**
KMI				PMZ			
	comp=Z,32nm,1.0s						
KMI				PMZ			
	comp=Z,400nm,3.8s						
KMI				LN			
	comp=Z,1μm,18.5s						
KMI				LE			
	comp=Z,1μm,17.5s						
KMI				LZ			
	comp=Z,2μm,23.1s						
CHTO	**Chiang Mai**	**54.37**	**94**	*e*P	**P**	**07 57 08.3**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,31nm,1.1s						
CHTO				MLR	MLR		
	comp=Z,924nm,20.0s						
CHTO	**Chiang Mai**	**54.37**	**94**	P	**P**	**07 57 08.2**	**-0.4**
	comp=Z,155nm,1.0s						
CHTO	**Chiang Mai**	**54.37**	**94**	*e*P	**P**	**07 57 08.2**	**-0.4**
	comp=Z,31nm,1.1s						
CHTO	**Chiang Mai**	**54.37**	**94**	*e*P	**P**	**07 57 08.2**	**-0.4**
	comp=Z,31nm,1.1s						
CHTO				LR	LR		
	comp=Z,924nm,20.0s						
CMMT	**Chiang Mai**	**54.37**	**94**	P	**P**	**07 57 08.5**	**-0.2**
	comp=Z,36nm,1.2s						
XAN	**Xi'an**	**54.44**	**72**	P	**P**	**07 57 07.5**	**-1.6**
XAN				pP	**pP**	**07 57 14.9**	**+2.5**
XAN				S	**S**	**08 04 47.7**	**0.0**
XAN				SS	**SS**	**08 08 29.8**	**0.0**
XAN				PMZ			
	comp=Z,8.0nm,1.2s						
XAN				PMZ			
	comp=Z,48nm,4.3s						
XAN				LN			
	comp=Z,2μm,22.4s						
XAN				LE			
	comp=Z,660nm,21.4s						
XAN				LZ			
	comp=Z,560nm,16.3s						
CMAR	**Chiang Mai Arr**	**54.57**	**94**	P	**P**	**07 57 08.8**	**-1.3**
	comp=Z,12nm,1.0s,baz=296,slow=8.2,SNR=17						
CMAR				LR	LR	08 24 57.0	
	comp=Z,933nm,21.2s,baz=284,slow=41						
CRAI	**Chiangrai**	**54.69**	**91**	P	**P**	**07 57 11.5**	**+0.5**
	comp=Z,17nm,0.9s,comp=Z,590nm						
LSZ	**Lusaka**	**54.88**	**194**	*e*P	**P**	**07 57 13.5**	**+1.1**
LSZ				pmax	pmax		
	comp=Z,146nm,1.6s						
LSZ				MLR	MLR		
	comp=Z,3μm,19.0s						
LSZ	**Lusaka**	**54.88**	**194**	*e*P	**P**	**07 57 13.5**	**+1.1**
	comp=Z,3μm,19.0s						
LSZ	**Lusaka**	**54.88**	**194**	*e*P	**P**	**07 57 13.5**	**+1.1**
	comp=Z,146nm,1.6s						
LSZ				LR	LR		
	comp=Z,3μm,19.0s						
DGAR	**Diego Garcia**	**54.91**	**140**	PFAKE		07 57 20.0	+7.6
DGAR				LR	LR		
	comp=Z,3μm,20.0s						
LAMP	**Lampang**	**55.07**	**94**	P	**P**	**07 57 14.9**	**+1.2**
	comp=Z,17nm,1.0s,comp=Z,168nm						
SUKH	**Sukhothai**	**55.66**	**95**	P	**P**	**07 57 19.3**	**+1.3**
	comp=Z,11nm,1.0s,comp=Z,96nm						
CLNS	**Chul'man**	**55.98**	**41**	*e*P	P	07 57 23.9	+4.1
CLNS				*e*		07 58 22.6	
CLNS				*e*		07 59 28.2	
CLNS				*e*PPP	PPP	08 00 42.1	
CLNS				*e*S	**S**	**08 05 08.7**	**+1.1**
CLNS				pmax	pmax		
	comp=Z,15nm,1.0s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,7.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.2s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CLNS				smax	smax		
	comp=E,190nm,14.3s						
CLNS				smax	smax		
	comp=N,293nm,13.6s						
CLNS				MLR	MLR		
	comp=N,2μm,16.0s						
CLNS				MLR	MLR		
	comp=E,2μm,17.0s						
CLNS				MLR	MLR		
	comp=Z,2μm,17.0s						
UTTA	**Uttaradit**	**56.23**	**94**	P	P	07 57 25.3	+3.3
	comp=Z,8.3nm,1.1s						
GYA	**Guiyang**	**56.32**	**81**⇓	*i*P	**P**	**07 57 21.4**	**-1.3**
GYA				PcP	**PcP**	**07 58 19.0**	**-1.1**
GYA				PP	**PP**	**07 59 27.4**	**-0.6**
GYA				ScP	**ScP**	**08 02 17.6**	**-1.7**
GYA				S	**S**	**08 05 08.0**	**-5.1**
GYA				SS	**SS**	**08 08 55.8**	**-3.9**
GYA				PMZ			
	comp=Z,30nm,1.0s						
GYA				PMZ			
	comp=Z,240nm,6.0s						
GYA				LN			
	comp=Z,1μm,18.6s						
GYA				LE			
	comp=Z,930nm,19.0s						
GYA				LZ			
	comp=Z,1μm,18.4s						
YAK	**Yakutsk**	**56.48**	**34**	*e*P	**P**	**07 57 24.0**	**+0.8**
YAK				*e**PP	pP	07 57 32.9	+6.3
YAK				*e*		07 58 23.4	
YAK				*e*		07 59 28.8	
YAK				*e*PPP	PPP	08 00 42.1	
YAK				*e*S	**S**	**08 05 09.7**	**-4.3**
YAK				*e**SS	sS	08 05 26.1	+6.5
YAK				*e*		08 07 12.7	
YAK				*e*SS	**SS**	**08 08 57.3**	**-3.2**
YAK				*e*SSS	SSS	08 11 04.8	
YAK				pmax	pmax		
	comp=Z,26nm,1.0s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,20nm,1.4s						
YAK				pmax	pmax		
	comp=Z,68nm,2.7s						
YAK				pmax	pmax		
	comp=N,37nm,2.8s						
YAK				smax	smax		
	comp=E,113nm,4.9s						
YAK				smax	smax		
	comp=N,110nm,3.8s						
YAK				MLR	MLR		
	comp=Z,2μm,21.0s						
YAK				MLR	MLR		
	comp=N,1μm,16.0s						
YAK				MLR	MLR		
	comp=E,1μm,18.0s						
YAK	**Yakutsk**	**56.48**	**34**	*e*P	**P**	**07 57 24.0**	**+0.8**
	comp=E,6.0nm,1.0s						
YAK	**Yakutsk**	**56.48**	**34**	*e*P	P	07 57 26.5	+3.3
	comp=E,44nm,1.0s						
YAK				LR	LR		
	comp=Z,2μm,21.0s						
ENH	**Enshi**	**56.61**	**76**	*e*P	**P**	**07 57 26.0**	**+1.3**
	comp=Z,17nm,0.8s						
ENH	**Enshi**	**56.61**	**76**	*e*P	**P**	**07 57 26.0**	**+1.3**
	comp=Z,17nm,0.8s						
ENH				LR	LR		
	comp=Z,749nm,20.0s						
UTHA	**Uthaitani**	**56.63**	**97**	P	**P**	**07 57 25.8**	**+0.9**
	comp=Z,7.5nm,1.0s,comp=Z,96nm						
SLVN	**Son La**	**56.85**	**88**	*e*P	**P**	**07 57 26.5**	**-0.1**
	comp=Z,76nm,1.6s						
SLVN	**Son La**	**56.85**	**88**	*e*P	**P**	**07 57 26.4**	**-0.1**
	comp=Z,76nm,1.6s						
BJI	**Beijing**	**57.08**	**63**	P	**P**	**07 57 26.5**	**-1.3**
BJI				PP	**PP**	**07 59 30.9**	**-3.4**
BJI				S	**S**	**08 05 18.1**	**-4.4**
BJI				PMZ			
	comp=Z,15nm,1.1s						
BJI				LN			
	comp=Z,5μm,18.3s						
BJI				LE			
	comp=Z,3μm,16.4s						
BJI				LZ			
	comp=Z,1μm,24.4s						
BJT	**Baijiatuau**	**57.08**	**63**	*e*P	**P**	**07 57 30.0**	**+2.2**
BJT				pmax	pmax		
	comp=Z,36nm,1.0s						
BJT				MLR	MLR		
	comp=Z,1μm,19.0s						
BJT	**Baijiatuau**	**57.08**	**63**	*e*P	**P**	**07 57 30.0**	**+2.2**
	comp=Z,1μm,19.0s						
BJT	**Baijiatuau**	**57.08**	**63**	*e*P	**P**	**07 57 30.0**	**+2.2**
	comp=Z,36nm,1.0s						
BJT				LR	LR		
	comp=Z,1μm,19.0s						
PBKT	**Sadao Pong**	**57.23**	**95**	P	**P**	**07 57 28.4**	**-0.7**
	comp=Z,39nm,1.1s,comp=Z,1μm						
ABPO	**Ambohimpanom**	**57.85**	**172**	*e*P	**P**	**07 57 34.9**	**+1.3**
ABPO				pmax	pmax		
	comp=Z,34nm,1.2s						
ABPO				MLR	MLR		
	comp=Z,2μm,20.0s						
ABPO	**Ambohimpanom**	**57.85**	**172**	*e*P	**P**	**07 57 34.9**	**+1.3**
	comp=Z,2μm,20.0s						
ABPO	**Ambohimpanom**	**57.85**	**172**	*e*P	**P**	**07 57 34.9**	**+1.3**
	comp=Z,34nm,1.2s						
ABPO				LR	LR		
	comp=Z,2μm,20.0s						
TIA	**Tai'an**	**59.45**	**66**	⇓P	**P**	**07 57 45.6**	**+1.1**
TIA				S	**S**	**08 05 59.0**	**+5.3**
TIA				PMZ			
	comp=Z,30nm,2.5s						
TIA				LN			
	comp=Z,2μm,20.4s						
TIA				LE			
	comp=Z,1μm,24.3s						
TIA				LZ			
	comp=Z,1μm,23.0s						
WHN	**Wuhan**	**60.14**	**73**	P	**P**	**07 57 48.3**	**-1.0**
WHN				S	**S**	**08 06 02.0**	**-0.6**
WHN				LN			
	comp=Z,4μm,14.9s						
WHN				LE			
	comp=Z,4μm,15.2s						
WHN				LZ			
	comp=Z,4μm,17.4s						
SURT	**Suratani**	**60.17**	**103**	P	P	07 57 54.6	+4.9
	comp=Z,9.1nm,1.3s						
SACV	**Santiago Islan**	**60.32**	**266**	PFAKE		07 58 00.0	+9.3
SACV				LR	LR		
	comp=Z,1μm,22.0s						
SNY	**Shenyang**	**61.30**	**58**⇑	P	P	07 57 45.3	-12
SNY				S	**S**	**08 06 21.4**	**+4.2**
SNY				pmax	pmax		
	comp=Z,11nm,0.5s						
SNY				pmax	pmax		
	comp=Z,260nm,3.5s						
SNY				LR	LR		
	comp=N,6μm,21.5s						
SNY				LR	LR		
	comp=E,4μm,21.1s						
SNY				LR	LR		
	comp=Z,3μm,17.2s						
TSUM	**Tsumeb**	**61.38**	**204**	*e*P	**P**	**07 57 57.6**	**-0.2**
	comp=Z,61nm,1.6s						
TSUM	**Tsumeb**	**61.38**	**204**	*e*P	**P**	**07 57 57.6**	**-0.2**
	comp=Z,61nm,1.6s						
TSUM				LR	LR		
	comp=Z,2μm,20.0s						
UBPT	**Khong Chiam**	**61.49**	**93**	P	**P**	**07 58 01.2**	**+2.6**
	comp=Z,31nm,1.1s						
MSNA	**Messina**	**61.50**	**191**	*e*P	**P**	**07 57 59.0**	**+0.5**
MSNA				AMB	AMB	07 58 02.2	
	comp=Z,50nm,1.5s						
MSNA	**Messina**	**61.50**	**191**	P	**P**	**07 57 59.0**	**+0.5**
	comp=Z,50nm,1.5s						
MSNA	**Messina**	**61.50**	**191**	P	**P**	**07 57 59.0**	**+0.5**
	comp=Z,50nm,1.5s						
CN2	**Changchun**	**61.61**	**55**	*e*P	P	07 58 04.6	+5.5
CN2				*e*S	**S**	**08 06 22.0**	**+1.0**
CN2				PMZ			
	comp=Z,10.0nm,0.8s						
CN2				PMZ			
	comp=Z,200nm,4.0s						
CN2				LN			
	comp=Z,8μm,22.0s						
CN2				LE			
	comp=Z,5μm,22.0s						
CN2				LZ			
	comp=Z,900nm,20.0s						
MOPA	**Mopani**	**62.47**	**189**	*e*P	**P**	**07 58 05.6**	**+0.6**
MOPA				AMB	AMB	07 58 09.4	
	comp=Z,64nm,1.4s						
MOPA	**Mopani**	**62.47**	**189**	P	**P**	**07 58 05.6**	**+0.6**
	comp=Z,64nm,1.4s						
MOPA	**Mopani**	**62.47**	**189**	P	**P**	**07 58 05.6**	**+0.6**
	comp=Z,64nm,1.4s						
NJ2	**Nanjing**	**62.72**	**70**	*e*P	**P**	**07 58 04.5**	**-2.2**
NJ2				pP	**pP**	**07 58 10.7**	**+0.5**
NJ2				S	**S**	**08 06 33.0**	**-2.4**
NJ2				PMZ			
	comp=Z,20nm,0.6s						
NJ2				PMZ			
	comp=Z,450nm,4.4s						
NJ2				LN			
	comp=Z,1μm,24.9s						
NJ2				LE			
	comp=Z,2μm,23.0s						
NJ2				LZ			
	comp=Z,2μm,22.7s						
QIZ	**Qiongzhong**	**62.76**	**87**	P	P	07 58 03.1	-4.1
QIZ				S	**S**	**08 06 32.3**	**-3.9**
QIZ				PMZ			
	comp=Z,81nm,2.4s						
QIZ				LZ			
	comp=Z,530nm,29.1s						
QIZ	**Qiongzhong**	**62.76**	**87**	PFAKE		07 58 20.0	+13
QIZ				LR	LR		
	comp=Z,1μm,22.0s						
KLR	**Kul'dur**	**62.89**	**47**	*e*P	**P**	**07 58 05.7**	**-1.9**
KLR				pmax	pmax		
	comp=Z,340nm,3.0s						
KLR				MLR	MLR		
	comp=Z,4μm,12.5s						
KLR	**Kul'dur**	**62.89**	**47**	*e*P	**P**	**07 58 05.7**	**-1.9**
	comp=Z,4μm,12.5s						
RES	**Resolute Bay**	**62.99**	**348**	*e*P	**P**	**07 58 08.7**	**+0.9**
RES				pmax	pmax		
	comp=Z,28nm,0.8s						
RES	**Resolute Bay**	**62.99**	**348**	*e*P	**P**	**07 58 08.7**	**+0.9**
	comp=Z,28nm,0.8s						
RES	**Resolute Bay**	**62.99**	**348**	*e*P	**P**	**07 58 08.7**	**+0.9**
	comp=Z,28nm,0.8s						
MDJ	**Mudanjiang**	**63.84**	**53**	P	P	07 58 10.4	-3.5
MDJ				PcP	**PcP**	**07 58 46.5**	**-3.2**
MDJ				ScS	**ScS**	**08 08 05.0**	**-2.5**
MDJ				PMZ			
	comp=Z,3.0nm,0.6s						

MDJ				PMZ			
	comp=Z,91nm,4.6s						
MDJ				LN			
	comp=Z,3μm,19.0s						
MDJ				LE			
	comp=Z,3μm,19.8s						
MDJ				LZ			
	comp=Z,1μm,27.6s						
MDJ	**Mudanjiang**	**63.84**	**53**	PFAKE		07 58 30.0	+16
MDJ				LR	LR		
	comp=Z,1μm,19.0s						
KULM	**Kulim**	**63.93**	**105**	*e*P	**P**	**07 58 12.1**	**-2.8**
	comp=Z,54nm,1.4s						
KULM	**Kulim**	**63.93**	**105**	*e*P	**P**	**07 58 12.1**	**-2.8**
	comp=Z,54nm,1.4s						
KULM				LR	LR		
	comp=Z,875nm,20.0s						
WIN	**Windhoek**	**64.68**	**204**	*e*P	**P**	**07 58 18.4**	**-1.4**
WIN				AMB	AMB	07 58 23.3	
	comp=Z,12nm,2.3s						
WIN	**Windhoek**	**64.68**	**204**	P	**P**	**07 58 18.4**	**-1.4**
WIN				pmax	pmax		
	comp=Z,12nm,2.3s						
WIN	**Windhoek**	**64.68**	**204**	P	**P**	**07 58 18.4**	**-1.4**
	comp=Z,12nm,2.3s						
WIN	**Windhoek**	**64.68**	**204**	P	**P**	**07 58 18.4**	**-1.4**
	comp=Z,12nm,2.3s						
IPM	**Ipoh**	**64.74**	**105**	*e*P	**P**	**07 58 19.1**	**-1.2**
	comp=Z,28nm,0.9s						
IPM	**Ipoh**	**64.74**	**105**	*e*P	**P**	**07 58 19.1**	**-1.2**
	comp=Z,28nm,0.9s						
LBTB	**Lobatse**	**64.86**	**194**	*e*P	**P**	**07 58 21.3**	**+0.4**
LBTB				AMB	AMB	07 58 26.8	
	comp=Z,58nm,1.1s						
LBTB	**Lobatse**	**64.86**	**194**	*e*P	**P**	**07 58 21.2**	**+0.4**
LBTB				pmax	pmax		
	comp=Z,63nm,1.0s						
LBTB	**Lobatse**	**64.86**	**194**	*e*P	**P**	**07 58 21.2**	**+0.4**
	comp=Z,63nm,1.0s						
LBTB	**Lobatse**	**64.86**	**194**	*e*P	**P**	**07 58 21.2**	**+0.4**
	comp=Z,63nm,1.0s						
SSE	**Sheshan**	**64.92**	**69**	P	**P**	**07 58 20.4**	**-0.8**
SSE				S	**S**	**08 07 04.8**	**+2.0**
SSE				ScS	**SKSac**	**08 08 10.9**	**-5.2**
SSE				PMZ			
	comp=Z,21nm,1.1s						
SSE				PMZ			
	comp=Z,290nm,4.3s						
SSE				LN			
	comp=Z,780nm,28.8s						
SSE				LE			
	comp=Z,810nm,29.4s						
SSE				LZ			
	comp=Z,910nm,23.0s						
SLR	**Silverton**	**65.09**	**192**	*e*P	**P**	**07 58 22.0**	**-0.3**
SLR				AMB	AMB	07 58 33.0	
	comp=Z,46nm,1.3s						
SLR	**Silverton**	**65.09**	**192**	P	**P**	**07 58 22.0**	**-0.3**
SLR				pmax	pmax		
	comp=Z,46nm,1.3s						
SLR	**Silverton**	**65.09**	**192**	P	**P**	**07 58 22.0**	**-0.3**
	comp=Z,46nm,1.3s						
SLR	**Silverton**	**65.09**	**192**	P	**P**	**07 58 22.0**	**-0.3**
	comp=Z,46nm,1.3s						
HABR	**Khabarovsk**	**65.16**	**47**	P	**P**	**07 58 20.0**	**-2.5**
HABR				*e**SP	**sP**	**07 58 24.4**	**-2.8**
HABR				*e*		08 00 42.4	
HABR				*e*S	**S**	**08 07 02.1**	**-3.1**
HABR				*e*		08 08 14.1	
HABR				*e*SS	**SS**	**08 11 13.0**	**-3.9**
HABR				MLR	MLR		
	comp=Z,2μm,18.0s						
SEY	**Seymchan**	**65.26**	**28**	P	**P**	**07 58 23.4**	**+0.5**
SEY				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SEY	**Seymchan**	**65.26**	**28**	P	**P**	**07 58 23.4**	**+0.5**
	comp=Z,7.5nm,0.7s,baz=272,slow=5.6,SNR=21						
KSR	**Koster**	**65.44**	**193**	*e*P	**P**	**07 58 26.8**	**+2.2**
KSR				AMB	AMB	07 58 28.7	
	comp=Z,22nm,2.1s						
KSR	**Koster**	**65.44**	**193**	P	**P**	**07 58 26.8**	**+2.2**
	comp=Z,22nm,2.1s						
KSR	**Koster**	**65.44**	**193**	P	**P**	**07 58 26.8**	**+2.2**
	comp=Z,22nm,2.1s						
INCN	**Inchon**	**65.48**	**61**	PFAKE		07 58 40.0	+15
INCN				LR	LR		
	comp=Z,2μm,22.0s						
USRK	**Ussuriysk Ar.**	**65.53**	**52**	P	**P**	**07 58 24.9**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=308,slow=4.6,SNR=6.1						
USRK				LR	LR	08 29 47.9	
	comp=Z,2μm,18.2s,baz=303,slow=39						
OBSV	**Observatory**	**65.56**	**192**	*e*P	**P**	**07 58 25.7**	**+0.2**
OBSV				AMB	AMB	07 58 30.8	
	comp=Z,55nm,1.5s						
CRWM	**Crown Mines**	**65.62**	**192**	*e*P	**P**	**07 58 25.7**	**-0.2**
CRWM				AMB	AMB	07 58 29.2	
	comp=Z,39nm,1.3s						
ERPM	**east rand prop**	**65.69**	**192**	*e*P	**P**	**07 58 25.7**	**-0.6**
ERPM				AMB	AMB	07 58 31.0	
	comp=Z,57nm,1.5s						
ERPM	**east rand prop**	**65.69**	**192**	P	**P**	**07 58 25.7**	**-0.6**
	comp=Z,57nm,1.5s						
ERPM	**east rand prop**	**65.69**	**192**	P	**P**	**07 58 25.7**	**-0.6**
	comp=Z,57nm,1.5s						
WDLM	**Western Deep L**	**65.91**	**192**	*e*P	**P**	**07 58 28.3**	**+0.6**
WDLM				AMB	AMB	07 58 31.6	
	comp=Z,24nm,2.1s						
BILL	**Bilibino**	**66.18**	**19**	*e*P	**P**	**07 58 28.9**	**+0.1**
BILL				pmax	pmax		
	comp=Z,167nm,5.5s						
BILL	**Bilibino**	**66.18**	**19**	*e*P	**P**	**07 58 28.9**	**+0.1**
	comp=Z,167nm,5.5s						
BILL	**Bilibino**	**66.18**	**19**	*e*P	**P**	**07 58 30.6**	**+1.8**
	comp=Z,55nm,1.3s						
BILL				LR	LR		
	comp=Z,2μm,19.0s						
KSAR	**Wonju Array Be**	**66.36**	**60**	P	**P**	**07 58 30.4**	**0.0**
KSAR	**Wonju Array Be**	**66.36**	**60**	P	**P**	**07 58 30.4**	**0.0**
KSAR	**Wonju Array Be**	**66.36**	**60**	P	**P**	**07 58 30.4**	**0.0**
KSRS	**Korea Array**	**66.38**	**60**	P	**P**	**07 58 30.4**	**-0.1**
	comp=Z,15nm,0.9s,baz=294,slow=6.0,SNR=26						
KSRS				LR	LR	08 28 47.5	
	comp=Z,621nm,20.1s,baz=308,slow=37						
SWZ	**Schweizer**	**67.02**	**194**	*e*P	**P**	**07 58 33.7**	**-1.0**
SWZ				AMB	AMB	07 58 50.0	
	comp=Z,57nm,5.1s						
SWZ	**Schweizer**	**67.02**	**194**	P	**P**	**07 58 33.7**	**-1.0**
	comp=Z,57nm,5.1s						
SWZ	**Schweizer**	**67.02**	**194**	P	**P**	**07 58 33.7**	**-1.0**
	comp=Z,57nm,5.1s						
SEK	**Senekal**	**67.73**	**192**	*e*P	**P**	**07 58 37.5**	**-1.7**
SEK				AMB	AMB	07 58 42.9	
	comp=Z,58nm,1.6s						
SEK	**Senekal**	**67.73**	**192**	P	**P**	**07 58 37.5**	**-1.7**
	comp=Z,58nm,1.6s						
SEK	**Senekal**	**67.73**	**192**	P	**P**	**07 58 37.5**	**-1.7**
	comp=Z,58nm,1.6s						
SCHQ	**Schefferville**	**67.85**	**323**	P	**P**	**07 58 39.3**	**-0.4**
	comp=Z,15nm,0.9s,baz=42,slow=4.6,SNR=12						
BOSA	**Boshof**	**68.43**	**194**	*e*P	**P**	**07 58 43.2**	**-0.3**
BOSA				AMB	AMB	07 58 47.2	
	comp=Z,42nm,2.8s						
BOSA	**Boshof**	**68.43**	**194**	P	**P**	**07 58 43.0**	**-0.6**
BOSA				pmax	pmax		
	comp=Z,25nm,0.9s						
BOSA	**Boshof**	**68.43**	**194**	P	**P**	**07 58 43.0**	**-0.6**
	comp=Z,25nm,0.9s,baz=7.9,slow=6.4,SNR=29						
BOSA				LR	LR	08 28 28.2	
	comp=Z,2μm,20.6s,baz=16,slow=36						
BOSA	**Boshof**	**68.43**	**194**	P	**P**	**07 58 43.0**	**-0.6**
	comp=Z,25nm,0.9s						
BOSA	**Boshof**	**68.43**	**194**	*e*P	**P**	**07 58 43.0**	**-0.6**
	comp=Z,38nm,1.0s						
YHNB	**Yeheng**	**68.52**	**75**	*e*P	**P**	**07 58 46.8**	**+2.4**
	comp=Z,152nm,1.5s						
YHNB	**Yeheng**	**68.52**	**75**	*e*P	**P**	**07 58 46.8**	**+2.4**
	comp=Z,152nm,1.5s						
YHNB				LR	LR		
	comp=Z,1μm,21.0s						
ASCN	**Ascension**	**68.58**	**240**	PFAKE		07 59 00.0	+15
ASCN				LR	LR		
	comp=Z,2μm,20.0s						
UPI	**Upington**	**69.04**	**198**	*e*P	**P**	**07 58 47.2**	**-0.1**
UPI				AMB	AMB	07 58 51.4	
	comp=Z,53nm,2.3s						
UPI	**Upington**	**69.04**	**198**	P	**P**	**07 58 47.2**	**-0.1**
	comp=Z,53nm,2.3s						
UPI	**Upington**	**69.04**	**198**	P	**P**	**07 58 47.2**	**-0.1**
	comp=Z,53nm,2.3s						
YULB	**Yu-li**	**69.17**	**76**	*e*P	**P**	**07 58 50.1**	**+1.7**
	comp=Z,200nm,2.1s						
YULB	**Yu-li**	**69.17**	**76**	*e*P	**P**	**07 58 50.1**	**+1.7**
	comp=Z,200nm,2.1s						
YSS	**Yuzh-Sakhalins**	**70.34**	**45⇑**	*e*P	**P**	**07 58 56.0**	**+0.8**
YSS				*e**SP	**sP**	**07 59 00.0**	**+0.1**
YSS				*e*S	**S**	**08 08 07.0**	**-0.3**
YSS				MLR	MLR		
	comp=Z,3μm,20.0s						
YSS				MLR	MLR		
	comp=E,3μm,18.0s						
YSS	**Yuzh-Sakhalins**	**70.34**	**45**	*e*P	**P**	**07 58 56.0**	**+0.8**
JNU	**Nakatsue**	**70.75**	**63**	P	**P**	**07 58 59.3**	**+1.3**
	comp=E,13nm,0.7s,baz=360,slow=3.3,SNR=6.8						
JNU	**Nakatsue**	**70.75**	**63**	*e*P	**P**	**07 58 59.5**	**+1.5**
	comp=E,12nm,0.8s						
JNU	**Nakatsue**	**70.75**	**63**	*e*P	**P**	**07 58 59.5**	**+1.5**
	comp=E,12nm,0.8s						
KOMG	**Komaggas**	**71.38**	**201**	*e*P	**P**	**07 59 01.5**	**0.0**
KOMG				AMB	AMB	07 59 05.7	
	comp=Z,50nm,2.7s						
KOMG	**Komaggas**	**71.38**	**201**	P	**P**	**07 59 01.5**	**0.0**
	comp=Z,50nm,2.7s						
KOMG	**Komaggas**	**71.38**	**201**	P	**P**	**07 59 01.5**	**0.0**
	comp=Z,50nm,2.7s						
ASAJ	**Asahikawa**	**71.93**	**48**	P	**P**	**07 59 06.1**	**+1.2**
	comp=Z,6.5nm,0.7s,baz=239,slow=12,SNR=3.6						
ASAJ				LR	LR	08 32 38.5	
	comp=Z,2μm,20.5s,baz=310,slow=38						
JKA	**Kamikawa-asahi**	**71.93**	**48**	P	**P**	**07 59 06.1**	**+1.2**
	comp=Z,7.0nm,0.7s						
SUR	**Sutherland**	**73.00**	**197**	P	**P**	**07 59 11.4**	**0.0**
	comp=Z,126nm,1.6s,SNR=6.4						
SUR	**Sutherland**	**73.00**	**197**	*e*P	**P**	**07 59 11.5**	**0.0**
	comp=Z,54nm,1.4s						
SUR	**Sutherland**	**73.00**	**197**	*e*P	**P**	**07 59 11.5**	**+0.1**
	comp=Z,54nm,1.4s						
SUR				LR	LR		
	comp=Z,2μm,20.0s						
INK	**Inuvik**	**73.15**	**358**	P	**P**	**07 59 11.5**	**-0.2**
INK				pmax	pmax		
	comp=Z,25nm,1.1s						
INK	**Inuvik**	**73.15**	**358**	P	**P**	**07 59 11.5**	**-0.2**
	comp=Z,25nm,1.1s,baz=4.7,slow=7.1						
COCO	**West Island**	**73.25**	**121**	PFAKE		07 59 30.0	+17
COCO				LR	LR		
	comp=Z,1μm,20.0s						
ERM	**Erimo**	**73.52**	**49⇓**	*e*P	P	07 59 10.3	-4.1
ERM				pmax	pmax		
	comp=Z,31nm,1.0s						
ERM				MLR	MLR		
	comp=Z,2μm,16.0s						
ERM	**Erimo**	**73.52**	**49**	PFAKE		07 59 30.0	+16
ERM				LR	LR		
	comp=Z,2μm,19.0s						
MAJO	**Matsushiro**	**73.72**	**56⇓**	*e*P	**P**	**07 59 14.3**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,122nm,1.2s						
MAJO	**Matsushiro**	**73.72**	**56**	*e*P	**P**	**07 59 16.0**	**+0.3**
	comp=Z,63nm,1.3s						
MAJO	**Matsushiro**	**73.72**	**56**	*e*P	**P**	**07 59 16.0**	**+0.3**
	comp=Z,63nm,1.3s						
MAJO				LR	LR		
	comp=Z,2μm,20.0s						
MAT	**Matsushiro**	**73.72**	**56**	P	**P**	**07 59 13.0**	**-2.7**
MAT				*e*S	SKiKP	08 08 33.4	-12
MJAR	**Matsushiro Arr**	**73.72**	**56**	P	**P**	**07 59 17.3**	**+1.6**
MJAR				pmax	pmax		
	comp=Z,11nm,1.0s						
MJAR				MLR	MLR		
	comp=Z,1μm,19.1s						
MJAR	**Matsushiro Arr**	**73.72**	**56**	P	**P**	**07 59 17.3**	**+1.6**
	comp=Z,10nm,1.0s,baz=304,slow=6.3,SNR=12						
MJAR				LR	LR	08 34 47.3	
	comp=Z,1μm,19.1s,baz=330,slow=38						
KSM	**Kuching**	**73.73**	**101**	*e*P	**P**	**07 59 16.3**	**+0.3**
	comp=Z,20nm,1.1s						
KSM	**Kuching**	**73.73**	**101**	*e*P	**P**	**07 59 16.3**	**+0.3**
	comp=Z,20nm,1.1s						
KSM				LR	LR		
	comp=Z,657nm,22.0s						
TNA	**Tin City**	**73.76**	**12**	*e*P	**P**	**07 59 14.3**	**-1.1**
	comp=Z,65nm,1.4s						
TNA	**Tin City**	**73.76**	**12**	*e*P	**P**	**07 59 14.3**	**-1.1**
	comp=Z,65nm,1.4s						
PETK	**Petropavlovsk-**	**73.82**	**34**	P	**P**	**07 59 16.0**	**0.0**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PETK	**Petropavlovsk-**	**73.82**	**34**	P	**P**	**07 59 16.0**	**0.0**
	comp=Z,7.2nm,1.2s,baz=128,slow=19,SNR=2.6						
PETK				LR	LR	08 36 11.9	
	comp=Z,855nm,19.6s,baz=302,slow=40						
PETK	**Petropavlovsk-**	**73.82**	**34**	P	**P**	**07 59 16.0**	**0.0**
	comp=Z,4.0nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**73.84**	**46***c*	*i*P	**P**	**07 59 14.0**	**-2.2**
YUK				*i*		07 59 33.1	
YUK				*i*		08 02 01.2	
YUK				*i* PPP	PPP	08 03 39.5	
YUK				*i* S	**SKiKP**	**08 08 44.6**	**-0.6**
YUK				*i*		08 09 28.0	
YUK				*i* SS	**SS**	**08 13 37.0**	**+6.3**
YUK				MLR	MLR		
	comp=N,1μm,17.0s						
YUK				MLR	MLR		
	comp=E,1μm,17.0s						
YUK				MLR	MLR		
	comp=Z,1μm,17.0s						
YUK	**Yuzh-Kuril'sk**	**73.84**	**46**	*i* P	**P**	**07 59 14.0**	**-2.2**
YUK	**Yuzh-Kuril'sk**	**73.84**	**46**	*i* PcP	**PcP**	**07 59 33.1**	**+1.4**
COLD	**Coldfoot**	**74.06**	**4**	*e*P	**P**	**07 59 16.7**	**-0.4**
	comp=Z,80nm,1.1s						
COLD	**Coldfoot**	**74.06**	**4**	*e*P	**P**	**07 59 16.7**	**-0.4**
	comp=Z,80nm,1.1s						
PET	**Petropavlovsk**	**74.29**	**33**	*e*P	P	07 59 25.3	+6.6
PET				*e*S	**S**	**08 08 53.1**	**+0.8**
PET				*e*SS	**SS**	**08 13 39.9**	**+2.9**
PET				MLR	MLR		
	comp=Z,2μm,17.0s						
PET	**Petropavlovsk**	**74.29**	**33**	PFAKE		07 59 30.0	+11
PET				LR	LR		
	comp=Z,1μm,20.0s						
GAMB	**Gambell**	**74.74**	**14**	*e*P	**P**	**07 59 23.1**	**+2.0**
	comp=Z,14nm,1.0s						
GAMB	**Gambell**	**74.74**	**14**	*e*P	**P**	**07 59 23.1**	**+2.0**
	comp=Z,14nm,1.0s						
PKME	**Peaks-Kenny Pk**	**75.03**	**316**	*e*P	**P**	**07 59 24.0**	**+0.9**
	comp=Z,84nm,1.4s						
PKME	**Peaks-Kenny Pk**	**75.03**	**316**	*e*P	**P**	**07 59 24.0**	**+0.9**
	comp=Z,84nm,1.4s						
PKME				LR	LR		
	comp=Z,941nm,20.0s						
KKM	**Kota Kinabalu**	**75.44**	**94**	PFAKE		07 59 40.0	+14
KKM				LR	LR		
	comp=Z,850nm,20.0s						
FCC	**Fort Churchill**	**75.63**	**337**	*e*P	**P**	**07 59 26.6**	**+0.3**
FCC	**Fort Churchill**	**75.63**	**337**	*e*P	**P**	**07 59 26.6**	**+0.3**
FCC	**Fort Churchill**	**75.63**	**337**	*e*P	**P**	**07 59 26.6**	**+0.3**
	comp=Z,1.8nm,1.2s						
COLA	**College**	**76.52**	**3⇑**	*e*P	**P**	**07 59 31.1**	**-0.2**
COLA	**College**	**76.52**	**3**	*e*P	**P**	**07 59 31.1**	**-0.2**
COLA	**College**	**76.52**	**3**	*e*P	**P**	**07 59 31.1**	**-0.2**
	comp=Z,91nm,1.1s						
COLA				LR	LR		
	comp=Z,799nm,20.0s						
ILAR	**Eielson Array**	**76.67**	**3**	P	**P**	**07 59 32.4**	**+0.2**
ILAR						08 02 27.4	
ILAR				pmax	pmax		
	comp=Z,11nm,1.1s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR				MLR	MLR		
	comp=Z,384nm,21.8s						
ILAR	**Eielson Array**	**76.67**	**3**	P	**P**	**07 59 32.4**	**+0.2**
	comp=Z,11nm,1.1s,baz=321,slow=3.0,SNR=44						
ILAR				PP	**PP**	**08 02 27.4**	**+3.6**
	comp=Z,1.3nm,0.9s,baz=341,slow=4.8,SNR=3.6						
ILAR				LR	LR	08 35 24.1	
	comp=Z,384nm,21.8s,baz=355,slow=37						
EGAK	**Eagle**	**76.80**	**1**	*e*P	**P**	**07 59 32.7**	**-0.2**
	comp=Z,66nm,1.3s						
EGAK	**Eagle**	**76.80**	**1**	*e*P	**P**	**07 59 32.7**	**-0.2**
	comp=Z,66nm,1.3s						
EGAK				LR	LR		
	comp=Z,972nm,21.0s						
YKA	**Yellowknife Ar**	**77.06**	**348**	P	**P**	**07 59 34.8**	**+0.5**
YKA				pmax	pmax		
	comp=Z,24nm,1.1s						
YKA	**Yellowknife Ar**	**77.06**	**348**	P	**P**	**07 59 34.8**	**+0.5**
	comp=Z,28nm,1.1s,baz=19,slow=5.9,SNR=55						
YKA	**Yellowknife Ar**	**77.06**	**348**	P	**P**	**07 59 34.8**	**+0.5**
	comp=Z,24nm,1.1s						
LBNH	**Lisbon**	**77.11**	**317**	*e*P	**P**	**07 59 36.9**	**+1.9**
LBNH				pmax	pmax		
	comp=Z,45nm,1.3s						
LBNH				MLR	MLR		
	comp=Z,1μm,22.0s						
LBNH	**Lisbon**	**77.11**	**317**	*e*P	**P**	**07 59 36.9**	**+1.9**
	comp=Z,1μm,22.0s						
LBNH	**Lisbon**	**77.11**	**317**	*e*P	**P**	**07 59 36.9**	**+1.9**
	comp=Z,46nm,1.3s						
LBNH				LR	LR		
	comp=Z,1μm,22.0s						
DAWY	**Dawson**	**77.52**	**360**	*e*P	**P**	**07 59 38.0**	**+1.0**
DAWY	**Dawson**	**77.52**	**360**	*e*P	**P**	**07 59 38.0**	**+1.0**
MCK	**McKinley**	**77.61**	**4**	*e*P	**P**	**07 59 39.9**	**+2.4**
MCK				pmax	pmax		
	comp=Z,85nm,1.3s						
MCK	**McKinley**	**77.61**	**4**	*e*P	**P**	**07 59 39.9**	**+2.4**
	comp=Z,85nm,1.3s						
MCK	**McKinley**	**77.61**	**4**	*e*P	**P**	**07 59 39.9**	**+2.4**
	comp=Z,85nm,1.3s						
KTH	**Kantishna Hill**	**77.66**	**5**	*e*P	**P**	**07 59 38.2**	**+0.4**
	comp=Z,43nm,1.0s						
KTH	**Kantishna Hill**	**77.66**	**5**	*e*P	**P**	**07 59 38.2**	**+0.4**
	comp=Z,43nm,1.0s						
TRF	**Thorofare Moun**	**77.81**	**5**	*e*P	**P**	**07 59 41.2**	**+2.5**
	comp=Z,72nm,1.4s						
TRF	**Thorofare Moun**	**77.81**	**5**	*e*P	**P**	**07 59 41.2**	**+2.5**
	comp=Z,72nm,1.4s						
DOT	**Dot Lake**	**77.89**	**2**	*e*P	**P**	**07 59 39.6**	**+0.6**
	comp=Z,133nm,1.4s						
DOT	**Dot Lake**	**77.89**	**2**	*e*P	**P**	**07 59 39.6**	**+0.6**
	comp=Z,133nm,1.4s						
MDV	**Middlebury**	**77.95**	**317**	*e*P	**P**	**07 59 41.3**	**+1.7**
	comp=Z,10μm,0.9s						
MDV	**Middlebury**	**77.95**	**317**	*e*P	**P**	**07 59 41.4**	**+1.7**
	comp=Z,91μm,0.9s						
PPLA	**Purkeypile**	**78.22**	**6**	*e*P	**P**	**07 59 42.5**	**+1.5**
	comp=Z,78nm,1.5s						
PPLA	**Purkeypile**	**78.22**	**6**	*e*P	**P**	**07 59 42.5**	**+1.5**
	comp=Z,78nm,1.5s						
LONY	**Lake Ozonia**	**78.26**	**318**	*e*P	**P**	**07 59 41.7**	**+0.3**
	comp=Z,28nm,1.0s						
LONY	**Lake Ozonia**	**78.26**	**318**	*e*P	**P**	**07 59 41.7**	**+0.3**
	comp=Z,28nm,1.0s						
LONY				LR	LR		
	comp=Z,1μm,22.0s						
NCB	**Newcomb**	**78.52**	**318**	PFAKE		07 59 50.0	+7.1
NCB				LR	LR		
	comp=Z,3μm,20.0s						
PAX	**Paxson**	**78.52**	**3**	*e*P	**P**	**07 59 43.8**	**+1.1**
PAX				pmax	pmax		
	comp=Z,57nm,1.4s						
PAX	**Paxson**	**78.52**	**3**	*e*P	**P**	**07 59 43.8**	**+1.1**
	comp=Z,57nm,1.4s						
PAX	**Paxson**	**78.52**	**3**	*e*P	**P**	**07 59 43.8**	**+1.1**
	comp=Z,56nm,1.4s						
MENT	**Mentasta**	**78.61**	**2**	*e*P	**P**	**07 59 45.2**	**+2.1**
MENT	**Mentasta**	**78.61**	**2**	*e*P	**P**	**07 59 45.2**	**+2.1**
ACCN	**Adirondack Com**	**78.62**	**317**	*e*P	**P**	**07 59 44.4**	**+0.9**
	comp=Z,65nm,1.5s						
ACCN	**Adirondack Com**	**78.62**	**317**	*e*P	**P**	**07 59 44.4**	**+0.9**
	comp=Z,65nm,1.5s						
PMR	**Palmer**	**79.73**	**4**	*e*P	**P**	**07 59 48.4**	**-0.7**
PMR				pmax	pmax		
	comp=Z,238nm,1.8s						
PMR	**Palmer**	**79.73**	**4**	*e*P	**P**	**07 59 48.3**	**-0.8**
	comp=Z,238nm,1.8s						
PMR	**Palmer**	**79.73**	**4**	*e*P	**P**	**07 59 48.4**	**-0.8**
	comp=Z,238nm,1.8s						
FX1	**Attu Island–F**	**80.09**	**27**	LR	LR	08 41 11.4	
	comp=Z,1μm,18.1s,baz=322,slow=40						
RC01	**Rabbit Creek A**	**80.19**	**5**	*e*P	**P**	**07 59 51.5**	**-0.1**
	comp=Z,87nm,1.2s						
RC01	**Rabbit Creek A**	**80.19**	**5**	*e*P	**P**	**07 59 51.5**	**-0.1**
	comp=Z,87nm,1.2s						
DIV	**Divide**	**80.36**	**3**	*e*P	**P**	**07 59 55.2**	**+2.6**
	comp=Z,98nm,1.2s						
DIV	**Divide**	**80.36**	**3**	*e*P	**P**	**07 59 55.2**	**+2.6**
	comp=Z,98nm,1.2s						
RSO	**Redoubt South**	**80.58**	**6**	*e*P	P	07 59 57.1	+3.1
	comp=Z,80nm,1.3s						
RSO	**Redoubt South**	**80.58**	**6**	*e*P	P	07 59 57.1	+3.1
	comp=Z,80nm,1.3s						
BBSR	**BB Station**	**80.58**	**304**	PFAKE		08 00 10.0	+16
BBSR				LR	LR		
	comp=Z,1μm,22.0s						
BINY	**Binghamton**	**80.67**	**317**	*e*P	**P**	**07 59 56.0**	**+1.4**
	comp=Z,72nm,1.4s						
BINY	**Binghamton**	**80.67**	**317**	*e*P	**P**	**07 59 56.0**	**+1.4**
	comp=Z,72nm,1.4s						
BINY				LR	LR		
	comp=Z,1μm,21.0s						
HYT	**Haines Junctio**	**80.75**	**359**	*e*P	**P**	**07 59 55.7**	**+0.8**
HYT	**Haines Junctio**	**80.75**	**359**	*e*P	**P**	**07 59 55.7**	**+0.8**
SEW	**Seward**	**81.19**	**5**	*e*P	**P**	**07 59 58.5**	**+1.6**
	comp=Z,138nm,1.5s						
SEW	**Seward**	**81.19**	**5**	*e*P	**P**	**07 59 58.5**	**+1.6**
	comp=Z,138nm,1.5s						
FFC	**Flin Flon**	**81.36**	**339**	P	**P**	**07 59 59.6**	**+1.6**
	comp=Z,117nm,1.4s,SNR=8.9						
FFC	**Flin Flon**	**81.36**	**339**	*e*P	**P**	**07 59 58.7**	**+0.7**
FFC				pmax	pmax		
	comp=Z,37nm,1.3s						
FFC				MLR	MLR		
	comp=Z,1μm,21.0s						
FFC	**Flin Flon**	**81.36**	**339**	*e*P	**P**	**07 59 58.7**	**+0.7**
	comp=Z,1μm,21.0s						
FFC	**Flin Flon**	**81.36**	**339**	*e*P	**P**	**07 59 58.7**	**+0.7**
	comp=Z,37nm,1.3s						
FFC				LR	LR		
	comp=Z,1μm,21.0s						
DAV	**Davao City (W)**	**82.13**	**87**	PFAKE		08 00 10.0	+7.2
DAV				LR	LR		
	comp=Z,924nm,20.0s						
JCJ	**Chichijima**	**82.18**	**62**	LR	LR	08 41 18.6	
	comp=Z,646nm,18.3s,baz=318,slow=39						
RCBR	**Riachuelo**	**82.77**	**257**	PFAKE		08 00 20.0	+14
RCBR				LR	LR		
	comp=Z,2μm,20.0s						
SSPA	**Standing Stone**	**82.79**	**317**	*e*

AAM	Ann Arbor	84.49 322	eP	P	08 00 16.6 +2.1
AAM			pmax	pmax	
	comp=Z,125nm,1.3s				
AAM			MLR	MLR	
	comp=Z,1µm,20.0s				
AAM	Ann Arbor	84.49 322	eP	P	08 00 16.6 +2.1
	comp=Z,1µm,20.0s				
AAM	Ann Arbor	84.49 322	eP	P	08 00 16.6 +2.1
	comp=Z,125nm,1.3s				
AAM			LR	LR	
	comp=Z,1µm,20.0s				
AGMN	Agassiz Nation	84.90 332	eP	P	08 00 16.9 +0.4
	comp=Z,31nm,1.3s				
AGMN	Agassiz Nation	84.90 332	⇓P	P	08 00 17.8 +1.3
	baz=85,SNR=13				
AGMN	Agassiz Nation	84.90 332	eP	P	08 00 16.9 +0.4
	comp=Z,31nm,1.3s				
AGMN			LR	LR	
	comp=Z,1µm,21.0s				
JSRW	J. Sargeant Re	84.90 315	eP	P	08 00 17.8 +1.2
JSRW	J. Sargeant Re	84.90 315	eP	P	08 00 17.8 +1.2
WRAK	Wrangell Islan	84.98 356	PFAKE		08 00 30.0 +13
WRAK			LR	LR	
	comp=Z,1µm,21.0s				
KAPI	Kappang	85.11 100	P	P	08 00 11.8 -6.2
	comp=Z,126nm,1.7s,SNR=6.3				
KAPI	Kappang	85.11 100	eP	P	08 00 17.0 -1.0
	comp=Z,216nm,1.3s				
KAPI	Kappang	85.11 100	eP	P	08 00 17.0 -1.0
	comp=Z,216nm,1.3s				
KAPI			LR	LR	
	comp=Z,708nm,22.0s				
A30A	Hoffart Farm,	85.22 334	⇑P	P	08 00 19.1 +1.0
	baz=85,SNR=45				
CRZF	Crozet Islands	85.46 172	S	S	08 10 48.0 -1.7
CRZF			SS	SS	08 16 21.0 -5.0
CRZF			R		08 28 00.0
EDM	Edmonton	85.55 344	eP	P	08 00 21.4 +1.7
EDM	Edmonton	85.55 344	eP	P	08 00 21.4 +1.7
EDM	Edmonton	85.55 344	eP	P	08 00 21.4 +1.7
A29A	Manning Farm,	85.55 334	⇑P	P	08 00 21.1 +1.4
	baz=85,SNR=42				
B30A	Myrvik Farm, E	85.64 334	⇓P	P	08 00 21.5 +1.3
	baz=85,SNR=27				
ACSO	Alum Creek Sta	85.72 320	eP	P	08 00 21.1 +0.4
	comp=Z,60nm,1.1s				
ACSO	Alum Creek Sta	85.72 320	eP	P	08 00 21.1 +0.4
	comp=Z,60nm,1.1s				
ACSO			LR	LR	
	comp=Z,2µm,22.0s				
A28A	Rude Farm, Bot	85.91 335	⇓P	P	08 00 23.2 +1.7
	baz=86,SNR=11				
B29A	Wagenman Farm,	85.98 334	⇑P	P	08 00 23.4 +1.5
	baz=86,SNR=12				
SPMN	Marine on St.	86.27 329	eP	P	08 00 24.4 +1.1
	comp=Z,71nm,1.4s				
SPMN	Marine on St.	86.27 329	⇑P	P	08 00 24.8 +1.5
	baz=86,SNR=17				
SPMN	Marine on St.	86.27 329	eP	P	08 00 24.4 +1.1
	comp=Z,71nm,1.4s				
B28A	Dugan Ranch, T	86.34 335	⇓P	P	08 00 25.4 +1.8
	baz=86,SNR=10				
C30A	Mose, Pekin	86.34 333	⇓P	P	08 00 26.0 +2.4
	baz=86,SNR=9.7				
A26A	Wade Farm, Ken	86.49 336	⇓P	P	08 00 26.2 +1.9
	baz=86,SNR=21				
MDND	Maddock	86.60 334	eP	P	08 00 25.9 +0.9
	comp=Z,26nm,1.3s				
MDND	Maddock	86.60 334	⇓P	P	08 00 26.3 +1.4
	baz=86,SNR=14				
MDND	Maddock	86.60 334	eP	P	08 00 25.9 +0.9
	comp=Z,26nm,1.3s				
BLA	Blacksburg	86.63 316	eP	P	08 00 27.2 +1.8
BLA			pmax	pmax	
	comp=Z,17nm,1.2s				
BLA			MLR	MLR	
	comp=Z,1µm,19.0s				
BLA	Blacksburg	86.63 316	eP	P	08 00 27.1 +1.8
	comp=Z,17nm,1.2s				
BLA	Blacksburg	86.63 316	eP	P	08 00 27.1 +1.8
	comp=Z,17nm,1.2s				
BLA			LR	LR	
	comp=Z,1µm,19.0s				
CNNC	Cliffs of the	86.67 314	PFAKE		08 00 40.0 +15
CNNC			LR	LR	
	comp=Z,2µm,22.0s				
B27A	Peters Farms,	86.67 335	⇓P	P	08 00 26.8 +1.5
	baz=86				
A25A	Svangstu Ranch	86.79 337	⇓P	P	08 00 27.3 +1.5
	baz=86,SNR=6.2				
D30A	Buchanan	86.94 333	⇑P	P	08 00 28.5 +1.9
	baz=87,SNR=6.8				
C28A	Hausauer Farms	86.98 334	⇑P	P	08 00 28.1 +1.3
	baz=87				
B26A	Jensen Ranch,	87.01 336	⇑P	P	08 00 29.2 +2.2
	baz=87,SNR=7.3				
JFWS	Jewell Farm	87.06 326	eP	P	08 00 28.5 +1.2
JFWS			pmax	pmax	
	comp=Z,35nm,1.3s				
JFWS			MLR	MLR	
	comp=Z,845nm,20.0s				
JFWS	Jewell Farm	87.06 326	eP	P	08 00 28.5 +1.2
	comp=Z,845nm,20.0s				
JFWS	Jewell Farm	87.06 326	eP	P	08 00 28.5 +1.2
	comp=Z,35nm,1.3s				
JFWS			LR	LR	
	comp=Z,845nm,20.0s				
A24A	Westby	87.08 337	⇓P	P	08 00 29.3 +2.1
	baz=87,SNR=14				
D29A	Pettibone, Tap	87.28 334	⇑P	P	08 00 30.2 +1.9
	baz=87,SNR=16				
A23A	Redstone	87.31 338	⇑P	P	08 00 30.2 +1.8
	baz=87				
C27A	Sayler Ranch,	87.35 335	⇓P	P	08 00 30.6 +2.0
	baz=87				
B25A	Knox Farm, Ray	87.40 336	⇓P	P	08 00 30.9 +2.1
	baz=87				
C26A	Wahner Farm, P	87.45 336	⇓P	P	08 00 31.1 +2.0
	baz=87,SNR=23				
D28A	Regan	87.50 334	⇓P	P	08 00 31.4 +2.1
	baz=87				
E30A	Jud	87.52 333	⇑P	P	08 00 31.3 +1.9
	baz=87,SNR=14				
DGMT	Dagmar	87.54 337	eP	P	08 00 30.8 +1.3
	comp=Z,98nm,1.7s				
DGMT	Dagmar	87.54 337	⇑P	P	08 00 31.7 +2.2
	baz=87,SNR=6.9				
DGMT	Dagmar	87.54 337	eP	P	08 00 30.8 +1.3
	comp=Z,98nm,1.7s				
DGMT			LR	LR	
	comp=Z,937nm,19.0s				
A22A	Carney Farms,	87.58 338	⇑P	P	08 00 31.7 +1.9
	baz=87,SNR=12				
SFIN	Lafayette	87.62 322	⇓P	P	08 00 32.0 +2.0
	baz=87				
E29A	Napoleon	87.72 333	⇑P	P	08 00 32.5 +2.1
	baz=87,SNR=11				
B23A	Brockton	87.78 338	⇓P	P	08 00 32.8 +2.1
	baz=88,SNR=10				
A21A	Bergtoll Ranch	87.87 339	⇓P	P	08 00 33.3 +2.2
	baz=88,SNR=8.6				
D27A	Center	87.89 335	⇓P	P	08 00 33.1 +1.9
	baz=88				
C25A	Freed Ranch, W	87.92 336	⇑P	P	08 00 33.8 +2.5
	baz=88,SNR=8.3				
E28A	Huff	88.08 334	⇓P	P	08 00 34.0 +1.9
	baz=88				
F30A	Leola	88.13 333	⇓P	P	08 00 35.0 +2.6
	baz=88,SNR=6.1				
B22A	Reddig Ranch S	88.23 338	⇑P	P	08 00 35.0 +2.2
	baz=88,SNR=6.7				
A20A	Cobblestone Ra	88.25 340	⇑P	P	08 00 35.2 +2.3
	baz=88,SNR=9.5				
D26A	Manning	88.26 335	⇓P	P	08 00 35.6 +2.6
	baz=88,SNR=7.7				
B21A	Ellsworth Farm	88.41 339	⇓P	P	08 00 36.1 +2.4
	baz=88,SNR=7.2				
F29A	Eureka	88.42 333	⇑P	P	08 00 35.9 +2.1
	baz=88,SNR=6.6				
A19A	Klindworth Far	88.42 340	⇓P	P	08 00 36.3 +2.5
	baz=88,SNR=49				
C23A	Lambert	88.43 337	⇑P	P	08 00 36.2 +2.5
	baz=88,SNR=8.4				
D25A	Fairfield	88.44 336	⇓P	P	08 00 36.2 +2.3
	baz=88				
C24A	Savage	88.45 337	⇑P	P	08 00 35.9 +2.1
	baz=88				
E27A	Carson	88.50 335	⇑P	P	08 00 35.4 +1.2
	baz=88				
KMSC	Kings Mountain	88.66 316	eP	P	08 00 35.3 +0.3
	comp=Z,29nm,1.2s				
KMSC	Kings Mountain	88.66 316	⇑P	P	08 00 36.0 +1.0
	baz=88,SNR=6.6				
KMSC	Kings Mountain	88.66 316	eP	P	08 00 35.3 +0.3
	comp=Z,29nm,1.2s				
B20A	Solberg Farm,	88.68 339	⇑P	P	08 00 37.1 +2.2
	baz=88,SNR=16				
C22A	Vida	88.69 338	⇑P	P	08 00 37.0 +1.9
	baz=88,SNR=12				
F28A	McLaughlin	88.74 334	⇑P	P	08 00 37.2 +1.9
	baz=88,SNR=7.6				
E26A	Carlson Angus	88.76 335	⇓P	P	08 00 37.1 +1.7
	baz=88,SNR=7.3				
G30A	Faulkton	88.78 332	⇑P	P	08 00 37.0 +1.5
	baz=88,SNR=16				
D24A	Glendive	88.79 337	⇑P	P	08 00 36.4 +1.0
	baz=88				
WCI	Wyandotte Cave	88.91 321	eP	P	08 00 37.8 +1.6
WCI			pmax	pmax	
	comp=Z,17nm,0.9s				
WCI	Wyandotte Cave	88.91 321	eP	P	08 00 37.8 +1.6
	comp=Z,17nm,0.9s				
WCI	Wyandotte Cave	88.91 321	eP	P	08 00 37.8 +1.6
	comp=Z,17nm,0.9s				
B19A	Brinkman Farms	88.91 340	⇓P	P	08 00 37.3 +1.3
	baz=89,SNR=26				
D23A	Lindsay	89.00 337	⇓P	P	08 00 38.1 +1.6
	baz=89				
G29A	Hoven	89.01 333	⇑P	P	08 00 37.9 +1.4
	baz=89				
ECSD	EROS Data Cent	89.02 330	eP	P	08 00 38.3 +1.7
	comp=Z,33nm,1.4s				
ECSD	EROS Data Cent	89.02 330	⇑P	P	08 00 38.5 +1.9
	baz=89,SNR=11				
ECSD	EROS Data Cent	89.02 330	eP	P	08 00 38.3 +1.7
	comp=Z,33nm,1.4s				
ECSD			LR	LR	
	comp=Z,1µm,22.0s				
E25A	Miller Ranch,	89.04 336	⇓P	P	08 00 38.6 +1.9
	baz=89,SNR=6.7				
F27A	Lemmon	89.14 335	⇓P	P	08 00 38.1 +1.0
	baz=89				
SCIA	State Center	89.16 327	eP	P	08 00 40.0 +2.7
	comp=Z,13nm,0.9s				
SCIA	State Center	89.16 327	eP	P	08 00 40.0 +2.7
	comp=Z,14nm,0.9s				
SCIA			LR	LR	
	comp=Z,880nm,20.0s				
E24A	Baker	89.27 336	⇓P	P	08 00 39.4 +1.6
	baz=89				
BRSD	Miller	89.30 332	eP	P	08 00 38.4 +0.5
	comp=Z,83nm,1.1s				
BRSD	Miller	89.30 332	⇓P	P	08 00 39.7 +1.8
	baz=89,SNR=6.9				
BRSD	Miller	89.30 332	eP	P	08 00 38.4 +0.5
	comp=Z,83nm,1.1s				
D22A	Cohagen	89.32 338	⇑P	P	08 00 39.9 +1.9
	baz=89,SNR=9.3				
C20A	Veseth Ranch,	89.33 339	⇑P	P	08 00 40.0 +1.9
	baz=89,SNR=14				
F26A	Lodgepole	89.37 335	⇑P	P	08 00 39.9 +1.6
	baz=89,SNR=10				
FDF	Fort de France	89.40 288	PFAKE		08 00 50.0 +11
FDF			LR	LR	
	comp=Z,527nm,20.0s				
G28A	Parade	89.46 334	⇑P	P	08 00 40.0 +1.4
	baz=89,SNR=6.3				
EGMT	Eagleton	89.52 340	eP	P	08 00 39.9 +0.9
	comp=Z,74nm,1.8s				
EGMT	Eagleton	89.52 340	⇑P	P	08 00 40.7 +1.7
	baz=89,SNR=8.8				
EGMT	Eagleton	89.52 340	eP	P	08 00 39.9 +0.9
	comp=Z,74nm,1.8s				
EGMT			LR	LR	
	comp=Z,1µm,20.0s				
G27A	Dupree	89.54 334	⇓P	P	08 00 40.3 +1.2
	baz=89,SNR=5.3				
F25A	Bowman	89.57 335	⇓P	P	08 00 40.0 +0.8
	baz=89				
WALA	Waterton Lakes	89.58 343	eP	P	08 00 39.6 +0.3
	comp=Z,1.0nm,1.3s				
WALA	Waterton Lakes	89.58 343	eP	P	08 00 39.6 +0.3
	comp=Z,1.0nm,1.3s				
TKL	Tuckaleechee C	89.59 317	eP	P	08 00 41.1 +1.7
TKL	Tuckaleechee C	89.59 317	eP	P	08 00 41.1 +1.7
TKL	Tuckaleechee C	89.59 317	eP	P	08 00 41.1 +1.7
C19A	Slack Wire Ran	89.60 340	⇑P	P	08 00 41.0 +1.6
	baz=89,SNR=10				
D21A	La Casta Ranch	89.63 338	⇑P	P	08 00 41.4 +1.9
	baz=89,SNR=15				
E23A	Ismay	89.64 337	⇓P	P	08 00 41.8 +2.3
	baz=89,SNR=6.2				
LAO	LASA Array	89.75 338	eP	P	08 00 41.0 +1.0
	comp=Z,60nm,1.1s				
LAO	LASA Array	89.75 338	eP	P	08 00 41.0 +1.0
	comp=Z,60nm,1.1s				
LAO			LR	LR	
	comp=Z,1µm,19.0s				
USIN	University of	89.79 321	eP	P	08 00 41.4 +1.1
	comp=Z,50nm,1.0s				
USIN	University of	89.79 321	eP	P	08 00 41.4 +1.1
	comp=Z,50nm,1.0s				
G26A	Maurine	89.84 335	⇑P	P	08 00 42.4 +1.9
	baz=90,SNR=19				
H28A	Mission Ridge	89.84 333	⇓P	P	08 00 42.0 +1.5
	baz=90,SNR=8.2				
E22A	Miles City	89.89 337	⇓P	P	08 00 42.5 +1.8
	baz=90,SNR=5.5				
I30A	Oacoma	89.93 332	⇑P	P	08 00 42.4 +1.5
	baz=90				
D20A	Manuel Ranch,	89.94 339	⇓P	P	08 00 42.9 +2.0
	baz=90,SNR=9.3				
F24A	Ekalaka	89.95 336	⇑P	P	08 00 42.9 +1.9
	baz=90,SNR=22				
D19A	Cripps Ranch,	90.08 339	⇓P	P	08 00 43.3 +1.7
	baz=90,SNR=8.9				
E21A	Keefer Ranch,	90.13 338	⇓P	P	08 00 43.7 +1.9
	baz=90,SNR=7.9				
I29A	Vivian Onida	90.16 333	⇓P	P	08 00 43.2 +1.3
	baz=90,SNR=6.9				
G25A	Newell	90.20 335	⇓P	P	08 00 43.8 +1.7
	baz=90,SNR=10				
H27A	Howes	90.25 334	⇑P	P	08 00 44.1 +1.7
	baz=90,SNR=8.1				
F23A	Volborg	90.37 337	⇓P	P	08 00 44.5 +1.5
	baz=90,SNR=13				
J30A	Dallas	90.46 332	⇑P	P	08 00 45.1 +1.8
	baz=90,SNR=8.9				
E20A	Meyer Farm, Mu	90.47 339	⇓P	P	08 00 45.2 +1.8
	baz=90,SNR=5.4				
I28A	Midland	90.48 333	⇓P	P	08 00 44.8 +1.4
	baz=90,SNR=5.2				
SLM	Saint Louis	90.48 323	eP	P	08 00 46.6 +3.1
SLM			pmax	pmax	
	comp=Z,60nm,1.2s				
SLM	Saint Louis	90.48 323	eP	P	08 00 43.2 -0.3
	comp=Z,60nm,1.2s				
SLM	Saint Louis	90.48 323	eP	P	08 00 43.2 -0.3
	comp=Z,60nm,1.2s				
F22A	Rosebud	90.58 337	⇑P	P	08 00 45.8 +1.9
	baz=90,SNR=10				
BLMT	Blacktail Moun	90.67 343	eP	P	08 00 45.5 +1.0
	comp=Z,6.1nm,0.7s				
BLMT	Blacktail Moun	90.67 343	eP	P	08 00 45.5 +1.0
	comp=Z,6.1nm,0.7s				
E19A	Rath Farm, Rou	90.69 339	⇑P	P	08 00 46.1 +1.6
	baz=90,SNR=10				
J29A	Okreek	90.70 332	⇑P	P	08 00 46.3 +1.9
	baz=90,SNR=9.9				
YBMT	Yellow Bay	90.73 343	eP	P	08 00 46.0 +1.4
	comp=Z,38nm,1.3s				
YBMT	Yellow Bay	90.73 343	eP	P	08 00 46.0 +1.4
	comp=Z,38nm,1.3s				
I27A	Quinn	90.73 334	⇑P	P	08 00 46.5 +1.8
	baz=90,SNR=6.2				
SIUC	Southern Illin	90.74 322	eP	P	08 00 44.9 +0.2
	comp=Z,89nm,1.3s				
SIUC	Southern Illin	90.74 322	eP	P	08 00 44.9 +0.2
	comp=Z,89nm,1.3s				
H25A	Fruitdale	90.77 335	⇓P	P	08 00 46.2 +1.4
	baz=90,SNR=11				
G23A	Biddle	90.83 336	⇑P	P	08 00 47.0 +1.9
	baz=90,SNR=5.8				
JTMT	Jette	90.90 343	eP	P	08 00 46.4 +1.0
	comp=Z,17nm,1.3s				
JTMT	Jette	90.90 343	eP	P	08 00 46.4 +1.0
	comp=Z,17nm,1.3s				
BSMT	Bassoo Peak	90.91 343	eP	P	08 00 45.8 +0.2
	comp=Z,17nm,1.2s				
BSMT	Bassoo Peak	90.91 343	eP	P	08 00 45.8 +0.2
	comp=Z,17nm,1.2s				
H24A	Dirks Ranch, A	90.97 336	⇑P	P	08 00 47.0 +1.2
	baz=91,SNR=6.6				
J28A	Allard Ranch,	91.01 333	⇓P	P	08 00 46.5 +0.6
	baz=91				
NEW	Newport	91.02 345	eP	P	08 00 46.5 +0.6
NEW			pmax	pmax	
	comp=Z,67nm,1.2s				
NEW			MLR	MLR	
	comp=Z,1µm,19.0s				
NEW	Newport	91.02 345	eP	P	08 00 46.5 +0.6
	comp=Z,1µm,19.0s				
NEW	Newport	91.02 345	⇓P	P	08 00 46.9 +1.0
	baz=91				
NEW	Newport	91.02 345	eP	P	08 00 46.5 +0.6
	comp=Z,67nm,1.2s				
NEW			LR	LR	
	comp=Z,1µm,19.0s				
I26A	New Underwood	91.04 334	⇑P	P	08 00 47.7 +1.5
	baz=91,SNR=5.3				
SWMT	Swartz Lake	91.06 343	eP	P	08 00 46.9 +0.7
	comp=Z,47nm,1.4s				
SWMT	Swartz Lake	91.06 343	eP	P	08 00 46.9 +0.7
	comp=Z,47nm,1.4s				
K30A	Basset	91.07 331	⇑P	P	08 00 48.1 +1.9
	baz=91,SNR=9.1				
G22A	Birney	91.09 337	⇑P	P	08 00 48.5 +2.1
	baz=91,SNR=5.6				
F20A	Billings	91.12 338	⇑P	P	08 00 48.7 +2.2
	baz=91,SNR=13				
GOGA	Godfrey	91.12 316	eP	P	08 00 49.8 +3.2
GOGA			pmax	pmax	
	comp=Z,6.0nm,0.8s				
GOGA			MLR	MLR	
	comp=Z,765nm,20.0s				
GOGA	Godfrey	91.12 316	eP	P	08 00 49.8 +3.2
	comp=Z,6.2nm,0.8s				
GOGA			LR	LR	
	comp=Z,765nm,20.0s				
SLMT	Seeley Lake	91.19 342	eP	P	08 00 45.5 -1.4
	comp=Z,59nm,1.2s				
SLMT	Seeley Lake	91.19 342	eP	P	08 00 45.5 -1.4
	comp=Z,59nm,1.2s				
L31A	Butterfield Fa	91.20 331	⇓P	P	08 00 48.0 +1.1
	baz=91,SNR=8.9				
K29A	Lazy Trails An	91.25 332	⇓P	P	08 00 49.6 +2.5
	baz=91,SNR=5.7				
HRY	Holter Researc	91.28 341	eP	P	08 00 48.1 +0.9
	comp=Z,15nm,1.2s				
HRY	Holter Researc	91.28 341	eP	P	08 00 48.1 +0.9
	comp=Z,15nm,1.2s				
F19A	Roth Farm, Mol	91.29 339	⇑P	P	08 00 48.6 +1.3
	baz=91,SNR=11				
WVT	Waverly	91.31 320	eP	P	08 00 49.3 +1.9
WVT			pmax	pmax	
	comp=Z,103nm,2.3s				
WVT	Waverly	91.31 320	eP	P	08 00 49.2 +1.9
	comp=Z,103nm,2.3s				
WVT	Waverly	91.31 320	eP	P	08 00 49.2 +1.9
	comp=Z,103nm,2.3s				
I25A	Rochford	91.35 335	⇑P	P	08 00 49.4 +1.8
	baz=91,SNR=14				
RSSD	Black Hills	91.36 335	eP	P	08 00 49.3 +1.6
RSSD			pmax	pmax	
	comp=Z,36nm,1.6s				
RSSD	Black Hills	91.36 335	eP	P	08 00 49.3 +1.6
	comp=Z,36nm,1.6s				
RSSD	Black Hills	91.36 335	eP	P	08 00 49.3 +1.6
	comp=Z,36nm,1.6s				
G21A	Lodge Grass	91.36 338	⇓P	P	08 00 48.7 +1.1
	baz=91				
J27A	Elkhorn Farm,	91.43 333	⇓P	P	08 00 49.2 +1.3
	baz=91				
CHMT	Chamberlain Mo	91.44 342	eP	P	08 00 47.8 -0.3
	comp=Z,21nm,1.2s				
CHMT	Chamberlain Mo	91.44 342	eP	P	08 00 47.8 -0.3
	comp=Z,21nm,1.2s				
GRGR	Grenville	91.44 287	PFAKE		08 01 00.0 +12
GRGR			LR	LR	
	comp=Z,488nm,22.0s				
BGNE	Belgrade	91.59 330	eP	P	08 00 50.1 +1.5
	comp=Z,95nm,1.2s				
BGNE	Belgrade	91.59 330	⇑P	P	08 00 50.6 +1.9
	baz=91,SNR=9.2				
BGNE	Belgrade	91.59 330	eP	P	08 00 50.1 +1.5
	comp=Z,95nm,1.2s				
G20A	Bridger	91.67 338	⇑P	P	08 00 50.5 +1.4
	baz=91,SNR=13				
H22A	Clearmont	91.67 337	⇓P	P	08 00 50.5 +1.5
	baz=91				
K28A	Ten Mile Ranch	91.67 333	⇑P	P	08 00 50.5 +1.4
	baz=91				
MSO	Missoula	91.68 342	⇑P	P	08 00 50.7 +1.6
	baz=91,SNR=14				
L30A	Spencer Herefo	91.73 331	⇓P	P	08 00 50.7 +1.3
	baz=91				
J26A	Sides Ranch, S	91.75 334	⇑P	P	08 00 51.3 +1.9
	baz=91,SNR=9.2				
I24A	Kuemmerle Ranc	91.78 335	⇑P	P	08 00 49.9 +0.3
	baz=92				
H21A	Big Horn, Sher	91.86 337	⇓P	P	08 00 51.9 +1.9
	baz=92,SNR=7.7				
J25A	Sunshine Ranch	91.93 335	⇑P	P	08 00 51.9 +1.6
	baz=92,SNR=7.1				
M31A	Lambtecht Ranc	91.97 330	⇑P	P	08 00 52.3 +1.9
	baz=92,SNR=9.9				
K27A	Flueckinger Fa	91.99 333	⇓P	P	08 00 51.6 +1.0
	baz=92				
RLMT	Red Lodge	92.06 339	PFAKE		08 01 00.0 +9.0
RLMT			LR	LR	
	comp=Z,2µm,22.0s				
GRTK	Grand Turk	92.06 300	PFAKE		08 01 00.0 +8.9
GRTK			LR	LR	
	comp=Z,812nm,19.0s				
BOZ	Bozeman (W)	92.21 341	PFAKE		08 01 00.0 +8.4
BOZ			LR	LR	
	comp=Z,1µm,20.0s				
LRM	Limekiln Ridge	92.26 341	eP	P	08 00 53.7 +1.7
	comp=Z,66nm,0.9s				
LRM	Limekiln Ridge	92.26 341	eP	P	08 00 53.7 +1.7
	comp=Z,66nm,0.9s				
J24A	Dixon Ranch, L	92.27 335	⇓P	P	08 00 52.9 +1.1
	baz=92				
H20A	Greybull	92.27 338	⇑P	P	08 00 53.6 +1.8
	baz=92,SNR=15				
I22A	9 Mile Ranch,	92.35 336	⇑P	P	08 00 53.9 +1.7
	baz=92,SNR=7.0				
H19A	Powell	92.39 338	⇓P	P	08 00 54.2 +1.8
	baz=92,SNR=17				
L27A	T5 Ranch, Ells	92.57 333	⇑P	P	08 00 54.4 +1.1
	baz=92				
H18A	Shoshone NF, C	92.58 339	⇓P	P	08 00 54.9 +1.5
	baz=92,SNR=18				
O32A	Brockman Farm,	92.62 329	⇑P	P	08 00 54.3 +0.9
	baz=92				
K25A	Mack Ranch, Ha	92.64 334	⇑P	P	08 00 55.9 +2.3
	baz=92,SNR=6.6				
I21A	Big Trails, Te	92.67 337	⇑P	P	08 00 55.4 +1.6
	baz=92,SNR=19				
TIGA	Tifton	92.68 315	⇓P	P	08 00 55.2 +1.4
	baz=92				
J22A	Midwest	92.78 336	⇓P	P	08 00 55.6 +1.4
	baz=92,SNR=9.2				
I20A	Worland	92.80 338	⇓P	P	08 00 55.9 +1.7
	baz=92,SNR=21				
M28A	Bar X Bar Ranc	92.83 332	⇓P	P	08 00 55.8 +1.4
	baz=92				
LKWY	Lake	92.89 339	eP	P	08 00 56.6 +1.7
LKWY			pmax	pmax	
	comp=Z,20nm,1.3s				
LKWY			MLR	MLR	
	comp=Z,2µm,20.0s				
LKWY	Lake	92.89 339	eP	P	08 00 56.6 +1.7
	comp=Z,2µm,20.0s				
LKWY	Lake	92.89 339	eP	P	08 00 56.6 +1.7
	comp=Z,20nm,1.3s				
LKWY			LR	LR	
	comp=Z,2µm,20.0s				
KSU1	Kansas State U	92.92 328	⇓P	P	08 00 55.6 +0.8
	baz=93				
KSU1	Kansas State U	92.92 328	PFAKE		08 01 10.0 +15
KSU1			LR	LR	
	comp=Z,1µm,20.0s				
I19A	Meeteetse	92.97 338	⇓P	P	08 00 56.6 +1.4

baz=93,SNR=9.0
NLWA Neilton Lookou 93.05 349 PFAKE 08 01 10.0 +15
NLWA LR LR
comp=Z,2μm,22.0s
N29A Votaw Ranch, W 93.05 331 ⇑P **P** **08 00 56.4 +0.9**
baz=93
H17A Grant Village 93.09 339 *e*P **P** **08 00 56.6 +0.8**
comp=Z,32nm,1.4s
H17A Grant Village 93.09 339 ⇑P **P** **08 00 58.6 +2.8**
baz=93,SNR=10
H17A Grant Village 93.09 339 *e*P **P** **08 00 56.6 +0.8**
comp=Z,32nm,1.4s
YFT Old Faithful 93.11 340 *e*P P 08 00 59.0 +3.1
comp=Z,37nm,1.2s
YFT Old Faithful 93.11 340 *e*P P 08 00 59.0 +3.1
comp=Z,37nm,1.2s
O31A Woolen Ranch, 93.13 330 ⇑P **P** **08 00 56.3 +0.5**
baz=93
J21A Lysite 93.14 337 ⇑P **P** **08 00 57.2 +1.2**
baz=93,SNR=7.1
HBAR Harrisburg 93.16 322 *e*P **P** **08 00 57.6 +1.7**
HBAR Harrisburg 93.16 322 *e*P **P** **08 00 57.6 +1.7**
HAWA Hanford 93.28 346 *e*P **P** **08 00 58.8 +2.5**
comp=Z,30nm,1.4s
HAWA Hanford 93.28 346 *e*P **P** **08 00 58.9 +2.5**
comp=Z,30nm,1.4s
HAWA LR LR
comp=Z,1μm,19.0s
MCMT McKenzie Canyo 93.29 341 *e*P P 08 01 00.7 +4.0
comp=Z,2.2nm,1.2s
P32A Huiting Farm, 93.30 329 ⇓P **P** **08 00 57.3 +0.8**
baz=93
LRAL Lakeview Retre 93.30 318 *e*P **P** **08 00 58.6 +2.0**
comp=Z,26nm,1.2s
LRAL Lakeview Retre 93.30 318 *e*P **P** **08 00 58.6 +2.0**
comp=Z,26nm,1.2s
J20A Shoshoni 93.33 337 ⇑P **P** **08 00 58.4 +1.6**
baz=93,SNR=16
O30A MW Ranch, Wils 93.39 331 ⇑P **P** **08 00 58.8 +1.8**
baz=93,SNR=6.9
OGNE Ogallala 93.46 332 PFAKE 08 01 10.0 +13
OGNE LR LR
comp=Z,887nm,21.0s
K22A Casper 93.48 336 *e*P **P** **08 00 57.2 -0.3**
comp=Z,24nm,1.1s
K22A Casper 93.48 336 ⇓P **P** **08 00 59.1 +1.6**
baz=93,SNR=9.5
K22A Casper 93.48 336 *e*P **P** **08 00 57.2 -0.3**
comp=Z,24nm,1.1s
N28A Pribbeno Ranch 93.51 332 ⇑P **P** **08 00 58.6 +1.0**
baz=93
Q33A Connelly Farm, 93.52 328 ⇓P **P** **08 00 58.6 +1.0**
baz=93
I17A Pilgrim Ck. 93.53 339 ⇓P **P** **08 00 59.8 +2.0**
baz=93,SNR=13
P31A Stockton 93.69 330 ⇓P **P** **08 00 60.0 +1.6**
baz=93,SNR=5.9
J19A Crowheart 93.70 338 ⇑P **P** **08 01 00.4 +1.9**
baz=93,SNR=17
L23A Garrett 93.70 335 ⇓P **P** **08 00 59.0 +0.4**
baz=93
O29A 4D Ranch, Culb 93.72 331 ⇑P **P** **08 00 59.5 +0.9**
baz=93
K21A Alcova 93.72 336 ⇑P **P** **08 00 59.2 +0.5**
baz=93
N27A Anderson Farm, 93.77 332 ⇑P **P** **08 01 00.1 +1.3**
baz=94
Q32A Meitler Ranch, 93.82 329 ⇑P **P** **08 01 00.3 +1.4**
baz=94
SDDR Presa de Saban 93.89 298 PFAKE 08 01 10.0 +10
SDDR LR LR
comp=Z,1μm,19.0s
M24A Cheyenne 93.98 334 ⇓P **P** **08 01 01.7 +1.8**
baz=94,SNR=6.1
L22A Ellis Ranch, M 94.01 336 ⇑P **P** **08 01 00.4 +0.4**
baz=94
P30A Selden 94.01 330 ⇓P **P** **08 01 00.3 +0.4**
baz=94
R33A Olander Ranch, 94.17 328 ⇓P **P** **08 01 01.1 +0.5**
baz=94
P29A Atwood 94.22 331 ⇓P **P** **08 01 02.4 +1.5**
baz=94,SNR=5.9
O27A Beecher Island 94.29 332 ⇓P **P** **08 01 02.7 +1.5**
baz=94,SNR=5.5
BW06 Boulder Array 94.30 338 PFAKE 08 01 10.0 +8.6
BW06 LR LR
comp=Z,2μm,22.0s
PDAR Pinedale Array 94.30 338 P **P** **08 01 02.2 +0.9**
comp=Z,3.7nm,1.1s,baz=0.0,slow=0.6,SNR=15
PDAR PP **PP** **08 04 51.0 +3.7**
comp=Z,4.2nm,1.3s,baz=35,slow=5.6,SNR=4.6
PDAR LR LR 08 45 14.1
comp=Z,1μm,21.1s,baz=35,slow=37
PDAR Pinedale Array 94.30 338 PP PP 08 04 51.0 +3.7
BMO Blue Mountains 94.31 344 *e*P **P** **08 01 00.6 -0.6**
comp=Z,19nm,1.2s
BMO Blue Mountains 94.31 344 *e*P **P** **08 01 00.6 -0.6**
comp=Z,19nm,1.2s
BMO LR LR
comp=Z,1μm,21.0s
R32A Long Quarter, 94.36 329 ⇑P **P** **08 01 02.4 +0.9**
baz=94
O26A Horse Wrangler 94.54 333 ⇓P **P** **08 01 03.1 +0.7**
baz=94
P28A Saint Francis 94.56 331 ⇑P **P** **08 01 03.8 +1.4**
baz=94,SNR=7.3
N24A Carr 94.57 334 ⇑P **P** **08 01 03.9 +1.3**
baz=94,SNR=6.2
M22A Cedar Creek Ra 94.63 335 ⇓P **P** **08 01 04.1 +1.2**
baz=94
AHID Auburn Hatcher 94.74 339 *e*P **P** **08 01 05.6 +2.2**
comp=Z,10.0nm,1.2s
AHID Auburn Hatcher 94.74 339 *e*P **P** **08 01 05.6 +2.2**
comp=Z,10.0nm,1.2s
AHID LR LR
comp=Z,1μm,20.0s
R31A Burdett 94.81 329 ⇓P **P** **08 01 05.0 +1.4**
baz=94,SNR=6.0
Q29A Oakley 94.86 330 ⇑P **P** **08 01 04.7 +0.9**
baz=95
HLID Hailey 94.87 342 *e*P P 08 01 07.2 +3.3
comp=Z,44nm,2.3s
HLID Hailey 94.87 342 ⇑P **P** **08 01 05.6 +1.7**
baz=94
HLID Hailey 94.87 342 *e*P P 08 01 07.2 +3.3
comp=Z,44nm,2.3s
HLID LR LR
comp=Z,2μm,20.0s
N23A Red Feather La 94.87 335 ⇓P **P** **08 01 05.3 +1.2**
baz=95,SNR=11
P27A Ficken Ranch, 94.88 332 ⇑P **P** **08 01 04.6 +0.7**
baz=95
BRAL Brewton 94.91 317 PFAKE 08 01 20.0 +16
BRAL LR LR
comp=Z,839nm,21.0s
Q28A Sharon Springs 95.03 331 ⇑P **P** **08 01 05.7 +1.1**
baz=95,SNR=7.7
S32A Newby Ranch, P 95.08 329 ⇑P **P** **08 01 05.6 +0.8**
baz=95
G03D McMinnville, O 95.08 348 ⇓P **P** **08 01 05.7 +1.2**
baz=95
N22A Wattenberg Ran 95.12 335 ⇓P **P** **08 01 06.4 +1.2**
baz=95
P26A Davis Ranch, A 95.16 332 ⇓P **P** **08 01 06.4 +1.1**
baz=95,SNR=16
TUL1 Leonard 95.25 325 *e*P **P** **08 01 07.8 +2.3**
comp=Z,30nm,1.3s
TUL1 Leonard 95.25 325 ⇓P **P** **08 01 06.6 +1.1**
baz=95,SNR=7.7
TUL1 Leonard 95.25 325 *e*P **P** **08 01 07.8 +2.3**
comp=Z,30nm,1.3s
O24A Longmont 95.27 334 ⇑P **P** **08 01 06.0 +0.2**
baz=95
MBWA Marble Bar 95.33 113 PFAKE 08 01 20.0 +14
MBWA LR LR
comp=Z,1μm,20.0s
MFID Camas Ranch 95.34 343 *e*P **P** **08 01 06.8 +0.8**
comp=Z,23nm,1.3s
MFID Camas Ranch 95.34 343 *e*P **P** **08 01 06.8 +0.8**
comp=Z,23nm,1.3s
MIAR Mount Ida 95.36 323 *e*P **P** **08 01 06.8 +0.7**
MIAR pmax pmax
comp=Z,35nm,1.4s
MIAR MLR MLR
comp=Z,2μm,22.0s
MIAR Mount Ida 95.36 323 *e*P **P** **08 01 06.8 +0.7**
comp=Z,2μm,22.0s
MIAR Mount Ida 95.36 323 *e*P **P** **08 01 06.8 +0.7**
comp=Z,34nm,1.4s
MIAR LR LR
comp=Z,2μm,22.0s
S31A Mullinville 95.37 329 ⇑P **P** **08 01 07.3 +1.2**
baz=95
KSCO Kaye Shedlock' 95.38 332 *e*P **P** **08 01 08.1 +1.8**
comp=Z,69nm,1.5s
KSCO Kaye Shedlock' 95.38 332 ⇓P **P** **08 01 07.8 +1.5**
baz=95,SNR=6.4
KSCO Kaye Shedlock' 95.38 332 *e*P **P** **08 01 08.1 +1.8**
comp=Z,69nm,1.5s
O23A Lake Granby, G 95.48 335 ⇓P **P** **08 01 07.2 +0.3**
baz=95
P25A Willow Gulch B 95.49 333 ⇓P **P** **08 01 08.4 +1.6**
baz=95,SNR=7.4
I05D Terrebonne, OR 95.60 347 ⇓P **P** **08 01 07.6 +0.6**
baz=95
R28A Tribune 95.66 331 ⇓P **P** **08 01 08.7 +1.2**
baz=95,SNR=7.8
N20A Spence Gulch, 95.67 336 ⇑P **P** **08 01 08.3 +0.6**
baz=95
O22A Kremmling 95.73 335 ⇓P **P** **08 01 09.6 +1.5**
baz=95,SNR=7.7
ISCO Idaho Springs 95.74 334 *e*P **P** **08 01 09.1 +1.0**
ISCO pmax pmax
comp=Z,6.0nm,1.1s
ISCO MLR MLR
comp=Z,1μm,20.0s
ISCO Idaho Springs 95.74 334 *e*P **P** **08 01 09.1 +1.0**
comp=Z,1μm,20.0s
ISCO Idaho Springs 95.74 334 ⇑P **P** **08 01 09.4 +1.3**
baz=95,SNR=7.9
ISCO Idaho Springs 95.74 334 *e*P **P** **08 01 09.1 +1.0**
comp=Z,6.3nm,1.1s
ISCO LR LR
comp=Z,1μm,20.0s
Q26A Hugo 95.78 332 ⇑P **P** **08 01 08.6 +0.5**
baz=96
GTBY Guantanamo Bay 95.84 301 PFAKE 08 01 20.0 +12
GTBY LR LR
comp=Z,612nm,20.0s
T31A Randall Ranch, 95.89 329 ⇑P **P** **08 01 09.8 +1.3**
baz=96
HWUT Hardware Ranch 95.94 339 PFAKE 08 01 20.0 +11
HWUT LR LR
comp=Z,2μm,22.0s
S29A Ulysses 96.02 330 ⇑P **P** **08 01 09.9 +0.7**
baz=96
Q25A Bedland, Calha 96.05 333 ⇑P **P** **08 01 09.7 +0.3**
baz=96
V34A Guthrie 96.07 327 ⇓P **P** **08 01 10.4 +1.1**
baz=96
R27A Eads 96.08 331 ⇑P **P** **08 01 10.0 +0.5**
baz=96
P23A Jefferson 96.20 334 ⇓P **P** **08 01 12.1 +1.8**
baz=96,SNR=11
O20A White River Ci 96.30 336 ⇑P **P** **08 01 10.9 +0.4**
baz=96
R26A Arlington 96.31 332 ⇓P **P** **08 01 11.6 +1.1**
baz=96,SNR=6.4
P22A Eagle 96.31 335 ⇓P **P** **08 01 11.1 +0.5**
baz=96
I04A Tendick Farm, 96.32 347 ⇓P **P** **08 01 11.3 +0.9**
baz=96
Q24A Divide 96.33 333 ⇓P **P** **08 01 10.8 0.0**
baz=96
S28A Manter 96.35 330 ⇓P **P** **08 01 12.3 +1.7**
baz=96,SNR=7.1
T28A Walsh 96.84 330 ⇑P **P** **08 01 13.6 +0.7**
baz=96
WVOR Wild Horse Val 96.91 344 *e*P **P** **08 01 15.4 +2.3**
WVOR pmax pmax
comp=Z,11nm,1.2s
WVOR MLR MLR
comp=Z,1μm,21.0s
WVOR Wild Horse Val 96.91 344 *e*P **P** **08 01 15.4 +2.3**
comp=Z,1μm,21.0s
WVOR Wild Horse Val 96.91 344 *e*P **P** **08 01 15.4 +2.3**
comp=Z,11nm,1.2s
WVOR LR LR
comp=Z,1μm,21.0s
DAU Daniels Canyon 96.96 338 *e*P **P** **08 01 16.1 +2.5**
DAU pmax pmax
comp=Z,36nm,1.7s
DAU Daniels Canyon 96.96 338 *e*P **P** **08 01 16.1 +2.5**
comp=Z,36nm,1.7s
DAU Daniels Canyon 96.96 338 *e*P **P** **08 01 16.1 +2.5**
comp=Z,36nm,1.7s
T27A Campo 97.12 331 ⇓P Pdif 08 01 14.7 +0.4
baz=97
S25A Robets Cordova 97.23 332 ⇓P Pdif 08 01 15.2 +0.3
baz=97
R23A Moffat 97.25 334 ⇓P Pdif 08 01 16.1 +1.0
baz=97,SNR=7.5
S24A Houchin Ranch, 97.53 333 ⇓P Pdif 08 01 16.6 +0.3
baz=97
U28A Mallet 97.53 330 ⇑P Pdif 08 01 16.6 +0.4
baz=97
SDCO Great Sand Dun 97.54 333 PFAKE 08 01 30.0 +14
SDCO LR LR
comp=Z,977nm,20.0s
WMOK Wichita Mounta 97.54 327 PFAKE 08 01 30.0 +14
WMOK LR LR
comp=Z,995nm,19.0s
DUG Dugway, Tooele 97.60 339 *e*P Pdif 08 01 18.2 +1.8
DUG pmax pmax
comp=Z,10.0nm,1.1s
DUG MLR MLR
comp=Z,1μm,20.0s
DUG Dugway, Tooele 97.60 339 *e*P Pdif 08 01 18.2 +1.8
comp=Z,1μm,20.0s
DUG Dugway, Tooele 97.60 339 ⇑P Pdif 08 01 16.8 +0.4
baz=97
DUG Dugway, Tooele 97.60 339 *e*P Pdif 08 01 18.2 +1.8
comp=Z,9.6nm,1.1s
DUG LR LR
comp=Z,1μm,20.0s
Y33A Hilltop Ranch, 98.09 326 ⇓P Pdif 08 01 20.1 +1.5
baz=98
PV04 Paradox Valley 98.10 336 *e*P Pdif 08 01 21.2 +2.5
PV04 Paradox Valley 98.10 336 *e*P Pdif 08 01 21.2 +2.5
T24B San Luis 98.11 333 ⇓P Pdif 08 01 19.8 +0.9
baz=98
BDFB Brasilia 98.15 257 PP PP 08 05 19.9 +1.3
comp=Z,3.0nm,0.9s,baz=289,slow=3.6,SNR=3.3
NATX Nacogdoches 98.17 322 PFAKE 08 01 30.0 +11
NATX LR LR
comp=Z,2μm,19.0s
PV01 Paradox Valley 98.23 335 *e*P Pdif 08 01 23.3 +3.9
U25A Circle Dot Ran 98.34 332 ⇓P Pdif 08 01 21.1 +1.3
baz=98
T23A Casias Ranch, 98.36 333 ⇑P Pdif 08 01 21.3 +1.3
baz=98
MTDJ Mount Denham 98.65 302 PFAKE 08 01 30.0 +8.6
MTDJ LR LR
comp=Z,586nm,21.0s
MVCO Mesa Verde 99.05 335 ⇓Pdiff **Pdif** **08 01 23.0 0.0**
baz=99
MVCO Mesa Verde 99.05 335 PFAKE 08 01 30.0 +7.0
MVCO LR LR
comp=Z,885nm,20.0s
Z32A Haskell 99.06 327 ⇑Pdiff **Pdif** **08 01 22.7 -0.1**
baz=99
134A White-Moore Ra 99.07 325 ⇑Pdiff **Pdif** **08 01 22.7 -0.2**
baz=99
U22A Llaves 99.24 333 ⇑Pdiff **Pdif** **08 01 24.5 +0.6**
baz=99
WHTX Lake Whitney, 99.28 324 ⇑Pdiff **Pdif** **08 01 24.4 +0.6**
baz=99
W25A X Bar L Ranch, 99.41 331 ⇓Pdiff **Pdif** **08 01 25.3 +0.8**
baz=99
Y29A Porterfield Fa 99.50 328 ⇑Pdiff **Pdif** **08 01 25.6 +0.7**
baz=99
234A Clairette 99.58 325 ⇓Pdiff **Pdif** **08 01 26.0 +0.8**
baz=99
W24A Lazy 6 Ranch, 99.77 332 ⇓Pdiff **Pdif** **08 01 26.2 0.0**
baz=100
R11A Troy Canyon, C 100.07 341 ⇑Pdiff **Pdif** **08 01 28.0 +0.6**
baz=100
SDV Santo Domingo 100.22 290 PFAKE 08 01 40.0 +12
SDV LR LR
comp=Z,870nm,20.0s
Z28A Tucker Farm, M 100.29 329 ⇑Pdiff **Pdif** **08 01 29.1 +0.7**
baz=100
537A Green Hill Far 100.36 323 ⇓Pdiff **Pdif** **08 01 29.5 +0.9**
baz=100
ANMO Albuquerque 100.39 333 PFAKE 08 01 40.0 +11
ANMO LR LR
comp=Z,983nm,21.0s
NVAR Mina Array Bea 100.66 343 P **Pdif** **08 01 32.5 +2.3**
comp=Z,2.1nm,1.1s,baz=42,slow=5.2,SNR=7.4
NVAR PP **PP** **08 05 38.1 +2.0**
comp=Z,0.8nm,0.9s,baz=48,slow=2.2,SNR=4.4
433A Art 101.07 325 ⇓Pdiff **Pdif** **08 01 32.1 +0.2**
baz=101
WUAZ Wupatki 101.52 337 PFAKE 08 01 50.0 +16
WUAZ LR LR
comp=Z,1μm,20.0s
JCT Junction City 101.62 325 PFAKE 08 01 50.0 +16
JCT LR LR
comp=Z,935nm,22.0s
MNTX Cornudas Mount 102.88 330 PFAKE 08 01 50.0 +10
MNTX LR LR
comp=Z,633nm,20.0s
KVTX Kingsville 103.23 322 PFAKE 08 01 50.0 +8.6
KVTX LR LR
comp=Z,713nm,20.0s
TEIG Tepich 103.96 311 PFAKE 08 02 00.0 +15
TEIG LR LR
comp=Z,555nm,21.0s
TXAR Lajitas Array 104.28 328 P **Pdif** **08 01 46.4 +0.1**
TXAR 08 06 06.5
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 104.28 328 Pdiff **Pdif** **08 01 46.4 +0.1**
comp=Z,0.5nm,1.0s,baz=19,slow=3.9,SNR=3.1
TXAR PP **PP** **08 06 06.5 +3.1**
comp=Z,0.8nm,0.9s,baz=28,slow=5.7,SNR=4.7
TUC Tucson 104.28 335 PFAKE 08 02 00.0 +14
TUC LR LR
comp=Z,878nm,20.0s
PFO Pinyon Flats O 104.78 340 PFAKE 08 02 00.0 +12
PFO LR LR
comp=Z,1μm,21.0s
WRA Warramunga Arr 105.44 103 PP PP 08 06 16.9 +3.5
comp=Z,2.3nm,1.3s,baz=324,slow=5.3,SNR=6.1
WRAB Tennant Creek 105.44 103 PFAKE 08 06 20.0
WRAB LR LR
comp=Z,488nm,21.0s
SAML Samuel 105.86 271 PFAKE 08 06 20.0
SAML LR LR
comp=Z,677nm,21.0s
BCIP Isla Barro Col 106.63 297 PFAKE 08 06 20.0
BCIP LR LR
comp=Z,466nm,21.0s
ASAR Alice Springs 107.27 107 PKiKP **PKiKP** **08 06 06.5 -1.8**
comp=Z,0.4nm,0.8s,baz=326,slow=0.6,SNR=5.7
PMG Port Moresby 109.15 87 PFAKE 08 06 20.0
PMG LR LR
comp=Z,398nm,22.0s
JTS JuntasAbangare 109.32 301 PFAKE 08 06 20.0
JTS LR LR
comp=Z,613nm,21.0s
OTAV Otavalo 111.76 289 PFAKE 08 06 30.0
OTAV LR LR
comp=Z,401nm,20.0s
HOPE Hope Point 113.47 218 PFAKE 08 06 30.0
HOPE LR LR
comp=Z,741nm,20.0s
CTAO Charters Tower 114.69 97 PFAKE 08 06 30.0 +7.6
CTAO LR LR
comp=Z,478nm,20.0s
LVC Limon Verde 118.24 263 PFAKE 08 06 40.0 +11
LVC LR LR
comp=Z,539nm,19.0s
NNA Nana 118.35 277 PFAKE 08 06 40.0 +10
NNA LR LR
comp=Z,623nm,21.0s
HNR Honiara 119.07 78 PFAKE 08 06 40.0 +9.0
HNR LR LR
comp=Z,97nm,21.0s
TRQA Tornquist 120.76 244 PFAKE 08 06 50.0 +16
TRQA LR LR
comp=Z,674nm,19.0s
TARA Tarawa 121.14 59 PFAKE 08 06 50.0 +15
TARA LR LR
comp=Z,3μm,21.0s
CAN Canberra 124.49 110 PFAKE 08 06 50.0 +9.1
CAN LR LR
comp=Z,898nm,20.0s
QSPA South Pole Qui 128.58 180 PKP **PKPdf** **08 06 46.7 -1.0**
comp=Z,5.2nm,1.0s,baz=253,slow=1.5,SNR=10.0
QSPA South Pole Qui 128.58 180 PKP **PKPdf** **08 06 46.7 -1.0**
comp=Z,1μm,19.0s
QSPA LR LR
SBA Scott Base 135.09 166 PFAKE 08 07 10.0 +10
SBA LR LR
comp=Z,770nm,21.0s
SNZO South Karori 145.47 109 PFAKE 08 07 30.0 +10
SNZO LR LR
comp=Z,513nm,19.0s
PPT2 Papeete2 157.30 24 *e*LR LR 09 00 30.9
comp=Z,763nm,25.8s
RKT Rikitea 163.85 343 *e*LR LR 09 03 27.1
comp=Z,688nm,26.8s

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*IDC **08** 08:00:28.6±0.5, 35.28S×72.97W, h0km, mb4.3/11, mb1 4.4/14, mb1mx4.3/24, mbtmp4.3/14, ML4.1/4, Error ellipse: s-maj=23.1km s-min=13.3km az=85.0*
*ISCJB **08** 08:00:29.9±0.3, 35.25S±0.03×73.09W±0.05, h17km, mb4.5/34, Error ellipse: s-maj=6.2km s-min=4.4km az=159.3*
*GUC **08** 08:00:30.0±0.6, 35.25S×73.15W, h33km±7km, ML4.9*
*BJI **08** 08:00:34.2, 35.40S×73.10W, h35km, mB5.5/5, Ms5.4/6, Ms7 5.0/6*
*NEIC **08** 08:00:34.1±0.2, 35.27S×72.92W, h35km, mb4.6/25, Error ellipse: s-maj=7.6km s-min=5.5km az=85.0*
ISC 08 08:00:31.4±0.3, 35.28S±0.04×73.00W±0.06, h17km, n85, σ1§66/111, mb4.6/34, 5C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.86**	**168**	⇓*i*P	**Pb**	**08 00 46.9**	**-1.0**
COCH				*i* S	**Sb**	**08 00 59.4**	**+0.2**
LNCH	**Linares**	**1.27**	**117**	⇑*i*P	**Pn**	**08 00 54.3**	**0.0**
LNCH				*i* S	**Sg**	**08 01 12.4**	**-0.2**
LNCH				AML	AML	08 01 13.3	
comp=N,31μm,0.5s							
NICH	**Los Niches**	**1.48**	**80**	⇑*i*P	**Pn**	**08 00 57.3**	**+0.1**
NICH				*i* S	**Sb**	**08 01 18.2**	**+1.4**
NICH				AML	AML	08 01 25.9	
comp=E,31μm,0.5s							
IHA	**Instituto Hidr**	**2.52**	**27**	⇓*i*P	**Pn**	**08 01 09.7**	**-1.7**
ANTU	**Antumapu**	**2.60**	**50**	*e*P1	**Pn**	**08 01 12.2**	**-0.4**
ANTU				AML	AML	08 02 01.6	
comp=E,4μm,0.5s							
CLCH	**Cerro Calan**	**2.77**	**48**	⇑*i*P	**Pn**	**08 01 14.8**	**-0.3**
CLCH				AML	AML	08 02 14.7	
comp=N,5μm,0.5s							
PEL	**Peldehue**	**2.87**	**43**	⇑*i*P	**Pn**	**08 01 16.0**	**-0.4**
PEL				AML	AML	08 02 09.8	
comp=N,4μm,0.6s							
VLCH	**Valdivia**	**4.52**	**182**	⇑*i*P	**Pn**	**08 01 37.8**	**-1.2**
CFAA	**Coronel Fontan**	**5.41**	**49**	Pn	**Pn**	**08 01 51.4**	**0.0**
comp=N,0.9nm,0.3s,baz=213,slow=12,SNR=102							
CFAA				Lg	Lg	08 03 12.4	
comp=N,1.3nm,0.3s,baz=320,slow=23,SNR=7.1							
PLCA	**Paso Flores**	**5.77**	**161**	Pn	**Pn**	**08 01 57.1**	**+0.8**
comp=N,3.6nm,0.3s,baz=330,slow=10,SNR=103							
PLCA				Lg	Lg	08 03 30.4	
comp=N,6.5nm,0.3s,baz=264,slow=19,SNR=6.1							
PLCA	**Paso Flores**	**5.77**	**161**	Lg	Lg	08 03 30.4	
LVC	**Limon Verde**	**13.12**	**17**	*e*Pn	**Pn**	**08 03 39.3**	**+2.1**
CPUP	**Villa Florida**	**16.14**	**61**	Pn	**P**	**08 04 23.2**	**+2.6**
comp=N,0.2nm,0.3s,baz=281,slow=5.8,SNR=2.4							
CPUP	**Villa Florida**	**16.14**	**61**	*e*Pn	**Pn**	**08 04 17.1**	**-0.3**
LPAZ	**La Paz**	**19.41**	**14**	P	**Pn**	**08 04 58.7**	**+0.1**
comp=N,0.2nm,0.3s,baz=175,slow=7.0,SNR=9.4							
LPAZ	**La Paz**	**19.41**	**14**	*e*P	**Pn**	**08 04 59.0**	**+0.5**
comp=N,2.6nm,0.7s							
USHA	**Ushuaia**	**19.80**	**172**	P	**Pn**	**08 05 02.0**	**-0.3**
comp=N,0.4nm,0.3s,baz=348,slow=9.3,SNR=3.9							
SIV	**San Ignacio**	**21.98**	**32**	P	**P**	**08 05 23.7**	**-0.9**
comp=N,12nm,1.0s,baz=218,slow=8.0,SNR=18							
SAML	**Samuel**	**27.71**	**21**	*e*P	**P**	**08 06 18.3**	**-0.6**
comp=N,1.3nm,0.5s							
BDFB	**Brasilia**	**29.71**	**55**	P	**P**	**08 06 35.3**	**-1.5**
comp=N,1.3nm,0.4s,baz=280,slow=11,SNR=2.5							
ROSC	**El Rosal**	**39.95**	**358**	P	**P**	**08 08 07.5**	**+2.2**

comp=N,3.1nm,0.5s,baz=103,slow=16,SNR=4.2
SDV Santo Domingo 43.99 3 *e*P **P 08 08 37.2 -0.9**
comp=N,8.7nm,0.8s
RCBR Riachuelo 44.99 58 *e*P **P 08 08 46.5 +0.4**
comp=N,25nm,1.4s
VNA3 Neumayer Olymp 48.48 157 P **P 08 09 13.7 +1.0**
VNA2 Neumayer--Watz 49.15 157 P **P 08 09 18.5 +0.8**
SNAA Sanae 50.70 157 P **P 08 09 30.2 +0.5**
SNAA Sanae 50.70 157 P **P 08 09 30.2 +0.5**
comp=N,7.0nm,0.9s,baz=284,slow=8.9,SNR=21
SDDR Presa de Saban 53.99 2 *e*P **P 08 09 55.6 +1.1**
QSPA South Pole Qui 54.95 180 P **P 08 10 01.6 +0.4**
comp=N,3.1nm,0.8s,baz=250,slow=0.4,SNR=12
QSPA South Pole Qui 54.95 180 *e*P **P 08 10 01.9 +0.7**
comp=N,1.6nm,0.5s
TEIG Tepich 57.08 343 *e*P **P 08 10 16.6 -0.1**
comp=N,27nm,1.2s
H06S1 SOCORRO T 64.68 320 T T 09 22 29.7
SNR=16
JCT Junction City 70.11 336 *e*P **P 08 11 43.0 +0.3**
comp=N,4.0nm,0.8s
TXAR Lajitas Array 70.48 332 P **P 08 11 45.1 +0.2**
comp=N,0.9nm,0.6s,baz=157,slow=8.8,SNR=14
SWET Sewanee 71.17 349 *e*P **P 08 11 48.8 -0.2**
comp=N,3.3nm,0.6s
MIAR Mount Ida 72.08 342 *e*P **P 08 11 53.9 -0.5**
comp=N,2.0nm,1.0s
WVT Waverly 72.38 347 *e*P **P 08 11 55.5 -0.6**
comp=N,9.3nm,0.9s
TUL1 Leonard 73.95 341 *e*P **P 08 12 04.9 -0.5**
comp=N,4.7nm,0.7s
ACSO Alum Creek Sta 75.70 352 *e*P **P 08 12 15.0 -0.6**
comp=N,10nm,0.7s
DBIC Dimbokro 76.34 72 P **P 08 12 20.0 +0.2**
comp=N,8.9nm,0.8s,baz=156,slow=6.7,SNR=7.4
DBIC Dimbokro 76.34 72 *e*P **P 08 12 20.0 +0.2**
comp=N,7.4nm,0.7s
ANMO Albuquerque 76.54 332 *e*P **P 08 12 21.2 +0.5**
comp=N,55nm,2.8s
TSUM Tsumeb 79.62 106 *e*P **P 08 12 38.7 +0.5**
comp=N,8.6nm,1.3s
BOSA Boshof 80.17 118 P **P 08 12 41.4 +0.3**
comp=N,13nm,0.8s,baz=240,slow=3.9,SNR=28
BOSA Boshof 80.17 118 *e*P **P 08 12 41.2 +0.1**
comp=N,11nm,0.9s
SMCO Snowmass 80.47 334 *e*P **P 08 12 43.7 +1.2**
comp=N,4.6nm,1.0s
ECSD EROS Data Cent 81.53 343 *e*P **P 08 12 47.1 -0.5**
comp=N,7.8nm,0.8s
CCUT Cedar City 81.58 329 *e*P **P 08 12 49.9 +1.6**
comp=N,7.9nm,1.7s
SRU San Rafael Swe 81.75 331 *e*P **P 08 12 49.2 +0.1**
comp=N,2.4nm,0.8s
LBTB Lobatse 82.48 115 *e*P **P 08 12 53.6 +0.3**
comp=N,9.9nm,0.9s
DUG Dugway, Tooele 83.59 330 *e*P **P 08 12 59.0 +0.4**
comp=N,4.9nm,1.2s
HWUT Hardware Ranch 84.30 332 *e*P **P 08 13 02.6 +0.4**
comp=N,5.7nm,1.0s
NVAR Mina Array Bea 84.49 326 P **P 08 13 04.3 +1.0**
comp=N,1.3nm,1.1s,baz=153,slow=5.5,SNR=5.5
PDAR Pinedale Array 84.55 334 P **P 08 13 04.3 +0.7**
comp=N,0.4nm,0.7s,baz=147,slow=6.2,SNR=3.7
HVU Hansel Valley 84.92 331 *e*P **P 08 13 05.3 0.0**
comp=N,3.0nm,1.0s
TORD Torodi Ar. Bea 85.39 70 P **P 08 13 07.9 -0.2**
comp=N,2.2nm,0.8s,baz=253,slow=4.4,SNR=12
ULM Lac du Bonnet 87.53 346 P **P 08 13 17.3 -0.5**
comp=N,2.8nm,0.9s,baz=176,slow=1.2,SNR=6.0
MCMT McKenzie Canyo 87.54 333 *e*P **P 08 13 19.0 +0.7**
comp=N,2.4nm,1.3s
DGMT Dagmar 87.91 340 *e*P **P 08 13 19.6 0.0**
comp=N,14nm,1.0s
YKA Yellowknife Ar 103.02 342 Pdiff **Pdif 08 14 27.1 -1.1**
comp=N,0.1nm,0.4s,baz=138,slow=4.1,SNR=5.3
ILAR Eielson Array 114.97 333 PKP PKPdf 08 19 10.1 -0.3
comp=N,0.2nm,0.7s,baz=147,slow=3.1,SNR=4.5
ASAR Alice Springs 116.07 208 PKP **PKPdf 08 19 13.4 -0.5**
comp=N,0.3nm,0.6s,baz=124,slow=2.3,SNR=4.5
HFS Hagfors 118.31 35 PKP **PKPdf 08 19 15.5 -1.4**
comp=N,0.7nm,0.7s,baz=182,slow=27,SNR=2.7
WRA Warramunga Arr 119.26 210 PKP **PKPdf 08 19 18.2 -1.9**
comp=N,1.1nm,0.7s,baz=170,slow=1.5,SNR=20
AKASG Malin Array Be 123.64 48 PKP **PKPdf 08 19 26.4 -1.0**
comp=N,1.0nm,0.5s,baz=261,slow=2.5,SNR=4.6
FINES FINESS Array B 124.50 35 PKP **PKPdf 08 19 28.2 -0.6**
comp=N,2.6nm,0.9s,baz=5.7,slow=3.8,SNR=3.5
PETK Petropavlovsk- 140.46 313 PKhKP PKPpre 08 19 54.0
comp=N,0.8nm,0.5s,baz=292,slow=30,SNR=5.0
BRVK Borovoye 148.68 44 *e*PKPdf **PKPdf 08 20 13.6 +0.3**
BRVK *e*PKPbc **PKPbc 08 20 17.4 +0.3**
BRVK *e*PKPab **PKPab 08 20 21.2 +0.5**
BVAR Borovoye Array 148.76 44 PKP **PKPdf 08 20 13.9 +0.6**
comp=N,3.7nm,0.6s,baz=305,slow=5.2,SNR=8.9
BVAR PKPbc **PKPbc 08 20 17.7 +0.5**
comp=N,3.7nm,0.6s,baz=296,slow=3.5,SNR=20
HYB Hyderabad 149.08 118 *i*PKP **PKPbc 08 20 18.0 -1.1**
KKAR Karatay Array 150.84 63 *e*PKPbc **PKPbc 08 20 22.2 -0.4**
EKS2 Erkin-Say 153.27 64 *e*PKPdf **PKPdf 08 20 21.1 +0.3**
EKS2 *e*PKPbc **PKiKP 08 20 28.7 +0.2**
EKS2 *e*PKPab **PKPab 08 20 40.3 0.0**
KURBB Kurchatov Arra 154.34 45 PKP **PKPdf 08 20 21.7 -0.2**
comp=N,0.5nm,0.3s,baz=4.6,slow=14,SNR=3.5
KURBB PKPbc **PKPbc 08 20 29.9 -0.2**
comp=N,2.5nm,0.6s,baz=297,slow=2.9,SNR=13
KURK Kurchatov 154.35 44 PKP **PKPdf 08 20 21.7 -0.2**
KURK *e*PKPbc **PKPbc 08 20 29.6 -0.6**
KURK PKPbc **PKiKP 08 20 29.9 -0.3**
KSH Kashi 155.06 71 PKPbc **PKPdf 08 20 23.9 +0.5**
KSH sPKP 08 20 36.6
KSH PKS **PKSdf 08 23 57.0 -0.6**
KSH PP **PP 08 24 22.9 -1.8**
KSH SKS **SKSdf 08 27 23.1 -6.2**
KSH SKKS **SKKSac 08 31 09.9 -3.5**
KSH SS **SS 08 44 02.2 -5.9**
KSH PPMZ
comp=N,220nm,6.9s
KSH LN
comp=N,99nm,4.6s
KSH LE
comp=N,38nm,3.5s
KSH LZ
comp=N,250nm,7.3s
ZALV Zalesovo Beam 155.73 33 PKP **PKPdf 08 20 23.1 -0.6**
comp=N,1.7nm,0.7s,baz=282,slow=2.7,SNR=6.4
ZALV PKPab **PKPab 08 20 50.5 +0.3**
comp=N,3.0nm,0.5s,baz=310,slow=5.6,SNR=7.1
MKAR Makanchi Array 158.20 51 PKPab **PKPab 08 21 01.5 +0.3**
comp=N,0.5nm,0.6s,baz=279,slow=2.3,SNR=4.2
CMAR Chiang Mai Arr 161.78 155 PKP **PKPdf 08 20 31.6 -0.4**
comp=N,1.4nm,0.4s,baz=247,slow=3.0,SNR=4.5
CMAR PKPab **PKPab 08 21 15.8 -1.5**
comp=N,1.1nm,0.3s,baz=246,slow=4.6,SNR=4.2
WMQ Urumqi 162.87 54 *e*PKP **PKPdf 08 20 31.2 -1.2**
WMQ pPKP **pPKPdf 08 20 42.1 +3.8**
WMQ PKPab **PKPab 08 21 23.9 +2.2**
WMQ PKS **PKSdf 08 24 03.2 -2.2**
WMQ PP **PP 08 25 08.6 +1.9**
WMQ SKKS 08 31 51.7
WMQ SS **SS 08 45 27.8 -2.3**
WMQ PPMZ
comp=N,930nm,8.0s
WMQ LN
comp=N,100nm,22.0s
WMQ LE
comp=N,230nm,22.0s
WMQ LZ
comp=N,86nm,24.0s
CN2 Changchun 163.45 306 *e*PKP **PKPdf 08 20 34.0 +1.2**
SONM Songino Array 167.45 2 PKPab **PKPab 08 21 42.5 +0.8**
comp=N,0.8nm,0.9s,baz=347,slow=2.4,SNR=4.9
GTA Gaotai 172.95 52 *e*PKP **PKPdf 08 20 40.3 +0.7**
GTA pPKP **pPKPdf 08 20 51.0 +5.5**
GTA sPKP 08 20 54.6
GTA PKPab **PKPab 08 22 08.7 +2.3**
HHC Hu-ho-hao-te 173.38 328 *e*PKP **PKPdf 08 20 39.6 -0.1**
HHC pPKP **pPKPdf 08 20 50.4 +4.8**
HHC sPKP 08 20 54.0
HHC PP **PP 08 26 03.0 +3.4**
HHC SKS **SKSdf 08 27 37.5 -4.6**
HHC SS **SS 08 47 12.6 -1.7**
HHC PPMZ
comp=N,1μm,7.4s
HHC LN
comp=N,280nm,18.5s
HHC LE
comp=N,240nm,18.5s
HHC LZ
comp=N,220nm,19.7s
CD2 Chengdu 174.86 147 *e*PKP **PKPdf 08 20 40.2 -0.2**
LZH Lanzhou 177.31 72 *e*PKP **PKPdf 08 20 40.1 -0.9**
LZH pPKP **pPKPdf 08 20 51.3 +4.4**
LZH sPKP 08 20 55.2
LZH LN
comp=N,170nm,18.3s
LZH LE
comp=N,170nm,18.0s
LZH LZ
comp=N,210nm,20.1s

*DDA **08** 08:06:07.4, 38.°74N×39.°99E, h10km, MD3.5*
*ISK **08** 08:06:07.2, 38.°78N×40.°09E, h2km, ML3.8*
*CSEM **08** 08:06:08.4±0.2, 38.°78N×40.°03E, h2km, ML3.8, Error ellipse: s-maj=6.0km s-min=5.4km az=10.0*
ISC 08 08:06:08.2±1.1, 38.°78N±0.°02×40.°04E±0.°02, h4km±11km, n63, σ0.98/88, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bing^||**	**0.54**	**67**	PG	**Pg**	**08 06 17.9**	**-0.7**
ERZN	**Erzincan**	**0.84**	**343**	*e*PG	**Pb**	**08 06 24.4**	**-1.0**
BNGL	**BINGOL**	**0.88**	**78**	*i* P	**Pg**	**08 06 24.7**	**-0.5**
BNGL				*i* S	**Sb**	**08 06 38.4**	**-0.1**
EUZM	**Uzumlu**	**0.96**	**344**	*i* P	**Pg**	**08 06 26.3**	**-0.4**
EUZM				*i* S	**Sb**	**08 06 40.9**	**+0.2**
EUZM	**Uzumlu**	**0.96**	**344**	*i* P	**Pg**	**08 06 26.3**	**-0.4**
EUZM				*i* S	**Sb**	**08 06 40.9**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.11**	**124**	*e*PG	**Pg**	**08 06 28.7**	**-0.7**
SVAN				*e*SG	**Sb**	**08 06 44.3**	**-0.3**
VRTB	**Varto-Mus**	**1.17**	**71**	*e*PN	**Pg**	**08 06 29.7**	**-0.9**
VRTB	**Varto-Mus**	**1.17**	**71**	*e*Pn	**Pg**	**08 06 29.7**	**-0.9**
BTMT	**Batman**	**1.28**	**117**	*e*PN	**Pn**	**08 06 31.9**	**-1.0**
BTMT	**Batman**	**1.28**	**117**	*e*Pn	**Pn**	**08 06 31.9**	**-1.0**
KOPT	**Kop Dagi**	**1.29**	**16**	*i* P	**Pb**	**08 06 32.7**	**-0.4**
KOPT	**Kop Dagi**	**1.29**	**16**	*i* P	**Pb**	**08 06 32.7**	**-0.4**
KEMA	**Kemaliye**	**1.30**	**293**	*i* P	**Pn**	**08 06 31.3**	**-1.9**
KEMA				*i* S	**Sg**	**08 06 48.8**	**-1.1**
KEMA	**Kemaliye**	**1.30**	**293**	*i* P	**Pn**	**08 06 31.3**	**-1.9**
KEMA				*i* S	**Sg**	**08 06 48.8**	**-1.1**
BEST	**Besiri**	**1.31**	**132**	*i* P	**Pn**	**08 06 32.4**	**-0.9**
BEST				*i* S	**Sn**	**08 06 51.8**	**+0.4**
ILIC	**ilic-Erzincan**	**1.33**	**301**	*e*PN	**Pg**	**08 06 33.8**	**+0.2**
ILIC	**ilic-Erzincan**	**1.33**	**301**	*e*Pn	**Pg**	**08 06 33.8**	**+0.2**
MALT	**Malatya**	**1.35**	**250**	*e*PN	**Pg**	**08 06 34.4**	**+0.4**
MALT	**Malatya**	**1.35**	**250**	*e*Pn	**Pg**	**08 06 34.4**	**+0.4**
MAZI	**Mazidag**	**1.36**	**166**	*e*PN	**Pn**	**08 06 33.7**	**-0.3**
MAZI	**Mazidag**	**1.36**	**166**	*e*Pn	**Pn**	**08 06 33.7**	**-0.3**
KELT	**Kelkit**	**1.50**	**336**	*i* P	**Pb**	**08 06 36.2**	**-0.4**
KELT				*i* S	**Sg**	**08 06 57.4**	**+1.1**
KELT	**Kelkit**	**1.50**	**336**	*i* P	**Pb**	**08 06 36.2**	**-0.4**
KELT				*i* S	**Sg**	**08 06 57.4**	**+1.1**
ERZM	**Erzurum**	**1.52**	**42**	*e*PN	**Pn**	**08 06 36.6**	**-0.6**
ERZM	**Erzurum**	**1.52**	**42**	*i* P	**Pb**	**08 06 36.6**	**-0.6**
ERZM				*i* S	**Sg**	**08 06 57.6**	**+0.4**
ERZM	**Erzurum**	**1.52**	**42**	*i* P	**Pb**	**08 06 36.6**	**-0.6**
ERZM				*i* S	**Sg**	**08 06 57.6**	**+0.4**
MARD	**Mardin**	**1.58**	**158**	*i* P	**Pn**	**08 06 37.1**	**+0.1**
MARD				*i* S	**Sn**	**08 06 57.8**	**0.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.61**	**3**	*e*PN	**Pb**	**08 06 37.6**	**-1.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.61**	**3**	*e*Pn	**Pb**	**08 06 37.6**	**-1.0**
URFA	**Urfa**	**1.65**	**216**	*e*PN	**Pb**	**08 06 38.3**	**-0.8**
URFA	**Urfa**	**1.65**	**216**	*e*Pn	**Pb**	**08 06 38.3**	**-0.8**
EKAR	**Karacoban**	**1.65**	**73**	*i* P	**Pg**	**08 06 39.7**	**-0.1**
EKAR				*i* S	**Sg**	**08 07 03.8**	**+2.6**
EKAR	**Karacoban**	**1.65**	**73**	*i* P	**Pg**	**08 06 39.7**	**-0.1**
EKAR				*i* S	**Sg**	**08 07 03.8**	**+2.6**
GUMT	**Gumushane**	**1.73**	**346**	*e*PN	**Pb**	**08 06 39.7**	**-0.9**
GUMT	**Gumushane**	**1.73**	**346**	*e*Pn	**Pb**	**08 06 39.7**	**-0.9**
TATV	**Tatvan**	**1.77**	**98**	*i* P	**Pn**	**08 06 40.0**	**+0.3**
TATV				*i* S	**Sg**	**08 07 06.2**	**+1.3**
TATV	**Tatvan**	**1.77**	**98**	*i* P	**Pn**	**08 06 40.0**	**+0.3**
TATV				*i* S	**Sg**	**08 07 06.2**	**+1.3**
ATAB	**Bozova**	**1.90**	**227**	*i* P	**Pb**	**08 06 42.8**	**-0.6**
ATAB				*i* S	**Sg**	**08 07 08.7**	**-0.4**
ATAB	**Bozova**	**1.90**	**227**	*i* P	**Pb**	**08 06 42.8**	**-0.6**
ATAB				*i* S	**Sg**	**08 07 08.7**	**-0.4**
HOMI	**Horasan**	**1.92**	**48**	*i* P	**Pb**	**08 06 43.1**	**-0.8**
HOMI				*i* S	**Sg**	**08 07 11.8**	**+1.9**
DARE	**Darende-Malaty**	**2.01**	**265**	*e*PN	**Pn**	**08 06 43.7**	**+0.7**
DARE	**Darende-Malaty**	**2.01**	**265**	*e*Pn	**Pn**	**08 06 43.7**	**+0.7**
SUSE	**Susehri**	**2.01**	**316**	*i* P	**Pb**	**08 06 45.1**	**-0.3**
SUSE				*i* S	**Sg**	**08 07 12.6**	**-0.3**
SUSE	**Susehri**	**2.01**	**316**	*i* P	**Pb**	**08 06 45.1**	**-0.3**
SUSE				*i* S	**Sg**	**08 07 12.6**	**-0.3**
EATA	**Eleskirt**	**2.19**	**60**	*i* P	**Pb**	**08 06 48.7**	**+0.2**
EATA	**Eleskirt**	**2.19**	**60**	*i* P	**Pb**	**08 06 48.7**	**+0.2**
EATA				*i* S	**Sg**	**08 07 19.4**	**+0.9**
SIRT	**Sirnak**	**2.28**	**123**	*e*PN	**Pn**	**08 06 46.7**	**0.0**
SIRT	**Sirnak**	**2.28**	**123**	*e*Pn	**Pn**	**08 06 46.7**	**0.0**
ESPY	**Espiye-Giresun**	**2.36**	**335**	*e*PN	**Pn**	**08 06 48.3**	**+0.6**
ESPY	**Espiye-Giresun**	**2.36**	**335**	*e*Pn	**Pn**	**08 06 48.3**	**+0.6**
GEVA	**Gevas**	**2.41**	**100**	*i* P	**Pb**	**08 06 51.1**	**-1.1**
GEVA	**Gevas**	**2.41**	**100**	*i* P	**Pb**	**08 06 51.1**	**-1.1**
GEVA				*i* S	**Sg**	**08 07 24.7**	**-1.0**
GZT	**Gaziantep**	**2.42**	**235**	*i* P	**Pn**	**08 06 49.9**	**+1.4**
AGRB	**Hanur-Agry**	**2.43**	**70**	*e*PN	**Pn**	**08 06 48.4**	**-0.4**
AGRB	**Hanur-Agry**	**2.43**	**70**	*e*Pn	**Pn**	**08 06 48.4**	**-0.4**
DDEM	**Demirkent**	**2.49**	**31**	*i* P	**Pn**	**08 06 50.1**	**+0.6**
DDEM	**Demirkent**	**2.49**	**31**	*i* P	**Pn**	**08 06 50.1**	**+0.6**
GRSN	**GIRESUNGRSN**	**2.54**	**328**	*i* P	**Pb**	**08 06 54.2**	**-0.1**
GRSN	**GIRESUNGRSN**	**2.54**	**328**	*i* P	**Pb**	**08 06 54.2**	**-0.1**
GRSN				*i* S	**Sg**	**08 07 27.5**	**-2.3**
DBAD	**Bademkaya**	**2.57**	**29**	*i* P	**Pn**	**08 06 51.6**	**+0.9**
DBAD	**Bademkaya**	**2.57**	**29**	*i* P	**Pn**	**08 06 51.6**	**+0.9**
DAGI	**Agilar**	**2.71**	**32**	*i* P	**Pn**	**08 06 53.5**	**+0.9**
ANDN	**Andirin**	**3.15**	**249**	*i* P	**Pg**	**08 07 09.2**	**+0.7**
ANDN				*i* S	**Sg**	**08 07 53.0**	**+3.7**

*IDC **08** 08:07:52.0±0.4, 33.°81S×72.°13W, h0km, mb4.8/15, mb1 4.9/18, mb1mx4.8/25, mbtmp4.8/18, ML5.0/3, MS4.4/7, Ms1 4.4/7, ms1mx4.1/23, Error ellipse: s-maj=19.8km s-min=12.5km az=87.0*
*ISCJB **08** 08:07:54.9±0.1, 33.°64S±0.°03×71.°91W±0.°05, h24km, mb5.1/137, MS4.5/4, Error ellipse: s-maj=6.0km s-min=3.6km az=154.9*
*GUC **08** 08:07:54.5±0.9, 33.°85S×72.°35W, h36km±7km, ML5.1*
*BJI **08** 08:07:56.2, 33.°58S×71.°22W, h31km, mB5.4/10, Ms5.6/12, Ms7 5.2/12*
*NEIC **08** 08:07:56.6±0.3, 33.°78S×72.°00W, h28km±1km, mb5.1/124, ML5.1(GUC), Error ellipse: s-maj=5.1km s-min=3.4km az=61.0*
NEIC Felt [II] at Santiago. Also felt at Quilpue, San Antonio, Valparaiso and Vina del Mar. Felt at Mendoza, Argentina.
*MOS **08** 08:07:56.4±1.2, 33.°76S×72.°17W, h33km, mb5.3/48, Error ellipse: s-maj=15.3km s-min=7.5km az=100.8*
ISC 08 08:07:56.6±0.5, 33.°84S±0.°03×72.°11W±0.°04, h30km±3km, h29km:pP-P, n745, σ0.93/793, mb5.1/137, MS4.5/4, 182C-216D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.90**	**26**	⇑*i*P	**Pn**	**08 08 12.6**	**-0.6**
IHA	**Instituto Hidr**	**0.90**	**26**	⇑*i*P	**Pn**	**08 08 12.6**	**-0.6**
ANTU	**Antumapu**	**1.26**	**78**	⇓*i*P	**Pn**	**08 08 18.9**	**+0.7**
ANTU				*i* S1	**Sb**	**08 08 37.6**	**+2.0**
ANTU				AML	AML	08 08 38.9	
	comp=E,34μm,0.7s						
ANTU	**Antumapu**	**1.26**	**78**	⇓*i*P	**Pn**	**08 08 18.9**	**+0.7**
ANTU				*i* S	**Sb**	**08 08 37.6**	**+2.0**
NICH	**Los Niches**	**1.37**	**148**	⇑*i*P	**Pn**	**08 08 20.0**	**+0.4**
NICH				*i* S	**Sb**	**08 08 39.4**	**+0.7**
NICH				AML	AML	08 08 45.6	
	comp=N,98μm,0.5s						
NICH	**Los Niches**	**1.37**	**148**	⇑*i*P	**Pn**	**08 08 20.0**	**+0.4**
NICH				*i* S	**Sb**	**08 08 39.4**	**+0.7**
LACH	**Col Las Americ**	**1.37**	**74**	⇓*i*P	**Pn**	**08 08 20.5**	**+0.7**
LACH				*e*S1	**Sb**	**08 08 40.9**	**+2.0**
LACH				AML	AML	08 08 43.9	
	comp=N,15μm,0.5s						
LACH	**Col Las Americ**	**1.37**	**74**	⇓*i*P	**Pn**	**08 08 20.5**	**+0.7**
LACH				*e*S	**Sb**	**08 08 40.9**	**+2.0**
PEL	**Peldehue**	**1.38**	**60**	⇑*i*P	**Pb**	**08 08 21.2**	**-0.6**
PEL				*i* S	**Sb**	**08 08 41.6**	**+2.6**
PEL	**Peldehue**	**1.38**	**60**	⇑*i*P	**Pb**	**08 08 21.1**	**-0.6**
PEL				*i* S	**Sb**	**08 08 41.6**	**+2.6**
CLCH	**Cerro Calan**	**1.39**	**72**	⇓*i*P	**Pb**	**08 08 21.0**	**-0.9**
CLCH				*i* S1	**Sn**	**08 08 42.4**	**+5.1**
CLCH				AML	AML	08 09 00.5	
	comp=E,41μm,0.8s						
LNCH	**Linares**	**2.04**	**168**	*i* P9	**Pb**	**08 08 32.5**	**-0.5**
LNCH				*e*S1	**Sb**	**08 08 58.3**	**+0.3**
LNCH				AML	AML	08 09 02.8	
	comp=N,30μm,0.6s						
LNCH	**Linares**	**2.04**	**168**	*i* P	**Pb**	**08 08 32.5**	**-0.5**
LNCH				*e*S	**Sb**	**08 08 58.3**	**+0.3**
CFAA	**Coronel Fontan**	**3.95**	**57**	Pn	**Pn**	**08 08 57.3**	**+2.1**
	comp=N,11nm,0.3s,baz=225,slow=11,SNR=359						
CFAA				Lg	Lg	08 09 55.6	
	comp=N,5.6nm,0.3s,baz=316,slow=22,SNR=3.5						
CFAA				LR	LR	08 10 52.2	
	comp=N,985nm,18.1s,baz=238,slow=46						
PLCA	**Paso Flores**	**6.99**	**170**	Pn	**Pn**	**08 09 37.3**	**+0.3**
	comp=N,6.0nm,0.3s,baz=340,slow=9.7,SNR=54						
PLCA				Lg	Lg	08 11 34.8	
	comp=N,2.3nm,0.3s,baz=251,slow=22,SNR=3.7						
PLCA				LR	LR	08 12 49.7	
	comp=N,2μm,19.2s,baz=350,slow=42						
PLCA	**Paso Flores**	**6.99**	**170**	*e*Pn	**Pn**	**08 09 36.8**	**-0.2**
PLCA				Lg	Lg	08 11 34.8	
TRQA	**Tornquist**	**9.22**	**120**	*e*Pn	**Pn**	**08 10 07.8**	**+0.1**
TRQA				*e*Sn	**Sn**	**08 11 45.2**	**-5.2**
LVC	**Limon Verde**	**11.54**	**15**	*e*Pn	Pn	08 10 33.8	-5.8
LVC				*e*Sn	**Sn**	**08 12 42.9**	**-4.6**
CPUP	**Villa Florida**	**14.81**	**64**	*e*P	**Pn**	**08 11 20.9**	**-3.1**
CPUP				*e*		08 14 05.3	
CPUP	**Villa Florida**	**14.81**	**64**	Pn	**Pn**	**08 11 23.1**	**-0.9**
	comp=N,1.5nm,0.3s,baz=207,slow=9.8,SNR=8.5						
CPUP				LR	LR	08 17 32.9	
	comp=N,2μm,21.0s,baz=226,slow=39						
CPUP	**Villa Florida**	**14.81**	**64**	*e*Pn	**Pn**	**08 11 20.9**	**-3.1**
CPUP				*e*Sn	**Sn**	**08 14 05.3**	**-1.8**
LPAZ	**La Paz**	**17.84**	**13**	*e*P	**Pn**	**08 12 02.8**	**-0.5**
LPAZ				pmax	pmax		
	comp=Z,49nm,0.8s						
LPAZ	**La Paz**	**17.84**	**13**	P	**Pn**	**08 12 03.4**	**+0.1**
	comp=Z,2.3nm,0.3s,baz=183,slow=6.7,SNR=103						
LPAZ	**La Paz**	**17.84**	**13**	*e*Pn	**Pn**	**08 12 02.8**	**-0.5**
	comp=Z,49nm,0.8s						
SIV	**San Ignacio**	**20.37**	**32**	P	**P**	**08 12 29.8**	**-1.1**
	comp=Z,49nm,0.8s,baz=224,slow=11,SNR=35						
SIV				LR	LR	08 21 48.9	
	comp=Z,2μm,19.1s,baz=229,slow=41						
EFI	**East Falkland**	**20.53**	**154**	P	**P**	**08 12 31.8**	**-0.5**
	comp=Z,783nm,0.5s,SNR=9.1						
EFI	**East Falkland**	**20.53**	**154**	*e*P	**P**	**08 12 31.8**	**-0.5**
EFI				pmax	pmax		
	comp=Z,149nm,1.2s						
EFI	**East Falkland**	**20.53**	**154**	*e*P	**P**	**08 12 31.8**	**-0.5**
	comp=Z,149nm,1.2s						
USHA	**Ushuaia**	**21.14**	**174**	P	**P**	**08 12 42.1**	**+3.1**
	comp=Z,33nm,0.8s,baz=354,slow=7.7,SNR=12						
NNA	**Nana**	**22.18**	**348**	*e*P	**P**	**08 12 50.8**	**+0.4**
NNA	**Nana**	**22.18**	**348**	P	**P**	**08 12 51.3**	**+0.8**
	comp=Z,16nm,0.8s,baz=181,slow=12,SNR=8.5						
NNA	**Nana**	**22.18**	**348**	*e*P	**P**	**08 12 50.0**	**-0.4**
	comp=Z,345nm,2.2s						
SAML	**Samuel**	**26.10**	**20**	*e*P	**P**	**08 13 27.1**	**-0.8**
	comp=Z,56nm,0.8s						
BDFB	**Brasilia**	**28.29**	**56**	P	**P**	**08 13 46.9**	**-0.8**
BDFB				pmax	pmax		
	comp=Z,29nm,0.6s						
BDFB				MLR	MLR		
	comp=Z,1μm,20.1s						
BDFB	**Brasilia**	**28.29**	**56**	P	**P**	**08 13 46.9**	**-0.8**
	comp=Z,29nm,0.6s,baz=229,slow=8.2,SNR=51						
BDFB				LR	LR	08 26 02.2	
	comp=Z,1μm,20.1s,baz=221,slow=38						
SDV	**Santo Domingo**	**42.51**	**2**	*e*P	**P**	**08 15 49.0**	**-0.6**
	comp=Z,17nm,1.0s						
RCBR	**Riachuelo**	**43.61**	**58**	P	**P**	**08 15 58.7**	**+0.3**
	comp=Z,11nm,0.9s,baz=225,slow=13,SNR=6.3						
RCBR	**Riachuelo**	**43.61**	**58**	*e*P	**P**	**08 15 58.5**	**+0.1**
	comp=Z,13nm,0.9s						
VNA3	**Neumayer Olymp**	**49.53**	**158**	P	**P**	**08 16 45.3**	**+1.2**
VNA2	**Neumayer--Watz**	**50.18**	**157**	P	**P**	**08 16 50.2**	**+1.2**
SNAA	**Sanae**	**51.75**	**158**	P	**P**	**08 17 01.7**	**+0.7**
SNAA	**Sanae**	**51.75**	**158**	*e*P	**P**	**08 17 01.4**	**+0.4**
SNAA	**Sanae**	**51.75**	**158**	*c i*P	**P**	**08 17 01.5**	**+0.6**
SNAA				pmax	pmax		
	comp=Z,62nm,1.2s						
SNAA	**Sanae**	**51.75**	**158**	P	**P**	**08 17 01.6**	**+0.7**
	comp=Z,13nm,1.0s,baz=273,slow=7.7,SNR=45						
CRPR	**Cabo Rojo, PR**	**51.78**	**6**	*e*P	**P**	**08 17 00.8**	**-0.7**
	comp=Z,74nm,1.0s						
OBIP	**Obispado Ponce**	**51.86**	**7**	*e*P	**P**	**08 17 02.0**	**-0.2**
	comp=Z,52nm,0.6s						
SABA	**Saba**	**51.87**	**11**	*e*P	**P**	**08 17 01.9**	**-0.4**
	comp=Z,166nm,0.8s						
CELP	**Cerrillos**	**51.89**	**7**	*e*P	**P**	**08 17 01.7**	**-0.7**
HUMP	**Col San Antoni**	**52.04**	**8**	*e*P	P	08 16 55.1	-8.4
LRS	**Lares**	**52.08**	**6**	*e*P	**P**	**08 17 02.8**	**-1.1**
SDDR	**Presa de Saban**	**52.53**	**1**	*e*P	**P**	**08 17 06.8**	**-0.4**
	comp=Z,4.9nm,0.4s						
TEIG	**Tepich**	**55.93**	**342**	*e*P	**P**	**08 17 31.6**	**-0.3**
	comp=Z,31nm,0.8s						
QSPA	**South Pole Qui**	**56.39**	**180**	P	**P**	**08 17 35.6**	**+0.7**
	comp=Z,23nm,1.0s,baz=156,slow=1.8,SNR=36						
QSPA	**South Pole Qui**	**56.39**	**180**	*e*P	**P**	**08 17 35.6**	**+0.7**
	comp=Z,62nm,1.0s						
NVL	**N'lazarevskaya**	**56.49**	**157**	*e*P	P	08 17 42.8	+7.5
NVL				pmax	pmax		
	comp=Z,18nm,0.8s					

537A Green Hill Far 67.57 337 ⇓P P 08 18 50.8 +0.7
baz=68,SNR=5.0
732A Laxson Ranch, 67.59 334 ⇑P P 08 18 50.6 +0.3
baz=68,SNR=22
634A China Grove, S 67.61 335 ⇓P P 08 18 50.9 +0.5
baz=68
GOGA Godfrey 67.75 350 eP P 08 18 50.4 -0.8
GOGA e*PP pP 08 18 57.7 -2.8
GOGA pmax pmax
comp=Z,28nm,1.4s
GOGA Godfrey 67.75 350 eP P 08 18 50.4 -0.8
comp=Z,28nm,1.4s
GOGA epP pP 08 18 57.7 -2.8
536A Bastrop 67.81 337 ⇓P P 08 18 51.9 +0.2
baz=68
438A Sam Houston St 67.93 338 ⇑P P 08 18 53.0 +0.6
baz=68
535A Dale 67.93 336 ⇑P P 08 18 52.8 +0.3
baz=68,SNR=6.9
633A Saathoff Ranch 67.97 335 ⇓P P 08 18 52.9 +0.2
baz=68
LRAL Lakeview Retre 67.98 347 eP P 08 18 52.1 -0.6
comp=Z,8.9nm,0.9s
340A Bronson 68.08 340 ⇓P P 08 18 53.9 +0.5
baz=68,SNR=8.0
339A Huntington 68.20 339 ⇑P P 08 18 54.6 +0.5
baz=68,SNR=5.1
632A Uvalde 68.23 334 ⇑P P 08 18 54.7 +0.3
baz=68,SNR=13
534A Blanco 68.24 336 ⇓P P 08 18 54.1 -0.3
baz=68
631A Perdido Creek 68.44 333 ⇑P P 08 18 55.4 -0.2
baz=69,SNR=9.3
338A Crockett 68.44 339 ⇓P P 08 18 56.3 +0.6
baz=69,SNR=5.0
533A Kerrville 68.47 335 ⇑P P 08 18 56.1 +0.2
baz=69,SNR=11
337A Centerville 68.58 338 ⇑P P 08 18 57.2 +0.8
baz=69
435B Jarrell 68.63 337 ⇓P P 08 18 57.1 +0.2
baz=69
239A Gary 68.81 340 ⇑P P 08 18 58.4 +0.5
baz=69
532A Rocksprings 68.84 334 ⇑P P 08 18 58.6 +0.4
baz=69,SNR=28
434A Burnet 68.89 336 ⇑P P 08 18 58.5 0.0
baz=69,SNR=15
CNNC Cliffs of the 68.94 355 eP P 08 18 59.0 +0.4
comp=Z,16nm,0.6s
CNNC epP pP 08 19 06.8 -1.0
336A Riesel 68.95 337 ⇑P P 08 18 58.9 +0.1
baz=69
238A Jacksonville 68.99 339 ⇓P P 08 18 59.2 +0.1
baz=69
335A Moody 69.04 337 ⇑P P 08 18 59.5 +0.2
baz=69,SNR=8.2
531A Rocksprings 69.10 334 ⇑P P 08 19 00.2 +0.4
baz=69,SNR=12
433A Art 69.12 335 ⇓P P 08 18 59.8 -0.1
baz=69,SNR=22
JCT Junction City 69.12 335 eP P 08 19 00.2 +0.3
JCT pmax pmax
comp=Z,39nm,0.8s
JCT Junction City 69.12 335 ⇑P P 08 19 00.0 +0.1
baz=69,SNR=27
JCT Junction City 69.12 335 eP P 08 19 00.2 +0.3
comp=Z,39nm,0.8s
KMSC Kings Mountain 69.17 352 ⇓P P 08 18 59.3 -0.7
baz=70,SNR=5.9
237A Washetta, Mont 69.20 339 ⇑P P 08 19 00.5 +0.2
baz=70,SNR=5.2
334A Lometa 69.35 336 ⇑P P 08 19 01.4 +0.1
baz=70,SNR=18
530A J-C Ranch, Com 69.38 333 ⇑P P 08 19 02.0 +0.4
baz=70,SNR=13
432A Menard 69.47 335 ⇓P P 08 19 02.0 -0.1
baz=70,SNR=9.2
TXAR Lajitas Array 69.57 331 P P 08 19 03.0 +0.2
comp=Z,4.2nm,0.6s,baz=152,slow=8.5,SNR=76
TXAR PKKP PKKPdf 08 38 57.4 +1.7
comp=Z,0.1nm,0.5s,baz=213,slow=3.9,SNR=3.9
431A Sonora 69.59 334 ⇓P P 08 19 02.8 0.0
baz=70,SNR=6.1
138A Matatall Enter 69.60 339 ⇑P P 08 19 02.4 -0.4
baz=70
333A Richland Sprin 69.60 336 ⇓P P 08 19 02.7 -0.2
baz=70,SNR=15
529A Stev Forest Ra 69.70 332 ⇑P P 08 19 03.7 +0.1
baz=70,SNR=16
WHTX Lake Whitney, 69.70 337 ⇓P P 08 19 03.5 0.0
baz=70,SNR=8.3
WHTX Lake Whitney, 69.70 337 eP P 08 19 03.9 +0.4
comp=Z,36nm,0.8s
137A Heron Place, G 69.73 339 ⇑P P 08 19 04.0 +0.4
baz=70,SNR=6.6
OXF Oxford 69.91 345 eP P 08 19 04.3 -0.3
OXF pmax pmax
comp=Z,91nm,1.1s
OXF Oxford 69.91 345 eP P 08 19 04.3 -0.3
comp=Z,91nm,1.1s
SWET Sewanee 69.91 348 eP P 08 19 04.2 -0.5
comp=Z,36nm,0.8s
332A Millersview 69.92 335 ⇓P P 08 19 04.7 -0.1
baz=70,SNR=10
430A Baggett Ranch, 69.92 334 ⇓P P 08 19 05.0 +0.1
baz=70,SNR=15
234A Clairette 69.94 337 ⇓P P 08 19 05.0 +0.1
baz=70,SNR=5.0
TKL Tuckaleechee C 70.00 350 eP P 08 19 04.4 -0.8
TKL Tuckaleechee C 70.00 350 eP P 08 19 04.4 -0.8
429A Davenport Ranc 70.02 333 ⇓P P 08 19 05.8 +0.3
baz=70,SNR=7.2
331A San Angelo 70.09 334 ⇑P P 08 19 05.8 -0.1
baz=70,SNR=17
233A Rising Star 70.20 336 ⇑P P 08 19 06.3 -0.3
baz=70,SNR=13
135A Vickery Place, 70.21 337 ⇓P P 08 19 06.2 -0.4
baz=70
232A Coleman 70.34 335 ⇓P P 08 19 07.3 -0.1
baz=71,SNR=11
134A White-Moore Ra 70.44 337 ⇑P P 08 19 07.8 -0.2
baz=71,SNR=6.5
330A Mertzon 70.45 334 ⇓P P 08 19 07.7 -0.4
baz=71,SNR=11
231A Bronte 70.62 335 ⇑P P 08 19 08.8 -0.3
baz=71,SNR=8.8
133A Hamilton Ranch 70.75 336 ⇓P P 08 19 09.8 -0.1
baz=71,SNR=9.8
329A Wagon Wheel Ra 70.82 333 ⇑P P 08 19 10.5 0.0
baz=71,SNR=9.0
TZTN Tazewell 70.83 350 eP P 08 19 09.8 -0.5
comp=Z,16nm,1.0s
UALR University of 70.84 342 eP P 08 19 10.2 -0.1
comp=Z,17nm,1.1s
230A Sterling City 70.86 334 ⇑P P 08 19 09.8 -0.8
baz=71
Z35A Perchaven, San 70.88 338 ⇑P P 08 19 10.5 -0.1
baz=71,SNR=9.7
MIAR Mount Ida 70.94 341 eP P 08 19 10.9 -0.1
MIAR pmax pmax
comp=Z,14nm,1.1s
MIAR Mount Ida 70.94 341 eP P 08 19 10.9 -0.1
comp=Z,14nm,1.1s
ABTX Abilene, Hawle 71.01 336 ⇓P P 08 19 11.4 0.0
baz=71,SNR=6.2
ABTX Abilene, Hawle 71.01 336 eP P 08 19 11.8 +0.4
comp=Z,51nm,0.9s
VWCC Virginia Weste 71.10 353 eP P 08 19 11.8 0.0
Z34A Collier Ranch, 71.12 337 ⇑P P 08 19 12.0 -0.1
baz=71,SNR=9.4
WVT Waverly 71.14 347 eP P 08 19 11.7 -0.4
WVT pmax pmax
comp=Z,63nm,0.8s
WVT Waverly 71.14 347 eP P 08 19 11.7 -0.4
comp=Z,64nm,0.8s
229A Bryant Ranch, 71.19 334 ⇓P P 08 19 11.6 -1.1
baz=72
131A Roby 71.32 335 ⇑P P 08 19 13.2 -0.1
baz=72,SNR=5.0
Z33A Whitaker Ranch 71.32 337 ⇑P P 08 19 13.2 -0.2
baz=72,SNR=12
JSRW J. Sargeant Re 71.37 355 eP P 08 19 14.0 +0.6
130A Snyder 71.45 335 ⇑P P 08 19 13.9 -0.3
baz=72,SNR=10
Z32A Haskell 71.58 336 ⇓P P 08 19 14.9 0.0
baz=72,SNR=11
Y34A Reagan Ranch, 71.61 338 ⇓P P 08 19 14.8 -0.2
baz=72

228A UT Block 9, Go 71.62 333 ⇑P P 08 19 15.0 -0.2
baz=72,SNR=6.3
129A Stewart Farms, 71.81 334 ⇓P P 08 19 16.0 -0.3
baz=72
Z31A Sharp Cattle R 71.81 336 ⇓P P 08 19 16.2 -0.1
baz=72,SNR=18
Y33A Hilltop Ranch, 71.94 337 ⇑P P 08 19 16.8 -0.2
baz=72,SNR=6.8
128A Castleberry Fa 72.03 333 ⇑P P 08 19 17.6 -0.1
baz=72,SNR=10
Z30A Sanderson Ranc 72.13 335 ⇓P P 08 19 17.7 -0.5
baz=72,SNR=8.5
Y32A R-V Farms, Ver 72.20 336 ⇓P P 08 19 18.4 -0.2
baz=72
X34A Smith Ranch, M 72.23 338 ⇓P P 08 19 18.6 -0.2
baz=72,SNR=6.0
PBMO Poplar Bluff 72.31 345 eP P 08 19 18.6 -0.5
comp=Z,21nm,0.6s
Z29A Hungry Hill Ra 72.31 334 ⇑P P 08 19 18.7 -0.7
baz=73,SNR=8.7
MNTX Cornudas Mount 72.34 331 eP P 08 19 18.6 -0.9
comp=Z,17nm,0.8s
GDL2 Guadalupe Moun 72.38 332 eP P 08 19 20.1 +0.3
GDL2 epP pP 08 19 28.8 -0.3
X33A Lawton 72.39 337 ⇓P P 08 19 18.7 -1.0
baz=73
Y31A Rekieta Farm, 72.44 336 ⇑P P 08 19 19.8 -0.2
baz=73,SNR=8.0
X32A Elmer 72.53 337 ⇑P P 08 19 20.2 -0.4
baz=73
Y30A Stafford Cattl 72.58 335 ⇑P P 08 19 20.5 -0.4
baz=73
Z28A Tucker Farm, M 72.59 334 ⇓P P 08 19 20.4 -0.6
baz=73
WMOK Wichita Mounta 72.66 337 eP P 08 19 20.9 -0.4
WMOK pmax pmax
comp=Z,19nm,1.0s
WMOK Wichita Mounta 72.66 337 eP P 08 19 20.9 -0.4
comp=Z,19nm,1.0s
W34A Bridge Creek, 72.80 338 ⇑P P 08 19 21.6 -0.5
baz=73
TUL1 Leonard 72.84 340 ⇓P P 08 19 21.8 -0.5
baz=73,SNR=8.7
TUL1 Leonard 72.84 340 eP P 08 19 22.1 -0.2
comp=Z,28nm,1.0s
Y29A Porterfield Fa 72.84 335 ⇑P P 08 19 22.2 -0.3
baz=73,SNR=13
USIN University of 72.89 347 eP P 08 19 21.6 -0.9
comp=Z,41nm,1.1s
WCI Wyandotte Cave 72.91 348 eP P 08 19 21.5 -1.2
WCI pmax pmax
comp=Z,11nm,0.9s
WCI Wyandotte Cave 72.91 348 eP P 08 19 21.5 -1.2
comp=Z,11nm,0.9s
CPRX Cap Rock 72.92 332 eP P 08 19 23.7 +0.7
comp=Z,21nm,0.6s
W33A Caddo, Fort Co 72.94 338 ⇑P P 08 19 22.9 0.0
baz=73,SNR=8.2
SIUC Southern Illin 72.95 346 eP P 08 19 22.3 -0.7
comp=Z,21nm,0.7s
X31A McDonald Ranch 72.95 336 ⇓P P 08 19 22.7 -0.4
baz=73,SNR=10
ELIM Elim 73.08 120 eP P 08 19 32.3 +8.2
ELIM AMB AMB 08 19 36.5
comp=Z,70nm,5.1s
ELIM Elim 73.08 120 P P 08 19 32.3 +8.2
comp=Z,70nm,5.1s
X30A Coker Ranch, T 73.09 335 ⇑P P 08 19 23.6 -0.3
baz=73
Y28A McKinney Farm, 73.09 334 ⇓P P 08 19 23.9 -0.1
baz=73
W32A Sentinel 73.16 337 ⇓P P 08 19 24.1 -0.2
baz=74,SNR=18
MSTX Muleshoe 73.34 334 ⇓P P 08 19 25.2 -0.3
baz=74,SNR=6.9
MSTX Muleshoe 73.34 334 eP P 08 19 26.0 +0.5
comp=Z,49nm,0.8s
X29A Tulia 73.38 335 ⇓P P 08 19 24.9 -0.8
baz=74
Y27A Causey 73.41 333 ⇑P P 08 19 25.8 -0.1
baz=74
W31A Holland Ranch, 73.45 336 ⇑P P 08 19 26.0 0.0
baz=74
Z25A Roswell 73.47 332 ⇓P P 08 19 26.0 -0.3
baz=74
V33A Lossen Ranch, 73.50 338 ⇓P P 08 19 25.9 -0.3
baz=74,SNR=7.5
MVL Millersville 73.58 357 eP P 08 19 27.7 +1.1
comp=Z,37nm,1.6s
X28A Dimmitt 73.62 334 ⇑P P 08 19 27.0 -0.1
baz=74
V32A Arapaho 73.64 337 ⇑P P 08 19 27.4 +0.3
baz=74
Y26A Elida 73.69 333 ⇑P P 08 19 27.7 +0.1
baz=74
OLIL Olney 73.72 347 eP P 08 19 27.2 -0.2
comp=Z,35nm,1.3s
319A Douglas 73.74 327 ⇓P P 08 19 27.7 -0.2
baz=74
AMTX Amarillo 73.77 335 ⇑P P 08 19 27.9 -0.1
baz=74
AMTX Amarillo 73.77 335 eP P 08 19 28.2 +0.3
comp=Z,33nm,1.0s
KOMG Komaggas 73.79 115 eP P 08 19 28.8 +0.4
KOMG AMB AMB 08 19 38.2
comp=Z,40nm,2.7s
KOMG Komaggas 73.79 115 P P 08 19 28.8 +0.4
comp=Z,40nm,2.7s
U34A Anderson Ranch 73.84 339 ⇓P P 08 19 28.0 -0.2
baz=74
BLO Bloomington 73.87 348 eP P 08 19 27.2 -1.1
BLO pmax pmax
comp=Z,25nm,0.7s
BLO Bloomington 73.87 348 eP P 08 19 27.1 -1.1
comp=Z,25nm,0.7s
V31A Spring Creek L 73.95 337 ⇑P P 08 19 29.3 +0.4
baz=74
W29A Amarillo 73.97 335 ⇓P P 08 19 29.1 0.0
baz=74,SNR=7.2
U33A Lingo Farm, Me 74.01 338 ⇑P P 08 19 29.6 +0.4
baz=74
SLM Saint Louis 74.05 345 eP P 08 19 28.9 -0.5
SLM pmax pmax
comp=Z,36nm,0.6s
SLM Saint Louis 74.05 345 eP P 08 19 28.9 -0.5
comp=Z,36nm,0.6s
X27A F and S Farms, 74.06 334 ⇓P P 08 19 30.6 +0.9
baz=74
121A Cookes Peak, D 74.07 329 ⇑P P 08 19 30.7 +0.8
baz=74
121A Cookes Peak, D 74.07 329 eP P 08 19 30.9 +1.1
comp=Z,41nm,0.8s
V30A Spur Ranch, Mi 74.22 336 ⇑P P 08 19 31.1 +0.6
baz=74
U32A Winter Ranch, 74.23 338 ⇓P P 08 19 30.7 +0.1
baz=74
X26A CR and CF Fran 74.24 333 ⇓P P 08 19 31.2 +0.4
baz=74
SSPA Standing Stone 74.30 355 eP P 08 19 30.6 -0.2
comp=Z,43nm,1.7s
Y24A Capitan 74.32 332 ⇓P P 08 19 31.7 +0.4
baz=75
Z22A Elephant Butte 74.35 330 ⇑P P 08 19 31.9 +0.4
baz=75
W27A Bowe Ranch, En 74.42 334 ⇓P P 08 19 31.9 +0.1
baz=75,SNR=6.3
Y23A Lovelace Mesa, 74.57 331 ⇓P P 08 19 33.3 +0.5
baz=75
ODNJ Ogdensburg 74.59 358 eP P 08 19 33.4 +1.0
comp=Z,55nm,1.7s
T33A Paterson Ranc 74.65 339 ⇓P P 08 19 33.0 +0.1
baz=75,SNR=6.3
V28A Channing 74.74 335 ⇓P P 08 19 33.8 +0.2
baz=75,SNR=5.4
LIC Lamto 74.78 72 eP P 08 19 34.3 +0.1
comp=Z,106nm,1.3s
X24A Lazy VL Ranch, 74.88 332 ⇓P P 08 19 34.8 +0.3
baz=75
U30A WK&E Inc. Balk 74.91 337 ⇓P P 08 19 35.4 +0.8
baz=75
T32A Huddler Ranch, 74.95 338 ⇑P P 08 19 35.0 +0.3
baz=75
SUR Sutherland 74.96 119 P P 08 19 36.3 +1.0
comp=Z,210nm,0.9s,SNR=7.3
SUR Sutherland 74.96 119 eP P 08 19 36.0 +0.7
comp=Z,30nm,0.8s
V27A Dan Oppiter Fa 74.96 335 ⇑P P 08 19 35.3 +0.4
baz=75

TIC Toumodi 75.04 71 eP P 08 19 35.7 -0.1
comp=Z,48nm,0.9s
W25A X Bar L Ranch, 75.08 333 ⇓P P 08 19 36.1 +0.5
baz=75
KIC Kosan Boka 75.09 72 eP P 08 19 36.2 +0.2
comp=Z,100nm,0.8s
T31A Randall Ranch, 75.11 337 ⇑P P 08 19 36.3 +0.6
baz=75
SFIN Lafayette 75.14 348 ⇑P P 08 19 34.9 -0.7
baz=76
SFIN Lafayette 75.14 348 eP P 08 19 33.8 -1.8
comp=Z,9.8nm,0.8s
DBIC Dimbokro 75.18 71 P P 08 19 36.9 +0.3
comp=Z,34nm,0.7s,baz=212,slow=5.7,SNR=43
DBIC LR LR 08 51 40.1
comp=Z,205nm,18.6s,baz=75,slow=35
X23A Hourglass Bar 75.19 331 ⇑P P 08 19 36.5 +0.1
baz=76
TUC Tucson 75.20 327 eP P 08 19 37.6 +1.2
TUC pmax pmax
comp=Z,12nm,1.1s
TUC Tucson 75.20 327 eP P 08 19 37.6 +1.2
comp=Z,12nm,1.1s
U28A Mallet 75.31 335 ⇓P P 08 19 37.0 +0.2
baz=76
T30A Plains 75.34 337 ⇑P P 08 19 37.4 +0.4
baz=76
V26A Tequesquite Ra 75.34 334 ⇓P P 08 19 37.4 +0.2
baz=76
LAZ Ladron 75.42 331 eP P 08 19 38.8 +1.1
comp=Z,10nm,1.1s
S32A Newby Ranch, P 75.43 338 ⇓P P 08 19 37.8 +0.4
baz=76
W24A Lazy 6 Ranch, 75.44 332 ⇓P P 08 19 37.8 0.0
baz=76,SNR=6.7
S31A Mullinville 75.53 338 ⇓P P 08 19 38.6 +0.6
baz=76
U27A Thompson Grove 75.55 335 ⇓P P 08 19 38.6 +0.3
baz=76
ANMO Albuquerque 75.62 331 eP P 08 19 39.7 +0.9
ANMO pmax pmax
comp=Z,20nm,1.0s
ANMO Albuquerque 75.62 331 eP P 08 19 39.4 +0.6
comp=Z,14nm,0.9s
W23A Werner Place, 75.68 332 ⇓P P 08 19 39.7 +0.5
baz=76
V25A Rancho No Teng 75.69 333 ⇓P P 08 19 39.2 0.0
baz=76,SNR=5.6
T29A Hugoton 75.69 336 ⇓P P 08 19 39.2 +0.2
baz=76
R33A Olander Ranch, 75.70 339 ⇓P P 08 19 38.5 -0.5
baz=76
V24A Rampart Ranch, 75.84 333 ⇑P P 08 19 40.2 +0.1
baz=76,SNR=6.1
214A Organ Pipe Nat 75.85 325 ⇑P P 08 19 40.6 +0.6
baz=76
214A Organ Pipe Nat 75.85 325 eP P 08 19 41.2 +1.2
comp=Z,13nm,0.8s
S30A Montezuma 75.86 337 ⇓P P 08 19 40.4 +0.5
baz=76
U26A Atchley Ranch, 75.86 334 ⇓P P 08 19 40.3 +0.2
baz=76
T28A Walsh 75.94 336 ⇑P P 08 19 40.3 -0.2
baz=76,SNR=10
R32A Long Quarter, 76.03 339 ⇑P P 08 19 40.8 0.0
baz=76,SNR=5.0
KSU1 Kansas State U 76.05 341 ⇓P P 08 19 40.5 -0.4
baz=76
KSU1 Kansas State U 76.05 341 eP P 08 19 40.7 -0.2
comp=Z,20nm,1.2s
S29A Ulysses 76.05 337 ⇓P P 08 19 41.0 0.0
baz=76
T27A Campo 76.09 335 ⇑P P 08 19 41.5 +0.1
baz=76
U25A Circle Dot Ran 76.11 334 ⇓P P 08 19 41.6 0.0
baz=76
R31A Burdett 76.15 338 ⇑P P 08 19 41.7 +0.1
baz=76
V23A Ortiz Mt. (NFS 76.21 332 ⇓P P 08 19 42.7 +0.5
baz=76
TRY Troy 76.22 359 eP P 08 19 42.2 +0.4
comp=Z,21nm,1.1s
S28A Manter 76.28 336 ⇓P P 08 19 42.4 0.0
baz=77,SNR=10
Q33A Connelly Farm, 76.30 340 ⇓P P 08 19 42.3 -0.1
baz=77
R30A Dighton 76.38 338 ⇓P P 08 19 42.8 -0.1
baz=77
MMNY Mt. Morris Dam 76.39 356 eP P 08 19 42.8 +0.1
comp=Z,30nm,0.7s
U24A Moreno Valley 76.44 333 ⇓P P 08 19 44.1 +0.5
baz=77
T26A Comanche Natio 76.50 335 ⇑P P 08 19 44.0 +0.2
baz=77,SNR=5.3
Q32A Meitler Ranch, 76.50 339 ⇓P P 08 19 43.2 -0.3
baz=77,SNR=7.6
AAM Ann Arbor 76.51 351 eP P 08 19 42.9 -0.6
AAM pmax pmax
comp=Z,16nm,0.6s
AAM Ann Arbor 76.51 351 eP P 08 19 42.9 -0.6
comp=Z,16nm,0.6s
V22A San Miguel Ran 76.64 332 ⇓P P 08 19 45.7 +1.1
baz=77,SNR=12
X18A Snowflake 76.71 329 ⇑P P 08 19 46.1 +1.1
baz=77,SNR=6.3
U23A El Rito 76.72 332 ⇑P P 08 19 46.2 +1.1
baz=77,SNR=5.5
T25A Trinidad 76.77 334 ⇓P P 08 19 46.1 +0.8
baz=77,SNR=10
Q31A Ellis 76.77 338 ⇑P P 08 19 45.4 +0.4
baz=77
R29A Marienthal 76.79 337 ⇑P P 08 19 45.8 +0.6
baz=77
S26A Kim 76.86 335 ⇑P P 08 19 46.4 +0.7
baz=77,SNR=14
R28A Tribune 76.94 336 ⇑P P 08 19 47.2 +1.1
baz=77,SNR=5.5
113A Mohawk Valley, 76.98 325 ⇑P P 08 19 46.9 +0.6
baz=77
Q30A Quinter 77.00 338 ⇓P P 08 19 47.2 +0.9
baz=77
U22A Llaves 77.02 332 ⇑P P 08 19 47.4 +0.6
baz=77
T24B San Luis 77.06 333 ⇓P P 08 19 48.1 +1.1
baz=77,SNR=7.5
Z14A Wintersburg 77.08 326 ⇑P P 08 19 47.3 +0.4
baz=77
P32A Huiting Farm, 77.10 339 ⇓P P 08 19 46.9 0.0
baz=77
W18A Petrified Fore 77.12 329 ⇑P P 08 19 48.1 +0.8
baz=77
Q29A Oakley 77.16 337 ⇓P P 08 19 47.4 +0.1
baz=78
WIN Windhoek 77.17 109 eP P 08 19 48.1 +0.1
WIN AMB AMB 08 20 41.7
comp=Z,5.4nm,4.6s
WIN Windhoek 77.17 109 P P 08 19 48.1 +0.1
WIN pmax pmax
comp=Z,5.0nm,4.6s
WIN Windhoek 77.17 109 P P 08 19 48.1 +0.1
comp=Z,5.4nm,4.6s
R27A Eads 77.22 336 ⇓P P 08 19 47.9 +0.2
baz=78,SNR=9.0
S25A Robets Cordova 77.24 334 ⇑P P 08 19 48.3 +0.3
baz=78,SNR=7.0
P31A Stockton 77.24 339 ⇑P P 08 19 47.6 -0.1
baz=78
X16A Lo Mia Camp, P 77.27 328 ⇓P P 08 19 49.2 +1.0
baz=78
T23A Casias Ranch, 77.28 333 ⇑P P 08 19 49.1 +0.8
baz=78
UPI Upington 77.35 116 eP P 08 19 48.6 -0.3
UPI AMB AMB 08 20 18.6
comp=Z,39nm,4.2s
UPI Upington 77.35 116 P P 08 19 48.6 -0.3
comp=Z,39nm,4.2s
R26A Arlington 77.46 335 ⇑P P 08 19 49.3 +0.3
baz=78
S24A Houchin Ranch, 77.50 334 ⇑P P 08 19 50.0 +0.4
baz=78,SNR=9.9
P30A Selden 77.53 338 ⇓P P 08 19 49.7 +0.4
baz=78
Y14A Wickenburg 77.58 326 ⇑P P 08 19 50.6 +0.8
baz=78
Q28A Sharon Springs 77.59 337 ⇓P P 08 19 50.5 +0.7
baz=78
O32A Brockman Farm, 77.60 340 ⇓P P 08 19 49.9 +0.3
baz=78

R25A	Fountain Ranch	77.61	335	⇑P	P	08 19 50.5 +0.5
	baz=78					
GLA	Glamis	77.72	324	eP	P	08 19 51.7 +1.1
GLA				pmax	pmax	
	comp=Z,15nm,0.8s					
GLA	Glamis	77.72	324	eP	P	08 19 51.7 +1.1
	comp=Z,15nm,0.8s					
P29A	Atwood	77.79	338	⇓P	P	08 19 51.7 +0.8
	baz=78					
O31A	Woolen Ranch,	77.80	339	⇓P	P	08 19 51.2 +0.4
	baz=78					
KSCO	Kaye Shedlock'	77.81	336	⇓P	P	08 19 51.7 +0.6
	baz=78					
KSCO	Kaye Shedlock'	77.81	336	eP	P	08 19 52.1 +1.1
	comp=Z,25nm,1.0s					
SCIA	State Center	77.83	344	eP	P	08 19 51.3 +0.4
	comp=Z,24nm,0.9s					
S23A	Nye Farm, Mont	77.86	333	⇑P	P	08 19 52.1 +0.6
	baz=78					
R24A	Sanders Place,	77.99	334	⇑P	P	08 19 53.0 +0.9
	baz=78,SNR=9.4					
P28A	Saint Francis	78.03	337	⇑P	P	08 19 52.6 +0.4
	baz=78					
Q26A	Hugo	78.04	335	⇓P	P	08 19 52.8 +0.5
	baz=78					
O30A	MW Ranch, Wils	78.05	338	⇑P	P	08 19 52.6 +0.4
	baz=78					
LONY	Lake Ozonia	78.12	358	eP	P	08 19 52.8 +0.3
	comp=Z,13nm,1.0s					
Y12C	Blythe	78.14	325	⇓P	P	08 19 53.6 +0.7
	baz=78					
WUAZ	Wupatki	78.17	328	⇓P	P	08 19 54.0 +0.9
	baz=78					
WUAZ	Wupatki	78.17	328	eP	P	08 19 54.5 +1.4
	comp=Z,23nm,0.9s					
R23A	Moffat	78.22	333	⇑P	P	08 19 54.3 +0.8
	baz=78					
O29A	4D Ranch, Culb	78.23	338	⇓P	P	08 19 54.4 +1.2
	baz=78					
Q25A	Bedland, Calha	78.28	335	⇑P	P	08 19 54.4 +0.7
	baz=79					
P27A	Ficken Ranch,	78.29	336	⇓P	P	08 19 54.7 +1.0
	baz=79					
N31A	Bailey Ranch,	78.31	340	⇓P	P	08 19 53.7 0.0
	baz=79					
MVCO	Mesa Verde	78.40	331	⇓P	P	08 19 55.1 +0.6
	baz=79					
MVCO	Mesa Verde	78.40	331	eP	P	08 19 55.3 +0.8
	comp=Z,30nm,1.4s					
BC3	Big Chuckawall	78.52	324	⇑P	P	08 19 55.9 +0.8
	baz=79					
O28A	Krutsinger Ran	78.54	337	⇓P	P	08 19 55.5 +0.6
	baz=79					
GRM	Grahamstown	78.55	122	eP	P	08 20 00.4 +5.0
GRM				AMB	AMB	08 20 06.4
	comp=Z,59nm,4.2s					
GRM	Grahamstown	78.55	122	P	P	08 20 00.4 +5.0
GRM				pmax	pmax	
	comp=Z,59nm,4.2s					
GRM	Grahamstown	78.55	122	P	P	08 20 00.4 +5.0
	comp=Z,59nm,4.2s					
P26A	Davis Ranch, A	78.55	336	⇑P	P	08 19 55.4 +0.2
	baz=79					
BGNE	Belgrade	78.62	340	⇓P	P	08 19 55.6 +0.3
	baz=79					
BGNE	Belgrade	78.62	340	eP	P	08 19 55.5 +0.1
	comp=Z,54nm,1.3s					
Q24A	Divide	78.65	334	⇓P	P	08 19 56.4 +0.5
	baz=79					
P25A	Willow Gulch B	78.79	335	⇑P	P	08 19 57.2 +0.7
	baz=79,SNR=7.3					
M31A	Lambtecht Ranc	78.80	340	⇑P	P	08 19 56.6 +0.3
	baz=79,SNR=6.8					
O27A	Beecher Island	78.83	337	⇑P	P	08 19 57.5 +0.9
	baz=79					
W13A	Hualapai Mount	78.95	326	⇓P	P	08 19 58.5 +1.0
	baz=79					
PFO	Pinyon Flats O	78.97	324	eP	P	08 19 58.6 +1.1
PFO	Pinyon Flats O	78.97	324	⇓P	P	08 19 58.9 +1.3
	baz=79					
PFO	Pinyon Flats O	78.97	324	eP	P	08 19 58.6 +1.1
N28A	Pribbeno Ranch	78.97	338	⇓P	P	08 19 58.9 +1.6
	baz=79					
BELC	Belle Mtn. Jos	79.06	324	⇓P	P	08 19 58.8 +0.8
	baz=79					
O26A	Horse Wrangler	79.15	336	⇓P	P	08 19 59.3 +0.9
	baz=80					
P23A	Jefferson	79.26	334	⇓P	P	08 19 59.4 +0.1
	baz=80,SNR=6.5					
TSUM	Tsumeb	79.31	106	eP	P	08 20 00.4 +0.5
	comp=Z,20nm,1.1s					
MURC	Murrieta	79.33	323	⇓P	P	08 20 00.7 +1.3
	baz=80					
U15A	North Rim	79.33	328	⇓P	P	08 20 00.7 +1.0
	baz=80					
LDFC	Landfair	79.51	325	eP	P	08 20 01.9 +1.4
SMCO	Snowmass	79.51	333	eP	P	08 20 01.9 +1.2
	comp=Z,24nm,0.8s					
GMRC	Granite Mounta	79.53	325	⇓P	P	08 20 01.1 +0.6
	baz=80					
L31A	Butterfield Fa	79.53	340	⇑P	P	08 20 00.7 +0.4
	baz=80					
ISCO	Idaho Springs	79.56	334	eP	P	08 20 00.9 +0.1
ISCO				pmax	pmax	
	comp=Z,12nm,0.9s					
ISCO	Idaho Springs	79.56	334	⇓P	P	08 20 01.2 +0.4
	baz=80					
ISCO	Idaho Springs	79.56	334	eP	P	08 20 00.9 +0.1
	comp=Z,12nm,0.9s					
L30A	Spencer Herefo	79.57	339	⇓P	P	08 20 01.4 +0.9
	baz=80					
P22A	Eagle	79.80	333	⇓P	P	08 20 02.9 +0.9
	baz=80					
HEC	Hector,Ludlow	79.89	324	⇓P	P	08 20 03.3 +0.9
	baz=80					
O23A	Lake Granby, G	80.03	334	⇑P	P	08 20 04.1 +0.7
	baz=80,SNR=8.5					
BFSC	Mount Baldy Ra	80.07	323	⇑P	P	08 20 04.3 +0.8
	baz=80					
TUQ	Turquoise Moun	80.19	325	⇓P	P	08 20 04.5 +0.4
	baz=80					
BOSA	Boshof	80.19	118	eP	P	08 20 04.3 -0.3
BOSA				AMB	AMB	08 20 25.3
	comp=Z,35nm,5.0s					
BOSA	Boshof	80.19	118	P	P	08 20 04.8 +0.2
BOSA				pmax	pmax	
	comp=Z,8.0nm,0.7s					
BOSA	Boshof	80.19	118	P	P	08 20 04.8 +0.2
	comp=Z,8.4nm,0.7s,baz=237,slow=3.7,SNR=18					
BOSA	Boshof	80.19	118	P	P	08 20 04.8 +0.2
	comp=Z,35nm,5.0s					
K30A	Basset	80.21	340	⇑P	P	08 20 04.8 +0.9
	baz=80					
N24A	Carr	80.21	335	⇑P	P	08 20 04.7 +0.6
	baz=80					
O22A	Kremmling	80.22	334	⇑P	P	08 20 04.9 +0.5
	baz=80,SNR=5.7					
ECSD	EROS Data Cent	80.38	342	⇓P	P	08 20 04.5 -0.3
	baz=81,SNR=15					
ECSD	EROS Data Cent	80.38	342	eP	P	08 20 04.5 -0.3
	comp=Z,31nm,1.1s					
M25A	Palm-Egli Farm	80.47	336	⇓P	P	08 20 06.0 +0.5
	baz=81					
L27A	T5 Ranch, Ells	80.48	338	⇓P	P	08 20 06.2 +0.7
	baz=81					
K29A	Lazy Trails An	80.49	339	⇓P	P	08 20 06.1 +0.6
	baz=81					
GSC	Goldstone, Bar	80.50	324	eP	P	08 20 07.1 +1.3
GSC				pmax	pmax	
	comp=Z,11nm,0.9s					
GSC	Goldstone, Bar	80.50	324	⇓P	P	08 20 06.4 +0.6
	baz=81					
GSC	Goldstone, Bar	80.50	324	eP	P	08 20 07.1 +1.3
	comp=Z,11nm,0.9s					
N23A	Red Feather La	80.64	335	⇓P	P	08 20 07.1 +0.4
	baz=81					
SHPR	Sheep Range	80.69	326	eP	P	08 20 08.2 +1.3
CCUT	Cedar City	80.74	328	eP	P	08 20 08.1 +0.9
	comp=Z,16nm,0.9s					
N22A	Wattenberg Ran	80.74	334	⇑P	P	08 20 07.9 +0.8
	baz=81,SNR=5.7					
EDW2	Edwards Air Fo	80.75	323	⇓P	P	08 20 07.6 +0.5
	baz=81					
M24A	Cheyenne	80.76	336	⇑P	P	08 20 07.8 +0.7
	baz=81					
K28A	Ten Mile Ranch	80.76	339	⇑P	P	08 20 07.5 +0.6
	baz=81					
J30A	Dallas	80.77	340	⇑P	P	08 20 06.8 -0.1
	baz=81					
O20A	White River Ci	80.83	333	⇑P	P	08 20 07.8 +0.2
	baz=81					
O20A	White River Ci	80.83	333	eP	P	08 20 07.8 +0.2
	comp=Z,17nm,0.9s					
PHWY	Pilot Hill	80.83	335	eP	P	08 20 08.9 +1.2
	comp=Z,11nm,0.9s					
SRU	San Rafael Swe	80.84	331	eP	P	08 20 08.1 +0.5
SRU				pmax	pmax	
	comp=Z,18nm,0.9s					
SRU	San Rafael Swe	80.84	331	eP	P	08 20 08.1 +0.5
	comp=Z,18nm,0.9s					
SPMN	Marine on St.	80.91	345	⇓P	P	08 20 06.7 -0.8
	baz=81					
SPMN	Marine on St.	80.91	345	eP	P	08 20 06.0 -1.6
	comp=Z,11nm,0.8s					
ARUT	Antelope Range	80.97	328	eP	P	08 20 09.7 +1.4
ARUT				pmax	pmax	
	comp=Z,301nm,1.0s					
ARUT	Antelope Range	80.97	328	eP	P	08 20 09.7 +1.4
	comp=Z,301nm,1.0s					
K27A	Flueckinger Fa	81.02	338	⇓P	P	08 20 08.3 -0.1
	baz=81					
SWZ	Schweizer	81.03	117	eP	P	08 20 07.0 -2.1
SWZ				AMB	AMB	08 20 48.0
	comp=Z,40nm,4.6s					
SWZ	Schweizer	81.03	117	P	P	08 20 07.0 -2.1
	comp=Z,40nm,4.6s					
MVU	Marysvale	81.04	329	eP	P	08 20 09.8 +1.0
	comp=Z,11nm,0.9s					
LRMC	Laurel Mtn Rad	81.07	324	⇑P	P	08 20 08.5 -0.3
	baz=81					
J29A	Okreek	81.09	340	⇓P	P	08 20 08.6 0.0
	baz=81,SNR=9.9					
TMUT	Trail Mountain	81.28	330	eP	P	08 20 11.2 +1.0
	comp=Z,14nm,0.9s					
I30A	Oacoma	81.30	340	⇓P	P	08 20 09.4 -0.4
	baz=82					
M22A	Cedar Creek Ra	81.32	334	⇓P	P	08 20 10.8 +0.6
	baz=82					
J28A	Allard Ranch,	81.37	339	⇓P	P	08 20 10.3 +0.1
	baz=82					
N20A	Spence Gulch,	81.44	333	⇓P	P	08 20 11.3 +0.5
	baz=82					
MPMC	Manual Prospec	81.44	324	⇓P	P	08 20 11.3 +0.4
	baz=82					
J27A	Elkhorn Farm,	81.45	338	⇓P	P	08 20 11.3 +0.7
	baz=82,SNR=5.9					
K25A	Mack Ranch, Ha	81.46	337	⇑P	P	08 20 11.6 +0.9
	baz=82					
FURC	Furnace Creek,	81.47	325	⇓P	P	08 20 11.7 +1.0
	baz=82					
ISA	Isabella, Lake	81.61	323	⇓P	P	08 20 13.0 +1.3
	baz=82					
L23A	Garrett	81.63	335	⇓P	P	08 20 12.2 +0.4
	baz=82					
I29A	Vivian Onida	81.64	340	⇑P	P	08 20 11.8 +0.3
	baz=82					
BRSD	Miller	81.66	341	⇑P	P	08 20 12.0 +0.4
	baz=82					
BRSD	Miller	81.66	341	eP	P	08 20 12.8 +1.2
	comp=Z,33nm,0.9s					
DAC	Darwin (Calif)	81.66	324	eP	P	08 20 13.7 +1.6
DAC				pmax	pmax	
	comp=Z,19nm,0.9s					
DAC	Darwin (Calif)	81.66	324	eP	P	08 20 13.7 +1.6
	comp=Z,19nm,0.9s					
L22A	Ellis Ranch, M	81.82	335	⇓P	P	08 20 12.9 +0.1
	baz=82					
J26A	Sides Ranch, S	81.83	338	⇓P	P	08 20 13.1 +0.4
	baz=82					
I28A	Midland	81.88	339	⇓P	P	08 20 12.9 +0.1
	baz=82,SNR=6.1					
VES	Vestal, Richgr	82.05	323	⇑P	P	08 20 14.8 +0.9
	baz=82					
MPU	Maple Canyon	82.07	330	eP	P	08 20 15.3 +1.2
	comp=Z,17nm,1.0s					
SEK	Senekal	82.09	119	eP	P	08 20 14.0 -0.8
SEK				AMB	AMB	08 20 29.2
	comp=Z,31nm,6.1s					
SEK	Senekal	82.09	119	P	P	08 20 14.0 -0.8
	comp=Z,31nm,6.1s					
GRAC	Grapevine Rang	82.14	325	⇓P	P	08 20 14.8 +0.5
	baz=82					
H29A	Onida	82.17	340	⇑P	P	08 20 13.9 -0.5
	baz=82,SNR=6.4					
K23A	Bowen Ranch, D	82.17	336	⇓P	P	08 20 15.0 +0.4
	baz=82					
NLU	North Lily Min	82.20	330	eP	P	08 20 15.5 +0.7
	comp=Z,11nm,1.1s					
I27A	Quinn	82.20	339	⇓P	P	08 20 14.9 +0.3
	baz=82					
DAU	Daniels Canyon	82.25	331	eP	P	08 20 15.3 +0.1
DAU	Daniels Canyon	82.25	331	eP	P	08 20 15.3 +0.1
G30A	Faulkton	82.34	341	⇑P	P	08 20 15.4 +0.3
	baz=83					
J24A	Dixon Ranch, L	82.36	337	⇑P	P	08 20 15.6 +0.1
	baz=83					
R11A	Troy Canyon, C	82.39	327	⇓P	P	08 20 16.2 +0.3
	baz=83					
R11A	Troy Canyon, C	82.39	327	eP	P	08 20 16.8 +0.9
	comp=Z,17nm,1.0s					
K22A	Casper	82.39	335	⇑P	P	08 20 16.0 +0.3
	baz=83					
K22A	Casper	82.39	335	eP	P	08 20 16.3 +0.6
	comp=Z,40nm,1.4s					
I26A	New Underwood	82.42	338	⇑P	P	08 20 16.2 +0.6
	baz=83					
LBTB	Lobatse	82.42	115	eP	P	08 20 16.7 +0.3
LBTB				AMB	AMB	08 20 18.0
	comp=Z,48nm,3.0s					
LBTB	Lobatse	82.42	115	eP	P	08 20 17.0 +0.6
LBTB				pmax	pmax	
	comp=Z,41nm,1.1s					
LBTB	Lobatse	82.42	115	eP	P	08 20 17.0 +0.6
	comp=Z,41nm,1.1s					
H28A	Mission Ridge	82.45	340	⇑P	P	08 20 15.6 -0.1
	baz=83,SNR=5.2					
JLU	Jordanelle	82.49	331	eP	P	08 20 17.0 +0.7
	comp=Z,8.6nm,0.9s					
RCTC	Rector, Farmer	82.50	323	⇓P	P	08 20 16.7 +0.6
	baz=83					
K21A	Alcova	82.64	335	⇑P	P	08 20 17.1 0.0
	baz=83,SNR=5.8					
I25A	Rochford	82.68	338	⇓P	P	08 20 17.4 +0.2
	baz=83,SNR=5.1					
CTU	Camp Tracy	82.69	331	eP	P	08 20 18.4 +1.1
	comp=Z,5.1nm,0.8s					
DUG	Dugway, Tooele	82.71	330	eP	P	08 20 18.2 +0.8
DUG				pmax	pmax	
	comp=Z,20nm,1.0s					
DUG	Dugway, Tooele	82.71	330	⇓P	P	08 20 17.6 +0.2
	baz=83,SNR=6.1					
DUG	Dugway, Tooele	82.71	330	eP	P	08 20 18.2 +0.8
	comp=Z,20nm,1.0s					
H27A	Howes	82.72	339	⇑P	P	08 20 17.0 -0.2
	baz=83,SNR=7.8					
G28A	Parade	82.78	340	⇑P	P	08 20 17.3 -0.2
	baz=83,SNR=5.6					
RSSD	Black Hills	82.87	337	eP	P	08 20 18.1 -0.1
RSSD				pmax	pmax	
	comp=Z,9.0nm,0.9s					
RSSD	Black Hills	82.87	337	eP	P	08 20 18.1 -0.1
	comp=Z,8.5nm,0.9s					
TPH	Tonopah	82.93	326	eP	P	08 20 19.7 +1.0
TPH				pmax	pmax	
	comp=Z,21nm,1.0s					
TPH	Tonopah	82.93	326	eP	P	08 20 19.7 +1.0
	comp=Z,21nm,1.0s					
F30A	Leola	82.96	341	⇑P	P	08 20 18.4 0.0
	baz=83					
MTUM	Tungsten Hills	82.99	324	eP	P	08 20 20.6 +1.6
J22A	Midwest	83.05	336	⇓P	P	08 20 18.3 -0.8
	baz=83,SNR=6.1					
F29A	Eureka	83.18	341	⇓P	P	08 20 19.0 -0.5
	baz=84,SNR=5.6					
H25A	Fruitdale	83.18	338	⇓P	P	08 20 19.5 -0.1
	baz=84					
EYMN	Ely	83.25	347	eP	P	08 20 19.3 -0.5
	comp=Z,56nm,1.9s					
J21A	Lysite	83.33	335	⇑P	P	08 20 20.0 -0.6
	baz=84					
MLAC	Mammoth, Mammo	83.34	324	⇓P	P	08 20 20.6 -0.3
	baz=84					
G27A	Dupree	83.36	339	⇑P	P	08 20 20.2 -0.3
	baz=84					
HWUT	Hardware Ranch	83.38	331	eP	P	08 20 20.9 +0.1
	comp=Z,21nm,1.1s					
BGU	Big Grassy Mou	83.41	330	eP	P	08 20 21.2 +0.2
	comp=Z,14nm,1.6s					
F28A	McLaughlin	83.46	340	⇓P	P	08 20 21.1 +0.1
	baz=84					
I22A	9 Mile Ranch,	83.47	336	⇑P	P	08 20 21.1 -0.2
	baz=84					
G26A	Maurine	83.48	339	⇑P	P	08 20 21.1 -0.1
	baz=84					
SPUT	South Promonto	83.49	331	eP	P	08 20 21.6 +0.2
	comp=Z,22nm,1.1s					
E30A	Jud	83.55	342	⇓P	P	08 20 21.5 +0.1
	baz=84					
J20A	Shoshoni	83.56	334	⇓P	P	08 20 22.3 +0.6
	baz=84					
H24A	Dirks Ranch, A	83.59	337	⇓P	P	08 20 21.8 0.0
	baz=84					
PDAR	Pinedale Array	83.59	333	P	P	08 20 22.1 +0.1
	comp=Z,1.2nm,0.8s,baz=153,slow=6.6,SNR=8.7					
G25A	Newell	83.64	338	⇓P	P	08 20 21.9 -0.1
	baz=84,SNR=5.4					
I21A	Big Trails, Te	83.68	335	⇑P	P	08 20 22.0 -0.3
	baz=84					
NVAR	Mina Array Bea	83.72	325	P	P	08 20 23.6 +0.9
	comp=Z,1.8nm,0.8s,baz=150,slow=5.4,SNR=12					
RPZ	Rata Peaks	83.73	221	eP	P	08 20 23.5 +0.8
	comp=Z,30nm,1.0s					
E29A	Napoleon	83.80	341	⇑P	P	08 20 22.6 -0.1
	baz=84					
F27A	Lemmon	83.83	339	⇑P	P	08 20 22.5 -0.4
	baz=84,SNR=5.2					
J19A	Crowheart	83.84	334	⇓P	P	08 20 22.8 -0.4
	baz=84,SNR=8.1					
F26A	Lodgepole	84.00	339	⇑P	P	08 20 23.6 -0.2
	baz=84					
HVU	Hansel Valley	84.02	331	eP	P	08 20 24.3 +0.2
HVU				pmax	pmax	
	comp=Z,18nm,0.8s					
HVU	Hansel Valley	84.02	331	eP	P	08 20 24.2 +0.2
	comp=Z,18nm,0.8s					
SLR	Silverton	84.03	117	eP	P	08 20 22.3 -2.5
SLR				AMB	AMB	08 20 48.6
	comp=Z,30nm,2.7s					
SLR	Silverton	84.03	117	P	P	08 20 22.3 -2.5
SLR				pmax	pmax	
	comp=Z,30nm,2.7s					
SLR	Silverton	84.03	117	P	P	08 20 22.3 -2.5
	comp=Z,30nm,2.7s					
G24A	Alzada	84.07	338	⇑P	P	08 20 23.9 -0.2
	baz=84					
D30A	Buchanan	84.07	342	⇑P	P	08 20 24.0 0.0
	baz=84					
E28A	Huff	84.10	341	⇓P	P	08 20 23.9 -0.3
	baz=84					
I20A	Worland	84.10	335	⇑P	P	08 20 24.2 -0.2
	baz=84					
AHID	Auburn Hatcher	84.18	332	eP	P	08 20 24.5 -0.5
	comp=Z,18nm,1.2s					
ELK	Elko	84.20	329	eP	P	08 20 25.9 +0.7
ELK				pmax	pmax	
	comp=Z,12nm,1.0s					
ELK	Elko	84.20	329	eP	P	08 20 25.9 +0.7
	comp=Z,12nm,1.0s					
E27A	Carson	84.21	340	⇓P	P	08 20 24.5 -0.3
	baz=84					
TORD	Torodi Ar. Bea	84.21	70	P	P	08 20 25.6 +0.1
	comp=Z,39nm,0.8s,baz=266,slow=4.5,SNR=132					
TORD				LR	LR	08 57 23.6
	comp=Z,161nm,18.3s,baz=185,slow=35					
D29A	Pettibone, Tap	84.25	342	⇓P	P	08 20 24.6 -0.4
	baz=85					
G23A	Biddle	84.27	337	⇓P	P	08 20 24.6 -0.6
	baz=85					
F25A	Bowman	84.31	339	⇓P	P	08 20 24.9 -0.5
	baz=85					
WAKR	Walker	84.32	325	eP	P	08 20 26.3 +0.5
CMB	Columbia Colle	84.42	324	eP	P	08 20 26.2 +0.1
CMB				pmax	pmax	
	comp=Z,9.0nm,1.1s					
CMB	Columbia Colle	84.42	324	eP	P	08 20 26.2 +0.1
	comp=Z,8.6nm,1.1s					
I19A	Meeteetse	84.48	334	⇓P	P	08 20 26.4 0.0
	baz=85					
AGMN	Agassiz Nation	84.49	344	⇑P	P	08 20 25.4 -0.6
	baz=85,SNR=6.4					
AGMN	Agassiz Nation	84.49	344	eP	P	08 20 25.5 -0.6
	comp=Z,10nm,0.8s					
E26A	Carlson Angus	84.50	339	⇑P	P	08 20 26.4 +0.1
	baz=85					
H20A	Greybull	84.52	335	⇑P	P	08 20 25.9 -0.6
	baz=85,SNR=7.8					
F24A	Ekalaka	84.54	338	⇑P	P	08 20 26.4 -0.1
	baz=85					
C30A	Mose, Pekin	84.55	342	⇓P	P	08 20 26.4 0.0
	baz=85,SNR=12					
G22A	Birney	84.58	336	⇓P	P	08 20 26.4 -0.4
	baz=85					
REDW	Red Top Meadow	84.59	333	eP	P	08 20 26.9 -0.1
	comp=Z,7.6nm,0.9s					
LOHW	Long Hollow	84.71	333	eP	P	08 20 27.7 +0.1
	comp=Z,5.5nm,0.8s					
F23A	Volborg	84.73	337	⇑P	P	08 20 27.3 -0.2
	baz=85					
TPAW	Teton Pass	84.74	333	eP	P	08 20 28.2 +0.3
	comp=Z,8.7nm,0.8s					
E25A	Miller Ranch,	84.81	339	⇓P	P	08 20 28.0 +0.2
	baz=85					
FXWY	Fox Creek	84.90	333	eP	P	08 20 28.7 0.0
	comp=Z,33nm,2.3s					
I17A	Pilgrim Ck.	84.97	333	⇓P	P	08 20 29.3 +0.4
	baz=85,SNR=5.6					
MDND	Maddock	84.97	342	⇓P	P	08 20 28.6 0.0
	baz=85,SNR=8.9					
MDND	Maddock	84.97	342	eP	P	08 20 28.6 0.0
	comp=Z,21nm,1.1s					
D26A	Manning	85.00	340	⇓P	P	08 20 28.7 -0.1
	baz=85					
H19A	Powell	85.03	335	⇑P	P	08 20 28.9 -0.2
	baz=85					
C28A	Hausauer Farms	85.06	341	⇓P	P	08 20 28.8 -0.3
	baz=85					
F22A	Rosebud	85.06	337	⇓P	P	08 20 28.6 -0.6
	baz=85					
IMW	Indian Meadow	85.08	333	eP	P	08 20 29.2 -0.4
	comp=Z,8.9nm,0.9s					
E24A	Baker	85.14	338	⇓P	P	08 20 29.2 -0.3
	baz=86					
FLWY	Flagg Ranch	85.15	333	eP	P	08 20 30.4 +0.6
	comp=Z,18nm,0.8s					
B30A	Myrvik Farm, E	85.21	343	⇓P	P	08 20 29.7 -0.1
	baz=86,SNR=23					
G20A	Bridger	85.23	335	⇓P	P	08 20 29.8 -0.3
	baz=86,SNR=6.3					
H18A	Shoshone NF, C	85.28	334	⇓P	P	08 20 30.4 -0.1
	baz=86,SNR=11					
C27A	Sayler Ranch,	85.36	341	⇓P	P	08 20 30.6 +0.1
	baz=86,SNR=7.0					
D25A	Fairfield	85.37	339	⇓P	P	08 20 30.7 0.0
	baz=86					
H17A	Grant Village	85.37	333	epP	pP	08 20 40.8 +0.2
B29A	Wagenman Farm,	85.48	342	⇓P	P	08 20 31.0 -0.1
	baz=86,SNR=5.8					
YFT	Old Faithful	85.52	333	eP	P	08 20 31.0 -0.7
	comp=Z,12nm,0.9s					
RLMT	Red Lodge	85.52	335	eP	P	08 20 31.7 +0.1
	comp=Z,20nm,1.1s					
C26A	Wahner Farm, P	85.63	340	⇑P	P	08 20 31.8 -0.1
	baz=86					
D24A	Glendive	85.64	339	⇓P	P	08 20 31.9 -0.1
	baz=86					
A30A	Hoffart Farm,	85.66	343	⇑P	P	08 20 31.6 -0.4
	baz=86,SNR=5.8					
F20A	Billings	85.72	336	⇑P	P	08 20 32.2 -0.3
	baz=86					
B28A	Dugan Ranch, T	85.73	342	⇑P	P	08 20 32.2 -0.1
	baz=86					
YMR	Madison River	85.75	333	eP	P	08 20 33.1 +0.2
	comp=Z,26nm,0.9s					
LAO	LASA Array	85.85	337	eP	P	08 20 33.0 -0.1
	comp=Z,24nm,1.0s					
A29A	Manning Farm,	85.87	342	⇑P	P	08 20 32.6 -0.5
	baz=86,SNR=9.0					
D23A	Lindsay	85.96	338	⇑P	P	08 20 33.8 +0.2
	baz=86,SNR=9.7				

baz=86,SNR=11
QLMT Earthquake Lak 86.06 333 *e*P **P 08 20 34.8 +0.4**
A28A Rude Farm, Bot 86.13 342 ⇓P **P 08 20 34.5 +0.2**
baz=86
B26A Jensen Ranch, 86.17 340 ⇑P **P 08 20 34.5 -0.1**
baz=86
HLID Hailey 86.17 331 ⇑P **P 08 20 35.2 +0.3**
baz=86
HLID Hailey 86.17 331 *e*P **P 08 20 35.4 +0.5**
comp=Z,12nm,1.0s
D22A Cohagen 86.25 337 ⇓P **P 08 20 35.3 +0.3**
baz=87
E20A Meyer Farm, Mu 86.32 336 ⇓P **P 08 20 35.4 0.0**
baz=87,SNR=6.2
ULM Lac du Bonnet 86.33 345 P **P 08 20 34.0 -1.3**
ULM pmax pmax
comp=Z,4.0nm,0.9s
ULM Lac du Bonnet 86.33 345 P **P 08 20 34.0 -1.3**
comp=Z,5.1nm,0.9s,baz=159,slow=5.6,SNR=8.5
ULM Lac du Bonnet 86.33 345 *e*P **P 08 20 34.7 -0.6**
comp=Z,11nm,1.0s
B25A Knox Farm, Ray 86.34 340 ⇓P **P 08 20 35.7 +0.3**
baz=87
A27A Ledoux Ranch, 86.42 341 ⇓P **P 08 20 36.0 +0.2**
baz=87
D21A La Casta Ranch 86.44 337 ⇑P **P 08 20 35.8 -0.1**
baz=87,SNR=7.1
E19A Rath Farm, Rou 86.51 336 ⇑P **P 08 20 36.3 -0.1**
baz=87,SNR=9.3
C23A Lambert 86.52 338 ⇑P **P 08 20 36.4 +0.1**
baz=87,SNR=6.9
A26A Wade Farm, Ken 86.59 341 ⇑P **P 08 20 36.2 -0.4**
baz=87
MCMT McKenzie Canyo 86.60 332 *e*P **P 08 20 37.8 +0.8**
comp=Z,8.2nm,1.1s
MFID Camas Ranch 86.63 330 *e*P **P 08 20 38.3 +1.2**
comp=Z,10.0nm,1.1s
C22A Vida 86.68 338 ⇓P **P 08 20 36.8 -0.3**
baz=87,SNR=6.4
DGMT Dagmar 86.82 339 ⇓P **P 08 20 37.9 +0.2**
baz=87,SNR=7.0
DGMT Dagmar 86.82 339 *e*P **P 08 20 38.2 +0.5**
comp=Z,55nm,1.0s
D20A Manuel Ranch, 86.84 336 ⇓P **P 08 20 37.8 -0.1**
baz=87,SNR=6.1
A25A Svangstu Ranch 86.92 340 ⇓P **P 08 20 38.4 +0.2**
baz=87
DLMT Dillon 86.95 333 *e*P **P 08 20 39.3 +0.6**
comp=Z,18nm,1.3s
DLMT *e*pP **pP 08 20 48.0 -0.2**
B23A Brockton 87.05 339 ⇓P **P 08 20 39.2 +0.4**
baz=87,SNR=5.0
WVOR Wild Horse Val 87.06 327 *e*P **P 08 20 40.4 +1.2**
WVOR pmax pmax
comp=Z,12nm,1.2s
WVOR Wild Horse Val 87.06 327 *e*P **P 08 20 40.4 +1.2**
comp=Z,12nm,1.2s
D19A Cripps Ranch, 87.15 336 ⇓P **P 08 20 39.5 +0.1**
baz=88
A24A Westby 87.17 340 ⇑P **P 08 20 39.5 0.0**
baz=88
B22A Reddig Ranch S 87.21 338 ⇑P **P 08 20 39.7 0.0**
baz=88
MSNA Messina 87.27 115 *e*P **P 08 20 39.9 -0.9**
MSNA AMB AMB 08 20 42.6
comp=Z,31nm,5.2s
MSNA Messina 87.27 115 P **P 08 20 39.9 -0.9**
comp=Z,31nm,5.2s
LRM Limekiln Ridge 87.28 333 *e*P **P 08 20 40.1 -0.3**
C20A Veseth Ranch, 87.33 337 ⇓P **P 08 20 40.4 +0.1**
baz=88
MOD Modoc Plateau 87.40 326 *e*P **P 08 20 41.6 +0.7**
comp=Z,1.0nm,0.5s
WDC Whiskeytown Da 87.44 324 *e*P **P 08 20 40.8 -0.1**
WDC pmax pmax
comp=Z,15nm,0.9s
WDC Whiskeytown Da 87.44 324 *e*P **P 08 20 40.8 -0.1**
comp=Z,15nm,0.9s
A23A Redstone 87.45 339 ⇑P **P 08 20 41.1 +0.3**
baz=88
B21A Ellsworth Farm 87.64 338 ⇑P **P 08 20 42.1 +0.4**
baz=88
C19A Slack Wire Ran 87.70 336 ⇑P **P 08 20 42.2 +0.1**
baz=88
A22A Carney Farms, 87.80 338 ⇓P **P 08 20 42.4 -0.1**
baz=88,SNR=9.2
HRY Holter Researc 87.81 334 *e*P **P 08 20 43.4 +0.7**
N02D Trinity Center 87.82 324 ⇓P **P 08 20 42.8 0.0**
baz=88
M04C Macdoel 88.03 325 ⇑P **P 08 20 44.3 +0.4**
baz=88
A21A Bergtoll Ranch 88.11 338 ⇓P **P 08 20 43.5 -0.5**
baz=88,SNR=6.3
EGMT Eagleton 88.19 336 ⇓P **P 08 20 44.4 -0.1**
baz=88
EGMT Eagleton 88.19 336 *e*P **P 08 20 44.5 +0.1**
comp=Z,38nm,1.8s
KHMM Horse Mountain 88.25 324 *e*P **P 08 20 46.5 +1.5**
comp=Z,33nm,1.0s
B19A Brinkman Farms 88.29 336 ⇓P **P 08 20 44.3 -0.5**
baz=89
K05A Summer Lake 88.32 326 *e*pP pP 08 20 53.8 -1.0
A20A Cobblestone Ra 88.33 337 ⇑P **P 08 20 44.9 -0.2**
baz=89
YBH Yreka Blue Hor 88.41 325 *e*P P 08 20 50.3 +4.7
YBH pmax pmax
comp=Z,103nm,2.3s
YBH Yreka Blue Hor 88.41 325 *e*P P 08 20 50.3 +4.7
comp=Z,103nm,2.3s
SCHQ Schefferville 88.43 3 P **P 08 20 45.8 +0.5**
comp=Z,3.0nm,0.5s,baz=185,slow=4.9,SNR=13
CHMT Chamberlain Mo 88.50 333 *e*P **P 08 20 47.2 +1.1**
A19A Klindworth Far 88.64 337 ⇑P **P 08 20 46.4 -0.1**
baz=89
MSO Missoula 88.69 333 ⇓P **P 08 20 47.2 +0.4**
baz=89
MSO Missoula 88.69 333 *e*P **P 08 20 46.8 -0.1**
comp=Z,15nm,1.7s
I07A Izee 88.75 328 *e*pP pP 08 20 57.2 +0.5
SLMT Seeley Lake 88.87 333 *e*P **P 08 20 47.5 -0.2**
J05D Fort Rock, OR 88.91 326 ⇑P **P 08 20 47.8 -0.2**
baz=89
J04D Umpqua Nationa 89.28 326 ⇓P **P 08 20 49.6 -0.2**
baz=90
SWMT Swartz Lake 89.28 333 *e*P **P 08 20 49.4 -0.2**
F10A Beach Ranch, E 89.29 330 *e*pP pP 08 20 58.4 -0.9
JTMT Jette 89.58 333 *e*P **P 08 20 51.6 +0.5**
comp=Z,3.2nm,0.9s
JTMT *e*pP **pP 08 20 57.5 -3.1**
BLMT Blacktail Moun 89.83 333 *e*P **P 08 20 51.9 -0.5**
comp=Z,3.2nm,0.5s
BSMT Bassoo Peak 89.86 333 *e*P **P 08 20 52.2 -0.2**
WALA Waterton Lakes 90.54 334 *e*pP pP 08 21 04.6 -0.4
HAWA Hanford 90.59 329 *e*pP pP 08 21 05.2 +0.1
D08A Wollman Farm, 90.86 330 *e*pP pP 08 21 06.2 -0.2
C09A Chrisman Ranch 91.19 331 *e*pP pP 08 21 06.4 -1.6
FCC Fort Churchill 94.06 349 *e*P **P 08 21 11.2 -0.1**
FCC Fort Churchill 94.06 349 *e*P **P 08 21 11.2 -0.1**
YKA Yellowknife Ar 101.89 341 P **Pdif 08 21 45.6 -0.9**
comp=Z,0.3nm,0.8s,baz=145,slow=4.6,SNR=7.2
GERES GERESS Array B 112.08 45 PKiKP **PKiKP 08 26 27.6 -1.2**
comp=Z,0.8nm,0.6s,baz=190,slow=2.4,SNR=5.9
ILAR Eielson Array 114.03 333 PKKPab PKKPab 08 37 22.8 +5.3
comp=Z,0.8nm,1.0s,baz=250,slow=3.6,SNR=4.6
ASAR Alice Springs 117.68 207 PKIKP **PKPdf 08 26 38.9 -1.4**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR pmax pmax
comp=Z,1.0nm,1.0s
ASAR Alice Springs 117.68 207 PKP **PKPdf 08 26 38.9 -1.4**
comp=Z,0.8nm,0.7s,baz=134,slow=1.8,SNR=9.1
ASAR PKKPbc **PKKPbc 08 37 01.6 +0.5**
comp=Z,0.8nm,1.0s,baz=339,slow=4.7,SNR=4.9
MLR Muntele Rosu 118.43 52 PKP **PKPdf 08 26 39.3 -1.8**
comp=Z,0.4nm,0.5s,baz=269,slow=14,SNR=3.2
WB2 Warramunga Arr 120.87 209 *e*PKPdf **PKPdf 08 26 45.4 -1.1**
WRA Warramunga Arr 120.87 209 PKIKP **PKPdf 08 26 45.1 -1.4**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 120.87 209 PKP **PKPdf 08 26 45.1 -1.4**
comp=Z,2.3nm,0.6s,baz=171,slow=1.5,SNR=40
WRAB Tennant Creek 120.88 209 ⇑*i*PKIKP **PKPdf 08 26 47.2 +0.7**
WRAB Tennant Creek 120.88 209 *e*PKPdf **PKPdf 08 26 45.9 -0.7**
BRTR Keskin Array B 121.81 61 PKIKP **PKPdf 08 26 47.7 -0.1**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 121.81 61 PKP **PKPdf 08 26 47.6 -0.1**
comp=Z,3.8nm,0.8s,baz=194,slow=3.1,SNR=17
KIEV Kiev 122.12 47 ⇓*i*PKIKP **PKPdf 08 26 46.9 -0.9**
KIEV Kiev 122.12 47 *e*PKPdf **PKPdf 08 26 46.9 -0.9**
AKASG Malin Array Be 122.13 47 PKIKP **PKPdf 08 26 46.9 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 122.13 47 PKP **PKPdf 08 26 46.9 -0.9**
comp=Z,4.5nm,0.7s,baz=263,slow=2.7,SNR=13
VSU Vasula 122.60 38 ⇑*i*PKIKP **PKPdf 08 26 48.4 0.0**
TNA Tin City 122.63 331 *e*PKPdf **PKPdf 08 26 48.3 +0.1**
FINES FINESS Array B 122.89 34 PKIKP **PKPdf 08 26 49.3 +0.4**
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 122.89 34 PKP **PKPdf 08 26 49.3 +0.4**
comp=Z,4.4nm,0.9s,baz=222,slow=2.6,SNR=6.1
ARCES ARCESS Array B 123.90 25 PKIKP **PKPdf 08 26 51.0 +0.3**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 123.90 25 PKP **PKPdf 08 26 51.0 +0.3**
comp=Z,3.8nm,0.9s,baz=285,slow=2.4,SNR=4.5
PUL Pulkovo 124.66 37 ⇑*i*PKIKP **PKPdf 08 26 53.3 +1.0**
OBN Obninsk 127.36 43 ⇓*e*PKIKP **PKPdf 08 26 57.8 +0.2**
OBN *i* 08 29 01.4
OBN *e* 08 34 06.3
OBN pmax pmax
comp=Z,41nm,2.1s
MOS Moscow 128.03 43 *e*PKIKP **PKPdf 08 27 00.7 +1.8**
KLMR Klimovskoe 129.31 36 *e*PKIKP **PKPdf 08 26 59.9 -1.3**
KLMR pmax pmax
comp=Z,40nm,1.4s
KIV Kislovodsk 129.46 58 *e*PKIKP **PKPdf 08 27 03.3 +1.1**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 129.56 58 PKIKP **PKPdf 08 27 03.0 +0.8**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 129.56 58 PKP **PKPdf 08 27 03.0 +0.8**
comp=Z,5.1nm,0.9s,baz=61,slow=1.6,SNR=8.9
BILL Bilibino 132.67 334 *e*PKIKP **PKPdf 08 27 07.7 +0.3**
BILL Bilibino 132.67 334 *e*PKPdf **PKPdf 08 27 07.7 +0.3**
ARU Arti 139.66 41 *e*PKIKP **PKPdf 08 27 21.4 +0.7**
ARU Arti 139.66 41 *e*PKPdf **PKPdf 08 27 21.4 +0.7**
GEYT Alibeck 139.85 69 PKP **PKPdf 08 27 22.4 +0.6**
comp=Z,4.7nm,0.6s,baz=254,slow=2.8,SNR=9.9
SEY Seymchan 139.87 330 *i* PKHKP PKPpre 08 27 11.6
SEY 08 27 19.4
SEY pmax pmax
comp=Z,5.0nm,0.8s
SEY Seymchan 139.87 330 PKhKP PKPpre 08 27 11.6
comp=Z,0.4nm,0.4s,baz=68,slow=23,SNR=2.5
SEY PKP **PKPdf 08 27 19.4 -1.5**
comp=Z,4.5nm,0.8s,baz=95,slow=4.1,SNR=7.2
AKTO Aktyubinsk 140.28 50 PKIKP **PKPdf 08 27 21.0 -1.1**
AKTO pmax pmax
comp=Z,18nm,2.6s
AKTO Aktyubinsk 140.28 50 PKP **PKPdf 08 27 22.6 +0.6**
comp=Z,3.9nm,0.8s,baz=247,slow=2.3,SNR=12
TIXI Tiksi 140.53 350 *ce*PKIKP **PKPdf 08 27 24.6 +2.7**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
AB31 Akbulak array 141.63 52 PKHKP PKPpre 08 27 18.9
AB31 pmax pmax
comp=Z,4.0nm,0.5s
PALK Pallekele 143.53 130 *e*PKIKP PKPbc 08 27 26.1 -0.3
PALK Pallekele 143.53 130 *e*PKPdf PKPbc 08 27 26.1 -0.2
POO Poona 146.04 108 ⇑*i*P **PKPdf 08 27 32.0 -1.2**
comp=Z,50nm,1.0s
BRVK Borovoye 147.13 43 ⇓*e*PKIKP **PKPdf 08 27 34.9 +1.0**
BRVK pmax pmax
comp=Z,24nm,1.0s
BRVK Borovoye 147.13 43 *e*PKPbc **PKPdf 08 27 35.0 +1.0**
BVA0 Borovoye Array 147.20 43 *i* PKIKP **PKPdf 08 27 34.5 +0.4**
BVA0 pmax pmax
comp=Z,12nm,0.8s
BVAR Borovoye Array 147.20 43 PKIKP **PKPdf 08 27 35.0 +0.9**
BVAR pmax pmax
comp=Z,9.0nm,0.6s
BVAR Borovoye Array 147.20 43 PKPbc **PKPdf 08 27 35.0 +0.9**
comp=Z,9.0nm,0.6s,baz=279,slow=2.9,SNR=35
VOSK Vostochnaya 147.65 43 PKHKP PKPpre 08 27 31.7
VOSK pmax pmax
comp=Z,20nm,0.8s
KSM Kuching 147.72 185 *e*PKPdf **PKPdf 08 27 36.0 -0.2**
KSM *e*PKPbc **PKPbc 08 27 39.0 0.0**
KSM *e*PKPab **PKPab 08 27 42.8 +1.6**
KBL Kabul 147.99 78 *e*PKIKP **PKPdf 08 27 36.5 +0.2**
KBL *e* 08 27 41.5
KBL Kabul 147.99 78 *e*PKPdf **PKPdf 08 27 36.5 +0.2**
KBL *e*PKPbc **PKPbc 08 27 39.1 -0.3**
KBL *e*PKPab **PKiKP 08 27 41.5 +0.3**
YAK Yakutsk 148.56 340 *e*PKIKP **PKPbc 08 27 37.9 -1.8**
YAK *e* 08 27 46.9
YAK pmax pmax
comp=Z,28nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK Yakutsk 148.56 340 *e*PKPbc **PKPbc 08 27 39.5 -0.2**
HYB Hyderabad 149.05 115 *i* PKP **PKPbc 08 27 41.5 -0.9**
KK31 Karatay Array 149.52 61 PKHKP **PKPbc 08 27 42.1 -0.7**
KK31 pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 149.52 61 *e*PKPdf **PKPdf 08 27 38.6 +0.4**
KKAR *e*PKPbc **PKPbc 08 27 42.8 0.0**
KKAR *e*PKPab **PKPab 08 27 47.1 -0.8**
IPM Ipoh 150.09 166 *e*PKPdf **PKPdf 08 27 40.2 +0.2**
IPM *e*PKPbc **PKPbc 08 27 44.5 -0.5**
YSS Yuzh-Sakhalins 150.65 307 *e*PKIKP **PKPbc 08 27 44.3 -1.0**
YSS *e* 08 27 53.1
KULM Kulim 150.81 165 *e*PKPbc **PKPbc 08 27 46.1 -0.6**
ASAJ Asahikawa 151.32 301 *e*PKPdf **PKPdf 08 27 41.7 +0.7**
ASAJ *e*PKPbc **PKiKP 08 27 47.8 +0.3**
ASAJ *e*PKPab **PKPab 08 27 56.3 +1.1**
AML Almayashu 151.95 63 P **PKPbc 08 27 50.0 +0.9**
SNR=12
EKS2 Erkin-Say 151.95 62 P **PKPbc 08 27 49.3 +0.7**
SNR=9.4
EKS2 Erkin-Say 151.95 62 *e*PKIKP **PKPdf 08 27 43.3 +1.1**
EKS2 *e* 08 27 49.1
EKS2 *e* 08 27 58.5
EKS2 Erkin-Say 151.95 62 *e*PKPdf **PKPdf 08 27 43.3 +1.1**
EKS2 *e*PKPbc **PKiKP 08 27 49.1 +0.1**
EKS2 *e*PKPab **PKPab 08 27 58.5 +0.4**
USP Ospenovka 152.40 60 P **PKPbc 08 27 50.4 +0.9**
SNR=11
AAK Ala-Archa 152.48 62 P **PKPbc 08 27 50.9 +1.0**
SNR=13
AAK Ala-Archa 152.48 62 *e*PKIKP **PKPdf 08 27 43.4 +0.4**
AAK *e* 08 27 43.6
AAK 08 27 50.3
AAK *e* 08 27 50.8
AAK 08 28 01.0
AAK Ala-Archa 152.48 62 PKP **PKPdf 08 27 43.3 +0.3**
comp=Z,2.3nm,0.7s,baz=146,slow=3.2,SNR=6.0
AAK PKPbc **PKiKP 08 27 50.3 +0.1**
comp=Z,21nm,0.7s,baz=147,slow=1.6,SNR=6.5
AAK PKPab **PKPab 08 28 01.0 +0.6**
comp=Z,26nm,0.8s,baz=207,slow=1.8,SNR=17
AAK Ala-Archa 152.48 62 *e*PKPdf **PKPdf 08 27 43.4 +0.4**
AAK *e*PKPdf **PKPdf 08 27 43.6 +0.6**
AAK PKPbc **PKiKP 08 27 50.3 +0.1**
AAK *e*PKPbc **PKPbc 08 27 50.8 +0.8**
AAK PKPab **PKPab 08 28 01.0 +0.6**
UCH Uchtor 152.55 62 P **PKPbc 08 27 51.5 +1.1**
SNR=12
KURBB Kurchatov Arra 152.79 43 PKP **PKPdf 08 27 42.9 -0.1**
comp=Z,1.7nm,0.6s,baz=304,slow=2.2,SNR=9.8
KURBB PKPbc **PKiKP 08 27 50.4 +0.1**
comp=Z,11nm,0.7s,baz=298,slow=2.8,SNR=40
KURK Kurchatov 152.80 43 PKIKP **PKPdf 08 27 42.9 -0.1**
KURK 08 27 50.4
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK pmax pmax
comp=Z,11nm,0.7s
KURK Kurchatov 152.80 43 PKP **PKPdf 08 27 42.9 -0.1**
KURK *e*PKPdf **PKPdf 08 27 43.2 +0.3**
KURK *e*PKPbc **PKPbc 08 27 49.9 -0.2**
KURK PKPbc **PKPbc 08 27 50.4 +0.3**
KURK *e*PKPab **PKPab 08 27 60.0 -1.2**
NVS Novosibirsk 152.84 32 ⇑*i*PKIKP **PKPdf 08 27 41.6 -1.3**
NVS *i* 08 27 58.1
NVS pmax pmax
comp=Z,37nm,1.0s
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=E,5.0nm,0.5s
KZA Kyzart 153.11 63 P **PKPbc 08 27 52.6 +0.9**
SNR=6.3
TKM2 Tokmak 2 153.24 61 P **PKPbc 08 27 52.3 +0.6**
SNR=6.8
TKM2 Tokmak 2 153.24 61 *e*PKIKP **PKPdf 08 27 44.2 0.0**
TKM2 *e* 08 27 52.2
TKM2 *e* 08 28 03.3
TKM2 Tokmak 2 153.24 61 *e*PKPdf **PKPdf 08 27 44.2 0.0**
TKM2 *e*PKPbc **PKPbc 08 27 52.2 +0.6**
TKM2 *e*PKPab **PKPab 08 28 03.3 -0.3**
ULHL Ulahol 153.82 62 P **PKPbc 08 27 54.1 +1.1**
SNR=5.5
KSH Kashi 153.87 68 PKPbc **PKPdf 08 27 45.3 +0.2**
KSH sPKP 08 27 58.5
KSH PKS **PKSdf 08 31 18.5 -0.9**
KSH PP **PP 08 31 38.9 -2.4**
KSH SKS **SKSdf 08 34 48.9 -1.0**
KSH SKKS **SKKSac 08 38 26.0 -2.9**
KSH PPMZ
comp=E,270nm,6.7s
KSH LN
comp=E,80nm,4.4s
KSH LE
comp=E,80nm,4.1s
KSH LZ
comp=E,190nm,6.2s
ZALV Zalesovo Beam 154.12 32 PKIKP **PKPdf 08 27 44.5 -0.3**
ZALV 08 27 53.0
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV pmax pmax
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 154.12 32 PKP **PKPdf 08 27 44.5 -0.3**
comp=Z,5.6nm,0.9s,baz=270,slow=3.0,SNR=16
ZALV PKPbc **PKiKP 08 27 53.0 +0.1**
comp=Z,13nm,0.6s,baz=303,slow=3.1,SNR=31
BOD Bodaibo 155.66 352 *e*PKIKP PKPdf 08 27 54.2 +7.5
BOD *e* 08 28 10.9
BOD pmax pmax
comp=Z,12nm,0.9s
MK31 Makanchi Array 156.70 49 *i* PKIKP **PKPdf 08 27 47.5 -1.0**
MK31 pmax pmax
comp=Z,7.0nm,0.9s
MKAR Makanchi Array 156.70 49 PKIKP **PKPdf 08 27 48.4 -0.1**
MKAR 08 27 58.2
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR pmax pmax
comp=Z,6.0nm,0.9s
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 156.70 49 PKP **PKPdf 08 27 48.4 -0.1**
comp=Z,2.9nm,0.9s,baz=298,slow=2.6,SNR=17
MKAR PKPbc PKPbc 08 27 58.2
comp=Z,6.2nm,0.9s,baz=328,slow=1.4,SNR=17
MKAR PKPab **PKPab 08 28 18.2 +0.2**
comp=Z,5.5nm,0.6s,baz=276,slow=3.7,SNR=16
USRK Ussuriysk Ar. 158.68 306 PKP **PKPdf 08 27 48.6 -2.4**
comp=Z,2.7nm,0.7s,baz=144,slow=41,SNR=3.5
WMQ Urumqi 161.42 52 *e*PKP **PKPdf 08 27 54.0 -0.2**
WMQ pPKP **pPKPdf 08 28 05.3 +1.2**
WMQ PKPab **PKPab 08 28 40.0 +1.4**
WMQ PKS **PKSdf 08 31 26.0 -1.4**
WMQ PP **PP 08 32 24.4 +2.1**
WMQ SKKS 08 39 07.3
WMQ PPMZ
comp=Z,380nm,7.0s
WMQ LN
comp=Z,75nm,20.0s
WMQ LE
comp=Z,200nm,22.0s
WMQ LZ
comp=Z,150nm,17.0s
TLY Talaya 161.91 9 PKPab **PKPab 08 28 40.8 +0.4**
comp=Z,1.7nm,0.5s,baz=32,slow=3.4,SNR=4.6
CMAR Chiang Mai Arr 162.72 150 PKIKP **PKPdf 08 27 56.2 0.0**
CMAR 08 28 44.7
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 162.72 150 PKP **PKPdf 08 27 56.2 0.0**
comp=Z,1.3nm,0.4s,baz=298,slow=6.1,SNR=11
CMAR PKPab **PKPab 08 28 44.7 0.0**
comp=Z,1.4nm,0.7s,baz=215,slow=5.1,SNR=4.4
CN2 Changchun 163.12 311 *e*PKP **PKPdf 08 27 58.0 +2.2**
CN2 PP PP 08 32 38.1 +7.0
CN2 SS SS 08 52 58.2 +4.0
CN2 PPMZ
comp=Z,200nm,7.0s
CN2 LN
comp=Z,400nm,20.0s
CN2 LE
comp=Z,400nm,20.0s
CN2 LZ
comp=Z,300nm,20.0s
SONM Songino Array 165.97 4 PKIKP **PKPdf 08 27 57.4 -1.0**
SONM 08 28 58.9
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 165.97 4 PKP **PKPdf 08 27 57.4 -1.0**
comp=Z,0.9nm,0.9s,baz=215,slow=0.7,SNR=6.0
SONM PKPab **PKPab 08 28 58.9 +0.5**
comp=Z,2.7nm,0.9s,baz=331,slow=5.1,SNR=11
NJ2 Nanjing 170.62 262 *e*PKP **PKPdf 08 28 05.0 +3.2**
GTA Gaotai 171.46 47 *e*PKP **PKPdf 08 28 02.1 -0.1**
GTA pPKP **pPKPdf 08 28 12.9 +0.8**
GTA sPKP 08 28 16.6
GTA PKPab **PKPab 08 29 23.8 +0.7**
HHC Hu-ho-hao-te 172.42 338 *e*PKP **PKPdf 08 28 03.2 +0.6**
HHC pPKP **pPKPdf 08 28 14.0 +1.5**
HHC sPKP 08 28 17.6
HHC PP **PP 08 33 22.0 +4.0**
HHC SKS **SKSdf 08 35 01.2 -2.5**
HHC SS **SS 08 54 27.0 +0.4**
HHC PPMZ
comp=Z,120nm,8.6s
HHC LN
comp=Z,570nm,16.0s
HHC LE
comp=Z,600nm,16.0s
HHC LZ
comp=Z,520nm,18.5s
GYA Guiyang 172.57 171 *e*PKP **PKPdf 08 28 02.4 -0.7**
GYA pPKP **pPKPdf 08 28 14.0 +1.0**
GYA PKPab **PKPab 08 29 30.6 +2.5**
GYA PKS **PKSdf 08 31 33.2 -2.4**
GYA PP **PP 08 33 22.9 +4.4**
GYA SKKS 08 40 03.2
GYA SS **SS 08 54 28.7 +1.1**
GYA PPMZ
comp=Z,120nm,8.2s
GYA LN
comp=Z,120nm,22.4s
GYA LE
comp=Z,110nm,22.6s
GYA LZ
comp=Z,120nm,21.0s
CD2 Chengdu 175.44 129 *e*PKP **PKPdf 08 28 04.5 +0.6**
LZH Lanzhou 175.99 55 *e*PKP **PKPdf 08 28 04.3 +0.3**
LZH pPKP **pPKPdf 08 28 15.5 +1.6**
LZH sPKP 08 28 19.5
LZH *e*PP **PP 08 33 40.0 +3.6**
LZH SKKS 08 40 19.3
LZH *e*SS **SS 08 54 58.0 -5.0**
LZH PPMZ
comp=Z,150nm,9.7s
LZH LN
comp=Z,200nm,18.0s
LZH LE
comp=Z,200nm,18.1s
LZH LZ
comp=Z,250nm,20.0s
XAN Xi'an 179.12 283 PKP **PKPdf 08 28 06.0 +1.7**
XAN pPKP **pPKPdf 08 28 15.6 +1.4**

*NSSC **08** 08:10:51.1±1.6,40°.63N×41°.44E,h0km±261km,ML4.3*
*ISK **08** 08:11:20.7,38°.76N×40°.06E,h2km,ML4.3*

*DDA **08** 08:11:20.7, 38°.74N×40°.01E, h10km, ML4.2*
*NEIC **08** 08:11:21.0, 38°.74N×40°.08E, h5km, mb4.6/4, ML4.2(DDA), ML4.3(ISK), After ISK.*
*CSEM **08** 08:11:22.4±0.1, 38°.72N×40°.07E, h2km, mb4.9/7, Error ellipse: s-maj=4.3km s-min=3.4km az=134.0*
*IDC **08** 08:11:23.3±0.7, 38°.85N×39°.95E, h0km, mb3.9/12, mb1 3.9/21, mb1mx3.8/44, mbtmp3.9/21, ML3.5/7, Error ellipse: s-maj=13.5km s-min=8.0km az=164.0*
ISC 08 08:11:22.7±0.7, **38°.77N**±0°.02×**40°.02E**±0°.02, **h4**km±5km, **n175**, σ1§63/208, **mb4.1**/21, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.38**	**74**	*i* Pg	**Pb**	**08 11 32.0**	**0.0**
BNGB	**Bing¶‖**	**0.56**	**67**	PG	**Pg**	**08 11 31.9**	**-1.5**
DYBB	**Diyarbakir**	**0.82**	**173**	PG	**Pg**	**08 11 37.2**	**-1.2**
ERZN	**Erzincan**	**0.85**	**344**	PG	**Pg**	**08 11 38.2**	**-0.7**
ERZN				SG	**Sg**	**08 11 51.1**	**+1.2**
DIY	**Diyarbakir**	**0.89**	**169**	*i* Pg	Pg	08 11 37.2	-2.5
BNGL	**BINGOL**	**0.90**	**78**	*i* P	Pg	08 11 37.8	-2.1
BNGL				*i* S	**Sg**	**08 11 51.0**	**-0.6**
EUZM	**Uzumlu**	**0.97**	**345**	*i* P	**Pg**	**08 11 40.0**	**-1.3**
EUZM				*i* S	**Sg**	**08 11 53.7**	**-0.1**
EUZM	**Uzumlu**	**0.97**	**345**	*i* Pg	**Pg**	**08 11 40.0**	**-1.3**
EUZM				*i* S	**Sg**	**08 11 53.7**	**-0.1**
EZC	**Erzincan**	**1.11**	**332**	*i* Pg	Pb	08 11 38.2	-6.3
EZC				*i* Sg	Sb	08 11 51.2	-8.1
VRTB	**Varto-Mus**	**1.18**	**70**	PN	**Pb**	**08 11 43.7**	**-2.0**
VRTB	**Varto-Mus**	**1.18**	**70**	*i* Pn	**Pb**	**08 11 43.7**	**-2.0**
BTMT	**Batman**	**1.29**	**116**	PN	**Pn**	**08 11 45.6**	**-1.9**
BTMT	**Batman**	**1.29**	**116**	*i* Pn	**Pn**	**08 11 45.6**	**-1.9**
KEMA	**Kemaliye**	**1.29**	**293**	*i* P	Pn	08 11 44.3	-3.2
KEMA				*i* S	**Sb**	**08 12 00.3**	**-4.2**
KEMA	**Kemaliye**	**1.29**	**293**	*i* P	Pn	08 11 44.3	-3.2
KEMA				*i* S	**Sb**	**08 12 00.3**	**-4.2**
KOPT	**Kop Dagi**	**1.30**	**16**	*i* P	**Pn**	**08 11 46.3**	**-1.5**
KOPT				*i* S	**Sg**	**08 12 06.5**	**+2.0**
KOPT	**Kop Dagi**	**1.30**	**16**	*i* P	**Pn**	**08 11 46.3**	**-1.5**
KOPT				*i* S	**Sg**	**08 12 06.5**	**+2.0**
BEST	**Besiri**	**1.32**	**131**	*i* P	**Pn**	**08 11 46.0**	**-1.9**
BEST	**Besiri**	**1.32**	**131**	*i* P	**Pn**	**08 11 46.1**	**-1.9**
BEST				*i* S	**Sn**	**08 12 04.8**	**-1.1**
BEST	**Besiri**	**1.32**	**131**	*i* P	**Pn**	**08 11 46.0**	**-1.9**
ILIC	**ilic-Erzincan**	**1.32**	**301**	*e*PN	**Pn**	**08 11 47.3**	**-0.6**
ILIC	**ilic-Erzincan**	**1.32**	**301**	*e*Pn	**Pn**	**08 11 47.3**	**-0.6**
MALT	**Malatya**	**1.33**	**250**	*e*PN	**Pn**	**08 11 47.5**	**-0.5**
MALT				*e*SN	**Sg**	**08 12 07.3**	**+1.9**
MALT	**Malatya**	**1.33**	**250**	Pn	**Pb**	**08 11 47.8**	**-0.4**
MALT				*e*Sn	**Sg**	**08 12 07.3**	**+1.9**
MALT	**Malatya**	**1.33**	**250**	Pn	**Pb**	**08 11 47.9**	**-0.4**
MAZI	**Mazidag**	**1.35**	**166**	*e*PN	**Pn**	**08 11 47.1**	**-1.3**
MAZI	**Mazidag**	**1.35**	**166**	*e*Pn	**Pn**	**08 11 47.1**	**-1.3**
KELT	**Kelkit**	**1.50**	**337**	*i* P	**Pn**	**08 11 49.6**	**-0.9**
KELT				*i* S	**Sn**	**08 12 10.2**	**-0.4**
KELT	**Kelkit**	**1.50**	**337**	*i* P	**Pn**	**08 11 49.6**	**-0.9**
KELT				*i* S	**Sn**	**08 12 10.2**	**-0.4**
EZM	**Erzurum**	**1.54**	**42**	*e*PN	**Pn**	**08 11 49.9**	**-1.2**
EZM	**Erzurum**	**1.54**	**42**	Pn	**Pn**	**08 11 50.7**	**-0.4**
MARD	**Mardin**	**1.57**	**157**	*i* P	**Pn**	**08 11 50.0**	**-1.5**
MARD				*i* S	**Sn**	**08 12 10.2**	**-2.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.62**	**3**	*e*PN	**Pn**	**08 11 51.2**	**-1.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.62**	**3**	*e*Pn	**Pn**	**08 11 51.2**	**-1.0**
URFA	**Urfa**	**1.63**	**216**	*e*PN	**Pn**	**08 11 51.6**	**-0.6**
URFA	**Urfa**	**1.63**	**216**	*e*Pn	**Pn**	**08 11 51.6**	**-0.6**
URFA	**Urfa**	**1.63**	**216**	Pn	**Pn**	**08 11 51.5**	**-0.7**
EKAR	**Karacoban**	**1.66**	**72**	*i* P	**Pn**	**08 11 52.1**	**-0.7**
EKAR	**Karacoban**	**1.66**	**72**	*i* P	**Pn**	**08 11 52.1**	**-0.7**
EKAR				*i* S	**Sg**	**08 12 20.4**	**+4.3**
GUMT	**Gumushane**	**1.74**	**346**	*e*PN	**Pn**	**08 11 53.5**	**-0.2**
GUMT	**Gumushane**	**1.74**	**346**	*e*Pn	**Pn**	**08 11 53.5**	**-0.2**
TATV	**Tatvan**	**1.78**	**98**	*i* P	**Pn**	**08 11 53.4**	**-0.9**
TATV				*i* S	**Sb**	**08 12 19.3**	**+0.7**
TATV	**Tatvan**	**1.78**	**98**	*i* P	**Pn**	**08 11 53.4**	**-0.9**
TATV				*i* S	**Sb**	**08 12 19.3**	**+0.7**
ATAB	**Bozova**	**1.88**	**227**	*i* P	**Pn**	**08 11 54.3**	**-1.3**
ATAB				*i* S	**Sn**	**08 12 19.4**	**-0.4**
ATAB	**Bozova**	**1.88**	**227**	*i* P	**Pn**	**08 11 54.3**	**-1.3**
ATAB				*i* S	**Sn**	**08 12 19.4**	**-0.4**
HOMI	**Horasan**	**1.94**	**48**	*i* P	**Pn**	**08 11 56.7**	**+0.2**
HOMI				*i* S	**Sg**	**08 12 26.9**	**+2.0**
DARE	**Darende-Malaty**	**2.00**	**265**	*e*PN	**Pn**	**08 11 57.1**	**-0.2**
DARE	**Darende-Malaty**	**2.00**	**265**	*e*Pn	**Pn**	**08 11 57.1**	**-0.2**
SUSE	**Susehri**	**2.01**	**316**	*i* P	**Pb**	**08 11 58.7**	**-1.1**
SUSE				*i* S	**Sb**	**08 12 25.1**	**-0.2**
SUSE	**Susehri**	**2.01**	**316**	*i* P	**Pb**	**08 11 58.7**	**-1.1**
SUSE				*i* S	**Sb**	**08 12 25.1**	**-0.2**
EATA	**Eleskirt**	**2.20**	**60**	*i* P	**Pb**	**08 12 02.1**	**-1.2**
EATA	**Eleskirt**	**2.20**	**60**	*i* P	**Pb**	**08 12 02.1**	**-1.2**
EATA				*i* S	**Sg**	**08 12 34.8**	**+1.4**
KTUT	**Trabzon**	**2.22**	**355**	*e*PN	**Pn**	**08 12 00.2**	**0.0**
KTUT	**Trabzon**	**2.22**	**355**	*e*Pn	**Pn**	**08 12 00.2**	**0.0**
SIRN	**S¨–rnak**	**2.27**	**123**	*i* P	**Pn**	**08 11 59.5**	**-1.5**
SIRN	**S¨–rnak**	**2.27**	**123**	*i* P	**Pn**	**08 11 59.5**	**-1.5**
ESPY	**Espiye-Giresun**	**2.36**	**335**	*e*PN	**Pn**	**08 12 02.6**	**+0.4**
ESPY	**Espiye-Giresun**	**2.36**	**335**	*e*Pn	**Pn**	**08 12 02.6**	**+0.4**
GEVA	**Gevas**	**2.42**	**100**	*i* P	**Pn**	**08 12 02.2**	**-1.0**
GEVA	**Gevas**	**2.42**	**100**	*i* P	**Pn**	**08 12 02.2**	**-1.0**
GEVA				*i* S	**Sb**	**08 12 38.4**	**+1.2**
AGRB	**Hanur-Agry**	**2.44**	**70**	*e*PN	**Pn**	**08 12 02.9**	**-0.6**
AGRB	**Hanur-Agry**	**2.44**	**70**	*e*Pn	**Pn**	**08 12 02.9**	**-0.6**
DDEM	**Demirkent**	**2.50**	**32**	*i* P	**Pn**	**08 12 03.7**	**-0.5**
DDEM	**Demirkent**	**2.50**	**32**	*i* P	**Pn**	**08 12 03.7**	**-0.5**
GRSN	**GIRESUNGRSN**	**2.54**	**328**	*i* P	**Pb**	**08 12 07.6**	**-1.2**
GRSN				*i* S	**Sb**	**08 12 38.7**	**-1.7**
GRSN	**GIRESUNGRSN**	**2.54**	**328**	*i* P	**Pb**	**08 12 07.6**	**-1.2**
GRSN				*i* S	**Sb**	**08 12 38.7**	**-1.7**
DBAD	**Bademkaya**	**2.59**	**29**	*i* P	**Pn**	**08 12 05.2**	**-0.2**
DBAD	**Bademkaya**	**2.59**	**29**	*i* P	**Pn**	**08 12 05.2**	**-0.2**
VANB	**Van**	**2.64**	**93**	*e*PN	**Pn**	**08 12 05.3**	**-0.8**
VANB	**Van**	**2.64**	**93**	*e*Pn	**Pn**	**08 12 05.3**	**-0.8**
DAGI	**Agillar**	**2.73**	**32**	*i* P	**Pn**	**08 12 07.2**	**-0.1**
DAGI				*i* S	**Sg**	**08 12 54.2**	**+4.0**
ARTV	**Artvin**	**2.82**	**31**	*i* P	**Pn**	**08 12 08.5**	**-0.2**
ARTV	**Artvin**	**2.82**	**31**	*i* P	**Pn**	**08 12 08.5**	**-0.2**
DBOC	**Borcka**	**2.87**	**26**	*i* P	**Pn**	**08 12 09.1**	**0.0**
DBOC	**Borcka**	**2.87**	**26**	*i* P	**Pn**	**08 12 09.1**	**0.0**
KARS	**Kars**	**3.00**	**51**	*e*PN	**Pn**	**08 12 11.0**	**-0.1**
KARS	**Kars**	**3.00**	**51**	*e*Pn	**Pn**	**08 12 11.0**	**-0.1**
SLMH	**Al Salmeh**	**3.05**	**214**	*e*P	**Pn**	**08 12 10.8**	**-0.8**
	SNR=45						
SLMH	**Al Salmeh**	**3.05**	**214**	*e*P	**Pn**	**08 12 10.8**	**-0.8**
SLMH				AML	AML	08 13 14.0	
	comp=E,3μm,0.7s						
SLMH				AML	AML	08 13 16.0	
	comp=N,2μm,0.7s						
CLDR	**Caldiran**	**3.06**	**82**	*e*PN	**Pn**	**08 12 11.4**	**-0.6**
CLDR	**Caldiran**	**3.06**	**82**	*e*Pn	**Pn**	**08 12 11.4**	**-0.6**
DIGO	**Kars**	**3.07**	**57**	*i* P	**Pb**	**08 12 16.7**	**-1.2**
ANDN	**Andirin**	**3.13**	**249**	*i* P	**Pn**	**08 12 12.9**	**0.0**
ANDN	**Andirin**	**3.13**	**249**	*i* P	**Pn**	**08 12 12.9**	**0.0**
ANDN				*i* S	**Sg**	**08 13 02.2**	**-1.1**
ERBA	**Erbaa**	**3.16**	**308**	*i* P	**Pn**	**08 12 14.9**	**+1.7**
ERBA	**Erbaa**	**3.16**	**308**	*i* P	**Pn**	**08 12 14.9**	**+1.7**
ERBA				*i* S	**Sb**	**08 13 00.2**	**+1.9**
EAK	**Akyaka**	**3.36**	**54**	*i* P	**Pn**	**08 12 17.1**	**+1.1**
EAK	**Akyaka**	**3.36**	**54**	*i* P	**Pn**	**08 12 17.1**	**+1.1**
EAK				*i* S	**Sg**	**08 13 13.3**	**+2.7**
AKH	**Akhalkalaki**	**3.75**	**44**	P	Pg	08 12 32.2	-2.2
AKH				S	Sg	08 13 30.5	+7.5
GNI	**Garni**	**3.90**	**68**	Pn	Pn	08 12 26.9	+3.4
	comp=N,2.7nm,0.3s,baz=311,slow=4.9,SNR=7.6						
GNI				Pg	**Pb**	**08 12 34.4**	**+2.3**
	comp=N,10nm,0.3s,baz=330,slow=5.0,SNR=19						
GNI	**Garni**	**3.90**	**68**	*e*Pn	**Pn**	**08 12 25.3**	**+1.8**
GNI	**Garni**	**3.90**	**68**	*e*Pn	**Pn**	**08 12 25.3**	**+1.8**
GNI				Pg	**Pb**	**08 12 34.4**	**+2.3**
ARNB	**Al Arnab**	**4.34**	**229**	*e*P	**Pn**	**08 12 28.6**	**-0.9**
	SNR=45						
ARNB	**Al Arnab**	**4.34**	**229**	*e*P	**Pn**	**08 12 28.6**	**-0.9**
ARNB				*e*S	**Sb**	**08 13 36.8**	**+4.5**
ARNB				AML	AML	08 13 55.9	
	comp=E,356nm,0.7s						
ARNB				AML	AML	08 13 59.6	
	comp=N,208nm,0.7s						
KFRA	**Kufra**	**4.39**	**217**	*e*P	**Pn**	**08 12 28.7**	**-1.4**
	SNR=45						
KFRA	**Kufra**	**4.39**	**217**	*e*P	**Pn**	**08 12 28.7**	**-1.4**
KFRA				*e*S	**Sg**	**08 13 40.2**	**-3.4**
KFRA				AML	AML	08 14 06.4	
	comp=E,2μm,0.7s						
KFRA				AML	AML	08 14 11.9	
	comp=N,2μm,0.6s						
ONI	**Oni**	**4.62**	**33**	P	**Pb**	**08 12 44.8**	**+0.5**
ONI				S	**Sg**	**08 13 49.5**	**-1.5**
BIDA	**Albida**	**4.78**	**219**	*e*P	**Pn**	**08 12 34.4**	**-1.1**
	SNR=45						
BIDA	**Albida**	**4.78**	**219**	*e*P	**Pn**	**08 12 34.4**	**-1.1**
BIDA				*e*S	**Sb**	**08 13 49.5**	**+4.5**
BIDA				AML	AML	08 14 06.2	
	comp=E,508nm,0.7s						
BIDA				AML	AML	08 14 09.8	
	comp=N,1μm,0.6s						
DUS	**Dusheti**	**4.87**	**46**	P	**Pn**	**08 12 38.5**	**+1.7**
DUS	**Dusheti**	**4.87**	**46**	P	**Pn**	**08 12 38.5**	**+1.8**
DGRG	**David-gareji**	**4.90**	**55**	P	**Pn**	**08 12 38.9**	**+1.8**
DGRG	**David-gareji**	**4.90**	**55**	P	**Pn**	**08 12 38.9**	**+1.8**
GUDG	**Gudauri**	**5.01**	**41**	P	**Pn**	**08 12 38.7**	**0.0**
GUDG	**Gudauri**	**5.01**	**41**	P	**Pn**	**08 12 38.7**	**0.0**
BRTR	**Keskin Array B**	**5.05**	**283**	Pn	**Pn**	**08 12 39.9**	**+0.7**
	comp=N,2.3nm,0.3s,baz=115,slow=14,SNR=37						
BRTR				Lg	Lg	08 14 05.3	
	baz=257,slow=16,SNR=2.1						
HAWK	**Haweek**	**5.14**	**216**	*e*P	**Pn**	**08 12 39.7**	**-0.8**
	SNR=45						
HAWK	**Haweek**	**5.14**	**216**	*e*P	**Pn**	**08 12 39.7**	**-0.8**
HAWK				*e*S	**Sb**	**08 13 59.4**	**+4.1**
HAWK				AML	AML	08 14 20.0	
	comp=E,285nm,0.7s						
HAWK				AML	AML	08 14 29.2	
	comp=N,225nm,0.7s						
FKH	**Fakeheh**	**5.37**	**214**	*e*P	**Pn**	**08 12 43.0**	**-0.6**
FKH	**Fakeheh**	**5.37**	**214**	*e*P	**Pn**	**08 12 43.0**	**-0.6**
KBZ	**Khabaz**	**5.41**	**23**	Pn	**Pn**	**08 12 45.5**	**+1.5**
	comp=N,0.8nm,0.3s,baz=179,slow=7.2,SNR=13						
KBZ				Lg	Lg	08 14 20.4	
	baz=188,slow=18,SNR=1.6						
MARH	**Ras Al Marh**	**5.53**	**212**	*e*P	**Pn**	**08 12 46.1**	**+0.1**
	SNR=45						
MARH	**Ras Al Marh**	**5.53**	**212**	*e*P	**Pn**	**08 12 46.1**	**+0.1**
MARH				*e*S	**Sb**	**08 14 07.4**	**+0.8**
MARH				AML	AML	08 14 27.7	
	comp=N,142nm,0.6s						
MARH				AML	AML	08 14 37.5	
	comp=E,311nm,0.6s						
KIV	**Kislovodsk**	**5.55**	**20**	*e*Pn	**Pn**	**08 12 47.3**	**+1.2**
KIV	**Kislovodsk**	**5.55**	**20**	*e*Pn	**Pn**	**08 12 47.3**	**+1.2**
HWQ	**Hawqa**	**5.56**	**217**	*e*P	**Pn**	**08 12 46.2**	**0.0**
HWQ	**Hawqa**	**5.56**	**217**	*e*P	**Pn**	**08 12 46.2**	**0.0**
ANTO	**Ankara**	**5.71**	**283**	*e*Pn	**Pn**	**08 12 49.9**	**+1.6**
ANTO				*e*Sg	**Sg**	**08 14 30.5**	**+4.5**
ANTO	**Ankara**	**5.71**	**283**	*e*Pn	**Pn**	**08 12 49.9**	**+1.6**
ANTO				*e*Sg	**Sg**	**08 14 30.6**	**+4.5**
BHL	**Bhannes**	**6.00**	**217**	*e*P	**Pn**	**08 12 52.5**	**+0.2**
BHL	**Bhannes**	**6.00**	**217**	*e*P	**Pn**	**08 12 52.5**	**+0.2**
TOTH	**TOTAH**	**6.13**	**209**	*e*P	**Pn**	**08 12 53.7**	**-0.3**
	SNR=45						
TOTH	**TOTAH**	**6.13**	**209**	*e*P	**Pn**	**08 12 53.7**	**-0.3**
TOTH				*e*S	**Sb**	**08 14 22.3**	**-1.4**
TOTH				AML	AML	08 14 56.6	
	comp=N,142nm,0.7s						
TOTH				AML	AML	08 14 59.9	
	comp=E,256nm,0.7s						
ZALF	**Zalf**	**6.23**	**201**	*e*P	**Pn**	**08 12 54.5**	**-0.9**
	SNR=45						
ZALF	**Zalf**	**6.23**	**201**	*e*P	**Pn**	**08 12 54.5**	**-0.9**
ZALF				*e*S	**Sb**	**08 14 24.8**	**-1.8**
ZALF				AML	AML	08 14 53.3	
	comp=N,217nm,0.7s						
ZALF				AML	AML	08 15 05.0	
	comp=E,86nm,0.8s						
RCY	**Rachaya**	**6.26**	**214**	*e*P	**Pn**	**08 12 56.2**	**+0.4**
MMAI	**Mount Meron Ar**	**6.86**	**215**	Pn	**Pn**	**08 13 05.5**	**+1.4**
	comp=E,10nm,0.3s,baz=62,slow=14,SNR=18						
MMAI				Lg	Lg	08 14 51.0	
	comp=E,2.4nm,0.3s,baz=33,slow=24,SNR=2.2						
ASF	**Jabal al Asfar**	**7.06**	**202**	Pn	**Pn**	**08 13 07.2**	**+0.4**
	comp=E,1.4nm,0.3s,baz=329,slow=8.0,SNR=7.7						
ASF				Lg	Lg	08 15 09.0	
	comp=E,3.3nm,0.3s,baz=343,slow=16,SNR=4.3						
EIL	**Elat**	**10.00**	**206**	Pn	**Pn**	**08 13 47.2**	**+0.1**
	comp=E,0.4nm,0.3s,baz=23,slow=18,SNR=2.6						
EIL				Lg	Lg	08 16 45.4	
	comp=E,0.6nm,0.3s,baz=276,slow=14,SNR=2.4						
AKASG	**Malin Array Be**	**14.16**	**331**	Pn	**Pn**	**08 14 43.4**	**-0.5**
	comp=E,0.2nm,0.3s,baz=134,slow=13,SNR=3.7						
GEYT	**Alibeck**	**14.23**	**88**	Pn	Pn	08 14 47.6	+2.7
	comp=E,0.1nm,0.3s,baz=126,slow=17,SNR=3.5						
AKTO	**Aktyubinsk**	**17.27**	**42**	P	**P**	**08 15 25.6**	**-0.5**
	comp=E,0.3nm,0.3s,baz=240,slow=13,SNR=7.4						
NACGM	**Naroch**	**18.45**	**335**	*e*	**Pn**	**08 15 39.0**	**0.0**
GERES	**GERESS Array B**	**21.40**	**307**	P	**P**	**08 16 15.4**	**+4.1**
	comp=E,1.1nm,0.9s,baz=116,slow=6.1,SNR=4.7						
ARU	**Arti**	**21.52**	**29**	*e*P	**P**	**08 16 11.6**	**-0.8**
	comp=E,32nm,1.4s						
ARU	**Arti**	**21.52**	**29**	*e*P	**P**	**08 16 11.6**	**-0.8**
	comp=E,32nm,1.4s						
CLL	**Collm**	**22.69**	**312**	*e*(sP)	**sP**	**08 16 30.0**	**+3.2**
CLL				*e*		08 16 32.0	
CLL				*e*		08 16 41.0	
GRFO	**Grafenberg**	**23.20**	**307**	*e*P	**P**	**08 16 31.5**	**+1.1**
	comp=E,16nm,1.0s						
GRFO	**Grafenberg**	**23.20**	**307**	*e*P	**P**	**08 16 31.5**	**+1.1**
	comp=E,16nm,1.0s						
KKAR	**Karatay Array**	**23.37**	**70**	*e*P	**P**	**08 16 32.7**	**+0.6**
KKAR	**Karatay Array**	**23.37**	**70**	*e*P	**P**	**08 16 32.7**	**+0.6**
FINES	**FINESS Array B**	**24.29**	**344**	P	**P**	**08 16 41.1**	**+0.4**
	comp=E,5.0nm,0.8s,baz=148,slow=16,SNR=7.8						
KEST	**Kesra**	**24.55**	**272**	P	**P**	**08 16 44.6**	**+1.1**
	comp=E,2.9nm,0.8s,baz=332,slow=5.2,SNR=5.5						
JOF	**Joensuu**	**24.75**	**350**	*e*p	**P**	**08 16 44.9**	**0.0**
	comp=E,4.0nm,0.6s						
SBF	**Sospel**	**24.90**	**292**	*e*P	**P**	**08 16 49.0**	**+2.4**
	comp=E,225nm,1.5s						
SBF	**Sospel**	**24.90**	**292**	*e*P	**P**	**08 16 49.0**	**+2.4**
	comp=E,225nm,1.5s						
SBF	**Sospel**	**24.90**	**292**	*e*P	**P**	**08 16 49.0**	**+2.4**
	comp=E,225nm,1.5s						
BVAR	**Borovoye Array**	**25.25**	**46**	P	**P**	**08 16 52.3**	**+2.7**
	comp=E,0.7nm,0.7s,baz=218,slow=38,SNR=4.4						
MBDF	**Montbardon**	**25.39**	**294**	*e*P	**P**	**08 16 53.5**	**+2.4**
	comp=E,33nm,1.1s						
MBDF	**Montbardon**	**25.39**	**294**	*e*P	**P**	**08 16 53.5**	**+2.4**
	comp=E,33nm,1.1s						
MBDF	**Montbardon**	**25.39**	**294**	*e*P	**P**	**08 16 53.5**	**+2.4**
	comp=E,33nm,1.1s						
LPG	**La Plagne**	**25.44**	**296**	*e*P	**P**	**08 16 53.1**	**+1.4**
	comp=E,22nm,1.1s						
LPG	**La Plagne**	**25.44**	**296**	*e*P	**P**	**08 16 53.1**	**+1.4**
	comp=E,22nm,1.1s						
LPG	**La Plagne**	**25.44**	**296**	*e*P	**P**	**08 16 53.1**	**+1.4**
	comp=E,22nm,1.1s						
HFS	**Hagfors**	**27.05**	**331**	P	**P**	**08 17 06.8**	**+1.1**
	comp=E,1.0nm,0.6s,baz=132,slow=2.2,SNR=3.5						
LOR	**Lormes**	**27.57**	**300**	*e*P	**P**	**08 17 13.6**	**+3.0**
LOR	**Lormes**	**27.57**	**300**	*e*P	**P**	**08 17 13.6**	**+3.0**
LOR	**Lormes**	**27.57**	**300**	*e*P	**P**	**08 17 13.6**	**+3.0**
SSF	**Saint Saulge**	**27.79**	**299**	*e*P	**P**	**08 17 15.7**	**+3.1**
	comp=E,33nm,1.2s						
SSF	**Saint Saulge**	**27.79**	**299**	*e*P	**P**	**08 17 15.7**	**+3.1**
	comp=E,33nm,1.2s						
SSF	**Saint Saulge**	**27.79**	**299**	*e*P	**P**	**08 17 15.7**	**+3.1**
	comp=E,33nm,1.2s						
KURBB	**Kurchatov Arra**	**29.50**	**54**	P	**P**	**08 17 29.0**	**+1.3**
	comp=E,0.8nm,0.2s,baz=265,slow=9.0,SNR=4.7						
KURK	**Kurchatov**	**29.57**	**53**	P	**P**	**08 17 29.0**	**+0.7**
KURK	**Kurchatov**	**29.57**	**53**	P	**P**	**08 17 29.0**	**+0.7**
MKAR	**Makanchi Array**	**31.73**	**62**	P	**P**	**08 17 49.5**	**+2.0**
	comp=E,1.0nm,0.8s,baz=265,slow=7.1,SNR=9.4						
EKA	**Eskdalemuir Ar**	**33.12**	**314**	P	**P**	**08 18 00.8**	**+1.2**
	comp=E,1.1nm,0.8s,baz=266,slow=29,SNR=3.7						
ZALV	**Zalesovo Beam**	**33.81**	**48**	P	**P**	**08 18 07.9**	**+2.4**
	comp=E,0.4nm,0.3s,baz=266,slow=10.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**42.41**	**244**	P	**P**	**08 19 19.0**	**+0.5**
	comp=E,1.2nm,0.9s,baz=36,slow=6.8,SNR=5.7						
TORD	**Torodi Ar. Bea**	**42.41**	**244**	P	**P**	**08 19 19.0**	**+0.5**
SONM	**Songino Array**	**47.78**	**56**	P	**P**	**08 20 02.5**	**+1.5**
	comp=E,0.4nm,0.7s,baz=273,slow=9.6,SNR=5.4						
CMAR	**Chiang Mai Arr**	**54.60**	**94**	P	P	08 20 55.1	+2.7
	comp=E,1.3nm,0.3s,baz=301,slow=10,SNR=4.9						
LSZ	**Lusaka**	**54.89**	**194**	*e*P	**P**	**08 20 55.4**	**+0.9**
	comp=E,10nm,1.2s						
LSZ	**Lusaka**	**54.89**	**194**	*e*P	**P**	**08 20 55.4**	**+0.9**
	comp=E,10nm,1.2s						
YKA	**Yellowknife Ar**	**77.03**	**348**	P	**P**	**08 23 18.0**	**+1.7**
	comp=E,0.4nm,0.7s,baz=23,slow=5.6,SNR=6.0						
YKA	**Yellowknife Ar**	**77.03**	**348**	P	**P**	**08 23 18.0**	**+1.7**

*TEH **08** 08:12:03.5, 29°.72N×51°.44E, h6km, ML3.6*
*CSEM **08** 08:12:03.8±0.3, 29°.84N×51°.52E, h2km, ML3.6, Error ellipse: s-maj=7.2km s-min=5.9km az=172.0*
*ISCJB **08** 08:12:04.2±0.5, 29°.81N±0°.04×51°.55E±0°.04, h15km, Error ellipse: s-maj=6.3km s-min=4.6km az=161.6*
ISC 08 08:12:03.1±0.9, **29°.77N**±0°.06×**51°.41E**±0°.04, **h15**km, **n28**, σ1§64/30, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**0.37**	**88**	*e*Pg	**Pg**	**08 12 10.0**	**-0.9**
IKAZ				*e*Sg	**Sg**	**08 12 14.5**	**-1.7**
IKAZ				*e*		08 12 16.9	
	comp=Z,27μm,0.1s						
IKAZ	**Kazeroun**	**0.37**	**88**	*e*Pg	**Pg**	**08 12 10.0**	**-0.9**
IKAZ				*e*Sg	**Sg**	**08 12 14.5**	**-1.7**
SHI	**Shiraz**	**0.97**	**97**	*e*Pg	**Pb**	**08 12 21.2**	**-0.5**
SHI				*e*		08 12 35.3	
	comp=N,33μm,0.1s						
IPAR	**Pars**	**1.43**	**87**	*e*Pg	**Pn**	**08 12 28.4**	**-0.4**
IPAR				*e*Sg	**Sb**	**08 12 47.5**	**-0.1**
IPAR				*e*		08 13 02.1	
	comp=Z,5μm,0.3s						
IPAR	**Pars**	**1.43**	**87**	*e*Pg	**Pn**	**08 12 28.4**	**-0.4**
IPAR				*e*Sg	**Sb**	**08 12 47.6**	**-0.1**
ISRV	**Sarvestan**	**1.53**	**104**	*e*Pn	**Pn**	**08 12 30.6**	**+0.4**
ISRV				*e*		08 13 02.4	
	comp=Z,8μm,0.1s						
ISRV	**Sarvestan**	**1.53**	**104**	*e*Pn	**Pn**	**08 12 30.6**	**+0.4**
ISAD	**Sadrabad**	**2.90**	**42**	*e*Pn	**Pn**	**08 12 50.9**	**+1.9**
ISAD				*e*		08 13 40.7	
	comp=Z,2μm,0.3s						
ISAD	**Sadrabad**	**2.90**	**42**	*e*Pn	**Pn**	**08 12 50.9**	**+1.9**
IPIR	**Pirpir**	**2.94**	**351**	*e*Pn	**Pn**	**08 12 49.9**	**+0.3**
IPIR				*e*		08 13 35.8	
	comp=Z,1μm,0.2s						
IPIR	**Pirpir**	**2.94**	**351**	*e*Pn	**Pn**	**08 12 49.9**	**+0.3**
IZEF	**Zefreh**	**3.22**	**14**	*e*Pn	**Pn**	**08 12 54.5**	**+1.2**
IZEF				*e*		08 13 38.3	
	comp=Z,572nm,0.1s						
IZEF	**Zefreh**	**3.22**	**14**	*e*Pn	**Pn**	**08 12 54.5**	**+1.2**
**K

BNGB	**Bing¶‖**	**0.44**	**34**	*e*PG	Pb	08 18 49.3	-1.8
BNGL	**BINGOL**	**0.69**	**62**	*i* P	Sn	08 19 07.2	0.0
BNGL				*i* S	Sb	08 19 20.4	+15
DYBB	**Diyarbakir**	**0.70**	**195**	*e*PG	Pb	08 18 55.5	0.0
DYBB				*e*SG	Sn	08 19 06.6	-0.4
DIY	**Diyarbakir**	**0.74**	**189**	*e*Pg	Pb	08 18 55.5	-0.7
DIY				*e*Sg	Sb	08 19 06.6	+0.6
BTMT	**Batman**	**0.98**	**116**	*e*PG	Pn	08 19 01.1	+0.5
BTMT	**Batman**	**0.98**	**116**	*e*Pg	Pn	08 19 01.1	+0.4
VRTB	**Varto-Mus**	**1.00**	**58**	*e*PG	Pb	08 19 00.3	-0.5
VRTB	**Varto-Mus**	**1.00**	**58**	*e*Pg	Pb	08 19 00.3	-0.5
BEST	**Besiri**	**1.02**	**136**	*i* P	Sn	08 19 15.6	+0.5
BEST				*i* S	Sb	08 19 32.3	+18
ERZN	**Erzincan**	**1.08**	**332**	*e*PG	Pn	08 19 00.4	-1.7
MAZI	**Mazidag**	**1.17**	**177**	*e*PN	Pn	08 19 03.4	+0.1
MAZI	**Mazidag**	**1.17**	**177**	*e*Pn	Pn	08 19 03.4	+0.1
MARD	**Mardin**	**1.35**	**166**	*i* P	Sn	08 19 20.0	-3.3
MARD				*i* S	Sb	08 19 39.9	+16
EZC	**Erzincan**	**1.37**	**325**	*e*Pg	Pn	08 19 00.4	-5.7
EZM	**Erzurum**	**1.49**	**31**	*e*PN	Pn	08 19 06.7	-1.3
KEMA	**Kemaliye**	**1.60**	**294**	*i* P	Pb	08 19 15.4	+4.5
KEMA				*i* S	Sb	08 19 31.6	+0.9
KEMA	**Kemaliye**	**1.60**	**294**	*i* P	Pb	08 19 15.4	+4.6
KEMA				*i* S	Sb	08 19 31.6	+0.8
KELT	**Kelkit**	**1.75**	**331**	*i* P	Pb	08 19 18.4	+4.8
KELT	**Kelkit**	**1.75**	**331**	*i* P	Pb	08 19 18.4	+4.9
GUMT	**Gumushane**	**1.95**	**340**	*e*PN	Pn	08 19 13.1	-1.1
GUMT	**Gumushane**	**1.95**	**340**	*e*Pn	Pn	08 19 13.1	-1.0

DDA ***08*** *08:20:40.9, 38°.74N×40°.01E, h7km, MD3.2*
ISK ***08*** *08:20:41.4, 38°.78N×40°.05E, h10km, MD2.8*
CSEM ***08*** *08:20:42.1±0.4, 38°.71N×39°.99E, h10km, MD2.8, Error ellipse: s-maj=12.3km s-min=8.5km az=66.0*

ISC 08 08:20:41.8±1.0, 38°.74N±0°.03×40°.03E±0°.03, h13km±11km, n21, σ0°61/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.38**	**70**	*e*Pg	**Pn**	**08 20 52.3**	**-0.9**
BNGB	**Bing¶‖**	**0.56**	**64**	*e*PG	**Pg**	**08 20 52.3**	**-0.6**
DYBB	**Diyarbakir**	**0.79**	**174**	*e*PG	**Pb**	**08 20 57.7**	**+0.2**
DYBB				*e*SG	**Sn**	**08 21 09.9**	**-0.5**
DIY	**Diyarbakir**	**0.86**	**170**	*e*Pg	**Pg**	**08 20 57.7**	**-0.8**
DIY				*e*Sg	**Sb**	**08 21 09.9**	**-0.2**
ERZN	**Erzincan**	**0.88**	**344**	*e*PG	**Pg**	**08 20 58.1**	**-0.7**
ERZN				*e*SG	**Sg**	**08 21 09.9**	**-0.4**
BNGL	**BINGOL**	**0.90**	**76**	*i* P	**Pg**	**08 20 58.4**	**-0.9**
BNGL				*i* S	**Sb**	**08 21 12.3**	**+0.9**
VRTB	**Varto-Mus**	**1.19**	**69**	*e*PN	**Pn**	**08 21 04.1**	**-0.1**
VRTB	**Varto-Mus**	**1.19**	**69**	*e*Pn	**Pn**	**08 21 04.1**	**-0.1**
BTMT	**Batman**	**1.27**	**115**	*e*PN	**Pb**	**08 21 05.7**	**+0.1**
BTMT	**Batman**	**1.27**	**115**	*e*Pn	**Pb**	**08 21 05.7**	**+0.1**
BEST	**Besiri**	**1.29**	**131**	*i* P	**Pg**	**08 21 06.5**	**-0.2**
BEST				*i* S	**Sg**	**08 21 23.9**	**+0.3**
KEMA	**Kemaliye**	**1.31**	**294**	*i* P	**Pn**	**08 21 05.1**	**-0.8**
KEMA				*i* S	**Sg**	**08 21 23.9**	**-0.1**
KEMA	**Kemaliye**	**1.31**	**294**	*i* P	**Pn**	**08 21 05.1**	**-0.8**
KEMA				*i* S	**Sg**	**08 21 23.9**	**-0.1**
MAZI	**Mazidag**	**1.32**	**166**	*e*PN	**Pg**	**08 21 07.3**	**0.0**
MAZI				*e*SN	**Sg**	**08 21 25.8**	**+1.3**
MAZI	**Mazidag**	**1.32**	**166**	*e*Pn	**Pg**	**08 21 07.3**	**0.0**
MAZI				*e*Sn	**Sg**	**08 21 25.8**	**+1.3**
KELT	**Kelkit**	**1.53**	**337**	*i* P	**Pg**	**08 21 11.9**	**+0.7**
KELT				*i* S	**Sg**	**08 21 31.5**	**+0.5**
KELT	**Kelkit**	**1.53**	**337**	*i* P	**Pg**	**08 21 11.9**	**+0.7**
KELT				*i* S	**Sg**	**08 21 31.5**	**+0.5**
MARD	**Mardin**	**1.54**	**157**	*i* P	**Pb**	**08 21 10.6**	**+0.2**
MARD				*i* S	**Sg**	**08 21 31.9**	**+0.3**
EZM	**Erzurum**	**1.55**	**41**	*e*PN	**Pn**	**08 21 09.3**	**-0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.65**	**3**	*e*PN	**Pn**	**08 21 11.0**	**+0.4**
BAYT	**Ayd¨–ntepe-Bay**	**1.65**	**3**	*e*Pn	**Pn**	**08 21 11.0**	**+0.4**

KRSC 08 08:27:31.1±0.6, 55°.14N×160°.47E, h6km±2km, ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.10**	**255**	*e*P	Pg	08 27 32.8	-0.7
TUMR	**Tumrok**	**0.23**	**308**	*i* P	Pg	08 27 36.0	+0.2
KMNR	**Kamenistaya**	**0.63**	**348**	*i* P	Pg	08 27 43.4	0.0
KMNR				*i* S	Sb	08 27 53.4	-0.5
BZMR	**Bezymyannaya**	**0.80**	**1**	*e*P	Pb	08 27 47.3	-0.2
BZMR				*e*S	Sb	08 27 59.6	+0.9
BZGR	**Bezymyannyi-Gr**	**0.81**	**9**	*e*P	Pg	08 27 47.0	+0.2
BZGR				*e*S	Sb	08 27 59.4	+0.3
KIRR	**Kirishev**	**0.82**	**355**	*i* P	Pg	08 27 47.2	+0.2
KIRR				*i* S	Sb	08 28 00.1	+0.8
BZWR	**Bezymyannyi-We**	**0.83**	**1**	*e*P	Pb	08 27 48.5	+0.4
BZWR				*e*S	Sb	08 28 00.8	+1.2
KPT	**Kopyto**	**0.84**	**351**	*e*P	Pg	08 27 47.2	-0.1
KPT				*e*S	Sb	08 28 00.0	+0.2
MKZ	**Mys Kozlova**	**0.94**	**128**	*i* P	Pb	08 27 49.6	0.0
MKZ				*i* S	Sn	08 28 04.1	-0.3
KOZ	**Kozyrevsk**	**0.98**	**340**	*e*P	Pg	08 27 49.8	-0.1
KOZ				*e*S	Sb	08 28 03.8	+0.1
KRSR	**Krestovskiy**	**1.08**	**3**	*e*P	Pn	08 27 52.9	0.0
KRSR				*e*S	Sb	08 28 07.0	+0.2
KLY	**Klyuchi**	**1.18**	**5**	*e*P	Pg	08 27 53.0	-0.7
KLY				*e*S	Sn	08 28 11.2	+0.7
SRDR	**Sredinnyy**	**1.25**	**341**	*e*P	Pb	08 27 53.3	-1.9
KII	**Karymskiy**	**1.25**	**209**	*e*P	Pn	08 27 55.0	-0.2
ESO	**Esso**	**1.28**	**309**	*i* P	Pn	08 27 53.2	-2.3
ESO				*i* S	Sg	08 28 11.5	-0.7
BDR	**Baidarnaya**	**1.49**	**16**	*e*P	Pb	08 27 58.9	-0.4
BDR				*e*S	Sg	08 28 19.0	-0.2
SMKR	**Semkarok**	**1.55**	**21**	*e*P	Pg	08 28 00.8	-0.1
SMKR				*e*S	Sb	08 28 20.2	-0.1
SRKR	**Sorokina**	**1.57**	**14**	*e*P	Pb	08 28 00.7	+0.1
SRKR				*e*S	Sn	08 28 20.2	0.0
KBTR	**Krutoberegovo**	**1.71**	**50**	*e*P	Pn	08 28 01.4	0.0
KBTR				*i* S	Sn	08 28 23.8	+0.3
SPN	**Mys Shipunski**	**2.06**	**187**	*e*P	Pn	08 28 06.2	0.0
SPN				*e*S	Sb	08 28 33.6	-1.1
GNL	**Ganaly**	**2.07**	**227**	*i* P	Pn	08 28 06.8	+0.4
KRX	**Arik**	**2.08**	**212**	*e*P	Pn	08 28 07.6	+1.0
SDLR	**Sedlovina**	**2.08**	**207**	*e*P	Pn	08 28 07.6	+0.9
SDLR				*e*S	Sb	08 28 36.5	+0.8
KRER	**Koryakskii**	**2.10**	**209**	*e*P	Pn	08 28 08.2	+1.2
SMAR	**Somma**	**2.12**	**208**	*e*P	Pn	08 28 08.5	+1.2
AVH	**Avacha**	**2.13**	**209**	*e*P	Pb	08 28 09.1	-1.1
KOK	**Koryaka**	**2.14**	**211**	*e*P	Pb	08 28 09.4	-0.9
UGLR	**Uglovaya**	**2.16**	**207**	*e*P	Pn	08 28 09.2	+1.5
PET	**Petropavlovsk**	**2.37**	**207**	*e*P	Pb	08 28 12.7	-1.5
PET				*e*S	Sb	08 28 44.1	+0.4
RUS	**Russkaya**	**2.95**	**204**	*e*P	Pb	08 28 21.4	-2.6
RUS				*e*S	Sn	08 28 56.5	+2.5
APC	**Apacha**	**2.96**	**223**	*e*P	Pn	08 28 20.7	+2.3
APC				*e*S	Sn	08 28 56.7	+2.5
MTVR	**Mutnovka**	**2.99**	**208**	*e*P	Pb	08 28 22.3	-2.5
MTVR				*e*S	Sn	08 28 57.9	+2.6
ASAK	**Asacha**	**3.15**	**210**	*e*P	Pn	08 28 23.5	+2.2
ASAK				*e*S	Sn	08 29 02.6	+3.3
BKI	**Bering**	**3.16**	**87**	*e*S	Sn	08 28 59.2	0.0
MIPR	**Malaya Ipel'ka**	**3.62**	**219**	*e*P	Pn	08 28 29.1	+1.5
PALN	**Palana**	**3.97**	**356**	P	Pn	08 28 34.3	+1.9
OSSR	**Ossora**	**4.36**	**18**	P	Pn	08 28 39.6	+1.9

DDA 08 08:29:56.5, 38°.85N×40°.16E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.78**	**82**	*i* P	Pg	08 30 10.7	-1.1
BNGL				*i* S	Sb	08 30 23.1	-0.4
BEST	**Besiri**	**1.30**	**137**	*i* P	Pg	08 30 21.6	+0.1
BEST				*i* S	Sn	08 30 39.3	+0.5
KEMA	**Kemaliye**	**1.36**	**288**	*i* P	Pg	08 30 22.9	+0.1
KEMA				*i* S	Sg	08 30 41.1	+0.5
KELT	**Kelkit**	**1.47**	**332**	*i* P	Pb	08 30 24.5	0.0
KELT				*i* S	Sn	08 30 42.5	-0.9

IDC ***08*** *08:33:29.7±0.7, 35°.50S×72°.06W, h0km, mb4.4/10, mb1 4.5/12, mb1mx4.3/25, mbtmp4.4/12, ML4.1/2, Error ellipse: s-maj=26.3km s-min=16.5km az=99.0*
ISCJB ***08*** *08:33:34.9±0.5, 35°.59S±0°.04×72°.25W±0°.07, h53km±4km, mb4.5/20, Error ellipse: s-maj=10.3km s-min=5.2km az=25.9*

GUC ***08*** *08:33:35.4±0.4, 35°.64S×72°.23W, h50km±4km, ML5.0*
NEIC ***08*** *08:33:35.0±0.3, 35°.50S×72°.30W, h35km, mb4.6/10, Error ellipse: s-maj=11.5km s-min=7.4km az=97.0*

ISC 08 08:33:35.7±1.0, 35°.60S±0°.05×72°.24W±0°.07, h45km±9km, n45, σ0°81/59, mb4.5/20, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.58**	**115**	*e*P	**Pn**	**08 33 47.2**	**-0.5**
LNCH				*e*S	**Sn**	**08 33 55.9**	**-0.3**
COCH	**Cobquecura**	**0.69**	**220**	*e*P	**Pn**	**08 33 48.4**	**-0.8**
COCH				*i* S	**Sn**	**08 33 58.5**	**-0.3**
NICH	**Los Niches**	**1.02**	**54**	*e*P	**Pn**	**08 33 53.7**	**0.0**
NICH				*i* S	**Sn**	**08 34 07.1**	**+0.2**
LNV	**Longovilo**	**1.78**	**23**	*i* P	**Pn**	**08 34 04.1**	**+0.1**
LNV				*i* S	**Sn**	**08 34 25.9**	**+0.5**
ANTU	**Antumapu**	**2.42**	**34**	AML	AML	08 34 58.3	
	comp=E,6μm,0.4s						
CLCH	**Cerro Calan**	**2.61**	**33**	*e*P	**Pn**	**08 34 15.7**	**+0.1**
CLCH				*e*S	**Sn**	**08 34 46.7**	**+0.6**
CLCH				AML	AML	08 35 03.1	
	comp=N,9μm,1.0s						
PEL	**Peldehue**	**2.77**	**28**	*e*P	**Pn**	**08 34 17.9**	**+0.2**
PEL				*e*S	**Sn**	**08 34 50.3**	**+0.4**
PEL				AML	AML	08 35 03.2	
	comp=E,6μm,0.4s						
CFAA	**Coronel Fontan**	**5.20**	**41**	Pn	**Pn**	**08 34 51.5**	**+0.4**
	comp=E,1.0nm,0.3s,baz=236,slow=13,SNR=15						
CFAA				Lg	Lg	08 36 17.4	
	comp=E,1.2nm,0.3s,baz=316,slow=22,SNR=4.7						
PLCA	**Paso Flores**	**5.29**	**166**	Pn	**Pn**	**08 34 54.6**	**+2.3**
	comp=E,6.2nm,0.3s,baz=334,slow=11,SNR=48						
PLCA				Lg	Lg	08 36 21.9	
	comp=E,4.9nm,0.3s,baz=268,slow=23,SNR=2.7						
CPUP	**Villa Florida**	**15.77**	**58**	Pn	**Pn**	**08 37 15.5**	**+0.9**
	comp=E,0.3nm,0.3s,baz=225,slow=9.3,SNR=2.2						
USHA	**Ushuaia**	**19.41**	**173**	P	**Pn**	**08 37 59.6**	**+0.3**
	comp=E,0.2nm,0.3s,baz=12,slow=11,SNR=3.6						
LPAZ	**La Paz**	**19.58**	**12**	P	**P**	**08 38 00.6**	**-0.1**
	comp=E,0.5nm,0.3s,baz=174,slow=7,0,SNR=12						
LPAZ	**La Paz**	**19.58**	**12**	*e*P	**P**	**08 38 01.2**	**+0.4**
	comp=E,10nm,0.8s						
SIV	**San Ignacio**	**21.93**	**30**	P	**P**	**08 38 24.1**	**-1.4**
	comp=E,12nm,0.7s,baz=220,slow=10,SNR=26						
BDFB	**Brasilia**	**29.39**	**54**	P	**P**	**08 39 33.9**	**-1.1**
	comp=E,1.2nm,0.3s,baz=235,slow=14,SNR=3.6						
SNAA	**Sanae**	**50.17**	**157**	P	**P**	**08 42 26.8**	**+0.4**
	comp=E,0.7nm,0.6s,baz=300,slow=7.5,SNR=7.1						
QSPA	**South Pole Qui**	**54.64**	**180**	P	**P**	**08 43 01.3**	**+1.6**
	comp=E,5.2nm,0.8s,baz=135,slow=2.6,SNR=11						
QSPA	**South Pole Qui**	**54.64**	**180**	*e*P	**P**	**08 43 00.9**	**+1.2**
	comp=E,6.0nm,0.9s						
TXAR	**Lajitas Array**	**71.05**	**331**	P	**P**	**08 44 49.5**	**+0.4**
	comp=E,0.6nm,0.6s,baz=151,slow=9.0,SNR=8.8						
SWET	**Sewanee**	**71.61**	**348**	*e*P	**P**	**08 44 51.6**	**-0.6**
	comp=E,7.6nm,0.7s						
WVT	**Waverly**	**72.83**	**347**	*e*P	**P**	**08 44 58.6**	**-0.9**
	comp=E,7.8nm,0.8s						
LIC	**Lamto**	**75.44**	**71**	*e*P	**P**	**08 45 14.8**	**-0.5**
	comp=E,108nm,2.1s						
TIC	**Toumodi**	**75.71**	**71**	*e*P	**P**	**08 45 16.5**	**-0.4**
	comp=E,13nm,0.5s						
KIC	**Kosan Boka**	**75.75**	**71**	*e*P	**P**	**08 45 16.8**	**-0.3**
	comp=E,29nm,0.7s						
DBIC	**Dimbokro**	**75.86**	**71**	P	**P**	**08 45 16.8**	**-0.8**
	comp=E,11nm,0.8s,baz=215,slow=5.2,SNR=14						
DBIC	**Dimbokro**	**75.86**	**71**	*e*P	**P**	**08 45 16.9**	**-0.7**
	comp=E,8.7nm,0.7s						
ACSO	**Alum Creek Sta**	**76.11**	**352**	*e*P	**P**	**08 45 17.7**	**-0.8**
	comp=E,4.7nm,0.4s						
ANMO	**Albuquerque**	**77.11**	**332**	*e*P	**P**	**08 45 25.2**	**+0.7**
	comp=E,2.5nm,1.2s						
BOSA	**Boshof**	**79.48**	**118**	P	**P**	**08 45 37.8**	**-0.1**
	comp=E,7.3nm,0.6s,baz=242,slow=3.9,SNR=21						
LBTB	**Lobatse**	**81.79**	**115**	*e*P	**P**	**08 45 50.3**	**0.0**
	comp=E,2.6nm,0.5s						
ECSD	**EROS Data Cent**	**82.02**	**342**	*e*P	**P**	**08 45 50.2**	**-0.5**
	comp=E,1.7nm,0.4s						
URZ	**Urewera**	**82.46**	**228**	P	**P**	**08 45 54.6**	**+1.2**
	comp=E,2.7nm,0.6s,baz=265,slow=6.2,SNR=14						
TORD	**Torodi Ar. Bea**	**84.91**	**70**	P	**P**	**08 46 05.8**	**-0.5**
	comp=E,3.2nm,0.8s,baz=251,slow=4.7,SNR=17						
HVU	**Hansel Valley**	**85.50**	**331**	*e*P	**P**	**08 46 08.8**	**+0.1**
	comp=E,1.3nm,0.7s						
ULM	**Lac du Bonnet**	**88.00**	**345**	P	**P**	**08 46 20.0**	**-0.5**
	comp=E,2.3nm,0.8s,baz=282,slow=1.8,SNR=4.7						
BRVK	**Borovoye**	**148.48**	**45**	*e*PKPdf	**PKPdf**	**08 53 13.5**	**+0.3**
BRVK				*e*PKPbc	**PKPbc**	**08 53 17.3**	**+0.5**
BVAR	**Borovoye Array**	**148.55**	**45**	PKPbc	**PKPbc**	**08 53 17.5**	**+0.4**
	comp=E,1.4nm,0.6s,baz=275,slow=3.8,SNR=10						
KKAR	**Karatay Array**	**150.43**	**64**	*e*PKPdf	**PKPdf**	**08 53 16.7**	**-0.1**
KKAR				*e*PKPbc	**PKPbc**	**08 53 22.1**	**0.0**
KKAR				*e*PKPab	**PKPab**	**08 53 28.5**	**-0.3**
EKS2	**Erkin-Say**	**152.85**	**65**	*e*PKPbc	**PKPbc**	**08 53 28.2**	**+0.5**
EKS2				*e*PKPab	**PKPab**	**08 53 40.0**	**+1.0**
AAK	**Ala-Archa**	**153.38**	**65**	PKPbc	**PKPbc**	**08 53 29.7**	**+0.7**
	comp=E,3.2nm,0.8s,baz=217,slow=2.2,SNR=14						
AAK				PKPab	**PKPab**	**08 53 39.6**	**-1.7**
	comp=E,3.3nm,0.5s,baz=221,slow=4.7,SNR=10						
AAK	**Ala-Archa**	**153.38**	**65**	PKPbc	**PKPbc**	**08 53 29.7**	**+0.7**
AAK				PKPab	**PKPab**	**08 53 39.6**	**-1.7**
AAK				*e*PKPab	**PKPab**	**08 53 41.4**	**+0.1**
KURBB	**Kurchatov Arra**	**154.13**	**45**	PKPbc	**PKPbc**	**08 53 30.6**	**+0.6**
	comp=E,0.4nm,0.2s,baz=302,slow=3.0,SNR=6.3						
KURBB				PKPab	**PKPab**	**08 53 42.4**	**-1.5**
	comp=E,0.6nm,0.2s,baz=291,slow=3.1,SNR=4.7						
KURK	**Kurchatov**	**154.14**	**45**	PKPbc	**PKPbc**	**08 53 30.6**	**+0.5**
KURK				PKPab	**PKPab**	**08 53 42.5**	**-1.6**
MKAR	**Makanchi Array**	**157.91**	**52**	PKPab	**PKPab**	**08 54 00.0**	**-0.4**
	comp=E,1.2nm,0.8s,baz=289,slow=4.3,SNR=6.9						
SONM	**Songino Array**	**167.74**	**4**	PKPab	**PKPab**	**08 54 43.1**	**-0.3**
	comp=E,0.4nm,0.9s,baz=22,slow=1.6,SNR=2.6						

IDC ***08*** *08:36:56.4±0.7, 35°.26S×72°.59W, h0km, mb4.1/8, mb1 4.2/10, mb1mx4.1/25, mbtmp4.0/10, ML4.1/2, MS3.5/1, Ms1 3.4/1, ms1mx2.9/18, Error ellipse: s-maj=30.2km s-min=15.0km az=83.0*
ISCJB ***08*** *08:36:58.4±0.4, 35°.23S±0°.04×72°.63W±0°.05, h20km, mb4.2/17, Error ellipse: s-maj=6.4km s-min=5.5km az=165.1*
GUC ***08*** *08:37:01.0±0.4, 35°.32S×72°.52W, h15km±3km, ML4.6*
NEIC ***08*** *08:37:01.7±0.3, 35°.26S×72°.50W, h35km, mb4.4/9, Error ellipse: s-maj=12.5km s-min=7.9km az=87.0*

ISC 08 08:36:59.4±0.5, 35°.26S±0°.04×72°.59W±0°.06, h20km, n37, σ0°96/44, mb4.4/17, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.89**	**191**	*e*P	**Pb**	**08 37 15.9**	**-0.2**
COCH				*i* S	**Sb**	**08 37 27.4**	**-0.1**
LNCH	**Linares**	**0.99**	**127**	⇓*i*P	**Pb**	**08 37 18.0**	**0.0**
LNCH				*i* S	**Sb**	**08 37 30.2**	**-0.4**
NICH	**Los Niches**	**1.14**	**77**	⇑*i*P	**Pb**	**08 37 20.4**	**-0.1**
NICH				*i* S	**Sn**	**08 37 34.9**	**-0.4**
ANTU	**Antumapu**	**2.33**	**44**	*i* P	**Pb**	**08 37 39.9**	**-1.0**
ANTU				*i* S	**Sb**	**08 38 09.7**	**+0.5**
ANTU				IAML		08 38 16.4	
	comp=E,3μm,0.3s						
CLCH	**Cerro Calan**	**2.52**	**43**	IAML		08 38 29.6	
	comp=E,3μm,0.8s						
PEL	**Peldehue**	**2.63**	**37**	IAML		08 38 24.1	
	comp=E,3μm,0.7s						
CFAA	**Coronel Fontan**	**5.15**	**46**	Pn	**Pn**	**08 38 16.8**	**+1.4**
	comp=E,0.3nm,0.3s,baz=207,slow=9.1,SNR=8.9						
CFAA				Lg	Lg	08 39 30.2	
	comp=E,1.5nm,0.3s,baz=90,slow=19,SNR=4.2						
PLCA	**Paso Flores**	**5.70**	**164**	Pn	**Pn**	**08 38 24.2**	**+1.3**
	comp=E,2.7nm,0.3s,baz=329,slow=12,SNR=11						
PLCA				Lg	Lg	08 39 53.6	
	comp=E,3.0nm,0.3s,baz=243,slow=23,SNR=3.5						
PLCA				LR	LR	08 40 43.2	
	comp=E,410nm,19.6s,baz=22,slow=40						
LPAZ	**La Paz**	**19.31**	**13**	P	**Pn**	**08 41 24.7**	**-0.3**
	comp=E,0.1nm,0.3s,baz=196,slow=13,SNR=2.8						
USHA	**Ushuaia**	**19.79**	**173**	P	**P**	**08 41 24.3**	**-3.9**
	comp=E,0.2nm,0.3s,baz=25,slow=4.0,SNR=3.3						
SIV	**San Ignacio**	**21.78**	**31**	P	**P**	**08 41 49.2**	**-0.9**
	comp=E,2.9nm,0.6s,baz=231,slow=8.3,SNR=5.4						
SNAA	**Sanae**	**50.59**	**157**	P	**P**	**08 45 57.0**	**+0.6**
	comp=E,1.2nm,0.9s,baz=290,slow=12,SNR=5.3						
APG	**El Apazote**	**52.79**	**338**	P	P	08 46 09.6	-3.9
	comp=E,2.0nm,0.7s,baz=156,slow=12,SNR=2.9						
QSPA	**South Pole Qui**	**54.98**	**180**	P	**P**	**08 46 29.9**	**+0.9**
	comp=E,5.2nm,0.8s,baz=145,slow=3.7,SNR=10						
QSPA	**South Pole Qui**	**54.98**	**180**	*e*P	**P**	**08 46 29.7**	**+0.7**
	comp=E,6.2nm,0.9s						
TXAR	**Lajitas Array**	**70.62**	**331**	P	**P**	**08 48 14.1**	**+0.6**
	comp=E,1.2nm,0.7s,baz=161,slow=8.9,SNR=12						
SWET	**Sewanee**	**71.21**	**348**	*e*P	**P**	**08 48 16.7**	**-0.1**
TUL1	**Leonard**	**74.04**	**341**	*e*P	**P**	**08 48 33.9**	**+0.3**
	comp=E,2.4nm,0.5s						
ANMO	**Albuquerque**	**76.67**	**332**	*e*P	**P**	**08 48 49.4**	**+0.4**
	comp=E,4.9nm,1.3s						
BOSA	**Boshof**	**79.88**	**118**	P	**P**	**08 49 07.7**	**+0.6**
	comp=E,1.1nm,0.7s,baz=56,slow=3.2,SNR=3.5						
ECSD	**EROS Data Cent**	**81.61**	**343**	*e*P	**P**	**08 49 15.6**	**0.0**
	comp=E,6.3nm,1.0s						
CCUT	**Cedar City**	**81.73**	**328**	*e*P	**P**	**08 49 18.6**	**+1.9**
	comp=E,3.2nm,0.9s						
SRU	**San Rafael Swe**	**81.89**	**331**	*e*P	**P**	**08 49 18.5**	**+1.1**
	comp=E,2.9nm,1.1s						
DUG	**Dugway, Tooele**	**83.73**	**330**	*e*P	**P**	**08 49 27.4**	**+0.5**
	comp=E,3.0nm,1.2s						
HWUT	**Hardware Ranch**	**84.44**	**332**	*e*P	**P**	**08 49 30.5**	**-0.1**
	comp=E,1.6nm,0.7s						
NVAR	**Mina Array Bea**	**84.66**	**326**	P	**P**	**08 49 32.2**	**+0.4**
	comp=E,0.7nm,0.8s,baz=172,slow=5.0,SNR=5.3						
HVU	**Hansel Valley**	**85.06**	**331**	*e*P	**P**	**08 49 34.0**	**+0.4**
	comp=E,1.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**85.06**	**70**	P	**P**	**08 49 33.2**	**-0.9**
	comp=E,0.7nm,0.8s,baz=248,slow=5.2,SNR=3.9						
ULM	**Lac du Bonnet**	**87.60**	**345**	P	**P**	**08 49 45.1**	**-0.6**
	comp=E,1.6nm,0.7s,baz=31,slow=1.4,SNR=5.0						
WRA	**Warramunga Arr**	**119.45**	**209**	PKP	**PKPdf**	**08 55 47.3**	**-0.8**
	comp=E,0.3nm,0.6s,baz=170,slow=1.5,SNR=4.4						
SEY	**Seymchan**	**140.89**	**329**	PKP	**PKPdf**	**08 56 27.7**	**+0.7**
	comp=E,0.4nm,0.3s,baz=86,slow=5.6,SNR=4.7						
BRVK	**Borovoye**	**148.43**	**44**	*e*PKPdf	**PKPdf**	**08 56 39.2**	**-1.2**
BRVK				*e*PKPbc	**PKPbc**	**08 56 44.2**	**+0.2**
BRVK				*e*PKPab	**PKPab**	**08 56 47.3**	**0.0**
IPM	**Ipoh**	**148.81**	**168**	*e*PKPbc	**PKPbc**	**08 56 45.5**	**-0.6**
IPM				*e*PKPab	**PKPab**	**08 56 50.5**	**+0.6**
KURBB	**Kurchatov Arra**	**154.09**	**45**	PKPbc	**PKPbc**	**08 56 56.8**	**-0.4**
	comp=E,0.5nm,0.6s,baz=292,slow=3.0,SNR=5.9						
KURBB				PKPab	**PKPab**	**08 57 12.0**	**+1.1**
	comp=E,0.6nm,0.5s,baz=330,slow=5.5,SNR=7.1						
KURK	**Kurchatov**	**154.10**	**45**	PKPbc	**PKPbc**	**08 56 56.8**	**-0.4**
KURK				PKPab	**PKPab**	**08 57 12.0**	**+1.1**
ZALV	**Zalesovo Beam**	**155.53**	**33**	PKP	**PKPdf**	**08 56 50.1**	**-0.9**
	comp=E,0.6nm,0.6s,baz=232,slow=7.3,SNR=2.9						
ZALV				PKPbc	PKPbc	08 56 59.8	
	comp=E,1.2nm,0.7s,baz=321,slow=3.8,SNR=4.8						
ZALV				PKPab	**PKPab**	**08 57 16.4**	**-0.4**
	comp=E,0.4nm,0.3s,baz=339,sl

URFA	Urfa	1.66	216	ePn	Pb	08 52 46.2	-0.5
GUMT	Gumushane	1.73	345	ePN	Pb	08 52 47.4	-0.4
GUMT	Gumushane	1.73	345	ePn	Pb	08 52 47.4	-0.4
HOMI	Horasan	1.90	48	iP	Pb	08 52 49.0	-1.9
HOMI				iS	Sg	08 53 18.4	+2.1
ATAB	Bozova	1.92	227	iP	Pb	08 52 50.0	-1.0
ATAB				iS	Sb	08 53 15.9	+0.5
ATAB	Bozova	1.92	227	iP	Pb	08 52 50.0	-1.0
ATAB				iS	Sb	08 53 15.9	+0.5
SUSE	Susehri	2.02	315	iP	Pg	08 52 53.3	-0.6
SUSE				iS	Sg	08 53 19.4	-0.7
SUSE	Susehri	2.02	315	iP	Pg	08 52 53.3	-0.6
SUSE				iS	Sg	08 53 19.4	-0.7
DARE	Darende-Malaty	2.03	265	ePN	Pb	08 52 51.6	-1.3
DARE	Darende-Malaty	2.03	265	ePn	Pb	08 52 51.7	-1.3
EATA	Eleskirt	2.17	60	iP	Pg	08 52 56.3	-0.5
EATA	Eleskirt	2.17	60	iP	Pg	08 52 56.3	-0.5
EATA				iS	Sg	08 53 26.1	+1.2
GEVA	Gevas	2.40	101	iP	Pb	08 52 58.6	-0.7
GEVA	Gevas	2.40	101	iP	Pb	08 52 58.6	-0.7
GEVA				iS	Sg	08 53 31.9	-0.4
AGRB	Hanur-Agry	2.41	70	ePN	Pb	08 52 56.5	-3.0
AGRB	Hanur-Agry	2.41	70	ePn	Pb	08 52 56.5	-3.0
GZT	Gaziantep	2.43	235	iP	Pn	08 52 56.6	+0.3
DDEM	Demirkent	2.47	31	iP	Pb	08 52 57.6	-2.9
DDEM	Demirkent	2.47	31	iP	Pb	08 52 57.6	-2.9
GRSN	GIRESUNGRSN	2.54	328	iP	Pb	08 53 01.9	+0.3
GRSN	GIRESUNGRSN	2.54	328	iP	Pb	08 53 01.9	+0.3
DBAD	Bademkaya	2.56	29	iP	Pb	08 52 59.1	-2.9
DBAD	Bademkaya	2.56	29	iP	Pb	08 52 59.1	-2.9
VANB	Van	2.61	93	ePN	Pn	08 52 59.1	+0.4
VANB	Van	2.61	93	ePn	Pn	08 52 59.1	+0.4
DAGI	Agillar	2.69	31	iP	Pn	08 53 00.8	+1.0
CLDR	Caldiran	3.03	82	ePN	Pn	08 53 05.1	+0.6
CLDR	Caldiran	3.03	82	ePn	Pn	08 53 05.1	+0.6
ANDN	Andirin	3.17	249	iP	Pg	08 53 15.1	-0.7

NSSC ***08*** *09:00:24.0±1.1, 40°.26N×40°.98E, h246km±106km, ML4.7*
ISN ***08*** *09:00:29.6±1.9, 39°.79N×40°.89E, h0km±7km, ML4.1*
HLW ***08*** *09:00:38.8, 39°.61N×39°.60E, h10km±9km, Md5.2, Ml4.5*
DSN ***08*** *09:00:43.8±6.3, 38°.75N×38°.84E, h35km±69km, mb4.7/6, ML5.7/1, Ms5.1/5, Error ellipse: s-maj=67.7km s-min=9.3km az=50.0*
ISK ***08*** *09:00:45.9, 38°.76N×40°.08E, h5km, ML4.8*
NEIC ***08*** *09:00:46.4, 38°.76N×40°.06E, h5km, mb4.9/34, ML4.8(DDA), ML4.8(ISK), After ISK.*
TEH ***08*** *09:00:46.0, 38°.75N×40°.01E, h4km, ML4.8*
GCMT ***08*** *09:00:46.0±0.4, 38°.75N×40°.00E, h21km±1km, MW4.9/70, Moment Tensor Solution. s13,c14; s70,c95; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.25±.17; Mθθ-2.50±.15; Mφφ2.25±.14; Mrθ0.92±.26; Mθφ1.49±.11; Mφr0.24±.22; Best double couple: M0=2.95300×10^16 NP1:φs241.00000°, δ88.00000°, λ-18.00000°. NP2: φs332.00000°, δ72.00000°, λ-178.00000°. Principal axes: T 2.7770, Plg11.0000°, Azm288.0000°; N 0.3530, Plg72.0000°, Azm56.0000°; P -3.1280, Plg14.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DDA ***08*** *09:00:46.3, 38°.75N×40°.01E, h4km, ML4.8*
CSEM ***08*** *09:00:48.5±0.1, 38°.73N×40°.10E, h5km, mb4.8/42, Ms4.4, Mw4.9, Error ellipse: s-maj=3.2km s-min=2.8km az=153.0*
ISCJB ***08*** *09:00:48.6±0.1, 38°.70N±0°.01×40°.12E±0°.02, h14km, mb4.5/86, MS4.0/19, Error ellipse: s-maj=2.0km s-min=1.8km az=163.8*
SZGRF ***08*** *09:00:48.6, 38°.56N×40°.84E, h33km, mb4.7, MS3.8, Turkey*
IDC ***08*** *09:00:49.0±0.5, 38°.90N×39°.98E, h0km, mb4.2/25, mb1 4.3/34, mb1mx4.2/39, mbtmp4.2/34, ML3.8/7, MS4.0/25, Ms1 4.0/25, ms1mx3.8/47, Error ellipse: s-maj=11.1km s-min=7.3km az=159.0*
MOS ***08*** *09:00:49.7±1.5, 38°.98N×40°.12E, h10km, mb4.7/35, Error ellipse: s-maj=6.0km s-min=3.9km az=98.9*
BJI ***08*** *09:00:50.7, 39°.10N×40°.23E, h10km, mB5.0/20, mb4.4/27, Ms5.0/19, Ms7 4.5/18*
ISC 08 09:00:48.7±0.7, 38°.75N±0°.02×40°.09E±0°.02, h3km±4km, n551, σ1$57/565, mb4.6/86, MS4.0/21, 43C-23D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.34	68	iPg	Pb	09 00 56.9	-0.6
BNGB	Bing¶ll	0.52	62	PG	Pg	09 00 56.9	-1.8
DYBB	Diyarbakir	0.80	177	PG	Pg	09 01 03.2	-0.8
BNGL	BINGOL	0.85	76	iP	Pg	09 01 03.5	-1.6
BNGL				iS	Sg	09 01 15.7	-0.5
DIY	Diyarbakir	0.86	173	iPg	Pg	09 01 03.2	-2.0
ERZN	Erzincan	0.88	341	PG	Pg	09 01 03.3	-2.4
EUZM	Uzumlu	1.00	342	iP	Pg	09 01 05.5	-2.5
EUZM				iS	Sg	09 01 19.9	-1.2
EUZM	Uzumlu	1.00	342	iP	Pg	09 01 05.5	-2.5
EUZM				iS	Sg	09 01 19.9	-1.2
VRTB	Varto-Mus	1.14	68	PN	Pg	09 01 09.0	-1.6
VRTB				SN	Sb	09 01 25.8	-0.7
VRTB	Varto-Mus	1.14	68	iPn	Pg	09 01 09.0	-1.6
VRTB				iSn	Sb	09 01 25.8	-0.7
EZC	Erzincan	1.15	331	iPg	Pg	09 01 03.3	-7.6
BTMT	Batman	1.23	116	PN	Pg	09 01 10.8	-1.5
BTMT	Batman	1.23	116	iPn	Pg	09 01 10.8	-1.5
BEST	Besiri	1.26	132	iP	Pg	09 01 11.7	-1.3
BEST	Besiri	1.26	132	iP	Pg	09 01 11.5	-1.4
BEST				iS	Sn	09 01 30.5	-0.4
BEST	Besiri	1.26	132	iP	Pg	09 01 11.7	-1.3
KOPT	Kop Dagi	1.31	14	iP	Pn	09 01 11.4	-2.8
KOPT				iS	Sg	09 01 30.4	-0.4
KOPT	Kop Dagi	1.31	14	iP	Pn	09 01 11.4	-2.8
KOPT				iS	Sg	09 01 30.4	-0.4
MAZI	Mazidag	1.32	168	PN	Pn	09 01 12.4	-1.7
MAZI	Mazidag	1.32	168	iPn	Pn	09 01 12.4	-1.7
KEMA	Kemaliye	1.35	293	iP	Pn	09 01 10.2	-4.4
KEMA				iS	Sg	09 01 26.9	-5.2
KEMA	Kemaliye	1.35	293	iP	Pn	09 01 10.2	-4.4
KEMA				iS	Sg	09 01 26.9	-5.2
MALT	Malatya	1.37	252	PN	Pn	09 01 13.1	-1.8
MALT				SN	Sn	09 01 33.1	-0.5
MALT	Malatya	1.37	252	⇑iP	Pn	09 01 12.0	-3.0
MALT				S	Sn	09 01 34.6	+0.9
MALT	Malatya	1.37	252	Pn	Pn	09 01 11.9	-3.0
MALT				iSn	Sn	09 01 33.1	-0.5
MALT	Malatya	1.37	252	Pn	Pn	09 01 11.9	-3.0
ILIC	ilic-Erzincan	1.38	301	PN	Pn	09 01 12.9	-2.1
ILIC	ilic-Erzincan	1.38	301	iPn	Pn	09 01 12.9	-2.1
EZM	Erzurum	1.52	40	PN	Pn	09 01 15.4	-1.6
EZM	Erzurum	1.52	40	Pn	Pn	09 01 15.4	-1.6
MARD	Mardin	1.53	159	iP	Pn	09 01 14.9	-2.2
MARD				iS	Sn	09 01 35.8	-1.8
KELT	Kelkit	1.54	335	iP	Pn	09 01 15.0	-2.3
KELT				iS	Sn	09 01 36.8	-1.1
KELT	Kelkit	1.54	335	iP	Pn	09 01 15.0	-2.3
KELT				iS	Sn	09 01 36.8	-1.1
EKAR	Karacoban	1.62	71	iP	Pn	09 01 17.4	-1.0
EKAR	Karacoban	1.62	71	iP	Pn	09 01 17.4	-1.0
EKAR				iS	Sg	09 01 43.8	+3.0
BAYT	Ayd¯–ntepe-Bay	1.64	1	PN	Pn	09 01 17.0	-1.7
BAYT	Ayd¯–ntepe-Bay	1.64	1	iPn	Pn	09 01 17.0	-1.7
URFA	Urfa	1.65	218	PN	Pn	09 01 17.2	-1.4
URFA				SN	Sb	09 01 40.0	-0.9
URFA	Urfa	1.65	218	iPn	Pn	09 01 17.2	-1.4
URFA				iSn	Sb	09 01 40.0	-0.9
URFA	Urfa	1.65	218	Pn	Pn	09 01 17.2	-1.4
TATV	Tatvan	1.72	97	iP	Pn	09 01 18.7	-1.1
TATV				iS	Sg	09 01 44.2	+0.1
TATV	Tatvan	1.72	97	iP	Pn	09 01 18.7	-1.1
TATV				iS	Sg	09 01 44.2	+0.1
GUMT	Gumushane	1.77	345	PN	Pn	09 01 19.3	-1.1
GUMT	Gumushane	1.77	345	iPn	Pn	09 01 19.3	-1.1
ATAB	Bozova	1.91	229	iP	Pn	09 01 20.6	-1.6
ATAB				iS	Sn	09 01 45.3	-1.4
ATAB	Bozova	1.91	229	iP	Pn	09 01 20.6	-1.6
ATAB				iS	Sn	09 01 45.3	-1.4
HOMI	Horasan	1.91	47	iP	Pn	09 01 20.8	-1.7
HOMI				iS	Sg	09 01 51.6	+1.4
DARE	Darende-Malaty	2.05	266	PN	Pn	09 01 22.3	-1.9
DARE	Darende-Malaty	2.05	266	iPn	Pn	09 01 22.3	-1.9
SUSE	Susehri	2.06	316	iP	Pn	09 01 23.0	-1.5
SUSE				iS	Sb	09 01 52.0	-1.1
SUSE	Susehri	2.06	316	iP	Pn	09 01 23.0	-1.5
SUSE				iS	Sb	09 01 52.0	-1.1
EATA	Eleskirt	2.17	58	iP	Pn	09 01 26.8	+0.7
EATA	Eleskirt	2.17	58	iP	Pn	09 01 26.8	+0.7
MACK	Trabzon	2.21	354	iP	Pn	09 01 25.6	-0.7
MACK				iS	Sb	09 01 55.3	-1.8
MACK	Trabzon	2.21	354	iP	Pn	09 01 25.6	-0.7
MACK				iS	Sb	09 01 55.3	-1.8
SIRN	S¨–rnak	2.22	124	iP	Pn	09 01 24.6	-1.9
SIRN				iS	Sb	09 01 56.0	-1.4
SIRN	S¨–rnak	2.22	124	iP	Pn	09 01 24.6	-1.9
SIRN				iS	Sb	09 01 56.0	-1.4
TUTA	Tutak	2.22	72	iP	Pn	09 01 21.9	-4.8
TUTA				iS	Sn	09 01 51.5	-3.2
TUTA	Tutak	2.22	72	iP	Pn	09 01 21.9	-4.8
TUTA				iS	Sn	09 01 51.5	-3.2
KTUT	Trabzon	2.25	354	PN	Pn	09 01 26.4	-0.5
KTUT	Trabzon	2.25	354	iPn	Pn	09 01 26.4	-0.5
GEVA	Gevas	2.37	100	iP	Pn	09 01 28.1	-0.6
GEVA	Gevas	2.37	100	iP	Pn	09 01 28.1	-0.6
GEVA				iS	Sg	09 02 03.4	-1.5
AGRB	Hanur-Agry	2.40	69	PN	Pn	09 01 28.0	-1.2
AGRB	Hanur-Agry	2.40	69	iPn	Pn	09 01 28.0	-1.2
ESPY	Espiye-Giresun	2.41	335	PN	Pn	09 01 28.3	-0.7
ESPY	Espiye-Giresun	2.41	335	iPn	Pn	09 01 28.3	-0.7
GZT	Gaziantep	2.43	236	iP	Pn	09 01 28.1	-1.4
DDEM	Demirkent	2.49	30	iP	Pn	09 01 29.2	-1.1
DDEM				iS	Sn	09 02 01.7	+0.4
DDEM	Demirkent	2.49	30	iP	Pn	09 01 29.2	-1.1
DDEM				iS	Sn	09 02 01.7	+0.4
SCER	sogukcermik	2.55	297	iP	Pn	09 01 32.0	+0.8
SCER	sogukcermik	2.55	297	iP	Pn	09 01 32.0	+0.8
SCER				iS	Sb	09 02 07.4	+0.3
DBAD	Bademkaya	2.58	28	iP	Pn	09 01 30.5	-1.0
DBAD	Bademkaya	2.58	28	iP	Pn	09 01 30.5	-1.0
DBAD				iS	Sg	09 02 09.9	-1.8
GRSN	GIRESUNGRSN	2.59	328	iP	Pn	09 01 30.4	-1.1
GRSN	GIRESUNGRSN	2.59	328	iP	Pn	09 01 30.4	-1.1
VANB	Van	2.59	92	PN	Pn	09 01 30.7	-0.9
VANB	Van	2.59	92	iPn	Pn	09 01 30.7	-0.9
TVAN	Van	2.61	94	iP	Pn	09 01 31.2	-0.8
TVAN	Van	2.61	94	iP	Pn	09 01 31.2	-0.8
TVAN				iS	Sg	09 02 10.7	-1.8
SVSK	Karacayir	2.67	297	ePN	Pn	09 01 31.6	-0.9
SVSK	Karacayir	2.67	297	ePn	Pn	09 01 31.6	-0.9
RSDY	Resadiye-TOKAT	2.70	309	ePN	Pn	09 01 31.9	-1.1
RSDY	Resadiye-TOKAT	2.70	309	ePn	Pn	09 01 31.9	-1.1
DAGI	Agillar	2.72	31	iP	Pn	09 01 32.6	-0.8
DAGI				iS	Sg	09 02 26.5	+10
KMRS	Kahramanmaras	2.81	245	ePN	Pn	09 01 33.7	-0.8
KMRS	Kahramanmaras	2.81	245	ePn	Pn	09 01 33.7	-0.8
ARTV	Artvin	2.81	30	iP	Pn	09 01 33.8	-1.0
ARTV	Artvin	2.81	30	iP	Pn	09 01 33.8	-1.0
ARTV				iS	Sg	09 02 26.2	+7.0
DBOC	Borcka	2.86	25	iP	Pn	09 01 34.4	-0.9
DBOC	Borcka	2.86	25	iP	Pn	09 01 34.4	-0.9
DBOC				iS	Sg	09 02 18.2	-2.5
DYDN	Diyadin	2.91	73	iP	Pb	09 01 40.4	-1.0
DYDN				iS	Sg	09 02 19.5	-2.7
KARS	Kars	2.97	50	ePN	Pn	09 01 36.1	-0.9
KARS	Kars	2.97	50	ePn	Pn	09 01 36.1	-0.9
CLDR	Caldiran	3.01	81	ePN	Pn	09 01 36.6	-0.9
CLDR	Caldiran	3.01	81	ePn	Pn	09 01 36.6	-0.9
DIGO	Kars	3.04	56	iP	Pn	09 01 37.2	-0.7
DIGO	Kars	3.04	56	iP	Pn	09 01 37.2	-0.7
DIGO				iS	Sg	09 02 26.7	+0.4
HAKT	HAKKARI	3.09	112	iP	Pn	09 01 37.9	-0.7
HAKT	HAKKARI	3.09	112	iP	Pn	09 01 37.9	-0.7
HAKT				iS	Sg	09 02 25.9	-2.1
KUZU	Kuzuini	3.10	231	iP	Pn	09 01 36.6	-1.9
KUZU				iS	Sb	09 02 20.2	-2.5
KUZU	Kuzuini	3.10	231	iP	Pn	09 01 36.6	-1.9
KUZU				iS	Sb	09 02 20.2	-2.5
CUKT	Cukurca	3.16	117	ePN	Pn	09 01 38.9	-0.6
CUKT	Cukurca	3.16	117	ePn	Pn	09 01 38.9	-0.6
ANDN	Andirin	3.17	250	iP	Pn	09 01 37.7	-2.0
ANDN	Andirin	3.17	250	iP	Pn	09 01 37.7	-2.0
ANDN				iS	Sg	09 02 32.1	+1.4
TOKA	Tokat	3.21	301	iP	Pn	09 01 38.8	-1.3
TOKA	Tokat	3.21	301	iP	Pn	09 01 38.8	-1.3
TOKA				iS	Sb	09 02 27.7	+1.9
ERBA	Erbaa	3.22	308	iP	Pn	09 01 40.3	+0.1
ERBA				iS	Sn	09 02 20.9	+1.9
ERBA	Erbaa	3.22	308	iP	Pn	09 01 40.3	+0.1
ERBA				iS	Sn	09 02 20.9	+1.9
BNN	Bunyan	3.32	273	ePN	Pn	09 01 40.9	-0.8
BNN	Bunyan	3.32	273	ePn	Pn	09 01 40.9	-0.8
EAK	Akyaka	3.33	53	iP	Pn	09 01 43.2	+1.3
EAK	Akyaka	3.33	53	iP	Pn	09 01 43.2	+1.3
KOZT	Kozan	3.59	251	ePN	Pn	09 01 45.0	-0.4
KOZT	Kozan	3.59	251	ePn	Pn	09 01 45.0	-0.4
AKH	Akhalkalaki	3.73	43	ePN	Pn	09 01 46.8	-0.5
AKH	Akhalkalaki	3.73	43	P	Pn	09 01 49.2	+1.9
AKH	Akhalkalaki	3.73	43	ePn	Pn	09 01 46.8	-0.5
AKH	Akhalkalaki	3.73	43	P	Pn	09 01 49.2	+1.9
YOZ	Yozgat	3.81	285	ePN	Pn	09 01 48.0	-0.5
YOZ	Yozgat	3.81	285	ePn	Pn	09 01 48.0	-0.5
CEYT	Ceyhan	3.85	245	ePN	Pn	09 01 48.6	-0.2
CEYT	Ceyhan	3.85	245	ePn	Pn	09 01 48.6	-0.2
GNI	Garni	3.86	67	ePN	Pn	09 01 48.8	-0.4
GNI	Garni	3.86	67	cP	Pn	09 01 49.3	+0.1
GNI	Garni	3.86	67	Pn	Pn	09 01 51.4	+2.2
	2.5nm,0.3s,baz=227,slow=2.5,SNR=6.3						
GNI				Pg	Pb	09 01 59.2	+1.6
	13nm,0.3s,baz=251,slow=18,SNR=21						
GNI				Lg	Lg	09 02 52.5	
	1.9nm,0.3s,baz=237,slow=20,SNR=1.3						
GNI	Garni	3.86	67	ePn	Pn	09 01 48.8	-0.4
GNI	Garni	3.86	67	iP	Pn	09 01 49.3	+0.1
GNI	Garni	3.86	67	⇓iP	Pb	09 01 53.3	-4.3
	SNR=26						
GNI	Garni	3.86	67	ePn	Pn	09 01 51.0	+1.8
GNI				Pg	Pb	09 01 59.2	+1.6
GNI				Lg	Lg	09 02 52.5	
KVT	Kavak	3.88	308	ePN	Pn	09 01 48.9	-0.5
KVT	Kavak	3.88	308	ePn	Pn	09 01 48.9	-0.5
ARNB	Al Arnab	4.37	230	eP	Pn	09 01 54.5	-1.6
	SNR=109						
ARNB	Al Arnab	4.37	230	eP	Pn	09 01 54.5	-1.6
ARNB				eS	Sb	09 02 59.0	-0.2
ARNB				AML	AML	09 03 11.0	
	comp=E,2μm,0.7s						
ARNB				AML	AML	09 03 17.0	
	comp=N,1μm,0.7s						
KFRA	Kufra	4.40	218	eP	Pn	09 01 55.4	-1.1
	SNR=108						
KFRA	Kufra	4.40	218	eP	Pn	09 01 55.4	-1.1
KFRA				eS	Sb	09 03 02.9	+2.6
KFRA				AML	AML	09 03 19.9	
	comp=N,5μm,0.6s						
KFRA				AML	AML	09 03 25.9	
	comp=E,7μm,0.8s						
ONI	Oni	4.61	33	P	Pn	09 01 59.4	0.0
ONI	Oni	4.61	33	P	Pn	09 01 59.4	0.0
TBLG	Delisi	4.64	49	ePN	Pn	09 01 59.8	+0.1
TBLG	Delisi	4.64	49	P	Pn	09 01 59.3	-0.4
TBLG	Delisi	4.64	49	P	Pn	09 01 59.3	-0.4
TBLG	Delisi	4.64	49	ePn	Pn	09 01 59.8	+0.1
SEAG	Tbilisi Sea	4.70	49	P	Pn	09 02 00.4	-0.1
SEAG	Tbilisi Sea	4.70	49	P	Pn	09 02 00.4	-0.1
IAZR	Azarshahr	4.76	101	eP	Pg	09 02 16.2	-3.8
IKRK	Kirkuk	4.77	133	ePN	Pn	09 01 49.6	-12
IKRK				eSN	Sn	09 02 45.5	-12
ITBZ	Tabriz	4.78	94	eP	Pb	09 02 13.7	+0.4
BIDA	Albida	4.80	220	eP	Pn	09 02 00.4	-1.6
	SNR=107						
BIDA	Albida	4.80	220	eP	Pn	09 02 00.4	-1.6
BIDA				eS	Sb	09 03 11.0	-0.7
BIDA				AML	AML	09 03 29.2	
	comp=N,4μm,0.6s						
BIDA				AML	AML	09 03 45.0	
	comp=E,2μm,0.7s						
SOC	Sochi	4.84	357	eP	Pn	09 02 01.2	-1.2
SOC				e		09 02 55.8	
SOC				pmax	pmax		
	comp=Z,56nm,0.6s						
SOC				MLR	MLR		
	comp=Z,1μm,11.0s						
SOC				MLR	MLR		
	comp=N,768nm,11.0s						
SOC				MLR	MLR		
	comp=E,1μm,11.0s						
SOC	Sochi	4.84	357	eP	Pn	09 02 01.2	-1.2
	comp=E,56nm,0.6s						
SOC				eS	Sn	09 02 55.8	-3.1
	comp=E,768nm,11.0s						
DUS	Dusheti	4.85	45	P	Pn	09 02 02.2	-0.5
DUS	Dusheti	4.85	45	P	Pn	09 02 02.2	-0.5
DGRG	David-gareji	4.87	55	P	Pn	09 02 03.3	+0.4
DGRG	David-gareji	4.87	55	P	Pn	09 02 03.3	+0.4
ZEI	Tsey	4.97	34	eP	Pn	09 02 00.5	-3.9
ZEI				pmax	pmax		
	comp=Z,145nm,0.8s						
GUDG	Gudauri	4.99	41	P	Pn	09 02 04.6	-0.2
GUDG	Gudauri	4.99	41	P	Pn	09 02 04.6	-0.2
BRTR	Keskin Array B	5.10	283	Pn	Pn	09 02 05.3	-0.9
	comp=Z,6.3nm,0.3s,baz=109,slow=12,SNR=103						
BRTR				Lg	Lg	09 03 31.1	
	baz=172,slow=9.9,SNR=0.8						
BRTR				LR	LR	09 04 19.3	
	comp=Z,3μm,19.8s,baz=88,slow=42						
HAWK	Haweek	5.15	216	eP	Pn	09 02 06.2	-0.7
	SNR=106						
HAWK	Haweek	5.15	216	eP	Pn	09 02 06.2	-0.7
HAWK				eS	Sb	09 03 19.2	-2.7
HAWK				AML	AML	09 03 41.6	
	comp=N,710nm,0.6s						
HAWK				AML	AML	09 03 46.5	
	comp=E,2μm,0.6s						
KBZ	Khabaz	5.41	22	Pn	Pn	09 02 10.6	+0.4
	comp=E,0.6nm,0.3s,baz=167,slow=6.0,SNR=11						
KBZ				Lg	Lg	09 03 39.0	
	baz=105,slow=10,SNR=1.3						
KBZ				LR	LR	09 04 33.3	
	comp=E,3μm,18.8s,baz=218,slow=42						
IBST	Bostanabad	5.46	99	eP	Pg	09 02 30.1	-3.2
IHRS	Heris	5.47	92	eP	Pn	09 02 01.6	-10
MARH	Ras Al Marh	5.54	213	eP	Pn	09 02 11.9	-0.4
	SNR=106						
MARH	Ras Al Marh	5.54	213	eP	Pn	09 02 11.9	-0.4
MARH				eS	Sb	09 03 29.2	-4.0
MARH				AML	AML	09 03 58.1	
	comp=E,1μm,0.7s						
MARH				AML	AML	09 04 00.4	
	comp=N,512nm,0.7s						
KIV	Kislovodsk	5.56	20	eP	Pn	09 02 10.6	-1.8
KIV				eS	Sn	09 03 14.2	-2.6
KIV				pmax	pmax		
	comp=Z,28nm,1.0s						
KIV				MLR	MLR		
	comp=Z,429nm,7.0s						
KIV	Kislovodsk	5.56	20	eP	Pn	09 02 10.6	-1.8
	comp=Z,28nm,1.0s						
KIV				eS	Sn	09 03 14.2	-2.6
	comp=Z,429nm,7.0s						
KIV	Kislovodsk	5.56	20	⇑P	Pn	09 02 09.6	-2.8
HWQ	Hawqa	5.57	218	eP	Pn	09 02 11.9	-0.7
HWQ	Hawqa	5.57	218	eP	Pn	09 02 11.9	-0.7
RTB	Rutbah	5.71	178	ePn	Pn	09 02 12.7	-1.8
	SNR=39						
ANTO	Ankara	5.77	283	eP	Pn	09 02 18.0	+2.7
ANTO	Ankara	5.77	283	⇑iP	Pn	09 02 16.5	+1.2
ANTO	Ankara	5.77	283	S	Sb	09 03 31.5	-8.0
ANTO	Ankara	5.77	283	ePn	Pn	09 02 15.9	+0.6
ANTO	Ankara	5.77	283	⇑iP	Pn	09 02 16.5	+1.2
ANTO	Ankara	5.77	283	ePn	Pn	09 02 15.9	+0.6
BHL	Bhannes	6.01	218	eP	Pn	09 02 18.1	-0.6
BHL	Bhannes	6.01	218	eP	Pn	09 02 18.1	-0.6
ISRB	Sarab	6.03	96	eP	Pn	09 02 18.1	-0.9
ISRB	Sarab	6.03	96	eP	Pn	09 02 18.2	-0.9
TOTH	TOTAH	6.14	210	eP	Pn	09 02 20.2	-0.2
	SNR=104						
TOTH	TOTAH	6.14	210	eP	Pn	09 02 20.2	-0.2
TOTH				eS	Sb	09 03 42.5	-7.7
TOTH				AML	AML	09 04 22.8	
	comp=N,641nm,0.7s						
TOTH				AML	AML	09 04 35.6	
	comp=E,398nm,0.7s						
ZALF	Zalf	6.23	202	eP	Pn	09 02 20.2	-1.4
	SNR=104						
ZALF	Zalf	6.23	202	eP	Pn	09 02 20.2	-1.4
ZALF				eS	Sb	09 03 45.0	-7.8
ZALF				AML	AML	09 04 18.9	
	comp=E,412nm,0.7s						
ZALF				AML	AML	09 04 32.9	
	comp=N,583nm,0.7s						
RCY	Rachaya	6.27	215	eP	Pn	09 02 21.8	-0.4
ANN	Anapa	6.36	343	iP	Pn	09 02 24.0	+0.7
ANN				eS	Sn	09 03 36.9	+0.4
ANN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ANN				MLR	MLR		
	comp=E,2μm,11.0s						
ANN				MLR	MLR		
	comp=Z,864nm,11.0s						
ANN				MLR	MLR		
	comp=N,1μm,11.0s						
ANN	Anapa	6.36	343	iP	Pn	09 02 24.0	+0.7
	comp=N,9.0nm,0.8s				

VRHR pmax pmax
comp=E,20nm,0.9s
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR Novokhopersk 12.39 5 *eP* **Pn 09 03 46.0 +0.1**
MLR Muntele Rosu 12.47 307 Pn Pn 09 03 50.4 +3.3
comp=Z,0.0nm,0.3s,baz=135,slow=3.7,SNR=3.9
MLR LR LR 09 09 31.3
comp=Z,166nm,19.5s,baz=134,slow=42
VSR Storozhevoye 12.48 357 *eP* **Pn 09 03 46.0 -1.2**
VSR pmax pmax
comp=N,30nm,1.0s
VSR pmax pmax
comp=E,9.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 12.48 357 *eP* **Pn 09 03 46.0 -1.2**
TESR Tescani 12.56 312⇑*iP* **Pn 09 03 49.1 +0.8**
TESR Tescani 12.56 312⇑*iP* **Pn 09 03 49.1 +0.8**
IDI Anoyia 12.63 259 Pn Pn 09 03 52.5 +3.2
comp=Z,0.4nm,0.3s,baz=245,slow=23,SNR=2.1
IDI LR LR 09 09 46.0
comp=Z,665nm,18.6s,baz=76,slow=43
VOIR 13.01 306⇑*iP* Pn 09 03 57.1 +2.7
ARR Arges 13.24 305⇑*iP* **Pn 09 03 59.7 +2.1**
VTS Vitosha 13.38 292⇓*iP* **Pn 09 04 01.2 +1.6**
VTS Vitosha 13.38 292⇓*iP* **Pn 09 04 01.2 +1.6**
LOT Lotru 13.83 304⇑*iP* **Pn 09 04 07.7 +2.0**
BURAR Bucovina Array 13.99 314⇓*iP* Pn 09 04 11.1 +3.2
GEYT Alibeck 14.18 88 Pn Pn 09 04 13.5 +3.0
comp=Z,0.6nm,0.3s,baz=270,slow=16,SNR=5.6
GEYT LR LR 09 11 09.1
comp=Z,402nm,19.0s,baz=290,slow=44
AKASG Malin Array Be 14.21 331*ceP* **Pn 09 04 10.3 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 14.21 331 Pn **Pn 09 04 09.1 -1.7**
comp=Z,0.6nm,0.3s,baz=145,slow=11,SNR=9.3
KIEV Kiev 14.21 331⇓*eP* **Pn 09 04 12.1 +1.4**
KIEV Kiev 14.21 331 *e*Pn **Pn 09 04 08.6 -2.1**
KIEV Kiev 14.21 331 *eP* **Pn 09 04 12.1 +1.4**
KIEV Kiev 14.21 331 *e*Pn **Pn 09 04 08.6 -2.1**
GZR Gura Zlata 14.46 303⇑*iP* **Pn 09 04 16.8 +2.5**
BZS Buzias 15.30 303⇓*iP* **P 09 04 27.8 -2.7**
BZS Buzias 15.30 303⇓*iP* **P 09 04 27.8 -2.7**
TRPA Tarpa 15.79 312⇑*iP* **P 09 04 33.6 -2.3**
TRPA Tarpa 15.79 312⇑*iP* **P 09 04 33.6 -2.3**
LVV L'vov 15.92 319 *eP* **Pn 09 04 31.8 -1.8**
UZH Uzhgorod 16.19 313 *eP* **Pn 09 04 36.4 -0.7**
KOLS Kolonicke sedl 16.36 314 *eP* **P 09 04 45.3 +3.1**
KOLS pmax pmax
comp=Z,54nm,1.8s
KOLS Kolonicke sedl 16.36 314 *es*P **P 09 04 45.3 +3.1**
KWP Kalwaria Pacla 16.50 317⇓*iP* **P 09 04 42.4 -1.4**
KWP Kalwaria Pacla 16.50 317⇓*iP* **P 09 04 42.4 -1.4**
OBN Obninsk 16.54 353*c iP* **Pn 09 04 38.7 -2.8**
OBN pmax pmax
comp=Z,47nm,1.0s
OBN Obninsk 16.54 353 Pn **Pn 09 04 39.5 -2.0**
comp=Z,1.5nm,0.3s,baz=178,slow=22,SNR=6.2
OBN LR LR 09 12 14.0
comp=Z,491nm,19.0s,baz=206,slow=42
OBN Obninsk 16.54 353 *e*Pn **Pn 09 04 39.1 -2.4**
comp=Z,43nm,1.0s
OBN Obninsk 16.54 353 *e*Pn **Pn 09 04 39.1 -2.4**
comp=Z,43nm,1.0s
CRVS Cervenica-Dubn 16.80 313 *eP* **P 09 04 47.5 +0.4**
CRVS pmax pmax
comp=Z,17nm,1.6s
CRVS Cervenica-Dubn 16.80 313 *eP* **P 09 04 47.5 +0.4**
comp=Z,17nm,1.6s
CRVS Cervenica-Dubn 16.80 313 *e*pP **P 09 04 47.5 +0.4**
MOS Moscow 17.08 355 *eP* **Pn 09 04 45.1 -3.2**
MOS *eS* **Sn 09 08 02.1 +3.6**
MOS pmax pmax
comp=Z,51nm,0.8s
STHS Stebnicka Huta 17.19 314 *eP* **P 09 04 51.7 +0.3**
STHS pmax pmax
comp=Z,3.0nm,1.3s
STHS Stebnicka Huta 17.19 314 *eP* **P 09 04 51.7 +0.3**
comp=Z,3.0nm,1.3s
STHS Stebnicka Huta 17.19 314 *eP* **P 09 04 51.7 +0.3**
AKTK Aktyubinsk 17.25 42 P **Pn 09 04 49.4 -1.2**
comp=Z,32nm,1.8s
AKTO Aktyubinsk 17.25 42 P **Pn 09 04 49.4 -1.2**
AKTO pmax pmax
comp=Z,32nm,1.8s
AKTO Aktyubinsk 17.25 42 P **P 09 04 51.3 -0.8**
comp=Z,0.2nm,0.3s,baz=232,slow=8.9,SNR=17
AKTO LR LR 09 13 10.1
comp=Z,391nm,18.2s,baz=227,slow=43
PSZ Piszkesteto 17.27 309⇑*iP* **P 09 04 51.8 -0.7**
PSZ Piszkesteto 17.27 309⇑*iP* **P 09 04 51.8 -0.7**
PKSM Moragy 17.46 302⇓*iP* **P 09 04 53.3 -1.1**
PKSM Moragy 17.46 302⇓*iP* **P 09 04 53.3 -1.1**
AB31 Akbulak array 17.68 47 P **Pn 09 04 55.0 -0.8**
AB31 pmax pmax
comp=Z,28nm,1.2s
AB31 Akbulak array 17.68 47 P **Pn 09 04 55.0 -0.8**
comp=Z,28nm,1.2s
MICGM Minsk 17.80 336 *e* Pn 09 04 51.0 -6.4
MNK Minsk 17.82 336 *eP* Pn 09 04 51.0 -6.5
VYHS Vyhne 18.16 309 *eP* **P 09 05 01.9 -0.2**
VYHS pmax pmax
comp=Z,14nm,1.6s
VYHS Vyhne 18.16 309 *eP* **P 09 05 01.9 -0.2**
comp=Z,14nm,1.6s
VYHS Vyhne 18.16 309 *eP* **P 09 05 01.9 -0.2**
NACGM Naroch 18.49 335 *e* **P 09 05 02.0 -3.7**
NAZ Nazwa, Dubai 19.02 132 P **P 09 05 11.0 -0.7**
SNR=16
NAZ Nazwa, Dubai 19.02 132⇓*iP* **P 09 05 11.0 -0.7**
SNR=16
OKC Ostrava-Krasne 19.15 312 *eP* **Pn 09 05 13.9 +0.1**
OKC Ostrava-Krasne 19.15 312 *eP* **Pn 09 05 13.9 +0.1**
OKC Ostrava-Krasne 19.15 312 *eP* **Pn 09 05 13.9 +0.1**
FAQ Al Faqa, Dubai 19.16 132 P **P 09 05 12.2 -1.1**
FAQ Al Faqa, Dubai 19.16 132⇑P **P 09 05 12.2 -1.1**
HATD Hatta, Dubai 19.42 131 P **P 09 05 15.3 -0.8**
SNR=13
HATD Hatta, Dubai 19.42 131 *i* P **P 09 05 15.3 -0.8**
SNR=13
MORC Moravsky Berou 19.47 312 *eP* **P 09 05 14.7 -1.9**
ASHO Ashiyiah 19.48 131⇓P **P 09 05 16.4 -0.4**
SNR=17
ASHO Ashiyiah 19.48 131 P **P 09 05 16.4 -0.4**
SNR=17
BOJS Bojanci 19.57 298 *i* P Pn 09 05 30.1 +11
CONA Conrad Observa 19.80 305⇑*iP* **Pn 09 05 21.0 -0.7**
comp=Z,32nm,1.3s
CONA Conrad Observa 19.80 305 P **Pn 09 05 21.0 -0.7**
comp=Z,32nm,1.3s
VRAC Vranov 19.84 310⇑*iP* **P 09 05 19.7 -0.9**
VRAC Vranov 19.84 310 P **Pn 09 05 25.4 +3.3**
comp=Z,0.4nm,0.3s,baz=116,slow=12,SNR=4.1
VRAC LR LR 09 14 30.8
comp=Z,225nm,19.0s,baz=122,slow=42
VRAC Vranov 19.84 310⇑*iP* **P 09 05 19.7 -0.9**
PERS Pernice 19.92 301 *i* P **Pn 09 05 27.0 +3.9**
VISS Visnje 19.92 299 *i* P **Pn 09 05 25.6 +2.5**
DPC Dobruska-Polom 20.43 312 *eP* Pn 09 05 30.3 +1.1
DPC *e* 09 05 36.8
DPC Dobruska-Polom 20.43 312 *eP* Pn 09 05 30.3 +1.1
DPC *ex* x 09 05 36.8
DPC Dobruska-Polom 20.43 312 *e*Pn Pn 09 05 30.1 +0.9
DPC Dobruska-Polom 20.43 312 *e*Pn Pn 09 05 30.1 +0.9
JAVS Javornik 20.47 299 *i* P Pn 09 05 33.2 +3.5
TREC Trest 20.50 309 *eP* Pn 09 05 29.4 -0.6
TREC Trest 20.50 309 *eP* Pn 09 05 29.4 -0.6
TREC Trest 20.50 309 *eP* Pn 09 05 29.4 -0.6
KSP Ksiaz 20.66 314 *eP* Pn 09 05 31.1 -0.7
KSP *e**PP pP 09 05 33.2 +2.8
KSP Ksiaz 20.66 314 *eP* Pn 09 05 31.1 -0.7
UPC Upice 20.68 312 *eP* **P 09 05 29.6 -0.1**
UPC Upice 20.68 312 *eP* **P 09 05 29.6 -0.1**
UPC *ex* x 09 05 39.2
UPC Upice 20.68 312 *eP* **P 09 05 29.6 -0.1**
ARQ Araqi 20.79 133⇓P **P 09 05 30.9 -0.2**
SNR=26
ARQ Araqi 20.79 133 P **P 09 05 30.9 -0.2**
SNR=26
MOA Molln 20.80 304⇑*i*pP **P 09 05 32.8 +1.8**
comp=Z,19nm,0.8s
MOA Molln 20.80 304 P Pn 09 05 32.8 -0.7
comp=Z,19nm,0.8s
HOQ Hoqain 21.06 131 P **P 09 05 33.0 -1.0**
SNR=18
HOQ Hoqain 21.06 131 P **P 09 05 33.0 -1.0**
SNR=18
KBA Koelnbreinsper 21.21 302⇓*i*sP **P 09 05 37.5 +1.9**
comp=Z,24nm,0.9s
KBA Koelnbreinsper 21.21 302 P **P 09 05 37.5 +1.9**
comp=Z,24nm,0.9s
PRU Pruhonice 21.33 310 *eP* **P 09 05 38.1 +1.4**
PRU MLR MLR
comp=Z,1μm,19.0s
PRU Pruhonice 21.33 310 *eP* **P 09 05 38.1 +1.4**
PRU AMS AMS 09 16 10.0
comp=Z,1μm,19.0s
PRU Pruhonice 21.33 310 P **P 09 05 38.1 +1.4**
GEC2 GERESS Array S 21.46 307 *eP* **P 09 05 41.1 +2.9**
GEC2 GERESS Array S 21.46 307 *eP* **P 09 05 41.8 +3.6**
comp=Z,67nm,1.9s
GEC2 GERESS Array S 21.46 307 *eP* **P 09 05 41.1 +2.9**
GERES GERESS Array B 21.46 307 P **P 09 05 37.9 -0.3**
GERES pmax pmax
comp=Z,3.0nm,1.0s
GERES GERESS Array B 21.46 307 P **P 09 05 37.9 -0.3**
comp=Z,2.9nm,0.9s,baz=115,slow=9.6,SNR=9.7
GERES LR LR 09 14 19.7
comp=Z,312nm,21.1s,baz=103,slow=38
ARU Arti 21.51 29*d iP* **P 09 05 36.4 -2.1**
ARU PPP PPP 09 06 03.7
ARU S **S 09 09 35.7 -1.8**
ARU pmax pmax
comp=Z,22nm,1.2s
ARU Arti 21.51 29 *eP* **P 09 05 36.5 -2.1**
comp=Z,148nm,1.8s
ARU Arti 21.51 29 *eP* **P 09 05 36.5 -2.1**
comp=Z,148nm,1.8s
PVCC Panska Ves 21.53 311 *eP* **P 09 05 41.4 +2.6**
PVCC Panska Ves 21.53 311 *eP* **P 09 05 41.4 +2.6**
VSU Vasula 21.54 341⇓*eP* **P 09 05 40.6 +1.8**
VSU pmax pmax
comp=Z,242nm,1.2s
KHC Kasperske Hory 21.62 307 *eP* **P 09 05 42.2 +2.3**
KHC *e* 09 05 45.0
KHC Kasperske Hory 21.62 307 *eP* **P 09 05 42.2 +2.3**
KHC *ex* x 09 05 45.0
KHC Kasperske Hory 21.62 307 *eP* **P 09 05 38.9 -1.0**
comp=Z,18nm,1.2s
KHC Kasperske Hory 21.62 307 *eP* **P 09 05 38.9 -1.0**
comp=Z,18nm,1.2s
ABTA Abfaltersbach 21.69 301⇑*i*pP **P 09 05 41.3 +0.6**
comp=Z,14nm,0.9s
ABTA Abfaltersbach 21.69 301 P **P 09 05 41.3 +0.6**
comp=Z,14nm,0.9s
RJOB Jochberg 21.73 303 *eP* **P 09 05 45.1 +4.0**
comp=Z,24nm,0.9s
SMDO Samad 21.89 130⇑P **P 09 05 43.1 0.0**
SNR=38
PUL Pulkovo 21.94 347⇓*eP* **P 09 05 45.4 +2.3**
PUL pmax pmax
comp=Z,176nm,0.7s
BRG Berggiesshubel 22.03 312 *eP* **P 09 05 47.3 +3.1**
comp=Z,11nm,1.1s
WET Wettzell 22.06 307 *eP* **P 09 05 48.0 +3.4**
comp=Z,11nm,0.9s
KLMR Klimovskoe 22.13 359 P **P 09 05 44.7 -0.5**
KLMR pmax pmax
comp=Z,225nm,1.6s
WATA Walderalm 22.44 302⇑*i*sP **P 09 05 50.4 +1.6**
comp=Z,34nm,1.1s
WATA Walderalm 22.44 302 P **P 09 05 50.4 +1.6**
comp=Z,34nm,1.1s
JMDO Jabal Madar 22.45 131⇓P **P 09 05 47.5 -1.4**
SNR=30
SVE Sverdlovsk 22.60 30 *eP* **P 09 05 48.7 -1.5**
SVE *eS* S 09 09 49.6 -8.7
SVE pmax pmax
comp=Z,75nm,1.4s
ROTZ Rotzenmuhle 22.67 308 *eP* **P 09 05 53.5 +2.4**
comp=Z,66nm,1.5s
ROTZ Rotzenmuhle 22.67 308 *eP* **P 09 05 53.5 +2.4**
comp=Z,66nm,1.5s
CLL Collm 22.75 312 *eP* **P 09 05 54.0 +2.2**
CLL *i* 09 05 56.2
CLL *eS* **S 09 10 02.0 +0.9**
CLL MLR MLR
comp=Z,500nm,20.9s
CLL Collm 22.75 312 *eP* **P 09 05 54.7 +2.9**
comp=Z,30nm,1.2s
CLL Collm 22.75 312 *e*(sP) **P 09 05 54.0 +2.2**
CLL *i* 09 05 56.2
comp=Z,29nm,1.1s
CLL *eS* **S 09 10 02.0 +0.9**
CLL Lm MLR 09 14 00.0
comp=N,300nm,19.4s
CLL Lm MLR 09 14 00.0
comp=E,500nm,20.7s
CLL Lm MLR 09 14 00.0
comp=Z,500nm,20.9s
CLL Collm 22.75 312 *eP* **P 09 05 54.5 +2.6**
comp=Z,28nm,1.1s
MOTA Moosalm 22.75 302⇑*i*sP **P 09 05 52.2 0.0**
comp=Z,25nm,0.8s
MOTA Moosalm 22.75 302 P **P 09 05 52.2 0.0**
comp=Z,25nm,0.8s
WBK Wadi Bani Khal 22.79 129⇑P **P 09 05 51.5 -1.0**
SNR=14
FETA Feichten 22.94 301⇑*i*sP **P 09 05 52.7 -1.5**
comp=Z,34nm,1.4s
FETA Feichten 22.94 301 P **P 09 05 52.7 -1.5**
comp=Z,34nm,1.4s
PRGR Pernogore 23.17 7 *eP* **P 09 05 54.8 -1.3**
FUORN Ofenpass-Fuorn 23.19 299 *eP* **P 09 05 59.4 +2.6**
comp=Z,29nm,1.0s
FUORN Ofenpass-Fuorn 23.19 299 *eP* **P 09 05 59.4 +2.6**
comp=Z,29nm,1.0s
GRA1 Grafenberg Arr 23.26 307 *eP* **P 09 05 58.8 +1.6**
comp=Z,63nm,1.2s
GRF Grafenberg Arr 23.26 307 *eP* **P 09 05 58.8 +1.6**
comp=Z,63nm,1.2s
GRF *eL* L 09 13 25.2
comp=Z,295nm,21.8s
GRFO Grafenberg 23.26 307 *eP* **P 09 05 58.6 +1.3**
GRFO pmax pmax
comp=Z,41nm,1.0s
GRFO Grafenberg 23.26 307 *eP* **P 09 05 58.5 +1.3**
comp=Z,41nm,1.0s
GRFO Grafenberg 23.26 307 *eP* **P 09 05 58.5 +1.3**
comp=Z,41nm,1.0s
MOX Moxa 23.32 310 *eP* **P 09 06 00.2 +2.4**
comp=Z,11nm,1.2s
MOX *eL* L 09 16 01.1
comp=Z,380nm,20.1s
MOX Moxa 23.32 310 *eP* **P 09 06 00.2 +2.4**
comp=Z,11nm,1.2s
KK31 Karatay Array 23.33 69 P **P 09 05 57.6 -0.4**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 23.33 69 *eP* **P 09 05 57.8 -0.2**
KKAR Karatay Array 23.33 69 *eP* **P 09 05 57.3 -0.7**
comp=Z,10nm,0.8s
KKAR Karatay Array 23.33 69 *eP* **P 09 05 57.3 -0.7**
comp=Z,10nm,0.8s
SOKR Solikamsk 23.42 22⇑*iP* **P 09 05 57.8 -0.8**
SOKR pmax pmax
comp=Z,20nm,1.0s
DAVA Damuels 23.56 301⇑*i*sP **P 09 06 01.1 +0.7**
comp=Z,41nm,1.3s
DAVA Damuels 23.56 301 P **P 09 06 01.1 +0.7**
comp=Z,41nm,1.3s
TUE Stuetta 23.80 299 *eP* **P 09 06 02.3 -0.5**
comp=Z,32nm,1.2s
TUE Stuetta 23.80 299 *eP* **P 09 06 02.3 -0.5**
comp=Z,32nm,1.2s
ABTO Aybut 24.24 148⇑P **P 09 06 07.1 +0.1**
SNR=6.6
FINES FINESS Array B 24.33 344 P **P 09 06 06.3 -1.1**
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES MLR MLR
comp=Z,392nm,18.2s
FINES FINESS Array B 24.33 344 P **P 09 06 06.2 -1.1**
comp=Z,8.1nm,0.8s,baz=153,slow=10,SNR=12
FINES LR LR 09 17 23.0
comp=Z,392nm,18.2s,baz=140,slow=41
UBBA Unterbreizbach 24.35 310 *eP* **P 09 06 09.6 +2.0**
comp=Z,25nm,1.5s
UBBA Unterbreizbach 24.35 310 *eP* **P 09 06 09.6 +2.0**
comp=Z,25nm,1.5s
CLZ Clausthal 24.47 312 *eP* **P 09 06 09.5 +0.7**
comp=Z,29nm,1.3s
CLZ Clausthal 24.47 312 *eP* **P 09 06 09.5 +0.7**
comp=Z,29nm,1.3s
RBK Rabkut 24.49 146⇑P **P 09 06 08.3 -1.0**
SNR=9.5
KEST Kesra 24.60 273 P **P 09 06 11.8 +1.5**
comp=Z,7.3nm,0.9s,baz=67,slow=2.4,SNR=7.8
KEST LR LR 09 17 29.3
comp=Z,230nm,19.6s,baz=324,slow=41
JOF Joensuu 24.78 350 *eP* **P 09 06 09.7 -1.8**
JOF pmax pmax
comp=Z,9.0nm,0.6s
JOF Joensuu 24.78 350 *ep* **P 09 06 09.7 -1.8**
comp=Z,9.2nm,0.6s
KAF Kangasniemi 24.88 345 *eP* **P 09 06 09.5 -2.8**
KAF pmax pmax
comp=Z,9.0nm,0.8s
KAF Kangasniemi 24.88 345 *ep* **P 09 06 09.5 -2.8**
comp=Z,8.9nm,0.8s
BRVK Borovoye 25.19 46⇑*eP* **P 09 06 17.3 +2.1**
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BRVK Borovoye 25.19 46 *eP* **P 09 06 13.9 -1.3**
comp=Z,9.7nm,1.0s
BRVK Borovoye 25.19 46 *eP* **P 09 06 13.9 -1.3**
comp=Z,9.7nm,1.0s
SENIN Lac Senin/Sane 25.19 298 *eP* **P 09 06 17.1 +1.5**
SENIN Lac Senin/Sane 25.19 298 *eP* **P 09 06 17.1 +1.5**
BVAR Borovoye Array 25.23 46 P **P 09 06 15.4 -0.2**
comp=Z,1.6nm,0.9s,baz=200,slow=3.9,SNR=7.7
BVAR LR LR 09 17 20.8
comp=Z,393nm,21.3s,baz=254,slow=39
CDF Champ du Feu 25.49 303 *eP* **P 09 06 15.9 -2.2**
CDF Champ du Feu 25.49 303 *eP* **P 09 06 15.9 -2.2**
CDF Champ du Feu 25.49 303 *eP* **P 09 06 15.9 -2.2**
CDF Champ du Feu 25.49 303 *eP* **P 09 06 15.9 -2.2**
LPG La Plagne 25.50 296 *eP* **P 09 06 18.0 -0.5**
comp=Z,43nm,1.3s
LPG La Plagne 25.50 296 *eP* **P 09 06 18.0 -0.5**
LPG pmax pmax
comp=Z,43nm,1.3s
LPG La Plagne 25.50 296 *eP* **P 09 06 18.0 -0.5**
comp=Z,43nm,1.3s
LPG La Plagne 25.50 296 *eP* **P 09 06 18.0 -0.5**
comp=Z,43nm,1.3s
BNI Bardonecchia 25.53 295 *eP* **P 09 06 20.3 +1.6**
BNI pmax pmax
comp=Z,27nm,1.1s
BNI Bardonecchia 25.53 295 *eP* **P 09 06 20.2 +1.6**
comp=Z,27nm,1.1s
BNI Bardonecchia 25.53 295 *eP* **P 09 06 20.2 +1.6**
comp=Z,27nm,1.1s
HINF Hinteralfeld 25.67 301 *eP* **P 09 06 18.9 -0.9**
comp=Z,23nm,1.2s
HINF Hinteralfeld 25.67 301 *eP* **P 09 06 18.9 -0.9**
HINF pmax pmax
comp=Z,23nm,1.2s
HINF Hinteralfeld 25.67 301 *eP* **P 09 06 18.9 -0.9**
comp=Z,23nm,1.2s
HINF Hinteralfeld 25.67 301 *eP* **P 09 06 18.9 -0.9**
comp=Z,23nm,1.2s
EKS2 Erkin-Say 25.73 70 *eP* **P 09 06 21.8 +1.3**
EKS2 pmax pmax
comp=Z,9.0nm,0.8s
EKS2 Erkin-Say 25.73 70 *eP* **P 09 06 20.6 +0.1**
comp=Z,8.5nm,0.8s
EKS2 Erkin-Say 25.73 70 *eP* **P 09 06 20.6 +0.1**
comp=Z,8.5nm,0.8s
CABF La Chapelle 26.05 299 *eP* **P 09 06 21.6 -1.6**
comp=Z,49nm,0.9s
CABF La Chapelle 26.05 299 *eP* **P 09 06 21.6 -1.6**
CABF pmax pmax
comp=Z,49nm,0.9s
CABF La Chapelle 26.05 299 *eP* **P 09 06 21.6 -1.6**
comp=Z,49nm,0.9s
CABF La Chapelle 26.05 299 *eP* **P 09 06 21.6 -1.6**
comp=Z,49nm,0.9s
AAK Ala-Archa 26.27 70⇓*eP* **P 09 06 26.3 +0.9**
AAK pmax pmax
comp=Z,23nm,1.7s
AAK Ala-Archa 26.27 70 P **P 09 06 26.8 +1.5**
comp=Z,2.6nm,0.9s,baz=214,slow=9.3,SNR=6.7
AAK LR LR 09 16 49.3
comp=Z,172nm,21.1s,baz=284,slow=36
AAK Ala-Archa 26.27 70 *eP* **P 09 06 23.8 -1.6**
comp=Z,9.6nm,1.1s
AAK Ala-Archa 26.27 70 *eP* **P 09 06 23.8 -1.6**
comp=Z,9.6nm,1.1s
TKM2 Tokmak 2 27.06 70 *eP* **P 09 06 33.3 +0.7**
TKM2 pmax pmax
comp=Z,9.0nm,1.0s
TKM2 Tokmak 2 27.06 70 *eP* **P 09 06 33.2 +0.7**
comp=Z,8.9nm,1.0s
TKM2 Tokmak 2 27.06 70 *eP* **P 09 06 33.2 +0.7**
comp=Z,8.9nm,1.0s
HFS Hagfors 27.10 331 P **P 09 06 31.5 -1.0**
HFS pmax pmax
comp=Z,6.0nm,1.1s
HFS MLR MLR
comp=Z,335nm,21.1s
HFS Hagfors 27.10 331 P **P 09 06 31.5 -1.0**
comp=Z,6.0nm,1.1s,baz=182,slow=40,SNR=4.6
HFS LR LR 09 18 15.5
comp=Z,335nm,21.1s,baz=126,slow=39
SMF Signal de Mont 27.59 298 *eP* **P 09 06 36.4 -0.7**
SMF Signal de Mont 27.59 298 *eP* **P 09 06 36.4 -0.7**
SMF Signal de Mont 27.59 298 *eP* **P 09 06 36.4 -0.7**
SMF Signal de Mont 27.59 298 *eP* **P 09 06 36.4 -0.7**
KSH Kashi 27.73 77 *eP* **P 09 06 38.2 -0.4**
KSH sP sP 09 06 45.2 +5.3
KSH PP **PnPn 09 07 25.1 +1.1**
KSH PcP **PcP 09 09 57.1 +1.9**
KSH S **S 09 11 16.2 -5.5**
KSH sS **sS 09 11 23.2 -0.1**
KSH SS **SnSn 09 12 33.2 +0.1**
KSH PMZ
comp=Z,3.0nm,0.6s
KSH PMZ
comp=Z,170nm,7.3s
KSH LN
comp=Z,360nm,7.2s
KSH LE
comp=Z,290nm,6.9s
KSH LZ
comp=Z,310nm,7.0s
AVF Avril sur Loir 27.94 299 *eP* **P 09 06 39.9 -0.2**
comp=Z,24nm,1.1s
AVF Avril sur Loir 27.94 299 *eP* **P 09 06 39.9 -0.2**
AVF pmax pmax
comp=Z,24nm,1.1s
AVF Avril sur Loir 27.94 299 *eP* **P 09 06 39.9 -0.2**
comp=Z,23nm,1.1s
AVF Avril sur Loir 27.94 299 *eP* **P 09 06 39.9 -0.2**
comp=Z,24nm,1.1s
NOA NORSAR Array B 28.62 331 P **P 09 06 44.9 -1.2**
comp=Z,0.9nm,0.8s,baz=235,slow=16,SNR=2.3
NOA LR LR 09 20 00.3
comp=Z,175nm,19.6s,baz=125,slow=40
APA Apatity 29.11 355 *i* P P 09 06 42.6 -7.7
APA *i* 09 07 39.0
APA MLR MLR
comp=Z,2μm,17.0s
KURBB Kurchatov Arra 29.47 54 P **P 09 06 53.9 +0.3**
comp=Z,6.1nm,1.1s,baz=270,slow=9.1,SNR=9.4
KURK Kurchatov 29.54 53 *eP* **P 09 06 53.2 -1.1**
KURK pmax pmax
comp=Z,5.0nm,1.1s
KURK Kurchatov 29.54 53 *eP* **P 09 06 53.2 -1.1**
comp=Z,4.5nm,1.1s
KURK Kurchatov 29.54 53 *eP* **P 09 06 53.2 -1.1**
comp=Z,4.5nm,1.1s
MKAR Makanchi Array 31.69 61 P **P 09 07 13.8 +0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 31.69 61 P **P 09 07 13.8 +0.4**
comp=Z,2.5nm,0.8s,baz=270,slow=5.9,SNR=20
ARCES ARCESS Array B 31.82 350 P **P 09 07 15.1 +0.8**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,485nm,20.7s
ARCES ARCESS Array B 31.82 350 P **P 09 07 15.1 +0.8**
comp=Z,5.1nm,0.9s,baz=150,slow=9.8,SNR=4.6

ARCES				LR	LR	09 21 01.2	
	comp=Z,485nm,20.6s,baz=158,slow=38						
KEV	**Kevo**	**31.84**	**351**	*e*P	**P**	**09 07 15.2**	**+0.8**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KEV	**Kevo**	**31.84**	**351**	*e*p	**P**	**09 07 15.2**	**+0.8**
	comp=Z,0.6nm,0.4s						
KEV	**Kevo**	**31.84**	**351**	*e*P	**P**	**09 07 15.2**	**+0.8**
	comp=Z,0.6nm,0.4s						
NVS	**Novosibirsk**	**33.02**	**47**⇑	*i*P	**P**	**09 07 23.8**	**-1.1**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.4s						
NVS				pmax	pmax		
	comp=N,4.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.4s						
ESK	**Eskdalemuir**	**33.20**	**314**	*i*P	P	09 07 31.1	+4.6
ZALV	**Zalesovo Beam**	**33.78**	**48**	P	**P**	**09 07 33.3**	**+1.7**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV				MLR	MLR		
	comp=Z,309nm,20.7s						
ZALV	**Zalesovo Beam**	**33.78**	**48**	P	**P**	**09 07 33.3**	**+1.7**
	comp=Z,1.1nm,0.5s,baz=258,slow=12,SNR=6.4						
ZALV				LR	LR	09 22 18.8	
	comp=Z,309nm,20.7s,baz=250,slow=38						
ESDC	**Sonseca Array**	**33.89**	**286**	P	**P**	**09 07 33.0**	**+0.2**
	comp=Z,4.2nm,0.9s,baz=68,slow=8.9,SNR=9.4						
ESDC				LR	LR	09 22 59.2	
	comp=Z,186nm,19.1s,baz=95,slow=39						
WMQ	**Urumqi**	**35.74**	**66**	*e*P	**P**	**09 07 51.1**	**+2.4**
WMQ				pP	pP	09 07 54.6	+4.9
WMQ				PP	**PP**	**09 09 12.0**	**+2.4**
WMQ				S	**S**	**09 13 27.0**	**+0.7**
WMQ				sS	sS	09 13 34.0	+6.1
WMQ				PMZ			
	comp=Z,11nm,1.4s						
WMQ				PMZ			
	comp=Z,130nm,6.7s						
WMQ				LN			
	comp=Z,390nm,22.0s						
WMQ				LE			
	comp=Z,44nm,24.0s						
WMQ				LZ			
	comp=Z,190nm,26.0s						
HVS	**Khovu-Aksy**	**39.07**	**54**⇑	*e*P	**P**	**09 08 17.4**	**+0.5**
HVS				pmax	pmax		
	comp=Z,34nm,1.2s						
KMBO	**Kilima Mbogo**	**39.77**	**184**	P	P	09 08 26.0	+2.9
	comp=Z,1.2nm,0.7s,baz=192,slow=12,SNR=3.5						
KMBO				LR	LR	09 24 09.5	
	comp=Z,244nm,19.3s,baz=58,slow=35						
TORD	**Torodi Ar. Bea**	**42.45**	**244**	P	**P**	**09 08 44.9**	**-0.2**
	comp=Z,4.2nm,1.0s,baz=58,slow=6.6,SNR=15						
MOY	**Mondy**	**43.57**	**52**	*e*P	**P**	**09 08 55.4**	**+1.5**
ZAK	**Zakamensk**	**45.20**	**54**	*e*P	**P**	**09 09 07.3**	**+0.4**
ZAK				*e*		09 10 46.9	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
TLY	**Talaya**	**45.20**	**52**	*e*P	**P**	**09 09 07.8**	**+1.0**
TLY				pmax	pmax		
	comp=Z,14nm,1.5s						
TLY				MLR	MLR		
	comp=Z,116nm,14.0s						
TLY	**Talaya**	**45.20**	**52**	P	**P**	**09 09 08.0**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=256,slow=8.3,SNR=6.2						
TLY	**Talaya**	**45.20**	**52**	*e*P	**P**	**09 09 07.8**	**+1.0**
	comp=Z,10.0nm,1.2s						
TLY	**Talaya**	**45.20**	**52**	*e*P	**P**	**09 09 07.8**	**+1.0**
	comp=Z,10.0nm,1.2s						
IRK	**Irkutsk**	**45.49**	**51**	*e*P	**P**	**09 09 07.6**	**-1.5**
IRK				pmax	pmax		
	comp=Z,28nm,1.0s						
GTA	**Gaotai**	**45.61**	**69**	*e*P	P	09 09 16.6	+6.2
GTA				pP	pP	09 09 21.0	+10
GTA				sP	sP	09 09 23.6	+12
GTA				PMZ			
	comp=Z,4.0nm,1.2s						
SONM	**Songino Array**	**47.75**	**56**	P	**P**	**09 09 27.9**	**+0.8**
SONM						09 10 55.3	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**47.75**	**56**	P	**P**	**09 09 27.9**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=289,slow=8.5,SNR=8.6						
SONM				PcP	**PcP**	**09 10 55.3**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=256,slow=2.6,SNR=4.1						
SONM				LR	LR	09 31 58.4	
	comp=Z,470nm,19.8s,baz=276,slow=39						
ULN	**Ulaanbaatar**	**48.17**	**56**⇑	*e*P	**P**	**09 09 30.3**	**-0.1**
ULN				pmax	pmax		
	comp=Z,25nm,2.5s						
ULN	**Ulaanbaatar**	**48.17**	**56**	*e*P	**P**	**09 09 30.2**	**-0.1**
	comp=Z,8.6nm,1.0s						
ULN	**Ulaanbaatar**	**48.17**	**56**	*e*P	**P**	**09 09 30.2**	**-0.1**
	comp=Z,8.7nm,1.0s						
LZH	**Lanzhou**	**49.79**	**72**	*e*P	**P**	**09 09 42.8**	**-0.1**
LZH				pP	**pP**	**09 09 46.0**	**+2.1**
LZH				PP	**PP**	**09 11 38.0**	**+0.7**
LZH				PMZ			
	comp=Z,22nm,1.4s						
LZH				PMZ			
	comp=Z,76nm,6.2s						
LZH				LN			
	comp=Z,400nm,14.0s						
LZH				LE			
	comp=Z,390nm,13.7s						
LZH				LZ			
	comp=Z,510nm,17.8s						
DBIC	**Dimbokro**	**51.56**	**244**	P	**P**	**09 09 56.7**	**+0.5**
DBIC				pmax	pmax		
	comp=Z,8.0nm,1.2s						
DBIC				MLR	MLR		
	comp=Z,120nm,18.5s						
DBIC	**Dimbokro**	**51.56**	**244**	P	**P**	**09 09 56.7**	**+0.5**
	comp=Z,7.9nm,1.1s,baz=5.2,slow=9.8,SNR=4.5						
DBIC				LR	LR	09 36 24.3	
	comp=Z,120nm,18.5s,baz=9.5,slow=41						
TIC	**Toumodi**	**51.69**	**244**	*e*P	**P**	**09 09 55.2**	**-2.1**
	comp=Z,5.8nm,0.2s						
KIC	**Kosan Boka**	**51.70**	**243**	*e*P	**P**	**09 09 55.2**	**-2.1**
	comp=Z,51nm,1.3s						
CD2	**Chengdu**	**51.92**	**78**	*e*P	**P**	**09 09 59.9**	**+1.0**
LIC	**Lamto**	**52.00**	**243**	*e*P	**P**	**09 09 58.8**	**-0.7**
	comp=Z,34nm,1.1s						
LIC	**Lamto**	**52.00**	**243**	*e*P	**P**	**09 09 58.5**	**-1.0**
	comp=Z,41nm,1.1s						
LIC	**Lamto**	**52.00**	**243**	*e*P	**P**	**09 09 58.8**	**-0.7**
	comp=Z,34nm,1.1s						
LIC	**Lamto**	**52.00**	**243**	*e*P	**P**	**09 09 58.8**	**-0.7**
	comp=Z,34nm,1.1s						
TIXI	**Tiksi**	**53.38**	**23**⇓	*e*P	**P**	**09 10 11.1**	**+2.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIXI	**Tiksi**	**53.38**	**23**	*e*P	**P**	**09 10 09.2**	**+0.2**
	comp=Z,6.3nm,1.1s						
TIXI	**Tiksi**	**53.38**	**23**	*e*P	**P**	**09 10 09.2**	**+0.2**
	comp=Z,6.3nm,1.1s						
XAN	**Xi'an**	**54.42**	**72**	P	**P**	**09 10 17.0**	**-0.3**
XAN				pP	pP	09 10 23.3	+5.0
XAN				PMZ			
	comp=Z,1.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**54.55**	**94**	P	**P**	**09 10 20.7**	**+2.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**54.55**	**94**	P	**P**	**09 10 20.6**	**+2.4**
	comp=Z,1.5nm,0.3s,baz=298,slow=8.1,SNR=9.8						
LSZ	**Lusaka**	**54.88**	**194**	P	**P**	**09 10 22.7**	**+2.0**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LSZ	**Lusaka**	**54.88**	**194**	P	**P**	**09 10 22.7**	**+2.0**
	comp=Z,2.3nm,0.7s,baz=21,slow=13,SNR=5.2						
HIA	**Hailar**	**55.74**	**51**	*c i*P	**P**	**09 10 26.8**	**+0.3**
HIA				pmax	pmax		
	comp=Z,17nm,1.2s						
GYA	**Guiyang**	**56.30**	**81**	*e*P	**P**	**09 10 33.0**	**+2.0**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
BJI	**Beijing**	**57.06**	**63**	P	**P**	**09 10 35.4**	**-0.6**
BJI				S	**S**	**09 18 30.6**	**-0.8**
BJI				PMZ			
	comp=Z,6.0nm,0.5s						
BJI				PMZ			
	comp=Z,120nm,5.1s						
BJI				LN			
	comp=Z,590nm,12.8s						
BJI				LE			
	comp=Z,990nm,13.4s						
BJI				LZ			
	comp=Z,250nm,20.9s						
CN2	**Changchun**	**61.59**	**55**	*e*P	**P**	**09 11 06.3**	**-1.1**
CN2				*e*S	**S**	**09 19 24.5**	**-5.5**
CN2				PMZ			
	comp=Z,10.0nm,0.8s						
CN2				PMZ			
	comp=Z,300nm,6.0s						
CN2				LN			
	comp=Z,400nm,15.0s						
CN2				LE			
	comp=Z,800nm,15.0s						
CN2				LZ			
	comp=Z,500nm,16.0s						
PSI	**Prapat**	**64.25**	**108**	LR	LR	09 43 52.4	
	comp=Z,134nm,18.4s,slow=40						
LBTB	**Lobatse**	**64.86**	**195**	*e*P	**P**	**09 11 28.6**	**-0.6**
LBTB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LBTB	**Lobatse**	**64.86**	**195**	*e*P	**P**	**09 11 27.8**	**-1.4**
	comp=Z,9.8nm,0.9s						
LBTB	**Lobatse**	**64.86**	**195**	*e*P	**P**	**09 11 27.8**	**-1.4**
	comp=Z,9.8nm,0.9s						
BILL	**Bilibino**	**66.18**	**19**	*e*P	**P**	**09 11 38.8**	**+1.7**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BILL	**Bilibino**	**66.18**	**19**	*e*P	**P**	**09 11 38.8**	**+1.7**
	comp=Z,6.6nm,1.0s						
BILL	**Bilibino**	**66.18**	**19**	*e*P	**P**	**09 11 38.8**	**+1.7**
	comp=Z,6.6nm,1.0s						
KSAR	**Wonju Array Be**	**66.34**	**60**	P	**P**	**09 11 39.0**	**+0.3**
KSAR	**Wonju Array Be**	**66.34**	**60**	P	**P**	**09 11 39.0**	**+0.3**
KSAR	**Wonju Array Be**	**66.34**	**60**	P	**P**	**09 11 39.0**	**+0.3**
KSRS	**Korea Array**	**66.36**	**60**	P	**P**	**09 11 39.0**	**+0.2**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSRS	**Korea Array**	**66.36**	**60**	P	**P**	**09 11 39.0**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=299,slow=7.2,SNR=6.2						
BOSA	**Boshof**	**68.43**	**194**	P	**P**	**09 11 50.7**	**-1.3**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BOSA				MLR	MLR		
	comp=Z,197nm,19.8s						
BOSA	**Boshof**	**68.43**	**194**	P	**P**	**09 11 50.7**	**-1.3**
	comp=Z,2.3nm,0.5s,baz=12,slow=4.3,SNR=8.0						
BOSA				LR	LR	09 41 58.5	
	comp=Z,197nm,19.8s,baz=18,slow=36						
INK	**Inuvik**	**73.16**	**358**	P	**P**	**09 12 20.8**	**+0.6**
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
INK	**Inuvik**	**73.16**	**358**	P	**P**	**09 12 20.8**	**+0.6**
	comp=Z,3.8nm,1.1s						
MJAR	**Matsushiro Arr**	**73.70**	**56**	P	P	09 12 26.8	+2.8
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MJAR	**Matsushiro Arr**	**73.70**	**56**	P	P	09 12 26.8	+2.8
	comp=Z,2.6nm,0.9s,baz=297,slow=8.4,SNR=4.7						
TNA	**Tin City**	**73.76**	**12**	*e*P	**P**	**09 12 26.1**	**+2.4**
	comp=Z,32nm,1.9s						
TNA	**Tin City**	**73.76**	**12**	*e*P	**P**	**09 12 26.1**	**+2.4**
	comp=Z,32nm,1.9s						
COLD	**Coldfoot**	**74.06**	**4**	*e*P	P	09 12 28.3	+2.8
	comp=Z,10nm,1.0s						
COLD	**Coldfoot**	**74.06**	**4**	*e*P	P	09 12 28.3	+2.8
	comp=Z,10nm,1.0s						
FCC	**Fort Churchill**	**75.64**	**337**	*e*P	**P**	**09 12 36.1**	**+1.3**
FCC	**Fort Churchill**	**75.64**	**337**	*e*P	**P**	**09 12 36.0**	**+1.3**
FCC	**Fort Churchill**	**75.64**	**337**	*e*P	**P**	**09 12 36.0**	**+1.3**
COLA	**College**	**76.53**	**3**⇑	*e*P	P	09 12 42.3	+2.6
COLA				pmax	pmax		
	comp=Z,83nm,1.7s						
COLA	**College**	**76.53**	**3**	*e*P	P	09 12 42.5	+2.8
	comp=Z,11nm,0.9s						
COLA	**College**	**76.53**	**3**	*e*P	P	09 12 42.5	+2.8
	comp=Z,11nm,0.9s						
ILAR	**Eielson Array**	**76.67**	**3**	P	**P**	**09 12 40.3**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ILAR	**Eielson Array**	**76.67**	**3**	P	**P**	**09 12 40.2**	**-0.3**
	comp=Z,1.3nm,1.0s,baz=316,slow=3.9,SNR=11						
EGAK	**Eagle**	**76.81**	**1**	*e*P	P	09 12 44.0	+2.7
	comp=Z,17nm,1.3s						
EGAK	**Eagle**	**76.81**	**1**	*e*P	P	09 12 44.0	+2.7
	comp=Z,17nm,1.3s						
YKA	**Yellowknife Ar**	**77.06**	**348**	P	**P**	**09 12 43.0**	**+0.2**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**77.06**	**348**	P	**P**	**09 12 43.0**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=21,slow=5.9,SNR=33						
YKA	**Yellowknife Ar**	**77.06**	**348**	P	**P**	**09 12 43.0**	**+0.2**
YKA	**Yellowknife Ar**	**77.06**	**348**	P	**P**	**09 12 43.0**	**+0.2**
DAWY	**Dawson**	**77.53**	**360**	*e*P	P	09 12 48.5	+3.0
MCK	**McKinley**	**77.61**	**4**	*e*P	**P**	**09 12 48.4**	**+2.5**
MCK				pmax	pmax		
	comp=Z,100nm,2.1s						
MCK	**McKinley**	**77.61**	**4**	*e*P	**P**	**09 12 48.4**	**+2.5**
	comp=Z,100nm,2.1s						
MCK	**McKinley**	**77.61**	**4**	*e*P	**P**	**09 12 48.4**	**+2.5**
	comp=Z,100nm,2.1s						
CAST	**Castle Rocks**	**77.71**	**6**	*e*P	**P**	**09 12 48.2**	**+1.7**
	comp=Z,45nm,1.7s						
CAST	**Castle Rocks**	**77.71**	**6**	*e*P	**P**	**09 12 48.2**	**+1.7**
	comp=Z,45nm,1.7s						
DOT	**Dot Lake**	**77.89**	**2**	*e*P	P	09 12 50.5	+3.0
	comp=Z,42nm,1.9s						
ULM	**Lac du Bonnet**	**83.28**	**333**	P	**P**	**09 13 16.9**	**+0.3**
ULM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULM	**Lac du Bonnet**	**83.28**	**333**	P	**P**	**09 13 16.9**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=17,slow=3.5,SNR=3.0						
EDM	**Edmonton**	**85.56**	**344**	*e*P	P	09 13 30.7	+2.6
EDM	**Edmonton**	**85.56**	**344**	*e*P	P	09 13 30.7	+2.6
EDM	**Edmonton**	**85.56**	**344**	*e*P	P	09 13 30.7	+2.6
NEW	**Newport**	**91.03**	**345**	*e*P	**P**	**09 13 56.0**	**+1.7**
NEW				pmax	pmax		
	comp=Z,11nm,1.2s						
NEW	**Newport**	**91.03**	**345**	*e*P	**P**	**09 13 56.0**	**+1.7**
	comp=Z,11nm,1.2s						
NEW	**Newport**	**91.03**	**345**	*e*P	**P**	**09 13 56.0**	**+1.7**
	comp=Z,11nm,1.2s						
MSO	**Missoula**	**91.69**	**342**	*e*P	**P**	**09 13 58.7**	**+1.2**
	comp=Z,35nm,2.3s						
MSO	**Missoula**	**91.69**	**342**	*e*P	**P**	**09 13 58.7**	**+1.2**
	comp=Z,35nm,2.3s						
FLWY	**Flagg Ranch**	**93.42**	**339**	*e*P	P	09 14 10.5	+4.8
	comp=Z,26nm,1.8s						

GUC 08 09:07:15.6±0.3, 34°.64S×72°.09W, h27km±2km, ML3.8, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.80**	**118**⇑	*i*P	Pb	09 07 30.2	-0.7
NICH				*i* S	Sb	09 07 41.2	-0.2
LNCH	**Linares**	**1.27**	**162**	*e*P	Pn	09 07 37.9	+0.3
LNCH				*i* S	Sb	09 07 54.5	-0.5
ANTU	**Antumapu**	**1.61**	**49**	*i* P	Pn	09 07 43.3	+1.0
ANTU				*i* S	Sb	09 08 04.1	-0.7
ANTU				IAML		09 08 09.7	
	comp=N,1μm,0.3s						
IHA	**Instituto Hidr**	**1.65**	**13**⇑	*i*P	Pn	09 07 43.5	+0.8
IHA				*i* S	Sb	09 08 04.8	-0.9
STL	**Santa Lucia**	**1.70**	**46**	*e*P	Pn	09 07 44.4	+0.9
STL				*i* S	Sb	09 08 06.3	-0.9
CLCH	**Cerro Calan**	**1.79**	**47**⇓	*i*P	Pn	09 07 45.9	+1.1
CLCH				*i* S	Sb	09 08 09.3	-0.6
CLCH				IAML		09 08 16.8	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**1.89**	**39**⇓	*i*P	Pn	09 07 47.5	+1.3
PEL				*i* S	Sb	09 08 11.7	-1.1
PEL				IAML		09 08 18.0	
	comp=N,2μm,0.5s						

GUC 08 09:13:27.9±0.4, 35°.10S×72°.24W, h15km±3km, ML3.7, MS3.4, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.83**	**84**	*e*P	Pb	09 13 42.4	-1.7
NICH				*i* S	Sg	09 13 53.6	-1.5
LNCH	**Linares**	**0.91**	**145**	*i* P	Pb	09 13 43.5	-1.9
LNCH				*i* S	Sb	09 13 55.4	-1.9
LNV	**Longovilo**	**1.33**	**31**	*i* P	Pn	09 13 50.3	-1.6
LNV				*i* S	Sn	09 14 07.3	-2.0
CACH	**El Canelo**	**1.67**	**54**⇑	*i*P	Pn	09 13 56.0	-0.8
CACH				*i* S	Sn	09 14 17.4	-0.7
CHCH	**Chadas Angostu**	**1.75**	**49**	*i* P	Pn	09 13 57.2	-0.6
CHCH				*i* S	Sn	09 14 19.1	-0.9
ANTU	**Antumapu**	**2.02**	**41**	*i* P	Pn	09 14 01.4	-0.1
ANTU				*i* S	Sn	09 14 26.8	+0.2
ANTU				IAML		09 14 30.6	
	comp=N,823nm,0.3s						
CLCH	**Cerro Calan**	**2.21**	**40**	*i* P	Pn	09 14 04.2	+0.1
CLCH				*i* S	Sn	09 14 31.8	+0.5
CLCH				IAML		09 14 37.3	
	comp=E,547nm,0.2s						
PEL	**Peldehue**	**2.34**	**34**	*i* P	Pn	09 14 06.3	+0.4
PEL				*i* S	Sn	09 14 35.5	+1.1
PEL				IAML		09 14 47.2	
	comp=E,607nm,0.5s						
PEL				IVMs_BB	IVMs_BB	09 15 07.9	
	comp=Z,2μm,5.3s						

ISK ***08*** *09:21:58.7, 38°.82N×40°.10E, h2km, ML3.5*
DDA ***08*** *09:21:58.6, 38°.78N×40°.00E, h13km, MD3.4*
CSEM ***08*** *09:21:59.7±0.2, 38°.80N×40°.03E, h2km, ML3.5, Error ellipse: s-maj=5.9km s-min=5.3km az=7.0*

ISC 08 09:21:59.1±1.1, 38°.79N±0°.02×40°.06E±0°.02, h2km±10km, n60, σ0s99/80, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.34**	**76**	*i* Pg	**Pn**	**09 22 09.0**	**-2.3**
BNGB	**Bing¶ll**	**0.52**	**67**	PG	**Pg**	**09 22 09.0**	**-0.1**
DYBB	**Diyarbakir**	**0.84**	**176**	PG	**Pb**	**09 22 16.2**	**-0.3**
ERZN	**Erzincan**	**0.84**	**342**	PG	**Pg**	**09 22 15.3**	**+0.1**
BNGL	**BINGOL**	**0.86**	**79**	*i* P	**Pb**	**09 22 15.8**	**-1.2**
BNGL				*i* S	**Sn**	**09 22 29.6**	**-2.2**
DIY	**Diyarbakir**	**0.90**	**172**	*i* Pg	**Pg**	**09 22 16.2**	**-0.2**
EUZM	**Uzumlu**	**0.96**	**343**	*i* P	**Pb**	**09 22 17.6**	**-0.9**
EUZM	**Uzumlu**	**0.96**	**343**	*i* P	**Pb**	**09 22 17.6**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.10**	**125**	PN	**Pb**	**09 22 20.3**	**-0.5**
SVAN				*e*SN	**Sn**	**09 22 36.2**	**-1.1**
VRTB	**Varto-Mus**	**1.15**	**71**	PN	**Pb**	**09 22 20.9**	**-0.9**
VRTB	**Varto-Mus**	**1.15**	**71**	*i* Pn	**Pb**	**09 22 20.9**	**-0.9**
BTMT	**Batman**	**1.27**	**118**	PN	**Pn**	**09 22 23.5**	**-0.4**
BTMT	**Batman**	**1.27**	**118**	*i* Pn	**Pn**	**09 22 23.5**	**-0.4**
KOPT	**Kop Dagi**	**1.27**	**15**	*i* P	**Pg**	**09 22 22.9**	**-0.6**
KOPT				*i* S	**Sn**	**09 22 43.7**	**+1.7**
KOPT	**Kop Dagi**	**1.27**	**15**	*i* P	**Pg**	**09 22 22.9**	**-0.6**
KOPT				*i* S	**Sn**	**09 22 43.7**	**+1.7**
BEST	**Besiri**	**1.31**	**133**	*i* P	**Pb**	**09 22 24.0**	**-0.5**
BEST				*i* S	**Sn**	**09 22 42.6**	**+0.1**
KEMA	**Kemaliye**	**1.31**	**292**	*i* P	**Pg**	**09 22 22.5**	**-1.8**
KEMA				*i* S	**Sg**	**09 22 41.1**	**-0.2**
KEMA	**Kemaliye**	**1.31**	**292**	*i* P	**Pg**	**09 22 22.5**	**-1.8**
KEMA				*i* S	**Sg**	**09 22 41.1**	**-0.2**
ILIC	**ilic-Erzincan**	**1.34**	**300**	PN	**Pb**	**09 22 25.2**	**+0.3**
ILIC	**ilic-Erzincan**	**1.34**	**300**	*i* Pn	**Pb**	**09 22 25.3**	**+0.3**
MAZI	**Mazidag**	**1.36**	**167**	PN	**Pb**	**09 22 25.7**	**+0.3**
MAZI	**Mazidag**	**1.36**	**167**	*i* Pn	**Pb**	**09 22 25.7**	**+0.3**
MALT	**Malatya**	**1.37**	**250**	PN	**Pb**	**09 22 26.1**	**+0.6**
MALT	**Malatya**	**1.37**	**250**	*i* Pn	**Pb**	**09 22 26.1**	**+0.6**
KELT	**Kelkit**	**1.49**	**336**	*i* P	**Pg**	**09 22 28.1**	**+0.3**
KELT				*i* S	**Sn**	**09 22 46.8**	**-0.5**
KELT	**Kelkit**	**1.49**	**336**	*i* P	**Pg**	**09 22 28.1**	**+0.3**
KELT				*i* S	**Sn**	**09 22 46.8**	**-0.5**
EZM	**Erzurum**	**1.50**	**42**	PN	**Pb**	**09 22 26.9**	**-1.0**
ERZM	**Erzurum**	**1.50**	**42**	*i* P	**Pg**	**09 22 27.4**	**-0.6**
ERZM	**Erzurum**	**1.50**	**42**	*i* P	**Pg**	**09 22 27.4**	**-0.6**
MARD	**Mardin**	**1.58**	**159**	*i* P	**Pn**	**09 22 28.1**	**-0.1**
MARD				*i* S	**Sn**	**09 22 48.5**	**-0.8**
BAYT	**Ayd¨–ntepe-Bay**	**1.60**	**2**	PN	**Pb**	**09 22 28.4**	**-1.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.60**	**2**	*i* Pn	**Pb**	**09 22 28.4**	**-1.1**
EKAR	**Karacoban**	**1.63**	**73**	*i* P	**Pg**	**09 22 30.5**	**+0.2**
EKAR				*i* S	**Sg**	**09 22 53.9**	**+2.4**
EKAR	**Karacoban**	**1.63**	**73**	*i* P	**Pg**	**09 22 30.5**	**+0.2**
EKAR				*i* S	**Sg**	**09 22 53.9**	**+2.4**
URFA	**Urfa**	**1.67**	**216**	PN	**Pb**	**09 22 30.3**	**-0.2**
URFA	**Urfa**	**1.67**	**216**	*i* Pn	**Pb**	**09 22 30.3**	**-0.2**
GUMT	**Gumushane**	**1.73**	**345**	PN	**Pb**	**09 22 30.5**	**-1.1**
GUMT	**Gumushane**	**1.73**	**345**	*i* Pn	**Pb**	**09 22 30.5**	**-1.1**
TATV	**Tatvan**	**1.75**	**99**	*i* P	**Pg**	**09 22 31.8**	**-0.9**
TATV				*i* S	**Sg**	**09 22 57.0**	**+1.6**
TATV	**Tatvan**	**1.75**	**99**	*i* P	**Pg**	**09 22 31.8**	**-0.9**
TATV				*i* S	**Sg**	**09 22 57.0**	**+1.6**
HOMI	**Horasan**	**1.90**	**48**	*i* P	**Pg**	**09 22 34.7**	**-0.9**
ATAB	**Bozova**	**1.92**	**227**	*i* P	**Pn**	**09 22 33.3**	**+0.5**
ATAB				*i* S	**Sb**	**09 22 59.1**	**-0.1**
ATAB	**Bozova**	**1.92**	**227**	*i* P	**Pn**	**09 22 33.3**	**+0.5**
ATAB				*i* S	**Sb**	**09 22 59.1**	**-0.1**
SUSE	**Susehri**	**2.02**	**315**	*i* P	**Pb**	**09 22 36.9**	**+0.3**
SUSE				*i* S	**Sg**	**09 23 03.4**	**-0.6**
SUSE	**Susehri**	**2.02**	**315**	*i* P	**Pb**	**09 22 36.9**	**+0.3**
SUSE				*i* S	**Sg**	**09 23 03.4**	**-0.6**
DARE	**Darende-Malaty**	**2.03**	**265**	PN	**Pn**	**09 22 35.7**	**+1.3**
DARE	**Darende-Malaty**	**2.03**	**265**	*i* Pn	**Pn**	**09 22 35.7**	**+1.3**
ESPY	**Espiye-Giresun**	**2.36**	**335**	PN	**Pn**	**09 22 39.6**	**+0.7**
ESPY	**Espiye-Giresun**	**2.36**	**335**	*i* Pn	**Pn**	**09 22 39.6**	**+0.7**
GEVA	**Gevas**	**2.40**	**101**	*i* P	**Pb**	**09 22 42.7**	**-0.4**
GEVA	**Gevas**	**2.40**	**101**	*i* P	**Pb**	**09 22 42.7**	**-0.4**
GEVA				*

	baz=66							
CHN8	**Yiju**	**0.32**	**254**	⇑	*i*P	**Pb**	**09 26 30.0**	**-0.5**
	baz=260							
CHN8					*i* S	**Sb**	**09 26 35.9**	**+0.5**
	baz=260							
STYT	**Tauyuan**	**0.34**	**144**	⇑	*i*P	**Pg**	**09 26 30.0**	**-0.3**
	baz=141							
SGST	**Jiashian**	**0.35**	**174**	⇓	*i*P	**Pg**	**09 26 30.3**	**-0.3**
SGST	baz=174				*e*S	**Sb**	**09 26 35.8**	**-0.8**
	baz=174							
WSF	**Szhu**	**0.35**	**305**	⇑	*i*P	**Pb**	**09 26 31.3**	**+0.1**
	baz=308							
WSF					*i* S	**Sb**	**09 26 38.0**	**+1.5**
	baz=308							
YUS	**Yu-Shan**	**0.38**	**82**	⇑	*i*P	**Pb**	**09 26 31.8**	**-0.2**
	baz=77							
CHN3	**Shinhua**	**0.39**	**204**	⇓	*i*P	**Pb**	**09 26 31.9**	**0.0**
	baz=219							
CHN3					*e*S	**Sb**	**09 26 39.0**	**+1.3**
	baz=219							
SCLT	**Jiali**	**0.41**	**231**	⇓	*i*P	**Pb**	**09 26 31.9**	**-0.3**
	baz=235							
SCLT					S	**Sb**	**09 26 39.2**	**+1.0**
	baz=235							
WNT	**Mingjian**	**0.46**	**17**	⇓	*i*P	**Pb**	**09 26 33.6**	**+0.6**
	baz=14							
WNT					*e*S	**Sb**	**09 26 41.0**	**+1.4**
	baz=14							
TAI1	**Yung-k'ang**	**0.49**	**216**	⇓	*i*P	**Pb**	**09 26 33.6**	**+0.2**
	baz=228							
TAI1					*e*S	**Sb**	**09 26 41.4**	**+1.1**
	baz=228							
WTCT	**Ta-ch'eng**	**0.49**	**331**	⇑	*i*P	**Pb**	**09 26 33.6**	**+0.1**
	baz=331							
WTCT					*e*S	**Sb**	**09 26 41.8**	**+1.4**
	baz=331							
ELDTW	**Lidau**	**0.50**	**119**	⇑	*i*P	**Pg**	**09 26 33.1**	**-0.2**
	baz=108							
ELDTW					*e*S	**Sg**	**09 26 40.2**	**+0.1**
	baz=108							
SSLB	**Suanglung**	**0.52**	**47**		*e*Pg	**Pb**	**09 26 33.8**	**-0.2**
SSLB					*e*Sg	**Sb**	**09 26 41.1**	**-0.2**
TYC	**Yuchr**	**0.55**	**32**	⇓	*i*P	**Pb**	**09 26 35.0**	**+0.5**
	baz=30							
SMLT	**Sun Moon Lake**	**0.55**	**36**	⇓	*i*P	**Pb**	**09 26 35.0**	**+0.3**
	baz=34							
TWM1	**Shoushan**	**0.62**	**190**	⇓	*i*P	**Pn**	**09 26 36.7**	**-0.7**
	baz=177							
SSD	**Sandimen**	**0.69**	**173**	⇓	*i*P	**Pb**	**09 26 36.6**	**-0.3**
	baz=174							
SSD					S	**Sb**	**09 26 46.5**	**+0.3**
	baz=174							
YULB	**Yu-li**	**0.70**	**93**		*e*Pg	**Pg**	**09 26 36.2**	**-0.7**
YULB					*e*Sg	**Sg**	**09 26 45.2**	**-1.0**
TWF1	**Yuli**	**0.70**	**97**	⇑	*i*P	**Pg**	**09 26 36.9**	**-0.1**
	baz=94							
SGLT	**Jiouru**	**0.71**	**184**		*e*P	**Pn**	**09 26 37.9**	**-0.7**
	baz=174							
SGLT					*e*S	**Sn**	**09 26 50.5**	**+1.3**
	baz=174							
TCU	**Taichung**	**0.72**	**10**	⇓	*i*P	**Pb**	**09 26 37.8**	**+0.4**
	baz=355							
TCU					*e*S	**Sn**	**09 26 49.0**	**-0.5**
	baz=355							
EHY	**Hungye**	**0.72**	**84**	⇑	*i*P	**Pb**	**09 26 37.4**	**-0.1**
	baz=90							
EHY					S	**Sb**	**09 26 47.1**	**0.0**
	baz=90							
TWG	**Pinlang**	**0.78**	**141**	⇑	*i*P	**Pg**	**09 26 38.1**	**-0.4**
	baz=131							
TWG					*e*S	**Sb**	**09 26 48.8**	**-0.1**
	baz=131							
TWG	**Pinlang**	**0.78**	**141**		*e*Pg	**Pg**	**09 26 37.9**	**-0.7**
WDGT	**Dungji**	**0.83**	**258**	⇑	*i*P	**Pg**	**09 26 38.4**	**-1.0**
	baz=260							
WDGT					*e*S	**Sg**	**09 26 49.7**	**-0.6**
	baz=260							
CHKT	**Chengkung**	**0.83**	**114**	⇑	*i*P	**Pb**	**09 26 39.7**	**+0.4**
	baz=112							
CHKT					*e*S	**Sn**	**09 26 52.0**	**-0.2**
	baz=112							
TTN	**Taitung**	**0.88**	**140**	⇑	P	**Pn**	**09 26 40.6**	**-0.4**
	baz=140							
TTN					*e*S	**Sn**	**09 26 54.1**	**+0.7**
	baz=140							
KAU	**Kaohsiung**	**0.89**	**194**		*e*P	**Pn**	**09 26 41.1**	**-0.1**
	baz=197							
KAU					*e*S	**Sn**	**09 26 53.5**	**-0.2**
	baz=197							
ESL	**Shilin**	**0.90**	**65**	⇓	*i*P	**Pg**	**09 26 40.6**	**-0.2**
	baz=62							
ESL					*e*S	**Sn**	**09 26 53.4**	**-0.6**
	baz=62							
PNG	**Penghu**	**0.92**	**278**	⇑	*i*P	**Pb**	**09 26 40.0**	**-0.8**
	baz=280							
PNG					*e*S	**Sb**	**09 26 52.5**	**-0.1**
	baz=280							
ECL	**Taimali**	**0.92**	**155**	⇑	*i*P	**Pb**	**09 26 40.5**	**-0.4**
	baz=146							
ECL					*e*S	**Sg**	**09 26 53.0**	**-0.1**
	baz=146							
TWQ1	**Liyutan**	**0.93**	**13**	⇓	*i*P	**Pn**	**09 26 41.6**	**-0.1**
	baz=359							
TWQ1					*e*S	**Sn**	**09 26 55.3**	**+0.5**
	baz=359							
TEGC	**Jichi Village**	**0.96**	**73**		*e*P	**Pn**	**09 26 43.1**	**+1.1**
	baz=60							
TEGC					*e*S	**Sn**	**09 26 56.4**	**+1.0**
	baz=60							
WHF	**Hehuan Shan**	**0.97**	**43**	⇓	*i*P	**Pg**	**09 26 41.9**	**-0.2**
	baz=41							
ESF	**Shoufeng Towns**	**0.99**	**64**		*e*P	**Pn**	**09 26 43.0**	**+0.5**
	baz=61							
ESF					*e*S	**Sn**	**09 26 56.0**	**-0.1**
	baz=61							
NSY	**Sanyi**	**1.00**	**12**	⇓	*i*P	**Pn**	**09 26 42.9**	**+0.3**
	baz=358							
NSY					*e*S	**Sn**	**09 26 57.9**	**+1.5**
	baz=358							
TWT	**Tachien**	**1.00**	**35**	⇓	*i*P	**Pb**	**09 26 41.9**	**-0.5**
	baz=32							
TWT					*e*S	**Sg**	**09 26 56.3**	**+0.5**
	baz=32							
SCZT	**Fangliau**	**1.06**	**176**	⇓	P	**Pb**	**09 26 42.8**	**-0.4**
	baz=168							
SCZT					*e*S	**Sn**	**09 26 59.0**	**+1.0**
	baz=168							
EAST	**Anshuo**	**1.09**	**165**		P	**Pb**	**09 26 43.4**	**-0.3**
	baz=166							
EAST					*e*S	**Sn**	**09 26 59.1**	**+0.5**
	baz=166							
TWP	**Hsiaoliuchiu**	**1.10**	**189**		*e*P	**Pg**	**09 26 45.8**	**+1.3**
	baz=212							
TWP					*e*S	**Sn**	**09 27 02.5**	**+3.7**
	baz=212							
HWA	**Hwalien**	**1.11**	**61**		*e*P	**Pg**	**09 26 44.5**	**-0.3**
	baz=59							
HWA					*e*S	**Sn**	**09 27 00.2**	**+1.0**
	baz=59							
TAW	**Tawu**	**1.12**	**163**		*e*P	**Pb**	**09 26 44.1**	**-0.2**
	baz=170							
TAW					*e*S	**Sn**	**09 26 59.5**	**0.0**
	baz=170							
TWD	**Chiawan**	**1.16**	**56**		P	**Pn**	**09 26 44.8**	**0.0**
	baz=54							
TWD					*e*S	**Sg**	**09 27 01.1**	**+0.3**
	baz=54							
NACB	**Ninganchiao**	**1.21**	**53**		*e*P	**Pn**	**09 26 45.3**	**-0.3**
NACB					*e*S	**Sb**	**09 27 01.4**	**+0.1**
NNS	**Nan Shan**	**1.26**	**37**	⇓	*i*P	**Pn**	**09 26 46.4**	**+0.1**
	baz=35							
NNS					*e*S	**Sg**	**09 27 04.8**	**+0.9**
	baz=35							
NSTT	**Nanjuang**	**1.26**	**19**	⇓	*i*P	**Pn**	**09 26 46.5**	**+0.2**
	baz=17							
NSTT					*e*S	**Sg**	**09 27 04.2**	**+0.1**
	baz=17							
EHP	**Heping Village**	**1.40**	**51**		*e*P	**Pb**	**09 26 49.5**	**+0.4**
	baz=65							
HSN	**Hsinchu**	**1.42**	**16**	⇓	P	**Pb**	**09 26 49.3**	**0.0**
	baz=14							
HSN					*e*S	**Sg**	**09 27 09.0**	**0.0**
	baz=14							
HEN	**Hengchun**	**1.44**	**173**		*e*P	**Pn**	**09 26 48.9**	**+0.3**
	baz=165							
HEN					*e*S	**Sg**	**09 27 10.4**	**+0.8**
	baz=165							
NSK	**Sanguang**	**1.44**	**31**	⇓	P	**Pb**	**09 26 49.4**	**-0.4**
	baz=15							
NSK					*e*S	**Sg**	**09 27 09.4**	**-0.5**
	baz=15							
YHNB	**Yeheng**	**1.45**	**32**		*e*Pn	**Pn**	**09 26 49.2**	**+0.4**
YHNB					*e*Sn	**Sn**	**09 27 07.3**	**-0.3**
ENA	**Nanau**	**1.48**	**48**		*e*P	**Pb**	**09 26 49.9**	**-0.5**
	baz=35							
ENA					*e*S	**Sg**	**09 27 10.3**	**-0.6**
	baz=35							
TWK1	**Hengchun**	**1.51**	**171**		*e*P	**Pn**	**09 26 48.5**	**-1.1**
	baz=173							
TWK1					*e*S	**Sb**	**09 27 10.1**	**+0.4**
	baz=173							
ENTT	**Nioudou**	**1.52**	**38**		*e*P	**Pb**	**09 26 50.7**	**-0.4**
	baz=27							
ENTT					*e*S	**Sg**	**09 27 12.3**	**-0.1**
	baz=27							
TSEB	**Hengchuen, Pin**	**1.56**	**168**		*e*P	**Pb**	**09 26 52.0**	**+0.1**
	baz=171							
TSEB					*e*S	**Sg**	**09 27 15.4**	**+1.7**
	baz=171							
NCU	**National Centr**	**1.64**	**21**		*e*P	**Pn**	**09 26 51.8**	**+0.3**
	baz=4.0							
NCU					*e*S	**Sb**	**09 27 13.6**	**+0.1**
	baz=4.0							
TWE	**Neicheng**	**1.64**	**39**		*e*P	**Pb**	**09 26 52.8**	**-0.4**
	baz=36							
TWE					*e*S	**Sg**	**09 27 16.7**	**+0.5**
	baz=36							
TWC	**Suao**	**1.67**	**45**	⇓	*e*P	**Pb**	**09 26 53.5**	**-0.2**
	baz=35							
TWC					*e*S	**Sg**	**09 27 17.2**	**0.0**
	baz=35							
LAY	**Lan-yu**	**1.67**	**146**		*e*P	**Pn**	**09 26 51.4**	**-0.6**
	baz=147							
LAY					*e*S	**Sb**	**09 27 15.1**	**+0.5**
	baz=147							
ILA	**Ilan**	**1.72**	**40**		*e*P	**Pb**	**09 26 54.5**	**0.0**
	baz=37							
ILA					*e*S	**Sg**	**09 27 18.3**	**-0.5**
	baz=37							
TATO	**Taipei**	**1.76**	**29**		*e*Pn	**Pn**	**09 26 53.3**	**+0.2**
TWA	**Mucha**	**1.81**	**32**	⇓	*e*P	**Pn**	**09 26 54.5**	**+0.7**
	baz=11							
TWA					*e*S	**Sb**	**09 27 18.0**	**-0.5**
	baz=11							
TAP	**Taipei**	**1.82**	**29**		*e*P	**Pn**	**09 26 54.5**	**+0.6**
	baz=26							
TAP					*e*S	**Sb**	**09 27 18.6**	**-0.3**
	baz=26							
TAP1	**Taipei**	**1.83**	**29**		*e*P	**Pn**	**09 26 54.3**	**+0.2**
	baz=26							
TAP1					*e*S	**Sb**	**09 27 18.7**	**-0.4**
	baz=26							
TWS1	**Kuangyinshan**	**1.84**	**26**	⇓	*e*P	**Pn**	**09 26 54.8**	**+0.6**
	baz=22							
TWS1					*e*S	**Sb**	**09 27 19.4**	**+0.1**
	baz=22							
EGS		**1.89**	**42**		*e*P	**Pb**	**09 26 57.2**	**-0.3**
	baz=39							
EGS					*e*S	**Sg**	**09 27 25.0**	**+0.8**
	baz=39							
NWF	**Wu-fen Shan**	**1.98**	**35**	⇓	*e*P	**Pn**	**09 26 56.9**	**+0.7**
	baz=13							
NWF					*e*S	**Sg**	**09 27 27.5**	**+0.4**
	baz=13							
TWB1	**Santiao Chiao**	**2.05**	**40**		*e*P	**Pn**	**09 26 58.2**	**+1.2**
	baz=19							
TWB1					*e*S	**Sb**	**09 27 25.6**	**+0.2**
	baz=19							
TWY	**Chenhua**	**2.07**	**28**		*e*P	**Pn**	**09 26 57.8**	**+0.5**
	baz=24							
TWY					*e*S	**Sb**	**09 27 26.2**	**+0.2**
	baz=24							
KNM	**Kinmen**	**2.16**	**297**	⇑	*e*P	**Pn**	**09 26 59.1**	**+0.5**
	baz=297							
KNM					*e*S	**Sb**	**09 27 26.9**	**-1.7**
	baz=297							
QZH	**Quanzhou**	**2.33**	**311**	⇓	*i*Pn	**Pn**	**09 26 59.6**	**-1.3**
QZH					Sn	**Sn**	**09 27 26.7**	**-2.5**
QZH					SMN			
	10μm,0.9s							
QZH					SME			
	10μm,0.7s							
QZH					LZ			
	7μm,9.4s							
JYNG	**Yonagunijimaku**	**2.42**	**65**		P	**Pn**	**09 27 02.9**	**+0.7**
JYNG					*e*S	**Sn**	**09 27 33.4**	**+1.9**
YOJ	**Yonaguni jima**	**2.48**	**65**		P	**Pn**	**09 27 03.7**	**+0.7**
YOJ					*e*S	**Sn**	**09 27 35.0**	**+2.0**
YOJ	**Yonaguni jima**	**2.48**	**65**	⇑	*i*P	**Pn**	**09 27 03.7**	**+0.7**
	baz=61							
YOJ					*e*S	**Sb**	**09 27 36.0**	**-1.8**
	baz=61							
YOJ	**Yonaguni jima**	**2.48**	**65**		*e*Pn	**Pn**	**09 27 03.5**	**+0.5**
IRIF	**Iriomote-Funau**	**3.05**	**72**		P	**Pn**	**09 27 11.8**	**+0.9**
IRIF					S	**Sn**	**09 27 49.0**	**+1.9**
HATJ	**Hateruma jima**	**3.05**	**78**		P	**Pn**	**09 27 11.5**	**+0.6**
HATJ					S	**Sn**	**09 27 48.1**	**+1.0**
JKRS	**Kuro-shima**	**3.27**	**75**		P	**Pn**	**09 27 14.8**	**+0.9**
JKRS					S	**Sn**	**09 27 54.3**	**+1.7**
JIJ	**Ishigaki jima**	**3.42**	**74**		P	**Pn**	**09 27 16.2**	**+0.2**
JIJ					S	**Sn**	**09 27 57.2**	**+0.9**
JISG	**Ishigakijimahi**	**3.63**	**71**		P	**Pn**	**09 27 19.0**	**+0.1**
JISG					S	**Sn**	**09 28 01.9**	**+0.5**
JTJ	**Tarama**	**3.99**	**72**		P	**Pn**	**09 27 24.5**	**+0.7**
JTJ					S	**Sn**	**09 28 11.2**	**+1.0**
JIRB	**Irabujima**	**4.45**	**71**		P	**Pn**	**09 27 29.9**	**-0.2**
JIRB					S	**Sn**	**09 28 21.8**	**+0.1**
JIKM	**Ikemajima**	**4.55**	**70**		P	**Pn**	**09 27 31.9**	**+0.5**
JIKM					S	**Sn**	**09 28 24.6**	**+0.6**
JMJ	**Miyako jima 2**	**4.55**	**72**		P	**Pn**	**09 27 32.4**	**+0.9**
JMJ					S	**Sn**	**09 28 25.0**	**+0.8**
JOGS	**Gusukube**	**4.64**	**73**		P	**Pn**	**09 27 33.9**	**+1.2**
JOGS					S	**Sn**	**09 28 27.1**	**+0.9**
JKE	**Kume jima 2**	**6.36**	**62**		P	**Pn**	**09 27 57.7**	**+1.4**
JKE					*e*S	**Sn**	**09 29 11.8**	**+3.1**
GZH	**Guangzhou**	**6.63**	**268**		P	Pn	09 27 55.5	-4.5
GZH					S	**Sn**	**09 29 10.6**	**-4.7**
GZH					SMN			
	2μm,0.9s							
GZH					SME			
	860nm,0.8s							
JOW	**Kunigami**	**7.78**	**63**		P	**Pn**	**09 28 14.6**	**-1.2**
JOW	**Kunigami**	**7.78**	**63**		Pn	**Pn**	**09 28 14.7**	**-1.2**
	1.1nm,0.3s,baz=161,slow=11,SNR=23							
JOW					Sn	**Sn**	**09 29 45.0**	**+1.3**
	0.1nm,0.3s,baz=119,slow=29,SNR=2.0							
JOW	**Kunigami**	**7.78**	**63**		*e*P	**Pn**	**09 28 14.7**	**-1.2**
	baz=63							
JOKE	**Okinoerabujima**	**8.24**	**60**		P	**Pn**	**09 28 21.3**	**-1.0**
NJ2	**Nanjing**	**8.71**	**350**		*e*P	**Pn**	**09 28 30.3**	**+1.7**
NJ2					S	**Sn**	**09 30 01.2**	**-5.3**
NJ2					PMZ			
	30nm,0.6s							
NJ2					SMN			
	760nm,0.8s							
NJ2					SME			
	440nm,0.8s							
NJ2					LN			
	4μm,6.0s							
NJ2					LE			
	2μm,13.0s							
NJ2					LZ			
	2μm,12.3s							
JTK	**Tokunoshima**	**8.74**	**59**		P	**Pn**	**09 28 27.5**	**-1.5**
WHN	**Wuhan**	**8.98**	**323**	⇑	P	**Pn**	**09 28 31.7**	**-0.6**
WHN					LN			
	4μm,8.4s							
WHN					LE			
	4μm,6.4s							
WHN					LZ			
	4μm,11.4s							
JAMN	**Amaminishikomi**	**9.13**	**57**		P	**Pn**	**09 28 32.5**	**-1.9**
TGY	**Tagaytay City**	**9.29**	**178**		LR	LR	09 32 25.7	
	comp=Z,41nm,18.7s,baz=300,slow=40							
JAM	**Amami Oshima**	**9.54**	**57**		P	**Pn**	**09 28 38.3**	**-1.8**
XAN	**Xi'an**	**14.67**	**319**		P	P	09 30 03.3	+6.9
XAN					S	Sn	09 32 20.6	-12
XAN					pmax	pmax		
	comp=Z,8.0nm,1.2s							
XAN					LR	LR		
	comp=N,470nm,8.8s							
XAN					LR	LR		
	comp=Z,320nm,12.4s							
KSAR	**Wonju Array Be**	**15.32**	**23**		Pn	**P**	**09 30 01.4**	**-2.2**
KSRS	**Korea Array**	**15.34**	**23**		Pn	**Pn**	**09 30 01.4**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=200,slow=13,SNR=12							
KSRS					LR	LR	09 36 09.1	
	comp=Z,205nm,18.3s,baz=210,slow=38							
SLVN	**Son La**	**15.53**	**265**		*e*Pn	**Pn**	**09 30 02.9**	**+1.2**
	comp=Z,14nm,1.0s							
LZH	**Lanzhou**	**19.18**	**315**		*e*P	**Pn**	**09 30 49.3**	**+2.0**
LZH					pP	**pP**	**09 30 51.5**	**+0.6**
LZH					sP	**sP**	**09 30 54.0**	**+1.0**
LZH					*e*S	**Sn**	**09 34 18.2**	**-3.8**
LZH					sS	**S**	**09 34 24.5**	**+1.1**
LZH					*e*SS	**SnSn**	**09 34 43.2**	**+7.0**
LZH					PMZ			
	comp=Z,52nm,1.2s							
LZH					PMZ			
	comp=Z,200nm,5.0s							
LZH					LN			
	comp=Z,420nm,10.1s							
LZH					LE			
	comp=Z,900nm,10.6s							
LZH					LZ			
	comp=Z,1μm,11.5s							
JCJ	**Chichijima**	**19.91**	**75**		LR	LR	09 37 06.1	
	comp=Z,136nm,21.3s,baz=14,slow=33							
MJAR	**Matsushiro Arr**	**20.08**	**45**		P	**P**	**09 30 56.1**	**0.0**
	comp=Z,3.3nm,0.8s,baz=235,slow=9.1,SNR=7.7							
MJAR					LR	LR	09 39 18.1	
	comp=Z,268nm,21.2s,baz=255,slow=39							
CHTO	**Chiang Mai**	**20.66**	**261**		*e*P	**P**	**09 31 02.7**	**+0.2**
	comp=Z,8.9nm,1.0s							
CMAR	**Chiang Mai Arr**	**20.76**	**260**		P	**P**	**09 31 04.2**	**+0.6**
	comp=Z,3.3nm,0.7s,baz=60,slow=8.4,SNR=13							
MDJ	**Mudanjiang**	**22.39**	**17**		*e*P	**P**	**09 31 20.7**	**-0.2**
	comp=Z,3.8nm,0.6s							
USRK	**Ussuriysk Ar.**	**22.75**	**22**		P	**P**	**09 31 24.6**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=123,slow=7.0,SNR=6.5							
USRK					LR	LR	09 40 52.0	
	comp=Z,238nm,18.8s,baz=208,slow=38							
GTA	**Gaotai**	**23.71**	**317**		*e*P	P	09 31 40.6	+5.9
GTA					pP	pP	09 31 45.1	+5.6
GTA					sP	sP	09 31 47.7	+6.2
GTA					S	**S**	**09 35 53.8**	**+4.5**
GTA					sS	sS	09 36 00.9	+3.6
GTA					SS	SnSn	09 36 44.8	+17
GTA					pmax	pmax		
	comp=Z,4.0nm,1.5s							
GTA					pmax	pmax		
	comp=Z,120nm,5.7s							
GTA					LR	LR		
	comp=N,370nm,19.0s							
GTA					LR	LR		
	comp=E,510nm,18.0s							
GTA					LR	LR		
	comp=Z,560nm,16.6s							
ULN	**Ulaanbaatar**	**26.65**	**340**		*e*P	**P**	**09 32 00.5**	**-0.9**
	comp=Z,5.7nm,0.9s							
SONM	**Songino Array**	**26.84**	**339**		P	**P**	**09 32 03.2**	**+0.2**
	comp=Z,3.6nm,1.0s,baz=157,slow=10.0,SNR=19							
SONM					LR	LR	09 44 00.9	
	comp=Z,210nm,19.1s,baz=337,slow=39							
LSA	**Lhasa**	**26.97**	**290**		P	**P**	**09 32 07.6**	**+2.7**
ASAJ	**Asahikawa**	**27.44**	**36**		P	**P**	**09 32 07.9**	**-0.5**
	comp=Z,3.4nm,0.4s,baz=219,slow=8.0,SNR=4.2							
TLY	**Talaya**	**31.06**	**339**		P	**P**	**09 32 40.4**	**0.0**
	comp=Z,2.4nm,0.6s,baz=50,slow=7.9,SNR=4.0							
MKAR	**Makanchi Array**	**38.47**	**317**		P	**P**	**09 33 43.4**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=108,slow=10,SNR=10							
ZALV	**Zalesovo Beam**	**40.56**	**328**		P	**P**	**09 34 01.7**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=120,slow=8.8,SNR=13							
KSH	**Kashi**	**40.82**	**304**		*e*P	**P**	**09 34 07.1**	**+2.8**
KURK	**Kurchatov**	**42.29**	**321**		P	**P**	**09 34 16.5**	**+0.5**
KURBB	**Kurchatov Arra**	**42.30**	**321**		P	**P**	**09 34 16.5**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=116,slow=7.3,SNR=5.4							
COEN	**Coen**	**43.26**	**147**		*e*P	**P**	**09 34 21.9**	**-2.4**
	comp=Z,26nm,0.5s							
WRA	**Warramunga Arr**	**45.17**	**162**		P	**P**	**09 34 36.4**	**-3.0**
	comp=Z,1.4nm,0.5s,baz=346,slow=8.7,SNR=26							
WB2	**Warramunga Arr**	**45.17**	**162**		*e*P	**P**	**09 34 36.5**	**-3.0**
BVAR	**Borovoye Array**	**47.88**	**321**		P	**P**	**09 35 01.0**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=114,slow=9.3,SNR=7.4							
TIXI	**Tiksi**	**48.47**	**4**		*e*P	**P**	**09 35 02.8**	**-2.0**
	comp=Z,3.1nm,0.8s							
ASAR	**Alice Springs**	**48.59**	**164**		P	**P**	**09 35 04.8**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=21,slow=12,SNR=15							
GEYT	**Alibeck**	**54.67**	**301**		P	**P**	**09 35 53.2**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=339,slow=3.6,SNR=1.9							
AKTO	**Aktyubinsk**	**54.90**	**316**		P	**P**	**09 35 53.3**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=43,slow=4.3,SNR=3.5							
KBZ	**Khabaz**	**65.49**	**309**		P	**P**	**09 37 06.7**	**+1.0**
	comp=Z,3.2nm,1.0s,baz=143,slow=8.2,SNR=4.0							
ILAR	**Eielson Array**	**70.14**	**27**		P	**P**	**09 37 33.5**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=282,slow=5.8,SNR=7.6							
FINES	**FINESS Array B**	**71.79**	**330**		P	**P**	**09 37 44.6**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=95,slow=4.8,SNR=5.4							
YKA	**Yellowknife Ar**	**83.88**	**23**		P	**P**	**09 38 50.8**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=316,slow=4.8,SNR=28							
MCMT	**McKenzie Canyo**	**96.43**	**35**		*e*P	**P**	**09 39 53.3**	**+1.1**
	comp=Z,2.0nm,0.7s							
RLMT	**Red Lodge**	**98.07**	**33**		*e*P	**P**	**09 39 56.6**	**-2.9**
	comp=Z,4.0nm,0.6s							

*ISCJB **08** 09:27:11.2±1.2, 33°.82S±0°.03×72°.28W±0°.06, h23km±8km, mb4.7/80, MS4.7/4, Error ellipse: s-maj=7.9km s-min=4.7km az=173.0*

*GUC **08** 09:27:11.0±0.6, 33°.82S×72°.32W, h30km±5km, ML4.7*

*NEIC **08** 09:27:12.7±0.5, 33.82S×72°.13W, h25km±3km, mb4.9/67, ML4.7(GUC), Error ellipse: s-maj=4.8km s-min=3.7km az=58.0*

NEIC Felt [III] at San Antonio and [II] at Valparaiso.

*BJI **08** 09:27:13.5, 33°.70S×71°.80W, h28km, mB5.3/6, Ms5.6/6, Ms7 5.1/6*

*IDC **08** 09:27:14.7±2.8, 33°.78S×72°.04W, h39km±23km, mb4.2/15, mb1 4.3/19, mb1mx4.3/22, mbtmp4.4/19, ML4.4/4, MS4.5/7, Ms1 4.5/7, ms1mx4.1/27, Error ellipse: s-maj=21.4km s-min=12.7km az=89.0*

ISC 08 09:27:13.2±0.5, 33°.83S±0°.03×72°.15W±0°.05, h31km±3km, h31km:pP-P, n487, σ0°.96/536, mb4.9/80, MS4.6/4, 164C-169D, Off coast of central Chile

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

LNCH	Linares	2.07	168	eP	Pn	09 27 45.5 -0.3
LNCH				eS	Sn	09 28 11.7 +1.2
LNCH				AML	AML	09 28 27.6
	comp=E,14µm,0.7s					
LNCH	Linares	2.07	168	eP	Pn	09 27 45.5 -0.3
LNCH				eS	Sn	09 28 11.7 +1.2
CFAA	Coronel Fontan	3.97	57	Pn	Pn	09 28 12.7 +0.7
	comp=E,3.7nm,0.3s,baz=228,slow=11,SNR=72					
CFAA				Lg	Lg	09 29 13.7
	comp=E,8.2nm,0.3s,baz=131,slow=21,SNR=3.7					
CFAA				LR	LR	09 30 09.2
	comp=E,896nm,18.2s,baz=234,slow=45					
PLCA	Paso Flores	7.01	170	Pn	Pn	09 28 54.0 +0.3
	comp=E,2.1nm,0.3s,baz=334,slow=11,SNR=22					
PLCA				Lg	Lg	09 30 48.0
	comp=E,0.5nm,0.3s,baz=71,slow=20,SNR=2.9					
PLCA				LR	LR	09 31 38.8
	comp=E,2µm,18.4s,baz=348,slow=38					
PLCA	Paso Flores	7.01	170	ePn	Pn	09 28 53.5 -0.3
	comp=E,50nm,0.8s					
PLCA				Lg	Lg	09 30 48.0
TRQA	Tornquist	9.26	120	ePn	Pn	09 29 24.2 -0.4
LVC	Limon Verde	11.53	15	ePn	Pn	09 29 50.7 -5.2
CPUP	Villa Florida	14.84	64	Pn	Pn	09 30 40.2 -0.6
	comp=E,0.4nm,0.3s,baz=223,slow=15,SNR=2.5					
CPUP				Lg	Lg	09 34 57.6
	comp=E,0.8nm,0.3s,baz=122,slow=20,SNR=3.4					
CPUP				LR	LR	09 36 49.9
	comp=E,2µm,20.6s,baz=228,slow=39					
CPUP	Villa Florida	14.84	64	ePn	Pn	09 30 40.0 -0.8
	comp=E,1.8nm,0.9s					
CPUP				Lg	Lg	09 34 57.6
LPAZ	La Paz	17.84	13	P	Pn	09 31 20.2 +0.5
	comp=E,1.2nm,0.3s,baz=186,slow=7.2,SNR=61					
SIV	San Ignacio	20.38	32	P	P	09 31 46.8 -0.6
	comp=E,17nm,0.7s,baz=215,slow=5.2,SNR=21					
SIV				LR	LR	09 41 05.8
	comp=E,2µm,19.1s,baz=229,slow=41					
EFI	East Falkland	20.55	154	eP	P	09 31 48.3 -0.7
USHA	Ushuaia	21.16	174	P	P	09 31 57.1 +1.5
	comp=E,4.8nm,0.7s,baz=157,slow=21,SNR=1.9					
NNA	Nana	22.16	348	P	P	09 32 07.3 +0.6
	comp=E,13nm,0.7s,baz=194,slow=11,SNR=5.3					
NNA	Nana	22.16	348	eP	P	09 32 07.8 +1.1
SAML	Samuel	26.10	20	eP	P	09 32 44.2 -0.1
	comp=E,98nm,2.0s					
BDFB	Brasilia	28.31	56	P	P	09 33 03.4 -1.0
	comp=E,8.1nm,0.6s,baz=231,slow=9.1,SNR=13					
BDFB				LR	LR	09 45 18.8
	comp=E,1µm,18.6s,baz=222,slow=38					
SDV	Santo Domingo	42.50	2	eP	P	09 35 05.6 -0.3
	comp=E,9.7nm,1.0s					
SDV				epP	pP	09 35 16.6 +1.4
VNA3	Neumayer Olymp	49.55	158	P	P	09 36 02.3 +1.6
VNA2	Neumayer--Watz	50.21	157	P	P	09 36 06.6 +0.9
SNAA	Sanae	51.78	158	P	P	09 36 18.5 +0.9
SNAA	Sanae	51.78	158	P	P	09 36 18.2 +0.6
	comp=E,2.1nm,0.7s,baz=278,slow=8.4,SNR=11					
SNAA	Sanae	51.78	158	eP	P	09 36 18.1 +0.6
	comp=E,17nm,0.9s					
CELP	Cerrillos	51.88	7	eP	P	09 36 18.2 -0.6
QSPA	South Pole Qui	56.41	180	P	P	09 36 52.5 +1.0
	comp=E,4.7nm,0.8s,baz=140,slow=2.5,SNR=17					
VNDA	Vanda	64.25	191	P	P	09 37 46.3 +1.5
	comp=E,0.9nm,0.7s,baz=98,slow=6.1,SNR=3.6					
034A	Hebbronville	65.58	334	⇓P	P	09 37 54.7 +0.8
	baz=66					
TIGA	Tifton	65.81	349	⇑P	P	09 37 54.9 -0.4
	baz=66					
TIGA	Tifton	65.81	349	eP	P	09 37 54.6 -0.7
	comp=E,8.4nm,0.3s					
TIGA				epP	pP	09 38 04.5 -0.5
933A	Laredo	66.30	334	⇓P	P	09 37 59.6 +1.0
	baz=67,SNR=5.4					
835A	Beeville	66.40	335	⇓P	P	09 38 00.1 +1.0
	baz=67					
834A	Tilden	66.50	335	⇓P	P	09 38 01.0 +1.2
	baz=67,SNR=7.2					
735A	Kenedy	66.91	336	⇑P	P	09 38 03.5 +1.1
	baz=67,SNR=7.2					
833A	Chaparral WMA,	66.99	334	⇓P	P	09 38 03.8 +0.9
	baz=67,SNR=8.1					
734A	La Parita Cree	67.16	335	⇓P	P	09 38 04.8 +0.8
	baz=68					
832A	Faith Ranch, C	67.17	333	⇑P	P	09 38 04.7 +0.6
	baz=68,SNR=12					
636A	Smothers Creek	67.23	337	⇓P	P	09 38 05.7 +1.2
	baz=68,SNR=8.8					
733A	Divot King Ran	67.31	334	⇓P	P	09 38 05.4 +0.4
	baz=68					
635A	Leesville	67.39	336	⇓P	P	09 38 05.8 +0.4
	baz=68					
537A	Green Hill Far	67.54	337	⇓P	P	09 38 07.2 +0.8
	baz=68					
732A	Laxson Ranch,	67.57	334	⇓P	P	09 38 07.1 +0.5
	baz=68,SNR=19					
GOGA	Godfrey	67.72	350	eP	P	09 38 07.3 -0.2
	comp=E,8.3nm,0.8s					
GOGA				epP	pP	09 38 16.4 -0.7
536A	Bastrop	67.78	337	⇑P	P	09 38 08.9 +1.0
	baz=68					
438A	Sam Houston St	67.90	338	⇑P	P	09 38 09.9 +1.2
	baz=68					
535A	Dale	67.91	336	⇓P	P	09 38 09.2 +0.5
	baz=68,SNR=7.4					
633A	Saathoff Ranch	67.94	335	⇑P	P	09 38 09.6 +0.6
	baz=68,SNR=7.6					
LRAL	Lakeview Retre	67.96	347	eP	P	09 38 08.6 -0.4
	comp=E,6.6nm,0.9s					
LRAL				epP	pP	09 38 18.3 -0.4
340A	Bronson	68.06	340	⇓P	P	09 38 10.6 +1.0
	baz=68					
339A	Huntington	68.17	339	⇓P	P	09 38 10.9 +0.6
	baz=68					
437A	Phantom Ranch,	68.18	338	⇓P	P	09 38 11.4 +1.0
	baz=68					
632A	Uvalde	68.20	334	⇑P	P	09 38 11.4 +0.8
	baz=68,SNR=11					
534A	Blanco	68.21	336	⇓P	P	09 38 10.8 +0.1
	baz=68					
631A	Perdido Creek	68.41	333	⇑P	P	09 38 12.0 +0.1
	baz=69,SNR=5.2					
338A	Crockett	68.42	339	⇑P	P	09 38 13.1 +1.2
	baz=69					
533A	Kerrville	68.45	335	⇓P	P	09 38 12.7 +0.6
	baz=69,SNR=5.8					
337A	Centerville	68.56	338	⇓P	P	09 38 14.2 +1.4
	baz=69					
435B	Jarrell	68.61	337	⇓P	P	09 38 13.9 +0.8
	baz=69					
239A	Gary	68.79	340	⇓P	P	09 38 15.0 +0.8
	baz=69					
532A	Rocksprings	68.81	334	⇑P	P	09 38 15.1 +0.7
	baz=69,SNR=20					
434A	Burnet	68.86	336	⇓P	P	09 38 15.1 +0.4
	baz=69,SNR=18					
336A	Riesel	68.92	337	⇑P	P	09 38 15.6 +0.6
	baz=69,SNR=8.6					
238A	Jacksonville	68.97	339	⇑P	P	09 38 16.5 +1.2
	baz=69					
335A	Moody	69.01	337	⇓P	P	09 38 16.4 +0.8
	baz=69					
531A	Rocksprings	69.07	334	⇑P	P	09 38 16.6 +0.6
	baz=69,SNR=14					
433A	Art	69.09	335	⇑P	P	09 38 16.4 +0.3
	baz=69,SNR=20					
JCT	Junction City	69.09	335	⇓P	P	09 38 16.6 +0.4
	baz=69,SNR=11					
JCT	Junction City	69.09	335	eP	P	09 38 17.1 +0.9
	comp=E,18nm,0.8s					
KMSC	Kings Mountain	69.15	352	⇑P	P	09 38 16.2 -0.2
	baz=70					
KMSC	Kings Mountain	69.15	352	eP	P	09 38 16.6 +0.2
	comp=E,9.0nm,0.8s					
237A	Washetta, Mont	69.17	339	⇓P	P	09 38 17.0 +0.4
	baz=70					
334A	Lometa	69.33	336	⇓P	P	09 38 18.0 +0.4
	baz=70,SNR=11					
530A	J-C Ranch, Com	69.35	333	⇑P	P	09 38 18.5 +0.7
	baz=70,SNR=12					
432A	Menard	69.45	335	⇑P	P	09 38 18.5 +0.1
	baz=70,SNR=9.1					
TXAR	Lajitas Array	69.54	331	P	P	09 38 19.5 +0.5
	comp=E,3.3nm,0.5s,baz=156,slow=9.0,SNR=70					
431A	Sonora	69.56	334	⇓P	P	09 38 19.3 +0.2
	baz=70,SNR=5.8					
333A	Richland Sprin	69.57	336	⇓P	P	09 38 19.3 +0.2
	baz=70,SNR=12					
529A	Stev Forest Ra	69.67	332	⇑P	P	09 38 20.4 +0.6
	baz=70,SNR=16					
WHTX	Lake Whitney,	69.68	337	⇓P	P	09 38 20.0 +0.3
	baz=70,SNR=8.3					
137A	Heron Place, G	69.71	339	⇓P	P	09 38 20.5 +0.6
	baz=70					
OXF	Oxford	69.88	345	eP	P	09 38 20.7 -0.2
	comp=E,29nm,0.8s					
CPCT	Cooper Cave	69.88	349	eP	P	09 38 22.6 +1.7
SWET	Sewanee	69.89	348	eP	P	09 38 20.4 -0.6
	comp=E,16nm,0.8s					
332A	Millersview	69.89	335	⇓P	P	09 38 21.3 +0.2
	baz=70,SNR=11					
430A	Baggett Ranch,	69.89	334	⇓P	P	09 38 21.6 +0.4
	baz=70,SNR=13					
234A	Clairette	69.91	337	⇑P	P	09 38 21.6 +0.4
	baz=70,SNR=11					
TKL	Tuckaleechee C	69.97	350	eP	P	09 38 21.0 -0.5
429A	Davenport Ranc	69.99	333	⇓P	P	09 38 22.2 +0.5
	baz=70,SNR=9.9					
331A	San Angelo	70.06	334	⇑P	P	09 38 22.3 +0.1
	baz=70,SNR=18					
233A	Rising Star	70.18	336	⇑P	P	09 38 23.1 +0.2
	baz=70,SNR=11					
135A	Vickery Place,	70.18	337	⇑P	P	09 38 22.4 -0.4
	baz=70					
232A	Coleman	70.31	335	⇑P	P	09 38 23.8 +0.1
	baz=71,SNR=12					
134A	White-Moore Ra	70.41	337	⇑P	P	09 38 24.2 0.0
	baz=71					
330A	Mertzon	70.42	334	⇓P	P	09 38 24.4 0.0
	baz=71,SNR=9.8					
231A	Bronte	70.59	335	⇓P	P	09 38 25.4 0.0
	baz=71,SNR=10.0					
133A	Hamilton Ranch	70.72	336	⇓P	P	09 38 26.3 +0.2
	baz=71,SNR=6.1					
329A	Wagon Wheel Ra	70.80	333	⇓P	P	09 38 27.0 +0.3
	baz=71,SNR=10.0					
230A	Sterling City	70.84	334	⇑P	P	09 38 27.2 +0.3
	baz=71					
Z35A	Perchaven, San	70.85	338	⇑P	P	09 38 27.1 +0.3
	baz=71,SNR=6.0					
MIAR	Mount Ida	70.92	341	eP	P	09 38 27.6 +0.4
	comp=E,88nm,2.5s					
ABTX	Abilene, Hawle	70.98	336	⇓P	P	09 38 27.9 +0.2
	baz=71,SNR=7.2					
Z34A	Collier Ranch,	71.10	337	⇑P	P	09 38 28.4 0.0
	baz=71,SNR=9.0					
WVT	Waverly	71.12	347	eP	P	09 38 27.9 -0.5
	comp=E,39nm,0.8s					
229A	Bryant Ranch,	71.16	334	⇑P	P	09 38 29.0 +0.1
	baz=72					
131A	Roby	71.29	335	⇑P	P	09 38 29.7 +0.1
	baz=72,SNR=5.3					
Z33A	Whitaker Ranch	71.29	337	⇓P	P	09 38 29.8 +0.2
	baz=72,SNR=12					
JSRW	J. Sargeant Re	71.36	355	eP	P	09 38 30.8 +1.0
130A	Snyder	71.42	335	⇓P	P	09 38 30.4 0.0
	baz=72,SNR=7.0					
Z32A	Haskell	71.55	336	⇑P	P	09 38 31.5 +0.3
	baz=72,SNR=12					
Y34A	Reagan Ranch,	71.59	338	⇑P	P	09 38 31.3 0.0
	baz=72,SNR=5.4					
228A	UT Block 9, Go	71.59	333	⇑P	P	09 38 31.5 0.0
	baz=72,SNR=7.2					
BBTS	Babate	71.60	57	LR	LR	10 10 31.1
	comp=E,528nm,18.5s,slow=36					
129A	Stewart Farms,	71.78	334	⇓P	P	09 38 32.9 +0.3
	baz=72					
Z31A	Sharp Cattle R	71.79	336	⇓P	P	09 38 32.8 +0.2
	baz=72,SNR=12					
Y33A	Hilltop Ranch,	71.91	337	⇑P	P	09 38 33.7 +0.4
	baz=72					
128A	Castleberry Fa	72.00	333	⇑P	P	09 38 34.1 +0.1
	baz=72,SNR=10					
Z30A	Sanderson Ranc	72.10	335	⇓P	P	09 38 34.3 -0.2
	baz=72,SNR=8.8					
Y32A	R-V Farms, Ver	72.17	336	⇓P	P	09 38 35.0 +0.1
	baz=72,SNR=7.6					
X34A	Smith Ranch, M	72.20	338	⇓P	P	09 38 35.3 +0.3
	baz=72,SNR=5.7					
PBMO	Poplar Bluff	72.28	345	eP	P	09 38 35.5 +0.1
	comp=E,14nm,0.6s					
Z29A	Hungry Hill Ra	72.29	334	⇓P	P	09 38 35.2 -0.5
	baz=73,SNR=9.1					
MNTX	Cornudas Mount	72.31	331	eP	P	09 38 35.2 -0.5
	comp=E,5.9nm,0.7s					
GDL2	Guadalupe Moun	72.35	332	eP	P	09 38 35.6 -0.5
	comp=E,3.8nm,0.7s					
X33A	Lawton	72.36	337	⇓P	P	09 38 36.0 0.0
	baz=73					
Y31A	Rekieta Farm,	72.41	336	⇓P	P	09 38 36.5 +0.2
	baz=73,SNR=7.9					
X32A	Elmer	72.50	337	⇑P	P	09 38 36.6 -0.2
	baz=73					
Y30A	Stafford Cattl	72.56	335	⇓P	P	09 38 37.6 +0.4
	baz=73					
Z28A	Tucker Farm, M	72.56	334	⇑P	P	09 38 36.8 -0.5
	baz=73					
WMOK	Wichita Mounta	72.63	337	eP	P	09 38 37.6 +0.1
	comp=E,6.0nm,0.9s					
W34A	Bridge Creek,	72.77	338	⇓P	P	09 38 38.6 +0.2
	baz=73					
W34A	Bridge Creek,	72.77	338	eP	P	09 38 38.8 +0.4
	comp=E,12nm,0.8s					
TUL1	Leonard	72.81	340	⇑P	P	09 38 38.4 -0.2
	baz=73					
TUL1	Leonard	72.81	340	eP	P	09 38 38.7 +0.1
	comp=E,12nm,0.8s					
TUL1				epP	pP	09 38 44.6 -3.7
Y29A	Porterfield Fa	72.81	335	⇓P	P	09 38 38.8 +0.1
	baz=73,SNR=9.0					
USIN	University of	72.87	347	eP	P	09 38 38.2 -0.7
	comp=E,19nm,0.6s					
USIN				epP	pP	09 38 48.2 -0.4
WCI	Wyandotte Cave	72.89	348	eP	P	09 38 38.5 -0.5
	comp=E,6.0nm,0.9s					
WCI				epP	pP	09 38 47.6 -1.1
W33A	Caddo, Fort Co	72.91	338	⇑P	P	09 38 39.7 +0.5
	baz=73,SNR=6.9					
X31A	McDonald Ranch	72.93	336	⇑P	P	09 38 39.5 +0.1
	baz=73,SNR=8.7					
SIUC	Southern Illin	72.93	346	eP	P	09 38 39.3 +0.1
	comp=E,14nm,0.8s					
SIUC				epP	pP	09 38 48.3 -0.7
X30A	Coker Ranch, T	73.06	335	⇓P	P	09 38 40.6 +0.4
	baz=73					
Y28A	McKinney Farm,	73.07	334	⇓P	P	09 38 40.8 +0.5
	baz=73					
W32A	Sentinel	73.14	337	⇑P	P	09 38 40.8 +0.2
	baz=74,SNR=23					
V34A	Guthrie	73.25	339	⇓P	P	09 38 41.4 +0.2
	baz=74					
V34A	Guthrie	73.25	339	eP	P	09 38 41.5 +0.2
	comp=E,18nm,1.1s					
V34A				epP	pP	09 38 50.7 -0.2
MSTX	Muleshoe	73.31	334	⇑P	P	09 38 41.7 0.0
	baz=74,SNR=10					
MSTX	Muleshoe	73.31	334	eP	P	09 38 42.1 +0.3
	comp=E,17nm,0.8s					
X29A	Tulia	73.35	335	⇓P	P	09 38 42.3 +0.3
	baz=74					
Y27A	Causey	73.38	333	⇓P	P	09 38 42.0 -0.1
	baz=74					
W31A	Holland Ranch,	73.42	337	⇓P	P	09 38 42.3 0.0
	baz=74					
Z25A	Roswell	73.44	332	⇓P	P	09 38 42.8 +0.2
	baz=74,SNR=5.4					
V33A	Lossen Ranch,	73.47	338	⇑P	P	09 38 42.8 +0.3
	baz=74,SNR=6.0					
X28A	Dimmitt	73.59	334	⇓P	P	09 38 43.7 +0.3
	baz=74					
V32A	Arapaho	73.62	337	⇑P	P	09 38 44.0 +0.6
	baz=74					
319A	Douglas	73.71	327	⇑P	P	09 38 45.0 +0.9
	baz=74					
AMTX	Amarillo	73.74	335	⇑P	P	09 38 45.0 +0.7
	baz=74					
AMTX	Amarillo	73.74	335	eP	P	09 38 44.9 +0.7
	comp=E,26nm,1.1s					
AMTX				epP	pP	09 38 53.2 -0.8
U34A	Anderson Ranch	73.81	339	⇓P	P	09 38 45.3 +0.8
	baz=74					
U34A	Anderson Ranch	73.81	339	eP	P	09 38 45.3 +0.8
	comp=E,11nm,0.8s					
BLO	Bloomington	73.84	348	eP	P	09 38 44.2 -0.4
	comp=E,8.4nm,0.6s					
V31A	Spring Creek L	73.92	337	⇑P	P	09 38 46.4 +1.2
	baz=74					
W29A	Amarillo	73.94	335	⇑P	P	09 38 46.1 +0.7
	baz=74					
U33A	Lingo Farm, Me	73.98	338	⇓P	P	09 38 46.7 +1.2
	baz=74					
121A	Cookes Peak, D	74.04	329	⇓P	P	09 38 47.1 +0.9
	baz=74,SNR=7.0					
U32A	Winter Ranch,	74.21	338	⇓P	P	09 38 48.1 +1.2
	baz=74					
X26A	CR and CF Fran	74.22	333	⇓P	P	09 38 47.6 +0.6
	baz=74,SNR=5.2					
Y24A	Capitan	74.29	332	⇓P	P	09 38 48.6 +1.0
	baz=75					
Z22A	Elephant Butte	74.32	330	⇓P	P	09 38 48.8 +1.1
	baz=75,SNR=5.3					
ACSO	Alum Creek Sta	74.37	351	eP	P	09 38 47.6 0.0
	comp=E,19nm,0.8s					
W27A	Bowe Ranch, En	74.40	334	⇑P	P	09 38 48.4 +0.3
	baz=75,SNR=5.9					
U31A	Nine Bar Ranch	74.47	337	⇓P	P	09 38 49.0 +0.6
	baz=75					
Y23A	Lovelace Mesa,	74.54	331	⇓P	P	09 38 50.1 +1.1
	baz=75,SNR=5.5					
T33A	Patterson Ranc	74.62	339	⇑P	P	09 38 50.5 +1.2
	baz=75					
W26A	Owens Ranch, T	74.68	334	⇓P	P	09 38 50.1 +0.3
	baz=75,SNR=5.5					
U30A	WK&E Inc. Balk	74.88	337	⇓P	P	09 38 52.2 +1.4
	baz=75					
T32A	Huddler Ranch,	74.92	338	⇑P	P	09 38 53.0 +2.0
	baz=75					
W25A	X Bar L Ranch,	75.05	333	⇑P	P	09 38 52.4 +0.5
	baz=75					
T31A	Randall Ranch,	75.08	338	⇑P	P	09 38 52.3 +0.4
	baz=75					
SFIN	Lafayette	75.12	348	⇑P	P	09 38 51.5 -0.4
	baz=76					
SFIN	Lafayette	75.12	348	eP	P	09 38 51.0 -0.9
	comp=E,83nm,2.4s					
SFIN				epP	pP	09 39 00.4 -1.3
TUC	Tucson	75.17	327	eP	P	09 38 54.3 +1.7
	comp=E,20nm,1.7s					
DBIC	Dimbokro	75.21	71	P	P	09 38 53.0 -0.2
	comp=E,10nm,0.7s,baz=207,slow=5.2,SNR=12					
DBIC	Dimbokro	75.21	71	eP	P	09 38 53.4 +0.2
U28A	Mallet	75.28	335	⇑P	P	09 38 53.7 +0.5
	baz=76					
V26A	Tequesquite Ra	75.31	334	⇓P	P	09 38 54.3 +0.9
	baz=76					
LAZ	Ladron	75.39	331	eP	P	09 38 55.1 +1.2
	comp=E,4.8nm,1.1s					
S32A	Newby Ranch, P	75.40	338	⇓P	P	09 38 54.1 +0.4
	baz=76					
W24A	Lazy 6 Ranch,	75.41	332	⇑P	P	09 38 54.6 +0.6
	baz=76					
U27A	Thompson Grove	75.53	335	⇓P	P	09 38 55.3 +0.7
	baz=76					
ANMO	Albuquerque	75.59	331	eP	P	09 38 55.4 +0.3
	comp=E,7.4nm,1.1s					
V25A	Rancho No Teng	75.66	333	⇑P	P	09 38 55.6 +0.2
	baz=76,SNR=7.4					
T29A	Hugoton	75.66	336	⇓P	P	09 38 56.5 +1.2
	baz=76					
R33A	Olander Ranch,	75.68	339	⇓P	P	09 38 55.5 +0.2
	baz=76					
V24A	Rampart Ranch,	75.81	333	⇓P	P	09 38 57.1 +0.8
	baz=76					
214A	Organ Pipe Nat	75.82	325	⇑P	P	09 38 57.7 +1.4
	baz=76					
S30A	Montezuma	75.83	337	⇓P	P	09 38 57.4 +1.2
	baz=76					
U26A	Atchley Ranch,	75.83	334	⇑P	P	09 38 57.7 +1.2
	baz=76					
T28A	Walsh	75.91	336	⇓P	P	09 38 56.9 +0.2
	baz=76,SNR=8.7					
R32A	Long Quarter,	76.00	339	⇑P	P	09 38 57.5 +0.4
	baz=76					
S29A	Ulysses	76.03	337	⇑P	P	09 38 58.5 +1.2
	baz=76					
T27A	Campo	76.06	335	⇑P	P	09 38 58.8 +1.1
	baz=76					
U25A	Circle Dot Ran	76.08	334	⇓P	P	09 38 58.5 +0.6
	baz=76					
R31A	Burdett	76.13	338	⇓P	P	09 38 58.7 +0.8
	baz=76					
V23A	Ortiz Mt. (NFS	76.18	332	⇑P	P	09 38 59.8 +1.4
	baz=76					
S28A	Manter	76.26	336	⇓P	P	09 38 58.9 +0.2
	baz=77,SNR=6.9					
Q33A	Connelly Farm,	76.27	340	⇓P	P	09 38 58.9 +0.2
	baz=77					
R30A	Dighton	76.36	338	⇑P	P	09 39 00.4 +1.2
	baz=77					
U24A	Moreno Valley	76.41	333	⇓P	P	09 39 01.0 +1.1
	baz=77					
T26A	Comanche Natio	76.47	335	⇑P	P	09 39 01.1 +1.0
	baz=77					
Q32A	Meitler Ranch,	76.48	339	⇑P	P	09 39 00.5 +0.6
	baz=77					
V22A	San Miguel Ran	76.61	332	⇑P	P	09 39 02.1 +1.2
	baz=77,SNR=11					
X18A	Snowflake	76.68	329	⇓P	P	09 39 02.5 +1.2
	baz=77					
U23A	El Rito	76.69	332	⇓P	P	09 39 02.5 +1.1
	baz=77,SNR=5.3					
T25A	Trinidad	76.74	334	⇑P	P	09 39 02.4 +0.9
	baz=77,SNR=5.8					
Q31A	Ellis	76.74	339	⇑P	P	09 39 02.6 +1.2
	baz=77					
R29A	Marienthal	76.76	337	⇓P	P	09 39 02.3 +0.8
	baz=77					
S26A	Kim	76.83	335	⇑P	P	09 39 02.8 +0.9
	baz=77,SNR=10					
R28A	Tribune	76.91	336	⇑P	P	09 39 03.1 +0.7
	baz=77					
113A	Mohawk Valley,	76.95	325	⇑P	P	09 39 03.2 +0.7
	baz=77					
Q30A	Quinter	76.97	338	⇑P	P	09 39 03.2 +0.5
	baz=77,SNR=7.0					
U22A	Llaves	76.99	332	⇓P	P	09 39 03.7 +0.7
	baz=77,SNR=5.4					
T24B	San Luis	77.03	333	⇑P	P	09 39 03.7 +0.4
	baz=77,SNR=5.2					
P32A	Huiting Farm,	77.07	339	⇓P	P	09 39 03.8 +0.6
	baz=77					
Q29A	Oakley	77.14	337	⇓P	P	09 39 04.0 +0.4
	baz=78					
R27A	Eads	77.19	336	⇑P	P	09 39 04.2 +0.2
	baz=78,SNR=7.0					
S25A	Robets Cordova	77.21	334	⇓P	P	09 39 04.8 +0.6
	baz=78,SNR=6.7					
P31A	Stockton	77.21	339	⇑P	P	09 39 04.8 +0.8
	baz=78					
X16A	Lo Mia Camp, P	77.24	328	⇑P	P	09 39 06.1 +1.6
	baz=78					
T23A	Casias Ranch,	77.25	333	⇓P	P	09 39 05.7 +1.1
	baz=78					
R26A	Arlington	77.43	335	⇓P	P	09 39 06.4 +1.1
	baz=78					
MDV	Middlebury	77.46	359	eP	P	09 39 04.8 -0.3
S24A	Houchin Ranch,	77.48	334	⇑P	P	09 39 06.7 +0.9
	baz=78,SNR=8.4					
P30A	Selden	77.50	338	⇑P	P	09 39 06.2 +0.6
	baz=78					
Y14A	Wickenburg	77.55	326	⇓P	P	09 39 07.4 +1.4

SCIA *ep*P **pP** 09 39 15.3 -1.7
S23A Nye Farm, Mont 77.83 333 ⇑P **P** 09 39 08.9 +1.2
baz=78
R24A Sanders Place, 77.96 334 ⇓P **P** 09 39 09.2 +0.8
baz=78,SNR=12
P28A Saint Francis 78.01 337 ⇓P **P** 09 39 09.8 +1.4
baz=78
Q26A Hugo 78.01 335 ⇑P **P** 09 39 10.1 +1.5
baz=78
O30A MW Ranch, Wils 78.02 338 ⇑P **P** 09 39 09.3 +0.8
baz=78
Y12C Blythe 78.11 325 ⇓P **P** 09 39 11.1 +2.1
baz=78
WUAZ Wupatki 78.14 328 ⇓P **P** 09 39 11.0 +1.7
baz=78
WUAZ Wupatki 78.14 328 *e*P **P** 09 39 11.1 +1.7
comp=E,8.9nm,0.9s
WUAZ *ep*P **PcP** 09 39 18.4 -0.4
JFWS Jewell Farm 78.15 347 *e*P **P** 09 39 09.2 +0.2
comp=E,12nm,0.8s
JFWS *ep*P **PcP** 09 39 16.5 -2.0
R23A Moffat 78.19 333 ⇓P **P** 09 39 10.6 +0.9
baz=78,SNR=5.2
Q25A Bedland, Calha 78.26 335 ⇓P **P** 09 39 11.0 +1.0
baz=79
P27A Ficken Ranch, 78.26 336 ⇑P **P** 09 39 10.8 +0.9
baz=79
MVCO Mesa Verde 78.37 331 ⇑P **P** 09 39 12.3 +1.6
baz=79
MVCO Mesa Verde 78.37 331 *e*P **P** 09 39 11.9 +1.2
comp=E,13nm,1.3s
PDMCI Parker Dam,Lak 78.38 326 ⇑P **P** 09 39 11.6 +1.1
baz=79
BC3 Big Chuckawall 78.48 324 ⇓P **P** 09 39 13.6 +2.3
baz=79
O28A Krutsinger Ran 78.51 337 ⇑P **P** 09 39 12.4 +1.2
baz=79
P26A Davis Ranch, A 78.52 336 ⇑P **P** 09 39 12.7 +1.3
baz=79
BGNE Belgrade 78.60 340 ⇑P **P** 09 39 12.6 +1.0
baz=79
BGNE Belgrade 78.60 340 *e*P **P** 09 39 10.6 -1.0
comp=E,18nm,0.9s
Q24A Divide 78.62 334 ⇑P **P** 09 39 13.9 +1.7
baz=79
IRM Iron Mountain 78.75 325 ⇓P **P** 09 39 14.0 +1.4
baz=79
P25A Willow Gulch B 78.76 335 ⇑P **P** 09 39 14.4 +1.7
baz=79
M31A Lambtecht Ranc 78.77 340 ⇑P **P** 09 39 14.0 +1.4
baz=79
O27A Beecher Island 78.80 337 ⇓P **P** 09 39 14.2 +1.3
baz=79
W13A Hualapai Mount 78.92 326 ⇓P **P** 09 39 15.1 +1.4
baz=79
O26A Horse Wrangler 79.12 336 ⇓P **P** 09 39 16.2 +1.5
baz=80
O25A Wiggins 79.28 336 ⇑P **P** 09 39 17.2 +1.7
baz=80
U15A North Rim 79.30 328 ⇓P **P** 09 39 17.2 +1.3
baz=80
TSUM Tsumeb 79.35 106 LR LR 10 10 17.9
comp=E,365nm,19.4s,baz=153,slow=33
M29A Burnside Ranch 79.37 339 ⇓P **P** 09 39 17.5 +1.6
baz=80
SMCO Snowmass 79.48 333 *e*P **P** 09 39 18.5 +1.5
comp=E,6.8nm,0.9s
GMRC Granite Mounta 79.50 325 ⇓P **P** 09 39 18.1 +1.3
baz=80
L31A Butterfield Fa 79.50 340 ⇓P **P** 09 39 17.0 +0.4
baz=80,SNR=5.3
ISCO Idaho Springs 79.53 334 ⇑P **P** 09 39 18.2 +1.1
baz=80
ISCO Idaho Springs 79.53 334 *e*P **P** 09 39 18.2 +1.1
comp=E,52nm,2.5s
L30A Spencer Herefo 79.55 339 ⇑P **P** 09 39 18.4 +1.6
baz=80
P22A Eagle 79.77 334 ⇓P **P** 09 39 19.5 +1.2
baz=80
O23A Lake Granby, G 80.00 334 ⇓P **P** 09 39 20.5 +0.8
baz=80,SNR=6.1
N24A Carr 80.18 335 ⇓P **P** 09 39 21.7 +1.2
baz=80
K30A Basset 80.18 340 ⇑P **P** 09 39 21.4 +1.2
baz=80
O22A Kremmling 80.19 334 ⇑P **P** 09 39 21.7 +1.1
baz=80
BOSA Boshof 80.23 118 P **P** 09 39 20.9 -0.2
comp=E,5.7nm,1.0s,baz=258,slow=2.9,SNR=4.5
ECSD EROS Data Cent 80.36 342 ⇓P **P** 09 39 20.9 -0.2
baz=81,SNR=11
ECSD EROS Data Cent 80.36 342 *e*P **P** 09 39 21.0 -0.1
comp=E,12nm,0.7s
GSC Goldstone, Bar 80.47 324 ⇑P **P** 09 39 23.9 +1.9
baz=81
GSC Goldstone, Bar 80.47 324 *e*P **P** 09 39 21.1 -0.9
N23A Red Feather La 80.61 335 ⇓P **P** 09 39 24.8 +1.9
baz=81
SHPR Sheep Range 80.66 326 *e*P **P** 09 39 24.8 +1.7
CCUT Cedar City 80.71 328 *e*P **P** 09 39 25.4 +2.0
comp=E,6.4nm,0.9s
EDW2 Edwards Air Fo 80.72 323 ⇓P **P** 09 39 24.4 +1.1
baz=81
N22A Wattenberg Ran 80.72 334 ⇓P **P** 09 39 25.0 +1.5
baz=81
M24A Cheyenne 80.73 336 ⇓P **P** 09 39 24.4 +1.0
baz=81
K28A Ten Mile Ranch 80.74 339 ⇓P **P** 09 39 24.8 +1.6
baz=81
J30A Dallas 80.75 340 ⇓P **P** 09 39 24.0 +0.8
baz=81
O20A White River Ci 80.80 333 ⇑P **P** 09 39 24.6 +0.8
baz=81
O20A White River Ci 80.80 333 *e*P **P** 09 39 23.4 -0.4
O20A *ep*P **pP** 09 39 34.3 +0.7
PHWY Pilot Hill 80.80 335 *e*P **P** 09 39 24.8 +0.9
comp=E,4.6nm,0.8s
PHWY *ep*P **pP** 09 39 33.9 +0.1
SRU San Rafael Swe 80.82 331 *e*P **P** 09 39 25.1 +1.2
comp=E,4.7nm,0.7s
SRU *ep*P **PcP** 09 39 31.6 +1.2
SPMN Marine on St. 80.88 345 ⇓P **P** 09 39 24.1 +0.2
baz=81
SPMN Marine on St. 80.88 345 *e*P **P** 09 39 23.5 -0.4
comp=E,7.6nm,0.6s
K27A Flueckinger Fa 81.00 338 ⇑P **P** 09 39 25.0 +0.3
baz=81
MVU Marysvale 81.01 329 *e*P **P** 09 39 26.4 +1.4
comp=E,3.7nm,0.8s
M23A Laramie 81.04 335 ⇑P **P** 09 39 25.7 +0.6
baz=81
J29A Okreek 81.06 340 ⇑P **P** 09 39 24.9 0.0
baz=81,SNR=8.1
TMUT Trail Mountain 81.25 330 *ep*P pP 09 39 34.7 -1.6
I30A Oacoma 81.27 340 ⇑P **P** 09 39 26.8 +0.8
baz=82
M22A Cedar Creek Ra 81.30 335 ⇓P **P** 09 39 28.6 +2.1
baz=82
J28A Allard Ranch, 81.34 339 ⇑P **P** 09 39 27.8 +1.4
baz=82
N20A Spence Gulch, 81.41 333 ⇓P **P** 09 39 27.8 +0.7
baz=82
J27A Elkhorn Farm, 81.42 338 ⇓P **P** 09 39 27.6 +0.7
baz=82,SNR=5.6
I29A Vivian Onida 81.62 340 ⇑P **P** 09 39 28.5 +0.6
baz=82
BRSD Miller 81.63 341 *e*P **P** 09 39 27.8 -0.1
comp=E,17nm,0.8s
DAC Darwin (Calif) 81.63 324 *e*P **P** 09 39 29.9 +1.5
comp=E,6.7nm,0.9s
L22A Ellis Ranch, M 81.79 335 ⇓P **P** 09 39 30.8 +1.8
baz=82
J26A Sides Ranch, S 81.81 338 ⇓P **P** 09 39 30.5 +1.6
baz=82
I28A Midland 81.85 339 ⇑P **P** 09 39 29.4 +0.3
baz=82,SNR=5.6
VES Vestal, Richgr 82.02 323 ⇓P **P** 09 39 31.9 +1.8
baz=82
GRAC Grapevine Rang 82.10 325 ⇑P **P** 09 39 32.1 +1.5
baz=82
J25A Sunshine Ranch 82.11 337 ⇑P **P** 09 39 32.1 +1.5
baz=82
K23A Bowen Ranch, D 82.15 336 ⇓P **P** 09 39 31.7 +0.8
baz=82
H29A Onida 82.15 340 ⇑P **P** 09 39 31.2 +0.6
baz=82
I27A Quinn 82.18 339 ⇑P **P** 09 39 31.6 +0.8
baz=82

DAU Daniels Canyon 82.22 331 *e*P **P** 09 39 31.1 -0.4
comp=E,6.9nm,1.3s
G30A Faulkton 82.32 341 ⇑P **P** 09 39 31.9 +0.4
baz=83
J24A Dixon Ranch, L 82.34 337 ⇑P **P** 09 39 33.3 +1.5
baz=83
R11A Troy Canyon, C 82.36 327 ⇑P **P** 09 39 33.9 +1.8
baz=83
K22A Casper 82.37 335 ⇓P **P** 09 39 33.0 +1.0
baz=83
K22A Casper 82.37 335 *e*P **P** 09 39 32.6 +0.6
comp=E,18nm,1.6s
I26A New Underwood 82.39 338 ⇑P **P** 09 39 32.7 +0.7
baz=83
H28A Mission Ridge 82.42 340 ⇑P **P** 09 39 32.7 +0.6
baz=83
JLU Jordanelle 82.46 331 *ep*P pP 09 39 41.4 -1.1
LBTB Lobatse 82.46 115 *e*P **P** 09 39 34.2 +1.2
comp=E,8.4nm,0.9s
LBTB *ep*P **pP** 09 39 43.5 +0.6
G29A Hoven 82.59 341 ⇓P **P** 09 39 33.7 +0.8
baz=83
K21A Alcova 82.61 335 ⇓P **P** 09 39 33.7 +0.4
baz=83
I25A Rochford 82.65 338 ⇓P **P** 09 39 33.7 +0.3
baz=83,SNR=5.2
DUG Dugway, Tooele 82.68 330 ⇑P **P** 09 39 35.1 +1.4
baz=83
DUG Dugway, Tooele 82.68 330 *e*P **P** 09 39 34.5 +0.8
comp=E,8.9nm,1.1s
H27A Howes 82.70 339 ⇓P **P** 09 39 33.4 -0.1
baz=83,SNR=5.9
G28A Parade 82.76 340 ⇑P **P** 09 39 33.9 +0.1
baz=83,SNR=5.9
I24A Kuemmerle Ranc 82.80 337 ⇓P **P** 09 39 35.2 +1.1
baz=83
RSSD Black Hills 82.84 337 *e*P **P** 09 39 35.1 +0.7
comp=E,5.8nm,1.1s
RSSD *ep*P **pP** 09 39 44.0 -0.4
TPH Tonopah 82.90 326 *e*P **P** 09 39 36.4 +1.4
comp=E,5.6nm,0.8s
J22A Midwest 83.02 336 ⇓P **P** 09 39 35.8 +0.4
baz=83
H25A Fruitdale 83.15 338 ⇓P **P** 09 39 37.0 +1.1
baz=84
F29A Eureka 83.15 341 ⇑P **P** 09 39 36.4 +0.6
baz=84
EYMN Ely 83.23 347 *e*P **P** 09 39 35.8 -0.3
comp=E,10nm,1.1s
EYMN *ep*P **pP** 09 39 45.2 -0.8
G27A Dupree 83.33 339 ⇓P **P** 09 39 36.9 +0.2
baz=84
HWUT Hardware Ranch 83.35 331 *e*P **P** 09 39 37.8 +0.6
comp=E,7.3nm,0.8s
BGU Big Grassy Mou 83.38 330 *e*P **P** 09 39 39.2 +1.9
comp=E,3.4nm,1.2s
BGU *ep*P **pP** 09 39 47.9 +0.7
F28A McLaughlin 83.44 340 ⇓P **P** 09 39 37.5 +0.3
baz=84,SNR=5.1
I22A 9 Mile Ranch, 83.45 336 ⇓P **P** 09 39 37.6 0.0
baz=84
G26A Maurine 83.45 339 ⇓P **P** 09 39 37.8 +0.3
baz=84
E30A Jud 83.53 342 ⇑P **P** 09 39 37.5 -0.2
baz=84
J20A Shoshoni 83.53 334 ⇑P **P** 09 39 38.6 +0.6
baz=84
H24A Dirks Ranch, A 83.56 337 ⇑P **P** 09 39 38.4 +0.3
baz=84
PDAR Pinedale Array 83.57 333 P **P** 09 39 38.3 0.0
comp=E,1.6nm,1.1s,baz=145,slow=5.4,SNR=6.8
G25A Newell 83.61 338 ⇑P **P** 09 39 39.0 +0.7
baz=84
I21A Big Trails, Te 83.65 335 ⇑P **P** 09 39 39.0 +0.4
baz=84
NVAR Mina Array Bea 83.69 325 P **P** 09 39 40.2 +1.2
comp=E,1.1nm,0.8s,baz=169,slow=6.7,SNR=8.4
E29A Napoleon 83.78 341 ⇑P **P** 09 39 38.8 -0.2
baz=84
F27A Lemmon 83.81 340 ⇑P **P** 09 39 39.3 +0.1
baz=84,SNR=5.5
J19A Crowheart 83.81 334 ⇓P **P** 09 39 40.2 +0.8
baz=84
F26A Lodgepole 83.98 339 ⇑P **P** 09 39 40.6 +0.5
baz=84
HVU Hansel Valley 83.99 331 *e*P **P** 09 39 40.9 +0.5
comp=E,6.8nm,0.7s
D30A Buchanan 84.05 342 ⇑P **P** 09 39 40.3 0.0
baz=84,SNR=6.3
I20A Worland 84.07 335 ⇓P **P** 09 39 40.9 +0.2
baz=84
E28A Huff 84.07 341 ⇑P **P** 09 39 41.3 +0.8
baz=84
E27A Carson 84.18 340 ⇑P **P** 09 39 41.4 +0.3
baz=84
D29A Pettibone, Tap 84.22 342 ⇓P **P** 09 39 41.2 0.0
baz=85
TORD Torodi Ar. Bea 84.24 70 P **P** 09 39 42.0 -0.1
comp=E,8.6nm,0.8s,baz=268,slow=5.8,SNR=40
F25A Bowman 84.28 339 ⇓P **P** 09 39 42.0 +0.3
baz=85
I19A Meeteetse 84.45 334 ⇓P **P** 09 39 43.5 +0.7
baz=85
AGMN Agassiz Nation 84.46 344 ⇑P **P** 09 39 42.6 +0.2
baz=85
AGMN Agassiz Nation 84.46 344 *e*P **P** 09 39 42.3 -0.2
comp=E,6.8nm,0.8s
E26A Carlson Angus 84.48 339 ⇓P **P** 09 39 43.1 +0.5
baz=85
F24A Ekalaka 84.51 338 ⇑P **P** 09 39 43.3 +0.5
baz=85
C30A Mose, Pekin 84.53 342 ⇓P **P** 09 39 42.8 +0.1
baz=85,SNR=6.6
D28A Regan 84.60 341 ⇑P **P** 09 39 43.8 +0.6
baz=85
LOHW Long Hollow 84.69 333 *e*P **P** 09 39 44.3 +0.4
comp=E,23nm,1.8s
F23A Volborg 84.71 337 ⇓P **P** 09 39 44.7 +0.9
baz=85
TPAW Teton Pass 84.71 333 *e*P **P** 09 39 44.7 +0.5
comp=E,4.8nm,1.0s
G21A Lodge Grass 84.86 336 ⇑P **P** 09 39 45.5 +0.9
baz=85
FXWY Fox Creek 84.87 333 *e*P **P** 09 39 45.7 +0.8
comp=E,20nm,2.3s
I17A Pilgrim Ck. 84.94 333 ⇑P **P** 09 39 45.9 +0.7
baz=85
D26A Manning 84.98 340 ⇑P **P** 09 39 46.2 +1.2
baz=85
H19A Powell 85.00 335 ⇑P **P** 09 39 46.4 +1.0
baz=85
F22A Rosebud 85.03 337 ⇑P **P** 09 39 46.2 +0.7
baz=85
IMW Indian Meadow 85.06 333 *e*P **P** 09 39 46.1 +0.2
comp=E,3.6nm,0.7s
FLWY Flagg Ranch 85.12 333 *e*P P 09 39 40.4 -5.7
comp=E,17nm,1.4s
B30A Myrvik Farm, E 85.19 343 ⇑P **P** 09 39 46.0 -0.1
baz=86,SNR=14
G20A Bridger 85.20 335 ⇓P **P** 09 39 46.4 0.0
baz=86
H18A Shoshone NF, C 85.25 334 ⇑P **P** 09 39 46.7 -0.1
baz=86,SNR=8.1
C27A Sayler Ranch, 85.34 341 ⇓P **P** 09 39 47.6 +0.8
baz=86
D25A Fairfield 85.34 339 ⇓P **P** 09 39 47.7 +0.7
baz=86
B29A Wagenman Farm, 85.46 342 ⇓P **P** 09 39 48.6 +1.2
baz=86
D24A Glendive 85.61 339 ⇑P **P** 09 39 48.6 +0.3
baz=86
A30A Hoffart Farm, 85.64 343 ⇓P **P** 09 39 48.9 +0.6
baz=86
F20A Billings 85.69 336 ⇑P **P** 09 39 49.6 +0.9
baz=86
B28A Dugan Ranch, T 85.70 342 ⇓P **P** 09 39 49.6 +1.0
baz=86
YMR Madison River 85.72 333 *e*P **P** 09 39 50.7 +1.6
comp=E,7.8nm,0.7s
C25A Freed Ranch, W 85.83 340 ⇓P **P** 09 39 50.3 +0.9
baz=86
A29A Manning Farm, 85.85 342 ⇓P **P** 09 39 49.3 -0.1
baz=86,SNR=5.2
D23A Lindsay 85.94 338 ⇑P **P** 09 39 50.4 +0.5
baz=86
E21A Keefer Ranch, 85.97 337 ⇑P **P** 09 39 50.6 +0.5
baz=86
F19A Roth Farm, Mol 86.01 335 ⇑P **P** 09 39 50.4 0.0
baz=86

C24A Savage 86.02 339 ⇑P **P** 09 39 50.6 +0.3
baz=86,SNR=8.9
HLID Hailey 86.14 331 ⇑P **P** 09 39 52.1 +0.9
baz=86
HLID Hailey 86.14 331 *e*P **P** 09 39 52.3 +1.1
comp=E,40nm,2.5s
D22A Cohagen 86.22 337 ⇑P **P** 09 39 51.8 +0.5
baz=87
E20A Meyer Farm, Mu 86.30 336 ⇑P **P** 09 39 51.9 +0.2
baz=87,SNR=6.7
ULM Lac du Bonnet 86.31 345 P **P** 09 39 51.1 -0.4
comp=E,2.2nm,0.8s,baz=161,slow=4.3,SNR=6.8
D21A La Casta Ranch 86.41 337 ⇑P **P** 09 39 52.5 +0.3
baz=87
E19A Rath Farm, Rou 86.48 336 ⇓P **P** 09 39 52.6 0.0
baz=87,SNR=8.2
C23A Lambert 86.49 338 ⇓P **P** 09 39 53.1 +0.5
baz=87
C22A Vida 86.66 338 ⇓P **P** 09 39 53.3 -0.1
baz=87
DGMT Dagmar 86.79 339 ⇓P **P** 09 39 54.2 +0.1
baz=87,SNR=5.2
DGMT Dagmar 86.79 339 *e*P **P** 09 39 54.8 +0.8
comp=E,19nm,0.8s
D20A Manuel Ranch, 86.81 336 ⇑P **P** 09 39 54.1 -0.1
baz=87,SNR=6.9
A25A Svangstu Ranch 86.90 340 ⇑P **P** 09 39 55.7 +1.1
baz=87
B23A Brockton 87.02 339 ⇓P **P** 09 39 55.9 +0.7
baz=87
D19A Cripps Ranch, 87.12 336 ⇑P **P** 09 39 54.4 -1.4
baz=88
A24A Westby 87.14 340 ⇓P **P** 09 39 56.2 +0.5
baz=88
B22A Reddig Ranch S 87.18 338 ⇑P **P** 09 39 56.7 +0.7
baz=88
C20A Veseth Ranch, 87.31 337 ⇓P **P** 09 39 57.3 +0.7
baz=88
A22A Carney Farms, 87.77 339 ⇑P **P** 09 39 59.5 +0.7
baz=88
B20A Solberg Farm, 87.95 337 ⇓P **P** 09 40 00.1 +0.5
baz=88
A21A Bergtoll Ranch 88.08 338 ⇓P **P** 09 40 00.7 +0.5
baz=88
EGMT Eagleton 88.17 336 ⇑P **P** 09 40 01.1 +0.4
baz=88
B19A Brinkman Farms 88.27 336 ⇓P **P** 09 40 01.6 +0.5
baz=89
A20A Cobblestone Ra 88.30 337 ⇓P **P** 09 40 01.6 +0.2
baz=89
SCHQ Schefferville 88.42 3 P **P** 09 40 01.1 -0.5
comp=E,3.5nm,0.9s,baz=231,slow=6.5,SNR=5.1
A19A Klindworth Far 88.61 337 ⇓P **P** 09 40 02.8 0.0
baz=89
YKA Yellowknife Ar 101.86 341 P **Pdif** 09 41 02.5 -0.3
comp=E,0.1nm,0.6s,baz=260,slow=23,SNR=3.2
ASAR Alice Springs 117.68 207 PKP **PKPdf** 09 45 55.5 -1.3
comp=E,0.3nm,0.8s,baz=160,slow=2.5,SNR=5.1
WRA Warramunga Arr 120.87 209 PKP **PKPdf** 09 46 02.0 -0.9
comp=E,0.8nm,0.6s,baz=165,slow=1.5,SNR=20
BRTR Keskin Array B 121.83 61 PKP **PKPdf** 09 46 04.0 -0.2
comp=E,0.9nm,0.8s,baz=178,slow=2.7,SNR=4.6
AKASG Malin Array Be 122.14 47 PKP **PKPdf** 09 46 03.6 -0.6
comp=E,1.1nm,0.5s,baz=260,slow=2.9,SNR=4.3
SEY Seymchan 139.84 330 PKhKP PKPpre 09 46 30.6
comp=E,0.3nm,0.3s,baz=142,slow=1.8,SNR=2.7
SEY PKP **PKPdf** 09 46 37.8 +0.5
comp=E,1.8nm,0.7s,baz=178,slow=2.6,SNR=9.4
GEYT Alibeck 139.88 69 PKP **PKPdf** 09 46 38.5 +0.2
comp=E,1.4nm,0.6s,baz=184,slow=3.9,SNR=2.7
BRVK Borovoye 147.15 43 *e*PKPdf **PKPdf** 09 46 51.3 +0.9
BVAR Borovoye Array 147.22 43 PKPbc **PKPdf** 09 46 51.8 +1.3
comp=E,2.5nm,0.7s,baz=287,slow=2.4,SNR=16
KSM Kuching 147.73 185 *e*PKPbc **PKPbc** 09 46 55.0 -0.4
YAK Yakutsk 148.54 340 *e*PKPdf **PKPdf** 09 46 52.5 +0.1
YAK *e*PKPbc **PKiKP** 09 46 58.5 +0.9
HYB Hyderabad 149.09 115 *i* PKP **PKPbc** 09 46 57.5 -1.4
KKAR Karatay Array 149.54 61 *e*PKPdf **PKPdf** 09 46 55.6 +0.9
KKAR *e*PKPbc **PKPbc** 09 46 58.8 -0.4
IPM Ipoh 150.12 166 *e*PKPdf **PKPdf** 09 46 56.4 -0.1
AML Almayashu 151.97 63 P **PKPbc** 09 47 06.7 +1.2
SNR=5.8
EKS2 Erkin-Say 151.98 62 *e*PKPdf **PKPdf** 09 47 00.7 +2.0
USP Ospenovka 152.42 60 P **PKPbc** 09 47 06.7 +0.7
SNR=5.7
AAK Ala-Archa 152.50 62 P **PKPbc** 09 47 07.2 +0.8
SNR=5.4
AAK Ala-Archa 152.50 62 PKP **PKPdf** 09 46 60.0 +0.5
comp=E,0.8nm,0.5s,baz=92,slow=7.2,SNR=4.8
AAK PKPbc **PKiKP** 09 47 07.4 +0.8
comp=E,5.9nm,0.7s,baz=186,slow=2.9,SNR=25
AAK Ala-Archa 152.50 62 PKP **PKPdf** 09 46 60.0 +0.5
AAK *e*PKPdf PKPbc 09 47 00.6 -5.8
AAK PKPbc **PKiKP** 09 47 07.4 +0.8
UCH Uchtor 152.57 62 P **PKPbc** 09 47 07.7 +0.8
SNR=7.9
KURBB Kurchatov Arra 152.81 43 PKP **PKPdf** 09 47 01.2 +1.8
comp=E,0.6nm,0.8s,baz=296,slow=2.0,SNR=6.9
KURBB PKPbc **PKiKP** 09 47 07.1 +0.3
comp=E,3.0nm,0.7s,baz=298,slow=2.8,SNR=25
KURK Kurchatov 152.82 43 *e*PKPdf **PKPdf** 09 47 00.3 +1.0
KURK PKP PKPbc 09 47 01.2 -5.4
KURK PKPbc **PKiKP** 09 47 07.1 +0.3
TKM2 Tokmak 2 153.27 61 P **PKPbc** 09 47 06.7 -1.4
SNR=31
KSH Kashi 153.89 68 PKPbc **PKPdf** 09 47 02.6 +1.1
KSH sPKP 09 47 10.0
KSH PKS **PKSdf** 09 50 36.3 +0.4
KSH PP **PP** 09 50 55.9 -2.0
KSH SKKS 09 57 41.6
KSH SS **SS** 10 10 28.1 -5.7
KSH PPMZ
comp=E,160nm,6.8s
KSH LN
comp=E,70nm,5.6s
KSH LE
comp=E,99nm,7.0s
KSH LZ
comp=E,480nm,5.8s
ZALV Zalesovo Beam 154.13 32 PKP **PKPdf** 09 47 01.3 +0.1
comp=E,1.3nm,0.6s,baz=304,slow=2.7,SNR=5.5
ZALV PKPbc **PKiKP** 09 47 09.6 +0.2
comp=E,5.6nm,0.6s,baz=300,slow=3.1,SNR=20
MKAR Makanchi Array 156.72 49 PKP **PKPdf** 09 47 05.5 +0.6
comp=E,0.8nm,0.9s,baz=318,slow=1.6,SNR=5.5
MKAR PKPbc PKPbc 09 47 15.2
comp=E,1.5nm,0.9s,baz=269,slow=1.4,SNR=8.6
MKAR PKPab **PKPab** 09 47 33.5 -1.0
comp=E,1.5nm,0.6s,baz=296,slow=2.3,SNR=9.5
WMQ Urumqi 161.44 52 *e*PKP **PKPdf** 09 47 09.4 -1.2
CMAR Chiang Mai Arr 162.75 150 PKP **PKPdf** 09 47 12.7 0.0
comp=E,0.9nm,0.3s,baz=237,slow=2.3,SNR=4.9
CMAR PKPab **PKPab** 09 48 01.0 -0.2
baz=208,slow=4.2
CN2 Changchun 163.08 311 *e*PKP **PKPdf** 09 47 10.6 -1.6
SONM Songino Array 165.96 4 PKP **PKPdf** 09 47 14.0 -0.8
comp=E,0.1nm,0.3s,baz=139,slow=45,SNR=2.0
SONM PKPab **PKPab** 09 48 15.2 +0.4
comp=E,1.2nm,0.8s,baz=339,slow=4.5,SNR=7.3
GTA Gaotai 171.47 47 *e*PKP **PKPdf** 09 47 20.0 +1.4
GTA pPKP **pPKPdf** 09 47 30.9 +2.0
GTA sPKP 09 47 34.3
GTA PKPab **PKPab** 09 48 40.7 +1.1
HHC Hu-ho-hao-te 172.39 338 *e*PKP **PKPdf** 09 47 18.2 -0.8
HHC pPKP **pPKPdf** 09 47 29.0 -0.3
HHC sPKP 09 47 32.6
HHC SKS **SKSdf** 09 54 16.2 -3.8
HHC PPMZ
comp=E,170nm,6.2s
HHC LN
comp=E,520nm,14.8s
HHC LE
comp=E,200nm,16.0s
HHC LZ
comp=E,200nm,17.3s
CD2 Chengdu 175.48 129 PKP **PKPdf** 09 47 20.5 +0.2
LZH Lanzhou 176.01 54 *e*PKP **PKPdf** 09 47 17.8 -2.6
LZH pPKP **pPKPdf** 09 47 27.0 -3.7
LZH sPKP 09 47 30.1
LZH LN
comp=E,190nm,18.0s
LZH LE
comp=E,190nm,18.0s
LZH LZ
comp=E,220nm,20.0s

*DDA **08** 09:27:29.0, 38°.84N×40°.14E, 7km, MD3.4*
*ISCJB **08** 09:27:30.7±0.9, 38°.84N±0°.04×40°.23E±0°.04, h10km±7km, Error ellipse: s-maj=6.5km s-min=5.1km az=33.7*
*ISK **08** 09:27:30.0, 38°.82N×40°.28E, 7km, ML3.2*
*CSEM **08** 09:27:31.5±0.2, 38°.84N×40°.24E, h10km, ML3.2, Error ellipse: s-maj=7.0km s-min=6.1km az=12.0*
ISC 08 09:27:29.9±1.4, 38°.85N±0°.03×40°.21E±0°.03, h6km±12km, n33, σ1§33/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.22	82	*e*Pg	Pg	09 27 37.4	+3.2
BINT				*e*Sg	Sg	09 27 42.9	+5.7
BNGB	Bing˜¶l	0.39	68	*e*PG	Pg	09 27 37.4	-0.1
BNGB				*e*SG	Sg	09 27 42.9	+0.3
BNGL	BINGOL	0.74	82	*i* P	Pg	09 27 44.0	-0.1
BNGL				*i* S	Sb	09 27 55.9	+0.1
EZM	Erzurum	1.38	40	*e*PN	Pn	09 27 56.1	+0.1
MAZI	Mazidag	1.40	172	*e*PN	Pb	09 27 56.2	-0.3
MAZI	Mazidag	1.40	172	*e*Pn	Pb	09 27 56.2	-0.3
KEMA	Kemaliye	1.40	288	*i* P	Pn	09 27 54.4	-1.8
KEMA				*i* S	Sb	09 28 12.6	-2.2
KEMA	Kemaliye	1.40	288	*i* P	Pn	09 27 54.4	-1.8
KEMA				*i* S	Sb	09 28 12.6	-2.2
KELT	Kelkit	1.50	331	*i* P	Pn	09 27 57.2	-0.4
KELT				*i* S	Sn	09 28 18.0	+0.5
KELT	Kelkit	1.50	331	*i* P	Pn	09 27 57.2	-0.4
KELT				*i* S	Sn	09 28 18.0	+0.5
BAYT	Ayd˜–ntepe-Bay	1.54	358	*e*PN	Pb	09 27 59.0	-0.1
BAYT	Ayd˜–ntepe-Bay	1.54	358	*e*Pn	Pb	09 27 59.0	-0.1
MARD	Mardin	1.59	164	*i* P	Pb	09 27 59.5	-0.3
MARD				*i* S	Sn	09 28 19.0	-0.8
GUMT	Gumushane	1.71	341	*e*PN	Pb	09 28 01.5	-0.3
GUMT	Gumushane	1.71	341	*e*Pn	Pb	09 28 01.5	-0.3
URFA	Urfa	1.78	218	*e*PN	Pn	09 28 02.0	+0.6
URFA	Urfa	1.78	218	*e*Pn	Pn	09 28 02.0	+0.6
DARE	Darende-Malaty	2.15	263	*e*PN	Pn	09 28 08.0	+1.5
DARE	Darende-Malaty	2.15	263	*e*Pn	Pn	09 28 08.0	+1.5
ESPY	Espiye-Giresun	2.36	332	*e*PN	Pn	09 28 10.9	+1.6
ESPY	Espiye-Giresun	2.36	332	*e*Pn	Pn	09 28 10.9	+1.6
SVSK	Karacayir	2.71	294	*e*PN	Pn	09 28 16.3	+2.2
SVSK	Karacayir	2.71	294	*e*Pn	Pn	09 28 16.3	+2.2
RSDY	Resadiye-TOKAT	2.71	306	*e*PN	Pn	09 28 16.0	+1.9
RSDY	Resadiye-TOKAT	2.71	306	*e*Pn	Pn	09 28 16.0	+1.9
CLDR	Caldiran	2.90	83	*e*PN	Pn	09 28 17.4	+0.5
CLDR	Caldiran	2.90	83	*e*Pn	Pn	09 28 17.4	+0.5
KMRS	Kahramanmaras	2.94	244	*e*PN	Pn	09 28 18.9	+1.7
KMRS	Kahramanmaras	2.94	244	*e*Pn	Pn	09 28 18.9	+1.7
CUKT	Cukurca	3.12	120	*e*PN	Pn	09 28 20.3	+0.5
CUKT	Cukurca	3.12	120	*e*Pn	Pn	09 28 20.3	+0.5
BNN	Bunyan	3.41	271	*e*PN	Pn	09 28 25.9	+2.1
BNN	Bunyan	3.41	271	*e*Pn	Pn	09 28 25.9	+2.1

*ISK **08** 09:30:04.6, 38°.86N×40°.18E, h5km, ML3.7*
*DDA **08** 09:30:05.5, 38°.84N×40°.10E, h16km, MD3.5*
*CSEM **08** 09:30:06.3±0.1, 38°.85N×40°.12E, h2km, ML3.7, Error ellipse: s-maj=4.1km s-min=3.4km az=7.0*
*IDC **08** 09:30:09.8±1.4, 39°.16N×39°.75E, h0km, mb3.6/2, mb1 3.6/6, mb1mx3.4/28, mbtmp3.5/6, ML2.5/2, Error ellipse: s-maj=29.7km s-min=13.0km az=169.0*
ISC 08 09:30:05.3±1.1, 38°.86N±0°.02×40°.19E±0°.01, h4km±10km, n98, σ1§46/123, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.23	85	*e*Pg	Pg	09 30 13.7	+3.8
BNGB	Bing˜¶l	0.41	70	*e*PG	Pb	09 30 13.7	-1.5
BNGB				*e*SG	Sb	09 30 20.6	-1.2
BNGL	BINGOL	0.76	82	*i* P	Pb	09 30 20.2	-1.0
BNGL				*i* S	Sb	09 30 32.6	+0.7
ERZN	Erzincan	0.82	334	*e*PG	Pb	09 30 21.2	-0.9
DYBB	Diyarbakir	0.90	183	*e*PG	Pb	09 30 23.1	-0.4
DYBB				*e*SG	Sn	09 30 36.6	-1.8
EUZM	Uzumlu	0.93	336	*i* P	Pb	09 30 23.7	-0.5
EUZM	Uzumlu	0.93	336	*i* P	Pb	09 30 23.7	-0.5
DIY	Diyarbakir	0.96	178	*e*Pg	Pg	09 30 23.1	-0.6
DIY				*e*Sg	Sb	09 30 36.7	-0.9
VRTB	Varto-Mus	1.03	72	*e*PG	Pb	09 30 25.5	-0.4
VRTB				*e*SG	Sn	09 30 41.2	-0.6
VRTB	Varto-Mus	1.03	72	*e*Pg	Pb	09 30 25.5	-0.4
VRTB				*e*Sg	Sn	09 30 41.2	-0.6
SVAN	Silvan-Diyarba	1.06	131	*e*PG	Pn	09 30 26.1	-0.9
SVAN				*e*SG	Sn	09 30 42.0	-0.3
KOPT	Kop Dagi	1.19	12	*i* P	Pn	09 30 28.4	-0.6
KOPT				*i* S	Sn	09 30 46.4	+0.6
KOPT	Kop Dagi	1.19	12	*i* P	Pn	09 30 28.4	-0.6
KOPT				*i* S	Sn	09 30 46.4	+0.6
BEST	Besiri	1.28	138	*i* P	Pg	09 30 30.5	+0.6
BEST				*i* S	Sn	09 30 49.1	+1.3
KEMA	Kemaliye	1.38	288	*i* P	Pb	09 30 30.9	-0.9
KEMA				*i* S	Sb	09 30 48.9	-1.0
KEMA	Kemaliye	1.38	288	*i* P	Pb	09 30 30.9	-0.9
KEMA				*i* S	Sb	09 30 48.9	-1.0
EZM	Erzurum	1.39	41	*e*PN	Pg	09 30 32.0	+0.1
ILIC	ilic-Erzincan	1.40	296	*e*PN	Pg	09 30 32.0	0.0
ILIC				*e*SN	Sn	09 30 51.9	+1.2
ILIC	ilic-Erzincan	1.40	296	*e*Pn	Pg	09 30 32.0	0.0
ILIC				*e*Sn	Sn	09 30 51.9	+1.2
MAZI	Mazidag	1.41	172	*e*PN	Pg	09 30 32.5	+0.2
MAZI	Mazidag	1.41	172	*e*Pn	Pg	09 30 32.5	+0.2
KELT	Kelkit	1.48	331	*i* P	Pb	09 30 32.7	-0.9
KELT				*i* S	Sg	09 30 53.1	+0.2
KELT	Kelkit	1.48	331	*i* P	Pb	09 30 32.7	-0.9
KELT				*i* S	Sg	09 30 53.1	+0.2
MALT	Malatya	1.48	249	*e*PN	Pb	09 30 32.5	-1.0
MALT	Malatya	1.48	249	*e*Pn	Pb	09 30 32.5	-1.0
EKAR	Karacoban	1.51	74	*i* P	Pg	09 30 35.5	+1.2
EKAR				*i* S	Sg	09 30 58.2	+4.2
EKAR	Karacoban	1.51	74	*i* P	Pg	09 30 35.5	+1.2
EKAR				*i* S	Sg	09 30 58.2	+4.2
BAYT	Ayd˜–ntepe-Bay	1.54	359	*e*PN	Pg	09 30 34.1	-0.7
BAYT	Ayd˜–ntepe-Bay	1.54	359	*e*Pn	Pg	09 30 34.1	-0.7
MARD	Mardin	1.61	163	*i* P	Pg	09 30 35.9	-0.2
MARD				*i* S	Sg	09 30 56.9	0.0
TATV	Tatvan	1.66	101	*i* P	Pg	09 30 37.2	0.0
TATV				*i* S	Sg	09 31 01.2	+2.4
TATV	Tatvan	1.66	101	*i* P	Pg	09 30 37.2	0.0
TATV				*i* S	Sg	09 31 01.2	+2.4
GUMT	Gumushane	1.69	341	*e*PN	Pb	09 30 36.4	-0.8
GUMT	Gumushane	1.69	341	*e*Pn	Pb	09 30 36.4	-0.8
URFA	Urfa	1.78	218	*e*PN	Pb	09 30 37.6	-0.9
URFA	Urfa	1.78	218	*e*Pn	Pb	09 30 37.6	-0.9
HOMI	Horasan	1.78	48	*i* P	Pg	09 30 38.7	-0.8
ATAB	Bozova	2.04	228	*i* P	Pb	09 30 41.3	-1.6
ATAB				*i* S	Sb	09 31 06.7	-1.9
ATAB	Bozova	2.04	228	*i* P	Pb	09 30 41.3	-1.6
ATAB				*i* S	Sb	09 31 06.7	-1.9
SUSE	Susehri	2.05	312	*i* P	Pg	09 30 43.7	-0.9
SUSE				*i* S	Sg	09 31 10.7	-0.4
SUSE	Susehri	2.05	312	*i* P	Pg	09 30 43.7	-0.9
SUSE				*i* S	Sg	09 31 10.7	-0.4
EATA	Eleskirt	2.05	60	*i* P	Pg	09 30 43.9	-0.7
EATA	Eleskirt	2.05	60	*i* P	Pg	09 30 43.9	-0.7
DARE	Darende-Malaty	2.14	263	*e*PN	Pb	09 30 42.8	-1.9
DARE	Darende-Malaty	2.14	263	*e*Pn	Pb	09 30 42.8	-1.9
KTUT	Trabzon	2.15	351	*e*PN	Pb	09 30 42.9	-2.0
KTUT	Trabzon	2.15	351	*e*Pn	Pb	09 30 42.9	-2.0
SIRN	S˜–rnak	2.22	127	*i* P	Pb	09 30 44.9	-1.1
SIRN				*i* S	Sg	09 31 15.7	-0.8
SIRN	S˜–rnak	2.22	127	*i* P	Pb	09 30 44.9	-1.1
SIRN				*i* S	Sg	09 31 15.7	-0.8
SIRT	Sirnak	2.23	127	*e*PN	Pb	09 30 44.1	-2.1
SIRT	Sirnak	2.23	127	*e*Pn	Pb	09 30 44.1	-2.1
AGRB	Hanur-Agry	2.29	71	*e*PN	Pn	09 30 45.1	+1.0
AGRB	Hanur-Agry	2.29	71	*e*Pn	Pn	09 30 45.1	+1.0
GEVA	Gevas	2.31	103	*i* P	Pg	09 30 48.6	-1.1
GEVA	Gevas	2.31	103	*i* P	Pg	09 30 48.6	-1.1
GEVA				*i* S	Sg	09 31 20.4	+0.7
ESPY	Espiye-Giresun	2.35	332	*e*PN	Pb	09 30 45.8	-2.4
ESPY	Espiye-Giresun	2.35	332	*e*Pn	Pb	09 30 45.8	-2.4
DDEM	Demirkent	2.36	30	*i* P	Pb	09 30 46.5	-2.0
DDEM	Demirkent	2.36	30	*i* P	Pb	09 30 46.5	-2.0
DBAD	Bademkaya	2.45	28	*i* P	Pb	09 30 48.0	-2.0
DBAD	Bademkaya	2.45	28	*i* P	Pb	09 30 48.0	-2.0
VANB	Van	2.52	95	*e*PN	Pn	09 30 48.5	+1.3
VANB	Van	2.52	95	*e*Pn	Pn	09 30 48.5	+1.3
GRSN	GIRESUNGRSN	2.54	325	*i* P	Pb	09 30 51.4	-0.1
GRSN				*i* S	Sb	09 31 22.8	-0.4
GRSN	GIRESUNGRSN	2.54	325	*i* P	Pb	09 30 51.4	-0.1
GRSN				*i* S	Sb	09 31 22.8	-0.4
GZT	Gaziantep	2.56	235	*i* P	Pn	09 30 48.8	+1.1
GZT				*i* S	Sg	09 31 29.8	+2.4
DAGI	Agillar	2.59	30	*i* P	Pb	09 30 49.8	-2.5
ARTV	Artvin	2.68	29	*i* P	Pb	09 30 51.7	-2.4
ARTV	Artvin	2.68	29	*i* P	Pb	09 30 51.7	-2.4
SVSK	Karacayir	2.69	294	*e*PN	Pn	09 30 50.6	+1.2
SVSK	Karacayir	2.69	294	*e*Pn	Pn	09 30 50.6	+1.2
RSDY	Resadiye-TOKAT	2.69	306	*e*PN	Pn	09 30 50.8	+1.3
RSDY	Resadiye-TOKAT	2.69	306	*e*Pn	Pn	09 30 50.8	+1.3
KARS	Kars	2.84	51	*e*PN	Pn	09 30 52.9	+1.2
KARS	Kars	2.84	51	*e*Pn	Pn	09 30 52.9	+1.2
CLDR	Caldiran	2.92	83	*e*PN	Pn	09 30 54.0	+1.2
CLDR	Caldiran	2.92	83	*e*Pn	Pn	09 30 54.0	+1.2
KMRS	Kahramanmaras	2.92	244	*e*PN	Pn	09 30 53.9	+1.3
KMRS	Kahramanmaras	2.92	244	*e*Pn	Pn	09 30 53.9	+1.3
HAKT	HAKKARI	3.06	114	*i* P	Pb	09 30 58.6	-1.9
HAKT	HAKKARI	3.06	114	*i* P	Pb	09 30 58.6	-1.9
HAKT				*i* S	Sg	09 31 42.5	-1.1
CUKT	Cukurca	3.14	120	*e*PN	Pn	09 30 57.1	+1.4
CUKT	Cukurca	3.14	120	*e*Pn	Pn	09 30 57.1	+1.4
ANDN	Andirin	3.28	248	*i* P	Pg	09 31 06.9	-1.4
ANDN				*i* S	Sg	09 31 55.3	+4.5
BNN	Bunyan	3.39	271	*e*PN	Pn	09 31 00.2	+1.0
BNN	Bunyan	3.39	271	*e*Pn	Pn	09 31 00.2	+1.0
GNI	Garni	3.75	68	*e*PN	Pn	09 31 05.9	+1.7
GNI	Garni	3.75	68	Pn	Pg	09 31 14.6	-2.6
	2.3nm,0.3s,baz=308,slow=3.6,SNR=9.0						
GNI	Garni	3.75	68	*e*Pn	Pn	09 31 05.9	+1.7
ONI	Oni	4.48	33	P	Pb	09 31 20.2	-4.4
DGRG	David-gareji	4.74	55	P	Pn	09 31 20.5	+2.8
DGRG	David-gareji	4.74	55	P	Pn	09 31 20.5	+2.8
BRTR	Keskin Array B	5.16	282	Pn	Pn	09 31 25.2	+1.7
	0.4nm,0.3s,baz=99,slow=14,SNR=12						
KBZ	Khabaz	5.28	22	Pn	Pn	09 31 29.9	+4.9
	0.1nm,0.3s,baz=172,slow=7.1,SNR=1.6						
MMAI	Mount Meron Ar	7.00	215	Pn	Pn	09 31 53.0	+4.3
	2.1nm,0.3s,baz=53,slow=15,SNR=2.3						
ASF	Jabal al Asfar	7.19	203	Pn	Pb	09 32 04.1	-6.6
	0.6nm,0.3s,baz=307,slow=10,SNR=2.2						
FINES	FINESS Array B	24.25	343	P	**P**	**09 35 24.4**	**+1.3**
	1.5nm,0.7s,baz=156,slow=10.0,SNR=5.8						
YKA	Yellowknife Ar	76.98	348	P	P	09 42 01.5	+2.8
	0.4nm,0.9s,baz=19,slow=5.5,SNR=5.1						

*ISCJB **08** 09:31:02.4±0.6, 37°.08S±0°.04×72°.6W±0°.1, h35km, mb3.9/5, Error ellipse: s-maj=14.9km s-min=4.7km az=10.8*
*GUC **08** 09:31:03.7±0.4, 37°.04S×72°.72W, h57km±7km, ML4.4*
*IDC **08** 09:31:04.3±1.3, 37°.00S×70°.50W, h0km, mb4.0/5, mb1 4.1/7, mb1mx4.0/17, mbtmp4.0/7, ML3.8/2, Error ellipse: s-maj=48.7km s-min=17.4km az=93.0*
ISC 08 09:31:02.9±0.9, 37°.04S±0°.06×72°.7W±0°.1, h35km, n23, σ1§39/22, mb4.0/5, 2C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.91	354	*e*P	Pn	09 31 20.1	+0.9
COCH				*i* S	Sn	09 31 32.7	+1.6
LNCH	Linares	1.47	36	⇑*i*P	Pn	09 31 27.9	+1.0
LNCH				*i* S	Sn	09 31 46.8	+1.9
LNCH				IAML		09 31 52.5	
	comp=E,6μm,0.6s						
NICH	Los Niches	2.34	30	*i* P	Pn	09 31 40.4	+1.5
NICH				*i* S	Sn	09 32 07.8	+1.4
NICH				IAML		09 32 23.0	
	comp=E,3μm,0.5s						
VLCH	Valdivia	2.80	189	⇑*i*P	Pn	09 31 46.1	+1.0
VLCH				*e*S	Sn	09 32 18.1	+0.4
LNV	Longovilo	3.24	19	*e*P	Pn	09 31 52.3	+1.1
CACH	El Canelo	3.37	31	*e*P	Pn	09 31 54.7	+1.6
CHCH	Chadas Angostu	3.51	29	*e*P	Pn	09 31 56.1	+1.1
ANTU	Antumapu	3.84	26	*e*P	Pn	09 32 00.6	+1.1
PLCA	Paso Flores	4.04	157	Pn	Pn	09 32 03.4	+1.1
	comp=E,2.3nm,0.3s,baz=304,slow=14,SNR=1.3						
PLCA				Lg	Lg	09 33 03.8	
	comp=E,4.4nm,0.3s,baz=61,slow=19,SNR=2.8						
ARCO	CERRO ARCO	5.19	37	*i* P	Px	09 33 05.8	
ARCO				AML	AML	09 33 10.6	
	comp=Z,265nm,0.6s						
ASAL	Salagasta	5.44	37	*i* P	Px	09 33 01.9	
AUSP	Uspallata	5.51	30	*i* P	Px	09 33 02.1	
RTLS	Leoncito	5.92	29	*i* P	Px	09 32 57.9	
CFAA	Coronel Fontan	6.54	35	Pn	Pn	09 32 36.0	-0.6
	comp=Z,0.6nm,0.3s,baz=194,slow=12,SNR=9.1						
CFAA				Lg	Lg	09 34 12.9	
	comp=Z,0.6nm,0.3s,baz=114,slow=23,SNR=1.5						
AMOG	MOGNA	7.00	31	*i* P	Pn	09 32 42.2	-0.8
APLL	PUNTA DE LOS L	8.37	39	*i* P	Pn	09 33 00.5	-1.3
USHA	Ushuaia	18.03	172	P	P	09 35 12.7	+2.0
	comp=Z,0.2nm,0.3s,baz=79,slow=12,SNR=1.4						
LPAZ	La Paz	21.06	12	P	P	09 35 45.4	+0.8
	comp=Z,4.7nm,0.9s,baz=225,slow=2.8,SNR=3.4						
SIV	San Ignacio	23.35	29	P	P	09 36 06.7	-1.5
	comp=Z,2.5nm,0.5s,baz=219,slow=11,SNR=6.3						
TXAR	Lajitas Array	72.15	332	P	P	09 42 36.6	+13
	comp=Z,0.3nm,0.7s,baz=148,slow=8.2,SNR=3.5						
DBIC	Dimbokro	76.65	71	P	P	09 42 49.0	-1.3
	comp=Z,2.8nm,0.5s,baz=187,slow=7.8,SNR=6.3						
TORD	Torodi Ar. Bea	85.73	70	P	P	09 43 36.9	-1.7
	comp=Z,0.9nm,0.8s,baz=226,slow=4.0,SNR=2.6						
MKAR	Makanchi Array	159.05	54	PKPab	PKPab	09 51 32.2	-1.4
	comp=Z,0.7nm,0.8s,baz=289,slow=3.7,SNR=4.4						

*NIED **08** 09:47:00, 19°.40N×145°.20E, h460km, Mw6.2 Best double couple: M0 1.98000×10^18 NP1:φ1=342.00000°, δ34.00000°, λ-70.00000°. NP2:φ2=139.00000°, δ59.00000°, λ-103.00000°.*
*JMA **08** 09:47:07.7±0.6, 19°.36N×145°.21E, h477km, M6.5*
*NEIC **08** 09:47:08.9±0.1, 19°.35N×144°.74E, h427km, mb6.0/252, ME5.3, MW6.0, MW6.1, Error ellipse: s-maj=3.0km s-min=2.4km az=141.0, Moment Tensor Solution. s65 Moment tensor: Scale 10^18Nm; Mrr-1.47; Mθθ0.22; Mφφ1.25; Mrθ-0.55; Mθφ-0.65; Mφr0.13; Best double couple: M0 1.60000×10^18 NP1:φ1=139.00000°, δ54.00000°, λ-109.00000°. NP2:φ2=349.00000°, δ40.00000°, λ-66.00000°. Principal axes: T 1.6100, Plg6.0000°, Azm242.0000°; N 0.0300, Plg15.0000°, Azm150.0000°; P -1.6300, Plg73.0000°, Azm355.0000°; Depth from broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt on Saipan.
*ISCJB **08** 09:47:09.9±0.3, 19°.31N±0°.01×144°.74E±0°.01, h447km±3km, mb5.9/428 Error ellipse: s-maj=2.2km s-min=2.0km az=159.8*
*BJI **08** 09:47:09.5, 19°.55N×144°.86E, h442km, mB5.6/48, mb5.6/81*
*MOS **08** 09:47:09.7±0.9, 19°.40N×144°.71E, h446km, mb6.0/110, Error ellipse: s-maj=6.7km s-min=4.0km az=110.4*
*IDC **08** 09:47:11.3±0.8, 19°.35N×144°.79E, h447km±7km, mb5.3/26, mb1 5.4/28, mb1mx5.4/28, mbtmp6.0/28, Error ellipse: s-maj=8.2km s-min=6.1km az=78.0*
*GCMT **08** 09:47:11.6±0.1, 19°.26N×144°.67E, h432km, MW6.1/132, Moment Tensor Solution. s132, c292; s111, c142; Duration: 2§7 Moment tensor: Scale 10^18Nm; Mrr-1.53±.01; Mθθ0.47±.02; Mφφ1.05±.02; Mrθ-0.37±.02; Mθφ-0.88±.02; Mφr0.17±.02; Best double couple: M0 1.65800×10^18 NP1:φ1=136.00000°, δ52.00000°, λ-100.00000°. NP2:φ2=332.00000°, δ39.00000°, λ-78.00000°. Principal axes: T 1.7210, Plg6.0000°, Azm233.0000°; N -0.1340, Plg8.0000°, Azm143.0000°; P -1.5960, Plg80.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*DJA **08** 09:47:13.1±1.1, 19°N±7°×14°5E±°, h444km±12km, M6.0/130, mb6.1/130, mB6.3/124, Mw(mB)6.0/124, Mwp6.0/9*
*NEIC **08** 09:47:19.0±0.0, 19°.23N×144°.64E, h438km, Moment Tensor Solution. s138 Moment tensor: Scale 10^18Nm; Mrr-1.38; Mθθ0.42; Mφφ0.96; Mrθ-0.25; Mθφ-0.73; Mφr-0.03; Best double couple: M0 1.40000×10^18 NP1:φ1=136.00000°, δ48.00000°, λ-102.00000°. NP2:φ2=335.00000°, δ43.00000°, λ-75.00000°. Principal axes: T 1.4800, Plg2.0000°, Azm234.0000°; N -0.0500, Plg9.0000°, Azm144.0000°; P -1.4200, Plg80.0000°, Azm339.0000°;*
ISC 08 09:47:10.6±0.2, 19°.35N±0°.03×144°.76E±0°.03, h447km±1km, h447km:pP-P, n2013, σ1§20/2320, mb6.0/415, 340C-304D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.73	179	*e*P	P	09 48 41.2	-1.0
GUMO	Guam	5.73	179	*e*P	P	09 48 41.2	-1.0
JHHJ	Haha-jima-NKT	7.62	342	P	P	09 49 02.3	+0.4
JHHJ				S	S	09 50 32.9	-0.2
JCJ	Chichijima	8.06	343	P	P	09 49 07.0	+0.4
	415nm,0.3s,baz=118,slow=12,SNR=101						
JCJ				S	S	09 50 46.0	+4.2
	198nm,0.3s,baz=179,slow=23,SNR=6.1						
JCJ				ScS	ScS	10 01 11.1	-3.5
	5.1nm,0.3s,baz=234,slow=22,SNR=12						
CBIJ	Chichi jima	8.06	343	P	P	09 49 06.8	+0.3
CBIJ				S	S	09 50 41.0	-0.8
CBIJ	Chichi jima	8.06	343	*e*P	P	09 49 06.9	+0.3
CBIJ				S	S	09 50 46.0	+4.2
CBIJ				ScS	ScS	10 01 11.1	-3.4
JMZ	Minamidaito 2	14.06	300	P	P	09 50 12.0	+0.3
JMZ				S	S	09 52 41.9	+0.5
JHCJ	Hachijojimakas	14.37	343	P	P	09 50 13.6	-1.3
JHCJ				*e*S	S	09 52 46.3	-1.0
JHJ2	Mitsune	14.40	343	P	P	09 50 14.1	-1.2
JHJ2				S	S	09 52 45.4	-2.5
JMY	Miyakejima3	15.39	343	P	P	09 50 24.3	-1.6
BSO1	Boso 1	15.61	348	P	P	09 50 26.5	-1.1
BSO1				S	S	09 53 11.7	+1.3
BSO2	Boso 2	15.75	348	*e*S	S	09 53 15.2	+1.7
TTO1	TONANKAI O.B.S	15.89	335	P	P	09 50 29.6	-1.3
JWZ	Kozaga	16.27	332	P	P	09 50 33.8	-1.4
JWZ				S	S	09 53 26.5	+2.3
JIE	Ise	16.60	336	P	P	09 50 36.3	-2.4
JIE				S	S	09 53 32.5	+1.8
JOD2	Odawara 2	16.63	344	P	P	09 50 37.1	-1.8
JOD2				*e*S	S	09 53 27.2	-4.0
JAMN	Amaminishikomi	16.77	305	P	P	09 50 41.3	+0.8
JAMN				S	S	09 53 35.6	+1.5
JOW	Kunigami	16.89	299	P	P	09 50 42.3	+0.5
JOW				S	S	09 53 37.2	+0.9
JOW	Kunigami	16.89	299	P	P	09 50 42.4	+0.7
	5.8nm,0.3s,baz=118,slow=18,SNR=60						
JOW				S	S	09 53 38.0	+1.7
	baz=148,slow=29,SNR=12						
JOW				PcP	PcP	09 55 02.8	+0.6
	0.1nm,0.3s,baz=123,slow=5.8,SNR=3.4						
JOW	Kunigami	16.89	299	*e*P	P	09 50 42.5	+0.7
	262nm,1.0s						
JOW				S	S	09 53 38.0	+1.7
JOW				PcP	PcP	09 55 02.8	+0.6
JTO	Tosashimizu	17.19	324	P	P	09 50 45.0	+0.1
JTO				S	S	09 53 43.6	+1.7
JKE	Kume jima 2	17.95	296	P	P	09 50 52.1	-0.9
JKE				S	S	09 53 55.5	-0.1
MJAR	Matsushiro Arr	18.07	343	P	P	09 50 51.5	-2.5
	23nm,0.3s,baz=166,slow=10,SNR=168						
MJAR				S	S	09 53 57.7	+0.3
	4.2nm,0.3s,baz=136,slow=13,SNR=4.9						
MJAR				PcP	PcP	09 55 04.0	0.0
	baz=157,slow=3.0,SNR=4.1						
MJAR				ScP	ScP	09 57 55.6	-0.9
	0.8nm,0.3s,baz=171,slow=3.2,SNR=11						
MJAR				ScS	ScS	10 01 37.6	0.0
	0.1nm,0.3s,baz=120,slow=17,SNR=2.6						
MJAR				P3KPbc		10 25 18.4	
	baz=310,slow=4.6,SNR=9.0						
MJAR				P4KP		10 33 50.9	
	0.2nm,0.3s,baz=164,slow=4.9,SNR=7.3						
MAJO	Matsushiro	18.07	343	*c* P	P	09 50 51.8	-2.2
MAJO	Matsushiro	18.07	343	*e*P	P	09 50 51.2	-2.8
	217nm,0.7s						
MAT	Matsushiro	18.07	343	P	P	09 50 51.0	-3.0
MAT				S	S	09 53 54.2	-3.2
JSJ	Shimokoshiki	18.28	315	P	P	09 50 55.9	-0.3
JSJ				S	S	09 54 02.2	+1.2
JNU	Nakatsue	18.50	321	P	P	09 50 57.6	-0.7
	48nm,0.3s,baz=98,slow=1.4,SNR=210						
JNU				S	S	09 54 06.7	+2.1
	baz=352,slow=23,SNR=6.9						
JNU	Nakatsue	18.50	321	*e*P	P	09 50 58.2	-0.1
JNU				S	S	09 54 06.7	+2.1
JHS	Saijyo	18.69	329	P	P	09 50 58

KSJEO	**Jeonju**	**22.58 321**	P	**P**	**09 51 35.8**	**+0.3**
	SNR=19					
ERM	**Erimo**	**22.63 357**	*c iP*	**P**	**09 51 37.0**	**+1.1**
ERM			pmax	pmax		
	comp=Z,146nm,1.2s					
ERM	**Erimo**	**22.63 357**	*e*P	**P**	**09 51 37.3**	**+1.5**
	comp=Z,2μm,2.8s					
KSBON	**Boeun**	**22.66 322**	P	**P**	**09 51 36.9**	**+0.7**
	SNR=35					
SRPI	**Serui, Papua**	**22.69 203**	P	**P**	**09 51 37.2**	**+0.5**
	comp=Z,1μm,0.9s,comp=Z,11μm					
KSYOW	**Yeongwol**	**22.78 325**	P	**P**	**09 51 39.4**	**+2.2**
	SNR=11					
TPUB	**Ta-pu**	**22.81 284**	*e*P	**P**	**09 51 38.0**	**+0.3**
	comp=Z,368nm,0.9s					
KSCHJ	**Chungju**	**22.83 323**	P	**P**	**09 51 39.1**	**+1.4**
	SNR=10.0					
ABRA	**Dolores**	**22.86 270**	*e*P	**P**	**09 51 38.8**	**+0.5**
PIP	**Pasuquin**	**22.87 271**	⇑*e*P	**P**	**09 51 37.5**	**-0.8**
OTRP	**Odiongan**	**22.93 256**	*e*P	**P**	**09 51 40.0**	**+1.1**
KSHUK	**Heuksando**	**22.94 316**	P	**P**	**09 51 38.5**	**-0.3**
	SNR=33					
KSGUS	**GUNSAN**	**22.95 320**	P	**P**	**09 51 42.5**	**+3.7**
	SNR=6.3					
KSDGY	**Daegwallycong**	**23.04 326**	P	**P**	**09 51 40.8**	**+1.1**
	SNR=35					
GUIM	**Jordan**	**23.08 251**	*e*P	**P**	**09 51 40.5**	**+0.2**
KSJMJ	**Jumunjin**	**23.14 326**	P	**P**	**09 51 41.6**	**+1.2**
	SNR=14					
KSWJU	**Wonju**	**23.16 324**	P	**P**	**09 51 41.5**	**+0.7**
	SNR=17					
RKPI	**Ransiki, Papua**	**23.19 208**	P	**P**	**09 51 41.5**	**+0.2**
	comp=Z,1μm,0.9s,comp=Z,27μm					
KSCEA	**Cheonan**	**23.20 322**	P	**P**	**09 51 42.3**	**+1.2**
	SNR=19					
KSRS	**Korea Array**	**23.27 324**	P	**P**	**09 51 41.6**	**0.0**
	comp=Z,118nm,0.4s,baz=140,slow=9.1,SNR=309					
KSRS			PcP	**PcP**	**09 55 14.9**	**+1.0**
	comp=Z,94nm,0.9s,baz=161,slow=1.2,SNR=18					
KSRS			ScP	**ScP**	**09 58 09.6**	**+0.4**
	comp=Z,76nm,1.0s,baz=136,slow=2.7,SNR=21					
KSRS			PKiKP	**PKiKP**	**10 02 56.9**	**-0.5**
	comp=Z,8.2nm,0.8s,baz=228,slow=0.8,SNR=14					
KSRS			P3KPbc		10 24 59.1	
	comp=Z,20nm,0.9s,baz=324,slow=4.1,SNR=32					
KSRS			P4KP		10 34 16.1	
	comp=Z,4.4nm,0.8s,baz=139,slow=6.3,SNR=13					
KSAR	**Wonju Array Be**	**23.28 324**	P	**P**	**09 51 41.7**	**-0.1**
KSAR					09 55 14.9	
KSAR	**Wonju Array Be**	**23.28 324**	P	**P**	**09 51 41.6**	**-0.1**
KSAR			PcP	**PcP**	**09 55 14.9**	**+0.9**
KSAR			ScP	**ScP**	**09 58 09.6**	**+0.4**
KSAR			PKiKP	**PKiKP**	**10 02 56.9**	**-0.5**
KSAR			*e*		10 24 59.1	
KSAR			P4KP		10 34 16.1	
CTBH	**Cotabato--PC H**	**23.29 242**	⇑*e*P	**P**	**09 51 42.0**	**-0.1**
TGY	**Tagaytay City**	**23.39 261**	P	**P**	**09 51 45.1**	**+1.9**
	comp=Z,1μm,0.7s,baz=35,slow=1.4,SNR=54					
TGY			ScP	**ScP**	**09 58 10.8**	**+0.8**
	comp=Z,258nm,0.5s,baz=329,slow=0.9,SNR=8.7					
KSICN	**Icheon**	**23.44 323**	P	**P**	**09 51 44.1**	**+0.9**
	SNR=18					
KSIJA	**INJE**	**23.56 325**	P	**P**	**09 51 45.8**	**+1.6**
	SNR=22					
KSCHC	**Chuncheon**	**23.56 325**	P	**P**	**09 51 46.1**	**+1.7**
	SNR=7.5					
KSSKC	**Sokcho**	**23.57 327**	P	**P**	**09 51 45.8**	**+1.5**
	SNR=22					
KSSES	**Seosan**	**23.65 321**	P	**P**	**09 51 48.3**	**+3.2**
	SNR=5.3					
KSSWO	**Suwon**	**23.68 323**	P	**P**	**09 51 48.4**	**+3.1**
	SNR=18					
PAGZ	**Pagadian**	**23.68 244**	*e*P	**P**	**09 51 46.7**	**+1.1**
SEHB	**SEOHWA**	**23.69 326**	P	**P**	**09 51 47.1**	**+1.7**
	SNR=22					
SJMP	**San Jose**	**23.73 257**	*e*P	**P**	**09 51 48.0**	**+1.9**
BOLP	**Bolinao**	**23.83 267**	*e*P	**P**	**09 51 46.5**	**-0.4**
KSSEO	**Seoul**	**23.86 323**	P	**P**	**09 51 51.1**	**+4.2**
	SNR=10					
KSCWO	**Cheorwon**	**23.95 325**	P	**P**	**09 51 49.2**	**+1.5**
	SNR=17					
SCZP	**Santa Cruz**	**23.95 265**	*e*P	**P**	**09 51 46.1**	**-1.9**
INCN	**Inchon**	**24.02 323**	*e*P	**P**	**09 51 48.3**	**-0.1**
	comp=Z,1μm,1.6s					
SWI	**Sorong**	**24.07 215**	P	**P**	**09 51 48.1**	**-1.0**
	comp=Z,2μm,1.0s,comp=Z,18μm					
KSDDC	**Dongducheon**	**24.07 324**	P	**P**	**09 51 52.1**	**+3.2**
	SNR=24					
LUBP	**Lubang**	**24.14 260**	*e*P	**P**	**09 51 50.7**	**+0.9**
KSMUS	**Musan**	**24.23 323**	P	**P**	**09 51 54.2**	**+3.9**
	SNR=44					
YNCB	**YEONCHEON**	**24.24 324**	P	**P**	**09 51 50.9**	**+0.5**
	SNR=21					
SSE	**Sheshan**	**24.27 303**	P	**P**	**09 51 51.2**	**+0.5**
SSE			sP	sP	09 53 52.6	-5.8
SSE			S	**S**	**09 55 34.5**	**-2.3**
SSE			PMZ			
	comp=Z,160nm,1.4s					
KSGAH	**Ganghwa**	**24.28 323**	P	**P**	**09 51 54.5**	**+3.8**
	SNR=14					
SGSI	**Sangihe**	**24.39 233**	P	**P**	**09 51 51.3**	**-0.7**
	comp=Z,829nm,1.3s,comp=Z,11μm					
CUYO	**Cuyo Island**	**24.41 253**	*e*P	**P**	**09 51 53.1**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**24.63 2***d iP*		P	09 51 47.2	-6.5
YUK			*i* S	S	09 55 34.4	-7.7
YUK			pmax	pmax		
	comp=Z,893nm,1.4s					
YUK			pmax	pmax		
	comp=N,201nm,0.7s					
YUK			pmax	pmax		
	comp=E,113nm,0.7s					
YUK			pmax	pmax		
	comp=Z,2μm,1.4s					
YUK			MLR	MLR		
	comp=N,2μm,17.0s					
YUK			MLR	MLR		
	comp=E,1μm,17.0s					
YUK			MLR	MLR		
	comp=Z,2μm,17.0s					
BUSP	**Coron**	**24.73 256**	*e*P	**P**	**09 51 56.9**	**+1.9**
ASAJ	**Asahikawa**	**24.76 356**	P	**P**	**09 51 55.9**	**+1.0**
ASAJ					09 55 18.8	
ASAJ			pmax	pmax		
	comp=Z,48nm,0.4s					
ASAJ			pmax	pmax		
	comp=Z,149nm,0.9s					
ASAJ	**Asahikawa**	**24.76 356**	P	**P**	**09 51 55.9**	**+1.0**
	comp=Z,48nm,0.4s,baz=228,slow=8.8,SNR=49					
ASAJ			PcP	**PcP**	**09 55 18.8**	**+1.7**
	comp=Z,149nm,0.9s,baz=238,slow=8.2,SNR=5.6					
ASAJ	**Asahikawa**	**24.76 356**	*e*P	**P**	**09 51 55.3**	**+0.4**
	comp=Z,260nm,1.9s					
ASAJ			PcP	**PcP**	**09 55 18.8**	**+1.7**
QZH	**Quanzhou**	**24.85 288**	⇓*i*P	**P**	**09 51 56.7**	**+0.8**
QZH			PcP	**PcP**	**09 55 19.2**	**+1.5**
QZH			S	**S**	**09 55 45.0**	**-1.1**
QZH			ScP	**ScP**	**09 58 14.6**	**+0.8**
QZH			PMZ			
	comp=Z,520nm,1.0s					
QZH			PMZ			
	comp=Z,2μm,4.7s					
TNTI	**Ternate**	**25.13 225**	P	**P**	**09 51 57.6**	**-1.0**
	comp=Z,933nm,0.9s,comp=Z,13μm					
TNTI	**Ternate**	**25.13 225**	*e*P	**P**	**09 51 57.8**	**-0.8**
	comp=Z,664nm,0.7s					
FAKI	**Fak Fak**	**25.32 210**	P	**P**	**09 51 59.1**	**-1.1**
	comp=Z,1μm,1.0s,comp=Z,11μmcomp=Z,12μm					
FAKI	**Fak Fak**	**25.32 210**	*e*P	**P**	**09 51 59.4**	**-0.8**
	comp=Z,726nm,0.8s					
KMPI	**Kaimana, Papua**	**25.32 207**	P	**P**	**09 52 00.3**	**+0.1**
	comp=Z,3μm,0.9s,comp=Z,28μm					
ENPP	**El Nido**	**25.72 255**	*e*P	**P**	**09 52 04.8**	**+1.0**
KUR	**Kuril'sk**	**25.94 5***d iP*		**P**	**09 52 06.0**	**+0.7**
KUR			*i* *SP	**sP**	**09 54 15.4**	**0.0**
KUR			*i*		09 55 19.7	
KUR			*i* S	**S**	**09 56 03.5**	**+0.8**
KUR			pmax	pmax		
	comp=E,87nm,1.1s					
KUR			pmax	pmax		
	comp=N,91nm,1.1s					
KUR			pmax	pmax		
	comp=Z,552nm,1.2s					
KUR			pmax	pmax		
	comp=Z,2μm,1.8s					
VLA	**Vladivostok**	**26.06 338**	⇓*i*P	**P**	**09 52 07.5**	**+1.1**
VLA					09 55 18.8	
VLA			*e*S	**S**	**09 56 05.1**	**+0.4**
VLA			pmax	pmax		
	comp=Z,783nm,1.1s					
VLA			smax	smax		
	comp=N,838nm,0.7s					
LBMI	**Labuha**	**26.11 222**	P	**P**	**09 52 06.7**	**-0.5**
	comp=N,2μm,1.1s,comp=N,23μm					
NJ2	**Nanjing**	**26.47 304**	*e*P	**P**	**09 52 08.5**	**-1.7**
NJ2			sP	**sP**	**09 54 18.7**	**-1.8**
NJ2			PcP	**PcP**	**09 55 23.0**	**+1.7**
NJ2			S	**S**	**09 56 09.5**	**-2.0**
NJ2			PMZ			
	comp=N,780nm,9.5s					
PPR	**Puerto Princes**	**26.90 253**	*e*P	**P**	**09 52 16.7**	**+2.5**
USRK	**Ussuriysk Ar.**	**26.98 339**	P	**P**	**09 52 14.9**	**+0.4**
	comp=N,69nm,0.6s,baz=138,slow=8.4,SNR=141					
USRK			PcP	**PcP**	**09 55 23.9**	**+1.6**
	comp=N,51nm,0.8s,baz=207,slow=2.1,SNR=7.5					
USRK			ScP	**ScP**	**09 58 19.1**	**-0.6**
	comp=N,57nm,1.2s,baz=180,slow=1.9,SNR=11					
USRK			P3KPbc		10 24 41.8	
	comp=N,26nm,0.9s,baz=317,slow=3.9,SNR=51					
MSAI	**Masohi**	**27.41 216**	P	**P**	**09 52 18.6**	**-0.1**
	comp=N,403nm,0.7s,comp=N,4μm					
YSS	**Yuzh-Sakhalins**	**27.58 357***k iP*		**P**	**09 52 19.0**	**-0.8**
YSS			*e**SP	**sP**	**09 54 26.0**	**-4.3**
YSS			*i*		09 55 24.7	
YSS			*i* S	**S**	**09 56 26.0**	**-2.4**
YSS			*e*		10 02 13.0	
YSS			pmax	pmax		
	comp=Z,180nm,1.2s					
YSS			smax	smax		
	comp=N,4μm,12.0s					
YSS			MLR	MLR		
	comp=N,2μm,12.0s					
YSS			MLR	MLR		
	comp=Z,1μm,12.0s					
KMSI	**Cibinong**	**27.62 230**	P	**P**	**09 52 20.5**	**-0.1**
	comp=Z,2μm,0.9s,comp=Z,28μmcomp=Z,8μm					
BNDI	**Bandanaira**	**27.87 213**	P	**P**	**09 52 21.4**	**-1.3**
	comp=Z,3μm,1.0s,comp=Z,26μmcomp=Z,15μm					
DL2	**Dalian**	**27.93 319**	P	**P**	**09 52 23.4**	**+0.4**
DL2			pP	**pP**	**09 53 39.7**	**-1.5**
DL2			sP	**sP**	**09 54 30.8**	**-2.8**
DL2			PcP	**PcP**	**09 55 26.8**	**+2.0**
DL2			S	**S**	**09 56 33.4**	**-0.8**
DL2			PcS	**PcS**	**09 59 11.7**	**+4.4**
DL2			ScS	**ScS**	**10 02 15.8**	**-0.2**
DL2			PMZ			
	comp=Z,220nm,0.4s					
DL2			PMZ			
	comp=Z,1μm,7.8s					
BATP	**Bataraza**	**28.13 252**	*e*P	**P**	**09 52 27.9**	**+2.8**
SANI	**Sanana**	**28.15 223**	P	**P**	**09 52 22.7**	**-2.5**
	comp=Z,533nm,1.0s,comp=Z,7μm					
MDJ	**Mudanjiang**	**28.19 337**	P	**P**	**09 52 25.7**	**+0.5**
MDJ			pP	**pP**	**09 53 42.0**	**-1.5**
MDJ			sP	**sP**	**09 54 33.7**	**-2.2**
MDJ			PcP	**PcP**	**09 55 26.1**	**+0.8**
MDJ			S	**S**	**09 56 39.0**	**+0.9**
MDJ			ScP	**ScP**	**09 58 23.0**	**-0.4**
MDJ			ScS	**ScS**	**10 02 16.9**	**-0.1**
MDJ			PMZ			
	comp=Z,150nm,1.4s					
MDJ			PMZ			
	comp=Z,1μm,5.2s					
MDJ	**Mudanjiang**	**28.19 337**	*e*P	**P**	**09 52 25.2**	**0.0**
	comp=Z,423nm,1.4s					
GTOI	**Gorontalo**	**28.29 231**	P	**P**	**09 52 26.8**	**+0.3**
	comp=Z,1μm,1.4s,comp=Z,27μm					
NLAI	**Namlea**	**28.38 220**	P	**P**	**09 52 27.2**	**-0.1**
	comp=Z,1μm,0.9s,comp=Z,9μmcomp=Z,6μm					
PMG	**Port Moresby**	**28.67 175***ce*P		**P**	**09 52 29.3**	**-0.5**
PMG			pmax	pmax		
	comp=Z,204nm,1.7s					
PMG	**Port Moresby**	**28.67 175**	*e*P	**P**	**09 52 28.9**	**-0.8**
	comp=Z,65nm,0.8s					
SNY	**Shenyang**	**28.74 326**	⇓P	**P**	**09 52 30.1**	**+0.1**
SNY			PMZ			
	comp=Z,100nm,1.3s					
SNY			PMZ			
	comp=Z,960nm,12.0s					
MRSI	**Marisa**	**29.19 233**	P	**P**	**09 52 34.3**	**-0.1**
	comp=Z,2μm,0.9s,comp=Z,37μm					
MYLDM	**Lahad Datu**	**29.20 245**	*e*P	**P**	**09 52 36.2**	**+1.7**
	comp=Z,1μm,1.3s					
CN2	**Changchun**	**29.26 331**	*e*P	**P**	**09 52 35.4**	**+0.8**
CN2			*e*pP	**pP**	**09 53 52.1**	**-1.2**
CN2			PcP	**PcP**	**09 55 27.8**	**-0.3**
CN2			*e*S	**S**	**09 56 55.6**	**+0.8**
CN2			ScP	**ScP**	**09 58 25.9**	**-1.0**
CN2			ScS	**ScS**	**10 02 21.2**	**-0.9**
CN2			PMZ			
	comp=Z,90nm,1.3s					
CN2			PMZ			
	comp=Z,200nm,4.0s					
GZH	**Guangzhou**	**29.49 283**	P	**P**	**09 52 36.0**	**-0.9**
GZH			S	**S**	**09 56 57.2**	**-1.7**
TIA	**Tai'an**	**29.52 310**	⇓P	**P**	**09 52 37.4**	**+0.4**
TIA			pP	**pP**	**09 53 54.7**	**-1.0**
TIA			sP	**sP**	**09 54 43.2**	**-4.8**
TIA			S	**S**	**09 56 56.7**	**-2.3**
TIA			PcS	**PcS**	**09 59 16.1**	**+3.5**
TIA			sS	**sS**	**09 59 21.1**	**-4.1**
TIA			PMZ			
	comp=Z,170nm,1.0s					
LUWI	**Luwuk**	**29.61 229**	P	**P**	**09 52 36.8**	**-1.3**
	comp=Z,2μm,0.9s,comp=Z,17μm					
LUWI	**Luwuk**	**29.61 229**	*e*P	**P**	**09 52 36.7**	**-1.3**
	comp=Z,1μm,0.8s					
WHN	**Wuhan**	**29.65 298**	⇑P	**P**	**09 52 39.3**	**+1.1**
WHN			pP	**PP**	**09 53 58.3**	**+0.6**
WHN			sP	**sP**	**09 54 45.2**	**-4.0**
WHN			S	**S**	**09 56 59.7**	**-1.4**
WHN			PMZ			
	comp=Z,2μm,2.4s					
TOLI	**Toli-Toli**	**29.65 235**	*e*P	**P**	**09 52 38.9**	**+0.4**
	comp=Z,2μm,1.0s					
KDM	**Kudat**	**29.81 249**	⇑P	**P**	**09 52 41.0**	**+1.2**
HABR	**Khabarovsk**	**30.09 347***d iP*		**P**	**09 52 41.6**	**-0.2**
HABR			*e**PP	**pP**	**09 54 01.0**	**+0.3**
HABR			*SP	**sP**	**09 54 54.9**	**+2.0**
HABR			*e*		09 55 28.2	
HABR			*e*S	**S**	**09 57 07.0**	**-0.5**
HABR			*e**SS	**sS**	**09 59 36.5**	**+2.6**
HABR			*e*		10 02 22.8	
HABR			pmax	pmax		
	comp=E,40nm,1.5s					
HABR			pmax	pmax		
	comp=Z,1μm,2.5s					
HABR			pmax	pmax		
	comp=Z,313nm,1.5s					
HABR			pmax	pmax		
	comp=N,122nm,1.5s					
HABR			MLR	MLR		
	comp=Z,626nm,18.0s					
TSM	**Tawau**	**30.20 244**	⇑P	**P**	**09 52 43.8**	**+0.6**
SAUI	**Saumlaki**	**30.23 207**	P	**P**	**09 52 44.4**	**+1.1**
	comp=Z,2μm,1.3s,comp=Z,26μm					
SAUI	**Saumlaki**	**30.23 207**	*e*P	**P**	**09 52 44.5**	**+1.1**
	comp=Z,4μm,1.4s					
APSI	**Ampana**	**30.33 231**	P	**P**	**09 52 44.0**	**-0.3**
	comp=Z,3μm,1.2s,comp=Z,30μm					
KKM	**Kota Kinabalu**	**30.76 248**	⇑P	**P**	**09 52 49.0**	**+0.8**
KKM	**Kota Kinabalu**	**30.76 248**	*e*P	**P**	**09 52 48.4**	**+0.2**
	comp=Z,1μm,0.7s					
MPSI	**Mapaga**	**30.84 235**	P	**P**	**09 52 49.2**	**+0.5**
	comp=Z,896nm,1.0s,comp=Z,9μmcomp=Z,16μm					
KLR	**Kul'dur**	**31.59 344***c iP*		P	09 52 50.5	-4.2
KLR			*e*		09 55 30.2	
KLR			*e*		10 02 31.0	
KLR			pmax	pmax		
	comp=N,160nm,1.4s					
KLR			pmax	pmax		
	comp=E,210nm,1.4s					
KLR			pmax	pmax		
	comp=Z,530nm,1.4s					
KLR			pmax	pmax		
	comp=Z,2μm,9.5s					
BJT	**Baijiatuau**	**32.04 316**	*e*P	**P**	**09 52 58.9**	**+0.1**
BJT			pmax	pmax		
	comp=Z,453nm,0.4s					
BJT	**Baijiatuau**	**32.04 316**	*e*P	**P**	**09 52 58.9**	**+0.1**
	comp=Z,453nm,0.4s					
BJI	**Beijing**	**32.05 316**	P	**P**	**09 52 59.1**	**+0.3**
BJI			pP	**pP**	**09 54 18.4**	**-0.1**
BJI			PP	**PP**	**09 54 24.8**	**+1.0**
BJI			PcP	**PcP**	**09 55 36.3**	**+0.7**
BJI			S	**S**	**09 57 34.3**	**-3.7**
BJI			sS	**sS**	**10 00 03.8**	**-1.2**
BJI			SS	**SS**	**10 00 21.8**	**+1.0**
BJI			PMZ			
	comp=Z,890nm,1.5s					
SKR	**Severo-Kuril's**	**32.54 13**	P	P	09 52 55.0	-7.8
SKR			*e*		09 55 02.0	
SKR			*e*S	S	09 57 39.0	-6.1
SKR			*e*		10 00 03.0	
SKR			smax	smax		
	comp=N,8μm,16.0s					
SKR			smax	smax		
	comp=E,3μm,10.0s					
SKR			pmax	pmax		
	comp=E,6μm,22.0s					
SKR			MLR	MLR		
	comp=N,3μm,14.0s					
SKR			MLR	MLR		
	comp=Z,3μm,14.0s					
TARA	**Tarawa**	**32.87 120**	*e*P	**P**	**09 53 06.6**	**+0.4**
	comp=Z,686nm,1.1s					
QIZ	**Qiongzhong**	**32.95 275**	P	**P**	**09 53 06.9**	**+0.1**
QIZ			sP	**sP**	**09 55 19.2**	**+0.7**
QIZ			S	**S**	**09 57 51.1**	**-1.1**
QIZ			PMZ			
	comp=Z,290nm,4.3s					
QIZ	**Qiongzhong**	**32.95 275**	*e*P	**P**	**09 53 06.2**	**-0.6**
	comp=Z,230nm,1.4s					
TTSI	**Tana Toraja**	**33.12 230**	P	**P**	**09 53 09.5**	**+1.3**
	comp=Z,4μm,0.9s,comp=Z,33μm					
COEN	**Coen**	**33.14 183**	*e*P	**P**	**09 53 08.4**	**+0.1**
	comp=Z,614nm,0.9s					
SGKI	**Sangatta, Kali**	**33.17 237**	P	**P**	**09 53 05.9**	**-2.8**
	comp=Z,2μm,1.3s,comp=Z,25μm					
TIY	**Taiyuan**	**33.55 310**	*e*P	**P**	**09 53 12.6**	**+0.8**
TIY			pP	**pP**	**09 54 29.7**	**-2.3**
TIY			sP	**sP**	**09 55 21.4**	**-2.4**
TIY			S	**S**	**09 57 58.0**	**-3.2**
TIY			SS	**SS**	**10 00 47.7**	**-3.6**
TIY			ScS	**ScS**	**10 02 44.7**	**+0.5**
TIY			PMZ			
	comp=Z,120nm,1.2s					
ENH	**Enshi**	**33.69 296**	*e*P	**P**	**09 53 13.9**	**+0.9**
	comp=Z,63nm,0.4s					
SPSI	**Sidrap Palu**	**33.78 229**	P	**P**	**09 53 13.6**	**-0.3**
	comp=Z,2μm,0.8s,comp=Z,18μmcomp=Z,17μm					
BNSI	**Bone**	**33.85 228**	P	**P**	**09 53 15.3**	**+0.8**
	comp=Z,3μm,1.4s,comp=Z,34μm					
BKB	**Balikpapan**	**34.17 236**	P	**P**	**09 53 18.8**	**+1.6**
	comp=Z,2μm,1.0s,comp=Z,23μm					
BKSI	**Bulukumba**	**34.49 227**	P	**P**	**09 53 20.0**	**+0.1**
	comp=Z,847nm,0.8s,comp=Z,10μm					
KAPI	**Kappang**	**34.53 228**	*e*P	**P**	**09 53 20.6**	**+0.3**
	comp=Z,222nm,0.7s					
BSSI	**Bau Bau, Buton**	**34.83 226**	P	**P**	**09 53 23.0**	**+0.2**
	comp=Z,3μm,0.8s,comp=Z,23μm					
BTM	**Bintulu**	**34.86 247**	⇑P	**P**	**09 53 24.3**	**+1.2**
XAN	**Xi'an**	**35.00 302**	P	**P**	**09 53 24.6**	**+0.5**
XAN			pP	**pP**	**09 54 49.8**	**+4.9**
XAN			sP	sP	09 55 30.5	-6.0
XAN			S	S	09 58 15.8	-7.5
XAN			ScS	**ScS**	**10 02 52.7**	**+0.5**
XAN			PMZ			
	comp=Z,47nm,1.4s					
XAN			PMZ			
	comp=Z,340nm,7.8s					
PETK	**Petropavlovsk-**	**35.16 14**	P	**P**	**09 53 25.8**	**+0.8**
PETK					09 55 44.9	
PETK					10 02 53.5	
PETK			pmax	pmax		
	comp=Z,17nm,0.6s					
PETK			pmax	pmax		
	comp=Z,136nm,0.9s					
PETK			pmax	pmax		
	comp=N,11nm,0.6s					
PETK			pmax	pmax		
	comp=N,13nm,1.2s					
PETK			pmax	pmax		
	comp=Z,16nm,0.8s					
PETK			pmax	pmax		
	comp=Z,3.0nm,0.8s					
PETK	**Petropavlovsk-**	**35.16 14**	P	**P**	**09 53 25.8**	**+0.8**
	comp=Z,8.3nm,0.5s,baz=231,slow=18,SNR=69					
PETK			PcP	**PcP**	**09 55 44.9**	**+0.5**
	comp=Z,136nm,0.9s,baz=172,slow=4.0,SNR=12					
PETK			ScP	**ScP**	**09 58 47.0**	**0.0**
	comp=Z,11nm,0.6s,baz=176,slow=4.8,SNR=6.3					
PETK			ScS	**ScS**	**10 02 53.5**	**+1.3**
	comp=Z,13nm,1.1s,baz=255,slow=17,SNR=5.0					
PETK			PKiKP	**PKiKP**	**10 03 04.3**	**-0.3**
	comp=Z,16nm,0.8s,baz=123,slow=4.6,SNR=14					
PETK			P3KPbc		10 24 05.5	
	comp=Z,3.1nm,0.8s,baz=56,slow=11,SNR=5.3					
SOEI	**Soe**	**35.28 217**	P	**P**	**09 53 25.0**	**-1.6**
	comp=Z,2μm,0.8s,comp=Z,14μm					
SOEI	**Soe**	**35.28 217**	*e*P	**P**	**09 53 24.9**	**-1.8**
	comp=Z,1μm,0.8s					
PET	**Petropavlovsk**	**35.30 15**	*i* P	**P**	**09 53 26.8**	**+0.7**
PET			*e*		09 54 58.6	
PET			*e**SP	**sP**	**09 55 36.6**	**-2.2**
PET			*e*		09 55 45.2	
PET			*i* S	**S**	**09 58 28.3**	**+1.3**
PET			*e**SS	**sS**	**10 00 54.5**	**-1.1**
PET			*e*SS	**SS**	**10 01 18.8**	**-6.5**
PET			*e*		10 02 51.6	
PET			pmax	pmax		
	comp=Z,147nm,1.2s					
PET			pmax	pmax		
	comp=Z,2μm,5.6s					
PET			pmax	pmax		
	comp=Z,500nm,12.1s					
PET			MLR	MLR		
	comp=Z,2μm,17.0s					
PET			MLR	MLR		
	comp=Z,2μm,13.0s					
PET	**Petropavlovsk**	**35.30 15**	*e*P	**P**	**09 53 25.5**	**-0.6**
	comp=Z,272nm,1.4s					
PET			*e*ScP	**ScP**	**09 58 47.5**	**0.0**
HHC	**Hu-ho-hao-te**	**35.51 314**	*e*P	**P**	**09 53 28.9**	**+0.6**
HHC			pP	**pP**	**09 54 51.3**	**+1.9**
HHC			PP	**PP**	**09 55 04.6**	**+2.9**
HHC			sP	**sP**	**09 55 41.2**	**+0.2**
HHC			S	**S**	**09 58 32.6**	**+1.7**
HHC			sS	**sS**	**10 00 58.7**	**-1.0**
HHC			PMZ			
	comp=Z,440nm,1.5s					
HHC			PMZ			
	comp=Z,2μm,7.4s					
MTKI	**Muara Teweh, K**	**35.58 239**	P	**P**	**09 53 29.8**	**+0.7**
	comp=Z,3μm,0.9s,comp=Z,31μm					
MMRI	**Maumere**	**35.58 221**	P	**P**	**09 53 28.5**	**-0.6**
	comp=Z,2μm,1.2s,comp=Z,18μm					
MMRI	**Maumere**	**35.58 221**	*e*P	**P**	**09 53 28.1**	**-0.9**
	comp=Z,1μm,0.8s					
DLV	**T Lat**	**35.64 264**	*e*P	**P**	**09 53 31.4**	**+1.5**
	comp=Z,372nm,0.9s					
GYA	**Guiyang**	**35.70 289**	⇑*i*P	**P**	**09 53 30.2**	**+0.1**
GYA			pP	**pP**	**09 54 52.9**	**+1.7**
GYA			PP	**PP**	**09 55 07.6**	**+3.6**
GYA			PcP	**PcP**	**09 55 47.2**	**+0.5**
GYA			S	**S**	**09 58 35.0**	**+0.9**
GYA			ScP	**ScP**	**09 58 50.5**	**+0.7**
GYA			sS	**sS**	**10 01 02.0**	**-1.0**
GYA			PMZ			
	comp=Z,80nm,1.2s					
GYA			PMZ			
	comp=Z,2μm,5.6s					
HIA	**Hailar**	**35.97 332***d iP*		**P**	**09 53 31.4**	**-0.5**
HIA			pmax	pmax		
	comp=Z,515nm,1.7s					
HIA	**Hailar**	**35.97 332**	*e*P	**P**	**09 53 31.8**	**0.0**
	comp=Z,123nm,0.6s					
SBUM	**

UBPT	**Khong Chiam**	37.67 270	P	**P**	**09 53 48.0 +1.6**
	comp=Z,169nm,2.0s,comp=Z,3μm				
BASI	**Baing, Sumba**	37.83 221	P	**P**	**09 53 46.0 -1.7**
	comp=Z,7μm,1.1s,comp=Z,65μm				
STKI	**Sintang**	37.84 243	P	**P**	**09 53 48.0 +0.1**
	comp=Z,965nm,0.9s,comp=Z,13μm				
KSM	**Kuching**	38.12 246	*e*P	**P**	**09 53 49.8 -0.3**
	comp=Z,387nm,0.8s				
WBSI	**Waikabubak, Su**	38.15 223	P	**P**	**09 53 47.6 -2.7**
	comp=Z,1μm,0.9s,comp=Z,14μm				
SLVN	**Son La**	38.28 280	*e*P	**P**	**09 53 52.8 +1.3**
	comp=Z,347nm,1.3s				
CD2	**Chengdu**	38.66 296 ⇓	*i*P	**P**	**09 53 54.6 +0.1**
CD2			pP	**pP**	**09 55 12.7 -4.3**
CD2			PcP	**PcP**	**09 55 55.4 -0.3**
CD2			sP	**sP**	**09 56 03.9 -4.2**
CD2			S	**S**	**09 59 17.4 -0.7**
CD2			sS	**sS**	**10 01 49.3 +0.5**
CD2			SS	**SS**	**10 02 27.8 -4.0**
CD2			PMZ		
	comp=Z,380nm,1.3s				
CD2			PMZ		
	comp=Z,2μm,6.6s				
KMI	**Kunming**	39.20 286	P	**P**	**09 54 01.0 +1.9**
KMI			PcP	**PcP**	**09 55 59.6 +1.9**
KMI			ScP	**ScP**	**09 59 03.8 +0.6**
KMI			S	**S**	**09 59 25.6 -0.9**
KMI			ScS	**ScS**	**10 03 17.8 +0.9**
KMI			PMZ		
	comp=Z,94nm,0.9s				
PBKI	**Pangkalan Bun**	39.22 240	P	**P**	**09 53 59.5 +0.4**
	comp=Z,3μm,1.0s,comp=Z,28μm				
CTAO	**Charters Tower**	39.22 178	*e*P	**P**	**09 53 59.0 0.0**
CTAO			pmax	pmax	
	comp=Z,290nm,1.0s				
CTAO	**Charters Tower**	39.22 178	*e*P	**P**	**09 53 59.0 0.0**
	comp=Z,290nm,1.0s				
LZH	**Lanzhou**	39.55 304 ⇑	P	**P**	**09 54 03.1 +1.4**
LZH			pP	**pP**	**09 55 27.0 +2.3**
LZH			PP	**PP**	**09 55 47.1 +2.3**
LZH			PcP	**PcP**	**09 56 00.5 +1.9**
LZH			sP	**sP**	**09 56 16.0 +0.3**
LZH			ScP	**ScP**	**09 59 05.6 +1.3**
LZH			S	**S**	**09 59 32.5 +1.3**
LZH			sS	**sS**	**10 02 01.0 -1.4**
LZH			ScS	**ScS**	**10 03 19.2 +0.7**
LZH			PMZ		
	comp=Z,730nm,1.2s				
LZH			PMZ		
	comp=Z,2μm,5.0s				
SRBI	**Singaraja**	39.89 230	P	**P**	**09 54 05.3 +0.8**
	comp=Z,961nm,1.1s,comp=Z,9μm				
FX1	**Attu Island--F**	40.06 27	P	**P**	**09 54 06.9 +1.5**
FX1					09 56 00.0
FX1			pmax	pmax	
	comp=Z,91nm,0.5s				
FX1			pmax	pmax	
	comp=Z,101nm,0.9s				
FX1			pmax	pmax	
	comp=N,41nm,0.7s				
FX1	**Attu Island--F**	40.06 27	P	**P**	**09 54 06.9 +1.5**
	comp=N,91nm,0.5s,baz=243,slow=3.7,SNR=53				
FX1			PcP	**PcP**	**09 56 00.0 +0.4**
	comp=N,100nm,0.9s,baz=120,slow=5.5,SNR=4.1				
FX1			ScP	**ScP**	**09 59 06.2 +0.6**
	comp=N,41nm,0.7s,baz=89,slow=15,SNR=4.4				
KMMI	**Kalianget**	40.10 232	P	**P**	**09 54 07.5 +1.3**
	comp=N,943nm,1.1s,comp=N,12μm				
CLNS	**Chul'man**	40.25 343	*e*P	**P**	**09 54 06.9 0.0**
CLNS			*e**PP	**pP**	**09 55 28.5 -1.7**
CLNS			*e*		09 55 46.5
CLNS			*e*		09 56 00.3
CLNS			*e*S	**S**	**09 59 37.6 -3.0**
CLNS			*e*		10 03 16.6
CLNS			pmax	pmax	
	comp=Z,120nm,1.2s				
CLNS			pmax	pmax	
	comp=N,105nm,1.3s				
CLNS			pmax	pmax	
	comp=E,31nm,1.1s				
CLNS			pmax	pmax	
	comp=Z,33nm,1.1s				
CLNS			pmax	pmax	
	comp=N,21nm,0.8s				
CLNS			pmax	pmax	
	comp=E,18nm,0.9s				
CLNS			smax	smax	
	comp=N,2μm,11.0s				
CLNS			smax	smax	
	comp=E,892nm,12.3s				
DNP	**Denpasar**	40.29 229	P	**P**	**09 54 07.7 -0.1**
	comp=E,3μm,0.8s,comp=E,30μm				
BWJI	**Bawean**	40.33 235	P	**P**	**09 54 09.3 +1.2**
	comp=E,718nm,1.1s,comp=E,8μm				
WRAB	**Tennant Creek**	40.35 195	*c i*P	**P**	**09 54 08.2 0.0**
WRAB			pmax	pmax	
	comp=Z,2μm,1.0s				
WRAB	**Tennant Creek**	40.35 195	*e*P	**P**	**09 54 07.8 -0.4**
	comp=Z,770nm,0.6s				
WB2	**Warramunga Arr**	40.36 195	*e*P	**P**	**09 54 08.2 0.0**
WRA	**Warramunga Arr**	40.37 195	P	**P**	**09 54 08.7 +0.4**
WRA					09 56 02.3
WRA			S	**S**	**09 59 42.3 -0.8**
WRA			pmax	pmax	
	comp=Z,510nm,0.6s				
WRA			pmax	pmax	
	comp=Z,55nm,0.7s				
WRA			pmax	pmax	
	comp=N,113nm,0.9s				
WRA			smax	smax	
	comp=N,327nm,1.0s				
WRA			pmax	pmax	
	comp=Z,15nm,0.7s				
WRA	**Warramunga Arr**	40.37 195	P	**P**	**09 54 08.7 +0.4**
	comp=Z,498nm,0.6s,baz=16,slow=8.9,SNR=359				
WRA			PcP	**PcP**	**09 56 02.3 +1.1**
	comp=Z,55nm,0.7s,baz=22,slow=3.5,SNR=6.2				
WRA			ScP	**ScP**	**09 59 08.8 +1.4**
	comp=Z,112nm,0.9s,baz=12,slow=4.0,SNR=14				
WRA			S	**S**	**09 59 42.3 -0.8**
	comp=Z,327nm,1.0s,baz=15,slow=15,SNR=23				
WRA			PKiKP	**PKiKP**	**10 03 09.3 -0.5**
	comp=Z,15nm,0.7s,baz=320,slow=1.4,SNR=6.4				
WRA			P3KPbc		10 23 44.6
	comp=Z,0.7nm,0.5s,baz=197,slow=3.8,SNR=6.9				
WRA			P3KP		10 25 28.7
	comp=Z,3.3nm,0.9s,baz=211,slow=2.4,SNR=5.9				
WRA			P4KPbc		10 32 08.5
	comp=Z,1.1nm,0.6s,baz=20,slow=5.0,SNR=14				
ABJI	**Asem Bagus**	40.40 231	P	**P**	**09 54 09.7 +1.1**
	comp=Z,806nm,1.4s,comp=Z,13μm				
IGBI	**Denpasar**	40.44 229	P	**P**	**09 54 07.9 -1.0**
	comp=Z,2μm,1.1s,comp=Z,19μm				
CIT	**Chita**	40.71 331	*e*P	**P**	**09 54 11.0 +0.3**
CIT			pmax	pmax	
	comp=Z,2μm,1.6s				
BLJI	**Banyuglugur**	40.84 232	P	**P**	**09 54 12.7 +0.6**
	comp=Z,2μm,1.0s,comp=Z,15μm				
JAGI	**Jajag, Banyuwa**	40.91 230	P	**P**	**09 54 11.4 -1.4**
	comp=Z,987nm,0.9s,comp=Z,9μm				
JAGI	**Jajag, Banyuwa**	40.91 230	*e*P	**P**	**09 54 11.2 -1.6**
	comp=Z,615nm,0.8s				
GRJI	**Gresik**	41.14 234	P	**P**	**09 54 15.6 +1.1**
	comp=Z,2μm,0.8s,comp=Z,18μm				
GMJI	**Gumukmas**	41.30 231	P	**P**	**09 54 15.6 -0.2**
	comp=Z,616nm,1.0s,comp=Z,6μm				
TBJI	**Tambak Boyo**	41.56 234	P	**P**	**09 54 19.5 +1.6**
	comp=Z,1μm,0.9s,comp=Z,11μm				
PBKT	**Sadao Pong**	41.67 273	P	**P**	**09 54 20.0 +1.2**
	comp=Z,251nm,1.2s,comp=Z,4μm				
CRAI	**Chiangrai**	41.68 279	P	**P**	**09 54 19.2 +0.3**
	comp=Z,122nm,1.4s				
ULN	**Ulaanbaatar**	41.71 322	*d i*P	**P**	**09 54 19.4 +0.5**
ULN			pmax	pmax	
	comp=Z,2μm,1.7s				
ULN	**Ulaanbaatar**	41.71 322	*e*P	**P**	**09 54 19.5 +0.5**
	comp=Z,786nm,0.9s				
UTTA	**Uttaradit**	41.86 275	P	**P**	**09 54 21.2 +0.9**
	comp=Z,50nm,1.2s,comp=Z,523nm				
UWJI	**Ujung Watu**	42.01 236	P	**P**	**09 54 22.3 +0.8**
	comp=Z,2μm,1.0s,comp=Z,20μm				
SONM	**Songino Array**	42.08 321	P	**P**	**09 54 22.8 +1.0**
SONM					09 56 08.0
SONM			S	**S**	**10 00 09.4 +1.7**
SONM			pmax	pmax	
	comp=Z,421nm,0.6s				
SONM			pmax	pmax	
	comp=Z,167nm,1.0s				
SONM			pmax	pmax	
	comp=N,46nm,1.0s				
SONM			smax	smax	
	comp=N,17nm,1.0s				
SONM			pmax	pmax	
	comp=Z,4.0nm,0.7s				
SONM	**Songino Array**	42.08 321	P	**P**	**09 54 22.8 +1.0**
	comp=Z,438nm,0.7s,baz=133,slow=7.5,SNR=814				
SONM			PcP	**PcP**	**09 56 08.0 +1.3**
	comp=Z,167nm,1.0s,baz=133,slow=4.9,SNR=10.0				
SONM			ScP	**ScP**	**09 59 14.4 +0.3**
	comp=Z,46nm,1.0s,baz=126,slow=4.0,SNR=7.6				
SONM			S	**S**	**10 00 09.4 +1.7**
	comp=Z,17nm,1.0s,baz=116,slow=4.2,SNR=2.7				
SONM			PKiKP	**PKiKP**	**10 03 10.9 +0.1**
	comp=Z,4.0nm,0.7s,baz=168,slow=1.0,SNR=6.8				
SONM			PKP2ab		10 27 33.3
	comp=Z,6.4nm,1.1s,baz=266,slow=3.1,SNR=7.2				
SONM			P4KPbc		10 32 14.8
	comp=Z,1.9nm,0.8s,baz=140,slow=3.7,SNR=11				
PWJI	**Pagerwojo**	42.36 233	P	**P**	**09 54 23.8 -0.5**
	comp=Z,1μm,1.5s,comp=Z,16μm				
LAMP	**Lampang**	42.60 277	P	**P**	**09 54 27.4 +1.2**
	comp=Z,53nm,1.0s,comp=Z,574nm				
SUKH	**Sukhothai**	42.77 275	P	**P**	**09 54 28.7 +1.2**
	comp=Z,46nm,0.8s,comp=Z,548nm				
WOJI	**Wonogiri, Jawa**	42.91 234	P	**P**	**09 54 28.5 -0.1**
	comp=Z,822nm,1.1s,comp=Z,8μm				
CMAI	**Chiengmai2**	42.96 279	P	**P**	**09 54 30.3 +1.1**
	comp=Z,309nm,1.1s,comp=Z,4μm				
CMMT	**Chiang Mai**	43.20 277	P	**P**	**09 54 31.6 +0.7**
	comp=Z,235nm,1.1s,comp=Z,3μm				
CHTO	**Chiang Mai**	43.20 277	*e*P	**P**	**09 54 31.4 +0.4**
CHTO			pmax	pmax	
	comp=Z,297nm,1.6s				
CHTO	**Chiang Mai**	43.20 277	P	**P**	**09 54 31.7 +0.7**
	comp=Z,490nm,1.4s,comp=Z,8μm				
CHTO	**Chiang Mai**	43.20 277	*e*P	**P**	**09 54 31.4 +0.4**
	comp=Z,297nm,1.6s				
CHTO			*e*ScP	**ScP**	**09 59 19.7 +0.7**
CMAR	**Chiang Mai Arr**	43.26 277	P	**P**	**09 54 32.9 +1.5**
CMAR					09 56 12.9
CMAR			pmax	pmax	
	comp=Z,158nm,0.9s				
CMAR			pmax	pmax	
	comp=Z,52nm,0.8s				
CMAR			pmax	pmax	
	comp=N,15nm,0.8s				
CMAR	**Chiang Mai Arr**	43.26 277	P	**P**	**09 54 32.9 +1.5**
	comp=N,158nm,0.9s,baz=66,slow=7.2,SNR=177				
CMAR			PcP	**PcP**	**09 56 12.9 +1.9**
	comp=N,52nm,0.8s,baz=122,slow=1.2,SNR=9.9				
CMAR			ScP	**ScP**	**09 59 20.2 +1.0**
	comp=N,15nm,0.8s,baz=101,slow=2.2,SNR=6.0				
CMAR			PKiKP	**PKiKP**	**10 03 12.9 +0.4**
	comp=N,2.6nm,0.8s,baz=346,slow=1.1,SNR=4.5				
UGM	**Wanagama**	43.26 234	P	**P**	**09 54 31.4 -0.1**
	comp=N,2μm,1.1s,comp=N,23μm				
UGM	**Wanagama**	43.26 234	*e*P	**P**	**09 54 30.8 -0.6**
	comp=N,2μm,1.1s				
UTHA	**Uthaitani**	43.30 272	P	**P**	**09 54 33.1 +1.4**
	comp=N,67nm,1.0s,comp=N,647nm				
GTA	**Gaotai**	43.45 307 ⇓	P	**P**	**09 54 33.4 +0.7**
GTA			pP	**pP**	**09 56 00.1 +2.5**
GTA			PcP	**PcP**	**09 56 12.7 +1.2**
GTA			PP	**PP**	**09 56 23.6 0.0**
GTA			sP	**sP**	**09 56 47.7 -0.4**
GTA			ScP	**ScP**	**09 59 21.5 +1.7**
GTA			PcS	**PcS**	**10 00 03.9 -1.2**
GTA			S	**S**	**10 00 28.3 +0.6**
GTA			sS	**sS**	**10 03 00.0 -1.4**
GTA			ScS	**ScS**	**10 03 42.5 +0.1**
GTA			SS	**SS**	**10 03 48.2 -6.4**
GTA			PMZ		
	comp=N,360nm,1.5s				
GTA			PMZ		
	comp=N,3μm,8.8s				
TPRI	**Tanjung Pinang**	43.45 250	P	**P**	**09 54 34.7 +1.8**
	comp=N,412nm,1.0s				
MYKOM	**Kota Tinggi**	43.66 251	*e*P	**P**	**09 54 35.6 +1.1**
	comp=N,957nm,0.9s				
SEY	**Seymchan**	43.86 5	P	**P**	**09 54 35.7 +0.3**
SEY					09 56 13.6
SEY			pmax	pmax	
	comp=Z,36nm,0.4s				
SEY			pmax	pmax	
	comp=Z,106nm,0.9s				
SEY			pmax	pmax	
	comp=N,37nm,0.8s				
SEY	**Seymchan**	43.86 5	P	**P**	**09 54 35.7 +0.3**
	comp=N,36nm,0.4s,baz=185,slow=7.7,SNR=286				
SEY			PcP	**PcP**	**09 56 13.6 +1.4**
	comp=N,106nm,0.9s,baz=192,slow=3.9,SNR=9.5				
SEY			ScP	**ScP**	**09 59 22.1 +1.3**
	comp=N,36nm,0.8s,baz=183,slow=3.5,SNR=6.7				
SRDT	**SRDT**	43.87 271	P	**P**	**09 54 37.3 +1.1**
	comp=N,499nm,1.3s,comp=N,11μm				
YAK	**Yakutsk**	43.92 350	*d i*P	**P**	**09 54 35.4 -0.4**
YAK			*e**PP	**pP**	**09 56 04.4 +3.5**
YAK			*e*		09 56 12.3
YAK			*e*		09 56 26.1
YAK			*e*S	**S**	**10 00 30.2 -3.2**
YAK			*e*		10 03 41.0
YAK			*e*SS	**SS**	**10 04 00.1 -1.0**
YAK			pmax	pmax	
	comp=Z,539nm,1.0s				
YAK			pmax	pmax	
	comp=N,313nm,1.1s				
YAK			pmax	pmax	
	comp=E,78nm,1.2s				
YAK			pmax	pmax	
	comp=Z,77nm,0.9s				
YAK			smax	smax	
	comp=E,2μm,2.0s				
YAK			smax	smax	
	comp=N,3μm,2.3s				
YAK	**Yakutsk**	43.92 350	*e*P	**P**	**09 54 35.5 -0.3**
	comp=N,1μm,1.3s				
YAK			*e*ScP	**ScP**	**09 59 20.3 -0.7**
AS31	**Alice Springs**	44.05 194	*e*P	**P**	**09 54 37.2 -0.2**
ASAR	**Alice Springs**	44.05 194	P	**P**	**09 54 37.1 -0.4**
ASAR					09 56 14.6
ASAR			S	**S**	**10 00 35.6 -0.7**
ASAR			pmax	pmax	
	comp=Z,126nm,0.7s				
ASAR			pmax	pmax	
	comp=Z,48nm,0.9s				
ASAR			pmax	pmax	
	comp=N,67nm,0.9s				
ASAR			smax	smax	
	comp=N,375nm,0.9s				
ASAR			pmax	pmax	
	comp=Z,1.0nm,0.6s				
ASAR	**Alice Springs**	44.05 194	P	**P**	**09 54 37.0 -0.4**
	comp=Z,126nm,0.7s,baz=13,slow=7.1,SNR=624				
ASAR			PcP	**PcP**	**09 56 14.6 +1.0**
	comp=Z,48nm,0.9s,baz=9.9,slow=5.5,SNR=4.7				
ASAR			ScP	**ScP**	**09 59 24.7 +2.5**
	comp=Z,67nm,0.9s,baz=19,slow=4.2,SNR=9.8				
ASAR			S	**S**	**10 00 35.5 -0.7**
	comp=Z,375nm,0.9s,baz=19,slow=18,SNR=48				
ASAR			P3KPbc		10 23 28.6
	comp=Z,0.6nm,0.7s,baz=190,slow=3.6,SNR=7.2				
ASAR			P4KPbc		10 32 23.8
	comp=Z,0.6nm,0.6s,baz=10.0,slow=3.7,SNR=11				
DSRI	**Dabo**	44.06 248	P	**P**	**09 54 39.7 +2.0**
	comp=Z,622nm,0.9s,comp=Z,9μm				
KPJI	**Karang Pucung**	44.15 236	P	**P**	**09 54 37.8 -0.5**
	comp=Z,1μm,1.0s,comp=Z,10μm				
JCJI	**Jatiwangi**	44.17 238	P	**P**	**09 54 40.2 +1.7**
	comp=Z,2μm,1.0s,comp=Z,16μm				
MHMT	**Maesarieng**	44.25 276	P	**P**	**09 54 40.6 +1.5**
	comp=Z,161nm,1.4s,comp=Z,2μm				
KHLT	**Khaolaem Dam**	44.27 272	P	**P**	**09 54 40.8 +1.5**
	comp=Z,81nm,1.3s,comp=Z,1μm				
BOD	**Bodaibo**	44.56 337 ⇓	*i*P	**P**	**09 54 40.8 -0.1**
BOD			*e*		09 56 13.3
BOD			pmax	pmax	
	comp=Z,165nm,1.3s				
CMJI	**Cimerak**	44.80 236	P	**P**	**09 54 41.6 -1.8**
	comp=Z,242nm,0.7s,comp=Z,3μm				
EIDS	**Eidsvold**	44.88 172	*e*P	**P**	**09 54 43.6 -0.2**
	comp=Z,63nm,0.8s				
LEM	**Lembang**	44.89 238	P	**P**	**09 54 44.5 +0.2**
	comp=Z,1μm,0.8s,comp=Z,10μm				
FRIM	**Kepong**	45.06 255 ⇑	P	**P**	**09 54 47.0 +1.6**
ZAK	**Zakamensk**	45.10 323 ⇓	*i*P	**P**	**09 54 46.0 +0.7**
ZAK			*e*		09 56 18.3
ZAK			*e*		10 00 51.0
ZAK			pmax	pmax	
	comp=Z,484nm,1.2s				
PMBI	**Palembang**	45.11 245	P	**P**	**09 54 47.4 +1.6**
	comp=Z,697nm,0.9s				
IPM	**Ipoh**	45.11 257 ⇑	P	**P**	**09 54 47.2 +1.3**
IPM	**Ipoh**	45.11 257	*e*P	**P**	**09 54 46.5 +0.6**
	comp=Z,260nm,1.0s				
KULM	**Kulim**	45.15 258 ⇓	P	**P**	**09 54 48.0 +1.8**
KULM	**Kulim**	45.15 258	*e*P	**P**	**09 54 47.5 +1.3**
	comp=Z,207nm,0.9s				
CISI	**Cisompet, Garu**	45.16 237	P	**P**	**09 54 44.3 -2.0**
	comp=Z,636nm,0.8s,comp=Z,6μm				
CISI	**Cisompet, Garu**	45.16 237	*e*P	**P**	**09 54 43.9 -2.4**
	comp=Z,511nm,0.9s				
TNG	**Tangerang**	45.30 240	P	**P**	**09 54 48.5 +1.3**
	comp=Z,5μm,0.9s,comp=Z,56μm				
TNG	**Tangerang**	45.30 240	P	**P**	**09 54 48.5 +1.3**
	comp=Z,3μm,0.9s,comp=Z,35μm				
JMBI	**JAMBI**	45.44 247	P	**P**	**09 54 51.3 +2.9**
	comp=Z,2μm,1.1s,comp=Z,16μm				
IRK	**Irkutsk**	45.47 326 ⇓	*i*P	**P**	**09 54 48.3 +0.2**
IRK			*e*		09 56 18.3
IRK			*e*		10 00 55.8
IRK			pmax	pmax	
	comp=Z,1μm,1.8s				
TLY	**Talaya**	45.52 325	*d i*P	**P**	**09 54 48.6 +0.1**
TLY			*e*		09 56 18.4
TLY			*e*		09 56 45.8
TLY			pmax	pmax	
	comp=Z,566nm,1.1s				
TLY			MLR	MLR	
	comp=Z,687nm,13.0s				
TLY	**Talaya**	45.52 325	*e*P	**P**	**09 54 49.5 +1.0**
	comp=Z,381nm,0.9s				
CNJI	**Cibinong**	45.56 238	P	**P**	**09 54 47.7 -1.6**
	comp=Z,767nm,0.9s,comp=Z,6μm				
SURT	**Suratani**	45.62 264	P	**P**	**09 54 51.2 +1.4**
	comp=Z,68nm,1.0s,comp=Z,757nm				
SBJI	**Serang**	45.69 240	P	**P**	**09 54 50.9 +0.6**
	comp=Z,1μm,1.4s,comp=Z,17μmcomp=Z,130μm				
SKJI	**Sukabumi**	45.85 239	P	**P**	**09 54 52.0 +0.5**
	comp=Z,680nm,0.9s,comp=Z,7μm				
RGRI	**Rengat**	45.98 250	P	**P**	**09 54 54.8 +2.3**
	comp=Z,617nm,1.1s,comp=Z,12μm				
BLSI	**Bandar Lampung**	46.00 242	P	**P**	**09 54 52.8 +0.1**
	comp=Z,2μm,1.0s,comp=Z,16μm				
KLI	**Kotabumi**	46.05 243	P	**P**	**09 54 53.0 -0.1**
	comp=Z,274nm,1.2s,comp=Z,12μm				
NOUC	**Port Laguerre**	46.27 152	*e*P	**P**	**09 54 55.5 +0.9**
NOUC			*e*S	**pP**	**09 56 25.0 +4.2**
CGJI	**Cibinong**	46.32 240	P	**P**	**09 54 53.1 -2.0**
	comp=Z,2μm,0.8s,comp=Z,13μm				
MDSI	**Maura Dua**	46.42 244	P	**P**	**09 54 55.1 -0.8**
	comp=Z,204nm,1.1s,comp=Z,2μm				
NORM	**Noumea**	46.46 152	*e*P	**P**	**09 54 55.2 -0.8**
LHSI	**Lahat**	46.64 245	P	**P**	**09 54 57.9 +0.4**
	comp=Z,528nm,1.1s,comp=Z,5μm				
KASI	**Kota Agung**	46.71 242	P	**P**	**09 54 57.0 -1.1**
	comp=Z,625nm,1.1s,comp=Z,7μm				
LWLI	**Liwa**	46.80 243	P	**P**	**09 54 58.4 -0.6**
	comp=Z,344nm,0.9s				
BKNI	**Bangkinang**	46.82 251	P	**P**	**09 55 00.5 +1.5**
	comp=Z,710nm,0.9s,comp=Z,6μm				
BKNI	**Bangkinang**	46.82 251	*e*P	**P**	**09 54 59.1 +0.2**
	comp=Z,474nm,0.8s				
MOY	**Mondy**	46.97 324	*e*P	**P**	**09 55 00.0 +0.3**
MOY			pmax	pmax	
	comp=Z,751nm,2.1s				
SDSI	**Sungai Dareh**	47.05 250	P	**P**	**09 55 02.4 +1.7**
	comp=Z,174nm,1.1s,comp=Z,6μm				
MBWA	**Marble Bar**	47.13 213	*e*P	**P**	**09 55 01.0 -0.1**
	comp=Z,434nm,0.9s				
MASI	**Maura Aman, Be**	47.40 246	P	**P**	**09 55 04.1 +0.7**
	comp=Z,864nm,1.0s,comp=Z,7μm				
PDSI	**Padang**	47.90 250	P	**P**	**09 55 07.0 -0.1**
	comp=Z,152nm,0.8s				
MNSI	**Mandailing Nat**	47.93 253	P	**P**	**09 55 08.3 +0.9**
	comp=Z,264nm,0.8s,comp=Z,6μm				
KCSI	**Kotacane, Aceh**	48.47 257	P	**P**	**09 55 12.0 +0.5**
	comp=Z,243nm,1.0s,comp=Z,2μm				
LHMI	**Lhok Sumawe**	48.60 260	P	P	09 55 15.5 +3.1
	comp=Z,526nm,0.8s,comp=Z,5μm				
LHMI	**Lhok Sumawe**	48.60 260	*e*P	**P**	**09 55 14.6 +2.1**
	comp=Z,340nm,0.8s				
XMIS	**Christmas Isla**	48.62 236	*e*P	**P**	**09 55 11.3 -1.2**
	comp=Z,709nm,0.9s				
SHL	**Shillong**	49.00 287 ⇓	*i*P	**P**	**09 55 16.0 +0.5**
SHL			*i*S	**S**	**10 01 44.0 -2.1**
TPTI		49.12 257	P	**P**	**09 55 16.5 +0.2**
	comp=Z,233nm,0.7s,comp=Z,57μm				
MSVF	**Nonsavu**	49.27 136	*e*P	**P**	**09 55 18.6 +1.3**
MSVF			pmax	pmax	
	comp=Z,613nm,1.1s				
MSVF	**Nonsavu**	49.27 136	*e*P	**P**	**09 55 18.6 +1.3**
	comp=Z,614nm,1.1s				
MSVF			*e*ScP	**ScP**	**09 59 47.9 +3.6**
LSA	**Lhasa**	49.48 293	*e*P	**P**	**09 55 21.3 +2.0**
LSA			pmax	pmax	
	comp=Z,171nm,0.4s				
LSA	**Lhasa**	49.48 293	*e*P	**P**	**09 55 21.2 +2.0**
	comp=Z,171nm,0.4s				
GSI	**Gunungsitoli**	49.53 255	P	**P**	**09 55 20.3 +0.9**
	comp=Z,735nm,0.9s,comp=Z,5μm				
GSI	**Gunungsitoli**	49.53 255	*e*P	**P**	**09 55 19.6 +0.3**
	comp=Z,518nm,0.8s				
GSI			*e*ScP	**ScP**	**09 59 45.9 +0.2**
ARMA	**Armidale**	49.92 172	*e*P	**P**	**09 55 22.7 +0.6**
	comp=Z,455nm,1.5s				
SNSI	**Sinabang, Aceh**	50.23 257	P	P	09 55 28.2 +3.7
	comp=Z,238nm,0.9s,comp=Z,4μm				
BILL	**Bilibino**	50.53 10	*e*P	**P**	**09 55 25.9 0.0**
BILL			pmax	pmax	
	comp=Z,1μm,1.8s				
BILL	**Bilibino**	50.53 10	*e*P	**P**	**09 55 25.9 0.0**
	comp=Z,1μm,1.8s				
UNV	**Unalaska Valle**	50.63 35	*e*P	**P**	**09 55 26.9 +0.1**
	comp=Z,487nm,1.4s				
HVS	**Khovu-Aksy**	50.97 321	*d i*P	**P**	**09 55 30.1 +0.6**
HVS			pmax	pmax	
	comp=Z,5μm,1.7s				
AKUT	**Akutan**	51.14 35	*e*P	**P**	**09 55 30.6 +0.1**
	comp=Z,2μm,1.5s				
FORT	**Forrest**	52.37 198	*e*P	**P**	**09 55 39.8 +0.1**
	comp=Z,631nm,0.8s				
BBOO	**Buckleboo**	52.53 189	*e*P	**P**	**09 55 40.9 0.0**
	comp=Z,238nm,1.1s				
TAPN	**Taplejung**	52.60 290	*e*P	**P**	**09 55 43.2 +1.2**
	comp=Z,415nm,0.4s				
FALS	**False Pass**	52.69 35	*e*P	**P**	**09 55 41.8 +0.1**
	comp=Z,111nm,0.6s				
ODAN	**Odare**	52.93 289	*e*P	**P**	**09 55 45.2 +0.9**
	comp=Z,419nm,0.4s				
TIXI	**Tiksi**	53.13 354	*d i*P	**P**	**09 55 43.7 -0.9**
TIXI			pmax	pmax	
	comp=Z,263nm,2.5s				
TIXI	**Tiksi**	53.13 354	*e*P	**P**	**09 55 43.5 -1.1**
	comp=Z,124nm,1.2s				
KRAR	**Krasnoyarsk**	53.14 326	*c i*P	**P**	**09 55 44.0 -1.0**
KRAR			pmax	pmax	
	comp=Z,1μm,1.7s				
GAMB	**Gambell**	53.19 22	*e*P	**P**	**09 55 45.6 +0.5**
	comp=Z,257nm,1.3s				
WMQ	**Urumqi**	53.21 311	P	**P**	**09 55 47.2 +1.3**
WMQ			PcP	**PcP**	**09 56 47.6 +0.7**
WMQ			pP	**pP**	**09 57 16.9 +1.7**
WMQ			PP	**PP**	**09 57 55.3 +3.6**
WMQ			sP	**sP**	**09 58 05.6 +1.2**
WMQ			ScP	**ScP**	**10 00 02.0 +0.9**
WMQ			PcS	**PcS**	**10 00 46.9 +0.4**
WMQ			S	**S**	**10 02 44.4 +2.1**
WMQ			ScS	**ScS**	**10 04 46.0 -2.1**
WMQ			sS	**sS**	**10 05 22.1 -0.5**
WMQ			SS	**SS**	**10 06 31.8 +2.3**
WMQ			PMZ		
	comp=Z,1μm,1.1s				
KIP	**Kipapa**

JIRN	Jiri	53.93	291	eP		P	09 55 52.8 +1.2
	comp=Z,717nm,0.4s						
AFI	Afiamalu	54.07	124	eP		P	09 55 51.0 -1.3
AFI					pmax	pmax	
	comp=Z,1µm,0.9s						
AFI	Afiamalu	54.07	124	eP		P	09 55 51.0 -1.3
	comp=Z,234nm,0.9s						
GUN	Gumba	54.18	291	eP		P	09 55 54.4 +1.0
	comp=Z,553nm,0.4s						
SDPT	Sand Point	54.44	35	eP		P	09 55 54.4 +0.2
	comp=Z,2µm,1.6s						
CAN	Canberra	54.52	176	eP		P	09 55 55.7 +0.6
CAN					pmax	pmax	
	comp=Z,411nm,1.3s						
CAN	Canberra	54.52	176	eP		P	09 55 55.7 +0.6
	comp=Z,411nm,1.3s						
PKI	Pulchoki	54.62	291	eP		P	09 55 56.9 +0.4
	comp=Z,417nm,0.3s						
PKIN	Phulchoki	54.63	291	eP		P	09 55 57.4 +0.9
	comp=Z,205nm,0.3s						
KKN	Kakani	54.72	291	eP		P	09 55 57.7 +0.7
DMN	Daman	54.89	291	eP		P	09 55 59.0 +0.7
	comp=Z,541nm,0.4s						
GKN	Gorkha	55.27	291	eP		P	09 56 01.6 +0.8
	comp=Z,2µm,1.1s						
TNA	Tin City	55.54	22	eP		P	09 56 02.3 +0.5
	comp=Z,194nm,1.3s						
KKH	Kailua Kona	55.56	79	eP		P	09 56 04.8 +2.0
KKH	Kailua Kona	55.56	79	eP		P	09 56 04.8 +2.0
CHGN	Chignik	55.84	34	eP		P	09 56 03.8 -0.2
POHA	Pohakuloa	56.00	79	eP		P	09 56 07.5 +1.4
	comp=Z,709nm,1.4s						
DANN	Dangsing	56.01	292	eP		P	09 56 06.6 +0.5
	comp=Z,1µm,0.6s						
KOLN	Koldanda	56.20	291	eP		P	09 56 08.1 +0.7
	comp=Z,495nm,0.7s						
PUH	Pauahi	56.36	79	eP		P	09 56 10.3 +1.8
STCH	Steam Cracks	56.44	79	eP		P	09 56 10.3 +1.3
	comp=Z,1µm,1.1s						
COCO	West Island	56.67	240	i P		P	09 56 12.7 +2.3
COCO	West Island	56.67	240	eP		P	09 56 10.2 -0.2
	comp=Z,205nm,0.8s						
PYUN	Piuthan	56.71	291	eP		P	09 56 11.4 +0.5
	comp=Z,275nm,0.3s						
ZALV	Zalesovo Beam	56.96	322	P		P	09 56 11.9 0.0
ZALV							09 57 01.3
ZALV				S		S	10 03 31.6 +0.8
ZALV					pmax	pmax	
	comp=Z,524nm,0.6s						
ZALV					pmax	pmax	
	comp=Z,188nm,0.8s						
ZALV					pmax	pmax	
	comp=N,42nm,0.9s						
ZALV					smax	smax	
	comp=N,20nm,0.7s						
ZALV					pmax	pmax	
	comp=Z,4.0nm,0.8s						
ZALV					pmax	pmax	
	comp=Z,4.0nm,0.7s						
ZALV	Zalesovo Beam	56.96	322	P		P	09 56 11.9 0.0
	comp=Z,533nm,0.6s,baz=107,slow=5.9,SNR=758						
ZALV				PcP		PcP	09 57 01.2 +0.1
	comp=Z,188nm,0.8s,baz=106,slow=3.9,SNR=8.1						
ZALV				ScP		ScP	10 00 17.2 0.0
	comp=Z,42nm,0.9s,baz=98,slow=4.4,SNR=5.8						
ZALV				S		S	10 03 31.6 +0.8
	comp=Z,20nm,0.7s,baz=97,slow=12,SNR=9.7						
ZALV				PKPPKP		P'P'df	10 25 48.8 -10
	comp=Z,4.0nm,0.8s,baz=316,slow=6.0,SNR=3.8						
ZALV				P4KPbc			10 33 18.9
	comp=Z,3.8nm,0.7s,baz=104,slow=4.7,SNR=11						
MKAR	Makanchi Array	57.37	314	P		P	09 56 15.4 +0.5
MKAR							09 57 03.9
MKAR				S		S	10 03 39.0 +2.5
MKAR					pmax	pmax	
	comp=Z,199nm,0.4s						
MKAR					pmax	pmax	
	comp=Z,170nm,0.7s						
MKAR					pmax	pmax	
	comp=N,22nm,0.8s						
MKAR					pmax	pmax	
	comp=Z,6.0nm,0.8s						
MKAR					smax	smax	
	comp=N,35nm,0.8s						
MKAR					pmax	pmax	
	comp=Z,19nm,1.0s						
MKAR					pmax	pmax	
	comp=Z,5.0nm,0.8s						
MKAR	Makanchi Array	57.37	314	P		P	09 56 15.4 +0.5
	comp=Z,200nm,0.4s,baz=90,slow=8.0,SNR=1777						
MKAR				PcP		PcP	09 57 03.9 +0.9
	comp=Z,170nm,0.7s,baz=93,slow=5.1,SNR=11						
MKAR				ScP		ScP	10 00 20.5 +1.2
	comp=Z,22nm,0.8s,baz=77,slow=5.5,SNR=4.2						
MKAR				PKiKP		PKiKP	10 03 26.8 -0.1
	comp=Z,6.3nm,0.8s,baz=258,slow=1.1,SNR=5.6						
MKAR				S		S	10 03 39.0 +2.5
	comp=Z,35nm,0.8s,baz=94,slow=17,SNR=17						
MKAR				PKPPKP		P'P'df	10 25 49.7 -8.5
	comp=Z,4.6nm,0.8s,baz=252,slow=3.2,SNR=7.4						
MKAR				PKP2bc			10 26 07.4
	comp=Z,18nm,1.0s,baz=270,slow=3.0,SNR=6.3						
MKAR				P4KPbc			10 33 22.5
	comp=Z,4.8nm,0.8s,baz=90,slow=5.0,SNR=26						
NVS	Novosibirsk	58.06	323	⇑i P		P	09 56 19.4 0.0
NVS				i			09 57 04.9
NVS				i *PP		pP	09 57 49.2 -1.5
NVS				i S		S	10 03 44.4 -0.5
NVS					pmax	pmax	
	comp=Z,2µm,1.5s						
NVS					pmax	pmax	
	comp=N,291nm,1.0s						
NVS					pmax	pmax	
	comp=E,959nm,1.4s						
NVS					smax	smax	
	comp=N,549nm,2.5s						
NVS					smax	smax	
	comp=E,376nm,2.0s						
SII	Sitkinak Islan	58.18	35	eP		P	09 56 21.4 +1.1
	comp=E,1µm,1.4s						
NWAO	Narrogin (SRO)	58.26	207	P4KPbc			10 33 25.8
	comp=E,8.0nm,0.8s,baz=54,slow=5.2,SNR=3.9						
SVW2	Sparrevohn	58.69	29	eP		P	09 56 24.5 +0.8
	comp=E,256nm,1.4s						
OHAK	Old Harbor	58.81	34	eP		P	09 56 25.0 +0.6
	comp=E,586nm,1.4s						
LGTI	Lohaghat	58.97	293	eS		S	10 04 00.1 +2.7
XMAS	Kiritimati	59.03	100	eP		P	09 56 28.2 +1.5
	comp=E,776nm,1.1s						
KDAK	Kodiak Island	59.30	34	eP		P	09 56 28.1 +0.3
KDAK					pmax	pmax	
	comp=Z,444nm,1.4s						
KDAK	Kodiak Island	59.30	34	eP		P	09 56 28.1 +0.3
	comp=Z,444nm,1.4s						
RSO	Redoubt South	59.85	31	eP		P	09 56 32.0 +0.3
KURK	Kurchatov	60.19	318	eP		P	09 56 33.7 -0.2
KURK					pmax	pmax	
	comp=Z,1µm,1.0s						
KURK	Kurchatov	60.19	318	eP		P	09 56 33.6 -0.2
	comp=Z,2µm,1.0s						
KURK				⇑e			10 26 01.6
KURBB	Kurchatov Arra	60.24	318	PKP2bc		P'P'bc	10 26 01.6 -2.2
	comp=Z,33nm,1.1s,baz=272,slow=3.5,SNR=9.3						
PPLA	Purkeypile	60.74	28	eP		P	09 56 38.0 +0.5
	comp=Z,695nm,1.6s						
OUZ	Omahuta	60.78	153	ePN		P	09 56 39.8 +1.8
OUZ	Omahuta	60.78	153	eP		P	09 56 40.0 +2.1
	comp=Z,468nm,0.9s						
CAST	Castle Rocks	60.92	27	eP		P	09 56 39.2 +0.6
	comp=Z,352nm,1.4s						
AAA	Alma-Ata	60.96	309	i P		P	09 56 41.3 +2.1
AAA				i S		S	10 04 25.9 +3.8
AAA					pmax	pmax	
	comp=Z,7µm,1.5s						
AAA					smax	smax	
	comp=N,5µm,3.9s						
AAA				MLR		MLR	
	comp=Z,2µm,17.0s						
IM04	Indian Mountai	60.97	24	eP		P	09 56 39.0 +0.1
NGP	Nagpur	61.27	284	eP		P	09 56 42.5 +0.9
NGP				eS		S	10 04 26.5 0.0
SEW	Seward	61.38	31	eP		P	09 56 41.7 +0.2
	comp=Z,734nm,1.5s						
RC01	Rabbit Creek A	61.44	30	eP		P	09 56 41.9 -0.1
	comp=Z,397nm,1.1s						
SMLA	Simla	61.44	295	i P		P	09 56 43.3 +0.8
KTH	Kantishna Hill	61.46	27	eP		P	09 56 42.4 +0.2
	comp=Z,557nm,1.2s						
ULHL	Ulahol	61.49	308	P		P	09 56 44.5 +1.6
	SNR=34						
ULHL	Ulahol	61.49	308	i P		P	09 56 44.5 +1.6
NDI	New Delhi	61.69	293	eP		P	09 56 44.0 -0.3
NDI				eS		S	10 04 31.0 -0.6
TRF	Thorofare Moun	61.71	28	eP		P	09 56 43.6 -0.3
	comp=Z,431nm,1.2s						
WCZ	Waipu Caves	61.72	153	PN		P	09 56 45.3 +1.2
KSH	Kashi	61.77	305	⇓i P		P	09 56 48.2 +3.5
KSH				pP		pP	09 58 22.0 +4.5
KSH				sP		sP	09 59 09.2 +3.5
KSH				PP		PP	09 59 14.0 +6.7
KSH				S		S	10 04 32.7 +0.3
KSH				sS		sS	10 07 16.6 -1.6
KSH				SS		SS	10 08 46.6 +2.8
KSH				PMZ			
	comp=Z,600nm,1.1s						
PMR	Palmer	61.83	30	eP		P	09 56 43.4 -1.1
PMR					pmax	pmax	
	comp=Z,281nm,1.1s						
PMR	Palmer	61.83	30	eP		P	09 56 43.4 -1.1
	comp=Z,281nm,1.1s						
TKM2	Tokmak 2	61.95	309	P		P	09 56 46.8 +0.8
	SNR=740						
TKM2	Tokmak 2	61.95	309	i P		P	09 56 46.8 +0.8
MDRS	Chennai	61.97	275	eP9		P	09 56 52.2 +6.0
MDRS				eS		S	10 04 42.2 +6.9
MDRS				ex		x	10 06 25.2
MDRS				ex		x	10 08 15.2
TAU	Tasmania Unive	61.99	178	eP		P	09 56 46.7 +1.0
TAU					pmax	pmax	
	comp=Z,186nm,0.9s						
TAU	Tasmania Unive	61.99	178	eP		P	09 56 46.7 +1.0
	comp=Z,187nm,0.9s						
BHK	Bhakra	62.05	296	eP3		P	09 56 49.7 +3.2
KZA	Kyzart	62.23	308	P		P	09 56 49.5 +1.5
	SNR=717						
KZA	Kyzart	62.23	308	i P		P	09 56 49.5 +1.5
DLH	Dalhousie	62.30	297	eP		P	09 56 47.0 -1.4
MCK	McKinley	62.37	27	eP		P	09 56 47.8 -0.3
MCK					pmax	pmax	
	comp=Z,349nm,1.2s						
MCK	McKinley	62.37	27	eP		P	09 56 47.8 -0.3
	comp=Z,349nm,1.2s						
KBK	Karagaybulak	62.44	309	P		P	09 56 50.3 +1.2
	SNR=12						
KBK	Karagaybulak	62.44	309	i P		P	09 56 50.3 +1.2
HYB	Hyderabad	62.51	280	⇓iP		P	09 56 49.5 -0.3
HYB				ePcP		PcP	09 57 23.5 -0.7
HYB				esP		sP	09 59 08.0 -2.9
HYB				eS		S	10 04 41.0 -1.0
HYB				eScS		SKSac	10 05 54.0 -3.6
HYB				esS		sS	10 07 32.0 +3.8
CHMS	Chumysh	62.57	309	P		P	09 56 50.7 +0.9
	SNR=316						
CHMS	Chumysh	62.57	309	i P		P	09 56 50.7 +0.9
FRU	Bishkek	62.67	309	⇓iP		P	09 56 52.0 +1.5
FRU				i			09 57 22.0
FRU				i S		S	10 04 46.0 +2.7
FRU					pmax	pmax	
	comp=Z,1µm,2.0s						
FRU					smax	smax	
	comp=E,660nm,2.2s						
COLD	Coldfoot	62.71	23	eP		P	09 56 51.0 +0.9
	comp=E,197nm,1.2s						
USP	Ospenovka	62.75	309	P		P	09 56 51.4 +0.4
	SNR=451						
USP	Ospenovka	62.75	309	i P		P	09 56 51.3 +0.4
AAK	Ala-Archa	62.77	309	P		P	09 56 52.4 +1.1
	SNR=16						
AAK	Ala-Archa	62.77	309	d iP		P	09 56 51.8 +0.5
AAK					pmax	pmax	
	comp=Z,2µm,1.7s						
AAK	Ala-Archa	62.77	309	PKP2bc		P'P'bc	10 25 55.5 -2.3
	comp=Z,35nm,1.0s,baz=232,slow=2.7,SNR=12						
AAK	Ala-Archa	62.77	309	eP		P	09 56 51.7 +0.5
	comp=Z,368nm,1.0s						
AAK				⇑e			10 25 55.5
UCH	Uchtor	62.77	308	P		P	09 56 52.9 +1.3
	SNR=904						
UCH	Uchtor	62.77	308	i P		P	09 56 52.9 +1.3
MKAZ	Moumakai	63.06	153	PN		P	09 56 53.7 +0.8
COLA	College	63.07	26	d iP		P	09 56 52.4 -0.1
COLA					pmax	pmax	
	comp=Z,507nm,1.2s						
COLA	College	63.07	26	eP		P	09 56 52.5 -0.1
	comp=Z,186nm,1.4s						
PALK	Pallekele	63.18	268	eP		P	09 56 54.8 +0.6
PALK					pmax	pmax	
	comp=Z,124nm,1.0s						
PALK	Pallekele	63.18	268	⇑iP		P	09 56 54.9 +0.6
	SNR=37						
PALK	Pallekele	63.18	268	eP		P	09 56 54.8 +0.6
	comp=Z,66nm,1.0s						
AKL	Akola	63.22	284	ex		PP	09 59 20.9 +0.6
AKL					AMB	AMB	09 59 21.6
	comp=Z,309nm,0.0s						
EKS2	Erkin-Say	63.30	309	P		P	09 56 55.4 +0.7
	SNR=272						
EKS2	Erkin-Say	63.30	309	i P		P	09 56 55.3 +0.7
EKS2	Erkin-Say	63.30	309	eP		P	09 56 55.7 +1.0
	comp=Z,554nm,1.1s						
DIV	Divide	63.34	31	eP		P	09 56 54.9 +0.5
	comp=Z,309nm,1.3s						
AML	Almayashu	63.38	308	P		P	09 56 56.5 +1.0
	SNR=766						
AML	Almayashu	63.38	308	i P		P	09 56 56.5 +1.0
ILAR	Eielson Array	63.46	26	P		P	09 56 54.0 -1.1
	comp=Z,165nm,1.1s,baz=258,slow=4.8,SNR=182						
ILAR				S		S	10 04 50.8 -1.2
	comp=Z,14nm,1.2s,baz=256,slow=9.4,SNR=10.0						
ILAR				PKP2bc			10 25 49.0
	comp=Z,17nm,1.1s,baz=107,slow=1.6,SNR=11						
ILAR				PKP2ab			10 25 58.0
	comp=Z,6.9nm,1.1s,baz=28,slow=2.2,SNR=4.2						
ILAR				P4KPbc			10 33 45.9
	comp=Z,0.7nm,0.9s,baz=267,slow=4.1,SNR=4.9						
TOZ	Tahuroa Road	63.72	153	PN		P	09 56 57.6 +0.6
PAX	Paxson	63.76	29	eP		P	09 56 57.2 +0.1
PAX					pmax	pmax	
	comp=Z,299nm,1.2s						
PAX	Paxson	63.76	29	eP		P	09 56 57.2 +0.1
	comp=Z,299nm,1.2s						
BMRM	Bremner River	63.88	31	eP		P	09 56 58.5 +0.5
	comp=Z,588nm,1.2s						
HIZ	Hauiti	64.11	154	PN		P	09 57 00.6 +1.0
LATR	Latur	64.13	282	eP		P	09 57 00.0 -0.2
OPRZ	Ohinepanea	64.27	152	PN		P	09 57 01.6 +0.9
OMRZ	Omania	64.41	153	ePN		P	09 57 02.6 +1.1
DOT	Dot Lake	64.49	28	eP		P	09 57 01.6 -0.1
	comp=Z,414nm,1.4s						
MENT	Mentasta	64.55	29	eP		P	09 57 02.4 +0.3
VRZ	Vera Road	64.59	154	PN		P	09 57 03.8 +1.1
RATZ	Rangitukua	64.79	154	PN		P	09 57 04.3 +0.4
KATZ	Kakaramea	64.85	154	ePN		P	09 57 05.4 +0.9
URZ	Urewera	64.86	152	ePN		P	09 57 03.2 -1.2
URZ	Urewera	64.86	152	eP		P	09 57 03.6 -0.7
	comp=Z,360nm,1.0s						
NGZ	Ngauruhoe	64.98	154	ePN		P	09 57 06.0 +0.6
FWVZ	Far West T-bar	65.03	154	PN		P	09 57 06.0 +0.3
TRVZ	Turoa	65.07	154	PN		P	09 57 07.0 +1.1
MWZ	Matawai	65.11	152	PN		P	09 57 04.9 -1.1
QRZ	Quartz Range	65.20	157	ePN		P	09 57 06.6 +0.2
WAZ	Wanganui	65.22	155	PN		P	09 57 07.4 +0.7
BKZ	Black Stump Fm	65.35	153	ePN		P	09 57 06.6 -0.9
BKZ	Black Stump Fm	65.35	153	eP		P	09 57 07.1 -0.4
	comp=Z,520nm,0.9s						
SNGZ	Shannon Statio	65.39	152	ePN		P	09 57 07.1 -0.7
BVAR	Borovoye Array	65.41	320	PKP2bc		P'P'df	10 25 40.6 -4.6
	comp=Z,18nm,0.9s,baz=222,slow=2.0,SNR=14						
NMHZ	Naumai	65.43	153	ePN		P	09 57 08.1 +0.1
BHHZ	Black Hill Sta	65.44	154	ePN		P	09 57 07.8 -0.3
BRVK	Borovoye	65.47	320	d iP		P	09 57 08.5 +0.4
BRVK					pmax	pmax	
	comp=Z,3µm,1.2s						
BRVK	Borovoye	65.47	320	eP		P	09 57 08.2 +0.1
	comp=Z,2µm,0.8s						
KKAR	Karatay Array	65.67	309	eP		P	09 57 09.9 +0.3
KKAR	Karatay Array	65.67	309	eP		P	09 57 09.9 +0.3
DUWZ	D'Urville Isla	65.70	156	ePN		P	09 57 09.7 0.0
KNZ	Kokohu	65.74	152	PN		P	09 57 09.6 -0.3
DSZ	Denniston Nort	65.75	158	ePN		P	09 57 09.8 -0.1
NNZ	Nelson	65.86	157	PN		P	09 57 10.2 -0.4
TSZ	Takapari Road	65.88	154	PN		P	09 57 10.8 0.0
EGAK	Eagle	65.89	27	eP		P	09 57 10.3 -0.1
	comp=Z,520nm,1.8s						
KAHZ	Kahuranaki	66.04	153	ePN		P	09 57 11.8 -0.1
THZ	Tophouse	66.15	157	ePN		P	09 57 11.3 -1.2
MRZ	Mangatainoka R	66.23	155	PN		P	09 57 12.1 -0.9
ANWZ	Angora Road	66.43	154	ePN		P	09 57 13.6 -0.6
SNZO	South Karori	66.44	156	eP		P	09 57 13.0 -1.2
	comp=Z,865nm,0.8s						
BFZ	Birch Farm	66.52	154	ePN		P	09 57 14.7 -0.1
BFZ	Birch Farm	66.52	154	eP		P	09 57 14.4 -0.3
	comp=Z,832nm,0.9s						
WVZ	Waitaha Valley	66.56	160	ePN		P	09 57 13.9 -1.0
DAWY	Dawson	66.59	28	eP		P	09 57 15.5 +0.6
POO	Poona	66.61	282	⇑iPS		P	09 57 14.0 -1.9
	comp=Z,850nm,1.0s						
MTW	Mount Morrison	66.62	155	ePN		P	09 57 14.5 -0.9
FOZ	Fox Glacier	66.66	161	ePN		P	09 57 15.4 -0.1
MSWZ	Moikau Station	66.74	155	ePN		P	09 57 15.3 -0.9
PAWZ	Paruwai Farm	66.78	155	ePN		P	09 57 15.6 -0.8
LTZ	Lake Taylor	66.82	158	PN		P	09 57 16.2 -0.4
JCZ	Jackson Bay	66.83	161	PN		P	09 57 17.1 +0.4
PLWZ	Palliser	66.88	156	ePN		P	09 57 16.1 -0.9
KHZ	Kahutara	66.96	157	PN		P	09 57 16.0 -1.4
KHZ	Kahutara	66.96	157	eP		P	09 57 14.6 -2.8
	comp=Z,711nm,1.1s						
MNGI	Mangalore	67.10	276	ex		P	09 57 10.4 -8.5
MNGI					AMB	AMB	09 57 12.1
	comp=Z,327nm,0.7s						
MNGI				ex		x	10 05 16.8
OXZ	Oxford	67.22	159	PN		P	09 57 18.0 -1.1
RPZ	Rata Peaks	67.23	160	PN		P	09 57 18.2 -1.0
RPZ	Rata Peaks	67.23	160	eP		P	09 57 18.3 -0.8
	comp=Z,675nm,0.8s						
HYT	Haines Junctio	67.33	31	eP		P	09 57 20.2 +0.5
LBZ	Lake Benmore	67.56	161	ePN		P	09 57 20.6 -0.5
WKZ	Wanaka	67.60	162	PN		P	09 57 21.6 +0.3
DCZ	Deep Cove	67.66	163	ePN		P	09 57 21.8 +0.2
DCZ	Deep Cove	67.66	163	eP		P	09 57 21.5 -0.2
	comp=Z,362nm,0.8s						
MQZ	McQueen's Vall	67.77	158	PN		P	09 57 22.2 -0.1
KBL	Kabul	67.78	300	eP		P	09 57 23.8 +0.7
KBL					pmax	pmax	
	comp=Z,849nm,1.0s						
KBL	Kabul	67.78	300	eP		P	09 57 23.8 +0.7
	comp=Z,849nm,1.0s						
MLZ	Mavora Lakes	67.82	162	ePN		P	09 57 22.5 -0.2
EAZ	Earnscleugh	68.05	162	PN		P	09 57 24.3 +0.2
WHZ	Wether Hill Ro	68.26	163	ePN		P	09 57 25.0 -0.4
WHZ	Wether Hill Ro	68.26	163	eP		P	09 57 24.9 -0.5
	comp=Z,247nm,0.9s						
ODZ	Otahua Downs	68.29	161	eP		P	09 57 25.7 +0.1
	comp=Z,1µm,2.0s						
SIT	Sitka	68.52	35	eP		P	09 57 28.7 +1.8
SIT	Sitka	68.52	35	eP		P	09 57 28.7 +1.8
SYZ	Scrubby Hill	69.19	162	PN		P	09 57 31.2 +0.3
SVE	Sverdlovsk	70.83	325	c iP		P	09 57 41.2 +0.4
SVE				eS		S	10 06 18.4 -0.8
SVE				eSS		SS	10 11 06.0 +3.9
SVE					pmax	pmax	
	comp=Z,1µm,1.1s						
DLBC	Dease Lake	71.24	34	eP		P	09 57 44.3 +1.0
ARU	Arti	72.02	324	P		P	09 57 48.9 +1.1
	comp=Z,8µm,0.7s						
ARU	Arti	72.02	324	d iP		P	09 57 47.9 +0.1
ARU							09 58 02.4
ARU					*PP	pP	09 59 21.9 -2.3
ARU							10 00 35.5
ARU					PPP	PPP	10 02 21.0
ARU				eS		S	10 06 31.9 -0.7
ARU							10 07 03.7
ARU					SSS	SSS	10 14 31.5
ARU					pmax	pmax	
	comp=Z,3µm,1.7s						
ARU	Arti	72.02	324	eP		P	09 57 46.9 -1.0
	comp=Z,1µm,0.8s						
SOKR	Solikamsk	72.51	328	d iP		P	09 57 51.2 +0.7
SOKR					pmax	pmax	
	comp=Z,1µm,1.1s						
AKTO	Aktyubinsk	73.29	318	PKPPKP		P'P'df	10 25 21.0 -11
	comp=Z,4.7nm,0.9s,baz=249,slow=6.4,SNR=4.5						
PPT	Papeete	74.20	115	P		P	09 58 03.2 +2.2
PPT					pmax	pmax	
	comp=Z,187nm,0.8s						
PPT	Papeete	74.20	115	P		P	09 58 03.2 +2.2
	comp=Z,187nm,0.8s,baz=340,slow=3.3,SNR=19						
PPT2	Papeete2	74.20	115	⇓iP		P	09 58 03.1 +2.0
	comp=Z,367nm,1.3s						
PPT2				eS		S	10 06 53.0 -5.2
	comp=Z,3µm,26.0s						
PPT2	Papeete2	74.20	115	eLQ		LQ	10 17 33.9
	comp=Z,5µm,31.2s						
PAE	Paea	74.23	115	⇓iP		P	09 58 02.9 +1.7
	comp=Z,75nm,1.1s						
TIAR	Tiarei	74.39	115	⇓iP		P	09 58 04.0 +1.9
	comp=Z,178nm,1.2s						
PMOR	Pomariorio Ree	74.53	112	⇓iP		P	09 58 04.4 +1.5
	comp=Z,1µm,1.1s						
MCQ	Macquarie Isla	74.55	171	eP		P	09 58 01.2 -0.9
MCQ	Macquarie Isla	74.55	171	eP		P	09 58 01.2 -0.9
	comp=Z,4µm,1.1s						
VAH	Vaihoa	74.86	112	⇓iP		P	09 58 05.9 +1.1
	comp=Z,439nm,1.1s						
IAKL	Akhelmad	75.61	304	eP		P	09 58 10.0 +0.9
MEH	Mehetia	75.62	115	⇓iP		P	09 58 10.7 +1.7
	comp=Z,145nm,1.2s						
IDAH	Dahanechah	75.63	300	eP		P	09 58 10.4 +1.1
ABKT	Ailbek	75.80	305	P		P	09 58 11.8 +2.0
	comp=Z,4µm,1.1s						
GEYT	Alibeck	75.80	305	P		P	09 58 10.6 +0.7
	comp=Z,435nm,1.0s,baz=48,slow=2.2,SNR=454						
DGAR	Diego Garcia	75.97	257	d iP		P	09 58 10.8 -0.3
DGAR	Diego Garcia	75.97	257	eP		P	09 58 10.5 -0.6
	comp=Z,694nm,1.1s						
ISFR	Sfrayin	76.09	305	eP		P	09 58 12.5 +0.7
ISHV	Shirvan	76.21	305	eP		P	09 58 14.6 +2.3
IKOO	Kooshah	76.42	300	eP		P	09 58 15.1 +1.4
PGC	Sidney	76.88	43	eP		P	09 58 16.0 +0.6
	comp=Z,396nm,1.3s						
H08N1	Diego Carcia H	76.91	258	P		P	09 58 17.5 +1.6
	baz=112,slow=1.4,SNR=22						
H08N2	Diego Garcia H	76.91	258	P		P	09 58 17.6 +1.7
	baz=112,slow=1.4,SNR=25						
NLWA	Neilton Lookou	76.92	44	eP		P	09 58 17.6 +1.8
	comp=Z,754nm,1.2s						
H08N3	Diego Garcia H	76.93	258	P		P	09 58 17.4 +1.4
	baz=112,slow=1.4,SNR=23						
E03A	Lebam	77.33

comp=Z,416nm,1.3s
D05A Enumclaw 78.21 44 P P 09 58 24.1 +1.3
I03D Drain, OR 78.22 48 ⇑P P 09 58 24.0 +1.1
baz=78
LVP Lakeview Peak 78.23 45 P P 09 58 24.0 +0.9
F04A Amboy 78.26 45 eP P 09 58 23.9 +0.8
comp=Z,740nm,1.1s
TDL Tradedollar La 78.28 45 P P 09 58 24.4 +1.0
SPA0 Spitsbergen Ar 78.38 351 eP P 09 58 23.3 +0.1
SPA0 IVmB_BB 09 58 26.0
comp=Z,6μm,1.8s
SPITS Spitsbergen Ar 78.38 351 PKKPbc PKKPbc 10 17 15.5 -3.6
comp=Z,6.2nm,0.6s,baz=141,slow=5.4,SNR=13
G04A Mulino 78.42 46 P P 09 58 24.9 +1.0
LON Longmire 78.44 44 eP P 09 58 24.8 +0.6
LON pmax pmax
comp=Z,162nm,1.1s
LON Longmire 78.44 44 eP P 09 58 24.8 +0.6
comp=Z,162nm,1.1s
L02D Cave Junction, 78.45 49 ⇑P P 09 58 25.7 +1.5
baz=78
RCS Mount Rainier- 78.46 44 P P 09 58 25.6 +1.0
KBS Kingsbay 78.52 352 eP P 09 58 24.1 +0.2
KBS pmax pmax
comp=Z,303nm,1.0s
KBS Kingsbay 78.52 352 eP P 09 58 24.1 +0.2
comp=Z,78nm,1.0s
KHMM Horse Mountain 78.70 51 eP P 09 58 27.5 +1.7
comp=Z,468nm,1.1s
H04A Detroit Lake 78.76 47 eP P 09 58 26.4 +0.5
comp=Z,531nm,1.3s
HUMO Hull Mountain 78.79 49 eP P 09 58 27.3 +1.2
comp=Z,422nm,1.3s
I04A Tendick Farm, 78.85 47 ⇓P P 09 58 26.6 +0.2
baz=79
WBK Wadi Bani Khal 79.05 290 P P 09 58 29.4 +1.6
SNR=141
LTY Liberty 79.05 44 eP P 09 58 27.6 +0.1
comp=Z,326nm,1.1s
VFP Flag Point 79.07 46 P P 09 58 28.6 +0.8
PNT Penticton 79.13 42 P P 09 58 28.0 +0.2
PNT Penticton 79.13 42 P P 09 58 27.9 +0.2
KCPM Cahto Peak 79.14 52 eP P 09 58 28.8 +0.7
comp=Z,301nm,1.1s
ETW Entiat 79.17 43 P P 09 58 28.6 +0.4
KIPM Iron Peak 79.18 52 eP P 09 58 29.4 +1.0
comp=Z,738nm,1.5s
G05D Wamic, OR 79.19 46 ⇓P P 09 58 29.4 +1.2
baz=79
M02C Callahan 79.20 50 ⇑P P 09 58 29.9 +1.5
baz=79
YBH Yreka Blue Hor 79.21 50 eP P 09 58 29.4 +1.0
YBH pmax pmax
comp=Z,368nm,1.2s
YBH Yreka Blue Hor 79.21 50 eP P 09 58 29.4 +1.0
comp=Z,368nm,1.2s
J04D Umpqua Nationa 79.21 48 ⇑P P 09 58 29.8 +1.2
baz=79
HSP Hornsund 79.29 350 eP P 09 58 28.0 0.0
HSPB Hornsund (broa 79.30 350 eP P 09 58 28.7 +0.7
WTV Waterville 79.39 43 P P 09 58 29.4 +0.2
N02D Trinity Center 79.42 50 ⇓P P 09 58 31.1 +1.5
baz=79
I05D Terrebonne, OR 79.44 47 ⇑P P 09 58 30.5 +0.9
baz=79
I05D ⇓S **S 10 07 54.6 +1.4**
baz=79
IBAF Bafgh 79.45 300 eP P 09 58 30.5 +0.5
BEND Bend 79.52 47 P P 09 58 31.0 +0.9
B08A Colville Reser 79.59 42 eP P 09 58 30.5 +0.2
comp=Z,439nm,1.1s
K04D Chiloquin, OR 79.64 48 ⇓P P 09 58 31.4 +0.7
baz=80
WDC Whiskeytown Da 79.66 51 eP P 09 58 31.3 +0.6
WDC pmax pmax
comp=Z,457nm,1.4s
WDC Whiskeytown Da 79.66 51 eP P 09 58 31.3 +0.6
comp=Z,457nm,1.4s
G06A Carlson Farm, 79.66 46 eP P 09 58 31.4 +0.7
comp=Z,521nm,1.6s
IANJ Anjilo 79.69 304 eP P 09 58 32.2 +0.9
HOPS Hopland Field 79.71 52 eP P 09 58 30.9 -0.1
comp=Z,266nm,2.0s
SAW Saint Andrews 79.75 43 P P 09 58 31.2 +0.1
E07A Sunnyside 79.79 44 eP P 09 58 32.0 +0.7
comp=Z,432nm,1.2s
TMCR Tamitsa 79.80 335 eP P 09 58 30.8 -0.1
TMCR *eS* **S 10 07 55.9 -0.2**
TMCR pmax pmax
comp=Z,1μm,1.0s
J05D Fort Rock, OR 79.81 48 ⇑P P 09 58 32.6 +0.9
baz=80
M04C Macdoel 79.82 49 ⇑P P 09 58 32.6 +0.9
baz=80
JMDO Jabal Madar 79.89 290 ⇓P P 09 58 32.8 +0.6
SNR=123
HAWA Hanford 80.05 44 eP P 09 58 33.3 +0.6
comp=Z,316nm,1.2s
MCCM Marconi Confer 80.10 53 eP P 09 58 32.4 -0.7
comp=Z,593nm,1.7s
ICHK Chekchek 80.21 301 eP P 09 58 34.7 +0.6
K05A Summer Lake 80.22 48 eP P 09 58 34.6 +0.8
comp=Z,595nm,1.1s
HOQ Hoqain 80.24 292 ⇑P P 09 58 35.8 +1.7
SNR=300
D08A Wollman Farm, 80.25 44 eP P 09 58 34.0 +0.3
comp=Z,458nm,1.3s
OD2 Odessa Site #2 80.29 43 P P 09 58 34.1 +0.2
IMEH Mehriz 80.29 300 eP P 09 58 34.5 0.0
C09A Chrisman Ranch 80.44 43 P P 09 58 34.8 +0.1
KLMR Klimovskoe 80.46 331 *eP* P 09 58 30.8 -3.7
KLMR *eS* **S 10 07 59.2 -3.8**
KLMR pmax pmax
comp=Z,1μm,1.1s
ILAS Lasjerd 80.47 304 eP P 09 58 36.0 +0.6
IFIR Firoozkooh 80.55 304 eP P 09 58 37.0 +1.1
I07A Izee 80.77 47 eP P 09 58 37.0 +0.4
comp=Z,146nm,1.3s
OHCM Honcut 80.80 52 eP P 09 58 37.1 +0.4
MOD Modoc Plateau 80.88 49 eP P 09 58 37.7 +0.4
comp=Z,348nm,1.3s
ISAD Sadrabad 80.90 301 eP P 09 58 38.0 +0.2
HATD Hatta, Dubai 80.91 293 ⇑iP P 09 58 37.9 +0.3
SNR=167
E09A Wood Farm, Sta 80.93 44 eP P 09 58 37.7 +0.4
comp=Z,348nm,1.2s
ARQ Araqi 81.00 292 ⇑P P 09 58 39.4 +1.3
SNR=202
ASHO Ashiyiah 81.01 293 ⇓P P 09 58 39.6 +1.4
SNR=166
NEW Newport 81.03 42 eP P 09 58 38.0 +0.2
NEW pmax pmax
comp=Z,319nm,1.1s
NEW Newport 81.03 42 ⇑P P 09 58 38.2 +0.5
baz=81
NEW Newport 81.03 42 eP P 09 58 38.0 +0.2
comp=Z,319nm,1.1s
KEV Kevo 81.04 342 eP P 09 58 36.0 -1.3
KEV pmax pmax
comp=Z,174nm,0.7s
KEV Kevo 81.04 342 *ep* **P 09 58 36.0 -1.3**
comp=Z,174nm,0.7s
KEV Kevo 81.04 342 eP P 09 58 37.2 -0.1
comp=Z,352nm,0.9s
IDMV Damavand 81.13 305 eP P 09 58 39.6 +0.7
NAZ Nazwa, Dubai 81.27 293 ⇑iP P 09 58 38.6 -0.8
SNR=34
FAQ Al Faqa, Dubai 81.40 293 ⇓iP P 09 58 40.6 +0.5
SNR=34
IVRN Varamin 81.54 304 eP P 09 58 41.2 +0.5
EDM Edmonton 81.59 36 eP P 09 58 40.7 +0.1
EDM Edmonton 81.59 36 eP P 09 58 40.7 +0.1
ARCES ARCESS Array B 81.60 342 P **P 09 58 40.5 +0.2**
comp=Z,241nm,0.7s,baz=82,slow=8.8,SNR=390
ARCES PKiKP **PKiKP 10 03 59.6 -0.5**
comp=Z,7.4nm,0.7s,baz=96,slow=2.0,SNR=10
ARCES PKKPbc **PKKPbc 10 17 09.1 -2.7**
comp=Z,26nm,0.8s,baz=276,slow=2.7,SNR=21
ARCES PKPPKP **P'P'df 10 25 14.5 -2.1**
comp=Z,11nm,1.0s,baz=20,slow=3.9,SNR=3.9
ARE0 ARCESS Array S 81.60 342 *eP* **P 09 58 39.3 -1.0**
ASUD Al Ashush, Dub 81.66 293 ⇓*iP* **P 09 58 42.2 +0.8**
SNR=69
IZEF Zefreh 81.70 302 eP P 09 58 42.2 +0.3
F10A Beach Ranch, E 81.70 44 eP P 09 58 41.7 +0.3
comp=Z,248nm,1.4s

WVOR Wild Horse Val 81.89 48 *eP* **P 09 58 42.8 +0.3**
WVOR pmax pmax
comp=Z,250nm,1.1s
WVOR Wild Horse Val 81.89 48 *eP* **P 09 58 42.8 +0.3**
comp=Z,250nm,1.1s
IR3 Iran Long-Peri 81.95 305 *eP* **P 09 58 43.6 +0.7**
CMB Columbia Colle 82.01 53 *eP* **P 09 58 43.4 +0.3**
CMB pmax pmax
comp=Z,415nm,1.2s
CMB Columbia Colle 82.01 53 *eP* **P 09 58 43.4 +0.3**
comp=Z,415nm,1.2s
BMO Blue Mountains 82.02 45 *eP* **P 09 58 43.2 +0.2**
BMO pmax pmax
comp=Z,331nm,1.2s
BMO Blue Mountains 82.02 45 *eP* **P 09 58 43.2 +0.2**
comp=Z,332nm,1.2s
IPAR Pars 82.03 299 *eP* **P 09 58 45.1 +1.4**
ISRV Sarvestan 82.12 298 *eP* **P 09 58 44.5 +0.3**
IMHD Mahdasht 82.16 305 *eP* **P 09 58 44.8 +0.9**
IKLH Kolahrood 82.17 302 *eP* **P 09 58 45.3 +1.0**
MAK Makhachkala 82.18 313 *eP* **P 09 58 44.2 +0.5**
MAK pmax pmax
comp=Z,3μm,1.2s
MAK pmax pmax
comp=Z,2μm,1.3s
MAK pmax pmax
comp=E,3μm,1.5s
MAK pmax pmax
comp=N,2μm,1.3s
IGZV Ghazvin 82.29 306 *eP* **P 09 58 45.4 +0.6**
WAKR Walker 82.57 52 *eP* **P 09 58 46.7 +0.6**
BSMT Bassoo Peak 82.64 42 *eP* **P 09 58 46.7 +0.4**
WALA Waterton Lakes 82.76 41 *eP* **P 09 58 47.5 +0.7**
IRAZ Razeghan 82.82 305 *eP* **P 09 58 47.9 +0.5**
BLMT Blacktail Moun 82.85 42 *eP* **P 09 58 47.8 +0.4**
IPIR Pirpir 82.92 302 *eP* **P 09 58 47.5 -0.6**
JTMT Jette 83.00 42 *eP* **P 09 58 48.0 0.0**
IKAZ Kazeroun 83.05 299 *eP* **P 09 58 49.3 +0.4**
JOF Joensuu 83.06 335 *eP* **P 09 58 46.7 -1.1**
JOF pmax pmax
comp=Z,660nm,0.6s
JOF Joensuu 83.06 335 *ep* **P 09 58 46.7 -1.1**
comp=Z,660nm,0.6s
VRHR Novokhopersk 83.09 322 *eP* **P 09 58 46.7 -1.5**
VRHR *e*PP* **pP 10 00 23.6 -4.3**
VRHR *e*SP* **sP 10 01 10.5 -3.7**
VRHR *eS* **SKSac 10 08 23.3 -3.5**
VRHR pmax pmax
comp=N,70nm,0.7s
VRHR pmax pmax
comp=E,80nm,0.7s
VRHR pmax pmax
comp=Z,240nm,0.7s
VRHR smax smax
comp=N,410nm,1.5s
VRHR smax smax
comp=E,890nm,1.5s
VRHR smax smax
comp=Z,160nm,1.5s
YBMT Yellow Bay 83.12 42 *eP* **P 09 58 48.8 +0.1**
SMMC Simmler 83.17 55 ⇓*P* **P 09 58 49.9 +0.9**
baz=83,SNR=21
SWMT Swartz Lake 83.26 42 *eP* **P 09 58 49.0 -0.3**
MLAC Mammoth, Mammo 83.30 53 ⇑*P* **P 09 58 50.4 +0.6**
baz=83
TRO Tromso 83.39 343 *eP* **P 09 58 48.8 -0.5**
RCTC Rector, Farmer 83.43 54 ⇓*P* **P 09 58 50.1 -0.1**
baz=83
NVAR Mina Array Bea 83.44 52 P **P 09 58 50.8 +0.3**
comp=Z,148nm,1.0s,baz=266,slow=5.3,SNR=306
NVAR pP **pP 10 00 33.0 +2.7**
comp=Z,18nm,0.7s,baz=271,slow=4.8,SNR=2.6
NVAR PKPPKP P'P'df 10 25 04.3 -9.4
comp=Z,2.0nm,0.8s,baz=118,slow=2.2,SNR=7.0
MOS Moscow 83.44 327 *eP* **P 09 58 47.1 -2.7**
MOS *e*PP* **pP 10 00 28.5 -1.1**
MOS *e* 10 02 07.1
MOS *eS* S 10 08 25.1 -8.0
MOS pmax pmax
comp=Z,3μm,1.9s
MOS pmax pmax
comp=Z,1μm,1.4s
MOS pmax pmax
comp=E,313nm,1.5s
MOS smax smax
comp=E,3600μm,3.1s
MOS smax smax
comp=N,1100μm,1.7s
MFID Camas Ranch 83.51 46 *eP* **P 09 58 50.5 -0.1**
MSO Missoula 83.54 43 ⇑*P* **P 09 58 50.5 -0.2**
baz=83
MSO Missoula 83.54 43 *eP* **P 09 58 50.9 +0.2**
comp=N,166nm,1.3s
NV11 Mina Array Sit 83.54 52 *eP* **P 09 58 51.3 +0.3**
BMN Battle Mountai 83.56 50 *eP* **P 09 58 51.4 +0.4**
BMN pmax pmax
comp=Z,245nm,1.3s
BMN Battle Mountai 83.56 50 *eP* **P 09 58 51.4 +0.4**
comp=Z,245nm,1.3s
DAG Danmarks Havn 83.56 356 ⇓*iP* **P 09 58 49.5 -0.6**
DAG pmax pmax
comp=Z,70nm,0.9s
DAG Danmarks Havn 83.56 356 ⇓*iP* **P 09 58 49.5 -0.6**
comp=Z,84nm,0.9s
MTUM Tungsten Hills 83.60 53 *eP* **P 09 58 52.0 +0.7**
SBC Santa Barbara 83.67 56 ⇑*P* **P 09 58 52.2 +0.8**
baz=84,SNR=6.1
SLMT Seeley Lake 83.68 42 *eP* **P 09 58 51.0 -0.5**
VES Vestal, Richgr 83.70 54 ⇑*P* **P 09 58 51.6 0.0**
baz=84,SNR=64
BSC Santa Cruz Isl 83.88 56 ⇓*P* **P 09 58 52.3 -0.2**
baz=84
TIN Tinemaha, Big 83.95 53 ⇓*P* **P 09 58 53.9 +0.9**
baz=84
CHMT Chamberlain Mo 83.95 42 *eP* **P 09 58 52.3 -0.6**
ARVC Arvin 84.13 55 ⇓*P* **P 09 58 54.3 +0.6**
baz=84,SNR=19
DGRG David-gareji 84.18 312 P **P 09 58 54.0 +0.1**
DGRG David-gareji 84.18 312 P **ScS 10 08 51.6 +1.2**
ISA Isabella, Lake 84.23 54 P **P 09 58 54.1 -0.3**
baz=84
VOR Voronezh 84.24 323 ⇑*iP* **P 09 58 52.0 -1.9**
VOR *eS* S 10 08 32.0 -9.1
VOR pmax pmax
comp=Z,2μm,1.0s
OBN Obninsk 84.25 327 *diP* **P 09 58 53.2 -0.7**
OBN *i *PP* **pP 10 00 35.3 +1.4**
OBN *e* 10 02 14.3
OBN *i S* SKSac 10 08 26.7 -7.3
OBN *eSSS* SSS 10 17 56.9
OBN pmax pmax
comp=Z,1μm,1.7s
OBN Obninsk 84.25 327 PKKPbc PKKPbc 10 17 03.4 -1.7
comp=Z,21nm,0.6s,baz=187,slow=5.8,SNR=6.4
OBN Obninsk 84.25 327 *eP* **P 09 58 53.1 -0.7**
comp=Z,2μm,1.6s
OBN PKKPbc **PKKPbc 10 17 03.4 -1.7**
TPH Tonopah 84.36 52 *eP* **P 09 58 55.3 +0.2**
TPH pmax pmax
comp=Z,244nm,1.1s
TPH Tonopah 84.36 52 *eP* **P 09 58 55.3 +0.2**
comp=Z,244nm,1.1s
OSI Osito Audit: C 84.38 55 ⇑*P* **P 09 58 55.7 +0.6**
baz=84
OSI Osito Audit: C 84.38 55 *eP* **P 09 58 56.0 +0.9**
comp=Z,21nm,1.0s
HLID Hailey 84.42 46 ⇑*P* **P 09 58 56.0 +0.8**
baz=84
HLID Hailey 84.42 46 *eP* **P 09 58 55.6 +0.4**
comp=Z,312nm,1.1s
DUS Dusheti 84.42 313 P **P 09 58 56.7 +1.6**
DUS Dusheti 84.42 313 P **SKSac 10 08 36.9 +1.1**
GUDG Gudauri 84.44 313 P **P 09 58 55.5 0.0**
GOF Gofitskoye 84.47 316 *eP* **P 09 58 55.3 +0.1**
GOF pmax pmax
comp=Z,300nm,1.3s
VSR Storozhevoye 84.47 323 *eP* **P 09 58 53.7 -1.3**
VSR *e*PP* **pP 10 00 33.2 -1.9**
VSR *eS* **SKSac 10 08 33.2 -2.4**
VSR pmax pmax
comp=N,90nm,0.8s
VSR pmax pmax
comp=E,230nm,0.8s
VSR pmax pmax
comp=Z,580nm,0.8s

VSR pmax pmax
comp=N,200nm,0.8s
VSR pmax pmax
comp=E,390nm,0.8s
VSR pmax pmax
comp=Z,1μm,0.8s
VSR smax smax
comp=N,560nm,2.3s
VSR smax smax
comp=E,460nm,2.3s
VSR smax smax
comp=Z,270nm,2.3s
SEAG Tbilisi Sea 84.47 312 P **P 09 58 55.4 +0.1**
VORD Divnogorie 84.49 322 *eP* **P 09 58 54.1 -1.1**
VORD *eS* **S 10 08 40.4 -3.3**
VORD pmax pmax
comp=N,80nm,0.8s
VORD pmax pmax
comp=E,230nm,0.8s
VORD pmax pmax
comp=Z,400nm,0.8s
VORD pmax pmax
comp=N,130nm,0.8s
VORD pmax pmax
comp=E,360nm,0.8s
VORD pmax pmax
comp=Z,590nm,0.8s
VORD smax smax
comp=E,410nm,2.0s
VORD smax smax
comp=Z,100nm,1.9s
VORD smax smax
comp=N,240nm,2.0s
TBLG Delisi 84.52 312 *eP* **P 09 58 55.3 -0.3**
TBLG Delisi 84.52 312 P **P 09 58 55.8 +0.2**
GRAC Grapevine Rang 84.61 53 ⇑*P* **P 09 58 56.8 +0.7**
baz=84,SNR=32
ZEI Tsey 84.72 313 *eP* P 09 58 53.2 -3.6
ZEI pmax pmax
comp=Z,348nm,0.9s
DECC Green Verdugo 84.81 56 ⇓*P* **P 09 58 57.1 -0.1**
baz=85,SNR=22
RBK Rabkut 84.85 287 ⇑*P* **P 09 58 58.5 +0.8**
SNR=148
ELK Elko 84.86 49 *eP* **P 09 58 57.8 +0.3**
ELK pmax pmax
comp=Z,366nm,1.0s
ELK Elko 84.86 49 *eP* **P 09 58 57.8 +0.3**
comp=Z,366nm,1.0s
EDW2 Edwards Air Fo 84.86 55 ⇓*P* **P 09 58 58.1 +0.6**
baz=85,SNR=52
KZR Kazreti 84.88 312 P **P 09 58 57.6 +0.3**
LRM Limekiln Ridge 84.88 43 *eP* **P 09 58 57.6 0.0**
LRMC Laurel Mtn Rad 84.89 54 ⇑*P* **P 09 58 58.0 +0.3**
baz=85,SNR=59
HRY Holter Researc 84.93 42 *eP* **P 09 58 57.9 +0.3**
PASC Pasadena Art C 84.95 56 *eP* **P 09 58 57.6 -0.3**
comp=Z,739nm,1.9s
DLMT Dillon 84.96 44 *eP* **P 09 58 57.8 0.0**
comp=Z,303nm,1.3s
MCMT McKenzie Canyo 85.00 44 *eP* **P 09 58 58.3 +0.1**
comp=Z,3.0nm,0.2s
FMP Fort Macarthur 85.02 56 ⇑*P* **P 09 58 58.5 +0.3**
baz=85
MWC Mount Wilson 85.03 56 *eP* **P 09 58 58.9 +0.4**
MWC pmax pmax
comp=Z,376nm,1.4s
MWC Mount Wilson 85.03 56 *eP* **P 09 58 58.9 +0.4**
comp=Z,376nm,1.4s
CIS Catalina Islan 85.04 56 ⇑*P* **P 09 58 58.2 -0.1**
baz=85,SNR=9.8
PUL Pulkovo 85.04 332 *diP* **P 09 58 57.2 -0.5**
PUL pmax pmax
comp=Z,633nm,1.2s
KBZ Khabaz 85.06 315 P **P 09 58 58.2 +0.1**
KBZ pmax pmax
comp=Z,296nm,1.0s
KBZ Khabaz 85.06 315 P **P 09 58 58.2 +0.1**
comp=Z,296nm,1.0s,baz=109,slow=2.0,SNR=254
SCI San Clemente I 85.07 57 ⇑*P* **P 09 58 58.4 -0.1**
baz=85
GNI Garni 85.09 311 *eP* **P 09 58 59.4 +0.8**
GNI Garni 85.09 311 *diP* **P 09 58 59.0 +0.4**
GNI pmax pmax
comp=Z,401nm,1.7s
GNI Garni 85.09 311 ⇑*iP* **P 09 58 58.8 +0.2**
SNR=28
GNI Garni 85.09 311 *eP* **P 09 58 58.9 +0.3**
comp=Z,2μm,2.3s
ONI Oni 85.10 313 P **P 09 58 58.2 -0.3**
ONI Oni 85.10 313 P **S 10 08 47.2 -2.9**
KIV Kislovodsk 85.11 315 *eP* **P 09 58 56.4 -2.1**
KIV *e*PP* **pP 10 00 38.5 -0.3**
KIV *e* 10 08 36.9
KIV *eSS* SS 10 14 30.6 -4.9
KIV pmax pmax
comp=Z,646nm,4.8s
KIV pmax pmax
comp=Z,269nm,1.0s
KIV MLR MLR
comp=Z,660nm,19.0s
KIV Kislovodsk 85.11 315 *eP* **P 09 58 58.6 +0.1**
comp=Z,230nm,0.9s
FURC Furnace Creek, 85.18 53 ⇓*P* **P 09 58 59.8 +1.0**
baz=85,SNR=109
KULLO Kullorsuaq 85.23 6 ⇓*iP* **P 09 58 58.4 +0.1**
KULLO pmax pmax
comp=Z,100nm,1.3s
KULLO Kullorsuaq 85.23 6 ⇓*iP* **P 09 58 58.4 +0.1**
comp=Z,105nm,1.3s
BFSC Mount Baldy Ra 85.34 55 ⇓*P* **P 09 58 59.6 -0.2**
baz=85,SNR=18
KAF Kangasniemi 85.46 336 *eP* **P 09 58 57.5 -2.2**
KAF pmax pmax
comp=Z,132nm,0.6s
KAF Kangasniemi 85.46 336 *ep* **P 09 58 57.5 -2.2**
comp=Z,132nm,0.6s
R11A Troy Canyon, C 85.47 51 ⇑*P* **P 09 59 01.1 +0.6**
baz=85,SNR=232
R11A Troy Canyon, C 85.47 51 *eP* **P 09 59 00.7 +0.1**
BOZ Bozeman (W) 85.47 43 *eP* **P 09 59 00.6 +0.2**
BOZ pmax pmax
comp=Z,219nm,1.3s
BOZ Bozeman (W) 85.47 43 *eP* **P 09 59 00.6 +0.2**
comp=Z,193nm,1.3s
AKH Akhalkalaki 85.51 312 *eP* **P 09 59 01.4 +0.7**
AKH Akhalkalaki 85.51 312 P **P 09 59 00.7 +0.1**
AKH Akhalkalaki 85.51 312 P **S 10 08 55.3 +0.9**
STEI Steigen 85.53 343 *eP* **P 09 58 59.2 -0.7**
STEI IAmb IAmb 09 59 01.3
comp=Z,1μm,1.0s
RRX Edison Barstow 85.63 55 ⇑*P* **P 09 59 01.7 +0.5**
baz=86,SNR=9.5
GSC Goldstone, Bar 85.63 54 *eP* **P 09 59 01.6 +0.4**
GSC pmax pmax
comp=Z,453nm,1.3s
GSC Goldstone, Bar 85.63 54 ⇑*P* **P 09 59 01.8 +0.6**
baz=86,SNR=102
GSC Goldstone, Bar 85.63 54 *eP* **P 09 59 01.6 +0.4**
comp=Z,453nm,1.3s
EGMT Eagleton 85.70 40 ⇓*P* **P 09 59 01.7 +0.4**
baz=86,SNR=140
EGMT Eagleton 85.70 40 *eP* **P 09 59 01.0 -0.3**
comp=Z,386nm,1.3s
ABTO Aybut 85.72 287 ⇓*P* **P 09 59 02.5 +0.6**
SNR=96
SHOC Shoshone, Teco 85.82 54 ⇑*P* **P 09 59 02.7 +0.7**
baz=86,SNR=101
DRV Dumont d'Urvil 85.83 182 P **P 09 59 00.0 -1.1**
DRV S SKSac 10 08 30.0 -13
DRV SS SS 10 14 31.0 -15
DRV L L 10 21 00.0
DRV R 10 25 00.0
BBRC Big Bear Solar 85.90 55 ⇓*P* **P 09 59 03.0 +0.2**
baz=86,SNR=14
MURC Murrieta 85.92 56 ⇑*P* **P 09 59 02.6 0.0**
baz=86,SNR=23
FINES FINESS Array B 85.92 335 P **P 09 59 00.1 -1.8**
FINES pmax pmax
comp=Z,255nm,0.6s
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES pmax pmax
comp=Z,14nm,0.8s
FINES FINESS Array B 85.92 335 P **P 09 59 00.1 -1.8**
comp=Z,254nm,0.6s,baz=82,slow=4.0,SNR=437

FINES PKKP PKKPdf 10 16 44.7 -7.6
comp=Z,4.0nm,0.9s,baz=135,slow=1.1,SNR=4.2
FINES PKKPbc **PKKPbc** **10 16 59.1 -2.5**
comp=Z,14nm,0.8s,baz=132,slow=2.8,SNR=16
QLMT Earthquake Lak 85.92 44 *eP* **P 09 59 03.4 +0.8**
A19A Klindworth Far 85.94 39 ⇑P **P 09 59 02.8 +0.4**
baz=86,SNR=226
B19A Brinkman Farms 86.02 40 ⇓P **P 09 59 03.0 +0.2**
baz=86,SNR=262
CLDR Caldiran 86.05 310 *eP* **P 09 59 03.7 +0.4**
KARS Kars 86.09 312 *eP* **P 09 59 04.5 +1.1**
HEC Hector,Ludlow 86.16 55 ⇓P **P 09 59 04.6 +0.8**
baz=86,SNR=78
HVU Hansel Valley 86.20 47 *eP* **P 09 59 04.5 +0.6**
HVU pmax pmax
comp=Z,469nm,1.2s
HVU Hansel Valley 86.20 47 *eP* **P 09 59 04.5 +0.6**
comp=Z,388nm,1.2s
109C Camp Elliot, M 86.24 57 ⇑P **P 09 59 04.6 +0.5**
baz=86,SNR=12
TUQ Turquoise Moun 86.26 54 ⇑P **P 09 59 05.4 +1.1**
baz=86,SNR=144
C19A Slack Wire Ran 86.26 41 ⇓P **P 09 59 04.7 +0.8**
baz=86,SNR=107
YMR Madison River 86.29 44 *eP* **P 09 59 05.5 +1.2**
comp=Z,400nm,1.2s
BGU Big Grassy Mou 86.35 48 *eP* **P 09 59 04.8 +0.2**
comp=Z,110nm,1.1s
SHPR Sheep Range 86.45 53 *eP* **P 09 59 05.8 +0.5**
A20A Cobblestone Ra 86.45 39 ⇓P **P 09 59 05.3 +0.4**
baz=86,SNR=174
YNR Norris Junctio 86.46 44 *eP* **P 09 59 07.5 +2.3**
comp=Z,395nm,1.2s
YFT Old Faithful 86.47 44 *eP* **P 09 59 07.8 +2.5**
comp=Z,656nm,1.8s
PFO Pinyon Flats O 86.50 56 *eP* **P 09 59 05.8 +0.3**
PFO Pinyon Flats O 86.50 56 ⇑P **P 09 59 05.7 +0.2**
baz=86,SNR=29
PFO Pinyon Flats O 86.50 56 *eP* **P 09 59 05.8 +0.3**
AGRB Hanur-Agry 86.55 311 *eP* **P 09 59 06.0 +0.3**
B20A Solberg Farm, 86.58 40 ⇓P **P 09 59 05.8 +0.3**
baz=86,SNR=184
D19A Cripps Ranch, 86.60 41 ⇑P **P 09 59 06.1 +0.5**
baz=86,SNR=151
SPUT South Promonto 86.61 47 *eP* **P 09 59 06.2 +0.4**
comp=Z,197nm,1.1s
IMW Indian Meadow 86.62 45 *eP* **P 09 59 07.1 +1.1**
comp=Z,130nm,1.1s
VANB Van 86.63 310 *eP* **P 09 59 06.2 +0.2**
BAR Barrett 86.65 57 *eP* **P 09 59 06.6 +0.5**
comp=Z,197nm,2.1s
H17A Grant Village 86.66 44 ⇓P **P 09 59 08.2 +2.0**
baz=86,SNR=124
H17A Grant Village 86.66 44 *eP* **P 09 59 08.1 +2.0**
comp=Z,161nm,1.0s
FXWY Fox Creek 86.66 45 *eP* **P 09 59 06.7 +0.5**
comp=Z,217nm,1.5s
GMRC Granite Mounta 86.69 54 ⇑P **P 09 59 06.7 +0.3**
baz=87,SNR=204
FLWY Flagg Ranch 86.70 44 *eP* **P 09 59 07.4 +1.1**
comp=Z,189nm,1.1s
LKWY Lake 86.70 44 *eP* **P 09 59 08.4 +2.0**
LKWY pmax pmax
comp=Z,543nm,1.8s
LKWY Lake 86.70 44 *eP* **P 09 59 08.4 +2.0**
comp=Z,543nm,1.8s
BELC Belle Mtn. Jos 86.71 55 ⇓P **P 09 59 06.7 +0.2**
baz=87,SNR=71
TPAW Teton Pass 86.77 45 *eP* **P 09 59 07.2 +0.5**
comp=Z,286nm,1.6s
MONP Monument Peak, 86.78 56 ⇑P **P 09 59 07.0 +0.1**
baz=87,SNR=19
DUG Dugway, Tooele 86.78 49 *eP* **P 09 59 07.1 +0.4**
DUG pmax pmax
comp=Z,431nm,1.2s
DUG Dugway, Tooele 86.78 49 ⇑P **P 09 59 07.4 +0.7**
baz=87,SNR=361
DUG Dugway, Tooele 86.78 49 *eP* **P 09 59 07.1 +0.4**
comp=Z,431nm,1.2s
I17A Pilgrim Ck. 86.85 44 ⇓P **P 09 59 08.4 +1.4**
baz=87,SNR=96
REDW Red Top Meadow 86.89 45 *eP* **P 09 59 07.9 +0.6**
comp=Z,442nm,1.8s
C20A Veseth Ranch, 86.91 40 ⇓P **P 09 59 08.0 +1.0**
baz=87,SNR=183
E19A Rath Farm, Rou 86.95 42 ⇑P **P 09 59 07.4 +0.1**
baz=87,SNR=60
LOHW Long Hollow 86.95 45 *eP* **P 09 59 07.5 -0.1**
comp=Z,107nm,1.4s
AHID Auburn Hatcher 86.96 46 *eP* **P 09 59 07.3 -0.2**
comp=Z,618nm,1.8s
CUKT Cukurca 86.97 308 *eP* P 09 59 15.6 +8.0
MOR8 Moi Rana 86.97 342 *eP* **P 09 59 05.1 -1.7**
MOR8 IAmb IAmb 09 59 06.8
comp=Z,298nm,0.8s
A21A Bergtoll Ranch 87.00 39 ⇑P **P 09 59 07.9 +0.5**
baz=87,SNR=157
LDFC Landfair 87.01 54 *eP* **P 09 59 08.2 +0.4**
comp=Z,1μm,1.1s
FFC Flin Flon 87.02 32 *eP* **P 09 59 06.6 -0.7**
FFC pmax pmax
comp=Z,504nm,1.2s
FFC Flin Flon 87.02 32 *eP* **P 09 59 06.5 -0.7**
comp=Z,458nm,1.2s
D20A Manuel Ranch, 87.09 41 ⇑P **P 09 59 08.3 +0.4**
baz=87,SNR=123
HWUT Hardware Ranch 87.11 47 *eP* **P 09 59 08.5 +0.2**
comp=Z,326nm,1.2s
F19A Roth Farm, Mol 87.11 42 ⇑P **P 09 59 08.3 +0.2**
baz=87,SNR=61
KONS Konsvik 87.12 343 *eP* **P 09 59 07.3 -0.2**
H18A Shoshone NF, C 87.14 43 ⇓P **P 09 59 09.3 +0.9**
baz=87,SNR=50
FLOS Flostrand 87.17 342 *eP* **P 09 59 07.6 -0.1**
B21A Ellsworth Farm 87.19 39 ⇓P **P 09 59 08.9 +0.6**
baz=87,SNR=51
RLMT Red Lodge 87.21 43 *eP* **P 09 59 09.0 +0.3**
comp=Z,561nm,1.8s
SOC Sochi 87.24 315 *d iP* **P 09 59 06.9 -1.7**
SOC *e**SP **sP** **10 01 36.5 +1.0**
SOC *e* 10 02 36.9
SOC *e*PPP PPP 10 04 38.4
SOC *e*S **SKSac** **10 08 48.9 -4.0**
SOC pmax pmax
comp=Z,250nm,0.6s
ARUT Antelope Range 87.25 51 *eP* **P 09 59 09.2 +0.2**
ARUT pmax pmax
comp=Z,5μm,1.1s
ARUT Antelope Range 87.25 51 *eP* **P 09 59 09.2 +0.2**
comp=Z,286nm,1.1s
SWSC Sam W. Stewart 87.25 56 ⇑P **P 09 59 09.0 +0.2**
baz=87,SNR=23
BC3 Big Chuckawall 87.26 55 ⇑P **P 09 59 09.8 +0.7**
baz=87,SNR=121
VSU Vasula 87.30 332 *d iP* **P 09 59 07.6 -0.9**
VSU pmax pmax
comp=Z,2μm,1.7s
IRM Iron Mountain 87.31 55 ⇑P **P 09 59 09.8 +0.6**
baz=87,SNR=165
CTU Camp Tracy 87.34 48 *eP* **P 09 59 09.8 +0.4**
comp=Z,279nm,1.2s
E20A Meyer Farm, Mu 87.35 41 ⇑P **P 09 59 09.2 +0.1**
baz=87,SNR=43
CCUT Cedar City 87.39 51 *eP* **P 09 59 10.5 +0.8**
comp=Z,262nm,1.2s
NLU North Lily Min 87.40 49 *eP* **P 09 59 10.2 +0.5**
comp=Z,228nm,1.2s
TCUT Toone Canyon 87.41 47 *eP* **P 09 59 09.6 -0.2**
comp=Z,160nm,1.2s
NEE2 Needles Airpor 87.50 54 ⇓P **P 09 59 10.6 +0.6**
baz=87,SNR=76
H19A Powell 87.58 43 ⇓P **P 09 59 11.7 +1.4**
baz=88,SNR=54
EZM Erzurum 87.58 312 *eP* **P 09 59 11.4 +0.8**
JLU Jordanelle 87.58 48 *eP* **P 09 59 10.8 +0.2**
comp=Z,395nm,1.3s
A22A Carney Farms, 87.59 38 ⇑P **P 09 59 09.9 -0.3**
baz=88,SNR=70
F20A Billings 87.64 42 ⇑P **P 09 59 10.9 +0.3**
baz=88,SNR=28
MPU Maple Canyon 87.69 48 *eP* **P 09 59 11.5 +0.5**
comp=Z,323nm,1.3s
SIRT Sirnak 87.74 309 *eP* **P 09 59 12.7 +1.5**
DAU Daniels Canyon 87.79 48 *eP* **P 09 59 11.9 +0.2**
DAU Daniels Canyon 87.79 48 *eP* **P 09 59 11.9 +0.2**
D21A La Casta Ranch 87.81 41 ⇓P **P 09 59 11.9 +0.6**
baz=88,SNR=65

VRTB Varto-Mus 87.81 311 *eP* **P 09 59 12.7 +1.1**
I19A Meeteetse 87.84 44 ⇑P **P 09 59 12.2 +0.5**
baz=88,SNR=39
G20A Bridger 87.84 43 ⇑P **P 09 59 12.1 +0.5**
baz=88,SNR=64
B22A Reddig Ranch S 87.86 39 ⇓P **P 09 59 12.0 +0.5**
baz=88,SNR=26
MVU Marysvale 87.87 50 *eP* **P 09 59 12.6 +0.6**
W13A Hualapai Mount 87.93 54 ⇑P **P 09 59 12.9 +0.6**
baz=88,SNR=7
Y12C Blythe 87.94 55 ⇑P **P 09 59 13.3 +1.3**
baz=88,SNR=82
GLA Glamis 87.97 56 *eP* **P 09 59 12.9 +0.6**
GLA pmax pmax
comp=Z,305nm,1.1s
GLA Glamis 87.97 56 ⇓P **P 09 59 13.3 +1.1**
baz=88,SNR=65
GLA Glamis 87.97 56 *eP* **P 09 59 12.9 +0.6**
comp=Z,304nm,1.1s
E21A Keefer Ranch, 87.99 41 ⇑P **P 09 59 12.7 +0.6**
baz=88,SNR=27
BW06 Boulder Array 88.00 45 *eP* **P 09 59 11.7 -0.8**
comp=Z,170nm,2.3s
PDAR Pinedale Array 88.00 45 P **P 09 59 12.0 -0.5**
comp=Z,14nm,0.8s,baz=261,slow=2.0,SNR=62
PDAR PKKPbc **PKKPbc** **10 16 53.4 -2.8**
comp=Z,3.5nm,1.0s,baz=117,slow=3.9,SNR=7.7
PDAR PKPPKP **P'P'df** **10 25 03.5 -1.8**
comp=Z,5.7nm,1.2s,baz=132,slow=2.2,SNR=7.9
PDMCI Parker Dam,Lak 88.04 54 ⇓P **P 09 59 13.3 +0.8**
baz=88,SNR=117
J19A Crowheart 88.13 45 ⇑P **P 09 59 13.9 +0.9**
baz=88,SNR=159
BTMT Batman 88.17 310 *eP* **P 09 59 13.9 +0.8**
C22A Vida 88.17 40 ⇓P **P 09 59 13.1 +0.1**
baz=88,SNR=68
A23A Redstone 88.21 38 ⇓P **P 09 59 13.2 +0.2**
baz=88,SNR=17
ANN Anapa 88.22 317 *d iP* **P 09 59 11.2 -1.9**
ANN *eS* **SKSac** **10 08 55.0 -3.6**
ANN *e* 10 09 19.7
ANN pmax pmax
comp=Z,672nm,0.9s
ANN pmax pmax
comp=E,129nm,0.9s
ANN pmax pmax
comp=N,123nm,0.9s
ANN pmax pmax
comp=N,131nm,1.3s
ANN pmax pmax
comp=Z,699nm,1.3s
ANN pmax pmax
comp=E,122nm,1.3s
BAYT Ayd¨–ntepe-Bay 88.25 312 *eP* **P 09 59 14.1 +0.5**
D22A Cohagen 88.27 40 ⇑P **P 09 59 13.8 +0.4**
baz=88,SNR=78
F21A Absaloka Mine, 88.27 42 ⇑P **P 09 59 13.6 +0.1**
baz=88,SNR=8.3
TMUT Trail Mountain 88.27 49 *eP* **P 09 59 14.5 +0.6**
comp=E,182nm,1.2s
SUMG Summit 88.28 1 ⇓*iP* **P 09 59 13.7 +0.3**
SUMG pmax pmax
comp=Z,130nm,1.0s
SUMG Summit 88.28 1 ⇓*iP* **P 09 59 13.7 +0.3**
comp=Z,126nm,1.0s
SUMG Summit 88.28 1 *eP* **P 09 59 13.1 -0.3**
comp=Z,283nm,1.2s
H20A Greybull 88.30 43 ⇓P **P 09 59 14.2 +0.5**
baz=88,SNR=28
B23A Brockton 88.38 39 ⇑P **P 09 59 14.1 +0.3**
baz=88,SNR=80
BNGB Bing¶ll 88.43 311 *eP* **P 09 59 14.7 +0.3**
I20A Worland 88.44 44 ⇑P **P 09 59 15.0 +0.6**
baz=88,SNR=39
LAO LASA Array 88.45 41 *eP* **P 09 59 14.4 +0.1**
comp=Z,380nm,1.2s
G21A Lodge Grass 88.48 42 ⇑P **P 09 59 14.9 +0.4**
baz=88,SNR=13
C23A Lambert 88.57 39 ⇓P **P 09 59 15.2 +0.4**
baz=88,SNR=116
U15A North Rim 88.62 52 ⇑P **P 09 59 16.4 +0.9**
baz=88,SNR=160
GUMT Gumushane 88.68 313 *eP* **P 09 59 16.4 +0.9**
E22A Miles City 88.73 41 ⇓P **P 09 59 15.8 +0.2**
baz=89,SNR=24
J20A Shoshoni 88.73 44 ⇓P **P 09 59 16.2 +0.5**
baz=89,SNR=16
A24A Westby 88.74 38 ⇑P **P 09 59 15.7 +0.1**
baz=89,SNR=59
F22A Rosebud 88.83 41 ⇑P **P 09 59 16.3 +0.2**
baz=89,SNR=46
SRU San Rafael Swe 88.83 49 *eP* **P 09 59 16.5 +0.1**
SRU pmax pmax
comp=Z,242nm,1.1s
SRU San Rafael Swe 88.83 49 *eP* **P 09 59 16.5 +0.1**
comp=Z,242nm,1.1s
DGMT Dagmar 88.84 38 ⇑P **P 09 59 16.1 0.0**
baz=89,SNR=32
DGMT Dagmar 88.84 38 *eP* **P 09 59 15.7 -0.3**
comp=Z,982nm,2.3s
D23A Lindsay 88.84 40 ⇑P **P 09 59 17.1 +1.0**
baz=89,SNR=146
H21A Big Horn, Sher 88.85 43 ⇑P **P 09 59 17.1 +0.9**
baz=89,SNR=62
ERZN Erzincan 88.87 312 *eP* **P 09 59 17.0 +0.5**
NSS Namsos 88.87 341 *eP* **P 09 59 16.5 +0.7**
113A Mohawk Valley, 88.90 56 ⇑P **P 09 59 17.4 +0.9**
baz=89,SNR=88
MICGM Minsk 88.94 329 ⇓*eP* **P 09 59 14.0 -2.3**
RKT Rikitea 88.95 115 ⇓*iP* **P 09 59 19.1 +2.2**
comp=Z,162nm,1.2s
RKT Rikitea 88.95 115 *eS* **S** **10 09 21.9 -4.8**
comp=Z,602nm,29.8s
RKT Rikitea 88.95 115 *eLQ* LQ 10 24 15.9
comp=Z,1μm,28.0s
MNK Minsk 88.96 329 ⇓*eP* **P 09 59 14.0 -2.4**
MNK pmax pmax
comp=Z,4μm,0.8s
MNK pmax pmax
comp=E,2μm,1.4s
MNK pmax pmax
comp=N,1μm,1.0s
IDID Didziasalis 89.04 330 *eP* **P 09 59 16.6 -0.2**
IDID AMB AMB 09 59 18.0
comp=Z,475nm,1.0s
Y14A Wickenburg 89.04 54 ⇓P **P 09 59 18.3 +1.0**
baz=89,SNR=173
I21A Big Trails, Te 89.05 44 ⇑P **P 09 59 17.2 -0.1**
baz=89,SNR=42
G22A Birney 89.06 42 ⇓P **P 09 59 17.6 +0.4**
baz=89,SNR=28
E23A Ismay 89.10 41 ⇑P **P 09 59 17.9 +0.6**
baz=89,SNR=32
C24A Savage 89.15 39 P **P 09 59 17.9 +0.4**
baz=89
J21A Lysite 89.15 44 ⇑P **P 09 59 17.8 0.0**
baz=89,SNR=87
ISAL Salakas 89.19 330 *eP* **P 09 59 17.2 -0.2**
ISAL AMB AMB 09 59 18.8
comp=Z,471nm,1.1s
MAZI Mazidag 89.21 310 *eP* **P 09 59 18.3 +0.2**
DYBB Diyarbakir 89.24 310 *eP* **P 09 59 18.7 +0.6**
A25A Svangstu Ranch 89.25 38 ⇓P **P 09 59 18.0 +0.1**
baz=89,SNR=37
NACGM Naroch 89.25 329 *eP* P 09 59 14.0 -3.7
IIGN Ignalina 89.27 330 *eP* **P 09 59 17.0 -0.8**
IIGN AMB AMB 09 59 18.5
comp=Z,338nm,1.0s
H22A Clearmont 89.31 43 ⇓P **P 09 59 18.9 +0.5**
baz=89,SNR=37
Z14A Wintersburg 89.31 55 ⇓P **P 09 59 19.3 +0.8**
baz=89,SNR=63
F23A Volborg 89.39 41 ⇓P **P 09 59 18.5 -0.2**
baz=89,SNR=115
D24A Glendive 89.40 40 ⇓P **P 09 59 18.9 +0.2**
baz=89,SNR=90
I22A 9 Mile Ranch, 89.54 43 ⇑P **P 09 59 20.0 +0.5**
baz=89,SNR=54
B25A Knox Farm, Ray 89.54 38 ⇓P **P 09 59 19.8 +0.5**
baz=89,SNR=33
K21A Alcova 89.59 45 ⇓P **P 09 59 20.5 +0.6**
baz=90,SNR=179
G23A Biddle 89.64 42 ⇑P **P 09 59 19.8 -0.1**
baz=90,SNR=48
WUAZ Wupatki 89.66 52 ⇑P **P 09 59 21.5 +1.2**
baz=90,SNR=148
WUAZ Wupatki 89.66 52 *eP* **P 09 59 21.1 +0.8**

comp=Z,391nm,1.3s
E24A Baker 89.68 40 ⇓P **P 09 59 20.4 +0.4**
baz=90,SNR=33
N20A Spence Gulch, 89.69 47 ⇑P **P 09 59 20.9 +0.4**
baz=90,SNR=99
ILIC ilic-Erzincan 89.74 312 *eP* P 09 59 25.0 +4.5
J22A Midwest 89.76 44 ⇓P **P 09 59 20.6 0.0**
baz=90,SNR=36
C25A Freed Ranch, W 89.76 39 ⇓P **P 09 59 20.7 +0.4**
baz=90,SNR=59
A26A Wade Farm, Ken 89.89 37 ⇓P **P 09 59 21.1 +0.3**
baz=90,SNR=76
H23A Clabaugh Cattl 89.93 42 ⇓P **P 09 59 21.4 +0.1**
baz=90,SNR=7.3
F24A Ekalaka 89.93 41 ⇑P **P 09 59 21.5 +0.3**
baz=90,SNR=71
214A Organ Pipe Nat 89.96 56 ⇓P **P 09 59 22.2 +0.6**
baz=90,SNR=69
214A Organ Pipe Nat 89.96 56 *eP* **P 09 59 22.5 +0.9**
comp=Z,423nm,1.3s
D25A Fairfield 89.99 39 ⇑P **P 09 59 21.9 +0.4**
baz=90,SNR=51
O20A White River Ci 90.01 47 ⇓P **P 09 59 21.9 0.0**
baz=90,SNR=84
O20A White River Ci 90.01 47 *eP* **P 09 59 21.8 0.0**
B26A Jensen Ranch, 90.03 38 ⇑P **P 09 59 21.4 -0.1**
baz=90
X16A Lo Mia Camp, P 90.05 53 ⇑P **P 09 59 23.5 +1.3**
baz=90,SNR=71
K22A Casper 90.07 44 ⇑P **P 09 59 22.2 +0.1**
baz=90,SNR=74
I23A Meade Ranch, G 90.16 43 ⇓P **P 09 59 22.2 -0.2**
baz=90
G24A Alzada 90.19 41 ⇑P **P 09 59 21.9 -0.5**
baz=90,SNR=48
RSDY Resadiye-TOKAT 90.19 313 *eP* **P 09 59 22.7 +0.2**
E25A Miller Ranch, 90.25 40 ⇑P **P 09 59 23.3 +0.7**
baz=90,SNR=92
SIM Simferopol' 90.26 318 *d iP* **P 09 59 21.9 -0.7**
SIM pmax pmax
comp=Z,220nm,0.9s
AKASG Malin Array Be 90.27 325 P **P 09 59 20.6 -1.9**
comp=Z,24nm,0.6s,baz=47,slow=5.0,SNR=148
AKASG PP **PP** **10 03 06.5 +3.1**
comp=Z,26nm,1.1s,baz=51,slow=7.6,SNR=7.9
AKASG PKKPbc **PKKPbc** **10 16 47.9 -2.8**
comp=Z,12nm,0.8s,baz=260,slow=2.9,SNR=4.8
AKASG PKPPKP P'P'df 10 24 55.2 -5.4
comp=Z,3.8nm,0.8s,baz=256,slow=2.1,SNR=6.9
KIEV Kiev 90.28 325 *d iP* **P 09 59 20.6 -1.9**
KIEV Kiev 90.28 325 *eP* **P 09 59 20.6 -1.9**
PV04 Paradox Valley 90.28 49 *eP* **P 09 59 23.7 +0.6**
A27A Ledoux Ranch, 90.31 37 ⇓P **P 09 59 23.1 +0.3**
baz=90
MALT Malatya 90.32 311 *eP* **P 09 59 24.5 +1.3**
MALT Malatya 90.32 311 ⇑*iP* **P 09 59 23.6 +0.4**
J23A Dilts Ranch, B 90.36 43 ⇓P **P 09 59 23.1 -0.2**
baz=90
H24A Dirks Ranch, A 90.38 42 ⇓P **P 09 59 23.2 -0.1**
baz=90,SNR=53
C26A Wahner Farm, P 90.39 38 ⇑P **P 09 59 23.4 +0.2**
baz=90,SNR=132
URFA Urfa 90.40 310 *eP* **P 09 59 23.5 0.0**
L22A Ellis Ranch, M 90.40 45 ⇑P **P 09 59 24.5 +0.8**
baz=90,SNR=59
F25A Bowman 90.50 40 ⇓P **P 09 59 24.6 +0.8**
baz=90,SNR=103
M22A Cedar Creek Ra 90.58 45 ⇑P **P 09 59 24.8 +0.3**
baz=90,SNR=108
D26A Manning 90.58 39 ⇓P **P 09 59 24.2 +0.1**
baz=90,SNR=28
B27A Peters Farms, 90.58 38 ⇓P **P 09 59 24.1 0.0**
baz=90,SNR=32
K23A Bowen Ranch, D 90.61 44 ⇑P **P 09 59 24.3 -0.2**
baz=90,SNR=51
SVSK Karacayir 90.63 313 *eP* **P 09 59 25.0 +0.6**
PV01 Paradox Valley 90.63 49 *eP* **P 09 59 24.7 -0.1**
comp=Z,207nm,0.6s
I24A Kuemmerle Ranc 90.75 43 ⇓P **P 09 59 24.8 -0.3**
baz=91,SNR=61
KVT Kavak 90.77 314 *eP* **P 09 59 25.6 +0.4**
C27A Sayler Ranch, 90.79 38 ⇓P **P 09 59 25.6 +0.6**
baz=91,SNR=61
E26A Carlson Angus 90.84 40 ⇑P **P 09 59 25.9 +0.5**
baz=91,SNR=163
MSEY Mahe Island 90.85 265 *eP* **P 09 59 25.7 -0.3**
MSEY pmax pmax
comp=Z,53nm,0.8s
MSEY Mahe Island 90.85 265 ⇑*iP* **P 09 59 25.6 -0.5**
SNR=6.9
MSEY Mahe Island 90.85 265 *eP* **P 09 59 25.7 -0.3**
comp=Z,53nm,0.8s
L23A Garrett 90.85 45 ⇓P **P 09 59 25.7 -0.1**
baz=91,SNR=131
G25A Newell 90.88 41 ⇑P **P 09 59 25.3 -0.2**
baz=91,SNR=54
DARE Darende-Malaty 90.88 312 *eP* **P 09 59 26.5 +0.8**
A28A Rude Farm, Bot 90.89 37 ⇑P **P 09 59 25.8 +0.3**
baz=91,SNR=84
KSRV Kasrt alli 90.92 309 *eP* **P 09 59 26.1 +0.2**
N22A Wattenberg Ran 90.94 46 ⇑P **P 09 59 26.8 +0.6**
baz=91,SNR=63
ILULI Ilulissat 90.95 6 ⇓*iP* **P 09 59 25.1 -0.2**
ILULI pmax pmax
comp=Z,90nm,1.0s
ILULI Ilulissat 90.95 6 ⇓*iP* **P 09 59 25.1 -0.2**
comp=Z,90nm,1.0s
J24A Dixon Ranch, L 90.97 43 ⇑P **P 09 59 26.2 +0.1**
baz=91,SNR=15
RSSD Black Hills 91.00 42 *eP* **P 09 59 25.9 -0.5**
RSSD pmax pmax
comp=Z,222nm,1.4s
RSSD Black Hills 91.00 42 *eP* **P 09 59 25.9 -0.5**
comp=Z,222nm,1.4s
F26A Lodgepole 91.02 40 ⇓P **P 09 59 26.6 +0.4**
baz=91,SNR=150
H25A Fruitdale 91.04 42 ⇑P **P 09 59 26.3 0.0**
baz=91,SNR=212
DIKM Dikmen 91.04 315 *eP* **P 09 59 25.9 -0.4**
W18A Petrified Fore 91.05 52 ⇑P **P 09 59 27.5 +0.8**
baz=91,SNR=14
W18A Petrified Fore 91.05 52 *eP* **P 09 59 27.9 +1.2**
B28A Dugan Ranch, T 91.07 37 ⇑P **P 09 59 26.8 +0.5**
baz=91,SNR=126
MVCO Mesa Verde 91.08 50 ⇑P **P 09 59 27.5 +0.6**
baz=91,SNR=134
MVCO Mesa Verde 91.08 50 *eP* **P 09 59 27.0 +0.1**
comp=Z,292nm,1.3s
D27A Center, 91.08 39 ⇓P **P 09 59 27.1 +0.7**
baz=91,SNR=55
X18A Snowflake 91.13 53 ⇑P **P 09 59 28.1 +0.9**
baz=91,SNR=46
M23A Laramie 91.13 45 ⇓P **P 09 59 27.6 +0.5**
baz=91,SNR=37
K24A Anderson Ranch 91.16 44 ⇓P **P 09 59 26.9 -0.1**
baz=91
O22A Kremmling 91.16 47 ⇑P **P 09 59 27.5 +0.2**
baz=91,SNR=166
I25A Rochford 91.24 42 ⇓P **P 09 59 27.4 0.0**
baz=91,SNR=130
N23A Red Feather La 91.25 46 ⇓P **P 09 59 29.0 +1.3**
baz=91,SNR=211
P22A Eagle 91.27 47 ⇑P **P 09 59 28.7 +1.0**
baz=91,SNR=218
SMCO Snowmass 91.31 48 *eP* **P 09 59 28.5 +0.3**
comp=Z,253nm,1.1s
G26A Maurine 91.33 41 ⇑P **P 09 59 27.9 +0.3**
baz=91,SNR=244
PHWY Pilot Hill 91.39 45 *eP* **P 09 59 28.4 +0.1**
comp=Z,190nm,1.3s
L24A Wheatland 91.39 44 ⇓P **P 09 59 28.9 +0.8**
baz=91,SNR=30
E27A Carson 91.40 39 ⇑P **P 09 59 28.7 +0.8**
baz=91,SNR=217
TUC Tucson 91.40 55 *eP* **P 09 59 28.3 0.0**
TUC pmax pmax
comp=Z,182nm,1.2s
TUC Tucson 91.40 55 *eP* **P 09 59 28.2 0.0**
comp=Z,182nm,1.2s
F27A Lemmon 91.40 40 ⇓P **P 09 59 28.2 +0.3**
baz=91,SNR=211
JHLN Al Jahlan 91.42 309 *eP* P 09 59 31.9 +3.7
C28A Hausauer Farms 91.44 38 ⇓P **P 09 59 28.4 +0.3**
baz=91,SNR=50
HFS Hagfors 91.45 338 PKKPbc PKKPbc 10 16 44.7 -3.5
comp=Z,20nm,0.6s,baz=176,slow=3.9,SNR=43
BYBT Boyabat 91.45 315 *eP* **P 09 59 28.2 0.0**

A29A **Manning Farm,** 91.46 36 ⇓P P 09 59 28.6 +0.5
baz=91,SNR=171
J25A **Sunshine Ranch** 91.50 43 ⇓P P 09 59 28.3 -0.2
baz=91,SNR=13
H26A **Fairpoint** 91.55 41 ⇑P P 09 59 28.8 +0.1
baz=91,SNR=45
SLMH **Al Salmeh** 91.57 309 *e*P P 09 59 28.3 -0.6
O23A **Lake Granby, G** 91.57 46 ⇑P P 09 59 30.1 +0.9
baz=92,SNR=122
D28A **Regan** 91.60 38 ⇑P P 09 59 29.2 +0.4
baz=92,SNR=15
B29A **Wagenman Farm,** 91.64 37 ⇓P P 09 59 29.3 +0.3
baz=92,SNR=94
NB2 **NORSAR Subarra** 91.65 339 P P 09 59 27.4 -1.4
comp=Z,74nm,0.7s,baz=44,slow=5.1
NB2 **NORSAR Subarra** 91.65 339 P P 09 59 27.4 -1.4
baz=44,slow=5.1
NOA **NORSAR Array B** 91.65 339 P P 09 59 28.0 -0.8
NOA 10 03 15.1
NOA pmax pmax
comp=Z,40nm,0.6s
NOA pmax pmax
comp=Z,9.0nm,0.9s
NOA pmax pmax
comp=Z,11nm,0.8s
NOA **NORSAR Array B** 91.65 339 P P 09 59 28.0 -0.8
comp=Z,40nm,0.6s,baz=46,slow=4.5,SNR=128
NOA PP PP 10 03 15.1 +1.1
comp=Z,9.0nm,0.9s,baz=48,slow=8.6,SNR=3.4
NOA PKKPbc PKKPbc 10 16 45.6 -2.1
comp=Z,11nm,0.8s,baz=228,slow=2.6,SNR=22
G27A **Dupree** 91.70 40 ⇓P P 09 59 29.5 +0.1
baz=92,SNR=272
BZK **Bozkurt** 91.73 316 *e*P P 09 59 29.2 -0.3
M24A **Cheyenne** 91.73 45 ⇑P P 09 59 30.7 +0.9
baz=92,SNR=88
KMRS **Kahramanmaras** 91.75 311 *e*P P 09 59 29.4 -0.4
NC602 **NORSAR Array S** 91.77 339 *e*P P 09 59 28.6 -0.6
I26A **New Underwood** 91.79 42 ⇓P P 09 59 30.0 +0.2
baz=92,SNR=64
MDND **Maddock** 91.82 37 ⇑P P 09 59 30.0 +0.2
baz=92,SNR=9.3
MDND **Maddock** 91.82 37 *e*P P 09 59 30.2 +0.4
K25A **Mack Ranch, Ha** 91.82 43 ⇓P P 09 59 30.3 +0.3
baz=92,SNR=41
E28A **Huff** 91.84 39 ⇓P P 09 59 30.4 +0.4
baz=92,SNR=85
BNN **Bunyan** 91.90 312 *e*P P 09 59 30.7 +0.2
YOZ **Yozgat** 91.91 313 *e*P P 09 59 30.6 0.0
ISCO **Idaho Springs** 91.97 47 *e*P P 09 59 31.5 +0.5
ISCO pmax pmax
comp=Z,138nm,1.1s
ISCO **Idaho Springs** 91.97 47 ⇑P P 09 59 31.3 +0.3
baz=92,SNR=142
ISCO **Idaho Springs** 91.97 47 *e*P P 09 59 31.5 +0.5
comp=Z,138nm,1.1s
A30A **Hoffart Farm,** 91.97 36 ⇑P P 09 59 30.6 +0.1
baz=92,SNR=209
L25A **Engebretsen Ra** 91.98 44 ⇓P P 09 59 31.2 +0.4
baz=92,SNR=19
H27A **Howes** 91.98 41 ⇑P P 09 59 30.5 -0.1
baz=92,SNR=134
N24A **Carr** 91.99 45 ⇑P P 09 59 32.0 +1.1
baz=92,SNR=76
J26A **Sides Ranch, S** 92.00 43 ⇓P P 09 59 31.3 +0.4
baz=92,SNR=68
P23A **Jefferson** 92.00 47 ⇑P P 09 59 32.4 +1.1
baz=92,SNR=119
S22A **4UR Ranch, Cre** 92.04 49 P P 09 59 31.9 +0.5
baz=92
AKN **Aaknes** 92.13 342 *e*P P 09 59 31.1 +0.3
CORM **Corum** 92.14 314 *e*P P 09 59 31.8 +0.3
F28A **McLaughlin** 92.15 40 ⇓P P 09 59 31.7 +0.3
baz=92,SNR=131
TOS **Tosya** 92.15 315 *e*P P 09 59 32.0 +0.4
O24A **Longmont** 92.19 46 ⇑P P 09 59 32.9 +1.1
baz=92,SNR=74
B30A **Myrvik Farm, E** 92.22 36 ⇓P P 09 59 31.7 +0.1
baz=92,SNR=232
Q23A **Hartsel** 92.22 47 ⇓P P 09 59 32.5 +0.2
baz=92
K26A **Motz Farm, Whi** 92.23 43 ⇑P P 09 59 32.2 +0.3
baz=92,SNR=35
D29A **Pettibone, Tap** 92.23 38 ⇑P P 09 59 31.5 -0.2
baz=92,SNR=93
M25A **Palm-Egli Farm** 92.26 45 ⇓P P 09 59 32.9 +0.7
baz=92,SNR=19
I27A **Quinn** 92.27 42 ⇑P P 09 59 32.0 0.0
baz=92,SNR=60
KIS **Kishinev** 92.44 322 *i* P P 09 59 32.0 -0.6
KIS *e**PP pP 10 01 15.0 +0.8
KIS *e* 10 03 21.0
KIS *e* 10 09 22.0
KIS *e*S S 10 09 52.0 -5.2
KIS *e* 10 11 10.0
KIS pmax pmax
comp=Z,340nm,2.0s
KIS MLR MLR
comp=N,1μm,18.0s
KIS MLR MLR
comp=Z,1μm,18.0s
KIS MLR MLR
comp=Z,1μm,18.0s
KIS **Kishinev** 92.44 322 *i* P P 09 59 32.0 -0.6
comp=Z,300nm,2.0s
KIS *e*pP pP 10 01 15.0 +0.8
KIS **Kishinev** 92.44 322 *e*PP PP 10 03 21.0 +0.5
KIS *e*SKS SKSac 10 09 22.0 -0.6
KIS *e*SKKS SKKSac 10 09 38.0 -4.3
KIS *e*S S 10 09 52.0 -5.2
KIS *e*L L 10 37 28.0
KIS LRM MLR 10 43 40.0
comp=Z,1μm,18.0s
KIS **Kishinev** 92.44 322 *e*P PKKPbc 10 16 44.0 -1.1
E29A **Napoleon** 92.47 39 ⇓P P 09 59 32.3 -0.5
baz=92,SNR=27
G28A **Parade** 92.47 40 ⇑P P 09 59 32.9 0.0
baz=92,SNR=107
KOZT **Kozan** 92.53 311 *e*P P 09 59 33.0 -0.3
N25A **Grover** 92.53 45 ⇓P P 09 59 34.2 +0.8
baz=92,SNR=5.3
C30A **Mose, Pekin** 92.54 37 ⇓P P 09 59 33.0 -0.1
baz=92,SNR=116
R23A **Moffat** 92.55 48 ⇓P P 09 59 34.4 +0.6
baz=92,SNR=72
ULM **Lac du Bonnet** 92.56 34 P P 09 59 32.9 -0.2
ULM *PP pP 10 01 20.0 +5.2
ULM pmax pmax
comp=Z,36nm,1.1s
ULM pmax pmax
comp=Z,10.0nm,0.9s
ULM **Lac du Bonnet** 92.56 34 P P 09 59 32.9 -0.2
comp=Z,36nm,1.1s,baz=312,slow=5.4,SNR=51
ULM pP pP 10 01 19.9 +5.2
comp=Z,10nm,0.9s,baz=292,slow=2.5,SNR=3.3
P24A **Kohler Place,** 92.58 47 ⇓P P 09 59 34.7 +1.0
baz=92,SNR=26
H28A **Mission Ridge** 92.61 41 ⇑P P 09 59 33.5 0.0
baz=92,SNR=68
L26A **Underwood Farm** 92.61 44 ⇓P P 09 59 34.1 +0.4
baz=92
CANT **Cankiri** 92.62 315 *e*P P 09 59 32.8 -0.9
U22A **Llaves** 92.63 50 ⇑P P 09 59 34.3 +0.2
baz=92,SNR=126
OSL **Oslo** 92.63 339 *e*P P 09 59 33.0 -0.2
S23A **Nye Farm, Mont** 92.64 49 ⇓P P 09 59 34.6 +0.4
baz=92,SNR=29
Q24A **Divide** 92.67 47 ⇑P P 09 59 34.6 +0.3
baz=93,SNR=28
D30A **Buchanan** 92.70 38 ⇓P P 09 59 34.0 +0.2
baz=92,SNR=78
J27A **Elkhorn Farm,** 92.71 42 ⇑P P 09 59 34.0 -0.1
baz=93,SNR=57
BTCH **Batrach** 92.72 310 *e*P P 09 59 33.4 -0.8
F29A **Eureka** 92.74 39 ⇑P P 09 59 34.1 0.0
baz=93,SNR=66
V22A **San Miguel Ran** 92.79 50 ⇑P P 09 59 35.0 +0.2
baz=93,SNR=32
KFRA **Kufra** 92.83 309 *e*P P 09 59 34.2 -0.5
K27A **Flueckinger Fa** 92.83 43 ⇓P P 09 59 34.5 -0.2
baz=93,SNR=40
O25A **Wiggins** 92.84 46 ⇑P P 09 59 35.4 +0.6
baz=93,SNR=98
M26A **McRoberts Ranc** 92.85 44 ⇓P P 09 59 35.3 +0.5
baz=93
I28A **Midland** 92.86 41 ⇑P P 09 59 34.2 -0.5
baz=93,SNR=57

T23A **Casias Ranch,** 92.92 49 ⇓P P 09 59 35.8 +0.4
baz=93,SNR=51
E30A **Jud** 92.93 38 ⇑P P 09 59 34.7 -0.2
baz=93,SNR=51
SAFT **Safranbolu** 92.94 316 *e*P P 09 59 34.8 -0.3
319A **Douglas** 92.95 55 ⇑P P 09 59 36.5 +1.1
baz=93,SNR=22
SDCO **Great Sand Dun** 92.98 48 *e*P P 09 59 35.6 -0.1
comp=Z,81nm,1.3s
G29A **Hoven** 93.02 40 ⇓P P 09 59 35.0 -0.4
baz=93,SNR=20
BRTR **Keskin Array B** 93.02 314 P P 09 59 34.7 -1.0
BRTR *PP pP 10 01 20.4 +3.1
BRTR 10 03 21.3
BRTR pmax pmax
comp=Z,234nm,0.9s
BRTR pmax pmax
comp=Z,10.0nm,0.9s
BRTR pmax pmax
comp=Z,15nm,1.0s
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR **Keskin Array B** 93.02 314 P P 09 59 34.6 -1.0
comp=Z,234nm,0.9s,baz=97,slow=2.6,SNR=399
BRTR pP pP 10 01 20.4 +3.1
comp=Z,9.6nm,0.9s,baz=154,slow=1.4,SNR=4.4
BRTR PP PP 10 03 21.2 -4.2
comp=Z,15nm,1.0s,baz=90,slow=6.2,SNR=4.5
BRTR PKPPKP P'P'df
comp=Z,2.0nm,1.0s,baz=282,slow=5.9,SNR=3.7
R24A **Sanders Place,** 93.03 48 ⇓P P 09 59 36.5 +0.6
baz=93,SNR=75
L27A **T5 Ranch, Ells** 93.09 43 ⇑P P 09 59 35.9 0.0
baz=93
P25A **Willow Gulch B** 93.09 46 ⇑P P 09 59 36.5 +0.5
baz=93,SNR=53
N26A **Koester Ranch,** 93.10 45 ⇑P P 09 59 35.6 -0.4
baz=93
NIG **Nigde** 93.10 312 *e*P P 09 59 36.1 -0.1
J28A **Allard Ranch,** 93.11 42 ⇑P P 09 59 36.0 +0.1
baz=93,SNR=50
U23A **El Rito** 93.13 50 ⇓P P 09 59 36.9 +0.6
baz=93,SNR=104
H29A **Onida** 93.13 40 ⇓P P 09 59 35.2 -0.8
baz=93,SNR=54
SFJD **Kangerlussuaq** 93.15 6 *i* P P 09 59 34.9 -0.5
SFJD pmax pmax
comp=Z,83nm,1.1s
SFJD **Kangerlussuaq** 93.15 6 *i* P P 09 59 34.9 -0.5
comp=Z,83nm,1.0s
SFJD **Kangerlussuaq** 93.15 6 *e*P P 09 59 35.2 -0.3
FOO **Floro** 93.16 342 *e*P P 09 59 35.9 +0.3
HYA **Hoyanger** 93.16 341 *e*P P 09 59 35.9 +0.3
HYA IAmb IAmb 09 59 37.0
comp=Z,249nm,1.1s
KARA **Karaisali** 93.18 311 *e*P P 09 59 35.8 -0.5
F30A **Leola** 93.22 39 ⇑P P 09 59 36.3 0.0
baz=93,SNR=36
KONO **Kongsberg** 93.22 339 *e*P P 09 59 35.2 -0.7
KONO **Kongsberg** 93.22 339 *e*P P 09 59 35.3 -0.7
KONO pmax pmax
comp=Z,209nm,1.7s
KONO **Kongsberg** 93.22 339 *e*P P 09 59 35.2 -0.7
comp=Z,209nm,1.7s
S24A **Houchin Ranch,** 93.23 48 ⇑P P 09 59 37.4 +0.5
baz=93,SNR=63
BIDA **Albida** 93.27 309 *e*P P 09 59 37.7 +0.9
LAZ **Ladron** 93.29 52 *e*P P 09 59 37.5 +0.4
comp=Z,79nm,1.7s
M27A **Reverse DX Ran** 93.31 44 ⇑P P 09 59 36.9 0.0
baz=93,SNR=12
Q25A **Bedland, Calha** 93.31 47 ⇑P P 09 59 37.3 +0.2
baz=93,SNR=80
O26A **Horse Wrangler** 93.32 45 ⇑P P 09 59 37.2 +0.2
baz=93,SNR=28
T24B **San Luis** 93.38 49 ⇑P P 09 59 38.1 +0.6
baz=93,SNR=48
K28A **Ten Mile Ranch** 93.38 42 ⇑P P 09 59 37.1 -0.1
baz=93,SNR=16
I29A **Vivian Onida** 93.39 41 ⇑P P 09 59 36.7 -0.4
baz=93,SNR=16
V23A **Ortiz Mt. (NFS** 93.39 50 ⇑P P 09 59 38.5 +0.9
baz=93,SNR=52
TLCR 93.40 320⇑*i*P P 09 59 36.9 -0.1
ZALF **Zalf** 93.42 306 *e*P P 09 59 37.6 +0.1
HAWK **Haweek** 93.42 308 *e*P P 09 59 36.5 -1.1
LENM **Lemitar** 93.51 52 *e*P P 09 59 38.9 +0.8
G30A **Faulkton** 93.52 40 ⇑P P 09 59 36.9 -0.8
baz=93,SNR=74
ANTO **Ankara** 93.53 314 *e*P P 09 59 38.4 +0.5
ANTO **Ankara** 93.53 314 *e*P P 09 59 36.8 -1.1
ANTO **Ankara** 93.53 314⇑*i*P P 09 59 38.0 +0.1
ANTO **Ankara** 93.53 314 *e*P P 09 59 36.8 -1.1
LOD **Lodumlu** 93.54 314 *e*P P 09 59 36.5 -1.4
AFSR **Af´ar-Bala (A** 93.54 314 *e*P P 09 59 37.8 -0.2
ANMO **Albuquerque** 93.55 51*d i*P P 09 59 38.6 +0.3
ANMO pmax pmax
comp=Z,573nm,1.6s
ANMO **Albuquerque** 93.55 51 *e*P P 09 59 38.5 +0.3
N27A **Anderson Farm,** 93.57 45 ⇑P P 09 59 37.9 -0.2
baz=93,SNR=16
Y22D **IRIS PASSCAL I** 93.59 52 ⇑P P 09 59 39.2 +0.8
baz=94
121A **Cookes Peak, D** 93.61 54 ⇑P P 09 59 39.5 +1.0
baz=94,SNR=50
121A **Cookes Peak, D** 93.61 54 *e*P P 09 59 38.7 +0.2
comp=Z,370nm,1.7s
P26A **Davis Ranch, A** 93.62 46 ⇑P P 09 59 39.0 +0.5
baz=94,SNR=48
L28A **Connealy Angus** 93.64 43 ⇓P P 09 59 37.8 -0.6
baz=94
R25A **Fountain Ranch** 93.65 48 ⇓P P 09 59 38.5 -0.1
baz=94,SNR=55
SUE **Sulen** 93.67 342 *e*P P 09 59 38.3 +0.4
AGMN **Agassiz Nation** 93.68 36 P P 09 59 37.8 -0.5
baz=94
W23A **Werner Place,** 93.68 51 ⇑P P 09 59 39.4 +0.5
baz=94,SNR=26
J29A **Okreek** 93.69 41 ⇑P P 09 59 38.1 -0.4
baz=94,SNR=54
LPM **Los Pinos Moun** 93.70 52 *e*P P 09 59 39.4 +0.5
MERS **Mersin** 93.74 311 *e*P P 09 59 37.4 -1.5
U24A **Moreno Valley** 93.75 49 ⇓P P 09 59 40.2 +1.0
baz=94,SNR=61
S25A **Robets Cordova** 93.77 48 ⇓P P 09 59 39.2 0.0
baz=94,SNR=49
CFR **Carcaliu** 93.81 321⇓*i*P P 09 59 38.5 -0.4
Q26A **Hugo** 93.81 47 ⇓P P 09 59 39.5 +0.1
baz=94,SNR=39
SULT **Sultanhani-AKS** 93.83 313 *e*P P 09 59 38.9 -0.4
OGNE **Ogallala** 93.83 44 ⇑P P 09 59 38.8 -0.5
baz=94
OGNE **Ogallala** 93.83 44 *e*P P 09 59 39.2 -0.1
comp=Z,68nm,1.1s
O27A **Beecher Island** 93.91 45 ⇓P P 09 59 39.5 -0.2
baz=94,SNR=14
X23A **Hourglass Bar** 93.91 51 ⇓P P 09 59 40.1 +0.2
baz=94,SNR=41
TOTH **TOTAH** 93.91 307 *e*P P 09 59 38.3 -1.5
Z22A **Elephant Butte** 93.92 53 ⇓P P 09 59 40.8 +0.9
baz=94,SNR=72
BEL **Belsk** 93.96 329 *e*P P 09 59 39.2 -0.3
BEL *e* 10 09 31.8
BEL pmax pmax
comp=Z,1μm,2.0s
BEL **Belsk** 93.96 329 *e*P P 09 59 39.2 -0.3
BEL *e*SKSac SKSac 10 09 31.8 +1.1
TESR **Tescani** 93.96 322⇑*i*P P 09 59 39.2 -0.4
I30A **Oacoma** 93.98 41 ⇑P P 09 59 39.4 -0.4
baz=94,SNR=27
BRSD **Miller** 93.99 40 ⇓P P 09 59 39.2 -0.6
baz=94,SNR=23
BRSD **Miller** 93.99 40 *e*P P 09 59 39.3 -0.6
comp=Z,187nm,1.0s
ASK **Askoy** 94.00 341 *e*P P 09 59 41.4 +1.9
ODD1 **Odda** 94.00 340 *e*P P 09 59 39.3 -0.2
TIRR **Tirgusor** 94.02 320 *e*P P 09 59 39.6 -0.3
TIRR pmax pmax
comp=Z,168nm,1.3s
TIRR **Tirgusor** 94.02 320⇑*i*P P 09 59 39.8 -0.1
TIRR **Tirgusor** 94.02 320 *e*P P 09 59 39.6 -0.3
comp=Z,168nm,1.3s
K29A **Lazy Trails An** 94.03 42 ⇓P P 09 59 39.7 -0.4
baz=94,SNR=14
T25A **Trinidad** 94.03 48 ⇓P P 09 59 41.0 +0.5
baz=94,SNR=61

BER **Bergen** 94.03 341 *e*P P 09 59 37.5 -2.1
M28A **Bar X Bar Ranc** 94.04 44 ⇓P P 09 59 39.8 -0.4
baz=94,SNR=13
V24A **Rampart Ranch,** 94.06 50 ⇑P P 09 59 41.4 +0.8
baz=94,SNR=68
P27A **Ficken Ranch,** 94.15 46 ⇓P P 09 59 40.4 -0.5
baz=94,SNR=16
BURAR **Bucovina Array** 94.15 324⇑*i*P P 09 59 39.8 -0.8
R26A **Arlington** 94.16 47 ⇓P P 09 59 40.5 -0.3
baz=94,SNR=60
HARR **Harsova** 94.19 320⇓*i*P P 09 59 39.7 -1.0
W24A **Lazy 6 Ranch,** 94.20 51 ⇓P P 09 59 41.7 +0.4
baz=94,SNR=49
BRBR **Barbar** 94.25 307 *e*P P 09 59 41.7 +0.2
J30A **Dallas** 94.25 41 ⇑P P 09 59 40.5 -0.6
baz=94,SNR=91
VRI **Vrincioaia** 94.27 322⇑*i*P P 09 59 40.8 -0.3
L29A **Maesberg Ranch** 94.28 43 ⇓P P 09 59 40.7 -0.6
baz=94,SNR=35
N28A **Pribbeno Ranch** 94.28 44 ⇑P P 09 59 41.2 -0.2
baz=94,SNR=31
Y23A **Lovelace Mesa,** 94.30 52 ⇓P P 09 59 41.9 +0.2
baz=94,SNR=51
MDUB **Mudurnu** 94.30 315 *e*P P 09 59 40.7 -0.8
PLOR **Plostina** 94.32 322⇓*i*P P 09 59 41.2 -0.1
KWP **Kalwaria Pacla** 94.33 326 *e*P P 09 59 41.1 -0.2
KWP *e*S S 10 10 10.8 -2.9
KWP pmax pmax
comp=Z,400nm,1.2s
KWP **Kalwaria Pacla** 94.33 326 *e*P P 09 59 41.1 -0.2
KWP *e*S S 10 10 10.8 -2.9
KWP **Kalwaria Pacla** 94.33 326⇑*i*P P 09 59 40.7 -0.6
KWP **Kalwaria Pacla** 94.33 326 *e*P P 09 59 40.3 -1.0
comp=Z,265nm,1.1s
U25A **Circle Dot Ran** 94.38 49 ⇓P P 09 59 42.2 +0.2
baz=94,SNR=68
KSCO **Kaye Shedlock'** 94.38 46 ⇑P P 09 59 41.9 0.0
baz=94,SNR=40
KSCO **Kaye Shedlock'** 94.38 46 *e*P P 09 59 42.0 +0.2
comp=Z,166nm,1.1s
O28A **Krutsinger Ran** 94.41 45 ⇓P P 09 59 41.5 -0.4
baz=94,SNR=30
BLS5 **Blasjo** 94.44 340 *e*P P 09 59 41.9 +0.3
BLS5 IAmb IAmb 09 59 42.7
comp=Z,53nm,1.2s
M29A **Burnside Ranch** 94.46 43 ⇓P P 09 59 41.6 -0.5
baz=94,SNR=9.4
S26A **Kim** 94.46 48 ⇑P P 09 59 42.3 0.0
baz=94,SNR=63
BSD **Bornholm Skovb** 94.47 334⇓*i*P P 09 59 40.3 -1.4
BSD pmax pmax
comp=Z,100nm,0.8s
BSD **Bornholm Skovb** 94.47 334⇓*i*P P 09 59 40.3 -1.4
comp=Z,100nm,0.8s
X24A **Lazy VL Ranch,** 94.47 51 ⇓P P 09 59 42.7 +0.2
baz=94,SNR=15
V25A **Rancho No Teng** 94.49 50 ⇑P P 09 59 42.9 +0.4
baz=94,SNR=45
K30A **Basset** 94.52 42 ⇓P P 09 59 41.8 -0.5
baz=94,SNR=26
PSN **Preselentsi** 94.58 319⇑*i*P P 09 59 43.0 +0.5
T26A **Comanche Natio** 94.59 48 ⇑P P 09 59 43.0 0.0
baz=94,SNR=102
EREN **Erenkoy** 94.60 310 *e*P P 09 59 42.2 -0.6
R27A **Eads** 94.61 47 ⇓P P 09 59 42.8 -0.1
baz=94,SNR=28
LADK **Ladik-KONYA** 94.62 313 *e*P P 09 59 42.2 -0.8
KIZT **Kizilcal** 94.62 314 *e*P P 09 59 42.4 -0.6
HOMB **Homborsund** 94.64 338 *e*P P 09 59 41.2 -1.2
P28A **Saint Francis** 94.69 45 ⇑P P 09 59 43.2 -0.1
baz=95,SNR=17
GKP **Gorka Klasztor** 94.71 331 *e*P P 09 59 42.2 -0.6
GKP *e* 10 09 35.5
GKP *e*S S 10 10 16.8 +0.1
GKP pmax pmax
comp=Z,500nm,1.5s
GKP **Gorka Klasztor** 94.71 331 *e*P P 09 59 42.2 -0.6
GKP *e*SKSac SKSac 10 09 35.4 +0.8
GKP *e*S S 10 10 16.7 +0.1
KONT **Konya--Tatoy** 94.75 313 *e*P P 09 59 42.3 -1.2
Y24A **Capitan** 94.76 52 ⇓P P 09 59 43.6 -0.2
baz=95,SNR=24
GULT **Gulveren** 94.77 316 *e*P P 09 59 42.6 -1.0
ISR **Istrita** 94.79 321⇓*i*P P 09 59 44.0 +0.5
N29A **Votaw Ranch, W** 94.82 44 ⇓P P 09 59 42.6 -1.2
baz=95
L30A **Spencer Herefo** 94.82 42 ⇓P P 09 59 42.7 -1.0
baz=95,SNR=16
S27A **Las Animas** 94.83 47 ⇑P P 09 59 44.1 +0.1
baz=95
U26A **Atchley Ranch,** 94.85 49 ⇑P P 09 59 44.6 +0.4
baz=95,SNR=25
W25A **X Bar L Ranch,** 94.89 50 ⇓P P 09 59 44.1 -0.2
baz=95,SNR=20
Q28A **Sharon Springs** 94.89 46 ⇑P P 09 59 43.8 -0.3
baz=95,SNR=21
MLR **Muntele Rosu** 94.93 322⇓*i*P P 09 59 43.3 -0.9
MLR **Muntele Rosu** 94.93 322 PKKPbc PKKPbc 10 16 37.1 -1.8
comp=Z,7.7nm,1.0s,baz=130,slow=2.5,SNR=14
M30A **Dale-Ortello V** 94.94 43 ⇑P P 09 59 43.3 -1.0
baz=95,SNR=12
KOLS **Kolonicke sedl** 94.98 326 *e*P P 09 59 43.8 -0.4
KOLS pmax pmax
comp=Z,36nm,1.1s
KOLS **Kolonicke sedl** 94.98 326 *e*P P 09 59 43.8 -0.4
KMY **Karmoy** 94.99 340 *e*P P 09 59 45.0 +1.1
DOPR **Dopca** 94.99 322⇑*i*P P 09 59 44.6 +0.3
SNART **Snartemo** 95.03 339 *e*P P 09 59 44.0 -0.1
O29A **4D Ranch, Culb** 95.06 44 ⇓P P 09 59 44.2 -0.7
baz=95,SNR=9.5
X25A **Clemmons Ranch** 95.06 51 ⇓P P 09 59 45.2 +0.1
baz=95,SNR=24
COP **Copenhagen** 95.08 335⇓*i*P P 09 59 43.5 -1.0
COP pmax pmax
comp=Z,57nm,1.1s
COP **Copenhagen** 95.08 335⇓*i*P P 09 59 43.5 -1.0
comp=Z,57nm,1.1s
V26A **Tequesquite Ra** 95.10 49 ⇓P P 09 59 45.3 +0.1
baz=95,SNR=23
UZH **Uzhgorod** 95.15 326 *e*P P 09 59 41.2 -3.8
N30A **Hueftle Ranch,** 95.17 44 ⇓P P 09 59 44.1 -1.3
baz=95
LFK **Lefkose** 95.18 310 *e*P P 09 59 44.2 -1.3
SULR 95.20 321⇑*i*P P 09 59 45.7 +0.4
STHS **Stebnicka Huta** 95.22 327 *e*P P 09 59 45.3 0.0
STHS pmax pmax
comp=Z,33nm,1.0s
STHS **Stebnicka Huta** 95.22 327 *e*P P 09 59 45.3 0.0
P29A **Atwood** 95.23 45 ⇑P P 09 59 45.2 -0.4
baz=95,SNR=11
T27A **Campo** 95.26 48 ⇓P P 09 59 46.3 +0.3
baz=95
R28A **Tribune** 95.26 46 ⇑P P 09 59 45.8 -0.1
baz=95,SNR=32
L31A **Butterfield Fa** 95.26 42 ⇓P P 09 59 45.1 -0.6
baz=95,SNR=40
ADVT **Abdulvahap** 95.28 316 *e*P P 09 59 45.0 -0.8
TRPA **Tarpa** 95.32 325⇑*i*P P 09 59 46.0 +0.3
TRPA **Tarpa** 95.32 325⇑*i*P SP 10 11 41.9 -0.8
TRPA **Tarpa** 95.32 325⇑*i*P PKKPdf 10 16 32.3 -3.6
TRPA **Tarpa** 95.32 325⇓*e* P 09 59 45.3 -0.4
CAVI **Cavuskoy** 95.33 316 *e*P P 09 59 45.5 -0.6
LLD **Lille Linde** 95.42 335 *i* P P 09 59 45.5 -0.5
LLD **Lille Linde** 95.42 335 *i* P P 09 59 45.5 -0.5
comp=Z,9.4nm,1.4s
CRVS **Cervenica-Dubn** 95.42 326 *e*P P 09 59 46.4 +0.2
CRVS pmax pmax
comp=Z,115nm,1.2s
CRVS **Cervenica-Dubn** 95.42 326 *e*P P 09 59 46.4 +0.2
W26A **Owens Ranch, T** 95.45 50 ⇓P P 09 59 47.3 +0.5
baz=95,SNR=18
OJC **Ojcow** 95.46 328 *e*P P 09 59 45.4 -1.0
OJC **Ojcow** 95.46 328 *e*P P 09 59 45.4 -1.0
CSS **Prodhromos** 95.48 310 *e*P P 09 59 46.1 -0.7
comp=Z,65nm,0.7s
VOIR 95.48 322⇓*i*P P 09 59 45.1 -1.6
VOIR 95.48 322⇑*i*P SP 10 11 40.2 -4.6
BORG **Borgarnes** 95.49 354 *e*P P 09 59 47.3 +1.2
BORG pmax pmax
comp=Z,236nm,1.1s
BORG **Borgarnes** 95.49 354 PKKPbc PKKPbc 10 16 36.3 -1.6
comp=Z,26nm,0.9s,baz=134,slow=2.7,SNR=4.5
BORG **Borgarnes** 95.49 354 *e*P P 09 59 47.2 +1.2
comp=Z,236nm,1.1s
BORG PKKPbc PKKPdf 10 16 36.3 +0.6

U27A	Thompson Grove	95.49	49	⇓P		P	09 59 47.2	+0.2
	baz=95,SNR=15							
O30A	MW Ranch, Wils	95.52	44	⇑P		P	09 59 46.1	-0.8
	baz=95,SNR=7.7							
RGN	Rugen	95.53	334	*e*P		P	09 59 46.7	+0.2
	comp=Z,425nm,1.4s							
RGN	Rugen	95.53	334	*e*P		P	09 59 46.2	-0.3
	comp=Z,328nm,1.2s							
Q29A	Oakley	95.56	46	⇑P		P	09 59 46.9	-0.2
	baz=95,SNR=22							
S28A	Manter	95.57	47	⇑P		P	09 59 47.3	0.0
	baz=96,SNR=19							
CJR	Cluj-Napoca	95.58	324	⇑*i*P		P	09 59 47.4	+0.4
Z25A	Roswell	95.59	52	⇑P		P	09 59 47.7	+0.2
	baz=96,SNR=50							
M31A	Lambtecht Ranc	95.61	43	⇑P		P	09 59 46.3	-1.0
	baz=96,SNR=7.8							
T28A	Walsh	95.65	48	⇑P		P	09 59 47.9	+0.2
	baz=96,SNR=45							
X26A	CR and CF Fran	95.67	51	⇓P		P	09 59 47.9	+0.1
	baz=96,SNR=46							
R29A	Marienthal	95.68	46	⇑P		P	09 59 48.0	+0.3
	baz=96,SNR=7.7							
SHUT	Suhut-Afyon	95.69	314	*e*P		P	09 59 46.4	-1.4
NIE	Niedzica	95.70	327	*e*P		P	09 59 47.0	-0.5
NIE	Niedzica	95.70	327	*e*P		P	09 59 47.0	-0.5
P30A	Selden	95.72	45	⇑P		P	09 59 47.4	-0.4
	baz=96,SNR=12							
LEF	Lefka	95.72	310	*e*P		P	09 59 46.3	-1.6
ALT	Altintas	95.73	315	*e*P		P	09 59 47.7	-0.3
ARR	Arges	95.77	322	⇓*i*P		P	09 59 48.2	+0.3
ARR	Arges	95.77	322	⇓*i*P		SP	10 11 43.2	-4.6
MUD	Monsted U'grnd	95.77	337	*i* P		P	09 59 47.0	-0.5
MUD				pmax		pmax		
	comp=Z,55nm,1.1s							
MUD	Monsted U'grnd	95.77	337	*i* P		P	09 59 47.0	-0.5
	comp=Z,55nm,1.0s							
ECSD	EROS Data Cent	95.80	40	⇓P		P	09 59 47.4	-0.6
	baz=96							
V27A	Dan Oppiter Fa	95.80	49	⇑P		P	09 59 48.1	-0.3
	baz=96,SNR=11							
MNTX	Cornudas Mount	95.81	54	*e*P		P	09 59 48.3	-0.1
	comp=Z,66nm,1.3s							
N31A	Bailey Ranch,	95.90	43	⇓P		P	09 59 47.2	-1.4
	baz=96							
U28A	Mallet	95.94	48	⇓P		P	09 59 48.9	0.0
	baz=96,SNR=25							
Y26A	Elida	95.95	51	⇑P		P	09 59 49.3	+0.2
	baz=96							
TVSB	Tavsanli	95.97	315	*e*P		P	09 59 47.0	-2.0
W27A	Bowe Ranch, En	95.97	50	⇑P		P	09 59 49.0	-0.2
	baz=96,SNR=17							
O31A	Woolen Ranch,	96.01	44	⇓P		P	09 59 47.9	-1.2
	baz=96,SNR=7.0							
Q30A	Quinter	96.02	45	⇓P		P	09 59 48.1	-1.1
	baz=96,SNR=26							
HUMR	Humele	96.04	321	⇑*i*P		P	09 59 48.2	-0.9
ISP	Isparta	96.07	313	*e*P		P	09 59 48.0	-1.6
ISP	Isparta	96.07	313	⇑*i*P		P	09 59 48.2	-1.3
ISP	Isparta	96.07	313	*e*P		P	09 59 48.0	-1.6
S29A	Ulysses	96.10	47	⇓P		P	09 59 49.7	+0.1
	baz=96,SNR=22							
LRW	Lerwick	96.10	344	*e*P		P	09 59 48.2	-0.8
LRW				AMB		AMB	09 59 50.3	
	comp=Z,189nm,1.5s							
BGNE	Belgrade	96.11	42	⇑P		P	09 59 48.4	-1.2
	baz=96,SNR=15							
X27A	F and S Farms,	96.14	50	⇑P		P	09 59 50.3	+0.3
	baz=96,SNR=5.8							
T29A	Hugoton	96.20	47	⇓P		P	09 59 50.1	0.0
	baz=96							
LOT	Lotru	96.22	323	⇑*i*P		P	09 59 49.6	-0.4
JMB	Yambol	96.22	319	⇑*i*P		P	09 59 48.9	-1.0
V28A	Channing	96.24	49	⇑P		P	09 59 50.4	+0.1
	baz=96,SNR=18							
EYMN	Ely	96.25	34	*e*P		P	09 59 49.5	-0.5
	comp=Z,143nm,2.0s							
P31A	Stockton	96.30	44	⇑P		P	09 59 49.8	-0.7
	baz=96,SNR=17							
R30A	Dighton	96.34	46	⇑P		P	09 59 50.4	-0.2
	baz=96,SNR=28							
GDL2	Guadalupe Moun	96.35	53	*e*P		P	09 59 51.3	+0.3
N32A	Stulken Farm,	96.36	43	⇑P		P	09 59 49.4	-1.3
	baz=96							
DEV	Deva	96.45	323	⇓*i*P		P	09 59 50.8	-0.1
EDRB	Edirne	96.46	318	P		P	09 59 50.9	-0.1
EDRB	Edirne	96.46	318	P		P	09 59 50.9	-0.1
Y27A	Causey	96.46	51	⇓P		P	09 59 51.2	-0.2
	baz=96,SNR=37							
W28A	Vega	96.49	49	⇓P		P	09 59 51.9	+0.4
	baz=96							
KHL	Karahalli	96.50	314	*e*P		P	09 59 51.2	-0.3
OKC	Ostrava-Krasne	96.52	328	*e*P		P	09 59 51.0	-0.1
OKC	Ostrava-Krasne	96.52	328	*e*P		P	09 59 51.0	-0.1
OKC				*ex*		x	09 59 58.3	
OKC				*e*PKKP		PKKPdf	10 16 33.2	-0.6
S30A	Montezuma	96.53	47	⇑P		P	09 59 51.8	+0.2
	baz=96,SNR=9.2							
Q31A	Ellis	96.56	45	⇑P		P	09 59 50.7	-1.0
	baz=96							
U29A	Oasis Ranch, S	96.57	48	⇑P		P	09 59 51.1	-0.6
	baz=96							
O32A	Brockman Farm,	96.64	43	⇓P		P	09 59 50.5	-1.4
	baz=96,SNR=14							
V29A	Stinnett	96.68	48	⇑P		P	09 59 52.0	-0.3
	baz=97							
CLNB	Carlsbad	96.68	53	*e*P		P	09 59 51.1	-1.3
	comp=Z,12nm,1.2s							
MSTX	Muleshoe	96.70	51	⇑P		P	09 59 52.0	-0.5
	baz=97,SNR=8.7							
KSP	Ksiaz	96.76	330	⇓*e*P		P	09 59 51.3	-0.9
KSP				*e*			10 03 49.7	
KSP	Ksiaz	96.76	330	*e*P		P	09 59 51.9	-0.3
KSP				*e*SKSac		SKSac	10 09 43.9	-1.5
KSP				*e*S		S	10 10 32.3	-2.0
P32A	Huiting Farm,	96.76	44	⇓P		P	09 59 51.4	-1.1
	baz=97,SNR=12							
T30A	Plains	96.79	47	⇑P		P	09 59 52.6	-0.1
	baz=97							
GZR	Gura Zlata	96.81	323	⇓*i*P		P	09 59 51.9	-0.8
GZR	Gura Zlata	96.81	323	⇓*i*P		SP	10 11 55.9	-3.3
R31A	Burdett	96.84	46	⇓P		P	09 59 52.5	-0.4
	baz=97,SNR=11							
PSZ	Piszkesteto	96.85	326	*e*P		P	09 59 52.5	-0.3
PSZ				pmax		pmax		
	comp=Z,84nm,1.1s							
PSZ	Piszkesteto	96.85	326	⇑*i*P		P	09 59 52.8	0.0
PSZ	Piszkesteto	96.85	326	⇓*e*		P	09 59 52.1	-0.7
PSZ	Piszkesteto	96.85	326	*e*P		P	09 59 52.5	-0.3
	comp=Z,84nm,1.1s							
X28A	Dimmitt	96.86	50	⇑P		P	09 59 52.9	-0.2
	baz=97							
W29A	Amarillo	96.96	49	⇓Pdiff		P	09 59 53.7	+0.2
	baz=97							
U30A	WK&E Inc. Balk	96.96	48	⇑Pdiff		P	09 59 53.4	-0.2
	baz=97							
KRLC	Kraliky	97.03	329	*e*P		P	09 59 53.2	-0.3
KRLC				*e*			10 03 51.3	
KRLC	Kraliky	97.03	329	*e*P		P	09 59 53.2	-0.3
KRLC				*e*PP		PP	10 03 51.3	-4.3
KRLC				*e*PKKP		PKKPdf	10 16 32.4	-0.6
VYHS	Vyhne	97.04	327	*e*P		Pdif	09 59 53.6	+0.1
VYHS				pmax		pmax		
	comp=Z,59nm,1.1s							
VYHS	Vyhne	97.04	327	*e*		Pdif	09 59 53.6	+0.1
AMTX	Amarillo	97.05	49	⇓Pdiff		P	09 59 54.0	+0.1
	baz=97							
AMTX	Amarillo	97.05	49	*e*P		Pdif	09 59 54.6	+0.6
	comp=Z,90nm,1.1s							
DPC	Dobruska-Polom	97.07	330	*e*P		Pdif	09 59 53.8	+0.1
DPC				*e*			10 03 55.4	
DPC	Dobruska-Polom	97.07	330	*e*P		Pdif	09 59 53.8	+0.1
DPC				*ex*		x	10 00 02.7	
DPC				*ex*		x	10 02 57.9	
DPC				*e*PP		PP	10 03 55.4	-0.5
DPC				*e*PKKP		PKKPdf	10 16 32.1	-0.8
DPC				*ex*		x	10 17 05.8	
Y28A	McKinney Farm,	97.11	50	⇓Pdiff		P	09 59 54.1	-0.2
	baz=97							
UPC	Upice	97.11	330	*e*P		Pdif	09 59 53.9	+0.1
UPC				*e*			10 03 53.4	
UPC	Upice	97.11	330	*e*P		Pdif	09 59 53.9	+0.1
UPC				*ex*		x	09 59 58.3	
UPC				*e*PP		PP	10 03 53.4	-2.7
UPC				*e*PKKP		PKKPdf	10 16 31.5	-1.3
UPC				*ex*		x	10 17 05.4	
Q32A	Meitler Ranch,	97.12	45	⇓Pdiff		P	09 59 53.4	-0.7
	baz=97							
SPMN	Marine on St.	97.17	37	⇑Pdiff		P	09 59 53.5	-0.7
	baz=97							
VNDA	Vanda	97.19	176	P		Pdif	09 59 53.7	+0.3
	comp=Z,15nm,1.0s,baz=322,slow=5.4,SNR=9.2							
VNDA				PP		PP	10 03 57.0	0.0
	comp=Z,2.7nm,0.7s,baz=318,slow=5.2,SNR=3.2							
VNDA				PKiKP		PKiKP	10 04 27.1	+1.1
	comp=Z,6.1nm,0.8s,baz=342,slow=3.9,SNR=3.4							
VNDA				PKKPbc		PKKPbc	10 16 32.1	-1.8
	comp=Z,14nm,1.0s,baz=299,slow=5.6,SNR=20							
VNDA	Vanda	97.19	176	*e*P		Pdif	09 59 54.3	+0.9
VNDA				PP		PP	10 03 57.0	0.0
VNDA				PKiKP		PKiKP	10 04 27.1	+1.1
VNDA				PKKPbc		PKKPbc	10 16 32.1	-1.8
BSEG	Bad Segeberg	97.20	335	*e*P		Pdif	09 59 54.2	+0.2
	comp=Z,117nm,1.1s							
BSEG				*e*PP		PP	10 03 57.8	+1.3
BSEG				*e*PKKPbc		PKKPdf	10 16 32.0	-0.6
S31A	Mullinville	97.21	46	⇓Pdiff		P	09 59 54.6	0.0
	baz=97							
X29A	Tulia	97.25	50	⇓Pdiff		Pdif	09 59 55.2	+0.3
	baz=97							
Z28A	Tucker Farm, M	97.31	51	⇓Pdiff		P	09 59 55.0	-0.2
	baz=97							
R32A	Long Quarter,	97.32	45	⇓Pdiff		P	09 59 54.5	-0.5
	baz=97							
V30A	Spur Ranch, Mi	97.32	48	⇑Pdiff		Pdif	09 59 55.3	+0.2
	baz=97							
BZS	Buzias	97.34	324	⇑*i*P		P	09 59 54.4	-0.5
BZS	Buzias	97.34	324	⇑*i*P		SP	10 12 06.2	+1.5
T31A	Randall Ranch,	97.35	47	⇓Pdiff		P	09 59 54.8	-0.4
	baz=97							
KDZ	Kurdzhali	97.39	319	⇑*i*P		Pdif	09 59 55.5	+0.2
MPEP	Malo Peshtene	97.44	321	*i* P		P	09 59 55.3	-0.1
P33A	Williams Farm,	97.45	44	⇑Pdiff		P	09 59 54.7	-0.9
	baz=97							
PKSN	Nyarlorinc	97.51	325	⇑*e*		Pdif	09 59 56.1	+0.5
S32A	Newby Ranch, P	97.55	46	⇑Pdiff		Pdif	09 59 56.3	+0.2
	baz=97							
128A	Castleberry Fa	97.56	52	⇑Pdiff		Pdif	09 59 56.4	+0.1
	baz=97							
Y29A	Porterfield Fa	97.56	50	⇑Pdiff		Pdif	09 59 56.4	+0.1
	baz=97							
PLD	Plovdiv	97.58	319	P		P	09 59 56.0	0.0
PLD	Plovdiv	97.58	319	P		P	09 59 56.0	0.0
PLD	Plovdiv	97.58	319	*i* P		Pdif	09 59 56.2	+0.2
PLD	Plovdiv	97.58	319	P		P	09 59 56.0	0.0
Q33A	Connelly Farm,	97.60	44	⇓Pdiff		P	09 59 55.8	-0.5
	baz=98							
U31A	Nine Bar Ranch	97.60	47	⇓Pdiff		Pdif	09 59 56.9	+0.6
	baz=98							
VRAC	Vranov	97.63	329	⇑*i*P		Pdif	09 59 56.5	+0.3
VRAC	Vranov	97.63	329	PKKPbc		PKKPbc	10 16 30.3	-1.4
	comp=Z,8.0nm,0.9s,baz=237,slow=5.6,SNR=4.7							
PGB	Panagyurishte	97.65	320	*i* P		P	09 59 56.2	-0.3
W30A	Crocket Farms	97.69	49	⇑Pdiff		Pdif	09 59 57.5	+0.7
	baz=98							
228A	UT Block 9, Go	97.72	52	⇓Pdiff		Pdif	09 59 57.7	+0.6
	baz=98							
PVCC	Panska Ves	97.78	331	*e*P		Pdif	09 59 56.9	+0.2
PVCC				*e*			10 04 02.0	
PVCC	Panska Ves	97.78	331	*e*P		Pdif	09 59 56.9	+0.2
PVCC				*ex*		x	10 00 02.0	
PVCC				*ex*		x	10 00 14.1	
PVCC				*e*PP		PP	10 04 02.0	+0.9
PVCC				*e*PKKP		PKKPbc	10 16 30.2	-1.1
PKS7	Kunszentmiklos	97.79	326	⇑*e*		P	09 59 56.8	0.0
Z29A	Hungry Hill Ra	97.82	51	⇑Pdiff		Pdif	09 59 57.9	+0.4
	baz=98							
T32A	Huddler Ranch,	97.82	46	⇑Pdiff		P	09 59 57.4	+0.1
	baz=98							
BRG	Berggiesshubel	97.83	331	⇑*i*P		P	09 59 56.4	-0.6
	comp=Z,183nm,1.5s							
BRG				pP		pP	10 01 37.0	-1.9
BRG				PP		PP	10 03 57.0	-4.5
BRG				*e*SKS		SKSac	10 09 50.8	0.0
	comp=Z,35nm,1.7s							
BRG				*i* PKKP		PKKPbc	10 16 29.3	-1.9
	comp=Z,22nm,1.0s							
BRG				SS		SS	10 17 31.0	-4.4
BRG	Berggiesshubel	97.83	331	*e*P		Pdif	09 59 57.1	+0.1
	comp=Z,182nm,1.5s							
BRG				*e*PP		PP	10 04 02.8	+1.3
BRG				*e*PKKPbc		PKKPbc	10 16 30.1	-1.1
SBA	Scott Base	97.84	175	*e*P		Pdif	09 59 58.2	+1.9
SBA				pmax		pmax		
	comp=Z,72nm,1.4s							
SBA	Scott Base	97.84	175	*e*P		Pdif	09 59 58.2	+1.9
	comp=Z,72nm,1.4s							
X30A	Coker Ranch, T	97.84	49	⇓Pdiff		P	09 59 57.6	+0.1
	baz=98							
R33A	Olander Ranch,	97.86	45	⇑Pdiff		Pdif	09 59 57.6	+0.1
	baz=98							
V31A	Spring Creek L	97.91	48	⇓Pdiff		Pdif	09 59 58.7	+0.9
	baz=98							
CLL	Collm	97.95	332	⇓*i*P		P	09 59 56.7	-0.8
CLL				*e**PP		pP	10 01 42.0	+2.5
CLL				*i*			10 04 02.7	
CLL				*e*			10 09 54.0	
CLL				pmax		pmax		
	comp=Z,171nm,1.3s							
CLL				pmax		pmax		
	comp=Z,161nm,1.5s							
CLL	Collm	97.95	332	*e*P		P	09 59 57.4	-0.1
	comp=Z,171nm,1.3s							
CLL				*e*PP		PP	10 04 03.4	+1.0
CLL				*e*PKKPbc		PKKPbc	10 16 29.9	-1.0
CLL				*e*			10 17 01.3	
CLL	Collm	97.95	332	⇓*i*Pdif		P	09 59 56.7	-0.8
	comp=Z,171nm,1.3s							
CLL				*e*pP		pP	10 01 42.0	+2.5
CLL				*e*sP		sP	10 02 24.0	-1.2
CLL				*e*			10 03 15.0	
CLL				*i* PP		PP	10 04 02.7	+0.3
	comp=Z,161nm,1.5s							
CLL				*e*pPP			10 05 30.0	
CLL				*e*sPP			10 06 22.0	
CLL				*e*PPPP			10 07 54.0	
CLL				*e*SKSac		SKSac	10 09 54.0	+2.6
CLL				*e*SKKSac		SKKSac	10 10 25.0	+2.6
CLL				*e*			10 11 01.0	
CLL				*e*SP		SP	10 12 09.0	-1.9
CLL				*e*PS		PS	10 13 13.0	+4.2
CLL				*es*SKKSac			10 13 33.0	
CLL				*e*			10 14 55.0	
CLL				*es*PPS			10 15 42.0	
CLL				*i* PKKPbc		PKKPbc	10 16 29.3	-1.6
	comp=Z,33nm,0.9s							
CLL				*i* PKKPdf		PKKPdf	10 16 33.2	+1.9
CLL				*e*			10 17 01.0	
CLL				*e*SS		SS	10 17 38.0	+0.9
CLL				*e*			10 18 59.0	
CLL				*es*SS			10 20 16.0	
CLL				*e*			10 23 48.0	
CLL				LmH			10 45 00.0	
	comp=N,800nm,18.1s							
CLL				LmH			10 45 00.0	
	comp=E,400nm,19.3s							
CLL	Collm	97.95	332	*e*P		P	09 59 55.0	-2.5
	comp=E,176nm,1.2s							
HLG	Helgoland	97.97	336	*e*PP		PP	10 04 03.0	+0.7
PKSG		97.97	326	⇑*e*		P	09 59 57.5	-0.2
129A	Stewart Farms,	98.01	51	⇑Pdiff		Pdif	09 59 58.4	+0.2
	baz=98							
FBE	Freiberg	98.06	331	*e*P		Pdif	09 59 58.4	+0.4
	comp=Z,263nm,1.4s							
FBE				*e*PP		PP	10 04 04.8	+1.6
FBE				*e*PKKPbc		PKKPbc	10 16 29.8	-0.8
Y30A	Stafford Cattl	98.11	50	⇓Pdiff		Pdif	09 59 59.0	+0.3
	baz=98							
W31A	Holland Ranch,	98.14	48	⇓Pdiff		Pdif	09 59 59.3	+0.6
	baz=98							
PRA	Prague	98.16	330	P		Pdif	09 59 59.0	+0.6
PRA				PP		PP	10 04 05.0	+1.0
PRU	Pruhonice	98.16	330	*e*P		P	09 59 58.4	-0.1
PRU				*e*			10 04 04.4	
PRU	Pruhonice	98.16	330	*e*P		P	09 59 58.4	-0.1
PRU				*ex*		x	10 03 06.2	
PRU				*ex*		x	10 03 18.7	
PRU				*e*PP		PP	10 04 04.4	+0.4
PRU				*e*PKKP		PKKPbc	10 16 28.8	-1.5
PRU				*ex*		x	10 17 00.1	
PRU				AMS		AMS	10 44 50.0	
TREC	Trest	98.18	329	*e*P		P	09 59 58.6	0.0
TREC				*e*			10 03 59.8	
TREC	Trest	98.18	329	*e*P		P	09 59 58.6	0.0
TREC				*e*PP		PP	10 03 59.8	-4.4
TREC				*e*PKKP		PKKPbc	10 16 28.5	-1.7
TREC				*ex*		x	10 17 00.3	
U32A	Winter Ranch,	98.18	47	P		Pdif	09 59 59.3	+0.3
	baz=98							
TXAR	Lajitas Array	98.20	55	P		Pdif	09 59 59.5	+0.3
	comp=Z,14nm,1.0s,baz=298,slow=2.7,SNR=59							
TXAR				PP		PP	10 04 05.7	+0.4
	comp=Z,5.1nm,1.1s,baz=260,slow=6.2,SNR=4.9							
TXAR				PKiKP		PKiKP	10 04 29.7	+0.3
	comp=Z,2.1nm,0.6s,baz=302,slow=0.6,SNR=8.2							
TXAR				PKKPbc		PKKPdf	10 16 30.6	-0.3
	comp=Z,8.5nm,1.0s,baz=134,slow=5.2,SNR=16							
VTS	Vitosha	98.21	321	P		P	09 59 58.5	-0.5
VTS	Vitosha	98.21	321	P		P	09 59 58.5	-0.5
VTS	Vitosha	98.21	321	⇑*i*P		Pdif	09 59 59.4	+0.3
VTS	Vitosha	98.21	321	*i* P		P	09 59 58.8	-0.2
VTS	Vitosha	98.21	321	P		P	09 59 58.5	-0.5
Z30A	Sanderson Ranc	98.23	51	⇓Pdiff		P	09 59 58.8	-0.4
	baz=98							
S33A	Kaszmaul Farm,	98.23	46	⇑Pdiff		P	09 59 59.2	+0.1
	baz=98							
BIGH	Upper Bighouse	98.23	344	⇑*e*P		P	09 59 58.1	-0.4
PKST	T''s	98.25	327	⇑*e*		P	09 59 58.5	-0.4
MLA1	Latheron	98.25	344	⇑*e*P		P	09 59 58.6	0.0
T33A	Patterson Ranc	98.34	46	⇓Pdiff		P	09 59 59.3	-0.3
	baz=98							
NRDL	Niedersach Rie	98.34	334	*e*P		Pdif	09 59 59.2	+0.1
	comp=Z,117nm,1.7s							
NRDL				*e*PP		PP	10 04 06.5	+1.3
NRDL				*e*PKKPbc		PKKPbc	10 16 29.5	-0.3
KSU1	Kansas State U	98.34	44	⇓Pdiff		P	09 59 59.2	-0.4
	baz=98							
KSU1	Kansas State U	98.34	44	*e*Pdif		P	09 59 59.1	-0.4
	comp=Z,38nm,1.1s							
229A	Bryant Ranch,	98.37	52	⇑Pdiff		Pdif	09 59 59.9	0.0
	baz=98							
X31A	McDonald Ranch	98.39	49	⇓Pdiff		P	10 00 00.3	+0.5
	baz=98							
MMB	Musomiste	98.47	319	⇓*i*P		P	09 59 59.1	-1.0
MMB	Musomiste	98.47	319	*i* P		P	10 00 00.0	-0.1
329A	Wagon Wheel Ra	98.47	53	⇓Pdiff		P	10 00 00.8	+0.4
	baz=98							
V32A	Arapaho	98.50	48	⇑Pdiff		P	10 00 00.7	+0.3
	baz=98							
Y31A	Rekieta Farm,	98.52	50	⇓Pdiff		P	10 00 00.8	+0.3
	baz=98							
NVR	Nevrokopi	98.53	319	P		Pdif	10 00 00.0	-0.3
NVR	Nevrokopi	98.53	319	P		Pdif	10 00 00.0	-0.3
NEUB	Neuenburg	98.56	332	*e*P		Pdif	10 00 00.5	+0.3
	comp=Z,252nm,1.4s							
NEUB				*e*PP		PP	10 04 08.0	+1.0
NEUB				*e*PKKPbc		PKKPbc	10 16 28.3	-0.9
PKSM	Moragy	98.60	325	⇑*i*P		P	09 59 59.6	-0.9
PKSM	Moragy	98.60	325	⇓*e*		P	09 59 59.6	-0.9
W32A	Sentinel	98.66	48	⇑Pdiff		P	10 00 01.8	+0.7
	baz=98							
130A	Snyder	98.69	51	⇓Pdiff		Pdif	10 00 01.3	0.0
	baz=99							
CLZ	Clausthal	98.71	333	*e*P		Pdif	10 00 01.4	+0.5
	comp=Z,162nm,1.4s							
CLZ				*e*PP		PP	10 04 09.8	+1.7
CLZ				*e*PKKPbc		PKKPbc	10 16 28.3	-0.6
U33A	Lingo Farm, Me	98.77	47	⇑Pdiff		Pdif	10 00 01.2	-0.3
	baz=99							
MVH1	Achvaich	98.80	344	⇑*e*P		P	10 00 00.7	-0.4
TANN	Tannenbergstha	98.82	331	*e*P		P	10 00 01.7	+0.2
	comp=Z,121nm,1.6s							
TANN				*e*PP		PP	10 04 10.4	+1.3
TANN				*e*PKKPbc		PKKPbc	10 16 27.6	-1.0
TANN				*e*			10 16 57.5	
MCD	Coleburn Disti	98.85	343	⇑*e*P		Pdif	10 00 00.8	-0.6
WERD	Werda	98.87	331	*e*P		P	10 00 01.9	+0.2
	comp=Z,122nm,1.5s							
WERD				*e*PP		PP	10 04 10.9	+1.5
WERD				*e*PKKPbc		PKKPbc	10 16 27.3	-1.1
PLN	Plauen	98.91	332	*e*P		P	10 00 02.1	+0.3
PLN				*e*PP		PP	10 04 11.2	+1.6
PLN				*e*PKKPbc		PKKPbc	10 16 27.3	-1.0
CONA	Conrad Observa	98.92	328	*i* Pdiff		P	10 00 02.4	+0.4
	SNR=22							
GUNZ	Gunzen	98.92	331	*e*P		P	10 00 02.2	+0.3
	comp=Z,191nm,1.6s							
GUNZ				*e*PP		PP	10 04 11.1	+1.4
GUNZ				*e*PKKPbc		PKKPbc	10 16 27.4	-0.9
230A	Sterling City	98.93	52	⇑Pdiff		Pdif	10 00 02.4	0.0
	baz=99							
Z31A	Sharp Cattle R	98.93	50	⇑Pdiff		Pdif	10 00 02.3	-0.1
	baz=99							
529A	Stev Forest Ra	98.94	54	⇓Pdiff		P	10 00 02.7	+0.3
	baz=99							
429A	Davenport Ranc	98.95	53	⇓

ROTZ	Rotzenmuhle	99.40	331		eP	Pdif	10 00 04.6	+0.6
	comp=Z,140nm,1.4s							
ROTZ					ePP	PP	10 04 15.3	+2.0
ROTZ					ePKKPbc	PKKPbc	10 16 25.7	-1.2
ROTZ					e		10 16 55.0	
Z32A	Haskell	99.42	50	⇑	Pdif	Pdif	10 00 04.9	+0.4
	baz=99							
HORT	Hortiatis	99.43	319		P	Pdif	10 00 04.0	-0.4
HORT	Hortiatis	99.43	319		P	Pdif	10 00 04.0	-0.4
IBBN	Ibbenburen	99.44	335		eP	Pdif	10 00 04.3	+0.2
	comp=Z,153nm,1.2s							
IBBN					ePP	PP	10 04 14.0	+0.5
IBBN					ePKKPbc	PKKPbc	10 16 26.1	-0.7
IBBN					e		10 16 54.8	
KAC	Achnashellach	99.47	344	⇑	eP	Pdif	10 00 03.9	-0.2
X33A	Lawton	99.48	48	⇓	Pdif	Pdif	10 00 04.4	-0.3
	baz=99							
231A	Bronte	99.49	51	⇑	Pdif	Pdif	10 00 04.8	-0.1
	baz=99							
V34A	Guthrie	99.49	47	⇑	Pdif	Pdif	10 00 04.7	0.0
	baz=99							
V34A	Guthrie	99.49	47		ePdif	Pdif	10 00 05.7	+0.9
	comp=Z,55nm,1.1s							
WET	Wettzell	99.53	330		eP	Pdif	10 00 04.8	+0.2
	comp=Z,44nm,1.4s							
WET					ePP	PP	10 04 16.2	+1.9
WET					ePKKPbc	PKKPbc	10 16 25.1	-1.4
WET					e		10 16 54.0	
ARSA	Arzberg	99.54	328		i Pdif	Pdif	10 00 04.8	+0.1
	SNR=13							
530A	J-C Ranch, Com	99.60	53	⇑	Pdif	Pdif	10 00 06.0	+0.7
	baz=100							
UBBA	Unterbreizbach	99.62	333		eP	Pdif	10 00 05.0	+0.2
	comp=Z,110nm,1.6s							
UBBA					ePP	PP	10 04 15.7	+0.9
UBBA					e		10 16 54.1	
SKO	Skopje	99.63	321		P	Pdif	10 00 05.3	+0.1
SKO	Skopje	99.63	321		P	Pdif	10 00 05.3	+0.1
SKO	Skopje	99.63	321		i PKP	Pdif	10 00 05.7	+0.4
SKO	Skopje	99.63	321		P	Pdif	10 00 05.3	+0.1
W34A	Bridge Creek,	99.63	47	⇑	Pdif	Pdif	10 00 05.7	+0.3
	baz=100							
W34A	Bridge Creek,	99.63	47		ePdif	Pdif	10 00 05.9	+0.5
ABTX	Abilene, Hawle	99.64	51	⇑	Pdif	Pdif	10 00 05.7	+0.2
	baz=100							
ABTX	Abilene, Hawle	99.64	51		ePdif	Pdif	10 00 06.2	+0.7
	comp=Z,91nm,1.3s							
GRG	Griva	99.65	320		P	Pdif	10 00 04.5	-0.9
GRG	Griva	99.65	320		P	Pdif	10 00 04.5	-0.9
GRG	Griva	99.65	320		P	Pdif	10 00 04.5	-0.9
Y33A	Hilltop Ranch,	99.67	49	⇑	Pdif	Pdif	10 00 05.6	+0.1
	baz=100							
KPL	Plockton	99.70	344		eP	Pdif	10 00 04.6	-0.5
KPL					AMB	AMB	10 00 06.5	
	comp=Z,109nm,1.1s							
331A	San Angelo	99.72	52	⇓	Pdif	Pdif	10 00 06.0	+0.2
	baz=100							
KSB	Sheil Bridge	99.75	344		eP	Pdif	10 00 05.2	-0.1
MOA	Molln	99.76	329		i Pdif	Pdif	10 00 05.7	+0.1
	SNR=11							
MOA	Molln	99.76	329		i PKKPbc	PKKPbc	10 16 24.5	-1.3
	comp=Z,32nm,1.1s,SNR=5.5							
431A	Sonora	99.89	53	⇓	Pdif	Pdif	10 00 06.8	+0.1
	baz=100							
GRF	Grafenberg Arr	99.90	331		eP	Pdif	10 00 06.8	+0.6
	comp=Z,203nm,1.5s							
GRF					epP	pP	10 01 47.3	-1.1
GRF					ePP	PP	10 04 19.0	+1.9
GRF					ePKKPbc	PKKPbc	10 16 24.5	-1.0
GRF					e		10 16 52.8	
GRFO	Grafenberg	99.90	331		eP	Pdif	10 00 06.1	-0.1
GRFO	Grafenberg	99.90	331		ePdif	Pdif	10 00 06.1	-0.1
X34A	Smith Ranch, M	99.92	48	⇓	Pdif	Pdif	10 00 07.1	+0.4
	baz=100							
Z33A	Whitaker Ranch	99.94	50	⇓	Pdif	Pdif	10 00 07.0	+0.2
	baz=100							
IVA	Berane	99.99	322	⇓	iP	Pdif	10 00 07.5	+0.6
PLE	Pljevlja	100.00	323	⇓	iP	Pdif	10 00 06.9	-0.1
232A	Coleman	100.01	51	⇑	Pdif	Pdif	10 00 07.3	+0.2
	baz=100							
JFWS	Jewell Farm	100.04	38		eP	Pdif	10 00 06.4	-0.6
JFWS	Jewell Farm	100.04	38		ePdif	Pdif	10 00 06.4	-0.6
WTSB	Winterswijk	100.08	335		eP	Pdif	10 00 05.8	-1.1
	comp=Z,53nm,1.2s							
WTSB					eP	PP	10 04 19.0	+0.7
	comp=Z,557nm,1.5s							
LIT	Litokhoron	100.10	319		P	Pdif	10 00 06.7	-0.7
LIT	Litokhoron	100.10	319		P	Pdif	10 00 06.7	-0.7
LIT	Litokhoron	100.10	319		P	Pdif	10 00 06.7	-0.7
ESY	Stoneypath	100.11	342	⇑	eP	Pdif	10 00 06.7	-0.3
PVY	Plav	100.13	322		eP	Pdif	10 00 07.1	-0.5
PERS	Pernice	100.16	327		i Pdif	Pdif	10 00 07.3	-0.3
PERS					i PP	PP	10 04 19.0	-0.3
SOKA	Soboth	100.17	327		i Pdif	Pdif	10 00 07.0	-0.6
	SNR=14							
133A	Hamilton Ranch	100.18	50	⇑	Pdif	Pdif	10 00 08.3	+0.4
	baz=100							
332A	Millersview	100.19	52	⇓	Pdif	Pdif	10 00 08.4	+0.4
	baz=100							
531A	Rocksprings	100.19	53	⇑	Pdif	Pdif	10 00 08.7	+0.6
	baz=100							
BUG	Bochum--Univer	100.30	335		eP	Pdif	10 00 07.8	-0.1
	comp=Z,188nm,1.3s							
BUG					e		10 16 50.7	
Y34A	Reagan Ranch,	100.31	49	⇓	Pdif	Pdif	10 00 08.7	+0.3
	baz=100							
EBL	Broad Law	100.35	342	⇑	eP	Pdif	10 00 08.1	0.0
UPM	Unac-Piva	100.35	323	⇓	iP	Pdif	10 00 07.6	-1.0
EAB	Aberfoyle	100.36	343	⇑	eP	Pdif	10 00 08.0	-0.1
FNA	Florina	100.38	320		P	Pdif	10 00 07.9	-0.7
FNA	Florina	100.38	320		P	Pdif	10 00 07.9	-0.7
FNA	Florina	100.38	320		P	Pdif	10 00 07.9	-0.7
432A	Menard	100.41	52	⇓	Pdif	Pdif	10 00 08.7	-0.2
	baz=100							
KZN	Kozani	100.42	319		P	Pdif	10 00 08.2	-0.7
KZN	Kozani	100.42	319		P	Pdif	10 00 08.2	-0.7
KZN	Kozani	100.42	319		P	Pdif	10 00 08.2	-0.7
233A	Rising Star	100.49	51	⇓	Pdif	Pdif	10 00 09.6	+0.3
	baz=100							
Z34A	Collier Ranch,	100.51	49	⇑	Pdif	Pdif	10 00 09.4	+0.1
	baz=100							
OHR	Ohrid	100.53	320		i PKP	Pdif	10 00 07.9	-1.4
OBKA	Obir	100.53	328	⇓	iPKKPbc	PKKPbc	10 16 22.8	-0.9
	comp=Z,34nm,1.2s							
631A	Perdido Creek	100.54	54		Pdif	Pdif	10 00 09.6	+0.1
	baz=100							
NKY	Niksic	100.55	323	⇓	iP	Pdif	10 00 09.2	-0.2
RJOB	Jochberg	100.55	329		eP	Pdif	10 00 09.5	+0.2
	comp=Z,51nm,1.0s							
RJOB					ePP	PP	10 04 23.9	+1.8
RJOB					ePKKPbc	PKKPbc	10 16 22.3	-1.4
RJOB					e		10 16 49.4	
JCT	Junction City	100.60	52		eP	Pdif	10 00 10.0	+0.2
JCT	Junction City	100.60	52	⇑	Pdif	Pdif	10 00 09.9	+0.2
	baz=100							
JCT	Junction City	100.60	52		ePdif	Pdif	10 00 10.0	+0.2
NKME	Niksic	100.60	323	⇓	iP	Pdif	10 00 09.1	-0.5
TUL1	Leonard	100.63	46	⇓	Pdif	Pdif	10 00 09.7	0.0
	baz=100							
TUL1	Leonard	100.63	46		ePdif	Pdif	10 00 10.2	+0.4
TTG	Podgorica	100.64	322	⇓	iP	Pdif	10 00 09.5	-0.1
532A	Rocksprings	100.69	53	⇑	Pdif	Pdif	10 00 10.5	+0.3
	baz=101							
TNS	Taunus Mts	100.73	333		eP	Pdif	10 00 10.3	+0.3
	comp=Z,94nm,1.4s							
TNS					ePKKPbc	PKKPbc	10 16 22.6	-0.7
TNS					e		10 16 49.3	
PGBU	Glenifferbraes	100.73	343		eP	Pdif	10 00 10.0	+0.2
PGBU					AMB	AMB	10 00 11.0	
	comp=Z,135nm,1.5s							
KBA	Koelnbreinsper	100.74	329	⇑	iPdif	Pdif	10 00 09.7	-0.5
	comp=Z,23nm,1.1s							
BRY	Bratogost	100.75	323		eP	Pdif	10 00 09.3	-1.0
333A	Richland Sprin	100.78	51	⇑	Pdif	Pdif	10 00 11.0	+0.4
	baz=101							
ESK	Eskdalemuir	100.79	342		eP	Pdif	10 00 09.6	-0.4
ESK					AMB	AMB	10 00 11.1	
	comp=Z,72nm,1.8s							
ESK	Eskdalemuir	100.79	342		i P	Pdif	10 00 10.6	+0.6
ESK	Eskdalemuir	100.79	342		ePdif	Pdif	10 00 10.1	+0.1
NEST	Nestorio	100.80	320		P	Pdif	10 00 09.9	-0.7
134A	White-Moore Ra	100.80	50	⇓	Pdif	Pdif	10 00 10.9	+0.3
	baz=101							
DRME	Dracevica, Mon	100.83	322	⇓	iP	Pdif	10 00 09.6	-0.9
BOJS	Bojanci	100.85	326		i Pdif	Pdif	10 00 10.6	+0.1
BOJS					ePP	PP	10 04 17.1	-7.2
ECK	Cauldkaine Hil	100.89	342	⇑	eP	Pdif	10 00 10.4	-0.1
MYKA	Terra Mystica	100.91	328	⇑	i Pdif	Pdif	10 00 09.9	-1.0
	comp=Z,29nm,1.4s							
MYKA	Terra Mystica	100.91	328	⇑	iPKKPbc	PKKPbc	10 16 21.7	-0.9
	comp=Z,26nm,0.7s							
BUM	Brajici-Budva	100.93	322		eP	Pdif	10 00 09.8	-1.2
ULC	Ulcinj	100.93	322	⇓	iP	Pdif	10 00 10.0	-1.0
FUR	Furstenfeldbru	100.97	330		eP	Pdif	10 00 11.5	+0.4
	comp=Z,143nm,1.1s							
FUR					ePP	PP	10 04 26.9	+1.8
FUR					ePKKPbc	PKKPbc	10 16 21.6	-0.8
433A	Art	100.99	52	⇓	Pdif	Pdif	10 00 11.7	+0.2
	baz=101							
Z35A	Perchaven, San	101.00	49	⇓	Pdif	Pdif	10 00 11.7	+0.2
	baz=101							
234A	Clairette	101.06	50	⇓	Pdif	Pdif	10 00 12.1	+0.3
	baz=101							
HCY	Herceg Novi	101.06	323	⇓	iP	Pdif	10 00 10.8	-0.8
632A	Uvalde	101.09	53	⇑	Pdif	Pdif	10 00 12.6	+0.7
	baz=101							
JAVS	Javornik	101.20	327		i Pdif	Pdif	10 00 11.3	-0.9
JAVS					i PP	PP	10 04 26.9	-0.1
135A	Vickery Place,	101.29	50	⇑	Pdif	Pdif	10 00 13.5	+0.7
	baz=101							
334A	Lometa	101.33	51	⇑	Pdif	Pdif	10 00 13.3	+0.3
	baz=101							
732A	Laxson Ranch,	101.33	54	⇓	Pdif	Pdif	10 00 13.9	+0.8
	baz=101							
SCHQ	Schefferville	101.34	18		P	Pdif	10 00 12.5	0.0
	comp=Z,8.0nm,0.9s,baz=327,slow=4.0,SNR=7.0							
SCHQ					PP	PP	10 04 26.7	-0.9
	comp=Z,5.9nm,1.0s,baz=289,slow=6.5,SNR=3.2							
SCHQ					PKKPbc	PKKPbc	10 16 17.5	-4.2
	comp=Z,5.0nm,0.6s,baz=158,slow=2.4,SNR=13							
HGN	Heimansgroeve	101.36	335		eP	Pdif	10 00 12.0	-0.6
	comp=Z,78nm,1.3s							
HGN					ePP	PP	10 04 18.5	-9.3
HGN					eP	PKiKP	10 04 28.0	-6.2
	comp=Z,237nm,1.6s							
HGN					eS	x	10 11 55.6	
HGN					eSS	SS	10 18 34.8	+11
533A	Kerrville	101.37	52	⇓	Pdif	Pdif	10 00 13.3	0.0
	baz=101							
JAN	Janina	101.38	319		P	Pdif	10 00 13.1	0.0
JAN	Janina	101.38	319		P	Pdif	10 00 13.1	0.0
JAN	Janina	101.38	319		P	Pdif	10 00 13.1	0.0
ABTA	Abfaltersbach	101.38	329		i Pdif	Pdif	10 00 11.9	-1.1
	SNR=6.4							
ABTA	Abfaltersbach	101.38	329	⇑	iPKKPbc	PKKPbc	10 16 20.4	-0.9
	comp=Z,28nm,0.9s,SNR=5.6							
KESW	Keswick, Cumbr	101.39	342		eP	Pdif	10 00 12.6	-0.2
KESW					AMB	AMB	10 00 14.2	
	comp=Z,104nm,1.5s							
BEBN	Eben Emael	101.43	335		P	Pdif	10 00 13.0	+0.1
	comp=Z,23nm,1.7s							
BEBN					PP	PP	10 04 29.8	+1.4
MEM	Membach	101.45	335		P	Pdif	10 00 13.0	-0.1
	comp=Z,32nm,1.9s							
MEM					PP	PP	10 04 29.7	+1.2
MEM	Membach	101.45	335		eP	Pdif	10 00 13.2	+0.1
MEM	Membach	101.45	335		ePdif	Pdif	10 00 13.2	+0.1
STU	Stuttgart	101.48	332		eP	Pdif	10 00 12.9	-0.4
STU	Stuttgart	101.48	332		eP	Pdif	10 00 13.6	+0.3
	comp=Z,155nm,1.5s							
STU					ePP	PP	10 04 29.7	+0.8
STU					ePKKPbc	PKKPbc	10 16 19.9	-1.1
STU					e		10 16 45.5	
STU	Stuttgart	101.48	332		ePdif	Pdif	10 00 12.9	-0.4
832A	Faith Ranch, C	101.55	54	⇑	Pdif	Pdif	10 00 14.6	+0.6
	baz=102							
WHTX	Lake Whitney,	101.56	50	⇑	Pdif	Pdif	10 00 14.5	+0.6
	baz=101							
434A	Burnet	101.57	52	⇑	Pdif	Pdif	10 00 13.6	-0.5
	baz=102							
633A	Saathoff Ranch	101.57	53	⇓	Pdif	Pdif	10 00 14.2	+0.1
	baz=102							
GAL1	Galloway	101.62	343		eP	Pdif	10 00 13.5	-0.2
GAL1					AMB	AMB	10 00 14.7	
	comp=Z,57nm,1.8s							
MOTA	Moosalm	101.64	330		i Pdif	Pdif	10 00 14.0	-0.2
	SNR=5.3							
534A	Blanco	101.81	52	⇑	Pdif	Pdif	10 00 15.2	0.0
	baz=102							
733A	Divot King Ran	101.85	54	⇓	Pdif	Pdif	10 00 16.0	+0.7
	baz=102							
BCLA	Clavier	101.88	335		P	Pdif	10 00 14.9	0.0
	comp=Z,39nm,1.7s							
BCLA					PP	PP	10 04 32.8	+1.1
LANF	Langenberg	101.94	333	⇑	eP	Pdif	10 00 15.7	+0.4
335A	Moody	101.95	51	⇓	Pdif	Pdif	10 00 15.6	-0.1
	baz=102							
UCC	Uccle	101.95	336		P	Pdif	10 00 15.1	-0.2
UCC					PP	PP	10 04 33.2	+0.9
833A	Chaparral WMA,	101.97	54	⇑	Pdif	Pdif	10 00 16.6	+0.7
	baz=102							
KBI1	Birley Grange	102.04	340	⇑	eP	Pdif	10 00 15.5	-0.1
FETA	Feichten	102.05	330		i Pdif	Pdif	10 00 15.7	-0.3
	SNR=8.7							
FETA	Feichten	102.05	330	⇑	iPKKPbc	PKKPbc	10 16 18.1	-1.4
	comp=Z,30nm,1.0s,SNR=5.4							
435B	Jarrell	102.09	51	⇑	Pdif	Pdif	10 00 16.7	+0.3
	baz=102							
WLF	Walferdange	102.12	334		P	Pdif	10 00 16.5	+0.4
	comp=Z,98nm,1.6s							
WLF	Walferdange	102.12	334		eP	Pdif	10 00 15.8	-0.2
WLF	Walferdange	102.12	334		eP	Pdif	10 00 16.9	+0.8
	comp=Z,203nm,1.4s							
WLF					ePKKPbc	PKKPbc	10 16 18.4	-0.8
WLF					e		10 16 42.9	
WLF	Walferdange	102.12	334		ePdif	Pdif	10 00 15.8	-0.2
BFO	Black Forest	102.19	332		eP	Pdif	10 00 16.5	0.0
BFO					ePP	PP	10 04 34.5	+0.3
SNF	Seneffe	102.21	335		P	Pdif	10 00 16.5	0.0
SNF					PP	PP	10 04 35.0	+0.8
634A	China Grove, S	102.23	53	⇑	Pdif	Pdif	10 00 17.1	+0.1
	baz=102							
DAVA	Damuels	102.26	330		i Pdif	Pdif	10 00 16.9	0.0
	SNR=7.8							
DAVA	Damuels	102.26	330		i PKKPbc	PKKPbc	10 16 17.6	-1.3
	comp=Z,27nm,0.8s,SNR=5.2							
336A	Riesel	102.32	50	⇑	Pdif	Pdif	10 00 17.2	-0.2
	baz=102							
GIVF	Givet	102.32	335		eP	Pdif	10 00 16.5	-0.5
	comp=Z,222nm,1.5s							
GIVF	Givet	102.32	335		eP	Pdif	10 00 16.5	-0.5
GIVF					pmax	pmax		
	comp=Z,222nm,1.5s							
GIVF	Givet	102.32	335		eP	Pdif	10 00 16.5	-0.5
	comp=Z,222nm,1.5s							
734A	La Parita Cree	102.35	53	⇑	Pdif	Pdif	10 00 17.9	+0.3
	baz=102							
933A	Laredo	102.41	55	⇓	Pdif	Pdif	10 00 18.9	+1.1
	baz=102							
DOU	Dourbes	102.41	335		P	Pdif	10 00 17.4	0.0
	comp=Z,20nm,1.8s							
DOU					PP	PKiKP	10 04 36.5	+0.3
535A	Dale	102.49	52	⇑	Pdif	Pdif	10 00 18.7	+0.6
	baz=102							
CDF	Champ du Feu	102.59	333		eP	Pdif	10 00 17.9	-0.5
	comp=Z,234nm,1.5s							
CDF	Champ du Feu	102.59	333		eP	Pdif	10 00 17.9	-0.5
CDF					pmax	pmax		
	comp=Z,234nm,1.5s							
CDF	Champ du Feu	102.59	333		eP	Pdif	10 00 17.9	-0.5
	comp=Z,234nm,1.5s							
BAIF	Baives	102.60	335		eP	Pdif	10 00 17.7	-0.5
	comp=Z,85nm,1.2s							
BAIF	Baives	102.60	335		eP	Pdif	10 00 17.7	-0.5
BAIF					pmax	pmax		
	comp=Z,85nm,1.3s							
BAIF	Baives	102.60	335		eP	Pdif	10 00 17.7	-0.5
	comp=Z,85nm,1.3s							
DAVOX	Davos/Dischmat	102.63	330		PKiKP	PKiKP	10 04 37.2	+0.2
	baz=86,slow=4.7							
DAVOX					PKKPbc	PKKPbc	10 16 16.5	-1.4
	comp=Z,14nm,0.7s,baz=176,slow=5.1,SNR=12							
635A	Leesville	102.67	53	⇑	Pdif	Pdif	10 00 19.1	+0.2
	baz=103							
436A	Wall Ranch, Ga	102.67	51	⇓	Pdif	Pdif	10 00 19.8	+0.8
	baz=103							
237A	Washetta, Mont	102.74	49	⇑	Pdif	Pdif	10 00 19.8	+0.5
	baz=103							
WME	Myndd Eilian	102.78	342	⇑	eP	Pdif	10 00 18.4	-0.5
WPM1	Penmaenmawr	102.78	341	⇑	eP	Pdif	10 00 18.8	-0.2
ECH	Echery	102.80	332	⇑	eP	Pdif	10 00 19.1	-0.1
OPO	Ambohidratompo	102.84	255		PKKPbc	PKKPbc	10 16 18.6	+2.5
	comp=Z,10nm,1.1s,baz=199,slow=1.5,SNR=5.1							
FOEL	Foel Wylfa	102.88	341	⇑	eP	Pdif	10 00 19.4	0.0
FOEL					AMB	AMB	10 00 20.8	
	comp=Z,80nm,1.1s							
138A	Matatall Enter	102.89	48	⇓	Pdif	Pdif	10 00 20.4	+0.5
	baz=103							
MIAR	Mount Ida	102.90	46		eP	Pdif	10 00 20.2	+0.3
MIAR	Mount Ida	102.90	46		ePdif	Pdif	10 00 20.2	+0.3
WLF1	Llynfaes	102.90	342		eP	Pdif	10 00 18.8	-0.6
WLF1					AMB	AMB	10 00 20.6	
	comp=Z,57nm,1.5s							
934A	Benavides	103.00	54	⇓	Pdif	Pdif	10 00 21.1	+0.7
	baz=103							
337A	Centerville	103.05	50	⇑	Pdif	Pdif	10 00 21.5	+0.9
	baz=103							
MOF	Molkenrain	103.08	332	⇑	eP	Pdif	10 00 20.3	-0.2
HLM1	Long Mynd	103.10	340		eP	Pdif	10 00 20.2	-0.2
TUE	Stuetta	103.10	330		ePdif	Pdif	10 00 20.6	-0.2
437A	Phantom Ranch,	103.12	51	⇑	Pdif	Pdif	10 00 21.4	+0.4
	baz=103							
PAGF	Fort de Pagny	103.15	333		eP	Pdif	10 00 20.6	-0.1
	comp=Z,106nm,1.5s							
PAGF	Fort de Pagny	103.15	333		eP	Pdif	10 00 20.6	-0.1
	comp=Z,106nm,1.5s							
636A	Smothers Creek	103.15	52	⇑	Pdif	Pdif	10 00 21.9	+0.8
	baz=103							
835A	Beeville	103.18	54	⇓	Pdif	Pdif	10 00 21.3	+0.1
	baz=103							
238A	Jacksonville	103.23	49	⇑	Pdif	Pdif	10 00 22.2	+0.8
	baz=103							
HINF	Hinteralfeld	103.23	332		eP	Pdif	10 00 20.3	-0.8
	comp=Z,85nm,1.5s							
HINF	Hinteralfeld	103.23	332		eP	Pdif	10 00 20.3	-0.8
HINF					pmax	pmax		
	comp=Z,85nm,1.5s							
HINF	Hinteralfeld	103.23	332		eP	Pdif	10 00 20.3	-0.8
	comp=Z,85nm,1.5s							
THEF	They Montfort	103.29	333	⇑	eP	Pdif	10 00 21.3	-0.1
HAU	Haudompre	103.31	333		eP	Pdif	10 00 20.8	-0.7
	comp=Z,155nm,1.5s							
HAU	Haudompre	103.31	333		eP	Pdif	10 00 20.8	-0.7
HAU					pmax	pmax		
	comp=Z,155nm,1.5s							
HAU	Haudompre	103.31	333		eP	Pdif	10 00 20.8	-0.7
	comp=Z,155nm,1.5s							
537A	Green Hill Far	103.39	51	⇓	Pdif	Pdif	10 00 22.2	0.0
	baz=103							
338A	Crockett	103.44	50	⇑	Pdif	Pdif	10 00 22.8	+0.4
	baz=103							
MEZF	Maizieres J'vi	103.47	334		eP	Pdif	10 00 22.2	+0.1
	comp=Z,392nm,1.5s							
MEZF	Maizieres J'vi	103.47	334		eP	Pdif	10 00 22.2	+0.1
	comp=Z,392nm,1.5s							
DSB	Dublin	103.51	343		ePdif	Pdif	10 00 22.7	+0.5
MCH1	Michaelchurch	103.58	340		eP	Pdif	10 00 22.3	-0.2
MCH1					AMB	AMB	10 00 22.9	
	comp=Z,70nm,1.4s							
LOMF	Lomont	103.60	332	⇑	eP	Pdif	10 00 22.7	-0.1
438A	Sam Houston St	103.65	50	⇑	Pdif	Pdif	10 00 23.9	+0.7
	baz=104							
PBMO	Poplar Bluff	103.67	43		ePdif	Pdif	10 00 23.2	0.0
239A	Gary	103.68	49	⇑	Pdif	Pdif	10 00 23.9	+0.5
	baz=104							
SFTF	Sexfontaines	103.71	334		eP	Pdif	10 00 22.9	-0.3
	comp=Z,312nm,1.4s							
SFTF	Sexfontaines	103.71	334		eP	Pdif	10 00 22.9	-0.3
	comp=Z,312nm,1.4s							
TIP	Timpagrande	104.16	321		ePdif	Pdif	10 00 26.1	+0.6
CUC	Castrocucco	104.19	322		ePdif	Pdif	10 00 24.9	-0.6
340A	Bronson	104.43	49	⇓	Pdif	Pdif	10 00 26.9	+0.1
	baz=104							
CABF	La Chapelle	104.49	332		eP	Pdif	10 00 26.5	-0.3
	comp=Z,138nm,1.6s							
CABF	La Chapelle	104.49	332		eP	Pdif	10 00 26.5	-0.3
CABF					pmax	pmax		
	comp=Z,138nm,1.6s							
CABF	La Chapelle	104.49	332		eP	Pdif	10 00 26.5	-0.3
	comp=Z,138nm,1.6s							
LOR	Lormes	104.94	334		eP	Pdif	10 00 28.3	-0.4
	comp=Z,154nm,1.5s							
LOR	Lormes	104.94	334		eP	Pdif	10 00 28.3	-0.4
LOR					pmax	pmax		
	comp=Z,154nm,1.5s							
LOR	Lormes	104.94	334		eP	Pdif	10

KMBO pmax pmax
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 106.88 275 Pdiff **Pdif 10 00 39.0 +0.7**
comp=Z,1.4nm,0.7s,baz=60,slow=6.0,SNR=7.5
KMBO PKiKP **PKiKP 10 04 47.0 +1.3**
comp=Z,12nm,0.9s,baz=56,slow=3.9,SNR=19
KMBO PKKPbc **PKKPbc 10 16 05.8 +1.9**
comp=Z,0.9nm,0.3s,baz=219,slow=2.1,SNR=5.6
LONY Lake Ozonia 106.91 28 *e*PKPdf 10 04 43.6
MFF Saint Martin d 107.10 335 *e*P **Pdif 10 00 38.4 +0.1**
MFF Saint Martin d 107.10 335 *e*P **Pdif 10 00 38.4 +0.1**
MFF Saint Martin d 107.10 335 *e*P **Pdif 10 00 38.4 +0.1**
SWET Sewanee 107.50 42 *e*PKPdf 10 04 44.5
CAF Calviac 107.56 333 *e*P **Pdif 10 00 40.8 +0.3**
comp=Z,93nm,1.6s
CAF Calviac 107.56 333 *e*P **Pdif 10 00 40.8 +0.3**
CAF pmax pmax
comp=Z,93nm,1.6s
CAF Calviac 107.56 333 *e*P **Pdif 10 00 40.8 +0.3**
comp=Z,93nm,1.6s
MDV Middlebury 108.02 28 *e*PKPdf **PKiKP 10 04 46.1 -0.6**
LFF La Frestale 108.11 334 *e*P **Pdif 10 00 43.2 +0.4**
comp=Z,24nm,0.7s
LFF La Frestale 108.11 334 *e*P **Pdif 10 00 43.2 +0.4**
LFF pmax pmax
comp=Z,24nm,0.7s
LFF La Frestale 108.11 334 *e*P **Pdif 10 00 43.2 +0.4**
comp=Z,24nm,0.7s
BINY Binghamton 108.12 31 *e*PKPdf **PKiKP 10 04 46.5 -0.5**
LRAL Lakeview Retre 108.19 44 *e*PKPdf **PKiKP 10 04 46.8 -0.6**
CPCT Cooper Cave 108.22 41 *e*PKPdf **PKiKP 10 04 49.2 +1.9**
ACCN Adirondack Com 108.29 29 *e*PKPdf **PKiKP 10 04 45.6 -1.7**
SSPA Standing Stone 108.35 33 *e*PKPdf **PKiKP 10 04 46.5 -0.9**
LBNH Lisbon 108.37 27 *e*PKPdf **PKiKP 10 04 46.5 -0.9**
TKL Tuckaleechee C 108.54 40 *e*PKPdf **PKiKP 10 04 47.3 -0.7**
QSPA South Pole Qui 109.16 180 Pdiff **Pdif 10 00 48.2 +1.2**
comp=Z,6.6nm,0.8s,baz=293,slow=1.1,SNR=23
QSPA PKiKP **PKiKP 10 04 47.5 -0.6**
comp=Z,67nm,0.9s,baz=213,slow=0.6,SNR=42
QSPA PP **PP 10 05 26.9 +1.4**
comp=Z,34nm,1.0s,baz=16,slow=2.2,SNR=6.6
QSPA PKKPbc **PKKPbc 10 15 56.5 -2.4**
comp=Z,22nm,0.7s,baz=232,slow=1.0,SNR=21
QSPA PKKPab **PKKPab 10 16 08.5 -0.5**
comp=Z,14nm,1.1s,baz=251,slow=2.6,SNR=4.7
BRAL Brewton 109.41 46 *e*PKPdf **PKiKP 10 04 49.3 -0.4**
BLA Blacksburg 109.45 37 *e*PKPdf **PKiKP 10 04 49.0 -0.7**
VWCC Virginia Weste 109.68 37 *e*PKPdf **PKiKP 10 04 49.6 -0.5**
EPF Esparros 109.82 333 *e*P **Pdif 10 00 51.7 +1.1**
comp=Z,24nm,1.0s
EPF Esparros 109.82 333 *e*P **Pdif 10 00 51.7 +1.1**
EPF Esparros 109.82 333 *e*P **Pdif 10 00 51.7 +1.1**
HRV Adam Dziewonsk 109.93 28 *e*PKPdf **PKiKP 10 04 50.2 -0.1**
GOGA Godfrey 110.22 42 *e*PKiKP **PKiKP 10 04 50.3 -0.9**
GOGA Godfrey 110.22 42 *e*PKPdf **PKiKP 10 04 50.3 -0.9**
KMSC Kings Mountain 110.36 39 ||Pdiff **PKiKP 10 04 51.0 -0.4**
baz=110
KMSC Kings Mountain 110.36 39 *e*PKPdf **PKiKP 10 04 51.1 -0.4**
CBN Corbin Frederi 110.41 34 *e*PKPdf **PKiKP 10 04 50.5 -0.9**
JSRW J. Sargeant Re 110.52 35 *e*PKPdf **PKiKP 10 04 50.8 -0.8**
KEST Kesra 110.83 322 Pdiff **Pdif 10 00 56.5 +1.3**
comp=Z,4.2nm,0.9s,baz=332,slow=6.3,SNR=6.6
KEST PKiKP **PKiKP 10 04 52.9 +0.5**
comp=Z,16nm,1.1s,baz=318,slow=1.8,SNR=12
KEST PKKPbc **PKKPbc 10 15 52.6 +0.3**
comp=Z,4.8nm,0.8s,baz=357,slow=2.3,SNR=7.0
KEST PKKPab **PKKPab 10 16 04.9 -0.6**
comp=Z,9.1nm,1.0s,baz=254,slow=3.1,SNR=7.6
CMIG Matias Romero 111.11 62 PKiKP **PKiKP 10 04 53.6 +0.4**
CMIG PKKPab **PKKPab 10 16 04.1 +0.8**
comp=Z,7.8nm,1.2s,baz=66,slow=8.0,SNR=4.7
TIGA Tifton 111.43 43 *e*PKPdf **PKiKP 10 04 53.0 -0.5**
SYO Syowa Base 113.35 202‖ *e*P **PKiKP 10 04 54.8 -1.1**
PBRG Braganca 113.68 337 PKPdf **PKiKP 10 04 58.1 +0.5**
PBRG Braganca 113.68 337 *e*P **PKKPbc 10 15 43.0 -0.3**
PBRG *i* P **PKKPab 10 15 52.0 -1.1**
PGAV Gavieira, Arco 114.09 338 PKPdf PKPdf 10 04 58.5 0.0
PGAV Gavieira, Arco 114.09 338 *e*P **PKKPbc 10 15 41.0 -1.0**
PGAV *i* P **PKKPab 10 15 49.9 -1.4**
PCAB Cabril 114.23 338 PKPdf PKPdf 10 04 59.7 +1.1
PCAB Cabril 114.23 338 *e*P **PKKPbc 10 15 40.8 -0.6**
PCAB *i* P **PKKPab 10 15 49.3 -1.3**
MVO Moncorvo 114.34 337 PKPdf PKPdf 10 05 00.2 +1.3
MVO Moncorvo 114.34 337 *e*PP PP 10 06 03.2 +1.7
MVO Moncorvo 114.34 337 *e*P **PKKPbc 10 15 40.6 -0.5**
MVO *i* P **PKKPab 10 15 49.2 -0.9**
ESDC Sonseca Array 114.42 334 PKP PKPdf 10 04 59.4 +0.3
comp=Z,7.7nm,0.7s,baz=27,slow=2.7,SNR=26
ESDC PP **PP 10 05 59.3 -2.8**
comp=Z,21nm,1.0s,baz=31,slow=7.2,SNR=11
ESDC PKKPbc **PKKPbc 10 15 39.0 -1.7**
comp=Z,22nm,0.8s,baz=235,slow=2.2,SNR=42
ESDC PKKPab **PKKPab 10 15 49.0 -0.8**
comp=Z,60nm,0.8s,baz=215,slow=4.9,SNR=64
POLO Lamas de Olo 114.44 338 PKPdf PKPdf 10 04 59.4 +0.3
POLO Lamas de Olo 114.44 338 *e*P **PKKPbc 10 15 39.3 -1.5**
POLO *i* P **PKKPab 10 15 48.5 -1.3**
PVRL Vila Real 114.50 337 PKPdf PKPdf 10 04 59.5 +0.3
PVRL Vila Real 114.50 337 *e*P **PKKPbc 10 15 40.2 -0.3**
PVRL *i* P **PKKPab 10 15 48.1 -1.3**
PAB San Pablo 114.68 334 *e*PKIKP PKPdf 10 04 59.6 0.0
PAB San Pablo 114.68 334 *e*PKPdf PKPdf 10 04 59.6 0.0
TEIG Tepich 114.83 56 PKP PKPdf 10 05 00.0 -0.2
comp=Z,39nm,0.8s,baz=351,slow=6.7,SNR=6.9
TEIG PKKPbc **PKKPbc 10 15 37.6 -0.9**
comp=Z,7.1nm,0.6s,baz=28,slow=3.3,SNR=7.5
TEIG PKKPab **PKKPab 10 15 45.6 -1.4**
comp=Z,18nm,0.9s,baz=9.1,slow=1.4,SNR=6.1
PVIS Viseu 115.05 337 PKPdf **PKPdf 10 05 00.6 +0.3**
PVIS Viseu 115.05 337 *e*P **PKKPbc 10 15 37.9 -0.7**
PVIS *i* P **PKKPab 10 15 45.4 -1.6**
MTE Manteigas 115.20 337 PKPdf **PKPdf 10 05 00.8 +0.2**
MTE Manteigas 115.20 337 *e*P **PKKPbc 10 15 37.6 -0.6**
MTE *i* P **PKKPab 10 15 45.1 -1.2**
MTE Manteigas 115.20 337 *e*PKPdf **PKPdf 10 05 00.4 -0.2**
PCBR Castelo Branco 115.67 337 PKPdf **PKPdf 10 05 02.0 +0.6**
PCBR Castelo Branco 115.67 337 *e*P **PKKPbc 10 15 35.9 -0.6**
PCBR *i* P **PKKPab 10 15 43.2 -1.0**
APG El Apazote 115.83 62 PKhKP PKPpre 10 04 57.9
comp=Z,40nm,0.9s,baz=312,slow=3.3,SNR=10
PCAS Casmilo, Conde 115.86 337 PKPdf **PKPdf 10 05 01.9 +0.1**
PCAS Casmilo, Conde 115.86 337 *e*PP PP 10 06 13.1 +1.2
PMRV Marv??o 115.99 336 PKPdf **PKPdf 10 05 03.0 +0.9**
PMRV Marv??o 115.99 336 *e*P **PKKPbc 10 15 34.8 -0.6**
PMRV *i* P **PKKPab 10 15 41.7 -1.0**
PTOM Tomar 116.21 337 PKPdf **PKPdf 10 05 02.7 +0.2**
PESTR Estremoz 116.56 336 PKPdf **PKPdf 10 05 03.7 +0.5**
PESTR Estremoz 116.56 336 *e*PP PP 10 06 17.5 +0.7
PESTR Estremoz 116.56 336 *e*P **PKKPbc 10 15 33.4 0.0**
PESTR *i* P **PKKPab 10 15 39.6 -0.6**
PMTG Montargil 116.62 337 PKPdf **PKPdf 10 05 04.0 +0.7**
PMTG Montargil 116.62 337 *e*PP PP 10 06 17.9 +0.7
PMTG Montargil 116.62 337 *e*P **PKKPbc 10 15 32.3 -0.9**
PMTG *i* P **PKKPab 10 15 39.1 -0.8**
PBAR Barrancos 116.94 335 PKPdf **PKPdf 10 05 04.5 +0.6**
PBAR Barrancos 116.94 335 *e*PP PP 10 06 20.4 +0.9
PBAR Barrancos 116.94 335 *e*P **PKKPbc 10 15 31.5 -0.5**
PBAR *i* P **PKKPab 10 15 37.6 -0.9**
EVO Evora 117.01 336 *e*P **PKKPbc 10 15 31.4 -0.4**
EVO *i* P **PKKPab 10 15 37.5 -0.7**
PMAFR Mafra 117.11 337 PKPdf **PKPdf 10 05 04.7 +0.5**
PMAFR Mafra 117.11 337 *e*P **PKKPbc 10 15 31.4 -0.1**
PMAFR *i* P **PKKPab 10 15 37.2 -0.6**
PNCL Nicolau / Gran 117.57 336 PKPdf **PKPdf 10 05 05.2 +0.1**
PNCL Nicolau / Gran 117.57 336 *e*PP PP 10 06 24.8 +1.0
PNCL Nicolau / Gran 117.57 336 *e*P **PKKPbc 10 15 29.9 +0.1**
PNCL *i* P **PKKPab 10 15 35.2 -0.5**
MESJ Messejana 117.69 336 *e*P **PKPdf 10 05 05.6 +0.2**
MESJ *e*PP **PP 10 06 26.0 +1.4**
MESJ AMS AMS 10 59 47.3
comp=Z,641nm,18.1s
MESJ Messejana 117.69 336 PKPdf **PKPdf 10 05 05.5 +0.2**
MESJ Messejana 117.69 336 *e*PP PP 10 06 25.5 +0.9
MESJ Messejana 117.69 336 *e*P **PKKPbc 10 15 29.4 0.0**
MESJ *i* P **PKKPab 10 15 34.9 -0.3**
MESJ Messejana 117.69 336 *e*PKIKP **PKPdf 10 05 05.6 +0.2**
MESJ *e* 10 06 26.0
PVAQ Vaqueiros 117.88 335 PKPdf **PKPdf 10 05 06.7 +1.0**
PVAQ Vaqueiros 117.88 335 *e*PP PP 10 06 26.8 +0.9
PVAQ Vaqueiros 117.88 335 *e*P **PKKPbc 10 15 28.5 -0.2**
PVAQ *i* P **PKKPab 10 15 33.4 -0.9**
PBDV Barranco-do-Ve 118.10 335 PKPdf **PKPdf 10 05 07.8 +1.6**
PBDV Barranco-do-Ve 118.10 335 *e*PP PP 10 06 28.7 +1.2
PBDV Barranco-do-Ve 118.10 335 *e*P **PKKPbc 10 15 28.2 +0.2**
PTEO Sao Teotonio 118.14 336 PKPdf **PKPdf 10 05 07.4 +1.2**
PTEO Sao Teotonio 118.14 336 *e*PP PP 10 06 28.3 +0.6
PTEO Sao Teotonio 118.14 336 *e*P **PKKPbc 10 15 28.0 +0.2**
MOPA Mopani 118.32 253 P **PKPdf 10 05 07.0 +0.1**
MORF Marmelete 118.32 336 *e*P **PKPdf 10 05 07.1 +0.4**
MORF AMS AMS 11 00 15.3
comp=Z,516nm,16.0s
MORF Marmelete 118.32 336 PKPdf **PKPdf 10 05 07.4 +0.7**
MORF Marmelete 118.32 336 *e*PP PP 10 06 29.6 +0.6
MORF Marmelete 118.32 336 *e*P **PKKPbc 10 15 27.1 -0.1**
MORF *i* P **PKKPab 10 15 36.7 +4.2**
MORF Marmelete 118.32 336 *e*PKIKP **PKPdf 10 05 07.0 +0.4**
MSNA Messina 119.36 255 P **PKPdf 10 05 09.6 +0.6**
MDT Midelt 120.43 330 PKP **PKPdf 10 05 11.3 +0.4**
comp=Z,94nm,0.9s,baz=59,slow=2.0,SNR=64
MDT PKKPbc **PKKPbc 10 15 20.3 +0.7**
comp=Z,66nm,0.8s,baz=214,slow=4.5,SNR=37
KSD Kokstad 121.01 245 P **PKPdf 10 05 12.4 +0.4**
SLR Silverton 121.46 251 PKIKP **PKPdf 10 05 13.3 +0.3**
SLR Silverton 121.46 251 P **PKPdf 10 05 13.3 +0.3**
ERPM east rand prop 121.58 250 P **PKPdf 10 05 13.4 +0.1**
NVL N'lazarevskaya 121.59 197‖ *i*PKIKP **PKPdf 10 05 09.8 -1.9**
NVL pmax pmax
comp=Z,183nm,1.0s
KLOF Kloof 122.14 251 P **PKPdf 10 05 14.7 +0.3**
TAM Tamanrasset 122.22 315 *e*PKIKP **PKPdf 10 05 15.2 +0.5**
TAM Tamanrasset 122.22 315 *e*PKPdf **PKPdf 10 05 15.2 +0.5**
SEK Senekal 122.35 248 P **PKPdf 10 05 14.6 -0.2**
KSR Koster 122.72 251 P **PKPdf 10 05 15.9 +0.4**
JTS JuntasAbangare 122.85 63 *c i*PKIKP **PKPdf 10 05 15.5 -0.4**
JTS JuntasAbangare 122.85 63 PKP **PKPdf 10 05 15.7 -0.2**
comp=Z,69nm,0.8s,baz=223,slow=4.1,SNR=27
PAYG Puerto Ayora 123.01 78 *e*PKPdf **PKPdf 10 05 15.5 -0.7**
GRM Grahamstown 123.66 242 PKIKP **PKPdf 10 05 17.6 +0.6**
GRM Grahamstown 123.66 242 P **PKPdf 10 05 17.6 +0.6**
LBTB Lobatse 123.78 252 *e*PKIKP **PKPdf 10 05 17.4 -0.1**
LBTB Lobatse 123.78 252 PKP **PKPdf 10 05 17.8 +0.4**
comp=Z,258nm,0.8s,baz=138,slow=2.3,SNR=215
LBTB PKKPab **PKKPbc 10 15 07.9 +1.8**
comp=Z,7.3nm,0.9s,baz=234,slow=7.5,SNR=5.1
LBTB Lobatse 123.78 252 *e*PKPdf **PKPdf 10 05 17.4 -0.1**
LBTB PKP **PKPdf 10 05 17.8 +0.4**
LBTB PKKPab **PKKPbc 10 15 07.9 +1.8**
MTDJ Mount Denham 124.15 51 *e*PKPdf **PKPdf 10 05 17.3 -1.1**
SWZ Schweizer 124.26 250 P **PKPdf 10 05 18.7 +0.3**
SNAA Sanae 124.38 192 P **PKPdf 10 05 17.5 +0.3**
SNAA Sanae 124.38 192 *e*PKIKP **PKPdf 10 05 17.0 -0.2**
SNAA Sanae 124.38 192 PKP **PKPdf 10 05 17.3 +0.1**
comp=Z,101nm,0.8s,baz=159,slow=2.2,SNR=201
SNAA PKKPbc **PKKPbc 10 15 03.5 -1.4**
comp=Z,4.7nm,1.1s,baz=275,slow=2.1,SNR=6.0
SNAA Sanae 124.38 192 *e*PKPdf **PKPdf 10 05 17.0 -0.2**
SNAA PKP **PKPdf 10 05 17.3 +0.1**
SNAA PKKPbc **PKKPbc 10 15 03.5 -1.4**
BOSA Boshof 124.45 248 *e*PKIKP **PKPdf 10 05 18.6 -0.1**
BOSA Boshof 124.45 248 PKP **PKPdf 10 05 18.9 +0.2**
comp=Z,80nm,0.9s,baz=90,slow=1.6,SNR=73
BOSA PKKPbc **PKKPbc 10 15 04.1 +0.5**
comp=Z,10nm,1.0s,baz=231,slow=5.7,SNR=6.1
BOSA Boshof 124.45 248 *e*PKPdf **PKPdf 10 05 18.6 -0.1**
BOSA PKP **PKPdf 10 05 18.9 +0.2**
BOSA PKKPbc **PKKPbc 10 15 04.1 +0.5**
GTBY Guantanamo Bay 124.77 47 *e*PKPdf **PKPdf 10 05 18.6 -0.7**
STH Stony Hill 124.78 50 *i* P **PKPdf 10 05 19.7 +0.2**
GWJ Greenwich 124.84 50 *i* P **PKPdf 10 05 19.6 -0.2**
PMPS Porto Santo 124.84 341 PKPdf **PKPdf 10 05 19.7 +0.5**
HOJ Hope 124.87 50 *i* P **PKPdf 10 05 19.6 0.0**
PMOZ Porto Moniz, M 125.33 341 PKPdf **PKPdf 10 05 21.2 +0.9**
VNA2 Neumayer--Watz 125.84 191 P **PKPdf 10 05 20.6 +0.7**
VNA3 Neumayer Olymp 125.96 190 P **PKPdf 10 05 20.6 +0.5**
VNA1 Neumayer--Stat 126.23 191 P **PKPdf 10 05 21.4 +0.8**
GRTK Grand Turk 126.31 43 *e*PKPdf **PKPdf 10 05 22.0 -0.3**
BCIP Isla Barro Col 127.71 61 *e*PKPdf **PKPdf 10 05 24.5 -0.7**
UPI Upington 127.95 249 P **PKPdf 10 05 25.9 +0.6**
SDDR Presa de Saban 128.02 45 *e*PKPdf **PKPdf 10 05 25.4 -0.3**
RUDU RUNDU 128.09 262 P **PKPdf 10 05 26.8 +0.9**
SUR Sutherland 128.44 244 PKP **PKPdf 10 05 28.0 +1.7**
comp=Z,38nm,1.0s,baz=177,slow=2.9,SNR=12
SUR Sutherland 128.44 244 *e*PKPdf **PKPdf 10 05 26.3 0.0**
SUR PKP **PKPdf 10 05 28.0 +1.7**
MSKU Masuku 129.09 284 PKP **PKPdf 10 05 28.5 +0.6**
comp=Z,130nm,1.1s,baz=3.4,slow=5.8,SNR=3.6
SMN1 Samana, DR 129.19 43 *e*PKPdf **PKPdf 10 05 27.3 -0.6**
ELIM Elim 129.28 241 P **PKPdf 10 05 28.2 +0.6**
PCDR Punta Cana, DR 130.26 43 *e*PKPdf **PKPdf 10 05 29.8 -0.1**
TSUM Tsumeb 130.31 261 PKhKP PKPpre 10 05 14.7
comp=Z,5.3nm,0.8s,baz=229,slow=1.2,SNR=6.2
TSUM PKP **PKiKP 10 05 30.9 -0.1**
comp=Z,34nm,0.8s,baz=67,slow=2.6,SNR=27
TSUM SKPbc **SKPbc 10 08 10.8 -0.3**
comp=Z,136nm,0.9s,baz=77,slow=3.2,SNR=40
PMSA Palmer Station 130.70 164 PKP **PKPdf 10 05 30.2 +1.0**
comp=Z,39nm,0.7s,baz=70,slow=0.7,SNR=5.9
PMSA SKPbc **SKPab 10 08 11.5 +0.1**
comp=Z,123nm,1.0s,baz=180,slow=6.7,SNR=8.0
WIN Windhoek 131.22 257 PKIKP **PKPdf 10 05 32.4 +0.5**
WIN Windhoek 131.22 257 P **PKPdf 10 05 32.4 +0.5**
KOMG Komaggas 131.29 247 P **PKPdf 10 05 31.6 0.0**
LSP Las Mesas 131.33 42 *e*PKPdf **PKPdf 10 05 30.8 -1.2**
TORD Torodi Ar. Bea 131.36 309 PKhKP PKPpre 10 05 13.3
comp=Z,2.9nm,0.7s,baz=45,slow=1.8,SNR=15
TORD PKP **PKPdf 10 05 31.5 -0.6**
comp=Z,40nm,0.5s,baz=133,slow=0.6,SNR=102
TORD SKPbc **SKPbc 10 08 15.1 +0.1**
comp=Z,58nm,0.8s,baz=27,slow=1.1,SNR=9.6
TORD PKKP **PKKPdf 10 15 29.0 +0.1**
comp=Z,4.8nm,0.9s,baz=237,slow=0.5,SNR=4.8
TORD SKKPbc **SKKPbc 10 17 46.0 +1.2**
comp=Z,8.0nm,0.8s,baz=230,slow=1.9,SNR=4.3
LRS Lares 131.40 42 *e*PKPdf **PKPdf 10 05 31.8 -0.3**
CRPR Cabo Rojo, PR 131.44 42 *e*PKPdf **PKPdf 10 05 32.1 0.0**
CELP Cerrillos 131.73 42 *e*PKPdf **PKPdf 10 05 33.0 +0.3**
OBIP Obispado Ponce 131.73 42 *e*PKPdf **PKPdf 10 05 32.5 -0.2**
ICMP Isla Caja de M 131.90 42 *e*PKPdf **PKPdf 10 05 32.3 -0.7**
CDVI St. Croix 133.09 40 *e*PKPdf **PKPdf 10 05 34.9 -0.3**
OTAV Otavalo 133.38 70 *e*PKPdf PKPdf 10 05 29.1 -7.4
ROSC El Rosal 134.63 62 PKhKP PKPpre 10 05 28.8
comp=Z,6.7nm,0.5s,baz=93,slow=3.8,SNR=4.2
ROSC PKP **PKPdf 10 05 39.5 +0.7**
comp=Z,41nm,0.6s,baz=28,slow=3.6,SNR=16
ROSC SKPab **SKPbc 10 08 27.3 +0.8**
comp=Z,52nm,0.9s,baz=91,slow=4.9,SNR=7.3
SDV Santo Domingo 135.24 54 *e*PKPdf **PKPdf 10 05 39.9 +0.3**
SSG Sans Toucher 136.22 38 *e*P **PP 10 08 31.1 +4.8**
FNG Fond-Bernard 136.24 38 *e*P **PP 10 08 31.0 +4.6**
CRG Carmichael 136.26 38 *e*P **PP 10 08 31.1 +4.5**
TAG Tarade 136.27 38 *e*P **PKPdf 10 05 41.7 +0.3**
TAG Tarade 136.27 38 *e*P **PP 10 08 31.6 +4.9**
ECG Echelle 136.27 38 *e*P **PP 10 08 31.4 +4.7**
HMG Houelmont 136.29 38 *e*P **PP 10 08 31.2 +4.5**
PHG Guadaloupe-2 136.30 38 *e*P **PP 10 08 31.6 +4.8**
ATAH Atahualpa 136.40 80 PKhKP PKPpre 10 05 33.7
comp=Z,30nm,0.9s,baz=343,slow=5.6,SNR=9.1
ATAH PKP **PKPdf 10 05 42.4 +0.3**
comp=Z,144nm,1.0s,baz=304,slow=3.8,SNR=35
ATAH SKPbc **SKPbc 10 08 31.2 -0.7**
comp=Z,128nm,1.0s,baz=172,slow=18,SNR=3.9
TBG Guadaloupe-3 136.43 38 *e*P **SKPbc 10 08 30.8 -0.5**
USHA Ushuaia 136.53 153 PKhKP PKPpre 10 05 30.5
comp=Z,14nm,0.8s,baz=190,slow=4.1,SNR=6.3
USHA PKP **PKiKP 10 05 42.0 -0.3**
comp=Z,187nm,0.8s,baz=166,slow=2.7,SNR=44
USHA SKP 10 08 32.4
comp=Z,79nm,1.0s,baz=266,slow=4.7,SNR=9.2
BBL Barber's Block 136.79 38 *e*P **PKPdf 10 05 38.2 -4.0**
BBL Barber's Block 136.79 38 *e*P **PP 10 08 32.5 +2.8**
DLPL La Plaine 137.07 38 *e*P **SKPbc 10 08 32.7 -0.6**
SVN Savane Anatole 137.51 39 *e*P PKPdf 10 05 37.6 -6.0
FDF Fort de France 137.60 39 *e*P PKPdf 10 05 34.3 -10
FDF Fort de France 137.60 39 *e*P PKPdf 10 05 35.0 -8.7
FDF Fort de France 137.60 39 *e*P **SKPbc 10 08 33.4 -1.5**
FDF Fort de France 137.60 39 *e*P **SKPbc 10 08 36.0 +1.1**
BVM Bellevue 137.65 39 *e*P **PKPdf 10 05 38.9 -5.0**
ZAM Aeronautique 137.80 39 *e*P PKPdf 10 05 34.8 -9.3
TRMF Trois Ilets 137.81 39 *e*P PKPdf 10 05 36.3 -7.8
BIM Bigot 137.82 39 *e*P PKPdf 10 05 38.7 -5.5
BIM Bigot 137.82 39 *e*P **SKPbc 10 08 36.1 +0.7**
MVM Montagne Vaucl 137.89 39 *e*P PKPdf 10 05 37.4 -6.9
MVM Montagne Vaucl 137.89 39 *e*P **SKPbc 10 08 35.5 -0.2**
CHRN Cochrane 138.76 141‖ *i*P PKPdf 10 05 36.4 -8.5
NNA Nana 139.36 86 *i* PKIKP PKPpre 10 05 43.4
NNA pmax pmax
comp=Z,65nm,1.0s
NNA pmax pmax
comp=N,49nm,1.0s
NNA Nana 139.36 86 PKhKP PKPpre 10 05 43.4
comp=N,65nm,1.0s,baz=312,slow=5.0,SNR=12
NNA SKP 10 08 40.6
comp=N,49nm,1.0s,baz=282,slow=4.9,SNR=12
NNA Nana 139.36 86 PKPpre PKPpre 10 05 43.4
NNA *e*PKPdf **PKPdf 10 05 43.6 -3.4**
NNA SKP 10 08 40.6
COYC Coyhaique 139.93 139 *i* P PKPdf 10 05 41.1 -6.0
DBIC Dimbokro 140.45 308 *i* PKHKP PKPpre 10 05 41.1
DBIC 10 08 53.8
DBIC pmax pmax
comp=Z,83nm,0.6s
DBIC pmax pmax
comp=N,54nm,0.8s
DBIC pmax pmax
comp=N,53nm,0.9s
DBIC pmax pmax
comp=Z,5.0nm,0.7s
DBIC Dimbokro 140.45 308 PKhKP PKPpre 10 05 41.1
comp=Z,83nm,0.6s,baz=33,slow=3.8,SNR=91
DBIC SKPbc **SKPbc 10 08 42.4 -0.3**
comp=Z,54nm,0.8s,baz=352,slow=4.2,SNR=7.0
DBIC SKPab **SKPab 10 08 53.8 -2.1**
comp=Z,53nm,0.9s,baz=28,slow=7.4,SNR=8.8
DBIC PKKP **PKKPdf 10 15 11.8 +0.4**
comp=Z,5.1nm,0.7s,baz=235,slow=2.1,SNR=5.2
KIC Kosan Boka 140.57 307 *e*PKP1 PKPdf 10 05 41.7 -7.5
comp=Z,455nm,1.0s
TRN Trinidad (W) 140.59 43 *e* **PKPdf 10 05 47.6 -1.6**
TIC Toumodi 140.59 308 *e*PKP1 PKPdf 10 05 42.1 -7.1
comp=Z,124nm,0.3s
TPP Pointe-a-Pierr 140.80 43 *e* PKPdf 10 05 41.6 -8.0
LIC Lamto 140.87 308 *e*PKIKP PKPdf 10 05 42.7 -7.0
comp=Z,269nm,0.7s
LIC Lamto 140.87 308 *e*PKP1 PKPdf 10 05 42.7 -7.0
comp=Z,703nm,1.0s
LIC Lamto 140.87 308 *e*PKPdf PKPdf 10 05 42.7 -7.0
TBH Brigand Hill 140.93 43 *e* **PKPdf 10 05 45.3 -4.5**
BBTS Babate 141.51 330 PKhKP PKPpre 10 05 47.6
comp=Z,270nm,0.9s,baz=27,slow=2.0,SNR=18
BBTS PP **PP 10 09 01.4 +3.2**
comp=Z,117nm,0.9s,baz=230,slow=1.1,SNR=4.3
PLCA Paso Flores 143.09 133 PKIKP PKPbc 10 05 51.0 +0.3
PLCA pmax pmax
comp=Z,666nm,1.0s
PLCA pmax pmax
comp=N,49nm,0.7s
PLCA Paso Flores 143.09 133 PKP PKPbc 10 05 51.0 +0.2
comp=N,666nm,1.0s,baz=233,slow=4.2,SNR=199
PLCA SKPbc **SKiKP 10 08 50.2 +0.6**
comp=N,49nm,0.7s,baz=245,slow=3.0,SNR=8.9
EFI East Falkland 143.09 156 *e*PKIKP PKPbc 10 05 50.4 +0.2
EFI East Falkland 143.09 156 *e*PKPdf PKPbc 10 05 50.4 +0.2
SACV Santiago Islan 144.02 341 *e*PKPdf PKPbc 10 05 54.7 +0.4
LNV Longovilo 144.75 122‖ *i*P PKPbc 10 05 56.4 +0.3
HOPE Hope Point 145.12 179 *e*PKPdf **PKPbc 10 05 56.4 -0.1**
CACH El Canelo 145.36 122‖ *i*P **PKPab 10 05 58.8 -0.3**
CHCH Chadas Angostu 145.37 122‖ *i*P **PKPbc 10 05 58.1 +0.1**
SAN Santiago 145.49 121‖ *i*P **PKPbc 10 05 59.0 +0.6**
PEL Peldehue 145.55 121‖ *i*P **PKPbc 10 05 58.8 +0.2**
CLCH Cerro Calan 145.60 121‖ *i*P **PKPdf 10 05 57.7 +0.2**
CMCH Combarbala 145.73 117 *i* P **PKPdf 10 05 58.5 +0.7**
CFAA Coronel Fontan 147.94 119 PKP **PKPdf 10 06 01.9 +0.4**
comp=N,105nm,1.0s,baz=252,slow=1.4,SNR=49
CFAA PKPbc **PKPbc 10 06 04.8 -0.3**
comp=N,105nm,1.0s,baz=261,slow=2.8,SNR=125
LVC Limon Verde 148.43 102 *e*PKPdf **PKPdf 10 06 04.7 +1.9**
LPAZ La Paz 148.57 90 PKP **PKPdf 10 06 04.6 +1.0**
comp=N,206nm,0.8s,baz=340,slow=1.9,SNR=301
LPAZ PKPbc **PKiKP 10 06 08.7 -0.3**
comp=N,691nm,1.0s,baz=332,slow=3.4,SNR=91
TRQA Tornquist 150.21 134 *e*PKPdf **PKPdf 10 06 05.1 +0.3**
TRQA *e*PKPbc **PKPbc 10 06 10.4 0.0**
TRQA *e*PKPab **PKPab 10 06 19.5 +1.1**
SAML Samuel 151.04 73 *e*PKPdf **PKPdf 10 06 06.6 -0.1**
SAML *e*PKPbc **PKPbc 10 06 12.9 -0.1**
SAML *e*PKPab **PKPab 10 06 21.5 -1.1**
SHEL Horse Pasture 151.71 272 *e*PKIKP **PKPdf 10 06 07.2 -0.5**
SHEL Horse Pasture 151.71 272 *e*PKPdf **PKPdf 10 06 07.2 -0.5**
SHEL *e*PKPbc **PKiKP 10 06 14.8 0.0**
SHEL *e*PKPab **PKPab 10 06 27.3 +1.9**
TRIS Tristan da Cun 153.29 224 *e*PKPdf **PKPdf 10 06 10.1 +0.7**
TRIS *e*PKPbc **PKiKP 10 06 17.7 +0.4**
SIV San Ignacio 155.17 86 PKP **PKPdf 10 06 13.2 +0.6**
comp=N,103nm,0.9s,baz=254,slow=1.7,SNR=110
SIV PKPab **PKPab 10 06 40.6 +0.5**
comp=N,29nm,0.8s,baz=277,slow=4.7,SNR=6.9
H10S1 ASCENSION HYDR 157.54 295 PKP **PKPdf 10 06 16.0 +0.6**
baz=314,slow=3.0,SNR=16
H10S2 ASCENSION HYDR 157.54 295 PKP **PKPdf 10 06 16.5 +1.1**
baz=314,slow=3.0,SNR=8.1
H10S3 ASCENSION HYDR 157.56 295 PKP **PKPdf 10 06 17.1 +1.6**
baz=314,slow=3.0,SNR=11
CPUP Villa Florida 158.51 113 *e*PKIKP **PKPdf 10 06 16.1 -0.4**
CPUP 10 06 55.4
CPUP Villa Florida 158.51 113 PKP **PKPdf 10 06 17.0 +0.5**
comp=N,50nm,0.9s,baz=284,slow=1.2,SNR=42
CPUP PKPab **PKPab 10 06 55.4 +1.2**
comp=N,169nm,1.0s,baz=243,slow=5.5,SNR=21
CPUP Villa Florida 158.51 113 *e*PKPdf **PKPdf 10 06 16.1 -0.4**
CPUP PKP **PKPdf 10 06 17.0 +0.5**
CPUP PKPab **PKPab 10 06 55.4 +1.2**
RCBR Riachuelo 166.54 3 PKP **PKPdf 10 06 24.9 +0.1**
comp=N,117nm,0.9s,baz=49,slow=1.4,SNR=46
RCBR PP **PP 10 11 16.1 -0.6**
comp=N,31nm,1.2s,baz=357,slow=3.7,SNR=5.1
BDFB Brasilia 167.27 75 PKIKP **PKPdf 10 06 26.2 +0.9**
BDFB pmax pmax
comp=Z,122nm,0.9s
BDFB Brasilia 167.27 75 PKP **PKPdf 10 06 26.2 +0.9**
comp=Z,122nm,0.9s,baz=250,slow=0.7,SNR=119

DDA ***08*** *09:52:14.5,38.75N×40.03E,h2km,MD3.4*
ISK ***08*** *09:52:15.7,38.70N×40.20E,h9km,ML3.3*
CSEM ***08*** *09:52:17.1±0.2,38.67N×40.20E,h15km,ML3.3,Error ellipse: s-maj=5.2km s-min=5.1km az=138.0*
ISC 08 09:52:15.9±1.1,38.74N±0.02×40.14E±0.02,h9km±10km, n60,σ1.27/75,Turkey

| Code | Station Name | Δ° | AZ° |

EKAR	Karacoban	1.58	70	*i* P		Pg	09 52 46.1 -0.2
EKAR	Karacoban	1.58	70	*i* P		Pg	09 52 46.1 -0.2
EKAR				*i* S		Sg	09 53 10.9 +4.0
BAYT	Ayd¨–ntepe-Bay	1.66	360	*e*PN		Pn	09 52 46.1 +0.7
BAYT	Ayd¨–ntepe-Bay	1.66	360	*e*Pn		Pn	09 52 46.1 +0.7
URFA	Urfa	1.66	219	*e*PN		Pn	09 52 45.7 +0.4
URFA				*e*SN		Sb	09 53 07.8 0.0
URFA	Urfa	1.66	219	*e*Pn		Pn	09 52 45.7 +0.4
URFA				*e*Sn		Sb	09 53 07.8 0.0
GUMT	Gumushane	1.80	344	*e*PN		Pn	09 52 48.0 +0.8
GUMT	Gumushane	1.80	344	*e*Pn		Pn	09 52 48.1 +0.8
HOMI	Horasan	1.89	46	*i* P		Pb	09 52 51.3 +0.5
DARE	Darende-Malaty	2.09	266	*e*PN		Pn	09 52 52.2 +1.0
DARE	Darende-Malaty	2.09	266	*e*Pn		Pn	09 52 52.3 +1.0
SUSE	Susehri	2.10	315	*i* P		Pn	09 52 52.4 +0.9
SUSE				*i* S		Sn	09 53 20.4 +2.5
SUSE	Susehri	2.10	315	*i* P		Pn	09 52 52.4 +0.9
SUSE				*i* S		Sn	09 53 20.4 +2.5
EATA	Eleskirt	2.14	58	*i* P		Pg	09 52 56.4 -0.6
EATA	Eleskirt	2.14	58	*i* P		Pg	09 52 56.4 -0.6
SIRT	Sirnak	2.19	124	*e*PN		Pn	09 52 52.7 0.0
SIRT	Sirnak	2.19	124	*e*Pn		Pn	09 52 52.7 0.0
AGRB	Hanur-Agry	2.37	68	*e*PN		Pn	09 52 55.4 +0.2
AGRB	Hanur-Agry	2.37	68	*e*Pn		Pn	09 52 55.4 +0.2
ESPY	Espiye-Giresun	2.44	334	*e*PN		Pn	09 52 57.7 +1.8
ESPY	Espiye-Giresun	2.44	334	*e*Pn		Pn	09 52 57.7 +1.8
GZT	Gaziantep	2.46	237	*i* P		Pg	09 53 02.1 -1.0
GRSN	GIRESUNGRSN	2.62	327	*i* P		Pb	09 53 01.8 -1.3
GRSN				*i* S		Sb	09 53 34.3 -1.1
GRSN	GIRESUNGRSN	2.62	327	*i* P		Pb	09 53 01.8 -1.3
GRSN				*i* S		Sb	09 53 34.3 -1.1
SVSK	Karacayir	2.71	297	*e*PN		Pn	09 53 01.8 +2.2
SVSK	Karacayir	2.71	297	*e*Pn		Pn	09 53 01.8 +2.2
RSDY	Resadiye-TOKAT	2.74	308	*e*PN		Pn	09 53 02.1 +2.0
RSDY	Resadiye-TOKAT	2.74	308	*e*Pn		Pn	09 53 02.1 +2.0
KMRS	Kahramanmaras	2.84	245	*e*PN		Pn	09 53 03.2 +1.7
KMRS	Kahramanmaras	2.84	245	*e*Pn		Pn	09 53 03.2 +1.7
CUKT	Cukurca	3.11	117	*e*PN		Pn	09 53 05.5 +0.1
CUKT	Cukurca	3.11	117	*e*Pn		Pn	09 53 05.5 +0.1

GUC 08 09:53:22.3±0.5, 35°32S×72°56W, h34km±4km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.83	193	*e*P	Pn	09 53 37.1	-0.5
COCH				*i* S	Sn	09 53 48.1	-0.6
LNCH	Linares	0.94	124	*e*P	Pn	09 53 38.7	-0.4
LNCH				*e*S	Sn	09 53 51.1	-0.3
NICH	Los Niches	1.13	74	*e*P	Pn	09 53 41.5	-0.3
NICH				*i* S	Sn	09 53 56.5	+0.3
CACH	El Canelo	2.01	54	*e*P9	Pn	09 53 54.5	+0.5
CACH				*i* S	Sn	09 54 19.5	+1.4
CHCH	Chadas Angostu	2.09	49	*e*P	Pn	09 53 55.8	+0.7
CHCH				*i* S	Sn	09 54 21.7	+1.7
ANTU	Antumapu	2.36	43	IAML		09 54 35.3	
	comp=E,614nm,0.5s						
CLCH	Cerro Calan	2.54	42	*i* P	Pn	09 54 02.1	+0.8
CLCH				*i* S	Sn	09 54 32.4	+1.2
CLCH				IAML		09 54 43.0	
	comp=N,478nm,0.6s						
PEL	Peldehue	2.67	36	IAML		09 54 49.1	
	comp=E,486nm,0.5s						

*CSEM **08** 09:57:05.8, 38°70N×40°15E, h8km, ML3.0*
ISK 08 09:57:05.8, 38°70N×40°15E, h8km, ML3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.32	56	*e*Pg	Pn	09 57 16.2	-0.8
BNGB	Bing¶ll	0.51	54	*e*PG	Pg	09 57 16.2	+0.3
DYBB	Diyarbakir	0.74	181	*e*PG	Pg	09 57 20.4	+0.2
DIY	Diyarbakir	0.80	176	*e*Pg	Pg	09 57 20.4	-1.0
VRTB	Varto-Mus	1.12	65	*e*PN	Pb	09 57 27.8	+0.1
VRTB	Varto-Mus	1.12	65	*e*Pn	Pb	09 57 27.8	+0.1
BTMT	Batman	1.17	115	*e*PN	Pn	09 57 29.0	+0.4
BTMT	Batman	1.17	115	*e*Pn	Pn	09 57 29.0	+0.5
MAZI	Mazidag	1.26	169	*e*PN	Pg	09 57 30.1	0.0
MAZI				*e*SN	Sn	09 57 47.9	+0.9
MAZI	Mazidag	1.26	169	*e*Pn	Pg	09 57 30.2	+0.1
MAZI				*e*Sn	Sn	09 57 47.9	+0.8
MALT	Malatya	1.40	255	*e*PN	Pn	09 57 32.0	+0.2
MALT	Malatya	1.40	255	*e*Pn	Pn	09 57 32.1	+0.3
ILIC	ilic-Erzincan	1.44	302	*e*PN	Pb	09 57 33.2	+0.1
ILIC	ilic-Erzincan	1.44	302	*e*Pn	Pb	09 57 33.3	+0.2
EZM	Erzurum	1.53	38	*e*PN	Pn	09 57 34.0	+0.2
URFA	Urfa	1.63	220	*e*PN	Pn	09 57 35.6	+0.6
URFA	Urfa	1.63	220	*e*Pn	Pn	09 57 35.6	+0.6
BAYT	Ayd¨–ntepe-Bay	1.69	360	*e*PN	Pn	09 57 36.4	+0.4
BAYT	Ayd¨–ntepe-Bay	1.69	360	*e*Pn	Pn	09 57 36.4	+0.4
AGRB	Hanur-Agry	2.38	67	*e*PN	Pn	09 57 46.1	+0.7
AGRB	Hanur-Agry	2.38	67	*e*Pn	Pn	09 57 46.1	+0.7

LJU 08 10:02:22.2, 46°66N×15°34E, h0km, ML0.8, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	Pernice	0.15	262	⇑*i*Pg	Pg	10 02 25.2	0.0
PERS				*i* Sg	Sg	10 02 27.3	0.0
	comp=Z,11nm,0.1s						
GROS	Grobnik	0.23	150	⇑*i*Pg	Pg	10 02 26.9	+0.2
GROS				*i* Sg	Sg	10 02 29.6	-0.1
	comp=Z,10.0nm,0.1s						

*DDA **08** 10:07:46.7, 38°76N×40°01E, h7km, MD2.9*
*ISK **08** 10:07:46.4, 38°75N×40°12E, h5km, MD3.0*
*CSEM **08** 10:07:47.5±0.4, 38°74N×40°06E, h5km, MD3.0*
ISC 08 10:07:46.8±1.3, 38°75N±0°02×40°07E±0°02, h0km±12km, n31, σ0°94/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.35	68	*e*Pg	Pb	10 07 57.1	+1.1
BNGB	Bing¶ll	0.54	63	*e*PG	Pg	10 07 57.1	0.0
DYBB	Diyarbakir	0.79	176	*e*PG	Pb	10 08 02.9	-0.6
BNGL	BINGOL	0.87	76	*i* P	Pg	10 08 03.9	+0.5
BNGL				*i* S	Sb	10 08 17.7	+0.5
ERZN	Erzincan	0.88	342	*e*PG	Pb	10 08 04.5	-0.5
SVAN	Silvan-Diyarba	1.07	123	*e*PG	Pg	10 08 07.5	+0.3
VRTB	Varto-Mus	1.16	69	*e*PN	Pg	10 08 08.9	-0.1
VRTB				*e*SN	Sb	10 08 25.5	0.0
VRTB	Varto-Mus	1.16	69	*e*Pn	Pg	10 08 08.9	-0.1
VRTB				*e*Sn	Sb	10 08 25.5	0.0
BTMT	Batman	1.25	116	*e*PN	Pg	10 08 10.8	+0.2
BTMT	Batman	1.25	116	*e*Pn	Pg	10 08 10.8	+0.2
BEST	Besiri	1.27	132	*i* P	Pb	10 08 11.8	+0.1
BEST				*i* S	Sn	10 08 30.7	+0.9
KOPT	Kop Dagi	1.31	15	*i* P	Pn	10 08 11.2	-1.5
KOPT				*i* S	Sn	10 08 33.4	+2.4
KOPT	Kop Dagi	1.31	15	*i* P	Pn	10 08 11.2	-1.5
KOPT				*i* S	Sn	10 08 33.4	+2.4
MAZI	Mazidag	1.32	167	*e*PN	Pg	10 08 12.6	+0.6
MAZI	Mazidag	1.32	167	*e*Pn	Pg	10 08 12.6	+0.6
KEMA	Kemaliye	1.33	294	*i* P	Pn	10 08 10.9	-1.8
KEMA				*i* S	Sb	10 08 29.7	-0.7
KEMA	Kemaliye	1.33	294	*i* P	Pn	10 08 10.9	-1.8
KEMA				*i* S	Sb	10 08 29.7	-0.7
MALT	Malatya	1.36	252	*e*PN	Pg	10 08 14.0	+1.3
MALT	Malatya	1.36	252	*e*Pn	Pg	10 08 14.0	+1.3
ILIC	ilic-Erzincan	1.36	302	*e*PN	Pg	10 08 13.9	+1.0
ILIC	ilic-Erzincan	1.36	302	*e*Pn	Pg	10 08 13.9	+1.0
EZM	Erzurum	1.53	41	*e*PN	Pb	10 08 15.9	-0.3
MARD	Mardin	1.54	158	*i* P	Pb	10 08 15.6	-0.6
MARD				*i* S	Sg	10 08 36.7	+0.6
KELT	Kelkit	1.54	336	*i* P	Pb	10 08 16.1	-0.2
KELT				*i* S	Sg	10 08 36.2	0.0
KELT	Kelkit	1.54	336	*i* P	Pb	10 08 16.1	-0.2
KELT				*i* S	Sg	10 08 36.2	0.0
URFA	Urfa	1.63	217	*e*PN	Pb	10 08 17.5	-0.3
URFA	Urfa	1.63	217	*e*Pn	Pb	10 08 17.5	-0.3
BAYT	Ayd¨–ntepe-Bay	1.65	2	*e*PN	Pb	10 08 17.5	-0.6
BAYT	Ayd¨–ntepe-Bay	1.65	2	*e*Pn	Pb	10 08 17.5	-0.6
GUMT	Gumushane	1.77	345	*e*PN	Pb	10 08 19.9	-0.3
GUMT	Gumushane	1.77	345	*e*Pn	Pb	10 08 19.9	-0.3

GUC 08 10:09:12.1±0.3, 34°76S×71°83W, h42km±1km, ML4.0, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.54	116	⇓*i*P	Pn	10 09 23.2	-0.4
NICH				*i* S	Sn	10 09 31.5	-0.1
LNV	Longovilo	0.88	23	*i* P	Pn	10 09 27.9	-0.1
LNV				*i* S	Sn	10 09 39.7	+0.1
LNCH	Linares	1.10	170	⇓*i*P	Pn	10 09 30.9	-0.1
LNCH				*e*S	Sn	10 09 45.6	+0.6
CACH	El Canelo	1.20	58	⇓*i*P	Pn	10 09 33.1	+0.5
CACH				*i* S	Sn	10 09 49.2	+1.3
CHCH	Chadas Angostu	1.28	50	*e*P	Pn	10 09 33.9	+0.3
CHCH				*i* S	Sn	10 09 50.3	+0.8
ANTU	Antumapu	1.55	40	IAML		10 10 00.2	
	comp=E,3μm,0.4s						
COCH	Cobquecura	1.57	210	*e*P9	Pn	10 09 37.0	-0.5
COCH				*i* S	Sn	10 09 56.6	-0.1
STL	Santa Lucia	1.65	37	⇑*i*P	Pn	10 09 39.0	+0.3
STL				*i* S	Sn	10 09 59.4	+0.7
LACH	Col Las Americ	1.69	40	*i* P	Pn	10 09 39.7	+0.4
LACH				*i* S	Sn	10 10 00.6	+0.8
CLCH	Cerro Calan	1.73	38	IAML		10 10 08.4	
	comp=N,3μm,0.7s						
PEL	Peldehue	1.87	31	*e*P	Pn	10 09 42.2	+0.4
PEL				*i* S	Sn	10 10 04.9	+0.6
PEL				IAML		10 10 14.5	
	comp=N,2μm,0.5s						

*ISCJB **08** 10:12:20.6±1.7, 34°84S±0°03×72°72W±0°04, h7km±11km, mb4.6/17, Error ellipse: s-maj=6.0km s-min=4.4km az=142.3*
*IDC **08** 10:12:20.4±0.8, 34°88S×72°70W, h0km, mb4.4/8, mb1 4.5/11, mb1mx4.4/18, mbtmp4.3/11, ML4.4/3, Error ellipse: s-maj=27.2km s-min=17.5km az=71.0*
*GUC **08** 10:12:22.7±0.4, 34°82S×72°78W, h30km±2km, ML4.9*
*NEIC **08** 10:12:25.8±0.3, 34°88S×72°61W, h35km, mb4.9/9, Error ellipse: s-maj=9.4km s-min=7.7km az=53.0*
ISC 08 10:12:21.6±3.2, 34°86S±0°05×72°66W±0°08, h8km±20km, n156, σ0°87/164, mb4.6/17, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	1.27	185	*i* P	Pn	10 12 44.6	-1.1
COCH				*i* S	Sb	10 13 01.2	-1.3
LNCH	Linares	1.31	139	*e*P	Pn	10 12 46.4	+0.1
LNCH				*i* S	Sg	10 13 03.9	+0.1
LNV	Longovilo	1.37	49	*e*P	Pn	10 12 46.3	-0.8
LNV				*i* S	Sb	10 13 04.4	-0.8
CACH	El Canelo	1.86	67	⇓*i*P	Pn	10 12 54.7	+0.8
CACH				*i* S	Sb	10 13 19.5	+0.1
CHCH	Chadas Angostu	1.90	61	*e*P	Pn	10 12 55.0	+0.6
IHA	Instituto Hidr	2.02	25	*e*P	Pn	10 12 55.4	-0.5
IHA				*i* S	Sn	10 13 20.3	-1.0
ANTU	Antumapu	2.12	53	IAML		10 13 31.9	
	comp=N,9μm,0.6s						
STL	Santa Lucia	2.20	50	*i* P	Pn	10 12 58.8	+0.3
STL				*i* S	Sn	10 13 25.9	+0.1
CLCH	Cerro Calan	2.29	51	*e*P	Pn	10 12 60.0	+0.2
CLCH				*e*S	Sn	10 13 28.3	+0.1
CLCH				IAML		10 13 39.8	
	comp=N,9μm,0.7s						
PEL	Peldehue	2.37	44	*e*P	Pn	10 13 01.2	+0.3
PEL				*e*S	Sn	10 13 30.1	-0.2
PEL				IAML		10 13 42.1	
	comp=E,12μm,0.3s						
CFAA	Coronel Fontan	4.93	50	Pn	Pn	10 13 37.2	+1.1
	comp=E,0.8nm,0.3s,baz=232,slow=17,SNR=9.5						
CFAA				Sn	Sb	10 14 42.9	-4.7
	comp=E,1.4nm,0.3s,baz=108,slow=22,SNR=5.3						
PLCA	Paso Flores	6.10	165	Pn	Pn	10 13 53.0	+0.9
	comp=E,2.0nm,0.3s,baz=339,slow=9.4,SNR=13						
PLCA				Lg	Lg	10 15 34.8	
	comp=E,1.3nm,0.3s,baz=284,slow=19,SNR=4.0						
TRQA	Tornquist	9.18	113	*e*Pn	Pn	10 14 35.1	+0.8
CPUP	Villa Florida	15.69	61	Pn	Pn	10 16 04.4	+1.4
	comp=E,0.8nm,0.3s,baz=176,slow=20,SNR=1.7						
LPAZ	La Paz	18.93	14	P	Pn	10 16 44.9	+0.5
	comp=E,0.4nm,0.3s,baz=206,slow=7.6,SNR=10						
SIV	San Ignacio	21.47	32	P	P	10 17 10.2	-0.6
	comp=E,9.7nm,0.8s,baz=227,slow=10,SNR=9.8						
TEIG	Tepich	56.76	342	P	P	10 22 06.3	+0.2
	comp=E,5.2nm,0.6s,baz=334,slow=4.5,SNR=6.4						
834A	Tilden	67.26	335	P	P	10 23 18.6	+2.0
	baz=68						
833A	Chaparral WMA,	67.73	335	P	P	10 23 20.3	+0.7
	baz=68						
832A	Faith Ranch, C	67.90	334	P	P	10 23 21.6	+0.9
	baz=68						
636A	Smothers Creek	68.01	337	P	P	10 23 23.0	+1.7
	baz=68						
732A	Laxson Ranch,	68.31	334	P	P	10 23 24.1	+0.9
	baz=69						
535A	Dale	68.68	337	P	P	10 23 26.0	+0.4
	baz=69						
632A	Uvalde	68.95	335	P	P	10 23 28.3	+1.0
	baz=69						
631A	Perdido Creek	69.14	334	P	P	10 23 28.8	+0.4
	baz=70						
533A	Kerrville	69.21	336	P	P	10 23 29.7	+0.8
	baz=70						
532A	Rocksprings	69.56	335	P	P	10 23 32.2	+1.1
	baz=70						
434A	Burnet	69.64	337	P	P	10 23 32.2	+0.6
	baz=70						
336A	Riesel	69.72	338	P	P	10 23 32.9	+0.9
	baz=70						
531A	Rocksprings	69.82	334	P	P	10 23 33.5	+0.8
	baz=70						
JCT	Junction City	69.84	335	P	P	10 23 33.2	+0.4
	baz=70						
433A	Art	69.85	336	P	P	10 23 33.2	+0.3
	baz=70						
530A	J-C Ranch, Com	70.09	334	P	P	10 23 35.2	+0.9
	baz=70						
334A	Lometa	70.10	337	P	P	10 23 34.8	+0.4
	baz=70						
KMSC	Kings Mountain	70.11	352	P	P	10 23 34.4	+0.1
	baz=70						
432A	Menard	70.20	335	P	P	10 23 35.4	+0.3
	baz=71						
TXAR	Lajitas Array	70.24	331	P	P	10 23 36.0	+0.6
	comp=E,1.4nm,0.6s,baz=153,slow=9.1,SNR=26						
431A	Sonora	70.31	335	P	P	10 23 36.3	+0.6
	baz=71						
333A	Richland Sprin	70.34	336	P	P	10 23 36.2	+0.3
	baz=71						
529A	Stev Forest Ra	70.39	333	P	P	10 23 36.8	+0.6
	baz=71						
WHTX	Lake Whitney,	70.47	338	P	P	10 23 37.1	+0.6
	baz=71						
430A	Baggett Ranch,	70.63	334	P	P	10 23 38.3	+0.6
	baz=71						
332A	Millersview	70.65	336	P	P	10 23 38.0	+0.3
	baz=71						
234A	Clairette	70.69	337	P	P	10 23 38.4	+0.4
	baz=71						
429A	Davenport Ranc	70.72	334	P	P	10 23 38.5	+0.3
	baz=71						
331A	San Angelo	70.82	335	P	P	10 23 39.0	+0.3
	baz=71						
233A	Rising Star	70.95	337	P	P	10 23 39.9	+0.3
	baz=71						
232A	Coleman	71.08	336	P	P	10 23 40.5	+0.1
	baz=71						
330A	Mertzon	71.17	334	P	P	10 23 41.2	+0.2
	baz=72						
231A	Bronte	71.35	335	P	P	10 23 42.3	+0.3
	baz=72						
133A	Hamilton Ranch	71.50	337	P	P	10 23 43.2	+0.4
	baz=72						
329A	Wagon Wheel Ra	71.53	334	P	P	10 23 43.8	+0.6
	baz=72						
Z33A	Whitaker Ranch	72.08	337	P	P	10 23 46.6	+0.3
	baz=72						
228A	UT Block 9, Go	72.32	334	P	P	10 23 48.2	+0.3
	baz=73						
Z32A	Haskell	72.33	337	P	P	10 23 48.1	+0.4
	baz=73						
129A	Stewart Farms,	72.52	334	P	P	10 23 49.6	+0.5
	baz=73						
Z31A	Sharp Cattle R	72.56	336	P	P	10 23 49.3	+0.1
	baz=73						
Y33A	Hilltop Ranch,	72.70	338	P	P	10 23 50.3	+0.3
	baz=73						
128A	Castleberry Fa	72.73	334	P	P	10 23 50.8	+0.5
	baz=73						
Z30A	Sanderson Ranc	72.86	335	P	P	10 23 51.2	+0.2
	baz=73						
Y32A	R-V Farms, Ver	72.95	337	P	P	10 23 51.0	-0.5
	baz=73						
X34A	Smith Ranch, M	73.00	338	P	P	10 23 52.0	+0.2
	baz=73						
Z29A	Hungry Hill Ra	73.03	335	P	P	10 23 52.3	+0.2
	baz=73						
Y31A	Rekieta Farm,	73.18	336	P	P	10 23 53.2	+0.3
	baz=74						
Y29A	Porterfield Fa	73.57	335	P	P	10 23 54.9	-0.4
	baz=74						
TUL1	Leonard	73.64	341	P	P	10 23 55.4	-0.1
	baz=74						
X31A	McDonald Ranch	73.70	337	P	P	10 23 55.9	0.0
	baz=74						
Y28A	McKinney Farm,	73.81	335	P	P	10 23 56.8	+0.1
	baz=74						
W32A	Sentinel	73.92	338	P	P	10 23 57.3	+0.1
	baz=74						
MSTX	Muleshoe	74.05	334	P	P	10 23 58.1	-0.1
	baz=74						
MSTX	Muleshoe	74.05	334	*e*P	P	10 23 57.5	-0.6
	comp=E,3.4nm,0.8s						
Z25A	Roswell	74.15	332	P	P	10 23 58.8	+0.1
	baz=74						
V33A	Lossen Ranch,	74.27	339	P	P	10 23 59.5	+0.2
	baz=75						
AMTX	Amarillo	74.50	336	P	P	10 24 00.8	+0.2
	baz=75						
W29A	Amarillo	74.70	336	P	P	10 24 02.6	+0.8
	baz=75						
X26A	CR and CF Fran	74.95	334	P	P	10 24 03.9	+0.5
	baz=75						
Y24A	Capitan	75.00	332	P	P	10 24 04.5	+0.8
	baz=75						
U32A	Winter Ranch,	75.00	338	P	P	10 24 04.1	+0.6
	baz=75						
Z22A	Elephant Butte	75.01	331	P	P	10 24 04.9	+1.1
	baz=75						
W27A	Bowe Ranch, En	75.14	335	P	P	10 24 04.6	+0.2
	baz=76						
Y23A	Lovelace Mesa,	75.24	332	P	P	10 24 06.3	+1.1
	baz=76						
ACSO	Alum Creek Sta	75.33	352	*e*P	P	10 24 04.6	-0.6
	comp=E,10nm,0.9s						
X24A	Lazy VL Ranch,	75.56	333	P	P	10 24 07.5	+0.5
	baz=76						
T31A	Randall Ranch,	75.88	338	P	P	10 24 09.5	+1.0
	baz=76						
U27A	Thompson Grove	76.28	335	P	P	10 24 12.0	+1.1
	baz=77						
S31A	Mullinville	76.30	338	P	P	10 24 11.7	+0.8
	baz=77						
W23A	Werner Place,	76.36	332	P	P	10 24 12.5	+1.0
	baz=77						
V25A	Rancho No Teng	76.39	334	P	P	10 24 12.4	+0.8
	baz=77						
V24A	Rampart Ranch,	76.53	333	P	P	10 24 13.3	+0.8
	baz=77						
T28A	Walsh	76.68	336	P	P	10 24 13.5	+0.4
	baz=77						
S29A	Ulysses	76.81	337	P	P	10 24 14.8	+1.0
	baz=77						
R32A	Long Quarter,	76.81	339	P	P	10 24 14.1	+0.3
	baz=77						
U25A	Circle Dot Ran	76.82	334	P	P	10 24 14.4	+0.3
	baz=77						
T27A	Campo	76.83	336	P	P	10 24 14.6	+0.6
	baz=77						
V23A	Ortiz Mt. (NFS	76.89	333	P	P	10 24 15.6	+1.1
	baz=77						
S28A	Manter	77.03	337	P	P	10 24 15.7	+0.6
	baz=77						
U24A	Moreno Valley	77.14	334	P	P	10 24 16.3	+0.3
	baz=78						
T26A	Comanche Natio	77.23	335	P	P	10 24 17.1	+0.8
	baz=78						
V22A	San Miguel Ran	77.32	332	P	P	10 24 18.3	+1.4
	baz=78						
T25A	Trinidad	77.48	334	P	P	10 24 19.3	+1.5
	baz=78						
Q31A	Ellis	77.55	339	P	P	10 24 18.8	+0.8
	baz=78						
S26A	Kim	77.59	335	P	P	10 24 19.5	+1.2
	baz=78						
R28A	Tribune	77.69	337	P	P	10 24 19.4	+0.6
	baz=78						
T24B	San Luis	77.76	334	P	P	10 24 20.9	+1.4
	baz=78						
Q30A	Quinter	77.77	338	P	P	10 24 20.0	+0.9
	baz=78						
S25A	Robets Cordova	77.96	335	P	P	10 24 21.7	+1.3
	baz=78						
R27A	Eads	77.96	336	P	P	10 24 20.6	+0.3
	baz=78						
R26A	Arlington	78.19	336	P	P	10 24 22.4	+0.8
	baz=79						
S24A	Houchin Ranch,	78.22	334	P	P	10 24 23.6	+1.7
	baz=79						
P29A	Atwood	78.56	338	P	P	10 24 24.5	+0.9
	baz=79						
R24A	Sanders Place,	78.70	334	P	P	10 24 26.0	+1.4
	baz=79						
WUAZ	Wupatki	78.79	329	P	P	10 24 26.8	+1.7
	baz=79						
S22A	4UR Ranch, Cre	78.90	333	P	P	10 24 26.5	+0.8
	baz=79						
R23A	Moffat	78.92	334	P	P	10 24 26.6	+0.7
	baz=79						
MVCO	Mesa Verde	79.07	332	P	P	10 24 27.8	+1.2
	baz=79						
BC3	Big Chuckawall	79.08	325	P	P	10 24 27.4	+0.8
	baz=77						
Q24A	Divide	79.37	335	P	P	10 24 29.5	+1.2
	baz=80						
P25A	Willow Gulch B	79.53	336	P	P	10 24 30.4	+1.4
	baz=80						
W13A	Hualapai Mount	79.54	327	P	P	10 24 30.5	+1.3
	baz=80						
GMRC	Granite Mounta	80.10	325	P	P	10 24 33.9	+1.8
	baz=80						
BOSA	Bosfof	80.13	118	P	P	10 24 32.5	-0.1
	comp=E,1.1nm,0.5s,baz=199,slow=4.8,SNR=7.8						
L29A	Maesberg Ranch	80.69	339	P	P	10 24 36.1	+1.1
	baz=81						
K30A	Basset	81.01	340	P	P	10 24 37.9	+1.2
	baz=81						
ECSD	EROS Data Cent

TORD Torodi Ar. Bea 84.98 70 P P 10 24 57.1 -0.8
comp=E,2.0nm,0.7s,baz=289,slow=6.0,SNR=11
A29A Manning Farm, 86.71 343 P P 10 25 06.0 +0.3
baz=87
D23A Lindsay 86.74 338 P P 10 25 06.2 +0.3
baz=87
E21A Keefer Ranch, 86.75 337 P P 10 25 06.7 +0.6
baz=87
QLMT Earthquake Lak 86.76 333 *e*P **P 10 25 05.6 -0.7**
comp=E,2.8nm,1.3s
ULM Lac du Bonnet 87.19 345 P P 10 25 07.5 -0.4
comp=E,3.2nm,0.9s,baz=117,slow=2.3,SNR=3.6
MFID Camas Ranch 87.28 330 *e*P **P 10 25 10.1 +1.4**
comp=E,22nm,1.6s
BOZ Bozeman (W) 87.54 334 P P 10 25 04.3 -5.6
comp=E,42nm,1.9s
WRA Warramunga Arr 119.76 209 PKP **PKPdf 10 31 12.0 -1.0**
comp=E,0.2nm,0.5s,baz=164,slow=1.5,SNR=4.7
SEY Seymchan 140.51 329 PKP **PKPdf 10 31 50.6 -0.1**
comp=E,0.3nm,0.4s,baz=86,slow=22,SNR=5.0
BVAR Borovoye Array 148.26 44 PKPbc **PKPbc 10 32 08.0 +0.1**
comp=E,1.3nm,0.7s,baz=306,slow=5.0,SNR=5.6
KKAR Karatay Array 150.40 63 *e*PKPdf **PKPdf 10 32 07.3 -0.9**
AAK Ala-Archa 153.36 63 PKPbc **PKPbc 10 32 20.8 +0.3**
comp=E,2.5nm,0.7s,baz=181,slow=2.6,SNR=6.2
AAK PKPab **PKPab 10 32 32.6 0.0**
comp=E,1.5nm,0.6s,baz=185,slow=2.8,SNR=4.3
ZALV Zalesovo Beam 155.22 33 PKPab **PKPab 10 32 39.8 -0.1**
comp=E,1.1nm,0.6s,baz=302,slow=6.5,SNR=3.7
SONM Songino Array 167.02 3 PKPab **PKPab 10 33 32.5 +0.9**
comp=E,0.6nm,0.8s,baz=354,slow=6.0,SNR=3.8

CSEM ***08*** *10:13:15.0, 38°.71N×40°.02E, h8km, MD2.8*
DDA 08 10:13:15.0, 38°.71N×40°.02E, h8km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.91**	**74**	*i* P	Pg	10 13 32.5	-0.5
BNGL				*i* S	Sb	10 13 45.8	-0.2
BEST	**Besiri**	**1.28**	**129**	*i* P	Pn	10 13 39.1	-0.2
BEST				*i* S	Sn	10 13 57.5	+0.7
KEMA	**Kemaliye**	**1.31**	**296**	*i* P	Pn	10 13 39.8	-0.1
KEMA				*i* S	Sn	10 14 00.5	+2.8
KEMA	**Kemaliye**	**1.31**	**296**	*i* P	Pn	10 13 39.8	-0.1
KEMA				*i* S	Sn	10 14 00.5	+2.8
KOPT	**Kop Dagi**	**1.36**	**16**	*i* P	Pn	10 13 40.6	-0.1
KOPT				*i* S	Sg	10 14 00.4	+1.0
KOPT	**Kop Dagi**	**1.36**	**16**	*i* P	Pn	10 13 40.6	-0.1
KOPT				*i* S	Sg	10 14 00.4	+1.0
MARD	**Mardin**	**1.52**	**157**	*i* P	Pg	10 13 44.6	+0.3
MARD				*i* S	Sg	10 14 05.6	+1.5
KELT	**Kelkit**	**1.56**	**338**	*i* P	Pb	10 13 44.6	+0.2
KELT				*i* S	Sg	10 14 05.4	-0.2
KELT	**Kelkit**	**1.56**	**338**	*i* P	Pb	10 13 44.6	+0.2
KELT				*i* S	Sg	10 14 05.4	-0.2
ATAB	**Bozova**	**1.84**	**228**	*e*P	Pg	10 13 52.6	+2.2
ATAB				*i* S	Sg	10 14 15.8	+1.5
ATAB	**Bozova**	**1.84**	**228**	*e*P	Pg	10 13 52.6	+2.2
ATAB				*i* S	Sg	10 14 15.8	+1.5
SUSE	**Susehri**	**2.06**	**317**	*i* P	Pb	10 13 53.6	+0.7
SUSE				*i* S	Sg	10 14 21.5	0.0
SUSE	**Susehri**	**2.06**	**317**	*i* P	Pb	10 13 53.6	+0.7
SUSE				*i* S	Sg	10 14 21.5	0.0

NSSC ***08*** *10:13:55.8±1.6, 40°.80N×41°.05E, h259km±269km, ML5.0*
HLW ***08*** *10:14:21.0, 38°.57N×40°.83E, h10km±10km, Md5.0, Ml4.5*
NEIC ***08*** *10:14:23.5, 38°.83N×40°.12E, h5km, mb5.2/63, ML5.0(DDA), ML5.1(ISK), After ISK.*
BJI ***08*** *10:14:23.6, 38°.80N×40°.10E, h10km, mB5.1/17, mb4.7/33, Ms4.9/17, Ms7 4.6/17*
ISK ***08*** *10:14:23.6, 38°.83N×40°.13E, h5km, ML5.1*
DDA ***08*** *10:14:23.5, 38°.80N×40°.05E, h5km, ML5.0*
ISCJB ***08*** *10:14:24.1±0.5, 38°.83N±0°.01×40°.07E±0°.02, h1km±3km, mb4.9/139, MS4.3/13, Error ellipse: s-maj=2.5km s-min=2.1km az=6.5*
MOS ***08*** *10:14:24.8±1.2, 38°.87N×40°.01E, h10km, mb5.2/60, Error ellipse: s-maj=5.1km s-min=3.7km az=106.6*
IDC ***08*** *10:14:25.0±0.5, 38°.79N×40°.08E, h0km, mb4.5/29, mb1 4.6/38, mb1mx4.5/42, mbtmp4.5/38, ML4.0/7, MS4.2/18, Ms1 4.2/18, ms1mx4.0/48, Error ellipse: s-maj=10.9km s-min=7.2km az=166.0*
CSEM ***08*** *10:14:25.1±0.1, 38°.85N×40°.09E, h2km, mb5.0/99, Ms4.7, Error ellipse: s-maj=3.1km s-min=2.7km az=166.0*
TEH ***08*** *10:14:26.0, 38°.75N×40°.13E, h10km, ML4.8*
DSN ***08*** *10:14:29.9±99.0, 38°.76N×40°.41E, h10km, mb5.1/6, ML5.4/1, Ms5.3/5, Error ellipse: s-maj=105.9km s-min=2.0km az=289.0*
SZGRF ***08*** *10:14:30.5, 37°.67N×39°.01E, h33km, mb4.9, Turkey*
ISN ***08*** *10:14:44.4±2.4, 37°.99N×40°.95E, h0km±8km, ML4.0*
ISC 08 10:14:26.9±0.4, 38°.83N±0°.02×40°.15E±0°.02, h12km±2km, n771, σ1§59/747, mb5.0/140, MS4.3/13, 27C-25D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.27**	**79**	*i* Pg	**Pb**	**10 14 33.2**	**-0.6**
BNGB	**Bing¶‖**	**0.45**	**68**	PG	**Pg**	**10 14 33.2**	**-2.6**
BNGL	**BINGOL**	**0.79**	**80**	*i* P	**Pg**	**10 14 39.7**	**-2.6**
BNGL				*i* S	**Sb**	**10 14 53.7**	**+0.2**
ERZN	**Erzincan**	**0.83**	**337**	PG	**Pg**	**10 14 40.2**	**-2.8**
ERZN				SG	**Sg**	**10 14 52.5**	**-1.4**
DYBB	**Diyarbakir**	**0.87**	**180**	PG	**Pg**	**10 14 41.5**	**-2.2**
DIY	**Diyarbakir**	**0.93**	**176**	*i* Pg	Pg	10 14 41.5	-3.4
EUZM	**Uzumlu**	**0.95**	**339**	*i* P	**Pg**	**10 14 42.3**	**-2.9**
EUZM				*i* S	**Sg**	**10 14 55.9**	**-1.8**
EUZM	**Uzumlu**	**0.95**	**339**	*i* P	**Pg**	**10 14 42.3**	**-2.9**
EUZM				*i* S	**Sg**	**10 14 55.9**	**-1.8**
SVAN	**Silvan-Diyarba**	**1.06**	**129**	PN	**Pg**	**10 14 45.4**	**-2.0**
VRTB	**Varto-Mus**	**1.07**	**71**	PN	**Pg**	**10 14 45.7**	**-1.9**
VRTB				SN	**Sg**	**10 15 01.4**	**-0.2**
VRTB	**Varto-Mus**	**1.07**	**71**	*i* Pn	**Pg**	**10 14 45.7**	**-1.9**
VRTB				*i* Sn	**Sg**	**10 15 01.4**	**-0.2**
KOPT	**Kop Dagi**	**1.22**	**13**	*i* P	**Pn**	**10 14 47.3**	**-2.7**
KOPT	**Kop Dagi**	**1.22**	**13**	*i* P	**Pn**	**10 14 47.3**	**-2.7**
BTMT	**Batman**	**1.23**	**121**	PN	**Pn**	**10 14 48.4**	**-1.5**
BTMT	**Batman**	**1.23**	**121**	*i* Pn	**Pn**	**10 14 48.4**	**-1.5**
BEST	**Besiri**	**1.28**	**136**	*i* P	**Pn**	**10 14 49.9**	**-0.8**
BEST	**Besiri**	**1.28**	**136**	*i* P	**Pn**	**10 14 49.3**	**-1.4**
BEST	**Besiri**	**1.28**	**136**	*i* P	**Pn**	**10 14 49.9**	**-0.8**
KEMA	**Kemaliye**	**1.36**	**290**	*i* P	Pn	10 14 47.9	-3.9
KEMA	**Kemaliye**	**1.36**	**290**	*i* P	Pn	10 14 47.9	-3.9
MAZI	**Mazidag**	**1.38**	**170**	PN	**Pn**	**10 14 50.5**	**-1.6**
MAZI	**Mazidag**	**1.38**	**170**	*i* Pn	**Pn**	**10 14 50.5**	**-1.6**
EZM	**Erzurum**	**1.43**	**41**	PN	**Pn**	**10 14 51.8**	**-1.2**
EZM	**Erzurum**	**1.43**	**41**	Pn	**Pn**	**10 14 51.7**	**-1.2**
ERZM	**Erzurum**	**1.43**	**41**	*i* P	**Pn**	**10 14 51.8**	**-1.1**
ERZM	**Erzurum**	**1.43**	**41**	*i* P	**Pn**	**10 14 51.8**	**-1.1**
MALT	**Malatya**	**1.44**	**250**	PN	**Pn**	**10 14 51.5**	**-1.4**
MALT	**Malatya**	**1.44**	**250**	⇑*i*P	**Pn**	**10 14 50.5**	**-2.4**
MALT				S	**Sg**	**10 15 14.6**	**+1.2**
MALT	**Malatya**	**1.44**	**250**	⇑*i*P	**Pn**	**10 14 50.5**	**-2.4**
MALT	**Malatya**	**1.44**	**250**	Pn	**Pn**	**10 14 51.0**	**-1.9**
MALT	**Malatya**	**1.44**	**250**	Pn	**Pn**	**10 14 51.0**	**-1.9**
KELT	**Kelkit**	**1.49**	**333**	*i* P	**Pn**	**10 14 52.2**	**-1.5**
KELT	**Kelkit**	**1.49**	**333**	*i* P	**Pn**	**10 14 52.2**	**-1.5**
EKAR	**Karacoban**	**1.55**	**73**	*i* P	**Pn**	**10 14 53.8**	**-0.8**
EKAR	**Karacoban**	**1.55**	**73**	*i* P	**Pn**	**10 14 53.8**	**-0.8**
BAYT	**Ayd¨–ntepe-Bay**	**1.57**	**360**	PN	**Pn**	**10 14 53.6**	**-1.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.57**	**360**	*i* Pn	**Pn**	**10 14 53.6**	**-1.1**
MARD	**Mardin**	**1.59**	**162**	*i* P	**Pn**	**10 14 53.1**	**-1.8**
TATV	**Tatvan**	**1.69**	**100**	*i* P	**Pn**	**10 14 55.6**	**-0.8**
TATV	**Tatvan**	**1.69**	**100**	*i* P	**Pn**	**10 14 55.6**	**-0.8**
GUMT	**Gumushane**	**1.71**	**343**	PN	**Pn**	**10 14 55.9**	**-0.8**
GUMT	**Gumushane**	**1.71**	**343**	*i* Pn	**Pn**	**10 14 55.9**	**-0.8**
GUMT	**Gumushane**	**1.71**	**343**	Pn	**Pn**	**10 14 55.9**	**-0.8**
URFA	**Urfa**	**1.73**	**218**	PN	**Pn**	**10 14 55.8**	**-1.1**
URFA				SN	**Sb**	**10 15 19.7**	**-0.7**
URFA	**Urfa**	**1.73**	**218**	Pn	**Pn**	**10 14 56.0**	**-0.9**
URFA				*i* Sn	**Sb**	**10 15 19.7**	**-0.7**
URFA	**Urfa**	**1.73**	**218**	Pn	**Pn**	**10 14 56.0**	**-0.9**
HOMI	**Horasan**	**1.83**	**48**	*i* P	**Pn**	**10 14 57.5**	**-0.8**
ATAB	**Bozova**	**1.99**	**228**	*i* P	**Pn**	**10 14 59.2**	**-1.2**
ATAB	**Bozova**	**1.99**	**228**	*i* P	**Pn**	**10 14 59.2**	**-1.2**
DARE	**Darende-Malaty**	**2.10**	**264**	PN	**Pn**	**10 15 00.5**	**-1.4**
DARE	**Darende-Malaty**	**2.10**	**264**	*i* Pn	**Pn**	**10 15 00.5**	**-1.4**
TUTA	**Tutak**	**2.15**	**74**	*i* P	Pn	10 14 58.8	-4.0
TUTA	**Tutak**	**2.15**	**74**	*i* P	Pn	10 14 58.8	-4.0
KTUT	**Trabzon**	**2.18**	**352**	PN	**Pn**	**10 15 02.2**	**-0.7**
KTUT	**Trabzon**	**2.18**	**352**	*i* Pn	**Pn**	**10 15 02.2**	**-0.7**
AGRB	**Hanur-Agry**	**2.33**	**70**	PN	**Pn**	**10 15 05.0**	**-0.2**
AGRB	**Hanur-Agry**	**2.33**	**70**	*i* Pn	**Pn**	**10 15 05.0**	**-0.2**
ESPY	**Espiye-Giresun**	**2.36**	**333**	PN	**Pn**	**10 15 04.7**	**-0.7**
ESPY	**Espiye-Giresun**	**2.36**	**333**	*i* Pn	**Pn**	**10 15 04.7**	**-0.7**
VANB	**Van**	**2.55**	**94**	PN	**Pn**	**10 15 07.9**	**-0.2**
VANB	**Van**	**2.55**	**94**	*i* Pn	**Pn**	**10 15 07.9**	**-0.2**
SVSK	**Karacayir**	**2.67**	**295**	PN	**Pn**	**10 15 09.2**	**-0.5**
SVSK	**Karacayir**	**2.67**	**295**	*i* Pn	**Pn**	**10 15 09.2**	**-0.5**
RSDY	**Resadiye-TOKAT**	**2.69**	**307**	PN	**Pn**	**10 15 09.2**	**-0.8**
RSDY	**Resadiye-TOKAT**	**2.69**	**307**	*i* Pn	**Pn**	**10 15 09.2**	**-0.8**
KMRS	**Kahramanmaras**	**2.88**	**244**	PN	**Pn**	**10 15 12.1**	**-0.5**
KMRS	**Kahramanmaras**	**2.88**	**244**	*i* Pn	**Pn**	**10 15 12.1**	**-0.5**
KARS	**Kars**	**2.89**	**51**	PN	**Pn**	**10 15 13.0**	**+0.2**
KARS	**Kars**	**2.89**	**51**	*i* Pn	**Pn**	**10 15 13.0**	**+0.2**
CLDR	**Caldiran**	**2.96**	**83**	PN	**Pn**	**10 15 13.7**	**-0.1**
CLDR	**Caldiran**	**2.96**	**83**	*i* Pn	**Pn**	**10 15 13.7**	**-0.1**
CUKT	**Cukurca**	**3.15**	**119**	PN	**Pn**	**10 15 16.5**	**+0.1**
CUKT	**Cukurca**	**3.15**	**119**	*i* Pn	**Pn**	**10 15 16.5**	**+0.1**
BNN	**Bunyan**	**3.36**	**272**	PN	**Pn**	**10 15 18.8**	**-0.5**
BNN	**Bunyan**	**3.36**	**272**	*i* Pn	**Pn**	**10 15 18.8**	**-0.5**
AKH	**Akhalkalaki**	**3.64**	**44**	PN	**Pn**	**10 15 23.3**	**+0.1**
AKH	**Akhalkalaki**	**3.64**	**44**	P	**Pn**	**10 15 23.6**	**+0.4**
AKH				S	Sg	10 16 30.1	+6.3
AKH	**Akhalkalaki**	**3.64**	**44**	*i* Pn	**Pn**	**10 15 23.3**	**+0.1**
AKH	**Akhalkalaki**	**3.64**	**44**	P	**Pn**	**10 15 23.6**	**+0.4**
KOZT	**Kozan**	**3.66**	**250**	PN	**Pn**	**10 15 23.3**	**0.0**
KOZT	**Kozan**	**3.66**	**250**	*i* Pn	**Pn**	**10 15 23.3**	**0.0**
GNI	**Garni**	**3.79**	**68**	PN	**Pn**	**10 15 25.1**	**-0.2**
GNI	**Garni**	**3.79**	**68**	*c* P	**Pn**	**10 15 25.0**	**-0.3**
GNI				pmax	pmax		
comp=Z,91nm,1.0s
GNI Garni 3.79 68 Pn **Pn 10 15 25.7 +0.5**
comp=Z,3.8nm,0.3s,baz=259,slow=3.8,SNR=16
GNI Pg **Pb 10 15 35.5 +1.7**
comp=Z,18nm,0.3s,baz=202,slow=18,SNR=49
GNI LR LR 10 17 08.4
comp=Z,2μm,20.8s,baz=252,slow=42
GNI Garni 3.79 68 *i* P **Pn 10 15 25.0 -0.3**
comp=Z,91nm,1.0s
GNI Garni 3.79 68 ⇑*i*P **Pn 10 15 26.0 +0.7**
SNR=73
YOZ Yozgat 3.84 284 PN **Pn 10 15 25.8 0.0**
YOZ Yozgat 3.84 284 *i* Pn **Pn 10 15 25.8 0.0**
KVT Kavak 3.88 307 PN **Pn 10 15 26.5 +0.2**
KVT Kavak 3.88 307 *i* Pn **Pn 10 15 26.5 +0.2**
CEYT Ceyhan 3.92 244 PN **Pn 10 15 27.1 +0.2**
CEYT Ceyhan 3.92 244 *i* Pn **Pn 10 15 27.1 +0.2**
BTCH Batrach 4.04 228 *e*P **Pn 10 15 27.9 -0.7**
SNR=110
BTCH Batrach 4.04 228 *e*P **Pn 10 15 27.9 -0.7**
BTCH *e*S **Sg 10 16 33.4 -3.4**
BTCH AML AML 10 16 38.6
comp=N,10μm,0.7s
BTCH AML AML 10 16 44.1
comp=E,9μm,0.6s
KZR Kazreti 4.15 51 P **Pn 10 15 29.9 -0.2**
KZR Kazreti 4.15 51 P **Pn 10 15 29.9 -0.2**
IMRD Marand 4.34 90 *e*P Pn 10 15 35.9 +3.0
IMRD Marand 4.34 90 *e*P Pn 10 15 35.9 +3.0
ARNB Al Arnab 4.45 230 *e*P **Pn 10 15 32.3 -2.0**
SNR=109
ARNB Al Arnab 4.45 230 *e*P **Pn 10 15 32.3 -2.0**
ARNB *e*S **Sb 10 16 42.1 +3.4**
ARNB AML AML 10 16 57.9
comp=E,3μm,0.7s
ARNB AML AML 10 16 59.1
comp=N,2μm,0.7s
ONI Oni 4.52 33 P **Pn 10 15 35.4 +0.2**
ONI S **Sg 10 16 47.7 -4.4**
TBLG Delisi 4.55 49 P **Pn 10 15 35.8 +0.2**
TBLG Delisi 4.55 49 P **Pn 10 15 35.8 +0.2**
SEAG Tbilisi Sea 4.61 49 P **Pn 10 15 35.0 -1.5**
SEAG Tbilisi Sea 4.61 49 P **Pn 10 15 35.0 -1.5**
IAZR Azarshahr 4.73 102 *e*P **Pb 10 15 47.8 -2.1**
ITBZ Tabriz 4.74 95 *e*P Pb 10 15 45.3 -4.7
DUS Dusheti 4.76 45 P **Pn 10 15 37.1 -1.4**
DUS Dusheti 4.76 45 P **Pn 10 15 37.1 -1.4**
SOC Sochi 4.77 356 *d*P **Pn 10 15 37.5 -1.0**
SOC *e* 10 16 35.2
SOC pmax pmax
comp=Z,234nm,0.7s
SOC MLR MLR
comp=Z,1μm,11.0s
SOC MLR MLR
comp=N,2μm,11.0s
SOC MLR MLR
comp=E,2μm,11.0s
SOC Sochi 4.77 356 *i* P **Pn 10 15 37.5 -1.0**
comp=E,234nm,0.7s
SOC *e*S **Sn 10 16 35.2 +1.6**
comp=E,2μm,11.0s
IKRK Kirkuk 4.79 134 *e*PN Pn 10 15 43.8 +5.0
IKRK *e*SN Sn 10 16 26.1 -8.0
DGRG David-gareji 4.79 55 P **Pn 10 15 39.8 +1.0**
DGRG S **Sg 10 17 00.1 -0.5**
DGRG David-gareji 4.79 55 P **Pn 10 15 39.8 +1.0**
ZEI Tsey 4.88 35 *e*P **Pn 10 15 39.9 -0.3**
ZEI pmax pmax
comp=Z,145nm,1.0s
BIDA Albida 4.88 220 *e*P **Pn 10 15 39.6 -0.6**
SNR=107
BIDA Albida 4.88 220 *e*P **Pn 10 15 39.5 -0.7**
BIDA *e*S **Sb 10 16 53.9 +2.8**
BIDA AML AML 10 17 08.1
comp=N,6μm,0.6s
BIDA AML AML 10 17 10.9
comp=E,3μm,0.7s
BIDA Albida 4.88 220 *e*P **Pn 10 15 39.6 -0.6**
BIDA *e*S **Sb 10 16 53.1 +2.0**
BIDA AML AML 10 17 08.1
comp=N,6μm,0.6s
BIDA AML AML 10 17 10.9
comp=E,3μm,0.7s
GUDG Gudauri 4.91 41 P **Pn 10 15 41.0 +0.4**
GUDG Gudauri 4.91 41 P **Pn 10 15 41.0 +0.4**
BRTR Keskin Array B 5.13 282 Pn **Pn 10 15 43.9 +0.3**
comp=E,9.4nm,0.3s,baz=105,slow=16,SNR=94
BRTR Lg Lg 10 17 10.6
baz=163,slow=30,SNR=1.1
KBZ Khabaz 5.32 22 P Pn 10 15 49.9 +3.8
KBZ pmax pmax
comp=Z,2.0nm,0.3s
KBZ Khabaz 5.32 22 Pn Pn 10 15 49.9 +3.8
comp=Z,1.8nm,0.3s,baz=194,slow=10,SNR=20
IBST Bostanabad 5.42 100 *e*P **Pn 10 15 50.4 +2.6**
IBST Bostanabad 5.42 100 *e*P **Pn 10 15 50.4 +2.6**
IHRS Heris 5.43 93 *e*P **Pn 10 15 50.7 +2.9**
KIV Kislovodsk 5.47 20 *e*P **Pn 10 15 46.5 -1.7**
KIV *e*S **Sn 10 16 49.4 -1.7**
KIV pmax pmax
comp=Z,61nm,0.9s
KIV MLR MLR
comp=Z,199nm,7.0s
KIV Kislovodsk 5.47 20 *e*P **Pn 10 15 46.5 -1.7**
comp=Z,61nm,0.9s
KIV Kislovodsk 5.47 20 *e*Pn **Pn 10 15 48.7 +0.4**
comp=Z,306nm,1.1s
KIV *e*S **Sn 10 16 49.4 -1.7**
comp=Z,199nm,7.0s
KIV Kislovodsk 5.47 20 *e*Pn **Pn 10 15 48.7 +0.4**
comp=Z,306nm,1.1s
FKH Fakeheh 5.47 214 *e*P **Pn 10 15 47.6 -0.7**
FKH Fakeheh 5.47 214 *e*P **Pn 10 15 47.6 -0.7**
MARH Ras Al Marh 5.63 213 *e*P **Pn 10 15 50.9 +0.3**
SNR=105
MARH Ras Al Marh 5.63 213 *e*P **Pn 10 15 50.9 +0.3**
MARH *e*S **Sb 10 17 14.1 +1.3**
MARH AML AML 10 17 42.2
comp=N,794nm,0.8s
MARH AML AML 10 17 47.6
comp=E,1μm,0.7s
MARH Ras Al Marh 5.63 213 *e*P **Pn 10 15 50.9 +0.3**
MARH *e*S **Sb 10 17 14.1 +1.4**
MARH AML AML 10 17 42.2
comp=N,794nm,0.8s
MARH AML AML 10 17 47.6
comp=E,1μm,0.7s
HWQ Hawqa 5.66 218 *e*P **Pn 10 15 50.3 -0.6**
HWQ Hawqa 5.66 218 *e*P **Pn 10 15 50.3 -0.6**
RTB Rutbah 5.78 179 *e*Sn **Sn 10 16 57.0 -1.8**
SNR=3.0
ANTO Ankara 5.79 283 *e*P **Pn 10 15 52.5 -0.2**
ANTO Ankara 5.79 283 ⇑*i*P **Pn 10 15 53.5 +0.8**
ANTO Ankara 5.79 283 *e*P **Pn 10 15 52.5 -0.2**
ANTO Ankara 5.79 283 *e*Pn **Pn 10 15 52.5 -0.2**
ISRB Sarab 6.00 97 *e*P Pn 10 15 59.7 +4.1
BHL Bhannes 6.10 218 *e*P **Pn 10 15 56.9 -0.1**
BHL Bhannes 6.10 218 *e*P **Pn 10 15 56.9 -0.1**
TOTH TOTAH 6.23 210 *e*P **Pn 10 15 58.8 +0.2**
TOTH *e*S **Sb 10 17 28.9 -0.8**
ANN Anapa 6.30 342 *e*P **Pn 10 15 58.3 -1.3**
ANN *e*S **Sn 10 17 10.9 -0.6**
ANN pmax pmax
comp=Z,32nm,1.0s
ANN MLR MLR
comp=N,2μm,13.0s
ANN MLR MLR
comp=Z,2μm,13.0s
ANN MLR MLR
comp=E,878nm,6.0s
ANN Anapa 6.30 342 *e*P **Pn 10 15 58.3 -1.3**
comp=E,32nm,1.0s
ANN *e*S **Sn 10 17 10.9 -0.6**
comp=E,2μm,13.0s
RCY Rachaya 6.36 215 *e*P **Pn 10 16 01.0 +0.5**
BHD Baghdad 6.52 147 *e*PN Pn 10 16 08.1 +5.6
BHD *e*SN Sn 10 17 06.7 -10
BHD *e*SG Sg 10 18 09.9 +14
GOF Gofitskoye 6.59 18 *e*P **Pn 10 16 04.5 +0.9**
GOF pmax pmax
comp=Z,30nm,1.0s
GOF Gofitskoye 6.59 18 *e*P **Pn 10 16 04.5 +0.9**
comp=Z,30nm,1.0s
CSS Prodhromos 6.69 237 *e*Pn **Pn 10 16 05.6 +0.7**
CSS Prodhromos 6.69 237 *e*Pn **Pn 10 16 05.6 +0.7**
SALA Sala 6.70 205 *e*P **Pn 10 16 04.1 -1.2**
SNR=103
SALA Sala 6.70 205 *e*P **Pn 10 16 05.2 -0.1**
SALA *e*S **Sb 10 17 40.0 -3.5**
SALA Sala 6.70 205 *e*P **Pn 10 16 04.1 -1.2**
SALA *e*S **Sb 10 17 38.9 -4.6**
SALA AML AML 10 18 14.4
comp=E,50nm,0.7s
SALA AML AML 10 18 16.1
comp=N,950nm,0.6s
MAK Makhachkala 6.94 51 P **Pn 10 16 06.2 -2.1**
MAK S **Sn 10 17 24.3 -2.8**
MAK pmax pmax
comp=Z,50nm,0.5s
MAK MLR MLR
comp=Z,4μm,8.0s
MAK Makhachkala 6.94 51 P **Pn 10 16 06.2 -2.1**
comp=Z,4μm,8.0s
MMAI Mount Meron Ar 6.96 215 Pn **Pn 10 16 10.0 +1.3**
comp=Z,34nm,0.3s,baz=64,slow=15,SNR=34
MMAI Lg Lg 10 18 05.5
comp=Z,22nm,0.3s,baz=21,slow=32,SNR=1.8
MMAI LR LR 10 18 49.5
comp=Z,3μm,19.0s,baz=15,slow=38
KERU Kerch 7.04 338 *e*P Pn 10 16 16.7 +7.1
ASF Jabal al Asfar 7.15 203 Pn **Pn 10 16 10.7 -0.6**
comp=Z,3.1nm,0.3s,baz=349,slow=4.1,SNR=20
ASF Lg Lg 10 18 11.0
comp=Z,6.5nm,0.3s,baz=55,slow=20,SNR=2.4
ASF LR LR 10 18 54.0
comp=Z,1μm,21.9s,baz=338,slow=38
SUDU Sudak 7.17 329 *e*P **Pn 10 16 12.8 +1.3**
SUDU *e*S **Sn 10 17 38.2 +5.3**
YAL Yalta 7.22 324 *e*P Pn 10 16 20.7 +8.6
SEV Sevastopol' 7.49 322 *e*P Pn 10 16 22.0 +6.1
SEV *e*S Sn 10 17 49.4 +8.7
SIM Simferopol' 7.59 326 *e*P Pb 10 16 29.3 -9.2
ISP Isparta 7.63 265 ⇑*i*P **Pn 10 16 16.7 -1.3**
ISP Isparta 7.63 265 ⇑*i*P **Pn 10 16 16.7 -1.3**
IGZV Ghazvin 8.36 104 *e*P Pn 10 16 34.2 +6.2
IRAZ Razeghan 8.53 111 *e*P Px 10 16 51.6
NSR Nassriya 9.22 146 *e*PN Pn 10 16 46.2 +6.6
NSR *e*SN Sn 10 18 13.1 -10
AMAG Maghara 9.96 217 P **Pn 10 16 47.8 -2.0**
baz=221
AMAG Maghara 9.96 217 P **Pn 10 16 47.8 -2.0**
EIL Elat 10.09 207 Pn **Pn 10 16 53.0 +1.4**
comp=Z,0.7nm,0.3s,baz=6.9,slow=9.8,SNR=6.2
EIL Lg Lg 10 19 45.5
comp=Z,0.6nm,0.3s,baz=319,slow=20,SNR=1.6
EIL LR LR 10 21 02.0
comp=Z,1μm,20.4s,baz=339,slow=40
HNKL Nakhl 10.23 212 S Sn 10 18 40.2 -7.9
baz=216
IPIR Pirpir 10.66 122 *e*P Pn 10 16 55.2 -4.5
CFR Carcaliu 10.96 309 ⇑*i*P Pn 10 17 07.7 +4.3
IGLO Ghaloghah 11.09 98 *e*P Pn 10 17 10.2 +4.8
TR2 11.70 209 P **Pn 10 17 11.1 -2.6**
baz=213
TR2 11.70 209 P **Pn 10 17 11.1 -2.6**
TR1 11.96 207 P **Pn 10 17 14.2 -3.0**
baz=211
TR1 11.96 207 P **Pn 10 17 14.2 -3.0**
SHRM 12.00 206 P **Pn 10 17 14.8 -3.0**
baz=210
SHRM 12.00 206 P **Pn 10 17 14.8 -3.0**
VORD Divnogorie 12.16 357 *e*P **Pn 10 17 18.0 -1.7**
VORD pmax pmax
comp=N,100nm,1.0s
VORD pmax pmax
comp=E,20nm,1.0s
VORD pmax pmax
comp=Z,40nm,1.0s
VORD Divnogorie 12.16 357 *e*P **Pn 10 17 18.0 -1.7**
VRHR Novokhopersk 12.31 4 *e*P **Pn 10 17 23.2 +1.3**
VRHR pmax pmax
comp=N,70nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.9s
VRHR pmax pmax
comp=Z,50nm,0.9s
VRHR Novokhopersk 12.31 4 *e*P **Pn 10 17 23.2 +1.3**
VSR Storozhevoye 12.41 357 *e*P **Pn 10 17 21.0 -2.2**
VSR *e*S **Sn 10 19 44.4 +3.1**
VSR pmax pmax
comp=N,70nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,50nm,0.9s
VSR smax smax
comp=N,70nm,1.4s
VSR smax smax
comp=E,190nm,1.4s
VSR smax smax
comp=Z,120nm,1.4s
VSR Storozhevoye 12.41 357 *e*P **Pn 10 17 21.0 -2.2**
MLR Muntele Rosu 12.46 307 LR LR 10 23 17.4
comp=Z,322nm,18.9s,baz=132,slow=43
IDI Anoyia 12.69 259 Pn **Pn 10 17 27.5 +0.3**
comp=Z,0.5nm,0.3s,baz=45,slow=9.8,SNR=2.8
MMB Musomiste 12.85 288 ⇑*i*P **Pn 10 17 31.6 +2.2**
VOIR 13.00 305 ‖*i*P Pn 10 17 41.7 +10
VTS Vitosha 13.39 292 ‖*i*P **Pn 10 17 39.1 +2.3**
LOT Lotru 13.83 304 ‖*i*P P 10 17 47.3 -3.8
GEYT Alibeck 14.13 88 Pn **Pn 10 17 47.7 +0.8**
baz=278,slow=13,SNR=5.6
AKASG Malin Array Be 14.16 330 *c*e**P Pn 10 17 46.4 -0.8**
AKASG pmax pmax
comp=Z,12nm,0.9s
AKASG Malin Array Be 14.16 330 Pn **Pn 10 17 45.9 -1.3**
comp=Z,0.9nm,0.3s,baz=137,slow=12,SNR=13
AKASG LR LR 10 25 08.2
comp=Z,650nm,18.8s,baz=145,slow=45
KIEV Kiev 14.17 330 ‖*e*P **Pn 10 17 46.3 -0.9**
KIEV Kiev 14.17 330 *e*Pn **Pn 10 17 47.8 +0.6**
KIEV Kiev 14.17 330 *e*Pn **Pn 10 17 47.8 +0.6**
CJR Cluj-Napoca 14.47 308 ⇑*i*P **P 10 17 56.9 -1.3**
CJR Cluj-Napoca 14.47 308 ⇑*i*P **P 10 17 56.9 -1.3**
BZS Buzias 15.30 302 ‖*i*P **P 10 18 07.1 -0.2**
BZS Buzias 15.30 302 ‖*i*P **P 10 18 07.1 -0.2**
IMOG Moghan 15.48 94 *e*P **P 10 18 08.4 -1.3**
IMOG Moghan 15.48 94 *e*P **

KOLS Kolonicke sedl 16.34 314 *e*P **P 10 18 19.5 +0.6**
comp=Z,45nm,1.5s
KOLS Kolonicke sedl 16.34 314 *e*P **P 10 18 19.5 +0.6**
OBN Obninsk 16.47 353*c i*P **Pn 10 18 15.4 -2.2**
OBN *e*S **Sn 10 21 20.5 +0.3**
OBN pmax pmax
comp=Z,156nm,1.7s
OBN MLR MLR
comp=Z,622nm,21.0s
OBN Obninsk 16.47 353 Pn **Pn 10 18 15.5 -2.1**
comp=Z,1.4nm,0.3s,baz=322,slow=20,SNR=11
OBN Obninsk 16.47 353 *e*Pn **Pn 10 18 15.4 -2.2**
comp=Z,87nm,1.0s
OBN Obninsk 16.47 353 *e*Pn **Pn 10 18 15.4 -2.2**
comp=Z,87nm,1.0s
KWP Kalwaria Pacla 16.48 317 *e*P **Pn 10 18 18.2 +0.4**
KWP pmax pmax
comp=Z,97nm,1.2s
KWP Kalwaria Pacla 16.48 317⇑*i*P **Pn 10 18 16.8 -1.0**
KWP Kalwaria Pacla 16.48 317 *e*P **Pn 10 18 18.2 +0.4**
comp=Z,97nm,1.2s
KWP Kalwaria Pacla 16.48 317 *e*Pn **Pn 10 18 18.2 +0.4**
comp=Z,97nm,1.2s
CRVS Cervenica-Dubn 16.78 313 *e*P **P 10 18 25.0 +1.2**
CRVS pmax pmax
comp=Z,163nm,3.5s
CRVS Cervenica-Dubn 16.78 313 *e*P **P 10 18 25.0 +1.2**
comp=Z,163nm,3.5s
CRVS Cervenica-Dubn 16.78 313 *e*pP **P 10 18 25.0 +1.2**
MOS Moscow 17.01 355 *e*P **Pn 10 18 22.5 -1.9**
MOS *e*S **Sn 10 21 34.2 +1.1**
MOS pmax pmax
comp=Z,117nm,1.4s
MOS pmax pmax
comp=N,135nm,1.5s
STHS Stebnicka Huta 17.17 314 *e*P **P 10 18 29.6 +1.5**
STHS pmax pmax
comp=Z,14nm,1.7s
STHS Stebnicka Huta 17.17 314 *e*pP **P 10 18 29.6 +1.5**
AKTK Aktyubinsk 17.17 42 P **Pn 10 18 25.7 -0.7**
AKTO Aktyubinsk 17.17 42 P **Pn 10 18 25.7 -0.8**
comp=Z,0.3nm,0.3s,baz=250,slow=11,SNR=10.0
PSZ Piszkesteto 17.26 308 *e*P **P 10 18 31.7 +2.5**
PSZ Piszkesteto 17.26 308⇓*i*P **P 10 18 31.7 +2.5**
PSZ Piszkesteto 17.26 308 *e*Pn **P 10 18 31.7 +2.5**
PSZ Piszkesteto 17.26 308 *e*Pn **P 10 18 31.7 +2.5**
PKSM Moragy 17.46 302⇓*i*P **P 10 18 33.8 +2.6**
MICGM Minsk 17.75 336 *e* **Pn 10 18 29.0 -4.7**
MNK Minsk 17.77 336 *e*P Pn 10 18 29.0 -4.9
VYHS Vyhne 18.14 309 *e*P **P 10 18 39.0 +0.1**
VYHS pmax pmax
comp=Z,19nm,1.4s
VYHS Vyhne 18.14 309 *e*P **P 10 18 39.0 +0.1**
comp=Z,19nm,1.4s
VYHS Vyhne 18.14 309 *e*P **P 10 18 39.0 +0.1**
TIP Timpagrande 18.18 278 *e*P **P 10 18 41.4 +2.0**
TIP Timpagrande 18.18 278 *e*P **P 10 18 41.4 +2.0**
NACGM Naroch 18.44 335 *e*P P 10 18 36.0 -6.0
BANOM Banah 18.71 129⇑P **Pn 10 18 45.5 -0.2**
SNR=13
BANOM Banah 18.71 129 P **Pn 10 18 45.5 -0.2**
SNR=13
IDID Didziasalis 18.80 336 *e*P **P 10 18 43.8 -2.2**
IDID AMB AMB 10 18 48.8
comp=Z,35nm,0.8s
IDID Didziasalis 18.80 336 *e*P **P 10 18 43.8 -2.1**
comp=Z,35nm,0.8s,SNR=33
CUC Castrocucco 18.83 281 *e*Pn **Pn 10 18 49.1 +2.1**
CUC Castrocucco 18.83 281 *e*Pn **Pn 10 18 49.1 +2.1**
CEL Celeste 18.97 276 *e*Pn **Pn 10 18 48.8 +0.1**
CEL Celeste 18.97 276 *e*Pn **Pn 10 18 48.9 +0.1**
IIGN Ignalina 19.00 335 *e*P **P 10 18 46.1 -2.0**
IIGN AMB AMB 10 18 50.5
comp=Z,31nm,0.9s
IIGN Ignalina 19.00 335 *e*P **P 10 18 46.1 -2.0**
comp=Z,31nm,0.9s,SNR=33
NAZ Nazwa, Dubai 19.03 132 P **Pn 10 18 50.0 +0.5**
SNR=12
NAZ Nazwa, Dubai 19.03 132⇑*i*P **Pn 10 18 50.0 +0.5**
SNR=12
ASUD Al Ashush, Dub 19.12 133 P **Pn 10 18 51.7 +1.1**
SNR=8.5
ASUD Al Ashush, Dub 19.12 133⇓*i*P **Pn 10 18 51.7 +1.1**
SNR=8.5
OKC Ostrava-Krasne 19.13 312 *e*P **Pn 10 18 52.6 +2.1**
OKC Ostrava-Krasne 19.13 312 *e*P **Pn 10 18 52.6 +2.1**
FAQ Al Faqa, Dubai 19.18 133 P **Pn 10 18 51.4 +0.1**
SNR=7.5
FAQ Al Faqa, Dubai 19.18 133⇑*i*P **Pn 10 18 51.4 +0.1**
SNR=7.5
ISAL Salakas 19.21 335 *e*P **P 10 18 48.1 -2.4**
ISAL AMB AMB 10 19 03.3
comp=Z,21nm,1.4s
ISAL Salakas 19.21 335 *e*P **P 10 18 48.1 -2.4**
comp=Z,21nm,1.4s,SNR=29
HATD Hatta, Dubai 19.43 131 P **Pn 10 18 53.7 -0.6**
SNR=13
HATD Hatta, Dubai 19.43 131⇑*i*P **Pn 10 18 53.7 -0.6**
SNR=13
MORC Moravsky Berou 19.46 312 *e*P **Pn 10 18 54.2 -0.3**
ASHO Ashiyiah 19.50 132⇑P **Pn 10 18 54.3 -0.9**
SNR=30
ASHO Ashiyiah 19.50 132 P **Pn 10 18 54.3 -0.9**
SNR=30
CONA Conrad Observa 19.79 305⇓*i*P **P 10 18 56.5 -0.5**
comp=Z,77nm,1.4s
CONA Conrad Observa 19.79 305 P **P 10 18 56.5 -0.5**
comp=Z,77nm,1.4s
VRAC Vranov 19.83 310 P **Pn 10 19 02.3 +3.4**
comp=Z,0.2nm,0.3s,baz=104,slow=13,SNR=5.4
VRAC LR LR 10 27 44.0
comp=Z,544nm,21.3s,baz=198,slow=40
PERS Pernice 19.92 301 *e*P **Pn 10 19 02.2 +2.2**
VISS Visnje 19.92 299 *e*P **Pn 10 19 03.3 +3.3**
DPC Dobruska-Polom 20.41 312 *e*P Pn 10 19 06.4 +0.5
DPC Dobruska-Polom 20.41 312 *e*P Pn 10 19 07.7 +1.8
DPC *ex* x 10 19 12.1
DPC Dobruska-Polom 20.41 312 *e*Pn Pn 10 19 06.4 +0.5
DPC Dobruska-Polom 20.41 312 *e*Pn Pn 10 19 06.4 +0.6
JAVS Javornik 20.47 299 *e*P Pn 10 19 06.5 -0.1
TREC Trest 20.49 309 *e*P Pn 10 19 08.1 +1.3
TREC *e* 10 19 10.6
TREC Trest 20.49 309 *e*P Pn 10 19 08.1 +1.3
TREC *e*pP pP 10 19 10.6 +2.5
AQU L'Aquila 20.58 288 *e*P Pn 10 19 08.3 +0.4
AQU pmax pmax
comp=Z,181nm,1.1s
AQU L'Aquila 20.58 288 *e*Pn Pn 10 19 08.3 +0.4
comp=Z,181nm,1.1s
AQU L'Aquila 20.58 288 *e*Pn Pn 10 19 08.3 +0.4
comp=Z,181nm,1.1s
KSP Ksiaz 20.65 313 *e*P Pn 10 19 07.9 -0.6
KSP *e**PP pP 10 19 10.9 +1.2
UPC Upice 20.66 312 *e*P Pn 10 19 12.0 +3.3
UPC Upice 20.66 312 *e*P Pn 10 19 12.0 +3.3
MOA Molln 20.80 304 *i* P **P 10 19 08.4 +0.6**
comp=Z,24nm,0.7s,SNR=6.7
MOA Molln 20.80 304 P **P 10 19 08.4 +0.6**
comp=Z,24nm,0.7s,SNR=6.7
ARQ Araqi 20.81 133⇓P Pn 10 19 09.1 -1.5
SNR=27
ARQ Araqi 20.81 133 P Pn 10 19 09.1 -1.5
SNR=27
HOQ Hoqain 21.07 131⇑P **P 10 19 12.5 +1.5**
SNR=22
HOQ Hoqain 21.07 131 P **P 10 19 12.5 +1.5**
SNR=22
KBA Koelnbreinsper 21.20 302 *i* sP sP 10 19 15.9 -1.7
comp=Z,62nm,0.9s,SNR=6.4
PRU Pruhonice 21.32 310 *e*P **P 10 19 13.7 +0.3**
PRU *e* 10 19 19.8
PRU MLR MLR
comp=Z,1μm,17.3s
PRU Pruhonice 21.32 310 *e*P **P 10 19 13.7 +0.3**
PRU *ex* x 10 19 19.8
PRU AMS AMS 10 28 30.0
comp=Z,1μm,17.3s
PRU Pruhonice 21.32 310 *e*P **P 10 19 13.7 +0.3**
comp=Z,1μm,17.3s
PRA Prague 21.41 310 P **P 10 19 14.0 -0.5**
ARU Arti 21.43 29 P **P 10 19 13.3 -1.2**
comp=Z,290nm,0.9s,SNR=15
ARU Arti 21.43 29*d i*P **P 10 19 12.9 -1.6**
ARU 10 19 34.3
ARU S **S 10 23 11.0 -0.8**
ARU pmax pmax
comp=Z,45nm,0.8s
ARU Arti 21.43 29 *e*P **P 10 19 12.8 -1.7**
comp=Z,157nm,1.6s
ARU S **S 10 23 11.0 -0.8**
ARU Arti 21.43 29 *e*P **P 10 19 12.8 -1.7**
comp=Z,157nm,1.6s
GEC2 GERESS Array S 21.45 306 *e*P **P 10 19 15.0 +0.1**
GEC2 GERESS Array S 21.45 306 *e*P **P 10 19 18.2 +3.3**
comp=Z,51nm,1.8s
GEC2 GERESS Array S 21.45 306 *e*P **P 10 19 15.0 +0.1**
GEC2 GERESS Array S 21.45 306 *e*P **P 10 19 15.0 +0.1**
GERES GERESS Array B 21.45 306 P **P 10 19 14.6 -0.4**
comp=Z,6.4nm,0.8s,baz=110,slow=10,SNR=14
GERES LR LR 10 29 06.8
comp=Z,606nm,19.0s,baz=129,slow=41
VSU Vasula 21.48 341*d i*P **P 10 19 15.7 +0.7**
VSU pmax pmax
comp=Z,220nm,1.7s
VSU Vasula 21.48 341 *i* P **P 10 19 15.7 +0.7**
comp=Z,220nm,1.7s
PVCC Panska Ves 21.51 311 *e*P **P 10 19 15.8 +0.3**
PVCC *e* 10 19 19.5
PVCC Panska Ves 21.51 311 *e*P **P 10 19 15.8 +0.3**
PVCC *ex* x 10 19 19.5
PVCC Panska Ves 21.51 311 *e*P **P 10 19 15.8 +0.3**
KHC Kasperske Hory 21.61 307 *e*P **P 10 19 13.1 -3.6**
KHC *e* 10 19 19.0
KHC Kasperske Hory 21.61 307 *e*P **P 10 19 13.1 -3.6**
KHC *ex* x 10 19 19.0
KHC Kasperske Hory 21.61 307 *e*P **P 10 19 16.7 0.0**
comp=Z,26nm,1.0s
KHC Kasperske Hory 21.61 307 *e*P **P 10 19 16.7 0.0**
comp=Z,26nm,1.0s
ABTA Abfaltersbach 21.69 300⇑*i*sP **P 10 19 20.3 +2.7**
comp=Z,58nm,1.1s,SNR=6.6
RJOB Jochberg 21.72 303 *e*P **P 10 19 20.3 +2.4**
comp=Z,37nm,0.9s
PUL Pulkovo 21.87 347⇓*e*P **P 10 19 19.6 +0.4**
PUL pmax pmax
comp=Z,250nm,0.8s
PUL Pulkovo 21.87 347 *e*P **P 10 19 19.6 +0.4**
comp=Z,250nm,0.8s
SMDO Samad 21.91 131⇑P **P 10 19 21.7 +1.6**
SNR=58
SMDO Samad 21.91 131 P **P 10 19 21.7 +1.6**
SNR=58
BRG Berggiesshubel 22.01 312 *e*P **P 10 19 22.3 +1.5**
comp=Z,19nm,1.4s
BRG Berggiesshubel 22.01 312 *e*P **P 10 19 23.4 +2.5**
comp=Z,120nm,2.2s
WET Wettzell 22.05 307 *e*P **P 10 19 20.4 -1.0**
comp=Z,19nm,1.0s
WET Wettzell 22.05 307 *e*P **P 10 19 20.4 -1.0**
comp=Z,19nm,1.0s
KLMR Klimovskoe 22.06 359 *e*P **P 10 19 21.0 -0.2**
KLMR pmax pmax
comp=Z,351nm,1.5s
KLMR Klimovskoe 22.06 359 *e*P **P 10 19 21.0 -0.2**
comp=Z,351nm,1.5s
WATA Walderalm 22.44 302⇑*i*sP **P 10 19 26.1 +0.4**
comp=Z,69nm,1.1s,SNR=6.0
WATA Walderalm 22.44 302 P **P 10 19 26.1 +0.4**
comp=Z,69nm,1.1s,SNR=6.0
JMDO Jabal Madar 22.47 132⇑P **P 10 19 26.9 +0.9**
SNR=34
JMDO Jabal Madar 22.47 132 P **P 10 19 26.9 +0.9**
SNR=34
SVE Sverdlovsk 22.51 30 *e*P **P 10 19 25.3 -0.8**
SVE pmax pmax
comp=Z,105nm,1.3s
SVE Sverdlovsk 22.51 30 *e*P **P 10 19 25.3 -0.8**
comp=Z,105nm,1.3s
ROTZ Rotzenmuhle 22.66 308 *e*P **P 10 19 28.1 +0.2**
comp=Z,103nm,1.2s
ROTZ Rotzenmuhle 22.66 308 *e*P **P 10 19 28.1 +0.2**
comp=Z,103nm,1.2s
TANN Tannenbergstha 22.72 310 *e*P **P 10 19 28.1 -0.4**
comp=Z,36nm,1.5s
TANN Tannenbergstha 22.72 310 *e*P **P 10 19 28.1 -0.4**
comp=Z,36nm,1.5s
CLL Collm 22.73 312 *e*P **P 10 19 27.0 -1.5**
CLL *e* 10 19 31.0
CLL *i* 10 19 33.0
CLL MLR MLR
comp=Z,800nm,21.6s
CLL Collm 22.73 312 *e*P **P 10 19 27.0 -1.5**
CLL *e* 10 19 31.0
CLL *i* 10 19 33.0
comp=Z,40nm,1.3s
CLL *i* 10 19 36.2
CLL Lm MLR 10 29 00.0
comp=Z,800nm,21.6s
CLL Collm 22.73 312 *e*P **P 10 19 27.0 -1.5**
MOTA Moosalm 22.75 301⇓*i*sP **P 10 19 29.0 0.0**
comp=Z,90nm,0.9s,SNR=27
MOTA Moosalm 22.75 301 P **P 10 19 29.0 0.0**
comp=Z,90nm,0.9s,SNR=27
WBK Wadi Bani Khal 22.80 130⇓P **P 10 19 30.4 +0.9**
SNR=26
WBK Wadi Bani Khal 22.80 130 P **P 10 19 30.4 +0.9**
SNR=26
FETA Feichten 22.95 300 *i* sP **P 10 19 31.3 +0.3**
comp=Z,66nm,0.9s,SNR=12
FETA Feichten 22.95 300 P **P 10 19 31.3 +0.3**
comp=Z,66nm,0.9s,SNR=12
PRGR Permogore 23.09 7 *e*P **P 10 19 30.1 -2.0**
PRGR pmax pmax
comp=Z,176nm,1.6s
PRGR Permogore 23.09 7 *e*P **P 10 19 30.1 -2.0**
comp=Z,176nm,1.6s
GRA1 Grafenberg Arr 23.25 307 *e*P **P 10 19 35.2 +1.2**
comp=Z,135nm,1.0s
GRF Grafenberg Arr 23.25 307 *e*P **P 10 19 35.2 +1.2**
comp=Z,135nm,1.0s
GRFO Grafenberg 23.25 307 *e*P **P 10 19 34.4 +0.5**
GRFO pmax pmax
comp=Z,106nm,1.0s
GRFO Grafenberg 23.25 307 *e*P **P 10 19 34.4 +0.5**
comp=Z,106nm,1.0s
GRFO Grafenberg 23.25 307 *e*P **P 10 19 34.4 +0.5**
comp=Z,106nm,1.0s
KKAR Karatay Array 23.26 70 *e*P **P 10 19 34.5 +0.4**
KKAR Karatay Array 23.26 70 *e*P **P 10 19 34.5 +0.4**
KKAR Karatay Array 23.26 70 *e*P **P 10 19 34.5 +0.4**
MOX Moxa 23.31 310 *e*P **P 10 19 36.5 +2.0**
comp=Z,22nm,1.3s
SOKR Solikamsk 23.33 22*d i*P **P 10 19 34.7 +0.1**
SOKR pmax pmax
comp=Z,50nm,0.9s
DAVOX Davos/Dischmat 23.48 300 P **P 10 19 36.5 0.0**
DAVOX pmax pmax
comp=Z,17nm,0.8s
DAVOX Davos/Dischmat 23.48 300 P **P 10 19 36.5 0.0**
comp=Z,17nm,0.8s,baz=111,slow=11,SNR=11
BSD Bornholm Skovb 23.51 322 *e*P **P 10 19 38.4 +2.0**
BSD pmax pmax
comp=Z,19nm,1.0s
BSD Bornholm Skovb 23.51 322 *i* P **P 10 19 38.4 +2.0**
comp=Z,19nm,1.0s
KBL Kabul 23.52 91 *e*P P 10 19 42.3 +5.3
KBL pmax pmax
comp=Z,29nm,1.0s
KBL Kabul 23.52 91 *e*P P 10 19 42.3 +5.3
comp=Z,29nm,1.0s
KBL Kabul 23.52 91 *e*P P 10 19 42.3 +5.3
comp=Z,29nm,1.0s
DAVA Damuels 23.56 301 *i* sP **P 10 19 37.1 -0.1**
comp=Z,70nm,1.0s,SNR=7.3
DAVA Damuels 23.56 301 P **P 10 19 37.1 -0.1**
comp=Z,70nm,1.0s,SNR=7.3
TUE Stuetta 23.80 299 *e*P **P 10 19 39.1 -0.5**
comp=Z,30nm,0.9s
TUE Stuetta 23.80 299 *e*P **P 10 19 39.1 -0.5**
comp=Z,30nm,0.9s
PGF Pioggiola 23.84 289 *e*P **P 10 19 36.9 -3.0**
comp=Z,362nm,1.7s
PGF Pioggiola 23.84 289 *e*P **P 10 19 36.9 -3.0**
PGF pmax pmax
comp=Z,362nm,1.7s
PGF Pioggiola 23.84 289 *e*P **P 10 19 36.9 -3.0**
comp=Z,362nm,1.7s
PGF Pioggiola 23.84 289 *e*P **P 10 19 36.9 -3.0**
comp=Z,362nm,1.7s
RGN Rugen 24.00 320 *e*P **P 10 19 45.1 +4.0**
FINES FINESS Array B 24.27 343 P **P 10 19 43.0 -0.6**
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES FINESS Array B 24.27 343 P **P 10 19 43.0 -0.6**
comp=Z,8.7nm,0.6s,baz=141,slow=12,SNR=22
FINES FINESS Array B 24.27 343 P **P 10 19 43.0 -0.6**
comp=Z,9.0nm,0.6s
STU Stuttgart 24.30 304 *e*P **P 10 19 43.1 -1.0**
STU pmax pmax
comp=Z,31nm,0.9s
STU Stuttgart 24.30 304 *e*P **P 10 19 42.8 -1.3**
comp=Z,93nm,1.6s
STU Stuttgart 24.30 304 *e*P **P 10 19 43.1 -1.0**
comp=Z,31nm,0.9s
STU Stuttgart 24.30 304 *e*P **P 10 19 43.1 -1.0**
comp=Z,32nm,0.9s
UBBA Unterbreizbach 24.34 309 *e*P **P 10 19 45.3 +1.1**
comp=Z,39nm,1.5s
UBBA Unterbreizbach 24.34 309 *e*P **P 10 19 45.3 +1.1**
comp=Z,39nm,1.5s
CLZ Clausthal 24.45 312 *e*P **P 10 19 45.9 +0.5**
comp=Z,66nm,1.5s
CLZ Clausthal 24.45 312 *e*P **P 10 19 45.9 +0.5**
comp=Z,66nm,1.5s
KEST Kesra 24.65 272 P **P 10 19 48.6 +1.2**
comp=Z,16nm,0.9s,baz=330,slow=0.3,SNR=9.0
KEST LR LR 10 31 07.4
comp=Z,332nm,19.6s,baz=310,slow=41
JOF Joensuu 24.71 350 *e*P **P 10 19 46.1 -1.5**
JOF pmax pmax
comp=Z,19nm,0.6s
JOF Joensuu 24.71 350 *e*p **P 10 19 46.1 -1.5**
comp=Z,19nm,0.6s
JOF Joensuu 24.71 350 *e*P **P 10 19 46.1 -1.5**
comp=Z,19nm,0.6s
BFO Black Forest 24.78 303 *i* P **P 10 19 48.7 +0.3**
BFO Black Forest 24.78 303 *i* P **P 10 19 48.7 +0.3**
BFO Black Forest 24.78 303 *e*P **P 10 19 52.7 +4.3**
comp=Z,37nm,1.3s
KAF Kangasniemi 24.82 344 *e*P **P 10 19 47.2 -1.3**
KAF pmax pmax
comp=Z,10.0nm,0.8s
KAF Kangasniemi 24.82 344 *e*p **P 10 19 47.2 -1.3**
comp=Z,10nm,0.8s
KAF Kangasniemi 24.82 344 *e*P **P 10 19 47.2 -1.3**
comp=Z,10nm,0.8s
LLD Lille Linde 24.94 321 *e*P P 10 19 54.4 +4.7
LLD Lille Linde 24.94 321 *i* P P 10 19 54.4 +4.7
SBF Sospel 24.97 292 *e*P **P 10 19 48.6 -1.6**
comp=Z,155nm,1.0s
SBF Sospel 24.97 292 *e*P **P 10 19 48.6 -1.6**
SBF pmax pmax
comp=Z,155nm,1.0s
SBF Sospel 24.97 292 *e*P **P 10 19 48.6 -1.6**
comp=Z,78nm,1.0s
SBF Sospel 24.97 292 *e*P **P 10 19 48.6 -1.6**
comp=Z,155nm,1.0s
BRVK Borovoye 25.10 46⇓*e*P **P 10 19 51.9 +0.7**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 25.10 46 *e*P **P 10 19 51.9 +0.7**
comp=Z,6.0nm,1.0s
BRVK Borovoye 25.10 46 *e*P **P 10 19 53.6 +2.4**
comp=Z,14nm,0.9s
TNS Taunus Mts 25.12 307 *e*P **P 10 19 52.8 +1.3**
comp=Z,67nm,1.6s
TNS Taunus Mts 25.12 307 *e*P **P 10 19 52.8 +1.3**
comp=Z,67nm,1.6s
BVAR Borovoye Array 25.15 46 P **P 10 19 52.2 +0.5**
BVAR pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 25.15 46 P **P 10 19 52.2 +0.5**
comp=Z,2.6nm,0.8s,baz=256,slow=6.0,SNR=6.7
BSEG Bad Segeberg 25.28 316 *e*P **P 10 19 56.1 +3.3**
comp=Z,76nm,1.5s
TMCR Tamitsa 25.41 358 *e*P **P 10 19 53.2 -0.6**
TMCR *e* 10 20 25.8
TMCR *e*S **S 10 24 23.7 +3.7**
TMCR pmax pmax
comp=Z,36nm,0.5s
TMCR Tamitsa 25.41 358 *e*P **P 10 19 53.2 -0.6**
comp=Z,36nm,0.5s
MBDF Montbardon 25.46 294 *e*P **P 10 19 53.7 -1.1**
comp=Z,36nm,0.7s
MBDF Montbardon 25.46 294 *e*P **P 10 19 53.7 -1.1**
MBDF pmax pmax
comp=Z,37nm,0.7s
MBDF Montbardon 25.46 294 *e*P **P 10 19 53.7 -1.1**
comp=Z,18nm,0.7s
MBDF Montbardon 25.46 294 *e*P **P 10 19 53.7 -1.1**
comp=Z,36nm,0.7s
CDF Champ du Feu 25.48 303 *e*P **P 10 19 52.6 -2.3**
comp=Z,29nm,1.1s
CDF Champ du Feu 25.48 303 *e*P **P 10 19 52.6 -2.3**
CDF pmax pmax
comp=Z,29nm,1.1s
CDF Champ du Feu 25.48 303 *e*P **P 10 19 52.6 -2.3**
comp=Z,14nm,1.1s
CDF Champ du Feu 25.48 303 *e*P **P 10 19 52.6 -2.3**
comp=Z,29nm,1.1s
LPG La Plagne 25.51 296 *e*P **P 10 19 54.2 -1.2**
comp=Z,72nm,1.0s
LPG La Plagne 25.51 296 *e*P **P 10 19 54.2 -1.2**
LPG pmax pmax
comp=Z,72nm,1.0s
LPG La Plagne 25.51 296 *e*P **P 10 19 54.2 -1.2**
comp=Z,36nm,1.0s
LPG La Plagne 25.51 296 *e*P **P 10 19 54.2 -1.2**
comp=Z,72nm,1.0s
LPL La Plagne 25.52 296 *e*P **P 10 19 54.0 -1.4**
comp=Z,39nm,1.0s
LPL La Plagne 25.52 296 *e*P **P 10 19 54.0 -1.4**
LPL pmax pmax
comp=Z,39nm,1.0s
LPL La Plagne 25.52 296 *e*P **P 10 19 54.0 -1.4**
comp=Z,20nm,1.0s
LPL La Plagne 25.52 296 *e*P **P 10 19 54.0 -1.4**
comp=Z,39nm,1.0s
ECH Echery 25.53 302 *e*P **P 10 19 53.9 -1.3**
ECH pmax pmax
comp=Z,16nm,0.9s
ECH Echery 25.53 302 *e*P **P 10 19 53.9 -1.3**
comp=Z,16nm,0.9s
ECH Echery 25.53 302 *e*P **P 10 19 53.9 -1.3**
comp=Z,16nm,0.9s
BNI Bardonecchia 25.54 295 *e*P **P 10 19 55.0 -0.4**
BNI pmax pmax
comp=Z,32nm,0.9s
BNI Bardonecchia 25.54 295 *e*P **P 10 19 55.0 -0.4**
comp=Z,32nm,0.9s
BNI Bardonecchia 25.54 295 *e*P **P 10 19 55.0 -0.4**
comp=Z,32nm,0.9s
FRF La Foret Royal 25.54 291 *e*P **P 10 19 53.3 -2.0**
comp=Z,125nm,1.3s
FRF La Foret Royal 25.54 291 *e*P **P 10 19 53.3 -2.0**
FRF pmax pmax
comp=Z,125nm,1.3s
FRF La Foret Royal 25.54 291 *e*P **P 10 19 53.3 -2.0**
comp=Z,62nm,1.3s
FRF La Foret Royal 25.54 291 *e*P **P 10 19 53.3 -2.0**
comp=Z,125nm,1.3s
LMR La Mourre 25.65 291 *e*P **P 10 19 54.9 -1.4**
comp=Z,144nm,1.5s
LMR La Mourre 25.65 291 *e*P **P 10 19 54.9 -1.4**
LMR pmax pmax
comp=Z,144nm,1.5s
LMR La Mourre 25.65 291 *e*P **P 10 19 54.9 -1.4**
comp=Z,72nm,1.5s
LMR La Mourre 25.65 291 *e*P **P 10 19 54.9 -1.4**
comp=Z,144nm,1.5s
EKS2 Erkin-Say 25.67 71 P **P 10 20 00.2 +3.6**
SNR=18
EKS2 Erkin-Say 25.67 71 *e*P **P 10 19 58.7 +2.1**
EKS2 pmax pmax
comp=Z,41nm,1.1s
EKS2 Erkin-Say 25.67 71 *e*P **P 10 19 58.7 +2.1**
comp=Z,41nm,1.1s
EKS2 Erkin-Say 25.67 71 *e*P **P 10 19 58.7 +2.1**
comp=Z,41nm,1.1s
HINF Hinteralfeld 25.67 301 *e*P **P 10 19 54.8 -1.7**
comp=Z,25nm,0.9s
HINF Hinteralfeld 25.67 301 *e*P **P 10 19 54.8 -1.7**
HINF pmax pmax
comp=Z,25nm,0.9s
HINF Hinteralfeld 25.67 301 *e*P **P 10 19 54.8 -1.7**
comp=Z,13nm,0.9s
HINF Hinteralfeld 25.67 301 *e*P **P 10 19 54.8 -1.7**
comp=Z,25nm,0.9s

CABF	La Chapelle	26.05	298	eP		P	10 19 58.9 -1.1
	comp=Z,110nm,0.9s						
CABF	La Chapelle	26.05	298	eP		P	10 19 58.9 -1.1
CABF					pmax	pmax	
	comp=Z,111nm,0.9s						
CABF	La Chapelle	26.05	298	eP		P	10 19 58.9 -1.1
	comp=Z,55nm,0.9s						
CABF	La Chapelle	26.05	298	eP		P	10 19 58.9 -1.1
	comp=Z,110nm,0.9s						
ORIF	Oris-en-Rattie	26.10	295	eP		P	10 19 58.2 -2.3
ORIF	Oris-en-Rattie	26.10	295	eP		P	10 19 58.2 -2.3
ORIF	Oris-en-Rattie	26.10	295	eP		P	10 19 58.2 -2.3
ORIF	Oris-en-Rattie	26.10	295	eP		P	10 19 58.2 -2.3
AAK	Ala-Archa	26.20	71	P		P	10 20 04.8 +3.3
	SNR=7.1						
AAK	Ala-Archa	26.20	71	deP		P	10 20 04.4 +2.9
AAK					pmax	pmax	
	comp=Z,54nm,1.8s						
AAK	Ala-Archa	26.20	71	P		P	10 20 03.6 +2.1
	comp=Z,9.7nm,0.9s,baz=231,slow=7.8,SNR=8.9						
FRU	Bishkek	26.27	70	⇓iP		P	10 20 06.0 +4.0
FRU					pmax	pmax	
	comp=Z,140nm,2.0s						
SMRF	Simiane la Rot	26.31	292	eP		P	10 20 01.2 -1.2
	comp=Z,119nm,1.5s						
SMRF	Simiane la Rot	26.31	292	eP		P	10 20 01.2 -1.2
	comp=Z,60nm,1.5s						
SMRF	Simiane la Rot	26.31	292	eP		P	10 20 01.2 -1.2
	comp=Z,119nm,1.5s						
CHMS	Chumysh	26.37	70	P		P	10 20 06.1 +3.2
	SNR=10.0						
CHMS	Chumysh	26.37	70	iP		P	10 20 06.1 +3.2
WLF	Walferdange	26.44	305	eP		P	10 20 06.4 +3.0
	comp=Z,64nm,1.7s						
PAGF	Fort de Pagny	26.52	303	eP		P	10 20 02.6 -1.6
	comp=Z,6.0nm,0.7s,baz=102						
PAGF	Fort de Pagny	26.52	303	eP		P	10 20 02.6 -1.6
	comp=Z,3.0nm,0.7s						
PAGF	Fort de Pagny	26.52	303	eP		P	10 20 02.6 -1.6
	comp=Z,6.0nm,0.7s						
SFTF	Sexfontaines	26.93	302	eP		P	10 20 06.5 -1.4
	comp=Z,36nm,0.9s						
SFTF	Sexfontaines	26.93	302	eP		P	10 20 06.5 -1.4
	comp=Z,18nm,0.9s						
SFTF	Sexfontaines	26.93	302	eP		P	10 20 06.5 -1.4
	comp=Z,36nm,0.9s						
TKM2	Tokmak 2	26.99	70	P		P	10 20 10.1 +1.4
	SNR=8.4						
TKM2	Tokmak 2	26.99	70	iP		P	10 20 10.1 +1.4
TKM2	Tokmak 2	26.99	70	iP		P	10 20 10.1 +1.4
TKM2	Tokmak 2	26.99	70	eP		P	10 20 11.0 +2.3
	comp=Z,17nm,1.1s						
HFS	Hagfors	27.06	331	P		P	10 20 09.4 +0.6
HFS					pmax	pmax	
	comp=Z,13nm,0.9s						
HFS	Hagfors	27.06	331	P		P	10 20 09.4 +0.6
	comp=Z,13nm,0.9s,baz=151,slow=6.8,SNR=9.8						
GIVF	Givet	27.37	306	eP		P	10 20 10.8 -0.9
GIVF	Givet	27.37	306	eP		P	10 20 10.8 -0.9
GIVF	Givet	27.37	306	eP		P	10 20 10.8 -0.9
GIVF	Givet	27.37	306	eP		P	10 20 10.8 -0.9
ULHL	Ulahol	27.51	71	P		P	10 20 12.6 -0.8
	SNR=10						
ULHL	Ulahol	27.51	71	iP		P	10 20 12.6 -0.8
ULHL	Ulahol	27.51	71	iP		P	10 20 12.6 -0.8
LASF	Ste Croix	27.55	293	eP		P	10 20 11.6 -1.9
	comp=Z,286nm,1.9s						
LASF	Ste Croix	27.55	293	eP		P	10 20 11.6 -1.9
	comp=Z,143nm,1.9s						
LASF	Ste Croix	27.55	293	eP		P	10 20 11.6 -1.9
	comp=Z,286nm,1.9s						
SMF	Signal de Mont	27.60	298	eP		P	10 20 12.1 -1.8
	comp=Z,31nm,1.0s						
SMF	Signal de Mont	27.60	298	eP		P	10 20 12.1 -1.8
SMF					pmax	pmax	
	comp=Z,31nm,1.0s						
SMF	Signal de Mont	27.60	298	eP		P	10 20 12.1 -1.8
	comp=Z,16nm,1.0s						
SMF	Signal de Mont	27.60	298	eP		P	10 20 12.1 -1.8
	comp=Z,31nm,1.0s						
LOR	Lormes	27.63	300	eP		P	10 20 12.4 -1.7
	comp=Z,42nm,1.1s,baz=98						
LOR	Lormes	27.63	300	eP		P	10 20 12.4 -1.7
LOR					pmax	pmax	
	comp=Z,42nm,1.1s						
LOR	Lormes	27.63	300	eP		P	10 20 12.4 -1.7
	comp=Z,21nm,1.1s						
LOR	Lormes	27.63	300	eP		P	10 20 12.4 -1.7
	comp=Z,42nm,1.1s						
KSH	Kashi	27.67	77	P		P	10 20 13.2 -1.6
KSH				sP		sP	10 20 20.6 +0.5
KSH				PP		PnPn	10 21 00.3 +0.1
KSH				S		S	10 24 51.1 -5.5
KSH				sS		sS	10 24 58.2 -4.6
KSH				SS		SnSn	10 26 08.1 +0.1
KSH				PMZ			
	comp=Z,7.0nm,1.2s						
KSH				PMZ			
	comp=Z,150nm,6.0s						
KSH				LN			
	comp=Z,560nm,8.3s						
KSH				LE			
	comp=Z,560nm,12.3s						
KSH				LZ			
	comp=Z,750nm,19.2s						
BAIF	Baives	27.75	306	eP		P	10 20 14.0 -1.1
	comp=Z,32nm,1.0s						
BAIF	Baives	27.75	306	eP		P	10 20 14.0 -1.1
BAIF					pmax	pmax	
	comp=Z,32nm,1.0s						
BAIF	Baives	27.75	306	eP		P	10 20 14.0 -1.1
	comp=Z,16nm,1.0s						
BAIF	Baives	27.75	306	eP		P	10 20 14.0 -1.1
	comp=Z,32nm,1.0s						
SSF	Saint Saulge	27.85	299	eP		P	10 20 14.7 -1.4
	comp=Z,34nm,1.1s						
SSF	Saint Saulge	27.85	299	eP		P	10 20 14.7 -1.4
SSF					pmax	pmax	
	comp=Z,34nm,1.1s						
SSF	Saint Saulge	27.85	299	eP		P	10 20 14.7 -1.4
	comp=Z,17nm,1.1s						
SSF	Saint Saulge	27.85	299	eP		P	10 20 14.7 -1.4
	comp=Z,34nm,1.1s						
AVF	Avril sur Loir	27.94	299	eP		P	10 20 14.8 -2.1
	comp=Z,45nm,1.1s						
AVF	Avril sur Loir	27.94	299	eP		P	10 20 14.8 -2.1
AVF					pmax	pmax	
	comp=Z,45nm,1.1s						
AVF	Avril sur Loir	27.94	299	eP		P	10 20 14.8 -2.1
	comp=Z,23nm,1.1s						
AVF	Avril sur Loir	27.94	299	eP		P	10 20 14.8 -2.1
	comp=Z,45nm,1.1s						
NB2	NORSAR Subarra	28.58	331	P		P	10 20 21.7 -0.8
	comp=Z,1.6nm,0.7s,baz=128,slow=9.3						
NB2	NORSAR Subarra	28.58	331	P		P	10 20 21.7 -0.8
	comp=Z,1.6nm,0.7s,SNR=8.0						
NOA	NORSAR Array B	28.58	331	P		P	10 20 21.9 -0.6
NOA					pmax	pmax	
	comp=Z,5.0nm,1.0s						
NOA				MLR		MLR	
	comp=Z,525nm,19.7s						
NOA	NORSAR Array B	28.58	331	P		P	10 20 21.9 -0.6
	comp=Z,4.6nm,1.0s,baz=128,slow=9.0,SNR=6.6						
NOA				LR		LR	10 33 23.1
	comp=Z,525nm,19.7s,baz=30,slow=40						
TCF	Toulx Ste Croi	28.71	297	eP		P	10 20 22.5 -1.3
	comp=Z,61nm,1.4s						
TCF	Toulx Ste Croi	28.71	297	eP		P	10 20 22.5 -1.3
TCF					pmax	pmax	
	comp=Z,61nm,1.4s						
TCF	Toulx Ste Croi	28.71	297	eP		P	10 20 22.5 -1.3
	comp=Z,30nm,1.4s						
TCF	Toulx Ste Croi	28.71	297	eP		P	10 20 22.5 -1.3
	comp=Z,61nm,1.4s						
MTLF	Montolieu	28.77	291	eP		P	10 20 23.3 -1.1
	comp=Z,120nm,1.6s						
MTLF	Montolieu	28.77	291	eP		P	10 20 23.3 -1.1
MTLF					pmax	pmax	
	comp=Z,120nm,1.6s						
MTLF	Montolieu	28.77	291	eP		P	10 20 23.3 -1.1
	comp=Z,60nm,1.6s						
MTLF	Montolieu	28.77	291	eP		P	10 20 23.3 -1.1
	comp=Z,120nm,1.6s						
CAF	Calviac	28.81	295	eP		P	10 20 23.5 -1.2
CAF	Calviac	28.81	295	eP		P	10 20 23.5 -1.2
CAF	Calviac	28.81	295	eP		P	10 20 23.5 -1.2
CAF	Calviac	28.81	295	eP		P	10 20 23.5 -1.2
RJF	Les Rejaudoux	29.19	295	eP		P	10 20 27.1 -1.0
RJF				eR			
	comp=Z,607nm,21.2s						
RJF	Les Rejaudoux	29.19	295	eP		P	10 20 27.1 -1.0
RJF	Les Rejaudoux	29.19	295	eP		P	10 20 27.1 -1.0
RJF	Les Rejaudoux	29.19	295	eP		P	10 20 27.1 -1.0
KURBB	Kurchatov Arra	29.38	54	P		P	10 20 28.6 -1.1
	comp=Z,2.6nm,0.5s,baz=269,slow=9.4,SNR=19						
KURK	Kurchatov	29.45	54	P		P	10 20 28.6 -1.7
KURK					pmax	pmax	
	comp=Z,3.0nm,0.5s						
KURK	Kurchatov	29.45	54	P		P	10 20 28.6 -1.7
	comp=Z,3.0nm,0.5s						
KURK	Kurchatov	29.45	54	P		P	10 20 28.6 -1.7
EPF	Esparros	30.17	291	eP		P	10 20 34.6 -2.2
	comp=Z,61nm,1.5s						
EPF	Esparros	30.17	291	eP		P	10 20 34.6 -2.2
EPF					pmax	pmax	
	comp=Z,61nm,1.5s						
EPF	Esparros	30.17	291	eP		P	10 20 34.6 -2.2
	comp=Z,31nm,1.5s						
EPF	Esparros	30.17	291	eP		P	10 20 34.6 -2.2
	comp=Z,61nm,1.5s						
MFF	Saint Martin d	30.34	298	eP		P	10 20 37.3 -0.9
	comp=Z,49nm,1.2s						
MFF	Saint Martin d	30.34	298	eP		P	10 20 37.3 -0.9
MFF					pmax	pmax	
	comp=Z,49nm,1.3s						
MFF	Saint Martin d	30.34	298	eP		P	10 20 37.3 -0.9
	comp=Z,25nm,1.2s						
MFF	Saint Martin d	30.34	298	eP		P	10 20 37.3 -0.9
	comp=Z,49nm,1.3s						
LDF	La Druitiere	30.39	302	eP		P	10 20 37.0 -1.6
LDF	La Druitiere	30.39	302	eP		P	10 20 37.0 -1.6
LDF	La Druitiere	30.39	302	eP		P	10 20 37.0 -1.6
LDF	La Druitiere	30.39	302	eP		P	10 20 37.0 -1.6
FLN	La Foliniere	30.64	302	eP		P	10 20 39.7 -1.1
FLN				eR			
	comp=Z,497nm,21.5s						
FLN	La Foliniere	30.64	302	eP		P	10 20 39.7 -1.1
FLN	La Foliniere	30.64	302	eP		P	10 20 39.7 -1.1
FLN	La Foliniere	30.64	302	eP		P	10 20 39.7 -1.1
ETSF	Etsaut	30.84	291	eP		P	10 20 40.7 -2.1
	comp=Z,17nm,0.8s						
ETSF	Etsaut	30.84	291	eP		P	10 20 40.7 -2.1
ETSF					pmax	pmax	
	comp=Z,17nm,0.8s						
ETSF	Etsaut	30.84	291	eP		P	10 20 40.7 -2.1
	comp=Z,8.5nm,0.8s						
ETSF	Etsaut	30.84	291	eP		P	10 20 40.7 -2.1
	comp=Z,17nm,0.8s						
GRR	Gorron	30.87	302	eP		P	10 20 40.8 -2.0
	comp=Z,86nm,1.3s						
GRR	Gorron	30.87	302	eP		P	10 20 40.8 -2.0
GRR					pmax	pmax	
	comp=Z,86nm,1.3s						
GRR	Gorron	30.87	302	eP		P	10 20 40.8 -2.0
	comp=Z,43nm,1.3s						
GRR	Gorron	30.87	302	eP		P	10 20 40.8 -2.0
	comp=Z,86nm,1.3s						
SJPF	Ste Jean	31.30	291	eP		P	10 20 44.5 -2.3
	comp=Z,69nm,1.3s						
SJPF	Ste Jean	31.30	291	eP		P	10 20 44.5 -2.3
SJPF					pmax	pmax	
	comp=Z,69nm,1.3s						
SJPF	Ste Jean	31.30	291	eP		P	10 20 44.5 -2.3
	comp=Z,34nm,1.3s						
SJPF	Ste Jean	31.30	291	eP		P	10 20 44.5 -2.3
	comp=Z,69nm,1.3s						
MKAR	Makanchi Array	31.61	62	P		P	10 20 49.7 +0.2
MKAR					pmax	pmax	
	comp=Z,8.0nm,0.9s						
MKAR	Makanchi Array	31.61	62	P		P	10 20 49.6 +0.2
	comp=Z,7.6nm,0.9s,baz=272,slow=6.5,SNR=25						
ARCES	ARCESS Array B	31.76	350	P		P	10 20 51.9 +1.4
ARCES					pmax	pmax	
	comp=Z,7.0nm,0.8s						
ARCES				MLR		MLR	
	comp=Z,992nm,19.8s						
ARCES	ARCESS Array B	31.76	350	P		P	10 20 51.9 +1.4
	comp=Z,4.5nm,0.7s,baz=186,slow=2.2,SNR=6.3						
ARCES				LR		LR	10 36 40.7
	comp=Z,992nm,19.8s,baz=88,slow=42						
SGMF	Saint Gilles	32.00	301	eP		P	10 20 51.0 -1.8
	comp=Z,113nm,1.4s						
SGMF	Saint Gilles	32.00	301	eP		P	10 20 51.0 -1.8
SGMF					pmax	pmax	
	comp=Z,113nm,1.4s						
SGMF	Saint Gilles	32.00	301	eP		P	10 20 51.0 -1.8
	comp=Z,57nm,1.4s						
SGMF	Saint Gilles	32.00	301	eP		P	10 20 51.0 -1.8
	comp=Z,113nm,1.4s						
NDI	New Delhi	32.25	97	eP		P	10 20 57.0 +1.8
QUIF	Quistinic	32.40	301	eP		P	10 20 55.3 -1.0
QUIF	Quistinic	32.40	301	eP		P	10 20 55.3 -1.0
QUIF	Quistinic	32.40	301	eP		P	10 20 55.3 -1.0
QUIF	Quistinic	32.40	301	eP		P	10 20 55.3 -1.0
ROSF	Rostrenen	32.48	301	eP		P	10 20 55.9 -1.1
	comp=Z,164nm,1.5s						
ROSF	Rostrenen	32.48	301	eP		P	10 20 55.9 -1.1
ROSF					pmax	pmax	
	comp=Z,164nm,1.5s						
ROSF	Rostrenen	32.48	301	eP		P	10 20 55.9 -1.1
	comp=Z,82nm,1.5s						
ROSF	Rostrenen	32.48	301	eP		P	10 20 55.9 -1.1
	comp=Z,164nm,1.5s						
NVS	Novosibirsk	32.93	47	eP		P	10 20 59.8 -1.1
NVS					pmax	pmax	
	comp=N,9.0nm,1.8s						
NVS					pmax	pmax	
	comp=Z,28nm,1.8s						
NVS					pmax	pmax	
	comp=E,5.0nm,1.0s						
NVS	Novosibirsk	32.93	47	eP		P	10 20 59.8 -1.1
TAM	Tamanrasset	33.52	252	eP		P	10 21 06.4 -0.2
TAM					pmax	pmax	
	comp=Z,34nm,0.9s						
TAM	Tamanrasset	33.52	252	eP		P	10 21 06.4 -0.2
	comp=Z,34nm,0.9s						
TAM	Tamanrasset	33.52	252	eP		P	10 21 06.4 -0.2
	comp=Z,34nm,0.9s						
ZALV	Zalesovo Beam	33.70	49	P		P	10 21 06.9 -0.7
ZALV					pmax	pmax	
	comp=Z,2.0nm,0.6s						
ZALV				MLR		MLR	
	comp=Z,415nm,19.8s						
ZALV	Zalesovo Beam	33.70	49	P		P	10 21 06.9 -0.7
	comp=Z,1.8nm,0.6s,baz=262,slow=7.8,SNR=6.6						
ZALV				LR		LR	10 35 53.5
	comp=Z,415nm,19.8s,baz=96,slow=38						
ESDC	Sonseca Array	33.91	286	P		P	10 21 08.4 -1.4
	comp=Z,11nm,1.0s,baz=68,slow=9.1,SNR=15						
WMQ	Urumqi	35.66	66	P		P	10 21 26.7 +1.9
WMQ				sP		sP	10 21 33.0 +2.8
WMQ				PP		PP	10 22 47.5 +1.8
WMQ				S		S	10 27 02.4 +1.4
WMQ				sS		sS	10 27 10.0 +2.7
WMQ				SS		SnSn	10 29 23.0 +0.9
WMQ				ScS		ScS	10 31 43.0 -0.6
WMQ				PMZ			
	comp=Z,10.0nm,2.2s						
WMQ				PMZ			
	comp=Z,410nm,6.0s						
WMQ				LN			
	comp=Z,630nm,22.0s						
WMQ				LE			
	comp=Z,360nm,25.0s						
WMQ				LZ			
	comp=Z,300nm,20.0s						
POLO	Lamas de Olo	36.40	290	eP		P	10 21 32.6 +1.5
	comp=Z,32nm,1.6s						
POLO	Lamas de Olo	36.40	290	eP		P	10 21 32.6 +1.5
	comp=Z,32nm,1.6s						
MTE	Manteigas	36.43	288	eP		P	10 21 32.0 +0.6
	comp=Z,38nm,1.2s						
MTE	Manteigas	36.43	288	eP		P	10 21 32.0 +0.6
	comp=Z,38nm,1.2s						
MDT	Midelt	36.50	275	P		P	10 21 31.9 -0.3
	comp=Z,4.8nm,1.0s,baz=101,slow=5.0,SNR=3.0						
PBAR	Barrancos	36.61	284	eP		P	10 21 33.3 +0.4
	comp=Z,46nm,1.1s						
PBAR	Barrancos	36.61	284	eP		P	10 21 33.3 +0.4
	comp=Z,46nm,1.1s						
PVIS	Viseu	36.61	289	eP		P	10 21 35.0 +2.0
	comp=Z,29nm,1.3s						
PGAV	Gavieira, Arco	36.62	291	eP		P	10 21 35.3 +2.2
	comp=Z,71nm,1.4s						
PESTR	Estremoz	36.84	286	eP		P	10 21 35.8 +0.9
	comp=Z,35nm,1.1s						
PESTR	Estremoz	36.84	286	eP		P	10 21 35.8 +0.9
	comp=Z,35nm,1.1s						
PYUN	Piuthan	37.01	94	eP		P	10 21 38.6 +2.0
	comp=Z,47nm,0.7s						
PVAQ	Vaqueiros	37.35	283	eP		P	10 21 40.3 +1.1
	comp=Z,49nm,1.6s						
PVAQ	Vaqueiros	37.35	283	eP		P	10 21 40.3 +1.1
	comp=Z,49nm,1.6s						
DANN	Dangsing	37.49	93	eP		P	10 21 42.9 +2.1
	comp=Z,81nm,0.9s						
KOLN	Koldanda	37.64	94	eP		P	10 21 44.1 +2.1
	comp=Z,38nm,0.9s						
PNCL	Nicolau / Gran	37.76	285	eP		P	10 21 45.4 +2.8
	comp=Z,21nm,1.7s						
GKN	Gorkha	38.34	93	eP		P	10 21 50.0 +2.2
KRAR	Krasnoyarsk	38.53	46	⇓eP		P	10 21 49.3 +0.4
KRAR					pmax	pmax	
	comp=Z,28nm,0.6s						
KRAR	Krasnoyarsk	38.53	46	eP		P	10 21 49.3 +0.4
	comp=Z,28nm,0.6s						
DMN	Daman	38.89	93	eP		P	10 21 54.6 +2.0
	comp=Z,100nm,1.0s						
KKN	Kakani	38.94	93	eP		P	10 21 54.6 +1.6
HVS	Khovu-Aksy	38.99	54	⇑eP		P	10 21 53.1 +0.1
HVS					pmax	pmax	
	comp=Z,100nm,1.2s						
HVS	Khovu-Aksy	38.99	54	eP		P	10 21 53.1 +0.1
	comp=Z,100nm,1.2s						
PKIN	Phulchoki	39.13	93	eP		P	10 21 56.3 +1.7
PKI	Pulchoki	39.15	93	eP		P	10 21 56.3 +1.5
GUN	Gumba	39.35	92	eP		P	10 21 57.9 +1.3
	comp=Z,78nm,1.1s						
HYB	Hyderabad	39.63	112	iP		P	10 21 59.0 +0.4
JIRN	Jiri	39.71	92	eP		P	10 22 00.6 +1.0
	comp=Z,50nm,1.0s						
KMBO	Kilima Mbogo	39.84	185	P		P	10 22 02.0 +1.4
KMBO					pmax	pmax	
	comp=Z,1.0nm,0.4s						
KMBO	Kilima Mbogo	39.84	185	P		P	10 22 02.0 +1.4
	comp=Z,0.6nm,0.4s,baz=265,slow=23,SNR=1.6						
KMBO	Kilima Mbogo	39.84	185	P		P	10 22 02.0 +1.4
	comp=Z,1.0nm,0.4s						
RAMN	Ramite	40.37	93	eP		P	10 22 06.7 +1.8
	comp=Z,68nm,1.1s						
SPITS	Spitsbergen Ar	40.68	353	P		P	10 22 05.9 -0.7
SPITS					pmax	pmax	
	comp=Z,28nm,1.0s						
SPITS	Spitsbergen Ar	40.68	353	P		P	10 22 05.9 -0.7
	comp=Z,29nm,1.0s,baz=133,slow=8.1,SNR=4.1						
SPITS	Spitsbergen Ar	40.68	353	P		P	10 22 05.9 -0.7
	comp=Z,28nm,1.0s						
ODAN	Odare	41.03	92	eP		P	10 22 11.9 +1.5
TAPN	Taplejung	41.05	92	eP		P	10 22 12.4 +1.8
	comp=Z,34nm,0.9s						
TORD	Torodi Ar. Bea	42.52	244	P		P	10 22 20.4 -2.0
	comp=Z,4.6nm,0.9s,baz=51,slow=8.4,SNR=11						
LSA	Lhasa	42.65	86	P		P	10 22 26.0 +2.1
LSA	Lhasa	42.65	86	P		P	10 22 24.6 +0.7
LSA					pmax	pmax	
	comp=Z,15nm,0.8s						
LSA	Lhasa	42.65	86	P		P	10 22 24.6 +0.7
	comp=Z,15nm,0.8s						
LSA	Lhasa	42.65	86	P		P	10 22 24.6 +0.7
	comp=Z,15nm,0.8s						
MOY	Mondy	43.49	52	eP		P	10 22 32.9 +2.9
MOY					pmax	pmax	
	comp=Z,38nm,2.4s						
ZAK	Zakamensk	45.12	54	eP		P	10 22 43.1 +0.1
ZAK					pmax	pmax	
	comp=Z,2.0nm,1.4s						
ZAK	Zakamensk	45.12	54	eP		P	10 22 43.1 +0.1
	comp=Z,2.0nm,1.4s						
TLY	Talaya	45.12	52	P		P	10 22 43.3 +0.4
	comp=Z,6.1nm,0.9s,baz=251,slow=8.8,SNR=21						
IRK	Irkutsk	45.41	51	eP		P	10 22 43.4 -1.8
IRK				e			10 24 31.2
IRK					pmax	pmax	
	comp=Z,47nm,1.3s						
IRK	Irkutsk	45.41	51	eP		P	10 22 43.4 -1.8
	comp=Z,47nm,1.3s						
GTA	Gaotai	45.54	70	eP		P	10 22 49.8 +3.3
GTA				pP		pP	10 22 54.4 +4.0
GTA				sP		sP	10 22 56.8 +4.9
GTA				PMZ			
	comp=Z,6.0nm,1.1s						
SONM	Songino Array	47.67	57	P		P	10 23 04.5 +1.3
	comp=Z,2.1nm,0.8s,baz=267,slow=8.1,SNR=12						
SONM				LR		LR	10 45 37.0
	comp=Z,631nm,19.0s,baz=276,slow=39						
ULN	Ulaanbaatar	48.09	56	diP		P	10 23 07.3 +0.9
ULN					pmax	pmax	
	comp=Z,34nm,1.2s						
ULN	Ulaanbaatar	48.09	56	iP		P	10 23 07.3 +0.9
	comp=Z,34nm,1.2s						
ULN	Ulaanbaatar	48.09	56	eP		P	10 23 07.6 +1.2
	comp=Z,26nm,1.1s						
PALK	Pallekele	48.14	120	P		P	10 23 08.9 +1.9
	comp=Z,20nm,0.8s,baz=310,slow=8.6,SNR=8.1						
PALK				LR		LR	10 44 17.3
	comp=Z,744nm,18.1s,baz=297,slow=37						
LZH	Lanzhou	49.72	72	eP		P	10 23 20.6 +1.5
LZH				pP		pP	10 23 23.9 +0.9
LZH				sP		sP	10 23 25.3 +0.8
LZH				ePP		PP	10 25 15.7 +2.2
LZH				eS		S	10 30 27.0 -0.9
LZH				sS		sS	10 30 34.5 +0.1
LZH				eSS		SS	10 33 55.8 -4.2
LZH				PMZ			
	comp=Z,29nm,1.2s						
LZH				PMZ			
	comp=Z,130nm,7.0s						
LZH				LN			
	comp=Z,500nm,14.0s						
LZH				LE			
	comp=Z,450nm,13.7s						
LZH				LZ			
	comp=Z,570nm,16.5s						
BOD	Bodaibo	49.93	42	⇑iP		P	10 23 19.3 -0.9
BOD					pmax	pmax	
	comp=Z,27nm,1.0s						
BOD	Bodaibo	49.93	42	iP		P	10 23 19.3 -0.9
	comp=Z,27nm,1.0s						
DBIC	Dimbokro	51.64	244	P		P	10 23 31.7 -1.8
DBIC					pmax	pmax	
	comp=Z,9.0nm,0.6s						
DBIC	Dimbokro	51.64	244	P		P	10 23 31.7 -1.8
	comp=Z,8.7nm,0.6s,baz=26,slow=8.1,SNR=15						
DBIC	Dimbokro	51.64	244	eP		P	10 23 31.2 -2.3
	comp=Z,7.0nm,0.6s						
DBIC	Dimbokro	51.64	244	eP		P	10 23 31.2 -2.3
	comp=Z,7.0nm,0.6s						
TIC	Toumodi	51.77	244	eP		P	10 23 32.9 -1.6
	comp=Z,22nm,0.7s						
KIC	Kosan Boka	51.77	243	eP		P	10 23 32.0 -2.6
	comp=Z,31nm,0.8s						
LIC	Lamto	52.07	243	eP		P	10 23 34.7 -2.1
	comp=Z,49nm,1.0s,baz=55						
LIC	Lamto	52.07	243	eP		P	10 23 34.6 -2.2
	comp=Z,66nm,1.0s						
L

comp=Z,400nm,17.3s
HHC LZ
comp=Z,550nm,17.3s
CHTO Chiang Mai 54.30 94 P P 10 23 56.5 +3.3
comp=Z,39nm,1.6s
CMMT Chiang Mai 54.31 94 P P 10 23 56.5 +3.2
comp=Z,11nm,1.5s
XAN Xi'an 54.36 72 P **P 10 23 56.3 +2.8**
XAN pP pP 10 24 02.6 +5.2
XAN PMZ
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 54.51 94 P **P 10 23 55.4 +0.7**
CMAR pmax pmax
comp=Z,4.0nm,1.0s
CMAR Chiang Mai Arr 54.51 94 P **P 10 23 55.4 +0.7**
comp=Z,3.4nm,0.9s,baz=297,slow=7.7,SNR=8.7
CMAR Chiang Mai Arr 54.51 94 P **P 10 23 55.4 +0.7**
comp=Z,4.0nm,1.0s
LSZ Lusaka 54.97 194 *eP* **P 10 23 57.1 -1.0**
LSZ pmax pmax
comp=Z,3.0nm,0.6s
LSZ Lusaka 54.97 194 *eP* **P 10 23 57.0 -1.0**
comp=Z,2.8nm,0.6s
LSZ Lusaka 54.97 194 *eP* **P 10 23 57.0 -1.0**
comp=Z,2.8nm,0.6s
LAMP Lampang 55.01 94 P P 10 24 05.7 +7.4
comp=Z,4.8nm,1.1s
SUKH Sukhothai 55.60 95 P P 10 24 10.0 +7.4
comp=Z,3.3nm,1.0s
HIA Hailar 55.65 51 *c iP* **P 10 24 03.3 +0.7**
HIA pmax pmax
comp=Z,49nm,1.2s
HIA Hailar 55.65 51 *eP* **P 10 24 02.7 +0.1**
comp=Z,38nm,1.1s
HIA Hailar 55.65 51 *eP* **P 10 24 02.7 +0.1**
comp=Z,38nm,1.1s
UTTA Uttaradit 56.17 94 P P 10 24 12.5 +5.9
comp=Z,2.3nm,0.9s
GYA Guiyang 56.24 81 *eP* **P 10 24 08.4 +1.1**
GYA PMZ
comp=Z,10.0nm,1.0s
BJT Baijiatuau 56.99 63 *eP* **P 10 24 15.2 +3.0**
BJT Baijiatuau 56.99 63 *eP* **P 10 24 15.2 +3.0**
BJT Baijiatuau 56.99 63 *eP* **P 10 24 15.2 +3.0**
PBKT Sadao Pong 57.17 95 P P 10 24 17.7 +3.9
TIA Tai'an 59.36 66 ⇓P P 10 24 33.0 +4.1
TIA PMZ
comp=Z,40nm,1.1s
WHN Wuhan 60.05 73 P P 10 24 37.1 +3.4
CN2 Changchun 61.51 55 *eP* P 10 24 40.0 -3.5
LBTB Lobatse 64.95 195 *eP* **P 10 25 06.1 -0.4**
LBTB pmax pmax
comp=Z,14nm,0.8s
LBTB Lobatse 64.95 195 *eP* **P 10 25 06.1 -0.4**
comp=Z,14nm,0.8s
LBTB Lobatse 64.95 195 *eP* **P 10 25 06.1 -0.4**
comp=Z,14nm,0.8s
SEY Seymchan 65.17 28 P **P 10 25 08.6 +1.3**
SEY pmax pmax
comp=Z,7.0nm,0.8s
SEY Seymchan 65.17 28 P **P 10 25 08.6 +1.3**
comp=Z,6.7nm,0.8s,baz=286,slow=5.7,SNR=10
USRK Ussuriysk Ar. 65.43 52 LR LR 10 56 20.6
comp=Z,233nm,18.9s,baz=294,slow=38
BILL Bilibino 66.09 19 *eP* **P 10 25 13.6 +0.4**
BILL pmax pmax
comp=Z,19nm,1.2s
BILL Bilibino 66.09 19 *eP* **P 10 25 13.6 +0.4**
comp=Z,19nm,1.2s
BILL Bilibino 66.09 19 *eP* **P 10 25 13.6 +0.4**
comp=Z,19nm,1.2s
KSAR Wonju Array Be 66.26 60 P **P 10 25 16.4 +1.5**
KSAR Wonju Array Be 66.26 60 P **P 10 25 16.4 +1.5**
KSAR Wonju Array Be 66.26 60 P **P 10 25 16.4 +1.5**
KSRS Korea Array 66.28 60 P **P 10 25 16.4 +1.4**
KSRS pmax pmax
comp=Z,16nm,0.9s
KSRS Korea Array 66.28 60 P **P 10 25 16.4 +1.4**
comp=Z,16nm,0.9s,baz=296,slow=5.7,SNR=14
SCHQ Schefferville 67.83 323 P **P 10 25 25.0 +0.4**
comp=Z,2.2nm,0.8s,baz=32,slow=1.4,SNR=4.6
BOSA Boshof 68.52 194 P **P 10 25 28.0 -1.2**
BOSA pmax pmax
comp=Z,6.0nm,0.8s
BOSA Boshof 68.52 194 P **P 10 25 28.0 -1.2**
comp=Z,6.4nm,0.8s,baz=14,slow=8.0,SNR=5.8
BOSA Boshof 68.52 194 P **P 10 25 28.0 -1.2**
comp=Z,6.0nm,0.8s
YSS Yuzh-Sakhalins 70.24 45 *eP* **P 10 25 42.0 +2.4**
YSS Yuzh-Sakhalins 70.24 45 *eP* **P 10 25 42.0 +2.4**
MJAR Matsushiro Arr 73.62 56 P **P 10 26 01.7 +1.5**
MJAR pmax pmax
comp=Z,6.0nm,1.0s
MJAR MLR MLR
comp=Z,217nm,19.4s
MJAR Matsushiro Arr 73.62 56 P **P 10 26 01.7 +1.5**
comp=Z,6.5nm,1.0s,baz=304,slow=6.5,SNR=7.3
MJAR LR LR 11 01 18.5
comp=Z,217nm,19.4s,baz=320,slow=38
PETK Petropavlovsk- 73.72 34 LR LR 11 02 25.7
comp=Z,100nm,21.3s,baz=286,slow=39
ILAR Eielson Array 76.59 3 P **P 10 26 17.0 +0.2**
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR Eielson Array 76.59 3 P **P 10 26 16.9 +0.2**
comp=Z,2.4nm,1.0s,baz=318,slow=1.0,SNR=1.2
ILAR Eielson Array 76.59 3 P **P 10 26 17.0 +0.2**
comp=Z,3.0nm,1.0s
YKA Yellowknife Ar 77.00 348 P **P 10 26 19.9 +0.8**
YKA pmax pmax
comp=Z,7.0nm,1.1s
YKA Yellowknife Ar 77.00 348 P **P 10 26 19.9 +0.8**
comp=Z,7.3nm,1.1s,baz=17,slow=6.1,SNR=26
DAWY Dawson 77.45 360 *eP* **P 10 26 21.7 0.0**
DAWY Dawson 77.45 360 *eP* **P 10 26 21.7 0.0**
DOT Dot Lake 77.81 2 *e*PcP P 10 26 27.3 +3.6
FFC Flin Flon 81.32 339 *eP* **P 10 26 43.0 +0.2**
FFC pmax pmax
comp=Z,9.0nm,1.1s
FFC Flin Flon 81.32 339 *eP* **P 10 26 43.0 +0.2**
comp=Z,9.0nm,1.1s
FFC Flin Flon 81.32 339 *eP* **P 10 26 43.0 +0.2**
comp=Z,9.0nm,1.1s
ULM Lac du Bonnet 83.23 333 P **P 10 26 55.6 +2.6**
ULM pmax pmax
comp=Z,6.0nm,1.0s
ULM Lac du Bonnet 83.23 333 P **P 10 26 55.5 +2.6**
comp=Z,5.6nm,1.0s,baz=39,slow=4.3,SNR=4.8
A30A Hoffart Farm, 85.18 334 P **P 10 27 03.4 +0.5**
baz=85
A29A Manning Farm, 85.51 334 P **P 10 27 04.4 -0.2**
baz=85
B30A Myrvik Farm, E 85.61 334 P **P 10 27 04.3 -0.7**
baz=85
B29A Wagenman Farm, 85.95 334 P **P 10 27 04.9 -1.8**
baz=86
B28A Dugan Ranch, T 86.30 335 P **P 10 27 11.2 +2.7**
baz=86
C30A Mose, Pekin 86.30 333 P **P 10 27 07.5 -1.0**
baz=86
D30A Buchanan 86.91 333 P **P 10 27 10.3 -1.2**
baz=87
A24A Westby 87.04 337 P **P 10 27 14.9 +2.8**
baz=87
D29A Pettibone, Tap 87.24 334 P P 10 27 16.1 +3.0
baz=87
C26A Wahner Farm, P 87.41 336 P **P 10 27 16.0 +2.1**
baz=87
E30A Jud 87.48 333 P P 10 27 17.3 +3.0
baz=87
D26A Manning 88.22 335 P P 10 27 21.0 +3.2
baz=88
A19A Klindworth Far 88.38 340 P P 10 27 22.1 +3.5
baz=88
B19A Brinkman Farms 88.87 340 P P 10 27 24.0 +3.1
baz=88
D22A Cohagen 89.28 338 P **P 10 27 25.4 +2.6**
baz=89
C20A Veseth Ranch, 89.29 339 P **P 10 27 25.3 +2.4**
baz=89
F26A Lodgepole 89.34 335 P P 10 27 26.2 +3.1
baz=89
LAO LASA Array 89.70 338 *eP* **P 10 27 25.9 +1.0**
comp=Z,15nm,1.0s
LAO LASA Array 89.70 338 *eP* **P 10 27 25.9 +1.0**
comp=Z,15nm,1.0s
F24A Ekalaka 89.92 336 P **P 10 27 27.6 +1.7**
baz=90
YBMT Yellow Bay 90.68 343 *e*P P 10 27 23.7 -5.7
NEW Newport 90.97 345 P **P 10 27 31.4 +0.7**
baz=91
SWMT Swartz Lake 91.01 343 *eP* P 10 27 35.3 +4.3
F20A Billings 91.07 338 P **P 10 27 33.9 +2.6**
baz=91
SLMT Seeley Lake 91.14 342 *eP* **P 10 27 34.2 +2.5**
SLMT Seeley Lake 91.14 342 *eP* **P 10 27 34.2 +2.5**
I25A Rochford 91.31 335 P **P 10 27 34.4 +1.8**
baz=91
BATI Baumata 91.32 102 LR LR 11 13 30.5
comp=Z,126nm,19.9s,slow=39
CHMT Chamberlain Mo 91.39 342 *eP* P 10 27 37.2 +4.4
G20A Bridger 91.62 338 P **P 10 27 35.8 +1.9**
baz=91
MSO Missoula 91.63 343 P **P 10 27 36.1 +2.2**
baz=91
MSO Missoula 91.63 343 *eP* P 10 27 37.7 +3.8
comp=Z,47nm,1.9s
MSO *e*pP pP 10 27 47.2 +9.1
H21A Big Horn, Sher 91.81 337 P **P 10 27 36.7 +2.0**
baz=92
J25A Sunshine Ranch 91.89 335 P **P 10 27 36.4 +1.2**
baz=92
BOZ Bozeman (W) 92.17 341 *eP* **P 10 27 36.8 +0.4**
BOZ pmax pmax
comp=Z,26nm,1.7s
BOZ Bozeman (W) 92.17 341 *eP* **P 10 27 36.8 +0.4**
comp=Z,26nm,1.7s
BOZ Bozeman (W) 92.17 341 *eP* **P 10 27 36.8 +0.4**
comp=Z,26nm,1.7s
LRM Limekiln Ridge 92.21 341 *eP* P 10 27 41.2 +4.5
H18A Shoshone NF, C 92.53 339 P **P 10 27 37.0 -1.3**
baz=92
DLMT Dillon 92.68 341 *eP* P 10 27 42.8 +4.0
comp=Z,61nm,1.6s
QLMT Earthquake Lak 92.87 340 *eP* P 10 27 44.2 +4.5
FLWY Flagg Ranch 93.37 339 *eP* P 10 27 47.3 +5.3
comp=Z,11nm,1.2s
K22A Casper 93.44 336 *eP* **P 10 27 43.0 +0.6**
comp=Z,5.3nm,0.9s
K22A Casper 93.44 336 *eP* **P 10 27 43.0 +0.6**
comp=Z,5.3nm,0.9s
REDW Red Top Meadow 94.08 339 *eP* P 10 27 49.0 +3.7
comp=Z,23nm,1.8s
HLID Hailey 94.82 342 *eP* **P 10 27 47.6 -1.1**
comp=Z,43nm,1.9s
HLID Hailey 94.82 342 *eP* **P 10 27 47.6 -1.1**
comp=Z,43nm,1.9s
MFID Camas Ranch 95.30 343 *e*pP **P 10 27 51.5 +0.7**
MFID Camas Ranch 95.30 343 *e*pP **P 10 27 51.5 +0.7**
MOD Modoc Plateau 97.70 345 *eP* **P 10 28 00.4 -1.4**
comp=Z,60nm,1.9s
MOD Modoc Plateau 97.70 345 *eP* **P 10 28 00.4 -1.4**
comp=Z,60nm,1.9s

GUC 08 10:29:25.9±0.4, 34°.87S×72°.70W, h12km±2km, ML3.6, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.21**	**97**	*i* P		Pn	10 29 47.3	-1.4
NICH				*i* S		Sb	10 30 03.6	-0.8
COCH	**Cobquecura**	**1.26**	**183**	*i* P		Pn	10 29 48.1	-1.3
COCH				*i* S		Sb	10 30 04.8	-1.0
LNCH	**Linares**	**1.32**	**138**	*eP*		Pn	10 29 49.0	-1.2
LNCH				*e*S		Sb	10 30 06.7	-1.0
LNCH				IAML			10 30 13.5	
comp=N,3μm,0.6s								
CLCH	**Cerro Calan**	**2.31**	**51**	*i* P		Pn	10 30 05.1	+1.1
CLCH				⇓*i* S		Sb	10 30 34.6	-1.8
CLCH				IAML			10 30 46.4	
comp=N,446nm,0.6s								
PEL	**Peldehue**	**2.40**	**45**	*i* P		Pn	10 30 05.8	+0.8
PEL				*i* S		Sb	10 30 36.7	-2.0
PEL				IAML			10 30 47.0	
comp=E,379nm,0.7s								

*IDC **08** 10:38:20.6±0.5, 33°.68S×72°.07W, h0km, mb4.5/15, mb1 4.6/18, mb1mx4.6/21, mbtmp4.5/18, ML4.8/3, MS4.4/7, Ms1 4.4/7, ms1mx4.1/20, Error ellipse: s-maj=21.3km s-min=14.6km az=80.0*
*NEIC **08** 10:38:23.0, 33°.76S×72°.21W, h2km, mb4.9/55, ML5.0(GUC), After GUC.*
NEIC Felt [III] at San Antonio and Valparaiso and [II] at Santiago.
*GUC **08** 10:38:23.0±0.6, 33°.76S×72°.21W, h2km±6km, ML5.0*
*ISCJB **08** 10:38:25.0±0.2, 33°.73S±0°.04×72°.26W±0°.03, h33km, mb4.7/66, MS4.5/5, Error ellipse: s-maj=5.1km s-min=3.4km az=12.2*
*BJI **08** 10:38:25.5, 33°.25S×71°.81W, h35km, mB5.2/5, Ms5.3/5, Ms7 5.0/5*

ISC 08 10:38:25.8±0.8, 33°.75S±0°.04×72°.14W±0°.06, h32km±5km, n463, σ0.86/478, mb4.7/68, MS4.5/5, 152C-175D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.83**	**30**	⇑*iP*		**Pb**	**10 38 39.8**	**-2.0**
IHA				*i* S		**Sn**	**10 38 52.8**	**+0.5**
IHA	**Instituto Hidr**	**0.83**	**30**	⇑*iP*		**Pb**	**10 38 39.8**	**-2.0**
IHA				*i* S		**Sn**	**10 38 52.8**	**+0.5**
ANTU	**Antumapu**	**1.27**	**82**	⇓*iP*		**Pn**	**10 38 47.4**	**0.0**
ANTU				*i* S		**Sb**	**10 39 05.7**	**+0.5**
ANTU				AML		AML	10 39 08.8	
comp=N,58μm,0.3s								
ANTU	**Antumapu**	**1.27**	**82**	⇓*iP*		**Pn**	**10 38 47.4**	**0.0**
ANTU				*i* S		**Sb**	**10 39 05.7**	**+0.5**
PEL	**Peldehue**	**1.36**	**64**	⇑*iP*		**Pb**	**10 38 49.2**	**-1.5**
PEL				*i* S1		**Sb**	**10 39 08.8**	**+1.1**
PEL				AML		AML	10 39 16.2	
comp=E,57μm,0.5s								
PEL	**Peldehue**	**1.36**	**64**	⇑*iP*		**Pb**	**10 38 49.2**	**-1.5**
PEL				*i* S		**Sb**	**10 39 08.8**	**+1.1**
FSR	**Penalolen**	**1.37**	**79**	*eP*9		**Pg**	**10 38 50.3**	**+1.5**
FSR				*e*S1		**Sb**	**10 39 09.9**	**+1.7**
FSR	**Penalolen**	**1.37**	**79**	*eP*		**Pg**	**10 38 50.3**	**+1.5**
FSR				*e*S		**Sb**	**10 39 09.9**	**+1.7**
LACH	**Col Las Americ**	**1.38**	**78**	⇑*iP*		**Pn**	**10 38 49.1**	**+0.3**
LACH				*i* S1		**Sb**	**10 39 09.1**	**+0.8**
LACH				AML		AML	10 39 18.7	
comp=E,12μm,0.6s								
LACH	**Col Las Americ**	**1.38**	**78**	⇑*iP*		**Pn**	**10 38 49.1**	**+0.3**
LACH				*i* S		**Sb**	**10 39 09.1**	**+0.8**
CLCH	**Cerro Calan**	**1.39**	**76**	⇓*iP*		**Pn**	**10 38 49.1**	**+0.1**
CLCH				*i* S		**Sb**	**10 39 09.4**	**+0.9**
CLCH				AML		AML	10 39 17.5	
comp=N,34μm,0.6s								
CLCH				AML		AML	10 39 18.7	
comp=N,41μm,0.7s								
NICH	**Los Niches**	**1.46**	**149**	⇑*iP*		**Pn**	**10 38 50.0**	**+0.1**
NICH				*i* S1		**Sb**	**10 39 10.1**	**-0.5**
NICH				AML		AML	10 39 20.4	
comp=E,83μm,0.5s								
NICH	**Los Niches**	**1.46**	**149**	⇑*iP*		**Pn**	**10 38 50.0**	**+0.1**
NICH				*i* S		**Sb**	**10 39 10.1**	**-0.5**
LNCH	**Linares**	**2.14**	**168**	AML		AML	10 39 35.1	
comp=N,26μm,0.6s								
CFAA	**Coronel Fontan**	**3.92**	**58**	Pn		**Pn**	**10 39 25.9**	**+2.1**
comp=N,2.9nm,0.3s,baz=225,slow=9.1,SNR=67								
CFAA				LR		LR	10 40 22.3	
comp=N,134nm,21.0s,baz=250,slow=32								
CFAA				Lg		Lg	10 40 24.5	
comp=N,10nm,0.3s,baz=51,slow=11,SNR=5.8								
PLCA	**Paso Flores**	**7.09**	**170**	Pn		**Pn**	**10 40 06.7**	**-0.5**
comp=N,6.1nm,0.3s,baz=341,slow=9.9,SNR=81								
PLCA				Lg		Lg	10 42 04.7	
comp=N,15nm,0.3s,baz=41,slow=22,SNR=5.2								
PLCA				LR		LR	10 42 56.5	
comp=N,3μm,18.6s,baz=350,slow=39								
TRQA	**Tornquist**	**9.30**	**120**	*e*Pn		**Pn**	**10 40 37.5**	**-0.1**
LVC	**Limon Verde**	**11.45**	**15**	*e*Pn		Pn	10 41 01.3	-6.0
CPUP	**Villa Florida**	**14.80**	**64**	Pn		**Pn**	**10 41 51.8**	**-0.9**
comp=N,0.7nm,0.3s,baz=222,slow=9.9,SNR=3.6								
CPUP				LR		LR	10 47 59.6	
comp=N,2μm,20.3s,baz=235,slow=39								
LPAZ	**La Paz**	**17.76**	**13**	P		**Pn**	**10 42 30.8**	**-0.3**
comp=N,0.9nm,0.3s,baz=190,slow=5.9,SNR=74								
SIV	**San Ignacio**	**20.31**	**32**	P		**P**	**10 42 58.1**	**-1.0**
comp=N,13nm,0.6s,baz=223,slow=12,SNR=24								

USHA Ushuaia 21.24 174 P **P 10 43 12.4 +3.6**
comp=N,8.3nm,0.8s,baz=323,slow=6.9,SNR=2.6
SAML Samuel 26.02 21 *eP* **P 10 43 55.6 -0.4**
comp=N,20nm,0.9s
BDFB Brasilia 28.27 56 P **P 10 44 15.6 -0.7**
comp=N,9.1nm,0.5s,baz=234,slow=7.7,SNR=11
PMSA Palmer Station 31.45 173 P **P 10 44 44.3 +0.5**
comp=N,9.0nm,0.4s,baz=45,slow=6.8,SNR=6.4
SDV Santo Domingo 42.42 2 *eP* **P 10 46 17.6 -0.1**
comp=N,34nm,1.7s
VNA3 Neumayer Olymp 49.62 158 P **P 10 47 14.7 +1.1**
VNA1 Neumayer--Stat 49.94 157 P P 10 47 21.8 +5.8
VNA2 Neumayer--Watz 50.28 157 P **P 10 47 18.4 -0.2**
CELP Cerrillos 51.80 7 *eP* **P 10 47 30.0 -0.6**
SNAA Sanae 51.85 158 P **P 10 47 30.9 +0.4**
SNAA Sanae 51.85 158 P **P 10 47 31.1 +0.6**
comp=N,1.8nm,0.6s,baz=274,slow=8.2,SNR=22
SNAA Sanae 51.85 158 *eP* **P 10 47 30.9 +0.4**
comp=N,23nm,1.1s
QSPA South Pole Qui 56.49 180 *eP* **P 10 48 05.0 +0.6**
comp=N,222nm,2.8s
H06S1 SOCORRO T 63.98 319 T T 11 59 48.9
SNR=8.6
VNDA Vanda 64.33 191 P **P 10 48 59.5 +1.8**
comp=N,0.9nm,0.7s,baz=133,slow=9.1,SNR=2.6
035A Encino 65.19 334 ⇓P **P 10 49 05.2 +1.4**
baz=66
SYO Syowa Base 66.13 159⇓*e*pP pP 10 49 18.6 -0.8
SYO Syowa Base 66.13 159⇓*e*sP sP 10 49 25.6 +2.4
933A Laredo 66.23 334 ⇓P **P 10 49 11.9 +1.4**
baz=66
834A Tilden 66.43 335 ⇓P **P 10 49 13.0 +1.2**
baz=67,SNR=5.4
735A Kenedy 66.84 336 ⇑P **P 10 49 16.0 +1.7**
baz=67
833A Chaparral WMA, 66.92 334 ⇓P **P 10 49 15.7 +0.8**
baz=67,SNR=8.6
734A La Parita Cree 67.09 335 ⇑P **P 10 49 17.9 +1.9**
baz=67
832A Faith Ranch, C 67.10 333 ⇓P **P 10 49 16.5 +0.4**
baz=67,SNR=11
636A Smothers Creek 67.16 337 ⇑P **P 10 49 17.3 +0.9**
baz=68,SNR=5.5
733A Divot King Ran 67.24 334 ⇓P **P 10 49 17.9 +1.0**
baz=68
732A Laxson Ranch, 67.50 334 ⇓P **P 10 49 18.9 +0.3**
baz=68,SNR=10
GOGA Godfrey 67.65 350 *eP* **P 10 49 18.9 -0.5**
comp=N,101nm,2.8s
438A Sam Houston St 67.83 338 ⇑P **P 10 49 22.1 +1.5**
baz=68
535A Dale 67.84 336 ⇑P **P 10 49 21.7 +1.0**
baz=68
633A Saathoff Ranch 67.87 335 ⇑P **P 10 49 21.9 +0.9**
baz=68
LRAL Lakeview Retre 67.88 347 *eP* **P 10 49 20.7 -0.2**
comp=N,108nm,3.0s
340A Bronson 67.99 340 ⇓P **P 10 49 22.4 +0.8**
baz=68
339A Huntington 68.10 339 ⇑P **P 10 49 23.3 +1.1**
baz=68
632A Uvalde 68.13 334 ⇓P **P 10 49 23.0 +0.4**
baz=68,SNR=7.3
534A Blanco 68.14 336 ⇓P **P 10 49 24.3 +1.6**
baz=68
631A Perdido Creek 68.34 333 ⇓P **P 10 49 25.2 +1.4**
baz=69
533A Kerrville 68.38 335 ⇓P **P 10 49 24.4 +0.3**
baz=69,SNR=7.7
337A Centerville 68.48 338 ⇑P **P 10 49 26.0 +1.3**
baz=69
435B Jarrell 68.53 337 ⇓P **P 10 49 26.3 +1.2**
baz=69
532A Rocksprings 68.74 334 ⇑P **P 10 49 26.9 +0.5**
baz=69,SNR=16
434A Burnet 68.79 336 ⇓P **P 10 49 26.5 -0.1**
baz=69,SNR=9.6
336A Riesel 68.85 337 ⇓P **P 10 49 27.2 +0.2**
baz=69,SNR=6.2
531A Rocksprings 69.01 334 ⇑P **P 10 49 28.6 +0.5**
baz=69,SNR=7.8
433A Art 69.02 335 ⇑P **P 10 49 28.1 0.0**
baz=69,SNR=16
JCT Junction City 69.02 335 ⇓P **P 10 49 28.3 +0.1**
baz=69,SNR=8.0
JCT Junction City 69.02 335 *eP* **P 10 49 28.2 +0.1**
comp=N,18nm,1.0s
KMSC Kings Mountain 69.07 352 ⇓P **P 10 49 28.0 -0.3**
baz=69
237A Washetta, Mont 69.10 339 ⇑P **P 10 49 29.6 +1.1**
baz=69
334A Lometa 69.26 336 ⇓P **P 10 49 29.9 +0.3**
baz=70,SNR=6.6
530A J-C Ranch, Com 69.29 333 ⇓P **P 10 49 30.2 +0.4**
baz=70,SNR=11
432A Menard 69.38 335 ⇓P **P 10 49 30.2 -0.1**
baz=70,SNR=8.1
TXAR Lajitas Array 69.47 331 P **P 10 49 31.1 +0.1**
comp=N,2.2nm,0.8s,baz=151,slow=8.6,SNR=23
TXAR LR LR 11 14 51.2
comp=N,404nm,19.8s,baz=0.0,slow=32
431A Sonora 69.50 334 ⇓P **P 10 49 31.3 +0.2**
baz=70
138A Matatall Enter 69.50 339 ⇑P **P 10 49 31.8 +0.8**
baz=70
333A Richland Sprin 69.50 336 ⇓P **P 10 49 30.9 -0.1**
baz=70,SNR=9.5
529A Stev Forest Ra 69.60 332 ⇓P **P 10 49 31.9 +0.1**
baz=70,SNR=10
WHTX Lake Whitney, 69.61 337 ⇑P **P 10 49 31.5 -0.2**
baz=70,SNR=5.4
WHTX Lake Whitney, 69.61 337 *eP* **P 10 49 32.2 +0.5**
comp=N,33nm,1.4s
137A Heron Place, G 69.64 339 ⇑P **P 10 49 32.9 +1.1**
baz=70
CPCT Cooper Cave 69.81 349 *eP* **P 10 49 33.2 +0.4**
OXF Oxford 69.81 345 *eP* **P 10 49 32.5 -0.3**
comp=N,21nm,0.8s
332A Millersview 69.82 335 ⇑P **P 10 49 32.8 -0.2**
baz=70,SNR=8.8
430A Baggett Ranch, 69.82 334 ⇓P **P 10 49 33.0 -0.1**
baz=70,SNR=12
234A Clairette 69.84 337 ⇓P **P 10 49 33.1 0.0**
baz=70,SNR=9.7
TKL Tuckaleechee C 69.90 350 *eP* **P 10 49 32.3 -1.1**
429A Davenport Ranc 69.92 333 ⇑P **P 10 49 33.9 +0.2**
baz=70,SNR=9.3
331A San Angelo 70.00 334 ⇓P **P 10 49 34.0 -0.1**
baz=70,SNR=14
233A Rising Star 70.11 336 ⇓P **P 10 49 34.7 -0.1**
baz=70,SNR=8.2
PPT Papeete 70.19 262 LR LR 11 13 24.7
comp=N,246nm,19.6s,baz=72,slow=30
232A Coleman 70.25 335 ⇑P **P 10 49 35.5 -0.2**
baz=70,SNR=7.8
134A White-Moore Ra 70.34 337 ⇓P **P 10 49 36.3 +0.1**
baz=71
330A Mertzon 70.36 334 ⇑P **P 10 49 35.9 -0.5**
baz=71,SNR=7.5
231A Bronte 70.52 335 ⇓P **P 10 49 37.2 -0.2**
baz=71,SNR=5.9
133A Hamilton Ranch 70.65 336 ⇑P **P 10 49 38.0 -0.1**
baz=71
329A Wagon Wheel Ra 70.73 333 ⇑P **P 10 49 38.9 +0.2**
baz=71
230A Sterling City 70.77 334 ⇓P **P 10 49 38.9 0.0**
baz=71
Z35A Perchaven, San 70.78 338 ⇓P **P 10 49 38.8 0.0**
baz=71,SNR=9.1
MIAR Mount Ida 70.85 341 *eP* **P 10 49 39.3 +0.1**
comp=N,7.2nm,1.0s
ABTX Abilene, Hawle 70.92 336 ⇑P **P 10 49 39.5 -0.2**
baz=71
ABTX Abilene, Hawle 70.92 336 *eP* **P 10 49 39.8 +0.1**
comp=N,59nm,1.6s
Z34A Collier Ranch, 71.03 337 ⇓P **P 10 49 40.2 -0.1**
baz=71
WVT Waverly 71.05 347 *eP* **P 10 49 39.8 -0.5**
comp=N,29nm,0.8s
229A Bryant Ranch, 71.09 334 ⇑P **P 10 49 41.1 +0.2**
baz=71
131A Roby 71.22 335 ⇑P **P 10 49 41.6 0.0**
baz=72
Z33A Whitaker Ranch 71.22 337 ⇑P **P 10 49 41.5 0.0**
baz=72,SNR=7.7
JSRW J. Sargeant Re 71.28 355 *eP* **P 10 49 42.4 +0.7**
Z32A Haskell 71.48 336 ⇑P **P 10 49 43.0 -0.2**
baz=72,SNR=13

Y34A	Reagan Ranch,	71.52	338	⇑P	P	10 49 43.2 -0.1
	baz=72					
228A	UT Block 9, Go	71.52	333	⇓P	P	10 49 43.3 -0.2
	baz=72,SNR=7.3					
129A	Stewart Farms,	71.71	334	⇑P	P	10 49 44.8 +0.2
	baz=72					
Z31A	Sharp Cattle R	71.72	336	⇓P	P	10 49 44.4 -0.1
	baz=72,SNR=10,					
Y33A	Hilltop Ranch,	71.84	337	⇑P	P	10 49 45.1 -0.2
	baz=72,SNR=6.6					
128A	Castleberry Fa	71.93	333	⇑P	P	10 49 45.6 -0.3
	baz=72,SNR=7.6					
Z30A	Sanderson Ranc	72.03	335	⇑P	P	10 49 46.1 -0.3
	baz=72,SNR=8.0					
Y32A	R-V Farms, Ver	72.11	336	⇑P	P	10 49 46.7 -0.1
	baz=72					
X34A	Smith Ranch, M	72.13	338	⇑P	P	10 49 46.9 -0.1
	baz=72,SNR=6.3					
PBMO	Poplar Bluff	72.21	345	eP	P	10 49 47.0 -0.3
	comp=N,11nm,0.5s					
Z29A	Hungry Hill Ra	72.22	334	⇑P	P	10 49 47.1 -0.5
	baz=72,SNR=11					
MNTX	Cornudas Mount	72.25	331	eP	P	10 49 46.6 -1.1
	comp=N,3.7nm,0.6s					
GDL2	Guadalupe Moun	72.28	332	eP	P	10 49 48.8 +0.7
	comp=N,7.5nm,0.6s					
X33A	Lawton	72.29	337	⇓P	P	10 49 47.4 -0.5
	baz=73					
Y31A	Rekieta Farm,	72.34	336	⇓P	P	10 49 48.1 -0.2
	baz=73,SNR=7.6					
X32A	Elmer	72.44	337	⇑P	P	10 49 49.1 +0.3
	baz=73					
Z28A	Tucker Farm, M	72.49	334	⇑P	P	10 49 49.5 +0.2
	baz=73					
W34A	Bridge Creek,	72.70	338	⇓P	P	10 49 50.7 +0.4
	baz=73					
W34A	Bridge Creek,	72.70	338	eP	P	10 49 50.5 +0.1
	comp=N,18nm,1.2s					
TUL1	Leonard	72.74	340	⇑P	P	10 49 50.0 -0.5
	baz=73,SNR=5.9					
Y29A	Porterfield Fa	72.75	335	⇑P	P	10 49 50.6 -0.2
	baz=73,SNR=13					
W33A	Caddo, Fort Co	72.84	338	⇓P	P	10 49 51.6 +0.4
	baz=73,SNR=5.9					
X31A	McDonald Ranch	72.86	336	⇑P	P	10 49 51.3 0.0
	baz=73,SNR=8.7					
X30A	Coker Ranch, T	72.99	335	⇑P	P	10 49 52.4 +0.3
	baz=73					
Y28A	McKinney Farm,	73.00	334	⇓P	P	10 49 52.5 +0.2
	baz=73					
W32A	Sentinel	73.06	337	⇓P	P	10 49 52.6 0.0
	baz=73,SNR=16					
V34A	Guthrie	73.18	339	⇑P	P	10 49 53.1 -0.1
	baz=74					
V34A	Guthrie	73.18	339	eP	P	10 49 53.6 +0.5
	comp=N,33nm,1.5s					
MSTX	Muleshoe	73.24	334	⇑P	P	10 49 53.6 -0.1
	baz=74,SNR=12					
MSTX	Muleshoe	73.24	334	eP	P	10 49 53.7 -0.1
	comp=N,16nm,0.9s					
X29A	Tulia	73.28	335	⇑P	P	10 49 53.7 -0.2
	baz=74					
Y27A	Causey	73.31	333	⇓P	P	10 49 53.9 -0.3
	baz=74					
W31A	Holland Ranch,	73.35	336	⇓P	P	10 49 54.3 +0.1
	baz=74					
Z25A	Roswell	73.37	332	⇓P	P	10 49 54.9 +0.4
	baz=74					
V33A	Lossen Ranch,	73.40	338	⇑P	P	10 49 54.4 -0.1
	baz=74,SNR=8.0					
X28A	Dimmitt	73.53	334	⇓P	P	10 49 55.4 0.0
	baz=74					
V32A	Arapaho	73.55	337	⇑P	P	10 49 55.7 +0.3
	baz=74					
319A	Douglas	73.64	327	⇑P	P	10 49 57.3 +1.2
	baz=74					
AMTX	Amarillo	73.67	335	⇓P	P	10 49 56.9 +0.7
	baz=74					
AMTX	Amarillo	73.67	335	eP	P	10 49 56.9 +0.7
	comp=N,14nm,0.9s					
U34A	Anderson Ranch	73.74	339	⇑P	P	10 49 56.6 +0.2
	baz=74					
U34A	Anderson Ranch	73.74	339	eP	P	10 49 56.6 +0.2
	comp=N,42nm,1.5s					
V31A	Spring Creek L	73.85	337	⇓P	P	10 49 58.2 +1.0
	baz=74					
W29A	Amarillo	73.87	335	⇑P	P	10 49 57.6 +0.2
	baz=74,SNR=6.7					
U33A	Lingo Farm, Me	73.91	338	⇑P	P	10 49 57.6 +0.2
	baz=74					
SLM	Saint Louis	73.95	345	eP	P	10 49 57.3 -0.3
X27A	F and S Farms,	73.97	334	⇓P	P	10 49 59.3 +1.3
	baz=74					
121A	Cookes Peak, D	73.98	329	⇑P	P	10 49 59.3 +1.1
	baz=74,SNR=5.5					
121A	Cookes Peak, D	73.98	329	eP	P	10 49 59.2 +1.0
	comp=N,6.9nm,0.8s					
U32A	Winter Ranch,	74.14	338	⇑P	P	10 49 59.6 +0.8
	baz=74					
X26A	CR and CF Fran	74.15	333	⇓P	P	10 49 59.7 +0.6
	baz=74					
Y24A	Capitan	74.22	332	⇓P	P	10 50 00.0 +0.4
	baz=74,SNR=7.5					
Z22A	Elephant Butte	74.26	330	⇑P	P	10 50 00.0 +0.3
	baz=74					
ACSO	Alum Creek Sta	74.29	351	eP	P	10 49 59.4 -0.1
	comp=N,17nm,0.7s					
W27A	Bowe Ranch, En	74.33	334	⇓P	P	10 50 00.3 +0.2
	baz=75,SNR=6.9					
Y23A	Lovelace Mesa,	74.47	331	⇓P	P	10 50 02.2 +1.1
	baz=75,SNR=5.4					
T33A	Patterson Ranc	74.55	339	⇑P	P	10 50 01.4 +0.3
	baz=75,SNR=8.4					
W26A	Owens Ranch, T	74.61	334	⇓P	P	10 50 01.8 0.0
	baz=75,SNR=7.2					
V28A	Channing	74.64	335	⇑P	P	10 50 02.5 +0.7
	baz=75					
X24A	Lazy VL Ranch,	74.78	332	⇓P	P	10 50 02.9 +0.1
	baz=75,SNR=9.8					
U30A	WK&E Inc. Balk	74.81	337	⇑P	P	10 50 04.0 +1.2
	baz=75					
T32A	Huddler Ranch,	74.85	338	⇑P	P	10 50 04.0 +1.0
	baz=75					
V27A	Dan Oppiter Fa	74.87	335	⇓P	P	10 50 04.0 +0.9
	baz=75					
W25A	X Bar L Ranch,	74.98	333	⇓P	P	10 50 03.7 -0.2
	baz=75,SNR=5.6					
T31A	Randall Ranch,	75.01	338	⇓P	P	10 50 04.2 +0.3
	baz=75					
SFIN	Lafayette	75.04	348	⇓P	P	10 50 03.3 -0.6
	baz=75					
DBIC	Dimbokro	75.18	71	P	P	10 50 03.9 -1.4
	comp=N,6.8nm,0.7s,baz=249,slow=4.0,SNR=8.6					
V26A	Tequesquite Ra	75.25	334	⇑P	P	10 50 05.2 -0.2
	baz=76,SNR=5.8					
LAZ	Ladron	75.32	331	eP	P	10 50 06.5 +0.6
	comp=N,5.1nm,1.3s					
W24A	Lazy 6 Ranch,	75.34	332	⇓P	P	10 50 06.8 +0.7
	baz=76					
S31A	Mullinville	75.43	338	⇑P	P	10 50 07.3 +1.0
	baz=76					
U27A	Thompson Grove	75.46	335	⇓P	P	10 50 07.0 +0.4
	baz=76					
ANMO	Albuquerque	75.52	331	eP	P	10 50 07.7 +0.6
W23A	Werner Place,	75.59	332	⇑P	P	10 50 07.9 +0.5
	baz=76,SNR=5.7					
V25A	Rancho No Teng	75.59	333	⇑P	P	10 50 07.9 +0.4
	baz=76,SNR=9.7					
T29A	Hugoton	75.59	336	⇑P	P	10 50 08.2 +0.9
	baz=76					
S30A	Montezuma	75.76	337	⇑P	P	10 50 08.7 +0.5
	baz=76					
214A	Organ Pipe Nat	75.76	325	⇑P	P	10 50 09.6 +1.2
	baz=76					
T28A	Walsh	75.84	336	⇑P	P	10 50 09.2 +0.5
	baz=76,SNR=7.8					
R32A	Long Quarter,	75.93	339	⇓P	P	10 50 10.1 +1.0
	baz=76					
S29A	Ulysses	75.95	337	⇓P	P	10 50 10.3 +1.0
	baz=76					
T27A	Campo	76.00	335	⇓P	P	10 50 11.0 +1.3
	baz=76					
U25A	Circle Dot Ran	76.01	334	⇑P	P	10 50 10.8 +1.0
	baz=76					
R31A	Burdett	76.06	338	⇓P	P	10 50 10.6 +0.8
	baz=76					
V23A	Ortiz Mt. (NFS	76.11	332	⇑P	P	10 50 11.6 +1.2
	baz=76					
S28A	Manter	76.19	336	⇑P	P	10 50 11.8 +1.2
	baz=76					
Q33A	Connelly Farm,	76.20	340	⇑P	P	10 50 10.8 +0.2
	baz=76					
R30A	Dighton	76.29	338	⇑P	P	10 50 12.0 +0.8
	baz=77					
U24A	Moreno Valley	76.35	333	⇓P	P	10 50 12.9 +1.1
	baz=77					
T26A	Comanche Natio	76.41	335	⇓P	P	10 50 12.9 +0.8
	baz=77,SNR=6.4					
V22A	San Miguel Ran	76.54	332	⇓P	P	10 50 14.3 +1.3
	baz=77,SNR=14					
X18A	Snowflake	76.61	329	⇑P	P	10 50 14.4 +1.1
	baz=77					
U23A	El Rito	76.62	332	⇑P	P	10 50 14.4 +1.1
	baz=77,SNR=7.4					
T25A	Trinidad	76.67	334	⇓P	P	10 50 14.6 +1.1
	baz=77,SNR=13					
Q31A	Ellis	76.67	338	⇓P	P	10 50 14.1 +0.8
	baz=77					
S26A	Kim	76.76	335	⇑P	P	10 50 14.8 +0.8
	baz=77,SNR=15					
R28A	Tribune	76.84	336	⇑P	P	10 50 15.5 +1.2
	baz=77					
Q30A	Quinter	76.90	338	⇑P	P	10 50 15.2 +0.6
	baz=77,SNR=9.4					
U22A	Llaves	76.93	332	⇑P	P	10 50 16.2 +1.1
	baz=77					
T24B	San Luis	76.96	333	⇓P	P	10 50 16.1 +0.8
	baz=77,SNR=7.9					
P32A	Huiting Farm,	77.00	339	⇑P	P	10 50 14.4 -0.7
	baz=77					
Q29A	Oakley	77.06	337	⇓P	P	10 50 15.9 +0.3
	baz=77					
R27A	Eads	77.12	336	⇓P	P	10 50 16.4 +0.4
	baz=77,SNR=11					
P31A	Stockton	77.14	339	⇓P	P	10 50 17.0 +1.0
	baz=78					
S25A	Robets Cordova	77.14	334	⇑P	P	10 50 16.9 +0.7
	baz=77,SNR=8.2					
X16A	Lo Mia Camp, P	77.18	328	⇓P	P	10 50 17.4 +0.9
	baz=78,SNR=9.9					
T23A	Casias Ranch,	77.19	333	⇑P	P	10 50 17.4 +0.9
	baz=78					
R26A	Arlington	77.36	335	⇑P	P	10 50 18.2 +0.9
	baz=78,SNR=8.8					
S24A	Houchin Ranch,	77.41	334	⇑P	P	10 50 18.7 +0.8
	baz=78,SNR=11					
P30A	Selden	77.43	338	⇓P	P	10 50 18.6 +1.0
	baz=78					
Q28A	Sharon Springs	77.50	337	⇓P	P	10 50 18.5 +0.5
	baz=78					
O32A	Brockman Farm,	77.50	340	⇓P	P	10 50 18.5 +0.6
	baz=78					
SDCO	Great Sand Dun	77.61	333	eP	P	10 50 19.0 +0.1
	comp=N,2.3nm,0.7s					
P29A	Atwood	77.70	338	⇓P	P	10 50 19.8 +0.6
	baz=78,SNR=5.8					
O31A	Woolen Ranch,	77.71	339	⇓P	P	10 50 19.7 +0.6
	baz=78					
KSCO	Kaye Shedlock'	77.72	336	⇓P	P	10 50 20.6 +1.3
	baz=78					
KSCO	Kaye Shedlock'	77.72	336	eP	P	10 50 20.8 +1.5
S23A	Nye Farm, Mont	77.76	333	⇑P	P	10 50 21.1 +1.4
	baz=78					
R24A	Sanders Place,	77.89	334	⇑P	P	10 50 21.0 +0.6
	baz=78,SNR=14					
P28A	Saint Francis	77.94	337	⇑P	P	10 50 21.4 +0.9
	baz=78					
Q26A	Hugo	77.94	335	⇓P	P	10 50 21.9 +1.3
	baz=78					
O30A	MW Ranch, Wils	77.95	338	⇑P	P	10 50 21.7 +1.2
	baz=78					
SWSC	Sam W. Stewart	78.01	324	⇓P	P	10 50 22.4 +1.5
	baz=78					
Y12C	Blythe	78.05	325	⇓P	P	10 50 22.0 +0.8
	baz=78					
WUAZ	Wupatki	78.07	328	⇓P	P	10 50 22.1 +0.7
	baz=78,SNR=5.3					
WUAZ	Wupatki	78.07	328	eP	P	10 50 22.9 +1.4
	comp=N,8.0nm,1.0s					
JFWS	Jewell Farm	78.07	347	eP	P	10 50 20.7 -0.3
	comp=N,8.3nm,0.8s					
R23A	Moffat	78.12	333	⇓P	P	10 50 22.4 +0.6
	baz=78,SNR=6.1					
O29A	4D Ranch, Culb	78.13	338	⇑P	P	10 50 23.4 +1.9
	baz=78					
MVCO	Mesa Verde	78.30	331	⇓P	P	10 50 23.1 +0.4
	baz=79,SNR=5.1					
MVCO	Mesa Verde	78.30	331	eP	P	10 50 23.2 +0.5
	comp=N,7.8nm,1.1s					
BC3	Big Chuckawall	78.42	324	⇑P	P	10 50 24.5 +1.1
	baz=79					
O28A	Krutsinger Ran	78.44	337	⇓P	P	10 50 24.2 +0.9
	baz=79					
P26A	Davis Ranch, A	78.45	336	⇓P	P	10 50 24.5 +1.1
	baz=79					
BGNE	Belgrade	78.53	340	⇑P	P	10 50 24.2 +0.6
	baz=79					
BGNE	Belgrade	78.53	340	eP	P	10 50 23.4 -0.2
	comp=N,4.4nm,0.5s					
Q24A	Divide	78.56	334	⇓P	P	10 50 25.3 +1.1
	baz=79					
IRM	Iron Mountain	78.69	325	⇓P	P	10 50 25.7 +1.0
	baz=79					
P25A	Willow Gulch B	78.69	335	⇑P	P	10 50 25.8 +1.0
	baz=79,SNR=15					
M31A	Lambtecht Ranc	78.70	340	⇑P	P	10 50 25.6 +1.0
	baz=79					
O27A	Beecher Island	78.73	337	⇑P	P	10 50 25.9 +1.1
	baz=79,SNR=5.4					
PFO	Pinyon Flats O	78.88	324	LR	LR	11 19 47.6
	comp=N,188nm,18.2s,baz=138,slow=32					
PFO	Pinyon Flats O	78.88	324	⇓P	P	10 50 27.2 +1.3
	baz=79					
BELC	Belle Mtn. Jos	78.97	324	⇑P	P	10 50 27.7 +1.3
	baz=79					
O26A	Horse Wrangler	79.05	336	⇓P	P	10 50 28.7 +2.0
	baz=79					
P23A	Jefferson	79.17	334	⇑P	P	10 50 29.5 +1.9
	baz=80					
U15A	North Rim	79.24	328	⇓P	P	10 50 29.1 +1.1
	baz=80,SNR=7.6					
OGNE	Ogallala	79.27	337	⇓P	P	10 50 28.5 +0.7
	baz=80					
N27A	Anderson Farm,	79.31	337	⇑P	P	10 50 29.4 +1.4
	baz=80					
TSUM	Tsumeb	79.36	106	eP	P	10 50 28.0 -1.0
	comp=N,9.9nm,1.3s					
SMCO	Snowmass	79.42	333	eP	P	10 50 30.4 +1.4
	comp=N,6.8nm,0.9s					
L31A	Butterfield Fa	79.43	340	⇓P	P	10 50 29.2 +0.6
	baz=80,SNR=5.7					
GMRC	Granite Mounta	79.44	325	⇓P	P	10 50 30.0 +1.1
	baz=80					
ISCO	Idaho Springs	79.46	334	⇓P	P	10 50 29.5 +0.4
	baz=80,SNR=6.2					
ISCO	Idaho Springs	79.46	334	eP	P	10 50 29.7 +0.6
	comp=N,13nm,1.7s					
L30A	Spencer Herefo	79.47	339	⇓P	P	10 50 30.1 +1.2
	baz=80					
P22A	Eagle	79.70	334	⇑P	P	10 50 31.5 +1.1
	baz=80					
HEC	Hector,Ludlow	79.80	324	⇑P	P	10 50 32.6 +1.8
	baz=80					
M27A	Reverse DX Ran	79.91	337	⇓P	P	10 50 32.4 +1.1
	baz=80					
O23A	Lake Granby, G	79.93	334	⇓P	P	10 50 32.4 +0.7
	baz=80,SNR=8.8					
TUQ	Turquoise Moun	80.09	325	⇓P	P	10 50 34.0 +1.5
	baz=80					
K30A	Basset	80.11	340	⇓P	P	10 50 33.7 +1.5
	baz=80					
O22A	Kremmling	80.12	334	⇑P	P	10 50 33.2 +0.5
	baz=80,SNR=7.9					
BOSA	Boshof	80.26	118	P	P	10 50 33.9 +0.1
	comp=N,2.6nm,0.6s,baz=258,slow=2.5,SNR=7.3					
BOSA	Boshof	80.26	118	eP	P	10 50 33.5 -0.3
	comp=N,4.6nm,0.6s					
ECSD	EROS Data Cent	80.28	342	⇑P	P	10 50 33.0 -0.1
	baz=81,SNR=17					
GSC	Goldstone, Bar	80.41	324	⇓P	P	10 50 35.0 +0.9
	baz=81					
N23A	Red Feather La	80.55	335	⇑P	P	10 50 35.8 +0.9
	baz=81					
SHPR	Sheep Range	80.60	326	eP	P	10 50 36.7 +1.6
CCUT	Cedar City	80.65	328	eP	P	10 50 37.4 +1.9
	comp=N,5.7nm,1.0s					
N22A	Wattenberg Ran	80.65	334	⇓P	P	10 50 36.3 +0.9
	baz=81					
M24A	Cheyenne	80.66	336	⇓P	P	10 50 36.4 +1.0
	baz=81					
K28A	Ten Mile Ranch	80.67	339	⇓P	P	10 50 36.2 +0.9
	baz=81,SNR=5.2					
J30A	Dallas	80.67	340	⇑P	P	10 50 36.3 +1.0
	baz=81					
O20A	White River Ci	80.73	333	⇑P	P	10 50 36.5 +0.7
	baz=81					
PHWY	Pilot Hill	80.73	335	eP	P	10 50 36.3 +0.4
	comp=N,5.2nm,0.8s					
SRU	San Rafael Swe	80.75	331	eP	P	10 50 36.8 +0.8
	comp=N,5.4nm,0.9s					
SPMN	Marine on St.	80.81	345	⇓P	P	10 50 35.6 -0.2
	baz=81					
SPMN	Marine on St.	80.81	345	eP	P	10 50 35.3 -0.5
K27A	Flueckinger Fa	80.92	338	⇑P	P	10 50 37.6 +0.9
	baz=81					
MVU	Marysvale	80.94	329	eP	P	10 50 38.4 +1.3
LRMC	Laurel Mtn Rad	80.98	324	⇓P	P	10 50 38.3 +1.1
	baz=81					
J29A	Okreek	80.99	340	⇑P	P	10 50 37.1 +0.2
	baz=81,SNR=14					
I30A	Oacoma	81.20	340	⇑P	P	10 50 38.8 +0.8
	baz=82					
M22A	Cedar Creek Ra	81.23	334	⇑P	P	10 50 40.1 +1.6
	baz=82					
J28A	Allard Ranch,	81.27	339	⇓P	P	10 50 38.8 +0.3
	baz=82,SNR=5.3					
N20A	Spence Gulch,	81.34	333	⇓P	P	10 50 39.8 +0.7
	baz=82					
J27A	Elkhorn Farm,	81.35	338	⇑P	P	10 50 39.9 +0.9
	baz=82,SNR=7.9					
I29A	Vivian Onida	81.55	340	⇑P	P	10 50 40.0 +0.1
	baz=82					
BRSD	Miller	81.56	341	eP	P	10 50 39.8 -0.1
DAC	Darwin (Calif)	81.57	324	eP	P	10 50 41.9 +1.5
	comp=N,6.9nm,1.1s					
L22A	Ellis Ranch, M	81.72	335	⇓P	P	10 50 41.8 +0.7
	baz=82					
J26A	Sides Ranch, S	81.74	338	⇑P	P	10 50 41.9 +0.9
	baz=82					
I28A	Midland	81.78	339	⇑P	P	10 50 41.6 +0.5
	baz=82,SNR=9.1					
VES	Vestal, Richgr	81.96	323	⇑P	P	10 50 42.7 +0.6
	baz=82					
MPU	Maple Canyon	81.97	330	eP	P	10 50 43.4 +0.9
	comp=N,7.6nm,1.1s					
J25A	Sunshine Ranch	82.04	337	⇓P	P	10 50 43.9 +1.3
	baz=82					
H29A	Onida	82.08	340	⇓P	P	10 50 43.1 +0.4
	baz=82,SNR=6.0					
K23A	Bowen Ranch, D	82.08	336	⇓P	P	10 50 43.4 +0.6
	baz=82					
I27A	Quinn	82.11	339	⇑P	P	10 50 43.6 +0.7
	baz=82					
G30A	Faulkton	82.24	341	⇓P	P	10 50 44.5 +1.0
	baz=83					
J24A	Dixon Ranch, L	82.27	337	⇓P	P	10 50 45.1 +1.3
	baz=83					
K22A	Casper	82.30	335	⇑P	P	10 50 45.5 +1.4
	baz=83					
K22A	Casper	82.30	335	eP	P	10 50 45.3 +1.3
	comp=N,19nm,1.6s					
R11A	Troy Canyon, C	82.30	327	⇑P	P	10 50 44.9 +0.7
	baz=83,SNR=9.5					
R11A	Troy Canyon, C	82.30	327	eP	P	10 50 45.6 +1.5
I26A	New Underwood	82.32	338	⇑P	P	10 50 44.9 +0.9
	baz=83					
H28A	Mission Ridge	82.35	340	⇑P	P	10 50 44.4 +0.3
	baz=83,SNR=8.6					
JLU	Jordanelle	82.39	331	eP	P	10 50 45.8 +1.1
	comp=N,5.0nm,0.9s					
LBTB	Lobatse	82.49	115	eP	P	10 50 44.2 -1.4
	comp=N,9.2nm,0.9s					
G29A	Hoven	82.52	341	⇓P	P	10 50 45.0 +0.1
	baz=83					
K21A	Alcova	82.54	335	⇑P	P	10 50 45.5 +0.2
	baz=83,SNR=6.9					
I25A	Rochford	82.58	338	⇓P	P	10 50 45.9 +0.4
	baz=83,SNR=5.3					
DUG	Dugway, Tooele	82.61	330	⇓P	P	10 50 46.4 +0.7
	baz=83					
DUG	Dugway, Tooele	82.61	330	eP	P	10 50 46.7 +1.0
	comp=N,81nm,3.0s					
H27A	Howes	82.62	339	⇓P	P	10 50 45.4 -0.2
	baz=83,SNR=5.2					
G28A	Parade	82.69	340	⇓P	P	10 50 45.9 +0.1
	baz=83,SNR=9.6					
I24A	Kuemmerle Ranc	82.73	337	⇑P	P	10 50 47.0 +0.8
	baz=83					
RSSD	Black Hills	82.77	337	eP	P	10 50 46.9 +0.3
TPH	Tonopah	82.83	326	eP	P	10 50 48.3 +1.3
	comp=N,6.4nm,0.9s					
F30A	Leola	82.86	341	⇓P	P	10 50 47.3 +0.6
	baz=83					
J22A	Midwest	82.95	336	⇓P	P	10 50 47.3 -0.1
	baz=83					
F29A	Eureka	83.08	341	⇓P	P	10 50 48.0 +0.2
	baz=83,SNR=7.0					
H25A	Fruitdale	83.08	338	⇑P	P	10 50 49.3 +1.4
	baz=83					
EYMN	Ely	83.16	347	eP	P	10 50 48.2 0.0
	comp=N,9.3nm,1.2s					
MLAC	Mammoth, Mammo	83.25	324	⇓P	P	10 50 50.3 +1.1
	baz=84					
G27A	Dupree	83.26	339	⇓P	P	10 50 48.9 +0.1
	baz=84,SNR=5.9					
HWUT	Hardware Ranch	83.29	331	eP	P	10 50 49.7 +0.4
	comp=N,5.6nm,0.8s					
F28A	McLaughlin	83.36	340	⇑P	P	10 50 49.6 +0.3
	baz=84,SNR=8.6					
I22A	9 Mile Ranch,	83.38	336	⇓P	P	10 50 49.7 +0.1
	baz=84					
G26A	Maurine	83.38	339	⇓P	P	10 50 49.7 +0.2
	baz=84,SNR=6.8					
E30A	Jud	83.45	342	⇓P	P	10 50 50.1 +0.3
	baz=84					
J20A	Shoshoni	83.47	334	⇑P	P	10 50 51.0 +1.0
	baz=84,SNR=5.0					
H24A	Dirks Ranch, A	83.50	337	⇓P	P	10 50 50.7 +0.6
	baz=84					
PDAR	Pinedale Array	83.50	333	P	P	10 50 50.9 +0.6
	comp=N,1.8nm,0.9s,baz=162,slow=4.4,SNR=13					
G25A	Newell	83.54	338	⇓P	P	10 50 50.6 +0.3
	baz=84,SNR=7.6					
I21A	Big Trails, Te	83.58	335	⇓P	P	10 50 50.1 -0.6
	baz=84					
NVAR	Mina Array Bea	83.63	325	P	P	10 50 52.3 +1.2
	comp=N,1.6nm,0.7s,baz=156,slow=5.7,SNR=14					
E29A	Napoleon	83.71	341	⇓P	P	10 50 51.1 +0.1
	baz=84					
F27A	Lemmon	83.73	340	⇓P	P	10 50 51.5 +0.2
	baz=84,SNR=9.6					
J19A	Crowheart	83.74	334	⇑P	P	10 50 51.6 +0.1
	baz=84,SNR=6.8					
F26A	Lodgepole	83.91	339	⇓P	P	10 50 52.5 +0.3
	baz=84,SNR=5.1					
HVU	Hansel Valley	83.92	331	eP	P	10 50 52.8 +0.3
	comp=N,6.6nm,0.9s					
G24A	Alzada	83.97	338	⇓P	P	10 50 53.1 +0.6
	baz=84					
D30A	Buchanan	83.97	342	⇑P	P	10 50 52.9 +0.6
	baz=84					
E28A	Huff	84.00	341	⇓P	P	10 50 52.8 +0.2
	baz=84,SNR=5.5					
I20A	Worland	84.00	335	⇓P	P	10 50 53.3 +0.6
	baz=84					
ELK	Elko	84.10	329	P	P	10 50 53.2 -0.3
	comp=N,4.2nm,1.0s,baz=162,slow=3.1,SNR=14					
ELK	Elko	84.10	329	eP	P	10 50 54

F24A	Ekalaka	84.44 338	⇑P		P		10 50 55.1 +0.2
	baz=85						
C30A	Mose, Pekin	84.45 342	⇓P		P		10 50 55.0 +0.2
	baz=85,SNR=16						
REDW	Red Top Meadow	84.50 333	eP		P		10 50 51.3 -4.2
LOHW	Long Hollow	84.62 333	eP		P		10 50 56.3 +0.3
F23A	Volborg	84.64 337	⇓P		P		10 50 56.3 +0.4
	baz=85						
TPAW	Teton Pass	84.64 333	eP		P		10 50 56.6 +0.4
E25A	Miller Ranch,	84.71 339	⇓P		P		10 50 56.4 +0.2
	baz=85						
G21A	Lodge Grass	84.79 336	⇑P		P		10 50 56.8 +0.1
	baz=85						
FXWY	Fox Creek	84.80 333	eP		P		10 50 57.2 +0.2
	comp=N,26nm,2.5s						
I17A	Pilgrim Ck.	84.87 333	⇑P		P		10 50 57.2 0.0
	baz=85,SNR=7.4						
D26A	Manning	84.91 340	⇓P		P		10 50 57.6 +0.5
	baz=85,SNR=6.4						
H19A	Powell	84.93 335	⇓P		P		10 50 57.7 +0.3
	baz=85						
F22A	Rosebud	84.96 337	⇓P		P		10 50 58.1 +0.7
	baz=85						
IMW	Indian Meadow	84.99 333	eP		P		10 50 58.3 +0.4
	comp=N,3,3nm,0.9s						
FLWY	Flagg Ranch	85.06 333	eP		P		10 50 58.9 +0.7
	comp=N,5.3nm,0.7s						
B30A	Myrvik Farm, E	85.11 343	⇓P		P		10 50 58.3 +0.3
	baz=86,SNR=19						
G20A	Bridger	85.14 335	⇓P		P		10 50 58.3 -0.1
	baz=85,SNR=7.5						
H18A	Shoshone NF, C	85.18 334	⇓P		P		10 50 58.8 0.0
	baz=86,SNR=11						
C27A	Sayler Ranch,	85.26 341	⇑P		P		10 50 59.2 +0.3
	baz=86,SNR=6.0						
D25A	Fairfield	85.27 339	⇑P		P		10 50 59.2 +0.2
	baz=86						
B29A	Wagenman Farm,	85.38 342	⇑P		P		10 50 59.6 +0.2
	baz=86,SNR=6.1						
E22A	Miles City	85.45 337	⇓P		P		10 51 00.1 +0.2
	baz=86						
C26A	Wahner Farm, P	85.53 340	⇓P		P		10 51 00.5 +0.3
	baz=86						
D24A	Glendive	85.54 339	⇓P		P		10 51 00.8 +0.5
	baz=86						
A30A	Hoffart Farm,	85.56 343	⇑P		P		10 51 00.2 -0.1
	baz=86,SNR=5.6						
B28A	Dugan Ranch, T	85.63 342	⇓P		P		10 51 00.8 +0.1
	baz=86,SNR=5.7						
YMR	Madison River	85.65 333	eP		P		10 51 02.3 +1.2
	comp=N,14nm,1.1s						
A29A	Manning Farm,	85.78 342	⇑P		P		10 51 01.4 0.0
	baz=86,SNR=10						
D23A	Lindsay	85.86 338	⇓P		P		10 51 02.2 +0.3
	baz=86,SNR=10						
E21A	Keefer Ranch,	85.91 337	⇓P		P		10 51 03.0 +0.9
	baz=86						
F19A	Roth Farm, Mol	85.94 335	⇑P		P		10 51 02.3 -0.1
	baz=86,SNR=5.2						
HLID	Hailey	86.07 331	⇓P		P		10 51 03.5 +0.3
	baz=86,SNR=6.4						
HLID	Hailey	86.07 331	eP		P		10 51 04.0 +0.7
	comp=N,4.9nm,1.1s						
D22A	Cohagen	86.15 337	⇑P		P		10 51 03.5 +0.2
	baz=86						
E20A	Meyer Farm, Mu	86.22 336	⇓P		P		10 51 04.0 +0.3
	baz=86,SNR=11						
ULM	Lac du Bonnet	86.23 345	P		P		10 51 02.2 -1.4
	comp=N,4.3nm,0.8s,baz=169,slow=3.2,SNR=8.3						
B25A	Knox Farm, Ray	86.24 340	⇑P		P		10 51 03.7 0.0
	baz=87						
D21A	La Casta Ranch	86.34 337	⇑P		P		10 51 04.5 +0.2
	baz=87,SNR=5.3						
E19A	Rath Farm, Rou	86.41 336	⇓P		P		10 51 04.8 +0.1
	baz=87,SNR=9.7						
C23A	Lambert	86.42 338	⇑P		P		10 51 04.9 +0.2
	baz=87,SNR=5.3						
A26A	Wade Farm, Ken	86.49 341	⇓P		P		10 51 05.2 +0.3
	baz=87						
MCMT	McKenzie Canyo	86.50 332	eP		P		10 51 05.9 +0.5
	comp=N,4.2nm,1.3s						
C22A	Vida	86.58 338	⇓P		P		10 51 05.7 +0.2
	baz=87						
DGMT	Dagmar	86.72 339	⇓P		P		10 51 06.4 +0.3
	baz=87,SNR=6.8						
DGMT	Dagmar	86.72 339	eP		P		10 51 06.7 +0.7
	comp=N,16nm,0.8s						
D20A	Manuel Ranch,	86.74 336	⇓P		P		10 51 06.4 +0.1
	baz=87,SNR=8.8						
A25A	Svangstu Ranch	86.83 340	⇓P		P		10 51 07.1 +0.5
	baz=87						
DLMT	Dillon	86.86 333	eP		P		10 51 07.8 +0.8
	comp=N,8.5nm,1.2s						
B23A	Brockton	86.95 339	⇑P		P		10 51 07.4 +0.2
	baz=87						
D19A	Cripps Ranch,	87.05 336	⇑P		P		10 51 07.8 0.0
	baz=87,SNR=5.7						
A24A	Westby	87.07 340	⇓P		P		10 51 07.8 0.0
	baz=87						
B22A	Reddig Ranch S	87.11 338	⇓P		P		10 51 08.2 +0.2
	baz=87,SNR=6.2						
LRM	Limekiln Ridge	87.19 333	eP		P		10 51 09.3 +0.6
C20A	Veseth Ranch,	87.24 337	⇑P		P		10 51 08.5 -0.2
	baz=88,SNR=6.2						
MOD	Modoc Plateau	87.31 326	eP		P		10 51 10.3 +1.1
B21A	Ellsworth Farm	87.54 338	⇓P		P		10 51 10.2 +0.1
	baz=88,SNR=9.8						
C19A	Slack Wire Ran	87.61 336	⇓P		P		10 51 10.3 -0.1
	baz=88						
A22A	Carney Farms,	87.70 339	⇑P		P		10 51 10.8 -0.1
	baz=88,SNR=7.2						
B20A	Solberg Farm,	87.88 337	⇓P		P		10 51 11.6 -0.1
	baz=88,SNR=8.6						
M04C	Macdoel	87.94 325	⇑P		P		10 51 12.5 +0.3
	baz=88						
A21A	Bergtoll Ranch	88.01 338	⇓P		P		10 51 12.5 +0.2
	baz=88						
B19A	Brinkman Farms	88.19 336	⇑P		P		10 51 13.1 -0.1
	baz=88,SNR=6.5						
A20A	Cobblestone Ra	88.23 337	⇑P		P		10 51 13.3 0.0
	baz=88,SNR=10						
YBH	Yreka Blue Hor	88.31 325	P		P		10 51 13.8 -0.2
	comp=N,4.1nm,1.0s,baz=117,slow=8.8,SNR=4.4						
SCHQ	Schefferville	88.34 3	P		P		10 51 12.9 -0.8
	comp=N,2.7nm,1.0s,baz=24,slow=14,SNR=2.2						
A19A	Klindworth Far	88.54 337	⇓P		P		10 51 15.2 +0.3
	baz=89						
J05D	Fort Rock, OR	88.82 326	⇑P		P		10 51 18.0 +1.6
	baz=89						
A05A	Maple Falls	93.61 330	eP		P		10 51 40.0 +1.7
	comp=N,19nm,1.0s						
ESDC	Sonseca Array	96.46 46	LR		LR		11 37 04.6
	comp=N,91nm,18.1s,baz=260,slow=37						
YKA	Yellowknife Ar	101.79 341	P		Pdif		10 52 14.0 -0.9
	comp=N,0.2nm,0.7s,baz=144,slow=4.6,SNR=3.6						
ASAR	Alice Springs	117.75 207	PKP		PKPdf		10 57 07.8 -1.5
	comp=N,0.3nm,0.6s,baz=133,slow=2.2,SNR=5.5						
WRA	Warramunga Arr	120.94 209	PKP		PKPdf		10 57 14.3 -1.1
	comp=N,0.8nm,0.6s,baz=165,slow=1.6,SNR=25						
BRTR	Keskin Array B	121.79 61	PKP		PKPdf		10 57 15.8 -0.7
	comp=N,1.0nm,0.7s,baz=248,slow=1.3,SNR=4.4						
AKASG	Malin Array Be	122.08 47	PKP		PKPdf		10 57 14.3 -2.2
	comp=N,0.2nm,0.3s,baz=270,slow=2.1,SNR=4.3						
H11S2	WAKE ISLAND Hyl	25.69 269	T		T		13 16 15.6
	baz=118,slow=74,SNR=17						
H11S1	WAKE ISLAND Hyl	25.70 269	T		T		13 16 28.0
	baz=118,slow=74,SNR=19						
H11S3	WAKE ISLAND Hyl	25.70 269	T		T		13 16 26.9
	baz=118,slow=74,SNR=13						
SEY	Seymchan	139.77 330	PKP		PKPdf		10 57 50.5 +1.0
	comp=N,2.4nm,0.9s,baz=63,slow=2.8,SNR=7.5						
KSM	Kuching	147.81 185	ePKPbc		PKPbc		10 58 08.2 +0.2
HYB	Hyderabad	149.11 114	i PKP		PKPbc		10 58 11.0 -0.3
KKAR	Karatay Array	149.50 61	ePKPbc		PKPbc		10 58 10.7 -0.8
AML	Almayashu	151.93 63	P		PKPbc		10 58 18.4 +0.6
	SNR=5.5						
EKS2	Erkin-Say	151.93 61	P		PKPbc		10 58 18.0 +0.6
	SNR=5.4						
USP	Ospenovka	152.38 60	P		PKPbc		10 58 19.7 +1.4
	SNR=5.6						
AAK	Ala-Archa	152.46 61	P		PKPbc		10 58 19.3 +0.6
	SNR=5.1						
AAK	Ala-Archa	152.46 61	ePcP		PKPbc		10 58 19.2 +0.6
UCH	Uchtor	152.53 62	P		PKPbc		10 58 19.9 +0.7
	SNR=6.7						
KURK	Kurchatov	152.75 43	ePKPdf		PKPdf		10 58 14.7 +3.0
KURK			ePKPbc		PKPbc		10 58 18.9 +0.1
KSH	Kashi	153.86 68	PKPbc		PKPdf		10 58 14.1 +0.3
KSH			sPKP				10 58 27.3
KSH			PKS		PKSdf		11 01 48.2 0.0
KSH			PP		PP		11 02 08.1 -1.9
KSH			SKS		SKSdf		11 05 18.8 +0.4
KSH			SKKS		SKKSac		11 08 55.0 -2.4
KSH			PPMZ				
	comp=N,140nm,5.3s						
KSH			LN				
	comp=N,62nm,4.9s						
KSH			LE				
	comp=N,25nm,4.7s						
KSH			LZ				
	comp=N,220nm,8.9s						
ZALV	Zalesovo Beam	154.06 32	PKP		PKPdf		10 58 12.4 -1.0
	comp=N,1.0nm,0.7s,baz=343,slow=3.1,SNR=4.7						
ZALV			PKPbc		PKPbc		10 58 21.4 -0.2
	comp=N,5.9nm,0.5s,baz=298,slow=2.9,SNR=18						
MKAR	Makanchi Array	156.66 48	PKPab		PKPab		10 58 46.3 -0.3
	comp=N,1.8nm,0.6s,baz=280,slow=3.5,SNR=13						
WMQ	Urumqi	161.38 51	ePKP		PKPdf		10 58 21.6 -1.4
WMQ			pPKP		pPKPdf		10 58 32.5 -1.1
CMAR	Chiang Mai Arr	162.81 150	PKP		PKPdf		10 58 24.8 -0.3
	comp=N,1.2nm,0.3s,baz=238,slow=1.2,SNR=5.2						
CMAR			PKPab		PKPab		10 59 13.8 -0.1
	comp=N,0.8nm,0.4s,baz=204,slow=3.5,SNR=2.6						
SONM	Songino Array	165.88 4	PKP		PKPdf		10 58 26.8 -0.3
	comp=N,0.3nm,0.9s,baz=288,slow=34,SNR=1.4						
SONM			PKPab		PKPab		10 59 26.0 -0.8
	comp=N,1.8nm,1.2s,baz=314,slow=2.9,SNR=5.8						
GTA	Gaotai	171.41 47	ePKP		PKPdf		10 58 31.2 +0.2
GTA			pPKP		pPKPdf		10 58 42.0 +0.3
GTA			sPKP				10 58 45.5
GTA			PKPab		PKPab		10 59 53.0 +1.3
HHC	Hu-ho-hao-te	172.32 338	ePKP		PKPdf		10 58 31.2 -0.1
HHC			pPKP		pPKPdf		10 58 42.0 0.0
HHC			sPKP				10 58 45.6
HHC			PP		PP		11 03 49.6 +3.3
HHC			SKS		SKSdf		11 05 29.3 -2.9
HHC			PPMZ				
	comp=N,340nm,8.6s						
HHC			LN				
	comp=N,250nm,19.7s						
HHC			LE				
	comp=N,280nm,18.5s						
HHC			LZ				
	comp=N,240nm,19.7s						
LZH	Lanzhou	175.96 54	ePKP		PKPdf		10 58 32.2 -0.6
LZH			pPKP		pPKPdf		10 58 43.5 0.0
LZH			sPKP				10 58 47.3
LZH			LN				
	comp=N,180nm,18.2s						
LZH			LE				
	comp=N,180nm,18.0s						
LZH			LZ				
	comp=N,200nm,20.1s						
XAN	Xi'an	179.07 289	PKP		PKPdf		10 58 35.5 +2.4

NIED ***08*** *10:48:00,43.°80N×147.°20E,h89km,Mw4.3 Best double couple: M₀3.56000×10¹⁵ NP1:φ₀223.00000°,δ46.00000°, λ-112.00000°. NP2:φ₀73.00000°,δ48.00000°, λ-69.00000°.*

ISCJB ***08*** *10:48:03.8±0.3,43.°89N±0.°04×147.°15E±0.°03,h98km±3km, mb4.4/74,Error ellipse: s-maj=6.4km s-min=3.6km az=159.8*

MOS ***08*** *10:48:03.8±1.0,43.°90N×147.°11E,h99km,mb4.4/35,Error ellipse: s-maj=7.9km s-min=6.2km az=79.8*

MOS Felt (II) at Yuzhno-Kuril'sk.

BJI ***08*** *10:48:04.4,44.°02N×147.°05E,h102km,mB5.1/19, mb4.8/28*

JMA ***08*** *10:48:04.8±0.2,43.°75N×147.°16E,h90km±3km,M4.4*

SKHL ***08*** *10:48:05.3±0.1,43.°98N×147.°05E,h106km±5km,mb6.0/2*

SKHL Felt (II) at Yushno-Kurilsk.

IDC ***08*** *10:48:05.2±1.6,43.°88N×147.°13E,h98km±14km,mb4.0/25, mb1 4.1/32,mb1mx4.1/38,mbtmp4.3/32,Error ellipse: s-maj=14.3km s-min=9.4km az=156.0*

NEIC ***08*** *10:48:05.5±0.6,43.°89N×147.°08E,h99km±6km,mb4.5/42, Error ellipse: s-maj=7.4km s-min=4.1km az=162.0*

NEIC Felt [II] at Yuzhno-Kuril'sk.

ISC 08 10:48:05.5±0.5,43.°90N±0.°05×147.°14E±0.°04,h102km±3km, h101km;pP-P,n511,σ0=89/533,mb4.4/74,153C-141D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	0.93	278	⇓i PN	Pn	10 48 24.0	-1.2
YUK				i S	Sn	10 48 38.1	-2.0
YUK				pmax	pmax		
	comp=N,1μm,0.1s						
YUK				pmax	pmax		
	comp=E,3μm,0.1s						
YUK				pmax	pmax		
	comp=Z,15μm,0.1s						
YUK				smax	smax		
	comp=N,43μm,0.3s						
YUK				smax	smax		
	comp=E,27μm,0.2s						
YUK	Yuzh-Kuril'sk	0.93	278	eP	Pn	10 48 24.0	-1.2
YUK				AMB	AMB	10 48 24.5	
	comp=E,1μm,0.1s						
YUK				AMB	AMB	10 48 24.5	
	comp=E,3μm,0.1s						
YUK				AMB	AMB	10 48 24.5	
	comp=E,15μm,0.1s						
YUK				eS	Sn	10 48 38.1	-2.0
YUK				A	A	10 48 38.9	
	comp=E,43μm,0.3s						
YUK				A	A	10 48 38.9	
	comp=E,27μm,0.3s						
NEM2	Nemuro 2	1.15	242	P	Pn	10 48 25.9	-1.7
NEM2				eS	Sn	10 48 41.5	-2.8
KUR	Kuril'sk	1.43	21	d i PN	Pn	10 48 30.3	-0.6
KUR				i S	Sn	10 48 49.0	-1.1
KUR				pmax	pmax		
	comp=N,114nm,0.4s						
KUR				pmax	pmax		
	comp=E,109nm,0.4s						
KUR				pmax	pmax		
	comp=Z,605nm,0.4s						
KUR				smax	smax		
	comp=N,4μm,0.2s						
KUR	Kuril'sk	1.43	21	eP	Pn	10 48 30.3	-0.6
KUR				AMB	AMB	10 48 31.0	
	comp=N,605nm,0.4s						
KUR				eS	Sn	10 48 49.0	-1.1
JRA	Rausu	1.46	272	P	Pn	10 48 30.8	-0.4
JRA				eS	Sn	10 48 50.6	-0.2
JNK	Nakash	1.78	261	P	Pn	10 48 34.3	-1.0
JNK				eS	Sn	10 48 56.6	-1.4
JAK	Akkeshi	2.00	244	P	Pn	10 48 36.6	-1.4
JAK				eS	Sn	10 49 00.2	-2.7
JTKR	Abashiri--Toko	2.33	273	P	Pn	10 48 42.2	-0.2
JTKR				eS	Sn	10 49 10.3	-0.4
JAR	Ashorobuto	2.52	257	P	Pn	10 48 44.7	-0.2
JAR				eS	Sn	10 49 14.8	-0.3
JOB	Onbets	2.61	249	P	Pn	10 48 45.5	-0.5
JOB				eS	Sn	10 49 15.5	-1.6
JMP	Maruseppu	2.73	273	P	Pn	10 48 47.6	-0.1
JMP				eS	Sn	10 49 20.0	-0.1
JCH	Churui	3.04	246	P	Pn	10 48 50.7	-1.1
JCH				eS	Sn	10 49 25.1	-2.5
JKK2	Kamakawa 2	3.17	271	P	Pn	10 48 53.8	+0.2
JKK2				eS	Sn	10 49 31.1	+0.4
ASAJ	Asahikawa	3.28	275	PN	Pn	10 48 55.6	+0.6
ASAJ				S	Sn	10 49 33.4	+0.2
ASAJ				pmax	pmax		
	comp=Z,22nm,0.3s						
ASAJ				smax	smax		
	comp=N,11nm,0.3s						
ASAJ	Asahikawa	3.28	275	P	Pn	10 48 55.3	+0.3
ASAJ	Asahikawa	3.28	275	P	Pn	10 48 55.6	+0.6
	comp=N,22nm,0.3s,baz=88,slow=16,SNR=145						
ASAJ				S	Sn	10 49 33.4	+0.2
	comp=N,11nm,0.3s,baz=99,slow=33,SNR=10						
ASAJ	Asahikawa	3.28	275	ePn	Pn	10 48 54.8	-0.2
ASAJ				S	Sn	10 49 33.4	+0.2
JFR	Furan	3.39	259	P	Pn	10 48 56.7	+0.3
JFR				eS	Sn	10 49 36.3	+0.5
JSE	Soyaes	3.43	289	P	Pn	10 48 56.8	-0.1
JEM	Erimo	3.48	239	eS	Sn	10 49 37.4	-0.5
ERM	Erimo	3.48	239	d i PN	Pn	10 48 58.4	+0.8
ERM	Erimo	3.48	239	eP	Pn	10 48 58.4	+0.8
ERM	Erimo	3.48	239	ePn	Pn	10 48 59.2	+1.6
JNBK	Urakawa-nobuka	3.60	245	P	Pn	10 48 57.9	-1.3
JHR	Hokuryu	3.92	270	P	Pn	10 49 04.9	+1.3
YSS	Yuzh-Sakhalins	4.34	316	⇑i PN	Pn	10 49 08.9	-0.3
YSS				eS	Sn	10 49 57.5	-1.1
YSS				pmax	pmax		
	comp=N,70nm,0.8s						
YSS				pmax	pmax		
	comp=Z,100nm,0.8s						
YSS				smax	smax		
	comp=E,130nm,1.0s						
YSS	Yuzh-Sakhalins	4.34	316	eP	Pn	10 49 08.9	-0.3
YSS				eS	Sn	10 49 57.5	-1.1
HABR	Khabarovsk	9.54	303	PN	Pn	10 50 16.8	-3.0
HABR				pmax	pmax		
	comp=Z,104nm,1.1s						
HABR				MLR	MLR		
	comp=Z,274nm,16.0s						
MAJO	Matsushiro	10.03	226	⇓ePN	Pn	10 50 25.8	-0.7
MAJO	Matsushiro	10.03	226	eP	Pn	10 50 25.8	-0.7
MJAR	Matsushiro Arr	10.03	226	P	Pn	10 50 24.4	-2.1
	comp=Z,0.2nm,0.3s,baz=30,slow=14,SNR=2.6						
USRK	Ussurisyk Ar.	10.91	277	P	Pn	10 50 37.8	-0.6
	comp=Z,0.4nm,0.3s,baz=91,slow=13,SNR=26						
PETK	Petropavlovsk-	11.56	33	P	Pn	10 50 46.7	-0.4
	comp=Z,0.2nm,0.3s,baz=278,slow=19,SNR=6.5						
KLR	Kul'dur	11.85	302	ePN	Pn	10 50 47.2	-3.7
PET	Petropavlovsk	11.89	36	ePN	Pn	10 50 49.2	-2.2
PET	Petropavlovsk	11.89	36	eP	Pn	10 50 49.1	-2.3
MDJ	Mudanjiang	12.60	279	P	Pn	10 50 59.4	-1.6
MDJ				PMZ			
	comp=Z,16nm,0.9s						
MDJ				PMZ			
	comp=Z,80nm,5.5s						
MDJ	Mudanjiang	12.60	279	ePn	Pn	10 50 59.8	-1.2
	comp=Z,16nm,0.9s						
KSRS	Korea Array	15.92	253	P	Pn	10 51 42.5	-1.0
	comp=Z,0.2nm,0.3s,baz=62,slow=12,SNR=6.0						
KSAR	Wonju Array Be	15.96	253	P	Pn	10 51 42.6	-1.4
KSAR	Wonju Array Be	15.96	253	P	Pn	10 51 42.5	-1.4
SEY	Seymchan	19.31	7	P	P	10 52 22.0	-0.1
SEY	Seymchan	19.31	7	P	P	10 52 22.0	-0.1
	comp=Z,0.2nm,0.3s,baz=176,slow=8.8,SNR=11						
FX1	Attu Island--F	19.38	53	P	Pn	10 52 24.6	-0.6
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1	Attu Island--F	19.38	53	P	Pn	10 52 24.6	-0.6
	comp=Z,2.8nm,0.3s,baz=94,slow=2.2,SNR=6.6						
HIA	Hailar	19.52	296	⇓eP	P	10 52 21.7	-3.0
HIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YAK	Yakutsk	20.85	337	eP	P	10 52 34.1	-4.7
YAK				eS	S	10 56 17.8	-7.6
YAK				e		10 56 42.9	
YAK				e		11 03 57.2	
YAK				pmax	pmax		
	comp=N,12nm,1.1s						
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				smax	smax		
	comp=E,63nm,2.4s						
YAK				smax	smax		
	comp=N,43nm,2.0s						
YAK	Yakutsk	20.85	337	ePn	P	10 52 35.2	-3.5
	comp=N,28nm,0.9s						
BJI	Beijing	23.27	271	P	P	10 53 02.9	-1.1
BJI				pP	pP	10 53 24.9	+0.4
BJI				sP	sP	10 53 38.6	+1.5
BJI				S	S	10 57 04.6	-3.7
BJI				sS	sS	10 57 45.5	-0.2
BJI				PMZ			
	comp=N,13nm,0.9s						
BJI				PMZ			
	comp=N,180nm,8.8s						
BJI				LN			
	comp=N,380nm,12.7s						
BJI				LE			
	comp=N,280nm,13.3s						
BJI				LZ			
	comp=N,180nm,22.6s						
BOD	Bodaibo	24.81	316	eP	P	10 53 13.6	-4.2
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BILL	Bilibino	26.21	16	eP	P	10 53 31.5	+1.2
ULN	Ulaanbaatar	27.96	292	c i P	P	10 53 46.1	-0.3
ULN				pmax	pmax		
	comp=Z,18nm,1.2s						
ULN	Ulaanbaatar	27.96	292	eP	P	10 53 46.1	-0.3
ULN	Ulaanbaatar	27.96	292	eP	P	10 53 46.0	-0.3
	comp=Z,12nm,1.0s						
SONM	Songino Array	28.40	292	P	P	10 53 50.6	+0.3
SONM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM	Songino Array	28.40	292	P	P	10 53 50.6	+0.3
	comp=Z,4.2nm,0.7s,baz=86,slow=8.6,SNR=34						
TIK	Tiksi	29.19	348	eP	P	10 53 57.1	+0.3
TIXI	Tiksi	29.21	348	⇑eP	P	10 53 57.1	+0.2
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.5s						
H11N2	WAKE ISLAND Hy	29.22	139	T	T	11 24 51.5	
	baz=330,slow=75,SNR=489						
H11N1	WAKE ISLAND Hy	29.23	139	T	T	11 25 05.3	
	baz=330,slow=75,SNR=588						
H11N3	WAKE ISLAND Hy	29.24	139	T	T	11 25 02.4	
	baz=330,slow=75,SNR=558						
TLY	Talaya	29.86	301	P	P	10 54 03.6	+0.6
	comp=Z,0.6nm,0.3s,baz=22,slow=12,SNR=3.0						
TLY	Talaya	29.86	301	eP	P	10 54 03.4	+0.4
ZAK	Zakamensk	30.17	298	eP	P	10 54 05.1	-0.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
H11S1	WAKE ISLAND Hy	30.19	141	T	T	11 26 03.7	
	baz=331,slow=76,SNR=1156						
H11S3	WAKE ISLAND Hy	30.20	141	T	T	11 26 07.7	
	baz=331,slow=76,SNR=865						
H11S2	WAKE ISLAND Hy	30.21	141	T	T	11 26 09.8	
	baz=331,slow=76,SNR=668						
XAN	Xi'an	31.06	265	P	P	10 54 22.3	+8.5
LZH	Lanzhou	33.76	272	eP	P	10 54 37.0	-0.5
LZH				pP	pP	10 55 01.8	+1.4
LZH				sP	sP	10 55 15.0	+2.9
LZH				PP	PnPn	10 55 53.2	0.0
LZH				PMZ			
	comp=Z,23nm,1.2s						
LZH				PMZ			
	comp=Z,67nm,4.7s						
GTA	Gaotai	35.26	279	eP	P	10 54 53.4	+3.0
GTA				pP	pP	10 55 18.4	+5.0
GTA				sP	sP	10 55 31.5	+6.4
GTA				PMZ			
	comp=Z,5.0nm,1.2s						
HVS	Khovu-Aksy	36.11	301	d i P	P	10 54 56.7	-0.7
HVS				pmax	pmax		
	comp=Z,58nm,1.7s						
IM04	Indian Mountai	38.51	34	eP	P	10 55 17.5	+0.1
SPU	Mount Spurr	39.16	42	ePcP	PcP	10 57 38.9	+8.6
KTH	Kantishna Hill	39.63	38	eP	P	10 55 28.1	+1.3
	comp=Z,15nm,0.8s						
ZALV	Zalesovo Beam	40.90	307	P	P	10 55 36.5	-0.8
ZALV						10 57 35.9	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV				pmax	pmax		
	comp=Z,2.

WMQ PMZ
comp=Z,16nm,1.1s
MKAR Makanchi Array 44.51 297 P **P 10 56 06.6 0.0**
comp=Z,14nm,0.8s,baz=77,slow=8.4,SNR=110
MKAR PcP **PcP 10 57 48.3 +0.1**
comp=Z,1.0nm,0.7s,baz=65,slow=4.8,SNR=3.1
KURK Kurchatov 45.44 304 *e*P **P 10 56 12.8 -1.1**
KURK Kurchatov 45.44 304 *e*P **P 10 56 12.7 -1.1**
KURK Kurchatov 45.44 304 *e*P **P 10 56 12.8 -1.1**
HYT Haines Junctio 46.22 41 *e*P **P 10 56 21.9 +1.8**
INK Inuvik 46.27 30 P **P 10 56 20.9 +0.7**
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 46.27 30 P **P 10 56 20.9 +0.7**
comp=Z,4.8nm,0.8s,baz=244,slow=7.5
CMAR Chiang Mai Arr 47.56 253 P **P 10 56 32.3 +1.4**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 47.56 253 P **P 10 56 32.3 +1.4**
comp=Z,1.6nm,0.3s,baz=40,slow=7.3,SNR=4.2
BRVK Borovoye 49.45 309⇓ *e*P **P 10 56 44.0 -0.9**
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BRVK Borovoye 49.45 309 *e*P **P 10 56 45.6 +0.7**
comp=Z,6.1nm,1.2s
BRVK *e*PcP **PcP 10 58 05.8 +0.3**
ULHL Ulahol 50.32 294 P **P 10 56 52.7 +0.7**
SNR=12
ULHL Ulahol 50.32 294 *i* P **P 10 56 52.6 +0.7**
TKM2 Tokmak 2 50.43 295 P **P 10 56 53.8 +1.0**
SNR=10.0
TKM2 Tokmak 2 50.43 295 *e*P **P 10 56 53.6 +0.8**
TKM2 pmax pmax
comp=Z,8.0nm,0.8s
TKM2 Tokmak 2 50.43 295 *e*P **P 10 56 53.6 +0.8**
comp=Z,7.6nm,0.8s
DLBC Dease Lake 50.57 43 P **P 10 56 54.6 +1.2**
comp=Z,3.0nm,0.8s,baz=334,slow=5.1,SNR=6.0
KBK Karagaybulak 50.98 295 P **P 10 56 57.9 +1.1**
SNR=13
KBK Karagaybulak 50.98 295 *i* P **P 10 56 57.9 +1.1**
USP Ospenovka 50.99 296 P **P 10 56 57.5 +0.8**
SNR=10
USP Ospenovka 50.99 296 *i* P **P 10 56 57.5 +0.8**
KZA Kyzart 51.05 295 P **P 10 56 59.4 +1.7**
SNR=16
KZA Kyzart 51.05 295 *i* P **P 10 56 59.3 +1.7**
AAK Ala-Archa 51.28 295 *ce*P **P 10 56 59.4 +0.3**
AAK pmax pmax
comp=Z,9.0nm,1.2s
AAK Ala-Archa 51.28 295 *e*P **P 10 56 59.4 +0.3**
AAK Ala-Archa 51.28 295 *e*P **P 10 56 59.5 +0.3**
comp=Z,11nm,3.0s
EKS2 Erkin-Say 51.74 296 P **P 10 57 03.2 +0.8**
SNR=8.3
EKS2 Erkin-Say 51.74 296 *i* P **P 10 57 03.2 +0.8**
EKS2 Erkin-Say 51.74 296 *e*P **P 10 57 03.2 +0.8**
comp=Z,6.2nm,0.6s
EKS2 *e*PcP **PcP 10 58 15.0 +0.6**
KSH Kashi 51.80 291 *e*P P 10 57 07.1 +4.2
KSH sP sP 10 57 46.2 +7.6
KSH PP PP 10 59 08.2 +6.9
KSH S **S 11 04 19.4 +2.1**
KSH sS sS 11 05 05.1 +6.0
KSH SS **SS 11 07 56.2 +1.5**
KSH PMZ
comp=Z,3.0nm,0.7s
KSH PMZ
comp=Z,220nm,5.9s
KSH LN
comp=Z,77nm,4.5s
KSH LE
comp=Z,130nm,5.3s
KSH LZ
comp=Z,250nm,8.2s
AML Almayashu 52.04 295 P **P 10 57 06.2 +1.2**
SNR=7.9
AML Almayashu 52.04 295 *i* P **P 10 57 06.2 +1.2**
KKAR Karatay Array 53.63 298 *e*P **P 10 57 16.6 +0.3**
KKAR Karatay Array 53.63 298 *e*P **P 10 57 16.6 +0.3**
ARU Arti 54.23 317 *d i* P **P 10 57 19.8 -0.5**
ARU S **S 11 04 50.3 +0.8**
ARU SS **SS 11 08 32.8 +0.8**
ARU pmax pmax
comp=Z,27nm,2.5s
ARU Arti 54.23 317 *e*P **P 10 57 19.6 -0.7**
ARU Arti 54.23 317 *e*P **P 10 57 19.9 -0.5**
comp=Z,44nm,1.8s
RES Resolute Bay 54.82 17 P **P 10 57 25.1 +0.8**
RES pmax pmax
comp=Z,2.0nm,0.6s
RES Resolute Bay 54.82 17 P **P 10 57 25.1 +0.8**
comp=Z,1.8nm,0.6s,baz=320,slow=7.5,SNR=9.2
YKA Yellowknife Ar 55.68 34 P **P 10 57 30.6 0.0**
comp=Z,2.7nm,0.7s,baz=298,slow=6.8,SNR=44
YKA Yellowknife Ar 55.68 34 *e*P **P 10 57 30.5 -0.1**
EDM Edmonton 61.29 43 *e*P **P 10 58 10.2 +0.3**
EDM Edmonton 61.29 43 *e*P **P 10 58 10.2 +0.3**
EDM Edmonton 61.29 43 *e*P **P 10 58 10.2 +0.3**
I05D Terrebonne, OR 62.13 54 ⇑P **P 10 58 15.8 +0.2**
baz=62
NEW Newport 62.23 49 *e*P **P 10 58 17.2 +0.9**
NEW Newport 62.23 49 P **P 10 58 16.6 +0.4**
comp=Z,3.7nm,0.9s,baz=290,slow=8.4,SNR=7.5
NEW Newport 62.23 49 *e*P **P 10 58 17.1 +0.9**
NEW Newport 62.23 49 ⇓P **P 10 58 16.5 +0.2**
baz=62
NEW Newport 62.23 49 *e*P **P 10 58 17.2 +0.9**
E09A Wood Farm, Sta 62.69 51 *e*P **P 10 58 20.3 +1.0**
comp=Z,11nm,1.0s
J05D Fort Rock, OR 62.80 55 ⇑P **P 10 58 20.2 0.0**
baz=63
YBH Yreka Blue Hor 62.82 57 P **P 10 58 20.4 +0.1**
YBH pmax pmax
comp=Z,2.0nm,0.7s
YBH Yreka Blue Hor 62.82 57 P **P 10 58 20.4 +0.1**
comp=Z,2.3nm,0.7s,baz=109,slow=11,SNR=3.4
WALA Waterton Lakes 63.48 47 *e*P **P 10 58 25.2 +0.6**
SWMT Swartz Lake 64.37 48 *e*P **P 10 58 31.3 +0.8**
WRAB Tennant Creek 64.60 193 *de*P **P 10 58 31.1 -0.9**
WRAB pmax pmax
comp=Z,26nm,1.2s
WRAB Tennant Creek 64.60 193 *e*P **P 10 58 31.5 -0.5**
comp=Z,7.6nm,1.0s
WRA Warramunga Arr 64.61 193 P **P 10 58 31.7 -0.3**
WRA pmax pmax
comp=Z,5.0nm,0.9s
WRA Warramunga Arr 64.61 193 P **P 10 58 31.7 -0.3**
comp=Z,5.4nm,0.9s,baz=10,slow=6.7,SNR=22
FINES FINESS Array B 64.73 333 P **P 10 58 31.1 -1.3**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 64.73 333 P **P 10 58 31.1 -1.3**
comp=Z,3.4nm,0.6s,baz=53,slow=9.8,SNR=7.1
SLMT Seeley Lake 64.81 48 *e*P **P 10 58 34.0 +0.6**
MSO Missoula 64.82 49 ⇓P **P 10 58 33.7 +0.3**
baz=65,SNR=5.6
MSO Missoula 64.82 49 *e*P **P 10 58 34.0 +0.6**
comp=Z,8.2nm,1.0s
OBN Obninsk 65.19 324⇑ *i*P **P 10 58 35.3 -0.1**
OBN *i* *PP **pP 10 58 57.8 -2.9**
OBN *e* 11 01 02.1
OBN *e*S **S 11 07 11.5 +1.4**
OBN pmax pmax
comp=Z,57nm,2.9s
OBN Obninsk 65.19 324 *e*P **P 10 58 35.3 -0.1**
FFC Flin Flon 65.58 37 *e*P **P 10 58 38.6 +0.6**
FCC Fort Churchill 65.89 30 *e*P **P 10 58 39.4 -0.5**
FCC Fort Churchill 65.89 30 *e*P **P 10 58 39.4 -0.5**
HRY Holter Researc 66.03 48 *e*P **P 10 58 42.0 +0.9**
A19A Klindworth Far 66.22 44 ⇓P **P 10 58 42.8 +0.5**
baz=66,SNR=8.7
LRM Limekiln Ridge 66.26 49 *e*P **P 10 58 43.5 +0.7**
EGMT Eagleton 66.29 46 ⇑P **P 10 58 43.1 +0.3**
baz=66,SNR=8.0
EGMT Eagleton 66.29 46 *e*P **P 10 58 43.0 +0.3**
comp=Z,9.4nm,0.8s
B19A Brinkman Farms 66.43 45 ⇓P **P 10 58 44.2 +0.6**
baz=66,SNR=8.4
DLMT Dillon 66.47 49 *e*P **P 10 58 43.7 -0.4**
comp=Z,5.3nm,0.9s
HLID Hailey 66.59 52 ⇓P **P 10 58 45.1 +0.3**
baz=66,SNR=5.3
HLID Hailey 66.59 52 *e*P **P 10 58 45.4 +0.5**
comp=Z,2.9nm,1.0s

A20A Cobblestone Ra 66.67 44 ⇓P **P 10 58 45.3 +0.2**
baz=66
MCMT McKenzie Canyo 66.67 50 *e*P **P 10 58 44.9 -0.6**
comp=Z,0.7nm,0.8s
C19A Slack Wire Ran 66.84 45 ⇑P **P 10 58 47.1 +0.8**
baz=67,SNR=11
B20A Solberg Farm, 66.91 44 ⇓P **P 10 58 47.1 +0.5**
baz=67,SNR=5.7
A21A Bergtoll Ranch 67.09 43 ⇓P **P 10 58 48.3 +0.5**
baz=67,SNR=8.1
D19A Cripps Ranch, 67.29 46 ⇓P **P 10 58 50.1 +0.9**
baz=67,SNR=6.7
C20A Veseth Ranch, 67.39 45 ⇓P **P 10 58 50.2 +0.5**
baz=67,SNR=13
B21A Ellsworth Farm 67.42 44 ⇓P **P 10 58 50.5 +0.6**
baz=67,SNR=5.4
NVAR Mina Array Bea 67.50 58 P **P 10 58 51.4 +0.6**
comp=Z,3.8nm,0.8s,baz=288,slow=6.6,SNR=34
A22A Carney Farms, 67.59 43 ⇑P **P 10 58 51.1 +0.1**
baz=67,SNR=9.3
D20A Manuel Ranch, 67.73 46 ⇓P **P 10 58 52.7 +0.8**
baz=68,SNR=13
E19A Rath Farm, Rou 67.80 46 ⇓P **P 10 58 52.6 +0.2**
baz=68
ELK Elko 67.89 54 P **P 10 58 54.1 +0.9**
ELK pmax pmax
comp=Z,1.0nm,0.6s
ELK Elko 67.89 54 P **P 10 58 54.1 +0.9**
comp=Z,0.9nm,0.6s,baz=58,slow=7.3,SNR=5.6
E20A Meyer Farm, Mu 68.11 46 ⇑P **P 10 58 54.4 +0.1**
baz=68
F19A Roth Farm, Mol 68.11 47 ⇑P **P 10 58 54.9 +0.5**
baz=68,SNR=9.2
LKWY Lake 68.17 49 *e*P **P 10 58 57.2 +2.2**
LKWY pmax pmax
comp=Z,4.0nm,0.9s
LKWY Lake 68.17 49 *e*P **P 10 58 57.2 +2.2**
comp=Z,4.4nm,0.9s
H17A Grant Village 68.19 49 ⇓P **P 10 58 56.9 +1.9**
baz=68,SNR=6.1
H17A Grant Village 68.19 49 *e*P **P 10 58 57.3 +2.3**
comp=Z,8.8nm,1.0s
IMW Indian Meadow 68.31 50 *e*P **P 10 58 57.3 +1.4**
comp=Z,4.7nm,0.8s
ASAR Alice Springs 68.33 193 P **P 10 58 55.8 +0.1**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 68.33 193 P **P 10 58 55.8 +0.1**
comp=Z,1.8nm,0.8s,baz=7.4,slow=5.3,SNR=15
D21A La Casta Ranch 68.33 45 ⇑P **P 10 58 56.1 +0.5**
baz=68,SNR=9.2
TPH Tonopah 68.39 58 *e*P **P 10 58 56.8 +0.5**
TPH pmax pmax
comp=Z,6.0nm,0.8s
TPH Tonopah 68.39 58 *e*P **P 10 58 56.8 +0.5**
comp=Z,6.0nm,0.8s
B23A Brockton 68.40 43 ⇓P **P 10 58 56.5 +0.5**
baz=68,SNR=5.9
FXWY Fox Creek 68.43 50 *e*P **P 10 58 57.7 +1.1**
comp=Z,3.7nm,0.8s
I17A Pilgrim Ck. 68.50 49 ⇓P **P 10 58 58.5 +1.5**
baz=68,SNR=9.6
H18A Shoshone NF, C 68.50 48 ⇓P **P 10 58 57.5 +0.5**
baz=68,SNR=5.0
TPAW Teton Pass 68.57 50 *e*P **P 10 58 58.7 +1.2**
A24A Westby 68.57 42 ⇓P **P 10 58 57.1 0.0**
baz=68
HVU Hansel Valley 68.65 52 *e*P **P 10 58 58.8 +0.9**
HVU pmax pmax
comp=Z,6.0nm,0.9s
HVU Hansel Valley 68.65 52 *e*P **P 10 58 58.8 +0.9**
comp=Z,5.6nm,0.9s
LOHW Long Hollow 68.68 50 *e*P **P 10 58 59.1 +1.0**
D22A Cohagen 68.69 45 ⇓P **P 10 58 58.1 +0.2**
baz=68
REDW Red Top Meadow 68.71 50 *e*P **P 10 58 59.5 +1.2**
comp=Z,19nm,1.6s
C23A Lambert 68.75 44 ⇓P **P 10 58 58.6 +0.3**
baz=68
DGMT Dagmar 68.79 43 ⇓P **P 10 58 58.8 +0.3**
baz=69
H19A Powell 68.87 48 ⇑P **P 10 58 59.4 +0.3**
baz=69
G20A Bridger 68.92 47 ⇑P **P 10 58 59.6 +0.1**
baz=69
F21A Absaloka Mine, 69.09 46 ⇓P **P 10 59 00.5 +0.1**
baz=69
D23A Lindsay 69.16 44 ⇓P **P 10 59 01.4 +0.6**
baz=69,SNR=6.2
R11A Troy Canyon, C 69.21 57 ⇑P **P 10 59 01.7 +0.3**
baz=69
R11A Troy Canyon, C 69.21 57 *e*P **P 10 59 01.9 +0.6**
comp=Z,2.8nm,0.9s
E22A Miles City 69.28 45 ⇓P **P 10 59 01.9 +0.3**
baz=69
I19A Meeteetse 69.28 48 ⇓P **P 10 59 02.1 +0.3**
baz=69
HWUT Hardware Ranch 69.45 52 *e*P **P 10 59 03.7 +0.9**
comp=Z,4.7nm,1.0s
NB2 NORSAR Subarra 69.46 339 P **P 10 59 01.6 -0.7**
comp=Z,12nm,1.2s,baz=30,slow=6.2
NOA NORSAR Array B 69.46 339 P **P 10 59 02.0 -0.3**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 69.46 339 P **P 10 59 02.0 -0.3**
comp=Z,2.0nm,0.8s,baz=41,slow=7.7,SNR=7.3
A26A Wade Farm, Ken 69.53 41 ⇓P **P 10 59 03.4 +0.3**
baz=69
F22A Rosebud 69.57 46 ⇑P **P 10 59 03.7 +0.3**
baz=69
E23A Ismay 69.57 45 ⇑P **P 10 59 03.7 +0.3**
baz=69
FURC Furnace Creek, 69.63 59 ⇓P **P 10 59 04.3 +0.5**
baz=70
D24A Glendive 69.64 44 ⇓P **P 10 59 04.3 +0.6**
baz=69,SNR=11
KIV Kislovodsk 69.65 312 *e*P **P 10 59 05.6 +1.7**
KIV pmax pmax
comp=Z,16nm,1.1s
DUG Dugway, Tooele 69.66 54 *e*P **P 10 59 05.0 +0.9**
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway, Tooele 69.66 54 ⇓P **P 10 59 04.6 +0.6**
baz=70,SNR=6.2
DUG Dugway, Tooele 69.66 54 *e*P **P 10 59 05.0 +0.9**
comp=Z,6.4nm,1.0s
KBZ Khabaz 69.69 311 P **P 10 59 05.8 +1.8**
KBZ pmax pmax
comp=Z,9.0nm,0.8s
KBZ Khabaz 69.69 311 P **P 10 59 05.8 +1.8**
comp=Z,9.3nm,0.8s,baz=48,slow=4.5,SNR=21
J19A Crowheart 69.76 49 ⇓P **P 10 59 05.1 +0.3**
baz=70,SNR=7.2
C25A Freed Ranch, W 69.77 43 ⇓P **P 10 59 04.3 -0.2**
baz=70
I20A Worland 69.81 48 ⇓P **P 10 59 05.3 +0.4**
baz=70
PDAR Pinedale Array 69.81 50 P **P 10 59 05.2 0.0**
comp=Z,3.2nm,0.8s,baz=263,slow=2.2,SNR=27
A27A Ledoux Ranch, 69.87 41 ⇓P **P 10 59 05.2 +0.1**
baz=70
G22A Birney 69.93 46 ⇑P **P 10 59 05.5 -0.1**
baz=70
H21A Big Horn, Sher 69.93 47 ⇓P **P 10 59 05.8 +0.1**
baz=70,SNR=6.9
EDW2 Edwards Air Fo 69.94 61 ⇓P **P 10 59 05.8 0.0**
baz=70
E24A Baker 70.03 44 ⇑P **P 10 59 06.1 -0.1**
baz=70
F23A Volborg 70.05 45 ⇓P **P 10 59 06.3 +0.1**
baz=70,SNR=9.3
J20A Shoshoni 70.23 49 ⇑P **P 10 59 07.8 +0.3**
baz=70,SNR=7.4
C26A Wahner Farm, P 70.25 42 ⇑P **P 10 59 07.5 +0.1**
baz=70
I21A Big Trails, Te 70.35 48 ⇓P **P 10 59 08.5 +0.2**
baz=70,SNR=9.6
A28A Rude Farm, Bot 70.36 40 ⇓P **P 10 59 08.3 +0.2**
baz=70
G23A Biddle 70.41 46 ⇑P **P 10 59 08.4 -0.1**
baz=70
GSC Goldstone, Bar 70.42 60 ⇓P **P 10 59 08.7 0.0**
baz=70
F24A Ekalaka 70.45 45 ⇑P **P 10 59 08.9 +0.2**
baz=70,SNR=8.7
MPU Maple Canyon 70.46 53 *e*P **P 10 59 09.5 +0.5**
comp=Z,4.6nm,0.8s
E25A Miller Ranch, 70.53 44 ⇑P **P 10 59 09.4 +0.2**
baz=70,SNR=5.7
J21A Lysite 70.58 48 ⇓P **P 10 59 09.5 -0.2**
baz=70
C27A Sayler Ranch, 70.62 42 ⇓P **P 10 59 09.7 +0.1**
baz=70
D26A Manning 70.64 43 ⇓P **P 10 59 10.0 +0.2**
baz=70
B28A Dugan Ranch, T 70.64 41 ⇑P **P 10 59 09.9 +0.1**
baz=70
I22A 9 Mile Ranch, 70.73 47 ⇓P **P 10 59 10.8 +0.3**
baz=70
G24A Alzada 70.82 45 ⇓P **P 10 59 10.8 -0.2**
baz=71
A29A Manning Farm, 70.83 40 ⇑P **P 10 59 10.9 0.0**
baz=71,SNR=7.3
TUQ Turquoise Moun 70.88 59 ⇓P **P 10 59 11.8 +0.2**
baz=71
F25A Bowman 70.90 44 ⇓P **P 10 59 11.7 +0.3**
baz=71
E26A Carlson Angus 71.02 43 ⇓P **P 10 59 11.8 -0.3**
baz=71
HEC Hector,Ludlow 71.02 60 ⇑P **P 10 59 12.5 +0.1**
baz=71
J22A Midwest 71.06 48 ⇓P **P 10 59 12.4 -0.1**
baz=71,SNR=7.2
B29A Wagenman Farm, 71.10 40 ⇓P **P 10 59 12.7 +0.1**
baz=71
H24A Dirks Ranch, A 71.15 46 ⇑P **P 10 59 13.0 -0.1**
baz=71
K21A Alcova 71.17 49 ⇑P **P 10 59 13.5 +0.2**
baz=71
A30A Hoffart Farm, 71.25 39 ⇓P **P 10 59 13.5 +0.1**
baz=71
F26A Lodgepole 71.35 44 ⇑P **P 10 59 14.3 +0.2**
baz=71,SNR=5.7
ULM Lac du Bonnet 71.38 37 P **P 10 59 14.3 +0.1**
ULM pmax pmax
comp=Z,1.0nm,0.5s
ULM Lac du Bonnet 71.38 37 P **P 10 59 14.3 +0.1**
comp=Z,0.8nm,0.5s,baz=325,slow=9.1,SNR=3.8
MDND Maddock 71.43 41 ⇑P **P 10 59 15.0 +0.5**
baz=71
MDND Maddock 71.43 41 *e*P **P 10 59 15.1 +0.5**
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 71.45 324 P **P 10 59 14.5 -0.1**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKASG Malin Array Be 71.45 324 P **P 10 59 14.5 -0.1**
comp=Z,7.9nm,0.7s,baz=38,slow=6.0,SNR=19
KIEV Kiev 71.46 324⇑ *i*P **P 10 59 14.0 -0.6**
KIEV Kiev 71.46 324 *e*P **P 10 59 14.3 -0.3**
comp=Z,10nm,0.8s
GMRC Granite Mounta 71.47 59 ⇑P **P 10 59 15.1 -0.1**
baz=71
K22A Casper 71.55 48 ⇓P **P 10 59 15.6 +0.1**
baz=71
B30A Myrvik Farm, E 71.59 40 ⇓P **P 10 59 15.7 +0.2**
baz=71,SNR=7.9
F27A Lemmon 71.66 43 ⇓P **P 10 59 15.7 -0.3**
baz=71
SRU San Rafael Swe 71.70 53 *e*P **P 10 59 17.1 +0.6**
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael Swe 71.70 53 *e*P **P 10 59 17.1 +0.6**
comp=Z,6.4nm,0.8s
I24A Kuemmerle Ranc 71.73 46 ⇓P **P 10 59 16.2 -0.4**
baz=72
H25A Fruitdale 71.73 45 ⇑P **P 10 59 16.2 -0.3**
baz=72
G26A Maurine 71.77 44 ⇑P **P 10 59 16.5 -0.2**
baz=72,SNR=7.5
E28A Huff 71.81 42 ⇑P **P 10 59 16.7 -0.2**
baz=72
N20A Spence Gulch, 71.83 51 ⇓P **P 10 59 18.0 +0.7**
baz=72,SNR=5.0
RSSD Black Hills 71.85 46 *e*P **P 10 59 17.5 +0.1**
RSSD pmax pmax
comp=Z,6.0nm,1.0s
RSSD Black Hills 71.85 46 *e*P **P 10 59 17.5 +0.1**
comp=Z,5.6nm,1.0s
K23A Bowen Ranch, D 71.96 48 ⇑P **P 10 59 18.0 0.0**
baz=72
D29A Pettibone, Tap 71.99 41 ⇓P **P 10 59 17.6 -0.3**
baz=72
L22A Ellis Ranch, M 72.02 49 ⇑P **P 10 59 18.6 +0.2**
baz=72
G27A Dupree 72.05 44 ⇑P **P 10 59 18.3 -0.1**
baz=72
C30A Mose, Pekin 72.06 40 ⇑P **P 10 59 18.3 0.0**
baz=72
I25A Rochford 72.08 46 ⇓P **P 10 59 18.4 -0.3**
baz=72
F28A McLaughlin 72.28 43 ⇑P **P 10 59 19.4 -0.3**
baz=72
O20A White River Ci 72.31 51 ⇑P **P 10 59 19.8 -0.4**
baz=72
O20A White River Ci 72.31 51 *e*P **P 10 59 20.8 +0.6**
BC3 Big Chuckawall 72.33 60 ⇑P **P 10 59 20.3 0.0**
baz=72
L23A Garrett 72.36 48 ⇑P **P 10 59 20.1 -0.4**
baz=72
M22A Cedar Creek Ra 72.36 49 ⇓P **P 10 59 20.7 +0.1**
baz=72,SNR=6.0
U15A North Rim 72.44 56 ⇑P **P 10 59 21.6 +0.4**
baz=72,SNR=7.0
H27A Howes 72.50 44 ⇓P **P 10 59 21.1 +0.1**
baz=72
I26A New Underwood 72.52 45 ⇓P **P 10 59 21.1 -0.1**
baz=72
E30A Jud 72.72 41 ⇓P **P 10 59 22.2 0.0**
baz=72
PDMCI Parker Dam,Lak 72.73 59 ⇑P **P 10 59 22.7 +0.2**
baz=72
F29A Eureka 72.76 42 ⇑P **P 10 59 22.7 +0.2**
baz=72
G28A Parade 72.77 43 ⇓P **P 10 59 22.6 -0.1**
baz=72
AGMN Agassiz Nation 72.83 39 ⇑P **P 10 59 22.7 -0.2**
baz=73
AGMN Agassiz Nation 72.83 39 *e*P **P 10 59 22.2 -0.6**
comp=Z,14nm,1.4s
N22A Wattenberg Ran 72.85 50 ⇑P **P 10 59 23.3 -0.1**
baz=73
Y12C Blythe 72.85 60 ⇑P **P 10 59 23.5 +0.2**
baz=73
I27A Quinn 72.91 45 ⇓P **P 10 59 23.7 +0.2**
baz=73
J26A Sides Ranch, S 72.92 46 ⇓P **P 10 59 23.4 -0.2**
baz=73
H28A Mission Ridge 73.00 44 ⇓P **P 10 59 24.1 +0.1**
baz=73,SNR=12
N23A Red Feather La 73.07 49 ⇑P **P 10 59 25.0 +0.2**
baz=73
GLA Glamis 73.13 60 ⇓P **P 10 59 25.5 +0.6**
baz=73
O22A Kremmling 73.24 50 ⇑P **P 10 59 25.9 +0.1**
baz=73
M24A Cheyenne 73.28 48 ⇓P **P 10 59 26.4 +0.6**
baz=73,SNR=5.0
K26A Motz Farm, Whi 73.29 46 ⇓P **P 10 59 26.0 +0.2**
baz=73
I28A Midland 73.41 44 ⇑P **P 10 59 26.5 +0.1**
baz=73,SNR=5.8
H29A Onida 73.44 43 ⇓P **P 10 59 25.9 -0.7**
baz=73
J27A Elkhorn Farm, 73.51 45 ⇑P **P 10 59 27.0 -0.1**
baz=73
P22A Eagle 73.51 51 ⇓P **P 10 59 27.4 0.0**
baz=73
O23A Lake Granby, G 73.56 50 ⇑P **P 10 59 28.1 +0.4**
baz=73
G30A Faulkton 73.60 42 ⇑P **P 10 59 27.1 -0.4**
baz=73,SNR=9.7
WUAZ Wupatki 73.61 56 ⇓P **P 10 59 28.2 +0.3**
baz=73
WUAZ Wupatki 73.61 56 *e*P **P 10 59 28.8 +0.9**
comp=Z,5.4nm,1.1s
SMCO Snowmass 73.68 51 *e*P **P 10 59 28.7 +0.2**
N24A Carr 73.69 49 ⇑P **P 10 59 28.8 +0.5**
baz=74
K27A Flueckinger Fa 73.78 46 ⇑P **P 10 59 28.6 -0.1**
baz=74
J28A Allard Ranch, 73.78 45 ⇑P **P 10 59 28.8 +0.2**
baz=74
I29A Vivian Onida 73.83 44 ⇑P **P 10 59 28.9 +0.1**
baz=74
ISCO Idaho Springs 74.01 50 *e*P **P 10 59 31.2 +0.9**
ISCO pmax pmax

	comp=Z,3.0nm,0.8s						
ISCO	**Idaho Springs**	74.01	50	⇑P	P	10 59 30.4	+0.1
	baz=74,SNR=5.3						
ISCO	**Idaho Springs**	74.01	50	*e*P	P	10 59 31.2	+0.9
	comp=Z,3.0nm,0.8s						
O24A	**Longmont**	74.08	49	⇓P	P	10 59 30.5	0.0
	baz=74						
MVCO	**Mesa Verde**	74.16	54	⇑P	P	10 59 31.5	+0.3
	baz=74						
MVCO	**Mesa Verde**	74.16	54	*e*P	P	10 59 31.7	+0.6
	comp=Z,5.9nm,1.0s						
P23A	**Jefferson**	74.18	50	⇑P	P	10 59 32.1	+0.8
	baz=74						
BRSD	**Miller**	74.19	43	*e*P	P	10 59 30.3	-0.6
K28A	**Ten Mile Ranch**	74.22	45	⇓P	P	10 59 31.6	+0.4
	baz=74						
J29A	**Okreek**	74.26	44	⇑P	P	10 59 31.7	+0.3
	baz=74						
X16A	**Lo Mia Camp, P**	74.31	57	⇑P	P	10 59 32.7	+0.7
	baz=74,SNR=7.9						
I30A	**Oacoma**	74.34	44	⇑P	P	10 59 32.2	+0.3
	baz=74						
N26A	**Koester Ranch,**	74.59	48	⇑P	P	10 59 33.8	+0.4
	baz=74						
P24A	**Kohler Place,**	74.60	50	⇓P	P	10 59 33.9	+0.3
	baz=74						
K29A	**Lazy Trails An**	74.73	45	⇑P	P	10 59 33.9	-0.2
	baz=74						
J30A	**Dallas**	74.74	44	⇑P	P	10 59 34.2	+0.1
	baz=74,SNR=7.3						
Q24A	**Divide**	74.85	50	⇓P	P	10 59 35.0	-0.2
	baz=75						
O26A	**Horse Wrangler**	74.96	48	⇑P	P	10 59 35.6	0.0
	baz=75						
N27A	**Anderson Farm,**	74.97	47	⇑P	P	10 59 35.7	0.0
	baz=75,SNR=6.1						
KWP	**Kalwaria Pacla**	74.97	326	⇑P	P	10 59 36.8	+1.5
KWP	**Kalwaria Pacla**	74.97	326	⇑*i*P	P	10 59 36.8	+1.5
P25A	**Willow Gulch B**	75.01	49	⇑P	P	10 59 35.5	-0.4
	baz=75						
R23A	**Moffat**	75.01	51	⇓P	P	10 59 36.3	+0.2
	baz=75,SNR=5.6						
EYMN	**Ely**	75.01	36	*e*P	P	10 59 35.3	-0.3
	comp=Z,4.7nm,0.8s						
X18A	**Snowflake**	75.13	56	⇓P	P	10 59 37.2	+0.4
	baz=75						
OGNE	**Ogallala**	75.14	47	⇑P	P	10 59 36.6	+0.1
	baz=75,SNR=9.8						
K30A	**Basset**	75.15	45	⇑P	P	10 59 36.0	-0.5
	baz=75						
S23A	**Nye Farm, Mont**	75.25	52	⇑P	P	10 59 38.0	+0.5
	baz=75						
Q25A	**Bedland, Calha**	75.39	50	⇑P	P	10 59 38.5	+0.3
	baz=75,SNR=6.0						
R24A	**Sanders Place,**	75.39	51	⇓P	P	10 59 38.6	+0.4
	baz=75,SNR=7.5						
P26A	**Davis Ranch, A**	75.42	49	⇓P	P	10 59 37.9	-0.4
	baz=75						
O27A	**Beecher Island**	75.44	48	⇓P	P	10 59 38.2	-0.1
	baz=75						
BURAR	**Bucovina Array**	75.51	324	⇓P	P	10 59 39.6	+1.1
BURAR	**Bucovina Array**	75.51	324	⇓*i*P	P	10 59 39.6	+1.1
N28A	**Pribbeno Ranch**	75.59	47	⇓P	P	10 59 38.8	-0.3
	baz=75						
U22A	**Llaves**	75.69	53	⇑P	P	10 59 40.2	+0.2
	baz=76						
TESR	**Tescani**	75.73	322	⇓*i*P	P	10 59 40.9	+1.2
Q26A	**Hugo**	75.78	49	⇓P	P	10 59 40.1	-0.3
	baz=76						
P27A	**Ficken Ranch,**	75.84	48	⇑P	P	10 59 40.4	-0.2
	baz=76						
ECSD	**EROS Data Cent**	75.86	42	⇑P	P	10 59 40.0	-0.5
	baz=76						
ECSD	**EROS Data Cent**	75.86	42	*e*P	P	10 59 40.0	-0.5
	comp=Z,15nm,1.4s						
L31A	**Butterfield Fa**	75.91	44	⇑P	P	10 59 40.5	-0.3
	baz=76,SNR=6.4						
N29A	**Votaw Ranch, W**	75.97	46	⇓P	P	10 59 41.5	+0.2
	baz=76						
V22A	**San Miguel Ran**	75.98	54	⇓P	P	10 59 41.2	-0.4
	baz=76						
T24B	**San Luis**	76.05	52	⇑P	P	10 59 41.7	-0.4
	baz=76,SNR=5.0						
U23A	**El Rito**	76.10	53	⇓P	P	10 59 42.6	+0.3
	baz=76,SNR=7.9						
S25A	**Robets Cordova**	76.17	51	⇑P	P	10 59 42.1	-0.5
	baz=76						
VRI	**Vrincioaia**	76.19	322	⇑*i*P	pP	11 00 03.8	-4.5
KSCO	**Kaye Shedlock'**	76.20	49	⇓P	P	10 59 42.2	-0.5
	baz=76						
KSCO	**Kaye Shedlock'**	76.20	49	*e*P	P	10 59 42.8	+0.1
	comp=Z,8.3nm,1.0s						
TRPA	**Tarpa**	76.23	325	⇓*i*P	P	10 59 44.3	+1.8
R26A	**Arlington**	76.26	50	⇓P	P	10 59 43.0	-0.1
	baz=76,SNR=7.9						
O29A	**4D Ranch, Culb**	76.38	47	⇓P	P	10 59 43.5	-0.2
	baz=76						
V23A	**Ortiz Mt. (NFS**	76.52	53	⇓P	P	10 59 45.2	+0.6
	baz=76						
SPMN	**Marine on St.**	76.52	39	⇑P	P	10 59 43.8	-0.4
	baz=76						
T25A	**Trinidad**	76.55	51	⇑P	P	10 59 44.0	-0.8
	baz=76						
Q28A	**Sharon Springs**	76.60	48	⇓P	P	10 59 44.8	-0.1
	baz=76						
R27A	**Eads**	76.63	49	⇓P	P	10 59 44.9	-0.2
	baz=76,SNR=6.5						
S26A	**Kim**	76.73	50	⇓P	P	10 59 45.6	-0.1
	baz=76						
O30A	**MW Ranch, Wils**	76.73	47	⇑P	P	10 59 45.2	-0.4
	baz=76						
UPC	**Upice**	76.81	330	*e*P	P	10 59 49.2	+3.5
UPC	**Upice**	76.81	330	*e*P	P	10 59 49.2	+3.5
DPC	**Dobruska-Polom**	76.83	330	*e*P	P	10 59 49.8	+3.9
DPC	**Dobruska-Polom**	76.83	330	*e*P	P	10 59 49.8	+3.9
ANMO	**Albuquerque**	76.92	54	⇑*e*P	P	10 59 47.7	+0.8
ANMO				pmax	pmax		
	comp=Z,22nm,2.0s						
ANMO	**Albuquerque**	76.92	54	*e*P	P	10 59 47.3	+0.4
	comp=Z,4.0nm,1.2s						
W23A	**Werner Place,**	76.95	54	⇓P	P	10 59 47.2	+0.1
	baz=77						
T26A	**Comanche Natio**	76.98	51	⇑P	P	10 59 47.3	+0.1
	baz=77						
V24A	**Rampart Ranch,**	77.06	53	⇑P	P	10 59 47.8	+0.1
	baz=77						
U25A	**Circle Dot Ran**	77.07	52	⇓P	P	10 59 47.7	0.0
	baz=77						
P30A	**Selden**	77.10	47	⇓P	P	10 59 47.0	-0.7
	baz=77						
R28A	**Tribune**	77.13	49	⇑P	P	10 59 47.8	-0.1
	baz=77						
O31A	**Woolen Ranch,**	77.14	46	⇑P	P	10 59 47.3	-0.5
	baz=77						
CLL	**Collm**	77.17	332	*e*P	P	10 59 48.0	+0.3
CLL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CLL	**Collm**	77.17	332	*e*P	P	10 59 48.0	+0.3
	comp=Z,9.0nm,0.8s						
Q29A	**Oakley**	77.18	48	⇓P	P	10 59 48.1	0.0
	baz=77						
BRG	**Berggiesshubel**	77.22	332	*e*P	P	10 59 47.9	-0.2
	comp=Z,12nm,1.6s						
BRG	**Berggiesshubel**	77.22	332	*e*P	P	10 59 47.9	-0.2
BRG				pmax	pmax		
	comp=Z,12nm,1.6s						
VOIR		77.27	322	⇑P	P	10 59 49.4	+0.9
VOIR		77.27	322	⇑*i*P	P	10 59 49.4	+0.9
W24A	**Lazy 6 Ranch,**	77.34	53	⇓P	P	10 59 49.6	+0.4
	baz=77						
V25A	**Rancho No Teng**	77.35	52	⇓P	P	10 59 49.3	0.0
	baz=77						
BRTR	**Keskin Array B**	77.43	314	*ce*P	P	10 59 50.5	+0.9
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	77.43	314	P	P	10 59 50.5	+0.9
	comp=Z,1.7nm,0.7s,baz=45,slow=3.7,SNR=5.8						
U26A	**Atchley Ranch,**	77.45	51	⇓P	P	10 59 49.6	-0.3
	baz=77						
Q30A	**Quinter**	77.52	47	⇓P	P	10 59 49.9	-0.2
	baz=77						
P31A	**Stockton**	77.57	47	⇑P	P	10 59 50.0	-0.3
	baz=77						
VRAC	**Vranov**	77.59	329	⇑P	P	10 59 52.0	+1.9
VRAC	**Vranov**	77.59	329	⇑*i*P	P	10 59 52.0	+1.9
319A	**Douglas**	77.71	58	⇑P	P	10 59 51.8	+0.6
	baz=78						
X24A	**Lazy VL Ranch,**	77.78	54	⇑P	P	10 59 52.2	+0.5
	baz=78						
Z22A	**Elephant Butte**	77.80	56	⇑P	P	10 59 52.4	+0.6
	baz=78						
121A	**Cookes Peak, D**	77.82	57	⇓P	P	10 59 50.5	-1.4
	baz=78						
T28A	**Walsh**	77.84	50	⇑P	P	10 59 51.6	-0.3
	baz=78						
V26A	**Tequesquite Ra**	77.86	52	⇑P	P	10 59 51.2	-0.8
	baz=78						
Y23A	**Lovelace Mesa,**	77.87	54	⇑P	P	10 59 52.7	+0.5
	baz=78						
W25A	**X Bar L Ranch,**	77.88	53	⇑P	P	10 59 52.3	+0.1
	baz=78,SNR=5.6						
P32A	**Huiting Farm,**	77.90	46	⇑P	P	10 59 51.2	-0.9
	baz=78,SNR=8.9						
Q31A	**Ellis**	77.94	47	⇑P	P	10 59 51.6	-0.8
	baz=78						
U27A	**Thompson Grove**	77.95	51	⇓P	P	10 59 52.3	-0.2
	baz=78						
R30A	**Dighton**	78.00	48	⇓P	P	10 59 52.3	-0.4
	baz=78						
Y24A	**Capitan**	78.23	54	⇑P	P	10 59 54.4	+0.1
	baz=78						
W26A	**Owens Ranch, T**	78.37	52	⇑P	P	10 59 54.6	-0.3
	baz=78						
Q32A	**Meitler Ranch,**	78.39	46	⇑P	P	10 59 53.9	-0.9
	baz=78						
R31A	**Burdett**	78.40	48	⇑P	P	10 59 54.5	-0.4
	baz=78						
V27A	**Dan Oppiter Fa**	78.42	51	⇑P	P	10 59 55.2	+0.1
	baz=78						
Q33A	**Connelly Farm,**	78.77	46	⇑P	P	10 59 56.2	-0.6
	baz=78,SNR=9.0						
W27A	**Bowe Ranch, En**	78.79	52	⇓P	P	10 59 57.1	-0.1
	baz=79						
KHC	**Kasperske Hory**	78.82	331	*e*P	P	10 59 58.2	+1.2
KHC	**Kasperske Hory**	78.82	331	*e*P	P	10 59 58.2	+1.2
KHC	**Kasperske Hory**	78.82	331	*e*P	P	10 59 58.6	+1.6
SCIA	**State Center**	78.87	41	*e*P	P	10 59 57.7	+0.4
	comp=Z,11nm,0.8s						
GERES	**GERESS Array B**	79.02	331	P	P	10 59 59.0	+0.8
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	79.02	331	P	P	10 59 59.0	+0.8
	comp=Z,1.3nm,0.8s,baz=28,slow=6.0,SNR=7.3						
Z25A	**Roswell**	79.11	54	⇓P	P	10 59 58.6	-0.4
	baz=79						
T31A	**Randall Ranch,**	79.19	48	⇓P	P	10 59 58.7	-0.5
	baz=79						
T32A	**Huddler Ranch,**	79.54	48	⇓P	P	11 00 00.8	-0.3
	baz=79						
Y27A	**Causey**	79.58	53	⇑P	P	11 00 01.0	-0.5
	baz=79						
X28A	**Dimmitt**	79.68	52	⇑P	P	11 00 01.7	-0.3
	baz=80						
AMTX	**Amarillo**	79.70	51	⇑P	P	11 00 02.3	+0.2
	baz=80						
MSTX	**Muleshoe**	79.75	52	⇑P	P	11 00 02.3	0.0
	baz=80						
T33A	**Patterson Ranc**	79.97	48	⇑P	P	11 00 03.4	0.0
	baz=80						
X29A	**Tulia**	80.01	51	⇑P	P	11 00 04.1	+0.3
	baz=80						
V31A	**Spring Creek L**	80.08	49	⇓P	P	11 00 04.5	+0.5
	baz=80						
W31A	**Holland Ranch,**	80.45	50	⇑P	P	11 00 06.1	0.0
	baz=80						
Z28A	**Tucker Farm, M**	80.46	53	⇑P	P	11 00 05.9	-0.3
	baz=80						
X30A	**Coker Ranch, T**	80.48	51	⇓P	P	11 00 06.0	-0.2
	baz=80						
U33A	**Lingo Farm, Me**	80.53	48	⇑P	P	11 00 06.4	0.0
	baz=80						
U34A	**Anderson Ranch**	80.83	48	⇑P	P	11 00 07.9	-0.1
	baz=81						
X31A	**McDonald Ranch**	80.84	50	⇓P	P	11 00 08.3	+0.2
	baz=81						
Z29A	**Hungry Hill Ra**	80.87	52	⇑P	P	11 00 08.5	+0.1
	baz=81						
W32A	**Sentinel**	80.88	50	⇑P	P	11 00 08.2	-0.1
	baz=81						
128A	**Castleberry Fa**	80.89	53	⇑P	P	11 00 08.6	+0.1
	baz=81						
V33A	**Lossen Ranch,**	80.89	48	⇑P	P	11 00 08.2	-0.1
	baz=81						
Z30A	**Sanderson Ranc**	81.18	52	⇓P	P	11 00 10.0	0.0
	baz=81						
228A	**UT Block 9, Go**	81.19	54	⇓P	P	11 00 09.9	-0.2
	baz=81						
X32A	**Elmer**	81.38	50	⇓P	P	11 00 10.9	-0.1
	baz=81						
X33A	**Lawton**	81.73	49	⇑P	P	11 00 12.7	-0.1
	baz=82						
229A	**Bryant Ranch,**	81.75	53	⇓P	P	11 00 12.6	-0.5
	baz=82						
329A	**Wagon Wheel Ra**	82.00	54	⇑P	P	11 00 14.6	+0.3
	baz=82						
X34A	**Smith Ranch, M**	82.05	49	⇑P	P	11 00 14.6	+0.2
	baz=82						
131A	**Roby**	82.05	52	⇓P	P	11 00 14.2	-0.3
	baz=82						
Y33A	**Hilltop Ranch,**	82.05	50	⇑P	P	11 00 14.5	0.0
	baz=82						
230A	**Sterling City**	82.22	53	⇓P	P	11 00 15.4	-0.1
	baz=82						
330A	**Mertzon**	82.53	53	⇑P	P	11 00 17.3	+0.2
	baz=82						
TXAR	**Lajitas Array**	82.57	56	P	P	11 00 17.6	+0.2
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TXAR	**Lajitas Array**	82.57	56	P	P	11 00 17.6	+0.2
	comp=Z,3.3nm,0.8s,baz=297,slow=3.7,SNR=38						
429A	**Davenport Ranc**	82.69	54	⇓P	P	11 00 17.7	-0.2
	baz=82						
529A	**Stev Forest Ra**	82.86	55	⇑P	P	11 00 18.2	-0.6
	baz=83,SNR=5.7						
SFIN	**Lafayette**	82.92	39	⇑P	P	11 00 18.4	-0.5
	baz=83						
430A	**Baggett Ranch,**	82.95	54	⇑P	P	11 00 19.1	-0.2
	baz=83						
331A	**San Angelo**	83.04	53	⇓P	P	11 00 19.5	-0.2
	baz=83						
232A	**Coleman**	83.06	52	⇓P	P	11 00 19.6	-0.2
	baz=83						
Z35A	**Perchaven, San**	83.32	49	⇓P	P	11 00 20.8	-0.2
	baz=83						
530A	**J-C Ranch, Com**	83.36	54	⇓P	P	11 00 21.6	+0.2
	baz=83						
332A	**Millersview**	83.38	52	⇑P	P	11 00 21.5	0.0
	baz=83						
233A	**Rising Star**	83.38	51	⇓P	P	11 00 21.4	-0.1
	baz=83						
431A	**Sonora**	83.39	53	⇑P	P	11 00 21.5	-0.1
	baz=83						
432A	**Menard**	83.72	53	⇑P	P	11 00 22.5	-0.7
	baz=84,SNR=5.6						
531A	**Rocksprings**	83.81	54	⇑P	P	11 00 23.7	0.0
	baz=84						
234A	**Clairette**	83.82	51	⇑P	P	11 00 23.7	0.0
	baz=84						
333A	**Richland Sprin**	83.85	52	⇓P	P	11 00 23.9	0.0
	baz=84						
JCT	**Junction City**	84.01	53	*e*P	P	11 00 24.9	+0.2
JCT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
JCT	**Junction City**	84.01	53	⇓P	P	11 00 24.7	0.0
	baz=84						
JCT	**Junction City**	84.01	53	*e*P	P	11 00 24.9	+0.2
	comp=Z,5.6nm,0.8s						
532A	**Rocksprings**	84.21	53	⇓P	P	11 00 25.6	-0.1
	baz=84						
WHTX	**Lake Whitney,**	84.21	50	⇑P	P	11 00 25.6	-0.1
	baz=84						
433A	**Art**	84.21	52	⇓P	P	11 00 25.6	-0.1
	baz=84						
334A	**Lometa**	84.27	51	⇑P	P	11 00 25.9	-0.1
	baz=84						
631A	**Perdido Creek**	84.35	54	⇑P	P	11 00 26.4	0.0
	baz=84						
MIAR	**Mount Ida**	84.36	46	*e*P	P	11 00 26.6	+0.2
MIAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MIAR	**Mount Ida**	84.36	46	*e*P	P	11 00 26.6	+0.2
	comp=Z,4.7nm,0.8s						
434A	**Burnet**	84.64	52	⇑P	P	11 00 27.7	-0.1
	baz=84						
632A	**Uvalde**	84.74	54	⇑P	P	11 00 28.6	+0.2
	baz=84						
533A	**Kerrville**	84.75	53	⇑P	P	11 00 28.6	+0.2
	baz=85						
633A	**Saathoff Ranch**	85.13	53	⇑P	P	11 00 30.7	+0.5
	baz=85						
732A	**Laxson Ranch,**	85.21	54	⇑P	P	11 00 31.2	+0.5
	baz=85						
832A	**Faith Ranch, C**	85.54	55	⇑P	P	11 00 33.1	+0.7
	baz=85						
636A	**Smothers Creek**	86.33	52	⇓P	P	11 00 36.7	+0.5
	baz=86						
SYO	**Syowa Base**	136.31	210	⇑*e*P	PKPdf	11 07 20.0	+6.3
SYO	**Syowa Base**	136.31	210	⇓*e*P	pPKPdf	11 07 40.2	-1.4
SNAA	**Sanae**	148.60	198	P	**PKPbc**	11 07 39.8	+0.5
BDFB	**Brasilia**	149.02	29	PKP2	**PKPbc**	11 07 40.8	-1.2
BDFB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BDFB	**Brasilia**	149.02	29	PKPbc	**PKPbc**	11 07 40.8	-1.2
	comp=Z,5.7nm,1.0s,baz=254,slow=0.8,SNR=5.5						
VNA2	**Neumayer--Watz**	150.13	196	P	**PKPbc**	11 07 43.2	+0.2

GUC 08 10:50:30.1±0.5, 35°.15S×72°.41W, h11^{km}±4^{km}, ML3.6, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.96**	**137**	⇑*i*P		Pg		10 50 47.0	-1.6
LNCH				*i*S		Sg		10 50 59.6	-1.5
NICH	**Los Niches**	**0.98**	**82**	⇓*i*P		Pg		10 50 47.1	-1.8
NICH				*i*S		Sg		10 50 59.9	-1.8
COCH	**Cobquecura**	**1.03**	**197**	*e*P		Pb		10 50 48.0	-1.9
COCH				*i*S		Sg		10 51 01.2	-2.1
CLCH	**Cerro Calan**	**2.34**	**42**	IAML				10 51 47.4	
	comp=E,451nm,0.4s								
PEL	**Peldehue**	**2.46**	**36**	*i*P		Pn		10 51 10.2	+0.1
PEL				*i*S		Sn		10 51 41.4	+1.1
PEL				IAML				10 51 44.9	
	comp=N,386nm,0.5s								

IDC 08 11:02:08.4±2.4, 2°.22S×127°.93E, h0^{km}, mb3.4/2, mb1 3.9/3, mb1mx3.4/39, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=218.7km s-min=25.8km az=67.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.69**	**161**	P		Pn		11 06 29.4	+0.6
	0.1nm,0.3s,baz=340,slow=12,SNR=8.1								
ASAR	**Alice Springs**	**22.09**	**165**	P		P		11 07 04.7	-0.7
	0.5nm,0.5s,baz=346,slow=13,SNR=12								
MKAR	**Makanchi Array**	**63.12**	**327**	P		P		11 12 38.1	0.0
	0.5nm,0.7s,baz=120,slow=8.2,SNR=6.9								

*ISCJB **08** 11:05:01.0±2.0, 33°.42S±0°.07×72°.48W±0°.06, h8^{km}±13^{km}, mb3.5/2, Error ellipse: s-maj=12.4km s-min=7.8km az=175.4*

*IDC **08** 11:05:01.0±1.6, 33°.42S×72°.65W, h0^{km}, mb3.6/2, mb1 3.8/5, mb1mx3.7/30, mbtmp3.6/5, ML3.8/3, Error ellipse: s-maj=41.3km s-min=23.4km az=81.0*

*GUC **08** 11:05:02.4±0.4, 33°.39S×72°.39W, h30^{km}±7^{km}, ML4.0*

ISC 08 11:05:01.6±2.8, 33°.34S±0°.08×72°.40W±0°.07, h3^{km}±16km, n13, σ0°57/19, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.71**	**64**	*i*P		**Pb**		**11 05 16.6**	**-0.1**
IHA				*i*S		**Sb**		**11 05 27.6**	**+0.7**
PEL	**Peldehue**	**1.45**	**83**	⇓*i*P		**Pn**		**11 05 28.4**	**-0.5**
PEL				*i*S		**Sb**		**11 05 48.3**	**+0.1**
PEL				IAML				11 05 59.3	
	comp=E,5μm,0.4s								
STL	**Santa Lucia**	**1.48**	**94**	*e*P9		**Pn**		**11 05 28.5**	**-0.7**
STL				*i*S		**Sn**		**11 05 48.5**	**-0.5**
ANTU	**Antumapu**	**1.50**	**99**	*e*P		**Pn**		**11 05 28.9**	**-0.5**
ANTU				*i*S		**Sn**		**11 05 49.2**	**-0.3**
ANTU				IAML				11 05 58.1	
	comp=E,3μm,0.4s								
CLCH	**Cerro Calan**	**1.56**	**93**	*e*P		**Pn**		**11 05 30.4**	**0.0**
CLCH				*i*S		**Sn**		**11 05 51.1**	**-0.1**
CLCH				IAML				11 06 04.9	
	comp=E,3μm,0.2s								
CLCH				IAML				11 06 10.4	
	comp=E,4μm,0.5s								
FSR	**Penalolen**	**1.57**	**96**	*i*P9		**Pn**		**11 05 31.7**	**+1.2**
FSR				*i*S		**Sg**		**11 05 52.9**	**+0.7**
NICH	**Los Niches**	**1.92**	**150**	*i*P		**Pn**		**11 05 34.7**	**-0.5**
CFAA	**Coronel Fontan**	**3.92**	**65**	Pn		Pn		11 06 06.5	+3.7
	comp=E,1.4nm,0.3s,baz=229,slow=13,SNR=12								
CFAA				Sn		**Sg**		**11 07 06.8**	**-0.9**
	comp=E,3.6nm,0.3s,baz=91,slow=17,SNR=6.4								
PLCA	**Paso Flores**	**7.53**	**169**	Pn		**Pn**		**11 06 52.4**	**0.0**
	comp=E,0.7nm,0.3s,baz=338,slow=12,SNR=12								
PLCA				Lg		Lg		11 08 59.3	
	baz=265,slow=20,SNR=1.4								
CPUP	**Villa Florida**	**14.82**	**66**	Pn		**P**		**11 08 38.2**	**0.0**
	comp=E,0.5nm,0.3s,baz=159,slow=11,SNR=2.9								
LPAZ	**La Paz**	**17.41**	**14**	P		**P**		**11 09 07.7**	**+0.1**
	comp=E,0.1nm,0.3s,baz=200,slow=7.6,SNR=6.4								
TXAR	**Lajitas Array**	**69.01**	**331**	P		**P**		**11 16 08.7**	**+0.1**
	comp=E,0.2nm,0.6s,baz=162,slow=8.7,SNR=4.9								
TORD	**Torodi Ar. Bea**	**84.27**	**70**	P		**P**		**11 17 35.3**	**+0.1**
	comp=E,0.6nm,0.8s,baz=258,slow=7.2,SNR=3.2								

*NSSC **08** 11:11:52.5±1.4, 40°.16N×40°.69E, h5^{km}±237^{km}, ML4.8*

*ISK **08** 11:12:10.5, 38°.79N×40°.09E, h5^{km}, ML5.3*

*GCMT **08** 11:12:10.0±0.4, 38°.79N×39°.93E, h23^{km}±1^{km}, MW5.1/75, Moment Tensor Solution. s17,c19; s75,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.94±.38; $M_{\theta\theta}$-5.17±.29; $M_{\phi\phi}$3.22±.24; $M_{r\theta}$1.54±.42; $M_{\theta\phi}$2.89±.20; $M_{\phi r}$0.79±.37; Best double couple: $M_0$5.47100×10^{16} NP1:ϕ_s66.00000°,δ79.00000°,λ24.00000°. NP2: ϕ_s331.00000°,δ66.00000°,λ168.00000°. Principal axes: T 4.6830, Plg25.0000°, Azm290.0000°; N 1.5660, Plg63.0000°, Azm88.0000°; P -6.2590, Plg9.0000°, Azm

ERZN	**Erzincan**	**0.88**	**342**	PG	Pg	11	12	27.7	-3.5
ERZN				SG	**Sg**	**11**	**12**	**40.7**	**-2.1**
EUZM	**Uzumlu**	**1.00**	**343**	*i* P	Pb	11	12	30.0	-3.2
EUZM				*i* S	**Sb**	**11**	**12**	**43.0**	**-3.2**
EUZM	**Uzumlu**	**1.00**	**343**	*i* P	Pb	11	12	30.0	-3.2
EUZM				*i* S	**Sb**	**11**	**12**	**43.0**	**-3.2**
VRTB	**Varto-Mus**	**1.15**	**69**	PN	**Pb**	**11**	**12**	**33.2**	**-2.4**
VRTB	**Varto-Mus**	**1.15**	**69**	*i* Pn	**Pb**	**11**	**12**	**33.3**	**-2.4**
EZC	**Erzincan**	**1.15**	**331**	*i* Pg	Pb	11	12	27.7	-8.0
EZC				*i* Sg	Sb	11	12	40.7	-10
BEST	**Besiri**	**1.27**	**132**	*i* P	**Pn**	**11**	**12**	**36.9**	**-0.4**
BEST	**Besiri**	**1.27**	**132**	*i* P	**Pn**	**11**	**12**	**36.3**	**-1.0**
BEST				*i* S	**Sn**	**11**	**12**	**54.2**	**+0.2**
BEST	**Besiri**	**1.27**	**132**	*i* P	**Pn**	**11**	**12**	**36.9**	**-0.4**
KOPT	**Kop Dagi**	**1.31**	**14**	*i* P	**Pn**	**11**	**12**	**35.8**	**-2.2**
KOPT				*i* S	**Sn**	**11**	**12**	**55.6**	**+0.3**
KOPT	**Kop Dagi**	**1.31**	**14**	*i* P	**Pn**	**11**	**12**	**35.8**	**-2.2**
KOPT				*i* S	**Sn**	**11**	**12**	**55.6**	**+0.3**
MAZI	**Mazidag**	**1.32**	**167**	PN	**Pn**	**11**	**12**	**37.1**	**-0.9**
MAZI	**Mazidag**	**1.32**	**167**	*i* Pn	**Pn**	**11**	**12**	**37.1**	**-0.9**
KEMA	**Kemaliye**	**1.34**	**293**	*i* P	Pn	11	12	34.9	-3.4
KEMA				*i* S	**Sn**	**11**	**12**	**53.1**	**-2.9**
KEMA	**Kemaliye**	**1.34**	**293**	*i* P	Pn	11	12	34.9	-3.4
KEMA				*i* S	**Sn**	**11**	**12**	**53.1**	**-2.9**
MALT	**Malatya**	**1.37**	**252**	PN	**Pn**	**11**	**12**	**37.3**	**-1.4**
MALT	**Malatya**	**1.37**	**252**	⇑*i* P	**Pn**	**11**	**12**	**35.8**	**-2.9**
MALT	**Malatya**	**1.37**	**252**	⇑*i* P	**Pn**	**11**	**12**	**35.8**	**-2.9**
MALT	**Malatya**	**1.37**	**252**	Pn	**Pn**	**11**	**12**	**37.5**	**-1.2**
MALT				Sg	**Sg**	**11**	**12**	**59.5**	**+1.2**
MALT	**Malatya**	**1.37**	**252**	Pn	**Pn**	**11**	**12**	**37.5**	**-1.2**
MALT				Sg	**Sg**	**11**	**12**	**59.5**	**+1.2**
EZM	**Erzurum**	**1.52**	**40**	PN	**Pn**	**11**	**12**	**39.8**	**-1.2**
EZM	**Erzurum**	**1.52**	**40**	Pn	**Pn**	**11**	**12**	**38.5**	**-2.4**
KELT	**Kelkit**	**1.54**	**336**	*i* P	**Pn**	**11**	**12**	**40.1**	**-1.0**
KELT				*i* S	**Sn**	**11**	**12**	**59.3**	**-1.6**
KELT	**Kelkit**	**1.54**	**336**	*i* P	**Pn**	**11**	**12**	**40.1**	**-1.0**
KELT				*i* S	**Sn**	**11**	**12**	**59.3**	**-1.6**
MARD	**Mardin**	**1.54**	**159**	*i* P	**Pn**	**11**	**12**	**39.9**	**-1.1**
MARD				*i* S	**Sb**	**11**	**13**	**01.3**	**-0.2**
EKAR	**Karacoban**	**1.62**	**71**	*i* P	**Pn**	**11**	**12**	**42.0**	**-0.3**
EKAR	**Karacoban**	**1.62**	**71**	*i* P	**Pn**	**11**	**12**	**42.0**	**-0.3**
EKAR				*i* S	**Sg**	**11**	**13**	**08.5**	**+2.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.64**	**2**	PN	**Pn**	**11**	**12**	**41.1**	**-1.4**
BAYT	**Ayd¨–ntepe-Bay**	**1.64**	**2**	*i* Pn	**Pn**	**11**	**12**	**41.1**	**-1.4**
URFA	**Urfa**	**1.64**	**218**	PN	**Pn**	**11**	**12**	**41.9**	**-0.5**
URFA	**Urfa**	**1.64**	**218**	*i* Pn	**Pn**	**11**	**12**	**41.9**	**-0.5**
URFA	**Urfa**	**1.64**	**218**	Pn	**Pn**	**11**	**12**	**41.9**	**-0.5**
TATV	**Tatvan**	**1.73**	**97**	*i* P	**Pn**	**11**	**12**	**43.1**	**-0.6**
TATV				*i* S	**Sb**	**11**	**13**	**08.2**	**+1.0**
TATV	**Tatvan**	**1.73**	**97**	*i* P	**Pn**	**11**	**12**	**43.1**	**-0.6**
TATV				*i* S	**Sb**	**11**	**13**	**08.2**	**+1.0**
GUMT	**Gumushane**	**1.77**	**345**	PN	**Pn**	**11**	**12**	**43.1**	**-1.2**
GUMT	**Gumushane**	**1.77**	**345**	Pn	**Pn**	**11**	**12**	**43.6**	**-0.7**
GUMT	**Gumushane**	**1.77**	**345**	Pn	**Pn**	**11**	**12**	**43.6**	**-0.7**
ATAB	**Bozova**	**1.90**	**228**	*i* P	**Pn**	**11**	**12**	**45.2**	**-0.8**
ATAB				*i* S	**Sb**	**11**	**13**	**11.2**	**-0.9**
ATAB	**Bozova**	**1.90**	**228**	*i* P	**Pn**	**11**	**12**	**45.2**	**-0.8**
ATAB				*i* S	**Sb**	**11**	**13**	**11.2**	**-0.9**
HOMI	**Horasan**	**1.92**	**47**	*i* P	**Pn**	**11**	**12**	**45.3**	**-1.1**
HOMI				*i* S	**Sg**	**11**	**13**	**15.4**	**-0.3**
DARE	**Darende-Malaty**	**2.04**	**266**	PN	**Pn**	**11**	**12**	**47.1**	**-0.9**
DARE	**Darende-Malaty**	**2.04**	**266**	*i* Pn	**Pn**	**11**	**12**	**47.1**	**-0.9**
SUSE	**Susehri**	**2.06**	**316**	*i* P	**Pn**	**11**	**12**	**47.4**	**-0.9**
SUSE				*i* S	**Sn**	**11**	**13**	**13.2**	**-0.5**
SUSE	**Susehri**	**2.06**	**316**	*i* P	**Pn**	**11**	**12**	**47.4**	**-0.9**
SUSE				*i* S	**Sn**	**11**	**13**	**13.2**	**-0.5**
EATA	**Eleskirt**	**2.17**	**59**	*i* P	**Pn**	**11**	**12**	**50.1**	**+0.1**
EATA				*i* S	**Sb**	**11**	**13**	**21.0**	**+0.9**
EATA	**Eleskirt**	**2.17**	**59**	*i* P	**Pn**	**11**	**12**	**50.1**	**+0.1**
EATA				*i* S	**Sb**	**11**	**13**	**21.0**	**+0.9**
MACK	**Trabzon**	**2.20**	**354**	*i* P	**Pn**	**11**	**12**	**49.8**	**-0.3**
MACK				*i* S	**Sn**	**11**	**13**	**16.7**	**-0.4**
MACK	**Trabzon**	**2.20**	**354**	*i* P	**Pn**	**11**	**12**	**49.8**	**-0.3**
MACK				*i* S	**Sn**	**11**	**13**	**16.7**	**-0.4**
SIRN	**S¨–rnak**	**2.22**	**124**	*i* P	**Pn**	**11**	**12**	**49.0**	**-1.4**
SIRN				*i* S	**Sn**	**11**	**13**	**18.4**	**+0.7**
SIRN	**S¨–rnak**	**2.22**	**124**	*i* P	**Pn**	**11**	**12**	**49.0**	**-1.4**
SIRN				*i* S	**Sn**	**11**	**13**	**18.4**	**+0.7**
TUTA	**Tutak**	**2.22**	**72**	*i* P	Pn	11	12	46.0	-4.6
TUTA				*i* S	**Sn**	**11**	**13**	**19.2**	**+1.3**
TUTA	**Tutak**	**2.22**	**72**	*i* P	Pn	11	12	46.0	-4.6
TUTA				*i* S	**Sn**	**11**	**13**	**19.2**	**+1.3**
KTUT	**Trabzon**	**2.25**	**354**	PN	**Pn**	**11**	**12**	**49.6**	**-1.1**
KTUT	**Trabzon**	**2.25**	**354**	*i* Pn	**Pn**	**11**	**12**	**49.6**	**-1.1**
GEVA	**Gevas**	**2.37**	**100**	*i* P	**Pn**	**11**	**12**	**52.1**	**-0.5**
GEVA				*i* S	**Sb**	**11**	**13**	**25.5**	**-0.3**
GEVA	**Gevas**	**2.37**	**100**	*i* P	**Pn**	**11**	**12**	**52.1**	**-0.5**
GEVA				*i* S	**Sb**	**11**	**13**	**25.5**	**-0.3**
ESPY	**Espiye-Giresun**	**2.40**	**335**	PN	**Pn**	**11**	**12**	**52.1**	**-0.7**
ESPY	**Espiye-Giresun**	**2.40**	**335**	*i* Pn	**Pn**	**11**	**12**	**52.1**	**-0.7**
AGRB	**Hanur-Agry**	**2.41**	**69**	PN	**Pn**	**11**	**12**	**52.4**	**-0.7**
AGRB	**Hanur-Agry**	**2.41**	**69**	*i* Pn	**Pn**	**11**	**12**	**52.4**	**-0.7**
GZT	**Gaziantep**	**2.43**	**236**	*i* P	**Pn**	**11**	**12**	**52.6**	**-0.7**
DDEM	**Demirkent**	**2.50**	**30**	*i* P	**Pn**	**11**	**12**	**53.2**	**-1.0**
DDEM	**Demirkent**	**2.50**	**30**	*i* P	**Pn**	**11**	**12**	**53.2**	**-1.0**
SCER	**sogukcermik**	**2.55**	**297**	*i* P	**Pn**	**11**	**12**	**55.5**	**+0.6**
SCER	**sogukcermik**	**2.55**	**297**	*i* P	**Pn**	**11**	**12**	**55.5**	**+0.6**
DBAD	**Bademkaya**	**2.58**	**28**	*i* P	**Pn**	**11**	**12**	**54.1**	**-1.3**
DBAD	**Bademkaya**	**2.58**	**28**	*i* P	**Pn**	**11**	**12**	**54.1**	**-1.3**
GRSN	**GIRESUNGRSN**	**2.58**	**328**	*i* P	**Pn**	**11**	**12**	**54.9**	**-0.4**
GRSN	**GIRESUNGRSN**	**2.58**	**328**	*i* P	**Pn**	**11**	**12**	**54.9**	**-0.4**
VANB	**Van**	**2.59**	**92**	PN	**Pn**	**11**	**12**	**55.2**	**-0.4**
VANB	**Van**	**2.59**	**92**	*i* Pn	**Pn**	**11**	**12**	**55.2**	**-0.4**
TVAN	**Van**	**2.61**	**94**	*i* P	**Pn**	**11**	**12**	**55.5**	**-0.4**
TVAN	**Van**	**2.61**	**94**	*i* P	**Pn**	**11**	**12**	**55.5**	**-0.4**
TVAN				*i* S	**Sg**	**11**	**13**	**36.7**	**-1.4**
SVSK	**Karacayir**	**2.66**	**297**	PN	**Pn**	**11**	**12**	**56.1**	**-0.2**
SVSK	**Karacayir**	**2.66**	**297**	*i* Pn	**Pn**	**11**	**12**	**56.1**	**-0.2**
RSDY	**Resadiye-TOKAT**	**2.69**	**309**	PN	**Pn**	**11**	**12**	**56.8**	**0.0**
RSDY	**Resadiye-TOKAT**	**2.69**	**309**	*i* Pn	**Pn**	**11**	**12**	**56.8**	**0.0**
DAGI	**Agillar**	**2.72**	**31**	*i* P	**Pn**	**11**	**12**	**56.5**	**-0.8**
DAGI				*i* S	**Sn**	**11**	**13**	**25.7**	**-4.2**
KMRS	**Kahramanmaras**	**2.80**	**245**	PN	**Pn**	**11**	**12**	**58.8**	**+0.5**
KMRS	**Kahramanmaras**	**2.80**	**245**	*i* Pn	**Pn**	**11**	**12**	**58.8**	**+0.5**
ARTV	**Artvin**	**2.81**	**30**	*i* P	**Pn**	**11**	**12**	**57.8**	**-0.9**
ARTV	**Artvin**	**2.81**	**30**	*i* P	**Pn**	**11**	**12**	**57.8**	**-0.9**
ARTV				*i* S	**Sg**	**11**	**13**	**44.9**	**+0.3**
DBOC	**Borcka**	**2.86**	**25**	*i* P	**Pn**	**11**	**12**	**58.8**	**-0.4**
DBOC	**Borcka**	**2.86**	**25**	*i* P	**Pn**	**11**	**12**	**58.8**	**-0.4**
DYDN	**Diyadin**	**2.91**	**73**	*e*P	**Pn**	**11**	**13**	**00.3**	**+0.3**
DYDN	**Diyadin**	**2.91**	**73**	*e*P	**Pn**	**11**	**13**	**00.3**	**+0.3**
DYDN				*i* S	**Sb**	**11**	**13**	**42.2**	**+0.9**
MZRK	**Al-Mazaregh** SNR=90	**2.95**	**171**	*e*P	**Pn**	**11**	**12**	**58.8**	**-1.6**
MZRK	**Al-Mazaregh**	**2.95**	**171**	*e*P	**Pn**	**11**	**12**	**58.8**	**-1.6**
MZRK				AML	AML	11	13	53.3	
	comp=Z,11µm,0.6s								
KARS	**Kars**	**2.98**	**50**	PN	**Pn**	**11**	**12**	**59.8**	**-1.0**
KARS	**Kars**	**2.98**	**50**	*i* Pn	**Pn**	**11**	**12**	**59.8**	**-1.0**
CLDR	**Caldiran**	**3.02**	**81**	PN	**Pn**	**11**	**13**	**00.8**	**-0.6**
CLDR	**Caldiran**	**3.02**	**81**	*i* Pn	**Pn**	**11**	**13**	**00.8**	**-0.6**
DIGO	**Kars**	**3.04**	**56**	*i* P	**Pn**	**11**	**13**	**01.1**	**-0.7**
DIGO	**Kars**	**3.04**	**56**	*i* P	**Pn**	**11**	**13**	**01.1**	**-0.7**
HAKT	**HAKKARI**	**3.10**	**111**	*i* P	**Pn**	**11**	**13**	**02.3**	**-0.3**
HAKT	**HAKKARI**	**3.10**	**111**	*i* P	**Pn**	**11**	**13**	**02.3**	**-0.3**
HAKT				*i* S	**Sg**	**11**	**13**	**53.9**	**+0.4**
KUZU	**Kuzuini**	**3.10**	**231**	*i* P	**Pn**	**11**	**13**	**01.5**	**-0.9**
KUZU	**Kuzuini**	**3.10**	**231**	*i* P	**Pn**	**11**	**13**	**01.5**	**-0.9**
KUZU				*i* S	**Sg**	**11**	**13**	**50.3**	**-3.2**
CUKT	**Cukurca**	**3.16**	**117**	PN	**Pn**	**11**	**13**	**04.0**	**+0.6**
CUKT	**Cukurca**	**3.16**	**117**	*i* Pn	**Pn**	**11**	**13**	**04.0**	**+0.6**
ANDN	**Andirin**	**3.17**	**250**	*i* P	**Pn**	**11**	**13**	**02.2**	**-1.3**
ANDN	**Andirin**	**3.17**	**250**	*i* P	**Pn**	**11**	**13**	**02.2**	**-1.3**
ANDN				*i* S	**Sg**	**11**	**13**	**52.7**	**-3.2**
TOKA	**Tokat**	**3.20**	**301**	*i* P	**Pn**	**11**	**13**	**03.1**	**-0.7**
TOKA				*i* S	**Sb**	**11**	**13**	**45.9**	**-3.5**
TOKA	**Tokat**	**3.20**	**301**	*i* P	**Pn**	**11**	**13**	**03.1**	**-0.7**
TOKA				*i* S	**Sb**	**11**	**13**	**45.9**	**-3.5**
BNN	**Bunyan**	**3.31**	**273**	PN	**Pn**	**11**	**13**	**05.9**	**+0.5**
BNN	**Bunyan**	**3.31**	**273**	*i* Pn	**Pn**	**11**	**13**	**05.9**	**+0.5**
EAK	**Akyaka**	**3.33**	**53**	*i* P	**Pn**	**11**	**13**	**05.3**	**-0.5**
EAK	**Akyaka**	**3.33**	**53**	*i* P	**Pn**	**11**	**13**	**05.3**	**-0.5**
EAK				*i* S	**Sg**	**11**	**13**	**59.3**	**-1.9**
KOZT	**Kozan**	**3.59**	**251**	PN	**Pn**	**11**	**13**	**10.0**	**+0.9**
KOZT	**Kozan**	**3.59**	**251**	*i* Pn	**Pn**	**11**	**13**	**10.0**	**+0.9**
AKH	**Akhalkalaki**	**3.73**	**43**	PN	**Pn**	**11**	**13**	**10.8**	**-0.4**
AKH	**Akhalkalaki**	**3.73**	**43**	P	**Pn**	**11**	**13**	**10.7**	**-0.4**
AKH				S	**Sg**	**11**	**14**	**14.4**	**+0.6**
AKH	**Akhalkalaki**	**3.73**	**43**	*i* Pn	**Pn**	**11**	**13**	**10.8**	**-0.4**
YOZ	**Yozgat**	**3.81**	**285**	PN	**Pn**	**11**	**13**	**12.6**	**+0.3**
YOZ	**Yozgat**	**3.81**	**285**	*i* Pn	**Pn**	**11**	**13**	**12.6**	**+0.3**
CEYT	**Ceyhan**	**3.84**	**244**	PN	**Pn**	**11**	**13**	**13.6**	**+1.0**
CEYT	**Ceyhan**	**3.84**	**244**	*i* Pn	**Pn**	**11**	**13**	**13.6**	**+1.0**
GNI	**Garni**	**3.87**	**67**	PN	**Pn**	**11**	**13**	**13.5**	**+0.4**
GNI	**Garni**	**3.87**	**67***c*	*i* P	**Pn**	**11**	**13**	**12.4**	**-0.7**
GNI				pmax	pmax				
	comp=Z,135nm,1.0s								
GNI	**Garni**	**3.87**	**67**	Pn	**Pn**	**11**	**13**	**13.3**	**+0.2**
	comp=Z,6.1nm,0.3s,baz=312,slow=3.4,SNR=19								
GNI				Lg	Lg	11	14	16.6	
	baz=175,slow=23,SNR=1.8								
GNI	**Garni**	**3.87**	**67**	*i* P	**Pn**	**11**	**13**	**12.4**	**-0.7**
	comp=Z,135nm,1.0s								
GNI	**Garni**	**3.87**	**67**	*e*Pn	**Pn**	**11**	**13**	**12.8**	**-0.3**
GNI				Lg	Lg	11	14	16.6	
GNI	**Garni** SNR=21	**3.87**	**67**	⇑*i*P	**Pn**	**11**	**13**	**13.5**	**+0.4**
GNI	**Garni**	**3.87**	**67**	*e*Pn	**Pn**	**11**	**13**	**12.8**	**-0.3**
GNI				Lg	Lg	11	14	16.6	
KVT	**Kavak**	**3.88**	**308**	PN	**Pn**	**11**	**13**	**13.6**	**+0.4**
KVT	**Kavak**	**3.88**	**308**	*i* Pn	**Pn**	**11**	**13**	**13.6**	**+0.4**
BTCH	**Batrach** SNR=90	**3.96**	**228**	*e*P	**Pn**	**11**	**13**	**13.3**	**-1.0**
BTCH	**Batrach**	**3.96**	**228**	*e*P	**Pn**	**11**	**13**	**13.3**	**-1.0**
BTCH				*e*S	**Sb**	**11**	**14**	**10.1**	**-1.2**
BTCH				AML	AML	11	14	27.5	
	comp=N,10µm,0.7s								
BTCH				AML	AML	11	14	27.5	
	comp=E,6µm,0.6s								
HAVZ	**Havza**	**4.08**	**306**	*i* P	**Pn**	**11**	**13**	**16.6**	**+0.7**
HAVZ	**Havza**	**4.08**	**306**	*i* P	**Pn**	**11**	**13**	**16.6**	**+0.7**
HAVZ				*i* S	**Sb**	**11**	**14**	**17.7**	**+3.0**
WRDH	**Warideh** SNR=90	**4.37**	**223**	*e*P	**Pn**	**11**	**13**	**19.3**	**-0.6**
WRDH	**Warideh**	**4.37**	**223**	*e*P	**Pn**	**11**	**13**	**19.3**	**-0.6**
WRDH				*e*S	**Sb**	**11**	**14**	**22.2**	**-0.8**
WRDH				AML	AML	11	14	43.8	
	comp=E,1µm,0.6s								
WRDH				AML	AML	11	14	45.2	
	comp=N,3µm,0.7s								
IMRD	**Marand**	**4.39**	**89**	*e*P	**Pn**	**11**	**13**	**22.8**	**+2.4**
IMRD	**Marand**	**4.39**	**89**	*e*P	**Pn**	**11**	**13**	**22.8**	**+2.4**
CDAG	**Cicekdag**	**4.52**	**283**	*i* P	**Pn**	**11**	**13**	**21.5**	**-0.6**
CDAG	**Cicekdag**	**4.52**	**283**	*i* P	**Pn**	**11**	**13**	**21.5**	**-0.6**
CDAG				*i* S	**Sb**	**11**	**14**	**31.2**	**+3.6**
ONI	**Oni**	**4.61**	**33**	P	**Pn**	**11**	**13**	**22.9**	**-0.4**
ONI				S	**Sg**	**11**	**14**	**36.5**	**-5.6**
ONI	**Oni**	**4.61**	**33**	P	**Pn**	**11**	**13**	**22.9**	**-0.4**
TBLG	**Delisi**	**4.64**	**49**	PN	**Pn**	**11**	**13**	**24.1**	**+0.5**
TBLG	**Delisi**	**4.64**	**49**	P	**Pn**	**11**	**13**	**22.8**	**-0.8**
TBLG				S	**Sg**	**11**	**14**	**45.1**	**+2.0**
TBLG	**Delisi**	**4.64**	**49**	P	**Pn**	**11**	**13**	**22.8**	**-0.8**
TBLG	**Delisi**	**4.64**	**49**	*i* Pn	**Pn**	**11**	**13**	**24.1**	**+0.5**
SEAG	**Tbilisi Sea**	**4.70**	**49**	P	**Pn**	**11**	**13**	**23.7**	**-0.7**
SEAG	**Tbilisi Sea**	**4.70**	**49**	P	**Pn**	**11**	**13**	**23.7**	**-0.7**
IAZR	**Azarshahr**	**4.77**	**101**	*e*P	**Pn**	**11**	**13**	**26.5**	**+1.0**
IAZR	**Azarshahr**	**4.77**	**101**	*e*P	**Pn**	**11**	**13**	**26.5**	**+1.0**
IKRK	**Kirkuk**	**4.77**	**133**	*e*PN	**Pn**	**11**	**13**	**27.8**	**+2.4**
IKRK				*e*SN	**Sn**	**11**	**14**	**14.9**	**-5.5**
IKRK				*e*SG	Sg	11	15	02.1	+15
ITBZ	**Tabriz**	**4.79**	**94**	*e*P	**Pn**	**11**	**13**	**28.6**	**+2.9**
ITBZ	**Tabriz**	**4.79**	**94**	*e*P	**Pn**	**11**	**13**	**28.6**	**+2.9**
BIDA	**Albida** SNR=90	**4.80**	**220**	*e*P	**Pn**	**11**	**13**	**25.3**	**-0.5**
BIDA	**Albida**	**4.80**	**220**	*e*P	**Pn**	**11**	**13**	**25.3**	**-0.5**
BIDA				*e*S	**Sb**	**11**	**14**	**31.1**	**-4.2**
BIDA				AML	AML	11	14	55.8	
	comp=N,4µm,0.6s								
BIDA				AML	AML	11	14	58.0	
	comp=E,2µm,0.7s								
SOC	**Sochi**	**4.84**	**357***d*	*i* P	**Pn**	**11**	**13**	**25.1**	**-1.1**
SOC				*e*		11	14	21.4	
SOC				pmax	pmax				
	comp=Z,186nm,0.6s								
SOC				MLR	MLR				
	comp=N,1µm,11.0s								
SOC				MLR	MLR				
	comp=E,3µm,11.0s								
SOC				MLR	MLR				
	comp=Z,2µm,11.0s								
SOC	**Sochi**	**4.84**	**357**	*i* P	**Pn**	**11**	**13**	**25.1**	**-1.1**
	comp=Z,186nm,0.6s								
SOC				*e*S	**Sn**	**11**	**14**	**21.4**	**-0.5**
	comp=Z,2µm,11.0s								
DUS	**Dusheti**	**4.85**	**45**	P	**Pn**	**11**	**13**	**27.5**	**+1.0**
DUS	**Dusheti**	**4.85**	**45**	P	**Pn**	**11**	**13**	**27.5**	**+1.0**
DGRG	**David-gareji**	**4.87**	**55**	P	**Pn**	**11**	**13**	**27.6**	**+0.8**
DGRG				S	Sg	11	14	56.7	+6.3
DGRG	**David-gareji**	**4.87**	**55**	P	**Pn**	**11**	**13**	**27.6**	**+0.8**
ZEI	**Tsey**	**4.97**	**34**	*e*P	**Pn**	**11**	**13**	**27.9**	**-0.3**
ZEI				pmax	pmax				
	comp=Z,325nm,1.0s								
BRTR	**Keskin Array B**	**5.10**	**283**	Pn	**Pn**	**11**	**13**	**29.8**	**-0.2**
	comp=Z,9.8nm,0.3s,baz=105,slow=14,SNR=141								
BRTR				Lg	Lg	11	14	50.6	
	baz=123,slow=19,SNR=2.1								
FKH	**Fakeheh**	**5.38**	**214**	*e*P	**Pn**	**11**	**13**	**34.0**	**+0.1**
KBZ	**Khabaz**	**5.41**	**22**	P	**Pn**	**11**	**13**	**34.4**	**+0.4**
KBZ				pmax	pmax				
	comp=Z,3.0nm,0.3s								
KBZ	**Khabaz**	**5.41**	**22**	Pn	**Pn**	**11**	**13**	**34.4**	**+0.4**
	comp=Z,3.1nm,0.3s,baz=197,slow=9.1,SNR=36								
IBST	**Bostanabad**	**5.46**	**99**	*e*P	**Pn**	**11**	**13**	**35.9**	**+0.8**
IBST	**Bostanabad**	**5.46**	**99**	*e*P	**Pn**	**11**	**13**	**35.9**	**+0.8**
IHRS	**Heris**	**5.47**	**92**	*e*P	**Pn**	**11**	**13**	**36.6**	**+1.3**
IHRS	**Heris**	**5.47**	**92**	*e*P	**Pn**	**11**	**13**	**36.6**	**+1.3**
MARH	**Ras Al Marh**	**5.54**	**213**	*e*P	**Pn**	**11**	**13**	**37.0**	**+0.8**
MARH				*e*S	**Sb**	**11**	**14**	**52.3**	**-4.7**
MARH				AML	AML	11	15	29.5	
	comp=N,813nm,0.8s								
MARH				AML	AML	11	15	36.8	
	comp=E,1µm,0.8s								
KIV	**Kislovodsk**	**5.56**	**20**	*e*P	**Pn**	**11**	**13**	**34.0**	**-2.2**
KIV				*e*S	**Sn**	**11**	**14**	**37.8**	**-2.0**
KIV				pmax	pmax				
	comp=Z,95nm,0.8s								
KIV				MLR	MLR				
	comp=Z,394nm,7.0s								
KIV	**Kislovodsk**	**5.56**	**20**	*e*Pn	**Pn**	**11**	**13**	**36.4**	**+0.2**
	comp=Z,362nm,1.0s								
KIV	**Kislovodsk**	**5.56**	**20**	P	**Pn**	**11**	**13**	**36.7**	**+0.5**
KIV	**Kislovodsk**	**5.56**	**20**	⇑P	**Pn**	**11**	**13**	**36.7**	**+0.5**
KIV	**Kislovodsk**	**5.56**	**20**	*e*Pn	**Pn**	**11**	**13**	**36.4**	**+0.2**
	comp=Z,362nm,1.0s								
HWQ	**Hawqa**	**5.57**	**218**	*e*P	**Pn**	**11**	**13**	**36.1**	**-0.4**
HWQ	**Hawqa**	**5.57**	**218**	*e*P	**Pn**	**11**	**13**	**36.1**	**-0.4**
RTB	**Rutbah** SNR=39	**5.71**	**178**	*e*Sn	**Sn**	**11**	**14**	**45.2**	**+1.6**
ANTO	**Ankara**	**5.76**	**283**	*e*P	**Pn**	**11**	**13**	**41.0**	**+1.9**
ANTO	**Ankara**	**5.76**	**283**	⇑*i*P	**Pn**	**11**	**13**	**39.8**	**+0.7**
ANTO	**Ankara**	**5.76**	**283**	*e*P	**Pn**	**11**	**13**	**41.0**	**+1.9**
ANTO	**Ankara**	**5.76**	**283**	*e*Pn	**Pn**	**11**	**13**	**41.0**	**+1.9**
BHL	**Bhannes**	**6.01**	**218**	*e*P	**Pn**	**11**	**13**	**42.5**	**-0.1**
BHL	**Bhannes**	**6.01**	**218**	*e*P	**Pn**	**11**	**13**	**42.5**	**-0.1**
ISRB	**Sarab**	**6.04**	**96**	*e*P	**Pn**	**11**	**13**	**45.4**	**+2.5**
RCY	**Rachaya**	**6.27**	**215**	*e*P	**Pn**	**11**	**13**	**46.1**	**0.0**
ANN	**Anapa**	**6.36**	**343**	*e*P	**Pn**	**11**	**13**	**49.6**	**+2.4**
ANN				*e*S	Sn	11	15	05.3	+5.8
ANN				pmax	pmax				
	comp=Z,14nm,0.8s								
ANN				MLR	MLR				
	comp=N,1µm,11.0s								
ANN				MLR	MLR				
	comp=Z,1µm,11.0s								
ANN	**Anapa**	**6.36**	**343**	*e*P	**Pn**	**11**	**13**	**49.6**	**+2.4**
	comp=Z,14nm,0.8s								
IDHR	**Dehrash**	**6.48**	**127**	*e*P	**Pn**	**11**	**13**	**47.7**	**-1.3**
IDHR	**Dehrash**	**6.48**	**127**	*e*P	**Pn**	**11**	**13**	**47.7**	**-1.3**
BHD	**Baghdad**	**6.48**	**146**	*e*PN	Pn	11	13	53.0	+4.1
BHD				*e*SN	**Sn**	**11**	**14**	**59.1**	**-3.4**
CSS	**Prodhromos**	**6.60**	**237**	*e*Pn	**Pn**	**11**	**13**	**53.0**	**+2.5**
CSS	**Prodhromos**	**6.60**	**237**	*e*Pn	**Pn**	**11**	**13**	**53.0**	**+2.5**
SALA	**Sala**	**6.61**	**205**	*e*P	**Pn**	**11**	**13**	**51.5**	**+0.6**
SALA				*e*S	Sb	11	15	18.6	-9.2
SALA				AML	AML	11	16	08.8	
	comp=E,53nm,0.6s								
SALA				AML	AML	11	16	09.3	
	comp=N,786nm,0.7s								
GOF	**Gofitskoye**	**6.68**	**18**	*e*P	**Pn**	**11**	**13**	**51.4**	**-0.1**
GOF	**Gofitskoye**	**6.68**	**18**	*e*P	**Pn**	**11**	**13**	**51.4**	**-0.1**
IGHG	**Ghaleghazi**	**6.83**	**128**	*e*P	**Pn**	**11**	**13**	**52.8**	**-1.1**
IGHG	**Ghaleghazi**	**6.83**	**128**	*e*P	**Pn**	**11**	**13**	**52.8**	**-1.1**
MMAI	**Mount Meron Ar**	**6.87**	**215**	Pn	**Pn**	**11**	**13**	**56.0**	**+1.7**
	comp=N,46nm,0.3s,baz=68,slow=15,SNR=66								
MMAI				Lg	Lg	11	15	47.0	
	comp=N,13nm,0.3s,baz=20,slow=37,SNR=3.3								
MAK	**Makhachkala**	**7.02**	**51**	*e*P	Pn	11	13	48.7	-7.6
MAK				pmax	pmax				
	comp=Z,182nm,1.2s								
MAK				MLR	MLR				
	comp=Z,3µm,8.0s				

OBN Obninsk 16.54 353 *e*Pn **Pn 11 16 03.0 -2.2**
comp=Z,102nm,0.9s
CRVS Cervenica-Dubn 16.80 313 *e*P **P 11 16 12.8 +2.1**
CRVS pmax pmax
comp=Z,15nm,1.2s
CRVS Cervenica-Dubn 16.80 313 *e*P **P 11 16 12.8 +2.1**
comp=Z,15nm,1.2s
CRVS Cervenica-Dubn 16.80 313 *e*pP **P 11 16 12.8 +2.1**
MOS Moscow 17.08 355 *e*P **Pn 11 16 10.1 -1.9**
MOS *e*S **Sn 11 19 22.5 +1.1**
MOS pmax pmax
comp=Z,141nm,1.0s
STHS Stebnicka Huta 17.18 314 *e*P **P 11 16 17.0 +2.0**
STHS pmax pmax
comp=Z,6.0nm,1.1s
STHS Stebnicka Huta 17.18 314 *e*P **P 11 16 17.0 +2.0**
comp=Z,6.0nm,1.1s
STHS Stebnicka Huta 17.18 314 *e*pP **P 11 16 17.0 +2.0**
AKTO Aktyubinsk 17.26 42 P **Pn 11 16 12.7 -1.7**
comp=Z,0.4nm,0.3s,baz=233,slow=11,SNR=22
AKTO LR LR 11 24 32.3
comp=Z,976nm,18.6s,baz=225,slow=43
PSZ Piszkesteto 17.27 309 *e*P **P 11 16 16.9 +0.9**
PSZ pmax pmax
comp=Z,40nm,1.1s
PSZ Piszkesteto 17.27 309 ⇓*i*P **P 11 16 17.4 +1.4**
PSZ Piszkesteto 17.27 309 *e*P **P 11 16 16.9 +0.9**
comp=Z,40nm,1.1s
PSZ Piszkesteto 17.27 309 *e*Pn **P 11 16 16.9 +0.9**
comp=Z,40nm,1.1s
PKSM Moragy 17.45 302 ⇑*i*P **P 11 16 19.1 +1.1**
PKSM Moragy 17.45 302 ⇑*i*P **P 11 16 19.1 +1.1**
ABKAR Akbulak array 17.68 47 *e*Pn **Pn 11 16 16.6 -3.0**
comp=Z,21nm,0.9s
ABKAR Akbulak array 17.68 47 *e*Pn **Pn 11 16 16.6 -3.0**
comp=Z,21nm,0.9s
MICGM Minsk 17.80 336 *e* **Pn 11 16 20.0 -1.0**
MNK Minsk 17.82 336 *e*P **Pn 11 16 20.0 -1.2**
TIP Timpagrande 18.14 279 *e*Pn **P 11 16 27.4 +1.7**
TIP Timpagrande 18.14 279 *e*Pn **P 11 16 27.4 +1.7**
VYHS Vyhne 18.15 309 *e*P **P 11 16 26.3 +0.6**
VYHS pmax pmax
comp=Z,25nm,1.7s
VYHS Vyhne 18.15 309 *e*P **P 11 16 26.3 +0.6**
comp=Z,25nm,1.7s
VYHS Vyhne 18.15 309 *e*P **P 11 16 26.3 +0.6**
NACGM Naroch 18.49 335 *e*P **P 11 16 27.0 -2.3**
BANOM Banah 18.71 128 P **P 11 16 31.0 -0.9**
SNR=27
BANOM Banah 18.71 128 P **P 11 16 31.0 -0.9**
SNR=27
CUC Castrocucco 18.79 281 *e*P **Pn 11 16 34.2 +0.8**
comp=Z,30nm,1.0s
CUC Castrocucco 18.79 281 *e*P **Pn 11 16 34.2 +0.8**
comp=Z,30nm,1.0s
IDID Didziasalis 18.84 336 *e*P **Pn 11 16 33.9 +0.1**
IDID AMB AMB 11 16 40.3
comp=Z,54nm,1.0s
IDID Didziasalis 18.84 336 *e*P **Pn 11 16 33.9 +0.1**
comp=Z,54nm,1.0s,SNR=35
CEL Celeste 18.93 276 *e*P **Pn 11 16 35.8 +0.8**
comp=Z,53nm,1.0s
CEL Celeste 18.93 276 *e*P **Pn 11 16 35.8 +0.8**
comp=Z,53nm,1.0s
NAZ Nazwa, Dubai 19.02 132 P **Pn 11 16 35.7 -0.5**
SNR=16
NAZ Nazwa, Dubai 19.02 132 ⇓*i*P **Pn 11 16 35.7 -0.5**
SNR=16
IIGN Ignalina 19.04 335 *e*P **Pn 11 16 36.1 -0.1**
IIGN AMB AMB 11 16 42.0
comp=Z,37nm,1.0s
IIGN Ignalina 19.04 335 *e*P **Pn 11 16 36.1 -0.1**
comp=Z,37nm,1.0s,SNR=35
ASUD Al Ashush, Dub 19.11 133 P **P 11 16 36.1 -0.2**
SNR=18
ASUD Al Ashush, Dub 19.11 133 ⇑*i*P **P 11 16 36.1 -0.2**
SNR=18
OKC Ostrava-Krasne 19.15 312 *e*P **Pn 11 16 39.5 +2.0**
OKC Ostrava-Krasne 19.15 312 *e*P **Pn 11 16 39.5 +2.0**
OKC Ostrava-Krasne 19.15 312 *e*P **Pn 11 16 39.5 +2.0**
FAQ Al Faqa, Dubai 19.17 132 P **P 11 16 36.5 -0.5**
SNR=8.4
FAQ Al Faqa, Dubai 19.17 132 ⇓*i*P **P 11 16 36.5 -0.5**
SNR=8.4
ISAL Salakas 19.25 335 *e*P **Pn 11 16 38.4 -0.3**
ISAL AMB AMB 11 16 45.0
comp=Z,23nm,1.0s
ISAL Salakas 19.25 335 *e*P **Pn 11 16 38.4 -0.3**
comp=Z,23nm,1.0s,SNR=35
HATD Hatta, Dubai 19.42 131 P **P 11 16 39.2 -0.6**
SNR=71
HATD Hatta, Dubai 19.42 131 ⇓*i*P **P 11 16 39.2 -0.6**
SNR=71
MORC Moravsky Berou 19.47 312 *e*P **Pn 11 16 41.1 -0.3**
ASHO Ashiyiah 19.49 131 P **P 11 16 39.5 -1.0**
SNR=76
ASHO Ashiyiah 19.49 131 P **P 11 16 39.5 -1.0**
SNR=76
BOJS Bojanci 19.57 298 *e*P **Pn 11 16 45.7 +3.1**
CONA Conrad Observa 19.79 305 ⇓*i*sP **P 11 16 43.9 +0.1**
comp=Z,90nm,1.5s,SNR=23
CONA Conrad Observa 19.79 305 P **P 11 16 43.9 +0.1**
comp=Z,90nm,1.5s,SNR=23
VRAC Vranov 19.84 310 ⇓*i*P **P 11 16 41.2 -2.9**
VRAC Vranov 19.84 310 P **P 11 16 42.1 -2.0**
comp=Z,0.4nm,0.3s,baz=131,slow=6.3,SNR=2.0
VRAC LR LR 11 25 11.6
comp=Z,554nm,20.2s,baz=115,slow=39
PERS Pernice 19.91 301 *i* P **Pn 11 16 49.8 +3.0**
VISS Visnje 19.91 299 *i* P **Pn 11 16 47.3 +0.6**
VISS Visnje 19.91 299 *i* P **Pn 11 16 47.3 +0.6**
KRLC Kraliky 20.04 312 *e*P Pn 11 16 48.5 +0.3
KRLC Kraliky 20.04 312 *e*P Pn 11 16 48.5 +0.3
KRLC Kraliky 20.04 312 *e*P Pn 11 16 48.5 +0.3
DPC Dobruska-Polom 20.43 312 *e*P **P 11 16 51.1 +0.5**
DPC *e* 11 16 55.7
DPC Dobruska-Polom 20.43 312 *e*P **P 11 16 51.1 +0.5**
DPC *e*pP **pP 11 16 55.7 +0.7**
DPC Dobruska-Polom 20.43 312 *e*P **P 11 16 51.4 +0.8**
DPC Dobruska-Polom 20.43 312 *e*P **P 11 16 51.4 +0.8**
JAVS Javornik 20.46 299 *i* P Pn 11 16 55.9 +2.6
TREC Trest 20.50 309 *e*P Pn 11 16 55.0 +1.4
TREC Trest 20.50 309 *e*P Pn 11 16 55.0 +1.4
AQU L'Aquila 20.56 289 *e*P Pn 11 16 54.5 +0.1
AQU pmax pmax
comp=Z,131nm,1.0s
AQU L'Aquila 20.56 289 *e*P Pn 11 16 54.5 +0.1
comp=Z,131nm,1.0s
AQU L'Aquila 20.56 289 *e*P Pn 11 16 54.5 +0.2
comp=Z,131nm,1.0s
KSP Ksiaz 20.66 314 *e*P Pn 11 16 54.7 -0.7
KSP *e*PP pP 11 16 58.0 +0.6
KSP *e*S Sn 11 20 49.0 +0.9
KSP Ksiaz 20.66 314 *e*P Pn 11 16 58.6 +3.2
KSP Ksiaz 20.66 314 *e*P Pn 11 16 54.7 -0.7
UPC Upice 20.67 312 *e*P Pn 11 16 56.2 +0.6
UPC Upice 20.67 312 *e*P Pn 11 16 56.2 +0.6
UPC Upice 20.67 312 P Pn 11 16 56.2 +0.6
ARQ Araqi 20.79 133 ⇑P **P 11 16 54.6 -0.1**
SNR=61
ARQ Araqi 20.79 133 P **P 11 16 54.6 -0.1**
SNR=61
MOA Molln 20.80 304 ⇑*i*P Pn 11 16 56.5 -0.5
comp=Z,51nm,0.9s
MOA Molln 20.80 304 P Pn 11 16 56.5 -0.6
comp=Z,51nm,0.9s
HOQ Hoqain 21.06 131 ⇑P **P 11 16 57.4 -0.2**
SNR=56
KBA Koelnbreinsper 21.20 302 ⇓*i*P **P 11 17 01.4 +2.3**
comp=Z,60nm,0.8s,SNR=13
KBA Koelnbreinsper 21.20 302 P **P 11 17 01.4 +2.3**
comp=Z,60nm,0.8s,SNR=13
PRU Pruhonice 21.33 310 *e*P **P 11 17 01.0 +0.7**
PRU MLR MLR
comp=Z,1μm,18.0s
PRU Pruhonice 21.33 310 *e*P **P 11 17 01.0 +0.7**
PRU AMS AMS 11 27 30.0
comp=Z,1μm,18.0s
PRU Pruhonice 21.33 310 P **P 11 17 01.0 +0.7**
GEC2 GERESS Array S 21.45 307 *e*P **P 11 17 01.8 +0.1**
comp=Z,26nm,1.1s
GEC2 GERESS Array S 21.45 307 *e*P **P 11 17 01.8 +0.1**
comp=Z,26nm,1.1s
GERES GERESS Array B 21.45 307 P **P 11 17 02.6 +0.9**
GERES 11 21 04.2
GERES pmax pmax
comp=Z,4.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES MLR MLR
comp=Z,509nm,21.1s
GERES GERESS Array B 21.45 307 P **P 11 17 02.6 +0.9**
comp=Z,4.0nm,0.7s,baz=123,slow=9.8,SNR=14
GERES PcP **PcP 11 21 04.2 -0.3**
comp=Z,1.2nm,0.6s,baz=199,slow=2.8,SNR=4.8
GERES LR LR 11 26 05.6
comp=Z,509nm,21.1s,baz=112,slow=39
ARU Arti 21.52 29 P **P 11 17 01.5 -0.7**
comp=Z,396nm,0.8s,SNR=22
ARU Arti 21.52 29*c i*P **P 11 17 01.1 -1.1**
ARU 11 17 20.3
ARU S **S 11 20 59.7 -0.4**
ARU pmax pmax
comp=Z,119nm,1.7s
ARU Arti 21.52 29 *e*P **P 11 17 00.3 -1.9**
comp=Z,65nm,0.9s
ARU Arti 21.52 29 *e*P **P 11 17 00.3 -1.9**
comp=Z,65nm,0.9s
PVCC Panska Ves 21.52 311 *e*P **P 11 17 02.9 +0.6**
PVCC Panska Ves 21.52 311 *e*P **P 11 17 02.9 +0.6**
PVCC Panska Ves 21.52 311 P **P 11 17 02.9 +0.6**
VSU Vasula 21.53 341*d i*P **P 11 17 02.5 +0.2**
KHC Kasperske Hory 21.62 307 *e*P **P 11 17 03.0 -0.4**
KHC *e* 11 17 06.2
KHC Kasperske Hory 21.62 307 *e*P **P 11 17 03.0 -0.4**
KHC *e*pP **pP 11 17 06.2 -1.6**
KHC Kasperske Hory 21.62 307 *e*P **P 11 17 03.1 -0.4**
KHC Kasperske Hory 21.62 307 *e*P **P 11 17 03.1 -0.3**
ABTA Abfaltersbach 21.69 301 ⇓*i*sP **P 11 17 06.8 +2.5**
comp=Z,53nm,1.0s,SNR=14
ABTA Abfaltersbach 21.69 301 P **P 11 17 06.8 +2.5**
comp=Z,53nm,1.0s,SNR=14
RJOB Jochberg 21.72 303 *e*P **P 11 17 05.0 +0.4**
comp=Z,52nm,1.1s
RJOB Jochberg 21.72 303 *e*P **P 11 17 05.0 +0.4**
comp=Z,52nm,1.1s
SMDO Samad 21.90 130 ⇓P **P 11 17 06.0 -0.7**
SNR=108
PUL Pulkovo 21.93 347*c i*P **P 11 17 06.7 +0.1**
PUL pmax pmax
comp=Z,480nm,1.0s
BRG Berggiesshubel 22.02 312 *e*P **P 11 17 10.4 +2.7**
comp=Z,19nm,1.2s
BRG *e*PCP **PcP 11 21 06.2 +0.8**
comp=Z,12nm,1.5s
BRG S Sn 11 21 21.0 +0.2
BRG Berggiesshubel 22.02 312 *e*P **P 11 17 10.6 +2.9**
comp=Z,24nm,1.1s
BRG Berggiesshubel 22.02 312 *e*P **P 11 17 10.6 +2.9**
comp=Z,24nm,1.1s
WET Wettzell 22.06 307 *e*P **P 11 17 11.1 +2.9**
comp=Z,20nm,1.1s
WET Wettzell 22.06 307 *e*P **P 11 17 11.1 +2.9**
comp=Z,20nm,1.1s
KLMR Klimovskoe 22.13 359 *e*P **P 11 17 08.5 -0.2**
KLMR pmax pmax
comp=Z,425nm,1.5s
WATA Walderalm 22.43 302 ⇑*i*pP **P 11 17 13.4 +1.1**
comp=Z,83nm,1.1s,SNR=14
WATA Walderalm 22.43 302 P **P 11 17 13.4 +1.1**
comp=Z,83nm,1.1s,SNR=14
JMDO Jabal Madar 22.46 131 P **P 11 17 11.7 -0.9**
SNR=117
SVE Sverdlovsk 22.60 30*d i*P **P 11 17 12.9 -0.9**
SVE *e*S **S 11 21 19.8 -0.9**
SVE pmax pmax
comp=Z,88nm,0.9s
SVE MLR MLR
comp=Z,1μm,23.0s
ROTZ Rotzenmuhle 22.67 308 *e*P **P 11 17 16.2 +1.5**
comp=Z,168nm,1.7s
ROTZ Rotzenmuhle 22.67 308 *e*P **P 11 17 16.2 +1.5**
comp=Z,168nm,1.7s
TANN Tannenbergstha 22.73 310 *e*P **P 11 17 19.6 +4.2**
comp=Z,36nm,1.4s
CLL Collm 22.74 312 *e*P **P 11 17 15.0 -0.4**
CLL *i* 11 17 19.8
CLL *i* 11 17 22.2
CLL *e*S **S 11 21 26.0 +2.7**
CLL pmax pmax
comp=Z,11nm,1.2s
CLL Collm 22.74 312 *e*P **P 11 17 17.0 +1.6**
comp=Z,40nm,1.2s
CLL Collm 22.74 312 *e*P **P 11 17 15.0 -0.4**
comp=Z,11nm,1.2s
CLL *i* 11 17 19.8
comp=Z,46nm,1.5s
CLL *i* 11 17 22.2
comp=Z,39nm,1.2s
CLL *e*S **S 11 21 26.0 +2.7**
CLL *e*SS **SnSn 11 22 00.0 +6.4**
CLL Collm 22.74 312 *e*P **P 11 17 17.0 +1.6**
comp=Z,40nm,1.2s
CLL Collm 22.74 312 *e*P **P 11 17 15.8 +0.5**
comp=Z,44nm,1.1s
MOTA Moosalm 22.75 302 ⇓*i*sP **P 11 17 15.7 0.0**
comp=Z,85nm,1.0s,SNR=25
MOTA Moosalm 22.75 302 P **P 11 17 15.7 0.0**
comp=Z,85nm,1.0s,SNR=25
WBK Wadi Bani Khal 22.79 129 ⇑P **P 11 17 15.8 -0.4**
SNR=42
FUR Furstenfeldbru 22.82 304 *e*P **P 11 17 18.1 +1.9**
comp=Z,92nm,1.1s
FUR Furstenfeldbru 22.82 304 *e*P **P 11 17 18.1 +1.9**
comp=Z,92nm,1.1s
FETA Feichten 22.94 301 ⇑*i*sP **P 11 17 18.4 +0.7**
comp=Z,84nm,1.1s,SNR=21
FETA Feichten 22.94 301 P **P 11 17 18.4 +0.7**
comp=Z,84nm,1.1s,SNR=21
PRGR Permogore 23.17 7 *e*P **P 11 17 15.5 -4.2**
FUORN Ofenpass-Fuorn 23.19 299 *e*P **P 11 17 22.3 +1.9**
comp=Z,100nm,1.3s
FUORN Ofenpass-Fuorn 23.19 299 *e*P **P 11 17 22.3 +1.9**
comp=Z,100nm,1.3s
GRA1 Grafenberg Arr 23.25 307 *e*P **P 11 17 21.5 +0.8**
comp=Z,182nm,1.4s
GRF Grafenberg Arr 23.25 307 *e*P **P 11 17 21.5 +0.8**
comp=Z,182nm,1.4s
GRF *e*L L 11 27 12.1
comp=Z,564nm,21.4s
GRFO Grafenberg 23.26 307 *e*P **P 11 17 21.4 +0.7**
GRFO pmax pmax
comp=Z,105nm,1.1s
GRFO Grafenberg 23.26 307 *e*P **P 11 17 21.4 +0.7**
comp=Z,105nm,1.1s
GRFO Grafenberg 23.26 307 *e*P **P 11 17 21.4 +0.7**
comp=Z,105nm,1.1s
MOX Moxa 23.32 310 *e*P **P 11 17 23.8 +2.5**
comp=Z,36nm,1.4s
MOX *e*L L 11 29 02.4
comp=Z,945nm,18.5s
MOX Moxa 23.32 310 *e*P **P 11 17 23.8 +2.5**
comp=Z,36nm,1.4s
KKAR Karatay Array 23.33 69 *e*P **P 11 17 21.6 0.0**
KKAR Karatay Array 23.33 69 *e*P **P 11 17 21.6 0.0**
KKAR Karatay Array 23.33 69 *e*P **P 11 17 21.6 0.0**
SOKR Solikamsk 23.42 22 ⇑*i*P **P 11 17 20.7 -1.5**
SOKR pmax pmax
comp=Z,70nm,1.1s
DAVOX Davos/Dischmat 23.47 300 P **P 11 17 24.6 +1.5**
DAVOX pmax pmax
comp=Z,15nm,1.0s
DAVOX Davos/Dischmat 23.47 300 P **P 11 17 24.6 +1.5**
comp=Z,15nm,1.0s,baz=101,slow=7.6,SNR=9.9
BSD Bornholm Skovb 23.54 322 *i* P **P 11 17 25.5 +2.1**
BSD pmax pmax
comp=Z,22nm,1.0s
BSD Bornholm Skovb 23.54 322 *i* P **P 11 17 25.5 +2.1**
comp=Z,22nm,1.0s
BSD Bornholm Skovb 23.54 322 *i* P **P 11 17 25.6 +2.1**
comp=Z,22nm,1.0s,SNR=122
DAVA Damuels 23.56 301 ⇑*i*sP **P 11 17 25.2 +1.3**
comp=Z,62nm,1.1s,SNR=8.4
DAVA Damuels 23.56 301 P **P 11 17 25.2 +1.3**
comp=Z,62nm,1.1s,SNR=8.4
KBL Kabul 23.57 91 *e*P **P 11 17 25.3 +1.1**
KBL pmax pmax
comp=Z,32nm,0.9s
KBL Kabul 23.57 91 *e*P **P 11 17 25.3 +1.1**
comp=Z,32nm,0.9s
KBL Kabul 23.57 91 *e*P **P 11 17 25.3 +1.1**
comp=Z,32nm,0.9s
TUE Stuetta 23.79 299 *e*P **P 11 17 26.2 0.0**
comp=Z,74nm,1.3s
TUE Stuetta 23.79 299 *e*P **P 11 17 26.2 0.0**
comp=Z,74nm,1.3s
PGF Pioggiola 23.82 289 *e*P **P 11 17 25.0 -1.4**
comp=Z,172nm,1.4s
PGF Pioggiola 23.82 289 *e*P **P 11 17 25.0 -1.4**
PGF pmax pmax
comp=Z,172nm,1.4s
PGF Pioggiola 23.82 289 *e*P **P 11 17 25.0 -1.4**
comp=Z,86nm,1.4s
PGF Pioggiola 23.82 289 *e*P **P 11 17 25.0 -1.4**
comp=Z,172nm,1.4s
RGN Rugen 24.02 320 *e*P **P 11 17 28.1 +0.1**
comp=Z,212nm,1.4s
RGN Rugen 24.02 320 *e*P **P 11 17 28.1 +0.1**
comp=Z,212nm,1.4s
ABTO Aybut 24.24 148 P **P 11 17 30.1 -0.4**
SNR=15
STU Stuttgart 24.30 304 *e*P **P 11 17 33.3 +2.5**
STU pmax pmax
comp=Z,97nm,1.6s
STU Stuttgart 24.30 304 *e*P **P 11 17 32.9 +2.1**
comp=Z,63nm,1.4s
STU Stuttgart 24.30 304 *e*P **P 11 17 32.9 +2.1**
comp=Z,63nm,1.4s
STU Stuttgart 24.30 304 *e*P **P 11 17 33.3 +2.5**
comp=Z,97nm,1.6s
FINES FINESS Array B 24.32 344 P **P 11 17 30.8 0.0**
comp=Z,13nm,0.8s,baz=151,slow=11,SNR=33
FINES LR LR 11 28 25.7
comp=Z,656nm,21.1s,baz=154,slow=40
UBBA Unterbreizbach 24.34 310 *e*P **P 11 17 34.8 +3.8**
comp=Z,28nm,1.6s
UBBA Unterbreizbach 24.34 310 *e*P **P 11 17 34.8 +3.8**
comp=Z,28nm,1.6s
CLZ Clausthal 24.46 312 *e*P **P 11 17 33.3 +1.1**
comp=Z,46nm,1.4s
CLZ Clausthal 24.46 312 *e*P **P 11 17 33.3 +1.1**
comp=Z,46nm,1.4s
RBK Rabkut 24.50 146 ⇓P **P 11 17 32.5 -0.3**
SNR=26
KEST Kesra 24.60 273 P **P 11 17 34.4 +0.7**
comp=Z,15nm,0.9s,baz=6.9,slow=1.2,SNR=27
KEST LR LR 11 28 54.9
comp=Z,282nm,21.5s,baz=18,slow=41
KEST Kesra 24.60 273 *e*P **P 11 17 35.8 +2.1**
KEST Kesra 24.60 273 *e*P **P 11 17 35.8 +2.1**
BFO Black Forest 24.77 303 *e*P **P 11 17 38.1 +3.0**
BFO Black Forest 24.77 303 *e*P **P 11 17 39.0 +3.9**
comp=Z,16nm,1.2s
BFO Black Forest 24.77 303 *e*P **P 11 17 38.1 +3.0**
JOF Joensuu 24.78 350 *e*P **P 11 17 32.6 -2.3**
JOF pmax pmax
comp=Z,21nm,0.7s
JOF Joensuu 24.78 350 *e*p **P 11 17 32.6 -2.3**
comp=Z,21nm,0.7s
KAF Kangasniemi 24.87 345 *e*P **P 11 17 35.0 -0.8**
KAF pmax pmax
comp=Z,16nm,0.7s
KAF Kangasniemi 24.87 345 *e*p **P 11 17 35.0 -0.8**
comp=Z,16nm,0.7s
SBF Sospel 24.95 292 *e*P **P 11 17 36.2 -0.6**
comp=Z,150nm,0.9s
SBF Sospel 24.95 292 *e*P **P 11 17 36.2 -0.6**
SBF pmax pmax
comp=Z,150nm,0.9s
SBF Sospel 24.95 292 *e*P **P 11 17 36.2 -0.6**
comp=Z,75nm,0.9s
SBF Sospel 24.95 292 *e*P **P 11 17 36.2 -0.6**
comp=Z,150nm,0.9s
LLD Lille Linde 24.97 321 *e*P P 11 17 41.9 +5.2
LLD Lille Linde 24.97 321 *i* P P 11 17 41.9 +5.2
TNS Taunus Mts 25.12 307 *e*P **P 11 17 40.6 +2.3**
comp=Z,45nm,1.4s
TNS Taunus Mts 25.12 307 *e*P **P 11 17 40.6 +2.3**
comp=Z,45nm,1.4s
SENIN Lac Senin/Sane 25.18 298 *e*P **P 11 17 39.8 +0.8**
SENIN Lac Senin/Sane 25.18 298 *e*P **P 11 17 39.9 +0.8**
BRVK Borovoye 25.19 46*d i*P **P 11 17 38.7 0.0**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 25.19 46 *e*P **P 11 17 39.5 +0.8**
BRVK Borovoye 25.19 46 *e*P **P 11 17 39.5 +0.8**
BVAR Borovoye Array 25.23 46 P **P 11 17 39.7 +0.5**
comp=Z,3.9nm,0.8s,baz=264,slow=7.0,SNR=14
BVAR LR LR 11 29 05.2
comp=Z,797nm,19.4s,baz=252,slow=40
MBDF Montbardon 25.45 294 *e*P **P 11 17 40.3 -1.0**
comp=Z,57nm,0.9s
MBDF Montbardon 25.45 294 *e*P **P 11 17 40.3 -1.0**
MBDF pmax pmax
comp=Z,57nm,0.9s
MBDF Montbardon 25.45 294 *e*P **P 11 17 40.3 -1.0**
comp=Z,28nm,0.9s
MBDF Montbardon 25.45 294 *e*P **P 11 17 40.3 -1.0**
comp=Z,57nm,0.9s
TMCR Tamitsa 25.48 358 *e*P **P 11 17 40.9 -0.3**
TMCR *e* 11 18 16.7
TMCR pmax pmax
comp=Z,59nm,0.9s
CDF Champ du Feu 25.48 303 *e*P **P 11 17 42.1 +0.6**
comp=Z,31nm,1.0s
CDF Champ du Feu 25.48 303 *e*P **P 11 17 42.1 +0.6**
CDF pmax pmax
comp=Z,31nm,1.0s
CDF Champ du Feu 25.48 303 *e*P **P 11 17 42.1 +0.6**
comp=Z,16nm,1.0s
CDF Champ du Feu 25.48 303 *e*P **P 11 17 42.1 +0.6**
comp=Z,31nm,1.0s
LPG La Plagne 25.50 296 *e*P **P 11 17 41.2 -0.7**
comp=Z,74nm,1.2s
LPG La Plagne 25.50 296 *e*P **P 11 17 41.2 -0.7**
LPG pmax pmax
comp=Z,74nm,1.2s
LPG La Plagne 25.50 296 *e*P **P 11 17 41.2 -0.7**
comp=Z,37nm,1.2s
LPG La Plagne 25.50 296 *e*P **P 11 17 41.2 -0.7**
comp=Z,74nm,1.2s
LPL La Plagne 25.51 296 *e*P **P 11 17 41.9 -0.1**
comp=Z,52nm,1.0s
LPL La Plagne 25.51 296 *e*P **P 11 17 41.9 -0.1**
LPL pmax pmax
comp=Z,52nm,1.0s
LPL La Plagne 25.51 296 *e*P **P 11 17 41.9 -0.1**
comp=Z,26nm,1.0s
LPL La Plagne 25.51 296 *e*P **P 11 17 41.9 -0.1**
comp=Z,52nm,1.0s
BNI Bardonecchia 25.52 295 *e*P **P 11 17 41.5 -0.5**
BNI pmax pmax
comp=Z,44nm,1.0s
BNI Bardonecchia 25.52 295 *e*P **P 11 17 41.5 -0.5**
comp=Z,44nm,1.0s
BNI Bardonecchia 25.52 295 *e*P **P 11 17 41.5 -0.5**
comp=Z,44nm,1.0s
FRF La Foret Royal 25.52 292 *e*P **P 11 17 41.2 -0.7**
comp=Z,171nm,1.5s
FRF La Foret Royal 25.52 292 *e*P **P 11 17 41.2 -0.7**
FRF pmax pmax
comp=Z,171nm,1.5s
FRF La Foret Royal 25.52 292 *e*P **P 11 17 41.2 -0.7**
comp=Z,86nm,1.5s
FRF La Foret Royal 25.52 292 *e*P **P 11 17 41.2 -0.7**
comp=Z,171nm,1.5s
ECH Echery 25.52 302 *e*P **P 11 17 42.9 +1.0**
ECH pmax pmax
comp=Z,27nm,1.1s
ECH Echery 25.52 302 *e*P **P 11 17 42.9 +1.0**
comp=Z,27nm,1.1s
ECH Echery 25.52 302 *e*P **P 11 17 42.9 +1.0**
comp=Z,27nm,1.1s
LMR La Mourre 25.63 291 *e*P **P 11 17 42.0 -0.8**
LMR La Mourre 25.63 291 *e*P **P 11 17 42.0 -0.8**
LMR La Mourre 25.63 291 *e*P **P 11 17 42.0 -0.8**
LMR La Mourre 25.63 291 *e*P **P 11 17 42.0 -0.8**
HINF Hinteralfeld 25.66 301 *e*P **P 11 17 43.8 +0.6**
comp=Z,31nm,1.0s
HINF Hinteralfeld 25.66 301 *e*P **P 11 17 43.8 +0.6**
HINF pmax pmax
comp=Z,31nm,1.0s
HINF Hinteralfeld 25.66 301 *e*P **P 11 17 43.8 +0.6**
comp=Z,16nm,1.0s
HINF Hinteralfeld 25.66 301 *e*P **P 11 17 43.8 +0.6**
comp=Z,31nm,1.0s
AML Almayashu 25.71 72 P **P 11 17 46.6 +2.6**
SNR=8.3
AML Almayashu 25.71 72 *i* P **P 11 17 46.6 +2.6**

EKS2	**Erkin-Say**	**25.74**	**70**	P	**P**	**11 17 44.0**	**-0.1**
	SNR=15						
EKS2	**Erkin-Say**	**25.74**	**70**	*i* P	**P**	**11 17 43.9**	**-0.1**
EKS2	**Erkin-Say**	**25.74**	**70**	*e*P	**P**	**11 17 45.0**	**+1.0**
	comp=Z,21nm,0.9s						
EKS2	**Erkin-Say**	**25.74**	**70**	*e*P	**P**	**11 17 45.0**	**+1.0**
	comp=Z,21nm,0.9s						
HAU	**Haudompre**	**26.03**	**302**	*e*P	**P**	**11 17 47.0**	**+0.5**
	comp=Z,34nm,1.1s						
HAU				*e*R			
	comp=Z,532nm,20.2s						
HAU	**Haudompre**	**26.03**	**302**	*e*P	**P**	**11 17 47.0**	**+0.5**
HAU				pmax	pmax		
	comp=Z,34nm,1.0s						
HAU	**Haudompre**	**26.03**	**302**	*e*P	**P**	**11 17 47.0**	**+0.5**
	comp=Z,17nm,1.1s						
HAU	**Haudompre**	**26.03**	**302**	*e*P	**P**	**11 17 47.0**	**+0.5**
	comp=Z,34nm,1.0s						
CABF	**La Chapelle**	**26.04**	**299**	*e*P	**P**	**11 17 46.7**	**0.0**
	comp=Z,164nm,1.1s						
CABF	**La Chapelle**	**26.04**	**299**	*e*P	**P**	**11 17 46.7**	**0.0**
CABF				pmax	pmax		
	comp=Z,164nm,1.1s						
CABF	**La Chapelle**	**26.04**	**299**	*e*P	**P**	**11 17 46.7**	**0.0**
	comp=Z,82nm,1.1s						
CABF	**La Chapelle**	**26.04**	**299**	*e*P	**P**	**11 17 46.7**	**0.0**
	comp=Z,164nm,1.1s						
ORIF	**Oris-en-Rattie**	**26.09**	**295**	*e*P	**P**	**11 17 46.6**	**-0.5**
	comp=Z,54nm,1.2s						
ORIF				*e*R			
	comp=Z,706nm,21.8s						
ORIF	**Oris-en-Rattie**	**26.09**	**295**	*e*P	**P**	**11 17 46.6**	**-0.5**
ORIF				pmax	pmax		
	comp=Z,54nm,1.2s						
ORIF	**Oris-en-Rattie**	**26.09**	**295**	*e*P	**P**	**11 17 46.6**	**-0.5**
	comp=Z,27nm,1.2s						
ORIF	**Oris-en-Rattie**	**26.09**	**295**	*e*P	**P**	**11 17 46.6**	**-0.5**
	comp=Z,54nm,1.2s						
IBBN	**Ibbenburen**	**26.14**	**312**	*e*P	P	11 17 52.5	+5.2
	comp=Z,22nm,0.9s						
BUG	**Bochum--Univer**	**26.17**	**310**	*e*P	**P**	**11 17 51.4**	**+3.8**
	comp=Z,28nm,1.1s						
BUG	**Bochum--Univer**	**26.17**	**310**	*e*P	**P**	**11 17 51.4**	**+3.8**
	comp=Z,28nm,1.1s						
USP	**Ospenovka**	**26.24**	**69**	P	**P**	**11 17 47.7**	**-0.8**
	SNR=5.5						
USP	**Ospenovka**	**26.24**	**69**	*i* P	**P**	**11 17 47.6**	**-0.8**
AAK	**Ala-Archa**	**26.27**	**70**	P	**P**	**11 17 51.5**	**+2.7**
	SNR=7.4						
AAK	**Ala-Archa**	**26.27**	**70**	P	**P**	**11 17 50.8**	**+1.9**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AAK				MLR	MLR		
	comp=Z,571nm,21.0s						
AAK	**Ala-Archa**	**26.27**	**70**	P	**P**	**11 17 50.8**	**+1.9**
	comp=Z,7.3nm,0.9s,baz=199,slow=7.8,SNR=19						
AAK				LR	LR	11 28 55.3	
	comp=Z,571nm,21.0s,baz=276,slow=38						
AAK	**Ala-Archa**	**26.27**	**70**	*e*P	**P**	**11 17 49.5**	**+0.6**
	comp=Z,18nm,1.0s						
AAK	**Ala-Archa**	**26.27**	**70**	*e*P	**P**	**11 17 49.5**	**+0.6**
	comp=Z,18nm,1.0s						
SMRF	**Simiane la Rot**	**26.30**	**293**	*e*P	**P**	**11 17 48.5**	**-0.4**
	comp=Z,153nm,1.5s						
SMRF	**Simiane la Rot**	**26.30**	**293**	*e*P	**P**	**11 17 48.5**	**-0.4**
	comp=Z,76nm,1.5s						
SMRF	**Simiane la Rot**	**26.30**	**293**	*e*P	**P**	**11 17 48.5**	**-0.4**
	comp=Z,153nm,1.5s						
FRU	**Bishkek**	**26.35**	**70**	*i* P	**P**	**11 17 51.0**	**+1.6**
FRU				pmax	pmax		
	comp=Z,90nm,2.0s						
CHMS	**Chumysh**	**26.44**	**70**	P	**P**	**11 17 51.9**	**+1.7**
	SNR=9.1						
CHMS	**Chumysh**	**26.44**	**70**	*i* P	**P**	**11 17 51.9**	**+1.7**
WLF	**Walferdange**	**26.44**	**305**	*e*P	**P**	**11 17 52.0**	**+1.9**
	comp=Z,26nm,1.1s						
WLF	**Walferdange**	**26.44**	**305**	*e*P	**P**	**11 17 52.0**	**+1.9**
	comp=Z,26nm,1.1s						
PAGF	**Fort de Pagny**	**26.52**	**303**	*e*P	**P**	**11 17 51.4**	**+0.5**
PAGF	**Fort de Pagny**	**26.52**	**303**	*e*P	**P**	**11 17 51.4**	**+0.5**
PAGF	**Fort de Pagny**	**26.52**	**303**	*e*P	**P**	**11 17 51.4**	**+0.5**
KBK	**Karagaybulak**	**26.60**	**70**	P	**P**	**11 17 54.8**	**+2.9**
	SNR=7.2						
KBK	**Karagaybulak**	**26.60**	**70**	*i* P	**P**	**11 17 54.8**	**+2.9**
MEM	**Membach**	**26.73**	**307**	P	P	11 17 57.7	+5.0
KZA	**Kyzart**	**26.86**	**72**	P	**P**	**11 17 58.5**	**+4.0**
	SNR=8.7						
KZA	**Kyzart**	**26.86**	**72**	*i* P	**P**	**11 17 58.5**	**+4.0**
SFTF	**Sexfontaines**	**26.93**	**302**	*e*P	**P**	**11 17 54.6**	**+0.1**
SFTF	**Sexfontaines**	**26.93**	**302**	*e*P	**P**	**11 17 54.6**	**+0.1**
SFTF	**Sexfontaines**	**26.93**	**302**	*e*P	**P**	**11 17 54.6**	**+0.1**
VIVF	**Saint-Julien-l**	**26.94**	**295**	*e*P	**P**	**11 17 54.7**	**0.0**
	comp=Z,75nm,1.3s						
VIVF	**Saint-Julien-l**	**26.94**	**295**	*e*P	**P**	**11 17 54.7**	**0.0**
VIVF				pmax	pmax		
	comp=Z,75nm,1.3s						
VIVF	**Saint-Julien-l**	**26.94**	**295**	*e*P	**P**	**11 17 54.7**	**0.0**
	comp=Z,37nm,1.3s						
VIVF	**Saint-Julien-l**	**26.94**	**295**	*e*P	**P**	**11 17 54.7**	**0.0**
	comp=Z,75nm,1.3s						
MEZF	**Maizieres J'vi**	**26.96**	**303**	*e*P	**P**	**11 17 55.0**	**+0.2**
	comp=Z,37nm,1.0s						
MEZF	**Maizieres J'vi**	**26.96**	**303**	*e*P	**P**	**11 17 55.0**	**+0.2**
	comp=Z,18nm,1.0s						
MEZF	**Maizieres J'vi**	**26.96**	**303**	*e*P	**P**	**11 17 55.0**	**+0.2**
	comp=Z,37nm,1.0s						
MUD	**Monsted U'grnd**	**27.01**	**321**	*e*P	**P**	**11 17 55.3**	**+0.2**
MUD				pmax	pmax		
	comp=Z,12nm,0.8s						
MUD	**Monsted U'grnd**	**27.01**	**321**	*i* P	**P**	**11 17 55.3**	**+0.2**
	comp=Z,12nm,0.8s						
MUD	**Monsted U'grnd**	**27.01**	**321**	*e*P	**P**	**11 17 55.3**	**+0.2**
	comp=Z,12nm,0.8s,SNR=115						
TKM2	**Tokmak 2**	**27.06**	**70**	P	**P**	**11 17 58.1**	**+2.1**
	SNR=17						
TKM2	**Tokmak 2**	**27.06**	**70**	*i* P	**P**	**11 17 58.1**	**+2.1**
TKM2	**Tokmak 2**	**27.06**	**70**	*e*P	**P**	**11 17 58.1**	**+2.1**
TKM2	**Tokmak 2**	**27.06**	**70**	*e*P	**P**	**11 17 58.1**	**+2.1**
HFS	**Hagfors**	**27.10**	**331**	P	**P**	**11 17 56.5**	**+0.6**
	comp=Z,10nm,0.9s,baz=142,slow=7.5,SNR=10						
HFS				LR	LR	11 30 36.9	
	comp=Z,338nm,19.3s,baz=124,slow=41						
GIVF	**Givet**	**27.37**	**306**	*e*P	**P**	**11 17 59.1**	**+0.6**
	comp=Z,76nm,0.9s						
GIVF	**Givet**	**27.37**	**306**	*e*P	**P**	**11 17 59.1**	**+0.6**
GIVF				pmax	pmax		
	comp=Z,76nm,0.9s						
GIVF	**Givet**	**27.37**	**306**	*e*P	**P**	**11 17 59.1**	**+0.6**
	comp=Z,38nm,0.9s						
GIVF	**Givet**	**27.37**	**306**	*e*P	**P**	**11 17 59.1**	**+0.6**
	comp=Z,76nm,0.9s						
LASF	**Ste Croix**	**27.53**	**293**	*e*P	**P**	**11 17 59.6**	**-0.4**
LASF	**Ste Croix**	**27.53**	**293**	*e*P	**P**	**11 17 59.6**	**-0.4**
LASF	**Ste Croix**	**27.53**	**293**	*e*P	**P**	**11 17 59.6**	**-0.4**
ULHL	**Ulahol**	**27.59**	**71**	P	**P**	**11 18 03.9**	**+3.1**
	SNR=12						
ULHL	**Ulahol**	**27.59**	**71**	*i* P	**P**	**11 18 03.9**	**+3.1**
SMF	**Signal de Mont**	**27.59**	**298**	*e*P	**P**	**11 18 00.5**	**0.0**
	comp=Z,35nm,1.0s						
SMF	**Signal de Mont**	**27.59**	**298**	*e*P	**P**	**11 18 00.5**	**0.0**
SMF				pmax	pmax		
	comp=Z,35nm,1.0s						
SMF	**Signal de Mont**	**27.59**	**298**	*e*P	**P**	**11 18 00.5**	**0.0**
	comp=Z,17nm,1.0s						
SMF	**Signal de Mont**	**27.59**	**298**	*e*P	**P**	**11 18 00.5**	**0.0**
	comp=Z,35nm,1.0s						
LOR	**Lormes**	**27.62**	**300**	*e*P	**P**	**11 18 00.6**	**-0.2**
	comp=Z,36nm,1.1s,baz=106						
LOR				*e*R			
	comp=Z,495nm,22.0s						
LOR	**Lormes**	**27.62**	**300**	*e*P	**P**	**11 18 00.6**	**-0.2**
LOR				pmax	pmax		
	comp=Z,36nm,1.1s						
LOR	**Lormes**	**27.62**	**300**	*e*P	**P**	**11 18 00.6**	**-0.2**
	comp=Z,18nm,1.1s						
LOR	**Lormes**	**27.62**	**300**	*e*P	**P**	**11 18 00.6**	**-0.2**
	comp=Z,36nm,1.1s						
KSH	**Kashi**	**27.74**	**77**	P	**P**	**11 18 01.6**	**-0.5**
KSH				sP	**sP**	**11 18 08.4**	**-0.3**
KSH				PP	**PnPn**	**11 18 48.5**	**+0.6**
KSH				PcP	**PcP**	**11 21 20.1**	**+1.6**
KSH				S	**S**	**11 22 38.9**	**-5.1**
KSH				sS	sS	11 22 46.0	-5.8
KSH				SS	**SnSn**	**11 23 55.0**	**-1.3**
KSH				PMZ			
	comp=Z,11nm,0.9s						
KSH				PMZ			
	comp=Z,260nm,5.4s						
KSH				LN			
	comp=Z,360nm,8.4s						
KSH				LE			
	comp=Z,580nm,14.4s						
KSH				LZ			
	comp=Z,400nm,15.8s						
SSF	**Saint Saulge**	**27.84**	**299**	*e*P	**P**	**11 18 03.0**	**+0.2**
	comp=Z,42nm,1.2s						
SSF	**Saint Saulge**	**27.84**	**299**	*e*P	**P**	**11 18 03.0**	**+0.2**
SSF				pmax	pmax		
	comp=Z,42nm,1.2s						
SSF	**Saint Saulge**	**27.84**	**299**	*e*P	**P**	**11 18 03.0**	**+0.2**
	comp=Z,21nm,1.2s						
SSF	**Saint Saulge**	**27.84**	**299**	*e*P	**P**	**11 18 03.0**	**+0.2**
	comp=Z,42nm,1.2s						
AVF	**Avril sur Loir**	**27.93**	**299**	*e*P	**P**	**11 18 03.6**	**+0.1**
	comp=Z,38nm,1.0s						
AVF	**Avril sur Loir**	**27.93**	**299**	*e*P	**P**	**11 18 03.6**	**+0.1**
AVF				pmax	pmax		
	comp=Z,38nm,1.0s						
AVF	**Avril sur Loir**	**27.93**	**299**	*e*P	**P**	**11 18 03.6**	**+0.1**
	comp=Z,19nm,1.0s						
AVF	**Avril sur Loir**	**27.93**	**299**	*e*P	**P**	**11 18 03.6**	**+0.1**
	comp=Z,38nm,1.0s						
BGF	**Bois d'Agland**	**28.27**	**298**	*e*P	**P**	**11 18 06.2**	**-0.4**
BGF	**Bois d'Agland**	**28.27**	**298**	*e*P	**P**	**11 18 06.2**	**-0.4**
BGF	**Bois d'Agland**	**28.27**	**298**	*e*P	**P**	**11 18 06.2**	**-0.4**
BGF	**Bois d'Agland**	**28.27**	**298**	*e*P	**P**	**11 18 06.2**	**-0.4**
NB2	**NORSAR Subarra**	**28.62**	**331**	P	**P**	**11 18 09.2**	**-0.4**
	comp=Z,4.4nm,1.0s,baz=128,slow=9.3						
NB2	**NORSAR Subarra**	**28.62**	**331**	P	**P**	**11 18 09.2**	**-0.4**
	comp=Z,4.4nm,1.0s,SNR=7.5						
NOA	**NORSAR Array B**	**28.62**	**331**	P	**P**	**11 18 09.1**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=126,slow=9.1,SNR=5.3						
NOA				LR	LR	11 31 23.2	
	comp=Z,253nm,18.6s,baz=125,slow=40						
MTLF	**Montolieu**	**28.75**	**291**	*e*P	**P**	**11 18 11.0**	**+0.1**
MTLF	**Montolieu**	**28.75**	**291**	*e*P	**P**	**11 18 11.0**	**+0.1**
MTLF	**Montolieu**	**28.75**	**291**	*e*P	**P**	**11 18 11.0**	**+0.1**
MTLF	**Montolieu**	**28.75**	**291**	*e*P	**P**	**11 18 11.0**	**+0.1**
CAF	**Calviac**	**28.80**	**295**	*e*P	**P**	**11 18 12.4**	**+1.1**
CAF	**Calviac**	**28.80**	**295**	*e*P	**P**	**11 18 12.4**	**+1.1**
CAF	**Calviac**	**28.80**	**295**	*e*P	**P**	**11 18 12.4**	**+1.1**
CAF	**Calviac**	**28.80**	**295**	*e*P	**P**	**11 18 12.4**	**+1.1**
APA	**Apatity**	**29.11**	**355** ⇑	*i* P	P	11 18 18.6	+4.8
APA				MLR	MLR		
	comp=Z,3μm,16.0s						
RJF	**Les Rejaudoux**	**29.18**	**296**	*e*P	**P**	**11 18 14.7**	**0.0**
	comp=Z,35nm,1.1s						
RJF				*e*R			
	comp=Z,853nm,21.0s						
RJF	**Les Rejaudoux**	**29.18**	**296**	*e*P	**P**	**11 18 14.7**	**0.0**
RJF				pmax	pmax		
	comp=Z,35nm,1.1s						
RJF	**Les Rejaudoux**	**29.18**	**296**	*e*P	**P**	**11 18 14.7**	**0.0**
	comp=Z,17nm,1.1s						
RJF	**Les Rejaudoux**	**29.18**	**296**	*e*P	**P**	**11 18 14.7**	**0.0**
	comp=Z,35nm,1.1s						
KURBB	**Kurchatov Arra**	**29.47**	**54**	P	**P**	**11 18 16.8**	**-0.3**
	comp=Z,6.5nm,0.8s,baz=269,slow=9.2,SNR=22						
KURBB				PcP	**PcP**	**11 21 22.1**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=251,slow=3.1,SNR=4.7						
KURK	**Kurchatov**	**29.54**	**53**	P	**P**	**11 18 16.8**	**-1.0**
KURK						11 21 22.1	
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**29.54**	**53**	*e*P	**P**	**11 18 17.8**	**0.0**
KURK	**Kurchatov**	**29.54**	**53**	PcP	**PcP**	**11 21 22.1**	**-0.4**
KURK	**Kurchatov**	**29.54**	**53**	*e*P	**P**	**11 18 17.8**	**0.0**
KURK				PcP	**PcP**	**11 21 22.1**	**-0.4**
LFF	**La Frestale**	**29.74**	**295**	*e*P	**P**	**11 18 20.0**	**+0.4**
LFF	**La Frestale**	**29.74**	**295**	*e*P	**P**	**11 18 20.0**	**+0.4**
LFF	**La Frestale**	**29.74**	**295**	*e*P	**P**	**11 18 20.0**	**+0.4**
LFF	**La Frestale**	**29.74**	**295**	*e*P	**P**	**11 18 20.0**	**+0.4**
EPF	**Esparros**	**30.15**	**291**	*e*P	**P**	**11 18 23.9**	**+0.6**
EPF	**Esparros**	**30.15**	**291**	*e*P	**P**	**11 18 23.9**	**+0.6**
EPF	**Esparros**	**30.15**	**291**	*e*P	**P**	**11 18 23.9**	**+0.6**
EPF	**Esparros**	**30.15**	**291**	*e*P	**P**	**11 18 23.9**	**+0.6**
MFF	**Saint Martin d**	**30.33**	**298**	*e*P	**P**	**11 18 25.1**	**+0.2**
MFF	**Saint Martin d**	**30.33**	**298**	*e*P	**P**	**11 18 25.1**	**+0.2**
MFF	**Saint Martin d**	**30.33**	**298**	*e*P	**P**	**11 18 25.1**	**+0.2**
MFF	**Saint Martin d**	**30.33**	**298**	*e*P	**P**	**11 18 25.1**	**+0.2**
LDF	**La Druitiere**	**30.39**	**302**	*e*P	**P**	**11 18 25.5**	**+0.2**
	comp=Z,40nm,1.1s						
LDF	**La Druitiere**	**30.39**	**302**	*e*P	**P**	**11 18 25.5**	**+0.2**
LDF				pmax	pmax		
	comp=Z,40nm,1.1s						
LDF	**La Druitiere**	**30.39**	**302**	*e*P	**P**	**11 18 25.5**	**+0.2**
	comp=Z,20nm,1.1s						
LDF	**La Druitiere**	**30.39**	**302**	*e*P	**P**	**11 18 25.5**	**+0.2**
	comp=Z,40nm,1.1s						
FLN	**La Foliniere**	**30.64**	**302**	*e*P	**P**	**11 18 28.2**	**+0.7**
FLN				*e*R			
	comp=Z,410nm,17.8s						
FLN	**La Foliniere**	**30.64**	**302**	*e*P	**P**	**11 18 28.2**	**+0.7**
FLN	**La Foliniere**	**30.64**	**302**	*e*P	**P**	**11 18 28.2**	**+0.7**
FLN	**La Foliniere**	**30.64**	**302**	*e*P	**P**	**11 18 28.2**	**+0.7**
ETSF	**Etsaut**	**30.82**	**291**	*e*P	**P**	**11 18 30.2**	**+0.9**
ETSF	**Etsaut**	**30.82**	**291**	*e*P	**P**	**11 18 30.2**	**+0.9**
ETSF	**Etsaut**	**30.82**	**291**	*e*P	**P**	**11 18 30.2**	**+0.9**
ETSF	**Etsaut**	**30.82**	**291**	*e*P	**P**	**11 18 30.2**	**+0.9**
GRR	**Gorron**	**30.86**	**302**	*e*P	**P**	**11 18 29.8**	**+0.3**
GRR	**Gorron**	**30.86**	**302**	*e*P	**P**	**11 18 29.8**	**+0.3**
GRR	**Gorron**	**30.86**	**302**	*e*P	**P**	**11 18 29.8**	**+0.3**
GRR	**Gorron**	**30.86**	**302**	*e*P	**P**	**11 18 29.8**	**+0.3**
SJPF	**Ste Jean**	**31.28**	**291**	*e*P	**P**	**11 18 34.9**	**+1.6**
	comp=Z,60nm,1.3s						
SJPF	**Ste Jean**	**31.28**	**291**	*e*P	**P**	**11 18 34.9**	**+1.6**
SJPF				pmax	pmax		
	comp=Z,60nm,1.3s						
SJPF	**Ste Jean**	**31.28**	**291**	*e*P	**P**	**11 18 34.9**	**+1.6**
	comp=Z,30nm,1.3s						
SJPF	**Ste Jean**	**31.28**	**291**	*e*P	**P**	**11 18 34.9**	**+1.6**
	comp=Z,60nm,1.3s						
MKAR	**Makanchi Array**	**31.69**	**61**	P	**P**	**11 18 37.3**	**+0.4**
	comp=Z,5.1nm,0.8s,baz=274,slow=6.9,SNR=42						
MKAR				PcP	**PcP**	**11 21 28.1**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=264,slow=4.5,SNR=3.4						
ARCES	**ARCESS Array B**	**31.82**	**350**	P	**P**	**11 18 37.7**	**0.0**
	comp=Z,7.9nm,0.9s,baz=10,slow=8.6,SNR=5.4						
ARCES				LR	LR	11 32 25.9	
	comp=Z,890nm,20.9s,baz=146,slow=38						
SGMF	**Saint Gilles**	**31.99**	**301**	*e*P	**P**	**11 18 39.6**	**+0.2**
	comp=Z,121nm,1.2s						
SGMF	**Saint Gilles**	**31.99**	**301**	*e*P	**P**	**11 18 39.6**	**+0.2**
SGMF				pmax	pmax		
	comp=Z,121nm,1.2s						
SGMF	**Saint Gilles**	**31.99**	**301**	*e*P	**P**	**11 18 39.6**	**+0.2**
	comp=Z,60nm,1.2s						
SGMF	**Saint Gilles**	**31.99**	**301**	*e*P	**P**	**11 18 39.6**	**+0.2**
	comp=Z,121nm,1.2s						
NDI	**New Delhi**	**32.29**	**97**	*e*P	**P**	**11 18 43.0**	**+0.7**
QUIF	**Quistinic**	**32.40**	**301**	*e*P	**P**	**11 18 43.2**	**+0.2**
	comp=Z,180nm,1.6s						
QUIF	**Quistinic**	**32.40**	**301**	*e*P	**P**	**11 18 43.2**	**+0.2**
QUIF				pmax	pmax		
	comp=Z,180nm,1.6s						
QUIF	**Quistinic**	**32.40**	**301**	*e*P	**P**	**11 18 43.2**	**+0.2**
	comp=Z,90nm,1.6s						
QUIF	**Quistinic**	**32.40**	**301**	*e*P	**P**	**11 18 43.2**	**+0.2**
	comp=Z,180nm,1.6s						
ROSF	**Rostrenen**	**32.47**	**301**	*e*P	**P**	**11 18 43.8**	**+0.1**
	comp=Z,84nm,1.2s						
ROSF	**Rostrenen**	**32.47**	**301**	*e*P	**P**	**11 18 43.8**	**+0.1**
ROSF				pmax	pmax		
	comp=Z,84nm,1.2s						
ROSF	**Rostrenen**	**32.47**	**301**	*e*P	**P**	**11 18 43.8**	**+0.1**
	comp=Z,42nm,1.2s						
ROSF	**Rostrenen**	**32.47**	**301**	*e*P	**P**	**11 18 43.8**	**+0.1**
	comp=Z,84nm,1.2s						
NVS	**Novosibirsk**	**33.02**	**47** ⇑	*i* P	**P**	**11 18 48.0**	**-0.4**
NVS				pmax	pmax		
	comp=Z,17nm,1.3s						
NVS				pmax	pmax		
	comp=N,6.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.2s						
EKA	**Eskdalemuir Ar**	**33.17**	**314**	P	**P**	**11 18 50.3**	**+0.6**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
EKA	**Eskdalemuir Ar**	**33.17**	**314**	P	**P**	**11 18 50.3**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=105,slow=9.6,SNR=5.4						
TAM	**Tamanrasset**	**33.45**	**252**	*e*P	**P**	**11 18 53.4**	**+0.8**
TAM				pmax	pmax		
	comp=Z,23nm,1.0s						
TAM	**Tamanrasset**	**33.45**	**252**	*e*P	**P**	**11 18 53.4**	**+0.8**
	comp=Z,23nm,1.0s						
TAM	**Tamanrasset**	**33.45**	**252**	*e*P	**P**	**11 18 53.4**	**+0.8**
	comp=Z,23nm,1.0s						
ZALV	**Zalesovo Beam**	**33.78**	**48**	P	**P**	**11 18 55.0**	**-0.1**
ZALV						11 21 33.3	
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZALV				MLR	MLR		
	comp=Z,635nm,19.8s						
ZALV	**Zalesovo Beam**	**33.78**	**48**	P	**P**	**11 18 55.0**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=260,slow=8.2,SNR=14						
ZALV				PcP	**PcP**	**11 21 33.3**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=11,slow=37,SNR=2.7						
ZALV				LR	LR	11 33 42.7	
	comp=Z,635nm,19.8s,baz=252,slow=38						
ZALV	**Zalesovo Beam**	**33.78**	**48**	P	**P**	**11 18 55.0**	**-0.1**
ESDC	**Sonseca Array**	**33.88**	**286**	P	**P**	**11 18 56.6**	**+0.5**
	comp=Z,10.0nm,1.0s,baz=67,slow=9.0,SNR=23						
PAB	**San Pablo**	**34.20**	**286**	*e*P	**P**	**11 18 59.1**	**+0.1**
PAB	**San Pablo**	**34.20**	**286**	*e*P	**P**	**11 18 59.1**	**+0.1**
PAB	**San Pablo**	**34.20**	**286**	*e*P	**P**	**11 18 59.1**	**+0.1**
WMQ	**Urumqi**	**35.74**	**66**	P	**P**	**11 19 12.8**	**+0.6**
WMQ				sP	**sP**	**11 19 18.9**	**0.0**
WMQ				PP	**PP**	**11 20 33.2**	**-0.1**
WMQ				S	**S**	**11 24 47.3**	**-1.3**
WMQ				SS	**SnSn**	**11 27 06.0**	**-4.5**
WMQ				PMZ			
	comp=Z,16nm,1.0s						
WMQ				PMZ			
	comp=Z,220nm,7.0s						
WMQ				LN			
	comp=Z,500nm,19.0s						
WMQ				LE			
	comp=Z,360nm,21.0s						
WMQ				LZ			
	comp=Z,290nm,17.0s						
MTE	**Manteigas**	**36.40**	**288**	*e*P	**P**	**11 19 19.5**	**+1.6**
	comp=Z,68nm,1.4s						
MTE	**Manteigas**	**36.40**	**288**	*e*P	**P**	**11 19 19.5**	**+1.6**
	comp=Z,68nm,1.4s						
PCBR	**Castelo Branco**	**36.48**	**287**	*e*P	**P**	**11 19 20.4**	**+1.9**
	comp=Z,30nm,1.2s						
PCBR	**Castelo Branco**	**36.48**	**287**	*e*P	**P**	**11 19 20.4**	**+1.9**
	comp=Z,30nm,1.2s						
PBAR	**Barrancos**	**36.58**	**284**	*e*P	**P**	**11 19 20.7**	**+1.4**
	comp=Z,54nm,1.4s						
PBAR	**Barrancos**	**36.58**	**284**	*e*P	**P**	**11 19 20.7**	**+1.4**
	comp=Z,54nm,1.4s						
PVIS	**Viseu**	**36.59**	**289**	*e*P	**P**	**11 19 20.0**	**+0.6**
	comp=Z,62nm,1.9s						
PVIS	**Viseu**	**36.59**	**289**	*e*P	**P**	**11 19 20.0**	**+0.6**
	comp=Z,62nm,1.9s						
PESTR	**Estremoz**	**36.81**	**286**	*e*P	**P**	**11 19 22.5**	**+1.2**
	comp=Z,36nm,1.3s						
PESTR	**Estremoz**	**36.81**	**286**	*e*P	**P**	**11 19 22.5**	**+1.2**
	comp=Z,36nm,1.3s						
PVAQ	**Vaqueiros**	**37.32**	**283**	*e*P	**P**	**11 19 26.6**	**+1.0**
	comp=Z,45nm,1.4s						
PVAQ	**Vaqueiros**	**37.32**	**283**	*e*P	**P**	**11 19 26.6**	**+1.0**
	comp=Z,45nm,1.4s						
PBDV	**Barranco-do-Ve**	**37.53**	**283**	*e*P	**P**	**11 19 29.1**	**+1.7**
	comp=Z,40nm,1.4s						
PBDV	**Barranco-do-Ve**	**37.53**	**283**	*e*P	**P**	**11 19 29.1**	**+1.7**
	comp=Z,40nm,1.4s						
DANN	**Dangsing**	**37.54**	**93**	*e*P	**P**	**11 19 29.4**	**+1.5**
	comp=Z,38nm,0.8s						
KOLN	**Koldanda**	**37.69**	**94**	*e*P	**P**	**11 19 29.7**	**+0.6**
	comp=Z,23nm,0.8s						
GKN	**Gorkha**	**38.39**	**93**	*e*P	**P**	**11 19 36.0**	**+1.1**
	comp=Z,72nm,1.1s						
DMN	**Daman**	**38.94**	**93**	*e*P	**P**	**11 19 41.0**	**+1.3**
	comp=Z,71nm,1.1s						
KKN	**Kakani**	**38.99**	**92**	*e*P	**P**	**11 19 40.8**	**+0.7**
HVS	**Khovu-Aksy**	**39.08**	**54**	*d i* P	**P**	**11 19 41.6**	**+1.2**
HVS				pmax	pmax		
	comp=Z,145nm,1.7s						
PKIN	**Phulchoki**	**39.18**	**93**	*e*P	**P**	**11 19 42.6**	**+0.9**
	comp=Z,40nm,1.0s						
PKI	**Pulchoki**	**39.19**	**93**	*e*P	**P**	**11 19 43.0**	**+1.1**
	comp=Z,28nm,0.8s						
GUN	**Gumba**	**39.40**	**92**	*e*P

comp=Z,370nm,18.0s
SONM Songino Array 47.76 56 P P 11 20 52.2 +1.7
SONM 11 22 19.0
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM MLR MLR
comp=Z,633nm,18.8s
SONM Songino Array 47.76 56 P P 11 20 52.2 +1.7
comp=Z,3.2nm,0.8s,baz=281,slow=7.5,SNR=23
SONM PcP PcP 11 22 19.0 -0.4
comp=Z,1.4nm,0.8s,baz=266,slow=3.8,SNR=4.2
SONM LR LR 11 42 35.4
comp=Z,633nm,18.8s,baz=281,slow=38
PALK Pallekele 48.15 120 *eP* **P 11 20 53.5 -0.2**
PALK pmax pmax
comp=Z,48nm,1.1s
PALK Pallekele 48.15 120 *eP* **P 11 20 53.5 -0.2**
comp=Z,48nm,1.1s
PALK Pallekele 48.15 120 *eP* **P 11 20 53.5 -0.2**
comp=Z,48nm,1.1s
ULN Ulaanbaatar 48.17 56*d iP* **P 11 20 55.1 +1.3**
ULN pmax pmax
comp=Z,19nm,0.8s
ULN Ulaanbaatar 48.17 56 *eP* **P 11 20 53.9 +0.1**
comp=Z,18nm,0.8s
ULN Ulaanbaatar 48.17 56 *eP* **P 11 20 53.9 +0.1**
comp=Z,18nm,0.8s
LZH Lanzhou 49.79 72 *eP* **P 11 21 06.7 +0.4**
LZH pP **pP 11 21 10.0 -1.2**
LZH *e*PP **PP 11 23 01.8 +1.0**
LZH *e*S **S 11 28 12.5 -2.8**
LZH *e*SS SS 11 31 40.5 -7.1
LZH PMZ
comp=Z,38nm,1.5s
LZH PMZ
comp=Z,130nm,7.2s
LZH LN
comp=Z,500nm,14.0s
LZH LE
comp=Z,520nm,15.0s
LZH LZ
comp=Z,670nm,17.2s
BOD Bodaibo 50.02 42 *eP* **P 11 21 06.0 -1.5**
BOD pmax pmax
comp=Z,21nm,0.9s
SUMG Summit 50.12 337 *i P* **P 11 21 10.7 +2.2**
SUMG pmax pmax
comp=Z,3.0nm,1.2s
SUMG Summit 50.12 337 *i P* **P 11 21 10.7 +2.2**
comp=Z,2.9nm,1.2s
SUMG Summit 50.12 337 *i P* **P 11 21 10.7 +2.2**
comp=Z,2.9nm,1.2s
DBIC Dimbokro 51.56 244 P **P 11 21 18.8 -0.8**
DBIC pmax pmax
comp=Z,9.0nm,0.7s
DBIC MLR MLR
comp=Z,139nm,19.5s
DBIC Dimbokro 51.56 244 P **P 11 21 18.8 -0.8**
comp=Z,9.1nm,0.7s,baz=24,slow=8.3,SNR=10
DBIC LR LR 11 47 30.0
comp=Z,139nm,19.5s,baz=15,slow=41
DBIC Dimbokro 51.56 244 *eP* **P 11 21 18.6 -1.0**
comp=Z,21nm,1.0s
DBIC Dimbokro 51.56 244 *eP* **P 11 21 18.6 -1.0**
comp=Z,21nm,1.0s
TIC Toumodi 51.69 244 *eP* **P 11 21 19.8 -0.8**
comp=Z,10nm,0.2s
KIC Kosan Boka 51.70 243 *eP* **P 11 21 19.6 -1.1**
comp=Z,58nm,1.2s
CD2 Chengdu 51.93 78 *eP* **P 11 21 22.6 +0.3**
CD2 sP **sP 11 21 31.6 +2.5**
CD2 PP **PP 11 23 24.5 +4.3**
CD2 S **S 11 28 41.9 -2.9**
CD2 sS **sS 11 28 52.7 -0.1**
CD2 SS **SS 11 32 17.6 -3.9**
CD2 PMZ
comp=Z,20nm,0.9s
CD2 PMZ
comp=Z,190nm,11.4s
CD2 LN
comp=Z,310nm,18.0s
CD2 LE
comp=Z,260nm,16.1s
CD2 LZ
comp=Z,320nm,14.2s
LIC Lamto 51.99 243 *eP* **P 11 21 21.5 -1.4**
comp=Z,41nm,0.9s,baz=54
LIC Lamto 51.99 243 *eP* **P 11 21 21.8 -1.1**
comp=Z,58nm,0.9s
LIC Lamto 51.99 243 *eP* **P 11 21 21.5 -1.4**
comp=Z,20nm,0.9s
LIC Lamto 51.99 243 *eP* **P 11 21 21.5 -1.4**
comp=Z,41nm,0.9s
TIXI Tiksi 53.38 23⇑ *eP* **P 11 21 34.5 +2.1**
TIXI pmax pmax
comp=Z,9.0nm,1.7s
TIXI Tiksi 53.38 23 *eP* **P 11 21 32.9 +0.5**
comp=Z,6.6nm,1.0s
TIXI Tiksi 53.38 23 *eP* **P 11 21 32.9 +0.5**
comp=Z,6.6nm,1.0s
HHC Hu-ho-hao-te 53.52 63 *eP* **P 11 21 34.7 +0.7**
HHC pP **pP 11 21 39.2 +0.2**
HHC sP **sP 11 21 41.7 +0.9**
HHC PP **PP 11 23 36.5 +2.1**
HHC S **S 11 29 04.2 -2.2**
HHC SS **SS 11 32 43.2 -3.1**
HHC PMZ
comp=Z,33nm,1.0s
HHC PMZ
comp=Z,310nm,8.6s
HHC LN
comp=Z,280nm,17.3s
HHC LE
comp=Z,410nm,18.5s
HHC LZ
comp=Z,390nm,17.3s
KMI Kunming 53.93 85 P **P 11 21 39.9 +2.5**
KMI PMZ
comp=Z,15nm,0.8s
CHTO Chiang Mai 54.35 94 *eP* **P 11 21 40.4 +0.2**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 54.35 94 P **P 11 21 42.2 +2.0**
comp=Z,40nm,1.0s
CHTO Chiang Mai 54.35 94 *eP* **P 11 21 40.4 +0.2**
comp=Z,4.1nm,0.8s
CHTO Chiang Mai 54.35 94 *eP* **P 11 21 40.4 +0.2**
comp=Z,4.1nm,0.8s
CMMT Chiang Mai 54.35 94 P **P 11 21 42.2 +1.9**
comp=Z,11nm,1.2s
XAN Xi'an 54.43 72 P **P 11 21 41.4 +0.7**
XAN pP **pP 11 21 47.5 +1.9**
XAN PMZ
comp=Z,6.0nm,0.9s
XAN LN
comp=Z,260nm,17.3s
XAN LE
comp=Z,93nm,15.3s
XAN LZ
comp=Z,94nm,16.3s
CMAR Chiang Mai Arr 54.55 94 P **P 11 21 42.0 +0.3**
comp=Z,7.2nm,1.0s,baz=295,slow=8.2,SNR=23
CMAR LR LR 11 52 03.1
comp=Z,113nm,18.6s,baz=284,slow=44
LSZ Lusaka 54.88 194 *eP* **P 11 21 45.0 +0.9**
LSZ pmax pmax
comp=Z,30nm,1.4s
LSZ Lusaka 54.88 194 *eP* **P 11 21 45.0 +0.9**
comp=Z,30nm,1.4s
LSZ Lusaka 54.88 194 *eP* **P 11 21 45.0 +0.9**
comp=Z,30nm,1.4s
SUKH Sukhothai 55.64 95 P **P 11 21 50.9 +1.3**
comp=Z,4.7nm,0.9s,comp=Z,56nm
HIA Hailar 55.74 51*ceP* **P 11 21 51.7 +1.8**
HIA pmax pmax
comp=Z,17nm,1.0s
HIA Hailar 55.74 51 *eP* **P 11 21 51.1 +1.2**
comp=Z,28nm,1.1s
HIA Hailar 55.74 51 *eP* **P 11 21 51.1 +1.2**
comp=Z,28nm,1.1s
UTTA Uttaradit 56.21 94 P **P 11 21 54.8 +1.1**
comp=Z,2.6nm,1.0s
GYA Guiyang 56.30 81 *eP* **P 11 21 56.5 +2.1**
GYA PP **PP 11 24 02.7 +3.0**
GYA ScP **ScP 11 26 52.0 +1.6**
GYA S **S 11 29 43.5 -0.6**
GYA SS **SS 11 33 30.4 -0.3**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,90nm,5.2s
GYA LN
comp=Z,420nm,18.6s
GYA LE
comp=Z,450nm,19.0s
GYA LZ
comp=Z,390nm,18.6s
YAK Yakutsk 56.47 34 *eP* P 11 21 58.6 +3.7
YAK pmax pmax
comp=Z,11nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK MLR MLR
comp=Z,335nm,18.0s
YAK MLR MLR
comp=E,227nm,21.0s
ENH Enshi 56.59 76 *eP* **P 11 21 57.3 +1.0**
comp=E,12nm,0.9s
ENH Enshi 56.59 76 *eP* **P 11 21 57.4 +1.0**
comp=E,12nm,0.9s
UTHA Uthaitani 56.62 97 P **P 11 21 57.9 +1.3**
comp=E,3.7nm,1.1s
SLVN Son La 56.83 88 *eP* **P 11 21 58.1 0.0**
SLVN Son La 56.83 88 *eP* **P 11 21 58.1 0.0**
BJI Beijing 57.06 63 P **P 11 22 01.4 +2.0**
BJI S S 11 30 02.5 +9.0
BJI PMZ
comp=E,14nm,1.0s
BJI PMZ
comp=E,100nm,5.0s
BJI LN
comp=E,620nm,19.5s
BJI LE
comp=E,340nm,16.0s
BJI LZ
comp=E,200nm,43.0s
PBKT Sadao Pong 57.21 95 P **P 11 22 01.3 +0.5**
comp=E,12nm,1.0s,comp=E,2μm
WHN Wuhan 60.12 73 P **P 11 22 21.6 +0.7**
TSUM Tsumeb 61.39 204 *eP* **P 11 22 29.5 -0.1**
comp=E,5.4nm,1.1s
TSUM Tsumeb 61.39 204 *eP* **P 11 22 29.5 -0.1**
comp=E,5.4nm,1.1s
MSNA Messina 61.50 191 *eP* **P 11 22 30.4 +0.2**
MSNA AMB AMB 11 23 02.4
comp=Z,21nm,4.1s
MSNA Messina 61.50 191 P **P 11 22 30.4 +0.2**
comp=Z,21nm,4.1s
MSNA Messina 61.50 191 P **P 11 22 30.4 +0.2**
comp=Z,21nm,4.1s
CN2 Changchun 61.59 55 *eP* **P 11 22 29.3 -1.4**
MOPA Mopani 62.47 189 *eP* **P 11 22 35.9 -0.8**
MOPA AMB AMB 11 22 43.9
comp=Z,24nm,2.5s
MOPA Mopani 62.47 189 P **P 11 22 35.9 -0.8**
comp=Z,24nm,2.5s
MOPA Mopani 62.47 189 P **P 11 22 35.9 -0.8**
comp=Z,24nm,2.5s
KLR Kul'dur 62.88 47 *eP* P 11 22 35.2 -4.1
RES Resolute Bay 63.00 348 *eP* P 11 22 43.5 +3.9
RES pmax pmax
comp=Z,3.0nm,1.0s
RES Resolute Bay 63.00 348 *eP* P 11 22 43.5 +3.9
comp=Z,2.9nm,1.0s
WIN Windhoek 64.69 204 *eP* **P 11 22 50.8 -0.8**
WIN Windhoek 64.69 204 P **P 11 22 50.8 -0.8**
WIN Windhoek 64.69 204 P **P 11 22 50.8 -0.8**
WIN Windhoek 64.69 204 P **P 11 22 50.8 -0.8**
IPM Ipoh 64.72 105 *eP* **P 11 22 48.9 -3.0**
comp=Z,11nm,1.0s
IPM Ipoh 64.72 105 *eP* **P 11 22 48.9 -3.0**
comp=Z,11nm,1.0s
LBTB Lobatse 64.87 195 *eP* **P 11 22 52.3 -0.3**
LBTB AMB AMB 11 23 02.7
comp=Z,30nm,3.0s
LBTB Lobatse 64.87 195 P **P 11 22 52.3 -0.3**
LBTB pmax pmax
comp=Z,30nm,3.0s
LBTB Lobatse 64.87 195 P **P 11 22 52.3 -0.3**
comp=Z,30nm,3.0s
LBTB Lobatse 64.87 195 P **P 11 22 52.3 -0.3**
comp=Z,30nm,3.0s
SEY Seymchan 65.25 28 P **P 11 22 55.2 +0.6**
SEY pmax pmax
comp=Z,6.0nm,0.8s
SEY Seymchan 65.25 28 P **P 11 22 55.2 +0.6**
comp=Z,5.7nm,0.8s,baz=296,slow=4.9,SNR=16
KSR Koster 65.44 193 *eP* P 11 22 52.0 -4.3
KSR AMB AMB 11 22 58.8
comp=Z,14nm,1.3s
KSR Koster 65.44 193 P P 11 22 52.0 -4.3
comp=Z,14nm,1.3s
USRK Ussuriysk Ar. 65.52 52 P **P 11 22 57.7 +1.1**
comp=Z,2.7nm,0.9s,baz=225,slow=2.4,SNR=4.4
USRK LR LR 11 54 09.5
comp=Z,270nm,18.6s,baz=303,slow=38
BILL Bilibino 66.18 19 *eP* **P 11 23 01.7 +1.2**
BILL pmax pmax
comp=Z,12nm,1.1s
BILL Bilibino 66.18 19 *eP* **P 11 23 01.7 +1.2**
comp=Z,12nm,1.1s
BILL Bilibino 66.18 19 *eP* **P 11 23 01.7 +1.2**
comp=Z,12nm,1.1s
KSAR Wonju Array Be 66.34 60 P **P 11 23 03.3 +1.2**
KSAR Wonju Array Be 66.34 60 P **P 11 23 03.2 +1.2**
KSAR Wonju Array Be 66.34 60 P **P 11 23 03.2 +1.2**
KSRS Korea Array 66.36 60 P **P 11 23 03.2 +1.1**
comp=Z,9.6nm,0.9s,baz=292,slow=5.8,SNR=16
KSRS LR LR 11 53 06.4
comp=Z,104nm,20.7s,baz=312,slow=37
SWZ Schweizer 67.03 194 *eP* P 11 23 03.2 -3.3
SWZ AMB AMB 11 24 05.9
comp=Z,45nm,4.0s
SWZ Schweizer 67.03 194 P P 11 23 03.2 -3.3
comp=Z,45nm,4.0s
SEK Senekal 67.73 192 *eP* **P 11 23 09.1 -1.8**
SEK AMB AMB 11 23 20.4
comp=Z,37nm,4.3s
SEK Senekal 67.73 192 P **P 11 23 09.1 -1.8**
comp=Z,37nm,4.3s
SEK Senekal 67.73 192 P **P 11 23 09.1 -1.8**
comp=Z,37nm,4.3s
SCHQ Schefferville 67.86 323 P **P 11 23 11.3 -0.2**
comp=Z,3.7nm,0.8s,baz=243,slow=2.1,SNR=4.9
BOSA Boshof 68.43 194 *eP* **P 11 23 13.8 -1.6**
BOSA AMB AMB 11 23 16.5
comp=Z,48nm,4.9s
BOSA Boshof 68.43 194 P **P 11 23 14.7 -0.6**
comp=Z,9.1nm,0.9s,baz=2.9,slow=5.3,SNR=12
BOSA LR LR 11 52 39.0
comp=Z,301nm,19.8s,baz=11,slow=36
UPI Upington 69.05 198 *eP* **P 11 23 17.5 -1.6**
UPI Upington 69.05 198 P **P 11 23 17.5 -1.6**
UPI Upington 69.05 198 P **P 11 23 17.5 -1.6**
YSS Yuzh-Sakhalins 70.33 45 *eP* **P 11 23 28.5 +1.7**
ASAJ Asahikawa 71.92 48 LR LR 12 00 41.2
comp=Z,152nm,19.2s,baz=205,slow=40
MJAR Matsushiro Arr 73.71 56 P **P 11 23 48.3 +1.0**
MJAR pmax pmax
comp=Z,5.0nm,1.1s
MJAR MLR MLR
comp=Z,204nm,20.0s
MJAR Matsushiro Arr 73.71 56 P **P 11 23 48.3 +1.0**
comp=Z,6.3nm,1.1s,baz=304,slow=7.2,SNR=8.2
MJAR LR LR 11 58 45.7
comp=Z,204nm,20.0s,baz=325,slow=38
TNA Tin City 73.76 12 *eP* **P 11 23 46.7 -0.3**
comp=Z,10nm,1.2s
TNA Tin City 73.76 12 *eP* **P 11 23 46.7 -0.3**
comp=Z,10nm,1.2s
PETK Petropavlovsk- 73.81 34 LR LR 12 01 04.6
comp=Z,172nm,19.0s,baz=311,slow=40
COLD Coldfoot 74.06 4 *eP* **P 11 23 49.3 +0.5**
comp=Z,11nm,0.9s
COLD Coldfoot 74.06 4 *eP* **P 11 23 49.3 +0.5**
comp=Z,11nm,0.9s
FCC Fort Churchill 75.64 337 *eP* **P 11 23 58.4 +0.4**
FCC Fort Churchill 75.64 337 *eP* **P 11 23 58.4 +0.4**
comp=Z,0.3nm,1.1s
FCC Fort Churchill 75.64 337 *eP* **P 11 23 58.4 +0.4**
comp=Z,0.3nm,1.1s
COLA College 76.52 3*ceP* **P 11 24 04.7 +1.7**
COLA pmax pmax
comp=Z,65nm,1.2s
COLA College 76.52 3 *eP* **P 11 24 03.8 +0.8**
comp=Z,13nm,1.0s
COLA College 76.52 3 *eP* **P 11 24 03.8 +0.8**
comp=Z,13nm,1.0s
ILAR Eielson Array 76.67 3 LR LR 11 59 54.8
comp=Z,66nm,21.8s,baz=44,slow=37
YKA Yellowknife Ar 77.06 348 P **P 11 24 06.1 0.0**
YKA pmax pmax
comp=Z,5.0nm,0.9s
YKA Yellowknife Ar 77.06 348 P **P 11 24 06.1 0.0**
comp=Z,5.2nm,0.9s,baz=22,slow=5.8,SNR=30
KTH Kantishna Hill 77.66 5 *eP* **P 11 24 10.3 +0.7**
comp=Z,11nm,1.0s
KTH Kantishna Hill 77.66 5 *eP* **P 11 24 10.3 +0.7**
comp=Z,11nm,1.0s
MENT Mentasta 78.61 2 *eP* **P 11 24 15.4 +0.6**
MENT Mentasta 78.61 2 *eP* **P 11 24 15.4 +0.6**
FX1 Attu Island--F 80.08 27 LR LR 12 05 04.9
comp=Z,140nm,18.2s,baz=328,slow=40
RCBR Riachuelo 82.79 257 LR LR 12 04 09.5
comp=Z,172nm,18.3s,baz=41,slow=38
ULM Lac du Bonnet 83.28 333 P **P 11 24 41.3 +1.4**
ULM pmax pmax
comp=Z,4.0nm,1.0s
ULM MLR MLR
comp=Z,137nm,19.1s
ULM Lac du Bonnet 83.28 333 P **P 11 24 41.2 +1.4**
comp=Z,4.1nm,1.0s,baz=41,slow=4.2,SNR=5.1
ULM LR LR 12 02 50.6
comp=Z,137nm,19.1s,baz=45,slow=36
JSRW J. Sargeant Re 84.91 315 *eP* **P 11 24 48.0 -0.4**
JSRW J. Sargeant Re 84.91 315 *eP* **P 11 24 48.0 -0.4**
A30A Hoffart Farm, 85.23 334 P **P 11 24 49.6 -0.2**
baz=85
A29A Manning Farm, 85.56 334 P **P 11 24 51.5 +0.1**
baz=85
B30A Myrvik Farm, E 85.65 334 P **P 11 24 52.3 +0.3**
baz=85
A28A Rude Farm, Bot 85.92 335 P **P 11 24 53.8 +0.6**
baz=86
B29A Wagenman Farm, 85.99 334 P **P 11 24 53.8 +0.1**
baz=86
SPMN Marine on St. 86.28 329 *eP* **P 11 24 55.7 +0.6**
comp=Z,9.0nm,1.1s
SPMN Marine on St. 86.28 329 *eP* **P 11 24 55.7 +0.6**
comp=Z,9.0nm,1.1s
B28A Dugan Ranch, T 86.34 335 P **P 11 24 53.7 -1.6**
baz=86
C30A Mose, Pekin 86.35 333 P **P 11 24 55.5 +0.1**
baz=86
A26A Wade Farm, Ken 86.50 336 P **P 11 24 57.2 +1.0**
baz=86
D30A Buchanan 86.95 333 P **P 11 24 58.0 -0.3**
baz=87
B26A Jensen Ranch, 87.02 336 P **P 11 24 57.5 -1.2**
baz=87
D29A Pettibone, Tap 87.29 334 P **P 11 24 57.8 -2.2**
baz=87
E30A Jud 87.53 333 P **P 11 25 01.2 0.0**
baz=87
A22A Carney Farms, 87.59 338 P **P 11 25 01.2 -0.3**
baz=87
F30A Leola 88.14 333 P **P 11 25 05.7 +1.6**
baz=88
A20A Cobblestone Ra 88.25 340 P **P 11 25 06.1 +1.5**
baz=88
A19A Klindworth Far 88.43 340 P **P 11 25 07.4 +1.9**
baz=88
C23A Lambert 88.44 337 P **P 11 25 07.3 +1.7**
baz=88
B20A Solberg Farm, 88.68 339 P **P 11 25 08.1 +1.4**
baz=88
C22A Vida 88.70 338 P **P 11 25 08.4 +1.7**
baz=88
F28A McLaughlin 88.75 334 P **P 11 25 08.1 +1.1**
baz=88
B19A Brinkman Farms 88.92 340 P **P 11 25 09.7 +1.9**
baz=89
ECSD EROS Data Cent 89.03 330 P **P 11 25 09.4 +1.0**
baz=89
F26A Lodgepole 89.38 335 P **P 11 25 11.8 +1.8**
baz=89
G28A Parade 89.47 334 P **P 11 25 10.2 -0.2**
baz=89
D21A La Casta Ranch 89.64 338 P **P 11 25 12.8 +1.6**
baz=89
G26A Maurine 89.85 335 P **P 11 25 12.6 +0.4**
baz=90
H28A Mission Ridge 89.85 333 P **P 11 25 11.6 -0.6**
baz=90
E22A Miles City 89.90 337 P **P 11 25 12.0 -0.4**
baz=90
D19A Cripps Ranch, 90.08 339 P **P 11 25 14.0 +0.7**
baz=90
G25A Newell 90.21 335 P **P 11 25 14.0 +0.1**
baz=90
F23A Volborg 90.38 337 P **P 11 25 14.4 -0.2**
baz=90
E19A Rath Farm, Rou 90.70 339 P **P 11 25 16.4 +0.2**
baz=90
YBMT Yellow Bay 90.73 343 *eP* **P 11 25 16.9 +0.5**
comp=Z,4.2nm,1.1s
YBMT Yellow Bay 90.73 343 *eP* **P 11 25 16.9 +0.5**
comp=Z,4.3nm,1.1s
H25A Fruitdale 90.78 335 P **P 11 25 16.6 0.0**
baz=90
BSMT Bassoo Peak 90.92 343 *eP* **P 11 25 17.9 +0.6**
comp=Z,3.6nm,1.1s
BSMT Bassoo Peak 90.92 343 *eP* **P 11 25 17.9 +0.6**
comp=Z,3.6nm,1.1s
NEW Newport 91.03 345 P **P 11 25 18.4 +0.8**
baz=91
SWMT Swartz Lake 91.06 343 *eP* **P 11 25 17.7 -0.2**
comp=Z,4.2nm,1.1s
SWMT Swartz Lake 91.06 343 *eP* **P 11 25 17.7 -0.2**
comp=Z,4.3nm,1.1s
SLMT Seeley Lake 91.19 342 *eP* **P 11 25 18.6 0.0**
comp=Z,9.9nm,1.2s
SLMT Seeley Lake 91.19 342 *eP* **P 11 25 18.6 0.0**
comp=Z,9.9nm,1.2s
PDAR Pinedale Array 94.31 338 LR LR 12 10 09.2
comp=Z,183nm,18.6s,baz=36,slow=37
PLCA Paso Flores 127.92 244 PKIKP **PKPdf 11 31 20.1 +1.1**
PLCA pmax pmax
comp=Z,7.0nm,1.1s
PLCA Paso Flores 127.92 244 PKP **PKPdf 11 31 20.1 +1.1**
comp=Z,6.8nm,1.1s,baz=247,slow=1.0,SNR=5.3
URZ Urewera 146.59 103 PKP **PKPdf 11 31 51.3 -1.8**
comp=Z,16nm,1.1s,baz=244,slow=3.6,SNR=4.4

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*IDC **08** 11:14:10.8±1.0,36°.65S×73°.32W,h0km,mb3.9/6,*
mb1 4.0/9,mb1mx3.9/30,mbtmp3.9/9,ML3.9/3,Error
ellipse: s-maj=27.2km s-min=16.1km az=95.0
*ISCJB **08** 11:14:14.0±1.0,36°.75S±0°.09×73°.2W±0°.2,h35km,mb4.0/5,*
Error ellipse: s-maj=21.6km s-min=10.2km az=20.7
ISC 08 11:14:15.8±1.0,36°.76S±0°.10×73°.2W±0°.2,h35km,n11,
σ1°38/12,mb4.1/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.49**	**153**	Pn	**Pn**		**11 15 19.9**	**-1.4**
1.0nm,0.3s,baz=32,slow=18,SNR=3.9								
PLCA				Lg	Lg		11 16 37.6	
3.2nm,0.3s,baz=50,slow=21,SNR=4.2								
CFAA	**Coronel Fontan**	**6.59**	**40**	Pn	**Pn**		**11 15 48.8**	**-1.5**
1.0nm,0.3s,baz=208,slow=11,SNR=28								
CFAA				Sn	**Sn**		**11 17 06.6**	**+2.3**
0.2nm,0.3s,baz=206,slow=16,SNR=2.5								
CFAA				Lg	Lg		11 17 39.9	
baz=144,slow=8.2,SNR=3.5								
CPUP	**Villa Florida**	**17.05**	**57**	P	**Pn**		**11 18 11.1**	**-0.4**
0.3nm,0.3s,baz=249,slow=11,SNR=3.5								
LPAZ	**La Paz**	**20.89**	**14**	P	**P**		**11 18 55.4**	**-0.2**
1.1nm,0.6s,baz=179,slow=6.0,SNR=6.3								
SIV	**San Ignacio**	**23.33**	**31**	P	**P**		**11 19 19.7**	**-1.2**
3.4nm,0.8s,baz=218,slow=8.6,SNR=7.4								
QSPA	**South Pole Qui**	**53.48**	**180**	P	**P**		**11 23 34.4**	**+2.1**
1.8nm,0.8s,baz=80,slow=1.7,SNR=6.8								
TXAR	**Lajitas Array**	**71.69**	**332**	P	**P**		**11 25 33.4**	**-0.7**
0.3nm,0.6s,baz=156,slow=9.8,SNR=6.0								
DBIC	**Dimbokro**	**76.98**	**71**	P	**P**		**11 26 06.2**	**+1.1**

3.7nm,0.6s,baz=219,slow=5.3,SNR=4.6
TORD Torodi Ar. Bea 86.05 71 P **P 11 26 53.2 +0.1**
0.9nm,0.6s,baz=220,slow=4.7,SNR=7.0
MKAR Makanchi Array 159.25 53 PKPab **PKPab 11 34 47.5 +0.1**
0.4nm,0.7s,baz=296,slow=4.4,SNR=5.2
SONM Songino Array 168.93 1 PKPab **PKPab 11 35 29.7 -0.1**
0.2nm,0.4s,baz=316,slow=4.0,SNR=4.1

WEL 08 11:15:49.1±0.1, 38°.54S×177°.85E, h39km±2km, ML3.5/3, 2C-6D, Error ellipse: s-maj=1.5km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIGZ	**Rimuhau**	**0.18**	**203**	⇓P	Pn	11 15 55.6	-2.3
RIGZ				SN	Sn	11 16 01.3	-4.4
CNGZ	**Carnagh Statio**	**0.28**	**80**	⇑PN	Pn	11 15 57.3	0.0
MWZ	**Matawai**	**0.33**	**308**	PN	Pn	11 15 56.8	-0.8
MWZ				SN	Sn	11 16 03.1	-1.0
MWZ				AML	AML	11 16 03.2	
MWZ				AML	AML	11 16 03.2	
MWZ				AML	AML	11 16 03.3	
RAGZ	**Rawiri**	**0.35**	**276**	PN	Pn	11 15 57.4	-0.5
RAGZ				SN	Sn	11 16 04.1	-0.4
TWGZ	**Tauwhareparae**	**0.37**	**16**	⇓PN	Pn	11 15 58.1	0.0
PRGZ	**Paritu Road**	**0.39**	**177**	*e*PN	Pn	11 15 58.1	-0.2
SNGZ	**Shannon Statio**	**0.47**	**238**	⇓PN	Pn	11 15 59.3	-0.1
KNZ	**Kokohu**	**0.51**	**196**	⇓PN	Pn	11 15 59.4	-0.5
PUZ	**Puketiti**	**0.56**	**35**	PN	Pn	11 16 00.4	-0.3
PUZ				AML	AML	11 16 11.0	
PUZ				AML	AML	11 16 11.5	
MHGZ	**Mahia Peninsul**	**0.62**	**176**	PN	Pn	11 16 01.5	-0.1
URZ	**Urewera**	**0.65**	**295**	PN	Pn	11 16 01.4	-0.4
URZ				AML	AML	11 16 11.7	
URZ				AML	AML	11 16 14.8	
RAHZ	**Arahi**	**0.71**	**237**	PN	Pn	11 16 02.6	-0.2
WHHZ	**Waihua**	**0.73**	**222**	PN	Pn	11 16 02.8	-0.1
HAZ	**Te Kaha**	**0.78**	**356**	PN	Pn	11 16 02.8	-0.8
WMGZ	**Waiomatatini S**	**0.84**	**32**	⇓PN	Pn	11 16 04.3	-0.2
EDRZ	**Edgecumbe**	**0.98**	**296**	PN	Pn	11 16 06.9	+0.5
NMHZ	**Naumai**	**0.99**	**235**	PN	Pn	11 16 06.5	-0.2
MXZ	**Matakaoa Point**	**1.03**	**20**	⇓PN	Pn	11 16 07.1	+0.1
RRRZ	**Republican Roa**	**1.07**	**280**	PN	Pn	11 16 07.9	+0.3
TARZ	**Mount Tarawera**	**1.10**	**285**	PN	Pn	11 16 08.7	+0.5
ALRZ	**Allen Road**	**1.19**	**268**	PN	Pn	11 16 09.8	+0.6
OPRZ	**Ohinepanea**	**1.23**	**303**	⇑PN	Pn	11 16 09.5	-0.3
BKZ	**Black Stump Fm**	**1.24**	**239**	PN	Pn	11 16 09.8	-0.2
MCHZ	**McNeill Hill**	**1.28**	**224**	PN	Pn	11 16 10.4	-0.1
KAHZ	**Kahuranaki**	**1.47**	**211**	PN	Pn	11 16 12.2	-1.0
KRHZ	**Kereru**	**1.60**	**226**	*e*PN	Pn	11 16 14.0	-0.9
BHHZ	**Black Hill Sta**	**1.69**	**235**	PN	Pn	11 16 15.8	-0.5
PNHZ	**Pukenui**	**1.88**	**222**	PN	Pn	11 16 17.9	-1.0
ANWZ	**Angora Road**	**2.20**	**209**	PN	Pn	11 16 21.3	-1.8
MRZ	**Mangatainoka R**	**2.76**	**219**	PN	Pn	11 16 28.1	-2.7

MAN 08 11:16:41, 10°.48N×123°.22E, h20km, mb4.3, ML3.1, MS2.9, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.64**	**283**	*e*P	Pn	11 16 54.7	-0.2
GUIM				*e*S	Sn	11 17 05.7	+1.1
LLP	**Lapu-Lapu**	**0.75**	**103**	*e*P	Pb	11 16 55.5	+0.1
LLP				*e*S	Sn	11 17 08.3	+1.0
MSLP	**Maasin**	**1.65**	**102**	*e*P	Pn	11 17 09.5	+0.7
MSLP				*e*S	Sb	11 17 32.8	+1.7

*IDC **08** 11:16:51.6±3.3, 37°.48N×35°.64E, h0km, mb4.0/3, mb1 3.9/5, mb1mx3.5/44, mbtmp3.8/5, ML3.7/2, Error ellipse: s-maj=65.4km s-min=27.0km az=96.0*
*ISK **08** 11:16:52.5, 37°.54N×35°.56E, h5km, ML4.0*
*DDA **08** 11:16:53.9, 37°.33N×35°.64E, h12km, MD3.7*
*CSEM **08** 11:16:54.2±0.1, 37°.52N×35°.57E, h2km, ML4.0, Error ellipse: s-maj=4.0km s-min=3.7km az=141.0*
ISC 08 11:16:54.1±0.9, 37°.51N±0°.02×35°.58E±0°.02, h12km±7km, n96, σ1°.45/112, mb3.8/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.20**	**97**	*e*PG	**Pg**	**11 16 57.8**	**-0.7**
KOZT				*e*SG	**Sg**	**11 17 01.8**	**+0.2**
KOZT	**Kozan**	**0.20**	**97**	*e*Pg	**Pg**	**11 16 57.8**	**-0.7**
KOZT				*e*Sg	**Sg**	**11 17 01.8**	**+0.2**
KARA	**Karaisali**	**0.48**	**240**	*e*PG	**Pg**	**11 17 02.9**	**-0.7**
KARA	**Karaisali**	**0.48**	**240**	*e*Pg	**Pg**	**11 17 02.9**	**-0.7**
CEYT	**Ceyhan**	**0.52**	**164**	*e*PG	**Pg**	**11 17 04.3**	**+0.1**
CEYT				*e*SG	**Sb**	**11 17 12.9**	**+0.5**
CEYT	**Ceyhan**	**0.52**	**164**	*e*Pg	**Pg**	**11 17 04.3**	**+0.1**
CEYT				*e*Sg	**Sb**	**11 17 12.9**	**+0.5**
NIG	**Nigde**	**0.97**	**308**	*e*PG	**Pg**	**11 17 11.8**	**-1.2**
NIG	**Nigde**	**0.97**	**308**	*e*Pg	**Pg**	**11 17 11.8**	**-1.2**
KMRS	**Kahramanmaras**	**1.05**	**90**	*e*PG	**Pg**	**11 17 13.9**	**-0.5**
KMRS	**Kahramanmaras**	**1.05**	**90**	*e*Pg	**Pg**	**11 17 13.9**	**-0.5**
MERS	**Mersin**	**1.06**	**233**	*e*PG	**Pg**	**11 17 13.5**	**-1.0**
MERS	**Mersin**	**1.06**	**233**	*e*Pg	**Pg**	**11 17 13.5**	**-1.0**
BNN	**Bunyan**	**1.36**	**9**	*e*PN	**Pn**	**11 17 18.2**	**-0.8**
BNN	**Bunyan**	**1.36**	**9**	*e*Pn	**Pn**	**11 17 18.2**	**-0.8**
KUZU	**Kuzuini**	**1.40**	**121**	*i* P	**Pn**	**11 17 18.9**	**-0.6**
KUZU				*i* S	**Sn**	**11 17 35.5**	**-2.4**
KUZU	**Kuzuini**	**1.40**	**121**	*i* P	**Pn**	**11 17 18.9**	**-0.6**
KUZU				*i* S	**Sn**	**11 17 35.5**	**-2.4**
KIZK	**Mersin**	**1.54**	**229**	*i* P	**Pn**	**11 17 21.4**	**+0.1**
KIZK				*i* S	**Sb**	**11 17 42.3**	**+0.4**
KIZK	**Mersin**	**1.54**	**229**	*i* P	**Pn**	**11 17 21.4**	**+0.1**
KIZK				*i* S	**Sb**	**11 17 42.3**	**+0.4**
SULT	**Sultanhani-AKS**	**1.77**	**294**	*e*PN	**Pn**	**11 17 25.2**	**+0.6**
SULT	**Sultanhani-AKS**	**1.77**	**294**	*e*Pn	**Pn**	**11 17 25.2**	**+0.6**
DARE	**Darende-Malaty**	**1.84**	**54**	*e*PN	**Pn**	**11 17 26.4**	**+0.8**
DARE	**Darende-Malaty**	**1.84**	**54**	*e*Pn	**Pn**	**11 17 26.4**	**+0.8**
YOZ	**Yozgat**	**2.14**	**355**	*e*PN	**Pn**	**11 17 30.2**	**+0.5**
YOZ	**Yozgat**	**2.14**	**355**	*e*Pn	**Pn**	**11 17 30.2**	**+0.5**
EREN	**Erenkoy**	**2.27**	**210**	*e*PN	**Pn**	**11 17 32.8**	**+1.4**
EREN	**Erenkoy**	**2.27**	**210**	*e*Pn	**Pn**	**11 17 32.8**	**+1.4**
ERMK	**Ermenek**	**2.30**	**249**	*i* P	**Pb**	**11 17 35.1**	**-0.5**
ERMK				*i* S	**Sb**	**11 18 06.3**	**+2.3**
ERMK	**Ermenek**	**2.30**	**249**	*i* P	**Pb**	**11 17 35.1**	**-0.5**
ERMK				*i* S	**Sb**	**11 18 06.3**	**+2.3**
CDAG	**Cicekdag**	**2.31**	**336**	*i* P	**Pn**	**11 17 32.6**	**+0.5**
CDAG				*i* S	**Sb**	**11 18 04.8**	**+0.4**
CDAG	**Cicekdag**	**2.31**	**336**	*i* P	**Pn**	**11 17 32.6**	**+0.5**
CDAG				*i* S	**Sb**	**11 18 04.8**	**+0.4**
MALT	**Malatya**	**2.40**	**69**	*e*PN	**Pn**	**11 17 35.0**	**+1.8**
MALT	**Malatya**	**2.40**	**69**	*e*Pn	**Pn**	**11 17 35.0**	**+1.8**
KONT	**Konya--Tatoy**	**2.59**	**281**	*e*PN	**Pn**	**11 17 37.3**	**+1.5**
KONT	**Konya--Tatoy**	**2.59**	**281**	*e*Pn	**Pn**	**11 17 37.3**	**+1.5**
LADK	**Ladik-KONYA**	**2.63**	**286**	*e*PN	**Pn**	**11 17 37.9**	**+1.4**
LADK	**Ladik-KONYA**	**2.63**	**286**	*e*Pn	**Pn**	**11 17 37.9**	**+1.4**
SVSK	**Karacayir**	**2.65**	**24**	*e*PN	**Pn**	**11 17 37.2**	**+0.6**
SVSK	**Karacayir**	**2.65**	**24**	*e*Pn	**Pn**	**11 17 37.2**	**+0.6**
BRTR	**Keskin Array B**	**2.69**	**326**	Pn	**Pn**	**11 17 38.2**	**+1.0**
	10.0nm,0.3s,baz=159,slow=13,SNR=46						
BRTR				Sn	**Sg**	**11 18 21.0**	**+0.6**
	30nm,0.3s,baz=155,slow=32,SNR=10						
AFSR	**Af¨ar-Bala (A**	**2.76**	**315**	*e*PN	**Pn**	**11 17 39.4**	**+1.2**
AFSR	**Af¨ar-Bala (A**	**2.76**	**315**	*e*Pn	**Pn**	**11 17 39.4**	**+1.2**
CORM	**Corum**	**2.77**	**345**	*e*PN	**Pn**	**11 17 39.4**	**+1.0**
CORM	**Corum**	**2.77**	**345**	*e*Pn	**Pn**	**11 17 39.4**	**+1.0**
LFK	**Lefkose**	**2.77**	**217**	*e*PN	**Pn**	**11 17 40.3**	**+2.0**
LFK	**Lefkose**	**2.77**	**217**	*e*Pn	**Pn**	**11 17 40.3**	**+2.0**
BBAL	**Bala**	**2.80**	**317**	*i* P	**Pn**	**11 17 40.1**	**+1.3**
BBAL	**Bala**	**2.80**	**317**	*i* P	**Pn**	**11 17 40.1**	**+1.3**
BBAL				*i* S	**Sg**	**11 18 23.6**	**-0.4**
GAZI	**Gazipasa**	**2.91**	**245**	*i* P	**Pb**	**11 17 44.5**	**-1.3**
GAZI	**Gazipasa**	**2.91**	**245**	*i* P	**Pb**	**11 17 44.5**	**-1.3**
GAZI				*i* S	**Sb**	**11 18 21.9**	**+0.6**
KDHN	**Kadinhani**	**2.91**	**291**	*i* P	**Pn**	**11 17 41.3**	**+0.9**
KDHN	**Kadinhani**	**2.91**	**291**	*i* P	**Pn**	**11 17 41.3**	**+0.9**
AKDN	**Akdeniz- K¨-br**	**3.05**	**224**	*e*PN	**Pn**	**11 17 44.4**	**+2.3**
AKDN	**Akdeniz- K¨-br**	**3.05**	**224**	*e*Pn	**Pn**	**11 17 44.4**	**+2.3**
ILIC	**ilic-Erzincan**	**3.05**	**49**	*e*PN	**Pn**	**11 17 44.0**	**+1.8**
ILIC	**ilic-Erzincan**	**3.05**	**49**	*e*Pn	**Pn**	**11 17 44.0**	**+1.8**
CSS	**Prodhromos**	**3.12**	**216**	*e*PN	**Pn**	**11 17 45.2**	**+2.1**
CSS	**Prodhromos**	**3.12**	**216**	*e*Pn	**Pn**	**11 17 45.2**	**+2.1**
RSDY	**Resadiye-TOKAT**	**3.19**	**25**	*e*PN	**Pn**	**11 17 45.5**	**+1.4**
RSDY	**Resadiye-TOKAT**	**3.19**	**25**	*e*Pn	**Pn**	**11 17 45.5**	**+1.4**
ANTO	**Ankara**	**3.21**	**318**	*e*PN	**Pn**	**11 17 45.6**	**+1.2**
ANTO	**Ankara**	**3.21**	**318**	*e*Pn	**Pn**	**11 17 45.6**	**+1.2**
KIZT	**Kizilcal**	**3.22**	**296**	*e*PN	**Pn**	**11 17 46.0**	**+1.5**
KIZT	**Kizilcal**	**3.22**	**296**	*e*Pn	**Pn**	**11 17 46.0**	**+1.5**
LEF	**Lefka**	**3.22**	**223**	*e*PN	**Pn**	**11 17 47.3**	**+2.9**
LEF	**Lefka**	**3.22**	**223**	*e*Pn	**Pn**	**11 17 47.3**	**+2.9**
LOD	**Lodumlu**	**3.24**	**318**	*e*PN	**Pn**	**11 17 46.5**	**+1.7**
LOD	**Lodumlu**	**3.24**	**318**	*e*Pn	**Pn**	**11 17 46.5**	**+1.7**
ELDT	**Eldivan**	**3.42**	**331**	*i* P	**Pg**	**11 17 59.4**	**-0.2**
ELDT				*i* S	**Sg**	**11 18 41.7**	**-2.2**
CANT	**Cankiri**	**3.45**	**334**	*e*PN	**Pn**	**11 17 49.4**	**+1.8**
KVT	**Kavak**	**3.59**	**6**	*e*PN	**Pn**	**11 17 50.9**	**+1.4**
KVT	**Kavak**	**3.59**	**6**	*e*Pn	**Pn**	**11 17 50.9**	**+1.4**
EZC	**Erzincan**	**3.71**	**52**	*e*Pn	Pn	11 17 55.5	+4.2
SVRH	**Sivrihisar-ESK**	**3.72**	**303**	*e*PN	**Pn**	**11 17 52.4**	**+0.9**
SVRH	**Sivrihisar-ESK**	**3.72**	**303**	*e*Pn	**Pn**	**11 17 52.4**	**+0.9**
TOS	**Tosya**	**3.73**	**342**	*e*PN	**Pn**	**11 17 51.9**	**+0.4**
TOS	**Tosya**	**3.73**	**342**	*e*Pn	**Pn**	**11 17 51.9**	**+0.4**
ERZN	**Erzincan**	**3.86**	**56**	*e*PN	**Pn**	**11 17 55.5**	**+2.1**
BYBT	**Boyabat**	**4.01**	**351**	*e*PN	**Pn**	**11 17 56.8**	**+1.6**
BYBT	**Boyabat**	**4.01**	**351**	*e*Pn	**Pn**	**11 17 56.8**	**+1.6**
DIKM	**Dikmen**	**4.14**	**357**	*e*PN	**Pn**	**11 17 59.1**	**+1.9**
DIKM	**Dikmen**	**4.14**	**357**	*e*Pn	**Pn**	**11 17 59.1**	**+1.9**
GUMT	**Gumushane**	**4.24**	**45**	*e*PN	**Pn**	**11 18 00.2**	**+1.7**
GUMT	**Gumushane**	**4.24**	**45**	*e*Pn	**Pn**	**11 18 00.2**	**+1.7**
BCAM	**Yenicaga**	**4.29**	**322**	*i* P	**Pb**	**11 18 12.2**	**+2.8**
BCAM				*i* S	**Sg**	**11 19 08.8**	**-2.9**
SAFT	**Safranbolu**	**4.35**	**330**	*e*PN	**Pn**	**11 18 01.2**	**+1.3**
SAFT	**Safranbolu**	**4.35**	**330**	*e*Pn	**Pn**	**11 18 01.2**	**+1.3**
MDUB	**Mudurnu**	**4.52**	**312**	*e*PN	**Pn**	**11 18 04.5**	**+2.2**
MDUB	**Mudurnu**	**4.52**	**312**	*e*Pn	**Pn**	**11 18 04.5**	**+2.2**
BAYT	**Ayd¨-ntepe-Bay**	**4.58**	**50**	*e*PN	**Pn**	**11 18 05.7**	**+2.4**
BAYT	**Ayd¨-ntepe-Bay**	**4.58**	**50**	*e*Pn	**Pn**	**11 18 05.7**	**+2.4**
BZK	**Bozkurt**	**4.61**	**345**	*e*PN	**Pn**	**11 18 05.6**	**+2.1**
BZK	**Bozkurt**	**4.61**	**345**	*e*Pn	**Pn**	**11 18 05.6**	**+2.1**
GERES	**GERESS Array B**	**19.49**	**312**	P	**Pn**	**11 21 22.3**	**+0.1**
	0.1nm,0.3s,baz=111,slow=13,SNR=3.0						
FINES	**FINESS Array B**	**24.69**	**349**	P	**P**	**11 22 14.5**	**-0.1**
	12nm,1.1s,baz=147,slow=13,SNR=5.1						
HFS	**Hagfors**	**26.59**	**335**	P	**P**	**11 22 31.9**	**0.0**
	1.4nm,0.6s,baz=138,slow=15,SNR=4.3						
TORD	**Torodi Ar. Bea**	**38.73**	**240**	P	**P**	**11 24 17.6**	**-0.6**
	0.7nm,0.8s,baz=54,slow=5.9,SNR=5.2						

GUC 08 11:23:06.9±0.3, 35°.89S×72°.93W, h7km±2km, ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.26**	**155**	*i* P	Pg	11 23 11.7	-0.4
COCH				*i* S	Sg	11 23 15.4	-0.3
COCH				IAML		11 23 15.5	
	comp=E,42μm,0.2s						
LNCH	**Linares**	**1.08**	**88**	*e*P	Pg	11 23 25.6	-2.0
LNCH				*i* S	Sg	11 23 40.1	-1.5
LNCH				IAML		11 23 42.3	
	comp=E,4μm,0.3s						
NICH	**Los Niches**	**1.65**	**58**	*i* P	Pn	11 23 34.8	-1.4

GUC 08 11:36:08.2±0.4, 35°.27S×72°.67W, h12km±4km, ML3.5, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.87**	**186**	⇓*i* P	Pg	11 36 23.4	-1.5
COCH				*i* S	Sg	11 36 34.5	-1.7
LNCH	**Linares**	**1.04**	**124**	*i* P	Pb	11 36 26.2	-2.0
LNCH				*i* S	Sb	11 36 39.9	-1.9
NICH	**Los Niches**	**1.21**	**78**	⇑*i* P	Pn	11 36 28.8	-2.1
NICH				*i* S	Sb	11 36 44.3	-2.2
CLCH	**Cerro Calan**	**2.57**	**44**	IAML		11 37 35.6	
	comp=E,226nm,0.4s						
PEL	**Peldehue**	**2.68**	**38**	IAML		11 37 35.2	
	comp=N,272nm,0.4s						
FCH	**Farellones**	**2.76**	**46**	*i* P	Pn	11 36 53.4	+0.7
FCH				*i* S	Sn	11 37 27.5	+1.3
FCH				IAML		11 37 40.7	
	comp=N,154nm,0.2s						

*BJI **08** 11:37:25.5, 17°.97N×146°.72E, h219km, mB4.8/27, mb4.5/29*
*ISCJB **08** 11:37:33.8±0.7, 18°.61N±0°.02×145°.67E±0°.03, h207km±6km, mb4.7/121, Error ellipse: s-maj=4.7km s-min=3.3km az=13.1*
*IDC **08** 11:37:34.0±0.5, 18°.67N×145°.67E, h200km±4km, mb4.1/22, mb1 4.2/25, mb1mx4.1/31, mbtmp4.5/25, Error ellipse: s-maj=12.0km s-min=8.5km az=80.0*
*MOS **08** 11:37:35.6±1.1, 18°.67N×145°.52E, h230km, mb4.6/24, Error ellipse: s-maj=12.6km s-min=6.4km az=100.6*
*NEIC **08** 11:37:36.7±0.8, 18°.64N×145°.72E, h229km±7km, mb4.6/52, Error ellipse: s-maj=7.4km s-min=5.1km az=104.0*
*JMA **08** 11:37:41.6±0.3, 19°.18N×145°.50E, h246km, M4.9*
ISC 08 11:37:35.0±0.4, 18°.65N±0°.04×145°.82E±0°.06, h215km±2km, h215km:pP-P, n318, σ1°.52/365, mb4.7/120, 12C-7D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.11**	**190**	*e*P	**Pn**	**11 38 52.4**	**+1.1**
GUMO	**Guam**	**5.11**	**190**	*e*Pn	**Pn**	**11 38 52.4**	**+1.1**
JHHJ	**Haha-jima-NKT**	**8.62**	**338**	P	**Pn**	**11 39 35.9**	**-0.4**
JHHJ				S	S	11 41 05.5	-8.1
JCJ	**Chichijima**	**9.05**	**339**	P	**Pn**	**11 39 40.1**	**-1.7**
	11nm,0.3s,baz=21,slow=24,SNR=9.5						
JCJ				S	S	11 41 15.3	-8.3
	40nm,0.3s,baz=276,slow=23,SNR=8.5						
CBIJ	**Chichi jima**	**9.05**	**339**	P	**Pn**	**11 39 41.0**	**-0.8**
CBIJ				S	S	11 41 15.2	-8.4
CBIJ	**Chichi jima**	**9.05**	**339**	P	**Pn**	**11 39 40.0**	**-1.7**
CBIJ				S	S	11 41 15.3	-8.3
JIM2	**Oshima 3**	**16.98**	**342**	P	**Pn**	**11 41 19.6**	**-0.7**
TATJ	**Tateyama 2**	**17.15**	**343**	P	**Pn**	**11 41 22.6**	**+0.4**
TATJ				S	**S**	**11 44 24.1**	**-3.7**
JOD2	**Odawara 2**	**17.59**	**341**	P	**P**	**11 41 26.4**	**+1.0**
HMMJ	**Hamamatsu 2**	**17.68**	**338**	P	**P**	**11 41 27.0**	**+0.8**
JKN2	**Miekihoku**	**17.71**	**333**	P	**Pn**	**11 41 28.6**	**-0.2**
JTK	**Tokunoshima**	**17.96**	**304**	P	**Pn**	**11 41 31.2**	**-0.6**
JYN	**Shimob**	**17.98**	**340**	P	**P**	**11 41 30.4**	**+0.8**
JNY	**Yasuok**	**18.08**	**339**	P	**P**	**11 41 31.6**	**+0.9**
JHU	**Hanno**	**18.09**	**343**	P	**P**	**11 41 31.3**	**+0.6**
JHU				S	**S**	**11 44 44.3**	**-2.3**
JOW	**Kunigami**	**18.10**	**300**	P	**Pn**	**11 41 32.7**	**-0.8**
JOW	**Kunigami**	**18.10**	**300**	P	**Pn**	**11 41 33.2**	**-0.3**
	1.0nm,0.3s,baz=126,slow=13,SNR=16						
JOW	**Kunigami**	**18.10**	**300**	*e*P	**Pn**	**11 41 32.6**	**-0.9**
	38nm,0.8s						
JAO	**Obara**	**18.21**	**337**	P	**Pn**	**11 41 34.1**	**-0.6**
JRY	**Ryogami san**	**18.35**	**342**	P	**P**	**11 41 34.4**	**+0.8**
JRY				S	**S**	**11 44 51.0**	**-0.9**
JIH	**Iheya**	**18.43**	**300**	P	**Pn**	**11 41 36.2**	**-1.2**
JNT	**Takato**	**18.45**	**340**	P	**Pn**	**11 41 36.4**	**-1.3**
JHO	**Hitachi**	**18.48**	**347**	P	**Pn**	**11 41 37.4**	**-0.4**
JAG	**Ashikaga**	**18.58**	**344**	P	**Pn**	**11 41 37.6**	**-1.4**
JAG				S	**S**	**11 44 55.6**	**-0.7**
ONAJ	**Iwakimizuishiy**	**18.91**	**348**	P	**Pn**	**11 41 43.9**	**+1.0**
JKT	**Katashina**	**18.95**	**344**	P	**P**	**11 41 40.7**	**+0.5**
JKT				*e*S	**S**	**11 45 04.4**	**+0.5**
JNG	**Nsakai**	**18.95**	**341**	P	**P**	**11 41 40.0**	**-0.2**
JNG				*e*S	**S**	**11 45 01.6**	**-2.3**
MJAR	**Matsushiro Arr**	**19.04**	**341**	P	**P**	**11 41 40.5**	**-0.6**
	1.2nm,0.3s,baz=176,slow=12,SNR=14						
MAJO	**Matsushiro**	**19.05**	**341**	*c i* P	**P**	**11 41 41.2**	**+0.1**
MAJO	**Matsushiro**	**19.05**	**341**	*e*P	**P**	**11 41 42.0**	**+0.9**
	18nm,0.7s						
MAT	**Matsushiro**	**19.05**	**341**	P	**P**	**11 41 40.2**	**-0.9**
MAT				S	**S**	**11 45 04.5**	**-1.1**
JGN	**Niukaw**	**19.05**	**339**	P	**P**	**11 41 41.9**	**+0.7**
JFK	**Kawauchi**	**19.15**	**348**	P	**Pn**	**11 41 46.5**	**+0.8**
JFT	**Otama**	**19.40**	**347**	P	**P**	**11 41 46.7**	**+1.8**
JFT				S	**S**	**11 45 14.3**	**+1.7**
JFY	**Yanaizu**	**19.44**	**345**	P	**P**	**11 41 46.7**	**+1.4**
JHK	**Hiroka**	**19.47**	**344**	P	**P**	**11 41 46.7**	**+1.1**
JHK				*e*S	**S**	**11 45 14.0**	**+0.2**
JMM	**Marumori**	**19.64**	**348**	P	**P**	**11 41 49.5**	**+2.0**
JNU	**Nakatsue**	**19.67**	**320**	P	**P**	**11 41 46.9**	**-1.0**
	0.2nm,0.3s,baz=82,slow=9.0,SNR=1.9						
H11S3	**WAKE ISLAND Hy 19.78**	**87**		T	T	12 03 14.8	
	baz=274,slow=75,SNR=8.4						
H11S1	**WAKE ISLAND Hy 19.80**	**87**		T	T	12 02 57.9	
	baz=274,slow=75,SNR=4.8						
H11S2	**WAKE ISLAND Hy 19.80**	**87**		T	T	12 03 15.6	
	baz=274,slow=75,SNR=5.9						
H11N1	**WAKE ISLAND Hy 19.93**	**84**		T	T	12 03 28.2	
	baz=266,slow=74,SNR=6.1						
H11N2	**WAKE ISLAND Hy 19.94**	**83**		T	T	12 03 47.4	
	baz=266,slow=74,SNR=2.1						
H11N3	**WAKE ISLAND Hy 19.95**	**84**		T	T	12 03 32.9	
	baz=266,slow=74,SNR=4.5						
JIO	**Ouri**	**20.12**	**350**	P	Pn	11 41 55.5	-1.8
JOU	**Okura**	**20.15**	**348**	P	**P**	**11 41 55.4**	**+2.5**
JSD	**Sado**	**20.41**	**343**	P	**P**	**11 41 56.4**	**+0.7**
JMK	**Ichinoseki**	**20.62**	**350**	P	**P**	**11 41 59.2**	**+1.3**
JOM	**Ohasama**	**21.12**	**350**	P	**P**	**11 42 04.4**	**+1.3**
JRG	**Rokugo**	**21.16**	**349**	P	**P**	**11 42 05.2**	**+1.7**
SMPI	**Sarmi**	**21.67**	**200**	P	**P**	**11 42 08.9**	**0.0**
	169nm,1.8s,3μm						
GENI	**Genyem**	**21.83**	**195**	P	**P**	**11 42 09.4**	**-1.0**
	354nm,1.1s,3μm						
BAKI	**Biak**	**21.91**	**207**	P	**P**	**11 42 11.4**	**+0.2**
	251nm,1.5s,2μm						
SRPI	**Serui, Papua**	**22.46**	**206**	P	**P**	**11 42 19.4**	**+3.0**
	461nm,1.1s						
SSLB	**Suanglung**	**23.72**	**287**	*e*P	**P**	**11 42 27.8**	**0.0**
	26nm,0.8s						
CTBH	**Cotabato--PC H**	**23.86**	**244**	⇓*e*P	**P**	**11 42 29.9**	**+0.8**
SWI	**Sorong**	**24.10**	**218**	P	**P**	**11 42 31.8**	**+0.6**
	120nm,1.2s,2μm						
JBT2	**Biratori 2**	**24.23**	**354**	P	**P**	**11 42 34.1**	**+2.0**
KSRS	**Korea Array**	**24.43**	**324**	P	**P**	**11 42 33.2**	**-0.7**
	3.2nm,0.5s,baz=147,slow=9.0,SNR=11						
KSRS				pP	**pP**	**11 43 13.3**	**-1.6**
	20nm,0.8s,baz=149,slow=9.3,SNR=6.5						
KSAR	**Wonju Array Be**	**24.44**	**324**	P	**P**	**11 42 33.2**	**-0.9**
KSAR				*PP	**pP**	**11 43 13.3**	**-1.7**
KSAR	**Wonju Array Be**	**24.44**	**324**	P	**P**	**11 42 33.2**	**-0.9**
KSAR				pP	**pP**	**11 43 13.3**	**-1.7**
JAR	**Ashorobuto**	**24.63**	**356**	P	**P**	**11 42 37.4**	**+1.7**
JNK	**Nakash**	**24.88**	**358**	S	**S**	**11 46 45.1**	**+0.4**
FAKI	**Fak Fak**	**25.25**	**213**	P	**P**	**11 42 40.3**	**-1.4**
	98nm,0.8s,769nm						
FAKI	**Fak Fak**	**25.25**	**213**	*e*P	**P**	**11 42 41.9**	**+0.2**
JKK2	**Kamakawa 2**	**25.28**	**355**	P	**P**	**11 42 43.7**	**+2.1**
JMP	**Maruseppu**	**25.37**	**356**	P	**P**	**11 42 44.4**	**+2.0**
ASAJ	**Asahikawa**	**25.54**	**355**	P	**P**	**11 42 45.7**	**+1.8**
	7.3nm,0.8s,baz=212,slow=7.8,SNR=3.1						
ASAJ	**Asahikawa**	**25.54**	**355**	P	**P**	**11 42 45.7**	**+1.8**
ASAJ				*e*pP	**pP**	**11 43 26.1**	**-0.3**
LBMI	**Labuha**	**26.30**	**225**	P	**P**	**11 42 53.0**	**+2.0**
	80nm,1.1s						
PMG	**Port Moresby**	**27.91**	**177

CD2 sP sP 11 46 04.3 +6.5
CD2 S **S** **11 50 39.2 +2.6**
CD2 PMZ
comp=Z,10.0nm,1.0s
CD2 PMZ
comp=Z,160nm,7.6s
WRAB Tennant Creek 39.96 197 P **P** **11 44 49.0 +0.3**
comp=Z,560nm,0.6s
WRAB Tennant Creek 39.96 197 *d iP* **P** **11 44 49.2 +0.5**
WRAB pmax pmax
comp=Z,366nm,1.7s
WRAB Tennant Creek 39.96 197 *eP* **P** **11 44 48.9 +0.1**
comp=Z,60nm,0.7s
WRA Warramunga Arr 39.97 197 P **P** **11 44 49.6 +0.7**
comp=Z,35nm,0.6s,baz=19,slow=9.0,SNR=153
WRA PcP **PcP** **11 46 50.1 +0.3**
comp=Z,5.8nm,0.6s,baz=18,slow=3.5,SNR=6.0
WRA ScP **ScP** **11 50 18.0 -0.2**
comp=Z,1.7nm,0.9s,baz=15,slow=3.9,SNR=4.9
SRBI Singaraja 40.21 231 P **P** **11 44 51.9 +1.0**
comp=Z,111nm,0.9s,comp=Z,1µm
KMMI Kalianget 40.48 234 P **P** **11 44 55.0 +1.9**
comp=Z,91nm,1.0s
IGBI Denpasar 40.75 231 P **P** **11 44 55.9 +0.6**
comp=Z,272nm,1.1s
LZH Lanzhou 40.77 304 ⇑P **P** **11 44 56.1 +0.6**
LZH pP **pP** **11 45 43.5 +2.6**
LZH sP **sP** **11 46 08.3 +3.0**
LZH PP **PP** **11 46 37.0 +2.8**
LZH S **S** **11 50 50.1 +0.1**
LZH PMZ
comp=Z,35nm,1.2s
LZH PMZ
comp=Z,190nm,5.0s
BLJI Banyuglugur 41.21 233 P **P** **11 45 00.1 +1.0**
comp=Z,142nm,1.0s
JAGI Jajag, Banyuwa 41.26 232 P **P** **11 44 58.9 -0.6**
comp=Z,89nm,1.0s
JAGI Jajag, Banyuwa 41.26 232 *eP* **P** **11 44 57.8 -1.6**
comp=Z,92nm,1.0s
GRJI Gresik 41.55 235 P **P** **11 45 03.4 +1.6**
comp=Z,146nm,1.0s,comp=Z,2µm
GMJI Gumukmas 41.66 233 P **P** **11 45 03.2 +0.5**
comp=Z,52nm,1.0s
PBKT Sadao Pong 42.72 274 P **P** **11 45 12.6 +1.3**
comp=Z,10nm,1.4s
PWJI Pagerwojo 42.76 235 P **P** **11 45 11.1 -0.5**
ULN Ulaanbaatar 42.88 322 *deP* **P** **11 45 12.0 -0.4**
ULN pmax pmax
comp=Z,4.0nm,1.2s
ULN Ulaanbaatar 42.88 322 *eP* **P** **11 45 12.2 -0.2**
comp=Z,36nm,2.3s
SONM Songino Array 43.25 321 P **P** **11 45 14.8 -0.6**
comp=Z,2.1nm,0.6s,baz=136,slow=8.9,SNR=21
SONM pP **pP** **11 45 59.8 -1.4**
comp=Z,3.2nm,0.9s,baz=126,slow=8.9,SNR=3.3
SONM ScP **ScP** **11 50 28.6 -2.5**
comp=Z,2.6nm,1.3s,baz=134,slow=4.3,SNR=5.6
ASAR Alice Springs 43.64 196 P **P** **11 45 18.7 +0.2**
comp=Z,13nm,0.7s,baz=16,slow=6.3,SNR=111
ASAR PcP **PcP** **11 47 03.0 +1.2**
comp=Z,2.7nm,0.7s,baz=8.7,slow=1.8,SNR=5.4
UGM Wanagama 43.69 236 *eP* **P** **11 45 18.4 -0.7**
comp=Z,207nm,1.2s
EIDS Eidsvold 44.05 173 *eP* **P** **11 45 21.8 +0.1**
CMAI Chiengmai2 44.06 280 P **P** **11 45 24.0 +1.8**
comp=Z,5.5nm,0.8s
CHTO Chiang Mai 44.29 278 *ep*P pP 11 46 13.1 +3.2
UTHA Uthaitani 44.34 273 P **P** **11 45 26.6 +2.4**
comp=Z,2.8nm,1.3s
CMAR Chiang Mai Arr 44.34 278 P **P** **11 45 25.1 +0.9**
comp=Z,3.1nm,0.8s,baz=64,slow=7.1,SNR=17
MYKOM Kota Tinggi 44.40 253 *eP* **P** **11 45 25.7 +0.9**
SEY Seymchan 44.48 4 P **P** **11 45 26.5 +1.9**
comp=Z,3.4nm,0.8s,baz=188,slow=6.9,SNR=13
SEY pP **pP** **11 46 07.9 -2.8**
comp=Z,5.8nm,1.0s,baz=34,slow=23,SNR=5.2
SEY ScP **ScP** **11 50 34.3 -1.3**
comp=Z,1.1nm,0.7s,baz=225,slow=3.4,SNR=4.3
GTA Gaotai 44.67 308 *eP* **P** **11 45 27.3 +0.6**
GTA pP **pP** **11 46 10.6 -2.3**
GTA sP **sP** **11 46 34.4 -2.7**
GTA S **S** **11 51 46.8 +0.1**
GTA PMZ
comp=Z,140nm,5.5s
YAK Yakutsk 44.79 349 *eP* **P** **11 45 26.8 -0.3**
YAK *e* 11 47 14.6
YAK *e*PPP PPP 11 47 59.9
YAK *e*S **S** **11 51 52.6 +5.2**
YAK *e* 11 55 02.1
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,186nm,5.2s
YAK pmax pmax
comp=N,136nm,4.9s
YAK pmax pmax
comp=E,87nm,5.3s
YAK smax smax
comp=E,160nm,4.3s
YAK smax smax
comp=N,48nm,3.5s
YAK Yakutsk 44.79 349 *eP* **P** **11 45 27.3 +0.2**
comp=N,28nm,0.8s
YAK *e*pP **pP** **11 46 12.2 -1.1**
DZM Mont Dzumac 45.22 153 *eP* **P** **11 45 32.2 +1.1**
comp=N,101nm,1.0s
CISI Cisompet, Garu 45.64 239 *eP* **P** **11 45 32.4 -2.2**
comp=N,47nm,0.6s
IPM Ipoh 45.93 258 *eP* **P** **11 45 38.1 +1.3**
comp=N,16nm,1.0s
KULM Kulim 45.99 259 *eP* **P** **11 45 38.9 +1.7**
comp=N,42nm,1.2s
TLY Talaya 46.67 325 *eP* **P** **11 45 41.6 -0.4**
TLY pmax pmax
comp=Z,4.0nm,1.0s
TLY Talaya 46.67 325 *eP* **P** **11 45 41.6 -0.4**
comp=Z,4.0nm,1.0s
MBWA Marble Bar 47.10 214 *eP* **P** **11 45 45.1 -0.5**
comp=Z,40nm,1.0s
XMIS Christmas Isla 49.07 237 *eP* **P** **11 45 59.9 -0.9**
GSI Gunungsitoli 50.32 256 *eP* **P** **11 46 10.8 +0.4**
comp=Z,74nm,1.2s
LSA Lhasa 50.67 293 *eP* **P** **11 46 13.8 +0.5**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 50.67 293 *eP* **P** **11 46 13.8 +0.5**
comp=Z,4.5nm,0.6s
BILL Bilibino 51.05 10 *eP* **P** **11 46 16.1 +1.2**
BILL pmax pmax
comp=Z,21nm,1.2s
BILL Bilibino 51.05 10 *eP* **P** **11 46 16.1 +1.2**
comp=Z,21nm,1.2s
BBOO Buckleboo 52.01 190 *eP* **P** **11 46 22.6 +0.1**
comp=Z,424nm,0.8s
FORT Forrest 52.03 199 *eP* **P** **11 46 23.2 +0.6**
comp=Z,142nm,1.5s
GAMB Gambell 53.46 22 *eP* **P** **11 46 34.9 +2.2**
comp=Z,3.4nm,0.7s
TAPN Taplejung 53.79 291 *eP* **P** **11 46 36.1 0.0**
TIXI Tiksi 53.93 353 ⇑*eP* **P** **11 46 36.4 +0.4**
TIXI pmax pmax
comp=Z,11nm,2.5s
TIXI Tiksi 53.93 353 *eP* **P** **11 46 34.9 -1.1**
comp=Z,5.4nm,0.6s
ODAN Odare 54.11 290 *eP* **P** **11 46 37.9 -0.4**
comp=Z,11nm,0.5s
WMQ Urumqi 54.43 311 P **P** **11 46 40.8 +0.6**
WMQ pP **pP** **11 47 30.8 +2.7**
WMQ sP **sP** **11 47 55.1 +3.2**
WMQ PP **PP** **11 48 47.0 +2.4**
WMQ S **S** **11 54 00.5 -1.3**
WMQ ScS **ScS** **11 56 03.5 -3.8**
WMQ PMZ
comp=Z,14nm,1.3s
WMQ PMZ
comp=Z,400nm,6.0s
RAMN Ramite 54.80 290 *eP* **P** **11 46 42.7 -0.6**
JIRN Jiri 55.11 291 *eP* **P** **11 46 45.8 +0.1**
comp=Z,21nm,0.7s
GUN Gumba 55.37 291 *eP* **P** **11 46 47.4 -0.1**
PKI Pulchoki 55.81 291 *eP* **P** **11 46 50.7 +0.1**

PKIN Phulchoki 55.82 291 *eP* **P** **11 46 50.5 -0.1**
TNA Tin City 55.82 21 *eP* **P** **11 46 51.2 +1.6**
comp=Z,4.7nm,0.9s
DMN Daman 56.08 291 *eP* **P** **11 46 52.0 -0.4**
GKN Gorkha 56.46 292 *eP* **P** **11 46 55.4 +0.4**
DANN Dangsing 57.20 292 *eP* **P** **11 47 00.9 +0.5**
comp=Z,37nm,0.7s
KOLN Koldanda 57.39 291 *eP* **P** **11 47 02.1 +0.5**
ZALV Zalesovo Beam 58.12 322 P **P** **11 47 04.7 -1.3**
comp=Z,4.0nm,0.6s,baz=108,slow=6.9,SNR=21
ZALV pP **pP** **11 47 50.3 -4.3**
comp=Z,4.0nm,0.6s,baz=104,slow=7.5,SNR=2.8
ZALV ScP **ScP** **11 51 33.2 -1.4**
comp=Z,0.3nm,0.4s,baz=92,slow=5.2,SNR=3.0
MKAR Makanchi Array 58.58 314 P **P** **11 47 09.1 -0.3**
comp=Z,4.9nm,0.5s,baz=90,slow=8.3,SNR=76
MKAR pP **PcP** **11 47 54.3 -2.9**
comp=Z,4.3nm,0.8s,baz=94,slow=11,SNR=3.8
MKAR ScP **ScP** **11 51 37.0 +0.2**
comp=Z,1.1nm,0.9s,baz=108,slow=4.0,SNR=4.1
NVS Novosibirsk 59.22 323 *eP* **P** **11 47 11.3 -2.2**
NVS *e* 11 47 53.9
NVS pmax pmax
comp=Z,5.0nm,0.8s
KDAK Kodiak Island 59.34 33 *i* P P 11 47 17.5 +3.3
KURK Kurchatov 61.38 318 P **P** **11 47 27.8 -0.4**
comp=Z,31nm,0.5s,SNR=9.0
KURK Kurchatov 61.38 318 *eP* **P** **11 47 26.9 -1.3**
KURK pmax pmax
comp=Z,8.0nm,1.0s
KURK Kurchatov 61.38 318 *eP* **P** **11 47 26.9 -1.3**
comp=Z,7.5nm,1.0s
KTH Kantishna Hill 61.63 27 *eP* **P** **11 47 31.7 +2.0**
comp=Z,21nm,1.3s
KSH Kashi 62.99 305 P **P** **11 47 42.4 +3.1**
KSH pP **pP** **11 48 31.4 +2.7**
KSH sP sP 11 48 57.3 +5.2
KSH S **S** **11 55 51.8 -0.6**
KSH PMZ
comp=Z,5.0nm,0.9s
KSH PMZ
comp=Z,150nm,4.6s
KSH LN
comp=Z,200nm,6.3s
KSH LE
comp=Z,210nm,5.5s
KSH LZ
comp=Z,170nm,6.0s
TKM2 Tokmak 2 63.17 309 *eP* **P** **11 47 40.3 -0.2**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 63.17 309 *eP* **P** **11 47 40.2 -0.2**
comp=Z,6.1nm,0.8s
COLA College 63.26 26⇑*eP* **P** **11 47 42.2 +1.8**
COLA pmax pmax
comp=Z,84nm,2.3s
ILAR Eielson Array 63.64 26 P **P** **11 47 43.5 +0.6**
comp=Z,3.8nm,0.7s,baz=249,slow=6.2,SNR=65
ILAR PcP **PcP** **11 48 17.4 +0.1**
comp=Z,1.6nm,0.7s,baz=265,slow=4.3,SNR=5.2
ILAR pP **pP** **11 48 30.1 -2.2**
comp=Z,1.6nm,0.6s,baz=254,slow=6.1,SNR=2.7
PAX Paxson 63.90 28 *eP* **P** **11 47 46.6 +1.9**
PAX pmax pmax
comp=Z,6.0nm,0.7s
PAX Paxson 63.90 28 *eP* **P** **11 47 46.6 +1.9**
comp=Z,6.3nm,0.7s
AAK Ala-Archa 63.99 309⇑*eP* **P** **11 47 46.0 +0.2**
AAK pmax pmax
comp=Z,14nm,1.7s
AAK Ala-Archa 63.99 309 *eP* **P** **11 47 45.4 -0.4**
comp=Z,2.5nm,0.9s
DOT Dot Lake 64.64 28 *eP* **P** **11 47 51.0 +1.5**
comp=Z,3.4nm,0.6s
EGAK Eagle 66.06 27 *eP* **P** **11 47 60.0 +1.5**
comp=Z,2.5nm,0.4s
RPZ Rata Peaks 66.23 160 *eP* **P** **11 47 58.1 -1.7**
comp=Z,22nm,0.8s
BRVK Borovoye 66.65 320 P **P** **11 48 02.3 -0.1**
comp=Z,121nm,0.9s,SNR=14
BRVK Borovoye 66.65 320⇓*eP* **P** **11 48 02.1 -0.3**
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 66.65 320 *eP* **P** **11 48 01.2 -1.3**
comp=Z,17nm,0.8s
KKAR Karatay Array 66.89 310 *eP* **P** **11 48 03.5 -0.7**
KKAR pmax pmax
comp=Z,26nm,1.0s
KKAR Karatay Array 66.89 310 *eP* **P** **11 48 03.5 -0.7**
comp=Z,26nm,1.0s
HYT Haines Junctio 67.41 31 *eP* **P** **11 48 06.8 -0.5**
ARU Arti 73.17 325 *d iP* **P** **11 48 42.0 0.0**
ARU *PP **pP** **11 49 33.4 +0.5**
ARU 11 51 26.3
ARU S **SKiKP** **11 57 50.8 -0.5**
ARU pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 73.17 325 *eP* **P** **11 48 40.8 -1.2**
comp=Z,13nm,0.8s
ABKAR Akbulak array 73.45 317 *eP* **P** **11 48 42.8 -1.0**
comp=Z,6.9nm,0.4s
GEYT Alibeck 77.02 306 P **P** **11 49 05.0 +0.5**
comp=Z,2.9nm,0.6s,baz=69,slow=4.9,SNR=8.2
YKA Yellowknife Ar 77.98 28 P **P** **11 49 10.6 +1.4**
comp=Z,5.6nm,0.6s,baz=290,slow=5.4,SNR=86
YKA pP **pP** **11 49 56.5 -4.2**
comp=Z,2.1nm,0.6s,baz=290,slow=5.5,SNR=3.4
PRGR Permogore 78.51 331 P **P** **11 49 11.8 -0.3**
PRGR pmax pmax
comp=Z,28nm,0.7s
RES Resolute Bay 79.44 14 *eP* **P** **11 49 15.4 -1.5**
RES pmax pmax
comp=Z,17nm,1.1s
RES Resolute Bay 79.44 14 *eP* **P** **11 49 15.4 -1.5**
comp=Z,17nm,1.1s
J05D Fort Rock, OR 79.54 48 P **P** **11 49 21.1 +2.8**
baz=80
MOD Modoc Plateau 80.58 49 *eP* **P** **11 49 24.7 +0.8**
comp=Z,5.6nm,1.0s
NEW Newport 80.87 42 P **P** **11 49 27.5 +2.3**
baz=81
CMB Columbia Colle 81.64 53 *eP* **P** **11 49 29.7 +0.3**
CMB pmax pmax
comp=Z,4.0nm,0.6s
CMB Columbia Colle 81.64 53 *eP* **P** **11 49 29.7 +0.3**
comp=Z,4.2nm,0.6s
KEV Kevo 82.02 342 *eP* **P** **11 49 29.7 -0.9**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 82.02 342 *ep* **P** **11 49 29.7 -0.9**
comp=Z,1.2nm,0.4s
BSMT Bassoo Peak 82.49 42 *eP* **P** **11 49 34.9 +1.0**
comp=Z,5.5nm,0.8s
ARCES ARCESS Array B 82.58 342 P **P** **11 49 34.1 +0.5**
comp=Z,5.3nm,0.7s,baz=80,slow=8.7,SNR=10
ARCES pP **pP** **11 50 21.6 -4.1**
comp=Z,5.1nm,0.9s,baz=59,slow=5.8,SNR=1.7
JTMT Jette 82.85 42 *eP* **P** **11 49 35.2 -0.4**
comp=Z,2.6nm,1.0s
NVAR Mina Array Bea 83.08 52 P **P** **11 49 39.8 +2.7**
comp=Z,9.5nm,0.7s,baz=266,slow=6.0,SNR=85
NVAR pP **pP** **11 50 27.9 -1.3**
comp=Z,15nm,1.0s,baz=274,slow=5.6,SNR=6.5
MFID Camas Ranch 83.26 47 *eP* **P** **11 49 38.6 +0.8**
comp=Z,7.5nm,0.8s
CHMT Chamberlain Mo 83.79 43 *eP* **P** **11 49 38.4 -2.1**
comp=Z,2.4nm,1.1s
TPH Tonopah 84.00 52 *eP* **P** **11 49 42.8 +1.0**
TPH pmax pmax
comp=Z,7.0nm,0.8s
TPH Tonopah 84.00 52 *eP* **P** **11 49 42.8 +1.0**
comp=Z,6.7nm,0.8s
JOF Joensuu 84.11 335 *eP* **P** **11 49 39.3 -2.2**
JOF pmax pmax
comp=Z,9.0nm,0.5s
JOF Joensuu 84.11 335 *ep* **P** **11 49 39.3 -2.2**
comp=Z,8.9nm,0.5s
HLID Hailey 84.18 46 P **P** **11 49 44.7 +2.2**
baz=84
LRMC Laurel Mtn Rad 84.48 55 P **P** **11 49 46.6 +2.5**
baz=84
FURC Furnace Creek, 84.80 53 P **P** **11 49 48.0 +2.6**
baz=85
R11A Troy Canyon, C 85.13 51 P **P** **11 49 49.7 +2.4**
baz=85
EGMT Eagleton 85.58 41 P **P** **11 49 50.9 +1.7**
baz=86

VSR Storozhevoye 85.63 323 *eP* **P** **11 49 47.4 -1.9**
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,3.0nm,0.8s
VSR pmax pmax
comp=Z,8.0nm,0.8s
VORD Divnogorie 85.66 323 *eP* **P** **11 49 46.8 -2.6**
VORD pmax pmax
comp=N,5.0nm,0.8s
VORD pmax pmax
comp=Z,5.0nm,0.8s
VORD pmax pmax
comp=E,6.0nm,0.7s
A19A Klindworth Far 85.84 40 P **P** **11 49 52.5 +1.9**
baz=86
TUQ Turquoise Moun 85.86 54 P **P** **11 49 53.1 +2.2**
baz=86
B19A Brinkman Farms 85.91 40 P **P** **11 49 52.8 +2.0**
baz=86
SHPR Sheep Range 86.07 53 *eP* **P** **11 49 53.8 +1.8**
comp=E,3.8nm,0.8s
C19A Slack Wire Ran 86.13 41 P **P** **11 49 54.1 +2.1**
baz=86
KBZ Khabaz 86.26 315 P **P** **11 49 53.6 +1.1**
comp=E,2.7nm,0.8s,baz=112,slow=5.3,SNR=6.7
SPUT South Promonto 86.34 48 *eP* **P** **11 49 51.8 -1.4**
comp=E,5.8nm,0.9s
A20A Cobblestone Ra 86.36 39 P **P** **11 49 54.7 +1.7**
baz=86
D19A Cripps Ranch, 86.47 41 P **P** **11 49 55.5 +1.9**
baz=86
B20A Solberg Farm, 86.48 40 P **P** **11 49 55.7 +2.0**
baz=86
DUG Dugway, Tooele 86.49 49 P **P** **11 49 56.0 +2.0**
baz=86
KAF Kangasniemi 86.51 336 *eP* **P** **11 49 51.5 -1.9**
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 86.51 336 *ep* **P** **11 49 51.5 -1.9**
comp=Z,3.1nm,0.6s
C20A Veseth Ranch, 86.79 41 P **P** **11 49 57.4 +2.3**
baz=87
IRM Iron Mountain 86.89 55 P **P** **11 49 57.6 +1.7**
baz=87
ARUT Antelope Range 86.91 51 *eP* **P** **11 49 57.1 +1.1**
ARUT pmax pmax
comp=Z,120nm,0.8s
ARUT Antelope Range 86.91 51 *eP* **P** **11 49 57.1 +1.1**
comp=Z,120nm,0.8s
A21A Bergtoll Ranch 86.91 39 P **P** **11 49 57.6 +1.9**
baz=87
D20A Manuel Ranch, 86.96 41 P **P** **11 49 57.7 +1.7**
baz=87
FINES FINESS Array B 86.98 335 P **P** **11 49 54.2 -1.4**
comp=Z,4.9nm,0.4s,baz=82,slow=4.3,SNR=55
FINES pP pP 11 50 42.7 -5.5
comp=Z,3.1nm,0.8s,baz=89,slow=3.6,SNR=2.6
CCUT Cedar City 87.05 51 *eP* **P** **11 49 59.2 +2.4**
comp=Z,4.2nm,0.8s
FFC Flin Flon 87.07 33 P **P** **11 49 57.0 +0.7**
comp=Z,54nm,0.9s,SNR=5.3
FFC Flin Flon 87.07 33 *eP* **P** **11 49 56.8 +0.5**
FFC pmax pmax
comp=Z,12nm,1.0s
FFC Flin Flon 87.07 33 *eP* **P** **11 49 56.8 +0.5**
comp=Z,12nm,1.0s
A22A Carney Farms, 87.51 39 P **P** **11 49 59.7 +1.2**
baz=87
W13A Hualapai Mount 87.54 54 P **P** **11 50 01.5 +2.4**
baz=88
MVU Marysvale 87.55 50 *eP* **P** **11 49 58.4 -0.8**
comp=Z,3.0nm,0.8s
PDMCI Parker Dam,Lak 87.62 55 P **P** **11 50 01.4 +2.1**
baz=88
D21A La Casta Ranch 87.68 41 P **P** **11 50 01.3 +1.9**
baz=88
PDAR Pinedale Array 87.78 45 P **P** **11 50 01.6 +1.4**
comp=Z,0.6nm,0.3s,baz=223,slow=2.3,SNR=14
PDAR pP **pP** **11 50 48.9 -4.0**
comp=Z,1.3nm,0.7s,baz=255,slow=1.7,SNR=2.1
J19A Crowheart 87.92 45 P **P** **11 50 02.3 +1.5**
baz=88
I20A Worland 88.25 44 P **P** **11 50 03.7 +1.4**
baz=88
U15A North Rim 88.26 52 P **P** **11 50 05.1 +2.5**
baz=88
C23A Lambert 88.47 40 P **P** **11 50 05.0 +1.9**
baz=88
J20A Shoshoni 88.53 45 P **P** **11 50 05.1 +1.5**
baz=88
SRU San Rafael Swe 88.54 49 *eP* **P** **11 50 03.4 -0.4**
SRU pmax pmax
comp=Z,4.0nm,0.7s
SRU San Rafael Swe 88.54 49 *eP* **P** **11 50 03.4 -0.4**
comp=Z,4.1nm,0.7s
E22A Miles City 88.60 41 P **P** **11 50 04.9 +1.2**
baz=88
Y14A Wickenburg 88.63 55 P **P** **11 50 06.6 +2.4**
baz=89
H21A Big Horn, Sher 88.68 43 P **P** **11 50 06.3 +2.1**
baz=89
I21A Big Trails, Te 88.86 44 P **P** **11 50 07.0 +1.8**
baz=89
WUAZ Wupatki 89.29 53 P **P** **11 50 10.1 +2.8**
baz=89
K21A Alcova 89.39 45 P **P** **11 50 09.6 +1.9**
baz=89
J22A Midwest 89.57 44 P **P** **11 50 09.9 +1.5**
baz=90
N22A Wattenberg Ran 90.70 46 P **P** **11 50 14.9 +1.0**
baz=91
E26A Carlson Angus 90.73 40 P **P** **11 50 15.2 +1.5**
baz=91
MVCO Mesa Verde 90.76 50 P **P** **11 50 15.1 +0.9**
baz=91
H25A Fruitdale 90.89 42 P **P** **11 50 16.0 +1.5**
baz=91
F26A Lodgepole 90.90 41 P **P** **11 50 16.0 +1.6**
baz=91
O22A Kremmling 90.91 47 P **P** **11 50 16.2 +1.2**
baz=91
P22A Eagle 91.01 48 P **P** **11 50 16.7 +1.3**
baz=91
N23A Red Feather La 91.01 46 P **P** **11 50 17.2 +1.8**
baz=91
I25A Rochford 91.08 43 P **P** **11 50 15.9 +0.4**
baz=91
E27A Carson 91.30 40 P **P** **11 50 17.8 +1.5**
baz=91
A29A Manning Farm, 91.43 37 P **P** **11 50 18.0 +1.2**
baz=91
G27A Dupree 91.58 41 P **P** **11 50 18.5 +0.9**
baz=92
B29A Wagenman Farm, 91.59 37 P **P** **11 50 19.2 +1.7**
baz=92
S22A 4UR Ranch, Cre 91.74 49 P **P** **11 50 19.8 +1.0**
baz=92
A30A Hoffart Farm, 91.94 36 P **P** **11 50 20.4 +1.3**
baz=92
B30A Myrvik Farm, E 92.18 37 P **P** **11 50 21.2 +0.9**
baz=92
ULM Lac du Bonnet 92.58 34 P **P** **11 50 23.6 +1.6**
comp=Z,2.6nm,0.7s,baz=312,slow=7.8,SNR=5.9
NB2 NORSAR Subarra 92.66 340 P **P** **11 50 21.5 -0.7**
comp=Z,0.5nm,0.4s,baz=48,slow=4.4
NOA NORSAR Array B 92.66 340 P **P** **11 50 21.8 -0.4**
comp=Z,1.4nm,1.0s,baz=46,slow=4.5,SNR=3.3
ANMO Albuquerque 93.20 52⇓*eP* **P** **11 50 28.0 +2.5**
ANMO pmax pmax
comp=Z,25nm,2.5s
BRTR Keskin Array B 94.23 314 *ceP* **P** **11 50 28.7 -1.3**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 94.23 314 P **P** **11 50 28.8 -1.3**
comp=Z,3.2nm,0.9s,baz=116,slow=2.9,SNR=6.1
TXAR Lajitas Array 97.77 56 P Pdif 11 50 48.4 +2.2
comp=Z,0.1nm,0.6s,baz=191,slow=0.6,SNR=2.6
TXAR pP pP 11 51 39.8 +0.5
comp=Z,0.3nm,0.6s,baz=321,slow=1.6,SNR=3.1
CLL Collm 99.04 332 *eP* **Pdif** **11 50 51.0 -0.3**
CLL Collm 99.04 332 *e*Pdif **Pdif** **11 50 51.0 -0.3**
LSZ Lusaka 120.50 263 PKP **PKPdf** **11 56 01.8 -0.1**
comp=Z,3.6nm,0.7s,baz=64,slow=8.1,SNR=4.7
SNAA Sanae 123.90 191 PKP **PKPdf** **11 56 05.5 -1.2**
comp=Z,0.8nm,0.7s,baz=189,slow=6.3,SNR=7.4
TORD Torodi Ar. Bea 132.57 309 PKP **PKPdf** **11 56 24.6 -0.3**
comp=Z,0.4nm,0.5s,baz=11,slow=1.1,SNR=7.0

DBIC	Dimbokro	141.67	308	PKhKP	PKPpre	11 56 34.7		
	comp=Z,3.1nm,0.6s,baz=25,slow=2.8,SNR=5.4							
PLCA	Paso Flores	141.88	133	PKhKP	PKPpre	11 56 37.9		
	comp=Z,2.5nm,0.8s,baz=221,slow=4.2,SNR=5.8							
CFAA	Coronel Fontan	146.72	119	PKPbc	PKPab	11 56 53.1	-0.6	
	comp=Z,3.1nm,0.8s,baz=256,slow=3.6,SNR=21							
LPAZ	La Paz	147.56	91	PKPbc	PKPbc	11 56 54.1	-1.3	
	comp=Z,23nm,1.0s,baz=328,slow=1.8,SNR=18							
TRQA	Tornquist	149.00	134	ePKPbc	PKPbc	11 56 57.5	-0.4	
SAML	Samuel	150.27	75	ePKPbc	PKPbc	11 57 01.8	+0.2	

BJI **08** *11:47:22.9,21°.80S×65°.50W,h222km,mB5.3/7*
IDC **08** *11:47:23.9±1.1,21°.93S×65°.77W,h254km±9km,mb4.2/16, mb1 4.3/22,mb1mx4.2/31,mbtmp4.8/22,Error ellipse: s-maj=11.9km s-min=8.7km az=46.0*
ISCJB **08** *11:47:23.5±0.2,21°.91S±0°.03×65°.90W±0°.03,h262km, mb4.7/118,Error ellipse: s-maj=4.8km s-min=3.4km az=34.9*
NEIC **08** *11:47:23.1±0.6,21°.95S×65°.76W,h247km±5km,mb4.7/79, Error ellipse: s-maj=7.2km s-min=5.5km az=58.0*
SJA **08** *11:47:23.9±0.3,21°.94S×65°.96W,h263km±3km,ML3.1*
GUC **08** *11:47:24.8±0.3,22°.03S×66°.61W,h302km±11km, mb4.7(NEIC)*
LDG **08** *11:47:27.4,21°.17S×65°.51W,h270km*
ISC 08 11:47:24.2±0.3,21°.99S±0°.05×65°.97W±0°.05,h262km, n643,σ1§03/658,mb4.7/117,214C-204D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	Yavi	0.47	114	*i* P	Pn	11 47 59.4	+0.4
YJA				AML	AML	11 48 01.5	
	comp=Z,91nm,0.5s						
YJA				*i* S	S	11 48 25.6	-0.7
AZAP	Zapla	2.38	160	*i* P	Pn	11 48 12.1	+0.6
AZAP				*i* S	S	11 48 47.8	-1.1
ASTB	Santa Barbara	2.39	145	*i* P	Pn	11 48 11.9	+0.5
ALOL	LOMAS DE OLMED	2.59	135	*i* P	Pn	11 48 13.6	+0.3
SLA	San Lorenzo	2.75	171	*i* P	Pn	11 48 15.9	+0.8
LVC	Limon Verde	2.79	257	*e*Pn	Pn	11 48 15.8	+0.2
LVC	Limon Verde	2.79	257	*i* P	Pn	11 48 16.0	+0.4
PB04	IPOC Station P	3.27	265	⇑*i*P	Pn	11 48 27.2	+6.8
PB04				*i* S	S	11 49 14.5	+10
PB01	IPOC Station P	3.40	285	⇑*i*P	Pn	11 48 22.2	+0.2
PB01				*e*S	S	11 49 05.6	-2.2
PB06	IPOC Station P	3.41	257	⇑*i*P	Pn	11 48 21.9	-0.2
PB06				*i* S	S	11 49 05.5	-2.4
PB07	IPOC Station P	3.64	273	⇑*i*P	Pn	11 48 24.6	-0.1
PB07				*e*S	S	11 49 09.9	-2.8
HMBC	Humberstone	4.03	294	⇑*i*P	Pn	11 48 28.7	-0.4
HMBC				*i* S	S	11 49 17.7	-3.0
PATCX	Punta Patache	4.06	286	⇑*i*P	Pn	11 48 29.4	0.0
PATCX				*i* S	S	11 49 18.4	-2.9
ANCH	Antofagasta	4.43	247	⇓*i*P	Pn	11 48 29.6	-3.9
ANCH				*e*S	S	11 49 21.9	-6.9
PB10	IPOC Station P	4.49	249	⇑*i*P	Pn	11 48 33.7	-0.6
PB10				*i* S	S	11 49 26.3	-3.9
LPAZ	La Paz	6.03	340	P	Pn	11 48 54.5	+0.9
	comp=Z,9.4nm,0.3s,baz=128,slow=6.5,SNR=114						
LPAZ				S	S	11 50 02.6	-2.5
	comp=Z,2.8nm,0.3s,baz=244,slow=21,SNR=3.9						
SIV	San Ignacio	7.55	39	P	Pn	11 49 11.1	-1.1
	comp=Z,5.2nm,0.3s,baz=242,slow=10,SNR=121						
SIV				S	S	11 50 31.6	-7.5
	comp=Z,1.0nm,0.3s,baz=233,slow=16,SNR=3.1						
ARE	Arequipa	7.58	316	⇑*i*P	Pn	11 49 11.0	-1.6
ARE				*e*S	S	11 50 31.0	-8.9
CPUP	Villa Florida	9.00	120	P	Pn	11 49 29.4	-0.7
	comp=Z,0.4nm,0.3s,baz=288,slow=13,SNR=5.6						
CPUP	Villa Florida	9.00	120	*e*Pn	Pn	11 49 22.8	-7.3
CFAA	Coronel Fontan	9.79	191	P	Pn	11 49 38.0	-2.0
	comp=Z,1.3nm,0.3s,baz=30,slow=13,SNR=30						
CFAA				S	S	11 51 20.8	-10
	comp=Z,6.2nm,0.3s,baz=180,slow=17,SNR=21						
SAML	Samuel	13.24	12	*e*P	Pn	11 50 22.2	-0.7
	comp=Z,30nm,0.7s						
NNA	Nana	14.38	312	P	P	11 50 37.7	+1.0
	comp=Z,14nm,0.3s,baz=154,slow=9.7,SNR=37						
NNA				S	S	11 53 09.9	-5.8
	comp=Z,6.3nm,0.3s,baz=188,slow=22,SNR=5.1						
NNA	Nana	14.38	312	*e*Pn	P	11 50 37.3	+0.6
NNA				S	S	11 53 09.9	-5.8
BDFB	Brasilia	18.13	73	P	P	11 51 17.5	-0.3
	comp=Z,4.3nm,0.3s,baz=251,slow=12,SNR=46						
ATAH	Atahualpa	19.02	319	P	P	11 51 29.9	+2.3
	comp=Z,3.9nm,0.3s,baz=67,slow=0.4,SNR=21						
PLCA	Paso Flores	19.09	191	P	P	11 51 27.7	-0.1
	comp=Z,1.5nm,0.3s,baz=25,slow=8.8,SNR=7.7						
OTAV	Otavalo	25.22	330	*e*P	P	11 52 28.1	+1.0
	comp=Z,33nm,1.4s						
SDV	Santo Domingo	31.02	351	*e*P	P	11 53 18.1	0.0
	comp=Z,22nm,1.0s						
RCBR	Riachuelo	33.21	66	P	P	11 53 36.3	-0.8
	comp=Z,53nm,0.8s,baz=231,slow=10,SNR=35						
RCBR	Riachuelo	33.21	66	*e*P	P	11 53 35.8	-1.3
	comp=Z,52nm,0.8s						
GRGR	Grenville	34.17	8	*e*P	P	11 53 44.4	-0.8
	comp=Z,119nm,0.6s						
FDF	Fort de France	36.80	8	*e*P	P	11 54 05.1	-2.4
	comp=Z,51nm,0.5s						
JTS	JuntasAbangare	37.09	328	*e*P	P	11 54 12.7	+2.7
	comp=Z,34nm,1.1s						
ANWB	Willy Bob	39.63	6	*e*P	P	11 54 27.9	-3.0
	comp=Z,253nm,0.6s						
SMRT	St. Maarten	39.89	4	*e*P	P	11 54 30.2	-2.9
	comp=Z,76nm,0.8s						
CBYP	Canovanas	40.01	0	*e*P	P	11 54 32.1	-2.0
TEIG	Tepich	47.28	331	*e*P	P	11 55 31.7	-0.1
	comp=Z,43nm,0.8s						
936A	North Padre Is	57.71	327	⇓P	P	11 56 50.0	+2.0
	baz=58						
035A	Encino	57.73	326	⇑P	P	11 56 49.9	+1.8
	baz=58						
034A	Hebbronville	58.14	325	⇓P	P	11 56 52.4	+1.6
	baz=58						
LRAL	Lakeview Retre	58.28	339	*e*P	P	11 56 51.0	-0.8
	comp=Z,11nm,1.0s						
934A	Benavides	58.48	326	⇑P	P	11 56 54.8	+1.6
	baz=59						
KMSC	Kings Mountain	58.66	345	⇑P	P	11 56 54.8	+0.5
	baz=59						
VNA3	Neumayer Olymp	58.75	162	P	P	11 56 56.4	+1.8
933A	Laredo	58.89	325	⇑P	P	11 56 56.4	+0.3
	baz=59,SNR=5.1						
834A	Tilden	58.92	326	⇑P	P	11 56 57.2	+0.9
	baz=59						
735A	Kenedy	59.14	327	⇓P	P	11 56 58.7	+0.9
	baz=60						
636A	Smothers Creek	59.28	328	⇑P	P	11 56 59.9	+1.2
	baz=60						
VNA2	Neumayer--Watz	59.29	161	P	P	11 56 58.9	+0.6
537A	Green Hill Far	59.43	329	⇓P	P	11 57 00.4	+0.8
	baz=60						
340A	Bronson	59.47	332	⇓P	P	11 57 00.5	+0.6
	baz=60,SNR=9.3						
734A	La Parita Cree	59.51	327	⇑P	P	11 57 01.0	+0.7
	baz=60						
833A	Chaparral WMA,	59.52	326	⇑P	P	11 57 00.7	+0.4
	baz=60,SNR=28						
635A	Leesville	59.56	328	⇓P	P	11 57 01.3	+0.7
	baz=60						
438A	Sam Houston St	59.60	331	⇓P	P	11 57 02.1	+1.2
	baz=60						
339A	Huntington	59.68	332	⇓P	P	11 57 02.5	+1.1
	baz=60						
CPCT	Cooper Cave	59.77	343	*e*P	P	11 57 02.1	+0.2
536A	Bastrop	59.78	329	⇓P	P	11 57 02.7	+0.7
	baz=60						
733A	Divot King Ran	59.78	326	⇓P	P	11 57 02.4	+0.2
	baz=60,SNR=6.8						
832A	Faith Ranch, C	59.79	325	⇑P	P	11 57 02.5	+0.2
	baz=60,SNR=14						
SWET	Sewanee	59.96	341	*e*P	P	11 57 02.3	-0.9
	comp=Z,17nm,0.8s						
437A	Phantom Ranch,	59.97	330	⇓P	P	11 57 04.5	+1.1
	baz=60						
535A	Dale	59.99	328	⇓P	P	11 57 04.3	+0.8
	baz=60						
338A	Crockett	60.04	331	⇑P	P	11 57 04.9	+1.1
	baz=60						
732A	Laxson Ranch,	60.15	326	⇑P	P	11 57 04.5	-0.1
	baz=60,SNR=13						
436A	Wall Ranch, Ga	60.23	329	⇑P	P	11 57 06.0	+0.9
	baz=60						
337A	Centerville	60.27	331	⇑P	P	11 57 07.0	+1.6
	baz=61						
633A	Saathoff Ranch	60.32	327	⇓P	P	11 57 05.9	+0.1
	baz=61,SNR=7.1						
534A	Blanco	60.43	328	⇓P	P	11 57 06.0	-0.6
	baz=61,SNR=7.3						
OXF	Oxford	60.45	338	*e*P	P	11 57 05.5	-0.9
	comp=Z,53nm,1.0s						
238A	Jacksonville	60.50	332	⇑P	P	11 57 08.1	+1.1
	baz=61						
435B	Jarrell	60.62	329	⇓P	P	11 57 08.3	+0.6
	baz=61						
632A	Uvalde	60.67	326	⇑P	P	11 57 08.3	+0.1
	baz=61,SNR=7.4						
533A	Kerrville	60.75	327	⇑P	P	11 57 09.0	+0.3
	baz=61						
336A	Riesel	60.77	330	⇑P	P	11 57 09.5	+0.8
	baz=61						
237A	Washetta, Mont	60.81	331	⇑P	P	11 57 09.9	+0.9
	baz=61						
SNAA	Sanae	60.93	161	P	P	11 57 10.7	+1.3
SNAA	Sanae	60.93	161	P	P	11 57 10.4	+1.0
	comp=Z,1.2nm,0.6s,baz=297,slow=8.7,SNR=11						
335A	Moody	60.95	329	⇑P	P	11 57 10.2	+0.2
	baz=61,SNR=5.2						
434A	Burnet	60.97	328	⇓P	P	11 57 10.0	-0.2
	baz=61						
631A	Perdido Creek	61.01	325	⇓P	P	11 57 10.0	-0.4
	baz=61,SNR=13						
138A	Matatall Enter	61.05	332	⇓P	P	11 57 11.3	+0.8
	baz=61						
532A	Rocksprings	61.23	327	⇑P	P	11 57 12.3	+0.3
	baz=62,SNR=8.9						
137A	Heron Place, G	61.29	331	⇑P	P	11 57 13.0	+0.8
	baz=62,SNR=6.1						
433A	Art	61.33	328	⇓P	P	11 57 12.2	-0.3
	baz=62,SNR=18						
334A	Lometa	61.38	329	⇑P	P	11 57 12.7	-0.2
	baz=62,SNR=10						
WVT	Waverly	61.39	340	*e*P	P	11 57 11.4	-1.4
JCT	Junction City	61.46	327	⇑P	P	11 57 13.3	-0.2
	baz=62,SNR=9.1						
JCT	Junction City	61.46	327	*e*P	P	11 57 13.6	+0.1
	comp=Z,16nm,0.8s						
WHTX	Lake Whitney,	61.56	330	⇑P	P	11 57 14.3	+0.3
	baz=62,SNR=5.5						
WHTX	Lake Whitney,	61.56	330	*e*P	P	11 57 14.6	+0.6
531A	Rocksprings	61.59	326	⇑P	P	11 57 14.8	+0.4
	baz=62,SNR=21						
333A	Richland Sprin	61.74	328	⇓P	P	11 57 15.1	-0.2
	baz=62,SNR=14						
432A	Menard	61.78	327	⇑P	P	11 57 15.3	-0.3
	baz=62,SNR=15						
234A	Clairette	61.89	329	⇑P	P	11 57 16.5	+0.3
	baz=62						
530A	J-C Ranch, Com	61.99	325	⇓P	P	11 57 17.2	+0.2
	baz=62,SNR=17						
135A	Vickery Place,	62.01	330	⇑P	P	11 57 17.3	+0.3
	baz=62						
431A	Sonora	62.04	326	⇑P	P	11 57 17.3	-0.1
	baz=62,SNR=11						
332A	Millersview	62.16	327	⇓P	P	11 57 18.0	0.0
	baz=62,SNR=18						
233A	Rising Star	62.27	329	⇓P	P	11 57 18.7	-0.1
	baz=63,SNR=14						
134A	White-Moore Ra	62.33	330	⇑P	P	11 57 19.2	+0.1
	baz=63						
529A	Stev Forest Ra	62.44	325	⇑P	P	11 57 20.4	+0.4
	baz=63,SNR=40						
430A	Baggett Ranch,	62.45	326	⇓P	P	11 57 19.8	-0.2
	baz=63,SNR=17						
331A	San Angelo	62.45	327	⇓P	P	11 57 19.8	-0.2
	baz=63,SNR=15						
232A	Coleman	62.52	328	⇓P	P	11 57 20.3	-0.2
	baz=63,SNR=18						
Z35A	Perchaven, San	62.58	331	⇓P	P	11 57 21.1	+0.3
	baz=63						
TXAR	Lajitas Array	62.62	323	P	P	11 57 21.3	0.0
	comp=Z,2.9nm,0.7s,baz=150,slow=8.2,SNR=36						
429A	Davenport Ranc	62.66	325	⇓P	P	11 57 21.5	+0.1
	baz=63,SNR=21						
133A	Hamilton Ranch	62.76	329	⇓P	P	11 57 22.1	+0.1
	baz=63,SNR=4.4						
PBMO	Poplar Bluff	62.84	338	*e*P	P	11 57 21.9	-0.5
	comp=Z,37nm,0.6s						
231A	Bronte	62.90	327	⇓P	P	11 57 22.6	-0.3
	baz=63						
330A	Mertzon	62.91	326	⇑P	P	11 57 22.7	-0.3
	baz=63,SNR=7.7						
Z34A	Collier Ranch,	62.92	330	⇑P	P	11 57 23.3	+0.3
	baz=63,SNR=7.6						
ABTX	Abilene, Hawle	63.12	328	⇑P	P	11 57 24.2	-0.2
	baz=63						
ABTX	Abilene, Hawle	63.12	328	*e*P	P	11 57 24.1	-0.3
	comp=Z,10nm,0.8s						
Z33A	Whitaker Ranch	63.24	329	⇓P	P	11 57 25.4	+0.2
	baz=64,SNR=19						
230A	Sterling City	63.26	327	⇓P	P	11 57 25.5	+0.2
	baz=64						
Y34A	Reagan Ranch,	63.33	331	⇑P	P	11 57 25.7	0.0
	baz=64,SNR=11						
329A	Wagon Wheel Ra	63.39	326	⇓P	P	11 57 26.0	-0.2
	baz=64,SNR=24						
131A	Roby	63.53	328	⇑P	P	11 57 27.1	+0.1
	baz=64,SNR=7.1						
Z32A	Haskell	63.60	329	⇑P	P	11 57 27.4	0.0
	baz=64,SNR=11						
229A	Bryant Ranch,	63.68	326	⇑P	P	11 57 28.1	0.0
	baz=64,SNR=5.1						
130A	Snyder	63.75	327	⇓P	P	11 57 28.1	-0.4
	baz=64,SNR=14						
ACSO	Alum Creek Sta	63.90	346	*e*P	P	11 57 29.0	-0.3
	comp=Z,9.4nm,0.6s						
X34A	Smith Ranch, M	63.91	331	⇓P	P	11 57 29.6	+0.2
	baz=64,SNR=5.8						
Z31A	Sharp Cattle R	63.93	328	⇑P	P	11 57 29.7	+0.1
	baz=64,SNR=22						
TUL1	Leonard	64.13	333	⇑P	P	11 57 30.9	0.0
	baz=64						
TUL1	Leonard	64.13	333	*e*P	P	11 57 31.1	+0.2
	comp=Z,8.1nm,0.7s						
Y32A	R-V Farms, Ver	64.15	329	⇑P	P	11 57 31.2	+0.1
	baz=64,SNR=9.8						
X33A	Lawton	64.16	330	⇓P	P	11 57 30.7	-0.4
	baz=64,SNR=5.0						
228A	UT Block 9, Go	64.20	326	⇑P	P	11 57 31.0	-0.5
	baz=64,SNR=7.8						
129A	Stewart Farms,	64.24	327	⇓P	P	11 57 31.3	-0.4
	baz=65,SNR=10						
Z30A	Sanderson Ranc	64.39	328	⇓P	P	11 57 32.4	-0.3
	baz=65,SNR=12						
W34A	Bridge Creek,	64.41	331	⇓P	P	11 57 32.9	+0.2
	baz=65						
X32A	Elmer	64.42	330	⇑P	P	11 57 32.8	0.0
	baz=65						
Y31A	Rekieta Farm,	64.51	329	⇑P	P	11 57 33.6	+0.2
	baz=65,SNR=10.0						
128A	Castleberry Fa	64.55	326	⇑P	P	11 57 33.4	-0.3
	baz=65,SNR=11						
W33A	Caddo, Fort Co	64.65	331	⇓P	P	11 57 35.0	+0.7
	baz=65,SNR=16						
Z29A	Hungry Hill Ra	64.66	327	⇓P	P	11 57 34.0	-0.4
	baz=65,SNR=9.6						
Y30A	Stafford Cattl	64.75	328	⇓P	P	11 57 34.9	-0.1
	baz=65						
V34A	Guthrie	64.80	332	⇓P	P	11 57 35.1	-0.1
	baz=65						
V34A	Guthrie	64.80	332	*e*P	P	11 57 35.4	+0.2
X31A	McDonald Ranch	64.92	329	⇑P	P	11 57 36.1	+0.1
	baz=65,SNR=32						
W32A	Sentinel	64.98	330	⇑P	P	11 57 36.5	+0.1
	baz=65,SNR=21						
Z28A	Tucker Farm, M	65.02	327	⇑P	P	11 57 36.2	-0.6
	baz=65,SNR=8.5						
SFIN	Lafayette	65.09	342	⇑P	P	11 57 35.4	-1.6
	baz=65,SNR=5.8						
SFIN	Lafayette	65.09	342	*e*P	P	11 57 35.8	-1.2
	comp=Z,9.9nm,0.6s						
Y29A	Porterfield Fa	65.12	328	⇓P	P	11 57 36.9	-0.4
	baz=65,SNR=8.7						
V33A	Lossen Ranch,	65.13	331	⇓P	P	11 57 37.2	0.0
	baz=66,SNR=12						
X30A	Coker Ranch, T	65.20	329	⇑P	P	11 57 37.7	-0.2
	baz=66,SNR=13						
GDL2	Guadalupe Moun	65.21	325	*e*P	P	11 57 32.9	-5.2
U34A	Anderson Ranch	65.32	332	⇓P	P	11 57 38.4	-0.1
	baz=66,SNR=8.1						
U34A	Anderson Ranch	65.32	332	*e*P	P	11 57 38.8	+0.3
W31A	Holland Ranch,	65.36	330	⇑P	P	11 57 38.5	-0.3
	baz=66						
MNTX	Cornudas Mount	65.38	323	*e*P	P	11 57 38.3	-0.7
	comp=Z,16nm,1.1s						
V32A	Arapaho	65.39	331	⇓P	P	11 57 39.3	+0.3
	baz=66						
Y28A	McKinney Farm,	65.44	327	⇑P	P	11 57 39.0	-0.4
	baz=66,SNR=8.0						
U33A	Lingo Farm, Me	65.56	332	⇑P	P	11 57 39.8	-0.3
	baz=66,SNR=5.6						
X29A	Tulia	65.60	328	⇓P	P	11 57 40.0	-0.4
	baz=66,SNR=10.0						
W30A	Crocket Farms	65.65	329	⇓P	P	11 57 41.5	+0.8
	baz=66						
MSTX	Muleshoe	65.76	327	⇓P	P	11 57 41.3	-0.2
	baz=66,SNR=31						
MSTX	Muleshoe	65.76	327	*e*P	P	11 57 41.4	-0.1
V31A	Spring Creek L	65.79	330	⇑P	P	11 57 41.9	+0.3
	baz=66,SNR=6.2						
Y27A	Causey	65.89	327	⇓P	P	11 57 41.9	-0.4
	baz=66,SNR=13						
X28A	Dimmitt	65.91	328	⇑P	P	11 57 42.3	-0.1
	baz=66						
U32A	Winter Ranch,	65.91	331	⇓P	P	11 57 42.8	+0.5
	baz=66						
LIC	Lamto	65.92	72	⇑*i*P	P	11 57 41.1	-1.8
	comp=Z,17nm,0.7s						
LIC	Lamto	65.92	72	*e*P	P	11 57 41.0	-1.8
	comp=Z,28nm,0.7s						
AMTX	Amarillo	65.94	328	⇓P	P	11 57 42.8	+0.2
	baz=66						
AMTX	Amarillo	65.94	328	*e*P	P	11 57 42.5	-0.1
W29A	Amarillo	66.12	328	⇑P	P	11 57 43.4	-0.3
	baz=66,SNR=8.9						
TIC	Toumodi	66.12	72	*e*P	P	11 57 42.5	-1.6
	comp=Z,9.9nm,0.2s						
T33A	Patterson Ranc	66.17	332	⇑P	P	11 57 44.2	+0.3
	baz=66,SNR=5.5						
Z25A	Roswell	66.23	325	⇑P	P	11 57 44.2	-0.3
	baz=67,SNR=20						
KIC	Kosan Boka	66.23	72	*e*P	P	11 57 43.1	-1.7
	comp=Z,106nm,1.0s						
DBIC	Dimbokro	66.28	72	P	P	11 57 43.6	-1.4
	comp=Z,36nm,0.9s,baz=213,slow=6.0,SNR=22						
U31A	Nine Bar Ranch	66.29	331	⇑P	P	11 57 45.3	+0.6
	baz=67						
X27A	F and S Farms,	66.46	327	⇓P	P	11 57 46.2	+0.3
	baz=67						
S33A	Kaszmaul Farm,	66.49	333	⇓P	P	11 57 46.3	+0.3
	baz=67						
W28A	Vega	66.50	328	⇓P	P	11 57 46.8	+0.7
	baz=67						
T32A	Huddler Ranch,	66.55	332	⇑P	P	11 57 46.9	+0.6
	baz=67,SNR=5.4						
X26A	CR and CF Fran	66.74	327	⇑P	P	11 57 48.0	+0.3
	baz=67,SNR=8.7						
W27A	Bowe Ranch, En	66.77	327	⇑P	P	11 57 47.8	-0.1
	baz=67,SNR=13						
U30A	WK&E Inc. Balk	66.79	330	⇓P	P	11 57 48.6	+0.7
	baz=67						
T31A	Randall Ranch,	66.81	331	⇑P	P	11 57 48.3	+0.3
	baz=67,SNR=5.7						
V28A	Channing	66.90	328	⇓P	P	11 57 49.4	+0.7
	baz=67,SNR=7.2						
S32A	Newby Ranch, P	66.98	332	⇑P	P	11 57 49.5	+0.4
	baz=67,SNR=9.7						
U29A	Oasis Ranch, S	67.01	330	⇓P	P	11 57 49.9	+0.6
	baz=67						
R33A	Olander Ranch,	67.09	333	⇑P	P	11 57 49.9	+0.2
	baz=67,SNR=5.2						
Y24A	Capitan	67.11	325	⇑P	P	11 57 49.6	-0.5
	baz=67,SNR=8.2						
W26A	Owens Ranch, T	67.14	327	⇓P	P	11 57 50.9	+0.7
	baz=68,SNR=10						
S31A	Mullinville	67.16	332	⇑P	P	11 57 50.7	+0.6
	baz=68,SNR=7.0						
X25A	Clemmons Ranch	67.16	326	⇓P	P	11 57 50.7	+0.3
	baz=68						
KSU1	Kansas State U	67.20	335	⇓P	P	11 57 50.3	-0.1
	baz=68						
V27A	Dan Oppiter Fa	67.21	328	⇑P	P	11 57 51.3	+0.7
	baz=68,SNR=5.1						
121A	Cookes Peak, D	67.35	322	⇑P	P	11 57 52.8	+1.2
	baz=68,SNR=14						
121A	Cookes Peak, D	67.35	322	*e*P	P	11 57 53.0	+1.4
	comp=Z,25nm,0.9s						
319A	Douglas	67.37	321	⇑P	P	11 57 53.0	+1.3
	baz=68,SNR=21						
Z22A	Elephant Butte	67.43	323	⇓P	P	11 57 53.3	+1.2
	baz=68,SNR=30						
Y23A	Lovelace Mesa,	67.44	325	⇓P	P	11 57 52.9	+0.6
	baz=68,SNR=16						
R32A	Long Quarter,	67.49	333	⇑P	P	11 57 52.3	+0.1
	baz=68,SNR=8.5						
T29A	Hugoton	67.60	330	⇑P	P	11 57 53.4	+0.4
	baz=68						
W25A	X Bar L Ranch,	67.60	327	⇑P	P	11 57 53.4	+0.3
	baz=68,SNR=18						
Q33A	Connelly Farm,	67.61	334	⇓P	P	11 57 53.2	+0.3
	baz=68						
S30A	Montezuma	67.61	331	⇑P	P	11 57 53.5	+0.4
	baz=68						
V26A	Tequesquite Ra	67.71	327	⇑P	P	11 57 54.2	+0.4
	baz=68,SNR=19						
U27A	Thompson Grove	67.73	328	⇓P	P	11 57 54.3	+0.4
	baz=68,SNR=6.2						
R31A	Burdett	67.73	332	⇑P	P	11 57 54.0	+0.3
	baz=68,SNR=8.0						
S29A	Ulysses	67.89	330	⇑P	P	11 57 55.1	+0.3
	baz=68,SNR=6.1						
Q32A	Meitler Ranch,	67.90	333	⇑P	P	11 57 55.0	+0.2
	baz=68,SNR=9.3						
T28A	Walsh	67.95	329	⇓P	P	11 57 55.2	+0.1
	baz=68,SNR=7.8						
X23A	Hourglass Bar	68.01	325	⇑

T25A	Trinidad baz=69,SNR=13	69.07 328	⇑P	P	11 58 03.3 +1.1
P30A	Selden baz=69	69.08 332	⇓P	P	11 58 02.9 +0.8
O31A	Woolen Ranch, baz=70,SNR=6.5	69.20 333	⇑P	P	11 58 02.9 +0.2
R27A	Eads baz=70	69.21 330	⇓P	P	11 58 03.6 +0.7
N32A	Stulken Farm, baz=70	69.29 334	⇓P	P	11 58 04.0 +0.7
U23A	El Rito baz=70,SNR=10	69.35 326	⇓P	P	11 58 05.2 +1.2
Q28A	Sharon Springs baz=70	69.39 331	⇓P	P	11 58 04.7 +0.7
V22A	San Miguel Ran baz=70,SNR=14	69.40 325	⇓P	P	11 58 05.7 +1.3
P29A	Atwood baz=70,SNR=5.8	69.43 332	⇓P	P	11 58 04.8 +0.6
S25A	Robets Cordova baz=70,SNR=25	69.50 328	⇓P	P	11 58 05.7 +0.9
T24B	San Luis baz=70,SNR=27	69.50 327	⇓P	P	11 58 06.2 +1.2
R26A	Arlington baz=70,SNR=9.5	69.53 329	⇑P	P	11 58 05.6 +0.7
O30A	MW Ranch, Wils baz=70,SNR=15	69.53 333	⇑P	P	11 58 05.2 +0.4
N31A	Bailey Ranch, baz=70,SNR=5.0	69.61 334	⇓P	P	11 58 05.5 +0.3
KSCO	Kaye Shedlock' baz=70,SNR=5.1	69.71 330	⇓P	P	11 58 06.8 +0.8
KSCO	Kaye Shedlock'	69.71 330	eP	P	11 58 07.3 +1.3
U22A	Llaves baz=70,SNR=12	69.73 326	⇓P	P	11 58 06.4 +0.1
P28A	Saint Francis baz=70	69.77 331	⇓P	P	11 58 07.2 +0.9
BGNE	Belgrade baz=70,SNR=11	69.78 335	⇓P	P	11 58 06.2 -0.1
BGNE	Belgrade comp=Z,129nm,0.8s	69.78 335	eP	P	11 58 06.5 +0.2
O29A	4D Ranch, Culb baz=70	69.80 332	⇑P	P	11 58 07.5 +1.1
R25A	Fountain Ranch baz=70,SNR=9.3	69.81 329	⇓P	P	11 58 07.2 +0.5
T23A	Casias Ranch, baz=70,SNR=11	69.81 327	⇑P	P	11 58 08.1 +1.3
S24A	Houchin Ranch, baz=70,SNR=16	69.86 328	⇑P	P	11 58 08.4 +1.2
214A	Organ Pipe Nat baz=70	69.90 319	⇑P	P	11 58 08.8 +1.6
X18A	Snowflake baz=70,SNR=7.2	70.04 322	⇓P	P	11 58 09.4 +1.2
M31A	Lambtecht Ranc baz=70,SNR=10	70.06 334	⇑P	P	11 58 08.4 +0.4
Q26A	Hugo baz=70	70.06 330	⇓P	P	11 58 09.3 +1.1
N30A	Hueftle Ranch, baz=70	70.06 333	⇑P	P	11 58 09.0 +1.0
SDCO	Great Sand Dun comp=Z,18nm,0.9s	70.09 328	eP	P	11 58 09.5 +1.0
P27A	Ficken Ranch, baz=70	70.13 331	⇑P	P	11 58 09.5 +1.0
O28A	Krutsinger Ran baz=71,SNR=13	70.23 332	⇓P	P	11 58 09.9 +0.8
R24A	Sanders Place, baz=71,SNR=22	70.27 328	⇑P	P	11 58 10.9 +1.3
N29A	Votaw Ranch, W baz=71	70.30 333	⇓P	P	11 58 10.8 +1.3
S23A	Nye Farm, Mont baz=71	70.31 327	⇑P	P	11 58 11.1 +1.3
W18A	Petrified Fore baz=71,SNR=6.6	70.35 323	⇑P	P	11 58 11.3 +1.3
W18A	Petrified Fore comp=Z,22nm,0.9s	70.35 323	eP	P	11 58 11.8 +1.7
P26A	Davis Ranch, A baz=71	70.48 330	⇑P	P	11 58 11.3 +0.6
M30A	Dale-Ortello V baz=71,SNR=7.9	70.58 334	⇑P	P	11 58 11.7 +0.5
N28A	Pribbeno Ranch baz=71,SNR=6.6	70.59 332	⇑P	P	11 58 11.8 +0.6
R23A	Moffat baz=71,SNR=14	70.60 328	⇑P	P	11 58 12.6 +1.0
O27A	Beecher Island baz=71,SNR=15	70.60 331	⇓P	P	11 58 12.5 +1.2
L31A	Butterfield Fa baz=71,SNR=11	70.70 335	⇑P	P	11 58 11.9 +0.1
X16A	Lo Mia Camp, P baz=71,SNR=17	70.81 321	⇓P	P	11 58 14.1 +1.2
P25A	Willow Gulch B baz=71,SNR=10	70.83 330	⇓P	P	11 58 12.9 +0.1
M29A	Burnside Ranch baz=71,SNR=6.1	70.85 333	⇑P	P	11 58 13.0 +0.3
L30A	Spencer Herefo baz=71,SNR=7.4	70.87 334	⇓P	P	11 58 13.4 +0.6
Q24A	Divide baz=71,SNR=18	70.87 329	⇑P	P	11 58 14.3 +1.1
Z14A	Wintersburg baz=71	70.96 320	⇑P	P	11 58 14.7 +1.2
OGNE	Ogallala baz=71	71.01 332	⇑P	P	11 58 14.6 +0.8
O26A	Horse Wrangler baz=71,SNR=5.8	71.02 331	⇓P	P	11 58 15.0 +1.1
113A	Mohawk Valley, baz=71	71.05 319	⇑P	P	11 58 15.2 +1.1
M28A	Bar X Bar Ranc baz=71,SNR=8.7	71.10 333	⇑P	P	11 58 14.7 +0.4
P24A	Kohler Place, baz=72	71.18 329	⇓P	P	11 58 16.7 +1.7
ECSD	EROS Data Cent baz=72,SNR=13	71.19 337	⇓P	P	11 58 14.1 -0.6
ECSD	EROS Data Cent comp=Z,28nm,1.4s	71.19 337	eP	P	11 58 14.4 -0.2
MVCO	Mesa Verde baz=72,SNR=20	71.22 325	⇑P	P	11 58 16.1 +0.9
MVCO	Mesa Verde comp=Z,43nm,1.3s	71.22 325	eP	P	11 58 16.7 +1.4
SPMN	Marine on St. baz=72,SNR=6.2	71.22 340	⇑P	P	11 58 15.0 +0.2
SPMN	Marine on St. comp=Z,10nm,0.8s	71.22 340	eP	P	11 58 14.5 -0.3
L29A	Maesberg Ranch baz=72,SNR=6.3	71.27 334	⇓P	P	11 58 15.9 +0.7
O25A	Wiggins baz=72	71.28 330	⇑P	P	11 58 16.9 +1.4
Y14A	Wickenburg baz=72,SNR=6.4	71.39 320	⇓P	P	11 58 17.4 +1.3
K30A	Basset baz=72,SNR=5.4	71.43 334	⇓P	P	11 58 16.6 +0.4
N26A	Koester Ranch, baz=72	71.45 331	⇓P	P	11 58 18.1 +1.7
P23A	Jefferson baz=72	71.52 328	⇑P	P	11 58 19.1 +1.9
WUAZ	Wupatki baz=72,SNR=20	71.56 322	⇑P	P	11 58 18.9 +1.6
WUAZ	Wupatki comp=Z,23nm,0.9s	71.56 322	eP	P	11 58 19.1 +1.9
L28A	Connealy Angus baz=72	71.66 333	⇓P	P	11 58 19.0 +1.4
O24A	Longmont baz=72	71.74 329	⇓P	P	11 58 19.6 +1.4
ISCO	Idaho Springs baz=72,SNR=15	71.74 329	⇑P	P	11 58 19.4 +1.0
ISCO	Idaho Springs comp=Z,13nm,1.1s	71.74 329	eP	P	11 58 19.7 +1.2
K29A	Lazy Trails An baz=72,SNR=15	71.79 334	⇑P	P	11 58 18.7 +0.4
N25A	Grover baz=72,SNR=5.8	71.83 330	⇑P	P	11 58 20.3 +1.6
GLA	Glamis baz=72	71.89 318	⇓P	P	11 58 20.7 +1.6
SMCO	Snowmass	71.93 328	eP	P	11 58 21.2 +1.5
J30A	Dallas baz=72,SNR=15	71.93 335	⇓P	P	11 58 18.9 -0.2
PV01	Paradox Valley comp=Z,2um,1.0s	71.95 326	eP	P	11 58 19.6 0.0
L27A	T5 Ranch, Ells baz=72	72.06 332	⇓P	P	11 58 21.3 +1.3
P22A	Eagle baz=72,SNR=18	72.14 328	⇑P	P	11 58 21.8 +1.1
Y12C	Blythe baz=72,SNR=6.0	72.18 319	⇓P	P	11 58 22.2 +1.5
K28A	Ten Mile Ranch baz=72,SNR=5.7	72.18 333	⇑P	P	11 58 21.7 +1.0
N24A	Carr baz=72	72.20 330	⇓P	P	11 58 22.2 +1.2
O23A	Lake Granby, G baz=72,SNR=12	72.21 329	⇑P	P	11 58 22.5 +1.4
M25A	Palm-Egli Farm baz=73	72.31 331	⇑P	P	11 58 22.8 +1.2
PV04	Paradox Valley	72.32 326	eP	P	11 58 23.3 +1.6
PDMCI	Parker Dam,Lak baz=73	72.32 320	⇓P	P	11 58 22.6 +1.0
J29A	Okreek baz=73,SNR=7.9	72.33 334	⇑P	P	11 58 21.7 +0.2
L26A	Underwood Farm baz=73	72.36 332	⇓P	P	11 58 23.0 +1.3
I30A	Oacoma baz=73,SNR=13	72.40 335	⇓P	P	11 58 21.8 0.0
O22A	Kremmling baz=73,SNR=25	72.47 328	⇑P	P	11 58 23.8 +1.1
K27A	Flueckinger Fa baz=73,SNR=18	72.54 333	⇓P	P	11 58 23.8 +1.0
BRSD	Miller baz=73,SNR=5.4	72.67 336	⇑P	P	11 58 23.2 -0.2
BRSD	Miller comp=Z,26nm,0.8s	72.67 336	eP	P	11 58 23.5 +0.1
BC3	Big Buckawall baz=73,SNR=6.2	72.69 318	⇓P	P	11 58 24.6 +0.7
M24A	Cheyenne baz=73,SNR=19	72.69 330	⇓P	P	11 58 25.3 +1.5
J28A	Allard Ranch, baz=73,SNR=14	72.71 334	⇓P	P	11 58 24.2 +0.4
W13A	Hualapai Mount baz=73,SNR=9.5	72.72 320	⇑P	P	11 58 25.8 +1.6
U15A	North Rim baz=73,SNR=29	72.73 322	⇑P	P	11 58 26.1 +1.8
N23A	Red Feather La baz=73,SNR=9.5	72.76 329	⇓P	P	11 58 25.5 +1.1
I29A	Vivian Onida baz=73,SNR=8.8	72.83 335	⇓P	P	11 58 24.2 -0.2
IRM	Iron Mountain baz=73,SNR=5.9	72.84 319	⇑P	P	11 58 25.7 +1.1
PHWY	Pilot Hill comp=Z,21nm,1.3s	72.85 330	eP	P	11 58 26.0 +1.1
J27A	Elkhorn Farm, baz=73,SNR=14	72.89 333	⇑P	P	11 58 26.1 +1.3
N22A	Wattenberg Ran baz=73,SNR=12	72.93 329	⇑P	P	11 58 26.6 +1.3
K26A	Motz Farm, Whi baz=73	72.94 332	⇓P	P	11 58 26.1 +0.9
M23A	Laramie baz=73	73.10 330	⇓P	P	11 58 27.6 +1.3
I28A	Midland baz=74	73.16 334	⇑P	P	11 58 27.3 +1.0
K25A	Mack Ranch, Ha baz=74	73.17 332	⇓P	P	11 58 28.2 +1.6
BELC	Belle Mtn. Jos baz=74	73.25 318	⇓P	P	11 58 28.5 +1.3
PFO	Pinyon Flats O baz=74	73.28 318	⇑P	P	11 58 29.0 +1.6
O20A	White River Ci baz=74,SNR=18	73.29 327	⇑P	P	11 58 28.6 +1.3
O20A	White River Ci comp=Z,28nm,0.8s	73.29 327	eP	P	11 58 28.9 +1.5
EYMN	Ely comp=Z,4.0nm,0.9s	73.29 342	eP	P	11 58 26.7 -0.2
H29A	Onida baz=74,SNR=7.6	73.31 335	⇓P	P	11 58 27.2 +0.1
G30A	Faulkton baz=74	73.32 336	⇑P	P	11 58 27.8 +0.6
J26A	Sides Ranch, S baz=74,SNR=11	73.39 333	⇓P	P	11 58 28.7 +0.9
LDFC	Landfair comp=Z,16nm,0.8s	73.44 320	eP	P	11 58 30.5 +2.2
M22A	Cedar Creek Ra baz=74,SNR=7.7	73.46 329	⇑P	P	11 58 29.3 +0.9
GMRC	Granite Mounta baz=74,SNR=15	73.57 319	⇑P	P	11 58 30.4 +1.3
I27A	Quinn baz=74,SNR=7.6	73.58 334	⇑P	P	11 58 29.1 +0.3
L23A	Garrett baz=74,SNR=5.9	73.60 330	⇑P	P	11 58 30.1 +0.9
H28A	Mission Ridge baz=74,SNR=12	73.66 335	⇓P	P	11 58 29.6 +0.3
G29A	Hoven baz=74	73.67 336	⇓P	P	11 58 29.3 +0.1
K24A	Anderson Ranch baz=74	73.68 331	⇓P	P	11 58 31.2 +1.7
SRU	San Rafael Swe comp=Z,30nm,0.7s	73.70 325	eP	P	11 58 31.0 +1.3
J25A	Sunshine Ranch baz=74	73.77 332	⇓P	P	11 58 31.2 +1.3
N20A	Spence Gulch, baz=74,SNR=9.2	73.83 328	⇓P	P	11 58 31.5 +1.0
L22A	Ellis Ranch, M baz=74	73.87 330	⇓P	P	11 58 32.3 +1.6
F30A	Leola baz=74	73.88 337	⇓P	P	11 58 31.0 +0.6
I26A	New Underwood baz=74	73.88 333	⇓P	P	11 58 31.3 +0.7
G28A	Parade baz=74,SNR=6.2	73.95 335	⇑P	P	11 58 31.2 +0.3
BBRC	Big Bear Solar baz=74	74.00 318	⇑P	P	11 58 33.6 +2.0
HEC	Hector,Ludlow baz=74,SNR=8.0	74.01 319	⇑P	P	11 58 33.1 +1.5
H27A	Howes baz=74	74.05 334	⇑P	P	11 58 32.0 +0.5
K23A	Bowen Ranch, D baz=74,SNR=9.2	74.07 331	⇓P	P	11 58 33.0 +1.3
J24A	Dixon Ranch, L baz=74,SNR=9.8	74.09 332	⇓P	P	11 58 33.4 +1.5
CCUT	Cedar City comp=Z,23nm,0.8s	74.13 323	eP	P	11 58 34.5 +2.2
MVU	Marysvale comp=Z,19nm,0.8s	74.17 324	eP	P	11 58 34.5 +1.9
TUQ	Turquoise Moun baz=74,SNR=6.3	74.17 319	⇑P	P	11 58 33.9 +1.4
F29A	Eureka baz=74	74.17 336	⇑P	P	11 58 32.6 +0.4
TMUT	Trail Mountain	74.20 325	eP	P	11 58 34.5 +1.7
I25A	Rochford baz=75,SNR=18	74.24 333	⇑P	P	11 58 34.1 +1.3
H26A	Fairpoint baz=75,SNR=5.1	74.33 334	⇓P	P	11 58 34.0 +1.0
ARUT	Antelope Range comp=Z,344nm,1.0s	74.34 323	eP	P	11 58 35.4 +1.9
K22A	Casper baz=75,SNR=9.1	74.40 330	⇑P	P	11 58 34.6 +0.9
E30A	Jud baz=75	74.40 337	⇑P	P	11 58 34.1 +0.7
SHPR	Sheep Range	74.44 321	eP	P	11 58 35.8 +1.7
BFSC	Mount Baldy Ra baz=75	74.44 318	⇓P	P	11 58 35.6 +1.5
RSSD	Black Hills comp=Z,8.9nm,0.9s	74.45 333	eP	P	11 58 34.8 +0.7
I24A	Kuemmerle Ranc baz=75	74.50 332	⇑P	P	11 58 35.1 +0.9
F28A	McLaughlin baz=75,SNR=6.3	74.56 336	⇑P	P	11 58 34.5 +0.2
G27A	Dupree baz=75,SNR=6.4	74.61 335	⇑P	P	11 58 35.1 +0.5
GSC	Goldstone, Bar baz=75	74.61 319	⇓P	P	11 58 36.4 +1.4
GSC	Goldstone, Bar	74.61 319	eP	P	11 58 36.7 +1.7
H25A	Fruitdale baz=75,SNR=6.3	74.67 333	⇑P	P	11 58 35.5 +0.5
K21A	Alcova baz=75,SNR=39	74.72 330	⇑P	P	11 58 36.9 +1.3
E29A	Napoleon baz=75	74.72 337	⇑P	P	11 58 35.6 +0.3
G26A	Maurine baz=75,SNR=11	74.81 334	⇑P	P	11 58 35.7 -0.2
D30A	Buchanan baz=75,SNR=11	74.86 337	⇓P	P	11 58 36.2 +0.2
AGMN	Agassiz Nation baz=75,SNR=12	74.92 340	⇑P	P	11 58 36.9 +0.7
AGMN	Agassiz Nation comp=Z,10nm,0.8s	74.92 340	eP	P	11 58 36.3 0.0
MPU	Maple Canyon comp=Z,19nm,0.9s	74.94 325	eP	P	11 58 38.4 +1.4
TORD	Torodi Ar. Bea comp=Z,26nm,0.6s,baz=255,slow=5.6,SNR=281	74.97 69 P		P	11 58 35.8 -1.5
J22A	Midwest baz=75,SNR=16	74.97 331	⇓P	P	11 58 37.4 +0.5
DAU	Daniels Canyon	75.03 326	eP	P	11 58 39.2 +1.6
F27A	Lemmon baz=75,SNR=10	75.05 335	⇓P	P	11 58 37.5 +0.3
G25A	Newell baz=75,SNR=11	75.06 334	⇑P	P	11 58 37.5 +0.2
EDW2	Edwards Air Fo baz=75	75.07 318	⇑P	P	11 58 39.0 +1.4
SYO	Syowa Base	75.08 159	⇓eP	P	11 58 35.5 -1.5
SYO	Syowa Base	75.08 159	⇓ePcP	PcP	11 58 49.6 +0.3
E28A	Huff baz=75,SNR=10	75.12 336	⇓P	P	11 58 38.3 +0.7
D29A	Pettibone, Tap baz=75,SNR=5.2	75.12 337	⇓P	P	11 58 37.6 +0.1
NLU	North Lily Min comp=Z,8.1nm,1.0s	75.13 325	eP	P	11 58 40.0 +2.0
H24A	Dirks Ranch, A baz=76,SNR=22	75.18 333	⇑P	P	11 58 38.3 +0.3
LRMC	Laurel Mtn Rad baz=76,SNR=5.4	75.27 319	⇑P	P	11 58 39.9 +1.1
JLU	Jordanelle	75.27 326	eP	P	11 58 40.4 +1.5
C30A	Mose, Pekin baz=76,SNR=8.0	75.28 338	⇓P	P	11 58 38.7 +0.3
F26A	Lodgepole baz=76,SNR=17	75.29 334	⇑P	P	11 58 39.0 +0.4
E27A	Carson baz=76,SNR=6.2	75.33 335	⇓P	P	11 58 39.5 +0.7
I22A	9 Mile Ranch, baz=76,SNR=15	75.35 331	⇑P	P	11 58 39.6 +0.5
J21A	Lysite baz=76,SNR=12	75.36 330	⇑P	P	11 58 40.2 +1.0
FURC	Furnace Creek, baz=76,SNR=13	75.42 320	⇓P	P	11 58 41.1 +1.7
CTU	Camp Tracy comp=Z,6.6nm,0.9s	75.50 326	eP	P	11 58 41.6 +1.6
G24A	Alzada baz=76,SNR=17	75.58 333	⇑P	P	11 58 40.7 +0.4
D28A	Regan baz=76	75.59 336	⇓P	P	11 58 40.9 +0.7
I21A	Big Trails, Te baz=76,SNR=26	75.65 330	⇓P	P	11 58 41.3 +0.5
J20A	Shoshoni baz=76,SNR=8.3	75.67 330	⇑P	P	11 58 42.2 +1.3
F25A	Bowman baz=76	75.67 334	⇓P	P	11 58 41.4 +0.7
DUG	Dugway, Tooele baz=76,SNR=14	75.70 325	⇓P	P	11 58 42.5 +1.4
E26A	Carlson Angus baz=76,SNR=5.3	75.72 335	⇓P	P	11 58 41.3 +0.3
DAC	Darwin (Calif)	75.74 319	eP	P	11 58 42.9 +1.4
MDND	Maddock baz=76,SNR=8.3	75.80 337	⇑P	P	11 58 42.0 +0.7
MDND	Maddock	75.80 337	eP	P	11 58 42.4 +1.0
H22A	Clearmont baz=76	75.84 331	⇑P	P	11 58 42.7 +0.9
B30A	Myrvik Farm, E baz=76,SNR=8.1	75.86 338	⇑P	P	11 58 41.9 +0.2
D27A	Center baz=76	75.88 336	⇓P	P	11 58 42.6 +0.7
G23A	Biddle baz=76,SNR=15	75.90 332	⇓P	P	11 58 42.5 +0.5
BW06	Boulder Array comp=Z,12nm,1.3s	75.92 328	eP	P	11 58 42.6 +0.2
PDAR	Pinedale Array comp=Z,4.0nm,0.6s,baz=128,slow=8.3,SNR=36	75.92 328 P		P	11 58 43.1 +0.7
R11A	Troy Canyon, C baz=76,SNR=14	75.95 322	⇓P	P	11 58 44.3 +1.7
R11A	Troy Canyon, C comp=Z,11nm,1.0s	75.95 322	eP	P	11 58 43.7 +1.1
C28A	Hausauer Farms baz=76	75.97 337	⇓P	P	11 58 42.7 +0.5
F24A	Ekalaka baz=76,SNR=14	76.01 333	⇑P	P	11 58 43.1 +0.4
J19A	Crowheart baz=76,SNR=26	76.06 329	⇑P	P	11 58 44.1 +1.0
HWUT	Hardware Ranch comp=Z,9.8nm,0.7s	76.07 326	eP	P	11 58 44.2 +1.0
GRAC	Grapevine Rang baz=76	76.08 320	⇑P	P	11 58 44.8 +1.5
E25A	Miller Ranch, baz=76,SNR=8.8	76.12 334	⇑P	P	11 58 43.8 +0.6
I20A	Worland baz=76,SNR=9.3	76.14 330	⇓P	P	11 58 44.1 +0.6
D26A	Manning baz=76,SNR=5.2	76.17 335	⇓P	P	11 58 43.9 +0.5
H21A	Big Horn, Sher baz=76,SNR=9	76.17 331	⇑P	P	11 58 44.1 +0.4
B29A	Wagenman Farm, baz=77,SNR=8.5	76.23 338	⇓P	P	11 58 43.9 +0.2
A30A	Hoffart Farm, baz=77,SNR=6.2	76.28 339	⇓P	P	11 58 44.0 0.0
G22A	Birney baz=77	76.30 332	⇓P	P	11 58 44.5 +0.2
F23A	Volborg baz=77,SNR=27	76.32 333	⇑P	P	11 58 45.0 +0.6
BGU	Big Grassy Mou	76.34 325	eP	P	11 58 46.3 +1.6
VES	Vestal, Richgr baz=77,SNR=10	76.37 318	⇓P	P	11 58 45.8 +1.0
C27A	Sayler Ranch, baz=77	76.38 336	⇓P	P	11 58 45.1 +0.5
H20A	Greybull baz=77,SNR=18	76.50 330	⇑P	P	11 58 45.8 +0.3
SCHQ	Schefferville comp=Z,2.2nm,0.6s,baz=218,slow=5.2,SNR=5.7	76.51 359 P		P	11 58 46.3 +1.1
E24A	Baker baz=77,SNR=8.4	76.53 334	⇓P	P	11 58 46.4 +0.8
B28A	Dugan Ranch, T baz=77,SNR=12	76.58 337	⇑P	P	11 58 46.1 +0.5
A29A	Manning Farm, baz=77,SNR=17	76.58 338	⇓P	P	11 58 45.7 +0.1
SMMC	Simmler baz=77	76.60 317	⇑P	P	11 58 47.6 +1.5
D25A	Fairfield baz=77,SNR=9.3	76.61 335	⇑P	P	11 58 47.2 +1.2
I19A	Meeteetse baz=77,SNR=10	76.61 330	⇑P	P	11 58 47.2 +1.0
TIN	Tinemaha, Big baz=77	76.63 319	⇑P	P	11 58 48.0 +1.6
ULM	Lac du Bonnet comp=Z,10.0nm,0.6s,baz=151,slow=5.9,SNR=30	76.64 341 P		P	11 58 46.0 0.0
C26A	Wahner Farm, P baz=77,SNR=8.8	76.69 336	⇓P	P	11 58 47.0 +0.6
TPH	Tonopah	76.71 321	eP	P	11 58 48.3 +1.4
F22A	Rosebud baz=77,SNR=11	76.73 332	⇓P	P	11 58 47.0 +0.4
RCTC	Rector, Farmer baz=77	76.77 318	⇓P	P	11 58 48.0 +1.0
HVU	Hansel Valley comp=Z,14nm,0.8s	76.82 326	eP	P	11 58 48.7 +1.3
VNDA	Vanda comp=Z,2.2nm,0.9s,baz=125,slow=3.5,SNR=6.0	76.83 190 P		P	11 58 49.2 +2.4
B27A	Peters Farms, baz=77	76.86 337	⇑P	P	11 58 48.0 +0.7
E23A	Ismay baz=77,SNR=5.0	76.89 333	⇑P	P	11 58 47.8 +0.2
A28A	Rude Farm, Bot baz=77	76.93 338	⇓P	P	11 58 48.1 +0.4
D24A	Glendive baz=77,SNR=5.3	76.99 334	⇓P	P	11 58 49.1 +1.1
REDW	Red Top Meadow comp=Z,12nm,0.8s	77.00 328	eP	P	11 58 49.7 +1.2
MTUM	Tungsten Hills	77.03 319	eP	P	11 58 50.5 +1.7
C25A	Freed Ranch, W baz=77	77.05 335	⇑P	P	11 58 49.7 +1.3
LOHW	Long Hollow	77.06 328	eP	P	11 58 50.1 +1.3
H19A	Powell baz=77,SNR=7.3	77.09 330	⇓P	P	11 58 49.5 +0.7
E22A	Miles City baz=77	77.12 333	⇑P	P	11 58 49.4 +0.6
TPAW	Teton Pass comp=Z,12nm,0.9s	77.14 328	eP	P	11 58 51.0 +1.7
G20A	Bridger baz=78,SNR=13	77.16 331	⇑P	P	11 58 49.3 +0.2
B26A	Jensen Ranch, baz=78	77.20 336	⇓P	P	11 58 50.4 +1.2
I17A	Pilgrim Ck. baz=78,SNR=21	77.28 329	⇓P	P	11 58 51.6 +1.6
TSUM	Tsumeb comp=Z,18nm,0.8s	77.28 106	eP	P	11 58 49.3 -1.2
FXWY	Fox Creek comp=Z,4.8nm,0.8s	77.29 328	eP	P	11 58 51.1 +1.1
A27A	Ledoux Ranch, baz=78	77.32 337	⇑P	P	11 58 51.1 +1.3
MLAC	Mammoth, Mammo baz=78	77.38 320	⇓P	P	11 58 52.5 +1.8
D23A	Lindsay baz=78,SNR=6.7	77.39 334	⇓P	P	11 58 51.4 +1.1
ELK	Elko comp=Z,9.8nm,1.0s	77.40 324	eP	P	11 58 52.1 +1.3
H18A	Shoshone NF, C baz=78,SNR=19	77.41 330	⇓P	P	11 58 51.4 +0.7
IMW	Indian Meadow comp=Z,20nm,0.9s	77.44 328	eP	P	11 58 52.2 +1.2
FLWY	Flagg Ranch comp=Z,28nm,1.2s	77.46 329	eP	P	11 58 52.5 +1.6
B25A	Knox Farm, Ray baz=78	77.47 336	⇓P	P	11 58 52.1 +1.4
A26A	Wade Farm, Ken baz=78	77.56 337	⇑P	P	11 58 52.0 +0.8
RLMT	Red Lodge comp=Z,8.7nm,0.8s	77.56 330	eP	P	11 58 52.2 +0.7

F20A	Billings	77.58 331	⇑P		P	11 58 51.9	+0.5
	baz=78,SNR=5.1						
NVAR	Mina Array Bea	77.58 320	P		P	11 58 53.1	+1.3
	comp=Z,8.3nm,0.9s,baz=155,slow=5.3,SNR=44						
H17A	Grant Village	77.63 329	⇑P		P	11 58 53.1	+1.2
	baz=78,SNR=5.2						
H17A	Grant Village	77.63 329	*e*P		P	11 58 54.3	+2.4
LKWY	Lake	77.67 329	*e*P		P	11 58 54.9	+2.7
	comp=Z,8.6nm,1.0s						
E21A	Keefer Ranch,	77.68 332	⇓P		P	11 58 53.0	+1.1
	baz=78,SNR=6.6						
D22A	Cohagen	77.78 333	⇓P		P	11 58 53.6	+1.2
	baz=78,SNR=13						
YFT	Old Faithful	77.80 329	*e*P		P	11 58 56.2	+3.3
C23A	Lambert	77.89 334	⇓P		P	11 58 54.2	+1.2
	baz=78						
F19A	Roth Farm, Mol	77.97 331	⇑P		P	11 58 54.8	+1.2
	baz=78,SNR=9.5						
A25A	Svangstu Ranch	78.00 336	⇓P		P	11 58 54.5	+1.0
	baz=78,SNR=5.6						
YMR	Madison River	78.02 329	*e*P		P	11 58 56.0	+1.9
DGMT	Dagmar	78.03 335	⇓P		P	11 58 55.0	+1.2
	baz=78,SNR=8.4						
DGMT	Dagmar	78.03 335	*e*P		P	11 58 55.0	+1.2
	comp=Z,24nm,0.8s						
D21A	La Casta Ranch	78.05 333	⇑P		P	11 58 55.1	+1.1
	baz=78,SNR=11						
E20A	Meyer Farm, Mu	78.11 332	⇑P		P	11 58 55.4	+1.1
	baz=78,SNR=12						
BMN	Battle Mountai	78.29 323	*e*P		P	11 58 58.3	+2.8
	comp=Z,2.9nm,0.8s						
WAKR	Walker	78.30 320	*e*P		P	11 58 57.5	+1.8
A24A	Westby	78.32 335	⇑P		P	11 58 56.2	+0.8
	baz=79,SNR=6.3						
B23A	Brockton	78.34 335	⇑P		P	11 58 56.5	+1.1
	baz=79,SNR=6.1						
QLMT	Earthquake Lak	78.36 329	*e*P		P	11 58 58.1	+2.2
E19A	Rath Farm, Rou	78.37 331	⇓P		P	11 58 56.8	+1.1
	baz=79,SNR=13						
D20A	Manuel Ranch,	78.56 332	⇓P		P	11 58 57.7	+1.0
	baz=79,SNR=9.3						
CMB	Columbia Colle	78.58 319	*e*P		P	11 58 58.2	+1.2
	comp=Z,4.4nm,0.8s						
A23A	Redstone	78.69 335	⇑P		P	11 58 58.4	+1.1
	baz=79						
HLID	Hailey	78.93 326	⇓P		P	11 59 01.0	+2.0
	baz=79,SNR=50						
D19A	Cripps Ranch,	78.95 332	⇓P		P	11 58 59.6	+0.7
	baz=79,SNR=9.6						
C20A	Veseth Ranch,	78.99 333	⇓P		P	11 58 59.5	+0.5
	baz=79,SNR=6.4						
MCMT	McKenzie Canyo	79.05 328	*e*P		P	11 59 01.3	+1.6
	comp=Z,5.5nm,0.7s						
BOZ	Bozeman (W)	79.06 329	*e*P		P	11 58 59.7	+0.1
	comp=Z,5.2nm,1.4s						
A22A	Carney Farms,	79.13 334	⇑P		P	11 59 00.7	+0.9
	baz=79,SNR=11						
DLMT	Dillon	79.32 329	*e*P		P	11 59 02.7	+1.7
C19A	Slack Wire Ran	79.45 332	⇑P		P	11 59 02.2	+0.6
	baz=80,SNR=6.7						
A21A	Bergtoll Ranch	79.54 334	⇓P		P	11 59 02.5	+0.6
	baz=80						
B20A	Solberg Farm,	79.56 333	⇑P		P	11 59 02.9	+0.8
	baz=80,SNR=8.6						
MFID	Camas Ranch	79.57 326	*e*P		P	11 59 04.2	+1.9
	comp=Z,48nm,1.8s						
LRM	Limekiln Ridge	79.58 329	*e*P		P	11 59 04.0	+1.5
A20A	Cobblestone Ra	79.86 333	⇓P		P	11 59 04.4	+0.7
	baz=80,SNR=16						
HRY	Holter Researc	79.94 330	*e*P		P	11 59 05.9	+1.6
B19A	Brinkman Farms	79.96 333	⇓P		P	11 59 05.2	+1.0
	baz=80,SNR=13						
EGMT	Eagleton	79.98 332	⇑P		P	11 59 04.9	+0.4
	baz=80,SNR=8.4						
EGMT	Eagleton	79.98 332	*e*P		P	11 59 05.2	+0.8
	comp=Z,11nm,0.9s						
A19A	Klindworth Far	80.24 333	⇑P		P	11 59 06.3	+0.6
	baz=81,SNR=6.3						
WVOR	Wild Horse Val	80.42 323	*e*P		P	11 59 07.7	+0.8
	comp=Z,3.6nm,0.9s						
PNCL	Nicolau / Gran	80.49 42	*e*P		P	11 59 07.7	+0.5
	comp=Z,29nm,1.9s						
MESJ	Messejana	80.52 43	*e*P		P	11 59 07.6	+0.2
	comp=Z,31nm,1.3s						
PVAQ	Vaqueiros	80.58 43	*e*P		P	11 59 08.2	+0.5
	comp=Z,32nm,1.7s						
CHMT	Chamberlain Mo	80.76 329	*e*P		P	11 59 10.0	+1.3
BOSA	Boshof	80.80 117	P		P	11 59 08.3	-1.1
	comp=Z,2.4nm,0.5s,baz=259,slow=4.3,SNR=12						
BOSA	Boshof	80.80 117	*e*P		P	11 59 08.1	-1.3
	comp=Z,4.2nm,0.9s						
MOD	Modoc Plateau	81.01 322	*e*P		P	11 59 11.6	+1.6
MSO	Missoula	81.02 329	⇑P		P	11 59 10.9	+0.9
	baz=81,SNR=5.2						
MSO	Missoula	81.02 329	*e*P		P	11 59 11.5	+1.5
	comp=Z,18nm,1.5s						
SLMT	Seeley Lake	81.11 329	*e*P		P	11 59 11.7	+1.3
PMTG	Montargil	81.26 42	*e*P		P	11 59 11.4	+0.1
	comp=Z,46nm,1.5s						
BMO	Blue Mountains	81.33 326	*e*P		P	11 59 12.4	+0.8
	comp=Z,20nm,1.2s						
PBAR	Barrancos	81.47 43	*e*P		P	11 59 12.4	0.0
	comp=Z,42nm,1.5s						
WDC	Whiskeytown Da	81.47 320	*e*P		P	11 59 12.2	-0.1
	comp=Z,9.2nm,0.6s						
PTOM	Tomar	81.48 41	*e*P		P	11 59 12.5	+0.1
	comp=Z,54nm,1.3s						
SWMT	Swartz Lake	81.54 329	*e*P		P	11 59 14.0	+1.3
PCAS	Casmilo, Conde	81.70 41	*e*P		P	11 59 14.3	+0.8
	comp=Z,93nm,1.3s						
YBMT	Yellow Bay	81.80 330	*e*P		P	11 59 15.3	+1.3
M04C	Macdoel	81.81 321	⇓P		P	11 59 15.3	+1.0
	baz=82						
N02D	Trinity Center	81.82 320	⇑P		P	11 59 14.7	+0.5
	baz=82						
JTMT	Jette	81.84 329	*e*P		P	11 59 15.6	+1.3
K05A	Summer Lake	81.87 322	*e*P		P	11 59 16.2	+1.6
	comp=Z,28nm,0.8s						
I07A	Izee	81.98 324	*e*P		P	11 59 16.8	+1.7
	comp=Z,9.4nm,0.9s						
F10A	Beach Ranch, E	82.05 327	*e*P		P	11 59 13.7	-1.7
	comp=Z,11nm,0.6s						
BSMT	Bassoo Peak	82.16 329	*e*P		P	11 59 17.2	+1.2
M02C	Callahan	82.16 320	⇑P		P	11 59 17.0	+0.9
	baz=82						
PCBR	Castelo Branco	82.19 41	*e*P		P	11 59 15.6	-0.5
	comp=Z,18nm,1.6s						
LBTB	Lobatse	82.33 114	P		P	11 59 16.9	-0.6
	comp=Z,3.4nm,0.6s,baz=255,slow=6.9,SNR=5.8						
FFC	Flin Flon	82.40 340	*e*P		P	11 59 17.2	+0.4
J05D	Fort Rock, OR	82.42 323	⇓P		P	11 59 18.5	+1.1
	baz=83						
TAM	Tamanrasset	82.62 62	*e*P		P	11 59 18.2	-0.7
	comp=Z,13nm,1.1s						
PVRL	Vila Real	82.91 40	*e*P		P	11 59 19.6	-0.2
	comp=Z,36nm,1.9s						
POLO	Lamas de Olo	82.92 40	*e*P		P	11 59 19.9	0.0
	comp=Z,27nm,2.1s						
L02D	Cave Junction,	83.08 321	⇓P		P	11 59 22.1	+1.5
	baz=83						
I05D	Terrebonne, OR	83.15 324	⇓P		P	11 59 22.4	+1.4
	baz=84						
MVO	Moncorvo	83.26 41	*e*P		P	11 59 21.8	+0.2
	comp=Z,36nm,1.4s						
I04A	Tendick Farm,	83.41 323	⇑P		P	11 59 23.5	+1.2
	baz=84						
HAWA	Hanford	83.52 326	*e*P		P	11 59 24.2	+1.5
	comp=Z,18nm,1.1s						
NEW	Newport	83.57 328	⇓P		P	11 59 24.3	+1.4
	baz=84						
D08A	Wollman Farm,	83.64 327	*e*P		P	11 59 24.5	+1.2
G05D	Wamic, OR	83.72 324	⇑P		P	11 59 25.7	+1.9
	baz=84						
FCC	Fort Churchill	83.75 346	*e*P		P	11 59 23.5	0.0
	comp=Z,0.1nm,0.7s						
C09A	Chrisman Ranch	83.82 328	*e*P		P	11 59 25.2	+0.9
ESDC	Sonseca Array	84.29 43	P		P	11 59 27.1	+0.2
	comp=Z,10nm,0.9s,baz=244,slow=4.9,SNR=21						
LTY	Liberty	84.67 326	*e*P		P	11 59 29.6	+1.0
	comp=Z,12nm,0.8s						
B08A	Colville Reser	84.72 327	*e*P		P	11 59 29.2	+0.4
	comp=Z,79nm,2.7s						
GSM	Grass Mountain	85.23 326	P		P	11 59 31.8	+0.4
B06A	Marblemount	85.91 327	*e*P		P	11 59 35.0	+0.4
	comp=Z,18nm,0.6s						
JCW	Jim Creek	85.93 326	P		P	11 59 34.9	+0.2
A05A	Maple Falls	86.52 327	*e*P		P	11 59 37.9	+0.4
LSZ	Lusaka	88.14 106	P		P	11 59 46.0	-0.2
	comp=Z,2.1nm,0.7s,baz=44,slow=11,SNR=4.3						
EPF	Esparros	88.84 42	*e*P		P	11 59 48.6	-0.1
ROSF	Rostrenen	89.61 36	*e*P		P	11 59 51.3	-0.8
	comp=Z,60nm,1.0s						
SGMF	Saint Gilles	89.96 37	*e*P		P	11 59 52.6	-1.1
LFF	La Frestale	90.08 41	*e*P		P	11 59 53.8	-0.6
MFF	Saint Martin d	90.44 39	*e*P		P	11 59 55.5	-0.5
	comp=Z,18nm,0.7s						
GRR	Gorron	90.98 37	*e*P		P	11 59 57.3	-1.2
	comp=Z,30nm,0.7s						
KEST	Kesra	91.44 52	P		P	12 00 03.2	+2.2
	comp=Z,1.9nm,0.9s,baz=17,slow=5.2,SNR=3.2						
LDF	La Druitiere	91.51 37	*e*P		P	11 59 59.9	-1.0
BGF	Bois d'Agland	92.18 40	*e*P		P	12 00 03.3	-0.8
	comp=Z,28nm,0.9s						
YKA	Yellowknife Ar	92.57 340	P		P	12 00 06.0	+0.6
	comp=Z,2.6nm,0.6s,baz=127,slow=4.6,SNR=76						
AVF	Avril sur Loir	92.60 40	*e*P		P	12 00 04.4	-1.6
SMF	Signal de Mont	92.82 40	*e*P		P	12 00 06.4	-0.6
	comp=Z,14nm,0.8s						
LOR	Lormes	93.13 40	*e*P		P	12 00 07.4	-1.1
	comp=Z,11nm,0.9s						
ORIF	Oris-en-Rattie	93.24 43	*e*P		P	12 00 09.3	+0.2
	comp=Z,39nm,1.1s						
LPL	La Plagne	94.06 42	*e*P		P	12 00 13.2	+0.2
LPG	La Plagne	94.06 42	*e*P		P	12 00 13.3	+0.2
BAIF	Baives	94.69 37	*e*P		P	12 00 14.5	-1.0
GERES	GERESS Array B	99.76 41	P		Pdif	12 00 38.4	-0.1
	comp=Z,0.6nm,0.7s,baz=202,slow=6.9,SNR=5.1						
ASAR	Alice Springs	130.67 204	PKP		PKPdf	12 06 05.2	+0.3
	comp=Z,2.1nm,0.6s,baz=132,slow=1.8,SNR=29						
SEY	Seymchan	131.60 338	PKP		PKPdf	12 06 06.4	+1.2
	comp=Z,1.0nm,0.5s,baz=63,slow=2.4,SNR=8.8						
WRA	Warramunga Arr	133.84 207	PKP		PKPdf	12 06 11.1	+0.3
	comp=Z,3.0nm,0.6s,baz=161,slow=1.6,SNR=40						
WRA			SKPbc		SKPbc	12 09 14.9	0.0
	comp=Z,7.0nm,0.9s,baz=154,slow=2.6,SNR=34						
ZALV	Zalesovo Beam	141.18 27	PKhKP		PKPpre	12 06 18.4	
	comp=Z,0.6nm,0.6s,baz=314,slow=5.3,SNR=4.4						
ZALV			PKP		PKPdf	12 06 24.4	+1.2
	comp=Z,1.0nm,0.5s,baz=289,slow=2.6,SNR=5.9						
ZALV			SKPbc		SKiKP	12 09 37.2	+0.3
	comp=Z,2.0nm,0.6s,baz=311,slow=4.1,SNR=6.0						
KSH	Kashi	143.25 53	PKP		PKPab	12 06 24.1	+0.1
KSH			sPKP			12 07 45.5	
KSH			PKS		PKSdf	12 10 00.0	-3.3
KSH			SKS		SKSdf	12 13 11.8	-0.3
KSH			PPMZ				
	comp=Z,97nm,4.3s						
KSH			LN				
	comp=Z,38nm,4.0s						
KSH			LE				
	comp=Z,92nm,4.9s						
KSH			LZ				
	comp=Z,210nm,4.9s						
MKAR	Makanchi Array	144.37 38	PKP		PKPbc	12 06 28.6	+0.3
	comp=Z,15nm,0.6s,baz=314,slow=3.7,SNR=188						
MKAR			SKPbc		SKiKP	12 09 44.2	+0.4
	comp=Z,2.5nm,0.9s,baz=323,slow=1.6,SNR=6.2						
SMLA	Simla	145.93 67	*i* P		PKPab	12 06 34.4	0.0
NDI	New Delhi	146.17 71	*e*P		PKPdf	12 06 33.0	+0.3
HYB	Hyderabad	146.34 91	*i* PKP		PKPbc	12 06 34.5	-0.6
SOEI	Soe	146.89 199	*e*PKPbc		PKPab	12 06 38.1	-0.5
ASAJ	Asahikawa	147.71 320	PKPbc		PKPbc	12 06 38.6	+0.7
	comp=Z,11nm,0.9s,baz=216,slow=7.9,SNR=7.3						
WMQ	Urumqi	149.20 39	*e*PKPbc		PKPdf	12 06 36.4	-1.0
WMQ			PKPab		PKPab	12 06 47.8	+0.6
WMQ			pPKP		pPKPdf	12 07 34.1	-10
WMQ			sPKP			12 07 57.3	
WMQ			PKS		PKSdf	12 10 10.0	-2.3
WMQ			PP		PP	12 10 15.7	0.0
WMQ			SKS		SKSdf	12 13 20.6	+0.3
WMQ			SKKS		SKKSac	12 16 40.8	+0.1
WMQ			SS		SS	12 29 03.5	-2.6
WMQ			PPMZ				
	comp=Z,260nm,6.0s						
KOLN	Koldanda	151.85 72	*e*P		PKPbc	12 06 48.8	0.0
	comp=Z,11nm,0.6s						
DANN	Dangsing	151.93 71	*e*P		PKPbc	12 06 48.8	-0.3
	comp=Z,68nm,0.7s						
GKN	Gorkha	152.74 71	*e*P		PKPbc	12 06 50.9	+0.2
	comp=Z,31nm,0.7s						
DMN	Daman	153.19 72	*e*P		PKPbc	12 06 52.0	+0.2
	comp=Z,41nm,0.9s						
KKN	Kakani	153.33 72	*e*P		PKPbc	12 06 51.9	-0.2
USRK	Ussuriysk Ar.	153.34 330	PKPbc		PKPbc	12 06 50.8	-0.5
	comp=Z,1.3nm,0.6s,baz=144,slow=42,SNR=3.9						
USRK			PKPab		PKPab	12 07 05.1	+0.7
	comp=Z,2.6nm,0.6s,baz=140,slow=40,SNR=6.5						
PKIN	Phulchoki	153.45 72	*e*P		PKPbc	12 06 52.2	-0.2
PKI	Pulchoki	153.46 72	*e*P		PKPbc	12 06 52.7	+0.2
SONM	Songino Array	153.49 12	PKP		PKPdf	12 06 46.0	+2.2
	comp=Z,0.7nm,0.9s,baz=129,slow=2.1,SNR=4.8						
SONM			PKPbc		PKiKP	12 06 52.4	+0.7
	comp=Z,1.0nm,0.6s,baz=240,slow=0.8,SNR=10						
GUN	Gumba	153.84 71	*e*P		PKPbc	12 06 53.6	+0.2
JIRN	Jiri	154.14 72	*e*P		PKPbc	12 06 54.1	+0.1
MJAR	Matsushiro Arr	154.50 310	PKPbc		PKPbc	12 06 53.6	-0.4
	comp=Z,2.4nm,0.6s,baz=79,slow=1.6,SNR=6.6						
MJAR			PKPab		PKPab	12 07 09.9	+0.2
	comp=Z,2.6nm,0.9s,baz=56,slow=4.8,SNR=5.0						
RAMN	Ramite	154.58 73	*e*P		PKPbc	12 06 55.1	+0.3
	comp=Z,23nm,0.8s						
ODAN	Odare	155.29 73	*e*P		PKPdf	12 06 55.6	+8.5
TAPN	Taplejung	155.52 72	*e*P		PKPdf	12 06 57.1	+10
HHC	Hu-ho-hao-te	161.08 6	*e*PKP		PKPdf	12 06 52.6	-0.9
HHC			pPKP		pPKPdf	12 07 50.6	-10
HHC			sPKP			12 08 13.6	
HHC			PP		PP	12 11 22.8	+2.0
HHC			SKS		SKSdf	12 13 33.9	+0.4
HHC			SKKS		SKKSac	12 17 46.5	+2.5
HHC			SS		SS	12 31 13.9	+1.4
HHC			PPMZ				
	comp=Z,110nm,8.6s						
LZH	Lanzhou	163.38 30	*e*PKP		PKPdf	12 06 56.4	+0.4
LZH			pPKP		PKPab	12 07 54.5	+6.1
LZH			sPKP			12 08 17.6	
CMAR	Chiang Mai Arr	165.41 101	PKPab		PKPab	12 07 57.3	-0.5
	comp=Z,0.7nm,0.7s,baz=249,slow=5.1,SNR=4.8						

CSEM 08 11:51:38.8,45°.98N×15°.48E,h0km,ML0.6,1C-2D,Mining explosion.,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CESS	Cesta pri Krsk	0.01	241	⇑*i* Pg	Pg	11 51 38.5	-0.7
CESS	Cesta pri Krsk	0.01	241	Pg	Pg	11 51 38.5	-0.6
	1μm,0.1s						
GOLS	Golise	0.10	73	*i* Pg	Pg	11 51 41.0	+0.1
GOLS				*i* Sg	Sg	11 51 43.3	+1.0
	comp=Z,10.0nm,0.1s						
GOLS	Golise	0.10	73	*i* Pg	Pg	11 51 41.0	+0.1
GOLS				*i* Sg	Sg	11 51 43.3	+1.0
	comp=Z,10.0nm,0.1s						
LEGS	Legarje	0.12	255	*i* Pg	Pg	11 51 40.8	-0.3
LEGS				*i* Sg	Sg	11 51 43.3	+0.6
LEGS	Legarje	0.12	255	*i* Pg	Pg	11 51 40.8	-0.3
LEGS				*i* Sg	Sg	11 51 43.3	+0.6
CRES	Cresnjev	0.15	186	⇓*i* Pg	Pg	11 51 41.2	-0.6
CRES				*i* Sg	Sg	11 51 44.2	+0.4
	comp=Z,7.0nm,0.2s						
CRES	Cresnjev	0.15	186	⇓*i* Pg	Pg	11 51 41.2	-0.6
CRES				*i* Sg	Sg	11 51 44.2	+0.3
	comp=Z,7.0nm,0.2s						

*ISK **08** 11:54:43.3,38°.76N×40°.10E,h8km,MD3.0*
*CSEM **08** 11:54:43.7±0.2,38°.73N×40°.07E,h5km,MD3.0,Error ellipse: s-maj=6.3km s-min=5.7km az=139.0*
*DDA **08** 11:54:43.6,38°.75N×40°.00E,h4km,ML3.5*

ISC 08 11:54:44.1±1.1,38°.77N±0°.02×40°.09E±0°.02,h9km±10km, n48,σ1§06/60,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BINT	Bingol	0.33	71	*e*Pg	Pn	11 54 53.7	-1.7
BINT				*e*Sg	Sb	11 55 01.4	+3.5
BNGB	Bing¨¶l	0.51	64	*e*PG	Pg	11 54 53.7	-0.4
BNGB				*e*SG	Sb	11 55 01.4	-1.7
DYBB	Diyarbakir	0.82	177	*e*PG	Pg	11 54 59.3	-0.6
BNGL	BIÑGOL	0.85	77	*i* P	Pn	11 55 01.2	-1.3
BNGL				*i* S	Sn	11 55 15.0	-0.3
ERZN	Erzincan	0.86	341	*e*PG	Pg	11 55 00.3	-0.5
ERZN				*e*SG	Sb	11 55 12.9	-0.3
DIY	Diyarbakir	0.88	173	*e*Pg	Pg	11 54 59.3	-1.8
SVAN	Silvan-Diyarba	1.07	125	*e*PG	Pg	11 55 03.8	-0.9
VRTB	Varto-Mus	1.14	69	*e*PN	Pg	11 55 05.2	-0.8
VRTB	Varto-Mus	1.14	69	*e*Pn	Pg	11 55 05.2	-0.8
BEST	Besiri	1.28	133	*i* P	Pg	11 55 08.4	-0.3
BEST				*i* S	Sn	11 55 27.7	+2.0
KOPT	Kop Dagi	1.29	14	*i* P	Pg	11 55 09.0	+0.1
KOPT	Kop Dagi	1.29	14	*i* P	Pg	11 55 09.0	+0.1
KOPT				*i* S	Sn	11 55 32.5	+6.3
KEMA	Kemaliye	1.34	292	*i* P	Pn	11 55 08.0	-1.1
KEMA				*i* S	Sn	11 55 26.7	-0.4
KEMA	Kemaliye	1.34	292	*i* P	Pn	11 55 08.0	-1.1
KEMA				*i* S	Sn	11 55 26.7	-0.4
MAZI	Mazidag	1.34	168	*e*PN	Pn	11 55 08.0	-1.2
MAZI	Mazidag	1.34	168	*e*Pn	Pn	11 55 08.0	-1.2
ILIC	ilic-Erzincan	1.36	300	*e*PN	Pb	11 55 09.4	-0.6
ILIC	ilic-Erzincan	1.36	300	*e*Pn	Pb	11 55 09.4	-0.6
MALT	Malatya	1.38	251	*e*PN	Pb	11 55 09.3	-0.9
MALT	Malatya	1.38	251	*e*Pn	Pb	11 55 09.3	-0.9
EZM	Erzurum	1.50	41	*e*PN	Pn	11 55 11.1	-0.5
ERZM	Erzurum	1.51	41	*i* P	Pg	11 55 12.9	-0.2
ERZM	Erzurum	1.51	41	*i* P	Pg	11 55 12.9	-0.2
KELT	Kelkit	1.52	335	*i* P	Pg	11 55 13.1	-0.2
KELT				*i* S	Sg	11 55 33.2	+0.2
KELT	Kelkit	1.52	335	*i* P	Pg	11 55 13.1	-0.2
KELT				*i* S	Sg	11 55 33.2	+0.2
MARD	Mardin	1.55	159	*i* P	Pg	11 55 13.4	-0.5
MARD				*i* S	Sg	11 55 35.2	+1.1
EKAR	Karacoban	1.62	72	*i* S	Sg	11 55 41.6	+5.5
BAYT	Ayd¨–ntepe-Bay	1.62	1	*e*PN	Pn	11 55 13.2	0.0
BAYT	Ayd¨–ntepe-Bay	1.62	1	*e*Pn	Pn	11 55 13.2	0.0
URFA	Urfa	1.66	217	*e*PN	Pn	11 55 13.3	-0.3
URFA	Urfa	1.66	217	*e*Pn	Pn	11 55 13.3	-0.3
GUMT	Gumushane	1.75	345	*e*PN	Pn	11 55 14.8	-0.1
GUMT	Gumushane	1.75	345	*e*Pn	Pn	11 55 14.8	-0.1
DARE	Darende-Malaty	2.05	265	*e*PN	Pn	11 55 19.1	+0.2
DARE	Darende-Malaty	2.05	265	*e*Pn	Pn	11 55 19.1	+0.2
SUSE	Susehri	2.05	315	*i* P	Pg	11 55 22.8	-0.6
SUSE	Susehri	2.05	315	*i* P	Pg	11 55 22.8	-0.6
SUSE				*i* S	Sg	11 55 49.4	-0.6
KTUT	Trabzon	2.23	354	*e*PN	Pn	11 55 21.8	+0.5
KTUT	Trabzon	2.23	354	*e*Pn	Pn	11 55 21.8	+0.5
SIRT	Sirnak	2.25	124	*e*PN	Pn	11 55 21.4	-0.2
SIRT	Sirnak	2.25	124	*e*Pn	Pn	11 55 21.4	-0.2
GEVA	Gevas	2.38	100	*i* P	Pg	11 55 29.1	-0.6
GEVA				*i* S	Sg	11 56 03.4	+2.9
AGRB	Hanur-Agry	2.40	69	*e*PN	Pn	11 55 23.8	0.0
AGRB	Hanur-Agry	2.40	69	*e*Pn	Pn	11 55 23.8	0.0
GZT	Gaziantep	2.44	235	*i* P	Pg	11 55 31.3	+0.4
GZT				*i* S	Sg	11 56 05.7	+3.2
RSDY	Resadiye-TOKAT	2.68	308	*e*PN	Pn	11 55 28.0	+0.5
RSDY	Resadiye-TOKAT	2.68	308	*e*Pn	Pn	11 55 28.0	+0.5
HAKT	HAKKARI	3.10	112	*i* P	Pg	11 55 42.1	-1.5
HAKT				*i* S	Sg	11 56 29.9	+6.2

*IDC **08** 12:05:56.6±1.0,34°.30S×72°.35W,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.8/30,mbtmp3.7/4,ML4.2/1,Error ellipse: s-maj=38.0km s-min=22.7km az=77.0*
*ISCJB **08** 12:05:57.2±2.2,34°.16S±0°.04×72°.33W±0°.07,h7km±14km, mb3.6/3,Error ellipse: s-maj=9.9km s-min=6.6km az=26.3*
*GUC **08** 12:05:59.8±0.3,34°.19S×72°.33W,h37km±1km,ML4.0*

ISC 08 12:05:58.3±3.8,34°.15S±0°.07×72°.24W±0°.09,h7km±22km, n15,σ1§09/21,mb3.8/3,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	Los Niches	1.19	136	*e*P	Pb	12 06 20.6	-0.6
NICH				*i* S	Sg	12 06 36.2	-0.3
RCDM	Rinconada Maip	1.37	61	*i* P	Pn	12 06 23.8	0.0
RCDM				*i* S	Sn	12 06 42.4	+0.2
ANTU	Antumapu	1.46	67	*i* P	Pn	12 06 25.7	+0.6
ANTU				*i* S	Sb	12 06 45.3	+0.7
ANTU				IAML		12 06 45.7	
	comp=N,4μm,0.4s						
STL	Santa Lucia	1.51	62	⇑*i* P	Pn	12 06 25.2	-0.7
STL				*i* S	Sn	12 06 45.2	-0.6
CLCH	Cerro Calan	1.61	62	*e*P	Pn	12 06 27.6	+0.5
CLCH				*i* S	Sn	12 06 48.9	+0.7
CLCH				IAML		12 06 54.7	
	comp=N,3μm,0.6s						
PEL	Peldehue	1.64	53	*e*P	Pn	12 06 28.3	+0.7
PEL				*i* S	Sn	12 06 49.9	+0.8
PEL				IAML		12 06 59.5	
	comp=N,3μm,0.5s						
LNCH	Linares	1.77	163

s-maj=295.9km s-min=34.3km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.56**	**258**	P	P	12 21 40.9	-0.3
	0.4nm,0.5s,baz=96,slow=7.0,SNR=26						
ASAR	**Alice Springs**	**49.68**	**253**	P	P	12 21 42.1	+0.1
	2.7nm,0.6s,baz=87,slow=8.7,SNR=79						
PDAR	**Pinedale Array**	**83.53**	**42**	P	P	12 25 18.2	0.0
	0.5nm,0.7s,baz=208,slow=3.7,SNR=4.2						

*IDC **08** 12:24:28.3±2.0, 1°.48N×126°.79E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.5/41, mbtmp4.0/3, Error ellipse: s-maj=163.7km s-min=24.5km az=66.0*
*ISCJB **08** 12:24:40.8±1.1, 1°.74N±0°.09×127°.35E±0°.09, h128km, mb3.8/3, Error ellipse: s-maj=15.9km s-min=8.7km az=40.8*
*DJA **08** 12:24:42.7±1.9, 2°N±10°×12°7E±1°3, h125km±10km, M4.3/5, mb4.9/3, mB4.8/3, MLv4.1/5, Mw(mB)4.0/3*
ISC 08 12:24:42.7±1.4, 1°.6N±0°.1×127°.4E±0°.1, h128km, n16, σ1⇧32/18, mb3.7/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.85**	**179**	P	**Pn**	**12 25 03.3**	**-0.8**
TNTI				S	**Sn**	**12 25 22.2**	**+1.9**
LBMI	**Labuha**	**2.25**	**176**	P	**Pn**	**12 25 21.1**	**+1.3**
LBMI				S	**Sn**	**12 25 48.5**	**+0.3**
KMSI	**Cibinong**	**3.52**	**253**	P	**Pn**	**12 25 35.6**	**-0.5**
SANI	**Sanana**	**3.90**	**200**	P	**Pn**	**12 25 38.6**	**-2.5**
GTOI	**Gorontalo**	**4.45**	**257**	P	**Pn**	**12 25 48.1**	**-0.3**
MRSI	**Marisa**	**5.53**	**258**	P	**Pn**	**12 26 02.5**	**-0.3**
	54nm,0.6s,732nm0.2nm						
APSI	**Ampana**	**6.23**	**246**	P	**Pn**	**12 26 15.2**	**+2.8**
TTSI	**Tana Toraja**	**8.84**	**238**	P	**Pn**	**12 26 46.1**	**-1.5**
	51nm,0.6s,488nm0.2nm						
SPSI	**Sidrap Palu**	**9.39**	**234**	P	**Pn**	**12 26 55.1**	**+0.1**
MTN	**Manton Dam**	**14.86**	**165**	P	**P**	**12 28 09.1**	**+0.1**
	baz=1.8,SNR=7.0						
KDU	**Kakadu**	**15.10**	**160**	P	**P**	**12 28 12.1**	**+0.4**
	baz=1.7,SNR=5.5						
KNRA	**Kununurra**	**17.25**	**175**	P	**P**	**12 28 35.1**	**-0.3**
	baz=3.5,SNR=4.7						
WRA	**Warramunga Arr**	**22.51**	**163**	P	**P**	**12 29 30.5**	**-1.4**
	5.3nm,0.4s,baz=340,slow=11,SNR=95						
QIS	**Mount Isa**	**25.11**	**152**	P	**P**	**12 29 56.1**	**+0.3**
	baz=9.5,SNR=5.1						
ASAR	**Alice Springs**	**25.94**	**166**	P	**P**	**12 30 02.2**	**-1.1**
	1.2nm,0.5s,baz=344,slow=7.7,SNR=51						
MKAR	**Makanchi Array**	**59.63**	**326**	P	**P**	**12 34 33.0**	**-0.3**
	0.4nm,0.5s,baz=115,slow=7.4,SNR=7.2						

*NIED **08** 12:41:00, 25°.50N×128°.50E, h5km, Mw4.3 Best double couple: M0=2.83000×10^15 NP1:φ=79.00000°, δ=14.00000°, λ=-58.00000°. NP2:φ=226.00000°, δ=78.00000°, λ=-98.00000°.*
*IDC **08** 12:41:14.1±0.7, 25°.43N×128°.45E, h0km, mb4.3/19, mb1 4.4/22, mb1mx4.3/35, mbtmp4.3/22, ML3.8/3, MS3.4/7, Ms1 3.4/7, ms1mx3.0/35, Error ellipse: s-maj=18.7km s-min=14.3km az=99.0*
*ISCJB **08** 12:41:14.3±1.1, 25°.45N±0°.02×128°.44E±0°.03, h14km±7km, mb4.5/44, MS3.6/8, Error ellipse: s-maj=5.1km s-min=3.4km az=39.3*
*NEIC **08** 12:41:15.3±0.3, 25°.40N×128°.36E, h10km, mb4.6/14, MW4.2(NIED), Error ellipse: s-maj=7.7km s-min=5.3km az=128.0*
*JMA **08** 12:41:15.8±0.4, 25°.45N×128°.54E, h58km, M4.3*
*MOS **08** 12:41:16.9±1.0, 25°.45N×128°.40E, h31km, mb4.6/29, Error ellipse: s-maj=11.9km s-min=6.5km az=98.9*
ISC 08 12:41:17.6±2.8, 25°.48N±0°.05×128°.45E±0°.05, h23km±20km, n124, σ1⇧52/140, mb4.5/44, MS3.6/8, 1C-7D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.91**	**316**	P	**Pn**	**12 41 33.9**	**-1.1**
JJT2				S	**Sn**	**12 41 47.2**	**-0.2**
JNTH	**Nagotoyohara**	**1.10**	**340**	P	**Pn**	**12 41 35.9**	**-1.7**
JNTH				S	**Sn**	**12 41 50.4**	**-1.7**
JOW	**Kunigami**	**1.35**	**353**	P	**Pn**	**12 41 39.6**	**-1.5**
JOW				S	**Sn**	**12 41 56.2**	**-2.1**
JOW	**Kunigami**	**1.35**	**353**	Pn	**Pn**	**12 41 39.6**	**-1.5**
JOW				Sn	**Sn**	**12 41 56.3**	**-2.0**
	30nm,0.3s,baz=114,slow=28,SNR=16						
JAGN	**Aguni-jima**	**1.55**	**316**	P	**Pn**	**12 41 42.9**	**-0.9**
JAGN				S	**Sn**	**12 42 03.0**	**-0.1**
JIH	**Iheya**	**1.60**	**344**	P	**Pn**	**12 41 43.7**	**-0.8**
JIH				S	**Sn**	**12 42 02.3**	**-2.2**
JKE	**Kume jima 2**	**1.72**	**300**	P	**Pn**	**12 41 44.1**	**-2.0**
JKE				S	**Sn**	**12 42 06.1**	**-1.2**
JOKE	**Okinoerabujima**	**1.87**	**3**	P	**Pn**	**12 41 46.7**	**-1.6**
JOKE				S	**Sn**	**12 42 09.5**	**-1.7**
JTK	**Tokunoshima**	**2.33**	**11**	P	**Pn**	**12 41 53.1**	**-1.5**
JTK				S	**Sn**	**12 42 18.4**	**-4.2**
JMZ	**Minamidaito 2**	**2.52**	**82**	P	Pn	12 41 53.3	-3.8
JMZ				S	Sn	12 42 19.9	-7.2
JAMN	**Amaminishikomi**	**2.82**	**13**	P	**Pn**	**12 41 59.7**	**-1.6**
JAMN				S	**Sn**	**12 42 33.7**	**-0.9**
JOGS	**Gusukube**	**2.85**	**256**	P	**Pn**	**12 42 00.7**	**-1.0**
JOGS				S	**Sn**	**12 42 34.6**	**-0.8**
JMJ	**Miyako jima 2**	**2.94**	**258**	P	**Pn**	**12 42 01.2**	**-1.7**
JMJ				S	**Sn**	**12 42 35.5**	**-2.0**
JIKM	**Ikemajima**	**2.96**	**260**	P	**Pn**	**12 42 02.1**	**-1.0**
JIKM				S	**Sn**	**12 42 36.7**	**-1.2**
JIRB	**Irabujima**	**3.04**	**258**	P	**Pn**	**12 42 03.1**	**-1.2**
JIRB				S	**Sn**	**12 42 36.8**	**-3.2**
JAM	**Amami Oshima**	**3.09**	**19**	P	**Pn**	**12 42 03.1**	**-1.9**
JAM				S	**Sn**	**12 42 37.1**	**-4.1**
JZK	**Kikaishima**	**3.13**	**25**	P	**Pn**	**12 42 04.4**	**-1.1**
JZK				S	**Sn**	**12 42 40.0**	**-2.2**
JTJ	**Tarama**	**3.50**	**257**	P	**Pn**	**12 42 08.8**	**-1.9**
JTJ				S	**Sn**	**12 42 48.1**	**-3.3**
JTAJ	**Takarajima**	**3.71**	**10**	P	**Pn**	**12 42 11.9**	**-1.7**
JTAJ				S	**Sn**	**12 42 52.3**	**-4.3**
JISG	**Ishigakijimahi**	**3.86**	**258**	P	**Pn**	**12 42 13.5**	**-2.1**
JIJ	**Ishigaki jima**	**4.07**	**255**	P	**Pn**	**12 42 16.3**	**-2.1**
JIJ				S	**Sn**	**12 42 59.9**	**-5.4**
JKRS	**Kuro-shima**	**4.22**	**254**	P	**Pn**	**12 42 18.7**	**-1.9**
IRIF	**Iriomote-Funau**	**4.44**	**256**	P	**Pn**	**12 42 21.3**	**-2.2**
NACB	**Ninganchiao**	**6.37**	**260**	*e*Pn	**Pn**	**12 42 47.4**	**-2.6**
	87nm,0.3s						
YULB	**Yu-li**	**6.84**	**254**	*e*Pn	Pn	12 42 52.2	-4.4
	20nm,0.7s						
SSLB	**Suanglung**	**7.03**	**258**	*e*Pn	**Pn**	**12 42 56.5**	**-2.6**
	22nm,0.4s						
TWG	**Pinlang**	**7.24**	**250**	*e*Pn	Pn	12 42 57.6	-4.4
	281nm,0.4s						
TPUB	**Ta-pu**	**7.46**	**255**	*e*Pn	**Pn**	**12 43 02.8**	**-2.2**
	95nm,1.1s						
JNU	**Nakatsue**	**7.90**	**15**	Pn	**Pn**	**12 43 11.1**	**-0.1**
	3.7nm,0.3s,baz=206,slow=11,SNR=25						
JNU				Sn	**Sn**	**12 44 36.3**	**-3.5**
	1.9nm,0.3s,baz=302,slow=13,SNR=4.9						
JNU				LR	LR	12 46 10.7	
	comp=Z,94nm,20.7s,baz=149,slow=37						
KSAR	**Wonju Array Be**	**11.93**	**358**	P	**Pn**	**12 44 06.6**	**+0.3**
KSAR	**Wonju Array Be**	**11.93**	**358**	Pn	**Pn**	**12 44 06.5**	**+0.3**
KSRS	**Korea Array**	**11.94**	**358**	Pn	**Pn**	**12 44 06.5**	**+0.1**
	0.2nm,0.3s,baz=177,slow=13,SNR=8.3						
KSRS				LR	LR	12 49 10.6	
	comp=Z,85nm,19.1s,baz=196,slow=40						
MAJO	**Matsushiro**	**13.83**	**35**	||*e*P	**Pn**	**12 44 34.7**	**+2.5**
MAJO	**Matsushiro**	**13.83**	**35**	Pn	**Pn**	**12 44 31.7**	**-0.5**
	40nm,1.4s						
BJT	**Baijiatuau**	**17.77**	**328**	*e*P	**Pn**	**12 45 22.9**	**-0.5**
BJT				pmax	pmax		
	comp=Z,19nm,0.7s						
BJT	**Baijiatuau**	**17.77**	**328**	*e*Pn	**Pn**	**12 45 22.9**	**-0.5**
	comp=Z,19nm,0.7s						
USRK	**Ussuriysk Ar.**	**18.89**	**8**	P	**Pn**	**12 45 38.2**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=184,slow=10.0,SNR=8.2						
ASAJ	**Asahikawa**	**21.86**	**28**	P	**P**	**12 46 10.1**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ASAJ				MLR	MLR		
	comp=Z,81nm,18.5s						
ASAJ	**Asahikawa**	**21.86**	**28**	P	**P**	**12 46 10.1**	**+1.5**
	comp=Z,7.2nm,0.6s,baz=210,slow=14,SNR=7.0						
ASAJ				LR	LR	12 55 22.0	
	comp=Z,81nm,18.5s,baz=204,slow=39						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HABR	**Khabarovsk**	**23.52**	**11**	*e*P	**P**	**12 46 25.2**	**-0.7**
HABR				*e**PP	pP	12 46 40.8	+8.1
HABR						12 46 55.8	
HABR				*e*S	**S**	**12 50 35.1**	**-3.3**
HABR				*e*SS	**SnSn**	**12 51 19.2**	**+3.7**
HABR				*e*		12 57 26.5	
HABR				pmax	pmax		
	comp=Z,52nm,1.8s						
HABR				MLR	MLR		
	comp=Z,177nm,19.0s						
KLR	**Kul'dur**	**23.84**	**5**	*e*P	P	12 46 23.7	-5.3
YSS	**Yuzh-Sakhalins**	**24.26**	**24**	*e*P	**P**	**12 46 33.0**	**+0.2**
YSS				pmax	pmax		
	comp=N,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
ULN	**Ulaanbaatar**	**27.99**	**328**	||*e*P	**P**	**12 47 09.4**	**+2.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,2.5s						
ULN	**Ulaanbaatar**	**27.99**	**328**	*e*P	**P**	**12 47 08.7**	**+1.9**
	comp=Z,1.9nm,0.8s						
CHTO	**Chiang Mai**	**28.09**	**262**	*e*P	**P**	**12 47 07.5**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CHTO	**Chiang Mai**	**28.09**	**262**	*e*P	**P**	**12 47 07.5**	**-0.2**
	comp=Z,6.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**28.20**	**262**	P	**P**	**12 47 08.7**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**28.20**	**262**	P	**P**	**12 47 08.7**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=62,slow=8.2,SNR=8.6						
SONM	**Songino Array**	**28.29**	**328**	P	**P**	**12 47 11.0**	**+1.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,106nm,19.8s						
SONM	**Songino Array**	**28.29**	**328**	P	**P**	**12 47 11.0**	**+1.6**
	comp=Z,1.4nm,0.5s,baz=139,slow=11,SNR=20						
SONM				LR	LR	12 59 58.3	
	comp=Z,106nm,19.8s,baz=72,slow=40						
TLY	**Talaya**	**32.26**	**331**	*e*P	P	12 47 54.7	+10
TLY				*e*S	S	12 53 04.3	+8.0
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TLY				MLR	MLR		
	comp=Z,157nm,14.0s						
PETK	**Petropavlovsk-**	**35.23**	**31**	P	**P**	**12 48 10.9**	**+0.8**
PETK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PETK	**Petropavlovsk-**	**35.23**	**31**	P	**P**	**12 48 10.9**	**+0.8**
	comp=Z,4.5nm,1.0s,baz=226,slow=12,SNR=3.0						
PET	**Petropavlovsk**	**35.62**	**31**	*e*P	**P**	**12 48 14.2**	**+0.8**
TAPN	**Taplejung**	**36.42**	**282**	*e*P	**P**	**12 48 22.1**	**+1.1**
YAK	**Yakutsk**	**36.55**	**1**	*e*P	**P**	**12 48 20.2**	**-1.0**
YAK				*e*		12 48 30.5	
YAK				*e*		12 48 38.0	
YAK				pmax	pmax		
	comp=Z,35nm,1.0s						
YAK				pmax	pmax		
	comp=N,19nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.4s						
YAK	**Yakutsk**	**36.55**	**1**	*e*P	**P**	**12 48 21.1**	**-0.1**
	comp=E,13nm,0.6s						
ODAN	**Odare**	**36.77**	**281**	*e*P	**P**	**12 48 24.6**	**+0.7**
	comp=E,42nm,1.0s						
RAMN	**Ramite**	**37.45**	**282**	*e*P	**P**	**12 48 30.7**	**+1.0**
GUN	**Gumba**	**37.98**	**283**	*e*P	**P**	**12 48 35.3**	**+1.1**
PKI	**Pulchoki**	**38.43**	**283**	*e*P	**P**	**12 48 38.4**	**+0.4**
PKIN	**Phulchoki**	**38.44**	**283**	*e*P	**P**	**12 48 38.5**	**+0.5**
	comp=E,7.1nm,0.5s						
KKN	**Kakani**	**38.52**	**283**	*e*P	**P**	**12 48 39.2**	**+0.6**
DMN	**Daman**	**38.69**	**283**	*e*P	**P**	**12 48 40.3**	**+0.1**
	comp=E,27nm,1.1s						
GKN	**Gorkha**	**39.06**	**284**	*e*P	**P**	**12 48 43.6**	**+0.5**
PMG	**Port Moresby**	**39.17**	**150**	*de*P	**P**	**12 48 43.8**	**-0.1**
PMG				pmax	pmax		
	comp=Z,9.0nm,1.2s						
DANN	**Dangsing**	**39.78**	**284**	*e*P	**P**	**12 48 50.4**	**+1.1**
	comp=Z,38nm,0.7s						
KOLN	**Koldanda**	**39.99**	**284**	*e*P	**P**	**12 48 51.4**	**+0.4**
	comp=Z,15nm,0.8s						
SEY	**Seymchan**	**40.67**	**17**	P	**P**	**12 48 56.0**	**+0.1**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SEY	**Seymchan**	**40.67**	**17**	P	**P**	**12 48 56.0**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=218,slow=10.0,SNR=16						
COEN	**Coen**	**41.75**	**158**	*e*P	**P**	**12 49 03.9**	**-1.2**
	comp=Z,56nm,1.2s						
MKAR	**Makanchi Array**	**42.18**	**312**	*i*P	**P**	**12 49 08.1**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**42.18**	**312**	P	**P**	**12 49 08.2**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=87,slow=10,SNR=30						
MKAR				LR	LR	13 07 46.3	
	comp=Z,43nm,21.3s,baz=2.5,slow=36						
ZALV	**Zalesovo Beam**	**42.96**	**323**	*i*P	**P**	**12 49 13.8**	**-0.9**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**42.96**	**323**	P	**P**	**12 49 13.9**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=111,slow=6.8,SNR=10						
ZALV				LR	LR	13 08 54.7	
	comp=Z,75nm,18.4s,baz=66,slow=39						
KURK	**Kurchatov**	**45.50**	**317**	*e*P	**P**	**12 49 34.0**	**-1.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**45.50**	**317**	*e*P	**P**	**12 49 34.0**	**-1.1**
	comp=Z,2.0nm,0.8s						
WRAB	**Tennant Creek**	**45.51**	**172**	*de*P	**P**	**12 49 34.6**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,34nm,1.2s						
WRAB	**Tennant Creek**	**45.51**	**172**	*e*P	**P**	**12 49 34.0**	**-1.4**
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**45.52**	**172**	*i*P	**P**	**12 49 34.7**	**-0.7**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WRA	**Warramunga Arr**	**45.52**	**172**	P	**P**	**12 49 34.8**	**-0.7**
	comp=Z,7.9nm,0.7s,baz=354,slow=8.7,SNR=93						
WB2	**Warramunga Arr**	**45.52**	**172**	*e*P	**P**	**12 49 34.8**	**-0.7**
TIXI	**Tiksi**	**46.20**	**0**	||*e*P	**P**	**12 49 41.6**	**+1.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s						
TIXI	**Tiksi**	**46.20**	**0**	*e*P	**P**	**12 49 40.7**	**+0.4**
	comp=Z,1.5nm,0.6s						
BILL	**Bilibino**	**48.31**	**18**	*e*P	**P**	**12 49 56.7**	**-0.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BILL	**Bilibino**	**48.31**	**18**	*e*P	**P**	**12 49 56.7**	**-0.1**
	comp=Z,3.7nm,1.0s						
ASAR	**Alice Springs**	**49.15**	**173**	P	**P**	**12 50 03.5**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ASAR	**Alice Springs**	**49.15**	**173**	P	**P**	**12 50 03.5**	**-0.2**
	comp=Z,4.3nm,0.7s,baz=0.6,slow=8.4,SNR=56						
KKAR	**Karatay Array**	**50.01**	**306**	*e*P	**P**	**12 50 10.1**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	**Karatay Array**	**50.01**	**306**	*e*P	**P**	**12 50 10.1**	**-0.1**
	comp=Z,0.7nm,0.5s						
BRVK	**Borovoye**	**51.03**	**319**	*de*P	**P**	**12 50 18.3**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KBL	**Kabul**	**51.59**	**295**	*e*P	**P**	**12 50 22.8**	**+0.3**
KBL				pmax	pmax		
	comp=Z,21nm,1.2s						
KBL	**Kabul**	**51.59**	**295**	*e*P	**P**	**12 50 22.8**	**+0.3**
	comp=Z,21nm,1.2s						
TNA	**Tin City**	**56.21**	**27**	*e*P	**P**	**12 50 56.0**	**+0.5**
	comp=Z,5.6nm,0.4s						
ABKAR	**Akbulak array**	**57.30**	**314**	*e*P	**P**	**12 51 03.8**	**+0.3**
	comp=Z,2.6nm,0.6s						
GEYT	**Alibeck**	**59.84**	**301**	P	**P**	**12 51 22.8**	**+1.3**
	comp=Z,3.0nm,0.7s,baz=29,slow=3.4,SNR=6.5						
COLA	**College**	**64.58**	**28**	||*e*P	**P**	**12 51 54.4**	**+1.8**
COLA				pmax	pmax		
	comp=Z,38nm,1.2s						
ILAR	**Eielson Array**	**65.00**	**28**	P	**P**	**12 51 55.3**	**-0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**65.00**	**28**	P	**P**	**12 51 55.3**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=265,slow=5.3,SNR=9.6						
KLMR	**Klimovskoe**	**67.58**	**328**	*e*P	**P**	**12 52 11.3**	**-0.7**
KLMR				pmax	pmax		
	comp=Z,38nm,1.4s						
VRHR	**Novokhopersk**	**68.67**	**317**	*e*P	**P**	**12 52 18.4**	**-0.7**
VRHR				pmax	pmax		
	comp=N,5.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,3.0nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ZEI	**Tsey**	**69.34**	**308**	*e*P	P	12 52 20.3	-3.4
ZEI				pmax	pmax		
	comp=Z,12nm,1.0s						
KBZ	**Khabaz**	**69.78**	**310**	P	**P**	**12 52 27.6**	**+1.6**
	comp=Z,11nm,1.0s,baz=73,slow=3.7,SNR=17						
KBZ				LR	LR	13 25 32.8	
	comp=Z,48nm,18.8s,baz=185,slow=38						
KIV	**Kislovodsk**	**69.87**	**310**	*e*P	**P**	**12 52 27.3**	**+0.6**
KIV				pmax	pmax		
	comp=Z,26nm,1.0s						
KIV	**Kislovodsk**	**69.87**	**310**	*e*P	**P**	**12 52 27.6**	**+0.9**
	comp=Z,42nm,1.3s						
VORD	**Divnogorie**	**70.13**	**318**	*e*P	**P**	**12 52 27.3**	**-0.7**
VORD				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VORD				pmax	pmax		
	comp=N,3.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.9s						
VSR	**Storozhevoye**	**70.14**	**318**	*e*P	**P**	**12 52 28.0**	**-0.1**
VSR				pmax	pmax		
	comp=N,6.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,5.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
OBN	**Obninsk**	**70.54**	**322**	||*e*P	**P**	**12 52 32.6**	**+2.2**
OBN				*e*		12 55 13.4	
OBN				pmax	pmax		
	comp=Z,42nm,2.5s						
OBN				MLR	MLR		
	comp=Z,161nm,14.0s						
FINES	**FINESS Array B**	**73.61**	**331**	P	**P**	**12 52 49.3**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**73.61**	**331**	P	**P**	**12 52 49.3**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=66,slow=6.3,SNR=8.1						
AKASG	**Malin Array Be**	**76.23**	**320**	P	**P**	**12 53 04.5**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**76.23**	**320**	P	**P**	**12 53 04.5**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=56,slow=6.0,SNR=5.2						
BRTR	**Keskin Array B**	**77.65**	**308**	P	**P**	**12 53 12.0**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**77.65**	**308**	P	**P**	**12 53 12.0**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=71,slow=6.2,SNR=2.8						
YKA	**Yellowknife Ar**	**79.11**	**25**	P	**P**	**12 53 20.4**	**+0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**79.11**	**25**	P	**P**	**12 53 20.4**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=300,slow=5.1,SNR=31						
NB2	**NORSAR Subarra**	**80.07**	**334**	P	**P**	**12 53 24.8**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=52,slow=5.6						
NOA	**NORSAR Array B**	**80.07**	**334**	P	**P**	**12 53 25.2**	**-0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**80.07**	**334**	P	**P**	**12 53 25.1**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=52,slow=5.6,SNR=8.8						
CLL	**Collm**	**84.88**	**325**	*e*P	**P**	**12 53 51.0**	**+0.5**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CLL	**Collm**	**84.88**	**325**	*e*P	**P**	**12 53 51.0**	**+0.5**
	comp=Z,3.0nm,0.5s						
GERES	**GERESS Array B**	**85.91**	**323**	P	**P**	**12 53 56.1**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**85.91**	**323**	P	**P**	**12 53 56.1**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=38,slow=6.8,SNR=6.0						
NVAR	**Mina Array Bea**	**90.88**	**46**	P	**P**	**12 54 20.4**	**+0.5**
	comp=Z,1.5nm,1.1s,baz=251,slow=4.5,SNR=4.8						

*ISCJB **08** 12:42:51.8±1.6, 33°.70S±0°.03×72°.34W±0°.03, h8km±10km, mb4.6/28, MS3.9/6, Error ellipse: s-maj=4.8km s-min=3.7km az=9.6*
*IDC **08** 12:42:51.1±0.6, 33°.73S×72°.29W, h0km, mb4.4/11, mb1 4.5/14, mb1mx4.3/28, mbtmp4.4/14, ML4.5/3, MS3.9/8, Ms1 3.9/8, ms1mx3.7/25, Error ellipse: s-maj=20.6km s-min=14.5km az=91.0*
*GUC **08** 12:42:53.0±0.3, 33°.68S×72°.35W, h34km±2km, ML4.6*
*NEIC **08** 12:42:57.1±0.3, 33°.71S×72°.20W, h35km, mb4.9/22, Error ellipse: s-maj=9.8km s-min=8.0km az=67.0*
ISC 08 12:42:53.5±2.0, 33°.73S±0°.03×72°.24W±0°.05, h13km±12km, n298, σ0⇧72/300, mb4.8/30, MS4.0/6, 113C-106D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.72**	**108**	||*i*P	**Pb**	**12 43 07.9**	**-0.1**
LNV				*i* S	**Sn**	**12 43 19.6**	**-0.8**
IHA	**Instituto Hidr**	**0.87**	**36**	⇧*i*P	**Pb**	**12 43 10.6**	**+0.2**
IHA				*i* S	**Sb**	**12 43 22.7**	**+0.8**
RCDM	**Rinconada Maip**	**1.22**	**79**	*e*P	**Pn**	**12 43 15.5**	**-0.8**
RCDM				*i* S	**Sn**	**12 43 32.6**	**-0.1**
CHCH	**Chadas Angostu**	**1.34**	**99**	*e*P	**Pn**	**12 43 17.6**	**-0.3**
ANTU	**Antumapu**	**1.35**	**83**	*i* P	**Pn**	**12 43 18.1**	**0.0**
ANTU				*i* S	**Sg**	**12 43 36.8**	**-0.3**
ANTU				IAML		12 43 42.5	
	comp=E,15μm,0.3s						
STL	**Santa Lucia**	**1.37**	**78**	⇧*i*P	**Pn**	**12 43 18.1**	**-0.3

comp=N,96nm,18.1s,baz=80,slow=31
SNAA **Sanae** 51.89 158 P P 12 52 01.7 +0.3
SNAA **Sanae** 51.89 158 P P 12 52 01.9 +0.6
comp=N,3.6nm,0.9s,baz=274,slow=8.6,SNR=15
SNAA LR LR 13 13 48.3
comp=N,36nm,18.2s,baz=254,slow=36
SNAA **Sanae** 51.89 158 eP P 12 52 01.9 +0.6
comp=N,28nm,1.3s
QSPA **South Pole Qui** 56.50 180 P P 12 52 35.0 -0.1
comp=N,8.1nm,0.9s,baz=153,slow=1.4,SNR=20
QSPA **South Pole Qui** 56.50 180 eP P 12 52 35.0 -0.1
comp=N,11nm,1.1s
835A **Beeville** 66.28 335 ⇑P P 12 53 42.9 +1.5
baz=67
833A **Chaparral WMA,** 66.87 334 ⇓P P 12 53 46.1 +0.9
baz=67
832A **Faith Ranch, C** 67.05 334 ⇓P P 12 53 46.6 +0.2
baz=67
636A **Smothers Creek** 67.12 337 ⇓P P 12 53 45.7 -1.0
baz=67
732A **Laxson Ranch,** 67.45 334 ⇓P P 12 53 49.5 +0.6
baz=68,SNR=6.1
632A **Uvalde** 68.09 334 ⇑P P 12 53 53.4 +0.4
baz=68
533A **Kerrville** 68.33 335 ⇓P P 12 53 55.0 +0.5
baz=69
532A **Rocksprings** 68.69 334 ⇓P P 12 53 57.4 +0.6
baz=69,SNR=8.6
434A **Burnet** 68.75 336 ⇑P P 12 53 57.3 +0.3
baz=69
531A **Rocksprings** 68.96 334 ⇓P P 12 53 59.3 +0.9
baz=69
433A **Art** 68.97 335 ⇑P P 12 53 58.7 +0.2
baz=69
JCT **Junction City** 68.97 335 ⇑P P 12 53 58.8 +0.3
baz=69
KMSC **Kings Mountain** 69.05 352 ⇑P P 12 53 57.8 -0.9
baz=69
237A **Washetta, Mont** 69.06 339 ⇓P P 12 53 59.1 +0.3
baz=69
334A **Lometa** 69.21 336 ⇑P P 12 54 00.2 +0.3
baz=70
530A **J-C Ranch, Com** 69.24 333 ⇓P P 12 54 01.0 +0.9
baz=70,SNR=5.9
432A **Menard** 69.33 335 ⇓P P 12 54 01.1 +0.4
baz=70
TXAR **Lajitas Array** 69.42 331 P P 12 54 01.8 +0.5
comp=N,1.2nm,0.7s,baz=151,slow=8.3,SNR=19
431A **Sonora** 69.45 334 ⇑P P 12 54 01.8 +0.3
baz=70
333A **Richland Sprin** 69.46 336 ⇑P P 12 54 01.5 0.0
baz=70
529A **Stev Forest Ra** 69.55 332 ⇑P P 12 54 02.6 +0.5
baz=70,SNR=7.2
WHTX **Lake Whitney,** 69.56 337 ⇑P P 12 54 02.0 0.0
baz=70
137A **Heron Place, G** 69.59 339 ⇑P P 12 54 02.1 -0.1
baz=70
332A **Millersview** 69.77 335 ⇑P P 12 54 03.4 0.0
baz=70
430A **Baggett Ranch,** 69.77 334 ⇓P P 12 54 03.9 +0.4
baz=70
SWET **Sewanee** 69.78 348 eP P 12 54 03.0 -0.3
comp=N,9.0nm,0.7s
234A **Clairette** 69.80 337 ⇓P P 12 54 03.8 +0.4
baz=70
429A **Davenport Ranc** 69.87 333 ⇓P P 12 54 04.8 +0.7
baz=70
331A **San Angelo** 69.95 335 ⇓P P 12 54 04.6 +0.1
baz=70
233A **Rising Star** 70.06 336 ⇓P P 12 54 05.1 0.0
baz=70
232A **Coleman** 70.20 335 ⇑P P 12 54 06.1 +0.1
baz=70
231A **Bronte** 70.48 335 ⇑P P 12 54 07.5 -0.2
baz=71
133A **Hamilton Ranch** 70.61 336 ⇑P P 12 54 08.3 -0.2
baz=71
329A **Wagon Wheel Ra** 70.68 333 ⇓P P 12 54 09.0 0.0
baz=71
230A **Sterling City** 70.72 334 ⇓P P 12 54 09.7 +0.4
baz=71
Z35A **Perchaven, San** 70.73 338 ⇑P P 12 54 08.9 -0.3
baz=71
ABTX **Abilene, Hawle** 70.87 336 ⇓P P 12 54 10.1 +0.1
baz=71
WVT **Waverly** 71.01 347 eP P 12 54 10.5 -0.3
comp=N,15nm,0.8s
131A **Roby** 71.17 335 ⇑P P 12 54 12.0 0.0
baz=72
Z33A **Whitaker Ranch** 71.18 337 ⇓P P 12 54 11.8 -0.1
baz=72
130A **Snyder** 71.31 335 ⇓P P 12 54 12.8 0.0
baz=72
Z32A **Haskell** 71.44 336 ⇑P P 12 54 13.6 +0.1
baz=72
Y34A **Reagan Ranch,** 71.47 338 ⇓P P 12 54 13.6 0.0
baz=72
228A **UT Block 9, Go** 71.47 333 ⇓P P 12 54 14.1 +0.3
baz=72
129A **Stewart Farms,** 71.66 334 ⇑P P 12 54 15.2 +0.3
baz=72
Z31A **Sharp Cattle R** 71.67 336 ⇓P P 12 54 15.0 +0.1
baz=72,SNR=5.3
Y33A **Hilltop Ranch,** 71.80 337 ⇓P P 12 54 15.6 0.0
baz=72
128A **Castleberry Fa** 71.88 333 ⇑P P 12 54 16.6 +0.4
baz=72
Z30A **Sanderson Ranc** 71.99 335 ⇓P P 12 54 16.6 -0.3
baz=72
Y32A **R-V Farms, Ver** 72.06 336 ⇑P P 12 54 16.8 -0.4
baz=72
Z29A **Hungry Hill Ra** 72.17 334 ⇑P P 12 54 17.7 -0.3
baz=72
MNTX **Cornudas Mount** 72.20 331 eP P 12 54 17.2 -0.8
comp=N,3.4nm,0.9s
Y31A **Rekieta Farm,** 72.30 336 ⇓P P 12 54 18.6 0.0
baz=73
Z28A **Tucker Farm, M** 72.44 334 ⇓P P 12 54 19.9 +0.3
baz=73
Y29A **Porterfield Fa** 72.70 335 ⇓P P 12 54 21.0 -0.1
baz=73,SNR=6.2
TUL1 **Leonard** 72.70 340 ⇑P P 12 54 20.6 -0.4
baz=73
W33A **Caddo, Fort Co** 72.80 338 ⇓P P 12 54 22.2 +0.6
baz=73
X31A **McDonald Ranch** 72.81 336 ⇑P P 12 54 21.3 -0.4
baz=73
W32A **Sentinel** 73.02 337 ⇑P P 12 54 22.8 -0.1
baz=73
MSTX **Muleshoe** 73.19 334 ⇑P P 12 54 24.0 -0.1
baz=74,SNR=6.7
MSTX **Muleshoe** 73.19 334 eP P 12 54 24.0 -0.1
comp=N,8.9nm,0.9s
Y27A **Causey** 73.26 333 ⇑P P 12 54 24.7 +0.2
baz=74
W31A **Holland Ranch,** 73.31 337 ⇑P P 12 54 24.4 -0.3
baz=74
Z25A **Roswell** 73.32 332 ⇓P P 12 54 25.3 +0.4
baz=74
V33A **Lossen Ranch,** 73.36 338 ⇑P P 12 54 24.4 -0.5
baz=74
319A **Douglas** 73.59 328 ⇑P P 12 54 27.8 +1.3
baz=74
AMTX **Amarillo** 73.62 335 ⇓P P 12 54 26.8 +0.2
baz=74
W29A **Amarillo** 73.83 335 ⇓P P 12 54 27.6 -0.2
baz=74
121A **Cookes Peak, D** 73.92 329 eP P 12 54 29.2 +0.7
comp=N,3.9nm,0.8s
U32A **Winter Ranch,** 74.09 338 ⇓P P 12 54 29.6 +0.4
baz=74
X26A **CR and CF Fran** 74.10 333 ⇓P P 12 54 29.7 +0.2
baz=74
Y24A **Capitan** 74.17 332 ⇑P P 12 54 30.4 +0.5
baz=74
W27A **Bowe Ranch, En** 74.28 334 ⇓P P 12 54 31.0 +0.5
baz=75,SNR=5.7
X25A **Clemmons Ranch** 74.40 333 ⇓P P 12 54 31.8 +0.6
baz=75
Y23A **Lovelace Mesa,** 74.42 331 ⇑P P 12 54 32.5 +1.1
baz=75
W26A **Owens Ranch, T** 74.56 334 ⇓P P 12 54 32.4 +0.3
baz=75
U30A **WK&E Inc. Balk** 74.77 337 ⇓P P 12 54 33.2 0.0
baz=75
V27A **Dan Oppiter Fa** 74.82 335 ⇑P P 12 54 34.4 +0.8
baz=75
W25A **X Bar L Ranch,** 74.94 333 ⇑P P 12 54 35.0 +0.7
baz=75
SFIN **Lafayette** 75.01 348 ⇓P P 12 54 32.7 -1.7
baz=75
X23A **Hourglass Bar** 75.04 332 ⇓P P 12 54 35.9 +0.9
baz=75
V26A **Tequesquite Ra** 75.20 334 ⇑P P 12 54 36.1 +0.3
baz=76
DBIC **Dimbokro** 75.25 71 P P 12 54 35.8 -0.7
comp=N,12nm,1.0s,baz=235,slow=4.3,SNR=6.0
LAZ **Ladron** 75.27 331 eP P 12 54 36.4 +0.1
W24A **Lazy 6 Ranch,** 75.29 332 ⇑P P 12 54 37.0 +0.6
baz=76
U27A **Thompson Grove** 75.41 335 ⇑P P 12 54 37.1 +0.1
baz=76
ANMO **Albuquerque** 75.47 331 eP P 12 54 38.2 +0.7
comp=N,62nm,3.0s
W23A **Werner Place,** 75.53 332 ⇓P P 12 54 38.5 +0.6
baz=76
V25A **Rancho No Teng** 75.54 333 ⇑P P 12 54 38.4 +0.6
baz=76
V24A **Rampart Ranch,** 75.69 333 ⇑P P 12 54 39.7 +0.9
baz=76
T28A **Walsh** 75.79 336 ⇓P P 12 54 40.0 +0.9
baz=76
S29A **Ulysses** 75.91 337 ⇑P P 12 54 40.2 +0.5
baz=76
T27A **Campo** 75.95 335 ⇑P P 12 54 40.5 +0.4
baz=76
U25A **Circle Dot Ran** 75.96 334 ⇓P P 12 54 40.9 +0.7
baz=76
R31A **Burdett** 76.01 338 ⇑P P 12 54 40.4 +0.2
baz=76
S28A **Manter** 76.14 336 ⇑P P 12 54 41.6 +0.5
baz=76
T26A **Comanche Natio** 76.36 335 ⇑P P 12 54 43.0 +0.5
baz=77
Q32A **Meitler Ranch,** 76.36 339 ⇓P P 12 54 42.4 +0.2
baz=77
V22A **San Miguel Ran** 76.49 332 ⇑P P 12 54 44.7 +1.4
baz=77
X18A **Snowflake** 76.56 329 ⇑P P 12 54 45.3 +1.6
baz=77
U23A **El Rito** 76.58 332 ⇓P P 12 54 44.5 +0.8
baz=77
T25A **Trinidad** 76.62 334 ⇑P P 12 54 44.9 +1.0
baz=77
Q31A **Ellis** 76.63 339 ⇓P P 12 54 44.3 +0.5
baz=77
S26A **Kim** 76.71 335 ⇑P P 12 54 45.0 +0.6
baz=77,SNR=7.5
R28A **Tribune** 76.79 337 ⇑P P 12 54 45.0 +0.2
baz=77
Q30A **Quinter** 76.86 338 ⇑P P 12 54 45.2 +0.1
baz=77
U22A **Llaves** 76.88 332 ⇑P P 12 54 46.1 +0.6
baz=77
T24B **San Luis** 76.91 333 ⇑P P 12 54 46.7 +1.0
baz=77
P32A **Huiting Farm,** 76.96 339 ⇑P P 12 54 45.5 -0.1
baz=77
Q29A **Oakley** 77.02 337 ⇑P P 12 54 46.2 +0.2
baz=77
R27A **Eads** 77.08 336 ⇑P P 12 54 46.8 +0.5
baz=77,SNR=6.0
S25A **Robets Cordova** 77.09 334 ⇓P P 12 54 47.2 +0.6
baz=77
P31A **Stockton** 77.10 339 ⇓P P 12 54 46.3 -0.1
baz=77
X16A **Lo Mia Camp, P** 77.12 328 ⇓P P 12 54 48.4 +1.6
baz=77
T23A **Casias Ranch,** 77.14 333 ⇑P P 12 54 47.7 +0.8
baz=78
NCB **Newcomb** 77.36 359 eP P 12 54 49.2 +1.5
comp=N,17nm,0.7s
S24A **Houchin Ranch,** 77.36 334 ⇓P P 12 54 49.4 +1.2
baz=78
KSCO **Kaye Shedlock'** 77.67 336 ⇓P P 12 54 50.2 +0.5
baz=78
R24A **Sanders Place,** 77.84 334 ⇑P P 12 54 51.8 +1.0
baz=78,SNR=5.7
P28A **Saint Francis** 77.89 337 ⇓P P 12 54 51.0 +0.1
baz=78
Y12C **Blythe** 77.99 325 ⇑P P 12 54 53.1 +1.6
baz=78
WUAZ **Wupatki** 78.02 328 ⇓P P 12 54 52.5 +0.8
baz=78
R23A **Moffat** 78.07 334 ⇓P P 12 54 52.6 +0.4
baz=78
Q25A **Bedland, Calha** 78.14 335 ⇑P P 12 54 52.6 +0.1
baz=78
P26A **Davis Ranch, A** 78.41 336 ⇓P P 12 54 54.5 +0.7
baz=79
Q24A **Divide** 78.51 334 ⇓P P 12 54 55.6 +1.0
baz=79
IRM **Iron Mountain** 78.63 325 ⇓P P 12 54 57.0 +1.9
baz=79
P25A **Willow Gulch B** 78.65 335 ⇓P P 12 54 55.7 +0.6
baz=79,SNR=6.2
N29A **Votaw Ranch, W** 78.67 338 ⇓P P 12 54 55.7 +0.6
baz=79
O27A **Beecher Island** 78.69 337 ⇑P P 12 54 56.0 +0.7
baz=79
W13A **Hualapai Mount** 78.80 326 ⇓P P 12 54 57.7 +1.5
baz=79
U15A **North Rim** 79.18 328 ⇓P P 12 54 59.3 +0.9
baz=80
SMCO **Snowmass** 79.37 333 eP P 12 55 00.5 +1.1
comp=N,36nm,2.3s
GMRC **Granite Mounta** 79.38 325 ⇑P P 12 55 01.0 +1.7
baz=80
ISCO **Idaho Springs** 79.41 334 ⇑P P 12 54 59.8 +0.3
baz=80
P22A **Eagle** 79.65 334 ⇓P P 12 55 01.2 +0.4
baz=80
O23A **Lake Granby, G** 79.89 334 ⇑P P 12 55 03.1 +1.0
baz=80,SNR=5.8
TUQ **Turquoise Moun** 80.03 325 ⇑P P 12 55 04.5 +1.7
baz=80
O22A **Kremmling** 80.07 334 ⇑P P 12 55 03.6 +0.5
baz=80
ECSD **EROS Data Cent** 80.24 342 ⇑P P 12 55 03.2 -0.4
baz=81
ECSD **EROS Data Cent** 80.24 342 eP P 12 55 03.3 -0.3
comp=N,6.8nm,0.9s
BOSA **Boshof** 80.34 118 P P 12 55 04.3 -0.6
comp=N,8.4nm,1.2s,baz=123,slow=0.9,SNR=4.4
L27A **T5 Ranch, Ells** 80.34 338 ⇓P P 12 55 04.5 +0.3
baz=81
GSC **Goldstone, Bar** 80.35 324 ⇓P P 12 55 05.9 +1.4
baz=81
N23A **Red Feather La** 80.50 335 ⇓P P 12 55 05.8 +0.4
baz=81
CCUT **Cedar City** 80.59 328 eP P 12 55 07.6 +1.8
comp=N,82nm,3.0s
N22A **Wattenberg Ran** 80.60 334 ⇓P P 12 55 06.8 +0.9
baz=81
M24A **Cheyenne** 80.62 336 ⇑P P 12 55 06.6 +0.8
baz=81
K28A **Ten Mile Ranch** 80.62 339 ⇑P P 12 55 06.0 +0.3
baz=81
O20A **White River Ci** 80.68 333 ⇑P P 12 55 07.0 +0.8
baz=81
SRU **San Rafael Swe** 80.70 331 eP P 12 55 06.8 +0.5
comp=N,42nm,2.5s
J29A **Okreek** 80.95 340 ⇑P P 12 55 07.9 +0.5
baz=81
SBC **Santa Barbara** 81.12 322 ⇓P P 12 55 11.5 +3.0
baz=81
J28A **Allard Ranch,** 81.23 339 ⇑P P 12 55 09.5 +0.6
baz=82
N20A **Spence Gulch,** 81.29 333 ⇓P P 12 55 09.6 +0.1
baz=82
J27A **Elkhorn Farm,** 81.31 338 ⇓P P 12 55 10.4 +1.0
baz=82
FURC **Furnace Creek,** 81.31 325 ⇑P P 12 55 11.2 +1.8
baz=82
I29A **Vivian Onida** 81.51 340 ⇓P P 12 55 09.9 -0.4
baz=82
J26A **Sides Ranch, S** 81.69 338 ⇑P P 12 55 12.2 +0.8
baz=82
VES **Vestal, Richgr** 81.90 323 ⇑P P 12 55 16.5 +3.9
baz=82
J25A **Sunshine Ranch** 82.00 337 ⇑P P 12 55 13.2 +0.2
baz=82
H29A **Onida** 82.03 340 ⇓P P 12 55 13.1 0.0
baz=82
R11A **Troy Canyon, C** 82.24 327 ⇑P P 12 55 16.3 +1.7
baz=82
R11A **Troy Canyon, C** 82.24 327 eP P 12 55 15.9 +1.3
comp=N,32nm,2.6s
K22A **Casper** 82.25 335 ⇓P P 12 55 15.2 +0.7
baz=83
H28A **Mission Ridge** 82.31 340 ⇓P P 12 55 14.9 +0.3
baz=83
G29A **Hoven** 82.48 341 ⇓P P 12 55 15.5 +0.1
baz=83
K21A **Alcova** 82.49 335 ⇑P P 12 55 16.2 +0.4
baz=83
I25A **Rochford** 82.54 338 ⇓P P 12 55 16.6 +0.7
baz=83
H27A **Howes** 82.58 339 ⇑P P 12 55 16.2 +0.2
baz=83
G28A **Parade** 82.65 340 ⇑P P 12 55 15.9 -0.4
baz=83,SNR=5.5
I24A **Kuemmerle Ranc** 82.68 337 ⇓P P 12 55 17.0 +0.4
baz=83
F29A **Eureka** 83.04 341 ⇓P P 12 55 17.6 -0.7
baz=83,SNR=5.0
J21A **Lysite** 83.18 335 ⇑P P 12 55 20.5 +1.1
baz=84
HWUT **Hardware Ranch** 83.24 331 eP P 12 55 19.8 +0.2
comp=N,3.8nm,0.8s
I22A **9 Mile Ranch,** 83.33 336 ⇓P P 12 55 20.3 +0.3
baz=84
G26A **Maurine** 83.34 339 ⇓P P 12 55 19.7 -0.2
baz=84
J20A **Shoshoni** 83.42 335 ⇑P P 12 55 21.3 +0.8
baz=84
PDAR **Pinedale Array** 83.45 333 P P 12 55 18.6 -2.1
comp=N,0.5nm,0.7s,baz=151,slow=3.4,SNR=4.6
H24A **Dirks Ranch, A** 83.45 337 ⇑P P 12 55 20.7 +0.1
baz=84
G25A **Newell** 83.50 338 ⇓P P 12 55 21.0 +0.3
baz=84
NVAR **Mina Array Bea** 83.57 325 P P 12 55 22.5 +1.0
comp=N,1.0nm,0.7s,baz=155,slow=5.7,SNR=9.7
E29A **Napoleon** 83.67 341 ⇑P P 12 55 21.8 +0.3
baz=84
J19A **Crowheart** 83.69 334 ⇓P P 12 55 22.9 +1.0
baz=84
F27A **Lemmon** 83.69 340 ⇑P P 12 55 22.3 +0.6
baz=84,SNR=6.7
F26A **Lodgepole** 83.86 339 ⇑P P 12 55 23.2 +0.6
baz=84
HVU **Hansel Valley** 83.87 331 eP P 12 55 23.3 +0.5
comp=N,5.0nm,0.9s
G24A **Alzada** 83.93 338 ⇑P P 12 55 23.5 +0.5
baz=84
D30A **Buchanan** 83.94 342 ⇑P P 12 55 23.1 +0.3
baz=84
I20A **Worland** 83.95 335 ⇓P P 12 55 23.9 +0.7
baz=84
E28A **Huff** 83.96 341 ⇑P P 12 55 23.4 +0.4
baz=84
D29A **Pettibone, Tap** 84.11 342 ⇑P P 12 55 24.0 +0.2
baz=84
F25A **Bowman** 84.17 339 ⇑P P 12 55 24.1 -0.1
baz=84
TORD **Torodi Ar. Bea** 84.28 70 P P 12 55 25.1 -0.2
comp=N,8.1nm,1.0s,baz=263,slow=4.5,SNR=25
AGMN **Agassiz Nation** 84.36 344 ⇓P P 12 55 24.6 -0.3
baz=85
AGMN **Agassiz Nation** 84.36 344 eP P 12 55 24.9 0.0
comp=N,70nm,2.8s
E26A **Carlson Angus** 84.36 340 ⇑P P 12 55 24.6 -0.5
baz=85
H20A **Greybull** 84.38 335 ⇑P P 12 55 25.3 0.0
baz=85
C30A **Mose, Pekin** 84.42 343 ⇑P P 12 55 25.5 +0.2
baz=85,SNR=6.2
G22A **Birney** 84.44 337 ⇓P P 12 55 25.4 -0.2
baz=85
TPAW **Teton Pass** 84.59 333 eP P 12 55 34.0 +7.3
comp=N,3.4nm,0.9s
E25A **Miller Ranch,** 84.67 339 ⇓P P 12 55 27.0 +0.3
baz=85
I17A **Pilgrim Ck.** 84.82 333 ⇑P P 12 55 28.7 +1.0
baz=85
F22A **Rosebud** 84.92 337 ⇑P P 12 55 28.3 +0.4
baz=85
FLWY **Flagg Ranch** 85.01 333 eP P 12 55 29.1 +0.5
comp=N,9.0nm,1.3s
B30A **Myrvik Farm, E** 85.08 343 ⇑P P 12 55 28.1 -0.5
baz=85,SNR=8.0
G20A **Bridger** 85.09 335 ⇑P P 12 55 28.8 -0.1
baz=85
H18A **Shoshone NF, C** 85.13 334 ⇓P P 12 55 29.6 +0.3
baz=86
C27A **Sayler Ranch,** 85.22 341 ⇑P P 12 55 29.3 -0.1
baz=86
D25A **Fairfield** 85.23 339 ⇓P P 12 55 29.6 +0.2
baz=86
B29A **Wagenman Farm,** 85.34 342 ⇑P P 12 55 29.8 -0.1
baz=86
C26A **Wahner Farm, P** 85.49 340 ⇑P P 12 55 30.6 -0.2
baz=86
A30A **Hoffart Farm,** 85.53 343 ⇓P P 12 55 30.6 -0.2
baz=86
B28A **Dugan Ranch, T** 85.59 342 ⇑P P 12 55 30.9 -0.3
baz=86
YMR **Madison River** 85.61 333 eP P 12 55 32.8 +1.2
comp=N,5.7nm,0.8s
D23A **Lindsay** 85.82 338 ⇓P P 12 55 32.5 +0.1
baz=86
RAO **Raoul Island** 85.87 238 eP P 12 55 32.9 -0.4
F19A **Roth Farm, Mol** 85.89 335 ⇓P P 12 55 32.8 -0.1
baz=86
HLID **Hailey** 86.02 331 ⇑P P 12 55 34.6 +0.9
baz=86
D22A **Cohagen** 86.11 338 ⇓P P 12 55 33.3 -0.5
baz=86
E20A **Meyer Farm, Mu** 86.18 336 ⇓P P 12 55 34.5 +0.3
baz=86
B25A **Knox Farm, Ray** 86.20 340 ⇑P P 12 55 33.7 -0.6
baz=86
ULM **Lac du Bonnet** 86.20 345 P P 12 55 33.3 -0.8
comp=N,1.7nm,0.7s,baz=141,slow=4.7,SNR=5.4
D21A **La Casta Ranch** 86.30 337 ⇓P P 12 55 34.8 +0.1
baz=87
E19A **Rath Farm, Rou** 86.37 336 ⇓P P 12 55 35.5 +0.4
baz=87
C23A **Lambert** 86.38 338 ⇓P P 12 55 35.3 +0.1
baz=87
C22A **Vida** 86.54 338 ⇓P P 12 55 36.0 +0.1
baz=87
DGMT **Dagmar** 86.68 339 ⇓P P 12 55 36.5 -0.1
baz=87
DGMT **Dagmar** 86.68 339 eP P 12 55 37.3 +0.7
comp=N,14nm,0.9s
D20A **Manuel Ranch,** 86.69 336 ⇓P P 12 55 36.8 +0.1
baz=87
B23A **Brockton** 86.91 339 ⇓P P 12 55 37.5 -0.2
baz=87
D19A **Cripps Ranch,** 87.01 336 ⇑P P 12 55 38.3 0.0
baz=87
B22A **Reddig Ranch S** 87.07 338 ⇓P P 12 55 38.6 +0.1
baz=87
C20A **Veseth Ranch,** 87.19 337 ⇓P P 12 55 39.1 -0.1
baz=88
B21A **Ellsworth Farm** 87.50 338 ⇓P P 12 55 41.1 +0.5
baz=88
C19A **Slack Wire Ran** 87.56 336 ⇓P P 12 55 41.5 +0.5
baz=88
A22A **Carney Farms,** 87.66 339 ⇓P P 12 55 41.3 0.0
baz=88
B20A **Solberg Farm,** 87.83 337 ⇑P P 12 55 42.3 +0.1
baz=88
A21A **Bergtoll Ranch** 87.97 338 ⇑P P 12 55 42.7 -0.2
baz=88
EGMT **Eagleton** 88.05 336 ⇑P P 12 55 43.6 +0.4
baz=88
A20A **Cobblestone Ra** 88.19 337 ⇑P P 12 55 44.2 +0.3
baz=88
WALA **Waterton Lakes** 90.39 334 eP P 12 55 57.1 +2.8
YKA **Yellowknife Ar** 101.75 341 P Pdif 12 56 43.9 -1.5
comp=N,0.2nm,0.7s,baz=137,slow=3.7,SNR=3.4
ASAR **Alice Springs** 117.73 207 PKP PKPdf 13 01 38.5 -1.6
comp=N,0.3nm,0.8s,baz=119,slow=1.4,SNR=4.6
WRA **Warramunga Arr** 120.91 209 PKP PKPdf 13 01 45.0 -1.2
comp=N,0.7nm,0.6s,baz=163,slow=1.5,SNR=16
BRTR **Keskin Array B** 121.85 61 PKP PKPdf 13 01 47.3 -0.2
comp=N,0.9nm,0.7s,baz=165,slow=5.1,SNR=4.1
H11S2 **WAKE ISLAND Hyl** 25.61 269 T T 15 20 52.0
baz=118,slow=74,SNR=6.6
H11S1 **WAKE ISLAND Hyl** 25.62 269 T T 15 20 53.1

baz=118,slow=74,SNR=4.5
H11S3 WAKE ISLAND Hyl 25.62 269 T T 15 20 53.5
baz=118,slow=74,SNR=6.9
H11N3 WAKE ISLAND Hyl 26.01 271 T T 15 20 57.6
H11N1 WAKE ISLAND Hyl 26.03 271 T T 15 21 05.2
H11N2 WAKE ISLAND Hyl 26.03 271 T T 15 21 20.7
ABKAR Akbulak array 141.65 51 *e*PKPdf PKPdf 13 02 18.8 -5.4
BRVK Borovoye 147.13 43 *e*PKPdf **PKPbc 13 02 36.1 +0.3**
KSM Kuching 147.82 185 *e*PKPdf **PKPbc 13 02 38.0 -0.8**
SBUM Sibu 148.60 189 *e*PKPdf **PKPbc 13 02 41.1 +0.2**
KKAR Karatay Array 149.56 61 *e*PKPdf **PKPbc 13 02 42.3 -0.2**
EKS2 Erkin-Say 152.00 61 *e*PKPdf **PKPdf 13 02 43.2 +1.3**
AAK Ala-Archa 152.53 61 *e*PKPdf **PKPbc 13 02 50.0 +0.4**
KURK Kurchatov 152.80 43 *e*PKPdf **PKPbc 13 02 49.5 -0.2**
TKM2 Tokmak 2 153.29 60 *e*PKPdf **PKPdf 13 02 44.5 +0.7**
ZALV Zalesovo Beam 154.09 32 PKP **PKPdf 13 02 43.2 -1.1**
comp=N,1.0nm,0.8s,baz=289,slow=4.5,SNR=4.6
ZALV PKPbc **PKPbc 13 02 52.3 -0.1**
comp=N,3.4nm,0.6s,baz=311,slow=3.1,SNR=18
ZALV PKPab **PKPab 13 03 06.0 -0.1**
comp=N,5.2nm,0.7s,baz=307,slow=3.7,SNR=11
MKAR Makanchi Array 156.72 48 PKP **PKPdf 13 02 48.2 +0.1**
comp=N,0.7nm,0.9s,baz=285,slow=2.4,SNR=5.7
MKAR PKPab **PKPab 13 03 17.7 +0.1**
comp=N,1.2nm,0.6s,baz=300,slow=3.1,SNR=13
CMAR Chiang Mai Arr 162.86 150 PKP **PKPdf 13 02 55.5 -0.4**
comp=N,1.2nm,1.0s,baz=234,slow=2.9,SNR=6.8
SONM Songino Array 165.88 4 PKPab **PKPab 13 03 57.7 +0.2**
comp=N,0.3nm,0.8s,baz=342,slow=1.9,SNR=3.8

*DDA **08** 12:50:40.3, 38.°80N×40.°07E, h10km, MD3.4*
*ISK **08** 12:50:40.9, 38.°84N×40.°17E, h4km, ML3.5*
*CSEM **08** 12:50:41.6±0.2, 38.°81N×40.°10E, h2km, ML3.5, Error ellipse: s-maj=5.8km s-min=5.4km az=151.0*
ISC 08 12:50:41.3±1.1, 38.°82N±0.°02×40.°10E±0.°02, h3km±11km, n58, σ0°94/84, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.30**	**80**	*i* Pg	**Pb**	**12 50 49.6**	**+0.1**
BNGB	**Bing¶ll**	**0.48**	**69**	PG	**Pg**	**12 50 49.6**	**-0.8**
BNGB				SG	**Sg**	**12 50 56.4**	**-0.4**
ERZN	**Erzincan**	**0.82**	**339**	*e*PG	**Pg**	**12 50 56.4**	**-0.6**
ERZN				*e*SG	**Sg**	**12 51 08.9**	**+1.3**
BNGL	**BINGOL**	**0.83**	**81**	*i* P	**Pg**	**12 50 56.4**	**-0.8**
BNGL				*i* S	**Sb**	**12 51 09.8**	**-0.2**
DYBB	**Diyarbakir**	**0.87**	**178**	*e*PG	**Pb**	**12 50 59.2**	**+0.2**
DIY	**Diyarbakir**	**0.93**	**174**	*e*Pg	**Pg**	**12 50 59.2**	**+0.1**
EUZM	**Uzumlu**	**0.94**	**340**	*i* P	**Pg**	**12 50 58.8**	**-0.5**
EUZM				*i* S	**Sg**	**12 51 12.1**	**+0.6**
EUZM	**Uzumlu**	**0.94**	**340**	*i* P	**Pg**	**12 50 58.8**	**-0.5**
EUZM				*i* S	**Sg**	**12 51 12.1**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.09**	**128**	*e*PG	**Pg**	**12 51 01.8**	**-0.3**
SVAN				*e*SG	**Sb**	**12 51 17.1**	**-0.3**
VRTB	**Varto-Mus**	**1.11**	**72**	*e*PG	**Pg**	**12 51 01.1**	**-1.4**
VRTB	**Varto-Mus**	**1.11**	**72**	*e*Pg	**Pg**	**12 51 01.1**	**-1.4**
KOPT	**Kop Dagi**	**1.23**	**14**	*i* P	**Pg**	**12 51 04.3**	**-0.6**
KOPT				*i* S	**Sn**	**12 51 23.9**	**+0.8**
KOPT	**Kop Dagi**	**1.23**	**14**	*i* P	**Pg**	**12 51 04.3**	**-0.6**
KOPT				*i* S	**Sn**	**12 51 23.9**	**+0.8**
BTMT	**Batman**	**1.25**	**120**	*e*PN	**Pg**	**12 51 05.1**	**-0.2**
BTMT	**Batman**	**1.25**	**120**	*e*Pn	**Pg**	**12 51 05.1**	**-0.2**
BEST	**Besiri**	**1.30**	**135**	*i* P	**Pn**	**12 51 05.7**	**-0.8**
BEST				*i* S	**Sg**	**12 51 23.2**	**0.0**
KEMA	**Kemaliye**	**1.33**	**290**	*i* P	**Pn**	**12 51 04.8**	**-2.1**
KEMA				*i* S	**Sg**	**12 51 23.6**	**-0.5**
KEMA	**Kemaliye**	**1.33**	**290**	*i* P	**Pn**	**12 51 04.8**	**-2.1**
KEMA				*i* S	**Sg**	**12 51 23.6**	**-0.5**
ILIC	**ilic-Erzincan**	**1.35**	**298**	*e*PN	**Pg**	**12 51 08.3**	**+1.1**
ILIC	**ilic-Erzincan**	**1.35**	**298**	*e*Pn	**Pg**	**12 51 08.3**	**+1.1**
MAZI	**Mazidag**	**1.39**	**169**	*e*PN	**Pn**	**12 51 07.0**	**-0.7**
MAZI	**Mazidag**	**1.39**	**169**	*e*Pn	**Pn**	**12 51 07.0**	**-0.7**
MALT	**Malatya**	**1.41**	**249**	*e*PN	**Pg**	**12 51 08.3**	**+0.1**
MALT	**Malatya**	**1.41**	**249**	*e*Pn	**Pg**	**12 51 08.3**	**+0.1**
EZM	**Erzurum**	**1.46**	**42**	*e*PN	**Pn**	**12 51 08.5**	**-0.3**
ERZM	**Erzurum**	**1.46**	**42**	*i* P	**Pn**	**12 51 08.0**	**-0.8**
ERZM				*i* S	**Sg**	**12 51 29.5**	**+1.3**
ERZM	**Erzurum**	**1.46**	**42**	*i* P	**Pn**	**12 51 08.0**	**-0.8**
ERZM				*i* S	**Sg**	**12 51 29.5**	**+1.3**
KELT	**Kelkit**	**1.48**	**334**	*i* P	**Pn**	**12 51 08.5**	**-0.5**
KELT				*i* S	**Sg**	**12 51 29.1**	**+0.3**
KELT	**Kelkit**	**1.48**	**334**	*i* P	**Pn**	**12 51 08.5**	**-0.5**
KELT				*i* S	**Sg**	**12 51 29.1**	**+0.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.57**	**1**	*e*PN	**Pb**	**12 51 10.7**	**-0.4**
BAYT	**Ayd¯–ntepe-Bay**	**1.57**	**1**	*e*Pn	**Pb**	**12 51 10.7**	**-0.4**
EKAR	**Karacoban**	**1.59**	**74**	*i* P	**Pb**	**12 51 10.9**	**-0.5**
EKAR				*i* S	**Sg**	**12 51 35.0**	**+2.7**
EKAR	**Karacoban**	**1.59**	**74**	*i* P	**Pb**	**12 51 10.9**	**-0.5**
EKAR				*i* S	**Sg**	**12 51 35.0**	**+2.7**
MARD	**Mardin**	**1.60**	**160**	*i* P	**Pn**	**12 51 10.5**	**-0.1**
MARD				*i* S	**Sg**	**12 51 32.6**	**0.0**
GUMT	**Gumushane**	**1.71**	**344**	*e*PN	**Pn**	**12 51 12.6**	**+0.5**
GUMT	**Gumushane**	**1.71**	**344**	*e*Pn	**Pn**	**12 51 12.6**	**+0.5**
URFA	**Urfa**	**1.71**	**217**	*e*PN	**Pb**	**12 51 12.8**	**-0.6**
URFA	**Urfa**	**1.71**	**217**	*e*Pn	**Pb**	**12 51 12.8**	**-0.6**
ATAB	**Bozova**	**1.96**	**227**	*i* P	**Pn**	**12 51 15.8**	**+0.3**
ATAB				*i* S	**Sb**	**12 51 42.8**	**+0.2**
ATAB	**Bozova**	**1.96**	**227**	*i* P	**Pn**	**12 51 15.8**	**+0.3**
ATAB				*i* S	**Sb**	**12 51 42.8**	**+0.2**
SUSE	**Susehri**	**2.02**	**314**	*i* P	**Pb**	**12 51 18.6**	**-0.1**
SUSE				*i* S	**Sb**	**12 51 45.2**	**+0.8**
SUSE	**Susehri**	**2.02**	**314**	*i* P	**Pb**	**12 51 18.6**	**-0.1**
SUSE				*i* S	**Sb**	**12 51 45.2**	**+0.8**
DARE	**Darende-Malaty**	**2.07**	**264**	*e*PN	**Pb**	**12 51 18.1**	**-1.4**
DARE	**Darende-Malaty**	**2.07**	**264**	*e*Pn	**Pb**	**12 51 18.1**	**-1.4**
MACK	**Trabzon**	**2.13**	**353**	*i* P	**Pb**	**12 51 20.8**	**+0.2**
MACK	**Trabzon**	**2.13**	**353**	*i* P	**Pb**	**12 51 20.8**	**+0.2**
AGRB	**Hanur-Agry**	**2.37**	**71**	*e*PN	**Pn**	**12 51 21.2**	**0.0**
AGRB	**Hanur-Agry**	**2.37**	**71**	*e*Pn	**Pn**	**12 51 21.2**	**0.0**
GEVA	**Gevas**	**2.37**	**101**	*i* P	**Pb**	**12 51 24.3**	**-0.4**
GEVA	**Gevas**	**2.37**	**101**	*i* P	**Pb**	**12 51 24.3**	**-0.4**
GEVA				*i* S	**Sg**	**12 51 57.3**	**-0.1**
DDEM	**Demirkent**	**2.43**	**31**	*i* P	**Pn**	**12 51 22.2**	**+0.2**
DDEM	**Demirkent**	**2.43**	**31**	*i* P	**Pn**	**12 51 22.2**	**+0.2**
GZT	**Gaziantep**	**2.48**	**235**	*i* P	**Pn**	**12 51 23.2**	**+0.4**
GZT				*i* S	**Sg**	**12 52 03.3**	**+2.3**
DBAD	**Bademkaya**	**2.51**	**29**	*i* P	**Pn**	**12 51 24.5**	**+1.4**
DBAD	**Bademkaya**	**2.51**	**29**	*i* P	**Pn**	**12 51 24.5**	**+1.4**
GRSN	**GIRESUNGRSN**	**2.53**	**327**	*i* P	**Pb**	**12 51 27.1**	**-0.3**
GRSN				*i* S	**Sb**	**12 51 56.9**	**-2.1**
GRSN	**GIRESUNGRSN**	**2.53**	**327**	*i* P	**Pb**	**12 51 27.1**	**-0.3**
GRSN				*i* S	**Sb**	**12 51 56.9**	**-2.1**
DAGI	**Agillar**	**2.65**	**31**	*i* P	**Pn**	**12 51 25.6**	**+0.6**

*IDC **08** 12:53:05.7±0.9, 36.°95S×73.°52W, h0km, mb3.9/8, mb1 4.1/11, mb1mx4.0/29, mbtmp3.9/11, ML4.0/3, MS2.6/1, Ms1 2.6/1, ms1mx2.5/21, Error ellipse: s-maj=24.9km s-min=15.8km az=83.0*
*ISCJB **08** 12:53:06.8±0.8, 36.°91S±0.°07×73.°4W±0.°1, h14km, mb4.0/10, Error ellipse: s-maj=16.6km s-min=10.2km az=178.6*
*NEIC **08** 12:53:11.0±0.5, 36.°90S×73.°46W, h35km, mb4.4/3, Error ellipse: s-maj=12.7km s-min=8.5km az=92.0*
ISC 08 12:53:08.0±0.8, 36.°91S±0.°09×73.°5W±0.°1, h14km, n20, σ0°91/19, mb4.0/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.47**	**150**	Pn	**Pn**	**12 54 15.4**	**0.0**
	1.6nm,0.3s,baz=326,slow=9.6,SNR=15						
PLCA				Lg	Lg	12 55 24.9	
	7.7nm,0.3s,baz=32,slow=21,SNR=6.3						
CFAA	**Coronel Fontan**	**6.86**	**41**	Pn	**Pn**	**12 54 47.7**	**-0.5**
	0.4nm,0.3s,baz=207,slow=8.0,SNR=14						
CFAA				Sn	Sn	12 56 15.9	+10
	0.6nm,0.3s,baz=204,slow=17,SNR=4.6						
CFAA				Lg	Lg	12 56 46.1	
	0.8nm,0.3s,baz=312,slow=14,SNR=7.9						
CFAA				LR	LR	12 57 29.4	
	comp=Z,43nm,19.8s,baz=242,slow=38						
TRQA	**Tornquist**	**9.24**	**101**	*e*Pn	**Pn**	**12 55 21.9**	**+1.0**
LVC	**Limon Verde**	**14.79**	**17**	Pn	**Pn**	**12 56 37.5**	**+0.4**
CPUP	**Villa Florida**	**17.33**	**57**	P	**Pn**	**12 57 09.9**	**+0.5**
	0.6nm,0.3s,baz=205,slow=7.8,SNR=3.1						
LPAZ	**La Paz**	**21.08**	**15**	P	**P**	**12 57 52.9**	**+0.2**
	3.3nm,0.3s,baz=114,slow=14,SNR=30						
SIV	**San Ignacio**	**23.58**	**31**	P	**P**	**12 58 18.3**	**-0.1**
	1.4nm,0.5s,baz=203,slow=11,SNR=5.7						
RCBR	**Riachuelo**	**46.21**	**57**	P	**P**	**13 01 32.1**	**-0.6**
	4.3nm,0.9s						
SNAA	**Sanae**	**49.37**	**157**	P	**P**	**13 01 56.7**	**0.0**
	0.6nm,0.5s,baz=263,slow=10,SNR=12						
QSPA	**South Pole Qui**	**53.34**	**180**	*e*P	**P**	**13 02 26.4**	**-0.2**
	3.2nm,0.7s						
TXAR	**Lajitas Array**	**71.71**	**332**	P	**P**	**13 04 30.2**	**+0.6**
	0.6nm,0.8s,baz=143,slow=9.4,SNR=5.2						
DBIC	**Dimbokro**	**77.24**	**72**	P	**P**	**13 05 02.4**	**+0.3**
	2.7nm,0.7s,baz=188,slow=6.7,SNR=4.2						
DBIC	**Dimbokro**	**77.24**	**72**	*e*P	**P**	**13 05 01.8**	**-0.2**
	2.5nm,0.6s						
BOSA	**Boshof**	**79.78**	**118**	P	**P**	**13 05 17.4**	**+1.2**
	1.0nm,0.5s,baz=86,slow=14,SNR=4.3						
NVAR	**Mina Array Bea**	**85.60**	**326**	P	**P**	**13 05 47.5**	**+1.4**
	0.7nm,0.8s,baz=154,slow=5.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**86.32**	**71**	P	**P**	**13 05 48.3**	**-1.5**
	0.3nm,0.8s,baz=232,slow=3.5,SNR=3.8						
ILAR	**Eielson Array**	**116.23**	**333**	PKP	**PKPdf**	**13 11 48.0**	**-1.9**
	0.5nm,1.1s,baz=176,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**117.64**	**210**	PKP	**PKPdf**	**13 11 53.0**	**-1.2**
	0.5nm,0.8s,baz=170,slow=1.6,SNR=8.0						
ABKAR	**Akbulak array**	**144.38**	**55**	*e*PKPdf	PKPbc	13 12 42.1	+0.4
MKAR	**Makanchi Array**	**159.52**	**54**	PKPab	**PKPab**	**13 13 44.1**	**+0.1**
	0.5nm,0.9s,baz=297,slow=5.3,SNR=3.7						

*NEIC **08** 12:58:02.4, 20.°43N×105.°92W, h10km, MD4.0(MEX), After MEX.*
MEX 08 12:58:02.4±0.9, 20.°43N×105.°92W, h10km, MD4.0, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUVA	**Puert Vallarta**	**0.68**	**73**	*e*P	Pg	12 58 12.9	-2.7
PUVA				*i* S	Sg	12 58 22.7	-1.9
ANIG	**Ahuacatlan**	**1.45**	**64**	*e*P	Pn	12 58 25.5	-3.3
ANIG				*i* S	Sn	12 58 44.6	-3.4
ANIG	**Ahuacatlan**	**1.45**	**64**	*e*P	Pn	12 58 25.5	-3.3
ANIG				*i* S	Sn	12 58 44.6	-3.4
R15V		**2.21**	**124**	*e*P	Pn	12 58 35.4	-3.9
R15V				*i* S	Sn	12 59 03.1	-3.5
EZ5V		**2.37**	**113**	*e*P	Pn	12 58 39.7	-2.0
EZ5V				*i* S	Sn	12 59 06.8	-4.3
SFJM	**Santa Fe**	**2.70**	**88**	*e*P	Pn	12 58 42.8	-3.3
SFJM				*e*S	Sn	12 59 15.1	-3.9
SFJM	**Santa Fe**	**2.70**	**88**	*e*P	Pn	12 58 42.8	-3.3
SFJM				*e*S	Sn	12 59 15.1	-3.9
MAIG	**Mazatlaan**	**2.79**	**350**	*e*P	Pn	12 58 45.3	-1.8
MAIG	**Mazatlaan**	**2.79**	**350**	*e*P	Pn	12 58 45.3	-1.8
MMIG	**Aquila**	**3.23**	**131**	*e*P	Pn	12 58 50.5	-2.7
MMIG				*e*S	Sn	12 59 28.4	-3.2
MMIG	**Aquila**	**3.23**	**131**	*e*P	Pn	12 58 50.5	-2.7
MMIG				*e*S	Sn	12 59 28.4	-3.2
ZIIG	**Zihuatanejo**	**5.06**	**123**	*e*P	Pn	12 59 24.6	+6.3
ZIIG				*e*S	Sn	13 00 14.1	-2.7
ZIIG	**Zihuatanejo**	**5.06**	**123**	*e*P	Pn	12 59 24.6	+6.3
ZIIG				*e*S	Sn	13 00 14.1	-2.7
ARIG	**Puente Sto Nin**	**5.67**	**111**	*i* P	Pn	12 59 24.5	-2.4
ARIG				*i* S	Sn	13 00 28.7	-3.5

*IDC **08** 13:03:38.6±0.5, 34.°51S×73.°88W, h0km, mb4.7/14, mb1 4.8/17, mb1mx4.7/29, mbtmp4.7/17, ML4.3/4, MS4.4/17, Ms1 4.3/17, ms1mx4.3/21, Error ellipse: s-maj=19.4km s-min=12.8km az=82.0*
*ISCJB **08** 13:03:39.4±1.7, 34.°49S±0.°03×73.°74W±0.°03, h14km±10km, mb4.9/45, MS4.4/16, Error ellipse: s-maj=5.6km s-min=3.8km az=27.4*
*GUC **08** 13:03:40.7±0.8, 34.°60S×73.°64W, h25km±30km, ML4.5*
*MOS **08** 13:03:42.8±1.2, 34.°56S×73.°87W, h33km, mb5.4/13, Error ellipse: s-maj=19.0km s-min=10.0km az=97.5*
*BJI **08** 13:03:42.3, 35.°05S×73.°64W, h30km, mB5.2/14, Ms5.5/11, Ms7 5.2/12*
*NEIC **08** 13:03:43.8±2.4, 34.°53S×73.°82W, h35km±16km, mb5.0/34, Error ellipse: s-maj=11.1km s-min=5.6km az=75.0*
*GCMT **08** 13:03:43.8±0.2, 34.°54S×73.°97W, h12km, MW5.1/100, Moment Tensor Solution. s31,c40; s100,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.85±.13; $M_{\theta\theta}$2.74±.10; $M_{\phi\phi}$3.12±.14; $M_{r\theta}$0.96±.50; $M_{\theta\phi}$2.79±.11; $M_{r\phi}$0.26±.47; Best double couple: $M_0$5.87200×10^{16} NP1:ϕ_s228.00000°, δ49.00000°, λ-84.00000°. NP2: ϕ_s38.00000°, δ41.00000°, λ-97.00000°. Principal axes: T 5.7890, Plg4.0000°, Azm313.0000°; N 0.1780, Plg5.0000°, Azm44.0000°; P -5.9560, Plg84.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 08 13:03:43.8±0.7, 34.°57S±0.°04×73.°65W±0.°05, h34km±2km, n319, σ1°07/348, mb4.9/45, MS4.3/16, 9C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.71**	**156**	⇓*i* P	**Pn**	**13 04 09.3**	**-1.9**
COCH				*i* S	**Sn**	**13 04 30.5**	**-1.4**
NICH	**Los Niches**	**2.04**	**103**	⇓*i* P	**Pn**	**13 04 15.8**	**0.0**
NICH				*i* S	**Sb**	**13 04 42.0**	**-3.1**
LNCH	**Linares**	**2.11**	**128**	⇓*i* P	**Pn**	**13 04 17.1**	**+0.4**
LNCH				*i* S	**Sb**	**13 04 43.4**	**-3.7**
RCDM	**Rinconada Maip**	**2.59**	**66**	*e*P9	**Pn**	**13 04 21.5**	**-2.0**
RCDM				*e*S	**Sn**	**13 04 53.0**	**-0.9**
ANTU	**Antumapu**	**2.69**	**69**	*e*P1	**Pn**	**13 04 23.4**	**-1.4**
ANTU				*i* S	**Sn**	**13 04 56.4**	**+0.1**
ANTU				AML	AML	13 05 14.1	
	comp=E,2μm,0.3s						
CLCH	**Cerro Calan**	**2.84**	**67**	*e*P	**Pn**	**13 04 26.0**	**-0.9**
CLCH				*i* S	**Sn**	**13 05 00.4**	**+0.4**
CLCH				AML	AML	13 05 13.0	
	comp=N,2μm,0.6s						
CLCH				AML	AML	13 05 13.6	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**2.85**	**61**	⇑*i* P	**Pn**	**13 04 25.7**	**-1.2**
PEL				*e*S	**Sn**	**13 05 00.5**	**+0.4**
PEL				AML	AML	13 05 17.5	
	comp=N,2μm,0.6s						
FCH	**Farellones**	**3.05**	**67**	⇑*i* P	Pn	13 04 24.6	-5.5
FCH				*i* S	**Sn**	**13 05 00.9**	**-4.7**
FCH				AML	AML	13 05 05.0	
	comp=N,1μm,0.3s						
CFAA	**Coronel Fontan**	**5.42**	**58**	Pn	**Pn**	**13 05 01.9**	**-0.4**
	comp=N,1.0nm,0.3s,baz=233,slow=12,SNR=18						
CFAA				Sn	**Sn**	**13 06 06.1**	**+2.6**
	comp=N,1.5nm,0.3s,baz=124,slow=21,SNR=8.5						
CFAA				LR	LR	13 07 10.2	
	comp=N,158nm,19.7s,baz=210,slow=38						
PLCA	**Paso Flores**	**6.62**	**159**	*e*P	**Pn**	**13 05 19.4**	**+0.5**
PLCA						13 06 38.7	
PLCA				pmax	pmax		
	comp=Z,72nm,0.7s						
PLCA	**Paso Flores**	**6.62**	**159**	Pn	**Pn**	**13 05 19.7**	**+0.8**
	comp=Z,2.3nm,0.3s,baz=329,slow=14,SNR=38						
PLCA				Sn	Sn	13 06 38.7	+5.5
	baz=322,slow=11,SNR=1.8						
PLCA	**Paso Flores**	**6.62**	**159**	*e*P	**Pn**	**13 05 19.4**	**+0.5**
	comp=Z,72nm,0.7s						
PLCA				Sn	Sn	13 06 38.7	+5.5
TRQA	**Tornquist**	**10.04**	**114**	*e*P	**Pn**	**13 06 07.1**	**+1.5**
	comp=Z,32nm,1.0s						
CPUP	**Villa Florida**	**16.28**	**64**	*e*P	**P**	**13 07 33.6**	**+1.0**
CPUP	**Villa Florida**	**16.28**	**64**	Pn	**P**	**13 07 32.2**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=234,slow=7.9,SNR=6.8						
CPUP				LR	LR	13 14 08.0	
	comp=Z,649nm,20.7s,baz=226,slow=38						
CPUP	**Villa Florida**	**16.28**	**64**	*e*P	**P**	**13 07 33.6**	**+1.0**
LPAZ	**La Paz**	**18.87**	**17**	P	**Pn**	**13 08 02.8**	**+0.2**
LPAZ	**La Paz**	**18.87**	**17**	P	**Pn**	**13 08 02.8**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=191,slow=7.7,SNR=24						
EFI	**East Falkland**	**20.46**	**151**	P	Pn	13 08 19.7	-0.9
	comp=Z,576nm,1.4s,SNR=7.2						
EFI	**East Falkland**	**20.46**	**151**	*e*P	Pn	13 08 20.5	-0.1
EFI				pmax	pmax		
	comp=Z,131nm,1.1s						
EFI	**East Falkland**	**20.46**	**151**	*e*P	Pn	13 08 20.5	-0.1
	comp=Z,130nm,1.1s						
USHA	**Ushuaia**	**20.59**	**171**	P	Pn	13 08 20.0	-2.1
	comp=Z,54nm,1.1s,baz=345,slow=13,SNR=2.9						
USHA				LR	LR	13 16 47.0	
	comp=Z,2μm,19.2s,baz=348,slow=38						
SIV	**San Ignacio**	**21.68**	**35**	P	**P**	**13 08 30.8**	**-1.0**
	comp=Z,11nm,0.8s,baz=228,slow=8.8,SNR=20						
SIV				LR	LR	13 18 04.2	
	comp=Z,673nm,18.6s,baz=221,slow=40						
NNA	**Nana**	**22.67**	**352**	P	**P**	**13 08 42.8**	**+0.4**
NNA	**Nana**	**22.67**	**352**	P	**P**	**13 08 42.8**	**+0.4**
	comp=Z,14nm,0.7s,baz=172,slow=6.9,SNR=6.4						
NNA				LR	LR	13 15 25.8	
	comp=Z,1μm,19.0s,baz=188,slow=31						
ATAH	**Atahualpa**	**27.65**	**350**	LR	LR	13 18 18.0	
	comp=Z,817nm,19.6s,baz=192,slow=32						
BDFB	**Brasilia**	**29.76**	**57**	P	**P**	**13 09 49.0**	**+1.5**
BDFB	**Brasilia**	**29.76**	**57**	P	**P**	**13 09 49.0**	**+1.5**
	comp=Z,5.6nm,1.0s,baz=243,slow=6.0,SNR=6.0						
BDFB				LR	LR	13 21 46.3	
	comp=Z,686nm,19.8s,baz=224,slow=36						
OTAV	**Otavalo**	**34.92**	**352**	P	**P**	**13 10 33.6**	**+0.6**
	comp=Z,20nm,1.3s						
ROSC	**El Rosal**	**39.22**	**359**	LR	LR	13 26 55.1	
	comp=Z,567nm,18.2s,baz=200,slow=36						
SDV	**Santo Domingo**	**43.31**	**4**	*e*P	**P**	**13 11 40.9**	**-1.9**
	comp=Z,16nm,0.8s						
VNA3	**Neumayer Olymp**	**49.34**	**157**	P	**P**	**13 12 30.3**	**+0.9**
VNA1	**Neumayer--Stat**	**49.68**	**157**	P	**P**	13 12 34.6	+2.7
VNA2	**Neumayer--Watz**	**50.01**	**157**	P	**P**	**13 12 35.7**	**+1.2**
SNAA	**Sanae**	**51.56**	**158**	P	**P**	**13 12 47.8**	**+1.6**
SNAA	**Sanae**	**51.56**	**158**	*de*P	**P**	**13 12 47.1**	**+0.9**
SNAA				pmax	pmax		
	comp=Z,59nm,1.0s						
SNAA	**Sanae**	**51.56**	**158**	P	**P**	**13 12 47.1**	**+0.9**
	comp=Z,19nm,1.0s,baz=280,slow=6.0,SNR=28						
SNAA	**Sanae**	**51.56**	**158**	*e*P	**P**	**13 12 47.2**	**+0.9**
	comp=Z,57nm,1.0s						
APG	**El Apazote**	**51.83**	**339**	P	**P**	**13 12 46.8**	**-2.2**
	comp=Z,4.8nm,0.6s,baz=199,slow=11,SNR=5.3						
RKT	**Rikitea**	**54.19**	**265**	*e*LQ	LQ	13 26 27.1	
	comp=Z,332nm,31.0s						
RKT				*e*LR	LR	13 28 46.4	
	comp=Z,506nm,36.2s						
QSPA	**South Pole Qui**	**55.67**	**180**	P	**P**	**13 13 17.3**	**+0.9**
	comp=Z,45nm,1.0s,baz=149,slow=4.8,SNR=36						
QSPA	**South Pole Qui**	**55.67**	**180**	*e*P	**P**	**13 13 17.2**	**+0.7**
	comp=Z,51nm,1.1s						
TEIG	**Tepich**	**56.24**	**343**	*e*P	**P**	**13 13 19.7**	**-1.1**
	comp=Z,24nm,0.8s						
VNDA	**Vanda**	**63.28**	**192**	LR	LR	13 34 48.3	
	comp=Z,75nm,20.6s,baz=136,slow=30						
SYO	**Syowa Base**	**65.82**	**159**	⇑*e*X	P	13 14 19.6	-5.7
TIGA	**Tifton**	**66.32**	**351**	P	**P**	**13 14 28.4**	**-0.4**
	comp=Z,18nm,0.9s						
834A	**Tilden**	**66.66**	**336**	P	**P**	**13 14 31.2**	**+0.1**
	baz=67						
735A	**Kenedy**	**67.09**	**337**	P	**P**	**13 14 34.0**	**+0.2**
	baz=67						
833A	**Chaparral WMA,**	**67.13**	**335**	P	**P**	**13 14 34.0**	**-0.1**
	baz=67						
832A	**Faith Ranch, C**	**67.29**	**335**	P	**P**	**13 14 34.6**	**-0.6**
	baz=68						
636A	**Smothers Creek**	**67.43**	**338**	P	**P**	**13 14 36.0**	**0.0**
	baz=68						
732A	**Laxson Ranch,**	**67.70**	**335**	P	**P**	**13 14 37.5**	**-0.2**
	baz=68						
632A	**Uvalde**	**68.35**	**336**	P	**P**	**13 14 41.2**	**-0.6**
	baz=69						
339A	**Huntington**	**68.45**	**341**	P	**P**	**13 14 43.6**	**+1.3**
	baz=69						
PPT2	**Papeete2**	**68.84**	**263**	*e*LR	LR	13 35 29.0	
	comp=Z,767nm,29.0s						
PPT	**Papeete**	**68.85**	**263**	LR	LR	13 37 20.4	
	comp=Z,248nm,18.2s,baz=100,slow=29						
532A	**Rocksprings**	**68.96**	**336**	P	**P**	**13 14 45.3**	**-0.4**
	baz=69						
336A	**Riesel**	**69.15**	**339**	P	**P**	**13 14 47.4**	**+0.7**
	baz=69						
JCT	**Junction City**	**69.24**	**336**	P	**P**	**13 14 47.0**	**-0.3**
	baz=70						
433A	**Art**	**69.26**	**337**	P	**P**	**13 14 46.

MSTX Muleshoe 73.44 335 P **P 13 15 11.6 -1.2**
baz=74
MSTX Muleshoe 73.44 335 *e*P **P 13 15 11.8 -0.9**
comp=Z,18nm,0.8s
W31A Holland Ranch, 73.62 338 P **P 13 15 12.9 -0.8**
baz=74
319A Douglas 73.68 329 P **P 13 15 14.1 -0.2**
baz=74
V33A Lossen Ranch, 73.71 339 P **P 13 15 13.4 -0.7**
baz=74
Y26A Elida 73.77 334 P **P 13 15 14.7 -0.1**
baz=74
AMTX Amarillo 73.90 336 P **P 13 15 14.1 -1.3**
baz=74
121A Cookes Peak, D 74.06 330 P **P 13 15 16.7 +0.2**
baz=74
U34A Anderson Ranch 74.07 340 *e*P **P 13 15 16.8 +0.5**
W29A Amarillo 74.11 336 P **P 13 15 15.9 -0.7**
baz=74
V31A Spring Creek L 74.13 338 P **P 13 15 17.5 +0.9**
baz=74
X26A CR and CF Fran 74.33 334 P **P 13 15 18.5 +0.5**
baz=75
Z22A Elephant Butte 74.36 331 P **P 13 15 18.7 +0.4**
baz=75
W27A Bowe Ranch, En 74.53 335 P **P 13 15 19.0 -0.2**
baz=75
W26A Owens Ranch, T 74.80 335 P **P 13 15 21.4 +0.7**
baz=75
X24A Lazy VL Ranch, 74.94 333 P **P 13 15 22.1 +0.5**
baz=75
TUC Tucson 75.13 328 *e*P **P 13 15 22.6 0.0**
TUC pmax pmax
comp=Z,8.0nm,1.0s
TUC Tucson 75.13 328 *e*P **P 13 15 22.6 0.0**
comp=Z,7.7nm,1.0s
LAZ Ladron 75.44 332 *e*P **P 13 15 24.7 +0.2**
comp=Z,4.5nm,1.2s
V26A Tequesquite Ra 75.45 335 P **P 13 15 24.3 -0.1**
baz=76
ANMO Albuquerque 75.66 333⇑ *e*P **P 13 15 26.1 +0.4**
ANMO pmax pmax
comp=Z,45nm,1.2s
ANMO Albuquerque 75.66 333 *e*P **P 13 15 25.6 -0.1**
comp=Z,9.8nm,1.1s
W23A Werner Place, 75.73 333 P **P 13 15 26.4 +0.3**
baz=76
214A Organ Pipe Nat 75.74 326 P **P 13 15 26.0 0.0**
baz=76
T28A Walsh 76.09 337 P **P 13 15 27.7 -0.3**
baz=76
LIC Lamto 76.22 72 *e*PKIKP **P 13 15 31.1 +1.9**
comp=Z,48nm,0.7s
S29A Ulysses 76.23 338 P **P 13 15 28.9 +0.2**
baz=76
R32A Long Quarter, 76.26 340 P **P 13 15 28.8 -0.1**
baz=76
V23A Ortiz Mt. (NFS 76.26 333 P **P 13 15 29.3 +0.1**
baz=76
R31A Burdett 76.37 339 P **P 13 15 29.2 -0.2**
baz=77
S28A Manter 76.45 337 P **P 13 15 29.8 -0.2**
baz=77
TIC Toumodi 76.48 72 *e*PKIKP **P 13 15 31.0 +0.3**
comp=Z,16nm,0.2s
KIC Kosan Boka 76.53 72 *e*PKIKP **P 13 15 31.1 +0.2**
comp=Z,87nm,0.9s
Q33A Connelly Farm, 76.55 341 P **P 13 15 30.0 -0.5**
baz=77
DBIC Dimbokro 76.62 72 *e*P **P 13 15 32.1 +0.7**
DBIC pmax pmax
comp=Z,32nm,0.9s
DBIC Dimbokro 76.62 72 P **P 13 15 32.5 +1.0**
comp=Z,22nm,0.7s,baz=207,slow=6.0,SNR=30
DBIC LR LR 13 47 58.5
comp=Z,146nm,18.5s,baz=217,slow=35
DBIC Dimbokro 76.62 72 *e*P **P 13 15 32.1 +0.7**
comp=Z,32nm,0.9s
V22A San Miguel Ran 76.69 333 P **P 13 15 32.0 +0.4**
baz=77
Q32A Meitler Ranch, 76.74 340 P **P 13 15 31.8 +0.2**
baz=77
T25A Trinidad 76.87 335 P **P 13 15 33.3 +0.7**
baz=77
Q31A Ellis 76.99 340 P **P 13 15 32.9 -0.1**
baz=77
U22A Llaves 77.08 333 P **P 13 15 34.3 +0.6**
baz=77
W18A Petrified Fore 77.10 330 P **P 13 15 33.8 -0.1**
baz=77
W18A Petrified Fore 77.10 330 *e*P **P 13 15 34.1 +0.2**
comp=Z,24nm,1.4s
R28A Tribune 77.11 338 P **P 13 15 33.6 -0.2**
baz=77
Q30A Quinter 77.21 339 P **P 13 15 34.1 -0.1**
baz=78
X16A Lo Mia Camp, P 77.21 329 P **P 13 15 34.7 +0.2**
baz=77
R27A Eads 77.37 337 P **P 13 15 34.9 -0.3**
baz=78
P31A Stockton 77.47 340 P **P 13 15 35.7 +0.1**
baz=78
S24A Houchin Ranch, 77.60 335 P **P 13 15 37.2 +0.4**
baz=78
Y12C Blythe 78.02 326 P **P 13 15 39.5 +0.7**
baz=78
R24A Sanders Place, 78.10 335 P **P 13 15 40.1 +0.7**
baz=78
WUAZ Wupatki 78.12 329 P **P 13 15 39.7 +0.1**
baz=78
WUAZ Wupatki 78.12 329 *e*P **P 13 15 39.2 -0.4**
comp=Z,18nm,1.3s
P28A Saint Francis 78.22 338 P **P 13 15 40.1 +0.2**
baz=78
BC3 Big Chuckawall 78.38 325 P **P 13 15 40.9 0.0**
baz=79
MVCO Mesa Verde 78.43 332 P **P 13 15 38.5 -2.8**
comp=Z,8.6nm,0.9s
W13A Hualapai Mount 78.86 327 P **P 13 15 43.9 +0.2**
baz=79
P25A Willow Gulch B 78.93 336 P **P 13 15 44.1 +0.1**
baz=79
U15A North Rim 79.29 329 P **P 13 15 46.4 +0.3**
baz=80
GMRC Granite Mounta 79.40 326 P **P 13 15 45.5 -1.0**
baz=80
ISCO Idaho Springs 79.67 336 *e*P **P 13 15 48.0 -0.1**
ISCO pmax pmax
comp=Z,3.0nm,0.6s
ISCO Idaho Springs 79.67 336 P **P 13 15 48.5 +0.4**
baz=80
ISCO Idaho Springs 79.67 336 *e*P **P 13 15 48.0 -0.1**
comp=Z,3.4nm,0.6s
HEC Hector,Ludlow 79.75 325 P **P 13 15 49.1 +0.7**
baz=80
P22A Eagle 79.89 335 P **P 13 15 50.7 +1.5**
baz=80
BFSC Mount Baldy Ra 79.90 324 P **P 13 15 49.8 +0.5**
baz=80
O23A Lake Granby, G 80.15 335 P **P 13 15 51.2 +0.5**
baz=80
O22A Kremmling 80.32 335 P **P 13 15 51.6 0.0**
baz=81
K30A Basset 80.46 341 P **P 13 15 52.8 +0.8**
baz=81
SHPR Sheep Range 80.60 327 *e*P **P 13 15 53.4 +0.4**
comp=Z,7.8nm,1.1s
ECSD EROS Data Cent 80.70 343 P **P 13 15 52.3 -0.9**
baz=81
ECSD EROS Data Cent 80.70 343 *e*P **P 13 15 52.0 -1.2**
comp=Z,11nm,1.0s
N23A Red Feather La 80.77 336 P **P 13 15 53.8 -0.2**
baz=81
N22A Wattenberg Ran 80.86 335 P **P 13 15 54.5 0.0**
baz=81
ARUT Antelope Range 80.92 329 *e*P **P 13 15 54.4 -0.4**
ARUT pmax pmax
comp=Z,203nm,1.3s
ARUT Antelope Range 80.92 329 *e*P **P 13 15 54.4 -0.4**
comp=Z,203nm,1.3s
BOSA Boshof 80.98 118 *e*P **P 13 15 56.1 +0.7**
BOSA pmax pmax
comp=Z,36nm,1.1s
BOSA Boshof 80.98 118 P **P 13 15 56.4 +0.9**
comp=Z,22nm,1.0s,baz=226,slow=4.6,SNR=18
BOSA LR LR 13 46 37.6
comp=Z,356nm,21.6s,baz=231,slow=32
BOSA Boshof 80.98 118 *e*P **P 13 15 56.1 +0.7**
comp=Z,36nm,1.1s
MVU Marysvale 81.02 330 *e*P **P 13 15 55.7 +0.4**
comp=Z,4.2nm,1.0s
K27A Flueckinger Fa 81.23 339 P **P 13 15 57.1 +0.9**
baz=82
SPMN Marine on St. 81.30 346 *e*P **P 13 15 55.0 -1.3**
comp=Z,7.0nm,0.8s
J29A Okreek 81.34 341 P **P 13 15 56.4 -0.2**
baz=82
N20A Spence Gulch, 81.52 334 P **P 13 15 58.1 +0.2**
baz=82
J28A Allard Ranch, 81.61 340 P **P 13 15 58.4 +0.3**
baz=82
DAU Daniels Canyon 82.28 332 *e*P **P 13 16 02.1 +0.1**
DAU pmax pmax
comp=Z,15nm,1.4s
DAU Daniels Canyon 82.28 332 *e*P **P 13 16 02.1 +0.1**
comp=Z,16nm,1.4s
R11A Troy Canyon, C 82.32 328 P **P 13 16 02.4 +0.2**
baz=82
H29A Onida 82.44 341 P **P 13 16 01.9 -0.5**
baz=83
K22A Casper 82.53 336 *e*P **P 13 16 03.0 -0.1**
comp=Z,31nm,1.4s
G30A Faulkton 82.63 342 P **P 13 16 02.8 -0.6**
baz=83
DUG Dugway, Tooele 82.70 331 P **P 13 16 03.6 -0.4**
baz=83
K21A Alcova 82.76 336 P **P 13 16 03.4 -1.0**
baz=83
I25A Rochford 82.88 339 P **P 13 16 04.4 -0.5**
baz=83
H27A Howes 82.95 340 P **P 13 16 04.2 -0.9**
baz=83
HWUT Hardware Ranch 83.42 332 *e*P **P 13 16 06.8 -0.9**
comp=Z,18nm,1.4s
J21A Lysite 83.46 336 P **P 13 16 07.6 -0.3**
baz=84
NVAR Mina Array Bea 83.60 326 P **P 13 16 07.5 -1.3**
comp=Z,1.2nm,0.7s,baz=160,slow=6.3,SNR=9.1
J20A Shoshoni 83.68 335 P **P 13 16 09.0 +0.1**
baz=84
PDAR Pinedale Array 83.68 334 P **P 13 16 08.6 -0.5**
comp=Z,2.7nm,1.0s,baz=152,slow=4.4,SNR=14
PDAR LR LR 13 48 59.0
comp=Z,467nm,21.0s,baz=160,slow=33
G26A Maurine 83.71 340 P **P 13 16 08.4 -0.5**
baz=84
F28A McLaughlin 83.73 341 P **P 13 16 08.9 -0.1**
baz=84
I21A Big Trails, Te 83.82 336 P **P 13 16 09.2 -0.5**
baz=84
G25A Newell 83.85 339 P **P 13 16 09.4 -0.3**
baz=84
J19A Crowheart 83.94 335 P **P 13 16 09.4 -0.9**
baz=84
HVU Hansel Valley 84.04 332 *e*P **P 13 16 10.3 -0.6**
HVU pmax pmax
comp=Z,12nm,0.9s
HVU Hansel Valley 84.04 332 *e*P **P 13 16 10.3 -0.6**
comp=Z,12nm,0.9s
F27A Lemmon 84.08 341 P **P 13 16 10.3 -0.6**
baz=84
I20A Worland 84.22 336 P **P 13 16 10.9 -0.8**
baz=84
F26A Lodgepole 84.24 340 P **P 13 16 10.2 -1.4**
baz=84
H20A Greybull 84.65 336 P **P 13 16 13.1 -0.8**
baz=85
F24A Ekalaka 84.75 339 P **P 13 16 13.1 -1.1**
baz=85
AGMN Agassiz Nation 84.85 345 P **P 13 16 13.8 -0.9**
baz=85
C30A Mose, Pekin 84.87 343 P **P 13 16 14.1 -0.6**
baz=85
I17A Pilgrim Ck. 85.05 334 P **P 13 16 14.8 -1.2**
baz=85
H19A Powell 85.15 336 P **P 13 16 15.7 -0.7**
baz=85
F22A Rosebud 85.24 338 P **P 13 16 16.2 -0.5**
baz=86
E24A Baker 85.35 339 P **P 13 16 16.9 -0.4**
baz=86
G20A Bridger 85.37 336 P **P 13 16 16.6 -0.8**
baz=86
H18A Shoshone NF, C 85.39 335 P **P 13 16 16.9 -0.8**
baz=86
B30A Myrvik Farm, E 85.54 344 P **P 13 16 17.8 -0.3**
baz=86
TORD Torodi Ar. Bea 85.66 71 P **P 13 16 19.5 +0.1**
comp=Z,15nm,1.0s,baz=249,slow=2.5,SNR=31
TORD LR LR 13 53 59.5
comp=Z,214nm,18.1s,baz=225,slow=35
B29A Wagenman Farm, 85.79 343 P **P 13 16 19.0 -0.4**
baz=86
YMR Madison River 85.84 334 *e*P **P 13 16 18.8 -1.2**
comp=Z,23nm,1.4s
D24A Glendive 85.86 340 P **P 13 16 19.7 0.0**
baz=86
A30A Hoffart Farm, 85.99 344 P **P 13 16 18.9 -1.4**
baz=86
B28A Dugan Ranch, T 86.03 343 P **P 13 16 20.3 -0.2**
baz=86
D23A Lindsay 86.17 339 P **P 13 16 21.2 -0.1**
baz=86
F19A Roth Farm, Mol 86.17 336 P **P 13 16 20.5 -0.9**
baz=86
E21A Keefer Ranch, 86.17 338 P **P 13 16 20.9 -0.4**
baz=86
HLID Hailey 86.19 332 P **P 13 16 21.3 -0.4**
baz=86
A29A Manning Farm, 86.19 343 P **P 13 16 20.7 -0.6**
baz=86
C24A Savage 86.27 340 P **P 13 16 21.3 -0.5**
baz=86
B26A Jensen Ranch, 86.44 341 P **P 13 16 22.5 -0.1**
baz=87
D22A Cohagen 86.44 338 P **P 13 16 22.2 -0.5**
baz=87
E20A Meyer Farm, Mu 86.48 337 P **P 13 16 22.4 -0.5**
baz=87
E19A Rath Farm, Rou 86.65 337 P **P 13 16 23.0 -0.8**
baz=87
MCMT McKenzie Canyo 86.66 333 *e*P **P 13 16 24.2 +0.2**
comp=Z,4.0nm,0.9s
ULM Lac du Bonnet 86.71 346 P **P 13 16 22.4 -1.4**
ULM Lac du Bonnet 86.71 346 P **P 13 16 22.4 -1.4**
comp=Z,3.6nm,0.8s,baz=188,slow=6.1,SNR=6.3
ULM LR LR 13 53 06.9
comp=Z,57nm,21.4s,baz=180,slow=34
C23A Lambert 86.73 339 P **P 13 16 22.9 -1.1**
baz=87
C22A Vida 86.89 339 P **P 13 16 22.8 -2.0**
baz=87
D20A Manuel Ranch, 87.00 337 P **P 13 16 24.5 -0.9**
baz=87
DGMT Dagmar 87.06 340 P **P 13 16 24.9 -0.7**
baz=87
DGMT Dagmar 87.06 340 *e*P **P 13 16 25.1 -0.4**
comp=Z,24nm,0.9s
B22A Reddig Ranch S 87.42 339 P **P 13 16 26.0 -1.4**
baz=88
C20A Veseth Ranch, 87.51 338 P **P 13 16 25.9 -1.9**
baz=88
B21A Ellsworth Farm 87.84 338 P **P 13 16 29.0 -0.4**
baz=88
A22A Carney Farms, 88.02 339 P **P 13 16 29.3 -0.9**
baz=88
A21A Bergtoll Ranch 88.31 339 P **P 13 16 30.6 -1.0**
baz=89
A20A Cobblestone Ra 88.52 338 P **P 13 16 30.7 -1.9**
baz=89
A19A Klindworth Far 88.81 338 P **P 13 16 33.4 -0.6**
baz=89
J05D Fort Rock, OR 88.82 327 P **P 13 16 34.3 +0.1**
baz=89
SCHQ Schefferville 89.23 4 LR LR 13 55 51.3
comp=Z,90nm,20.6s,baz=158,slow=35
MDT Midelt 93.21 52 LR LR 13 59 59.1
comp=Z,104nm,18.1s,baz=147,slow=36
YKA Yellowknife Ar 102.17 342 P **Pdif 13 17 33.6 -0.8**
YKA Yellowknife Ar 102.17 342 P **Pdif 13 17 33.6 -0.8**
comp=Z,0.3nm,0.8s,baz=143,slow=4.3,SNR=5.5
ASAR Alice Springs 116.45 208 PKIKP **PKPdf 13 22 24.0 -0.6**
ASAR Alice Springs 116.45 208 PKP **PKPdf 13 22 23.9 -0.6**
comp=Z,0.4nm,0.9s,baz=118,slow=1.4,SNR=4.1
ASAR PKKPbc **PKKPbc 13 32 54.5 +2.4**
comp=Z,0.5nm,0.9s,baz=332,slow=3.2,SNR=4.1
WRA Warramunga Arr 119.61 211 PKIKP **PKPdf 13 22 29.9 -0.8**
WRA Warramunga Arr 119.61 211 PKP **PKPdf 13 22 29.9 -0.8**
comp=Z,1.1nm,1.0s,baz=163,slow=1.4,SNR=7.9
BRTR Keskin Array B 123.28 62*c i*PKIKP **PKPdf 13 22 37.4 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 123.28 62 PKP **PKPdf 13 22 37.4 +0.2**
comp=Z,1.7nm,0.8s,baz=247,slow=1.6,SNR=4.7
AKASG Malin Array Be 123.56 48*c i*PKIKP **PKPdf 13 22 37.2 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 123.56 48 PKP **PKPdf 13 22 36.7 -0.5**
comp=Z,3.9nm,0.9s,baz=261,slow=3.0,SNR=4.7
RAYN Ar Rayn 126.38 85 *e*PKPdf **PKPdf 13 22 44.0 +0.5**
OBN Obninsk 128.77 44⇑*i*PKIKP **PKPdf 13 22 46.3 -0.7**
OBN pmax pmax
comp=Z,62nm,2.8s
KLMR Klimovskoe 130.65 36 *e*PKIKP **PKPdf 13 22 49.6 -0.8**
KLMR pmax pmax
comp=Z,60nm,1.7s
KIV Kislovodsk 130.92 59 *i* PKIKP **PKPdf 13 22 52.3 +0.7**
KIV pmax pmax
comp=Z,11nm,0.9s
PRGR Permogore 133.55 35 *e*PKIKP **PKPdf 13 22 55.5 -0.3**
PRGR pmax pmax
comp=Z,98nm,1.4s
TIXI Tiksi 141.00 349⇑ *e*PKIKP **PKPdf 13 23 10.5 +1.1**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
GEYT Alibeck 141.30 71 PKP **PKPdf 13 23 10.6 -0.5**
comp=Z,1.0nm,0.5s,baz=174,slow=1.4,SNR=3.6
AKTO Aktyubinsk 141.72 50 PKIKP **PKPdf 13 23 08.9 -2.4**
AKTO Aktyubinsk 141.72 50 PKP **PKPdf 13 23 08.9 -2.4**
comp=Z,3.3nm,1.0s,baz=344,slow=3.6,SNR=4.4
ABKAR Akbulak array 143.08 52 *e*PKPpre PKPpre 13 23 09.6
PALK Pallekele 144.00 133 *e*PKIKP **PKPdf 13 23 15.0 -1.5**
PALK Pallekele 144.00 133 *e*PKP **PKPdf 13 23 15.0 -1.5**
KSM Kuching 146.87 187 *e*PKPdf **PKPdf 13 23 20.9 -0.5**
BRVK Borovoye 148.53 43 PKIKP **PKPdf 13 23 23.0 +0.1**
BRVK *e* 13 23 27.1
BRVK Borovoye 148.53 43 PKPdf **PKPdf 13 23 23.0 +0.1**
BRVK *e*PKPbc **PKiKP 13 23 27.1 -0.9**
YAK Yakutsk 148.80 339 *e*PKP2 **PKPbc 13 23 25.6 -1.3**
YAK Yakutsk 148.80 339 *e*PKPbc **PKPbc 13 23 25.6 -1.3**
IPM Ipoh 149.65 169 *e*PKPbc **PKPbc 13 23 29.2 -1.4**
HYB Hyderabad 149.88 117 *i* PKP **PKPbc 13 23 30.0 -1.0**
YSS Yuzh-Sakhalins 150.05 305 *e*PKHKP **PKPbc 13 23 29.0 -1.5**
YSS pmax pmax
comp=Z,30nm,1.0s
KULM Kulim 150.39 168 *e*PKPbc **PKPbc 13 23 32.0 -0.3**
ASAJ Asahikawa 150.59 300 PKPbc **PKPbc 13 23 31.3 -0.6**
KKAR Karatay Array 150.99 62 *e*PKIKP **PKPbc 13 23 32.9 0.0**
KKAR Karatay Array 150.99 62 *e*PKPbc **PKPbc 13 23 32.9 0.0**
AAK Ala-Archa 153.95 62⇑ *e*PKIKP **PKPdf 13 23 32.6 +0.8**
AAK pmax pmax
comp=Z,24nm,2.5s
AAK Ala-Archa 153.95 62 *e*PKPdf **PKPdf 13 23 32.3 +0.5**
AAK *e*PKPbc **PKiKP 13 23 40.6 +0.8**
KURK Kurchatov 154.20 43 *e*PKIKP **PKPdf 13 23 31.8 +0.2**
KURK *e* 13 23 39.1
KURK Kurchatov 154.20 43 *e*PKPdf **PKPdf 13 23 31.8 +0.2**
KURK *e*PKPbc **PKPbc 13 23 39.1 -0.7**
TKM2 Tokmak 2 154.71 62 *e*PKIKP **PKPdf 13 23 33.2 +0.3**
TKM2 Tokmak 2 154.71 62 *e*PKPdf **PKPdf 13 23 33.2 +0.3**
KSH Kashi 155.32 70 PKP **PKPdf 13 23 33.8 +0.1**
KSH sPKP 13 23 47.1
KSH PKS **PKSdf 13 27 07.7 -0.1**
KSH PP **PP 13 27 34.6 -1.5**
KSH SKS **SKSdf 13 30 36.7 -1.0**
KSH SKKS **SKKSac 13 34 22.4 -0.6**
KSH SS **SS 13 47 17.7 -1.6**
KSH PPMZ
comp=Z,160nm,6.8s
KSH LN
comp=Z,69nm,7.5s
KSH LE
comp=Z,59nm,5.7s
KSH LZ
comp=Z,170nm,7.2s
ZALV Zalesovo Beam 155.41 31 PKIKP **PKPdf 13 23 32.7 -0.4**
ZALV 13 23 42.2
ZALV 13 23 59.5
ZALV Zalesovo Beam 155.41 31 PKP **PKPdf 13 23 32.7 -0.4**
comp=Z,3.3nm,0.8s,baz=288,slow=2.3,SNR=11
ZALV PKPbc PKPbc 13 23 42.2
comp=Z,6.1nm,0.7s,baz=301,slow=2.7,SNR=14
ZALV PKPab **PKPab 13 23 59.5 +0.7**
comp=Z,2.7nm,0.8s,baz=297,slow=4.5,SNR=5.2
MKAR Makanchi Array 158.14 49 PKIKP **PKPdf 13 23 38.3 +1.3**
MKAR 13 24 10.7
MKAR 13 27 50.9
MKAR Makanchi Array 158.14 49 PKP **PKPdf 13 23 38.2 +1.3**
comp=Z,2.7nm,1.0s,baz=318,slow=1.6,SNR=8.5
MKAR PKPab **PKPab 13 24 10.7 -0.2**
comp=Z,3.0nm,0.7s,baz=299,slow=4.0,SNR=8.7
MKAR PP **PP 13 27 50.9 -0.1**
comp=Z,0.6nm,0.8s,baz=298,slow=2.6,SNR=3.6
CN2 Changchun 162.59 308 *e*PKP **PKPdf 13 23 44.0 +2.1**
CN2 PPMZ
comp=Z,200nm,6.0s
CN2 LN
comp=Z,300nm,15.0s
CN2 LE
comp=Z,400nm,15.0s
CN2 LZ
comp=Z,500nm,17.0s
CMAR Chiang Mai Arr 162.65 156 PKIKP **PKPdf 13 23 43.2 +0.4**
CMAR 13 24 31.2
CMAR Chiang Mai Arr 162.65 156 PKP **PKPdf 13 23 43.1 +0.4**
comp=Z,0.7nm,0.7s,baz=246,slow=2.8,SNR=9.0
CMAR PKPab **PKPab 13 24 31.1 +0.1**
comp=Z,1.9nm,1.1s,baz=211,slow=4.1,SNR=6.2
WMQ Urumqi 162.87 52 *e*PKP **PKPdf 13 23 43.0 +0.7**
WMQ pPKP **pPKPdf 13 23 53.8 +0.4**
WMQ PKPab **PKPab 13 24 35.0 +3.3**
WMQ PKS **PKSdf 13 27 15.0 -0.4**
WMQ PP **PP 13 28 20.6 +3.9**
WMQ SKS **SKSdf 13 30 42.5 -1.9**
WMQ SKKS **SKKSac 13 35 03.5 +1.5**
WMQ SS **SS 13 48 39.5 +1.2**
WMQ PPMZ
comp=Z,220nm,7.0s
WMQ LN
comp=Z,72nm,18.0s
WMQ LE
comp=Z,260nm,20.0s
WMQ LZ
comp=Z,180nm,22.0s
ZAK Zakamensk 164.04 7⇓*i*PKP2 **PKPab 13 24 36.0 -0.5**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
SONM Songino Array 166.75 360 PKIKP **PKPdf 13 23 47.3 +1.7**
SONM 13 24 48.7
SONM Songino Array 166.75 360 PKP **PKPdf 13 23 47.3 +1.7**
comp=Z,1.1nm,1.1s,baz=132,slow=4.3,SNR=4.0
SONM PKPab **PKPab 13 24 48.7 +0.2**
comp=Z,2.0nm,1.0s,baz=336,slow=4.4,SNR=7.4
GYA Guiyang 171.91 182 *e*PKP **PKPdf 13 23 48.4 -1.0**
GYA pPKP **pPKPdf 13 24 00.8 +0.3**
GYA PKPab **PKPab 13 25 13.4 +1.6**
GYA PKS **PKSdf 13 27 19.8 -2.2**
GYA PP **PP 13 29 04.2 +2.3**
GYA SKKS 13 35 46.0
GYA SS **SS 13 50 06.2 -1.2**
GYA PPMZ
comp=Z,120nm,8.4s
GYA LN
comp=Z,120nm,22.6s
GYA LE
comp=Z,110nm,22.4s
GYA LZ
comp=Z,120nm,21.8s
HHC Hu-ho-hao-te 172.49 328 *e*PKP **PKPdf 13 23 49.2 0.0**
HHC pPKP **pPKPdf 13 24 00.0 -0.3**
HHC sPKP 13 24 03.6
HHC PP **PP 13 29 08.0 +2.7**
HHC SKS **SKSdf 13 30 47.2 -2.8**
HHC SS **SS 13 50 13.0 -1.1**
HHC PPMZ
comp=Z,100nm,7.4s
HHC LN
comp=Z,260nm,17.3s
HHC LE
comp=Z,220nm,18.5s

HHC				LZ			
	comp=Z,310nm,18.5s						
GTA	**Gaotai**	**172.88**	**45**	*e*PKP	**PKPdf**	**13 23 50.1**	**+0.6**
GTA				pPKP	**pPKPdf**	**13 24 00.8**	**+0.2**
GTA				sPKP		13 24 04.4	
GTA				PKPab	**PKPab**	**13 25 16.9**	**+0.8**
GTA				PP	**PP**	**13 29 11.6**	**+4.0**
GTA				SKS	**SKSdf**	**13 30 47.1**	**-3.1**
GTA				SKKS	**SKKSac**	**13 35 54.2**	**+2.4**
GTA				SS	**SS**	**13 50 21.2**	**+2.5**
GTA				PPMZ			
	comp=Z,61nm,6.7s						
GTA				LN			
	comp=Z,380nm,16.6s						
GTA				LE			
	comp=Z,320nm,15.9s						
GTA				LZ			
	comp=Z,440nm,15.7s						
CD2	**Chengdu**	**175.75**	**148**	*e*PKP	**PKPdf**	**13 23 50.6**	**0.0**

VIE 08 13:11:59.5±0.2, 47°.92N×14°.27E, h0km, mb0.1/1, ML1.8/2, 4C, Error ellipse: s-maj=1.7km s-min=1.1km az=72.0
11 km SSW of Aschach a.d. Steyr Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOA	**Molln**	**0.07**	**180**	↑*i*Pg	Pg	13 12 00.7	-0.2
	14nm,0.1s						
MOA				⇑*i*Sg	Sg	13 12 02.1	+0.2
	212nm,0.6s						
CONA	**Conrad Observa**	**1.07**	**89**	↑*i*Pg	Pg	13 12 20.2	0.0
	0.4nm,0.1s						
CONA				⇑*i*Sg	Sg	13 12 34.9	+0.7
	8.1nm,0.3s						

*BJI **08** 13:11:59.6, 38°.24N×21°.59E, h31km, mB5.2/6, mb4.4/12, Ms4.8/4, Ms7 4.4/5*
*IDC **08** 13:12:01.3±0.5, 38°.43N×22°.19E, h0km, mb4.2/24, mb1 4.3/33, mb1mx4.3/42, mbtmp4.2/33, ML3.8/9, MS3.4/11, Ms1 3.4/11, ms1mx3.1/51, Error ellipse: s-maj=11.7km s-min=10.3km az=59.0*
*CSEM **08** 13:12:02.5±0.1, 38°.36N×22°.14E, h2km, mb4.4/18, Ms3.1, Error ellipse: s-maj=2.3km s-min=2.0km az=51.0*
*THE **08** 13:12:02.9, 38°.36N×22°.11E, h2km±2km, ML4.5/7, Error ellipse: s-maj=2.5km s-min=0.6km az=144.0*
*ATH **08** 13:12:02.2, 38°.38N×22°.09E, h15km±1km, ML4.2*
*ISCJB **08** 13:12:02.4±0.3, 38°.37N±0°.01×22°.12E±0°.02, h14km±2km, mb4.2/41, MS3.5/5, Error ellipse: s-maj=2.3km s-min=1.8km az=145.4*
*PDG **08** 13:12:03.0±0.8, 38°.35N×22°.14E, h9km±1km, ML4.2/10, Error ellipse: s-maj=1.2km s-min=1.1km az=90.0*
*MOS **08** 13:12:05.6±1.4, 38°.53N×22°.30E, h33km, mb4.5/25, Error ellipse: s-maj=6.1km s-min=4.0km az=114.5*
*NEIC **08** 13:12:07.1±0.6, 38°.41N×22°.29E, h38km±6km, mb4.5/24, Error ellipse: s-maj=7.9km s-min=4.8km az=199.0*
NEIC Felt at Aigion, Patrai, Rion and Selianitika.
ISC 08 13:12:03.2±0.6, 38°.37N±0°.01×22°.11E±0°.01, h11km±3km, n554, σ1§29/605, mb4.4/41, MS3.7/5, 59C-36D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.03**	**53**	P	**Pg**	**13 12 04.7**	**-0.6**
KALE				S	**Sg**	**13 12 06.7**	**0.0**
KALE	**Kalithea**	**0.03**	**53**	*e*PB	**Pg**	**13 12 04.7**	**-0.6**
KALE				*e*SB	**Sg**	**13 12 06.4**	**-0.3**
KALE	**Kalithea**	**0.03**	**53**	P	**Pg**	**13 12 04.7**	**-0.6**
KALE				S	**Sg**	**13 12 06.3**	**-0.4**
LAKA	**Lakka**	**0.17**	**218**	P	**Pg**	**13 12 06.2**	**-0.7**
LAKA	**Lakka**	**0.17**	**218**	*e*PB	**Pg**	**13 12 06.2**	**-0.7**
LAKA	**Lakka**	**0.17**	**218**	P	**Pg**	**13 12 06.2**	**-0.7**
EFP	**Efpalio**	**0.17**	**289**	P	**Pg**	**13 12 05.8**	**-1.1**
EFP				S	**Sg**	**13 12 08.9**	**-0.6**
EFP	**Efpalio**	**0.17**	**289**	*e*PB	**Pg**	**13 12 05.8**	**-1.1**
EFP				*e*SB	**Sg**	**13 12 08.9**	**-0.6**
EFP	**Efpalio**	**0.17**	**289**	P	**Pg**	**13 12 05.8**	**-1.1**
EFP				S	**Sg**	**13 12 08.9**	**-0.6**
UPR	**University Cam**	**0.27**	**251**	P	**Pg**	**13 12 07.8**	**-0.9**
UPR				S	**Sg**	**13 12 12.2**	**-0.1**
UPR	**University Cam**	**0.27**	**251**	P	**Pg**	**13 12 07.8**	**-0.9**
UPR				S	**Sg**	**13 12 12.2**	**-0.1**
KLV	**Kalavryta, Ach**	**0.33**	**174**	P	**Pg**	**13 12 09.0**	**-0.8**
KLV				S	**Sg**	**13 12 14.6**	**+0.4**
KLV	**Kalavryta, Ach**	**0.33**	**174**	*e*PB	**Pg**	**13 12 09.2**	**-0.6**
KLV				*e*SB	**Sg**	**13 12 14.3**	**+0.1**
KLV	**Kalavryta, Ach**	**0.33**	**174**	P	**Pg**	**13 12 09.0**	**-0.8**
KLV				S	**Sg**	**13 12 13.7**	**-0.5**
KLV				*e*Sb	**Sg**	**13 12 14.3**	**+0.1**
GUR	**Goura**	**0.47**	**157**	P	**Pg**	**13 12 11.8**	**-0.7**
GUR				S	**Sg**	**13 12 18.7**	**-0.1**
GUR	**Goura**	**0.47**	**157**	*e*PB	**Pg**	**13 12 11.9**	**-0.6**
GUR				*e*SB	**Sg**	**13 12 18.9**	**+0.1**
GUR	**Goura**	**0.47**	**157**	P	**Pg**	**13 12 11.6**	**-0.9**
GUR	**Goura**	**0.47**	**157**	*e*Pb	**Pg**	**13 12 11.9**	**-0.6**
GUR				S	**Sg**	**13 12 18.0**	**-0.8**
PVO	**Paravola**	**0.52**	**298**	P	**Pg**	**13 12 12.2**	**-1.1**
PVO				S	**Sg**	**13 12 21.3**	**+1.1**
PVO	**Paravola**	**0.52**	**298**	P	**Pg**	**13 12 12.2**	**-1.1**
PVO				S	**Sg**	**13 12 21.3**	**+1.1**
DRO	**Drossia**	**0.52**	**217**	P	**Pg**	**13 12 12.4**	**-1.0**
DRO	**Drossia**	**0.52**	**217**	*e*PN	**Pg**	**13 12 12.4**	**-1.0**
DRO				*e*SN	**Sg**	**13 12 20.6**	**+0.3**
DRO	**Drossia**	**0.52**	**217**	P	**Pg**	**13 12 12.4**	**-1.0**
DRO				S	**Sg**	**13 12 19.6**	**-0.7**
DRO				*e*Sn	**Sg**	**13 12 20.6**	**+0.3**
AXAR	**Agios Charalam**	**0.59**	**48**	P	**Pg**	**13 12 13.6**	**-1.0**
AXAR	**Agios Charalam**	**0.59**	**48**	*e*PN	**Pg**	**13 12 13.8**	**-0.8**
AXAR	**Agios Charalam**	**0.59**	**48**	*e*Pn	**Pg**	**13 12 13.8**	**-0.8**
EVR	**Evrytania**	**0.59**	**337**	P	**Pg**	**13 12 13.5**	**-1.2**
EVR				S	**Sg**	**13 12 23.3**	**+0.7**
EVR	**Evrytania**	**0.59**	**337**	*e*PN	**Pg**	**13 12 13.6**	**-1.2**
EVR	**Evrytania**	**0.59**	**337**	*e*Pn	**Pg**	**13 12 13.6**	**-1.2**
EVR				S	**Sg**	**13 12 23.3**	**+0.7**
RLS	**Riolos of Patr**	**0.59**	**238**	P	**Pg**	**13 12 13.6**	**-1.1**
RLS				S	**Sg**	**13 12 22.6**	**0.0**
RLS	**Riolos of Patr**	**0.59**	**238**	*e*PN	**Pg**	**13 12 14.0**	**-0.7**
RLS	**Riolos of Patr**	**0.59**	**238**	P	**Pg**	**13 12 13.7**	**-1.0**
RLS	**Riolos of Patr**	**0.59**	**238**	*e*Pn	**Pg**	**13 12 14.0**	**-0.7**
RLS				S	**Sg**	**13 12 22.2**	**-0.4**
MAKR	**Makrakomi, Fth**	**0.64**	**2**	P	**Pg**	**13 12 15.0**	**-0.7**
MAKR	**Makrakomi, Fth**	**0.64**	**2**	*e*PN	**Pg**	**13 12 14.8**	**-0.9**
MAKR	**Makrakomi, Fth**	**0.64**	**2**	P	**Pg**	**13 12 15.0**	**-0.7**
AGG	**Agios Georgios**	**0.67**	**15**	P	**Pg**	**13 12 15.0**	**-1.3**
AGG				S	**Sg**	**13 12 25.7**	**+0.6**
AGG	**Agios Georgios**	**0.67**	**15**	*e*PN	**Pg**	**13 12 15.0**	**-1.3**
AGG	**Agios Georgios**	**0.67**	**15**	P	**Pg**	**13 12 15.0**	**-1.3**
AGG				S	**Sg**	**13 12 25.7**	**+0.6**
LKR	**Lokris**	**0.75**	**68**	P	**Pg**	**13 12 16.5**	**-1.3**
LKR	**Lokris**	**0.75**	**68**	*e*PN	**Pg**	**13 12 17.0**	**-0.8**
LKR	**Lokris**	**0.75**	**68**	P	**Pg**	**13 12 16.5**	**-1.3**
LKR	**Lokris**	**0.75**	**68**	*e*Pn	**Pg**	**13 12 17.0**	**-0.8**
PDO	**Prodromos**	**0.76**	**288**	P	**Pg**	**13 12 17.2**	**-0.7**
PDO				S	**Sb**	**13 12 29.1**	**+0.2**
PDO	**Prodromos**	**0.76**	**288**	*e*PN	**Pg**	**13 12 17.0**	**-0.9**
PDO	**Prodromos**	**0.76**	**288**	P	**Pg**	**13 12 17.2**	**-0.7**
PDO				S	**Sb**	**13 12 29.1**	**+0.2**
LTK	**Loutraki**	**0.76**	**117**	P	**Pg**	**13 12 17.6**	**-0.3**
LTK	**Loutraki**	**0.76**	**117**	*e*PN	**Pg**	**13 12 17.6**	**-0.3**
LTK	**Loutraki**	**0.76**	**117**	*e*PN	**Pg**	**13 12 17.6**	**-0.3**
LTK	**Loutraki**	**0.76**	**117**	P	**Pg**	**13 12 17.4**	**-0.5**
AMT	**Artemida-Makis**	**0.90**	**201**	P	**Pg**	**13 12 19.4**	**-1.0**
AMT	**Artemida-Makis**	**0.90**	**201**	*e*PN	**Pg**	**13 12 19.5**	**-1.0**
AMT	**Artemida-Makis**	**0.90**	**201**	P	**Pg**	**13 12 19.4**	**-1.0**
AMT				S	**Sb**	**13 12 33.7**	**+0.9**
SMIA	**Simia**	**1.00**	**59**	P	**Pg**	**13 12 22.6**	**+0.1**
SMIA	**Simia**	**1.00**	**59**	*e*PN	**Pg**	**13 12 21.6**	**-0.9**
SMIA	**Simia**	**1.00**	**59**	*e*Pn	**Pg**	**13 12 21.6**	**-0.9**
SMIA	**Simia**	**1.00**	**59**	P	**Pg**	**13 12 22.6**	**+0.1**
VLX	**Vlachokerasia**	**1.02**	**168**	P	**Pg**	**13 12 21.4**	**-1.5**
VLX	**Vlachokerasia**	**1.02**	**168**	*e*PN	**Pg**	**13 12 21.5**	**-1.5**
VLX				*e*SN	**Sb**	**13 12 36.7**	**+0.2**
VLX	**Vlachokerasia**	**1.02**	**168**	P	**Pg**	**13 12 21.4**	**-1.5**
VLX				*e*Sn	**Sb**	**13 12 36.7**	**+0.2**
KFL	**Anninata**	**1.07**	**256**	P	**Pg**	**13 12 22.4**	**-1.4**
KFL	**Anninata**	**1.07**	**256**	P	**Pg**	**13 12 22.4**	**-1.4**
DSL	**Palaion Diasel**	**1.10**	**314**	P	**Pg**	**13 12 23.9**	**-0.4**
DSL	**Palaion Diasel**	**1.10**	**314**	P	**Pg**	**13 12 23.9**	**-0.4**
THL	**Klokotos Trika**	**1.19**	**357**	P	**Pg**	**13 12 24.8**	**-1.4**
THL	**Klokotos Trika**	**1.19**	**357**	*e*PN	**Pg**	**13 12 25.0**	**-1.2**
THL	**Klokotos Trika**	**1.19**	**357**	P	**Pg**	**13 12 24.8**	**-1.4**
ITM	**Ithomi**	**1.20**	**187**	P	**Pg**	**13 12 24.4**	**-1.8**
ITM	**Ithomi**	**1.20**	**187**	P	**Pg**	**13 12 24.4**	**-1.8**
MRKA	**Markates**	**1.21**	**74**	P	**Pg**	**13 12 25.7**	**-0.7**
MRKA	**Markates**	**1.21**	**74**	*e*PN	**Pg**	**13 12 25.0**	**-1.4**
MRKA	**Markates**	**1.21**	**74**	*e*Pn	**Pg**	**13 12 25.0**	**-1.4**
MRKA	**Markates**	**1.21**	**74**	P	**Pg**	**13 12 25.7**	**-0.7**
LKD2	**Lefkada island**	**1.21**	**291**	P	**Pg**	**13 12 24.7**	**-1.7**
LKD2	**Lefkada island**	**1.21**	**291**	*e*PN	**Pg**	**13 12 24.8**	**-1.7**
LKD2	**Lefkada island**	**1.21**	**291**	P	**Pg**	**13 12 24.7**	**-1.7**
VLS	**Valsamata**	**1.21**	**261**	P	**Pg**	**13 12 24.1**	**-2.4**
VLS				S	**Sn**	**13 12 43.5**	**+0.9**
VLS	**Valsamata**	**1.21**	**261**	*e*PB	**Pg**	**13 12 24.0**	**-2.4**
VLS	**Valsamata**	**1.21**	**261**	P	**Pg**	**13 12 24.1**	**-2.4**
VLS				S	**Sn**	**13 12 43.5**	**+0.9**
DID	**Didima**	**1.24**	**134**	P	**Pg**	**13 12 26.0**	**-1.0**
DID				S	**Sn**	**13 12 44.2**	**+0.8**
DID	**Didima**	**1.24**	**134**	*e*PN	**Pg**	**13 12 26.1**	**-1.0**
DID	**Didima**	**1.24**	**134**	P	**Pg**	**13 12 26.1**	**-1.0**
DID				S	**Sg**	**13 12 42.0**	**-1.2**
NAIG	**Nisos Aigina**	**1.25**	**119**	*e*PN	**Pg**	**13 12 26.4**	**-0.8**
NAIG	**Nisos Aigina**	**1.25**	**119**	*e*Pn	**Pg**	**13 12 26.4**	**-0.8**
NEO	**Neokhori**	**1.28**	**43**	P	**Pg**	**13 12 26.7**	**-1.1**
NEO	**Neokhori**	**1.28**	**43**	*e*PN	**Pg**	**13 12 26.7**	**-1.1**
NEO	**Neokhori**	**1.28**	**43**	P	**Pg**	**13 12 26.7**	**-1.1**
XOR	**Xorichti**	**1.30**	**40**	P	**Pg**	**13 12 27.1**	**-1.2**
XOR	**Xorichti**	**1.30**	**40**	*e*PN	**Pg**	**13 12 27.3**	**-1.0**
XOR	**Xorichti**	**1.30**	**40**	P	**Pg**	**13 12 27.1**	**-1.2**
SKIA	**Skiathos**	**1.33**	**53**	P	**Pg**	**13 12 27.7**	**-1.0**
SKIA	**Skiathos**	**1.33**	**53**	*e*PN	**Pg**	**13 12 27.4**	**-1.3**
SKIA	**Skiathos**	**1.33**	**53**	*e*Pn	**Pg**	**13 12 27.4**	**-1.3**
SKIA	**Skiathos**	**1.33**	**53**	P	**Pg**	**13 12 27.7**	**-1.0**
ATH	**Athens Observa**	**1.33**	**107**	P	**Pg**	**13 12 27.9**	**-0.8**
ATH				S	**Sb**	**13 12 46.2**	**+0.9**
ATH	**Athens Observa**	**1.33**	**107**	*e*PN	**Pg**	**13 12 28.0**	**-0.8**
ATH				*e*SN	**Sb**	**13 12 45.7**	**+0.4**
ATH	**Athens Observa**	**1.33**	**107**	*e*Pn	**Pg**	**13 12 28.0**	**-0.8**
ATH				*e*Sn	**Sb**	**13 12 45.7**	**+0.4**
ATH				S	**Sb**	**13 12 46.2**	**+0.9**
ATHU	**Athens Univers**	**1.38**	**106**	P	**Pn**	**13 12 28.6**	**+0.1**
ATHU	**Athens Univers**	**1.38**	**106**	P	**Pn**	**13 12 28.6**	**+0.1**
PTL	**Penteli**	**1.42**	**103**	P	**Pn**	**13 12 29.2**	**+0.1**
PTL	**Penteli**	**1.42**	**103**	*e*PN	**Pn**	**13 12 29.2**	**+0.1**
PTL	**Penteli**	**1.42**	**103**	P	**Pn**	**13 12 29.2**	**+0.1**
PYL	**PYLOS**	**1.50**	**191**	P	**Pn**	**13 12 29.6**	**-0.6**
PYL	**PYLOS**	**1.50**	**191**	*e*PN	**Pn**	**13 12 29.8**	**-0.3**
PYL	**PYLOS**	**1.50**	**191**	*e*Pn	**Pn**	**13 12 29.8**	**-0.3**
MEV	**Metsovon**	**1.57**	**334**	P	**Pn**	**13 12 32.3**	**+1.1**
MEV	**Metsovon**	**1.57**	**334**	P	**Pn**	**13 12 32.3**	**+1.1**
AOS	**Alonnisos**	**1.60**	**60**	P	**Pn**	**13 12 31.0**	**-0.5**
AOS	**Alonnisos**	**1.60**	**60**	*e*PB	**Pn**	**13 12 30.6**	**-0.9**
AOS	**Alonnisos**	**1.60**	**60**	*e*Pb	**Pn**	**13 12 30.6**	**-0.9**
AOS	**Alonnisos**	**1.60**	**60**	P	**Pn**	**13 12 31.0**	**-0.5**
JAN	**Janina**	**1.61**	**323**	P	**Pn**	**13 12 33.0**	**+1.3**
JAN	**Janina**	**1.61**	**323**	*e*PN	**Pn**	**13 12 33.2**	**+1.5**
JAN	**Janina**	**1.61**	**323**	P	**Pn**	**13 12 33.0**	**+1.3**
LIT	**Litokhoron**	**1.75**	**10**	P	**Pn**	**13 12 32.9**	**-0.7**
LIT	**Litokhoron**	**1.75**	**10**	*e*PB	**Pn**	**13 12 33.0**	**-0.7**
LIT	**Litokhoron**	**1.75**	**10**	P	**Pn**	**13 12 32.9**	**-0.7**
VLI	**Veliai**	**1.78**	**158**	P	**Pn**	**13 12 33.8**	**-0.1**
VLI	**Veliai**	**1.78**	**158**	*e*PN	**Pn**	**13 12 34.1**	**+0.2**
VLI	**Veliai**	**1.78**	**158**	P	**Pn**	**13 12 33.8**	**-0.1**
VLI	**Veliai**	**1.78**	**158**	*e*Pn	**Pn**	**13 12 34.1**	**+0.2**
KZN	**Kozani**	**1.95**	**352**	P	**Pn**	**13 12 37.1**	**+0.7**
KZN	**Kozani**	**1.95**	**352**	*e*PN	**Pn**	**13 12 36.8**	**+0.4**
KZN	**Kozani**	**1.95**	**352**	*e*Pn	**Pn**	**13 12 36.8**	**+0.4**
KZN	**Kozani**	**1.95**	**352**	P	**Pn**	**13 12 37.1**	**+0.7**
PAIG	**Paliouri**	**1.98**	**38**	P	**Pn**	**13 12 36.2**	**-0.5**
PAIG	**Paliouri**	**1.98**	**38**	P	**Pn**	**13 12 36.2**	**-0.5**
NEST	**Nestorio**	**2.20**	**338**	P	**Pn**	**13 12 41.1**	**+1.3**
NEST	**Nestorio**	**2.20**	**338**	P	**Pn**	**13 12 41.1**	**+1.3**
KYTH	**Kithira**	**2.21**	**160**	P	**Pn**	**13 12 40.5**	**+0.5**
KYTH	**Kithira**	**2.21**	**160**	*e*PN	**Pn**	**13 12 41.2**	**+1.2**
KYTH	**Kithira**	**2.21**	**160**	P	**Pn**	**13 12 40.5**	**+0.5**
KYTH	**Kithira**	**2.21**	**160**	*e*Pn	**Pn**	**13 12 41.2**	**+1.2**
SRN	**Sarande**	**2.23**	**313**	*i* PN	**Pn**	**13 12 42.4**	**+2.3**
SRN	**Sarande**	**2.23**	**313**	P	**Pn**	**13 12 42.1**	**+2.0**
SRN	**Sarande**	**2.23**	**313**	P	**Pn**	**13 12 42.1**	**+2.0**
SRN	**Sarande**	**2.23**	**313**	*i* Pn	**Pn**	**13 12 42.4**	**+2.3**
KEK	**Kerkira**	**2.24**	**307**	P	**Pn**	**13 12 42.1**	**+1.7**
KEK	**Kerkira**	**2.24**	**307**	*e*PN	**Pn**	**13 12 42.0**	**+1.7**
KEK	**Kerkira**	**2.24**	**307**	*e*Pn	**Pn**	**13 12 42.0**	**+1.7**
PLG	**Polygyros**	**2.25**	**27**	P	**Pn**	**13 12 39.8**	**-0.7**
PLG	**Polygyros**	**2.25**	**27**	*e*PB	**Pn**	**13 12 40.0**	**-0.5**
PLG	**Polygyros**	**2.25**	**27**	P	**Pn**	**13 12 39.8**	**-0.7**
HORT	**Hortiatis**	**2.35**	**19**	P	**Pn**	**13 12 41.1**	**-0.8**
HORT	**Hortiatis**	**2.35**	**19**	P	**Pn**	**13 12 41.1**	**-0.8**
THE	**Thessaloniki**	**2.35**	**16**	P	**Pn**	**13 12 41.1**	**-0.8**
THE	**Thessaloniki**	**2.35**	**16**	P	**Pn**	**13 12 41.1**	**-0.8**
KBN	**Korca**	**2.47**	**336**	*i* PN	**Pb**	**13 12 47.9**	**+0.2**
KBN	**Korca**	**2.47**	**336**	P	**Pn**	**13 12 44.4**	**+0.9**
KBN	**Korca**	**2.47**	**336**	P	**Pn**	**13 12 44.4**	**+0.9**
KBN	**Korca**	**2.47**	**336**	*i* Pn	**Pb**	**13 12 47.9**	**+0.2**
FNA	**Florina**	**2.47**	**347**	P	**Pn**	**13 12 44.3**	**+0.7**
FNA	**Florina**	**2.47**	**347**	*e*PN	**Pn**	**13 12 44.4**	**+0.8**
FNA	**Florina**	**2.47**	**347**	P	**Pn**	**13 12 44.3**	**+0.7**
GRG	**Griva**	**2.59**	**5**	P	**Pn**	**13 12 45.2**	**0.0**
GRG	**Griva**	**2.59**	**5**	P	**Pn**	**13 12 45.2**	**0.0**
SOH	**Sokhos**	**2.63**	**21**	P	**Pn**	**13 12 45.8**	**0.0**
SOH	**Sokhos**	**2.63**	**21**	*e*PN	**Pn**	**13 12 45.7**	**0.0**
SOH	**Sokhos**	**2.63**	**21**	P	**Pn**	**13 12 45.8**	**0.0**
ANKY	**Antikythira Is**	**2.68**	**159**	P	**Pn**	**13 12 46.7**	**+0.4**
ANKY	**Antikythira Is**	**2.68**	**159**	P	**Pn**	**13 12 46.7**	**+0.4**
KNT	**Kendrikon**	**2.85**	**12**	P	**Pn**	**13 12 49.1**	**+0.3**
KNT	**Kendrikon**	**2.85**	**12**	*e*PN	**Pn**	**13 12 49.0**	**+0.3**
KNT	**Kendrikon**	**2.85**	**12**	P	**Pn**	**13 12 49.1**	**+0.3**
OHR	**Ohrid**	**2.92**	**340**	*i* Pn	**Pn**	**13 12 51.7**	**+2.0**
OHR				*e*Sg	**Sb**	**13 13 30.4**	**-0.7**
OHR	**Ohrid**	**2.92**	**340**	*i* Pn	**Pn**	**13 12 51.7**	**+2.0**
VAY	**Valandovo**	**2.97**	**7**	P	**Pn**	**13 12 50.6**	**+0.3**
VAY	**Valandovo**	**2.97**	**7**	*e*Pn	**Pn**	**13 12 50.8**	**+0.4**
VAY				*e*Sn	**Sn**	**13 13 24.1**	**-1.8**
VAY	**Valandovo**	**2.97**	**7**	*e*Pn	**Pn**	**13 12 50.7**	**+0.4**
VAY				*e*Sn	**Sn**	**13 13 24.1**	**-1.8**
SRS	**Serrai**	**2.97**	**22**	P	**Pn**	**13 12 49.9**	**-0.5**
SRS	**Serrai**	**2.97**	**22**	*e*PN	**Pn**	**13 12 50.2**	**-0.2**
SRS	**Serrai**	**2.97**	**22**	P	**Pn**	**13 12 49.9**	**-0.5**
SRS	**Serrai**	**2.97**	**22**	*e*Pn	**Pn**	**13 12 50.2**	**-0.2**
APE	**Apeiranthos**	**3.01**	**115**	*e*P	**Pn**	**13 12 52.1**	**+1.2**
APE	**Apeiranthos**	**3.01**	**115**	*i*P	**Pn**	**13 12 51.3**	**+0.4**
APE	**Apeiranthos**	**3.01**	**115**	*e*P	**Pn**	**13 12 52.1**	**+1.2**
CHOS	**Chios island**	**3.10**	**88**	*e*PN	**Pn**	**13 12 52.8**	**+0.6**
CHOS	**Chios island**	**3.10**	**88**	*e*Pn	**Pn**	**13 12 52.8**	**+0.6**
NVR	**Nevrokopi**	**3.27**	**24**	P	**Pn**	**13 12 54.6**	**+0.1**
NVR	**Nevrokopi**	**3.27**	**24**	*e*PN	**Pn**	**13 12 54.5**	**+0.1**
NVR	**Nevrokopi**	**3.27**	**24**	P	**Pn**	**13 12 54.6**	**+0.1**
SANT	**Santorini**	**3.33**	**126**	Pn	**Pn**	**13 12 53.6**	**-1.8**
SANT	**Santorini**	**3.33**	**126**	Pn	**Pn**	**13 12 53.6**	**-1.8**
VAM	**Vamos**	**3.40**	**150**	P	**Pn**	**13 12 55.2**	**-1.1**
VAM	**Vamos**	**3.40**	**150**	P	**Pn**	**13 12 55.2**	**-1.1**
MMB	**Musomiste**	**3.45**	**21**	↑*i*P	**Pn**	**13 12 57.0**	**+0.1**
MMB	**Musomiste**	**3.45**	**21**	↑*i*P	**Pn**	**13 12 57.0**	**+0.1**
PHP	**Peshkopia**	**3.55**	**339**	P	**Pn**	**13 13 00.3**	**+2.0**
PHP	**Peshkopia**	**3.55**	**339**	P	**Pn**	**13 13 00.3**	**+2.0**
SKO	**Skopje**	**3.63**	**352**	*i* Pn	**Pn**	**13 13 01.3**	**+1.8**
SKO	**Skopje**	**3.63**	**352**	*i* Pn	**Pn**	**13 13 01.2**	**+1.8**
IDI	**Anoyia**	**3.80**	**143**	P	**Pn**	**13 13 02.0**	**+0.1**
	6.0nm,0.3s,baz=248,slow=10,SNR=23						
IDI				Sn	**Sn**	**13 13 48.1**	**+1.5**
	30nm,0.3s,baz=67,slow=14,SNR=6.2						
PUK	**Puka**	**4.04**	**336**	*i* PN	**Pn**	**13 13 07.9**	**+2.8**
PUK	**Puka**	**4.04**	**336**	*i* Pn	**Pn**	**13 13 07.9**	**+2.8**
KDZ	**Kurdzhali**	**4.14**	**37**	↑*i*P	**Pn**	**13 13 06.0**	**-0.5**
KDZ	**Kurdzhali**	**4.14**	**37**	↑*i*P	**Pn**	**13 13 06.0**	**-0.5**
ULC	**Ulcinj**	**4.20**	**329**	↑*i*Pn	**Pn**	**13 13 08.9**	**+1.6**
ULC				*e*Sn	**Sn**	**13 13 58.9**	**+2.4**
ULC	**Ulcinj**	**4.20**	**329**	↑*i*Pn	**Pn**	**13 13 08.9**	**+1.6**
TIP	**Timpagrande**	**4.26**	**283**	P	**Pn**	**13 13 08.9**	**+0.8**
TIP	**Timpagrande**	**4.26**	**283**	P	**Pn**	**13 13 08.9**	**+0.8**
TIP	**Timpagrande**	**4.26**	**283**	*e*Pn	**Pn**	**13 13 09.0**	**+0.8**
VTS	**Vitosha**	**4.30**	**11**	P	**Pn**	**13 13 09.6**	**+0.9**
VTS	**Vitosha**	**4.30**	**11**	↑*i*P	**Pn**	**13 13 10.9**	**+2.2**
VTS	**Vitosha**	**4.30**	**11**	P	**Pn**	**13 13 09.6**	**+0.9**
TAR1	**Taranto**	**4.31**	**301**	*e*P	**Pn**	**13 13 09.2**	**+0.5**
PE1	**Pezze di Greco**	**4.36**	**305**	*e*P	**Pn**	**13 13 10.3**	**+0.9**
DRME	**Dracevica, Mon**	**4.42**	**331**	*e*Pn	**Pn**	**13 13 12.1**	**+1.9**
DRME				*e*Sn	**Sn**	**13 14 04.5**	**+2.8**
DRME	**Dracevica, Mon**	**4.42**	**331**	*e*Pn	**Pn**	**13 13 12.1**	**+1.9**
BARS	**Barje**	**4.45**	**357**	*e*Pn	**Pn**	**13 13 11.6**	**+1.0**
PVY	**Plav**	**4.53**	**339**	*e*Pn	**Pn**	**13 13 13.4**	**+1.6**
PVY				*e*Sn	**Sn**	**13 14 06.8**	**+2.3**
PVY	**Plav**	**4.53**	**339**	*e*Pn	**Pn**	**13 13 13.4**	**+1.6**
PVY				*e*Sn	**Sn**	**13 14 06.8**	**+2.3**
PDG	**Podgorica**	**4.60**	**333**	↑*i*Pn	**Pn**	**13 13 15.0**	**+2.3**
PDG				*e*Sn	**Sn**	**13 14 09.3**	**+3.1**
TTG	**Podgorica**	**4.60**	**333**	↑*i*Pn	**Pn**	**13 13 15.0**	**+2.3**
TTG				*e*Sn	**Sn**	**13 14 09.3**	**+3.1**
BUM	**Brajici-Budva**	**4.63**	**329**	↑*i*Pn	**Pn**	**13 13 14.1**	**+0.9**
BUM				*e*Sn	**Sn**	**13 14 09.5**	**+2.5**
BUM	**Brajici-Budva**	**4.63**	**329**	↑*i*Pn	**Pn**	**13 13 14.1**	**+0.9**
BEY	**Berane**	**4.80**	**340**	⇓*i*Pn	**Pn**	**13 13 18.2**	**+2.6**
BEY				*e*Sn	**Sn**	**13 14 13.6**	**+2.3**
IVA	**Berane**	**4.80**	**340**	⇓*i*Pn	**Pn**	**13 13 18.2**	**+2.6**
IVA				*e*Sn	**Sn**	**13 14 13.6**	**+2.3**
SG1	**Sgolgore (BA)**	**4.86**	**302**	*e*P	**Pn**	**13 13 17.3**	**+0.9**
BAI	**Bari**	**4.87**	**306**	*e*P	**Pn**	**13 13 17.2**	**+0.8**
CEL	**Celeste**	**4.89**	**271**	*e*Pn	**Pn**	**13 13 17.2**	**+0.5**
	74nm,0.6s						
CEL	**Celeste**	**4.89**	**271**	*e*Pn	**Pn**	**13 13 17.2**	**+0.5**
	74nm,0.6s						
HCY	**Herceg Novi**	**4.92**	**327**	⇓*i*Pn	**Pn**	**13 13 17.9**	**+0.8**
HCY				*e*Sn	**Sn**	**13 14 16.2**	**+2.2**
HCY	**Herceg Novi**	**4.92**	**327**	⇓*i*Pn	**Pn**	**13 13 17.9**	**+0.

PGF Pioggiola 10.82 297 *eP* Pn 13 14 43.2 +5.0
comp=Z,93nm,1.1s
PGF Pioggiola 10.82 297 *eP* Pn 13 14 43.2 +5.0
comp=Z,93nm,1.1s
MOA Molln 11.06 331 ⇑*iP*n **Pn 13 14 40.9 -0.5**
MOA Molln 11.06 331 Sn **Sn 13 16 44.6 -0.5**
MOA Molln 11.06 331 Pn **Pn 13 14 40.9 -0.5**
VRAC Vranov 11.63 342 ⇓*iP* **Pn 13 14 50.0 +0.9**
VRAC Vranov 11.63 342 Pn **Pn 13 14 49.6 +0.4**
comp=Z,0.4nm,0.3s,baz=163,slow=10,SNR=5.8
VRAC LR LR 13 19 36.8
comp=Z,156nm,18.4s,baz=170,slow=39
WTTA Wattenberg 11.74 323 ⇑*iP*n **Pn 13 14 50.3 -0.5**
WTTA ⇑*iS*n **Sn 13 17 01.6 -0.3**
WTTA Wattenberg 11.74 323 Sn 13 16 59.3 -2.6
WTTA Wattenberg 11.74 323 Pn **Pn 13 14 50.3 -0.5**
WTTA Sn **Sn 13 17 01.6 -0.3**
WATA Walderalm 11.82 323 ⇓*iP*n **Pn 13 14 51.5 -0.4**
WATA Walderalm 11.82 323 Pn **Pn 13 14 51.5 -0.4**
MMAI Mount Meron Ar 12.05 112 Pn **Pn 13 14 55.6 +0.5**
comp=Z,2.2nm,0.3s,baz=342,slow=12,SNR=2.9
MOTA Moosalm 12.05 322 ⇑*iP*n **Pn 13 14 54.7 -0.4**
MOTA ⇑*iS*n **Sn 13 17 08.8 -0.8**
MOTA Moosalm 12.05 322 Pn **Pn 13 14 54.7 -0.4**
MOTA Sn **Sn 13 17 08.8 -0.8**
GERES GERESS Array B 12.10 333 Pn **Pn 13 14 57.2 +1.5**
comp=Z,0.3nm,0.3s,baz=148,slow=13,SNR=6.3
GERES Sn **Sn 13 17 10.8 +0.1**
comp=Z,0.1nm,0.3s,baz=155,slow=21,SNR=2.5
GERES LR LR 13 20 19.5
comp=Z,651nm,18.2s,baz=142,slow=41
KRLC Kraliky 12.30 344 *eP* **Pn 13 15 00.0 +1.6**
KRLC Kraliky 12.30 344 *eP* **Pn 13 15 00.0 +1.6**
KRLC Kraliky 12.30 344 *eP* **Pn 13 15 00.0 +1.6**
DAVOX Davos/Dischmat 12.31 317 P **Pn 13 14 58.2 -0.4**
DAVOX 13 17 13.8
DAVOX pmax pmax
comp=Z,1.0nm,0.3s
DAVOX Davos/Dischmat 12.31 317 Pn **Pn 13 14 58.2 -0.4**
comp=Z,0.5nm,0.3s,baz=102,slow=17,SNR=4.5
DAVOX Sn **Sn 13 17 13.8 -2.1**
comp=Z,0.3nm,0.3s,baz=25,slow=23,SNR=3.2
SBF Sospel 12.34 301 *eP* **Pn 13 15 00.3 +1.3**
comp=Z,228nm,1.4s
SBF Sospel 12.34 301 *eP* **Pn 13 15 00.3 +1.3**
SBF pmax pmax
comp=Z,228nm,1.4s
SBF Sospel 12.34 301 *eP* **Pn 13 15 00.3 +1.3**
comp=Z,114nm,1.4s
SBF Sospel 12.34 301 *eP* **Pn 13 15 00.3 +1.3**
comp=Z,228nm,1.4s
KHC Kasperske Hory 12.39 333 *eP* **Pn 13 15 00.2 +0.7**
KHC MLR MLR
comp=Z,1µm,16.5s
KHC Kasperske Hory 12.39 333 *eP* **Pn 13 15 00.2 +0.7**
KHC AMS AMS 13 20 10.0
comp=Z,1µm,16.5s
KHC Kasperske Hory 12.39 333 *eP* **Pn 13 15 00.2 +0.7**
comp=Z,1µm,16.5s
TUE Stuetta 12.41 315 *eP* **Pn 13 15 00.4 +0.3**
comp=Z,6.0nm,0.6s
TUE Stuetta 12.41 315 *eP* **Pn 13 15 00.4 +0.3**
comp=Z,6.0nm,0.6s
DPC Dobruska-Polom 12.66 343 *eP* **Pn 13 15 03.5 +0.2**
DPC Dobruska-Polom 12.66 343 *eP* **Pn 13 15 03.5 +0.2**
DPC Dobruska-Polom 12.66 343 *eP* **Pn 13 15 03.5 +0.2**
PRU Pruhonice 12.81 337 *eP* **Pn 13 15 06.6 +1.4**
PRU MLR MLR
comp=Z,900nm,15.5s
PRU Pruhonice 12.81 337 *eP* **Pn 13 15 06.6 +1.4**
PRU AMS AMS 13 20 20.0
comp=Z,900nm,15.5s
PRU Pruhonice 12.81 337 *eP* **Pn 13 15 06.6 +1.4**
comp=Z,900nm,15.5s
MALT Malatya 12.82 85 ⇓*iP* Pn 13 15 14.9 +9.4
MBDF Montbardon 13.12 304 *eP* **Pn 13 15 10.8 +1.2**
comp=Z,26nm,0.8s
MBDF Montbardon 13.12 304 *eP* **Pn 13 15 10.8 +1.2**
MBDF pmax pmax
comp=Z,26nm,0.8s
MBDF Montbardon 13.12 304 *eP* **Pn 13 15 10.8 +1.2**
comp=Z,13nm,0.8s
MBDF Montbardon 13.12 304 *eP* **Pn 13 15 10.8 +1.2**
comp=Z,26nm,0.8s
ANN Anapa 13.14 56 *eP* **Pn 13 15 08.1 -1.6**
ANN pmax pmax
comp=Z,34nm,1.2s
ANN Anapa 13.14 56 *eP* **Pn 13 15 08.1 -1.6**
comp=Z,34nm,1.2s
KIEV Kiev 13.31 20⇑*eP* **Pn 13 15 11.9 -0.2**
KIEV Kiev 13.31 20 *eP* **Pn 13 15 11.9 -0.2**
AKASG Malin Array Be 13.32 20 P **Pn 13 15 11.0 -1.2**
AKASG Malin Array Be 13.32 20 Pn **Pn 13 15 11.0 -1.2**
comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=2.7
AKASG LR LR 13 20 42.5
comp=Z,195nm,18.2s,baz=205,slow=39
AKASG Malin Array Be 13.32 20 P **Pn 13 15 11.0 -1.2**
LPG La Plagne 13.46 307 *eP* Pn 13 15 18.4 +4.1
comp=Z,16nm,0.7s
LPG La Plagne 13.46 307 *eP* Pn 13 15 18.4 +4.1
LPG pmax pmax
comp=Z,16nm,0.7s
LPG La Plagne 13.46 307 *eP* Pn 13 15 18.4 +4.1
comp=Z,16nm,0.7s
LPG La Plagne 13.46 307 *eP* Pn 13 15 18.4 +4.1
comp=Z,16nm,0.7s
LPL La Plagne 13.47 307 *eP* Pn 13 15 19.1 +4.5
comp=Z,14nm,0.5s
LPL La Plagne 13.47 307 *eP* Pn 13 15 19.1 +4.5
LPL pmax pmax
comp=Z,14nm,0.5s
LPL La Plagne 13.47 307 *eP* Pn 13 15 19.1 +4.5
comp=Z,14nm,0.5s
LPL La Plagne 13.47 307 *eP* Pn 13 15 19.1 +4.5
comp=Z,14nm,0.5s
EIL Elat 13.73 125 Pn **Pn 13 15 18.8 +0.9**
comp=Z,1.0nm,0.3s,baz=346,slow=2.8,SNR=4.3
ORIF Oris-en-Rattie 13.77 304⇑*iP* Pn 13 15 21.7 +3.2
ORIF *eR*
comp=Z,206nm,19.2s
ORIF Oris-en-Rattie 13.77 304⇑*iP* Pn 13 15 21.7 +3.2
ORIF Oris-en-Rattie 13.77 304⇑*iP* Pn 13 15 21.7 +3.2
ORIF Oris-en-Rattie 13.77 304⇑*iP* Pn 13 15 21.7 +3.2
CABF La Chapelle 14.38 310 *eP* **Pn 13 15 29.8 +2.9**
comp=Z,66nm,1.2s
CABF La Chapelle 14.38 310 *eP* **Pn 13 15 29.8 +2.9**
CABF pmax pmax
comp=Z,67nm,1.2s
CABF La Chapelle 14.38 310 *eP* **Pn 13 15 29.8 +2.9**
comp=Z,66nm,1.2s
CABF La Chapelle 14.38 310 *eP* **Pn 13 15 29.8 +2.9**
comp=Z,66nm,1.2s
CLL Collm 14.44 337 *i* P **Pn 13 15 27.3 -0.2**
CLL pmax pmax
comp=Z,25nm,0.9s
CLL Collm 14.44 337 *i* (P) **Pn 13 15 27.3 -0.2**
CLL *i* PP **P 13 15 35.0 +0.6**
comp=Z,25nm,0.9s
CLL *i* 13 15 38.4
CLL *i* (sP) 13 15 47.1
CLL *e* 13 19 15.0
SMF Signal de Mont 15.78 307⇑*iP* **P 13 15 50.2 +0.9**
comp=Z,39nm,0.8s
SMF Signal de Mont 15.78 307⇑*iP* **P 13 15 50.2 +0.9**
SMF pmax pmax
comp=Z,39nm,0.8s
SMF Signal de Mont 15.78 307⇑*iP* **P 13 15 50.2 +0.9**
comp=Z,20nm,0.8s
SMF Signal de Mont 15.78 307⇑*iP* **P 13 15 50.2 +0.9**
comp=Z,39nm,0.8s
SFTF Sexfontaines 15.81 314 *eP* **Pn 13 15 47.2 +1.4**
comp=Z,39nm,0.9s
SFTF Sexfontaines 15.81 314 *eP* **Pn 13 15 47.2 +1.4**
comp=Z,39nm,0.9s
MEZF Maizieres J'vi 15.96 315 *eP* **P 13 15 53.5 +2.2**
MEZF Maizieres J'vi 15.96 315 *eP* **P 13 15 53.5 +2.2**
MEZF Maizieres J'vi 15.96 315 *eP* **P 13 15 53.5 +2.2**
LOR Lormes 16.04 309⇑*iP* **P 13 15 53.4 +1.2**
comp=Z,21nm,0.7s
LOR *eR*
comp=Z,164nm,19.5s
LOR Lormes 16.04 309⇑*iP* **P 13 15 53.4 +1.2**
LOR pmax pmax
comp=Z,21nm,0.7s
LOR Lormes 16.04 309⇑*iP* **P 13 15 53.4 +1.2**
comp=Z,10nm,0.7s
LOR Lormes 16.04 309⇑*iP* **P 13 15 53.4 +1.2**
comp=Z,21nm,0.7s
AVF Avril sur Loir 16.14 307⇑*iP* **P 13 15 54.6 +1.3**
comp=Z,96nm,1.1s
AVF Avril sur Loir 16.14 307⇑*iP* **P 13 15 54.6 +1.3**
AVF pmax pmax
comp=Z,96nm,1.1s
AVF Avril sur Loir 16.14 307⇑*iP* **P 13 15 54.6 +1.3**
comp=Z,48nm,1.1s
AVF Avril sur Loir 16.14 307⇑*iP* **P 13 15 54.6 +1.3**
comp=Z,96nm,1.1s
SSF Saint Saulge 16.16 308⇑*iP* **P 13 15 54.8 +1.3**
comp=Z,146nm,1.2s
SSF Saint Saulge 16.16 308⇑*iP* **P 13 15 54.8 +1.3**
SSF pmax pmax
comp=Z,146nm,1.2s
SSF Saint Saulge 16.16 308⇑*iP* **P 13 15 54.8 +1.3**
comp=Z,73nm,1.2s
SSF Saint Saulge 16.16 308⇑*iP* **P 13 15 54.8 +1.3**
comp=Z,146nm,1.2s
BGF Bois d'Agland 16.37 306⇑*iP* **P 13 15 57.6 +1.8**
comp=Z,109nm,1.0s
BGF Bois d'Agland 16.37 306⇑*iP* **P 13 15 57.6 +1.8**
BGF pmax pmax
comp=Z,109nm,1.0s
BGF Bois d'Agland 16.37 306⇑*iP* **P 13 15 57.6 +1.8**
comp=Z,54nm,1.0s
BGF Bois d'Agland 16.37 306⇑*iP* **P 13 15 57.6 +1.8**
comp=Z,109nm,1.0s
KIV Kislovodsk 16.46 64 *eP* Pn 13 15 48.7 -5.5
KIV pmax pmax
comp=Z,3.0nm,0.8s
KIV MLR MLR
comp=Z,29nm,11.0s
KBZ Khabaz 16.56 65 Pn **P 13 15 59.4 +1.6**
comp=Z,0.1nm,0.3s,baz=298,slow=9.9,SNR=4.0
RJF Les Rejaudoux 16.81 301 *eP* **P 13 16 02.2 +1.5**
comp=Z,55nm,1.4s
RJF *eR*
comp=Z,133nm,18.5s
RJF Les Rejaudoux 16.81 301 *eP* **P 13 16 02.2 +1.5**
RJF pmax pmax
comp=Z,55nm,1.4s
RJF Les Rejaudoux 16.81 301 *eP* **P 13 16 02.2 +1.5**
comp=Z,27nm,1.4s
RJF Les Rejaudoux 16.81 301 *eP* **P 13 16 02.2 +1.5**
comp=Z,55nm,1.4s
GIVF Givet 17.01 319 *eP* **P 13 16 03.7 +0.9**
GIVF Givet 17.01 319 *eP* **P 13 16 03.7 +0.9**
GIVF Givet 17.01 319 *eP* **P 13 16 03.7 +0.9**
GIVF Givet 17.01 319 *eP* **P 13 16 03.7 +0.9**
BAIF Baives 17.30 318 *eP* **Pn 13 16 05.5 +0.8**
comp=Z,12nm,0.6s
BAIF Baives 17.30 318 *eP* **Pn 13 16 05.5 +0.8**
BAIF pmax pmax
comp=Z,13nm,0.6s
BAIF Baives 17.30 318 *eP* **Pn 13 16 05.5 +0.8**
comp=Z,6.2nm,0.6s
BAIF Baives 17.30 318 *eP* **Pn 13 16 05.5 +0.8**
comp=Z,12nm,0.6s
VORD Divnogorie 17.49 38 *eP* **P 13 16 09.8 +1.6**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,6.0nm,0.6s
VORD Divnogorie 17.49 38 *eP* **P 13 16 09.8 +1.6**
VSR Storozhevoye 17.59 38 *eP* **P 13 16 10.7 +1.4**
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=Z,5.0nm,0.6s
VSR Storozhevoye 17.59 38 *eP* **P 13 16 10.7 +1.4**
GNI Garni 17.61 77 LR LR 13 23 51.9
comp=Z,58nm,18.0s,baz=3.0,slow=40
ETSF Etsaut 17.77 292 *eP* **P 13 16 14.8 +3.4**
ETSF Etsaut 17.77 292 *eP* **P 13 16 14.8 +3.4**
ETSF Etsaut 17.77 292 *eP* **P 13 16 14.8 +3.4**
ETSF Etsaut 17.77 292 *eP* **P 13 16 14.8 +3.4**
MFF Saint Martin d 18.31 304⇑*iP* **P 13 16 19.1 +1.8**
comp=Z,31nm,0.8s
MFF Saint Martin d 18.31 304⇑*iP* **P 13 16 19.1 +1.8**
MFF pmax pmax
comp=Z,31nm,0.8s
MFF Saint Martin d 18.31 304⇑*iP* **P 13 16 19.1 +1.8**
comp=Z,16nm,0.8s
MFF Saint Martin d 18.31 304⇑*iP* **P 13 16 19.1 +1.8**
comp=Z,31nm,0.8s
VRHR Novokhopersk 18.74 41 *eP* **Pn 13 16 24.0 +1.6**
VRHR pmax pmax
comp=N,8.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,8.0nm,0.7s
VRHR Novokhopersk 18.74 41 *eP* **Pn 13 16 24.0 +1.6**
LDF La Druitiere 19.03 310 *eP* **P 13 16 26.3 +1.2**
comp=Z,31nm,1.0s
LDF La Druitiere 19.03 310 *eP* **P 13 16 26.3 +1.2**
LDF pmax pmax
comp=Z,31nm,1.0s
LDF La Druitiere 19.03 310 *eP* **P 13 16 26.3 +1.2**
comp=Z,15nm,1.0s
LDF La Druitiere 19.03 310 *eP* **P 13 16 26.3 +1.2**
comp=Z,31nm,1.0s
FLN La Foliniere 19.32 310 *eP* **Pn 13 16 30.2 +0.9**
comp=Z,36nm,0.9s
FLN *eR*
comp=Z,117nm,19.5s
FLN La Foliniere 19.32 310 *eP* **Pn 13 16 30.2 +0.9**
FLN pmax pmax
comp=Z,36nm,0.9s
FLN La Foliniere 19.32 310 *eP* **Pn 13 16 30.2 +0.9**
comp=Z,18nm,0.9s
FLN La Foliniere 19.32 310 *eP* **Pn 13 16 30.2 +0.9**
comp=Z,36nm,0.9s
OBN Obninsk 19.39 26⇓*eP* **P 13 16 27.6 -1.4**
OBN pmax pmax
comp=Z,20nm,2.5s
OBN MLR MLR
comp=Z,184nm,13.0s
OBN Obninsk 19.39 26 *eP* **P 13 16 27.6 -1.4**
comp=Z,184nm,13.0s
GRR Gorron 19.40 308 *eP* **Pn 13 16 33.2 +2.9**
comp=Z,44nm,0.9s
GRR Gorron 19.40 308 *eP* **Pn 13 16 33.2 +2.9**
GRR pmax pmax
comp=Z,44nm,0.9s
GRR Gorron 19.40 308 *eP* **Pn 13 16 33.2 +2.9**
comp=Z,44nm,0.9s
GRR Gorron 19.40 308 *eP* **Pn 13 16 33.2 +2.9**
comp=Z,44nm,0.9s
ESDC Sonseca Array 20.28 282 P **P 13 16 39.9 +0.9**
comp=Z,7.1nm,0.5s,baz=78,slow=11,SNR=68
VSU Vasula 20.33 7⇓*iP* **P 13 16 39.1 -0.1**
VSU Vasula 20.33 7 *i P* **P 13 16 39.1 -0.1**
SGMF Saint Gilles 20.41 307 *eP* Pn 13 16 43.3 +1.1
SGMF Saint Gilles 20.41 307 *eP* Pn 13 16 43.3 +1.1
SGMF Saint Gilles 20.41 307 *eP* Pn 13 16 43.3 +1.1
SGMF Saint Gilles 20.41 307 *eP* Pn 13 16 43.3 +1.1
PAB San Pablo 20.59 282 *eP* **P 13 16 42.7 +0.4**
PAB pmax pmax
comp=Z,19nm,0.7s
PAB San Pablo 20.59 282 *eP* **P 13 16 42.7 +0.4**
comp=Z,19nm,0.7s
PAB San Pablo 20.59 282 *eP* **P 13 16 42.6 +0.4**
comp=Z,19nm,0.7s
QUIF Quistinic 20.68 306 *eP* **P 13 16 45.3 +2.2**
comp=Z,258nm,1.6s
QUIF Quistinic 20.68 306 *eP* **P 13 16 45.3 +2.2**
QUIF pmax pmax
comp=Z,258nm,1.6s
QUIF Quistinic 20.68 306 *eP* **P 13 16 45.3 +2.2**
comp=Z,129nm,1.6s
QUIF Quistinic 20.68 306 *eP* **P 13 16 45.3 +2.2**
comp=Z,258nm,1.6s
ROSF Rostrenen 20.88 307 *eP* **P 13 16 46.0 +0.7**
comp=Z,218nm,1.6s
ROSF Rostrenen 20.88 307 *eP* **P 13 16 46.0 +0.7**
ROSF pmax pmax
comp=Z,219nm,1.6s
ROSF Rostrenen 20.88 307 *eP* **P 13 16 46.0 +0.7**
comp=Z,109nm,1.6s
ROSF Rostrenen 20.88 307 *eP* **P 13 16 46.0 +0.7**
comp=Z,218nm,1.6s
TAM Tamanrasset 21.04 227 *eP* **P 13 16 49.8 +2.4**
comp=Z,11nm,1.1s
TAM Tamanrasset 21.04 227 *eP* **P 13 16 49.8 +2.4**
comp=Z,11nm,1.1s
MDT Midelt 22.39 264 P **P 13 17 00.4 -1.3**
comp=Z,4.7nm,0.9s,baz=92,slow=8.5,SNR=4.1
HFS Hagfors 22.43 349 P **P 13 17 00.5 -1.3**
HFS pmax pmax
comp=Z,5.0nm,0.5s
HFS Hagfors 22.43 349 P **P 13 17 00.5 -1.3**
comp=Z,5.5nm,0.5s,baz=152,slow=10,SNR=28
HFS LR LR 13 26 32.8
comp=Z,270nm,18.4s,baz=161,slow=39
HFS Hagfors 22.43 349 P **P 13 17 00.5 -1.3**
comp=Z,5.0nm,0.5s
FINES FINESS Array B 23.23 5 P **P 13 17 08.5 -1.7**
FINES 13 20 58.2
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 23.23 5 P **P 13 17 08.5 -1.7**
comp=Z,0.9nm,0.4s,baz=185,slow=11,SNR=6.3
FINES PcP **PcP 13 20 58.2 +0.5**
comp=Z,2.0nm,0.8s,baz=164,slow=7.5,SNR=4.0
FINES LR LR 13 26 40.4
comp=Z,329nm,18.9s,baz=190,slow=38
NB2 NORSAR Subarra 23.70 347 P **P 13 17 13.6 -1.3**
comp=Z,13nm,1.0s,baz=159,slow=9.3
NB2 NORSAR Subarra 23.70 347 P **P 13 17 13.6 -1.3**
comp=Z,13nm,1.0s,SNR=8.0
NOA NORSAR Array B 23.70 347 P **P 13 17 13.7 -1.1**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA NORSAR Array B 23.70 347 P **P 13 17 13.7 -1.1**
comp=Z,12nm,0.9s,baz=153,slow=9.2,SNR=27
NOA NORSAR Array B 23.70 347 P **P 13 17 13.7 -1.1**
comp=Z,6.0nm,0.8s
EKA Eskdalemuir Ar 24.01 323 P **P 13 17 17.6 -0.2**
EKA pmax pmax
comp=Z,15nm,0.7s
EKA Eskdalemuir Ar 24.01 323 P **P 13 17 17.6 -0.2**
comp=Z,15nm,0.8s,baz=124,slow=11,SNR=58
ESK Eskdalemuir 24.02 323 *eP* **P 13 17 17.2 -0.7**
ESK pmax pmax
comp=Z,69nm,0.7s
ESK Eskdalemuir 24.02 323 *eP* **P 13 17 17.2 -0.7**
comp=Z,69nm,0.7s
ESK Eskdalemuir 24.02 323 *eP* **P 13 17 17.2 -0.7**
comp=Z,69nm,0.7s
RAYN Ar Rayn 24.84 120 *eP* **P 13 17 28.2 +2.4**
comp=Z,6.4nm,0.7s
RAYN Ar Rayn 24.84 120 *eP* **P 13 17 28.2 +2.4**
comp=Z,6.4nm,0.7s
KLMR Klimovskoe 25.01 20 *eP* **P 13 17 24.8 -2.1**
KLMR pmax pmax
comp=Z,47nm,2.0s
AKTK Aktyubinsk 28.07 53 P **P 13 17 54.9 +0.3**
comp=Z,1.0nm,0.4s
AKTO Aktyubinsk 28.07 53 P **P 13 17 54.9 +0.3**
comp=Z,0.8nm,0.4s,baz=262,slow=8.5,SNR=3.6
AKTO LR LR 13 29 48.2
comp=Z,12nm,21.1s,baz=254,slow=38
GEYT Alibeck 28.21 80 P **P 13 17 55.9 -0.2**
comp=Z,1.1nm,0.5s,baz=294,slow=8.7,SNR=2.7
ABKAR Akbulak array 29.10 56 P **P 13 18 02.0 -1.8**
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 29.10 56 P **P 13 18 01.9 -1.8**
comp=Z,1.0nm,0.6s
TORD Torodi Ar. Bea 30.98 221 P **P 13 18 21.6 +0.9**
comp=Z,4.4nm,0.6s,baz=32,slow=9.0,SNR=39
ARCES ARCESS Array B 31.28 2 P P 13 18 20.4 -2.4
comp=Z,3.7nm,0.8s,baz=222,slow=4.9,SNR=4.4
ARCES LR LR 13 31 17.7
comp=Z,333nm,18.7s,baz=200,slow=37
KKAR Karatay Array 36.57 67 *eP* **P 13 19 08.2 -1.0**
KKAR pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 36.57 67 *eP* **P 13 19 08.2 -1.0**
comp=Z,3.5nm,0.5s
KKAR Karatay Array 36.57 67 *eP* **P 13 19 08.2 -1.0**
comp=Z,3.5nm,0.5s
EKS2 Erkin-Say 39.02 67 *eP* **P 13 19 29.3 -0.6**
EKS2 Erkin-Say 39.02 67 *eP* **P 13 19 29.3 -0.6**
comp=Z,8.1nm,0.8s
EKS2 Erkin-Say 39.02 67 *eP* **P 13 19 29.3 -0.6**
comp=Z,8.1nm,0.8s
AAK Ala-Archa 39.54 67⇑*iP* **P 13 19 34.6 +0.2**
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 39.54 67 *i* P **P 13 19 34.6 +0.2**
comp=Z,10.0nm,1.0s
AAK Ala-Archa 39.54 67 *eP* **P 13 19 34.4 +0.1**
comp=Z,7.3nm,1.0s
FRU Bishkek 39.59 66 *eP* **P 13 19 36.0 +1.4**
FRU *e* 13 19 43.0
FRU Bishkek 39.59 66 *eP* **P 13 19 36.0 +1.4**
DBIC Dimbokro 39.89 225 P **P 13 19 37.4 +0.1**
DBIC pmax pmax
comp=Z,3.0nm,0.5s
DBIC Dimbokro 39.89 225 P **P 13 19 37.4 +0.1**
comp=Z,6.2nm,1.0s,baz=28,slow=8.4,SNR=10
DBIC Dimbokro 39.89 225 P **P 13 19 37.4 +0.1**
comp=Z,3.0nm,0.5s
TKM2 Tokmak 2 40.27 66 *eP* **P 13 19 39.4 -1.1**
TKM2 pmax pmax
comp=Z,6.0nm,0.4s
TKM2 Tokmak 2 40.27 66 *eP* **P 13 19 39.4 -1.1**
comp=Z,5.6nm,0.4s
TKM2 Tokmak 2 40.27 66 *eP* **P 13 19 39.4 -1.1**
comp=Z,5.6nm,0.4s
LIC Lamto 40.36 224 *eP* **P 13 19 41.4 +0.2**
comp=Z,9.7nm,0.5s
LIC Lamto 40.36 224 *eP* **P 13 19 41.4 +0.2**
comp=Z,4.8nm,0.5s
LIC Lamto 40.36 224 *eP* **P 13 19 41.4 +0.2**
comp=Z,9.7nm,0.5s
KURK Kurchatov 41.16 54 *eP* **P 13 19 46.1 -1.3**
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 41.16 54 *eP* **P 13 19 46.1 -1.3**
comp=Z,1.6nm,0.6s
KURK Kurchatov 41.16 54 *eP* **P 13 19 46.1 -1.3**
comp=Z,1.6nm,0.6s
KSH Kashi 41.38 71 P **P 13 19 47.5 -2.1**
KSH sP sP 13 19 59.1 +4.9
KSH PcS **PcS 13 25 36.9 -2.1**
KSH S S 13 25 56.7 -7.6
KSH sS sS 13 26 12.5 +2.8
KSH SS SS 13 29 00.0 -8.0
KSH PMZ
comp=Z,3.0nm,0.5s
KSH PMZ
comp=Z,290nm,6.5s
KSH LZ
comp=Z,330nm,6.2s
NVS Novosibirsk 43.63 47 *eP* **P 13 20 06.3 -1.2**
MKAR Makanchi Array 44.13 59 P **P 13 20 10.8 -0.9**
MKAR pmax pmax
comp=Z,8.0nm,0.5s
MKAR Makanchi Array 44.13 59 P **P 13 20 10.8 -0.9**
comp=Z,7.7nm,0.5s,baz=277,slow=6.9,SNR=108
ZALV Zalesovo Beam 44.63 48 P **P 13 20 14.4 -1.1**
comp=Z,5.1nm,0.4s,baz=272,slow=8.8,SNR=43
ZALV LR LR 13 42 42.5
comp=Z,44nm,18.3s,baz=238,slow=41
WMQ Urumqi 48.57 62 *eP* **P 13 20 46.7 0.0**
WMQ pP pP 13 20 56.7 +6.7
WMQ PMZ
comp=Z,6.0nm,1.0s
WMQ PMZ
comp=Z,200nm,5.2s
TLY Talaya 56.24 48 *eP* **P 13 21 44.5 +1.1**
TLY pmax pmax
comp=Z,8.0nm,1.8s
ZAK Zakamensk 56.49 49 *eP* **P 13 21 44.6 -0.7**
ZAK pmax pmax
comp=Z,2.0nm,1.4s
GTA Gaotai 58.63 62 *eP* **P 13 21 59.7 -0.9**
GTA pP pP 13 22 09.8 +5.8
GTA sP sP 13 22 13.7 +8.4
GTA PMZ
comp=Z,3.0nm,1.1s
SCHQ Schefferville 59.16 318 P **P 13 22 03.6 -0.3**
comp=Z,4.9nm,0.8s,baz=27,slow=4.3,SNR=5.5

SONM	**Songino Array**	**59.37**	**51**	P	**P**	**13 22 04.8**	**-0.8**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**59.37**	**51**	P	**P**	**13 22 04.8**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=281,slow=8.3,SNR=15						
BOD	**Bodaibo**	**59.45**	**38**	*e*P	P	13 22 03.4	-2.4
BOD				pmax	pmax		
	comp=Z,3.0nm,1.6s						
ULN	**Ulaanbaatar**	**59.76**	**51⇑**	*i*P	**P**	**13 22 07.5**	**-0.8**
ULN				pmax	pmax		
	comp=Z,11nm,2.5s						
LZH	**Lanzhou**	**63.00**	**64**	*e*P	**P**	**13 22 28.5**	**-1.9**
LZH				pP	pP	13 22 38.4	+4.6
LZH				sP	sP	13 22 42.3	+7.2
LZH				*e*PP	**PP**	**13 24 48.0**	**-0.7**
LZH				PMZ			
	comp=Z,18nm,1.3s						
LZH				PMZ			
	comp=Z,49nm,5.8s						
LZH				LN			
	comp=Z,180nm,15.2s						
LZH				LE			
	comp=Z,190nm,15.6s						
LZH				LZ			
	comp=Z,220nm,18.7s						
HHC	**Hu-ho-hao-te**	**65.89**	**56**	*e*P	P	13 22 45.8	-3.4
HHC				pP	pP	13 22 56.1	+3.5
HHC				sP	sP	13 23 00.0	+6.1
HHC				PP	**PP**	**13 25 12.5**	**-1.4**
HHC				S	S	13 31 27.4	-9.0
HHC				PMZ			
	comp=Z,13nm,0.9s						
HHC				PMZ			
	comp=Z,150nm,4.9s						
HHC				LN			
	comp=Z,270nm,14.8s						
HHC				LE			
	comp=Z,150nm,14.8s						
HHC				LZ			
	comp=Z,160nm,14.8s						
HIA	**Hailar**	**66.50**	**45⇓**	*e*P	**P**	**13 22 52.8**	**-0.1**
HIA				pmax	pmax		
	comp=Z,8.0nm,1.7s						
BOSA	**Boshof**	**66.70**	**177**	P	**P**	**13 22 55.1**	**+0.8**
BOSA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BOSA	**Boshof**	**66.70**	**177**	P	**P**	**13 22 55.0**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=358,slow=7.4,SNR=4.7						
CMAR	**Chiang Mai Arr**	**68.63**	**83**	P	**P**	**13 23 04.9**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=309,slow=8.2,SNR=5.9						
YKA	**Yellowknife Ar**	**73.63**	**341**	P	**P**	**13 23 35.8**	**-0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**73.63**	**341**	P	**P**	**13 23 35.8**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=33,slow=5.2,SNR=17						
ULM	**Lac du Bonnet**	**76.28**	**324**	P	**P**	**13 23 51.4**	**-0.5**
ULM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ULM	**Lac du Bonnet**	**76.28**	**324**	P	**P**	**13 23 51.4**	**-0.5**
	comp=Z,3.1nm,0.7s,baz=41,slow=5.1,SNR=7.2						
USRK	**Ussuriysk Ar.**	**76.28**	**44**	P	**P**	**13 23 50.5**	**-1.4**
	comp=Z,2.3nm,0.6s,baz=141,slow=38,SNR=5.0						
ILAR	**Eielson Array**	**76.83**	**355**	P	**P**	**13 23 55.2**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=342,slow=3.5,SNR=19						
KSAR	**Wonju Array Be**	**78.22**	**51**	P	**P**	**13 24 01.8**	**-1.2**
KSAR	**Wonju Array Be**	**78.22**	**51**	P	**P**	**13 24 01.8**	**-1.2**
KSAR	**Wonju Array Be**	**78.22**	**51**	P	**P**	**13 24 01.8**	**-1.2**
KSRS	**Korea Array**	**78.24**	**51**	P	**P**	**13 24 01.8**	**-1.3**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSRS	**Korea Array**	**78.24**	**51**	P	**P**	**13 24 01.8**	**-1.3**
	comp=Z,1.8nm,0.6s,baz=310,slow=4.9,SNR=7.5						
ECSD	**EROS Data Cent**	**81.25**	**320**	P	**P**	**13 24 19.4**	**0.0**
	comp=Z,3.1nm,0.6s						
ECSD	**EROS Data Cent**	**81.25**	**320**	P	**P**	**13 24 19.4**	**0.0**
	comp=Z,3.1nm,0.6s						
PDAR	**Pinedale Array**	**88.08**	**327**	P	**P**	**13 24 53.5**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=68,slow=4.2,SNR=5.5						
HWUT	**Hardware Ranch**	**89.89**	**327**	*e*P	**P**	**13 25 02.1**	**-0.5**
	comp=Z,2.2nm,0.6s						
HWUT	**Hardware Ranch**	**89.89**	**327**	*e*P	**P**	**13 25 02.1**	**-0.5**
	comp=Z,2.2nm,0.6s						
TXAR	**Lajitas Array**	**95.73**	**315**	P	**P**	**13 25 29.6**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=64,slow=2.9,SNR=3.9						
WRA	**Warramunga Arr**	**119.30**	**93**	PKIKP	**PKPdf**	**13 30 51.3**	**-1.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**119.30**	**93**	PKP	**PKPdf**	**13 30 51.3**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=315,slow=1.4,SNR=7.6						
ASAR	**Alice Springs**	**120.95**	**97**	PKIKP	**PKPdf**	**13 30 55.1**	**-1.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**120.95**	**97**	PKP	**PKPdf**	**13 30 55.0**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=313,slow=1.5,SNR=9.1						

MEX 08 13:17:31.9±0.9, 17°.07N×94°.43W, h142km±7km, MD3.6, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.43**	**273**	*i*P	Pn	13 17 50.9	-1.1
CMIG				*i*S	Sn	13 18 05.2	-2.1
HUIG	**Huatulco**	**2.06**	**232**	*e*P	Pn	13 18 05.2	-2.2
HUIG				*e*S	Sn	13 18 33.5	-1.0
VHO	**Vista Hermosa**	**2.20**	**270**	*e*P	Pn	13 18 08.4	-0.8
VHO				*e*S	Sn	13 18 35.8	-2.1
CCIG	**Comitan**	**2.33**	**109**	*e*P	Pn	13 18 10.0	-0.8
CCIG				*e*S	Sn	13 18 39.4	-1.3
TPIG	**Tehuac#an**	**3.10**	**296**	*e*P	Pn	13 18 19.7	-0.8
TPIG				*e*S	Sn	13 18 55.2	-2.8
TLIG	**Tlapa**	**3.98**	**278**	*e*P	Pn	13 18 30.8	-1.1
TLIG				*e*S	Sn	13 19 16.2	-2.2

NNC 08 13:28:57.2±5.7, 36°.67N×70°.49E, h0km, mb3.6, mpv3.4, 4C-3D, Error ellipse: s-maj=43.9km s-min=26.6km az=4.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.51**	**329**	⇓Pg	Pb	13 29 41.9	-1.4
DZET				⇑Lg	Lg	13 30 16.8	
KK31	**Karatay Array**	**6.43**	**0**	⇑P	Pn	13 30 35.3	+2.1
	0.6nm,0.3s,baz=176,slow=12,SNR=37						
KK31				⇓S	Sn	13 31 49.3	+2.0
	0.2nm,0.2s,baz=176,slow=20						
AAK	**Ala-Archa**	**6.71**	**26**	⇓P	Pn	13 30 37.5	+0.2
	1.5nm,0.4s						
AAK				⇑S	Sn	13 31 55.0	+0.4
	1.9nm,0.7s						
AB31	**Akbulak array**	**14.74**	**332**	⇑P	Pn	13 32 25.2	-1.8
	0.3nm,0.3s,baz=156,slow=12,SNR=20						

IDC ***08*** *13:47:17.4±0.5, 34°.68S×71°.68W, h0km, mb4.8/21, mb1 4.9/25, mb1mx4.9/32, mbtmp4.8/25, ML5.0/3, MS3.9/11, Ms1 3.9/11, ms1mx3.6/27, Error ellipse: s-maj=18.7km s-min=12.8km az=68.0*

GUC ***08*** *13:47:19.4±0.6, 34°.63S×71°.78W, h13km±2km, ML5.2*

ISCJB ***08*** *13:47:19.2±0.7, 34°.62S±0°.02×71°.74W±0°.04, h19km±5km, mb5.1/114, MS4.1/9, Error ellipse: s-maj=6.4km s-min=3.6km az=21.2*

MOS ***08*** *13:47:22.1±1.0, 34°.39S×71°.59W, h33km, mb5.2/31, Error ellipse: s-maj=17.7km s-min=8.9km az=100.4*

BJI ***08*** *13:47:23.5, 34°.50S×71°.60W, h24km, mB5.2/14, Ms5.5/12, Ms7 5.1/13*

NEIC ***08*** *13:47:23.4±0.8, 34°.58S×71°.58W, h40km±7km, mb5.1/91, Error ellipse: s-maj=7.3km s-min=4.3km az=74.0*

NEIC Felt [IV] at Curico and Talca; [III] at Pichilemu, San Fernando and Santiago; [II] at Linares and Rancagua. Also felt at Talagante and Valparaiso. Felt at Mendoza, Argentina.

ISC 08 13:47:21.6±0.7, 34°.62S±0°.03×71°.66W±0°.05, h28km±4km, n683, σ0=94/723, mb5.1/114, MS4.1/9, 188C-221D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.52**	**137**	*i*P	**Pb**	**13 47 30.5**	**-1.8**
NICH				*i*S	**Sb**	**13 47 39.1**	**-0.4**
LNV	**Longovilo**	**0.69**	**17⇑**	*i*P	**Pb**	**13 47 32.6**	**-2.6**
CACH	**El Canelo**	**1.01**	**60⇑**	*i*P	**Pn**	**13 47 39.2**	**-0.7**
CHCH	**Chadas Angostu**	**1.08**	**51⇑**	*i*P	**Pn**	**13 47 40.3**	**-0.5**
TACH	**Talagante**	**1.14**	**32⇑**	*i*P	**Pn**	**13 47 40.1**	**-1.5**
LNCH	**Linares**	**1.23**	**178⇑**	*i*P	**Pn**	**13 47 41.2**	**-1.6**
LNCH				*i*S	**Sn**	**13 47 57.6**	**-0.8**
RCDM	**Rinconada Maip**	**1.33**	**32⇑**	*i*P	**Pn**	**13 47 43.6**	**-0.8**
RCDM				*i*S	**Sn**	**13 48 01.5**	**+0.3**
ANTU	**Antumapu**	**1.35**	**39**	*e*P1	**Pn**	**13 47 44.2**	**-0.4**
ANTU				*i*S	**Sb**	**13 48 02.8**	**-0.4**
ANTU				AML	AML	13 48 13.0	
	comp=E,47μm,0.4s						
SAN	**Santiago**	**1.43**	**36⇑**	*i*P	**Pn**	**13 47 45.3**	**-0.3**
SAN				*i*S	**Sb**	**13 48 04.7**	**-0.7**
STL	**Santa Lucia**	**1.45**	**36**	*e*P9	**Pn**	**13 47 44.8**	**-1.2**
STL				*i*S	**Sn**	**13 48 04.6**	**+0.5**
FSR	**Penalolen**	**1.48**	**40**	*e*P9	**Pn**	**13 47 47.4**	**+1.1**
FSR				*i*S	**Sb**	**13 48 07.6**	**+0.9**
LACH	**Col Las Americ**	**1.50**	**39⇓**	*i*P	**Pn**	**13 47 46.2**	**-0.4**
LACH				*i*S	**Sb**	**13 48 07.0**	**-0.3**
CLCH	**Cerro Calan**	**1.54**	**38⇓**	*i*P	**Pn**	**13 47 47.1**	**-0.1**
CLCH				*i*S	**Sb**	**13 48 08.0**	**-0.5**
CLCH				AML	AML	13 48 14.5	
	comp=N,64μm,0.6s						
CLCH				AML	AML	13 48 15.1	
	comp=N,77μm,0.6s						
IHA	**Instituto Hidr**	**1.59**	**0⇓**	*i*P	**Pn**	**13 47 46.8**	**-1.1**
FCH	**Farellones**	**1.72**	**42⇑**	*i*P	**Pb**	**13 47 53.7**	**+1.0**
FCH				*i*S4	**Sb**	**13 48 14.9**	**+0.9**
FCH				AML	AML	13 48 16.4	
	comp=N,21μm,0.2s						
COCH	**Cobquecura**	**1.77**	**211⇑**	*i*P	**Pn**	**13 47 48.4**	**-1.9**
COCH				*i*S	**Sn**	**13 48 10.6**	**-1.2**
CFAA	**Coronel Fontan**	**4.16**	**45**	Pn	**Pn**	**13 48 24.4**	**+1.2**
	comp=N,5.9nm,0.3s,baz=223,slow=12,SNR=44						
CFAA				Sn	**Sb**	**13 49 18.4**	**-5.4**
	comp=N,10nm,0.3s,baz=310,slow=19,SNR=4.9						
CFAA				LR	LR	13 50 14.7	
	comp=N,443nm,19.2s,baz=226,slow=42						
CFAA	**Coronel Fontan**	**4.16**	**45**	Pn	**Pn**	**13 48 24.4**	**+1.2**
CFAA				Sn	**Sb**	**13 49 18.4**	**-5.4**
PLCA	**Paso Flores**	**6.16**	**172**	Pn	**Pn**	**13 48 50.5**	**-0.3**
	comp=N,8.4nm,0.3s,baz=340,slow=14,SNR=34						
PLCA				Lg	Lg	13 50 26.4	
	comp=N,2.1nm,0.3s,baz=260,slow=15,SNR=4.1						
PLCA				LR	LR	13 50 33.6	
	comp=N,152nm,21.6s,baz=359,slow=32						
PLCA	**Paso Flores**	**6.16**	**172**	*e*Pn	**Pn**	**13 48 52.7**	**+1.9**
PLCA				Lg	Lg	13 50 26.4	
TRQA	**Tornquist**	**8.53**	**116**	*e*P	**Pn**	**13 49 25.2**	**+2.0**
	comp=N,63nm,0.9s						
LVC	**Limon Verde**	**12.20**	**12**	*e*P	Pn	13 50 09.5	-4.3
	comp=N,22nm,0.4s						
CPUP	**Villa Florida**	**14.85**	**60**	*e*P	**Pn**	**13 50 48.7**	**-0.9**
CPUP	**Villa Florida**	**14.85**	**60**	Pn	**Pn**	**13 50 49.8**	**+0.2**
	comp=N,2.5nm,0.3s,baz=228,slow=11,SNR=9.0						
CPUP				Lg	Lg	13 55 07.9	
	comp=N,0.7nm,0.3s,baz=315,slow=18,SNR=2.2						
CPUP				LR	LR	13 57 01.9	
	comp=N,1μm,18.2s,baz=222,slow=39						
CPUP	**Villa Florida**	**14.85**	**60**	*e*P	**Pn**	**13 50 48.7**	**-0.9**
CPUP				Lg	Lg	13 55 07.9	
LPAZ	**La Paz**	**18.53**	**11**	P	**Pn**	**13 51 37.3**	**+0.5**
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ	**La Paz**	**18.53**	**11**	P	**Pn**	**13 51 37.3**	**+0.5**
	comp=Z,1.7nm,0.3s,baz=183,slow=9.0,SNR=68						
LPAZ	**La Paz**	**18.53**	**11**	P	**Pn**	**13 51 37.3**	**+0.5**
EFI	**East Falkland**	**19.66**	**154**	*e*P	**P**	**13 51 47.2**	**-0.9**
EFI	**East Falkland**	**19.66**	**154**	*e*P	**P**	**13 51 47.2**	**-0.9**
USHA	**Ushuaia**	**20.33**	**175**	P	**P**	**13 51 55.4**	**+0.1**
	comp=Z,29nm,0.9s,baz=345,slow=11,SNR=6.7						
USHA				LR	LR	14 00 11.9	
	comp=Z,870nm,19.7s,baz=27,slow=38						
USHA	**Ushuaia**	**20.33**	**175**	P	**P**	**13 51 55.4**	**+0.1**
SIV	**San Ignacio**	**20.85**	**30**	P	**P**	**13 52 00.9**	**-0.3**
	comp=Z,64nm,0.8s,baz=218,slow=9.9,SNR=58						
SIV				LR	LR	14 01 37.0	
	comp=Z,417nm,20.1s,baz=213,slow=41						
SIV	**San Ignacio**	**20.85**	**30**	P	**P**	**13 52 00.9**	**-0.3**
NNA	**Nana**	**23.02**	**347**	*e*P	**P**	**13 52 23.2**	**-1.3**
NNA				pmax	pmax		
	comp=Z,54nm,0.8s						
NNA	**Nana**	**23.02**	**347**	P	**P**	**13 52 25.1**	**+0.6**
	comp=Z,43nm,0.9s,baz=189,slow=11,SNR=16						
NNA				LR	LR	13 59 43.6	
	comp=Z,162nm,19.2s,baz=164,slow=32						
NNA	**Nana**	**23.02**	**347**	*e*P	**P**	**13 52 23.2**	**-1.3**
	comp=Z,54nm,0.8s						
SAML	**Samuel**	**26.71**	**19**	*e*P	**P**	**13 52 58.0**	**-0.5**
	comp=Z,13nm,0.6s						
ATAH	**Atahualpa**	**28.05**	**346**	P	**P**	**13 53 12.0**	**+1.0**
	comp=Z,2.2nm,0.4s,baz=346,slow=24,SNR=2.3						
ATAH	**Atahualpa**	**28.05**	**346**	P	**P**	**13 53 12.0**	**+1.0**
BDFB	**Brasilia**	**28.43**	**54**	P	**P**	**13 53 13.3**	**-0.8**
BDFB				pmax	pmax		
	comp=Z,16nm,0.7s						
BDFB				MLR	MLR		
	comp=Z,360nm,20.3s						
BDFB	**Brasilia**	**28.43**	**54**	P	**P**	**13 53 13.3**	**-0.8**
	comp=Z,16nm,0.7s,baz=216,slow=10.0,SNR=15						
BDFB				LR	LR	14 04 53.5	
	comp=Z,360nm,20.3s,baz=222,slow=37						
BDFB	**Brasilia**	**28.43**	**54**	P	**P**	**13 53 13.3**	**-0.8**
RPN	**Rapa Nui**	**33.05**	**273**	LR	LR	14 04 05.6	
	comp=Z,499nm,18.6s,baz=76,slow=30						
OTAV	**Otavalo**	**35.26**	**348**	*e*P	**P**	**13 54 14.8**	**+0.4**
	comp=Z,23nm,1.1s						
ROSC	**El Rosal**	**39.35**	**356**	P	**P**	**13 54 50.2**	**+1.2**
	comp=Z,12nm,0.6s,baz=90,slow=20,SNR=5.3						
ROSC	**El Rosal**	**39.35**	**356**	P	**P**	**13 54 50.2**	**+1.2**
SDV	**Santo Domingo**	**43.28**	**1**	*e*P	**P**	**13 55 20.1**	**-1.0**
	comp=Z,53nm,0.9s						
RCBR	**Riachuelo**	**43.71**	**57**	P	**P**	**13 55 24.8**	**+0.4**
	comp=Z,4.9nm,0.6s,baz=230,slow=11,SNR=6.3						
RCBR	**Riachuelo**	**43.71**	**57**	P	**P**	**13 55 24.8**	**+0.4**
JTS	**JuntasAbangare**	**46.41**	**342**	⇑*i*P	**P**	**13 55 46.2**	**+0.4**
JTS	**JuntasAbangare**	**46.41**	**342**	P	**P**	**13 55 47.1**	**+1.3**
	comp=Z,5.5nm,0.7s,baz=14,slow=11,SNR=2.8						
JTS	**JuntasAbangare**	**46.41**	**342**	P	**P**	**13 55 47.1**	**+1.3**
VNA3	**Neumayer Olymp**	**48.67**	**158**	P	**P**	13 56 06.6	+3.8
VNA2	**Neumayer--Watz**	**49.32**	**157**	P	**P**	**13 56 08.4**	**+0.7**
SNAA	**Sanae**	**50.89**	**158**	P	**P**	**13 56 21.1**	**+1.4**
SNAA	**Sanae**	**50.89**	**158⇓**	*e*P	**P**	**13 56 19.6**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,14nm,1.7s						
SNAA	**Sanae**	**50.89**	**158**	P	**P**	**13 56 19.9**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=223,slow=6.8,SNR=11						
SNAA	**Sanae**	**50.89**	**158**	*e*P	**P**	**13 56 19.6**	**-0.1**
	comp=Z,12nm,0.9s						
CELP	**Cerrillos**	**52.62**	**6**	*e*P	**P**	**13 56 31.5**	**-1.6**
QSPA	**South Pole Qui**	**55.62**	**180**	*e*P	**P**	**13 56 55.6**	**+1.0**
	comp=Z,17nm,1.0s						
RKT	**Rikitea**	**55.82**	**264**	*e*LR	LR	14 13 20.5	
	comp=Z,199nm,36.2s						
RKT	**Rikitea**	**55.82**	**264**	*e*T	T	14 56 32.9	
	comp=Z,2.6nm,0.3s						
CMIG	**Matias Romero**	**55.97**	**333**	P	**P**	**13 56 57.4**	**0.0**
	comp=Z,2.6nm,0.6s,baz=72,slow=3.9,SNR=5.8						
CMIG	**Matias Romero**	**55.97**	**333**	P	**P**	**13 56 57.4**	**0.0**
TEIG	**Tepich**	**56.79**	**341**	P	**P**	**13 57 03.2**	**0.0**
	comp=Z,46nm,0.6s,baz=158,slow=1.3,SNR=40						
TEIG	**Tepich**	**56.79**	**341**	*e*P	**P**	**13 57 03.1**	**-0.1**
	comp=Z,52nm,0.8s						
SYO	**Syowa Base**	**65.17**	**158⇑**	*e*P	P	13 57 55.4	-4.2
035A	**Encino**	**66.15**	**334**	⇑P	**P**	**13 58 07.9**	**+1.5**
	baz=66						
933A	**Laredo**	**67.19**	**333**	⇓P	**P**	**13 58 14.1**	**+1.1**
	baz=68						
835A	**Beeville**	**67.29**	**335**	⇓P	**P**	**13 58 15.2**	**+1.6**
	baz=68						
834A	**Tilden**	**67.39**	**334**	⇓P	**P**	**13 58 15.7**	**+1.4**
	baz=68,SNR=12						
735A	**Kenedy**	**67.80**	**335**	⇓P	**P**	**13 58 17.6**	**+0.8**
	baz=68						
833A	**Chaparral WMA,**	**67.88**	**334**	⇑P	**P**	**13 58 18.1**	**+0.8**
	baz=68,SNR=16						
734A	**La Parita Cree**	**68.05**	**335**	⇑P	**P**	**13 58 19.2**	**+0.8**
	baz=68						
832A	**Faith Ranch, C**	**68.06**	**333**	⇓P	**P**	**13 58 19.1**	**+0.6**
	baz=68,SNR=13						
636A	**Smothers Creek**	**68.12**	**336**	⇓P	**P**	**13 58 20.3**	**+1.5**
	baz=68,SNR=12						
733A	**Divot King Ran**	**68.20**	**334**	⇓P	**P**	**13 58 20.0**	**+0.7**
	baz=68						
635A	**Leesville**	**68.28**	**336**	⇑P	**P**	**13 58 20.6**	**+0.8**
	baz=69						
537A	**Green Hill Far**	**68.43**	**337**	⇓P	**P**	**13 58 22.0**	**+1.2**
	baz=69						
732A	**Laxson Ranch,**	**68.46**	**333**	⇑P	**P**	**13 58 21.7**	**+0.7**
	baz=69,SNR=24						
GOGA	**Godfrey**	**68.58**	**349**	*e*P	**P**	**13 58 20.9**	**-0.7**
GOGA				pmax	pmax		
	comp=Z,13nm,0.9s						
GOGA	**Godfrey**	**68.58**	**349**	*e*P	**P**	**13 58 20.9**	**-0.7**
	comp=Z,13nm,0.9s						
536A	**Bastrop**	**68.67**	**336**	⇑P	**P**	**13 58 23.1**	**+0.8**
	baz=69						
438A	**Sam Houston St**	**68.79**	**338**	⇓P	**P**	**13 58 24.1**	**+1.1**
	baz=69						
535A	**Dale**	**68.80**	**336**	⇑P	**P**	**13 58 23.5**	**+0.5**
	baz=69						
LRAL	**Lakeview Retre**	**68.83**	**346**	*e*P	**P**	**13 58 22.3**	**-0.9**
	comp=Z,14nm,0.9s						
633A	**Saathoff Ranch**	**68.83**	**334**	⇑P	**P**	**13 58 24.0**	**+0.7**
	baz=69,SNR=10						
340A	**Bronson**	**68.94**	**340**	⇑P	**P**	**13 58 24.3**	**+0.3**
	baz=69						
339A	**Huntington**	**69.06**	**339**	⇓P	**P**	**13 58 25.2**	**+0.5**
	baz=69						
437A	**Phantom Ranch,**	**69.07**	**338**	⇓P	**P**	**13 58 25.3**	**+0.6**
	baz=69						
MEH	**Mehetia**	**69.08**	**262**	*e*T	T	15 13 06.1	
	comp=Z,29nm,0.2s						
632A	**Uvalde**	**69.09**	**334**	⇓P	**P**	**13 58 25.8**	**+0.8**
	baz=69,SNR=21						
534A	**Blanco**	**69.10**	**335**	⇓P	**P**	**13 58 25.1**	**+0.1**
	baz=69						
631A	**Perdido Creek**	**69.30**	**333**	⇑P	**P**	**13 58 26.4**	**+0.2**
	baz=70,SNR=16						
338A	**Crockett**	**69.30**	**338**	⇑P	**P**	**13 58 26.9**	**+0.8**
	baz=70						
533A	**Kerrville**	**69.34**	**335**	⇓P	**P**	**13 58 27.1**	**+0.6**
	baz=70,SNR=9.1						
337A	**Centerville**	**69.44**	**338**	⇑P	**P**	**13 58 27.5**	**+0.4**
	baz=70						
435B	**Jarrell**	**69.49**	**336**	⇑P	**P**	**13 58 27.8**	**+0.4**
	baz=70						
239A	**Gary**	**69.67**	**339**	⇑P	**P**	**13 58 29.0**	**+0.5**
	baz=70						
532A	**Rocksprings**	**69.70**	**334**	⇓P	**P**	**13 58 29.5**	**+0.8**
	baz=70,SNR=42						
434A	**Burnet**	**69.75**	**336**	⇑P	**P**	**13 58 29.4**	**+0.4**
	baz=70,SNR=15						
336A	**Riesel**	**69.81**	**337**	⇓P	**P**	**13 58 30.0**	**+0.7**
	baz=70,SNR=7.5						
238A	**Jacksonville**	**69.85**	**339**	⇓P	**P**	**13 58 30.3**	**+0.8**
	baz=70						
335A	**Moody**	**69.90**	**337**	⇓P	**P**	**13 58 30.3**	**+0.5**
	baz=70,SNR=6.5						
531A	**Rocksprings**	**69.97**	**334**	⇓P	**P**	**13 58 31.2**	**+0.8**
	baz=70,SNR=33						
433A	**Art**	**69.98**	**335**	⇑P	**P**	**13 58 30.7**	**+0.3**
	baz=70,SNR=38						
JCT	**Junction City**	**69.98**	**334**	*e*P	**P**	**13 58 30.8**	**+0.4**
JCT				pmax	pmax		
	comp=Z,33nm,0.7s						
JCT	**Junction City**	**69.98**	**334**	⇓P	**P**	**13 58 31.0**	**+0.5**
	baz=70,SNR=17						
JCT	**Junction City**	**69.98**	**334**	*e*P	**P**	**13 58 30.8**	**+0.4**
	comp=Z,33nm,0.7s						
KMSC	**Kings Mountain**	**69.99**	**352**	⇓P	**P**	**13 58 30.3**	**0.0**
	baz=70						
KMSC	**Kings Mountain**	**69.99**	**352**	*e*P	**P**	**13 58 30.0**	**-0.3**
	comp=Z,19nm,0.9s						
237A	**Washetta, Mont**	**70.06**	**338**	⇑P	**P**	**13 58 31.4**	**+0.6**
	baz=70						
334A	**Lometa**	**70.22**	**336**	⇓P	**P**	**13 58 32.3**	**+0.5**
	baz=70,SNR=22						
530A	**J-C Ranch, Com**	**70.25**	**333**	⇑P	**P**	**13 58 32.8**	**+0.8**
	baz=70,SNR=28						
TIAR	**Tiarei**	**70.28**	**262**	*e*T	T	15 14 36.8	
	comp=Z,6.4nm,0.2s						
432A	**Menard**	**70.34**	**334**	⇓P	**P**	**13 58 32.8**	**+0.1**
	baz=71,SNR=8.4						
TXAR	**Lajitas Array**	**70.43**	**331**	P	**P**	**13 58 33.9**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,12nm,0.5s						
TXAR	**Lajitas Array**	**70.43**	**331**	P	**P**	**13 58 33.9**	**+0.6**
	comp=Z,12nm,0.5s,baz=158,slow=8.8,SNR=302						
TXAR	**Lajitas Array**	**70.43**	**331**	P	**P**	**13 58 33.9**	**+0.6**
138A	**Matatall Enter**	**70.45**	**339**	⇓P	**P**	**13 58 33.8**	**+0.6**
	baz=71						
431A	**Sonora**	**70.45**	**334**	⇑P	**P**	**13 58 33.6**	**+0.3**
	baz=71,SNR=22						
PPT2	**Papeete2**	**70.46**	**262**	*e*S	SKiKP	14 08 08.0	-8.2
	comp=Z,76nm,23.2s						
PPT2	**Papeete2**	**70.46**	**262**	*e*LR	LR	14 20 12.1	
	comp=Z,255nm,27.2s						
333A	**Richland Sprin**	**70.46**	**335**	⇑P	**P**	**13 58 33.6**	**+0.3**
	baz=71,SNR=17						
529A	**Stev Forest Ra**	**70.56**	**332**	⇑P	**P**	**13 58 34.5**	**+0.5**
	baz=71,SNR=41						
WHTX	**Lake Whitney,**	**70.56**	**337**	⇑P	**P**	**13 58 34.2**	**+0.2**
	baz=71,SNR=6.2						
WHTX	**Lake Whitney,**	**70.56**	**337**	*e*P	**P**	**13 58 34.1**

Z32A	Haskell baz=73,SNR=24	72.44 336	⇑P	P	13 58 45.5 +0.3
Y34A	Reagan Ranch, baz=73,SNR=7.0	72.47 337	⇑P	P	13 58 45.4 +0.1
228A	UT Block 9, Go baz=73,SNR=19	72.48 333	⇓P	P	13 58 45.8 +0.2
129A	Stewart Farms, baz=73	72.67 334	⇑P	P	13 58 46.7 0.0
Z31A	Sharp Cattle R baz=73,SNR=30	72.68 335	⇓P	P	13 58 47.0 +0.3
Y33A	Hilltop Ranch, baz=73,SNR=12	72.80 337	⇑P	P	13 58 47.5 +0.1
128A	Castleberry Fa baz=73,SNR=17	72.89 333	⇑P	P	13 58 48.2 +0.2
Z30A	Sanderson Ranc baz=73,SNR=16	72.99 334	⇓P	P	13 58 48.5 -0.1
Y32A	R-V Farms, Ver baz=73,SNR=20	73.06 336	⇓P	P	13 58 49.2 +0.3
X34A	Smith Ranch, M baz=73,SNR=5.2	73.09 338	⇑P	P	13 58 49.4 +0.3
Z29A	Hungry Hill Ra baz=74,SNR=24	73.18 334	⇓P	P	13 58 49.5 -0.2
MNTX	Cornudas Mount comp=Z,18nm,0.8s	73.20 330	eP	P	13 58 49.2 -0.7
Y31A	Rekieta Farm, baz=74,SNR=6.9	73.30 335	⇑P	P	13 58 50.6 +0.2
X32A	Elmer baz=74,SNR=6.9	73.39 336	⇑P	P	13 58 50.8 0.0
Y30A	Stafford Cattl baz=74	73.45 335	⇓P	P	13 58 51.8 +0.6
Z28A	Tucker Farm, M baz=74	73.45 333	⇓P	P	13 58 51.5 +0.1
WMOK	Wichita Mounta	73.52 337	eP	P	13 58 50.5 -1.1
WMOK	comp=Z,4.0nm,0.5s		pmax	pmax	
WMOK	Wichita Mounta comp=Z,4.4nm,0.5s	73.52 337	eP	P	13 58 50.5 -1.1
W34A	Bridge Creek, baz=74	73.66 338	⇑P	P	13 58 52.6 +0.2
W34A	Bridge Creek, comp=Z,19nm,0.6s	73.66 338	eP	P	13 58 51.9 -0.5
TUL1	Leonard baz=74,SNR=6.2	73.70 340	⇓P	P	13 58 52.4 -0.2
TUL1	Leonard comp=Z,24nm,0.6s	73.70 340	eP	P	13 58 52.2 -0.3
Y29A	Porterfield Fa baz=74,SNR=21	73.70 334	⇓P	P	13 58 53.0 +0.2
W33A	Caddo, Fort Co baz=74,SNR=20	73.80 337	⇓P	P	13 58 53.9 +0.7
X31A	McDonald Ranch baz=74,SNR=13	73.82 336	⇓P	P	13 58 53.6 +0.2
X30A	Coker Ranch, T baz=74	73.95 335	⇑P	P	13 58 54.6 +0.4
Y28A	McKinney Farm, baz=74,SNR=6.6	73.96 334	⇓P	P	13 58 54.5 +0.2
W32A	Sentinel baz=74,SNR=28	74.02 337	⇓P	P	13 58 54.9 +0.3
V34A	Guthrie baz=74,SNR=5.6	74.13 338	⇑P	P	13 58 55.0 -0.2
V34A	Guthrie comp=Z,36nm,0.9s	74.13 338	eP	P	13 58 55.0 -0.2
MSTX	Muleshoe baz=74	74.20 333	⇑P	P	13 58 56.0 +0.3
MSTX	Muleshoe comp=Z,22nm,0.8s	74.20 333	eP	P	13 58 55.4 -0.3
X29A	Tulia baz=75,SNR=8.3	74.24 335	⇓P	P	13 58 56.0 +0.1
Y27A	Causey baz=75	74.27 333	⇑P	P	13 58 56.3 +0.2
W31A	Holland Ranch, baz=75,SNR=5.7	74.31 336	⇓P	P	13 58 56.3 +0.1
Z25A	Roswell baz=75,SNR=9.0	74.33 332	⇑P	P	13 58 56.9 +0.4
V33A	Lossen Ranch, baz=75,SNR=14	74.36 338	⇑P	P	13 58 56.7 +0.2
V32A	Arapaho baz=75	74.50 337	⇓P	P	13 58 58.2 +0.8
Y26A	Elida baz=75,SNR=9.8	74.55 333	⇑P	P	13 58 58.0 +0.2
319A	Douglas baz=75	74.59 327	⇓P	P	13 58 59.3 +1.2
AMTX	Amarillo baz=75	74.63 335	⇓P	P	13 58 58.6 +0.4
AMTX	Amarillo comp=Z,31nm,1.0s	74.63 335	eP	P	13 58 57.9 -0.3
LIC	Lamto comp=Z,65nm,0.7s	74.67 71	eP	P	13 58 59.4 +0.6
U34A	Anderson Ranch baz=75,SNR=9.0	74.70 339	⇓P	P	13 58 58.6 +0.2
U34A	Anderson Ranch comp=Z,30nm,0.8s	74.70 339	eP	P	13 58 58.4 0.0
V31A	Spring Creek L baz=75	74.81 337	⇑P	P	13 59 00.0 +0.9
W29A	Amarillo baz=75,SNR=12	74.83 335	⇑P	P	13 58 59.6 +0.2
U33A	Lingo Farm, Me baz=75,SNR=7.2	74.87 338	⇑P	P	13 58 59.3 -0.1
X27A	F and S Farms, baz=75	74.93 334	⇑P	P	13 59 00.6 +0.6
121A	Cookes Peak, D baz=75,SNR=21	74.93 329	⇓P	P	13 59 01.4 +1.3
121A	Cookes Peak, D comp=Z,27nm,0.9s	74.93 329	eP	P	13 59 01.0 +0.9
TIC	Toumodi comp=Z,20nm,0.2s	74.94 71	eP	P	13 59 01.0 +0.6
KIC	Kosan Boka comp=Z,82nm,0.7s	74.98 71	eP	P	13 59 01.3 +0.7
DBIC	Dimbokro	75.08 71	P	P	13 59 02.0 +0.8
DBIC	comp=Z,26nm,0.6s		pmax	pmax	
DBIC	Dimbokro comp=Z,26nm,0.6s,baz=204,slow=5.9,SNR=48	75.08 71	P	P	13 59 01.9 +0.8
DBIC	comp=Z,124nm,19.4s,baz=212,slow=34		LR	LR	14 29 36.8
DBIC	Dimbokro	75.08 71	eP	P	13 59 02.1 +0.8
V30A	Spur Ranch, Mi baz=75	75.08 336	⇓P	P	13 59 01.6 +0.8
U32A	Winter Ranch, baz=75,SNR=6.7	75.10 337	⇓P	P	13 59 01.2 +0.4
X26A	CR and CF Fran baz=75,SNR=19	75.11 333	⇓P	P	13 59 01.5 +0.5
SSPA	Standing Stone comp=Z,6.6nm,0.6s	75.11 355	eP	P	13 59 00.7 0.0
W28A	Vega baz=76	75.15 335	⇓P	P	13 59 01.9 +0.7
Y24A	Capitan baz=76,SNR=14	75.18 331	⇑P	P	13 59 02.1 +0.6
Z22A	Elephant Butte baz=76,SNR=6.8	75.21 330	⇓P	P	13 59 02.8 +1.1
ACSO	Alum Creek Sta comp=Z,61nm,0.8s	75.21 351	eP	P	13 59 00.7 -0.5
W27A	Bowe Ranch, En baz=76,SNR=35	75.29 334	⇑P	P	13 59 02.4 +0.4
U31A	Nine Bar Ranch baz=76	75.36 337	⇑P	P	13 59 02.9 +0.6
X25A	Clemmons Ranch baz=76	75.41 332	⇑P	P	13 59 02.7 -0.1
Y23A	Lovelace Mesa, baz=76,SNR=8.7	75.43 331	⇓P	P	13 59 04.1 +1.2
T33A	Patterson Ranc baz=76,SNR=14	75.51 338	⇑P	P	13 59 03.8 +0.7
W26A	Owens Ranch, T baz=76,SNR=11	75.57 333	⇑P	P	13 59 04.4 +0.7
V28A	Channing baz=76,SNR=11	75.60 335	⇑P	P	13 59 04.4 +0.6
X24A	Lazy VL Ranch, baz=76,SNR=12	75.74 332	⇑P	P	13 59 05.5 +0.8
U30A	WK&E Inc. Balk baz=76,SNR=8.2	75.77 336	⇓P	P	13 59 05.3 +0.6
T32A	Huddler Ranch, baz=76,SNR=6.9	75.81 338	⇓P	P	13 59 05.3 +0.5
V27A	Dan Oppiter Fa baz=76,SNR=12	75.83 334	⇓P	P	13 59 05.8 +0.8
S33A	Kaszmaul Farm, baz=76	75.91 339	⇑P	P	13 59 05.7 +0.4
W25A	X Bar L Ranch, baz=76,SNR=13	75.94 333	⇓P	P	13 59 06.0 +0.2
T31A	Randall Ranch, baz=76,SNR=5.3	75.97 337	⇓P	P	13 59 06.1 +0.3
SFIN	Lafayette baz=76	75.98 348	⇓P	P	13 59 04.6 -1.0
SFIN	Lafayette comp=Z,7.3nm,0.5s	75.98 348	eP	P	13 59 04.5 -1.1
LPM	Los Pinos Moun comp=Z,8.7nm,0.7s	75.99 331	eP	P	13 59 07.2 +1.1
X23A	Hourglass Bar baz=76	76.05 331	⇓P	P	13 59 07.6 +1.1
TUC	Tucson	76.06 327	eP	P	13 59 07.6 +1.2
TUC	comp=Z,12nm,1.3s		pmax	pmax	
TUC	Tucson comp=Z,12nm,1.3s	76.06 327	eP	P	13 59 07.6 +1.2
U28A	Mallet baz=76	76.17 335	⇓P	P	13 59 07.4 +0.4
T30A	Plains baz=76	76.20 337	⇓P	P	13 59 07.6 +0.5
V26A	Tequesquite Ra baz=76,SNR=7.3	76.20 334	⇑P	P	13 59 07.4 +0.1
LAZ	Ladron comp=Z,7.4nm,1.1s	76.28 330	eP	P	13 59 09.0 +1.2
S32A	Newby Ranch, P baz=77,SNR=5.5	76.29 338	⇓P	P	13 59 08.1 +0.6
W24A	Lazy 6 Ranch, baz=77,SNR=17	76.30 332	⇓P	P	13 59 08.6 +0.7
S31A	Mullinville baz=77	76.39 338	⇑P	P	13 59 08.7 +0.6
U27A	Thompson Grove baz=77,SNR=9.1	76.42 335	⇑P	P	13 59 09.0 +0.5
ANMO	Albuquerque	76.48 331	deP	P	13 59 09.7 +0.8
ANMO	comp=Z,45nm,0.8s		pmax	pmax	
ANMO	Albuquerque comp=Z,14nm,1.0s	76.48 331	eP	P	13 59 09.8 +0.9
W23A	Werner Place, baz=77,SNR=13	76.54 332	⇓P	P	13 59 10.4 +1.1
V25A	Rancho No Teng baz=77,SNR=32	76.55 333	⇓P	P	13 59 09.8 +0.5
BINY	Binghamton comp=Z,9.0nm,0.8s	76.55 357	eP	P	13 59 09.1 +0.2
T29A	Hugoton baz=77	76.55 336	⇓P	P	13 59 09.8 +0.7
R33A	Olander Ranch, baz=77,SNR=6.5	76.56 339	⇑P	P	13 59 09.2 +0.1
V24A	Rampart Ranch, baz=77,SNR=6.2	76.70 332	⇑P	P	13 59 10.7 +0.5
214A	Organ Pipe Nat baz=77	76.70 325	⇓P	P	13 59 11.4 +1.3
214A	Organ Pipe Nat comp=Z,12nm,0.9s	76.70 325	eP	P	13 59 11.0 +1.0
S30A	Montezuma baz=77,SNR=5.6	76.72 337	⇑P	P	13 59 10.6 +0.6
U26A	Atchley Ranch, baz=77,SNR=9.5	76.72 334	⇓P	P	13 59 10.6 +0.3
R32A	Long Quarter, baz=77,SNR=6.5	76.89 338	⇑P	P	13 59 11.3 +0.4
KSU1	Kansas State U baz=77	76.91 340	⇑P	P	13 59 10.9 -0.1
S29A	Ulysses baz=77,SNR=11	76.91 336	⇑P	P	13 59 11.9 +0.7
T27A	Campo baz=77	76.95 335	⇓P	P	13 59 12.2 +0.7
U25A	Circle Dot Ran baz=77,SNR=18	76.97 333	⇓P	P	13 59 12.4 +0.7
R31A	Burdett baz=77,SNR=5.7	77.01 338	⇑P	P	13 59 11.9 +0.2
V23A	Ortiz Mt. (NFS baz=77,SNR=6.3	77.07 332	⇑P	P	13 59 13.5 +1.3
S28A	Manter baz=78,SNR=29	77.15 336	⇑P	P	13 59 13.1 +0.6
Q33A	Connelly Farm, baz=78	77.16 339	⇑P	P	13 59 12.8 +0.4
R30A	Dighton baz=78,SNR=6.3	77.25 337	⇓P	P	13 59 13.3 +0.3
Q32A	Meitler Ranch, baz=78,SNR=9.6	77.36 339	⇓P	P	13 59 13.9 +0.4
T26A	Comanche Natio baz=78	77.36 334	⇓P	P	13 59 14.6 +0.8
V22A	San Miguel Ran baz=78,SNR=38	77.50 331	⇑P	P	13 59 16.3 +1.6
P33A	Williams Farm, baz=78	77.52 340	⇑P	P	13 59 15.2 +0.8
X18A	Snowflake baz=78,SNR=7.5	77.57 328	⇓P	P	13 59 16.4 +1.4
S27A	Las Animas baz=78	77.58 335	⇓P	P	13 59 15.7 +0.7
U23A	El Rito baz=78,SNR=13	77.58 332	⇓P	P	13 59 16.6 +1.4
T25A	Trinidad baz=78,SNR=37	77.63 334	⇓P	P	13 59 16.6 +1.3
Q31A	Ellis baz=78,SNR=7.6	77.63 338	⇑P	P	13 59 15.8 +0.7
R29A	Marienthal baz=78	77.65 337	⇓P	P	13 59 16.0 +0.7
ACCN	Adirondack Com comp=Z,31nm,1.4s	77.66 358	eP	P	13 59 15.5 +0.4
S26A	Kim baz=78,SNR=40	77.72 335	⇓P	P	13 59 16.8 +1.1
R28A	Tribune baz=78,SNR=18	77.80 336	⇑P	P	13 59 16.7 +0.6
113A	Mohawk Valley, baz=78	77.83 325	⇑P	P	13 59 17.4 +1.1
Q30A	Quinter baz=78,SNR=8.9	77.86 338	⇓P	P	13 59 17.2 +0.8
U22A	Llaves baz=78,SNR=8.2	77.88 332	⇑P	P	13 59 18.4 +1.6
T24B	San Luis baz=78,SNR=16	77.92 333	⇓P	P	13 59 18.5 +1.4
P32A	Huiting Farm, baz=78	77.96 339	⇓P	P	13 59 17.5 +0.6
W18A	Petrified Fore baz=78	77.98 329	⇓P	P	13 59 18.3 +1.0
W18A	Petrified Fore comp=Z,29nm,1.3s	77.98 329	eP	P	13 59 18.0 +0.7
Q29A	Oakley baz=78,SNR=13	78.02 337	⇑P	P	13 59 17.8 +0.5
R27A	Eads baz=78,SNR=19	78.08 335	⇓P	P	13 59 18.3 +0.6
P31A	Stockton baz=78,SNR=6.1	78.10 338	⇓P	P	13 59 18.2 +0.5
S25A	Robets Cordova baz=78,SNR=16	78.10 334	⇑P	P	13 59 18.9 +1.0
X16A	Lo Mia Camp, P baz=78,SNR=17	78.13 327	⇓P	P	13 59 19.6 +1.4
T23A	Casias Ranch, baz=78	78.14 333	⇑P	P	13 59 19.2 +0.9
MDV	Middlebury comp=Z,73µm,0.6s	78.26 359	eP	P	13 59 18.8 +0.5
R26A	Arlington baz=79,SNR=20	78.32 335	⇓P	P	13 59 19.8 +0.8
S24A	Houchin Ranch, baz=79,SNR=23	78.37 333	⇓P	P	13 59 20.9 +1.4
P30A	Selden baz=79	78.39 338	⇓P	P	13 59 20.0 +0.7
Y14A	Wickenburg baz=79,SNR=6.7	78.44 326	⇓P	P	13 59 20.8 +1.1
O32A	Brockman Farm, baz=79	78.45 340	⇑P	P	13 59 20.4 +0.8
Q28A	Sharon Springs baz=79	78.46 336	⇓P	P	13 59 20.5 +0.7
R25A	Fountain Ranch baz=79	78.48 334	⇓P	P	13 59 20.9 +1.0
LBNH	Lisbon	78.49 360	eP	P	13 59 20.6 +1.0
LBNH	comp=Z,21nm,0.9s		pmax	pmax	
LBNH	Lisbon comp=Z,21nm,0.9s	78.49 360	eP	P	13 59 20.6 +1.0
SDCO	Great Sand Dun comp=Z,8.5nm,0.8s	78.57 333	eP	P	13 59 21.2 +0.6
GLA	Glamis	78.57 324	eP	P	13 59 21.8 +1.3
GLA	comp=Z,7.0nm,0.9s		pmax	pmax	
GLA	Glamis baz=79,SNR=5.5	78.57 324	⇓P	P	13 59 21.7 +1.2
GLA	Glamis comp=Z,7.3nm,0.9s	78.57 324	eP	P	13 59 21.8 +1.3
P29A	Atwood baz=79	78.66 337	⇑P	P	13 59 21.7 +0.9
O31A	Woolen Ranch, baz=79	78.66 339	⇓P	P	13 59 21.5 +0.7
KSCO	Kaye Shedlock' baz=79,SNR=6.8	78.68 336	⇑P	P	13 59 22.0 +1.0
KSCO	Kaye Shedlock' comp=Z,31nm,1.0s	78.68 336	eP	P	13 59 21.7 +0.7
SCIA	State Center comp=Z,24nm,0.8s	78.69 344	eP	P	13 59 20.6 -0.3
R24A	Sanders Place, baz=79,SNR=31	78.85 334	⇓P	P	13 59 23.4 +1.3
P28A	Saint Francis baz=79,SNR=6.1	78.89 337	⇓P	P	13 59 23.1 +1.0
Q26A	Hugo baz=79,SNR=5.3	78.90 335	⇓P	P	13 59 23.2 +0.9
O30A	MW Ranch, Wils baz=79,SNR=6.7	78.91 338	⇓P	P	13 59 22.7 +0.6
LONY	Lake Ozonia comp=Z,11nm,0.8s	78.91 358	eP	P	13 59 22.0 0.0
N32A	Stulken Farm, baz=79	78.93 340	⇓P	P	13 59 23.0 +0.8
Y12C	Blythe baz=79,SNR=5.9	79.00 325	⇓P	P	13 59 24.2 +1.5
JFWS	Jewell Farm	79.02 346	eP	P	13 59 22.2 -0.4
JFWS	comp=Z,23nm,0.6s		pmax	pmax	
JFWS	Jewell Farm comp=Z,24nm,0.6s	79.02 346	eP	P	13 59 22.1 -0.4
WUAZ	Wupatki baz=79,SNR=8.5	79.02 328	⇓P	P	13 59 24.4 +1.4
WUAZ	Wupatki comp=Z,13nm,1.0s	79.02 328	eP	P	13 59 24.3 +1.3
R23A	Moffat baz=79,SNR=17	79.08 333	⇑P	P	13 59 24.4 +1.0
O29A	4D Ranch, Culb baz=79	79.09 338	⇓P	P	13 59 24.0 +0.9
Q25A	Bedland, Calha baz=80,SNR=5.2	79.15 335	⇓P	P	13 59 24.3 +0.6
P27A	Ficken Ranch, baz=80	79.15 336	⇑P	P	13 59 24.5 +0.9
MVCO	Mesa Verde baz=80,SNR=8.4	79.26 331	⇑P	P	13 59 25.2 +0.9
MVCO	Mesa Verde comp=Z,8.9nm,0.9s	79.26 331	eP	P	13 59 25.1 +0.7
PDMCI	Parker Dam,Lak baz=80	79.27 325	⇑P	P	13 59 24.6 +0.5
BC3	Big Chuckawall baz=80,SNR=6.2	79.36 324	⇑P	P	13 59 26.1 +1.2
O28A	Krutsinger Ran baz=80,SNR=5.4	79.40 337	⇓P	P	13 59 25.9 +1.0
P26A	Davis Ranch, A baz=80	79.41 336	⇑P	P	13 59 25.9 +0.8
BGNE	Belgrade baz=80	79.48 340	⇓P	P	13 59 25.9 +0.6
BGNE	Belgrade comp=Z,29nm,0.6s	79.48 340	eP	P	13 59 25.4 +0.2
N30A	Hueffle Ranch, baz=80	79.49 338	⇓P	P	13 59 25.8 +0.5
BOSA	Boshof comp=Z,13nm,0.7s,baz=240,slow=3.9,SNR=24	79.50 117	P	P	13 59 26.4 +0.4
BOSA	comp=Z,50nm,18.4s,baz=214,slow=34		LR	LR	14 32 46.0
BOSA	Boshof	79.50 117	eP	P	13 59 26.6 +0.5
Q24A	Divide baz=80,SNR=9.5	79.51 334	⇓P	P	13 59 26.9 +1.0
IRM	Iron Mountain baz=80,SNR=5.4	79.63 325	⇓P	P	13 59 27.5 +1.3
P25A	Willow Gulch B baz=80,SNR=22	79.65 335	⇓P	P	13 59 27.6 +1.2
M31A	Lambtecht Ranc baz=80,SNR=7.9	79.66 339	⇑P	P	13 59 27.0 +0.8
N29A	Votaw Ranch, W baz=80	79.67 338	⇓P	P	13 59 27.3 +1.0
O27A	Beecher Island baz=80	79.69 336	⇓P	P	13 59 27.6 +1.1
W13A	Hualapai Mount baz=80,SNR=10	79.80 326	⇑P	P	13 59 28.7 +1.3
PFO	Pinyon Flats O	79.82 323	P	P	13 59 28.7 +1.3
PFO	comp=Z,9.0nm,0.7s		pmax	pmax	
PFO	Pinyon Flats O comp=Z,8.5nm,0.7s,baz=134,slow=4.9,SNR=8.8	79.82 323	P	P	13 59 28.7 +1.3
PFO	Pinyon Flats O	79.82 323	P	P	13 59 28.7 +1.3
N28A	Pribbeno Ranch baz=80	79.83 337	⇑P	P	13 59 28.3 +1.0
BELC	Belle Mtn. Jos baz=80	79.91 324	⇓P	P	13 59 28.9 +1.0
O26A	Horse Wrangler baz=80,SNR=7.7	80.01 336	⇓P	P	13 59 29.4 +1.2
PV01	Paradox Valley comp=Z,721nm,0.9s	80.08 331	eP	P	13 59 30.0 +1.1
P23A	Jefferson baz=80	80.13 334	⇑P	P	13 59 30.7 +1.5
O25A	Wiggins baz=80	80.17 335	⇑P	P	13 59 30.7 +1.6
MURC	Murrieta baz=80	80.18 323	⇑P	P	13 59 30.9 +1.6
U15A	North Rim baz=80,SNR=13	80.19 328	⇑P	P	13 59 30.9 +1.4
OGNE	Ogallala baz=81	80.23 337	⇓P	P	13 59 30.0 +0.6
M29A	Burnside Ranch baz=81	80.26 338	⇑P	P	13 59 30.2 +0.7
N27A	Anderson Farm, baz=81,SNR=9.9	80.26 337	⇓P	P	13 59 30.5 +0.9
GMRC	Granite Mounta baz=81,SNR=10	80.38 325	⇑P	P	13 59 32.0 +1.6
L31A	Butterfield Fa baz=81,SNR=6.0	80.39 340	⇑P	P	13 59 30.8 +0.7
ISCO	Idaho Springs	80.42 334	eP	P	13 59 31.4 +0.7
ISCO	comp=Z,5.0nm,0.8s		pmax	pmax	
ISCO	Idaho Springs baz=81,SNR=12	80.42 334	⇓P	P	13 59 31.4 +0.7
ISCO	Idaho Springs comp=Z,5.2nm,0.8s	80.42 334	eP	P	13 59 31.4 +0.7
M28A	Bar X Bar Ranc baz=81	80.43 338	⇑P	P	13 59 31.6 +1.2
N26A	Koester Ranch, baz=81,SNR=9.3	80.51 336	⇓P	P	13 59 32.0 +1.1
P22A	Eagle baz=81,SNR=6.7	80.66 333	⇑P	P	13 59 32.9 +1.0
HEC	Hector,Ludlow baz=81	80.74 324	⇑P	P	13 59 33.6 +1.4
L29A	Maesberg Ranch baz=81	80.76 339	⇑P	P	13 59 33.4 +1.2
M27A	Reverse DX Ran baz=81,SNR=6.2	80.87 337	⇑P	P	13 59 33.9 +1.1
O23A	Lake Granby, G baz=81,SNR=17	80.89 334	⇓P	P	13 59 34.4 +1.2
BFSC	Mount Baldy Ra baz=81	80.92 323	⇓P	P	13 59 34.0 +0.8
TUQ	Turquoise Moun baz=81,SNR=5.7	81.04 325	⇓P	P	13 59 35.2 +1.3
K30A	Basset baz=81,SNR=13	81.07 340	⇑P	P	13 59 34.3 +0.6
N24A	Carr baz=81	81.07 335	⇓P	P	13 59 35.0 +1.0
O22A	Kremmling baz=81	81.08 334	⇑P	P	13 59 35.1 +0.9
ECSD	EROS Data Cent baz=82,SNR=44	81.23 342	⇓P	P	13 59 34.7 +0.1
ECSD	EROS Data Cent comp=Z,38nm,0.8s	81.23 342	eP	P	13 59 34.5 -0.1
M25A	Palm-Egli Farm baz=82	81.33 336	⇓P	P	13 59 36.3 +1.0
L27A	T5 Ranch, Ells baz=82	81.35 337	⇑P	P	13 59 36.3 +1.0
GSC	Goldstone, Bar baz=82	81.35 324	⇓P	P	13 59 36.7 +1.2
K29A	Lazy Trails An baz=82,SNR=5.4	81.35 339	⇑P	P	13 59 35.8 +0.5
N23A	Red Feather La baz=82,SNR=7.7	81.50 334	⇓P	P	13 59 37.2 +0.8
L26A	Underwood Farm baz=82	81.55 337	⇓P	P	13 59 37.7 +1.3
SHPR	Sheep Range comp=Z,16nm,1.2s	81.55 326	eP	P	13 59 38.0 +1.4
SHOC	Shoshone, Teco baz=82	81.58 325	⇑P	P	13 59 37.7 +1.1
EDW2	Edwards Air Fo baz=82	81.59 323	⇑P	P	13 59 37.4 +0.6
CCUT	Cedar City comp=Z,22nm,1.4s	81.60 328	eP	P	13 59 38.3 +1.4
N22A	Wattenberg Ran baz=82,SNR=11	81.61 334	⇓P	P	13 59 37.9 +1.0
M24A	Cheyenne baz=82,SNR=6.1	81.62 335	⇓P	P	13 59 37.8 +0.9
K28A	Ten Mile Ranch baz=82	81.62 338	⇓P	P	13 59 38.0 +1.2
J30A	Dallas baz=82,SNR=7.0	81.63 340	⇓P	P	13 59 36.8 +0.1
O20A	White River Ci baz=82,SNR=7.3	81.69 332	⇑P	P	13 59 38.0 +0.7
O20A	White River Ci comp=Z,7.9nm,0.8s	81.69 332	eP	P	13 59 37.9 +0.6
SRU	San Rafael Swe	81.71 330	eP	P	13 59 38.0 +0.6
SRU	comp=Z,9.0nm,0.8s		pmax	pmax	
SRU	San Rafael Swe comp=Z,8.6nm,0.8s	81.71 330	eP	P	13 59 38.0 +0.6
SPMN	Marine on St. baz=82,SNR=7.0	81.75 345	⇑P	P	13 59 36.6 -0.6
SPMN	Marine on St. comp=Z,11nm,0.3s	81.75 345	eP	P	13 59 36.5 -0.8
LBTB	Lobatse	81.76 115	eP	P	13 59 38.5 +0.3
LBTB	comp=Z,15nm,0.8s		pmax	pmax	

LBTB **Lobatse** 81.76 115 *e*P P 13 59 38.5 +0.3
comp=Z,16nm,0.8s
ARUT **Antelope Range** 81.83 328 *e*P P 13 59 39.6 +1.5
ARUT pmax pmax
comp=Z,308nm,1.3s
ARUT **Antelope Range** 81.83 328 *e*P P 13 59 39.6 +1.5
comp=Z,308nm,1.3s
K27A **Flueckinger Fa** 81.88 338 ⇓P P 13 59 39.0 +0.8
baz=82
MVU **Marysvale** 81.89 329 *e*P P 13 59 39.5 +0.9
comp=Z,12nm,1.3s
LRMC **Laurel Mtn Rad** 81.92 324 ⇑P P 13 59 39.5 +1.0
baz=82
M23A **Laramie** 81.93 335 ⇑P P 13 59 39.7 +1.1
baz=82
J29A **Okreek** 81.94 339 ⇑P P 13 59 38.8 +0.5
baz=82,SNR=26
L25A **Engebretsen Ra** 81.94 336 ⇓P P 13 59 39.7 +1.2
baz=82
I30A **Oacoma** 82.16 340 ⇑P P 13 59 39.4 -0.1
baz=82,SNR=17
K26A **Motz Farm, Whi** 82.18 337 ⇑P P 13 59 39.9 +0.2
baz=82
M22A **Cedar Creek Ra** 82.19 334 ⇓P P 13 59 41.2 +1.2
baz=82
J28A **Allard Ranch,** 82.23 339 ⇑P P 13 59 40.6 +0.7
baz=83,SNR=13
N20A **Spence Gulch,** 82.30 333 ⇓P P 13 59 41.2 +0.6
baz=83,SNR=6.5
J27A **Elkhorn Farm,** 82.31 338 ⇑P P 13 59 41.3 +1.0
baz=83,SNR=8.2
FURC **Furnace Creek,** 82.32 325 ⇑P P 13 59 41.5 +1.1
baz=83
L23A **Garrett** 82.50 335 ⇑P P 13 59 41.8 +0.2
baz=83
I29A **Vivian Onida** 82.50 340 ⇑P P 13 59 41.2 0.0
baz=83,SNR=6.5
BRSD **Miller** 82.51 341 ⇓P P 13 59 41.7 +0.4
baz=83
BRSD **Miller** 82.51 341 *e*P P 13 59 41.1 -0.1
comp=Z,47nm,0.8s
DAC **Darwin (Calif)** 82.51 324 *e*P P 13 59 42.9 +1.1
DAC pmax pmax
comp=Z,10.0nm,1.0s
DAC **Darwin (Calif)** 82.51 324 *e*P P 13 59 42.9 +1.1
comp=Z,9.7nm,1.0s
L22A **Ellis Ranch, M** 82.68 335 ⇓P P 13 59 43.5 +1.0
baz=83
J26A **Sides Ranch, S** 82.70 337 ⇑P P 13 59 43.4 +1.0
baz=83,SNR=9.0
K24A **Anderson Ranch** 82.73 336 ⇑P P 13 59 43.6 +1.0
baz=83
I28A **Midland** 82.73 339 ⇓P P 13 59 43.0 +0.5
baz=83,SNR=7.6
VES **Vestal, Richgr** 82.90 323 ⇓P P 13 59 44.2 +0.8
baz=83
J25A **Sunshine Ranch** 83.00 337 ⇓P P 13 59 44.4 +0.5
baz=83,SNR=6.7
H29A **Onida** 83.03 340 ⇓P P 13 59 44.2 +0.2
baz=83,SNR=23
K23A **Bowen Ranch, D** 83.04 336 ⇓P P 13 59 44.7 +0.4
baz=83,SNR=7.1
I27A **Quinn** 83.06 338 ⇑P P 13 59 44.6 +0.4
baz=83,SNR=5.7
DAU **Daniels Canyon** 83.11 331 *e*P P 13 59 45.6 +0.7
DAU pmax pmax
comp=Z,11nm,1.0s
DAU **Daniels Canyon** 83.11 331 *e*P P 13 59 45.6 +0.7
comp=Z,11nm,1.0s
G30A **Faulkton** 83.20 341 ⇑P P 13 59 44.7 -0.1
baz=84,SNR=5.2
J24A **Dixon Ranch, L** 83.22 336 ⇑P P 13 59 46.2 +1.0
baz=84,SNR=10
R11A **Troy Canyon, C** 83.25 327 ⇓P P 13 59 46.8 +1.3
baz=84
R11A **Troy Canyon, C** 83.25 327 *e*P P 13 59 46.7 +1.3
comp=Z,20nm,1.4s
K22A **Casper** 83.26 335 ⇓P P 13 59 45.9 +0.5
baz=84,SNR=6.7
K22A **Casper** 83.26 335 *e*P P 13 59 45.9 +0.5
comp=Z,21nm,1.1s
I26A **New Underwood** 83.28 338 ⇓P P 13 59 45.8 +0.5
baz=84
H28A **Mission Ridge** 83.31 339 ⇑P P 13 59 45.8 +0.3
baz=84,SNR=11
JLU **Jordanelle** 83.35 331 *e*P P 13 59 46.8 +0.7
comp=Z,9.2nm,0.8s
K21A **Alcova** 83.50 334 ⇑P P 13 59 47.2 +0.5
baz=84,SNR=19
I25A **Rochford** 83.54 337 ⇓P P 13 59 47.5 +0.6
baz=84,SNR=16
CTU **Camp Tracy** 83.55 330 *e*P P 13 59 47.4 +0.5
comp=Z,6.7nm,0.8s
DUG **Dugway, Tooele** 83.57 330 *e*P P 13 59 47.8 +0.8
DUG pmax pmax
comp=Z,28nm,1.5s
DUG **Dugway, Tooele** 83.57 330 ⇑P P 13 59 47.8 +0.8
baz=84,SNR=13
DUG **Dugway, Tooele** 83.57 330 *e*P P 13 59 47.8 +0.8
comp=Z,28nm,1.5s
H27A **Howes** 83.58 339 ⇓P P 13 59 46.8 0.0
baz=84,SNR=13
G28A **Parade** 83.64 340 ⇓P P 13 59 47.4 +0.2
baz=84,SNR=23
I24A **Kuemmerle Ranc** 83.69 337 ⇓P P 13 59 48.1 +0.6
baz=84
RSSD **Black Hills** 83.73 337 *e*P P 13 59 47.8 0.0
RSSD pmax pmax
comp=Z,12nm,0.9s
RSSD **Black Hills** 83.73 337 *e*P P 13 59 47.8 0.0
comp=Z,12nm,0.9s
TCUT **Toone Canyon** 83.77 331 *e*P P 13 59 48.9 +0.7
comp=Z,8.9nm,0.7s
TPH **Tonopah** 83.78 325 *e*P P 13 59 48.5 +0.3
TPH pmax pmax
comp=Z,10.0nm,0.8s
TPH **Tonopah** 83.78 325 *e*P P 13 59 48.5 +0.3
comp=Z,9.5nm,0.8s
F30A **Leola** 83.82 341 ⇑P P 13 59 48.3 +0.3
baz=84
J22A **Midwest** 83.91 335 ⇓P P 13 59 48.5 -0.2
baz=84,SNR=6.6
F29A **Eureka** 84.03 341 ⇓P P 13 59 49.2 0.0
baz=84,SNR=13
H25A **Fruitdale** 84.04 338 ⇑P P 13 59 49.7 +0.5
baz=84,SNR=5.2
EYMN **Ely** 84.09 347 *e*P P 13 59 48.7 -0.6
comp=Z,10nm,0.7s
TORD **Torodi Ar. Bea** 84.13 70 P P 13 59 50.8 +0.5
comp=Z,28nm,0.8s,baz=257,slow=4.1,SNR=127
TORD LR LR 14 36 34.7
comp=Z,123nm,18.1s,baz=245,slow=35
TORD **Torodi Ar. Bea** 84.13 70 P P 13 59 50.8 +0.5
J21A **Lysite** 84.19 335 ⇓P P 13 59 50.2 0.0
baz=84
G27A **Dupree** 84.22 339 ⇑P P 13 59 50.1 +0.1
baz=84,SNR=9.1
HWUT **Hardware Ranch** 84.24 331 *e*P P 13 59 50.8 +0.3
comp=Z,20nm,0.9s
BGU **Big Grassy Mou** 84.27 330 *e*P P 13 59 50.1 -0.5
comp=Z,5.8nm,1.4s
F28A **McLaughlin** 84.32 340 ⇓P P 13 59 50.8 +0.2
baz=85
I22A **9 Mile Ranch,** 84.33 335 ⇓P P 13 59 50.8 -0.1
baz=85,SNR=11
G26A **Maurine** 84.34 339 ⇑P P 13 59 50.7 0.0
baz=85,SNR=15
SPUT **South Promonto** 84.35 330 *e*P P 13 59 51.3 +0.3
comp=Z,30nm,1.4s
E30A **Jud** 84.41 341 ⇑P P 13 59 51.3 +0.3
baz=85
J20A **Shoshoni** 84.42 334 ⇓P P 13 59 52.0 +0.7
baz=85,SNR=12
H24A **Dirks Ranch, A** 84.45 337 ⇓P P 13 59 51.2 -0.1
baz=85,SNR=7.8
BW06 **Boulder Array** 84.46 333 *e*P P 13 59 51.2 -0.4
comp=Z,7.0nm,1.0s
PDAR **Pinedale Array** 84.46 333 P P 13 59 51.5 -0.1
comp=Z,4.9nm,0.9s,baz=160,slow=4.3,SNR=28
PDAR **Pinedale Array** 84.46 333 P P 13 59 51.5 -0.1
G25A **Newell** 84.50 338 ⇑P P 13 59 51.9 +0.3
baz=85,SNR=15
I21A **Big Trails, Te** 84.54 335 ⇑P P 13 59 51.8 -0.1
baz=85,SNR=14
NVAR **Mina Array Bea** 84.57 325 P P 13 59 53.3 +1.0
comp=Z,3.6nm,0.8s,baz=158,slow=6.4,SNR=29
NVAR **Mina Array Bea** 84.57 325 P P 13 59 53.3 +1.0
E29A **Napoleon** 84.66 341 ⇓P P 13 59 52.2 0.0
baz=85,SNR=11
F27A **Lemmon** 84.69 339 ⇓P P 13 59 52.7 +0.2
baz=85,SNR=32
J19A **Crowheart** 84.70 334 ⇑P P 13 59 53.0 +0.2
baz=85,SNR=21
F26A **Lodgepole** 84.86 339 ⇓P P 13 59 53.4 +0.1
baz=85,SNR=5.9
HVU **Hansel Valley** 84.88 330 *e*P P 13 59 53.7 +0.1
HVU pmax pmax
comp=Z,15nm,0.9s
HVU **Hansel Valley** 84.88 330 *e*P P 13 59 53.7 +0.1
comp=Z,15nm,0.9s
H22A **Clearmont** 84.91 336 ⇑P P 13 59 53.8 +0.1
baz=85,SNR=7.3
D30A **Buchanan** 84.93 342 ⇑P P 13 59 53.7 +0.1
baz=85,SNR=15
G24A **Alzada** 84.93 337 ⇓P P 13 59 53.9 +0.1
baz=85
E28A **Huff** 84.95 340 ⇑P P 13 59 54.0 +0.3
baz=85,SNR=8.6
I20A **Worland** 84.96 334 ⇑P P 13 59 54.3 +0.4
baz=85,SNR=21
AHID **Auburn Hatcher** 85.04 332 *e*P P 13 59 54.7 +0.2
comp=Z,12nm,0.9s
E27A **Carson** 85.06 340 ⇓P P 13 59 54.4 +0.1
baz=85
D29A **Pettibone, Tap** 85.10 341 ⇓P P 13 59 54.5 0.0
baz=85,SNR=11
G23A **Biddle** 85.13 337 ⇓P P 13 59 54.7 0.0
baz=86
F25A **Bowman** 85.17 338 ⇓P P 13 59 55.1 +0.3
baz=86,SNR=5.4
WAKR **Walker** 85.17 324 *e*P P 13 59 57.0 +1.7
comp=Z,8.6nm,1.1s
H21A **Big Horn, Sher** 85.17 335 ⇓P P 13 59 54.8 -0.3
baz=86,SNR=6.6
AGMN **Agassiz Nation** 85.34 344 ⇑P P 13 59 55.6 0.0
baz=86
AGMN **Agassiz Nation** 85.34 344 *e*P P 13 59 55.6 0.0
comp=Z,18nm,0.6s
I19A **Meeteetse** 85.34 334 ⇑P P 13 59 56.3 +0.3
baz=86,SNR=9.2
E26A **Carlson Angus** 85.36 339 ⇓P P 13 59 56.2 +0.4
baz=86
H20A **Greybull** 85.38 335 ⇑P P 13 59 56.0 -0.1
baz=86,SNR=15
F24A **Ekalaka** 85.40 338 ⇓P P 13 59 56.3 +0.2
baz=86,SNR=8.5
C30A **Mose, Pekin** 85.41 342 ⇑P P 13 59 56.4 +0.4
baz=86,SNR=22
G22A **Birney** 85.44 336 ⇓P P 13 59 56.6 +0.2
baz=86
D28A **Regan** 85.48 341 ⇓P P 13 59 56.9 +0.5
baz=86
F23A **Volborg** 85.59 337 ⇑P P 13 59 57.1 +0.1
baz=86,SNR=14
E25A **Miller Ranch,** 85.67 339 ⇑P P 13 59 58.0 +0.6
baz=86
D27A **Center** 85.67 340 ⇓P P 13 59 58.0 +0.6
baz=86
I17A **Pilgrim Ck.** 85.83 333 ⇓P P 13 59 59.0 +0.6
baz=86,SNR=17
MDND **Maddock** 85.83 342 ⇑P P 13 59 58.3 +0.2
baz=86,SNR=5.5
MDND **Maddock** 85.83 342 *e*P P 13 59 58.0 0.0
comp=Z,15nm,0.6s
D26A **Manning** 85.86 339 ⇓P P 13 59 58.8 +0.5
baz=86,SNR=12
H19A **Powell** 85.89 334 ⇓P P 13 59 58.7 +0.1
baz=86,SNR=13
C28A **Hausauer Farms** 85.92 341 ⇑P P 13 59 58.9 +0.4
baz=86
F22A **Rosebud** 85.92 337 ⇑P P 13 59 58.5 -0.2
baz=86,SNR=7.6
E24A **Baker** 86.00 338 ⇓P P 13 59 59.3 +0.3
baz=86,SNR=6.5
B30A **Myrvik Farm, E** 86.06 343 ⇑P P 13 59 59.5 +0.3
baz=86,SNR=21
G20A **Bridger** 86.09 335 ⇓P P 13 59 59.3 -0.3
baz=86,SNR=27
H18A **Shoshone NF, C** 86.14 334 ⇑P P 14 00 00.2 +0.2
baz=86,SNR=47
C27A **Sayler Ranch,** 86.22 340 ⇓P P 14 00 00.7 +0.7
baz=86,SNR=6.3
D25A **Fairfield** 86.23 339 ⇓P P 14 00 00.9 +0.8
baz=87,SNR=11
H17A **Grant Village** 86.23 333 ⇓P P 14 00 01.3 +0.8
baz=87
H17A **Grant Village** 86.23 333 *e*P P 14 00 01.3 +0.8
comp=Z,3.1nm,0.8s
F21A **Absaloka Mine,** 86.25 336 ⇓P P 14 00 00.7 +0.4
baz=87
E23A **Ismay** 86.25 337 ⇓P P 14 00 00.7 +0.5
baz=87
LKWY **Lake** 86.31 333 *e*P P 14 00 02.2 +1.3
LKWY pmax pmax
comp=Z,7.0nm,1.0s
LKWY **Lake** 86.31 333 *e*P P 14 00 02.2 +1.3
comp=Z,7.1nm,1.0s
B29A **Wagenman Farm,** 86.33 342 ⇑P P 14 00 00.7 +0.2
baz=87,SNR=9.1
YFT **Old Faithful** 86.38 333 *e*P P 14 00 02.9 +1.8
comp=Z,8.8nm,0.8s
RLMT **Red Lodge** 86.38 334 *e*P P 14 00 01.4 +0.3
comp=Z,8.3nm,0.5s
E22A **Miles City** 86.41 337 ⇓P P 14 00 00.7 -0.3
baz=87,SNR=5.3
C26A **Wahner Farm, P** 86.49 340 ⇓P P 14 00 01.8 +0.5
baz=87,SNR=7.3
D24A **Glendive** 86.50 338 ⇓P P 14 00 02.1 +0.7
baz=87
A30A **Hoffart Farm,** 86.51 343 ⇓P P 14 00 01.3 -0.1
baz=87,SNR=20
F20A **Billings** 86.58 335 ⇑P P 14 00 01.9 0.0
baz=87
B28A **Dugan Ranch, T** 86.58 341 ⇑P P 14 00 02.1 +0.3
baz=87,SNR=7.5
YMR **Madison River** 86.61 333 *e*P P 14 00 01.9 -0.3
comp=Z,30nm,0.9s
LAO **LASA Array** 86.72 337 *e*P P 14 00 02.3 -0.2
comp=Z,28nm,0.9s
A29A **Manning Farm,** 86.73 342 ⇑P P 14 00 02.5 +0.1
baz=87,SNR=16
B27A **Peters Farms,** 86.78 341 ⇑P P 14 00 02.9 +0.2
baz=87
D23A **Lindsay** 86.82 338 ⇓P P 14 00 03.7 +0.7
baz=87,SNR=41
E21A **Keefer Ranch,** 86.86 336 ⇑P P 14 00 03.8 +0.6
baz=87
F19A **Roth Farm, Mol** 86.90 335 ⇓P P 14 00 03.4 -0.1
baz=87,SNR=8.0
QLMT **Earthquake Lak** 86.92 333 *e*P P 14 00 05.0 +1.2
comp=Z,1.1nm,1.0s
A28A **Rude Farm, Bot** 86.98 342 ⇓P P 14 00 03.9 +0.1
baz=87,SNR=5.2
HLID **Hailey** 87.03 330 ⇓P P 14 00 05.2 +1.0
baz=87,SNR=14
HLID **Hailey** 87.03 330 *e*P P 14 00 04.8 +0.5
comp=Z,11nm,1.1s
D22A **Cohagen** 87.11 337 ⇑P P 14 00 05.0 +0.6
baz=87,SNR=12
ULM **Lac du Bonnet** 87.18 345 P P 14 00 04.4 -0.2
ULM pmax pmax
comp=Z,12nm,0.6s
ULM **Lac du Bonnet** 87.18 345 P P 14 00 04.4 -0.2
comp=Z,12nm,0.6s,baz=172,slow=4.4,SNR=29
ULM **Lac du Bonnet** 87.18 345 P P 14 00 04.4 -0.2
E20A **Meyer Farm, Mu** 87.18 336 ⇑P P 14 00 05.2 +0.4
baz=88,SNR=17
B25A **Knox Farm, Ray** 87.19 340 ⇓P P 14 00 05.5 +0.7
baz=88,SNR=8.5
A27A **Ledoux Ranch,** 87.28 341 ⇑P P 14 00 06.1 +1.0
baz=88
D21A **La Casta Ranch** 87.30 337 ⇓P P 14 00 05.5 +0.2
baz=88,SNR=7.6
E19A **Rath Farm, Rou** 87.37 335 ⇑P P 14 00 05.8 +0.1
baz=88,SNR=13
C23A **Lambert** 87.38 338 ⇑P P 14 00 06.0 +0.3
baz=88,SNR=20
A26A **Wade Farm, Ken** 87.44 340 ⇓P P 14 00 06.3 +0.3
baz=88,SNR=16
MCMT **McKenzie Canyo** 87.46 332 *e*P P 14 00 07.5 +1.0
comp=Z,7.6nm,1.0s
MFID **Camas Ranch** 87.49 329 *e*P P 14 00 06.8 +0.3
comp=Z,4.5nm,0.8s
C22A **Vida** 87.54 338 ⇑P P 14 00 06.4 -0.1
baz=88,SNR=7.8
DGMT **Dagmar** 87.67 339 ⇓P P 14 00 07.8 +0.7
baz=88,SNR=17
DGMT **Dagmar** 87.67 339 *e*P P 14 00 07.7 +0.6
comp=Z,62nm,0.6s
D20A **Manuel Ranch,** 87.70 336 ⇑P P 14 00 07.4 +0.2
baz=88,SNR=7.9
A25A **Svangstu Ranch** 87.78 340 ⇓P P 14 00 08.0 +0.4
baz=88
B23A **Brockton** 87.91 339 ⇑P P 14 00 08.3 +0.1
baz=88,SNR=6.3
D19A **Cripps Ranch,** 88.01 336 ⇓P P 14 00 08.8 0.0
baz=88,SNR=5.5
A24A **Westby** 88.03 339 ⇑P P 14 00 09.3 +0.5
baz=88
B22A **Reddig Ranch S** 88.07 338 ⇓P P 14 00 09.3 +0.3
baz=88,SNR=5.7
LRM **Limekiln Ridge** 88.15 333 *e*P P 14 00 10.3 +0.6
comp=Z,100nm,1.3s
C20A **Veseth Ranch,** 88.20 336 ⇑P P 14 00 09.5 -0.1
baz=88,SNR=8.1
MOD **Modoc Plateau** 88.25 326 *e*P P 14 00 11.1 +0.9
comp=Z,12nm,1.0s
A23A **Redstone** 88.31 339 ⇓P P 14 00 10.6 +0.5
baz=89
B21A **Ellsworth Farm** 88.50 337 ⇓P P 14 00 11.2 +0.2
baz=89,SNR=6.0
C19A **Slack Wire Ran** 88.56 336 ⇓P P 14 00 12.3 +0.9
baz=89,SNR=5.7
A22A **Carney Farms,** 88.66 338 ⇓P P 14 00 12.1 +0.3
baz=89,SNR=14
N02D **Trinity Center** 88.67 324 ⇑P P 14 00 12.4 +0.3
baz=89
B20A **Solberg Farm,** 88.84 337 ⇑P P 14 00 12.9 +0.2
baz=89
M04C **Macdoel** 88.88 325 ⇓P P 14 00 13.4 +0.3
baz=89
A21A **Bergtoll Ranch** 88.97 338 ⇑P P 14 00 13.0 -0.2
baz=89,SNR=7.7
EGMT **Eagleton** 89.05 336 ⇓P P 14 00 13.7 0.0
baz=89
SCHQ **Schefferville** 89.19 3 P P 14 00 13.3 -0.7
comp=Z,2.0nm,0.5s,baz=200,slow=5.0,SNR=9.0
SCHQ **Schefferville** 89.19 3 P P 14 00 13.3 -0.7
A20A **Cobblestone Ra** 89.19 337 ⇓P P 14 00 14.1 -0.2
baz=90,SNR=8.9
A19A **Klindworth Far** 89.50 337 ⇓P P 14 00 15.6 -0.2
baz=90,SNR=7.1
MSO **Missoula** 89.56 332 ⇑P P 14 00 17.1 +1.0
baz=90
J05D **Fort Rock, OR** 89.76 326 ⇑P P 14 00 18.3 +1.1
baz=90
FFC **Flin Flon** 92.73 343 *e*P P 14 00 29.9 -0.6
FFC **Flin Flon** 92.73 343 *e*P P 14 00 29.9 -0.6
TAM **Tamanrasset** 92.81 64 *e*P P 14 00 33.1 +1.2
TAM pmax pmax
comp=Z,3.0nm,0.8s
TAM **Tamanrasset** 92.81 64 *e*P P 14 00 33.1 +1.2
comp=Z,2.9nm,0.8s
EDM **Edmonton** 94.68 336 *e*P P 14 00 38.2 -1.4
EDM **Edmonton** 94.68 336 *e*P P 14 00 38.1 -1.4
FCC **Fort Churchill** 94.90 348 *e*P P 14 00 40.3 0.0
FCC **Fort Churchill** 94.90 348 *e*P P 14 00 40.3 0.0
comp=Z,0.2nm,0.6s
ESDC **Sonseca Array** 96.78 46 P P 14 00 49.7 +0.2
comp=Z,0.4nm,0.4s,baz=263,slow=6.5,SNR=4.8
ESDC **Sonseca Array** 96.78 46 P P 14 00 49.7 +0.2
YKA **Yellowknife Ar** 102.75 341 P Pdif 14 01 14.8 -0.7
YKA 14 05 31.2
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA **Yellowknife Ar** 102.75 341 P Pdif 14 01 14.8 -0.7
comp=Z,0.9nm,0.6s,baz=142,slow=4.4,SNR=27
YKA PP PP 14 05 31.2 +1.2
comp=Z,0.5nm,0.9s,baz=137,slow=7.9,SNR=5.0
YKA **Yellowknife Ar** 102.75 341 P Pdif 14 01 14.8 -0.7
YKA PP PP 14 05 31.2 +1.2
ILAR **Eielson Array** 114.89 333 PP PP 14 06 59.4 +1.1
comp=Z,0.4nm,0.8s,baz=116,slow=7.2,SNR=4.6
ILAR **Eielson Array** 114.89 333 PP PP 14 06 59.4 +1.1
ASAR **Alice Springs** 117.16 206 PKP PKPdf 14 06 03.3 -1.2
comp=Z,0.2nm,0.6s,baz=151,slow=2.2,SNR=5.7
ASAR PKKPbc PKKPbc 14 16 28.6 +0.4
comp=Z,0.8nm,0.6s,baz=334,slow=2.8,SNR=13
ASAR **Alice Springs** 117.16 206 PKP PKPdf 14 06 03.3 -1.2
ASAR PKKPbc PKKPbc 14 16 28.6 +0.4
WRA **Warramunga Arr** 120.37 209 PKP PKPdf 14 06 09.9 -0.9
comp=Z,0.7nm,0.6s,baz=162,slow=1.5,SNR=24
WRA PKKPbc PKKPbc 14 16 17.6 +1.1
comp=Z,0.4nm,0.7s,baz=343,slow=4.2,SNR=6.1
WRA **Warramunga Arr** 120.37 209 PKP PKPdf 14 06 09.9 -0.9
WRA PKKPbc PKKPbc 14 16 17.6 +1.1
BRTR **Keskin Array B** 121.86 61 PKIKP PKPdf 14 06 14.1 +1.0
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR **Keskin Array B** 121.86 61 PKP PKPdf 14 06 14.1 +1.0
comp=Z,1.3nm,0.8s,baz=205,slow=2.6,SNR=4.9
BRTR **Keskin Array B** 121.86 61 PKP PKPdf 14 06 14.1 +1.0
H11S2 **WAKE ISLAND Hyl** 26.07 268 T T 16 24 44.1
baz=119,slow=75,SNR=17
H11S1 **WAKE ISLAND Hyl** 26.09 268 T T 16 24 44.2
baz=119,slow=75,SNR=18
H11S3 **WAKE ISLAND Hyl** 26.50 270 T T 16 24 44.6
baz=119,slow=75,SNR=16
H11N3 **WAKE ISLAND Hyl** 26.52 270 T T 16 25 13.9
baz=115,slow=78,SNR=17
H11N1 **WAKE ISLAND Hyl** 26.52 270 T T 16 25 17.0
baz=115,slow=78,SNR=30
H11N2 **WAKE ISLAND Hyl** 26.52 270 T T 16 25 18.0
baz=115,slow=78,SNR=26
OBN **Obninsk** 127.67 44⇑ *e*PKIKP PKPdf 14 06 22.3 -1.1
OBN *e* 14 08 29.0
OBN *e*PPP PPP 14 11 07.6
OBN *e* 14 13 19.8
OBN *e*SS SS 14 25 55.8 +20
OBN pmax pmax
comp=Z,18nm,1.0s
OBN MLR MLR
comp=Z,167nm,13.0s
KIV **Kislovodsk** 129.55 59 *e*PKIKP PKPdf 14 06 27.6 0.0
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ **Khabaz** 129.64 59 PKIKP PKPdf 14 06 28.0 +0.4
KBZ pmax pmax
comp=Z,3.0nm,1.0s
KBZ **Khabaz** 129.64 59 PKP PKPdf 14 06 28.0 +0.4
comp=Z,2.5nm,1.0s,baz=316,slow=3.7,SNR=3.2
KBZ **Khabaz** 129.64 59 PKP PKPdf 14 06 28.0 +0.4
GEYT **Alibeck** 139.77 70 PKP PKPdf 14 06 46.9 +0.1
comp=Z,1.1nm,0.6s,baz=267,slow=10.0,SNR=3.8
ARU **Arti** 140.00 41 *i* PKIKP PKPdf 14 06 47.3 +0.8
ARU 14 09 42.3
ARU SS SS 14 28 07.0 +2.9
TIXI **Tiksi** 141.36 350⇓ *e*PKIKP PKPdf 14 06 49.2 +0.6
TIXI pmax pmax
comp=Z,4.0nm,1.2s
ABKAR **Akbulak array** 141.81 52 *e*PKPpre PKPpre 14 06 44.2
KSM **Kuching** 146.97 184 *e*PKPbc PKPbc 14 07 02.0 -0.1
BRVK **Borovoye** 147.44 44⇓ *e*PKP2 PKPbc 14 07 01.4 -0.8
BRVK pmax pmax
comp=Z,28nm,1.2s
BRVK **Borovoye** 147.44 44 *e*PKPbc PKPab 14 07 03.5 -0.8
HYB **Hyderabad** 148.38 115 *i* P PKPbc 14 07 05.5 -0.3
YAK **Yakutsk** 149.42 340 *e*PKHKP PKPbc 14 07 06.0 -1.0
YAK *e* 14 07 10.9
YAK pmax pmax
comp=Z,28nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.5s
YAK **Yakutsk** 149.42 340 *e*PKPbc PKPbc 14 07 07.0 -0.1
KKAR **Karatay Array** 149.56 62 *e*PKP2 PKPbc 14 07 08.4 +0.3
KKAR **Karatay Array** 149.56 62 *e*PKPbc PKPbc 14 07 08.4 +0.3
YSS **Yuzh-Sakhalins** 151.41 306 *e*PKIKP PKPbc 14 07 12.0 -0.3
YSS *e* 14 07 22.0
AML **Almayashu** 151.96 64 P PKPbc 14 07 15.2 +0.9
SNR=9.8
EKS2 **Erkin-Say** 151.98 63 P PKPbc 14 07 15.1 +1.1
SNR=11
EKS2 **Erkin-Say** 151.98 63 *e*PKIKP PKPbc 14 07 14.9 +0.9
EKS2 **Erkin-Say** 151.98 63 *e*PKPbc PKPbc 14 07 14.9 +0.9
USP **Ospenovka** 152.45 62 P PKPbc 14 07 15.9 +1.0
SNR=7.6
AAK **Ala-Archa** 152.51 63 P PKPbc 14 07 16.3 +1.1
SNR=12
AAK **Ala-Archa** 152.51 63 PKIKP PKPdf 14 07 08.7 +0.4
AAK *e* 14 07 16.2

AAK	**Ala-Archa**	**152.51**	**63**	PKPdf	**PKPdf**	**14 07 08.7**	**+0.4**
AAK				*e*PKPbc	**PKiKP**	**14 07 16.2**	**+0.7**
UCH	**Uchtor**	**152.56**	**64**	P	**PKPbc**	**14 07 17.2**	**+1.5**
	SNR=11						
FRU	**Bishkek**	**152.58**	**62⇑**	*i*PKIKP	**PKPbc**	**14 07 16.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,30nm,1.6s						
KZA	**Kyzart**	**153.12**	**64**	P	**PKPbc**	**14 07 18.0**	**+1.1**
	SNR=7.2						
TKM2	**Tokmak 2**	**153.29**	**62**	P	**PKPbc**	**14 07 17.5**	**+0.6**
	SNR=6.7						
TKM2	**Tokmak 2**	**153.29**	**62**	*e*PKIKP	**PKPdf**	**14 07 10.0**	**+0.6**
TKM2				*e*		14 07 17.6	
TKM2	**Tokmak 2**	**153.29**	**62**	*e*PKPdf	**PKPdf**	**14 07 10.0**	**+0.6**
TKM2				*e*PKPbc	**PKPbc**	**14 07 17.6**	**+0.6**
NVS	**Novosibirsk**	**153.29**	**33**	*e*PKIKP	**PKPbc**	**14 07 16.0**	**-0.2**
NVS				pmax	pmax		
	comp=Z,16nm,0.9s						
KSH	**Kashi**	**153.80**	**70**	PKPbc	**PKPdf**	**14 07 11.6**	**+1.4**
KSH				sPKP		14 07 20.5	
KSH				PKS	**PKSdf**	**14 10 43.5**	**-1.0**
KSH				PP	**PP**	**14 11 03.9**	**-2.2**
KSH				SKS	**SKSdf**	**14 14 14.9**	**-0.2**
KSH				SKKS	**SKKSac**	**14 17 50.6**	**-3.3**
KSH				SS	**SS**	**14 30 40.1**	**-1.7**
KSH				PPMZ			
	comp=Z,270nm,5.6s						
KSH				LN			
	comp=Z,55nm,4.2s						
KSH				LE			
	comp=Z,41nm,3.8s						
KSH				LZ			
	comp=Z,450nm,6.4s						
ULHL	**Ulahol**	**153.84**	**64**	P	**PKPbc**	**14 07 19.3**	**+1.1**
	SNR=5.7						
ZALV	**Zalesovo Beam**	**154.57**	**33**	PKIKP	**PKPdf**	**14 07 10.5**	**-0.1**
ZALV						14 07 20.0	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZALV	**Zalesovo Beam**	**154.57**	**33**	PKP	**PKPdf**	**14 07 10.5**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=274,slow=2.4,SNR=6.9						
ZALV				PKPbc	**PKiKP**	**14 07 20.0**	**+1.0**
	comp=Z,5.4nm,0.8s,baz=280,slow=2.7,SNR=18						
ZALV	**Zalesovo Beam**	**154.57**	**33**	PKP	**PKPdf**	**14 07 10.5**	**-0.1**
ZALV				PKPbc	**PKiKP**	**14 07 20.0**	**+1.0**
BOD	**Bodaibo**	**156.49**	**352**	*e*PKP2	**PKPab**	**14 07 41.3**	**-0.5**
BOD				pmax	pmax		
	comp=Z,11nm,0.9s						
MKAR	**Makanchi Array**	**156.92**	**50**	PKIKP	**PKPdf**	**14 07 13.7**	**-0.4**
MKAR						14 11 22.8	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**156.92**	**50**	PKP	**PKPdf**	**14 07 13.7**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=325,slow=1.9,SNR=4.3						
MKAR				PKPab	**PKPab**	**14 07 44.5**	**+0.3**
	comp=Z,5.5nm,0.8s,baz=301,slow=3.9,SNR=24						
MKAR				PP	**PP**	**14 11 22.8**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=289,slow=3.7,SNR=5.1						
MKAR	**Makanchi Array**	**156.92**	**50**	PKP	**PKPdf**	**14 07 13.7**	**-0.4**
MKAR				PKPab	**PKPab**	**14 07 44.5**	**+0.3**
MKAR				PP	**PP**	**14 11 22.8**	**-0.2**
WMQ	**Urumqi**	**161.59**	**54**	*e*PKP	**PKPdf**	**14 07 18.2**	**-1.4**
WMQ				pPKP	**pPKPdf**	**14 07 29.0**	**0.0**
WMQ				PKPab	**PKPab**	**14 08 05.7**	**+1.1**
WMQ				PKS	**PKSdf**	**14 10 50.0**	**-2.8**
WMQ				PP	**PP**	**14 11 49.2**	**+0.8**
WMQ				SKS	**SKSdf**	**14 14 18.0**	**-4.5**
WMQ				SKKS	**SKKSac**	**14 18 32.5**	**-2.1**
WMQ				SS	**SS**	**14 32 00.0**	**-4.2**
WMQ				PPMZ			
	comp=Z,410nm,8.0s						
WMQ				LN			
	comp=Z,95nm,17.0s						
WMQ				LE			
	comp=Z,82nm,20.0s						
WMQ				LZ			
	comp=Z,100nm,17.0s						
CMAR	**Chiang Mai Arr**	**161.86**	**150**	PKP	**PKPdf**	**14 07 20.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=236,slow=3.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**161.86**	**150**	PKP	**PKPdf**	**14 07 20.8**	**+0.2**
TLY	**Talaya**	**162.61**	**10**	*e*PKP2	**PKPab**	**14 08 09.6**	**+1.0**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ZAK	**Zakamensk**	**163.82**	**12**	*e*PKP2	**PKPab**	**14 08 13.4**	**-0.7**
ZAK				*e*		14 12 00.1	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s						
CN2	**Changchun**	**163.91**	**310**	*e*PKP	**PKPdf**	**14 07 22.0**	**+0.3**
CN2				PP	**PP**	**14 12 01.8**	**+1.3**
CN2				PPMZ			
	comp=Z,200nm,6.0s						
CN2				LN			
	comp=Z,500nm,22.0s						
CN2				LE			
	comp=Z,400nm,22.0s						
CN2				LZ			
	comp=Z,400nm,22.0s						
SONM	**Songino Array**	**166.72**	**6**	PKIKP	**PKPdf**	**14 07 23.5**	**-0.6**
SONM						14 08 27.5	
SONM						14 12 15.3	
SONM				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**166.72**	**6**	PKP	**PKPdf**	**14 07 23.5**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=166,slow=2.5,SNR=4.1						
SONM				PKPab	**PKPab**	**14 08 27.5**	**+0.6**
	comp=Z,2.4nm,0.9s,baz=346,slow=3.8,SNR=14						
SONM				PP	**PP**	**14 12 15.3**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=339,slow=3.2,SNR=3.7						
SONM	**Songino Array**	**166.72**	**6**	PKP	**PKPdf**	**14 07 23.5**	**-0.6**
SONM				PKPab	**PKPab**	**14 08 27.5**	**+0.6**
SONM				PP	**PP**	**14 12 15.3**	**+1.0**
GTA	**Gaotai**	**171.67**	**52**	*e*PKP	**PKPdf**	**14 07 28.4**	**+0.9**
GTA				sPKP		14 07 41.4	
GTA				PKPab	**PKPab**	**14 08 50.3**	**+1.0**
GTA				PP	**PP**	**14 12 44.6**	**+4.2**
GTA				SKS	**SKSdf**	**14 14 26.5**	**-2.4**
GTA				SKKS	**SKKSac**	**14 19 26.5**	**+1.4**
GTA				SS	**SS**	**14 33 45.4**	**-0.9**
GTA				PPMZ			
	comp=Z,100nm,6.4s						
GTA				LN			
	comp=Z,210nm,20.4s						
GTA				LE			
	comp=Z,150nm,17.6s						
GTA				LZ			
	comp=Z,200nm,17.6s						
GYA	**Guiyang**	**171.74**	**169**	*e*PKP	**PKPdf**	**14 07 28.0**	**+0.1**
GYA				pPKP	**pPKPdf**	**14 07 36.2**	**-1.2**
GYA				PKPab	**PKPab**	**14 08 51.4**	**+1.8**
GYA				PKS	**PKSdf**	**14 10 59.0**	**-1.5**
GYA				PP	**PP**	**14 12 44.3**	**+4.7**
GYA				SKKS		14 19 27.6	
GYA				SS	**SS**	**14 33 47.3**	**+2.4**
GYA				PPMZ			
	comp=Z,120nm,8.3s						
GYA				LN			
	comp=Z,120nm,22.3s						
GYA				LE			
	comp=Z,110nm,22.5s						
GYA				LZ			
	comp=Z,120nm,21.9s						
HHC	**Hu-ho-hao-te**	**173.28**	**339**	*e*PKP	**PKPdf**	**14 07 26.6**	**-1.5**
HHC				pPKP	**pPKPdf**	**14 07 37.4**	**-0.2**
HHC				sPKP		14 07 41.0	
HHC				PP	**PP**	**14 12 49.0**	**+1.6**
HHC				SKS	**SKSdf**	**14 14 24.5**	**-4.9**
HHC				SS	**SS**	**14 33 57.8**	**-2.5**
HHC				PPMZ			
	comp=Z,150nm,9.9s						
HHC				LN			
	comp=Z,300nm,18.5s						
HHC				LE			
	comp=Z,240nm,17.3s						
HHC				LZ			
	comp=Z,160nm,17.3s						
CD2	**Chengdu**	**174.65**	**133**	*e*PKP	**PKPdf**	**14 07 28.9**	**+0.1**
LZH	**Lanzhou**	**176.04**	**67**	*e*PKP	**PKPdf**	**14 07 28.5**	**-0.7**
LZH				pPKP	**pPKPdf**	**14 07 36.7**	**-2.0**
LZH				sPKP		14 07 39.4	
LZH				LN			
	comp=Z,220nm,18.2s						
LZH				LE			
	comp=Z,220nm,18.6s						
LZH				LZ			
	comp=Z,270nm,20.3s						

CSEM ***08*** *13:49:53.7±1.1, 50°.56N×13°.38E, h1km, ML2.6, Error ellipse: s-maj=24.7km s-min=6.0km az=122.0, Suspected Mining explosion.*
VIE ***08*** *13:49:56.6±0.3, 50°.44N×13°.56E, h0km, ML2.6/2, Error ellipse: s-maj=2.7km s-min=1.1km az=47.0 63 km SE of Chemnitz Suspected Mining explosion.*
ISC 08 13:49:56.2±3.1, 50°.49N±0°.09×13°.6E±0°.1, h0km, n6, σ0s72/12, 1C-3D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**1.78**	**78**	*e*Pg	**Pb**	**13 50 29.9**	**+0.2**
KSP				*e*Sg	**Sg**	**13 50 53.9**	**+0.5**
KSP	**Ksiaz**	**1.78**	**78**	*e*Pg	**Pb**	**13 50 29.9**	**+0.2**
KSP				*e*Sg	**Sg**	**13 50 53.9**	**+0.5**
MOA	**Molln**	**2.69**	**170⇑**	*i*Pg	**Pg**	**13 50 47.0**	**-0.6**
MOA			⇓	*i*Sg	**Sg**	**13 51 23.6**	**+1.2**
	7.5nm,0.3s						
MOA	**Molln**	**2.69**	**170**	Pg	**Pg**	**13 50 47.0**	**-0.6**
MOA				Sg	**Sg**	**13 51 23.6**	**+1.2**
	7.5nm,0.3s						
CONA	**Conrad Observa**	**2.98**	**148⇓**	*i*Pg	**Pg**	**13 50 52.8**	**-0.5**
CONA			⇓	*i*Sg	**Sg**	**13 51 31.7**	**-0.2**
	4.2nm,0.2s						
CONA	**Conrad Observa**	**2.98**	**148**	Pg	**Pg**	**13 50 52.8**	**-0.5**
CONA				Sg	**Sg**	**13 51 31.7**	**-0.2**
	4.2nm,0.2s						

DDA ***08*** *13:52:34.2, 38°.75N×40°.00E, h1km, MD3.4*
ISK ***08*** *13:52:35.0, 38°.80N×40°.08E, h3km, ML3.4*
CSEM ***08*** *13:52:36.0±0.2, 38°.78N×40°.03E, h2km, ML3.4, Error ellipse: s-maj=5.1km s-min=4.8km az=11.0*
NSSC ***08*** *13:52:38.4±0.4, 37°.80N×42°.52E, h24km±999km, ML3.4*
ISC 08 13:52:36.2±1.1, 38°.78N±0°.02×40°.07E±0°.02, h4km±10km, n68, σ1s20/99, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.34**	**74**	*i*Pg	**Pb**	**13 52 45.1**	**+0.1**
BNGB	**Bing¨¶l**	**0.52**	**66**	PG	**Pg**	**13 52 45.1**	**-1.1**
BNGB				SG	**Sg**	**13 52 52.6**	**-0.4**
DYBB	**Diyarbakir**	**0.83**	**176**	PG	**Pb**	**13 52 52.9**	**-0.3**
ERZN	**Erzincan**	**0.85**	**342**	PG	**Pg**	**13 52 51.0**	**-1.5**
ERZN				*e*SG	**Sg**	**13 53 04.3**	**+0.9**
BNGL	**BINGOL**	**0.86**	**78**	*i*P	**Pg**	**13 52 52.1**	**-0.6**
BNGL				*i*S	**Sb**	**13 53 06.0**	**+0.1**
DIY	**Diyarbakir**	**0.90**	**172**	*i*Pg	**Pg**	**13 52 52.9**	**-0.4**
EUZM	**Uzumlu**	**0.97**	**343**	*i*P	**Pg**	**13 52 53.9**	**-0.8**
EUZM				*i*S	**Sg**	**13 53 08.3**	**+1.0**
EUZM	**Uzumlu**	**0.97**	**343**	*i*P	**Pg**	**13 52 53.9**	**-0.8**
EUZM				*i*S	**Sg**	**13 53 08.3**	**+1.0**
VRTB	**Varto-Mus**	**1.15**	**70**	PN	**Pg**	**13 52 57.4**	**-0.8**
VRTB				*e*SN	**Sb**	**13 53 14.4**	**+0.4**
VRTB	**Varto-Mus**	**1.15**	**70**	*i*Pn	**Pg**	**13 52 57.4**	**-0.8**
VRTB				*e*Sn	**Sb**	**13 53 14.4**	**+0.4**
BTMT	**Batman**	**1.26**	**117**	PN	**Pg**	**13 53 00.2**	**-0.2**
BTMT	**Batman**	**1.26**	**117**	*i*Pn	**Pg**	**13 53 00.2**	**-0.2**
KOPT	**Kop Dagi**	**1.28**	**15**	*i*P	**Pg**	**13 52 59.8**	**-0.9**
KOPT				*i*S	**Sn**	**13 53 19.4**	**+0.5**
KOPT	**Kop Dagi**	**1.28**	**15**	*i*P	**Pg**	**13 52 59.8**	**-0.9**
KOPT				*i*S	**Sn**	**13 53 19.4**	**+0.5**
BEST	**Besiri**	**1.30**	**133**	*i*P	**Pg**	**13 53 00.4**	**-0.7**
BEST				*i*S	**Sn**	**13 53 18.9**	**-0.2**
KEMA	**Kemaliye**	**1.32**	**292**	*i*P	**Pn**	**13 52 58.9**	**-2.6**
KEMA				*i*S	**Sb**	**13 53 19.5**	**+0.6**
KEMA	**Kemaliye**	**1.32**	**292**	*i*P	**Pn**	**13 52 58.9**	**-2.6**
KEMA				*i*S	**Sb**	**13 53 19.5**	**+0.6**
ILIC	**ilic-Erzincan**	**1.34**	**300**	PN	**Pn**	**13 53 01.7**	**-0.2**
ILIC	**ilic-Erzincan**	**1.34**	**300**	*i*Pn	**Pn**	**13 53 01.7**	**-0.2**
MAZI	**Mazidag**	**1.35**	**167**	PN	**Pn**	**13 53 00.8**	**-1.2**
MAZI	**Mazidag**	**1.35**	**167**	*i*Pn	**Pn**	**13 53 00.8**	**-1.2**
MALT	**Malatya**	**1.37**	**250**	PN	**Pn**	**13 53 02.4**	**+0.2**
MALT	**Malatya**	**1.37**	**250**	*i*Pn	**Pn**	**13 53 02.4**	**+0.2**
KELT	**Kelkit**	**1.50**	**336**	*i*P	**Pn**	**13 53 03.8**	**-0.3**
KELT				*i*S	**Sb**	**13 53 24.7**	**+0.4**
KELT	**Kelkit**	**1.50**	**336**	*i*P	**Pn**	**13 53 03.8**	**-0.3**
KELT				*i*S	**Sb**	**13 53 24.7**	**+0.4**
EZM	**Erzurum**	**1.50**	**41**	PN	**Pn**	**13 53 03.9**	**-0.3**
ERZM	**Erzurum**	**1.51**	**42**	*i*P	**Pn**	**13 53 03.7**	**-0.6**
ERZM	**Erzurum**	**1.51**	**42**	*i*P	**Pn**	**13 53 03.7**	**-0.6**
MARD	**Mardin**	**1.57**	**159**	*i*P	**Pn**	**13 53 04.2**	**-0.8**
MARD				*i*S	**Sn**	**13 53 25.8**	**0.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.61**	**2**	PN	**Pn**	**13 53 05.0**	**-0.6**
BAYT	**Ayd¨–ntepe-Bay**	**1.61**	**2**	*i*Pn	**Pn**	**13 53 05.0**	**-0.6**
URFA	**Urfa**	**1.66**	**217**	PN	**Pn**	**13 53 05.3**	**-0.9**
URFA	**Urfa**	**1.66**	**217**	*i*Pn	**Pn**	**13 53 05.3**	**-0.9**
GUMT	**Gumushane**	**1.73**	**345**	PN	**Pn**	**13 53 07.2**	**0.0**
GUMT	**Gumushane**	**1.73**	**345**	*i*Pn	**Pn**	**13 53 07.3**	**0.0**
TATV	**Tatvan**	**1.75**	**98**	*i*P	**Pn**	**13 53 07.6**	**+0.1**
TATV				*i*S	**Sg**	**13 53 34.1**	**+1.8**
TATV	**Tatvan**	**1.75**	**98**	*i*P	**Pn**	**13 53 07.6**	**+0.1**
TATV				*i*S	**Sg**	**13 53 34.1**	**+1.8**
KBSD	**Kabsdagh**	**1.82**	**168**	*e*P	**Pn**	**13 53 07.7**	**-0.6**
KBSD				*e*S	**Sn**	**13 53 29.0**	**-2.8**
KBSD				AML	AML	13 53 42.9	
	comp=Z,593nm,0.7s						
HOMI	**Horasan**	**1.90**	**48**	*i*P	**Pn**	**13 53 10.4**	**+0.7**
HOMI				*i*S	**Sg**	**13 53 40.4**	**+3.1**
ATAB	**Bozova**	**1.92**	**227**	*i*P	**Pn**	**13 53 09.1**	**-0.5**
ATAB				*i*S	**Sb**	**13 53 36.4**	**+0.4**
ATAB	**Bozova**	**1.92**	**227**	*i*P	**Pn**	**13 53 09.1**	**-0.5**
ATAB				*i*S	**Sb**	**13 53 36.4**	**+0.4**
SUSE	**Susehri**	**2.03**	**315**	*i*P	**Pn**	**13 53 12.5**	**+1.2**
SUSE				*i*S	**Sg**	**13 53 41.2**	**-0.1**
SUSE	**Susehri**	**2.03**	**315**	*i*P	**Pn**	**13 53 12.5**	**+1.2**
SUSE				*i*S	**Sg**	**13 53 41.2**	**-0.1**
DARE	**Darende-Malaty**	**2.03**	**265**	PN	**Pn**	**13 53 11.2**	**-0.2**
DARE	**Darende-Malaty**	**2.03**	**265**	*i*Pn	**Pn**	**13 53 11.2**	**-0.2**
EATA	**Eleskirt**	**2.17**	**59**	*i*P	**Pb**	**13 53 15.4**	**-0.8**
EATA	**Eleskirt**	**2.17**	**59**	*i*P	**Pb**	**13 53 15.4**	**-0.8**
EATA				*i*S	**Sg**	**13 53 47.5**	**+1.7**
TUTA	**Tutak**	**2.23**	**73**	*i*P	**Pn**	**13 53 11.4**	**-2.7**
TUTA				*i*S	**Sn**	**13 53 43.4**	**+1.2**
TUTA	**Tutak**	**2.23**	**73**	*i*P	**Pn**	**13 53 11.4**	**-2.7**
TUTA				*i*S	**Sn**	**13 53 43.4**	**+1.2**
SIRN	**S¨–rnak**	**2.25**	**124**	*i*P	**Pb**	**13 53 16.5**	**-1.0**
SIRN	**S¨–rnak**	**2.25**	**124**	*i*P	**Pb**	**13 53 16.5**	**-1.0**
SIRN				*i*S	**Sg**	**13 53 47.7**	**-0.9**
SIRT	**Sirnak**	**2.27**	**124**	PN	**Pn**	**13 53 15.4**	**+0.8**
SIRT	**Sirnak**	**2.27**	**124**	*i*Pn	**Pn**	**13 53 15.4**	**+0.8**
SFNV	**Sufian**	**2.36**	**179**	*e*P	**Pn**	**13 53 16.5**	**+0.7**
SFNV				AML	AML	13 54 07.2	
	comp=Z,216nm,0.4s						
ESPY	**Espiye-Giresun**	**2.37**	**335**	PN	**Pn**	**13 53 16.4**	**+0.5**
ESPY	**Espiye-Giresun**	**2.37**	**335**	*i*Pn	**Pn**	**13 53 16.4**	**+0.5**
GEVA	**Gevas**	**2.39**	**100**	*i*P	**Pb**	**13 53 18.7**	**-1.2**
GEVA	**Gevas**	**2.39**	**100**	*i*P	**Pb**	**13 53 18.7**	**-1.2**
GEVA				*i*S	**Sg**	**13 53 54.8**	**+1.8**
AGRB	**Hanur-Agry**	**2.41**	**70**	PN	**Pn**	**13 53 16.0**	**-0.6**
AGRB	**Hanur-Agry**	**2.41**	**70**	*i*Pn	**Pn**	**13 53 16.0**	**-0.6**
GZT	**Gaziantep**	**2.44**	**235**	*i*P	**Pg**	**13 53 23.0**	**+0.1**
GZT				*i*S	**Sg**	**13 53 56.7**	**+2.3**
GRSN	**GIRESUNGRSN**	**2.55**	**328**	*i*P	**Pb**	**13 53 21.4**	**-1.1**
GRSN	**GIRESUNGRSN**	**2.55**	**328**	*i*P	**Pb**	**13 53 21.4**	**-1.1**
GRSN				*i*S	**Sb**	**13 53 56.2**	**+2.0**
VANB	**Van**	**2.61**	**93**	PN	**Pn**	**13 53 19.6**	**+0.4**
VANB	**Van**	**2.61**	**93**	*i*Pn	**Pn**	**13 53 19.6**	**+0.4**
DAGI	**Agillar**	**2.70**	**31**	*i*P	**Pn**	**13 53 20.6**	**+0.1**
MNKR	**ALMNKUR**	**2.91**	**193**	*e*P	**Pb**	**13 53 27.9**	**-0.7**
MNKR				AML	AML	13 54 12.7	
	comp=Z,593nm,0.3s						
ANDN	**Andirin**	**3.17**	**249**	*i*P	**Pg**	**13 53 35.2**	**-1.7**
ANDN				*i*S	**Sg**	**13 54 22.8**	**+4.8**

IDC 08 14:00:54.3±474.0, 38°.88N×8°.82E, h0km, Error ellipse: s-maj=177.0km s-min=65.1km az=173.0, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**3.09**	**172**	*i*		**14 20 00.0**	
	baz=353,slow=331,SNR=1.8						
I26DE	**FREYUNG INFRAS**	**10.58**	**18**	*i*		15 08 20.0	
	baz=203,slow=344,SNR=0.5						
I43RU	**DUBNA INFRASON**	**25.84**	**37**	*i*		16 47 27.5	
	baz=238,slow=325,SNR=0.3						

ISK ***08*** *14:17:34.9, 38°.74N×40°.15E, h2km, ML4.1*
DDA ***08*** *14:17:34.5, 38°.74N×40°.04E, h6km, ML4.4*
CSEM ***08*** *14:17:35.9±0.1, 38°.73N×40°.09E, h2km, ML4.1, Error ellipse: s-maj=3.9km s-min=3.5km az=106.0*
IDC ***08*** *14:17:36.1±0.7, 38°.66N×39°.86E, h0km, mb3.6/11, mb1 3.7/18, mb1mx3.6/54, mbtmp3.6/18, ML3.2/5, MS3.4/10, Ms1 3.4/10, ms1mx3.1/41, Error ellipse: s-maj=15.9km s-min=9.6km az=158.0*
NSSC ***08*** *14:17:36.5±1.3, 38°.89N×40°.12E, h73km±81km, ML4.0*
ISC 08 14:17:35.8±1.1, 38°.74N±0°.01×40°.07E±0°.02, h1km±8km, n131, σ1s43/168, mb3.6/11, MS3.3/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.36**	**67**	*e*Pg	**Pb**	**14 17 45.1**	**0.0**
BNGB	**Bing¨¶l**	**0.54**	**62**	*e*PG	**Pg**	**14 17 45.1**	**-1.1**
BNGB				*e*SG	**Sg**	**14 17 52.9**	**-0.4**
DYBB	**Diyarbakir**	**0.78**	**176**	*e*PG	**Pg**	**14 17 51.5**	**+0.7**
DYBB				*e*SG	**Sb**	**14 18 03.2**	**-0.1**
DIY	**Diyarbakir**	**0.85**	**171**	*e*Pg	**Pg**	**14 17 51.5**	**-0.6**
DIY				*e*Sg	**Sg**	**14 18 03.2**	**+0.2**
BNGL	**BINGOL**	**0.87**	**75**	*i*P	**Pg**	**14 17 51.5**	**-1.1**
BNGL				*i*S	**Sg**	**14 18 04.7**	**+0.8**
ERZN	**Erzincan**	**0.89**	**343**	*e*PG	**Pg**	**14 17 51.8**	**-1.1**
EUZM	**Uzumlu**	**1.01**	**344**	*i*P	**Pg**	**14 17 53.5**	**-1.8**
EUZM				*i*S	**Sg**	**14 18 08.1**	**-0.3**
EUZM	**Uzumlu**	**1.01**	**344**	*i*P	**Pg**	**14 17 53.5**	**-1.8**
EUZM				*i*S	**Sg**	**14 18 08.1**	**-0.3**
VRTB	**Varto-Mus**	**1.16**	**68**	*e*PN	**Pb**	**14 17 56.6**	**-2.2**
VRTB				*e*SN	**Sb**	**14 18 12.7**	**-1.7**
BTMT	**Batman**	**1.24**	**115**	*e*PN	**Pn**	**14 17 58.7**	**-1.6**
BTMT	**Batman**	**1.24**	**115**	*e*Pn	**Pn**	**14 17 58.7**	**-1.6**
BEST	**Besiri**	**1.27**	**131**	*i*P	**Pn**	**14 17 59.7**	**-1.0**
BEST				*i*S	**Sn**	**14 18 17.8**	**-0.6**
MAZI	**Mazidag**	**1.31**	**167**	*e*PN	**Pn**	**14 18 00.1**	**-1.2**
MAZI				*e*SN	**Sg**	**14 18 18.7**	**+0.9**
MAZI	**Mazidag**	**1.31**	**167**	*e*Pn	**Pn**	**14 18 00.1**	**-1.2**
MAZI				*e*Sn	**Sg**	**14 18 18.7**	**+0.9**
KOPT	**Kop Dagi**	**1.32**	**14**	*i*P	**Pn**	**14 17 59.3**	**-2.4**
KOPT				*i*S	**Sn**	**14 18 19.0**	**-1.1**
KOPT	**Kop Dagi**	**1.32**	**14**	*i*P	**Pn**	**14 17 59.3**	**-2.4**
KOPT				*i*S	**Sn**	**14 18 19.0**	**-1.1**
KEMA	**Kemaliye**	**1.34**	**294**	*i*P	**Pn**	**14 17 58.5**	**-3.2**
KEMA				*i*S	**Sn**	**14 18 19.1**	**-1.0**
KEMA	**Kemaliye**	**1.34**	**294**	*i*P	**Pn**	**14 17 58.5**	**-3.2**
KEMA				*i*S	**Sn**	**14 18 19.1**	**-1.0**
MALT	**Malatya**	**1.35**	**252**	*e*PN	**Pb**	**14 18 01.6**	**-0.4**
MALT	**Malatya**	**1.35**	**252**	*e*Pn	**Pb**	**14 18 01.6**	**-0.4**
ILIC	**ilic-Erzincan**	**1.37**	**302**	*e*PN	**Pg**	**14 18 02.5**	**+0.4**
ILIC	**ilic-Erzincan**	**1.37**	**302**	*e*Pn	**Pg**	**14 18 02.5**	**+0.4**
MARD	**Mardin**	**1.53**	**158**	*i*P	**Pn**	**14 18 03.2**	**-1.1**
MARD				*i*S	**Sb**	**14 18 24.7**	**-0.1**
EZM	**Erzurum**	**1.54**	**40**	*e*PN	**Pn**	**14 18 03.8**	**-0.9**
ERZM	**Erzurum**	**1.54**	**40**	*i*P	**Pn**	**14 18 03.5**	**-1.2**
ERZM	**Erzurum**	**1.54**	**40**	*i*P	**Pn**	**14 18 03.5**	**-1.2**
KELT	**Kelkit**	**1.54**	**336**	*i*P	**Pn**	**14 18 03.0**	**-1.7**
KELT				*i*S	**Sn**	**14 18 23.8**	**-1.7**
KELT	**Kelkit**	**1.54**	**336**	*i*P	**Pn**	**14 18 03.0**	**-1.7**
KELT				*i*S	**Sn**	**14 18 23.8**	**-1.7**
URFA	**Urfa**	**1.62**	**218**	*e*PN	**Pb**	**14 18 05.7**	**-0.9**
URFA	**Urfa**	**1.62**	**218**	*e*Pn	**Pb**	**14 18 05.7**	**-0.9**
EKAR	**Karacoban**	**1.64**	**71**	*i*P	**Pn**	**14 18 05.5**	**-0.5**
EKAR				*i*S	**Sg**	**14 18 31.6**	**+3.0**
EKAR	**Karacoban**	**1.64**	**71**	*i*P	**Pn**	**14 18 05.5**	**-0.5**
EKAR				*i*S	**Sg**	**14 18 31.6**	**+3.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.66**	**2**	*e*PN	**Pb**	**14 18 06.7**	**-0.6**
BAYT	**Ayd¨–ntepe-Bay**	**1.66**	**2**	*e*Pn	**Pb**	**14 18 06.7**	**-0.6**
TATV	**Tatvan**	**1.74**	**97**	*i*P	**Pn**	**14 18 06.7**	**-0.6**
TATV				*i*S	**Sb**	**14 18 31.1**	**+0.1**
TATV	**Tatvan**	**1.74**	**97**	*i*P	**Pn**	**14 18 06.7**	**-0.6**
TATV				*i*S	**Sb**	**14 18 31.1**	**+0.1**
KBSD	**Kabsdagh**	**1.77**	**168**	*e*P	**Pb**	**14 18 07.9**	**-1.2**
	SNR=102						
KBSD	

SLMH AML AML 14 19 22.6
comp=N,954nm,0.6s
SLMH AML AML 14 19 23.2
comp=E,1μm,0.6s
HAKT HAKKARI 3.10 111 *i* P **Pn 14 18 26.0 -0.1**
HAKT HAKKARI 3.10 111 *i* P **Pn 14 18 26.0 -0.1**
HAKT *i* S **Sg 14 19 18.6 +3.1**
ANDN Andirin 3.15 250 *i* P **Pb 14 18 33.8 +1.1**
ANDN *i* S **Sg 14 19 19.1 +2.0**
BNN Bunyan 3.30 273 *e*PN **Pn 14 18 30.7 +2.0**
BNN Bunyan 3.30 273 *e*Pn **Pn 14 18 30.7 +2.0**
JHLN Al Jahlan 3.32 204 *e*P **Pn 14 18 28.2 -0.7**
SNR=96
JHLN *e*S **Sn 14 19 07.4 -1.6**
comp=E,336nm,0.6s,SNR=96
JHLN Al Jahlan 3.32 204 *e*P **Pn 14 18 28.2 -0.7**
JHLN *e*S **Sn 14 19 07.4 -1.6**
JHLN AML AML 14 19 28.4
comp=Z,336nm,0.6s
EAK Akyaka 3.35 53 *i* P **Pg 14 18 38.9 -1.2**
EAK *i* S **Sg 14 19 29.2 +5.6**
AKH Akhalkalaki 3.75 43 *e*PN **Pn 14 18 35.5 +0.6**
AKH Akhalkalaki 3.75 43 P **Pg 14 18 45.6 -2.1**
AKH S **Sg 14 19 41.1 +4.9**
AKH Akhalkalaki 3.75 43 *e*Pn **Pn 14 18 35.5 +0.6**
GNI Garni 3.88 67 *e*PN **Pn 14 18 37.0 +0.2**
GNI Garni 3.88 67 Pn Pb 14 18 41.5 -3.7
comp=Z,1.9nm,0.3s,baz=313,slow=1.3,SNR=5.9
GNI Lg Lg 14 19 43.6
baz=221,slow=23,SNR=1.9
GNI LR LR 14 20 21.2
comp=Z,343nm,18.9s,baz=223,slow=41
GNI Garni 3.88 67 *e*Pn **Pn 14 18 37.0 +0.2**
ONI Oni 4.63 33 P **Pn 14 18 48.8 +1.9**
ONI S **Sg 14 20 01.7 -2.9**
DGRG David-gareji 4.89 55 P **Pn 14 18 51.8 +1.3**
DGRG David-gareji 4.89 55 P **Pn 14 18 51.8 +1.3**
BRTR Keskin Array B 5.09 283 Pn **Pn 14 18 52.1 -1.1**
comp=Z,0.5nm,0.3s,baz=118,slow=14,SNR=16
BRTR Lg Lg 14 20 17.7
baz=109,slow=29,SNR=1.8
KBZ Khabaz 5.43 22 Pn Pn 14 19 00.7 +2.9
comp=Z,0.2nm,0.3s,baz=205,slow=11,SNR=8.2
KBZ LR LR 14 21 22.8
comp=Z,230nm,20.5s,baz=234,slow=41
HWQ Hawqa 5.55 218 *e*P **Pn 14 19 00.9 +1.3**
HWQ Hawqa 5.55 218 *e*P **Pn 14 19 00.9 +1.3**
BHL Bhannes 5.99 218 *e*P **Pn 14 19 04.9 -0.8**
BHL Bhannes 5.99 218 *e*P **Pn 14 19 04.9 -0.8**
MMAI Mount Meron Ar 6.85 215 Pn **Pn 14 19 15.8 -1.6**
comp=Z,3.0nm,0.3s,baz=328,slow=11,SNR=4.1
MMAI Lg Lg 14 21 09.7
comp=Z,1.9nm,0.3s,baz=36,slow=25,SNR=3.1
MMAI LR LR 14 21 57.9
comp=Z,241nm,19.7s,baz=350,slow=39
ASF Jabal al Asfar 7.04 202 Pn **Pn 14 19 20.7 +0.6**
comp=Z,0.5nm,0.3s,baz=334,slow=20,SNR=4.8
ASF Lg Lg 14 21 22.5
comp=Z,1.1nm,0.3s,baz=9.7,slow=22,SNR=9.1
EIL Elat 9.98 207 LR LR 14 23 57.9
comp=Z,313nm,18.5s,baz=284,slow=39
IDI Anoyia 12.61 259 LR LR 14 26 36.8
comp=Z,112nm,20.9s,baz=104,slow=44
AKASG Malin Array Be 14.21 331 Pn **Pn 14 20 58.2 +0.1**
comp=Z,0.4nm,0.3s,baz=163,slow=3.7,SNR=2.8
OBN Obninsk 16.55 353 LR LR 14 29 51.7
comp=Z,164nm,18.4s,baz=287,slow=44
AKTO Aktyubinsk 17.28 42 P **P 14 21 42.0 +2.3**
comp=Z,0.1nm,0.3s,baz=188,slow=9.7,SNR=3.8
VRAC Vranov 19.84 310 LR LR 14 30 45.1
comp=Z,82nm,19.7s,baz=216,slow=40
GERES GERESS Array B 21.45 307 P **P 14 22 25.3 -0.2**
comp=Z,0.3nm,0.4s,baz=245,slow=38,SNR=2.4
GERES LR LR 14 31 56.6
comp=Z,75nm,18.5s,baz=88,slow=40
FINES FINESS Array B 24.33 344 P **P 14 22 56.8 +2.0**
comp=Z,1.9nm,0.5s,baz=151,slow=12,SNR=9.9
FINES LR LR 14 34 29.4
comp=Z,119nm,18.6s,baz=294,slow=42
BVAR Borovoye Array 25.25 46 P **P 14 23 06.5 +3.3**
comp=Z,0.2nm,0.5s,baz=242,slow=3.1,SNR=2.6
NOA NORSAR Array B 28.63 331 LR LR 14 36 33.3
comp=Z,82nm,20.1s,baz=75,slow=40
KURBB Kurchatov Arra 29.49 54 P **P 14 23 43.3 +2.1**
comp=Z,0.5nm,0.5s,baz=264,slow=9.4,SNR=5.0
MKAR Makanchi Array 31.71 61 P **P 14 24 02.8 +1.8**
comp=Z,0.6nm,0.8s,baz=278,slow=7.4,SNR=5.7
TORD Torodi Ar. Bea 42.43 244 P **P 14 25 30.9 -1.3**
comp=Z,1.2nm,0.9s,baz=49,slow=7.0,SNR=6.1
DBIC Dimbokro 51.54 244 P **P 14 26 41.9 -1.6**
comp=Z,4.6nm,0.9s,baz=73,slow=8.0,SNR=3.0
CMAR Chiang Mai Arr 54.56 94 P **P 14 27 05.8 0.0**
comp=Z,0.4nm,0.6s,baz=307,slow=3.3,SNR=3.4
SEY Seymchan 65.27 28 P P 14 28 21.9 +3.1
comp=Z,0.7nm,0.7s,baz=289,slow=9.8,SNR=4.1
ILAR Eielson Array 76.69 3 P P 14 29 30.7 +2.7
comp=Z,0.5nm,1.1s,baz=355,slow=4.0,SNR=3.6
YKA Yellowknife Ar 77.07 348 P **P 14 29 30.9 +0.7**
comp=Z,0.7nm,0.8s,baz=20,slow=6.1,SNR=10

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*CSEM **08** 14:26:57.8, 35.04N×28.00E, h10km, MD3.2*
*ATH **08** 14:26:57.8, 35.04N×28.00E, h10km±4km, MD3.2/4*
*ISCJB **08** 14:27:00.2±0.8, 34.95N±0.07×27.84E±0.05, h10km, mb3.3/2, Error ellipse: s-maj=10.6km s-min=6.0km az=177.4*
*IDC **08** 14:27:00.0±1.4, 34.95N×27.82E, h0km, mb3.5/2, mb1 3.4/5, mb1mx3.1/46, mbtmp3.4/5, ML3.2/3, Error ellipse: s-maj=38.9km s-min=18.2km az=162.0*
ISC 08 14:27:01.6±0.9, 35.00N±0.07×27.76E±0.05, h10km, n13, σ1§70/19, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.73**	**318**	*e*PB	**Pg**	**14 27 14.3**	**-1.4**
KARP				*e*SB	**Sg**	**14 27 25.9**	**+0.6**
KARP	**Karpathos**	**0.73**	**318**	*e*Pb	**Pg**	**14 27 14.3**	**-1.4**
KARP				*e*Sb	**Sg**	**14 27 25.9**	**+0.6**
ZKR	**Zakros**	**1.27**	**276**	*e*PG	**Pb**	**14 27 24.9**	**-0.7**
ZKR				*e*SB	**Sg**	**14 27 45.8**	**+3.4**
ZKR	**Zakros**	**1.27**	**276**	*e*Pg	**Pb**	**14 27 24.9**	**-0.7**
ZKR				*e*Sb	**Sg**	**14 27 45.8**	**+3.4**
NPS	**Neapolis**	**1.77**	**279**	*e*PN	**Pb**	**14 27 33.3**	**-1.0**
NPS	**Neapolis**	**1.77**	**279**	*e*Pn	**Pb**	**14 27 33.3**	**-1.0**
LAST	**Lasithi**	**1.87**	**275**	*e*PN	**Pb**	**14 27 34.7**	**-1.3**
LAST	**Lasithi**	**1.87**	**275**	*e*Pn	**Pb**	**14 27 34.7**	**-1.3**
IDI	**Anoyia**	**2.37**	**278**	Pn	**Pn**	**14 27 41.5**	**+1.0**
	2.8nm,0.3s,baz=95,slow=14,SNR=16						
IDI				Sn	**Sb**	**14 28 12.4**	**-1.2**
	2.7nm,0.3s,baz=302,slow=12,SNR=3.6						
BRTR	**Keskin Array B**	**6.64**	**43**	Pn	**Pn**	**14 28 40.1**	**+0.7**
	0.2nm,0.3s,baz=221,slow=14,SNR=5.7						
BRTR				Sn	**Sn**	**14 29 58.3**	**+3.0**
	0.2nm,0.3s,baz=212,slow=26,SNR=4.4						
MMAI	**Mount Meron Ar**	**6.65**	**105**	Pn	**Pn**	**14 28 39.1**	**-0.4**
	1.7nm,0.3s,baz=314,slow=12,SNR=3.9						
TORD	**Torodi Ar. Bea**	**32.06**	**234**	P	**P**	**14 33 28.5**	**-0.3**
	0.8nm,1.0s,baz=34,slow=7.8,SNR=4.6						
MKAR	**Makanchi Array**	**42.09**	**57**	P	**P**	**14 34 53.2**	**-0.4**
	0.3nm,0.5s,baz=268,slow=7.9,SNR=6.2						

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*IDC **08** 14:28:39.1±0.6, 17.84N×119.98E, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.9/38, mbtmp3.9/14, MS3.7/3, Ms1 3.8/3, ms1mx3.1/41, Error ellipse: s-maj=21.7km s-min=13.8km az=75.0*
*ISCJB **08** 14:28:42.9±0.4, 18.01N±0.04×119.80E±0.05, h32km, mb3.9/15, MS3.9/2, Error ellipse: s-maj=6.8km s-min=5.5km az=162.5*
*NEIC **08** 14:28:44.6±0.9, 17.89N×119.96E, h39km±10km, mb4.2/2, Error ellipse: s-maj=12.6km s-min=6.2km az=85.0*
ISC 08 14:28:44.0±0.5, 17.89N±0.05×119.91E±0.06, h32km, n33, σ1§15/36, mb4.0/15, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**0.53**	**87**	⇑*e*P	**Pn**	**14 28 55.2**	**0.0**
SIPP				*i* S	Sn	14 29 17.8	+15
PIP	**Pasuquin**	**0.80**	**57**	⇑*i*P	**Pn**	**14 28 57.9**	**-1.2**
PIP				*e*S	**Sb**	**14 29 10.3**	**+0.2**
BCPH	**Baguio City Da**	**1.64**	**157**	⇑*i*P	**Pb**	**14 29 13.0**	**-0.6**
BCPH				*i* S	**Sb**	**14 29 35.8**	**+1.8**
CVP	**Callao Caves**	**1.83**	**96**	⇓*i*P	**Pb**	**14 29 15.8**	**-1.1**
CVP				*i* S	**Sb**	**14 29 42.3**	**+2.8**
PCPH	**Palayan**	**2.58**	**154**	⇓*e*P	**Pb**	**14 29 26.8**	**-2.9**
TGY	**Tagaytay City**	**3.90**	**165**	Pn	**Pn**	**14 29 42.7**	**+1.0**
	13nm,0.3s,baz=329,slow=19,SNR=2.5						
TGY				Lg	Lg	14 30 39.6	
	21nm,0.3s,baz=54,slow=11,SNR=3.6						
YULB	**Yu-li**	**5.62**	**13**	*e*P	**Pn**	**14 30 03.9**	**-1.5**
	14nm,0.6s						
SSLB	**Suanglung**	**5.95**	**9**	Pn	**Pn**	**14 30 11.1**	**+1.2**
YHNB	**Yeheng**	**6.88**	**11**	*e*P	**Pn**	**14 30 22.7**	**0.0**
JOW	**Kunigami**	**11.79**	**40**	LR	LR	14 35 49.7	
	comp=Z,24nm,22.0s,baz=312,slow=36						
CMAR	**Chiang Mai Arr**	**19.93**	**275**	P	**P**	**14 33 14.1**	**+0.8**
	baz=93,slow=8.8,SNR=16						
CMAR				LR	LR	14 40 42.3	
	comp=Z,77nm,20.5s,baz=60,slow=36						
KSAR	**Wonju Array Be**	**20.70**	**18**	P	**P**	**14 33 21.7**	**+0.2**
KSRS	**Korea Array**	**20.72**	**18**	P	**P**	**14 33 21.7**	**0.0**
	5.3nm,0.8s,baz=202,slow=11,SNR=13						
JCJ	**Chichijima**	**22.50**	**62**	LR	LR	14 41 21.4	
	comp=Z,110nm,20.2s,baz=352,slow=34						
KAPI	**Kappang**	**22.76**	**180**	P	**P**	**14 33 44.7**	**+0.9**
MJAR	**Matsushiro Arr**	**24.62**	**37**	P	**P**	**14 34 01.9**	**+0.4**
	0.6nm,0.5s,baz=206,slow=11,SNR=3.3						
PSI	**Prapat**	**25.46**	**236**	P	**P**	**14 34 10.2**	**+0.8**
	2.4nm,0.4s,baz=137,slow=4.9,SNR=4.0						
BATI	**Baumata**	**28.17**	**172**	P	**P**	**14 34 31.3**	**-2.3**
	20nm,1.0s,baz=7.9,slow=3.9,SNR=5.9						
SONM	**Songino Array**	**31.85**	**343**	P	**P**	**14 35 05.3**	**-0.8**
	0.4nm,0.7s,baz=164,slow=10,SNR=4.5						
WRAB	**Tennant Creek**	**40.17**	**159**	*e*P	**P**	**14 36 16.7**	**-0.8**
	5.0nm,1.1s						
WRA	**Warramunga Arr**	**40.18**	**159**	P	**P**	**14 36 15.8**	**-1.7**
	3.1nm,0.9s,baz=340,slow=9.0,SNR=23						
WRA				PcP	**PcP**	**14 38 22.1**	**+0.6**
	0.9nm,0.7s,baz=343,slow=3.2,SNR=8.5						
MKAR	**Makanchi Array**	**42.26**	**321**	P	**P**	**14 36 34.8**	**+0.5**
	0.8nm,0.9s,baz=106,slow=8.9,SNR=6.1						
MKAR				PcP	**PcP**	**14 38 28.6**	**+0.7**
	0.5nm,0.7s,baz=108,slow=3.8,SNR=3.1						
AS31	**Alice Springs**	**43.51**	**161**	*e*P	**P**	**14 36 44.7**	**0.0**
ASAR	**Alice Springs**	**43.51**	**161**	P	**P**	**14 36 44.6**	**-0.1**
	2.0nm,0.4s,baz=340,slow=7.2,SNR=95						
ASAR				PcP	**PcP**	**14 38 33.3**	**+1.0**
	0.6nm,0.8s,baz=338,slow=2.5,SNR=4.9						
KURK	**Kurchatov**	**46.32**	**325**	*e*P	**P**	**14 37 06.7**	**-0.1**
	4.4nm,1.2s						
KURBB	**Kurchatov Arra**	**46.33**	**324**	P	**P**	**14 37 07.3**	**+0.5**
	1.5nm,0.6s,baz=121,slow=8.6,SNR=13						
KKAR	**Karatay Array**	**48.56**	**312**	*e*P	**P**	**14 37 24.4**	**0.0**
BVAR	**Borovoye Array**	**51.92**	**324**	P	**P**	**14 37 49.9**	**+0.3**
	0.5nm,0.5s,baz=122,slow=9.8,SNR=6.3						
GEYT	**Alibeck**	**57.12**	**304**	P	**P**	**14 38 28.8**	**+1.1**
	0.6nm,0.3s,baz=88,slow=7.4,SNR=2.8						
ILAR	**Eielson Array**	**75.34**	**26**	P	**P**	**14 40 24.1**	**+0.2**
	0.2nm,0.6s,baz=274,slow=4.8,SNR=4.9						
FINES	**FINESS Array B**	**76.28**	**330**	P	**P**	**14 40 28.4**	**-0.8**
	0.9nm,0.6s,baz=94,slow=6.3,SNR=4.3						
AKASG	**Malin Array Be**	**76.79**	**319**	LR	LR	15 17 13.6	
	comp=Z,235nm,19.1s,baz=175,slow=38						
YKA	**Yellowknife Ar**	**89.21**	**22**	P	**P**	**14 41 36.8**	**+0.4**
	1.0nm,0.6s,baz=312,slow=4.5,SNR=31						

DJA 08 14:34:51.2±1.4, 0.5±13.3×13.6E±., h10km, M3.7/6, MLv3.7/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**1.07**	**158**	P	Pg	14 35 08.1	-3.6
SRPI	**Serui, Papua**	**1.74**	**162**	P	Pb	14 35 23.0	-0.4
SRPI				S	Sn	14 35 39.6	-4.3
RKPI	**Ransiki, Papua**	**2.00**	**229**	P	Pn	14 35 24.5	-0.6
SMPI	**Sarmi**	**3.50**	**121**	P	Pn	14 35 45.4	-0.3
FAKI	**Fak Fak**	**4.38**	**232**	P	Pn	14 35 58.3	+0.4

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*IDC **08** 14:40:58.7±1.6, 34.58S×71.95W, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.8/29, mbtmp3.7/6, ML3.8/3, Error ellipse: s-maj=36.5km s-min=23.3km az=122.0*
*ISCJB **08** 14:40:59.6±2.1, 34.62S±0.03×71.85W±0.07, h14km±14km, mb3.6/2, Error ellipse: s-maj=10.2km s-min=4.6km az=19.5*
*GUC **08** 14:41:00.9±0.4, 34.63S×71.81W, h8km±2km, ML4.0*
ISC 08 14:41:00.7±4.3, 34.66S±0.05×71.75W±0.09, h15km±28km, n19, σ0§93/20, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.55**	**129**	⇑*i*P	**Pb**	**14 41 11.8**	**-0.2**
NICH				*i* S	**Sb**	**14 41 20.1**	**+0.5**
LNCH	**Linares**	**1.19**	**174**	⇓*i*P	**Pn**	**14 41 22.2**	**-0.7**
LNCH				*e*S	**Sb**	**14 41 38.3**	**0.0**
RCDM	**Rinconada Maip**	**1.40**	**34**	⇑*i*P	**Pn**	**14 41 25.0**	**-0.8**
RCDM				*i* S	**Sn**	**14 41 43.1**	**-1.0**
RCDM				IAML		14 41 51.6	
	comp=E,3μm,0.1s						
ANTU	**Antumapu**	**1.43**	**41**	IAML		14 41 46.5	
	comp=N,4μm,0.5s						
PCH	**Pirque**	**1.46**	**45**	⇑*i*P	**Pn**	**14 41 26.2**	**-0.4**
PCH				*i* S	**Sn**	**14 41 45.3**	**-0.2**
LACH	**Col Las Americ**	**1.57**	**40**	⇑*i*P	**Pn**	**14 41 27.6**	**-0.5**
LACH				*i* S	**Sn**	**14 41 48.4**	**+0.1**
CLCH	**Cerro Calan**	**1.61**	**39**	IAML		14 41 54.3	
	comp=E,3μm,0.4s						
CLCH				IAML		14 41 55.1	
	comp=N,3μm,0.8s						
COCH	**Cobquecura**	**1.70**	**210**	⇑*i*P	**Pn**	**14 41 29.7**	**-0.2**
COCH				*i* S	**Sn**	**14 41 51.1**	**-0.2**
PEL	**Peldehue**	**1.75**	**31**	⇑*i*P	**Pn**	**14 41 30.6**	**0.0**
PEL				*i* S	**Sn**	**14 41 53.3**	**+0.6**
PEL				IAML		14 42 01.2	
	comp=E,4μm,0.8s						
FCH	**Farellones**	**1.80**	**43**	IAML		14 41 51.3	
	comp=N,4μm,0.5s						
CFAA	**Coronel Fontan**	**4.24**	**45**	Pn	**Pn**	**14 42 07.5**	**+2.7**
	comp=N,0.9nm,0.3s,baz=222,slow=14,SNR=16						
CFAA				Lg	Lg	14 43 14.0	
	comp=N,1.0nm,0.3s,baz=306,slow=23,SNR=7.4						
PLCA	**Paso Flores**	**6.14**	**171**	Pn	**Pn**	**14 42 32.5**	**+1.6**
	comp=N,1.3nm,0.3s,baz=340,slow=12,SNR=23						
PLCA				Lg	Lg	14 44 10.4	
	comp=N,0.4nm,0.3s,baz=234,slow=15,SNR=4.1						
LPAZ	**La Paz**	**18.58**	**11**	P	**P**	**14 45 17.9**	**-0.1**
	comp=N,0.2nm,0.3s,baz=180,slow=7.0,SNR=4.7						
SIV	**San Ignacio**	**20.92**	**30**	P	**P**	**14 45 42.8**	**0.0**
	comp=N,2.7nm,0.7s,baz=224,slow=13,SNR=4.0						
TXAR	**Lajitas Array**	**70.43**	**311**	P	**P**	**14 52 14.0**	**-0.5**
	comp=N,0.3nm,0.6s,baz=160,slow=8.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**84.21**	**70**	P	**P**	**14 53 32.4**	**+0.5**
	comp=N,0.5nm,0.6s,baz=250,slow=3.4,SNR=3.7						
H11S2	**WAKE ISLAND Hyl**	**26.00**	**268**	T	T	17 18 24.0	
	baz=210,slow=74,SNR=3.7						
H11S1	**WAKE ISLAND Hyl**	**26.01**	**269**	T	T	17 18 26.1	
	baz=119,slow=74,SNR=4.5						
H11S3	**WAKE ISLAND Hyl**	**26.02**	**268**	T	T	17 18 22.5	

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*ISCJB **08** 14:44:23.8±0.6, 10.25S±0.07×161.05E±0.09, h100km, mb3.9/11, Error ellipse: s-maj=12.3km s-min=9.8km az=164.4*
*IDC **08** 14:44:23.6±1.1, 10.37S×161.15E, h86km±8km, mb3.8/9, mb1 3.9/10, mb1mx3.7/31, mbtmp4.1/10, Error ellipse: s-maj=26.9km s-min=19.4km az=116.0*
*NEIC **08** 14:44:23.5±0.6, 10.28S×161.21E, mb4.1/2, Error ellipse: s-maj=14.0km s-min=9.8km az=119.0*
ISC 08 14:44:25.0±0.7, 10.29S±0.09×161.0E±0.1, h100km, n20, σ1§70/25, mb3.9/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.36**	**309**	LR	LR	14 45 41.3	
	comp=Z,165nm,19.9s,baz=193,slow=52						
HNR	**Honiara**	**1.36**	**309**	*i* P	**Pn**	**14 44 46.9**	**-2.7**
HNR				*i* S	**Sn**	**14 45 06.5**	**-1.7**
DZM	**Mont Dzumac**	**12.81**	**157**	*e*P	**Pn**	**14 47 22.4**	**-1.1**
CTA	**Charters Tower**	**17.25**	**234**	P	**Pn**	**14 48 21.7**	**+2.0**
	0.3nm,0.3s,baz=59,slow=12,SNR=5.8						
CTAO	**Charters Tower**	**17.25**	**234**	P	**Pn**	**14 48 20.7**	**+0.9**
EIDS	**Eidsvold**	**17.72**	**211**	*e*P	**Pn**	**14 48 26.9**	**+1.5**
COEN	**Coen**	**17.83**	**256**	*e*P	**Pn**	**14 48 30.0**	**+3.2**
WRAB	**Tennant Creek**	**27.44**	**246**	*e*P	**P**	**14 50 02.2**	**+0.5**
	1.7nm,0.5s						
WB2	**Warramunga Arr**	**27.44**	**246**	*e*P	**P**	**14 50 02.3**	**+0.6**
WRA	**Warramunga Arr**	**27.45**	**246**	P	**P**	**14 50 02.8**	**+1.0**
	2.2nm,0.5s,baz=76,slow=9.1,SNR=29						
WRA				pP	**pP**	**14 50 20.9**	**-3.1**
	2.9nm,0.8s,baz=76,slow=9.3,SNR=7.6						
WRA				PcP	**PcP**	**14 53 18.1**	**0.0**
	0.4nm,0.8s,baz=76,slow=3.2,SNR=4.9						
AS31	**Alice Springs**	**29.08**	**239**	P	**P**	**14 50 17.4**	**+1.2**
ASAR	**Alice Springs**	**29.08**	**239**	P	**P**	**14 50 16.9**	**+0.6**
	0.8nm,0.7s,baz=61,slow=10,SNR=6.9						
ASAR				pP	**pP**	**14 50 35.3**	**-3.4**
	0.9nm,0.8s,baz=72,slow=9.4,SNR=5.0						
ASAR				PcP	**PcP**	**14 53 22.2**	**0.0**
	0.6nm,0.9s,baz=65,slow=3.3,SNR=3.8						
ASAJ	**Asahikawa**	**56.68**	**344**	P	**P**	**14 53 59.9**	**+1.9**
	5.2nm,0.8s,baz=243,slow=8.1,SNR=7.7						
CMAR	**Chiang Mai Arr**	**67.57**	**295**	P	**P**	**14 55 12.6**	**+1.2**
	0.4nm,0.5s,baz=149,slow=4.5,SNR=4.5						
SONM	**Songino Array**	**75.37**	**325**	P	**P**	**14 55 59.2**	**+1.5**
	1.0nm,0.7s,baz=143,slow=5.9,SNR=8.9						
BILL	**Bilibino**	**78.22**	**2**	*e*P	**P**	**14 56 13.1**	**0.0**
	8.4nm,1.5s						
QSPA	**South Pole Qui**	**79.71**	**180**	P	**P**	**14 56 21.6**	**0.0**
	5.2nm,0.8s,baz=345,slow=1.0,SNR=24						
QSPA				pP	**pP**	**14 56 45.9**	**-1.6**
	0.8nm,0.7s,baz=116,slow=3.2,SNR=0.9						
ILAR	**Eielson Array**	**84.33**	**20**	P	**P**	**14 56 45.0**	**-0.5**
	0.4nm,0.4s,baz=246,slow=5.0,SNR=10						
MKAR	**Makanchi Array**	**89.82**	**318**	P	**P**	**14 57 13.1**	**+0.6**
	0.3nm,0.5s,baz=92,slow=5.8,SNR=5.7						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**14 57 42.5**	**-0.1**
	0.3nm,0.7s,baz=258,slow=4.9,SNR=6.3						

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*ISCJB **08** 14:46:42.7±1.0, 34.05S±0.04×72.44W±0.08, h17km, mb3.9/2, Error ellipse: s-maj=9.6km s-min=6.3km az=11.5*
*IDC **08** 14:46:44.1±1.1, 34.09S×71.12W, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.8/26, mbtmp3.8/5, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/30, Error ellipse: s-maj=50.2km s-min=21.6km az=90.0*
*GUC **08** 14:46:44.3±0.4, 34.03S×72.26W, h25km±9km, ML3.7*
ISC 08 14:46:44.4±0.9, 34.03S±0.05×72.24W±0.07, h17km, n20, σ0§91/26, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**1.12**	**27**	*i* P	**Pn**	**14 47 04.8**	**-0.5**
IHA				*i* S	**Sg**	**14 47 20.7**	**0.0**
NICH	**Los Niches**	**1.28**	**140**	*i* P	**Pn**	**14 47 07.7**	**+0.2**
NICH				*i* S	**Sg**	**14 47 25.8**	**0.0**
RCDM	**Rinconada Maip**	**1.31**	**66**	⇑*i*P	**Pn**	**14 47 07.8**	**-0.2**
RCDM				*i* S	**Sb**	**14 47 25.9**	**+0.8**
ANTU	**Antumapu**	**1.42**	**71**	⇑*i*P	**Pb**	**14 47 10.4**	**0.0**
ANTU				*i* S	**Sg**	**14 47 29.8**	**-0.4**
ANTU				IAML		14 47 36.9	
	comp=N,2μm,0.8s						
SAN	**Santiago**	**1.44**	**67**	*i* P	**Pb**	**14 47 10.5**	**-0.2**
PCH	**Pirque**	**1.50**	**75**	*i* P	**Pb**	**14 47 11.6**	**-0.1**
CLCH	**Cerro Calan**	**1.56**	**66**	⇑*i*P	**Pb**	**14 47 12.5**	**-0.3**
CLCH				*i* S	**Sg**	**14 47 33.7**	**-0.8**
CLCH				IAML		14 47 50.2	
	comp=E,2μm,1.0s						
CLCH				IAML		14 47 52.7	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**1.57**	**56**	⇓*i*P	**Pb**	**14 47 12.9**	**-0.2**
PEL				*i* S	**Sg**	**14 47 34.1**	**-1.0**
PEL				IAML		14 47 40.9	
	comp=E,3μm,0.5s						
FCH	**Farellones**	**1.77**	**67**	IAML		14 47 20.2	
	comp=N,1μm,0.1s						
CFAA	**Coronel Fontan**	**4.15**	**55**	Pn	**Pn**	**14 47 49.8**	**+2.8**
	comp=N,0.5nm,0.3s,baz=239,slow=13,SNR=10						
CFAA				Lg	Lg	14 48 47.4	
	comp=N,0.7nm,0.3s,baz=57,slow=16,SNR=4.0						
PLCA	**Paso Flores**	**6.83**	**169**	Pn	**Pn**	**14 48 24.0**	**+0.3**
	comp=N,0.3nm,0.3s,baz=333,slow=9.5,SNR=7.0						
PLCA				Lg	Lg	14 50 17.9	
	comp=N,0.1nm,0.3s,baz=92,slow=23,SNR=2.8						
PLCA				LR	LR	14 51 23.5	
	comp=N,190nm,18.4s,baz=44,slow=42						
LPAZ	**La Paz**	**18.05**	**13**	P	**P**	**14 50 56.1**	**+0.6**
	comp=N,0.1nm,0.3s,baz=178,slow=8.2,SNR=8.5						
SIV	**San Ignacio**	**20.59**	**32**	P	**P**	**14 51 21.7**	**-0.9**
	comp=N,1.2nm,0.6s,baz=228,slow=10,SNR=6.0						
TXAR	**Lajitas Array**	**69.68**	**331**	P	P	14 58 00.3	+7.2
	comp=N,0.7nm,0.7s,baz=150,slow=8.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**84.38**	**70**	P	**P**	**14 59 15.8**	**-0.3**
	comp=N,1.1nm,0.6s,baz=262,slow=3.9,SNR=7.4						
BVAR	**Borovoye Array**	**147.42**	**43**	PKPbc	**PKPdf**	**15 06 25.3**	**+1.0**
	comp=N,1.1nm,0.6s,baz=288,slow=2.9,SNR=9.2						
AAK	**Ala-Archa**	**152.67**	**62**	PKPbc	**PKPbc**	**15 06 40.5**	**+0.4**
	comp=N,0.9nm,0.7s,baz=38,slow=1.2,SNR=4.5						
AAK				PKPab	**PKPab**	**15 06 48.6**	**-2.2**
	comp=N,0.7nm,0.5s,baz=279,slow=3.9,SNR=3.9						
KURBB	**Kurchatov Arra**	**153.01**	**43**	PKPbc	**PKPbc**	**15 06 40.8**	**+0.4**
	comp=N,0.9nm,0.6s,baz=306,slow=3.0,SNR=11						
ZALV	**Zalesovo Beam**	**154.34**	**32**	PKPbc

comp=E,7.8nm,1.1s
RKT Rikitea 54.34 266 *e*T T 16 00 28.1
comp=E,1.4nm,0.3s
MEH Mehetia 67.54 264 *e*T T 16 17 00.8
comp=E,22nm,0.2s
TXAR Lajitas Array 71.39 332 P **P 15 04 11.4 +0.4**
comp=E,0.7nm,0.8s,baz=141,slow=6.1,SNR=4.7
SWET Sewanee 72.26 349 *e*P **P 15 04 16.2 +0.2**
comp=E,7.2nm,0.7s
DBIC Dimbokro 76.92 72 P **P 15 04 43.5 -0.1**
comp=E,3.0nm,0.6s,baz=234,slow=5.7,SNR=3.6
BOSA Boshof 79.84 118 P **P 15 04 58.7 -1.0**
comp=E,4.0nm,0.9s,baz=249,slow=6.6,SNR=4.3
ECSD EROS Data Cent 82.57 343 *e*P **P 15 05 13.3 -0.2**
comp=E,4.8nm,0.8s
HWUT Hardware Ranch 85.21 332 P **P 15 05 27.6 +0.3**
comp=E,5.1nm,1.0s
NVAR Mina Array Bea 85.32 326 P **P 15 05 29.1 +1.2**
comp=E,0.5nm,0.7s,baz=157,slow=7.2,SNR=5.0
PDAR Pinedale Array 85.49 334 P **P 15 05 29.5 +0.8**
comp=E,0.3nm,0.6s,baz=134,slow=5.2,SNR=4.5
TORD Torodi Ar. Bea 85.99 71 P **P 15 05 31.4 -0.1**
comp=E,1.0nm,0.8s,baz=214,slow=5.0,SNR=7.7
ULM Lac du Bonnet 88.59 346 P **P 15 05 42.9 -0.4**
comp=E,1.0nm,0.6s,baz=207,slow=4.9,SNR=3.1
SCHQ Schefferville 91.08 4 LR LR 15 48 16.8
comp=E,96nm,18.2s,baz=56,slow=36
HYB Hyderabad 148.72 120 *i* PKP PKPdf 15 12 26.0 -8.8
BVAR Borovoye Array 149.74 45 PKPbc **PKPbc 15 12 40.3 +0.2**
comp=E,0.8nm,0.7s,baz=320,slow=4.1,SNR=4.4

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*IDC **08** 14:57:41.4±0.7, 35°.36S×73°.33W, h0km, mb4.1/8, mb1 4.2/11, mb1mx4.1/25, mbtmp4.0/11, ML3.7/3, MS3.7/2, Ms1 3.7/2, ms1mx3.1/31, Error ellipse: s-maj=23.6km s-min=15.9km az=95.0*
*GUC **08** 14:57:43.6±0.5, 35°.44S×73°.26W, h10km±4km, ML4.9*
*ISCJB **08** 14:57:44.3±0.5, 35°.48S±0°.04×73°.38W±0°.06, h33km, mb4.3/11, MS3.6/2, Error ellipse: s-maj=7.2km s-min=6.2km az=174.0*
*NEIC **08** 14:57:46.2±3.2, 35°.38S×73°.30W, h33km±21km, mb4.6/4, Error ellipse: s-maj=17.0km s-min=8.0km az=88.0*
ISC 08 14:57:46.3±0.6, 35°.51S±0°.05×73°.33W±0°.08, h35km, n36, σ1§**02**/41, **mb4.3**/11, **1C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.76**	**145**	*e*P	**Pn**	**14 57 58.3**	**-2.3**
COCH				*i* S	**Sn**	**14 58 09.8**	**-1.0**
LNCH	**Linares**	**1.45**	**104**⇑	*i*P	**Pn**	**14 58 08.4**	**-1.6**
LNCH				*i* S	**Sn**	**14 58 27.1**	**-0.7**
NICH	**Los Niches**	**1.79**	**74**	*e*P9	**Pn**	**14 58 14.8**	**0.0**
NICH				*i* S	**Sn**	**14 58 37.3**	**+0.9**
CLCH	**Cerro Calan**	**3.13**	**48**	*e*P	**Pn**	**14 58 33.0**	**-0.2**
CLCH				*e*S	**Sn**	**14 59 10.2**	**+0.8**
CLCH				AML	AML	14 59 31.0	
	comp=E,4μm,0.5s						
PEL	**Peldehue**	**3.22**	**44**	*e*P1	**Pn**	**14 58 33.7**	**-0.8**
PEL				AML	AML	14 59 35.0	
	comp=N,4μm,0.8s						
FCH	**Farellones**	**3.33**	**50**	*e*P1	**Pn**	**14 58 35.8**	**-0.4**
FCH				AML	AML	14 59 33.0	
	comp=E,1μm,0.6s						
PLCA	**Paso Flores**	**5.65**	**158**	Pn	**Pn**	**14 59 08.5**	**+0.6**
	comp=E,0.4nm,0.3s,baz=322,slow=12,SNR=4.8						
PLCA				Lg	Lg	15 00 47.1	
	comp=E,1.9nm,0.3s,baz=289,slow=20,SNR=5.4						
PLCA	**Paso Flores**	**5.65**	**158**	*e*P	**Pn**	**14 59 09.3**	**+1.3**
	comp=E,96nm,0.7s						
PLCA				Lg	Lg	15 00 47.1	
CFAA	**Coronel Fontan**	**5.77**	**49**	Pn	**Pn**	**14 59 08.1**	**-1.4**
	comp=E,0.9nm,0.3s,baz=197,slow=16,SNR=8.5						
CFAA				Lg	Lg	15 00 39.2	
	comp=E,0.6nm,0.3s,baz=39,slow=19,SNR=4.2						
TRQA	**Tornquist**	**9.45**	**109**	*e*P	**Pn**	**15 00 00.4**	**+0.4**
	comp=E,18nm,0.5s						
LPAZ	**La Paz**	**19.70**	**15**	P	**P**	**15 02 13.2**	**-0.1**
	comp=E,0.2nm,0.3s,baz=216,slow=6.1,SNR=8.9						
SIV	**San Ignacio**	**22.32**	**33**	P	**P**	**15 02 38.5**	**-2.5**
	comp=E,2.3nm,0.7s,baz=237,slow=13,SNR=7.0						
SIV				LR	LR	15 13 00.1	
	comp=E,403nm,18.5s,baz=235,slow=41						
ATAH	**Atahualpa**	**28.62**	**349**	LR	LR	15 13 51.8	
	comp=E,69nm,18.4s,baz=173,slow=34						
SDV	**Santo Domingo**	**44.23**	**4**	*e*P	**P**	**15 05 51.4**	**-1.2**
	comp=E,7.6nm,0.8s						
VNA3	**Neumayer Olymp**	**48.37**	**157**	P	**P**	**15 06 25.6**	**+1.4**
VNA2	**Neumayer--Watz**	**49.04**	**157**	P	**P**	**15 06 29.4**	**0.0**
	baz=292,slow=9.5						
SNAA	**Sanae**	**50.60**	**157**	P	**P**	**15 06 42.1**	**+0.8**
SNAA	**Sanae**	**50.60**	**157**	*e*P	**P**	**15 06 42.6**	**+1.3**
	comp=E,32nm,1.6s						
QSPA	**South Pole Qui**	**54.73**	**180**	P	**P**	**15 07 13.6**	**+1.6**
	comp=E,3.8nm,0.9s,baz=130,slow=8.0,SNR=12						
QSPA	**South Pole Qui**	**54.73**	**180**	*e*P	**P**	**15 07 13.4**	**+1.4**
TXAR	**Lajitas Array**	**70.55**	**332**	P	**P**	**15 08 58.6**	**+0.8**
	comp=E,0.7nm,0.5s,baz=156,slow=9.4,SNR=6.4						
DBIC	**Dimbokro**	**76.67**	**72**	P	**P**	**15 09 34.8**	**+0.8**
	comp=E,2.4nm,0.7s,baz=225,slow=4.3,SNR=3.1						
DBIC	**Dimbokro**	**76.67**	**72**	*e*P	**P**	**15 09 34.5**	**+0.5**
BOSA	**Boshof**	**80.30**	**118**	P	**P**	**15 09 54.4**	**+0.2**
	comp=E,2.3nm,0.9s,baz=284,slow=2.9,SNR=4.1						
BOSA	**Boshof**	**80.30**	**118**	*e*P	**P**	**15 09 54.4**	**+0.2**
	comp=E,3.7nm,0.8s						
ECSD	**EROS Data Cent**	**81.67**	**343**	*e*P	**P**	**15 10 00.3**	**-0.3**
	comp=E,6.7nm,1.0s						
NVAR	**Mina Array Bea**	**84.53**	**326**	P	**P**	**15 10 15.2**	**-0.6**
	comp=E,0.6nm,0.8s,baz=151,slow=3.4,SNR=4.9						
TORD	**Torodi Ar. Bea**	**85.72**	**71**	P	**P**	**15 10 22.1**	**+0.1**
	comp=E,0.9nm,0.8s,baz=261,slow=4.6,SNR=4.7						
ULM	**Lac du Bonnet**	**87.69**	**346**	P	**P**	**15 10 29.1**	**-1.7**
	comp=E,2.4nm,0.7s,baz=121,slow=3.8,SNR=4.9						
WRA	**Warramunga Arr**	**118.92**	**210**	PKP	**PKPdf**	**15 16 31.5**	**-0.2**
	comp=E,0.5nm,0.6s,baz=166,slow=1.6,SNR=12						
BVAR	**Borovoye Array**	**149.11**	**44**	PKPbc	**PKPbc**	**15 17 31.3**	**+0.9**
	comp=E,2.3nm,0.7s,baz=286,slow=3.0,SNR=15						
AAK	**Ala-Archa**	**154.14**	**64**	PKPbc	**PKPbc**	**15 17 42.8**	**+0.4**
	comp=E,1.0nm,0.7s,baz=225,slow=2.9,SNR=2.9						
AAK				PKPab	**PKPab**	**15 17 57.1**	**+0.8**
	comp=E,1.1nm,0.7s,baz=325,slow=1.8,SNR=4.2						
KURBB	**Kurchatov Arra**	**154.69**	**45**	PKPbc	**PKPbc**	**15 17 42.9**	**-0.3**
	comp=E,0.6nm,0.7s,baz=302,slow=2.9,SNR=8.2						
KURK	**Kurchatov**	**154.71**	**44**	PKPbc	**PKPbc**	**15 17 42.9**	**-0.3**
ZALV	**Zalesovo Beam**	**156.07**	**33**	PKP	**PKPdf**	**15 17 35.8**	**-0.6**
	comp=E,1.1nm,0.8s,baz=339,slow=3.8,SNR=4.7						
ZALV				PKPab	**PKPab**	**15 18 03.9**	**0.0**
	comp=E,1.8nm,0.6s,baz=306,slow=5.0,SNR=5.4						
MKAR	**Makanchi Array**	**158.55**	**51**	PKPab	**PKPab**	**15 18 14.2**	**-0.7**
	comp=E,0.6nm,0.9s,baz=279,slow=2.9,SNR=3.4						

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*ISCJB **08** 15:00:26.2±0.6, 35°.38S±0°.03×72°.90W±0°.06, h10km, mb4.1/7, Error ellipse: s-maj=7.3km s-min=4.6km az=18.3*
*GUC **08** 15:00:26.9±0.6, 35°.39S×72°.83W, h7km±4km, ML4.7*
*IDC **08** 15:00:27.2±0.8, 35°.30S×72°.70W, h0km, mb4.1/6, mb1 4.2/9, mb1mx4.1/27, mbtmp4.0/9, ML3.8/3, Error ellipse: s-maj=31.9km s-min=19.6km az=104.0*
*NEIC **08** 15:00:32.3±0.6, 35°.30S×72°.63W, h35km, mb4.4/3, Error ellipse: s-maj=17.5km s-min=10.7km az=89.0*
ISC 08 15:00:27.7±0.6, 35°.35S±0°.05×72°.75W±0°.06, h10km, n29, σ1§**49**/37, **mb4.3**/7, **2C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.79**	**182**	*e*P	**Pg**	**15 00 41.6**	**-1.3**
COCH				*i* S	**Sg**	**15 00 52.1**	**-1.0**
LNCH	**Linares**	**1.06**	**118**⇑	*i*P	**Pg**	**15 00 47.1**	**-1.1**
LNCH				*i* S	**Sn**	**15 01 02.3**	**-1.2**
NICH	**Los Niches**	**1.29**	**75**⇓	*i*P	**Pb**	**15 00 51.0**	**-1.1**
NICH				*i* S	**Sg**	**15 01 10.3**	**+1.0**
ANTU	**Antumapu**	**2.49**	**45**	*e*P	**Pb**	**15 01 10.4**	**-2.1**
ANTU				*e*S	**Sb**	**15 01 43.0**	**-0.4**
ANTU				AML	AML	15 01 46.9	
	comp=E,3μm,0.6s						
CLCH	**Cerro Calan**	**2.67**	**44**	*i* S	**Sb**	**15 01 47.4**	**-1.1**
CLCH				AML	AML	15 02 03.0	
	comp=E,3μm,0.8s						
PEL	**Peldehue**	**2.78**	**39**	*e*P	Pb	15 01 13.8	-3.8
PEL				*e*S	**Sb**	**15 01 49.7**	**-2.0**
PEL				AML	AML	15 01 56.2	
	comp=E,3μm,0.6s						
CFAA	**Coronel Fontan**	**5.30**	**47**	Pn	**Pn**	**15 01 46.5**	**-0.5**
	comp=E,1.0nm,0.3s,baz=203,slow=12,SNR=6.0						
CFAA				Sn	**Sn**	**15 02 49.5**	**+1.2**
	comp=E,0.5nm,0.3s,baz=248,slow=16,SNR=2.3						
CFAA				Lg	Lg	15 03 17.5	
	comp=E,0.8nm,0.3s,baz=123,slow=22,SNR=4.3						
PLCA	**Paso Flores**	**5.65**	**163**	Pn	**Pn**	**15 01 52.8**	**+1.0**
	comp=E,0.8nm,0.3s,baz=328,slow=10,SNR=3.4						
PLCA				Lg	Lg	15 03 23.2	
	comp=E,2.3nm,0.3s,baz=269,slow=23,SNR=5.2						
TRQA	**Tornquist**	**9.06**	**111**	P	**Pn**	**15 02 41.0**	**+2.3**
	comp=E,71nm,1.2s						
LPAZ	**La Paz**	**19.42**	**13**	P	**Pn**	**15 04 56.3**	**+0.3**
	comp=E,0.3nm,0.3s,baz=196,slow=6.5,SNR=4.7						
SIV	**San Ignacio**	**21.93**	**31**	P	**P**	**15 05 20.4**	**-0.9**
	comp=E,8.3nm,0.8s,baz=233,slow=10,SNR=7.3						
SAML	**Samuel**	**27.69**	**21**	P	**P**	**15 06 15.8**	**-0.3**
SNAA	**Sanae**	**50.57**	**157**	*e*P	**P**	**15 09 26.0**	**-0.1**
	comp=E,2.7nm,0.7s						
QSPA	**South Pole Qui**	**54.89**	**180**	P	**P**	**15 09 58.5**	**+0.2**
	comp=E,1.8nm,0.8s,baz=131,slow=4.4,SNR=5.2						
QSPA	**South Pole Qui**	**54.89**	**180**	*e*P	**P**	**15 09 58.5**	**+0.2**
	comp=E,3.1nm,0.8s						
TXAR	**Lajitas Array**	**70.63**	**332**	P	**P**	**15 11 43.4**	**0.0**
	comp=E,0.4nm,0.4s,baz=159,slow=8.5,SNR=4.3						
DBIC	**Dimbokro**	**76.17**	**71**	P	**P**	**15 12 16.4**	**+0.1**
	comp=E,3.7nm,0.7s,baz=186,slow=17,SNR=3.2						
DBIC	**Dimbokro**	**76.17**	**71**	P	**P**	**15 12 15.9**	**-0.4**
	comp=E,5.8nm,0.9s						
BOSA	**Boshof**	**79.97**	**118**	*e*P	**P**	**15 12 39.0**	**+1.5**
PDAR	**Pinedale Array**	**84.70**	**334**	P	**P**	**15 13 02.5**	**+0.7**
	comp=E,0.4nm,0.6s,baz=100,slow=5.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**85.22**	**70**	P	**P**	**15 13 05.2**	**+0.4**
	comp=E,1.9nm,1.0s,baz=274,slow=6.0,SNR=4.7						
PKST	**T¨'s**	**115.42**	**49**⇑	*e*	**PKKPbc**	**15 29 40.5**	**-3.1**
PKST				*e*PP	**PKKPbc**	**15 29 44.1**	**+0.5**
PKSG		**115.70**	**49**⇓	*e*PKKPbc	PKKPbc	15 29 41.1	-1.5
PKSG				*e*PKKPbc	**PKKPab**	**15 29 43.8**	**-1.4**
WRA	**Warramunga Arr**	**119.30**	**209**	PKP	**PKPdf**	**15 19 20.9**	**+3.1**
	comp=E,2.4nm,0.3s,baz=160,slow=1.7,SNR=63						
SEY	**Seymchan**	**140.89**	**329**	PKP	**PKPdf**	**15 19 56.6**	**-0.4**
	comp=E,0.6nm,0.5s,baz=76,slow=24,SNR=4.8						
BVAR	**Borovoye Array**	**148.66**	**44**	PKPbc	**PKPab**	**15 20 15.3**	**-2.9**
	comp=E,0.5nm,0.4s,baz=274,slow=1.9,SNR=6.1						
KURBB	**Kurchatov Arra**	**154.24**	**45**	PKPbc	**PKPbc**	**15 20 29.1**	**+1.5**
	comp=E,0.8nm,0.3s,baz=306,slow=3.1,SNR=2.5						
KURBB				PKPab	**PKPab**	**15 20 43.5**	**+2.1**
	comp=E,0.8nm,0.4s,baz=300,slow=3.7,SNR=2.5						
KURK	**Kurchatov**	**154.25**	**45**	PKPbc	**PKPbc**	**15 20 29.1**	**+1.5**
KURK				PKPab	**PKPab**	**15 20 43.5**	**+2.0**
ZALV	**Zalesovo Beam**	**155.67**	**33**	PKPab	**PKPab**	**15 20 49.1**	**+1.7**
	comp=E,0.9nm,0.5s,baz=297,slow=4.5,SNR=4.0						

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*DSN **08** 15:04:49.9±5.0, 38°.66N×39°.37E, h10km, mb4.6/6, ML5.4/1, Ms4.7/5, Error ellipse: s-maj=5.1km s-min=1.7km az=264.0*
*BJI **08** 15:04:50.8, 38°.50N×40°.10E, h10km, mB5.1/18, mb4.3/22, Ms4.7/14, Ms7 4.3/10*
*ISK **08** 15:04:51.4, 38°.78N×40°.03E, h5km, ML4.7*
*DDA **08** 15:04:51.4, 38°.74N×40°.03E, h16km, ML4.8*
*MOS **08** 15:04:52.6±1.7, 38°.66N×40°.05E, h10km, mb4.6/34, Error ellipse: s-maj=5.9km s-min=3.9km az=99.2*
*IDC **08** 15:04:52.4±0.5, 38°.69N×40°.08E, h0km, mb4.1/24, mb1 4.1/36, mb1mx4.1/63, mbtmp4.0/36, ML3.8/11, MS4.0/32, Ms1 4.0/32, ms1mx3.9/48, Error ellipse: s-maj=10.4km s-min=6.8km az=163.0*
*CSEM **08** 15:04:53.2±0.1, 38°.70N×40°.10E, h2km, mb4.7/33, Ms4.2, Mw4.9, Error ellipse: s-maj=3.8km s-min=3.5km az=10.0*
*ISCJB **08** 15:04:53.6±0.1, 38°.69N±0°.02×40°.08E±0°.02, h15km, mb4.5/79, MS4.0/25, Error ellipse: s-maj=2.2km s-min=2.1km az=21.2*
*NEIC **08** 15:04:54.0±0.3, 38°.68N×40°.05E, h10km, mb4.6/24, ML4.7(ISK), ML4.8(DDA), Error ellipse: s-maj=7.0km s-min=5.1km az=160.0*
*GCMT **08** 15:04:54.2±0.4, 38°.67N×39°.96E, h30km±1km, MW4.9/67, Moment Tensor Solution. s14,c15; s67,c87; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M*rr*0.46±.19; M*θθ*-2.88±.14; M*φφ*2.42±.13; M*rθ*1.07±.18; M*θφ*0.19±.10; M*φr*0.07±.17; Best double couple: M*o*2.81600×10¹⁶ NP1:*φs*318.00000°, δ81.00000°, λ-14.00000°. NP2: *φs*318.00000°, δ76.00000°, λ-171.00000°. Principal axes: T 2.4330, Plg3.0000°, Azm273.0000°; N 0.7610, Plg73.0000°, Azm14.0000°; P -3.1980, Plg16.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **08** 15:04:59.8, 38°.11N×39°.28E, h33km, mb4.8, MS3.8, Turkey*
*ISN **08** 15:05:03.6±1.8, 38°.41N×40°.57E, h0km±6km, ML4.2*
*NSSC **08** 15:05:04.1±1.6, 37°.85N×39°.75E, h1km±33km, ML4.2*
ISC 08 15:04:54.6±0.4, 38°.72N±0°.02×40°.07E±0°.02, h11km±2km, **h10**km**:pP-P, n445,** σ1§**76**/488, **mb4.6**/80, **MS4.0**/27, **25C-17D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.36**	**64**	*i* Pg	**Pb**	**15 05 03.0**	**-0.2**
BNGB	**Bing¶ll**	**0.55**	**60**	PG	**Pg**	**15 05 03.0**	**-2.3**
DYBB	**Diyarbakir**	**0.77**	**176**	PG	**Pg**	**15 05 08.3**	**-1.1**
DIY	**Diyarbakir**	**0.83**	**171**	*i* Pg	**Pg**	**15 05 08.3**	**-2.4**
BNGL	**BiÑGOL**	**0.88**	**74**	*i* P	Pg	15 05 08.2	-3.3
BNGL				*i* S	**Sg**	**15 05 22.3**	**-0.6**
ERZN	**Erzincan**	**0.91**	**343**	*e*PG	Pg	15 05 08.2	-3.9
ERZN				*e*SG	**Sg**	**15 05 20.9**	**-3.1**
EUZM	**Uzumlu**	**1.03**	**344**	*i* P	Pg	15 05 10.4	-4.0
EUZM				*i* S	**Sg**	**15 05 24.6**	**-3.2**
EUZM	**Uzumlu**	**1.03**	**344**	*i* P	Pg	15 05 10.4	-4.0
EUZM				*i* S	**Sg**	**15 05 24.6**	**-3.2**
VRTB	**Varto-Mus**	**1.17**	**67**	*e*PN	**Pb**	**15 05 14.3**	**-2.6**
VRTB				*e*SN	**Sb**	**15 05 31.6**	**-0.6**
VRTB	**Varto-Mus**	**1.17**	**67**	*e*Pn	**Pb**	**15 05 14.3**	**-2.6**
VRTB				*e*Sn	**Sb**	**15 05 31.6**	**-0.6**
EZC	**Erzincan**	**1.17**	**332**	*e*Pg	Pb	15 05 08.2	-8.8
EZC				*e*Sg	Sb	15 05 20.9	-12
BTMT	**Batman**	**1.23**	**115**	PN	**Pn**	**15 05 16.4**	**-1.5**
BTMT	**Batman**	**1.23**	**115**	*i* Pn	**Pn**	**15 05 16.4**	**-1.5**
BEST	**Besiri**	**1.25**	**131**	*i* P	**Pn**	**15 05 16.7**	**-1.6**
BEST	**Besiri**	**1.25**	**131**	*i* P	**Pn**	**15 05 16.5**	**-1.7**
BEST				*i* S	**Sn**	**15 05 35.4**	**+0.2**
BEST	**Besiri**	**1.25**	**131**	*i* P	**Pn**	**15 05 16.7**	**-1.6**
MAZI	**Mazidag**	**1.29**	**167**	*e*PN	**Pn**	**15 05 17.8**	**-1.0**
MAZI	**Mazidag**	**1.29**	**167**	*e*Pn	**Pn**	**15 05 17.8**	**-1.0**
KOPT	**Kop Dagi**	**1.34**	**14**	*i* P	Pn	15 05 16.3	-3.3
KOPT				*i* S	**Sb**	**15 05 36.7**	**-0.5**
KOPT	**Kop Dagi**	**1.34**	**14**	*i* P	Pn	15 05 16.3	-3.3
KOPT				*i* S	**Sb**	**15 05 36.7**	**-0.5**
KEMA	**Kemaliye**	**1.34**	**295**	*i* P	Pn	15 05 15.3	-4.2
KEMA				*i* S	**Sb**	**15 05 35.6**	**-1.6**
KEMA	**Kemaliye**	**1.34**	**295**	*i* P	Pn	15 05 15.3	-4.2
KEMA				*i* S	**Sb**	**15 05 35.6**	**-1.6**
MALT	**Malatya**	**1.35**	**253**	PN	**Pn**	**15 05 17.1**	**-2.5**
MALT	**Malatya**	**1.35**	**253**	*i* Pn	**Pn**	**15 05 17.1**	**-2.5**
MALT	**Malatya**	**1.35**	**253**	Pn	**Pn**	**15 05 17.1**	**-2.5**
ILIC	**ilic-Erzincan**	**1.38**	**302**	*e*PN	**Pn**	**15 05 17.9**	**-2.1**
ILIC	**ilic-Erzincan**	**1.38**	**302**	*e*Pn	**Pn**	**15 05 17.9**	**-2.1**
MARD	**Mardin**	**1.51**	**158**	*i* P	**Pn**	**15 05 19.9**	**-1.9**
MARD				*i* S	**Sb**	**15 05 41.9**	**-0.1**
EZM	**Erzurum**	**1.55**	**40**	PN	**Pn**	**15 05 20.3**	**-2.2**
EZM	**Erzurum**	**1.55**	**40**	Pn	**Pn**	**15 05 20.3**	**-2.2**
ERZM	**Erzurum**	**1.55**	**40**	*i* P	**Pn**	**15 05 19.9**	**-2.6**
ERZM	**Erzurum**	**1.55**	**40**	*i* P	**Pn**	**15 05 19.9**	**-2.6**
KELT	**Kelkit**	**1.56**	**336**	*i* P	**Pn**	**15 05 19.9**	**-2.7**
KELT				*i* S	**Sn**	**15 05 40.8**	**-2.1**
KELT	**Kelkit**	**1.56**	**336**	*i* P	**Pn**	**15 05 19.9**	**-2.7**
KELT				*i* S	**Sn**	**15 05 40.8**	**-2.1**
URFA	**Urfa**	**1.61**	**218**	PN	**Pn**	**15 05 23.1**	**0.0**
URFA	**Urfa**	**1.61**	**218**	*i* Pn	**Pn**	**15 05 23.1**	**0.0**
URFA	**Urfa**	**1.61**	**218**	Pn	**Pn**	**15 05 23.1**	**0.0**
EKAR	**Karacoban**	**1.64**	**70**	*i* P	**Pn**	**15 05 22.1**	**-1.6**
EKAR				*i* S	**Sg**	**15 05 49.2**	**+1.7**
EKAR	**Karacoban**	**1.64**	**70**	*i* P	**Pn**	**15 05 22.1**	**-1.6**
EKAR				*i* S	**Sg**	**15 05 49.2**	**+1.7**
BAYT	**Ayd¨–ntepe-Bay**	**1.67**	**2**	PN	**Pn**	**15 05 21.8**	**-2.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.67**	**2**	*i* Pn	**Pn**	**15 05 21.8**	**-2.3**
TATV	**Tatvan**	**1.73**	**96**	*i* P	**Pn**	**15 05 23.3**	**-1.6**
TATV				*i* S	**Sb**	**15 05 47.9**	**-0.6**
TATV	**Tatvan**	**1.73**	**96**	*i* P	**Pn**	**15 05 23.3**	**-1.6**
TATV				*i* S	**Sb**	**15 05 47.9**	**-0.6**
KBSD	**Kabsdagh**	**1.76**	**168**	*e*P	**Pn**	**15 05 25.2**	**+0.1**
	SNR=67						
KBSD	**Kabsdagh**	**1.76**	**168**	*e*P	**Pn**	**15 05 25.2**	**+0.1**
KBSD				*e*S	Sn	15 05 38.8	-8.7
KBSD				AML	AML	15 05 59.0	
	comp=Z,10μm,0.6s						
GUMT	**Gumushane**	**1.80**	**345**	PN	**Pn**	**15 05 24.2**	**-1.5**
GUMT	**Gumushane**	**1.80**	**345**	*i* Pn	**Pn**	**15 05 24.2**	**-1.5**
ATAB	**Bozova**	**1.88**	**229**	*i* P	**Pn**	**15 05 25.4**	**-1.3**
ATAB				*i* S	**Sb**	**15 05 52.4**	**-0.1**
ATAB	**Bozova**	**1.88**	**229**	*i* P	**Pn**	**15 05 25.4**	**-1.3**
ATAB				*i* S	**Sb**	**15 05 52.4**	**-0.1**
HOMI	**Horasan**	**1.94**	**46**	*i* P	**Pn**	**15 05 25.7**	**-2.2**
HOMI				*i* S	**Sg**	**15 05 56.9**	**-0.2**
DARE	**Darende-Malaty**	**2.03**	**267**	PN	**Pn**	**15 05 27.6**	**-1.3**
DARE	**Darende-Malaty**	**2.03**	**267**	*i* Pn	**Pn**	**15 05 27.6**	**-1.3**
SUSE	**Susehri**	**2.07**	**316**	*i* P	**Pn**	**15 05 28.7**	**-0.8**
SUSE				*i* S	**Sb**	**15 05 58.6**	**+0.3**
SUSE	**Susehri**	**2.07**	**316**	*i* P	**Pn**	**15 05 28.7**	**-0.8**
SUSE				*i* S	**Sb**	**15 05 58.6**	**+0.3**
EATA	**Eleskirt**	**2.20**	**58**	*i* P	**Pn**	**15 05 31.9**	**+0.5**
EATA				*i* S	**Sb**	**15 06 01.6**	**-0.4**
EATA	**Eleskirt**	**2.20**	**58**	*i* P	**Pn**	**15 05 31.9**	**+0.5**
EATA				*i* S	**Sb**	**15 06 01.6**	**-0.4**
EATA				*i* S	**Sg**	**15 06 05.8**	**+0.5**
SIRN	**S¨–rnak**	**2.21**	**123**	*i* P	**Pn**	**15 05 29.6**	**-1.9**
SIRN				*i* S	**Sn**	**15 06 00.3**	**+1.4**
SIRN	**S¨–rnak**	**2.21**	**123**	*i* P	**Pn**	**15 05 29.6**	**-1.9**
SIRN				*i* S	**Sn**	**15 06 00.3**	**+1.4**
SIRT	**Sirnak**	**2.23**	**122**	PN	**Pn**	**15 05 32.2**	**+0.6**
SIRT	**Sirnak**	**2.23**	**122**	*i* Pn	**Pn**	**15 05 32.2**	**+0.6**
MACK	**Trabzon**	**2.23**	**354**	*i* P	**Pn**	**15 05 30.2**	**-1.4**
MACK				*i* S	**Sb**	**15 06 01.5**	**-1.2**
MACK	**Trabzon**	**2.23**	**354**	*i* P	**Pn**	**15 05 30.2**	**-1.4**
MACK				*i* S	**Sb**	**15 06 01.5**	**-1.2**
TUTA	**Tutak**	**2.24**	**71**	*i* P	Pn	15 05 26.9	-5.0
TUTA				*i* S	**Sn**	**15 05 58.9**	**-0.9**
TUTA	**Tutak**	**2.24**	**71**	*i* P	Pn	15 05 26.9	-5.0
TUTA				*i* S	**Sn**	**15 05 58.9**	**-0.9**
KTUT	**Trabzon**	**2.28**	**354**	PN	**Pn**	**15 05 31.2**	**-1.0**
KTUT	**Trabzon**	**2.28**	**354**	*i* Pn	**Pn**	**15 05 31.2**	**-1.0**
SFNV	**Sufian**	**2.30**	**179**	*e*P	**Pn**	**15 05 31.8**	**-0.8**
	SNR=57						
SFNV	**Sufian**	**2.30**	**179**	*e*P	**Pn**	**15 05 31.8**	**-0.8**
SFNV				*e*S	Sn	15 05 50.4	-11
SFNV				AML	AML	15 06 24.9	
	comp=Z,3μm,0.5s						
GEVA	**Gevas**	**2.38**	**99**	*i* P	**Pn**	**15 05 32.8**	**-1.0**
GEVA				*i* S	**Sb**	**15 06 05.6**	**-1.4**
GEVA	**Gevas**	**2.38**	**99**	*i* P	**Pn**	**15 05 32.8**	**-1.0**
GEVA				*i* S	**Sb**	**15 06 05.6**	**-1.4**
ESPY	**Espiye-Giresun**	**2.43**	**335**	PN	**Pn**	**15 05 33.3**	**-1.0**
ESPY	**Espiye-Giresun**	**2.43**	**335**	*i* Pn	**Pn**	**15 05 33.3**	**-1.0**
AGRB	**Hanur-Agry**	**2.43**	**68**	PN	**Pn**	**15 05 34.0**	**-0.5**
AGRB	**Hanur-Agry**	**2.43**	**68**	*i* Pn	**Pn**	**15 05 34.0**	**-0.5**
DDEM	**Demirkent**	**2.53**	**30**	*i* P	**Pn**	**15 05 34.1**	**-1.7**
DDEM				*i* S	**Sb**	**15 06 10.3**	**-0.9**
DDEM	**Demirkent**	**2.53**	**30**	*i* P	**Pn**	**15 05 34.1**	**-1.7**
DDEM				*i* S	**Sb**	**15 06 10.3**	**-0.9**
VANB	**Van**	**2.60**	**92**	PN	**Pn**	**15 05 37.4**

baz=200,slow=22,SNR=2.1
HWQ Hawqa 5.54 218 *e*P **Pn 15 06 16.9 -0.3**
HWQ Hawqa 5.54 218 *e*P **Pn 15 06 16.9 -0.3**
KIV Kislovodsk 5.59 20 *e*P **Pn 15 06 17.7 -0.1**
KIV *e*S **Sn 15 07 23.4 +1.3**
KIV pmax pmax
comp=Z,33nm,0.9s
KIV MLR MLR
comp=Z,166nm,7.0s
KIV Kislovodsk 5.59 20 *e*P **Pn 15 06 17.7 -0.1**
comp=Z,33nm,0.9s
KIV *e*S **Sn 15 07 23.4 +1.3**
comp=Z,166nm,7.0s
KIV Kislovodsk 5.59 20 ⇓P **Pn 15 06 16.6 -1.2**
RTB Rutbah 5.68 178 *e*Sn **Sn 15 07 24.0 -0.3**
SNR=39
ANTO Ankara 5.76 284 *e*P **Pn 15 06 21.0 +0.8**
ANTO pmax pmax
comp=Z,162nm,0.9s
ANTO Ankara 5.76 284 *e*P **Pn 15 06 21.0 +0.8**
comp=Z,162nm,0.9s
ANTO Ankara 5.76 284 *e*Pn **Pn 15 06 21.0 +0.8**
comp=Z,162nm,0.9s
BHL Bhannes 5.98 218 *e*P **Pn 15 06 23.0 -0.2**
BHL Bhannes 5.98 218 *e*P **Pn 15 06 23.0 -0.2**
RCY Rachaya 6.24 215 *e*P **Pn 15 06 26.8 0.0**
ANN Anapa 6.39 343 *e*P **Pn 15 06 29.5 +0.9**
ANN *e*S **Sn 15 07 45.7 +4.2**
ANN pmax pmax
comp=Z,28nm,0.9s
ANN MLR MLR
comp=Z,969nm,9.0s
ANN MLR MLR
comp=N,726nm,9.0s
BHD Baghdad 6.46 146 *e*PN Pn 15 06 35.3 +5.6
BHD *e*SN **Sn 15 07 39.4 -4.1**
CSS Prodhromos 6.58 237 *e*Pn **Pn 15 06 29.1 -2.2**
CSS Prodhromos 6.58 237 *e*Pn **Pn 15 06 29.1 -2.2**
GOF Gofitskoye 6.71 18 *e*P **Pn 15 06 34.6 +1.5**
GOF Gofitskoye 6.71 18 *e*P **Pn 15 06 34.6 +1.5**
MMAI Mount Meron Ar 6.84 215 Pn **Pn 15 06 34.4 -0.6**
comp=N,10.0nm,0.3s,baz=59,slow=15,SNR=23
MMAI Lg Lg 15 08 27.8
comp=N,4.8nm,0.3s,baz=64,slow=31,SNR=2.8
ASF Jabal al Asfar 7.03 203 Pn **Pn 15 06 36.1 -1.4**
comp=N,1.4nm,0.3s,baz=352,slow=5.2,SNR=9.2
ASF Lg Lg 15 08 35.4
comp=N,3.1nm,0.3s,baz=242,slow=21,SNR=2.3
MAK Makhachkala 7.05 51 *e*P Pn 15 06 33.7 -4.1
MAK S Sn 15 07 51.6 -6.3
MAK pmax pmax
comp=Z,50nm,1.6s
MAK MLR MLR
comp=Z,2μm,7.0s
SUDU Sudak 7.23 330 *e*P Pn 15 06 46.1 +5.8
SUDU *e*S Sn 15 08 12.4 +10
SEV Sevastopol' 7.54 323 *e*P Pn 15 06 49.9 +5.5
SEV *e*S Sn 15 08 17.8 +7.9
NSR Nassriya 9.16 145 *e*PN Pn 15 07 13.7 +6.9
NSR *e*SN **Sn 15 08 44.8 -5.1**
EIL Elat 9.97 207 Pn **Pn 15 07 16.9 -1.0**
comp=Z,0.3nm,0.3s,baz=2.3,slow=8.0,SNR=5.5
EIL Lg Lg 15 10 07.9
comp=Z,0.6nm,0.3s,baz=63,slow=14,SNR=2.7
EIL LR LR 15 11 16.4
comp=Z,1μm,21.2s,baz=14,slow=39
KIS Kishinev 11.68 319 *e* **Pn 15 07 42.0 +0.8**
KIS *e*L L 15 12 12.0
KIS LRM MLR 15 13 40.0
comp=Z,700nm,14.0s
VRHR Novokhopersk 12.42 5 *e*P **Pn 15 07 51.5 +0.2**
VRHR pmax pmax
comp=N,40nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR Novokhopersk 12.42 5 *e*P **Pn 15 07 51.5 +0.2**
MLR Muntele Rosu 12.47 307 Pn **Pn 15 07 52.2 +0.1**
comp=Z,0.0nm,0.3s,baz=190,slow=10,SNR=2.2
MLR LR LR 15 13 36.1
comp=Z,192nm,19.4s,baz=134,slow=42
VSR Storozhevoye 12.51 357 *e*P **Pn 15 07 50.1 -2.4**
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,5.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 12.51 357 *e*P **Pn 15 07 50.1 -2.4**
IDI Anoyia 12.61 259 LR LR 15 13 53.6
comp=Z,640nm,20.6s,baz=71,slow=43
ARR Arges 13.25 305 ⇓*i*P P 15 08 18.8 +6.2
LOT Lotru 13.84 304 ⇓*i*P **P 15 08 21.1 +1.9**
BURAR Bucovina Array 14.00 314 ⇑P **P 15 08 23.4 +2.4**
BURAR Bucovina Array 14.00 314 ⇑*i*P **P 15 08 23.4 +2.4**
GEYT Alibeck 14.19 88 Pn **Pn 15 08 14.8 -0.8**
comp=Z,0.2nm,0.3s,baz=292,slow=14,SNR=4.0
GEYT LR LR 15 14 35.4
comp=Z,304nm,18.6s,baz=280,slow=41
AKASG Malin Array Be 14.23 331 *i*P **Pn 15 08 16.2 +0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 14.23 331 Pn **Pn 15 08 13.6 -2.4**
comp=Z,0.7nm,0.3s,baz=140,slow=13,SNR=8.6
KIEV Kiev 14.23 331 ⇓*e*P **Pn 15 08 17.9 +2.0**
KIEV Kiev 14.23 331 P **Pn 15 08 15.0 -1.0**
comp=Z,12nm,0.9s
KIEV Kiev 14.23 331 P **Pn 15 08 15.0 -1.0**
comp=Z,12nm,0.9s
GZR Gura Zlata 14.46 303 ⇑*i*P **P 15 08 26.1 0.0**
GZR Gura Zlata 14.46 303 ⇑*i*P **P 15 08 26.1 0.0**
RAYN Ar Rayn 15.84 161 *e*P Pn 15 08 32.0 -5.7
comp=Z,15nm,0.8s
RAYN Ar Rayn 15.84 161 *e*P Pn 15 08 32.0 -5.7
comp=Z,15nm,0.8s
LVV L'vov 15.93 319 *e*P **P 15 08 44.7 +2.4**
LVV L'vov 15.93 319 *e*P **P 15 08 44.7 +2.4**
UZH Uzhgorod 16.20 313 *e*P **P 15 08 45.0 -0.2**
UZH Uzhgorod 16.20 313 *e*P **P 15 08 45.0 -0.2**
KOLS Kolonicke sedl 16.37 314 *e*P **P 15 08 50.0 +2.8**
KOLS Kolonicke sedl 16.37 314 *e*P **P 15 08 50.0 +2.8**
KWP Kalwaria Pacla 16.51 317 ⇑P **Pn 15 08 46.9 +0.7**
KWP Kalwaria Pacla 16.51 317 ⇑*i*P **Pn 15 08 46.8 +0.6**
KWP Kalwaria Pacla 16.51 317 *e*P **P 15 08 47.9 -0.9**
comp=Z,35nm,1.1s
KWP Kalwaria Pacla 16.51 317 *e*P **P 15 08 47.9 -0.9**
comp=Z,35nm,1.1s
OBN Obninsk 16.57 353 ⇓*i*P **Pn 15 08 44.2 -2.6**
OBN pmax pmax
comp=Z,52nm,1.6s
OBN MLR MLR
comp=Z,374nm,21.0s
OBN Obninsk 16.57 353 Pn **Pn 15 08 44.0 -2.8**
comp=Z,2.3nm,0.3s,baz=337,slow=4.3,SNR=4.9
OBN LR LR 15 15 41.0
comp=Z,359nm,21.3s,baz=180,slow=39
OBN Obninsk 16.57 353 P **Pn 15 08 43.5 -3.3**
comp=Z,60nm,1.2s
OBN Obninsk 16.57 353 P **Pn 15 08 43.5 -3.3**
comp=Z,60nm,1.2s
CRVS Cervenica-Dubn 16.81 313 *e*P **P 15 08 55.1 +3.0**
CRVS pmax pmax
comp=Z,21nm,1.5s
CRVS Cervenica-Dubn 16.81 313 *e*P **P 15 08 55.1 +3.0**
MOS Moscow 17.11 355 *e*P **Pn 15 08 50.6 -2.9**
MOS *e* 15 11 59.6
STHS Stebnicka Huta 17.20 315 *e*P **P 15 08 59.9 +3.5**
STHS pmax pmax
comp=Z,15nm,1.5s
STHS Stebnicka Huta 17.20 315 *e*P **P 15 08 59.9 +3.5**
AKTO Aktyubinsk 17.29 42 P **Pn 15 08 53.6 -2.3**
comp=Z,0.1nm,0.3s,baz=254,slow=9.7,SNR=8.4
AKTO LR LR 15 17 23.0
comp=Z,676nm,18.4s,baz=228,slow=43
ABKAR Akbulak array 17.71 47 *e*P **Pn 15 08 58.1 -3.0**
comp=Z,6.6nm,0.9s
ABKAR Akbulak array 17.71 47 *e*P **Pn 15 08 58.1 -3.0**
comp=Z,6.6nm,0.9s
MICGM Minsk 17.82 336 *e* **Pn 15 09 03.0 +0.5**
MNK Minsk 17.84 336 *e*P **Pn 15 09 03.0 +0.3**
MNK Minsk 17.84 336 *e*P **Pn 15 09 03.0 +0.3**
VYHS Vyhne 18.16 309 *e*P **P 15 09 08.8 +1.8**
VYHS pmax pmax
comp=Z,19nm,1.6s
VYHS Vyhne 18.16 309 *e*P **P 15 09 08.8 +1.8**
comp=Z,19nm,1.6s
VYHS Vyhne 18.16 309 *e*P **P 15 09 08.8 +1.8**
NACGM Naroch 18.51 335 *e* **Pn 15 09 11.0 +0.1**
BANOM Banah 18.70 128 ⇓P **P 15 09 12.0 -1.1**
SNR=6.2
BANOM Banah 18.70 128 P **P 15 09 12.0 -1.1**
SNR=6.2
IDID Didziasalis 18.87 336 *e*P **Pn 15 09 15.2 0.0**
IDID AMB AMB 15 09 21.5
comp=Z,20nm,1.0s
IDID Didziasalis 18.87 336 *e*P **Pn 15 09 15.2 0.0**
comp=Z,20nm,1.0s,SNR=34
NAZ Nazwa, Dubai 19.01 132 P **Pn 15 09 17.2 0.0**
SNR=6.1
NAZ Nazwa, Dubai 19.01 132 ⇑*i*P **Pn 15 09 17.2 0.0**
SNR=6.1
IIGN Ignalina 19.07 335 *e*P **Pn 15 09 17.4 -0.2**
IIGN AMB AMB 15 09 23.2
comp=Z,26nm,1.2s
IIGN Ignalina 19.07 335 *e*P **Pn 15 09 17.4 -0.2**
comp=Z,26nm,1.2s,SNR=34
SUW Suwalki 19.15 328 P **Pn 15 09 20.0 +1.3**
SUW pmax pmax
comp=Z,84nm,1.0s
SUW Suwalki 19.15 328 P **P 15 09 16.6 -1.2**
comp=Z,84nm,1.0s
SUW Suwalki 19.15 328 P **P 15 09 16.6 -1.2**
comp=Z,84nm,1.0s
OKC Ostrava-Krasne 19.16 313 *e*P **Pn 15 09 21.9 +3.1**
OKC Ostrava-Krasne 19.16 313 *e*P **Pn 15 09 21.9 +3.1**
ISAL Salakas 19.28 336 *e*P **P 15 09 19.7 +0.5**
ISAL AMB AMB 15 09 26.1
comp=Z,22nm,1.3s
ISAL Salakas 19.28 336 *e*P **P 15 09 19.7 +0.5**
comp=Z,22nm,1.3s,SNR=34
HATD Hatta, Dubai 19.41 131 P **P 15 09 20.8 -0.1**
SNR=7.8
HATD Hatta, Dubai 19.41 131 ⇓*i*P **P 15 09 20.8 -0.1**
SNR=7.8
ASHO Ashiyiah 19.47 131 ⇑P **P 15 09 21.7 +0.1**
SNR=16
ASHO Ashiyiah 19.47 131 P **P 15 09 21.0 -0.6**
ASHO Ashiyiah 19.47 131 P **P 15 09 21.0 -0.6**
CONA Conrad Observa 19.80 306 ⇑*i*pP **P 15 09 27.5 +2.4**
comp=Z,55nm,1.4s,SNR=14
CONA Conrad Observa 19.80 306 P **P 15 09 27.5 +2.4**
comp=Z,55nm,1.4s,SNR=14
ARSA Arzberg 19.82 303 ⇑*i*sP **P 15 09 29.2 +4.0**
comp=Z,14nm,1.2s
VRAC Vranov 19.85 310 P **P 15 09 25.7 +0.2**
comp=Z,0.2nm,0.3s,baz=126,slow=11,SNR=3.2
VRAC LR LR 15 18 02.1
comp=Z,330nm,18.0s,baz=117,slow=40
KRLC Kraliky 20.05 312 *e*P Pn 15 09 29.8 +0.2
KRLC Kraliky 20.05 312 *e*P Pn 15 09 29.8 +0.2
KRLC Kraliky 20.05 312 *e*P Pn 15 09 29.8 +0.2
DPC Dobruska-Polom 20.44 312 *e*P Pn 15 09 34.0 -0.1
DPC *e* 15 09 41.7
DPC Dobruska-Polom 20.44 312 *e*P Pn 15 09 34.0 -0.1
DPC *e*pP pP 15 09 41.7 +6.7
DPC Dobruska-Polom 20.44 312 *e*P Pn 15 09 34.0 -0.1
TREC Trest 20.51 309 *e*P Pn 15 09 35.4 +0.5
TREC Trest 20.51 309 *e*P Pn 15 09 35.4 +0.5
UPC Upice 20.69 313 *e*P **P 15 09 35.7 +1.1**
UPC Upice 20.69 313 *e*P **P 15 09 35.7 +1.1**
UPC Upice 20.69 313 *e*P **P 15 09 35.7 +1.1**
ARQ Araqi 20.78 133 ⇑P **P 15 09 36.7 +0.9**
SNR=12
ARQ Araqi 20.78 133 P **P 15 09 36.7 +0.9**
SNR=12
MOA Molln 20.80 304 ⇑*i*P Pn 15 09 39.8 +1.4
comp=Z,32nm,1.0s,SNR=5.2
HOQ Hoqain 21.05 131 ⇑P **P 15 09 39.3 +0.6**
SNR=9.7
HOQ Hoqain 21.05 131 P **P 15 09 39.3 +0.6**
SNR=9.7
KBA Koelnbreinsper 21.21 302 *i*sP **P 15 09 44.1 +3.7**
comp=Z,35nm,1.1s,SNR=5.7
PRU Pruhonice 21.34 310 *e*P **P 15 09 43.1 +1.5**
PRU *e* 15 09 48.8
PRU Pruhonice 21.34 310 *e*P **P 15 09 43.1 +1.5**
PRU *e*pP **pP 15 09 48.8 +4.2**
PRU Pruhonice 21.34 310 P **P 15 09 43.1 +1.5**
GEC2 GERESS Array S 21.46 307 *e*P **P 15 09 44.3 +1.3**
comp=Z,20nm,1.2s
GEC2 GERESS Array S 21.46 307 *e*P **P 15 09 44.3 +1.3**
comp=Z,20nm,1.2s
GERES GERESS Array B 21.46 307 P **P 15 09 43.1 0.0**
GERES pmax pmax
comp=Z,7.0nm,1.1s
GERES GERESS Array B 21.46 307 P **P 15 09 43.1 0.0**
comp=Z,5.3nm,0.9s,baz=116,slow=9.3,SNR=20
PVCC Panska Ves 21.53 312 *e*P **P 15 09 46.1 +2.4**
PVCC Panska Ves 21.53 312 *e*P **P 15 09 46.1 +2.4**
PVCC Panska Ves 21.53 312 P **P 15 09 46.1 +2.4**
ARU Arti 21.55 29 *d i*P **P 15 09 46.4 +2.6**
ARU 15 10 05.3
ARU S **S 15 13 46.3 +4.0**
ARU SS **SnSn 15 14 08.3 +2.5**
ARU pmax pmax
comp=Z,45nm,1.7s
VSU Vasula 21.56 341 ⇑*e*P **P 15 09 46.3 +2.5**
KHC Kasperske Hory 21.63 307 *e*P **P 15 09 46.7 +1.9**
KHC *e* 15 10 04.0
KHC Kasperske Hory 21.63 307 *e*P **P 15 09 46.7 +1.9**
KHC *e*x x 15 10 04.0
KHC Kasperske Hory 21.63 307 P **P 15 09 44.7 -0.1**
comp=Z,18nm,1.3s
KHC Kasperske Hory 21.63 307 P **P 15 09 44.7 -0.1**
comp=Z,18nm,1.3s
RJOB Jochberg 21.73 303 *e*P **P 15 09 49.1 +3.2**
comp=Z,31nm,1.5s
SMDO Samad 21.89 130 ⇓P **P 15 09 48.7 +0.9**
SNR=46
BRG Berggiesshubel 22.04 312 *e*P **P 15 09 52.2 +3.1**
comp=Z,24nm,1.6s
WET Wettzell 22.07 307 *e*P **P 15 09 52.9 +3.4**
comp=Z,51nm,2.1s
KLMR Klimovskoe 22.16 359 *e*P **P 15 09 49.5 -0.8**
KLMR pmax pmax
comp=Z,176nm,1.5s
WTTA Wattenberg 22.39 302 ⇑*i*pP **P 15 09 55.0 +1.9**
comp=Z,41nm,1.4s
WTTA Wattenberg 22.39 302 P **P 15 09 55.0 +1.9**
comp=Z,41nm,1.4s
JMDO Jabal Madar 22.45 131 ⇓P **P 15 09 54.1 +0.4**
SNR=22
SVE Sverdlovsk 22.63 30 *e*P **P 15 09 56.0 +0.6**
SVE pmax pmax
comp=Z,50nm,1.5s
ROTZ Rotzenmuhle 22.68 308 *e*P **P 15 09 58.8 +2.8**
comp=Z,66nm,1.4s
ROTZ Rotzenmuhle 22.68 308 *e*P **P 15 09 58.8 +2.8**
comp=Z,66nm,1.4s
CLL Collm 22.75 312 *e*P **P 15 09 56.0 -0.7**
CLL *e* 15 09 58.0
CLL *i* 15 10 00.3
CLL *e*S **S 15 14 10.0 +4.7**
CLL Collm 22.75 312 *e*P **P 15 09 57.8 +1.1**
comp=Z,36nm,1.4s
CLL Collm 22.75 312 *e*P **P 15 09 56.0 -0.7**
CLL *e*pP **pP 15 09 58.0 -1.7**
CLL *i*sP **sP 15 10 00.3 -0.8**
comp=Z,41nm,1.7s
CLL *i* 15 10 03.0
CLL *e*S **S 15 14 10.0 +4.7**
CLL *e*SS **SnSn 15 14 39.0 +3.6**
CLL Collm 22.75 312 *e*P **P 15 09 57.8 +1.1**
comp=Z,36nm,1.4s
MOTA Moosalm 22.76 302 ⇓*i*pP **P 15 09 59.1 +2.1**
comp=Z,38nm,1.1s,SNR=7.5
MOTA Moosalm 22.76 302 P **P 15 09 59.1 +2.1**
comp=Z,38nm,1.1s,SNR=7.5
WBK Wadi Bani Khal 22.78 129 ⇑P **P 15 09 56.9 -0.3**
SNR=12
FETA Feichten 22.95 301 ⇑*i*pP **P 15 10 01.3 +2.3**
comp=Z,37nm,1.2s,SNR=6.5
FETA Feichten 22.95 301 P **P 15 10 01.3 +2.3**
comp=Z,37nm,1.2s,SNR=6.5
PRGR Permogore 23.20 7 *e*P **P 15 09 58.1 -3.1**
PRGR pmax pmax
comp=Z,122nm,1.7s
GRA1 Grafenberg Arr 23.27 308 *e*P **P 15 10 03.3 +1.2**
comp=Z,122nm,1.5s
GRF Grafenberg Arr 23.27 308 *e*P **P 15 10 03.3 +1.2**
comp=Z,122nm,1.5s
GRF *e*L L 15 18 41.1
comp=Z,275nm,20.9s
GRFO Grafenberg 23.27 308 P **P 15 09 58.1 -4.0**
GRFO pmax pmax
comp=Z,104nm,1.4s
GRFO Grafenberg 23.27 308 P **P 15 09 58.1 -4.0**
comp=Z,104nm,1.4s
GRFO Grafenberg 23.27 308 P **P 15 09 58.1 -4.0**
comp=Z,104nm,1.4s
MOX Moxa 23.33 310 *e*P **P 15 10 05.3 +2.6**
comp=Z,40nm,2.1s
MOX *e*L L 15 20 15.4
comp=Z,345nm,21.7s
MOX Moxa 23.33 310 *e*P **P 15 10 05.3 +2.6**
comp=Z,40nm,2.1s
KKAR Karatay Array 23.35 69 *e*P **P 15 10 01.8 -1.2**
KKAR pmax pmax
comp=Z,21nm,1.1s
KKAR Karatay Array 23.35 69 *e*P **P 15 10 01.8 -1.2**
comp=Z,21nm,1.1s
KKAR Karatay Array 23.35 69 *e*P **P 15 10 01.8 -1.2**
comp=Z,21nm,1.1s
SOKR Solikamsk 23.45 22 ⇑*i*P **P 15 10 05.3 +1.6**
SOKR pmax pmax
comp=Z,30nm,1.0s
DAVOX Davos/Dischmat 23.48 300 P **P 15 10 04.1 -0.3**
comp=Z,5.0nm,0.9s,baz=88,slow=11,SNR=3.7
DAVOX LR LR 15 20 51.5
comp=Z,318nm,18.7s,baz=84,slow=41
DAVA Damuels 23.56 301 ⇑*i*P **P 15 10 04.8 -0.4**
comp=Z,33nm,1.4s
DAVA Damuels 23.56 301 P **P 15 10 04.8 -0.4**
comp=Z,33nm,1.4s
TUE Stuetta 23.80 299 *e*P **P 15 10 09.4 +1.8**
comp=Z,25nm,1.3s
TUE Stuetta 23.80 299 *e*P **P 15 10 09.4 +1.8**
comp=Z,25nm,1.3s
PGF Pioggiola 23.82 289 *e*P **P 15 10 04.3 -3.4**
PGF Pioggiola 23.82 289 *e*P **P 15 10 04.3 -3.4**
PGF Pioggiola 23.82 289 *e*P **P 15 10 04.3 -3.4**
PGF Pioggiola 23.82 289 *e*P **P 15 10 04.3 -3.4**
RGN Rugen 24.04 320 *e*P **P 15 10 12.4 +2.9**
comp=Z,101nm,1.4s
RGN Rugen 24.04 320 *e*P **P 15 10 12.4 +2.9**
comp=Z,101nm,1.4s
STU Stuttgart 24.31 304 *e*P **P 15 10 14.2 +2.1**
comp=Z,57nm,1.5s
STU Stuttgart 24.31 304 *e*P **P 15 10 14.2 +2.1**
comp=Z,57nm,1.5s
FINES FINESS Array B 24.35 344 P **P 15 10 11.0 -1.3**
FINES pmax pmax
comp=Z,8.0nm,0.7s
FINES MLR MLR
comp=Z,241nm,18.0s
FINES FINESS Array B 24.35 344 P **P 15 10 10.9 -1.3**
comp=Z,8.4nm,0.7s,baz=141,slow=12,SNR=18
FINES LR LR 15 21 53.8
comp=Z,241nm,18.0s,baz=152,slow=42
UBBA Unterbreizbach 24.35 310 *e*P **P 15 10 14.9 +2.5**
comp=Z,43nm,2.1s
UBBA Unterbreizbach 24.35 310 *e*P **P 15 10 14.9 +2.5**
comp=Z,43nm,2.1s
CLZ Clausthal 24.48 312 *e*P **P 15 10 15.9 +2.3**
comp=Z,42nm,1.6s
CLZ Clausthal 24.48 312 *e*P **P 15 10 15.9 +2.3**
comp=Z,42nm,1.6s
RBK Rabkut 24.48 146 ⇑P **P 15 10 13.9 0.0**
SNR=12
KEST Kesra 24.59 273 P **P 15 10 14.9 0.0**
comp=Z,8.1nm,1.1s,baz=15,slow=3.2,SNR=7.4
KEST LR LR 15 21 46.9
comp=Z,80nm,20.2s,baz=360,slow=41
KEST Kesra 24.59 273 *e*P **P 15 10 16.4 +1.5**
KEST Kesra 24.59 273 *e*P **P 15 10 16.4 +1.5**
JOF Joensuu 24.81 350 *e*P **P 15 10 14.5 -1.9**
JOF pmax pmax
comp=Z,10.0nm,0.7s
JOF Joensuu 24.81 350 *e*p **P 15 10 14.5 -1.9**
comp=Z,9.8nm,0.7s
NRDL Niedersach Rie 24.86 313 *e*P **P 15 10 19.9 +2.9**
comp=Z,13nm,1.3s
NRDL Niedersach Rie 24.86 313 *e*P **P 15 10 19.9 +2.9**
comp=Z,13nm,1.3s
KAF Kangasniemi 24.90 345 *e*P **P 15 10 15.9 -1.4**
KAF pmax pmax
comp=Z,7.0nm,0.9s
KAF Kangasniemi 24.90 345 *e*p **P 15 10 15.9 -1.4**
comp=Z,6.5nm,0.9s
SBF Sospel 24.95 292 *e*P **P 15 10 15.8 -2.3**
comp=Z,257nm,1.4s
SBF Sospel 24.95 292 *e*P **P 15 10 15.8 -2.3**
SBF Sospel 24.95 292 *e*P **P 15 10 15.8 -2.3**
comp=Z,257nm,1.4s
SBF Sospel 24.95 292 *e*P **P 15 10 15.8 -2.3**
comp=Z,257nm,1.4s
TNS Taunus Mts 25.13 308 *e*P **P 15 10 22.7 +3.1**
comp=Z,64nm,1.9s
TNS Taunus Mts 25.13 308 *e*P **P 15 10 22.7 +3.1**
comp=Z,64nm,1.9s
BRVK Borovoye 25.22 45 ⇓*e*P **P 15 10 21.6 +1.3**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 25.22 45 *e*P **P 15 10 19.4 -0.9**
comp=Z,6.4nm,1.1s
BRVK Borovoye 25.22 45 *e*P **P 15 10 19.4 -0.9**
comp=Z,6.4nm,1.1s
BVAR Borovoye Array 25.26 46 P **P 15 10 21.3 +0.6**
comp=Z,1.4nm,0.8s,baz=263,slow=7.2,SNR=8.4
BVAR LR LR 15 21 45.7
comp=Z,489nm,18.9s,baz=252,slow=40
BSEG Bad Segeberg 25.32 317 *e*P **P 15 10 24.9 +3.8**
comp=Z,88nm,2.4s
MBDF Montbardon 25.45 294 *e*P **P 15 10 21.2 -1.4**
comp=Z,45nm,1.3s
MBDF Montbardon 25.45 294 *e*P **P 15 10 21.2 -1.4**
MBDF pmax pmax
comp=Z,45nm,1.3s
MBDF Montbardon 25.45 294 *e*P **P 15 10 21.2 -1.4**
comp=Z,45nm,1.3s
MBDF Montbardon 25.45 294 *e*P **P 15 10 21.2 -1.4**
comp=Z,45nm,1.3s
LPG La Plagne 25.50 296 *e*P **P 15 10 21.7 -1.6**
LPG La Plagne 25.50 296 *e*P **P 15 10 21.7 -1.6**
LPG La Plagne 25.50 296 *e*P **P 15 10 21.7 -1.6**
LPG La Plagne 25.50 296 *e*P **P 15 10 21.7 -1.6**
TMCR Tamitsa 25.51 358 *e*P **P 15 10 21.8 -0.9**
TMCR *e* 15 10 56.7
TMCR pmax pmax
comp=Z,28nm,1.0s
EKS2 Erkin-Say 25.76 70 *e*P **P 15 10 27.0 +1.5**
EKS2 pmax pmax
comp=Z,10.0nm,1.0s
EKS2 Erkin-Say 25.76 70 *e*P **P 15 10 27.0 +1.5**
comp=Z,10nm,1.0s
EKS2 Erkin-Say 25.76 70 *e*P **P 15 10 26.9 +1.5**
comp=Z,10nm,1.0s
CABF La Chapelle 26.05 299 *e*P **P 15 10 26.1 -1.9**
comp=Z,90nm,1.3s
CABF La Chapelle 26.05 299 *e*P **P 15 10 26.1 -1.9**
CABF pmax pmax
comp=Z,90nm,1.3s
CABF La Chapelle 26.05 299 *e*P **P 15 10 26.1 -1.9**
comp=Z,89nm,1.3s
CABF La Chapelle 26.05 299 *e*P **P 15 10 26.1 -1.9**
comp=Z,90nm,1.3s
IBBN Ibbenburen 26.15 312 *e*P **P 15 10 32.7 +4.0**
comp=Z,108nm,2.3s
BUG Bochum--Univer 26.18 310 *e*P P 15 10 34.7 +5.7
comp=Z,14nm,1.2s
AAK Ala-Archa 26.29 70 ⇓*e*P **P 15 10 33.1 +2.8**
AAK pmax pmax
comp=Z,26nm,1.7s
AAK Ala-Archa 26.29 70 P **P 15 10 31.4 +1.1**
comp=Z,2.8nm,0.9s,baz=216,slow=8.6,SNR=11
AAK LR LR 15 21 47.3
comp=Z,336nm,21.5s,baz=268,slow=39
AAK Ala-Archa 26.29 70 *e*P **P 15 10 32.3 +2.0**
comp=Z,14nm,1.4s
AAK Ala-Archa 26.29 70 *e*P **P 15 10 32.3 +2.0**
comp=Z,14nm,1.4s
FRU Bishkek 26.37 70 *e*P **P 15 10 33.0 +2.1**
FRU pmax pmax
comp=Z,50nm,2.0s
HFS Hagfors 27.12 331 P **P 15 10 36.4 -1.0**
HFS pmax pmax

comp=Z,6.0nm,0.9s
HFS MLR MLR
HFS Hagfors 27.12 331 P **P 15 10 36.4 -1.0**
comp=Z,5.7nm,0.9s,baz=158,slow=24,SNR=5.6
HFS LR LR 15 22 57.8
comp=Z,533nm,20.9s,baz=130,slow=40
SMF Signal de Mont 27.59 298 *e*P **P 15 10 39.1 -2.7**
SMF Signal de Mont 27.59 298 *e*P **P 15 10 39.1 -2.7**
SMF Signal de Mont 27.59 298 *e*P **P 15 10 39.1 -2.7**
LOR Lormes 27.62 300 *e*P **P 15 10 40.1 -2.0**
LOR Lormes 27.62 300 *e*P **P 15 10 40.1 -2.0**
LOR Lormes 27.62 300 *e*P **P 15 10 40.1 -2.0**
LOR Lormes 27.62 300 *e*P **P 15 10 40.1 -2.0**
KSH Kashi 27.76 77 *e*P **P 15 10 43.0 -0.5**
KSH sP **sP 15 10 50.2 +2.2**
KSH PP **PnPn 15 11 29.5 +0.3**
KSH S **S 15 15 22.3 -3.8**
KSH sS **sS 15 15 29.2 -2.2**
KSH SS **SnSn 15 16 39.6 +1.5**
KSH PMZ
comp=Z,3.0nm,0.4s
KSH PMZ
comp=Z,220nm,5.2s
KSH LN
comp=Z,200nm,6.1s
KSH LE
comp=Z,130nm,6.1s
KSH LZ
comp=Z,320nm,6.9s
NOA NORSAR Array B 28.64 331 P **P 15 10 52.6 +1.5**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,321nm,18.7s
NOA NORSAR Array B 28.64 331 P **P 15 10 52.5 +1.5**
comp=Z,1.2nm,0.8s,baz=125,slow=6.7,SNR=3.9
NOA LR LR 15 24 01.4
comp=Z,321nm,18.7s,baz=130,slow=40
KURBB Kurchatov Arra 29.50 54 P **P 15 10 58.6 0.0**
comp=Z,2.4nm,0.8s,baz=266,slow=8.6,SNR=15
KURBB PcP **PcP 15 14 03.7 -0.1**
comp=Z,0.9nm,0.7s,baz=269,slow=3.6,SNR=4.5
KURK Kurchatov 29.57 53 P **P 15 10 58.6 -0.7**
KURK 15 14 03.7
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 29.57 53 *e*P **P 15 10 58.5 -0.7**
comp=Z,3.7nm,1.1s
KURK Kurchatov 29.57 53 PcP **PcP 15 14 03.7 -0.3**
KURK Kurchatov 29.57 53 *e*P **P 15 10 58.5 -0.8**
comp=Z,3.7nm,1.1s
KURK PcP **PcP 15 14 03.7 -0.3**
MKAR Makanchi Array 31.72 61 *ce*P **P 15 11 19.2 +0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 31.72 61 P **P 15 11 18.4 0.0**
comp=Z,1.8nm,0.9s,baz=273,slow=6.9,SNR=18
MKAR LR LR 15 25 31.9
comp=Z,207nm,18.1s,baz=255,slow=39
ARCES ARCESS Array B 31.85 350 LR LR 15 24 53.4
comp=Z,448nm,20.6s,baz=184,slow=38
NVS Novosibirsk 33.05 47 *e*P **P 15 11 27.7 -2.2**
TAM Tamanrasset 33.43 252 *e*P **P 15 11 34.3 +0.5**
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM Tamanrasset 33.43 252 *e*P **P 15 11 34.3 +0.5**
comp=Z,6.9nm,0.9s
TAM Tamanrasset 33.43 252 *e*P **P 15 11 34.3 +0.5**
comp=Z,6.9nm,0.9s
ZALV Zalesovo Beam 33.81 48 P **P 15 11 36.1 -0.4**
comp=Z,0.4nm,0.3s,baz=269,slow=11,SNR=2.7
ZALV LR LR 15 26 31.8
comp=Z,228nm,18.0s,baz=251,slow=38
ESDC Sonseca Array 33.88 286 P **P 15 11 35.9 -1.6**
comp=Z,0.3nm,0.3s,baz=60,slow=6.2,SNR=4.3
ESDC LR LR 15 26 15.3
comp=Z,99nm,19.2s,baz=95,slow=38
WMQ Urumqi 35.76 66 *e*P **P 15 11 54.4 +0.7**
WMQ sP **sP 15 12 00.5 +2.3**
WMQ PP **PP 15 13 15.5 +0.7**
WMQ S **S 15 17 30.6 -0.1**
WMQ sS **sS 15 17 36.5 +0.5**
WMQ SS **SnSn 15 19 51.4 -1.1**
WMQ ScS **ScS 15 22 10.5 -1.9**
WMQ PMZ
comp=Z,4.0nm,1.8s
WMQ PMZ
comp=Z,230nm,7.0s
WMQ LN
comp=Z,240nm,20.0s
WMQ LE
comp=Z,270nm,19.0s
HVS Khovu-Aksy 39.10 54 *de*P **P 15 12 24.0 +2.1**
HVS pmax pmax
comp=Z,55nm,1.7s
TORD Torodi Ar. Bea 42.42 244 P **P 15 12 48.1 -1.5**
comp=Z,3.4nm,1.0s,baz=47,slow=8.3,SNR=14
TORD LR LR 15 32 56.6
comp=Z,127nm,21.3s,baz=50,slow=40
LSA Lhasa 42.72 86 *e*P **P 15 12 53.0 +0.6**
LSA pmax pmax
comp=Z,3.0nm,0.8s
LSA Lhasa 42.72 86 *e*P **P 15 12 53.0 +0.6**
comp=Z,3.4nm,0.8s
LSA Lhasa 42.72 86 *e*P **P 15 12 53.0 +0.6**
comp=Z,3.4nm,0.8s
ZAK Zakamensk 45.23 54 *e*P **P 15 13 13.5 +1.6**
ZAK *e* 15 14 54.8
ZAK pmax pmax
comp=Z,3.0nm,1.3s
TLY Talaya 45.23 52 *e*P **P 15 13 14.9 +3.1**
TLY *e*S S 15 19 59.9 +8.3
TLY *e*SS ScS 15 23 01.2 -7.3
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,156nm,18.0s
IRK Irkutsk 45.52 51 *e*P **P 15 13 11.7 -2.4**
IRK pmax pmax
comp=Z,34nm,1.4s
DAG Danmarks Havn 45.59 344 *i*P **P 15 13 14.8 +0.5**
DAG pmax pmax
comp=Z,4.0nm,1.0s
DAG Danmarks Havn 45.59 344 *i*P **P 15 13 14.8 +0.5**
comp=Z,3.6nm,1.0s
GTA Gaotai 45.63 69 *e*P P 15 13 22.0 +6.7
GTA pP pP 15 13 25.2 +6.6
GTA sP sP 15 13 29.1 +9.2
GTA S S 15 20 09.4 +11
GTA sS sS 15 20 17.2 +14
GTA Gaotai 45.63 69 SS SS 15 23 28.0 +6.4
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA pmax pmax
comp=Z,130nm,4.7s
GTA LR LR
comp=N,240nm,18.1s
GTA LR LR
comp=E,240nm,17.1s
GTA LR LR
comp=Z,250nm,17.6s
SONM Songino Array 47.78 56 P **P 15 13 29.8 -2.1**
comp=Z,0.5nm,0.6s,baz=286,slow=8.3,SNR=6.8
SONM LR LR 15 36 16.6
comp=Z,295nm,18.4s,baz=272,slow=39
ULN Ulaanbaatar 48.20 56|| *e*P **P 15 13 37.0 +1.7**
ULN pmax pmax
comp=Z,9.0nm,1.2s
ULN Ulaanbaatar 48.20 56 *e*P **P 15 13 35.2 0.0**
comp=Z,10nm,1.3s
ULN Ulaanbaatar 48.20 56 *e*P **P 15 13 35.2 0.0**
comp=Z,10nm,1.3s
LZH Lanzhou 49.81 72 *e*P **P 15 13 47.0 -0.8**
LZH pP **pP 15 13 50.2 -0.9**
LZH sP **sP 15 13 51.7 -0.7**
LZH *e*PP **PP 15 15 42.3 0.0**
LZH PMZ
comp=Z,20nm,1.0s
LZH PMZ
comp=Z,51nm,4.6s
LZH LN
comp=Z,200nm,14.0s
LZH LE
comp=Z,200nm,14.3s
LZH LZ
comp=Z,260nm,17.6s
BOD Bodaibo 50.05 42 *e*P **P 15 13 47.6 -1.5**
BOD pmax pmax
comp=Z,9.0nm,1.1s
DBIC Dimbokro 51.53 244 *e*P **P 15 14 00.3 -0.5**
DBIC Dimbokro 51.53 244 *e*P **P 15 14 00.3 -0.5**
DBIC Dimbokro 51.53 244 *e*P **P 15 14 00.3 -0.5**
LIC Lamto 51.97 243 *e*P **P 15 14 03.1 -0.9**
comp=Z,9.5nm,0.8s
LIC Lamto 51.97 243 *e*P **P 15 14 03.1 -0.9**
comp=Z,9.5nm,0.8s
LIC Lamto 51.97 243 *e*P **P 15 14 03.1 -0.9**
comp=Z,9.5nm,0.8s
TIXI Tiksi 53.41 23↑ *e*P **P 15 14 15.7 +1.8**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
HHC Hu-ho-hao-te 53.54 63 *e*P P 15 14 10.5 -5.0
HHC PP **PP 15 16 12.8 -3.1**
HHC S S 15 21 40.6 -7.9
HHC SS SS 15 25 21.2 -7.3
HHC PMZ
comp=Z,12nm,0.8s
HHC PMZ
comp=Z,250nm,4.9s
HHC LN
comp=Z,270nm,13.6s
HHC LE
comp=Z,180nm,14.8s
HHC LZ
comp=Z,160nm,14.8s
XAN Xi'an 54.45 72 P **P 15 14 20.3 -1.9**
XAN pP **pP 15 14 27.9 +2.4**
XAN PMZ
comp=Z,1.0nm,1.1s
XAN LN
comp=Z,130nm,13.3s
XAN LE
comp=Z,82nm,13.3s
CMAR Chiang Mai Arr 54.56 94 P **P 15 14 21.3 -1.8**
comp=Z,1.8nm,0.9s,baz=298,slow=6.7,SNR=12
CMAR LR LR 15 44 13.1
comp=Z,85nm,18.4s,baz=278,slow=43
HIA Hailar 55.77 51|| *e*P **P 15 14 33.6 +2.2**
HIA pmax pmax
comp=Z,11nm,1.2s
YAK Yakutsk 56.50 34 *e*P **P 15 14 36.7 +0.3**
BJI Beijing 57.09 63 P **P 15 14 40.1 -0.8**
BJI S **S 15 22 33.7 -2.0**
BJI PMZ
comp=Z,5.0nm,0.8s
BJI PMZ
comp=Z,140nm,4.6s
BJI LN
comp=Z,340nm,18.7s
BJI LE
comp=Z,230nm,14.2s
KLR Kul'dur 62.91 47 *e*P **P 15 15 20.7 -0.1**
SEY Seymchan 65.29 28 P **P 15 15 35.5 -0.6**
SEY pmax pmax
comp=Z,2.0nm,0.7s
SEY Seymchan 65.29 28 P **P 15 15 35.5 -0.6**
comp=Z,2.2nm,0.8s,baz=293,slow=6.5,SNR=11
USRK Ussuriysk Ar. 65.55 52 LR LR 15 46 51.2
comp=Z,155nm,18.5s,baz=306,slow=38
BILL Biiibino 66.21 19 P **P 15 15 43.6 +1.6**
BILL pmax pmax
comp=Z,4.0nm,1.1s
BILL Biiibino 66.21 19 P **P 15 15 43.6 +1.6**
comp=Z,4.1nm,1.1s
BILL Biiibino 66.21 19 P **P 15 15 43.6 +1.6**
comp=Z,4.1nm,1.1s
KSAR Wonju Array Be 66.37 60 P **P 15 15 43.5 0.0**
KSAR Wonju Array Be 66.37 60 P **P 15 15 43.5 0.0**
KSAR Wonju Array Be 66.37 60 P **P 15 15 43.5 0.0**
KSRS Korea Array 66.39 60 P **P 15 15 43.5 -0.1**
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSRS MLR MLR
comp=Z,107nm,18.3s
KSRS Korea Array 66.39 60 P **P 15 15 43.5 -0.1**
comp=Z,1.5nm,0.9s,baz=322,slow=5.7,SNR=3.5
KSRS LR LR 15 47 40.9
comp=Z,107nm,18.3s,baz=308,slow=39
SCHQ Schefferville 67.88 323 P **P 15 15 54.3 +1.4**
comp=Z,1.8nm,0.6s,baz=44,slow=3.3,SNR=5.5
BOSA Boshof 68.40 194 P **P 15 15 55.5 -0.9**
BOSA pmax pmax
comp=Z,6.0nm,1.1s
BOSA Boshof 68.40 194 P **P 15 15 55.5 -0.9**
comp=Z,3.2nm,1.0s,baz=74,slow=4.7,SNR=4.0
BOSA LR LR 15 45 18.1
comp=Z,175nm,19.8s,baz=12,slow=36
INK Inuvik 73.19 358 P **P 15 16 26.1 +1.1**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 73.19 358 P **P 15 16 26.1 +1.1**
comp=Z,3.7nm,1.1s,baz=24,slow=10,SNR=6.7
MJAR Matsushiro Arr 73.73 56 P **P 15 16 28.6 -0.2**
MJAR pmax pmax
comp=Z,2.0nm,1.1s
MJAR MLR MLR
comp=Z,135nm,19.4s
MJAR Matsushiro Arr 73.73 56 P **P 15 16 28.6 -0.2**
comp=Z,2.1nm,1.1s,baz=307,slow=4.1,SNR=4.3
MJAR LR LR 15 51 48.8
comp=Z,134nm,19.4s,baz=320,slow=38
TNA Tin City 73.79 12 *e*P **P 15 16 29.8 +1.2**
comp=Z,19nm,1.5s
TNA Tin City 73.79 12 *e*P **P 15 16 29.8 +1.2**
comp=Z,19nm,1.5s
PETK Petropavlovsk- 73.84 34 LR LR 15 53 14.1
comp=Z,64nm,18.7s,baz=306,slow=39
PET Petropavlovsk 74.31 33 *e*P **P 15 16 32.9 +1.1**
COLA College 76.56 3|| *e*P P 15 16 47.8 +3.3
COLA pmax pmax
comp=Z,13nm,0.6s
COLA College 76.56 3 *e*P **P 15 16 47.1 +2.6**
comp=Z,4.7nm,0.8s
COLA College 76.56 3 *e*P **P 15 16 47.1 +2.6**
comp=Z,4.7nm,0.8s
ILAR Eielson Array 76.70 3 P **P 15 16 46.6 +1.2**
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR MLR MLR
comp=Z,24nm,22.0s
ILAR Eielson Array 76.70 3 P **P 15 16 46.6 +1.2**
comp=Z,1.3nm,1.0s,baz=322,slow=2.8,SNR=8.0
ILAR LR LR 15 52 47.5
comp=Z,24nm,22.0s,baz=358,slow=38
YKA Yellowknife Ar 77.09 348 P **P 15 16 48.6 +1.0**
YKA pmax pmax
comp=Z,4.0nm,1.0s
YKA Yellowknife Ar 77.09 348 P **P 15 16 48.6 +1.0**
comp=Z,4.2nm,1.0s,baz=18,slow=5.9,SNR=30
FX1 Attu Island--F 80.12 27 LR LR 15 58 13.0
comp=Z,68nm,18.6s,baz=290,slow=40
ULM Lac du Bonnet 83.30 333 P **P 15 17 21.6 +0.3**
comp=Z,2.2nm,0.8s,baz=44,slow=5.2,SNR=4.6
ULM LR LR 15 56 28.7
comp=Z,79nm,19.4s,baz=24,slow=37
COWI Conover 84.07 327 *e*P **P 15 17 25.1 -0.2**
comp=Z,12nm,1.2s
COWI Conover 84.07 327 *e*P **P 15 17 25.1 -0.2**
comp=Z,12nm,1.2s
PDAR Pinedale Array 94.33 338 LR LR 16 02 35.9
comp=Z,138nm,18.3s,baz=46,slow=37

IDC ***08*** *15:09:53.4±1.2,36°.19S×72°.78W,h0km,mb3.8/6, mb1 3.9/8,mb1mx3.7/37,mbtmp3.7/8,ML2.9/2,MS2.0/1, Ms1 2.0/1,ms1mx2.0/24,Error ellipse: s-maj=37.8km s-min=17.3km az=85.0*
ISCJB ***08*** *15:09:56.4±1.1,36°.11S±0°.08×73°.0W±0°.1,h33km±7km, mb3.9/6,Error ellipse: s-maj=16.4km s-min=12.4km az=20.0*
GUC ***08*** *15:09:58.2±0.4,35°.91S×72°.88W,h6km±4km,ML4.5*
NEIC ***08*** *15:09:58.5±0.8,36°.09S×73°.03W,h35km, mb4.3/2,Error ellipse: s-maj=19.2km s-min=10.5km az=90.0*
ISC 08 15:09:57.9±1.0**,36°.12S**±0°.08×**72°.8W**±0°.1**,h28**km±6km**,n21,**
σ**0**$**70/20,mb3.9/6,2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.04**	**102**	||i*P*	**Pb**	**15 10 02.5**	**-0.1**
COCH				*i* S	**Sb**	**15 10 05.8**	**-0.1**
LNCH	**Linares**	**1.04**	**75**	||i*P*	**Pn**	**15 10 16.5**	**0.0**
LNCH				*i* S	**Sb**	**15 10 30.5**	**+0.1**
LNV	**Longovilo**	**2.46**	**29**	*i* P	**Pn**	**15 10 36.4**	**+0.4**
CHCH	**Chadas Angostu**	**2.82**	**40**	*e*P1	**Pn**	**15 10 41.9**	**+0.7**
RCDM	**Rinconada Maip**	**3.11**	**33**	*e*P1	**Pn**	**15 10 45.8**	**+0.7**
CLCH	**Cerro Calan**	**3.31**	**35**	*e*P1	**Pn**	**15 10 48.8**	**+1.0**
CLCH				AML	AML	15 11 47.9	
	comp=N,1μm,0.9s						
PEL	**Peldehue**	**3.46**	**31**	AML	AML	15 11 55.8	
	comp=N,878nm,0.7s						
PLCA	**Paso Flores**	**4.94**	**159**	Pn	Pn	15 11 07.3	-2.9
	comp=N,0.1nm,0.3s,baz=314,slow=11,SNR=2.8						
PLCA				Lg	Lg	15 12 25.6	
	comp=N,2.0nm,0.3s,baz=70,slow=23,SNR=4.5						
PLCA	**Paso Flores**	**4.94**	**159**	*e*P	**Pn**	**15 11 11.4**	**+1.2**
PLCA				Lg	Lg	15 12 25.6	
CFAA	**Coronel Fontan**	**5.91**	**42**	Pn	**Pn**	**15 11 24.1**	**+0.5**
	comp=N,0.2nm,0.3s,baz=214,slow=13,SNR=6.6						
CFAA				Sn	Sb	15 12 42.6	-7.8
	comp=N,0.4nm,0.3s,baz=81,slow=23,SNR=9.3						
CFAA				LR	LR	15 13 46.6	
	comp=N,14nm,20.8s,baz=246,slow=39						
TRQA	**Tornquist**	**8.88**	**106**	*e*P	Pn	15 12 08.2	+3.9
	comp=N,24nm,1.4s						
LPAZ	**La Paz**	**20.20**	**13**	P	**P**	**15 14 29.2**	**-1.8**
	comp=N,1.1nm,0.5s,baz=210,slow=7.7,SNR=3.7						
LPAZ	**La Paz**	**20.20**	**13**	*e*P	**P**	**15 14 31.0**	**0.0**
SIV	**San Ignacio**	**22.62**	**31**	P	**P**	**15 14 56.7**	**+0.1**
	comp=N,2.1nm,0.6s,baz=225,slow=12,SNR=5.8						
SNAA	**Sanae**	**49.88**	**157**	*e*P	**P**	**15 18 48.1**	**-0.2**
	comp=N,0.6nm,0.4s						
QSPA	**South Pole Qui**	**54.12**	**180**	P	**P**	**15 19 20.1**	**+0.1**
	comp=N,0.8nm,0.6s,baz=267,slow=1.7,SNR=6.0						
QSPA	**South Pole Qui**	**54.12**	**180**	*e*P	**P**	**15 19 20.3**	**+0.3**
TXAR	**Lajitas Array**	**71.28**	**332**	P	**P**	**15 21 15.0**	**+0.3**
	comp=N,0.8nm,1.0s,baz=156,slow=8.9,SNR=3.0						
BOSA	**Boshof**	**79.66**	**118**	P	**P**	**15 22 03.3**	**+0.2**
	comp=N,4.1nm,1.0s,baz=217,slow=6.1,SNR=4.8						
BOSA	**Boshof**	**79.66**	**118**	*e*P	**P**	**15 22 02.6**	**-0.5**
	comp=N,9.7nm,1.2s						
TORD	**Torodi Ar. Bea**	**85.54**	**70**	P	**P**	**15 22 33.1**	**-0.5**
	comp=N,0.7nm,0.9s,baz=269,slow=5.8,SNR=3.1						

ISCJB ***08*** *15:18:33.4±0.5,35°.29S±0°.04×72°.89W±0°.06,h17km, mb4.2/10,MS3.5/1,Error ellipse: s-maj=6.9km s-min=5.4km az=13.9*
IDC ***08*** *15:18:33.1±0.8,35°.17S×72°.68W,h0km,mb4.1/8, mb1 4.2/10,mb1mx4.0/35,mbtmp4.0/10,ML4.0/2,MS3.6/1, Ms1 3.6/1,ms1mx2.6/23,Error ellipse: s-maj=31.8km s-min=17.5km az=87.0*
GUC ***08*** *15:18:34.1±0.4,35°.26S×72°.91W,h17km±5km,ML4.4*
NEIC ***08*** *15:18:38.1±0.5,35°.15S×72°.70W,h35km,mb4.6/5,Error ellipse: s-maj=14.7km s-min=9.8km az=81.0*
ISC 08 15:18:35.0±0.6**,35°.36S**±0°.05×**72°.81W**±0°.08**,h17**km**,n34,**
σ**1**$**66/31,mb4.4/10,1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.77**	**179**	||i*P*	**Pn**	**15 18 49.3**	**-1.9**
COCH				*i* S	**Sn**	**15 19 00.6**	**-1.8**
LNCH	**Linares**	**1.10**	**117**	*e*P1	**Pn**	**15 18 54.3**	**-1.3**
LNCH				*i* S	**Sn**	**15 19 10.2**	**-0.1**
NICH	**Los Niches**	**1.34**	**75**	*e*P	**Pn**	**15 18 57.6**	**-1.3**
NICH				*i* S	**Sn**	**15 19 15.6**	**-0.8**
CLCH	**Cerro Calan**	**2.71**	**44**	*e*P9	Pn	15 19 19.4	+1.5
CLCH				*i* S	**Sn**	**15 19 52.2**	**+1.9**
CLCH				AML	AML	15 20 05.6	
	comp=N,1μm,0.7s						
PEL	**Peldehue**	**2.82**	**39**	*e*P9	Pn	15 19 21.4	+2.1
PEL				*e*S	**Sn**	**15 19 55.5**	**+2.4**
PEL				AML	AML	15 20 08.3	
	comp=N,2μm,0.5s						
CFAA	**Coronel Fontan**	**5.34**	**47**	Pn	**Pn**	**15 19 52.4**	**-1.7**
	comp=N,0.2nm,0.3s,baz=78,slow=23,SNR=24						
CFAA				Lg	Lg	15 21 07.7	
	comp=N,0.2nm,0.3s,baz=84,slow=21,SNR=3.7						
PLCA	**Paso Flores**	**5.65**	**162**	Pn	**Pn**	**15 20 00.6**	**+2.2**
	comp=N,2.1nm,0.3s,baz=335,slow=10,SNR=31						
PLCA				Lg	Lg	15 21 30.3	
	comp=N,3.7nm,0.3s,baz=254,slow=22,SNR=5.9						
TRQA	**Tornquist**	**9.10**	**110**	*e*P	Pn	15 20 48.2	+2.6
	comp=N,27nm,1.1s						
LPAZ	**La Paz**	**19.45**	**14**	P	**Pn**	**15 23 00.2**	**-2.4**
	comp=N,0.1nm,0.3s,baz=194,slow=11,SNR=3.1						
LPAZ	**La Paz**	**19.45**	**14**	*e*P	**P**	**15 22 58.9**	**-2.5**
	comp=N,5.7nm,1.0s						
SIV	**San Ignacio**	**21.96**	**32**	P	**P**	**15 23 26.0**	**-2.1**
	comp=N,3.9nm,0.8s,baz=218,slow=10,SNR=4.5						
BDFB	**Brasilia**	**29.62**	**55**	LR	LR	15 37 25.0	
	comp=N,117nm,18.2s,baz=218,slow=38						
VNA3	**Neumayer Olymp**	**48.35**	**157**	P	**P**	**15 27 13.7**	**-1.6**
VNA1	**Neumayer--Stat**	**48.68**	**156**	P	P	15 27 29.3	+11
VNA2	**Neumayer--Watz**	**49.01**	**157**	P	**P**	**15 27 19.5**	**-0.9**
	baz=291,slow=11						
SNAA	**Sanae**	**50.57**	**157**	P	**P**	**15 27 34.0**	**+1.7**
SNAA	**Sanae**	**50.57**	**157**	P	**P**	**15 27 32.8**	**+0.4**
	comp=N,3.6nm,0.9s,baz=260,slow=9.2,SNR=8.0						
SNAA	**Sanae**	**50.57**	**157**	*e*P	**P**	**15 27 33.2**	**+0.8**
	comp=N,9.6nm,0.9s						
QSPA	**South Pole Qui**	**54.88**	**180**	P	**P**	**15 28 06.8**	**+2.5**
	comp=N,7.5nm,1.0s,baz=162,slow=8.2,SNR=9.1						
QSPA	**South Pole Qui**	**54.88**	**180**	*e*P	**P**	**15 28 05.9**	**+1.5**
	comp=N,9.9nm,0.9s						
TXAR	**Lajitas Array**	**70.62**	**332**	P	**P**	**15 29 50.0**	**+0.4**
	comp=N,0.2nm,0.4s,baz=139,slow=4.6,SNR=5.4						
BOSA	**Boshof**	**80.00**	**118**	P	**P**	**15 30 45.7**	**+1.9**
	comp=N,2.8nm,0.7s,baz=257,slow=3.0,SNR=5.2						
ECSD	**EROS Data Cent**	**81.65**	**343**	*e*P	**P**	**15 30 50.9**	**-1.0**
	comp=N,8.3nm,1.1s						
ECSD				*e*		15 30 56.5	
NVAR	**Mina Array Bea**	**84.64**	**326**	P	**P**	**15 31 08.7**	**+0.9**
	comp=N,0.5nm,0.7s,baz=158,slow=4.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**85.26**	**70**	P	**P**	**15 31 11.4**	**+0.2**
	comp=N,0.7nm,0.8s,baz=280,slow=4.9,SNR=3.7						
ULM	**Lac du Bonnet**	**87.64**	**345**	P	**P**	**15 31 20.7**	**-1.3**
	comp=N,2.5nm,0.9s,baz=143,slow=3.5,SNR=5.3						
MCMT	**McKenzie Canyo**	**87.68**	**333**	*e*P	**P**	**15 31 22.7**	**+0.1**
	comp=N,2.5nm,1.3s						
WRA	**Warramunga Arr**	**119.27**	**209**	PKP	**PKPdf**	**15 37 26.5**	**+2.6**
	comp=N,0.2nm,0.7s,baz=161,slow=1.7,SNR=5.0						
H11N3	**WAKE ISLAND Hyl**	**25.56**	**270**	T	T	17 55 39.0	
H11N1	**WAKE ISLAND Hyl**	**25.57**	**270**	T	T	17 55 36.7	
	baz=277,slow=74,SNR=7.2						
H11N2	**WAKE ISLAND Hyl**	**25.58**	**270**	T	T	17 55 37.1	
	baz=117,slow=74,SNR=4.2						
ZALV	**Zalesovo Beam**	**155.71**	**33**	PKP	**PKPdf**	**15 38 26.6**	**-0.7**
	comp=N,0.9nm,0.9s,baz=255,slow=4.5,SNR=3.5						
ZALV				PKPbc	PKPbc	15 38 42.0	
	comp=N,0.4nm,0.5s,baz=20,slow=4.9,SNR=3.5						
MKAR	**Makanchi Array**	**158.12**	**51**	PKPab	**PKPab**	**15 39 03.1**	**-1.4**
	comp=N,0.1nm,0.5s,baz=302,slow=2.3,SNR=3.6						
SONM	**Songino Array**	**167.52**	**2**	PKPab	**PKPab**	**15 39 44.8**	**-0.8**
	comp=N,0.6nm,0.9s,baz=335,slow=1.6,SNR=4.4						

ISCJB ***08*** *15:30:17.7±1.1,32°.66S±0°.05×71°.95W±0°.06,h13km±6km, mb4.0/7,Error ellipse: s-maj=10.3km s-min=6.1km az=140.1*
IDC ***08*** *15:30:18.6±0.8,32°.71S×71°.29W,h0km,mb4.0/6, mb1 4.1/10,mb1mx4.0/28,mbtmp3.9/10,ML4.2/4,MS2.5/2, Ms1 2.6/2,ms1mx2.5/26,Error ellipse: s-maj=33.4km s-min=18.6km az=89.0*
NEIC ***08*** *15:30:20.2±1.8,32°.66S×71°.69W,h12km±10km,mb4.1/3, ML4.2(GUC),Error ellipse: s-maj=13.6km s-min=9.0km az=90.0*
NEIC Felt [II] at Los Andes, Quillota and Quintero.
GUC ***08*** *15:30:20.3±0.5,32°.73S×71°.82W,h15km±2km,ML4.1*
ISC 08 15:30:18.9±1.8**,32°.68S**±0°.05×**71°.82W**±0°.07**,h12**km±10km**,**
n45,σ**0**$**72/55,mb4.1/7,13C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.38**	**157**	↑||i*P*	**Pb**	**15 30 27.2**	**-0.4**
IHA				*i* S1	**Sg**	**15 30 32.3**	**+0.7**
IHA	**Instituto Hidr**	**0.38**	**157**	↑||i*P*	**Pb**	**15 30 27.2**	**-0.4**
IHA				*i* S	**Sg**	**15 30 32.3**	**+0.7**
PEL	**Peldehue**	**1.06**	**116**	↑||i*P*	**Pg**	**15 30 39.3**	**-0.1**
PEL				*i* S	**Sg**	**15 30 53.8**	**+0.6**
PEL	**Peldehue**	**1.06**	**116**	↑||i*P*	**Pg**	**15 30 39.3**	**-0.1**

PEL *i* S **Sg** **15 30 53.8 +0.6**
TACH Talagante 1.22 143 ⇑ *i* P **Pn** **15 30 41.5 -0.4**
TACH Talagante 1.22 143 ⇑ *i* P **Pn** **15 30 41.5 -0.4**
SAN Santiago 1.24 129 ⇑ *i* P **Pb** **15 30 42.2 -0.1**
SAN *i* S **Sn** **15 30 58.7 -0.3**
SAN Santiago 1.24 129 ⇑ *i* P **Pb** **15 30 42.2 -0.1**
SAN *i* S **Sn** **15 30 58.7 -0.3**
CLCH Cerro Calan 1.30 124 ⇑ *i* P **Pn** **15 30 43.0 0.0**
CLCH *i* S **Sg** **15 31 00.5 -0.2**
CLCH AML AML 15 31 07.1
comp=N,8μm,0.7s
LNV Longovilo 1.32 165 ⇓ *i* P **Pn** **15 30 42.8 -0.4**
LNV *i* S **Sb** **15 31 00.1 -0.5**
LNV Longovilo 1.32 165 ⇓ *i* P **Pn** **15 30 42.8 -0.4**
LNV *i* S **Sb** **15 31 00.1 -0.5**
ANTU Antumapu 1.34 132 ⇑ *i* P **Pb** **15 30 43.7 -0.2**
ANTU *i* S **Sg** **15 31 01.6 -0.4**
ANTU Antumapu 1.34 132 ⇑ *i* P **Pb** **15 30 43.7 -0.2**
ANTU *i* S **Sg** **15 31 01.6 -0.4**
FCH Farellones 1.44 117 *e* P1 **Pg** **15 30 46.5 -0.1**
FCH *e* S1 **Sg** **15 31 06.0 +0.7**
FCH AML AML 15 31 09.4
comp=E,4μm,0.3s
FCH Farellones 1.44 117 *e* P **Pg** **15 30 46.5 -0.1**
FCH *e* S **Sg** **15 31 06.0 +0.7**
PCH Pirque 1.45 131 ⇑ *i* P **Pb** **15 30 45.9 +0.1**
PCH *e* S1 **Sg** **15 31 04.9 -0.6**
PCH Pirque 1.45 131 ⇑ *i* P **Pb** **15 30 45.9 +0.1**
PCH *e* S **Sg** **15 31 04.9 -0.6**
CHCH Chadas Angostu 1.59 142 *e* P1 **Pb** **15 30 47.8 -0.5**
CHCH *i* S1 **Sb** **15 31 08.5 +0.1**
CHCH Chadas Angostu 1.59 142 *e* P **Pb** **15 30 47.8 -0.5**
CHCH *i* S **Sb** **15 31 08.5 +0.1**
CACH El Canelo 1.76 145 *e* P1 **Pb** **15 30 51.2 0.0**
CACH El Canelo 1.76 145 *e* P **Pb** **15 30 51.2 0.0**
LSCH La Serena 2.80 10 IAML 15 31 49.2
comp=E,610nm,0.5s
CFAA Coronel Fontan 3.22 72 Pn **Pn** **15 31 10.9 +1.5**
comp=E,1.5nm,0.3s,baz=265,slow=3.9,SNR=28
CFAA Lg Lg 15 31 54.2
comp=E,5.1nm,0.3s,baz=9.0,slow=9.5,SNR=7.1
CFAA LR LR 15 32 24.9
comp=E,29nm,19.8s,baz=288,slow=45
PLCA Paso Flores 8.11 173 Pn **Pn** **15 32 18.0 +1.5**
comp=E,2.2nm,0.3s,baz=339,slow=12,SNR=19
TRQA Tornquist 9.66 126 *e* P **Pn** **15 32 40.4 +2.6**
comp=E,12nm,1.1s
CPUP Villa Florida 14.11 67 Pn **Pn** **15 33 36.2 -2.4**
comp=E,0.3nm,0.3s,baz=170,slow=6.0,SNR=2.6
CPUP LR LR 15 38 44.6
comp=E,68nm,19.2s,baz=216,slow=37
LPAZ La Paz 16.66 12 Pn **Pn** **15 34 13.2 +0.3**
comp=E,0.2nm,0.3s,baz=201,slow=8.9,SNR=6.8
SIV San Ignacio 19.26 33 P **P** **15 34 42.8 -0.6**
comp=E,0.3nm,0.3s,baz=226,slow=13,SNR=3.0
EFI East Falkland 21.48 156 *e* P **P** **15 35 07.5 +0.3**
SAML Samuel 24.93 21 *e* P P 15 35 49.4 +7.3
comp=E,3.1nm,0.7s
SNAA Sanae 52.74 158 P **P** **15 39 33.9 +0.7**
comp=E,0.9nm,0.8s,baz=263,slow=9.0,SNR=8.3
SNAA Sanae 52.74 158 *e* P **P** **15 39 33.8 +0.5**
comp=E,1.7nm,0.7s
QSPA South Pole Qui 57.56 180 P **P** **15 40 09.0 +0.8**
comp=E,3.6nm,0.9s,baz=139,slow=1.3,SNR=13
QSPA South Pole Qui 57.56 180 *e* P **P** **15 40 09.3 +1.0**
comp=E,5.9nm,1.2s
H06S1 SOCORRO T 63.36 318 T T 16 51 15.2
SNR=29
TXAR Lajitas Array 68.67 330 P P 15 41 26.1 +3.8
comp=E,0.6nm,0.6s,baz=159,slow=8.1,SNR=4.2
BOSA Boshof 80.52 118 P **P** **15 42 30.9 -0.5**
comp=E,3.4nm,0.9s,baz=176,slow=5.8,SNR=3.3
NVAR Mina Array Bea 82.91 325 P P 15 42 47.9 +4.2
comp=E,0.6nm,0.8s,baz=168,slow=5.7,SNR=5.2
TORD Torodi Ar. Bea 83.59 70 P **P** **15 42 47.3 -0.2**
comp=E,1.8nm,0.8s,baz=283,slow=5.5,SNR=12
H11S2 WAKE ISLAND Hyl 25.96 270 T T 18 08 14.4
baz=118,slow=75,SNR=132
H11S1 WAKE ISLAND Hyl 25.98 270 T T 18 08 13.3
baz=118,slow=75,SNR=209
H11S3 WAKE ISLAND Hyl 25.98 270 T T 18 08 19.8
baz=118,slow=75,SNR=149
ZALV Zalesovo Beam 153.01 31 PKPbc **PKPbc** **15 50 15.6 -0.1**
comp=E,2.2nm,0.6s,baz=318,slow=3.1,SNR=12
ZALV PKPab **PKPab** **15 50 27.1 0.0**
comp=E,0.8nm,0.7s,baz=282,slow=2.9,SNR=4.4
MKAR Makanchi Array 155.74 47 PKPab **PKPab** **15 50 39.0 -0.1**
comp=E,0.5nm,0.5s,baz=293,slow=4.0,SNR=6.9
SONM Songino Array 164.80 5 PKPab **PKPab** **15 51 19.2 +0.8**
comp=E,0.2nm,0.4s,baz=202,slow=8.8,SNR=4.3

IDC 08 15:33:06.3±1.9, 3°.11N×96°.96E, h0km, mb3.3/4, mb1 3.3/5, mb1mx3.2/35, mbtmp3.2/5, ML2.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/18, Error ellipse: s-maj=61.9km s-min=20.3km az=45.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.98**	**99**	Pn		Pn		15 33 41.4	+0.1
	0.9nm,0.3s,baz=297,slow=11,SNR=2.3								
PSI				Sn		Sb		15 34 08.9	+0.1
	1.2nm,0.3s,baz=294,slow=6.4,SNR=4.7								
H08S2	**Diego Garcia H**	**26.65**	**246**	T		T		16 05 16.7	
	baz=69,slow=75,SNR=61								
H08S3	**Diego Garcia H**	**26.65**	**246**	T		T		16 05 17.3	
	baz=69,slow=75,SNR=35								
H08S1	**Diego Garcia H**	**26.67**	**246**	T		T		16 05 19.0	
	baz=69,slow=75,SNR=45								
WRA	**Warramunga Arr**	**43.26**	**124**	P		P		15 41 09.8	-0.2
	0.1nm,0.5s,baz=304,slow=9.0,SNR=3.1								
ASAR	**Alice Springs**	**44.74**	**128**	P		P		15 41 21.7	-0.1
	0.1nm,0.8s,baz=293,slow=7.6,SNR=3.2								
MKAR	**Makanchi Array**	**45.34**	**346**	P		P		15 41 26.1	-0.1
	0.3nm,0.4s,baz=158,slow=9.1,SNR=6.7								
ZALV	**Zalesovo Beam**	**51.65**	**351**	P		P		15 42 14.6	-0.1
	0.9nm,0.6s,baz=177,slow=7.2,SNR=4.7								
OPO	**Ambohidratompo**	**53.52**	**244**	LR		LR		16 01 29.7	
	comp=Z,68nm,19.0s,baz=190,slow=32								

MEX 08 15:35:47.7±0.6, 16°.16N×97°.55W, h18km±48km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.60**	**293**	*e* P		Pg		15 35 57.2	-2.4
PNIG				*i* S		Sg		15 36 05.8	-1.9
VHO	**Vista Hermosa**	**1.20**	**41**	*e* P		Pn		15 36 06.0	-3.9
VHO				*e* S		Sb		15 36 21.2	-4.5
HUIG	**Huatulco**	**1.44**	**105**	*e* P		Pn		15 36 10.0	-3.0
HUIG				*i* S		Sn		15 36 26.0	-5.5
TLIG	**Tlapa**	**1.70**	**325**	*i* P		Pn		15 36 13.7	-3.0
TLIG				*i* S		Sn		15 36 34.2	-4.0
CMIG	**Matias Romero**	**2.72**	**70**	*e* P		Pn		15 36 28.5	-2.1
CMIG				*e* S		Sn		15 36 59.4	-3.8
CAIG	**El Cayaco**	**2.75**	**289**	*i* P		Pn		15 36 28.7	-2.2
CAIG				*e* S		Sn		15 36 59.9	-3.9
PLIG	**Platanillo**	**2.90**	**320**	*e* P		Pn		15 36 30.7	-2.5
PLIG				*e* S		Sn		15 37 04.0	-3.7
ARIG	**Puente Sto Nin**	**3.40**	**309**	*e* P		Pn		15 36 37.8	-2.2

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*IDC **08** 15:40:49.0±1.2, 25°.96N×128°.50E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.4/31, mbtmp3.4/5, ML3.6/1, Error ellipse: s-maj=58.1km s-min=14.8km az=78.0*
*JMA **08** 15:40:51.1±0.2, 25°.95N×128°.72E, h34km±5km, M3.4*
ISC 08 15:40:51.4±3.6, 25°.93N±0°.04×128°.68E±0°.04, h26km±29km, n26, σ1°.04/35, mb3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.83**	**315**	P		Pn		15 41 06.3	-1.1
JNTH				S		**Sn**		**15 41 17.9**	**-0.9**
JJT2	**Tamagusuku 2**	**0.86**	**284**	P		**Pn**		**15 41 07.6**	**-0.3**
JJT2				S		**Sn**		**15 41 19.3**	**-0.3**
JOW	**Kunigami**	**0.97**	**338**	P		Pn		15 41 08.7	-0.6
JOW				S		**Sn**		**15 41 20.6**	**-1.6**
JOW	**Kunigami**	**0.97**	**338**	**Pn**		**Pn**		**15 41 08.8**	**-0.5**
	11nm,0.3s,baz=131,slow=24,SNR=108								
JOW				Sn		**Sn**		**15 41 21.9**	**-0.4**
	17nm,0.3s,baz=112,slow=28,SNR=14								
JIH	**Iheya**	**1.27**	**330**	P		**Pn**		**15 41 13.4**	**-0.1**
JIH				S		**Sn**		**15 41 29.2**	**-0.5**
JOKE	**Okinoerabujima**	**1.43**	**356**	P		**Pn**		**15 41 15.5**	**-0.1**
JOKE				*e* S		**Sn**		**15 41 32.5**	**-1.0**
JAGN	**Aguni-jima**	**1.45**	**297**	P		**Pn**		**15 41 16.3**	**+0.4**
JAGN				S		**Sn**		**15 41 33.8**	**-0.3**
JKE	**Kume jima 2**	**1.75**	**283**	P		**Pn**		**15 41 19.6**	**-0.4**
JKE				S		**Sn**		**15 41 40.2**	**-1.3**
JTK	**Tokunoshima**	**1.86**	**7**	P		**Pn**		**15 41 21.5**	**-0.1**
JTK				S		**Sn**		**15 41 43.3**	**-1.0**
JMZ	**Minamidaito 2**	**2.29**	**92**	P		**Pn**		**15 41 26.7**	**-0.8**
JMZ				*e* S		**Sn**		**15 41 52.9**	**-1.9**
JAMN	**Amaminishikomi**	**2.34**	**11**	P		**Pn**		**15 41 28.3**	**+0.1**
JAMN				*e* S		**Sn**		**15 41 55.6**	**-0.5**
JAM	**Amami Oshima**	**2.60**	**18**	P		**Pn**		**15 41 31.6**	**-0.2**
JAM				*e* S		**Sn**		**15 42 01.6**	**-0.9**
JZK	**Kikaishima**	**2.64**	**26**	*e* S		**Sn**		**15 42 03.0**	**-0.4**
JOGS	**Gusukube**	**3.19**	**249**	P		**Pn**		**15 41 40.0**	**+0.2**
JMJ	**Miyako jima 2**	**3.26**	**251**	P		**Pn**		**15 41 40.8**	**0.0**
JIKM	**Ikemajima**	**3.27**	**253**	P		**Pn**		**15 41 40.8**	**-0.1**
JIRB	**Irabujima**	**3.36**	**252**	P		**Pn**		**15 41 41.7**	**-0.5**
JTJ	**Tarama**	**3.83**	**251**	P		**Pn**		**15 41 47.8**	**-0.8**
JISG	**Ishigakijimahi**	**4.18**	**252**	P		Pn		15 41 52.0	-1.5
JISG				*e* S		**Sn**		**15 42 38.8**	**-2.7**
JIJ	**Ishigaki jima**	**4.40**	**250**	P		Pn		15 41 54.9	-1.6
JKRS	**Kuro-shima**	**4.56**	**249**	P		**Pn**		**15 41 57.6**	**-1.1**
JNU	**Nakatsue**	**7.41**	**14**	Pn		**Pn**		**15 42 39.5**	**+1.5**
	0.8nm,0.3s,baz=170,slow=8.7,SNR=16								
SONM	**Songino Array**	**28.02**	**327**	P		**P**		**15 46 42.1**	**+1.7**
	0.5nm,0.5s,baz=139,slow=10,SNR=11								
MKAR	**Makanchi Array**	**42.03**	**312**	P		**P**		**15 48 40.5**	**-0.3**
	0.3nm,0.5s,baz=97,slow=9.9,SNR=5.6								
WRA	**Warramunga Arr**	**45.93**	**173**	P		**P**		**15 49 14.1**	**+1.9**
	0.3nm,0.7s,baz=353,slow=8.4,SNR=5.8								
ASAR	**Alice Springs**	**49.56**	**174**	P		**P**		**15 49 41.6**	**+1.3**
	0.2nm,0.9s,baz=357,slow=7.4,SNR=3.8								

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*ISCJB **08** 15:41:07.8±0.8, 22°.04S±0°.05×68°.9W±0°.1, h107km±7km, mb3.7/4, Error ellipse: s-maj=17.4km s-min=9.1km az=2.6*
*GUC **08** 15:41:08.0±0.4, 22°.03S×68°.96W, h104km±4km, ML4.0*
*IDC **08** 15:41:09.2±1.2, 22°.04S×68°.78W, h105km±7km, mb3.5/4, mb1 3.6/6, mb1mx3.4/25, mbtmp3.8/6, Error ellipse: s-maj=33.4km s-min=28.8km az=26.0*
ISC 08 15:41:08.8±0.8, 22°.03S±0°.06×68°.9W±0°.1, h102km±7km, n19, σ0°.58/24, mb3.9/4, 6C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.57**	**245**	⇑ *i* P		Pn		15 41 31.0	+5.7
PB04				*i* S		Sn		15 41 48.5	+11
PB04				IAML				15 41 50.5	
	comp=E,3μm,0.3s								
MACH	**Maria Elena**	**0.79**	**257**	*i* P		**Pn**		**15 41 27.1**	**-0.4**
MACH				*i* S		**Sn**		**15 41 41.4**	**0.0**
PB06	**IPOC Station P**	**0.90**	**221**	⇑ *i* P		**Pn**		**15 41 28.2**	**-0.3**
PB06				*i* S		**Sn**		**15 41 43.3**	**-0.1**
PB07	**IPOC Station P**	**0.94**	**288**	⇑ *i* P		**Pn**		**15 41 28.8**	**-0.2**
PB07				*i* S		**Sn**		**15 41 44.1**	**+0.1**
PB07				IAML				15 41 45.8	
	comp=E,5μm,0.3s								
PB01	**IPOC Station P**	**1.11**	**332**	⇑ *i* P		**Pn**		**15 41 30.3**	**-0.4**
PB01				*i* S		**Sn**		**15 41 47.3**	**+0.2**
PB01				IAML				15 41 47.8	
	comp=E,4μm,0.2s								
PATCX	**Punta Patache**	**1.66**	**316**	⇑ *i* P		**Pn**		**15 41 36.6**	**-0.6**
PATCX				*i* S		**Sn**		**15 41 58.9**	**+0.2**
PATCX				IAML				15 42 05.1	
	comp=N,1μm,0.3s								
HMBC	**Humberstone**	**1.96**	**333**	⇑ *i* P		**Pn**		**15 41 40.2**	**-0.8**
HMBC				*i* S		**Sn**		**15 42 05.4**	**-0.2**
HMBC				IAML				15 42 07.0	
	comp=N,1μm,0.4s								
PB10	**IPOC Station P**	**2.11**	**225**	IAML				15 42 32.0	
	comp=N,1μm,0.3s								
PSGC	**Pisagua**	**2.66**	**335**	IAML				15 42 43.4	
	comp=N,562nm,0.4s								
LPAZ	**La Paz**	**5.76**	**8**	P		**Pn**		**15 42 33.4**	**+0.9**
	comp=N,0.7nm,0.3s,baz=234,slow=4.0,SNR=13								
LPAZ				S		Sn		15 43 19.1	-19
	comp=N,0.7nm,0.3s,baz=187,slow=3.5,SNR=8.9								
SIV	**San Ignacio**	**9.55**	**52**	P		**Pn**		**15 43 23.6**	**+0.1**
	comp=N,0.4nm,0.3s,baz=235,slow=8.1,SNR=4.1								
PDAR	**Pinedale Array**	**74.56**	**330**	P		**P**		**15 52 37.9**	**+1.1**
	comp=N,0.3nm,0.6s,baz=123,slow=6.5,SNR=3.1								
ULM	**Lac du Bonnet**	**75.81**	**343**	P		**P**		**15 52 42.5**	**-0.9**
	comp=N,1.3nm,0.5s,baz=158,slow=11,SNR=4.0								
TORD	**Torodi Ar. Bea**	**77.55**	**70**	P		**P**		**15 52 53.4**	**-0.7**
	comp=N,1.1nm,0.5s,baz=254,slow=5.6,SNR=11								
TORD				pP		**pP**		**15 53 19.4**	**-0.8**
	comp=N,0.6nm,0.5s,baz=254,slow=4.9,SNR=3.5								
YKA	**Yellowknife Ar**	**91.67**	**341**	P		**P**		**15 54 04.3**	**+0.1**
	comp=N,0.3nm,0.6s,baz=135,slow=4.4,SNR=10.0								
YKA				pP		**pP**		**15 54 31.8**	**+0.9**
	comp=N,0.5nm,0.7s,baz=135,slow=4.6,SNR=6.5								
ASAR	**Alice Springs**	**129.44**	**207**	PKP		**PKPdf**		**16 00 06.1**	**-0.3**
	comp=N,0.6nm,0.9s,baz=143,slow=1.9,SNR=5.0								
WRA	**Warramunga Arr**	**132.49**	**210**	PKP		**PKPdf**		**16 00 12.7**	**+0.5**
	comp=N,0.3nm,0.7s,baz=163,slow=1.7,SNR=9.2								
ZALV	**Zalesovo Beam**	**142.44**	**25**	PKP		**PKPdf**		**16 00 29.6**	**+0.2**
	comp=N,0.8nm,0.6s,baz=311,slow=5.6,SNR=3.7								
MKAR	**Makanchi Array**	**146.07**	**36**	PKPbc		**PKPdf**		**16 00 36.1**	**+0.2**
	comp=N,1.1nm,0.9s,baz=338,slow=2.6,SNR=9.2								
MKAR				pPKPbc		pPKPbc		16 01 04.8	+0.3
	comp=N,0.4nm,0.6s,baz=315,slow=2.7,SNR=3.6								

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*ISCJB **08** 15:55:36.1±1.7, 34°.1S±0°.2×56°.0E±0°.5, h10km, mb3.7/5, MS3.2/1, Error ellipse: s-maj=57.3km s-min=29.7km az=10.8*
*IDC **08** 15:55:36.6±1.1, 34°.10S×56°.02E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/41, mbtmp3.7/5, MS3.2/1, Ms1 3.2/1, ms1mx2.7/37, Error ellipse: s-maj=42.8km s-min=28.1km az=93.0*
ISC 08 15:55:38.0±1.4, 34°.1S±0°.2×56°.0E±0°.4, h10km, n8, σ0°.67/7, mb3.8/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**48.29**	**201**	LR		LR		16 20 25.9	
	comp=Z,26nm,19.4s,baz=93,slow=31								
QSPA	**South Pole Qui**	**56.08**	**180**	P		**P**		**16 05 16.9**	**-0.2**
	0.9nm,0.6s,baz=264,slow=12,SNR=18								
CMAR	**Chiang Mai Arr**	**66.39**	**45**	P		**P**		**16 06 26.9**	**-0.4**
	1.0nm,0.7s,baz=231,slow=6.7,SNR=9.9								
ASAR	**Alice Springs**	**67.57**	**104**	P		**P**		**16 06 35.2**	**+0.2**
	0.2nm,0.5s,baz=234,slow=6.3,SNR=7.4								
WRA	**Warramunga Arr**	**69.74**	**101**	P		**P**		**16 06 48.9**	**+0.3**
	0.6nm,0.8s,baz=238,slow=5.6,SNR=8.9								
MKAR	**Makanchi Array**	**83.94**	**18**	P		**P**		**16 08 08.1**	**+0.2**
	0.2nm,0.6s,baz=206,slow=5.9,SNR=2.8								
ILAR	**Eielson Array**	**146.29**	**17**	PKPbc		**PKPbc**		**16 15 17.2**	**-0.8**
	0.8nm,0.7s,baz=315,slow=3.9,SNR=9.2								
YKA	**Yellowknife Ar**	**150.96**	**351**	PKPbc		**PKPbc**		**16 15 31.0**	**+0.9**
	1.0nm,0.7s,baz=9.7,slow=2.2,SNR=23								

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*IDC **08** 16:03:11.2±2.7, 17°.81S×178°.94W, h550km±33km, mb3.2/10, mb1 3.5/11, mb1mx3.3/38, mbtmp4.1/11, Error ellipse: s-maj=24.4km s-min=13.7km az=150.0*
ISC 08 16:03:11.5±0.8, 17°.7S±0°.2×178°.9W±0°.1, h550km, n26, σ1°.09/26, mb3.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.41**	**250**	P		**P**		**16 06 14.8**	**-0.4**
	0.3nm,0.3s,baz=286,slow=22,SNR=3.2								
URZ	**Urewera**	**20.77**	**189**	P		**P**		**16 07 12.0**	**-2.3**
	3.6nm,0.8s,baz=355,slow=2.4,SNR=3.3								
EIDS	**Eidsvold**	**28.86**	**249**	P		**P**		**16 08 26.7**	**+0.5**
	baz=30,SNR=3.6								
ARMA	**Armidale**	**29.60**	**239**	P		**P**		**16 08 34.2**	**+1.4**
	baz=32,SNR=12								
MGCD	**Mangrove Creek**	**30.99**	**234**	P		**P**		**16 08 46.0**	**+1.5**
	baz=33,SNR=9.0								
RMQ	**Roma**	**31.11**	**248**	P		**P**		**16 08 46.9**	**+1.3**
	baz=33,SNR=7.1								
CNB	**Canberra Magne**	**33.15**	**232**	P		**P**		**16 09 04.3**	**+1.5**
	baz=35,SNR=14								
CMSA	**Cobar Meteorol**	**34.81**	**240**	P		**P**		**16 09 17.6**	**+0.8**
	baz=37,SNR=19								
QLP	**Quilpie**	**35.13**	**249**	P		**P**		**16 09 20.0**	**+0.5**
	baz=37,SNR=12								
TOO	**Toolangi**	**36.90**	**230**	P		**P**		**16 09 35.7**	**+1.6**
	baz=39,SNR=4.3								
HTT	**Hallett**	**40.81**	**239**	P		**P**		**16 10 07.1**	**+1.4**
	baz=43,SNR=4.1								
BBOO	**Buckleboo**	**43.06**	**241**	P		**P**		**16 10 24.1**	**+0.8**
	baz=45,SNR=6.3								
WRA	**Warramunga Arr**	**44.17**	**259**	P		**P**		**16 10 31.8**	**-0.4**
	1.0nm,0.6s,baz=96,slow=7.4,SNR=34								
ASAR	**Alice Springs**	**44.36**	**254**	P		**P**		**16 10 34.0**	**+0.4**
	9.6nm,0.4s,baz=89,slow=7.9,SNR=496								
ASAR				S		**S**		**16 16 27.0**	**-1.4**
	0.6nm,1.0s,baz=85,slow=14,SNR=4.7								
KDU	**Kakadu**	**47.05**	**269**	P		**P**		**16 10 54.6**	**+0.5**
	baz=48,SNR=5.5								
WRKA	**Warakurna**	**49.42**	**252**	P		**P**		**16 11 12.3**	**+0.5**
	baz=51,SNR=15								
KNRA	**Kununurra**	**50.00**	**264**	P		**P**		**16 11 16.4**	**+0.3**
	baz=51,SNR=4.5								
MJAR	**Matsushiro Arr**	**67.45**	**324**	P		**P**		**16 13 12.0**	**-0.9**
	0.8nm,0.4s,baz=154,slow=6.1,SNR=3.8								
PETK	**Petropavlovsk-**	**73.36**	**346**	P		**P**		**16 13 47.8**	**+0.4**
	1.4nm,0.6s,baz=112,slow=9.5,SNR=3.6								
NVAR	**Mina Array Bea**	**79.63**	**44**	P		**P**		**16 14 22.2**	**-0.2**
	1.1nm,0.8s,baz=224,slow=8.4,SNR=8.6								
ILAR	**Eielson Array**	**85.81**	**13**	P		**P**		**16 14 51.4**	**-1.1**
	0.5nm,0.4s,baz=225,slow=5.2,SNR=17								
TXAR	**Lajitas Array**	**86.32**	**58**	P		**P**		**16 14 57.2**	**+1.2**
	0.8nm,0.8s,baz=226,slow=6.1,SNR=2.8								
PDAR	**Pinedale Array**	**87.56**	**44**	P		**P**		**16 15 01.6**	**-0.1**
	0.6nm,0.6s,baz=210,slow=3.7,SNR=5.0								
CMAR	**Chiang Mai Arr**	**88.34**	**290**	P		**P**		**16 15 05.3**	**-0.3**
	0.2nm,0.6s,baz=94,slow=6.4,SNR=2.9								
BRTR	**Keskin Array B**	**144.28**	**315**	PKP		PKPbc		16 21 45.8	+0.5
	0.4nm,0.5s,baz=148,slow=3.7,SNR=3.3								
GERES	**GERESS Array B**	**147.29**	**344**	PKPbc		**PKPbc**		**16 21 54.0**	**+0.4**
	0.9nm,0.5s,baz=11,slow=2.7,SNR=6.5								

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*BJI **08** 16:04:08.3, 36°.00S×73°.40W, h23km, mB5.3/9, Ms5.5/9, Ms7 5.2/9*
*GUC **08** 16:04:09.4±0.3, 36°.31S×73°.34W, h31km±3km*
*ISCJB **08** 16:04:10.7±0.2, 35°.97S±0°.05×73°.23W±0°.05, h33km, mb4.6/19, MS3.7/2, Error ellipse: s-maj=7.9km s-min=4.5km az=38.9*
*IDC **08** 16:04:11.9±4.3, 35°.98S×73°.16W, h31km±30km, mb4.3/13, mb1 4.4/17, mb1mx4.2/30, mbtmp4.4/17, ML3.9/4, MS3.4/3, Ms1 3.4/3, ms1mx3.2/24, Error ellipse: s-maj=23.0km s-min=12.7km az=90.0*
*NEIC **08** 16:04:12.0±0.3, 35°.95S×73°.26W, h35km, mb5.0/9, Error ellipse: s-maj=9.3km s-min=6.8km az=80.0*
NEIC Felt at Talcahuano.
ISC 08 16:04:11.7±0.4, 36°.02S±0°.06×73°.29W±0°.07, h35km, n240, σ1°.18/258, mb4.7/19, 84C-102D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.42**	**106**	⇑ *i* P		**Pn**		**16 04 18.8**	**-2.4**
COCH				*i* S		**Sn**		**16 04 25.6**	**-2.2**
LNCH	**Linares**	**1.38**	**83**	⇑ *i* P		**Pn**		**16 04 34.1**	**-0.4**
LNCH				*i* S		**Sn**		**16 04 52.9**	**+1.4**
NICH	**Los Niches**	**1.96**	**60**	⇓ *i* P		**Pn**		**16 04 43.9**	**+1.5**
NICH				*i* S		**Sn**		**16 05 10.4**	**+4.6**
PLCA	**Paso Flores**	**5.18**	**156**	Pn		**Pn**		**16 05 27.7**	**+1.0**
	1.1nm,0.3s,baz=327,slow=10,SNR=30								
PLCA				Lg		Lg		16 06 52.4	
	1.2nm,0.3s,baz=262,slow=15,SNR=4.6								
PLCA	**Paso Flores**	**5.18**	**156**	*e* P		**Pn**		**16 05 27.2**	**+0.5**
	59nm,0.7s								
PLCA				Lg		Lg		16 06 52.4	
CFAA	**Coronel Fontan**	**6.08**	**45**	Pn		**Pn**		**16 05 38.3**	**-0.9**
	1.2nm,0.3s,baz=219,slow=12,SNR=48								
CFAA				Lg		Lg		16 07 07.5	
	0.6nm,0.3s,baz=120,slow=20,SNR=7.9								
CFAA				LR		LR		16 08 18.7	
	comp=Z,48nm,21.5s,baz=212,slow=41								
TRQA	**Tornquist**	**9.27**	**106**	*e* P		**Pn**		**16 06 24.9**	**+2.1**
	44nm,1.1s								
LVC	**Limon Verde**	**13.89**	**17**	*e* P		Pn		16 07 20.7	-5.6
	7.6nm,0.6s								
CPUP	**Villa Florida**	**16.71**	**59**	Pn		**Pn**		**16 08 01.6**	**-1.4**
	0.3nm,0.3s,baz=207,slow=14,SNR=3.9								
USHA	**Ushuaia**	**19.11**	**171**	P		**Pn**		**16 08 33.4**	**+1.1**
	0.2nm,0.3s,baz=318,slow=6.5,SNR=3.2								
LPAZ	**La Paz**	**20.18**	**14**	P		Pn		16 08 45.2	-0.9
	4.9nm,0.6s,baz=190,slow=6.6,SNR=27								
SIV	**San Ignacio**	**22.73**	**32**	P		**P**		**16 09 10.2**	**-0.5**
	18nm,0.9s,baz

	baz=72					
330A	Mertzon	71.99	335	⇓P	P	16 15 32.1 +0.4
	baz=72					
231A	Bronte	72.19	336	⇓P	P	16 15 33.4 +0.5
	baz=72					
329A	Wagon Wheel Ra	72.34	335	⇓P	P	16 15 34.6 +0.7
	baz=73					
133A	Hamilton Ranch	72.36	337	⇓P	P	16 15 34.8 +0.9
	baz=73					
Z35A	Perchaven, San	72.54	339	⇑P	P	16 15 35.5 +0.6
	baz=73					
ABTX	Abilene, Hawle	72.61	337	⇑P	P	16 15 35.9 +0.5
	baz=73					
131A	Roby	72.89	336	⇓P	P	16 15 37.5 +0.5
	baz=73					
Z33A	Whitaker Ranch	72.95	338	⇑P	P	16 15 37.8 +0.5
	baz=73					
WVT	Waverly	73.04	348	eP	P	16 15 37.4 -0.5
	21nm,1.0s					
228A	UT Block 9, Go	73.13	334	⇓P	P	16 15 38.9 +0.3
	baz=73					
Z32A	Haskell	73.19	337	⇓P	P	16 15 39.4 +0.6
	baz=74					
Y34A	Reagan Ranch,	73.27	339	⇓P	P	16 15 40.0 +0.7
	baz=74					
Z31A	Sharp Cattle R	73.41	337	⇑P	P	16 15 40.8 +0.7
	baz=74					
JSRW	J. Sargeant Re	73.47	356	eP	P	16 15 40.4 +0.2
Y33A	Hilltop Ranch,	73.58	338	⇑P	P	16 15 41.9 +0.8
	baz=74					
Y32A	R-V Farms, Ver	73.82	338	⇑P	P	16 15 43.1 +0.6
	baz=74					
Z29A	Hungry Hill Ra	73.87	335	⇓P	P	16 15 42.9 0.0
	baz=74,SNR=5.0					
X34A	Smith Ranch, M	73.89	339	⇓P	P	16 15 43.5 +0.6
	baz=74					
X32A	Elmer	74.16	338	⇑P	P	16 15 44.9 +0.4
	baz=74					
W34A	Bridge Creek,	74.47	339	⇓P	P	16 15 46.8 +0.6
	baz=75					
TUL1	Leonard	74.56	341	⇑P	P	16 15 46.8 +0.1
	baz=75					
X31A	McDonald Ranch	74.57	337	⇓P	P	16 15 47.4 +0.5
	baz=75					
W33A	Caddo, Fort Co	74.59	339	⇓P	P	16 15 47.8 +0.9
	baz=75					
W32A	Sentinel	74.80	338	⇓P	P	16 15 48.9 +0.8
	baz=75					
MSTX	Muleshoe	74.88	335	⇓P	P	16 15 49.3 +0.6
	baz=75					
V34A	Guthrie	74.96	340	⇑P	P	16 15 49.6 +0.6
	baz=75					
W31A	Holland Ranch,	75.07	338	⇓P	P	16 15 50.4 +0.6
	baz=75					
V33A	Lossen Ranch,	75.17	339	⇓P	P	16 15 50.9 +0.7
	baz=76					
Y26A	Elida	75.20	334	⇓P	P	16 15 51.2 +0.5
	baz=76					
V32A	Arapaho	75.29	339	⇓P	P	16 15 51.9 +0.9
	baz=76					
AMTX	Amarillo	75.34	336	⇓P	P	16 15 52.2 +0.8
	baz=76					
AMTX	Amarillo	75.34	336	eP	P	16 15 51.8 +0.4
	21nm,1.2s					
U34A	Anderson Ranch	75.53	340	⇑P	P	16 15 52.6 +0.3
	baz=76					
W29A	Amarillo	75.55	336	⇑P	P	16 15 53.1 +0.6
	baz=76					
X26A	CR and CF Fran	75.76	334	⇓P	P	16 15 54.7 +0.8
	baz=76					
Y24A	Capitan	75.79	333	⇓P	P	16 15 54.5 +0.4
	baz=76					
W27A	Bowe Ranch, En	75.97	335	⇓P	P	16 15 55.8 +0.8
	baz=76					
Y23A	Lovelace Mesa,	76.02	332	⇑P	P	16 15 56.6 +1.2
	baz=76					
X25A	Clemmons Ranch	76.04	334	⇑P	P	16 15 55.9 +0.4
	baz=76					
W26A	Owens Ranch, T	76.23	335	⇑P	P	16 15 57.5 +1.0
	baz=76					
V28A	Channing	76.31	336	⇑P	P	16 15 58.1 +1.2
	baz=77					
T33A	Patterson Ranc	76.33	340	⇑P	P	16 15 57.9 +1.1
	baz=77					
X24A	Lazy VL Ranch,	76.36	333	⇓P	P	16 15 58.0 +0.7
	baz=77					
U30A	WK&E Inc. Balk	76.53	338	⇑P	P	16 15 58.9 +0.8
	baz=77					
W25A	X Bar L Ranch,	76.59	334	⇓P	P	16 15 59.0 +0.4
	baz=77					
T32A	Huddler Ranch,	76.61	339	⇑P	P	16 15 59.6 +1.1
	baz=77					
X23A	Hourglass Bar	76.65	333	⇑P	P	16 16 00.1 +1.1
	baz=77					
DBIC	Dimbokro	76.79	72	P	P	16 16 00.7 +0.6
	6.7nm,0.7s,baz=235,slow=6.2,SNR=6.3					
V26A	Tequesquite Ra	76.88	335	⇓P	P	16 16 00.9 +0.7
	baz=77					
U28A	Mallet	76.89	336	⇓P	P	16 16 00.8 +0.6
	baz=77					
W24A	Lazy 6 Ranch,	76.93	333	⇓P	P	16 16 01.0 +0.5
	baz=77					
U27A	Thompson Grove	77.12	336	⇑P	P	16 16 02.3 +0.8
	baz=77					
S31A	Mullinville	77.19	339	⇑P	P	16 16 02.8 +1.1
	baz=78					
V25A	Rancho No Teng	77.21	334	⇓P	P	16 16 02.6 +0.5
	baz=78,SNR=6.2					
T29A	Hugoton	77.30	337	⇓P	P	16 16 03.5 +1.0
	baz=78					
V24A	Rampart Ranch,	77.34	334	⇓P	P	16 16 03.6 +0.7
	baz=78					
R33A	Olander Ranch,	77.41	340	⇓P	P	16 16 04.1 +1.2
	baz=78					
U26A	Atchley Ranch,	77.41	335	⇑P	P	16 16 04.0 +0.8
	baz=78					
S30A	Montezuma	77.50	338	⇑P	P	16 16 04.8 +1.3
	baz=78					
T28A	Walsh	77.53	337	⇑P	P	16 16 04.7 +1.0
	baz=78					
U25A	Circle Dot Ran	77.64	335	⇓P	P	16 16 05.5 +1.0
	baz=78					
T27A	Campo	77.67	336	⇓P	P	16 16 05.4 +0.8
	baz=78,SNR=5.5					
S29A	Ulysses	77.68	338	⇓P	P	16 16 05.0 +0.5
	baz=78					
R32A	Long Quarter,	77.71	340	⇑P	P	16 16 05.5 +0.9
	baz=78					
S28A	Manter	77.89	337	⇓P	P	16 16 07.2 +1.5
	baz=78					
R30A	Dighton	78.03	339	⇓P	P	16 16 07.1 +0.6
	baz=78					
T26A	Comanche Natio	78.06	336	⇑P	P	16 16 07.6 +0.8
	baz=78,SNR=5.5					
V22A	San Miguel Ran	78.10	333	⇓P	P	16 16 09.0 +1.9
	baz=78					
Q32A	Meitler Ranch,	78.20	340	⇑P	P	16 16 07.5 +0.2
	baz=78					
T25A	Trinidad	78.31	335	⇑P	P	16 16 09.5 +1.2
	baz=79,SNR=6.7					
R29A	Marienthal	78.42	338	⇓P	P	16 16 09.4 +0.8
	baz=79					
S26A	Kim	78.43	336	⇓P	P	16 16 09.4 +0.6
	baz=79,SNR=9.0					
Q31A	Ellis	78.45	340	⇓P	P	16 16 09.6 +0.9
	baz=79					
R28A	Tribune	78.55	337	⇓P	P	16 16 10.6 +1.2
	baz=79					
T24B	San Luis	78.58	334	⇓P	P	16 16 10.9 +1.1
	baz=79					
X16A	Lo Mia Camp, P	78.60	329	⇓P	P	16 16 10.7 +0.8
	baz=79					
Q30A	Quinter	78.66	339	⇓P	P	16 16 10.8 +0.8
	baz=79					
S25A	Robets Cordova	78.79	335	⇓P	P	16 16 11.6 +0.8
	baz=79					
Q29A	Oakley	78.80	338	⇑P	P	16 16 11.3 +0.6
	baz=79					
R27A	Eads	78.81	337	⇑P	P	16 16 11.3 +0.5
	baz=79					
P31A	Stockton	78.92	340	⇓P	P	16 16 12.5 +1.1
	baz=79					
S24A	Houchin Ranch,	79.03	335	⇓P	P	16 16 12.7 +0.4
	baz=79					
R26A	Arlington	79.04	336	⇓P	P	16 16 14.3 +2.2
	baz=79					
P30A	Selden	79.19	339	⇑P	P	16 16 14.2 +1.4
	baz=80					
Q28A	Sharon Springs	79.22	338	⇑P	P	16 16 14.5 +1.5
	baz=80					
P29A	Atwood	79.45	339	⇓P	P	16 16 15.3 +1.1
	baz=80					
WUAZ	Wupatki	79.52	329	⇑P	P	16 16 16.4 +1.6
	baz=80					
R24A	Sanders Place,	79.53	335	⇓P	P	16 16 15.7 +0.8
	baz=80					
Q26A	Hugo	79.63	336	⇓P	P	16 16 16.2 +0.9
	baz=80					
S22A	4UR Ranch, Cre	79.70	334	⇓P	P	16 16 16.6 +0.6
	baz=80					
BC3	Big Chuckawall	79.73	325	⇓P	P	16 16 17.5 +1.5
	baz=80					
R23A	Moffat	79.74	334	⇑P	P	16 16 16.8 +0.7
	baz=80					
BOSA	Boshof	80.04	118	P	P	16 16 18.8 +0.7
	8.2nm,0.8s,baz=257,slow=4.1,SNR=10					
W13A	Hualapai Mount	80.23	327	⇑P	P	16 16 20.3 +1.5
	baz=80					
P25A	Willow Gulch B	80.37	336	⇓P	P	16 16 20.7 +1.4
	baz=81					
U15A	North Rim	80.68	329	⇑P	P	16 16 22.7 +1.5
	baz=81					
GMRC	Granite Mounta	80.76	326	⇓P	P	16 16 22.6 +1.1
	baz=81					
O26A	Horse Wrangler	80.76	337	⇑P	P	16 16 23.1 +1.7
	baz=81					
ISCO	Idaho Springs	81.11	335	⇑P	P	16 16 23.9 +0.4
	baz=81					
P22A	Eagle	81.32	334	⇓P	P	16 16 26.0 +1.5
	baz=82					
O23A	Lake Granby, G	81.58	335	⇓P	P	16 16 27.1 +1.2
	baz=82					
L29A	Maesberg Ranch	81.59	340	⇓P	P	16 16 27.3 +1.6
	baz=82					
O22A	Kremmling	81.75	335	⇑P	P	16 16 27.8 +0.9
	baz=82					
ECSD	EROS Data Cent	82.16	343	⇑P	P	16 16 29.1 +0.5
	baz=82					
ECSD	EROS Data Cent	82.16	343	eP	P	16 16 27.7 -0.9
	20nm,1.1s					
N23A	Red Feather La	82.20	336	⇓P	P	16 16 30.4 +1.2
	baz=82					
N22A	Wattenberg Ran	82.29	335	⇑P	P	16 16 31.1 +1.5
	baz=83					
M24A	Cheyenne	82.35	337	⇑P	P	16 16 30.7 +0.9
	baz=83					
LBTB	Lobatse	82.38	115	P	P	16 16 31.1 +0.6
	baz=264,slow=6.9					
J29A	Okreek	82.80	340	⇓P	P	16 16 32.8 +0.9
	baz=83					
R11A	Troy Canyon, C	83.70	328	⇑P	P	16 16 38.4 +1.6
	baz=84					
K23A	Bowen Ranch, D	83.77	337	⇑P	P	16 16 38.2 +1.1
	baz=84					
H29A	Onida	83.90	341	⇑P	P	16 16 38.0 +0.4
	baz=84					
G30A	Faulkton	84.09	342	⇓P	P	16 16 39.5 +1.0
	baz=84					
DUG	Dugway, Tooele	84.11	331	⇓P	P	16 16 40.1 +1.2
	baz=84					
K21A	Alcova	84.19	336	⇑P	P	16 16 39.9 +0.5
	baz=84					
I25A	Rochford	84.33	338	⇓P	P	16 16 41.1 +1.1
	baz=85					
J22A	Midwest	84.64	336	⇑P	P	16 16 41.3 -0.1
	baz=85					
HWUT	Hardware Ranch	84.84	332	eP	P	16 16 42.8 +0.2
	5.8nm,1.0s					
F29A	Eureka	84.92	342	⇑P	P	16 16 43.4 +0.7
	baz=85					
NVAR	Mina Array Bea	84.97	326	P	P	16 16 44.8 +1.4
	2.4nm,0.9s,baz=154,slow=6.4,SNR=11					
I22A	9 Mile Ranch,	85.07	337	⇓P	P	16 16 44.0 +0.4
	baz=85					
PDAR	Pinedale Array	85.11	334	P	P	16 16 45.0 +1.0
	1.3nm,1.0s,baz=145,slow=3.6,SNR=6.4					
J20A	Shoshoni	85.11	335	⇑P	P	16 16 44.7 +0.9
	baz=85					
G26A	Maurine	85.17	340	⇑P	P	16 16 44.3 +0.3
	baz=86					
H24A	Dirks Ranch, A	85.23	338	⇓P	P	16 16 44.9 +0.5
	baz=86					
I21A	Big Trails, Te	85.26	336	⇑P	P	16 16 45.2 +0.6
	baz=86					
J19A	Crowheart	85.37	335	⇑P	P	16 16 45.7 +0.5
	baz=86					
HVU	Hansel Valley	85.45	332	eP	P	16 16 45.0 -0.6
	4.4nm,1.0s					
F27A	Lemmon	85.54	340	⇑P	P	16 16 46.7 +0.9
	baz=86					
I20A	Worland	85.66	336	⇑P	P	16 16 47.4 +0.9
	baz=86					
D30A	Buchanan	85.85	343	⇓P	P	16 16 49.0 +1.7
	baz=86					
TORD	Torodi Ar. Bea	85.85	71	P	P	16 16 47.0 -1.0
	2.4nm,1.0s,baz=244,slow=3.6,SNR=7.4					
G23A	Biddle	85.90	338	⇑P	P	16 16 48.2 +0.5
	baz=86					
D29A	Pettibone, Tap	86.01	342	⇑P	P	16 16 48.8 +0.7
	baz=86					
H20A	Greybull	86.09	336	⇑P	P	16 16 49.1 +0.4
	baz=86					
F24A	Ekalaka	86.20	339	⇓P	P	16 16 49.6 +0.5
	baz=86					
C30A	Mose, Pekin	86.34	343	⇑P	P	16 16 50.2 +0.6
	baz=87,SNR=5.3					
I17A	Pilgrim Ck.	86.48	334	⇓P	P	16 16 51.7 +0.9
	baz=87					
F22A	Rosebud	86.69	338	⇓P	P	16 16 51.8 +0.3
	baz=87					
D26A	Manning	86.71	341	⇓P	P	16 16 51.9 +0.4
	baz=87,SNR=7.0					
MDND	Maddock	86.75	343	⇓P	P	16 16 52.6 +1.0
	baz=87					
E24A	Baker	86.81	339	⇓P	P	16 16 53.4 +1.3
	baz=87					
G20A	Bridger	86.81	336	⇑P	P	16 16 52.6 +0.4
	baz=87					
H18A	Shoshone NF, C	86.82	335	⇓P	P	16 16 52.6 +0.2
	baz=87					
B30A	Myrvik Farm, E	87.01	344	⇓P	P	16 16 53.0 0.0
	baz=87,SNR=7.5					
D25A	Fairfield	87.07	340	⇓P	P	16 16 54.6 +1.3
	baz=87					
C27A	Sayler Ranch,	87.10	341	⇓P	P	16 16 54.6 +1.2
	baz=87					
E22A	Miles City	87.18	338	⇑P	P	16 16 54.7 +0.8
	baz=88					
B29A	Wagenman Farm,	87.26	343	⇓P	P	16 16 55.1 +1.0
	baz=88					
A30A	Hoffart Farm,	87.46	344	⇑P	P	16 16 55.3 +0.2
	baz=88					
B28A	Dugan Ranch, T	87.49	342	⇑P	P	16 16 55.9 +0.7
	baz=88					
HLID	Hailey	87.60	331	⇓P	P	16 16 57.3 +1.2
	baz=88					
D23A	Lindsay	87.62	339	⇓P	P	16 16 56.8 +0.8
	baz=88					
A29A	Manning Farm,	87.66	343	⇓P	P	16 16 55.7 -0.3
	baz=88,SNR=9.6					
A28A	Rude Farm, Bot	87.89	343	⇑P	P	16 16 57.6 +0.4
	baz=88					
E20A	Meyer Farm, Mu	87.92	337	⇑P	P	16 16 58.1 +0.7
	baz=88					
B25A	Knox Farm, Ray	88.05	341	⇑P	P	16 16 59.3 +1.4
	baz=88					
MCMT	McKenzie Canyo	88.08	333	eP	P	16 16 59.5 +1.1
	1.6nm,1.0s					
E19A	Rath Farm, Rou	88.09	336	⇑P	P	16 16 59.2 +0.9
	baz=88					
ULM	Lac du Bonnet	88.19	346	P	P	16 16 58.5 0.0
	7.5nm,0.8s,baz=174,slow=2.6,SNR=14					
C23A	Lambert	88.19	339	⇓P	P	16 16 59.4 +0.8
	baz=88					
DGMT	Dagmar	88.51	340	⇑P	P	16 17 01.5 +1.3
	baz=89					
A25A	Svangstu Ranch	88.65	341	⇑P	P	16 17 02.4 +1.6
	baz=89					
A22A	Carney Farms,	89.47	339	⇑P	P	16 17 04.7 0.0
	baz=90					
B19A	Brinkman Farms	89.91	337	⇑P	P	16 17 06.9 +0.2
	baz=90					
A20A	Cobblestone Ra	89.97	338	⇓P	P	16 17 07.5 +0.5
	baz=90					
ILAR	Eielson Array	115.52	333	PKP	PKPdf	16 22 48.8 -0.1
	0.4nm,0.8s,baz=196,slow=13,SNR=3.8					
WRA	Warramunga Arr	118.50	210	PKP	PKPdf	16 22 55.0 -1.2
	0.8nm,0.9s,baz=159,slow=1.7,SNR=7.0					
ABKAR	Akbulak array	143.72	54	ePKPpre	PKPpre	16 23 39.7
PSI	Prapat	146.17	166	PKPbc	PKPbc	16 23 48.7 -0.3
	5.6nm,0.5s,baz=334,slow=0.7,SNR=4.7					
HYB	Hyderabad	148.93	119	i PKP	PKPbc	16 23 55.5 -0.8
BVAR	Borovoye Array	149.44	45	PKPbc	PKPbc	16 23 55.2 -1.3
	1.8nm,0.6s,baz=282,slow=2.2,SNR=16					
KKAR	Karatay Array	151.37	65	ePKPbc	PKPbc	16 24 01.2 -0.2
AAK	Ala-Archa	154.32	65	PKP	PKPdf	16 24 00.8 +0.9
	0.5nm,0.6s,baz=294,slow=5.1,SNR=2.9					
AAK				PKPbc	PKiKP	16 24 08.5 +0.2
	1.6nm,0.8s,baz=255,slow=2.3,SNR=7.4					
AAK				PKPab	PKPab	16 24 22.3 -0.1
	2.2nm,0.7s,baz=168,slow=5.7,SNR=7.4					
KSH	Kashi	155.51	73	PKP	PKPdf	16 24 01.0 -0.6
KSH				sPKP		16 24 10.4
KSH				PKS	PKSdf	16 27 34.0 -1.7
KSH				PP	PP	16 28 04.8 0.0
KSH				SKS	SKSdf	16 31 06.0 +0.7
KSH				SKKS	SKKSac	16 34 54.2 +2.8
KSH				SS	SS	16 47 46.5 -2.4
KSH				PPMZ		
	120nm,4.7s					
KSH				LN		
	89nm,5.5s					
KSH				LE		
	120nm,5.5s					
KSH				LZ		
	210nm,8.0s					
ZALV	Zalesovo Beam	156.47	34	PKP	PKPdf	16 24 02.2 0.0
	0.9nm,0.6s,baz=304,slow=2.7,SNR=5.7					
ZALV				PKPbc	PKPbc	16 24 11.1
	0.8nm,0.6s,baz=298,slow=3.2,SNR=4.4					
ZALV				PKPab	PKPab	16 24 31.9 +0.9
	2.7nm,0.8s,baz=296,slow=5.7,SNR=7.2					
MKAR	Makanchi Array	158.84	52	PKP	PKPdf	16 24 05.3 -0.1
	0.7nm,0.8s,baz=35,slow=0.7,SNR=8.7					
MKAR				PKPab	PKPab	16 24 41.3 -0.2
	0.8nm,0.8s,baz=309,slow=3.2,SNR=7.3					
CMAR	Chiang Mai Arr	161.21	157	PKPab	PKPab	16 24 52.2 -0.1
	0.3nm,0.7s,baz=222,slow=5.1,SNR=4.5					
CN2	Changchun	163.68	304	ePKP	PKPdf	16 24 10.0 -0.6
CN2				PP	PP	16 28 50.1 +1.6
CN2				SS	SS	16 49 09.3 -4.9
CN2				PPMZ		
	200nm,7.0s					
CN2				LN		
	400nm,20.0s					
CN2				LE		
	300nm,20.0s					
CN2				LZ		
	200nm,20.0s					
SONM	Songino Array	168.19	1	PKPab	PKPab	16 25 23.1 +0.6
	1.2nm,0.8s,baz=337,slow=5.0,SNR=10					
GYA	Guiyang	170.47	180	ePKP	PKPdf	16 24 15.2 -1.1
GYA				pPKP	pPKPdf	16 24 24.3 -3.5
GYA				PKPab	PKPab	16 25 33.9 +0.8
GYA				PKS	PKSdf	16 27 46.2 -2.7
GYA				PP	PP	16 29 25.0 +2.6
GYA				SKKS		16 36 07.4
GYA				SS	SS	16 50 22.5 +1.7
GYA				PPMZ		
	120nm,8.5s					
GYA				LN		
	120nm,22.8s					
GYA				LE		
	110nm,22.4s					
GYA				LZ		
	120nm,21.6s					
HHC	Hu-ho-hao-te	173.85	323	ePKP	PKPdf	16 24 15.7 -1.7
HHC				pPKP	pPKPdf	16 24 26.5 -2.4
HHC				sPKP		16 24 30.1
HHC				PP	PP	16 29 40.5 +0.8
HHC				SKS	SKSdf	16 31 13.6 -4.2
HHC				SS	SS	16 50 49.6 -5.4
HHC				PPMZ		
	140nm,9.9s					
HHC				LN		
	390nm,18.5s					
HHC				LE		
	370nm,16.0s					
HHC				LZ		
	420nm,17.3s					
CD2	Chengdu	174.34	153	ePKP	PKPdf	16 24 17.6 -0.2
LZH	Lanzhou	177.68	87	ePKP	PKPdf	16 24 17.9 -0.6
LZH				pPKP	pPKPdf	16 24 26.1 -3.9
LZH				sPKP		16 24 28.9
LZH				LN		
	220nm,18.2s					
LZH				LE		
	230nm,18.3s					
LZH				LZ		
	280nm,20.1s					

*ISK **08** 16:07:11.8, 40.˚45N×29.˚13E, h3km, ML3.5*
*ISCJB **08** 16:07:12.3±0.3, 40.˚46N±0.˚02×29.˚14E±0.˚02, h1km±3km, Error ellipse: s-maj=3.3km s-min=2.4km az=16.8*
*CSEM **08** 16:07:12.6±0.1, 40.˚45N×29.˚14E, h2km, ML3.5, Error ellipse: s-maj=2.1km s-min=1.7km az=21.0*
*DDA **08** 16:07:12.2, 40.˚42N×29.˚11E, h25km, MD3.5*
*THE **08** 16:07:14.8, 40.˚56N×29.˚21E, h17km±5km, Error ellipse: s-maj=6.7km s-min=1.1km az=29.0*

ISC 08 16:07:12.6±0.8, 40.˚44N±0.˚02×29.˚14E±0.˚01, h3km±6km, n153, σ0.67/184, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEMT	Gemlik	0.04	91	PG	Pg	16 07 13.3	-0.2
GEMT				SG	Sg	16 07 14.3	+0.2
GEMT	Gemlik	0.04	91	i Pg	Pg	16 07 13.3	-0.2
GEMT				i Sg	Sg	16 07 14.3	+0.2
MDNY	Mudanya-Bursa	0.21	251	ePG	Pg	16 07 17.1	+0.6
MDNY				eSG	Sg	16 07 20.4	+1.2
MDNY	Mudanya-Bursa	0.21	251	ePg	Pg	16 07 17.1	+0.6
MDNY				eSg	Sg	16 07 20.4	+1.2
ARMT	Armutlu	0.25	302	ePG	Pg	16 07 17.5	+0.1
ARMT				eSG	Sg	16 07 21.6	+0.9
ARMT	Armutlu	0.25	302	ePg	Pg	16 07 17.5	+0.1
ARMT				eSg	Sg	16 07 21.6	+0.9
ULDT	Uludag	0.29	181	i P	Pg	16 07 18.0	-0.3
ULDT				i S	Sb	16 07 24.6	-1.3
ULDT	Uludag	0.29	181	i P	Pg	16 07 18.0	-0.3
ULDT				i S	Sb	16 07 24.6	-1.3
ORLT	Orhaneli	0.43	206	ePG	Pg	16 07 20.6	-0.3
ORLT	Orhaneli	0.43	206	ePg	Pg	16 07 20.6	-0.3
ADVT	Abdulvahap	0.46	90	ePG	Pg	16 07 21.4	0.0
ADVT	Abdulvahap	0.46	90	ePg	Pg	16 07 21.4	0.0
HRT	Hereke	0.56	46	ePG	Pg	16 07 23.1	-0.2
HRT	Hereke	0.56	46	ePg	Pg	16 07 23.1	-0.2
CAVI	Cavuskoy	0.59	113	ePG	Pg	16 07 23.2	-0.6
CAVI	Cavuskoy	0.59	113	ePg	Pg	16 07 23.2	-0.6
KCTX	Karacabey (Bur	0.62	254	ePG	Pg	16 07 24.3	-0.2
KCTX	Karacabey (Bur	0.62	254	ePg	Pg	16 07 24.3	-0.2
ISK	Istanbul-Kandi	0.63	354	P	Pg	16 07 25.2	+0.5
ISK	Istanbul-Kandi	0.63	354	ePG	Pg	16 07 24.3	-0.4
ISK	Istanbul-Kandi	0.63	354	ePg	Pg	16 07 24.3	-0.4
ISK	Istanbul-Kandi	0.63	354	P	Pg	16 07 25.2	+0.5
BGKT	Bogazkoy	0.80	340	ePG	Pg	16 07 27.3	-0.5
BGKT	Bogazkoy	0.80	340	ePg	Pg	16 07 27.3	-0.5
SILT	Sile	0.81	28	ePG	Pg	16 07 28.0	-0.1
SILT	Sile	0.81	28	ePg	Pg	16 07 28.0	-0.1
KLYT	Kilyos	0.82	355	ePG	Pg	16 07 28.2	-0.1
KLYT	Kilyos	0.82	355	ePg	Pg	16 07 28.2	-0.1
ELBA	Catalca	0.89	323	i P	Pb	16 07 30.4	-0.3
ELBA				i S	Sb	16 07 42.2	-0.8
ELBA	Catalca	0.89	323	i P	Pb	16 07 30.4	-0.3
ELBA				i S	Sb	16 07 42.2	-0.8
GPA	Golpazari	0.91	99	ePG	Pg	16 07 30.1	+0.2
GPA	Golpazari	0.91	99	ePg	Pg	16 07 30.1	+0.2
SPNC	Sapanca-Adapaz	0.93	74	ePG	Pg	16 07 30.4	+0.1
SPNC	Sapanca-Adapaz	0.93	74	ePg	Pg	16 07 30.4	+0.1
CTKS	Kestanelik-??a	0.93	329	ePG	Pg	16 07 30.1	-0.3
CTKS	Kestanelik-??a	0.93	329	ePg	Pg	16 07 30.1	-0.3
EDC	Edincik	0.98	265	ePG	Pg	16 07 30.9	-0.4
EDC	Edincik	0.98	265	ePg	Pg	16 07 30.9	-

SLVT	Silivri	1.06 319	*e*Pg		Pg	16 07 32.9	0.0
BORA	Eskisehir	1.15 118	*i* P		Pg	16 07 33.5	-1.1
BORA			*i* S		Sn	16 07 52.0	+0.1
BORA	Eskisehir	1.15 118	*i* P		Pg	16 07 33.5	-1.1
BORA			*i* S		Sn	16 07 52.0	+0.1
MRMT	Marmara Adasi	1.19 279	*e*PN		Pg	16 07 35.2	-0.2
MRMT	Marmara Adasi	1.19 279	*e*Pn		Pg	16 07 35.2	-0.2
CTYL	Yal??k??y-??at	1.22 328	*e*PN		Pg	16 07 35.6	-0.4
CTYL	Yal??k??y-??at	1.22 328	*e*Pn		Pg	16 07 35.6	-0.4
BALB	Balikesir	1.25 231	*e*PN		Pb	16 07 36.7	-0.1
BALB	Balikesir	1.25 231	*e*Pn		Pb	16 07 36.7	-0.1
CRLT	Corlu	1.27 303	*e*PN		Pg	16 07 36.6	-0.3
CRLT	Corlu	1.27 303	*e*Pn		Pg	16 07 36.6	-0.3
TKR	Tekirdag	1.34 295	*e*PN		Pg	16 07 38.1	-0.1
TKR	Tekirdag	1.34 295	*e*Pn		Pg	16 07 38.1	-0.1
GDZ	Gediz	1.37 169	*i* P		Pn	16 07 37.9	-0.8
GDZ			*i* S		Sg	16 07 56.6	0.0
GDZ	Gediz	1.37 169	*i* P		Pn	16 07 37.9	-0.8
GDZ			*i* S		Sg	16 07 56.6	0.0
HENT	Hendek	1.39 73	*i* P		Pn	16 07 38.1	-0.8
HENT			*i* S		Sn	16 07 58.7	+0.8
HENT	Hendek	1.39 73	*i* P		Pn	16 07 38.1	-0.8
HENT			*i* S		Sn	16 07 58.7	+0.8
KRBG	Karabiga-Canak	1.41 269	*e*PN		Pn	16 07 38.4	-0.7
KRBG	Karabiga-Canak	1.41 269	*e*Pn		Pn	16 07 38.4	-0.7
BTAS	Tasketsi	1.43 84	*i* P		Pn	16 07 38.9	-0.5
BTAS			*i* S		Sn	16 07 59.1	+0.5
BTAS	Tasketsi	1.43 84	*i* P		Pn	16 07 38.9	-0.5
BTAS			*i* S		Sn	16 07 59.1	+0.5
RKY	Sarkoy-Tekirda	1.52 280	*e*PN		Pn	16 07 40.7	+0.1
RKY	Sarkoy-Tekirda	1.52 280	*e*Pn		Pn	16 07 40.7	+0.1
ALT	Altintas	1.57 151	P		Pn	16 07 41.7	+0.3
ALT			S		Sb	16 08 02.6	+0.1
ALT	Altintas	1.57 151	*e*PN		Pb	16 07 42.1	-0.2
ALT	Altintas	1.57 151	P		Pn	16 07 41.7	+0.3
ALT	Altintas	1.57 151	*e*Pn		Pb	16 07 42.1	-0.2
ALT			S		Sb	16 08 02.6	+0.1
MDUB	Mudurnu	1.57 88	*e*PN		Pb	16 07 42.3	0.0
MDUB	Mudurnu	1.57 88	*e*Pn		Pb	16 07 42.3	0.0
SEYT	Eskypehyr	1.60 124	*i* P		Pn	16 07 41.6	-0.3
SEYT			*i* S		Sn	16 08 02.4	-0.7
SEYT	Eskypehyr	1.60 124	*i* P		Pn	16 07 41.6	-0.3
SEYT			*i* S		Sn	16 08 02.4	-0.7
PHSR	Pinarhisar	1.71 315	*e*PN		Pn	16 07 43.0	-0.3
PHSR	Pinarhisar	1.71 315	*e*Pn		Pn	16 07 43.0	-0.3
LPK	Lapseki	1.82 269	*e*PN		Pn	16 07 44.8	+0.1
LPK	Lapseki	1.82 269	*e*Pn		Pn	16 07 44.8	+0.1
AKHS	Akhisar	1.86 214	*i* P		Pn	16 07 44.3	-1.0
AKHS			*i* S		Sn	16 08 08.6	-0.7
AKHS	Akhisar	1.86 214	*i* P		Pn	16 07 44.3	-1.0
AKHS			*i* S		Sn	16 08 08.6	-0.7
AKS	Akhisar	1.86 214	*e*PN		Pn	16 07 44.4	-1.0
AKS	Akhisar	1.86 214	*e*Pn		Pn	16 07 44.4	-1.0
KDZE	Karadeniz Ereo	1.95 63	*e*PN		Pn	16 07 46.7	+0.1
KDZE	Karadeniz Ereo	1.95 63	*e*Pn		Pn	16 07 46.7	+0.1
KULA	Kula-Manisa	1.95 191	P		Pb	16 07 48.6	-0.2
KULA			S		Sb	16 08 13.9	+0.3
KULA	Kula-Manisa	1.95 191	*e*PN		Pn	16 07 47.1	+0.4
KULA	Kula-Manisa	1.95 191	*e*Pn		Pn	16 07 47.1	+0.4
KULA	Kula-Manisa	1.95 191	P		Pb	16 07 48.6	-0.2
KULA			S		Sb	16 08 13.9	+0.3
MANT	Manisa	1.99 193	*i* P		Pn	16 07 48.4	+1.0
MANT			*i* S		Sb	16 08 15.8	+0.9
MANT	Manisa	1.99 193	*i* P		Pn	16 07 48.4	+1.0
MANT			*i* S		Sb	16 08 15.8	+0.9
GELI	Tayfur-Gelibol	2.04 270	*e*PN		Pb	16 07 48.9	-1.2
GELI	Tayfur-Gelibol	2.04 270	*e*Pn		Pb	16 07 48.9	-1.2
SVRH	Sivrihisar-ESK	2.08 118	*e*PN		Pn	16 07 48.6	+0.1
SVRH	Sivrihisar-ESK	2.08 118	*e*Pn		Pn	16 07 48.6	+0.1
KHL	Karahalli	2.13 172	*e*PN		Pn	16 07 49.3	+0.2
KHL	Karahalli	2.13 172	*e*Pn		Pn	16 07 49.3	+0.2
SHUT	Suhut-Afyon	2.17 149	*e*PN		Pn	16 07 50.1	+0.3
SHUT	Suhut-Afyon	2.17 149	*e*Pn		Pn	16 07 50.1	+0.3
AYVA	Ayvalik	2.19 240	*i* P		Pb	16 07 52.9	0.0
AYVA	Ayvalik	2.19 240	*i* P		Pb	16 07 52.9	0.0
AYVA			*i* S		Sg	16 08 24.6	+1.6
EZN	Ezine	2.24 255	*e*PN		Pn	16 07 51.6	+1.0
EZN	Ezine	2.24 255	*e*Pn		Pn	16 07 51.6	+1.0
BCAM	Yenicaga	2.26 79	*i* P		Pn	16 07 50.8	-0.1
BCAM	Yenicaga	2.26 79	*i* P		Pn	16 07 50.8	-0.1
BCAM			*i* S		Sg	16 08 24.8	-0.3
EDRB	Edirne	2.29 309	P		Pn	16 07 50.7	-0.6
EDRB	Edirne	2.29 309	*e*PN		Pn	16 07 51.9	+0.6
EDRB	Edirne	2.29 309	P		Pn	16 07 50.7	-0.6
EDRB	Edirne	2.29 309	*e*Pn		Pn	16 07 51.9	+0.6
ENEZ	Enez	2.29 278	*e*PN		Pn	16 07 51.2	-0.1
ENEZ	Enez	2.29 278	*e*Pn		Pn	16 07 51.2	-0.1
ALN	Alexandroupoli	2.40 282	P		Pn	16 07 52.7	0.0
ALN	Alexandroupoli	2.40 282	*e*PN		Pn	16 07 53.2	+0.5
ALN	Alexandroupoli	2.40 282	*e*PN		Pn	16 07 53.2	+0.5
ALN	Alexandroupoli	2.40 282	P		Pn	16 07 52.7	0.0
ALN	Alexandroupoli	2.40 282	*e*Pn		Pn	16 07 53.2	+0.5
BOZC	Bozcaada	2.44 257	*i* P		Pb	16 07 56.3	-0.7
BOZC			*i* S		Sg	16 08 31.0	+0.1
PRK	Paraskevi	2.51 243	P		Pn	16 07 54.6	+0.4
PRK	Paraskevi	2.51 243	*e*PB		Pn	16 07 54.4	+0.2
PRK	Paraskevi	2.51 243	P		Pn	16 07 54.6	+0.4
BLCB	Balcova	2.61 219	*e*PN		Pn	16 07 56.6	+1.0
BLCB	Balcova	2.61 219	*e*Pn		Pn	16 07 56.6	+1.0
KIZT	Kizilcal	2.62 125	*e*PN		Pn	16 07 56.6	+0.7
KIZT	Kizilcal	2.62 125	*e*Pn		Pn	16 07 56.6	+0.7
AYDB	Zeytinkoy-Aydi	2.67 202	*e*PN		Pn	16 07 56.8	+0.3
AYDB	Zeytinkoy-Aydi	2.67 202	*e*Pn		Pn	16 07 56.8	+0.3
SMTH	Samothraki Isl	2.75 272	P		Pn	16 07 57.3	-0.3
SMTH	Samothraki Isl	2.75 272	*e*PN		Pn	16 07 56.3	-1.3
SMTH	Samothraki Isl	2.75 272	P		Pn	16 07 57.3	-0.3
SAFT	Safranbolu	2.81 72	*e*PN		Pn	16 07 59.4	+1.0
SAFT	Safranbolu	2.81 72	*e*Pn		Pn	16 07 59.4	+1.0
SIGR	SIGRI	2.81 245	*e*PN		Pn	16 07 59.2	+0.8
SIGR	SIGRI	2.81 245	*e*PN		Pn	16 07 57.3	-1.0
SIGR	SIGRI	2.81 245	*e*Pn		Pn	16 07 59.2	+0.8
ISP	Isparta	2.82 157	P		Pn	16 07 58.9	+0.3
ISP	Isparta	2.82 157	*e*PN		Pn	16 07 59.8	+1.2
ISP	Isparta	2.82 157	P		Pn	16 07 58.9	+0.3
ISP	Isparta	2.82 157	*e*Pn		Pn	16 07 59.8	+1.2
RDO	Rodhopi	2.83 286	*e*PN		Pn	16 07 59.2	+0.7
RDO	Rodhopi	2.83 286	*e*PN		Pn	16 07 58.3	-0.3
RDO	Rodhopi	2.83 286	*e*Pn		Pn	16 07 59.2	+0.7
LOD	Lodumlu	2.83 100	*e*PN		Pn	16 07 59.7	+1.0
LOD	Lodumlu	2.83 100	*e*Pn		Pn	16 07 59.7	+1.0
ANTO	Ankara	2.86 100	*e*PN		Pn	16 08 00.2	+1.1
ANTO	Ankara	2.86 100	*e*Pn		Pn	16 08 00.2	+1.1
LIA	Limnos Island	3.08 261	*e*PN		Pn	16 08 01.4	-0.6
CHOS	Chios island	3.15 230	*e*PN		Pn	16 08 04.7	+1.6
CHOS	Chios island	3.15 230	*e*PN		Pn	16 08 03.8	+0.7
CHOS	Chios island	3.15 230	*e*Pn		Pn	16 08 04.7	+1.6
AFSR	Af˙ar-Bala (A	3.18 107	*e*PN		Pn	16 08 04.8	+1.2
AFSR	Af˙ar-Bala (A	3.18 107	*e*Pn		Pn	16 08 04.8	+1.2
SMG	Samos	3.26 214	*e*PN		Pb	16 08 08.9	-2.1
LADK	Ladik-KONYA	3.35 131	*e*PN		Pn	16 08 07.3	+1.3
LADK	Ladik-KONYA	3.35 131	*e*Pn		Pn	16 08 07.3	+1.3

*IDC **08** 16:11:18.4±1.3,25˚.87N×128˚.43E,h0km,mb3.6/7, mb1 3.7/7,mb1mx3.5/34,mbtmp3.6/7,Error ellipse: s-maj=71.7km s-min=16.9km az=74.0*
*JMA **08** 16:11:20.7±0.3,25˚.90N×128˚.65E,h33km,M3.1*
ISC 08 16:11:19.3±2.1,25˚.91N±0˚.06×128˚.58E±0˚.05,h10km±12km, n18,σ0°79/27,mb3.4/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.78 287		P	Pn	16 11 36.5	+0.1
JJT2				S	Sn	16 11 47.7	-0.5
JNTH	Nagotoyohara	0.79 321		P	Pn	16 11 35.9	-0.6
JNTH				S	Sn	16 11 47.6	-0.8
JOW	Kunigami	0.96 343		P	Pn	16 11 38.8	-0.1
JOW				*e*S	Sb	16 11 51.0	+0.1
JOW	Kunigami	0.96 343		Pn	Pn	16 11 38.9	0.0
	6.4nm,0.3s,baz=147,slow=15,SNR=12						
JOW				Sn	Sb	16 11 50.7	-0.2
	10nm,0.3s,baz=112,slow=25,SNR=11						
JIH	Iheya	1.25 334		P	Pg	16 11 43.3	0.0
JIH				S	Sb	16 11 59.2	0.0
JAGN	Aguni-jima	1.38 300		P	Pb	16 11 45.2	0.0
JAGN				S	Sb	16 12 02.7	-0.2
JOKE	Okinoerabujima	1.45 360		P	Pb	16 11 46.2	-0.2
JOKE				*e*S	Sn	16 12 04.1	-0.6
JKE	Kume jima 2	1.67 285		P	Pn	16 11 48.5	-0.1
JKE				S	Sn	16 12 07.9	-2.1
JTK	Tokunoshima	1.90 10		P	Pn	16 11 52.1	+0.3
JTK				*e*S	Sn	16 12 14.3	-1.5
JMZ	Minamidaito 2	2.38 92		P	Pn	16 11 57.4	-1.0
JAM	Amami Oshima	2.66 20		P	Pn	16 12 02.3	+0.1
SONM	Songino Array	27.99 327		P	P	16 17 11.6	+1.2
	0.9nm,0.5s,baz=141,slow=11,SNR=10.0						
MKAR	Makanchi Array	41.98 312		P	P	16 19 09.3	-1.3
	0.4nm,0.6s,baz=92,slow=11,SNR=7.4						
WRA	Warramunga Arr	45.92 172		P	P	16 19 42.8	+0.5
	0.3nm,0.9s,baz=356,slow=8.3,SNR=2.7						
ASAR	Alice Springs	49.55 174		P	P	16 20 10.7	+0.2
	0.2nm,0.9s,baz=354,slow=7.9,SNR=3.4						
BVAR	Borovoye Array	50.73 318		P	P	16 20 19.9	+0.7
	0.3nm,0.6s,baz=66,slow=7.1,SNR=3.7						
FINES	FINESS Array B	73.30 331		P	P	16 22 51.5	+0.8
	2.1nm,0.9s,baz=94,slow=8.4,SNR=3.5						
AKASG	Malin Array Be	75.98 320		P	P	16 23 06.9	+0.4
	0.4nm,0.4s,baz=62,slow=6.4,SNR=2.2						

*IDC **08** 16:16:15.6±0.4,32˚.59S×71˚.99W,h0km,mb4.5/12, mb1 4.6/16,mb1mx4.5/25,mbtmp4.5/16,ML4.6/4,MS3.9/5, Ms1 3.9/5,ms1mx3.5/25,Error ellipse: s-maj=17.2km s-min=13.9km az=91.0*
*ISCJB **08** 16:16:17.1±1.3,32˚.62S±0˚.04×71˚.86W±0˚.07,h16km±9km, mb4.6/37,MS4.1/2,Error ellipse: s-maj=10.0km s-min=6.3km az=174.0*
*NEIC **08** 16:16:19.6±0.2,32˚.67S×71˚.82W,mb4.7/27,ML4.7(GUC), Error ellipse: s-maj=7.6km s-min=3.5km az=65.0*
NEIC Felt at Quilpue, Santiago, Valparaiso and Vina del Mar.
*GUC **08** 16:16:19.2±0.3,32˚.73S×71˚.82W,h18km±1km,ML4.8*
*BJI **08** 16:16:20.2,32˚.50S×71˚.60W,h23km,mB5.4/6,Ms5.6/6, Ms7 5.2/6*
ISC 08 16:16:19.7±0.6,32˚.70S±0˚.04×71˚.82W±0˚.05,h27km±4km, h26km:pP-P,n134,σ1°21/167,mb4.7/37,5C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.36 155		⇓*i*P	Pb	16 16 26.2	-1.5
IHA				*i* S	Sb	16 16 31.6	-1.6
IHA	Instituto Hidr	0.36 155		⇓*i*P	Pb	16 16 26.2	-1.5
IHA				*i* S	Sb	16 16 31.6	-1.6
PEL	Peldehue	1.05 115		⇑*i*P	Pn	16 16 38.1	-0.7
PEL				*i* S	Sb	16 16 52.5	-0.3
PEL				IAML		16 16 53.2	
	comp=E,65μm,1.1s						
RCDM	Rinconada Maip	1.16 133		*e*P1	Pn	16 16 39.6	-0.7
RCDM				*i* S	Sb	16 16 55.1	-0.7
TACH	Talagante	1.20 142		*e*P1	Pn	16 16 40.1	-0.8
TACH	Talagante	1.20 142		⇑*i*P	Pn	16 16 40.2	-0.7
SAN	Santiago	1.23 128		*e*P1	Pn	16 16 41.0	-0.2
SAN				*i* S	Sn	16 16 57.2	+0.3
SAN	Santiago	1.23 128		⇑*i*P	Pn	16 16 41.0	-0.2
SAN				*i* S	Sn	16 16 57.5	+0.5
STL	Santa Lucia	1.23 127		*i* P9	Pn	16 16 40.0	-1.2
STL				*i* S	Sn	16 16 56.6	-0.4
CLCH	Cerro Calan	1.28 123		⇓*i*P	Pn	16 16 41.6	-0.4
CLCH				*i* S	Sn	16 16 58.9	+0.5
CLCH				AML	AML	16 17 05.1	
	comp=N,31μm,0.8s						
LNV	Longovilo	1.30 165		⇓*i*P	Pn	16 16 41.7	-0.4
LNV				*i* S	Sn	16 16 58.6	+0.1
LNV	Longovilo	1.30 165		⇓*i*P	Pn	16 16 41.7	-0.4
LNV				*i* S	Sn	16 16 58.6	+0.1
LACH	Col Las Americ	1.32 125		*i* P	Pn	16 16 42.5	0.0
LACH				*i* S	Sn	16 16 60.0	+0.8
ANTU	Antumapu	1.32 131		*i* P	Pn	16 16 42.3	-0.2
ANTU				*i* S	Sn	16 16 59.9	+0.7
ANTU				AML	AML	16 17 06.0	
	comp=E,20μm,0.7s						
ANTU	Antumapu	1.32 131		*e*P	Pn	16 16 42.6	+0.2
ANTU				*e*S	Sn	16 17 00.1	+0.9
PCH	Pirque	1.43 130		*i* P	Pn	16 16 44.2	+0.1
PCH				*i* S	Sn	16 17 03.1	+1.1
PCH	Pirque	1.43 130		⇑*i*P	Pn	16 16 44.7	+0.6
PCH				*i* S	Sb	16 17 03.5	-0.1
CHCH	Chadas Angostu	1.57 142		*e*P1	Pn	16 16 46.4	+0.4
CHCH	Chadas Angostu	1.57 142		*e*P	Pn	16 16 46.4	+0.4
CACH	El Canelo	1.74 144		⇓*i*P	Pb	16 16 49.9	-1.2
CACH	El Canelo	1.74 144		⇓*i*P	Pb	16 16 49.9	-1.2
NICH	Los Niches	2.35 168		*e*P1	Pn	16 16 58.3	+1.8
NICH				*i* S	Sb	16 17 28.2	-1.7
NICH				AML	AML	16 17 38.6	
	comp=N,7μm,0.2s						
NICH	Los Niches	2.35 168		*e*P	Pn	16 16 58.3	+1.8
NICH				*i* S	Sb	16 17 28.2	-1.7
CFAA	Coronel Fontan	3.23 71		Pn	Pn	16 17 10.9	+2.1
	comp=N,1.9nm,0.3s,baz=277,slow=3.1,SNR=64						
CFAA				Pg	Pb	16 17 15.6	-0.8
	comp=N,6.0nm,0.3s,baz=240,slow=11,SNR=62						
CFAA				Lg	Lg	16 17 55.3	
	comp=N,9.1nm,0.3s,baz=355,slow=9.4,SNR=6.4						
CFAA				LR	LR	16 18 24.7	
	comp=N,363nm,21.9s,baz=248,slow=39						
PLCA	Paso Flores	8.08 173		Pn	Pn	16 18 16.7	+1.3
	comp=N,3.6nm,0.3s,baz=345,slow=11,SNR=36						
TRQA	Tornquist	9.65 126		*e*P	Pn	16 18 38.9	+2.1
	comp=N,148nm,1.4s						
LVC	Limon Verde	10.38 15		*e*P	Pn	16 18 42.5	-4.6
	comp=N,20nm,0.6s						
CPUP	Villa Florida	14.12 67		Pn	Pn	16 19 39.1	+1.1
	comp=N,0.7nm,0.3s,baz=221,slow=8.4,SNR=4.6						
CPUP				LR	LR	16 25 20.7	
	comp=N,768nm,18.8s,baz=230,slow=38						
CPUP	Villa Florida	14.12 67		*e*P	Pn	16 19 34.4	-3.6
	comp=N,1.6nm,0.8s						
LPAZ	La Paz	16.68 12		Pn	Pn	16 20 11.3	-1.0
	comp=N,0.7nm,0.3s,baz=184,slow=6.4,SNR=50						
SIV	San Ignacio	19.28 33		P	P	16 20 41.7	-0.9
	comp=N,0.4nm,0.3s,baz=219,slow=11,SNR=12						
SIV				LR	LR	16 28 25.3	
	comp=N,222nm,21.4s,baz=203,slow=38						
NNA	Nana	21.13 346		P	P	16 20 57.3	-5.3
	comp=N,4.3nm,0.3s,baz=214,slow=6.2,SNR=2.5						
USHA	Ushuaia	22.25 175		P	P	16 21 14.7	+0.4
	comp=N,7.3nm,0.7s,baz=313,slow=9.1,SNR=3.4						
USHA				LR	LR	16 30 43.3	
	comp=N,400nm,18.4s,baz=319,slow=39						
SAML	Samuel	24.95 21		*e*P	P	16 21 40.7	-0.4
	comp=N,14nm,0.8s						
BDFB	Brasilia	27.47 57		P	P	16 22 03.2	-0.7
	comp=N,4.6nm,0.6s,baz=240,slow=8.4,SNR=6.5						
BDFB				LR	LR	16 33 56.8	
	comp=N,924nm,19.8s,baz=225,slow=38						
VNA3	Neumayer Olymp	50.49 158		P	P	16 25 16.6	+1.6
CELP	Cerrillos	50.74 6		*e*P	P	16 25 17.7	+0.3
VNA2	Neumayer--Watz	51.14 158		P	P	16 25 21.3	+1.5
SNAA	Sanae	52.72 158		P	P	16 25 32.9	+1.2
SNAA	Sanae	52.72 158		P	P	16 25 33.0	+1.4
	comp=N,2.1nm,0.7s,baz=271,slow=7.2,SNR=23						
SNAA				PcP	PcP	16 26 42.0	+1.0
	comp=N,1.8nm,0.6s,baz=265,slow=6.7,SNR=7.5						
SNAA	Sanae	52.72 158		*e*P	P	16 25 32.7	+1.1
	comp=N,17nm,1.3s						
SNAA				PcP	PcP	16 26 42.0	+1.0
RKT	Rikitea	55.91 263		*e*LR	LR	16 42 06.7	
	comp=N,140nm,27.8s						
RKT	Rikitea	55.91 263		*e*T	T	17 26 24.7	
	comp=N,2.7nm,0.3s						
QSPA	South Pole Qui	57.53 180		P	P	16 26 08.2	+1.6
	comp=N,9.7nm,0.6s,baz=152,slow=1.8,SNR=78						
QSPA	South Pole Qui	57.53 180		*e*P	P	16 26 08.2	+1.6
	comp=N,13nm,0.8s						
SYO	Syowa Base	67.00 159		⇑*e*P	P	16 27 09.3	-0.4
JCT	Junction City	68.20 334		*e*P	P	16 27 18.5	+0.7
	comp=N,8.9nm,0.9s						
TXAR	Lajitas Array	68.70 330		P	P	16 27 20.6	-0.4
	comp=N,2.2nm,0.7s,baz=150,slow=7.2,SNR=14						
TKL	Tuckaleechee C	68.92 350		*e*P	P	16 27 21.6	-0.5
WVT	Waverly	70.10 346		*e*P	P	16 27 28.7	-0.7
	comp=N,19nm,0.6s						
WVT				*e*pP	pP	16 27 36.4	-1.4
PPT2	Papeete2	70.60 261		*e*LR	LR	16 49 03.8	
	comp=N,183nm,30.0s						
MNTX	Cornudas Mount	71.48 330		*e*P	P	16 27 36.9	-1.0
	comp=N,4.0nm,0.6s						
MSTX	Muleshoe	72.43 333		*e*P	P	16 27 44.4	+0.7
	comp=N,10nm,0.8s						
AMTX	Amarillo	72.84 335		*e*P	P	16 27 47.2	+1.1
	comp=N,18nm,1.2s						
121A	Cookes Peak, D	73.22 329		*e*P	P	16 27 49.0	+0.5
	comp=N,9.9nm,0.8s						
ACSO	Alum Creek Sta	73.30 351		*e*P	P	16 27 48.5	-0.1
	comp=N,20nm,0.7s						
DBIC	Dimbokro	74.59 71		P	P	16 27 56.5	-0.2
	comp=N,6.4nm,0.6s,baz=212,slow=6.1,SNR=9.4						
ANMO	Albuquerque	74.74 331		*e*P	P	16 27 58.5	+1.1
	comp=N,4.3nm,0.8s						
JFWS	Jewell Farm	77.12 346		*e*P	P	16 28 10.5	0.0
	comp=N,5.4nm,0.6s						
WUAZ	Wupatki	77.33 328		P	P	16 28 13.3	+1.2
	comp=N,5.6nm,0.9s						
MVCO	Mesa Verde	77.52 331		*e*P	P	16 28 14.2	+1.0
	comp=N,9.5nm,1.1s						
ISCO	Idaho Springs	78.64 334		*e*P	P	16 28 20.5	+1.1
	comp=N,3.3nm,0.7s						
ISCO				*e*pP	PcP	16 28 27.9	-0.4
ECSD	EROS Data Cent	79.37 342		*e*P	P	16 28 23.2	+0.2
	comp=N,12nm,0.7s						
ECSD				*e*pP	PcP	16 28 30.2	-0.8
O20A	White River Ci	79.93 332		*e*P	P	16 28 27.0	+0.7
	comp=N,7.1nm,0.9s						
SRU	San Rafael Swe	79.97 330		*e*P	P	16 28 27.8	+1.2
	comp=N,3.1nm,0.8s						
BOSA	Boshof	80.51 118		P	P	16 28 30.6	+0.8
	comp=N,6.2nm,0.6s,baz=235,slow=3.1,SNR=24						
BOSA	Boshof	80.51 118		*e*P	P	16 28 30.5	+0.6
	comp=N,4.3nm,0.6s						
DAC	Darwin (Calif)	80.88 324		*e*P	P	16 28 33.3	+1.8
	comp=N,9.0nm,1.2s						
TPH	Tonopah	82.13 325		*e*P	P	16 28 40.0	+2.0
	comp=N,5.7nm,1.0s						
EYMN	Ely	82.20 347		*e*P	P	16 28 37.6	-0.4
	comp=N,5.2nm,0.9s						
HWUT	Hardware Ranch	82.50 331		*e*P	P	16 28 40.3	+0.4
	comp=N,4.9nm,0.8s						
LBTB	Lobatse	82.68 115		*e*P	P	16 28 41.7	+0.3
	comp=N,9.1nm,0.5s						
PDAR	Pinedale Array	82.69 333		P	P	16 28 39.3	-1.6
	comp=N,0.4nm,0.4s,baz=148,slow=6.8,SNR=4.9						
NVAR	Mina Array Bea	82.93 325		P	P	16 28 42.4	+0.1
	comp=N,2.0nm,0.9s,baz=162,slow=6.1,SNR=9.3						
HVU	Hansel Valley	83.15 330		*e*P	P	16 28 43.1	-0.2
	comp=N,4.9nm,0.8s						
AGMN	Agassiz Nation	83.46 344		*e*P	P	16 28 44.6	+0.2
	comp=N,6.4nm,0.8s						
TORD	Torodi Ar. Bea	83.60 70		P	P	16 28 46.6	+0.7
	comp=N,7.9nm,0.7s,baz=265,slow=4.6,SNR=43						
ULM	Lac du Bonnet	85.30 345		P	P	16 28 53.2	-0.6
	comp=N,4.3nm,0.8s,baz=174,slow=4.6,SNR=10						
BOZ	Bozeman (W)	85.92 333		*e*P	P	16 28 57.0	-0.2
	comp=N,1.6nm,0.7s						
SCHQ	Schefferville	87.28 3		P	P	16 29 03.4	-0.1
	comp=N,2.8nm,0.7s,baz=200,slow=5.3,SNR=5.5						
YKA	Yellowknife Ar	100.89 341		P	Pdif	16 30 05.5	-0.1
	comp=N,0.4nm,0.6s,baz=143,slow=4.6,SNR=6.6						
YKA				PKKPbc	PKKPbc	16 46 18.1	-1.8
	comp=N,0.2nm,0.6s,baz=332,slow=3.2,SNR=5.2						
GERES	GERESS Array B	111.11 45		PKiKP	PKiKP	16 34 51.1	+0.5
	comp=N,0.3nm,0.5s,baz=298,slow=2.1,SNR=3.1						
ILAR	Eielson Array	113.12 333		PKiKP	PKiKP	16 34 54.4	+0.6
	comp=N,0.4nm,0.9s,baz=167,slow=2.1,SNR=5.3						
ASAR	Alice Springs	118.80 207		PKP	PKPdf	16 35 05.6	-0.5
	comp=N,0.3nm,0.5s,baz=139,slow=1.9,SNR=7.1						
ASAR				PKKPbc	PKKPbc	16 45 22.2	+1.4
	comp=N,1.2nm,1.2s,baz=338,slow=2.9,SNR=5.4						
BRTR	Keskin Array B	121.04 60		PKP	PKPdf	16 35 10.0	+0.1
	comp=N,0.9nm,0.6s,baz=204,slow=4.1,SNR=4.3						
AKASG	Malin Array Be	121.18 47		PKP	PKPdf	16 35 09.3	-0.3

comp=N,0.6nm,0.5s,baz=104,slow=2.9,SNR=2.9
MKAR Makanchi Array 155.76 47 PKP **PKPdf 16 36 11.3 +0.4**
comp=N,0.5nm,0.7s,baz=343,slow=1.3,SNR=5.9
MKAR PKPab **PKPab 16 36 38.1 +0.5**
comp=N,3.4nm,0.6s,baz=296,slow=4.4,SNR=20
WMQ Urumqi 160.51 49 *e*PKP **PKPdf 16 36 16.5 -0.4**
WMQ pPKP **pPKPdf 16 36 26.0 +0.2**
CMAR Chiang Mai Arr 163.56 147 PKPab **PKPab 16 37 12.2 +0.1**
comp=N,0.4nm,0.7s,baz=223,slow=6.8,SNR=4.4
SONM Songino Array 164.83 5 PKPab **PKPab 16 37 16.9 -0.1**
comp=N,0.8nm,0.8s,baz=326,slow=3.3,SNR=7.7
GTA Gaotai 170.48 43 *e*PKP **PKPdf 16 36 26.4 +1.0**
GTA pPKP **pPKPdf 16 36 37.1 +2.8**
GTA sPKP 16 36 40.4
GTA PKPab **PKPab 16 37 44.0 +1.6**
HHC Hu-ho-hao-te 171.43 342 *e*PKP **PKPdf 16 36 24.5 -1.3**
HHC pPKP **pPKPdf 16 36 35.3 +0.6**
HHC sPKP 16 36 38.9
HHC PP **PP 16 41 38.5 +1.9**
HHC SKS **SKSdf 16 43 22.8 -4.6**
HHC SS **SS 17 02 38.0 -2.6**
HHC PPMZ
comp=N,100nm,7.4s
HHC LN
comp=N,190nm,17.3s
HHC LE
comp=N,340nm,17.3s
HHC LZ
comp=N,240nm,18.5s
LZH Lanzhou 175.08 46 *e*PKP **PKPdf 16 36 27.0 -0.4**
LZH pPKP **pPKPdf 16 36 35.0 -1.4**
LZH sPKP 16 36 37.5
LZH LN
comp=N,160nm,18.0s
LZH LE
comp=N,170nm,18.1s
LZH LZ
comp=N,200nm,20.3s

*JMA **08** 16:30:45.8±0.1,24°.32N×121°.58E,h43km±1km,M2.9*
*TAP **08** 16:30:46.8,24°.39N×121°.71E,h32km,ML3.6,B*
*ISCJB **08** 16:30:47.3±0.2,24°.37N±0°.02×121°.76E±0°.02,h26km±3km, Error ellipse: s-maj=3.7km s-min=2.4km az=143.9*
ISC 08 16:30:47.5±0.9,**24°.40N**±0°.02×**121°.72E**±0°.02,**h32**km±5km,**n59**,σ1§**00**/92,**6C-8D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.03**	**32**	⇓*i*P	**Pb**	**16 30 52.3**	**-0.5**
	baz=42						
EHP	**Heping Village**	**0.09**	**169**	*e*P	**Pb**	**16 30 53.2**	**+0.1**
	baz=156						
EHP				*e*S	**Sb**	**16 30 57.7**	**+0.8**
	baz=156						
TWC	**Suao**	**0.24**	**29**	⇓*i*P	**Pb**	**16 30 54.1**	**-0.2**
	baz=32						
TWC				*i* S	**Sb**	**16 30 59.1**	**0.0**
	baz=32						
ENTT	**Nioudou**	**0.28**	**329**	⇑*i*P	**Pb**	**16 30 54.3**	**-0.6**
	baz=331						
ENTT				S	**Sb**	**16 30 59.6**	**-0.3**
	baz=331						
NNS	**Nan Shan**	**0.32**	**277**	⇑*i*P	**Pb**	**16 30 54.7**	**-0.8**
	baz=280						
NNS				*i* S	**Sb**	**16 31 00.3**	**-0.7**
	baz=280						
TWD	**Chiawan**	**0.34**	**200**	⇓*i*P	**Pb**	**16 30 54.6**	**-1.1**
	baz=206						
TWD				*e*S	**Sb**	**16 31 00.0**	**-1.2**
	baz=206						
ILA	**Ilan**	**0.36**	**4**	⇓P	**Pb**	**16 30 56.1**	**+0.1**
ILA				S	**Sn**	**16 31 02.7**	**+0.1**
NSK	**Sanguang**	**0.43**	**310**	⇑*i*P	**Pb**	**16 30 56.4**	**-0.6**
	baz=305						
NSK				*i* S	**Sn**	**16 31 02.6**	**-1.8**
	baz=305						
HWA	**Hwalien**	**0.43**	**194**	⇓P	**Pb**	**16 30 56.1**	**-0.9**
	baz=200						
WHF	**Hehuan Shan**	**0.49**	**239**	P	**Pb**	**16 30 57.2**	**-0.9**
	baz=241						
WHF				S	**Sb**	**16 31 04.0**	**-1.5**
	baz=241						
TWT	**Tachien**	**0.52**	**254**	P	**Pb**	**16 30 57.9**	**-0.5**
	baz=249						
TWT				S	**Sn**	**16 31 05.5**	**-1.1**
	baz=249						
ESF	**Shoufeng Towns**	**0.56**	**201**	*e*P	**Pb**	**16 30 58.5**	**-0.5**
	baz=200						
TWA	**Mucha**	**0.59**	**348**	⇑*i*P	**Pn**	**16 30 59.4**	**-0.3**
	baz=345						
TWA				S	**Sn**	**16 31 07.8**	**-0.4**
	baz=345						
ESL	**Shilin**	**0.64**	**204**	⇓P	**Pb**	**16 30 58.2**	**-2.1**
	baz=203						
TWB1	**Santiao Chiao**	**0.65**	**22**	P	**Pb**	**16 31 00.5**	**0.0**
	baz=25						
TWB1				*i* S	**Sb**	**16 31 09.8**	**+0.4**
	baz=25						
TAP1	**Taipei**	**0.66**	**344**	*e*P	**Pn**	**16 31 00.4**	**-0.2**
	baz=344						
TAP	**Taipei**	**0.67**	**343**	*e*P	**Pn**	**16 31 00.4**	**-0.3**
	baz=343						
TAP				*e*S	**Sn**	**16 31 10.3**	**+0.3**
	baz=343						
NWF	**Wu-fen Shan**	**0.67**	**5**	P	**Pn**	**16 31 01.0**	**+0.1**
	baz=352						
NWF				S	**Sn**	**16 31 11.1**	**+0.8**
	baz=352						
NSTT	**Nanjuang**	**0.70**	**289**	⇑*i*P	**Pn**	**16 31 01.0**	**-0.1**
	baz=290						
NSTT				S	**Sn**	**16 31 10.2**	**-0.6**
	baz=290						
NCU	**National Centr**	**0.75**	**320**	*e*P	**Pn**	**16 31 02.0**	**+0.2**
	baz=320						
NCU				*e*S	**Sn**	**16 31 13.5**	**+1.4**
	baz=320						
TWS1	**Kuangyinshan**	**0.75**	**338**	*e*P	**Pn**	**16 31 02.0**	**+0.2**
	baz=339						
HSN	**Hsinchu**	**0.79**	**300**	*e*P	**Pn**	**16 31 02.4**	**0.0**
	baz=304						
HSN				*e*S	**Sn**	**16 31 14.3**	**+1.1**
	baz=304						
TWQ1	**Liyutan**	**0.87**	**267**	P	**Pn**	**16 31 04.5**	**+1.1**
	baz=268						
TWQ1				S	**Sn**	**16 31 16.0**	**+1.0**
	baz=268						
NSY	**Sanyi**	**0.88**	**271**	P	**Pn**	**16 31 04.9**	**+1.3**
	baz=272						
NSY				*e*S	**Sn**	**16 31 17.0**	**+1.7**
	baz=272						
TWY	**Chenhua**	**0.88**	**353**	*e*P	**Pb**	**16 31 02.0**	**-2.3**
	baz=340						
SMLT	**Sun Moon Lake**	**0.91**	**236**	P	**Pb**	**16 31 04.0**	**-0.9**
	baz=242						
SMLT				*e*S	**Sn**	**16 31 16.2**	**0.0**
	baz=242						
TYC	**Yuchr**	**0.93**	**238**	P	**Pb**	**16 31 03.9**	**-1.2**
	baz=240						
TYC				S	**Sb**	**16 31 16.0**	**-1.2**
	baz=240						
EHY	**Hungye**	**0.96**	**202**	P	Pb	16 31 02.3	-3.4
	baz=203						
TCU	**Taichung**	**0.99**	**255**	*e*P	**Pn**	**16 31 06.1**	**+1.0**
	baz=270						
TCU				*e*S	**Sn**	**16 31 20.6**	**+2.6**
	baz=270						
WNT	**Mingjian**	**1.08**	**242**	⇓*i*P	**Pb**	**16 31 07.6**	**0.0**
	baz=243						
WNT				*e*S	**Sn**	**16 31 23.4**	**+3.1**
	baz=243						
JYNG	**Yonaguni jima**	**1.12**	**87**	P	**Pn**	**16 31 06.9**	**0.0**
JYNG				*e*S	**Sn**	**16 31 22.5**	**+1.4**
YUS	**Yu-Shan**	**1.15**	**218**	*e*P	**Pn**	**16 31 07.4**	**-0.4**
	baz=207						
YOJ	**Yonaguni jima**	**1.18**	**87**	P	**Pn**	**16 31 07.6**	**-0.1**
YOJ				S	**Sn**	**16 31 23.6**	**+1.0**
YOJ	**Yonaguni jima**	**1.18**	**87**	*e*P	**Pn**	**16 31 07.6**	**-0.1**
	baz=86						
ALS	**Alishan**	**1.22**	**224**	⇓*e*P	**Pn**	**16 31 08.9**	**+0.4**
	baz=213						
CHN5	**Tsauling**	**1.25**	**230**	*e*P	**Pb**	**16 31 09.7**	**-0.8**
	baz=232						
CHN5				*e*S	**Sb**	**16 31 26.9**	**+0.7**
	baz=232						
WGK	**Gukeng**	**1.28**	**236**	*e*P	**Pb**	**16 31 10.7**	**-0.3**
	baz=237						
WGK				*e*S	**Sb**	**16 31 28.0**	**+1.0**
	baz=237						
CHKT	**Chengkung**	**1.33**	**194**	*e*P	**Pn**	**16 31 09.1**	**-0.8**
	baz=204						
ELDTW	**Lidau**	**1.37**	**208**	*e*P	**Pn**	**16 31 08.7**	**-1.8**
	baz=199						
WTCT	**Ta-ch'eng**	**1.42**	**248**	*e*P	**Pn**	**16 31 11.6**	**+0.6**
	baz=248						
CHN2	**Minshiung**	**1.43**	**233**	*e*P	**Pn**	**16 31 11.4**	**+0.2**
	baz=222						
CHN4	**Tsaushan**	**1.47**	**225**	⇑P	**Pb**	**16 31 13.0**	**-1.2**
	baz=217						
CHN4				*e*S	**Sb**	**16 31 34.5**	**+1.9**
	baz=217						
CHY	**Chiayi**	**1.49**	**233**	*e*P	**Pb**	**16 31 14.2**	**-0.4**
	baz=248						
STYT	**Tauyuan**	**1.52**	**216**	*e*P	**Pn**	**16 31 11.6**	**-0.8**
	baz=206						
WTP	**Ta-pu**	**1.53**	**222**	*e*P	**Pn**	**16 31 13.6**	**+0.9**
	baz=210						
WTP				*e*S	**Sb**	**16 31 34.5**	**+0.1**
	baz=210						
WSF	**Szhu**	**1.57**	**241**	*e*P	**Pb**	**16 31 14.3**	**-1.5**
	baz=241						
TWK	**Hsinying**	**1.60**	**225**	*e*P	**Pn**	**16 31 14.7**	**+1.2**
	baz=213						
TWK				*e*S	**Sb**	**16 31 36.7**	**+0.5**
	baz=213						
CHN1	**Nanshi**	**1.63**	**222**	*e*P	**Pn**	**16 31 15.4**	**+1.4**
	baz=213						
CHN1				*e*S	**Sb**	**16 31 37.4**	**+0.3**
	baz=213						
SGST	**Jiashian**	**1.68**	**219**	*e*P	**Pn**	**16 31 15.9**	**+1.3**
	baz=210						
SGST				*e*S	**Sb**	**16 31 37.9**	**-0.5**
	baz=210						
TWG	**Pinlang**	**1.68**	**201**	*e*P	**Pn**	**16 31 13.9**	**-0.8**
	baz=191						
IRIF	**Iriomote-Funau**	**1.83**	**92**	P	**Pn**	**16 31 16.4**	**-0.3**
IRIF				*e*S	**Sn**	**16 31 39.6**	**+0.8**
SSD	**Sandimen**	**1.93**	**212**	*e*P	**Pn**	**16 31 19.5**	**+1.4**
	baz=211						
ECL	**Taimali**	**1.93**	**202**	*e*P	**Pn**	**16 31 16.9**	**-1.1**
	baz=193						
TWM1	**Shoushan**	**1.97**	**217**	*e*P	**Pn**	**16 31 18.5**	**-0.1**
	baz=217						
JKRS	**Kuro-shima**	**2.09**	**94**	P	**Pn**	**16 31 20.5**	**+0.2**
JKRS				*e*S	**Sn**	**16 31 46.3**	**+1.0**
EAST	**Anshuo**	**2.16**	**202**	*e*P	**Pn**	**16 31 22.3**	**+1.0**
	baz=192						
JIJ	**Ishigaki jima**	**2.21**	**90**	P	**Pn**	**16 31 21.8**	**-0.1**
JIJ				*e*S	**Sn**	**16 31 48.2**	**+0.1**
SCZT	**Fangliau**	**2.26**	**207**	*e*P	**Pn**	**16 31 21.9**	**-0.7**
	baz=196						
JISG	**Ishigakijimahi**	**2.37**	**85**	P	**Pn**	**16 31 24.5**	**+0.4**

*THR **08** 16:39:35.4±1.6,30°.31N×57°.71E,h15km,ML3.8*
*ISCJB **08** 16:39:36.7±0.6,30°.26N±0°.06×57°.76E±0°.06,h10km, mb3.5/3,Error ellipse: s-maj=8.9km s-min=6.2km az=143.7*
*IDC **08** 16:39:37.0±1.9,30°.22N×57°.69E,h0km,mb3.5/4, mb1 3.5/5,mb1mx3.2/52,mbtmp3.5/5,ML3.1/1,Error ellipse: s-maj=43.6km s-min=22.6km az=125.0*
*CSEM **08** 16:39:37.9±0.3,30°.31N×57°.83E,h15km,ML3.8,Error ellipse: s-maj=8.0km s-min=5.6km az=162.0*
*TEH **08** 16:39:39.6,30°.37N×57°.81E,h19km,ML4.0*
ISC 08 16:39:38.7±1.0,**30°.28N**±0°.05×**57°.77E**±0°.04,**h10**km,**n34**, σ1§**39**/38,**mb3.4/3,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.92**	**251**	*e*Pg	Pg	16 39 51.4	-5.2
IBAF	**Bafgh**	**2.30**	**305**	*e*Pn	**Pn**	**16 40 14.9**	**-1.9**
IBAF				*e*		16 40 16.5	
	comp=Z,16μm,0.2s						
IBAF	**Bafgh**	**2.30**	**305**	*e*Pn	**Pn**	**16 40 14.9**	**-1.9**
IKOO	**Kooshah**	**2.38**	**26**	*e*Pn	**Pn**	**16 40 16.1**	**-2.0**
IKOO				*e*Sg	**Sb**	**16 40 51.2**	**-0.2**
IKOO				*e*		16 40 58.8	
	comp=Z,16μm,0.2s						
IKOO	**Kooshah**	**2.38**	**26**	*e*Pn	**Pn**	**16 40 16.1**	**-2.0**
IKOO				*e*Sg	**Sb**	**16 40 51.2**	**-0.2**
ZHSF	**Zahedan**	**2.69**	**104**	*e*Pn	**Pn**	**16 40 21.2**	**-1.0**
ZHSF				*e*Sg	**Sb**	**16 41 01.1**	**+0.8**
ZHSF				AML	AML	16 41 08.9	
	comp=N,282nm,0.6s						
ZHSF				AML	AML	16 41 12.8	
	comp=E,220nm,0.6s						
ZHSF	**Zahedan**	**2.69**	**104**	*e*Pn	**Pn**	**16 40 21.2**	**-1.0**
ZHSF				*e*Sg	**Sb**	**16 41 01.1**	**+0.8**
	comp=E,221nm,0.6s						
IMEH	**Mehriz**	**2.93**	**293**	*e*Pn	**Pn**	**16 40 25.1**	**-0.5**
IMEH				*e*		16 41 08.9	
	comp=Z,4μm,0.2s						
IMEH	**Mehriz**	**2.93**	**293**	*e*Pn	**Pn**	**16 40 25.1**	**-0.5**
IDAH	**Dahanechah**	**3.03**	**36**	*e*Pn	**Pn**	**16 40 25.9**	**-1.1**
IDAH				*e*		16 40 35.4	
	comp=Z,3μm,0.2s						
IDAH	**Dahanechah**	**3.03**	**36**	*e*Pn	**Pn**	**16 40 25.9**	**-1.1**
BNDS	**Bandar-Abbas**	**3.20**	**206**	*e*Pn	**Pn**	**16 40 28.2**	**-1.0**
BNDS	**Bandar-Abbas**	**3.20**	**206**	*e*Pn	**Pn**	**16 40 28.2**	**-1.0**
TABS	**Tabas**	**3.40**	**351**	*e*Pn	**Pn**	**16 40 29.9**	**-2.0**
TABS				AML	AML	16 41 29.4	
	comp=N,511nm,0.5s						
TABS				AML	AML	16 41 29.7	
	comp=E,306nm,0.5s						
TABS	**Tabas**	**3.40**	**351**	*e*Pn	**Pn**	**16 40 29.9**	**-2.0**
	comp=E,306nm,0.5s						
ICHK	**Chekchek**	**3.48**	**305**	*e*Pn	**Pn**	**16 40 32.0**	**-1.1**
ICHK				*e*		16 41 36.4	
	comp=Z,3μm,0.3s						
ICHK	**Chekchek**	**3.48**	**305**	*e*Pn	**Pn**	**16 40 32.0**	**-1.1**
ISAD	**Sadrabad**	**3.86**	**296**	*e*Pn	**Pn**	**16 40 38.3**	**-0.1**
ISAD				*e*		16 41 48.1	
	comp=Z,2μm,0.2s						
ISAD	**Sadrabad**	**3.86**	**296**	*e*Pn	**Pn**	**16 40 38.3**	**-0.1**
SHRT	**Shahrakht**	**3.98**	**32**	*e*Pn	**Pn**	**16 40 38.1**	**-1.8**
SHRT				AML	AML	16 41 56.9	
	comp=E,74nm,0.7s						
SHRT				AML	AML	16 42 00.9	
	comp=N,90nm,0.6s						
SHRT	**Shahrakht**	**3.98**	**32**	*e*Pn	**Pn**	**16 40 38.1**	**-1.8**
	comp=N,91nm,0.6s						
IPAR	**Pars**	**4.12**	**265**	*e*Pn	**Pn**	**16 40 42.2**	**+0.3**
IPAR				*e*		16 41 57.9	
	comp=Z,801nm,0.4s						
IPAR	**Pars**	**4.12**	**265**	*e*Pn	**Pn**	**16 40 42.2**	**+0.3**
ISRV	**Sarvestan**	**4.14**	**259**	*e*Pn	**Pn**	**16 40 40.7**	**-1.6**
ISRV				*e*		16 42 00.1	
	comp=Z,2μm,0.6s						
ISRV	**Sarvestan**	**4.14**	**259**	*e*Pn	**Pn**	**16 40 40.7**	**-1.6**
IKAZ	**Kazeroun**	**5.17**	**266**	*e*Pn	**Pn**	**16 40 55.7**	**-0.7**
IKAZ				*e*		16 41 18.2	
	comp=Z,453nm,0.3s						
IKAZ	**Kazeroun**	**5.17**	**266**	*e*Pn	**Pn**	**16 40 55.7**	**-0.7**
IZEF	**Zefreh**	**5.32**	**301**	*e*Pn	**Pn**	**16 40 57.7**	**-0.8**
IZEF				*e*		16 42 36.6	
	comp=Z,432nm,0.3s						
IZEF	**Zefreh**	**5.32**	**301**	*e*Pn	**Pn**	**16 40 57.7**	**-0.8**
GEYT	**Alibeck**	**7.63**	**2**	Pn	**Pn**	**16 41 32.0**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=185,slow=16,SNR=3.2						
GEYT				Sn	**Sn**	**16 43 00.1**	**+3.5**
	comp=Z,0.9nm,0.3s,baz=183,slow=19,SNR=3.6						
GEYT				Lg	Lg	16 43 43.7	
	baz=208,slow=40,SNR=3.2						
AKTO	**Aktyubinsk**	**20.13**	**0**	P	**P**	**16 44 11.5**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=158,slow=11,SNR=3.0						
BVAR	**Borovoye Array**	**24.53**	**19**	P	**P**	**16 44 58.3**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=199,slow=9.0,SNR=4.9						
MKAR	**Makanchi Array**	**25.14**	**42**	P	**P**	**16 45 05.0**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=230,slow=9.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**54.29**	**265**	P	**P**	**16 49 05.1**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=62,slow=6.7,SNR=15						

*IDC **08** 16:43:53.5±2.1,6°.47S×130°.54E,h0km,mb3.5/1, mb1 4.0/4,mb1mx3.5/28,mbtmp3.9/4,ML4.1/3,MS3.4/1, Ms1 3.4/1,ms1mx2.6/17,Error ellipse: s-maj=53.1km s-min=30.9km az=77.0*
ISC 08 16:43:54.7±0.8,**6°.48S**±0°.05×**130°.6E**±0°.1,**h10**km,**n14**, σ1§**58**/14,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.92**	**26**	P	**Pg**	**16 45 11.6**	**+1.8**
	baz=4.5,SNR=8.9						
FAKI				S	**Sg**	**16 45 59.4**	**-1.2**
	baz=4.5,SNR=3.6						
SWI	**Sorong**	**5.62**	**7**	P	Pg	16 45 36.7	-5.8
	baz=6.2,SNR=4.7						
SWI				S	**Sb**	**16 46 37.6**	**-2.9**
	baz=6.2,SNR=7.2						
MTN	**Manton Dam**	**6.35**	**175**	P	Pn	16 45 32.6	+4.2
	baz=6.0,SNR=43						
MTN				S	**Sn**	**16 46 38.0**	**-3.1**
	baz=6.0,SNR=5.6						
KDU	**Kakadu**	**6.45**	**163**	P	Pn	16 45 35.4	+5.5
	baz=6.2,SNR=124						
KDU				S	**Sn**	**16 46 43.0**	**-0.6**
	baz=6.2,SNR=5.1						
SOEI	**Soe**	**7.02**	**242**	P	**Pn**	**16 45 38.7**	**+0.9**
	baz=6.5,SNR=13						
BATI	**Baumata**	**7.76**	**241**	Pn	**Pn**	**16 45 47.8**	**0.0**
	5.1nm,0.3s,baz=98,slow=4.3,SNR=11						
BATI				Sn	Sn	16 47 04.1	-12
	3.9nm,0.3s,baz=60,slow=5.8,SNR=5.0						
KNRA	**Kununurra**	**9.31**	**191**	P	**Pn**	**16 46 09.2**	**+0.2**
	baz=8.8,SNR=16						
KNRA				S	Sn	16 47 41.2	-13
	baz=8.8,SNR=13						
WRA	**Warramunga Arr**	**13.88**	**165**	Pn	**Pn**	**16 47 11.7**	**+0.1**
	0.9nm,0.3s,baz=346,slow=13,SNR=34						
WRA				Sn	Sn	16 49 35.1	-11
	1.8nm,0.3s,baz=339,slow=22,SNR=14						
COEN	**Coen**	**14.47**	**122**	P	**P**	**16 47 27.8**	**+1.3**
	baz=15,SNR=25						
QIS	**Mount Isa**	**16.52**	**149**	P	**P**	**16 47 50.4**	**+1.1**
	baz=16,SNR=3.7						
ASAR	**Alice Springs**	**17.39**	**170**	P	**P**	**16 47 58.1**	**-0.9**
	0.4nm,0.3s,baz=359,slow=15,SNR=41						
ASAR				S	Sn	16 50 58.5	-13
	0.3nm,0.3s,baz=231,slow=12,SNR=8.3						
WRKA	**Warakurna**	**18.58**	**186**	P	**Pn**	**16 48 12.5**	**+0.2**
	baz=18,SNR=6.7						
WRKA				S	Sn	16 51 21.2	-19
	baz=18,SNR=4.5						
JCJ	**Chichijima**	**35.23**	**18**	LR	LR	17 04 08.1	
	comp=Z,56nm,20.1s,baz=49,slow=34						
MKAR	**Makanchi Array**	**68.10**	**326**	P	**P**	**16 54 55.2**	**+0.4**
	0.2nm,0.3s,baz=125,slow=7.7,SNR=6.6						

MEX 08 16:44:53.3±0.5,**20°.39N**×**105°.96W,h6**km±9km,**MD4.1, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANIG	**Ahuacatlan**	**1.50**	**64**	*e*P	Pn	16 45 17.4	-3.5
ANIG				*i* S	Sn	16 45 36.6	-4.2
R15V		**2.23**	**123**	*e*P	Pn	16 45 27.3	-3.5
R15V				*i* S	Sn	16 45 54.8	-3.9
EZ5V		**2.40**	**112**	*e*P	Pn	16 45 30.9	-2.6
EZ5V				*i* S	Sn	16 45 58.7	-4.7
SFJM	**Santa Fe**	**2.74**	**88**	*e*P	Pb	16 45 44.4	+1.4
SFJM				*e*S	Sb	16 46 17.5	+0.5
MAIG	**Mazatlaan**	**2.81**	**351**	*i* P	Pn	16 45 36.2	-2.5
MAIG				*e*S	Sn	16 46 09.4	-3.6
MMIG	**Aquila**	**3.24**	**130**	*e*P	Pn	16 45 42.1	-2.5
MMIG				*i* S	Sn	16 46 19.0	-4.5
ZIIG	**Zihuatanejo**	**5.08**	**122**	*e*P	Pn	16 46 07.4	-2.5
ZIIG				*i* S	Sn	16 47 05.6	-3.3
LPIG	**La Paz**	**5.46**	**313**	*e*P	Pn	16 46 12.6	-2.6
ARIG	**Puente Sto Nin**	**5.70**	**111**	*e*P	Pn	16 46 16.5	-2.1
ARIG				*i* S	Sn	16 47 20.7	-3.7
MEIG	**Mezcala**	**6.48**	**111**	*e*P	Pn	16 46 28.3	-1.0

*IDC **08** 16:49:48.3±0.4,32°.64S×71°.72W,h0km,mb4.7/25, mb1 4.8/29,mb1mx4.7/41,mbtmp4.7/29,ML4.7/4,MS4.1/1, Ms1 4.1/1,ms1mx3.3/32,Error ellipse: s-maj=17.2km s-min=11.3km az=72.0*
*ISCJB **08** 16:49:50.4±0.9,32°.61S±0°.03×71°.72W±0°.06,h20km±6km, mb4.9/87,Error ellipse: s-maj=8.7km s-min=4.7km az=163.3*
*GUC **08** 16:49:50.1±0.4,32°.67S×71°.78W,h8km±2km,ML4.9*
*NEIC **08** 16:49:51.8±0.1,32°.66S×71°.64W,mb5.0/63,ML4.8(GUC), Error ellipse: s-maj=6.6km s-min=3.5km az=68.0*
NEIC Felt [IV] at La Ligua, Quillota and Valparaiso; [III] at Chacabuco, Cordillera, Maipo, Melipilla, Santiago, Talagante and Vina del Mar. Also felt at Limache and Quilpue.
*BJI **08** 16:49:52.1,32°.60S×71°.60W,h21km,mB5.2/13,Ms5.7/13, Ms7 5.6/13*
*MOS **08** 16:49:52.9±1.1,32°.49S×71°.60W,h33km,mb5.4/22,Error ellipse: s-maj=16.9km s-min=8.8km az=99.8*
ISC 08 16:49:51.8±0.4,**32°.66S**±0°.03×**71°.70W**±0°.05,**h23**km±2km, **h23**km:**pP-P,n575**,σ1§**00**/652,**mb5.0**/87,**158C-191D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.37**	**173**	⇓*i*P	**Pb**	**16 49 57.8**	**-2.0**
IHA				*i* S1	**Sb**	**16 50 03.5**	**-1.7**
IHA	**Instituto Hidr**	**0.37**	**173**	⇓*i*P	**Pb**	**16 49 57.8**	**-2.0**
IHA				*i* S	**Sb**	**16 50 03.5**	**-1.7**
CHNG	**Los Chungos**	**0.79**	**12**	*e*P1	**Pb**	**16 50 05.4**	**-1.4**
CHNG				*i* S	**Sb**	**16 50 17.1**	**0.0**
RCDM	**Rinconada Maip**	**1.11**	**138**	*e*P	**Pn**	**16 50 11.1**	**-0.9**
RCDM				*e*S	**Sn**	**16 50 26.8**	**+0.2**
RCDM	**Rinconada Maip**	**1.11**	**138**	⇓*i*P	**Pn**	**16 50 11.4**	**-0.6**
RCDM				*i* S	**Sn**	**16 50 26.8**	**+0.2**
STL	**Santa Lucia**	**1.18**	**132**	*e*P9	**Pn**	**16 50 11.8**	**-1.0**
STL				*e*S	**Sb**	**16 50 28.6**	**+0.3**
CLCH	**Cerro Calan**	**1.22**	**127**	*e*P	**Pn**	**16 50 13.0**	**-0.5**
CLCH				*e*S	**Sb**	**16 50 30.4**	**+0.8**
CLCH				AML	AML	16 50 37.9	
	comp=E,55μm,0.5s						
LACH	**Col Las Americ**	**1.26**	**129**	*e*P	**Pn**	**16 50 13.6**	**-0.4**
LACH				*e*S	**Sb**	**16 50 31.0**	**+0.4**
LACH	**Col Las Americ**	**1.26**	**129**	*i* S	**Sb**	**16 50 31.7**	**+1.1**
ANTU	**Antumapu**	**1.27**	**136**	*e*P	**Pn**	**16 50 13.6**	**-0.6**
ANTU				*i* S	**Sb**	**16 50 31.5**	**+0.4**
ANTU				AML	AML	16 50 37.3	
	comp=E,36μm,0.6s						
ANTU	**Antumapu**	**1.27**	**136**	⇑*i*P	**Pn**	**16 50 14.3**	**+0.2**
ANTU				*i* S	**Sb**	**16 50 32.2**	**+1.1**
FCH	**Farellones**	**1.36**	**120**	AML	AML	16 50 00.5	
	comp=E,33μm,0.3s						
CMCH	**Combarbala**	**1.59**	**22**	*e*P1	**Pn**	**16 50 18.6**	**0.0**
CMCH				*i* S	**Sb**	**16 50 40.7**	**+0.4**
NICH	**Los Niches**	**2.37**	**171**	*e*P9	**Pn**	**16 50 30.0**	**+0.8**
NICH				*i* S	**Sb**	**16 51 00.5**	**-2.1**
CFAA	**Coronel Fontan**	**3.12**	**71**	Pn	**Pb**	**16 50 44.3**	**-2.2**
	comp=E,5.5nm,0.3s,baz=249,slow=12,SNR=46						
CFAA				Pg	Pn	16 50 50.0	+10
	comp=E,16nm,0.3s,baz=246,slow=14,SNR=37						
CFAA				LR	LR	16 51 22.1

JTS pmax pmax
comp=Z,51nm,1.7s
VNA3 Neumayer Olymp 50.49 158 P **P 16 58 48.7 +1.2**
APG El Apazote 50.68 336 P **P 16 58 50.7 +1.0**
comp=Z,1.5nm,0.3s,baz=197,slow=13,SNR=3.6
CELP Cerrillos 50.68 6 *eP* **P 16 58 49.9 +0.5**
LRS Lares 50.87 6 *eP* **P 16 58 50.4 -0.5**
VNA2 Neumayer--Watz 51.14 158 P **P 16 58 53.3 +1.0**
SNAA Sanae 52.72 158 P **P 16 59 05.0 +0.8**
SNAA Sanae 52.72 158 *deP* **P 16 59 05.2 +1.0**
SNAA pmax pmax
comp=Z,21nm,1.2s
SNAA Sanae 52.72 158 P **P 16 59 05.0 +0.8**
comp=Z,4.6nm,0.8s,baz=277,slow=7.6,SNR=19
SNAA Sanae 52.72 158 *eP* **P 16 59 04.8 +0.6**
comp=Z,16nm,1.0s
CMIG Matias Romero 54.22 332 P **P 16 59 15.6 0.0**
comp=Z,2.0nm,0.4s,baz=309,slow=19,SNR=6.3
TEIG Tepich 54.93 341 P **P 16 59 20.7 0.0**
comp=Z,6.9nm,0.6s,baz=167,slow=5.2,SNR=6.1
QSPA South Pole Qui 57.57 180 P **P 16 59 40.3 +1.0**
comp=Z,29nm,0.9s,baz=149,slow=2.0,SNR=50
QSPA South Pole Qui 57.57 180 *eP* **P 16 59 40.2 +0.8**
comp=Z,42nm,1.0s
H06S1 SOCORRO T 63.42 318 T T 18 09 23.6
SNR=6.1
035A Encino 64.38 334 ⇓P **P 17 00 26.1 +0.3**
baz=65
936A North Padre Is 64.53 335 ⇑P **P 17 00 26.9 +0.2**
baz=65
034A Hebbronville 64.71 333 ⇑P **P 17 00 28.2 +0.3**
baz=65
738A Farr-Stevens R 65.25 337 ⇓P **P 17 00 32.4 +1.0**
baz=66
933A Laredo 65.43 333 ⇓P **P 17 00 33.9 +1.3**
baz=66
VNDA Vanda 65.47 191 P **P 17 00 33.4 +1.1**
comp=Z,3.2nm,1.0s,baz=22,slow=3.1,SNR=4.0
834A Tilden 65.62 334 ⇓P **P 17 00 34.9 +1.1**
baz=66
833A Chaparral WMA, 66.11 333 ⇓P **P 17 00 38.1 +1.1**
baz=66,SNR=6.5
734A La Parita Cree 66.27 334 ⇓P **P 17 00 39.1 +1.1**
baz=67
832A Faith Ranch, C 66.30 333 ⇑P **P 17 00 39.1 +0.9**
baz=67
636A Smothers Creek 66.32 336 ⇓P **P 17 00 39.4 +1.1**
baz=67
GOGA Godfrey 66.65 349 *eP* **P 17 00 39.9 -0.4**
GOGA pmax pmax
comp=Z,18nm,1.1s
GOGA Godfrey 66.65 349 *eP* **P 17 00 39.9 -0.4**
comp=Z,18nm,1.1s
732A Laxson Ranch, 66.69 333 ⇓P **P 17 00 41.6 +0.8**
baz=67,SNR=7.2
438A Sam Houston St 66.96 338 ⇓P **P 17 00 43.5 +1.1**
baz=67
535A Dale 67.00 336 ⇓P **P 17 00 43.2 +0.6**
baz=67
SYO Syowa Base 67.01 159 ⇑*eP* **P 17 00 41.3 -1.0**
SYO Syowa Base 67.01 159 ⇑*epP* pP 17 00 46.2 -3.5
633A Saathoff Ranch 67.05 334 ⇓P **P 17 00 43.7 +0.7**
baz=67
632A Uvalde 67.32 334 ⇓P **P 17 00 45.5 +0.8**
baz=68,SNR=8.6
631A Perdido Creek 67.54 333 ⇓P **P 17 00 47.2 +1.0**
baz=68
533A Kerrville 67.56 334 ⇓P **P 17 00 47.1 +0.9**
baz=68
337A Centerville 67.62 338 ⇓P **P 17 00 47.4 +0.9**
baz=68
239A Gary 67.83 339 ⇓P **P 17 00 48.7 +0.9**
baz=68
532A Rocksprings 67.93 334 ⇓P **P 17 00 49.4 +0.8**
baz=68,SNR=12
434A Burnet 67.96 335 ⇑P **P 17 00 49.2 +0.4**
baz=68,SNR=5.5
336A Riesel 68.00 337 ⇓P **P 17 00 48.8 -0.1**
baz=68
KMSC Kings Mountain 68.05 351 ⇑P **P 17 00 49.6 +0.4**
baz=68
KMSC Kings Mountain 68.05 351 *eP* **P 17 00 49.5 +0.4**
comp=Z,10nm,1.1s
KMSC *epP* **pP 17 00 56.0 -0.6**
335A Moody 68.09 336 ⇓P **P 17 00 50.1 +0.6**
baz=68
433A Art 68.19 335 ⇓P **P 17 00 50.7 +0.4**
baz=68,SNR=10.0
JCT Junction City 68.20 334 *eP* **P 17 00 51.3 +1.0**
JCT pmax pmax
comp=Z,25nm,1.2s
JCT Junction City 68.20 334 ⇓P **P 17 00 50.6 +0.3**
baz=68,SNR=5.4
JCT Junction City 68.20 334 *eP* **P 17 00 51.3 +1.0**
comp=Z,25nm,1.2s
334A Lometa 68.42 336 ⇑P **P 17 00 52.1 +0.5**
baz=69,SNR=5.9
530A J-C Ranch, Com 68.49 333 ⇓P **P 17 00 52.8 +0.6**
baz=69,SNR=6.8
432A Menard 68.56 334 ⇓P **P 17 00 53.3 +0.8**
baz=69
138A Matatall Enter 68.62 339 ⇑P **P 17 00 54.0 +1.3**
baz=69
333A Richland Sprin 68.67 335 ⇓P **P 17 00 53.4 +0.2**
baz=69,SNR=5.5
431A Sonora 68.69 333 ⇓P **P 17 00 53.9 +0.5**
baz=69
TXAR Lajitas Array 68.71 330 P **P 17 00 54.3 +0.7**
comp=Z,2.3nm,0.7s,baz=148,slow=7.4,SNR=14
WHTX Lake Whitney, 68.75 337 ⇑P **P 17 00 54.5 +0.9**
baz=69
137A Heron Place, G 68.76 338 ⇓P **P 17 00 54.6 +0.9**
baz=69
CPCT Cooper Cave 68.81 349 *eP* **P 17 00 56.6 +2.6**
CPCT *epP* **pP 17 01 03.4 +2.0**
529A Stev Forest Ra 68.82 332 ⇑P **P 17 00 54.9 +0.7**
baz=69
SWET Sewanee 68.83 348 *eP* **P 17 00 54.1 0.0**
comp=Z,40nm,1.0s
SWET *epP* **pP 17 01 01.0 -0.6**
OXF Oxford 68.86 344 *eP* **P 17 00 54.4 +0.2**
OXF *e*PP **pP 17 01 01.3 -0.4**
OXF pmax pmax
comp=Z,63nm,0.9s
OXF Oxford 68.86 344 *eP* **P 17 00 54.4 +0.2**
comp=Z,63nm,0.9s
OXF *epP* **pP 17 01 01.3 -0.4**
TKL Tuckaleechee C 68.90 349 *eP* **P 17 00 54.2 -0.3**
TKL *e*PP **pP 17 01 00.3 -1.7**
TKL Tuckaleechee C 68.90 349 P **P 17 00 54.5 0.0**
comp=Z,12nm,0.7s,baz=167,slow=7.1,SNR=12
TKL Tuckaleechee C 68.90 349 *eP* **P 17 00 54.1 -0.3**
TKL *epP* **pP 17 01 00.3 -1.7**
234A Clairette 69.00 336 ⇑P **P 17 00 55.8 +0.6**
baz=69
332A Millersview 69.00 334 ⇑P **P 17 00 55.8 +0.6**
baz=69
430A Baggett Ranch, 69.02 333 ⇑P **P 17 00 55.9 +0.5**
baz=69
429A Davenport Ranc 69.13 332 ⇑P **P 17 00 56.8 +0.6**
baz=70,SNR=7.1
331A San Angelo 69.18 334 ⇓P **P 17 00 56.8 +0.4**
baz=70
233A Rising Star 69.27 335 ⇑P **P 17 00 57.4 +0.4**
baz=70
232A Coleman 69.42 335 ⇓P **P 17 00 58.2 +0.3**
baz=70
330A Mertzon 69.55 333 ⇑P **P 17 00 58.8 +0.1**
baz=70
231A Bronte 69.70 334 ⇑P **P 17 00 59.9 +0.3**
baz=70
133A Hamilton Ranch 69.81 336 ⇓P **P 17 01 00.6 +0.3**
baz=70
Z35A Perchaven, San 69.92 337 ⇓P **P 17 01 01.0 +0.1**
baz=70
329A Wagon Wheel Ra 69.93 333 ⇑P **P 17 01 01.1 0.0**
baz=70
MIAR Mount Ida 69.94 341 *eP* **P 17 01 01.0 +0.1**
MIAR pmax pmax
comp=Z,16nm,1.1s
MIAR Mount Ida 69.94 341 *eP* **P 17 01 01.0 +0.1**
comp=Z,16nm,1.1s
230A Sterling City 69.96 334 ⇓P **P 17 01 01.2 0.0**
baz=70
VWCC Virginia Weste 69.97 353 *eP* **P 17 01 01.4 +0.3**
WVT Waverly 70.08 346 *eP* **P 17 01 01.3 -0.4**
WVT *e*PP **pP 17 01 08.5 -0.8**
WVT pmax pmax
comp=Z,60nm,0.9s
WVT Waverly 70.08 346 *eP* **P 17 01 01.3 -0.4**
comp=Z,60nm,0.9s
WVT *epP* **pP 17 01 08.5 -0.8**
ABTX Abilene, Hawle 70.08 335 ⇓P **P 17 01 02.1 +0.2**
baz=70
ABTX Abilene, Hawle 70.08 335 *eP* **P 17 01 02.2 +0.2**
comp=Z,3.4nm,0.4s
Z34A Collier Ranch, 70.17 337 ⇑P **P 17 01 02.6 +0.2**
baz=70
JSRW J. Sargeant Re 70.23 355 *eP* **P 17 01 03.4 +0.8**
JSRW *epP* **pP 17 01 10.1 -0.1**
229A Bryant Ranch, 70.29 333 ⇑P **P 17 01 03.4 +0.1**
baz=71
Z33A Whitaker Ranch 70.38 336 ⇑P **P 17 01 04.2 +0.5**
baz=71
131A Roby 70.40 335 ⇓P **P 17 01 04.2 +0.3**
baz=71
130A Snyder 70.54 334 ⇑P **P 17 01 05.0 +0.3**
baz=71
Z32A Haskell 70.64 336 ⇓P **P 17 01 05.2 -0.2**
baz=71
BBTS Babate 70.65 57 P **P 17 01 06.0 +0.3**
comp=Z,24nm,0.7s,baz=243,slow=4.2,SNR=4.7
Y34A Reagan Ranch, 70.66 337 ⇓P **P 17 01 05.5 +0.1**
baz=71
228A UT Block 9, Go 70.73 333 ⇑P **P 17 01 06.1 +0.1**
baz=71
Z31A Sharp Cattle R 70.89 335 ⇓P **P 17 01 07.2 +0.3**
baz=71
129A Stewart Farms, 70.91 333 ⇓P **P 17 01 07.0 0.0**
baz=71
Y33A Hilltop Ranch, 70.99 337 ⇑P **P 17 01 07.5 +0.1**
baz=71
128A Castleberry Fa 71.13 333 ⇓P **P 17 01 08.5 +0.1**
baz=72
Z30A Sanderson Ranc 71.22 334 ⇓P **P 17 01 08.8 -0.1**
baz=72
Y32A R-V Farms, Ver 71.26 336 ⇑P **P 17 01 08.8 -0.3**
baz=72
X34A Smith Ranch, M 71.27 337 ⇓P **P 17 01 08.7 -0.4**
baz=72
Z29A Hungry Hill Ra 71.41 334 ⇓P **P 17 01 09.5 -0.5**
baz=72
MNTX Cornudas Mount 71.49 330 *eP* **P 17 01 10.1 -0.4**
comp=Z,7.3nm,0.9s
MNTX *epP* **pP 17 01 17.0 -1.0**
Y31A Rekieta Farm, 71.51 335 ⇑P **P 17 01 09.9 -0.7**
baz=72
X32A Elmer 71.59 336 ⇓P **P 17 01 09.9 -1.1**
baz=72
Z28A Tucker Farm, M 71.69 333 ⇓P **P 17 01 10.5 -1.3**
baz=72
USIN University of 71.82 347 *eP* **P 17 01 11.6 -0.6**
comp=Z,58nm,1.0s
USIN *epP* **pP 17 01 18.7 -1.1**
TUL1 Leonard 71.85 340 ⇓P **P 17 01 12.6 0.0**
baz=72
SIUC Southern Illin 71.89 345 *eP* **P 17 01 12.5 -0.2**
comp=Z,34nm,1.0s
SIUC *epP* **pP 17 01 19.4 -0.8**
Y29A Porterfield Fa 71.93 334 ⇓P **P 17 01 13.4 +0.3**
baz=72
W33A Caddo, Fort Co 71.98 337 ⇑P **P 17 01 13.7 +0.4**
baz=72
X31A McDonald Ranch 72.02 336 ⇑P **P 17 01 14.0 +0.3**
baz=72
X30A Coker Ranch, T 72.17 335 ⇑P **P 17 01 15.0 +0.4**
baz=72
Y28A McKinney Farm, 72.19 334 ⇓P **P 17 01 15.5 +0.7**
baz=72
W32A Sentinel 72.21 337 ⇓P **P 17 01 15.5 +0.7**
baz=73
V34A Guthrie 72.30 338 ⇓P **P 17 01 15.9 +0.6**
baz=73
MSTX Muleshoe 72.44 333 ⇓P **P 17 01 16.7 +0.5**
baz=73
MSTX Muleshoe 72.44 333 *eP* **P 17 01 16.7 +0.5**
comp=Z,21nm,1.0s
MSTX *epP* **pP 17 01 23.3 -0.5**
X29A Tulia 72.46 334 ⇑P **P 17 01 16.9 +0.5**
baz=73
W31A Holland Ranch, 72.51 336 ⇓P **P 17 01 17.4 +0.8**
baz=73
Y27A Causey 72.51 333 ⇑P **P 17 01 17.4 +0.7**
baz=73
V33A Lossen Ranch, 72.54 338 ⇓P **P 17 01 17.5 +0.9**
baz=73
Z25A Roswell 72.59 331 ⇓P **P 17 01 17.9 +0.7**
baz=73
OLIL Olney 72.65 347 *eP* **P 17 01 16.3 -0.9**
comp=Z,17nm,0.9s
V32A Arapaho 72.69 337 ⇑P **P 17 01 18.3 +0.7**
baz=73
Y26A Elida 72.80 332 ⇑P **P 17 01 19.3 +0.8**
baz=73
AMTX Amarillo 72.85 335 ⇓P **P 17 01 19.4 +0.8**
baz=73
AMTX Amarillo 72.85 335 *eP* **P 17 01 18.9 +0.2**
comp=Z,17nm,1.2s
AMTX *epP* **pP 17 01 26.0 -0.2**
U34A Anderson Ranch 72.86 338 ⇓P **P 17 01 19.6 +1.0**
baz=73
319A Douglas 72.93 327 ⇓P **P 17 01 20.5 +1.3**
baz=73
V31A Spring Creek L 73.01 336 ⇑P **P 17 01 20.8 +1.3**
baz=73
W29A Amarillo 73.05 335 ⇓P **P 17 01 20.3 +0.5**
baz=73
SSPA Standing Stone 73.15 355 *eP* **P 17 01 20.7 +0.6**
comp=Z,5.0nm,1.0s
121A Cookes Peak, D 73.24 329 ⇓P **P 17 01 22.0 +0.8**
baz=74
121A Cookes Peak, D 73.24 329 *eP* **P 17 01 22.4 +1.3**
comp=Z,22nm,1.0s
ACSO Alum Creek Sta 73.28 351 *eP* **P 17 01 20.9 0.0**
comp=Z,34nm,0.8s
ACSO *epP* **pP 17 01 27.6 -0.8**
U32A Winter Ranch, 73.28 337 ⇑P **P 17 01 22.2 +1.1**
baz=74
V30A Spur Ranch, Mi 73.29 336 ⇑P **P 17 01 22.5 +1.3**
baz=74
X26A CR and CF Fran 73.35 333 ⇓P **P 17 01 22.1 +0.4**
baz=74
Y24A Capitan 73.45 331 ⇓P **P 17 01 23.3 +1.0**
baz=74
Z22A Elephant Butte 73.50 330 ⇑P **P 17 01 23.6 +1.0**
baz=74
W27A Bowe Ranch, En 73.52 334 ⇓P **P 17 01 23.9 +1.2**
baz=74
X25A Clemmons Ranch 73.66 332 ⇓P **P 17 01 24.6 +1.0**
baz=74
T33A Patterson Ranc 73.68 338 ⇓P **P 17 01 24.6 +1.3**
baz=74
Y23A Lovelace Mesa, 73.71 331 ⇓P **P 17 01 24.5 +0.6**
baz=74
W26A Owens Ranch, T 73.81 333 ⇓P **P 17 01 25.0 +0.7**
baz=74
V28A Channing 73.82 335 ⇑P **P 17 01 25.1 +0.7**
baz=74
U30A WK&E Inc. Balk 73.97 336 ⇑P **P 17 01 25.7 +0.5**
baz=74
T32A Huddler Ranch, 73.98 338 ⇑P **P 17 01 25.8 +0.6**
baz=74
X24A Lazy VL Ranch, 74.00 332 ⇑P **P 17 01 25.9 +0.3**
baz=74
V27A Dan Oppiter Fa 74.05 334 ⇑P **P 17 01 26.3 +0.6**
baz=74
SFIN Lafayette 74.06 348 ⇓P **P 17 01 25.3 -0.2**
baz=74
S33A Kaszmaul Farm, 74.07 339 ⇑P **P 17 01 26.5 +0.8**
baz=74
T31A Randall Ranch, 74.15 337 ⇓P **P 17 01 26.9 +0.7**
baz=74
W25A X Bar L Ranch, 74.19 333 ⇑P **P 17 01 27.6 +1.0**
baz=74
LPM Los Pinos Moun 74.27 330 *eP* **P 17 01 28.1 +0.9**
comp=Z,6.6nm,1.0s
U28A Mallet 74.38 335 ⇑P **P 17 01 29.0 +1.4**
baz=75
V26A Tequesquite Ra 74.44 333 ⇓P **P 17 01 28.1 +0.1**
baz=75,SNR=5.7
DBIC Dimbokro 74.48 71 *eP* **P 17 01 29.2 +0.6**
DBIC pmax pmax
comp=Z,19nm,1.0s
DBIC Dimbokro 74.48 71 P **P 17 01 29.6 +1.0**
comp=Z,15nm,0.8s,baz=220,slow=8.0,SNR=12
DBIC Dimbokro 74.48 71 *eP* **P 17 01 29.2 +0.6**
comp=Z,19nm,1.0s
W24A Lazy 6 Ranch, 74.56 332 ⇑P **P 17 01 29.8 +1.0**
baz=75
S31A Mullinville 74.57 337 ⇓P **P 17 01 29.9 +1.3**
baz=75
U27A Thompson Grove 74.64 334 ⇓P **P 17 01 30.4 +1.2**
baz=75
R33A Olander Ranch, 74.72 339 ⇓P **P 17 01 31.0 +1.5**
baz=75
ANMO Albuquerque 74.75 331 *deP* **P 17 01 31.3 +1.4**
ANMO pmax pmax
comp=Z,42nm,1.2s
ANMO Albuquerque 74.75 331 P **P 17 01 30.7 +0.8**
comp=Z,6.2nm,1.1s,baz=157,slow=8.7,SNR=11
ANMO Albuquerque 74.75 331 *eP* **P 17 01 30.8 +0.8**
comp=Z,10nm,1.2s
V25A Rancho No Teng 74.79 333 ⇓P **P 17 01 30.4 +0.2**
baz=75,SNR=11
W23A Werner Place, 74.81 331 ⇓P **P 17 01 30.7 +0.4**
baz=75
V24A Rampart Ranch, 74.95 332 ⇑P **P 17 01 31.7 +0.6**
baz=75
U26A Atchley Ranch, 74.95 334 ⇑P **P 17 01 31.7 +0.6**
baz=75
T28A Walsh 75.01 335 ⇓P **P 17 01 31.9 +0.6**
baz=75
R32A Long Quarter, 75.05 338 ⇑P **P 17 01 32.0 +0.6**
baz=75
214A Organ Pipe Nat 75.09 325 ⇓P **P 17 01 32.3 +0.6**
baz=75
214A Organ Pipe Nat 75.09 325 P **P 17 01 33.5 +1.7**
comp=Z,17nm,1.2s
S29A Ulysses 75.11 336 ⇓P **P 17 01 32.7 +0.9**
baz=76
T27A Campo 75.17 335 ⇑P **P 17 01 32.6 +0.3**
baz=76,SNR=9.1
R31A Burdett 75.19 338 ⇑P **P 17 01 32.4 +0.2**
baz=76
U25A Circle Dot Ran 75.21 333 ⇓P **P 17 01 33.0 +0.5**
baz=76,SNR=5.2
SUR Sutherland 75.22 119 P **P 17 01 35.7 +2.7**
comp=Z,174nm,0.9s,SNR=5.8
Q33A Connelly Farm, 75.31 339 ⇑P **P 17 01 33.3 +0.4**
baz=76
S28A Manter 75.35 336 ⇑P **P 17 01 33.7 +0.5**
baz=76,SNR=8.2
R30A Dighton 75.43 337 ⇓P **P 17 01 34.3 +0.7**
baz=76
Q32A Meitler Ranch, 75.53 339 ⇑P **P 17 01 35.4 +1.2**
baz=76
T26A Comanche Natio 75.59 334 ⇓P **P 17 01 35.6 +0.9**
baz=76,SNR=8.3
V22A San Miguel Ran 75.77 331 ⇓P **P 17 01 36.9 +1.0**
baz=76
Q31A Ellis 75.80 338 ⇓P **P 17 01 37.0 +1.3**
baz=76
U23A El Rito 75.84 332 ⇓P **P 17 01 37.3 +1.1**
baz=76
T25A Trinidad 75.86 334 ⇓P **P 17 01 37.1 +0.8**
baz=76,SNR=15
X18A Snowflake 75.89 328 ⇓P **P 17 01 37.4 +1.0**
baz=76
S26A Kim 75.94 334 ⇑P **P 17 01 37.6 +1.0**
baz=76,SNR=19
R28A Tribune 76.00 336 ⇓P **P 17 01 37.8 +0.9**
baz=76,SNR=5.4
Q30A Quinter 76.04 337 ⇓P **P 17 01 38.1 +1.1**
baz=76
P32A Huiting Farm, 76.12 339 ⇓P **P 17 01 38.7 +1.3**
baz=76
T24B San Luis 76.16 333 ⇓P **P 17 01 39.8 +1.7**
baz=76,SNR=9.2
Q29A Oakley 76.21 337 ⇑P **P 17 01 39.1 +1.1**
baz=77
113A Mohawk Valley, 76.22 324 ⇑P **P 17 01 39.3 +1.2**
baz=76
P31A Stockton 76.27 338 ⇑P **P 17 01 39.4 +1.1**
baz=77
W18A Petrified Fore 76.29 329 ⇑P **P 17 01 39.7 +1.0**
baz=77
W18A Petrified Fore 76.29 329 *eP* **P 17 01 39.4 +0.7**
comp=Z,20nm,1.1s
R27A Eads 76.29 335 ⇓P **P 17 01 38.8 +0.3**
baz=77,SNR=8.0
MDV Middlebury 76.30 359 *eP* **P 17 01 39.2 +0.9**
comp=Z,60µm,0.7s
S25A Robets Cordova 76.33 334 ⇑P **P 17 01 39.7 +0.8**
baz=77,SNR=12
T23A Casias Ranch, 76.39 332 ⇓P **P 17 01 40.8 +1.4**
baz=77
X16A Lo Mia Camp, P 76.47 327 ⇑P **P 17 01 41.4 +1.7**
baz=77
LBNH Lisbon 76.53 360 *eP* **P 17 01 37.7 -2.0**
LBNH pmax pmax
comp=Z,59nm,1.6s
LBNH Lisbon 76.53 360 *eP* **P 17 01 37.7 -2.0**
comp=Z,59nm,1.6s
R26A Arlington 76.53 335 ⇓P **P 17 01 41.1 +1.1**
baz=77,SNR=6.4
P30A Selden 76.56 338 ⇓P **P 17 01 41.5 +1.5**
baz=77
S24A Houchin Ranch, 76.60 333 ⇓P **P 17 01 41.4 +0.7**
baz=77,SNR=12
Q28A Sharon Springs 76.65 336 ⇓P **P 17 01 42.3 +1.8**
baz=77
R25A Fountain Ranch 76.70 334 ⇓P **P 17 01 42.3 +1.3**
baz=77
SCIA State Center 76.80 344 *eP* **P 17 01 41.2 0.0**
comp=Z,13nm,0.7s
SCIA *epP* **pP 17 01 47.6 -1.2**
Y14A Wickenburg 76.80 326 ⇓P **P 17 01 42.6 +1.1**
baz=77
SDCO Great Sand Dun 76.81 333 *eP* **P 17 01 42.5 +0.7**
comp=Z,8.5nm,1.1s
O31A Woolen Ranch, 76.83 339 ⇓P **P 17 01 43.0 +1.5**
baz=77
P29A Atwood 76.84 337 ⇑P **P 17 01 42.9 +1.3**
baz=77
LONY Lake Ozonia 76.96 358 *eP* **P 17 01 42.4 +0.3**
comp=Z,17nm,1.1s
GLA Glamis 76.97 324 ⇓P **P 17 01 44.0 +1.6**
baz=77
R24A Sanders Place, 77.08 334 ⇑P **P 17 01 44.4 +1.2**
baz=77,SNR=9.3
P28A Saint Francis 77.08 337 ⇓P **P 17 01 44.4 +1.4**
baz=77
JFWS Jewell Farm 77.11 346 *eP* **P 17 01 42.9 0.0**
JFWS *e*PP **pP 17 01 49.2 -1.3**
JFWS pmax pmax
comp=Z,50nm,1.4s
JFWS Jewell Farm 77.11 346 *eP* **P 17 01 42.9 0.0**
comp=Z,50nm,1.4s
JFWS *epP* **pP 17 01 49.2 -1.3**
Q26A Hugo 77.11 335 ⇑P **P 17 01 44.7 +1.4**
baz=78
O29A 4D Ranch, Culb 77.27 338 ⇓P **P 17 01 45.6 +1.6**
baz=78
R23A Moffat 77.32 333 ⇓P **P 17 01 45.6 +1.0**
baz=78,SNR=9.1
S22A 4UR Ranch, Cre 77.32 332 ⇓P **P 17 01 45.6 +1.0**
baz=78
N31A Bailey Ranch, 77.33 339 ⇓P **P 17 01 45.6 +1.4**
baz=78
P27A Ficken Ranch, 77.35 336 ⇓P **P 17 01 45.8 +1.2**
baz=78
WUAZ Wupatki 77.35 328 ⇑P **P 17 01 45.8 +1.1**
baz=78
WUAZ Wupatki 77.35 328 *eP* **P 17 01 45.9 +1.1**
comp=Z,20nm,1.1s
SADO Sadowa 77.36 355 P **P 17 01 44.4 +0.1**
comp=Z,13nm,0.9s,baz=174,slow=1.6,SNR=6.6
SWSC Sam W. Stewart 77.37 323 ⇓P **P 17 01 46.1 +1.5**
baz=78
Q25A Bedland, Calha 77.37 335 ⇑P **P 17 01 45.9 +1.1**
baz=78
Y12C Blythe 77.38 325 ⇓P **P 17 01 46.0 +1.3**
baz=78
MVCO Mesa Verde 77.53 331 ⇑P **P 17 01 46.7 +0.9**
baz=78
MVCO Mesa Verde 77.53 331 *eP* **P 17 01 46.3 +0.5**
comp=Z,14nm,1.0s
O28A Krutsinger Ran 77.59 337 ⇓P **P 17 01 47.0 +1.2**
baz=78
P26A Davis Ranch, A 77.62 335 ⇓P **P 17 01 47.1 +1.1**
baz=78
BGNE Belgrade 77.63 340 ⇑P **P 17 01 47.2 +1.2**
baz=78

BGNE **Belgrade** 77.63 340 *e*P P 17 01 46.6 +0.7
comp=Z,43nm,0.9s
PDMCI **Parker Dam,Lak** 77.64 325 ⇓P P 17 01 47.3 +1.2
baz=78
Q24A **Divide** 77.74 334 ⇓P P 17 01 48.0 +1.0
baz=78,SNR=10
BC3 **Big Chuckawall** 77.76 324 ⇑P P 17 01 48.1 +1.1
baz=78
M31A **Lambtecht Ranc** 77.81 339 ⇓P P 17 01 48.5 +1.5
baz=78
N29A **Votaw Ranch, W** 77.84 338 ⇓P P 17 01 48.6 +1.4
baz=78
P25A **Willow Gulch B** 77.87 335 ⇑P P 17 01 48.5 +1.0
baz=78,SNR=10.0
O27A **Beecher Island** 77.88 336 ⇓P P 17 01 48.7 +1.3
baz=78
IRM **Iron Mountain** 78.02 324 ⇓P P 17 01 50.1 +1.8
baz=78
W13A **Hualapai Mount** 78.17 326 ⇓P P 17 01 51.3 +2.0
baz=78
PFO **Pinyon Flats O** 78.23 323 P P 17 01 50.2 +0.6
comp=Z,6.8nm,0.9s,baz=158,slow=5.0,SNR=2.9
BELC **Belle Mtn. Jos** 78.31 324 ⇑P P 17 01 51.7 +1.7
baz=79
PV01 **Paradox Valley** 78.35 331 *e*P P 17 01 51.8 +1.5
comp=Z,1μm,1.1s
PV01 *e*pP pP 17 01 58.5 +0.6
O25A **Wiggins** 78.38 335 ⇑P P 17 01 52.0 +1.7
baz=79
OGNE **Ogallala** 78.41 337 ⇑P P 17 01 52.1 +1.8
baz=79
N27A **Anderson Farm,** 78.45 337 ⇑P P 17 01 52.4 +1.7
baz=79
U15A **North Rim** 78.52 328 ⇑P P 17 01 52.8 +1.4
baz=79
L31A **Butterfield Fa** 78.54 340 ⇑P P 17 01 52.6 +1.6
baz=79
L30A **Spencer Herefo** 78.59 339 ⇑P P 17 01 52.9 +1.6
baz=79
M28A **Bar X Bar Ranc** 78.60 338 ⇑P P 17 01 52.9 +1.5
baz=79
MURC **Murrieta** 78.60 323 ⇑P P 17 01 52.9 +1.4
baz=79
ISCO **Idaho Springs** 78.65 334 *e*P P 17 01 52.5 +0.5
ISCO *e**PP pP 17 01 59.9 +0.3
ISCO pmax pmax
comp=Z,8.0nm,0.9s
ISCO **Idaho Springs** 78.65 334 ⇑P P 17 01 52.5 +0.5
baz=79,SNR=9.4
ISCO **Idaho Springs** 78.65 334 *e*P P 17 01 52.5 +0.5
comp=Z,7.7nm,0.9s
ISCO *e*pP pP 17 01 59.9 +0.3
PV04 **Paradox Valley** 78.71 331 *e*P P 17 01 53.5 +1.3
GMRC **Granite Mounta** 78.77 324 ⇑P P 17 01 53.9 +1.4
baz=79
P22A **Eagle** 78.90 333 ⇓P P 17 01 54.0 +0.7
baz=79,SNR=5.4
M27A **Reverse DX Ran** 79.05 337 ⇑P P 17 01 55.4 +1.5
baz=79
O23A **Lake Granby, G** 79.12 334 ⇓P P 17 01 55.5 +1.0
baz=80,SNR=9.6
HEC **Hector,Ludlow** 79.14 324 ⇑P P 17 01 56.0 +1.5
baz=80
K30A **Basset** 79.22 339 ⇓P P 17 01 56.1 +1.3
baz=80
N24A **Carr** 79.28 335 ⇑P P 17 01 56.2 +0.9
baz=80
O22A **Kremmling** 79.31 334 ⇓P P 17 01 56.3 +0.7
baz=80,SNR=9.1
BFSC **Mount Baldy Ra** 79.34 323 ⇑P P 17 01 56.6 +0.9
baz=80
ECSD **EROS Data Cent** 79.36 342 ⇑P P 17 01 56.2 +0.8
baz=80
ECSD **EROS Data Cent** 79.36 342 *e*P P 17 01 55.2 -0.2
comp=Z,38nm,0.9s
ECSD *e*pP pP 17 02 02.4 -0.7
TUQ **Turquoise Moun** 79.42 325 ⇑P P 17 01 57.5 +1.4
baz=80
L27A **T5 Ranch, Ells** 79.53 337 ⇓P P 17 01 58.0 +1.5
baz=80
DECC **Green Verdugo** 79.69 322 ⇓P P 17 01 58.9 +1.4
baz=80
N23A **Red Feather La** 79.73 334 ⇓P P 17 01 58.6 +0.8
baz=80,SNR=5.9
GSC **Goldstone, Bar** 79.75 324 ⇓P P 17 01 59.3 +1.5
baz=80
J30A **Dallas** 79.78 340 ⇓P P 17 01 59.5 +1.7
baz=80
K28A **Ten Mile Ranch** 79.79 338 ⇓P P 17 01 59.5 +1.7
baz=80
M24A **Cheyenne** 79.83 335 ⇑P P 17 01 59.7 +1.5
baz=80
N22A **Wattenberg Ran** 79.83 334 ⇓P P 17 01 59.5 +1.1
baz=80,SNR=6.6
SPMN **Marine on St.** 79.85 345 *e*P P 17 01 57.2 -0.8
comp=Z,7.9nm,0.6s
SPMN *e*pP PcP 17 02 04.1 -1.5
SHPR **Sheep Range** 79.91 326 *e*P P 17 01 59.4 +0.6
comp=Z,20nm,1.4s
CCUT **Cedar City** 79.93 328 *e*P P 17 01 59.9 +1.0
comp=Z,14nm,1.2s
O20A **White River Ci** 79.94 332 ⇑P P 17 02 00.1 +1.2
baz=80
SHOC **Shoshone, Teco** 79.97 325 ⇓P P 17 02 00.2 +1.3
baz=80
COWI **Conover** 79.97 348 *e*P P 17 01 58.6 0.0
comp=Z,20nm,1.4s
SRU **San Rafael Swe** 79.99 330 *e*P P 17 01 59.9 +0.7
SRU pmax pmax
comp=Z,5.0nm,0.8s
SRU **San Rafael Swe** 79.99 330 *e*P P 17 01 59.9 +0.7
comp=Z,5.4nm,0.8s
K27A **Flueckinger Fa** 80.06 338 ⇓P P 17 02 00.8 +1.5
baz=80
J29A **Okreek** 80.10 339 ⇓P P 17 02 00.9 +1.5
baz=80
L25A **Engebretsen Ra** 80.14 336 ⇓P P 17 02 01.3 +1.5
baz=80
M23A **Laramie** 80.15 335 ⇓P P 17 02 01.3 +1.3
baz=80
ARUT **Antelope Range** 80.16 328 *e*P P 17 02 01.4 +1.3
ARUT pmax pmax
comp=Z,91nm,1.0s
ARUT **Antelope Range** 80.16 328 *e*P P 17 02 01.4 +1.3
comp=Z,91nm,1.0s
BSC **Santa Cruz Isl** 80.18 321 ⇑P P 17 02 01.6 +1.5
baz=80
MVU **Marysvale** 80.20 329 *e*P P 17 02 01.3 +0.9
comp=Z,12nm,1.3s
I30A **Oacoma** 80.30 340 ⇑P P 17 02 01.4 +0.9
baz=81
K26A **Motz Farm, Whi** 80.36 337 ⇑P P 17 02 02.5 +1.5
baz=81
J28A **Allard Ranch,** 80.40 339 ⇑P P 17 02 02.8 +1.7
baz=81
M22A **Cedar Creek Ra** 80.41 334 ⇓P P 17 02 03.2 +1.8
baz=81
BOSA **Boshof** 80.44 118 *e*P P 17 02 02.7 +0.7
BOSA pmax pmax
comp=Z,26nm,1.0s
BOSA **Boshof** 80.44 118 P P 17 02 02.7 +0.7
comp=Z,21nm,0.8s,baz=241,slow=4.1,SNR=29
BOSA **Boshof** 80.44 118 *e*P P 17 02 02.7 +0.7
comp=Z,26nm,1.0s
J27A **Elkhorn Farm,** 80.48 338 ⇓P P 17 02 02.7 +1.1
baz=81,SNR=5.7
I29A **Vivian Onida** 80.66 340 ⇑P P 17 02 03.2 +0.7
baz=81
L23A **Garrett** 80.71 335 ⇑P P 17 02 03.7 +0.7
baz=81
J26A **Sides Ranch, S** 80.88 337 ⇑P P 17 02 04.7 +1.0
baz=81,SNR=6.3
I28A **Midland** 80.90 339 ⇓P P 17 02 04.8 +1.1
baz=81
L22A **Ellis Ranch, M** 80.90 335 ⇑P P 17 02 04.6 +0.6
baz=81
DAC **Darwin (Calif)** 80.91 324 *e*P P 17 02 05.5 +1.3
DAC pmax pmax
comp=Z,14nm,1.1s
DAC **Darwin (Calif)** 80.91 324 *e*P P 17 02 05.5 +1.3
comp=Z,14nm,1.1s
K24A **Anderson Ranch** 80.93 336 ⇓P P 17 02 04.8 +0.7
baz=81
H29A **Onida** 81.18 340 ⇓P P 17 02 05.2 0.0
baz=82,SNR=6.2
J25A **Sunshine Ranch** 81.18 337 ⇑P P 17 02 05.8 +0.5
baz=82
I27A **Quinn** 81.23 338 ⇓P P 17 02 06.2 +0.7
baz=82
K23A **Bowen Ranch, D** 81.24 335 ⇓P P 17 02 06.3 +0.5
baz=82
VES **Vestal, Richgr** 81.32 323 ⇓P P 17 02 06.7 +0.6
baz=82
G30A **Faulkton** 81.34 341 ⇑P P 17 02 07.0 +1.0
baz=82
DAU **Daniels Canyon** 81.39 331 *e*P P 17 02 08.0 +1.2
DAU **Daniels Canyon** 81.39 331 *e*P P 17 02 08.0 +1.2
I26A **New Underwood** 81.45 338 ⇑P P 17 02 07.9 +1.1
baz=82
H28A **Mission Ridge** 81.47 339 ⇓P P 17 02 07.8 +1.1
baz=82
K22A **Casper** 81.47 335 ⇑P P 17 02 07.9 +0.9
baz=82
K22A **Casper** 81.47 335 *e*P P 17 02 08.1 +1.1
comp=Z,24nm,1.3s
K22A *e*pP pP 17 02 15.2 +0.6
R11A **Troy Canyon, C** 81.60 327 ⇓P P 17 02 08.8 +1.0
baz=82
R11A **Troy Canyon, C** 81.60 327 *e*P P 17 02 08.8 +1.0
comp=Z,11nm,1.2s
R11A *e*pP pP 17 02 16.2 +0.8
G29A **Hoven** 81.62 340 ⇓P P 17 02 08.4 +0.8
baz=82
K21A **Alcova** 81.72 334 ⇓P P 17 02 08.8 +0.5
baz=82,SNR=5.8
I25A **Rochford** 81.72 337 ⇓P P 17 02 08.8 +0.5
baz=82,SNR=8.8
H27A **Howes** 81.75 339 ⇓P P 17 02 09.0 +0.8
baz=82
G28A **Parade** 81.80 340 ⇑P P 17 02 09.1 +0.6
baz=82,SNR=6.0
DUG **Dugway, Tooele** 81.86 329 *e*P P 17 02 10.3 +1.2
DUG pmax pmax
comp=Z,15nm,1.3s
DUG **Dugway, Tooele** 81.86 329 ⇓P P 17 02 10.2 +1.1
baz=82
DUG **Dugway, Tooele** 81.86 329 *e*P P 17 02 10.3 +1.2
comp=Z,16nm,1.3s
I24A **Kuemmerle Ranc** 81.88 337 ⇓P P 17 02 10.1 +1.1
baz=82
RSSD **Black Hills** 81.91 337 *e*P P 17 02 10.1 +0.7
RSSD *e**PP pP 17 02 16.8 -0.2
RSSD pmax pmax
comp=Z,11nm,1.0s
RSSD **Black Hills** 81.91 337 *e*P P 17 02 10.1 +0.7
comp=Z,11nm,1.0s
RSSD *e*pP pP 17 02 16.8 -0.2
F30A **Leola** 81.96 341 ⇓P P 17 02 10.2 +1.0
baz=82
J22A **Midwest** 82.12 335 ⇓P P 17 02 11.0 +0.6
baz=82
TPH **Tonopah** 82.15 325 *e*P P 17 02 12.0 +1.3
TPH *e**PP pP 17 02 19.0 +0.6
TPH pmax pmax
comp=Z,20nm,1.3s
TPH **Tonopah** 82.15 325 *e*P P 17 02 12.0 +1.3
comp=Z,20nm,1.3s
TPH *e*pP pP 17 02 19.0 +0.6
F29A **Eureka** 82.18 341 ⇓P P 17 02 11.0 +0.6
baz=82
EYMN **Ely** 82.18 347 *e*P P 17 02 09.7 -0.7
comp=Z,19nm,1.1s
EYMN *e*pP PcP 17 02 16.8 +1.1
H25A **Fruitdale** 82.22 338 ⇑P P 17 02 11.3 +0.5
baz=83
I23A **Meade Ranch, G** 82.25 336 ⇓P P 17 02 10.8 -0.2
baz=83
G27A **Dupree** 82.38 339 ⇑P P 17 02 11.6 +0.1
baz=83,SNR=5.9
G26A **Maurine** 82.50 339 ⇑P P 17 02 12.5 +0.3
baz=83,SNR=9.0
HWUT **Hardware Ranch** 82.52 331 *e*P P 17 02 12.6 +0.1
comp=Z,35nm,1.6s
E30A **Jud** 82.54 341 ⇓P P 17 02 12.5 +0.2
baz=83
I22A **9 Mile Ranch,** 82.54 335 ⇓P P 17 02 12.7 +0.2
baz=83
LBTB **Lobatse** 82.61 115 *e*P P 17 02 14.3 +0.8
LBTB pmax pmax
comp=Z,31nm,0.9s
LBTB **Lobatse** 82.61 115 *e*P P 17 02 14.3 +0.8
comp=Z,31nm,0.9s
H24A **Dirks Ranch, A** 82.64 337 ⇓P P 17 02 12.6 -0.4
baz=83
J20A **Shoshoni** 82.65 334 ⇑P P 17 02 13.5 +0.4
baz=83,SNR=6.3
G25A **Newell** 82.67 338 ⇑P P 17 02 13.0 -0.1
baz=83
BW06 **Boulder Array** 82.70 333 *e*P P 17 02 14.0 +0.4
comp=Z,10nm,1.4s
PDAR **Pinedale Array** 82.70 333 P P 17 02 13.5 0.0
comp=Z,3.6nm,1.1s,baz=143,slow=5.4,SNR=9.9
I21A **Big Trails, Te** 82.76 335 ⇓P P 17 02 14.0 +0.2
baz=83
E29A **Napoleon** 82.80 341 ⇑P P 17 02 13.9 +0.2
baz=83
F27A **Lemmon** 82.85 339 ⇓P P 17 02 14.5 +0.5
baz=83
J19A **Crowheart** 82.93 333 ⇓P P 17 02 15.1 +0.5
baz=83
NVAR **Mina Array Bea** 82.95 325 P P 17 02 16.2 +1.3
comp=Z,2.7nm,0.8s,baz=155,slow=6.1,SNR=16
F26A **Lodgepole** 83.03 339 ⇑P P 17 02 15.6 +0.6
baz=83
D30A **Buchanan** 83.06 342 ⇑P P 17 02 15.7 +0.7
baz=83,SNR=6.1
E28A **Huff** 83.10 340 ⇑P P 17 02 16.0 +0.8
baz=84
G24A **Alzada** 83.11 337 ⇑P P 17 02 15.9 +0.5
baz=84
H22A **Clearmont** 83.11 336 ⇓P P 17 02 15.8 +0.3
baz=84
I20A **Worland** 83.18 334 ⇓P P 17 02 16.1 +0.3
baz=84
D29A **Pettibone, Tap** 83.24 341 ⇑P P 17 02 16.1 +0.2
baz=84,SNR=7.4
G23A **Biddle** 83.32 337 ⇑P P 17 02 16.7 +0.2
baz=84
F25A **Bowman** 83.34 338 ⇑P P 17 02 16.9 +0.4
baz=84
ELK **Elko** 83.37 328 P P 17 02 18.1 +1.0
comp=Z,5.0nm,1.0s,baz=156,slow=3.8,SNR=8.5
AGMN **Agassiz Nation** 83.45 344 ⇑P P 17 02 16.9 0.0
baz=84
AGMN **Agassiz Nation** 83.45 344 *e*P P 17 02 16.8 -0.2
comp=Z,8.8nm,0.8s
AGMN *e*pP pP 17 02 23.0 -1.5
TORD **Torodi Ar. Bea** 83.48 70 P P 17 02 18.5 +0.6
comp=Z,19nm,0.8s,baz=258,slow=4.6,SNR=90
E26A **Carlson Angus** 83.52 339 ⇑P P 17 02 17.7 +0.3
baz=84
C30A **Mose, Pekin** 83.53 342 ⇓P P 17 02 17.9 +0.5
baz=84
I19A **Meeteetse** 83.57 334 ⇑P P 17 02 18.3 +0.3
baz=84
F24A **Ekalaka** 83.58 338 ⇓P P 17 02 18.1 +0.3
baz=84
H20A **Greybull** 83.60 335 ⇑P P 17 02 18.4 +0.4
baz=84
D28A **Regan** 83.63 341 ⇓P P 17 02 18.4 +0.4
baz=84,SNR=5.9
F23A **Volborg** 83.78 337 ⇓P P 17 02 18.9 +0.1
baz=84
D27A **Center** 83.82 340 ⇓P P 17 02 19.1 +0.2
baz=84
E25A **Miller Ranch,** 83.83 339 ⇓P P 17 02 19.7 +0.6
baz=84
MDND **Maddock** 83.96 342 ⇑P P 17 02 20.2 +0.6
baz=84
D26A **Manning** 84.02 339 ⇓P P 17 02 20.2 +0.3
baz=84,SNR=7.4
I17A **Pilgrim Ck.** 84.07 333 ⇓P P 17 02 20.9 +0.4
baz=84
F22A **Rosebud** 84.12 336 ⇓P P 17 02 20.7 +0.2
baz=84
E24A **Baker** 84.17 338 ⇓P P 17 02 21.3 +0.5
baz=84
B30A **Myrvik Farm, E** 84.19 343 ⇓P P 17 02 21.1 +0.3
baz=84,SNR=14
G20A **Bridger** 84.31 335 ⇓P P 17 02 21.2 -0.4
baz=85,SNR=5.3
C27A **Sayler Ranch,** 84.37 340 ⇑P P 17 02 21.9 +0.2
baz=85,SNR=6.1
H18A **Shoshone NF, C** 84.37 334 ⇓P P 17 02 22.0 0.0
baz=85,SNR=14
D25A **Fairfield** 84.39 339 ⇑P P 17 02 22.5 +0.6
baz=85
B29A **Wagenman Farm,** 84.47 342 ⇑P P 17 02 23.0 +0.8
baz=85
H17A **Grant Village** 84.47 333 ⇓P P 17 02 22.4 -0.2
baz=85
A30A **Hoffart Farm,** 84.63 343 ⇑P P 17 02 22.9 -0.1
baz=85,SNR=5.1
C26A **Wahner Farm, P** 84.64 340 ⇓P P 17 02 23.6 +0.5
baz=85
D24A **Glendive** 84.67 338 ⇓P P 17 02 23.8 +0.5
baz=85
B28A **Dugan Ranch, T** 84.72 341 ⇑P P 17 02 24.1 +0.7
baz=85
A29A **Manning Farm,** 84.86 342 ⇑P P 17 02 24.0 -0.1
baz=85,SNR=7.2
LAO **LASA Array** 84.90 337 *e*P P 17 02 24.7 +0.2
comp=Z,8.0nm,0.9s
D23A **Lindsay** 85.00 338 ⇓P P 17 02 25.4 +0.5
baz=85
A28A **Rude Farm, Bot** 85.11 342 ⇑P P 17 02 25.6 +0.1
baz=86
F19A **Roth Farm, Mol** 85.11 335 ⇑P P 17 02 25.6 0.0
baz=86
QLMT **Earthquake Lak** 85.17 333 *e*P P 17 02 27.7 +1.7
comp=Z,1.0nm,0.9s
ULM **Lac du Bonnet** 85.28 345 P P 17 02 26.0 -0.2
comp=Z,7.6nm,0.8s,baz=155,slow=3.9,SNR=15
D22A **Cohagen** 85.29 337 ⇓P P 17 02 26.8 +0.4
baz=86
HLID **Hailey** 85.31 330 ⇓P P 17 02 27.3 +0.5
baz=86
E20A **Meyer Farm, Mu** 85.39 336 ⇑P P 17 02 27.1 +0.2
baz=86,SNR=6.2
A27A **Ledoux Ranch,** 85.42 341 ⇓P P 17 02 27.5 +0.6
baz=86
D21A **La Casta Ranch** 85.49 337 ⇑P P 17 02 28.0 +0.6
baz=86
C23A **Lambert** 85.55 338 ⇑P P 17 02 28.0 +0.4
baz=86,SNR=7.5
E19A **Rath Farm, Rou** 85.58 335 ⇑P P 17 02 27.9 0.0
baz=86,SNR=13
A26A **Wade Farm, Ken** 85.59 340 ⇑P P 17 02 28.1 +0.3
baz=86
MCMT **McKenzie Canyo** 85.72 332 *e*P P 17 02 29.8 +0.9
comp=Z,2.4nm,0.7s
MCMT *e*pP pP 17 02 36.4 -0.1
DGMT **Dagmar** 85.84 339 ⇓P P 17 02 29.6 +0.5
baz=86
DGMT **Dagmar** 85.84 339 *e*P P 17 02 29.5 +0.5
comp=Z,32nm,1.0s
DGMT *e*pP pP 17 02 36.6 -0.2
D20A **Manuel Ranch,** 85.90 336 ⇓P P 17 02 29.2 -0.2
baz=86,SNR=11
A25A **Svangstu Ranch** 85.94 340 ⇓P P 17 02 29.9 +0.4
baz=86
B23A **Brockton** 86.07 339 ⇓P P 17 02 30.8 +0.6
baz=86
A24A **Westby** 86.18 339 ⇑P P 17 02 31.4 +0.6
baz=86
D19A **Cripps Ranch,** 86.22 336 ⇑P P 17 02 31.4 +0.4
baz=87
B22A **Reddig Ranch S** 86.25 338 ⇑P P 17 02 31.2 +0.1
baz=87,SNR=6.3
C20A **Veseth Ranch,** 86.39 336 ⇓P P 17 02 31.3 -0.5
baz=87,SNR=7.0
LRM **Limekiln Ridge** 86.39 333 *e*P P 17 02 32.3 +0.2
comp=Z,42nm,1.0s
LRM *e*pP pP 17 02 39.7 -0.1
B21A **Ellsworth Farm** 86.69 337 ⇑P P 17 02 33.2 0.0
baz=87,SNR=5.7
C19A **Slack Wire Ran** 86.77 336 ⇑P P 17 02 33.9 +0.2
baz=87
A22A **Carney Farms,** 86.83 338 ⇑P P 17 02 34.0 +0.1
baz=87,SNR=11
HRY **Holter Researc** 86.90 334 *e*P P 17 02 34.8 +0.4
B20A **Solberg Farm,** 87.03 337 ⇓P P 17 02 34.9 -0.1
baz=87,SNR=10
A21A **Bergtoll Ranch** 87.15 338 ⇑P P 17 02 35.2 -0.3
baz=88,SNR=6.6
SCHQ **Schefferville** 87.23 3 P P 17 02 35.9 +0.2
comp=Z,8.1nm,0.9s,baz=154,slow=3.5,SNR=3.7
EGMT **Eagleton** 87.26 336 ⇑P P 17 02 36.1 0.0
baz=88
EGMT **Eagleton** 87.26 336 *e*P P 17 02 35.6 -0.5
comp=Z,2.4nm,0.7s
M04C **Macdoel** 87.26 325 ⇑P P 17 02 36.9 +0.6
baz=88
B19A **Brinkman Farms** 87.35 336 ⇑P P 17 02 36.3 -0.2
baz=88,SNR=7.0
A20A **Cobblestone Ra** 87.38 337 ⇑P P 17 02 36.8 +0.2
baz=88
YBH **Yreka Blue Hor** 87.65 324 P P 17 02 38.0 -0.1
comp=Z,4.7nm,0.9s,baz=168,slow=2.7,SNR=5.9
A19A **Klindworth Far** 87.69 337 ⇑P P 17 02 38.0 -0.1
baz=88,SNR=6.8
J05D **Fort Rock, OR** 88.12 326 ⇑P P 17 02 40.6 +0.2
baz=88
YBMT **Yellow Bay** 88.68 333 *e*P P 17 02 43.8 +0.8
comp=Z,3.2nm,0.9s
JTMT **Jette** 88.69 333 *e*P P 17 02 43.4 +0.4
comp=Z,2.0nm,0.8s
BLMT **Blacktail Moun** 88.94 333 *e*P P 17 02 44.9 +0.6
comp=Z,19nm,1.2s
NEW **Newport** 90.23 332 P P 17 02 49.3 -0.8
comp=Z,1.1nm,0.4s,baz=128,slow=2.9,SNR=4.5
NEW **Newport** 90.23 332 ⇑P P 17 02 49.8 -0.3
baz=91
YKA **Yellowknife Ar** 100.88 341 P Pdif 17 03 37.7 -0.4
comp=Z,0.4nm,0.6s,baz=141,slow=4.4,SNR=12
YKA PP PP 17 07 47.2 +0.4
comp=Z,0.1nm,0.2s,baz=135,slow=8.0,SNR=4.3
GERES **GERESS Array B** 111.01 45 PKiKP PKiKP 17 08 23.1 +0.3
comp=Z,0.5nm,0.6s,baz=222,slow=1.8,SNR=4.7
ILAR **Eielson Array** 113.13 333 PKiKP PKiKP 17 08 26.6 +0.3
comp=Z,0.9nm,1.0s,baz=202,slow=1.8,SNR=5.4
ASAR **Alice Springs** 118.89 207 PKP PKPdf 17 08 37.7 -1.1
comp=Z,0.3nm,0.5s,baz=136,slow=1.7,SNR=13
BRTR **Keskin Array B** 120.92 60 PKP PKPdf 17 08 42.3 0.0
comp=Z,2.1nm,0.8s,baz=215,slow=3.0,SNR=7.0
KIEV **Kiev** 121.06 47⇑*e*PKIKP PKPdf 17 08 41.6 -0.3
AKASG **Malin Array Be** 121.07 47 PKP PKPdf 17 08 41.3 -0.6
comp=Z,2.6nm,0.8s,baz=265,slow=2.9,SNR=7.2
VSU **Vasula** 121.46 38⇑*e*PKIKP PKPdf 17 08 42.8 +0.4
FINES **FINESS Array B** 121.72 34 PKP PKPdf 17 08 42.7 -0.2
comp=Z,1.8nm,1.0s,baz=133,slow=17,SNR=2.8
WRA **Warramunga Arr** 122.07 209 PKP PKPdf 17 08 43.5 -1.4
comp=Z,1.3nm,0.5s,baz=158,slow=1.8,SNR=48
RAYN **Ar Rayn** 124.54 82 *e*PKPdf PKPdf 17 08 50.3 +0.8
H11S2 **WAKE ISLAND Hyl** 26.07 270 T T 19 27 49.8
baz=118,slow=75,SNR=301
H11S1 **WAKE ISLAND Hyl** 26.08 270 T T 19 27 43.7
baz=118,slow=75,SNR=269
H11S3 **WAKE ISLAND Hyl** 26.09 270 T T 19 27 51.1
baz=118,slow=75,SNR=314
OBN **Obninsk** 126.26 43⇑*e*PKIKP PKPdf 17 08 53.4 +1.7
OBN *e* 17 10 49.3
OBN pmax pmax
comp=Z,28nm,2.0s
H11N3 **WAKE ISLAND Hyl** 26.45 271 T T 19 28 11.2
baz=116,slow=75,SNR=20
H11N1 **WAKE ISLAND Hyl** 26.46 271 T T 19 28 21.7
baz=116,slow=75,SNR=17
H11N2 **WAKE ISLAND Hyl** 26.47 271 T T 19 28 20.1
baz=116,slow=75,SNR=98
KLMR **Klimovskoe** 128.15 35 *e*PKIKP PKPdf 17 08 53.6 -1.6
KLMR pmax pmax
comp=Z,38nm,1.5s
KIV **Kislovodsk** 128.53 57 *e*PKIKP PKPdf 17 08 56.1 -0.5
KIV pmax pmax
comp=Z,10.0nm,1.0s
KBZ **Khabaz** 128.64 58 PKP PKPdf 17 08 58.0 +1.4
comp=Z,4.6nm,0.9s,baz=51,slow=0.5,SNR=8.2
PRGR **Permogore** 131.05 34 PKIKP PKPdf 17 09 00.8 +0.1
PRGR pmax pmax
comp=Z,63nm,1.4s
ARU **Arti** 138.54 40 *i* PKIKP PKPdf 17 09 16.0 +1.2
ARU 17 12 04.2
ARU SS SS 17 30 15.1 -3.0
SEY **Seymchan** 139.01 331 PKhKP PKPpre 17 09 07.0
comp=Z,1.3nm,0.7s,baz=255,slow=24,SNR=7.8
SEY PKP PKPdf 17 09 16.3 +0.8
comp=Z,7.8nm,0.9s,baz=121,slow=1.8,SNR=22
GEYT **Alibeck** 139.10 68 PKP PKPdf 17 09 16.8 +0.3
comp=Z,2.8nm,0.8s,baz=66,slow=1.8,SNR=5.1
TIXI **Tiksi** 139.43 350⇑*e*PKIKP PKPdf 17 09 16.7 +0.7
TIXI pmax pmax
comp=Z,5.0nm,1.2s
TIXI **Tiksi** 139.43 350 *e*PKPpre PKPpre 17 09 14.0

ABKAR	**Akbulak array**	140.62	51	*e*PKPpre	PKPpre	17 09 12.2	
BRVK	**Borovoye**	146.03	42	*ce*PKP2	**PKPab**	**17 09 30.0**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,46nm,1.7s						
BRVK	**Borovoye**	146.03	42	*e*PKPdf	**PKPbc**	**17 09 28.8**	**-0.3**
POO	**Poona**	146.06	106 ⇓	*i*P	**PKPdf**	**17 09 28.0**	**-1.4**
	comp=Z,80nm,1.0s						
KBL	**Kabul**	147.38	76	*e*PKP2	**PKPbc**	**17 09 34.2**	**+0.3**
KBL	**Kabul**	147.38	76	*e*PKPbc	**PKPbc**	**17 09 34.2**	**+0.3**
YAK	**Yakutsk**	147.56	341	*e*PKP2	**PKPbc**	**17 09 32.4**	**-0.8**
YAK				pmax	pmax		
	comp=Z,65nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK	**Yakutsk**	147.56	341	*e*PKPbc	**PKPbc**	**17 09 33.4**	**+0.2**
KKAR	**Karatay Array**	148.64	60	*e*PKP2	**PKPbc**	**17 09 37.0**	**+0.2**
KKAR	**Karatay Array**	148.64	60	*e*PKPbc	**PKPbc**	**17 09 37.0**	**+0.2**
KSM	**Kuching**	148.92	184	*e*PKPbc	**PKPbc**	**17 09 38.1**	**-0.2**
KSM				*e*PKPab	**PKPab**	**17 09 43.2**	**+1.0**
HYB	**Hyderabad**	149.20	112 ⇑	*i*PKP	**PKPbc**	**17 09 38.5**	**-0.4**
YSS	**Yuzh-Sakhalins**	150.20	309	*e*PKIKP	**PKPbc**	**17 09 40.0**	**-0.4**
YSS				*e*		17 09 47.2	
ASAJ	**Asahikawa**	150.99	303	PKPbc	**PKPbc**	**17 09 42.3**	**-0.1**
	comp=N,22nm,1.1s,baz=254,slow=10,SNR=6.6						
ASAJ				PKPab	**PKPab**	**17 09 48.6**	**-1.4**
	comp=N,11nm,1.0s,baz=302,slow=14,SNR=3.7						
EKS2	**Erkin-Say**	151.07	60	P	**PKPdf**	**17 09 38.5**	**+1.5**
	SNR=7.3						
EKS2	**Erkin-Say**	151.07	60	*e*PKIKP	**PKPdf**	**17 09 38.1**	**+1.1**
EKS2				*e*		17 09 44.0	
EKS2	**Erkin-Say**	151.07	60	*e*PKPdf	**PKPdf**	**17 09 38.1**	**+1.1**
EKS2				*e*PKPbc	**PKiKP**	**17 09 44.0**	**+0.6**
AML	**Almayashu**	151.09	61	P	**PKPbc**	**17 09 44.1**	**+0.9**
	SNR=18						
IPM	**Ipoh**	151.15	165	*e*PKPbc	**PKPbc**	**17 09 43.4**	**-0.4**
USP	**Óspenovka**	151.50	58	P	**PKPbc**	**17 09 44.8**	**+1.1**
	SNR=22						
AAK	**Ala-Archa**	151.60	60	P	**PKPbc**	**17 09 45.3**	**+1.1**
	SNR=26						
AAK	**Ala-Archa**	151.60	60	*ce*PKIKP	**PKPdf**	**17 09 40.1**	**+2.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
AAK	**Ala-Archa**	151.60	60	*e*PKPdf	**PKPdf**	**17 09 38.9**	**+1.0**
AAK				*e*PKPbc	**PKPbc**	**17 09 45.2**	**+1.1**
NVS	**Novosibirsk**	151.65	31 ⇑	*i*PKIKP	**PKPbc**	**17 09 44.3**	**+0.8**
NVS				*e*		17 13 23.2	
NVS				pmax	pmax		
	comp=Z,42nm,1.1s						
NVS				pmax	pmax		
	comp=N,5.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,13nm,1.3s						
FRU	**Bishkek**	151.66	59 ⇓	*i*PKIKP	**PKPbc**	**17 09 45.0**	**+0.9**
FRU				pmax	pmax		
	comp=Z,50nm,1.6s						
UCH	**Uchtor**	151.68	61	P	**PKPbc**	**17 09 46.2**	**+1.6**
	SNR=27						
KURK	**Kurchatov**	151.70	42	*e*PKIKP	**PKPdf**	**17 09 36.7**	**-0.8**
KURK				*e*		17 09 44.1	
KURK	**Kurchatov**	151.70	42	*e*PKPdf	**PKPdf**	**17 09 36.7**	**-0.8**
KURK				*e*PKPbc	**PKiKP**	**17 09 44.1**	**-0.1**
CHMS	**Chumysh**	151.73	59	P	**PKPbc**	**17 09 45.3**	**+1.1**
	SNR=14						
KULM	**Kulim**	151.85	164	*e*PKPbc	**PKPbc**	**17 09 44.7**	**-0.6**
KBK	**Karagaybulak**	151.93	60	P	**PKPbc**	**17 09 46.1**	**+1.2**
	SNR=12						
KZA	**Kyzart**	152.24	61	P	**PKPbc**	**17 09 47.2**	**+1.3**
	SNR=12						
TKM2	**Tokmak 2**	152.35	59	P	**PKPbc**	**17 09 46.4**	**+0.5**
	SNR=13						
TKM2	**Tokmak 2**	152.35	59	PKIKP	**PKPdf**	**17 09 39.2**	**+0.2**
TKM2				*e*		17 09 46.4	
TKM2	**Tokmak 2**	152.35	59	PKPdf	**PKPdf**	**17 09 39.2**	**+0.2**
TKM2				*e*PKPbc	**PKPbc**	**17 09 46.4**	**+0.5**
ZALV	**Zalesovo Beam**	152.94	31	PKP	**PKPdf**	**17 09 38.7**	**-0.5**
	comp=Z,3.5nm,0.9s,baz=302,slow=2.8,SNR=13						
ZALV				PKPbc	**PKiKP**	**17 09 46.9**	**+0.2**
	comp=Z,22nm,0.7s,baz=298,slow=3.2,SNR=65						
ZALV				PKPab	**PKPab**	**17 09 55.5**	**-2.2**
	comp=Z,10nm,1.0s,baz=296,slow=4.8,SNR=6.0						
ULHL	**Ulahol**	152.94	60	P	**PKPbc**	**17 09 48.8**	**+1.6**
	SNR=15						
KSH	**Kashi**	153.09	66	PKPbc	**PKPdf**	**17 09 40.3**	**+0.2**
KSH				sPKP		17 09 48.1	
KSH				PKS	**PKSdf**	**17 13 13.0**	**-1.6**
KSH				PP	**PP**	**17 13 30.8**	**-2.2**
KSH				SKS	**SKSdf**	**17 16 45.1**	**-0.7**
KSH				SKKS	**SKKSac**	**17 20 23.3**	**+1.7**
KSH				SS	**SS**	**17 33 01.8**	**-3.6**
KSH				PPMZ			
	comp=Z,240nm,6.9s						
KSH				LN			
	comp=Z,68nm,5.7s						
KSH				LE			
	comp=Z,130nm,5.7s						
KSH				LZ			
	comp=Z,340nm,8.2s						
BOD	**Bodaibo**	154.54	353	*e*PKIKP	**PKPbc**	**17 09 49.1**	**-0.7**
BOD				*e*		17 10 03.9	
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MKAR	**Makanchi Array**	155.66	47	PKP	**PKPdf**	**17 09 43.6**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=323,slow=1.8,SNR=12						
MKAR				PKPbc	PKPbc	17 09 53.0	
	comp=Z,3.1nm,0.9s,baz=298,slow=2.2,SNR=14						
MKAR				PKPab	**PKPab**	**17 10 10.3**	**+0.7**
	comp=Z,6.0nm,0.7s,baz=298,slow=4.0,SNR=16						
MKAR				PP	**PP**	**17 13 48.4**	**+1.6**
	comp=Z,0.8nm,0.9s,baz=286,slow=4.9,SNR=3.6						
KOLN	**Koldanda**	158.12	96	*e*P	**PKPdf**	**17 09 47.1**	**-0.2**
DANN	**Dangsing**	158.44	95	*e*P	**PKPdf**	**17 09 48.1**	**+0.3**
	comp=Z,24nm,1.0s						
GKN	**Gorkha**	159.06	97	*e*P	**PKPdf**	**17 09 48.1**	**-0.3**
DMN	**Daman**	159.33	98	*e*P	**PKPdf**	**17 09 48.9**	**+0.1**
KKN	**Kakani**	159.53	98	*e*P	**PKPdf**	**17 09 48.5**	**-0.5**
PKIN	**Phulchoki**	159.56	98	*e*P	**PKPdf**	**17 09 48.9**	**-0.2**
PKI	**Pulchoki**	159.57	98	*e*P	**PKPdf**	**17 09 49.0**	**-0.2**
GUN	**Gumba**	160.07	98	*e*P	**PKPdf**	**17 09 49.9**	**+0.1**
JIRN	**Jiri**	160.25	99	*e*P	**PKPdf**	**17 09 51.0**	**+1.0**
RAMN	**Ramite**	160.34	101	*e*P	**PKPdf**	**17 09 50.3**	**+0.3**
	comp=Z,29nm,1.2s						
WMQ	**Urumqi**	160.40	49	*e*PKP	**PKPdf**	**17 09 48.5**	**-0.8**
WMQ				PKPab	**PKPab**	**17 10 31.5**	**+1.2**
WMQ				PKS	**PKSdf**	**17 13 20.5**	**-2.1**
WMQ				PP	**PP**	**17 14 14.3**	**+1.5**
WMQ				SKS	**SKSdf**	**17 16 48.5**	**-4.5**
WMQ				SKKS	**SKKSac**	**17 20 57.0**	**-2.9**
WMQ				PPMZ			
	comp=Z,120nm,5.4s						
WMQ				LN			
	comp=Z,980nm,23.0s						
WMQ				LE			
	comp=Z,320nm,23.0s						
WMQ				LZ			
	comp=Z,890nm,23.0s						
TLY	**Talaya**	160.69	9	PKPab	**PKPab**	**17 10 31.4**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=346,slow=3.4,SNR=4.2						
ODAN	**Odare**	160.96	102	*e*P	**PKPdf**	**17 09 50.8**	**+0.2**
	comp=Z,16nm,1.0s						
TAPN	**Taplejung**	161.40	101	*e*P	**PKPdf**	**17 09 50.4**	**-0.8**
	comp=Z,36nm,1.7s						
ZAK	**Zakamensk**	161.90	10	*e*PKP2	**PKPab**	**17 10 37.4**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
CN2	**Changchun**	162.57	315	*e*PKP	**PKPdf**	**17 09 52.1**	**+0.7**
CN2				PPMZ			
	comp=Z,200nm,7.0s						
CN2				LN			
	comp=Z,300nm,21.0s						
CN2				LE			
	comp=Z,200nm,21.0s						
CN2				LZ			
	comp=Z,200nm,20.0s						
KSRS	**Korea Array**	163.25	292	PKP	**PKPdf**	**17 09 51.1**	**-1.1**
	comp=Z,2.4nm,1.0s,baz=180,slow=0.3,SNR=5.4						
KSRS				PKPab	**PKPab**	**17 10 43.0**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=230,slow=33,SNR=3.0						
KSAR	**Wonju Array Be**	163.28	292	PKIKP	**PKPdf**	**17 09 51.2**	**-1.2**
KSAR						17 10 43.0	
KSAR	**Wonju Array Be**	163.28	292	PKP	**PKPdf**	**17 09 51.1**	**-1.2**
KSAR				PKPab	**PKPab**	**17 10 43.0**	**-0.1**
CMAR	**Chiang Mai Arr**	163.54	147	PKP	**PKPdf**	**17 09 52.6**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=254,slow=1.8,SNR=7.4						
CMAR				PKPab	**PKPab**	**17 10 44.7**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=223,slow=5.7,SNR=5.7						
SONM	**Songino Array**	164.77	5	PKP	**PKPdf**	**17 09 52.6**	**-1.0**
	comp=Z,0.7nm,1.0s,baz=321,slow=2.1,SNR=4.6						
SONM				PKPab	**PKPab**	**17 10 50.2**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=343,slow=2.6,SNR=11						
GTA	**Gaotai**	170.38	43	*e*PKP	**PKPdf**	**17 09 58.4**	**+0.6**
GTA				pPKP	**pPKPdf**	**17 10 05.8**	**0.0**
GTA				sPKP		17 10 09.5	
GTA				PKPab	**PKPab**	**17 11 15.8**	**+1.4**
GTA				PP	**PP**	**17 15 07.5**	**+2.9**
GTA				SKS	**SKSdf**	**17 16 56.6**	**-3.3**
GTA				SKKS	**SKKSac**	**17 21 49.9**	**-0.3**
GTA				SS	**SS**	**17 36 01.9**	**-2.5**
GTA				PPMZ			
	comp=Z,51nm,5.0s						
GTA				LN			
	comp=Z,920nm,21.9s						
GTA				LE			
	comp=Z,550nm,20.9s						
GTA				LZ			
	comp=Z,1μm,21.4s						
NJ2	**Nanjing**	171.06	269	*e*PKP	**PKPdf**	**17 09 59.8**	**+1.6**
HHC	**Hu-ho-hao-te**	171.42	343	*e*PKP	**PKPdf**	**17 09 56.6**	**-1.7**
HHC				pPKP	**pPKPdf**	**17 10 07.4**	**+1.2**
HHC				sPKP		17 10 11.0	
HHC				PP	**PP**	**17 15 11.0**	**+2.0**
HHC				SKS	**SKSdf**	**17 16 54.8**	**-5.4**
HHC				SS	**SS**	**17 36 11.0**	**-2.3**
HHC				PPMZ			
	comp=Z,140nm,9.9s						
HHC				LN			
	comp=Z,550nm,17.3s						
HHC				LE			
	comp=Z,240nm,17.3s						
HHC				LZ			
	comp=Z,830nm,17.3s						
GYA	**Guiyang**	173.66	167	*e*PKP	**PKPdf**	**17 09 59.4**	**-0.3**
GYA				pPKP	**pPKPdf**	**17 10 08.6**	**+0.9**
GYA				PKPab	**PKPab**	**17 11 31.0**	**+1.9**
GYA				PKS	**PKSdf**	**17 13 30.5**	**-1.7**
GYA				PP	**PP**	**17 15 23.2**	**+3.2**
GYA				SKKS		17 22 07.4	
GYA				SS	**SS**	**17 36 36.8**	**+1.8**
GYA				PPMZ			
	comp=Z,120nm,8.2s						
GYA				LN			
	comp=Z,120nm,22.4s						
GYA				LE			
	comp=Z,110nm,22.6s						
GYA				LZ			
	comp=Z,120nm,21.0s						
LZH	**Lanzhou**	174.97	46	*e*PKP	**PKPdf**	**17 09 59.7**	**-0.2**
LZH				pPKP	**pPKPdf**	**17 10 07.5**	**-0.4**
LZH				sPKP		17 10 09.3	
LZH				LN			
	comp=Z,220nm,18.0s						
LZH				LE			
	comp=Z,210nm,18.0s						
LZH				LZ			
	comp=Z,250nm,20.3s						
CD2	**Chengdu**	175.75	113	*e*PKP	**PKPdf**	**17 10 00.8**	**+0.7**

*IDC **08** 16:55:19.6±1.4, 31°.76S×72°.57W, h0km, mb4.3/1, mb1 4.1/2, mb1mx3.7/39, mbtmp4.1/2, ML3.4/1, Error ellipse: s-maj=79.8km s-min=33.9km az=177.0*
*ISCJB **08** 16:55:21.8±1.6, 32°.71S±0°.05×71°.9W±0°.1, h18km±10km, mb4.3/4, Error ellipse: s-maj=17.5km s-min=6.3km az=164.8*
*GUC **08** 16:55:22.5±0.5, 32°.67S×71°.77W, h12km±7km, ML4.0*
*NEIC **08** 16:55:23.7, 32°.75S×71°.83W, h10km, mb4.4/3, ML4.1(GUC), After GUC.*
NEIC Felt [II] at Casablanca, Quillota, San Antonio and Valparaiso.

ISC 08 16:55:22.6±1.2, 32°.66S±0°.03×71°.75W±0°.07, h15km±7km, n23, σ1°31/39, mb4.4/4, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	0.38	166	*i* P4	**Pg**	**16 55 30.2**	**-0.1**
IHA				*i* S	**Sg**	**16 55 35.6**	**0.0**
IHA	**Instituto Hidr**	0.38	166 ⇓	*i*P	**Pg**	**16 55 30.2**	**-0.1**
IHA				*i* S	**Sg**	**16 55 35.4**	**-0.1**
CHNG	**Los Chungos**	0.80	16	*e*P	**Pg**	**16 55 38.0**	**-0.2**
CHNG				*i* S	**Sb**	**16 55 49.8**	**+0.9**
PEL	**Peldehue**	1.02	119	*e*P	**Pb**	**16 55 42.0**	**0.0**
PEL				*e*S	**Sg**	**16 55 56.3**	**+0.6**
PEL	**Peldehue**	1.02	119 ⇑	*i*P	**Pn**	**16 55 42.5**	**+0.1**
PEL				*i* S	**Sn**	**16 55 56.9**	**+0.3**
RCDM	**Rinconada Maip**	1.15	136	*e*P	**Pn**	**16 55 43.8**	**-0.5**
RCDM				*i* S	**Sn**	**16 55 59.8**	**+0.1**
RCDM				AML	AML	16 56 00.5	
	comp=N,7μm,0.1s						
RCDM	**Rinconada Maip**	1.15	136	*e*P	**Pn**	**16 55 43.9**	**-0.3**
RCDM				*i* S	**Sb**	**16 55 59.1**	**+0.2**
STL	**Santa Lucia**	1.21	130	*e*P9	**Pn**	**16 55 44.0**	**-1.1**
STL				*i* S	**Sb**	**16 56 00.9**	**+0.1**
LACH	**Col Las Americ**	1.29	128	*e*P	**Pn**	**16 55 46.1**	**-0.2**
LACH				*i* S	**Sn**	**16 56 03.8**	**+0.4**
LACH				AML	AML	16 56 12.0	
	comp=N,5μm,0.5s						
LACH	**Col Las Americ**	1.29	128 ⇑	*i*P	**Pn**	**16 55 46.4**	**+0.2**
LACH				*i* S	**Sn**	**16 56 03.8**	**+0.4**
ANTU	**Antumapu**	1.31	134	*i* P	**Pn**	**16 55 46.3**	**-0.1**
ANTU				*e*S1	**Sn**	**16 56 04.0**	**+0.4**
ANTU				AML	AML	16 56 04.8	
	comp=N,6μm,0.2s						
ANTU	**Antumapu**	1.31	134	*e*P	**Pb**	**16 55 46.8**	**-0.1**
ANTU				*e*S	**Sn**	**16 56 04.0**	**+0.4**
CFAA	**Coronel Fontan**	3.16	72	Pn	**Pb**	**16 56 19.1**	**+0.5**
	comp=N,3.1nm,0.3s,baz=255,slow=1.9,SNR=12						
CFAA				Sn	**Sg**	**16 57 02.8**	**-1.5**
	comp=N,3.4nm,0.3s,baz=139,slow=15,SNR=10						
EFI	**East Falkland**	21.48	156	*e*P	**P**	**17 00 10.5**	**+0.1**
SAML	**Samuel**	24.89	20	*e*P	**P**	**17 00 48.5**	**+3.5**
SNAA	**Sanae**	52.74	158	*e*P	**P**	**17 04 36.7**	**+0.2**
	comp=N,1.8nm,0.7s						
QSPA	**South Pole Qui**	57.57	180	*e*P	**P**	**17 05 12.5**	**+0.9**
	comp=N,5.5nm,1.1s						
BOSA	**Boshof**	80.48	118	*e*P	**P**	**17 07 34.4**	**-0.1**
	comp=N,4.7nm,1.1s						
TORD	**Torodi Ar. Bea**	83.53	70	P	**P**	**17 07 51.0**	**+0.6**
	comp=N,2.1nm,0.7s,baz=253,slow=4.6,SNR=8.5						
WRA	**Warramunga Arr**	122.05	209	PKP	**PKPdf**	**17 14 16.2**	**-1.0**
	comp=N,0.2nm,0.5s,baz=151,slow=1.7,SNR=9.8						
KURBB	**Kurchatov Arra**	151.72	42	PKPbc	**PKPbc**	**17 15 16.7**	**+0.5**
	comp=N,3.0nm,0.6s,baz=302,slow=3.2,SNR=21						
KURBB				PKPab	**PKPab**	**17 15 21.8**	**-3.2**
	comp=N,1.8nm,0.5s,baz=301,slow=3.2,SNR=8.8						
KURK	**Kurchatov**	151.73	42	PKPbc	**PKPbc**	**17 15 16.7**	**+0.5**
KURK				PKPab	**PKPab**	**17 15 21.8**	**-3.2**
ZALV	**Zalesovo Beam**	152.96	31	PKPbc	**PKPbc**	**17 15 19.2**	**+0.4**
	comp=N,2.4nm,0.6s,baz=304,slow=3.0,SNR=9.9						
ZALV				PKPab	**PKPab**	**17 15 25.8**	**-4.3**
	comp=N,2.7nm,0.6s,baz=314,slow=3.5,SNR=7.2						

*DDA **08** 16:58:54.9, 38°.74N×40°.01E, h7km, ML3.5*
*CSEM **08** 16:58:55.4±0.2, 38°.75N×40°.07E, h2km, MD3.1, Error ellipse: s-maj=5.1km s-min=4.2km az=68.0*
*ISK **08** 16:58:55.3, 38°.76N×40°.09E, h5km, MD3.1*

ISC 08 16:58:55.3±1.2, 38°.75N±0°.02×40°.04E±0°.02, h3km±11km, n45, σ0°98/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bing˜¶l**	0.55	64	*e*PG	**Pg**	**16 59 05.4**	**-0.5**
BNGB				*e*SG	**Sg**	**16 59 13.4**	**+0.3**
DYBB	**Diyarbakir**	0.80	174	*e*PG	**Pb**	**16 59 11.3**	**-0.5**
DYBB				*e*SG	**Sb**	**16 59 22.8**	**-0.2**
DIY	**Diyarbakir**	0.86	170	*e*Pg	**Pg**	**16 59 11.3**	**-0.5**
DIY				*e*Sg	**Sg**	**16 59 22.8**	**-0.2**
ERZN	**Erzincan**	0.87	344	*e*PG	**Pg**	**16 59 12.2**	**+0.1**
BNGL	**BINGOL**	0.89	76	*i* P	**Pg**	**16 59 12.4**	**0.0**
BNGL				*i* S	**Sn**	**16 59 27.3**	**-1.1**
EUZM	**Uzumlu**	0.99	345	*i* P	**Pg**	**16 59 14.2**	**-0.2**
EUZM				*i* S	**Sb**	**16 59 28.7**	**-0.1**
EUZM	**Uzumlu**	0.99	345	*i* P	**Pg**	**16 59 14.2**	**-0.2**
EUZM				*i* S	**Sb**	**16 59 28.7**	**-0.1**
SVAN	**Silvan-Diyarba**	1.09	123	*e*PG	**Pb**	**16 59 16.3**	**-0.5**
VRTB	**Varto-Mus**	1.18	69	*e*PN	**Pg**	**16 59 17.1**	**-0.7**
VRTB	**Varto-Mus**	1.18	69	*e*Pn	**Pg**	**16 59 17.1**	**-0.7**
BTMT	**Batman**	1.27	116	*e*PN	**Pg**	**16 59 19.8**	**+0.3**
BTMT	**Batman**	1.27	116	*e*Pn	**Pg**	**16 59 19.8**	**+0.3**
BEST	**Besiri**	1.29	131	*i* P	**Pg**	**16 59 20.2**	**+0.2**
BEST				*i* S	**Sn**	**16 59 38.3**	**+0.2**
KEMA	**Kemaliye**	1.31	294	*i* P	**Pn**	**16 59 18.8**	**-1.8**
KEMA				*i* S	**Sb**	**16 59 37.9**	**0.0**
KEMA	**Kemaliye**	1.31	294	*i* P	**Pn**	**16 59 18.8**	**-1.8**
KEMA				*i* S	**Sb**	**16 59 37.9**	**0.0**
KOPT	**Kop Dagi**	1.32	15	*i* P	**Pn**	**16 59 20.2**	**-0.6**
KOPT	**Kop Dagi**	1.32	15	*i* P	**Pn**	**16 59 20.2**	**-0.6**
KOPT				*i* S	**Sn**	**16 59 43.4**	**+4.4**
MAZI	**Mazidag**	1.33	166	*e*PN	**Pg**	**16 59 20.7**	**0.0**
MAZI	**Mazidag**	1.33	166	*e*Pn	**Pg**	**16 59 20.7**	**0.0**
MALT	**Malatya**	1.34	252	*e*PN	**Pg**	**16 59 21.6**	**+0.7**
MALT	**Malatya**	1.34	252	*e*Pn	**Pg**	**16 59 21.6**	**+0.7**
ILIC	**ilic-Erzincan**	1.34	302	*e*PN	**Pg**	**16 59 22.0**	**+0.9**
ILIC	**ilic-Erzincan**	1.34	302	*e*Pn	**Pg**	**16 59 22.0**	**+0.9**
KELT	**Kelkit**	1.52	337	*i* P	**Pn**	**16 59 23.8**	**+0.2**
KELT				*i* S	**Sn**	**16 59 42.5**	**-1.6**
KELT	**Kelkit**	1.52	337	*i* P	**Pn**	**16 59 23.8**	**+0.2**
KELT				*i* S	**Sn**	**16 59 42.5**	**-1.6**
EZM	**Erzurum**	1.54	41	*e*PN	**Pn**	**16 59 24.1**	**+0.1**
MARD	**Mardin**	1.55	158	*i* P	**Pb**	**16 59 24.2**	**-0.4**
MARD				*i* S	**Sg**	**16 59 45.7**	**+0.8**
ERZM	**Erzurum**	1.55	41	*i* P	**Pb**	**16 59 24.3**	**-0.4**
ERZM				*i* S	**Sg**	**16 59 45.3**	**+0.3**
ERZM	**Erzurum**	1.55	41	*i* P	**Pb**	**16 59 24.3**	**-0.4**
ERZM				*i* S	**Sg**	**16 59 45.3**	**+0.3**
URFA	**Urfa**	1.62	217	*e*PN	**Pg**	**16 59 26.2**	**-0.2**
URFA	**Urfa**	1.62	217	*e*Pn	**Pg**	**16 59 26.2**	**-0.2**
BAYT	**Ayd¨–ntepe-Bay**	1.65	3	*e*PN	**Pb**	**16 59 25.8**	**-0.6**
BAYT	**Ayd¨–ntepe-Bay**	1.65	3	*e*Pn	**Pb**	**16 59 25.8**	**-0.6**
GUMT	**Gumushane**	1.76	346	*e*PN	**Pb**	**16 59 27.7**	**-0.6**
GUMT	**Gumushane**	1.76	346	*e*Pn	**Pb**	**16 59 27.7**	**-0.6**
DARE	**Darende-Malaty**	2.01	266	*e*PN	**Pb**	**16 59 31.4**	**-1.1**
DARE	**Darende-Malaty**	2.01	266	*e*Pn	**Pb**	**16 59 31.4**	**-1.1**
SIRT	**Sirnak**	2.26	123	*e*PN	**Pn**	**16 59 34.4**	**+0.7**
SIRT	**Sirnak**	2.26	123	*e*Pn	**Pn**	**16 59 34.4**	**+0.7**
ESPY	**Espiye-Giresun**	2.39	335	*e*PN	**Pn**	**16 59 36.3**	**+0.9**
ESPY	**Espiye-Giresun**	2.39	335	*e*Pn	**Pn**	**16 59 36.3**	**+0.9**
AGRB	**Hanur-Agry**	2.44	69	*e*PN	**Pn**	**16 59 36.8**	**+0.6**
AGRB	**Hanur-Agry**	2.44	69	*e*Pn	**Pn**	**16 59 36.8**	**+0.6**
SVSK	**Karacayir**	2.63	297	*e*PN	**Pn**	**16 59 40.4**	**+1.8**
SVSK	**Karacayir**	2.63	297	*e*Pn	**Pn**	**16 59 40.4**	**+1.8**

*IDC **08** 17:03:14.4±0.4, 25°.81S×66°.76W, h0km, mb4.8/28, mb1 4.9/34, mb1mx4.9/41, mbtmp4.8/34, ML4.2/5, MS5.4/23, Ms1 5.4/23, ms1mx5.3/31, Error ellipse: s-maj=11.2km s-min=8.7km az=47.0*
*SJA **08** 17:03:14.7±0.5, 25°.82S×66°.83W, h30km±4km, MD4.1, ML5.4*
*NEIC **08** 17:03:16.8±0.2, 25°.71S×66°.62W, h10km, mb5.6/153, MS5.5/52, MD5.5(SJA), Error ellipse: s-maj=6.3km s-min=3.9km az=62.0*
NEIC Felt [IV] at Antofagasta de la Sierra and Cafayate and [III] at Salta and San Miguel de Tucuman.
*GCMT **08** 17:03:16.8±0.1, 25°.94S×66°.84W, h15km, MW5.8/112, Moment Tensor Solution. s102,c191; s112,c299; Duration: 1ª9 Moment tensor: Scale 10^17Nm; Mrr=1.74±.06; Mθθ=6.40±.06; Mφφ=-4.66±.07; Mrθ=2.42±.21; Mrφ=-2.68±.06; Mθφ=-0.22±.20; Best double couple: M0=6.47200×10^17 NP1:φ=58.00000°, δ=84.00000°, λ=165.00000°. NP2:φ=149.00000°, δ=75.00000°, λ=6.00000°. Principal axes: T 7.6340, Plg14.0000°, Azm13.0000°; N -2.3240, Plg74.0000°, Azm216.0000°; P -5.3100, Plg6.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **08** 17:03:18.9±0.1, 25°.70S±0°.02×66°.72W±0°.04, h33km, mb5.4/193, MS5.5/91 Error ellipse: s-maj=5.0km s-min=3.3km az=160.7*
*LDG **08** 17:03:18.6±0.6, 25°.43S×66°.17W, h10km, Mb5.5/8, Ms5.5/11, Error ellipse: s-maj=45.6km s-min=23.7km az=94.0*
*BJI **08** 17:03:19.1, 25°.60S×66°.50W, h24km, mB5.4/26, Ms5.8/28, Ms7 5.7/31*
*MOS **08** 17:03:19.3±1.5, 25°.70S×66°.87W, h33km, mb5.6/52, MS5.5/17, Error ellipse: s-maj=12.1km s-min=6.1km az=103.0*

ISC 08 17:03:20.5±0.2, 25°.74S±0°.04×66°.64W±0°.05, h35km, n1011, σ1°12/973, mb5.5/192, MS5.5/91, 224C-234D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	1.45	46	*i* P	**Pn**	**17 03 46.9**	**+2.5**
SLA				*i* S	Sn	17 04 10.6	+8.3
SLA				AML	AML	17 04 16.9	
	comp=Z,48μm,0.6s						
AHML	**Horco Molle**	1.57	132	*i* P	**Pn**	**17 03 48.1**	**+2.1**
AHML		

NNA pmax pmax
comp=Z,72nm,1.0s
NNA Nana 16.73 323 Pn **Pn 17 07 10.7 -1.6**
comp=Z,0.9nm,0.3s,baz=183,slow=11,SNR=8.2
NNA Sn **Sn 17 10 18.5 +1.4**
comp=Z,0.9nm,0.3s,baz=280,slow=11,SNR=1.7
NNA LR LR 17 12 43.4
comp=Z,10µm,22.0s,baz=160,slow=34
NNA Nana 16.73 323 *e*Pn **Pn 17 07 10.4 -1.9**
comp=Z,72nm,1.0s
NNA Sn **Sn 17 10 18.5 +1.4**
SAML Samuel 17.02 12 *e*Pn **Pn 17 07 14.8 -1.2**
comp=Z,61nm,0.9s
BDFB Brasilia 20.09 64 P **P 17 07 52.5 +1.1**
comp=Z,36nm,0.9s,baz=224,slow=10,SNR=14
BDFB S Sn 17 11 41.6 +2.8
comp=Z,16nm,0.9s,baz=32,slow=26,SNR=1.7
BDFB LR LR 17 16 52.2
comp=Z,40µm,20.0s,baz=236,slow=40
ATAH Atahualpa 21.63 327 P **P 17 08 07.7 -0.6**
comp=Z,10nm,0.7s,baz=135,slow=7.9,SNR=8.4
ATAH S **S 17 12 10.7 +4.3**
comp=Z,5.1nm,0.7s,baz=24,slow=8.2,SNR=2.6
EFI East Falkland 26.71 168 *e*P **P 17 08 56.6 +0.2**
EFI MLR MLR
comp=Z,17µm,19.0s
EFI East Falkland 26.71 168 *e*P **P 17 08 56.6 +0.2**
EFI LR LR
comp=Z,17µm,19.0s
OTAV Otavalo 28.23 334 *e*P **P 17 09 11.2 +0.3**
USHA Ushuaia 29.09 182 P **P 17 09 19.6 +2.0**
comp=Z,8.0nm,0.9s,baz=301,slow=8.5,SNR=2.7
USHA S S 17 14 15.2 +8.3
comp=Z,6.8nm,0.9s,baz=338,slow=2.4,SNR=2.4
USHA LR LR 17 21 51.1
comp=Z,22µm,19.2s,baz=346,slow=38
ROSC El Rosal 31.31 345 P **P 17 09 35.9 -2.1**
comp=Z,4.8nm,0.6s,baz=249,slow=20,SNR=3.3
ROSC LR LR 17 23 04.5
comp=Z,13µm,20.6s,baz=189,slow=38
SDV Santo Domingo 34.63 353 *e*P **P 17 10 04.8 -2.0**
comp=Z,42nm,0.8s
RCBR Riachuelo 35.43 61 P **P 17 10 13.8 +0.1**
comp=Z,11nm,0.9s,baz=228,slow=8.3,SNR=4.5
RCBR LR LR 17 23 50.9
comp=Z,12µm,21.5s,baz=202,slow=35
RCBR Riachuelo 35.43 61 *e*P **P 17 10 13.6 -0.1**
comp=Z,30nm,1.0s
HOPE Hope Point 36.18 150 PFAKE 17 10 30.0 +10
HOPE LR LR
comp=Z,5µm,19.0s
BCIP Isla Barro Col 36.99 338 PFAKE 17 10 40.0 +13
BCIP LR LR
comp=Z,6µm,20.0s
GRGR Grenville 37.95 8 *e*P **P 17 10 34.6 -0.4**
comp=Z,217nm,0.9s
RPN Rapa Nui 38.12 258 LR LR 17 22 44.0
comp=Z,7µm,18.4s,baz=98,slow=31
PMSA Palmer Station 39.07 178 LR LR 17 26 55.5
comp=Z,9µm,20.9s,baz=310,slow=36
BBGH Gun Hill 39.26 11 PFAKE 17 11 00.0 +14
BBGH LR LR
comp=Z,17µm,20.0s
JTS JuntasAbangare 40.00 331 *c*e**P P 17 10 52.1 -0.1**
JTS JuntasAbangare 40.00 331 P **P 17 10 51.4 -0.7**
comp=Z,8.0nm,0.7s,baz=156,slow=13,SNR=4.0
JTS LR LR 17 26 28.9
comp=Z,3µm,21.0s,baz=162,slow=35
FDF Fort de France 40.58 8 *e*P **P 17 10 54.4 -2.6**
FDF pmax pmax
comp=Z,205nm,0.9s
FDF MLR MLR
comp=Z,13µm,20.0s
FDF Fort de France 40.58 8 *e*P **P 17 10 54.4 -2.6**
comp=Z,204nm,0.9s
FDF LR LR
comp=Z,13µm,20.0s
ANWB Willy Bob 43.40 7 *e*P **P 17 11 19.1 -0.8**
ANWB LR LR
comp=Z,7µm,22.0s
CRPR Cabo Rojo, PR 43.48 359 *e*P **P 17 11 18.8 -1.7**
comp=Z,97nm,1.0s
OBIP Obispado Ponce 43.52 0 *e*P **P 17 11 18.6 -2.2**
comp=Z,124nm,1.0s
CELP Cerrillos 43.55 0 *e*P **P 17 11 17.9 -3.1**
SMRT St. Maarten 43.66 5 *e*P **P 17 11 19.8 -2.2**
CBYP Canovanas 43.75 1 *e*P **P 17 11 20.4 -2.4**
comp=Z,94nm,1.1s
LRS Lares 43.77 360 *e*P **P 17 11 20.1 -2.7**
SDDR Presa de Saban 44.68 354 *e*P **P 17 11 30.1 -0.1**
comp=Z,23nm,0.8s
SMN1 Samana, DR 44.73 356 *e*P **P 17 11 28.7 -1.8**
APG El Apazote 46.67 328 P P 17 11 42.0 -4.2
comp=Z,18nm,0.9s,baz=170,slow=7.9,SNR=13
APG LR LR 17 29 59.7
comp=Z,3µm,21.9s,baz=156,slow=34
TEIG Tepich 50.29 333 P **P 17 12 11.5 -2.2**
comp=Z,16nm,0.7s,baz=128,slow=3.8,SNR=9.2
TEIG Tepich 50.29 333 *e*P **P 17 12 12.8 -1.0**
CMIG Matias Romero 50.67 324 P **P 17 12 14.8 -1.9**
comp=Z,8.4nm,0.8s,baz=129,slow=4.9,SNR=10
ASCN Ascension 52.72 80 PFAKE 17 12 40.0 +7.9
ASCN LR LR
comp=Z,8µm,20.0s
VNA3 Neumayer Olymp 55.41 161 P **P 17 12 52.5 +1.5**
VNA1 Neumayer--Stat 55.61 160 P **P 17 12 54.3 +1.9**
VNA2 Neumayer--Watz 55.98 160 P **P 17 12 55.8 +0.8**
SNAA Sanae 57.61 160 P **P 17 13 07.3 +0.6**
SNAA Sanae 57.61 160 *e*P **P 17 13 06.9 +0.2**
SNAA Sanae 57.61 160 *d*/P **P 17 13 06.7 0.0**
SNAA pmax pmax
comp=Z,66nm,1.7s
SNAA Sanae 57.61 160 P **P 17 13 05.5 -1.2**
comp=Z,5.8nm,1.0s,baz=310,slow=7.8,SNR=11
SNAA LR LR 17 36 10.5
comp=Z,1µm,20.5s,baz=293,slow=34
SNAA Sanae 57.61 160 *e*P **P 17 13 06.5 -0.2**
comp=Z,50nm,1.3s
BBSR BB Station 57.82 2 PFAKE 17 13 20.0 +12
BBSR LR LR
comp=Z,3µm,21.0s
TIGA Tifton 59.12 343 ⇓P **P 17 13 16.7 -0.8**
baz=59,SNR=10
TIGA Tifton 59.12 343 *e*P **P 17 13 16.9 -0.6**
comp=Z,287nm,1.5s
BRAL Brewton 59.71 340 *e*P **P 17 13 22.9 +1.2**
comp=Z,217nm,0.9s
BRAL LR LR
comp=Z,2µm,19.0s
NHSC New Hope 59.92 347 *e*P **P 17 13 23.8 +0.8**
comp=Z,532nm,1.1s
035Z Hargill 60.10 327 ⇓P **P 17 13 24.2 -0.2**
baz=60
035A Encino 60.52 328 ⇑P **P 17 13 27.2 0.0**
baz=61
034A Hebbronville 60.90 327 ⇓P **P 17 13 29.7 -0.2**
baz=61
GOGA Godfrey 60.96 344 *e*P **P 17 13 29.5 -0.6**
GOGA pmax pmax
comp=Z,68nm,1.0s
GOGA Godfrey 60.96 344 *e*P **P 17 13 29.5 -0.6**
comp=Z,68nm,1.0s
738A Farr-Stevens R 61.00 331 ⇓P **P 17 13 30.6 +0.1**
baz=61
934A Benavides 61.27 328 ⇓P **P 17 13 33.1 +0.7**
baz=62
835A Beeville 61.52 329 ⇑P **P 17 13 33.6 -0.5**
baz=62
CNNC Cliffs of the 61.57 350 *e*P **P 17 13 34.5 +0.2**
CNNC LR LR
comp=Z,3µm,20.0s
LRAL Lakeview Retre 61.58 341 *e*P **P 17 13 33.4 -0.9**
comp=Z,111nm,1.4s
RKT Rikitea 61.62 257 *e*S **S 17 21 58.5 +3.4**
comp=Z,2µm,31.5s
RKT *e*LQ LQ 17 29 22.0
comp=Z,7µm,31.8s
RKT *e*LR LR 17 31 57.2
comp=Z,4µm,29.2s
933A Laredo 61.65 327 ⇑P **P 17 13 34.8 -0.2**
baz=62,SNR=9.3
834A Tilden 61.73 328 ⇑P **P 17 13 34.9 -0.5**
baz=62,SNR=14
735A Kenedy 61.99 329 ⇑P **P 17 13 37.2 0.0**
baz=62
HKT Hockley 62.04 331 *e*P **P 17 13 37.5 +0.1**
HKT pmax pmax
comp=Z,170nm,1.8s
HKT Hockley 62.04 331 *e*P **P 17 13 37.5 +0.1**
comp=Z,170nm,1.8s
KMSC Kings Mountain 62.13 346 ⇓P **P 17 13 38.0 0.0**
baz=62,SNR=13
KMSC Kings Mountain 62.13 346 *e*P **P 17 13 38.0 0.0**
comp=Z,78nm,1.0s
538A Harpers Horsep 62.13 332 ⇓P **P 17 13 37.7 -0.4**
baz=62
NVL N'lazarevskaya 62.15 158 ⇑*i*P **P 17 13 36.6 -1.1**
NVL *e*S **S 17 22 01.1 +0.8**
NVL pmax pmax
comp=Z,29nm,1.0s
NVL MLR MLR
comp=Z,3µm,17.0s
636A Smothers Creek 62.18 330 ⇓P **P 17 13 38.8 +0.3**
baz=62,SNR=10
833A Chaparral WMA, 62.30 327 ⇓P **P 17 13 39.4 +0.1**
baz=62,SNR=35
734A La Parita Cree 62.33 328 ⇑P **P 17 13 39.5 0.0**
baz=63
537A Green Hill Far 62.36 331 ⇓P **P 17 13 39.8 +0.1**
baz=63
635A Leesville 62.42 329 ⇓P **P 17 13 39.7 -0.4**
baz=63
340A Bronson 62.52 334 ⇓P **P 17 13 41.0 +0.3**
baz=63
832A Faith Ranch, C 62.55 327 ⇓P **P 17 13 41.1 +0.1**
baz=63,SNR=15
733A Divot King Ran 62.58 328 ⇓P **P 17 13 40.8 -0.4**
baz=63,SNR=11
438A Sam Houston St 62.58 332 ⇓P **P 17 13 41.5 +0.4**
baz=63
634A China Grove, S 62.69 329 ⇓P **P 17 13 41.4 -0.5**
baz=63
536A Bastrop 62.69 330 ⇓P **P 17 13 41.5 -0.4**
baz=63
339A Huntington 62.71 333 ⇑P **P 17 13 42.0 +0.1**
baz=63
535A Dale 62.88 330 ⇓P **P 17 13 43.1 0.0**
baz=63
732A Laxson Ranch, 62.91 327 ⇑P **P 17 13 43.3 -0.1**
baz=63,SNR=9.1
437A Phantom Ranch, 62.93 332 ⇓P **P 17 13 42.8 -0.6**
baz=63
338A Crockett 63.04 333 ⇓P **P 17 13 44.2 0.0**
baz=63
NATX Nacogdoches 63.13 333 *e*P **P 17 13 45.1 +0.3**
comp=Z,244nm,1.3s
633A Saathoff Ranch 63.14 328 ⇓P **P 17 13 44.5 -0.4**
baz=63
CPCT Cooper Cave 63.16 344 *e*P **P 17 13 47.2 +2.3**
436A Wall Ranch, Ga 63.17 331 ⇑P **P 17 13 44.8 -0.2**
baz=63
TKL Tuckaleechee C 63.18 344 P **P 17 13 43.2 -1.7**
comp=Z,26nm,1.0s,baz=153,slow=7.0,SNR=17
337A Centerville 63.25 332 ⇑P **P 17 13 45.7 +0.2**
baz=64
239A Gary 63.28 334 ⇑P **P 17 13 45.9 +0.2**
baz=64
534A Blanco 63.29 329 ⇑P **P 17 13 45.4 -0.5**
baz=64
632A Uvalde 63.47 328 ⇑P **P 17 13 47.3 +0.2**
baz=64,SNR=26
435B Jarrell 63.52 330 ⇓P **P 17 13 47.2 -0.2**
baz=64
238A Jacksonville 63.53 333 ⇑P **P 17 13 47.4 +0.1**
baz=64
533A Kerrville 63.59 329 ⇑P **P 17 13 47.2 -0.6**
baz=64
OXF Oxford 63.69 339 *e*P **P 17 13 46.3 -2.1**
OXF pmax pmax
comp=Z,97nm,0.9s
OXF Oxford 63.69 339 *e*P **P 17 13 46.2 -2.1**
comp=Z,97nm,0.9s
336A Riesel 63.72 331 ⇑P **P 17 13 48.9 +0.3**
baz=64,SNR=12
631A Perdido Creek 63.77 327 ⇓P **P 17 13 49.0 -0.1**
baz=64,SNR=19
237A Washetta, Mont 63.81 333 ⇓P **P 17 13 49.9 +0.7**
baz=64
434A Burnet 63.86 330 ⇓P **P 17 13 48.9 -0.7**
baz=64,SNR=11
335A Moody 63.88 331 ⇑P **P 17 13 49.9 +0.1**
baz=64
VWCC Virginia Weste 63.89 348 *e*P **P 17 13 49.7 0.0**
BLA Blacksburg 63.94 348 *e*P **P 17 13 50.1 0.0**
BLA pmax pmax
comp=Z,136nm,1.4s
BLA MLR MLR
comp=Z,4µm,20.0s
BLA Blacksburg 63.94 348 *e*P **P 17 13 50.1 0.0**
comp=Z,136nm,1.4s
BLA LR LR
comp=Z,4µm,20.0s
JSRW J. Sargeant Re 63.97 350 *e*P **P 17 13 50.4 +0.2**
532A Rocksprings 64.04 328 ⇑P **P 17 13 51.1 +0.2**
baz=64,SNR=35
138A Matatall Enter 64.09 333 ⇑P **P 17 13 51.6 +0.6**
baz=64,SNR=8.9
433A Art 64.19 329 ⇑P **P 17 13 51.4 -0.3**
baz=64,SNR=29
334A Lometa 64.28 330 ⇑P **P 17 13 52.0 -0.4**
baz=64,SNR=13
JCT Junction City 64.29 328 *e*P **P 17 13 51.4 -1.1**
JCT pmax pmax
comp=Z,40nm,0.8s
JCT Junction City 64.29 328 ⇓P **P 17 13 52.2 -0.3**
baz=64,SNR=12
JCT Junction City 64.29 328 *e*P **P 17 13 51.4 -1.1**
comp=Z,40nm,0.8s
137A Heron Place, G 64.31 333 ⇑P **P 17 13 53.1 +0.6**
baz=65,SNR=11
531A Rocksprings 64.38 328 ⇑P **P 17 13 53.4 +0.3**
baz=65,SNR=34
CBN Corbin Frederi 64.40 351 PFAKE 17 14 10.0 +17
CBN LR LR
comp=Z,2µm,21.0s
QSPA South Pole Qui 64.47 180 *e*P **P 17 13 52.7 -0.7**
comp=Z,78nm,1.0s
WHTX Lake Whitney, 64.50 331 ⇑P **P 17 13 53.7 -0.1**
baz=65
WHTX Lake Whitney, 64.50 331 *e*P **P 17 13 53.2 -0.5**
comp=Z,154nm,1.4s
432A Menard 64.61 329 ⇑P **P 17 13 54.2 -0.4**
baz=65,SNR=26
333A Richland Sprin 64.62 330 ⇓P **P 17 13 53.9 -0.7**
baz=65,SNR=20
WVT Waverly 64.70 341 *e*P **P 17 13 53.0 -2.0**
WVT pmax pmax
comp=Z,214nm,1.4s
WVT Waverly 64.70 341 *e*P **P 17 13 53.0 -2.0**
comp=Z,214nm,1.4s
530A J-C Ranch, Com 64.75 327 ⇓P **P 17 13 55.7 +0.2**
baz=65,SNR=32
234A Clairette 64.81 331 ⇑P **P 17 13 55.9 +0.1**
baz=65,SNR=36
431A Sonora 64.84 328 ⇑P **P 17 13 55.8 -0.3**
baz=65,SNR=16
UALR University of 64.93 337 *e*P **P 17 13 55.8 -0.7**
comp=Z,100nm,1.4s
135A Vickery Place, 64.97 332 ⇓P **P 17 13 56.6 -0.2**
baz=65
332A Millersview 65.01 329 ⇑P **P 17 13 57.2 0.0**
baz=65,SNR=18
233A Rising Star 65.16 330 ⇑P **P 17 13 58.1 -0.1**
baz=65,SNR=19
MIAR Mount Ida 65.17 336 *e*P **P 17 13 56.9 -1.2**
MIAR pmax pmax
comp=Z,73nm,1.1s
MIAR Mount Ida 65.17 336 *e*P **P 17 13 56.9 -1.2**
comp=Z,74nm,1.1s
529A Stev Forest Ra 65.17 326 ⇑P **P 17 13 58.8 +0.5**
baz=65,SNR=48
430A Baggett Ranch, 65.23 327 ⇓P **P 17 13 58.5 -0.2**
baz=66,SNR=17
134A White-Moore Ra 65.27 331 ⇑P **P 17 13 58.4 -0.4**
baz=66
331A San Angelo 65.27 328 ⇑P **P 17 13 58.4 -0.5**
baz=66,SNR=14
TXAR Lajitas Array 65.28 325 P **P 17 13 58.1 -0.9**
comp=Z,3.4nm,0.7s,baz=152,slow=8.4,SNR=19
232A Coleman 65.39 329 ⇓P **P 17 13 59.7 0.0**
baz=66,SNR=40
429A Davenport Ranc 65.42 327 ⇓P **P 17 14 00.2 +0.3**
baz=66,SNR=40
SDMD Soldier's Deli 65.51 351 *e*P **P 17 13 59.6 -0.5**
Z35A Perchaven, San 65.56 332 ⇑P **P 17 14 00.1 -0.6**
baz=66,SNR=14
133A Hamilton Ranch 65.67 330 ⇓P **P 17 14 01.3 -0.1**
baz=66,SNR=12
330A Mertzon 65.71 328 ⇑P **P 17 14 01.5 -0.3**
baz=66,SNR=11
231A Bronte 65.74 329 ⇑P **P 17 14 01.1 -0.8**
baz=66,SNR=10
Z34A Collier Ranch, 65.88 332 ⇑P **P 17 14 01.9 -0.8**
baz=66,SNR=13
ABTX Abilene, Hawle 66.01 330 ⇑P **P 17 14 03.3 -0.3**
baz=66,SNR=14
ABTX Abilene, Hawle 66.01 330 *e*P **P 17 14 03.1 -0.5**
comp=Z,153nm,1.3s
230A Sterling City 66.08 328 ⇓P **P 17 14 03.3 -0.8**
baz=66
329A Wagon Wheel Ra 66.17 327 ⇓P **P 17 14 04.4 -0.3**
baz=66,SNR=23
Z33A Whitaker Ranch 66.18 331 ⇓P **P 17 14 04.3 -0.4**
baz=66,SNR=26
WCI Wyandotte Cave 66.25 343 *e*P **P 17 14 02.8 -2.2**
WCI pmax pmax
comp=Z,141nm,1.4s
WCI Wyandotte Cave 66.25 343 *e*P **P 17 14 02.8 -2.2**
comp=Z,141nm,1.4s
Y34A Reagan Ranch, 66.32 332 ⇑P **P 17 14 05.1 -0.4**
baz=67,SNR=24
USIN University of 66.37 342 *e*P **P 17 14 05.2 -0.5**
comp=Z,52nm,0.9s
131A Roby 66.39 329 ⇓P **P 17 14 05.9 -0.2**
baz=67,SNR=16
229A Bryant Ranch, 66.48 328 ⇑P **P 17 14 06.6 0.0**
baz=67
Z32A Haskell 66.51 330 ⇓P **P 17 14 06.4 -0.4**
baz=67
SIUC Southern Illin 66.59 341 *e*P **P 17 14 06.4 -0.7**
comp=Z,58nm,1.0s
130A Snyder 66.60 329 ⇑P **P 17 14 06.8 -0.6**
baz=67,SNR=15
Y33A Hilltop Ranch, 66.73 331 ⇓P **P 17 14 07.6 -0.6**
baz=67,SNR=14
Z31A Sharp Cattle R 66.82 330 ⇑P **P 17 14 08.2 -0.5**
baz=67,SNR=30
SSPA Standing Stone 66.86 351 *e*P **P 17 14 07.3 -1.5**
comp=Z,52nm,1.2s
X34A Smith Ranch, M 66.90 332 ⇓P **P 17 14 08.9 -0.3**
baz=67,SNR=14
228A UT Block 9, Go 66.98 327 ⇓P **P 17 14 09.1 -0.8**
baz=67,SNR=16
129A Stewart Farms, 67.05 328 ⇑P **P 17 14 09.3 -1.0**
baz=67
Y32A R-V Farms, Ver 67.08 331 ⇑P **P 17 14 10.1 -0.4**
baz=67,SNR=24
X33A Lawton 67.13 332 ⇓P **P 17 14 10.1 -0.6**
baz=67
BLO Bloomington 67.19 343 *e*P **P 17 14 10.9 -0.1**
BLO pmax pmax
comp=Z,103nm,1.2s
BLO Bloomington 67.19 343 *e*P **P 17 14 10.9 -0.1**
comp=Z,103nm,1.2s
OLIL Olney 67.21 342 *e*P **P 17 14 09.6 -1.4**
comp=Z,160nm,1.6s
TUL1 Leonard 67.22 335 ⇑P **P 17 14 10.5 -0.7**
baz=68,SNR=11
TUL1 Leonard 67.22 335 *e*P **P 17 14 11.3 +0.1**
comp=Z,109nm,1.3s
Z30A Sanderson Ranc 67.25 329 ⇓P **P 17 14 11.0 -0.5**
baz=68,SNR=26
128A Castleberry Fa 67.34 328 ⇓P **P 17 14 11.2 -0.9**
baz=68,SNR=8.9
X32A Elmer 67.37 331 ⇑P **P 17 14 12.0 -0.2**
baz=68,SNR=10
ACSO Alum Creek Sta 67.37 347 *e*P **P 17 14 11.5 -0.6**
comp=Z,83nm,1.0s
ACSO LR LR
comp=Z,2µm,20.0s
Y31A Rekieta Farm, 67.41 330 ⇓P **P 17 14 12.5 0.0**
baz=68,SNR=23
WMOK Wichita Mounta 67.42 332 *e*P **P 17 14 11.2 -1.3**
WMOK pmax pmax
comp=Z,112nm,1.8s
WMOK Wichita Mounta 67.42 332 *e*P **P 17 14 11.2 -1.3**
comp=Z,112nm,1.8s
W34A Bridge Creek, 67.42 333 ⇓P **P 17 14 12.1 -0.4**
baz=68
W34A Bridge Creek, 67.42 333 *e*P **P 17 14 12.1 -0.4**
comp=Z,52nm,1.1s
Z29A Hungry Hill Ra 67.49 329 ⇓P **P 17 14 12.0 -1.1**
baz=68,SNR=24
Y30A Stafford Cattl 67.63 330 ⇓P **P 17 14 13.0 -1.0**
baz=68
W33A Caddo, Fort Co 67.64 332 ⇓P **P 17 14 13.9 -0.1**
baz=68,SNR=45
LIC Lamto 67.68 71 *e*P **P 17 14 13.7 -0.9**
comp=Z,39nm,0.9s,baz=230
LIC *e*R
comp=Z,8µm,22.2s
LIC Lamto 67.68 71 *e*P **P 17 14 13.7 -0.9**
comp=Z,54nm,0.9s
LIC Lamto 67.68 71 *e*P **P 17 14 13.7 -0.9**
comp=Z,39nm,0.9s
V34A Guthrie 67.83 333 ⇑P **P 17 14 14.2 -0.9**
baz=68
V34A Guthrie 67.83 333 *e*P **P 17 14 14.9 -0.2**
comp=Z,150nm,1.3s
Z28A Tucker Farm, M 67.84 328 ⇑P **P 17 14 14.0 -1.3**
baz=68
X31A McDonald Ranch 67.85 331 ⇑P **P 17 14 14.9 -0.4**
baz=68,SNR=55
TIC Toumodi 67.90 71 *e*P **P 17 14 15.2 -0.9**
comp=Z,42nm,0.2s
W32A Sentinel 67.95 332 ⇓P **P 17 14 15.4 -0.5**
baz=68
Y29A Porterfield Fa 67.97 329 ⇓P **P 17 14 15.4 -0.8**
baz=68,SNR=24
KIC Kosan Boka 68.00 71 *e*P **P 17 14 15.8 -0.8**
comp=Z,63nm,0.9s
MNTX Cornudas Mount 68.05 325 *e*P **P 17 14 16.1 -0.5**
comp=Z,30nm,1.1s
HRV Adam Dziewonsk 68.06 356 *e*P **P 17 14 18.5 +2.2**
HRV pmax pmax
comp=Z,39nm,1.3s
HRV Adam Dziewonsk 68.06 356 *e*P **P 17 14 18.5 +2.2**
comp=Z,39nm,1.3s
DBIC Dimbokro 68.06 71 *e*P **P 17 14 15.6 -1.4**
DBIC Dimbokro 68.06 71 *e*P **P 17 14 16.3 -0.7**
DBIC pmax pmax
comp=Z,34nm,0.9s
DBIC Dimbokro 68.06 71 P **P 17 14 16.3 -0.7**
comp=Z,12nm,0.7s,baz=214,slow=8.8,SNR=11
DBIC LR LR 17 40 42.3
comp=Z,5µm,20.9s,baz=222,slow=33
DBIC Dimbokro 68.06 71 *e*P **P 17 14 16.2 -0.7**
comp=Z,34nm,0.9s
X30A Coker Ranch, T 68.09 330 ⇑P **P 17 14 16.4 -0.4**
baz=68,SNR=19
V33A Lossen Ranch, 68.14 333 ⇓P **P 17 14 16.5 -0.5**
baz=68,SNR=22
BINY Binghamton 68.15 353 *e*P **P 17 14 16.8 -0.2**
comp=Z,121nm,1.0s
BINY LR LR
comp=Z,3µm,20.0s
Y28A McKinney Farm, 68.28 329 ⇓P **P 17 14 17.4 -0.6**
baz=68,SNR=6.2
W31A Holland Ranch, 68.30 331 ⇓P **P 17 14 17.0 -1.1**
baz=69,SNR=12
U34A Anderson Ranch 68.36 334 ⇑P **P 17 14 18.2 -0.3**
baz=69,SNR=6.4
U34A Anderson Ranch 68.36 334 *e*P **P 17 14 16.9 -1.5**
comp=Z,61nm,0.8s
V32A Arapaho 68.37 332 ⇓P **P 17 14 18.3 -0.2**
baz=69,SNR=5.4
X29A Tulia 68.47 329 ⇓P **P 17 14 18.5 -0.7**
baz=69,SNR=14
SFIN Lafayette 68.48 343 ⇑P **P 17 14 17.4 -1.6**
baz=69,SNR=16
SFIN Lafayette 68.48 343 *e*P **P 17 14 16.5 -2.5**
comp=Z,144nm,1.4s
W30A Crocket Farms 68.58 331 ⇑P **P 17 14 19.3 -0.6**
baz=69
MSTX Muleshoe 68.58 328 ⇓P **P 17 14 19.8 -0.2**
baz=69,SNR=29
MSTX Muleshoe 68.58 328 *e*P **P 17 14 19.4 -0.6**
comp=Z,148nm,1.0s
U33A Lingo Farm, Me 68.59 333 ⇓P **P 17 14 19.1 -0.8**
baz=69
ERPA Erie 68.63 349 *e*P **P 17 14 19.2 -0.7**
comp=Z,135nm,0.9s
ERPA LR LR

comp=Z,2µm,20.0s
Y27A Causey 68.70 328 ⇓P P 17 14 20.1 -0.6
baz=69,SNR=29
V31A Spring Creek L 68.75 331 ⇓P P 17 14 21.4 +0.5
baz=69,SNR=15
X28A Dimmitt 68.76 329 ⇓P P 17 14 20.9 -0.1
baz=69,SNR=5.3
AMTX Amarillo 68.83 330 ⇓P P 17 14 21.2 -0.2
baz=69
AMTX Amarillo 68.83 330 eP P 17 14 20.7 -0.7
comp=Z,102nm,1.4s
U32A Winter Ranch, 68.91 332 ⇓P P 17 14 21.8 -0.1
baz=69
Z25A Roswell 68.97 326 ⇓P P 17 14 22.1 -0.4
baz=69,SNR=31
W29A Amarillo 69.01 330 ⇑P P 17 14 21.9 -0.7
baz=69,SNR=16
Y26A Elida 69.05 327 ⇓P P 17 14 22.6 -0.4
baz=69
ACCN Adirondack Com 69.08 355 eP P 17 14 23.6 +0.8
comp=Z,132nm,2.0s
V30A Spur Ranch, Mi 69.11 331 ⇑P P 17 14 23.5 +0.3
baz=69,SNR=16
T33A Patterson Ranc 69.20 333 ⇓P P 17 14 23.8 +0.1
baz=70
U31A Nine Bar Ranch 69.26 332 ⇑P P 17 14 24.0 -0.1
baz=70
X27A F and S Farms, 69.29 328 ⇓P P 17 14 23.9 -0.4
baz=70
W28A Vega 69.38 329 ⇓P P 17 14 24.8 -0.1
baz=70
AAM Ann Arbor 69.50 347 PFAKE 17 14 40.0 +15
AAM LR LR
comp=Z,3µm,22.0s
S33A Kaszmaul Farm, 69.55 334 ⇑P P 17 14 25.8 0.0
baz=70
X26A CR and CF Fran 69.55 328 ⇓P P 17 14 26.0 0.0
baz=70,SNR=12
T32A Huddler Ranch, 69.57 333 ⇑P P 17 14 26.1 +0.2
baz=70,SNR=12
V29A Stinnett 69.58 330 ⇓P P 17 14 25.9 -0.2
baz=70
W27A Bowe Ranch, En 69.61 329 ⇑P P 17 14 25.8 -0.5
baz=70
MDV Middlebury 69.65 355 eP P 17 14 26.9 +0.7
comp=Z,13µm,0.2s
U30A WK&E Inc. Balk 69.74 331 ⇓P P 17 14 27.3 +0.2
baz=70,SNR=12
V28A Channing 69.79 330 ⇑P P 17 14 27.7 +0.3
baz=70,SNR=20
LBNH Lisbon 69.80 356 eP P 17 14 27.7 +0.5
LBNH pmax pmax
comp=Z,27nm,1.2s
LBNH Lisbon 69.80 356 eP P 17 14 27.7 +0.5
comp=Z,27nm,1.2s
T31A Randall Ranch, 69.81 332 ⇑P P 17 14 27.3 -0.1
baz=70,SNR=21
Y24A Capitan 69.84 326 ⇓P P 17 14 27.6 -0.3
baz=70,SNR=6.2
319A Douglas 69.89 322 ⇑P P 17 14 28.9 +0.7
baz=70,SNR=14
X25A Clemmons Ranch 69.94 327 ⇓P P 17 14 28.2 -0.3
baz=70,SNR=23
U29A Oasis Ranch, S 69.95 331 ⇓P P 17 14 28.4 +0.1
baz=70
121A Cookes Peak, D 69.97 324 ⇑P P 17 14 29.5 +0.8
baz=70,SNR=35
121A Cookes Peak, D 69.97 324 eP P 17 14 30.0 +1.3
comp=Z,112nm,1.3s
W26A Owens Ranch, T 69.97 328 ⇓P P 17 14 28.5 -0.1
baz=70,SNR=21
S32A Newby Ranch, P 70.02 333 ⇑P P 17 14 28.3 -0.4
baz=70
V27A Dan Oppiter Fa 70.08 329 ⇓P P 17 14 29.2 0.0
baz=70,SNR=14
Z22A Elephant Butte 70.09 325 ⇓P P 17 14 30.1 +0.7
baz=70,SNR=64
T30A Plains 70.13 332 ⇑P P 17 14 29.8 +0.4
baz=70,SNR=5.1
R33A Olander Ranch, 70.16 334 ⇓P P 17 14 29.9 +0.4
baz=70
Y23A Lovelace Mesa, 70.16 326 ⇑P P 17 14 30.1 +0.3
baz=70,SNR=14
S31A Mullinville 70.17 333 ⇓P P 17 14 30.0 +0.3
baz=70,SNR=12
U28A Mallet 70.31 330 ⇓P P 17 14 30.8 +0.1
baz=71,SNR=23
KSU1 Kansas State U 70.33 336 ⇓P P 17 14 30.1 -0.4
baz=71
KSU1 Kansas State U 70.33 336 eP P 17 14 30.3 -0.2
comp=Z,86nm,1.2s
X24A Lazy VL Ranch, 70.35 327 ⇓P P 17 14 31.2 +0.2
baz=71
LONY Lake Ozonia 70.39 354 eP P 17 14 30.4 -0.4
comp=Z,38nm,1.1s
W25A X Bar L Ranch, 70.40 328 ⇑P P 17 14 31.3 0.0
baz=71,SNR=35
R32A Long Quarter, 70.55 334 ⇑P P 17 14 31.9 0.0
baz=71,SNR=5.8
T29A Hugoton 70.55 331 ⇑P P 17 14 32.0 0.0
baz=71
V26A Tequesquite Ra 70.55 329 ⇓P P 17 14 31.8 -0.3
baz=71,SNR=12
S30A Montezuma 70.60 332 ⇓P P 17 14 32.4 +0.1
baz=71,SNR=5.1
U27A Thompson Grove 70.62 330 ⇑P P 17 14 32.9 +0.4
baz=71
Q33A Connelly Farm, 70.70 335 ⇓P P 17 14 33.3 +0.5
baz=71
Y22D IRIS PASSCAL I 70.71 325 ⇓P P 17 14 34.7 +1.6
baz=71
X23A Hourglass Bar 70.74 326 ⇓P P 17 14 34.2 +0.8
baz=71,SNR=42
LPM Los Pinos Moun 70.75 326 eP P 17 14 34.3 +0.9
comp=Z,78nm,1.4s
R31A Burdett 70.76 333 ⇑P P 17 14 33.3 +0.1
baz=71,SNR=12
LENM Lemitar 70.81 325 eP P 17 14 34.8 +1.0
comp=Z,48nm,1.5s
W24A Lazy 6 Ranch, 70.86 327 ⇓P P 17 14 34.3 +0.2
baz=71,SNR=17
S29A Ulysses 70.86 332 ⇑P P 17 14 34.1 +0.2
baz=71,SNR=24
T28A Walsh 70.88 331 ⇑P P 17 14 33.8 -0.2
baz=71,SNR=18
Q32A Meitler Ranch, 70.98 334 ⇑P P 17 14 34.6 +0.1
baz=71
V25A Rancho No Teng 70.98 328 ⇑P P 17 14 34.9 +0.1
baz=71,SNR=17
U26A Atchley Ranch, 71.02 329 ⇓P P 17 14 35.2 +0.1
baz=71,SNR=19
P33A Williams Farm, 71.03 335 ⇑P P 17 14 34.7 -0.1
baz=71
R30A Dighton 71.07 333 ⇓P P 17 14 35.1 0.0
baz=71,SNR=10
LAZ Ladron 71.08 325 eP P 17 14 36.8 +1.3
comp=Z,12nm,1.0s
SADO Sadowa 71.09 351 P P 17 14 33.9 -1.1
comp=Z,12nm,0.6s,baz=199,slow=1.9,SNR=15
T27A Campo 71.10 330 ⇓P P 17 14 35.4 0.0
baz=71,SNR=36
ANMO Albuquerque 71.17 326deP P 17 14 37.0 +1.0
ANMO pmax pmax
comp=Z,373nm,1.7s
ANMO Albuquerque 71.17 326 P P 17 14 35.5 -0.5
comp=Z,27nm,1.1s,baz=135,slow=6.1,SNR=25
ANMO Albuquerque 71.17 326 eP P 17 14 36.6 +0.7
comp=Z,79nm,1.3s
ANMO LR LR
comp=Z,2µm,22.0s
S28A Manter 71.17 331 ⇓P P 17 14 35.8 -0.1
baz=71,SNR=35
W23A Werner Place, 71.18 327 ⇑P P 17 14 36.6 +0.5
baz=71,SNR=37
V24A Rampart Ranch, 71.20 328 ⇑P P 17 14 36.1 -0.1
baz=72,SNR=5.9
Q31A Ellis 71.32 334 ⇓P P 17 14 36.9 +0.3
baz=72,SNR=5.8
U25A Circle Dot Ran 71.33 329 ⇓P P 17 14 37.2 +0.2
baz=72
TUC Tucson 71.44 322 eP P 17 14 38.2 +0.7
TUC pmax pmax
comp=Z,76nm,1.4s
TUC Tucson 71.44 322 eP P 17 14 38.2 +0.7
comp=Z,76nm,1.4s
P32A Huiting Farm, 71.54 334 ⇓P P 17 14 37.6 -0.2
baz=72,SNR=8.6
R29A Marienthal 71.55 332 ⇑P P 17 14 38.0 0.0
baz=72
T26A Comanche Natio 71.59 330 ⇑P P 17 14 39.1 +0.7
baz=72,SNR=18
Q30A Quinter 71.63 333 ⇓P P 17 14 38.9 +0.4
baz=72,SNR=33
SCIA State Center 71.66 339 eP P 17 14 37.8 -0.7
comp=Z,75nm,1.2s
V23A Ortiz Mt. (NFS 71.66 327 ⇑P P 17 14 40.0 +1.0
baz=72,SNR=19
JFWS Jewell Farm 71.69 342 eP P 17 14 37.9 -0.8
JFWS pmax pmax
comp=Z,108nm,1.3s
JFWS Jewell Farm 71.69 342 eP P 17 14 37.9 -0.8
comp=Z,108nm,1.3s
S27A Las Animas 71.69 330 ⇓P P 17 14 39.1 +0.1
baz=72
U24A Moreno Valley 71.75 328 ⇓P P 17 14 39.5 -0.1
baz=72
P31A Stockton 71.75 334 ⇓P P 17 14 38.9 -0.3
baz=72,SNR=17
R28A Tribune 71.76 332 ⇓P P 17 14 39.5 +0.1
baz=72,SNR=16
SYO Syowa Base 71.82 159⇓eP P 17 14 37.8 -1.4
Q29A Oakley 71.87 332 ⇓P P 17 14 39.6 -0.4
baz=72,SNR=24
S26A Kim 71.90 330 ⇓P P 17 14 40.9 +0.6
baz=72,SNR=23
T25A Trinidad 71.93 329 ⇑P P 17 14 41.2 +0.6
baz=72,SNR=11
O32A Brockman Farm, 71.96 335 ⇓P P 17 14 39.7 -0.7
baz=72,SNR=9.4
P30A Selden 72.12 333 ⇑P P 17 14 41.6 +0.2
baz=72,SNR=6.0
U23A El Rito 72.13 327 ⇓P P 17 14 41.7 -0.1
baz=72,SNR=11
R27A Eads 72.15 331 ⇓P P 17 14 41.4 -0.3
baz=72,SNR=16
V22A San Miguel Ran 72.16 327 ⇑P P 17 14 42.7 +0.8
baz=72,SNR=49
O31A Woolen Ranch, 72.28 334 ⇑P P 17 14 42.4 +0.1
baz=73
T24B San Luis 72.33 328 ⇓P P 17 14 43.6 +0.6
baz=73,SNR=48
214A Organ Pipe Nat 72.33 320 ⇑P P 17 14 44.0 +1.1
baz=73,SNR=16
214A Organ Pipe Nat 72.33 320 eP P 17 14 43.9 +1.1
comp=Z,112nm,1.4s
S25A Robets Cordova 72.37 329 ⇑P P 17 14 43.8 +0.7
baz=73,SNR=14
Q28A Sharon Springs 72.37 332 ⇑P P 17 14 43.7 +0.7
baz=73,SNR=5.2
N32A Stulken Farm, 72.41 335 ⇑P P 17 14 43.1 0.0
baz=73
R26A Arlington 72.45 330 ⇑P P 17 14 44.0 +0.5
baz=73,SNR=30
P29A Atwood 72.45 333 ⇓P P 17 14 44.0 +0.5
baz=73
U22A Llaves 72.49 327 P P 17 14 45.1 +1.2
baz=73
O30A MW Ranch, Wils 72.59 334 ⇓P P 17 14 44.5 +0.3
baz=73
T23A Casias Ranch, 72.62 328 ⇑P P 17 14 45.2 +0.5
baz=73,SNR=12
X18A Snowflake 72.65 324 ⇑P P 17 14 45.1 +0.2
baz=73,SNR=6.9
KSCO Kaye Shedlock' 72.67 331 ⇑P P 17 14 45.4 +0.5
baz=73,SNR=15
KSCO Kaye Shedlock' 72.67 331 eP P 17 14 45.3 +0.5
comp=Z,275nm,1.4s
R25A Fountain Ranch 72.70 330 ⇑P P 17 14 45.6 +0.6
baz=73
N31A Bailey Ranch, 72.71 335 ⇑P P 17 14 45.6 +0.7
baz=73
S24A Houchin Ranch, 72.71 329 ⇑P P 17 14 46.1 +0.7
baz=73,SNR=47
P28A Saint Francis 72.77 332 ⇑P P 17 14 45.8 +0.5
baz=73
O29A 4D Ranch, Culb 72.84 333 ⇑P P 17 14 46.1 +0.4
baz=73
BGNE Belgrade 72.91 336 ⇓P P 17 14 46.2 +0.2
baz=73,SNR=19
BGNE Belgrade 72.91 336 eP P 17 14 46.5 +0.4
comp=Z,208nm,0.9s
SDCO Great Sand Dun 72.93 329 eP P 17 14 47.1 +0.4
comp=Z,47nm,1.1s
W18A Petrified Fore 72.99 324 ⇓P P 17 14 47.6 +0.7
baz=73,SNR=6.7
W18A Petrified Fore 72.99 324 eP P 17 14 47.2 +0.4
comp=Z,126nm,1.4s
Q26A Hugo 72.99 331 ⇓P P 17 14 47.7 +1.0
baz=73,SNR=16
VNDA Vanda 73.05 190 eP P 17 14 47.3 +0.9
VNDA pmax pmax
comp=Z,35nm,1.4s
VNDA Vanda 73.05 190 P P 17 14 46.2 -0.3
comp=Z,13nm,1.1s,baz=144,slow=4.4,SNR=17
VNDA LR LR 17 47 40.1
comp=Z,2µm,18.1s,baz=147,slow=36
VNDA Vanda 73.05 190 eP P 17 14 47.3 +0.9
comp=Z,35nm,1.4s
P27A Ficken Ranch, 73.11 332 ⇑P P 17 14 48.1 +0.7
baz=73
N30A Hueftle Ranch, 73.13 334 ⇓P P 17 14 47.5 +0.1
baz=73
S23A Nye Farm, Mont 73.14 328 ⇓P P 17 14 47.9 +0.2
baz=73,SNR=17
R24A Sanders Place, 73.14 329 ⇓P P 17 14 48.9 +1.1
baz=73,SNR=17
M31A Lambtecht Ranc 73.17 335 ⇑P P 17 14 48.0 +0.4
baz=74,SNR=14
O28A Krutsinger Ran 73.24 333 ⇓P P 17 14 49.0 +0.9
baz=74,SNR=5.3
Q25A Bedland, Calha 73.31 330 ⇓P P 17 14 49.3 +0.7
baz=74,SNR=5.3
N29A Votaw Ranch, W 73.36 334 ⇑P P 17 14 49.0 +0.2
baz=74,SNR=5.6
X16A Lo Mia Camp, P 73.38 323 ⇓P P 17 14 50.1 +0.9
baz=74,SNR=32
Z14A Wintersburg 73.44 321 ⇑P P 17 14 49.9 +0.6
baz=74
P26A Davis Ranch, A 73.44 331 ⇓P P 17 14 50.0 +0.6
baz=74
R23A Moffat 73.44 329 ⇓P P 17 14 50.0 +0.4
baz=74,SNR=29
113A Mohawk Valley, 73.48 320 ⇑P P 17 14 50.4 +0.9
baz=74
S22A 4UR Ranch, Cre 73.56 328 ⇓P P 17 14 51.1 +0.7
baz=74
O27A Becher Island 73.59 332 ⇑P P 17 14 51.5 +1.3
baz=74,SNR=15
N28A Pribbeno Ranch 73.62 333 ⇑P P 17 14 50.8 +0.5
baz=74
M30A Dale-Ortello V 73.68 335 ⇓P P 17 14 51.1 +0.5
baz=74
Q24A Divide 73.75 330 ⇑P P 17 14 52.1 +0.6
baz=74,SNR=31
P25A Willow Gulch B 73.76 331 ⇑P P 17 14 51.9 +0.6
baz=74,SNR=21
L31A Butterfield Fa 73.83 336 ⇑P P 17 14 52.0 +0.5
baz=74,SNR=10
Y14A Wickenburg 73.89 321 ⇑P P 17 14 52.6 +0.6
baz=74,SNR=14
M29A Burnside Ranch 73.92 334 ⇑P P 17 14 52.3 +0.3
baz=74
MVCO Mesa Verde 73.96 326 ⇓P P 17 14 53.2 +0.6
baz=74,SNR=14
MVCO Mesa Verde 73.96 326 eP P 17 14 53.7 +1.1
comp=Z,119nm,1.4s
L30A Spencer Herefo 73.97 335 ⇓P P 17 14 53.2 +0.9
baz=74
O26A Horse Wrangler 73.99 332 ⇓P P 17 14 53.1 +0.5
baz=74,SNR=7.4
Q23A Hartsel 74.02 329 ⇑P P 17 14 53.1 +0.1
baz=74
OGNE Ogallala 74.04 333 ⇑P P 17 14 53.0 +0.3
baz=74,SNR=5.2
OGNE Ogallala 74.04 333 eP P 17 14 53.2 +0.4
comp=Z,123nm,1.3s
P24A Kohler Place, 74.09 330 ⇓P P 17 14 53.8 +0.6
baz=74
N27A Anderson Farm, 74.13 332 ⇓P P 17 14 53.9 +0.6
baz=74
M28A Bar X Bar Ranc 74.15 334 ⇑P P 17 14 54.2 +0.8
baz=74
WUAZ Wupatki 74.16 323 ⇓P P 17 14 54.5 +0.7
baz=74,SNR=22
WUAZ Wupatki 74.16 323 eP P 17 14 55.0 +1.3
comp=Z,89nm,1.3s
O25A Wiggins 74.23 331 ⇓P P 17 14 54.4 +0.4
baz=74
GLA Glamis 74.30 319 eP P 17 14 55.3 +0.9
GLA pmax pmax
comp=Z,49nm,1.3s
GLA Glamis 74.30 319 ⇑P P 17 14 55.1 +0.6
baz=74
GLA Glamis 74.30 319 eP P 17 14 55.3 +0.9
comp=Z,49nm,1.3s
COWI Conover 74.36 344 eP P 17 14 53.3 -1.1
comp=Z,130nm,1.8s
COWI LR LR
comp=Z,3µm,20.0s
L29A Maesberg Ranch 74.36 334 ⇑P P 17 14 55.2 +0.6
baz=75,SNR=6.4
P23A Jefferson 74.40 329 ⇓P P 17 14 56.2 +1.0
baz=75,SNR=11
ECSD EROS Data Cent 74.41 338 ⇑P P 17 14 54.7 0.0
baz=75,SNR=29
ECSD EROS Data Cent 74.41 338 eP P 17 14 53.4 -1.3
comp=Z,52nm,1.0s
ECSD LR LR
comp=Z,2µm,20.0s
N26A Koester Ranch, 74.44 332 ⇑P P 17 14 55.2 +0.1
baz=75
SPMN Marine on St. 74.54 341 ⇑P P 17 14 55.6 +0.1
baz=75
SPMN Marine on St. 74.54 341 eP P 17 14 55.2 -0.2
comp=Z,25nm,0.8s
K30A Basset 74.55 335 ⇑P P 17 14 55.7 0.0
baz=75
Y12C Blythe 74.62 320 ⇓P P 17 14 57.2 +1.0
baz=75,SNR=16
ISCO Idaho Springs 74.64 330 eP P 17 14 57.4 +0.8
ISCO pmax pmax
comp=Z,30nm,1.0s
ISCO Idaho Springs 74.64 330 ⇑P P 17 14 57.1 +0.5
baz=75,SNR=30
ISCO Idaho Springs 74.64 330 eP P 17 14 57.4 +0.8
comp=Z,30nm,1.0s
O24A Longmont 74.66 330 ⇑P P 17 14 57.1 +0.6
baz=75
M27A Reverse DX Ran 74.67 333 ⇓P P 17 14 57.2 +0.8
baz=75
SUR Sutherland 74.69 119 P P 17 14 57.2 +0.1
comp=Z,9.5nm,0.7s,baz=309,slow=8.1,SNR=10
SUR Sutherland 74.69 119 eP P 17 14 56.8 -0.3
comp=Z,10nm,0.8s
PV01 Paradox Valley 74.72 327 eP P 17 14 58.3 +1.3
comp=Z,6µm,1.4s
L28A Connealy Angus 74.72 334 ⇓P P 17 14 57.6 +0.9
baz=75
N25A Grover 74.79 331 ⇓P P 17 14 58.0 +0.8
baz=75
SWSC Sam W. Stewart 74.79 319 ⇓P P 17 14 57.7 +0.4
baz=75
PDMCI Parker Dam,Lak 74.80 321 ⇑P P 17 14 57.4 +0.2
baz=75,SNR=5.5
K29A Lazy Trails An 74.89 335 ⇑P P 17 14 58.7 +1.0
baz=75
M26A McRoberts Ranc 74.93 332 ⇑P P 17 14 58.8 +0.8
baz=75
P22A Eagle 75.00 329 ⇓P P 17 14 59.4 +0.8
baz=75,SNR=26
J30A Dallas 75.07 336 ⇑P P 17 14 59.0 +0.4
baz=75
PV04 Paradox Valley 75.08 327 eP P 17 14 59.7 +0.7
BC3 Big Chuckawall 75.10 319 ⇑P P 17 14 59.6 +0.4
baz=75,SNR=17
L27A T5 Ranch, Ells 75.11 333 ⇓P P 17 14 59.7 +0.8
baz=75
O23A Lake Granby, G 75.11 330 ⇑P P 17 14 59.8 +0.5
baz=75,SNR=18
MONP Monument Peak, 75.13 318 ⇓P P 17 14 59.7 +0.3
baz=75
BAR Barrett 75.14 318 eP P 17 14 59.8 +0.5
comp=Z,261nm,1.4s
N24A Carr 75.15 331 ⇑P P 17 15 00.4 +1.1
baz=75
WIN Windhoek 75.19 108 eP P 17 15 16.9 +17
WIN AMB AMB 17 15 30.0
comp=Z,5.2nm,3.1s
WIN AMS AMS 17 42 58.1
comp=Z,961nm,27.2s
W13A Hualapai Mount 75.23 321 ⇑P P 17 15 00.4 +0.4
baz=76,SNR=21
K28A Ten Mile Ranch 75.26 334 ⇑P P 17 15 00.9 +1.1
baz=76
IRM Iron Mountain 75.28 320 ⇑P P 17 15 00.8 +0.8
baz=76,SNR=23
M25A Palm-Egli Farm 75.29 332 ⇓P P 17 15 00.3 +0.1
baz=76
U15A North Rim 75.34 323 ⇑P P 17 15 01.1 +0.5
baz=76,SNR=50
O22A Kremmling 75.36 329 ⇓P P 17 15 01.1 +0.4
baz=76,SNR=28
L26A Underwood Farm 75.38 333 ⇓P P 17 15 01.2 +0.6
baz=76
NEE2 Needles Airpor 75.41 321 ⇑P P 17 15 01.1 +0.4
baz=76
J29A Okreek 75.45 335 ⇑P P 17 15 01.0 +0.2
baz=76,SNR=17
109C Camp Elliot, M 75.54 318 ⇓P P 17 15 01.5 -0.1
baz=76
I30A Oacoma 75.55 336 ⇑P P 17 15 01.2 -0.2
baz=76,SNR=8.3
K27A Flueckinger Fa 75.59 334 ⇑P P 17 15 02.5 +0.8
baz=76,SNR=8.1
M24A Cheyenne 75.65 331 ⇑P P 17 15 03.3 +1.1
baz=76,SNR=21
PFO Pinyon Flats O 75.66 319 P P 17 15 03.0 +0.6
comp=Z,132nm,1.1s,SNR=5.2
PFO Pinyon Flats O 75.66 319 eP P 17 15 03.5 +1.1
PFO pmax pmax
comp=Z,44nm,1.3s
PFO Pinyon Flats O 75.66 319 P P 17 15 02.9 +0.6
comp=Z,12nm,0.9s,baz=107,slow=7.2,SNR=8.2
PFO Pinyon Flats O 75.66 319 ⇓P P 17 15 02.5 +0.2
baz=76
PFO Pinyon Flats O 75.66 319 eP P 17 15 03.5 +1.1
comp=Z,44nm,1.3s
BELC Belle Mtn. Jos 75.66 319 ⇓P P 17 15 03.3 +0.9
baz=76,SNR=5.9
N23A Red Feather La 75.67 330 ⇓P P 17 15 03.3 +0.8
baz=76,SNR=17
J28A Allard Ranch, 75.81 335 ⇑P P 17 15 02.9 0.0
baz=76
N22A Wattenberg Ran 75.83 330 ⇑P P 17 15 03.6 +0.2
baz=76,SNR=20
BRSD Miller 75.84 337 ⇓P P 17 15 03.1 +0.1
baz=76
BRSD Miller 75.84 337 eP P 17 15 03.0 0.0
comp=Z,28nm,0.6s
L25A Engebretsen Ra 75.85 332 ⇑P P 17 15 02.6 -0.7
baz=76
LDFC Landfair 75.91 321 eP P 17 15 05.5 +1.7
comp=Z,30nm,0.5s
J27A Elkhorn Farm, 75.97 334 ⇓P P 17 15 04.9 +1.0
baz=76,SNR=23
I29A Vivian Onida 75.97 336 ⇓P P 17 15 03.9 +0.2
baz=76
K26A Motz Farm, Whi 75.97 333 ⇑P P 17 15 04.9 +1.0
baz=76
GMRC Granite Mounta 76.02 320 ⇑P P 17 15 05.3 +0.9
baz=76,SNR=35
M23A Laramie 76.04 331 ⇑P P 17 15 04.8 +0.3
baz=76,SNR=15
MURC Murrieta 76.09 318 ⇑P P 17 15 05.0 +0.2
baz=76
O20A White River Ci 76.13 328 ⇑P P 17 15 05.4 +0.4
baz=76,SNR=28
O20A White River Ci 76.13 328 eP P 17 15 05.9 +0.9
comp=Z,127nm,1.1s
L24A Wheatland 76.16 332 ⇑P P 17 15 05.5 +0.4
baz=76
K25A Mack Ranch, Ha 76.18 333 ⇑P P 17 15 06.1 +0.9
baz=76
I28A Midland 76.27 335 ⇓P P 17 15 06.5 +1.0
baz=77
PAE Paea 76.35 257 eP P 17 15 07.8 +1.2
comp=Z,20nm,1.1s
M22A Cedar Creek Ra 76.38 330 ⇓P P 17 15 07.0 +0.6
baz=77,SNR=8.8
PPT2 Papeete2 76.38 257 eP P 17 15 08.3 +1.5
comp=Z,82nm,1.6s
PPT2 eS S 17 24 52.6 +2.7
comp=Z,1µm,29.0s
PPT2 Papeete2 76.38 257 eLQ LQ 17 35 30.4

comp=Z,2µm,26.5s
PPT2 eLR LR 17 38 48.1
comp=Z,2µm,24.8s,baz=104
PPT Papeete 76.38 257 LR LR 17 41 27.0
comp=Z,1µm,18.1s,baz=108,slow=30
BBRC Big Bear Solar 76.39 319 ⇓P **P 17 15 06.8 +0.1**
baz=77
HEC Hector,Ludlow 76.44 320 ⇑P **P 17 15 06.9 +0.1**
baz=77,SNR=13
J26A Sides Ranch, S 76.44 334 ⇓P **P 17 15 07.7 +1.2**
baz=77,SNR=16
SRU San Rafael Swe 76.44 326 *e*P **P 17 15 07.2 +0.4**
SRU pmax pmax
comp=Z,53nm,1.0s
SRU San Rafael Swe 76.44 326 *e*P **P 17 15 07.2 +0.4**
comp=Z,53nm,1.0s
H29A Onida 76.45 336 ⇓P **P 17 15 06.4 -0.1**
baz=77,SNR=17
SCI San Clemente I 76.48 317 ⇑P **P 17 15 06.7 -0.2**
baz=77
G30A Faulkton 76.50 337 ⇓P **P 17 15 07.2 +0.5**
baz=77
UPI Upington 76.51 115 *e*P **P 17 15 07.5 0.0**
UPI AMB AMB 17 15 11.9
comp=Z,39nm,4.6s
UPI AMS AMS 17 43 10.9
comp=Z,3µm,21.6s
UPI Upington 76.51 115 P **P 17 15 07.5 0.0**
comp=Z,39nm,4.6s
L23A Garrett 76.55 331 ⇑P **P 17 15 07.6 +0.2**
baz=77
TUQ Turquoise Moun 76.63 320 ⇑P **P 17 15 07.6 -0.3**
baz=77
K24A Anderson Ranch 76.67 332 ⇓P **P 17 15 08.5 +0.5**
baz=77,SNR=12
I27A Quinn 76.67 335 ⇓P **P 17 15 08.0 +0.2**
baz=77
EYMN Ely 76.67 343 *e*P **P 17 15 07.3 -0.4**
comp=Z,47nm,1.3s
CIS Catalina Islan 76.69 318 ⇑P **P 17 15 08.2 +0.1**
baz=77
N20A Spence Gulch, 76.69 329 ⇑P **P 17 15 08.9 +0.7**
baz=77,SNR=11
CCUT Cedar City 76.74 324 *e*P **P 17 15 09.8 +1.2**
comp=Z,84nm,1.1s
H28A Mission Ridge 76.79 336 ⇓P **P 17 15 08.6 +0.2**
baz=77,SNR=15
J25A Sunshine Ranch 76.80 333 ⇓P **P 17 15 09.2 +0.6**
baz=77,SNR=13
L22A Ellis Ranch, M 76.81 331 ⇓P **P 17 15 09.4 +0.5**
baz=77
BFSC Mount Baldy Ra 76.81 319 ⇓P **P 17 15 08.0 -0.9**
baz=77
G29A Hoven 76.83 337 ⇓P **P 17 15 08.6 -0.1**
baz=77
MVU Marysvale 76.84 325 *e*P **P 17 15 10.0 +0.9**
comp=Z,59nm,1.1s
TORD Torodi Ar. Bea 76.90 68 P **P 17 15 08.5 -1.1**
comp=Z,18nm,0.7s,baz=253,slow=5.3,SNR=82
TORD PP PP 17 18 16.2 +13
comp=Z,6.0nm,0.8s,baz=255,slow=4.6,SNR=3.9
TORD LR LR 17 48 29.4
comp=Z,2µm,18.7s,baz=230,slow=35
TMUT Trail Mountain 76.93 326 *e*P **P 17 15 09.1 -0.5**
comp=Z,281nm,1.1s
I26A New Underwood 76.95 334 ⇓P **P 17 15 09.6 +0.2**
baz=77
ARUT Antelope Range 76.96 324 *e*P **P 17 15 11.0 +1.3**
ARUT Antelope Range 76.96 324 *e*P **P 17 15 11.0 +1.3**
comp=Z,1µm,1.2s
SHPR Sheep Range 76.97 322 *e*P **P 17 15 10.4 +0.6**
comp=Z,68nm,1.4s
MWC Mount Wilson 77.04 318 *e*P **P 17 15 11.1 +0.8**
MWC pmax pmax
comp=Z,43nm,1.2s
MWC Mount Wilson 77.04 318 *e*P **P 17 15 11.1 +0.8**
comp=Z,42nm,1.2s
K23A Bowen Ranch, D 77.04 332 ⇓P **P 17 15 10.6 +0.5**
baz=77,SNR=17
GSC Goldstone, Bar 77.05 320 *e*P **P 17 15 10.9 +0.7**
GSC pmax pmax
comp=Z,90nm,1.5s
GSC Goldstone, Bar 77.05 320 ⇑P **P 17 15 09.0 -1.1**
baz=77,SNR=5.4
GSC Goldstone, Bar 77.05 320 *e*P **P 17 15 10.9 +0.7**
comp=Z,90nm,1.5s
F30A Leola 77.07 337 ⇑P **P 17 15 10.3 +0.3**
baz=77
G28A Parade 77.09 336 ⇓P **P 17 15 10.4 +0.3**
baz=77
J24A Dixon Ranch, L 77.10 333 ⇓P **P 17 15 11.8 +1.5**
baz=77,SNR=13
H27A Howes 77.16 335 ⇓P **P 17 15 10.8 +0.2**
baz=77
SHOC Shoshone, Teco 77.17 321 ⇑P **P 17 15 10.8 +0.1**
baz=77
DECC Green Verdugo 77.22 318 ⇑P **P 17 15 11.0 -0.1**
baz=78
I25A Rochford 77.29 334 ⇑P **P 17 15 12.1 +0.6**
baz=78,SNR=24
K22A Casper 77.35 331 ⇑P **P 17 15 12.5 +0.7**
baz=78,SNR=13
K22A Casper 77.35 331 *e*P **P 17 15 12.7 +0.9**
comp=Z,56nm,1.1s
F29A Eureka 77.35 337 ⇑P **P 17 15 11.1 -0.4**
baz=78
H26A Fairpoint 77.41 334 ⇑P **P 17 15 12.2 +0.2**
baz=78
EDW2 Edwards Air Fo 77.45 319 ⇑P **P 17 15 11.7 -0.8**
baz=78
RSSD Black Hills 77.50 333 *e*P **P 17 15 12.9 +0.3**
RSSD pmax pmax
comp=Z,34nm,1.0s
RSSD Black Hills 77.50 333 *e*P **P 17 15 12.9 +0.3**
comp=Z,34nm,1.0s
I24A Kuemmerle Ranc 77.53 333 ⇑P **P 17 15 12.9 +0.2**
baz=78
J23A Dilts Ranch, B 77.54 332 ⇓P **P 17 15 13.1 +0.3**
baz=78
E30A Jud 77.61 338 ⇑P **P 17 15 12.8 -0.1**
baz=78
K21A Alcova 77.65 331 ⇓P **P 17 15 14.2 +0.7**
baz=78,SNR=39
MPU Maple Canyon 77.69 326 *e*P **P 17 15 14.8 +1.0**
comp=Z,66nm,1.2s
LRMC Laurel Mtn Rad 77.69 319 ⇑P **P 17 15 13.6 -0.2**
baz=78
OSI Osito Audit: C 77.71 318 ⇑P **P 17 15 13.2 -0.7**
baz=78
OSI Osito Audit: C 77.71 318 *e*P **P 17 15 14.1 +0.3**
comp=Z,52nm,1.2s
F28A McLaughlin 77.71 336 ⇑P **P 17 15 13.5 -0.1**
baz=78
G27A Dupree 77.73 335 ⇑P **P 17 15 13.3 -0.4**
baz=78,SNR=9.3
H25A Fruitdale 77.74 334 ⇓P **P 17 15 13.7 -0.1**
baz=78
DAU Daniels Canyon 77.80 327 *e*P **P 17 15 15.9 +1.4**
DAU pmax pmax
comp=Z,49nm,1.1s
DAU Daniels Canyon 77.80 327 *e*P **P 17 15 15.9 +1.4**
comp=Z,49nm,1.1s
BSC Santa Cruz Isl 77.84 317 ⇓P **P 17 15 14.8 +0.2**
baz=78
NLU North Lily Min 77.86 326 *e*P **P 17 15 16.1 +1.3**
comp=Z,46nm,1.2s
FURC Furnace Creek, 77.90 321 ⇑P **P 17 15 15.3 +0.5**
baz=78
G26A Maurine 77.91 335 ⇑P **P 17 15 14.7 0.0**
baz=78,SNR=9.3
E29A Napoleon 77.92 337 ⇓P **P 17 15 14.9 +0.2**
baz=78
J22A Midwest 77.94 331 ⇓P **P 17 15 15.4 +0.4**
baz=78,SNR=14
JLU Jordanelle 78.04 327 *e*P **P 17 15 16.4 +0.6**
comp=Z,94nm,1.5s
D30A Buchanan 78.09 338 ⇑P **P 17 15 15.6 0.0**
baz=78,SNR=18
G25A Newell 78.14 334 ⇑P **P 17 15 16.2 +0.2**
baz=78
F27A Lemmon 78.18 336 ⇓P **P 17 15 16.3 +0.1**
baz=78
DAC Darwin (Calif) 78.19 320 *e*P **P 17 15 17.2 +0.5**
DAC pmax pmax
comp=Z,41nm,1.1s
DAC Darwin (Calif) 78.19 320 *e*P **P 17 15 17.1 +0.5**
comp=Z,41nm,1.1s
SBC Santa Barbara 78.19 318 ⇓P **P 17 15 16.3 -0.1**
baz=78
AGMN Agassiz Nation 78.22 341 ⇓P **P 17 15 16.3 +0.1**
baz=78,SNR=5.7
AGMN Agassiz Nation 78.22 341 *e*P **P 17 15 15.9 -0.3**
AGMN LR LR
comp=Z,45nm,1.2s
H24A Dirks Ranch, A 78.23 333 ⇓P **P 17 15 16.3 -0.2**
baz=78,SNR=15
CTU Camp Tracy 78.26 327 *e*P **P 17 15 17.7 +0.8**
comp=Z,25nm,1.1s
E28A Huff 78.30 337 ⇑P **P 17 15 17.5 +0.7**
baz=79,SNR=8.8
J21A Lysite 78.31 331 ⇑P **P 17 15 17.9 +0.8**
baz=79,SNR=10.0
I22A 9 Mile Ranch, 78.33 332 ⇑P **P 17 15 17.6 +0.4**
baz=79,SNR=23
D29A Pettibone, Tap 78.33 338 ⇑P **P 17 15 17.1 +0.1**
baz=79
F26A Lodgepole 78.41 335 ⇑P **P 17 15 17.6 +0.1**
baz=79,SNR=14
TCUT Toone Canyon 78.41 327 *e*P **P 17 15 18.2 +0.3**
comp=Z,152nm,1.7s
DUG Dugway, Tooele 78.42 326 *e*P **P 17 15 18.1 +0.3**
DUG pmax pmax
comp=Z,44nm,1.0s
DUG MLR MLR
comp=Z,2µm,21.0s
DUG Dugway, Tooele 78.42 326 ⇓P **P 17 15 18.4 +0.6**
baz=79,SNR=31
DUG Dugway, Tooele 78.42 326 *e*P **P 17 15 18.1 +0.3**
comp=Z,44nm,1.0s
DUG LR LR
comp=Z,2µm,21.0s
H23A Clabaugh Cattl 78.42 333 ⇓P **P 17 15 17.7 +0.1**
baz=79
E27A Carson 78.49 336 ⇓P **P 17 15 17.6 -0.2**
baz=79
C30A Mose, Pekin 78.52 339 ⇑P **P 17 15 17.8 -0.1**
baz=79,SNR=22
R11A Troy Canyon, C 78.53 323 ⇑P **P 17 15 18.4 -0.1**
baz=79,SNR=42
R11A Troy Canyon, C 78.53 323 *e*P **P 17 15 19.1 +0.6**
comp=Z,81nm,1.5s
J20A Shoshoni 78.59 330 ⇓P **P 17 15 19.5 +0.9**
baz=79,SNR=12
I21A Big Trails, Te 78.61 331 ⇑P **P 17 15 18.9 +0.1**
baz=79,SNR=36
G24A Alzada 78.65 334 ⇓P **P 17 15 18.9 0.0**
baz=79,SNR=7.5
VES Vestal, Richgr 78.76 319 ⇑P **P 17 15 19.5 0.0**
baz=79,SNR=10.0
F25A Bowman 78.77 335 ⇓P **P 17 15 19.9 +0.5**
baz=79
D28A Regan 78.78 337 ⇓P **P 17 15 19.3 -0.2**
baz=79
BW06 Boulder Array 78.80 329 *e*P **P 17 15 19.6 -0.3**
BW06 LR LR
comp=Z,1µm,22.0s
PDAR Pinedale Array 78.80 329 P **P 17 15 18.9 -1.1**
comp=Z,4.3nm,0.8s,baz=122,slow=7.4,SNR=26
H22A Clearmont 78.84 332 ⇓P **P 17 15 20.0 +0.1**
baz=79,SNR=8.7
E26A Carlson Angus 78.85 336 ⇑P **P 17 15 20.0 +0.1**
baz=79
HWUT Hardware Ranch 78.86 327 *e*P **P 17 15 20.3 +0.1**
comp=Z,75nm,1.2s
G23A Biddle 78.94 333 ⇑P **P 17 15 20.7 +0.3**
baz=79,SNR=14
SMMC Simmler 78.95 318 ⇑P **P 17 15 19.9 -0.8**
baz=79
J19A Crowheart 78.96 330 ⇓P **P 17 15 21.1 +0.4**
baz=79,SNR=27
MDND Maddock 79.02 338 ⇓P **P 17 15 20.8 +0.1**
baz=79
D27A Center 79.05 337 ⇓P **P 17 15 21.2 +0.3**
baz=79
SPUT South Promonto 79.07 327 *e*P **P 17 15 21.8 +0.5**
comp=Z,60nm,1.1s
BGU Big Grassy Mou 79.07 326 *e*P **P 17 15 21.6 +0.2**
comp=Z,32nm,1.3s
I20A Worland 79.09 331 ⇑P **P 17 15 21.5 +0.1**
baz=79,SNR=13
F24A Ekalaka 79.09 334 ⇓P **P 17 15 21.3 0.0**
baz=79,SNR=7.8
TIN Tinemaha, Big 79.09 320 ⇓P **P 17 15 21.3 -0.2**
baz=79
B30A Myrvik Farm, E 79.12 339 ⇑P **P 17 15 21.3 0.0**
baz=79,SNR=8.3
H21A Big Horn, Sher 79.16 332 ⇓P **P 17 15 21.3 -0.5**
baz=79
C28A Hausauer Farms 79.17 338 ⇓P **P 17 15 22.0 +0.5**
baz=80
RCTC Rector, Farmer 79.17 319 ⇓P **P 17 15 21.2 -0.5**
baz=79
E25A Miller Ranch, 79.23 335 ⇓P **P 17 15 22.4 +0.5**
baz=80
TPH Tonopah 79.24 322 *e*P **P 17 15 23.0 +0.6**
TPH pmax pmax
comp=Z,48nm,1.2s
TPH Tonopah 79.24 322 *e*P **P 17 15 23.0 +0.6**
comp=Z,48nm,1.2s
D26A Manning 79.31 336 ⇓P **P 17 15 22.8 +0.4**
baz=80,SNR=9.7
G22A Birney 79.32 333 ⇓P **P 17 15 22.4 -0.2**
baz=80
F23A Volborg 79.37 333 ⇓P **P 17 15 22.9 +0.2**
baz=80,SNR=17
H20A Greybull 79.46 331 ⇑P **P 17 15 23.4 0.0**
baz=80,SNR=19
B29A Wagenman Farm, 79.47 339 ⇓P **P 17 15 22.6 -0.5**
baz=80,SNR=22
AHID Auburn Hatcher 79.52 328 *e*P **P 17 15 24.0 +0.2**
AHID LR LR
comp=Z,70nm,1.0s
comp=Z,2µm,21.0s
I19A Meeteetse 79.54 330 ⇓P **P 17 15 24.4 +0.5**
baz=80,SNR=20
A30A Hoffart Farm, 79.54 339 ⇓P **P 17 15 23.5 0.0**
baz=80
C27A Sayler Ranch, 79.56 337 ⇓P **P 17 15 24.1 +0.4**
baz=80
HVU Hansel Valley 79.58 327 *e*P **P 17 15 24.0 -0.2**
HVU pmax pmax
comp=Z,48nm,1.0s
HVU Hansel Valley 79.58 327 *e*P **P 17 15 23.9 -0.2**
comp=Z,48nm,1.0s
E24A Baker 79.63 335 ⇑P **P 17 15 25.2 +1.1**
baz=80,SNR=11
BOSA Boshof 79.66 117 *e*P **P 17 15 24.8 -0.2**
BOSA AMB AMB 17 15 26.4
comp=Z,44nm,4.8s
BOSA AMS AMS 17 45 20.9
comp=Z,2µm,21.5s
BOSA Boshof 79.66 117 *e*P **P 17 15 24.8 -0.2**
BOSA pmax pmax
comp=Z,24nm,1.0s
BOSA Boshof 79.66 117 P **P 17 15 24.2 -0.8**
comp=Z,20nm,1.0s,baz=255,slow=3.6,SNR=12
BOSA LR LR 17 45 39.7
comp=Z,3µm,21.6s,baz=244,slow=32
BOSA Boshof 79.66 117 *e*P **P 17 15 24.8 -0.2**
comp=Z,24nm,1.0s
G21A Lodge Grass 79.71 332 P **P 17 15 24.8 +0.1**
baz=80
D25A Fairfield 79.74 336 ⇑P **P 17 15 25.2 +0.5**
baz=80,SNR=7.2
F22A Rosebud 79.76 333 ⇑P **P 17 15 24.8 -0.1**
baz=80,SNR=18
B28A Dugan Ranch, T 79.79 338 ⇓P **P 17 15 24.9 0.0**
baz=80,SNR=11
A29A Manning Farm, 79.83 339 ⇓P **P 17 15 24.6 -0.5**
baz=80,SNR=28
MLAC Mammoth, Mammo 79.84 320 ⇑P **P 17 15 24.5 -1.2**
baz=80
C26A Wahner Farm, P 79.86 337 ⇓P **P 17 15 25.6 +0.3**
baz=80,SNR=10
E23A Ismay 79.97 334 ⇑P **P 17 15 26.0 +0.1**
baz=80
ULM Lac du Bonnet 79.97 341 P **P 17 15 24.6 -1.2**
comp=Z,11nm,0.8s,baz=142,slow=5.2,SNR=12
ULM LR LR 17 53 15.8
comp=Z,2µm,22.0s,baz=143,slow=38
H19A Powell 80.03 331 ⇓P **P 17 15 26.6 +0.1**
baz=80
B27A Peters Farms, 80.06 337 ⇓P **P 17 15 26.6 +0.2**
baz=80
ELK Elko 80.07 325 P **P 17 15 26.1 -0.8**
comp=Z,10nm,0.8s,baz=174,slow=1.5,SNR=45
NVAR Mina Array Bea 80.09 321 P **P 17 15 26.6 -0.4**
comp=Z,9.7nm,1.0s,baz=154,slow=6.4,SNR=18
D24A Glendive 80.09 335 ⇑P **P 17 15 27.0 +0.3**
baz=80
G20A Bridger 80.13 332 ⇑P **P 17 15 26.9 -0.1**
baz=80,SNR=36
F21A Absaloka Mine, 80.16 333 ⇓P **P 17 15 27.4 +0.4**
baz=80
A28A Rude Farm, Bot 80.16 338 ⇓P **P 17 15 27.0 +0.1**
baz=80
I17A Pilgrim Ck. 80.16 329 ⇓P **P 17 15 27.8 +0.5**
baz=80,SNR=51
E22A Miles City 80.17 334 ⇑P **P 17 15 26.8 -0.3**
baz=80
C25A Freed Ranch, W 80.19 336 ⇓P **P 17 15 27.5 +0.4**
baz=80
SCHQ Schefferville 80.24 360 P **P 17 15 26.8 -0.4**
comp=Z,6.2nm,0.9s,baz=197,slow=5.4,SNR=8.7
SCHQ LR LR 17 52 45.0
comp=Z,1µm,21.9s,baz=188,slow=37
SWZ Schweizer 80.30 115 *e*P **P 17 15 28.3 -0.2**
SWZ AMS AMS 17 48 47.7
comp=Z,4µm,15.9s
SWZ Schweizer 80.30 115 P **P 17 15 28.3 -0.2**
H18A Shoshone NF, C 80.34 330 ⇑P **P 17 15 28.1 -0.2**
baz=81,SNR=43
B26A Jensen Ranch, 80.38 337 ⇑P **P 17 15 28.8 +0.6**
baz=81
C24A Savage 80.48 335 P **P 17 15 28.9 +0.2**
baz=81
D23A Lindsay 80.48 334 ⇓P **P 17 15 29.0 +0.3**
baz=81
LAO LASA Array 80.49 334 *e*P **P 17 15 28.5 -0.3**
comp=Z,66nm,1.0s
RLMT Red Lodge 80.51 331 *e*P **P 17 15 28.7 -0.5**
comp=Z,45nm,1.1s
A27A Ledoux Ranch, 80.53 338 ⇓P **P 17 15 29.4 +0.6**
baz=81
H17A Grant Village 80.53 330 ⇓P **P 17 15 30.9 +1.5**
baz=81,SNR=6.9
H17A Grant Village 80.53 330 *e*P **P 17 15 30.5 +1.2**
comp=Z,21nm,1.1s
F20A Billings 80.57 332 ⇑P **P 17 15 29.2 -0.1**
baz=81
LKWY Lake 80.58 330 *e*P **P 17 15 31.6 +2.0**
LKWY pmax pmax
comp=Z,82nm,1.4s
LKWY Lake 80.58 330 *e*P **P 17 15 31.6 +2.0**
comp=Z,82nm,1.4s
B25A Knox Farm, Ray 80.62 336 ⇑P **P 17 15 29.6 +0.1**
baz=81
YFT Old Faithful 80.69 330 *e*P **P 17 15 32.5 +2.4**
comp=Z,54nm,1.2s
E21A Keefer Ranch, 80.71 333 ⇑P **P 17 15 29.7 -0.2**
baz=81
A26A Wade Farm, Ken 80.75 337 ⇑P **P 17 15 30.3 +0.2**
baz=81,SNR=6.6
WAKR Walker 80.79 321 *e*P **P 17 15 31.8 +1.0**
comp=Z,36nm,1.2s
YNR Norris Junctio 80.83 330 *e*P **P 17 15 32.4 +1.5**
comp=Z,65nm,1.4s
D22A Cohagen 80.84 334 ⇓P **P 17 15 30.8 +0.2**
baz=81
BMN Battle Mountai 80.90 323 *e*P **P 17 15 31.1 -0.1**
BMN pmax pmax
comp=Z,16nm,1.1s
BMN Battle Mountai 80.90 323 *e*P **P 17 15 31.1 -0.1**
comp=Z,16nm,1.1s
YMR Madison River 80.92 330 *e*P **P 17 15 32.3 +1.0**
comp=Z,150nm,1.3s
F19A Roth Farm, Mol 80.95 332 ⇑P **P 17 15 31.1 -0.2**
baz=81,SNR=22
C23A Lambert 80.99 335 ⇑P **P 17 15 31.5 +0.1**
baz=81,SNR=8.5
D21A La Casta Ranch 81.10 333 ⇓P **P 17 15 32.1 0.0**
baz=81,SNR=9.2
E20A Meyer Farm, Mu 81.12 332 ⇑P **P 17 15 32.4 +0.2**
baz=81,SNR=18
A25A Svangstu Ranch 81.17 337 ⇓P **P 17 15 32.7 +0.4**
baz=82,SNR=9.9
DGMT Dagmar 81.17 336 ⇓P **P 17 15 32.8 +0.5**
baz=82,SNR=17
DGMT Dagmar 81.17 336 *e*P **P 17 15 32.4 +0.1**
comp=Z,109nm,1.0s
DGMT LR LR
comp=Z,2µm,22.0s
GCMT Greycliff 81.21 331 *e*P **P 17 15 32.5 -0.3**
comp=Z,45nm,1.0s
C22A Vida 81.22 334 ⇑P **P 17 15 31.8 -0.8**
baz=82
QLMT Earthquake Lak 81.26 330 *e*P **P 17 15 34.5 +1.4**
comp=Z,4.4nm,1.1s
E19A Rath Farm, Rou 81.36 332 ⇑P **P 17 15 33.7 +0.2**
baz=82,SNR=30
LBTB Lobatse 81.39 114 *e*P **P 17 15 34.7 +0.4**
LBTB AMS AMS 17 46 14.4
comp=Z,4µm,21.6s
LBTB Lobatse 81.39 114 *e*P **P 17 15 34.4 +0.1**
LBTB pmax pmax
comp=Z,29nm,1.1s
LBTB Lobatse 81.39 114 *e*P **P 17 15 34.4 +0.1**
comp=Z,29nm,1.1s
B23A Brockton 81.46 335 ⇑P **P 17 15 34.4 +0.5**
baz=82,SNR=11
A24A Westby 81.48 336 ⇑P **P 17 15 34.1 +0.1**
baz=82,SNR=10
D20A Manuel Ranch, 81.59 333 ⇑P **P 17 15 34.6 0.0**
baz=82,SNR=18
B22A Reddig Ranch S 81.71 335 ⇑P **P 17 15 35.5 +0.3**
baz=82
HLID Hailey 81.72 327 ⇑P **P 17 15 36.1 +0.6**
baz=82,SNR=54
HLID Hailey 81.72 327 *e*P **P 17 15 36.1 +0.6**
comp=Z,80nm,1.1s
A23A Redstone 81.83 336 ⇓P **P 17 15 35.7 -0.1**
baz=82
MCMT McKenzie Canyo 81.91 329 *e*P **P 17 15 37.0 +0.4**
comp=Z,43nm,1.2s
D19A Cripps Ranch, 81.96 332 ⇓P **P 17 15 36.7 +0.1**
baz=82,SNR=15
BOZ Bozeman (W) 81.97 330 *e*P **P 17 15 36.6 -0.2**
BOZ pmax pmax
comp=Z,23nm,1.2s
BOZ MLR MLR
comp=Z,1µm,20.0s
BOZ Bozeman (W) 81.97 330 *e*P **P 17 15 36.6 -0.2**
comp=Z,23nm,1.2s
BOZ LR LR
comp=Z,1µm,20.0s
C20A Veseth Ranch, 82.03 333 ⇑P **P 17 15 36.6 -0.4**
baz=82,SNR=11
B21A Ellsworth Farm 82.21 334 ⇑P **P 17 15 38.0 +0.2**
baz=82
A22A Carney Farms, 82.25 335 ⇓P **P 17 15 38.1 0.0**
baz=82,SNR=14
MFID Camas Ranch 82.31 326 *e*P **P 17 15 39.1 +0.6**
comp=Z,34nm,1.3s
C19A Slack Wire Ran 82.48 333 ⇓P **P 17 15 39.0 -0.3**
baz=83,SNR=14
LRM Limekiln Ridge 82.48 330 *e*P **P 17 15 40.1 +0.5**
comp=Z,463nm,1.1s
B20A Solberg Farm, 82.62 334 ⇓P **P 17 15 39.7 -0.2**
baz=83,SNR=13
A21A Bergtoll Ranch 82.63 335 ⇑P **P 17 15 40.1 0.0**
baz=83
CRWM Crown Mines 82.87 116 *e*P P 17 15 38.3 -3.9
HRY Holter Researc 82.88 331 *e*P **P 17 15 42.1 +0.7**
comp=Z,38nm,1.1s
A20A Cobblestone Ra 82.93 334 ⇓P **P 17 15 41.3 -0.4**
baz=83,SNR=14
OBSV Observatory 82.94 116 *e*P **P 17 15 42.8 +0.3**
OBSV AMB AMB 17 15 45.1
comp=Z,32nm,5.7s
EGMT Eagleton 83.00 332 ⇓P **P 17 15 41.6 -0.4**
baz=83,SNR=9.5
EGMT Eagleton 83.00 332 *e*P **P 17 15 42.2 +0.2**
comp=Z,46nm,1.1s
EGMT LR LR
comp=Z,2µm,21.0s
B19A Brinkman Farms 83.00 333 ⇑P **P 17 15 41.7 -0.3**
baz=83
ERPM east rand prop 83.01 116 *e*P **P 17 15 42.9 0.0**
ERPM AMB AMB 17 15 46.6
comp=Z,34nm,4.0s
ERPM east rand prop 83.01 116 P **P 17 15 42.9 0.0**
comp=Z,34nm,4.0s

A19A	Klindworth Far	83.30	334	⇓P		P	17 15 43.6	+0.1
	baz=84,SNR=11							
SLR	Silverton	83.30	115	*e*P		P	17 15 43.6	-0.8
SLR				AMB		AMB	17 15 48.5	
	comp=Z,75nm,3.8s							
SLR				AMS		AMS	17 49 04.6	
	comp=Z,4μm,19.0s							
SLR	Silverton	83.30	115	P		P	17 15 43.6	-0.8
SLR				pmax		pmax		
	comp=Z,75nm,3.8s							
SLR	Silverton	83.30	115	P		P	17 15 43.6	-0.8
	comp=Z,75nm,3.8s							
PBDV	Barranco-do-Ve	83.48	43	*e*S		S	17 26 12.4	+8.5
MOD	Modoc Plateau	83.59	323	*e*P		P	17 15 45.7	+0.4
	comp=Z,45nm,1.3s							
PNCL	Nicolau / Gran	83.67	42	*e*S		S	17 26 22.3	+17
CHMT	Chamberlain Mo	83.67	330	*e*P		P	17 15 46.1	+0.5
	comp=Z,12nm,1.0s							
MESJ	Messejana	83.68	43	*e*P		P	17 15 46.3	+0.6
MESJ				AMS		AMS	17 50 08.0	
	comp=Z,2μm,18.2s							
MESJ	Messejana	83.68	43	*e*P		P	17 15 47.2	+1.6
	comp=Z,44nm,1.6s							
MESJ	Messejana	83.68	43	*e*P		P	17 15 46.2	+0.6
PVAQ	Vaqueiros	83.72	43	*e*S		S	17 26 21.0	+15
PVAQ	Vaqueiros	83.72	43	*e*LQ		LQ	17 38 14.9	
PVAQ				*e*LR		LR	17 44 01.9	
	comp=Z,3μm,20.0s							
PMAFR	Mafra	83.75	41	*e*S		S	17 26 27.2	+21
MSO	Missoula	83.92	330	⇑P		P	17 15 46.5	-0.3
	baz=84							
WDC	Whiskeytown Da	83.96	321	*e*P		P	17 15 45.3	-1.7
WDC				pmax		pmax		
	comp=Z,17nm,1.3s							
WDC	Whiskeytown Da	83.96	321	*e*P		P	17 15 45.2	-1.7
	comp=Z,17nm,1.3s							
SLMT	Seeley Lake	84.02	330	*e*P		P	17 15 47.8	+0.4
	comp=Z,45nm,1.2s							
BMO	Blue Mountains	84.08	326	*e*P		P	17 15 48.1	+0.4
	comp=Z,19nm,1.1s							
BMO				LR		LR		
	comp=Z,1μm,21.0s							
N02D	Trinity Center	84.31	321	⇑P		P	17 15 48.6	-0.3
	baz=84							
M04C	Macdoel	84.36	322	⇓P		P	17 15 49.2	0.0
	baz=85							
SWMT	Swartz Lake	84.45	330	*e*P		P	17 15 50.1	+0.7
	comp=Z,30nm,1.2s							
PMTG	Montargil	84.46	42	*e*P		P	17 15 52.1	+2.5
	comp=Z,161nm,1.7s							
PBAR	Barrancos	84.62	43	*e*S		S	17 26 25.9	+11
PESTR	Estremoz	84.71	42	*e*S		S	17 26 28.3	+12
YBMT	Yellow Bay	84.72	330	*e*P		P	17 15 51.3	+0.4
	comp=Z,22nm,1.0s							
JTMT	Jette	84.75	330	*e*P		P	17 15 50.9	-0.2
	comp=Z,11nm,0.9s							
PCAS	Casmilo, Conde	84.92	41	*e*P		P	17 15 53.5	+1.6
	comp=Z,153nm,1.8s							
PCAS	Casmilo, Conde	84.92	41	*e*S		S	17 26 28.9	+11
TAM	Tamanrasset	84.92	62	*e*P		P	17 15 52.4	-0.1
TAM				pmax		pmax		
	comp=Z,8.0nm,0.8s							
TAM	Tamanrasset	84.92	62	*e*P		P	17 15 52.4	-0.1
	comp=Z,8.4nm,0.8s							
BLMT	Blacktail Moun	84.99	330	*e*P		P	17 15 53.0	+0.7
	comp=Z,40nm,1.2s							
J05D	Fort Rock, OR	85.03	323	⇑P		P	17 15 53.5	+0.9
	baz=85							
BSMT	Bassoo Peak	85.06	330	*e*P		P	17 15 53.3	+0.6
	comp=Z,32nm,1.1s							
PMRV	Marv??o	85.19	42	*e*S		S	17 26 16.1	-4.7
PMRV	Marv??o	85.19	42	*e*LQ		LQ	17 38 46.5	
PMRV				*e*LR		LR	17 46 11.3	
	comp=Z,2μm,16.0s							
PINOR	Pine Mountain	85.20	324	*e*P		P	17 15 53.9	+0.8
	comp=Z,76nm,1.3s							
KTRM	Thompson Ridge	85.30	321	P		P	17 15 54.8	+0.8
PCBR	Castelo Branco	85.39	42	*e*P		P	17 15 55.9	+1.7
	comp=Z,66nm,1.7s							
J04D	Umpqua Nationa	85.48	323	⇑P		P	17 15 55.7	+0.8
	baz=86							
WALA	Waterton Lakes	85.57	331	*e*P		P	17 15 55.1	0.0
	comp=Z,0.7nm,1.0s							
DRV	Dumont d'Urvil	85.70	190	S		S	17 26 12.0	-13
DRV				SS		SS	17 31 48.0	-13
DRV				L		L	17 39 00.0	
DRV				R			17 44 00.0	
FFC	Flin Flon	85.70	340	*e*P		P	17 15 54.9	-0.5
FFC				pmax		pmax		
	comp=Z,15nm,1.1s							
FFC				MLR		MLR		
	comp=Z,3μm,22.0s							
FFC	Flin Flon	85.70	340	*e*P		P	17 15 54.9	-0.5
	comp=Z,15nm,1.1s							
FFC				LR		LR		
	comp=Z,3μm,22.0s							
PVIS	Viseu	85.70	41	*e*P		P	17 15 59.9	+4.1
	comp=Z,60nm,1.7s							
MTE	Manteigas	85.70	41	*e*P		P	17 15 56.8	+0.9
	comp=Z,129nm,1.8s							
MTE	Manteigas	85.70	41	*e*S		S	17 26 19.8	-6.2
MTE	Manteigas	85.70	41	*e*LQ		LQ	17 40 24.9	
MTE				*e*LR		LR	17 45 14.2	
	comp=Z,3μm,18.0s							
MTE	Manteigas	85.70	41	*e*P		P	17 15 56.4	+0.5
	comp=Z,78nm,1.3s							
I05D	Terrebonne, OR	85.80	324	⇓P		P	17 15 57.3	+1.0
	baz=86							
I04A	Tendick Farm,	86.01	323	⇑P		P	17 15 57.8	+0.5
	baz=86							
PVRL	Vila Real	86.16	40	*e*P		P	17 15 59.5	+1.4
	comp=Z,118nm,1.5s							
POLO	Lamas de Olo	86.17	40	*e*P		P	17 15 59.2	+1.0
	comp=Z,40nm,1.6s							
MSNA	Messina	86.20	113	*e*P		P	17 15 57.9	-1.0
MSNA				AMB		AMB	17 16 00.5	
	comp=Z,30nm,2.4s							
MSNA				AMS		AMS	17 49 44.2	
	comp=Z,3μm,22.3s							
MSNA	Messina	86.20	113	P		P	17 15 57.9	-1.0
	comp=Z,30nm,2.4s							
PGAV	Gavieira, Arco	86.27	40	*e*P		P	17 15 59.9	+1.2
	comp=Z,115nm,1.6s							
PGAV	Gavieira, Arco	86.27	40	*e*S		S	17 26 41.0	+9.5
PGAV	Gavieira, Arco	86.27	40	*e*LQ		LQ	17 40 14.8	
PGAV				*e*LR		LR	17 45 58.5	
	comp=Z,3μm,20.0s							
HAWA	Hanford	86.28	326	*e*P		P	17 15 59.2	+0.7
	comp=Z,67nm,1.2s							
BROR	Big Rock Looko	86.35	323	P		P	17 15 59.0	+0.1
G05D	Wamic, OR	86.40	325	⇓P		P	17 16 00.2	+1.1
	baz=87							
NEW	Newport	86.44	329	*e*P		P	17 15 57.6	-1.7
NEW				pmax		pmax		
	comp=Z,17nm,1.1s							
NEW	Newport	86.44	329	P		P	17 15 59.1	-0.2
	comp=Z,5.9nm,0.8s,baz=168,slow=2.9,SNR=8.4							
NEW	Newport	86.44	329	⇓P		P	17 15 59.5	+0.2
	baz=87							
NEW	Newport	86.44	329	*e*P		P	17 15 57.6	-1.7
	comp=Z,17nm,1.1s							
I03D	Drain, OR	86.46	323	⇑P		P	17 16 00.0	+0.6
	baz=87							
MVO	Moncorvo	86.49	41	*e*P		P	17 16 00.7	+0.9
	comp=Z,123nm,1.8s							
MVO	Moncorvo	86.49	41	*e*S		S	17 26 40.4	+6.8
MVO	Moncorvo	86.49	41	*e*LQ		LQ	17 39 24.1	
MVO				*e*LR		LR	17 44 52.3	
	comp=Z,3μm,18.0s							
OD2	Odessa Site #2	86.57	328	P		P	17 16 00.5	+0.6
MOPA	Mopani	86.81	114	*e*P		P	17 16 02.9	+1.0
MOPA				AMB		AMB	17 17 13.4	
	comp=Z,44nm,3.9s							
MOPA				AMS		AMS	17 52 44.5	
	comp=Z,2μm,14.9s							
MOPA	Mopani	86.81	114	P		P	17 16 02.9	+1.0
	comp=Z,44nm,3.9s							
PBRG	Braganca	87.06	40	*e*P		P	17 16 03.5	+1.0
	comp=Z,76nm,1.6s							
PAB	San Pablo	87.11	43	*e*P		P	17 16 03.3	+0.4
PAB				pmax		pmax		
	comp=Z,30nm,1.0s							
PAB	San Pablo	87.11	43	*e*P		P	17 16 03.3	+0.4
	comp=Z,30nm,1.0s							
SAW	Saint Andrews	87.12	327	P		P	17 16 02.9	+0.2
FCC	Fort Churchill	87.22	346	*e*P		P	17 16 02.0	-0.7
FCC	Fort Churchill	87.22	346	*e*P		P	17 16 02.0	-0.7
	comp=Z,1.4nm,1.0s							
ESDC	Sonseca Array	87.43	43	P		P	17 16 04.7	+0.3
	comp=Z,8.9nm,1.0s,baz=236,slow=4.6,SNR=14							
ESDC				LR		LR	17 51 47.6	
	comp=Z,2μm,21.8s,baz=235,slow=33							
ETW	Entiat	87.51	327	P		P	17 16 05.1	+0.4
EDM	Edmonton	88.47	334	*e*P		P	17 16 06.9	-2.0
EDM	Edmonton	88.47	334	*e*P		P	17 16 06.8	-2.0
JCW	Jim Creek	88.70	327	P		P	17 16 09.7	-0.4
CMW	Cultus Mountai	88.95	327	P		P	17 16 11.3	-0.1
CRZF	Crozet Islands	89.19	143	S		Sx	17 26 06.0	
CRZF				R			17 43 00.0	
FRB	Frobisher Bay	89.19	359	P		P	17 16 11.0	-1.0
	comp=Z,2.4nm,0.8s,baz=153,slow=5.8,SNR=5.3							
SJPF	Ste Jean	91.11	42	*e*P		P	17 16 22.7	+1.2
	comp=Z,105nm,1.4s							
SJPF	Ste Jean	91.11	42	*e*P		P	17 16 22.7	+1.2
SJPF				pmax		pmax		
	comp=Z,105nm,1.4s							
SJPF	Ste Jean	91.11	42	*e*P		P	17 16 22.7	+1.2
	comp=Z,105nm,1.4s							
ETSF	Etsaut	91.39	42	*e*P		P	17 16 24.0	+1.1
	comp=Z,114nm,1.4s							
ETSF	Etsaut	91.39	42	*e*P		P	17 16 24.0	+1.1
ETSF				pmax		pmax		
	comp=Z,114nm,1.4s							
ETSF	Etsaut	91.39	42	*e*P		P	17 16 24.0	+1.1
	comp=Z,114nm,1.4s							
EPF	Esparros	92.01	42	*e*P		P	17 16 26.6	+0.9
EPF	Esparros	92.01	42	*e*P		P	17 16 26.6	+0.9
EPF	Esparros	92.01	42	*e*P		P	17 16 26.6	+0.9
URZ	Urewera	92.73	225	LR		LR	17 50 23.6	
	comp=Z,1μm,18.8s,baz=184,slow=31							
MFF	Saint Martin d	93.72	39	*e*P		P	17 16 35.1	+1.7
	comp=Z,139nm,1.6s							
MFF	Saint Martin d	93.72	39	*e*P		P	17 16 35.1	+1.7
MFF				pmax		pmax		
	comp=Z,139nm,1.6s							
MFF	Saint Martin d	93.72	39	*e*P		P	17 16 35.1	+1.7
	comp=Z,139nm,1.6s							
KEST	Kesra	94.21	52	P		P	17 16 36.8	+0.7
	comp=Z,1.8nm,0.8s,baz=310,slow=7.6,SNR=3.8							
KEST				LR		LR	18 00 49.7	
	comp=Z,3μm,20.1s,baz=180,slow=37							
LDF	La Druitiere	94.84	38	*e*P		P	17 16 39.7	+1.1
	comp=Z,53nm,1.2s							
LDF	La Druitiere	94.84	38	*e*P		P	17 16 39.7	+1.1
LDF				pmax		pmax		
	comp=Z,53nm,1.2s							
LDF	La Druitiere	94.84	38	*e*P		P	17 16 39.7	+1.1
	comp=Z,53nm,1.2s							
VIVF	Saint-Julien-l	95.63	43	*e*P		P	17 16 43.5	+1.2
VIVF	Saint-Julien-l	95.63	43	*e*P		P	17 16 43.5	+1.2
VIVF	Saint-Julien-l	95.63	43	*e*P		P	17 16 43.5	+1.2
AVF	Avril sur Loir	95.84	40	*e*P		P	17 16 44.6	+1.4
	comp=Z,36nm,1.4s							
AVF	Avril sur Loir	95.84	40	*e*P		P	17 16 44.6	+1.4
AVF				pmax		pmax		
	comp=Z,36nm,1.4s							
AVF	Avril sur Loir	95.84	40	*e*P		P	17 16 44.6	+1.4
	comp=Z,36nm,1.4s							
YKA	Yellowknife Ar	95.86	340	P		P	17 16 42.0	-0.8
	comp=Z,2.7nm,0.8s,baz=132,slow=4.5,SNR=40							
YKA				PP		PP	17 20 35.5	-0.1
	comp=Z,0.8nm,0.9s,baz=141,slow=7.8,SNR=3.9							
PAF	Port-aux-Franc	95.95	153	S		S	17 27 52.0	-7.6
PAF	Port-aux-Franc	95.95	153	S		S	17 27 58.0	-1.6
PAF				SS		SS	17 34 27.0	-2.0
PAF				L		L	17 43 00.0	
PAF				R			17 47 00.0	
SMF	Signal de Mont	96.06	41	*e*P		P	17 16 45.8	+1.6
	comp=Z,44nm,1.2s							
SMF	Signal de Mont	96.06	41	*e*P		P	17 16 45.8	+1.6
SMF				pmax		pmax		
	comp=Z,44nm,1.2s							
SMF	Signal de Mont	96.06	41	*e*P		P	17 16 45.8	+1.6
	comp=Z,44nm,1.2s							
SSF	Saint Saulge	96.08	40	*e*P		P	17 16 45.4	+1.2
SSF	Saint Saulge	96.08	40	*e*P		P	17 16 45.4	+1.2
SSF	Saint Saulge	96.08	40	*e*P		P	17 16 45.4	+1.2
BORG	Borgarnes	96.78	18	PFAKE			17 17 00.0	+13
BORG				LR		LR		
	comp=Z,4μm,21.0s							
BNI	Bardonecchia	96.96	43	PFAKE			17 17 00.0	+12
BNI				LR		LR		
	comp=Z,4μm,20.0s							
ESK	Eskdalemuir	97.11	31	PFAKE			17 17 00.0	+11
ESK				LR		LR		
	comp=Z,2μm,20.0s							
LPL	La Plagne	97.22	43	*e*P		Pdif	17 16 51.0	+1.1
LPL	La Plagne	97.22	43	*e*P		Pdif	17 16 51.0	+1.1
LPL	La Plagne	97.22	43	*e*P		Pdif	17 16 51.0	+1.1
LPG	La Plagne	97.22	43	*e*P		Pdif	17 16 51.3	+1.3
LPG	La Plagne	97.22	43	*e*P		Pdif	17 16 51.3	+1.3
LPG	La Plagne	97.22	43	*e*P		Pdif	17 16 51.3	+1.3
HAU	Haudompre	98.21	40	*e*P		Pdif	17 16 55.2	+1.2
HAU				*e*R				
	comp=Z,3μm,21.0s							
HAU	Haudompre	98.21	40	*e*P		Pdif	17 16 55.2	+1.2
HAU	Haudompre	98.21	40	*e*P		Pdif	17 16 55.2	+1.2
GIVF	Givet	98.39	38	*e*P		Pdif	17 16 56.1	+1.5
GIVF	Givet	98.39	38	*e*P		Pdif	17 16 56.1	+1.5
GIVF	Givet	98.39	38	*e*P		Pdif	17 16 56.1	+1.5
ECH	Echery	98.79	41	PFAKE			17 17 10.0	+13
ECH				LR		LR		
	comp=Z,3μm,19.0s							
DLBC	Dease Lake	98.90	332	P		Pdif	17 16 59.9	+3.0
	comp=Z,3.6nm,0.8s,baz=133,slow=5.8,SNR=4.6							
CDF	Champ du Feu	98.95	40	*e*P		Pdif	17 16 58.7	+1.4
CDF	Champ du Feu	98.95	40	*e*P		Pdif	17 16 58.7	+1.4
CDF	Champ du Feu	98.95	40	*e*P		Pdif	17 16 58.7	+1.4
BFO	Black Forest	99.53	41	PFAKE			17 17 10.0	+10
BFO				LR		LR		
	comp=Z,3μm,20.0s							
CEL	Celeste	100.03	52	PFAKE			17 17 10.0	+7.7
CEL				LR		LR		
	comp=Z,5μm,22.0s							
AQU	L'Aquila	100.04	48	PFAKE			17 17 10.0	+7.7
AQU				LR		LR		
	comp=Z,3μm,21.0s							
CUC	Castrocucco	100.69	51	PFAKE			17 17 20.0	+15
CUC				LR		LR		
	comp=Z,3μm,20.0s							
ABPO	Ambohimpanom	101.85	118	PFAKE			17 17 20.0	+8.9
ABPO				LR		LR		
	comp=Z,2μm,21.0s							
GERES	GERESS Array B	102.96	42	Pdiff		Pdif	17 17 18.4	+3.2
	comp=Z,0.5nm,0.7s,baz=218,slow=7.4,SNR=3.5							
KHC	Kasperske Hory	103.01	42	AMS		AMS	18 00 00.0	
	comp=Z,3μm,21.6s							
CLL	Collm	103.56	39	*e*P		Pdif	17 17 22.0	+4.4
CLL				*e*			17 28 00.0	
CLL				MLR		MLR		
	comp=Z,2μm,19.3s							
CLL	Collm	103.56	39	*ep*Pdif		Pdif	17 17 22.0	+4.4
CLL				*e*			17 21 09.0	
CLL				*e*SKSac		SKSac	17 28 00.0	+5.4
CLL				*e*SKKSac		SKKSac	17 28 40.0	+3.6
CLL				*e*Sdif		Sdif	17 29 12.0	+8.7
CLL				*e*PS		PS	17 30 45.0	+0.3
CLL				*e*PPS		PPS	17 31 42.0	
CLL				*e*SS		SS	17 36 26.0	+8.7
CLL				*e*			17 39 18.0	
CLL				*e*SSS		SSS	17 40 24.0	
CLL				*e*			17 41 54.0	
CLL				*e*SSSS			17 43 36.0	
CLL				Lm		MLR	18 02 00.0	
	comp=N,800nm,19.8s							
CLL				Lm		MLR	18 02 00.0	
	comp=E,2μm,21.6s							
CLL				Lm		MLR	18 02 00.0	
	comp=Z,2μm,19.3s							
PRU	Pruhonice	103.93	41	AMS		AMS	18 03 00.0	
	comp=Z,3μm,21.4s							
TREC	Trest	104.22	42	AMS		AMS	18 01 20.0	
	comp=Z,2μm,20.8s							
DPC	Dobruska-Polom	105.12	41	AMS		AMS	18 01 40.0	
EGAK	Eagle	106.68	334	PFAKE			17 21 50.0	
EGAK				LR		LR		
	comp=Z,3μm,21.0s							
ILAR	Eielson Array	108.95	333	PP		PP	17 22 04.0	-10
	comp=Z,1.3nm,1.0s,baz=108,slow=5.8,SNR=8.0							
COLA	College	109.37	333	PFAKE			17 22 00.0	
COLA				LR		LR		
	comp=Z,1μm,20.0s							
CAN	Canberra	110.54	211	PFAKE			17 22 00.0	
CAN				LR		LR		
	comp=Z,1μm,21.0s							
CSS	Prodhromos	112.00	61	PFAKE			17 22 00.0	
CSS				LR		LR		
	comp=Z,567nm,22.0s							
ANTO	Ankara	112.93	56	PFAKE			17 22 10.0	
ANTO				LR		LR		
	comp=Z,2μm,20.0s							
APA	Apatity	117.34	25	*i* PKIKP		PKPdf	17 22 04.0	+2.5
APA				MLR		MLR		
	comp=Z,3μm,20.0s							
ANN	Anapa	117.35	51	*i* PKIKP		PKPdf	17 22 04.5	+2.3
ANN				pmax		pmax		
	comp=Z,41nm,1.0s							
OBN	Obninsk	118.16	39	⇑*e*PKIKP		PKPdf	17 22 03.6	+0.2
OBN				*e*			17 23 17.9	
OBN				*e*PPP		PPP	17 25 49.1	
OBN				pmax		pmax		
	comp=Z,33nm,2.3s							
OBN				MLR		MLR		
	comp=Z,1μm,20.0s							
VSR	Storozhevoye	119.36	44	*e*PKIKP		PKPdf	17 22 05.2	-0.7
VSR				pmax		pmax		
	comp=N,3.0nm,0.8s							
VSR				pmax		pmax		
	comp=Z,6.0nm,0.8s							
VSR				MLR		MLR		
	comp=N,810nm,19.0s							
VSR				MLR		MLR		
	comp=Z,1μm,19.0s							
VORD	Divnogorie	119.42	44	*e*PKIKP		PKPdf	17 22 05.1	-0.9
VORD				pmax		pmax		
	comp=N,3.0nm,1.0s							
VORD				pmax		pmax		
	comp=E,3.0nm,1.0s							
VORD				pmax		pmax		
	comp=Z,8.0nm,1.0s							
VORD				MLR		MLR		
	comp=Z,2μm,23.0s							
VORD				MLR		MLR		
	comp=N,210nm,20.0s							
VORD				MLR		MLR		
	comp=E,1μm,23.0s							
KLMR	Klimovskoe	119.97	33	*e*PKIKP		PKPdf	17 22 06.2	-0.5
KLMR				pmax		pmax		
	comp=Z,36nm,1.6s							
VRHR	Novokhopersk	120.90	44	*e*PKIKP		PKPdf	17 22 12.4	+3.6
VRHR				pmax		pmax		
	comp=N,7.0nm,0.8s							
VRHR				pmax		pmax		
	comp=E,8.0nm,0.8s							
VRHR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
VRHR				MLR		MLR		
	comp=N,230nm,20.0s							
VRHR				MLR		MLR		
	comp=E,640nm,20.0s							
VRHR				MLR		MLR		
	comp=Z,1μm,20.0s							
KIV	Kislovodsk	120.95	53	*i* PKIKP		PKPdf	17 22 10.4	+1.1
KIV				*e*PS		PS	17 33 32.3	+1.1
KIV				*e*SS		SS	17 40 14.2	+5.2
KIV				pmax		pmax		
	comp=Z,10.0nm,1.1s							
KIV				MLR		MLR		
	comp=Z,1μm,20.0s							
KBZ	Khabaz	121.08	53	PKP		PKPdf	17 22 11.1	+1.7
	comp=Z,3.8nm,0.9s,baz=280,slow=3.3,SNR=6.8							
PRGR	Permogore	122.87	32	PKIKP		PKPdf	17 22 14.3	+2.0
PRGR				pmax		pmax		
	comp=Z,7.0nm,0.8s							
CTAO	Charters Tower	124.35	218	PFAKE			17 22 30.0	+13
CTAO				LR		LR		
	comp=Z,1μm,21.0s							
AS31	Alice Springs	127.01	204	*e*PKPpre		PKPpre	17 22 17.4	
ASAR	Alice Springs	127.01	204	PKP		PKPdf	17 22 18.4	-3.2
	comp=Z,6.0nm,0.8s,baz=146,slow=2.0,SNR=46							
BILL	Bilibino	127.21	338	PFAKE			17 22 30.0	+10
BILL				LR		LR		
	comp=Z,929nm,21.0s							
DGAR	Diego Garcia	128.37	124	PFAKE			17 22 40.0	+16
DGAR				LR		LR		
	comp=Z,2μm,22.0s							
WB2	Warramunga Arr	130.22	206	*e*PKPdf		PKPdf	17 22 26.6	-1.2
WRA	Warramunga Arr	130.22	206	PKP		PKPdf	17 22 27.1	-0.7
	comp=Z,10.0nm,1.0s,baz=160,slow=1.7,SNR=40							
WRAB	Tennant Creek	130.23	206	*d* PKIKP		PKPdf	17 22 27.3	-0.5
WRAB				pmax		pmax		
	comp=Z,58nm,1.7s							
WRAB	Tennant Creek	130.23	206	*e*PKPdf		PKPdf	17 22 27.0	-0.8
ARU	Arti	130.39	37	*i* PKIKP		PKPdf	17 22 28.0	+1.2
ARU							17 24 39.6	
ARU	Arti	130.39	37	*e*PKPdf		PKPdf	17 22 27.4	+0.6
ARU				LR		LR		
	comp=Z,2μm,21.0s							
COEN	Coen	131.01	220	*e*PKPdf		PKPdf	17 22 29.5	+0.1
GEYT	Alibeck	132.15	61	PKP		PKPdf	17 22 29.9	-0.9
	comp=Z,2.4nm,0.9s,baz=98,slow=6.4,SNR=6.1							
ABKAR	Akbulak array	132.73	46	*e*PKPdf		PKPdf	17 22 32.9	+1.4
TIXI	Tiksi	133.23	353	⇑*i* PKIKP		PKPdf	17 22 31.6	-0.2
TIXI				pmax		pmax		
	comp=Z,12nm,2.5s							
TIXI	Tiksi	133.23	353	*e*PKPdf		PKPdf	17 22 31.1	-0.7
PETK	Petropavlovsk-	137.18	322	PKP		PKPdf	17 22 39.5	-0.2
	comp=Z,3.4nm,0.7s,baz=88,slow=7.4,SNR=5.9							
BRVK	Borovoye	137.90	38	⇓*i* PKIKP		PKPdf	17 22 42.3	+1.3
BRVK				pmax		pmax		
	comp=Z,15nm,2.5s							
BRVK	Borovoye	137.90	38	PFAKE			17 22 50.0	+9.0
BRVK				LR		LR		
	comp=Z,2μm,22.0s							
BVAR	Borovoye Array	137.97	38	PKP		PKPdf	17 22 41.6	+0.4
	comp=Z,3.2nm,0.7s,baz=294,slow=2.0,SNR=18							
COCO	West Island	139.01	155	PFAKE			17 23 00.0	+16
COCO				LR		LR		
	comp=Z,1μm,19.0s							
KKAR	Karatay Array	141.11	53	*e*PKHKP		PKPpre	17 22 41.9	
KKAR	Karatay Array	141.11	53	*e*PKPpre		PKPpre	17 22 41.9	
YAK	Yakutsk	142.09	348	*e*PKHKP		PKPpre	17 22 43.6	
YAK	Yakutsk	142.09	348	*e*PKPpre		PKPpre	17 22 43.6	
SOEI	Soe	143.16	198	*e*PKPpre		PKPpre	17 22 48.5	
NV

SNR=25
SRPI Serui, Papua 144.74 222 P **PKPdf 17 22 54.9 +0.4**
comp=Z,76nm,1.3s
KZA Kyzart 144.76 53 P **PKPdf 17 22 54.3 +0.1**
SNR=77
MMRI Maumere 144.76 195 P **PKPab 17 22 53.2 -0.1**
comp=Z,75nm,1.2s,comp=Z,938nm
MMRI Maumere 144.76 195 *e*PKPdf **PKPab 17 22 52.8 -0.5**
ZALV Zalesovo Beam 144.76 29 PKP **PKPdf 17 22 52.9 -0.4**
comp=Z,77nm,0.7s,baz=305,slow=4.1,SNR=253
TKM2 Tokmak 2 144.77 51 P **PKPdf 17 22 54.0 0.0**
SNR=34
TKM2 Tokmak 2 144.77 51 *e*PKIKP **PKPdf 17 22 53.8 -0.2**
TKM2 Tokmak 2 144.77 51 *e*PKPdf **PKPdf 17 22 53.8 -0.2**
BAKI Biak 145.35 223 P **PKPdf 17 22 57.8 +2.2**
comp=Z,99nm,1.4s
ULHL Ulahol 145.42 52 P **PKPab 17 22 56.2 +0.9**
SNR=152
ULHL Ulahol 145.42 52 *i* PKP2 **PKPab 17 22 56.2 +0.9**
IGBI Denpasar 145.61 183 P **PKPab 17 22 57.3 +0.9**
comp=Z,377nm,1.3s,comp=Z,5μm
DNP Denpasar 145.74 183 P **PKPab 17 22 58.2 +1.3**
comp=Z,377nm,1.2s
KSH Kashi 145.90 57 PKPbc **PKPdf 17 22 56.3 +0.4**
KSH sPKP 17 23 08.2
KSH PP **PP 17 26 18.7 +0.3**
KSH PKS **PKSdf 17 26 30.0 -1.4**
KSH SKKS 17 33 03.2
KSH PPMZ
comp=Z,200nm,5.1s
KSH LN
comp=Z,130nm,5.7s
KSH LE
comp=Z,290nm,7.5s
KSH LZ
comp=Z,960nm,23.6s
JAGI Jajag, Banyuwa 145.99 181 P **PKPbc 17 22 57.6 +0.2**
comp=Z,90nm,1.2s
JAGI Jajag, Banyuwa 145.99 181 *e*PKPdf **PKPdf 17 22 56.8 +0.1**
FAKI Fak Fak 146.14 215 *e*PKPdf **PKPbc 17 22 57.8 -0.1**
GMJI Gumukmas 146.19 180 P **PKPab 17 22 59.4 +0.8**
comp=Z,75nm,1.6s,comp=Z,1μm
SRBI Singaraja 146.33 183 P **PKPab 17 22 59.0 -0.1**
comp=Z,61nm,1.5s,comp=Z,1μm
UGM Wanagama 146.44 175 P **PKPab 17 23 01.4 +1.8**
comp=Z,124nm,0.8s
CISI Cisompet, Garu 146.47 170 *e*PKPdf **PKPbc 17 22 59.2 +0.3**
WOJI Wonogiri, Jawa 146.54 176 P **PKPbc 17 22 59.2 +0.2**
comp=Z,123nm,0.9s
ABJI Asem Bagus 146.66 182 P **PKPab 17 23 00.9 +0.5**
HYB Hyderabad 146.67 97 *i* PKP **PKPdf 17 22 58.0 +0.3**
KPJI Karang Pucung 146.85 172 P **PKPbc 17 23 00.2 +0.3**
comp=Z,69nm,1.0s,comp=Z,1μm
KMMI Kalianget 147.40 181 P **PKPab 17 23 02.7 -0.6**
GRJI Gresik 147.53 178 P **PKPab 17 23 03.0 -0.8**
MKAR Makanchi Array 147.63 41 PKPbc **PKPdf 17 22 59.2 +0.8**
comp=Z,18nm,0.7s,baz=306,slow=2.3,SNR=76
NDI New Delhi 147.80 77 *ex* **PKPbc 17 23 01.0 -1.2**
SMLA Simla 147.82 72 *i* x **PKPab 17 23 03.0 -1.7**
YUK Yuzh-Kuril'sk 147.97 313 *i* PKIKP **PKPdf 17 22 57.4 -1.6**
YUK *i* 17 26 30.6
YUK *i* PPP PPP 17 29 44.6
YUK *i* 17 30 07.6
YUK *i* SS SS 17 45 35.7 +2.3
YUK MLR MLR
comp=N,358nm,20.0s
YUK MLR MLR
comp=E,472nm,20.0s
YUK MLR MLR
comp=Z,789nm,20.0s
BLSI Bandar Lampung 148.09 165 P **PKPab 17 23 07.0 +0.9**
comp=Z,109nm,1.0s
LWLI Liwa 148.12 162 P **PKPab 17 23 06.3 0.0**
KLI Kotabumi 148.48 164 P **PKPab 17 23 07.3 -0.3**
comp=Z,70nm,1.0s
YSS Yuzh-Sakhalins 148.53 320 *e*PKP2 **PKPbc 17 23 03.0 -0.5**
MDSI Maura Dua 148.66 162 P **PKPbc 17 23 04.6 -0.2**
comp=Z,38nm,1.0s,comp=Z,2μm
KAPI Kappang 148.81 192 *e*PKPbc **PKPbc 17 23 05.3 +0.1**
LHSI Lahat 149.10 161 P **PKPbc 17 23 07.4 +1.4**
comp=Z,78nm,1.3s
ASAJ Asahikawa 150.05 315 PKPbc **PKPbc 17 23 07.4 0.0**
comp=Z,21nm,1.2s,baz=105,slow=5.6,SNR=2.7
ASAJ Asahikawa 150.05 315 *e*PKPbc **PKPbc 17 23 06.9 -0.5**
ERM Erimo 150.60 311 PFAKE 17 23 10.0 +1.2
ERM LR LR
comp=Z,629nm,21.0s
PDSI Padang 150.72 153 P **PKPbc 17 23 11.9 +1.9**
LUWI Luwuk 151.86 200 *e*PKPbc **PKPbc 17 23 13.2 +0.6**
MNSI Mandailing Nat 151.87 150 P **PKPbc 17 23 13.4 +0.8**
comp=Z,62nm,0.7s
WMQ Urumqi 152.43 43 *e*PKPbc **PKPdf 17 23 05.1 -1.1**
WMQ pPKP **PKPbc 17 23 11.0 -2.0**
WMQ PKPab **PKPab 17 23 25.1 +1.8**
WMQ PKS **PKSdf 17 26 38.2 -2.4**
WMQ PP **PP 17 26 57.9 +2.2**
WMQ SKS **SKSdf 17 30 07.0 -3.8**
WMQ SKKS **SKKSac 17 33 41.8 -1.8**
WMQ SS **SS 17 46 22.0 -1.0**
WMQ PPMZ
comp=Z,300nm,7.0s
WMQ LN
comp=Z,2μm,19.0s
WMQ LE
comp=Z,2μm,18.0s
WMQ LZ
comp=Z,2μm,23.0s
MOY Mondy 152.45 17 *e*PKIKP **PKPbc 17 23 13.8 +0.9**
MOY pmax pmax
comp=Z,106nm,2.4s
KLR Kul'dur 152.52 333 *e*PKIKP **PKPdf 17 23 03.0 -3.0**
KLR *e* 17 26 53.2
KLR pmax pmax
comp=Z,45nm,2.0s
IRK Irkutsk 152.65 12 *e*PKIKP **PKPdf 17 23 06.9 +0.8**
IRK pmax pmax
comp=Z,71nm,2.0s
TLY Talaya 153.06 13 *i* PKIKP **PKPdf 17 23 09.5 +2.7**
TLY pmax pmax
comp=Z,13nm,1.5s
PSI Prapat 153.30 146 PKPbc **PKPbc 17 23 13.6 -2.4**
comp=Z,3.5nm,0.4s,baz=213,slow=9.3,SNR=6.3
PSI PKPab **PKPab 17 23 27.0 -0.7**
comp=Z,15nm,0.9s,baz=188,slow=3.9,SNR=7.7
KCSI Kotacane, Aceh 153.32 143 P **PKPbc 17 23 16.6 +0.8**
KOLN Koldanda 153.38 79 *e*P **PKPdf 17 23 08.4 +0.2**
comp=Z,19nm,0.7s
DANN Dangsing 153.54 78 *e*P **PKPdf 17 23 09.6 +1.0**
comp=Z,70nm,0.8s
ZAK Zakamensk 154.20 15 *e*PKIKP **PKPdf 17 23 09.3 +0.8**
ZAK *e* 17 27 06.0
ZAK pmax pmax
comp=Z,7.0nm,1.8s
GKN Gorkha 154.31 79 *e*P **PKPdf 17 23 09.6 +0.1**
comp=Z,19nm,0.8s
DMN Daman 154.71 79 *e*P **PKPdf 17 23 10.8 +0.6**
comp=Z,30nm,0.9s
KKN Kakani 154.87 79 *e*P **PKPdf 17 23 11.3 +1.0**
PKIN Phulchoki 154.96 80 *e*P **PKPdf 17 23 11.0 +0.5**
comp=Z,63nm,1.5s
PKI Pulchoki 154.97 80 *e*P **PKPdf 17 23 10.9 +0.3**
comp=Z,91nm,1.6s
GUN Gumba 155.40 79 *e*P **PKPdf 17 23 11.7 +0.5**
comp=Z,129nm,1.6s
JIRN Jiri 155.67 79 *e*P **PKPdf 17 23 11.8 +0.2**
comp=Z,17nm,0.9s
KSM Kuching 155.70 173 *e*PKPab **PKPab 17 23 38.0 +0.3**
RAMN Ramite 156.00 81 *e*P **PKPdf 17 23 12.8 +0.9**
USRK Ussuriysk Ar. 156.17 325 PKPab **PKPab 17 23 38.4 -0.6**
comp=Z,3.6nm,0.9s,baz=31,slow=9.7,SNR=4.2
MJAR Matsushiro Arr 156.22 303 PKPbc PKPdf 17 23 21.9 +10
comp=Z,2.7nm,0.9s,baz=53,slow=1.8,SNR=4.8
MJAR PKPab **PKPab 17 23 37.5 -2.1**
comp=Z,4.3nm,1.0s,baz=80,slow=0.4,SNR=5.7
ODAN Odare 156.70 82 *e*P **PKPdf 17 23 13.6 +0.8**
comp=Z,60nm,1.5s
TAPN Taplejung 157.01 80 *e*P **PKPdf 17 23 14.1 +0.8**
comp=Z,78nm,1.7s
SONM Songino Array 157.27 12 PKP **PKPdf 17 23 12.7 -0.1**
comp=Z,1.9nm,1.1s,baz=211,slow=0.4,SNR=9.9
SONM PKPab **PKPab 17 23 44.1 +0.3**
comp=Z,3.6nm,0.7s,baz=321,slow=3.9,SNR=12
ULN Ulaanbaatar 157.36 11 *e*PKIKP **PKPdf 17 23 13.1 +0.2**
ULN Ulaanbaatar 157.36 11 *e*PKPdf **PKPdf 17 23 13.1 +0.2**
DAV Davao City (W) 158.07 214 PFAKE 17 23 30.0 +15
DAV LR LR
comp=Z,832nm,22.0s
CN2 Changchun 159.46 334 *e*PKP PKPdf 17 23 09.5 -5.8
CN2 PP **PP 17 27 33.9 -0.2**
CN2 PPMZ
comp=Z,200nm,8.0s
CN2 LN
comp=Z,600nm,20.0s
CN2 LE
comp=Z,700nm,20.0s
CN2 LZ
comp=Z,500nm,18.0s
LSA Lhasa 159.96 74 PKP **PKPdf 17 23 13.9 -3.1**
LSA Lhasa 159.96 74 *e*PKIKP **PKPdf 17 23 18.5 +1.5**
LSA Lhasa 159.96 74 *e*PKPdf **PKPdf 17 23 18.5 +1.5**
SHL Shillong 160.64 86 *e*P **PKPdf 17 23 19.0 +1.5**
GTA Gaotai 162.25 37 ⇓PKP **PKPdf 17 23 19.6 +0.9**
GTA pPKP **pPKPdf 17 23 25.9 -4.3**
GTA sPKP 17 23 29.1
GTA PKPab **PKPab 17 24 07.5 +1.7**
GTA PP **PP 17 27 53.7 +4.1**
GTA SKS **SKSdf 17 30 19.3 -1.7**
GTA SKKS **SKKSac 17 34 36.8 +1.1**
GTA SS **SS 17 48 09.4 +1.7**
GTA PPMZ
comp=Z,98nm,5.7s
GTA LN
comp=Z,770nm,19.9s
GTA LE
comp=Z,740nm,21.9s
GTA LZ
comp=Z,1μm,20.4s
KSRS Korea Array 162.98 317 PKP **PKPdf 17 23 19.7 +0.5**
comp=Z,1.5nm,0.8s,baz=235,slow=32,SNR=4.6
KSRS PKPab **PKPab 17 24 10.0 +1.1**
comp=Z,2.3nm,0.8s,baz=107,slow=3.0,SNR=3.0
KSAR Wonju Array Be 163.01 317 PKIKP **PKPdf 17 23 19.7 +0.4**
KSAR Wonju Array Be 163.01 317 PKP **PKPdf 17 23 19.7 +0.4**
KSAR PKPab **PKPab 17 24 10.0 +1.0**
CMAR Chiang Mai Arr 164.81 116 PKP **PKPdf 17 23 22.6 +1.0**
comp=Z,1.2nm,1.0s,baz=248,slow=2.6,SNR=9.2
CMAR PKPab **PKPab 17 24 18.1 +0.7**
comp=Z,1.7nm,0.9s,baz=249,slow=4.0,SNR=6.3
HHC Hu-ho-hao-te 164.86 5 *e*PKP **PKPdf 17 23 18.2 -2.8**
HHC pPKP **pPKPdf 17 23 29.0 -3.6**
HHC sPKP 17 23 32.6
HHC PP **PP 17 28 04.0 +1.5**
HHC SKS **SKSdf 17 30 17.2 -5.6**
HHC SS **SS 17 48 32.0 -1.2**
HHC PPMZ
comp=Z,310nm,6.2s
HHC LN
comp=Z,610nm,19.7s
HHC LE
comp=Z,530nm,17.3s
HHC LZ
comp=Z,930nm,17.3s
CHTO Chiang Mai 164.99 114 PFAKE 17 23 30.0 +8.3
CHTO LR LR
comp=Z,942nm,20.0s
BJT Baijiatuau 165.57 351 PFAKE 17 23 30.0 +8.5
BJT LR LR
comp=Z,1μm,19.0s
LZH Lanzhou 166.85 36 *e*PKP **PKPdf 17 23 24.0 +1.1**
LZH pPKP **pPKPdf 17 23 30.5 -3.9**
LZH sPKP 17 23 31.8
LZH PKS **PKSdf 17 26 55.0 -0.7**
LZH PP **PP 17 28 18.0 +4.3**
LZH SKS **SKSdf 17 30 25.1 +0.7**
LZH PPMZ
comp=Z,430nm,7.0s
LZH LN
comp=Z,2μm,19.0s
LZH LE
comp=Z,1μm,17.8s
LZH LZ
comp=Z,2μm,20.0s
CD2 Chengdu 170.10 56 *e*PKP **PKPdf 17 23 24.9 -0.1**
CD2 PKPab **PKPab 17 24 38.6 -2.0**
CD2 PP **PP 17 28 34.9 +4.1**
CD2 SKKS 17 35 15.1
CD2 SS **SS 17 49 30.1 +1.5**
CD2 PPMZ
comp=Z,210nm,10.4s
CD2 LN
comp=Z,2μm,20.9s
CD2 LE
comp=Z,1μm,19.9s
CD2 LZ
comp=Z,2μm,22.8s
XAN Xi'an 170.88 24 PKP **PKPdf 17 23 26.0 +0.6**
XAN pPKP **pPKPdf 17 23 34.0 -2.9**
SSE Sheshan 171.28 310 PKP **PKPdf 17 23 21.2 -4.4**
SSE LN
comp=Z,1μm,37.7s
SSE LE
comp=Z,690nm,37.1s
SSE LZ
comp=Z,1μm,28.3s
NJ2 Nanjing 172.08 324 *e*PKP **PKPdf 17 23 28.0 +2.1**
NJ2 PKPab **PKPab 17 24 50.1 +1.0**
NJ2 PP **PP 17 28 39.5 -0.3**
NJ2 PPMZ
comp=Z,580nm,7.4s
NJ2 LN
comp=Z,960nm,24.0s
NJ2 LE
comp=Z,950nm,18.6s
NJ2 LZ
comp=Z,930nm,19.9s
QIZ Qiongzhong 172.57 153 PKP **PKPdf 17 23 28.4 +1.9**
QIZ PP **PP 17 28 44.3 +2.4**
QIZ SS SS 17 49 57.3 +6.5
QIZ LZ
comp=Z,1μm,21.6s
GYA Guiyang 173.94 82 PKP **PKPdf 17 23 27.2 +0.2**
GYA PKPab **PKPab 17 24 59.4 +1.4**
GYA PKS **PKSdf 17 26 57.0 -2.5**
GYA PP **PP 17 28 51.8 +1.3**
GYA SKKS 17 35 35.4
GYA SS **SS 17 50 05.9 -1.6**
GYA PPMZ
comp=Z,180nm,8.5s
GYA LN
comp=Z,190nm,22.8s
GYA LE
comp=Z,170nm,22.4s
WHN Wuhan 175.13 350 PKP PKPdf 17 23 19.0 -8.1
WHN PP **PP 17 28 53.1 -0.9**

NIED ***08*** *17:08:00,36°.20N×137°.50E,h220km,Mw4.1 Best double couple: M0 1.48000×10^15 NP1:φs 271.00000°, δ47.00000°,λ-149.00000°. NP2:φs 159.00000°, δ68.00000°,λ-47.00000°.*
ISCJB ***08*** *17:08:12.1±0.3,36°.17N±0°.04×137°.47E±0°.05, h239km±2km,mb3.6/16,Error ellipse: s-maj=7.9km s-min=5.1km az=34.1*
IDC ***08*** *17:08:12.8±0.5,36°.12N×137°.45E,h234km±3km,mb3.4/15, mb1 3.5/18,mb1mx3.4/46,mbtmp3.9/18,Error ellipse: s-maj=13.1km s-min=10.6km az=115.0*
JMA ***08*** *17:08:12.7±0.1,36°.16N×137°.51E,h238km±1km,M3.9 Broadband fault plane solution: P waves. NP1: φs 160.00000°,δ69.00000°,λ-51.00000°. NP2: φs 274.00000°,δ43.00000°,λ-149.00000°. Principal axes: T Plg15.0000°, Azm223.0000°; N Plg36.0000°, Azm324.0000°; P Plg50.0000°, Azm114.0000°;*
ISC 08 17:08:12.9±0.6,36.16N±0°.05×137.47E±0°.05,h236km±5km, n43,σ0°73/59,mb3.8/16,4C-5D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.14**	**296**	P	**Pn**	**17 08 43.5**	**0.0**
JGN				S	**S**	**17 09 06.8**	**-0.6**
MAT	**Matsushiro**	**0.71**	**57**	P	**Pn**	**17 08 45.1**	**+0.2**
MAT				S	**S**	**17 09 10.2**	**+0.2**
MAT	**Matsushiro**	**0.71**	**57**	P	**Pn**	**17 08 45.2**	**+0.3**
MAT				S	**S**	**17 09 10.2**	**+0.2**
MJAR	**Matsushiro Arr**	**0.71**	**58**	P	**Pn**	**17 08 45.4**	**+0.5**
	75nm,0.3s,baz=243,slow=6.4,SNR=738						
MJAR				S	**S**	**17 09 10.4**	**+0.4**
	7.8nm,0.3s,baz=246,slow=9.4,SNR=17						
JKG	**Kaga**	**0.92**	**277**	⇓P	**Pn**	**17 08 46.2**	**+0.3**
JKG				*e*S	**S**	**17 09 12.4**	**+0.7**
JYN	**Shimob**	**1.10**	**127**	P	**Pn**	**17 08 46.7**	**-0.4**
JRY	**Ryogami san**	**1.17**	**97**	⇑P	**Pn**	**17 08 47.3**	**-0.2**
JRY				*e*S	**S**	**17 09 14.0**	**-0.5**
JSZ	**Suzu**	**1.28**	**356**	⇓P	**Pn**	**17 08 48.3**	**+0.1**
JSZ				S	**S**	**17 09 15.3**	**-0.6**
JOD2	**Odawara 2**	**1.60**	**124**	⇑P	**Pn**	**17 08 51.0**	**+0.3**
JOD2				*e*S	**S**	**17 09 21.4**	**+1.2**
JAG	**Ashikaga**	**1.63**	**80**	P	**Pn**	**17 08 50.2**	**-0.6**
JAG				*e*S	**S**	**17 09 19.0**	**-1.5**
JHG	**Hegura jima**	**1.74**	**346**	⇓P	**Pn**	**17 08 52.2**	**+0.5**
JHG				*e*S	**S**	**17 09 22.6**	**+0.3**
JIE	**Ise**	**1.87**	**200**	⇓P	**Pn**	**17 08 53.5**	**+0.4**
JIE				S	**S**	**17 09 24.4**	**-0.1**
JWT	**Wachi**	**1.90**	**243**	⇓P	**Pn**	**17 08 53.2**	**0.0**
JWT				*e*S	**S**	**17 09 24.1**	**-0.7**
JSD	**Sado**	**1.98**	**19**	⇑P	**Pn**	**17 08 54.1**	**+0.2**
JSD				S	**S**	**17 09 25.6**	**-0.5**
JNS	**Sasagawa**	**2.22**	**41**	P	**Pn**	**17 08 56.3**	**+0.1**
JNS				*e*S	**S**	**17 09 29.7**	**-0.6**
TK02	**Tokai 2**	**2.22**	**174**	P	**Pn**	**17 08 57.2**	**+1.0**
JWY	**Kouya**	**2.47**	**219**	P	**Pn**	**17 08 59.4**	**+0.4**
JWY				*e*S	**S**	**17 09 34.8**	**-0.3**
TTO1	**TONANKAI O.B.S**	**2.60**	**193**	P	**Pn**	**17 09 00.7**	**+0.8**
JFT	**Otama**	**2.67**	**59**	⇑P	**Pn**	**17 09 01.4**	**+0.5**
JWZ	**Kozaga**	**3.00**	**209**	P	**Pn**	**17 09 04.5**	**0.0**
JWZ				S	**S**	**17 09 44.0**	**-1.1**
JNU	**Nakatsue**	**6.22**	**243**	P	**Pn**	**17 09 43.7**	**+0.1**
	1.8nm,0.3s,baz=256,slow=14,SNR=16						
KSRS	**Korea Array**	**7.76**	**282**	P	Pn	17 10 08.7	+5.6
	0.4nm,0.3s,baz=98,slow=14,SNR=5.8						
ASAJ	**Asahikawa**	**8.86**	**25**	P	**Pn**	**17 10 14.3**	**-2.7**
	7.9nm,0.3s,baz=216,slow=13,SNR=110						
ASAJ				S	S	17 11 49.0	-8.0
	1.2nm,0.3s,baz=327,slow=28,SNR=3.9						
USRK	**Ussuriysk Ar.**	**9.05**	**334**	P	**Pn**	**17 10 20.4**	**+1.0**
	0.2nm,0.3s,baz=166,slow=13,SNR=5.1						
JCJ	**Chichijima**	**9.89**	**155**	P	Pn	17 10 24.9	-5.4
	16nm,0.3s,baz=125,slow=23,SNR=10.0						
JCJ				S	S	17 12 09.0	-13
	40nm,0.3s,baz=278,slow=22,SNR=12						
JOW	**Kunigami**	**12.16**	**223**	P	**Pn**	**17 10 58.3**	**-0.6**
	0.1nm,0.3s,baz=85,slow=22,SNR=4.1						
PETK	**Petropavlovsk-**	**22.11**	**34**	P	**P**	**17 12 47.5**	**-1.4**
	1.2nm,0.5s,baz=277,slow=12,SNR=5.9						
SONM	**Songino Array**	**25.69**	**307**	P	**P**	**17 13 21.1**	**-0.4**
	0.4nm,0.8s,baz=111,slow=7.9,SNR=3.0						
CMAR	**Chiang Mai Arr**	**38.20**	**253**	P	**P**	**17 15 09.6**	**-0.6**
	0.3nm,0.6s,baz=45,slow=8.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**40.17**	**313**	PcP	**PcP**	**17 17 24.9**	**-0.3**
	0.5nm,0.4s,baz=73,slow=5.0,SNR=3.4						
MKAR	**Makanchi Array**	**41.89**	**302**	P	**P**	**17 15 40.4**	**+0.2**
	0.4nm,0.6s,baz=85,slow=10,SNR=4.5						
MKAR				ScP	**ScP**	**17 20 57.3**	**-1.4**
	0.2nm,0.6s,baz=79,slow=3.9,SNR=3.1						
KURBB	**Kurchatov Arra**	**44.04**	**308**	P	**P**	**17 15 57.5**	**+0.2**
	2.3nm,0.8s,baz=86,slow=7.9,SNR=11						
BVAR	**Borovoye Array**	**48.81**	**312**	P	**P**	**17 16 34.4**	**+0.2**
	0.4nm,0.4s,baz=99,slow=8.3,SNR=7.8						
BVAR				PcP	**PcP**	**17 17 54.3**	**-0.7**
	0.3nm,0.6s,baz=90,slow=1.4,SNR=2.8						
ILAR	**Eielson Array**	**51.92**	**32**	P	**P**	**17 16 58.1**	**+0.9**
	1.0nm,0.7s,baz=266,slow=5.1,SNR=15						
WRA	**Warramunga Arr**	**55.88**	**184**	P	**P**	**17 17 25.7**	**-0.6**
	4.7nm,0.3s,baz=359,slow=7.7,SNR=111						
ASAR	**Alice Springs**	**59.60**	**184**	P	**P**	**17 17 51.9**	**-0.3**
	0.9nm,0.4s,baz=358,slow=5.5,SNR=66						
RES	**Resolute Bay**	**64.21**	**14**	P	**P**	**17 18 21.9**	**-0.2**
	1.4nm,0.7s,baz=251,slow=4.9,SNR=5.0						
YKA	**Yellowknife Ar**	**66.13**	**29**	P	**P**	**17 18 34.9**	**+0.3**
	0.2nm,0.4s,baz=303,slow=5.6,SNR=4.8						
FINES	**FINESS Array B**	**68.07**	**331**	P	**P**	**17 18 47.0**	**+0.2**
	2.6nm,0.9s,baz=57,slow=5.1,SNR=6.7						
NVAR	**Mina Array Bea**	**78.03**	**51**	P	**P**	**17 19 46.6**	**+0.9**
	1.1nm,0.5s,baz=270,slow=4.5,SNR=3.9						
FRB	**Frobisher Bay**	**78.30**	**11**	P	**P**	**17 19 47.0**	**+0.5**
	3.3nm,0.8s,baz=21,slow=8.6,SNR=3.4						
SCHQ	**Schefferville**	**86.99**	**14**	P	**P**	**17 20 31.7**	**+0.4**
	3.5nm,1.0s,baz=254,slow=13,SNR=3.6						
TXAR	**Lajitas Array**	**93.14**	**50**	P	**P**	**17 21 01.7**	**+1.1**
	1.0nm,0.8s,baz=5.7,slow=0.9,SNR=3.7						

IDC ***08*** *17:15:12.6±1.2,37°.88S×74°.44W,h0km,mb4.1/6, mb1 4.2/7,mb1mx4.0/33,mbtmp4.1/7,ML3.3/2,Error ellipse: s-maj=38.1km s-min=22.7km az=87.0*
ISCJB ***08*** *17:15:16.2±1.1,37°.8S±0°.1×74°.3W±0°.2,h33km,mb4.1/6, Error ellipse: s-maj=26.3km s-min=15.6km az=176.0*
ISC 08 17:15:18.1±1.2,37.8S±0°.1×74.3W±0°.2,h35km,n11, σ1°22/8,mb4.1/6,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.12**	**136**	P	**Pn**	**17 16 19.2**	**+0.6**
	0.8nm,0.3s,baz=296,slow=11,SNR=9.8						
PLCA				Sn	Sn	17 17 15.1	+10
	4.4nm,0.3s,baz=259,slow=12,SNR=4.8						
CFAA	**Coronel Fontan**	**7.95**	**41**	Pn	**Pn**	**17 17 10.0**	**-1.2**
	0.1nm,0.3s,baz=194,slow=18,SNR=3.7						
CFAA				Sn	Sn	17 18 24.7	-15
	1.4nm,0.3s,baz=41,slow=14,SNR=8.0						
LPAZ	**La Paz**	**22.12**	**16**	P	**P**	**17 20 12.7**	**+1.4**
	2.4nm,0.8s,baz=238,slow=9.5,SNR=2.4						
QSPA	**South Pole Qui**	**52.43**	**180**	P	**P**	**17 24 26.3**	**-0.5**
	4.6nm,0.9s,baz=204,slow=1.5,SNR=10.0						
TXAR	**Lajitas Array**	**72.24**	**333**	P	**P**	**17 26 39.6**	**-0.1**
	0.7nm,0.7s,baz=159,slow=8.2,SNR=5.3						
DBIC	**Dimbokro**	**78.12**	**72**	P	**P**	**17 27 15.2**	**+1.3**
	3.5nm,0.6s,baz=188,slow=3.7,SNR=4.3						
BOSA	**Boshof**	**79.91**	**118**	P	**P**	**17 27 22.5**	**-1.2**
	3.2nm,0.9s,baz=248,slow=9.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**87.21**	**71**	P	**P**	**17 28 01.1**	**+0.1**
	0.6nm,0.7s,baz=217,slow=5.0,SNR=2.9						
H11S2	**WAKE ISLAND Hyl**	**23.83**	**268**	T	T	19 49 20.5	
	baz=118,slow=74,SNR=8.5						
H11S1	**WAKE ISLAND Hyl**	**23.85**	**268**	T	T	19 49 17.5	
	baz=212,slow=74,SNR=7.2						
H11S3	**WAKE ISLAND Hyl**	**23.85**	**268**	T	T	19 50 02.2	
	SNR=7.8						

DJA 08 17:17:11.3±0.5,1°.S±3°.×12°.8E±°,h10km,M3.8/5,mb4.8/1, mB4.8/1,MLv3.3/5,Mw(mB)4.1/1,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.50**	**331**	P	Pn	17 17 26.1	+1.6
TNTI	**Ternate**	**1.88**	**349**	P	Pn	17 17 42.8	-0.7
SANI	**Sanana**	**2.00**	**241**	P	Pn	17 17 42.8	-2.4
SANI				S	Sb	17 18 12.6	-0.1
NLAI	**Namlea**	**2.24**	**197**	P	Pn	17 17 46.8	-1.7
MSAI	**Masohi**	**2.54**	**152**	P	Pn	17 17 54.7	+2.0
MSAI				S	Sb	17 18 27.2	-1.3
APSI	**Ampana**	**6.09**	**272**	P	Pn	17 18 42.5	+1.0

ISCJB ***08*** *17:21:52.1±0.7,67°.07N±0°.02×20°.77E±0°.10,h0km,Error ellipse: s-maj=5.4km s-min=3.3km az=174.9*
CSEM ***08*** *17:21:54.7±0.4,67°.12N×20°.78E,h2km,ML1.9,Error ellipse: s-maj=6.7km s-min=4.0km az=74.0,Mining explosion.*
HEL ***08*** *17:21:55.7±0.3,67°.10N×20°.57E,h0km,ML1.9,Explosion*
NAO ***08*** *17:21:56.6±1.5,67°.11N×21°.06E,ML2.1*
BER ***08*** *17:21:58.5±3.6,67°.18N×20°.63E,h0km,ML1.9, ML2.1(NAO),Suspected explosion*
ISC 08 17:21:55.3±0.9,67.10N±0°.03×20.59E±0°.04,h0km,n30, σ1°00/45,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEF	**Hetta**	**1.75**	**40**	PG	**Pn**	**17 22 27.0**	**+0.1**
HEF				SG	**Sn**	**17 22 49.4**	**-0.6**
HEF				MSG		17 22 49.4	
	comp=Z,3.8nm,0.2s						
HEF	**Hetta**	**1.75**	**40**	Pg	**Pn**	**17 22 27.0**	**+0.1**
HEF				Sg	**Sn**	**17 22 49.4**	**-0.6**
KIF	**Kilpisjarvi**	**1.91**	**2**	PG	**Pb**	**17 22 30.7**	**-0.3**
KIF				SG	**Sg**	**17 22 56.4**	**-0.2**
KIF				MSG		17 22 56.4	
	comp=Z,3.9nm,0.2s						
KIF	**Kilpisjarvi**	**1.91**	**2**	Pg	**Pb**	**17 22 30.7**	**-0.3**
KIF				Sg	**Sg**	**17 22 56.4**	**-0.2**
KTK1	**Kautokeino**	**2.16**	**26**	*e*P	**Pb**	**17 22 34.6**	**-0.6**

KTK1				*e*Sg	**Sb**	**17 23 02.4**	**-0.1**
KTK1				IAML		17 23 04.2	
	comp=N,18nm,0.4s						
KTK1	**Kautokeino**	**2.16**	**26**	*e*P	**Pb**	**17 22 34.7**	**-0.6**
	SNR=50						
KTK1				*e*Sg	**Sb**	**17 23 02.4**	**-0.1**
	SNR=90						
RNF	**Rovaniemi**	**2.20**	**101**	PG	**Pb**	**17 22 35.3**	**-0.6**
RNF				SG	**Sb**	**17 23 04.2**	**+0.6**
RNF				MSG		17 23 04.2	
	comp=Z,22nm,0.3s						
RNF	**Rovaniemi**	**2.20**	**101**	Pg	**Pb**	**17 22 35.3**	**-0.6**
RNF				Sg	**Sb**	**17 23 04.2**	**+0.6**
SGF	**Sodankyl**	**2.33**	**79**	PG	**Pb**	**17 22 37.4**	**-0.7**
	baz=269						
SGF				SG	**Sb**	**17 23 07.4**	**0.0**
SGF				MSG		17 23 07.4	
	comp=Z,18nm,0.3s						
SGF	**Sodankyl**	**2.33**	**79**	Pg	**Pb**	**17 22 37.4**	**-0.7**
SGF				Sg	**Sb**	**17 23 07.4**	**0.0**
TRO	**Tromso**	**2.62**	**347**	*e*Sg	**Sb**	**17 23 15.4**	**-0.2**
TRO	**Tromso**	**2.62**	**347**	*e*Sg	**Sb**	**17 23 15.4**	**-0.2**
	SNR=90						
OUL	**Oulu**	**2.96**	**131**	SG	**Sg**	**17 23 28.8**	**-1.5**
OUL				MSG		17 23 28.8	
	comp=Z,1.7nm,0.3s						
OUL	**Oulu**	**2.96**	**131**	Sg	**Sg**	**17 23 28.8**	**-1.5**
ARA0	**ARCESS Array S**	**3.05**	**34**	Pn	**Pn**	**17 22 44.5**	**-0.2**
	baz=220,slow=16						
ARA0				Sn	**Sn**	**17 23 21.9**	**+0.1**
	baz=210,slow=28						
ARA0	**ARCESS Array S**	**3.05**	**34**	Pn	**Pn**	**17 22 44.5**	**-0.2**
	baz=220,slow=16						
ARA0				Sn	**Sn**	**17 23 21.9**	**+0.1**
	baz=210,slow=28						
ARA0	**ARCESS Array S**	**3.05**	**34**	Pn	**Pn**	**17 22 44.5**	**-0.2**
	SNR=50						
ARA0				Sn	**Sn**	**17 23 22.0**	**+0.1**
	SNR=50						
VRF	**Varrio**	**3.54**	**75**	SG	**Sb**	**17 23 43.6**	**+1.5**
VRF				MSG		17 23 43.6	
	comp=Z,4.2nm,0.2s						
KEV	**Kevo**	**3.56**	**39**	PG	**Pb**	**17 23 00.8**	**+1.7**
KEV				SN	**Sn**	**17 23 35.8**	**+1.3**
KEV				MSG		17 23 35.8	
	comp=Z,4.5nm,0.2s						
KEV	**Kevo**	**3.56**	**39**	Pg	**Pb**	**17 23 00.8**	**+1.7**
MSF	**Maaselka**	**3.59**	**106**	PB	Pb	17 22 56.3	-3.3
MSF				SG	**Sb**	**17 23 47.2**	**+3.6**
MSF				MSG		17 23 47.2	
	comp=Z,2.0nm,0.3s						
KU6	**Riekki**	**3.87**	**102**	PN	**Pn**	**17 22 57.3**	**+1.4**
KU6				SG	**Sg**	**17 23 56.8**	**-2.6**
VAF	**Ylistaro**	**4.17**	**167**	SG	**Sg**	**17 24 09.3**	**+0.2**
VAF				MSG		17 24 09.3	
	comp=Z,0.5nm,0.2s						
VAF	**Ylistaro**	**4.17**	**167**	Sg	**Sg**	**17 24 09.3**	**+0.2**
FIA0	**FINESS Array S**	**6.16**	**155**	Sn	**Sn**	**17 24 37.8**	**-0.7**
	baz=346,slow=18						
FIA0				Lg	Lg	17 25 08.6	
	baz=344,slow=22						
FIA0	**FINESS Array S**	**6.16**	**155**	Sn	**Sn**	**17 24 37.8**	**-0.7**
	SNR=50						
HFS	**Hagfors**	**7.64**	**207**	Sn	**Sn**	**17 25 14.5**	**-0.3**
	baz=20,slow=22						
HFS				Lg	Lg	17 25 56.0	
	baz=35,slow=28						
HFS	**Hagfors**	**7.64**	**207**	Sn	**Sn**	**17 25 14.5**	**-0.3**
	baz=20,slow=22						
HFS				Lg	Lg	17 25 56.0	
	baz=35,slow=28						
HFS	**Hagfors**	**7.64**	**207**	Sn	**Sn**	**17 25 14.5**	**-0.3**
	SNR=50						

NIED ***08*** *17:22:00,20.°30N×122.°10E,h35km,Mw4.9 Best double couple: M0=2.87000×10^16 NP1:φs=164.00000°,δ31.00000°, λ-17.00000°. NP2:φs=269.00000°,δ81.00000°, λ-120.00000°.*
MAN ***08*** *17:22:03,20.°13N×122.°02E,h11km,MS5.1*
MAN INTENSITY V -UYUGAN BATANES; INTENSITY IV - SABTANG & BASCO BATANES.
ISCJB ***08*** *17:22:05.6±0.8,20.°28N±0.°02×122.°19E±0.°03,h16km±6km, mb4.7/93,MS4.2/13,Error ellipse: s-maj=4.5km s-min=2.3km az=20.7*
NEIC ***08*** *17:22:05.3±2.5,20.°19N×122.°09E,h9km±15km,mb4.8/35, Error ellipse: s-maj=7.5km s-min=5.2km az=102.0*
NEIC Felt [V PIVS] at Uyugan and [IV PIVS] at Basco and Sabtang.
IDC ***08*** *17:22:07.8±2.2,20.°13N×122.°07E,h26km±13km,mb4.5/23, mb1 4.6/27,mb1mx4.6/32,mbtmp4.7/27,ML4.2/4,MS4.0/11, Ms1 4.0/11,ms1mx3.8/37,Error ellipse: s-maj=14.7km s-min=12.9km az=121.0*
BJI ***08*** *17:22:07.2,20.°49N×121.°92E,h10km,mB4.9/33,mb4.5/45, ML4.2/3,Ms4.6/48,Ms7 4.3/42*
MOS ***08*** *17:22:07.1±1.4,20.°20N×122.°15E,h33km,mb5.0/33,Error ellipse: s-maj=8.9km s-min=5.3km az=107.5*
BKK ***08*** *17:22:07.6±0.5,20.°N±4.°×12.°3E±.°,h10km,M4.8/25, mB4.8/9,mb4.8/25,MLv5.8/1,Mw(mB)4.1/9*
JMA ***08*** *17:22:08.4±0.3,20.°32N×122.°14E,h70km,M4.9*
DJA ***08*** *17:22:13.6±1.4,20.°N±14.°×12.°2E±1.°3,h10km,M4.8/20, mB5.3/11,mb5.0/20,Mw(mB)4.7/11*

ISC 08 17:22:08.6±0.7,**20.°24N**±0.°03×**122.°14E**±0.°04,**h27**km±4km, **n286**,σ1§64/302,**mb4.8**/93,**MS4.1**/13,**18C-21D**,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.39**	**217**	⇓*i*P	**Pn**	**17 22 43.2**	**-2.8**
PIP				*e*S	**Sn**	**17 23 14.7**	**+0.2**
CVP	**Callao Caves**	**2.55**	**187**	⇑*i*P	**Pn**	**17 22 46.7**	**-1.4**
CVP				*i* S	**Sn**	**17 23 17.3**	**-1.0**
TWG	**Pinlang**	**2.75**	**339**	*e*P	Pn	17 22 47.6	-3.4
SIPP	**Brgy, Tapao**	**2.80**	**215**	⇑*e*P	**Pn**	**17 22 50.8**	**-0.9**
SIPP				*e*S	**Sb**	**17 23 33.0**	**+1.0**
YULB	**Yu-li**	**3.23**	**346**	*e*P	**Pn**	**17 22 55.1**	**-2.5**
NACB	**Ninganchiao**	**3.94**	**353**	*e*P	**Pn**	**17 23 04.9**	**-2.5**
HATJ	**Hateruma jima**	**4.10**	**22**	P	**Pn**	**17 23 08.8**	**-0.7**
HATJ				S	**Sn**	**17 23 55.0**	**-1.5**
BCPH	**Baguio City Da**	**4.12**	**201**	⇑*i*P	**Pn**	**17 23 08.7**	**-1.3**
BCPH				*i* S	**Sn**	**17 23 58.8**	**+1.4**
JYNG	**Yonagunijimaku**	**4.25**	**10**	P	**Pn**	**17 23 11.4**	**-0.2**
JYNG				S	**Sn**	**17 23 59.6**	**-0.8**
YOJ	**Yonaguni jima**	**4.27**	**11**	P	**Pn**	**17 23 11.7**	**-0.2**
YOJ				S	**Sn**	**17 24 00.0**	**-0.9**
YOJ	**Yonaguni jima**	**4.27**	**11**	*e*P	**Pn**	**17 23 11.6**	**-0.3**
IRIF	**Iriomote-Funau**	**4.33**	**20**	P	**Pn**	**17 23 11.8**	**-0.9**
IRIF				S	**Sn**	**17 24 00.7**	**-1.6**
JKRS	**Kuro-shima**	**4.33**	**23**	P	**Pn**	**17 23 12.2**	**-0.6**
JKRS				S	**Sn**	**17 24 00.5**	**-1.9**
YHNB	**Yeheng**	**4.46**	**351**	*e*P	**Pn**	**17 23 14.0**	**-0.5**
JIJ	**Ishigaki jima**	**4.50**	**24**	P	**Pn**	**17 23 14.0**	**-1.0**
JIJ				S	**Sn**	**17 24 04.1**	**-2.4**
TATO	**Taipei**	**4.75**	**353**	*e*P	**Pn**	**17 23 18.8**	**+0.3**
PCPH	**Palayan**	**4.76**	**192**	⇑*e*P	**Pn**	**17 23 18.5**	**-0.1**
PCPH				*e*S	**Sn**	**17 24 14.5**	**+1.5**
JISG	**Ishigakijimahi**	**4.76**	**25**	P	**Pn**	**17 23 17.6**	**-1.1**
JISG				S	**Sn**	**17 24 11.1**	**-1.9**
JTJ	**Tarama**	**4.98**	**28**	P	**Pn**	**17 23 21.7**	**+0.1**
JTJ				S	**Sn**	**17 24 16.8**	**-1.4**
JIRB	**Irabujima**	**5.35**	**31**	P	**Pn**	**17 23 26.7**	**-0.1**
JIRB				*e*S	**Sn**	**17 24 26.4**	**-1.2**
JMJ	**Miyako jima 2**	**5.40**	**32**	P	**Pn**	**17 23 28.2**	**+0.8**
JOGS	**Gusukube**	**5.41**	**33**	P	**Pn**	**17 23 28.1**	**+0.5**
JOGS				*e*S	**Sn**	**17 24 28.2**	**-0.9**
JIKM	**Ikemajima**	**5.47**	**31**	P	**Pn**	**17 23 28.4**	**0.0**
QZH	**Quanzhou**	**5.71**	**326**	Pn	**Pn**	**17 23 29.7**	**-2.0**
QZH				Sn	Sn	17 24 27.5	-8.9
QZH				SMN			
	290nm,0.9s						
QZH				SME			
	470nm,0.8s						
QZH				LN			
	4μm,10.3s						
QZH				LE			
	4μm,11.5s						
QZH				LZ			
	5μm,12.4s						
TGY	**Tagaytay City**	**6.22**	**191**	Pn	**Pn**	**17 23 39.8**	**+1.1**
	31nm,0.3s,baz=5.7,slow=5.2,SNR=8.8						
TGY				Sn	**Sn**	**17 24 49.0**	**0.0**
	baz=359,slow=17,SNR=1.9						
TGY	**Tagaytay City**	**6.22**	**191**	⇑*i*P	Pn	17 23 41.5	+2.7
GQP	**Guinayangan**	**6.31**	**177**	⇓*e*P	**Pn**	**17 23 40.4**	**+0.4**
PVCP	**Virac**	**6.89**	**163**	⇓*e*P	**Pn**	**17 23 48.0**	**+0.2**
JKE	**Kume jima 2**	**7.41**	**34**	P	**Pn**	**17 23 54.6**	**-0.4**
JNTH	**Nagotoyohara**	**8.26**	**40**	P	**Pn**	**17 24 06.1**	**-0.5**
JIH	**Iheya**	**8.61**	**37**	P	**Pn**	**17 24 10.4**	**-1.1**
JOW	**Kunigami**	**8.64**	**39**	P	**Pn**	**17 24 11.2**	**-0.7**
JOW	**Kunigami**	**8.64**	**39**	Pn	**Pn**	**17 24 11.3**	**-0.6**
	2.6nm,0.3s,baz=190,slow=12,SNR=33						
JOW	**Kunigami**	**8.64**	**39**	*e*P	**Pn**	**17 24 11.0**	**-0.9**
	59nm,0.6s						
JOKE	**Okinoerabujima**	**9.21**	**38**	P	**Pn**	**17 24 18.2**	**-1.5**
JTK	**Tokunoshima**	**9.75**	**38**	P	**Pn**	**17 24 25.2**	**-1.9**
JAMN	**Amaminishikomi**	**10.22**	**37**	P	**Pn**	**17 24 31.6**	**-2.0**
JAM	**Amami Oshima**	**10.60**	**38**	P	**Pn**	**17 24 37.0**	**-1.8**
QIZ	**Qiongzhong**	**11.65**	**266**	P	**Pn**	**17 24 50.9**	**-2.3**
QIZ				S	**Sn**	**17 27 01.6**	**-0.9**
QIZ				PMZ			
	22nm,2.1s						
QIZ				LN			
	2μm,13.8s						
QIZ				LZ			
	1μm,14.9s						
QIZ	**Qiongzhong**	**11.65**	**266**	*e*P	**Pn**	**17 24 50.2**	**-3.0**
NJ2	**Nanjing**	**12.12**	**347**	*e*P	**Pn**	**17 24 59.6**	**0.0**
NJ2				S	**Sn**	**17 27 18.5**	**+4.6**
NJ2				PMZ			
	30nm,0.8s						
NJ2				LN			
	1μm,11.8s						
NJ2				LE			
	950nm,12.4s						
NJ2				LZ			
	1μm,12.5s						
WHN	**Wuhan**	**12.43**	**327**	⇑P	**Pn**	**17 25 02.5**	**-1.3**
WHN				LN			
	2μm,10.4s						
WHN				LE			
	4μm,11.9s						
WHN				LZ			
	3μm,10.1s						
CTBH	**Cotabato--PC H**	**13.11**	**171**	⇓*i*P	**P**	**17 25 25.7**	**+2.6**
KDM	**Kudat**	**14.21**	**202**	⇓P	P	17 25 32.0	-3.3
JNU	**Nakatsue**	**15.01**	**29**	P	**P**	**17 25 47.5**	**+3.4**
JNU	**Nakatsue**	**15.01**	**29**	Pn	**Pn**	**17 25 38.6**	**-0.4**
	0.8nm,0.3s,baz=355,slow=6.7,SNR=6.8						
JNU	**Nakatsue**	**15.01**	**29**	*e*P	**Pn**	**17 25 38.1**	**-0.8**
	51nm,0.9s						
KKM	**Kota Kinabalu**	**15.24**	**203**	⇓P	**P**	**17 25 47.2**	**+0.3**
SDKM	**Sandakan**	**15.29**	**199**	⇓P	**Pn**	**17 25 44.3**	**+1.4**
MYLDM	**Lahad Datu**	**15.39**	**194**	⇓P	**P**	**17 25 46.6**	**-1.8**
GYA	**Guiyang**	**15.49**	**296**	*e*P	**Pn**	**17 25 44.6**	**-0.9**
GYA				PP	**pP**	**17 25 57.4**	**+0.5**
GYA				S	**Sn**	**17 28 37.6**	**+1.2**
GYA				SS	**S**	**17 28 55.3**	**+3.6**
GYA				PMZ			
	10.0nm,0.8s						
GYA				PMZ			
	90nm,4.6s						
GYA				LN			
	490nm,14.0s						
GYA				LE			
	370nm,15.2s						
GYA				LZ			
	460nm,14.8s						
TSM	**Tawau**	**16.39**	**195**	⇑P	**Pn**	**17 25 57.9**	**+1.0**
TIA	**Tai'an**	**16.50**	**346**	*e*P	**P**	**17 26 01.0**	**+0.3**
TIA				S	**Sn**	**17 28 59.5**	**-1.2**
TIA				PMZ			
	30nm,0.9s						
TIA				LN			
	940nm,13.5s						
TIA				LE			
	890nm,12.2s						
TIA				LZ			
	1μm,13.7s						
SLVN	**Son La**	**17.09**	**277**	P	**P**	**17 26 08.6**	**+1.3**
	24nm,1.1s						
JHS	**Saijyo**	**17.60**	**31**	P	**P**	**17 26 14.0**	**+1.1**
INCN	**Inchon**	**17.62**	**12**	P	**P**	**17 26 14.4**	**+1.4**
	72nm,0.8s						
KSAR	**Wonju Array Be**	**17.85**	**15**	P	**P**	**17 26 15.7**	**+0.1**
KSAR	**Wonju Array Be**	**17.85**	**15**	P	**P**	**17 26 15.7**	**+0.1**
KSRS	**Korea Array**	**17.87**	**15**	P	**Pn**	**17 26 15.7**	**+0.4**
	1.5nm,0.3s,baz=195,slow=12,SNR=71						
KSRS				LR	LR	17 33 45.1	
	comp=Z,778nm,18.3s,baz=202,slow=39						
XAN	**Xi'an**	**18.06**	**322**	P	**P**	**17 26 18.6**	**+0.6**
XAN				pP	**pP**	**17 26 25.2**	**-0.1**
XAN				PMZ			
	4.0nm,0.9s						
XAN				PMZ			
	57nm,5.3s						
XAN				LN			
	960nm,22.4s						
XAN				LE			
	340nm,20.4s						
XAN				LZ			
	400nm,12.2s						
KMI	**Kunming**	**18.54**	**289**	P	**Pn**	**17 26 27.0**	**+3.1**
KMI				S	**Sn**	**17 29 49.5**	**-1.1**
KMI				PMZ			
	13nm,0.8s						
KMI				LN			
	1μm,12.8s						
KMI				LE			
	500nm,14.1s						
KMI				LZ			
	490nm,14.1s						
JWT	**Wachi**	**19.00**	**35**	P	Pn	17 26 35.6	+6.5
JIE	**Ise**	**19.10**	**39**	P	Pn	17 26 38.7	+8.4
GTOI	**Gorontalo**	**19.51**	**177**	P	**P**	**17 26 31.0**	**-2.9**
CBIJ	**Chichi jima**	**19.57**	**66**	P	**Pn**	**17 26 36.8**	**+0.8**
JCJ	**Chichijima**	**19.57**	**66**	P	**Pn**	**17 26 36.8**	**+0.8**
	4.6nm,0.3s,baz=286,slow=23,SNR=2.6						
JCJ				LR	LR	17 33 52.6	
	comp=Z,198nm,19.3s,baz=176,slow=36						
MRSI	**Marisa**	**19.65**	**181**	P	**Pn**	**17 26 38.5**	**+1.6**
	54nm,0.9s						
CD2	**Chengdu**	**19.66**	**306**	*e*P	**P**	**17 26 35.3**	**-0.3**
CD2				sP	sP	17 26 44.5	-1.9
CD2				PP	**PnPn**	**17 26 52.7**	**+1.7**
CD2				S	**S**	**17 30 11.9**	**-4.2**
CD2				sS	**Sn**	**17 30 19.5**	**+2.2**
CD2				PMZ			
	70nm,0.8s						
CD2				PMZ			
	230nm,4.8s						
CD2				LN			
	2μm,12.3s						
CD2				LE			
	2μm,13.3s						
CD2				LZ			
	1μm,13.2s						
MPSI	**Mapaga**	**19.91**	**187**	P	**P**	**17 26 35.9**	**-2.4**
SBUM	**Sibu**	**20.16**	**210**	⇑P	Pn	17 26 41.9	-1.1
JSG	**Sagara**	**20.19**	**41**	P	Pn	17 26 45.8	+2.5
JGF	**Kuroka**	**20.33**	**38**	P	Pn	17 26 46.6	+1.7
BJT	**Baijiatuau**	**20.36**	**347**	*e*P	**P**	**17 26 42.4**	**-0.7**
BJT				pmax	pmax		
	comp=Z,38nm,0.7s						
BJT	**Baijiatuau**	**20.36**	**347**	*e*P	**P**	**17 26 42.4**	**-0.7**
	comp=Z,38nm,0.7s						
BJI	**Beijing**	**20.38**	**347**	P	**P**	**17 26 44.0**	**+0.7**
BJI				S	Sn	17 30 33.6	-0.7
BJI				PMZ			
	comp=Z,24nm,1.0s						
BJI				PMZ			
	comp=Z,190nm,4.5s						
BJI				LN			
	comp=Z,350nm,14.2s						
BJI				LE			
	comp=Z,920nm,20.8s						
BJI				LZ			
	comp=Z,270nm,17.5s						
PBKT	**Sadao Pong**	**20.41**	**263**	P	Pn	17 26 48.8	+2.8
	comp=Z,32nm,1.3s,comp=Z,574nm						
UTTA	**Uttaradit**	**20.56**	**267**	P	Pn	17 26 51.4	+3.7
	comp=Z,4.5nm,0.8s,comp=Z,51nm						
APSI	**Ampana**	**21.03**	**181**	P	**P**	**17 26 52.7**	**+2.3**
	comp=Z,80nm,0.8s,comp=Z,844nm						
JOD2	**Odawara 2**	**21.14**	**41**	P	P	17 26 56.7	+5.2
LUWI	**Luwuk**	**21.16**	**178**	P	P	17 26 58.1	+6.2
	comp=Z,156nm,1.1s,comp=Z,1μm						
LUWI	**Luwuk**	**21.16**	**178**	*e*P	**P**	**17 26 50.6**	**-1.3**
	comp=Z,182nm,1.1s						
LAMP	**Lampang**	**21.30**	**269**	P	P	17 27 03.7	+10
MAT	**Matsushiro**	**21.48**	**37**	P	**P**	**17 26 56.6**	**+1.4**
MAT				S	**S**	**17 30 55.2**	**+3.1**
MAT	**Matsushiro**	**21.48**	**37**	P	**P**	**17 26 59.3**	**+4.2**
MAJO	**Matsushiro**	**21.48**	**37**	⇑*e*P	**P**	**17 26 56.1**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,363nm,1.2s						
MAJO	**Matsushiro**	**21.48**	**37**	*e*P	**P**	**17 26 55.1**	**0.0**
	comp=Z,68nm,1.0s						
MJAR	**Matsushiro Arr**	**21.48**	**38**	P	**P**	**17 26 57.3**	**+2.2**
	comp=Z,30nm,0.8s,baz=218,slow=8.5,SNR=46						
MJAR				LR	LR	17 36 18.7	
	comp=Z,271nm,18.3s,baz=225,slow=39						
JRY	**Ryogami san**	**21.52**	**40**	P	**P**	**17 26 58.3**	**+2.7**
SNY	**Shenyang**	**21.55**	**3**	⇑P	**P**	**17 26 58.5**	**+2.7**
SNY				S	**S**	**17 30 49.3**	**-4.0**
SNY				PMZ			
	comp=Z,20nm,0.9s						
SNY				PMZ			
	comp=Z,300nm,3.9s						
SNY				LN			
	comp=Z,470nm,12.5s						
SNY				LE			
	comp=Z,890nm,12.1s						
SNY				LZ			
	comp=Z,620nm,11.2s						
CMAI	**Chiengmai2**	**21.69**	**273**	P	P	17 27 03.9	+6.1
	comp=Z,42nm,0.9s,comp=Z,3μm						
CMMT	**Chiang Mai**	**21.90**	**270**	P	**P**	**17 27 02.9**	**+3.0**
	comp=Z,33nm,1.6s						
CHTO	**Chiang Mai**	**21.91**	**270**	*e*P	**P**	**17 26 59.3**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,67nm,1.5s						
CHTO	**Chiang Mai**	**21.91**	**270**	P	**P**	**17 27 03.0**	**+3.1**
	comp=Z,95nm,1.3s						
CHTO	**Chiang Mai**	**21.91**	**270**	*e*P	**P**	**17 26 59.3**	**-0.6**
	comp=Z,67nm,1.5s						
KSM	**Kuching**	**21.95**	**213**	⇓P	**P**	**17 27 01.3**	**+1.0**
KSM	**Kuching**	**21.95**	**213**	*e*P	**P**	**17 26 59.1**	**-1.3**
	comp=Z,38nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.96**	**269**	P	**P**	**17 27 00.0**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=75,slow=7.8,SNR=23						
CMAR				PcP	**PcP**	**17 30 59.0**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=91,slow=0.7,SNR=17						
CMAR				ScP	**ScP**	**17 34 33.6**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=67,slow=0.8,SNR=18						
CMAR				LR	LR	17 34 35.6	
	comp=Z,131nm,21.0s,baz=135,slow=34						
BKB	**Balikpapan**	**21.98**	**194**	P	**P**	**17 27 01.1**	**+0.4**
	comp=Z,153nm,1.0s						
UTHA	**Uthaitani**	**22.09**	**262**	P	P	17 27 07.6	+5.8
	comp=Z,8.1nm,1.2s,comp=Z,96nm						
MTKI	**Muara Teweh, K**	**22.22**	**199**	P	**P**	**17 27 05.6**	**+2.3**
	comp=Z,112nm,1.0s,comp=Z,2μm						
HHC	**Hu-ho-hao-te**	**22.43**	**339**	*e*P	**P**	**17 27 05.0**	**-0.5**
HHC				pP	pP	17 27 09.2	-3.6
HHC				sP	sP	17 27 12.0	-4.3
HHC				PP	**PnPn**	**17 27 32.4**	**+3.5**
HHC				S	S	17 31 05.6	-4.8
HHC				sS	sS	17 31 12.5	-10
HHC				SS	**SnSn**	**17 31 46.5**	**+6.8**
HHC				PMZ			
	comp=Z,22nm,0.9s						
HHC				PMZ			
	comp=Z,360nm,6.2s						
HHC				LN			
	comp=Z,1μm,15.6s						
HHC				LE			
	comp=Z,3μm,15.6s						
HHC				LZ			
	comp=Z,820nm,17.6s						
LZH	**Lanzhou**	**22.50**	**318**	*e*P	**P**	**17 27 06.4**	**0.0**
LZH				pP	pP	17 27 09.3	-4.4
LZH				sP	sP	17 27 11.2	-6.0
LZH				PP	**PnPn**	**17 27 34.5**	**+4.5**
LZH				*e*S	**S**	**17 31 08.0**	**-3.9**
LZH				sS	sS	17 31 15.0	-9.3
LZH				PMZ			
	comp=Z,61nm,1.3s						
LZH				PMZ			
	comp=Z,340nm,4.5s						
LZH				LN			
	comp=Z,810nm,10.3s						
LZH				LE			
	comp=Z,510nm,10.0s						
LZH				LZ			
	comp=Z,1μm,13.6s						
JSD	**Sado**	**22.58**	**35**	P	**P**	**17 27 06.1**	**-0.8**
STKI	**Sintang**	**22.61**	**209**	P	**P**	**17 27 09.7**	**+2.3**
	comp=Z,32nm,0.9s,comp=Z,3μm						
SRDT	**SRDT**	**22.73**	**259**	P	**P**	**17 27 10.0**	**+1.2**
	comp=Z,72nm,1.3s						
BTO	**Baotou**	**22.78**	**336**	*e*P	**P**	**17 27 08.4**	**-0.8**
MHMT	**Maesarieng**	**22.95**	**269**	P	P	17 27 17.1	+6.1
	comp=Z,18nm,0.8s,comp=Z,231nm						
KHLT	**Khaolaem Dam**	**23.09**	**260**	P	P	17 27 19.3	+6.8
	comp=Z,9.1nm,1.2s,comp=Z,245nm						
TTSI	**Tana Toraja**	**23.26**	**186**	P	P	17 27 18.8	+4.7
	comp=Z,46nm,0.9s						
JYA	**Atsumi**	**23.77**	**36**	P	**P**	**17 27 20.3**	**+1.4**
NLAI	**Namlea**	**23.84**	**168**	P	**P**	**17 27 19.8**	**+0.1**
	comp=Z,58nm,1.1s						
JMM	**Marumori**	**23.88**	**39**	P	**P**	**17 27 19.5**	**-0.5**
BBKI	**Banjar Baru**	**24.62**	**198**	P	**P**	**17 27 29.6**	**+2.6**
	comp=Z,163nm,1.0s,comp=Z,1μm						
MDJ	**Mudanjiang**	**25.08**	**13**	P	**P**	**17 27 30.8**	**-0.1**
MDJ				pP	pP	17 27 33.7	-5.1
MDJ				sP	sP	17 27 35.1	-7.0
MDJ				PcP	**PcP**	**17 31 03.9**	**-1.0**
MDJ				S	**S**	**17 31 57.4**	**+3.7**
MDJ				ScP	**ScP**	**17 34 42.1**	**-0.2**
MDJ				PMZ			
	comp=Z,6.0nm,1.1s						
MDJ				PMZ			
	comp=Z,79nm,4.7s						
MDJ				LN			
	comp=Z,800nm,18.8s						
MDJ				LE			
	comp=Z,1μm,17.0s						
MDJ				LZ			
	comp=Z,780nm,13.3s						
MDJ	**Mudanjiang**	**25.08**	**13**	*e*P	**P**	**17 27 30.3**	**-0.6**
	comp=Z,23nm,1.0s						
SURT	**Suratani**	**25.18**	**247**	P	**P**	**17 27 36.2**	**+4.1**
	comp=Z,15nm,0.7s						
KAPI	**Kappang**	**25.21**	**186**	*e*P	**P**	**17 27 31.1**	**-1.1**
USRK	**Ussuriysk Ar.**	**25.26**	**17**	P	**P**	**17 27 34.7**	**+2.3**
	comp=Z,19nm,0.8s,baz=204,slow=9.7,SNR=30						
USRK				LR	LR	17 38 32.8	
	comp=Z,417nm,18.1s,baz=193,slow=39						
JOM	**Ohasama**	**25.26**	**37**	P	**P**	**17 27 33.7**	**+1.1**
BKSI	**Bulukumba**	**25.48**	**185**	P	**P**	**17 27 37.8**	**+3.1**
	comp=Z,12nm,1.1s						
KULM	**Kulim**	**25.64**	**237**	⇓P	**P**	**17 27 37.0**	**+0.8**
IPM	**Ipoh**	**25.84**	**235**	*e*P	**P**	**17 27 36.9**	**-1.3**
	comp=Z,31nm,0.8s						
JTM	**Tenmabayashi**	**26.07**	**34**	P	**P**	**17

SNR=8.1
PSI PcP **PcP 17 31 12.9 -0.9**
comp=Z,5.0nm,0.7s,baz=66,slow=4.2,SNR=5.3
PSI ScP ScP 17 34 48.6 -4.7
comp=Z,3.5nm,0.4s,baz=232,slow=9.7,SNR=3.8
PSI LR LR 17 38 48.8
comp=Z,3.4nm,0.5s,baz=129,slow=3.4,SNR=4.4
MMRI Maumere 28.70 180 P P 17 28 09.7 +6.0
comp=Z,357nm,21.0s,baz=62,slow=35
MMRI Maumere 28.70 180 *e*P **P 17 28 00.6 -3.1**
comp=Z,20nm,0.8s
ASAJ Asahikawa 29.27 31 P P 17 28 13.8 +5.2
ASAJ Asahikawa 29.27 31 P **P 17 28 10.4 +1.9**
comp=Z,18nm,0.8s,baz=155,slow=6.5,SNR=5.4
ASAJ LR LR 17 41 15.9
comp=Z,350nm,18.1s,baz=225,slow=39
ASAJ Asahikawa 29.27 31 *e*P **P 17 28 10.5 +1.9**
comp=Z,8.0nm,0.8s
LSA Lhasa 29.55 295 P P 17 28 14.9 +3.2
LSA Lhasa 29.55 295 *e*P **P 17 28 12.7 +0.9**
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 29.55 295 *e*P **P 17 28 12.7 +0.9**
comp=Z,11nm,0.8s
JMP Maruseppu 29.57 32 P **P 17 28 13.8 +2.6**
SOEI Soe 29.88 176 *e*P **P 17 28 14.2 -0.1**
KLR Kul'dur 29.93 13 *e*P **P 17 28 11.7 -2.6**
ULN Ulaanbaatar 30.14 340 *de*P **P 17 28 16.0 -0.4**
ULN pmax pmax
comp=Z,11nm,1.2s
ULN Ulaanbaatar 30.14 340 *e*P **P 17 28 16.3 -0.1**
comp=Z,12nm,1.0s
SONM Songino Array 30.34 339 P **P 17 28 17.4 -0.7**
comp=Z,3.3nm,0.6s,baz=158,slow=10,SNR=29
SONM PcP **PcP 17 31 17.7 -0.1**
comp=Z,0.6nm,0.7s,baz=172,slow=3.6,SNR=5.3
SONM ScP **ScP 17 34 58.5 0.0**
comp=Z,0.6nm,0.9s,baz=141,slow=4.0,SNR=3.7
SONM LR LR 17 41 03.0
comp=Z,486nm,18.9s,baz=138,slow=37
YSS Yuzh-Sakhalins 31.50 27⇓ *e*P **P 17 28 30.2 +2.0**
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=E,30nm,1.0s
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=N,200nm,15.0s
YSS MLR MLR
comp=Z,300nm,15.0s
TAPN Taplejung 32.21 289 *e*P P 17 28 39.5 +4.4
ODAN Odare 32.46 288 *e*P **P 17 28 39.6 +2.5**
comp=Z,17nm,0.8s
RAMN Ramite 33.17 288 *e*P **P 17 28 44.1 +0.7**
JIRN Jiri 33.58 290 *e*P **P 17 28 49.3 +2.2**
comp=Z,28nm,0.7s
GUN Gumba 33.88 290 *e*P P 17 28 52.7 +3.0
comp=Z,51nm,0.8s
PKI Pulchoki 34.27 289 *e*P **P 17 28 54.5 +1.5**
comp=Z,22nm,1.0s
PKIN Phulchoki 34.28 289 *e*P **P 17 28 54.0 +0.9**
comp=Z,23nm,1.2s
KKN Kakani 34.40 290 *e*P **P 17 28 55.5 +1.5**
comp=Z,18nm,0.8s
DMN Daman 34.54 289 *e*P **P 17 28 55.3 0.0**
comp=Z,21nm,0.8s
TLY Talaya 34.55 340 *e*P **P 17 28 54.7 -0.1**
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY MLR MLR
comp=Z,280nm,14.0s
GKN Gorkha 34.98 290 *e*P **P 17 28 59.0 0.0**
comp=Z,16nm,0.8s
MOY Mondy 35.46 337 *e*P **P 17 29 04.1 +1.4**
DANN Dangsing 35.78 291 *e*P **P 17 29 06.3 +0.3**
comp=Z,62nm,1.4s
KOLN Koldanda 35.88 290 *e*P **P 17 29 05.3 -1.5**
comp=Z,22nm,0.8s
WMQ Urumqi 37.08 317 *e*P **P 17 29 16.9 +0.3**
WMQ sP sP 17 29 23.0 -4.9
WMQ PP **PnPn 17 30 43.6 +1.9**
WMQ S **S 17 35 02.0 +0.9**
WMQ sS sS 17 35 08.5 -5.8
WMQ SS **SnSn 17 37 32.0 -4.0**
WMQ ScS **ScS 17 39 29.0 -0.7**
WMQ PMZ
comp=Z,4.0nm,1.0s
WMQ PMZ
comp=Z,240nm,5.2s
WMQ LN
comp=Z,330nm,17.0s
WMQ LE
comp=Z,320nm,21.0s
WMQ LZ
comp=Z,230nm,18.0s
HVS Khovu-Aksy 38.06 331⇓ *e*P **P 17 29 24.3 -0.6**
HVS pmax pmax
comp=Z,16nm,0.8s
MBWA Marble Bar 41.22 183 *e*P **P 17 29 48.4 -2.9**
comp=Z,16nm,1.0s
WRAB Tennant Creek 41.68 163 *e*P **P 17 29 52.4 -2.7**
WRAB pmax pmax
comp=Z,54nm,1.2s
WRAB Tennant Creek 41.68 163 *e*P **P 17 29 52.4 -2.7**
comp=Z,54nm,1.2s
WRA Warramunga Arr 41.69 163 P **P 17 29 52.4 -2.9**
comp=Z,16nm,0.6s,baz=342,slow=9.0,SNR=117
WRA ScP **ScP 17 35 39.3 -0.9**
comp=Z,0.5nm,0.6s,baz=343,slow=4.5,SNR=4.7
WB2 Warramunga Arr 41.69 163 *e*P P 17 29 52.1 -3.1
MKAR Makanchi Array 41.82 319 P **P 17 29 56.4 +0.3**
comp=Z,5.5nm,0.5s,baz=112,slow=9.7,SNR=42
MKAR PcP **PcP 17 31 51.4 -0.4**
comp=Z,1.5nm,0.6s,baz=95,slow=6.5,SNR=3.5
MKAR ScP **ScP 17 35 39.3 -1.2**
comp=Z,0.7nm,0.8s,baz=107,slow=6.3,SNR=4.0
MKAR LR LR 17 48 51.6
comp=Z,326nm,18.4s,baz=184,slow=38
H11N1 WAKE ISLAND Hy 41.96 83 T T 18 14 57.9
baz=279,slow=75,SNR=521
H11N2 WAKE ISLAND Hy 41.97 83 T T 18 15 01.4
baz=279,slow=75,SNR=374
H11S3 WAKE ISLAND Hy 41.97 85 T T 18 14 58.2
baz=280,slow=75,SNR=1522
H11S1 WAKE ISLAND Hy 41.98 85 T T 18 14 58.8
baz=280,slow=75,SNR=1326
H11N3 WAKE ISLAND Hy 41.98 83 T T 18 15 05.8
baz=279,slow=75,SNR=388
H11S2 WAKE ISLAND Hy 41.99 85 T T 18 14 59.6
baz=280,slow=75,SNR=966
YAK Yakutsk 42.08 5 *e*P **P 17 29 56.1 -1.8**
YAK pmax pmax
comp=Z,10.0nm,0.7s
YAK Yakutsk 42.08 5 *e*P **P 17 29 56.1 -1.8**
comp=Z,9.9nm,0.7s
PETK Petropavlovsk- 42.70 31 P **P 17 30 04.8 +1.7**
comp=Z,15nm,0.8s,baz=212,slow=5.3,SNR=12
PETK LR LR 17 49 27.3
comp=Z,162nm,18.0s,baz=269,slow=38
PET Petropavlovsk 43.11 32 *e*P **P 17 30 08.3 +1.9**
PET pmax pmax
comp=Z,26nm,1.1s
PET Petropavlovsk 43.11 32 *e*P **P 17 30 08.3 +1.9**
comp=Z,26nm,1.1s
KSH Kashi 43.86 306 P **P 17 30 15.0 +2.1**
KSH sP sP 17 30 21.8 -2.5
KSH PP **PcP 17 31 59.0 +0.1**
KSH S **S 17 36 46.9 +4.3**
KSH sS **sS 17 36 54.1 -1.8**
KSH SS **SS 17 39 54.8 -4.3**
KSH PMZ
comp=Z,4.0nm,0.7s
KSH PMZ
comp=Z,130nm,6.0s
KSH LN
comp=Z,290nm,6.3s
KSH LE
comp=Z,210nm,7.7s
KSH LZ
comp=Z,490nm,7.7s
ZALV Zalesovo Beam 44.04 329 P **P 17 30 13.1 -0.9**
comp=Z,8.4nm,0.6s,baz=120,slow=7.1,SNR=23
ZALV PP **PcP 17 32 00.3 +1.2**
comp=Z,1.7nm,0.6s,baz=101,slow=7.5,SNR=2.3
ZALV LR LR 17 49 29.6
comp=Z,278nm,18.0s,baz=92,slow=37
ULHL Ulahol 44.31 310 P **P 17 30 17.7 +1.2**
ULHL Ulahol 44.31 310 *i*P **P 17 30 17.7 +1.2**
TKM2 Tokmak 2 44.94 311 P **P 17 30 22.6 +1.0**
SNR=5.8
TKM2 Tokmak 2 44.94 311 *e*P **P 17 30 21.9 +0.3**
TKM2 pmax pmax
comp=Z,9.0nm,0.9s
TKM2 Tokmak 2 44.94 311 *e*P **P 17 30 21.9 +0.3**
comp=Z,9.1nm,0.9s
KZA Kyzart 44.98 310 P **P 17 30 23.9 +1.8**
SNR=8.5
KZA Kyzart 44.98 310 *i*P **P 17 30 23.9 +1.8**
AS31 Alice Springs 45.12 165 *e*P **P 17 30 20.9 -2.1**
ASAR Alice Springs 45.13 165 P **P 17 30 21.1 -1.8**
comp=Z,6.0nm,0.6s,baz=350,slow=8.8,SNR=117
ASAR ScP **ScP 17 35 52.8 -1.3**
comp=Z,1.1nm,0.9s,baz=351,slow=3.2,SNR=5.1
NVS Novosibirsk 45.31 329 *e*P **P 17 30 22.7 -1.3**
NVS pmax pmax
comp=N,25nm,2.0s
NVS pmax pmax
comp=Z,55nm,2.0s
NVS pmax pmax
comp=E,23nm,1.9s
KBK Karagaybulak 45.34 310 P **P 17 30 25.5 +0.8**
SNR=9.2
KBK Karagaybulak 45.34 310 *i*P **P 17 30 25.5 +0.8**
UCH Uchtor 45.55 310 P **P 17 30 28.0 +1.3**
SNR=9.4
UCH Uchtor 45.55 310 *i*P **P 17 30 27.9 +1.3**
FRU Bishkek 45.62 311 *e*P P 17 30 30.0 +3.3
FRU *e* 17 30 46.0
AAK Ala-Archa 45.66 310⇓ *e*P **P 17 30 28.2 +1.0**
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 45.66 310 *e*P **P 17 30 27.8 +0.6**
KURK Kurchatov 45.70 322 *e*P **P 17 30 26.9 -0.3**
KURK pmax pmax
comp=Z,8.0nm,1.0s
KURK Kurchatov 45.70 322 *e*P **P 17 30 26.9 -0.3**
comp=Z,8.2nm,1.0s
AML Almayashu 46.12 309 P **P 17 30 32.6 +1.5**
SNR=14
AML Almayashu 46.12 309 *i*P **P 17 30 32.6 +1.5**
EKS2 Erkin-Say 46.18 310 P **P 17 30 32.4 +1.1**
SNR=5.9
EKS2 Erkin-Say 46.18 310 *i*P **P 17 30 32.3 +1.1**
KKAR Karatay Array 48.62 310 *e*P **P 17 30 50.7 +0.6**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 48.62 310 *e*P **P 17 30 50.7 +0.6**
comp=Z,5.5nm,0.8s
KBL Kabul 48.73 299 *e*P **P 17 30 52.1 +0.7**
KBL pmax pmax
comp=Z,25nm,1.2s
KBL Kabul 48.73 299 *e*P **P 17 30 52.1 +0.7**
comp=Z,25nm,1.2s
BRVK Borovoye 51.37 323⇑ *e*P **P 17 31 10.7 -0.1**
BRVK pmax pmax
comp=Z,14nm,0.9s
BRVK Borovoye 51.37 323 *e*P **P 17 31 10.4 -0.4**
comp=Z,12nm,0.8s
TIXI Tiksi 51.56 3⇓ *e*P **P 17 31 10.2 -1.7**
TIXI pmax pmax
comp=Z,10.0nm,1.5s
TIXI Tiksi 51.56 3 *e*P **P 17 31 09.9 -2.1**
comp=Z,15nm,1.1s
BILL Bilibino 55.09 19 *e*P **P 17 31 37.7 -0.2**
BILL pmax pmax
comp=Z,11nm,0.9s
BILL Bilibino 55.09 19 *e*P **P 17 31 37.7 -0.2**
comp=Z,11nm,0.9s
ABKAR Akbulak array 56.85 316 *e*P **P 17 31 50.5 -0.4**
comp=Z,3.3nm,0.5s
GEYT Alibeck 57.60 303 P **P 17 31 57.2 +0.8**
comp=Z,3.6nm,0.8s,baz=113,slow=3.4,SNR=9.1
SVE Sverdlovsk 57.75 325⇑ *i*P **P 17 31 57.0 0.0**
SVE pmax pmax
comp=Z,16nm,0.9s
ARU Arti 58.79 324 *d i*P **P 17 32 03.5 -0.8**
ARU 17 34 12.6
ARU S **S 17 40 07.2 -0.7**
ARU SS SS 17 43 54.6 -6.4
ARU pmax pmax
comp=Z,19nm,1.7s
ARU Arti 58.79 324 *e*P **P 17 32 03.2 -1.1**
comp=Z,6.5nm,0.5s
TNA Tin City 63.46 26 *e*P **P 17 32 36.8 +1.0**
comp=Z,4.0nm,0.8s
ZEI Tsey 68.06 309 *e*P **P 17 33 04.5 -1.7**
ZEI pmax pmax
comp=Z,22nm,1.0s
KBZ Khabaz 68.66 310 P **P 17 33 08.9 -0.7**
comp=Z,6.7nm,0.8s,baz=97,slow=3.4,SNR=15
KIV Kislovodsk 68.77 310 *e*P **P 17 33 08.9 -1.6**
KIV pmax pmax
comp=Z,39nm,0.9s
KLMR Klimovskoe 68.96 329 *e*P **P 17 33 09.2 -2.0**
KLMR pmax pmax
comp=Z,10.0nm,0.7s
RAYN Ar Rayn 70.39 289 *e*P **P 17 33 20.5 -0.3**
comp=Z,20nm,0.9s
KDAK Kodiak Island 70.62 34 *i*P **P 17 33 24.1 +2.7**
COLD Coldfoot 70.62 24 *e*P **P 17 33 22.2 +0.8**
comp=Z,7.2nm,1.1s
OBN Obninsk 71.14 323⇓ *e*P **P 17 33 23.3 -1.4**
OBN *e* 17 36 00.6
OBN *e*S S 17 42 31.9 -7.7
OBN pmax pmax
comp=Z,7.0nm,0.6s
OBN MLR MLR
comp=Z,2μm,23.0s
MCK McKinley 71.58 28 *e*P **P 17 33 27.2 -0.1**
MCK pmax pmax
comp=Z,47nm,1.3s
MCK McKinley 71.58 28 *e*P **P 17 33 27.2 -0.1**
comp=Z,47nm,1.3s
ILAR Eielson Array 72.31 27 P **P 17 33 30.4 -1.1**
comp=Z,2.9nm,0.7s,baz=270,slow=4.8,SNR=38
ANN Anapa 72.35 312 *e*P **P 17 33 31.8 -0.3**
ANN *e* 17 33 48.8
ANN pmax pmax
comp=Z,24nm,0.6s
JOF Joensuu 72.56 331 *e*P P 17 33 30.1 -3.0
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 72.56 331 *ep* P 17 33 30.1 -3.0
comp=Z,2.6nm,0.6s
MALT Malatya 72.95 305⇑ *i*P **P 17 33 37.2 +1.2**
KEV Kevo 72.95 339 *e*P P 17 33 32.3 -2.9
KEV pmax pmax
comp=Z,4.0nm,0.6s
KEV Kevo 72.95 339 *ep* P 17 33 32.3 -2.9
comp=Z,4.4nm,0.6s
ARCES ARCESS Array B 73.51 339 P **P 17 33 37.6 -0.9**
comp=Z,2.6nm,0.7s,baz=57,slow=7.4,SNR=5.6
DOT Dot Lake 73.73 28 *e*P **P 17 33 40.3 +0.3**
comp=Z,9.4nm,0.9s
SIM Simferopol' 74.62 313 *e*P **P 17 33 45.9 +0.4**
SIM pmax pmax
comp=Z,28nm,0.9s
EGAK Eagle 74.70 26 *e*P **P 17 33 45.3 -0.3**
comp=Z,9.3nm,0.8s
KAF Kangasniemi 75.01 331 *e*P **P 17 33 45.2 -2.2**
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 75.01 331 *ep* **P 17 33 45.2 -2.2**
comp=Z,2.0nm,0.6s
FINES FINESS Array B 75.28 330 P **P 17 33 47.7 -1.3**
comp=Z,5.1nm,0.7s,baz=50,slow=5.1,SNR=17
DAWY Dawson 75.63 27 *e*P **P 17 33 51.2 +0.2**
VSU Vasula 75.75 327⇓ *e*P **P 17 33 51.4 -0.3**
VSU pmax pmax
comp=Z,66nm,1.7s
BRTR Keskin Array B 76.24 307 P **P 17 33 54.9 -0.2**
comp=Z,1.0nm,0.5s,baz=154,slow=2.8,SNR=5.9
AKASG Malin Array Be 76.40 319 P **P 17 33 54.2 -1.4**
comp=Z,7.7nm,0.8s,baz=61,slow=6.1,SNR=13
KIEV Kiev 76.41 319 ⇓ *i*P **P 17 33 54.7 -1.0**
KIEV Kiev 76.41 319 *e*P **P 17 33 54.2 -1.4**
comp=Z,7.2nm,0.6s
INK Inuvik 76.53 22 P **P 17 33 55.1 -0.9**
HYT Haines Junctio 77.46 30 *e*P **P 17 34 02.5 +0.9**
CFR Carcaliu 78.65 314⇑ *i*P **P 17 34 08.7 +0.4**
BURAR Bucovina Array 79.82 317 ⇓ *i*P **P 17 34 14.5 -0.3**
DAG Danmarks Havn 80.38 352 *i* P **P 17 34 15.3 -1.8**
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 80.38 352 *i* P **P 17 34 15.3 -1.8**
comp=Z,7.3nm,0.8s
KWP Kalwaria Pacla 80.72 319⇑ *i*P **P 17 34 18.9 -0.6**
HUMR Humele 80.98 314⇑ *i*P **P 17 34 19.6 -1.4**
KOLS Kolonicke sedl 81.23 319 *e*P **P 17 34 24.3 +2.1**
KOLS Kolonicke sedl 81.23 319 *ep*P **P 17 34 24.3 +2.1**
LOT Lotru 81.48 315⇓ *i*P **P 17 34 23.5 -0.3**
STHS Stebnicka Huta 81.69 320 *e*P **P 17 34 24.1 -0.5**
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 81.69 320 *e*P **P 17 34 24.1 -0.5**
NB2 NORSAR Subarra 82.11 333 P **P 17 34 24.5 -2.2**
comp=Z,2.7nm,0.8s,baz=61,slow=5.1
NOA NORSAR Array B 82.11 333 P **P 17 34 24.8 -1.9**
comp=Z,4.0nm,0.8s,baz=62,slow=4.8,SNR=11
APE Apeiranthos 83.11 307⇑ *e*P **P 17 34 32.5 +0.2**
APE pmax pmax
comp=Z,142nm,1.7s
VYHS Vyhne 83.50 319 *e*P **P 17 34 33.5 -0.6**
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 83.50 319 *e*P **P 17 34 33.5 -0.6**
KSP Ksiaz 84.06 322 *e*P **P 17 34 35.9 -1.0**
MUD Monsted U'grnd 85.26 329 *i* P **P 17 34 42.7 0.0**
MUD pmax pmax
comp=Z,9.0nm,0.9s
MUD Monsted U'grnd 85.26 329 *i* P **P 17 34 42.7 0.0**
comp=Z,8.7nm,0.8s
BRG Berggiesshubel 85.39 323 *e*PKP P 17 34 59.1 +16
comp=Z,7.6nm,1.2s
KMBO Kilima Mbogo 85.59 267 *e*P **P 17 34 46.4 +0.8**
KMBO pmax pmax
comp=Z,8.0nm,1.1s
KMBO Kilima Mbogo 85.59 267 P **P 17 34 45.7 +0.1**
comp=Z,3.8nm,0.8s,baz=57,slow=6.9,SNR=10
KMBO Kilima Mbogo 85.59 267 *e*P **P 17 34 46.4 +0.8**
comp=Z,7.8nm,1.1s
CLL Collm 85.72 324 *e*P P 17 34 50.0 +4.8
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL MLR MLR
comp=Z,400nm,18.0s
CLL Collm 85.72 324 *e*(sP) P 17 34 50.0 +4.8
comp=Z,5.0nm,0.9s
YKA Yellowknife Ar 86.24 23 P **P 17 34 46.8 -0.7**
comp=Z,5.4nm,0.8s,baz=311,slow=4.7,SNR=72
GERES GERESS Array B 86.44 321 P **P 17 34 47.7 -1.3**
comp=Z,1.5nm,0.7s,baz=69,slow=7.3,SNR=6.2
SUMG Summit 86.49 354 *i* P **P 17 34 48.0 -1.1**
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 86.49 354 *i* P **P 17 34 48.0 -1.1**
comp=Z,4.1nm,0.9s
NVAR Mina Array Bea 98.68 44 P **P 17 35 46.1 +0.1**
comp=Z,1.2nm,0.8s,baz=276,slow=5.6,SNR=6.4
TORD Torodi Ar. Bea 112.69 294 PP PP 17 41 30.0 -0.7
comp=Z,0.6nm,0.9s,baz=49,slow=6.0,SNR=3.8
TXAR Lajitas Array 113.82 43 PKIKP **PKiKP 17 40 44.6 -1.0**
comp=Z,0.8nm,0.6s,baz=270,slow=0.1,SNR=5.1
DBIC Dimbokro 121.44 292 PKiKP **PKiKP 17 41 01.9 +1.3**
comp=Z,4.2nm,0.8s,baz=72,slow=3.2,SNR=3.6
SDV Santo Domingo 148.44 25 *e*PKPdf **PKPdf 17 41 50.0 -0.4**
OTAV Otavalo 151.35 47 *e*PKPdf **PKPdf 17 41 55.1 -0.3**
LPAZ La Paz 169.48 70 PKP **PKPdf 17 42 16.4 +1.2**
comp=Z,1.4nm,0.7s,baz=281,slow=1.6,SNR=4.3

SJA 08 17:22:21.6±0.3, 26°.12S×66°.03W, h200km, ML4.0, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHML	**Horco Molle**	**0.91**	**137**	*e*P4	Pn	17 22 49.8	-1.0
AHML				*e*S	Sn	17 23 13.0	-0.6
SLA	**San Lorenzo**	**1.47**	**19**	*e*P4	Pn	17 22 48.2	-7.1
SLA				*i* S4	Sn	17 23 12.1	-9.3
SLA				AML	AML	17 23 17.3	
	comp=Z,777nm,0.6s						
AZAP	**Zapla**	**2.08**	**25**	*e*P4	Pn	17 23 00.0	-1.3
AZAP				*e*S	Sn	17 23 31.9	-0.2
AZAP				AML	AML	17 23 34.3	
	comp=Z,591nm,0.8s						
CYA	**Choya**	**2.32**	**175**	*e*P4	Pn	17 23 05.7	+2.2
CYA				*e*S4	Sn	17 23 45.1	+8.6
ASTB	**Santa Barbara**	**2.57**	**33**	*e*P	Pn	17 23 07.4	+0.8
ALOL	**LOMAS DE OLMED**	**2.96**	**40**	*e*P4	Pn	17 23 12.9	+2.0
ACLC	**CERRO LA CRUZ**	**3.40**	**194**	*i* P	Pn	17 23 16.9	+0.7

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*IDC **08** 17:24:15.9±1.3, 34°.70S×72°.39W, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.7/25, mbtmp3.6/5, ML3.8/3, Error ellipse: s-maj=45.4km s-min=29.5km az=97.0*
*GUC **08** 17:24:17.2±0.3, 34°.66S×72°.08W, h10km±1km, ML4.1*
ISC 08 17:24:16.3±2.2, 34°.68S±0°.04×72°.08W±0°.07, h5km±14km, n23, σ1°.23/22, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.77**	**115**	*i* P	**Pg**	**17 24 31.8**	**+0.8**
NICH				*i* S	**Sb**	**17 24 43.0**	**0.0**
LNV	**Longovilo**	**0.91**	**38**	*e*P9	**Pb**	**17 24 33.0**	**-1.6**
LNV				*i* S	**Sb**	**17 24 45.6**	**-1.4**
LNCH	**Linares**	**1.23**	**161**	*e*P	**Pn**	**17 24 39.3**	**-0.8**
LNCH				*e*S	**Sn**	**17 24 56.1**	**-1.0**
CACH	**El Canelo**	**1.35**	**66**	*e*P	**Pn**	**17 24 41.3**	**-0.6**
CHCH	**Chadas Angostu**	**1.40**	**58**	*e*P	**Pn**	**17 24 41.7**	**-0.8**
CHCH				*i* S4	**Sn**	**17 25 01.0**	**-0.4**
COCH	**Cobquecura**	**1.56**	**202**⇑	*i*P	**Pn**	**17 24 43.7**	**-0.9**
COCH				*i* S	**Sn**	**17 25 04.3**	**-0.8**
RCDM	**Rinconada Maip**	**1.59**	**42**	IAML		17 25 25.7	
	comp=E,4μm,0.1s						
ANTU	**Antumapu**	**1.64**	**48**	*e*P	**Pn**	**17 24 45.2**	**-0.5**
ANTU				IAML		17 25 35.0	
	comp=E,3μm,0.9s						
IHA	**Instituto Hidr**	**1.69**	**13**	*e*P	**Pn**	**17 24 45.9**	**-0.5**
STL	**Santa Lucia**	**1.73**	**44**	*e*P	**Pn**	**17 24 46.7**	**-0.3**
LACH	**Col Las Americ**	**1.78**	**47**	*e*P	**Pn**	**17 24 47.6**	**-0.1**
CLCH	**Cerro Calan**	**1.81**	**45**	*e*P	**Pn**	**17 24 48.3**	**+0.1**
FCH	**Farellones**	**2.01**	**48**	IAML		17 25 31.7	
	comp=E,3μm,0.2s						
CCSP	**San Pedro de C**	**2.31**	**201**	IAML		17 26 49.0	
	comp=N,2μm,0.8s						
CFAA	**Coronel Fontan**	**4.45**	**47**	Pn	**Pn**	**17 25 26.9**	**+2.5**
	comp=N,0.4nm,0.3s,baz=242,slow=14,SNR=6.4						
PLCA	**Paso Flores**	**6.16**	**169**	Pn	**Pn**	**17 25 49.8**	**+1.9**
	comp=N,1.2nm,0.3s,baz=334,slow=12,SNR=18						
PLCA				Lg	Lg	17 27 27.3	
	comp=N,0.6nm,0.3s,baz=250,slow=20,SNR=2.9						
LPAZ	**La Paz**	**18.66**	**12**	P	**Pn**	**17 28 36.7**	**+0.7**
	comp=N,0.1nm,0.3s,baz=183,slow=8.7,SNR=5.0						
PDAR	**Pinedale Array**	**84.35**	**333**	P	**P**	**17 36 50.2**	**+0.7**
	comp=N,0.3nm,0.7s,baz=133,slow=6.6,SNR=2.3						
TORD	**Torodi Ar. Bea**	**84.48**	**70**	P	**P**	**17 36 52.5**	**+2.1**
	comp=N,0.3nm,0.7s,baz=284,slow=5.8,SNR=2.6						
WRA	**Warramunga Arr**	**120.15**	**209**	PKP	**PKPdf**	**17 43 07.3**	**-1.5**
	comp=N,0.1nm,0.4s,baz=153,slow=2.0,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**t25.72**	**269**	T	T	20 02 46.4	
	baz=118,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**t25.73**	**269**	T	T	20 02 47.5	
	baz=118,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**t25.74**	**269**	T	T	20 02 48.7	
	baz=118,slow=75,SNR=14						

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*IDC **08** 17:24:46.5±1.1, 32°.60S×72°.14W, h0km, mb4.5/2, mb1 4.4/3, mb1mx3.9/22, mbtmp4.3/3, ML4.3/1, MS4.5/2, Ms1 4.5/2, ms1mx3.8/26, Error ellipse: s-maj=39.9km s-min=31.7km az=134.0*
*ISCJB **08** 17:24:47.5±2.0, 32°.8S±0°.2×72°.2W±0°.2, h16km, mb4.4/2, MS4.7/1, Error ellipse: s-maj=35.8km s-min=12.3km az=137.8*
ISC 08 17:24:48.7±1.1, 32°.7S±0°.2×72°.2W±0°.1, h16km, n10, σ1°.12/11, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.53**	**74**	Pn	**Pn**	**17 25 43.2**	**+0.3**
	0.4nm,0.3s,baz=242,slow=12,SNR=4.3						
CFAA				Sn	**Sn**	**17 26 24.5**	**+0.1**
	1.1nm,0.3s,baz=85,slow=22,SNR=3.3						
PLCA	**Paso Flores**	**8.17**	**171**	Pn	**Pn**	**17 26 46.5**	**-0.3**
	0.9nm,0.3s,baz=340,slow=11,SNR=2.3						

LPAZ	**La Paz**	**16.71**	**14**	LR	LR	17 35 35.7		
	comp=Z,710nm,20.0s,baz=40,slow=39							
BDFB	**Brasilia**	**27.72**	**58**	LR	LR	17 42 40.6		
	comp=Z,2μm,18.0s,baz=304,slow=39							
BOSA	**Boshof**	**80.83**	**118**	P	**P**	**17 37 02.1**	**-0.1**	
	4.9nm,1.0s,baz=270,slow=7.1,SNR=3.1							
TORD	**Torodi Ar. Bea**	**83.89**	**70**	P	**P**	**17 37 17.8**	**-0.3**	
	2.4nm,0.8s,baz=266,slow=4.4,SNR=11							
WRA	**Warramunga Arr**	**121.86**	**210**	PKP	**PKPdf**	**17 43 44.0**	**+1.2**	
	0.3nm,0.8s,baz=158,slow=1.5,SNR=5.5							
AAK	**Ala-Archa**	**151.97**	**60**	PKPbc	**PKPbc**	**17 44 44.2**	**+1.1**	
	4.3nm,0.8s,baz=183,slow=2.1,SNR=18							
AAK				PKPab	**PKPab**	**17 44 52.1**	**-0.4**	
	2.5nm,0.7s,baz=55,slow=4.0,SNR=6.5							
ZALV	**Zalesovo Beam**	**153.16**	**31**	PKPbc	**PKPbc**	**17 44 46.0**	**+0.9**	
	2.8nm,0.7s,baz=298,slow=3.3,SNR=13							
ZALV				PKPab	**PKPab**	**17 44 54.3**	**-2.5**	
	2.7nm,0.8s,baz=297,slow=3.2,SNR=8.3							
MKAR	**Makanchi Array**	**155.97**	**47**	PKPbc	PKPbc	17 44 52.2		
	0.5nm,0.8s,baz=343,slow=3.8,SNR=3.9							
MKAR				PKPab	**PKPab**	**17 45 09.2**	**0.0**	
	0.8nm,0.8s,baz=308,slow=4.5,SNR=7.5							

*IDC **08** 17:34:18.9±1.4, 36°.29S×73°.23W, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.8/28, mbtmp3.6/6, ML3.3/2, Error ellipse: s-maj=42.0km s-min=20.6km az=71.0*
*ISCJB **08** 17:34:22.0±1.0, 36°.18S±0°.09×72°.9W±0°.2, h28km, mb3.7/3, Error ellipse: s-maj=21.0km s-min=11.6km az=24.2*

ISC 08 17:34:23.5±1.1, 36°.2S±0°.1×73°.0W±0°.2, h28km, n6, σ0$80/6, mb3.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.94**	**157**	Pn	**Pn**	**17 35 35.5**	**-0.3**
	0.5nm,0.3s,baz=331,slow=11,SNR=9.5						
PLCA				Lg	Lg	17 36 53.1	
	1.2nm,0.3s,baz=83,slow=22,SNR=3.3						
CFAA	**Coronel Fontan**	**6.07**	**42**	Pn	**Pn**	**17 35 51.9**	**+0.5**
	0.1nm,0.3s,baz=328,slow=1.0,SNR=4.7						
CFAA				Sn	**Sn**	**17 36 59.2**	**-0.8**
	0.1nm,0.3s,baz=188,slow=12,SNR=2.1						
LPAZ	**La Paz**	**20.30**	**14**	P	Pn	17 38 58.9	-1.1
	1.2nm,0.3s,baz=193,slow=7.7,SNR=7.4						
TXAR	**Lajitas Array**	**71.26**	**332**	P	**P**	**17 45 39.6**	**-0.7**
	0.4nm,0.4s,baz=182,slow=4.9,SNR=4.3						
NVAR	**Mina Array Bea**	**85.22**	**326**	P	**P**	**17 46 57.7**	**+0.3**
	0.7nm,0.8s,baz=150,slow=5.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**85.72**	**70**	P	**P**	**17 47 00.9**	**+0.7**
	0.4nm,0.9s,baz=267,slow=2.7,SNR=2.5						

*NIED **08** 17:39:00, 20°.50N×122°.10E, h5km, Mw4.4 Best double couple: M0=4.69000×10^15 NP1:φs112.00000°, δ11.00000°, λ-120.00000°. NP2:φs323.00000°, δ81.00000°, λ-85.00000°.*
*IDC **08** 17:39:46.3±0.7, 20°.10N×122°.17E, h0km, mb3.9/11, mb1 4.1/13, mb1mx4.0/36, mbtmp4.0/13, ML3.5/2, MS4.3/3, Ms1 4.3/3, ms1mx3.5/39, Error ellipse: s-maj=23.1km s-min=16.0km az=76.0*
*NEIC **08** 17:39:49.0±4.2, 20°.19N×122°.20E, h14km±27km, mb4.2/5, Error ellipse: s-maj=12.8km s-min=9.2km az=79.0*
NEIC Felt [III PIVS] at Basco, Sabtang and Uyugan.
*ISCJB **08** 17:39:49.0±0.3, 20°.25N±0°.02×122°.23E±0°.06, h27km, mb3.9/18, MS4.8/2, Error ellipse: s-maj=7.9km s-min=2.7km az=18.2*
*MAN **08** 17:39:50, 20°.26N×122°.18E, h31km, MS4.8*
MAN INTENSITY III - SABTANG BATANES.
*JMA **08** 17:39:51.5±0.3, 20°.53N×122°.13E, h13km, M4.6*

ISC 08 17:39:51.0±0.5, 20°.23N±0°.04×122°.20E±0°.07, h27km, n61, σ1$22/60, mb4.0/18, 2C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.41**	**218**	⇓*i*P	Pn	17 40 26.4	-2.4
PIP				*e*S	**Sn**	**17 40 54.8**	**-2.6**
CVP	**Callao Caves**	**2.54**	**188**	⇓*i*P	**Pn**	**17 40 30.0**	**-0.5**
CVP				*i* S	**Sn**	**17 41 00.3**	**-0.2**
TWG	**Pinlang**	**2.78**	**338**	*e*P	Pn	17 40 30.9	-3.0
SIPP	**Brgy, Tapao**	**2.82**	**216**	⇑*e*P	**Pn**	**17 40 33.7**	**-0.7**
SIPP				*e*S	**Sb**	**17 41 13.6**	**-1.3**
YULB	**Yu-li**	**3.26**	**345**	*e*Pn	Pn	17 40 38.5	-1.9
TPUB	**Ta-pu**	**3.38**	**335**	*e*Pn	**Pn**	**17 40 42.2**	**+0.1**
SSLB	**Suanglung**	**3.72**	**342**	*e*Pn	**Pn**	**17 40 47.0**	**+0.1**
NACB	**Ninganchiao**	**3.96**	**352**	*e*Pn	Pn	17 40 47.6	-2.5
HATJ	**Hateruma jima**	**4.09**	**21**	P	**Pn**	**17 40 51.8**	**0.0**
HATJ				S	**Sn**	**17 41 37.0**	**-1.8**
BCPH	**Baguio City Da**	**4.12**	**202**	⇑*i*P	**Pn**	**17 40 51.8**	**-0.7**
BCPH				*i* S	**Sn**	**17 41 39.2**	**-0.7**
JYNG	**Yonagunijimaku**	**4.26**	**9**	P	**Pn**	**17 40 54.2**	**+0.1**
JYNG				*e*S	**Sn**	**17 41 40.4**	**-2.5**
YOJ	**Yonaguni jima**	**4.28**	**10**	P	**Pn**	**17 40 54.9**	**+0.5**
YOJ				*e*S	**Sn**	**17 41 41.7**	**-1.8**
YOJ	**Yonaguni jima**	**4.28**	**10**	*e*Pn	**Pn**	**17 40 55.0**	**+0.5**
IRIF	**Iriomote-Funau**	**4.33**	**19**	P	**Pn**	**17 40 55.1**	**+0.1**
IRIF				*e*S	**Sn**	**17 41 43.0**	**-1.6**
JKRS	**Kuro-shima**	**4.33**	**22**	P	**Pn**	**17 40 55.4**	**+0.3**
JKRS				*e*S	**Sn**	**17 41 43.3**	**-1.4**
YHNB	**Yeheng**	**4.48**	**350**	*e*Pn	**Pn**	**17 40 57.2**	**-0.1**
JIJ	**Ishigaki jima**	**4.49**	**23**	P	**Pn**	**17 40 57.1**	**-0.2**
JIJ				*e*S	**Sn**	**17 41 46.8**	**-1.9**
JISG	**Ishigakijimahi**	**4.76**	**24**	P	**Pn**	**17 41 00.6**	**-0.4**
JISG				*e*S	**Sn**	**17 41 53.7**	**-1.5**
PCPH	**Palayan**	**4.76**	**193**	⇓*e*P	**Pn**	**17 41 01.3**	**+0.2**
TATO	**Taipei**	**4.77**	**352**	*e*Pn	**Pn**	**17 41 01.6**	**+0.5**
JTJ	**Tarama**	**4.96**	**27**	P	**Pn**	**17 41 04.7**	**+0.9**
JTJ				*e*S	**Sn**	**17 41 59.6**	**-0.8**
JIRB	**Irabujima**	**5.34**	**30**	P	**Pn**	**17 41 09.8**	**+0.8**
JOGS	**Gusukube**	**5.40**	**33**	P	**Pn**	**17 41 11.2**	**+1.4**
JIKM	**Ikemajima**	**5.46**	**31**	P	**Pn**	**17 41 11.9**	**+1.3**
TGY	**Tagaytay City**	**6.21**	**191**	Pn	Pn	17 41 24.7	+3.6
	16nm,0.3s,baz=150,slow=16,SNR=2.4						
GQP	**Guinayangan**	**6.29**	**178**	⇓*e*P	**Pn**	**17 41 24.1**	**+1.9**
JIH	**Iheya**	**8.59**	**37**	P	**Pn**	**17 41 53.6**	**-0.1**
JOW	**Kunigami**	**8.62**	**39**	P	**Pn**	**17 41 54.3**	**+0.3**
JOW	**Kunigami**	**8.62**	**39**	Pn	**Pn**	**17 41 54.4**	**+0.4**
	0.8nm,0.3s,baz=208,slow=12,SNR=13						
JNU	**Nakatsue**	**14.99**	**29**	Pn	**P**	**17 43 27.5**	**+1.1**
	0.4nm,0.3s,baz=207,slow=3.7,SNR=6.0						
KSAR	**Wonju Array Be**	**17.85**	**15**	P	**P**	**17 43 59.4**	**+1.4**
KSRS	**Korea Array**	**17.87**	**15**	P	**P**	**17 43 59.4**	**+1.1**
	0.3nm,0.3s,baz=192,slow=12,SNR=14						
KSRS				LR	LR	17 51 38.8	
	comp=Z,107nm,18.5s,baz=95,slow=40						
MJAR	**Matsushiro Arr**	**21.46**	**37**	P	**P**	**17 44 39.4**	**+2.1**
	3.6nm,0.8s,baz=221,slow=10,SNR=9.0						
KSM	**Kuching**	**21.97**	**213**	*e*P	**P**	**17 44 44.2**	**+1.3**
	11nm,0.9s						
CMAR	**Chiang Mai Arr**	**22.01**	**269**	P	**P**	**17 44 44.0**	**+0.5**
	1.6nm,1.0s,baz=64,slow=8.8,SNR=10						
LSA	**Lhasa**	**29.61**	**295**	P	**P**	**17 45 55.3**	**+0.7**
ULN	**Ulaanbaatar**	**30.17**	**340**	*e*P	**P**	**17 45 59.2**	**+0.1**
	2.7nm,0.9s						
SONM	**Songino Array**	**30.37**	**339**	P	**P**	**17 46 01.5**	**+0.7**
	0.8nm,0.7s,baz=153,slow=9.5,SNR=6.4						
WRAB	**Tennant Creek**	**41.65**	**163**	*e*P	**P**	**17 47 35.9**	**-1.5**
	5.4nm,0.8s						
WRA	**Warramunga Arr**	**41.66**	**163**	P	**P**	**17 47 35.9**	**-1.5**
	4.0nm,0.8s,baz=343,slow=9.0,SNR=28						
WRA				PcP	**PcP**	**17 49 30.8**	**-3.2**
	0.4nm,0.7s,baz=336,slow=4.2,SNR=2.4						
WB2	**Warramunga Arr**	**41.66**	**163**	*e*P	P	17 47 35.6	-1.8
MKAR	**Makanchi Array**	**41.87**	**319**	P	**P**	**17 47 39.4**	**+0.5**
	2.1nm,0.7s,baz=113,slow=9.0,SNR=25						
H11N1	**WAKE ISLAND Hy**	**41.91**	**83**	T	T	18 32 41.3	
	baz=279,slow=75,SNR=110						
H11N2	**WAKE ISLAND Hy**	**41.91**	**83**	T	T	18 32 43.8	
	baz=279,slow=75,SNR=58						
H11S3	**WAKE ISLAND Hy**	**41.92**	**85**	T	T	18 32 40.4	
	baz=280,slow=75,SNR=562						
H11S1	**WAKE ISLAND Hy**	**41.93**	**85**	T	T	18 32 41.2	
	baz=280,slow=75,SNR=640						
H11N3	**WAKE ISLAND Hy**	**41.93**	**83**	T	T	18 32 41.4	
	baz=279,slow=75,SNR=76						
H11S2	**WAKE ISLAND Hy**	**41.94**	**85**	T	T	18 32 41.8	
	baz=280,slow=75,SNR=495						
ZALV	**Zalesovo Beam**	**44.08**	**329**	P	**P**	**17 47 56.5**	**-0.2**
	2.8nm,0.6s,baz=119,slow=8.3,SNR=11						
AS31	**Alice Springs**	**45.10**	**165**	*e*P	**P**	**17 48 04.7**	**-0.5**
ASAR	**Alice Springs**	**45.10**	**165**	P	**P**	**17 48 04.6**	**-0.5**
	1.8nm,0.7s,baz=344,slow=6.7,SNR=32						
ASAR				LR	LR	18 09 07.1	
	comp=Z,1μm,19.2s,baz=162,slow=39						
AAK	**Ala-Archa**	**45.71**	**310**	P	**P**	**17 48 13.0**	**+3.0**
	0.8nm,0.7s,baz=103,slow=8.5,SNR=4.1						
AAK	**Ala-Archa**	**45.71**	**310**	P	**P**	**17 48 11.2**	**+1.2**
CTA	**Charters Tower**	**46.48**	**148**	LR	LR	18 06 33.7	
	comp=Z,1μm,21.0s,slow=35						
TIXI	**Tiksi**	**51.58**	**3**	*e*P	**P**	**17 48 53.4**	**-1.0**
	1.7nm,0.6s						
ABKAR	**Akbulak array**	**56.90**	**316**	*e*P	**P**	**17 49 34.5**	**+0.9**
	1.0nm,0.6s						
GEYT	**Alibeck**	**57.66**	**303**	P	P	17 49 43.0	+3.8
	1.6nm,0.7s,baz=321,slow=1.8,SNR=4.0						
ILAR	**Eielson Array**	**72.29**	**27**	P	**P**	**17 51 13.6**	**-0.3**
	0.4nm,0.7s,baz=268,slow=4.5,SNR=5.1						
FINES	**FINESS Array B**	**75.32**	**330**	P	**P**	**17 51 30.9**	**-0.7**
	1.7nm,0.8s,baz=44,slow=6.7,SNR=7.3						
AKASG	**Malin Array Be**	**76.45**	**319**	P	**P**	**17 51 37.4**	**-0.9**
	1.0nm,0.6s,baz=64,slow=5.4,SNR=2.6						
YKA	**Yellowknife Ar**	**86.23**	**23**	P	**P**	**17 52 30.0**	**+0.1**
	0.4nm,0.5s,baz=310,slow=4.8,SNR=12						

SJA 08 17:44:08.9±0.7, 25°.81S×66°.68W, h4km±4km, ML3.7, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.52**	**45**	*i* P	Pg	17 44 38.2	-0.1
SLA				*i* S	Sg	17 45 00.6	+2.4
SLA				AML	AML	17 45 06.7	
	comp=Z,754nm,0.7s						
AHML	**Horco Molle**	**1.55**	**129**	*i* P	Pb	17 44 38.5	+0.2
AHML				*i* S	Sg	17 45 00.6	+1.8
AZAP	**Zapla**	**2.15**	**43**	*i* P	Pb	17 44 48.5	-0.3
AZAP				*i* S	Sg	17 45 17.6	-1.2
AZAP				AML	AML	17 45 23.6	
	comp=Z,531nm,0.7s						
ASTB	**Santa Barbara**	**2.72**	**48**	*i* P	Pb	17 44 56.5	-1.9
CYA	**Choya**	**2.73**	**164**	*i* P	Pb	17 44 56.2	-2.2
CYA				*i* S	Sb	17 45 31.3	-1.1
CYA				AML	AML	17 45 37.9	
	comp=Z,303nm,0.5s						
ALOL	**LOMAS DE OLMED**	**3.16**	**52**	*i* P	Pb	17 45 02.7	-3.0
AGUA	**GUANDACOL**	**4.00**	**203**	*i* P	Pn	17 45 14.6	+3.5

*IDC **08** 17:50:41.9±0.4, 32°.59S×71°.65W, h0km, mb4.8/18, mb1 4.8/22, mb1mx4.8/27, mbtmp4.8/22, ML4.6/4, MS4.6/9, Ms1 4.6/9, ms1mx4.3/31, Error ellipse: s-maj=16.5km s-min=12.1km az=77.0*
*GUC **08** 17:50:43.8±0.6, 32°.71S×71°.85W, h8km±2km, ML4.7*
*ISCJB **08** 17:50:44.4±1.0, 32°.52S±0°.03×71°.66W±0°.05, h24km±7km, mb5.2/139, MS4.9/107, Error ellipse: s-maj=7.7km s-min=4.3km az=153.8*
*NEIC **08** 17:50:45.8±0.1, 32°.60S×71°.64W, mb5.4/122, MS4.9/100, Error ellipse: s-maj=6.6km s-min=3.6km az=61.0*
NEIC Felt [IV] at Vina del Mar; [III] at La Ligua, Puchuncavi, Quillota, San Antonio, Santiago and Valparaiso; [II] at Maipo. Also felt at Colina, Limache, Penaflor, San Felipe and Villa Alemana.
*GCMT **08** 17:50:45.8±0.2, 32°.88S×72°.04W, h16km, MW5.3/82, Moment Tensor Solution. s39,c50; s82,c140; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.91±.04; Mθθ-0.03±.02; Mφφ-0.87±.03; Mrθ0.32±.07; Mrφ0.16±.01; Mθφ-0.59±.06; Best double couple: M0=1.12700×10^17 NP1:φs159.00000°, δ63.00000°, λ81.00000°. NP2: φs360.00000°, δ28.00000°, λ108.00000°. Principal axes: T 1.1450, Plg70.0000°, Azm49.0000°; N -0.0360, Plg8.0000°, Azm163.0000°; P -1.1090, Plg18.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **08** 17:50:46.3, 32°.46S×71°.42W, h33km, mB5.3/24, Ms5.6/22, Ms7 5.3/23*
*MOS **08** 17:50:46.2±1.4, 32°.50S×71°.60W, h33km, mb5.6/37, Error ellipse: s-maj=15.4km s-min=7.5km az=103.8*

ISC 08 17:50:45.9±0.4, 32°.61S±0°.04×71°.69W±0°.04, h26km±2km, h26km:pP-P, n823, σ0$88/865, mb5.4/140, MS4.9/107, 231C-218D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.42**	**175**	*e*P1	Pb	17 50 51.5	-3.4
IHA				*i* S1	**Sb**	**17 50 56.8**	**-4.1**
PEL	**Peldehue**	**1.00**	**123**	⇑*i*P	**Pn**	**17 51 03.6**	**-0.7**
PEL				*i* S	**Sn**	**17 51 18.3**	**+0.7**
PEL				AML	AML	17 51 20.8	
	comp=E,59μm,0.3s						
SAN	**Santiago**	**1.21**	**135**	⇑*i*P	**Pn**	**17 51 06.4**	**-0.7**
SAN				*i* S	**Sb**	**17 51 23.3**	**0.0**
SAN				AML	AML	17 51 31.5	
	comp=N,16μm,0.4s						
TACH	**Talagante**	**1.22**	**149**	⇑*i*P	**Pn**	**17 51 05.3**	**-2.0**
CLCH	**Cerro Calan**	**1.25**	**129**	⇑*i*P	**Pn**	**17 51 07.0**	**-0.7**
CLCH				*i* S	**Sb**	**17 51 25.1**	**+0.6**
CLCH				AML	AML	17 51 31.3	
	comp=N,39μm,0.7s						
LACH	**Col Las Americ**	**1.29**	**131**	*e*P	**Pn**	**17 51 07.6**	**-0.6**
LACH				*i* S	**Sb**	**17 51 25.7**	**+0.1**
ANTU	**Antumapu**	**1.30**	**138**	⇑*i*P	**Pn**	**17 51 08.0**	**-0.5**
ANTU				*i* S	**Sn**	**17 51 25.9**	**+0.8**
ANTU				AML	AML	17 51 34.0	
	comp=E,28μm,0.4s						
LNV	**Longovilo**	**1.36**	**170**	*e*P1	**Pn**	**17 51 06.9**	**-2.3**
FCH	**Farellones**	**1.38**	**122**	*e*P	**Pn**	**17 51 10.6**	**+0.9**
FCH				*i* S	**Sb**	**17 51 30.7**	**+2.2**
FCH				AML	AML	17 51 33.9	
	comp=N,10μm,0.1s						
CHCH	**Chadas Angostu**	**1.58**	**147**	*e*P	**Pn**	**17 51 11.7**	**-0.6**
CACH	**El canelo**	**1.76**	**149**	⇑*i*P	**Pn**	**17 51 15.1**	**+0.3**
NICH	**Los Niches**	**2.42**	**171**	*e*P	**Pn**	**17 51 23.5**	**-0.3**
NICH				*i* S	**Sn**	**17 51 54.1**	**+1.6**
CFAA	**Coronel Fontan**	**3.09**	**72**	Pn	**Pb**	**17 51 37.3**	**-2.9**
	comp=N,3.4nm,0.3s,baz=246,slow=4.9,SNR=53						
CFAA				LR	LR	17 52 15.3	
	comp=N,671nm,19.4s,baz=255,slow=30						
CFAA				Lg	Lg	17 52 19.5	
	comp=N,34nm,0.3s,baz=38,slow=8.9,SNR=14						
PLCA	**Paso Flores**	**8.16**	**174**	Pn	**Pn**	**17 52 42.7**	**0.0**
	comp=N,3.9nm,0.3s,baz=332,slow=10,SNR=21						
PLCA				Lg	Lg	17 54 53.8	
	comp=N,0.3nm,0.3s,baz=94,slow=22,SNR=2.1						
PLCA				LR	LR	17 56 20.4	
	comp=N,3μm,18.9s,baz=2.0,slow=41						
TRQA	**Tornquist**	**9.61**	**127**	*e*Pn	**Pn**	**17 53 04.7**	**+2.1**
	comp=N,186nm,1.3s						
LVC	**Limon Verde**	**10.26**	**15**	*e*Pn	Pn	17 53 07.2	-4.4
	comp=N,46nm,1.2s						
CPUP	**Villa Florida**	**13.98**	**67**	Pn	**Pn**	**17 54 00.2**	**-2.1**
	comp=N,0.3nm,0.3s,baz=139,slow=4.9,SNR=2.2						
CPUP				Sn	**Sn**	**17 56 37.0**	**+0.4**
	comp=N,1.9nm,0.3s,baz=198,slow=14,SNR=1.9						
CPUP				Lg	Lg	17 58 03.4	
	comp=N,2.6nm,0.3s,baz=136,slow=3.0,SNR=3.1						
CPUP				LR	LR	17 59 37.2	
	comp=N,4μm,18.5s,baz=230,slow=38						
LPAZ	**La Paz**	**16.57**	**12**	Pn	**Pn**	**17 54 37.6**	**+0.6**
	comp=N,1.3nm,0.3s,baz=180,slow=8.9,SNR=104						
SIV	**San Ignacio**	**19.14**	**33**	P	**P**	**17 55 06.4**	**-0.8**
	comp=N,0.5nm,0.3s,baz=233,slow=12,SNR=26						
SIV				Lg	Lg	18 01 00.0	
	comp=N,0.2nm,0.3s,baz=267,slow=21,SNR=2.1						
SIV				LR	LR	18 02 59.6	
	comp=N,975nm,19.2s,baz=228,slow=39						
NNA	**Nana**	**21.06**	**346**	*e*P	**P**	**17 55 29.0**	**+0.8**
NNA	**Nana**	**21.06**	**346**	P	**P**	**17 55 29.2**	**+1.1**
	comp=N,51nm,1.2s,baz=189,slow=7.3,SNR=7.2						
NNA				LR	LR	18 01 08.9	
	comp=N,591nm,20.3s,baz=263,slow=30						
NNA	**Nana**	**21.06**	**346**	*e*P	**P**	**17 55 29.4**	**+1.2**
	comp=N,102nm,1.1s						
EFI	**East Falkland**	**21.50**	**156**	*e*P	**P**	**17 55 32.2**	**-0.3**
EFI	**East Falkland**	**21.50**	**156**	*e*P	**P**	**17 55 32.2**	**-0.3**
EFI				LR	LR		
	comp=Z,4μm,19.0s						
USHA	**Ushuaia**	**22.34**	**175**	P	**P**	**17 55 42.6**	**+1.1**
	comp=Z,6.3nm,0.6s,baz=342,slow=9.6,SNR=3.6						
USHA				LR	LR	18 03 56.3	
	comp=Z,909nm,19.9s,baz=330,slow=36						
SAML	**Samuel**	**24.82**	**20**	*e*P	**P**	**17 56 05.7**	**-0.3**
	comp=Z,78nm,1.3s						
SAML				LR	LR		
	comp=Z,2μm,21.0s						
ATAH	**Atahualpa**	**26.10**	**345**	P	**P**	**17 56 18.4**	**+0.3**
	comp=Z,9.2nm,0.9s,baz=178,slow=7.8,SNR=6.8						
BDFB	**Brasilia**	**27.32**	**57**	P	**P**	**17 56 28.1**	**-0.8**
	comp=Z,67nm,1.2s,baz=217,slow=7.4,SNR=27						
BDFB				LR	LR	18 08 22.7	
	comp=Z,5μm,19.2s,baz=227,slow=39						
HOPE	**Hope Point**	**32.98**	**142**	PFAKE		17 57 30.0	+12
HOPE				LR	LR		
	comp=Z,1μm,20.0s						
OTAV	**Otavalo**	**33.29**	**348**	*e*P	**P**	**17 57 24.7**	**+2.8**
	comp=Z,37nm,1.4s						
OTAV				LR	LR		
	comp=Z,565nm,20.0s						
ROSC	**El Rosal**	**37.34**	**356**	P	**P**	**17 57 57.7**	**+1.0**
	comp=Z,5.9nm,0.4s,baz=174,slow=4.3,SNR=10						
SDV	**Santo Domingo**	**41.27**	**2**	*e*P	**P**	**17 58 28.7**	**-0.6**
	comp=Z,132nm,1.5s						
SDV				LR	LR		
	comp=Z,1μm,22.0s						
BCIP	**Isla Barro Col**	**42.26**	**348**	PFAKE		17 58 50.0	+13
BCIP				LR	LR		
	comp=Z,427nm,22.0s						
RCBR	**Riachuelo**	**42.67**	**59**	P	**P**	**17 58 41.2**	**+0.6**
	comp=Z,2.6nm,0.4s,baz=245,slow=17,SNR=2.8						
RCBR				LR	LR	18 17 01.6	
	comp=Z,2μm,19.8s,baz=200,slow=37						
JTS	**JuntasAbangare**	**44.50**	**341**	⇓*e*P	**P**	**17 58 55.6**	**+0.4**
JTS				pmax	pmax		
	comp=Z,66nm,1.8s						
JTS	**JuntasAbangare**	**44.50**	**341**	P	**P**	**17 58 55.0**	**-0.2**
	comp=Z,2.9nm,0.4s,baz=104,slow=7.5,SNR=3.8						
JTS	**JuntasAbangare**	**44.50**	**341**	*e*P	**P**	**17 58 56.2**	**+1.0**
JTS				LR	LR		
	comp=Z,321nm,19.0s						
GRGR	**Grenville**	**45.51**	**14**	PFAKE		17 59 20.0	+17
GRGR				LR	LR		
	comp=Z,785nm,19.0s						
BBGH	**Gun Hill**	**46.95**	**16**	PFAKE		17 59 30.0	+15
BBGH				LR	LR		
	comp=Z,1μm,19.0s						
FDF	**Fort de France**	**48.14**	**14**	PFAKE		17 59 40.0	+16
FDF				LR	LR		
	comp=Z,855nm,19.0s						
VNA3	**Neumayer Olymp**	**50.54**	**158**	P	**P**	**17 59 41.9**	**+0.4**
OBIP	**Obispado Ponce**	**50.60**	**6**	*e*P	**P**	**17 59 42.5**	**0.0**
	comp=Z,44nm,1.0s						
LRS	**Lares**	**50.82**	**6**	*e*P	**P**	**17 59 43.0**	**-1.3**
CBYP	**Canovanas**	**50.90**	**7**	*e*P	**P**	**17 59 44.5**	**-0.4**
	comp=Z,86nm,1.4s						
VNA2	**Neumayer–Watz**	**51.18**	**158**	P	**P**	**17 59 47.2**	**+0.8**
SDDR	**Presa de Saban**	**51.30**	**0**	PFAKE		18 00 00.0	+12
SDDR				LR	LR		
	comp=Z,598nm,19.0s						
SNAA	**Sanae**	**52.76**	**158**	P	**P**	**17 59 58.9**	**+0.6**
SNAA	**Sanae**	**52.76**	**158**	*e*P	**P**	**17 59 58.0**	**-0.2**
SNAA	**Sanae**	**52.76**	**158**	*de*P	**P**	**17 59 59.1**	**+0.8**
SNAA				pmax	pmax		
	comp=Z,42nm,1.6s						
SNAA	**Sanae**	**52.76**	**158**	P	**P**	**17 59 58.5**	**+0.2**
	comp=Z,3.3nm,0.9s,baz=278,slow=9.2,SNR=22						
SNAA	**Sanae**	**52.76**	**158**	*e*P	**P**	**17 59 58.0**	**-0.2**
	comp=Z,32nm,1.2s						
TEIG	**Tepich**	**54.88**	**341**	*e*P	**P**	**18 00 13.4**	**-0.8**
	comp=Z,21nm,0.8s						
TEIG				LR	LR		
	comp=Z,380nm,19.0s						
RKT	**Rikitea**	**56.03**	**263**	*e*S	**S**	**18 08 10.3**	**+0.6**
	comp=Z,540nm,28.0s						
RKT				*e*LR	LR	18 16 44.6	
	comp=Z,1μm,27.5s						
RKT	**Rikitea**	**56.03**	**263**	*e*T	T	19 00 48.1	
	comp=Z,2.3nm,0.2s						
NVL	**N'lazarevskaya**	**57.48**	**157**	*e*P	**P**	**18 00 32.6**	**+0.4**
NVL				pmax	pmax		
	comp=Z,23nm,1.1s						
QSPA	**South Pole Qui**	**57.62**	**180**	*e*P	**P**	**18 00 33.0**	**-0.5**
	comp=Z,67nm,1.6s						
QSPA				LR	LR		
	comp=Z,623nm,20.0s						
ASCN	**Ascension**	**58.34**	**78**	PFAKE		18 00 50.0	+11
ASCN				LR	LR		
	comp=Z,2μm,22.0s						
035Z	**Hargill**	**63.89**	**334**	⇑P	**P**	**18 01 16.3**	**0.0**
	baz=64						
SBA	**Scott Base**	**64.50**	**192**	PFAKE		18 01 30.0	+10
SBA				LR	LR		
	comp=Z,374nm,21.0s						
TIGA	**Tifton**	**64.69**	**349**	⇑P	**P**	**18 01 20.9**	**-0.6**
	baz=65						
KVTX	**Kingsville**	**64.81**	**334**	PFAKE		18 01 30.0	+7.7

baz=68
435B Jarrell 67.65 336 ⇓P P 18 01 41.1 +0.6
baz=68
CNNC Cliffs of the 67.74 355 PFAKE 18 01 50.0 +9.1
CNNC LR LR
comp=Z,409nm,21.0s
239A Gary 67.79 339 ⇑P P 18 01 42.0 +0.7
baz=68
532A Rocksprings 67.88 334 ⇓P P 18 01 42.2 +0.1
baz=68,SNR=23
434A Burnet 67.91 335 ⇑P P 18 01 42.2 0.0
baz=68,SNR=14
336A Riesel 67.95 337 ⇓P P 18 01 42.6 +0.2
baz=68,SNR=6.5
238A Jacksonville 67.97 339 ⇑P P 18 01 42.9 +0.4
baz=68
KMSC Kings Mountain 68.00 351 ⇑P P 18 01 42.0 -0.6
baz=68,SNR=8.6
KMSC Kings Mountain 68.00 351 eP P 18 01 42.6 0.0
comp=Z,69nm,1.3s
KMSC epP pP 18 01 49.6 -1.4
335A Moody 68.05 336 ⇓P P 18 01 43.5 +0.5
baz=68
433A Art 68.15 335 ⇓P P 18 01 43.6 -0.1
baz=68,SNR=10
531A Rocksprings 68.16 333 ⇓P P 18 01 44.3 +0.5
baz=68,SNR=13
JCT Junction City 68.16 334 eP P 18 01 44.0 +0.2
JCT e*PP pP 18 01 51.6 -0.5
JCT pmax pmax
comp=Z,101nm,1.5s
JCT Junction City 68.16 334 ⇑P P 18 01 44.0 +0.2
baz=68,SNR=9.9
JCT Junction City 68.16 334 eP P 18 01 44.0 +0.2
comp=Z,101nm,1.5s
JCT epP pP 18 01 51.6 -0.5
JCT LR LR
comp=Z,217nm,22.0s
237A Washetta, Mont 68.18 338 ⇑P P 18 01 44.5 +0.6
baz=68
334A Lometa 68.37 336 ⇑P P 18 01 45.1 +0.1
baz=69,SNR=11
530A J-C Ranch, Com 68.45 333 ⇑P P 18 01 46.0 +0.3
baz=69,SNR=29
432A Menard 68.52 334 ⇓P P 18 01 46.0 0.0
baz=69,SNR=6.2
138A Matatall Enter 68.57 339 ⇑P P 18 01 46.8 +0.5
baz=69
333A Richland Sprin 68.63 335 ⇓P P 18 01 46.5 -0.2
baz=69
431A Sonora 68.65 333 ⇑P P 18 01 46.9 +0.1
baz=69,SNR=7.4
TXAR Lajitas Array 68.67 330 P P 18 01 46.1 -1.0
comp=Z,4.1nm,0.8s,baz=150,slow=8.2,SNR=22
WHTX Lake Whitney, 68.71 337 ⇓P P 18 01 47.0 -0.1
baz=69
WHTX Lake Whitney, 68.71 337 eP P 18 01 48.0 +0.9
comp=Z,40nm,1.4s
WHTX epP pP 18 01 54.2 -1.3
137A Heron Place, G 68.72 338 ⇓P P 18 01 47.2 0.0
baz=69
CPCT Cooper Cave 68.76 349 eP P 18 01 49.4 +2.1
CPCT epP pP 18 01 57.1 +1.4
529A Stev Forest Ra 68.78 332 ⇓P P 18 01 48.0 +0.3
baz=69,SNR=15
TKL Tuckaleechee C 68.85 349 eP P 18 01 47.5 -0.4
TKL e*PP pP 18 01 54.5 -1.8
TKL Tuckaleechee C 68.85 349 eP P 18 01 47.5 -0.4
TKL epP pP 18 01 54.5 -1.8
234A Clairette 68.95 336 ⇑P P 18 01 48.6 0.0
baz=69,SNR=11
332A Millersview 68.95 334 ⇑P P 18 01 48.5 -0.2
baz=69,SNR=13
430A Baggett Ranch, 68.98 333 ⇓P P 18 01 49.0 +0.1
baz=69,SNR=12
429A Davenport Ranc 69.09 332 ⇑P P 18 01 49.7 +0.1
baz=69,SNR=12
331A San Angelo 69.14 334 ⇑P P 18 01 49.8 -0.1
baz=70,SNR=8.3
135A Vickery Place, 69.21 337 ⇑P P 18 01 49.7 -0.5
baz=70
233A Rising Star 69.23 335 ⇓P P 18 01 50.3 -0.1
baz=70,SNR=11
MEH Mehetia 69.33 262 eT T 19 17 24.9
comp=Z,17nm,0.3s
232A Coleman 69.38 335 ⇓P P 18 01 51.2 -0.1
baz=70
330A Mertzon 69.51 333 ⇓P P 18 01 51.9 -0.3
baz=70,SNR=7.2
231A Bronte 69.66 334 ⇓P P 18 01 52.9 -0.2
baz=70,SNR=6.9
133A Hamilton Ranch 69.77 336 ⇑P P 18 01 53.7 0.0
baz=70,SNR=8.4
Z35A Perchaven, San 69.87 337 ⇑P P 18 01 54.3 0.0
baz=70,SNR=7.5
329A Wagon Wheel Ra 69.89 333 ⇑P P 18 01 54.4 -0.2
baz=70,SNR=6.3
MIAR Mount Ida 69.89 341 eP P 18 01 54.5 +0.1
MIAR e*PP pP 18 02 01.9 -0.8
MIAR pmax pmax
comp=Z,50nm,1.3s
MIAR Mount Ida 69.89 341 eP P 18 01 54.5 +0.1
comp=Z,50nm,1.3s
MIAR epP pP 18 02 01.9 -0.8
MIAR LR LR
comp=Z,240nm,19.0s
230A Sterling City 69.92 334 ⇓P P 18 01 54.4 -0.3
baz=70
VWCC Virginia Weste 69.92 353 eP P 18 01 55.0 +0.5
VWCC epP pP 18 02 01.8 -1.1
BLA Blacksburg 69.94 353 eP P 18 01 54.8 +0.1
BLA pmax pmax
comp=Z,20nm,1.0s
BLA Blacksburg 69.94 353 eP P 18 01 54.8 +0.1
comp=Z,20nm,1.0s
BLA LR LR
comp=Z,533nm,19.0s
WVT Waverly 70.03 346 eP P 18 01 54.6 -0.6
WVT e*PP pP 18 02 02.2 -1.4
WVT pmax pmax
comp=Z,111nm,1.0s
WVT Waverly 70.03 346 eP P 18 01 54.5 -0.6
comp=Z,111nm,1.0s
WVT epP pP 18 02 02.2 -1.4
ABTX Abilene, Hawle 70.04 335 ⇓P P 18 01 55.2 -0.2
baz=70,SNR=6.5
ABTX Abilene, Hawle 70.04 335 eP P 18 01 55.4 0.0
comp=Z,115nm,1.5s
Z34A Collier Ranch, 70.13 337 ⇓P P 18 01 55.5 -0.4
baz=70
JSRW J. Sargeant Re 70.18 355 eP P 18 01 56.8 +0.7
JSRW epP pP 18 02 04.1 -0.3
229A Bryant Ranch, 70.25 333 ⇓P P 18 01 56.2 -0.5
baz=71
Z33A Whitaker Ranch 70.33 336 ⇑P P 18 01 56.9 -0.3
baz=71,SNR=8.7
131A Roby 70.35 335 ⇓P P 18 01 57.6 +0.3
baz=71
130A Snyder 70.49 334 ⇑P P 18 01 58.1 -0.1
baz=71
Z32A Haskell 70.60 336 ⇓P P 18 01 59.0 +0.2
baz=71
Y34A Reagan Ranch, 70.61 337 ⇓P P 18 01 58.6 -0.2
baz=71,SNR=9.5
228A UT Block 9, Go 70.69 332 ⇑P P 18 01 59.5 +0.1
baz=71
PPT2 Papeete2 70.73 261 eLR LR 18 23 26.6
comp=Z,1um,29.0s
Z31A Sharp Cattle R 70.84 335 ⇓P P 18 02 00.2 -0.1
baz=71,SNR=11
129A Stewart Farms, 70.86 333 ⇓P P 18 02 00.7 +0.2
baz=71
Y33A Hilltop Ranch, 70.95 337 ⇑P P 18 02 00.7 -0.1
baz=71,SNR=6.1
128A Castleberry Fa 71.09 333 ⇓P P 18 02 02.0 +0.1
baz=71,SNR=6.2
Z30A Sanderson Ranc 71.17 334 ⇑P P 18 02 01.8 -0.5
baz=72,SNR=5.5
Y32A R-V Farms, Ver 71.22 336 ⇑P P 18 02 02.4 -0.1
baz=72,SNR=6.0
X34A Smith Ranch, M 71.23 337 ⇑P P 18 02 02.3 -0.2
baz=72,SNR=10.0
Z29A Hungry Hill Ra 71.36 334 ⇑P P 18 02 03.1 -0.4
baz=72
X33A Lawton 71.39 337 ⇓P P 18 02 03.2 -0.4
baz=72
MNTX Cornudas Mount 71.45 330 eP P 18 02 03.4 -0.6
comp=Z,13nm,0.9s
MNTX epP pP 18 02 10.4 -2.0
MNTX LR LR
comp=Z,230nm,21.0s
Y31A Rekieta Farm, 71.47 335 ⇑P P 18 02 04.0 0.0
baz=72,SNR=5.1
X32A Elmer 71.55 336 ⇑P P 18 02 04.6 +0.1
baz=72
Y30A Stafford Cattl 71.62 335 ⇑P P 18 02 04.9 -0.1
baz=72
Z28A Tucker Farm, M 71.64 333 ⇑P P 18 02 05.1 -0.2
baz=72
WMOK Wichita Mounta 71.66 337 eP P 18 02 04.0 -1.2
WMOK e*PP pP 18 02 12.4 -1.2
WMOK pmax pmax
comp=Z,38nm,1.5s
WMOK Wichita Mounta 71.66 337 eP P 18 02 04.0 -1.2
comp=Z,38nm,1.5s
WMOK epP pP 18 02 12.4 -1.2
WMOK LR LR
comp=Z,395nm,20.0s
WCI Wyandotte Cave 71.78 348 eP P 18 02 05.2 -0.6
WCI pmax pmax
comp=Z,8.0nm,0.9s
WCI Wyandotte Cave 71.78 348 eP P 18 02 05.2 -0.6
comp=Z,7.9nm,0.9s
W34A Bridge Creek, 71.79 338 ⇑P P 18 02 05.7 -0.2
baz=72
TUL1 Leonard 71.81 340 ⇓P P 18 02 05.6 -0.4
baz=72,SNR=5.3
TUL1 Leonard 71.81 340 eP P 18 02 05.5 -0.4
comp=Z,45nm,1.1s
TUL1 epP pP 18 02 13.2 -1.2
SDMD Soldier's Deli 71.81 356 eP P 18 02 06.5 +0.5
comp=Z,100nm,1.4s
SDMD epP pP 18 02 13.9 -0.4
SIUC Southern Illin 71.85 345 eP P 18 02 06.3 +0.2
comp=Z,50nm,1.0s
Y29A Porterfield Fa 71.89 334 ⇑P P 18 02 06.4 -0.3
baz=72,SNR=5.1
W33A Caddo, Fort Co 71.94 337 ⇓P P 18 02 06.7 -0.1
baz=72,SNR=6.4
X31A McDonald Ranch 71.97 336 ⇑P P 18 02 06.8 -0.3
baz=72,SNR=9.9
X30A Coker Ranch, T 72.12 335 ⇓P P 18 02 07.6 -0.4
baz=72
Y28A McKinney Farm, 72.14 334 ⇑P P 18 02 07.4 -0.8
baz=72
W32A Sentinel 72.17 337 ⇑P P 18 02 07.6 -0.6
baz=72
V34A Guthrie 72.26 338 ⇑P P 18 02 08.3 -0.5
baz=73
V34A Guthrie 72.26 338 eP P 18 02 08.7 -0.1
comp=Z,80nm,1.5s
MSTX Muleshoe 72.40 333 ⇓P P 18 02 09.2 -0.5
baz=73,SNR=9.2
MSTX Muleshoe 72.40 333 eP P 18 02 08.4 -1.3
comp=Z,34nm,1.0s
X29A Tulia 72.42 334 ⇓P P 18 02 09.6 -0.3
baz=73
W31A Holland Ranch, 72.47 336 ⇑P P 18 02 09.5 -0.5
baz=73,SNR=7.4
Y27A Causey 72.47 333 ⇑P P 18 02 09.9 -0.3
baz=73
V33A Lossen Ranch, 72.49 338 ⇓P P 18 02 09.9 -0.2
baz=73
Z25A Roswell 72.55 331 ⇑P P 18 02 10.3 -0.3
baz=73,SNR=7.8
OLIL Olney 72.60 347 eP P 18 02 10.7 +0.1
comp=Z,62nm,1.1s
V32A Arapaho 72.65 337 ⇑P P 18 02 11.1 0.0
baz=73
X28A Dimmitt 72.67 334 ⇓P P 18 02 10.7 -0.7
baz=73
W30A Crocket Farms 72.68 336 ⇑P P 18 02 10.9 -0.5
baz=73
BLO Bloomington 72.73 348 eP P 18 02 11.1 -0.3
BLO e*PP pP 18 02 18.2 -1.7
BLO pmax pmax
comp=Z,36nm,0.8s
BLO Bloomington 72.73 348 eP P 18 02 11.1 -0.3
comp=Z,36nm,0.8s
BLO epP pP 18 02 18.2 -1.7
Y26A Elida 72.76 332 ⇑P P 18 02 11.7 -0.2
baz=73
AMTX Amarillo 72.81 335 ⇓P P 18 02 12.1 0.0
baz=73
AMTX Amarillo 72.81 335 eP P 18 02 12.5 +0.4
comp=Z,90nm,1.4s
U34A Anderson Ranch 72.82 338 ⇓P P 18 02 11.9 -0.2
baz=73
U34A Anderson Ranch 72.82 338 eP P 18 02 12.5 +0.4
comp=Z,62nm,1.3s
U34A epP pP 18 02 19.6 -0.8
319A Douglas 72.89 327 ⇑P P 18 02 12.9 +0.2
baz=73,SNR=8.9
V31A Spring Creek L 72.96 336 ⇑P P 18 02 13.7 +0.7
baz=73,SNR=7.2
U33A Lingo Farm, Me 73.00 338 ⇑P P 18 02 12.9 -0.2
baz=73
W29A Amarillo 73.01 335 ⇑P P 18 02 13.2 -0.1
baz=73,SNR=6.7
SSPA Standing Stone 73.10 355 eP P 18 02 13.2 -0.4
comp=Z,100nm,1.6s
SSPA epP pP 18 02 21.4 -0.6
X27A F and S Farms, 73.12 333 ⇑P P 18 02 14.2 +0.2
baz=73
121A Cookes Peak, D 73.20 329 ⇓P P 18 02 15.0 +0.4
baz=74,SNR=18
121A Cookes Peak, D 73.20 329 eP P 18 02 15.8 +1.2
comp=Z,51nm,1.2s
ACSO Alum Creek Sta 73.23 351 eP P 18 02 14.1 -0.3
comp=Z,66nm,0.9s
ACSO epP pP 18 02 21.6 -1.2
ACSO LR LR
comp=Z,519nm,19.0s
U32A Winter Ranch, 73.23 337 ⇑P P 18 02 14.9 +0.4
baz=74
V30A Spur Ranch, Mi 73.24 336 ⇑P P 18 02 14.8 +0.2
baz=74,SNR=8.0
X26A CR and CF Fran 73.31 333 ⇓P P 18 02 15.0 -0.2
baz=74,SNR=6.2
W28A Vega 73.33 334 ⇓P P 18 02 15.7 +0.5
baz=74
Y24A Capitan 73.41 331 ⇑P P 18 02 15.6 -0.2
baz=74,SNR=14
Z22A Elephant Butte 73.46 330 ⇓P P 18 02 16.2 +0.1
baz=74,SNR=8.9
W27A Bowe Ranch, En 73.48 334 ⇓P P 18 02 16.8 +0.7
baz=74
U31A Nine Bar Ranch 73.51 337 ⇑P P 18 02 16.3 +0.1
baz=74
X25A Clemmons Ranch 73.62 332 ⇓P P 18 02 16.7 -0.4
baz=74
T33A Patterson Ranc 73.64 338 ⇑P P 18 02 17.2 +0.3
baz=74,SNR=11
V29A Stinnett 73.64 335 ⇓P P 18 02 17.4 +0.4
baz=74
Y23A Lovelace Mesa, 73.67 331 ⇑P P 18 02 17.9 +0.6
baz=74,SNR=15
W26A Owens Ranch, T 73.77 333 ⇑P P 18 02 18.0 +0.2
baz=74,SNR=9.2
V28A Channing 73.78 335 ⇓P P 18 02 18.0 +0.1
baz=74,SNR=5.9
U30A WK&E Inc. Balk 73.92 336 ⇓P P 18 02 18.6 -0.1
baz=74
T32A Huddler Ranch, 73.94 338 ⇓P P 18 02 18.9 +0.3
baz=74,SNR=7.7
KOMG Komaggas 73.99 115 eP P 18 02 21.1 +1.7
KOMG AMB AMB 18 02 21.3
comp=Z,42nm,2.0s
KOMG Komaggas 73.99 115 P P 18 02 21.1 +1.7
comp=Z,42nm,2.0s
V27A Dan Oppiter Fa 74.01 334 ⇓P P 18 02 19.7 +0.5
baz=74,SNR=11
SFIN Lafayette 74.01 348 ⇑P P 18 02 17.6 -1.3
baz=74,SNR=5.4
SFIN Lafayette 74.01 348 eP P 18 02 17.8 -1.1
comp=Z,31nm,1.1s
SFIN epP pP 18 02 25.3 -2.0
U29A Oasis Ranch, S 74.07 336 ⇑P P 18 02 19.3 -0.2
baz=74
T31A Randall Ranch, 74.11 337 ⇓P P 18 02 19.9 +0.3
baz=74
W25A X Bar L Ranch, 74.15 333 ⇑P P 18 02 19.5 -0.6
baz=74,SNR=9.3
LPM Los Pinos Moun 74.23 330 eP P 18 02 21.5 +0.9
comp=Z,19nm,1.2s
LENM Lemitar 74.25 330 eP P 18 02 21.7 +1.0
comp=Z,6.2nm,0.9s
LENM epP pP 18 02 29.3 +0.1
X23A Hourglass Bar 74.28 331 ⇓P P 18 02 21.8 +0.8
baz=75
ALLY Alegheny Colle 74.30 353 eP P 18 02 20.7 +0.1
comp=Z,15nm,0.3s
ALLY epP pP 18 02 28.0 -1.1
U28A Mallet 74.34 335 ⇓P P 18 02 21.2 +0.1
baz=75,SNR=7.0
T30A Plains 74.35 336 ⇓P P 18 02 21.3 +0.2
baz=75
TUC Tucson 74.37 326 eP P 18 02 21.9 +0.5
TUC pmax pmax
comp=Z,41nm,1.5s
TUC Tucson 74.37 326 eP P 18 02 21.9 +0.5
comp=Z,41nm,1.5s
TUC LR LR
comp=Z,232nm,19.0s
V26A Tequesquite Ra 74.40 333 ⇓P P 18 02 21.5 -0.1
baz=75,SNR=12
S32A Newby Ranch, P 74.42 338 ⇑P P 18 02 21.6 +0.1
baz=75
MAW Mawson 74.43 164 LR LR 18 35 24.0
comp=Z,570nm,18.1s,slow=36
DBIC Dimbokro 74.46 71 eP P 18 02 22.4 +0.3
DBIC Dimbokro 74.46 71 eP P 18 02 23.6 +1.4
DBIC pmax pmax
comp=Z,11nm,0.8s
DBIC Dimbokro 74.46 71 P P 18 02 21.3 -0.9
comp=Z,14nm,0.8s,baz=196,slow=6.3,SNR=8.2
DBIC LR LR 18 33 24.1
comp=Z,381nm,19.6s,baz=202,slow=34
DBIC Dimbokro 74.46 71 eP P 18 02 23.6 +1.4
comp=Z,11nm,0.8s
W24A Lazy 6 Ranch, 74.51 332 ⇓P P 18 02 22.2 -0.1
baz=75,SNR=7.7
LAZ Ladron 74.52 330 eP P 18 02 23.4 +1.0
comp=Z,41nm,1.7s
S31A Mullinville 74.52 337 ⇑P P 18 02 21.8 -0.3
baz=75
BINY Binghamton 74.55 357 eP P 18 02 22.4 +0.4
comp=Z,123nm,1.6s
U27A Thompson Grove 74.59 334 ⇓P P 18 02 23.2 +0.6
baz=75,SNR=8.4
R33A Olander Ranch, 74.68 339 ⇑P P 18 02 22.9 -0.1
baz=75
ANMO Albuquerque 74.71 331 dP P 18 02 24.8 +1.4
ANMO pmax pmax
comp=Z,165nm,1.7s
ANMO Albuquerque 74.71 331 eP P 18 02 24.0 +0.6
comp=Z,37nm,1.4s
ANMO epP pP 18 02 31.8 0.0
ANMO LR LR
comp=Z,493nm,19.0s
T29A Hugoton 74.71 336 ⇓P P 18 02 23.0 -0.2
baz=75
HRV Adam Dziewonsk 74.75 0 eP P 18 02 24.7 +1.5
HRV pmax pmax
comp=Z,142nm,1.8s
HRV Adam Dziewonsk 74.75 0 eP P 18 02 24.6 +1.5
comp=Z,142nm,1.8s
ERPA Erie 74.75 354 eP P 18 02 22.8 -0.4
comp=Z,62nm,1.2s
ERPA epP pP 18 02 30.5 -1.1
ERPA LR LR
comp=Z,444nm,19.0s
V25A Rancho No Teng 74.75 333 ⇓P P 18 02 23.8 +0.1
baz=75,SNR=16
W23A Werner Place, 74.77 331 ⇓P P 18 02 24.3 +0.5
baz=75,SNR=14
S30A Montezuma 74.86 337 ⇓P P 18 02 24.5 +0.5
baz=75
V24A Rampart Ranch, 74.91 332 ⇓P P 18 02 25.0 +0.4
baz=75
U26A Atchley Ranch, 74.91 334 ⇑P P 18 02 24.7 +0.1
baz=75,SNR=12
T28A Walsh 74.96 335 ⇑P P 18 02 25.0 +0.3
baz=75,SNR=15
KSU1 Kansas State U 75.01 340 ⇓P P 18 02 24.5 -0.3
baz=75
R32A Long Quarter, 75.01 338 ⇓P P 18 02 25.0 +0.2
baz=75
214A Organ Pipe Nat 75.05 325 ⇓P P 18 02 26.1 +0.9
baz=75,SNR=7.0
214A Organ Pipe Nat 75.05 325 eP P 18 02 26.7 +1.4
comp=Z,79nm,1.6s
S29A Ulysses 75.07 336 ⇓P P 18 02 25.6 +0.3
baz=75
T27A Campo 75.13 335 ⇑P P 18 02 25.8 +0.1
baz=76,SNR=19
R31A Burdett 75.15 338 ⇓P P 18 02 26.0 +0.4
baz=76,SNR=6.1
U25A Circle Dot Ran 75.17 333 ⇑P P 18 02 26.6 +0.6
baz=76,SNR=12
SUR Sutherland 75.24 119 P P 18 02 28.0 +1.2
comp=Z,11nm,1.0s,baz=238,slow=5.9,SNR=4.6
SUR Sutherland 75.24 119 P P 18 02 28.0 +1.2
SUR LR LR
comp=Z,770nm,19.0s
Q33A Connelly Farm, 75.27 339 ⇑P P 18 02 26.3 -0.1
baz=76
V23A Ortiz Mt. (NFS 75.29 332 ⇓P P 18 02 27.7 +0.9
baz=76
S28A Manter 75.31 336 ⇑P P 18 02 27.1 +0.4
baz=76,SNR=13
AAM Ann Arbor 75.35 351 PFAKE 18 02 40.0 +13
AAM LR LR
comp=Z,379nm,22.0s
R30A Dighton 75.39 337 ⇑P P 18 02 27.5 +0.5
baz=76,SNR=5.2
Q32A Meitler Ranch, 75.48 339 ⇓P P 18 02 27.7 +0.2
baz=76
U24A Moreno Valley 75.51 333 ⇑P P 18 02 28.8 +0.7
baz=76
T26A Comanche Natio 75.55 334 ⇑P P 18 02 28.6 +0.4
baz=76,SNR=15
P33A Williams Farm, 75.63 339 ⇑P P 18 02 28.4 -0.1
baz=76
ACCN Adirondack Com 75.65 359 eP P 18 02 29.6 +1.2
comp=Z,80nm,1.4s
V22A San Miguel Ran 75.73 331 ⇓P P 18 02 30.0 +0.6
baz=76,SNR=31
S27A Las Animas 75.75 335 ⇓P P 18 02 29.5 +0.2
baz=76
Q31A Ellis 75.76 338 ⇑P P 18 02 29.4 +0.3
baz=76,SNR=6.8
R29A Marienthal 75.80 337 ⇓P P 18 02 29.9 +0.4
baz=76
U23A El Rito 75.80 332 ⇑P P 18 02 30.5 +0.8
baz=76,SNR=7.0
T25A Trinidad 75.82 334 ⇓P P 18 02 30.5 +0.7
baz=76,SNR=31
X18A Snowflake 75.85 328 ⇓P P 18 02 30.6 +0.6
baz=76,SNR=5.3
S26A Kim 75.90 334 ⇓P P 18 02 30.7 +0.6
baz=76,SNR=37
R28A Tribune 75.95 336 ⇓P P 18 02 30.7 +0.3
baz=76,SNR=12
Q30A Quinter 76.00 337 ⇑P P 18 02 30.9 +0.4
baz=76,SNR=8.9
P32A Huiting Farm, 76.08 339 ⇓P P 18 02 30.9 -0.1
baz=76,SNR=5.8
T24B San Luis 76.12 333 ⇓P P 18 02 32.3 +0.7
baz=76
Q29A Oakley 76.17 337 ⇓P P 18 02 31.4 -0.2
baz=76
113A Mohawk Valley, 76.18 324 ⇑P P 18 02 32.2 +0.6
baz=76,SNR=5.1
P31A Stockton 76.22 338 ⇓P P 18 02 32.0 +0.1
baz=77,SNR=7.9
R27A Eads 76.25 335 ⇓P P 18 02 32.3 +0.3
baz=77,SNR=17
NCB Newcomb 76.25 358 eP P 18 02 32.0 +0.2
comp=Z,23nm,1.3s
NCB LR LR
comp=Z,806nm,22.0s
W18A Petrified Fore 76.25 329 ⇓P P 18 02 32.8 +0.5
baz=77,SNR=8.9
W18A Petrified Fore 76.25 329 eP P 18 02 33.1 +0.9
comp=Z,93nm,1.4s
MDV Middlebury 76.25 359 eP P 18 02 32.6 +0.8
MDV epP pP 18 02 39.7 -0.5
Z14A Wintersburg 76.27 325 ⇑P P 18 02 32.8 +0.7
baz=77
S25A Robets Cordova 76.29 334 ⇑P P 18 02 32.8 +0.4
baz=77,SNR=29
T23A Casias Ranch, 76.35 332 ⇑P P 18 02 33.6 +0.7

baz=77,SNR=6.1
X16A Lo Mia Camp, P 76.43 327 ⇑P P 18 02 34.0 +0.7
baz=77,SNR=27
LBNH Lisbon 76.48 360 eP P 18 02 33.8 +0.7
LBNH e*PP pP 18 02 41.6 +0.1
LBNH pmax pmax
comp=Z,114nm,1.7s
LBNH Lisbon 76.48 360 eP P 18 02 33.8 +0.7
comp=Z,114nm,1.7s
LBNH epP pP 18 02 41.6 +0.1
LBNH LR LR
comp=Z,402nm,19.0s
R26A Arlington 76.49 335 ⇑P P 18 02 34.1 +0.6
baz=77,SNR=20
P30A Selden 76.52 338 ⇑P P 18 02 34.0 +0.5
baz=77
S24A Houchin Ranch, 76.56 333 ⇓P P 18 02 35.0 +0.9
baz=77,SNR=29
O32A Brockman Farm, 76.57 339 ⇓P P 18 02 33.8 +0.1
baz=77
Q28A Sharon Springs 76.61 336 ⇑P P 18 02 34.1 0.0
baz=77,SNR=6.5
R25A Fountain Ranch 76.66 334 ⇓P P 18 02 34.8 +0.3
baz=77,SNR=6.5
SCIA State Center 76.75 344 eP P 18 02 34.7 0.0
comp=Z,84nm,1.3s
SCIA epP pP 18 02 42.1 -1.0
SCIA LR LR
comp=Z,551nm,20.0s
Y14A Wickenburg 76.76 326 ⇓P P 18 02 35.5 +0.5
baz=77,SNR=9.5
SDCO Great Sand Dun 76.76 333 eP P 18 02 35.7 +0.4
comp=Z,15nm,1.0s
SDCO epP pP 18 02 43.5 -0.1
SDCO LR LR
comp=Z,425nm,22.0s
O31A Woolen Ranch, 76.78 339 ⇓P P 18 02 35.0 0.0
baz=77
P29A Atwood 76.79 337 ⇑P P 18 02 35.3 +0.2
baz=77,SNR=5.7
KSCO Kaye Shedlock' 76.83 336 ⇑P P 18 02 36.1 +0.7
baz=77,SNR=10
KSCO Kaye Shedlock' 76.83 336 eP P 18 02 36.6 +1.2
comp=Z,136nm,1.5s
KSCO epP pP 18 02 43.8 0.0
LONY Lake Ozonia 76.91 358 eP P 18 02 35.4 -0.1
comp=Z,26nm,1.0s
LONY LR LR
comp=Z,364nm,20.0s
S23A Nye Farm, Mont 76.92 333 ⇑P P 18 02 36.9 +0.8
baz=77
GLA Glamis 76.93 324 eP P 18 02 37.9 +1.9
GLA pmax pmax
comp=Z,58nm,1.7s
GLA Glamis 76.93 324 ⇓P P 18 02 36.8 +0.8
baz=77
GLA Glamis 76.93 324 eP P 18 02 37.9 +1.9
comp=Z,58nm,1.7s
N32A Stulken Farm, 77.03 340 ⇓P P 18 02 35.8 -0.6
baz=77
O30A MW Ranch, Wils 77.04 338 ⇓P P 18 02 36.0 -0.4
baz=77,SNR=6.8
P28A Saint Francis 77.04 337 ⇓P P 18 02 37.2 +0.7
baz=77
R24A Sanders Place, 77.04 334 ⇑P P 18 02 37.3 +0.6
baz=77,SNR=30
JFWS Jewell Farm 77.06 346 eP P 18 02 35.8 -0.6
JFWS e*PP pP 18 02 43.7 -1.1
JFWS pmax pmax
comp=Z,78nm,1.2s
JFWS Jewell Farm 77.06 346 eP P 18 02 35.8 -0.6
comp=Z,78nm,1.2s
JFWS epP pP 18 02 43.7 -1.1
JFWS LR LR
comp=Z,658nm,19.0s
Q26A Hugo 77.07 335 ⇑P P 18 02 37.7 +0.9
baz=77,SNR=9.1
WIN Windhoek 77.22 109 eP P 18 02 38.2 0.0
WIN AMB AMB 18 02 38.7
comp=Z,16nm,3.9s
WIN Windhoek 77.22 109 P P 18 02 38.2 0.0
WIN pmax pmax
comp=Z,16nm,3.9s
WIN Windhoek 77.22 109 P P 18 02 38.2 0.0
comp=Z,16nm,3.9s
O29A 4D Ranch, Culb 77.22 338 ⇓P P 18 02 38.0 +0.5
baz=78
R23A Moffat 77.28 333 ⇑P P 18 02 38.7 +0.6
baz=78,SNR=17
S22A 4UR Ranch, Cre 77.28 332 ⇓P P 18 02 38.6 +0.5
baz=78
N31A Bailey Ranch, 77.29 339 ⇑P P 18 02 38.3 +0.5
baz=78
P27A Ficken Ranch, 77.30 336 ⇓P P 18 02 39.0 +1.0
baz=78
WUAZ Wupatki 77.31 328 ⇑P P 18 02 39.1 +0.9
baz=78,SNR=17
WUAZ Wupatki 77.31 328 eP P 18 02 39.6 +1.4
comp=Z,46nm,1.2s
WUAZ epP pP 18 02 46.8 +0.2
WUAZ LR LR
comp=Z,420nm,20.0s
Q25A Bedland, Calha 77.32 335 ⇑P P 18 02 38.6 +0.4
baz=78
SWSC Sam W. Stewart 77.33 323 ⇑P P 18 02 39.3 +1.2
baz=78
Y12C Blythe 77.34 325 ⇓P P 18 02 39.5 +1.3
baz=78,SNR=7.6
MVCO Mesa Verde 77.49 331 ⇓P P 18 02 39.5 +0.3
baz=78,SNR=17
MVCO Mesa Verde 77.49 331 eP P 18 02 39.8 +0.5
comp=Z,50nm,1.3s
MVCO epP pP 18 02 47.6 -0.1
MVCO LR LR
comp=Z,567nm,19.0s
PKME Peaks-Kenny Pk 77.54 2 PFAKE 18 02 50.0 +11
PKME LR LR
comp=Z,2μm,21.0s
O28A Krutsinger Ran 77.54 337 ⇑P P 18 02 39.9 +0.6
baz=78,SNR=8.7
UPI Upington 77.57 116 eP P 18 02 40.7 +0.7
UPI AMB AMB 18 02 42.1
comp=Z,53nm,1.7s
UPI Upington 77.57 116 P P 18 02 40.7 +0.7
comp=Z,53nm,1.7s
P26A Davis Ranch, A 77.58 335 ⇓P P 18 02 40.0 +0.5
baz=78,SNR=8.8
BGNE Belgrade 77.59 340 ⇓P P 18 02 39.4 -0.1
baz=78,SNR=6.5
BGNE Belgrade 77.59 340 eP P 18 02 39.9 +0.5
comp=Z,122nm,1.2s
MONP Monument Peak, 77.61 323 ⇑P P 18 02 40.2 +0.2
baz=78
N30A Hueftle Ranch, 77.61 338 ⇑P P 18 02 39.9 +0.2
baz=78
Q24A Divide 77.70 334 ⇓P P 18 02 41.1 +0.6
baz=78,SNR=19
BC3 Big Chuckawall 77.73 324 ⇓P P 18 02 41.3 +0.8
baz=78,SNR=13
M31A Lambtecht Ranc 77.77 339 ⇑P P 18 02 41.0 +0.5
baz=78,SNR=7.1
N29A Votaw Ranch, W 77.80 338 ⇑P P 18 02 41.0 +0.4
baz=78
P25A Willow Gulch B 77.82 335 ⇑P P 18 02 41.8 +0.8
baz=78,SNR=17
Q27A Beecher Island 77.84 336 ⇓P P 18 02 41.7 +0.8
baz=78,SNR=6.3
109C Camp Elliot, M 77.96 322 ⇑P P 18 02 42.2 +0.5
baz=78
N28A Pribbeno Ranch 77.97 337 ⇑P P 18 02 42.2 +0.6
baz=78
IRM Iron Mountain 77.98 324 ⇓P P 18 02 42.7 +0.8
baz=78,SNR=11
P24A Kohler Place, 78.09 334 ⇓P P 18 02 43.1 +0.6
baz=78
W13A Hualapai Mount 78.13 326 ⇓P P 18 02 43.5 +0.7
baz=78,SNR=12
O26A Horse Wrangler 78.17 336 ⇓P P 18 02 43.7 +0.9
baz=78,SNR=6.5
PFO Pinyon Flats O 78.19 323 P P 18 02 44.0 +0.9
comp=Z,133nm,1.4s,SNR=5.5
PFO Pinyon Flats O 78.19 323 eP P 18 02 43.8 +0.7
PFO pmax pmax
comp=Z,66nm,1.5s
PFO Pinyon Flats O 78.19 323 ⇑P P 18 02 44.4 +1.2
baz=78,SNR=5.7
PFO Pinyon Flats O 78.19 323 eP P 18 02 43.8 +0.7
comp=Z,66nm,1.5s
PFO LR LR
comp=Z,232nm,21.0s
NEE2 Needles Airpor 78.21 325 ⇑P P 18 02 43.5 +0.4
baz=78
M30A Dale-Ortello V 78.22 339 ⇓P P 18 02 43.0 0.0
baz=79
BELC Belle Mtn. Jos 78.28 324 ⇓P P 18 02 44.0 +0.5
baz=79
PV01 Paradox Valley 78.31 331 eP P 18 02 44.7 +0.9
comp=Z,7μm,1.7s
PV01 epP pP 18 02 52.3 +0.1
P23A Jefferson 78.31 334 ⇑P P 18 02 45.0 +1.1
baz=79,SNR=9.4
O25A Wiggins 78.34 335 ⇑P P 18 02 44.4 +0.6
baz=79
OGNE Ogallala 78.37 337 ⇑P P 18 02 44.3 +0.4
baz=79
OGNE Ogallala 78.37 337 PFAKE 18 03 00.0 +16
OGNE LR LR
comp=Z,367nm,21.0s
M29A Burnside Ranch 78.39 338 ⇑P P 18 02 44.5 +0.6
baz=79
N27A Anderson Farm, 78.41 337 ⇑P P 18 02 44.6 +0.5
baz=79
U15A North Rim 78.48 328 ⇓P P 18 02 45.6 +0.8
baz=79,SNR=19
L31A Butterfield Fa 78.49 340 ⇑P P 18 02 45.0 +0.5
baz=79,SNR=7.4
L30A Spencer Herefo 78.55 339 ⇑P P 18 02 45.3 +0.5
baz=79
M28A Bar X Bar Ranc 78.56 338 ⇑P P 18 02 45.3 +0.4
baz=79
MURC Murrieta 78.57 323 ⇑P P 18 02 45.3 +0.2
baz=79
ISCO Idaho Springs 78.60 334 eP P 18 02 45.9 +0.4
ISCO pmax pmax
comp=Z,47nm,1.5s
ISCO Idaho Springs 78.60 334 ⇓P P 18 02 45.8 +0.4
baz=79,SNR=17
ISCO Idaho Springs 78.60 334 eP P 18 02 45.9 +0.4
comp=Z,47nm,1.5s
N26A Koester Ranch, 78.66 336 ⇓P P 18 02 46.4 +0.9
baz=79
PV04 Paradox Valley 78.67 331 eP P 18 02 46.4 +0.7
O24A Longmont 78.69 335 ⇓P P 18 02 46.0 +0.3
baz=79
LDFC Landfair 78.70 325 eP P 18 02 47.2 +1.3
GMRC Granite Mounta 78.73 324 ⇓P P 18 02 46.8 +0.8
baz=79,SNR=13
SCI San Clemente I 78.78 321 ⇑P P 18 02 45.7 -0.5
baz=79
P22A Eagle 78.86 333 ⇑P P 18 02 47.4 +0.7
baz=79,SNR=12
L29A Maesberg Ranch 78.88 339 ⇓P P 18 02 47.2 +0.6
baz=79
BBRC Big Bear Solar 78.95 323 ⇓P P 18 02 47.9 +0.5
baz=79
N25A Grover 78.95 336 ⇑P P 18 02 47.8 +0.7
baz=79
M27A Reverse DX Ran 79.01 337 ⇓P P 18 02 48.4 +1.0
baz=79
CIS Catalina Islan 79.04 322 ⇑P P 18 02 48.2 +0.6
baz=79
O23A Lake Granby, G 79.08 334 ⇓P P 18 02 48.3 +0.2
baz=79,SNR=21
HEC Hector,Ludlow 79.10 324 ⇓P P 18 02 48.3 +0.3
baz=79
L28A Connealy Angus 79.16 338 ⇑P P 18 02 48.6 +0.4
baz=80
K30A Basset 79.18 339 ⇓P P 18 02 48.2 0.0
baz=80,SNR=9.9
M26A McRoberts Ranc 79.20 336 ⇑P P 18 02 48.9 +0.4
baz=80
N24A Carr 79.24 335 ⇓P P 18 02 49.8 +1.0
baz=80
O22A Kremmling 79.27 334 ⇑P P 18 02 49.7 +0.6
baz=80,SNR=27
BFSC Mount Baldy Ra 79.30 323 ⇓P P 18 02 49.5 +0.3
baz=80
TSUM Tsumeb 79.31 106 eP P 18 02 50.3 +0.6
comp=Z,53nm,1.4s
TSUM LR LR
comp=Z,684nm,21.0s
ECSD EROS Data Cent 79.32 342 ⇑P P 18 02 48.8 -0.2
baz=80,SNR=48
ECSD EROS Data Cent 79.32 342 epP pP 18 02 56.3 -1.0
comp=Z,81nm,1.0s
ECSD LR LR
comp=Z,461nm,22.0s
TUQ Turquoise Moun 79.38 325 ⇑P P 18 02 50.2 +0.6
baz=80
K29A Lazy Trails An 79.47 339 ⇓P P 18 02 50.2 +0.4
baz=80
RRX Edison Barstow 79.47 324 ⇑P P 18 02 51.2 +1.2
baz=80
L27A T5 Ranch, Ells 79.48 337 ⇓P P 18 02 50.5 +0.5
baz=80
M25A Palm-Egli Farm 79.49 336 ⇑P P 18 02 50.8 +0.7
baz=80
DECC Green Verdugo 79.66 322 ⇑P P 18 02 51.9 +0.8
baz=80
N23A Red Feather La 79.68 334 ⇑P P 18 02 51.8 +0.5
baz=80,SNR=13
L26A Underwood Farm 79.69 337 ⇑P P 18 02 52.0 +0.9
baz=80
GSC Goldstone, Bar 79.71 324 eP P 18 02 52.6 +1.2
GSC e*PP pP 18 03 00.2 +0.4
GSC pmax pmax
comp=Z,76nm,1.7s
GSC Goldstone, Bar 79.71 324 ⇑P P 18 02 51.8 +0.4
baz=80,SNR=6.0
GSC Goldstone, Bar 79.71 324 eP P 18 02 52.6 +1.2
comp=Z,76nm,1.7s
GSC epP pP 18 03 00.2 +0.4
J30A Dallas 79.74 340 ⇓P P 18 02 51.3 0.0
baz=80,SNR=6.1
K28A Ten Mile Ranch 79.75 338 ⇑P P 18 02 52.1 +0.7
baz=80
M24A Cheyenne 79.78 335 ⇑P P 18 02 52.5 +0.8
baz=80,SNR=8.6
N22A Wattenberg Ran 79.79 334 ⇑P P 18 02 52.4 +0.5
baz=80,SNR=14
SPMN Marine on St. 79.81 345 eP P 18 02 50.8 -0.7
comp=Z,21nm,0.4s
SHPR Sheep Range 79.87 326 eP P 18 02 53.2 +0.9
comp=Z,73nm,1.6s
CCUT Cedar City 79.89 328 eP P 18 02 53.4 +0.9
comp=Z,54nm,1.4s
O20A White River Ci 79.89 332 ⇑P P 18 02 53.0 +0.6
baz=80,SNR=7.8
O20A White River Ci 79.89 332 eP P 18 02 54.0 +1.6
comp=Z,129nm,1.7s
COWI Conover 79.92 348 eP P 18 02 52.0 -0.2
comp=Z,61nm,1.6s
COWI LR LR
comp=Z,349nm,20.0s
SHOC Shoshone, Teco 79.93 325 ⇓P P 18 02 52.9 +0.5
baz=80
SRU San Rafael Swe 79.95 330 eP P 18 02 52.8 +0.1
SRU e*PP PcP 18 03 00.5 +0.4
SRU pmax pmax
comp=Z,42nm,1.4s
SRU San Rafael Swe 79.95 330 eP P 18 02 52.8 +0.1
comp=Z,42nm,1.4s
SRU epP PcP 18 03 00.5 +0.4
EDW2 Edwards Air Fo 79.97 323 ⇓P P 18 02 53.1 +0.3
baz=80
K27A Flueckinger Fa 80.02 338 ⇑P P 18 02 53.5 +0.7
baz=80
J29A Okreek 80.06 339 ⇑P P 18 02 52.9 -0.1
baz=80,SNR=23
L25A Engebretsen Ra 80.10 336 ⇓P P 18 02 54.1 +0.7
baz=80
M23A Laramie 80.11 335 ⇑P P 18 02 54.0 +0.5
baz=80,SNR=12
ARUT Antelope Range 80.12 328 eP P 18 02 55.8 +2.2
ARUT pmax pmax
comp=Z,165nm,0.7s
ARUT Antelope Range 80.12 328 eP P 18 02 55.8 +2.2
comp=Z,166nm,0.7s
BSC Santa Cruz Isl 80.14 321 ⇑P P 18 02 54.6 +0.9
baz=80
OSI Osito Audit: C 80.14 322 ⇓P P 18 02 54.6 +0.9
baz=80
MVU Marysvale 80.16 329 eP P 18 02 54.8 +0.9
comp=Z,37nm,1.4s
MVU epP pP 18 03 02.4 0.0
I30A Oacoma 80.26 340 ⇑P P 18 02 53.7 -0.3
baz=81
LRMC Laurel Mtn Rad 80.29 323 ⇓P P 18 02 55.4 +0.8
baz=81
K26A Motz Farm, Whi 80.32 337 ⇓P P 18 02 55.1 +0.7
baz=81
L24A Wheatland 80.33 336 ⇓P P 18 02 55.2 +0.6
baz=81
J28A Allard Ranch, 80.35 339 ⇑P P 18 02 54.8 +0.2
baz=81,SNR=14
M22A Cedar Creek Ra 80.37 334 ⇑P P 18 02 55.2 +0.3
baz=81,SNR=6.8
J27A Elkhorn Farm, 80.44 338 ⇓P P 18 02 55.6 +0.6
baz=81,SNR=15
BOSA Boshof 80.46 118 eP P 18 02 56.0 +0.2
BOSA AMB AMB 18 02 57.6
comp=Z,70nm,4.0s
BOSA Boshof 80.46 118 P P 18 02 55.8 0.0
comp=Z,20nm,1.0s,baz=251,slow=3.1,SNR=12
K25A Mack Ranch, Ha 80.47 337 ⇓P P 18 02 56.4 +1.1
baz=81
N20A Spence Gulch, 80.50 333 ⇓P P 18 02 56.3 +0.7
baz=81,SNR=5.0
BRSD Miller 80.61 341 ⇓P P 18 02 55.6 -0.3
baz=81
I29A Vivian Onida 80.61 340 ⇓P P 18 02 55.8 -0.1
baz=81
FURC Furnace Creek, 80.66 325 ⇓P P 18 02 57.1 +0.8
baz=81,SNR=5.0
L23A Garrett 80.67 335 ⇓P P 18 02 56.6 +0.1
baz=81,SNR=8.4
J26A Sides Ranch, S 80.83 337 ⇑P P 18 02 58.0 +0.8
baz=81,SNR=11
I28A Midland 80.85 339 ⇓P P 18 02 57.7 +0.5
baz=81,SNR=10
L22A Ellis Ranch, M 80.86 335 ⇓P P 18 02 58.2 +0.7
baz=81,SNR=5.3
DAC Darwin (Calif) 80.87 324 eP P 18 02 58.9 +1.2
DAC pmax pmax
comp=Z,45nm,1.3s
DAC Darwin (Calif) 80.87 324 eP P 18 02 58.9 +1.2
comp=Z,44nm,1.3s
K24A Anderson Ranch 80.89 336 ⇑P P 18 02 58.5 +0.9
baz=81
H29A Onida 81.14 340 ⇑P P 18 02 58.3 -0.5
baz=82,SNR=12
J25A Sunshine Ranch 81.14 337 ⇑P P 18 02 59.4 +0.5
baz=82
I27A Quinn 81.19 338 ⇓P P 18 02 59.3 +0.2
baz=82,SNR=13
K23A Bowen Ranch, D 81.20 335 ⇑P P 18 02 59.7 +0.4
baz=82,SNR=8.7
SWZ Schweizer 81.27 117 eP P 18 02 59.6 -0.6
SWZ AMB AMB 18 03 00.8
comp=Z,36nm,1.8s
SWZ Schweizer 81.27 117 P P 18 02 59.6 -0.6
comp=Z,36nm,1.8s
VES Vestal, Richgr 81.28 323 ⇓P P 18 02 59.9 +0.3
baz=82
G30A Faulkton 81.30 341 ⇑P P 18 02 59.3 -0.2
baz=82,SNR=8.9
NLU North Lily Min 81.31 330 eP P 18 03 00.2 +0.2
comp=Z,15nm,1.1s
SMMC Simmler 81.34 322 ⇓P P 18 03 00.6 +0.5
baz=82
DAU Daniels Canyon 81.35 331 eP P 18 03 01.2 +0.9
DAU pmax pmax
comp=Z,49nm,1.6s
DAU Daniels Canyon 81.35 331 eP P 18 03 01.2 +0.9
comp=Z,49nm,1.6s
J24A Dixon Ranch, L 81.38 336 ⇑P P 18 03 00.7 +0.6
baz=82,SNR=6.6
I26A New Underwood 81.41 338 ⇓P P 18 03 00.2 -0.1
baz=82,SNR=7.9
H28A Mission Ridge 81.42 339 ⇑P P 18 03 01.5 +1.3
baz=82,SNR=8.9
K22A Casper 81.43 335 ⇑P P 18 03 00.8 +0.3
baz=82,SNR=15
K22A Casper 81.43 335 eP P 18 03 01.0 +0.5
comp=Z,101nm,1.4s
R11A Troy Canyon, C 81.56 327 ⇓P P 18 03 02.3 +1.0
baz=82,SNR=29
R11A Troy Canyon, C 81.56 327 eP P 18 03 01.9 +0.7
comp=Z,44nm,1.5s
R11A epP pP 18 03 10.1 +0.3
G29A Hoven 81.57 340 ⇑P P 18 03 01.0 0.0
baz=82
JLU Jordanelle 81.59 331 eP P 18 03 02.6 +1.2
comp=Z,70nm,1.8s
K21A Alcova 81.68 334 ⇑P P 18 03 02.1 +0.2
baz=82,SNR=14
I25A Rochford 81.68 337 ⇓P P 18 03 02.1 +0.3
baz=82,SNR=24
H27A Howes 81.70 339 ⇑P P 18 03 02.1 +0.4
baz=82,SNR=5.8
J23A Dilts Ranch, B 81.75 336 ⇓P P 18 03 02.4 +0.3
baz=82
G28A Parade 81.75 340 ⇑P P 18 03 02.0 0.0
baz=82,SNR=11
TIN Tinemaha, Big 81.80 324 ⇓P P 18 03 02.9 +0.4
baz=82
DUG Dugway, Tooele 81.82 329 eP P 18 03 03.0 +0.4
DUG pmax pmax
comp=Z,60nm,1.5s
DUG Dugway, Tooele 81.82 329 ⇓P P 18 03 02.8 +0.2
baz=82,SNR=13
DUG Dugway, Tooele 81.82 329 eP P 18 03 03.0 +0.4
comp=Z,60nm,1.5s
DUG LR LR
comp=Z,346nm,19.0s
I24A Kuemmerle Ranc 81.83 337 ⇑P P 18 03 02.8 +0.2
baz=82
RSSD Black Hills 81.87 337 eP P 18 03 02.9 +0.1
RSSD e*PP pP 18 03 10.5 -0.8
RSSD pmax pmax
comp=Z,20nm,1.0s
RSSD Black Hills 81.87 337 eP P 18 03 02.9 +0.1
comp=Z,20nm,1.0s
RSSD epP pP 18 03 10.5 -0.8
H26A Fairpoint 81.91 338 ⇓P P 18 03 03.0 +0.2
baz=82
TCUT Toone Canyon 82.00 331 eP P 18 03 04.9 +1.3
comp=Z,67nm,1.5s
J22A Midwest 82.08 335 ⇓P P 18 03 03.5 -0.3
baz=82,SNR=9.5
TPH Tonopah 82.11 325 eP P 18 03 05.3 +1.1
TPH e*PP pP 18 03 12.7 0.0
TPH pmax pmax
comp=Z,44nm,1.3s
TPH Tonopah 82.11 325 eP P 18 03 05.3 +1.1
comp=Z,44nm,1.3s
TPH epP pP 18 03 12.7 0.0
EYMN Ely 82.14 347 eP P 18 03 03.4 -0.5
comp=Z,56nm,1.3s
EYMN epP pP 18 03 10.9 -1.5
EYMN LR LR
comp=Z,309nm,20.0s
H25A Fruitdale 82.17 338 ⇑P P 18 03 04.4 +0.2
baz=82
G27A Dupree 82.33 339 ⇑P P 18 03 04.9 -0.1
baz=83,SNR=12
J21A Lysite 82.37 335 ⇓P P 18 03 05.7 +0.2
baz=83,SNR=5.6
F28A McLaughlin 82.42 340 ⇑P P 18 03 05.6 +0.1
baz=83
G26A Maurine 82.46 339 ⇓P P 18 03 05.2 -0.5
baz=83,SNR=12
HWUT Hardware Ranch 82.47 331 eP P 18 03 05.8 -0.2
comp=Z,66nm,1.5s
HWUT LR LR
comp=Z,447nm,21.0s
E30A Jud 82.49 341 ⇓P P 18 03 05.6 -0.2
baz=83,SNR=9.1
I22A 9 Mile Ranch, 82.50 335 ⇑P P 18 03 06.0 -0.1
baz=83,SNR=10
BGU Big Grassy Mou 82.52 330 eP P 18 03 06.8 +0.5
comp=Z,29nm,1.7s
MLAC Mammoth, Mammo 82.55 324 ⇑P P 18 03 06.7 +0.1
baz=83
SPUT South Promonto 82.59 330 eP P 18 03 07.7 +1.1
comp=Z,66nm,1.4s
H24A Dirks Ranch, A 82.59 337 ⇓P P 18 03 06.6 +0.1
baz=83,SNR=9.1
J20A Shoshoni 82.61 334 ⇓P P 18 03 06.9 +0.3
baz=83,SNR=18
LBTB Lobatse 82.62 115 eP P 18 03 07.8 +0.5
LBTB AMB AMB 18 03 09.1
comp=Z,53nm,1.6s
LBTB Lobatse 82.62 115 eP P 18 03 07.3 0.0

LBTB pmax pmax
comp=Z,71nm,1.3s
LBTB Lobatse 82.62 115 *e*P **P 18 03 07.3 0.0**
comp=Z,71nm,1.3s
G25A Newell 82.62 338 ⇑P **P 18 03 06.6 +0.1**
baz=83,SNR=15
BW06 Boulder Array 82.66 333 *e*P **P 18 03 06.9 -0.1**
comp=Z,28nm,1.5s
BW06 LR LR
comp=Z,552nm,20.0s
PDAR Pinedale Array 82.66 333 P **P 18 03 06.0 -1.0**
comp=Z,4.4nm,1.0s,baz=145,slow=5.4,SNR=20
H23A Clabaugh Cattl 82.71 336 ⇓P **P 18 03 06.5 -0.6**
baz=83
I21A Big Trails, Te 82.72 335 ⇓P **P 18 03 06.7 -0.5**
baz=83,SNR=13
E29A Napoleon 82.75 341 ⇓P **P 18 03 06.9 -0.2**
baz=83
F27A Lemmon 82.81 339 ⇓P **P 18 03 07.3 -0.1**
baz=83,SNR=8.9
J19A Crowheart 82.89 333 ⇓P **P 18 03 08.0 -0.2**
baz=83,SNR=19
NVAR Mina Array Bea 82.91 325 P **P 18 03 08.8 +0.4**
comp=Z,5.0nm,0.9s,baz=145,slow=3.3,SNR=24
F26A Lodgepole 82.98 339 ⇓P **P 18 03 08.2 -0.2**
baz=83,SNR=12
D30A Buchanan 83.01 342 ⇓P **P 18 03 08.3 -0.2**
baz=83,SNR=22
E28A Huff 83.05 340 ⇓P **P 18 03 08.7 0.0**
baz=83,SNR=6.7
G24A Alzada 83.06 337 ⇑P **P 18 03 08.8 -0.1**
baz=83
H22A Clearmont 83.07 336 ⇑P **P 18 03 08.7 -0.3**
baz=83
HVU Hansel Valley 83.12 330 *e*P **P 18 03 09.0 -0.4**
HVU *e**PP **pP 18 03 16.7 -1.1**
HVU pmax pmax
comp=Z,24nm,1.1s
HVU Hansel Valley 83.12 330 *e*P **P 18 03 09.0 -0.4**
comp=Z,24nm,1.1s
HVU *e*pP **pP 18 03 16.7 -1.1**
I20A Worland 83.14 334 ⇑P **P 18 03 09.3 -0.1**
baz=84,SNR=6.1
E27A Carson 83.17 340 ⇓P **P 18 03 09.3 0.0**
baz=84
D29A Pettibone, Tap 83.19 341 ⇓P **P 18 03 09.3 -0.1**
baz=84,SNR=16
AHID Auburn Hatcher 83.26 332 *e*P **P 18 03 09.8 -0.3**
comp=Z,22nm,0.4s
AHID LR LR
comp=Z,268nm,19.0s
G23A Biddle 83.27 337 ⇑P **P 18 03 09.7 -0.2**
baz=84,SNR=5.4
F25A Bowman 83.29 338 ⇑P **P 18 03 10.1 +0.1**
baz=84,SNR=8.0
H21A Big Horn, Sher 83.34 335 ⇓P **P 18 03 10.0 -0.3**
baz=84
AGMN Agassiz Nation 83.40 344 ⇑P **P 18 03 09.9 -0.5**
baz=84,SNR=12
AGMN Agassiz Nation 83.40 344 *e*P **P 18 03 10.0 -0.5**
comp=Z,33nm,1.0s
AGMN *e*pP **pP 18 03 17.3 -1.6**
AGMN LR LR
comp=Z,501nm,20.0s
TORD Torodi Ar. Bea 83.46 70 P **P 18 03 11.0 -0.5**
comp=Z,17nm,0.9s,baz=252,slow=3.4,SNR=56
E26A Carlson Angus 83.48 339 ⇑P **P 18 03 10.8 -0.2**
baz=84
C30A Mose, Pekin 83.49 342 ⇓P **P 18 03 11.0 +0.1**
baz=84,SNR=30
WAKR Walker 83.53 324 *e*P **P 18 03 12.7 +1.1**
comp=Z,48nm,1.6s
I19A Meeteetse 83.53 334 ⇓P **P 18 03 11.4 -0.1**
baz=84,SNR=8.7
F24A Ekalaka 83.53 338 ⇑P **P 18 03 10.7 -0.6**
baz=84,SNR=6.1
H20A Greybull 83.55 335 ⇓P **P 18 03 11.0 -0.4**
baz=84
D28A Regan 83.58 341 ⇑P **P 18 03 11.3 -0.1**
baz=84
G22A Birney 83.59 336 ⇑P **P 18 03 10.9 -0.8**
baz=84
F23A Volborg 83.74 337 ⇓P **P 18 03 11.8 -0.5**
baz=84,SNR=7.8
D27A Center 83.78 340 ⇓P **P 18 03 12.3 -0.1**
baz=84
E25A Miller Ranch, 83.79 339 ⇓P **P 18 03 12.7 +0.2**
baz=84
CRWM Crown Mines 83.80 117 *e*P **P 18 03 13.6 +0.1**
CRWM AMB AMB 18 03 14.9
comp=Z,42nm,1.4s
OBSV Observatory 83.87 117 *e*P P 18 03 10.5 -3.4
OBSV AMB AMB 18 03 15.0
comp=Z,32nm,1.4s
ERPM east rand prop 83.91 117 *e*P **P 18 03 15.1 +1.1**
ERPM AMB AMB 18 03 16.7
comp=Z,34nm,1.8s
ERPM east rand prop 83.91 117 P **P 18 03 15.1 +1.1**
comp=Z,34nm,1.8s
MDND Maddock 83.92 342 ⇑P **P 18 03 12.9 -0.2**
baz=84,SNR=21
MDND Maddock 83.92 342 *e*P **P 18 03 13.1 0.0**
comp=Z,26nm,0.9s
MDND *e*pP **pP 18 03 20.9 -0.7**
D26A Manning 83.97 339 ⇑P **P 18 03 13.5 +0.1**
baz=84,SNR=5.9
C28A Hausauer Farms 84.01 341 ⇓P **P 18 03 13.9 +0.3**
baz=84
I17A Pilgrim Ck. 84.03 333 ⇑P **P 18 03 13.9 -0.1**
baz=84,SNR=5.1
H19A Powell 84.07 334 ⇓P **P 18 03 14.6 +0.5**
baz=84
F22A Rosebud 84.07 336 ⇓P **P 18 03 13.5 -0.5**
baz=84,SNR=6.2
E24A Baker 84.13 338 ⇑P **P 18 03 14.3 0.0**
baz=84,SNR=5.9
B30A Myrvik Farm, E 84.14 343 ⇑P **P 18 03 13.8 -0.4**
baz=84,SNR=14
G20A Bridger 84.26 335 ⇓P **P 18 03 14.6 -0.5**
baz=85,SNR=11
SLR Silverton 84.27 117 *e*P **P 18 03 16.0 +0.2**
SLR AMB AMB 18 03 16.4
comp=Z,44nm,1.7s
SLR Silverton 84.27 117 P **P 18 03 16.0 +0.2**
SLR pmax pmax
comp=Z,44nm,1.7s
SLR Silverton 84.27 117 P **P 18 03 16.0 +0.2**
comp=Z,44nm,1.7s
C27A Sayler Ranch, 84.32 340 ⇑P **P 18 03 15.0 -0.1**
baz=85
H18A Shoshone NF, C 84.33 334 ⇑P **P 18 03 15.3 -0.2**
baz=85,SNR=21
D25A Fairfield 84.35 339 ⇑P **P 18 03 15.8 +0.4**
baz=85,SNR=7.5
E23A Ismay 84.39 337 ⇓P **P 18 03 15.3 -0.3**
baz=85
F21A Absaloka Mine, 84.41 336 ⇓P **P 18 03 15.7 0.0**
baz=85
B29A Wagenman Farm, 84.42 342 ⇑P **P 18 03 15.4 -0.2**
baz=85,SNR=19
E22A Miles City 84.55 337 ⇑P **P 18 03 16.1 -0.3**
baz=85
RLMT Red Lodge 84.56 334 *e*P **P 18 03 16.5 -0.2**
comp=Z,40nm,1.4s
YFT Old Faithful 84.58 333 *e*P **P 18 03 18.6 +1.7**
comp=Z,27nm,1.3s
A30A Hoffart Farm, 84.59 343 ⇑P **P 18 03 16.1 -0.3**
baz=85
C26A Wahner Farm, P 84.59 340 ⇓P **P 18 03 16.9 +0.4**
baz=85
D24A Glendive 84.62 338 ⇓P **P 18 03 16.9 +0.2**
baz=85,SNR=7.3
B28A Dugan Ranch, T 84.67 341 ⇓P **P 18 03 17.1 +0.2**
baz=85,SNR=14
F20A Billings 84.74 335 ⇓P **P 18 03 17.4 -0.1**
baz=85
A29A Manning Farm, 84.81 342 ⇑P **P 18 03 17.2 -0.3**
baz=85,SNR=9.8
YMR Madison River 84.81 333 *e*P **P 18 03 19.1 +1.1**
comp=Z,75nm,1.5s
C25A Freed Ranch, W 84.83 339 ⇓P **P 18 03 17.6 -0.2**
baz=85
LAO LASA Array 84.86 337 *e*P **P 18 03 18.7 +0.7**
comp=Z,41nm,1.4s
LAO *e*pP **pP 18 03 25.0 -1.5**
LAO LR LR
comp=Z,451nm,20.0s
B27A Peters Farms, 84.88 341 ⇑P **P 18 03 17.8 -0.1**
baz=85
D23A Lindsay 84.95 338 ⇑P **P 18 03 18.8 +0.4**
baz=85,SNR=8.8
E21A Keefer Ranch, 85.01 336 ⇑P **P 18 03 18.9 +0.1**
baz=85
A28A Rude Farm, Bot 85.07 342 ⇑P **P 18 03 18.7 -0.3**
baz=85,SNR=7.4
F19A Roth Farm, Mol 85.07 335 ⇑P **P 18 03 18.8 -0.3**
baz=85,SNR=8.3
QLMT Earthquake Lak 85.13 333 *e*P **P 18 03 20.3 +0.7**
comp=Z,4.0nm,1.4s
B26A Jensen Ranch, 85.13 340 ⇑P **P 18 03 19.1 -0.2**
baz=86
ULM Lac du Bonnet 85.23 345 P **P 18 03 19.4 -0.3**
comp=Z,20nm,1.1s,baz=172,slow=3.8,SNR=25
D22A Cohagen 85.25 337 ⇑P **P 18 03 20.1 +0.2**
baz=86,SNR=8.8
HLID Hailey 85.27 330 ⇓P **P 18 03 20.6 +0.4**
baz=86,SNR=22
HLID Hailey 85.27 330 *e*P **P 18 03 20.4 +0.2**
comp=Z,47nm,1.5s
HLID LR LR
comp=Z,409nm,19.0s
B25A Knox Farm, Ray 85.31 340 ⇓P **P 18 03 20.2 +0.1**
baz=86
E20A Meyer Farm, Mu 85.34 336 ⇓P **P 18 03 20.3 -0.1**
baz=86,SNR=14
A27A Ledoux Ranch, 85.37 341 ⇓P **P 18 03 20.4 0.0**
baz=86
D21A La Casta Ranch 85.44 337 ⇑P **P 18 03 21.0 +0.1**
baz=86,SNR=8.0
C23A Lambert 85.50 338 ⇑P **P 18 03 21.1 -0.1**
baz=86,SNR=10
E19A Rath Farm, Rou 85.54 335 ⇓P **P 18 03 21.2 -0.2**
baz=86,SNR=21
A26A Wade Farm, Ken 85.54 340 ⇓P **P 18 03 21.5 +0.2**
baz=86,SNR=5.3
C22A Vida 85.68 338 ⇑P **P 18 03 21.9 -0.1**
baz=86
MCMT McKenzie Canyo 85.68 332 *e*P **P 18 03 22.6 +0.3**
comp=Z,18nm,1.4s
MCMT *e*pP **pP 18 03 30.6 -0.3**
MFID Camas Ranch 85.75 329 *e*P **P 18 03 23.3 +0.7**
comp=Z,63nm,1.9s
MFID *e*pP **pP 18 03 30.6 -0.6**
DGMT Dagmar 85.79 339 ⇓P **P 18 03 22.4 -0.2**
baz=86,SNR=9.4
DGMT Dagmar 85.79 339 *e*P **P 18 03 22.9 +0.3**
comp=Z,78nm,1.1s
DGMT *e*pP **pP 18 03 30.5 -0.6**
D20A Manuel Ranch, 85.85 336 ⇑P **P 18 03 22.8 -0.1**
baz=86,SNR=19
BOZ Bozeman (W) 85.89 333 PFAKE 18 03 30.0 +6.7
BOZ LR LR
comp=Z,389nm,19.0s
A25A Svangstu Ranch 85.89 340 ⇓P **P 18 03 23.2 +0.2**
baz=86,SNR=6.5
B23A Brockton 86.03 339 ⇓P **P 18 03 23.7 -0.1**
baz=86,SNR=7.5
A24A Westby 86.14 339 ⇑P **P 18 03 24.2 -0.1**
baz=86,SNR=5.2
D19A Cripps Ranch, 86.17 336 ⇑P **P 18 03 24.2 -0.3**
baz=86,SNR=9.6
B22A Reddig Ranch S 86.20 338 ⇓P **P 18 03 24.5 -0.1**
baz=86,SNR=7.3
WVOR Wild Horse Val 86.22 327 *e*P **P 18 03 26.2 +1.2**
WVOR pmax pmax
comp=Z,54nm,1.7s
WVOR Wild Horse Val 86.22 327 *e*P **P 18 03 26.1 +1.2**
comp=Z,54nm,1.7s
C20A Veseth Ranch, 86.35 336 ⇓P **P 18 03 24.8 -0.5**
baz=87
LRM Limekiln Ridge 86.35 333 *e*P **P 18 03 26.2 +0.5**
comp=Z,221nm,1.4s
A23A Redstone 86.43 339 ⇑P **P 18 03 25.6 -0.1**
baz=87
MOD Modoc Plateau 86.58 326 *e*P **P 18 03 26.9 +0.2**
comp=Z,39nm,1.5s
B21A Ellsworth Farm 86.64 337 ⇓P **P 18 03 26.8 0.0**
baz=87
WDC Whiskeytown Da 86.66 324 *e*P **P 18 03 26.2 -0.8**
WDC pmax pmax
comp=Z,41nm,1.8s
WDC Whiskeytown Da 86.66 324 *e*P **P 18 03 26.2 -0.8**
comp=Z,41nm,1.8s
C19A Slack Wire Ran 86.72 336 ⇓P **P 18 03 26.8 -0.4**
baz=87,SNR=12
A22A Carney Farms, 86.78 338 ⇓P **P 18 03 27.3 -0.1**
baz=87,SNR=17
HRY Holter Researc 86.86 334 *e*P **P 18 03 28.4 +0.4**
comp=Z,41nm,1.6s
B20A Solberg Farm, 86.98 337 ⇑P **P 18 03 27.8 -0.6**
baz=87,SNR=18
N02D Trinity Center 87.04 324 ⇑P **P 18 03 28.5 -0.4**
baz=87
A21A Bergtoll Ranch 87.10 338 ⇓P **P 18 03 28.6 -0.4**
baz=87,SNR=10
SCHQ Schefferville 87.18 3 P **P 18 03 28.6 -0.5**
comp=Z,36nm,1.2s,baz=176,slow=3.1,SNR=14
EGMT Eagleton 87.22 336 ⇓P **P 18 03 28.8 -0.8**
baz=88,SNR=9.6
EGMT Eagleton 87.22 336 *e*P **P 18 03 29.3 -0.3**
comp=Z,47nm,1.5s
EGMT LR LR
comp=Z,269nm,19.0s
M04C Macdoel 87.22 325 ⇓P **P 18 03 29.8 -0.1**
baz=88
B19A Brinkman Farms 87.31 336 ⇓P **P 18 03 30.0 0.0**
baz=88,SNR=15
A20A Cobblestone Ra 87.33 337 ⇓P **P 18 03 29.6 -0.5**
baz=88,SNR=22
M02C Callahan 87.42 324 ⇑P **P 18 03 30.5 -0.3**
baz=88
MSNA Messina 87.47 115 *e*P **P 18 03 32.8 +1.2**
MSNA AMB AMB 18 03 34.1
comp=Z,32nm,1.5s
MSNA Messina 87.47 115 P **P 18 03 32.8 +1.2**
comp=Z,32nm,1.5s
BMO Blue Mountains 87.54 329 PFAKE 18 03 40.0 +8.7
BMO LR LR
comp=Z,429nm,20.0s
CHMT Chamberlain Mo 87.57 333 *e*P **P 18 03 31.9 +0.4**
comp=Z,22nm,1.7s
A19A Klindworth Far 87.65 337 ⇓P **P 18 03 31.3 -0.3**
baz=88,SNR=13
MSO Missoula 87.76 332 ⇑P **P 18 03 32.5 +0.2**
baz=88
MOPA Mopani 87.86 117 *e*P **P 18 03 34.6 +1.2**
MOPA AMB AMB 18 03 41.1
comp=Z,14nm,4.7s
MOPA Mopani 87.86 117 P **P 18 03 34.6 +1.2**
comp=Z,14nm,4.7s
SLMT Seeley Lake 87.93 333 *e*P **P 18 03 33.1 -0.1**
comp=Z,27nm,1.4s
J05D Fort Rock, OR 88.08 326 ⇑P **P 18 03 34.3 +0.4**
baz=88
SWMT Swartz Lake 88.34 333 *e*P **P 18 03 35.5 +0.5**
comp=Z,26nm,1.7s
L02D Cave Junction, 88.37 324 ⇓P **P 18 03 35.3 +0.1**
baz=89
J04D Umpqua Nationa 88.46 326 ⇓P **P 18 03 35.7 -0.1**
baz=89
YBMT Yellow Bay 88.64 333 *e*P **P 18 03 36.6 +0.2**
comp=Z,7.8nm,1.1s
JTMT Jette 88.65 333 *e*P **P 18 03 36.9 +0.3**
comp=Z,24nm,1.7s
BLMT Blacktail Moun 88.90 333 *e*P **P 18 03 37.8 0.0**
comp=Z,44nm,1.4s
BSMT Bassoo Peak 88.93 333 *e*P **P 18 03 37.6 -0.3**
comp=Z,29nm,1.7s
I05D Terrebonne, OR 88.94 327 ⇑P **P 18 03 38.6 +0.7**
baz=89
I04A Tendick Farm, 89.02 326 ⇑P **P 18 03 39.0 +0.7**
baz=89
HAWA Hanford 89.72 329 PFAKE 18 03 50.0 +8.6
HAWA LR LR
comp=Z,283nm,20.0s
LSZ Lusaka 89.96 108 *e*P **P 18 03 44.7 +1.2**
LSZ pmax pmax
comp=Z,58nm,1.5s
LSZ Lusaka 89.96 108 *e*P **P 18 03 44.7 +1.2**
comp=Z,58nm,1.5s
LSZ LR LR
comp=Z,676nm,19.0s
RTC Rabat Centre 90.01 49 PFAKE 18 03 50.0 +7.0
RTC LR LR
comp=Z,769nm,19.0s
NEW Newport 90.19 332 ⇓P **P 18 03 43.7 +0.1**
baz=90
FFC Flin Flon 90.81 343 *e*P **P 18 03 45.8 -0.5**
FFC pmax pmax
comp=Z,26nm,1.5s
FFC Flin Flon 90.81 343 *e*P **P 18 03 45.8 -0.5**
comp=Z,26nm,1.5s
FFC LR LR
comp=Z,290nm,20.0s
TAM Tamanrasset 91.96 64 PFAKE 18 04 00.0 +7.4
TAM LR LR
comp=Z,644nm,20.0s
NLWA Neilton Lookou 92.40 328 PFAKE 18 04 10.0 +16
NLWA LR LR
comp=Z,409nm,19.0s
PAB San Pablo 95.09 46 PFAKE 18 04 20.0 +13
PAB LR LR
comp=Z,801nm,19.0s
YKA Yellowknife Ar 100.84 341 P **Pdif 18 04 31.6 0.0**
comp=Z,0.4nm,0.8s,baz=142,slow=4.0,SNR=8.0
ABPO Ambohimpanom 102.26 122 PFAKE 18 04 50.0 +11
ABPO LR LR
comp=Z,332nm,19.0s
CAN Canberra 102.40 213 PFAKE 18 04 50.0 +10
CAN LR LR
comp=Z,287nm,19.0s
KMBO Kilima Mbogo 105.27 101 PFAKE 18 09 20.0
KMBO LR LR
comp=Z,491nm,20.0s
ECH Echery 106.83 43 PFAKE 18 09 20.0
ECH LR LR
comp=Z,533nm,19.0s
WLF Walferdange 106.99 42 PFAKE 18 09 20.0
WLF LR LR
comp=Z,588nm,19.0s
TUE Stuetta 107.26 46 PFAKE 18 09 20.0
TUE LR LR
comp=Z,592nm,22.0s
CEL Celeste 107.62 56 PFAKE 18 09 20.0
CEL LR LR
comp=Z,784nm,21.0s
AQU L'Aquila 107.84 51 PFAKE 18 09 20.0
AQU LR LR
comp=Z,536nm,21.0s
CUC Castrocucco 108.36 54 PFAKE 18 09 20.0
CUC LR LR
comp=Z,514nm,20.0s
TIP Timpagrande 108.64 55 PFAKE 18 09 20.0
TIP LR LR
comp=Z,474nm,22.0s
HNR Honiara 115.44 239 PFAKE 18 09 40.0 +14
HNR LR LR
comp=Z,146nm,21.0s
CTAO Charters Tower 116.26 220 PFAKE 18 09 40.0 +12
CTAO LR LR
comp=Z,637nm,19.0s
MIDW Midway 116.97 288 PFAKE 18 09 40.0 +12
MIDW LR LR
comp=Z,626nm,19.0s
MSEY Mahe Island 117.70 116 PFAKE 18 09 40.0 +10
MSEY LR LR
comp=Z,373nm,20.0s
ASAR Alice Springs 118.94 207 PKP **PKPdf 18 09 30.4 -2.2**
comp=Z,0.3nm,0.8s,baz=162,slow=1.9,SNR=4.2
CSS Prodhromos 119.05 65 PFAKE 18 09 40.0 +7.7
CSS LR LR
comp=Z,89nm,19.0s
ANTO Ankara 120.32 60 PFAKE 18 09 50.0 +15
ANTO LR LR
comp=Z,378nm,20.0s
BRTR Keskin Array B 120.89 60*c i*PKIKP **PKPdf 18 09 37.2 +1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 120.89 60 PKP **PKPdf 18 09 35.5 -0.4**
comp=Z,2.1nm,1.1s,baz=15,slow=6.0,SNR=4.2
KIEV Kiev 121.02 47⇑*i*PKIKP **PKPdf 18 09 35.5 0.0**
AKASG Malin Array Be 121.03 47*c i*PKIKP **PKPdf 18 09 35.2 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 121.03 47 PKP **PKPdf 18 09 34.9 -0.7**
comp=Z,3.0nm,0.9s,baz=270,slow=2.4,SNR=6.7
WRA Warramunga Arr 122.12 209 PKP **PKPdf 18 09 37.7 -1.1**
comp=Z,2.0nm,1.2s,baz=153,slow=1.8,SNR=12
WRAB Tennant Creek 122.12 209 PFAKE 18 09 50.0 +11
WRAB LR LR
comp=Z,536nm,19.0s
PMG Port Moresby 124.16 228 PFAKE 18 09 50.0 +7.2
PMG LR LR
comp=Z,1μm,22.0s
ANN Anapa 124.99 55 *i* PKIKP PKPdf 18 09 34.3 -9.0
ANN pmax pmax
comp=Z,65nm,1.5s
MBWA Marble Bar 125.43 193 PFAKE 18 10 00.0 +15
MBWA LR LR
comp=Z,2μm,20.0s
H11S2 WAKE ISLAND Hyl 26.08 270 T T 20 28 44.3
baz=118,slow=75,SNR=200
H11S1 WAKE ISLAND Hyl 26.09 270 T T 20 28 43.4
baz=118,slow=75,SNR=105
H11S3 WAKE ISLAND Hyl 26.09 270 T T 20 28 46.0
baz=118,slow=75,SNR=152
OBN Obninsk 126.22 43⇑*i e*PKIKP **PKPdf 18 09 45.7 +0.3**
OBN 18 11 37.5
OBN pmax pmax
comp=Z,71nm,2.4s
OBN MLR MLR
comp=Z,291nm,17.0s
H11N3 WAKE ISLAND Hyl 26.45 271 T T 20 29 06.2
baz=117,slow=75,SNR=18
H11N1 WAKE ISLAND Hyl 26.47 271 T T 20 29 07.2
baz=117,slow=75,SNR=9.0
H11N2 WAKE ISLAND Hyl 26.47 271 T T 20 29 13.2
baz=117,slow=75,SNR=69
VSR Storozhevoye 127.30 48 *e*PKIKP **PKPdf 18 09 46.0 -1.6**
VSR pmax pmax
comp=N,9.0nm,1.3s
VSR pmax pmax
comp=E,5.0nm,1.3s
VSR pmax pmax
comp=Z,10.0nm,1.3s
VORD Divnogorie 127.34 48 *e*PKIKP **PKPdf 18 09 46.6 -1.1**
VORD pmax pmax
comp=Z,6.0nm,1.3s
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,40nm,1.3s
DGAR Diego Garcia 127.56 133 PFAKE 18 10 00.0 +11
DGAR LR LR
comp=Z,522nm,19.0s
KLMR Klimovskoe 128.10 35 *e*PKIKP **PKPdf 18 09 47.0 -1.8**
KLMR pmax pmax
comp=Z,43nm,1.4s
KIV Kislovodsk 128.50 57 *e*PKIKP **PKPdf 18 09 50.1 -0.2**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 128.50 57 PFAKE 18 10 00.0 +10
KIV LR LR
comp=Z,336nm,19.0s
VRHR Novokhopersk 128.82 48 *e*PKIKP **PKPdf 18 09 48.1 -2.4**
VRHR pmax pmax
comp=N,10.0nm,1.3s
VRHR pmax pmax
comp=Z,10.0nm,1.3s
VRHR pmax pmax
comp=E,10.0nm,1.1s
GNI Garni 129.23 62 PFAKE 18 10 00.0 +8.1
GNI LR LR
comp=Z,447nm,19.0s
PRGR Permogore 131.01 34 *e*PKIKP **PKPdf 18 09 52.0 -2.3**
PRGR pmax pmax
comp=Z,55nm,1.2s
BILL Bilibino 131.71 335 *e*PKIKP **PKPdf 18 09 55.8 +0.3**
BILL Bilibino 131.71 335 *e*PKPdf **PKPdf 18 09 55.8 +0.3**
BILL LR LR
comp=Z,506nm,21.0s
IKAZ Kazeroun 132.09 78 *e*P **PKPdf 18 09 57.6 -0.2**
ISRV Sarvestan 133.02 79 *e*P **PKPdf 18 10 00.6 +1.0**
IPAR Pars 133.11 78 *e*P **PKPdf 18 09 59.2 -0.5**
ARU Arti 138.49 40 *i* PKIKP **PKPdf 18 10 09.4 +0.9**
ARU 18 12 56.7
PET Petropavlovsk 138.83 315 PFAKE 18 10 20.0 +11
PET LR LR
comp=Z,633nm,22.0s
GEYT Alibeck 139.07 68 PKP **PKPdf 18 10 09.9 -0.3**
comp=Z,1.5nm,0.7s,baz=246,slow=7.4,SNR=6.9
AKTO Aktyubinsk 139.21 49 PKP **PKPdf 18 10 09.3 -0.7**

comp=Z,2.7nm,1.0s,baz=293,slow=5.3,SNR=4.6
TIXI Tiksi 139.38 350⇓ *e*PKIKP **PKPdf 18 10 09.3 -0.4**
TIXI **Tiksi 139.38 350** *e*PKPdf **PKPdf 18 10 08.7 -0.9**
TIXI LR LR
comp=Z,402nm,19.0s
KAPI Kappang 141.04 198 PFAKE 18 10 30.0 +16
KAPI LR LR
comp=Z,357nm,20.0s
PALK Pallekele 144.04 128 PKP **PKPab 18 10 17.5 +0.3**
comp=Z,29nm,1.1s,baz=227,slow=1.9,SNR=6.9
BRVK Borovoye 145.98 42 *ce*PKP2 **PKPab 18 10 23.5 +0.2**
BRVK pmax pmax
comp=Z,92nm,1.7s
BRVK Borovoye 145.98 42 *e*PKPdf **PKPab 18 10 23.3 +0.1**
BRVK LR LR
comp=Z,659nm,19.0s
BVAR Borovoye Array 146.06 42 PKPbc **PKPab 18 10 23.5 0.0**
comp=Z,3.2nm,0.5s,baz=263,slow=2.4,SNR=47
KBL Kabul 147.36 76 *e*PKP2 **PKPdf 18 10 26.2 +1.1**
KBL Kabul 147.36 76 *e*PKPdf **PKPdf 18 10 26.2 +1.1**
YAK Yakutsk 147.51 341 *ce*PKP2 **PKPbc 18 10 26.1 -0.7**
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=Z,81nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK Yakutsk 147.51 341 *e*PKPdf **PKPdf 18 10 24.7 +0.5**
YAK LR LR
comp=Z,892nm,20.0s
KKAR Karatay Array 148.60 60 *e*PKIKP **PKPdf 18 10 27.8 +1.2**
KKAR Karatay Array 148.60 60 *e*PKPdf **PKPdf 18 10 27.8 +1.2**
KSM Kuching 148.97 184 *e*PKPbc **PKPbc 18 10 31.7 -0.5**
KSM LR LR
comp=Z,541nm,20.0s
PSI Prapat 149.07 162 PKPbc **PKPbc 18 10 31.6 -0.9**
comp=Z,3.8nm,0.3s,baz=216,slow=10.0,SNR=19
HYB Hyderabad 149.21 112 *i* PKP **PKPbc 18 10 32.0 -0.6**
DAV Davao City (W) 149.94 216 PFAKE 18 10 40.0 -0.1
DAV LR LR
comp=Z,594nm,19.0s
YSS Yuzh-Sakhalins 150.17 309 *e*PKIKP **PKPbc 18 10 33.8 -0.2**
YSS *e* 18 10 41.8
ERM Erimo 150.91 299 PFAKE 18 10 40.0 -3.4
ERM LR LR
comp=Z,567nm,20.0s
ASAJ Asahikawa 150.97 303 *e*PKPbc **PKPbc 18 10 36.4 +0.3**
EKS2 Erkin-Say 151.04 60 P **PKPbc 18 10 37.2 +0.7**
SNR=21
EKS2 Erkin-Say 151.04 60 *e*PKIKP **PKPdf 18 10 31.4 +0.7**
EKS2 *e* 18 10 36.9
EKS2 Erkin-Say 151.04 60 *e*PKPdf **PKPdf 18 10 31.4 +0.7**
EKS2 *e*PKPbc **PKiKP 18 10 36.9 -0.2**
AML Almayashu 151.06 61 P **PKPbc 18 10 38.7 +1.8**
SNR=15
IPM Ipoh 151.20 165 *e*PKPbc **PKPbc 18 10 37.5 -0.1**
USP Ospenovka 151.46 58 P **PKPbc 18 10 37.9 +0.6**
SNR=18
AAK Ala-Archa 151.57 60 P **PKPbc 18 10 38.5 +0.9**
SNR=18
AAK Ala-Archa 151.57 60 PKP **PKPdf 18 10 32.4 +0.8**
comp=Z,1.6nm,0.9s,baz=249,slow=3.0,SNR=4.6
AAK PKPbc **PKPbc 18 10 38.6 +0.9**
comp=Z,34nm,1.1s,baz=197,slow=3.0,SNR=44
AAK Ala-Archa 151.57 60 *e*PKPdf **PKPdf 18 10 32.3 +0.8**
AAK *e*PKPbc **PKiKP 18 10 38.2 0.0**
AAK PKPbc **PKPbc 18 10 38.6 +0.9**
AAK LR LR
comp=Z,335nm,20.0s
NVS Novosibirsk 151.60 31 *e*PKIKP **PKPdf 18 10 31.1 +0.2**
NVS pmax pmax
comp=E,27nm,1.4s
NVS pmax pmax
comp=Z,98nm,1.4s
FRU Bishkek 151.62 59 *i* PKIKP **PKPbc 18 10 38.0 +0.3**
FRU *e* 18 14 16.0
FRU pmax pmax
comp=Z,180nm,2.1s
UCH Uchtor 151.65 60 P **PKPbc 18 10 39.3 +1.0**
SNR=18
KURK Kurchatov 151.65 42 *e*PKIKP **PKPbc 18 10 37.1 -0.3**
KURK Kurchatov 151.65 42 *e*PKPbc **PKPbc 18 10 37.1 -0.3**
KURK LR LR
comp=Z,233nm,19.0s
CHMS Chumysh 151.69 59 P **PKPbc 18 10 38.4 +0.5**
SNR=12
CHMS Chumysh 151.69 59 *i* PKIKP **PKPbc 18 10 38.3 +0.5**
KULM Kulim 151.90 164 *e*PKPbc **PKPbc 18 10 38.3 -0.8**
KULM LR LR
comp=Z,167nm,20.0s
KBK Karagaybulak 151.90 59 P **PKPbc 18 10 39.9 +1.3**
SNR=11
KZA Kyzart 152.21 61 P **PKPbc 18 10 41.0 +1.5**
SNR=11
TKM2 Tokmak 2 152.32 59 P **PKPbc 18 10 41.0 +1.5**
SNR=8.0
TKM2 Tokmak 2 152.32 59 *e*PKIKP **PKPdf 18 10 32.5 -0.2**
TKM2 *e* 18 10 39.5
TKM2 Tokmak 2 152.32 59 *e*PKPdf **PKPdf 18 10 32.5 -0.2**
TKM2 *e*PKPbc **PKPbc 18 10 39.5 0.0**
TKM2 LR LR
comp=Z,315nm,20.0s
KKM Kota Kinabalu 152.56 197 PFAKE 18 10 50.0 -1.0
KKM LR LR
comp=Z,540nm,22.0s
ZALV Zalesovo Beam 152.89 31 PKP **PKPdf 18 10 33.0 +0.1**
comp=Z,4.3nm,1.1s,baz=329,slow=1.7,SNR=15
ZALV PKPbc **PKPbc 18 10 39.9 -0.2**
comp=Z,21nm,1.0s,baz=286,slow=2.6,SNR=42
ZALV PKPab **PKPab 18 10 50.6 -0.7**
comp=Z,11nm,0.9s,baz=296,slow=3.2,SNR=6.2
ULHL Ulahol 152.91 60 P **PKPbc 18 10 41.6 +0.8**
SNR=12
KSH Kashi 153.06 66 PKPbc **PKPdf 18 10 34.9 +1.1**
KSH sPKP 18 10 47.8
KSH PKS **PKSdf 18 14 07.9 -0.4**
KSH PP **PP 18 14 22.8 -3.7**
KSH SKS **SKSdf 18 17 38.1 -1.1**
KSH SKKS **SKKSac 18 21 13.2 -1.6**
KSH SS **SS 18 33 54.0 -4.5**
KSH PPMZ
comp=Z,410nm,5.5s
KSH LN
comp=Z,130nm,9.6s
KSH LE
comp=Z,100nm,5.2s
KSH LZ
comp=Z,240nm,7.5s
BOD Bodaibo 154.49 353 *e*PKIKP **PKPdf 18 10 33.3 -1.7**
BOD *e* 18 10 57.0
BOD pmax pmax
comp=Z,26nm,1.5s
MJAR Matsushiro Arr 155.12 287 PKPab **PKPab 18 11 02.0 +0.6**
comp=Z,3.2nm,1.0s,baz=134,slow=3.6,SNR=4.3
MAJO Matsushiro 155.12 287 PFAKE 18 10 50.0 -11
MAJO LR LR
comp=Z,384nm,20.0s
MKAR Makanchi Array 155.62 47 PKP **PKPdf 18 10 37.6 +0.6**
comp=Z,3.2nm,1.2s,baz=352,slow=2.5,SNR=10
MKAR PKPab **PKPab 18 11 02.9 -0.3**
comp=Z,3.0nm,0.8s,baz=296,slow=2.9,SNR=14
KLR Kul'dur 155.87 320 *e*PKIKP PKPdf 18 10 31.3 -5.9
MDJ Mudanjiang 159.57 312 PFAKE 18 10 50.0 +8.1
MDJ LR LR
comp=Z,309nm,20.0s
MOY Mondy 160.22 14 *e*PKP2 **PKPab 18 11 24.5 +1.6**
CIT Chita 160.23 350 *e*PKP2 **PKPab 18 11 20.5 -2.4**
WMQ Urumqi 160.36 49 *e*PKP **PKPdf 18 10 42.6 -0.4**
WMQ pPKP **pPKPdf 18 10 53.4 +1.6**
WMQ PKPab **PKPab 18 11 25.5 +1.6**
WMQ PKS **PKSdf 18 14 14.6 -1.7**
WMQ PP **PP 18 15 08.2 +1.8**
WMQ SKS **SKSdf 18 17 42.6 -3.8**
WMQ SKKS **SKKSac 18 21 51.1 -2.0**
WMQ SS **SS 18 35 13.0 -2.9**
WMQ PPMZ
comp=Z,89nm,5.6s
WMQ LN
comp=Z,130nm,21.0s
WMQ LE
comp=Z,190nm,21.0s
WMQ LZ
comp=Z,210nm,19.0s
TLY Talaya 160.64 9 *e*PKIKP **PKPdf 18 10 44.0 +1.1**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 160.64 9 PFAKE 18 10 50.0 +7.1
TLY LR LR
comp=Z,350nm,20.0s
HIA Hailar 161.29 336 PFAKE 18 10 50.0 +6.3
HIA LR LR
comp=Z,380nm,19.0s
ZAK Zakamensk 161.85 10 *e*PKP2 **PKPab 18 11 30.5 +0.4**
ZAK *e* 18 15 12.8
ZAK pmax pmax
comp=Z,8.0nm,1.5s
CN2 Changchun 162.54 315 *e*PKP **PKPdf 18 10 48.0 +2.9**
CN2 PPMZ
comp=Z,200nm,6.0s
CN2 LN
comp=Z,600nm,20.0s
CN2 LE
comp=Z,700nm,20.0s
CN2 LZ
comp=Z,500nm,20.0s
KSRS Korea Array 163.23 292 PKP **PKPdf 18 10 46.7 +0.7**
comp=Z,1.0nm,0.7s,baz=66,slow=36,SNR=3.7
KSRS PKPab **PKPab 18 11 39.0 +2.5**
comp=Z,8.7nm,1.4s,baz=298,slow=42,SNR=3.3
KSAR Wonju Array Be 163.26 292 PKIKP **PKPdf 18 10 46.7 +0.6**
KSAR Wonju Array Be 163.26 292 PKP **PKPdf 18 10 46.6 +0.6**
KSAR PKPab **PKPab 18 11 39.0 +2.3**
CMAR Chiang Mai Arr 163.58 147 PKP **PKPdf 18 10 46.6 -0.3**
comp=Z,1.7nm,1.1s,baz=230,slow=2.9,SNR=12
CMAR PKPab **PKPab 18 11 38.5 +0.1**
comp=Z,2.7nm,1.1s,baz=232,slow=4.8,SNR=6.8
CHTO Chiang Mai 163.89 146 PFAKE 18 11 00.0 +13
CHTO LR LR
comp=Z,221nm,20.0s
INCN Inchon 164.23 293 PFAKE 18 11 00.0 +13
INCN LR LR
comp=Z,206nm,19.0s
SONM Songino Array 164.72 5 PKP **PKPdf 18 10 48.4 +1.2**
comp=Z,0.5nm,1.0s,baz=27,slow=1.7,SNR=4.9
SONM PKPab **PKPab 18 11 44.1 +1.3**
comp=Z,4.4nm,1.1s,baz=353,slow=2.0,SNR=16
SONM PP **PP 18 15 28.7 +0.2**
comp=Z,2.3nm,1.2s,baz=354,slow=2.6,SNR=6.2
ULN Ulaanbaatar 164.73 3 *e*PKIKP **PKPdf 18 10 46.1 -1.2**
ULN Ulaanbaatar 164.73 3 *e*PKPdf **PKPdf 18 10 46.1 -1.2**
ULN LR LR
comp=Z,280nm,19.0s
LSA Lhasa 165.02 97 PKP PKPdf 18 10 42.2 -6.3
LSA Lhasa 165.02 97 *e*PKIKP **PKPdf 18 10 49.2 +0.7**
LSA Lhasa 165.02 97 *e*P **PKPdf 18 10 49.1 +0.7**
LSA LR LR
comp=Z,303nm,20.0s
BJI Beijing 170.25 322 PKP **PKPdf 18 10 52.2 +1.0**
BJI PP **PP 18 15 59.0 +1.7**
BJI PPMZ
comp=Z,200nm,4.8s
BJI LN
comp=Z,1μm,20.2s
BJI LE
comp=Z,450nm,16.4s
BJI LZ
comp=Z,1μm,21.6s
BJT Baijiatuau 170.26 322 PFAKE 18 11 00.0 +8.8
BJT LR LR
comp=Z,291nm,19.0s
GTA Gaotai 170.34 43 *e*PKP **PKPdf 18 10 52.0 +0.5**
GTA pPKP **pPKPdf 18 11 02.8 +2.5**
GTA sPKP 18 11 06.4
GTA PKPab **PKPab 18 12 09.6 +1.6**
GTA PP **PP 18 16 01.3 +3.2**
GTA SKS **SKSdf 18 17 50.7 -2.6**
GTA SKKS **SKKSac 18 22 43.8 +0.4**
GTA SS **SS 18 36 55.4 -2.1**
GTA PPMZ
comp=Z,67nm,5.9s
GTA LN
comp=Z,230nm,17.6s
GTA LE
comp=Z,200nm,17.6s
GTA LZ
comp=Z,210nm,18.1s
NJ2 Nanjing 171.06 269 *e*PKP **PKPdf 18 10 53.8 +1.9**
HHC Hu-ho-hao-te 171.37 343 *e*PKP **PKPdf 18 10 52.5 +0.5**
HHC pPKP **pPKPdf 18 11 03.3 +2.5**
HHC sPKP 18 11 06.9
HHC PP **PP 18 16 06.5 +4.0**
HHC SKS **SKSdf 18 17 50.7 -2.9**
HHC SS **SS 18 37 06.0 -0.3**
HHC PPMZ
comp=Z,140nm,7.4s
HHC LN
comp=Z,240nm,14.8s
HHC LE
comp=Z,270nm,16.0s
HHC LZ
comp=Z,160nm,16.0s
GYA Guiyang 173.71 166 PKP **PKPdf 18 10 53.6 +0.2**
GYA pPKP **pPKPdf 18 11 04.8 +2.5**
GYA PKPab **PKPab 18 12 25.4 +2.4**
GYA PKS **PKSdf 18 14 24.9 -1.0**
GYA PP **PP 18 16 18.0 +4.1**
GYA SKKS 18 22 59.0
GYA SS **SS 18 37 29.5 +0.6**
GYA PPMZ
comp=Z,140nm,8.3s
GYA LN
comp=Z,170nm,22.6s
GYA LE
comp=Z,140nm,23.0s
GYA LZ
comp=Z,160nm,21.3s
LZH Lanzhou 174.93 46 *e*PKP **PKPdf 18 10 54.3 +0.7**
LZH pPKP **pPKPdf 18 11 05.2 +2.8**
LZH sPKP 18 11 09.5
LZH *e*PP **PP 18 16 24.5 +3.7**
LZH *e*SS SS 18 37 40.1 -2.4
LZH PPMZ
comp=Z,260nm,8.5s
LZH LN
comp=Z,470nm,18.0s
LZH LE
comp=Z,460nm,18.0s
LZH LZ
comp=Z,660nm,20.2s
XAN Xi'an 178.48 341 PKP **PKPdf 18 10 53.9 -0.3**
XAN pPKP **pPKPdf 18 11 04.4 +1.4**
XAN sPKP 18 11 09.4

*CSEM **08** 17:51:22.9, 32°.22N×55°.58E, h5km, ML3.6*
TEH 08 17:51:22.9, 32°.22N×55°.58E, h5km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.63**	**181**	*e*Pg	Pg	17 51 33.8	-1.4
IBAF				*e*		17 51 48.6	
comp=Z,15μm,0.0s							
IBAF	**Bafgh**	**0.63**	**181**	*e*Pg	Pg	17 51 33.8	-1.5
ICHK	**Chekchek**	**0.99**	**272**	*e*Pg	Pg	17 51 40.0	-2.3
ICHK				*e*Sg	Sg	17 51 53.5	-1.9
ICHK				*e*		17 51 53.8	
comp=Z,10μm,0.1s							
ICHK	**Chekchek**	**0.99**	**272**	*e*Pg	Pg	17 51 40.0	-2.3
ICHK				*e*Sg	Sg	17 51 53.5	-1.9
IMEH	**Mehriz**	**1.17**	**225**	*e*Pg	Pg	17 51 44.1	-1.6
IMEH				*e*		17 52 02.3	
comp=Z,6μm,0.1s							
IMEH	**Mehriz**	**1.17**	**225**	*e*Pg	Pg	17 51 44.1	-1.6
ISAD	**Sadrabad**	**1.64**	**260**	*e*Pn	Pn	17 51 52.3	-0.4
ISAD				*e*Sg	Sn	17 52 14.5	0.0
ISAD				*e*		17 52 15.9	
comp=Z,19μm,0.1s							
ISAD	**Sadrabad**	**1.64**	**260**	*e*Pn	Pn	17 51 52.3	-0.4
ISAD				*e*Sg	Sn	17 52 14.5	0.0
IZEF	**Zefreh**	**2.82**	**285**	*e*		17 52 52.9	
comp=Z,818nm,0.1s							
IZEF				*e*Pn	Pn	17 52 09.0	-0.1
IZEF	**Zefreh**	**2.82**	**285**	*e*Pn	Pn	17 52 09.0	-0.1
IKOO	**Kooshah**	**2.91**	**85**	*e*Pn	Pn	17 52 09.2	-1.0
IKOO				*e*		17 53 00.5	
comp=Z,1μm,0.2s							
IKOO	**Kooshah**	**2.91**	**85**	*e*Pn	Pn	17 52 09.2	-1.0
IKLH	**Kolahrood**	**3.54**	**289**	*e*Pn	Pn	17 52 18.9	-0.1
IKLH				*e*		17 52 31.2	
comp=Z,515nm,0.3s							
IKLH				*e*Sn	Sn	17 52 59.2	-2.3
IKLH	**Kolahrood**	**3.54**	**289**	*e*Pn	Pn	17 52 18.9	0.0
IKLH				*e*Sn	Sn	17 52 59.2	-2.3
IDAH	**Dahanechah**	**3.66**	**81**	*e*Pn	Pn	17 52 20.5	-0.1
IDAH				*e*		17 52 32.7	
comp=Z,703nm,0.2s							
IDAH	**Dahanechah**	**3.66**	**81**	*e*Pn	Pn	17 52 20.5	-0.1

*IDC **08** 17:54:27.1±0.9, 22°.78N×120°.42E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/43, mbtmp3.6/8, Error ellipse: s-maj=36.7km s-min=18.1km az=73.0*
*JMA **08** 17:54:28.6±0.2, 23°.02N×120°.42E, h1km±3km, M4.4*
*NEIC **08** 17:54:29.5±0.7, 22°.82N×120°.69E, h10km, mb4.1/3, ML4.5(TAP), Error ellipse: s-maj=13.5km s-min=8.8km az=120.0*
NEIC Felt at T'ai-nan. Recorded [2 TAP] in Chia-i, Kao-hsiung, T'ai-nan and Yun-lin; [1 TAP] in P'ing-tung.
*TAP **08** 17:54:30.3, 22°.96N×120°.53E, h20km, ML4.2, B*
*ISCJB **08** 17:54:31.1±0.2, 22°.93N±0°.01×120°.49E±0°.02, h26km±1km, mb3.6/9, Error ellipse: s-maj=2.8km s-min=2.2km az=159.4*
ISC 08 17:54:31.1±0.8, **22°.97N**±0°.01×**120°.52E**±0°.02, **h18**km±2km, **n92**, σ1.9**09**/142, **mb3.6**/9, **14C-20D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.13**	**26**	⇑*i*P	Pg	17 54 35.3	+0.1
SGST	baz=25			S	Sg	17 54 39.1	+1.2
TWM1	**Shoushan**	**0.17**	**213**	⇑*i*P	Pg	17 54 36.2	+0.5
CHN3	**Shinhua**	**0.18**	**306**	⇓*i*P	Pb	17 54 36.6	+1.3
CHN3	baz=307			*e*S	Sb	17 54 42.0	+4.0
CHN1	**Nanshi**	**0.22**	**1**	⇑P	Pg	17 54 36.5	+0.1
CHN1	baz=359			*i* S	Sb	17 54 40.9	+1.3
SSD	**Sandimen**	**0.24**	**156**	⇓*i*P	Pg	17 54 36.5	-0.3
SSD	baz=149			S	Sb	17 54 41.1	+0.5
SGLT	**Jiouru**	**0.24**	**187**	*e*P	Pb	17 54 37.7	+0.8
TAI1	**Yung-k'ang**	**0.28**	**285**	⇑*e*P	Pg	17 54 37.8	+0.4
TAI1	baz=286			*e*S	Sb	17 54 43.5	+1.6
STYT	**Tauyuan**	**0.29**	**48**	⇓*i*P	Pg	17 54 37.8	+0.2
STYT	baz=47			*i* S	Sb	17 54 43.0	+0.8
WTP	**Ta-pu**	**0.29**	**17**	⇑P	Pg	17 54 37.7	+0.1
WTP	baz=17			*e*S	Sb	17 54 43.0	+0.7
TWK	**Hsinying**	**0.30**	**354**	⇓*i*P	Pg	17 54 38.0	+0.3
TWK	baz=4.0			*e*S	Sb	17 54 44.4	+1.9
TPUB	**Ta-pu**	**0.34**	**16**	*e*Pg	Pg	17 54 37.9	-0.6
SCLT	**Jiali**	**0.37**	**304**	⇑*e*P	Pg	17 54 39.0	+0.2
SCLT	baz=305			*e*S	Sb	17 54 46.5	+1.9
CHN4	**Tsaushan**	**0.39**	**9**	⇓P	Pg	17 54 39.0	-0.2
CHN4	baz=8.0			S	Sb	17 54 46.0	+0.7
KAU	**Kaohsiung**	**0.45**	**207**	*e*P	Pg	17 54 40.3	+0.1
CHN8	**Yiju**	**0.47**	**323**	*e*P	Pg	17 54 40.9	+0.1
CHN8	baz=324			*e*S	Sb	17 54 49.3	+1.7
ELDTW	**Lidau**	**0.50**	**64**	⇓*i*P	Pg	17 54 41.2	-0.1
TWG	**Pinlang**	**0.53**	**106**	⇓*i*P	Pg	17 54 41.9	+0.2
TWG	baz=106			S	Sb	17 54 49.9	+0.8
TWG	**Pinlang**	**0.53**	**106**	*e*Pg	Pg	17 54 41.5	-0.3
CHY	**Chiayi**	**0.54**	**350**	P	Pg	17 54 42.0	+0.1
CHY	baz=350			S	Sb	17 54 50.6	+1.3
ECL	**Taimali**	**0.54**	**133**	⇓*i*P	Pg	17 54 41.6	-0.5
ECL	baz=137			S	Sg	17 54 49.1	-0.3
CHN2	**Minshiung**	**0.56**	**355**	*e*P	Pg	17 54 42.8	+0.3
CHN2	baz=355			S	Sb	17 54 51.8	+1.7
ALS	**Alishan**	**0.60**	**26**	⇓*i*P	Pg	17 54 43.0	-0.2
ALS	baz=25			S	Sb	17 54 52.5	+1.1
SCZT	**Fangliau**	**0.60**	**171**	⇓*i*P	Pg	17 54 42.7	-0.4
SCZT	baz=162			*e*S	Sb	17 54 52.9	+1.8
TTN	**Taitung**	**0.61**	**110**	⇓*i*P	Pb	17 54 44.0	+0.8
TTN	baz=110			*e*S	Sn	17 54 54.9	+0.6
TWP	**Hsiaoliuchiu**	**0.64**	**194**	*e*P	Pb	17 54 45.0	+1.3
TWP	baz=194			*e*S	Sn	17 54 56.5	+1.6
CHN5	**Tsauling**	**0.64**	**13**	⇓*i*P	Pg	17 54 43.6	-0.3
CHN5	baz=12			S	Sb	17 54 53.8	+1.3
YUS	**Yu-Shan**	**0.65**	**37**	⇓*i*P	Pg	17 54 44.2	0.0
YUS	baz=26			S	Sb	17 54 54.1	+1.0
EAST	**Anshuo**	**0.66**	**153**	⇓*i*P	Pg	17 54 43.7	-0.4
EAST	baz=148			*e*S	Sn	17 54 54.8	-0.6
TAW	**Tawu**	**0.70**	**150**	⇓P	Pb	17 54 44.5	-0.3
TAW	baz=146			*e*S	Sg	17 54 55.5	+1.3
WGK	**Gukeng**	**0.71**	**3**	⇑P	Pb	17 54 45.2	+0.2
WGK	baz=3.0			*e*S	Sn	17 54 56.8	-0.1
WSF	**Szhu**	**0.72**	**337**	⇓P	Pb	17 54 44.8	-0.4
WSF	baz=338			*e*S	Sg	17 54 56.3	+1.3
CHKT	**Chengkung**	**0.79**	**80**	⇓*i*P	Pg	17 54 46.5	0.0
CHKT	baz=80			*e*S	Sn	17 54 59.8	+1.2
YULB	**Yu-li**	**0.83**	**59**	*e*Pg	Pb	17 54 45.8	-1.2
WDGT	**Dungji**	**0.85**	**290**	⇑*i*P	Pb	17 54 46.1	-1.2
WDGT	baz=290			*e*S	Sb	17 54 56.9	-1.4
SSLB	**Suanglung**	**0.91**	**26**	*e*Pg	Pb	17 54 47.2	-1.2
EHY	**Hungye**	**0.91**	**54**	⇓*i*P	Pb	17 54 48.2	-0.2
EHY	baz=57			*e*S	Sb	17 55 00.3	+0.2
WNT	**Mingjian**	**0.92**	**9**	⇑P	Pb	17 54 48.4	-0.1
WNT	baz=9.0			S	Sn	17 55 02.2	+0.4
WTCT	**Ta-ch'eng**	**0.92**	**346**	*e*P	Pb	17 54 48.0	-0.6
WTCT	baz=346			*e*S	Sg	17 55 01.4	+0.2
SMLT	**Sun Moon Lake**	**0.97**	**21**	*e*P	Pb	17 54 49.2	-0.3
SMLT	baz=10.0			*e*S	Sn	17 55 05.0	+1.6
HEN	**Hengchun**	**0.98**	**168**	*e*P	Pb	17 54 49.5	-0.1

HEN					*e*S		**Sn**	**17 55 04.7**	**+1.3**
	baz=158								
TYC	**Yuchr**	**0.98**	**18**	⇓*i*P			**Pb**	**17 54 49.1**	**-0.5**
	baz=6.0								
TYC				S			**Sn**	**17 55 04.7**	**+1.3**
	baz=6.0								
TWK1	**Hengchun**	**1.05**	**166**	*e*P			**Pb**	**17 54 49.7**	**-1.1**
	baz=165								
TWK1				*e*S			**Sg**	**17 55 07.3**	**+1.8**
	baz=165								
PNG	**Penghu**	**1.07**	**304**	⇑*i*P			**Pb**	**17 54 49.4**	**-1.8**
	baz=304								
PNG				*e*S			**Sb**	**17 55 03.3**	**-1.5**
	baz=304								
TSEB	**Hengchuen, Pin**	**1.12**	**162**	*e*P			**Pn**	**17 54 50.6**	**-1.3**
	baz=163								
TCU	**Taichung**	**1.18**	**7**	*e*P			**Pn**	**17 54 52.5**	**-0.2**
	baz=357								
TCU				*e*S			**Sn**	**17 55 09.0**	**+0.6**
	baz=357								
ESL	**Shilin**	**1.19**	**45**	⇓*i*P			**Pn**	**17 54 52.9**	**+0.1**
	baz=44								
ESL				*e*S			**Sg**	**17 55 10.6**	**+0.9**
	baz=44								
LAY	**Lan-yu**	**1.33**	**134**	*e*P			**Pn**	**17 54 53.9**	**-0.9**
	baz=133								
WHF	**Hehuan Shan**	**1.35**	**30**	⇑*e*P			**Pb**	**17 54 56.0**	**-0.3**
	baz=19								
TWQ1	**Liyutan**	**1.39**	**9**	⇑*e*P			**Pn**	**17 54 56.0**	**+0.3**
	baz=9.0								
TWQ1				*e*S			**Sb**	**17 55 15.2**	**+1.1**
	baz=9.0								
HWA	**Hwalien**	**1.41**	**44**	*e*P			**Pn**	**17 54 54.8**	**-1.1**
	baz=44								
HWA				*e*S			**Sg**	**17 55 16.9**	**0.0**
	baz=44								
TWT	**Tachien**	**1.41**	**25**	*e*P			**Pn**	**17 54 55.9**	**-0.2**
	baz=23								
TWT				S			**Sg**	**17 55 16.1**	**-0.9**
	baz=23								
NSY	**Sanyi**	**1.46**	**9**	*e*P			**Pn**	**17 54 56.8**	**+0.2**
	baz=8.0								
NSY				*e*S			**Sg**	**17 55 17.8**	**-0.5**
	baz=8.0								
TWD	**Chiawan**	**1.48**	**41**	*e*P			**Pn**	**17 54 57.4**	**+0.5**
	baz=41								
TWD				*e*S			**Sg**	**17 55 17.9**	**-1.2**
	baz=41								
NACB	**Ninganchiao**	**1.55**	**39**	*e*Pn			**Pn**	**17 54 57.6**	**-0.2**
NNS	**Nan Shan**	**1.66**	**28**	⇑*e*P			**Pn**	**17 55 00.0**	**+0.6**
	baz=14								
NNS				*e*S			**Sb**	**17 55 21.9**	**0.0**
	baz=14								
NSTT	**Nanjuang**	**1.71**	**15**	*e*P			**Pn**	**17 54 59.2**	**-0.9**
	baz=15								
ENA	**Nanau**	**1.83**	**37**	*e*P			**Pn**	**17 55 02.2**	**+0.5**
	baz=49								
NSK	**Sanguang**	**1.86**	**24**	*e*P			**Pn**	**17 55 02.5**	**+0.3**
	baz=8.0								
NSK				*e*S			**Sb**	**17 55 27.9**	**+0.1**
	baz=8.0								
YHNB	**Yeheng**	**1.86**	**25**	*e*Pn			**Pn**	**17 55 01.6**	**-0.7**
ENTT	**Nioudou**	**1.92**	**30**	⇑P			**Pn**	**17 55 04.0**	**+1.1**
	baz=29								
ENTT				*e*S			**Sb**	**17 55 30.2**	**+1.0**
	baz=29								
TWC	**Suao**	**2.04**	**36**	*e*P			**Pn**	**17 55 05.4**	**+0.9**
	baz=48								
TWC				*e*S			**Sb**	**17 55 32.0**	**-0.5**
	baz=48								
TATO	**Taipei**	**2.18**	**24**	*e*Pn			**Pn**	**17 55 08.2**	**+1.6**
TWA	**Mucha**	**2.23**	**26**	*e*P			**Pn**	**17 55 08.0**	**+0.8**
	baz=27								
TWS1	**Kuangyinshan**	**2.27**	**21**	*e*P			**Pn**	**17 55 08.4**	**+0.6**
	baz=2.0								
NWF	**Wu-fen Shan**	**2.39**	**29**	*e*P			**Pb**	**17 55 12.9**	**-0.8**
	baz=13								
KNM	**Kinmen**	**2.40**	**307**	*e*P			**Pn**	**17 55 09.1**	**-0.4**
	baz=306								
TWB1	**Santiao Chiao**	**2.43**	**33**	*e*P			**Pn**	**17 55 11.1**	**+1.1**
	baz=35								
QZH	**Quanzhou**	**2.64**	**318**	Pn			**Pn**	**17 55 11.5**	**-1.4**
QZH				Sn			**Sn**	**17 55 45.7**	**+1.2**
QZH				smax			smax		
	comp=N,420nm,0.8s								
QZH				smax			smax		
	comp=E,420nm,0.7s								
JYNG	**Yonaguni jima**	**2.67**	**56**	P			**Pn**	**17 55 14.5**	**+1.3**
JYNG				S			**Sn**	**17 55 47.2**	**+2.2**
YOJ	**Yonaguni jima**	**2.72**	**56**	P			**Pn**	**17 55 15.2**	**+1.3**
YOJ				S			**Sn**	**17 55 48.2**	**+1.8**
YOJ	**Yonaguni jima**	**2.72**	**56**	*e*P			**Pn**	**17 55 14.5**	**+0.5**
	baz=55								
YOJ	**Yonaguni jima**	**2.72**	**56**	*e*Pn			**Pn**	**17 55 14.3**	**+0.4**
HATJ	**Hateruma jima**	**3.20**	**70**	P			**Pn**	**17 55 21.6**	**+1.1**
HATJ				S			**Sn**	**17 55 59.9**	**+1.7**
IRIF	**Iriomote-Funau**	**3.24**	**65**	P			**Pn**	**17 55 21.9**	**+0.8**
IRIF				*e*S			**Sn**	**17 56 01.8**	**+2.6**
JKRS	**Kuro-shima**	**3.44**	**68**	P			**Pn**	**17 55 24.6**	**+0.8**
JKRS				*e*S			**Sn**	**17 56 06.7**	**+2.6**
JIJ	**Ishigaki jima**	**3.60**	**67**	P			**Pn**	**17 55 26.5**	**+0.5**
JIJ				S			**Sn**	**17 56 08.8**	**+0.8**
JISG	**Ishigakijimahi**	**3.83**	**64**	P			**Pn**	**17 55 29.6**	**+0.5**
JISG				S			**Sn**	**17 56 13.6**	**0.0**
JTJ	**Tarama**	**4.17**	**66**	P			**Pn**	**17 55 35.1**	**+1.2**
JTJ				*e*S			**Sn**	**17 56 23.7**	**+1.5**
MJAR	**Matsushiro Arr**	**20.42**	**45**	P			Pn	17 59 09.7	+0.2
	comp=E,2.8nm,0.9s,baz=231,slow=9.6,SNR=6.5								
CHTO	**Chiang Mai**	**20.58**	**262**	*e*Pn			Pn	17 59 12.8	+1.3
	comp=E,4.4nm,1.4s								
LSA	**Lhasa**	**27.12**	**291**	P			**P**	**18 00 11.9**	**-1.8**
LSA	**Lhasa**	**27.12**	**291**	*e*P			**P**	**18 00 16.3**	**+2.6**
	comp=E,2.5nm,0.5s								
SONM	**Songino Array**	**27.27**	**339**	P			**P**	**18 00 15.2**	**+0.7**
	comp=E,0.5nm,1.0s,baz=150,slow=6.0,SNR=2.6								
MKAR	**Makanchi Array**	**38.80**	**317**	P			**P**	**18 01 54.5**	**-0.4**
	comp=E,0.2nm,0.6s,baz=116,slow=10,SNR=4.1								
ZALV	**Zalesovo Beam**	**40.94**	**328**	P			**P**	**18 02 11.9**	**-0.6**
	comp=E,0.5nm,0.6s,baz=107,slow=9.5,SNR=3.2								
WRAB	**Tennant Creek**	**44.73**	**161**	*e*P			P	18 02 40.6	-2.9
	comp=E,2.5nm,0.7s								
WRA	**Warramunga Arr**	**44.73**	**161**	P			P	18 02 40.9	-2.7
	comp=E,1.9nm,0.5s,baz=344,slow=8.6,SNR=36								
WB2	**Warramunga Arr**	**44.73**	**161**	*e*P			P	18 02 40.7	-2.9
ASAR	**Alice Springs**	**48.15**	**163**	P			**P**	**18 03 08.3**	**-2.0**
	comp=E,0.5nm,0.5s,baz=353,slow=14,SNR=34								
BRVK	**Borovoye**	**48.31**	**322**	*e*P			**P**	**18 03 13.6**	**+2.3**
ILAR	**Eielson Array**	**70.57**	**27**	P			**P**	**18 05 44.9**	**0.0**
	comp=E,0.2nm,0.5s,baz=292,slow=6.3,SNR=6.9								
YKA	**Yellowknife Ar**	**84.32**	**23**	P			**P**	**18 07 00.7**	**-1.0**
	comp=E,0.2nm,0.5s,baz=313,slow=4.8,SNR=5.8								

JMA ***08*** *18:07:26.0±0.2, 43°.93N×148°.09E, h0km, M3.6*
SKHL ***08*** *18:07:27.5±1.3, 44°.34N×148°.24E, h30km, mb4.5/2*
ISC 08 18:07:25.2±3.4, 44°.3N±0°.1×148°.5E±0°.2, h35km, n12, σ1°.39/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.04**	**337**	*e*P	**Pn**	**18 07 43.1**	**-0.2**
KUR				AMB	AMB	18 07 44.5	
	111nm,0.2s						
KUR				*e*S	**Sn**	**18 07 55.9**	**-0.7**
KUR				A	A	18 07 59.1	
	204nm,0.2s						
KUR				A	A	18 07 59.1	
	251nm,0.2s						
SHO	**Shikotan**	**1.24**	**251**	*e*P	**Pn**	**18 07 45.9**	**-0.1**
SHO				*e*S	**Sn**	**18 07 59.3**	**-2.2**
YUK	**Yuzh-Kuril'sk**	**1.88**	**263**	*e*P	**Pn**	**18 07 55.7**	**+0.9**
YUK				AMB	AMB	18 07 56.9	
	94nm,0.1s						
YUK				*e*S	**Sn**	**18 08 16.1**	**-1.2**
YUK				A	A	18 08 23.3	
	820nm,0.3s						
NEM2	**Nemuro 2**	**2.16**	**246**	P	**Pn**	**18 07 58.7**	**0.0**
NEM2				*e*S	**Sn**	**18 08 22.4**	**-1.9**
JRA	**Rausu**	**2.42**	**263**	P	**Pn**	**18 08 03.9**	**+1.6**
JRA				*e*S	**Sn**	**18 08 31.4**	**+0.7**
JNK	**Nakash**	**2.79**	**257**	P	**Pn**	**18 08 08.4**	**+1.1**
JNK				*e*S	**Sn**	**18 08 39.1**	**-0.5**
JAK	**Akkeshi**	**3.01**	**246**	P	**Pn**	**18 08 11.0**	**+0.6**
JAK				*e*S	**Sn**	**18 08 43.5**	**-1.7**
JAR	**Ashorobuto**	**3.53**	**255**	P	**Pn**	**18 08 19.3**	**+1.8**
JAR				*e*S	**Sn**	**18 08 58.2**	**+0.2**
JCH	**Churui**	**4.06**	**248**	P	**Pn**	**18 08 26.3**	**+1.5**
JNBK	**Urakawa-nobuka**	**4.62**	**246**	P	**Pn**	**18 08 34.2**	**+1.8**
JKB	**Kayabe**	**5.94**	**249**	P	**Pn**	**18 08 52.2**	**+1.6**
JKB				*e*S	**Sn**	**18 09 55.7**	**-1.6**
JOT	**Ohata**	**6.17**	**245**	P	**Pn**	**18 08 54.7**	**+1.0**
JOT				*e*S	**Sn**	**18 10 01.3**	**-1.7**

IDC ***08*** *18:07:57.5±0.4, 32°.64S×71°.73W, h0km, mb4.8/21, mb1 4.8/25, mb1mx4.8/27, mbtmp4.7/25, ML4.8/4, MS4.5/16, Ms1 4.5/16, ms1mx4.2/39, Error ellipse: s-maj=14.5km s-min=11.0km az=79.0*
GUC ***08*** *18:07:59.9±0.6, 32°.69S×71°.86W, h8km±5km, ML4.9*
ISCJB ***08*** *18:08:00.3±0.1, 32°.50S±0°.04×71°.64W±0°.05, h22km, mb5.2/132, MS4.6/14, Error ellipse: s-maj=7.6km s-min=2.8km az=141.9*
GCMT ***08*** *18:08:01.8±0.2, 32°.78S×72°.11W, h16km, MW5.3/80, Moment Tensor Solution. s41,c53; s80,c127; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr0.80±.04; Mθθ-0.01±.02; Mφφ-0.79±.03; Mrθ0.05±.07; Mrφ0.09±.01; Mθφ-0.62±.07; Best double couple: Mo1.01700×1017 NP1:φs175.00000°, δ64.00000°, λ91.00000°. NP2: φs353.00000°, δ26.00000°, λ89.00000°. Principal axes: T 1.0160, Plg71.0000°, Azm86.0000°; N 0.0030, Plg1.0000°, Azm354.0000°; P -1.0190, Plg19.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***08*** *18:08:01.8±0.2, 32°.61S×71°.61W, mb5.3/107, ML4.9(GUC) Error ellipse: s-maj=7.5km s-min=4.6km az=62.0*
NEIC Felt [IV] at Casablanca, La Ligua, Puchuncavi and San Antonio; [III] at Quillota, Santiago and Valparaiso; [II] at Illapel and Salamanca. Also felt at Quilpue and Villa Alemana.
MOS ***08*** *18:08:02.0±1.3, 32°.56S×71°.63W, h33km, mb5.5/34, Error ellipse: s-maj=16.4km s-min=7.9km az=102.8*
BJI ***08*** *18:08:04.6, 32°.40S×71°.50W, h22km, mB5.6/15, Ms5.6/15, Ms7 5.2/16*
ISC 08 18:08:01.7±0.4, 32°.62S±0°.04×71°.71W±0°.05, h25km±2km, h25km; pP-P, n732, σ0°.96/781, mb5.3/133, MS4.5/15, 222C-223D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.41**	**172**	⇓*i*P	**Pb**	**18 08 07.9**	**-2.5**
IHA				*e*S2	**Sb**	**18 08 13.4**	**-2.8**
PEL	**Peldehue**	**1.01**	**121**	⇓*i*P	**Pn**	**18 08 19.9**	**-0.4**
PEL				*i* S1	**Sn**	**18 08 35.0**	**+1.3**
PEL				AML	AML	18 08 36.4	
	comp=E,112μm,0.5s						
SAN	**Santiago**	**1.21**	**133**	⇓*i*P	**Pn**	**18 08 22.6**	**-0.5**
SAN				*i* S	**Sb**	**18 08 39.9**	**+0.7**
SAN				AML	AML	18 08 52.5	
	comp=E,21μm,0.8s						
TACH	**Talagante**	**1.22**	**148**	⇓*i*P	**Pn**	**18 08 21.8**	**-1.3**
CLCH	**Cerro Calan**	**1.25**	**128**	⇑*i*P	**Pn**	**18 08 23.4**	**-0.3**
CLCH				*i* S	**Sb**	**18 08 41.4**	**+0.9**
CLCH				AML	AML	18 08 48.6	
	comp=N,70μm,0.5s						
LACH	**Col Las Americ**	**1.29**	**130**	*e*P1	**Pn**	**18 08 23.7**	**-0.5**
LACH				*i* S1	**Sn**	**18 08 42.1**	**+1.3**
LACH				AML	AML	18 08 57.2	
	comp=E,17μm,0.6s						
ANTU	**Antumapu**	**1.31**	**136**	*e*P1	**Pn**	**18 08 24.0**	**-0.4**
ANTU				*i* S	**Sb**	**18 08 42.4**	**+0.4**
ANTU				AML	AML	18 08 50.1	
	comp=E,47μm,0.5s						
PCH	**Pirque**	**1.42**	**135**	⇓*i*P	**Pn**	**18 08 26.3**	**+0.4**
PCH				*i* S1	**Sn**	**18 08 45.9**	**+2.1**
CFAA	**Coronel Fontan**	**3.12**	**72**	Pn	**Pn**	**18 08 50.0**	**+0.7**
	comp=E,6.2nm,0.3s,baz=272,slow=6.4,SNR=19						
CFAA				LR	LR	18 09 32.3	
	comp=E,449nm,20.9s,baz=251,slow=30						
CFAA				Lg	Lg	18 09 38.6	
	comp=E,27nm,0.3s,baz=34,slow=9.8,SNR=7.1						
PLCA	**Paso Flores**	**8.15**	**174**	Pn	**Pn**	**18 09 57.5**	**-0.9**
	comp=E,7.2nm,0.3s,baz=337,slow=10,SNR=45						
PLCA				Lg	Lg	18 12 19.1	
	comp=E,2.3nm,0.3s,baz=113,slow=22,SNR=3.3						
PLCA				LR	LR	18 13 27.5	
	comp=E,2μm,20.1s,baz=358,slow=41						
TRQA	**Tornquist**	**9.62**	**127**	*e*Pn	**Pn**	**18 10 20.2**	**+1.7**
	comp=E,328nm,1.4s						
LVC	**Limon Verde**	**10.28**	**15**	*e*P	Pn	18 10 24.1	-3.7
	comp=E,69nm,0.7s						
CPUP	**Villa Florida**	**14.00**	**67**	P	**Pn**	**18 11 17.9**	**-0.6**
CPUP	**Villa Florida**	**14.00**	**67**	Pn	**Pn**	**18 11 18.6**	**+0.1**
	comp=E,0.4nm,0.3s,baz=207,slow=16,SNR=3.4						
CPUP				LR	LR	18 17 04.1	
	comp=E,4μm,20.0s,baz=230,slow=39						
CPUP	**Villa Florida**	**14.00**	**67**	P	**Pn**	**18 11 17.9**	**-0.6**
LPAZ	**La Paz**	**16.59**	**12**	Pn	**Pn**	**18 11 53.1**	**-0.1**
	comp=E,2.2nm,0.3s,baz=185,slow=8.0,SNR=93						
SIV	**San Ignacio**	**19.17**	**33**	P	**P**	**18 12 22.7**	**-0.7**
	comp=E,1.0nm,0.3s,baz=226,slow=13,SNR=21						
SIV				LR	LR	18 20 06.9	
	comp=E,1μm,20.2s,baz=202,slow=38						
NNA	**Nana**	**21.07**	**346**	*e*P	**P**	**18 12 44.0**	**-0.2**
NNA				pmax	pmax		
	comp=Z,122nm,1.4s						
NNA	**Nana**	**21.07**	**346**	P	**P**	**18 12 44.4**	**+0.2**
	comp=Z,22nm,0.9s,baz=194,slow=7.4,SNR=7.5						
NNA	**Nana**	**21.07**	**346**	*e*P	**P**	**18 12 44.0**	**-0.2**
	comp=Z,122nm,1.4s						
EFI	**East Falkland**	**21.49**	**156**	P	**P**	**18 12 48.7**	**+0.3**
	comp=Z,514nm,1.0s,SNR=6.4						
EFI	**East Falkland**	**21.49**	**156**	*e*P	**P**	**18 12 47.9**	**-0.5**
EFI	**East Falkland**	**21.49**	**156**	*e*P	**P**	**18 12 47.9**	**-0.5**
	comp=Z,90nm,1.0s						
USHA	**Ushuaia**	**22.32**	**175**	P	**P**	**18 12 56.6**	**-0.7**
	comp=Z,17nm,0.7s,baz=293,slow=15,SNR=1.3						
USHA				LR	LR	18 20 59.9	
	comp=Z,751nm,19.6s,baz=328,slow=35						
SAML	**Samuel**	**24.85**	**20**	*e*P	**P**	**18 13 21.2**	**-1.0**
	comp=Z,32nm,1.0s						
ATAH	**Atahualpa**	**26.11**	**345**	P	**P**	**18 13 34.8**	**+0.6**
	comp=Z,8.9nm,0.9s,baz=160,slow=8.3,SNR=3.6						
BDFB	**Brasilia**	**27.35**	**57**	P	**P**	**18 13 44.9**	**-0.1**
	comp=Z,33nm,1.0s,baz=218,slow=8.6,SNR=20						
BDFB				LR	LR	18 25 39.7	
	comp=Z,6μm,18.0s,baz=227,slow=39						
RPN	**Rapa Nui**	**32.96**	**270**	LR	LR	18 24 02.6	
	comp=Z,1μm,21.3s,baz=100,slow=29						
HOPE	**Hope Point**	**32.98**	**142**	*e*P	**P**	**18 14 36.1**	**+1.8**
	comp=Z,27nm,0.9s						
OTAV	**Otavalo**	**33.30**	**348**	*e*P	**P**	**18 14 39.2**	**+1.3**
	comp=Z,26nm,1.3s						
ROSC	**El Rosal**	**37.36**	**356**	P	**P**	**18 15 13.3**	**+0.5**
	comp=Z,8.6nm,0.4s,baz=120,slow=7.8,SNR=5.3						
SDV	**Santo Domingo**	**41.29**	**2**	*e*P	**P**	**18 15 45.2**	**-0.2**
	comp=Z,26nm,0.8s						
VNA3	**Neumayer Olymp**	**50.53**	**158**	P	**P**	**18 16 58.3**	**+0.8**
OBIP	**Obispado Ponce**	**50.62**	**6**	*e*P	**P**	**18 16 58.5**	**-0.1**
	comp=Z,54nm,1.0s						
APG	**El Apazote**	**50.64**	**336**	P	**P**	**18 17 00.5**	**+1.3**
	comp=Z,10nm,1.0s,baz=167,slow=10,SNR=5.4						
CELP	**Cerrillos**	**50.65**	**6**	*e*P	**P**	**18 16 59.1**	**+0.2**
VNA2	**Neumayer--Watz**	**51.17**	**158**	P	**P**	**18 17 03.4**	**+1.1**
SNAA	**Sanae**	**52.76**	**158**	P	**P**	**18 17 14.6**	**+0.4**
SNAA	**Sanae**	**52.76**	**158**	*e*P	**P**	**18 17 14.2**	**+0.1**
SNAA	**Sanae**	**52.76**	**158**	*de*P	**P**	**18 17 14.7**	**+0.5**
SNAA				pmax	pmax		
	comp=Z,46nm,1.7s						
SNAA	**Sanae**	**52.76**	**158**	P	**P**	**18 17 12.7**	**-1.5**
	comp=Z,4.4nm,0.8s,baz=283,slow=9.8,SNR=16						
SNAA				LR	LR	18 40 51.8	
	comp=Z,156nm,18.1s,baz=326,slow=37						
SNAA	**Sanae**	**52.76**	**158**	*e*P	**P**	**18 17 13.9**	**-0.3**
	comp=Z,21nm,1.0s						
TEIG	**Tepich**	**54.89**	**341**	*e*P	**P**	**18 17 29.6**	**-0.6**
	comp=Z,105nm,1.5s						
RKT	**Rikitea**	**56.01**	**263**	*e*S	**S**	**18 25 27.7**	**+2.2**
	comp=Z,346nm,28.8s						
RKT				*e*LR	LR	18 34 02.1	
	comp=Z,1μm,27.0s,baz=119						
RKT	**Rikitea**	**56.01**	**263**	*e*T	T	19 17 56.2	
	comp=Z,2.2nm,0.3s						
NVL	**N'lazarevskaya**	**57.48**	**157**	*e*P	**P**	**18 17 48.7**	**+0.6**
NVL				pmax	pmax		
	comp=Z,26nm,1.5s						
QSPA	**South Pole Qui**	**57.61**	**180**	P	**P**	**18 17 49.8**	**+0.4**
	comp=Z,22nm,1.0s,baz=145,slow=2.1,SNR=36						
QSPA				LR	LR	18 42 10.5	
	comp=Z,252nm,18.4s,baz=192,slow=36						
QSPA	**South Pole Qui**	**57.61**	**180**	*e*P	**P**	**18 17 49.1**	**-0.3**
	comp=Z,29nm,1.1s						
035Z	**Hargill**	**63.90**	**334**	⇓P	**P**	**18 18 32.9**	**+0.6**
	baz=64						
034A	**Hebbronville**	**64.67**	**333**	⇑P	**P**	**18 18 38.4**	**+1.0**
	baz=65						
TIGA	**Tifton**	**64.70**	**349**	⇑P	**P**	**18 18 37.0**	**-0.5**
	baz=65						
934A	**Benavides**	**65.09**	**334**	⇓P	**P**	**18 18 40.3**	**+0.1**
	baz=65						
738A	**Farr-Stevens R**	**65.22**	**337**	⇓P	**P**	**18 18 41.9**	**+1.0**
	baz=66						
933A	**Laredo**	**65.39**	**333**	⇓P	**P**	**18 18 42.2**	**+0.1**
	baz=66						
835A	**Beeville**	**65.46**	**335**	⇑P	**P**	**18 18 43.2**	**+0.6**
	baz=66						
VNDA	**Vanda**	**65.50**	**191**	P	**P**	**18 18 42.5**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=108,slow=11,SNR=3.2						
834A	**Tilden**	**65.58**	**334**	⇑P	**P**	**18 18 43.4**	**+0.1**
	baz=66,SNR=5.7						
735A	**Kenedy**	**65.97**	**335**	⇓P	**P**	**18 18 46.2**	**+0.4**
	baz=66						
833A	**Chaparral WMA,**	**66.07**	**333**	⇓P	**P**	**18 18 46.7**	**+0.3**
	baz=66,SNR=8.1						
734A	**La Parita Cree**	**66.23**	**334**	⇓P	**P**	**18 18 47.6**	**+0.1**
	baz=67						
832A	**Faith Ranch, C**	**66.26**	**333**	⇓P	**P**	**18 18 48.1**	**+0.4**
	baz=67,SNR=7.6						
636A	**Smothers Creek**	**66.28**	**336**	⇑P	**P**	**18 18 48.4**	**+0.6**
	baz=67,SNR=5.3						
HKT	**Hockley**	**66.30**	**337**	*e*P	**P**	**18 18 49.6**	**+1.8**
HKT				*e**PP	**pP**	**18 18 56.4**	**+0.7**
HKT				pmax	pmax		
	comp=Z,39nm,1.8s						
HKT	**Hockley**	**66.30**	**337**	*e*P	**P**	**18 18 49.6**	**+1.8**
	comp=Z,39nm,1.8s						
HKT				*e*pP	**pP**	**18 18 56.4**	**+0.7**
733A	**Divot King Ran**	**66.39**	**334**	⇑P	**P**	**18 18 48.4**	**-0.1**
	baz=67						
538A	**Harpers Horsep**	**66.44**	**338**	⇑P	**P**	**18 18 48.8**	**0.0**
	baz=67						
635A	**Leesville**	**66.44**	**335**	⇑P	**P**	**18 18 49.1**	**+0.3**
	baz=67						
537A	**Green Hill Far**	**66.58**	**337**	⇓P	**P**	**18 18 49.9**	**+0.3**
	baz=67						
GOGA	**Godfrey**	**66.61**	**349**	*e*P	**P**	**18 18 49.1**	**-0.7**
GOGA				*e**PP	**pP**	**18 18 56.4**	**-1.3**
GOGA				pmax	pmax		
	comp=Z,49nm,1.9s						
GOGA	**Godfrey**	**66.61**	**349**	*e*P	**P**	**18 18 49.1**	**-0.7**
	comp=Z,49nm,1.9s						
GOGA				*e*pP	**pP**	**18 18 56.4**	**-1.3**
732A	**Laxson Ranch,**	**66.66**	**333**	⇑P	**P**	**18 18 50.4**	**+0.2**
	baz=67,SNR=8.2						
536A	**Bastrop**	**66.83**	**336**	⇑P	**P**	**18 18 51.3**	**0.0**
	baz=67						
LRAL	**Lakeview Retre**	**66.88**	**346**	*e*P	**P**	**18 18 52.0**	**+0.5**
	comp=Z,3.0nm,0.4s						
LRAL				*e*pP	**pP**	**18 18 59.0**	**-0.4**
438A	**Sam Houston St**	**66.92**	**338**	⇓P	**P**	**18 18 51.8**	**-0.1**
	baz=67						
535A	**Dale**	**66.96**	**336**	⇓P	**P**	**18 18 52.3**	**+0.2**
	baz=67						
633A	**Saathoff Ranch**	**67.02**	**334**	⇑P	**P**	**18 18 52.6**	**+0.1**
	baz=67						
SYO	**Syowa Base**	**67.04**	**159**	⇓*e*P	**P**	**18 18 49.7**	**-2.5**
340A	**Bronson**	**67.06**	**339**	⇓P	**P**	**18 18 52.6**	**-0.1**
	baz=67						
339A	**Huntington**	**67.18**	**339**	⇑P	**P**	**18 18 53.6**	**+0.2**
	baz=68						
437A	**Phantom Ranch,**	**67.21**	**337**	⇑P	**P**	**18 18 53.5**	**-0.2**
	baz=68						
534A	**Blanco**	**67.28**	**335**	⇑P	**P**	**18 18 54.2**	**0.0**
	baz=68						
632A	**Uvalde**	**67.29**	**334**	⇑P	**P**	**18 18 54.1**	**-0.1**
	baz=68,SNR=6.3						
436A	**Wall Ranch, Ga**	**67.37**	**337**	⇓P	**P**	**18 18 54.9**	**+0.2**
	baz=68						
338A	**Crockett**	**67.44**	**338**	⇓P	**P**	**18 18 56.0**	**+0.9**
	baz=68						
631A	**Perdido Creek**	**67.50**	**333**	⇑P	**P**	**18 18 55.5**	**-0.1**
	baz=68						
533A	**Kerrville**	**67.52**	**334**	⇓P	**P**	**18 18 55.7**	**0.0**
	baz=68						
337A	**Centerville**	**67.58**	**338**	⇓P	**P**	**18 18 55.4**	**-0.6**
	baz=68						
435B	**Jarrell**	**67.65**	**336**	⇓P	**P**	**18 18 56.2**	**-0.3**
	baz=68						
239A	**Gary**	**67.79**	**339**	⇓P	**P**	**18 18 57.0**	**-0.3**
	baz=68						
532A	**Rocksprings**	**67.89**	**334**	⇓P	**P**	**18 18 58.1**	**0.0**
	baz=68,SNR=13						
434A	**Burnet**	**67.92**	**335**	⇑P	**P**	**18 18 57.7**	**-0.5**
	baz=68,SNR=9.5						
336A	**Riesel**	**67.96**	**337**	⇑P	**P**	**18 18 58.4**	**+0.1**
	baz=68		

baz=70
233A Rising Star 69.23 335 ⇓P P 18 19 05.6 -0.8
baz=70
232A Coleman 69.38 335 ⇑P P 18 19 07.0 -0.4
baz=70
134A White-Moore Ra 69.46 336 ⇑P P 18 19 07.6 -0.2
baz=70
330A Mertzon 69.51 333 ⇓P P 18 19 07.9 -0.2
baz=70
231A Bronte 69.67 334 ⇓P P 18 19 08.6 -0.5
baz=70
133A Hamilton Ranch 69.78 336 ⇑P P 18 19 09.3 -0.4
baz=70
Z35A Perchaven, San 69.88 337 ⇑P P 18 19 10.0 -0.3
baz=70
329A Wagon Wheel Ra 69.89 333 ⇓P P 18 19 09.8 -0.7
baz=70
MIAR Mount Ida 69.90 341 eP P 18 19 11.8 +1.4
MIAR pmax pmax
comp=Z,40nm,1.4s
MIAR Mount Ida 69.90 341 eP P 18 19 11.8 +1.4
comp=Z,40nm,1.4s
230A Sterling City 69.92 334 ⇓P P 18 19 09.9 -0.7
baz=70
ABTX Abilene, Hawle 70.05 335 ⇓P P 18 19 10.8 -0.6
baz=70
ABTX Abilene, Hawle 70.05 335 eP P 18 19 11.9 +0.5
comp=Z,112nm,1.6s
Z34A Collier Ranch, 70.13 337 ⇓P P 18 19 11.2 -0.7
baz=70
JSRW J. Sargeant Re 70.19 355 eP P 18 19 12.6 +0.5
JSRW epP pP 18 19 20.1 +0.1
229A Bryant Ranch, 70.25 333 ⇓P P 18 19 12.4 -0.4
baz=71
Z33A Whitaker Ranch 70.34 336 ⇓P P 18 19 12.8 -0.4
baz=71
131A Roby 70.36 335 ⇑P P 18 19 13.2 -0.1
baz=71
130A Snyder 70.50 334 ⇓P P 18 19 14.0 -0.2
baz=71
Z32A Haskell 70.61 336 ⇑P P 18 19 14.5 -0.3
baz=71
Y34A Reagan Ranch, 70.62 337 ⇓P P 18 19 14.3 -0.5
baz=71
BBTS Babate 70.64 57 LR LR 18 48 29.3
comp=Z,735nm,20.1s,baz=215,slow=34
228A UT Block 9, Go 70.69 333 ⇑P P 18 19 14.8 -0.6
baz=71
PPT2 Papeete2 70.71 261 eS S 18 28 30.9 +1.7
comp=Z,366nm,25.5s
PPT2 Papeete2 70.71 261 eLR LR 18 40 30.0
comp=Z,990nm,28.8s,baz=118
Z31A Sharp Cattle R 70.85 335 ⇑P P 18 19 16.1 -0.2
baz=71,SNR=5.4
129A Stewart Farms, 70.87 333 ⇑P P 18 19 15.9 -0.6
baz=71
Y33A Hilltop Ranch, 70.95 337 ⇑P P 18 19 16.0 -0.9
baz=71
128A Castleberry Fa 71.09 333 ⇑P P 18 19 17.4 -0.5
baz=71
Z30A Sanderson Ranc 71.18 334 ⇑P P 18 19 17.9 -0.5
baz=72
Y32A R-V Farms, Ver 71.22 336 ⇑P P 18 19 18.3 -0.3
baz=72
X34A Smith Ranch, M 71.23 337 ⇑P P 18 19 17.7 -0.9
baz=72
Z29A Hungry Hill Ra 71.37 334 ⇓P P 18 19 18.9 -0.6
baz=72
X33A Lawton 71.40 337 ⇓P P 18 19 18.7 -0.9
baz=72
MNTX Cornudas Mount 71.45 330 eP P 18 19 19.4 -0.6
comp=Z,12nm,0.8s
Y31A Rekieta Farm, 71.47 335 ⇓P P 18 19 19.9 -0.2
baz=72
X32A Elmer 71.55 336 ⇓P P 18 19 20.1 -0.4
baz=72
Y30A Stafford Cattl 71.62 335 ⇑P P 18 19 20.2 -0.8
baz=72
Z28A Tucker Farm, M 71.65 333 ⇓P P 18 19 20.6 -0.6
baz=72
WMOK Wichita Mounta 71.67 337 eP P 18 19 19.3 -1.9
WMOK pmax pmax
comp=Z,74nm,1.8s
WMOK Wichita Mounta 71.67 337 eP P 18 19 19.3 -1.9
comp=Z,74nm,1.8s
USIN University of 71.78 347 eP P 18 19 21.5 -0.3
comp=Z,18nm,0.8s
USIN epP pP 18 19 28.2 -1.5
WCI Wyandotte Cave 71.79 348 eP P 18 19 20.7 -1.1
WCI pmax pmax
comp=Z,27nm,0.8s
WCI Wyandotte Cave 71.79 348 eP P 18 19 20.7 -1.1
comp=Z,27nm,0.8s
W34A Bridge Creek, 71.80 338 ⇑P P 18 19 20.9 -1.0
baz=72
TUL1 Leonard 71.81 340 ⇑P P 18 19 21.5 -0.5
baz=72
TUL1 Leonard 71.81 340 eP P 18 19 22.8 +0.8
comp=Z,39nm,1.0s
SDMD Soldier's Deli 71.83 356 eP P 18 19 22.5 +0.5
comp=Z,70nm,1.1s
SDMD epP pP 18 19 30.5 +0.6
SIUC Southern Illin 71.86 345 eP P 18 19 21.8 -0.4
comp=Z,47nm,0.9s
Y29A Porterfield Fa 71.89 334 ⇑P P 18 19 21.9 -0.7
baz=72
W33A Caddo, Fort Co 71.94 337 ⇑P P 18 19 22.7 -0.1
baz=72
X31A McDonald Ranch 71.98 336 ⇑P P 18 19 22.6 -0.5
baz=72,SNR=6.2
X30A Coker Ranch, T 72.13 335 ⇓P P 18 19 23.1 -0.9
baz=72
Y28A McKinney Farm, 72.15 334 ⇓P P 18 19 23.7 -0.5
baz=72
W32A Sentinel 72.18 337 ⇑P P 18 19 23.7 -0.5
baz=72
V34A Guthrie 72.27 338 ⇓P P 18 19 24.4 -0.4
baz=73
V34A Guthrie 72.27 338 eP P 18 19 25.8 +1.0
comp=Z,21nm,0.8s
MSTX Muleshoe 72.40 333 ⇑P P 18 19 25.0 -0.7
baz=73,SNR=5.2
MSTX Muleshoe 72.40 333 eP P 18 19 25.4 -0.3
comp=Z,24nm,0.9s
X29A Tulia 72.42 334 ⇑P P 18 19 25.5 -0.4
baz=73
W31A Holland Ranch, 72.47 336 ⇑P P 18 19 25.6 -0.4
baz=73
Y27A Causey 72.47 333 ⇑P P 18 19 25.6 -0.6
baz=73
V33A Lossen Ranch, 72.50 338 ⇑P P 18 19 25.9 -0.3
baz=73
Z25A Roswell 72.56 331 ⇑P P 18 19 26.2 -0.5
baz=73
OLIL Olney 72.61 347 eP P 18 19 27.4 +0.7
comp=Z,6.6nm,0.4s
OLIL epP pP 18 19 33.7 -0.9
V32A Arapaho 72.65 337 ⇑P P 18 19 26.4 -0.6
baz=73
X28A Dimmitt 72.67 334 ⇓P P 18 19 26.7 -0.6
baz=73
W30A Crocket Farms 72.69 336 ⇓P P 18 19 27.0 -0.3
baz=73
BLO Bloomington 72.74 348 eP P 18 19 28.0 +0.5
BLO e*PP pP 18 19 34.7 -0.7
BLO pmax pmax
comp=Z,44nm,1.0s
BLO Bloomington 72.74 348 eP P 18 19 28.0 +0.5
comp=Z,44nm,1.0s
BLO epP pP 18 19 34.7 -0.7
Y26A Elida 72.77 332 ⇑P P 18 19 27.7 -0.3
baz=73
AMTX Amarillo 72.81 335 ⇓P P 18 19 27.8 -0.3
baz=73
U34A Anderson Ranch 72.83 338 ⇓P P 18 19 27.2 -0.9
baz=73
U34A Anderson Ranch 72.83 338 eP P 18 19 29.3 +1.2
comp=Z,75nm,1.4s
U34A epP pP 18 19 35.8 -0.2
319A Douglas 72.89 327 ⇑P P 18 19 28.2 -0.5
baz=73,SNR=5.5
V31A Spring Creek L 72.97 336 ⇑P P 18 19 29.1 +0.1
baz=73,SNR=5.7
U33A Lingo Farm, Me 73.00 338 ⇑P P 18 19 28.0 -1.1
baz=73
W29A Amarillo 73.01 335 ⇓P P 18 19 28.1 -1.2
baz=73
SSPA Standing Stone 73.12 355 eP P 18 19 28.8 -0.9
comp=Z,78nm,1.6s
X27A F and S Farms, 73.12 333 ⇑P P 18 19 29.8 -0.3
baz=74
121A Cookes Peak, D 73.20 329 ⇑P P 18 19 30.9 +0.3
baz=74,SNR=10.0
121A Cookes Peak, D 73.20 329 eP P 18 19 31.6 +0.9
comp=Z,21nm,0.8s
ACSO Alum Creek Sta 73.24 351 eP P 18 19 29.9 -0.5
comp=Z,78nm,0.9s
ACSO epP pP 18 19 37.0 -1.3
U32A Winter Ranch, 73.24 337 ⇑P P 18 19 30.7 +0.1
baz=74
V30A Spur Ranch, Mi 73.25 336 ⇑P P 18 19 31.3 +0.7
baz=74
X26A CR and CF Fran 73.31 333 ⇓P P 18 19 31.6 +0.5
baz=74
W28A Vega 73.34 334 ⇓P P 18 19 31.9 +0.6
baz=74
Y24A Capitan 73.41 331 ⇑P P 18 19 32.4 +0.5
baz=74,SNR=6.8
Z22A Elephant Butte 73.47 330 ⇓P P 18 19 32.7 +0.6
baz=74
W27A Bowe Ranch, En 73.48 334 ⇑P P 18 19 32.5 +0.4
baz=74
U31A Nine Bar Ranch 73.51 337 ⇑P P 18 19 32.6 +0.5
baz=74
X25A Clemmons Ranch 73.62 332 ⇑P P 18 19 33.4 +0.3
baz=74
V29A Stinnett 73.64 335 ⇑P P 18 19 33.3 +0.3
baz=74
T33A Patterson Ranc 73.64 338 ⇑P P 18 19 33.3 +0.4
baz=74,SNR=6.0
Y23A Lovelace Mesa, 73.67 331 ⇓P P 18 19 34.5 +1.2
baz=74,SNR=11
W26A Owens Ranch, T 73.77 333 ⇑P P 18 19 34.2 +0.4
baz=74,SNR=6.6
V28A Channing 73.78 335 ⇑P P 18 19 34.4 +0.5
baz=74
U30A WK&E Inc. Balk 73.93 336 ⇓P P 18 19 35.3 +0.7
baz=74
T32A Huddler Ranch, 73.95 338 ⇑P P 18 19 35.4 +0.7
baz=74
V27A Dan Oppiter Fa 74.01 334 ⇓P P 18 19 36.1 +0.9
baz=74
SFIN Lafayette 74.02 348 ⇓P P 18 19 35.9 +1.0
baz=74
SFIN Lafayette 74.02 348 eP P 18 19 35.0 +0.1
comp=Z,26nm,1.0s
S33A Kaszmaul Farm, 74.03 339 ⇑P P 18 19 35.8 +0.6
baz=74
U29A Oasis Ranch, S 74.07 336 ⇑P P 18 19 35.9 +0.4
baz=74
LIC Lamto 74.08 72 eP P 18 19 36.6 +0.6
comp=Z,98nm,1.3s
T31A Randall Ranch, 74.12 337 ⇓P P 18 19 36.1 +0.4
baz=74
W25A X Bar L Ranch, 74.15 333 ⇓P P 18 19 36.2 +0.1
baz=74,SNR=6.0
Y22D IRIS PASSCAL I 74.15 330 ⇓P P 18 19 37.2 +1.1
baz=74
LENM Lemitar 74.25 330 eP P 18 19 39.0 +2.3
comp=Z,34nm,1.6s
X23A Hourglass Bar 74.28 331 ⇑P P 18 19 37.4 +0.4
baz=75
ALLY Alegheny Colle 74.31 353 eP P 18 19 37.1 +0.4
comp=Z,45nm,0.9s
ALLY epP pP 18 19 44.3 -0.3
TIC Toumodi 74.34 71 eP P 18 19 37.5 0.0
comp=Z,24nm,0.7s
U28A Mallet 74.34 335 ⇓P P 18 19 37.4 +0.3
baz=75
T30A Plains 74.36 336 ⇑P P 18 19 37.5 +0.3
baz=75
TUC Tucson 74.37 326 eP P 18 19 38.8 +1.4
TUC pmax pmax
comp=Z,51nm,1.9s
TUC Tucson 74.37 326 eP P 18 19 38.8 +1.4
comp=Z,51nm,1.9s
KIC Kosan Boka 74.39 72 eP P 18 19 38.1 +0.3
comp=Z,114nm,1.2s
V26A Tequesquite Ra 74.40 333 ⇑P P 18 19 37.6 +0.1
baz=75,SNR=7.5
S32A Newby Ranch, P 74.43 338 ⇑P P 18 19 37.8 +0.4
baz=75
DBIC Dimbokro 74.48 71 eP P 18 19 37.7 -0.6
DBIC Dimbokro 74.48 71 eP P 18 19 37.9 -0.4
DBIC pmax pmax
comp=Z,34nm,1.1s
DBIC Dimbokro 74.48 71 P P 18 19 38.0 -0.4
comp=Z,20nm,0.9s,baz=217,slow=6.2,SNR=17
DBIC LR LR 18 50 24.1
comp=Z,257nm,19.7s,baz=204,slow=34
DBIC Dimbokro 74.48 71 eP P 18 19 37.9 -0.4
comp=Z,34nm,1.1s
W24A Lazy 6 Ranch, 74.52 332 ⇓P P 18 19 38.9 +0.7
baz=75
LAZ Ladron 74.53 330 eP P 18 19 40.1 +1.8
comp=Z,6.3nm,1.0s
S31A Mullinville 74.53 337 ⇑P P 18 19 38.6 +0.5
baz=75
BINY Binghamton 74.56 357 eP P 18 19 39.1 +1.0
comp=Z,40nm,1.1s
BINY epP pP 18 19 46.4 +0.3
U27A Thompson Grove 74.60 334 ⇓P P 18 19 39.4 +0.7
baz=75
R33A Olander Ranch, 74.69 339 ⇑P P 18 19 39.3 +0.4
baz=75
ANMO Albuquerque 74.71 331 ⇓eP P 18 19 39.7 +0.3
ANMO pmax pmax
comp=Z,90nm,1.7s
ANMO Albuquerque 74.71 331 eP P 18 19 41.6 +2.1
comp=Z,34nm,1.6s
ANMO epP pP 18 19 48.1 +0.7
T29A Hugoton 74.71 336 ⇓P P 18 19 40.2 +0.9
baz=75
V25A Rancho No Teng 74.76 333 ⇓P P 18 19 39.7 0.0
baz=75,SNR=9.3
ERPA Erie 74.76 354 eP P 18 19 39.0 -0.3
comp=Z,46nm,1.3s
ERPA epP pP 18 19 47.0 -0.2
HRV Adam Dziewonsk 74.76 0 eP P 18 19 40.6 +1.4
HRV e*PP pP 18 19 48.2 +1.0
HRV pmax pmax
comp=Z,46nm,1.4s
HRV Adam Dziewonsk 74.76 0 eP P 18 19 40.6 +1.4
comp=Z,46nm,1.4s
HRV epP pP 18 19 48.2 +1.0
W23A Werner Place, 74.77 331 ⇓P P 18 19 40.2 +0.4
baz=75,SNR=6.2
S30A Montezuma 74.87 337 ⇓P P 18 19 40.7 +0.6
baz=75
V24A Rampart Ranch, 74.91 332 ⇑P P 18 19 40.6 0.0
baz=75
U26A Atchley Ranch, 74.92 334 ⇑P P 18 19 41.2 +0.7
baz=75,SNR=6.2
T28A Walsh 74.97 335 ⇑P P 18 19 40.9 +0.2
baz=75,SNR=8.8
KSU1 Kansas State U 75.01 340 ⇑P P 18 19 40.8 0.0
baz=75
R32A Long Quarter, 75.02 338 ⇓P P 18 19 41.6 +0.7
baz=75
214A Organ Pipe Nat 75.05 325 ⇓P P 18 19 42.2 +1.0
baz=75
214A Organ Pipe Nat 75.05 325 eP P 18 19 41.8 +0.5
comp=Z,68nm,1.7s
S29A Ulysses 75.07 336 ⇓P P 18 19 42.0 +0.7
baz=75
T27A Campo 75.13 335 ⇓P P 18 19 42.0 +0.3
baz=76,SNR=10
R31A Burdett 75.15 338 ⇓P P 18 19 42.2 +0.5
baz=76
U25A Circle Dot Ran 75.17 333 ⇓P P 18 19 42.5 +0.4
baz=76,SNR=11
SUR Sutherland 75.25 119 P P 18 19 43.9 +1.0
comp=Z,122nm,0.9s,SNR=6.6
SUR Sutherland 75.25 119 P P 18 19 43.1 +0.2
comp=Z,14nm,0.9s,baz=271,slow=4.6,SNR=8.6
SUR LR LR 18 48 10.6
comp=Z,314nm,20.0s,baz=284,slow=32
Q33A Connelly Farm, 75.28 339 ⇓P P 18 19 42.9 +0.5
baz=76
V23A Ortiz Mt. (NFS 75.29 332 ⇓P P 18 19 43.8 +1.0
baz=76
S28A Manter 75.31 336 ⇓P P 18 19 43.1 +0.4
baz=76,SNR=6.5
R30A Dighton 75.39 337 ⇓P P 18 19 43.7 +0.6
baz=76
Q32A Meitler Ranch, 75.49 339 ⇓P P 18 19 44.2 +0.6
baz=76
U24A Moreno Valley 75.51 333 ⇓P P 18 19 45.1 +0.9
baz=76
T26A Comanche Natio 75.55 334 ⇓P P 18 19 44.4 +0.2
baz=76,SNR=7.1
P33A Williams Farm, 75.64 340 ⇑P P 18 19 45.1 +0.6
baz=76
ACCN Adirondack Com 75.66 359 eP P 18 19 45.7 +1.3
comp=Z,55nm,1.3s
ACCN epP pP 18 19 52.7 +0.4
V22A San Miguel Ran 75.73 331 ⇑P P 18 19 46.2 +0.9
baz=76,SNR=22
S27A Las Animas 75.75 335 ⇑P P 18 19 45.9 +0.6
baz=76
Q31A Ellis 75.76 338 ⇑P P 18 19 45.9 +0.7
baz=76
U23A El Rito 75.80 332 ⇑P P 18 19 46.5 +0.8
baz=76
R29A Marienthal 75.80 337 ⇑P P 18 19 46.2 +0.7
baz=76
T25A Trinidad 75.82 334 ⇑P P 18 19 46.8 +1.0
baz=76,SNR=17
S26A Kim 75.90 334 ⇓P P 18 19 47.4 +1.3
baz=76,SNR=16
R28A Tribune 75.96 336 ⇓P P 18 19 47.2 +0.8
baz=76,SNR=5.3
Q30A Quinter 76.00 337 ⇓P P 18 19 46.8 +0.2
baz=76,SNR=7.5
P32A Huiting Farm, 76.08 339 ⇓P P 18 19 47.5 +0.5
baz=76
T24B San Luis 76.12 333 ⇓P P 18 19 48.7 +1.1
baz=76,SNR=6.2
Q29A Oakley 76.17 337 ⇓P P 18 19 47.8 +0.2
baz=76
113A Mohawk Valley, 76.18 324 ⇓P P 18 19 48.9 +1.3
baz=76
P31A Stockton 76.23 338 ⇑P P 18 19 48.3 +0.5
baz=77
W18A Petrified Fore 76.25 329 ⇓P P 18 19 49.3 +1.1
baz=77,SNR=5.4
W18A Petrified Fore 76.25 329 eP P 18 19 49.7 +1.4
comp=Z,157nm,1.9s
R27A Eads 76.25 335 ⇑P P 18 19 48.6 +0.5
baz=77,SNR=10.0
Z14A Wintersburg 76.27 325 ⇑P P 18 19 48.5 +0.4
baz=77
MDV Middlebury 76.27 359 eP P 18 19 48.3 +0.5
S25A Robets Cordova 76.29 334 ⇑P P 18 19 49.1 +0.7
baz=77,SNR=13
T23A Casias Ranch, 76.36 332 ⇑P P 18 19 49.6 +0.7
baz=77
X16A Lo Mia Camp, P 76.43 327 ⇑P P 18 19 50.4 +1.2
baz=77,SNR=18
R26A Arlington 76.50 335 ⇓P P 18 19 50.4 +0.9
baz=77,SNR=11
LBNH Lisbon 76.50 360 eP P 18 19 50.6 +1.4
LBNH pmax pmax
comp=Z,32nm,1.1s
LBNH Lisbon 76.50 360 eP P 18 19 50.6 +1.4
comp=Z,32nm,1.1s
P30A Selden 76.53 338 ⇓P P 18 19 50.1 +0.6
baz=77
S24A Houchin Ranch, 76.57 333 ⇑P P 18 19 50.8 +0.7
baz=77,SNR=22
O32A Brockman Farm, 76.57 339 ⇑P P 18 19 50.4 +0.6
baz=77
Q28A Sharon Springs 76.61 336 ⇓P P 18 19 50.6 +0.6
baz=77
R25A Fountain Ranch 76.66 334 ⇑P P 18 19 51.3 +0.9
baz=77
SCIA State Center 76.76 344 eP P 18 19 52.0 +1.3
comp=Z,52nm,0.9s
SCIA epP pP 18 19 58.0 -0.7
Y14A Wickenburg 76.76 326 ⇓P P 18 19 51.6 +0.6
baz=77,SNR=6.0
SDCO Great Sand Dun 76.77 333 eP P 18 19 51.7 +0.5
comp=Z,91nm,1.9s
O31A Woolen Ranch, 76.79 339 ⇑P P 18 19 51.6 +0.6
baz=77
P29A Atwood 76.80 337 ⇓P P 18 19 52.1 +1.0
baz=77
KSCO Kaye Shedlock' 76.84 336 ⇓P P 18 19 51.9 +0.5
baz=77
KSCO Kaye Shedlock' 76.84 336 eP P 18 19 53.3 +1.9
comp=Z,216nm,1.9s
KSCO epP pP 18 19 59.7 +0.3
LONY Lake Ozonia 76.92 358 eP P 18 19 52.1 +0.6
comp=Z,38nm,1.1s
LONY epP pP 18 19 59.0 -0.5
GLA Glamis 76.93 324 eP P 18 19 52.1 +0.2
GLA pmax pmax
comp=Z,88nm,1.9s
GLA Glamis 76.93 324 ⇑P P 18 19 53.2 +1.2
baz=77
GLA Glamis 76.93 324 eP P 18 19 52.1 +0.2
comp=Z,88nm,1.9s
N32A Stulken Farm, 77.04 340 ⇑P P 18 19 52.6 +0.3
baz=77
O30A MW Ranch, Wils 77.04 338 ⇓P P 18 19 52.9 +0.5
baz=77
R24A Sanders Place, 77.04 334 ⇑P P 18 19 53.5 +0.8
baz=77,SNR=20
P28A Saint Francis 77.05 337 ⇑P P 18 19 53.2 +0.7
baz=77
JFWS Jewell Farm 77.07 346 eP P 18 19 51.4 -1.0
JFWS pmax pmax
comp=Z,58nm,1.1s
JFWS Jewell Farm 77.07 346 eP P 18 19 51.4 -1.0
comp=Z,58nm,1.1s
Q26A Hugo 77.08 335 ⇓P P 18 19 53.4 +0.6
baz=77
O29A 4D Ranch, Culb 77.23 338 ⇓P P 18 19 54.2 +0.7
baz=78
WIN Windhoek 77.24 109 eP P 18 19 55.5 +1.2
WIN AMB AMB 18 19 57.1
comp=Z,10nm,1.7s
R23A Moffat 77.28 333 ⇑P P 18 19 55.2 +1.1
baz=78,SNR=6.8
S22A 4UR Ranch, Cre 77.28 332 ⇑P P 18 19 54.7 +0.6
baz=78
P27A Ficken Ranch, 77.31 336 ⇓P P 18 19 54.7 +0.7
baz=78
WUAZ Wupatki 77.31 328 ⇓P P 18 19 55.0 +0.9
baz=78,SNR=7.5
WUAZ Wupatki 77.31 328 eP P 18 19 55.9 +1.7
comp=Z,88nm,1.6s
SADO Sadowa 77.32 355 P P 18 19 53.7 -0.1
comp=Z,16nm,1.0s,baz=169,slow=2.2,SNR=6.7
Q25A Bedland, Calha 77.33 335 ⇑P P 18 19 54.6 +0.3
baz=78
SWSC Sam W. Stewart 77.33 323 ⇓P P 18 19 55.4 +1.3
baz=78
Y12C Blythe 77.34 325 ⇑P P 18 19 55.5 +1.3
baz=78
MVCO Mesa Verde 77.50 331 ⇑P P 18 19 55.4 +0.1
baz=78,SNR=9.0
MVCO Mesa Verde 77.50 331 eP P 18 19 55.9 +0.6
comp=Z,22nm,1.0s
O28A Krutsinger Ran 77.55 337 ⇓P P 18 19 56.1 +0.8
baz=78
P26A Davis Ranch, A 77.58 335 ⇓P P 18 19 56.4 +0.9
baz=78
UPI Upington 77.58 116 eP P 18 19 54.8 -1.2
UPI AMB AMB 18 20 13.0
comp=Z,44nm,3.8s
BGNE Belgrade 77.59 340 ⇑P P 18 19 56.2 +0.8
baz=78
BGNE Belgrade 77.59 340 eP P 18 19 56.7 +1.2
comp=Z,60nm,0.9s
PDMCI Parker Dam,Lak 77.60 325 ⇑P P 18 19 56.7 +1.1
baz=78
MONP Monument Peak, 77.61 323 ⇑P P 18 19 57.2 +1.3
baz=78
N30A Hueftle Ranch, 77.62 338 ⇓P P 18 19 56.6 +1.0
baz=78
Q24A Divide 77.70 334 ⇑P P 18 19 57.4 +0.9
baz=78,SNR=9.1
BC3 Big Chuckawall 77.73 324 ⇑P P 18 19 57.5 +1.0
baz=78,SNR=5.2
M31A Lambtecht Ranc 77.78 339 ⇑P P 18 19 56.9 +0.4
baz=78
N29A Votaw Ranch, W 77.81 338 ⇑P P 18 19 57.4 +0.7
baz=78
P25A Willow Gulch B 77.83 335 ⇓P P 18 19 58.2 +1.2
baz=78,SNR=7.7
O27A Beecher Island 77.84 336 ⇓P P 18 19 58.0 +1.1
baz=78
Q23A Hartsel 77.91 333 ⇑P P 18 19 58.4 +0.8

baz=78
109C Camp Elliot, M 77.96 322 ⇓P P 18 19 58.7 +1.1
baz=78
N28A Pribbeno Ranch 77.98 337 ⇓P P 18 19 58.8 +1.1
baz=78
IRM Iron Mountain 77.98 324 ⇑P P 18 19 58.6 +0.9
baz=78,SNR=5.9
P24A Kohler Place, 78.10 334 ⇑P P 18 19 59.6 +1.1
baz=78
W13A Hualapai Mount 78.13 326 ⇑P P 18 19 59.9 +1.0
baz=78
O26A Horse Wrangler 78.18 336 ⇓P P 18 19 60.0 +1.1
baz=78
PFO Pinyon Flats O 78.19 323 eP P 18 20 00.6 +1.5
PFO pmax pmax
comp=Z,82nm,1.7s
PFO Pinyon Flats O 78.19 323 ⇓P P 18 20 00.4 +1.3
baz=78
PFO Pinyon Flats O 78.19 323 eP P 18 20 00.6 +1.5
comp=Z,82nm,1.7s
NEE2 Needles Airpor 78.21 325 ⇑P P 18 20 00.3 +1.3
baz=78
M30A Dale-Ortello V 78.22 339 ⇑P P 18 19 59.7 +0.7
baz=79
BELC Belle Mtn. Jos 78.28 324 ⇓P P 18 20 00.9 +1.4
baz=79
PV01 Paradox Valley 78.32 331 eP P 18 20 01.2 +1.4
comp=Z,2μm,1.1s
P23A Jefferson 78.32 334 ⇓P P 18 20 00.8 +0.9
baz=79
O25A Wiggins 78.34 335 ⇑P P 18 20 00.8 +1.0
baz=79
OGNE Ogallala 78.37 337 ⇓P P 18 20 00.9 +1.1
baz=79
M29A Burnside Ranch 78.39 338 ⇑P P 18 20 00.7 +0.7
baz=79
N27A Anderson Farm, 78.42 337 ⇑P P 18 20 00.8 +0.7
baz=79
U15A North Rim 78.48 328 ⇓P P 18 20 01.8 +1.0
baz=79,SNR=12
L31A Butterfield Fa 78.50 340 ⇓P P 18 20 01.1 +0.6
baz=79,SNR=6.4
L30A Spencer Herefo 78.55 339 ⇓P P 18 20 01.8 +1.0
baz=79
M28A Bar X Bar Ranc 78.56 338 ⇓P P 18 20 02.0 +1.1
baz=79
MURC Murrieta 78.57 323 ⇓P P 18 20 02.4 +1.4
baz=79
ISCO Idaho Springs 78.61 334 eP P 18 20 01.9 +0.4
ISCO pmax pmax
comp=Z,14nm,0.9s
ISCO Idaho Springs 78.61 334 ⇓P P 18 20 01.9 +0.4
baz=79,SNR=8.3
ISCO Idaho Springs 78.61 334 eP P 18 20 01.9 +0.4
comp=Z,14nm,0.9s
N26A Koester Ranch, 78.67 336 ⇓P P 18 20 02.6 +1.0
baz=79
PV04 Paradox Valley 78.67 331 eP P 18 20 03.0 +1.3
O24A Longmont 78.69 335 ⇑P P 18 20 02.7 +1.0
baz=79
GMRC Granite Mounta 78.73 324 ⇓P P 18 20 03.2 +1.1
baz=79,SNR=7.7
P22A Eagle 78.86 333 ⇓P P 18 20 03.7 +0.9
baz=79,SNR=7.2
L29A Maesberg Ranch 78.89 339 ⇑P P 18 20 03.9 +1.2
baz=79
BBRC Big Bear Solar 78.95 323 ⇑P P 18 20 05.2 +1.9
baz=79
N25A Grover 78.95 336 ⇑P P 18 20 04.6 +1.5
baz=79
M27A Reverse DX Ran 79.01 337 ⇓P P 18 20 04.6 +1.2
baz=79
CIS Catalina Islan 79.04 322 ⇑P P 18 20 04.9 +1.3
baz=79
O23A Lake Granby, G 79.08 334 ⇑P P 18 20 04.6 +0.6
baz=79,SNR=13
HEC Hector,Ludlow 79.10 324 ⇓P P 18 20 04.7 +0.7
baz=79,SNR=6.9
L28A Connealy Angus 79.16 338 ⇑P P 18 20 04.3 +0.1
baz=80
K30A Basset 79.19 339 ⇓P P 18 20 04.5 +0.3
baz=80
M26A McRoberts Ranc 79.21 336 ⇓P P 18 20 04.5 0.0
baz=80
N24A Carr 79.25 335 ⇓P P 18 20 05.4 +0.6
baz=80
O22A Kremmling 79.27 334 ⇓P P 18 20 05.3 +0.2
baz=80,SNR=13
ECSD EROS Data Cent 79.33 342 ⇑P P 18 20 05.1 +0.2
baz=80,SNR=30
ECSD EROS Data Cent 79.33 342 eP P 18 20 04.5 -0.4
comp=Z,71nm,0.9s
TSUM Tsumeb 79.33 106 eP P 18 20 06.5 +0.6
comp=Z,18nm,0.9s
RRX Edison Barstow 79.47 324 ⇓P P 18 20 06.7 +0.7
baz=80
K29A Lazy Trails An 79.48 339 ⇓P P 18 20 06.3 +0.4
baz=80
L27A T5 Ranch, Ells 79.49 337 ⇑P P 18 20 06.7 +0.7
baz=80
M25A Palm-Egli Farm 79.49 336 ⇓P P 18 20 06.7 +0.6
baz=80
DECC Green Verdugo 79.66 322 ⇓P P 18 20 07.6 +0.7
baz=80
N23A Red Feather La 79.69 334 ⇑P P 18 20 06.7 -0.6
baz=80,SNR=5.6
L26A Underwood Farm 79.70 337 ⇑P P 18 20 07.4 +0.3
baz=80
GSC Goldstone, Bar 79.71 324 eP P 18 20 08.1 +0.8
GSC pmax pmax
comp=Z,49nm,1.6s
GSC Goldstone, Bar 79.71 324 ⇓P P 18 20 07.5 +0.2
baz=80
GSC Goldstone, Bar 79.71 324 eP P 18 20 08.1 +0.8
comp=Z,49nm,1.6s
J30A Dallas 79.75 340 ⇑P P 18 20 07.8 +0.5
baz=80
K28A Ten Mile Ranch 79.75 338 ⇓P P 18 20 08.3 +1.0
baz=80
M24A Cheyenne 79.79 335 ⇓P P 18 20 08.3 +0.6
baz=80,SNR=6.0
N22A Wattenberg Ran 79.80 334 ⇓P P 18 20 07.8 -0.1
baz=80,SNR=12
SPMN Marine on St. 79.82 345 ⇑P P 18 20 08.7 +1.2
baz=80
SPMN Marine on St. 79.82 345 eP P 18 20 06.6 -0.9
comp=Z,34nm,0.2s
CCUT Cedar City 79.89 328 eP P 18 20 10.3 +1.8
comp=Z,8.9nm,0.6s
O20A White River Ci 79.90 332 eP P 18 20 10.5 +2.1
comp=Z,35nm,1.1s
SHOC Shoshone, Teco 79.93 325 ⇑P P 18 20 09.4 +1.0
baz=80
COWI Conover 79.93 348 eP P 18 20 08.1 -0.1
comp=Z,42nm,1.5s
SRU San Rafael Swe 79.95 330 eP P 18 20 09.3 +0.6
SRU pmax pmax
comp=Z,17nm,0.9s
SRU San Rafael Swe 79.95 330 eP P 18 20 09.3 +0.6
comp=Z,17nm,0.9s
EDW2 Edwards Air Fo 79.97 323 ⇓P P 18 20 09.7 +1.0
baz=80
K27A Flueckinger Fa 80.02 338 ⇓P P 18 20 09.8 +0.9
baz=80
J29A Okreek 80.06 339 ⇓P P 18 20 08.6 -0.3
baz=80,SNR=14
L25A Engebretsen Ra 80.10 336 ⇑P P 18 20 10.2 +0.9
baz=80
M23A Laramie 80.11 335 ⇓P P 18 20 10.3 +0.8
baz=80
BSC Santa Cruz Isl 80.14 321 ⇑P P 18 20 11.0 +1.4
baz=80
OSI Osito Audit: C 80.14 322 ⇑P P 18 20 10.6 +1.0
baz=80
MVU Marysvale 80.17 329 eP P 18 20 11.5 +1.6
comp=Z,52nm,1.6s
I30A Oacoma 80.27 340 ⇓P P 18 20 09.8 -0.2
baz=81,SNR=5.2
LRMC Laurel Mtn Rad 80.29 323 ⇑P P 18 20 10.5 0.0
baz=81,SNR=5.3
K26A Motz Farm, Whi 80.33 337 ⇑P P 18 20 11.3 +0.8
baz=81
L24A Wheatland 80.34 336 ⇑P P 18 20 11.4 +0.8
baz=81
J28A Allard Ranch, 80.36 339 ⇓P P 18 20 11.0 +0.4
baz=81,SNR=5.8
M22A Cedar Creek Ra 80.37 334 ⇓P P 18 20 12.0 +1.0
baz=81
J27A Elkhorn Farm, 80.44 338 ⇓P P 18 20 11.7 +0.6
baz=81,SNR=6.7
BOSA Boshof 80.47 118 eP P 18 20 12.1 +0.2
BOSA AMB AMB 18 20 14.2
comp=Z,30nm,1.2s
BOSA Boshof 80.47 118 eP P 18 20 11.8 -0.1
BOSA pmax pmax
comp=Z,41nm,1.2s
BOSA Boshof 80.47 118 P P 18 20 12.2 +0.3
comp=Z,26nm,1.0s,baz=241,slow=4.1,SNR=17
BOSA LR LR 18 51 33.7
comp=Z,216nm,19.8s,baz=332,slow=32
BOSA Boshof 80.47 118 eP P 18 20 11.8 -0.1
comp=Z,41nm,1.2s
K25A Mack Ranch, Ha 80.48 337 ⇓P P 18 20 12.6 +1.3
baz=81
N20A Spence Gulch, 80.51 333 ⇑P P 18 20 12.5 +0.8
baz=81
ARVC Arvin 80.60 322 ⇓P P 18 20 13.3 +1.3
baz=81
I29A Vivian Onida 80.62 340 ⇓P P 18 20 12.5 +0.5
baz=81
L23A Garrett 80.67 335 ⇑P P 18 20 12.6 0.0
baz=81
ISA Isabella, Lake 80.83 323 eP P 18 20 15.1 +1.7
ISA pmax pmax
comp=Z,13nm,1.0s
ISA Isabella, Lake 80.83 323 P P 18 20 14.5 +1.2
baz=81
ISA Isabella, Lake 80.83 323 eP P 18 20 15.1 +1.7
comp=Z,13nm,1.0s
J26A Sides Ranch, S 80.84 337 ⇑P P 18 20 14.3 +1.1
baz=81
I28A Midland 80.86 339 ⇓P P 18 20 14.1 +0.9
baz=81
L22A Ellis Ranch, M 80.86 335 ⇑P P 18 20 14.8 +1.3
baz=81
DAC Darwin (Calif) 80.87 324 eP P 18 20 14.5 +0.8
DAC pmax pmax
comp=Z,16nm,1.0s
DAC Darwin (Calif) 80.87 324 eP P 18 20 14.5 +0.8
comp=Z,16nm,1.0s
H29A Onida 81.14 340 ⇑P P 18 20 14.6 -0.1
baz=82,SNR=7.0
J25A Sunshine Ranch 81.15 337 ⇓P P 18 20 15.6 +0.7
baz=82
MPU Maple Canyon 81.18 330 eP P 18 20 16.4 +1.2
comp=Z,20nm,1.0s
I27A Quinn 81.19 338 ⇓P P 18 20 14.9 -0.1
baz=82,SNR=7.8
K23A Bowen Ranch, D 81.20 335 ⇑P P 18 20 15.8 +0.5
baz=82
SWZ Schweizer 81.28 117 eP P 18 20 16.1 -0.2
SWZ AMB AMB 18 20 18.1
comp=Z,38nm,2.6s
VES Vestal, Richgr 81.28 323 ⇓P P 18 20 16.4 +0.8
baz=82
G30A Faulkton 81.30 341 ⇓P P 18 20 15.1 -0.4
baz=82,SNR=5.4
DAU Daniels Canyon 81.35 331 eP P 18 20 17.7 +1.4
DAU pmax pmax
comp=Z,61nm,1.8s
DAU Daniels Canyon 81.35 331 eP P 18 20 17.7 +1.4
comp=Z,61nm,1.8s
J24A Dixon Ranch, L 81.38 336 ⇑P P 18 20 16.8 +0.7
baz=82
I26A New Underwood 81.41 338 ⇓P P 18 20 17.0 +0.7
baz=82
H28A Mission Ridge 81.43 339 ⇑P P 18 20 16.6 +0.4
baz=82,SNR=6.2
K22A Casper 81.43 335 ⇑P P 18 20 16.9 +0.4
baz=82,SNR=5.6
K22A Casper 81.43 335 eP P 18 20 18.3 +1.8
comp=Z,136nm,1.7s
R11A Troy Canyon, C 81.56 327 ⇑P P 18 20 18.0 +0.7
baz=82,SNR=20
R11A Troy Canyon, C 81.56 327 eP P 18 20 18.0 +0.7
comp=Z,46nm,1.6s
G29A Hoven 81.58 340 ⇓P P 18 20 17.7 +0.7
baz=82
JLU Jordanelle 81.59 331 eP P 18 20 19.0 +1.5
comp=Z,15nm,1.0s
K21A Alcova 81.68 334 ⇑P P 18 20 18.3 +0.4
baz=82
I25A Rochford 81.68 337 ⇑P P 18 20 18.4 +0.6
baz=82,SNR=11
H27A Howes 81.71 339 ⇓P P 18 20 18.3 +0.5
baz=82,SNR=7.4
J23A Dilts Ranch, B 81.75 336 ⇓P P 18 20 18.8 +0.6
baz=82
G28A Parade 81.76 340 ⇑P P 18 20 17.9 -0.1
baz=82,SNR=6.3
TIN Tinemaha, Big 81.80 324 ⇓P P 18 20 19.1 +0.6
baz=82
DUG Dugway, Tooele 81.83 329 eP P 18 20 20.6 +2.0
DUG pmax pmax
comp=Z,32nm,1.4s
DUG Dugway, Tooele 81.83 329 ⇑P P 18 20 19.5 +0.9
baz=82,SNR=7.4
DUG Dugway, Tooele 81.83 329 eP P 18 20 20.6 +2.0
comp=Z,32nm,1.4s
I24A Kuemmerle Ranc 81.84 337 ⇑P P 18 20 18.8 +0.3
baz=82,SNR=5.2
RSSD Black Hills 81.87 337 eP P 18 20 18.7 -0.1
RSSD pmax pmax
comp=Z,19nm,1.0s
RSSD Black Hills 81.87 337 eP P 18 20 18.7 -0.1
comp=Z,19nm,1.0s
H26A Fairpoint 81.91 338 ⇑P P 18 20 19.3 +0.5
baz=82
TCUT Toone Canyon 82.00 331 eP P 18 20 21.5 +1.8
comp=Z,56nm,1.6s
J22A Midwest 82.08 335 ⇓P P 18 20 19.6 -0.2
baz=82,SNR=5.4
TPH Tonopah 82.11 325 eP P 18 20 21.7 +1.4
TPH pmax pmax
comp=Z,63nm,1.6s
TPH Tonopah 82.11 325 eP P 18 20 21.7 +1.4
comp=Z,63nm,1.6s
F29A Eureka 82.14 341 ⇓P P 18 20 20.1 +0.2
baz=82,SNR=10
EYMN Ely 82.14 347 eP P 18 20 19.0 -0.9
comp=Z,37nm,1.1s
H25A Fruitdale 82.18 338 ⇓P P 18 20 20.8 +0.6
baz=82
G27A Dupree 82.34 339 ⇑P P 18 20 21.5 +0.5
baz=83,SNR=7.8
J21A Lysite 82.37 335 ⇓P P 18 20 21.9 +0.4
baz=83
F28A McLaughlin 82.43 340 ⇓P P 18 20 22.0 +0.5
baz=83
G26A Maurine 82.47 339 ⇓P P 18 20 22.0 +0.2
baz=83,SNR=6.8
HWUT Hardware Ranch 82.48 331 eP P 18 20 22.5 +0.4
comp=Z,32nm,1.2s
E30A Jud 82.50 341 ⇑P P 18 20 22.0 +0.2
baz=83,SNR=6.2
I22A 9 Mile Ranch, 82.50 335 ⇑P P 18 20 22.2 +0.2
baz=83,SNR=5.8
BGU Big Grassy Mou 82.52 330 eP P 18 20 23.7 +1.4
comp=Z,23nm,1.7s
MLAC Mammoth, Mammo 82.55 324 ⇓P P 18 20 22.6 0.0
baz=83
SPUT South Promonto 82.59 330 eP P 18 20 24.1 +1.5
comp=Z,139nm,2.0s
H24A Dirks Ranch, A 82.60 337 ⇓P P 18 20 22.7 +0.2
baz=83,SNR=6.2
J20A Shoshoni 82.61 334 ⇓P P 18 20 23.1 +0.5
baz=83,SNR=9.0
G25A Newell 82.63 338 ⇓P P 18 20 23.1 +0.5
baz=83,SNR=8.3
LBTB Lobatse 82.63 115 ⇑iP P 18 20 23.8 +0.4
LBTB AMB AMB 18 20 25.6
comp=Z,36nm,1.4s
LBTB Lobatse 82.63 115 eP P 18 20 23.6 +0.2
LBTB pmax pmax
comp=Z,40nm,1.3s
LBTB Lobatse 82.63 115 eP P 18 20 23.6 +0.2
comp=Z,40nm,1.3s
BW06 Boulder Array 82.66 333 eP P 18 20 24.1 +1.0
comp=Z,50nm,1.9s
PDAR Pinedale Array 82.66 333 P P 18 20 22.5 -0.5
comp=Z,3.4nm,1.1s,baz=145,slow=5.4,SNR=15
H23A Clabaugh Cattl 82.72 336 ⇑P P 18 20 22.7 -0.4
baz=83
I21A Big Trails, Te 82.72 335 ⇑P P 18 20 23.2 0.0
baz=83,SNR=7.2
E29A Napoleon 82.76 341 ⇓P P 18 20 22.8 -0.3
baz=83
F27A Lemmon 82.81 339 ⇑P P 18 20 23.5 0.0
baz=83,SNR=13
J19A Crowheart 82.90 333 ⇑P P 18 20 24.4 +0.2
baz=83,SNR=9.8
NVAR Mina Array Bea 82.92 325 P P 18 20 25.4 +1.0
comp=Z,1.4nm,0.5s,baz=151,slow=5.7,SNR=13
F26A Lodgepole 82.99 339 ⇓P P 18 20 24.4 0.0
baz=83,SNR=5.5
D30A Buchanan 83.02 342 ⇑P P 18 20 24.8 +0.3
baz=83,SNR=9.0
E28A Huff 83.06 340 ⇓P P 18 20 25.0 +0.3
baz=83
G24A Alzada 83.07 337 ⇑P P 18 20 25.1 +0.2
baz=83
H22A Clearmont 83.07 336 ⇑P P 18 20 24.9 -0.1
baz=83
HVU Hansel Valley 83.12 330 eP P 18 20 25.1 -0.3
HVU pmax pmax
comp=Z,18nm,1.0s
HVU Hansel Valley 83.12 330 eP P 18 20 25.1 -0.3
comp=Z,18nm,1.0s
I20A Worland 83.14 334 ⇑P P 18 20 25.6 +0.3
baz=84
E27A Carson 83.18 340 ⇓P P 18 20 25.5 +0.1
baz=84
D29A Pettibone, Tap 83.20 341 ⇑P P 18 20 25.3 -0.1
baz=84,SNR=8.4
AHID Auburn Hatcher 83.26 332 eP P 18 20 27.4 +1.3
comp=Z,39nm,1.5s
G23A Biddle 83.28 337 ⇑P P 18 20 26.4 +0.5
baz=84
F25A Bowman 83.30 338 ⇑P P 18 20 26.4 +0.4
baz=84
H21A Big Horn, Sher 83.34 335 ⇑P P 18 20 26.4 0.0
baz=84
AGMN Agassiz Nation 83.41 344 ⇓P P 18 20 26.5 0.0
baz=84
E26A Carlson Angus 83.48 339 ⇑P P 18 20 27.1 +0.1
baz=84
TORD Torodi Ar. Bea 83.48 70 P P 18 20 27.6 0.0
comp=Z,18nm,0.8s,baz=258,slow=4.5,SNR=75
TORD LR LR 18 54 13.5
comp=Z,540nm,21.7s,baz=230,slow=33
C30A Mose, Pekin 83.50 342 ⇑P P 18 20 26.6 -0.3
baz=84,SNR=19
I19A Meeteetse 83.53 334 ⇑P P 18 20 27.3 -0.2
baz=84
F24A Ekalaka 83.54 338 ⇓P P 18 20 27.4 +0.1
baz=84
H20A Greybull 83.56 335 ⇓P P 18 20 27.4 -0.1
baz=84
D28A Regan 83.59 341 ⇑P P 18 20 27.5 0.0
baz=84,SNR=7.2
G22A Birney 83.60 336 ⇓P P 18 20 27.4 -0.2
baz=84
F23A Volborg 83.74 337 ⇓P P 18 20 28.2 -0.2
baz=84,SNR=5.1
D27A Center 83.78 340 ⇑P P 18 20 28.6 +0.1
baz=84
E25A Miller Ranch, 83.80 339 ⇓P P 18 20 29.0 +0.5
baz=84
CRWM Crown Mines 83.81 117 eP P 18 20 29.8 +0.3
CRWM AMB AMB 18 20 31.4
comp=Z,39nm,1.5s
OBSV Observatory 83.88 117 eP P 18 20 28.6 -1.3
OBSV AMB AMB 18 20 37.9
comp=Z,28nm,3.1s
ERPM east rand prop 83.92 117 eP P 18 20 30.9 +0.8
ERPM AMB AMB 18 20 44.2
comp=Z,26nm,5.0s
MDND Maddock 83.93 342 ⇑P P 18 20 28.3 -0.8
baz=84,SNR=5.8
MDND Maddock 83.93 342 eP P 18 20 29.4 +0.2
comp=Z,34nm,1.0s
D26A Manning 83.98 339 ⇓P P 18 20 30.0 +0.5
baz=84
C28A Hausauer Farms 84.02 341 ⇑P P 18 20 30.0 +0.4
baz=84
I17A Pilgrim Ck. 84.03 333 ⇓P P 18 20 30.3 +0.3
baz=84,SNR=5.8
H19A Powell 84.08 334 ⇑P P 18 20 30.0 -0.1
baz=84
F22A Rosebud 84.08 336 ⇑P P 18 20 30.1 +0.1
baz=84
E24A Baker 84.13 338 ⇓P P 18 20 30.6 +0.3
baz=84
B30A Myrvik Farm, E 84.15 343 ⇓P P 18 20 29.7 -0.6
baz=84,SNR=23
G20A Bridger 84.27 335 ⇓P P 18 20 31.0 -0.1
baz=85,SNR=7.2
SLR Silverton 84.28 117 eP P 18 20 32.1 +0.2
SLR AMB AMB 18 20 33.7
comp=Z,44nm,1.4s
C27A Sayler Ranch, 84.33 340 ⇑P P 18 20 31.3 +0.1
baz=85
H18A Shoshone NF, C 84.33 334 ⇓P P 18 20 31.4 -0.1
baz=85,SNR=12
D25A Fairfield 84.35 339 ⇑P P 18 20 30.9 -0.5
baz=85,SNR=6.6
E23A Ismay 84.40 337 ⇓P P 18 20 31.8 +0.2
baz=85
F21A Absaloka Mine, 84.41 336 ⇓P P 18 20 32.1 +0.3
baz=85
B29A Wagenman Farm, 84.43 342 ⇑P P 18 20 31.2 -0.5
baz=85,SNR=8.0
E22A Miles City 84.55 337 ⇓P P 18 20 32.6 +0.2
baz=85
A30A Hoffart Farm, 84.60 343 ⇓P P 18 20 32.0 -0.5
baz=85,SNR=6.3
C26A Wahner Farm, P 84.60 340 ⇓P P 18 20 32.1 -0.5
baz=85
D24A Glendive 84.63 338 ⇓P P 18 20 32.9 +0.1
baz=85
B28A Dugan Ranch, T 84.68 341 ⇑P P 18 20 32.5 -0.5
baz=85,SNR=9.6
F20A Billings 84.75 335 ⇓P P 18 20 33.4 -0.1
baz=85
URZ Urewera 84.79 227 LR LR 18 49 15.4
comp=Z,208nm,19.3s,baz=162,slow=29
A29A Manning Farm, 84.82 342 ⇓P P 18 20 33.1 -0.5
baz=85,SNR=16
C25A Freed Ranch, W 84.84 339 ⇓P P 18 20 33.8 0.0
baz=85
LAO LASA Array 84.86 337 eP P 18 20 35.1 +1.1
comp=Z,46nm,1.4s
B27A Peters Farms, 84.89 341 ⇓P P 18 20 33.8 -0.2
baz=85
D23A Lindsay 84.96 338 ⇓P P 18 20 34.6 +0.1
baz=85
E21A Keefer Ranch, 85.02 336 ⇓P P 18 20 34.5 -0.3
baz=85
F19A Roth Farm, Mol 85.08 335 ⇑P P 18 20 35.2 0.0
baz=85,SNR=5.8
A28A Rude Farm, Bot 85.08 342 ⇑P P 18 20 34.5 -0.5
baz=85
QLMT Earthquake Lak 85.13 333 eP P 18 20 37.7 +2.1
comp=Z,1.3nm,0.9s
B26A Jensen Ranch, 85.14 340 ⇓P P 18 20 34.9 -0.4
baz=86
ULM Lac du Bonnet 85.24 345 P P 18 20 34.1 -1.6
comp=Z,9.7nm,0.9s,baz=160,slow=3.8,SNR=16
D22A Cohagen 85.25 337 ⇓P P 18 20 36.3 +0.4
baz=86,SNR=5.4
HLID Hailey 85.28 330 ⇑P P 18 20 36.3 +0.1
baz=86,SNR=13
HLID Hailey 85.28 330 eP P 18 20 37.9 +1.6
comp=Z,29nm,1.5s
B25A Knox Farm, Ray 85.31 340 ⇓P P 18 20 35.9 -0.3
baz=86
E20A Meyer Farm, Mu 85.35 336 ⇑P P 18 20 36.1 -0.3
baz=86
A27A Ledoux Ranch, 85.38 341 ⇑P P 18 20 36.2 -0.2
baz=86
D21A La Casta Ranch 85.45 337 ⇓P P 18 20 36.6 -0.3
baz=86,SNR=5.8
C23A Lambert 85.51 338 ⇑P P 18 20 37.3 +0.1
baz=86,SNR=6.6
E19A Rath Farm, Rou 85.54 335 ⇑P P 18 20 37.0 -0.4
baz=86,SNR=12
A26A Wade Farm, Ken 85.55 340 ⇓P P 18 20 37.8 +0.5
baz=86
MCMT McKenzie Canyo 85.68 332 eP P 18 20 39.4 +1.0
comp=Z,8.2nm,1.1s
C22A Vida 85.68 338 ⇑P P 18 20 38.3 +0.2
baz=86
MFID Camas Ranch 85.75 329 eP P 18 20 40.0 +1.4
comp=Z,44nm,1.8s

DGMT	Dagmar	85.80	339	⇑P	P	18 20 38.8	+0.3
	baz=86,SNR=7.0						
DGMT	Dagmar	85.80	339	*e*P	P	18 20 39.4	+0.8
	comp=Z,77nm,1.0s						
D20A	Manuel Ranch,	85.86	336	⇑P	P	18 20 38.4	-0.5
	baz=86,SNR=13						
A25A	Svangstu Ranch	85.90	340	⇑P	P	18 20 39.5	+0.5
	baz=86						
B23A	Brockton	86.04	339	⇓P	P	18 20 40.5	+0.7
	baz=86						
A24A	Westby	86.14	339	⇓P	P	18 20 40.6	+0.4
	baz=86						
D19A	Cripps Ranch,	86.18	336	⇑P	P	18 20 40.1	-0.4
	baz=86,SNR=5.6						
B22A	Reddig Ranch S	86.21	338	⇓P	P	18 20 40.8	+0.2
	baz=87						
C20A	Veseth Ranch,	86.35	336	⇑P	P	18 20 40.8	-0.5
	baz=87						
LRM	Limekiln Ridge	86.35	333	*e*P	P	18 20 42.6	+1.0
	comp=Z,227nm,1.5s						
A23A	Redstone	86.44	339	⇑P	P	18 20 41.2	-0.5
	baz=87						
MOD	Modoc Plateau	86.58	326	*e*P	P	18 20 44.9	+2.1
	comp=Z,19nm,1.4s						
B21A	Ellsworth Farm	86.65	337	⇑P	P	18 20 42.1	-0.6
	baz=87						
C19A	Slack Wire Ran	86.73	336	⇑P	P	18 20 42.8	-0.4
	baz=87,SNR=6.3						
A22A	Carney Farms,	86.79	338	⇓P	P	18 20 43.1	-0.4
	baz=87,SNR=9.2						
RAO	Raoul Island	86.84	237	LR	LR	18 53 22.0	
	comp=Z,70nm,19.6s,baz=132,slow=31						
B20A	Solberg Farm,	86.99	337	⇓P	P	18 20 44.3	-0.2
	baz=87						
N02D	Trinity Center	87.04	324	⇓P	P	18 20 44.9	0.0
	baz=87						
A21A	Bergtoll Ranch	87.11	338	⇓P	P	18 20 44.7	-0.3
	baz=88,SNR=6.2						
SCHQ	Schefferville	87.20	3	P	P	18 20 44.3	-1.0
	comp=Z,19nm,1.2s,baz=154,slow=3.3,SNR=8.6						
EGMT	Eagleton	87.22	336	⇓P	P	18 20 45.8	+0.2
	baz=88						
EGMT	Eagleton	87.22	336	*e*P	P	18 20 45.6	0.0
	comp=Z,9.2nm,1.1s						
M04C	Macdoel	87.22	325	⇑P	P	18 20 45.4	-0.4
	baz=88						
B19A	Brinkman Farms	87.31	336	⇓P	P	18 20 45.5	-0.5
	baz=88,SNR=6.1						
A20A	Cobblestone Ra	87.34	337	⇑P	P	18 20 45.8	-0.3
	baz=88,SNR=11						
MSNA	Messina	87.48	115	*e*P	P	18 20 46.4	-1.2
MSNA				AMB	AMB	18 20 57.3	
	comp=Z,22nm,4.0s						
BMO	Blue Mountains	87.54	329	*e*P	P	18 20 46.6	-0.7
	comp=Z,33nm,1.5s						
CHMT	Chamberlain Mo	87.57	333	*e*P	P	18 20 47.9	+0.4
	comp=Z,12nm,1.5s						
A19A	Klindworth Far	87.65	337	⇓P	P	18 20 47.3	-0.3
	baz=88,SNR=7.7						
MSO	Missoula	87.77	332	⇑P	P	18 20 48.4	+0.1
	baz=88						
K04D	Chiloquin, OR	87.82	326	⇓P	P	18 20 48.8	+0.1
	baz=88						
MOPA	Mopani	87.87	117	*e*P	P	18 20 50.4	+0.9
MOPA				AMB	AMB	18 21 00.5	
	comp=Z,33nm,3.1s						
SLMT	Seeley Lake	87.94	333	*e*P	P	18 20 49.8	+0.7
	comp=Z,94nm,2.0s						
J05D	Fort Rock, OR	88.08	326	⇓P	P	18 20 50.5	+0.5
	baz=88						
SWMT	Swartz Lake	88.35	333	*e*P	P	18 20 52.4	+1.3
	comp=Z,44nm,1.9s						
J04D	Umpqua Nationa	88.46	326	⇑P	P	18 20 52.2	+0.3
	baz=89						
YBMT	Yellow Bay	88.65	333	*e*P	P	18 20 53.2	+0.7
	comp=Z,2.0nm,0.7s						
JTMT	Jette	88.65	333	*e*P	P	18 20 53.5	+1.0
	comp=Z,33nm,1.7s						
BLMT	Blacktail Moun	88.90	333	*e*P	P	18 20 54.3	+0.5
	comp=Z,7.9nm,0.9s						
BSMT	Bassoo Peak	88.94	333	*e*P	P	18 20 55.3	+1.4
	comp=Z,26nm,1.7s						
LSZ	Lusaka	89.97	108	*e*P	P	18 21 01.3	+1.7
LSZ				pmax	pmax		
	comp=Z,38nm,1.5s						
LSZ	Lusaka	89.97	108	*e*P	P	18 21 01.3	+1.7
	comp=Z,38nm,1.5s						
NEW	Newport	90.19	332	⇓P	P	18 20 59.7	+0.1
	baz=90						
FFC	Flin Flon	90.82	343	*e*P	P	18 21 02.8	+0.5
FFC				*e**PP	pP	18 21 09.5	-0.9
FFC				pmax	pmax		
	comp=Z,5.0nm,1.4s						
FFC	Flin Flon	90.82	343	*e*P	P	18 21 02.8	+0.5
	comp=Z,5.3nm,1.4s						
FFC				*e*pP	pP	18 21 09.5	-0.9
ESDC	Sonseca Array	95.43	46	P	P	18 21 22.8	-1.3
	comp=Z,0.2nm,0.4s,baz=351,slow=18,SNR=4.4						
YKA	Yellowknife Ar	100.84	341	P	Pdif	18 21 46.6	-1.1
	comp=Z,0.3nm,0.7s,baz=142,slow=4.7,SNR=6.7						
GERES	GERESS Array B	110.99	45	PKiKP	PKiKP	18 26 32.6	0.0
	comp=Z,0.6nm,0.9s,baz=208,slow=3.3,SNR=3.8						
CLL	Collm	111.65	42	*e*PP	PP	18 27 10.0	-6.1
CLL				Lm	MLR	19 13 00.0	
	comp=Z,400nm,18.0s						
ILAR	Eielson Array	113.09	333	PKiKP	PKiKP	18 26 36.0	+0.1
ILAR	Eielson Array	113.09	333	PKiKP	PKiKP	18 26 36.0	+0.1
	comp=Z,0.3nm,0.8s,baz=170,slow=0.5,SNR=3.3						
ASAR	Alice Springs	118.92	207	PKP	PKPdf	18 26 46.5	-2.1
	comp=Z,0.2nm,0.5s,baz=136,slow=1.7,SNR=5.5						
BRTR	Keskin Array B	120.92	60	PKP	PKPdf	18 26 51.0	-0.9
	comp=Z,1.2nm,0.7s,baz=213,slow=3.5,SNR=5.4						
KIEV	Kiev	121.05	47	⇑*i*PKiKP	PKPdf	18 26 51.1	-0.5
AKASG	Malin Array Be	121.06	47	PKP	PKPdf	18 26 49.6	-2.0
	comp=Z,0.3nm,0.3s,baz=260,slow=3.1,SNR=4.8						
FINES	FINESS Array B	121.70	34	PKP	PKPdf	18 26 51.6	-0.9
	comp=Z,1.6nm,0.8s,baz=150,slow=8.8,SNR=2.8						
WRA	Warramunga Arr	122.09	209	PKP	PKPdf	18 26 53.3	-1.5
	comp=Z,0.7nm,0.5s,baz=157,slow=1.7,SNR=17						
WRA				PKKPbc	PKKPab	18 36 52.7	-1.6
	comp=Z,0.3nm,0.7s,baz=346,slow=4.3,SNR=5.7						
H11S2	WAKE ISLAND Hyl	26.06	270	T	T	20 45 59.8	
	baz=118,slow=75,SNR=192						
H11S1	WAKE ISLAND Hyl	26.07	270	T	T	20 45 52.7	
	baz=118,slow=75,SNR=179						
H11S3	WAKE ISLAND Hyl	26.07	270	T	T	20 46 01.2	
	baz=118,slow=75,SNR=157						
OBN	Obninsk	126.25	43	⇓*e*PKiKP	PKPdf	18 27 02.2	+0.8
OBN				*e*		18 34 01.3	
OBN				pmax	pmax		
	comp=Z,44nm,2.2s						
OBN				MLR	MLR		
	comp=Z,420nm,17.0s						
H11N3	WAKE ISLAND Hyl	26.43	271	T	T	20 46 24.4	
	baz=116,slow=75,SNR=20						
H11N1	WAKE ISLAND Hyl	26.45	271	T	T	20 46 21.9	
	baz=116,slow=75,SNR=16						
H11N2	WAKE ISLAND Hyl	26.45	271	T	T	20 46 26.2	
	baz=116,slow=75,SNR=63						
KLMR	Klimovskoe	128.13	35	*e*PKiKP	PKPdf	18 27 04.8	0.0
KLMR				pmax	pmax		
	comp=Z,29nm,1.5s						
KIV	Kislovodsk	128.53	57	*e*PKiKP	PKPdf	18 27 09.6	+3.3
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KBZ	Khabaz	128.63	58	PKP	PKPdf	18 27 06.7	+0.4
	comp=Z,3.2nm,0.9s,baz=145,slow=3.7,SNR=5.1						
PRGR	Permogore	131.03	34	PKiKP	PKPdf	18 27 09.0	-1.3
BILL	Bilibino	131.72	335	*e*PKiKP	PKPdf	18 27 12.2	+0.7
BILL	Bilibino	131.72	335	*e*PKPdf	PKPdf	18 27 12.2	+0.7
ARU	Arti	138.52	40	*i* PKiKP	PKPdf	18 27 26.0	+1.5
ARU						18 30 13.0	
GEYT	Alibeck	139.10	68	PKP	PKPdf	18 27 26.2	0.0
	comp=Z,1.8nm,0.6s,baz=276,slow=2.8,SNR=3.9						
PETK	Petropavlovsk-	139.38	315	PKP	PKPdf	18 27 25.4	-0.8
	comp=Z,4.4nm,0.9s,baz=64,slow=3.4,SNR=4.2						
TIXI	Tiksi	139.39	350	⇑*e*PKiKP	PKPdf	18 27 26.8	+1.1
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.5s						
TIXI	Tiksi	139.39	350	*e*PKPpre	PKPpre	18 27 21.5	
PALK	Pallekele	144.04	129	*e*PKiKP	PKPab	18 27 32.9	-0.4
PALK	Pallekele	144.04	129	*e*PKPpre	PKPab	18 27 32.9	-0.4
BRVK	Borovoye	146.01	42	⇑*e*PKP2	PKPab	18 27 39.4	0.0
BRVK				pmax	pmax		
	comp=Z,53nm,1.7s						
BRVK	Borovoye	146.01	42	*e*PKPdf	PKPab	18 27 39.5	+0.2
YAK	Yakutsk	147.52	341	*c i* PKP2	PKPbc	18 27 42.1	-0.7
YAK				pmax	pmax		
	comp=Z,57nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK	Yakutsk	147.52	341	*e*PKPdf	PKPbc	18 27 42.2	-0.7
KKAR	Karatay Array	148.63	60	*e*PKP2	PKPbc	18 27 46.3	-0.1
KKAR	Karatay Array	148.63	60	*e*PKPbc	PKPbc	18 27 46.3	-0.1
KSM	Kuching	148.96	184	*e*PKPdf	PKPbc	18 27 46.8	-1.3
HYB	Hyderabad	149.23	112	*i* PKP	PKPbc	18 27 48.0	-0.7
YSS	Yuzh-Sakhalins	150.17	309	*e*PKIKP	PKPbc	18 27 49.5	-0.5
YSS				*e*		18 27 57.2	
ASAJ	Asahikawa	150.96	303	*e*PKPdf	PKPbc	18 27 49.6	-2.4
EKS2	Erkin-Say	151.07	60	P	PKPbc	18 27 53.5	+0.9
	SNR=24						
EKS2	Erkin-Say	151.07	60	*e*PKIKP	PKPbc	18 27 53.2	+0.7
EKS2	Erkin-Say	151.07	60	*e*PKPbc	PKPbc	18 27 53.2	+0.7
AML	Almayashu	151.08	61	P	PKPbc	18 27 53.5	+0.6
	SNR=16						
IPM	Ipoh	151.19	165	*e*PKPdf	PKPbc	18 27 52.2	-1.4
USP	Ospenovka	151.49	58	P	PKPbc	18 27 54.0	+0.6
	SNR=20						
AAK	Ala-Archa	151.60	60	P	PKPbc	18 27 54.8	+1.0
	SNR=24						
AAK	Ala-Archa	151.60	60	*ce*PKIKP	PKPdf	18 27 48.6	+1.0
AAK				pmax	pmax		
	comp=Z,13nm,1.7s						
AAK	Ala-Archa	151.60	60	*e*PKPbc	PKPbc	18 27 54.5	+0.7
NVS	Novosibirsk	151.63	31	⇑*i*PKIKP	PKPbc	18 27 52.5	-0.7
NVS				*e*		18 31 33.5	
NVS				pmax	pmax		
	comp=Z,71nm,1.5s						
NVS				pmax	pmax		
	comp=N,5.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,13nm,1.4s						
FRU	Bishkek	151.65	59	*i* PKIKP	PKPbc	18 27 54.0	+0.2
FRU				*i*		18 28 02.0	
FRU				pmax	pmax		
	comp=Z,110nm,2.0s						
UCH	Uchtor	151.67	60	P	PKPbc	18 27 55.4	+1.0
	SNR=28						
KURK	Kurchatov	151.68	42	*e*PKIKP	PKPbc	18 27 53.4	-0.1
KURK	Kurchatov	151.68	42	*e*PKPbc	PKPbc	18 27 53.4	-0.1
CHMS	Chumysh	151.72	59	P	PKPbc	18 27 54.5	+0.6
	SNR=11						
KULM	Kulim	151.89	164	*e*PKPbc	PKPbc	18 27 56.9	+1.9
KBK	Karagaybulak	151.92	59	P	PKPbc	18 27 55.0	+0.4
	SNR=8.8						
KBK	Karagaybulak	151.92	59	*i* PKIKP	PKPbc	18 27 55.0	+0.4
KZA	Kyzart	152.24	61	P	PKPbc	18 27 56.6	+1.0
	SNR=10						
TKM2	Tokmak 2	152.34	59	P	PKPbc	18 27 55.9	+0.4
	SNR=10						
TKM2	Tokmak 2	152.34	59	*e*PKIKP	PKPbc	18 27 55.7	+0.1
TKM2	Tokmak 2	152.34	59	*e*PKPbc	PKPbc	18 27 55.7	+0.1
ZALV	Zalesovo Beam	152.91	31	PKP	PKPdf	18 27 48.7	-0.2
	comp=Z,3.5nm,1.0s,baz=285,slow=2.9,SNR=10						
ZALV				PKPbc	PKiKP	18 27 56.3	0.0
	comp=Z,16nm,0.7s,baz=299,slow=3.0,SNR=54						
ULHL	Ulahol	152.94	60	P	PKPbc	18 27 58.1	+1.1
	SNR=13						
ULHL	Ulahol	152.94	60	*i* PKIKP	PKPbc	18 27 58.0	+1.1
KSH	Kashi	153.09	66	PKPbc	PKPdf	18 27 50.4	+0.6
KSH				sPKP		18 28 00.0	
KSH				PKS	PKSdf	18 31 24.4	+0.1
KSH				SKS	SKSdf	18 34 55.8	+0.4
KSH				SKKS	SKKSac	18 38 25.3	-5.8
KSH				SS	SS	18 51 12.3	-2.6
KSH				PPMZ			
	comp=Z,630nm,10.8s						
KSH				LN			
	comp=Z,52nm,4.4s						
KSH				LE			
	comp=Z,81nm,3.9s						
KSH				LZ			
	comp=Z,330nm,7.5s						
BOD	Bodaibo	154.50	353	*e*PKIKP	PKPbc	18 27 57.9	-1.5
BOD				*e*		18 28 13.7	
BOD				pmax	pmax		
	comp=Z,22nm,1.2s						
MKAR	Makanchi Array	155.64	47	PKP	PKPdf	18 27 53.5	+0.5
	comp=Z,1.3nm,0.9s,baz=60,slow=1.9,SNR=9.1						
MKAR				PKPab	PKPab	18 28 18.4	-0.9
	comp=Z,4.0nm,0.7s,baz=276,slow=3.7,SNR=11						
WMQ	Urumqi	160.39	49	*e*PKP	PKPdf	18 27 59.2	+0.2
WMQ				pPKP	pPKPdf	18 28 05.7	-1.6
WMQ				PKPab	PKPab	18 28 42.0	+2.0
WMQ				PKS	PKSdf	18 31 31.2	-1.1
WMQ				PP	PP	18 32 23.8	+1.3
WMQ				SKS	SKSdf	18 34 59.2	-3.4
WMQ				SKKS	SKKSac	18 39 06.7	-2.7
WMQ				SS	SS	18 52 27.8	-4.5
WMQ				PPMZ			
	comp=Z,490nm,6.0s						
WMQ				LN			
	comp=Z,87nm,20.0s						
WMQ				LE			
	comp=Z,260nm,18.0s						
WMQ				LZ			
	comp=Z,180nm,22.0s						
TLY	Talaya	160.66	9	*e*PKP2	PKPab	18 28 42.3	+1.6
TLY				pmax	pmax		
	comp=Z,14nm,1.6s						
ZAK	Zakamensk	161.87	10	*e*PKP2	PKPab	18 28 45.2	-1.0
ZAK				*e*		18 32 30.2	
ZAK				pmax	pmax		
	comp=Z,5.0nm,2.0s						
CN2	Changchun	162.53	315	*e*PKP	PKPdf	18 28 03.0	+1.9
CN2				PP	PP	18 32 43.7	+10
CN2				PPMZ			
	comp=Z,200nm,7.0s						
CN2				LN			
	comp=Z,500nm,20.0s						
CN2				LE			
	comp=Z,600nm,20.0s						
CN2				LZ			
	comp=Z,300nm,16.0s						
KSRS	Korea Array	163.22	292	PKPab	PKPab	18 28 54.1	+1.6
	comp=Z,2.6nm,1.0s,baz=100,slow=4.2,SNR=4.7						
KSAR	Wonju Array Be	163.25	292	PKP2	PKPab	18 28 54.1	+1.5
KSAR	Wonju Array Be	163.25	292	PKPab	PKPab	18 28 54.1	+1.5
CMAR	Chiang Mai Arr	163.58	147	PKP	PKPdf	18 28 02.1	-0.8
	comp=Z,0.5nm,0.9s,baz=237,slow=2.9,SNR=5.0						
CMAR				PKPab	PKPab	18 28 55.0	+0.7
	comp=Z,2.0nm,1.2s,baz=225,slow=5.1,SNR=6.4						
SONM	Songino Array	164.74	5	PKP	PKPdf	18 28 02.6	-0.7
	comp=Z,0.3nm,0.8s,baz=123,slow=1.0,SNR=4.1						
SONM				PKPab	PKPab	18 28 59.5	+0.7
	comp=Z,2.1nm,0.9s,baz=340,slow=3.3,SNR=12						
LSA	Lhasa	165.04	97	PKP	PKPdf	18 28 02.5	-2.0
LSA	Lhasa	165.04	97	*e*PKIKP	PKPdf	18 28 06.7	+2.2
LSA	Lhasa	165.04	97	*e*PKPdf	PKPdf	18 28 06.7	+2.2
GTA	Gaotai	170.36	43	*e*PKP	PKPdf	18 28 08.9	+1.4
GTA				pPKP	pPKPdf	18 28 16.1	+0.2
GTA				sPKP		18 28 19.2	
GTA				PKPab	PKPab	18 29 26.1	+2.0
HHC	Hu-ho-hao-te	171.38	343	*e*PKP	PKPdf	18 28 07.5	-0.5
HHC				pPKP	pPKPdf	18 28 18.3	+2.0
HHC				sPKP		18 28 21.9	
HHC				PP	PP	18 33 21.0	+2.5
HHC				SKS	SKSdf	18 35 05.8	-4.0
HHC				SS	SS	18 54 20.0	-2.5
HHC				PPMZ			
	comp=Z,1μm,8.6s						
HHC				LN			
	comp=Z,460nm,18.5s						
HHC				LE			
	comp=Z,400nm,16.0s						
HHC				LZ			
	comp=Z,220nm,18.5s						
GYA	Guiyang	173.70	167	PKP	PKPdf	18 28 10.0	+0.6
GYA				PKPab	PKPab	18 29 42.4	+3.4
GYA				PKS	PKSdf	18 31 41.5	-0.4
GYA				PP	PP	18 33 35.8	+5.9
GYA				SKKS		18 40 18.2	
GYA				SS	SS	18 54 49.5	+4.5
GYA				PPMZ			
	comp=Z,140nm,8.3s						
GYA				LN			
	comp=Z,140nm,22.4s						
GYA				LE			
	comp=Z,130nm,23.5s						
GYA				LZ			
	comp=Z,150nm,21.4s						
LZH	Lanzhou	174.96	46	*e*PKP	PKPdf	18 28 10.0	+0.4
LZH				pPKP	pPKPdf	18 28 17.5	-0.5
LZH				sPKP		18 28 20.1	
LZH				*e*PP	PP	18 33 39.3	+2.3
LZH				SKKS		18 40 21.5	
LZH				*e*SS	SS	18 54 54.1	-4.8
LZH				PPMZ			
	comp=Z,200nm,8.0s						
LZH				LN			
	comp=Z,400nm,18.3s						
LZH				LE			
	comp=Z,400nm,18.1s						
LZH				LZ			
	comp=Z,500nm,20.3s						
CD2	Chengdu	175.78	113	*e*PKP	PKPdf	18 28 11.5	+1.7

*CSEM **08** 18:16:04.9±0.3, 50°.29N×18°.74E, h1km, Error ellipse: s-maj=7.8km s-min=3.7km az=6.0*

PRU 08 18:16:05.4, 50°.29N×18°.71E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.18	90	*e*Pg	Pg	18 16 07.5	-1.4
CHZP				*e*		18 16 07.9	
CHZP				*e*Sg	Sg	18 16 10.0	-1.3
OKC	Ostrava-Krasne	0.58	219	*e*PG	Pb	18 16 17.6	-0.8
OKC				*e*SG	Sg	18 16 24.4	+0.3
	comp=Z,10nm,0.4s						
OKC	Ostrava-Krasne	0.58	219	Pg	Pb	18 16 17.6	-0.8
OKC				Sg	Sg	18 16 24.4	+0.3
	10nm,0.4s						
OJC	Ojcow	0.70	95	*e*Pg	Pg	18 16 17.5	-1.4
OJC				*e*Sg	Sg	18 16 27.8	-0.2
OJC	Ojcow	0.70	95	*e*Pg	Pg	18 16 17.5	-1.4
OJC				*e*Sg	Sg	18 16 27.8	-0.2
MORC	Moravsky Berou	0.91	236	*e*Pg	Pg	18 16 23.3	+0.3
MORC				*e*Sg	Sb	18 16 35.9	-1.0
LANS	Liptovska Anna	1.24	156	*e*Pn	Pg	18 16 28.5	-0.8
LANS				*e*Sn	Sg	18 16 44.3	-1.2
KRLC	Kraliky	1.26	261	*e*PG	Pg	18 16 29.2	-0.4
KRLC				*e*SG	Sg	18 16 46.2	+0.2
KRLC	Kraliky	1.26	261	Pg	Pg	18 16 29.2	-0.4
KRLC				Sg	Sg	18 16 46.2	+0.2
DPC	Dobruska-Polom	1.53	273	*e*PG	Pn	18 16 34.1	0.0
DPC				*e*SG	Sn	18 16 53.9	-0.9
DPC	Dobruska-Polom	1.53	273	Pg	Pn	18 16 34.1	0.0
DPC				Sg	Sn	18 16 53.9	-0.9
KSP	Ksiaz	1.64	291	*e*Pg	Pg	18 16 37.4	+0.6
KSP				*e*Sg	Sg	18 16 59.8	+1.7
VRAC	Vranov	1.69	235	*e*Pn	Pb	18 16 36.9	-0.4
VRAC				*e*Sg	Sb	18 16 59.3	+0.1
UPC	Upice	1.74	278	*e*SG	Sg	18 17 01.7	+0.3
	comp=Z,3.7nm,0.5s						
UPC	Upice	1.74	278	Sg	Sg	18 17 01.7	+0.3
	3.7nm,0.5s						
VYHS	Vyhne	1.80	177	*e*Sn	Sn	18 16 59.1	-2.2
VYHS	Vyhne	1.80	177	*e*SN	Sn	18 16 59.1	-2.2
VYHS				*e*LG	Lg	18 17 14.9	
STHS	Stebnicka Huta	1.86	117	*e*Pn	Pn	18 16 38.9	+0.4
STHS				*e*Sn	Sn	18 17 00.8	-1.9
STHS	Stebnicka Huta	1.86	117	*e*PN	Pn	18 16 38.9	+0.4
STHS				*e*SN	Sn	18 17 00.8	-1.9
STHS				*e*LG	Lg	18 17 14.3	
PVCC	Panska Ves	2.66	277	*e*SG	Sg	18 17 30.8	-0.1
PVCC	Panska Ves	2.66	277	Sg	Sg	18 17 30.8	-0.1
PRU	Pruhonice	2.70	265	*e*SG	Sg	18 17 30.4	-1.7
PRU	Pruhonice	2.70	265	Sg	Sg	18 17 30.4	-1.7
KHC	Kasperske Hory	3.53	253	*ex*	x	18 17 07.6	
KHC				*e*SG	Sg	18 17 56.4	-2.4

*CSEM **08** 18:18:49.7±0.2, 43°.35N×19°.00E, h15km, ML2.5, Error ellipse: s-maj=4.4km s-min=2.7km az=129.0*

*PDG **08** 18:18:50.6±0.3, 43°.36N×18°.96E, h6km±1km, MD2.6/2, ML2.5/11, Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*

*BEO **08** 18:18:51.1±0.3, 43°.35N×19°.00E, h0km, ML2.4/6*

ISC 08 18:18:50.5±1.0, 43°.36N±0°.02×18°.99E±0°.02, h6km±8km, n55, σ0°76/89, 30C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	Unac-Piva	0.17	203	⇓*i*Pg	Pg	18 18 53.7	-0.3
UPM				*e*Sg	Sg	18 18 56.3	0.0
UPM	Unac-Piva	0.17	203	⇓*i*Pg	Pg	18 18 53.7	-0.3
UPM				*e*Sg	Sg	18 18 56.3	0.0
PLE	Pljevlja	0.29	96	⇓*i*Pg	Pg	18 18 56.3	+0.1
PLE				*e*Sg	Sg	18 19 00.9	+0.8
PLE	Pljevlja	0.29	96	⇓*i*Pg	Pg	18 18 56.3	+0.1
PLE				*e*Sg	Sg	18 19 00.9	+0.8
NKY	Niksic	0.55	180	⇑*i*Pg	Pg	18 19 00.7	-0.3
NKY				*e*Sg	Sg	18 19 09.2	+1.1
NKY	Niksic	0.55	180	⇑*i*Pg	Pg	18 19 00.7	-0.3
NKY				*e*Sg	Sg	18 19 09.2	+1.1
BRY	Bratogost	0.57	216	⇑*i*Pg	Pg	18 19 00.5	-0.9
BRY				*e*Sg	Sg	18 19 09.2	+0.4
BRY	Bratogost	0.57	216	⇑*i*Pg	Pg	18 19 00.5	-0.9
BRY				*e*Sg	Sg	18 19 09.2	+0.4
BBLS	Lazići	0.59	30	⇓*i*Pg	Pg	18 19 01.8	-0.1
BBLS				*e*Sg	Sg	18 19 08.6	-0.9
BBLS	Lazići	0.59	30	⇓*i*Pg	Pg	18 19 01.8	-0.1
BBLS				*e*Sg	Sg	18 19 08.6	-0.9
NKME	Niksic	0.59	183	⇑*i*Pg	Pg	18 19 01.1	-0.8
NKME				*e*Sg	Sg	18 19 10.5	+0.9
NKME	Niksic	0.59	183	⇑*i*Pg	Pg	18 19 01.1	-0.8
NKME				*e*Sg	Sg	18 19 10.5	+0.9
SJES	Sjenica	0.72	97	⇑*i*Pg	Pg	18 19 04.2	-0.2
SJES				*e*Sg	Sg	18 19 12.6	-1.2
TREB	Trebinje	0.80	217	⇑*i*Pg	Pg	18 19 04.9	-0.9
TREB			

BLY	Banja Luka	1.91	317	*e*Pg		Pb	18 19 25.7 0.0
BARS	Barje	2.14	104	*e*Pg		Pb	18 19 29.5 -0.1
BARS	Barje	2.14	104	*e*Pg		Pb	18 19 29.5 -0.1
ZAPS	Zavoj	2.66	91	*e*Pg		Pb	18 19 38.4 -0.1
BZS	Buzias	2.94	39	⇑*i*P		Pn	18 19 37.5 -0.2
BZS	Buzias	2.94	39	⇑*i*P		Pn	18 19 37.5 -0.2
NVLJ	Novalja	3.21	293	*e*Pn		Pn	18 19 43.2 +1.7
NVLJ				Sn		Sb	18 20 26.4 -0.9
NVLJ	Novalja	3.21	293	*e*Pn		Pn	18 19 43.1 +1.7
GZR	Gura Zlata	3.39	52	⇑*i*P		Pn	18 19 43.6 -0.4
GZR	Gura Zlata	3.39	52	⇑*i*P		Pn	18 19 43.6 -0.4

ISCJB ***08*** *18:18:48.0±1.1, 32°.57S±0°.03×71°.86W±0°.04, h6km±7km, mb4.8/51, MS4.3/2, Error ellipse: s-maj=6.6km s-min=3.9km az=150.8*

IDC ***08*** *18:18:47.4±0.6, 32°.68S×71°.80W, h0km, mb4.4/15, mb1 4.6/19, mb1mx4.5/23, mbtmp4.4/19, ML4.5/4, MS4.1/3, Ms1 4.1/3, ms1mx3.6/31, Error ellipse: s-maj=16.0km s-min=15.1km az=50.0*

GUC ***08*** *18:18:49.3±0.7, 32°.61S×71°.92W, h16km±15km, ML4.8*

NEIC ***08*** *18:18:51.9±0.2, 32°.63S×71°.72W, mb5.0/39, ML4.8(GUC), Error ellipse: s-maj=6.9km s-min=3.8km az=65.0*

NEIC Felt [III] at Casablanca and La Ligua and [II] at San Antonio and Valparaiso.

ISC 08 18:18:51.0±0.7, 32°.65S±0°.03×71°.80W±0°.05, h20km±3km, n281, σ0687/298, mb4.9/52, 88C-89D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.40**	**161**	⇓*i*P		**Pg**	**18 18 58.2 -1.2**
IHA				*i* S1		**Sb**	**18 19 05.2 0.0**
IHA	**Instituto Hidr**	**0.40**	**161**	⇓*i*P		**Pg**	**18 18 58.2 -1.2**
IHA				*i* S		**Sb**	**18 19 05.2 0.0**
PEL	**Peldehue**	**1.06**	**118**	⇑*i*P		**Pb**	**18 19 09.9 -0.9**
PEL				*i* S		**Sg**	**18 19 25.4 -0.2**
PEL				AML	AML	18 19 32.3	
	comp=E,57μm,0.4s						
PEL	**Peldehue**	**1.06**	**118**	⇑*i*P		**Pb**	**18 19 09.9 -0.9**
PEL				*i* S		**Sg**	**18 19 25.4 -0.2**
CLCH	**Cerro Calan**	**1.30**	**125**	⇓*i*P		**Pn**	**18 19 13.3 -0.8**
CLCH				*i* S1		**Sn**	**18 19 31.7 +0.8**
CLCH				AML	AML	18 19 39.5	
	comp=E,24μm,0.4s						
LACH	**Col Las Americ**	**1.33**	**127**	*e*P1		**Pn**	**18 19 14.1 -0.5**
LACH				*i* S1		**Sb**	**18 19 33.2 +1.1**
LACH	**Col Las Americ**	**1.33**	**127**	*e*P		**Pn**	**18 19 14.1 -0.5**
LACH				*i* S		**Sb**	**18 19 33.2 +1.1**
ANTU	**Antumapu**	**1.34**	**134**	*e*P1		**Pn**	**18 19 14.6 -0.1**
ANTU				*i* S1		**Sb**	**18 19 33.2 +0.8**
ANTU				AML	AML	18 19 39.9	
	comp=E,26μm,0.5s						
ANTU	**Antumapu**	**1.34**	**134**	*e*P		**Pn**	**18 19 14.6 -0.1**
ANTU				*i* S		**Sb**	**18 19 33.2 +0.8**
LNV	**Longovilo**	**1.34**	**166**	⇓*i*P		**Pn**	**18 19 13.9 -0.8**
LNV				*i* S1		**Sn**	**18 19 31.7 -0.3**
LNV	**Longovilo**	**1.34**	**166**	⇓*i*P		**Pn**	**18 19 13.9 -0.8**
LNV				*i* S		**Sn**	**18 19 31.7 -0.3**
FCH	**Farellones**	**1.44**	**119**	AML	AML	18 19 30.3	
	comp=E,15μm,0.3s						
CHCH	**Chadas Angostu**	**1.60**	**143**	⇑*i*P		**Pn**	**18 19 18.5 +0.2**
CHCH	**Chadas Angostu**	**1.60**	**143**	⇑*i*P		**Pn**	**18 19 18.5 +0.2**
CMCH	**Combarbala**	**1.62**	**25**	*e*P1		**Pn**	**18 19 17.0 -1.6**
CMCH				*e*S1		**Sn**	**18 19 38.1 -0.8**
CMCH	**Combarbala**	**1.62**	**25**	*e*P		**Pn**	**18 19 17.0 -1.6**
CMCH				*e*S		**Sn**	**18 19 38.1 -0.8**
CACH	**El Canelo**	**1.77**	**146**	*e*P1		**Pb**	**18 19 22.0 -1.0**
CACH				*i* S1		**Sb**	**18 19 46.2 +1.3**
CACH	**El Canelo**	**1.77**	**146**	*e*P		**Pb**	**18 19 22.0 -1.0**
CACH				*i* S		**Sb**	**18 19 46.2 +1.3**
CFAA	**Coronel Fontan**	**3.20**	**72**	Pn		**Pn**	**18 19 40.5 +0.3**
	comp=E,2.8nm,0.3s,baz=239,slow=6.4,SNR=33						
CFAA				Lg		Lg	18 20 28.2
	comp=E,11nm,0.3s,baz=23,slow=7.7,SNR=15						
CFAA				LR		LR	18 20 33.0
	comp=E,141nm,20.6s,baz=240,slow=33						
VACH	**Vallenar**	**4.16**	**13**	⇓*i*P		**Pn**	**18 19 52.7 -0.7**
VACH				*i* S4		**Sn**	**18 20 41.9 +0.4**
VACH	**Vallenar**	**4.16**	**13**	⇓*i*P		**Pn**	**18 19 52.7 -0.7**
VACH				S		**Sn**	**18 20 41.9 +0.4**
PLCA	**Paso Flores**	**8.13**	**173**	Pn		**Pn**	**18 20 47.3 -0.7**
	comp=E,4.0nm,0.3s,baz=339,slow=11,SNR=56						
PLCA				LR		LR	18 24 26.1
	comp=E,432nm,19.6s,baz=42,slow=42						
PLCA	**Paso Flores**	**8.13**	**173**	*e*Pn		**Pn**	**18 20 49.0 +1.0**
TRQA	**Tornquist**	**9.66**	**127**	*e*Pn		**Pn**	**18 21 11.7 +2.7**
LVC	**Limon Verde**	**10.32**	**15**	*e*Pn		Pn	18 21 13.3 -4.9
CPUP	**Villa Florida**	**14.08**	**67**	Pn		**Pn**	**18 22 09.1 -0.3**
	comp=E,0.5nm,0.3s,baz=218,slow=19,SNR=2.2						
CPUP				LR		LR	18 27 53.0
	comp=E,1μm,20.4s,baz=232,slow=39						
LPAZ	**La Paz**	**16.62**	**12**	Pn		**Pn**	**18 22 43.0 -0.6**
	comp=E,0.7nm,0.3s,baz=182,slow=8.4,SNR=34						
LPAZ	**La Paz**	**16.62**	**12**	*e*Pn		**Pn**	**18 22 43.0 -0.6**
	comp=E,31nm,0.8s						
SIV	**San Ignacio**	**19.23**	**33**	P		**P**	**18 23 12.5 -1.6**
	comp=E,0.2nm,0.3s,baz=224,slow=14,SNR=7.8						
NNA	**Nana**	**21.08**	**346**	P		**P**	**18 23 34.4 +0.2**
	comp=E,8.6nm,0.5s,baz=218,slow=7.1,SNR=4.6						
EFI	**East Falkland**	**21.50**	**156**	PFAKE			18 23 50.0 +12
EFI				LR		LR	
	comp=Z,1μm,19.6s						
SAML	**Samuel**	**24.90**	**21**	*e*P		**P**	**18 24 13.9 +1.2**
	comp=Z,18nm,1.1s						
BDFB	**Brasilia**	**27.43**	**58**	P		**P**	**18 24 35.9 +0.2**
	comp=Z,24nm,1.1s,baz=212,slow=9.0,SNR=3.6						
BDFB				LR		LR	18 36 28.1
	comp=Z,1μm,21.3s,baz=226,slow=39						
SDV	**Santo Domingo**	**41.32**	**2**	*e*P		**P**	**18 26 34.1 -1.5**
	comp=Z,17nm,0.9s						
SNAA	**Sanae**	**52.76**	**158**	P		**P**	**18 28 03.6 -0.7**
	comp=Z,1.5nm,0.9s,baz=278,slow=9.7,SNR=7.3						
SNAA	**Sanae**	**52.76**	**158**	*e*P		**P**	**18 28 05.1 +0.9**
TEIG	**Tepich**	**54.89**	**341**	P		**P**	**18 28 20.3 +0.1**
	comp=Z,4.5nm,0.6s,baz=64,slow=1.0,SNR=3.2						
835A	**Beeville**	**65.45**	**335**	⇓P		**P**	**18 29 32.4 -0.2**
	baz=66						
VNDA	**Vanda**	**65.46**	**191**	P		**P**	**18 29 31.5 -0.6**
	comp=Z,0.5nm,0.4s,baz=60,slow=8.1,SNR=4.0						
834A	**Tilden**	**65.57**	**334**	⇓P		**P**	**18 29 34.1 +0.7**
	baz=66						
833A	**Chaparral WMA,**	**66.06**	**333**	⇓P		**P**	**18 29 37.4 +0.9**
	baz=66						
832A	**Faith Ranch, C**	**66.25**	**333**	⇓P		**P**	**18 29 38.1 +0.4**
	baz=67						
636A	**Smothers Creek**	**66.27**	**336**	⇓P		**P**	**18 29 38.3 +0.5**
	baz=67						
732A	**Laxson Ranch,**	**66.65**	**333**	⇓P		**P**	**18 29 40.3 +0.1**
	baz=67						
633A	**Saathoff Ranch**	**67.01**	**334**	⇓P		**P**	**18 29 42.6 0.0**
	baz=67						
632A	**Uvalde**	**67.28**	**334**	⇓P		**P**	**18 29 43.3 -1.0**
	baz=68						
631A	**Perdido Creek**	**67.49**	**333**	⇑P		**P**	**18 29 45.8 +0.2**
	baz=68						
533A	**Kerrville**	**67.51**	**335**	⇓P		**P**	**18 29 45.7 -0.1**
	baz=68						
532A	**Rocksprings**	**67.88**	**334**	⇓P		**P**	**18 29 47.8 -0.3**
	baz=68,SNR=6.4						
434A	**Burnet**	**67.91**	**336**	⇓P		**P**	**18 29 48.0 -0.3**
	baz=68						
336A	**Riesel**	**67.95**	**337**	⇑P		**P**	**18 29 48.6 +0.1**
	baz=68						
531A	**Rocksprings**	**68.15**	**333**	⇑P		**P**	**18 29 49.3 -0.5**
	baz=68						
JCT	**Junction City**	**68.16**	**334**	⇑P		**P**	**18 29 50.4 +0.6**
	baz=68						
JCT	**Junction City**	**68.16**	**334**	*e*P		**P**	**18 29 50.1 +0.3**
	comp=Z,13nm,1.2s						
530A	**J-C Ranch, Com**	**68.44**	**333**	⇑P		**P**	**18 29 51.6 -0.1**
	baz=69						
333A	**Richland Sprin**	**68.63**	**335**	⇑P		**P**	**18 29 52.1 -0.6**
	baz=69						
TXAR	**Lajitas Array**	**68.66**	**330**	P		**P**	**18 29 53.8 +0.7**
	comp=Z,1.1nm,0.6s,baz=155,slow=9.1,SNR=9.7						
CPCT	**Cooper Cave**	**68.78**	**349**	*e*P		**P**	**18 29 55.6 +2.0**
SWET	**Sewanee**	**68.80**	**348**	*e*P		**P**	**18 29 53.0 -0.7**
	comp=Z,12nm,1.0s						
OXF	**Oxford**	**68.83**	**344**	*e*P		**P**	**18 29 53.8 0.0**
	comp=Z,18nm,0.8s						
TKL	**Tuckaleechee C**	**68.87**	**350**	*e*P		**P**	**18 29 53.9 -0.2**
430A	**Baggett Ranch,**	**68.97**	**333**	⇑P		**P**	**18 29 53.4 -1.6**
	baz=69						
429A	**Davenport Ranc**	**69.08**	**332**	⇓P		**P**	**18 29 55.9 +0.3**
	baz=69						
233A	**Rising Star**	**69.23**	**336**	⇓P		**P**	**18 29 56.0 -0.5**
	baz=70						
330A	**Mertzon**	**69.50**	**333**	⇓P		**P**	**18 29 58.3 +0.1**
	baz=70						
231A	**Bronte**	**69.66**	**334**	⇑P		**P**	**18 29 59.0 -0.1**
	baz=70						
133A	**Hamilton Ranch**	**69.77**	**336**	⇓P		**P**	**18 29 58.8 -0.9**
	baz=70						
329A	**Wagon Wheel Ra**	**69.88**	**333**	⇑P		**P**	**18 30 00.6 0.0**
	baz=70						
ABTX	**Abilene, Hawle**	**70.04**	**335**	⇑P		**P**	**18 30 01.4 -0.1**
	baz=70						
WVT	**Waverly**	**70.05**	**346**	*e*P		**P**	**18 30 00.5 -0.8**
	comp=Z,114nm,2.0s						
Z33A	**Whitaker Ranch**	**70.33**	**336**	⇑P		**P**	**18 30 03.2 0.0**
	baz=71						
131A	**Roby**	**70.35**	**335**	⇑P		**P**	**18 30 04.2 +0.8**
	baz=71						
Z31A	**Sharp Cattle R**	**70.84**	**335**	⇓P		**P**	**18 30 06.1 -0.2**
	baz=71						
129A	**Stewart Farms,**	**70.86**	**333**	⇓P		**P**	**18 30 06.2 -0.3**
	baz=71						
Y33A	**Hilltop Ranch,**	**70.94**	**337**	⇑P		**P**	**18 30 05.9 -1.0**
	baz=71						
X34A	**Smith Ranch, M**	**71.23**	**338**	⇑P		**P**	**18 30 07.6 -1.0**
	baz=72						
Z29A	**Hungry Hill Ra**	**71.36**	**334**	⇑P		**P**	**18 30 09.6 +0.1**
	baz=72						
Y29A	**Porterfield Fa**	**71.88**	**334**	⇑P		**P**	**18 30 12.9 +0.2**
	baz=72						
W33A	**Caddo, Fort Co**	**71.94**	**337**	⇓P		**P**	**18 30 12.5 -0.4**
	baz=72						
X31A	**McDonald Ranch**	**71.97**	**336**	⇑P		**P**	**18 30 12.8 -0.3**
	baz=72						
W32A	**Sentinel**	**72.17**	**337**	⇓P		**P**	**18 30 13.7 -0.6**
	baz=72						
MSTX	**Muleshoe**	**72.39**	**333**	⇓P		**P**	**18 30 16.5 +0.7**
	baz=73						
MSTX	**Muleshoe**	**72.39**	**333**	*e*P		**P**	**18 30 15.7 -0.1**
	comp=Z,14nm,1.2s						
MSTX				*e*pP		**pP**	**18 30 23.1 +0.9**
MVL	**Millersville**	**72.41**	**356**	*e*P		**P**	**18 30 16.8 +1.3**
	comp=Z,43nm,0.8s						
W31A	**Holland Ranch,**	**72.46**	**336**	⇑P		**P**	**18 30 16.0 -0.1**
	baz=73						
V33A	**Lossen Ranch,**	**72.49**	**338**	⇑P		**P**	**18 30 15.5 -0.7**
	baz=73						
319A	**Douglas**	**72.88**	**327**	⇑P		**P**	**18 30 20.5 +1.8**
	baz=73						
SSPA	**Standing Stone**	**73.14**	**355**	*e*P		**P**	**18 30 19.9 0.0**
	comp=Z,11nm,1.1s						
SSPA				*e*pP		**pP**	**18 30 26.7 +0.4**
121A	**Cookes Peak, D**	**73.19**	**329**	⇓P		**P**	**18 30 21.1 +0.5**
	baz=74						
ACSO	**Alum Creek Sta**	**73.25**	**351**	*e*P		**P**	**18 30 20.2 -0.3**
	comp=Z,16nm,0.8s						
Y24A	**Capitan**	**73.40**	**331**	⇓P		**P**	**18 30 22.9 +1.1**
	baz=74						
ODNJ	**Ogdensburg**	**73.41**	**358**	*e*P		**P**	**18 30 22.2 +0.7**
	comp=Z,48nm,1.7s						
Z22A	**Elephant Butte**	**73.45**	**330**	⇓P		**P**	**18 30 23.1 +0.9**
	baz=74						
Y23A	**Lovelace Mesa,**	**73.65**	**331**	⇑P		**P**	**18 30 25.5 +2.1**
	baz=74						
W26A	**Owens Ranch, T**	**73.76**	**333**	⇑P		**P**	**18 30 24.3 +0.4**
	baz=74						
V26A	**Tequesquite Ra**	**74.39**	**333**	⇓P		**P**	**18 30 28.1 +0.5**
	baz=75						
DBIC	**Dimbokro**	**74.56**	**71**	P		**P**	**18 30 28.5 -0.4**
	comp=Z,7.0nm,0.8s,baz=197,slow=1.7,SNR=6.5						
ANMO	**Albuquerque**	**74.70**	**331**	P		**P**	**18 30 30.2 +0.8**
	comp=Z,1.2nm,0.6s,baz=161,slow=6.9,SNR=4.1						
V25A	**Rancho No Teng**	**74.75**	**333**	⇑P		**P**	**18 30 30.5 +0.8**
	baz=75						
U26A	**Atchley Ranch,**	**74.91**	**334**	⇑P		**P**	**18 30 30.3 -0.4**
	baz=75						
T28A	**Walsh**	**74.96**	**335**	⇑P		**P**	**18 30 31.0 +0.2**
	baz=75						
TRY	**Troy**	**75.03**	**359**	*e*P		**P**	**18 30 31.3 +0.5**
	comp=Z,45nm,1.4s						
T27A	**Campo**	**75.12**	**335**	⇑P		**P**	**18 30 30.8 -0.9**
	baz=76						
U25A	**Circle Dot Ran**	**75.16**	**333**	⇑P		**P**	**18 30 32.1 +0.1**
	baz=76						
S28A	**Manter**	**75.31**	**336**	⇓P		**P**	**18 30 32.2 -0.6**
	baz=76						
Q32A	**Meitler Ranch,**	**75.49**	**339**	⇑P		**P**	**18 30 33.5 -0.2**
	baz=76						
T26A	**Comanche Natio**	**75.54**	**334**	⇑P		**P**	**18 30 34.4 +0.1**
	baz=76						
ACCN	**Adirondack Com**	**75.69**	**359**	*e*P		**P**	**18 30 35.8 +1.1**
	comp=Z,21nm,1.3s						
V22A	**San Miguel Ran**	**75.72**	**331**	⇑P		**P**	**18 30 37.6 +2.2**
	baz=76						
U23A	**El Rito**	**75.79**	**332**	⇓P		**P**	**18 30 36.9 +1.1**
	baz=76						
T25A	**Trinidad**	**75.81**	**334**	⇑P		**P**	**18 30 36.3 +0.5**
	baz=76,SNR=5.5						
S26A	**Kim**	**75.89**	**335**	⇑P		**P**	**18 30 36.5 +0.3**
	baz=76						
R28A	**Tribune**	**75.95**	**336**	⇓P		**P**	**18 30 36.5 +0.1**
	baz=76						
Q30A	**Quinter**	**76.00**	**338**	⇓P		**P**	**18 30 36.9 +0.3**
	baz=76						
T24B	**San Luis**	**76.11**	**333**	⇑P		**P**	**18 30 38.4 +0.8**
	baz=76						
W18A	**Petrified Fore**	**76.23**	**329**	⇑P		**P**	**18 30 38.9 +0.6**
	baz=77						
R27A	**Eads**	**76.24**	**335**	⇓P		**P**	**18 30 38.6 +0.5**
	baz=77						
S25A	**Robets Cordova**	**76.28**	**334**	⇑P		**P**	**18 30 38.8 +0.4**
	baz=77,SNR=5.6						
MDV	**Middlebury**	**76.29**	**359**	*e*P		**P**	**18 30 38.2 +0.2**
X16A	**Lo Mia Camp, P**	**76.41**	**327**	⇓P		**P**	**18 30 40.8 +1.6**
	baz=77						
R26A	**Arlington**	**76.49**	**335**	⇓P		**P**	**18 30 39.2 -0.3**
	baz=77						
S24A	**Houchin Ranch,**	**76.56**	**333**	⇑P		**P**	**18 30 40.9 +0.8**
	baz=77,SNR=7.8						
R25A	**Fountain Ranch**	**76.66**	**334**	⇑P		**P**	**18 30 40.8 +0.3**
	baz=77						
Y14A	**Wickenburg**	**76.74**	**326**	⇓P		**P**	**18 30 43.1 +2.2**
	baz=77						
P29A	**Atwood**	**76.80**	**337**	⇑P		**P**	**18 30 41.3 +0.2**
	baz=77						
R24A	**Sanders Place,**	**77.03**	**334**	⇓P		**P**	**18 30 43.7 +1.0**
	baz=77,SNR=8.0						
R23A	**Moffat**	**77.27**	**333**	⇑P		**P**	**18 30 44.8 +0.7**
	baz=78						
WUAZ	**Wupatki**	**77.29**	**328**	⇑P		**P**	**18 30 44.9 +0.7**
	baz=78						
WUAZ	**Wupatki**	**77.29**	**328**	*e*P		**P**	**18 30 45.4 +1.2**
	comp=Z,29nm,1.6s						
Y12C	**Blythe**	**77.32**	**325**	⇓P		**P**	**18 30 47.0 +2.9**
	baz=78						
MVCO	**Mesa Verde**	**77.48**	**331**	⇓P		**P**	**18 30 45.4 +0.1**
	baz=78						
MVCO	**Mesa Verde**	**77.48**	**331**	*e*P		**P**	**18 30 46.6 +1.3**
	comp=Z,8.3nm,1.0s						
BGNE	**Belgrade**	**77.59**	**340**	⇑P		**P**	**18 30 45.3 -0.2**
	baz=78						
N30A	**Hueftle Ranch,**	**77.61**	**338**	⇑P		**P**	**18 30 45.5 -0.2**
	baz=78						
Q24A	**Divide**	**77.69**	**334**	⇓P		**P**	**18 30 47.2 +0.7**
	baz=78						
BC3	**Big Chuckawall**	**77.70**	**324**	⇓P		**P**	**18 30 48.4 +2.0**
	baz=78						
M31A	**Lambtecht Ranc**	**77.78**	**339**	⇓P		**P**	**18 30 45.7 -0.8**
	baz=78						
P25A	**Willow Gulch B**	**77.82**	**335**	⇓P		**P**	**18 30 48.5 +1.4**
	baz=78						
IRM	**Iron Mountain**	**77.96**	**324**	⇓P		**P**	**18 30 48.9 +1.2**
	baz=78						
W13A	**Hualapai Mount**	**78.11**	**326**	⇓P		**P**	**18 30 50.1 +1.3**
	baz=78						
PV01	**Paradox Valley**	**78.30**	**331**	*e*P		**P**	**18 30 50.3 +0.4**
	comp=Z,619nm,1.3s						
P23A	**Jefferson**	**78.31**	**334**	⇓P		**P**	**18 30 52.8 +2.8**
	baz=79						
U15A	**North Rim**	**78.46**	**328**	⇓P		**P**	**18 30 52.0 +1.2**
	baz=79						
L31A	**Butterfield Fa**	**78.50**	**340**	⇓P		**P**	**18 30 50.7 +0.1**
	baz=79						
SMCO	**Snowmass**	**78.57**	**333**	*e*P		**P**	**18 30 52.7 +1.2**
	comp=Z,7.0nm,0.8s						
ISCO	**Idaho Springs**	**78.60**	**334**	⇓P		**P**	**18 30 52.2 +0.7**
	baz=79						
ISCO	**Idaho Springs**	**78.60**	**334**	*e*P		**P**	**18 30 52.2 +0.7**
	comp=Z,23nm,1.8s						
GMRC	**Granite Mounta**	**78.71**	**324**	⇑P		**P**	**18 30 53.6 +1.6**
	baz=79						
P22A	**Eagle**	**78.85**	**333**	⇓P		**P**	**18 30 53.2 +0.3**
	baz=79						
O23A	**Lake Granby, G**	**79.07**	**334**	⇑P		**P**	**18 30 54.6 +0.5**
	baz=79,SNR=6.4						
HEC	**Hector,Ludlow**	**79.08**	**324**	⇓P		**P**	**18 30 55.8 +1.8**
	baz=79						
N24A	**Carr**	**79.24**	**335**	⇓P		**P**	**18 30 55.6 +0.8**
	baz=80						
O22A	**Kremmling**	**79.26**	**334**	⇑P		**P**	**18 30 55.6 +0.5**
	baz=80						
BFSC	**Mount Baldy Ra**	**79.28**	**323**	⇓P		**P**	**18 30 58.2 +3.1**
	baz=80						
ECSD	**EROS Data Cent**	**79.33**	**342**	⇓P		**P**	**18 30 55.4 +0.3**
	baz=80						
ECSD	**EROS Data Cent**	**79.33**	**342**	*e*P		**P**	**18 30 54.7 -0.3**
	comp=Z,43nm,1.6s						
N23A	**Red Feather La**	**79.68**	**334**	⇑P		**P**	**18 30 58.3 +0.9**
	baz=80						
N22A	**Wattenberg Ran**	**79.79**	**334**	⇑P		**P**	**18 30 59.0 +1.0**
	baz=80						
CCUT	**Cedar City**	**79.87**	**328**	*e*P		**P**	**18 31 00.1 +1.6**
	comp=Z,16nm,1.4s						
SRU	**San Rafael Swe**	**79.94**	**330**	*e*P		**P**	**18 30 59.7 +1.0**
	comp=Z,5.9nm,1.1s						
EDW2	**Edwards Air Fo**	**79.95**	**323**	⇑P		P	18 31 03.5 +4.8
	baz=80						
J29A	**Okreek**	**80.06**	**339**	⇓P		**P**	**18 30 58.5 -0.6**
	baz=80						
MVU	**Marysvale**	**80.15**	**329**	*e*P		**P**	**18 31 00.9 +0.9**
	comp=Z,17nm,1.8s						
MVU				*e*pP		**PcP**	**18 31 08.5 +1.3**
J28A	**Allard Ranch,**	**80.36**	**339**	⇓P		**P**	**18 31 00.2 -0.5**
	baz=81						
M22A	**Cedar Creek Ra**	**80.36**	**334**	⇑P		**P**	**18 31 00.8 -0.3**
	baz=81						
J27A	**Elkhorn Farm,**	**80.44**	**338**	⇑P		**P**	**18 31 01.8 +0.6**
	baz=81						
BOSA	**Boshof**	**80.52**	**118**	P		**P**	**18 31 01.5 -0.7**
	comp=Z,12nm,1.0s,baz=280,slow=3.4,SNR=8.3						
BOSA	**Boshof**	**80.52**	**118**	*e*P		**P**	**18 31 02.5 +0.2**
	comp=Z,13nm,1.1s						
L23A	**Garrett**	**80.66**	**335**	⇑P		**P**	**18 31 03.4 +0.8**
	baz=81						
J26A	**Sides Ranch, S**	**80.83**	**337**	⇑P		**P**	**18 31 03.8 +0.5**
	baz=81						
I28A	**Midland**	**80.86**	**339**	⇑P		**P**	**18 31 03.4 0.0**
	baz=81						
J25A	**Sunshine Ranch**	**81.14**	**337**	⇑P		**P**	**18 31 05.1 +0.1**
	baz=82						
H29A	**Onida**	**81.14**	**340**	⇓P		**P**	**18 31 04.7 -0.1**
	baz=82						
I27A	**Quinn**	**81.19**	**338**	⇑P		**P**	**18 31 05.3 +0.1**
	baz=82						
K23A	**Bowen Ranch, D**	**81.20**	**335**	⇓P		**P**	**18 31 06.4 +1.1**
	baz=82						
G30A	**Faulkton**	**81.30**	**341**	⇓P		**P**	**18 31 05.2 -0.5**
	baz=82						
J24A	**Dixon Ranch, L**	**81.38**	**336**	⇑P		**P**	**18 31 06.7 +0.5**
	baz=82						
I26A	**New Underwood**	**81.41**	**338**	⇓P		**P**	**18 31 07.1 +0.7**
	baz=82						
K22A	**Casper**	**81.42**	**335**	*e*P		**P**	**18 31 07.8 +1.2**
	comp=Z,24nm,1.4s						
H28A	**Mission Ridge**	**81.43**	**339**	⇓P		**P**	**18 31 06.1 -0.2**
	baz=82						
R11A	**Troy Canyon, C**	**81.54**	**327**	⇓P		**P**	**18 31 09.5 +2.3**
	baz=82						
R11A	**Troy Canyon, C**	**81.54**	**327**	*e*P		**P**	**18 31 08.4 +1.2**
	comp=Z,16nm,1.6s						
K21A	**Alcova**	**81.67**	**334**	⇓P		**P**	**18 31 08.8 +0.8**
	baz=82						
I25A	**Rochford**	**81.68**	**337**	⇑P		**P**	**18 31 08.3 +0.4**
	baz=82,SNR=5.2						
H27A	**Howes**	**81.71**	**339**	⇓P		**P**	**18 31 07.2 -0.7**
	baz=82						
DUG	**Dugway, Tooele**	**81.81**	**329**	⇑P		**P**	**18 31 09.5 +0.9**
	baz=82						
DUG	**Dugway, Tooele**	**81.81**	**329**	*e*P		**P**	**18 31 10.0 +1.3**
	comp=Z,9.4nm,1.4s						
DUG				*e*pP		PcP	18 31 21.8 +7.5
J22A	**Midwest**	**82.08**	**335**	⇓P		**P**	**18 31 10.4 +0.4**
	baz=82						
TPH	**Tonopah**	**82.09**	**325**	*e*P		**P**	**18 31 11.4 +1.2**
	comp=Z,7.0nm,1.2s						
TPH				*e*pP		**PcP**	**18 31 18.7 +3.0**
F29A	**Eureka**	**82.14**	**341**	⇑P		**P**	**18 31 09.2 -0.8**
	baz=82						
EYMN	**Ely**	**82.15**	**347**	*e*P		**P**	**18 31 10.1 0.0**
	comp=Z,13nm,1.3s						
H25A	**Fruitdale**	**82.17**	**338**	⇓P		**P**	**18 31 10.5 +0.1**
	baz=82						

baz=85
B29A Wagenman Farm, 84.43 342 ⇑P **P 18 31 22.0 +0.2**
baz=85
RLMT Red Lodge 84.56 334 *e*P **P 18 31 22.2 -0.6**
A30A Hoffart Farm, 84.60 343 ⇑P **P 18 31 22.7 +0.1**
baz=85
B28A Dugan Ranch, T 84.68 341 ⇑P **P 18 31 22.5 -0.5**
baz=85
YMR Madison River 84.81 333 *e*P **P 18 31 25.4 +1.3**
comp=Z,42nm,1.9s
A29A Manning Farm, 84.82 342 ⇓P **P 18 31 23.7 0.0**
baz=85
D23A Lindsay 84.96 338 ⇑P **P 18 31 24.0 -0.5**
baz=85
F19A Roth Farm, Mol 85.07 335 ⇓P **P 18 31 25.9 +0.7**
baz=85
A28A Rude Farm, Bot 85.08 342 ⇓P **P 18 31 24.9 -0.2**
baz=85
ULM Lac du Bonnet 85.25 345 P **P 18 31 25.0 -0.8**
comp=Z,3.5nm,0.8s,baz=174,slow=7.0,SNR=8.0
ULM Lac du Bonnet 85.25 345 *e*P **P 18 31 25.1 -0.8**
comp=Z,43nm,2.2s
HLID Hailey 85.26 330 ⇑P **P 18 31 27.4 +1.1**
baz=86
HLID Hailey 85.26 330 *e*P **P 18 31 27.7 +1.4**
comp=Z,35nm,2.1s
E20A Meyer Farm, Mu 85.34 336 ⇑P **P 18 31 26.2 -0.3**
baz=86
D21A La Casta Ranch 85.44 337 ⇑P **P 18 31 27.0 0.0**
baz=86
C23A Lambert 85.51 338 ⇓P **P 18 31 26.7 -0.6**
baz=86
MCMT McKenzie Canyo 85.67 332 *e*P **P 18 31 29.3 +0.9**
comp=Z,1.0nm,0.9s
D20A Manuel Ranch, 85.85 336 ⇓P **P 18 31 29.9 +0.9**
baz=86
B23A Brockton 86.03 339 ⇑P **P 18 31 30.3 +0.5**
baz=86
D19A Cripps Ranch, 86.17 336 ⇑P **P 18 31 31.3 +0.7**
baz=86
LRM Limekiln Ridge 86.34 333 *e*P **P 18 31 31.8 +0.1**
comp=Z,60nm,1.3s
C19A Slack Wire Ran 86.72 336 ⇓P **P 18 31 33.8 +0.5**
baz=87
A22A Carney Farms, 86.79 338 ⇑P **P 18 31 33.0 -0.6**
baz=87
B20A Solberg Farm, 86.98 337 ⇑P **P 18 31 34.9 +0.4**
baz=87
A21A Bergtoll Ranch 87.11 338 ⇓P **P 18 31 34.5 -0.6**
baz=87
SCHQ Schefferville 87.23 3 P **P 18 31 35.7 +0.2**
comp=Z,8.9nm,1.1s,baz=202,slow=2.9,SNR=4.1
SCHQ Schefferville 87.23 3 *e*P **P 18 31 36.3 +0.8**
A19A Klindworth Far 87.65 337 ⇑P **P 18 31 38.7 +1.0**
baz=88
E09A Wood Farm, Sta 89.20 330 *e*P **P 18 31 46.6 +1.6**
comp=Z,34nm,1.6s
WALA Waterton Lakes 89.58 334 *e*P P 18 31 51.8 +4.8
WALA *e*pP pP 18 31 60.0 +6.4
YKA Yellowknife Ar 100.84 341 P **Pdif 18 32 36.1 -1.7**
comp=Z,0.1nm,0.5s,baz=139,slow=31,SNR=6.4
WRA Warramunga Arr 122.04 209 PKP **PKPdf 18 37 43.3 -1.5**
comp=Z,0.5nm,0.8s,baz=160,slow=1.7,SNR=6.8
H11S2 WAKE ISLAND Hyl 25.98 270 T T 20 56 47.5
baz=118,slow=75,SNR=35
H11S1 WAKE ISLAND Hyl 25.99 270 T T 20 56 49.3
baz=118,slow=75,SNR=38
H11S3 WAKE ISLAND Hyl 26.00 270 T T 20 56 49.8
baz=118,slow=75,SNR=32
BRVK Borovoye 146.08 42 *e*PKPdf **PKPbc 18 38 28.8 -0.3**
YAK Yakutsk 147.52 341 *e*PKPdf **PKPdf 18 38 31.4 +1.1**
KKAR Karatay Array 148.71 60 *e*PKPbc **PKPbc 18 38 36.6 -0.2**
KSM Kuching 148.93 184 *e*PKPbc **PKPbc 18 38 38.6 +0.4**
EKS2 Erkin-Say 151.15 60 P **PKPbc 18 38 43.1 +0.3**
SNR=13
AML Almayashu 151.16 61 P **PKPbc 18 38 43.7 +0.4**
SNR=7.2
USP Ospenovka 151.57 58 P **PKPbc 18 38 43.8 +0.1**
SNR=9.8
AAK Ala-Archa 151.67 60 P **PKPbc 18 38 44.8 +0.7**
SNR=8.0
AAK Ala-Archa 151.67 60 *e*PKPbc **PKPbc 18 38 44.3 +0.1**
KURK Kurchatov 151.75 42 *e*PKPbc **PKPbc 18 38 43.5 -0.3**
UCH Uchtor 151.75 60 P **PKPbc 18 38 44.8 +0.1**
SNR=13
TKM2 Tokmak 2 152.42 59 *e*PKPbc **PKPbc 18 38 46.2 +0.4**
ZALV Zalesovo Beam 152.97 31 PKP **PKPdf 18 38 39.1 0.0**
comp=Z,1.4nm,0.9s,baz=266,slow=4.2,SNR=5.5
ZALV PKPbc **PKPbc 18 38 45.6 -0.8**
comp=Z,3.2nm,0.5s,baz=302,slow=3.3,SNR=16
ULHL Ulahol 153.01 60 P **PKPbc 18 38 47.5 +0.3**
SNR=6.4
MKAR Makanchi Array 155.71 47 PKP **PKPdf 18 38 42.7 -0.6**
comp=Z,0.6nm,0.9s,baz=344,slow=3.1,SNR=3.8
MKAR PKPab **PKPab 18 39 09.0 -0.7**
comp=Z,1.2nm,0.5s,baz=298,slow=3.1,SNR=10
CMAR Chiang Mai Arr 163.60 147 PKP **PKPdf 18 38 52.6 -0.5**
comp=Z,0.4nm,0.8s,baz=236,slow=2.0,SNR=4.1
CMAR PKPab **PKPab 18 39 44.1 -0.5**
comp=Z,0.7nm,0.9s,baz=216,slow=4.5,SNR=3.8
SONM Songino Array 164.77 5 PKPab **PKPab 18 39 48.4 -0.7**
comp=Z,1.4nm,1.1s,baz=285,slow=3.4,SNR=5.8
ULN Ulaanbaatar 164.78 3 *e*PKPab **PKPab 18 39 50.2 +1.1**

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*DDA **08** 18:22:01.2, 38°.74N×40°.00E, h7km, MD3.0*
*CSEM **08** 18:22:02.2±0.2, 38°.73N×40°.02E, h2km, MD3.0, Error ellipse: s-maj=6.8km s-min=5.7km az=52.0*
ISK 08 18:22:01.1, 38°.78N×40°.11E, h5km, MD3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.31**	**72**	*e*Pg	Pn	18 22 11.1	-1.4
BNGB	**Bing˜¶l**	**0.49**	**64**	*e*PG	Pg	18 22 11.1	+0.4
BNGB				*e*SG	Sb	18 22 19.4	-0.6
BNGB	**Bing˜¶l**	**0.49**	**64**	*e*PG		18 50 37.0	
BNGB				*e*SG		18 50 44.1	
BNGL	**BINGOL**	**0.83**	**78**	*i* P	Pb	18 22 18.3	0.0
BNGL				*i* S	Sn	18 22 32.5	0.0
DYBB	**Diyarbakir**	**0.83**	**179**	*e*PG	Pb	18 22 18.1	0.0
ERZN	**Erzincan**	**0.86**	**339**	*e*PG	Pb	18 22 18.8	+0.1
DIY	**Diyarbakir**	**0.89**	**174**	*e*Pg	Pg	18 22 18.1	-0.2
EUZM	**Uzumlu**	**0.98**	**341**	*i* P	Pg	18 22 19.5	-0.6
EUZM				*i* S	Sn	18 22 35.7	-0.4
EUZM	**Uzumlu**	**0.98**	**341**	*i* P	Pg	18 22 19.5	-0.6
EUZM				*i* S	Sn	18 22 35.7	-0.4
SVAN	**Silvan-Diyarba**	**1.06**	**126**	*e*PG	Pn	18 22 22.9	+0.2
BTMT	**Batman**	**1.23**	**118**	*e*PN	Pn	18 22 26.0	+0.9
BTMT	**Batman**	**1.23**	**118**	*e*Pn	Pn	18 22 26.0	+0.9
KOPT	**Kop Dagi**	**1.27**	**13**	*i* P	Pb	18 22 28.9	+3.0
KOPT	**Kop Dagi**	**1.27**	**13**	*i* P	Pb	18 22 28.9	+3.0
KOPT				*i* S	Sn	18 22 51.1	+7.5
BEST	**Besiri**	**1.27**	**134**	*i* P	Pb	18 22 26.1	+0.5
BEST				*i* S	Sn	18 22 45.2	+2.0
MAZI	**Mazidag**	**1.34**	**169**	*e*PN	Pb	18 22 26.9	-0.1
MAZI	**Mazidag**	**1.34**	**169**	*e*Pn	Pb	18 22 26.9	-0.1
KEMA	**Kemaliye**	**1.35**	**292**	*i* P	Pn	18 22 25.3	-1.5
KEMA				*i* S	Sb	18 22 44.0	-0.8
KEMA	**Kemaliye**	**1.35**	**292**	*i* P	Pn	18 22 25.3	-1.5
KEMA				*i* S	Sb	18 22 44.0	-0.8
ILIC	**ilic-Erzincan**	**1.38**	**300**	*e*PN	Pg	18 22 28.5	+0.8
ILIC	**ilic-Erzincan**	**1.38**	**300**	*e*Pn	Pg	18 22 28.5	+0.8
MALT	**Malatya**	**1.40**	**251**	*e*PN	Pg	18 22 28.2	0.0
MALT	**Malatya**	**1.40**	**251**	*e*Pn	Pg	18 22 28.2	0.0
EZM	**Erzurum**	**1.48**	**40**	*e*PN	Pg	18 22 30.3	+0.4
ERZM	**Erzurum**	**1.48**	**40**	*i* P	Pg	18 22 31.5	+1.5
ERZM				*i* S	Sg	18 22 52.3	+2.8
ERZM	**Erzurum**	**1.48**	**40**	*i* P	Pg	18 22 31.5	+1.6
ERZM				*i* S	Sg	18 22 52.3	+2.8
KELT	**Kelkit**	**1.52**	**334**	*i* S	Sg	18 22 51.2	+0.7
KELT	**Kelkit**	**1.52**	**334**	*i* P	Pg	18 22 30.7	+0.1
KELT	**Kelkit**	**1.52**	**334**	*i* P	Pg	18 22 30.7	+0.1
KELT				*i* S	Sg	18 22 51.2	+0.8
MARD	**Mardin**	**1.56**	**160**	*i* P	Pg	18 22 31.1	0.0
MARD				*i* S	Sg	18 22 51.7	+0.2
BAYT	**Ayd¨–ntepe-Bay**	**1.61**	**1**	*e*PN	Pg	18 22 32.1	-0.2
BAYT	**Ayd¨–ntepe-Bay**	**1.61**	**1**	*e*Pn	Pg	18 22 32.1	-0.2
URFA	**Urfa**	**1.68**	**218**	*e*PN	Pb	18 22 32.6	-0.1
URFA	**Urfa**	**1.68**	**218**	*e*Pn	Pb	18 22 32.6	-0.1
SIRT	**Sirnak**	**2.23**	**124**	*e*PN	Pb	18 22 41.0	-1.2
SIRT	**Sirnak**	**2.23**	**124**	*e*Pn	Pb	18 22 41.0	-1.1
AGRB	**Hanur-Agry**	**2.37**	**70**	*e*PN	Pb	18 22 43.3	-1.3
AGRB	**Hanur-Agry**	**2.37**	**70**	*e*Pn	Pb	18 22 43.3	-1.3
ESPY	**Espiye-Giresun**	**2.38**	**334**	*e*PN	Pn	18 22 42.5	+1.6
ESPY	**Espiye-Giresun**	**2.38**	**334**	*e*Pn	Pn	18 22 42.5	+1.6
SVSK	**Karacayir**	**2.67**	**296**	*e*PN	Pb	18 22 47.6	-1.7
SVSK	**Karacayir**	**2.67**	**296**	*e*Pn	Pb	18 22 47.7	-1.6
CUKT	**Cukurca**	**3.15**	**118**	*e*PN	Pb	18 22 54.8	-3.1
CUKT	**Cukurca**	**3.15**	**118**	*e*Pn	Pb	18 22 54.8	-3.1

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*ISCJB **08** 18:22:39.2±1.3, 82°.28N±0°.08×41°.4W±0°.5, h10km, Error ellipse: s-maj=12.5km s-min=7.0km az=30.2*
*OTT **08** 18:22:40.9±1.0, 82°.66N×39°.08W, h18km, ML4.3/2, 335km east from Alert, Nu*
ISC 08 18:22:40.6±1.7, 82°.4N±0°.1×41°.31W±0°.08, h10km, n14, σ2§71/21, Near north coast of Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAG	**Danmarks Havn**	**6.88**	**132**	*i* P	**Pn**	**18 24 20.8**	**-0.5**
DAG				*i* S	**Sn**	**18 25 36.5**	**-3.0**
EUNU	**Eureka**	**7.10**	**275**	PN	**Pn**	**18 24 26.6**	**+2.3**
EUNU				mb		18 24 31.1	
	comp=Z,13nm,0.2s						
EUNU				SN	**Sn**	**18 25 46.3**	**+1.5**
EUNU				Trac		18 25 55.7	
	comp=Z,27nm,0.4s						
KULLO	**Kullorsuaq**	**8.39**	**210**	PN	**Pn**	**18 24 44.7**	**+2.8**
KULLO				SN	**Sn**	**18 26 18.1**	**+1.5**
KULLO				LG	Lg	18 27 07.5	
KULLO				Trac		18 27 15.8	
	comp=Z,96nm,0.6s						
KULLO	**Kullorsuaq**	**8.39**	**210**	*i* P	**Pn**	**18 24 44.3**	**+2.3**
KULLO				*i* S	**Sn**	**18 26 18.6**	**+2.0**
SUMG	**Summit**	**9.87**	**175**	*i* P	**Pn**	**18 25 05.3**	**+2.7**
SUMG				*e*S	**Sn**	**18 26 53.9**	**+0.5**
RES	**Resolute Bay**	**12.45**	**263**	PN	**Pn**	**18 25 37.8**	**+0.3**
RES				mb		18 25 39.4	
	comp=Z,11nm,0.8s						
RES				SN	**Sn**	**18 27 51.2**	**-4.7**
RES				Trac		18 28 05.5	
	comp=Z,6.5nm,0.3s						
ILULI	**Ilulissat**	**13.41**	**195**	SN	Sn	18 28 12.4	-6.9
ILULI	**Ilulissat**	**13.41**	**195**	*i* P	**Pn**	**18 25 50.3**	**-0.2**
ILULI				*i* S	Sn	18 28 12.1	-7.2
GIFN	**Gifford Fjord,**	**15.08**	**239**	PN	**Pn**	**18 26 16.2**	**+3.0**
GIFN				SN	**Sn**	**18 28 56.4**	**-3.6**
SFJD	**Kangerlussuaq**	**15.61**	**194**	PN	**Pn**	**18 26 17.2**	**-3.0**
SFJD				SN	Sn	18 28 57.0	-16
ILON	**Igloolik, Nuna**	**15.70**	**238**	PN	**P**	**18 26 24.2**	**-1.1**
ILON				SN	**Sn**	**18 29 11.9**	**-3.0**
QILN	**Qililugaq Expl**	**18.82**	**241**	PN	**Pn**	**18 27 02.6**	**+2.3**
QILN				SN	**Sn**	**18 30 26.6**	**-3.9**
STLN	**Stellar Camp,**	**18.99**	**249**	PN	**Pn**	**18 27 04.5**	**+2.0**
NUNN	**Nunuq Camp, NU**	**20.76**	**245**	Pn	Pn	18 27 27.8	+4.4

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*IDC **08** 18:29:48.6±1.5, 34°.92S×73°.82W, h0km, mb4.1/3, mb1 4.2/6, mb1mx4.0/17, mbtmp3.9/6, ML3.7/3, Error ellipse: s-maj=33.6km s-min=31.1km az=60.0*
*ISCJB **08** 18:29:51.4±1.0, 35°.0S±0°.1×73°.8W±0°.1, h33km, mb4.0/3, Error ellipse: s-maj=17.9km s-min=12.4km az=39.1*
ISC 08 18:29:53.5±1.1, 35°.0S±0°.1×73°.8W±0°.1, h35km, n7, σ0§74/8, mb3.8/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.75**	**56**	Pn	**Pn**	**18 31 15.9**	**-0.5**
	0.4nm,0.3s,baz=233,slow=10,SNR=12						
CFAA				Sn	**Sn**	**18 32 22.3**	**+1.0**
	0.3nm,0.3s,baz=127,slow=20,SNR=6.0						
PLCA	**Paso Flores**	**6.30**	**157**	Pn	**Pn**	**18 31 24.0**	**0.0**
	0.9nm,0.3s,baz=334,slow=11,SNR=24						
LPAZ	**La Paz**	**19.29**	**17**	P	**P**	**18 34 15.1**	**-1.0**
	0.1nm,0.3s,baz=198,slow=12,SNR=6.3						
TXAR	**Lajitas Array**	**69.89**	**332**	P	**P**	**18 41 01.1**	**+0.1**
	0.2nm,0.3s,baz=146,slow=6.6,SNR=4.3						
DBIC	**Dimbokro**	**76.88**	**72**	P	**P**	**18 41 42.3**	**-0.1**
	8.6nm,1.0s,baz=236,slow=6.0,SNR=3.4						
PDAR	**Pinedale Array**	**83.98**	**334**	P	**P**	**18 42 20.8**	**+0.7**
	0.9nm,1.1s,baz=143,slow=6.5,SNR=4.0						
SONM	**Songino Array**	**167.15**	**359**	PKPab	**PKPab**	**18 50 59.8**	**0.0**
	0.3nm,0.9s,baz=27,slow=0.3,SNR=4.6						

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*ISCJB **08** 18:40:22.8±1.3, 12°.9N±0°.2×88°.6W±0°.2, h67km, mb3.3/4, Error ellipse: s-maj=38.8km s-min=13.4km az=137.2*
*IDC **08** 18:40:24.8±2.7, 12°.96N×88°.48W, h71km±23km, mb3.0/4, mb1 3.5/7, mb1mx3.3/45, mbtmp3.4/7, Error ellipse: s-maj=66.8km s-min=25.7km az=47.0*
ISC 08 18:40:24.2±1.5, 12°.8N±0°.2×88°.7W±0°.2, h67km, n7, σ1§37/7, mb3.4/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.77**	**322**	P	**Pn**	**18 41 05.8**	**-0.7**
	1.1nm,0.3s,baz=111,slow=11,SNR=4.5						
JTS	**JuntasAbangare**	**4.44**	**124**	P	**Pn**	**18 41 28.8**	**-0.3**
	0.4nm,0.3s,baz=331,slow=18,SNR=6.6						
JTS				S	Sn	18 42 29.6	+10
	5.7nm,0.3s,baz=88,slow=21,SNR=11						
TEIG	**Tepich**	**7.38**	**3**	P	**Pn**	**18 42 09.1**	**-0.2**
	1.6nm,0.3s,baz=188,slow=12,SNR=9.8						
TXAR	**Lajitas Array**	**21.53**	**322**	P	**P**	**18 45 09.7**	**+1.7**
	0.5nm,0.5s,baz=146,slow=9.8,SNR=4.3						
PDAR	**Pinedale Array**	**34.88**	**333**	P	**P**	**18 47 10.8**	**+1.4**
	0.3nm,0.6s,baz=104,slow=7.5,SNR=2.8						
YKA	**Yellowknife Ar**	**52.95**	**345**	P	**P**	**18 49 32.2**	**-1.2**
	0.2nm,0.5s,baz=151,slow=6.8,SNR=5.7						
ILAR	**Eielson Array**	**65.20**	**336**	P	**P**	**18 50 57.4**	**-0.8**
	0.3nm,0.6s,baz=169,slow=5.9,SNR=6.8						

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*IDC **08** 18:43:21.7±0.5, 32°.71S×71°.79W, h0km, mb4.7/17, mb1 4.7/21, mb1mx4.7/26, mbtmp4.6/21, ML4.6/4, MS4.1/8, Ms1 4.1/8, ms1mx3.8/26, Error ellipse: s-maj=16.0km s-min=14.0km az=35.0*
*GUC **08** 18:43:24.5±0.4, 32°.71S×71°.83W, h8km±2km, ML4.5*
*NEIC **08** 18:43:24.5, 32°.71S×71°.83W, h8km, mb5.1/40, ML4.5(GUC), After GUC.*
NEIC Felt [IV] at Quillota; [III] at Casablanca, La Ligua and Valparaiso; [II] at Santiago. Also felt at San Antonio and Vina del Mar.
*ISCJB **08** 18:43:24.9±0.1, 32°.61S±0°.04×71°.72W±0°.05, h24km, mb4.9/60, MS4.1/6, Error ellipse: s-maj=8.0km s-min=2.8km az=141.2*
*MOS **08** 18:43:26.2±1.1, 32°.64S×71°.71W, h34km, mb5.3/20, Error ellipse: s-maj=18.5km s-min=8.7km az=113.2*
*BJI **08** 18:43:28.1, 32°.40S×71°.40W, h34km, mB5.3/14, Ms5.4/13, Ms7 5.1/14*
ISC 08 18:43:26.5±0.5, 32°.69S±0°.05×71°.74W±0°.05, h30km±3km, h29km: pP-P, n462, σ1§13/502, mb5.0/60, MS4.3/6, 158C-135D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.35**	**166**	⇑*i*P	**Pb**	**18 43 31.9**	**-2.7**
IHA				*i* S1	**Sb**	**18 43 37.1**	**-2.9**
IHA	**Instituto Hidr**	**0.35**	**166**	⇑*i*P	**Pb**	**18 43 31.9**	**-2.7**
IHA				*i* S	**Sb**	**18 43 37.1**	**-2.9**
PEL	**Peldehue**	**1.00**	**117**	⇑*i*P	**Pn**	**18 43 43.9**	**-0.6**
PEL				*i* S	**Sb**	**18 43 58.6**	**+0.6**
PEL	**Peldehue**	**1.00**	**117**	⇑*i*P	**Pn**	**18 43 43.9**	**-0.6**
PEL				*i* S	**Sb**	**18 43 58.6**	**+0.6**
PEL				AML	AML	18 44 00.5	
	comp=E,52μm,0.4s						
PEL	**Peldehue**	**1.00**	**117**	⇑*i*P	**Pn**	**18 43 43.9**	**-0.6**
PEL				*i* S	**Sb**	**18 43 58.6**	**+0.6**
SAN	**Santiago**	**1.19**	**130**	⇑*i*P	**Pn**	**18 43 46.8**	**-0.3**
SAN				*e*S	**Sb**	**18 44 03.4**	**+0.1**
SAN	**Santiago**	**1.19**	**130**	⇑*i*P	**Pn**	**18 43 46.8**	**-0.3**
SAN				*e*S	**Sb**	**18 44 03.4**	**+0.1**
SAN	**Santiago**	**1.19**	**130**	⇑*i*P	**Pn**	**18 43 46.8**	**-0.3**
SAN				*e*S	**Sb**	**18 44 03.4**	**+0.1**
CLCH	**Cerro Calan**	**1.23**	**125**	⇑*i*P	**Pn**	**18 43 47.2**	**-0.6**
CLCH				*i* S	**Sb**	**18 44 05.2**	**+0.4**
CLCH				AML	AML	18 44 12.7	
	comp=E,13μm,0.6s						
ANTU	**Antumapu**	**1.28**	**134**	⇑*i*P	**Pn**	**18 43 48.4**	**0.0**
ANTU				*i* S	**Sb**	**18 44 06.0**	**0.0**
ANTU				AML	AML	18 44 13.2	
	comp=E,12μm,0.6s						
ANTU	**Antumapu**	**1.28**	**134**	⇑*i*P	**Pn**	**18 43 48.4**	**0.0**
ANTU				*i* S	**Sb**	**18 44 06.0**	**0.0**
LNV	**Longovilo**	**1.29**	**168**	*e*P	**Pn**	**18 43 47.4**	**-1.2**
LNV	**Longovilo**	**1.29**	**168**	*e*P	**Pn**	**18 43 47.4**	**-1.2**
PCH	**Pirque**	**1.39**	**132**	*e*P1	**Pn**	**18 43 50.0**	**+0.1**
PCH	**Pirque**	**1.39**	**132**	*e*P	**Pn**	**18 43 50.0**	**+0.1**
CACH	**El Canelo**	**1.71**	**146**	⇑*i*P	**Pn**	**18 43 55.7**	**+1.3**
CACH	**El Canelo**	**1.71**	**146**	⇑*i*P	**Pn**	**18 43 55.7**	**+1.3**
CFAA	**Coronel Fontan**	**3.16**	**71**	Pn	**Pn**	**18 44 15.1**	**+0.8**
	comp=E,0.5nm,0.3s,baz=243,slow=12,SNR=57						
CFAA				Lg	Lg	18 45 03.3	
	comp=E,4.9nm,0.3s,baz=251,slow=18,SNR=3.9						
PLCA	**Paso Flores**	**8.09**	**174**	Pn	**Pn**	**18 45 21.1**	**-0.9**
	comp=E,3.2nm,0.3s,baz=336,slow=11,SNR=76						
TRQA	**Tornquist**	**9.60**	**127**	*e*P	**Pn**	**18 45 44.3**	**+1.6**
	comp=E,58nm,1.1s						
LVC	**Limon Verde**	**10.35**	**15**	*e*P	Pn	18 45 48.2	-4.9
	comp=E,51nm,0.9s						
CPUP	**Villa Florida**	**14.05**	**67**	P	Pn	18 46 39.1	-4.4
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CPUP	**Villa Florida**	**14.05**	**67**	Pn	**Pn**	**18 46 42.4**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=216,slow=14,SNR=3.9						
CPUP				LR	LR	18 52 28.7	
	comp=Z,836nm,20.2s,baz=243,slow=39						
CPUP	**Villa Florida**	**14.05**	**67**	P	Pn	18 46 39.1	-4.4
	comp=Z,2.1nm,0.6s						
LPAZ	**La Paz**	**16.66**	**12**	Pn	**Pn**	**18 47 17.2**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=193,slow=8.3,SNR=44						
SIV	**San Ignacio**	**19.23**	**33**	P	**P**	**18 47 47.1**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=229,slow=14,SNR=16						
SIV				LR	LR	18 56 11.7	
	comp=Z,403nm,18.6s,baz=202,slow=40						
NNA	**Nana**	**21.13**	**346**	*e*P	**P**	**18 48 09.7**	**+0.6**
NNA				pmax	pmax		
	comp=Z,90nm,1.4s						
NNA	**Nana**	**21.13**	**346**	P	**P**	**18 48 08.7**	**-0.4**
	comp=Z,7.3nm,0.6s,baz=234,slow=6.4,SNR=4.0						
NNA	**Nana**	**21.13**	**346**	*e*P	**P**	**18 48 09.7**	**+0.6**
	comp=Z,90nm,1.4s						
EFI	**East Falkland**	**21.44**	**156**	*e*P	**P**	**18 48 11.8**	**-0.3**
EFI	**East Falkland**	**21.44**	**156**	*e*P	**P**	**18 48 11.8**	**-0.3**
USHA	**Ushuaia**	**22.26**	**175**	P	**P**	**18 48 20.0**	**-0.8**
	comp=Z,24nm,1.0s,baz=221,slow=2.1,SNR=3.8						
SAML	**Samuel**	**24.92**	**20**	*e*P	**P**	**18 48 46.4**	**-0.7**
	comp=Z,24nm,1.3s						
BDFB	**Brasilia**	**27.41**	**57**	P	**P**	**18 49 09.3**	**-0.4**
	comp=Z,18nm,0.9s,baz=227,slow=6.2,SNR=14						
BDFB				LR	LR	19 00 51.9	
	comp=Z,731nm,18.4s,baz=218,slow=38						
PMSA	**Palmer Station**	**32.46**	**174**	LR	LR	19 02 07.0	
	comp=Z,120nm,19.5s,baz=131,slow=35						
RPN	**Rapa Nui**	**32.94**	**270**	LR	LR	18 59 24.4	
	comp=Z,608nm,19.2s,baz=52,slow=29						
SDV	**Santo Domingo**	**41.36**	**2**	*e*P	**P**	**18 51 08.0**	**-2.1**
	comp=Z,18nm,1.0s						
RCBR	**Riachuelo**	**42.75**	**59**	LR	LR	19 09 07.1	
	comp=Z,358nm,19.9s,baz=9.5,slow=36						
VNA3	**Neumayer Olymp**	**50.48**	**158**	P	**P**	**18 52 23.0**	**+1.8**
APG	**El Apazote**	**50.69**	**336**	P	P	18 52 20.1	-3.6
	comp=Z,2.0nm,0.5s,baz=175,slow=9.0,SNR=3.6						
CELP	**Cerrillos**	**50.72**	**6**	*e*P	**P**	**18 52 23.0**	**-0.5**
VNA2	**Neumayer--Watz**	**51.12**	**158**	P	**P**	**18 52 28.1**	**+2.0**
SNAA	**Sanae**	**52.70**	**158**	P	**P**	**18 52 38.8**	**+0.9**
SNAA	**Sanae**	**52.70**	**158**	⇑*e*P	**P**	**18 52 38.4**	**+0.5**
SNAA				pmax	pmax		
	comp=Z,25nm,1.2s						
SNAA	**Sanae**	**52.70**	**158**	*e*P	**P**	**18 52 37.9**	**0.0**
	comp=Z,27nm,1.3s						
CMIG	**Matias Romero**	**54.23**	**332**	P	**P**	**18 52 49.3**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=237,slow=3.9,SNR=4.1						
TEIG	**Tepich**	**54.94**	**341**	P	**P**	**18 52 53.0**	**-1.7**
	comp=Z,7.8nm,0.6s,baz=149,slow=4.5,SNR=5.8						
NVL	**N'lazarevskaya**	**57.42**	**157**	*e*P	**P**	**18 53 11.9**	**0.0**
NVL				pmax	pmax		
	comp=Z,19nm,1.1s						
QSPA	**South Pole Qui**	**57.54**	**180**	*e*P	**P**	**18 53 13.6**	**+0.6**
	comp=Z,32nm,1.1s						
034A	**Hebbronville**	**64.72**	**333**	⇓P	**P**	**18 54 03.2**	**+1.4**
	baz=65						
933A	**Laredo**	**65.44**	**333**	⇓P	**P**	**18 54 08.0**	**+1.5**
	baz=66						
835A	**Beeville**	**65.51**	**335**	⇑P	**P**	**18 54 08.7**	**+1.7**
	baz=66						
834A	**Tilden**	**65.63**	**334**	⇑P	**P**	**18 54 09.2**	**+1.5**
	baz=66						
833A	**Chaparral WMA,**	**66.12**	**333**	⇓P	**P**	**18 54 11.5**	**+0.6**
	baz=66,SNR=7.1						
734A	**La Parita Cree**	**66.28**	**334**	⇓P	**P**	**18 54 12.8**	**+0.9**
	baz=67						
832A	**Faith Ranch, C**	**66.31**	**333**	⇑P	**P**	**18 54 12.9**	**+0.8**
	baz=67						
537A	**Green Hill Far**	**66.63**	**337**	⇑P	**P**	**18 54 15.0**	**+0.9**
	baz=67						
GOGA	**Godfrey**	**66.67**	**349**	*e*P	**P**	**18 54 14.1**	**-0.2**
GOGA				pmax	pmax		
	comp=Z,30nm,1.5s						
GOGA	**Godfrey**	**66.67**	**349**	*e*P	**P**	**18 54 14.1**	**-0.2**
	comp=Z,30nm,1.5s						
732A	**Laxson Ranch,**	**66.70**	**333**	⇑P	**P**	**18 54 14.7**	**0.0**
	baz=67,SNR=5.0						
536A	**Bastrop**	**66.88**	**336**	⇑P	**P**	**18 54 16.2**	**+0.5**
	baz=67						
438A	**Sam Houston St**	**66.98**	**338**	⇓P	**P**	**18 54 18.5**	**+2.2**
	baz=67						
SYO	**Syowa Base**	**66.99**	**159**	⇑*

	baz=70				
233A	Rising Star	69.28 336	⇓P	P	18 54 31.1 +0.3
	baz=70				
232A	Coleman	69.43 335	⇓P	P	18 54 32.1 +0.4
	baz=70				
134A	White-Moore Ra	69.51 336	⇓P	P	18 54 32.3 +0.2
	baz=70				
330A	Mertzon	69.56 333	⇓P	P	18 54 32.9 +0.3
	baz=70				
231A	Bronte	69.72 334	⇓P	P	18 54 33.9 +0.4
	baz=70				
133A	Hamilton Ranch	69.83 336	⇑P	P	18 54 34.4 +0.3
	baz=70				
Z35A	Perchaven, San	69.93 337	⇑P	P	18 54 35.5 +0.8
	baz=70				
329A	Wagon Wheel Ra	69.94 333	⇑P	P	18 54 35.3 +0.4
	baz=70				
ABTX	Abilene, Hawle	70.09 335	⇑P	P	18 54 36.2 +0.4
	baz=70				
ABTX	Abilene, Hawle	70.09 335	*e*P	P	18 54 36.1 +0.4
	comp=Z,42nm,1.3s				
WVT	Waverly	70.10 346	*e*P	P	18 54 35.0 -0.7
WVT			pmax	pmax	
	comp=Z,78nm,1.3s				
WVT	Waverly	70.10 346	*e*P	P	18 54 35.0 -0.7
	comp=Z,78nm,1.3s				
Z34A	Collier Ranch,	70.18 337	⇓P	P	18 54 36.2 -0.1
	baz=70				
JSRW	J. Sargeant Re	70.26 355	*e*P	P	18 54 37.0 +0.4
Z33A	Whitaker Ranch	70.39 336	⇑P	P	18 54 37.8 +0.2
	baz=71				
131A	Roby	70.41 335	⇑P	P	18 54 38.0 +0.3
	baz=71				
Z32A	Haskell	70.66 336	⇑P	P	18 54 39.4 +0.2
	baz=71				
Y34A	Reagan Ranch,	70.67 337	⇓P	P	18 54 39.6 +0.3
	baz=71				
228A	UT Block 9, Go	70.74 333	⇓P	P	18 54 40.2 +0.4
	baz=71				
Z31A	Sharp Cattle R	70.90 335	⇑P	P	18 54 41.4 +0.7
	baz=71				
Y33A	Hilltop Ranch,	71.00 337	⇑P	P	18 54 42.2 +0.9
	baz=71				
128A	Castleberry Fa	71.14 333	⇑P	P	18 54 43.0 +0.8
	baz=71				
X34A	Smith Ranch, M	71.28 337	⇓P	P	18 54 43.4 +0.4
	baz=72				
Z29A	Hungry Hill Ra	71.42 334	⇓P	P	18 54 43.8 -0.1
	baz=72				
MNTX	Cornudas Mount	71.50 330	*e*P	P	18 54 44.1 -0.3
	comp=Z,8.9nm,0.9s				
Y31A	Rekieta Farm,	71.52 335	⇑P	P	18 54 45.3 +0.8
	baz=72				
X32A	Elmer	71.60 336	⇓P	P	18 54 45.4 +0.4
	baz=72				
TUL1	Leonard	71.86 340	⇑P	P	18 54 46.5 0.0
	baz=72				
SDMD	Soldier's Deli	71.89 356	*e*P	P	18 54 46.4 -0.1
	comp=Z,42nm,1.4s				
Y29A	Porterfield Fa	71.94 334	⇑P	P	18 54 47.6 +0.5
	baz=72				
W33A	Caddo, Fort Co	72.00 337	⇓P	P	18 54 47.9 +0.7
	baz=72				
X31A	McDonald Ranch	72.03 336	⇓P	P	18 54 48.3 +0.8
	baz=72				
X30A	Coker Ranch, T	72.18 335	⇓P	P	18 54 49.1 +0.7
	baz=72				
Y28A	McKinney Farm,	72.20 334	⇓P	P	18 54 49.5 +0.9
	baz=72				
W32A	Sentinel	72.23 337	⇓P	P	18 54 49.0 +0.3
	baz=72				
V34A	Guthrie	72.32 338	⇓P	P	18 54 49.7 +0.6
	baz=73				
MSTX	Muleshoe	72.45 333	⇓P	P	18 54 50.5 +0.4
	baz=73				
MSTX	Muleshoe	72.45 333	*e*P	P	18 54 50.0 -0.2
	comp=Z,22nm,1.0s				
MSTX			*e*pP	pP	18 54 57.9 -1.5
X29A	Tulia	72.47 334	⇑P	P	18 54 50.6 +0.4
	baz=73				
W31A	Holland Ranch,	72.52 336	⇓P	P	18 54 51.0 +0.6
	baz=73				
V33A	Lossen Ranch,	72.55 338	⇑P	P	18 54 51.0 +0.4
	baz=73				
Z25A	Roswell	72.60 331	⇓P	P	18 54 51.5 +0.4
	baz=73				
V32A	Arapaho	72.70 337	⇓P	P	18 54 52.2 +0.7
	baz=73				
U34A	Anderson Ranch	72.88 338	⇑P	P	18 54 53.4 +0.9
	baz=73				
319A	Douglas	72.94 327	⇓P	P	18 54 54.3 +1.2
	baz=73				
V31A	Spring Creek L	73.02 336	⇓P	P	18 54 53.8 +0.4
	baz=73				
W29A	Amarillo	73.06 335	⇓P	P	18 54 54.5 +0.8
	baz=73				
X27A	F and S Farms,	73.17 333	⇓P	P	18 54 55.4 +1.0
	baz=74				
SSPA	Standing Stone	73.18 355	*e*P	P	18 54 53.2 -1.0
	comp=Z,20nm,1.3s				
121A	Cookes Peak, D	73.25 329	⇑P	P	18 54 56.3 +1.4
	baz=74				
121A	Cookes Peak, D	73.25 329	*e*P	P	18 54 56.0 +1.0
	comp=Z,25nm,1.0s				
V30A	Spur Ranch, Mi	73.30 336	⇓P	P	18 54 56.5 +1.4
	baz=74				
ACSO	Alum Creek Sta	73.30 351	*e*P	P	18 54 54.3 -0.5
	comp=Z,26nm,0.8s				
Y24A	Capitan	73.45 331	⇑P	P	18 54 57.3 +1.1
	baz=74				
Z22A	Elephant Butte	73.51 330	⇓P	P	18 54 57.9 +1.4
	baz=74				
W27A	Bowe Ranch, En	73.53 334	⇑P	P	18 54 57.8 +1.3
	baz=74				
Y23A	Lovelace Mesa,	73.71 331	⇑P	P	18 54 59.0 +1.3
	baz=74				
W26A	Owens Ranch, T	73.82 333	⇓P	P	18 54 59.5 +1.3
	baz=74				
U30A	WK&E Inc. Balk	73.98 336	⇑P	P	18 55 00.3 +1.3
	baz=74				
T32A	Huddler Ranch,	74.00 338	⇓P	P	18 55 00.2 +1.1
	baz=74				
LIC	Lamto	74.13 72	*e*P	P	18 55 01.0 +0.6
	comp=Z,125nm,2.0s				
T31A	Randall Ranch,	74.17 337	⇑P	P	18 55 00.8 +0.7
	baz=74				
W25A	X Bar L Ranch,	74.20 333	⇑P	P	18 55 01.0 +0.5
	baz=74				
TIC	Toumodi	74.38 71	*e*P	P	18 55 02.4 +0.5
	comp=Z,4.9nm,0.2s				
U28A	Mallet	74.39 335	⇓P	P	18 55 01.3 -0.2
	baz=75				
TUC	Tucson	74.42 326	*e*P	P	18 55 02.8 +1.1
TUC			pmax	pmax	
	comp=Z,16nm,1.4s				
TUC	Tucson	74.42 326	*e*P	P	18 55 02.8 +1.1
	comp=Z,16nm,1.4s				
KIC	Kosan Boka	74.44 72	*e*P	P	18 55 03.0 +0.8
	comp=Z,47nm,1.1s				
V26A	Tequesquite Ra	74.45 333	⇑P	P	18 55 02.5 +0.6
	baz=75				
DBIC	Dimbokro	74.53 71	P	P	18 55 03.5 +0.8
	comp=Z,13nm,0.9s,baz=220,slow=5.8,SNR=9.7				
DBIC			LR	LR	19 26 26.1
	comp=Z,79nm,20.1s,baz=184,slow=35				
W24A	Lazy 6 Ranch,	74.56 332	⇓P	P	18 55 03.5 +0.8
	baz=75				
U27A	Thompson Grove	74.65 334	⇑P	P	18 55 03.4 +0.4
	baz=75				
ANMO	Albuquerque	74.76 331	*de*P	P	18 55 05.0 +1.2
ANMO			pmax	pmax	
	comp=Z,38nm,1.2s				
ANMO	Albuquerque	74.76 331	P	P	18 55 05.0 +1.2
	comp=Z,3.8nm,1.0s,baz=156,slow=6.4,SNR=8.3				
ANMO	Albuquerque	74.76 331	*e*P	P	18 55 04.1 +0.3
	comp=Z,14nm,1.2s				
V25A	Rancho No Teng	74.80 333	⇑P	P	18 55 04.2 +0.2
	baz=75,SNR=5.8				
W23A	Werner Place,	74.82 331	⇑P	P	18 55 04.8 +0.7
	baz=75				
U26A	Atchley Ranch,	74.96 334	⇑P	P	18 55 05.6 +0.7
	baz=75				
T28A	Walsh	75.02 335	⇑P	P	18 55 06.0 +0.9
	baz=75				
R32A	Long Quarter,	75.07 338	⇓P	P	18 55 06.1 +0.8
	baz=75				
214A	Organ Pipe Nat	75.09 325	⇑P	P	18 55 07.1 +1.5
	baz=75				
S29A	Ulysses	75.12 336	⇑P	P	18 55 06.3 +0.7
	baz=75				
T27A	Campo	75.18 335	⇑P	P	18 55 06.8 +0.7
	baz=76				
R31A	Burdett	75.20 338	⇓P	P	18 55 07.0 +0.9
	baz=76				
U25A	Circle Dot Ran	75.22 333	⇑P	P	18 55 07.1 +0.7
	baz=76				
V23A	Ortiz Mt. (NFS	75.34 332	⇑P	P	18 55 08.0 +0.8
	baz=76				
S28A	Manter	75.36 336	⇓P	P	18 55 08.0 +0.9
	baz=76				
R30A	Dighton	75.44 337	⇓P	P	18 55 07.9 +0.4
	baz=76				
Q32A	Meitler Ranch,	75.54 339	⇓P	P	18 55 08.7 +0.7
	baz=76				
T26A	Comanche Natio	75.60 334	⇑P	P	18 55 09.3 +0.7
	baz=76				
V22A	San Miguel Ran	75.78 331	⇓P	P	18 55 10.7 +1.0
	baz=76				
Q31A	Ellis	75.81 338	⇓P	P	18 55 10.8 +1.2
	baz=76				
U23A	El Rito	75.85 332	⇓P	P	18 55 11.0 +0.9
	baz=76				
T25A	Trinidad	75.87 334	⇑P	P	18 55 11.1 +0.9
	baz=76,SNR=11				
X18A	Snowflake	75.89 328	⇓P	P	18 55 11.5 +1.1
	baz=76				
S26A	Kim	75.95 335	⇑P	P	18 55 11.8 +1.3
	baz=76				
R28A	Tribune	76.01 336	⇓P	P	18 55 11.7 +0.9
	baz=76				
Q30A	Quinter	76.05 337	⇑P	P	18 55 11.9 +0.9
	baz=76				
P32A	Huiting Farm,	76.14 339	⇓P	P	18 55 11.9 +0.6
	baz=76				
T24B	San Luis	76.17 333	⇓P	P	18 55 12.9 +1.0
	baz=76				
113A	Mohawk Valley,	76.22 324	⇑P	P	18 55 13.1 +1.2
	baz=76				
Q29A	Oakley	76.22 337	⇑P	P	18 55 12.6 +0.7
	baz=76				
P31A	Stockton	76.28 338	⇓P	P	18 55 13.0 +0.8
	baz=77				
W18A	Petrified Fore	76.29 329	⇓P	P	18 55 13.6 +1.0
	baz=77				
R27A	Eads	76.30 335	⇑P	P	18 55 13.2 +0.8
	baz=77				
S25A	Robets Cordova	76.34 334	⇓P	P	18 55 13.4 +0.6
	baz=77,SNR=7.6				
T23A	Casias Ranch,	76.40 332	⇓P	P	18 55 14.3 +1.0
	baz=77				
X16A	Lo Mia Camp, P	76.47 327	⇓P	P	18 55 15.0 +1.4
	baz=77				
R26A	Arlington	76.55 335	⇑P	P	18 55 15.2 +1.4
	baz=77				
P30A	Selden	76.58 338	⇑P	P	18 55 14.7 +0.8
	baz=77				
S24A	Houchin Ranch,	76.61 333	⇑P	P	18 55 15.7 +1.2
	baz=77,SNR=11				
O32A	Brockman Farm,	76.63 339	⇑P	P	18 55 14.8 +0.7
	baz=77				
R25A	Fountain Ranch	76.71 334	⇓P	P	18 55 15.8 +1.0
	baz=77				
Y14A	Wickenburg	76.80 326	⇑P	P	18 55 17.1 +1.7
	baz=77				
SDCO	Great Sand Dun	76.81 333	*e*P	P	18 55 16.3 +0.7
	comp=Z,14nm,1.3s				
O31A	Woolen Ranch,	76.84 339	⇓P	P	18 55 16.8 +1.5
	baz=77				
P29A	Atwood	76.85 337	⇑P	P	18 55 16.5 +1.1
	baz=77				
KSCO	Kay Shedlock'	76.89 336	*e*P	P	18 55 16.7 +0.9
	comp=Z,47nm,1.3s				
R24A	Sanders Place,	77.09 334	⇑P	P	18 55 18.2 +1.2
	baz=77,SNR=9.2				
O30A	MW Ranch, Wils	77.09 338	⇑P	P	18 55 18.1 +1.3
	baz=77				
Q26A	Hugo	77.12 335	⇑P	P	18 55 18.6 +1.5
	baz=77				
JFWS	Jewell Farm	77.13 346	*e*P	P	18 55 16.9 0.0
JFWS			pmax	pmax	
	comp=Z,77nm,1.5s				
JFWS	Jewell Farm	77.13 346	*e*P	P	18 55 16.9 0.0
	comp=Z,77nm,1.5s				
O29A	4D Ranch, Culb	77.28 338	⇓P	P	18 55 18.9 +1.1
	baz=78				
R23A	Moffat	77.33 333	⇓P	P	18 55 19.2 +0.7
	baz=78,SNR=7.3				
S22A	4UR Ranch, Cre	77.33 332	⇓P	P	18 55 19.2 +0.7
	baz=78				
N31A	Bailey Ranch,	77.34 339	⇑P	P	18 55 19.4 +1.2
	baz=78				
WUAZ	Wupatki	77.35 328	⇓P	P	18 55 20.1 +1.6
	baz=78				
WUAZ	Wupatki	77.35 328	*e*P	P	18 55 19.8 +1.3
	comp=Z,21nm,1.0s				
WUAZ			*e*pP	pP	18 55 27.6 -0.3
Q25A	Bedland, Calha	77.38 335	⇓P	P	18 55 19.8 +1.2
	baz=78				
Y12C	Blythe	77.38 325	⇑P	P	18 55 20.1 +1.6
	baz=78				
SADO	Sadowa	77.39 355	P	P	18 55 17.1 -1.2
	comp=Z,5.8nm,0.7s,baz=253,slow=3.1,SNR=5.6				
MVCO	Mesa Verde	77.54 331	⇑P	P	18 55 20.8 +1.2
	baz=78				
MVCO	Mesa Verde	77.54 331	*e*P	P	18 55 20.6 +1.0
	comp=Z,29nm,1.3s				
O28A	Krutsinger Ran	77.60 337	⇑P	P	18 55 21.0 +1.3
	baz=78				
P26A	Davis Ranch, A	77.63 335	⇑P	P	18 55 21.2 +1.2
	baz=78				
Q24A	Divide	77.75 334	⇑P	P	18 55 21.4 +0.6
	baz=78,SNR=7.5				
BC3	Big Chuckawall	77.77 324	⇓P	P	18 55 22.3 +1.5
	baz=78				
M31A	Lambtecht Ranc	77.83 339	⇓P	P	18 55 21.9 +1.1
	baz=78				
N29A	Votaw Ranch, W	77.86 338	⇑P	P	18 55 22.4 +1.3
	baz=78				
P25A	Willow Gulch B	77.88 335	⇑P	P	18 55 22.8 +1.5
	baz=78				
O27A	Beecher Island	77.89 336	⇑P	P	18 55 23.0 +1.7
	baz=78				
IRM	Iron Mountain	78.02 324	⇓P	P	18 55 23.4 +1.2
	baz=78				
W13A	Hualapai Mount	78.17 326	⇓P	P	18 55 24.7 +1.5
	baz=78				
O26A	Horse Wrangler	78.23 336	⇑P	P	18 55 24.7 +1.5
	baz=78				
PFO	Pinyon Flats O	78.23 323	⇓P	P	18 55 25.8 +2.4
	baz=78				
M30A	Dale-Ortello V	78.28 339	⇓P	P	18 55 24.6 +1.2
	baz=79				
BELC	Belle Mtn. Jos	78.31 324	⇓P	P	18 55 25.4 +1.5
	baz=79				
PV01	Paradox Valley	78.36 331	*e*P	P	18 55 25.1 +1.0
	comp=Z,135nm,0.6s				
PV01			*e*pP	PcP	18 55 32.8 -0.6
P23A	Jefferson	78.37 334	⇓P	P	18 55 25.4 +1.1
	baz=79				
O25A	Wiggins	78.39 335	⇑P	P	18 55 25.8 +1.6
	baz=79				
M29A	Burnside Ranch	78.44 338	⇑P	P	18 55 26.1 +1.8
	baz=79				
N27A	Anderson Farm,	78.47 337	⇑P	P	18 55 26.3 +1.8
	baz=79				
U15A	North Rim	78.52 328	⇓P	P	18 55 26.7 +1.5
	baz=79				
L31A	Butterfield Fa	78.55 340	⇓P	P	18 55 26.3 +1.4
	baz=79				
MURC	Murrieta	78.60 323	⇓P	P	18 55 27.2 +1.9
	baz=79				
L30A	Spencer Herefo	78.61 339	⇓P	P	18 55 26.4 +1.2
	baz=79				
GMRC	Granite Mounta	78.77 324	⇓P	P	18 55 27.8 +1.4
	baz=79				
P22A	Eagle	78.91 333	⇓P	P	18 55 27.6 +0.4
	baz=79				
L29A	Maesberg Ranch	78.94 339	⇑P	P	18 55 28.0 +0.9
	baz=79				
CIS	Catalina Islan	79.07 322	⇑P	P	18 55 29.0 +1.1
	baz=79				
K30A	Basset	79.24 339	⇑P	P	18 55 29.9 +1.3
	baz=80				
O22A	Kremmling	79.32 334	⇓P	P	18 55 29.8 +0.3
	baz=80				
TSUM	Tsumeb	79.33 106	*e*P	P	18 55 30.6 +0.6
	comp=Z,31nm,1.2s				
BFSC	Mount Baldy Ra	79.34 323	⇓P	P	18 55 30.2 +0.7
	baz=80				
ECSD	EROS Data Cent	79.38 342	⇑P	P	18 55 29.4 +0.1
	baz=80				
ECSD	EROS Data Cent	79.38 342	*e*P	P	18 55 28.9 -0.4
	comp=Z,39nm,1.2s				
ECSD			*e*pP	PcP	18 55 36.6 -0.7
TUQ	Turquoise Moun	79.42 325	⇓P	P	18 55 30.9 +1.0
	baz=80				
GSC	Goldstone, Bar	79.75 324	⇓P	P	18 55 33.5 +1.8
	baz=80				
J30A	Dallas	79.80 340	⇑P	P	18 55 32.0 +0.3
	baz=80				
M24A	Cheyenne	79.84 335	⇓P	P	18 55 33.6 +1.4
	baz=80				
N22A	Wattenberg Ran	79.84 334	⇑P	P	18 55 33.5 +1.2
	baz=80				
SHPR	Sheep Range	79.91 326	*e*P	P	18 55 33.8 +1.2
	comp=Z,23nm,1.3s				
CCUT	Cedar City	79.93 328	*e*P	P	18 55 34.3 +1.5
	comp=Z,24nm,1.2s				
O20A	White River Ci	79.95 332	⇓P	P	18 55 34.1 +1.3
	baz=80				
SRU	San Rafael Swe	80.00 330	*e*P	P	18 55 33.3 +0.3
SRU			*e*		18 55 41.3
SRU			pmax	pmax	
	comp=Z,25nm,1.4s				
SRU	San Rafael Swe	80.00 330	*e*P	P	18 55 33.2 +0.3
	comp=Z,25nm,1.4s				
SRU			*e*		18 55 41.3
EDW2	Edwards Air Fo	80.01 323	⇑P	P	18 55 34.7 +1.6
	baz=80				
K27A	Flueckinger Fa	80.07 338	⇓P	P	18 55 34.6 +1.4
	baz=80				
J29A	Okreek	80.12 339	⇑P	P	18 55 34.1 +0.7
	baz=80				
L25A	Engebretsen Ra	80.15 336	⇑P	P	18 55 34.8 +1.1
	baz=80				
I30A	Oacoma	80.32 340	⇑P	P	18 55 35.0 +0.6
	baz=81				
J28A	Allard Ranch,	80.41 339	⇑P	P	18 55 36.0 +1.1
	baz=81				
BOSA	Boshof	80.46 118	*e*P	P	18 55 36.4 +0.5
BOSA			pmax	pmax	
	comp=Z,28nm,1.1s				
BOSA	Boshof	80.46 118	P	P	18 55 37.0 +1.1
	comp=Z,23nm,1.0s,baz=241,slow=4.2,SNR=18				
BOSA	Boshof	80.46 118	*e*P	P	18 55 36.4 +0.5
	comp=Z,28nm,1.1s				
J27A	Elkhorn Farm,	80.50 338	⇑P	P	18 55 37.1 +1.7
	baz=81				
K25A	Mack Ranch, Ha	80.53 337	⇑P	P	18 55 37.1 +1.4
	baz=81				
N20A	Spence Gulch,	80.56 333	⇑P	P	18 55 37.2 +1.2
	baz=81				
ISA	Isabella, Lake	80.87 323	*e*P	P	18 55 38.3 +0.7
ISA			pmax	pmax	
	comp=Z,16nm,1.1s				
ISA	Isabella, Lake	80.87 323	⇑P	P	18 55 38.7 +1.1
	baz=81				
ISA	Isabella, Lake	80.87 323	*e*P	P	18 55 38.3 +0.7
	comp=Z,16nm,1.1s				
J26A	Sides Ranch, S	80.89 337	⇑P	P	18 55 38.8 +1.2
	baz=81				
DAC	Darwin (Calif)	80.91 324	*e*P	P	18 55 39.0 +1.0
DAC			pmax	pmax	
	comp=Z,21nm,1.1s				
DAC	Darwin (Calif)	80.91 324	*e*P	P	18 55 39.0 +1.0
	comp=Z,21nm,1.1s				
I28A	Midland	80.91 339	⇑P	P	18 55 38.8 +1.2
	baz=81				
J25A	Sunshine Ranch	81.20 337	⇑P	P	18 55 40.4 +1.2
	baz=82				
H29A	Onida	81.20 340	⇓P	P	18 55 40.2 +1.1
	baz=82				
I27A	Quinn	81.25 338	⇑P	P	18 55 40.4 +0.9
	baz=82				
K23A	Bowen Ranch, D	81.25 335	⇑P	P	18 55 40.5 +0.9
	baz=82				
G30A	Faulkton	81.36 341	⇓P	P	18 55 40.8 +0.8
	baz=82				
SMMC	Simmler	81.38 322	⇓P	P	18 55 41.5 +1.1
	baz=82				
J24A	Dixon Ranch, L	81.43 336	⇓P	P	18 55 41.7 +1.1
	baz=82				
I26A	New Underwood	81.47 338	⇓P	P	18 55 41.5 +0.9
	baz=82				
H28A	Mission Ridge	81.48 339	⇑P	P	18 55 41.8 +1.2
	baz=82				
K22A	Casper	81.48 335	⇑P	P	18 55 42.2 +1.4
	baz=82				
K22A	Casper	81.48 335	*e*P	P	18 55 41.8 +1.0
	comp=Z,15nm,1.3s				
K22A			*e*pP	pP	18 55 49.1 -1.1
R11A	Troy Canyon, C	81.60 327	⇑P	P	18 55 42.8 +1.2
	baz=82				
G29A	Hoven	81.63 340	⇑P	P	18 55 42.5 +1.1
	baz=82				
K21A	Alcova	81.73 334	⇑P	P	18 55 43.2 +0.9
	baz=82				
I25A	Rochford	81.73 337	⇓P	P	18 55 42.7 +0.5
	baz=82,SNR=5.4				
H27A	Howes	81.76 339	⇓P	P	18 55 42.1 0.0
	baz=82,SNR=6.8				
DUG	Dugway, Tooele	81.87 329	⇑P	P	18 55 43.9 +0.9
	baz=82				
I24A	Kuemmerle Ranc	81.89 337	⇓P	P	18 55 43.8 +0.9
	baz=82				
RSSD	Black Hills	81.92 337	*e*P	P	18 55 43.5 +0.3
RSSD			pmax	pmax	
	comp=Z,11nm,1.1s				
RSSD	Black Hills	81.92 337	*e*P	P	18 55 43.5 +0.3
	comp=Z,11nm,1.1s				
J22A	Midwest	82.13 335	⇑P	P	18 55 45.1 +0.9
	baz=82				
TPH	Tonopah	82.15 325	*e*P	P	18 55 45.8 +1.3
TPH			*e**PP	pP	18 55 53.4 -0.6
TPH			pmax	pmax	
	comp=Z,16nm,1.1s				
TPH	Tonopah	82.15 325	*e*P	P	18 55 45.8 +1.3
	comp=Z,16nm,1.1s				
TPH			*e*pP	pP	18 55 53.4 -0.6
F29A	Eureka	82.19 341	⇑P	P	18 55 44.0 -0.3
	baz=82,SNR=5.3				
G27A	Dupree	82.39 339	⇓P	P	18 55 45.9 +0.5
	baz=83				
G26A	Maurine	82.52 339	⇑P	P	18 55 46.3 +0.2
	baz=83				
HWUT	Hardware Ranch	82.52 331	*e*P	P	18 55 46.5 +0.1
	comp=Z,20nm,1.3s				
I22A	9 Mile Ranch,	82.55 335	⇑P	P	18 55 47.2 +0.8
	baz=83				
E30A	Jud	82.56 341	⇓P	P	18 55 46.4 +0.2
	baz=83				
LBTB	Lobatse	82.63 115	*e*P	P	18 55 47.7 +0.3
LBTB			pmax	pmax	
	comp=Z,37nm,1.2s				
LBTB	Lobatse	82.63 115	*e*P	P	18 55 47.7 +0.3
	comp=Z,37nm,1.2s				
SPUT	South Promonto	82.64 330	*e*P	P	18 55 47.4 +0.4
	comp=Z,6.8nm,1.1s				
H24A	Dirks Ranch, A	82.65 337	⇓P	P	18 55 47.5 +0.7
	baz=83				
J20A	Shoshoni	82.66 334	⇑P	P	18 55 47.8 +0.8
	baz=83				
G25A	Newell	82.68 338	⇓P	P	18 55 47.7 +0.7
	baz=83				
PDAR	Pinedale Array	82.71 333	P	P	18 55 47.4 0.0
	comp=Z,1.9nm,1.1s,baz=149,slow=6.1,SNR=8.1				
I21A	Big Trails, Te	82.77 335	⇑P	P	18 55 47.9 +0.4
	baz=83				
F27A	Lemmon	82.86 339	⇓P	P	18 55 47.8 0.0
	baz=83,SNR=9.7				
J19A	Crowheart	82.94 334	⇓P	P	18 55 49.6 +1.1
	baz=83				
NVAR	Mina Array Bea	82.95 325	P	P	18 55 49.5 +0.7
	comp=Z,2.5nm,0.8s,baz=154,slow=5.8,SNR=12				
F26A	Lodgepole	83.04 339	⇓P	P	18 55 49.6 +0.8
	baz=83				
D30A	Buchanan	83.08 342	⇑P	P	18 55 49.7 +0.8
	baz=83				
E28A	Huff	83.11 340	⇑P	P	18 55 49.7 +0.6
	baz=84				
G24A	Alzada	83.12 337	⇑P	P	18 55 49.8 +0.5
	baz=84				
I20A	Worland	83.19 334	⇓P	P	18 55 50.4 +0.7
	baz=84				

D29A	Pettibone, Tap	83.25	341	⇑P	P	18 55 50.1 +0.3
	baz=84					
G23A	Biddle	83.33	337	⇑P	P	18 55 50.8 +0.4
	baz=84					
F25A	Bowman	83.35	338	⇓P	P	18 55 50.8 +0.4
	baz=84					
ELK	Elko	83.38	328	P	P	18 55 51.7 +0.8
	comp=Z,3.3nm,1.0s,baz=139,slow=2.4,SNR=8.3					
TORD	Torodi Ar. Bea	83.53	70	P	P	18 55 52.8 +0.8
	comp=Z,13nm,0.9s,baz=262,slow=4.6,SNR=50					
TORD				LR	LR	19 30 51.7
	comp=Z,119nm,20.5s,baz=230,slow=34					
E26A	Carlson Angus	83.54	339	⇑P	P	18 55 51.6 +0.3
	baz=84					
C30A	Mose, Pekin	83.55	342	⇓P	P	18 55 51.3 0.0
	baz=84,SNR=11					
I19A	Meeteetse	83.58	334	⇑P	P	18 55 52.3 +0.4
	baz=84					
F24A	Ekalaka	83.59	338	⇓P	P	18 55 52.3 +0.7
	baz=84					
H20A	Greybull	83.61	335	⇓P	P	18 55 52.4 +0.6
	baz=84					
D28A	Regan	83.64	341	⇓P	P	18 55 52.1 +0.3
	baz=84,SNR=5.2					
F23A	Volborg	83.79	337	⇓P	P	18 55 52.6 -0.1
	baz=84					
E25A	Miller Ranch,	83.85	339	⇑P	P	18 55 53.6 +0.7
	baz=84					
MDND	Maddock	83.98	342	⇓P	P	18 55 53.8 +0.3
	baz=84					
MDND	Maddock	83.98	342	*e*P	P	18 55 53.7 +0.2
	comp=Z,22nm,1.2s					
D26A	Manning	84.03	339	⇑P	P	18 55 54.0 +0.2
	baz=84					
I17A	Pilgrim Ck.	84.08	333	⇑P	P	18 55 54.2 -0.2
	baz=84					
H19A	Powell	84.12	334	⇑P	P	18 55 54.1 -0.4
	baz=84					
F22A	Rosebud	84.13	337	⇑P	P	18 55 54.0 -0.4
	baz=84					
E24A	Baker	84.18	338	⇑P	P	18 55 55.2 +0.6
	baz=84					
B30A	Myrvik Farm, E	84.20	343	⇓P	P	18 55 54.7 +0.1
	baz=85,SNR=11					
G20A	Bridger	84.32	335	⇑P	P	18 55 55.7 +0.3
	baz=85					
H18A	Shoshone NF, C	84.38	334	⇓P	P	18 55 56.0 +0.1
	baz=85					
C27A	Sayler Ranch,	84.38	340	⇑P	P	18 55 56.1 +0.6
	baz=85					
D25A	Fairfield	84.41	339	⇓P	P	18 55 56.3 +0.6
	baz=85					
B29A	Wagenman Farm,	84.48	342	⇓P	P	18 55 55.7 -0.3
	baz=85,SNR=5.1					
E22A	Miles City	84.61	337	⇓P	P	18 55 56.7 0.0
	baz=85					
A30A	Hoffart Farm,	84.65	343	⇓P	P	18 55 56.8 -0.1
	baz=85					
B28A	Dugan Ranch, T	84.73	341	⇑P	P	18 55 57.4 +0.1
	baz=85					
A29A	Manning Farm,	84.87	342	⇓P	P	18 55 57.6 -0.4
	baz=85,SNR=7.5					
D23A	Lindsay	85.01	338	⇓P	P	18 55 59.2 +0.4
	baz=85					
E21A	Keefer Ranch,	85.07	336	⇑P	P	18 55 59.2 +0.1
	baz=85					
F19A	Roth Farm, Mol	85.12	335	⇓P	P	18 55 59.4 -0.1
	baz=85					
A28A	Rude Farm, Bot	85.13	342	⇑P	P	18 55 59.5 +0.2
	baz=86					
ULM	Lac du Bonnet	85.30	345	P	P	18 55 59.2 -0.8
	comp=Z,8.0nm,0.9s,baz=159,slow=3.4,SNR=14					
HLID	Hailey	85.32	330	⇓P	P	18 56 00.8 +0.2
	baz=86					
E20A	Meyer Farm, Mu	85.40	336	⇓P	P	18 56 01.3 +0.6
	baz=86					
C23A	Lambert	85.56	338	⇓P	P	18 56 02.2 +0.7
	baz=86					
E19A	Rath Farm, Rou	85.59	335	⇑P	P	18 56 02.4 +0.7
	baz=86					
MCMT	McKenzie Canyo	85.73	332	*e*P	P	18 56 03.2 +0.5
	comp=Z,8.6nm,1.4s					
DGMT	Dagmar	85.85	339	⇑P	P	18 56 03.4 +0.5
	baz=86					
D20A	Manuel Ranch,	85.91	336	⇓P	P	18 56 03.7 +0.5
	baz=86					
A24A	Westby	86.20	339	⇑P	P	18 56 05.1 +0.4
	baz=86					
D19A	Cripps Ranch,	86.23	336	⇑P	P	18 56 05.3 +0.4
	baz=86					
B22A	Reddig Ranch S	86.26	338	⇑P	P	18 56 05.0 +0.1
	baz=87					
LRM	Limekiln Ridge	86.40	333	*e*P	P	18 56 06.2 +0.3
	comp=Z,106nm,1.3s					
LRM				*e*pP	pP	18 56 14.0 -1.4
C20A	Veseth Ranch,	86.40	336	⇑P	P	18 56 05.9 +0.2
	baz=87					
C19A	Slack Wire Ran	86.78	336	⇑P	P	18 56 08.4 +0.8
	baz=87					
A22A	Carney Farms,	86.84	338	⇓P	P	18 56 09.0 +1.2
	baz=87					
SCHQ	Schefferville	87.27	3	P	P	18 56 08.8 -0.9
	comp=Z,11nm,1.0s,baz=141,slow=1.5,SNR=6.1					
A20A	Cobblestone Ra	87.39	337	⇓P	P	18 56 10.7 +0.2
	baz=88					
CHMT	Chamberlain Mo	87.62	333	*e*P	P	18 56 12.7 +0.9
A19A	Klindworth Far	87.70	337	⇑P	P	18 56 12.2 +0.2
	baz=88					
BSMT	Bassoo Peak	88.98	333	*e*P	P	18 56 18.3 0.0
LSZ	Lusaka	89.98	108	*e*P	P	18 56 25.9 +2.2
LSZ				pmax	pmax	
	comp=Z,15nm,1.3s					
LSZ	Lusaka	89.98	108	*e*P	P	18 56 25.9 +2.2
	comp=Z,15nm,1.3s					
YKA	Yellowknife Ar	100.90	341	P	Pdif	18 57 11.4 -0.6
	comp=Z,0.3nm,0.5s,baz=141,slow=4.4,SNR=7.2					
YKA				PP	PP	19 01 22.3 +1.5
	comp=Z,0.3nm,1.0s,baz=133,slow=7.8,SNR=4.0					
GERES	GERESS Array B	111.06	45	PKiKP	PKiKP	19 01 56.6 -0.1
	comp=Z,0.3nm,0.5s,baz=214,slow=1.0,SNR=3.5					
ASAR	Alice Springs	118.84	207	PKP	PKPdf	19 02 10.5 -2.0
	comp=Z,0.5nm,1.0s,baz=127,slow=1.9,SNR=6.9					
BRTR	Keskin Array B	120.97	60	PKP	PKPdf	19 02 15.7 -0.5
	comp=Z,0.8nm,0.7s,baz=198,slow=3.2,SNR=4.7					
AKASG	Malin Array Be	121.12	47	PKP	PKPdf	19 02 14.5 -1.3
	comp=Z,1.2nm,0.5s,baz=264,slow=3.1,SNR=6.1					
WRA	Warramunga Arr	122.02	209	PKP	PKPdf	19 02 17.4 -1.3
	comp=Z,1.1nm,0.7s,baz=154,slow=1.7,SNR=20					
H11S2	WAKE ISLAND Hyl	26.03	270	T	T	21 21 24.1
	baz=118,slow=75,SNR=92					
H11S1	WAKE ISLAND Hyl	26.04	270	T	T	21 21 20.8
	baz=118,slow=75,SNR=82					
H11S3	WAKE ISLAND Hyl	26.05	270	T	T	21 21 24.8
	baz=118,slow=75,SNR=78					
H11N3	WAKE ISLAND Hyl	26.41	271	T	T	21 21 43.2
	baz=118,slow=75,SNR=11					
H11N1	WAKE ISLAND Hyl	26.42	271	T	T	21 21 50.4
	baz=118,slow=75,SNR=7.1					
H11N2	WAKE ISLAND Hyl	26.43	271	T	T	21 21 57.8
	baz=118,slow=75,SNR=19					
KLMR	Klimovskoe	128.20	35	*e*PKIKP	PKPdf	19 02 28.0 -1.0
KLMR				pmax	pmax	
	comp=Z,24nm,1.4s					
KIV	Kislovodsk	128.58	57	*e*PKIKP	PKPdf	19 02 30.6 +0.1
KIV				pmax	pmax	
	comp=Z,8.0nm,1.1s					
ARU	Arti	138.59	40	*i* PKIKP	PKPdf	19 02 49.6 +0.9
ARU						19 05 38.0
GEYT	Alibeck	139.15	68	PKP	PKPdf	19 02 50.8 +0.3
	comp=Z,2.0nm,0.8s,baz=230,slow=3.7,SNR=4.7					
PETK	Petropavlovsk-	139.41	315	PKP	PKPdf	19 02 50.8 +0.5
	comp=Z,5.6nm,0.9s,baz=52,slow=2.4,SNR=3.7					
TIXI	Tiksi	139.45	350	⇑*e*PKIKP	PKPdf	19 02 50.4 +0.6
TIXI				pmax	pmax	
	comp=Z,4.0nm,1.2s					
TIXI	Tiksi	139.45	350	*e*PKPdf	PKPdf	19 02 49.0 -0.8
PALK	Pallekele	144.02	129	*e*PKIKP	PKPbc	19 02 57.7 -0.1
PALK	Pallekele	144.02	129	*e*PKPpre	PKPab	19 02 57.7 +0.5
BRVK	Borovoye	146.08	42	*ce*PKP2	PKPab	19 03 03.9 +0.2
BRVK				pmax	pmax	
	comp=Z,26nm,1.2s					
BRVK	Borovoye	146.08	42	*e*PKPdf	PKPab	19 03 03.5 -0.2
POO	Poona	146.09	106	⇓*i* P	PKPdf	19 03 03.0 -0.3
	comp=Z,50nm,1.0s					
KBL	Kabul	147.43	76	*e*PKIKP	PKPdf	19 03 05.9 +0.6
KBL	Kabul	147.43	76	*e*PKPdf	PKPdf	19 03 05.9 +0.6
YAK	Yakutsk	147.58	341	*c i* PKP2	PKPbc	19 03 06.7 -0.3
YAK				pmax	pmax	
	comp=Z,52nm,0.9s					
YAK				pmax	pmax	
	comp=N,5.0nm,1.0s					
YAK				pmax	pmax	
	comp=E,6.0nm,0.9s					
YAK	Yakutsk	147.58	341	*e*PKPdf	PKPbc	19 03 06.8 -0.3
KKAR	Karatay Array	148.69	60	*e*PKP2	PKPbc	19 03 10.4 -0.2
KKAR	Karatay Array	148.69	60	*e*PKPbc	PKPbc	19 03 10.4 -0.2
KSM	Kuching	148.89	184	*e*PKPbc	PKPbc	19 03 12.1 +0.1
HYB	Hyderabad	149.23	112	*i* PKP	PKPbc	19 03 12.5 -0.2
YSS	Yuzh-Sakhalins	150.19	309	*e*PKIKP	PKPbc	19 03 13.8 -0.3
YSS				*e*		19 03 21.0
EKS2	Erkin-Say	151.12	60	P	PKPbc	19 03 17.8 +1.1
	SNR=21					
EKS2	Erkin-Say	151.12	60	*e*PKIKP	PKPdf	19 03 11.8 +1.0
EKS2				*e*		19 03 17.6
EKS2	Erkin-Say	151.12	60	*e*PKPdf	PKPdf	19 03 11.8 +1.0
EKS2				*e*PKPbc	PKiKP	19 03 17.6 +0.4
IPM	Ipoh	151.13	165	*e*PKPdf	PKPbc	19 03 16.8 -0.7
AML	Almayashu	151.14	61	P	PKPbc	19 03 18.4 +1.3
	SNR=17					
USP	Ospenovka	151.55	58	P	PKPbc	19 03 18.3 +0.7
	SNR=19					
AAK	Ala-Archa	151.65	60	P	PKPbc	19 03 19.2 +1.2
	SNR=20					
AAK	Ala-Archa	151.65	60	*ce*PKIKP	PKPdf	19 03 13.5 +1.8
AAK				pmax	pmax	
	comp=Z,7.0nm,1.2s					
AAK	Ala-Archa	151.65	60	*e*PKPdf	PKPdf	19 03 12.2 +0.5
AAK				*e*PKPbc	PKiKP	19 03 18.9 +0.5
NVS	Novosibirsk	151.70	31	*e*PKIKP	PKPdf	19 03 10.1 -1.0
NVS				pmax	pmax	
	comp=E,9.0nm,1.1s					
NVS				pmax	pmax	
	comp=Z,32nm,1.1s					
FRU	Bishkek	151.71	59	*i* PKIKP	PKPbc	19 03 19.0 +1.1
FRU				*i*		19 03 27.0
FRU				pmax	pmax	
	comp=Z,50nm,2.0s					
UCH	Uchtor	151.73	61	P	PKPbc	19 03 19.6 +1.1
	SNR=26					
KURK	Kurchatov	151.75	42	*e*PKIKP	PKPbc	19 03 17.7 0.0
KURK	Kurchatov	151.75	42	*e*PKPbc	PKPbc	19 03 17.7 0.0
CHMS	Chumysh	151.78	59	P	PKPbc	19 03 19.4 +1.3
	SNR=11					
KBK	Karagaybulak	151.98	60	P	PKPbc	19 03 20.3 +1.5
	SNR=9.3					
KZA	Kyzart	152.29	61	P	PKPbc	19 03 20.8 +1.0
	SNR=7.6					
TKM2	Tokmak 2	152.40	59	P	PKPbc	19 03 20.9 +1.1
	SNR=8.2					
ZALV	Zalesovo Beam	152.98	31	PKP	PKPdf	19 03 13.3 +0.2
	comp=Z,3.2nm,1.0s,baz=304,slow=3.2,SNR=10					
ZALV				PKPbc	PKiKP	19 03 21.0 +0.4
	comp=Z,15nm,0.7s,baz=296,slow=3.2,SNR=58					
ULHL	Ulahol	152.99	60	P	PKPbc	19 03 22.1 +1.1
	SNR=12					
KSH	Kashi	153.14	66	PKPbc	PKPdf	19 03 14.6 +0.6
KSH				sPKP		19 03 28.7
KSH				PKS	PKSdf	19 06 48.1 -0.3
KSH				PP	PP	19 07 05.0 -2.1
KSH				SKS	SKSdf	19 10 17.5 -1.5
KSH				SKKS	SKKSac	19 13 51.2 -3.8
KSH				SS	SS	19 26 32.9 -6.2
KSH				PPMZ		
	comp=Z,240nm,6.2s					
KSH				LN		
	comp=Z,130nm,8.7s					
KSH				LE		
	comp=Z,61nm,4.5s					
KSH				LZ		
	comp=Z,350nm,5.7s					
BOD	Bodaibo	154.56	353	*e*PKIKP	PKPbc	19 03 23.2 -0.4
BOD				*e*		19 03 37.8
BOD				pmax	pmax	
	comp=Z,12nm,1.2s					
MKAR	Makanchi Array	155.71	47	PKP	PKPdf	19 03 14.8 -2.4
	comp=Z,1.6nm,1.0s,baz=336,slow=2.7,SNR=9.3					
MKAR				PKPab	PKPab	19 03 44.4 +0.7
	comp=Z,3.7nm,0.7s,baz=289,slow=2.8,SNR=16					
WMQ	Urumqi	160.45	49	*e*PKP	PKPdf	19 03 23.4 +0.3
WMQ				pPKP	pPKPdf	19 03 34.2 +1.3
WMQ				PKPab	PKPab	19 04 06.0 +1.7
WMQ				PP	PP	19 07 47.0 +0.1
WMQ				SKS	SKSdf	19 10 23.5 -2.7
WMQ				SKKS	SKKSac	19 14 31.0 -2.3
WMQ				SS	SS	19 27 52.0 -4.6
WMQ				LN		
	comp=Z,35nm,14.0s					
WMQ				LE		
	comp=Z,64nm,15.0s					
WMQ				LZ		
	comp=Z,94nm,17.0s					
TLY	Talaya	160.72	9	*e*PKP2	PKPab	19 04 06.2 +1.1
TLY				pmax	pmax	
	comp=Z,8.0nm,1.5s					
ZAK	Zakamensk	161.94	10	*e*PKP2	PKPab	19 04 10.8 +0.2
ZAK				pmax	pmax	
	comp=Z,3.0nm,1.4s					
CN2	Changchun	162.56	314	*e*PKP	PKPdf	19 03 28.4 +3.2
CN2				PPMZ		
	comp=Z,200nm,6.0s					
CN2				LN		
	comp=Z,400nm,19.0s					
CN2				LE		
	comp=Z,400nm,19.0s					
CN2				LZ		
	comp=Z,200nm,17.0s					
KSRS	Korea Array	163.22	292	PKPab	PKPab	19 04 18.2 +1.7
	comp=Z,2.9nm,1.0s,baz=98,slow=3.8,SNR=4.5					
KSAR	Wonju Array Be	163.25	292	PKP2	PKPab	19 04 18.3 +1.5
KSAR	Wonju Array Be	163.25	292	PKPab	PKPab	19 04 18.2 +1.5
CMAR	Chiang Mai Arr	163.54	147	PKP	PKPdf	19 03 25.4 -1.6
	comp=Z,0.7nm,0.8s,baz=243,slow=2.1,SNR=6.7					
CMAR				PKPab	PKPab	19 04 17.4 -0.8
	comp=Z,2.3nm,1.1s,baz=220,slow=4.5,SNR=7.8					
SONM	Songino Array	164.81	5	PKP	PKPdf	19 03 27.8 +0.5
	comp=Z,0.6nm,0.9s,baz=236,slow=1.6,SNR=3.6					
SONM				PKPab	PKPab	19 04 23.8 +0.6
	comp=Z,2.0nm,1.0s,baz=344,slow=5.3,SNR=11					
GTA	Gaotai	170.43	43	*e*PKP	PKPdf	19 03 32.2 +0.6
GTA				pPKP	pPKPdf	19 03 42.9 +1.5
GTA				sPKP		19 03 46.6
GTA				PKPab	PKPab	19 04 49.6 +1.2
GTA				PP	PP	19 08 40.3 +1.6
GTA				SKS	SKSdf	19 10 30.8 -2.3
GTA				SKKS	SKKSac	19 15 22.7 -0.9
GTA				SS	SS	19 29 34.5 -3.7
GTA				PPMZ		
	comp=Z,170nm,7.1s					
GTA				LN		
	comp=Z,120nm,16.4s					
GTA				LE		
	comp=Z,210nm,15.4s					
GTA				LZ		
	comp=Z,140nm,16.1s					
NJ2	Nanjing	171.01	269	*e*PKP	PKPdf	19 03 33.7 +1.8
HHC	Hu-ho-hao-te	171.44	343	*e*PKP	PKPdf	19 03 33.5 +1.4
HHC				pPKP	pPKPdf	19 03 44.3 +2.4
HHC				sPKP		19 03 47.9
HHC				PP	PP	19 08 47.0 +4.1
HHC				SKS	SKSdf	19 10 31.8 -1.6
HHC				SS	SS	19 29 46.0 -0.7
HHC				PPMZ		
	comp=Z,170nm,7.4s					
HHC				LN		
	comp=Z,230nm,16.0s					
HHC				LE		
	comp=Z,260nm,14.8s					
HHC				LZ		
	comp=Z,190nm,14.8s					
GYA	Guiyang	173.64	167	*e*PKP	PKPdf	19 03 34.2 +0.7
GYA				pPKP	pPKPdf	19 03 46.0 +2.7
GYA				PKPab	PKPab	19 05 07.6 +4.8
GYA				PKS	PKSdf	19 07 05.4 -0.5
GYA				PP	PP	19 08 59.3 +5.6
GYA				SKKS		19 15 41.6
GYA				SS	SS	19 30 11.9 +3.9
GYA				PPMZ		
	comp=Z,120nm,8.0s					
GYA				LN		
	comp=Z,120nm,22.4s					
GYA				LE		
	comp=Z,110nm,22.6s					
GYA				LZ		
	comp=Z,120nm,21.3s					
LZH	Lanzhou	175.02	46	*e*PKP	PKPdf	19 03 34.6 +0.9
LZH				pPKP	pPKPdf	19 03 45.8 +2.3
LZH				sPKP		19 03 49.7
LZH				LN		
	comp=Z,310nm,18.0s					
LZH				LE		
	comp=Z,310nm,17.9s					
LZH				LZ		
	comp=Z,370nm,20.0s					
CD2	Chengdu	175.78	114	*e*PKP	PKPdf	19 03 35.4 +1.5

IDC 08 19:00:17.4±6.2, 20°.24S×69°.58W, h51km±43km, mb3.8/2, mb1 4.0/5, mb1mx3.7/20, mbtmp4.0/5, ML4.2/3, Error ellipse: s-maj=71.8km s-min=35.3km az=47.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.16	19	P	Pn	19 01 18.5	-0.7
	3.4nm,0.3s,baz=274,slow=1.6,SNR=80						
SIV	San Ignacio	9.12	64	P	Pn	19 02 27.6	+1.1
	2.6nm,0.3s,baz=271,slow=10,SNR=23						
CPUP	Villa Florida	12.78	121	P	Pn	19 03 16.1	-0.4
	0.8nm,0.3s,baz=317,slow=4.6,SNR=3.2						
TORD	Torodi Ar. Bea	77.52	71	P	P	19 12 08.1	-0.3
	0.3nm,0.4s,baz=253,slow=5.3,SNR=12						
YKA	Yellowknife Ar	89.79	341	P	P	19 13 09.3	-0.7
	1.1nm,0.6s,baz=135,slow=4.8,SNR=32						
ILAR	Eielson Array	102.84	335	P	Pdif	19 14 08.9	-0.4
	0.8nm,1.1s,baz=211,slow=5.0,SNR=4.9						
H11S2	WAKE ISLAND Hyl	27.09	278	T	T	21 38 43.5	
	baz=101,slow=75,SNR=45						
H11S1	WAKE ISLAND Hyl	27.10	278	T	T	21 38 42.7	
	baz=101,slow=75,SNR=38						
H11S3	WAKE ISLAND Hyl	27.11	278	T	T	21 38 45.0	
	baz=101,slow=75,SNR=76						
H11N3	WAKE ISLAND Hyl	27.14	280	T	T	21 38 48.4	
	baz=100,slow=74,SNR=33						
H11N2	WAKE ISLAND Hyl	27.16	280	T	T	21 38 48.5	
	baz=100,slow=74,SNR=39						
H11N1	WAKE ISLAND Hyl	27.16	280	T	T	21 38 45.7	
	baz=100,slow=74,SNR=22						
ZALV	Zalesovo Beam	141.07	24	PKP	PKPdf	19 19 42.0	+0.2
	0.5nm,0.5s,baz=325,slow=2.3,SNR=3.4						
MKAR	Makanchi Array	144.96	34	PKP	PKPab	19 19 46.2	-2.1
	0.1nm,0.6s,baz=0.0,slow=1.8,SNR=2.6						
SONM	Songino Array	152.27	6	PKPbc	PKPbc	19 20 09.5	+1.7
	0.7nm,0.5s,baz=297,slow=1.3,SNR=10						

*ISCJB **08** 19:01:31.0±0.8, 24°.52S±0°.08×177°.2W±0°.1, h132km, mb3.9/3, Error ellipse: s-maj=17.1km s-min=10.7km az=9.4*

*IDC **08** 19:01:33.5±9.0, 24°.74S×176°.76W, h168km±96km, mb3.8/3, mb1 4.1/4, mb1mx3.6/19, mbtmp4.4/4, Error ellipse: s-maj=108.8km s-min=73.6km az=142.0*

ISC 08 19:01:32.4±1.0, 24°.55S±0°.1×177°.2W±0°.1, h132km, n9, σ1°.14/10, mb4.1/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.77	188	P	Pn	19 02 43.5	+1.1
	163nm,0.3s,baz=38,slow=19,SNR=4.3						
RAO				S	Sn	19 03 35.4	-1.5
	70nm,0.3s,baz=217,slow=20,SNR=4.3						
NIUE	Niue	8.62	53	P	Pn	19 03 34.2	0.0
	baz=7.3,SNR=3.7						
ASAR	Alice Springs	44.49	261	P	P	19 09 31.0	+0.1
	1.8nm,0.8s,baz=91,slow=6.3,SNR=21						
WRA	Warramunga Arr	44.95	266	P	P	19 09 34.7	+0.2
	3.7nm,0.7s,baz=104,slow=8.0,SNR=43						
KDU	Kakadu	48.92	274	P	P	19 10 04.3	-1.0
	baz=49,SNR=4.0						
WRKA	Warakurna	49.24	257	P	P	19 10 08.1	+0.4
	baz=50,SNR=7.3						
KNRA	Kununurra	51.28	269	P	P	19 10 23.6	+0.5
	baz=51,SNR=5.4						
SOEI	Soe	57.48	274	P	P	19 11 09.5	+1.3
	baz=57,SNR=3.2						
CMAR	Chiang Mai Arr	92.17	289	P	P	19 14 25.9	-1.5
	1.2nm,0.9s,baz=125,slow=3.1,SNR=9.4						

SJA 08 19:12:53.3±0.4, 31°.53S×68°.51W, h92km±2km, ML3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	San Juan	0.04	281	*i* P	Pn	19 13 06.9	+0.6
SJA				*i* S	Sn	19 13 16.9	+1.0
RTLL	Cerro Villicun	0.21	8	*i* P	Pn	19 13 07.4	+0.7
CFAA	Coronel Fontan	0.24	107	*i* P	Pn	19 13 07.4	+0.6
CFAA				*i* S	Sn	19 13 17.8	+1.0
RTLS	Leoncito	0.72	248	*i* P	Pn	19 13 11.8	+1.3
AUSP	Uspallata	1.01	227	*i* P	Pn	19 13 14.7	+1.0
AUSP				*i* S	Sn	19 13 31.1	+2.0
ASAL	Salagasta	1.09	195	*i* P	Pn	19 13 15.5	+1.2
ASAL				*i* S	Sn	19 13 31.3	+1.2
ACAN	Cantantal	1.34	124	*i* P	Pn	19 13 18.5	+1.2
ACAN				*i* S	Sn	19 13 36.7	+1.3
ARCO	CERRO ARCO	1.35	195	*i* P	Pn	19 13 18.6	+1.1
ARCO				AML	AML	19 13 40.5	
	comp=Z,801nm,0.7s						
AAGR	Agrelo	1.57	190	*i* P	Pn	19 13 21.4	+1.2
AGUA	GUANDACOL	2.04	0	*i* P	Pn	19 13 27.4	+1.0

GUC 08 19:13:52.6±0.4, 33°.44S×72°.27W, h9km±12km, ML4.0, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.67	52	⇓*i* P	Pg	19 14 05.7	+0.2
IHA				*i* S	Sb	19 14 16.1	+0.2
TACH	Talagante	1.14	101	*e*P	Pb	19 14 13.9	-0.6
TACH				*e*S	Sb	19 14 29.9	+0.5
SAN	Santiago	1.35	91	*i* P	Pn	19 14 17.3	-0.3
SAN				*i* S	Sg	19 14 36.1	0.0
PEL	Peldehue	1.36	78	*i* P	Pn	19 14 17.7	-0.2
PEL				*i* S	Sg	19 14 36.5	-0.1
PEL				IAML		19 14 48.4	
	comp=N,5μm,0.8s						
ANTU	Antumapu	1.38	96	⇓*i* P	Pn	19 14 17.6	-0.5
ANTU				*i* S	Sg	19 14 36.8	-0.3
ANTU				IAML		19 14 38.4	
	comp=E,3μm,0.7s						
CHCH	Chadas Angostu	1.44	110	*i* P	Pn	19 14 18.9	-0.1
CHCH				*i* S	Sb	19 14 38.6	+0.4
CLCH	Cerro Calan	1.45	89	*e*P	Pn	19 14 19.1	-0.1
CLCH				*i* S	Sb	19 14 39.0	+0.4
CLCH				IAML		19 14 42.9	
	comp=N,4μm,0.6s						
PCH	Pirque	1.48	98	*i* P	Pn	19 14 19.3	-0.3
PCH				*i* S	Sg	19 14 40.1	-0.4
CACH	El Canelo	1.55	116	*e*P	Pb	19 14 21.3	-0.4
CACH				*i* S	Sg	19 14 43.3	+0.5
FCH	Farellones	1.66	87	*i* S	Sb	19 14 45.8	+0.6

*IDC **08** 19:15:11.7±0.7, 35°.88S×73°.27W, h0km, mb4.4/13, mb1 4.6/16, mb1mx4.5/27, mbtmp4.4/16, ML4.0/3, MS4.4/13, Ms1 4.3/13, ms1mx4.2/23, Error ellipse: s-maj=21.6km s-min=12.6km az=84.0*

NICH **Los Niches** 2.04 60 ⇓iP Pn 19 15 49.2 +0.4
NICH iS1 Sn 19 16 16.7 +3.7
CACH **El Canelo** 2.98 51 ⇓iP Pn 19 16 02.1 +0.2
CACH iS4 Sn 19 16 37.0 +0.6
CHCH **Chadas Angostu** 3.07 48 ⇓iP Pn 19 16 02.5 -0.6
ANTU **Antumapu** 3.34 43 AML AML 19 17 17.3
comp=E,3µm,0.5s
PLCA **Paso Flores** 5.20 155 Pn Pn 19 16 32.6 +0.3
comp=E,1.8nm,0.3s,baz=332,slow=12,SNR=19
PLCA Lg Lg 19 17 58.1
comp=E,2.2nm,0.3s,baz=265,slow=21,SNR=5.1
CFAA **Coronel Fontan** 6.15 46 Pn Pn 19 16 42.0 -3.4
comp=E,3.1nm,0.3s,baz=221,slow=14,SNR=8.9
CFAA Sn Sn 19 17 54.2 -0.4
comp=E,1.5nm,0.3s,baz=93,slow=17,SNR=3.5
CFAA Lg Lg 19 18 17.4
baz=108,slow=22,SNR=3.5
TRQA **Tornquist** 9.34 106 eP Pn 19 17 29.2 +0.1
comp=E,29nm,1.0s
CPUP **Villa Florida** 16.78 59 LR LR 19 25 11.7
comp=E,460nm,19.5s,baz=222,slow=36
USHA **Ushuaia** 19.11 171 P Pn 19 19 39.1 +1.4
comp=E,0.3nm,0.3s,baz=347,slow=6.4,SNR=4.4
USHA LR LR 19 26 53.0
comp=E,1µm,20.6s,baz=328,slow=36
LPAZ **La Paz** 20.21 15 P P 19 19 48.8 -0.8
comp=E,9.4nm,0.9s,baz=175,slow=7.4,SNR=11
SIV **San Ignacio** 22.78 32 P P 19 20 14.3 -2.3
comp=E,3.3nm,0.4s,baz=230,slow=14,SNR=11
SIV LR LR 19 30 57.0
comp=E,1µm,18.8s,baz=222,slow=42
NNA **Nana** 24.14 352 P P 19 20 27.8 -2.1
comp=E,8.7nm,0.6s,baz=206,slow=5.5,SNR=3.9
NNA LR LR 19 27 46.2
comp=E,460nm,19.1s,baz=173,slow=31
ATAH **Atahualpa** 29.12 350 P P 19 21 13.8 -1.3
comp=E,3.6nm,0.6s,baz=168,slow=8.1,SNR=4.7
ATAH LR LR 19 30 57.5
comp=E,351nm,19.3s,baz=176,slow=33
PMSA **Palmer Station** 29.32 172 LR LR 19 33 08.8
comp=E,904nm,18.3s,baz=311,slow=37
BDFB **Brasilia** 30.40 55 LR LR 19 35 22.7
comp=E,685nm,19.7s,baz=222,slow=40
RPN **Rapa Nui** 31.74 276 LR LR 19 31 36.6
comp=E,576nm,18.5s,baz=86,slow=31
VNA3 **Neumayer Olymp** 47.91 157 P P 19 23 52.7 +1.3
VNA2 **Neumayer--Watz** 48.59 156 P P 19 23 57.9 +1.3
baz=278,slow=9.8
SNAA **Sanae** 50.14 157 P P 19 24 09.8 +1.4
SNAA **Sanae** 50.14 157 P P 19 24 08.8 +0.4
comp=E,7.9nm,1.0s,baz=271,slow=5.0,SNR=10
SNAA **Sanae** 50.14 157 eP P 19 24 09.3 +0.8
comp=E,28nm,1.1s
QSPA **South Pole Qui** 54.21 180 P P 19 24 39.9 +1.0
comp=E,7.8nm,0.9s,baz=143,slow=2.8,SNR=10
933A **Laredo** 67.85 335 ⇑P P 19 26 11.5 -0.1
baz=68
834A **Tilden** 68.08 336 ⇓P P 19 26 13.3 +0.2
baz=68
833A **Chaparral WMA,** 68.54 335 ⇑P P 19 26 15.8 -0.1
baz=69
832A **Faith Ranch, C** 68.70 335 ⇓P P 19 26 16.6 -0.3
baz=69
636A **Smothers Creek** 68.86 338 ⇓P P 19 26 18.1 +0.2
baz=69
PPT **Papeete** 68.88 263 LR LR 19 50 36.9
comp=E,229nm,18.2s,baz=288,slow=31
732A **Laxson Ranch,** 69.11 335 ⇓P P 19 26 18.9 -0.6
baz=69
632A **Uvalde** 69.76 336 ⇑P P 19 26 23.2 -0.3
baz=70
631A **Perdido Creek** 69.94 335 ⇓P P 19 26 24.6 0.0
baz=70
533A **Kerrville** 70.03 336 ⇓P P 19 26 24.9 -0.3
baz=70
532A **Rocksprings** 70.37 336 ⇑P P 19 26 27.2 -0.1
baz=71
434A **Burnet** 70.48 337 ⇑P P 19 26 27.8 -0.1
baz=71
336A **Riesel** 70.58 339 ⇑P P 19 26 28.1 -0.4
baz=71
531A **Rocksprings** 70.62 335 ⇑P P 19 26 28.7 -0.1
baz=71
JCT **Junction City** 70.66 336 ⇓P P 19 26 28.9 -0.2
baz=71
JCT **Junction City** 70.66 336 eP P 19 26 28.8 -0.2
comp=E,5.0nm,0.5s
433A **Art** 70.68 337 ⇑P P 19 26 28.4 -0.8
baz=71
237A **Washetta, Mont** 70.87 340 ⇑P P 19 26 29.6 -0.6
baz=71
530A **J-C Ranch, Com** 70.88 335 ⇑P P 19 26 30.1 -0.2
baz=71
334A **Lometa** 70.95 338 ⇑P P 19 26 30.3 -0.4
baz=71
TXAR **Lajitas Array** 70.99 332 P P 19 26 30.9 -0.2
comp=E,2.6nm,0.7s,baz=151,slow=8.6,SNR=17
TXAR LR LR 19 52 58.9
comp=E,299nm,18.9s,baz=0.0,slow=32
431A **Sonora** 71.12 335 ⇑P P 19 26 31.6 -0.3
baz=71
529A **Stev Forest Ra** 71.17 334 ⇓P P 19 26 31.9 -0.2
baz=71
333A **Richland Sprin** 71.18 337 ⇓P P 19 26 31.7 -0.4
baz=71
430A **Baggett Ranch,** 71.43 335 ⇑P P 19 26 33.4 -0.3
baz=72
332A **Millersview** 71.47 336 ⇑P P 19 26 33.3 -0.6
baz=72
429A **Davenport Ranc** 71.51 334 ⇓P P 19 26 34.0 -0.2
baz=72
234A **Clairette** 71.55 338 ⇓P P 19 26 33.9 -0.4
baz=72
MAW **Mawson** 71.55 164 LR LR 19 59 01.8
comp=E,400nm,18.4s,slow=37
331A **San Angelo** 71.63 336 ⇑P P 19 26 34.5 -0.4
baz=72
233A **Rising Star** 71.79 337 ⇓P P 19 26 35.6 -0.2
baz=72
SWET **Sewanee** 71.84 349 eP P 19 26 35.5 -0.6
comp=E,20nm,0.8s
135A **Vickery Place,** 71.84 339 ⇓P P 19 26 35.6 -0.5
baz=72
232A **Coleman** 71.91 337 ⇓P P 19 26 36.4 -0.2
baz=72
330A **Mertzon** 71.97 335 ⇑P P 19 26 36.0 -0.9
baz=72
231A **Bronte** 72.17 336 ⇑P P 19 26 37.4 -0.7
baz=72
329A **Wagon Wheel Ra** 72.32 335 ⇓P P 19 26 38.9 -0.2
baz=72
133A **Hamilton Ranch** 72.35 338 ⇓P P 19 26 38.4 -0.7
baz=72
Z35A **Perchaven, San** 72.52 339 ⇓P P 19 26 39.8 -0.3
baz=73
ABTX **Abilene, Hawle** 72.59 337 ⇓P P 19 26 39.9 -0.6
baz=73
Z34A **Collier Ranch,** 72.75 339 ⇑P P 19 26 41.1 -0.4
baz=73
131A **Roby** 72.87 336 ⇓P P 19 26 42.1 -0.2
baz=73
130A **Snyder** 72.99 336 ⇑P P 19 26 42.7 -0.2
baz=73
WVT **Waverly** 73.04 348 eP P 19 26 41.8 -1.3
comp=E,11nm,0.9s
228A **UT Block 9, Go** 73.11 334 ⇑P P 19 26 43.5 -0.3
baz=73
Z32A **Haskell** 73.17 337 ⇑P P 19 26 43.3 -0.6
baz=73
Y34A **Reagan Ranch,** 73.25 339 ⇑P P 19 26 43.8 -0.7
baz=74
Z31A **Sharp Cattle R** 73.39 337 ⇓P P 19 26 44.9 -0.5
baz=74
Y33A **Hilltop Ranch,** 73.56 338 ⇑P P 19 26 45.8 -0.5
baz=74
Y32A **R-V Farms, Ver** 73.80 338 ⇑P P 19 26 47.8 +0.1
baz=74
Z29A **Hungry Hill Ra** 73.85 336 ⇑P P 19 26 47.2 -0.8
baz=74
X34A **Smith Ranch, M** 73.88 339 ⇑P P 19 26 47.7 -0.4
baz=74
Y31A **Rekieta Farm,** 74.02 337 ⇑P P 19 26 48.8 -0.2
baz=74
Y29A **Porterfield Fa** 74.38 336 ⇓P P 19 26 50.7 -0.5
baz=75
X31A **McDonald Ranch** 74.55 337 ⇑P P 19 26 51.8 -0.2
baz=75
TUL1 **Leonard** 74.55 341 ⇑P P 19 26 51.2 -0.8
baz=75
W33A **Caddo, Fort Co** 74.58 339 ⇓P P 19 26 52.3 +0.1
baz=75
W32A **Sentinel** 74.78 338 ⇓P P 19 26 52.9 -0.4
baz=75,SNR=7.1
V34A **Guthrie** 74.94 340 ⇑P P 19 26 53.7 -0.6
baz=75
319A **Douglas** 75.03 329 ⇓P P 19 26 55.9 +0.8
baz=75
W31A **Holland Ranch,** 75.05 338 ⇓P P 19 26 54.6 -0.4
baz=75
V33A **Lossen Ranch,** 75.15 339 ⇓P P 19 26 54.8 -0.6
baz=75
Y26A **Elida** 75.18 334 ⇓P P 19 26 55.9 0.0
baz=75
V32A **Arapaho** 75.28 339 ⇑P P 19 26 56.1 -0.1
baz=76
121A **Cookes Peak, D** 75.43 330 ⇑P P 19 26 58.0 +0.6
baz=76
U34A **Anderson Ranch** 75.51 340 ⇑P P 19 26 57.2 -0.3
baz=76
W29A **Amarillo** 75.53 336 ⇑P P 19 26 57.5 -0.3
baz=76
Z22A **Elephant Butte** 75.75 331 ⇑P P 19 26 59.9 +0.8
baz=76
Y24A **Capitan** 75.76 333 ⇓P P 19 26 59.6 +0.3
baz=76
U32A **Winter Ranch,** 75.88 339 ⇓P P 19 26 59.6 -0.1
baz=76
W27A **Bowe Ranch, En** 75.95 335 ⇑P P 19 27 00.4 +0.1
baz=76
W26A **Owens Ranch, T** 76.21 335 ⇑P P 19 27 01.7 0.0
baz=76
V28A **Channing** 76.29 336 ⇓P P 19 27 02.4 +0.3
baz=76
T33A **Patterson Ranc** 76.31 340 ⇑P P 19 27 02.5 +0.4
baz=76
W25A **X Bar L Ranch,** 76.57 334 ⇑P P 19 27 04.1 +0.3
baz=77
T32A **Huddler Ranch,** 76.60 339 ⇑P P 19 27 04.1 +0.3
baz=77
T31A **Randall Ranch,** 76.74 339 ⇓P P 19 27 04.4 -0.1
baz=77
V26A **Tequesquite Ra** 76.86 335 ⇓P P 19 27 05.4 0.0
baz=77
DBIC **Dimbokro** 76.87 72 P P 19 27 06.0 +0.2
comp=E,5.6nm,0.8s,baz=205,slow=6.2,SNR=4.8
DBIC LR LR 19 59 48.5
comp=E,194nm,18.2s,baz=220,slow=35
W24A **Lazy 6 Ranch,** 76.90 334 ⇑P P 19 27 05.9 +0.2
baz=77
U27A **Thompson Grove** 77.10 336 ⇓P P 19 27 07.0 +0.2
baz=77
W23A **Werner Place,** 77.13 333 ⇑P P 19 27 07.6 +0.6
baz=77
S31A **Mullinville** 77.17 339 ⇓P P 19 27 07.2 +0.2
baz=77
V25A **Rancho No Teng** 77.18 334 ⇓P P 19 27 07.1 -0.2
baz=77,SNR=6.7
V24A **Rampart Ranch,** 77.31 334 ⇑P P 19 27 08.3 +0.2
baz=78
U26A **Atchley Ranch,** 77.39 335 ⇓P P 19 27 08.5 +0.1
baz=78
R33A **Olander Ranch,** 77.39 340 ⇑P P 19 27 08.4 +0.2
baz=78
S30A **Montezuma** 77.48 338 ⇑P P 19 27 08.9 +0.1
baz=78
T28A **Walsh** 77.51 337 ⇓P P 19 27 08.4 -0.6
baz=78,SNR=7.1
U25A **Circle Dot Ran** 77.62 335 ⇓P P 19 27 09.8 +0.1
baz=78,SNR=5.6
T27A **Campo** 77.65 336 ⇓P P 19 27 09.4 -0.4
baz=78,SNR=6.1
S29A **Ulysses** 77.66 338 ⇓P P 19 27 10.1 +0.3
baz=78
R32A **Long Quarter,** 77.70 340 ⇓P P 19 27 10.4 +0.6
baz=78
R31A **Burdett** 77.80 339 ⇑P P 19 27 10.8 +0.3
baz=78
S28A **Manter** 77.87 337 ⇑P P 19 27 10.8 -0.1
baz=78,SNR=5.4
R30A **Dighton** 78.02 339 ⇑P P 19 27 11.9 +0.2
baz=78
T26A **Comanche Natio** 78.04 336 ⇑P P 19 27 12.2 +0.1
baz=78
V22A **San Miguel Ran** 78.08 333 ⇓P P 19 27 12.8 +0.5
baz=78,SNR=6.6
Q32A **Meitler Ranch,** 78.19 340 ⇓P P 19 27 12.6 +0.1
baz=78
T25A **Trinidad** 78.29 335 ⇑P P 19 27 13.9 +0.5
baz=78,SNR=8.1
S26A **Kim** 78.41 336 ⇓P P 19 27 13.9 -0.1
baz=79,SNR=11
Q31A **Ellis** 78.43 340 ⇑P P 19 27 14.4 +0.5
baz=79
W18A **Petrified Fore** 78.47 330 ⇓P P 19 27 15.4 +0.9
baz=79
R28A **Tribune** 78.53 338 ⇑P P 19 27 14.8 +0.1
baz=79
T24B **San Luis** 78.55 334 ⇑P P 19 27 15.5 +0.5
baz=79
X16A **Lo Mia Camp, P** 78.57 329 ⇑P P 19 27 15.7 +0.7
baz=79,SNR=5.0
Q30A **Quinter** 78.64 339 ⇑P P 19 27 15.2 0.0
baz=79
S25A **Robets Cordova** 78.77 335 ⇑P P 19 27 16.2 +0.2
baz=79
P32A **Huiting Farm,** 78.79 340 ⇑P P 19 27 16.1 +0.2
baz=79
R27A **Eads** 78.79 337 ⇑P P 19 27 15.7 -0.4
baz=79,SNR=6.4
P31A **Stockton** 78.91 340 ⇓P P 19 27 16.9 +0.4
baz=79
S24A **Houchin Ranch,** 79.01 335 ⇑P P 19 27 17.2 -0.3
baz=79,SNR=5.5
R26A **Arlington** 79.02 336 ⇑P P 19 27 17.5 +0.2
baz=79,SNR=6.1
R25A **Fountain Ranch** 79.15 336 ⇑P P 19 27 18.7 +0.6
baz=79
Q28A **Sharon Springs** 79.20 338 ⇓P P 19 27 18.8 +0.5
baz=79
P29A **Atwood** 79.43 339 ⇓P P 19 27 20.2 +0.7
baz=80
O31A **Woolen Ranch,** 79.48 340 ⇓P P 19 27 20.4 +0.7
baz=80
WUAZ **Wupatki** 79.49 329 ⇑P P 19 27 21.9 +1.9
baz=80
R24A **Sanders Place,** 79.51 335 ⇓P P 19 27 21.0 +0.9
baz=80,SNR=6.8
P28A **Saint Francis** 79.65 338 ⇓P P 19 27 21.4 +0.8
baz=80
S22A **4UR Ranch, Cre** 79.68 334 ⇓P P 19 27 22.3 +1.2
baz=80
BC3 **Big Chuckawall** 79.70 325 ⇑P P 19 27 22.9 +1.8
baz=80
O30A **MW Ranch, Wils** 79.71 340 ⇑P P 19 27 21.7 +0.8
baz=80
R23A **Moffat** 79.72 335 ⇓P P 19 27 22.0 +0.6
baz=80
MVCO **Mesa Verde** 79.82 332 ⇓P P 19 27 22.8 +0.9
baz=80
IRM **Iron Mountain** 79.98 326 ⇑P P 19 27 24.1 +1.6
baz=80
BOSA **Boshof** 80.10 118 P P 19 27 23.7 0.0
comp=E,7.9nm,1.0s,baz=199,slow=3.1,SNR=5.6
BOSA LR LR 19 58 44.8
comp=E,185nm,20.3s,baz=198,slow=33
O28A **Krutsinger Ran** 80.16 338 ⇓P P 19 27 24.1 +0.6
baz=80
Q24A **Divide** 80.18 335 ⇑P P 19 27 24.4 +0.5
baz=80
W13A **Hualapai Mount** 80.20 327 ⇓P P 19 27 24.8 +0.8
baz=80
O27A **Beecher Island** 80.44 338 ⇓P P 19 27 26.0 +1.1
baz=81
M31A **Lambtecht Ranc** 80.50 341 ⇑P P 19 27 26.2 +1.1
baz=81
U15A **North Rim** 80.65 329 ⇑P P 19 27 27.2 +0.8
baz=81,SNR=5.5
PV01 **Paradox Valley** 80.66 333 eP P 19 27 26.9 +0.5
GMRC **Granite Mounta** 80.73 326 ⇑P P 19 27 28.4 +1.8
baz=81
P23A **Jefferson** 80.78 335 ⇓P P 19 27 28.1 +1.0
baz=81
N27A **Anderson Farm,** 81.02 338 ⇓P P 19 27 29.0 +1.0
baz=81
ISCO **Idaho Springs** 81.09 335 ⇑P P 19 27 29.3 +0.6
baz=81
BFSC **Mount Baldy Ra** 81.21 324 ⇓P P 19 27 31.5 +2.3
baz=81
L31A **Butterfield Fa** 81.24 341 ⇑P P 19 27 29.9 +0.8
baz=81
P22A **Eagle** 81.30 335 ⇑P P 19 27 30.4 +0.7
baz=82
O23A **Lake Granby, G** 81.56 335 ⇑P P 19 27 32.1 +0.9
baz=82
L29A **Maesberg Ranch** 81.58 340 ⇑P P 19 27 31.5 +0.6
baz=82
GSC **Goldstone, Bar** 81.68 325 ⇑P P 19 27 33.3 +1.6
baz=82
O22A **Kremmling** 81.73 335 ⇑P P 19 27 32.8 +0.7
baz=82
ECSD **EROS Data Cent** 82.15 343 ⇑P P 19 27 33.9 +0.1
baz=82
ECSD **EROS Data Cent** 82.15 343 eP P 19 27 32.8 -1.0
comp=E,11nm,0.8s
N23A **Red Feather La** 82.18 336 ⇓P P 19 27 35.1 +0.7
baz=82
N22A **Wattenberg Ran** 82.27 335 ⇑P P 19 27 36.3 +1.5
baz=82
J29A **Okreek** 82.78 341 ⇑P P 19 27 37.7 +0.6
baz=83
J27A **Elkhorn Farm,** 83.11 339 ⇑P P 19 27 39.4 +0.5
baz=83
L23A **Garrett** 83.20 336 ⇑P P 19 27 40.0 +0.5
baz=83
J26A **Sides Ranch, S** 83.47 339 ⇑P P 19 27 41.5 +0.7
baz=84
I28A **Midland** 83.56 340 ⇑P P 19 27 41.9 +0.8
baz=84
R11A **Troy Canyon, C** 83.67 328 ⇑P P 19 27 43.1 +1.1
baz=84
K22A **Casper** 83.95 336 ⇓P P 19 27 43.8 +0.5
baz=84
J24A **Dixon Ranch, L** 83.97 338 ⇑P P 19 27 44.1 +0.7
baz=84
G30A **Faulkton** 84.08 342 ⇑P P 19 27 44.2 +0.4
baz=84
DUG **Dugway, Tooele** 84.08 331 ⇓P P 19 27 45.3 +1.3
baz=84
K21A **Alcova** 84.17 336 ⇑P P 19 27 45.3 +0.8
baz=84
I25A **Rochford** 84.31 339 ⇓P P 19 27 45.8 +0.6
baz=84
HWUT **Hardware Ranch** 84.81 332 eP P 19 27 44.8 -3.0
comp=E,2.3nm,0.5s
NVAR **Mina Array Bea** 84.93 326 P P 19 27 48.3 -0.2
comp=E,1.9nm,0.8s,baz=163,slow=6.6,SNR=12
I22A **9 Mile Ranch,** 85.05 337 ⇑P P 19 27 48.1 -0.7
baz=85
PDAR **Pinedale Array** 85.09 334 P P 19 27 49.4 +0.2
comp=E,1.5nm,1.1s,baz=158,slow=4.7,SNR=8.7
J20A **Shoshoni** 85.09 335 ⇑P P 19 27 49.0 -0.1
baz=85
G26A **Maurine** 85.15 340 ⇑P P 19 27 49.0 -0.2
baz=85
I21A **Big Trails, Te** 85.24 336 ⇓P P 19 27 49.9 +0.1
baz=85
J19A **Crowheart** 85.35 335 ⇓P P 19 27 50.5 +0.1
baz=86
F27A **Lemmon** 85.52 340 ⇓P P 19 27 51.3 +0.3
baz=86
F26A **Lodgepole** 85.68 340 ⇓P P 19 27 51.7 -0.2
baz=86
G24A **Alzada** 85.70 339 ⇓P P 19 27 52.5 +0.4
baz=86
E28A **Huff** 85.82 341 ⇓P P 19 27 52.9 +0.4
baz=86
TORD **Torodi Ar. Bea** 85.93 71 P P 19 27 53.7 -0.1
comp=E,1.7nm,1.1s,baz=294,slow=3.6,SNR=4.0
F25A **Bowman** 85.97 339 ⇓P P 19 27 52.9 -0.3
baz=86
D29A **Pettibone, Tap** 86.00 342 ⇓P P 19 27 52.9 -0.4
baz=86
H20A **Greybull** 86.07 336 ⇓P P 19 27 53.9 0.0
baz=86
F24A **Ekalaka** 86.18 339 ⇓P P 19 27 54.3 0.0
baz=86
E26A **Carlson Angus** 86.19 340 ⇑P P 19 27 54.3 0.0
baz=86
C30A **Mose, Pekin** 86.33 343 ⇓P P 19 27 55.1 +0.2
baz=86
F23A **Volborg** 86.36 338 ⇑P P 19 27 54.9 -0.3
baz=87
D28A **Regan** 86.36 342 ⇓P P 19 27 54.9 -0.2
baz=87
I17A **Pilgrim Ck.** 86.45 334 ⇓P P 19 27 56.0 +0.1
baz=87
G21A **Lodge Grass** 86.47 337 ⇑P P 19 27 55.0 -0.8
baz=87
H19A **Powell** 86.56 335 ⇓P P 19 27 56.2 -0.1
baz=87
F22A **Rosebud** 86.67 338 ⇑P P 19 27 56.5 -0.2
baz=87
D26A **Manning** 86.70 341 ⇑P P 19 27 56.9 +0.1
baz=87
G20A **Bridger** 86.79 336 ⇑P P 19 27 56.7 -0.7
baz=87
H18A **Shoshone NF, C** 86.80 335 ⇓P P 19 27 57.1 -0.5
baz=87
H17A **Grant Village** 86.87 334 ⇓P P 19 27 57.6 -0.3
baz=87
B30A **Myrvik Farm, E** 87.00 344 ⇑P P 19 27 57.9 -0.3
baz=87
C27A **Sayler Ranch,** 87.08 341 ⇓P P 19 27 58.7 +0.1
baz=87
B29A **Wagenman Farm,** 87.25 343 ⇑P P 19 27 59.3 -0.1
baz=88
D24A **Glendive** 87.30 339 ⇓P P 19 27 59.9 +0.2
baz=88
A30A **Hoffart Farm,** 87.45 344 ⇑P P 19 28 00.1 -0.2
baz=88
B28A **Dugan Ranch, T** 87.48 342 ⇓P P 19 28 00.9 +0.4
baz=88
HLID **Hailey** 87.57 331 ⇑P P 19 28 01.9 +0.6
baz=88
F19A **Roth Farm, Mol** 87.59 336 ⇓P P 19 28 01.1 -0.2
baz=88
A29A **Manning Farm,** 87.65 343 ⇑P P 19 28 01.2 -0.1
baz=88
D22A **Cohagen** 87.88 338 ⇑P P 19 28 02.6 +0.1
baz=88
A28A **Rude Farm, Bot** 87.88 343 ⇓P P 19 28 02.5 +0.1
baz=88
E20A **Meyer Farm, Mu** 87.90 337 ⇑P P 19 28 02.5 -0.2
baz=88
D21A **La Casta Ranch** 88.05 338 ⇓P P 19 28 02.9 -0.5
baz=88
MCMT **McKenzie Canyo** 88.06 333 eP P 19 28 04.5 +0.8
comp=E,4.9nm,1.2s
E19A **Rath Farm, Rou** 88.08 336 ⇑P P 19 28 03.2 -0.3
baz=88
C23A **Lambert** 88.17 339 ⇑P P 19 28 04.2 +0.3
baz=88
ULM **Lac du Bonnet** 88.18 346 P P 19 28 01.6 -2.1
comp=E,5.0nm,0.7s,baz=175,slow=3.5,SNR=14
A26A **Wade Farm, Ken** 88.31 342 ⇑P P 19 28 04.8 +0.4
baz=88
D20A **Manuel Ranch,** 88.42 337 ⇓P P 19 28 05.2 +0.1
baz=89
DGMT **Dagmar** 88.50 340 ⇑P P 19 28 05.4 0.0
baz=89
A25A **Svangstu Ranch** 88.63 341 ⇓P P 19 28 06.3 +0.3
baz=89
B22A **Reddig Ranch S** 88.86 339 ⇑P P 19 28 07.4 +0.3
baz=89
M04C **Macdoel** 89.24 326 ⇑P P 19 28 10.6 +1.4
baz=89
A22A **Carney Farms,** 89.46 339 ⇓P P 19 28 10.0 +0.1
baz=90
MSO **Missoula** 90.17 333 ⇓P P 19 28 13.7 +0.3
baz=90
A19A **Klindworth Far** 90.24 338 ⇓P P 19 28 13.4 -0.2
baz=90
H11S2 **WAKE ISLAND Hyl** 24.62 268 T T 21 51 18.5
baz=118,slow=74,SNR=2.4
H11S1 **WAKE ISLAND Hyl** 24.64 269 T T 21 51 14.1
baz=118,slow=74,SNR=6.4
H11S3 **WAKE ISLAND Hyl** 24.64 268 T T 21 51 18.1
baz=118,slow=74,SNR=3.0
H11N1 **WAKE ISLAND Hyl** 25.10 270 T T 21 51 40.3
SNR=5.8
ABKAR **Akbulak array** 143.79 54 ePKPpre PKPpre 19 34 43.6
BVAR **Borovoye Array** 149.51 45 PKPbc **PKPbc** 19 35 00.2 -1.7
comp=E,1.1nm,0.6s,baz=296,slow=4.2,SNR=9.2
YAK **Yakutsk** 150.23 338 ePKPbc **PKPbc** 19 35 02.9 -0.5

MKAR Makanchi Array 158.91 52 PKP **PKPdf 19 35 10.9 +0.1**
comp=E,0.4nm,0.8s,baz=202,slow=2.6,SNR=4.2

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*IDC **08** 19:27:03.4±1.2, 34°.18S×56°.09E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/36, mbtmp3.6/4, Error ellipse: s-maj=42.8km s-min=32.5km az=87.0*

ISC 08 19:27:04.4±1.3, 34°.1S±0°.2×56°.0E±0°.4, h10km, n13, σ0§79/7, mb3.7/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**30.44**	**34**	T	T	20 04 41.4	
	baz=207,slow=75,SNR=18						
H08S2	**Diego Garcia H**	**30.45**	**34**	T	T	20 04 41.9	
	baz=207,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**30.46**	**34**	T	T	20 04 42.8	
	baz=207,slow=75,SNR=20						
H08N3	**Diego Garcia H**	**30.95**	**30**	T	T	20 05 20.3	
	baz=204,slow=76,SNR=28						
H08N1	**Diego Garcia H**	**30.96**	**30**	T	T	20 05 22.1	
	baz=204,slow=76,SNR=27						
H08N2	**Diego Garcia H**	**30.97**	**30**	T	T	20 05 24.2	
	baz=204,slow=76,SNR=17						
QSPA	**South Pole Qui**	**56.04**	**180**	P	**P**	**19 36 42.8**	**-0.4**
	1.4nm,1.0s,baz=233,slow=5.1,SNR=2.4						
CMAR	**Chiang Mai Arr**	**66.40**	**45**	P	**P**	**19 37 53.1**	**-0.6**
	0.4nm,0.8s,baz=239,slow=8.8,SNR=4.3						
ASAR	**Alice Springs**	**67.54**	**104**	P	**P**	**19 38 01.6**	**+0.4**
	0.6nm,1.1s,baz=239,slow=7.2,SNR=3.8						
WRA	**Warramunga Arr**	**69.70**	**101**	P	**P**	**19 38 15.1**	**+0.4**
	0.4nm,0.8s,baz=238,slow=5.8,SNR=4.1						
INK	**Inuvik**	**145.35**	**6**	PKPbc	**PKPab**	**19 46 41.3**	**-0.2**
	2.4nm,0.9s,baz=346,slow=4.0,SNR=7.9						
ILAR	**Eielson Array**	**146.33**	**17**	PKPbc	**PKPbc**	**19 46 44.2**	**-0.3**
	0.5nm,0.8s,baz=308,slow=3.5,SNR=5.2						
YKA	**Yellowknife Ar**	**151.00**	**351**	PKPbc	**PKPbc**	**19 46 57.8**	**+1.2**
	0.8nm,0.7s,baz=10,slow=2.2,SNR=16						

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*IDC **08** 19:29:39.4±1.3, 36°.39S×73°.39W, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.7/29, mbtmp3.7/7, ML3.9/2, Error ellipse: s-maj=40.0km s-min=18.0km az=87.0*
*ISCJB **08** 19:29:42.1±1.1, 36°.39S±0°.09×73°.2W±0°.3, h27km, mb3.7/4, Error ellipse: s-maj=31.5km s-min=13.4km az=4.8*

ISC 08 19:29:43.6±1.2, 36°.4S±0°.1×73°.3W±0°.2, h27km, n8, σ0§70/8, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.85**	**154**	Pn	**Pn**	**19 30 55.2**	**+0.4**
	2.5nm,0.3s,baz=332,slow=12,SNR=18						
PLCA				Lg	Lg	19 32 14.9	
	2.2nm,0.3s,baz=306,slow=15,SNR=5.0						
CFAA	**Coronel Fontan**	**6.37**	**43**	Pn	**Pn**	**19 31 16.1**	**+0.4**
	0.3nm,0.3s,baz=213,slow=9.5,SNR=9.3						
LPAZ	**La Paz**	**20.55**	**14**	P	**P**	**19 34 20.1**	**-0.7**
	1.1nm,0.8s,baz=209,slow=10,SNR=3.8						
SIV	**San Ignacio**	**23.06**	**31**	P	**P**	**19 34 46.5**	**-0.5**
	0.6nm,0.4s,baz=207,slow=11,SNR=2.8						
QSPA	**South Pole Qui**	**53.85**	**180**	P	**P**	**19 39 03.5**	**-0.5**
	2.3nm,0.8s,baz=149,slow=4.8,SNR=6.7						
PDAR	**Pinedale Array**	**85.44**	**334**	P	**P**	**19 42 19.6**	**+0.9**
	0.5nm,0.8s,baz=131,slow=6.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**86.00**	**71**	P	**P**	**19 42 21.7**	**-0.1**
	0.3nm,0.6s,baz=251,slow=5.2,SNR=4.0						
BVAR	**Borovoye Array**	**149.73**	**45**	PKPbc	**PKPbc**	**19 49 29.7**	**-0.6**
	0.5nm,0.5s,baz=318,slow=3.9,SNR=4.6						

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*IDC **08** 19:34:04.8±2.3, 50°.88N×179°.07W, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/37, mbtmp3.6/7, ML3.3/1, Error ellipse: s-maj=57.7km s-min=13.4km az=6.0*
*ISCJB **08** 19:34:09.8±2.0, 51°.2N±0°.3×179°.3W±0°.1, h43km, mb3.6/6, Error ellipse: s-maj=50.2km s-min=10.0km az=5.4*

ISC 08 19:34:11.0±2.3, 51°.1N±0°.4×179°.24W±0°.10, h43km, n13, σ1§32/8, mb3.6/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**5.04**	**294**	Pn	**Pn**	**19 35 23.4**	**-0.5**
	3.6nm,0.3s,baz=106,slow=3.2,SNR=7.2						
FX1				Sn	**Sn**	**19 36 20.8**	**0.0**
	baz=270,slow=20,SNR=2.0						
ILAR	**Eielson Array**	**21.67**	**38**	P	**P**	**19 38 56.2**	**-1.4**
	0.2nm,0.5s,baz=232,slow=8.0,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**33.12**	**204**	T	T	20 15 59.0	
	baz=16,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**33.13**	**204**	T	T	20 16 08.9	
	baz=16,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**33.14**	**204**	T	T	20 16 01.8	
	baz=16,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**34.34**	**204**	T	T	20 17 38.1	
	baz=16,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**34.36**	**204**	T	T	20 17 34.7	
	baz=16,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**34.36**	**204**	T	T	20 17 38.3	
	baz=16,slow=76,SNR=9.5						
YKA	**Yellowknife Ar**	**35.66**	**46**	P	**P**	**19 41 03.4**	**-1.0**
	0.5nm,0.7s,baz=283,slow=8.1,SNR=7.6						
SONM	**Songino Array**	**46.54**	**297**	P	**P**	**19 42 34.2**	**0.0**
	0.3nm,0.9s,baz=56,slow=8.0,SNR=3.6						
PDAR	**Pinedale Array**	**46.67**	**72**	P	**P**	**19 42 36.0**	**+0.7**
	1.6nm,0.5s,baz=314,slow=3.4,SNR=20						
SPITS	**Spitsbergen Ar**	**50.68**	**356**	P	**P**	**19 43 07.6**	**+2.2**
	2.8nm,0.4s,baz=23,slow=7.8,SNR=17						
MKAR	**Makanchi Array**	**60.01**	**308**	P	**P**	**19 44 12.4**	**-0.6**
	0.2nm,0.4s,baz=54,slow=6.8,SNR=6.6						

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*DDA **08** 19:46:22.8, 39°.04N×39°.61E, h11km, MD2.8*
*ISK **08** 19:46:25.9, 38°.79N×40°.08E, h5km, MD2.8*

CSEM 08 19:46:25.4±1.3, 38°.83N×39°.80E, h2km, MD2.8, Error ellipse: s-maj=40.8km s-min=21.4km az=55.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.54**	**85**	*e*Pg	Pg	19 46 36.3	+0.3
BNGB	**Bing¨¶l**	**0.71**	**77**	*e*PG	Pg	19 46 36.3	-2.8
ERZN	**Erzincan**	**0.76**	**356**	*e*PG	Pn	19 46 43.3	0.0
ERZN				*e*SG	Sn	19 46 56.1	+0.6
EZC	**Erzincan**	**0.98**	**340**	*e*Pg	Pg	19 46 43.3	-1.2
EZC				*e*Sg	Sg	19 46 56.1	-1.3
BNGL	**BINGOL**	**1.06**	**83**	*i* P	Pg	19 46 44.4	-1.7
BNGL				*i* S	Sg	19 46 56.1	-4.0
KEMA	**Kemaliye**	**1.10**	**294**	*i* P	Pg	19 46 38.9	-7.8
KEMA				*i* S	Sn	19 47 07.6	+3.6
KEMA	**Kemaliye**	**1.10**	**294**	*i* P	Pg	19 46 38.9	-7.8
KEMA				*i* S	Sn	19 47 07.6	+3.7
ILIC	**ilic-Erzincan**	**1.14**	**303**	*e*PN	Pn	19 46 52.9	+4.3
ILIC	**ilic-Erzincan**	**1.14**	**303**	*e*Pn	Pn	19 46 52.9	+4.3
MALT	**Malatya**	**1.19**	**245**	*e*PN	Pn	19 46 53.1	+3.8
MALT	**Malatya**	**1.19**	**245**	*e*Pn	Pn	19 46 53.1	+3.9
VRTB	**Varto-Mus**	**1.33**	**75**	*e*PN	Pg	19 46 48.6	-2.6
VRTB	**Varto-Mus**	**1.33**	**75**	*e*Pn	Pg	19 46 48.6	-2.6
MAZI	**Mazidag**	**1.46**	**159**	*e*PN	Pb	19 46 53.3	-0.2
MAZI	**Mazidag**	**1.46**	**159**	*e*Pn	Pb	19 46 53.3	-0.2
BEST	**Besiri**	**1.49**	**129**	*i* P	Pn	19 46 52.0	-1.3
BEST				*i* S	Sb	19 47 10.5	-3.0
BAYT	**Ayd¨–ntepe-Bay**	**1.58**	**10**	*e*PN	Pg	19 46 56.9	+0.9
BAYT	**Ayd¨–ntepe-Bay**	**1.58**	**10**	*e*Pn	Pg	19 46 56.9	+0.9
EZM	**Erzurum**	**1.62**	**48**	*e*PN	Pn	19 46 55.3	-0.1
MARD	**Mardin**	**1.70**	**153**	*i* P	Pn	19 46 56.5	+0.2
MARD				*i* S	Sn	19 47 16.6	-2.2

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*ISCJB **08** 19:55:30.9±1.2, 33°.4S±0°.1×72°.2W±0°.1, h19km, mb4.1/4, Error ellipse: s-maj=18.8km s-min=11.9km az=36.4*
*GUC **08** 19:55:32.6±0.7, 33°.35S×72°.17W, h31km±7km, ML3.8*
*IDC **08** 19:55:35.2±7.9, 33°.33S×71°.97W, h33km±51km, mb3.8/3, mb1 3.9/6, mb1mx3.8/17, mbtmp3.9/6, ML3.4/3, Error ellipse: s-maj=54.8km s-min=40.6km az=33.0*
*NEIC **08** 19:55:35.2±0.9, 33°.31S×72°.04W, h35km, mb4.2/1, Error ellipse: s-maj=18.6km s-min=15.2km az=60.0*

ISC 08 19:55:33.0±0.9, 33°.30S±0°.07×72°.04W±0°.06, h19km, n19, σ1§03/26, mb4.2/4, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.43**	**51**	⇓*i*P	**Pn**	**19 55 43.7**	**-0.5**
IHA				*i* S1	**Sn**	**19 55 51.2**	**-0.3**
PEL	**Peldehue**	**1.15**	**83**	⇑*i*P	**Pg**	**19 55 54.7**	**-0.5**
PEL				*i* S1	**Sg**	**19 56 12.0**	**+1.7**
PEL				AML	AML	19 56 19.2	
	comp=N,5μm,0.6s						
STL	**Santa Lucia**	**1.18**	**97**	⇓*i*P	**Pn**	**19 55 54.0**	**-0.5**
STL				*i* S1	**Sn**	**19 56 10.4**	**+0.3**
ANTU	**Antumapu**	**1.21**	**103**	⇑*i*P	**Pb**	**19 55 55.2**	**-0.1**
ANTU				AML	AML	19 56 17.6	
	comp=N,3μm,0.5s						
CLCH	**Cerro Calan**	**1.26**	**95**	⇓*i*P	**Pb**	**19 55 56.2**	**-0.1**
CLCH				⇓*i*P	**Pg**	**19 55 57.0**	**-0.5**
CLCH				*i* S1	**Sg**	**19 56 14.6**	**+0.6**
CLCH				*i* S1	**Sg**	**19 56 15.2**	**+1.2**
CLCH				AML	AML	19 56 20.1	
	comp=E,3μm,0.7s						
FCH	**Farellones**	**1.47**	**92**	AML	AML	19 56 29.4	
	comp=E,2μm,0.3s						
NICH	**Los Niches**	**1.83**	**159**	*e*S1	**Sn**	**19 56 26.5**	**+0.4**
CMCH	**Combarbala**	**2.29**	**23**	*e*P1	**Pn**	**19 56 10.9**	**+1.0**
CFAA	**Coronel Fontan**	**3.63**	**63**	Pn	**Pn**	**19 56 30.5**	**+2.2**
	comp=E,0.6nm,0.3s,baz=240,slow=8.1,SNR=26						
CFAA				Pg	**Pg**	**19 56 40.4**	**-2.2**
	comp=E,2.0nm,0.3s,baz=237,slow=15,SNR=31						
CFAA				Lg	Lg	19 57 31.4	
	comp=E,1.4nm,0.3s,baz=11,slow=16,SNR=6.3						
TRQA	**Tornquist**	**9.46**	**123**	*e*P	**Pn**	**19 57 48.5**	**+0.2**
	comp=E,11nm,1.0s						
LPAZ	**La Paz**	**17.30**	**13**	P	**Pn**	**19 59 34.1**	**0.0**
	comp=E,0.1nm,0.3s,baz=190,slow=9.9,SNR=12						
SIV	**San Ignacio**	**19.88**	**33**	P	**P**	**20 00 02.5**	**-0.9**
	comp=E,0.1nm,0.3s,baz=227,slow=16,SNR=7.6						
SAML	**Samuel**	**25.57**	**21**	*e*P	**P**	**20 01 00.7**	**-0.3**
	comp=E,6.0nm,0.9s						
NVAR	**Mina Array Bea**	**83.31**	**325**	P	**P**	**20 08 00.4**	**+1.7**
	comp=E,0.5nm,0.8s,baz=163,slow=6.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**83.97**	**70**	P	**P**	**20 08 02.8**	**+0.4**
	comp=E,1.7nm,0.7s,baz=260,slow=4.7,SNR=11						
ULM	**Lac du Bonnet**	**85.82**	**345**	P	**P**	**20 08 10.8**	**0.0**
	comp=E,0.7nm,0.4s,baz=149,slow=5.9,SNR=3.2						
WRA	**Warramunga Arr**	**121.37**	**209**	PKP	**PKPdf**	**20 14 24.6**	**-1.0**
	comp=E,0.3nm,0.9s,baz=162,slow=1.7,SNR=4.3						
ZALV	**Zalesovo Beam**	**153.63**	**32**	PKPbc	**PKPbc**	**20 15 28.6**	**-1.3**
	comp=E,1.1nm,0.5s,baz=313,slow=2.7,SNR=7.5						
ZALV				PKPab	**PKPab**	**20 15 41.7**	**-0.9**
	comp=E,0.8nm,0.6s,baz=306,slow=3.4,SNR=5.3						
MKAR	**Makanchi Array**	**156.30**	**48**	PKPab	**PKPab**	**20 15 54.2**	**-0.1**
	comp=E,1.2nm,0.6s,baz=297,slow=4.2,SNR=15						

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*ISCJB **08** 19:56:48.1±1.2, 34°.8S±0°.1×72°.2W±0°.1, h10km, mb4.0/4, Error ellipse: s-maj=16.1km s-min=13.3km az=39.6*
*IDC **08** 19:56:48.0±1.4, 34°.83S×72°.11W, h0km, mb4.0/4, mb1 4.3/6, mb1mx4.1/17, mbtmp4.1/6, ML4.0/2, Error ellipse: s-maj=41.8km s-min=28.6km az=116.0*
*GUC **08** 19:56:50.1±0.6, 34°.66S×72°.09W, h12km±10km, ML4.7*

ISC 08 19:56:49.4±1.2, 34°.76S±0°.08×72°.14W±0°.10, h10km, n14, σ1§82/18, mb4.1/4, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.79**	**108**	⇑*i*P	**Pg**	**19 57 04.9**	**+0.3**
NICH				*i* S1	**Sn**	**19 57 15.8**	**-2.7**
ANTU	**Antumapu**	**1.72**	**47**	*e*P1	**Pn**	**19 57 18.7**	**-0.8**
ANTU				AML	AML	19 57 46.7	
	comp=E,12μm,0.7s						
IHA	**Instituto Hidr**	**1.77**	**14**	*e*P1	**Pn**	**19 57 18.4**	**-1.7**
IHA				*i* S1	**Sn**	**19 57 40.7**	**-2.1**
STL	**Santa Lucia**	**1.81**	**44**	*e*P1	**Pn**	**19 57 19.4**	**-1.3**
STL				*i* S1	**Sn**	**19 57 41.5**	**-2.3**
CLCH	**Cerro Calan**	**1.90**	**45**	⇓*i*P	**Pn**	**19 57 20.7**	**-1.3**
CLCH				AML	AML	19 57 52.0	
	comp=E,14μm,0.7s						
CLCH				AML	AML	19 57 52.7	
	comp=E,16μm,0.6s						
PEL	**Peldehue**	**2.01**	**37**	*e*P1	**Pn**	**19 57 22.9**	**-0.6**
PEL				*e*S1	**Sn**	**19 57 47.9**	**-0.9**
PEL				AML	AML	19 57 57.3	
	comp=N,14μm,0.4s						
FCH	**Farellones**	**2.10**	**48**	AML	AML	19 58 08.1	
	comp=N,4μm,0.5s						
CFAA	**Coronel Fontan**	**4.54**	**47**	Pn	**Pn**	**19 57 59.5**	**+1.3**
	comp=N,1.7nm,0.3s,baz=254,slow=12,SNR=2.4						
CFAA				Sn	**Sn**	**19 58 55.3**	**+4.3**
	comp=N,1.2nm,0.3s,baz=170,slow=18,SNR=1.8						
LPAZ	**La Paz**	**18.74**	**12**	P	**P**	**20 01 09.8**	**+0.7**
	comp=N,0.6nm,0.3s,baz=187,slow=6.1,SNR=12						
SIV	**San Ignacio**	**21.16**	**31**	P	**P**	**20 01 33.7**	**-1.2**
	comp=N,5.6nm,0.8s,baz=216,slow=8.7,SNR=7.7						
BOSA	**Boshof**	**79.80**	**118**	P	**P**	**20 08 58.2**	**-0.1**
	comp=N,3.4nm,0.9s,baz=222,slow=6.6,SNR=4.8						
NVAR	**Mina Array Bea**	**84.46**	**325**	P	**P**	**20 09 23.7**	**+1.3**
	comp=N,0.4nm,0.8s,baz=163,slow=6.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**84.55**	**70**	P	**P**	**20 09 23.9**	**+0.8**
	comp=N,1.5nm,1.1s,baz=213,slow=5.0,SNR=3.2						
WRA	**Warramunga Arr**	**120.06**	**209**	PKP	**PKPdf**	**20 15 40.6**	**-0.3**
	comp=N,0.3nm,0.8s,baz=153,slow=1.8,SNR=5.4						

IDC 08 20:01:39.0±2.0, 1°.75N×126°.10E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/31, mbtmp3.4/3, Error ellipse: s-maj=173.0km s-min=24.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.02**	**160**	P	P	20 06 45.7	-0.2
	0.9nm,0.4s,baz=338,slow=10,SNR=17						
ASAR	**Alice Springs**	**26.38**	**164**	P	P	20 07 17.2	0.0
	0.2nm,0.5s,baz=344,slow=7.0,SNR=7.4						
MKAR	**Makanchi Array**	**58.83**	**326**	P	P	20 11 39.5	+0.1
	0.2nm,0.4s,baz=122,slow=7.7,SNR=6.8						

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*IDC **08** 20:07:24.2±3.2, 41°.41N×108°.70W, h0km, mb2.6/1, mb1 3.1/1, mb1mx2.9/27, mbtmp2.7/1, Error ellipse: s-maj=58.3km s-min=19.3km az=61.0*
*ISCJB **08** 20:07:30.1±0.3, 41°.67N±0°.02×108°.66W±0°.02, h0km, mb2.6/1, Error ellipse: s-maj=2.5km s-min=2.3km az=167.3*
*NEIC **08** 20:07:30.5±0.5, 41°.76N×108°.62W, h0km, ML2.7, Error ellipse: s-maj=6.8km s-min=4.8km az=89.0, Suspected Mining explosion.*
NEIC 50 km [30 miles] ENE of Rock Springs.

ISC 08 20:07:28.4±0.7, 41°.61N±0°.02×108°.73W±0°.02, h0km, n58, σ1§13/73, 22C-21D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
N20A	**Spence Gulch,**	**0.85**	**155**	⇑P	**Pn**	**20 07 46.8**	**-1.1**
	baz=1.0,SNR=53						
BW06	**Boulder Array**	**1.31**	**332**	*e*Pg	**Pg**	**20 07 53.3**	**-0.2**
PDAR	**Pinedale Array**	**1.31**	**332**	Pg	**Pg**	**20 07 53.9**	**+0.4**
	10nm,0.3s,baz=148,slow=18,SNR=311						
PDAR				Lg	Lg	20 08 11.2	
	14nm,0.3s,baz=130,slow=31,SNR=17						
K21A	**Alcova**	**1.50**	**47**	⇑P	**Pn**	**20 07 56.4**	**-0.4**
	baz=1.3						
K21A				⇓S	**Sg**	**20 08 16.4**	**-0.3**
	baz=1.3						
O20A	**White River Ci**	**1.52**	**166**	⇓P	**Pg**	**20 07 58.7**	**+1.3**
	baz=1.7,SNR=100						
O20A				⇓S	**Sn**	**20 08 20.1**	**+2.5**
	baz=1.7						
O20A	**White River Ci**	**1.52**	**166**	*e*P	**Pg**	**20 07 58.8**	**+1.3**
M22A	**Cedar Creek Ra**	**1.61**	**97**	⇑P	**Pn**	**20 07 58.0**	**-0.4**
	baz=1.6						
M22A				⇑S	**Sg**	**20 08 20.9**	**+0.6**
	baz=1.6						
J19A	**Crowheart**	**1.67**	**352**	⇓Pb	**Pn**	**20 07 59.7**	**+0.5**
	baz=1.5,SNR=349						
J19A				⇑Sb	**Sb**	**20 08 22.2**	**+0.3**
	baz=1.5						
L22A	**Ellis Ranch, M**	**1.77**	**75**	⇑Pg	**Pg**	**20 08 02.0**	**-0.3**
	baz=1.7,SNR=114						
L22A				⇑Sb	**Sg**	**20 08 25.8**	**+0.7**
	baz=1.7						
J20A	**Shoshoni**	**1.81**	**15**	⇓Pg	**Pb**	**20 08 02.4**	**0.0**
	baz=1.6,SNR=162						
J20A				⇑Sb	**Sb**	**20 08 26.3**	**+0.5**
	baz=1.6						
N22A	**Wattenberg Ran**	**1.90**	**114**	⇓Pb	**Pb**	**20 08 03.9**	**-0.1**
	baz=1.9,SNR=75						
N22A				⇓S	**Sb**	**20 08 28.6**	**+0.2**
	baz=1.9						
K22A	**Casper**	**1.94**	**57**	⇑Pb	**Pb**	**20 08 03.8**	**-1.0**
	baz=1.8,SNR=88						
K22A				⇓Sb	**Sb**	**20 08 30.4**	**+0.7**
	baz=1.8						
K22A	**Casper**	**1.94**	**57**	*e*Pn	**Pn**	**20 08 03.4**	**+0.5**
J21A	**Lysite**	**1.98**	**28**	⇑Pg	**Pb**	**20 08 05.3**	**-0.1**
	baz=1.8,SNR=23						
J21A				⇓Sb	**Sg**	**20 08 32.1**	**+0.1**
	baz=1.8						
TCUT	**Toone Canyon**	**2.08**	**257**	*e*Pn	**Pb**	**20 08 06.2**	**-0.9**
AHID	**Auburn Hatcher**	**2.11**	**304**	*e*Pn	**Pb**	**20 08 07.5**	**-0.2**
HWUT	**Hardware Ranch**	**2.13**	**271**	*e*Pn	**Pb**	**20 08 07.4**	**-0.6**
O22A	**Kremmling**	**2.20**	**130**	⇑Pb	**Pb**	**20 08 09.2**	**0.0**
	baz=2.2,SNR=155						
O22A				⇓Sb	**Sg**	**20 08 39.1**	**+0.2**
	baz=2.2						
N23A	**Red Feather La**	**2.22**	**108**	⇑Pb	**Pb**	**20 08 09.5**	**-0.1**
	baz=2.2,SNR=292						
N23A				⇓Sb	**Sb**	**20 08 38.4**	**+0.8**
	baz=2.2						
DAU	**Daniels Canyon**	**2.25**	**239**	*e*Pn	**Pb**	**20 08 10.9**	**+0.7**
M23A	**Laramie**	**2.26**	**93**	⇑Pb	**Pb**	**20 08 09.3**	**-0.9**
	baz=2.2,SNR=19						
M23A				⇑Sb	**Sb**	**20 08 39.4**	**+0.6**
	baz=2.2						
JLU	**Jordanelle**	**2.29**	**245**	*e*Pn	**Pg**	**20 08 12.0**	**-0.3**
L23A	**Garrett**	**2.32**	**76**	⇑Pb	**Pb**	**20 08 09.7**	**-1.5**
	baz=2.2,SNR=146						
L23A				⇓Sb	**Sb**	**20 08 40.9**	**+0.5**
	baz=2.2						
I20A	**Worland**	**2.38**	**10**	⇑Pb	**Pb**	**20 08 11.2**	**-1.1**
	baz=2.2,SNR=30						
I20A				⇑Sb	**Sb**	**20 08 42.8**	**+0.6**
	baz=2.2						
I19A	**Meeteetse**	**2.44**	**355**	⇓Pb	**Pb**	**20 08 12.3**	**-0.9**
	baz=2.3						
I19A				⇓Sb	**Sb**	**20 08 44.5**	**+0.7**
	baz=2.3						
I21A	**Big Trails, Te**	**2.44**	**25**	⇑Pb	**Pb**	**20 08 11.9**	**-1.4**
	baz=2.3,SNR=145						
I21A				⇑Sb	**Sb**	**20 08 43.7**	**-0.3**
	baz=2.3						
J22A	**Midwest**	**2.45**	**42**	⇓Pb	**Pb**	**20 08 12.2**	**-1.3**
	baz=2.3,SNR=54						
J22A				⇑Sb	**Sb**	**20 08 44.1**	**-0.3**
	baz=2.3						
CTU	**Camp Tracy**	**2.46**	**249**	*e*Pn	**Pb**	**20 08 14.0**	**+0.4**
P22A	**Eagle**	**2.51**	**143**	⇓Pb	**Pb**	**20 08 15.0**	**+0.6**
	baz=2.6						
P22A				⇓Sb	**Sg**	**20 08 49.0**	**+0.1**
	baz=2.6						
O23A	**Lake Granby, G**	**2.55**	**122**	⇑Sb	**Sg**	**20 08 50.0**	**-0.2**
	baz=2.6						
K23A	**Bowen Ranch, D**	**2.58**	**63**	⇓Pb	**Pb**	**20 08 14.3**	**-1.2**
	baz=2.4						
I17A	**Pilgrim Ck.**	**2.68**	**330**	⇓Sb	**Sb**	**20 08 52.4**	**+1.4**
	baz=2.6						
MPU	**Maple Canyon**	**2.72**	**235**	*e*Pn	**Pg**	**20 08 19.7**	**-0.8**
SPUT	**South Promonto**	**2.81**	**265**	*e*Pn	**Pb**	**20 08 18.1**	**-1.5**
I22A	**9 Mile Ranch,**	**2.82**	**35**	⇓Pb	**Pb**	**20 08 18.6**	**-1.1**
	baz=2.6,SNR=42						
I22A				⇑Sb	**Sb**	**20 08 55.0**	**+0.2**
	baz=2.6						
SRU	**San Rafael Swe**	**2.85**	**209**	*e*Pn	**Pb**	**20 08 18.4**	**-1.8**
L24A	**Wheatland**	**2.87**	**80**	⇓Sb	**Sb**	**20 08 57.8**	**+1.5**
	baz=2.8						
ISCO	**Idaho Springs**	**2.98**	**126**	*e*Pn	**Pb**	**20 08 20.0**	**-2.5**
TMUT	**Trail Mountain**	**2.98**	**220**	*e*Pn	**Pb**	**20 08 23.7**	**+1.1**
NLU	**North Lily Min**	**3.03**	**238**	Pn	**Pb**	**20 08 21.2**	**-2.2**
HVU	**Hansel Valley**	**3.04**	**275**	*e*Pn	**Pb**	**20 08 23.3**	**-0.1**
H17A	**Grant Village**	**3.10**	**335**	*e*Pn	**Pb**	**20 08 23.5**	**-1.0**
LKWY	**Lake**	**3.20**	**338**	*e*Pn	**Pb**	**20 08 24.7**	**-1.5**
PV04	**Paradox Valley**	**3.21**	**182**	*e*Pn	**Pb**	**20 08 23.9**	**-2.5**
YFT	**Old Faithful**	**3.23**	**332**	*e*Pg	**Pg**	**20 08 31.2**	**+0.8**
DUG	**Dugway, Tooele**	**3.40**	**247**	Pn	**Pb**	**20 08 27.0**	**-2.7**
YMR	**Madison River**	**3.47**	**333**	Pg	**Pg**	**20 08 34.1**	**-0.8**
PV01	**Paradox Valley**	**3.47**	**178**	*e*Pn	**Pb**	**20 08 27.8**	**-3.1**
RLMT	**Red Lodge**	**3.54**	**354**	*e*Pn	**Pn**	**20 08 26.8**	**+2.0**
QLMT	**Earthquake Lak**	**3.78**	**329**	*e*Pg	**Pg**	**20 08 39.3**	**-1.5**
MVU	**Marysvale**	**4.09**	**222**	Pn	Pb	20 08 37.1	-4.4
RSSD	**Black Hills**	**4.27**	**52**	Pn	**Pn**	**20 08 34.0**	**-0.8**
MVCO	**Mesa Verde**	**4.39**	**178**	*e*Pn	Pn	20 08 41.1	+4.5
MCMT	**McKenzie Canyo**	**4.41**	**318**	Pg	**Pg**	**20 08 53.5**	**+0.7**
LRM	**Limekiln Ridge**	**5.00**	**329**	*e*Pn

ESO	**Esso**	**2.98**	**267**	*eP*	**Pn**	**20 14 01.5**	**+1.1**
ESO				*eS*	**Sn**	**20 14 37.0**	**+0.8**
SDLR	**Sedlovina**	**4.15**	**227**	*eP*	**Pn**	**20 14 17.7**	**+1.1**
KRER	**Koryakskii**	**4.19**	**229**	*eP*	**Pn**	**20 14 18.4**	**+1.2**
KRX	**Arik**	**4.20**	**230**	*eP*	**Pn**	**20 14 18.1**	**+0.9**
SMAR	**Somma**	**4.20**	**228**	*eP*	**Pn**	**20 14 18.5**	**+1.2**
KOK	**Koryaka**	**4.25**	**229**	*eP*	**Pn**	**20 14 19.0**	**+1.1**
GNL	**Ganaly**	**4.29**	**237**	*eP*	**Pn**	**20 14 20.0**	**+1.5**
PETK	**Petropavlovsk-**	**4.78**	**232**	Pn	**Pn**	**20 14 26.0**	**+0.9**
	0.4nm,0.3s,baz=82,slow=12,SNR=3.7						
PETK				Sn	Sn	20 15 08.7	-12
	0.8nm,0.3s,baz=12,slow=30,SNR=4.4						
RUS	**Russkaya**	**4.94**	**223**	*eP*	**Pn**	**20 14 28.2**	**+0.9**
MTVR	**Mutnovka**	**5.03**	**225**	*eP*	**Pn**	**20 14 29.2**	**+0.5**
APC	**Apacha**	**5.15**	**233**	*eP*	**Pn**	**20 14 31.3**	**+1.2**
ILAR	**Eielson Array**	**25.05**	**50**	P	**P**	**20 18 37.6**	**+0.4**
	0.8nm,0.9s,baz=271,slow=7.4,SNR=6.6						
INK	**Inuvik**	**30.04**	**41**	P	**P**	**20 19 23.1**	**+1.4**
	0.6nm,0.5s,baz=293,slow=5.8,SNR=4.8						
SONM	**Songino Array**	**35.45**	**281**	P	**P**	**20 20 08.7**	**-0.8**
	0.2nm,0.4s,baz=62,slow=7.6,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**36.47**	**175**	T	T	20 59 10.2	
	baz=357,slow=76,SNR=163						
H11N3	**WAKE ISLAND Hy**	**36.48**	**175**	T	T	20 59 04.2	
	baz=357,slow=76,SNR=88						
H11N1	**WAKE ISLAND Hy**	**36.49**	**175**	T	T	20 59 09.9	
	baz=357,slow=76,SNR=133						
YKA	**Yellowknife Ar**	**39.36**	**46**	P	**P**	**20 20 43.4**	**+1.1**
	0.3nm,0.4s,baz=300,slow=8.1,SNR=4.9						
MKAR	**Makanchi Array**	**48.86**	**295**	P	**P**	**20 21 57.1**	**-1.5**
	0.2nm,0.4s,baz=58,slow=5.6,SNR=8.0						
PDAR	**Pinedale Array**	**54.10**	**65**	P	**P**	**20 22 39.9**	**+1.7**
	1.1nm,1.0s,baz=5.7,slow=3.0,SNR=3.8						
FINES	**FINESS Array B**	**58.14**	**338**	P	**P**	**20 23 05.8**	**-0.6**
	0.6nm,0.5s,baz=28,slow=6.5,SNR=3.3						
NOA	**NORSAR Array B**	**61.16**	**345**	P	**P**	**20 23 26.6**	**-0.6**
	0.4nm,0.7s,baz=30,slow=9.3,SNR=3.0						
WRA	**Warramunga Arr**	**79.87**	**208**	P	**P**	**20 25 21.2**	**-0.5**
	0.3nm,0.8s,baz=15,slow=5.8,SNR=3.8						

ISCJB ***08*** *20:22:35.2±0.3,30.″30N±0.″02×140.″80E±0.″06,h91km, mb4.2/28,Error ellipse: s-maj=7.2km s-min=2.8km az=171.6*
JMA ***08*** *20:22:36.5±0.1,30.″50N×141.″52E,h49km,M4.7*
MOS ***08*** *20:22:36.2±0.9,30.″27N×140.″82E,h105km,mb4.4/16, Error ellipse: s-maj=15.5km s-min=7.7km az=104.1*
IDC ***08*** *20:22:37.4±1.2,30.″26N×140.″82E,h97km±12km,mb3.8/21, mb1 4.0/24,mb1mx3.9/39,mbtmp4.1/24,Error ellipse: s-maj=15.7km s-min=8.5km az=75.0*
BJI ***08*** *20:22:38.0,30.″40N×141.″10E,h120km,mB4.8/6,mb4.7/12*
NEIC ***08*** *20:22:38.6±0.8,30.″29N×140.″96E,h113km±7km,mb4.5/9, Error ellipse: s-maj=9.8km s-min=6.5km az=89.0*
ISC 08 20:22:36.6±0.4,30.″33N±0.″05×140.″87E±0.″08,h91km,n98,
σ1º20/110,mb4.2/28,5C-2D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.89**	**342**	P	**Pn**	**20 23 22.6**	**+2.0**
JHCJ				S	**Sn**	**20 23 54.7**	**+0.2**
JHJ2	**Mitsune**	**2.92**	**342**	P	**Pn**	**20 23 22.9**	**+1.9**
JHJ2				S	**Sn**	**20 23 56.0**	**+0.7**
CBIJ	**Chichi jima**	**3.42**	**160**	P	**Pn**	**20 23 29.0**	**+1.2**
CBIJ	**Chichi jima**	**3.42**	**160**	P	**Pn**	**20 23 29.1**	**+1.4**
CBIJ				S	**Sn**	**20 24 06.9**	**-0.4**
JCJ	**Chichijima**	**3.42**	**160**	P	**Pn**	**20 23 29.1**	**+1.3**
	29nm,0.3s,baz=121,slow=22,SNR=28						
JCJ				S	**Sn**	**20 24 06.9**	**-0.4**
	61nm,0.3s,baz=293,slow=22,SNR=8.8						
JHHJ	**Haha-jima-NKT**	**3.86**	**162**	S	**Sn**	**20 24 19.1**	**+1.2**
BSO1	**Boso 1**	**4.32**	**1**	P	**Pn**	**20 23 39.7**	**+0.3**
BSO1				S	**Sn**	**20 24 27.8**	**-0.5**
BSO3	**Boso 3**	**4.47**	**356**	P	**Pn**	**20 23 42.3**	**+0.5**
BSO3				*eS*	**Sn**	**20 24 29.8**	**-2.7**
BSO4	**Boso 4**	**4.67**	**355**	P	**Pn**	**20 23 46.3**	**+1.7**
BSO4				S	**Sn**	**20 24 37.8**	**+0.2**
JOD2	**Odawara 2**	**5.15**	**344**	P	**Pn**	**20 23 52.9**	**+1.7**
JOD2				S	**Sn**	**20 24 50.1**	**+0.8**
JIE	**Ise**	**5.37**	**320**	P	Pn	20 24 00.0	+5.8
JHU	**Hanno**	**5.67**	**347**	P	**Pn**	**20 23 59.9**	**+1.6**
JHU				*eS*	**Sn**	**20 25 01.6**	**-0.4**
JRY	**Ryogami san**	**5.91**	**344**	P	**Pn**	**20 24 03.6**	**+2.0**
JRY				*eS*	**Sn**	**20 25 08.5**	**+0.5**
JYT	**Yasato**	**5.91**	**355**	P	**Pn**	**20 24 02.9**	**+1.3**
JYT				*eS*	**Sn**	**20 25 07.1**	**-0.8**
JAG	**Ashikaga**	**6.20**	**349**	P	**Pn**	**20 24 05.4**	**-0.1**
JAG				*eS*	**Sn**	**20 25 13.1**	**-1.8**
JHO	**Hitachi**	**6.28**	**358**	P	**Pn**	**20 24 06.5**	**0.0**
MJAR	**Matsushiro Arr**	**6.59**	**341**	P	**Pn**	**20 24 13.3**	**+2.5**
MJAR				S	**Sn**	**20 25 26.6**	**+2.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**6.59**	**341**	P	**Pn**	**20 24 13.3**	**+2.5**
	comp=Z,1.1nm,0.3s,baz=164,slow=11,SNR=11						
MJAR				S	**Sn**	**20 25 26.6**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=149,slow=12,SNR=2.8						
MAJO	**Matsushiro**	**6.59**	**341**	↓*eP*	**Pn**	**20 24 13.5**	**+2.7**
MAJO	**Matsushiro**	**6.59**	**341**	*eP*	**Pn**	**20 24 13.7**	**+2.9**
	comp=Z,22nm,0.8s						
MAT	**Matsushiro**	**6.59**	**341**	P	**Pn**	**20 24 13.4**	**+2.6**
MAT				*eS*	**Sn**	**20 25 28.5**	**+4.0**
JFK	**Kawauchi**	**7.02**	**0**	P	**Pn**	**20 24 16.1**	**-0.7**
JMK	**Ichinoseki**	**8.61**	**2**	P	**Pn**	**20 24 37.6**	**-0.7**
JMK				S	Sn	20 26 05.5	-8.2
JNU	**Nakatsue**	**8.96**	**291**	P	Pn	20 24 48.2	+5.1
	comp=Z,0.4nm,0.3s,baz=105,slow=2.8,SNR=3.7						
ERM	**Erimo**	**11.81**	**8**	↑*iP*	**Pn**	**20 25 21.4**	**-0.3**
ERM	**Erimo**	**11.81**	**8**	*eP*	**Pn**	**20 25 21.5**	**-0.3**
KSRS	**Korea Array**	**12.89**	**307**	P	**P**	**20 25 40.7**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=102,slow=37,SNR=4.2						
KSAR	**Wonju Array Be**	**12.91**	**307**	P	P	20 25 40.7	-2.9
KSAR	**Wonju Array Be**	**12.91**	**307**	P	P	20 25 40.7	-2.9
ASAJ	**Asahikawa**	**13.84**	**5**	P	**Pn**	**20 25 49.8**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**13.84**	**5**	P	**Pn**	**20 25 49.8**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=195,slow=8.8,SNR=6.1						
USRK	**Ussuriysk Ar.**	**15.54**	**335**	P	**P**	**20 26 13.8**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=144,slow=11,SNR=6.7						
YSS	**Yuzh-Sakhalins**	**16.67**	**4**	*eP*	**P**	**20 26 25.4**	**+0.1**
YULB	**Yu-li**	**18.77**	**253**	*eP*	**Pn**	**20 26 50.3**	**+0.2**
	comp=Z,25nm,0.8s						
SSLB	**Suanglung**	**18.89**	**255**	*eP*	**Pn**	**20 26 51.8**	**+0.4**
	comp=Z,17nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**25.77**	**108**	T	T	20 55 46.5	
	baz=300,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**25.78**	**108**	T	T	20 55 46.3	
	baz=300,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**25.79**	**108**	T	T	20 55 47.5	
	baz=300,slow=75,SNR=17						
ULN	**Ulaanbaatar**	**31.23**	**314**	↑↑*eP*	**P**	**20 28 46.8**	**-0.7**
ULN				pmax	pmax		
	comp=Z,8.0nm,2.1s						
ULN	**Ulaanbaatar**	**31.23**	**314**	*eP*	**P**	**20 28 47.1**	**-0.4**
	comp=Z,2.2nm,0.5s						
SONM	**Songino Array**	**31.63**	**313**	P	**P**	**20 28 51.0**	**0.0**
	comp=Z,0.7nm,0.5s,baz=128,slow=9.4,SNR=20						
SONM				PcP	**PcP**	**20 31 41.7**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=141,slow=3.6,SNR=5.6						
SEY	**Seymchan**	**33.45**	**10**	P	**P**	**20 29 07.5**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=44,slow=24,SNR=6.1						
ZAK	**Zakamensk**	**34.46**	**316**	*eP*	**P**	**20 29 15.2**	**-0.3**
GTA	**Gaotai**	**34.64**	**296**	*eP*	**P**	**20 29 17.0**	**-0.3**
GTA				PMZ			
	comp=Z,4.0nm,1.1s						
CHTO	**Chiang Mai**	**39.61**	**263**	*eP*	**P**	**20 29 58.8**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHTO	**Chiang Mai**	**39.61**	**263**	*eP*	**P**	**20 29 58.8**	**-0.7**
	comp=Z,2.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**39.76**	**263**	P	**P**	**20 30 00.3**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=57,slow=7.3,SNR=11						
HVS	**Khovu-Aksy**	**40.49**	**315**	↑↑*eP*	**P**	**20 30 06.6**	**+0.1**
SOEI	**Soe**	**42.93**	**204**	*eP*	**P**	**20 30 26.4**	**-0.3**
	comp=Z,4.6nm,0.5s						
BATI	**Baumata**	**43.56**	**205**	P	**P**	**20 30 31.6**	**0.0**
	comp=Z,12nm,0.4s,baz=314,slow=3.3,SNR=11						
TAPN	**Taplejung**	**46.32**	**280**	*eP*	**P**	**20 30 52.5**	**-1.3**
	comp=Z,3.1nm,0.4s						
ZALV	**Zalesovo Beam**	**46.32**	**317**	P	**P**	**20 30 53.7**	**+0.6**
ZALV						20 32 26.3	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**46.32**	**317**	P	**P**	**20 30 53.7**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=89,slow=7.8,SNR=9.2						
ZALV				PcP	**PcP**	**20 32 26.3**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=87,slow=3.1,SNR=3.2						
ODAN	**Odare**	**46.73**	**280**	*eP*	**P**	**20 30 55.7**	**-1.3**
	comp=Z,7.6nm,0.5s						
RAMN	**Ramite**	**47.38**	**280**	*eP*	**P**	**20 31 01.3**	**-0.8**
	comp=Z,5.5nm,0.3s						
JIRN	**Jiri**	**47.52**	**281**	*eP*	**P**	**20 31 02.4**	**-0.9**
	comp=Z,19nm,0.4s						
MKAR	**Makanchi Array**	**47.57**	**307**	P	**P**	**20 31 02.7**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=88,slow=9.8,SNR=26						
MKAR				PcP	**PcP**	**20 32 32.0**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=80,slow=7.3,SNR=8.7						
MKAR				ScP	**ScP**	**20 36 15.6**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=76,slow=5.1,SNR=5.1						
GUN	**Gumba**	**47.71**	**282**	*eP*	**P**	**20 31 03.5**	**-1.2**
	comp=Z,10nm,0.4s						
PKIN	**Phulchoki**	**48.22**	**281**	*eP*	**P**	**20 31 07.5**	**-1.0**
DMN	**Daman**	**48.45**	**281**	*eP*	**P**	**20 31 09.0**	**-1.3**
	comp=Z,7.2nm,0.5s						
GKN	**Gorkha**	**48.73**	**282**	*eP*	**P**	**20 31 11.7**	**-0.7**
	comp=Z,3.6nm,0.3s						
DANN	**Dangsing**	**49.37**	**283**	*eP*	**P**	**20 31 16.5**	**-0.9**
	comp=Z,10nm,0.4s						
KOLN	**Koldanda**	**49.68**	**282**	*eP*	**P**	**20 31 18.5**	**-1.1**
	comp=Z,11nm,0.5s						
KURK	**Kurchatov**	**49.93**	**313**	*eP*	**P**	**20 31 20.1**	**-0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**49.93**	**313**	*eP*	**P**	**20 31 20.1**	**-0.8**
	comp=Z,1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**49.99**	**313**	P	**P**	**20 31 21.1**	**-0.3**
	comp=Z,2.4nm,0.4s,baz=91,slow=9.8,SNR=27						
WB2	**Warramunga Arr**	**50.37**	**188**	*eP*	**P**	**20 31 23.5**	**-1.0**
WRA	**Warramunga Arr**	**50.37**	**188**	P	**P**	**20 31 24.2**	**-0.3**
WRA						20 32 42.9	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**50.37**	**188**	P	**P**	**20 31 24.2**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=2.8,slow=7.6,SNR=59						
WRA				PcP	**PcP**	**20 32 42.9**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=1.6,slow=4.0,SNR=5.8						
KDAK	**Kodiak Island**	**52.51**	**38**	*iP*	**P**	**20 31 40.4**	**+0.3**
AS31	**Alice Springs**	**54.10**	**188**	*eP*	**P**	**20 31 51.2**	**-1.0**
ASAR	**Alice Springs**	**54.10**	**188**	P	**P**	**20 31 51.6**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**54.10**	**188**	P	**P**	**20 31 51.5**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=8.0,slow=4.3,SNR=31						
BVAR	**Borovoye Array**	**54.91**	**316**	P	**P**	**20 31 57.9**	**+0.2**
	comp=Z,7.3nm,0.5s,baz=105,slow=7.7,SNR=62						
BRVK	**Borovoye**	**54.97**	**316**	*deP*	**P**	**20 31 58.4**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MBWA	**Marble Bar**	**55.08**	**204**	*eP*	**P**	**20 31 58.7**	**-0.5**
ILAR	**Eielson Array**	**55.46**	**30**	P	**P**	**20 32 01.2**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**55.46**	**30**	P	**P**	**20 32 01.1**	**-0.3**
	comp=Z,1.8nm,1.0s,baz=267,slow=5.8,SNR=13						
KKAR	**Karatay Array**	**56.30**	**304**	*eP*	**P**	**20 32 07.3**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KKAR	**Karatay Array**	**56.30**	**304**	*eP*	**P**	**20 32 07.3**	**-0.5**
	comp=Z,6.6nm,0.7s						
ABKAR	**Akbulak array**	**62.04**	**313**	*eP*	**P**	**20 32 47.1**	**-0.2**
	comp=Z,9.9nm,0.4s						
GEYT	**Alibeck**	**66.81**	**301**	P	**P**	**20 33 18.9**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=67,slow=11,SNR=5.5						
YKA	**Yellowknife Ar**	**69.86**	**29**	P	**P**	**20 33 37.2**	**0.0**
	comp=Z,0.5nm,0.9s,baz=291,slow=5.7,SNR=5.4						
FINES	**FINESS Array B**	**74.55**	**333**	P	**P**	**20 34 05.3**	**+0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**74.55**	**333**	P	**P**	**20 34 05.3**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=92,slow=4.1,SNR=9.7						
KBZ	**Khabaz**	**74.98**	**312**	P	**P**	**20 34 08.4**	**+0.4**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KBZ	**Khabaz**	**74.98**	**312**	P	**P**	**20 34 08.4**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=85,slow=5.4,SNR=15						
GNI	**Garni**	**75.41**	**308**	*ceP*	P	20 34 06.0	-4.8
GNI				pmax	pmax		
	comp=Z,27nm,1.7s						
AKASG	**Malin Array Be**	**79.35**	**323**	*ceP*	**P**	**20 34 31.8**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**79.35**	**323**	P	**P**	**20 34 31.9**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=53,slow=5.2,SNR=5.9						
NVAR	**Mina Array Bea**	**79.43**	**52**	P	**P**	**20 34 34.6**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=290,slow=6.3,SNR=14						
NOA	**NORSAR Array B**	**80.19**	**338**	P	**P**	**20 34 38.8**	**+2.1**
	comp=Z,0.9nm,0.9s,baz=28,slow=5.5,SNR=3.6						
BRTR	**Keskin Array B**	**82.98**	**312**	P	**P**	**20 34 52.5**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**82.98**	**312**	P	**P**	**20 34 52.5**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=108,slow=2.8,SNR=5.9						
GERES	**GERESS Array B**	**88.16**	**328**	P	**P**	**20 35 16.0**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=275,slow=16,SNR=3.7						
TXAR	**Lajitas Array**	**94.57**	**52**	P	**P**	**20 35 48.8**	**+1.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**94.57**	**52**	P	**P**	**20 35 48.8**	**+1.3**
	comp=Z,1.1nm,0.9s,baz=280,slow=3.7,SNR=4.9						
TORD	**Torodi Ar. Bea**	**121.59**	**312**	PKP	**PKPdf**	**20 41 19.3**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=11,slow=1.0,SNR=7.8						

CSEM ***08*** *20:25:23.1,38.″70N×29.″26W,h0km,ML3.3*
PDA 08 20:25:23.1±0.9,38.″70N×29.″26W,h0km±8km,MD3.7,
ML3.3,Error ellipse: s-maj=12.9km s-min=7.1km
az=49.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.44**	**99**	*eP*	Pg	20 25 31.3	-0.2
PCED				*eS*	Sg	20 25 37.6	+0.4
PCED				A	A	20 25 40.3	
	1μm,0.4s						
PCED	**Cedros**	**0.44**	**99**	*eP*	Pg	20 25 31.3	-0.2
PCED				*eS*	Sg	20 25 37.6	+0.4
CALA	**Caldeira**	**0.45**	**105**	*eP*	Pg	20 25 31.0	-0.8
CALA				*eS*	Sg	20 25 37.3	-0.5
CALA	**Caldeira**	**0.45**	**105**	*eP*	Pg	20 25 31.0	-0.8
CALA				*eS*	Sg	20 25 37.3	-0.5
HOR	**Horta**	**0.52**	**109**	*eP*	Pg	20 25 32.5	-0.5
HOR	**Horta**	**0.52**	**109**	*eP*	Pg	20 25 32.5	-0.5
PICO	**Pico**	**0.68**	**107**	*eP*	Pg	20 25 35.3	-0.9
PICO				*eS*	Sg	20 25 44.0	-1.1
PICO	**Pico**	**0.68**	**107**	*eP*	Pg	20 25 35.3	-0.9
PICO				*eS*	Sg	20 25 44.0	-1.1
ROSA	**Rosais**	**0.79**	**88**	*eP*	Pg	20 25 36.7	-1.7
ROSA				*eS*	Sg	20 25 46.8	-1.9
ROSA				A	A	20 25 53.4	
	1μm,0.5s						
ROSA	**Rosais**	**0.79**	**88**	*eP*	Pg	20 25 36.7	-1.7
ROSA				*eS*	Sg	20 25 46.8	-1.9
PMAN	**Manadas**	**0.92**	**94**	*eS*	Sg	20 25 49.9	-2.6
PMAN				A	A	20 25 50.4	
	385nm,0.3s						
PMAN	**Manadas**	**0.92**	**94**	*eS*	Sg	20 25 49.9	-2.6
PGRA	**Graciosa**	**1.05**	**71**	*eS*	Sg	20 25 52.5	-4.3
PGRA				A	A	20 25 55.6	
	50nm,0.1s						
PGRA	**Graciosa**	**1.05**	**71**	*eS*	Sg	20 25 52.5	-4.3
TOPO	**Topo**	**1.05**	**95**	*eP*	Pg	20 25 40.0	-3.4
TOPO				*eS*	Sg	20 25 53.1	-4.0
TOPO	**Topo**	**1.05**	**95**	*eP*	Pg	20 25 40.0	-3.4
TOPO				*eS*	Sg	20 25 53.1	-4.0
ADH	**Angra Heroismo**	**1.58**	**91**	*eS*	Sn	20 26 06.1	-7.4
ADH				A	A	20 26 07.5	
	98nm,0.3s						
ADH	**Angra Heroismo**	**1.58**	**91**	*eS*	Sn	20 26 06.1	-7.4
PSET	**Sete Cidades**	**2.92**	**106**	*eP*	Pn	20 26 05.9	-4.9
PSET	**Sete Cidades**	**2.92**	**106**	*eP*	Pn	20 26 05.9	-4.9
PSMA	**Santa Maria**	**3.68**	**116**	*eP*	Pn	20 26 15.7	-5.6
PSMN	**Pico do Norte,**	**3.72**	**116**	*eP*	Pn	20 26 16.2	-5.7
PSMN	**Pico do Norte,**	**3.72**	**116**	*eP*	Pn	20 26 16.2	-5.7

ISCJB ***08*** *20:30:22.6±1.0,33.″10S±0.″05×72.″01W±0.″06,h28km±6km, mb4.3/6,MS3.7/2,Error ellipse: s-maj=9.3km s-min=7.2km az=152.5*
NEIC ***08*** *20:30:23.8,33.″20S×71.″93W,h11km,ML4.4(GUC),After GUC.*
NEIC Felt [III] at Valparaiso and [II] at La Ligua and Quillota.
GUC ***08*** *20:30:23.8±0.3,33.″20S×71.″93W,h11km±2km,ML4.4*
IDC ***08*** *20:30:25.5±5.7,33.″15S×71.″85W,h33km±40km,mb4.2/6, mb1 4.1/10,mb1mx3.9/25,mbtmp4.2/10,ML4.0/4,MS3.0/5, Ms1 3.0/5,ms1mx2.8/27,Error ellipse: s-maj=40.8km s-min=20.1km az=105.0*
ISC 08 20:30:22.0±3.8,33.″18S±0.″04×72.″02W±0.″08,h14km±23km,
n43,σ1º02/48,mb4.4/6,6C-7D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.35**	**65**	↓*iP*	**Pb**	**20 30 30.2**	**+0.2**
IHA				*i* S1	**Sb**	**20 30 34.8**	**-0.7**
IHA	**Instituto Hidr**	**0.35**	**65**	↓*iP*	**Pb**	**20 30 30.2**	**+0.2**
IHA				*i* S	**Sb**	**20 30 34.8**	**-0.7**
PEL	**Peldehue**	**1.12**	**89**	↑*iP*	**Pb**	**20 30 42.8**	**-0.4**
PEL				*e*S1	**Sb**	**20 30 57.1**	**-0.6**
PEL				AML	AML	20 31 00.3	
	comp=E,29μm,0.6s						
PEL	**Peldehue**	**1.12**	**89**	↑*iP*	**Pb**	**20 30 42.8**	**-0.4**
PEL				*e*S	**Sb**	**20 30 57.1**	**-0.6**
SAN	**Santiago**	**1.17**	**104**	↑*iP*	**Pn**	**20 30 43.4**	**-0.7**
SAN				*e*S	**Sb**	**20 30 58.4**	**-0.8**
SAN				AML	AML	20 31 05.0	
	comp=N,9μm,0.5s						
SAN	**Santiago**	**1.17**	**104**	↑*iP*	**Pn**	**20 30 43.4**	**-0.7**
SAN				*e*S	**Sb**	**20 30 58.4**	**-0.8**
ANTU	**Antumapu**	**1.22**	**109**	↓*iP*	**Pn**	**20 30 44.3**	**-0.5**
ANTU				*i* S	**Sb**	**20 31 00.1**	**-0.6**
ANTU				AML	AML	20 31 07.1	
	comp=E,12μm,0.4s						
ANTU	**Antumapu**	**1.22**	**109**	↓*iP*	**Pn**	**20 30 44.3**	**-0.5**
ANTU				*i* S	**Sb**	**20 31 00.1**	**-0.6**
CLCH	**Cerro Calan**	**1.26**	**100**	↓*iP*	**Pn**	**20 30 45.0**	**-0.4**
CLCH				*i* S	**Sb**	**20 31 01.0**	**-0.8**
CLCH				AML	AML	20 31 09.8	
	comp=N,14μm,0.6s						
PCH	**Pirque**	**1.33**	**110**	*e*P1	**Pb**	**20 30 46.4**	**-0.5**
PCH	**Pirque**	**1.33**	**110**	*e*P	**Pb**	**20 30 46.4**	**-0.5**
CHCH	**Chadas Angostu**	**1.37**	**124**	↑*iP*	**Pn**	**20 30 46.6**	**-0.2**
CHCH	**Chadas Angostu**	**1.37**	**124**	↑*iP*	**Pn**	**20 30 46.6**	**-0.2**
CACH	**El Canelo**	**1.51**	**129**	↓*iP*	**Pb**	**20 30 49.8**	**-0.2**
CACH	**El Canelo**	**1.51**	**129**	↓*iP*	**Pb**	**20 30 49.8**	**-0.2**
NICH	**Los Niches**	**1.94**	**160**	*e*P1	**Pb**	**20 30 56.0**	**-1.1**
NICH				*e*S	**Sb**	**20 31 20.8**	**-0.4**
NICH				AML	AML	20 31 29.1	
	comp=N,7μm,0.7s						
NICH	**Los Niches**	**1.94**	**160**	*e*P	**Pb**	**20 30 56.0**	**-1.1**
NICH				*e*S	**Sb**	**20 31 20.8**	**-0.4**
CFAA	**Coronel Fontan**	**3.56**	**65**	Pn	**Pn**	**20 31 18.2**	**+1.2**
	comp=N,5.9nm,0.3s,baz=240,slow=12,SNR=58						
CFAA				Sn	**Sn**	**20 32 05.2**	**-2.8**
	comp=N,4.7nm,0.3s,baz=142,slow=13,SNR=4.2						
CFAA				LR	LR	20 32 54.5	
	comp=N,47nm,21.8s,baz=256,slow=44						
LCO	**Las Campanas**	**4.30**	**16**	*e*Pn	**Pn**	**20 31 26.6**	**-0.8**
PLCA	**Paso Flores**	**7.63**	**172**	Pn	**Pn**	**20 32 14.9**	**+2.0**
	comp=N,1.2nm,0.3s,baz=347,slow=12,SNR=18						
PLCA				LR	LR	20 35 30.4	
	comp=N

PLCA Paso Flores 5.59 162 *e*Pn **Pn 20 39 21.7 +1.4**
comp=E,26nm,0.6s
PLCA Lg Lg 20 40 50.9
LCO Las Campanas 6.64 16 *e*Pn Pn 20 39 31.1 -3.8
TRQA Tornquist 9.08 110 *e*Pn **Pn 20 40 09.1 +1.0**
SLA San Lorenzo 12.40 33 *i* P **Pn 20 40 52.7 -1.0**
SLA *i* S P 20 41 11.6 +5.8
SLA AML AML 20 41 20.9
comp=Z,190nm,0.5s
AZAP Zapla 13.02 33 *i* P **Pn 20 41 02.5 +0.1**
ASTB Santa Barbara 13.53 35 *i* P **Pn 20 41 11.2 +2.1**
ALOL LOMAS DE OLMEDO 13.88 36 *i* P **Pn 20 41 16.2 +2.3**
CPUP Villa Florida 16.07 60 Pn **Pn 20 41 43.6 +0.5**
comp=Z,0.3nm,0.3s,baz=31,slow=16,SNR=3.3
CPUP Lg Lg 20 46 25.2
baz=176,slow=18,SNR=1.0
LPAZ La Paz 19.51 14 P **P 20 42 25.3 +0.2**
comp=Z,0.5nm,0.3s,baz=207,slow=2.3,SNR=11
SIV San Ignacio 22.02 31 P **P 20 42 50.4 -1.2**
comp=Z,7.6nm,0.8s,baz=237,slow=9.6,SNR=12
RCBR Riachuelo 44.94 58 P **P 20 46 12.3 0.0**
comp=Z,6.1nm,0.9s,baz=197,slow=9.6,SNR=3.1
SNAA Sanae 50.52 157 P **P 20 46 55.4 +0.5**
comp=Z,0.6nm,0.5s,baz=300,slow=7.7,SNR=10
QSPA South Pole Qui 54.81 180 P **P 20 47 27.9 +1.0**
comp=Z,3.8nm,0.9s,baz=125,slow=3.3,SNR=8.5
QSPA South Pole Qui 54.81 180 *e*P **P 20 47 27.6 +0.7**
comp=Z,7.9nm,1.2s
DBIC Dimbokro 76.24 71 P **P 20 49 46.8 +0.9**
comp=Z,5.3nm,0.8s,baz=207,slow=8.3,SNR=4.1
ANMO Albuquerque 76.73 332 P **P 20 49 48.6 +0.2**
comp=Z,2.3nm,0.9s,baz=181,slow=3.7,SNR=5.0
BOSA Boshof 79.97 118 P **P 20 50 06.2 -0.5**
comp=Z,2.5nm,0.8s,baz=144,slow=4.1,SNR=3.9
NVAR Mina Array Bea 84.69 326 P **P 20 50 30.6 -0.5**
comp=Z,0.8nm,0.8s,baz=127,slow=3.9,SNR=4.7
PDAR Pinedale Array 84.75 334 P **P 20 50 30.2 -1.0**
comp=Z,0.4nm,0.6s,baz=120,slow=6.0,SNR=3.1
ELK Elko 85.25 329 P **P 20 50 32.7 -1.1**
comp=Z,0.3nm,0.4s,baz=274,slow=20,SNR=4.3
TORD Torodi Ar. Bea 85.29 70 P **P 20 50 34.0 -0.4**
comp=Z,2.0nm,0.8s,baz=247,slow=4.8,SNR=12
ULM Lac du Bonnet 87.71 345 P **P 20 50 43.8 -1.5**
comp=Z,2.5nm,0.8s,baz=163,slow=6.8,SNR=4.9
WRA Warramunga Arr 119.21 209 PKP **PKPdf 20 56 44.9 -1.9**
comp=Z,0.3nm,0.8s,baz=182,slow=1.6,SNR=4.6
H11S2 WAKE ISLAND Hyl 25.10 269 T T 23 14 38.2
baz=115
H11S1 WAKE ISLAND Hyl 25.12 269 T T 23 14 53.2
baz=115
H11S3 WAKE ISLAND Hyl 25.12 269 T T 23 14 39.5
baz=115
H11N3 WAKE ISLAND Hyl 25.55 270 T T 23 14 59.8
baz=114
H11N1 WAKE ISLAND Hyl 25.57 270 T T 23 14 58.0
baz=114,slow=74
H11N2 WAKE ISLAND Hyl 25.57 270 T T 23 15 07.8
baz=114,slow=74
ZALV Zalesovo Beam 155.77 33 PKPbc PKPbc 20 57 58.4
comp=Z,0.9nm,0.6s,baz=343,slow=3.9,SNR=5.6
ZALV PKPab **PKPab 20 58 16.1 -1.0**
comp=Z,0.5nm,0.5s,baz=337,slow=4.6,SNR=2.8
MKAR Makanchi Array 158.17 51 PKP **PKPdf 20 57 52.9 -0.9**
comp=Z,0.2nm,0.7s,baz=26,slow=4.0,SNR=2.6
MKAR PKPab **PKPab 20 58 28.5 +0.8**
comp=Z,0.5nm,0.7s,baz=341,slow=2.6,SNR=4.6
SONM Songino Array 167.59 2 PKPab **PKPab 20 59 08.5 -0.5**
comp=Z,0.5nm,0.8s,baz=338,slow=4.1,SNR=4.7

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*NEIC **08** 20:51:01.4±0.5, 26°.01S×66°.69W, h10km, mb4.4/1, Error ellipse: s-maj=12.6km s-min=9.3km az=99.0*
*ISCJB **08** 20:51:04.2±0.5, 26°.00S±0°.05×66°.93W±0°.08, h33km, mb4.0/6, MS3.6/6, Error ellipse: s-maj=10.9km s-min=5.4km az=30.6*
*IDC **08** 20:51:04.2±3.8, 26°.12S×66°.45W, h33km±31km, mb3.9/6, mb1 4.0/10, mb1mx3.8/38, mbtmp3.9/10, ML3.7/4, MS3.6/11, Ms1 3.6/11, ms1mx3.4/29, Error ellipse: s-maj=30.0km s-min=21.0km az=109.0*
*SJA **08** 20:51:04.7±1.0, 25°.83S×66°.90W, h90km, MD3.9, ML4.2*
ISC 08 21:50:05.8±0.7, 25°.87S±0°.05×66°.89W±0°.07, h35km, n30, σ1§94/30, mb4.0/6, MS3.7/6, Salta Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AHML	**Horco Molle**	**1.67**	**124**	*i* P4		**Pn**	**Pn**	**20 51 31.4**	**-1.2**
AHML				*i* S		**Sn**	**Sn**	**20 51 55.8**	**+2.9**
AHML				AML		AML	AML	20 51 57.2	
	comp=Z,2μm,0.3s								
SLA	**San Lorenzo**	**1.70**	**48**	*i* P4		**Pn**	**Pn**	**20 51 31.1**	**-2.0**
SLA				*i* S		**Sn**	**Sn**	**20 51 56.5**	**+2.8**
SLA				AML		AML	AML	20 52 00.1	
	comp=Z,4μm,0.6s								
AZAP	**Zapla**	**2.33**	**46**	*e*P		**Pn**	**Pn**	**20 51 42.6**	**+0.7**
AZAP				*e*S		**Sn**	**Sn**	**20 52 12.0**	**+2.6**
AZAP				AML		AML	AML	20 52 17.2	
	comp=Z,3μm,0.6s								
CYA	**Choya**	**2.74**	**160**	*i* P4		**Pn**	**Pn**	**20 51 47.6**	**+0.2**
CYA				*i* S4		**Sn**	**Sn**	**20 52 23.3**	**+4.0**
CYA				AML		AML	AML	20 52 31.3	
	comp=Z,2μm,0.5s								
ASTB	**Santa Barbara**	**2.90**	**49**	*i* P		**Pn**	**Pn**	**20 51 50.2**	**+0.6**
LVC	**Limon Verde**	**3.73**	**330**	*e*P		**Pn**	**Pn**	**20 52 00.6**	**-0.5**
LVC	**Limon Verde**	**3.73**	**330**	*e*P		**Pn**	**Pn**	**20 52 01.1**	**0.0**
AGUA	**GUANDACOL**	**3.88**	**201**	*e*P		**Pn**	**Pn**	**20 52 04.7**	**+1.6**
LCO	**Las Campanas**	**4.61**	**226**	*e*P		**Pn**	**Pn**	**20 52 12.4**	**-0.9**
AMOG	**MOGNA**	**5.25**	**195**	*e*P4		**Pn**	**Pn**	**20 52 22.4**	**+0.6**
CFAA	**Coronel Fontan**	**5.84**	**191**	Pn		**Pn**	**Pn**	**20 52 27.9**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=6.1,slow=13,SNR=13								
CFAA				Lg		Lg	Lg	20 54 03.9	
	comp=Z,1.1nm,0.3s,baz=308,slow=19,SNR=2.9								
CFAA				LR		LR	LR	20 54 59.8	
	comp=Z,134nm,18.5s,baz=16,slow=41								
CFAA	**Coronel Fontan**	**5.84**	**191**	*i* P		**Pn**	**Pn**	**20 52 31.2**	**+1.2**
CFAA				AML		AML	AML	20 54 15.9	
	comp=Z,9.1nm,0.8s								
ARCO	**CERRO ARCO**	**7.18**	**194**	*i* P		**Pn**	**Pn**	**20 52 48.8**	**+0.4**
ARCO				AML		AML	AML	20 55 27.7	
	comp=Z,69nm,0.6s								
CPUP	**Villa Florida**	**8.61**	**95**	Pn		**Pn**	**Pn**	**20 53 05.7**	**-2.2**
	comp=Z,3.4nm,0.3s,baz=249,slow=11,SNR=18								
CPUP				Lg		Lg	Lg	20 55 16.1	
	comp=Z,5.7nm,0.3s,baz=162,slow=17,SNR=2.2								
CPUP				LR		LR	LR	20 56 48.5	
	comp=Z,292nm,20.3s,baz=260,slow=42								
LPAZ	**La Paz**	**9.60**	**353**	Pn		**Pn**	**Pn**	**20 53 24.4**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=185,slow=9.4,SNR=14								
LPAZ				LR		LR	LR	20 57 27.5	
	comp=Z,312nm,20.0s,baz=181,slow=39								
SIV	**San Ignacio**	**11.23**	**30**	Pn		**Pn**	**Pn**	**20 53 42.2**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=220,slow=13,SNR=6.9								
SIV				LR		LR	LR	20 58 29.6	
	comp=Z,337nm,19.9s,baz=208,slow=40								
PLCA	**Paso Flores**	**15.14**	**191**	Pn		**Pn**	**Pn**	**20 54 33.3**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=346,slow=23,SNR=2.9								
PLCA				LR		LR	LR	21 01 01.8	
	comp=Z,668nm,18.3s,baz=20,slow=40								
NNA	**Nana**	**16.69**	**324**	P		**P**	**P**	**20 54 59.4**	**+0.2**
BDFB	**Brasilia**	**20.35**	**64**	P		**P**	**P**	**20 55 36.8**	**-2.6**
	comp=Z,4.3nm,0.7s,baz=256,slow=8.6,SNR=5.2								
BDFB				LR		LR	LR	21 03 30.3	
	comp=Z,274nm,19.5s,baz=225,slow=37								
ATAH	**Atahualpa**	**21.62**	**328**	LR		LR	LR	21 04 09.5	
	comp=Z,7.1nm,19.6s,baz=159,slow=36								
QSPA	**South Pole Qui**	**64.35**	**180**	*e*P		**P**	**P**	**21 01 35.8**	**-2.0**
	comp=Z,2.3nm,0.7s								
DBIC	**Dimbokro**	**68.31**	**71**	LR		LR	LR	21 31 21.3	
	comp=Z,53nm,18.1s,baz=211,slow=36								
TORD	**Torodi Ar. Bea**	**77.15**	**68**	P		P	P	21 02 52.5	-3.9
	comp=Z,2.1nm,0.7s,baz=249,slow=3.7,SNR=16								
PDAR	**Pinedale Array**	**78.80**	**329**	P		**P**	**P**	**21 03 06.5**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=147,slow=3.0,SNR=4.3								
PDAR				LR		LR	LR	21 41 33.7	
	comp=Z,40nm,18.2s,baz=42,slow=38								
BOSA	**Boshof**	**79.80**	**117**	LR		LR	LR	21 36 01.6	
	comp=Z,42nm,20.0s,baz=181,slow=34								
ULM	**Lac du Bonnet**	**80.02**	**342**	P		**P**	**P**	**21 03 11.9**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=162,slow=6.2,SNR=3.1								
ULM				LR		LR	LR	21 43 34.2	
	comp=Z,33nm,19.0s,baz=354,slow=39								
ELK	**Elko**	**80.05**	**325**	P		**P**	**P**	**21 03 12.1**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=176,slow=12,SNR=3.6								
YKA	**Yellowknife Ar**	**95.90**	**340**	P		**P**	**P**	**21 04 29.4**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=135,slow=4.8,SNR=5.1								
ZALV	**Zalesovo Beam**	**144.98**	**29**	PKPbc		**PKPbc**	**PKPbc**	**21 10 36.5**	**-1.7**
	comp=Z,10.0nm,0.8s,baz=312,slow=3.9,SNR=18								
MKAR	**Makanchi Array**	**147.87**	**41**	PKPbc		**PKPdf**	**PKPdf**	**21 10 45.5**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=296,slow=3.2,SNR=18								

IDC 08 21:13:15.8±6.8, 19°.80S×177°.43W, h401km±72km, mb3.3/4, mb1 3.7/6, mb1mx3.2/35, mbtmp4.2/6, Error ellipse: s-maj=45.6km s-min=28.4km az=180.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.23**	**259**	P		P	P	21 16 32.6	+1.6
	0.8nm,0.3s,baz=97,slow=14,SNR=6.2								
URZ	**Urewera**	**19.00**	**193**	P		P	P	21 17 10.2	-0.5
	1.7nm,0.3s,baz=46,slow=18,SNR=6.8								
URZ				S		S	S	21 20 28.6	+5.3
	0.6nm,0.3s,baz=120,slow=23,SNR=3.4								
ASAR	**Alice Springs**	**45.20**	**256**	P		P	P	21 20 55.5	+0.2
	5.2nm,0.6s,baz=92,slow=8.3,SNR=104								
WRA	**Warramunga Arr**	**45.23**	**261**	P		P	P	21 20 54.7	-0.9
	0.4nm,0.3s,baz=97,slow=7.2,SNR=26								
TXAR	**Lajitas Array**	**86.23**	**57**	P		P	P	21 25 15.2	+1.4
	1.1nm,0.9s,baz=255,slow=4.8,SNR=5.0								
ILAR	**Eielson Array**	**87.51**	**13**	P		P	P	21 25 17.0	-1.9
	0.5nm,0.3s,baz=214,slow=5.4,SNR=12								
FINES	**FINESS Array B**	**135.25**	**344**	PKP		PKPdf	PKPdf	21 31 49.1	+1.0
	1.4nm,0.8s,baz=132,slow=5.7,SNR=3.5								
BRTR	**Keskin Array B**	**146.75**	**313**	PKPbc		PKPbc	PKPbc	21 32 12.7	+0.8
	0.5nm,0.6s,baz=196,slow=9.0,SNR=4.1								
GERES	**GERESS Array B**	**149.66**	**345**	PKPbc		PKPbc	PKPbc	21 32 18.1	-0.9
	0.6nm,0.8s,baz=22,slow=1.4,SNR=4.9								

GUC 08 21:15:28.7±0.5, 34°.75S×72°.07W, h34km±4km, ML3.7, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.74**	**111**	⇑*i* P		Pn	Pn	21 15 42.7	-0.1
NICH				*i* S		Sn	Sn	21 15 52.9	+0.1
CACH	**El Canelo**	**1.37**	**63**	*i* P		Pb	Pb	21 15 53.2	-0.7
CACH				*i* S		Sb	Sb	21 16 11.5	+0.2
CHCH	**Chadas Angostu**	**1.43**	**56**	*i* P		Pb	Pb	21 15 53.8	-1.0
CHCH				*i* S		Sb	Sb	21 16 12.3	-0.4
COCH	**Cobquecura**	**1.50**	**203**	*i* P		Pb	Pb	21 15 54.7	-1.2
COCH				*i* S		Sb	Sb	21 16 13.8	-0.9
ANTU	**Antumapu**	**1.67**	**46**	*i* P		Pb	Pb	21 15 57.4	-1.6
ANTU				*i* S		Sb	Sb	21 16 19.0	-0.7
ANTU				IAML				21 16 21.9	
	comp=E,1μm,0.5s								
CLCH	**Cerro Calan**	**1.85**	**44**	*i* P		Pn	Pn	21 16 00.1	+1.8
CLCH				*i* S		Sb	Sb	21 16 24.4	-0.6
CLCH				IAML				21 16 34.5	
	comp=E,959nm,1.0s								
PEL	**Peldehue**	**1.97**	**36**	IAML				21 16 34.7	
	comp=N,864nm,0.6s								
FCH	**Farellones**	**2.05**	**47**	IAML				21 16 18.6	
	comp=N,846nm,0.5s								

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*IDC **08** 21:19:11.3±1.2, 37°.13S×73°.85W, h0km, mb4.0/7, mb1 4.1/9, mb1mx4.0/29, mbtmp4.0/9, ML4.3/2, MS3.3/7, Ms1 3.3/7, ms1mx3.1/24, Error ellipse: s-maj=37.3km s-min=21.3km az=89.0*
*ISCJB **08** 21:19:12.2±0.8, 37°.01S±0°.06×73°.51W±0°.10, h14km, mb4.0/7, MS3.5/3, Error ellipse: s-maj=12.6km s-min=6.2km az=33.8*
*GUC **08** 21:19:13.1±0.6, 37°.05S×73°.40W, h25km±3km, ML4.6*
ISC 08 21:19:14.2±1.0, 36°.98S±0°.08×73°.5W±0°.1, h14km, n18, σ1§92/21, mb3.9/7, MS3.5/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.32**	**64**	*e*P		**Pg**	**Pg**	**21 19 20.2**	**-0.5**
CCSP				*i* S		**Sg**	**Sg**	**21 19 25.0**	**-0.2**
CCSP				IAML				21 19 25.9	
	comp=E,98μm,0.1s								
COCH	**Cobquecura**	**1.01**	**33**	*i* P		**Pb**	**Pb**	**21 19 31.5**	**-2.0**
COCH				*i* S		**Sb**	**Sb**	**21 19 45.4**	**-1.2**
LNCH	**Linares**	**1.88**	**54**	*e*P		**Pn**	**Pn**	**21 19 44.7**	**-1.2**
LNCH				*e*S		**Sn**	**Sn**	**21 20 08.7**	**-0.8**
LNCH				IAML				21 20 11.8	
	comp=N,11μm,0.3s								
CLCH	**Cerro Calan**	**4.31**	**35**	*i* P9		**Pn**	**Pn**	**21 20 20.0**	**+0.6**
CLCH				*e*S		**Sn**	**Sn**	**21 21 10.3**	**+0.8**
PLCA	**Paso Flores**	**4.38**	**150**	Pn		**Pn**	**Pn**	**21 20 18.4**	**-2.0**
	comp=N,1.9nm,0.3s,baz=321,slow=9.9,SNR=22								
PLCA				Lg		Lg	Lg	21 21 24.5	
	comp=N,9.0nm,0.3s,baz=74,slow=22,SNR=6.0								
PLCA				LR		LR	LR	21 22 05.2	
	comp=N,615nm,18.6s,baz=274,slow=39								
PEL	**Peldehue**	**4.46**	**32**	*e*P		**Pn**	**Pn**	**21 20 20.6**	**-0.9**
PEL				*e*S		**Sn**	**Sn**	**21 21 12.2**	**-1.0**
CFAA	**Coronel Fontan**	**6.89**	**40**	Pn		**Pn**	**Pn**	**21 20 52.9**	**-1.9**
	comp=N,0.3nm,0.3s,baz=199,slow=15,SNR=13								
CFAA				Sn		**Sn**	**Sn**	**21 22 18.6**	**+5.5**
	comp=N,0.5nm,0.3s,baz=222,slow=21,SNR=3.6								
CFAA				Lg		Lg	Lg	21 22 51.4	
	comp=N,0.2nm,0.3s,baz=132,slow=19,SNR=4.7								
CFAA				LR		LR	LR	21 23 43.2	
	comp=N,26nm,20.3s,baz=226,slow=38								
CPUP	**Villa Florida**	**17.34**	**57**	P		**P**	**P**	**21 23 18.4**	**+1.3**
	comp=N,0.5nm,0.3s,baz=247,slow=12,SNR=3.9								
CPUP				LR		LR	LR	21 30 53.3	
	comp=N,111nm,19.5s,baz=224,slow=40								
USHA	**Ushuaia**	**18.18**	**171**	LR		LR	LR	21 30 34.0	
	comp=N,95nm,18.5s,baz=16,slow=38								
LPAZ	**La Paz**	**21.15**	**14**	P		**P**	**P**	**21 23 59.8**	**+0.3**
	comp=N,2.5nm,0.6s,baz=172,slow=4.2,SNR=6.2								
SIV	**San Ignacio**	**23.62**	**31**	P		**P**	**P**	**21 24 27.0**	**+2.0**
	comp=N,4.5nm,0.7s,baz=214,slow=7.1,SNR=9.4								
SIV				LR		LR	LR	21 35 09.6	
	comp=N,50nm,20.1s,baz=222,slow=40								
BDFB	**Brasilia**	**31.01**	**53**	LR		LR	LR	21 38 49.9	
	comp=N,117nm,20.2s,baz=227,slow=38								
RCBR	**Riachuelo**	**46.22**	**57**	LR		LR	LR	21 48 10.0	
	comp=N,151nm,18.0s,baz=202,slow=37								
QSPA	**South Pole Qui**	**53.26**	**180**	P		**P**	**P**	**21 28 30.8**	**-1.3**
	comp=N,0.5nm,0.3s,baz=149,slow=12,SNR=2.3								
TXAR	**Lajitas Array**	**71.80**	**332**	P		**P**	**P**	**21 30 35.3**	**-1.0**
	comp=N,0.4nm,0.6s,baz=150,slow=8.0,SNR=5.0								
DBIC	**Dimbokro**	**77.23**	**72**	P		**P**	**P**	**21 31 10.3**	**+2.1**
	comp=N,4.7nm,0.8s,baz=182,slow=9.1,SNR=3.0								
BOSA	**Boshof**	**79.71**	**118**	P		**P**	**P**	**21 31 21.5**	**-0.4**
	comp=N,2.2nm,0.8s,baz=81,slow=10,SNR=2.9								
TORD	**Torodi Ar. Bea**	**86.31**	**71**	P		**P**	**P**	**21 31 58.2**	**+2.2**
	comp=N,0.7nm,0.9s,baz=226,slow=4.5,SNR=5.6								

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*IDC **08** 21:32:16.1±1.3, 53°.65S×141°.31E, h0km, mb4.3/5, mb1 4.5/5, mb1mx4. 1/32, mbtmp4.3/5, MS3.5/2, Ms1 3.5/2, ms1mx3.0/25, Error ellipse: s-maj=101.5km s-min=17.9km az=83.0*
ISC 08 21:32:17.7±1.2, 53°.7S±0°.1×140°.5E±0°.6, h10km, n14, σ0§31/7, mb4.4/5, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**25.14**	**169**	P		**P**	**P**	**21 37 42.4**	**0.0**
	4.0nm,0.8s,baz=331,slow=9.1,SNR=11								
H01W1	**Cape Leeuwin H**	**26.40**	**305**	T		T	T	22 05 34.3	
	baz=143,slow=75,SNR=11								
H01W2	**Cape Leeuwin H**	**26.41**	**305**	T		T	T	22 05 37.2	
	baz=143,slow=75,SNR=16								
H01W3	**Cape Leeuwin H**	**26.42**	**305**	T		T	T	22 05 35.5	
	baz=143,slow=75,SNR=14								
URZ	**Urewera**	**29.33**	**73**	LR		LR	LR	21 48 16.5	
	comp=Z,86nm,19.8s,baz=221,slow=33								
ASAR	**Alice Springs**	**30.40**	**348**	P		**P**	**P**	**21 38 30.2**	**+0.2**
	3.2nm,0.5s,baz=166,slow=10.0,SNR=60								
WRA	**Warramunga Arr**	**34.03**	**350**	P		**P**	**P**	**21 39 01.6**	**-0.2**
	7.2nm,0.9s,baz=172,slow=7.7,SNR=69								
QSPA	**South Pole Qui**	**36.41**	**180**	P		**P**	**P**	**21 39 22.5**	**+0.3**
	7.7nm,1.0s,baz=350,slow=6.0,SNR=9.8								
HNR	**Honiara**	**46.82**	**27**	LR		LR	LR	21 57 02.3	
	comp=Z,65nm,18.5s,baz=136,slow=32								
SNAA	**Sanae**	**52.29**	**194**	P		**P**	**P**	**21 41 28.4**	**-0.4**
	1.2nm,1.0s,baz=177,slow=11,SNR=7.3								
H08S2	**Diego Garcia H**	**70.94**	**283**	T		T	T	23 01 09.1	
	baz=153,slow=76,SNR=6.4								
H08S3	**Diego Garcia H**	**70.96**	**283**	T		T	T	23 01 10.6	
	baz=151,slow=76,SNR=5.3								
YKA	**Yellowknife Ar**	**141.52**	**46**	PKP		**PKPdf**	**PKPdf**	**21 51 47.4**	**-0.1**
	0.2nm,0.7s,baz=248,slow=3.0,SNR=4.4								
GERES	**GERESS Array B**	**147.05**	**284**	PKPbc		**PKPab**	**PKPab**	**21 52 01.6**	**+0.2**
	0.4nm,0.6s,baz=142,slow=3.6,SNR=3.3								

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*IDC **08** 21:35:25.7±1.1, 37°.77S×74°.72W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/22, mbtmp3.9/6, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/14, Error ellipse: s-maj=37.3km s-min=21.9km az=69.0*
*ISCJB **08** 21:35:29.3±1.0, 37°.8S±0°.1×74°.9W±0°.2, h33km, mb3.9/5, Error ellipse: s-maj=29.4km s-min=10.3km az=143.7*
ISC 08 21:35:31.0±1.1, 37°.8S±0°.1×74°.8W±0°.2, h35km, n8, σ1§21/9, mb3.8/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.44**	**133**	Pn		**Pn**	**Pn**	**21 36 35.0**	**-0.9**
	1.7nm,0.3s,baz=301,slow=9.4,SNR=17								
PLCA				Sn		**Sn**	**Sn**	**21 37 28.1**	**+1.8**
	3.2nm,0.3s,baz=33,slow=24,SNR=7.6								
PLCA				LR		LR	LR	21 38 19.0	
	comp=Z,359nm,19.9s,baz=318,slow=40								
LPAZ	**La Paz**	**22.17**	**17**	P		**P**	**P**	**21 40 25.6**	**+0.9**
	1.4nm,0.7s,baz=147,slow=3.5,SNR=6.6								
QSPA	**South Pole Qui**	**52.49**	**180**	P		**P**	**P**	**21 44 40.3**	**+0.1**
TXAR	**Lajitas Array**	**72.01**	**334**	P		**P**	**P**	**21 46 52.6**	**+1.4**
	0.6nm,0.5s,baz=150,slow=10,SNR=4.5								
DBIC	**Dimbokro**	**78.47**	**72**	P		**P**	**P**	**21 47 28.2**	**-0.5**
	4.4nm,0.7s,baz=164,slow=6.6,SNR=5.6								
PDAR	**Pinedale Array**	**86.16**	**335**	P		**P**	**P**	**21 48 08.0**	**-0.4**
	0.5nm,0.9s,baz=145,slow=11,SNR=3.8								
TORD	**Torodi Ar. Bea**	**87.55**	**71**	P		**P**	**P**	**21 48 15.1**	**-0.6**
	0.5nm,0.8s,baz=218,slow=4.4,SNR=4.7								
MKAR	**Makanchi Array**	**160.84**	**55**	PKPab		**PKPab**	**PKPab**	**21 56 08.4**	**-1.1**
	0.4nm,0.8s,baz=270,slow=5.1,SNR=4.8								

IDC 08 21:41:37.4±2.2, 6°.06S×129°.32E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.2/32, mbtmp3.2/3, ML3.4/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/15, Error ellipse: s-maj=154.1km s-min=31.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.64**	**161**	Pn		Pn	Pn	21 45 05.7	-0.3
	0.2nm,0.3s,baz=343,slow=13,SNR=13								
WRA				Sn		Sn	Sn	21 47 33.5	-16
	0.1nm,0.3s,baz=337,slow=23,SNR=3.3								
ASAR	**Alice Springs**	**18.06**	**166**	P		Pn	Pn	21 45 49.9	0.0
	0.1nm,0.3s,baz=345,slow=10,SNR=4.6								
TGY	**Tagaytay City**	**21.68**	**337**	LR		LR	LR	21 55 22.4	
	comp=Z,25nm,21.5s,baz=132,slow=38								
MKAR	**Makanchi Array**	**67.07**	**327**	P		P	P	21 52 32.6	0.0
	0.1nm,0.4s,baz=112,slow=7.8,SNR=3.7								

GUC 08 21:45:38.8±0.5, 34°.20S×72°.09W, h35km±4km, ML3.6, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.07**	**139**	*i* P		Pn	Pn	21 45 58.7	+1.4
NICH				*i* S		Sn	Sn	21 46 13.5	+2.6
CHCH	**Chadas Angostu**	**1.22**	**78**	⇑*i* P		Pn	Pn	21 46 00.8	+1.3
CHCH				*i* S		Sn	Sn	21 46 18.1	+3.3
IHA	**Instituto Hidr**	**1.23**	**18**	*i* P		Pn	Pn	21 46 01.0	+1.5
IHA				*i* S		Sn	Sn	21 46 17.6	+2.8
CACH	**El Canelo**	**1.24**	**87**	*i* P		Pn	Pn	21 46 01.7	+1.9
CACH				*i* S		Sn	Sn	21 46 19.6	+4.3
ANTU	**Antumapu**	**1.36**	**63**	*i* P9		Pn	Pn	21 46 03.6	+2.2
ANTU				*i* S		Sn	Sn	21 46 22.2	+3.9
ANTU				IAML				21 46 23.7	
	comp=N,1μm,0.6s								
CLCH	**Cerro Calan**	**1.52**	**59**	⇑*i* P		Pn	Pn	21 46 05.7	+2.0
CLCH				*i* S		Sn	Sn	21 46 26.3	+4.1
CLCH				IAML				21 46 27.2	
	comp=N,2μm,0.5s								
PEL	**Peldehue**	**1.57**	**48**	*e*P		Pn	Pn	21 46 06.8	+2.5
PEL				*i* S		Sn	Sn	21 46 27.

comp=N,0.3nm,0.6s,baz=296,slow=4.5,SNR=3.5
SONM Songino Array 166.79 360 PKPab **PKPab 22 22 31.9 +1.0**
comp=N,0.5nm,0.9s,baz=353,slow=4.8,SNR=3.7

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*NSSC **08** 22:06:13.5±1.6, 38°.77N×38°.86E, h38km±999km, MD2.1, ML3.5*
*ISK **08** 22:06:14.3, 38°.73N×40°.02E, h5km, ML3.3*
*DDA **08** 22:06:14.9, 38°.70N×39°.97E, h17km, MD3.3*
*CSEM **08** 22:06:15.4±0.1, 38°.71N×39°.98E, h2km, ML3.3, Error ellipse: s-maj=4.1km s-min=3.5km az=23.0*
ISC 08 22:06:15.0±1.1,**38°.72N**±0°.02×**39°.96E**±0°.02,**h9**km±10km, **n77**,σ1**°17**/102,**1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bing¯¶l**	**0.63**	**64**	*e*PG	**Pg**	**22 06 26.8**	**-0.4**
DYBB	**Diyarbakir**	**0.78**	**169**	*e*PG	**Pb**	**22 06 30.7**	**-0.1**
DYBB				*e*SG	**Sb**	**22 06 42.5**	**+1.0**
DIY	**Diyarbakir**	**0.85**	**165**	*e*Pg	**Pg**	**22 06 30.7**	**-0.7**
DIY				*e*Sg	**Sg**	**22 06 42.5**	**0.0**
ERZN	**Erzincan**	**0.88**	**348**	*e*PG	**Pg**	**22 06 31.7**	**-0.3**
BNGL	**BINGOL**	**0.96**	**76**	*i* P	**Pg**	**22 06 33.0**	**-0.5**
BNGL				*i* S	**Sb**	**22 06 46.8**	**-0.1**
EUZM	**Uzumlu**	**1.00**	**349**	*i* P	**Pg**	**22 06 34.2**	**-0.2**
EUZM	**Uzumlu**	**1.00**	**349**	*i* P	**Pg**	**22 06 34.2**	**-0.2**
EUZM				*i* S	**Sn**	**22 06 49.5**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.13**	**120**	*e*PN	**Pb**	**22 06 36.5**	**-0.3**
VRTB	**Varto-Mus**	**1.25**	**69**	*e*PN	**Pn**	**22 06 38.2**	**-0.6**
VRTB	**Varto-Mus**	**1.25**	**69**	*e*Pn	**Pn**	**22 06 38.2**	**-0.6**
KEMA	**Kemaliye**	**1.26**	**296**	*i* P	**Pn**	**22 06 38.3**	**-0.6**
KEMA				*i* S	**Sg**	**22 06 57.4**	**+1.7**
KEMA	**Kemaliye**	**1.26**	**296**	*i* P	**Pn**	**22 06 38.3**	**-0.6**
KEMA				*i* S	**Sg**	**22 06 57.4**	**+1.7**
MALT	**Malatya**	**1.27**	**252**	*e*PN	**Pg**	**22 06 39.6**	**+0.3**
MALT	**Malatya**	**1.27**	**252**	*e*Pn	**Pg**	**22 06 39.6**	**+0.3**
ILIC	**ilic-Erzincan**	**1.30**	**304**	*e*PN	**Pg**	**22 06 41.3**	**+1.2**
ILIC	**ilic-Erzincan**	**1.30**	**304**	*e*Pn	**Pg**	**22 06 41.3**	**+1.2**
BTMT	**Batman**	**1.31**	**113**	*e*PN	**Pb**	**22 06 39.6**	**-0.3**
BTMT	**Batman**	**1.31**	**113**	*e*Pn	**Pb**	**22 06 39.7**	**-0.3**
MAZI	**Mazidag**	**1.32**	**163**	*e*PN	**Pn**	**22 06 39.6**	**-0.1**
MAZI	**Mazidag**	**1.32**	**163**	*e*Pn	**Pn**	**22 06 39.6**	**-0.1**
BEST	**Besiri**	**1.33**	**128**	*i* P	**Pb**	**22 06 40.1**	**0.0**
BEST				*i* S	**Sg**	**22 06 57.7**	**0.0**
KOPT	**Kop Dagi**	**1.36**	**18**	*i* P	**Pb**	**22 06 40.9**	**0.0**
KOPT	**Kop Dagi**	**1.36**	**18**	*i* P	**Pb**	**22 06 40.9**	**0.0**
KOPT				*i* Sg		22 07 05.4	+6.5
KELT	**Kelkit**	**1.52**	**339**	*i* P	**Pb**	**22 06 43.3**	**-0.3**
KELT				*i* S	**Sg**	**22 07 04.3**	**+0.2**
KELT	**Kelkit**	**1.52**	**339**	*i* P	**Pb**	**22 06 43.3**	**-0.3**
KELT				*i* S	**Sg**	**22 07 04.3**	**+0.2**
MARD	**Mardin**	**1.55**	**155**	*i* P	**Pb**	**22 06 43.7**	**-0.3**
MARD				*i* S	**Sb**	**22 07 04.3**	**+0.6**
URFA	**Urfa**	**1.56**	**215**	*e*PN	**Pg**	**22 06 44.8**	**-0.2**
URFA	**Urfa**	**1.56**	**215**	*e*Pn	**Pg**	**22 06 44.8**	**-0.2**
EZM	**Erzurum**	**1.61**	**42**	*e*PN	**Pb**	**22 06 44.8**	**-0.2**
ERZM	**Erzurum**	**1.61**	**42**	*i* P	**Pb**	**22 06 45.3**	**+0.2**
ERZM	**Erzurum**	**1.61**	**42**	*i* P	**Pb**	**22 06 45.3**	**+0.2**
ERZM				*i* S	**Sg**	**22 07 08.0**	**+1.1**
BAYT	**Ayd¯–ntepe-Bay**	**1.68**	**5**	*e*PN	**Pn**	**22 06 45.3**	**+0.6**
BAYT	**Ayd¯–ntepe-Bay**	**1.68**	**5**	*e*Pn	**Pn**	**22 06 45.3**	**+0.6**
EKAR	**Karacoban**	**1.73**	**71**	*i* P	**Pb**	**22 06 47.5**	**+0.4**
EKAR	**Karacoban**	**1.73**	**71**	*i* P	**Pb**	**22 06 47.5**	**+0.4**
EKAR				*i* S	Sg	22 07 17.0	+6.3
GUMT	**Gumushane**	**1.77**	**348**	*e*PN	**Pb**	**22 06 47.3**	**-0.5**
GUMT	**Gumushane**	**1.77**	**348**	*e*Pn	**Pb**	**22 06 47.3**	**-0.5**
KBSD	**Kabsdagh**	**1.78**	**165**	⇓*i* P	**Pb**	**22 06 48.0**	**+0.2**
KBSD				*e*S	**Sg**	**22 07 12.1**	**-0.1**
KBSD				AML	AML	22 07 19.1	
	comp=E,1μm,0.5s						
KBSD				AML	AML	22 07 19.4	
	comp=N,704nm,0.6s						
ATAB	**Bozova**	**1.81**	**227**	*i* P	**Pb**	**22 06 47.9**	**-0.4**
ATAB				*i* S	**Sg**	**22 07 12.4**	**-0.8**
ATAB	**Bozova**	**1.81**	**227**	*i* P	**Pb**	**22 06 47.9**	**-0.4**
ATAB				*i* S	**Sg**	**22 07 12.4**	**-0.8**
DARE	**Darende-Malaty**	**1.94**	**266**	*e*PN	**Pb**	**22 06 50.6**	**0.0**
DARE	**Darende-Malaty**	**1.94**	**266**	*e*Pn	**Pb**	**22 06 50.6**	**0.0**
KTUT	**Trabzon**	**2.27**	**356**	*e*PN	**Pb**	**22 06 54.7**	**-1.4**
KTUT	**Trabzon**	**2.27**	**356**	*e*Pn	**Pb**	**22 06 54.7**	**-1.4**
SIRN	**S¯–rnak**	**2.29**	**121**	*i* P	**Pn**	**22 06 53.8**	**+0.7**
SIRN				*i* S	**Sb**	**22 07 24.0**	**-1.1**
SIRN	**S¯–rnak**	**2.29**	**121**	*i* P	**Pn**	**22 06 53.8**	**+0.7**
SIRN				*i* S	**Sb**	**22 07 24.0**	**-1.1**
SFNV	**Sufian**	**2.30**	**177**	*i* P	**Pn**	**22 06 53.7**	**+0.5**
SFNV				*e*S	**Sn**	**22 07 21.6**	**-0.1**
SIRT	**Sirnak**	**2.31**	**121**	*e*PN	**Pn**	**22 06 54.5**	**+1.2**
SIRT	**Sirnak**	**2.31**	**121**	*e*Pn	**Pn**	**22 06 54.5**	**+1.2**
GZT	**Gaziantep**	**2.33**	**235**	*i* P	**Pn**	**22 06 54.7**	**+1.0**
GZT				*i* S	**Sg**	**22 07 30.5**	**+0.7**
ESPY	**Espiye-Giresun**	**2.39**	**337**	*e*PN	**Pb**	**22 06 56.5**	**-1.7**
ESPY	**Espiye-Giresun**	**2.39**	**337**	*e*Pn	**Pb**	**22 06 56.5**	**-1.7**
GEVA	**Gevas**	**2.47**	**99**	*i* P	**Pb**	**22 06 57.5**	**-2.2**
GEVA				*i* S	**Sb**	**22 07 29.3**	**-1.0**
GEVA	**Gevas**	**2.47**	**99**	*i* P	**Pb**	**22 06 57.5**	**-2.2**
GEVA				*i* S	**Sb**	**22 07 29.3**	**-1.0**
AGRB	**Hanur-Agry**	**2.51**	**69**	*e*PN	**Pn**	**22 06 57.3**	**+1.1**
AGRB	**Hanur-Agry**	**2.51**	**69**	*e*Pn	**Pn**	**22 06 57.3**	**+1.1**
GRSN	**GIRESUNGRSN**	**2.56**	**330**	*i* P	**Pb**	**22 07 02.0**	**+0.9**
GRSN				*i* S	**Sg**	**22 07 35.4**	**-1.8**
GRSN	**GIRESUNGRSN**	**2.56**	**330**	*i* P	**Pb**	**22 07 02.0**	**+0.9**
GRSN				*i* S	**Sg**	**22 07 35.4**	**-1.8**
SVSK	**Karacayir**	**2.59**	**298**	*e*PN	**Pb**	**22 06 59.9**	**-1.6**
SVSK	**Karacayir**	**2.59**	**298**	*e*Pn	**Pb**	**22 06 59.9**	**-1.6**
RSDY	**Resadiye-TOKAT**	**2.63**	**310**	*e*PN	**Pb**	**22 07 00.2**	**-2.1**
RSDY	**Resadiye-TOKAT**	**2.63**	**310**	*e*Pn	**Pb**	**22 07 00.2**	**-2.1**
VANB	**Van**	**2.69**	**92**	*e*PN	**Pn**	**22 06 59.9**	**+1.3**
VANB	**Van**	**2.69**	**92**	*e*Pn	**Pn**	**22 06 59.9**	**+1.3**
KMRS	**Kahramanmaras**	**2.70**	**244**	*e*PN	**Pb**	**22 07 01.4**	**-2.1**
KMRS	**Kahramanmaras**	**2.70**	**244**	*e*Pn	**Pb**	**22 07 01.4**	**-2.1**
KSRV	**Kasrt alli**	**2.95**	**195**	*i* P	**Pb**	**22 07 05.4**	**-2.4**
KSRV				*e*S	**Sb**	**22 07 44.4**	**+0.4**
KSRV				AML	AML	22 07 56.6	
	comp=N,140nm,0.4s						
KSRV				AML	AML	22 07 58.5	
	comp=E,176nm,0.5s						
ANDN	**Andirin**	**3.06**	**249**	*i* P	**Pn**	**22 07 04.3**	**+0.5**
ANDN	**Andirin**	**3.06**	**249**	*i* P	**Pn**	**22 07 04.3**	**+0.5**
ANDN				*i* S	**Sg**	**22 07 58.5**	**+5.0**
KARS	**Kars**	**3.07**	**51**	*e*PN	**Pn**	**22 07 04.7**	**+0.8**
KARS	**Kars**	**3.07**	**51**	*e*Pn	**Pn**	**22 07 04.7**	**+0.8**
CLDR	**Caldiran**	**3.12**	**81**	*e*PN	**Pn**	**22 07 06.1**	**+1.5**
CLDR	**Caldiran**	**3.12**	**81**	*e*Pn	**Pn**	**22 07 06.1**	**+1.5**
HAKT	**HAKKARI**	**3.18**	**110**	*i* P	**Pn**	**22 07 06.4**	**+1.0**
HAKT	**HAKKARI**	**3.18**	**110**	*i* P	**Pn**	**22 07 06.4**	**+1.0**
HAKT				*i* S	**Sg**	**22 07 58.8**	**+1.7**
GNI	**Garni**	**3.97**	**67**	*e*PN	**Pn**	**22 07 18.0**	**+1.8**
GNI	**Garni**	**3.97**	**67**	*e*Pn	**Pn**	**22 07 18.0**	**+1.8**

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*ISCJB **08** 22:07:19.9±0.5, 31°.37S±0°.04×69°.28W±0°.04, h119km±6km, mb4.0/1, Error ellipse: s-maj=6.7km s-min=6.0km az=150.3*
*GUC **08** 22:07:19.9±0.3, 31°.38S×69°.53W, h150km±6km, ML4.5*
*IDC **08** 22:07:20.5±2.0, 31°.57S×69°.23W, h118km±13km, mb3.9/1, mb1 3.7/4, mb1mx3.4/24, mbtmp3.9/4, Error ellipse: s-maj=50.8km s-min=25.1km az=123.0*
*SJA **08** 22:07:20.4±0.3, 31°.39S×69°.24W, h110km±1km, ML4.2*
ISC 08 22:07:20.1±0.8,**31°.39S**±0°.05×**69°.28W**±0°.04,**h116**km±7km, **n26**,σ0**°98**/35,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.41**	**182**	*i* P	**Pn**	**22 07 38.2**	**+0.7**
SJA	**San Juan**	**0.64**	**103**	*i* P	**Pn**	**22 07 38.8**	**+0.1**
SJA				*i* S	**Sn**	**22 07 52.0**	**-0.6**
RTLL	**Cerro Villicun**	**0.69**	**85**	*i* P	**Pn**	**22 07 39.1**	**0.0**
AUSP	**Uspallata**	**0.84**	**186**	*i* P	**Pn**	**22 07 41.5**	**+1.0**
CFAA	**Coronel Fontan**	**0.92**	**104**	P	**Pn**	**22 07 41.3**	**+0.2**
	23nm,0.3s,baz=278,slow=4.3,SNR=767						
CFAA				S	**Sn**	**22 07 57.2**	**+0.3**
	162nm,0.3s,baz=311,slow=13,SNR=168						
CFAA	**Coronel Fontan**	**0.92**	**104**	*i* P	**Pn**	**22 07 41.2**	**+0.2**
CFAA				*i* S	**Sn**	**22 07 56.6**	**-0.3**
ARCO	**CERRO ARCO**	**1.48**	**168**	*i* P	**Pn**	**22 07 48.0**	**+0.8**
ARCO				*i* S	**Sn**	**22 08 08.5**	**+0.7**
ARCO				AML	AML	22 08 11.6	
	comp=Z,4μm,0.4s						
CMCH	**Combarbala**	**1.49**	**278**	*e*P	**Pn**	**22 07 47.8**	**+0.6**
CMCH				*i* S	**Sn**	**22 08 08.8**	**+1.0**
AVFE	**Valle Fertil**	**1.73**	**66**	*i* P	**Pn**	**22 07 50.7**	**+0.6**
AVFE				AML	AML	22 08 14.6	
	comp=Z,1μm,0.3s						
AAGR	**Agrelo**	**1.74**	**167**	*i* P	**Pn**	**22 07 51.2**	**+1.0**
CHNG	**Los Chungos**	**1.95**	**255**	*i* P	**Pn**	**22 07 52.5**	**-0.2**
CHNG				*i* S	**Sn**	**22 08 17.1**	**-0.5**
ACAN	**Cantantal**	**1.99**	**117**	*i* P	**Pn**	**22 07 54.1**	**+0.8**
LSCH	**La Serena**	**2.24**	**311**	IAML		22 08 24.1	
	comp=N,2μm,0.3s						
LACH	**Col Las Americ**	**2.31**	**207**	*i* P	**Pn**	**22 07 58.4**	**+1.0**
LACH				*i* S	**Sn**	**22 08 27.5**	**+1.5**
ANTU	**Antumapu**	**2.46**	**207**	*i* P	**Pn**	**22 08 00.1**	**+0.9**
ANTU				*i* S	**Sn**	**22 08 30.6**	**+1.3**
ANTU				IAML		22 08 32.3	
	comp=N,2μm,0.2s						
RCDM	**Rinconada Maip**	**2.46**	**211**	*i* P9	Pn	22 07 55.5	-3.7
RCDM				*i* S	**Sn**	**22 08 26.2**	**-3.1**
RCDM				IAML		22 08 30.6	
	comp=E,3μm,0.1s						
APLL	**PUNTA DE LOS L**	**2.57**	**68**	*i* P	**Pn**	**22 08 01.4**	**+0.7**
VACH	**Vallenar**	**3.08**	**335**	*i* P	**Pn**	**22 08 07.8**	**+0.5**
VACH				*i* S	**Sn**	**22 08 44.1**	**+0.2**
PLCA	**Paso Flores**	**9.38**	**186**	P	**Pn**	**22 09 30.6**	**-1.6**
	comp=E,0.2nm,0.3s,baz=354,slow=13,SNR=2.6						
CPUP	**Villa Florida**	**11.62**	**67**	P	**Pn**	**22 10 01.4**	**-1.0**
	comp=E,0.6nm,0.3s,baz=237,slow=12,SNR=3.1						
LPAZ	**La Paz**	**15.07**	**4**	P	**P**	**22 10 49.5**	**-0.6**
	comp=E,0.6nm,0.3s,baz=177,slow=7.1,SNR=24						
TORD	**Torodi Ar. Bea**	**81.12**	**69**	P	**P**	**22 19 23.3**	**+0.4**
	comp=E,2.1nm,0.9s,baz=282,slow=5.9,SNR=15						
ASAR	**Alice Springs**	**120.92**	**205**	PKP	**PKPdf**	**22 25 58.2**	**-1.1**
	comp=E,0.4nm,0.7s,baz=132,slow=1.4,SNR=3.7						
WRA	**Warramunga Arr**	**124.15**	**207**	PKP	**PKPdf**	**22 26 04.9**	**-0.7**
	comp=E,0.9nm,0.6s,baz=156,slow=1.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**150.78**	**32**	PKPbc	**PKPbc**	**22 26 59.1**	**+0.9**
	comp=E,3.0nm,0.5s,baz=301,slow=3.1,SNR=18						
MKAR	**Makanchi Array**	**153.29**	**47**	PKPbc	**PKPbc**	**22 27 04.4**	**+0.3**
	comp=E,0.7nm,0.8s,baz=278,slow=3.1,SNR=5.9						
MKAR				PKPab	**PKPab**	**22 27 17.3**	**+0.7**
	comp=E,0.8nm,0.7s,baz=298,slow=3.4,SNR=7.6						

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*NNC **08** 22:14:57.2±5.2, 36°.98N×70°.78E, h170km, mb2.9, mpv3.6, Error ellipse: s-maj=44.2km s-min=22.4km az=169.0*
ISC 08 22:14:57.4±3.2,**37°.0N**±0°.2×**70°.78E**±0°.09,**h88**km,**n11**, σ2**°12**/16,**6C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.35**	**320**	⇑Pn	**Pn**	**22 15 37.4**	**+3.0**
DZET				⇑Sn	Sn	22 16 11.6	+8.9
AML	**Almayashu**	**5.58**	**23**	P	**Pn**	**22 16 17.9**	**-0.3**
SNR=28							
UCH	**Uchtor**	**5.94**	**28**	P	**Pn**	**22 16 23.8**	**+0.6**
SNR=6.3							
KK31	**Karatay Array**	**6.08**	**358**	P	**Pn**	**22 16 26.1**	**+1.4**
	4.1nm,0.3s,baz=178,slow=12,SNR=304						
KK31				⇓S	**Sn**	**22 17 35.4**	**+2.6**
	7.6nm,0.6s,baz=187,slow=25,SNR=4.2						
EKS2	**Erkin-Say**	**6.08**	**21**	P	**Pn**	**22 16 25.4**	**+0.6**
SNR=11							
AAK	**Ala-Archa**	**6.29**	**26**	⇓P	**Pn**	**22 16 28.2**	**+0.5**
0.4nm,0.3s							
AAK				⇑S	**Sn**	**22 17 40.3**	**+2.2**
6.5nm,0.5s							
AAK	**Ala-Archa**	**6.29**	**26**	P	**Pn**	**22 16 29.5**	**+1.8**
SNR=5.1							
TKM2	**Tokmak 2**	**6.95**	**31**	⇑P	**Pn**	**22 16 36.3**	**-0.5**
5.4nm,0.6s							
TKM2				⇓S	**Sn**	**22 17 56.5**	**+2.1**
2.3nm,0.6s							
TKM2	**Tokmak 2**	**6.95**	**31**	P	**Pn**	**22 16 37.4**	**+0.6**
SNR=12							
AB31	**Akbulak array**	**14.54**	**331**	⇓P	**Pn**	**22 18 17.4**	**-1.2**
0.5nm,0.3s							
AB31				⇓S	**Sn**	**22 20 54.5**	**-4.1**
0.4nm,0.5s							
AKTO	**Aktyubinsk**	**16.24**	**330**	⇑P	**Pn**	**22 18 38.0**	**-2.1**
4.2nm,1.2s							
AKTO				⇑S	**Sn**	**22 21 37.8**	**-1.8**
4.5nm,1.4s							

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*ISCJB **08** 22:20:42.2±0.7, 38°.50S±0°.08×73°.5W±0°.1, h18km, mb4.2/12, MS3.4/2, Error ellipse: s-maj=16.3km s-min=8.7km az=152.4*
*NEIC **08** 22:20:45.8±0.7, 38°.46S×73°.57W, h35km, mb4.2/4, Error ellipse: s-maj=17.5km s-min=12.7km az=73.0*
*IDC **08** 22:20:46.2±5.4, 38°.48S×73°.38W, h30km±36km, mb4.0/10, mb1 4.1/12, mb1mx3.9/31, mbtmp4.1/12, ML4.2/2, MS3.3/4, Ms1 3.2/4, ms1mx2.9/22, Error ellipse: s-maj=31.0km s-min=17.4km az=83.0*
ISC 08 22:20:43.5±0.8,**38°.51S**±0°.09×**73°.6W**±0°.1,**h18**km,**n25**, σ1**°28**/25,**mb4.3**/12,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.21**	**135**	Pn	**Pn**	**22 21 34.4**	**+1.1**
	2.1nm,0.3s,baz=313,slow=9.9,SNR=67						
PLCA				LR	LR	22 22 17.8	
	comp=Z,106nm,20.5s,baz=234,slow=29						
PLCA				Lg	Lg	22 22 25.0	
	29nm,0.3s,baz=24,slow=10.0,SNR=5.4						
PLCA	**Paso Flores**	**3.21**	**135**	*e*Pn	**Pn**	**22 21 34.5**	**+1.3**
PLCA				*e*Sn	**Sn**	**22 22 09.2**	**-1.9**
PLCA				Lg	Lg	22 22 25.0	
TRQA	**Tornquist**	**9.12**	**91**	*e*Pn	**Pn**	**22 22 56.7**	**+2.4**
TRQA				*e*Sn	Sn	22 24 56.4	+20
CPUP	**Villa Florida**	**18.28**	**53**	P	**Pn**	**22 24 55.5**	**-0.7**
	1.1nm,0.3s,baz=215,slow=7.5,SNR=4.4						
CPUP				LR	LR	22 32 08.9	
	comp=Z,108nm,19.6s,baz=213,slow=38						
CPUP	**Villa Florida**	**18.28**	**53**	*e*Pn	**Pn**	**22 24 54.6**	**-1.6**
LPAZ	**La Paz**	**22.65**	**14**	P	**P**	**22 25 44.6**	**+0.3**
	4.6nm,1.1s,baz=165,slow=6.9,SNR=7.6						
LPAZ	**La Paz**	**22.65**	**14**	*e*P	**P**	**22 25 42.5**	**-1.9**
4.5nm,0.8s							
SIV	**San Ignacio**	**24.98**	**30**	P	**P**	**22 26 06.8**	**+0.6**
5.8nm,1.0s,baz=227,slow=11,SNR=7.8							
SIV				LR	LR	22 37 40.8	
	comp=Z,112nm,18.7s,baz=222,slow=41						
BDFB	**Brasilia**	**32.00**	**52**	P	**P**	**22 27 09.4**	**+0.4**
1.4nm,0.4s,baz=201,slow=13,SNR=2.0							
BDFB				LR	LR	22 41 58.0	
	comp=Z,82nm,18.5s,baz=196,slow=40						
SDV	**Santo Domingo**	**47.23**	**4**	*e*P	**P**	**22 29 13.8**	**-1.9**
6.7nm,1.0s							
SNAA	**Sanae**	**47.92**	**156**	*e*P	**P**	**22 29 19.1**	**-1.3**
2.7nm,0.9s							
QSPA	**South Pole Qui**	**51.73**	**180**	P	**P**	**22 29 51.7**	**+2.1**
0.9nm,0.8s,baz=202,slow=2.2,SNR=3.0							
QSPA	**South Pole Qui**	**51.73**	**180**	*e*P	**P**	**22 29 49.7**	**+0.1**
2.8nm,0.9s							
TXAR	**Lajitas Array**	**73.12**	**333**	P	**P**	**22 32 13.0**	**+0.2**
1.6nm,0.9s,baz=134,slow=7.1,SNR=5.5							
DBIC	**Dimbokro**	**77.79**	**71**	P	**P**	**22 32 40.5**	**+0.6**
4.9nm,0.6s,baz=212,slow=6.0,SNR=10.0							
BOSA	**Boshof**	**79.07**	**118**	P	**P**	**22 32 46.8**	**-0.2**
6.0nm,1.0s,baz=229,slow=5.4,SNR=5.6							
LBTB	**Lobatse**	**81.52**	**115**	P	**P**	**22 33 00.1**	**-0.2**
2.0nm,0.6s,baz=250,slow=5.2,SNR=6.4							
TORD	**Torodi Ar. Bea**	**86.89**	**71**	P	**P**	**22 33 27.2**	**-0.2**
1.7nm,0.6s,baz=230,slow=5.1,SNR=26							
PDAR	**Pinedale Array**	**87.25**	**334**	P	**P**	**22 33 30.2**	**+1.4**
0.2nm,0.3s,baz=181,slow=11,SNR=6.0							
H11S2	**WAKE ISLAND Hyl**	**24.38**	**267**	T	T	00 56 11.1	
baz=125							
H11S1	**WAKE ISLAND Hyl**	**24.40**	**267**	T	T	00 56 11.9	
baz=125							
H11S3	**WAKE ISLAND Hyl**	**24.40**	**267**	T	T	00 56 14.5	
baz=125							
ZALV	**Zalesovo Beam**	**158.63**	**37**	PKP	**PKPdf**	**22 40 37.5**	**-1.7**
0.3nm,0.4s,baz=320,slow=4.4,SNR=2.9							
ZALV				PKPab	**PKPab**	**22 41 15.2**	**+0.5**
0.8nm,0.7s,baz=294,slow=4.7,SNR=4.1							
MKAR	**Makanchi Array**	**160.46**	**57**	PKP	**PKPdf**	**22 40 41.5**	**-0.2**
0.5nm,0.9s,baz=318,slow=1.6,SNR=3.8							
MKAR				PKPab	**PKPab**	**22 41 22.4**	**-0.6**
0.7nm,0.7s,baz=305,slow=3.1,SNR=7.9							
SONM	**Songino Array**	**170.68**	**0**	PKPab	**PKPab**	**22 42 08.9**	**+1.0**
0.1nm,0.4s,baz=301,slow=29,SNR=4.0							

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*IDC **08** 22:25:54.8±1.6, 32°.63S×71°.94W, h0km, mb4.2/6, mb1 4.2/8, mb1mx4.0/30, mbtmp4.2/8, ML4.3/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/22, Error ellipse: s-maj=44.9km s-min=23.0km az=119.0*
*GUC **08** 22:25:56.7±0.5, 32°.62S×71°.71W, h13km±5km, ML4.1*
*NEIC **08** 22:26:00.1±1.0, 32°.55S×71°.60W, h35km, mb4.3/3, Error ellipse: s-maj=28.1km s-min=12.1km az=84.0*
ISC 08 22:25:57.0±1.5,**32°.61S**±0°.03×**71°.69W**±0°.08,**h12**km±9km, **n26**,σ0**°88**/34,**mb4.2**/8,**2C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.41**	**174**	⇓*i* P	**Pg**	**22 26 05.4**	**+0.2**
IHA				*i* S	**Sb**	**22 26 11.5**	**-1.0**
CHNG	**Los Chungos**	**0.75**	**13**	⇓*i* P	**Pg**	**22 26 11.6**	**+0.2**
CHNG				*i* S	**Sb**	**22 26 22.5**	**+0.4**
RCDM	**Rinconada Maip**	**1.15**	**140**	⇑*i* P	**Pb**	**22 26 17.8**	**-1.0**
RCDM				*i* S	**Sg**	**22 26 34.2**	**+0.2**
CLCH	**Cerro Calan**	**1.25**	**129**	IAML		22 26 44.9	
comp=N,5μm,1.1s							
LACH	**Col Las Americ**	**1.28**	**131**	*i* P	**Pb**	**22 26 21.0**	**-0.1**
LACH				*i* S	**Sg**	**22 26 39.2**	**+0.8**
ANTU	**Antumapu**	**1.30**	**137**	*i* P	**Pb**	**22 26 21.3**	**-0.1**
ANTU				*i* S	**Sg**	**22 26 39.5**	**+0.5**
ANTU				IAML		22 26 45.6	
comp=E,8μm,0.6s							
CMCH	**Combarbala**	**1.55**	**22**	*e*P9	**Pn**	**22 26 24.4**	**-0.1**
CMCH				*e*S	**Sb**	**22 26 46.1**	**+0.8**
CHCH	**Chadas Angostu**	**1.58**	**147**	*e*P	**Pb**	**22 26 25.6**	**-0.5**
CACH	**El Canelo**	**1.76**	**149**	⇑*i* P	**Pb**	**22 26 29.3**	**+0.1**
CACH				*i* S	**Sg**	**22 26 54.0**	**+0.5**
CFAA	**Coronel Fontan**	**3.10**	**72**	Pn	**Pb**	**22 26 50.0**	**-2.1**
	comp=E,1.3nm,0.3s,baz=246,slow=2.6,SNR=17						
CFAA				Sn	**Sb**	**22 27 30.6**	**+0.7**
	comp=E,2.3nm,0.3s,baz=54,slow=11,SNR=6.6						
LCO	**Las Campanas**	**3.69**	**14**	*e*Pn	**Pn**	**22 26 54.1**	**+0.1**
LCO				*e*Sn	**Sn**	**22 27 39.1**	**+1.5**
PLCA	**Paso Flores**	**8.15**	**174**	Pn	**Pn**	**22 27 55.5**	**+0.3**
	comp=E,1.9nm,0.3s,baz=332,slow=10,SNR=6.5						
PLCA				LR	LR	22 31 26.6	
	comp=E,70nm,18.1s,baz=242,slow=41						
TRQA	**Tornquist**	**9.61**	**127**	*e*Pn	**Pn**	**22 28 14.3**	**-0.8**
LVC	**Limon Verde**	**10.26**	**15**	*e*Pn	**Pn**	**22 28 21.8**	**-2.5**
LPAZ	**La Paz**	**16.57**	**12**	Pn	**Pn**	**22 29 50.4**	**+0.6**
	comp=E,0.2nm,0.3s,baz=187,slow=4.9,SNR=6.5						
LPAZ				LR	LR	22 36 53.2	
	comp=E,93nm,18.6s,baz=121,slow=40						
SAML	**Samuel**	**24.83**	**20**	*e*P	**P**	**22 31 17.8**	**-1.4**
comp=E,1.5nm,0.6s							
BDFB	**Brasilia**	**27.33**	**57**	P	**P**	**22 31 42.0**	**0.0**
	comp=E,2.8nm,0.8s,baz=209,slow=14,SNR=3.0						
SNAA	**Sanae**	**52.76**	**158**	*e*P	**P**	**22 35 11.5**	**0.0**
comp=E,4.1nm,1.0s							
QSPA	**South Pole Qui**	**57.62**	**180**	P	**P**	**22 35 46.6**	**-0.1**
	comp=E,1.1nm,0.4s,baz=156,slow=0.8,SNR=5.5						
QSPA	**South Pole Qui**	**57.62**	**180**	*e*P	**P**	**22 35 45.7**

GERES GERESS Array B 81.29 319 P P 22 48 06.9 +0.3
0.4nm,0.7s,baz=290,slow=27,SNR=3.6
TORD Torodi Ar. Bea 92.89 283 P P 22 49 06.0 +2.3
0.4nm,0.9s,baz=325,slow=13,SNR=2.4
ILAR Eielson Array 97.11 23 P P 22 49 20.3 -1.6
0.1nm,0.6s,baz=123,slow=36,SNR=3.1

SJA 08 22:36:32.7±0.5,26°38S×67°03W,h161km±17km,ML3.5, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHML	**Horco Molle**	**1.57**	**105**	*i* P	Pn	22 37 04.7	+0.8
SLA	**San Lorenzo**	**2.15**	**40**	*i* P	Pn	22 37 11.4	+0.9
AZAP	**Zapla**	**2.79**	**40**	*i* P	Pn	22 37 19.3	+1.0
AZAP				*i* S	Sn	22 37 53.4	-0.1
AZAP				AML	AML	22 37 55.2	
	comp=Z,134nm,0.6s						
ASTB	**Santa Barbara**	**3.34**	**44**	*i* P	Pn	22 37 26.1	+1.1
ALOL	**LOMAS DE OLMED**	**3.77**	**48**	*i* P	Pn	22 37 31.3	+0.9
ACHE	**Chepes**	**4.78**	**176**	*i* S	Sn	22 38 37.4	-1.7

*NEIC **08** 22:43:17.9±2.2,23°87S×176°76W,h85km±15km,mb4.5/5, Error ellipse: s-maj=24.2km s-min=15.1km az=90.0*
*IDC **08** 22:43:24.4±10.0,24°18S×176°71W,h143km±83km, mb4.0/4,mb1 4.1/6,mb1mx3.6/41,mbtmp4.4/6,Error ellipse: s-maj=59.8km s-min=40.3km az=41.0*
ISC 08 22:43:22.1±1.1,24°24S±0°09×176°9W±0°2,h100km,n28, σ2°20/27,mb4.5/6,2C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.03**	**323**	*e*Pn	Pn	22 45 08.7	-7.5
	31nm,0.8s						
URZ	**Urewera**	**14.90**	**199**	P	**P**	**22 46 50.5**	**0.0**
	1.2nm,0.3s,baz=284,slow=4.2,SNR=7.3						
URZ				S	**Sn**	**22 49 30.9**	**-0.8**
	0.6nm,0.3s,baz=100,slow=19,SNR=3.1						
URZ	**Urewera**	**14.90**	**199**	*e*Pn	**Pn**	**22 46 48.6**	**+1.2**
	4.6nm,0.5s						
URZ				S	**Sn**	**22 49 30.9**	**-0.8**
DZM	**Mont Dzumac**	**15.52**	**275**	P	**P**	**22 46 58.9**	**+1.2**
	0.5nm,0.3s,baz=296,slow=20,SNR=3.8						
DZM	**Mont Dzumac**	**15.52**	**275**	*e*Pn	**Pn**	**22 46 57.6**	**+2.2**
	10nm,0.7s						
CMSA	**Cobar Meteorol**	**33.77**	**249**	P	**P**	**22 49 56.8**	**+2.4**
	baz=39,SNR=6.2						
CTA	**Charters Tower**	**34.35**	**270**	P	**P**	**22 49 58.3**	**-1.2**
	5.9nm,0.5s,baz=91,slow=11,SNR=13						
CTAO	**Charters Tower**	**34.35**	**270**	*e*P	**P**	**22 49 58.0**	**-1.5**
	5.1nm,0.4s						
QLP	**Quilpie**	**35.14**	**258**	P	**P**	**22 50 07.0**	**+0.7**
	baz=41,SNR=4.1						
PMG	**Port Moresby**	**37.33**	**287**	*e*P	P	22 50 22.2	-2.8
	13nm,0.9s						
COEN	**Coen**	**39.01**	**278**	P	**P**	**22 50 38.4**	**-0.7**
	baz=44,SNR=6.4						
ASAR	**Alice Springs**	**44.82**	**260**	P	**P**	**22 51 25.6**	**-0.8**
	1.6nm,0.8s,baz=91,slow=8.0,SNR=9.6						
ASAR				PcP	**PcP**	**22 53 05.0**	**-1.7**
	0.4nm,0.7s,baz=102,slow=3.9,SNR=3.2						
WB2	**Warramunga Arr**	**45.24**	**265**	*e*P	P	22 51 26.4	-3.3
WRAB	**Tennant Creek**	**45.24**	**265**	*e*P	P	22 51 26.6	-3.2
	12nm,1.2s						
WRA	**Warramunga Arr**	**45.25**	**265**	P	**P**	**22 51 28.6**	**-1.2**
	2.1nm,0.5s,baz=102,slow=8.6,SNR=16						
KDU	**Kakadu**	**49.18**	**274**	P	P	22 51 57.0	-3.3
	baz=54,SNR=4.5						
WRKA	**Warakurna**	**49.57**	**257**	P	**P**	**22 52 00.6**	**-2.7**
	baz=55,SNR=3.4						
KNRA	**Kununurra**	**51.56**	**269**	P	**P**	**22 52 16.3**	**-1.9**
	baz=57,SNR=7.4						
MBWA	**Marble Bar**	**58.14**	**259**	*e*P	**P**	**22 53 04.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**92.35**	**289**	P	**P**	**22 56 20.0**	**-1.8**
	0.5nm,0.3s,baz=120,slow=5.3,SNR=4.5						
FINES	**FINESS Array B**	**139.64**	**343**	PKP	**PKPdf**	**23 02 35.9**	**-1.5**
	0.3nm,0.3s,baz=189,slow=35,SNR=4.7						
AKASG	**Malin Array Be**	**146.77**	**329**	PKPbc	**PKPdf**	**23 02 47.4**	**-3.0**
	1.3nm,0.4s,baz=43,slow=4.4,SNR=6.9						
BRTR	**Keskin Array B**	**150.06**	**308**	PKPab	**PKPbc**	**23 03 04.3**	**+2.9**
	1.4nm,0.6s,baz=128,slow=5.0,SNR=8.1						
MMAI	**Mount Meron Ar**	**150.46**	**295**	PKPbc	**PKPdf**	**23 02 59.3**	**+2.3**
	1.5nm,0.5s,baz=76,slow=7.0,SNR=6.6						
MMAI				PKPab	**PKiKP**	**23 03 06.2**	**+3.0**
	1.2nm,0.5s,baz=76,slow=7.9,SNR=4.7						
MLR	**Muntele Rosu**	**151.90**	**325**	PKPbc	**PKPbc**	**23 03 02.9**	**-2.5**
	1.1nm,1.0s,baz=24,slow=20,SNR=3.8						
CLL	**Collm**	**151.93**	**347**	*e*PKPbc	**PKPbc**	**23 03 05.0**	**-0.1**
ARR	**Arges**	**152.67**	**326**	⇑*i*P	**PKPbc**	**23 03 11.9**	**+4.8**
BZS	**Buzias**	**153.96**	**330**	⇑*i*P	**PKPbc**	**23 03 13.2**	**+3.4**

*IDC **08** 22:59:18.4±1.2,35°98S×72°68W,h0km,mb3.9/6, mb1 4.0/8,mb1mx3.9/27,mbtmp3.8/8,ML3.5/2,MS3.4/6, Ms1 3.4/6,ms1mx3.1/23,Error ellipse: s-maj=42.2km s-min=21.0km az=94.0*
*ISCJB **08** 22:59:20.3±0.6,35°89S±0°04×72°92W±0°08,h28km, mb3.9/5,MS3.5/4,Error ellipse: s-maj=9.4km s-min=5.3km az=17.4*
*GUC **08** 22:59:23.1±0.4,36°02S×72°74W,h30km±2km,ML4.1*
*NEIC **08** 22:59:24.1±0.9,35°71S×72°88W,h35km,mb4.2/2,Error ellipse: s-maj=22.1km s-min=10.7km az=88.0*
ISC 08 22:59:21.9±0.8,35°93S±0°06×72°79W±0°08,h28km,n23, σ0°91/21,mb3.9/5,MS3.4/4,2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.20**	**180**	⇓*i*P	**Pb**	**22 59 28.2**	**+0.3**
COCH				*i* S	**Sb**	**22 59 32.1**	**+0.1**
CCSP	**San Pedro de C**	**0.95**	**196**	*e*P	**Pn**	**22 59 38.3**	**-1.0**
CCSP				*e*S	**Sb**	**22 59 49.9**	**-2.1**
CCSP				IAML		22 59 52.6	
	comp=N,12μm,0.5s						
LNCH	**Linares**	**0.97**	**86**	⇓*i*P	**Pn**	**22 59 39.3**	**-0.3**
LNCH				*i* S	**Sn**	**22 59 51.6**	**-0.8**
NICH	**Los Niches**	**1.57**	**55**	*e*P	**Pb**	**22 59 49.4**	**-0.9**
NICH				*e*S	**Sb**	**23 00 09.8**	**+0.1**
PLCA	**Paso Flores**	**5.11**	**161**	Pn	**Pn**	**23 00 37.2**	**+0.6**
	comp=N,1.0nm,0.3s,baz=320,slow=7.3,SNR=5.3						
PLCA				Lg	Lg	23 01 52.6	
	comp=N,0.8nm,0.3s,baz=39,slow=20,SNR=3.4						
PLCA				LR	LR	23 02 34.1	
	comp=N,125nm,19.0s,baz=296,slow=39						
PLCA	**Paso Flores**	**5.11**	**161**	*e*Pn	Pn	23 00 43.3	+6.7
	comp=N,18nm,0.6s						
PLCA				*e*Sn	Sn	23 01 42.2	+7.5
PLCA				Lg	Lg	23 01 52.6	
CFAA	**Coronel Fontan**	**5.74**	**43**	Pn	**Pn**	**23 00 45.8**	**+0.6**
	comp=N,0.2nm,0.3s,baz=224,slow=5.9,SNR=11						
CFAA				Lg	Lg	23 02 08.8	
	comp=N,0.3nm,0.3s,baz=95,slow=22,SNR=9.0						
CFAA				LR	LR	23 03 13.9	
	comp=N,24nm,20.6s,baz=226,slow=41						
LCO	**Las Campanas**	**7.12**	**15**	*e*Pn	**Pn**	**23 01 03.6**	**-0.9**
TRQA	**Tornquist**	**8.91**	**107**	*e*Pn	Pn	23 01 32.1	+3.4
	comp=N,9.2nm,0.8s						
LVC	**Limon Verde**	**13.69**	**15**	*e*Pn	**Pn**	**23 02 33.0**	**-1.4**
CPUP	**Villa Florida**	**16.31**	**58**	LR	LR	23 10 20.9	
	comp=N,113nm,18.9s,baz=212,slow=41						
LPAZ	**La Paz**	**20.00**	**13**	P	**Pn**	**23 03 55.4**	**+0.6**
	comp=N,3.5nm,0.9s,baz=199,slow=7.2,SNR=11						
LPAZ	**La Paz**	**20.00**	**13**	*e*P	**P**	**23 03 52.8**	**-0.1**
	comp=N,3.0nm,0.8s						
SIV	**San Ignacio**	**22.44**	**31**	P	**P**	**23 04 19.0**	**+0.3**
	comp=N,3.4nm,0.7s,baz=241,slow=7.8,SNR=13						
SIV				LR	LR	23 14 03.5	
	comp=N,95nm,19.3s,baz=218,slow=40						
PMSA	**Palmer Station**	**29.36**	**172**	LR	LR	23 16 16.3	
	comp=N,82nm,19.3s,baz=322,slow=35						
BDFB	**Brasilia**	**29.95**	**54**	LR	LR	23 18 46.9	
	comp=N,112nm,19.2s,baz=226,slow=39						
QSPA	**South Pole Qui**	**54.31**	**180**	P	**P**	**23 08 46.4**	**+0.9**
	comp=N,1.9nm,0.9s,baz=133,slow=2.8,SNR=3.9						
QSPA	**South Pole Qui**	**54.31**	**180**	*e*P	**P**	**23 08 46.6**	**+1.2**
	comp=N,10nm,1.4s						
TXAR	**Lajitas Array**	**71.12**	**332**	P	**P**	**23 10 39.0**	**+1.2**
	comp=N,0.4nm,0.5s,baz=152,slow=5.7,SNR=4.4						
BBTS	**Babate**	**73.18**	**57**	LR	LR	23 41 14.9	
	comp=N,65nm,19.5s,baz=301,slow=34						
BOSA	**Boshof**	**79.72**	**118**	P	**P**	**23 11 27.6**	**+0.1**
	comp=N,3.2nm,0.8s,baz=270,slow=3.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**85.44**	**70**	P	**P**	**23 11 56.9**	**-0.3**
	comp=N,0.4nm,0.9s,baz=229,slow=3.4,SNR=2.5						
MKAR	**Makanchi Array**	**158.46**	**52**	PKPab	**PKPab**	**23 19 50.8**	**-0.3**
	comp=N,0.3nm,0.8s,baz=343,slow=1.3,SNR=4.0						

SJA 08 23:03:07.8±0.7,25°78S×66°64W,h2km±5km,ML3.6,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.47**	**45**	*i* P	Pg	23 03 37.0	+0.8
SLA				*i* S	Sn	23 03 58.0	+2.4
SLA				AML	AML	23 04 04.7	
	comp=Z,1μm,0.6s						
AHML	**Horco Molle**	**1.54**	**131**	*i* P	Pg	23 03 37.4	-0.1
AHML				*i* S	Sg	23 03 60.0	+2.4
ASTB	**Santa Barbara**	**2.67**	**48**	*i* P	Pb	23 03 54.9	-1.7
CYA	**Choya**	**2.76**	**165**	*i* P	Pb	23 03 56.2	-1.8
CYA				*i* S	Sb	23 04 31.4	-0.9
CYA				AML	AML	23 04 37.6	
	comp=Z,155nm,0.6s						
ALOL	**LOMAS DE OLMED**	**3.11**	**52**	*i* P	Pn	23 04 00.9	+2.9

GUC 08 23:03:13.8±0.3,36°35S×72°95W,h24km±1km,ML3.9,2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.26**	**31**	⇑*i*P	Pb	23 03 19.5	-0.6
COCH				*i* S	Sb	23 03 23.9	-0.4
CCSP	**San Pedro de C**	**0.51**	**195**	⇑*i*P	Pb	23 03 23.1	-1.0
CCSP				*i* S	Sb	23 03 30.3	-0.8
CCSP				IAML		23 03 31.4	
	comp=E,17μm,0.5s						
LNCH	**Linares**	**1.20**	**66**	*e*P	Pn	23 03 34.2	-0.9
LNCH				*e*S	Sn	23 03 49.5	-1.2
NICH	**Los Niches**	**1.94**	**47**	*i* P	Pn	23 03 45.9	+0.6
NICH				*i* S	Sn	23 04 10.1	+1.1

*NEIC **08** 23:12:39.5,36°02S×177°53E,h209km,mb4.1/1,After WEL.*
WEL 08 23:12:39.8±0.7,36°03S×177°51E,h205km±6km,ML4.5/18, 5C-2D,Error ellipse: s-maj=7.2km s-min=6.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.66**	**158**	PN	Pn	23 13 14.9	-0.4
MXZ				SN	S	23 13 42.7	-0.1
MXZ				AML	AML	23 13 43.9	
MXZ				AML	AML	23 13 43.9	
MXZ				AML	AML	23 13 44.3	
MXZ	**Matakaoa Point**	**1.66**	**158**	Pn	Pn	23 13 15.2	-0.1
HAZ	**Te Kaha**	**1.74**	**173**	PN	Pn	23 13 16.1	0.0
WMGZ	**Waiomatatini S**	**1.93**	**158**	⇓PN	Pn	23 13 18.2	+0.4
WMGZ				SN	S	23 13 46.8	-0.4
PUZ	**Puketiti**	**2.12**	**164**	PN	Pn	23 13 19.9	0.0
PUZ				SN	S	23 13 50.1	-0.9
PUZ				AML	AML	23 13 52.4	
PUZ	**Puketiti**	**2.12**	**164**	Pn	Pn	23 13 19.9	0.0
TWGZ	**Tauwhareparae**	**2.17**	**170**	PN	Pn	23 13 21.3	+0.7
TWGZ				SN	S	23 13 52.0	+0.1
URZ	**Urewera**	**2.25**	**188**	PN	Pn	23 13 21.6	+0.4
URZ				AML	AML	23 13 59.8	
URZ				AML	AML	23 13 59.8	
URZ	**Urewera**	**2.25**	**188**	*e*Pn	Pn	23 13 21.6	+0.4
URZ				*e*Sn	S	23 13 53.9	+0.7
MWZ	**Matawai**	**2.30**	**180**	PN	Pn	23 13 22.0	+0.2
MWZ				SN	S	23 13 54.5	+0.2
MWZ				AML	AML	23 13 56.6	
MWZ				AML	AML	23 13 57.2	
MWZ				AML	AML	23 14 03.1	
MWZ	**Matawai**	**2.30**	**180**	Pn	Pn	23 13 22.1	+0.3
MWZ				Sn	S	23 13 54.7	+0.4
TARZ	**Mount Tarawera**	**2.34**	**200**	Pn	Pn	23 13 25.3	+2.9
RAGZ	**Rawiri**	**2.46**	**182**	PN	Pn	23 13 24.3	+0.7
CNGZ	**Carnagh Statio**	**2.51**	**167**	⇑PN	Pn	23 13 24.5	+0.4
CNGZ	**Carnagh Statio**	**2.51**	**167**	Pn	Pn	23 13 24.5	+0.4
RIGZ	**Rimuhau**	**2.68**	**176**	PN	Pn	23 13 25.9	-0.1
SNGZ	**Shannon Statio**	**2.75**	**183**	PN	Pn	23 13 26.7	-0.1
RAHZ	**Arahi**	**2.90**	**187**	PN	Pn	23 13 28.8	+0.2
RAHZ	**Arahi**	**2.90**	**187**	Pn	Pn	23 13 29.0	+0.4
PRGZ	**Paritu Road**	**2.90**	**174**	PN	Pn	23 13 27.9	-0.6
PRGZ	**Paritu Road**	**2.90**	**174**	Pn	Pn	23 13 28.4	-0.2
KNZ	**Kokohu**	**2.99**	**178**	PN	Pn	23 13 28.9	-0.6
KNZ	**Kokohu**	**2.99**	**178**	Pn	Pn	23 13 29.1	-0.4
WHHZ	**Waihua**	**3.05**	**184**	PN	Pn	23 13 30.2	+0.2
NMHZ	**Naumai**	**3.11**	**190**	PN	Pn	23 13 31.6	+0.5
NMHZ	**Naumai**	**3.11**	**190**	Pn	Pn	23 13 31.7	+0.6
MHGZ	**Mahia Peninsul**	**3.13**	**174**	PN	Pn	23 13 30.8	-0.4
MHGZ	**Mahia Peninsul**	**3.13**	**174**	Pn	Pn	23 13 30.8	-0.4
BKZ	**Black Stump Fm**	**3.23**	**194**	⇓PN	Pn	23 13 32.3	-0.2
BKZ				AML	AML	23 14 15.0	
BKZ				AML	AML	23 14 18.6	
BKZ	**Black Stump Fm**	**3.23**	**194**	Pn	Pn	23 13 32.3	-0.2
OTVZ	**Oturere**	**3.46**	**205**	PN	Pn	23 13 36.1	+0.9
MCHZ	**McNeill Hill**	**3.47**	**191**	PN	Pn	23 13 35.3	+0.1
MCHZ	**McNeill Hill**	**3.47**	**191**	Pn	Pn	23 13 35.3	+0.1
NGZ	**Ngauruhoe**	**3.49**	**205**	PN	Pn	23 13 36.8	+1.2
TUVZ	**Tukino**	**3.55**	**204**	PN	Pn	23 13 36.9	+0.5
TUVZ	**Tukino**	**3.55**	**204**	Pn	Pn	23 13 36.9	+0.5
FWVZ	**Far West T-bar**	**3.58**	**205**	⇑PN	Pn	23 13 37.5	+0.7
FWVZ	**Far West T-bar**	**3.58**	**205**	Pn	Pn	23 13 37.5	+0.7
WHVZ	**Whangaehu Hut**	**3.59**	**205**	PN	Pn	23 13 37.1	+0.1
TRVZ	**Turoa**	**3.62**	**205**	PN	Pn	23 13 37.8	+0.5
TRVZ	**Turoa**	**3.62**	**205**	Pn	Pn	23 13 37.8	+0.5
WNVZ	**Wahianoa**	**3.63**	**204**	PN	Pn	23 13 37.7	+0.3
WNVZ	**Wahianoa**	**3.63**	**204**	Pn	Pn	23 13 37.7	+0.3
BHHZ	**Black Hill Sta**	**3.64**	**198**	PN	Pn	23 13 37.0	-0.4
BHHZ	**Black Hill Sta**	**3.64**	**198**	Pn	Pn	23 13 37.0	-0.4
CKHZ	**Cape Kidnapper**	**3.64**	**185**	PN	Pn	23 13 36.5	-0.8
CKHZ	**Cape Kidnapper**	**3.64**	**185**	Pn	Pn	23 13 36.7	-0.5
MOVZ	**Moawhango**	**3.65**	**202**	PN	Pn	23 13 36.9	-0.5
MOVZ	**Moawhango**	**3.65**	**202**	Pn	Pn	23 13 37.3	-0.2
KRHZ	**Kereru**	**3.72**	**194**	PN	Pn	23 13 37.5	-0.8
MTVZ	**Mangateitei**	**3.72**	**205**	Pn	Pn	23 13 39.6	+1.2
KAHZ	**Kahuranaki**	**3.79**	**187**	PN	Pn	23 13 38.5	-0.7
KAHZ	**Kahuranaki**	**3.79**	**187**	Pn	Pn	23 13 38.5	-0.7
PNHZ	**Pukenui**	**4.01**	**195**	⇑PN	Pn	23 13 40.8	-1.1
PNHZ	**Pukenui**	**4.01**	**195**	Pn	Pn	23 13 40.9	-1.1
PXZ	**Pawanui**	**4.03**	**187**	⇑PN	Pn	23 13 40.6	-1.4
PXZ				AML	AML	23 14 31.0	
PXZ				AML	AML	23 14 31.2	
PXZ				AML	AML	23 14 31.7	
PXZ				AML	AML	23 14 31.7	
PXZ	**Pawanui**	**4.03**	**187**	Pn	Pn	23 13 40.6	-1.4
WPHZ	**Waipukurau**	**4.12**	**192**	*e*PN	Pn	23 13 41.7	-1.5
WPHZ	**Waipukurau**	**4.12**	**192**	Pn	Pn	23 13 41.4	-1.8
TSZ	**Takapari Road**	**4.21**	**196**	PN	Pn	23 13 43.0	-1.3
TSZ				AML	AML	23 14 34.1	
TSZ				AML	AML	23 14 34.6	
WAZ	**Wanganui**	**4.22**	**208**	*e*PN	Pn	23 13 43.2	-1.3
WAZ	**Wanganui**	**4.22**	**208**	Pn	Pn	23 13 45.0	+0.5
PRHZ	**Porangahau**	**4.29**	**189**	PN	Pn	23 13 43.6	-1.7
PRHZ	**Porangahau**	**4.29**	**189**	Pn	Pn	23 13 43.9	-1.4
DVHZ	**Dannevirke**	**4.39**	**194**	PN	Pn	23 13 44.8	-1.8
DVHZ	**Dannevirke**	**4.39**	**194**	Pn	Pn	23 13 44.8	-1.8
ANWZ	**Angora Road**	**4.50**	**190**	PN	Pn	23 13 46.2	-1.7
POWZ	**Post Office Ro**	**4.57**	**197**	PN	Pn	23 13 47.3	-1.5
POWZ	**Post Office Ro**	**4.57**	**197**	Pn	Pn	23 13 47.4	-1.4
PRWZ	**Pori Road**	**4.68**	**195**	PN	Pn	23 13 48.6	-1.6
BFZ	**Birch Farm**	**4.75**	**192**	PN	Pn	23 13 49.0	-2.1
BFZ	**Birch Farm**	**4.75**	**192**	Pn	Pn	23 13 49.0	-2.1
MRZ	**Mangatainoka R**	**4.87**	**198**	PN	Pn	23 13 50.1	-2.5
MRZ				AML	AML	23 14 53.7	
MRZ				AML	AML	23 14 54.3	
MRZ	**Mangatainoka R**	**4.87**	**198**	Pn	Pn	23 13 50.3	-2.2
TIWZ	**Tintock**	**4.91**	**195**	*e*PN	Pn	23 13 50.7	-2.5
TIWZ				AML	AML	23 14 49.4	
TIWZ				AML	AML	23 14 49.4	
CPWZ	**Castlepoint**	**4.98**	**192**	PN	Pn	23 13 52.3	-1.7
HOWZ	**Holdsworth Sta**	**5.11**	**197**	PN	Pn	23 13 53.2	-2.4
HOWZ	**Holdsworth Sta**	**5.11**	**197**	Pn	Pn	23 13 53.2	-2.4
OGWZ	**Otaki Gorge**	**5.12**	**200**	⇑PN	Pn	23 13 53.8	-2.0
OGWZ	**Otaki Gorge**	**5.12**	**200**	Pn	Pn	23 13 53.6	-2.1
TMWZ	**Te Maipa**	**5.23**	**194**	PN	Pn	23 13 54.6	-2.5
TMWZ	**Te Maipa**	**5.23**	**194**	Pn	Pn	23 13 54.5	-2.6
KIW	**Kapiti Island**	**5.24**	**202**	*e*PN	Pn	23 13 54.9	-2.4
KIW				AML	AML	23 15 01.5	
KIW				AML	AML	23 15 05.0	
KIW	**Kapiti Island**	**5.24**	**202**	Pn	Pn	23 13 55.0	-2.3
MTW	**Mount Morrison**	**5.36**	**196**	PN	Pn	23 13 55.9	-2.9
MTW				AML	AML	23 15 04.7	
MTW	**Mount Morrison**	**5.36**	**196**	Pn	Pn	23 13 55.9	-2.9
CAW	**Cannon Point**	**5.42**	**200**	PN	Pn	23 13 56.8	-2.8
CAW				AML	AML	23 15 06.4	
CAW				AML	AML	23 15 08.1	
CAW	**Cannon Point**	**5.42**	**200**	Pn	Pn	23 13 56.9	-2.7
DUWZ	**D'Urville Isla**	**5.54**	**210**	*e*PN	Pn	23 13 59.5	-1.6
DUWZ	**D'Urville Isla**	**5.54**	**210**	Pn	Pn	23 13 59.5	-1.6
TRWZ	**Traveller**	**5.55**	**194**	PN	Pn	23 13 58.6	-2.6
TRWZ				AML	AML	23 15 08.6	
TRWZ	**Traveller**	**5.55**	**194**	Pn	Pn	23 13 58.6	-2.6
PAWZ	**Paruwai Farm**	**5.59**	**196**	PN	Pn	23 13 58.6	-3.2
PAWZ				AML	AML	23 15 03.6	
PAWZ				AML	AML	23 15 03.9	
PAWZ	**Paruwai Farm**	**5.59**	**196**	Pn	Pn	23 13 58.6	-3.2
MSWZ	**Moikau Station**	**5.66**	**198**	PN	Pn	23 13 59.5	-3.2
MSWZ				AML	AML	23 15 11.1	
MSWZ				AML	AML	23 15 11.9	
MSWZ	**Moikau Station**	**5.66**	**198**	Pn	Pn	23 13 59.5	-3.1
BHW	**Baring Head**	**5.75**	**200**	PN	Pn	23 14 00.8	-3.0
BHW				AML	AML	23 15 11.3	
BHW	**Baring Head**	**5.75**	**200**	Pn	Pn	23 14 00.8	-3.0
TCW	**Tory Channel**	**5.76**	**205**	PN	Pn	23 14 01.6	-2.4
TCW				AML	AML	23 15 13.0	
TCW				AML	AML	23 15 13.5	
TCW	**Tory Channel**	**5.76**	**205**	Pn	Pn	23 14 01.6	-2.4
PLWZ	**Palliser**	**5.81**	**197**	PN	Pn	23 14 01.3	-3.3
PLWZ	**Palliser**	**5.81**	**197**	Pn	Pn	23 14 01.3	-3.3
TUWZ	**Tuamarina**	**6.07**	**206**	PN	Pn	23 14 05.1	-2.9
TUWZ				AML	AML	23 15 18.6	
TUWZ				AML	AML	23 15 21.1	
TUWZ	**Tuamarina**	**6.07**	**206**	Pn	Pn	23 14 05.0	-2.9
QRZ	**Quartz Range**	**6.18**	**218**	*e*PN	Pn	23 14 08.1	-1.4
QRZ	**Quartz Range**	**6.18**	**218**	Pn	Pn	23 14 08.0	-1.4
THZ	**Tophouse**	**6.76**	**211**	*e*PN	Pn	23 14 15.1	-1.8
THZ	**Tophouse**	**6.76**	**211**	Pn	Pn	23 14 15.4	-1.6
KHZ	**Kahutara**	**7.08**	**205**	PN	Pn	23 14 17.9	-3.2
KHZ	**Kahutara**	**7.08**	**205**	Pn	Pn	23 14 17.9	-3.1
WRAB	**Tennant Creek**	**41.00**	**281**	*e*P	P	23 20 03.5	+0.5
	2.7nm,0.4s						

NNC 08 23:22:55.2±3.2,36°90N×70°99E,h0km,mb3.6,mpv3.3, 5C-2D,Error ellipse: s-maj=26.2km s-min=12.7km az=173.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.56**	**319**	⇓*i*P	Pn	23 23 37.7	-0.4
DZET				⇓*i*Sn	Sn	23 24 11.7	+1.6
KK31	**Karatay Array**	**6.21**	**357**	Pn	Pn	23 24 28.6	+0.5
	0.8nm,0.3s,baz=174,slow=12,SNR=46						
KK31				⇑Sn	Sn	23 25 40.1	+0.1
	1.1nm,0.6s,baz=183,slow=25,SNR=5.7						
AAK	**Ala-Archa**	**6.33**	**24**	⇑Pn	Pn	23 24 30.5	+0.5
	2.1nm,0.6s						
AAK				Sn	Sn	23 25 43.9	+0.6
	2.1nm,0.8s						
TKM2	**Tokmak 2**	**6.98**	**29**	⇑Pn	Pn	23 24 39.5	+0.5
	1.3nm,0.6s						
TKM2				⇑Sn	Sn	23 26 00.9	+1.6
	0.7nm,0.7s						
AB31	**Akbulak array**	**14.74**	**330**	⇑Pn	Pn	23 26 20.5	-4.3
	0.4nm,0.7s,baz=168,slow=12,SNR=7.6						

*IDC **08** 23:40:30.9±3.6,35°08S×72°97W,h0km,mb3.9/2, mb1 3.7/5,mb1mx3.6/23,mbtmp3.6/5,ML3.5/3,MS3.8/1, Ms1 3.8/1,ms1mx2.6/23,Error ellipse: s-maj=88.4km s-min=31.8km az=95.0*
*ISCJB **08** 23:40:38.1±1.6,35°09S±0°04×72°1W±0°1,h25km±10km, mb3.7/2,MS3.6/1,Error ellipse: s-maj=16.1km s-min=6.0km az=16.8*
*GUC **08** 23:40:38.8±0.8,35°01S×72°01W,h25km±7km,ML3.8*
ISC 08 23:40:37.7±1.6,35°01S±0°05×72°01W±0°09,h26km±15km, n13,σ1°26/18,2C-3D,Near coast of central Chile

| Code | Station Name | Δ° | A

comp=E,23µm,0.7s
CMCH Combarbala 1.44 22 ↓i P Pn 23 43 53.3 +0.4
CMCH i S Sb 23 44 14.5 +2.1
CHCH Chadas Angostu 1.64 150 ↑i P Pn 23 43 54.7 -0.9
CACH El Canelo 1.82 152 ↓i P Pn 23 43 58.3 +0.1
NICH Los Niches 2.50 172 e P1 Pn 23 44 05.4 -2.0
NICH i S1 Sn 23 44 36.0 -1.2
CFAA Coronel Fontan 3.02 73 Pn Pb 23 44 19.6 -1.7
comp=E,3.2nm,0.3s,baz=253,slow=12,SNR=36
CFAA LR LR 23 44 58.5
comp=E,96nm,18.9s,baz=276,slow=31
CFAA Lg Lg 23 45 05.3
comp=E,8.4nm,0.3s,baz=25,slow=10,SNR=6.5
LCO Las Campanas 3.58 13 e Pn Pn 23 44 23.4 +0.9
LCO e Sn Sn 23 45 03.7 -0.6
COCH Cobquecura 3.73 195 ↓i P Pn 23 44 20.1 -4.2
PLCA Paso Flores 8.25 174 e P Pn 23 45 25.2 -1.2
PLCA Paso Flores 8.25 174 Pn Pn 23 45 25.1 -1.4
comp=E,3.2nm,0.3s,baz=337,slow=9.7,SNR=38
PLCA Lg Lg 23 47 41.9
comp=E,0.2nm,0.3s,baz=50,slow=20,SNR=2.5
TRQA Tornquist 9.63 128 e Pn Pn 23 45 46.3 +1.0
TRQA Sn Sn 23 47 34.8 +2.0
LVC Limon Verde 10.15 14 e Pn Pn 23 45 50.6 -2.2
LVC e Sn Sn 23 47 43.0 -3.0
CPUP Villa Florida 13.90 67 e P Pn 23 46 45.7 +2.0
CPUP 23 49 14.3
CPUP Villa Florida 13.90 67 Pn Pn 23 46 44.5 +0.8
comp=E,0.8nm,0.3s,baz=224,slow=7.9,SNR=4.3
CPUP Sn Sn 23 49 14.2 -3.0
comp=E,1.1nm,0.3s,baz=285,slow=14,SNR=2.2
CPUP Lg Lg 23 50 47.7
comp=E,0.7nm,0.3s,baz=157,slow=7.6,SNR=2.5
CPUP LR LR 23 52 30.0
comp=E,1µm,20.6s,baz=222,slow=39
CPUP Villa Florida 13.90 67 e Pn Pn 23 46 45.7 +2.0
CPUP Sn Sn 23 49 14.2 -3.0
CPUP Lg Lg 23 50 47.7
LPAZ La Paz 16.46 12 e P Pn 23 47 18.8 +0.5
LPAZ pmax pmax
comp=Z,41nm,0.9s
LPAZ La Paz 16.46 12 Pn Pn 23 47 18.4 +0.1
comp=Z,0.6nm,0.3s,baz=182,slow=8.9,SNR=44
LPAZ LR LR 23 53 58.8
comp=Z,197nm,19.5s,baz=166,slow=38
LPAZ La Paz 16.46 12 e Pn Pn 23 47 18.8 +0.5
comp=Z,41nm,0.9s
SIV San Ignacio 19.04 33 P Pn 23 47 50.4 +0.9
comp=Z,0.3nm,0.3s,baz=229,slow=12,SNR=18
NNA Nana 20.98 346 e P P 23 48 06.1 -3.8
NNA Nana 20.98 346 e P P 23 48 06.1 -3.8
EFI East Falkland 21.57 157 P P 23 48 15.0 -0.8
comp=Z,218nm,0.5s,SNR=7.3
EFI East Falkland 21.57 157 e P P 23 48 14.5 -1.3
EFI pmax pmax
comp=Z,22nm,0.6s
EFI East Falkland 21.57 157 e P P 23 48 14.5 -1.3
comp=Z,22nm,0.6s
USHA Ushuaia 22.43 175 P P 23 48 26.5 +1.5
comp=Z,20nm,1.0s,baz=343,slow=15,SNR=3.5
SAML Samuel 24.72 20 e P P 23 48 48.5 +0.7
comp=Z,15nm,1.0s
BDFB Brasilia 27.23 58 e P P 23 49 11.0 +0.3
BDFB Brasilia 27.23 58 P P 23 49 11.0 +0.3
comp=Z,25nm,1.1s,baz=227,slow=7.5,SNR=18
SDV Santo Domingo 41.18 1 e P P 23 51 11.8 +0.6
comp=Z,21nm,1.3s
CELP Cerrillos 50.53 6 e P P 23 52 25.6 +0.9
VNA3 Neumayer Olymp 50.61 158 P P 23 52 24.9 +0.1
VNA2 Neumayer--Watz 51.25 158 P P 23 52 29.4 -0.2
SNAA Sanae 52.83 158 P P 23 52 41.5 +0.1
SNAA Sanae 52.83 158 ↓e P P 23 52 41.6 +0.2
SNAA pmax pmax
comp=Z,18nm,1.2s
SNAA Sanae 52.83 158 e P P 23 52 41.6 +0.2
comp=Z,66nm,1.8s
RKT Rikitea 56.09 262 e LR LR 00 09 30.5
comp=Z,154nm,30.5s
RKT Rikitea 56.09 262 e T T 00 53 22.4
comp=Z,2.1nm,0.3s
QSPA South Pole Qui 57.72 180 e P P 23 53 16.0 -0.8
comp=Z,26nm,1.1s
TIGA Tifton 64.61 349 e P P 23 54 01.5 -2.1
VNDA Vanda 65.62 191 P P 23 54 11.3 +1.6
comp=Z,0.7nm,0.6s,baz=99,slow=7.6,SNR=3.5
833A Chaparral WMA, 66.01 333 P P 23 54 13.8 +1.1
baz=66
832A Faith Ranch, C 66.19 333 P P 23 54 14.8 +0.8
baz=66
732A Laxson Ranch, 66.59 333 P P 23 54 16.4 -0.1
baz=67
SYO Syowa Base 67.12 159 ↓e P P 23 54 15.8 -3.6
532A Rocksprings 67.82 334 P P 23 54 24.7 +0.3
baz=68
434A Burnet 67.85 335 P P 23 54 24.9 +0.4
baz=68
KMSC Kings Mountain 67.92 351 P P 23 54 24.7 -0.1
baz=68
433A Art 68.09 335 P P 23 54 26.3 +0.3
baz=68
531A Rocksprings 68.10 333 P P 23 54 27.0 +1.0
baz=68
JCT Junction City 68.10 334 e P P 23 54 26.7 +0.6
JCT pmax pmax
comp=Z,56nm,1.8s
JCT Junction City 68.10 334 P P 23 54 27.0 +0.9
baz=68
JCT Junction City 68.10 334 e P P 23 54 26.7 +0.6
comp=Z,56nm,1.8s
333A Richland Sprin 68.56 335 P P 23 54 29.3 +0.4
baz=69
TXAR Lajitas Array 68.61 330 P P 23 54 30.4 +1.0
comp=Z,1.3nm,0.6s,baz=148,slow=8.2,SNR=5.2
TXAR LR LR 00 19 47.9
comp=Z,75nm,18.2s,baz=0.0,slow=32
TX31 Lajitas Ar. Si 68.61 330 e P P 23 54 29.8 +0.4
WHTX Lake Whitney, 68.64 337 e P P 23 54 29.4 0.0
CPCT Cooper Cave 68.68 349 e P P 23 54 30.4 +0.8
SWET Sewanee 68.70 347 e P P 23 54 28.9 -0.9
comp=Z,44nm,1.4s
529A Stev Forest Ra 68.72 332 P P 23 54 30.3 +0.4
baz=69
TKL Tuckaleechee C 68.77 349 e P P 23 54 29.6 -0.5
TKL Tuckaleechee C 68.77 349 e P P 23 54 29.6 -0.5
331A San Angelo 69.08 334 P P 23 54 32.6 +0.5
baz=69
MIAR Mount Ida 69.82 341 e P P 23 54 39.2 +2.6
MIAR pmax pmax
comp=Z,22nm,1.4s
MIAR Mount Ida 69.82 341 e P P 23 54 39.2 +2.6
comp=Z,22nm,1.4s
URVA University of 69.94 355 e P P 23 54 38.8 +1.5
WVT Waverly 69.95 346 e P P 23 54 36.9 -0.5
WVT pmax pmax
comp=Z,57nm,1.3s
WVT Waverly 69.95 346 e P P 23 54 36.9 -0.5
comp=Z,57nm,1.3s
JSRW J. Sargeant Re 70.09 355 e P P 23 54 38.9 +0.7
Z31A Sharp Cattle R 70.78 335 P P 23 54 42.2 -0.4
baz=71
PPT2 Papeete2 70.79 261 e S S 00 03 57.1 +0.1
comp=Z,49nm,24.2s
PPT2 Papeete2 70.79 261 e LR LR 00 16 10.9
comp=Z,183nm,27.2s
128A Castleberry Fa 71.03 333 P P 23 54 44.3 +0.1
baz=71
PBMO Poplar Bluff 71.14 344 e P P 23 54 46.4 +1.8
comp=Z,23nm,1.4s
MNTX Cornudas Mount 71.39 330 e P P 23 54 47.2 +0.9
comp=Z,6.0nm,1.0s
SDMD Soldier's Deli 71.72 356 e P P 23 54 48.2 +0.1
comp=Z,23nm,1.3s
W32A Sentinel 72.10 336 P P 23 54 51.0 +0.5
baz=72
MVL Millersville 72.28 356 e P P 23 54 53.1 +1.7
comp=Z,22nm,1.2s
MSTX Muleshoe 72.33 333 P P 23 54 53.5 +1.5
baz=73
SSPA Standing Stone 73.02 355 e P P 23 54 57.0 +1.3
comp=Z,31nm,1.4s
ACSO Alum Creek Sta 73.14 351 e P P 23 54 56.3 -0.2
comp=Z,51nm,1.4s
121A Cookes Peak, D 73.14 329 e P P 23 54 59.8 +2.8
comp=Z,23nm,1.2s
T33A Patterson Ranc 73.57 338 P P 23 54 59.8 +0.7
baz=74

TUC Tucson 74.32 326 e P P 23 55 04.5 +0.7
TUC pmax pmax
comp=Z,24nm,1.8s
TUC Tucson 74.32 326 e P P 23 55 04.5 +0.7
comp=Z,24nm,1.8s
DBIC Dimbokro 74.38 71 e P P 23 55 04.7 +0.3
DBIC pmax pmax
comp=Z,8.0nm,0.8s
DBIC Dimbokro 74.38 71 P P 23 55 05.5 +1.0
comp=Z,7.1nm,0.7s,baz=228,slow=5.2,SNR=9.8
DBIC Dimbokro 74.38 71 e P P 23 55 04.7 +0.3
comp=Z,7.9nm,0.8s
ANMO Albuquerque 74.65 331 ↑e P P 23 55 05.3 -0.5
ANMO pmax pmax
comp=Z,22nm,1.2s
ANMO Albuquerque 74.65 331 e P P 23 55 07.3 +1.5
comp=Z,9.3nm,1.1s
T28A Walsh 74.90 335 P P 23 55 07.0 0.0
baz=75
TRY Troy 74.90 358 e P P 23 55 08.7 +2.0
comp=Z,40nm,1.4s
214A Organ Pipe Nat 75.00 325 P P 23 55 08.2 +0.6
baz=75
MMNY Mt. Morris Dam 75.10 355 e P P 23 55 09.7 +1.8
comp=Z,95nm,1.4s
ACCN Adirondack Com 75.56 358 e P P 23 55 11.5 +1.0
comp=Z,28nm,1.4s
V22A San Miguel Ran 75.67 331 P P 23 55 12.8 +1.1
baz=76
T25A Trinidad 75.75 333 P P 23 55 13.2 +1.1
baz=76
S26A Kim 75.83 334 P P 23 55 12.9 +0.5
baz=76
R28A Tribune 75.89 336 P P 23 55 12.9 +0.3
baz=76
T24B San Luis 76.06 333 P P 23 55 14.7 +0.8
baz=76
P31A Stockton 76.15 338 P P 23 55 15.0 +0.9
baz=76
W18A Petrified Fore 76.19 329 e P P 23 55 15.4 +0.8
comp=Z,64nm,1.9s
S25A Robets Cordova 76.22 334 P P 23 55 15.4 +0.7
baz=77
X16A Lo Mia Camp, P 76.38 327 P P 23 55 16.9 +1.3
baz=77
S24A Houchin Ranch, 76.50 333 P P 23 55 17.4 +1.0
baz=77
SDCO Great Sand Dun 76.70 333 e P P 23 55 18.1 +0.6
comp=Z,65nm,2.4s
P29A Atwood 76.73 337 P P 23 55 17.5 +0.1
baz=77
LONY Lake Ozonia 76.81 358 e P P 23 55 18.4 +0.7
comp=Z,24nm,1.4s
R24A Sanders Place, 76.98 334 P P 23 55 20.3 +1.3
baz=77
JFWS Jewell Farm 76.98 346 e P P 23 55 19.1 +0.5
JFWS pmax pmax
comp=Z,43nm,1.4s
JFWS Jewell Farm 76.98 346 e P P 23 55 19.1 +0.5
comp=Z,43nm,1.4s
R23A Moffat 77.22 333 P P 23 55 21.7 +1.2
baz=78
BGNE Belgrade 77.52 340 P P 23 55 22.6 +0.9
baz=78
Q24A Divide 77.64 334 P P 23 55 23.7 +0.9
baz=78
W13A Hualapai Mount 78.08 326 P P 23 55 26.7 +1.4
baz=78
L31A Butterfield Fa 78.42 340 P P 23 55 27.7 +1.0
baz=79
PV05 Paradox Valley 78.42 331 e P P 23 55 30.6 +3.5
SMCO Snowmass 78.52 333 e P P 23 55 29.0 +1.2
comp=Z,31nm,1.4s
ISCO Idaho Springs 78.54 334 e P P 23 55 27.9 +0.1
ISCO pmax pmax
comp=Z,41nm,2.0s
ISCO Idaho Springs 78.54 334 P P 23 55 28.8 +1.0
baz=79
ISCO Idaho Springs 78.54 334 e P P 23 55 27.9 +0.1
comp=Z,42nm,2.0s
PV04 Paradox Valley 78.61 331 e P P 23 55 28.6 +0.5
GMRC Granite Mounta 78.68 324 P P 23 55 29.3 +0.8
baz=79
P22A Eagle 78.80 333 P P 23 55 29.9 +0.8
baz=79
O23A Lake Granby, G 79.01 334 P P 23 55 31.5 +1.1
baz=79
HEC Hector,Ludlow 79.05 324 P P 23 55 31.7 +1.3
baz=79
KNB Kanab 79.15 328 e P P 23 55 32.9 +1.9
KNB pmax pmax
comp=Z,45nm,1.4s
KNB Kanab 79.15 328 e P P 23 55 32.9 +1.9
comp=Z,45nm,1.4s
O22A Kremmling 79.21 333 P P 23 55 32.3 +0.8
baz=80
ECSD EROS Data Cent 79.24 342 P P 23 55 30.9 -0.3
baz=80
ECSD EROS Data Cent 79.24 342 e P P 23 55 30.8 -0.4
comp=Z,34nm,1.1s
TSUM Tsumeb 79.29 106 e P P 23 55 32.0 -0.3
comp=Z,7.3nm,0.8s
PHWY Pilot Hill 79.80 335 e P P 23 55 39.3 +4.7
comp=Z,7.6nm,0.9s
SHPR Sheep Range 79.82 326 e P P 23 55 35.9 +1.1
CCUT Cedar City 79.83 327 e P P 23 55 36.3 +1.5
comp=Z,18nm,1.2s
COWI Conover 79.84 348 e P P 23 55 34.8 +0.5
comp=Z,23nm,1.5s
SRU San Rafael Swe 79.89 330 e P P 23 55 38.4 +3.4
SRU pmax pmax
comp=Z,14nm,1.3s
SRU San Rafael Swe 79.89 330 e P P 23 55 38.4 +3.4
comp=Z,14nm,1.3s
J29A Okreek 79.99 339 P P 23 55 35.7 +0.4
baz=80
ARUT Antelope Range 80.06 328 e P P 23 55 40.2 +4.2
ARUT Antelope Range 80.06 328 e P P 23 55 40.2 +4.2
MVU Marysvale 80.11 329 e P P 23 55 39.3 +3.0
comp=Z,16nm,1.4s
J28A Allard Ranch, 80.28 339 P P 23 55 37.8 +1.0
baz=81
BOSA Boshof 80.46 118 e P P 23 55 39.5 +1.0
BOSA pmax pmax
comp=Z,16nm,1.0s
BOSA Boshof 80.46 118 P P 23 55 38.1 -0.4
comp=Z,7.0nm,0.8s,baz=232,slow=2.5,SNR=10
BOSA LR LR 00 29 15.6
comp=Z,89nm,18.1s,baz=197,slow=34
BOSA Boshof 80.46 118 e P P 23 55 39.5 +1.0
comp=Z,16nm,1.0s
J26A Sides Ranch, S 80.77 337 P P 23 55 40.7 +1.2
baz=81
I28A Midland 80.78 339 P P 23 55 40.5 +1.0
baz=81
ISA Isabella, Lake 80.79 323 e P P 23 55 43.9 +4.1
ISA pmax pmax
comp=Z,14nm,1.3s
ISA Isabella, Lake 80.79 323 e P P 23 55 43.9 +4.1
comp=Z,14nm,1.3s
H29A Onida 81.07 340 P P 23 55 41.0 0.0
baz=82
G30A Faulkton 81.22 341 P P 23 55 42.0 +0.2
baz=82
J24A Dixon Ranch, L 81.31 336 P P 23 55 42.9 +0.5
baz=82
H28A Mission Ridge 81.35 339 P P 23 55 42.6 +0.1
baz=82
K22A Casper 81.36 335 e P P 23 55 42.4 -0.4
comp=Z,42nm,1.4s
R11A Troy Canyon, C 81.51 327 e P P 23 55 44.8 +1.1
comp=Z,16nm,1.3s
I25A Rochford 81.61 337 P P 23 55 44.6 +0.5
baz=82
H27A Howes 81.63 339 P P 23 55 44.0 -0.1
baz=82
DUG Dugway, Tooele 81.77 329 e P P 23 55 45.8 +0.8
DUG pmax pmax
comp=Z,17nm,1.3s
DUG Dugway, Tooele 81.77 329 P P 23 55 45.9 +0.8
baz=82
DUG Dugway, Tooele 81.77 329 e P P 23 55 45.8 +0.8
comp=Z,17nm,1.3s
RSSD Black Hills 81.80 337 e P P 23 55 46.0 +0.8
RSSD pmax pmax
comp=Z,14nm,1.2s
RSSD Black Hills 81.80 337 e P P 23 55 46.0 +0.8
comp=Z,14nm,1.2s

J22A Midwest 82.01 335 P P 23 55 46.4 +0.2
baz=82
EYMN Ely 82.06 347 e P P 23 55 47.9 +1.7
comp=Z,17nm,1.1s
G26A Maurine 82.39 339 P P 23 55 48.3 +0.2
baz=83
HWUT Hardware Ranch 82.42 331 e P P 23 55 48.5 +0.1
comp=Z,14nm,1.1s
I22A 9 Mile Ranch, 82.43 335 P P 23 55 48.8 +0.5
baz=83
BGU Big Grassy Mou 82.46 330 e P P 23 55 49.2 +0.6
comp=Z,6.8nm,1.4s
SPUT South Promonto 82.53 330 e P P 23 55 48.0 -1.1
comp=Z,29nm,1.4s
J20A Shoshoni 82.54 334 P P 23 55 49.7 +0.7
baz=83
BW06 Boulder Array 82.60 333 e P P 23 55 49.4 0.0
PDAR Pinedale Array 82.60 333 P P 23 55 50.2 +0.9
comp=Z,2.3nm,1.2s,baz=143,slow=5.2,SNR=7.5
LBTB Lobatse 82.62 115 e P P 23 55 50.2 +0.3
LBTB pmax pmax
comp=Z,26nm,1.4s
LBTB Lobatse 82.62 115 e P P 23 55 50.2 +0.3
comp=Z,26nm,1.4s
I21A Big Trails, Te 82.65 335 P P 23 55 49.9 +0.3
baz=83
F27A Lemmon 82.73 339 P P 23 55 49.6 -0.2
baz=83
J19A Crowheart 82.83 333 P P 23 55 50.0 -0.5
baz=83
NV01 Mina Array Sit 82.86 325 e P P 23 55 51.2 +0.3
NVAR Mina Array Bea 82.86 325 P P 23 55 49.3 -1.6
comp=Z,0.3nm,0.3s,baz=242,slow=3.2,SNR=5.2
D30A Buchanan 82.94 342 P P 23 55 50.7 -0.1
baz=83
HVU Hansel Valley 83.06 330 e P P 23 55 51.7 0.0
HVU pmax pmax
comp=Z,18nm,1.3s
HVU Hansel Valley 83.06 330 e P P 23 55 51.7 0.0
comp=Z,18nm,1.3s
D29A Pettibone, Tap 83.12 341 P P 23 55 51.0 -0.7
baz=84
AGMN Agassiz Nation 83.32 344 P P 23 55 52.1 -0.6
baz=84
AGMN Agassiz Nation 83.32 344 e P P 23 55 52.4 -0.3
comp=Z,22nm,1.4s
TOA0 Torodi Ar. Sit 83.38 70 e P P 23 55 53.9 0.0
TORD Torodi Ar. Bea 83.38 70 P P 23 55 53.9 +0.1
comp=Z,6.9nm,0.7s,baz=285,slow=4.2,SNR=53
C30A Mose, Pekin 83.41 342 P P 23 55 53.3 +0.1
baz=84
D28A Regan 83.51 341 P P 23 55 54.2 +0.5
baz=84
REDW Red Top Meadow 83.61 332 e P P 23 55 56.6 +2.0
comp=Z,10nm,1.2s
LOHW Long Hollow 83.72 333 e P P 23 55 58.1 +3.0
comp=Z,48nm,2.6s
MDND Maddock 83.84 341 P P 23 55 56.1 +0.7
baz=84
MDND Maddock 83.84 341 e P P 23 55 56.3 +0.8
comp=Z,20nm,1.2s
I17A Pilgrim Ck. 83.97 333 P P 23 55 56.9 +0.5
baz=84
B30A Myrvik Farm, E 84.07 342 P P 23 55 56.4 -0.1
baz=84
IMW Indian Meadow 84.09 333 e P P 23 55 59.0 +1.9
comp=Z,14nm,1.4s
G20A Bridger 84.20 335 P P 23 55 57.0 -0.4
baz=85
H18A Shoshone NF, C 84.26 334 P P 23 55 57.8 -0.1
baz=85
B29A Wagenman Farm, 84.34 342 P P 23 55 57.8 -0.1
baz=85
RLMT Red Lodge 84.50 334 e P P 23 56 01.7 +2.7
comp=Z,15nm,1.4s
A30A Hoffart Farm, 84.51 343 P P 23 55 58.2 -0.5
baz=85
B28A Dugan Ranch, T 84.60 341 P P 23 55 59.1 -0.1
baz=85
A29A Manning Farm, 84.73 342 P P 23 55 59.4 -0.5
baz=85
LAO LASA Array 84.79 337 e P P 23 56 02.9 +2.5
comp=Z,11nm,1.1s
URZ Urewera 84.91 227 LR LR 00 24 20.3
comp=Z,72nm,18.6s,baz=150,slow=29
F19A Roth Farm, Mol 85.01 335 P P 23 56 01.1 -0.3
baz=85
ULM Lac du Bonnet 85.16 345 e P P 23 56 01.2 -0.7
ULM pmax pmax
comp=Z,15nm,1.3s
ULM Lac du Bonnet 85.16 345 P P 23 56 01.5 -0.5
comp=Z,5.4nm,1.1s,baz=165,slow=7.0,SNR=4.7
ULM Lac du Bonnet 85.16 345 e P P 23 56 01.2 -0.7
comp=Z,15nm,1.3s
HLID Hailey 85.22 330 P P 23 56 02.6 -0.1
baz=86
HLID Hailey 85.22 330 e P P 23 56 03.9 +1.2
comp=Z,16nm,1.5s
E20A Meyer Farm, Mu 85.28 336 P P 23 56 03.0 +0.3
baz=86
C23A Lambert 85.44 338 P P 23 56 03.6 +0.1
baz=86
E19A Rath Farm, Rou 85.47 335 P P 23 56 03.7 -0.1
baz=86
MCMT McKenzie Canyo 85.62 332 e P P 23 56 06.1 +1.3
D20A Manuel Ranch, 85.79 336 P P 23 56 05.6 +0.3
baz=86
DLMT Dillon 85.96 332 e P P 23 56 08.8 +2.4
comp=Z,29nm,1.6s
D19A Cripps Ranch, 86.11 336 P P 23 56 07.5 +0.6
baz=86
A22A Carney Farms, 86.72 338 P P 23 56 10.0 +0.2
baz=87
A21A Bergtoll Ranch 87.03 338 P P 23 56 10.6 -0.8
baz=87
SCHQ Schefferville 87.09 3 P P 23 56 12.0 +0.6
comp=Z,11nm,1.1s,baz=191,slow=7.5,SNR=5.0
SCHQ Schefferville 87.09 3 e P P 23 56 11.9 +0.6
comp=Z,27nm,1.3s
EGMT Eagleton 87.15 335 e P P 23 56 12.2 +0.2
comp=Z,15nm,1.3s
B19A Brinkman Farms 87.24 336 P P 23 56 12.6 +0.2
baz=88
A20A Cobblestone Ra 87.27 337 P P 23 56 11.7 -0.8
baz=88
CHMT Chamberlain Mo 87.50 333 e P P 23 56 14.3 +0.4
comp=Z,8.7nm,1.5s
FFC Flin Flon 90.73 343 e P P 23 56 28.5 -0.1
FFC pmax pmax
comp=Z,63nm,2.3s
FFC Flin Flon 90.73 343 e P P 23 56 28.5 -0.1
comp=Z,63nm,2.3s
BRTR Keskin Array B 120.81 60 PKP PKPdf 00 02 18.7 +0.3
comp=Z,2.1nm,1.1s,baz=307,slow=28,SNR=3.3
WRA Warramunga Arr 122.22 209 PKP PKPdf 00 02 21.3 -0.4
comp=Z,0.2nm,0.3s,baz=173,slow=26,SNR=2.2
PMG Port Moresby 124.26 228 ↑i PKIKP PKPdf 00 02 23.2 -2.5
OBN Obninsk 126.12 43 i PKIKP PKPdf 00 02 26.8 -1.1
OBN pmax pmax
comp=Z,7.0nm,1.4s
H11S2 WAKE ISLAND Hyl 26.12 270 T T 02 21 24.8
baz=118,slow=74,SNR=136
H11S1 WAKE ISLAND Hyl 26.14 270 T T 02 21 25.7
baz=118,slow=74,SNR=66
H11S3 WAKE ISLAND Hyl 26.14 270 T T 02 21 26.1
baz=118,slow=74,SNR=130
H11N3 WAKE ISLAND Hyl 26.50 271 T T 02 21 51.3
baz=118,slow=75,SNR=16
H11N1 WAKE ISLAND Hyl 26.51 271 T T 02 21 52.1
baz=118,slow=75,SNR=7.8
H11N2 WAKE ISLAND Hyl 26.52 271 T T 02 21 56.7
baz=118,slow=75,SNR=30
KLMR Klimovskoe 128.00 35 e PKIKP PKPdf 00 02 30.5 -0.8
KLMR pmax pmax
comp=Z,27nm,1.5s
ARU Arti 138.39 40 i PKIKP PKPdf 00 02 51.3 +0.3
ARU 00 05 38.9
TIXI Tiksi 139.29 350 ↑e PKIKP PKPdf 00 02 51.4 -0.8
PALK Pallekele 144.06 128 i PKIKP PKPbc 00 03 01.4 +0.9
BRVK Borovoye 145.88 42 ↓e PKP2 PKPbc 00 03 05.0 -0.1
POO Poona 146.04 106 ↓i P PKPdf 00 03 05.0 -0.8
comp=Z,40nm,1.0s
YAK Yakutsk 147.44 341 e PKIKP PKPdf 00 03 07.5 +0.8
YAK e 00 03 11.2
YAK e 00 03 16.4
YAK e 00 06 38.5
YAK e PPP PPP 00 09 52.8

YAK				*e*SS	SS	00 25 40.4	+4.2
YAK				*e*SSS	SSS	00 31 14.4	
YAK				pmax	pmax		
	comp=Z,30nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.8s						
EKS2	**Erkin-Say**	**150.96**	**60**	P	**PKPbc**	**00 03 20.5**	**+1.5**
	SNR=18						
AML	**Almayashu**	**150.97**	**61**	P	**PKPbc**	**00 03 19.8**	**+0.5**
	SNR=11						
USP	**Ospenovka**	**151.38**	**58**	P	**PKPbc**	**00 03 20.2**	**+0.4**
	SNR=9.1						
AAK	**Ala-Archa**	**151.48**	**59**	P	**PKPbc**	**00 03 21.0**	**+0.7**
	SNR=13						
NVS	**Novosibirsk**	**151.50**	**31**	*e*PKIKP	**PKPbc**	**00 03 17.9**	**-1.7**
NVS				pmax	pmax		
	comp=Z,32nm,1.5s						
NVS				pmax	pmax		
	comp=E,13nm,1.6s						
FRU	**Bishkek**	**151.54**	**59**	*i* PKIKP	**PKPbc**	**00 03 21.0**	**+0.8**
FRU				*i*		00 03 28.0	
FRU				pmax	pmax		
	comp=Z,40nm,1.6s						
UCH	**Uchtor**	**151.56**	**60**	P	**PKPbc**	**00 03 21.6**	**+0.7**
	SNR=15						
CHMS	**Chumysh**	**151.60**	**59**	P	**PKPbc**	**00 03 20.9**	**+0.6**
	SNR=5.9						
TKM2	**Tokmak 2**	**152.23**	**59**	P	**PKPbc**	**00 03 22.3**	**+0.3**
	SNR=11						
ZALV	**Zalesovo Beam**	**152.78**	**31**	PKP	**PKPdf**	**00 03 14.7**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=250,slow=4.4,SNR=4.7						
ZALV				PKPbc	**PKPbc**	**00 03 22.5**	**0.0**
	comp=Z,5.2nm,0.6s,baz=295,slow=3.4,SNR=22						
ULHL	**Ulahol**	**152.82**	**60**	P	**PKPbc**	**00 03 24.9**	**+1.5**
	SNR=7.5						
ULHL	**Ulahol**	**152.82**	**60**	*i* PKIKP	**PKPbc**	**00 03 24.8**	**+1.5**
KSH	**Kashi**	**152.98**	**66**	PKPbc	**PKPdf**	**00 03 17.1**	**+0.7**
KSH				sPKP		00 03 29.3	
KSH				PKS	**PKSdf**	**00 06 51.0**	**+0.1**
KSH				PP	**PP**	**00 07 07.2**	**-1.6**
KSH				SKS	**SKSdf**	**00 10 24.1**	**+2.0**
KSH				SKKS	**SKKSac**	**00 13 51.7**	**-5.6**
KSH				SS	**SS**	**00 26 40.5**	**-0.1**
KSH				PPMZ			
	comp=Z,160nm,5.4s						
KSH				LN			
	comp=Z,110nm,8.1s						
KSH				LE			
	comp=Z,53nm,7.0s						
KSH				LZ			
	comp=Z,220nm,5.4s						
BOD	**Bodaibo**	**154.40**	**353**	*e*PKIKP	**PKPbc**	**00 03 23.2**	**-2.7**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.5s						
MKAR	**Makanchi Array**	**155.52**	**47**	PKP	**PKPdf**	**00 03 19.5**	**0.0**
	comp=Z,0.7nm,0.9s,baz=354,slow=1.2,SNR=3.6						
MKAR				PKPbc	PKPbc	00 03 26.3	
	comp=Z,1.0nm,0.8s,baz=340,slow=3.2,SNR=4.3						
MKAR				PKPab	**PKPab**	**00 03 46.3**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=293,slow=3.6,SNR=19						
WMQ	**Urumqi**	**160.27**	**49**	*e*PKP	**PKPdf**	**00 03 25.6**	**0.0**
TLY	**Talaya**	**160.54**	**9**	*e*PKP2	**PKPab**	**00 04 08.1**	**+1.2**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.6s						
ZAK	**Zakamensk**	**161.75**	**10**	*e*PKIKP	**PKPdf**	**00 03 31.8**	**+4.8**
ZAK				*e*		00 04 13.0	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s						
CMAR	**Chiang Mai Arr**	**163.63**	**147**	PKP	**PKPdf**	**00 03 30.2**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=250,slow=1.4,SNR=3.1						
CMAR				PKPab	**PKPab**	**00 04 20.9**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=229,slow=5.0,SNR=4.3						
SONM	**Songino Array**	**164.62**	**5**	PKPab	**PKPab**	**00 04 25.6**	**+0.6**
	comp=Z,1.9nm,1.2s,baz=323,slow=3.1,SNR=6.8						
GTA	**Gaotai**	**170.24**	**43**	*e*PKP	**PKPdf**	**00 03 32.8**	**-1.4**
GTA				pPKP	**pPKPdf**	**00 03 39.1**	**-3.1**
GTA				sPKP		00 03 42.0	
GTA				PKPab	**PKPab**	**00 04 51.7**	**+1.5**
GTA				PP	**PP**	**00 08 42.7**	**+2.4**
GTA				SKS	**SKSdf**	**00 10 31.8**	**-4.5**
GTA				SKKS	**SKKSac**	**00 15 24.6**	**-1.3**
GTA				SS	**SS**	**00 29 36.4**	**-3.0**
GTA				PPMZ			
	comp=Z,83nm,4.5s						
GTA				LN			
	comp=Z,170nm,15.7s						
GTA				LE			
	comp=Z,190nm,15.7s						
GTA				LZ			
	comp=Z,160nm,16.2s						
GYA	**Guiyang**	**173.78**	**166**	*e*PKP	**PKPdf**	**00 03 35.4**	**-0.8**
GYA				PKPab	**PKPab**	**00 05 07.6**	**+1.5**
GYA				PKS	**PKSdf**	**00 07 07.2**	**-1.4**
GYA				PP	**PP**	**00 09 00.8**	**+3.8**
GYA				SKKS		00 15 44.0	
GYA				SS	**SS**	**00 30 12.5**	**-0.2**
GYA				PPMZ			
	comp=Z,120nm,8.4s						
GYA				LN			
	comp=Z,120nm,22.5s						
GYA				LE			
	comp=Z,110nm,22.3s						
GYA				LZ			
	comp=Z,120nm,21.8s						
LZH	**Lanzhou**	**174.83**	**45**	*e*PKP	**PKPdf**	**00 03 35.3**	**-1.0**
LZH				pPKP	**pPKPdf**	**00 03 46.5**	**+2.2**
LZH				sPKP		00 03 50.4	
LZH				LN			
	comp=Z,320nm,18.2s						
LZH				LE			
	comp=Z,310nm,18.5s						
LZH				LZ			
	comp=Z,380nm,20.1s						
CD2	**Chengdu**	**175.76**	**111**	*e*PKP	**PKPdf**	**00 03 37.2**	**+0.7**
XAN	**Xi'an**	**178.41**	**343**	PKP	**PKPdf**	**00 03 36.5**	**-0.4**
XAN				pPKP	**pPKPdf**	**00 03 42.7**	**-2.2**

*ISN **09** 00:09:02.2±2.5, 40.°04N×41.°45E, h0km±8km, ML4.5*
*DDA **09** 00:09:18.1, 38.°74N×40.°01E, h5km, ML4.1*
*ISK **09** 00:09:18.8, 38.°75N×40.°09E, h5km, ML4.0*
*IDC **09** 00:09:19.8±0.7, 38.°83N×40.°05E, h0km, mb3.5/7, mb1 3.5/16, mb1mx3.5/33, mbtmp3.5/16, ML3.2/7, MS3.2/10, Ms1 3.2/10, ms1mx3.0/34, Error ellipse: s-maj=15.2km s-min=9.5km az=150.0*
*CSEM **09** 00:09:21.3±0.2, 38.°71N×40.°07E, h10km, ML4.0, Error ellipse: s-maj=4.8km s-min=4.1km az=156.0*

ISC 09 00:09:20.0±1.1, 38.°74N±0.°02×40.°05E±0.°02, h4km±8km, n142, σ1§26/164, mb3.4/8, MS3.2/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.36**	**69**	*e*Pg	**Pb**	**00 09 29.3**	**+0.2**
BNGB	**Bing¶‖**	**0.55**	**63**	*e*PG	**Pg**	**00 09 29.3**	**-1.2**
DYBB	**Diyarbakir**	**0.79**	**175**	*e*PG	**Pg**	**00 09 35.3**	**+0.1**
DIY	**Diyarbakir**	**0.86**	**171**	*e*Pg	**Pg**	**00 09 35.3**	**-1.1**
BNGL	**BINGOL**	**0.88**	**76**	*i* P	**Pg**	**00 09 35.9**	**-1.0**
BNGL				*i* S	**Sb**	**00 09 49.9**	**-0.3**
ERZN	**Erzincan**	**0.88**	**343**	*e*PG	**Pg**	**00 09 35.3**	**-1.6**
ERZN				*e*SG	**Sg**	**00 09 49.0**	**+0.6**
EUZM	**Uzumlu**	**1.00**	**344**	*i* P	**Pg**	**00 09 37.8**	**-1.4**
EUZM				*i* S	**Sg**	**00 09 51.0**	**-1.2**
EUZM	**Uzumlu**	**1.00**	**344**	*i* P	**Pg**	**00 09 37.8**	**-1.4**
EUZM				*i* S	**Sg**	**00 09 51.0**	**-1.2**
VRTB	**Varto-Mus**	**1.17**	**69**	*e*PN	**Pg**	**00 09 40.9**	**-1.5**
VRTB	**Varto-Mus**	**1.17**	**69**	*e*Pn	**Pg**	**00 09 40.9**	**-1.5**
BTMT	**Batman**	**1.25**	**116**	*e*PN	**Pg**	**00 09 43.3**	**-0.7**
BTMT	**Batman**	**1.25**	**116**	*e*Pn	**Pg**	**00 09 43.3**	**-0.7**
BEST	**Besiri**	**1.28**	**131**	*i* P	**Pn**	**00 09 43.9**	**-0.8**
BEST				*i* S	**Sg**	**00 09 60.0**	**-1.1**
MAZI	**Mazidag**	**1.32**	**166**	*e*PN	**Pn**	**00 09 44.2**	**-1.1**
MAZI	**Mazidag**	**1.32**	**166**	*e*Pn	**Pn**	**00 09 44.2**	**-1.1**
KOPT	**Kop Dagi**	**1.32**	**15**	*i* P	Pn	00 09 42.5	-3.0
KOPT				*i* S	**Sn**	**00 10 03.4**	**-0.2**
KOPT	**Kop Dagi**	**1.32**	**15**	*i* P	Pn	00 09 42.5	-3.0
KOPT				*i* S	**Sn**	**00 10 03.4**	**-0.2**
KEMA	**Kemaliye**	**1.32**	**294**	*i* P	**Pn**	**00 09 42.6**	**-2.8**
KEMA				*i* S	**Sb**	**00 10 00.9**	**-1.9**
KEMA	**Kemaliye**	**1.32**	**294**	*i* P	**Pn**	**00 09 42.6**	**-2.8**
KEMA				*i* S	**Sb**	**00 10 00.8**	**-1.9**
MALT	**Malatya**	**1.35**	**252**	*e*PN	**Pn**	**00 09 45.0**	**-0.6**
MALT	**Malatya**	**1.35**	**252**	*e*Pn	**Pn**	**00 09 45.0**	**-0.6**
ILIC	**ilic-Erzincan**	**1.36**	**302**	*e*PN	**Pn**	**00 09 46.0**	**+0.2**
ILIC	**ilic-Erzincan**	**1.36**	**302**	*e*Pn	**Pn**	**00 09 46.0**	**+0.2**
KELT	**Kelkit**	**1.53**	**336**	*i* P	**Pn**	**00 09 47.8**	**-0.5**
KELT				*i* S	**Sn**	**00 10 07.6**	**-1.2**
KELT	**Kelkit**	**1.53**	**336**	*i* P	**Pn**	**00 09 47.8**	**-0.5**
KELT				*i* S	**Sn**	**00 10 07.6**	**-1.2**
MARD	**Mardin**	**1.54**	**158**	*i* P	**Pn**	**00 09 48.0**	**-0.3**
MARD				*i* S	**Sg**	**00 10 09.7**	**+0.3**
EZM	**Erzurum**	**1.54**	**41**	*e*PN	**Pb**	**00 09 48.5**	**-0.7**
URFA	**Urfa**	**1.62**	**217**	*e*PN	**Pn**	**00 09 49.5**	**+0.1**
URFA	**Urfa**	**1.62**	**217**	*e*Pn	**Pn**	**00 09 49.5**	**+0.1**
EKAR	**Karacoban**	**1.65**	**71**	*i* P	**Pn**	**00 09 49.7**	**-0.2**
EKAR	**Karacoban**	**1.65**	**71**	*i* P	**Pn**	**00 09 49.7**	**-0.2**
EKAR				*i* S	**Sg**	**00 10 17.1**	**+4.1**
BAYT	**Ayd¯–ntepe-Bay**	**1.65**	**2**	*e*PN	**Pn**	**00 09 49.5**	**-0.4**
BAYT	**Ayd¯–ntepe-Bay**	**1.65**	**2**	*e*Pn	**Pn**	**00 09 49.5**	**-0.4**
TATV	**Tatvan**	**1.75**	**97**	*i* P	**Pn**	**00 09 51.2**	**-0.1**
TATV	**Tatvan**	**1.75**	**97**	*i* P	**Pn**	**00 09 51.2**	**-0.1**
TATV				*i* S	**Sg**	**00 10 17.5**	**+1.3**
GUMT	**Gumushane**	**1.77**	**346**	*e*PN	**Pn**	**00 09 52.2**	**+0.6**
GUMT	**Gumushane**	**1.77**	**346**	*e*Pn	**Pn**	**00 09 52.2**	**+0.6**
ATAB	**Bozova**	**1.88**	**228**	*i* P	**Pn**	**00 09 52.8**	**-0.2**
ATAB				*i* S	**Sn**	**00 10 17.2**	**+0.1**
ATAB	**Bozova**	**1.88**	**228**	*i* P	**Pn**	**00 09 52.8**	**-0.2**
ATAB				*i* S	**Sn**	**00 10 17.2**	**+0.1**
HOMI	**Horasan**	**1.94**	**47**	*i* P	**Pn**	**00 09 54.4**	**+0.5**
HOMI				*i* S	**Sg**	**00 10 24.1**	**+1.9**
SUSE	**Susehri**	**2.05**	**316**	*i* P	**Pn**	**00 09 56.4**	**+1.1**
SUSE				*i* S	**Sb**	**00 10 24.3**	**+0.6**
SUSE	**Susehri**	**2.05**	**316**	*i* P	**Pn**	**00 09 56.4**	**+1.1**
SUSE				*i* S	**Sb**	**00 10 24.3**	**+0.6**
EATA	**Eleskirt**	**2.20**	**59**	*i* P	**Pb**	**00 10 00.1**	**-0.4**
EATA	**Eleskirt**	**2.20**	**59**	*i* P	**Pb**	**00 10 00.1**	**-0.4**
EATA				*i* S	**Sg**	**00 10 30.3**	**-0.3**
MACK	**Trabzon**	**2.21**	**354**	*i* P	**Pb**	**00 10 00.4**	**-0.1**
MACK	**Trabzon**	**2.21**	**354**	*i* P	**Pb**	**00 10 00.4**	**-0.1**
MACK				*i* S	**Sg**	**00 10 31.6**	**+0.6**
SIRN	**S¯–rnak**	**2.24**	**123**	*i* P	**Pn**	**00 09 57.0**	**-0.9**
SIRN				*i* S	**Sb**	**00 10 27.7**	**-1.4**
SIRN	**S¯–rnak**	**2.24**	**123**	*i* P	**Pn**	**00 09 57.0**	**-0.9**
SIRN				*i* S	**Sb**	**00 10 27.7**	**-1.4**
TUTA	**Tutak**	**2.25**	**72**	*i* P	Pn	00 09 55.1	-3.0
TUTA				*i* S	**Sb**	**00 10 28.8**	**-0.7**
TUTA	**Tutak**	**2.25**	**72**	*i* P	Pn	00 09 55.1	-3.0
TUTA				*i* S	**Sb**	**00 10 28.8**	**-0.7**
KTUT	**Trabzon**	**2.25**	**354**	*e*PN	**Pn**	**00 09 58.6**	**+0.6**
KTUT	**Trabzon**	**2.25**	**354**	*e*Pn	**Pn**	**00 09 58.6**	**+0.6**
SIRT	**Sirnak**	**2.25**	**123**	*e*PN	**Pn**	**00 09 58.0**	**-0.1**
SIRT	**Sirnak**	**2.25**	**123**	*e*Pn	**Pn**	**00 09 58.0**	**-0.1**
GEVA	**Gevas**	**2.40**	**99**	*i* P	**Pn**	**00 09 59.1**	**-1.0**
GEVA	**Gevas**	**2.40**	**99**	*i* P	**Pn**	**00 09 59.1**	**-1.0**
GEVA				*i* S	**Sb**	**00 10 34.6**	**+0.8**
ESPY	**Espiye-Giresun**	**2.40**	**335**	*e*PN	**Pn**	**00 10 01.2**	**+1.2**
ESPY	**Espiye-Giresun**	**2.40**	**335**	*e*Pn	**Pn**	**00 10 01.2**	**+1.2**
GZT	**Gaziantep**	**2.41**	**236**	*i* P	**Pn**	**00 10 00.2**	**-0.1**
GZT				*i* S	**Sg**	**00 10 38.1**	**+0.8**
AGRB	**Hanur-Agry**	**2.43**	**69**	*e*PN	**Pn**	**00 10 00.4**	**-0.2**
AGRB	**Hanur-Agry**	**2.43**	**69**	*e*Pn	**Pn**	**00 10 00.4**	**-0.2**
DDEM	**Demirkent**	**2.51**	**31**	*i* P	**Pn**	**00 10 01.8**	**+0.1**
DDEM	**Demirkent**	**2.51**	**31**	*i* P	**Pn**	**00 10 01.8**	**+0.1**
DDEM				*i* S	**Sg**	**00 10 39.8**	**-0.9**
GRSN	**GIRESUNGRSN**	**2.58**	**328**	*i* P	**Pn**	**00 10 03.4**	**+0.9**
GRSN				*i* S	**Sb**	**00 10 39.2**	**+0.4**
GRSN	**GIRESUNGRSN**	**2.58**	**328**	*i* P	**Pn**	**00 10 03.4**	**+0.9**
GRSN				*i* S	**Sb**	**00 10 39.2**	**+0.4**
DBAD	**Bademkaya**	**2.60**	**29**	*i* P	**Pn**	**00 10 02.8**	**-0.1**
DBAD	**Bademkaya**	**2.60**	**29**	*i* P	**Pn**	**00 10 02.8**	**-0.1**
DBAD				*i* S	**Sg**	**00 10 44.3**	**+0.8**
TVAN	**Van**	**2.63**	**94**	*i* P	**Pn**	**00 10 04.9**	**+1.5**
TVAN	**Van**	**2.63**	**94**	*i* P	**Pn**	**00 10 04.9**	**+1.5**
TVAN				*i* S	**Sg**	**00 10 45.1**	**+0.5**
SVSK	**Karacayir**	**2.64**	**297**	*e*PN	**Pn**	**00 10 04.4**	**+1.0**
SVSK	**Karacayir**	**2.64**	**297**	*e*Pn	**Pn**	**00 10 04.4**	**+1.0**
RSDY	**Resadiye-TOKAT**	**2.68**	**309**	*e*PN	**Pn**	**00 10 05.2**	**+1.3**
RSDY	**Resadiye-TOKAT**	**2.68**	**309**	*e*Pn	**Pn**	**00 10 05.2**	**+1.3**
DAGI	**Agillar**	**2.74**	**31**	*i* P	**Pn**	**00 10 04.9**	**+0.1**
DAGI				*i* S	Sg	00 11 02.3	+14
KMRS	**Kahramanmaras**	**2.78**	**245**	*e*PN	**Pn**	**00 10 06.4**	**+1.2**
KMRS	**Kahramanmaras**	**2.78**	**245**	*e*Pn	**Pn**	**00 10 06.4**	**+1.2**
DBOC	**Borcka**	**2.88**	**25**	*i* P	**Pn**	**00 10 06.9**	**+0.2**
DBOC	**Borcka**	**2.88**	**25**	*i* P	**Pn**	**00 10 06.9**	**+0.2**
KARS	**Kars**	**3.00**	**50**	*e*PN	**Pn**	**00 10 09.0**	**+0.6**
KARS	**Kars**	**3.00**	**50**	*e*Pn	**Pn**	**00 10 09.0**	**+0.6**
CLDR	**Caldiran**	**3.04**	**81**	*e*PN	**Pn**	**00 10 10.1**	**+1.1**
CLDR	**Caldiran**	**3.04**	**81**	*e*Pn	**Pn**	**00 10 10.1**	**+1.1**
HAKT	**HAKKARI**	**3.11**	**111**	*i* P	**Pn**	**00 10 10.2**	**+0.1**
HAKT	**HAKKARI**	**3.11**	**111**	*i* P	**Pn**	**00 10 10.2**	**+0.1**
HAKT				*i* S	**Sb**	**00 10 51.6**	**-2.9**
ANDN	**Andirin**	**3.15**	**249**	*i* P	**Pn**	**00 10 10.1**	**-0.3**
ANDN	**Andirin**	**3.15**	**249**	*i* P	**Pn**	**00 10 10.1**	**-0.3**
ANDN				*i* S	**Sg**	**00 11 03.9**	**+2.9**
ERBA	**Erbaa**	**3.20**	**308**	*i* P	**Pn**	**00 10 14.0**	**+3.0**
ERBA	**Erbaa**	**3.20**	**308**	*i* P	**Pn**	**00 10 14.0**	**+3.0**
ERBA				*i* S	**Sg**	**00 11 03.4**	**+0.7**
BNN	**Bunyan**	**3.29**	**273**	*e*PN	**Pn**	**00 10 13.8**	**+1.5**
BNN	**Bunyan**	**3.29**	**273**	*e*Pn	**Pn**	**00 10 13.9**	**+1.5**
KOZT	**Kozan**	**3.56**	**251**	*e*PN	**Pn**	**00 10 17.8**	**+1.7**
KOZT	**Kozan**	**3.56**	**251**	*e*Pn	**Pn**	**00 10 17.8**	**+1.7**
AKH	**Akhalkalaki**	**3.75**	**44**	*e*PN	**Pn**	**00 10 20.1**	**+1.3**
AKH	**Akhalkalaki**	**3.75**	**44**	P	**Pn**	**00 10 20.1**	**+1.3**
AKH	**Akhalkalaki**	**3.75**	**44**	*e*Pn	**Pn**	**00 10 20.1**	**+1.3**
CEYT	**Ceyhan**	**3.82**	**244**	*e*PN	**Pn**	**00 10 21.3**	**+1.7**
CEYT	**Ceyhan**	**3.82**	**244**	*e*Pn	**Pn**	**00 10 21.3**	**+1.7**
KVT	**Kavak**	**3.87**	**308**	*e*PN	**Pn**	**00 10 22.1**	**+1.9**
KVT	**Kavak**	**3.87**	**308**	*e*Pn	**Pn**	**00 10 22.1**	**+1.9**
GNI	**Garni**	**3.89**	**67**	*e*PN	**Pn**	**00 10 21.8**	**+1.1**
GNI	**Garni**	**3.89**	**67**	Pn	**Pn**	**00 10 21.5**	**+0.8**
	1.8nm,0.3s,baz=304,slow=3.2,SNR=14						
GNI	**Garni**	**3.89**	**67**	*e*Pn	**Pn**	**00 10 21.8**	**+1.1**
ONI	**Oni**	**4.63**	**33**	P	**Pn**	**00 10 33.5**	**+2.7**
ONI	**Oni**	**4.63**	**33**	P	**Pn**	**00 10 33.5**	**+2.7**
TBLG	**Delisi**	**4.66**	**49**	P	**Pn**	**00 10 31.8**	**+0.6**
TBLG	**Delisi**	**4.66**	**49**	P	**Pn**	**00 10 31.8**	**+0.6**
IKRK	**Kirkuk**	**4.78**	**133**	*e*PN	Pn	00 10 21.9	-11
IKRK				*e*SN	Sn	00 11 19.0	-10
DUS	**Dusheti**	**4.87**	**45**	P	Pn	00 10 37.2	+3.1
DUS	**Dusheti**	**4.87**	**45**	P	Pn	00 10 37.2	+3.1
DGRG	**David-gareji**	**4.89**	**55**	P	**Pn**	**00 10 36.3**	**+1.9**
DGRG	**David-gareji**	**4.89**	**55**	P	**Pn**	**00 10 36.3**	**+1.9**
GUDG	**Gudauri**	**5.01**	**41**	P	**Pn**	**00 10 37.3**	**+1.1**
GUDG	**Gudauri**	**5.01**	**41**	P	**Pn**	**00 10 37.3**	**+1.1**
BRTR	**Keskin Array B**	**5.08**	**283**	Pn	**Pn**	**00 10 38.0**	**+1.0**
	1.0nm,0.3s,baz=93,slow=17,SNR=25						
KBZ	**Khabaz**	**5.42**	**22**	Pn	**Pn**	**00 10 43.0**	**+1.4**
	0.2nm,0.3s,baz=194,slow=8.4,SNR=6.7						
KBZ				LR	LR	00 13 07.2	
	comp=Z,198nm,21.2s,baz=213,slow=42						
HWQ	**Hawqa**	**5.55**	**218**	*e*P	**Pn**	**00 10 43.7**	**+0.3**
HWQ	**Hawqa**	**5.55**	**218**	*e*P	**Pn**	**00 10 43.7**	**+0.3**
RTB	**Rutbah**	**5.71**	**178**	*e*Pn	**Pn**	**00 10 47.0**	**+1.5**
	SNR=39						
RTB				*i* Sn	**Sb**	**00 12 04.0**	**-4.8**
	SNR=3.0						
BHL	**Bhannes**	**5.99**	**218**	*e*P	**Pn**	**00 10 50.1**	**+0.6**
BHL	**Bhannes**	**5.99**	**218**	*e*P	**Pn**	**00 10 50.1**	**+0.6**
RCY	**Rachaya**	**6.25**	**214**	*e*P	**Pn**	**00 10 55.0**	**+2.0**
MMAI	**Mount Meron Ar**	**6.85**	**215**	Pn	**Pn**	**00 11 03.0**	**+1.8**
	8.1nm,0.3s,baz=70,slow=15,SNR=62						
MMAI				Lg	Lg	00 12 59.8	
	3.3nm,0.3s,baz=32,slow=27,SNR=3.2						
ASF	**Jabal al Asfar**	**7.04**	**202**	Pn	**Pn**	**00 11 05.3**	**+1.4**
	0.8nm,0.3s,baz=312,slow=7.0,SNR=10						
ASF				Lg	Lg	00 13 07.2	
	1.9nm,0.3s,baz=67,slow=17,SNR=3.5						
NSR	**Nassriya**	**9.19**	**145**	*e*PN	Pn	00 11 27.7	-5.6
NSR				*e*SN	Sn	00 13 09.5	-7.6
NSR	**Nassriya**	**9.19**	**145**	*e*Pn	Pn	00 11 27.7	-5.6
	SNR=39						
NSR				*e*Sn	Sn	00 13 09.5	-7.6
	SNR=39						
EIL	**Elat**	**9.98**	**207**	Pn	**Pn**	**00 11 45.7**	**+1.5**
	0.1nm,0.3s,baz=19,slow=12,SNR=3.5						
EIL				Lg	Lg	00 14 41.5	
	0.5nm,0.3s,baz=55,slow=18,SNR=3.3						
EIL				LR	LR	00 16 10.8	
	comp=Z,147nm,18.8s,baz=0.0,slow=41						
MLR	**Muntele Rosu**	**12.45**	**307**	LR	LR	00 18 12.9	
	comp=Z,50nm,18.2s,baz=93,slow=43						
IDI	**Anoyia**	**12.60**	**259**	LR	LR	00 18 41.4	
	comp=Z,35nm,18.6s,baz=55,slow=44						
AKASG	**Malin Array Be**	**14.20**	**331**	Pn	**Pn**	**00 12 41.5**	**-0.2**
	0.2nm,0.3s,baz=135,slow=11,SNR=2.6						
GEYT	**Alibeck**	**14.21**	**88**	Pn	**Pn**	**00 12 41.9**	**0.0**
	0.2nm,0.3s,baz=271,slow=14,SNR=2.4						
GEYT				LR	LR	00 20 01.7	
	comp=Z,71nm,19.4s,baz=330,slow=45						
OBN	**Obninsk**	**16.55**	**353**	LR	LR	00 21 08.1	
	comp=Z,266nm,21.2s,baz=270,slow=43						
AKTO	**Aktyubinsk**	**17.28**	**42**	P	**Pn**	**00 13 21.6**	**-0.3**
	0.1nm,0.3s,baz=222,slow=18,SNR=2.9						
VRAC	**Vranov**	**19.82**	**310**	LR	LR	00 23 10.0	
	comp=Z,95nm,18.4s,baz=202,slow=42						
GERES	**GERESS Array B**	**21.44**	**307**	P	**P**	**00 14 11.1**	**+2.1**
	0.1nm,0.4s,baz=95,slow=4.6,SNR=4.3						
FINES	**FINESS Array B**	**24.32**	**344**	P	**P**	**00 14 38.3**	**-0.1**
	1.4nm,0.8s,baz=118,slow=32,SNR=3.1						
FINES				LR	LR	00 25 58.9	
	comp=Z,112nm,21.0s,baz=208,slow=41						
KEST	**Kesra**	**24.58**	**273**	P	**P**	**00 14 41.3**	**+0.2**
	1.4nm,0.8s,baz=64,slow=4.3,SNR=3.5						
BVAR	**Borovoye Array**	**25.26**	**46**	LR	LR	00 26 21.1	
	comp=Z,57nm,20.4s,baz=272,slow=40						
AAK	**Ala-Archa**	**26.29**	**70**	P	**P**	**00 14 58.4**	**+1.7**
	0.4nm,0.5s,baz=300,slow=16,SNR=1.8						
AAK				LR	LR	00 26 02.6	
	comp=Z,66nm,19.4s,baz=298,slow=38						
MKAR	**Makanchi Array**	**31.72**	**61**	P	**P**	**00 15 45.9**	**+1.1**
	0.5nm,0.7s,baz=271,slow=7.6,SNR=6.0						
TORD	**Torodi Ar. Bea**	**42.42**	**244**	P	**P**	**00 17 15.7**	**-0.2**
	0.5nm,1.0s,baz=31,slow=3.4,SNR=3.3						
SONM	**Songino Array**	**47.78**	**56**	P	**P**	**00 17 59.4**	**+1.0**
	0.3nm,0.9s,baz=296,slow=8.4,SNR=2.8						
YKA	**Yellowknife Ar**	**77.06**	**348**	P	**P**	**00 21 14.4**	**+0.5**
	0.1nm,0.5s,baz=26,slow=6.8,SNR=2.6						

GUC 09 00:17:29.9±0.4, 33.°50S×72.°45W, h15km±19km, ML3.5, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.82**	**55**	*i* P	Pg	00 17 44.2	-1.7
IHA				*i* S	Sg	00 17 54.8	-1.9
TACH	**Talagante**	**1.27**	**97⇑**	*i* P	Pn	00 17 51.3	-1.8
RCDM	**Rinconada Maip**	**1.37**	**90**	*e*P9	Pn	00 17 48.8	-5.8
RCDM				*i* S	Sn	00 18 06.2	-6.2
SAN	**Santiago**	**1.49**	**89⇑**	*i* P	Pn	00 17 54.9	-1.4
SAN				*i* S	Sn	00 18 14.1	-1.5
ANTU	**Antumapu**	**1.52**	**93⇑**	*i* P	Pn	00 17 55.3	-1.3
ANTU				*i* S	Sn	00 18 14.6	-1.6
ANTU				AML	AML	00 18 15.4	
	comp=E,964nm,0.3s						
PEL	**Peldehue**	**1.52**	**77⇓**	*i* P	Pn	00 17 55.6	-1.0
PEL				*i* S	Sn	00 18 14.9	-1.3
PEL				AML	AML	00 18 22.0	

PMG Port Moresby 23.03 116 P **P 00 38 51.3 +1.4**
5.2nm,0.5s,baz=243,slow=9.0,SNR=4.2
YULB Yu-li 23.22 348 *e*P **P 00 38 48.0 -3.7**
273nm,2.6s
XMIS Christmas Isla 23.25 241 P **P 00 38 50.7 -1.4**
baz=23,SNR=3.7
XMIS Christmas Isla 23.25 241 *e*P **P 00 38 50.7 -1.4**
500nm,1.5s
TPUB Ta-pu 23.28 347 *e*P **P 00 38 48.9 -3.3**
527nm,2.5s
QIZ Qiongzhong 24.44 320 P **P 00 39 03.0 +0.2**
QIZ S **S 00 43 19.4 +0.8**
YHNB Yeheng 24.45 349 *e*P **P 00 39 01.2 -1.7**
717nm,2.6s
QIS Mount Isa 24.70 149 P **P 00 39 06.7 +1.5**
baz=25,SNR=17
AS31 Alice Springs 25.18 163 *e*P **P 00 39 08.5 -1.1**
ASAR Alice Springs 25.18 163 P **P 00 39 10.8 +1.2**
5.8nm,0.4s,baz=346,slow=15,SNR=56
WRKA Warakurna 25.50 176 P **P 00 39 13.2 +0.7**
baz=26,SNR=15
JOW Kunigami 26.21 4 *e*P **P 00 39 18.6 -0.3**
64nm,1.4s
MEEK Meekatharra 28.01 195 P P 00 39 39.4 +4.4
baz=28,SNR=3.3
CBIJ Chichi jima 30.51 29 *e*P **P 00 39 55.3 -1.8**
72nm,1.1s
GYA Guiyang 31.94 325 *e*P **P 00 40 11.0 +1.1**
GYA pP **pP 00 40 27.2 +1.7**
GYA sP **sP 00 40 34.5 +1.5**
GYA PP **PnPn 00 41 19.6 +2.5**
GYA S **S 00 45 18.4 +1.5**
GYA sS **sS 00 45 45.0 +1.5**
GYA ScP **ScP 00 46 37.2 0.0**
GYA SS **SnSn 00 47 13.9 +2.6**
GYA PMZ
10.0nm,0.8s
GYA PMZ
90nm,5.0s
GYA LN
520nm,17.8s
GYA LE
440nm,18.0s
GYA LZ
490nm,17.6s
NJ2 Nanjing 32.11 348 *e*P **P 00 40 10.8 -0.4**
NJ2 PMZ
20nm,0.7s
CMAR Chiang Mai Arr 32.20 305 P **P 00 40 11.0 -1.2**
0.7nm,0.4s,baz=131,slow=9.3,SNR=5.1
BBOO Buckleboo 34.44 165 *e*P **P 00 40 31.4 0.0**
3μm,2.3s
KSAR Wonju Array Be 36.75 2 P **P 00 40 52.0 +0.9**
KSRS Korea Array 36.76 2 P **P 00 40 52.0 +0.8**
2.5nm,0.6s,baz=178,slow=9.0,SNR=6.9
CD2 Chengdu 36.99 327 *e*P **P 00 40 53.6 +0.2**
CD2 pP **pP 00 41 09.0 -0.2**
CD2 PP PnPn 00 42 27.0 +7.3
CD2 S **S 00 46 33.4 -1.0**
CD2 sS **sS 00 47 02.1 +0.7**
CD2 SS **SnSn 00 49 09.2 -4.1**
CD2 PMZ
10.0nm,0.6s
CD2 PMZ
190nm,5.7s
CD2 LE
250nm,10.4s
CD2 LZ
220nm,13.2s
XAN Xi'an 37.08 336 P **P 00 40 51.8 -2.3**
XAN pP **pP 00 41 06.6 -3.3**
XAN PMZ
2.0nm,0.8s
MJAR Matsushiro Arr 37.49 16 P **P 00 40 56.5 -1.0**
4.0nm,0.7s,baz=188,slow=9.6,SNR=9.3
MJAR LR LR 00 59 32.0
comp=Z,24nm,18.4s,baz=180,slow=41
ARMA Armidale 39.12 144 P **P 00 41 13.5 +2.1**
baz=39,SNR=4.1
BJI Beijing 40.37 348 P **P 00 41 21.6 +0.1**
BJI S **S 00 47 26.8 +1.8**
BJI PMZ
6.0nm,0.6s
BJI LN
260nm,5.9s
BJI LE
170nm,5.0s
LZH Lanzhou 41.04 332 *e*P **P 00 41 30.0 +2.7**
LZH pP **pP 00 41 45.6 +2.2**
LZH sP **sP 00 41 52.1 +1.3**
LZH PMZ
22nm,1.4s
HHC Hu-ho-hao-te 42.28 343 *e*P **P 00 41 39.2 +1.9**
HHC PP **PP 00 43 21.2 +4.8**
HHC S **S 00 47 56.0 +2.4**
HHC sS **sS 00 48 22.3 +1.4**
HHC SS **SS 00 51 00.5 -3.7**
HHC ScS **ScS 00 51 32.9 -0.6**
HHC PMZ
15nm,1.3s
HHC PMZ
100nm,5.4s
HHC LN
230nm,15.5s
HHC LE
280nm,15.3s
HHC LZ
250nm,15.7s
CN2 Changchun 43.08 359 *e*P **P 00 41 43.4 -0.2**
CN2 *es*P **sP 00 42 06.0 -1.1**
USRK Ussuriysk Ar. 43.77 6 P **P 00 41 50.2 +1.1**
5.5nm,0.8s,baz=197,slow=7.8,SNR=9.1
MDJ Mudanjiang 43.98 3 P **P 00 41 51.4 +0.6**
MDJ PMZ
11nm,0.9s
MDJ PMZ
78nm,3.8s
LSA Lhasa 44.25 314 P **P 00 41 53.0 -0.8**
LSA Lhasa 44.25 314 *e*P **P 00 41 53.0 -0.8**
7.6nm,0.5s
TAPN Taplejung 45.59 309 *e*P **P 00 42 04.0 -0.3**
GTA Gaotai 45.61 331 *e*P **P 00 42 03.1 -1.0**
GTA pP **pP 00 42 18.7 -1.6**
GTA sP **sP 00 42 25.7 -2.0**
GTA PcP **PcP 00 43 43.2 +1.6**
GTA PMZ
3.0nm,1.1s
ASAJ Asahikawa 45.76 16 P **P 00 42 06.0 +1.0**
8.7nm,0.8s,baz=193,slow=10,SNR=3.9
ASAJ Asahikawa 45.76 16 *e*P **P 00 42 05.0 +0.1**
9.1nm,1.1s
RAMN Ramite 46.27 308 *e*P **P 00 42 09.4 -0.2**
JIRN Jiri 46.92 309 *e*P **P 00 42 14.7 -0.2**
GUN Gumba 47.28 309 *e*P **P 00 42 16.3 -1.3**
20nm,0.9s
KOLN Koldanda 49.02 307 *e*P **P 00 42 31.0 +0.2**
8.1nm,0.5s
DANN Dangsing 49.15 308 *e*P **P 00 42 30.0 -1.9**
14nm,0.7s
SONM Songino Array 50.17 343 P **P 00 42 38.6 -0.6**
1.3nm,0.5s,baz=165,slow=7.1,SNR=15
SONM PcP **PcP 00 43 58.5 +0.8**
1.8nm,1.2s,baz=152,slow=3.3,SNR=3.9
TLY Talaya 54.41 343 *e*P **P 00 43 10.2 -0.2**
10nm,1.5s
WMQ Urumqi 55.09 327 *e*P **P 00 43 16.5 +1.0**
WMQ pP **pP 00 43 32.5 +0.3**
WMQ PMZ
12nm,1.0s
WMQ PMZ
190nm,5.0s
PETK Petropavlovsk- 58.54 22 P **P 00 43 40.4 +0.7**
5.9nm,0.7s,baz=153,slow=1.7,SNR=5.0
MKAR Makanchi Array 59.92 327 P **P 00 43 48.5 -0.9**
2.8nm,0.3s,baz=119,slow=8.1,SNR=53
MKAR PcP **PcP 00 44 35.4 +0.2**
1.4nm,0.6s,baz=110,slow=3.9,SNR=4.7
KSH Kashi 60.00 317 *e*P P 00 43 53.4 +3.2
KSH sP sP 00 44 16.4 +2.1
KSH PP PP 00 46 08.5 +5.3
KSH S **S 00 51 59.6 +1.4**
KSH sS sS 00 52 26.5 -0.3
KSH ScS 00 53 32.6
KSH SS **SS 00 55 58.0 +2.1**
KSH PMZ
2.0nm,0.6s
KSH PMZ
98nm,4.3s
KSH LN
240nm,5.8s
KSH LE
150nm,6.7s
KSH LZ
340nm,6.3s
TKM2 Tokmak 2 61.84 320 *e*P **P 00 44 02.1 -0.7**
2.5nm,0.8s
EKS2 Erkin-Say 62.91 319 *e*P **P 00 44 09.9 +0.1**
11nm,1.7s
ZALV Zalesovo Beam 63.22 334 P **P 00 44 10.2 -1.3**
0.8nm,0.4s,baz=158,slow=4.8,SNR=8.1
KURK Kurchatov 64.18 329 *e*P **P 00 44 17.2 -0.6**
6.3nm,0.6s
KKAR Karatay Array 65.26 318 *e*P **P 00 44 24.9 -0.2**
BRVK Borovoye 69.81 328 *e*P **P 00 44 51.8 -1.7**
TIXI Tiksi 71.01 1 *e*P **P 00 45 00.6 +0.1**
4.7nm,1.1s
GEYT Alibeck 72.54 310 P **P 00 45 09.5 -0.9**
1.6nm,0.7s,baz=134,slow=4.3,SNR=5.7
ABKAR Abkulak array 74.33 321 *e*P **P 00 45 18.9 -1.7**
1.9nm,0.6s
VNDA Vanda 80.34 173 P **P 00 45 54.1 +0.4**
0.9nm,0.5s,baz=303,slow=10,SNR=5.4
RAYN Ar Rayn 81.32 294 *e*P **P 00 45 59.0 -1.1**
11nm,1.0s
KBZ Khabaz 84.83 314 P **P 00 46 17.9 +0.2**
2.6nm,1.0s,baz=151,slow=6.3,SNR=3.6
ILAR Eielson Array 88.16 25 P **P 00 46 32.9 -0.7**
0.4nm,0.7s,baz=243,slow=4.7,SNR=5.8
FINES FINESS Array B 94.40 332 P **P 00 47 02.7 +0.2**
1.6nm,0.9s,baz=46,slow=4.0,SNR=2.5
KOLS Kolonicke sedl 98.77 320 PDIF Pdif 00 47 23.5 +0.8
TORD Torodi Ar. Bea 123.41 286 PKP **PKPdf 00 52 41.1 +0.2**
0.8nm,0.6s,baz=36,slow=2.2,SNR=16

GUC 09 00:45:24.9±0.5, 34°.79S×72°.40W, h18km±4km, ML3.5, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.99**	**103**	⇑*i*P		Pb	00 45 43.2	-0.3
NICH				*i*S		Sb	00 45 56.5	+0.3
LNCH	**Linares**	**1.24**	**148**	⇓*i*P		Pn	00 45 46.9	-0.4
LNCH				*i*S		Sb	00 46 03.5	-0.1
COCH	**Cobquecura**	**1.37**	**193**	⇑*i*P		Pn	00 45 48.9	-0.3
COCH				*i*S		Sb	00 46 07.4	+0.1
RCDM	**Rinconada Maip**	**1.85**	**46**	⇓*i*P		Pn	00 45 56.4	+0.5
RCDM				*i*S		Sb	00 46 20.5	-0.8
RCDM					IAML		00 46 23.9	
comp=E,502nm,0.1s								
CLCH	**Cerro Calan**	**2.08**	**49**	*i*P		Pb	00 46 00.7	-1.6
CLCH				*i*S		Sb	00 46 27.9	0.0
CLCH					IAML		00 46 36.6	
comp=E,626nm,0.5s								
FCH	**Farellones**	**2.28**	**51**	*i*P9		Pg	00 46 08.0	-1.2
FCH				*i*S		Sg	00 46 38.1	-1.1
FCH					IAML		00 46 41.7	
comp=N,526nm,0.4s								

*DDA **09** 00:50:47.4, 33°.25N×34°.87E, h21km, MD3.7*
*IDC **09** 00:50:48.2±1.2, 33°.56N×34°.77E, h0km, mb3.6/5, mb1 3.7/10, mb1mx3.5/30, mbtmp3.7/10, ML3.5/5, MS3.9/1, Ms1 3.9/1, ms1mx2.6/44, Error ellipse: s-maj=27.2km s-min=8.1km az=53.0*
*GII **09** 00:50:49.8±0.0, 33°.51N×34°.81E, h21km, MD3.5/8, Mm2.8/4*
*ISCJB **09** 00:50:49.4±0.4, 33°.48N±0°.01×34°.72E±0°.02, h26km±4km, mb3.4/5, MS3.9/1, Error ellipse: s-maj=2.8km s-min=2.1km az=161.2*
*CSEM **09** 00:50:50.1±0.1, 33°.47N×34°.76E, h20km, ML3.8, Mw2.8, Error ellipse: s-maj=2.1km s-min=1.7km az=68.0*
*NSSC **09** 00:50:50.1±1.2, 33°.53N×34°.77E, h17km±7km, MD1.4, ML3.7*
*GRAL **09** 00:50:51.3±1.7, 33°.52N×34°.82E, h31km±5km, MD3.8*
*NIC **09** 00:50:51.4, 33°.59N×34°.76E, h39km, mb4.2, ML4.0*
*HLW **09** 00:50:52.1, 33°.33N×34°.66E, h27km±14km, Md2.9, Ml2.8*
ISC 09 00:50:50.6±0.7, 33°.47N±0°.02×34°.74E±0°.02, h21km±3km, n185, σ1$22/245, mb3.5/5, 2C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NAQL	**Naqoura**	**0.49**	**137**	*e*P		**Pb**	**00 51 00.2**	**-0.3**
NAQL	**Naqoura**	**0.49**	**137**	*e*P		**Pb**	**00 51 00.2**	**-0.3**
HNTI	**Hanita**	**0.53**	**137**	Pg		**Pb**	**00 51 00.8**	**-0.6**
HNTI				Sg		**Sb**	**00 51 08.5**	**-0.1**
HNTI	**Hanita**	**0.53**	**137**	Pg		**Pb**	**00 51 00.8**	**-0.6**
HNTI				Sg		**Sb**	**00 51 08.5**	**-0.1**
MMAOB	**Mount Meron ar**	**0.72**	**129**	Pg		**Pb**	**00 51 03.5**	**-1.0**
MMAI	**Mount Meron Ar**	**0.72**	**129**	Pg		**Pb**	**00 51 04.2**	**-0.3**
1μm,0.3s,baz=323,slow=12,SNR=9503								
MMAI					Lg	Lg	00 51 13.7	
4μm,0.3s,baz=308,slow=20,SNR=74								
BEYL	**Beirut**	**0.74**	**58**	*e*P		**Pb**	**00 51 04.3**	**-0.6**
BEYL	**Beirut**	**0.74**	**58**	*e*P		**Pb**	**00 51 04.3**	**-0.6**
KSDI	**Kefar Szold**	**0.82**	**110**	*e*P		**Pb**	**00 51 05.3**	**-0.9**
KSDI	**Kefar Szold**	**0.82**	**110**	Pg		**Pb**	**00 51 05.3**	**-0.9**
KSDI				Sg		**Sb**	**00 51 15.2**	**-1.6**
KSDI	**Kefar Szold**	**0.82**	**110**	*e*P		**Pb**	**00 51 05.3**	**-0.9**
KSDI				Sg		**Sb**	**00 51 15.2**	**-1.6**
BLGI	**Bet Lehem HaGe**	**0.83**	**153**	Pg		**Pb**	**00 51 05.6**	**-0.8**
BHL	**Bhannes**	**0.88**	**60**	*e*P		**Pb**	**00 51 05.5**	**-1.7**
BHL				*e*S		**Sb**	**00 51 15.8**	**-2.7**
BHL	**Bhannes**	**0.88**	**60**	*e*P		**Pb**	**00 51 05.5**	**-1.7**
BHL				*e*S		**Sb**	**00 51 15.8**	**-2.7**
OFRI	**'Ofer**	**0.88**	**166**	Pg		**Pb**	**00 51 05.7**	**-1.5**
OFRI	**'Ofer**	**0.88**	**166**	Pg		**Pb**	**00 51 05.7**	**-1.5**
RCY	**Rachaya**	**0.92**	**88**	*e*P		**Pb**	**00 51 06.8**	**-1.2**
BRBR	**Barbar**	**1.01**	**93**	*i*P		**Pb**	**00 51 08.5**	**-1.1**
SNR=91								
BRBR				*e*S		**Sb**	**00 51 20.9**	**-1.7**
988nm,0.2s,SNR=91								
BRBR	**Barbar**	**1.01**	**93**	*i*P		**Pb**	**00 51 08.5**	**-1.1**
BRBR				*e*S		**Sb**	**00 51 20.9**	**-1.7**
BRBR					AML	AML	00 51 22.3	
comp=E,2μm,0.4s								
BRBR					AML	AML	00 51 23.5	
comp=N,988nm,0.2s								
MMLI	**Mount Malkishu**	**1.18**	**151**	Pg		**Pn**	**00 51 10.7**	**-1.3**
MMLI				Sg		**Sb**	**00 51 27.0**	**-0.2**
SLTI	**Sal'it**	**1.26**	**168**	Pg		**Pn**	**00 51 11.1**	**-1.8**
SLTI				Sg		**Sn**	**00 51 27.9**	**-1.3**
HWQ	**Hawqa**	**1.28**	**51**	*e*P		**Pn**	**00 51 11.8**	**-1.7**
HWQ				*e*S		**Sn**	**00 51 25.1**	**-5.0**
HWQ	**Hawqa**	**1.28**	**51**	*e*P		**Pn**	**00 51 11.8**	**-1.7**
QASN	**Qassioun**	**1.28**	**87**	*i*P		**Pn**	**00 51 13.2**	**-0.2**
SNR=91								
QASN				*e*S		**Sn**	**00 51 29.1**	**-1.0**
comp=N,7μm,0.5s,SNR=91								
QASN	**Qassioun**	**1.28**	**87**	*i*P		**Pn**	**00 51 13.2**	**-0.2**
QASN				*e*S		**Sn**	**00 51 29.1**	**-1.0**
QASN					AML	AML	00 51 30.5	
comp=E,2μm,0.3s								
QASN					AML	AML	00 51 32.4	
comp=N,7μm,0.5s								
TCHB	**Talchebab**	**1.31**	**128**	*i*P		**Pn**	**00 51 13.4**	**-0.3**
SNR=91								
TCHB				*e*S		**Sn**	**00 51 30.0**	**-0.5**
comp=N,3μm,0.7s,SNR=91								
TCHB	**Talchebab**	**1.31**	**128**	*i*P		**Pn**	**00 51 13.4**	**-0.3**
TCHB				*e*S		**Sn**	**00 51 30.0**	**-0.5**
TCHB					AML	AML	00 51 31.0	
comp=N,6μm,0.7s								
TCHB					AML	AML	00 51 33.1	
comp=E,3μm,0.7s								
HMDT	**Nahal Hemdat**	**1.39**	**151**	Pn		**Pn**	**00 51 13.9**	**-0.8**
HMDT				Sn		**Sn**	**00 51 31.9**	**-0.5**
HMDT	**Nahal Hemdat**	**1.39**	**151**	Pn		**Pn**	**00 51 13.9**	**-0.8**
HMDT				Sn		**Sn**	**00 51 31.9**	**-0.5**
TOTH	**TOTAH**	**1.42**	**94**	*i*P		**Pn**	**00 51 14.9**	**-0.3**
SNR=57								
TOTH				*e*S		**Sn**	**00 51 32.4**	**-0.8**
comp=E,2μm,0.2s,SNR=91								
TOTH	**TOTAH**	**1.42**	**94**	*i*P		**Pn**	**00 51 14.9**	**-0.3**
TOTH				*e*S		**Sn**	**00 51 32.4**	**-0.8**
TOTH					AML	AML	00 51 33.2	
comp=E,2μm,0.3s								
TOTH					AML	AML	00 51 33.3	
comp=N,2μm,0.2s								
MARH	**Ras Al Marh**	**1.55**	**69**	*i*P		**Pn**	**00 51 17.2**	**-0.1**
SNR=57								
MARH				*e*S		**Sn**	**00 51 36.1**	**-0.8**
comp=N,3μm,0.3s,SNR=58								
MARH	**Ras Al Marh**	**1.55**	**69**	*i*P		**Pn**	**00 51 17.2**	**-0.1**
MARH				*e*S		**Sn**	**00 51 36.1**	**-0.8**
MARH					AML	AML	00 51 39.0	
comp=E,2μm,0.4s								
MARH					AML	AML	00 51 40.5	
comp=N,3μm,0.3s								
FKH	**Fakeheh**	**1.59**	**61**	*e*P		**Pn**	**00 51 17.1**	**-0.6**
PHNC	**Paralimni**	**1.64**	**339**	P		**Pn**	**00 51 15.9**	**-2.3**
baz=156								
PHNC				S		**Sn**	**00 51 36.5**	**-2.1**
PHNC	**Paralimni**	**1.64**	**339**	P		**Pn**	**00 51 15.9**	**-2.3**
PHNC				S		**Sn**	**00 51 36.5**	**-2.1**
HAWK	**Haweek**	**1.73**	**53**	*i*P		**Pn**	**00 51 18.8**	**-0.8**
SNR=57								
HAWK				*e*S		**Sn**	**00 51 39.4**	**-1.7**
comp=N,528nm,0.4s,SNR=58								
HAWK	**Haweek**	**1.73**	**53**	*i*P		**Pn**	**00 51 18.8**	**-0.8**
HAWK				*e*S		**Sn**	**00 51 39.4**	**-1.7**
HAWK					AML	AML	00 51 45.1	
comp=E,546nm,0.6s								
HAWK					AML	AML	00 51 46.0	
comp=N,528nm,0.4s								
CSS	**Prodhromos**	**1.89**	**322**	P		**Pn**	**00 51 20.2**	**-1.5**
baz=138								
CSS	**Prodhromos**	**1.89**	**322**	*e*PN		**Pn**	**00 51 21.4**	**-0.3**
CSS	**Prodhromos**	**1.89**	**322**	Pn		**Pn**	**00 51 21.2**	**-0.5**
CSS				Sn		**Sn**	**00 51 43.8**	**-1.1**
CSS	**Prodhromos**	**1.89**	**322**	P		**Pn**	**00 51 20.2**	**-1.5**
CSS	**Prodhromos**	**1.89**	**322**	Pn		**Pn**	**00 51 21.2**	**-0.5**
CSS				Sn		**Sn**	**00 51 43.8**	**-1.1**
DSI	**Dead Sea**	**1.97**	**164**	Pn		**Pn**	**00 51 22.2**	**-0.6**
DSI				Sn		**Sn**	**00 51 46.4**	**-0.5**
SZAC	**Souni-Zanaja**	**2.00**	**310**	⇑*i*P		**Pn**	**00 51 21.9**	**-1.3**
baz=126								
SZAC				S		**Sn**	**00 51 46.2**	**-1.5**
SZAC	**Souni-Zanaja**	**2.00**	**310**	⇑*i*P		**Pn**	**00 51 21.9**	**-1.3**
SZAC				S		**Sn**	**00 51 46.2**	**-1.5**
BIDA	**Albida**	**2.02**	**40**	*i*P		**Pn**	**00 51 22.9**	**-0.6**
SNR=57								
BIDA				*e*S		**Sn**	**00 51 46.7**	**-1.5**
comp=N,2μm,0.3s,SNR=58								
BIDA	**Albida**	**2.02**	**40**	*i*P		**Pn**	**00 51 22.9**	**-0.6**
BIDA				*e*S		**Sn**	**00 51 46.7**	**-1.5**
BIDA					AML	AML	00 51 49.7	
comp=E,1μm,0.7s								
BIDA					AML	AML	00 51 52.0	
comp=N,2μm,0.3s								
LFK	**Lefkose**	**2.06**	**331**	*e*PN		**Pn**	**00 51 23.7**	**-0.3**
LFK	**Lefkose**	**2.06**	**331**	*e*Pn		**Pn**	**00 51 23.7**	**-0.3**
EREN	**Erenkoy**	**2.10**	**347**	*e*PN		**Pn**	**00 51 24.4**	**-0.2**
EREN				*e*SN		**Sn**	**00 51 51.0**	**+0.9**
EREN	**Erenkoy**	**2.10**	**347**	*e*Pn		**Pn**	**00 51 24.4**	**-0.2**
EREN				*e*Sn		**Sn**	**00 51 51.0**	**+0.9**
MAMC	**Mammari**	**2.11**	**324**	P		**Pn**	**00 51 23.9**	**-0.8**
baz=140								
MAMC	**Mammari**	**2.11**	**324**	P		**Pn**	**00 51 23.9**	**-0.8**
YTIR	**Yattir**	**2.13**	**171**	Pn		**Pn**	**00 51 24.6**	**-0.4**
YTIR	**Yattir**	**2.13**	**171**	Pn		**Pn**	**00 51 24.6**	**-0.4**
MZDA	**Masada**	**2.22**	**166**	Pn		**Pn**	**00 51 25.6**	**-0.6**
MZDA				Sn		**Sn**	**00 51 52.6**	**-0.3**
ASF	**Jabal al Asfar**	**2.23**	**125**	Pn		**Pn**	**00 51 26.8**	**+0.3**
comp=N,6.7nm,0.3s,baz=281,slow=14,SNR=75								
ASF					Lg	Lg	00 51 57.4	
comp=N,42nm,0.3s,baz=77,slow=21,SNR=11								
ROOS	**tl_alroos**	**2.23**	**71**	*i*P		**Pn**	**00 51 26.8**	**+0.3**
SNR=57								
ROOS				*e*S		**Sn**	**00 51 52.7**	**-0.7**
SNR=58								
ROOS	**tl_alroos**	**2.23**	**71**	*i*P		**Pn**	**00 51 26.8**	**+0.3**
ROOS				*e*S		**Sn**	**00 51 52.7**	**-0.7**
LEF	**Lefka**	**2.24**	**318**	*e*PN		**Pn**	**00 51 26.5**	**0.0**
LEF				*e*SN		**Sn**	**00 51 55.2**	**+1.6**
LEF	**Lefka**	**2.24**	**318**	*e*Pn		**Pn**	**00 51 26.5**	**0.0**
LEF				*e*Sn		**Sn**	**00 51 55.2**	**+1.6**
AKDN	**Akdeniz- K¯–br**	**2.34**	**322**	*e*PN		**Pn**	**00 51 27.6**	**-0.1**
AKDN	**Akdeniz- K¯–br**	**2.34**	**322**	*e*Pn		**Pn**	**00 51 27.7**	**-0.1**
RTMI	**Retamim**	**2.41**	**181**	Pn		**Pn**	**00 51 28.3**	**-0.6**
RTMI	**Retamim**	**2.41**	**181**	Pn		**Pn**	**00 51 28.3**	**-0.6**
KFRA	**Kufra**	**2.43**	**44**	*i*P		**Pn**	**00 51 29.4**	**+0.2**
SNR=57								
KFRA				*e*S		**Sn**	**00 51 55.3**	**-3.0**
SNR=58								
KFRA	**Kufra**	**2.43**	**44**	*i*P		**Pn**	**00 51 29.4**	**+0.2**
KFRA				*e*S		**Sn**	**00 51 55.3**	**-3.0**
PPCY	**Paphos**	**2.43**	**306**	P		**Pn**	**00 51 28.2**	**-0.9**
baz=122								
PPCY	**Paphos**	**2.43**	**306**	P		**Pn**	**00 51 28.2**	**-0.9**
ALFC	**Alevga**	**2.44**	**314**	P		**Pn**	**00 51 28.5**	**-0.8**
baz=130								
ALFC				S		**Sn**	**00 51 56.9**	**-1.6**
ALFC	**Alevga**	**2.44**	**314**	P		**Pn**	**00 51 28.5**	**-0.8**
ALFC				S		**Sn**	**00 51 56.9**	**-1.6**
WRDH	**Warideh**	**2.45**	**34**	*i*P		**Pn**	**00 51 29.0**	**-0.5**
SNR=57								
WRDH				*e*S		**Sn**	**00 51 57.1**	**-1.8**
SNR=58								
WRDH	**Warideh**	**2.45**	**34**	*i*P		**Pn**	**00 51 29.0**	**-0.5**
WRDH				*e*S		**Sn**	**00 51 57.1**	**-1.8**
AKMC	**Akamas**	**2.53**	**308**	P		**Pn**	**00 51 30.3**	**-0.1**
baz=124								
AKMC	**Akamas**	**2.53**	**308**	P		**Pn**	**00 51 30.3**	**-0.1**
KZIT	**Kziot**	**2.58**	**187**	Pn		**Pn**	**00 51 30.4**	**-0.7**
RSH		**2.65**	**199**	P		**Pn**	**00 51 31.2**	**-0.9**
baz=199								
RSH		**2.65**	**199**	P		**Pn**	**00 51 31.2**	**-0.9**
RMNI	**Mount Ramon**	**2.87**	**180**	Pn		**Pn**	**00 51 34.9**	**-0.3**
RMNI	**Mount Ramon**	**2.87**	**180**	Pn		**Pn**	**00 51 34.9**	**-0.3**
ZFRI	**Zfri**	**2.94**	**173**	Pn		**Pn**	**00 51 35.7**	**-0.3**
ZFRI	**Zfri**	**2.94**	**173**	Pn		**Pn**	**00 51 35.7**	**-0.3**
KIZK	**Mersin**	**3.04**	**351**	*i*P		**Pn**	**00 51 37.1**	**-0.4**
KIZK				*i*S		**Sn**	**00 52 10.5**	**-2.7**
KIZK	**Mersin**	**3.04**	**351**	*i*P		**Pn**	**00 51 37.1**	**-0.4**
KIZK				*i*S		**Sn**	**00 52 10.5**	**-2.7**
AMAG	**Maghara**	**3.11**	**205**	P		**Pn**	**00 51 37.5**	**-1.0**
baz=206								
AMAG	**Maghara**	**3.11**	**205**	P		**Pn**	**00 51 37.5**	**-1.0**
PRNI	**Paran**	**3.12**	**176**	Pn		**Pn**	**00 51 38.2**	**-0.4**
PRNI	**Paran**	**3.12**	**176**	Pn		**Pn**	**00 51 38.2**	**-0.4**
KRMI	**Paran Flat**	**3.35**	**180**	Pn		**Pn**	**00 51 41.1**	**-0.6**
KRMI	**Paran Flat**	**3.35**	**180**	Pn		**Pn**	**00 51 41.1**	**-0.6**
MERS	**Mersin**	**3.39**	**357**	*e*PN		**Pn**	**00 51 42.4**	**0.0**
MERS	**Mersin**	**3.39**	**357**	*e*Pn		**Pn**	**00 51 42.4**	**0.0**
GAZI	**Gazipasa**	**3.40**	**325**	*i*P		**Pn**	**00 51 43.1**	**+0.7**
GAZI				*i*S		**Sn**	**00 52 19.5**	**-2.6**
GAZI	**Gazipasa**	**3.40**	**325**	*i*P		**Pn**	**00 51 43.1**	**+0.7**
GAZI				*i*S		**Sn**	**00 52 19.5**	**-2.6**
HRFI	**Mount Harif**	**3.44**	**176**	Pn		**Pn**	**00 51 42.5**	**-0.5**
ERMK	**Ermenek**	**3.50**	**335**	*i*P		**Pn**	**00 51 44.9**	**+0.9**
ERMK				*i*S		**Sn**	**00 52 24.2**	**-0.6**
ERMK	**Ermenek**	**3.50**	**335**	*i*P		**Pn**	**00 51 44.9**	**+0.9**
ERMK				*i*S		**Sn**	**00 52 24.2**	**-0.6**
HNKL	**Nakhl**	**3.59**	**191**	P		**Pn**	**00 51 44.6**	**-0.5**
baz=190								
HNKL				S		**Sn**	**00 52 23.1**	**-3.8**
baz=190								
HNKL	**Nakhl**	**3.59**	**191**	P		**Pn**	**00 51 44.6**	**-0.5**
HNKL				S		**Sn**	**00 52 23.1**	**-3.8**
CEYT	**Ceyhan**	**3.62**	**13**	*e*PN		**Pn**	**00 51 45.0**	**-0.5**
CEYT	**Ceyhan**	**3.62**	**13**	*e*Pn		**Pn**	**00 51 45.0**	**-0.5**
KARA	**Karaisali**	**3.79**	**4**	*e*PN		**Pn**	**00 51 47.5**	**-0.3**
KARA	**Karaisali**	**3.79**	**4**	*e*Pn		**Pn**	**00 51 47.5**	**-0.3**
EIL	**Elat**	**3.80**	**177**	Pn		**Pn**	**00 51 47.2**	**-0.7**
comp=N,2.6nm,0.3s,baz=360,slow=4.9,SNR=24								
EIL					Sn	**Sn**	**00 52 32.2**	**+0.3**
comp=N,6.9nm,0.3s,baz=218,slow=18,SNR=8.3								
EIL	**Elat**	**3.80**	**177**	Pn		**Pn**	**00 51 47.1**	**-0.8**
EIL	**Elat**	**3.80**	**177**	Pn		**Pn**	**00 51 47.1**	**-0.8**
KUZU	**Kuzuini**	**3.81**	**30**	*i*P		**Pn**	**00 51 47.5**	**-0.6**
KUZU				*i*S		**Sn**	**00 52 30.4**	**-1.9**
KUZU	**Kuzuini**	**3.81**	**30**	*i*P		**Pn**	**00 51 47.5**	**-0.6**
KUZU				*i*S		**Sn**	**00 52 30.4**

HHAG	Hagoal	4.17	213	P	Pn	00 51 52.6 -0.4
	baz=214					
HHAG	Hagoal	4.17	213	P	Pn	00 51 52.6 -0.4
KOT	Kottamia	4.32	216	P	Pn	00 51 54.5 -0.6
	baz=217					
KOT				S	Sn	00 52 40.1 -4.7
	baz=217					
KOT	Kottamia	4.32	216	P	Pn	00 51 54.5 -0.6
KOT				S	Sn	00 52 40.1 -4.7
ZNM		4.38	202	P	Pn	00 51 55.7 -0.3
	baz=202					
ZNM		4.38	202	P	Pn	00 51 55.7 -0.3
KMRS	Kahramanmaras	4.39	23	*e*PN	Pn	00 51 55.6 -0.5
KMRS	Kahramanmaras	4.39	23	*e*Pn	Pn	00 51 55.6 -0.5
NUB		4.43	181	P	Pn	00 51 56.6 0.0
	baz=181					
ZAF		4.58	205	P	Pn	00 51 58.1 -0.6
	baz=205					
ZAF		4.58	205	P	Pn	00 51 58.1 -0.6
GLL	Jalalah	4.67	214	P	Pn	00 51 59.7 -0.2
	baz=215					
GLL	Jalalah	4.67	214	P	Pn	00 51 59.7 -0.2
SULT	Sultanhani-AKS	4.82	348	*e*PN	Pn	00 52 02.6 +0.6
SULT	Sultanhani-AKS	4.82	348	*e*Pn	Pn	00 52 02.6 +0.6
AYT	Al 'Ayyat	4.85	220	P	Pn	00 52 02.0 -0.3
	baz=221					
AYT	Al 'Ayyat	4.85	220	P	Pn	00 52 02.0 -0.3
KONT	Konya--Tatoy	4.86	337	*e*PN	Pn	00 52 03.5 +0.9
KONT	Konya--Tatoy	4.86	337	*e*Pn	Pn	00 52 03.5 +0.9
FYM	Al Fayyum	4.92	221	P	Pn	00 52 03.3 0.0
	baz=222					
FYM	Al Fayyum	4.92	221	P	Pn	00 52 03.3 0.0
HMYD	Mayadein	4.97	224	P	Pn	00 52 03.9 -0.2
	baz=225					
HMYD	Mayadein	4.97	224	P	Pn	00 52 03.9 -0.2
HKAT	Jabal Katrina	4.98	188	P	Pn	00 52 03.9 -0.4
	baz=187					
HKAT	Jabal Katrina	4.98	188	P	Pn	00 52 03.9 -0.4
LADK	Ladik-KONYA	5.09	338	*e*PN	Pn	00 52 07.3 +1.5
LADK	Ladik-KONYA	5.09	338	*e*Pn	Pn	00 52 07.3 +1.5
ELL	Elmali	5.13	311	*e*PN	Pn	00 52 06.5 +0.1
ELL	Elmali	5.13	311	*e*Pn	Pn	00 52 06.5 +0.1
TR2		5.15	190	P	Pn	00 52 05.8 -0.7
	baz=190					
TR2		5.15	190	P	Pn	00 52 05.8 -0.7
BCK	Bucak	5.22	321	*e*PN	Pn	00 52 08.8 +1.3
BCK	Bucak	5.22	321	*e*Pn	Pn	00 52 08.8 +1.3
BNN	Bunyan	5.44	9	*e*PN	Pn	00 52 10.4 -0.2
BNN	Bunyan	5.44	9	*e*Pn	Pn	00 52 10.4 -0.2
ISP	Isparta	5.53	323	*e*PN	Pn	00 52 12.1 +0.3
ISP	Isparta	5.53	323	*e*Pn	Pn	00 52 12.1 +0.3
FETY	Fethiye	5.61	306	*e*PN	Pn	00 52 12.3 -0.5
FETY	Fethiye	5.61	306	*e*Pn	Pn	00 52 12.3 -0.5
GOLH	Golhisar	5.66	313	*i* P	Pn	00 52 14.7 +1.2
GOLH				*i* S	Sn	00 53 15.5 -2.4
GOLH	Golhisar	5.66	313	*i* P	Pn	00 52 14.7 +1.2
GOLH				*i* S	Sn	00 53 15.5 -2.4
DALY	Dalyan (Mu¨la	6.00	305	*e*PN	Pn	00 52 18.2 +0.1
DALY	Dalyan (Mu¨la	6.00	305	*e*Pn	Pn	00 52 18.2 +0.1
SHUT	Suhut-Afyon	6.10	327	*e*PN	Pn	00 52 20.1 +0.5
SHUT	Suhut-Afyon	6.10	327	*e*Pn	Pn	00 52 20.1 +0.5
BRTR	Keskin Array B	6.30	352	Pn	Pn	00 52 23.9 +1.5
	comp=N,0.6nm,0.3s,baz=170,slow=14,SNR=19					
YER	Yerkesik	6.42	306	*e*PN	Pn	00 52 23.2 -0.8
YER	Yerkesik	6.42	306	*e*Pn	Pn	00 52 23.2 -0.8
KHL	Karahalli	6.43	320	*e*PN	Pn	00 52 24.8 +0.7
KHL	Karahalli	6.43	320	*e*Pn	Pn	00 52 24.8 +0.7
CORM	Corum	6.69	359	*e*PN	Pn	00 52 28.7 +0.9
CORM	Corum	6.69	359	*e*Pn	Pn	00 52 28.7 +0.9
BDRM	Kayabasi	6.96	303	*i* P	Pn	00 52 31.2 -0.1
BDRM	Kayabasi	6.96	303	*i* P	Pn	00 52 31.2 -0.1
BDRM				*i* S	Sn	00 53 43.7 -6.1
KULA	Kula-Manisa	7.04	317	*e*PN	Pn	00 52 32.1 -0.3
KULA	Kula-Manisa	7.04	317	*e*Pn	Pn	00 52 32.2 -0.3
BODT	Bodrum	7.05	303	*e*PN	Pn	00 52 32.0 -0.6
BODT	Bodrum	7.05	303	*e*Pn	Pn	00 52 32.0 -0.6
AYDB	Zeytinkoy-Aydi	7.14	311	*e*PN	Pn	00 52 33.7 -0.2
AYDB	Zeytinkoy-Aydi	7.14	311	*e*Pn	Pn	00 52 33.7 -0.2
TVSB	Tavsanli	7.32	326	*e*PN	Pn	00 52 37.2 +0.8
TVSB	Tavsanli	7.32	326	*e*Pn	Pn	00 52 37.2 +0.8
IDI	Anoyia	8.34	285	Pn	Pn	00 52 48.6 -1.7
	comp=N,1.3nm,0.3s,baz=73,slow=7.3,SNR=11					
IDI				Sn	Sn	00 54 21.3 -2.6
	comp=N,0.8nm,0.3s,baz=324,slow=19,SNR=4.6					
AKASG	Malin Array Be	17.68	348	P	P	00 54 55.9 -0.4
	comp=N,0.4nm,0.3s,baz=164,slow=10,SNR=4.6					
CRVS	Cervenica-Dubn	18.33	331	*e*P	Pn	00 55 04.0 +0.6
STHS	Stebnicka Huta	18.82	332	*e*P	Pn	00 55 10.8 +1.4
GERES	GERESS Array B	21.95	321	P	P	00 55 44.1 +1.2
	comp=N,1.5nm,0.7s,baz=128,slow=8,SNR=12					
AKTO	Aktyubinsk	24.07	38	P	P	00 56 04.0 -0.3
	comp=N,1.3nm,0.7s,baz=238,slow=9.8,SNR=4.9					
FINES	FINESS Array B	28.54	351	P	P	00 56 44.0 -0.5
	comp=N,4.1nm,1.1s,baz=143,slow=22,SNR=2.7					
MKAR	Makanchi Array	38.14	55	P	P	00 58 08.1 -0.1
	comp=N,0.1nm,0.5s,baz=258,slow=10,SNR=3.3					
ZALV	Zalesovo Beam	40.55	44	P	P	00 58 27.4 -0.8
	comp=N,0.4nm,0.5s,baz=243,slow=6.1,SNR=3.6					
PALK	Pallekele	49.80	111	LR	LR	01 20 17.4
	comp=N,105nm,18.2s,baz=0.2,slow=36					

*ISCJB **09** 01:06:18.8±0.4, 59°.70N±0°.03×152°.61W±0°.06, h104km±4km, mb3.0/1, Error ellipse: s-maj=5.9km s-min=3.5km az=38.7*
*NEIC **09** 01:06:20.9, 59°.71N×152°.72W, h94km, MG2.9(AEIC), After AEIC.*
*IDC **09** 01:06:23.2±8.6, 60°.08N×152°.81W, h114km±69km, mb2.8/1, mb1 3.0/3, mb1mx2.8/33, mbtmp3.2/3, Error ellipse: s-maj=66.7km s-min=42.8km az=23.0*

ISC 09 01:06:19.4±1.0, 59°.70N±0°.03×152°.66W±0°.04, h100km±6km, n61, σ0s84/77, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.29	262	P	Pn	01 06 34.1	+0.2
ILS	Iliamna Low So	0.33	322	P	Pn	01 06 34.1	-0.1
IVE	Iliamna Volcan	0.37	331	P	Pn	01 06 34.2	-0.2
ILW	Iliamna West	0.44	327	P	Pn	01 06 34.7	-0.2
AUL	Augustine Lava	0.50	232	P	Pn	01 06 35.5	+0.4
AUP	Augustine Pinn	0.51	229	P	Pn	01 06 35.7	+0.4
HOM	Homer	0.52	94	P	Pn	01 06 35.7	+0.5
HOM				S	Sn	01 06 47.8	+0.7
AUI	Augustine Isla	0.53	228	P	Pn	01 06 35.5	+0.1
AUI				S	Sn	01 06 47.1	-0.2
RSO	Redoubt South	0.77	357	*e*Pn	Pn	01 06 37.7	+0.1
RSO				*e*S	Sn	01 06 51.5	+0.2
RDWB	Redoubt West	0.80	354	P	Pn	01 06 37.8	-0.1
RDWB				S	Sn	01 06 51.3	-0.4
RDN	Redoubt North	0.82	356	P	Pn	01 06 38.3	+0.2
NCT	North Crescent	0.88	351	P	Pn	01 06 38.7	+0.1
DFR	Drift River	0.90	359	P	Pn	01 06 39.0	+0.3
BRLK	Bradley Lake	0.90	85	P	Pn	01 06 38.8	0.0
BRLK				S	Sn	01 06 53.2	-0.1
MCNL	McNeil River	1.00	240	P	Pn	01 06 39.7	-0.1
NKA	Nikishka	1.27	33	P	Pn	01 06 45.0	+2.2
SLKM	Skilak Lake	1.47	55	P	Pn	01 06 46.0	+0.8
CKL	Chakachamna La	1.51	6	P	Pn	01 06 46.4	+0.6
SPBG	Spurr Blockage	1.58	5	P	Pn	01 06 47.2	+0.6
SPBG				S	Sn	01 07 07.5	+0.3
BGL	Barrier Glacie	1.58	5	P	Pn	01 06 47.3	+0.7
CGLM	Capps Glacier	1.65	11	P	Pn	01 06 48.2	+0.7
SEW	Seward	1.67	74	*e*Pn	Pn	01 06 47.6	0.0
SEW				*e*S	Sn	01 07 07.4	-1.7
STLK	Strandline Lak	1.85	12	P	Pn	01 06 50.8	+0.7
KAKN	Katmai Knife C	1.87	223	P	Pn	01 06 50.7	+0.3
KAKN				S	Sn	01 07 13.3	-0.6
KVTA	Katmai Vly 10	1.90	227	P	Pn	01 06 51.0	+0.4
KDAK	Kodiak Island	1.92	179	*e*Pn	Pn	01 06 51.2	+0.4
KDAK				*e*S	Sn	01 07 13.6	-1.2
KCE	Katmai Mt Cerb	1.96	223	P	Pn	01 06 52.5	+1.1
KABR	Katmai Barrier	1.97	218	P	Pn	01 06 52.1	+0.4
SUA	Susitna One	2.01	27	P	Pn	01 06 53.1	+0.9
RC01	Rabbit Creek A	2.02	45	*e*Pn	Pn	01 06 53.0	+1.0
RC01				*e*S	Sn	01 07 17.6	+0.5
SVW2	Sparrevohn	2.02	315	P	Pn	01 06 52.2	0.0
KELA	Mount Kelaz	2.03	233	P	Pn	01 06 52.7	+0.3
PTE	Portage	2.16	56	P	Pn	01 06 54.4	+0.6
SKT	Skwentna	2.36	13	P	Pn	01 06 57.0	+0.5
PWL	Port Wells	2.45	60	P	Pn	01 06 58.2	+0.4
PMR	Palmer	2.58	41	*e*Pn	Pn	01 06 58.9	-0.5
PMR				*e*S	Sn	01 07 29.4	-0.8
PLK1	Peulik 1	2.80	229	P	Pn	01 07 03.4	+1.1
PLK4	Peulik 4	2.83	225	P	Pn	01 07 03.6	+0.8
PPLA	Purkeypile	3.22	4	P	Pn	01 07 08.9	+0.8
SCM	Sheep Creek Mo	3.38	48	P	Pn	01 07 10.7	+0.5
VLZ	Valdez	3.45	63	P	Pn	01 07 11.5	+0.5
EYAK	Cordova Ski Ar	3.56	73	P	Pn	01 07 12.9	+0.4
TT01	Tatalina	3.61	335	P	Pn	01 07 13.3	+0.2
DIV	Divide	3.71	64	P	Pn	01 07 14.9	+0.3
KLU	Klutina	3.78	59	P	Pn	01 07 16.3	+0.7
TRF	Thorofare Moun	3.94	16	P	Pn	01 07 18.2	+0.4
KTH	Kantishna Hill	3.96	11	*e*Pn	Pn	01 07 19.1	+1.2
KTH				*e*S	Sn	01 08 02.2	-1.1
RND	Reindeer	4.14	24	P	Pn	01 07 21.1	+0.6
BMRM	Bremner River	4.20	69	*e*Pn	Pn	01 07 21.9	+0.6
BMRM				*e*S	Sn	01 08 06.7	-2.5
MCK	McKinley	4.42	22	*e*Pn	Pn	01 07 25.1	+1.0
MCK				*e*S	Sn	01 08 07.8	-6.7
PAX	Paxson	4.77	43	*e*Pn	Pn	01 07 30.6	+1.6
PAX				*e*S	Sn	01 08 23.4	+0.3
WRH	Wood River Hil	5.25	22	P	Pn	01 07 35.7	+0.4
MLY	Manley	5.43	9	P	Pn	01 07 38.5	+0.7
CCB	Clear Creek Bu	5.46	23	P	Pn	01 07 38.1	0.0
MDM	Murphy Dome	5.67	19	P	Pn	01 07 41.2	+0.1
DOT	Dot Lake	5.70	42	*e*Pn	Pn	01 07 43.0	+1.6
DOT				*e*S	Sn	01 08 44.5	-1.0
IL1	Eielson Array	5.76	25	P	Pn	01 07 42.3	0.0
ILAR	Eielson Array	5.76	25	P	Pn	01 07 42.3	0.0
	0.4nm,0.3s,baz=219,slow=14,SNR=24					
ILAR				S	Sn	01 08 43.9	-3.1
	1.7nm,0.3s,baz=187,slow=14,SNR=14					
ILB	Eielson Array	5.76	25	P	Pn	01 07 42.2	0.0
YKA	Yellowknife Ar	18.42	65	P	Pn	01 10 28.1	+0.3
	0.1nm,0.3s,baz=277,slow=9.9,SNR=20					
MKAR	Makanchi Array	64.78	322	P	P	01 16 46.9	0.0
	0.2nm,0.7s,baz=20,slow=4.6,SNR=2.4					

LJU 09 01:32:19.1, 46°.39N×15°.07E, h0km Rockburst, Northwestern Balkan Peninsula

KRNET 09 01:40:15.8±0.1, 39°.42N×74°.76E, h3km, mb3.7, 2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.14	302	*e*P	Pg	01 40 36.0	-2.0
	baz=302						
SFK				*e*S	Sg	01 40 53.2	+0.2
	baz=302						
OHH	Osh	1.88	307	*e*P	Pb	01 40 50.6	-0.3
	baz=307						
OHH				*e*S	Sg	01 41 18.0	+1.6
	baz=307						
NRN	Naryn	2.23	25	*e*P	Pn	01 40 54.8	+0.7
	baz=25						
NRN				*e*S	Sb	01 41 24.9	-0.6
	baz=25						
ARSB	Arslanbob	2.34	325	*e*P	Pg	01 41 00.6	-0.3
	baz=325						
ARSB				*e*S	Sg	01 41 30.3	-1.1
	baz=325						
ARLS	Aral	2.46	352	⇓*i*P	Pb	01 41 00.9	-0.1
	baz=352						
ARLS				⇓*i*S	Sb	01 41 32.3	+0.4
	baz=352						

*IDC **09** 01:48:43.9±1.2, 25°.97S×66°.83W, h0km, mb3.9/5, mb1 4.2/8, mb1mx4.0/25, mbtmp4.0/8, ML4.3/3, MS3.7/9, Ms1 3.7/9, ms1mx3.5/22, Error ellipse: s-maj=34.0km s-min=21.9km az=11.0*
*SJA **09** 01:48:44.5±1.1, 25°.79S×66°.92W, h40km±7km, MD3.9, ML4.4*
*ISCJB **09** 01:48:47.7±0.3, 25°.74S±0°.04×66°.78W±0°.06, h33km, mb4.5/16, MS3.7/5, Error ellipse: s-maj=7.6km s-min=5.5km az=2.0*
*NEIC **09** 01:48:52.0±3.0, 25°.82S×66°.81W, h64km±9km, mb4.8/14, Error ellipse: s-maj=19.4km s-min=13.1km az=147.0*
*BJI **09** 01:48:53.1, 25°.90S×66°.80W, h59km, mB5.2/3, Ms7 5.2/2*

ISC 09 01:48:49.4±0.5, 25°.89S±0°.05×67°.01W±0°.05, h35km, n68, σ1s80/71, mb4.8/16, MS3.7/5, 1C, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHML	Horco Molle	1.75	121	*i* P4	Pn	01 49 17.6	+0.3
AHML				*e*S	Sn	01 49 41.7	+3.4
AHML				AML	AML	01 49 43.8	
	comp=Z,2μm,0.6s						
SLA	San Lorenzo	1.79	50	*e*P4	Pn	01 49 17.2	-0.7
SLA				*i* S	Sn	01 49 41.2	+1.7
SLA				AML	AML	01 49 46.2	
	comp=Z,6μm,0.7s						
AZAP	Zapla	2.42	47	*e*P	Pn	01 49 28.4	+1.8
AZAP				*i* S4	Sn	01 49 58.0	+2.8
AZAP				AML	AML	01 50 03.2	
	comp=Z,4μm,0.6s						
CYA	Choya	2.76	157	*i* P	Pn	01 49 34.1	+2.9
CYA				*i* S4	Sn	01 50 10.6	+7.3
CYA				AML	AML	01 50 16.2	
	comp=Z,2μm,0.6s						
ASTB	Santa Barbara	2.99	50	*i* P	Pn	01 49 35.9	+1.4
ALOL	LOMAS DE OLMED	3.44	54	*i* P	Pn	01 49 41.5	+1.0
ACLC	CERRO LA CRUZ	3.52	179	*i* P	Pn	01 49 45.0	+3.1
LVC	Limon Verde	3.69	332	*e*Pn	Pn	01 49 46.4	+2.2
LVC				*e*Sn	Sn	01 50 15.8	-11
LVC	Limon Verde	3.69	332	*i* P	Pn	01 49 45.3	+1.1
LVC				*i* P	Pn	01 49 45.3	+1.1
ANCH	Antofagasta	3.79	305	*e*P	Pn	01 49 46.5	+1.1
AGUA	GUANDACOL	3.82	200	*i* P	Pn	01 49 50.0	+4.2
CEN1	Los Morros	3.83	310	*e*P	Pn	01 49 48.1	+2.2
PB06	IPOC Station P	3.94	323	*e*P1	Pn	01 49 48.8	+1.3
PB10	IPOC Station P	4.00	305	*e*P	Pn	01 49 49.3	+1.1
PB04	IPOC Station P	4.26	327	*e*P	Pn	01 49 56.6	+4.8
LCO	Las Campanas	4.52	226	*e*Pn	Pn	01 49 59.0	+3.4
LCO				*e*Sn	Sn	01 50 44.6	-2.6
PB07	IPOC Station P	4.91	327	⇑*i*P	Pn	01 50 01.7	+0.8
CFAA	Coronel Fontan	5.80	190	Pn	Pn	01 50 15.3	+2.4
	comp=Z,0.3nm,0.3s,baz=15,slow=12,SNR=27						
CFAA				Lg	Lg	01 51 47.8	
	comp=Z,1.8nm,0.3s,baz=184,slow=4.5,SNR=6.6						
CFAA				LR	LR	01 52 42.8	
	comp=Z,124nm,19.2s,baz=9.5,slow=42						
ACAN	Cantantal	6.37	181	*i* P	Pn	01 50 24.3	+3.6
CPUP	Villa Florida	8.71	95	Pn	Pn	01 50 50.5	-2.3
	comp=Z,2.4nm,0.3s,baz=252,slow=11,SNR=16						
CPUP				Lg	Lg	01 53 15.8	
	comp=Z,3.0nm,0.3s,baz=173,slow=13,SNR=2.9						
CPUP				LR	LR	01 54 30.9	
	comp=Z,490nm,18.6s,baz=256,slow=41						
CPUP	Villa Florida	8.71	95	*e*Pn	Pn	01 50 51.2	-1.7
LPAZ	La Paz	9.61	354	Pn	Pn	01 51 07.0	+1.1
	comp=Z,0.9nm,0.3s,baz=169,slow=11,SNR=70						
LPAZ				LR	LR	01 55 00.8	
	comp=Z,290nm,18.2s,baz=179,slow=39						
LPAZ	La Paz	9.61	354	*e*Pn	Pn	01 51 07.5	+1.7
SIV	San Ignacio	11.30	31	Pn	Pn	01 51 26.4	-2.1
	comp=Z,1.0nm,0.3s,baz=223,slow=12,SNR=13						
SIV				Sn	Sn	01 53 33.1	-0.5
	baz=342,slow=19,SNR=2.9						
PLCA	Paso Flores	15.10	190	LR	LR	01 58 56.6	
	comp=Z,612nm,20.4s,baz=7.0,slow=41						
SAML	Samuel	17.23	13	*e*Pn	Pn	01 52 43.8	-3.6
	comp=Z,8.2nm,0.9s						
BDFB	Brasilia	20.45	64	P	P	01 53 23.1	-1.0
	comp=Z,5.9nm,0.9s,baz=224,slow=11,SNR=6.5						
BDFB				LR	LR	02 01 26.2	
	comp=Z,376nm,21.6s,baz=235,slow=38						
BDFB	Brasilia	20.45	64	*e*P	P	01 53 23.6	-0.5
ROSC	El Rosal	31.38	346	LR	LR	02 08 23.4	
	comp=Z,115nm,18.4s,baz=193,slow=38						
PMSA	Palmer Station	38.94	178	LR	LR	02 12 12.3	
	comp=Z,118nm,21.5s,baz=326,slow=36						
NHSC	New Hope	59.99	347	*e*P	P	01 58 52.5	+0.2
	comp=Z,35nm,1.0s						
KMSC	Kings Mountain	62.20	347	*e*P	P	01 59 07.1	-0.2
	comp=Z,8.7nm,1.1s						
WVT	Waverly	64.74	341	*e*P	P	01 59 23.2	-0.9
	comp=Z,7.0nm,0.9s						
MIAR	Mount Ida	65.17	336	*e*P	P	01 59 26.8	-0.1
	comp=Z,44nm,2.3s						
LTX	Lajitas	65.21	325	*e*P	P	01 59 28.2	+0.8
TXAR	Lajitas Array	65.21	325	P	P	01 59 28.3	+0.8
	comp=Z,0.5nm,0.9s,baz=142,slow=4.3,SNR=3.8						
PBMO	Poplar Bluff	66.12	340	*e*P	P	01 59 32.7	-0.3
	comp=Z,9.8nm,1.1s						
ACSO	Alum Creek Sta	67.44	347	*e*P	P	01 59 40.4	-0.9
	comp=Z,9.8nm,1.0s						
ANMO	Albuquerque	71.11	327	*e*P	P	02 00 03.3	-1.1
	comp=Z,4.1nm,1.1s						
SDCO	Great Sand Dun	72.89	329	*e*P	P	02 00 14.4	-0.7
	comp=Z,31nm,2.6s						
YUH	Yuha Desert	74.56	319	*e*P	P	02 00 24.6	-0.1
CRR	Carrizo Plain	74.75	319	*e*P	P	02 00 24.6	-1.2
EML	El Monte Cty P	75.28	318	*e*P	P	02 00 26.2	-2.7
KNB	Kanab	75.98	324	*e*P	P	02 00 33.6	+0.6
	comp=Z,7.9nm,1.1s						
CCUT	Cedar City	76.67	324	*e*P	P	02 00 37.7	+0.7
	comp=Z,69nm,2.9s						
LRRC	Littlerock Res	77.12	319	*e*P	P	02 00 42.4	+3.1
TOA0	Torodi Ar. Sit	77.26	69	*e*P	P	02 00 37.7	-2.8
TORD	Torodi Ar. Bea	77.26	69	P	P	02 00 38.3	-2.2
	comp=Z,1.6nm,0.6s,baz=255,slow=4.9,SNR=29						
TORD				LR	LR	02 34 52.3	
	comp=Z,53nm,18.1s,baz=285,slow=36						
TCUT	Toone Canyon	78.36	327	*e*P	P	02 00 47.0	+0.6
	comp=Z,8.3nm,1.2s						
PD31	Pinedale Array	78.76	329	*e*P	P	02 00 49.6	+1.0
PDAR	Pinedale Array	78.76	329	P	P	02 00 49.6	+1.0
	comp=Z,0.4nm,0.4s,baz=152,slow=6.6,SNR=4.1						
BOSA	Boshof	79.89	117	LR	LR	02 33 27.9	
	comp=Z,36nm,19.8s,baz=204,slow=34						
HLID	Hailey	81.67	327	*e*P	P	02 01 03.6	-0.5
	comp=Z,54nm,2.8s						
YKA	Yellowknife Ar	95.89	340	P	P	02 02 11.4	-0.4
	comp=Z,0.2nm,0.7s,baz=133,slow=4.8,SNR=5.4						
YKB5	Yellowknife Ar	95.89	340	*e*P	P	02 02 10.5	-1.3
BUR04	Bucovina Ar. S	110.08	46	*e*Pdif	Pdif	02 03 09.1	-6.6
WRA	Warramunga Arr	129.95	207	PKP	PKPdf	02 07 56.2	+0.1
	comp=Z,0.7nm,1.0s,baz=171,slow=1.6,SNR=5.1						
ZAA0	Zalesovo Array	145.05	29	*e*PKPbc	PKPab	02 08 22.3	+0.2
ZALV	Zalesovo Beam	145.05	29	PKPbc	PKPab	02 08 22.4	+0.3
	comp=Z,5.9nm,0.6s,baz=310,slow=4.0,SNR=34						
KSH	Kashi	146.26	57	PKPbc	PKPdf	02 08 26.0	+0.7
KSH				PP	PP	02 11 52.3	+3.0
KSH				PKS	PKSdf	02 11 59.7	-1.1
KSH				SS	SS	02 30 40.4	-3.5
KSH				LZ			
	comp=Z,230nm,7.3s						
MKAR	Makanchi Array	147.96	41	PKPbc	PKPbc	02 08 31.0	+0.1
	comp=Z,2.4nm,0.9s,baz=310,slow=2.8,SNR=10						
MKAR	Makanchi Array	147.96	41	*e*PKPbc	PKPdf	02 08 29.1	+1.3
MK01	Makanchi Array	147.98	41	*e*PKPbc	PKPbc	02 08 30.2	-0.8
WMQ	Urumqi	152.76	43	*e*PKPbc	PKPdf	02 08 33.0	-2.5
WMQ				pPKP	pPKPdf	02 08 49.0	+2.0
WMQ				PPMZ			
	comp=Z,130nm,6.0s						
CN2	Changchun	159.46	334	*e*PKP	PKPdf	02 08 43.4	-0.8
HHC	Hu-ho-hao-te	165.03	4	*e*PKP	PKPdf	02 08 51.4	+1.4
HHC				PKS	PKSdf	02 12 22.9	0.0
HHC				PP	PP	02 13 38.0	+5.7
HHC				PPMZ			
	comp=Z,61nm,5.1s						
HHC				LZ			
	comp=Z,170nm,18.6s						
LZH	Lanzhou	167.16	35	*e*PKP	PKPdf	02 08 52.8	+0.9
LZH				pPKP	pPKPdf	02 09 04.8	+1.3
NJ2	Nanjing	172.00	321	*e*PKP	PKPdf	02 08 55.7	+1.0

*IDC **09** 01:50:55.9±0.8, 25°.97N×128°.61E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/42, mbtmp3.9/10, ML3.8/1, MS4.5/1, Ms1 4.5/1, ms1mx2.8/30, Error ellipse: s-maj=36.3km s-min=16.2km az=76.0*
*JMA **09** 01:51:00.1±0.3, 26°.05N×128°.74E, h38km±5km, M3.6*

ISC 09 01:50:56.7±1.8, 25°.97N±0°.04×128°.75E±0°.04, h10km±11km, n25, σ1s54/39, mb3.8/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.85	310	P	Pn	01 51 14.8	0.0
JNTH				*e*S	Sn	01 51 25.5	-1.8
JJT2	Tamagusuku 2	0.92	281	P	Pn	01 51 16.5	+0.9
JJT2				*e*S	Sn	01 51 28.5	-0.4
JOW	Kunigami	0.96	334	Pn	Pn	01 51 16.1	-0.2
	26nm,0.3s,baz=146,slow=16,SNR=76						
JOW				Sn	Sb	01 51 25.6	-2.7
	32nm,0.3s,baz=124,slow=19,SNR=32						
JIH	Iheya	1.27	327	P	Pg	01 51 21.2	0.0
JIH				*e*S	Sn	01 51 36.3	-1.4
JOKE	Okinoerabujima	1.40	353	P	Pb	01 51 23.0	0.0
JOKE				*e*S	Sb	01 51

MDSI	Maura Dua	4.75 319	P		Pn	01 53 48.3 +1.5
JAGI	Jajag, Banyuwa	6.80 93	P		Pn	01 54 16.9 +1.9
	baz=10.0,SNR=6.2					

*IDC **09** 02:00:59.3±0.7,38°.82N×23°.59E,h0km,mb3.9/14, mb1 3.9/21,mb1mx3.9/42,mbtmp3.9/21,ML3.6/6,MS3.4/10, Ms1 3.5/10,ms1mx3.2/42,Error ellipse: s-maj=14.0km s-min=13.4km az=31.0*
*PDG **09** 02:00:59.9±0.4,38°.88N×23°.67E,h8km,ML3.8/11,Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
*NEIC **09** 02:01:00.4,38°.87N×23°.64E,h25km,mb4.3/5, ML4.4(ATH),After ATH.*
*ISCJB **09** 02:01:00.4±0.3,38°.87N±0°.01×23°.65E±0°.01,h13km±2km, mb3.9/17,MS3.6/7,Error ellipse: s-maj=1.8km s-min=1.7km az=24.5*
*THE **09** 02:01:00.9,38°.86N×23°.63E,h2km,ML4.3/23,Error ellipse: s-maj=0.7km s-min=0.3km az=256.0*
*ATH **09** 02:01:00.4,38°.87N×23°.64E,h25km,MD3.8/28,ML4.4*
*CSEM **09** 02:01:00.9±0.1,38°.83N×23°.63E,h10km,ML4.4,Ms4.0, Error ellipse: s-maj=1.7km s-min=1.7km az=150.0*
ISC 09 02:01:01.0±0.8,38°.84N±0°.01×23°.63E±0°.02,h11km±5km, n400,σ0.9 89/495,mb3.9/17,MS3.6/7,24C-36D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	Markates	0.13	193	P	Pg	02 01 04.4	+0.2
MRKA				S	Sg	02 01 06.5	0.0
MRKA	Markates	0.13	193	P	Pg	02 01 04.4	+0.2
MRKA				S	Sg	02 01 06.5	0.0
SMIA	Simia	0.33	278	P	Pg	02 01 07.4	-0.2
SMIA				S	Sg	02 01 12.3	+0.2
SMIA	Simia	0.33	278	ePB	Pg	02 01 07.6	0.0
SMIA	Simia	0.33	278	P	Pg	02 01 07.5	-0.2
SMIA				S	Sg	02 01 12.2	+0.2
SKIA	Skiathos	0.35	339	P	Pg	02 01 07.8	-0.2
SKIA				S	Sg	02 01 12.7	-0.1
SKIA	Skiathos	0.35	339	ePB	Pg	02 01 07.9	-0.1
SKIA				eSB	Sg	02 01 13.4	+0.6
SKIA	Skiathos	0.35	339	P	Pg	02 01 08.0	-0.1
SKIA				S	Sg	02 01 12.7	-0.1
SKIA				eSb	Sg	02 01 13.4	+0.6
AOS	Alonnisos	0.39	30	P	Pg	02 01 08.2	-0.5
AOS				S	Sg	02 01 13.1	-0.7
AOS	Alonnisos	0.39	30	PG	Pg	02 01 08.4	-0.3
AOS	Alonnisos	0.39	30	ePB	Pg	02 01 08.6	-0.1
AOS				eSB	Sg	02 01 14.5	+0.7
AOS	Alonnisos	0.39	30	P	Pg	02 01 08.4	-0.3
AOS				S	Sg	02 01 13.9	+0.1
AOS				eSb	Sg	02 01 14.5	+0.7
LKR	Lokris	0.53	249	P	Pg	02 01 10.8	-0.4
LKR				S	Sg	02 01 19.0	+0.8
LKR	Lokris	0.53	249	ePN	Pg	02 01 11.0	-0.2
LKR	Lokris	0.53	249	ePn	Pg	02 01 11.0	-0.2
LKR				S	Sg	02 01 18.5	+0.3
NEO	Neokhori	0.56	326	P	Pg	02 01 11.8	-0.2
NEO				S	Sg	02 01 19.1	-0.4
NEO	Neokhori	0.56	326	ePN	Pg	02 01 12.0	0.0
NEO				eSN	Sg	02 01 19.4	-0.1
NEO	Neokhori	0.56	326	P	Pg	02 01 11.8	-0.2
NEO				S	Sg	02 01 19.1	-0.4
XOR	Xorichti	0.63	327	P	Pg	02 01 12.9	-0.3
XOR				S	Sg	02 01 21.1	-0.4
XOR	Xorichti	0.63	327	ePN	Pg	02 01 13.0	-0.3
XOR				eSN	Sg	02 01 21.6	+0.1
XOR	Xorichti	0.63	327	P	Pg	02 01 12.9	-0.3
XOR				S	Sg	02 01 21.1	-0.4
AXAR	Agios Charalam	0.76	265	P	Pg	02 01 14.8	-0.9
AXAR				S	Sg	02 01 26.2	+0.6
AXAR	Agios Charalam	0.76	265	P	Pg	02 01 15.1	-0.6
AXAR				S	Sg	02 01 26.2	+0.6
PTL	Penteli	0.81	167	P	Pg	02 01 16.6	0.0
PTL				S	Sb	02 01 28.2	+0.3
PTL	Penteli	0.81	167	ePN	Pg	02 01 16.8	+0.2
PTL				eSN	Sb	02 01 28.6	+0.7
PTL	Penteli	0.81	167	P	Pg	02 01 16.5	0.0
PTL	Penteli	0.81	167	ePn	Pg	02 01 16.8	+0.2
PTL				S	Sb	02 01 28.1	+0.2
ATH	Athens Observa	0.87	175	P	Pg	02 01 17.5	-0.2
ATH				S	Sb	02 01 30.7	+1.2
ATH	Athens Observa	0.87	175	ePN	Pg	02 01 17.8	+0.1
ATH				eSN	Sb	02 01 30.4	+0.9
ATH	Athens Observa	0.87	175	P	Pg	02 01 17.5	-0.2
ATH	Athens Observa	0.87	175	ePn	Pg	02 01 17.8	+0.1
ATH				S	Sb	02 01 29.5	0.0
ATH				eSn	Sb	02 01 30.4	+0.9
ATHU	Athens Univers	0.88	172	P	Pg	02 01 17.8	-0.1
ATHU				S	Sb	02 01 30.6	+0.7
ATHU	Athens Univers	0.88	172	P	Pg	02 01 17.6	-0.3
ATHU				S	Sg	02 01 29.5	+0.2
DSF	Desfina	0.96	244	P	Pg	02 01 18.9	-0.6
DSF				S	Sb	02 01 33.3	+0.9
DSF	Desfina	0.96	244	ePB	Pg	02 01 18.6	-0.9
DSF				eSN	Sb	02 01 33.3	+0.9
DSF	Desfina	0.96	244	ePb	Pg	02 01 18.6	-0.9
DSF	Desfina	0.96	244	P	Pg	02 01 18.9	-0.6
DSF				S	Sg	02 01 31.6	-0.4
DSF				eSn	Sb	02 01 33.3	+0.9
LTK	Loutraki	0.96	213	P	Pg	02 01 19.0	-0.5
LTK				S	Sn	02 01 33.7	-0.4
LTK	Loutraki	0.96	213	ePN	Pg	02 01 19.2	-0.3
LTK	Loutraki	0.96	213	P	Pg	02 01 19.0	-0.5
LTK				S	Sn	02 01 33.7	-0.4
AGG	Agios Georgios	1.03	281	P	Pb	02 01 19.8	-1.0
AGG	Agios Georgios	1.03	281	ePN	Pb	02 01 19.7	-1.0
AGG				eSN	Sn	02 01 35.7	0.0
AGG	Agios Georgios	1.03	281	P	Pb	02 01 19.8	-1.0
AGG				eSn	Sn	02 01 35.7	0.0
NAIG	Nisos Aigina	1.08	186	ePN	Pb	02 01 21.6	-0.1
NAIG	Nisos Aigina	1.08	186	ePn	Pb	02 01 21.6	-0.1
PAIG	Paliouri	1.09	2	P	Pb	02 01 21.0	-0.8
PAIG				S	Sg	02 01 36.4	+0.3
PAIG	Paliouri	1.09	2	ePN	Pb	02 01 21.2	-0.6
PAIG	Paliouri	1.09	2	P	Pb	02 01 21.1	-0.8
PAIG				S	Sg	02 01 36.4	+0.3
MAKR	Makrakomi, Fth	1.18	279	P	Pb	02 01 22.5	-0.9
MAKR				S	Sn	02 01 39.8	+0.3
MAKR	Makrakomi, Fth	1.18	279	ePN	Pb	02 01 22.8	-0.6
MAKR				eSN	Sn	02 01 40.0	+0.5
MAKR	Makrakomi, Fth	1.18	279	P	Pb	02 01 22.5	-0.9
MAKR	Makrakomi, Fth	1.18	279	ePn	Pb	02 01 22.8	-0.6
MAKR				S	Sn	02 01 39.7	+0.3
MAKR				eSn	Sn	02 01 40.0	+0.5
KALE	Kalithea	1.25	250	P	Pn	02 01 24.0	-0.4
KALE				S	Sg	02 01 42.7	+1.6
KALE	Kalithea	1.25	250	ePN	Pn	02 01 23.8	-0.6
KALE	Kalithea	1.25	250	P	Pn	02 01 24.0	-0.4
KALE				S	Sb	02 01 40.7	+0.1
GUR	Goura	1.35	229	P	Pn	02 01 25.8	0.0
GUR	Goura	1.35	229	ePN	Pn	02 01 26.1	+0.3
GUR				eSN	Sn	02 01 44.2	+0.4
GUR	Goura	1.35	229	P	Pn	02 01 25.8	0.0
GUR	Goura	1.35	229	ePn	Pn	02 01 26.1	+0.3
GUR				S	Sb	02 01 42.5	-1.2
GUR				eSn	Sn	02 01 44.2	+0.4
DID	Didima	1.36	193	P	Pn	02 01 25.8	-0.1
DID				S	Sg	02 01 46.1	+1.3
DID	Didima	1.36	193	ePN	Pn	02 01 26.0	+0.1
DID	Didima	1.36	193	ePn	Pn	02 01 26.0	+0.1
DID				S	Sb	02 01 44.2	+0.3
KLV	Kalavryta, Ach	1.40	236	P	Pn	02 01 26.3	-0.2
KLV				S	Sg	02 01 46.7	+0.5
KLV	Kalavryta, Ach	1.40	236	ePN	Pn	02 01 26.4	-0.1
KLV	Kalavryta, Ach	1.40	236	P	Pn	02 01 26.5	-0.1
KLV				S	Sn	02 01 44.4	-0.6
EFP	Efpalio	1.41	254	P	Pn	02 01 26.9	+0.4
EFP				S	Sg	02 01 46.6	+0.3
EFP	Efpalio	1.41	254	ePN	Pn	02 01 26.8	+0.2
EFP				eSN	Sg	02 01 46.4	+0.1
EFP	Efpalio	1.41	254	P	Pn	02 01 26.7	+0.2
EFP				S	Sn	02 01 44.9	-0.2
EFP				eSn	Sg	02 01 46.4	+0.1
EVR	Evrytania	1.42	274	P	Pn	02 01 27.0	+0.2
EVR				S	Sg	02 01 46.7	0.0
EVR	Evrytania	1.42	274	ePN	Pb	02 01 27.3	-0.2
EVR	Evrytania	1.42	274	P	Pn	02 01 27.0	+0.2
EVR	Evrytania	1.42	274	ePn	Pb	02 01 27.3	-0.2
EVR				S	Sb	02 01 46.0	+0.3
LAKA	Lakka	1.42	246	P	Pn	02 01 27.0	+0.2
LAKA	Lakka	1.42	246	ePN	Pn	02 01 26.8	0.0
LAKA	Lakka	1.42	246	P	Pn	02 01 27.0	+0.2
THL	Klokotos Trika	1.45	301	P	Pn	02 01 27.0	-0.1
THL				S	Sg	02 01 47.7	+0.1
THL	Klokotos Trika	1.45	301	ePN	Pn	02 01 27.2	+0.1
THL	Klokotos Trika	1.45	301	ePn	Pn	02 01 27.2	+0.1
THL				S	Sn	02 01 46.0	0.0
OUR	Ouranopolis	1.52	10	P	Pn	02 01 27.4	-0.6
OUR	Ouranopolis	1.52	10	ePN	Pn	02 01 27.5	-0.6
OUR				eSN	Sn	02 01 46.6	-1.1
OUR	Ouranopolis	1.52	10	ePN	Pn	02 01 27.5	-0.6
OUR	Ouranopolis	1.52	10	ePn	Pn	02 01 27.5	-0.6
OUR				eSn	Sn	02 01 46.7	-1.1
LIT	Litokhoron	1.54	325	P	Pn	02 01 27.6	-0.8
LIT				S	Sb	02 01 49.7	+0.7
LIT	Litokhoron	1.54	325	ePN	Pn	02 01 27.8	-0.6
LIT	Litokhoron	1.54	325	ePn	Pn	02 01 27.8	-0.6
LIT				S	Sb	02 01 49.7	+0.7
PLG	Polygyros	1.54	355	P	Pn	02 01 27.6	-0.8
PLG	Polygyros	1.54	355	ePN	Pn	02 01 27.8	-0.6
PLG	Polygyros	1.54	355	ePn	Pn	02 01 27.8	-0.6
LIA	Limnos Island	1.61	48	P	Pn	02 01 28.5	-0.7
LIA				S	Sb	02 01 50.4	-0.5
LIA	Limnos Island	1.61	48	ePN	Pn	02 01 28.7	-0.5
LIA	Limnos Island	1.61	48	ePn	Pn	02 01 28.7	-0.5
LIA				S	Sb	02 01 50.4	-0.5
DRO	Drossia	1.75	240	P	Pn	02 01 31.8	+0.6
DRO	Drossia	1.75	240	ePN	Pn	02 01 31.8	+0.6
DRO	Drossia	1.75	240	P	Pn	02 01 31.8	+0.6
VLX	Vlachokerasia	1.76	214	P	Pn	02 01 32.0	+0.5
VLX	Vlachokerasia	1.76	214	ePN	Pn	02 01 32.5	+1.0
VLX	Vlachokerasia	1.76	214	P	Pn	02 01 32.0	+0.5
VLX	Vlachokerasia	1.76	214	ePn	Pn	02 01 32.5	+1.0
SIGR	SIGRI	1.77	77	ePN	Pn	02 01 30.2	-1.4
SIGR	SIGRI	1.77	77	ePN	Pn	02 01 31.5	0.0
SIGR	SIGRI	1.77	77	ePn	Pn	02 01 31.5	0.0
HORT	Hortiatis	1.81	347	P	Pn	02 01 31.7	-0.4
HORT	Hortiatis	1.81	347	ePN	Pn	02 01 31.6	-0.5
HORT	Hortiatis	1.81	347	P	Pn	02 01 31.7	-0.4
THE	Thessaloniki	1.86	344	P	Pn	02 01 32.1	-0.7
THE	Thessaloniki	1.86	344	ePB	Pn	02 01 32.2	-0.6
THE	Thessaloniki	1.86	344	P	Pn	02 01 32.1	-0.7
RLS	Riolos of Patr	1.87	246	P	Pn	02 01 33.7	+0.9
RLS	Riolos of Patr	1.87	246	ePN	Pn	02 01 33.8	+0.9
RLS	Riolos of Patr	1.87	246	P	Pn	02 01 33.7	+0.9
PDO	Prodromos	1.93	264	P	Pn	02 01 34.2	+0.6
PDO	Prodromos	1.93	264	ePN	Pb	02 01 35.1	-1.0
PDO	Prodromos	1.93	264	P	Pn	02 01 34.2	+0.6
PDO	Prodromos	1.93	264	ePn	Pb	02 01 35.1	-1.0
CHOS	Chios island	1.95	103	P	Pn	02 01 34.2	+0.1
CHOS	Chios island	1.95	103	ePN	Pn	02 01 33.4	-0.7
CHOS	Chios island	1.95	103	ePN	Pn	02 01 34.4	+0.3
CHOS	Chios island	1.95	103	ePn	Pn	02 01 34.4	+0.3
SOH	Sokhos	1.99	354	P	Pn	02 01 34.5	-0.2
SOH	Sokhos	1.99	354	ePN	Pn	02 01 34.4	-0.2
SOH	Sokhos	1.99	354	P	Pn	02 01 34.5	-0.2
AMT	Artemida-Makis	2.00	230	P	Pn	02 01 35.7	+1.1
AMT				S	Sb	02 02 02.0	-0.1
AMT	Artemida-Makis	2.00	230	ePN	Pn	02 01 36.0	+1.4
AMT	Artemida-Makis	2.00	230	P	Pn	02 01 35.7	+1.1
AMT	Artemida-Makis	2.00	230	ePn	Pn	02 01 36.0	+1.4
AMT				S	Sb	02 02 02.0	-0.1
DSL	Palaion Diasel	2.00	279	P	Pn	02 01 35.6	+1.0
DSL	Palaion Diasel	2.00	279	P	Pn	02 01 35.6	+1.0
KZN	Kozani	2.05	316	P	Pn	02 01 35.7	+0.2
KZN	Kozani	2.05	316	ePN	Pn	02 01 35.7	+0.2
KZN	Kozani	2.05	316	P	Pn	02 01 35.7	+0.2
PRK	Paraskevi	2.10	78	P	Pn	02 01 35.7	-0.3
PRK				S	Sb	02 02 03.6	-1.5
PRK	Paraskevi	2.10	78	ePN	Pn	02 01 35.9	-0.1
PRK	Paraskevi	2.10	78	ePn	Pn	02 01 35.9	-0.1
PRK				S	Sb	02 02 03.6	-1.5
ITM	Ithomi	2.13	220	P	Pn	02 01 37.7	+1.2
ITM	Ithomi	2.13	220	ePB	Pb	02 01 38.2	-1.4
ITM	Ithomi	2.13	220	P	Pn	02 01 37.7	+1.2
ITM	Ithomi	2.13	220	ePb	Pb	02 01 38.2	-1.4
VLI	Veliai	2.18	195	ePN	Pn	02 01 37.8	+0.6
VLI	Veliai	2.18	195	ePn	Pn	02 01 37.8	+0.6
SMTH	Samothraki Isl	2.20	41	ePN	Pn	02 01 36.2	-1.2
SMTH	Samothraki Isl	2.20	41	ePn	Pn	02 01 36.2	-1.2
KAVA	Kavala	2.26	17	ePN	Pn	02 01 37.3	-1.0
KAVA	Kavala	2.26	17	ePn	Pn	02 01 37.3	-1.0
JAN	Janina	2.31	292	ePB	Pn	02 01 40.5	+1.6
JAN	Janina	2.31	292	ePb	Pn	02 01 40.5	+1.6
EZN	Ezine	2.31	64	ePN	Pn	02 01 38.5	-0.5
EZN	Ezine	2.31	64	ePn	Pn	02 01 38.5	-0.5
GRG	Griva	2.32	336	P	Pn	02 01 38.7	-0.4
GRG	Griva	2.32	336	P	Pn	02 01 38.7	-0.4
APE	Apeiranthos	2.32	139	P	Pn	02 01 39.6	+0.5
APE	Apeiranthos	2.32	139	ePN	Pn	02 01 38.6	-0.5
APE	Apeiranthos	2.32	139	ePN	Pn	02 01 39.6	+0.5
APE	Apeiranthos	2.32	139	⇑iP	Pg	02 01 46.3	+0.9
APE	Apeiranthos	2.32	139	P	Pn	02 01 39.6	+0.5
KNT	Kendrikon	2.39	347	P	Pn	02 01 40.3	+0.3
KNT	Kendrikon	2.39	347	ePB	Pn	02 01 40.3	+0.3
KNT	Kendrikon	2.39	347	P	Pn	02 01 40.3	+0.3
PYL	PYLOS	2.45	218	ePN	Pn	02 01 41.8	+1.0
PYL	PYLOS	2.45	218	ePn	Pn	02 01 41.8	+1.0
VLS	Valsamata	2.47	256	ePB	Pn	02 01 43.0	+1.8
VLS	Valsamata	2.47	256	ePb	Pn	02 01 43.0	+1.8
NVR	Nevrokopi	2.52	4	ePN	Pn	02 01 41.4	-0.4
NVR	Nevrokopi	2.52	4	ePn	Pn	02 01 41.4	-0.4
NEST	Nestorio	2.54	309	ePB	Pn	02 01 43.2	+1.0
NEST	Nestorio	2.54	309	ePb	Pn	02 01 43.2	+1.0
FNA	Florina	2.61	319	P	Pn	02 01 43.5	+0.5
FNA	Florina	2.61	319	ePN	Pn	02 01 43.5	+0.5
FNA	Florina	2.61	319	P	Pn	02 01 43.5	+0.5
VAY	Valandovo	2.61	342	*i* Pn	Pn	02 01 43.2	+0.1
VAY	Valandovo	2.61	342	*i* Pn	Pn	02 01 43.1	+0.1
GELI	Tayfur-Gelibol	2.69	54	ePN	Pn	02 01 43.9	-0.3
GELI	Tayfur-Gelibol	2.69	54	ePn	Pn	02 01 43.9	-0.3
BLCB	Balcova	2.71	98	ePN	Pn	02 01 45.0	+0.6
BLCB	Balcova	2.71	98	ePn	Pn	02 01 45.0	+0.6
ENEZ	Enez	2.72	45	ePN	Pn	02 01 44.4	-0.1
ENEZ	Enez	2.72	45	ePn	Pn	02 01 44.4	-0.1
RDO	Rodhopi	2.73	32	ePN	Pn	02 01 43.5	-1.2
RDO	Rodhopi	2.73	32	ePN	Pn	02 01 44.0	-0.7
RDO	Rodhopi	2.73	32	ePn	Pn	02 01 44.0	-0.7
MMB	Musomiste	2.75	2	⇑iP	Pn	02 01 44.5	-0.6
MMB	Musomiste	2.75	2	*i* P	Pn	02 01 44.4	-0.6
MMB	Musomiste	2.75	2	⇑iP	Pn	02 01 44.5	-0.6
SMG	Samos	2.77	113	ePN	Pn	02 01 45.8	+0.6
SMG	Samos	2.77	113	ePn	Pn	02 01 45.8	+0.6
ALN	Alexandroupoli	2.77	41	ePN	Pn	02 01 44.2	-1.1
ALN	Alexandroupoli	2.77	41	ePN	Pn	02 01 44.4	-0.9
ALN	Alexandroupoli	2.77	41	ePn	Pn	02 01 44.4	-0.9
THR2	Thira island,	2.78	148	P	Pn	02 01 46.4	+1.0
THR2	Thira island,	2.78	148	P	Pn	02 01 46.4	+1.0
SANT	Santorini	2.86	149	ePN	Pn	02 01 46.6	+0.1
SANT	Santorini	2.86	149	ePn	Pn	02 01 44.4	-2.1
SANT	Santorini	2.86	149	ePn	Pn	02 01 44.4	-2.1
LPK	Lapseki	2.87	57	ePN	Pn	02 01 45.8	-0.8
LPK	Lapseki	2.87	57	ePn	Pn	02 01 45.8	-0.8
RZN	Rozhen	2.97	16	*i* P	Pn	02 01 48.1	0.0
KKB	Krupnik	3.06	352	*i* P	Pn	02 01 49.1	-0.1
KEK	Kerkira	3.10	288	ePB	Pn	02 01 51.8	+2.0
KEK	Kerkira	3.10	288	ePb	Pn	02 01 51.8	+2.0
KDZ	Kurdzhali	3.13	25	⇑iP	Pn	02 01 49.7	-0.5
KDZ	Kurdzhali	3.13	25	*i* P	Pn	02 01 49.3	-0.9
KDZ	Kurdzhali	3.13	25	⇑iP	Pn	02 01 49.7	-0.5
OHR	Ohrid	3.14	317	ePn	Pn	02 01 49.7	-0.7
OHR				eSg	Sg	02 02 43.5	+1.5
OHR	Ohrid	3.14	317	ePn	Pn	02 01 49.7	-0.7
OHR				eSg	Sg	02 02 43.4	+1.5
KRBG	Karabiga-Canak	3.23	60	ePN	Pn	02 01 51.5	-0.1
KRBG	Karabiga-Canak	3.23	60	ePn	Pn	02 01 51.5	-0.1
AKS	Akhisar	3.27	88	ePN	Pn	02 01 51.5	-0.6
AKS	Akhisar	3.27	88	ePn	Pn	02 01 51.5	-0.6
RKY	Sarkoy-Tekirda	3.30	55	ePN	Pn	02 01 52.3	-0.3
RKY	Sarkoy-Tekirda	3.30	55	ePn	Pn	02 01 52.3	-0.3
PLD	Plovdiv	3.37	14	*i* P	Pn	02 01 54.8	+1.4
BALB	Balikesir	3.40	75	ePN	Pn	02 01 53.1	-0.8
BALB	Balikesir	3.40	75	ePn	Pn	02 01 53.1	-0.8
BODT	Bodrum	3.41	120	ePN	Pn	02 01 54.6	+0.6
BODT	Bodrum	3.41	120	ePn	Pn	02 01 54.6	+0.6
AYDB	Zeytinkoy-Aydi	3.47	104	ePN	Pn	02 01 55.0	+0.1
AYDB	Zeytinkoy-Aydi	3.47	104	ePn	Pn	02 01 55.0	+0.1
DIM	Dimitrovgrad	3.52	24	*i* P	Pn	02 01 56.0	+0.4
MRMT	Marmara Adasi	3.53	59	ePN	Pn	02 01 55.8	0.0
MRMT	Marmara Adasi	3.53	59	ePn	Pn	02 01 55.8	0.0
SKO	Skopje	3.55	333	ePn	Pn	02 01 57.2	+1.3
SKO	Skopje	3.55	333	ePn	Pn	02 01 57.2	+1.3
EDC	Edincik	3.60	64	ePN	Pn	02 01 57.3	+0.6
EDC	Edincik	3.60	64	ePn	Pn	02 01 57.3	+0.6
BNT	Bandirma	3.65	64	ePN	Pn	02 01 58.1	+0.8
BNT	Bandirma	3.65	64	ePn	Pn	02 01 58.1	+0.8
IDI	Anoyia	3.68	164	Pn	Pn	02 01 57.8	0.0
	5.8nm,0.3s,baz=353,slow=9.4,SNR=8.5					
IDI				LR	LR	02 03 19.4
	comp=Z,223nm,19.3s,baz=316,slow=38					
PGB	Panagyurishte	3.73	6	*i* P	Pn	02 01 59.2	+0.7
VTS	Vitosha	3.77	355	P	Pn	02 01 59.5	+0.5
VTS	Vitosha	3.77	355	ePN	Pn	02 01 59.3	+0.2
VTS	Vitosha	3.77	355	⇑iP	Pn	02 01 59.6	+0.5
VTS	Vitosha	3.77	355	*i* P	Pn	02 01 59.8	+0.7
VTS	Vitosha	3.77	355	P	Pn	02 01 59.5	+0.5
EDRB	Edirne	3.84	37	ePN	Pn	02 02 01.1	+1.3
EDRB	Edirne	3.84	37	ePn	Pn	02 02 01.2	+1.3
CRLT	Corlu	3.90	53	ePN	Pn	02 02 00.8	0.0
CRLT	Corlu	3.90	53	ePn	Pn	02 02 00.8	0.0
KCTX	Karacabey (Bur	3.92	67	ePN	Pn	02 02 00.4	-0.7
KCTX	Karacabey (Bur	3.92	67	ePn	Pn	02 02 00.4	-0.7
KULA	Kula-Manisa	3.95	93	ePN	Pn	02 02 01.5	-0.1
KULA	Kula-Manisa	3.95	93	ePn	Pn	02 02 01.5	-0.1
YER	Yerkesik	4.05	113	ePN	Pn	02 02 02.3	-0.6
YER	Yerkesik	4.05	113	ePn	Pn	02 02 02.3	-0.6
BARS	Barje	4.21	342	ePn	Pn	02 02 05.2	+0.2
SLVT	Silivri	4.25	54	ePN	Pn	02 02 06.2	+0.6
SLVT	Silivri	4.25	54	ePn	Pn	02 02 06.2	+0.6
JMB	Yambol	4.27	31	⇓iP	Pg	02 02 23.6	+0.9
MDNY	Mudanya-Bursa	4.34	68	ePN	Pn	02 02 07.7	+0.9
MDNY	Mudanya-Bursa	4.34	68	ePn	Pn	02 02 07.7	+0.9
ARMT	Armutlu	4.39	65	ePN	Pn	02 02 08.8	+1.3
ARMT	Armutlu	4.39	65	ePn	Pn	02 02 08.8	+1.3
CTKS	Kestanelik-??a	4.45	56	ePN	Pn	02 02 08.1	-0.2
CTKS	Kestanelik-??a	4.45	56	ePn	Pn	02 02 08.1	-0.2
MPEP	Malo Peshtene	4.52	1	*i* P	Pn	02 02 09.9	+0.7
TVSB	Tavsanli	4.58	80	ePN	Pn	02 02 10.4	+0.2
TVSB	Tavsanli	4.58	80	ePn	Pn	02 02 10.4	+0.2
ULC	Ulcinj	4.58	314	⇓iPn	Pn	02 02 10.7	+0.6
ULC				eSn	Sn	02 03 04.3	+1.0
ULC	Ulcinj	4.58	314	⇓iPn	Pn	02 02 10.7	+0.6
ULC				eSn	Sn	02 03 04.3	+1.0
BGKT	Bogazkoy	4.59	58	ePN	Pn	02 02 10.8	+0.5
BGKT	Bogazkoy	4.59	58	ePn	Pn	02 02 10.8	+0.5
PVY	Plav	4.68	325	ePn	Pn	02 02 12.3	+0.7
PVY				eSn	Sn	02 03 05.9	+0.1
PVY	Plav	4.68	325	ePn	Pn	02 02 12.3	+0.7
PVY				eSn	Sn	02 03 05.9	+0.1
ISK	Istanbul-Kandi	4.73	60	ePN	Pn	02 02 12.7	+0.5
ISK	Istanbul-Kandi	4.73	60	ePn	Pn	02 02 12.7	+0.5
DRME	Dracevica, Mon	4.76	316	⇑iPn	Pn	02 02 13.8	+1.2
DRME				eSn	Sn	02 03 08.8	+1.0
DRME	Dracevica, Mon	4.76	316	⇑iPn	Pn	02 02 13.8	+1.2
DRME				eSn	Sn	02 03 08.8	+1.0
FETY	Fethiye	4.85	115	ePN	Pn	02 02 15.0	+1.1
FETY	Fethiye	4.85	115	ePn	Pn	02 02 15.0	+1.1
PDG	Podgorica

KOLS	Kolonicke sedl	10.14	355	*e*PN		Pn	02 03 26.8 +0.4
KOLS				*e*			02 06 25.2
CRVS	Cervenica-Dubn	10.18	352	*e*		Pn	02 03 31.6 +4.6
CRVS				*e*			02 06 34.8
ARSA	Arzberg	10.29	327	⇓*i*	Pn	Pn	02 03 28.6 +0.2
ARSA	Arzberg	10.29	327	Pn		Pn	02 03 28.6 +0.2
MMAI	Mount Meron Ar	11.17	118	Pn		Pn	02 03 39.7 -0.9
	0.3nm,0.3s,baz=312,slow=8.7,SNR=3.6						
KEST	Kesra	11.79	259	Pn		Pn	02 03 49.0 -0.1
	0.0nm,0.3s,baz=308,slow=19,SNR=1.9						
KEST	Kesra	11.79	259	Pn		Pn	02 03 49.0 -0.1
GERES	GERESS Array B	12.29	328	Pn		Pn	02 03 54.8 -1.1
	0.1nm,0.3s,baz=164,slow=11,SNR=3.2						
GERES				LR		LR	02 09 54.7
	comp=Z,140nm,20.9s,baz=194,slow=44						
KHC	Kasperske Hory	12.57	328	*e*P		Pn	02 03 58.6 -1.0
KHC				*e*x		x	02 04 07.2
EIL	Elat	13.08	131	Pn		Pn	02 04 05.7 -1.0
	0.2nm,0.3s,baz=290,slow=15,SNR=2.5						
MBDF	Montbardon	13.88	300	*e*P		Pn	02 04 18.7 +1.1
	83nm,1.6s						
MBDF	Montbardon	13.88	300	*e*P		Pn	02 04 18.7 +1.1
	83nm,1.6s						
MBDF	Montbardon	13.88	300	*e*P		Pn	02 04 18.7 +1.1
	83nm,1.6s						
LPG	La Plagne	14.16	303	*e*P		Pn	02 04 23.5 +1.8
	34nm,1.3s						
LPG	La Plagne	14.16	303	*e*P		Pn	02 04 23.5 +1.8
	34nm,1.3s						
LPG	La Plagne	14.16	303	*e*P		Pn	02 04 23.5 +1.8
	34nm,1.3s						
LPL	La Plagne	14.18	303	*e*P		Pn	02 04 23.2 +1.3
LPL	La Plagne	14.18	303	*e*P		Pn	02 04 23.2 +1.3
LPL	La Plagne	14.18	303	*e*P		Pn	02 04 23.2 +1.3
CLL	Collm	14.53	333	*e*PP		P	02 04 34.0 +1.0
CLL				*e*(sPP)			02 04 44.0
SMF	Signal de Mont	16.47	305	*e*P		P	02 04 53.3 -1.3
	40nm,1.4s						
SMF	Signal de Mont	16.47	305	*e*P		P	02 04 53.3 -1.3
	40nm,1.4s						
SMF	Signal de Mont	16.47	305	*e*P		P	02 04 53.3 -1.3
	40nm,1.4s						
SSF	Saint Saulge	16.84	306	*e*P		P	02 04 58.7 +0.1
	39nm,1.5s						
SSF	Saint Saulge	16.84	306	*e*P		P	02 04 58.7 +0.1
	39nm,1.5s						
SSF	Saint Saulge	16.84	306	*e*P		P	02 04 58.7 +0.1
	39nm,1.5s						
LDF	La Druitiere	19.67	307	*e*P		Pn	02 05 32.3 +1.1
LDF	La Druitiere	19.67	307	*e*P		Pn	02 05 32.3 +1.1
LDF	La Druitiere	19.67	307	*e*P		Pn	02 05 32.3 +1.1
FLN	La Foliniere	19.95	308	*e*P		Pn	02 05 34.5 -0.1
FLN	La Foliniere	19.95	308	*e*P		Pn	02 05 34.5 -0.1
FLN	La Foliniere	19.95	308	*e*P		Pn	02 05 34.5 -0.1
GRR	Gorron	20.06	306	*e*P		P	02 05 34.4 +0.4
GRR	Gorron	20.06	306	*e*P		P	02 05 34.4 +0.4
GRR	Gorron	20.06	306	*e*P		P	02 05 34.4 +0.4
SGMF	Saint Gilles	21.10	305	*e*P		P	02 05 46.5 +1.2
	179nm,1.8s						
SGMF	Saint Gilles	21.10	305	*e*P		P	02 05 46.5 +1.2
	179nm,1.8s						
SGMF	Saint Gilles	21.10	305	*e*P		P	02 05 46.5 +1.2
	179nm,1.8s						
ESDC	Sonseca Array	21.35	281	P		P	02 05 48.2 0.0
	1.3nm,0.6s,baz=76,slow=11,SNR=7.6						
HFS	Hagfors	22.22	347	P		P	02 05 57.1 -0.2
	2.5nm,0.7s,baz=166,slow=9.0,SNR=6.4						
TAM	Tamanrasset	22.24	229	P		P	02 05 51.3 -6.6
	2.6nm,1.0s						
TAM	Tamanrasset	22.24	229	P		P	02 05 51.3 -6.6
	2.6nm,1.0s						
FINES	FINESS Array B	22.68	3	P		P	02 06 03.5 +1.4
	0.9nm,0.7s,baz=174,slow=5.7,SNR=5.6						
FINES				LR		LR	02 16 01.0
	comp=Z,228nm,20.9s,baz=190,slow=40						
NB2	NORSAR Subarra	23.54	345	P		P	02 06 12.2 +1.3
	comp=Z,4.0nm,1.0s,baz=148,slow=9.3						
NB2	NORSAR Subarra	23.54	345	P		P	02 06 12.2 +1.3
	comp=Z,4.0nm,1.0s,baz=148,slow=9.1,SNR=1.8						
NOA	NORSAR Array B	23.54	345	P		P	02 06 12.0 +1.1
	comp=Z,1.7nm,0.8s,baz=147,slow=9.3,SNR=6.7						
NOA				LR		LR	02 15 57.7
	comp=Z,89nm,20.6s,baz=165,slow=38						
RAYN	Ar Rayn	24.06	123	*e*P		P	02 06 14.1 -2.2
	comp=Z,7.1nm,1.1s						
RAYN	Ar Rayn	24.06	123	*e*P		P	02 06 14.1 -2.2
	comp=Z,7.1nm,1.1s						
EKA	Eskdalemuir Ar	24.37	321	P		P	02 06 19.1 +0.3
	comp=Z,3.8nm,0.7s,baz=113,slow=10,SNR=14						
GEYT	Alibeck	26.96	81	P		P	02 06 43.8 +1.3
	comp=Z,1.2nm,0.5s,baz=289,slow=14,SNR=4.8						
ARCES	ARCESS Array B	30.78	1	LR		LR	02 19 26.3
	comp=Z,175nm,18.1s,baz=236,slow=36						
TORD	Torodi Ar. Bea	32.13	223	P		P	02 07 28.6 +0.1
	comp=Z,2.7nm,0.6s,baz=33,slow=8.9,SNR=50						
DBIC	Dimbokro	41.07	226	P		P	02 08 44.0 -0.6
	comp=Z,4.6nm,0.8s,baz=353,slow=7.7,SNR=4.5						
MKAR	Makanchi Array	42.87	60	P		P	02 09 00.2 +1.0
	comp=Z,1.3nm,0.6s,baz=278,slow=6.0,SNR=6.9						
ZALV	Zalesovo Beam	43.43	49	P		P	02 09 04.3 +0.8
	comp=Z,3.0nm,0.7s,baz=276,slow=7.7,SNR=4.4						
SONM	Songino Array	58.15	52	P		P	02 10 55.4 +0.7
	comp=Z,0.4nm,0.7s,baz=292,slow=8.2,SNR=5.3						
SONM				LR		LR	02 41 16.5
	comp=Z,58nm,18.8s,baz=324,slow=42						
SCHQ	Schefferville	59.62	318	P		P	02 11 04.7 +0.1
	comp=Z,2.6nm,0.8s,baz=4.3,slow=3.4,SNR=4.0						
CMAR	Chiang Mai Arr	67.39	84	P		P	02 11 55.7 -0.9
	comp=Z,0.5nm,0.3s,baz=302,slow=8.5,SNR=4.7						
YKA	Yellowknife Ar	73.58	341	P		P	02 12 33.0 -0.6
	comp=Z,0.2nm,0.6s,baz=31,slow=5.2,SNR=8.1						
KSRS	Korea Array	77.01	52	LR		LR	02 50 54.4
	comp=Z,25nm,21.1s,baz=345,slow=39						
PETK	Petropavlovsk-	80.17	26	LR		LR	02 52 57.0
	comp=Z,18nm,19.4s,baz=36,slow=39						
ELK	Elko	92.34	330	LR		LR	03 01 35.0
	comp=Z,56nm,19.0s,baz=3.0,slow=39						

CSEM ***09*** *02:03:09.1, 46°.11N×14°.56E, h0km, ML0.4*

LJU 09 02:03:09.1, 46°.11N×14°.56E, h7km, ML0.4, 4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LJU	Ljubljana	0.07	200	⇓*i*	Pg		Pg	02 03 11.1	+0.1
LJU				*i*	Sg		Sg	02 03 12.5	+0.2
	comp=Z,15nm,0.1s								
LJU	Ljubljana	0.07	200	⇓*i*	Pg		Pg	02 03 11.1	+0.1
LJU				*i*	Sg		Sg	02 03 12.5	+0.2
	comp=Z,15nm,0.1s								
VNDS	Vrh nad Dolski	0.10	97	*i*	Pg		Pg	02 03 11.4	0.0
VNDS				*i*	Sg		Sg	02 03 13.0	+0.1
	comp=Z,10.0nm,0.1s								
MOZS	Mozjanca	0.20	335	⇓*i*	Pg		Pg	02 03 13.1	-0.1
	comp=Z,1.0nm,0.1s								
MOZS	Mozjanca	0.20	335	⇓*i*	Pg		Pg	02 03 13.1	-0.1
	comp=Z,1.0nm,0.1s								
CRNS	Crni Vrh	0.21	261	*i*	Pg		Pg	02 03 13.4	-0.1
CRNS				*i*	Sg		Sg	02 03 16.7	+0.3
	comp=Z,3.0nm,0.1s								
PDKS	Podkum	0.31	100	*i*	Pg		Pg	02 03 15.6	+0.4
PDKS				*i*	Sg		Sg	02 03 19.4	+0.1
PDKS	Podkum	0.31	100	*i*	Pg		Pg	02 03 15.6	+0.4
PDKS				*i*	Sg		Sg	02 03 19.4	0.0
VISS	Visnje	0.36	148	*i*	Pg		Pg	02 03 16.2	-0.1
VISS				*i*	Sg		Sg	02 03 21.6	+0.5
	comp=Z,1.0nm,0.1s								
VISS	Visnje	0.36	148	*i*	Pg		Pg	02 03 16.2	0.0
VISS				*i*	Sg		Sg	02 03 21.6	+0.5
	comp=Z,1.0nm,0.1s								

KRNET ***09*** *02:03:40.0±0.1, 39°.64N×73°.52E, h3km, mb3.9*
NNC ***09*** *02:03:43.7±2.0, 39°.62N×73°.62E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=20.6km s-min=8.9km az=141.0*
IDC ***09*** *02:03:56.6±6.0, 39°.41N×73°.29E, h150km±53km, mb3.0/5, mb1 3.1/6, mb1mx3.0/32, mbtmp3.4/6, Error ellipse: s-maj=37.3km s-min=22.2km az=13.0*

ISC 09 02:03:39.2±1.7, 39°.58N±0°.05×73°.56E±0°.04, h0km±11km, n29, σ1°49/34, mb3.5/5, 10C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.44	354	*i*	P		Pg	02 03 45.6	-2.0
	baz=358								
SFK				*e*	S		Sg	02 03 53.1	-0.2
	baz=358								
OHH	Osh	1.12	328	*e*	P		Pg	02 03 59.3	-1.4
	baz=328								
OHH				*e*	S		Sb	02 04 15.3	-1.4
	baz=328								
DRK	Karamyk	1.37	267	⇓*i*	P		Pn	02 04 05.0	-0.8
	baz=264								
DRK				⇓*e*	S		Sn	02 04 24.8	0.0
	baz=264								
ARSB	Arslanbob	1.80	346	*e*	P		Pg	02 04 13.4	-0.3
	baz=346								
ARSB				*e*	S		Sg	02 04 39.4	+2.3
	baz=346								
BTK	Batken	2.17	284	*e*	P		Pb	02 04 19.0	-0.4
	baz=282								
BTK				*e*	S		Sg	02 04 48.7	-0.2
	baz=282								
ARLS	Aral	2.35	14	*i*	P		Pb	02 04 22.4	-0.2
	baz=15								
AML	Almayashu	2.55	2	P			Pb	02 04 25.2	-0.9
	SNR=37								
NRN	Naryn	2.62	44	*e*	P		Pg	02 04 29.6	+0.1
	baz=46								
UCH	Uchtor	2.74	15	P			Pb	02 04 28.3	-1.2
	SNR=30								
KZA	Kyzart	2.81	27	P			Pb	02 04 29.5	-1.0
	SNR=23								
EKS2	Erkin-Say	3.09	3	P			Pb	02 04 33.2	-1.8
	SNR=7.5								
AAK	Ala-Archa	3.13	13	⇑Pn			Pb	02 04 33.7	-2.2
	8.5nm,0.4s								
AAK				⇑Sn			Sb	02 05 15.3	+0.6
	22nm,0.5s								
AAK	Ala-Archa	3.13	13	P			Pb	02 04 34.0	-1.9
	SNR=21								
KBK	Karagaybulak	3.25	18	P			Pb	02 04 36.4	-1.4
	SNR=13								
ULHL	Ulahol	3.35	36	P			Pb	02 04 38.6	-1.0
	SNR=7.0								
CHMS	Chumysh	3.53	14	P			Pb	02 04 40.5	-2.1
	SNR=5.8								
TKM2	Tokmak 2	3.68	24	⇓Pn			Pn	02 04 40.8	+3.3
	4.5nm,0.5s								
TKM2				⇑Pg			Pg	02 04 48.9	-0.8
	9.6nm,0.6s								
TKM2				⇑Lg			Lg	02 05 37.4	
	25nm,0.8s								
TKM2	Tokmak 2	3.68	24	P			Pn	02 04 40.9	+3.4
	SNR=17								
USP	Ospenovka	3.75	10	P			Pg	02 04 51.9	+0.8
	SNR=7.2								
DZET	Dzherino	3.76	260	⇑Pn			Pn	02 04 42.2	+3.6
DZET				⇓Pg			Pg	02 04 53.0	+1.7
DZET				⇑Sn			Sb	02 05 32.3	-0.4
DZET				⇓Lg			Lg	02 05 46.7	
KK31	Karatay Array	4.21	328	⇑Pn			Pn	02 04 48.4	+3.8
	1.0nm,0.3s,baz=128,slow=11,SNR=66								
KK31				⇑Pg			Pg	02 05 01.1	+1.3
	4.9nm,0.6s,baz=152,slow=18,SNR=8.8								
KK31				⇑Sn			Sn	02 05 37.4	+3.0
	3.8nm,0.4s,baz=145,slow=18,SNR=3.9								
KK31				⇓Lg			Lg	02 05 55.7	
	12nm,0.5s,baz=145,slow=24,SNR=4.4								
PDGK	Podgornoye	5.82	48	⇑Pn			Pn	02 05 09.6	+2.9
PDGK				⇓Lg			Lg	02 06 44.0	
MKAR	Makanchi Array	9.62	39	P			Pn	02 06 14.3	+15
	0.1nm,0.3s,baz=218,slow=15,SNR=4.2								
AB31	Akbulak array	13.71	319	P			Pn	02 06 55.9	+1.2
	0.7nm,0.6s,baz=266,slow=12,SNR=15								
SONM	Songino Array	24.98	60	P			P	02 09 09.9	+5.4
	0.4nm,0.8s,baz=249,slow=4.0,SNR=2.1								
FINES	FINESS Array B	36.15	323	P			P	02 10 43.5	+0.7
	1.6nm,0.9s,baz=121,slow=11,SNR=7.1								
TORD	Torodi Ar. Bea	67.81	269	P			P	02 14 38.1	-1.2
	0.3nm,0.6s,baz=50,slow=5.2,SNR=7.1								
YKA	Yellowknife Ar	78.06	4	P			P	02 15 39.0	-0.3
	0.2nm,0.5s,baz=348,slow=5.5,SNR=7.8								
WRA	Warramunga Arr	81.96	124	P			P	02 15 59.6	-1.4
	0.2nm,0.6s,baz=323,slow=5.0,SNR=2.1								

IDC ***09*** *02:20:15.5±1.7, 38°.27S×73°.94W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.8/18, mbtmp3.6/6, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/23, Error ellipse: s-maj=48.8km s-min=30.2km az=54.0*
ISCJB ***09*** *02:20:25.7±1.1, 36°.70S±0°.05×73°.54W±0°.09, h27km, mb3.5/4, Error ellipse: s-maj=10.3km s-min=7.3km az=5.5*
GUC ***09*** *02:20:27.6±0.3, 36°.70S×73°.46W, h12km±1km, ML4.1*

ISC 09 02:20:26.7±1.2, 36°.72S±0°.06×73°.48W±0°.10, h27km, n10, σ1°17/10, mb3.6/4, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.32	113	⇓*i*	P		Pb	02 20 33.6	-0.7
CCSP				*i*	S		Sb	02 20 38.2	-1.2
CCSP				IAML				02 20 39.0	
	comp=E,42μm,0.5s								
COCH	Cobquecura	0.81	44	*e*	P		Pb	02 20 41.5	-0.7
COCH				*i*	S		Sb	02 20 51.8	-0.9
AGCH	Angol	1.25	150	*i*	P		Pn	02 20 49.1	+0.6
AGCH				*i*	S		Sn	02 21 05.4	+0.9
LNCH	Linares	1.75	61	*i*	P		Pn	02 20 56.2	+0.9
LNCH				*i*	S		Sn	02 21 18.1	+1.4
LNCH				IAML				02 21 25.4	
	comp=N,4μm,0.8s								
CPUP	Villa Florida	17.21	58	LR			LR	02 31 56.4	
	comp=N,137nm,19.1s,baz=186,slow=38								
LPAZ	La Paz	20.90	15	P			Pn	02 25 17.1	+6.6
	comp=N,1.1nm,0.6s,baz=205,slow=8.7,SNR=4.5								
SIV	San Ignacio	23.40	31	P			P	02 25 40.6	+7.1
	comp=N,3.3nm,1.1s,baz=228,slow=14,SNR=3.6								
TXAR	Lajitas Array	71.56	332	P			P	02 31 46.4	+1.0
	comp=N,0.2nm,0.6s,baz=148,slow=7.4,SNR=6.3								
PDAR	Pinedale Array	85.67	334	P			P	02 33 01.7	-1.2
	comp=N,0.4nm,0.8s,baz=154,slow=8.6,SNR=2.4								
TORD	Torodi Ar. Bea	86.23	71	P			P	02 33 02.7	-3.4
	comp=N,0.3nm,0.9s,baz=217,slow=6.5,SNR=2.4								

GUC 09 02:23:17.1±0.4, 34°.49S×71°.95W, h5km±2km, ML3.5, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.79	131	⇑*i*	P		Pg	02 23 31.5	-0.8
NICH				*i*	S		Sg	02 23 42.1	-0.4
CACH	El Canelo	1.18	72	*i*	S		Sg	02 23 54.7	-0.7
RCDM	Rinconada Maip	1.38	44	*i*	P9		Pn	02 23 40.4	-2.7
RCDM				*i*	S		Sb	02 23 58.5	-2.9
LNCH	Linares	1.39	168	*e*	P		Pn	02 23 40.8	-2.3
LNCH				*i*	S		Sb	02 23 59.1	-2.5
CLCH	Cerro Calan	1.60	48	*e*	P		Pn	02 23 44.7	-1.5
CLCH				*e*	S		Sn	02 24 05.6	-1.8
CLCH				IAML				02 24 10.6	
	comp=E,926nm,0.9s								
PEL	Peldehue	1.71	39	*e*	P		Pn	02 23 46.0	-1.6
PEL				*i*	S		Sn	02 24 08.5	-1.4
PEL				IAML				02 24 13.8	
	comp=N,1μm,0.5s								
COCH	Cobquecura	1.78	202	*i*	P		Pn	02 23 47.3	-1.1
COCH				*e*	S		Sn	02 24 09.9	-1.5
COCH				*i*	S		Sb	02 24 10.3	-2.4
FCH	Farellones	1.80	51	IAML				02 24 19.2	
	comp=E,581nm,0.6s								

IDC 09 02:24:15.3±1.9, 51°.88N×178°.42W, h0km, mb3.2/5, mb1 3.7/7, mb1mx3.4/33, mbtmp3.4/7, ML3.3/2, Error ellipse: s-maj=64.2km s-min=14.2km az=179.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FX1	Attu Island--F	5.25	284	Pn		Pn		02 25 34.1	-1.0
	5.5nm,0.3s,baz=176,slow=3.0,SNR=61								
FX1				Sn		Sn		02 26 23.4	-13
	7.1nm,0.3s,baz=174,slow=23,SNR=18								
PETK	Petropavlovsk-	14.59	284	Pn		Pn		02 27 41.4	-1.4
	0.2nm,0.3s,baz=90,slow=14,SNR=3.5								
ILAR	Eielson Array	20.71	39	P		P		02 28 57.5	+0.7
	0.3nm,0.5s,baz=242,slow=8.0,SNR=14								
YKA	Yellowknife Ar	34.72	47	P		P		02 31 06.2	-0.3
	0.5nm,0.6s,baz=280,slow=7.9,SNR=14								
PDAR	Pinedale Array	45.93	73	P		P		02 32 39.6	-0.2
	0.2nm,0.4s,baz=352,slow=1.9,SNR=4.5								
TXAR	Lajitas Array	58.34	82	P		P		02 34 12.4	+0.1
	0.2nm,0.5s,baz=309,slow=4.5,SNR=3.3								
MKAR	Makanchi Array	59.91	308	P		P		02 34 22.1	-0.7
	0.1nm,0.6s,baz=61,slow=3.6,SNR=3.3								

GUC 09 02:27:59.4±0.5, 36°.59S×73°.19W, h18km±5km, ML4.0, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.26	165	⇓*i*	P		Pb	02 28 05.5	-0.1
CCSP				*i*	S		Sb	02 28 09.5	-0.2
LNCH	Linares	1.48	60	⇑*i*	P		Pn	02 28 24.5	-0.7
LNCH				*i*	S		Sn	02 28 44.0	-0.2
LNCH				AML			AML	02 28 49.5	
	comp=N,4μm,0.8s								
NICH	Los Niches	2.25	46	*e*	P1		P	02 28 36.7	+0.9
NICH				*i*	P		P	02 28 36.7	+0.9
NICH				*i*	S		Sb	02 29 05.3	-1.7
NICH				AML			AML	02 29 12.8	
	comp=N,2μm,0.7s								
CACH	El Canelo	3.25	41	*e*	P		Pn	02 28 50.7	+1.0
PEL	Peldehue	4.01	32	*e*	P1		Pn	02 29 01.3	+1.2

IDC ***09*** *02:41:31.4±1.4, 37°.64S×73°.81W, h0km, mb3.9/4, mb1 3.8/6, mb1mx3.7/28, mbtmp3.7/6, ML3.1/2, MS3.0/4, Ms1 3.0/4, ms1mx2.8/27, Error ellipse: s-maj=40.1km s-min=18.4km az=79.0*
ISCJB ***09*** *02:41:33.7±1.5, 37°.64S±0°.09×73°.6W±0°.3, h23km, mb3.9/4, MS3.9/1, Error ellipse: s-maj=38.8km s-min=13.5km az=2.1*

ISC 09 02:41:35.1±1.4, 37°.7S±0°.1×73°.6W±0°.3, h23km, n11, σ0°72/9, mb3.9/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.91	143	Pn		Pn		02 42 34.4	+0.5
	0.4nm,0.3s,baz=311,slow=6.2,SNR=9.2								
PLCA				Lg		Lg		02 43 39.9	
	2.9nm,0.3s,baz=52,slow=22,SNR=4.0								
PLCA				LR		LR		02 43 59.6	
	comp=Z,70nm,20.2s,baz=298,slow=37								
CFAA	Coronel Fontan	7.50	38	Pn		Pn		02 43 22.9	-0.2
	0.2nm,0.3s,baz=199,slow=4.7,SNR=7.6								
CFAA				LR		LR		02 46 26.4	
	comp=Z,18nm,20.0s,baz=230,slow=39								
CPUP	Villa Florida	17.83	55	LR		LR		02 52 51.8	
	comp=Z,90nm,18.3s,baz=219,slow=38								
LPAZ	La Paz	21.83	14	P		P		02 46 27.8	+1.2
	3.3nm,0.8s,baz=188,slow=6.6,SNR=14								
SIV	San Ignacio	24.27	31	P		P		02 46 50.2	-0.5
	1.4nm,0.7s,baz=223,slow=2.9,SNR=4.0								
RCBR	Riachuelo	46.70	57	LR		LR		03 11 04.4	
	comp=Z,117nm,18.2s,baz=182,slow=38								
QSPA	South Pole Qui	52.59	180	P		P		02 50 46.4	-0.4
	2.8nm,1.0s,baz=150,slow=4.4,SNR=4.4								
TORD	Torodi Ar. Bea	86.66	71	P		P		02 54 16.6	-0.7
	0.7nm,0.8s,baz=217,slow=6.6,SNR=4.7								
BVAR	Borovoye Array	150.79	47	PKPbc		PKPbc		03 01 25.2	+0.3
	0.7nm,0.6s,baz=296,slow=4.8,SNR=4.1								
ZALV	Zalesovo Beam	157.98	35	PKPab		PKPab		03 02 03.1	+0.5
	1.2nm,0.8s,baz=302,slow=3.3,SNR=4.9								
SONM	Songino Array	169.82	360	PKPab		PKPab		03 02 54.8	-0.1
	0.1nm,0.3s,baz=5.7,slow=4.3,SNR=3.1								

BJI ***09*** *02:54:56.0, 38°.54N×22°.89E, h12km, mB5.0/10, mb4.5/21, Ms5.0/8, Ms7 4.7/6*
ISCJB ***09*** *02:55:00.9±0.3, 38°.888N±0°.009×23°.64E±0°.01, h12km±2km, mb4.4/38, MS3.9/20, Error ellipse: s-maj=1.6km s-min=1.5km az=3.7*
IDC ***09*** *02:55:00.4±0.6, 38°.82N×23°.53E, h0km, mb4.2/19, mb1 4.2/29, mb1mx4.1/55, mbtmp4.1/29, ML3.8/9, MS3.9/30, Ms1 3.9/30, ms1mx3.7/54, Error ellipse: s-maj=11.2km s-min=10.2km az=99.0*
PDG ***09*** *02:55:00.7±0.4, 38°.84N×23°.63E, h13km, ML4.1/11, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
ATH ***09*** *02:55:00.9±0.3, 38°.87N×23°.65E, h22km, MD3.8/24, ML5.1*
CSEM ***09*** *02:55:01.6±0.1, 38°.85N×23°.62E, h8km, mb4.5/25, Ms3.6, Error ellipse: s-maj=1.6km s-min=1.4km az=11.0*
THE ***09*** *02:55:01.7, 38°.86N×23°.64E, h5km, ML4.7/21, Error ellipse: s-maj=0.6km s-min=0.3km az=260.0*
MOS ***09*** *02:55:03.8±1.0, 38°.94N×23°.62E, h33km, mb4.5/18, Error ellipse: s-maj=6.0km s-min=3.8km az=106.8*
NEIC ***09*** *02:55:05.5±2.4, 38°.86N×23°.56E, h33km±4km, mb4.6/13, ML4.7(ATH), Error ellipse: s-maj=12.3km s-min=9.9km az=218.0*
NEIC Felt [II] at Athens, Glyfada, Kifisia, Metamorfosi, Nea Smirni and Palaio Faliro. Also felt at Aigaleo, Amarousion, Ayia Paraskevi, Diakopto, Galatsion, Glyka Nera, Grammatikon, Khalandrion, Nea Philadelfia, Vouliagmeni and Vrilissia.

ISC 09 02:55:02.5±0.6, 38°.85N±0°.01×23°.63E±0°.02, h13km±3km, n726, σ1°08/846, mb4.4/39, MS4.0/20, 52C-39D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRKA	Markates	0.15	192	P			Pg	02 55 05.2	-0.9
MRKA				S			Sg	02 55 06.9	-1.7
MRKA	Markates	0.15	192	*e*P

ATH	Athens Observa	0.88 175	ePN	Pg	02 55 18.3	-1.2
ATH			eSN	Sg	02 55 30.9	0.0
ATH	Athens Observa	0.88 175	P	Pg	02 55 18.2	-1.2
ATH			S	Sg	02 55 30.9	0.0
ATHU	Athens Univers	0.89 172	P	Pg	02 55 18.4	-1.3
ATHU			S	Sb	02 55 32.1	+0.5
ATHU	Athens Univers	0.89 172	P	Pg	02 55 18.4	-1.3
ATHU			S	Sg	02 55 30.0	-1.3
DSF	Desfina	0.97 243	ePB	Pg	02 55 19.1	-2.0
DSF			eSN	Sb	02 55 34.2	+0.3
DSF	Desfina	0.97 243	ePb	Pg	02 55 19.1	-2.0
DSF			S	Sg	02 55 32.7	-1.0
DSF			eSn	Sb	02 55 34.2	+0.3
LTK	Loutraki	0.97 212	P	Pg	02 55 19.4	-1.8
LTK			S	Sb	02 55 34.9	+0.8
LTK	Loutraki	0.97 212	ePN	Pg	02 55 19.5	-1.8
LTK			eSN	Sb	02 55 34.5	+0.4
LTK	Loutraki	0.97 212	P	Pg	02 55 19.4	-1.8
LTK			S	Sg	02 55 33.9	-0.1
LTK			eSn	Sb	02 55 34.5	+0.4
AGG	Agios Georgios	1.03 280	P	Pg	02 55 20.1	-2.2
AGG			S	Sb	02 55 35.8	+0.1
AGG	Agios Georgios	1.03 280	ePN	Pg	02 55 20.2	-2.1
AGG			eSN	Sb	02 55 35.7	+0.1
AGG	Agios Georgios	1.03 280	P	Pg	02 55 20.2	-2.1
AGG			eSn	Sb	02 55 35.7	+0.1
PAIG	Paliouri	1.08 2	P	Pg	02 55 21.8	-1.5
PAIG			S	Sb	02 55 37.5	+0.4
PAIG	Paliouri	1.08 2	ePN	Pg	02 55 21.9	-1.4
PAIG			eSN	Sg	02 55 36.3	-1.1
PAIG	Paliouri	1.08 2	P	Pg	02 55 21.9	-1.4
PAIG			S	Sg	02 55 36.2	-1.1
NAIG	Nisos Aigina	1.09 186	ePN	Pg	02 55 22.0	-1.6
NAIG	Nisos Aigina	1.09 186	ePn	Pg	02 55 22.0	-1.6
MAKR	Makrakomi, Fth	1.18 278	P	Pg	02 55 23.2	-2.0
MAKR			S	Sn	02 55 41.0	+0.3
MAKR	Makrakomi, Fth	1.18 278	ePN	Pg	02 55 23.1	-2.1
MAKR			eSN	Sg	02 55 40.0	-0.5
MAKR	Makrakomi, Fth	1.18 278	P	Pg	02 55 23.2	-2.0
MAKR			eSn	Sg	02 55 40.0	-0.5
KALE	Kalithea	1.25 249	ePN	Pg	02 55 24.8	-1.8
KALE			eSN	Sn	02 55 43.3	+0.7
KALE	Kalithea	1.25 249	ePn	Pg	02 55 24.8	-1.8
KALE			eSn	Sn	02 55 43.3	+0.7
GUR	Goura	1.36 228	P	Pn	02 55 26.4	-0.9
GUR			S	Sb	02 55 45.4	+0.1
GUR	Goura	1.36 228	ePN	Pn	02 55 26.4	-0.9
GUR			eSN	Sb	02 55 45.8	+0.5
GUR	Goura	1.36 228	P	Pn	02 55 26.4	-0.9
GUR			S	Sb	02 55 43.5	-1.8
GUR			eSn	Sb	02 55 45.8	+0.5
DID	Didima	1.38 193	P	Pn	02 55 26.3	-1.2
DID			S	Sb	02 55 46.0	+0.4
DID	Didima	1.38 193	ePN	Pn	02 55 26.5	-0.9
DID			eSN	Sn	02 55 46.8	+1.2
DID	Didima	1.38 193	P	Pn	02 55 26.6	-0.9
DID			S	Sb	02 55 44.7	-0.9
DID			eSn	Sn	02 55 46.8	+1.2
KLV	Kalavryta, Ach	1.41 236	P	Pn	02 55 27.0	-0.9
KLV			S	Sg	02 55 47.9	0.0
KLV	Kalavryta, Ach	1.41 236	ePN	Pn	02 55 27.1	-0.9
KLV	Kalavryta, Ach	1.41 236	ePn	Pn	02 55 27.1	-0.9
KLV			S	Sb	02 55 45.5	-1.2
EFP	Efpalio	1.41 253	P	Pn	02 55 27.2	-0.7
EFP			S	Sb	02 55 46.8	+0.2
EFP	Efpalio	1.41 253	ePN	Pn	02 55 27.2	-0.7
EFP	Efpalio	1.41 253	P	Pn	02 55 27.2	-0.7
EFP			S	Sb	02 55 45.2	-1.4
EVR	Evrytania	1.42 273	P	Pn	02 55 27.5	-0.7
EVR			S	Sb	02 55 47.2	+0.2
EVR	Evrytania	1.42 273	ePN	Pn	02 55 27.9	-0.3
EVR	Evrytania	1.42 273	P	Pn	02 55 27.5	-0.7
EVR	Evrytania	1.42 273	ePn	Pn	02 55 27.9	-0.3
EVR			S	Sb	02 55 47.2	+0.2
LAKA	Lakka	1.43 245	P	Pn	02 55 27.7	-0.5
LAKA	Lakka	1.43 245	ePN	Pn	02 55 27.6	-0.6
LAKA	Lakka	1.43 245	ePn	Pn	02 55 27.6	-0.6
THL	Klokotos Trika	1.44 300	P	Pn	02 55 27.9	-0.5
THL			S	Sb	02 55 47.8	+0.3
THL	Klokotos Trika	1.44 300	ePN	Pn	02 55 27.6	-0.8
THL	Klokotos Trika	1.44 300	ePn	Pn	02 55 27.6	-0.8
THL	Klokotos Trika	1.44 300	P	Pn	02 55 27.9	-0.5
THL			S	Sb	02 55 47.8	+0.3
OUR	Ouranopolis	1.51 10	P	Pn	02 55 28.3	-1.0
OUR			S	Sn	02 55 48.7	-0.1
OUR	Ouranopolis	1.51 10	PN	Pn	02 55 27.8	-1.5
OUR	Ouranopolis	1.51 10	ePN	Pn	02 55 28.3	-1.0
OUR	Ouranopolis	1.51 10	P	Pn	02 55 28.3	-1.0
OUR			S	Sn	02 55 48.7	-0.1
LIT	Litokhoron	1.53 325	P	Pn	02 55 28.4	-1.1
LIT			S	Sn	02 55 50.1	+0.7
LIT	Litokhoron	1.53 325	ePN	Pn	02 55 28.5	-1.1
LIT	Litokhoron	1.53 325	ePn	Pn	02 55 28.5	-1.1
LIT			S	Sn	02 55 50.1	+0.7
PLG	Polygyros	1.53 355	P	Pn	02 55 28.4	-1.2
PLG	Polygyros	1.53 355	ePN	Pn	02 55 28.5	-1.2
PLG	Polygyros	1.53 355	ePn	Pn	02 55 28.5	-1.2
LIA	Limnos Island	1.60 49	P	Pn	02 55 29.4	-1.0
LIA			S	Sn	02 55 51.0	0.0
LIA	Limnos Island	1.60 49	ePN	Pn	02 55 29.5	-1.0
LIA	Limnos Island	1.60 49	ePn	Pn	02 55 29.5	-1.0
LIA			S	Sn	02 55 51.0	0.0
DRO	Drossia	1.75 240	P	Pn	02 55 32.4	-0.2
DRO	Drossia	1.75 240	ePN	Pn	02 55 32.2	-0.4
DRO	Drossia	1.75 240	ePn	Pn	02 55 32.2	-0.4
SIGR	SIGRI	1.77 78	P	Pn	02 55 31.9	-1.0
SIGR			S	Sn	02 55 55.9	+0.6
SIGR	SIGRI	1.77 78	ePN	Pn	02 55 31.3	-1.6
SIGR	SIGRI	1.77 78	ePN	Pn	02 55 32.2	-0.7
SIGR	SIGRI	1.77 78	P	Pn	02 55 31.9	-1.0
SIGR	SIGRI	1.77 78	ePn	Pn	02 55 32.2	-0.7
SIGR			S	Sn	02 55 55.9	+0.6
VLX	Vlachokerasia	1.77 214	P	Pn	02 55 32.7	-0.3
VLX	Vlachokerasia	1.77 214	ePN	Pn	02 55 32.9	-0.1
VLX	Vlachokerasia	1.77 214	P	Pn	02 55 32.6	-0.4
VLX	Vlachokerasia	1.77 214	ePn	Pn	02 55 32.9	-0.1
VLX			S	Sn	02 55 55.9	+0.4
HORT	Hortiatis	1.79 347	P	Pn	02 55 32.4	-0.9
HORT	Hortiatis	1.79 347	ePN	Pn	02 55 32.3	-1.0
HORT	Hortiatis	1.79 347	P	Pn	02 55 32.4	-0.9
THE	Thessaloniki	1.85 344	P	Pn	02 55 32.8	-1.2
THE	Thessaloniki	1.85 344	ePB	Pn	02 55 32.9	-1.1
THE	Thessaloniki	1.85 344	P	Pn	02 55 32.8	-1.2
RLS	Riolos of Patr	1.87 246	P	Pn	02 55 33.9	-0.3
RLS	Riolos of Patr	1.87 246	ePN	Pn	02 55 34.3	+0.1
RLS	Riolos of Patr	1.87 246	P	Pn	02 55 33.9	-0.3
RLS	Riolos of Patr	1.87 246	ePn	Pn	02 55 34.3	+0.1
PDO	Prodromos	1.93 263	ePN	Pn	02 55 35.8	+0.8
PDO	Prodromos	1.93 263	ePn	Pn	02 55 35.8	+0.8
CHOS	Chios island	1.96 103	P	Pn	02 55 35.0	-0.5
CHOS			S	Sn	02 56 00.0	0.0
CHOS	Chios island	1.96 103	ePN	Pn	02 55 33.9	-1.6
CHOS	Chios island	1.96 103	ePN	Pn	02 55 35.2	-0.3
CHOS	Chios island	1.96 103	ePn	Pn	02 55 35.2	-0.3
CHOS			S	Sn	02 56 00.0	0.0
SOH	Sokhos	1.98 354	P	Pn	02 55 35.2	-0.7
SOH	Sokhos	1.98 354	ePN	Pn	02 55 35.2	-0.7
SOH	Sokhos	1.98 354	P	Pn	02 55 35.2	-0.7
DSL	Palaion Diasel	1.99 279	P	Pn	02 55 36.5	+0.5
AMT	Artemida-Makis	2.00 230	P	Pn	02 55 35.9	-0.2
AMT			S	Sn	02 56 01.8	+0.7
AMT	Artemida-Makis	2.00 230	ePN	Pn	02 55 36.9	+0.8
AMT	Artemida-Makis	2.00 230	P	Pn	02 55 35.9	-0.2
AMT	Artemida-Makis	2.00 230	ePn	Pn	02 55 36.9	+0.8
AMT			S	Sn	02 56 01.8	+0.7
KZN	Kozani	2.04 316	P	Pn	02 55 36.1	-0.6
KZN			S	Sn	02 56 02.2	0.0
KZN	Kozani	2.04 316	ePN	Pn	02 55 36.3	-0.4
KZN	Kozani	2.04 316	ePn	Pn	02 55 36.3	-0.4
KZN			S	Sn	02 56 02.2	0.0
MEV	Metsovon	2.08 297	P	Pn	02 55 36.6	-0.7
MEV	Metsovon	2.08 297	P	Pn	02 55 36.6	-0.7
PRK	Paraskevi	2.10 78	P	Pn	02 55 36.2	-1.2
PRK			S	Sn	02 56 04.2	+0.9
PRK	Paraskevi	2.10 78	ePN	Pn	02 55 36.7	-0.7
PRK	Paraskevi	2.10 78	P	Pn	02 55 36.2	-1.2
PRK	Paraskevi	2.10 78	ePn	Pn	02 55 36.7	-0.7
PRK			S	Sn	02 56 04.2	+0.9
ITM	Ithomi	2.14 219	P	Pn	02 55 38.5	+0.5
ITM	Ithomi	2.14 219	ePN	Pn	02 55 38.5	+0.5
ITM	Ithomi	2.14 219	P	Pn	02 55 38.5	+0.5
SMTH	Samothraki Isl	2.19 42	ePB	Pn	02 55 37.0	-1.6
SMTH	Samothraki Isl	2.19 42	ePb	Pn	02 55 37.0	-1.6
VLI	Veliai	2.20 195	P	Pn	02 55 37.9	-0.8
VLI	Veliai	2.20 195	ePN	Pn	02 55 38.1	-0.6
VLI	Veliai	2.20 195	ePn	Pn	02 55 38.1	-0.6
KAVA	Kavala	2.25 17	ePN	Pn	02 55 37.5	-2.0
KAVA	Kavala	2.25 17	ePn	Pn	02 55 37.5	-2.0
JAN	Janina	2.30 291	ePB	Pn	02 55 41.2	+1.0
JAN	Janina	2.30 291	ePb	Pn	02 55 41.2	+1.0
GRG	Griva	2.31 336	P	Pn	02 55 39.3	-1.0
GRG	Griva	2.31 336	P	Pn	02 55 39.3	-1.0
EZN	Ezine	2.31 64	ePN	Pn	02 55 39.1	-1.1
EZN	Ezine	2.31 64	ePn	Pn	02 55 39.1	-1.1
LKD2	Lefkada island	2.32 269	ePB	Pb	02 55 42.7	-1.5
LKD2	Lefkada island	2.32 269	ePb	Pb	02 55 42.7	-1.5
APE	Apeiranthos	2.33 139	P	Pn	02 55 40.1	-0.5
APE	Apeiranthos	2.33 139	ePN	Pn	02 55 38.6	-1.9
APE	Apeiranthos	2.33 139	d iP	Pn	02 55 40.0	-0.5
APE	Apeiranthos	2.33 139	ePN	Pn	02 55 40.2	-0.4
APE	Apeiranthos	2.33 139	⇓iP	Pn	02 55 40.2	-0.4
APE	Apeiranthos	2.33 139	P	Pn	02 55 40.1	-0.5
KNT	Kendrikon	2.38 347	P	Pn	02 55 40.8	-0.5
KNT	Kendrikon	2.38 347	ePB	Pn	02 55 41.1	-0.2
KNT	Kendrikon	2.38 347	P	Pn	02 55 40.8	-0.5
KNT	Kendrikon	2.38 347	ePb	Pn	02 55 41.1	-0.2
PYL	PYLOS	2.46 218	ePB	Pn	02 55 43.0	+0.7
PYL	PYLOS	2.46 218	ePb	Pn	02 55 43.0	+0.7
VLS	Valsamata	2.48 255	ePB	Pn	02 55 43.7	+1.1
VLS	Valsamata	2.48 255	ePb	Pn	02 55 43.7	+1.1
NVR	Nevrokopi	2.50 4	ePN	Pn	02 55 41.9	-1.1
NVR	Nevrokopi	2.50 4	ePn	Pn	02 55 41.9	-1.1
NEST	Nestorio	2.53 309	P	Pn	02 55 43.4	0.0
NEST	Nestorio	2.53 309	ePB	Pn	02 55 44.1	+0.7
NEST	Nestorio	2.53 309	P	Pn	02 55 43.4	0.0
NEST	Nestorio	2.53 309	ePb	Pn	02 55 44.1	+0.7
FNA	Florina	2.60 319	P	Pn	02 55 44.2	-0.1
FNA	Florina	2.60 319	ePN	Pn	02 55 44.3	-0.1
FNA	Florina	2.60 319	P	Pn	02 55 44.2	-0.1
VAY	Valandovo	2.60 342	i Pn	Pn	02 55 43.7	-0.6
VAY			eSg	Sg	02 56 30.8	+4.7
VAY	Valandovo	2.60 342	i Pn	Pn	02 55 43.7	-0.6
KYTH	Kithira	2.61 191	P	Pn	02 55 44.1	-0.3
KYTH	Kithira	2.61 191	ePN	Pn	02 55 44.2	-0.2
KYTH	Kithira	2.61 191	P	Pn	02 55 44.1	-0.3
GELI	Tayfur-Gelibol	2.69 54	ePN	Pn	02 55 44.6	-0.9
GELI	Tayfur-Gelibol	2.69 54	ePn	Pn	02 55 44.6	-0.9
ENEZ	Enez	2.71 45	ePN	Pn	02 55 44.7	-1.1
ENEZ	Enez	2.71 45	ePn	Pn	02 55 44.7	-1.1
BLCB	Balcova	2.71 99	ePN	Pn	02 55 44.6	-1.3
BLCB	Balcova	2.71 99	ePn	Pn	02 55 44.6	-1.3
RDO	Rodhopi	2.72 32	ePN	Pn	02 55 44.6	-1.3
RDO	Rodhopi	2.72 32	ePN	Pn	02 55 44.5	-1.5
RDO	Rodhopi	2.72 32	ePn	Pn	02 55 44.5	-1.5
MMB	Musomiste	2.74 2	⇓iP	Pn	02 55 45.1	-1.1
MMB	Musomiste	2.74 2	⇓iP	Pn	02 55 45.1	-1.1
ALN	Alexandroupoli	2.77 42	ePN	Pn	02 55 45.1	-1.5
ALN	Alexandroupoli	2.77 42	ePN	Pn	02 55 45.2	-1.4
ALN	Alexandroupoli	2.77 42	ePn	Pn	02 55 45.2	-1.4
SMG	Samos	2.77 113	ePN	Pn	02 55 46.5	-0.1
SMG	Samos	2.77 113	ePn	Pn	02 55 46.5	-0.1
THR5	Thira Island,	2.79 150	ePN	Pn	02 55 44.1	-2.7
THR5	Thira Island,	2.79 150	ePn	Pn	02 55 44.1	-2.7
KBN	Korca	2.82 310	i PN	Pb	02 55 50.3	-2.4
LPK	Lapseki	2.86 57	ePN	Pn	02 55 47.2	-0.6
LPK	Lapseki	2.86 57	ePn	Pn	02 55 47.2	-0.6
SANT	Santorini	2.87 149	ePN	Pn	02 55 45.7	-2.3
SANT	Santorini	2.87 149	ePn	Pn	02 55 45.7	-2.3
SANT			eSn	Sb	02 56 26.6	-2.0
SANT	Santorini	2.87 149	ePn	Pb	02 55 52.3	-1.3
SANT			eSn	Sb	02 56 26.6	-2.0
ANKY	Antikythira Is	2.99 185	ePN	Pn	02 55 49.1	-0.5
ANKY	Antikythira Is	2.99 185	ePn	Pn	02 55 49.1	-0.5
SRN	Sarande	2.99 291	i PN	Pb	02 55 52.7	-3.0
KEK	Kerkira	3.09 287	ePB	Pn	02 55 52.8	+1.7
KEK	Kerkira	3.09 287	ePb	Pn	02 55 52.8	+1.7
KDZ	Kurdzhali	3.12 26	⇓iP	Pn	02 55 50.0	-1.4
KDZ	Kurdzhali	3.12 26	⇓iP	Pn	02 55 50.0	-1.4
OHR	Ohrid	3.13 317	i Pn	Pn	02 55 51.4	-0.3
OHR			eSg	Sg	02 56 43.0	-0.3
OHR	Ohrid	3.13 317	i Pn	Pn	02 55 51.4	-0.3
OHR			eSg	Sg	02 56 42.9	-0.3
KRBG	Karabiga-Canak	3.23 60	ePN	Pn	02 55 52.3	-0.6
KRBG	Karabiga-Canak	3.23 60	ePn	Pn	02 55 52.3	-0.6
AKS	Akhisar	3.27 88	ePN	Pn	02 55 52.8	-0.7
AKS	Akhisar	3.27 88	ePn	Pn	02 55 52.8	-0.7
RKY	Sarkoy-Tekirda	3.30 55	ePN	Pn	02 55 53.3	-0.6
RKY	Sarkoy-Tekirda	3.30 55	ePn	Pn	02 55 53.3	-0.6
BALB	Balikesir	3.40 75	ePN	Pn	02 55 54.4	-0.8
BALB	Balikesir	3.40 75	ePn	Pn	02 55 54.4	-0.8
BODT	Bodrum	3.41 120	ePN	Pn	02 55 54.8	-0.7
BODT	Bodrum	3.41 120	ePn	Pn	02 55 54.8	-0.7
VAM	Vamos	3.47 172	ePN	Pn	02 55 55.4	-0.8
VAM	Vamos	3.47 172	ePn	Pn	02 55 55.4	-0.8
AYDB	Zeytinkoy-Aydi	3.47 104	ePN	Pn	02 55 55.7	-0.7
AYDB	Zeytinkoy-Aydi	3.47 104	ePn	Pn	02 55 55.7	-0.7
MRMT	Marmara Adasi	3.53 59	ePN	Pn	02 55 56.3	-0.8
MRMT	Marmara Adasi	3.53 59	ePn	Pn	02 55 56.3	-0.8
SKO	Skopje	3.54 333	ePN	Pn	02 55 54.3	-2.9
SKO	Skopje	3.54 333	ePn	Pn	02 55 55.9	-1.4
SKO			eSg	Sg	02 56 52.5	-3.7
SKO	Skopje	3.54 333	ePn	Pn	02 55 55.8	-1.4
SKO			eSg	Sg	02 56 52.4	-3.7
EDC	Edincik	3.60 64	ePN	Pn	02 55 57.7	-0.3
EDC	Edincik	3.60 64	ePn	Pn	02 55 57.7	-0.3
BNT	Bandirma	3.64 64	ePN	Pn	02 55 57.7	-0.9
BNT	Bandirma	3.64 64	ePn	Pn	02 55 57.7	-0.9
TKR	Tekirdag	3.69 53	ePN	Pn	02 55 58.8	-0.5
TKR	Tekirdag	3.69 53	ePn	Pn	02 55 58.8	-0.5
IDI	Anoyia	3.69 164	Pn	Pn	02 55 59.2	-0.2
	12nm,0.3s,baz=328,slow=5.6,SNR=70					
IDI			LR	LR	02 57 20.5	
	comp=Z,876nm,19.4s,baz=324,slow=38					
VTS	Vitosha	3.75 355	ePN	Pn	02 55 58.6	-1.7
VTS	Vitosha	3.75 355	⇑iP	Pn	02 56 00.5	+0.2
VTS	Vitosha	3.75 355	ePn	Pn	02 55 58.6	-1.7
VTS	Vitosha	3.75 355	⇑iP	Pn	02 56 00.5	+0.2
EDRB	Edirne	3.83 38	ePN	Pn	02 56 00.6	-0.5
EDRB	Edirne	3.83 38	ePn	Pn	02 56 00.6	-0.5
CRLT	Corlu	3.89 53	ePN	Pn	02 56 02.0	-0.1
CRLT	Corlu	3.89 53	ePn	Pn	02 56 02.0	-0.1
NPS	Neapolis	3.92 155	ePN	Pn	02 56 02.4	0.0
NPS	Neapolis	3.92 155	ePn	Pn	02 56 02.4	0.0
KCTX	Karacabey (Bur	3.92 67	ePN	Pn	02 56 02.4	-0.1
KCTX	Karacabey (Bur	3.92 67	ePn	Pn	02 56 02.4	-0.1
SIVA	Sivas	3.94 166	ePB	Pn	02 56 05.3	+2.6
KULA	Kula-Manisa	3.95 93	ePN	Pn	02 56 02.4	-0.6
KULA	Kula-Manisa	3.95 93	ePn	Pn	02 56 02.4	-0.6
LAST	Lasithi	3.97 158	ePN	Pn	02 56 03.8	+0.6
LAST	Lasithi	3.97 158	ePn	Pn	02 56 03.8	+0.6
YER	Yerkesik	4.06 114	ePN	Pn	02 56 03.9	-0.5
YER	Yerkesik	4.06 114	ePn	Pn	02 56 03.9	-0.5
PHSR	Pinarhisar	4.08 46	ePN	Pn	02 56 03.8	-0.8
PHSR	Pinarhisar	4.08 46	ePn	Pn	02 56 03.8	-0.8
BARS	Barje	4.20 341	⇑iPn	Pn	02 56 06.0	-0.2
SLVT	Silivri	4.25 54	ePN	Pn	02 56 06.7	-0.2
SLVT	Silivri	4.25 54	ePn	Pn	02 56 06.7	-0.2
ORLT	Orhaneli	4.25 72	ePN	Pn	02 56 06.7	-0.3
ORLT	Orhaneli	4.25 72	ePn	Pn	02 56 06.7	-0.3
JMB	Yambol	4.26 31	⇓iP	Pn	02 56 06.2	-0.9
JMB	Yambol	4.26 31	⇓iP	Pn	02 56 06.2	-0.9
ZKR	Zakros	4.26 150	ePN	Pn	02 56 08.1	+0.9
ZKR	Zakros	4.26 150	ePn	Pn	02 56 08.1	+0.9
MDNY	Mudanya-Bursa	4.33 68	ePN	Pn	02 56 07.8	-0.3
MDNY	Mudanya-Bursa	4.33 68	ePn	Pn	02 56 07.8	-0.3
KARP	Karpathos	4.34 138	ePN	Pn	02 56 08.0	-0.2
KARP	Karpathos	4.34 138	ePn	Pn	02 56 08.0	-0.2
ARMT	Armutlu	4.39 65	ePN	Pn	02 56 08.7	-0.1
ARMT	Armutlu	4.39 65	ePn	Pn	02 56 08.7	-0.1
ARG	Arkhangelos	4.44 125	ePN	Pn	02 56 08.8	-0.7
ARG	Arkhangelos	4.44 125	ePn	Pn	02 56 08.8	-0.7
CTKS	Kestanelik-??a	4.44 56	ePN	Pn	02 56 09.5	-0.1
CTKS	Kestanelik-??a	4.44 56	ePn	Pn	02 56 09.5	-0.1
DALY	Dalyan (Mu˘la	4.47 115	ePN	Pn	02 56 09.5	-0.4
DALY	Dalyan (Mu˘la	4.47 115	ePn	Pn	02 56 09.5	-0.4
ULC	Ulcinj	4.57 314	ePn	Pn	02 56 11.6	+0.2
ULC			eSn	Sn	02 57 04.5	+0.1
ULC	Ulcinj	4.57 314	ePn	Pn	02 56 11.6	+0.2
ULC			eSn	Sn	02 57 04.5	+0.1
TVSB	Tavsanli	4.58 81	ePN	Pn	02 56 11.8	+0.2
TVSB	Tavsanli	4.58 81	ePn	Pn	02 56 11.8	+0.2
GEMT	Gemlik	4.58 68	ePN	Pn	02 56 11.4	-0.1
GEMT	Gemlik	4.58 68	ePn	Pn	02 56 11.4	-0.1
BGKT	Bogazkoy	4.59 58	ePN	Pn	02 56 12.5	+0.9
BGKT	Bogazkoy	4.59 58	ePn	Pn	02 56 12.5	+0.9
KHL	Karahalli	4.65 95	ePN	Pn	02 56 12.8	+0.3
KHL	Karahalli	4.65 95	ePn	Pn	02 56 12.8	+0.3
PVY	Plav	4.67 324	ePn	Pn	02 56 13.3	+0.5
PVY			eSn	Sn	02 57 06.4	-0.5
PVY	Plav	4.67 324	ePn	Pn	02 56 13.3	+0.5
PVY			eSn	Sn	02 57 06.4	-0.5
ISK	Istanbul-Kandi	4.72 60	ePN	Pn	02 56 13.2	-0.3
ISK	Istanbul-Kandi	4.72 60	ePn	Pn	02 56 13.2	-0.3
DRME	Dracevica, Mon	4.75 316	⇑iPn	Pn	02 56 14.6	+0.7
DRME			eSn	Sn	02 57 08.9	+0.1
DRME	Dracevica, Mon	4.75 316	⇑iPn	Pn	02 56 14.6	+0.7
DRME			eSn	Sn	02 57 08.9	+0.1
PDG	Podgorica	4.88 318	ePn	Pn	02 56 13.7	-2.0
PDG	Podgorica	4.88 318	⇑iPn	Pn	02 56 16.4	+0.7
PDG			eSn	Sn	02 57 11.8	-0.3
TTG	Podgorica	4.88 318	⇑iPn	Pn	02 56 16.4	+0.7
TTG			eSn	Sn	02 57 11.8	-0.3
BEY	Berane	4.92 326	⇑iPn	Pn	02 56 16.9	+0.7
BEY			eSn	Sn	02 57 12.8	-0.2
IVA	Berane	4.92 326	⇑iPn	Pn	02 56 16.9	+0.7
IVA			eSn	Sn	02 57 12.8	-0.2
ADVT	Abdulvahap	4.98 70	ePN	Pn	02 56 16.8	-0.1
ADVT	Abdulvahap	4.98 70	ePn	Pn	02 56 16.8	-0.1
ZIMR		4.98 15	⇓iP	Pn	02 56 16.3	-0.7
BUM	Brajici-Budva	4.99 315	⇓iPn	Pn	02 56 17.1	-0.1
BUM			eSn	Sn	02 57 14.5	-0.2
BUM	Brajici-Budva	4.99 315	⇓iPn	Pn	02 56 17.1	-0.1
BUM			eSn	Sn	02 57 14.5	-0.2
CAVI	Cavuskoy	4.99 72	ePN	Pn	02 56 17.5	+0.3
CAVI	Cavuskoy	4.99 72	ePn	Pn	02 56 17.5	+0.3
HRT	Hereke	5.05 65	ePN	Pn	02 56 18.2	+0.2
HRT	Hereke	5.05 65	ePn	Pn	02 56 18.2	+0.2
ALT	Altintas	5.06 86	ePN	Pn	02 56 18.2	0.0
ALT	Altintas	5.06 86	ePn	Pn	02 56 18.2	0.0
BOLS	Boljevac	5.13 346	⇑iPn	Pn	02 56 17.0	-2.1
PE1	Pezze di Greco	5.16 294	eP	Pn	02 56 20.3	+0.8
SILT	Sile	5.16 62	ePN	Pn	02 56 19.7	+0.2
SILT	Sile	5.16 62	ePn	Pn	02 56 19.7	+0.2
TAR1	Taranto	5.17 291	eP	Pn	02 56 20.3	+0.7
NKME	Niksic	5.28 319	⇑iPn	Pn	02 56 21.9	+0.7
NKME			eSn	Sn	02 57 21.4	-0.6
NKME	Niksic	5.28 319	⇑iPn	Pn	02 56 21.9	+0.7
NKME			eSn	Sn	02 57 21.4	-0.6
NKY	Niksic	5.29 320	⇑iPn	Pn	02 56 21.2	-0.2
NKY			eSn	Sn	02 57 21.2	-1.2
NKY	Niksic	5.29 320	⇑iPn	Pn	02 56 21.2	-0.2
NKY			eSn	Sn	02 57 21.2	-1.2
HCY	Herceg Novi	5.31 314	⇓iPn	Pn	02 56 21.1	-0.4
HCY			eSn	Sn	02 57 22.7	+0.2
HCY	Herceg Novi	5.31 314	⇓iPn	Pn	02 56 21.1	-0.4
HCY			eSn	Sn	02 57 22.7	+0.2
TIP	Timpagrande	5.36 276	ePn	Pn	02 56 23.1	+0.8
TIP			eSn	Sn	02 57 17.6	-6.3
TIP	Timpagrande	5.36 276	ePn	Pn	02 56 23.1	+0.8
TIP			eSn	Sn	02 57 17.6	-6.3
GPA	Golpazari	5.36 72	ePN	Pn	02 56 23

comp=Z,1.8nm,0.3s,baz=261,slow=12,SNR=72
BRTR Sn **Sn** **02 58 21.5 -3.0**
baz=252,slow=18,SNR=1.9
BRTR LR LR 02 59 57.6
comp=Z,449nm,21.4s,baz=262,slow=38
WDD Wield Dalam 7.84 250 *e*Pn **Pn** **02 56 54.7 -1.5**
WDD Wield Dalam 7.84 250 *e*Pn **Pn** **02 56 54.7 -1.5**
CJR Cluj-Napoca 7.86 360⇑*i*P **Pn** **02 56 57.2 +0.6**
CANT Cankiri 7.90 74 *e*PN **Pn** **02 56 57.2 +0.1**
TESR Tescani 7.97 15⇓*i*P **Pn** **02 56 58.6 +0.5**
PKSM Moragy 8.23 335⇑*i*P **Pn** **02 57 02.9 +1.4**
PKSM Moragy 8.23 335⇑*e*Pn **Pn** **02 57 02.5 +1.0**
PKS6 Bocsa 8.30 340⇑*e*Pn **Pn** **02 57 02.6 0.0**
PKS6 Bocsa 8.30 340⇑*e*Pn **Pn** **02 57 02.6 0.0**
LEOM Leova 8.34 23 *e*PN **Pn** **02 57 02.2 -0.9**
AQU L'Aquila 8.53 297 *e*P **Pn** **02 57 07.9 +2.1**
AQU *e* 02 58 44.8
AQU L'Aquila 8.53 297 *e*Pn **Pn** **02 57 07.8 +2.1**
AQU *e*Sn **Sn** **02 58 44.8 +2.9**
AQU L'Aquila 8.53 297 *e*Pn **Pn** **02 57 07.8 +2.1**
AQU *e*Sn **Sn** **02 58 44.8 +2.9**
CORM Corum 8.61 78 *e*PN **Pn** **02 57 07.0 0.0**
PKS9 Tamasi 8.68 335⇑*e*Pn **Pn** **02 57 08.9 +1.2**
PKS9 Tamasi 8.68 335⇑*e*Pn **Pn** **02 57 08.9 +1.2**
CSS Prodhromos 8.69 114 *e*Pn **Pn** **02 57 10.2 +2.3**
CSS Prodhromos 8.69 114 *e*Pn **Pn** **02 57 10.2 +2.3**
NVLJ Novalja 8.69 314 *e*Pn **Pn** **02 57 04.8 -3.0**
NVLJ Sn **Sn** **02 58 41.3 -4.3**
PRAR RASCA 8.72 12⇑*i*P **Pn** **02 57 09.1 +0.8**
BMR Baia Mare 8.82 359⇑*i*P Pn 02 57 16.2 +6.5
BURAR Bucovina Array 8.84 7⇓*i*P **Pn** **02 57 10.5 +0.5**
BUR04 Bucovina Ar. S 8.84 7 *e*Pn **Pn** **02 57 10.1 0.0**
BUR04 Bucovina Ar. S 8.84 7 *e*Pn **Pn** **02 57 10.1 0.0**
BOJS Bojanci 9.10 320 *i* Pn **Pn** **02 57 13.0 -0.6**
TRPA Tarpa 9.31 355⇑*i*P **Pn** **02 57 17.1 +0.7**
TRPA Tarpa 9.31 355⇑*i*P **Pn** **02 57 17.1 +0.7**
PKST T''s 9.35 336⇑*e*Pn **Pn** **02 57 18.5 +1.6**
PKST T''s 9.35 336⇑*e*Pn **Pn** **02 57 18.5 +1.6**
PKSG 9.36 338⇑*e*Pn **Pn** **02 57 18.0 +1.0**
PKSG 9.36 338⇑*e*Pn **Pn** **02 57 18.0 +1.0**
PSZ Piszkesteto 9.46 345 *e*P **Pn** **02 57 19.7 +1.1**
PSZ Piszkesteto 9.46 345⇓*i*P **Pn** **02 57 16.7 -1.9**
PSZ Piszkesteto 9.46 345 *e*P **Pn** **02 57 19.7 +1.1**
PSZ Piszkesteto 9.46 345 *e*Pn **Pn** **02 57 19.7 +1.1**
UZH Uzhgorod 9.83 355 *e*P **Pn** **02 57 22.1 -1.4**
UZH *e*S **Sn** **02 59 12.5 -1.1**
UZH Uzhgorod 9.83 355 *e*P **Pn** **02 57 22.1 -1.4**
UZH *e*S **Sn** **02 59 12.5 -1.1**
TRI Trieste 10.02 316 *e*P Pn 02 57 22.3 -3.7
TRI Trieste 10.02 316 *e*Pn Pn 02 57 22.3 -3.7
TRI Trieste 10.02 316 *e*Pn Pn 02 57 22.3 -3.7
KOLS Kolonicke sedl 10.13 355 *e*P **Pn** **02 57 28.7 +1.1**
KOLS Kolonicke sedl 10.13 355 *e*P **Pn** **02 57 28.7 +1.1**
KOLS Kolonicke sedl 10.13 355 *e*PN **Pn** **02 57 28.7 +1.1**
CRVS Cervenica-Dubn 10.17 352 *e*P **Pn** **02 57 28.5 +0.3**
CRVS Cervenica-Dubn 10.17 352 *e*P **Pn** **02 57 28.5 +0.3**
CRVS Cervenica-Dubn 10.17 352 *e*PN **Pn** **02 57 28.4 +0.3**
ARSA Arzberg 10.27 327⇑*i*Pn **Pn** **02 57 29.5 -0.1**
ARSA Arzberg 10.27 327 Pn **Pn** **02 57 29.5 -0.1**
STHS Stebnicka Huta 10.70 352 *e*P **Pn** **02 57 36.9 +1.4**
STHS Stebnicka Huta 10.70 352 *e*P **Pn** **02 57 36.9 +1.4**
STHS Stebnicka Huta 10.70 352 *e*PN **Pn** **02 57 36.9 +1.4**
KWP Kalwaria Pacla 10.80 357⇓*i*P **Pn** **02 57 36.3 -0.5**
KWP Kalwaria Pacla 10.80 357⇓*i*P **Pn** **02 57 36.3 -0.5**
MMAI Mount Meron Ar 11.18 118 Pn **Pn** **02 57 40.8 -1.3**
comp=Z,1.7nm,0.3s,baz=299,slow=12,SNR=10
ABTA Abfaltersbach 11.35 318⇓*i*Pn **Pn** **02 57 43.1 -1.3**
ABTA Abfaltersbach 11.35 318 Pn **Pn** **02 57 43.1 -1.3**
VRAC Vranov 11.61 337 LR LR 03 03 16.0
comp=Z,738nm,18.0s,baz=170,slow=43
PGF Pioggiola 11.70 293 *e*P **Pn** **02 57 50.3 +1.0**
PGF Pioggiola 11.70 293 *e*P **Pn** **02 57 50.3 +1.0**
PGF Pioggiola 11.70 293 *e*P **Pn** **02 57 50.3 +1.0**
PGF Pioggiola 11.70 293 *e*Pn **Pn** **02 57 50.3 +1.0**
KEST Kesra 11.79 259 Pn **Pn** **02 57 51.4 +0.9**
comp=Z,0.1nm,0.3s,baz=232,slow=4.5,SNR=7.9
KEST Sn **Sn** **03 00 00.3 -1.7**
comp=Z,0.0nm,0.3s,baz=218,slow=19,SNR=1.7
KEST LR LR 03 03 18.6
comp=Z,156nm,18.5s,baz=22,slow=42
KEST Kesra 11.79 259 *e*Pn **Pn** **02 57 52.2 +1.7**
KEST Kesra 11.79 259 *e*Pn **Pn** **02 57 52.2 +1.7**
WTTA Wattenberg 12.14 318⇓*i*Pn **Pn** **02 57 54.7 -0.6**
WTTA Wattenberg 12.14 318 Pn **Pn** **02 57 54.7 -0.6**
GEC2 GERESS Array S 12.28 328 *e*P **Pn** **02 57 58.7 +1.5**
GEC2 GERESS Array S 12.28 328 *e*P **Pn** **02 57 58.7 +1.5**
GEC2 GERESS Array S 12.28 328 *e*Pn **Pn** **02 57 58.6 +1.5**
GERES GERESS Array B 12.28 328 Pn **Pn** **02 57 56.4 -0.8**
comp=Z,0.2nm,0.3s,baz=180,slow=13,SNR=3.7
GERES LR LR 03 02 48.9
comp=Z,137nm,18.4s,baz=158,slow=38
FETA Feichten 12.48 315⇑*i*Pn **Pn** **02 58 00.2 +0.3**
FETA ⇓*i*Sn **Sn** **03 00 16.3 -2.6**
FETA Feichten 12.48 315 Pn **Pn** **02 58 00.2 +0.3**
FETA Sn **Sn** **03 00 16.3 -2.6**
KIEV Kiev 12.48 17⇓*e*P **Pn** **02 58 00.6 +0.8**
KIEV Kiev 12.48 17 *e*P **Pn** **02 58 00.6 +0.8**
AKASG Malin Array Be 12.49 17 P **Pn** **02 57 59.3 -0.6**
AKASG 03 00 15.6
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG smax smax
comp=N,1.0nm,0.3s
AKASG Malin Array Be 12.49 17 Pn **Pn** **02 57 59.3 -0.6**
comp=N,0.9nm,0.3s,baz=203,slow=13,SNR=3.9
AKASG Sn **Sn** **03 00 15.6 -3.4**
comp=N,0.7nm,0.3s,baz=198,slow=22,SNR=2.5
AKBB Malin Array Si 12.49 17 *e*P **Pn** **02 57 59.3 -0.6**
AKBB *e* 03 00 15.6
AKBB Malin Array Si 12.49 17 *e*Pn **Pn** **02 57 59.3 -0.6**
AKBB Malin Array Si 12.49 17 *e*Pn **Pn** **02 57 59.3 -0.6**
AKBB *e*Sn **Sn** **03 00 15.6 -3.4**
KHC Kasperske Hory 12.56 328 *e*P **Pn** **02 58 00.4 -0.5**
KHC MLR MLR
comp=Z,1μm,11.3s
KHC Kasperske Hory 12.56 328 *e*P **Pn** **02 58 00.4 -0.5**
KHC *e*x x 02 58 16.7
KHC AMS AMS 03 03 30.0
comp=Z,1μm,11.3s
KHC Kasperske Hory 12.56 328 *e*Pn **Pn** **02 58 00.6 -0.3**
KHC Kasperske Hory 12.56 328 *e*Pn **Pn** **02 58 00.6 -0.3**
DPC Dobruska-Polom 12.61 338 *e*P **Pn** **02 58 01.1 -0.5**
DPC Dobruska-Polom 12.61 338 *e*P **Pn** **02 58 01.1 -0.5**
DPC *e*x x 02 58 14.8
DPC *e*x x 02 58 19.2
DPC AMS AMS 03 03 50.0
DPC Dobruska-Polom 12.61 338 P **Pn** **02 58 01.1 -0.5**
ASF Jabal al Asfar 12.69 118 Pn **Pn** **02 58 05.0 +2.2**
comp=Z,0.2nm,0.3s,baz=120,slow=8.1,SNR=3.2
DAVOX Davos/Dischmat 12.82 313 Pn **Pn** **02 58 04.0 -0.6**
baz=207,slow=6.8
DAVOX Sn **Sn** **03 00 28.0 +0.7**
comp=Z,0.2nm,0.3s,baz=229,slow=8.1,SNR=3.1
DAVOX LR LR 03 03 42.1
comp=Z,816nm,20.3s,baz=122,slow=41
PRU Pruhonice 12.88 333 *e*P **Pn** **02 58 04.6 -0.6**
PRU MLR MLR
comp=Z,2μm,7.3s
PRU Pruhonice 12.88 333 *e*P **Pn** **02 58 04.6 -0.6**
PRU *e*x x 02 58 17.4
PRU AMS AMS 03 04 30.0
comp=Z,2μm,7.3s
PRU Pruhonice 12.88 333 P **Pn** **02 58 04.6 -0.6**
EIL Elat 13.09 131 Pn **Pn** **02 58 06.6 -1.5**
comp=Z,0.4nm,0.3s,baz=354,slow=6.5,SNR=9.1
EIL LR LR 03 05 49.3
comp=Z,208nm,19.6s,baz=323,slow=49
DAVA Damuels 13.11 314⇑*i*Pn **Pn** **02 58 07.9 -0.5**
DAVA Damuels 13.11 314 Pn **Pn** **02 58 07.9 -0.5**
SBF Sospel 13.15 298 *e*P **Pn** **02 58 07.1 -1.9**
SBF Sospel 13.15 298 *e*P **Pn** **02 58 07.1 -1.9**
SBF Sospel 13.15 298 *e*P **Pn** **02 58 07.1 -1.9**
SBF Sospel 13.15 298 *e*Pn **Pn** **02 58 07.1 -1.9**
BRG Berggiesshubel 13.83 334 *e*(P) **Pn** **02 58 17.6 -0.6**
comp=Z,1.7nm,0.8s
BRG Berggiesshubel 13.83 334 *e*P **Pn** **02 58 17.6 -0.6**
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 13.83 334 *e*P **Pn** **02 58 17.6 -0.6**
comp=Z,2.0nm,0.8s
MBDF Montbardon 13.87 300 *e*P **Pn** **02 58 19.9 +1.0**
comp=Z,40nm,1.1s
MBDF Montbardon 13.87 300 *e*P **Pn** **02 58 19.9 +1.0**
MBDF Montbardon 13.87 300 *e*P **Pn** **02 58 19.9 +1.0**
comp=Z,20nm,1.1s
MBDF Montbardon 13.87 300 *e*Pn **Pn** **02 58 19.9 +1.0**
LPG La Plagne 14.16 303 *e*P **Pn** **02 58 24.1 +1.2**
comp=Z,20nm,0.7s
LPG La Plagne 14.16 303 *e*P **Pn** **02 58 24.1 +1.2**
LPG La Plagne 14.16 303 *e*P **Pn** **02 58 24.1 +1.2**
comp=Z,10nm,0.7s
LPG La Plagne 14.16 303 *e*Pn **Pn** **02 58 24.1 +1.2**
SENIN Lac Senin/Sane 14.16 307 *e*Pn **Pn** **02 58 22.5 -0.5**
SENIN Lac Senin/Sane 14.16 307 *e*Pn **Pn** **02 58 22.5 -0.5**
LPL La Plagne 14.18 303 *e*P **Pn** **02 58 24.0 +0.8**
LPL La Plagne 14.18 303 *e*P **Pn** **02 58 24.0 +0.8**
LPL La Plagne 14.18 303 *e*P **Pn** **02 58 24.0 +0.8**
LPL La Plagne 14.18 303 *e*Pn **Pn** **02 58 24.0 +0.8**
CLL Collm 14.52 333 *e*P **Pn** **02 58 29.0 +1.4**
CLL Collm 14.52 333 *e*P **Pn** **02 58 29.0 +1.4**
CLL *e*pP **P** **02 58 35.0 +0.7**
CLL *e*PP **PnPn** **02 58 38.0 +2.5**
CLL Lm MLR 03 04 00.0
comp=Z,400nm,18.0s
CABF La Chapelle 15.02 307 *e*P **Pn** **02 58 35.3 +0.7**
comp=Z,20nm,0.8s
CABF La Chapelle 15.02 307 *e*P **Pn** **02 58 35.3 +0.7**
CABF La Chapelle 15.02 307 *e*Pn **Pn** **02 58 35.3 +0.7**
CABF La Chapelle 15.02 307 *e*Pn **Pn** **02 58 35.3 +0.7**
HINF Hinteralfeld 15.12 312 *e*P **Pn** **02 58 35.9 +0.1**
HINF Hinteralfeld 15.12 312 *e*P **Pn** **02 58 35.9 +0.1**
HINF Hinteralfeld 15.12 312 *e*Pn **Pn** **02 58 35.9 +0.1**
HINF Hinteralfeld 15.12 312 *e*Pn **Pn** **02 58 35.9 +0.1**
SUW Suwalki 15.17 359 *e*P **Pn** **02 58 36.5 +0.1**
SUW pmax pmax
comp=Z,33nm,0.8s
SUW Suwalki 15.17 359 *e*Pn **Pn** **02 58 36.5 +0.1**
comp=Z,33nm,0.8s
SUW Suwalki 15.17 359 *e*Pn **Pn** **02 58 36.5 +0.1**
comp=Z,33nm,0.8s
KIV Kislovodsk 15.18 64 *e*P **Pn** **02 58 35.6 -1.0**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,149nm,12.0s
KIV Kislovodsk 15.18 64 *e*Pn **P** **02 58 40.0 -1.7**
comp=Z,40nm,1.5s
KIV Kislovodsk 15.18 64 *e*Pn **P** **02 58 40.0 -1.7**
comp=Z,40nm,1.5s
CDF Champ du Feu 15.19 314 *e*P **Pn** **02 58 34.6 -2.1**
CDF Champ du Feu 15.19 314 *e*P **Pn** **02 58 34.6 -2.1**
CDF Champ du Feu 15.19 314 *e*Pn **Pn** **02 58 34.6 -2.1**
CDF Champ du Feu 15.19 314 *e*Pn **Pn** **02 58 34.6 -2.1**
KBZ Khabaz 15.28 65 Pn **P** **02 58 42.6 -0.1**
comp=Z,0.1nm,0.3s,baz=218,slow=13,SNR=7.4
HAU Haudompre 15.51 312 *e*P **Pn** **02 58 40.6 -0.3**
comp=Z,15nm,0.8s
HAU *e*R
comp=Z,544nm,21.0s
HAU Haudompre 15.51 312 *e*P **Pn** **02 58 40.6 -0.3**
HAU Haudompre 15.51 312 *e*Pn **Pn** **02 58 40.6 -0.3**
HAU Haudompre 15.51 312 *e*Pn **Pn** **02 58 40.6 -0.3**
ZEI Tsey 15.84 69 *e*P **P** **02 58 49.5 +0.3**
ZEI pmax pmax
comp=Z,31nm,1.9s
ZEI Tsey 15.84 69 *e*P **P** **02 58 49.5 +0.3**
comp=Z,31nm,1.9s
PAGF Fort de Pagny 16.14 313 *e*P **Pn** **02 58 49.1 +0.1**
comp=Z,3.0nm,0.8s
PAGF Fort de Pagny 16.14 313 *e*Pn **Pn** **02 58 49.1 +0.1**
PAGF Fort de Pagny 16.14 313 *e*Pn **Pn** **02 58 49.1 +0.1**
GNI Garni 16.35 79 LR LR 03 05 48.1
comp=Z,336nm,19.2s,baz=278,slow=39
VORD Divnogorie 16.39 37 *e*P **P** **02 58 54.1 -0.8**
VORD pmax pmax
comp=Z,9.0nm,1.0s
VORD pmax pmax
comp=N,50nm,0.8s
VORD pmax pmax
comp=E,80nm,0.8s
VORD Divnogorie 16.39 37 *e*P **P** **02 58 54.1 -0.8**
comp=E,9.0nm,1.0s
SMF Signal de Mont 16.46 305 *e*P **Pn** **02 58 53.8 +0.6**
comp=E,24nm,1.0s
SMF Signal de Mont 16.46 305 *e*P **Pn** **02 58 53.8 +0.6**
SMF Signal de Mont 16.46 305 *e*P **Pn** **02 58 53.8 +0.6**
comp=E,12nm,1.0s
SMF Signal de Mont 16.46 305 *e*Pn **Pn** **02 58 53.8 +0.6**
VSR Storozhevoye 16.50 36 *e*P **Pn** **02 58 52.0 -1.5**
VSR pmax pmax
comp=Z,4.0nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,8.0nm,0.9s
LOR Lormes 16.69 307 *e*P **Pn** **02 58 56.1 +0.1**
comp=E,25nm,1.2s
LOR *e*R
comp=E,578nm,21.5s
LOR Lormes 16.69 307 *e*P **Pn** **02 58 56.1 +0.1**
LOR Lormes 16.69 307 *e*P **Pn** **02 58 56.1 +0.1**
comp=E,13nm,1.2s
LOR Lormes 16.69 307 *e*Pn **Pn** **02 58 56.1 +0.1**
SSF Saint Saulge 16.83 306 *e*P **P** **02 58 59.1 -0.8**
SSF Saint Saulge 16.83 306 *e*P **P** **02 58 59.1 -0.8**
SSF Saint Saulge 16.83 306 *e*P **P** **02 58 59.1 -0.8**
SSF Saint Saulge 16.83 306 *e*Pn **P** **02 58 59.1 -0.8**
BGF Bois d'Agland 17.07 304 *e*P **Pn** **02 59 01.5 +0.6**
comp=E,35nm,1.0s
BGF Bois d'Agland 17.07 304 *e*P **Pn** **02 59 01.5 +0.6**
BGF Bois d'Agland 17.07 304 *e*P **Pn** **02 59 01.5 +0.6**
comp=E,17nm,1.0s
BGF Bois d'Agland 17.07 304 *e*Pn **Pn** **02 59 01.5 +0.6**
VRHR Novokhopersk 17.61 40 *e*P **P** **02 59 08.6 +0.2**
VRHR pmax pmax
comp=Z,8.0nm,0.8s
VRHR pmax pmax
comp=N,20nm,1.2s
VRHR pmax pmax
comp=E,9.0nm,0.8s
VRHR Novokhopersk 17.61 40 *e*P **P** **02 59 08.6 +0.2**
comp=E,20nm,1.2s
OBN Obninsk 18.46 24⇑*e*P **P** **02 59 17.7 -0.1**
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,309nm,15.0s
OBN Obninsk 18.46 24 LR LR 03 06 16.4
comp=Z,342nm,20.1s,baz=229,slow=36
OBN Obninsk 18.46 24 *e*P **P** **02 59 17.7 -0.1**
comp=Z,309nm,15.0s
ETSF Etsaut 18.71 290 *e*P **P** **02 59 21.1 +0.3**
ETSF Etsaut 18.71 290 *e*P **P** **02 59 21.1 +0.3**
ETSF Etsaut 18.71 290 *e*P **P** **02 59 21.1 +0.3**
ETSF Etsaut 18.71 290 *e*P **P** **02 59 21.1 +0.3**
LDF La Druitiere 19.66 307 *e*P **Pn** **02 59 32.7 +0.2**
LDF La Druitiere 19.66 307 *e*P **Pn** **02 59 32.7 +0.2**
LDF La Druitiere 19.66 307 *e*P **Pn** **02 59 32.7 +0.2**
LDF La Druitiere 19.66 307 *e*P **Pn** **02 59 32.7 +0.2**
VSU Vasula 19.73 5⇑*e*P **P** **02 59 30.6 -1.1**
VSU pmax pmax
comp=Z,160nm,2.5s
VSU Vasula 19.73 5 *e*P **P** **02 59 30.6 -1.1**
comp=Z,160nm,2.5s
FLN La Foliniere 19.95 308 *e*P **P** **02 59 34.3 +0.1**
FLN *e*R
comp=Z,388nm,21.5s
FLN La Foliniere 19.95 308 *e*P **P** **02 59 34.3 +0.1**
FLN La Foliniere 19.95 308 *e*P **P** **02 59 34.3 +0.1**
FLN La Foliniere 19.95 308 *e*P **P** **02 59 34.3 +0.1**
GRR Gorron 20.05 306 *e*P **P** **02 59 35.2 -0.1**
comp=Z,36nm,1.0s
GRR Gorron 20.05 306 *e*P **P** **02 59 35.2 -0.1**
GRR Gorron 20.05 306 *e*P **P** **02 59 35.2 -0.1**
comp=Z,18nm,1.0s
GRR Gorron 20.05 306 *e*P **P** **02 59 35.2 -0.1**
SGMF Saint Gilles 21.09 305 *e*P **P** **02 59 47.2 +0.7**
SGMF Saint Gilles 21.09 305 *e*P **P** **02 59 47.2 +0.7**
SGMF Saint Gilles 21.09 305 *e*P **P** **02 59 47.2 +0.7**
SGMF Saint Gilles 21.09 305 *e*P **P** **02 59 47.2 +0.7**
ESDC Sonseca Array 21.35 281 P **P** **02 59 49.6 +0.1**
comp=Z,6.5nm,0.8s,baz=74,slow=11,SNR=21
ESDC LR LR 03 07 52.9
comp=Z,91nm,19.3s,baz=5.0,slow=36
QUIF Quistinic 21.39 304 *e*P **P** **02 59 49.9 +0.1**
comp=Z,39nm,0.7s
QUIF Quistinic 21.39 304 *e*P **P** **02 59 49.9 +0.1**
QUIF Quistinic 21.39 304 *e*P **P** **02 59 49.9 +0.1**
comp=Z,20nm,0.7s
QUIF Quistinic 21.39 304 *e*P **P** **02 59 49.9 +0.1**
ROSF Rostrenen 21.57 305 *e*P **P** **02 59 51.2 -0.5**
comp=Z,73nm,1.2s
ROSF Rostrenen 21.57 305 *e*P **P** **02 59 51.2 -0.5**
ROSF Rostrenen 21.57 305 *e*P **P** **02 59 51.2 -0.5**
comp=Z,36nm,1.2s
ROSF Rostrenen 21.57 305 *e*P **P** **02 59 51.2 -0.5**
HFS Hagfors 22.21 347 P **P** **02 59 58.4 -0.1**
HFS pmax pmax
comp=Z,4.0nm,0.5s
HFS MLR MLR
comp=Z,384nm,20.6s
HFS Hagfors 22.21 347 P **P** **02 59 58.4 -0.1**
comp=Z,3.9nm,0.5s,baz=152,slow=9.9,SNR=14
HFS LR LR 03 09 07.8
comp=Z,384nm,20.6s,baz=172,slow=38
FIA0 FINESS Array S 22.67 3 *e*P **P** **03 00 02.2 -1.1**
FIA0 FINESS Array S 22.67 3 *e*P **P** **03 00 02.2 -1.1**
FIA0 FINESS Array S 22.67 3 *e*P **P** **03 00 02.2 -1.1**
FINES FINESS Array B 22.67 3 P **P** **03 00 02.2 -1.1**
comp=Z,1.0nm,0.4s,baz=171,slow=13,SNR=15
FINES LR LR 03 10 05.9
comp=Z,460nm,20.4s,baz=184,slow=40
NB2 NORSAR Subarra 23.52 345 P **P** **03 00 11.9 -0.3**
comp=Z,5.8nm,0.8s,baz=153,slow=10
NB2 NORSAR Subarra 23.52 345 P **P** **03 00 11.9 -0.3**
comp=Z,5.8nm,0.8s,SNR=8.5
NB200 NORSAR Array S 23.52 345 *e*P **P** **03 00 11.2 -1.0**
NB200 NORSAR Array S 23.52 345 *e*P **P** **03 00 11.2 -1.0**
NB200 *e*ScS ScS 03 11 17.6 -3.6
NOA NORSAR Array B 23.52 345 P **P** **03 00 11.2 -1.0**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,243nm,18.7s
NOA NORSAR Array B 23.52 345 P **P** **03 00 11.2 -1.0**
comp=Z,2.1nm,0.7s,baz=157,slow=10,SNR=12
NOA LR LR 03 11 17.6
comp=Z,242nm,18.7s,baz=150,slow=42
NBO02 NORSAR Array S 23.61 344 *e*P **P** **03 00 12.1 -0.8**
NBO02 NORSAR Array S 23.61 344 *e*P **P** **03 00 12.1 -0.8**
RAYN Ar Rayn 24.07 123 *e*P **P** **03 00 18.1 +0.4**
comp=Z,6.8nm,0.9s
RAYN Ar Rayn 24.07 123 *e*P **P** **03 00 18.1 +0.4**
comp=Z,6.8nm,0.9s
KLMR Klimovskoe 24.16 19 *e*P **P** **03 00 20.0 +1.8**
KLMR pmax pmax
comp=Z,49nm,1.8s
KLMR Klimovskoe 24.16 19 *e*P **P** **03 00 20.0 +1.8**
comp=Z,49nm,1.8s
EKA Eskdalemuir Ar 24.36 321 P **P** **03 00 19.7 -0.3**
EKA pmax pmax
comp=Z,5.0nm,0.6s
EKA Eskdalemuir Ar 24.36 321 P **P** **03 00 19.7 -0.3**
comp=Z,5.2nm,0.6s,baz=118,slow=9.4,SNR=23
ESK Eskdalemuir 24.37 321 *e*P **P** **03 00 19.3 -0.9**
ESK pmax pmax
comp=Z,61nm,0.9s
ESK Eskdalemuir 24.37 321 *e*P **P** **03 00 19.3 -0.9**
comp=Z,61nm,0.9s
ESK Eskdalemuir 24.37 321 *e*P **P** **03 00 19.3 -0.9**
comp=Z,61nm,0.9s
AKTK Aktyubinsk 26.83 53 P **P** **03 00 42.7 +0.2**
comp=Z,4.0nm,0.9s
AKTO Aktyubinsk 26.83 53 P **P** **03 00 42.7 +0.2**
AKTO pmax pmax
comp=Z,4.0nm,0.9s
AKTO Aktyubinsk 26.83 53 P **P** **03 00 42.7 +0.2**
comp=Z,3.7nm,0.9s,baz=259,slow=9.0,SNR=15
GEYT Alibeck 26.96 81 P **P** **03 00 45.2 +1.4**
comp=Z,3.8nm,0.9s,baz=287,slow=15,SNR=5.3
GEYT LR LR 03 12 28.7
comp=Z,142nm,19.1s,baz=350,slow=39
ABKAR Akbulak array 27.85 56 *e*P **P** **03 00 52.2 +0.6**
ABKAR Akbulak array 27.85 56 *e*P **P** **03 00 52.2 +0.6**
ARU Arti 28.95 41 *c i*P **P** **03 01 02.3 +1.0**
ARU 03 01 49.4
ARU S **S** **03 05 54.7 +3.1**
ARU pmax pmax
comp=Z,30nm,2.5s
ARU Arti 28.95 41 *e*P **P** **03 01 00.9 -0.4**
comp=Z,11nm,1.0s
ARU Arti 28.95 41 *e*P **P** **03 01 00.8 -0.4**
comp=Z,11nm,1.0s
SVE Sverdlovsk 30.16 41 *e*P **P** **03 01 13.3 +1.2**
SVE pmax pmax
comp=Z,19nm,1.1s
SVE Sverdlovsk 30.16 41 *e*P **P** **03 01 13.3 +1.2**
comp=Z,19nm,1.1s
ARCES ARCESS Array B 30.77 1 LR LR 03 14 29.6
comp=Z,532nm,19.3s,baz=198,slow=38
TOA0 Torodi Ar. Sit 32.13 223 *e*P **P** **03 01 28.9 -0.9**
TOA0 Torodi Ar. Sit 32.13 223 *e*P **P** **03 01 28.9 -0.9**
TORD Torodi Ar. Bea 32.13 223 P **P** **03 01 29.3 -0.6**
comp=Z,5.0nm,0.6s,baz=35,slow=9.0,SNR=100
BRVK Borovoye 34.76 50⇑*e*P **P** **03 01 53.6 +1.2**
BRVK pmax pmax
comp=Z,22nm,2.5s
BRVK Borovoye 34.76 50 *e*P **P** **03 01 53.3 +0.9**
comp=Z,12nm,1.2s
BRVK Borovoye 34.76 50 *e*P **P** **03 01 53.3 +0.9**
comp=Z,12nm,1.2s
BVAR Borovoye Array 34.82 50 P **P** **03 01 54.2 +1.3**
BVAR pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 34.82 50 P **P** **03 01 54.2 +1.3**
comp=Z,3.4nm,0.8s,baz=270,slow=5.9,SNR=12
VOSK Vostochnaya 35.15 51 *e*P **P** **03 01 56.3 +0.5**
VOSK pmax pmax
comp=Z,4.0nm,0.8s
VOSK Vostochnaya 35.15 51 *e*P **P** **03 01 56.3 +0.5**
comp=Z,4.4nm,0.8s
VOSK Vostochnaya 35.15 51 *e*P **P** **03 01 56.3 +0.5**
comp=Z,4.4nm,0.8s
EKS2 Erkin-Say 37.73 68 *e*P **P** **03 02 19.7 +1.6**
EKS2 pmax pmax
comp=Z,57nm,3.0s
EKS2 Erkin-Say 37.73 68 *e*P **P** **03 02 19.7 +1.6**
comp=Z,57nm,3.0s
EKS2 Erkin-Say 37.73 68 *e*P **P** **03 02 19.7 +1.6**
comp=Z,57nm,3.0s
AAK Ala-Archa 38.26 68⇑*e*P **P** **03 02 23.8 +1.2**
AAK pmax pmax
comp=Z,20nm,2.5s
AAK Ala-Archa 38.26 68 LR LR 03 20 34.8
comp=Z,436nm,18.6s,baz=160,slow=40
AAK Ala-Archa 38.26 68 *e*P **P** **03 02 23.8 +1.2**
comp=Z,20nm,2.5s
KURBB Kurchatov Arra 39.87 54 P **P** **03 02 36.0 +0.3**
comp=Z,3.4nm,0.8s,baz=278,slow=8.7,SNR=24
KURK Kurchatov 39.91 54 P **P** **03 02 36.0 -0.1**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 39.91 54 *e*P **P** **03 02 36.5 +0.4**
comp=Z,15nm,2.0s
KURK Kurchatov 39.91 54 *e*P **P** **03 02 36.5 +0.4**
comp=Z,15nm,2.0s
KSH Kashi 40.10 72 *e*P **P** **03 02 36.1 -1.9**
KSH sP sP 03 02 50.2 +6.8
KSH PP **PnPn** **03 04 13.0 -0.6**
KSH S **ScP** **03 08 36.6 +5.4**
KSH sS sS 03 08 52.9 +2.5
KSH PMZ
comp=Z,2.0nm,0.3s
KSH PMZ
comp=Z,74nm,4.8s
KSH LN
comp=Z,75nm,6.2s
KSH LE
comp=Z,100nm,5.3s
KSH LZ
comp=Z,280nm,5.9s
DBIC Dimbokro 41.08 226 *e*P **P** **03 02 45.1 -0.9**
DBIC pmax pmax
comp=Z,80nm,1.8s
DBIC Dimbokro 41.08 226 P **P** **03 02 45.3 -0.8**
comp=Z,2.1nm,0.3s,baz=22,slow=9.6,SNR=10
DBIC Dimbokro 41.08 226 *e*P **P** **03 02 45.1 -0.9**
comp=Z,80nm,1.8s
DBIC Dimbokro 41.08 226 *e*P **P** **03 02 45.1 -0.9**
comp=Z,80nm,1.8s
TIC Tounodi 41.19 226 *e*P **P** **03 02 46.2 -0.8**
comp=Z,7.4nm,0.5s
KIC Kosan Boka 41.27 226 *e*P **P** **03 02 46.7 -0.9**

comp=Z,118nm,1.7s
LIC Lamto 41.54 226 *e*P **P 03 02 49.2 -0.6**
comp=Z,96nm,1.6s
NVS Novosibirsk 42.43 48 *e*P **P 03 02 55.4 -1.3**
NVS Novosibirsk 42.43 48 *e*P **P 03 02 55.4 -1.3**
BBTS Babate 42.72 247 LR LR 03 23 17.8
comp=Z,279nm,18.0s,slow=40
MK32 Makanchi Array 42.87 60 *e*P **P 03 03 00.8 +0.3**
MK32 Makanchi Array 42.87 60 *e*P **P 03 03 00.8 +0.3**
MKAR Makanchi Array 42.87 60 *ce*P **P 03 03 01.5 +1.0**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 42.87 60 P **P 03 03 00.8 +0.3**
comp=Z,2.3nm,0.5s,baz=272,slow=7.5,SNR=42
MKAR LR LR 03 23 33.7
comp=Z,151nm,19.8s,baz=288,slow=40
MKAR Makanchi Array 42.87 60 *e*P **P 03 03 00.4 -0.1**
MKAR Makanchi Array 42.87 60 *e*P **P 03 03 00.4 -0.1**
MK01 Makanchi Array 42.88 60 *e*P **P 03 03 00.9 +0.4**
MK01 Makanchi Array 42.88 60 *e*P **P 03 03 00.9 +0.4**
ZAA1 Zalesovo Array 43.42 49 *e*P **P 03 03 04.8 0.0**
ZAA1 Zalesovo Array 43.42 49 *e*P **P 03 03 04.8 0.0**
ZAA0 Zalesovo Array 43.42 49 *e*P **P 03 03 04.8 0.0**
ZAA0 Zalesovo Array 43.42 49 *e*P **P 03 03 04.8 0.0**
ZALV Zalesovo Beam 43.42 49 P **P 03 03 04.8 0.0**
ZALV pmax pmax
comp=Z,7.0nm,0.8s
ZALV MLR MLR
comp=Z,108nm,18.4s
ZALV Zalesovo Beam 43.42 49 P **P 03 03 04.8 0.0**
comp=Z,7.0nm,0.8s,baz=271,slow=8.9,SNR=22
ZALV LR LR 03 21 47.0
comp=Z,108nm,18.4s,baz=250,slow=37
WMQ Urumqi 47.30 62 *e*P **P 03 03 37.0 +1.2**
WMQ pP pP 03 03 47.0 +7.3
WMQ PP **PP 03 05 27.6 +0.9**
WMQ S **S 03 10 27.9 -1.0**
WMQ sS sS 03 10 44.0 +8.6
WMQ PMZ
comp=Z,8.0nm,1.0s
WMQ PMZ
comp=Z,390nm,6.0s
HVS Khovu-Aksy 49.25 51⇑ *e*P **P 03 03 51.4 +0.7**
HVS Khovu-Aksy 49.25 51 *e*P **P 03 03 51.4 +0.7**
DANN Dangsing 50.37 83 *e*P **P 03 03 59.6 -0.2**
comp=Z,13nm,0.6s
KOLN Koldanda 50.52 84 *e*P **P 03 04 00.7 -0.2**
comp=Z,7.7nm,0.6s
GUN Gumba 52.22 82 *e*P **P 03 04 13.3 -0.5**
comp=Z,19nm,1.1s
JIRN Jiri 52.58 82 *e*P **P 03 04 15.8 -0.7**
comp=Z,10nm,0.7s
RAMN Ramite 53.25 83 *e*P **P 03 04 20.8 -0.5**
comp=Z,18nm,0.8s
ZAK Zakamensk 55.27 50 *e*P P 03 04 38.9 +3.4
ZAK pmax pmax
comp=Z,2.0nm,1.0s
GTA Gaotai 57.35 63 *e*P **P 03 04 50.9 +0.3**
GTA pP pP 03 05 00.5 +5.9
GTA sP sP 03 05 04.5 +8.4
GTA PMZ
comp=Z,3.0nm,1.6s
SONA0 Songino Array 58.14 52 *e*P **P 03 04 56.1 +0.1**
SONA0 Songino Array 58.14 52 *e*P **P 03 04 56.1 +0.1**
SONA1 Songino Array 58.14 52 *e*P **P 03 04 56.5 +0.5**
SONA1 Songino Array 58.14 52 *e*P **P 03 04 56.5 +0.5**
SONM Songino Array 58.14 52 P **P 03 04 56.1 +0.1**
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM MLR MLR
comp=Z,113nm,19.2s
SONM Songino Array 58.14 52 P **P 03 04 56.1 +0.1**
comp=Z,2.4nm,0.9s,baz=286,slow=7.6,SNR=13
SONM LR LR 03 34 22.1
comp=Z,113nm,19.2s,baz=332,slow=41
TIXI Tiksi 58.16 21⇑ *e*P **P 03 04 55.4 -0.1**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
TIXI Tiksi 58.16 21 *e*P **P 03 04 55.4 -0.1**
comp=Z,9.0nm,2.5s
BOD Bodaibo 58.33 39 *e*P P 03 04 46.3 -11
BOD *e* 03 04 58.4
BOD pmax pmax
comp=Z,3.0nm,1.1s
ULN Ulaanbaatar 58.53 52⇑ *e*P **P 03 04 59.3 +0.6**
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 58.53 52 *e*P **P 03 04 59.4 +0.6**
comp=Z,4.2nm,0.9s
ULN Ulaanbaatar 58.53 52 *e*P **P 03 04 59.4 +0.6**
comp=Z,4.2nm,0.9s
SCHQ Schefferville 59.61 318 P **P 03 05 05.0 -0.9**
comp=Z,3.4nm,0.6s,baz=83,slow=3.8,SNR=9.7
SCHQ Schefferville 59.61 318 *e*P **P 03 05 05.4 -0.5**
comp=Z,99nm,2.1s
SCHQ Schefferville 59.61 318 *e*P **P 03 05 05.4 -0.5**
comp=Z,99nm,2.1s
RES Resolute Bay 59.79 344 LR LR 03 31 13.4
comp=Z,119nm,19.2s,baz=60,slow=36
LZH Lanzhou 61.72 65 *e*P **P 03 05 23.5 +2.7**
LZH pP pP 03 05 32.7 +7.9
LZH PMZ
comp=Z,25nm,1.8s
HHC Hu-ho-hao-te 64.64 57 *e*P **P 03 05 40.7 +0.7**
HHC PP **PP 03 08 04.6 +2.8**
HHC S **S 03 14 15.9 -3.8**
HHC ScS **SKSac 03 15 28.7 -5.7**
HHC PMZ
comp=Z,27nm,1.1s
HHC PMZ
comp=Z,120nm,5.5s
HHC LN
comp=Z,420nm,17.6s
HHC LE
comp=Z,290nm,16.3s
HHC LZ
comp=Z,180nm,17.8s
BOSA Boshof 67.13 178 P **P 03 05 55.1 -0.9**
BOSA pmax pmax
comp=Z,4.0nm,1.0s
BOSA MLR MLR
comp=Z,114nm,19.2s
BOSA Boshof 67.13 178 P **P 03 05 55.1 -0.9**
comp=Z,3.8nm,1.0s,baz=13,slow=14,SNR=2.8
BOSA LR LR 03 36 35.8
comp=Z,114nm,19.1s,baz=357,slow=37
CM31 Chiang Mai Arr 67.39 84 *e*P **P 03 05 58.4 +0.5**
CM31 Chiang Mai Arr 67.39 84 *e*P **P 03 05 58.4 +0.5**
CMAR Chiang Mai Arr 67.39 84 P **P 03 05 58.4 +0.5**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 67.39 84 P **P 03 05 58.4 +0.5**
comp=Z,3.8nm,0.7s,baz=305,slow=8.8,SNR=16
BJI Beijing 68.06 56 P **P 03 06 01.4 -0.4**
BJI pP **pP 03 06 08.7 +2.8**
BJI sP sP 03 06 10.9 +3.5
BJI S **S 03 15 00.9 -0.1**
BJI PMZ
comp=Z,5.0nm,0.6s
BJI PMZ
comp=Z,58nm,8.7s
BJI LN
comp=Z,150nm,13.8s
BJI LE
comp=Z,320nm,10.2s
CN2 Changchun 71.64 48 *e*P **P 03 06 23.1 -0.6**
CN2 *es*P sP 03 06 34.2 +4.8
MDJ Mudanjiang 73.51 46 P **P 03 06 35.4 +0.5**
MDJ PMZ
comp=Z,4.0nm,0.7s
MDJ PMZ
comp=Z,96nm,5.8s
YKA Yellowknife Ar 73.57 341 P **P 03 06 34.7 -0.1**
comp=Z,0.4nm,0.5s,baz=34,slow=5.4,SNR=12
YKB5 Yellowknife Ar 73.57 341 *e*P **P 03 06 35.7 +0.8**
YKB5 Yellowknife Ar 73.57 341 *e*P **P 03 06 35.7 +0.8**
NJ2 Nanjing 74.36 61 *e*P **P 03 06 41.6 +1.5**
NJ2 PMZ
comp=Z,20nm,0.8s
ULM Lac du Bonnet 76.58 325 P **P 03 06 53.5 +1.0**
comp=Z,1.5nm,0.8s,baz=11,slow=3.1,SNR=3.5
ULM LR LR 03 39 43.1
comp=Z,100nm,21.4s,baz=26,slow=35
KSRS Korea Array 77.01 52 LR LR 03 45 13.7
comp=Z,81nm,18.2s,baz=15,slow=39

PETK Petropavlovsk- 80.16 26 LR LR 03 46 40.5
comp=Z,60nm,18.2s,baz=323,slow=39
FX1 Attu Island--F 84.89 18 LR LR 03 50 58.6
comp=Z,36nm,19.2s,baz=12,slow=40
PDAR Pinedale Array 88.33 328 LR LR 03 49 58.7
comp=Z,73nm,18.4s,baz=46,slow=37
TXAR Lajitas Array 96.24 316 LR LR 03 51 05.6
comp=Z,45nm,18.2s,baz=0.0,slow=35
CPUP Villa Florida 99.52 244 LR LR 03 54 27.5
comp=Z,75nm,20.4s,baz=59,slow=36

*IDC **09** 03:03:02.1±2.0, 5°.23N×94°.73E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/41, mbtmp3.6/6, Error ellipse: s-maj=70.3km s-min=27.4km az=51.0*
*ISCJB **09** 03:03:06.0±1.7, 5°.2N±0°.3×94°.7E±0°.4, h43km, mb3.6/6, Error ellipse: s-maj=61.9km s-min=22.4km az=142.2*
ISC 09 03:03:07.8±1.8, 5°.2N±0°.3×94°.7E±0°.4, h43km, n9, σ1§18/6, mb3.5/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H** baz=58	**25.57**	**240**	T	T	03 35 32.2	
H08S2	**Diego Garcia H** baz=58,SNR=4.0	**25.57**	**240**	T	T	03 35 48.1	
H08S1	**Diego Carcia H** baz=58	**25.59**	**240**	T	T	03 35 49.9	
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=166,slow=9.3,SNR=6.1	**42.79**	**347**	P	**P**	**03 11 01.9**	**+0.6**
SONM	**Songino Array** 0.3nm,0.7s,baz=181,slow=9.5,SNR=3.0	**43.63**	**11**	P	**P**	**03 11 08.3**	**+0.1**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=305,slow=9.0,SNR=4.7	**46.30**	**124**	P	**P**	**03 11 29.7**	**0.0**
GEYT	**Alibeck** 0.9nm,0.5s,baz=116,slow=3.4,SNR=3.2	**46.56**	**320**	P	**P**	**03 11 32.1**	**+0.5**
ZALV	**Zalesovo Beam** 1.3nm,0.5s,baz=176,slow=7.5,SNR=10	**49.25**	**352**	P	**P**	**03 11 53.0**	**+0.9**
BVAR	**Borovoye Array** 0.3nm,0.5s,baz=146,slow=10,SNR=2.8	**51.67**	**342**	P	**P**	**03 12 08.7**	**-1.6**

*IDC **09** 03:05:13.7±0.9, 38°.60S×73°.68W, h0km, mb4.2/9, mb1 4.2/12, mb1mx4.1/32, mbtmp4.1/12, ML3.5/2, MS3.5/8, Ms1 3.5/8, ms1mx3.4/20, Error ellipse: s-maj=25.5km s-min=15.8km az=66.0*
*ISCJB **09** 03:05:14.6±0.7, 38°.59S±0°.04×73°.8W±0°.1, h18km, mb4.3/10, MS3.6/5, Error ellipse: s-maj=14.3km s-min=5.6km az=175.5*
*GUC **09** 03:05:14.7±0.4, 38°.66S×74°.14W, h47km, ML4.6*
*NEIC **09** 03:05:19.1±0.6, 38°.49S×73°.64W, h35km, mb4.6/4, Error ellipse: s-maj=15.1km s-min=10.3km az=82.0*
ISC 09 03:05:15.7±0.7, 38°.63S±0°.05×73°.85W±0°.08, h18km, n36, σ1§15/38, mb4.3/10, MS3.7/5, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**1.22**	**48**	*i* P	**Pb**	**03 05 38.3**	**0.0**
AGCH				*i* S	**Sg**	**03 05 56.8**	**+1.5**
VLCH	**Valdivia**	**1.27**	**159**	*e*P	**Pn**	**03 05 37.7**	**-0.8**
VLCH				*e*S	**Sn**	**03 05 54.4**	**-0.7**
CCSP	**San Pedro de C**	**1.87**	**18**	*i* P	**Pn**	**03 05 46.3**	**-0.6**
CCSP				AML	AML	03 06 22.6	
	comp=E,8μm,0.6s						
COCH	**Cobquecura**	**2.63**	**19⇑**	*i*P	**Pn**	**03 05 56.6**	**-0.7**
COCH				*i* S	**Sn**	**03 06 28.5**	**-0.2**
PLCA	**Paso Flores**	**3.30**	**131**	Pn	**Pn**	**03 06 07.0**	**+0.4**
	comp=E,1.6nm,0.3s,baz=317,slow=10,SNR=32						
PLCA				Lg	Lg	03 06 58.8	
	comp=E,32nm,0.3s,baz=44,slow=22,SNR=7.9						
PLCA				LR	LR	03 07 23.6	
	comp=E,327nm,19.0s,baz=310,slow=40						
PLCA	**Paso Flores**	**3.30**	**131**	*e*Pn	**Pn**	**03 06 08.0**	**+1.4**
PLCA				*e*S	**Sb**	**03 06 53.3**	**-0.4**
PLCA				Lg	Lg	03 06 58.8	
CFAA	**Coronel Fontan**	**8.38**	**35**	Pn	**Pn**	**03 07 16.5**	**+0.2**
	comp=E,0.5nm,0.3s,baz=216,slow=11,SNR=19						
CFAA				LR	LR	03 10 33.5	
	comp=E,75nm,19.4s,baz=218,slow=39						
TRQA	**Tornquist**	**9.34**	**90**	*e*Pn	**Pn**	**03 07 30.7**	**+1.2**
	comp=E,17nm,0.8s						
TRQA				*e*S		03 10 11.9	
LCO	**Las Campanas**	**9.94**	**16**	*e*Pn	**Pn**	**03 07 35.6**	**-2.4**
	comp=E,43nm,0.6s						
LVC	**Limon Verde**	**16.51**	**16**	*e*Pn	**Pn**	**03 09 03.9**	**-2.8**
CPUP	**Villa Florida**	**18.53**	**53**	Pn	**Pn**	**03 09 31.1**	**-0.3**
	comp=E,1.6nm,0.3s,baz=202,slow=8.9,SNR=11						
CPUP				LR	LR	03 16 42.9	
	comp=E,216nm,19.5s,baz=210,slow=38						
CPUP	**Villa Florida**	**18.53**	**53**	*e*Pn	**P**	**03 09 29.1**	**-2.1**
	comp=E,0.6nm,0.8s						
LPAZ	**La Paz**	**22.81**	**14**	P	**P**	**03 10 19.8**	**+1.5**
	comp=E,6.2nm,1.0s,baz=177,slow=7.5,SNR=14						
LPAZ	**La Paz**	**22.81**	**14**	*e*P	**P**	**03 10 19.8**	**+1.5**
	comp=E,16nm,1.0s						
SIV	**San Ignacio**	**25.19**	**30**	P	**P**	**03 10 40.0**	**-0.3**
	comp=E,14nm,1.1s,baz=232,slow=12,SNR=16						
SIV				LR	LR	03 22 26.5	
	comp=E,327nm,18.3s,baz=221,slow=41						
NNA	**Nana**	**26.66**	**353**	LR	LR	03 18 53.9	
	comp=E,97nm,21.1s,baz=180,slow=31						
ATAH	**Atahualpa**	**31.62**	**351**	LR	LR	03 21 13.6	
	comp=E,83nm,21.5s,baz=193,slow=30						
BDFB	**Brasilia**	**32.24**	**52**	P	**P**	**03 11 42.5**	**-0.8**
	comp=E,2.7nm,0.7s,baz=205,slow=8.5,SNR=3.5						
BDFB				LR	LR	03 26 39.6	
	comp=E,162nm,20.9s,baz=212,slow=40						
SDV	**Santo Domingo**	**47.36**	**4**	*e*P	**P**	**03 13 48.4**	**-0.6**
	comp=E,7.7nm,0.8s						
QSPA	**South Pole Qui**	**51.62**	**180**	P	**P**	**03 14 22.5**	**+1.6**
	comp=E,2.3nm,1.1s,baz=175,slow=4.9,SNR=2.1						
QSPA	**South Pole Qui**	**51.62**	**180**	*e*P	**P**	**03 14 22.1**	**+1.2**
	comp=E,9.0nm,1.5s						
TXAR	**Lajitas Array**	**73.12**	**333**	P	**P**	**03 16 46.9**	**+1.8**
	comp=E,0.6nm,0.6s,baz=153,slow=8.4,SNR=5.1						
DBIC	**Dimbokro**	**78.04**	**71**	P	**P**	**03 17 12.9**	**-0.6**
	comp=E,5.4nm,0.8s,baz=199,slow=7.1,SNR=9.0						
DBIC				LR	LR	03 50 19.1	
	comp=E,49nm,18.1s,baz=164,slow=35						
DBIC	**Dimbokro**	**78.04**	**71**	*e*P	**P**	**03 17 13.8**	**+0.3**
	comp=E,31nm,1.5s						
BOSA	**Boshof**	**79.21**	**118**	P	**P**	**03 17 19.1**	**-0.9**
	comp=E,1.6nm,0.6s,baz=210,slow=5.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**87.13**	**71**	P	**P**	**03 18 00.0**	**-0.8**
	comp=E,1.8nm,0.8s,baz=235,slow=5.0,SNR=18						
PDAR	**Pinedale Array**	**87.26**	**335**	P	**P**	**03 18 01.9**	**+0.7**
	comp=E,0.7nm,0.8s,baz=148,slow=6.7,SNR=5.3						
AKTO	**Aktyubinsk**	**144.31**	**55**	PKP	**PKPdf**	**03 24 49.2**	**-0.8**
	comp=E,3.0nm,1.0s,baz=308,slow=5.4,SNR=3.9						
ABKAR	**Akbulak array**	**145.57**	**57**	*e*PKPdf	**PKPab**	**03 24 53.3**	**+0.6**
BVAR	**Borovoye Array**	**151.56**	**48**	PKPbc	**PKPbc**	**03 25 09.3**	**+1.2**
	comp=E,0.8nm,0.8s,baz=298,slow=6.2,SNR=3.6						
AAK	**Ala-Archa**	**155.72**	**70**	PKPab	**PKPab**	**03 25 34.7**	**-0.3**
	comp=E,1.9nm,0.6s,baz=205,slow=5.4,SNR=5.6						
KURBB	**Kurchatov Arra**	**157.12**	**49**	PKPab	**PKPab**	**03 25 40.3**	**-0.1**
	comp=E,1.1nm,0.8s,baz=290,slow=4.7,SNR=5.4						
KURK	**Kurchatov**	**157.14**	**49**	PKPab	**PKPab**	**03 25 40.3**	**-0.2**
ZALV	**Zalesovo Beam**	**158.86**	**37**	PKPab	**PKPab**	**03 25 48.3**	**+0.5**
	comp=E,1.2nm,0.7s,baz=319,slow=4.3,SNR=5.5						
MKAR	**Makanchi Array**	**160.71**	**57**	PKPab	**PKPab**	**03 25 55.9**	**-0.4**
	comp=E,0.5nm,0.6s,baz=278,slow=4.2,SNR=5.5						
SONM	**Songino Array**	**170.79**	**359**	PKPab	**PKPab**	**03 26 42.0**	**+1.4**
	comp=E,0.3nm,0.8s,baz=322,slow=1.6,SNR=3.8						

GUC 09 03:10:18.0±0.7, 29°.56S×71°.50W, h28km±5km, ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.41**	**148**	*i* P	Pb	03 10 26.9	0.0
LSCH				*i* S	Sb	03 10 33.3	+0.2
VACH	**Vallenar**	**1.17**	**34**	*i* P	Pn	03 10 38.7	+0.1
VACH				*i* S	Sn	03 10 53.8	+0.2
VACH				IAML		03 10 56.0	
	comp=N,4μm,0.3s						
CMCH	**Combarbala**	**1.67**	**165**	*i* P	Pn	03 10 45.9	+0.4
CMCH				*i* S	Sb	03 11 08.2	-0.6
CPCH	**Copiapo**	**2.41**	**25**	*i* P	Pn	03 10 56.9	+1.3
CPCH				*i* S	Sn	03 11 26.5	+2.3
CDCH	**Caldera**	**2.55**	**14**	*i* S	Sn	03 11 29.4	+1.9

*IDC **09** 03:16:51.6±5.3, 34°.43N×67°.26E, h0km, mb3.9/2, mb1 3.5/6, mb1mx3.2/50, mbtmp3.5/6, ML3.1/4, Error ellipse: s-maj=99.9km s-min=29.2km az=155.0*
*NNC **09** 03:17:35.8±2.3, 36°.63N×69°.47E, h141km±23km, mb3.2, mpv4.1, Error ellipse: s-maj=25.5km s-min=19.2km az=136.0*
ISC 09 03:16:52.9±3.0, 34°.4N±0°.3×67°.2E±0°.2, h10km, n23, σ0§84/19, 4C-4D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**4.58**	**16**	⇓P	**Pb**	**03 18 13.1**	**-0.3**
DZET				⇑S	Sn	03 18 42.7	-13
KK31	**Karatay Array** 5.4nm,0.4s,baz=186,slow=14,SNR=139	**9.06**	**16**	P	Pn	03 19 08.9	+5.3
KK31				⇓S	Sn	03 20 21.2	-25
	4.6nm,0.6s,baz=357,slow=11,SNR=8.8						
AML	**Almayashu** SNR=84	**9.24**	**32**	P	**Pn**	**03 19 07.2**	**+0.7**
UCH	**Uchtor** SNR=44	**9.68**	**34**	P	**Pn**	**03 19 13.0**	**+0.3**
EKS2	**Erkin-Say** SNR=13	**9.71**	**30**	P	**Pn**	**03 19 13.9**	**+1.1**
KZA	**Kyzart** SNR=8.0	**9.92**	**37**	P	**Pn**	**03 19 15.7**	**-0.2**
AAK	**Ala-Archa** 3.5nm,0.3s	**9.99**	**33**	⇑P	**Pn**	**03 19 17.2**	**+0.5**
AAK				⇓S	Sn	03 20 39.5	-30
	2.7nm,0.6s						
AAK	**Ala-Archa** SNR=10	**9.99**	**33**	P	**Pn**	**03 19 17.2**	**+0.5**
KBK	**Karagaybulak** SNR=7.2	**10.22**	**34**	P	**Pn**	**03 19 20.7**	**+1.0**
CHMS	**Chumysh** SNR=10	**10.40**	**32**	P	**Pn**	**03 19 22.3**	**+0.2**
USP	**Ospenovka** SNR=8.1	**10.51**	**31**	P	**Pn**	**03 19 23.6**	**0.0**
TKM2	**Tokmak 2** 5.9nm,0.5s	**10.73**	**35**	⇑P	**Pn**	**03 19 26.2**	**-0.5**
TKM2	**Tokmak 2** SNR=5.1	**10.73**	**35**	P	**Pn**	**03 19 26.9**	**+0.1**
AB31	**Akbulak array** 0.2nm,0.3s	**15.78**	**342**	⇓P	P	03 20 52.1	+13
MK31	**Makanchi Array** 0.9nm,0.7s,baz=222,slow=11,SNR=8.2	**16.82**	**38**	P	**P**	**03 20 50.5**	**-0.1**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=222,slow=16,SNR=7.5	**16.82**	**38**	Pn	**Pn**	**03 20 47.1**	**-1.3**
AKTO	**Aktyubinsk** 2.4nm,0.9s	**17.37**	**340**	⇑P	P	03 21 14.9	+18
AKTO	**Aktyubinsk** 0.1nm,0.3s,baz=188,slow=15,SNR=2.0	**17.37**	**340**	P	**Pn**	**03 20 54.5**	**-0.8**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=212,slow=10,SNR=2.4	**18.19**	**24**	P	**Pn**	**03 21 03.2**	**-2.1**
BVA0	**Borovoye Array** baz=179,slow=9.3,SNR=4.4	**18.75**	**6**	P	Pn	03 21 21.0	+8.8
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=178,slow=8.7,SNR=2.9	**18.75**	**6**	P	**Pn**	**03 21 12.5**	**+0.2**
ZALV	**Zalesovo Beam** 1.8nm,0.4s,baz=221,slow=9.4,SNR=11	**23.14**	**27**	P	**P**	**03 21 59.6**	**+0.5**
BRTR	**Keskin Array B** 0.8nm,0.7s,baz=103,slow=15,SNR=3.7	**27.21**	**291**	P	**P**	**03 22 37.5**	**+0.4**

*BJI **09** 03:17:38.7, 54°.20N×160°.20E, h90km, mb4.5/4, Ms4.1/1, Ms7 4.1/1*
*KRSC **09** 03:17:40.4±0.6, 54°.11N×160°.48E, h92km±10km, ML4.5, FELT [II] at Institute.*
*MOS **09** 03:17:41.0±1.1, 54°.19N×160°.28E, h102km, mb4.1/15, Error ellipse: s-maj=12.5km s-min=5.8km az=75.3*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
*ISCJB **09** 03:17:41.3±0.2, 54°.12N±0°.02×160°.39E±0°.06, h103km±2km, mb4.1/32, Error ellipse: s-maj=6.0km s-min=2.2km az=27.8*
*IDC **09** 03:17:42.0±0.5, 54°.40N×159°.95E, h93km±5km, mb3.8/20, mb1 4.0/21, mb1mx3.7/52, mbtmp4.1/21, MS3.0/1, Ms1 3.0/1, ms1mx2.5/37, Error ellipse: s-maj=14.3km s-min=7.1km az=142.0*
*NEIC **09** 03:17:43.0±0.7, 54°.35N×159°.92E, h103km±6km, mb4.4/11, Error ellipse: s-maj=8.4km s-min=5.8km az=137.0*
NEIC Felt [II] at Petropavlovsk-Kamchatskiy.
ISC 09 03:17:41.4±0.4, 54°.13N±0°.03×160°.39E±0°.03, h93km±4km, h93km: pP-P, n126, σ1§45/184, mb4.2/32, 4C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.56**	**261**	*i* P	**Pn**	**03 17 57.0**	**-0.1**
MKZ	**Mys Kozlova**	**0.89**	**61**	PN	**Pn**	**03 18 00.2**	**+0.1**
MKZ				S	**Sn**	**03 18 14.0**	**-0.1**
MKZ	**Mys Kozlova**	**0.89**	**61**	*i* P	**Pn**	**03 18 00.2**	**+0.1**
MKZ				*i* S	**Sn**	**03 18 14.0**	**-0.1**
KZV	**Kizimen**	**0.99**	**357**	*e*P	**Pn**	**03 18 01.7**	**+0.3**
SPN	**Mys Shipunski**	**1.05**	**192**	PN	**Pn**	**03 18 01.8**	**-0.1**
SPN	**Mys Shipunski**	**1.05**	**192**	*i* P	**Pn**	**03 18 01.8**	**-0.1**
NLC	**Nalytchevo**	**1.14**	**213**	PN	**Pn**	**03 18 03.4**	**+0.5**
NLC				S	**Sn**	**03 18 19.2**	**+0.1**
NLC	**Nalytchevo**	**1.14**	**213**	*i* P	**Pn**	**03 18 03.4**	**+0.5**
NLC				*i* S	**Sn**	**03 18 19.2**	**+0.1**
TUMR	**Tumrok**	**1.17**	**353**	*i* P	**Pn**	**03 18 03.8**	**+0.4**
TUMR				*i* S	**Sn**	**03 18 20.0**	**+0.1**
SDLR	**Sedlovina**	**1.23**	**227**	*i* P	**Pn**	**03 18 04.9**	**+0.7**
SDLR				*i* S	**Sn**	**03 18 20.5**	**-0.8**
KRER	**Koryakskii**	**1.28**	**230**	*i* P	**Pn**	**03 18 05.7**	**+0.9**
KRER				*i* S	**Sn**	**03 18 23.8**	**+1.5**
SMAR	**Somma**	**1.28**	**228**	*i* P	**Pn**	**03 18 05.7**	**+0.9**
SMAR				*i* S	**Sn**	**03 18 22.6**	**+0.2**
KRX	**Arik**	**1.29**	**234**	*i* P	**Pn**	**03 18 05.9**	**+1.1**
KRX				*i* S	**Sn**	**03 18 23.5**	**+1.0**
AVH	**Avacha**	**1.31**	**229**	*i* P	**Pn**	**03 18 06.1**	**+1.1**
AVH				*i* S	**Sn**	**03 18 24.5**	**+1.7**
UGLR	**Uglovaya**	**1.31**	**226**	*i* P	**Pn**	**03 18 06.0**	**+0.9**
UGLR				*i* S	**Sn**	**03 18 23.7**	**+0.8**
KOK	**Koryaka**	**1.34**	**232**	*i* P	**Pn**	**03 18 06.2**	**+0.8**
KOK				*i* S	**Sn**	**03 18 24.5**	**+1.1**
GNL	**Ganaly**	**1.51**	**254**	*i* P	**Pn**	**03 18 08.5**	**+1.0**
GNL				*i* S	**Sn**	**03 18 28.7**	**+1.4**
PET	**Petropavlovsk**	**1.52**	**224**	PN	**Pn**	**03 18 08.5**	**+1.1**
PET				S	**Sn**	**03 18 28.1**	**+0.9**
PET	**Petropavlovsk**	**1.52**	**224**	*i* P	**Pn**	**03 18 08.5**	**+1.1**
PET				*i* S	**Sn**	**03 18 28.1**	**+0.9**
PET	**Petropavlovsk**	**1.52**	**224**	*e*Pn	**Pn**	**03 18 08.4**	**+0.9**
PET				*e*S	**Sn**	**03 18 29.0**	**+1.8**
KMNR	**Kamenistaya**	**1.64**	**357**	*i* P	**Pn**	**03 18 09.9**	**+0.8**
KMNR				*i* S	**Sn**	**03 18 32.7**	**+2.6**
BZMR	**Bezymyannaya**	**1.81**	**2**	*i* P	**Pn**	**03 18 12.1**	**+0.7**
BZMR				*i* S	**Sn**	**03 18 35.7**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**1.83**	**5**	*i* P	**Pn**	**03 18 12.7**	**+1.2**
BZGR				*i* S	**Sn**	**03 18 36.7**	**+2.3**
KIRR	**Kirishev**	**1.83**	**359**	*i* P	**Pn**	**03 18 12.3**	**+0.7**
KIRR				*i* S	**Sn**	**03 18 36.3**	**+1.7**
BZWR	**Bezymyannyi-We**	**1.84**	**2**	*e*P	**Pn**	**03 18 11.6**	**-0.2**
BZWR				*e*S	**Sn**	**03 18 37.1**	**+2.2**
KPT	**Kopyto**	**1.85**	**357**	*i* P	**Pn**	**03 18 12.2**	**+0.4**
KPT				*i* S	**Sn**	**03 18 37.0**	**+2.1**
PETK	**Petropavlovsk-**	**1.90**	**239**	PN	**Pn**	**03 18 13.2**	**+0.8**
PETK				S	**Sn**	**03 18 37.0**	**+1.0**
PETK				pmax	pmax		
	comp=Z,76nm,0.3s						
PETK				smax	smax		
	comp=N,75nm,0.3s						
PETK	**Petropavlovsk-**	**1.90**	**239**	P	**Pn**	**03 18 13.2**	**+0.8**
	comp=N,76nm,0.3s,baz=70,slow=17,SNR=510						
PETK				S	**Sn**	**03 18 37.0**	**+1.0**
	comp=N,75nm,0.3s,baz=81,slow=19,SNR=9.0						
KOZ	**Kozyrevsk**	**1.96**	**351**	*i* P	**Pn**	**03 18 13.3**	**+0.1**
KOZ				*i* S	**Sn**	**03 18 38.3**	**+1.0**
KOZR	**Kozyr**	**1.96**	**352**	PN	**Pn**	**03 18 13.3**	**+0.1**
KOZR				S	**Sn**	**03 18 38.3**	**+0.8**
RUS	**Russkaya**	**2.04**	**214**	PN	**Pn**	**03 18 14.7**	**+0.5**
RUS				S	**Sn**	**03 18 39.6**	**+0.5**
RUS	**Russkaya**	**2.04**	**214**	*i* P	**Pn**	**03

KLY S **Sn** **03 18 45.3 +2.5**
KLY Klyuchi 2.20 4 *i* P **Pn** **03 18 17.4 +1.2**
KLY *i* S **Sn** **03 18 45.3 +2.5**
SRDR Sredinnyy 2.23 350 *i* P **Pn** **03 18 16.9 +0.2**
SRDR *i* S **Sn** **03 18 44.0 +0.2**
APC Apacha 2.27 239 *i* P **Pn** **03 18 18.5 +1.2**
APC *i* S **Sn** **03 18 47.0 +2.3**
ASAK Asacha 2.30 222 *e*P **Pn** **03 18 19.5 +1.8**
ASAK *e*S **Sn** **03 18 47.3 +1.8**
KBTR Krutoberegovo 2.51 33 PN **Pn** **03 18 20.8 +0.5**
KBTR S **Sn** **03 18 52.4 +2.2**
KBTR Krutoberegovo 2.51 33 *i* P **Pn** **03 18 20.8 +0.5**
KBTR *e*S **Sn** **03 18 52.4 +2.2**
KBG Krutoberegovo 2.51 31 PN **Pn** **03 18 22.6 +2.2**
KBG S **Sn** **03 18 51.9 +1.6**
KBG Krutoberegovo 2.51 31 *i* P **Pn** **03 18 22.6 +2.2**
KBG *i* S **Sn** **03 18 51.9 +1.6**
SMKR Semkarok 2.54 14 *i* P **Pn** **03 18 21.9 +1.1**
SMKR *e*S **Sn** **03 18 52.6 +1.6**
SRKR Sorokina 2.57 10 *i* P **Pn** **03 18 22.5 +1.2**
SRKR *i* S **Sn** **03 18 54.3 +2.4**
MIPR Malaya Ipel'ka 2.87 231 *e*P **Pn** **03 18 26.8 +1.6**
BKI Bering 3.42 69 PN **Pn** **03 18 32.6 +0.1**
BKI S **Sn** **03 19 10.1 -1.9**
BKI Bering 3.42 69 *i* P **Pn** **03 18 32.6 +0.1**
BKI *i* S **Sn** **03 19 10.1 -1.9**
PAU Pauzhetka 3.44 221 PN **Pn** **03 18 34.3 +1.5**
PAU S **Sn** **03 19 15.6 +3.0**
PAU Pauzhetka 3.44 221 *e*P **Pn** **03 18 34.3 +1.5**
PAU *e*S **Sn** **03 19 15.6 +3.0**
SKR Severo-Kuril's 4.33 219 *e*PN Pn 03 18 39.5 -5.4
SKR *e*S **Sn** **03 19 32.5 -1.6**
SKR pmax pmax
comp=E,80nm,0.5s
SKR pmax pmax
comp=Z,90nm,0.5s
SKR smax smax
comp=N,250nm,0.5s
SKR smax smax
comp=E,170nm,0.5s
SKR Severo-Kuril's 4.33 219 *e*P **Pn** **03 18 47.3 +2.4**
SKR *e*S **Sn** **03 19 35.0 +0.9**
FX1 Attu Island--F 7.72 94 P **Pn** **03 19 31.2 +0.2**
comp=E,9.5nm,0.3s,baz=310,slow=4.6,SNR=31
FX1 S **Sn** **03 20 51.8 -4.9**
comp=E,32nm,0.3s,baz=144,slow=21,SNR=13
FX1 Attu Island--F 7.72 94 *e*Pn **Pn** **03 19 30.6 -0.3**
FX1 *e*S **Sn** **03 20 53.3 -3.4**
SEY Seymchan 9.76 338 P **Pn** **03 19 57.5 -1.2**
comp=E,0.2nm,0.3s,baz=144,slow=12,SNR=5.1
YUK Yuzh-Kuril'sk 13.85 229 *e*P **Pn** **03 20 54.2 +0.7**
BILL Bilibino 14.23 9 *e*P **Pn** **03 20 59.1 +0.8**
ASAJ Asahikawa 15.32 236 P **Pn** **03 21 13.3 +1.0**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 15.32 236 P **Pn** **03 21 13.2 +1.0**
comp=Z,0.8nm,0.3s,baz=63,slow=11,SNR=7.0
ERM Erimo 16.66 230⇓*e*P **Pn** **03 21 28.8 -0.2**
ERM Erimo 16.66 230 *e*Pn **P** **03 21 30.3 +0.5**
comp=Z,14nm,0.6s
YAK Yakutsk 17.91 308 *e*P **P** **03 21 42.7 -0.7**
TNA Tin City 19.35 41 *e*P **Pn** **03 22 00.5 -0.6**
comp=Z,11nm,1.0s
TIXI Tiksi 22.22 334⇑*e*P **P** **03 22 28.3 -1.5**
TIXI pmax pmax
comp=Z,6.0nm,2.5s
TIXI Tiksi 22.22 334 *e*P **P** **03 22 26.6 -3.2**
comp=Z,1.4nm,0.3s
MAJO Matsushiro 23.34 230⇑*e*P **P** **03 22 41.9 +0.6**
MAJO Matsushiro 23.34 230 *e*P **P** **03 22 42.3 +0.9**
comp=Z,7.4nm,0.7s
MJAR Matsushiro Arr 23.34 230 P **P** **03 22 42.0 +0.6**
MJAR pmax pmax
comp=Z,1.0nm,0.4s
MJAR Matsushiro Arr 23.34 230 P **P** **03 22 42.0 +0.6**
comp=Z,1.4nm,0.4s,baz=9.4,slow=13,SNR=6.4
MJAR LR LR 03 32 29.2
comp=Z,38nm,19.2s,baz=50,slow=38
HIA Hailar 25.40 276⇑*e*P **P** **03 22 59.8 -0.1**
HIA *i* *PP **pP** **03 23 18.3 -2.3**
HIA pmax pmax
comp=Z,3.0nm,0.5s
BOD Bodaibo 25.82 297 *e*P **P** **03 23 00.6 -2.9**
BOD *e* 03 23 21.1
BOD pmax pmax
comp=Z,5.0nm,0.9s
KDAK Kodiak Island 26.16 63 *i* P **P** **03 23 08.1 +1.5**
COLA College 27.55 46⇑*e*P **P** **03 23 19.5 +0.5**
COLA pmax pmax
comp=Z,34nm,1.2s
ILAR Eielson Array 27.97 47 P **P** **03 23 23.3 +0.5**
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR Eielson Array 27.97 47 P **P** **03 23 23.2 +0.5**
comp=Z,2.3nm,0.7s,baz=268,slow=8.2,SNR=32
SONM Songino Array 33.85 282 P **P** **03 24 13.4 -1.4**
comp=Z,0.3nm,0.6s,baz=74,slow=8.9,SNR=4.8
H11N2 WAKE ISLAND Hy 34.70 169 T T 04 01 56.3
baz=355,slow=76,SNR=365
H11N3 WAKE ISLAND Hy 34.71 169 T T 04 01 49.3
baz=355,slow=76,SNR=593
H11N1 WAKE ISLAND Hy 34.71 169 T T 04 01 48.3
baz=355,slow=76,SNR=424
H11S1 WAKE ISLAND Hy 35.88 170 T T 04 02 34.3
baz=352,slow=76,SNR=22
H11S3 WAKE ISLAND Hy 35.90 170 T T 04 02 42.8
baz=352,slow=76,SNR=30
H11S2 WAKE ISLAND Hy 35.90 170 T T 04 02 52.6
baz=352,slow=76,SNR=21
YKA Yellowknife Ar 42.28 43 P **P** **03 25 26.0 +0.8**
YKA *PP **pP** **03 25 48.3 +1.3**
YKA 03 27 17.5
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 42.28 43 P **P** **03 25 26.0 +0.8**
comp=Z,1.5nm,0.6s,baz=298,slow=7.7,SNR=29
YKA pP **pP** **03 25 48.3 +1.3**
comp=Z,1.3nm,0.6s,baz=300,slow=7.9,SNR=6.1
YKA PcP **PcP** **03 27 17.5 +0.5**
comp=Z,0.3nm,0.5s,baz=308,slow=3.7,SNR=5.2
RES Resolute Bay 42.30 22 P **P** **03 25 25.5 +0.4**
RES pmax pmax
comp=Z,1.0nm,0.3s
RES Resolute Bay 42.30 22 P **P** **03 25 25.5 +0.4**
comp=Z,0.6nm,0.3s,baz=341,slow=5.2,SNR=11
ZALV Zalesovo Beam 42.37 302 P P 03 25 21.8 -4.2
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 42.37 302 P P 03 25 21.8 -4.2
comp=Z,0.6nm,0.4s,baz=24,slow=3.9,SNR=3.0
KURK Kurchatov 47.34 301 P **P** **03 26 03.6 -1.8**
KURK *PP **pP** **03 26 26.4 -1.3**
KURK pmax pmax
comp=Z,2.0nm,0.4s
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 47.34 301 *e*P **P** **03 26 02.6 -2.9**
comp=Z,2.0nm,0.5s
KURK pP **pP** **03 26 26.4 -1.3**
KURBB Kurchatov Arra 47.45 301 P **P** **03 26 03.5 -2.7**
comp=Z,2.3nm,0.4s,baz=59,slow=7.6,SNR=16
KURBB pP **pP** **03 26 26.4 -2.1**
comp=Z,1.8nm,0.8s,baz=55,slow=7.9,SNR=3.2
MKAR Makanchi Array 47.87 295 P **P** **03 26 06.6 -3.1**
MKAR *PP **pP** **03 26 30.9 -1.0**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.87 295 P **P** **03 26 06.6 -3.1**
comp=Z,1.5nm,0.5s,baz=56,slow=6.1,SNR=9.1
MKAR pP **pP** **03 26 30.9 -1.0**
comp=Z,0.8nm,0.6s,baz=58,slow=9.1,SNR=3.1
BVAR Borovoye Array 49.89 308 P **P** **03 26 22.2 -2.7**
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 49.89 308 P **P** **03 26 22.2 -2.7**
comp=Z,1.4nm,0.5s,baz=56,slow=7.7,SNR=8.2
BRVK Borovoye 49.92 308⇓*e*P **P** **03 26 25.9 +0.8**
BRVK pmax pmax
comp=Z,9.0nm,2.5s
BSMT Bassoo Peak 50.70 60 *e*P **P** **03 26 33.0 +1.6**
comp=Z,6.3nm,0.7s

ARU Arti 52.76 317 P **P** 03 26 53.7 +7.4
HRY Holter Researc 52.96 59 *e*P **P** **03 26 49.4 +1.3**
comp=Z,4.8nm,0.9s
YMR Madison River 54.81 61 *e*P **P** **03 27 03.7 +2.1**
comp=Z,5.2nm,0.6s
NVAR Mina Array Bea 55.23 71 P **P** **03 27 06.4 +1.6**
comp=Z,3.3nm,0.7s,baz=302,slow=7.3,SNR=18
PDAR Pinedale Array 56.87 62 P **P** **03 27 18.1 +1.7**
comp=Z,2.6nm,0.8s,baz=335,slow=2.8,SNR=17
PDAR pP **pP** **03 27 40.6 +1.3**
comp=Z,1.4nm,0.9s,baz=324,slow=2.9,SNR=3.6
ULM Lac du Bonnet 57.98 47 P **P** **03 27 24.5 +0.7**
ULM pmax pmax
comp=Z,2.0nm,0.3s
ULM Lac du Bonnet 57.98 47 P **P** **03 27 24.5 +0.7**
comp=Z,2.1nm,0.3s,baz=323,slow=7.0,SNR=9.3
RSSD Black Hills 58.69 57 *e*P **P** **03 27 30.5 +1.4**
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD Black Hills 58.69 57 *e*P **P** **03 27 30.5 +1.4**
comp=Z,5.4nm,0.8s
SRU San Rafael Swe 58.99 65 *e*P **P** **03 27 33.3 +2.1**
SRU pmax pmax
comp=Z,7.0nm,0.9s
SRU San Rafael Swe 58.99 65 *e*P **P** **03 27 33.3 +2.1**
comp=Z,6.6nm,0.9s
FINES FINESS Array B 59.24 336 P **P** **03 27 30.6 -1.7**
FINES 03 28 18.2
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 59.24 336 P **P** **03 27 30.6 -1.7**
comp=Z,1.2nm,0.5s,baz=31,slow=6.9,SNR=7.5
FINES PcP **PcP** **03 28 18.2 -1.4**
comp=Z,1.3nm,0.8s,baz=29,slow=3.2,SNR=3.2
EYMN Ely 61.61 47 *e*P **P** **03 27 49.1 +0.3**
comp=Z,2.1nm,0.6s
NOA NORSAR Array B 62.60 344 P **P** **03 27 53.2 -2.0**
comp=Z,0.3nm,0.5s,baz=18,slow=7.0,SNR=3.8
HFS Hagfors 63.02 342 P **P** **03 27 56.1 -1.8**
HFS pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 63.02 342 P **P** **03 27 56.1 -1.8**
comp=Z,0.9nm,0.5s,baz=339,slow=3.7,SNR=4.4
TXAR Lajitas Array 70.07 67 P **P** **03 28 45.1 +1.7**
TXAR *PP **pP** **03 29 07.9 +0.8**
TXAR pmax pmax
comp=Z,5.0nm,0.7s
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 70.07 67 P **P** **03 28 45.1 +1.7**
comp=Z,4.6nm,0.7s,baz=299,slow=4.4,SNR=35
TXAR pP **pP** **03 29 07.9 +0.8**
comp=Z,1.3nm,0.7s,baz=288,slow=4.0,SNR=4.5
WRAB Tennant Creek 77.08 205 *e*P **P** **03 29 24.7 +0.5**
WRAB Tennant Creek 77.08 205 *e*P **P** **03 29 24.7 +0.5**
WRA Warramunga Arr 77.09 205 P **P** **03 29 24.7 +0.4**
WRA *PP **pP** **03 29 47.9 -0.5**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 77.09 205 P **P** **03 29 24.7 +0.4**
comp=Z,1.0nm,0.4s,baz=21,slow=6.1,SNR=8.3
WRA pP **pP** **03 29 47.9 -0.5**
comp=Z,1.7nm,0.8s,baz=22,slow=6.2,SNR=5.5
ASAR Alice Springs 80.77 204 P **P** **03 29 45.5 +1.1**
ASAR *PP **pP** **03 30 08.6 -0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 80.77 204 P **P** **03 29 45.5 +1.1**
comp=Z,1.1nm,0.5s,baz=14,slow=4.8,SNR=11
ASAR pP **pP** **03 30 08.6 -0.1**
comp=Z,1.6nm,0.7s,baz=12,slow=5.1,SNR=5.5
ESDC Sonseca Array 85.60 348 P **P** **03 30 09.2 0.0**
comp=Z,1.1nm,0.8s,baz=1.7,slow=4.9,SNR=5.1
KEST Kesra 87.08 337 P **P** **03 30 17.1 +0.6**
comp=Z,1.0nm,1.0s,baz=121,slow=2.3,SNR=4.1

*ISCJB **09** 03:22:13.4±0.3,36°.49N±0°.02×51°.84E±0°.03,h7km, mb3.6/7,Error ellipse: s-maj=4.2km s-min=2.6km az=152.4*
*CSEM **09** 03:22:14.8±0.2,36°.42N×51°.85E,h2km,ML3.8,Error ellipse: s-maj=6.4km s-min=3.7km az=64.0*
*IDC **09** 03:22:14.8±2.4,36°.66N×51°.81E,h0km,mb3.7/7, mb1 3.9/9,mb1mx3.6/44,mbtmp3.7/9,ML3.7/2,Error ellipse: s-maj=47.2km s-min=18.3km az=174.0*
*AZER **09** 03:22:15.7±99.0,36°.32N×50°.78E,h5km±39km,Error ellipse: s-maj=208.4km s-min=14.4km az=339.0*
*THR **09** 03:22:15.3±1.0,36°.36N×51°.81E,h6km±9km,ML3.8*
*TEH **09** 03:22:15.1,36°.49N×51°.94E,h5km,ML3.8*
ISC 09 03:22:14.1±0.6,36°.47N±0°.03×51°.86E±0°.03,h7km,n99, σ1§94/115,mb3.5/7,22C-19D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRN	**Peran**	**0.45**	**121**	*e*Pg	**Pg**	**03 22 22.1**	**-0.7**
IPRN				*e*		03 22 29.5	
comp=Z,4μm,0.1s							
CHTH	**Charan**	**0.82**	**227**	*e*Pg	**Pg**	**03 22 29.6**	**-0.3**
CHTH	**Charan**	**0.82**	**227**	*e*Pg	**Pg**	**03 22 29.5**	**-0.3**
DAMV	**Damavand**	**0.84**	**174**	*e*Pg	**Pg**	**03 22 29.6**	**-0.8**
DAMV	**Damavand**	**0.84**	**174**	*e*Pg	**Pg**	**03 22 29.6**	**-0.8**
IALA	**Alasht**	**0.86**	**117**	*e*	**Sn**	**03 22 46.9**	**+1.0**
comp=Z,27μm,0.1s							
IDMV	**Damavand**	**0.90**	**171**	*e*Pg	**Pg**	**03 22 31.1**	**-0.4**
IDMV				*e*		03 22 45.9	
comp=Z,20μm,0.1s							
IDMV	**Damavand**	**0.90**	**171**	*e*Pg	**Pg**	**03 22 31.1**	**-0.4**
IFIR	**Firoozkooh**	**1.10**	**139**	*e*Pg	**Pg**	**03 22 34.2**	**-1.0**
IFIR				*e*		03 22 56.1	
comp=Z,14μm,0.1s							
IFIR	**Firoozkooh**	**1.10**	**139**	*e*Pg	**Pg**	**03 22 34.2**	**-1.0**
IR3	**Iran Long-Peri**	**1.20**	**215**	*e*Pg	**Pg**	**03 22 37.2**	**0.0**
IR3	**Iran Long-Peri**	**1.20**	**215**	*e*Pg	**Pg**	**03 22 37.2**	**0.0**
IMHD	**Mahdasht**	**1.25**	**231**	*e*Pg	**Pn**	**03 22 38.1**	**+0.1**
IMHD				*e*		03 22 58.2	
comp=Z,26μm,0.1s							
IMHD	**Mahdasht**	**1.25**	**231**	*e*Pg	**Pn**	**03 22 38.1**	**+0.1**
IGZV	**Ghazvin**	**1.33**	**267**	*e*Pg	**Pg**	**03 22 40.0**	**+0.4**
IGZV				*e*		03 23 01.0	
comp=Z,46μm,0.2s							
IGZV	**Ghazvin**	**1.33**	**267**	*e*Pg	**Pg**	**03 22 40.0**	**+0.4**
ILAS	**Lasjerd**	**1.41**	**140**	*e*Pg	**Pn**	**03 22 40.0**	**-0.4**
ILAS				*e*		03 22 59.1	
comp=Z,10μm,0.2s							
ILAS	**Lasjerd**	**1.41**	**140**	*e*Pg	**Pn**	**03 22 40.0**	**-0.4**
IVRN	**Varamin**	**1.48**	**184**	*e*Pg	**Pn**	**03 22 41.5**	**+0.3**
IVRN				*e*Sg	**Sg**	**03 23 02.1**	**+0.5**
IVRN				*e*		03 23 04.3	
comp=Z,27μm,0.2s							
IVRN	**Varamin**	**1.48**	**184**	*e*Pg	**Pn**	**03 22 41.5**	**+0.3**
IGLO	**Ghaloghah**	**1.59**	**88**	*e*Pn	**Pn**	**03 22 42.8**	**0.0**
IGLO				*e*		03 23 16.5	
comp=Z,33μm,0.3s							
IRAZ	**Razeghan**	**1.90**	**236**	*e*Pn	**Pb**	**03 22 49.1**	**-0.1**
IRAZ				*e*		03 23 16.9	
comp=Z,23μm,0.2s							
IRAZ	**Razeghan**	**1.90**	**236**	*e*Pn	**Pb**	**03 22 49.1**	**-0.1**
IANJ	**Anjilo**	**1.94**	**120**	*e*Pn	**Pb**	**03 22 49.2**	**-0.8**
IANJ				*e*		03 23 17.6	
comp=Z,5μm,0.1s							
IANJ	**Anjilo**	**1.94**	**120**	*e*Pn	**Pb**	**03 22 49.2**	**-0.8**
GHVR	**GHOM**	**2.04**	**193**	*e*PN5	**Pn**	**03 22 51.0**	**+2.1**
GHVR				*e*Sg	**Sg**	**03 23 18.8**	**-0.8**
GHVR				AML	AML	03 23 22.3	
comp=N,559nm,0.7s							
GHVR				AML	AML	03 23 27.2	
comp=E,767nm,0.5s							
ASAO	**Ashtian**	**2.44**	**219**	*e*Pn	**Pn**	**03 22 56.2**	**+1.7**
ASAO				AML	AML	03 23 32.4	
comp=E,554nm,0.5s							
ASAO				AML	AML	03 23 33.3	
comp=N,309nm,0.5s							
ASAO	**Ashtian**	**2.44**	**219**	*e*Pn	**Pn**	**03 22 56.2**	**+1.7**
comp=N,309nm,0.5s							
ZNJK	**Zanjan**	**2.57**	**275**	*e*Pn	**Pb**	**03 22 58.8**	**-1.8**
ZNJK				AML	AML	03 23 40.0	
comp=N,794nm,0.5s							
ZNJK				AML	AML	03 23 42.8	
comp=E,441nm,0.4s							
ZNJK	**Zanjan**	**2.57**	**275**	*e*Pn	**Pb**	**03 22 58.8**	**-1.8**
comp=E,441nm,0.4s							
IKLH	**Kolahrood**	**3.15**	**184**	*e*	**Sg**	**03 23 52.6**	**-2.8**
comp=Z,4μm,0.2s							
IKLH				*e*Pn	**Pn**	**03 23 06.2**	**+1.8**
LKRN	**Lenkeran, Azer**	**3.31**	**313**	⇑Pn	**Pn**	**03 23 06.5**	**+0.1**
LKRN				⇓Sn	**Sn**	**03 23 43.9**	**-2.1**
LKRN	**Lenkeran, Azer**	**3.31**	**313**	⇑Pn	**Pn**	**03 23 06.5**	**+0.1**
LRK	**Lerik**	**3.54**	**309**	⇑Pn	**Pn**	**03 23 10.0**	**+0.4**
LRK				⇓Sn	**Sn**	**03 23 50.0**	**-1.9**
LRK	**Lerik**	**3.54**	**309**	Pn	**Pn**	**03 23 10.0**	**+0.4**
LRK				Sn	**Sn**	**03 23 50.0**	**-1.9**
IZEF	**Zefreh**	**3.59**	**174**	*e*Pn	**Pn**	**03 23 12.0**	**+1.6**
IZEF				*e*		03 24 22.0	
comp=Z,1μm,0.3s							
IZEF	**Zefreh**	**3.59**	**174**	*e*Pn	**Pn**	**03 23 12.0**	**+1.6**
IPIR	**Pirpir**	**3.86**	**192**	*e*Pn	**Pn**	**03 23 16.3**	**+2.1**
IPIR				*e*		03 23 28.6	
comp=Z,1μm,0.2s							
IPIR	**Pirpir**	**3.86**	**192**	*e*Pn	**Pn**	**03 23 16.3**	**+2.1**
GLBA	**Clilabad**	**3.90**	**316**	⇑Pn	**Pn**	**03 23 14.7**	**+0.3**
GLBA				⇓Sn	**Sn**	**03 23 59.3**	**-1.1**
GLBA	**Clilabad**	**3.90**	**316**	Pn	**Pn**	**03 23 14.7**	**+0.3**
GLBA				Sn	**Sn**	**03 23 59.3**	**-1.1**
SNGE	**Sanandaj**	**3.92**	**251**	*e*Pn	**Pn**	**03 23 17.0**	**+2.1**
SNGE	**Sanandaj**	**3.92**	**251**	*e*Pn	**Pn**	**03 23 17.0**	**+2.1**
ALIB	**Äli-Bayra**	**4.14**	**328**	⇓Pn	**Pn**	**03 23 20.7**	**+2.9**
ALIB				⇑Sn	**Sn**	**03 24 10.7**	**+4.2**
ALIB	**Äli-Bayra**	**4.14**	**328**	Pn	**Pn**	**03 23 20.7**	**+2.9**
ALIB				Sn	**Sn**	**03 24 10.7**	**+4.2**
GALA	**Gala**	**4.16**	**342**	⇑Pn	Pb	03 23 23.9	-3.6
GALA				⇓Sn	**Sb**	**03 24 13.5**	**-4.4**
GALA	**Gala**	**4.16**	**342**	Pn	Pb	03 23 23.9	-3.6
GALA				Sn	**Sb**	**03 24 13.5**	**-4.4**
IHRS	**Heris**	**4.26**	**297**	*e*Pn	**Pn**	**03 23 21.2**	**+1.6**
IHRS				*e*		03 24 21.8	
comp=Z,1μm,0.1s							
IHRS	**Heris**	**4.26**	**297**	*e*Pn	**Pn**	**03 23 21.2**	**+1.6**
GOBA	**Gobu**	**4.26**	**338**	⇑Pn	Pn	03 23 23.5	+4.1
GOBA				⇓Sn	**Sb**	**03 24 16.0**	**-5.1**
GOBA	**Gobu**	**4.26**	**338**	Pn	Pn	03 23 23.5	+4.1
GOBA				Sn	**Sb**	**03 24 16.0**	**-5.1**
NDR	**Nardaran**	**4.36**	**341**	⇓Sn	**Sn**	**03 24 16.6**	**+4.8**
NDR	**Nardaran**	**4.36**	**341**	Sn	**Sn**	**03 24 16.6**	**+4.8**
KDMR	**Kurdemir**	**4.85**	**325**	⇓Pn	**Pn**	**03 23 29.0**	**+1.5**
KDMR				⇑Sn	**Sn**	**03 24 24.2**	**+0.4**
ATGJ	**Altiaghaj**	**4.94**	**333**	⇓Pn	**Pn**	**03 23 30.7**	**+1.8**
ATGJ				⇑Sn	**Sn**	**03 24 29.3**	**+2.9**
ATGJ	**Altiaghaj**	**4.94**	**333**	Pn	**Pn**	**03 23 30.7**	**+1.8**
ATGJ				Sn	**Sn**	**03 24 29.3**	**+2.9**
ISFR	**Sfrayin**	**4.96**	**81**	*e*Pn	**Pn**	**03 23 28.9**	**-0.4**
ISFR				*e*		03 25 02.6	
comp=Z,933nm,0.3s							
PQL	**Pirkuli**	**5.01**	**330**	⇓Pn	**Pn**	**03 23 31.4**	**+1.5**
PQL				⇓Sn	**Sn**	**03 24 28.2**	**+0.1**
PQL	**Pirkuli**	**5.01**	**330**	Pn	**Pn**	**03 23 31.4**	**+1.5**
PQL				Sn	**Sn**	**03 24 28.2**	**+0.1**
IML	**Ismayilli**	**5.19**	**327**	⇑Sn	**Sn**	**03 24 30.8**	**-1.5**
IML	**Ismayilli**	**5.19**	**327**	Sn	**Sn**	**03 24 30.8**	**-1.5**
GEYT	**Alibeck**	**5.20**	**72**	Pn	**Pn**	**03 23 34.3**	**+2.0**
comp=Z,2.0nm,0.3s,baz=248,slow=16,SNR=9.7							
GEYT				Sn	**Sn**	**03 24 35.0**	**+2.4**
comp=Z,1.8nm,0.3s,baz=276,slow=26,SNR=5.9							
BRDA	**Brd**	**5.28**	**317**	⇑Pn	**Pn**	**03 23 35.1**	**+1.7**
BRDA	**Brd**	**5.28**	**317**	Pn	**Pn**	**03 23 35.1**	**+1.7**
QUBA	**Quba, Azerbaij**	**5.54**	**333**	⇑Pn	**Pn**	**03 23 38.3**	**+1.3**
QUBA	**Quba, Azerbaij**	**5.54**	**333**	Pn	**Pn**	**03 23 38.3**	**+1.3**
MNGR	**Mingechevir, A**	**5.70**	**320**	⇓Pn	**Pn**	**03 23 41.6**	**+2.5**
MNGR				⇓Sn	**Sn**	**03 24 43.6**	**-1.1**
MNGR	**Mingechevir, A**	**5.70**	**320**	Pn	**Pn**	**03 23 41.6**	**+2.5**
SEKA	**Sheki**	**5.97**	**324**	⇑Pn	**Pn**	**03 23 43.5**	**+0.6**
SEKA				⇑Sn	**Sn**	**03 24 49.9**	**-1.6**
SEKA	**Sheki**	**5.97**	**324**	Pn	**Pn**	**03 23 43.5**	**+0.6**
GANJ	**Ganja**	**6.02**	**316**	⇓Pn	**Pn**	**03 23 44.1**	**+0.5**
GANJ				⇑Sn	**Sn**	**03 24 51.4**	**-1.3**
GANJ	**Ganja**	**6.02**	**316**	Pn	**Pn**	**03 23 44.1**	**+0.5**
ZKTA	**Zakatala**	**6.58**	**323**	⇑Pn	**Pn**	**03 23 52.5**	**+1.3**
ZKTA				⇓Sn	**Sn**	**03 25 03.6**	**-2.8**
DGRG	**David-gareji**	**7.09**	**316**	P	**Pn**	**03 24 00.3**	**+2.0**
DGRG				S	**Sn**	**03 25 19.4**	**+0.3**
DGRG	**David-gareji**	**7.09**	**316**	P	**Pn**	**03 24 00.3**	**+2.0**
TBLG	**Delisi**	**7.63**	**316**	P	Pn	03 23 56.9	-8.8
GUDG	**Gudauri**	**8.27**	**319**	P	**Pn**	**03 24 15.5**	**+0.8**
GUDG				S	**Sn**	**03 25 45.9**	**-2.5**
GUDG	**Gudauri**	**8.27**	**319**	P	**Pn**	**03 24 15.5**	**+0.8**
ONI	**Oni**	**8.92**	**316**	P	**Pn**	**03 24 25.5**	**+2.1**
ONI	**Oni**	**8.92**	**316**	P	**Pn**	**03 24 25.5**	**+2.1**
AB31	**Akbulak array**	**14.07**	**22**	⇑Pn	Pn	03 25 29.4	-4.3
comp=Z,2.0nm,0.8s,baz=218,slow=12,SNR=3.2							
AB31				⇑Sn	Sn	03 27 57.9	-12
comp=Z,1.0nm,0.4s,baz=221,slow=27,SNR=6.8							
AB31	**Akbulak array**	**14.07**	**22**	Pn	Pn	03 25 29.4	-4.3
comp=Z,2.0nm,0.8s,SNR=3.2							
AB31				Sn	Sn	03 27 57.9	-12
comp=Z,1.0nm,0.4s,SNR=6.8							
AKTO	**Aktyubinsk**	**14.65**	**16**	⇑Pn	Pn	03 25 37.3	-4.3
comp=Z,4.6nm,1.0s							
AKTO				⇑Sn	Sn	03 28 11.6	-13
comp=Z,5.2nm,0.6s							
AKTO	**Aktyubinsk**	**14.65**	**16**	Pn	Pn	03 25 37.2	-4.5
comp=Z,0.5nm,0.3s,baz=202,slow=11,SNR=7.7							
AKTO	**Aktyubinsk**	**14.65**	**16**	Pn	Pn	03 25 37.3	-4.3
comp=Z,4.6nm,1.0s							
AKTO				Sn	Sn	03 28 11.6	-13
comp=Z,5.2nm,0.6s							
TLB	**Topalu**	**19.79**	**302**	⇑*i*P	**Pn**	**03 26 47.1**	**+0.8**
BVAR	**Borovoye Array**	**21.04**	**32**	P	**P**	**03 26 59.2**	**+0.8**
comp=Z,1.1nm,0.6s,baz=220,slow=6.9,SNR=6.4							
TESR	**Tescani**	**21.30**	**306**	⇑*i*P	**P**	**03 27 00.7**	**-0.6**
MLR	**Muntele Rosu**	**21.47**	**303**	⇓*i*P	**P**	**03 27 06.1**	**+2.9**
MLR	**Muntele Rosu**	**21.47**	**303**	P	**P**	**03 27 04.9**	**+1.7**
comp=Z,2.2nm,0.8s,baz=163,slow=2.7,SNR=12							
AKASG	**Malin Array Be**	**21.59**	**318**	P	**P**	**03 27 03.3**	**-0.9**
comp=Z,1.0nm,0.5s,baz=120,slow=11,SNR=3.8							
DOPR	**Dopca**	**21.97**	**304**	⇑*i*P	**P**	**03 27 11.1**	**+2.6**
VOIR		**22.06**	**302**	⇓*i*P	**P**	**03 27 12.4**	**+2.9**
ARR	**Arges**	**22.33**	**302**	⇓*i*P	**P**	**03 27 15.9**	**+3.5**
BURAR	**Bucovina Array**	**22.59**	**308**	⇓*i*P	**P**	**03 27 15.4**	**+0.2**
MKAR	**Makanchi Array**	**24.83**	**56**	P	**P**	**03 27 37.8**	**+0.9**
comp=Z,0.5nm,0.5s,baz=251,slow=10,SNR=5.1							
ZALV	**Zalesovo Beam**	**28.70**	**42**	P	**P**	**03 28 12.3**	**+0.7**
comp=Z,0.5nm,0.6s,baz=243,slow=2.6,SNR=2.6							
FINES	**FINESS Array B**	**29.80**	**335**	P	**P**	**03 28 22.2**	**+1.0**
comp=Z,1.1nm,0.7s,baz=117,slow=5.2,SNR=3.9							
ESDC	**Sonseca Array**	**43.47**	**292**	P	**P**	**03 30 17.9**	**0.0**
comp=Z,2.0nm,0.7s,baz=66,slow=7.8,SNR=9.2							

**IDC 09 03:24:53.7±16.0,1°.99N×95°.96E,h0km,mb4

*GUC **09** 03:28:03.8±0.8, 32°.64S×71°.91W, h22km±10km, ML4.0*
*IDC **09** 03:28:06.2±1.1, 32°.64S×71°.78W, h22km±4km, mb3.6/2, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, ML4.0/3, Error ellipse: s-maj=39.0km s-min=29.1km az=67.0*
ISC 09 03:28:05.2±0.8, 32.62S±0.04×71.76W±0.08, h16km, n20, σ0.86/33, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.41**	**166**	⇓*iP*	**Pg**	**03 28 12.8**	**-0.9**
IHA				*i* S1	**Sg**	**03 28 19.1**	**-0.3**
CHNG	**Los Chungos**	**0.77**	**17**	⇑*iP*	**Pb**	**03 28 19.1**	**-1.1**
CHNG				*i* S	**Sg**	**03 28 30.3**	**-0.1**
PEL	**Peldehue**	**1.04**	**120**	⇓*iP*	**Pb**	**03 28 24.7**	**-0.2**
PEL				*i* S	**Sn**	**03 28 40.0**	**+0.5**
PEL				IAML		03 28 40.7	
	comp=E,15μm,0.2s						
RCDM	**Rinconada Maip**	**1.18**	**138**	*e*P	**Pn**	**03 28 25.7**	**-1.4**
RCDM				*i* S4	**Sn**	**03 28 41.8**	**-1.1**
RCDM				IAML		03 28 49.4	
	comp=N,2μm,0.7s						
STL	**Santa Lucia**	**1.24**	**131**	*e*P9	**Pn**	**03 28 26.6**	**-1.4**
STL				*e*S	**Sb**	**03 28 44.0**	**-0.1**
CLCH	**Cerro Calan**	**1.28**	**127**	⇑*iP*	**Pn**	**03 28 28.2**	**-0.3**
CLCH				*i* S	**Sn**	**03 28 46.4**	**+0.9**
CLCH				IAML		03 28 52.0	
	comp=N,4μm,0.5s						
LACH	**Col Las Americ**	**1.32**	**129**	*e*S	**Sb**	**03 28 47.4**	**+0.9**
ANTU	**Antumapu**	**1.33**	**135**	*e*P	**Pn**	**03 28 28.9**	**-0.4**
ANTU				*e*S	**Sb**	**03 28 47.1**	**+0.3**
ANTU				IAML		03 28 54.1	
	comp=N,4μm,0.4s						
FCH	**Farellones**	**1.42**	**120**	⇑*iP*	**Pn**	**03 28 29.8**	**-0.9**
FCH				*e*S	**Sg**	**03 28 50.9**	**-0.3**
SJCH	**San Jose de Ma**	**1.56**	**131**	*e*P1	**Pn**	**03 28 31.9**	**-0.4**
SJCH				*i* S4	**Sn**	**03 28 52.7**	**+0.4**
CMCH	**Combarbala**	**1.58**	**24**	⇓*iP*	**Pn**	**03 28 32.1**	**-0.6**
CMCH				*i* S	**Sb**	**03 28 53.7**	**-0.2**
PLCA	**Paso Flores**	**8.15**	**174**	Pn	**Pn**	**03 30 02.6**	**-0.4**
	comp=N,0.8nm,0.3s,baz=334,slow=11,SNR=6.8						
LPAZ	**La Paz**	**16.59**	**12**	Pn	**Pn**	**03 31 58.2**	**+0.3**
	comp=N,0.2nm,0.3s,baz=178,slow=9.1,SNR=11						
SIV	**San Ignacio**	**19.19**	**33**	P	**P**	**03 32 28.4**	**0.0**
	comp=N,0.2nm,0.3s,baz=229,slow=11,SNR=3.6						
TXAR	**Lajitas Array**	**68.65**	**330**	P	**P**	**03 39 07.8**	**-0.1**
	comp=N,0.2nm,0.5s,baz=143,slow=9.1,SNR=1.8						
TXAR				pP	**pP**	**03 39 15.0**	**+2.0**
	comp=N,0.6nm,0.8s,baz=150,slow=9.3,SNR=2.8						
NVAR	**Mina Array Bea**	**82.89**	**325**	pP	pP	03 40 36.6	+2.1
	comp=N,0.6nm,0.7s,baz=184,slow=5.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**83.52**	**70**	P	**P**	**03 40 32.6**	**-0.1**
	comp=N,1.3nm,0.8s,baz=240,slow=3.6,SNR=13						
TORD				pP	**pP**	**03 40 40.0**	**+1.9**
	comp=N,1.0nm,0.6s,baz=286,slow=6.5,SNR=5.2						
BVAR	**Borovoye Array**	**146.11**	**42**	PKPbc	**PKPab**	**03 47 44.4**	**-0.3**
	comp=N,0.7nm,0.5s,baz=304,slow=2.8,SNR=6.2						
BVAR				pPKPbc	pPKPbc	03 47 51.9	+2.4
	comp=N,0.8nm,0.6s,baz=299,slow=3.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**152.93**	**31**	PKPbc	**PKPbc**	**03 48 01.1**	**0.0**
	comp=N,1.3nm,0.5s,baz=304,slow=3.4,SNR=6.7						
ZALV				pPKPbc	**pPKPbc**	**03 48 07.9**	**+1.3**
	comp=N,1.3nm,0.7s,baz=293,slow=3.4,SNR=4.2						
MKAR	**Makanchi Array**	**155.67**	**47**	PKPab	**PKPab**	**03 48 23.5**	**-0.8**
	comp=N,0.5nm,0.6s,baz=283,slow=3.8,SNR=5.1						
MKAR				pPKPab	**pPKPab**	**03 48 30.8**	**+1.0**
	comp=N,0.3nm,0.6s,baz=285,slow=5.2,SNR=4.0						

IDC 09 03:29:43.2±3.8, 5°.57S×151°.89E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/20, mbtmp3.4/2, Error ellipse: s-maj=173.4km s-min=47.4km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.26**	**228**	P	P	03 34 42.0	-0.1
	0.4nm,0.4s,baz=53,slow=10.0,SNR=7.8						
ASAR	**Alice Springs**	**24.98**	**222**	P	P	03 35 08.7	-0.1
	0.8nm,0.7s,baz=56,slow=8.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**149.67**	**287**	PKPbc	PKPbc	03 49 35.7	-0.4
	0.8nm,0.8s,baz=78,slow=2.1,SNR=12						

*CSEM **09** 03:32:23.5, 37°.70N×25°.09W, h5km, ML2.1*
PDA 09 03:32:23.5±0.6, 37°.70N×25°.09W, h5km, MD3.7, ML2.1, Error ellipse: s-maj=7.3km s-min=1.5km az=53.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRON	**Grota Negra**	**0.36**	**281**	*e*P	Pg	03 32 27.9	-2.6
GRON				*e*S	Sg	03 32 31.2	-4.0
GRON				A	A	03 32 33.2	
	55nm,0.2s						
PDA	**Ponta Delgada**	**0.46**	**276**	*e*P	Pg	03 32 31.3	-1.0
PDA				*e*S	Sg	03 32 37.4	-0.8
PDA				A	A	03 32 38.6	
	92nm,0.2s						
PDA	**Ponta Delgada**	**0.46**	**276**	*e*P	Pg	03 32 31.3	-1.0
PDA				*e*S	Sg	03 32 37.4	-0.8
PSET	**Sete Cidades**	**0.51**	**284**	*e*S	Sg	03 32 39.3	-0.9
PSET				A	A	03 32 40.7	
	239nm,0.2s						
PSET	**Sete Cidades**	**0.51**	**284**	*e*S	Sg	03 32 39.3	-0.9
PSMN	**Pico do Norte,**	**0.70**	**178**	*e*P	Pg	03 32 35.1	-1.8
PSMN				*e*S	Sg	03 32 43.5	-2.5
PSMN				A	A	03 32 44.3	
	34nm,0.3s						
PSMN	**Pico do Norte,**	**0.70**	**178**	*e*P	Pg	03 32 35.1	-1.8
PSMN				*e*S	Sg	03 32 43.5	-2.5
PSMA	**Santa Maria**	**0.70**	**182**	*e*P	Pg	03 32 35.3	-1.7
PSMA				*e*S	Sg	03 32 43.9	-2.3
PSMA				A	A	03 32 45.1	
	46nm,0.2s						

*DHMR **09** 03:53:47.5±0.7, 13°.35N×41°.16E, h0km±54km, ML3.5*
ISC 09 03:53:46.8±3.0, 13°.1N±0°.2×41°.3E±0°.2, h10km, n4, σ1.26/7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**2.75**	**72**	*i* P	**Pb**	**03 54 37.1**	**+0.8**
UDYN				*i* S	**Sg**	**03 55 15.0**	**-0.4**
UDYN				AML	AML	03 55 32.8	
	comp=E,186nm,0.5s						
TRBA	**At Turbah**	**2.78**	**88**	*i* P	**Pb**	**03 54 37.5**	**+0.8**
TRBA				*i* S	**Sg**	**03 55 17.0**	**+0.8**
TRBA				AML	AML	03 55 33.7	
	comp=N,423nm,0.5s						
BDHA	**Al Bayda'**	**4.27**	**78**	*i* S	**Sb**	**03 55 51.8**	**-2.0**
FURI	**Furi**	**4.92**	**211**	*e*P	**Pb**	**03 55 13.6**	**+0.3**
FURI				S	Sn	03 55 50.5	-7.9
FURI				SN	**Sb**	**03 56 12.2**	**-0.6**

IDC 09 04:04:39.8±2.4, 14°.59S×172°.66W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.9/34, mbtmp3.8/6, Error ellipse: s-maj=142.5km s-min=18.5km az=149.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.09**	**52**	Pn	Pb	04 05 01.5	-0.1
WRA	**Warramunga Arr**	**50.73**	**256**	P	P	04 13 41.8	0.0
	0.4nm,0.7s,baz=90,slow=7.5,SNR=3.1						
ASAR	**Alice Springs**	**51.04**	**251**	P	P	04 13 43.6	-0.6
	1.2nm,0.5s,baz=88,slow=7.8,SNR=22						
NVAR	**Mina Array Bea**	**73.25**	**42**	P	P	04 16 14.2	+0.9
	2.0nm,0.7s,baz=227,slow=10.0,SNR=13						
PDAR	**Pinedale Array**	**81.19**	**42**	P	P	04 16 57.6	-0.2
	0.7nm,0.8s,baz=209,slow=2.7,SNR=5.4						
ILAR	**Eielson Array**	**81.52**	**11**	P	P	04 16 58.5	-0.3
	0.4nm,0.9s,baz=230,slow=7.0,SNR=3.4						
YKA	**Yellowknife Ar**	**89.07**	**23**	P	P	04 17 36.3	-0.2
	0.6nm,1.0s,baz=241,slow=4.3,SNR=6.5						
GERES	**GERESS Array B**	**145.44**	**353**	PKPbc	PKPab	04 24 20.1	0.0
	0.5nm,0.7s,baz=270,slow=0.4,SNR=3.8						

*IDC **09** 04:11:06.6±3.0, 9°.27N×121°.70E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/37, mbtmp3.6/3, Error ellipse: s-maj=405.0km s-min=25.6km az=62.0*
*MAN **09** 04:11:07, 9°.65N×121°.96E, h19km, mb4.6, ML3.4, MS3.4*
*ISCJB **09** 04:11:08.3±0.7, 9°.57N±0°.06×121°.94E±0°.06, h37km, mb3.6/3, Error ellipse: s-maj=8.5km s-min=7.9km az=31.6*
ISC 09 04:11:09.6±1.2, 9°.64N±0°.06×121°.96E±0°.06, h37km, n11, σ1.66/13, mb3.6/3, 1D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**1.16**	**32**	*e*P	**Pn**	**04 11 27.4**	**-1.9**
GUIM				*e*S	**Sn**	**04 11 40.8**	**-3.0**
CUYO	**Cuyo Island**	**1.52**	**322**	*e*P	**Pn**	**04 11 33.6**	**-0.6**
RCP	**Roxas**	**2.06**	**22**	⇓*e*P	**Pn**	**04 11 44.2**	**+2.5**
RCP				*e*S	**Sn**	**04 12 08.1**	**+2.1**
LLP	**Lapu-Lapu**	**2.09**	**71**	*e*P	**Pn**	**04 11 41.0**	**-1.1**
LLP				*e*S	**Sn**	**04 12 08.2**	**+1.3**
PAGZ	**Pagadian**	**2.27**	**142**	*e*P	**Pn**	**04 11 44.4**	**-0.2**
MSLP	**Maasin**	**2.90**	**80**	*e*P	**Pn**	**04 11 53.7**	**+0.5**
BUSP	**Coron**	**2.92**	**324**	*e*P	**Pn**	**04 11 53.1**	**-0.4**
ENPP	**El Nido**	**2.94**	**302**	*e*P	**Pn**	**04 11 54.0**	**+0.3**
WRA	**Warramunga Arr**	**31.82**	**158**	P	**P**	**04 17 31.2**	**+0.1**
	0.7nm,0.8s,baz=333,slow=9.4,SNR=4.3						
ASAR	**Alice Springs**	**35.10**	**161**	P	**P**	**04 17 59.5**	**-0.1**
	1.1nm,0.7s,baz=346,slow=7.2,SNR=12						
MKAR	**Makanchi Array**	**50.03**	**325**	P	P	04 20 04.1	+3.5
	0.3nm,0.7s,baz=128,slow=9.3,SNR=3.6						

IDC 09 04:12:00.3±6.4, 28°.08S×177°.62W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/41, mbtmp3.6/2, Error ellipse: s-maj=273.3km s-min=101.2km az=163.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.61**	**264**	P	P	04 20 06.1	-0.6
	0.3nm,0.5s,baz=103,slow=7.0,SNR=4.3						
WRA	**Warramunga Arr**	**44.39**	**270**	P	P	04 20 13.1	+0.2
	0.7nm,0.4s,baz=110,slow=7.8,SNR=9.0						
FINES	**FINESS Array B**	**143.07**	**341**	PKP	PKPdf	04 31 35.0	-0.5
	0.6nm,0.4s,baz=48,slow=2.8,SNR=4.2						

JMA 09 04:17:04.0±0.1, 29°.07N×130°.49E, h52km±4km, M3.1, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.88**	**211**	P	Pn	04 17 20.1	-0.1
JZK				*e*S	Sn	04 17 32.4	+0.4
JNN	**Nakanoshima**	**0.94**	**325**	P	Pn	04 17 21.2	+0.2
JNN				S	Sn	04 17 33.8	+0.3
JAM	**Amami Oshima**	**1.02**	**230**	P	Pn	04 17 22.5	+0.5
JAM				*e*S	Sn	04 17 35.4	+0.1
JTAJ	**Takarajima**	**1.13**	**275**	P	Pn	04 17 23.6	+0.1
JTAJ				*e*S	Sn	04 17 38.0	0.0
JYAK	**Yakushimahirau**	**1.16**	**1**	P	Pn	04 17 24.4	+0.4
JYAK				S	Sn	04 17 39.3	+0.5
JAMN	**Amaminishikomi**	**1.42**	**235**	P	Pn	04 17 27.6	+0.2
JTN	**Tanegashima 3**	**1.64**	**15**	P	Pn	04 17 31.2	+0.8
JTK	**Tokunoshima**	**1.86**	**227**	P	Pn	04 17 34.8	+1.3

*NIED **09** 04:17:00, 29°.10N×130°.50E, h8km, Mw4.0 Best double couple: $M_0$1.33000×10^15 NP1:φs133.00000°, δ7.00000°, λ12.00000°. NP2:φs31.00000°, δ88.00000°, λ97.00000°.*
*ISCJB **09** 04:17:16.2±0.6, 29°.02N±0°.04×130°.64E±0°.06, h40km, mb3.9/14, MS3.4/2, Error ellipse: s-maj=8.2km s-min=4.9km az=23.0*
*JMA **09** 04:17:16.9±0.1, 29°.10N×130°.52E, h11km±2km, M3.5*
*IDC **09** 04:17:19.2±0.8, 29°.07N×130°.47E, h50km±8km, mb3.7/14, mb1 3.8/14, mb1mx3.6/46, mbtmp3.9/14, MS3.3/3, Ms1 3.3/3, ms1mx2.8/36, Error ellipse: s-maj=23.9km s-min=15.0km az=69.0*
ISC 09 04:17:18.6±0.7, 29.09N±0°.05×130°.49E±0°.08, h40km, n29, σ1.20/34, mb4.0/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.92**	**324**	*e*S	**Sn**	**04 17 47.1**	**0.0**
JAM	**Amami Oshima**	**1.03**	**229**	P	**Pn**	**04 17 36.7**	**+0.1**
JAM				*e*S	**Sn**	**04 17 50.7**	**+0.9**
JTAJ	**Takarajima**	**1.13**	**273**	*e*S	**Sn**	**04 17 53.6**	**+1.4**
JYAK	**Yakushimahirau**	**1.14**	**1**	*e*S	**Sn**	**04 17 53.3**	**+0.8**
JKC	**Kuchinoerabu**	**1.39**	**349**	P	**Pn**	**04 17 42.5**	**+1.1**
JKC				*e*S	**Sn**	**04 18 00.2**	**+1.6**
JAMN	**Amaminishikomi**	**1.44**	**234**	P	**Pn**	**04 17 43.1**	**+1.0**
JAMN				*e*S	**Sn**	**04 18 02.1**	**+2.4**
JTN	**Tanegashima 3**	**1.61**	**15**	P	**Pn**	**04 17 45.4**	**+0.9**
JTN				*e*S	**Sn**	**04 18 06.4**	**+2.3**
JTK	**Tokunoshima**	**1.88**	**227**	P	**Pn**	**04 17 49.4**	**+1.2**
JOW	**Kunigami**	**2.99**	**222**	P	Pn	04 17 59.6	-3.8
	3.2nm,0.3s,baz=80,slow=18,SNR=6.4						
KSRS	**Korea Array**	**8.61**	**346**	LR	LR	04 22 25.3	
	comp=Z,59nm,18.4s,baz=172,slow=36						
SONM	**Songino Array**	**26.39**	**322**	P	**P**	**04 22 51.9**	**+0.6**
	0.7nm,0.8s,baz=144,slow=8.4,SNR=3.1						
SONM				LR	LR	04 34 43.0	
	comp=Z,129nm,18.3s,baz=98,slow=40						
CMAR	**Chiang Mai Arr**	**30.66**	**257**	P	**P**	**04 23 30.4**	**+0.9**
	0.9nm,0.3s,baz=133,slow=8.4,SNR=5.9						
CMAR				LR	LR	04 37 28.0	
	comp=Z,54nm,19.2s,baz=175,slow=40						
ODAN	**Odare**	**37.98**	**277**	*e*P	**P**	**04 24 31.5**	**-1.5**
	6.3nm,0.6s						
JIRN	**Jiri**	**38.84**	**279**	*e*P	**P**	**04 24 39.0**	**-1.3**
GUN	**Gumba**	**39.05**	**279**	*e*P	**P**	**04 24 41.8**	**-0.3**
	11nm,0.5s						
PKI	**Pulchoki**	**39.53**	**279**	*e*P	**P**	**04 24 44.8**	**-1.3**
DANN	**Dangsing**	**40.78**	**281**	*e*P	**P**	**04 24 55.3**	**-1.1**
	9.3nm,0.6s						
MKAR	**Makanchi Array**	**41.21**	**309**	P	**P**	**04 24 58.6**	**-0.8**
	0.6nm,0.7s,baz=102,slow=8.8,SNR=8.0						
KURBB	**Kurchatov Arra**	**44.24**	**314**	P	**P**	**04 25 22.6**	**-1.2**
	2.5nm,0.6s,baz=98,slow=9.1,SNR=10						
KURBB				pP	**pP**	**04 25 36.4**	**+1.2**
	0.4nm,0.3s,baz=90,slow=8.6,SNR=2.3						
WRA	**Warramunga Arr**	**48.89**	**175**	P	**P**	**04 25 59.0**	**-1.5**
	1.3nm,0.8s,baz=352,slow=8.5,SNR=7.8						
WRA				pP	**pP**	**04 26 12.5**	**+0.5**
	2.2nm,0.8s,baz=354,slow=8.3,SNR=9.3						
BVAR	**Borovoye Array**	**49.53**	**317**	P	**P**	**04 26 04.4**	**-0.8**
	2.5nm,0.6s,baz=95,slow=9.3,SNR=11						
ASAR	**Alice Springs**	**52.56**	**176**	P	**P**	**04 26 27.7**	**-0.5**
	0.9nm,0.8s,baz=8.4,slow=10.0,SNR=12						
ASAR				pP	**pP**	**04 26 42.0**	**+2.3**
	1.0nm,0.6s,baz=6.8,slow=14,SNR=8.0						
ILAR	**Eielson Array**	**60.97**	**29**	P	**P**	**04 27 27.4**	**0.0**
	0.4nm,0.8s,baz=300,slow=6.5,SNR=4.7						
KBZ	**Khabaz**	**68.91**	**309**	P	**P**	**04 28 19.5**	**+0.2**
	2.8nm,1.0s,baz=61,slow=5.0,SNR=4.8						
FINES	**FINESS Array B**	**71.36**	**331**	P	**P**	**04 28 32.8**	**-1.2**
	1.1nm,0.6s,baz=80,slow=14,SNR=4.2						
RES	**Resolute Bay**	**72.36**	**11**	P	**P**	**04 28 39.6**	**-0.2**
	1.9nm,0.8s,baz=315,slow=7.0,SNR=7.0						
AKASG	**Malin Array Be**	**74.66**	**320**	P	**P**	**04 28 52.6**	**-1.1**
	0.8nm,0.5s,baz=58,slow=6.5,SNR=2.9						
YKA	**Yellowknife Ar**	**75.09**	**26**	P	**P**	**04 28 56.4**	**+0.4**
	0.5nm,0.9s,baz=302,slow=5.5,SNR=7.6						
BRTR	**Keskin Array B**	**76.86**	**308**	P	**P**	**04 29 06.9**	**+0.2**
	1.1nm,0.7s,baz=110,slow=4.7,SNR=4.6						

*IDC **09** 04:18:17.7±1.7, 32°.96N×116°.69W, h0km, mb1 3.4/5, mb1mx3.2/56, mbtmp3.0/5, ML3.1/5, Error ellipse: s-maj=23.4km s-min=12.7km az=75.0*
*NEIC **09** 04:18:21.9, 32°.99N×116°.36W, h5km, ML4.0(PAS), After PAS.*
NEIC Felt [IV] at Descanso and Pine Valley; [III] at Boulevard, Campo, Julian and Ocotillo; [II] at Alpine, Bonita, Borrego Springs, Calexico, Chula Vista, Coronado, El Cajon, El Centro, Escondido, Fallbrook, Heber, Hemet, Imperial, Jamul, La Mesa, Lakeside, Poway, Ramona, San Diego, San Marcos, Santa Ysabel, Santee, Spring Valley, Valley Center and Vista. Also felt at Big Bear Lake, Crestline, Los Angeles, Redondo Beach and in Orange, western Riverside and San Diego Counties. Felt [II] at Mexicali, Tecate and Tijuana, Baja California. Also felt at Rosarito.
*ECX **09** 04:18:22.0±0.7, 33°.00N×116°.35W, h6km±5km, MD4.0, ML4.2*
ISC 09 04:18:21.0±1.1, 33°.02N±0°.02×116°.33W±0°.02, h3km±10km, n69, σ1.43/112, 10C-9D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONP	**Monument Peak,**	**0.15**	**210**	⇓*iP*	**Pg**	**04 18 24.5**	**+0.6**
MONP	**Monument Peak,**	**0.15**	**210**	P	**Pg**	**04 18 24.3**	**+0.4**
	baz=0.1						
MONP				S	**Sg**	**04 18 26.5**	**+0.6**
	baz=0.1						
CRR	**Carrizo Plain**	**0.33**	**113**	⇑*iP*	**Pg**	**04 18 28.2**	**+0.8**
BAR	**Barrett**	**0.44**	**220**	⇑*iP*	**Pg**	**04 18 29.5**	**0.0**
BAR				*i* S	**Sg**	**04 18 35.2**	**0.0**
BAR	**Barrett**	**0.44**	**220**	*e*Pg	**Pg**	**04 18 29.5**	**0.0**
BAR				*e*Sg	**Sg**	**04 18 34.9**	**-0.4**
EML	**El Monte Cty P**	**0.45**	**254**	⇑*iP*	**Pg**	**04 18 29.6**	**0.0**
EML				*e*S	**Sg**	**04 18 35.8**	**+0.3**
SWSC	**Sam W. Stewart**	**0.46**	**100**	P	**Pg**	**04 18 30.3**	**+0.5**
	baz=0.5						
SWSC				S	**Sg**	**04 18 36.6**	**+0.9**
	baz=0.5						
RMX	**La Rumorosa**	**0.47**	**153**	⇓*e*P	**Pg**	**04 18 30.0**	**0.0**
RMX				*e*S	**Sg**	**04 18 36.4**	**+0.3**
RMX				⇑*e*		04 18 37.4	
	comp=E,8μm,0.1s						
YUH	**Yuha Desert**	**0.51**	**137**	⇓*iP*	**Pg**	**04 18 31.0**	**+0.3**
DPP	**Dos Picos Cty**	**0.51**	**268**	⇑*iP*	**Pg**	**04 18 31.0**	**+0.2**
DPP				*e*S	**Sg**	**04 18 37.7**	**+0.2**
HWB	**Hans Werner Br**	**0.53**	**271**	⇑*iP*	**Pg**	**04 18 31.3**	**+0.2**
HWB				*e*S	**Sg**	**04 18 38.2**	**+0.2**
PFO	**Pinyon Flats O**	**0.60**	**350**	Pn	**Pg**	**04 18 32.9**	**+0.4**
	comp=E,355nm,0.3s,baz=183,slow=16,SNR=2309						
PFO				Lg	Lg	04 18 41.0	
	comp=E,297nm,0.3s,baz=72,slow=19,SNR=16						
PFO	**Pinyon Flats O**	**0.60**	**350**	P	**Pg**	**04 18 33.1**	**+0.7**
	baz=0.6						
PFO	**Pinyon Flats O**	**0.60**	**350**	*e*Pg	**Pg**	**04 18 33.1**	**+0.7**
PFO				Lg	Lg	04 18 41.0	
PFO				*e*S	**Sg**	**04 18 41.2**	**+1.0**
109C	**Camp Elliot, M**	**0.66**	**259**	P	**Pg**	**04 18 33.3**	**-0.4**
	baz=0.6						
CBX	**Cerro Bola**	**0.76**	**202**	⇓*e*P	**Pg**	**04 18 35.1**	**-0.4**
CBX				*e*S	**Sg**	**04 18 45.1**	**-0.2**
CBX				⇑*e*		04 18 47.4	
	comp=N,25μm,0.4s						
CBX				⇑*e*		04 18 49.5	
	comp=E,22μm,0.7s						
MURC	**Murrieta**	**0.93**	**309**	P	**Pg**	**04 18 38.7**	**-0.1**
	baz=0.9						
MURC				S	**Sb**	**04 18 51.2**	**-1.3**
	baz=0.9						
BC3	**Big Chuckawall**	**0.97**	**49**	P	**Pg**	**04 18 39.3**	**-0.3**
	baz=1.0						
BELC	**Belle Mtn. Jos**	**1.02**	**16**	P	**Pg**	**04 18 40.4**	**-0.1**
	baz=1.1						
BELC				S	**Sg**	**04 18 54.2**	**+0.5**
	baz=1.1						
CPBX	**Cerro Prieto**	**1.05**	**124**	*e*P	**Pg**	**04 18 40.0**	**-1.1**
RDX	**Rancho Dawling**	**1.14**	**163**	⇓*e*P	**Pg**	**04 18 41.7**	**-1.1**
RDX				⇑*e*		04 18 42.3	
	comp=N,3μm,0.4s						
RDX				*e*S	**Sg**	**04 18 55.9**	**-1.6**
RDX				⇑*e*		04 18 59.4	
	comp=E,7μm,0.6s						
GLA	**Glamis**	**1.27**	**88**	P	**Pg**	**04 18 43.2**	**-2.0**
	baz=1.3						
GLA	**Glamis**	**1.27**	**88**	*e*Pn	**Pg**	**04 18 43.2**	**-2.0**
PBX	**Punta Banda**	**1.32**	**195**	⇓*e*P	**Pg**	**04 18 44.7**	**-1.5**
PBX				*e*S	**Sg**	**04 19 02.0**	**-1.3**
BBRC	**Big Bear Solar**	**1.33**	**339**	Pb	**Pg**	**04 18 46.1**	**-0.5**
	baz=1.4						
BBRC				Sb	**Sg**	**04 19 04.0**	**+0.2**
	baz=1.4						
ECNX	**Esteban Cantu**	**1.38**	**189**	⇓*e*P	**Pn**	**04 18 45.7**	**-1.4**
ECNX				*e*S	**Sg**	**04 19 03.9**	**-1.4**
ZAX	**El Zacaton**	**1.50**	**178**	⇓*e*P	**Pn**	**04 18 47.6**	**-1.2**
IRM	**Iron Mountain**	**1.51**	**41**	P	**Pn**	**04 18 47.4**	**-1.5**
	baz=1.5						
IRM				Sb	**Sn**	**04 19 09.2**	**+0.1**
	baz=1.5						
BFSC	**Mount Baldy Ra**	**1.64**	**318**	Pb	**Pn**	**04 18 50.9**	**0.0**
	baz=1.7						
BFSC				Sb	**Sn**	**04 19 12.1**	**-0.5**
	baz=1.7						
Y12C	**Blythe**	**1.68**	**64**	P	**Pn**	**04 18 49.4**	**-1.9**
	baz=1.7						
CIS	**Catalina Islan**	**1.78**	**283**	P	**Pn**	**04 18 51.2**	**-1.4**
	baz=1.8						
GMRC	**Granite Mounta**	**1.84**	**17**	P	**Pn**	**04 18 52.4**	**-1.2**
	baz=1.9						
GMRC				Sb	**Sb**	**04 19 19.9**	**+1.0**
	baz=1.9						
MWC	**Mount Wilson**	**1.88**	**310**	*e*Pn	**Pn**	**04 18 54.1**	**0.0**
MWC				*e*Sg	**Sb**	**04 19 20.1**	**+0.3**
ECBX	**El Chinero**	**1.89**	**145**	*e*P	**Pn**	**04 18 55.3**	**+1.2**
ECBX				*e*S	**Sn**	**04 19 19.6**	**+1.2**
PASC	**Pasadena Art C**	**1.93**	**307**	*e*Pn	**Pn**	**04 18 54.5**	**-0.1**
PASC				*e*S	**Sb**	**04 19 21.0**	**-0.2**
RRX	**Edison Barstow**	**1.94**	**344**	Pg	**Pb**	**04 18 57.5**	**+0.6**
	baz=2.0						
DECC	**Green Verdugo**	**2.07**	**307**	Sb	**Sb**	**04 19 25.5**	**+0.1**
	baz=2.1						
SPIG	**San Pedro Mart**	**2.10**	**159**	*e*P	**Pn**	**04 18 58.8**	**+1.5**
SPX	**San Pedro Mart**	**2.10**	**159**	⇓*e*P	**Pn**	**04 18 59.1**	**+1.8**
SPX				*

MVU	**Marysvale**	**6.42**	**30**	*e*Pn	Pn	04 20 00.8	+4.2
	comp=E,7.9nm,0.5s						
MVU				*e*Pg	**Pg**	**04 20 24.5**	**+0.6**
MVU				*e*S	Sb	04 21 39.0	+8.5
121A	**Cookes Peak, D**	**7.21**	**92**	*e*Pn	**Pn**	**04 20 07.1**	**-0.4**
	comp=E,15nm,0.5s						
121A				*e*S	Sg	04 22 19.1	+6.4
MVCO	**Mesa Verde**	**7.66**	**55**	*e*Pn	**Pn**	**04 20 14.4**	**+0.8**
	comp=E,13nm,0.6s						
MVCO				*e*S	**Sg**	**04 22 29.2**	**+2.3**
ELK	**Elko**	**7.76**	**6**	Pn	**Pn**	**04 20 15.8**	**+0.8**
	comp=E,0.1nm,0.3s,baz=162,slow=13,SNR=2.7						
ELK				Pg	Pb	04 20 43.2	+7.0
	comp=E,0.7nm,0.3s,baz=182,slow=10,SNR=15						
ELK				Lg	Lg	04 22 25.1	
	comp=E,0.1nm,0.3s,baz=180,slow=20,SNR=4.5						
PV04	**Paradox Valley**	**8.07**	**46**	*e*Pn	**Pn**	**04 20 20.9**	**+1.6**
PV04				*e*S	Sg	04 22 33.7	-6.5
PV01	**Paradox Valley**	**8.12**	**49**	*e*Pn	**Pn**	**04 20 22.1**	**+2.1**
	comp=E,1μm,0.8s						
PV01				*e*Pg	Pg	04 20 53.8	-2.7
PV01				*e*S	Sg	04 22 35.3	-6.5
ANMO	**Albuquerque**	**8.42**	**74**	Pn	**Pn**	**04 20 24.5**	**+0.4**
	comp=E,0.2nm,0.3s,baz=262,slow=13,SNR=4.5						
PDAR	**Pinedale Array**	**11.10**	**27**	Pn	Pn	04 21 05.9	+5.1
	comp=E,0.0nm,0.3s,baz=202,slow=15,SNR=5.6						
TXAR	**Lajitas Array**	**11.45**	**105**	Pn	Pn	04 21 09.1	+3.6
	comp=E,0.2nm,0.3s,baz=284,slow=15,SNR=4.6						

IDC 09 04:26:34.9±4.7, 0°.94S×138°.51E, h0km, mb3.1/2, mb1 3.2/3, mb1mx3.1/26, mbtmp3.0/3, ML3.0/1, Error ellipse: s-maj=237.8km s-min=26.9km az=87.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.32**	**192**	P	P	04 31 01.5	-0.4
	0.1nm,0.3s,baz=16,slow=13,SNR=4.1						
ASAR	**Alice Springs**	**23.03**	**191**	P	P	04 31 42.8	+0.9
	0.4nm,0.6s,baz=20,slow=11,SNR=4.8						
SONM	**Songino Array**	**56.05**	**334**	P	P	04 36 15.4	-0.4
	0.2nm,0.6s,baz=129,slow=8.2,SNR=3.0						

MEX 09 04:29:08.1±0.6, 16°.09N×98°.22W, h4km±6km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**16**	*e*P	Pg	04 29 14.1	-0.1
PNIG				*i* S	Sg	04 29 18.0	-0.3
TLIG	**Tlapa**	**1.50**	**347**	*e*P	Pn	04 29 32.0	-3.9
TLIG				*e*S	Sn	04 29 50.5	-5.6
VHO	**Vista Hermosa**	**1.72**	**55**	*e*P	Pn	04 29 36.0	-3.1
VHO				*e*S	Sn	04 29 57.3	-4.5
HUIG	**Huatulco**	**2.05**	**99**	*e*P	Pn	04 29 39.8	-3.6
HUIG				*i* S	Sn	04 30 04.0	-5.5
CAIG	**El Cayaco**	**2.18**	**296**	*e*P	Pn	04 29 41.2	-3.9
ARIG	**Puente Sto Nin**	**2.98**	**317**	*i* P	Pn	04 29 52.9	-3.3
ARIG				*e*S	Sn	04 30 28.3	-4.0
CMIG	**Matias Romero**	**3.35**	**72**	*i* P	Pn	04 29 57.4	-3.8
CMIG				*e*S	Sn	04 30 37.0	-4.4

*IDC **09** 04:29:23.6±1.7, 35°.07S×72°.63W, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.6/24, mbtmp3.5/3, ML3.8/2, Error ellipse: s-maj=49.6km s-min=21.4km az=82.0*
*ISCJB **09** 04:29:24.6±2.0, 34°.99S±0°.09×72°.7W±0°.1, h19km±18km, mb3.5/1, Error ellipse: s-maj=18.4km s-min=8.3km az=137.7*
*GUC **09** 04:29:25.5±0.6, 35°.03S×72°.60W, h34km±7km, ML4.0*

ISC 09 04:29:27.8±2.0, 35°.07S±0°.07×72°.52W±0°.09, h34km±4km, n11, σ0°.94/17, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.06**	**87**	⇓*i*P	**Pn**	**04 29 45.4**	**-0.8**
NICH				*i* S	**Sb**	**04 30 00.4**	**-0.9**
LNCH	**Linares**	**1.08**	**136**	⇓*i*P	**Pb**	**04 29 47.6**	**-0.4**
LNCH				*i* S	**Sb**	**04 30 03.3**	**+1.4**
COCH	**Cobquecura**	**1.08**	**191**	⇓*i*P	**Pn**	**04 29 45.1**	**-1.4**
RCDM	**Rinconada Maip**	**2.12**	**43**	*e*P1	**Pn**	**04 29 59.8**	**-1.1**
RCDM				*e*S	**Sn**	**04 30 26.0**	**0.0**
ANTU	**Antumapu**	**2.16**	**47**	*e*P1	**Pn**	**04 30 01.4**	**0.0**
ANTU				*i* S	**Sn**	**04 30 27.6**	**+0.5**
ANTU				IAML		04 30 32.0	
	comp=E,959nm,0.5s						
CLCH	**Cerro Calan**	**2.34**	**45**	*e*P1	**Pn**	**04 30 03.6**	**-0.3**
CLCH				*i* S	**Sn**	**04 30 31.9**	**+0.3**
CLCH				IAML		04 30 40.0	
	comp=E,875nm,0.8s						
PEL	**Peldehue**	**2.45**	**39**	*e*P1	**Pn**	**04 30 04.3**	**-1.1**
PEL				*e*S	**Sn**	**04 30 34.8**	**+0.5**
PEL				IAML		04 30 45.6	
	comp=N,1μm,0.2s						
CFAA	**Coronel Fontan**	**4.98**	**47**	Pn	**Pn**	**04 30 39.4**	**-0.8**
	comp=N,0.1nm,0.3s,baz=225,slow=10.0,SNR=5.5						
CFAA				Lg	Lg	04 31 50.0	
	comp=N,0.2nm,0.3s,baz=216,slow=22,SNR=3.7						
PLCA	**Paso Flores**	**5.87**	**165**	Pn	**Pn**	**04 30 53.2**	**+0.9**
	comp=N,1.0nm,0.3s,baz=344,slow=11,SNR=22						
PLCA				Lg	Lg	04 32 29.7	
	comp=N,0.6nm,0.3s,baz=351,slow=19,SNR=2.5						
LPAZ	**La Paz**	**19.11**	**13**	P	**Pn**	**04 33 50.4**	**+1.0**
	comp=N,0.1nm,0.3s,baz=209,slow=10,SNR=2.7						
TXAR	**Lajitas Array**	**70.47**	**331**	P	**P**	**04 40 39.3**	**+0.4**
	comp=N,0.3nm,0.5s,baz=154,slow=8.5,SNR=4.5						

*IDC **09** 04:29:53.1±1.0, 19°.83N×155°.44W, h0km, mb3.9/9, mb1 4.2/9, mb1mx3.9/38, mbtmp3.9/9, MS3.5/6, Ms1 3.6/6, ms1mx3.2/27, Error ellipse: s-maj=41.5km s-min=19.2km az=145.0*
*ISCJB **09** 04:29:54.8±1.1, 19°.83N±0°.04×155°.51W±0°.06, h28km±9km, mb3.8/9, MS3.5/6, Error ellipse: s-maj=10.3km s-min=4.2km az=143.9*
*BJI **09** 04:29:55.3, 20°.01N×155°.27W, h33km, mb4.6/3, Ms5.0/2, Ms7 4.4/2*
*NEIC **09** 04:29:57.0, 19°.85N×155°.36W, h31km, MD4.4(HVO), After HVO.*
NEIC Felt [IV] at Honoka'a and Pa'auilo; [III] at Hakalau, Hawaii National Park, Hawi, Hilo, Honomu, Kapaau, Kea'au, Laupahoehoe, Mountain View, Na'alehu, Ninole, 'O'okala, Papa'aloa, Papa'ikou, Pepeekeo, Volcano, Waikoloa and Waimea; [II] at Captain Cook, Holualoa, Kailua Kona and Pahoa. Also felt at Honaunau, Kealakekua, Kurtistown and Pahala.

ISC 09 04:29:56.8±0.7, 19°.81N±0°.05×155°.48W±0°.07, h30km±4km, n42, σ1°.85/40, mb3.8/9, MS3.6/6, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.07**	**226**	*e*Pg	**Pb**	**04 30 02.7**	**+0.4**
POHA				*e*Sn	**Sb**	**04 30 06.9**	**+0.8**
UWE	**Uwekahuna**	**0.42**	**155**	*e*Pn	**Pb**	**04 30 05.3**	**-0.8**
UWE				*e*Sn	**Sb**	**04 30 11.5**	**-1.0**
PUH	**Pauahi**	**0.50**	**150**	*e*Pn	**Pb**	**04 30 06.0**	**-1.2**
PUH				*e*Sn	**Sb**	**04 30 12.4**	**-2.0**
KKH	**Kailua Kona**	**0.53**	**254**	*e*Pn	**Pn**	**04 30 08.0**	**-0.3**
STCH	**Steam Cracks**	**0.54**	**141**	*e*Pg	**Pb**	**04 30 06.4**	**-1.5**
STCH				*e*Sn	**Sb**	**04 30 13.0**	**-2.5**
HPO	**Honuapo**	**0.72**	**186**	*e*Pn	**Pn**	**04 30 09.8**	**-1.0**
HPO				*e*Sn	**Sb**	**04 30 19.0**	**-1.3**
HKL	**Haleakala**	**1.16**	**321**	*e*Pn	**Pn**	**04 30 15.8**	**-1.5**
HKL				*e*Sn	**Sn**	**04 30 28.6**	**-3.7**
HLK	**Haleakala**	**1.19**	**323**	*e*Pn	**Pn**	**04 30 15.9**	**-1.7**
HLK				*e*Sn	**Sn**	**04 30 28.6**	**-4.2**
HON	**Honolulu**	**2.80**	**303**	*e*Pn	**Pn**	**04 30 38.5**	**-1.0**
HON				*e*S	**Sn**	**04 31 09.6**	**-2.8**
KIP	**Kipapa**	**2.87**	**305**	*e*Pn	**Pn**	**04 30 39.2**	**-1.3**
KIP				*e*Sn	**Sn**	**04 31 10.8**	**-3.1**
OPA	**Opana**	**3.02**	**309**	*e*Pn	**Pn**	**04 30 40.6**	**-1.8**
OPA				*e*Sn	**Sn**	**04 31 13.3**	**-4.3**
H11N3	**WAKE ISLAND Hy**	**35.35**	**276**	T	T	05 13 60.0	
	baz=84,slow=74,SNR=191						
H11N2	**WAKE ISLAND Hy**	**35.36**	**276**	T	T	05 14 00.9	
	baz=84,slow=74,SNR=146						
H11N1	**WAKE ISLAND Hy**	**35.37**	**276**	T	T	05 14 01.3	
	baz=84,slow=74,SNR=101						
PMOR	**Pomariorio Ree**	**35.38**	**167**	*e*T	T	05 13 31.4	
	64nm,0.2s						
H11S2	**WAKE ISLAND Hy**	**35.70**	**274**	T	T	05 14 25.7	
	baz=82,slow=74,SNR=31						
H11S1	**WAKE ISLAND Hy**	**35.70**	**274**	T	T	05 14 25.3	
	baz=82,slow=74,SNR=32						
H11S3	**WAKE ISLAND Hy**	**35.72**	**274**	T	T	05 14 26.3	
	baz=82,slow=74,SNR=34						
NVAR	**Mina Array Bea**	**37.09**	**52**	P	**P**	**04 37 04.4**	**-0.3**
	0.6nm,0.8s,baz=250,slow=7.6,SNR=2.3						
PPT2	**Papeete2**	**37.61**	**171**	*e*LR	LR	04 47 07.7	
	169nm,26.8s						
PPT2	**Papeete2**	**37.61**	**171**	*e*T	T	05 16 16.5	
	6.5nm,0.3s						
TIAR	**Tiarei**	**37.62**	**170**	*e*T	T	05 16 16.9	
	7.6nm,0.2s						
H02S1	**DAWSON INLET T**	**37.77**	**23**	T	T	05 16 58.3	
	SNR=9.9						
FX1	**Attu Island--F**	**40.96**	**331**	LR	LR	04 50 31.5	
	comp=Z,52nm,20.4s,baz=144,slow=30						
H06S1	**SOCORRO T**	**41.95**	**84**	T	T	05 22 15.4	
	SNR=6.8						
TBI	**Tubuai**	**43.29**	**172**	*e*T	T	05 23 20.7	
	136nm,0.3s						
PDAR	**Pinedale Array**	**44.75**	**49**	P	**P**	**04 38 07.7**	**-0.1**
	1.0nm,0.9s,baz=246,slow=7.4,SNR=6.8						
ILAR	**Eielson Array**	**45.31**	**5**	P	**P**	**04 38 11.9**	**+0.4**
	1.8nm,0.7s,baz=193,slow=7.1,SNR=24						
ILAR				PcP	**PcP**	**04 39 51.5**	**+0.6**
	0.6nm,0.9s,baz=205,slow=5.4,SNR=4.8						
ILAR				LR	LR	04 52 05.0	
	comp=Z,87nm,20.5s,baz=142,slow=29						
RKT	**Rikitea**	**47.12**	**154**	*e*T	T	05 28 17.1	
	3.9nm,0.2s						
TXAR	**Lajitas Array**	**47.74**	**68**	P	**P**	**04 38 33.1**	**+1.8**
	0.7nm,0.6s,baz=260,slow=9.7,SNR=7.0						
PETK	**Petropavlovsk-**	**48.92**	**324**	LR	LR	04 56 27.9	
	comp=Z,22nm,20.9s,baz=108,slow=33						
YKA	**Yellowknife Ar**	**51.03**	**23**	P	**P**	**04 38 56.3**	**+0.6**
	2.5nm,0.8s,baz=232,slow=7.7,SNR=42						
YKA				PcP	**PcP**	**04 40 11.6**	**+0.2**
	0.2nm,0.6s,baz=239,slow=3.8,SNR=2.9						
ULM	**Lac du Bonnet**	**55.66**	**42**	LR	LR	05 01 06.6	
	comp=Z,49nm,18.0s,baz=344,slow=34						
WRA	**Warramunga Arr**	**79.27**	**244**	P	**P**	**04 42 00.6**	**+0.8**
	1.2nm,0.8s,baz=62,slow=5.8,SNR=10						
HHC	**Hu-ho-hao-te**	**79.48**	**310**	*e*P	**P**	**04 42 01.4**	**+0.7**
HHC				PP	**PP**	**04 45 03.2**	**+2.2**
HHC				S	**S**	**04 51 58.5**	**-1.8**
HHC				sS	**SKKSac**	**04 52 15.9**	**-1.1**
HHC				SS	**SS**	**04 57 09.0**	**+1.2**
HHC				PMZ			
	17nm,1.1s						
HHC				LN			
	240nm,16.7s						
HHC				LE			
	440nm,16.3s						
HHC				LZ			
	100nm,16.3s						
SONM	**Songino Array**	**80.84**	**317**	P	**P**	**04 42 10.1**	**+2.1**
	0.3nm,0.8s,baz=75,slow=3.6,SNR=2.6						
ASAR	**Alice Springs**	**81.25**	**241**	P	**P**	**04 42 12.1**	**+1.7**
	2.1nm,0.8s,baz=63,slow=5.7,SNR=17						
ZALV	**Zalesovo Beam**	**90.23**	**329**	P	**P**	**04 42 55.5**	**+1.1**
	0.2nm,0.3s,baz=19,slow=5.2,SNR=2.2						
LPAZ	**La Paz**	**92.98**	**106**	LR	LR	05 15 60.0	
	comp=Z,40nm,19.6s,baz=163,slow=30						
WMQ	**Urumqi**	**94.31**	**320**	*e*P	**P**	**04 43 13.8**	**+0.2**
WMQ				pP	**pP**	**04 43 24.0**	**+0.7**
NOA	**NORSAR Array B**	**98.73**	**7**	LR	LR	05 28 59.2	
	comp=Z,18nm,18.4s,baz=350,slow=36						
TORD	**Torodi Ar. Bea**	**140.29**	**36**	PKP	**PKPdf**	**04 49 23.6**	**0.0**
	0.9nm,0.9s,baz=338,slow=2.8,SNR=6.5						

DJA 09 04:50:56.0±1.3, 11°.S±9°×11°.3E±°, h10km, M4.1/5, MLv4.1/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**2.82**	**10**	S	Sn	04 52 04.4	-11
JAGI	**Jajag, Banyuwa**	**2.84**	**25**	P	Pn	04 51 40.2	-1.2
JAGI				S	Sn	04 52 17.0	+1.3
PWJI	**Pagerwojo**	**3.24**	**339**	P	Pn	04 51 44.8	-2.1
PWJI				S	Sn	04 52 22.7	-2.8
BLJI	**Banyuglugur**	**3.36**	**11**	P	Pn	04 51 46.4	-2.2
ABJI	**Asem Bagus**	**3.49**	**21**	P	Pn	04 51 43.7	-6.7

GUC 09 04:52:11.6±0.5, 35°.39S×73°.03W, h19km±11km, ML4.1, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.77**	**165**	⇓*i*P	Pb	04 52 25.6	-0.7
COCH				*i* S	Sb	04 52 35.9	-0.5
LNCH	**Linares**	**1.25**	**112**	⇑*i*P	Pn	04 52 33.4	-0.6
LNCH				*i* S	Sb	04 52 49.8	-0.5
NICH	**Los Niches**	**1.52**	**76**	⇑*i*P	Pn	04 52 37.7	-0.1
NICH				*i* S	Sn	04 52 57.1	+0.1
NICH				IAML		04 53 03.4	
	comp=N,5μm,0.7s						
PEL	**Peldehue**	**2.96**	**42**	*e*P1	Pn	04 52 58.7	+1.1

*BYKL **09** 04:55:59.1±0.3, 53°.79N×109°.07E*
*MOS **09** 04:55:59.3±1.9, 53°.71N×109°.15E, h10km, mb4.3/1, Error ellipse: s-maj=42.8km s-min=17.0km az=147.4*

ISC 09 04:55:58.8±1.1, 53°.74N±0°.02×109°.13E±0°.02, h3km±10km, n34, σ1°.97/74, 13C-5D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYVR	**Suvo**	**0.52**	**98**	*e*PG	**Pg**	**04 56 09.4**	**+0.5**
SYVR				*e*		04 56 15.9	
SYVR				pmax	pmax		
	comp=Z,250nm,0.3s						
SYVR				smax	smax		
	comp=N,864nm,0.5s						
SYVR	**Suvo**	**0.52**	**98**	⇓*i*Pg	**Pg**	**04 56 09.4**	**+0.5**
	comp=N,30nm,0.4s						
SYVR				⇑*i*Pg	**Pg**	**04 56 09.4**	**+0.5**
	comp=N,145nm,0.4s						
SYVR				⇑*i*Pg	**Pg**	**04 56 09.4**	**+0.5**
	comp=N,272nm,0.4s						
SYVR				*e*		04 56 15.8	
SYVR				*i* Sg	**Sg**	**04 56 16.9**	**+1.2**
SYVR				Pmax			
	comp=N,59nm,0.1s						
SYVR				Smax			
	comp=N,853nm,0.6s						
MXMB	**Maximikha**	**0.53**	**206**	⇑*i*Pg	**Pb**	**04 56 10.4**	**-0.3**
MXMB				*e*Pb	**Pn**	**04 56 13.1**	**-0.1**
MXMB				*e*Sg	**Sb**	**04 56 17.8**	**-0.9**
MXMB				*e*Sb	**Sn**	**04 56 21.3**	**-1.3**
MXMB				max			
	comp=N,72nm,0.2s						
MXMB				max			
	comp=N,896nm,0.6s						
OGRR	**Ongureny**	**0.92**	**265**	⇑*i*PG	**Pg**	**04 56 16.3**	**-0.1**
OGRR				*e*		04 56 28.6	
OGRR				pmax	pmax		
	comp=Z,245nm,0.4s						
OGRR				smax	smax		
	comp=N,1μm,0.4s						
OGRR	**Ongureny**	**0.92**	**265**	⇑*i*Pg	**Pg**	**04 56 16.2**	**-0.1**
	comp=N,13nm,0.3s						
OGRR				⇓*i*Pg	**Pg**	**04 56 16.2**	**-0.1**
	comp=N,196nm,0.3s						
OGRR				⇑*i*Pg	**Pg**	**04 56 16.2**	**-0.1**
	comp=N,209nm,0.3s						
OGRR				*e*Pb	**Pn**	**04 56 18.3**	**-0.3**
OGRR				*e*Sg	**Sg**	**04 56 28.1**	**-0.1**
OGRR				Pmax			
	comp=N,244nm,0.4s						
OGRR				Smax			
	comp=N,1μm,0.3s						
YLYR	**Ulyunkhan**	**1.65**	**45**	*e*PN	**Pn**	**04 56 27.8**	**-0.9**
YLYR				*e*		04 56 49.8	
YLYR				pmax	pmax		
	comp=Z,30nm,0.4s						
YLYR				smax	smax		
	comp=N,301nm,0.6s						
YLYR	**Ulyunkhan**	**1.65**	**45**	⇓*i*Pg	**Pn**	**04 56 27.9**	**-0.8**
YLYR				*e*Sg	**Sn**	**04 56 50.0**	**-0.4**
YLYR				*e*		04 56 52.5	
YLYR				Pmax			
	comp=N,34nm,0.5s						
YLYR				Smax			
	comp=N,300nm,0.6s						
ZRHB	**Zarechye**	**1.68**	**226**	*e*Pg	**Pb**	**04 56 30.3**	**0.0**
ZRHB				*e*		04 56 32.8	
ZRHB				*e*Sg	**Sg**	**04 56 53.3**	**+0.6**
ZRHB				*e*		04 56 57.6	
ZRHB				max			
	comp=N,100nm,1.2s						
ZRHB				Smax			
	comp=N,532nm,0.8s						
TRG	**Tyrgan**	**1.94**	**241**	*e*PN	**Pn**	**04 56 31.9**	**-0.7**
TRG				*e*		04 56 33.5	
TRG				*e*S	**Sn**	**04 56 57.5**	**+0.1**
TRG				pmax	pmax		
	comp=Z,34nm,0.1s						
TRG				smax	smax		
	comp=N,539nm,0.2s						
TRG	**Tyrgan**	**1.94**	**241**	⇑*i*Pn	**Pn**	**04 56 32.1**	**-0.5**
TRG				*e*Pg	**Pb**	**04 56 33.8**	**-0.9**
TRG				*e*Sg	**Sb**	**04 56 59.3**	**+0.1**
TRG				Pmax			
	comp=N,34nm,0.2s						
TRG				Smax			
	comp=N,543nm,0.2s						
NIZ	**Nizh Angarsk**	**2.06**	**7**	⇑*i*Pn	**Pn**	**04 56 33.7**	**-0.6**
NIZ				⇑*i*		04 56 34.9	
NIZ				⇑*i*Pg	**Pb**	**04 56 35.8**	**-1.0**
NIZ				*e*Sg	**Sn**	**04 57 01.1**	**+0.7**
NIZ				*e*		04 57 02.4	
NIZ				Pmax			
	comp=N,28nm,0.3s						
NIZ				max			
	comp=N,132nm,0.4s						
UUDB	**Ulan-Yde**	**2.07**	**206**	*e*Pn	**Pn**	**04 56 35.0**	**+0.5**
UUDB				⇑*i*Pg	**Pb**	**04 56 36.9**	**-0.1**
UUDB				*e*		04 56 43.4	
UUDB				*e*Sg	**Sg**	**04 57 05.3**	**0.0**
UUDB				Pmax			
	comp=N,36nm,0.3s						
UUDB				Smax			
	comp=N,186nm,0.6s						
KAB	**Kabansk**	**2.26**	**223**	*e*Pg	**Pb**	**04 56 40.8**	**+0.6**
KAB				*e*Sg	**Sg**	**04 57 11.3**	**0.0**
KAB				Pmax			
	comp=N,166nm,0.3s						
KAB				Smax			
	comp=N,406nm,0.7s						
KMO	**Kumora**	**2.47**	**28**	*e*Pn	**Pn**	**04 56 36.9**	**-3.0**
KMO				*e*Pg	**Pb**	**04 56 43.8**	**+0.1**
KMO				*e*		04 56 48.2	
KMO				*e*Sg	**Sb**	**04 57 15.0**	**+0.5**
KMO				Pmax			
	comp=N,64nm,0.3s						
KMO				Smax			
	comp=N,128nm,0.3s						
YOA	**Uoyan**	**2.83**	**31**	*e*Sg	**Sg**	**04 57 28.0**	**-1.6**
YOA				Smax			
	comp=N,381nm,0.5s						
CIT	**Chita**	**3.19**	**121**	*e*	Sn	04 57 21.3	-6.9
CIT				*e*Sg	**Sg**	**04 57 40.3**	**-0.7**
CIT				Smax			
	comp=N,99nm,0.2s						
LSTR	**Listvyanka**	**3.21**	**236**	⇓*i*Pn	**Pn**	**04 56 47.0**	**-3.1**
LSTR				⇓*i*		04 56 49.5	
LSTR				*e*Pg	**Pb**	**04 56 55.4**	**-1.0**
LSTR				*e*Sg	**Sb**	**04 57 37.7**	**+1.9**
LSTR				*e*		04 57 40.7	
LSTR				Pmax			
	comp=N,9.0nm,0.6s						
LSTR				max			
	comp=N,77nm,1.1s						
IRK	**Irkutsk**	**3.29**	**245**	*e*PN	Pn	04 56 40.3	-11
IRK				*e*		04 56 57.6	
IRK				*e*		04 57 39.4	
IRK				pmax	pmax		
	comp=Z,127nm,0.2s						
IRK				smax	smax		
	comp=N,284nm,0.4s						
IRK	**Irkutsk**	**3.29**	**245**	*e*	**Sn**	**04 57 27.7**	**-3.2**
IRK				*e*Sg	**Sb**	**04 57 39.3**	**+1.0**
IRK				*e*		04 57 45.0	
IRK				Smax			
	comp=N,284nm,0.4s						
SVKR	**Severomuysk**	**3.50**	**45**	*e*Sg	**Sb**	**04 57 48.1**	**+3.9**
SVKR				Smax			
	comp=N,225nm,1.3s						
TLY	**Talaya**	**3.92**	**241**	*e*Pn	**Pn**	**04 56 58.8**	**-1.0**
TLY				*e*Pg	**Pb**	**04 57 09.0**	**+0.5**
TLY				*e*Sg	**Sb**	**04 58 00.2**	**+3.9**
TLY				Pmax			
	comp=N,13nm,0.7s						
TLY				Smax			
	comp=N,56nm,0.4s						
ARS	**Arshan**	**4.45**	**249**	*e*PN	**Pb**	**04 57 18.6**	**+1.0**
ARS	**Arshan**	**4.45**	**249**	*e*Pg	**Pb**	**04 57 16.9**	**-0.7**
ARS				*e*Sg	**Sb**	**04 58 15.2**	**+3.5**
ARS				Pmax			
	comp=N,11nm,0.7s						
ARS				Smax			
	comp=N,360nm,0.7s						
KPC	**Khapcheranga**	**4.52**	**152**	*e*Pn	**Pn**	**04 57 08.7**	**+0.6**
KPC				*e*		04 57 09.7	
KPC				*e*Pg	**Pb**	**04 57 20.4**	**+1.7**
KPC				*e*		04 57 23.8	
KPC				*e*Sn	**Sn**	**04 57 56.8**	**-4.3**
KPC				*e*Sg	**Sg**	**04 58 19.6**	**-4.2**
KPC				*e*		04 58 28.2	
KPC				max			
	comp=N,7.0nm,0.8s						
KPC				Smax			
	comp=N,68nm,0.8s						
NLYR	**Nelyaty**	**4.68**	**51**	*e*Pn	**Pn**	**04 57 09.1**	**-1.1**
NLYR				*e*		04 57 13.5	
NLYR				*e*Pg	**Pb**	**04 57 23.4**	**+2.0**
NLYR				*e*		04 58 00.8	
NLYR				*e*Sg	**Sg**	**04 58 24.0**	**-4.9**
NLYR				Pmax			
	comp=N,11nm,0.6s						
NLYR				Smax			
	comp=N,51nm,0.8s						
ZAK	**Zakamensk**	**4.93**	**229**	*e*Pn	**Pn**	**04 57 14.9**	**+1.1**
ZAK				*e*Pg	Pb	04 57 29.0	+3.3
ZAK				*e*		04 57 34.7	
ZAK				*e*		04 57 39.2	
ZAK				*e*Sg	**Sg**	**04 58 33.1**	**-3.9**
ZAK				Smax			
	comp=N,26nm,1.2s						
BOD	**Bodaibo**	**4.93**	**32**	*e*Sg	**Sb**	**04 58 30.4**	**+5.1**
BOD				*e*		04 58 34.5	
BOD				max			
	comp=N,23nm,0.8s						
MOY	**Mondy**	**5.36**	**251**	*e*	**Pn**	**04 57 20.4**	**+0.6**
MOY				*e*Pg	**Pb**	**04 57 34.4**	**+1.3**
MOY				*e*		04 57 37.0	
MOY				*e*Sn	**Sn**	**04 58 22.2**	**+0.2**
MOY				*e*Sg	**Sb**	**04 58 43.6**	**+5.7**
MOY				max			
	comp=N,5.0nm,0.4s						
MOY				Smax			
	comp=N,64nm,1.2s						
ORL	**Orlik**	**5.74**	**262**	*e*PN	**Pn**	**04 57 25.2**	**+0.3**
ORL				*e*		04 57 43.6	
ORL				*e*S	**Sn**	**04 58 29.7**	**-1.5**
ORL

CRS	**Chara**	**6.11**	**55**	*e*Pg	**Pb**	**04 57 47.3**	**+1.6**
CRS				*e*		04 58 05.6	
CRS				*e*Sg	Sg	04 59 07.3	-7.4
CRS				Smax			
	comp=E,19nm,0.8s						
TUP	**Tupik**	**6.41**	**79**	*e*PN	**Pn**	**04 57 32.5**	**-1.5**
TUP				*e*		04 57 53.2	
TUP				*e*S	**Sn**	**04 58 46.0**	**-1.7**
TUP				*e*		04 59 18.0	
TUP				pmax	pmax		
	comp=Z,4.0nm,0.4s						
TUP				smax	smax		
	comp=N,46nm,1.0s						
TUP	**Tupik**	**6.41**	**79**	⇑*i*Pn	**Pn**	**04 57 32.6**	**-1.5**
TUP				*e*		04 57 36.0	
TUP				*e*Pg	**Pb**	**04 57 53.9**	**+3.0**
TUP				*e*		04 58 41.0	
TUP				*e*Sg	Sg	04 59 18.3	-6.2
TUP				Pmax			
	comp=N,2.0nm,0.4s						
TUP				Smax			
	comp=N,58nm,0.9s						

MOS ***09*** *05:16:05.8±1.8, 48°.89N×154°.67E, h187km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=17.2km az=66.9*
KRSC ***09*** *05:16:14.6±2.6, 49°.61N×155°.33E, h222km±26km, ML4.0*
ISC 09 05:16:14.8±1.3, 49°.7N±0°.2×154°.7E±0°.2, h200km, n26, σ1º95/33, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.32**	**43**	*e*PN	Pn	05 16 42.3	-4.6
SKR				*e*S	**Sn**	**05 17 08.2**	**-3.7**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=N,100nm,0.6s						
SKR				smax	smax		
	comp=E,90nm,0.2s						
SKR	**Severo-Kuril's**	**1.32**	**43**	*e*P	**Pn**	**05 16 49.5**	**+2.6**
SKR				*e*S	**Sn**	**05 17 15.0**	**+3.1**
PAU	**Pauzhetka**	**2.20**	**37**	PN	**Pn**	**05 16 56.0**	**+0.7**
PAU				S	**Sn**	**05 17 27.9**	**+0.9**
PAU	**Pauzhetka**	**2.20**	**37**	*e*P	**Pn**	**05 16 56.0**	**+0.7**
PAU				*e*S	**Sn**	**05 17 27.9**	**+0.9**
MIPR	**Malaya Ipel'ka**	**2.86**	**26**	*e*P	**Pn**	**05 17 04.0**	**+1.2**
MIPR				S	**Sn**	**05 17 38.7**	**-1.7**
MTVR	**Mutnovka**	**3.52**	**37**	P	**Pn**	**05 17 11.6**	**+0.8**
MTVR				S	**Sn**	**05 17 52.6**	**-2.1**
APC	**Apacha**	**3.55**	**25**	*i* P	**Pn**	**05 17 12.0**	**+1.0**
RUS	**Russkaya**	**3.62**	**40**	PN	**Pn**	**05 17 13.2**	**+1.4**
RUS	**Russkaya**	**3.62**	**40**	*e*P	**Pn**	**05 17 13.2**	**+1.4**
RUS				*e*S	**Sn**	**05 17 54.6**	**-2.0**
KOK	**Koryaka**	**4.33**	**33**	*i* P	**Pn**	**05 17 23.5**	**+2.8**
UGLR	**Uglovaya**	**4.33**	**35**	*e*P	**Pn**	**05 17 23.6**	**+2.8**
AVH	**Avacha**	**4.35**	**34**	*i* P	**Pn**	**05 17 23.7**	**+2.8**
SMAR	**Somma**	**4.37**	**34**	*e*P	**Pn**	**05 17 23.9**	**+2.6**
KRER	**Koryakskii**	**4.38**	**34**	*e*P	**Pn**	**05 17 24.2**	**+2.7**
KRER				*e*S	**Sn**	**05 18 13.6**	**-0.4**
KRX	**Arik**	**4.39**	**33**	*e*P	**Pn**	**05 17 23.9**	**+2.4**
SDLR	**Sedlovina**	**4.41**	**35**	*e*P	**Pn**	**05 17 24.1**	**+2.3**
SDLR				*e*S	**Sn**	**05 18 12.3**	**-2.2**
GNL	**Ganaly**	**4.45**	**26**	*e*P	**Pn**	**05 17 23.4**	**+1.1**
NLC	**Nalytchevo**	**4.51**	**38**	S	Sn	05 18 11.3	-5.1
TUMR	**Tumrok**	**6.48**	**29**	P	**Pn**	**05 17 50.6**	**+2.4**
MKZ	**Mys Kozlova**	**6.49**	**39**	PN	**Pn**	**05 17 48.1**	**-0.1**
MKZ	**Mys Kozlova**	**6.49**	**39**	*e*P	**Pn**	**05 17 48.1**	**-0.1**
MKZ				*e*S	Sn	05 18 54.4	-7.8
SHO	**Shikotan**	**7.97**	**226**	*e*P	**Pn**	**05 18 06.5**	**-1.1**
KBTR	**Krutoberegovo**	**8.13**	**34**	PN	**Pn**	**05 18 09.7**	**+0.2**
KBTR	**Krutoberegovo**	**8.13**	**34**	P	**Pn**	**05 18 09.7**	**+0.2**
BKI	**Bering**	**8.79**	**47**	PN	**Pn**	**05 18 18.9**	**+0.7**
BKI	**Bering**	**8.79**	**47**	*e*P	**Pn**	**05 18 18.9**	**+0.7**
BKI				*e*S	Sn	05 19 46.4	-10

IDC 09 05:26:38.2±2.0, 0°.84S×127°.54E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/30, mbtmp3.2/3, Error ellipse: s-maj=158.3km s-min=25.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.12**	**161**	P	P	05 31 14.4	+0.4
	0.4nm,0.6s,baz=340,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**23.52**	**165**	P	P	05 31 50.0	-0.3
	0.5nm,0.5s,baz=340,slow=11,SNR=9.3						
MKAR	**Makanchi Array**	**61.76**	**326**	P	P	05 36 58.7	0.0
	0.2nm,0.5s,baz=111,slow=8.6,SNR=3.1						

ISCJB ***09*** *05:28:23.5±0.8, 61°.80N±0°.07×145°.18E±0°.10, h10km, mb3.2/4, MS2.9/1, Error ellipse: s-maj=10.4km s-min=6.6km az=173.9*
IDC ***09*** *05:28:24.2±1.9, 61°.99N×144°.75E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/40, mbtmp3.5/5, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/35, Error ellipse: s-maj=92.4km s-min=14.9km az=163.0*
NERS ***09*** *05:28:25.0, 61°.41N×145°.12E, h7km*
ISC 09 05:28:24.7±1.0, 61°.70N±0°.07×145°.07E±0°.06, h10km, n11, σ1º67/19, mb3.4/4, 1C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHR	**Omchak**	**1.33**	**90**	⇑*i*Pg	**Pg**	**05 28 50.2**	**0.0**
OCHR				Pgmax		05 28 51.2	
	61μm,0.1s						
OCHR				*e*Sg	**Sg**	**05 29 08.5**	**+1.0**
OCHR				*e*		05 29 10.8	
SUUS	**Susuman**	**1.81**	**52**	*e*P	Pn	05 28 47.5	-8.4
SUUS				*e*		05 28 48.9	
SUUS				Pgmax		05 28 49.8	
	160nm,0.2s						
SUUS				*e*S	**Sn**	**05 29 14.3**	**-4.6**
SUUS				Sgmax		05 29 20.1	
	420nm,0.4s						
MGD	**Magadan 1**	**3.23**	**118**	*e*P	**Pn**	**05 29 15.7**	**+0.4**
MGD				*e*Pg	**Pb**	**05 29 21.7**	**-0.3**
MGD				Pgmax		05 29 25.6	
	40nm,0.2s						
MGD				*e*S	**Sn**	**05 29 53.8**	**+0.1**
MGD				*e*Sg	**Sb**	**05 30 02.1**	**+0.8**
MGD				Sgmax		05 30 05.6	
	530nm,0.5s						
TLAR	**Talaya**	**3.57**	**96**	*e*P	**Pn**	**05 29 21.7**	**+1.6**
TLAR				*e*Pg	**Pg**	**05 29 31.3**	**-1.6**
TLAR				Pgmax		05 29 32.4	
	20nm,0.2s						
TLAR				*e*Sg	**Sg**	**05 30 17.2**	**-1.9**
TLAR				Sgmax		05 30 23.5	
	530nm,0.3s						
SEY	**Seymchan**	**3.63**	**67**	*e*P	**Pn**	**05 29 23.0**	**+2.2**
SEY				*e*Pg	**Pg**	**05 29 33.7**	**-0.4**
SEY				Pgmax		05 29 34.4	
	60nm,0.2s						
SEY				*e*Sg	**Sg**	**05 30 21.9**	**+0.8**
SEY				Sgmax		05 30 25.7	
	200nm,0.2s						
SEY	**Seymchan**	**3.63**	**67**	Pn	**Pn**	**05 29 21.1**	**+0.3**
	5.9nm,0.3s,baz=260,slow=12,SNR=89						
SEY				Pg	**Pb**	**05 29 30.3**	**+1.5**
	28nm,0.3s,baz=261,slow=17,SNR=47						
SEY				Lg	Lg	05 30 20.0	
	43nm,0.3s,baz=212,slow=18,SNR=14						
MJAR	**Matsushiro Arr**	**25.55**	**193**	LR	LR	05 43 34.8	
	comp=Z,42nm,20.9s,baz=220,slow=35						
SONM	**Songino Array**	**25.80**	**255**	P	**P**	**05 33 57.0**	**+1.3**
	0.7nm,0.5s,baz=56,slow=9.4,SNR=5.4						
ILAR	**Eielson Array**	**29.46**	**54**	P	**P**	**05 34 28.2**	**+0.1**
	0.9nm,0.9s,baz=291,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**37.95**	**277**	P	**P**	**05 35 40.4**	**-1.6**
	0.2nm,0.4s,baz=45,slow=7.2,SNR=5.7						
YKA	**Yellowknife Ar**	**42.35**	**43**	P	**P**	**05 36 19.0**	**+0.7**
	0.1nm,0.6s,baz=312,slow=7.9,SNR=5.4						

IDC ***09*** *05:31:46.3±1.0, 22°.12N×119°.83E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/33, mbtmp3.5/6, MS3.1/3, Ms1 3.1/3, ms1mx2.7/43, Error ellipse: s-maj=70.1km s-min=19.2km az=67.0*

TAP ***09*** *05:31:47.3, 22°.97N×120°.65E, h17km, ML4.1, B*
ISCJB ***09*** *05:31:48.7±0.2, 22°.96N±0°.01×120°.66E±0°.02, h16km±3km, mb3.4/6, MS3.0/2, Error ellipse: s-maj=3.0km s-min=1.9km az=171.8*
NEIC ***09*** *05:31:49.3±1.7, 23°.04N×120°.74E, h10km, ML4.5(TAP), Error ellipse: s-maj=20.8km s-min=9.1km az=56.0*
NEIC Recorded [3 TAP] in P'ing-tung; [2 TAP] in Chia-i, Kao-hsiung and T'ai-nan; [1 TAP] in T'ai-tung and Yun-lin.
ISC 09 05:31:47.8±0.8, 22°.97N±0°.01×120°.63E±0°.02, h17km±2km, n73, σ0º91/114, mb3.5/6, 9C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.12**	**339**	⇓*i*P	**Pg**	**05 31 52.0**	**+0.4**
	baz=335						
SGST				S	**Sb**	**05 31 55.0**	**+0.7**
	baz=335						
SSD	**Sandimen**	**0.22**	**180**	⇓*i*P	**Pg**	**05 31 53.0**	**+0.1**
	baz=182						
SSD				*e*S	**Sg**	**05 31 56.7**	**+0.3**
	baz=182						
STYT	**Tauyuan**	**0.23**	**31**	⇑*i*P	**Pg**	**05 31 53.3**	**+0.2**
	baz=35						
STYT				S	**Sb**	**05 31 57.6**	**+0.2**
	baz=35						
CHN1	**Nanshi**	**0.24**	**337**	⇓*i*P	**Pg**	**05 31 53.8**	**+0.6**
	baz=343						
CHN1				S	**Sb**	**05 31 58.5**	**+0.9**
	baz=343						
TWM1	**Shoushan**	**0.24**	**233**	⇑*i*P	**Pb**	**05 31 54.3**	**+0.6**
	baz=234						
CHN3	**Shinhua**	**0.27**	**294**	⇓*i*P	**Pb**	**05 31 55.4**	**+1.3**
	baz=292						
CHN3				*e*S	**Sn**	**05 32 01.8**	**-0.8**
	baz=292						
SGLT	**Jiouru**	**0.27**	**208**	⇑*i*P	**Pb**	**05 31 54.9**	**+0.7**
	baz=205						
SGLT				*e*S	**Sb**	**05 32 01.1**	**+2.6**
	baz=205						
WTP	**Ta-pu**	**0.28**	**357**	⇓*i*P	**Pg**	**05 31 54.4**	**+0.4**
	baz=355						
WTP				*e*S	**Sb**	**05 31 59.2**	**+0.4**
	baz=355						
TWK	**Hsinying**	**0.33**	**336**	⇓*i*P	**Pg**	**05 31 55.1**	**+0.4**
	baz=336						
TWK				S	**Sb**	**05 32 00.9**	**+0.7**
	baz=336						
TPUB	**Ta-pu**	**0.33**	**360**	*e*Pg	**Pg**	**05 31 54.8**	**-0.1**
TPUB				*e*Sg	**Sg**	**05 31 59.3**	**-0.4**
TAI1	**Yung-k'ang**	**0.38**	**281**	*e*P	**Pb**	**05 31 56.9**	**+0.9**
	baz=281						
TAI1				*e*S	**Sn**	**05 32 05.2**	**-0.1**
	baz=281						
CHN4	**Tsaushan**	**0.39**	**355**	⇓*i*P	**Pg**	**05 31 56.0**	**+0.3**
	baz=353						
CHN4				S	**Sb**	**05 32 02.4**	**+0.5**
	baz=353						
ELDTW	**Lidau**	**0.42**	**58**	⇑*i*P	**Pg**	**05 31 56.4**	**0.0**
	baz=51						
ELDTW				S	**Sg**	**05 32 03.0**	**+0.8**
	baz=51						
TWG	**Pinlang**	**0.43**	**109**	⇓*i*P	**Pg**	**05 31 56.8**	**+0.2**
	baz=101						
TWG				*e*S	**Sb**	**05 32 03.3**	**+0.2**
	baz=101						
TWG	**Pinlang**	**0.43**	**109**	*e*Pg	**Pg**	**05 31 56.6**	**+0.1**
TWG				*e*Sg	**Sg**	**05 32 02.8**	**+0.3**
SCLT	**Jiali**	**0.45**	**297**	*e*P	**Pb**	**05 31 58.0**	**+0.7**
	baz=298						
SCLT				*e*S	**Sn**	**05 32 06.5**	**-0.7**
	baz=298						
ECL	**Taimali**	**0.47**	**141**	⇓P	**Pg**	**05 31 57.4**	**+0.1**
	baz=141						
ECL				*e*S	**Sg**	**05 32 04.2**	**+0.5**
	baz=141						
KAU	**Kaohsiung**	**0.50**	**217**	*e*P	**Pb**	**05 31 58.7**	**+0.7**
	baz=233						
TTN	**Taitung**	**0.52**	**114**	P	**Pb**	**05 31 58.9**	**+0.4**
	baz=114						
TTN				*e*S	**Sn**	**05 32 08.3**	**-0.5**
	baz=114						
CHN8	**Yiju**	**0.54**	**314**	*e*P	**Pb**	**05 31 59.2**	**+0.4**
	baz=327						
CHN8				*e*S	**Sn**	**05 32 08.5**	**-0.9**
	baz=327						
CHY	**Chiayi**	**0.56**	**340**	⇓P	**Pg**	**05 31 59.3**	**+0.3**
	baz=340						
CHY				*e*S	**Sb**	**05 32 08.3**	**+1.4**
	baz=340						
ALS	**Alishan**	**0.56**	**16**	⇑*i*P	**Pg**	**05 31 59.0**	**-0.1**
	baz=16						
ALS				S	**Sg**	**05 32 07.8**	**+1.0**
	baz=16						
CHN2	**Minshiung**	**0.58**	**346**	*e*P	**Pb**	**05 31 58.9**	**-0.4**
	baz=345						
CHN2				S	**Sb**	**05 32 09.2**	**+1.7**
	baz=345						
SCZT	**Fangliau**	**0.59**	**181**	⇓*i*P	**Pg**	**05 31 59.4**	**-0.1**
	baz=176						
SCZT				*e*S	**Sg**	**05 32 07.5**	**+0.1**
	baz=176						
YUS	**Yu-Shan**	**0.60**	**30**	⇑*i*P	**Pg**	**05 31 59.9**	**+0.1**
	baz=38						
YUS				S	**Sb**	**05 32 09.3**	**+0.9**
	baz=38						
EAST	**Anshuo**	**0.61**	**161**	⇓*i*P	**Pg**	**05 31 59.9**	**0.0**
	baz=156						
EAST				S	**Sb**	**05 32 08.9**	**+0.4**
	baz=156						
CHN5	**Tsauling**	**0.63**	**4**	⇓P	**Pg**	**05 32 00.1**	**-0.2**
	baz=12						
CHN5				S	**Sb**	**05 32 10.0**	**+1.0**
	baz=12						
TAW	**Tawu**	**0.65**	**158**	⇓*i*P	**Pg**	**05 32 00.7**	**0.0**
	baz=159						
TAW				S	**Sb**	**05 32 09.9**	**+0.4**
	baz=159						
TWP	**Hsiaoliuchiu**	**0.67**	**202**	*e*P	**Pn**	**05 32 02.9**	**+0.5**
	baz=203						
TWP				S	**Sn**	**05 32 14.9**	**+2.5**
	baz=203						
CHKT	**Chengkung**	**0.69**	**79**	*e*P	**Pg**	**05 32 01.3**	**0.0**
	baz=93						
WGK	**Gukeng**	**0.72**	**355**	*e*P	**Pg**	**05 32 02.2**	**+0.3**
	baz=355						
WGK				*e*S	**Sn**	**05 32 13.6**	**-0.3**
	baz=355						
YULB	**Yu-li**	**0.75**	**55**	*e*Pg	**Pb**	**05 32 01.5**	**-0.9**
YULB				*e*Sg	**Sg**	**05 32 11.9**	**-0.4**
WSF	**Szhu**	**0.77**	**331**	*e*P	**Pb**	**05 32 02.5**	**-0.2**
	baz=331						
WSF				*e*S	**Sn**	**05 32 14.8**	**-0.2**
	baz=331						
SSLB	**Suanglung**	**0.87**	**20**	*e*Pg	**Pb**	**05 32 03.8**	**-0.7**
SSLB				*e*Sg	**Sb**	**05 32 14.9**	**-0.9**
WNT	**Mingjian**	**0.91**	**3**	*e*P	**Pb**	**05 32 05.0**	**-0.1**
	baz=349						
WDGT	**Dungji**	**0.94**	**288**	*e*P	**Pb**	**05 32 04.6**	**-1.0**
	baz=289						
WDGT				*e*S	**Sb**	**05 32 16.9**	**-0.8**
	baz=289						
SMLT	**Sun Moon Lake**	**0.95**	**15**	⇑*e*P	**Pb**	**05 32 06.1**	**+0.3**
	baz=15						
SMLT				*e*S	**Sn**	**05 32 19.9**	**+0.3**
	baz=15						
WTCT	**Ta-ch'eng**	**0.95**	**340**	*e*P	**Pb**	**05 32 05.2**	**-0.5**
	baz=340						
WTCT				*e*S	**Sg**	**05 32 19.2**	**+0.5**
	baz=340						
TYC	**Yuchr**	**0.96**	**13**	*e*P	**Pb**	**05 32 05.7**	**-0.2**
	baz=12						
TYC				*e*S	**Sn**	**05 32 21.4**	**+1.8**
	baz=12						
HEN	**Hengchun**	**0.96**	**174**	⇓P	**Pb**	**05 32 06.4**	**+0.5**
	baz=165						
HEN				*e*S	**Sn**	**05 32 20.8**	**+1.1**
	baz=165						
TWK1	**Hengchun**	**1.03**	**171**	⇓*e*P	**Pb**	**05 32 07.3**	**+0.1**
	baz=171						
TWK1				*e*S	**Sn**	**05 32 22.5**	**+1.1**
	baz=171						
TSEB	**Hengchuen, Pin**	**1.09**	**167**	*e*P	**Pb**	**05 32 05.9**	**-2.2**
	baz=169						
TSEB				*e*S	**Sg**	**05 32 25.1**	**+1.9**
	baz=169						
ESL	**Shilin**	**1.12**	**41**	⇑*i*P	**Pb**	**05 32 08.6**	**-0.2**
	baz=32						
ESL				*i* S	**Sb**	**05 32 23.6**	**+0.5**
	baz=32						
PNG	**Penghu**	**1.16**	**301**	*e*P	**Pn**	**05 32 07.6**	**-1.5**
	baz=302						
PNG				*e*S	**Sb**	**05 32 22.3**	**-1.7**
	baz=302						
TCU	**Taichung**	**1.18**	**2**	*e*P	**Pn**	**05 32 09.5**	**+0.1**
	baz=350						
LAY	**Lan-yu**	**1.26**	**137**	*e*P	**Pn**	**05 32 10.1**	**-0.5**
	baz=126						
WHF	**Hehuan Shan**	**1.31**	**26**	*e*P	**Pn**	**05 32 11.7**	**0.0**
	baz=16						
WHF				*e*S	**Sg**	**05 32 32.3**	**+2.0**
	baz=16						
TWT	**Tachien**	**1.38**	**21**	*e*P	**Pn**	**05 32 12.8**	**+0.4**
	baz=19						
TWQ1	**Liyutan**	**1.38**	**5**	⇑*e*P	**Pn**	**05 32 12.9**	**+0.6**
	baz=5.0						
TWQ1				*e*S	**Sb**	**05 32 31.7**	**+1.2**
	baz=5.0						
TWD	**Chiawan**	**1.42**	**38**	*e*P	**Pn**	**05 32 13.0**	**+0.2**
	baz=37						
NSY	**Sanyi**	**1.45**	**5**	*e*P	**Pn**	**05 32 13.5**	**+0.3**
	baz=5.0						
NSY				*e*S	**Sb**	**05 32 33.6**	**+1.1**
	baz=5.0						
NACB	**Ninganchiao**	**1.49**	**36**	*e*Pn	**Pn**	**05 32 13.9**	**+0.1**
NACB				*e*Sn	**Sn**	**05 32 33.7**	**+0.8**
NNS	**Nan Shan**	**1.62**	**25**	*e*P	**Pn**	**05 32 16.7**	**+1.1**
	baz=24						
NSTT	**Nanjuang**	**1.69**	**11**	*e*P	**Pn**	**05 32 17.5**	**+1.0**
	baz=354						
NSTT				*e*S	**Sn**	**05 32 38.4**	**+0.6**
	baz=354						
ENA	**Nanau**	**1.78**	**35**	*e*P	**Pn**	**05 32 17.6**	**-0.1**
	baz=34						
NSK	**Sanguang**	**1.83**	**21**	*e*P	**Pn**	**05 32 18.9**	**+0.5**
	baz=21						
NSK				*e*S	**Sb**	**05 32 45.0**	**+1.6**
	baz=21						
YHNB	**Yeheng**	**1.83**	**22**	*e*Pn	**Pn**	**05 32 19.3**	**+0.8**
YHNB				*e*Sn	**Sn**	**05 32 41.2**	**-0.1**
ENTT	**Nioudou**	**1.87**	**27**	*e*P	**Pb**	**05 32 22.8**	**+1.2**
	baz=10.0						
TWC	**Suao**	**1.98**	**34**	*e*P	**Pn**	**05 32 21.8**	**+1.3**
	baz=33						
TWE	**Neicheng**	**1.99**	**28**	*e*P	**Pb**	**05 32 22.5**	**-1.0**
	baz=28						
TWE				*e*S	**Sb**	**05 32 49.3**	**+1.3**
	baz=28						
TATO	**Taipei**	**2.15**	**21**	*e*Pn	**Pb**	**05 32 25.3**	**-1.0**
TWA	**Mucha**	**2.19**	**23**	*e*P	**Pb**	**05 32 27.7**	**+0.8**
	baz=22						
NWF	**Wu-fen Shan**	**2.34**	**26**	*e*P	**Pn**	**05 32 27.7**	**+2.1**
	baz=8.0						
KNM	**Kinmen**	**2.48**	**306**	*e*P	**Pb**	**05 32 31.6**	**-0.3**
	baz=304						
KSRS	**Korea Array**	**15.75**	**22**	LR	LR	05 42 21.6	
	comp=Z,38nm,18.5s,baz=233,slow=38						
CMAR	**Chiang Mai Arr**	**20.77**	**262**	LR	LR	05 45 28.2	
	comp=Z,42nm,18.1s,baz=90,slow=41						
SONM	**Songino Array**	**27.30**	**339**	P	P	05 37 38.3	+6.8
	0.4nm,0.7s,baz=151,slow=6.6,SNR=3.0						
ASAJ	**Asahikawa**	**27.77**	**35**	LR	LR	05 48 33.0	
	comp=Z,50nm,20.6s,baz=330,slow=35						
MKAR	**Makanchi Array**	**38.87**	**317**	P	**P**	**05 39 13.4**	**+1.2**
	0.2nm,0.7s,baz=112,slow=6.4,SNR=2.7						
ZALV	**Zalesovo Beam**	**41.00**	**328**	P	P	05 39 34.1	+4.4
	1.0nm,0.5s,baz=128,slow=9.6,SNR=6.0						
WRA	**Warramunga Arr**	**44.70**	**162**	P	P	05 39 56.0	-4.1
	1.2nm,0.7s,baz=344,slow=8.5,SNR=8.1						
ASAR	**Alice Springs**	**48.12**	**164**	P	**P**	**05 40 24.4**	**-2.5**
	0.5nm,0.6s,baz=356,slow=14,SNR=7.3						
YKA	**Yellowknife Ar**	**84.28**	**23**	P	P	05 44 24.6	+6.2
	0.1nm,0.6s,baz=314,slow=5.7,SNR=4.7						

NEIC ***09*** *05:51:21.2±1.2, 23°.99N×120°.82E, h10km, ML4.5(TAP), Error ellipse: s-maj=16.2km s-min=6.5km az=108.0*
NEIC Recorded [3 TAP] in Nan-t'ou; [2 TAP] in Chang-hua and T'ai-chung; [1 TAP] in Chia-i, Hua-lien, Miao-li and Yun-lin.
ISCJB ***09*** *05:51:23.9±0.2, 23°.97N±0°.01×121°.04E±0°.02, h6km±2km, Error ellipse: s-maj=2.7km s-min=1.6km az=36.2*
TAP ***09*** *05:51:23.4, 23°.97N×121°.00E, h8km, ML3.3, B*
ISC 09 05:51:23.6±0.9, 23°.97N±0°.02×121°.00E±0°.02, h9km±6km, n55, σ0º55/97, 2C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLT	**Sun Moon Lake**	**0.13**	**227**	⇓*i*P	**Pg**	**05 51 26.8**	**+0.1**
	baz=224						
SMLT				*i* S	**Sg**	**05 51 29.2**	**+0.5**
	baz=224						
TYC	**Yuchr**	**0.15**	**244**	⇓*i*P	**Pg**	**05 51 26.9**	**0.0**
	baz=243						
TYC				*i* S	**Sg**	**05 51 29.1**	**-0.1**
	baz=243						
SSLB	**Suanglung**	**0.19**	**194**	*e*Pg	**Pg**	**05 51 27.1**	**-0.5**
WHF	**Hehuan Shan**	**0.30**	**54**	⇓*i*P	**Pg**	**05 51 30.5**	**+0.7**
	baz=67						
WHF				S	**Sg**	**05 51 34.3**	**+0.6**
	baz=67						
WNT	**Mingjian**	**0.31**	**253**	*e*P	**Pb**	**05 51 30.7**	**-0.5**
	baz=252						
WNT				*e*S	**Sb**	**05 51 36.1**	**-0.3**
	baz=252						
TWT	**Tachien**	**0.32**	**29**	⇓*i*P	**Pg**	**05 51 30.1**	**-0.1**
	baz=28						
TWT				S	**Sg**	**05 51 34.4**	**-0.1**
	baz=28						
TCU	**Taichung**	**0.35**	**301**	P	**Pb**	**05 51 31.8**	**-0.2**
	baz=302						
TCU				*e*S	**Sb**	**05 51 37.8**	**+0.2**
	baz=302						
ESL	**Shilin**	**0.42**	**111**	⇑*i*P	**Pg**	**05 51 32.5**	**+0.6**
	baz=110						
ESL				S	**Sg**	**05 51 38.0**	**+0.5**
	baz=110						
TWQ1	**Liyutan**	**0.43**	**331**	P	**Pb**	**05 51 33.4**	**-0.1**
	baz=343						
TWQ1				S	**Sb**	**05 51 40.1**	**0.0**
	baz=343						
ESF	**Shoufeng Towns**	**0.47**	**102**	*e*P	**Pb**	**05 51 33.7**	**-0.4**
	baz=103						
CHN5	**Tsauling**	**0.48**	**219**	⇓*i*P	**Pb**	**05 51 33.9**	**-0.3**
	baz=218						
CHN5				S	**Sb**	**05 51 41.6**	**+0.3**
	baz=218						
YUS	**Yu-Shan**	**0.48**	**186**	⇓*i*P	**Pg**	**05 51 33.1**	**0.0**
	baz=183						
ALS	**Alishan**	**0.49**	**202**	⇓*i*P	**Pg**	**05 51 33.6**	**+0.4**
	baz=188						
ALS				S	**Sb**	**05 51 41.3**	**-0.7**
	baz=188						
WGK	**Gukeng**	**0.49**	**235**	*e*P	**Pb**	**05 51 33.9**	**-0.6**
	baz=234						
WGK				*e*S	**Sb**	**05 51 42.0**	**+0.3**
	baz=234						
NSY	**Sanyi**	**0.50**	**334**	*e*P	**Pb**	**05 51 34.7**	**+0.1**
	baz=347						
NSY				*e*S	**Sb**	**05 51 42.3**	**+0.4**
	baz=347						
EHY	**Hungye**	**0.55**	**148**	⇑*i*P

baz=1.0
NSTT S **Sb** **05 51 46.3 -0.2**
baz=1.0
CHY **Chiayi** **0.71 229** P **Pb** **05 51 38.1 0.0**
baz=227
CHY S **Sb** **05 51 48.6 +0.6**
baz=227
CHN4 **Tsaushan** **0.72 211** ⇓*i*P **Pb** **05 51 38.3 -0.1**
baz=210
CHN4 *e*S **Sn** **05 51 49.7 -1.5**
baz=210
TPUB **Ta-pu** **0.75 207** *e*Pg Pg 05 51 34.4 -3.7
NSK **Sanguang** **0.77 25** *e*P **Pg** **05 51 38.0 -0.5**
baz=20
NSK *e*S **Sg** **05 51 47.8 -0.9**
baz=20
YHNB **Yeheng** **0.78 26** *e*Pg **Pg** **05 51 37.5 -1.1**
YHNB *e*Sg **Sg** **05 51 48.5 -0.2**
ELDTW **Lidau** **0.78 179** *e*P **Pg** **05 51 38.2 -0.4**
baz=171
ELDTW *e*S **Sb** **05 51 50.5 +0.4**
baz=171
WTP **Ta-pu** **0.80 206** P **Pg** **05 51 39.4 +0.2**
baz=205
WTP *e*S **Sb** **05 51 51.2 +0.4**
baz=205
ENA **Nanau** **0.81 56** *e*P **Pg** **05 51 39.4 +0.1**
baz=49
ENA *e*S **Sg** **05 51 49.0 -0.9**
baz=49
STYT **Tauyuan** **0.83 196** P **Pb** **05 51 40.1 -0.3**
baz=186
STYT S **Sb** **05 51 52.1 +0.5**
baz=186
ENTT **Nioudou** **0.84 38** *e*P **Pg** **05 51 39.7 -0.2**
baz=40
TWK **Hsinying** **0.84 214** ⇓*i*P **Pb** **05 51 40.4 -0.1**
baz=212
TWK *e*S **Sb** **05 51 52.5 +0.5**
baz=212
CHN1 **Nanshi** **0.90 209** *i* P **Pb** **05 51 41.2 -0.1**
baz=208
CHN1 *e*S **Sb** **05 51 53.9 +0.5**
baz=208
CHKT **Chengkung** **0.93 159** *e*P **Pb** **05 51 41.9 0.0**
baz=157
CHKT *e*S **Sb** **05 51 55.0 +0.7**
baz=157
CHN8 **Yiju** **0.96 230** *e*P **Pb** **05 51 42.1 -0.3**
baz=228
CHN8 *e*S **Sn** **05 51 55.7 -1.2**
baz=228
TWE **Neicheng** **0.96 39** P **Pg** **05 51 41.8 -0.3**
baz=41
TWE *e*S **Sb** **05 51 56.0 +0.7**
baz=41
SGST **Jiashian** **0.96 204** *e*P **Pb** **05 51 42.3 -0.2**
baz=215
SGST *e*S **Sn** **05 51 56.5 -0.7**
baz=215
TWC **Suao** **1.00 50** P **Pb** **05 51 42.3 -0.8**
baz=51
TWC S **Sg** **05 51 55.8 -0.2**
baz=51
SCLT **Jiali** **1.08 223** *e*P **Pn** **05 51 44.8 -0.2**
baz=222
SCLT *e*S **Sn** **05 52 00.6 +0.5**
baz=222
TATO **Taipei** **1.09 24** *e*Pn **Pb** **05 51 43.8 -1.0**
TWA **Mucha** **1.14 28** *e*P **Pg** **05 51 45.6 +0.1**
baz=35
TWA *e*S **Sn** **05 52 02.5 +1.0**
baz=35
TWG **Pinlang** **1.15 177** *e*P **Pg** **05 51 45.8 +0.2**
baz=167
TWG *e*S **Sn** **05 52 01.8 +0.2**
baz=167
TWG **Pinlang** **1.15 177** *e*Pn **Pb** **05 51 44.2 -1.4**
TAI1 **Yung-k'ang** **1.17 218** *e*P **Pb** **05 51 45.1 -0.8**
baz=216
TAI1 *e*S **Sn** **05 52 03.1 +1.0**
baz=216
TWS1 **Kuangyinshan** **1.19 18** *e*P **Pg** **05 51 47.3 +0.9**
baz=24
TWS1 *e*S **Sn** **05 52 03.5 +0.9**
baz=24
TWM1 **Shoushan** **1.26 205** *e*P **Pb** **05 51 47.4 -0.2**
baz=202
SSD **Sandimen** **1.27 196** *e*P **Pb** **05 51 47.4 -0.2**
baz=182
SSD *e*S **Sg** **05 52 05.3 +0.9**
baz=182
NWF **Wu-fen Shan** **1.30 33** *e*P **Pb** **05 51 48.4 0.0**
baz=34
NWF *e*S **Sg** **05 52 06.5 +0.9**
baz=34
ECL **Taimali** **1.37 182** *e*P **Pb** **05 51 49.1 -0.3**
baz=180
TWB1 **Santiao Chiao** **1.37 41** *e*P **Pb** **05 51 49.1 -0.3**
baz=34
WDGT **Dungji** **1.42 240** *e*P **Pb** **05 51 49.6 -0.7**
baz=240
WDGT *e*S **Sb** **05 52 08.2 -0.3**
baz=240
EAST **Anshuo** **1.59 185** *e*P **Pn** **05 51 52.3 +0.4**
baz=173
SCZT **Fangliau** **1.63 193** *e*P **Pn** **05 51 52.8 +0.3**
baz=179

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*IDC **09** 05:51:54.0±1.2, 36°.77S×73°.46W, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.7/32, mbtmp3.7/7, ML3.6/2, MS3.7/4, Ms1 3.7/4, ms1mx3.3/29, Error ellipse: s-maj=39.9km s-min=21.7km az=93.0*
*ISCJB **09** 05:51:56.4±1.0, 36°.75S±0°.09×73°.4W±0°.2, h27km, mb3.6/4, MS3.9/2, Error ellipse: s-maj=28.4km s-min=12.9km az=2.3*
ISC 09 05:51:58.1±1.2, **36°.7S**±0°.1×**73°.4W**±0°.2, **h27**km, **n14**, σ**0**s**61**/**7**, **mb3.8**/**4**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.58**	**151**	Pn	**Pn**	**05 53 06.0**	**+0.4**
1.4nm,0.3s,baz=329,slow=10,SNR=18							
CFAA	**Coronel Fontan**	**6.69**	**42**	Pn	**Pn**	**05 53 34.8**	**+0.2**
0.3nm,0.3s,baz=209,slow=13,SNR=7.0							
CFAA				LR	LR	05 56 14.5	
comp=Z,67nm,20.0s,baz=224,slow=39							
CPUP	**Villa Florida**	**17.18**	**57**	LR	LR	06 03 13.1	
comp=Z,553nm,18.4s,baz=216,slow=39							
LPAZ	**La Paz**	**20.91**	**14**	P	Pn	05 56 40.2	-1.5
1.6nm,0.7s,baz=168,slow=4.7,SNR=7.6							
SIV	**San Ignacio**	**23.40**	**31**	P	**P**	**05 57 04.6**	**-0.3**
1.8nm,0.6s,baz=220,slow=12,SNR=3.0							
SIV				LR	LR	06 08 10.7	
comp=Z,306nm,18.0s,baz=214,slow=42							
BDFB	**Brasilia**	**30.84**	**54**	LR	LR	06 11 55.6	
comp=Z,254nm,18.6s,baz=221,slow=39							
QSPA	**South Pole Qui**	**53.50**	**180**	P	**P**	**06 01 15.6**	**-0.3**
1.3nm,0.8s,baz=320,slow=2.8,SNR=6.2							
RKT	**Rikitea**	**54.20**	**266**	*e*T	T	07 00 54.6	
1.6nm,0.2s							
MEH	**Mehetia**	**67.39**	**264**	*e*T	T	07 17 22.6	
33nm,0.2s							
TIAR	**Tiarei**	**68.59**	**264**	*e*T	T	07 18 51.2	
4.2nm,0.3s							
PPT2	**Papeete2**	**68.75**	**264**	*e*LR	LR	06 23 53.3	
106nm,24.2s							
TXAR	**Lajitas Array**	**71.60**	**332**	P	**P**	**06 03 17.3**	**+0.3**
0.2nm,0.6s,baz=165,slow=7.1,SNR=3.2							
TORD	**Torodi Ar. Bea**	**86.20**	**71**	P	**P**	**06 04 36.5**	**-0.8**
0.3nm,0.6s,baz=218,slow=4.9,SNR=3.7							
MKAR	**Makanchi Array**	**159.37**	**53**	PKPab	**PKPab**	**06 12 32.0**	**+0.6**
0.6nm,0.8s,baz=276,slow=1.3,SNR=2.1							

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*IDC **09** 05:52:16.7±1.0, 24°.08N×121°.54E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/41, mbtmp3.7/8, MS3.0/1, Ms1 3.0/1, ms1mx2.5/45, Error ellipse: s-maj=36.9km s-min=18.5km az=65.0*
*TAP **09** 05:52:19.9, 23°.96N×121°.00E, h7km, ML4.4, B*
*BJI **09** 05:52:19.6, 24°.01N×120°.99E, h5km, mb4.1/4, ML4.1/6*
*ISCJB **09** 05:52:20.7±0.2, 23°.96N±0°.01×121°.03E±0°.02, h7km±2km, mb3.6/8, Error ellipse: s-maj=2.6km s-min=1.6km az=34.0*
ISC 09 05:52:20.0±0.9, **23°.98N**±0°.01×**121°.01E**±0°.02, **h12**km±6km,
n78, σ**0**s**99**/**119**, **mb3.7**/**8**, **8C-25D**, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLT	**Sun Moon Lake**	**0.13**	**227**	⇓*i*P	**Pg**	**05 52 23.3**	**-0.2**
baz=227							
TYC	**Yuchr**	**0.15**	**243**	⇓*i*P	**Pg**	**05 52 23.4**	**-0.2**
baz=255							
WHF	**Hehuan Shan**	**0.29**	**54**	⇓*i*P	**Pb**	**05 52 27.1**	**-0.4**
baz=54							
WNT	**Mingjian**	**0.31**	**252**	⇓*i*P	**Pb**	**05 52 27.4**	**-0.2**
baz=254							
WNT				S	**Sb**	**05 52 32.6**	**0.0**
baz=254							
TWT	**Tachien**	**0.32**	**29**	⇓*i*P	**Pg**	**05 52 26.7**	**+0.1**
baz=27							
TWT				*e*S	**Sg**	**05 52 31.1**	**+0.1**
baz=27							
TCU	**Taichung**	**0.35**	**300**	⇑*i*P	**Pb**	**05 52 28.4**	**+0.2**
baz=311							
TCU				*e*S	**Sb**	**05 52 34.9**	**+1.2**
baz=311							
ESL	**Shilin**	**0.42**	**112**	⇑*i*P	**Pb**	**05 52 29.1**	**-0.3**
baz=110							
ESL				S	**Sg**	**05 52 34.5**	**+0.5**
baz=110							
TWQ1	**Liyutan**	**0.43**	**330**	⇑P	**Pb**	**05 52 29.9**	**+0.3**
baz=345							
TWQ1				S	**Sb**	**05 52 37.0**	**+0.9**
baz=345							
ESF	**Shoufeng Towns**	**0.47**	**103**	*e*P	**Pb**	**05 52 30.6**	**+0.4**
baz=101							
ESF				S	**Sb**	**05 52 36.8**	**-0.3**
baz=101							
CHN5	**Tsauling**	**0.48**	**219**	⇓*i*P	**Pb**	**05 52 30.4**	**-0.1**
baz=206							
YUS	**Yu-Shan**	**0.49**	**186**	⇑P	**Pg**	**05 52 29.7**	**0.0**
baz=175							
YUS				*e*S	**Sg**	**05 52 35.3**	**-0.9**
baz=175							
NSY	**Sanyi**	**0.49**	**333**	⇑P	**Pb**	**05 52 31.6**	**+0.9**
baz=347							
NSY				*e*S	**Sb**	**05 52 39.6**	**+1.7**
baz=347							
ALS	**Alishan**	**0.50**	**202**	⇓P	**Pg**	**05 52 30.1**	**+0.2**
baz=189							
ALS				*e*S	**Sg**	**05 52 37.1**	**+0.5**
baz=189							
WGK	**Gukeng**	**0.50**	**235**	⇓P	**Pb**	**05 52 30.8**	**+0.1**
baz=233							
HWA	**Hwalien**	**0.55**	**90**	*e*P	**Pb**	**05 52 31.5**	**-0.1**
baz=89							
HWA				*e*S	**Sb**	**05 52 39.3**	**-0.1**
baz=89							
EHY	**Hungye**	**0.55**	**148**	⇑P	**Pg**	**05 52 30.9**	**+0.2**
baz=138							
EHY				S	**Sg**	**05 52 37.5**	**-0.5**
baz=138							
TWD	**Chiawan**	**0.55**	**79**	*e*P	**Pb**	**05 52 31.3**	**-0.3**
baz=78							
TWD				S	**Sg**	**05 52 38.3**	**+0.2**
baz=78							
TEGC	**Jichi Village**	**0.56**	**118**	*e*P	**Pb**	**05 52 32.8**	**+1.0**
baz=116							
NNS	**Nan Shan**	**0.57**	**36**	⇓*i*P	**Pg**	**05 52 31.2**	**0.0**
baz=44							
NNS				*e*S	**Sg**	**05 52 38.7**	**-0.1**
baz=44							
NSTT	**Nanjuang**	**0.65**	**360**	⇓*i*P	**Pb**	**05 52 33.6**	**+0.2**
baz=1.0							
NSTT				S	**Sb**	**05 52 43.3**	**+0.8**
baz=1.0							
CHN2	**Minshiung**	**0.66**	**228**	⇓P	**Pb**	**05 52 33.8**	**+0.4**
baz=228							
CHN2				S	**Sb**	**05 52 44.1**	**+1.5**
baz=228							
WTCT	**Ta-ch'eng**	**0.67**	**261**	*e*P	**Pb**	**05 52 33.9**	**+0.2**
baz=262							
WTCT				S	**Sb**	**05 52 44.1**	**+1.1**
baz=262							
CHY	**Chiayi**	**0.71**	**228**	⇓P	**Pb**	**05 52 34.7**	**+0.3**
baz=228							
CHY				S	**Sb**	**05 52 45.3**	**+1.1**
baz=228							
CHN4	**Tsaushan**	**0.73**	**212**	⇓*i*P	**Pb**	**05 52 34.9**	**+0.2**
baz=211							
CHN4				*e*S	**Sb**	**05 52 46.7**	**+2.1**
baz=211							
NSK	**Sanguang**	**0.77**	**25**	⇓*i*P	**Pg**	**05 52 34.9**	**-0.1**
baz=38							
ELDTW	**Lidau**	**0.78**	**179**	*e*P	**Pg**	**05 52 34.5**	**-0.7**
baz=177							
WSF	**Szhu**	**0.79**	**245**	*e*P	**Pg**	**05 52 35.5**	**+0.1**
baz=245							
WSF				*e*S	**Sb**	**05 52 47.4**	**+0.9**
baz=245							
ENA	**Nanau**	**0.81**	**56**	⇓P	**Pb**	**05 52 35.9**	**-0.2**
baz=48							
ENA				*e*S	**Sg**	**05 52 45.8**	**-0.5**
baz=48							
WTP	**Ta-pu**	**0.81**	**207**	⇓*i*P	**Pb**	**05 52 36.1**	**0.0**
baz=205							
WTP				*e*S	**Sb**	**05 52 47.9**	**+0.9**
baz=205							
HSN	**Hsinchu**	**0.82**	**358**	*e*P	**Pn**	**05 52 38.0**	**+0.5**
baz=10.0							
HSN				*e*S	**Sn**	**05 52 51.3**	**+1.7**
baz=10.0							
ENTT	**Nioudou**	**0.84**	**37**	*e*P	**Pg**	**05 52 35.9**	**-0.4**
baz=31							
STYT	**Tauyuan**	**0.84**	**196**	⇓*e*P	**Pg**	**05 52 36.4**	**+0.1**
baz=194							
STYT				*e*S	**Sb**	**05 52 48.1**	**+0.2**
baz=194							
TWK	**Hsinying**	**0.85**	**214**	⇓*i*P	**Pb**	**05 52 36.9**	**+0.1**
baz=212							
TWK				*e*S	**Sn**	**05 52 50.3**	**-0.1**
baz=212							
CHN1	**Nanshi**	**0.90**	**209**	⇓*i*P	**Pg**	**05 52 37.6**	**+0.2**
baz=209							
CHN1				*e*S	**Sb**	**05 52 50.4**	**+0.8**
baz=209							
CHKT	**Chengkung**	**0.93**	**159**	⇑*i*P	**Pb**	**05 52 38.8**	**+0.7**
baz=141							
TWE	**Neicheng**	**0.96**	**39**	⇓*e*P	**Pg**	**05 52 38.4**	**-0.1**
baz=33							
TWE				*e*S	**Sn**	**05 52 53.2**	**+0.3**
baz=33							
CHN8	**Yiju**	**0.96**	**230**	*e*P	**Pg**	**05 52 38.6**	**0.0**
baz=227							
SGST	**Jiashian**	**0.97**	**204**	⇓*e*P	**Pg**	**05 52 38.7**	**0.0**
baz=215							
SGST				*e*S	**Sn**	**05 52 53.4**	**+0.2**
baz=215							
TWC	**Suao**	**0.99**	**50**	*i* P	**Pg**	**05 52 39.0**	**-0.3**
baz=51							
TWC				*e*S	**Sg**	**05 52 51.8**	**-0.4**
baz=51							
NCU	**National Centr**	**1.00**	**9**	*e*P	**Pn**	**05 52 40.4**	**+0.4**
baz=11							
NCU				*e*S	**Sn**	**05 52 56.7**	**+2.6**
baz=11							
ILA	**Ilan**	**1.04**	**40**	*e*P	**Pg**	**05 52 39.8**	**-0.2**
baz=51							
CHN3	**Shinhua**	**1.07**	**214**	*e*P	**Pn**	**05 52 41.3**	**+0.4**
baz=211							
SCLT	**Jiali**	**1.09**	**223**	*e*P	**Pg**	**05 52 41.0**	**0.0**
baz=222							
SCLT				*e*S	**Sn**	**05 52 56.8**	**+0.6**
baz=222							
TWA	**Mucha**	**1.13**	**28**	*e*P	**Pn**	**05 52 42.2**	**+0.4**
baz=36							
TWG	**Pinlang**	**1.15**	**177**	*e*P	**Pg**	**05 52 41.2**	**-0.9**
baz=167							
TWG				*e*S	**Sn**	**05 52 58.5**	**+0.8**
baz=167							
TAP	**Taipei**	**1.15**	**23**	*e*P	**Pn**	**05 52 42.5**	**+0.5**
baz=32							
TAP1	**Taipei**	**1.16**	**24**	*e*P	**Pn**	**05 52 42.8**	**+0.7**
baz=29							
TAP1				*e*S	**Sn**	**05 53 00.3**	**+2.4**
baz=29							
TAI1	**Yung-k'ang**	**1.17**	**218**	*e*P	**Pn**	**05 52 43.1**	**+0.8**
baz=216							
TAI1				*e*S	**Sn**	**05 52 59.6**	**+1.4**
baz=216							
TWS1	**Kuangyinshan**	**1.18**	**18**	*e*P	**Pn**	**05 52 43.8**	**+1.4**
baz=4.0							
TWS1				*e*S	**Sn**	**05 53 01.1**	**+2.6**
baz=4.0							
EGS		**1.21**	**44**	*e*P	**Pb**	**05 52 43.0**	**+0.1**
baz=57							
TTN	**Taitung**	**1.22**	**174**	*e*P	**Pg**	**05 52 42.9**	**-0.6**
baz=172							
TTN				*e*S	**Sn**	**05 53 02.8**	**+3.4**
baz=172							
TWM1	**Shoushan**	**1.27**	**205**	⇓*e*P	**Pg**	**05 52 45.3**	**+0.9**
baz=201							
SSD	**Sandimen**	**1.27**	**196**	*e*P	**Pb**	**05 52 44.3**	**+0.3**
baz=181							
SSD				*e*S	**Sn**	**05 53 02.4**	**+1.8**
baz=181							
NWF	**Wu-fen Shan**	**1.30**	**33**	*e*P	**Pg**	**05 52 45.3**	**+0.3**
baz=43							
NWF				*e*S	**Sn**	**05 53 03.5**	**+2.0**
baz=43							
SGLT	**Jiouru**	**1.33**	**201**	*e*P	**Pn**	**05 52 44.9**	**+0.4**
baz=198							
TWB1	**Santiao Chiao**	**1.36**	**41**	*e*P	**Pg**	**05 52 45.9**	**-0.3**
baz=54							
TWB1				*e*S	**Sn**	**05 53 05.9**	**+2.9**
baz=54							
ECL	**Taimali**	**1.37**	**182**	*e*P	**Pb**	**05 52 46.0**	**+0.3**
baz=180							
ECL				*e*S	**Sg**	**05 53 04.4**	**+0.2**
baz=180							
PNG	**Penghu**	**1.39**	**253**	*e*P	**Pn**	**05 52 44.6**	**-0.7**
baz=244							
PNG				*e*S	**Sb**	**05 53 03.0**	**-0.7**
baz=244							
TWY	**Chenhua**	**1.40**	**22**	*e*P	**Pn**	**05 52 46.0**	**+0.5**
baz=25							
WDGT	**Dungji**	**1.43**	**240**	⇓*e*P	**Pn**	**05 52 45.5**	**-0.3**
baz=240							
WDGT				*e*S	**Sb**	**05 53 04.7**	**-0.1**
baz=240							
EAST	**Anshuo**	**1.59**	**185**	⇓*e*P	**Pb**	**05 52 49.5**	**+0.1**
baz=201							
TAW	**Tawu**	**1.61**	**184**	*e*P	**Pb**	**05 52 49.9**	**+0.1**
baz=181							
TAW				*e*S	**Sg**	**05 53 14.6**	**+2.7**
baz=181							
SCZT	**Fangliau**	**1.64**	**193**	⇓*e*P	**Pn**	**05 52 49.6**	**+1.0**
baz=190							
SCZT				*e*S	**Sg**	**05 53 12.3**	**-0.4**
baz=190							
HEN	**Hengchun**	**1.98**	**187**	*e*P	**Pb**	**05 52 56.7**	**+0.7**
baz=184							
LAY	**Lan-yu**	**1.99**	**165**	*e*P	**Pn**	**05 52 53.6**	**0.0**
baz=151							
TWK1	**Hengchun**	**2.03**	**185**	*e*P	**Pn**	**05 52 55.0**	**+0.9**
baz=198							
TSEB	**Hengchuen, Pin**	**2.07**	**183**	*e*P	**Pn**	**05 52 56.4**	**+1.8**
baz=196							
KNM	**Kinmen**	**2.39**	**281**	*e*P	**Pn**	**05 53 00.8**	**+1.7**
baz=279							
QZH	**Quanzhou**	**2.40**	**294**	⇑*i*Pn	**Pn**	**05 52 59.1**	**-0.1**
QZH				Sn	**Sn**	**05 53 26.6**	**-2.0**
QZH				SMN			
1μm,0.9s							
QZH				SME			
880nm,0.6s							
JNU	**Nakatsue**	**12.57**	**41**	LR	LR	06 01 07.0	
comp=Z,70nm,18.3s,baz=356,slow=44							
CMAR	**Chiang Mai Arr**	**21.28**	**259**	P	P	05 57 11.8	+5.2
0.5nm,0.3s,baz=64,slow=8.1,SNR=3.5							
SONM	**Songino Array**	**26.50**	**338**	P	**P**	**05 57 55.6**	**-1.8**
1.5nm,1.0s,baz=158,slow=8.8,SNR=9.8							
MKAR	**Makanchi Array**	**38.38**	**316**	P	**P**	**05 59 41.9**	**+0.7**
1.6nm,0.7s,baz=110,slow=10,SNR=20							
ZALV	**Zalesovo Beam**	**40.33**	**327**	P	**P**	**05 59 57.1**	**-0.2**
2.3nm,0.7s,baz=120,slow=8.8,SNR=13							
WRA	**Warramunga Arr**	**45.54**	**162**	P	P	06 00 36.9	-3.0
0.4nm,0.4s,baz=344,slow=8.6,SNR=11							
BVAR	**Borovoye Array**	**47.73**	**321**	P	**P**	**06 00 55.9**	**-0.9**
0.4nm,0.6s,baz=90,slow=8.9,SNR=3.6							
ASAR	**Alice Springs**	**48.98**	**164**	P	**P**	**06 01 05.1**	**-1.6**
0.3nm,0.6s,baz=348,slow=6.6,SNR=4.9							
YKA	**Yellowknife Ar**	**83.22**	**23**	P	**P**	**06 04 44.9**	**-1.2**
0.1nm,0.7s,baz=314,slow=5.2,SNR=7.4							

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*IDC **09** 05:53:23.8±0.6, 37°.17S×73°.29W, h0km, mb4.4/15, mb1 4.5/17, mb1mx4.4/29, mbtmp4.4/17, ML4.0/2, MS3.9/4, Ms1 3.9/4, ms1mx3.4/30, Error ellipse: s-maj=22.5km s-min=15.3km az=84.0*
*ISCJB **09** 05:53:28.8±0.6, 36°.97S±0°.05×73°.11W±0°.08, h34km±4km, mb4.7/54, MS3.8/4, Error ellipse: s-maj=11.2km s-min=8.6km az=155.3*
*NEIC **09** 05:53:28.1, 37°.10S×73°.32W, h11km, mb4.8/36, After GUC.*
NEIC Felt [VI] at Concepcion and [IV] at Angol, Renaico and Talcahuano. Also felt at Arauco, Bulnes, Linares, Penco, San Antonio and Tome.
*GUC **09** 05:53:28.1±0.5, 37°.10S×73°.32W, h11km±3km, ML5.2*
*BJI **09** 05:53:30.2, 37°.00S×73°.20W, h35km, mB5.3/3, Ms5.3/2, Ms7 5.1/2*
ISC 09 05:53:28.7±0.6, **37°.08S**±0°.06×**73°.23W**±0°.07, **h29**km±3km, **h29**km:**pP-P**, **n323**, σ**0**s**97**/**340**, **mb4.8**/**54**, **MS3.8**/**4**, **115C-118D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.25**	**23**	⇑*i*P	**Pb**	**05 53 34.9**	**-0.6**
CCSP				*i* S	**Sb**	**05 53 39.5**	**-0.5**
CCSP	**San Pedro de C**	**0.25**	**23**	⇑*i*P	**Pb**	**05 53 34.9**	**-0.6**
CCSP				*i* S	**Sb**	**05 53 39.5**	**-0.5**
LNCH	**Linares**	**1.80**	**47**	⇓*i*P	**Pb**	**05 54 00.1**	**-0.8**
LNCH				*i* S1	**Sb**	**05 54 24.3**	**+1.2**
LNCH				AML	AML	05 54 29.2	
comp=N,31μm,0.8s							
LNCH	**Linares**	**1.80**	**47**	⇓*i*P	**Pb**	**05 54 00.1**	**-0.8**
LNCH				*i* S	**Sb**	**05 54 24.3**	**+1.2**
NICH	**Los Niches**	**2.63**	**39**	⇓*i*P	**Pn**	**05 54 12.2**	**+3.0**
NICH				AML	AML	05 54 56.1	
comp=N,15μm,0.6s							
NICH	**Los Niches**	**2.63**	**39**	⇓*i*P	**Pn**	**05 54 12.2**	**+3.0**
VLCH	**Valdivia**	**2.73**	**180**	*e*P1	**Pn**	**05 54 12.3**	**+1.8**
VLCH				AML	AML	05 55 13.1	
comp=E,7μm,0.7s							
VLCH	**Valdivia**	**2.73**	**180**	*e*P	**Pn**	**05 54 12.3**	**+1.8**
CFAA	**Coronel Fontan**	**6.84**	**39**	Pn	**Pn**	**05 55 07.5**	**+0.3**
comp=E,0.4nm,0.3s,baz=226,slow=16,SNR=3.3							
LCO	**Las Campanas**	**8.32**	**16**	*e*Pn	**Pn**	**05 55 27.7**	**+0.1**
LVC	**Limon Verde**	**14.89**	**16**	*e*Pn	**Pn**	**05 56 57.8**	**+0.3**
CPUP	**Villa Florida**	**17.23**	**56**	P	**Pn**	**05 57 27.5**	**+0.2**
comp=E,0.6nm,0.3s,baz=236,slow=9.4,SNR=4.5							
CPUP	**Villa Florida**	**17.23**	**56**	*e*Pn	**Pn**	**05 57 25.8**	**-1.5**
EFI	**East Falkland**	**18.13**	**148**	Pn	**P**	**05 57 39.9**	**+1.6**
LPAZ	**La Paz**	**21.19**	**14**	P	**P**	**05 58 12.7**	**0.0**
comp=E,8.3nm,0.7s,baz=184,slow=7.3,SNR=10							
LPAZ	**La Paz**	**21.19**	**14**	*e*P	**P**	**05 58 13.2**	**+0.6**
comp=E,10nm,0.8s							
SIV	**San Ignacio**	**23.61**	**30**	P	**P**	**05 58 36.0**	**-1.3**
comp=E,5.7nm,0.7s,baz=237,slow=4.5,SNR=8.7							
NNA	**Nana**	**25.19**	**352**	P	**P**	**05 58 51.1**	**-0.8**
comp=E,3.0nm,0.4s,baz=210,slow=13,SNR=3.6							
NNA				LR	LR	06 05 55.8	
comp=E,159nm,19.9s,baz=174,slow=30							
SAML	**Samuel**	**29.45**	**21**	*e*P	**P**	**05 59 30.0**	**0.0**
comp=E,4.1nm,0.9s							
ATAH	**Atahualpa**	**30.17**	**350**	LR	LR	06 09 50.1	
comp=E,136nm,18.2s,baz=184,slow=33							
BDFB	**Brasilia**	**30.91**	**53**	P	**P**	**05 59 44.4**	**+1.3**
comp=E,1.0nm,0.5s,baz=162,slow=13,SNR=1.9							
OTAV	**Otavalo**	**37.44**	**351**	*e*P	**P**	**06 00 41.2**	**+1.2**
comp=E,24nm,1.6s							
ROSC	**El Rosal**	**41.73**	**358**	P	**P**	**06 01 16.8**	**+1.1**
comp=E,6.1nm,0.5s,baz=155,slow=4.1,SNR=11							
ROSC	**El Rosal**	**41.73**	**358**	*e*P	**P**	**06 01 16.3**	**+0.7**
SDV	**Santo Domingo**	**45.78**	**4**	*e*P	**P**	**06 01 47.0**	**-1.0**
comp=E,9.0nm,0.9s							
RCBR	**Riachuelo**	**46.11**	**57**	LR	LR	06 22 22.2	
comp=E,262nm,18.2s,baz=213,slow=38							
SNAA	**Sanae**	**49.13**	**157**	P	**P**	**06 02 11.6**	**-1.7**
comp=E,1.3nm,0.8s,baz=290,slow=7.2,SNR=7.7							
QSPA	**South Pole Qui**	**53.17**	**180**	P	**P**	**06 02 42.7**	**-1.1**
comp=E,12nm,0.9s,baz=325,slow=2.9,SNR=27							
APG	**El Apazote**	**54.29**	**339**	P	P	06 02 48.4	-4.1
comp=E,7.1nm,0.7s,baz=143,slow=6.8,SNR=11							
APG				LR	LR	06 20 33.8	
comp=E,110nm,18.1s,slow=30							
TEIG	**Tepich**	**58.73**	**343**	P	**P**	**06 03 23.0**	**-0.9**
comp=E,16nm,0.8s,baz=55,slow=2.5,SNR=6.0							

834A	Tilden baz=69	69.08 336	⇓P	P	06 04 33.4 +1.6
833A	Chaparral WMA, baz=70	69.54 335	⇑P	P	06 04 35.8 +1.2
832A	Faith Ranch, C baz=70	69.70 335	⇑P	P	06 04 35.9 +0.3
636A	Smothers Creek baz=70	69.88 338	⇓P	P	06 04 37.8 +1.1
732A	Laxson Ranch, baz=70,SNR=7.8	70.11 335	⇑P	P	06 04 38.7 +0.6
535A	Dale baz=71	70.55 338	⇑P	P	06 04 41.5 +0.7
632A	Uvalde baz=71	70.76 336	⇑P	P	06 04 43.2 +1.0
GOGA	Godfrey comp=E,6.2nm,0.7s	70.77 351	eP	P	06 04 41.4 -0.7
LRAL	Lakeview Retre comp=E,67nm,2.5s	70.92 348	eP	P	06 04 42.8 -0.2
533A	Kerrville baz=71	71.04 336	⇑P	P	06 04 44.8 +0.9
337A	Centerville baz=72	71.26 340	⇑P	P	06 04 46.7 +1.5
532A	Rocksprings baz=72	71.38 336	⇑P	P	06 04 46.4 +0.5
434A	Burnet baz=72	71.49 337	⇓P	P	06 04 46.9 +0.3
239A	Gary baz=72	71.55 341	⇑P	P	06 04 47.5 +0.7
336A	Riesel baz=72	71.60 339	⇑P	P	06 04 47.8 +0.7
531A	Rocksprings baz=72,SNR=6.5	71.62 335	⇓P	P	06 04 47.8 +0.4
JCT	Junction City baz=72	71.67 336	⇓P	P	06 04 48.4 +0.8
JCT	Junction City comp=E,11nm,0.9s	71.67 336	eP	P	06 04 48.2 +0.6
JCT			epP	pP	06 04 55.6 -1.2
335A	Moody baz=72	71.67 338	⇓P	P	06 04 48.4 +0.8
433A	Art baz=72	71.69 337	⇓P	P	06 04 48.1 +0.3
530A	J-C Ranch, Com baz=72,SNR=7.0	71.88 335	⇑P	P	06 04 49.4 +0.5
237A	Washetta, Mont baz=72	71.89 340	⇑P	P	06 04 49.4 +0.6
334A	Lometa baz=72	71.97 338	⇓P	P	06 04 49.7 +0.3
TXAR	Lajitas Array comp=E,2.2nm,0.6s,baz=154,slow=8.9,SNR=20	71.97 332 P		P	06 04 50.0 +0.4
432A	Menard baz=72	72.03 336	⇑P	P	06 04 50.1 +0.3
431A	Sonora baz=72	72.12 335	⇑P	P	06 04 50.9 +0.5
529A	Stev Forest Ra baz=72,SNR=6.0	72.16 334	⇑P	P	06 04 51.2 +0.6
333A	Richland Sprin baz=72	72.19 337	⇓P	P	06 04 50.7 0.0
KMSC	Kings Mountain baz=73	72.25 353	⇑P	P	06 04 50.8 -0.2
KMSC	Kings Mountain comp=E,7.2nm,0.8s	72.25 353	eP	P	06 04 50.4 -0.6
430A	Baggett Ranch, baz=73,SNR=6.0	72.42 335	⇓P	P	06 04 52.1 -0.1
137A	Heron Place, G baz=73	72.44 340	⇓P	P	06 04 53.0 +0.8
332A	Millersview baz=73	72.48 336	⇓P	P	06 04 52.8 +0.3
429A	Davenport Ranc baz=73,SNR=6.3	72.50 334	⇓P	P	06 04 52.9 +0.2
234A	Clairette baz=73	72.56 338	⇑P	P	06 04 53.2 +0.2
331A	San Angelo baz=73	72.64 336	⇑P	P	06 04 53.8 +0.4
233A	Rising Star baz=73	72.81 337	⇓P	P	06 04 54.6 +0.2
SWET	Sewanee comp=E,28nm,1.0s	72.89 349	eP	P	06 04 54.8 -0.1
CPCT	Cooper Cave	72.92 350	eP	P	06 04 57.0 +2.1
232A	Coleman baz=73	72.92 337	⇑P	P	06 04 55.3 +0.2
330A	Mertzon baz=73	72.97 335	⇓P	P	06 04 55.3 -0.1
TKL	Tuckaleechee C	73.03 351	eP	P	06 04 55.2 -0.4
134A	White-Moore Ra baz=73	73.08 338	⇑P	P	06 04 56.1 +0.1
231A	Bronte baz=74	73.18 336	⇑P	P	06 04 56.7 +0.1
329A	Wagon Wheel Ra baz=74,SNR=5.5	73.32 335	⇑P	P	06 04 57.4 -0.1
133A	Hamilton Ranch baz=74	73.36 338	⇓P	P	06 04 58.3 +0.6
230A	Sterling City baz=74	73.39 335	⇓P	P	06 04 58.2 +0.3
Z35A	Perchaven, San baz=74	73.54 339	⇓P	P	06 04 59.2 +0.5
ABTX	Abilene, Hawle baz=74	73.60 337	⇓P	P	06 04 59.3 +0.2
229A	Bryant Ranch, baz=74	73.70 335	⇑P	P	06 05 00.5 +0.7
131A	Roby baz=74	73.88 336	⇓P	P	06 05 01.1 +0.3
Z33A	Whitaker Ranch baz=74	73.94 338	⇓P	P	06 05 01.5 +0.4
130A	Snyder baz=74	74.00 336	⇓P	P	06 05 01.5 0.0
WVT	Waverly comp=E,15nm,1.0s	74.09 348	eP	P	06 05 01.2 -0.6
228A	UT Block 9, Go baz=74	74.11 334	⇓P	P	06 05 02.5 +0.3
Z32A	Haskell baz=74	74.18 337	⇑P	P	06 05 02.8 +0.4
Y34A	Reagan Ranch, baz=75	74.28 339	⇑P	P	06 05 03.0 +0.1
129A	Stewart Farms, baz=75	74.33 335	⇑P	P	06 05 03.9 +0.5
Z31A	Sharp Cattle R baz=75	74.40 337	⇑P	P	06 05 04.1 +0.3
128A	Castleberry Fa baz=75	74.53 335	⇑P	P	06 05 04.8 +0.2
Y33A	Hilltop Ranch, baz=75	74.58 338	⇓P	P	06 05 05.3 +0.5
Z30A	Sanderson Ranc baz=75	74.68 336	⇑P	P	06 05 05.9 +0.4
Y32A	R-V Farms, Ver baz=75	74.82 338	⇑P	P	06 05 06.3 +0.1
Z29A	Hungry Hill Ra baz=75	74.85 336	⇓P	P	06 05 06.3 -0.1
X34A	Smith Ranch, M baz=75	74.90 339	⇓P	P	06 05 06.8 +0.2
Y31A	Rekieta Farm, baz=75	75.03 337	⇓P	P	06 05 08.2 +0.9
Z28A	Tucker Farm, M baz=75	75.10 335	⇓P	P	06 05 07.9 0.0
PBMO	Poplar Bluff comp=E,6.6nm,0.6s	75.19 346	eP	P	06 05 07.6 -0.6
PBMO			epP	pP	06 05 15.7 -1.8
Y29A	Porterfield Fa baz=76	75.39 336	⇑P	P	06 05 09.8 +0.3
W34A	Bridge Creek, baz=76	75.48 339	⇓P	P	06 05 10.2 +0.3
X31A	McDonald Ranch baz=76	75.56 337	⇓P	P	06 05 10.4 0.0
TUL1	Leonard baz=76	75.58 341	⇑P	P	06 05 10.6 +0.1
TUL1	Leonard comp=E,12nm,1.0s	75.58 341	eP	P	06 05 10.4 -0.1
W33A	Caddo, Fort Co baz=76	75.60 339	⇓P	P	06 05 11.4 +0.8
W32A	Sentinel baz=76	75.80 338	⇑P	P	06 05 12.4 +0.6
SIUC	Southern Illin comp=E,5.3nm,0.6s	75.87 347	eP	P	06 05 11.5 -0.5
X29A	Tulia baz=76	75.93 336	⇓P	P	06 05 13.0 +0.4
V34A	Guthrie baz=76	75.97 340	⇑P	P	06 05 12.9 +0.2
V34A	Guthrie comp=E,22nm,1.3s	75.97 340	eP	P	06 05 12.7 0.0
319A	Douglas baz=76	75.99 329	⇑P	P	06 05 14.4 +1.3
W31A	Holland Ranch, baz=76	76.06 338	⇑P	P	06 05 13.4 +0.1
V33A	Lossen Ranch, baz=76	76.17 339	⇓P	P	06 05 14.3 +0.4
Y26A	Elida baz=76	76.17 334	⇑P	P	06 05 14.6 +0.5
V32A	Arapaho baz=77	76.29 339	⇑P	P	06 05 15.2 +0.6
AMTX	Amarillo baz=77	76.33 336	⇓P	P	06 05 15.5 +0.6
121A	Cookes Peak, D baz=77	76.40 330	⇓P	P	06 05 16.9 +1.4
W29A	Amarillo baz=77	76.54 336	⇓P	P	06 05 16.3 +0.3
U34A	Anderson Ranch baz=77	76.54 340	⇓P	P	06 05 16.1 +0.2
V31A	Spring Creek L baz=77	76.58 338	⇑P	P	06 05 18.0 +1.7
LIC	Lamto comp=E,58nm,1.3s	76.67 72	eP	P	06 05 18.0 +0.8
Y24A	Capitan baz=77	76.75 333	⇓P	P	06 05 18.4 +0.9
TIC	Toumodi comp=E,28nm,1.1s	76.94 71	eP	P	06 05 19.7 +0.9
W27A	Bowe Ranch, En baz=77,SNR=10	76.95 335	⇓P	P	06 05 18.6 +0.2
KIC	Kosan Boka comp=E,53nm,1.2s	76.97 72	eP	P	06 05 19.9 +1.0
Y23A	Lovelace Mesa, baz=77	76.98 332	⇓P	P	06 05 19.9 +1.2
DBIC	Dimbokro comp=E,5.4nm,0.6s,baz=196,slow=5.5,SNR=9.9	77.08 71 P		P	06 05 19.0 -0.5
W26A	Owens Ranch, T baz=78	77.21 335	⇑P	P	06 05 20.6 +0.7
T33A	Patterson Ranc baz=78	77.34 340	⇑P	P	06 05 21.2 +0.8
TUC	Tucson comp=E,5.6nm,1.3s	77.43 328	eP	P	06 05 20.9 -0.3
ACSO	Alum Creek Sta comp=E,12nm,0.6s	77.45 352	eP	P	06 05 20.1 -0.9
U30A	WK&E Inc. Balk baz=78	77.52 338	⇑P	P	06 05 22.5 +0.9
W25A	X Bar L Ranch, baz=78,SNR=5.8	77.56 334	⇓P	P	06 05 21.9 0.0
X23A	Hourglass Bar baz=78	77.61 333	⇓P	P	06 05 23.7 +1.4
T32A	Huddler Ranch, baz=78	77.62 339	⇑P	P	06 05 22.8 +0.8
LAZ	Ladron comp=E,12nm,1.9s	77.81 332	eP	P	06 05 24.0 +0.7
V26A	Tequesquite Ra baz=78	77.86 335	⇓P	P	06 05 24.0 +0.4
W24A	Lazy 6 Ranch, baz=78	77.89 334	⇑P	P	06 05 24.7 +0.9
214A	Organ Pipe Nat baz=78	78.01 326	⇑P	P	06 05 25.5 +1.2
ANMO	Albuquerque	78.04 333	eP	P	06 05 25.3 +0.7
V25A	Rancho No Teng baz=78,SNR=6.3	78.18 334	⇑P	P	06 05 25.6 +0.2
S31A	Mullinville baz=78	78.19 339	⇓P	P	06 05 25.9 +0.8
V24A	Rampart Ranch, baz=79	78.31 334	⇑P	P	06 05 26.9 +0.8
R33A	Olander Ranch, baz=79	78.42 340	⇓P	P	06 05 26.6 +0.2
S30A	Montezuma baz=79	78.50 338	⇓P	P	06 05 27.7 +0.8
U25A	Circle Dot Ran baz=79	78.62 335	⇑P	P	06 05 29.0 +1.2
V23A	Ortiz Mt. (NFS baz=79	78.65 333	⇑P	P	06 05 29.2 +1.2
R32A	Long Quarter, baz=79	78.72 340	⇑P	P	06 05 28.8 +0.7
R31A	Burdett baz=79	78.83 339	⇑P	P	06 05 29.6 +0.9
S28A	Manter baz=79	78.88 337	⇓P	P	06 05 30.2 +1.2
Q33A	Connelly Farm, baz=79	79.02 341	⇓P	P	06 05 30.3 +0.6
R30A	Dighton baz=79	79.04 339	⇑P	P	06 05 30.7 +0.9
V22A	San Miguel Ran baz=79	79.06 333	⇑P	P	06 05 32.2 +1.9
113A	Mohawk Valley, baz=79	79.12 326	⇑P	P	06 05 32.1 +1.8
U23A	El Rito baz=80	79.17 333	⇑P	P	06 05 32.5 +1.7
Q32A	Meitler Ranch, baz=80	79.21 340	⇓P	P	06 05 31.2 +0.4
T25A	Trinidad baz=80,SNR=8.8	79.28 335	⇑P	P	06 05 32.2 +0.7
TSUM	Tsumeb	79.31 106	eP	P	06 05 33.0 +0.9
S26A	Kim baz=80,SNR=6.0	79.41 336	⇓P	P	06 05 32.5 +0.5
R29A	Marienthal baz=80	79.42 338	⇓P	P	06 05 32.8 +0.8
BOSA	Boshof comp=E,5.2nm,0.8s,baz=248,slow=2.9,SNR=5.7	79.50 118 P		P	06 05 32.6 -0.4
X16A	Lo Mia Camp, P baz=80	79.53 329	⇑P	P	06 05 33.8 +1.0
R28A	Tribune baz=80,SNR=5.0	79.55 338	⇑P	P	06 05 33.0 +0.3
T24B	San Luis baz=80	79.55 334	⇑P	P	06 05 34.3 +1.3
Q30A	Quinter baz=80	79.66 339	⇑P	P	06 05 34.2 +1.0
T23A	Casias Ranch, baz=80	79.75 334	⇑P	P	06 05 34.9 +0.9
S25A	Robets Cordova baz=80	79.77 335	⇑P	P	06 05 35.1 +1.1
Y14A	Wickenburg baz=80	79.78 327	⇓P	P	06 05 35.1 +1.1
R27A	Eads baz=80	79.80 337	⇓P	P	06 05 34.7 +0.6
Q29A	Oakley baz=80	79.80 338	⇓P	P	06 05 34.6 +0.6
P32A	Huiting Farm, baz=80	79.81 340	⇑P	P	06 05 34.6 +0.6
P31A	Stockton baz=80	79.93 340	⇑P	P	06 05 35.6 +0.9
S24A	Houchin Ranch, baz=80,SNR=6.4	80.01 335	⇓P	P	06 05 36.2 +0.7
R26A	Arlington baz=80,SNR=6.5	80.02 336	⇓P	P	06 05 35.9 +0.6
WUAZ	Wupatki baz=81	80.45 329	⇑P	P	06 05 39.5 +1.8
O31A	Woolen Ranch, baz=81	80.51 340	⇑P	P	06 05 39.0 +1.3
R24A	Sanders Place, baz=81,SNR=6.1	80.51 335	⇑P	P	06 05 39.1 +1.1
Q26A	Hugo baz=81	80.61 336	⇑P	P	06 05 40.4 +1.9
S22A	4UR Ranch, Cre baz=81	80.67 334	⇓P	P	06 05 40.5 +1.4
R23A	Moffat baz=81	80.72 335	⇓P	P	06 05 39.9 +0.6
O30A	MW Ranch, Wils baz=81	80.73 339	⇑P	P	06 05 39.6 +0.6
MVCO	Mesa Verde baz=81	80.80 332	⇓P	P	06 05 40.7 +1.0
MVCO	Mesa Verde comp=E,14nm,1.4s	80.80 332	eP	P	06 05 40.8 +1.1
JFWS	Jewell Farm comp=E,5.4nm,0.8s	81.11 347	eP	P	06 05 40.6 -0.2
W13A	Hualapai Mount baz=81	81.15 327	⇓P	P	06 05 43.5 +2.0
Q24A	Divide baz=82	81.18 335	⇑P	P	06 05 42.8 +1.1
P25A	Willow Gulch B baz=82	81.36 336	⇓P	P	06 05 44.0 +1.5
N29A	Votaw Ranch, W baz=82	81.49 339	⇑P	P	06 05 43.6 +0.6
U15A	North Rim baz=82	81.61 329	⇑P	P	06 05 45.8 +1.7
O25A	Wiggins baz=82	81.89 337	⇓P	P	06 05 46.7 +1.4
LBTB	Lobatse comp=E,13nm,0.6s	81.89 115	eP	P	06 05 46.6 +0.8
SMCO	Snowmass comp=E,12nm,1.3s	82.00 334	eP	P	06 05 47.6 +1.5
ISCO	Idaho Springs baz=82	82.09 335	⇑P	P	06 05 47.5 +0.9
ISCO	Idaho Springs comp=E,7.9nm,1.6s	82.09 335	eP	P	06 05 47.6 +1.1
L31A	Butterfield Fa baz=83	82.27 341	⇓P	P	06 05 48.1 +1.0
L30A	Spencer Herefo baz=83	82.29 340	⇑P	P	06 05 48.2 +1.0
P22A	Eagle baz=83	82.30 334	⇓P	P	06 05 48.8 +1.3
O23A	Lake Granby, G baz=83	82.56 335	⇑P	P	06 05 50.5 +1.6
O22A	Kremmling baz=83	82.73 335	⇑P	P	06 05 50.7 +0.8
K30A	Basset baz=83	82.94 341	⇑P	P	06 05 51.5 +1.0
CCUT	Cedar City comp=E,3.9nm,1.1s	83.01 329	eP	P	06 05 53.9 +2.6
N23A	Red Feather La baz=84	83.19 336	⇑P	P	06 05 53.4 +1.2
ECSD	EROS Data Cent baz=84	83.19 343	⇓P	P	06 05 52.1 +0.3
ECSD	EROS Data Cent comp=E,19nm,1.0s	83.19 343	eP	P	06 05 51.6 -0.1
N22A	Wattenberg Ran baz=84	83.27 335	⇓P	P	06 05 54.5 +1.9
O20A	White River Ci baz=84	83.29 334	⇑P	P	06 05 53.8 +1.2
M24A	Cheyenne baz=84	83.34 337	⇑P	P	06 05 54.2 +1.4
PHWY	Pilot Hill comp=E,5.0nm,1.1s	83.39 336	eP	P	06 05 53.7 +0.5
K28A	Ten Mile Ranch baz=84	83.45 340	⇑P	P	06 05 54.4 +1.2
J30A	Dallas baz=84	83.51 341	⇓P	P	06 05 54.2 +0.8
M23A	Laramie baz=84	83.63 336	⇓P	P	06 05 55.0 +0.7
ISA	Isabella, Lake baz=84	83.68 324	⇓P	P	06 05 55.5 +1.0
K27A	Flueckinger Fa baz=84	83.69 339	⇑P	P	06 05 55.5 +1.0
J29A	Okreek baz=84,SNR=7.1	83.81 340	⇓P	P	06 05 55.5 +0.5
SPMN	Marine on St. baz=84	83.81 346	⇓P	P	06 05 54.5 -0.4
SPMN	Marine on St. comp=E,2.9nm,0.8s	83.81 346	eP	P	06 05 54.0 -0.9
N20A	Spence Gulch, baz=84	83.92 334	⇑P	P	06 05 56.1 +0.2
I30A	Oacoma baz=84	84.05 341	⇑P	P	06 05 56.7 +0.5
J28A	Allard Ranch, baz=84	84.07 340	⇑P	P	06 05 57.2 +0.8
J27A	Elkhorn Farm, baz=84	84.13 339	⇓P	P	06 05 58.0 +1.3
L23A	Garrett baz=84	84.20 336	⇓P	P	06 05 57.7 +0.4
MPU	Maple Canyon comp=E,5.8nm,1.0s	84.44 331	eP	P	06 06 00.1 +1.6
J26A	Sides Ranch, S baz=85	84.49 339	⇓P	P	06 05 59.7 +1.1
I28A	Midland baz=85,SNR=5.1	84.58 340	⇓P	P	06 05 58.9 0.0
R11A	Troy Canyon, C baz=85	84.62 328	⇓P	P	06 06 00.8 +1.4
R11A	Troy Canyon, C comp=E,55nm,2.8s	84.62 328	eP	P	06 06 01.2 +1.8
K23A	Bowen Ranch, D baz=85	84.76 337	⇓P	P	06 06 01.0 +1.0
J25A	Sunshine Ranch baz=85	84.78 338	⇓P	P	06 06 01.1 +1.1
JLU	Jordanelle comp=E,3.6nm,1.0s	84.88 332	eP	P	06 06 01.8 +1.0
I27A	Quinn baz=85	84.89 340	⇓P	P	06 06 01.2 +0.7
H29A	Onida baz=85	84.91 341	⇑P	P	06 06 00.9 +0.4
K22A	Casper baz=85	84.95 336	⇑P	P	06 06 01.8 +0.9
K22A	Casper comp=E,13nm,1.3s	84.95 336	eP	P	06 06 01.7 +0.7
K22A			epP	pP	06 06 09.6 -0.8
DUG	Dugway, Tooele baz=85	85.05 331	⇑P	P	06 06 02.4 +0.9
DUG	Dugway, Tooele comp=E,6.4nm,1.1s	85.05 331	eP	P	06 06 03.3 +1.8
G30A	Faulkton baz=86	85.11 342	⇓P	P	06 06 01.8 +0.3
H28A	Mission Ridge baz=86	85.17 340	⇓P	P	06 06 02.1 +0.2
K21A	Alcova baz=86	85.18 336	⇓P	P	06 06 02.6 +0.4
I25A	Rochford baz=86,SNR=5.8	85.33 338	⇓P	P	06 06 03.1 +0.2
H27A	Howes baz=86,SNR=6.2	85.42 340	⇑P	P	06 06 03.1 0.0
I24A	Kuemmerle Ranc baz=86	85.45 338	⇑P	P	06 06 03.9 +0.6
RSSD	Black Hills comp=E,7.1nm,1.0s	85.51 338	eP	P	06 06 03.9 +0.1
RSSD			epP	pP	06 06 11.6 -1.6
G28A	Parade baz=86	85.51 341	⇓P	P	06 06 04.4 +0.8
J22A	Midwest baz=86	85.62 336	⇑P	P	06 06 04.5 +0.3
H25A	Fruitdale baz=86	85.84 339	⇑P	P	06 06 05.9 +0.6
NVAR	Mina Array Bea comp=E,1.3nm,0.7s,baz=148,slow=5.5,SNR=6.2	85.87 326 P		P	06 06 05.9 +0.2
J21A	Lysite baz=86	85.88 336	⇑P	P	06 06 06.0 +0.4
F29A	Eureka baz=86,SNR=5.5	85.94 342	⇓P	P	06 06 05.3 -0.4
I22A	9 Mile Ranch, baz=86	86.06 337	⇓P	P	06 06 06.5 +0.2
G27A	Dupree baz=86	86.07 340	⇓P	P	06 06 06.6 +0.3
PDAR	Pinedale Array comp=E,3.5nm,1.1s,baz=140,slow=4.8,SNR=11	86.08 334 P		P	06 06 06.8 +0.1
J20A	Shoshoni baz=86	86.09 335	⇑P	P	06 06 07.6 +1.0
TORD	Torodi Ar. Bea comp=E,0.5nm,0.6s,baz=214,slow=4.0,SNR=6.9	86.16 71 P		P	06 06 07.1 -0.3
G26A	Maurine baz=86,SNR=7.4	86.17 340	⇓P	P	06 06 06.4 -0.4
H24A	Dirks Ranch, A baz=87	86.23 338	⇑P	P	06 06 07.6 +0.3
I21A	Big Trails, Te baz=87	86.24 336	⇓P	P	06 06 07.5 +0.1
G25A	Newell baz=87,SNR=6.4	86.31 339	⇑P	P	06 06 07.6 0.0
E30A	Jud baz=87	86.34 343	⇓P	P	06 06 08.0 +0.4
J19A	Crowheart baz=87	86.34 335	⇓P	P	06 06 08.7 +0.8
HVU	Hansel Valley comp=E,79nm,2.8s	86.40 332	eP	P	06 06 08.8 +0.7
F27A	Lemmon baz=87,SNR=11	86.55 340	⇓P	P	06 06 08.2 -0.4
I20A	Worland baz=87	86.64 336	⇓P	P	06 06 09.9 +0.6
F26A	Lodgepole baz=87	86.70 340	⇑P	P	06 06 10.2 +0.8
G24A	Alzada baz=87	86.72 339	⇑P	P	06 06 10.1 +0.5
E28A	Huff baz=87	86.85 341	⇓P	P	06 06 10.6 +0.5
D30A	Buchanan baz=87	86.87 343	⇓P	P	06 06 11.7 +1.5
G23A	Biddle baz=87	86.90 338	⇑P	P	06 06 10.3 -0.2
E27A	Carson baz=87	86.94 341	⇑P	P	06 06 10.8 +0.2
F25A	Bowman baz=87	86.99 339	⇓P	P	06 06 11.5 +0.6
I19A	Meeteetse baz=87	87.01 335	⇓P	P	06 06 11.5 +0.4
D29A	Pettibone, Tap baz=87	87.03 342	⇓P	P	06 06 11.7 +0.7
H20A	Greybull baz=87	87.08 336	⇓P	P	06 06 11.9 +0.5
G22A	Birney baz=88	87.19 337	⇑P	P	06 06 12.2 +0.3
F24A	Ekalaka baz=88	87.20 339	⇓P	P	06 06 12.2 +0.3
TPAW	Teton Pass comp=E,4.4nm,1.0s	87.21 334	eP	P	06 06 12.8 +0.5
E26A	Carlson Angus baz=88,SNR=6.2	87.22 340	⇑P	P	06 06 12.1 +0.2
AGMN	Agassiz Nation baz=88,SNR=6.9	87.36 345	⇑P	P	06 06 12.1 -0.3
AGMN	Agassiz Nation comp=E,5.2nm,0.6s	87.36 345	eP	P	06 06 12.3 -0.2
C30A	Mose, Pekin baz=88,SNR=12	87.37 343	⇑P	P	06 06 12.9 +0.4
F23A	Volborg baz=88	87.37 338	⇓P	P	06 06 12.4 -0.3
D28A	Regan baz=88	87.39 342	⇑P	P	06 06 13.3 +0.6
I17A	Pilgrim Ck. baz=88	87.45 334	⇓P	P	06 06 14.1 +0.8
E25A	Miller Ranch, baz=88	87.50 340	⇓P	P	06 06 13.8 +0.5

IMW	**Indian Meadow**	**87.56**	334	*e*P	P	06 06 10.7	-3.2
	comp=E,7.9nm,1.3s						
D26A	**Manning**	**87.73**	340	⇑P	**P**	**06 06 15.1**	**+0.8**
	baz=88						
MDND	**Maddock**	**87.77**	343	⇓P	**P**	**06 06 15.2**	**+0.7**
	baz=88						
H18A	**Shoshone NF, C**	**87.80**	335	⇓P	**P**	**06 06 15.3**	**+0.3**
	baz=88						
B30A	**Myrvik Farm, E**	**88.04**	344	⇓P	**P**	**06 06 15.7**	**0.0**
	baz=88,SNR=16						
D25A	**Fairfield**	**88.08**	340	⇓P	**P**	**06 06 16.9**	**+0.9**
	baz=88						
C27A	**Sayler Ranch,**	**88.11**	341	⇓P	**P**	**06 06 16.2**	**+0.1**
	baz=88,SNR=5.7						
B29A	**Wagenman Farm,**	**88.29**	343	⇓P	**P**	**06 06 16.9**	**0.0**
	baz=89,SNR=6.0						
D24A	**Glendive**	**88.32**	339	⇓P	**P**	**06 06 17.8**	**+0.6**
	baz=89						
C26A	**Wahner Farm, P**	**88.37**	341	⇑P	**P**	**06 06 18.0**	**+0.7**
	baz=89						
A30A	**Hoffart Farm,**	**88.49**	344	⇓P	**P**	**06 06 17.6**	**-0.3**
	baz=89,SNR=6.2						
B28A	**Dugan Ranch, T**	**88.51**	342	⇑P	**P**	**06 06 18.1**	**+0.1**
	baz=89,SNR=5.4						
HLID	**Hailey**	**88.55**	331	⇓P	**P**	**06 06 20.3**	**+1.8**
	baz=89						
D23A	**Lindsay**	**88.63**	339	⇑P	**P**	**06 06 19.5**	**+0.8**
	baz=89						
A29A	**Manning Farm,**	**88.69**	343	⇑P	**P**	**06 06 18.6**	**-0.1**
	baz=89,SNR=8.1						
A28A	**Rude Farm, Bot**	**88.92**	343	⇑P	**P**	**06 06 20.1**	**+0.2**
	baz=89						
E19A	**Rath Farm, Rou**	**89.08**	336	⇑P	**P**	**06 06 21.0**	**+0.2**
	baz=89						
C23A	**Lambert**	**89.19**	339	⇓P	**P**	**06 06 21.6**	**+0.4**
	baz=90						
ULM	**Lac du Bonnet**	**89.22**	346	P	**P**	**06 06 20.1**	**-1.2**
	comp=E,3.1nm,0.9s,baz=134,slow=1.7,SNR=5.8						
D20A	**Manuel Ranch,**	**89.44**	337	⇓P	**P**	**06 06 23.0**	**+0.6**
	baz=90						
A22A	**Carney Farms,**	**90.48**	339	⇑P	**P**	**06 06 27.7**	**+0.5**
	baz=91						
GERES	**GERESS Array B**	**114.99**	**47**	PKP	PKPdf	06 12 06.2	-0.2
	comp=E,0.2nm,0.2s,baz=1,9,slow=4.0,SNR=3.6						
ILAR	**Eielson Array**	**116.48**	**333**	PKP	**PKPdf**	**06 12 07.5**	**-1.1**
	comp=E,0.4nm,0.8s,baz=167,slow=2.5,SNR=4.2						
WRA	**Warramunga Arr**	**117.61**	**209**	PKP	**PKPdf**	**06 12 11.8**	**-0.6**
	comp=E,1.2nm,0.5s,baz=160,slow=1.8,SNR=14						
BRTR	**Keskin Array B**	**124.13**	**63**	PKP	**PKPdf**	**06 12 24.8**	**+0.4**
	comp=E,1.3nm,0.8s,baz=192,slow=2.8,SNR=3.7						
RAYN	**Ar Rayn**	**126.24**	**86**	*e*P	**PKPdf**	**06 12 26.9**	**-1.8**
SEY	**Seymchan**	**142.16**	**328**	PKP	**PKPdf**	**06 12 58.6**	**+1.5**
	comp=E,4.0nm,0.8s,baz=115,slow=5.2,SNR=4.8						
PSI	**Prapat**	**145.13**	**166**	PKP	**PKPbc**	**06 13 03.2**	**-0.4**
	comp=E,10nm,0.6s,baz=173,slow=2.3,SNR=10						
HYB	**Hyderabad**	**148.37**	**121**	*i* PKP	**PKPbc**	**06 13 12.5**	**-0.2**
BVAR	**Borovoye Array**	**150.15**	**46**	PKPbc	**PKPbc**	**06 13 16.5**	**+0.4**
	comp=E,3.7nm,0.6s,baz=298,slow=3.2,SNR=6.0						
KURBB	**Kurchatov Arra**	**155.72**	**47**	PKPab	**PKPab**	**06 13 46.0**	**+0.2**
	comp=E,2.0nm,0.7s,baz=292,slow=5.1,SNR=6.7						
KURK	**Kurchatov**	**155.74**	**47**	PKPab	**PKPab**	**06 13 46.0**	**+0.2**
KSH	**Kashi**	**155.76**	**75**	PKP	**PKPdf**	**06 13 20.3**	**+0.5**
KSH				sPKP		06 13 33.4	
KSH				PKS	**PKSdf**	**06 16 52.4**	**-1.5**
KSH				PP	**PP**	**06 17 23.5**	**-0.6**
KSH				SKS	**SKSdf**	**06 20 21.4**	**-2.7**
KSH				SKKS	**SKKSac**	**06 24 09.4**	**-1.9**
KSH				SS	**SS**	**06 37 05.2**	**-4.9**
KSH				PPMZ			
	comp=E,190nm,6.1s						
KSH				LN			
	comp=E,68nm,6.9s						
KSH				LE			
	comp=E,68nm,4.8s						
KSH				LZ			
	comp=E,230nm,5.6s						
ZALV	**Zalesovo Beam**	**157.32**	**35**	PKP	**PKPdf**	**06 13 20.8**	**-0.3**
	comp=E,1.3nm,0.7s,baz=285,slow=2.9,SNR=3.9						
ZALV				PKPab	**PKPab**	**06 13 52.0**	**-0.5**
	comp=E,2.1nm,0.6s,baz=307,slow=5.1,SNR=4.1						
MKAR	**Makanchi Array**	**159.44**	**54**	PKP	**PKPdf**	**06 13 24.1**	**+0.1**
	comp=E,1.6nm,0.8s,baz=10,slow=1.4,SNR=4.1						
MKAR				PKPab	**PKPab**	**06 14 02.3**	**+0.3**
	comp=E,2.1nm,0.9s,baz=282,slow=4.3,SNR=5.0						
CN2	**Changchun**	**164.29**	**301**	*e*PKP	PKPdf	06 13 20.9	-8.1
CN2				*ep*PKP	pPKPdf	06 13 31.7	-7.0
NJ2	**Nanjing**	**168.85**	**247**	*e*PKP	**PKPdf**	**06 13 33.4**	**+0.5**
SONM	**Songino Array**	**169.25**	**1**	PKPab	**PKPab**	**06 14 45.6**	**+0.6**
	comp=E,1.8nm,0.8s,baz=341,slow=4.5,SNR=9.5						
GTA	**Gaotai**	**174.05**	**65**	*e*PKP	**PKPdf**	**06 13 36.0**	**+0.6**
GTA				pPKP	**pPKPdf**	**06 13 46.8**	**+1.7**
GTA				sPKP		06 13 50.5	
GTA				PKPab	**PKPab**	**06 15 08.4**	**+1.5**
HHC	**Hu-ho-hao-te**	**174.69**	**317**	*e*PKP	**PKPdf**	**06 13 36.0**	**+0.5**
HHC				PKS	**PKSdf**	**06 17 06.8**	**-1.0**
HHC				PP	**PP**	**06 19 05.5**	**+3.6**
HHC				SKS	**SKSdf**	**06 20 33.8**	**-2.7**
HHC				SKKS	**SKKSac**	**06 25 46.3**	**+0.1**
HHC				SS	**SS**	**06 40 21.0**	**-0.9**
HHC				PPMZ			
	comp=E,62nm,5.3s						
HHC				LN			
	comp=E,290nm,19.4s						
HHC				LE			
	comp=E,220nm,19.2s						
HHC				LZ			
	comp=E,110nm,19.6s						
LZH	**Lanzhou**	**177.45**	**112**	PKP	**PKPdf**	**06 13 36.4**	**0.0**
LZH				pPKP	**pPKPdf**	**06 13 48.3**	**+2.2**
LZH				sPKP		06 13 53.9	

*IDC **09** 05:54:58.5±2.3, 25°.99N×128°.94E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/46, mbtmp3.3/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/22, Error ellipse: s-maj=105.2km s-min=22.9km az=66.0*

*ISCJB **09** 05:55:00.8±1.1, 26°.00N±0°.04×128°.80E±0°.04, h28km±8km, mb3.2/3, MS3.4/1, Error ellipse: s-maj=7.1km s-min=6.1km az=1.3*

*JMA **09** 05:55:01.5±0.3, 26°.02N×128°.79E, h29km, M3.1*

ISC 09 05:55:00.3±1.7,**25°.99N**±0°.05×**128°.79E**±0°.04,**h14**km±11km, **n15**,σ1⅟**31**/27,**mb3.2**/3,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.87**	**307**	P	**Pg**	**05 55 17.0**	**-0.1**
JNTH				*e*S	**Sg**	**05 55 28.4**	**-0.1**
JJT2	**Tamagusuku 2**	**0.95**	**279**	P	**Pb**	**05 55 18.7**	**+0.2**
JJT2				*e*S	**Sb**	**05 55 30.9**	**-0.1**
JOW	**Kunigami**	**0.95**	**331**	P	**Pb**	**05 55 18.3**	**-0.4**
JOW				*e*S	**Sb**	**05 55 30.0**	**-1.2**
JOW	**Kunigami**	**0.95**	**331**	Pn	**Pb**	**05 55 18.4**	**-0.2**
	baz=140,slow=15						
JOW				Sn	**Sb**	**05 55 30.5**	**-0.7**
	baz=308,slow=19						
JIH	**Iheya**	**1.27**	**325**	P	**Pn**	**05 55 23.8**	**+0.1**
JIH				*e*S	**Sb**	**05 55 38.6**	**-1.7**
JOKE	**Okinoerabujima**	**1.38**	**352**	P	**Pn**	**05 55 25.7**	**+0.6**
JOKE				*e*S	**Sn**	**05 55 41.7**	**-1.4**
JAGN	**Aguni-jima**	**1.51**	**293**	P	**Pn**	**05 55 26.9**	**-0.1**
JAGN				*e*S	**Sn**	**05 55 45.3**	**-1.1**
JTK	**Tokunoshima**	**1.79**	**5**	P	**Pn**	**05 55 30.9**	**+0.1**
JTK				*e*S	**Sn**	**05 55 51.6**	**-1.8**
JKE	**Kume jima 2**	**1.83**	**281**	P	**Pn**	**05 55 30.6**	**-0.8**
JKE				*e*S	**Sn**	**05 55 51.5**	**-2.9**
JMZ	**Minamidaito 2**	**2.19**	**94**	P	**Pn**	**05 55 36.2**	**-0.2**
JMZ				*e*S	**Sn**	**05 56 00.6**	**-2.7**
JAMN	**Amaminishikomi**	**2.27**	**9**	P	**Pn**	**05 55 37.7**	**+0.4**
JAMN				*e*S	**Sn**	**05 56 04.3**	**-0.8**
JAM	**Amami Oshima**	**2.52**	**17**	P	**Pn**	**05 55 40.7**	**-0.1**
JAM				*e*S	**Sn**	**05 56 10.0**	**-1.2**
SONM	**Songino Array**	**28.02**	**327**	P	**P**	**06 00 53.4**	**+2.3**
	0.2nm,0.4s,baz=144,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**42.07**	**312**	P	**P**	**06 02 53.5**	**+1.8**
	0.2nm,0.7s,baz=95,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**45.98**	**173**	P	**P**	**06 03 22.9**	**-0.4**
	0.4nm,0.6s,baz=353,slow=8.3,SNR=5.9						
WRA				LR	LR	06 22 22.2	
	comp=Z,48nm,21.8s,baz=330,slow=36						

*BJI **09** 06:00:37.9, 10°.96N×125°.65E, h42km, mB5.1/37, mb4.9/54, Ms4.7/29, Ms7 4.4/17*

*DJA **09** 06:00:39.0±5.1, 13°N±24°×12°4E±°, h38km±30km, M4.6/17, mB5.1/7, mb4.8/17, Mw(mB)4.5/7*

*IDC **09** 06:00:41.0±0.6, 11°.16N×125°.40E, h40km±4km, mb4.6/38, mb1 4.7/38, mb1mx4.6/50, mbtmp4.9/38, MS3.8/21, Ms1 3.8/21, ms1mx3.6/41, Error ellipse: s-maj=13.3km s-min=9.5km az=85.0*

*MOS **09** 06:00:40.1±1.0, 11°.16N×125°.47E, h49km, mb5.4/42, Error ellipse: s-maj=9.9km s-min=5.1km az=112.3*

*ISCJB **09** 06:00:42.6±0.4, 11°.30N±0°.02×125°.54E±0°.03, h66km±3km, mb4.9/106, Error ellipse: s-maj=5.5km s-min=3.5km az=170.3*

*MAN **09** 06:00:42, 11°.32N×125°.52E, h70km, mb5.7, ML4.7, MS5.1*

MAN INTENSITY IV - BORONGAN CAN-AVID LLORENTE E. SAMAR; INTENSITY III - TOLOSA LEYTE; TACLOBAN CITY; SAN POLICARPO E. SAMAR.

*NEIC **09** 06:00:45.4±0.9, 11°.23N×125°.46E, h79km±8km, mb5.1/33, Error ellipse: s-maj=6.5km s-min=4.5km az=82.0*

NEIC Felt [IV PIVS] at Borongan, Can-Avid and Llorente; [III PIVS] at General MacArthur, San Julian, San Policarpio, Sulat and Taft. Also felt at Abaca and Basey. Felt [III PIVS] at Tacloban and Tolosa; [II PIVS] at Baybay, Carigara and Jaro, Leyte. Also felt at Palo.

*KLM **09** 06:00:46.9, 11°.22N×125°.53E, h79km, mb5.0, MS6.0*

*BKK **09** 06:00:53.1±1.0, 13°N±7°×12°4E±1°3, h10km, M4.5/17, mB5.0/5, mb4.8/17, Mw(mB)4.3/5*

ISC 09 06:00:41.9±0.3,**11°.29N**±0°.03×**125°.57E**±0°.05,**h46**km±2km, **h45**km;**pP-P**,**n354**,σ1⅟**51**/408,**mb5.0**/106,**MS3.8**/23, **22C-11D**,**Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.59**	**258**	⇓*e*P	Pn	06 00 60.0	+5.9
PLP				*i* S	**Sn**	**06 01 03.1**	**+0.3**
OCLP	**Ormoc**	**0.97**	**256**	*e*P	**Pn**	**06 01 00.7**	**+1.5**
MSLP	**Maasin**	**1.35**	**211**	*e*P	**Pn**	**06 01 06.6**	**+2.3**
MSLP				*e*S	**Sn**	**06 01 21.8**	**+0.8**
CNP	**Catarman**	**1.50**	**324**	*e*P	**Pn**	**06 01 07.8**	**+1.4**
CNP				*e*S	**Sn**	**06 01 26.7**	**+1.9**
SCPH	**Surigao**	**1.50**	**183**	*i* P	**Pn**	**06 01 06.9**	**+0.4**
SCPH				*i* S	**Sn**	**06 01 26.1**	**+1.3**
LLP	**Lapu-Lapu**	**1.85**	**239**	⇓*e*P	**Pn**	**06 01 12.2**	**+1.0**
LLP				*e*S	**Sn**	**06 01 35.3**	**+1.9**
MMPH	**Masbate**	**2.18**	**299**	⇑*e*P	**Pn**	**06 01 18.1**	**+2.4**
MMPH				*i* S	**Sn**	**06 01 45.7**	**+4.2**
BUTP	**Butuan**	**2.31**	**179**	*e*P	**Pn**	**06 01 20.2**	**+2.7**
BUTP				*e*S	**Sn**	**06 01 47.0**	**+2.3**
PVCP	**Virac**	**2.67**	**329**	*e*P	**Pn**	**06 01 24.0**	**+1.5**
RCP	**Roxas**	**2.78**	**276**	⇑*e*P	**Pn**	**06 01 26.7**	**+2.7**
CGP	**Cagayan de Oro**	**2.95**	**197**	*e*P	**Pn**	**06 01 26.8**	**+0.5**
CGP				*i* S	**Sn**	**06 02 04.9**	**+4.4**
GUIM	**Jordan**	**3.00**	**258**	*e*P	**Pn**	**06 01 28.8**	**+1.8**
KALP	**Kalibo**	**3.19**	**277**	*e*P	**Pn**	**06 01 28.6**	**-1.0**
BUKP	**Musuan**	**3.43**	**188**	*e*P	Pn	06 01 36.5	+3.6
GQP	**Guinayangan**	**4.00**	**311**	⇑*e*P	**Pn**	**06 01 43.1**	**+2.3**
GQP				*e*S	Sn	06 02 36.1	+10
PAGZ	**Pagadian**	**4.04**	**212**	*e*P	**Pn**	**06 01 43.2**	**+1.9**
CTBH	**Cotabato--PC H**	**4.25**	**198**	⇓*i*P	Pn	06 01 47.5	+3.4
TGY	**Tagaytay City**	**5.31**	**302**	Pn	**Pn**	**06 02 00.7**	**+1.8**
	62nm,0.3s,baz=183,slow=11,SNR=3.7						
PCPH	**Palayan**	**6.08**	**315**	⇑*e*P	**Pn**	**06 02 09.9**	**+0.6**
BOLP	**Bolinao**	**7.47**	**313**	*e*P	**Pn**	**06 02 30.1**	**+1.8**
APYP	**Conner**	**7.76**	**328**	*e*P	**Pn**	**06 02 33.6**	**+1.3**
ABRA	**Dolores**	**7.88**	**324**	*e*P	**Pn**	**06 02 35.5**	**+1.6**
MYLDM	**Lahad Datu**	**9.26**	**230**	⇑P	Pn	06 02 57.4	+4.5
I39PW	**PALAU INFRASON**	**9.61**	**112**	*i*		07 00 30.0	
	baz=295,slow=299,SNR=0.5						
KDM	**Kudat**	**9.66**	**244**	⇑P	**Pn**	**06 03 00.0**	**+1.6**
KKM	**Kota Kinabalu**	**10.62**	**241**	⇓P	Pn	06 03 16.8	+5.2
KKM	**Kota Kinabalu**	**10.62**	**241**	*e*Pn	**Pn**	**06 03 11.2**	**-0.4**
	52nm,0.8s						
GTOI	**Gorontalo**	**10.89**	**194**	P	**Pn**	**06 03 17.2**	**+2.0**
MPSI	**Mapaga**	**12.26**	**208**	P	**Pn**	**06 03 36.3**	**+2.4**
	17nm,0.9s						
LUWI	**Luwuk**	**12.56**	**193**	P	**P**	**06 03 49.7**	**+1.1**
	123nm,1.2s,6μm						
TPUB	**Ta-pu**	**12.84**	**339**	Pn	**Pn**	**06 03 41.2**	**-0.7**
	105nm,0.8s						
SSLB	**Suanglung**	**13.18**	**341**	*e*Pn	Pn	06 03 50.3	+3.7
MSAI	**Masohi**	**14.92**	**167**	P	P	06 04 27.0	+12
	26nm,1.0s,306nm						
TTSI	**Tana Toraja**	**15.35**	**202**	P	**P**	**06 04 21.0**	**+1.4**
	80nm,1.5s,1μm						
FAKI	**Fak Fak**	**15.60**	**154**	P	P	06 04 33.0	+11
	32nm,0.9s						
FAKI	**Fak Fak**	**15.60**	**154**	*e*P	**P**	**06 04 22.2**	**-0.2**
	24nm,0.8s						
SPSI	**Sidrap Palu**	**16.22**	**201**	P	**P**	**06 04 31.9**	**+2.7**
	42nm,0.8s,589nm						
BNSI	**Bone**	**16.51**	**200**	P	P	06 04 38.1	+5.6
	52nm,1.0s,991nm						
QIZ	**Qiongzhong**	**17.01**	**299**	P	**Pn**	**06 04 35.8**	**-0.9**
QIZ				S	**Sn**	**06 07 43.9**	**-1.0**
KAPI	**Kappang**	**17.20**	**200**	*e*Pn	**P**	**06 04 41.8**	**+1.7**
	49nm,1.1s						
BKSI	**Bulukumba**	**17.37**	**198**	P	P	06 04 48.5	+6.5
	23nm,0.9s						
BBKI	**Banjar Baru**	**18.13**	**217**	P	Pn	06 05 05.1	+15
SMPI	**Sarmi**	**18.57**	**134**	P	Pn	06 05 13.4	+18
	55nm,1.0s						
SOEI	**Soe**	**20.95**	**184**	P	Pn	06 05 31.5	+7.2
	58nm,0.7s						
SOEI	**Soe**	**20.95**	**184**	*e*P	Pn	06 05 24.9	+0.6
	38nm,0.6s						
BATI	**Baumata**	**21.44**	**185**	P	**P**	**06 05 29.1**	**+2.6**
BATI	**Baumata**	**21.44**	**185**	P	**P**	**06 05 25.3**	**-1.1**
	38nm,0.5s,baz=359,slow=4.7,SNR=6.6						
BATI				LR	LR	06 16 16.9	
	comp=Z,158nm,18.5s,baz=10,slow=44						
NJ2	**Nanjing**	**21.57**	**344**	*e*P	**P**	**06 05 28.7**	**+1.0**
NJ2				PMZ			
	60nm,1.2s						
KMMI	**Kalianget**	**21.57**	**213**	P	**P**	**06 05 29.2**	**+1.4**
	62nm,1.1s						
WHN	**Wuhan**	**21.81**	**333**	⇓P	**P**	**06 05 32.3**	**+2.1**
SRBI	**Singaraja**	**21.83**	**209**	P	P	06 05 40.9	+10
JNU	**Nakatsue**	**22.27**	**12**	P	**P**	**06 05 36.4**	**+1.1**
	25nm,1.0s,baz=160,slow=6.7,SNR=4.5						
JNU				LR	LR	06 13 12.2	
	comp=Z,182nm,21.3s,baz=191,slow=34						
BLJI	**Banyuglugur**	**22.35**	**213**	P	P	06 05 55.5	+19
JAGI	**Jajag, Banyuwa**	**22.68**	**211**	P	**P**	**06 05 40.7**	**+0.9**
	91nm,1.1s						
JAGI	**Jajag, Banyuwa**	**22.68**	**211**	*e*P	**P**	**06 05 40.6**	**+0.9**
	111nm,1.1s						
GMJI	**Gumukmas**	**22.88**	**212**	P	**P**	**06 05 40.8**	**-0.9**
	58nm,1.1s						
SLVN	**Son La**	**23.04**	**298**	*e*P	**P**	**06 05 43.0**	**-0.5**
	33nm,1.1s						
SLVN				*ep*P	**pP**	**06 05 59.2**	**+4.7**
GYA	**Guiyang**	**23.35**	**313**	⇑*i*P	**P**	**06 05 47.2**	**+0.6**
GYA				pP	**pP**	**06 05 57.6**	**-0.3**
GYA				sP	**sP**	**06 06 03.4**	**-0.2**
GYA				PP	**PnPn**	**06 06 19.5**	**+5.4**
GYA				S	**S**	**06 09 52.8**	**-3.5**
GYA				sS	**sS**	**06 10 11.4**	**-4.9**
GYA				SS	**SnSn**	**06 10 40.5**	**+6.1**
GYA				PMZ			
	30nm,0.8s						
GYA				PMZ			
	140nm,4.6s						
GYA				LN			
	4μm,16.8s						
GYA				LE			
	3μm,17.0s						
GYA				LZ			
	3μm,15.6s						
MYKOM	**Kota Tinggi**	**23.53**	**248**	⇓P	**P**	**06 05 50.1**	**+1.8**
PWJI	**Pagerwojo**	**23.57**	**216**	P	P	06 06 01.9	+13
KGM	**Kluang**	**23.92**	**249**	⇑P	**P**	**06 05 53.3**	**+1.3**
WOJI	**Wonogiri, Jawa**	**23.95**	**218**	P	P	06 05 57.6	+5.5
UGM	**Wanagama**	**24.25**	**219**	P	P	06 06 03.6	+8.7
UGM	**Wanagama**	**24.25**	**219**	*e*P	**P**	**06 05 56.4**	**+1.4**
	82nm,0.9s						
LOEI	**Loei**	**24.32**	**288**	P	**P**	**06 05 53.4**	**-2.2**
	12nm,1.5s						
PBKT	**Sadao Pong**	**24.43**	**285**	P	**P**	**06 05 57.1**	**+0.5**
	29nm,1.0s						
KPJI	**Karang Pucung**	**24.83**	**223**	P	**P**	**06 06 04.8**	**+4.7**
UTTA	**Uttaradit**	**25.04**	**288**	P	**P**	**06 06 02.7**	**+0.7**
	5.9nm,1.0s						
IPM	**Ipoh**	**25.22**	**256**	*e*P	**P**	**06 06 04.1**	**+0.3**
	16nm,0.5s						
KULM	**Kulim**	**25.36**	**258**	*e*P	**P**	**06 06 06.0**	**+0.9**
	444nm,0.6s						
SURA	**Surathani**	**25.61**	**268**	P	**P**	**06 06 09.9**	**+2.6**
	53nm,1.0s						
UTHA	**Uthaitani**	**25.75**	**282**	P	**P**	**06 06 10.1**	**+1.5**
	4.8nm,1.0s						
CRAI	**Chiangrai**	**25.80**	**293**	P	P	06 06 18.3	+9.4
SUKH	**Sukhothai**	**25.85**	**287**	P	**P**	**06 06 10.2**	**+0.8**
	12nm,1.0s,91nm						
TIA	**Tai'an**	**25.96**	**344**	⇑P	**P**	**06 06 10.8**	**+0.6**
TIA				PMZ			
	30nm,1.0s						
LAMP	**Lampang**	**26.05**	**289**	P	**P**	**06 06 12.4**	**+1.1**
	8.1nm,0.9s,96nm						
KSAR	**Wonju Array Be**	**26.12**	**4**	P	**P**	**06 06 12.9**	**+1.3**
KSAR	**Wonju Array Be**	**26.12**	**4**	P	**P**	**06 06 12.9**	**+1.3**
KSRS	**Korea Array**	**26.14**	**4**	P	**P**	**06 06 12.9**	**+1.1**
	14nm,0.8s,baz=186,slow=9.8,SNR=21						
KSRS				LR	LR	06 15 44.2	
	comp=Z,117nm,21.4s,baz=190,slow=34						
SURT	**Suratani**	**26.45**	**267**	P	**P**	**06 06 19.5**	**+4.6**
	18nm,1.1s						
CMAR	**Chiang Mai Arr**	**26.68**	**289**	P	**P**	**06 06 16.7**	**-0.2**
	11nm,1.0s,baz=100,slow=7.5,SNR=43						
CMAR				PcP	**PcP**	**06 09 40.3**	**+0.3**
	0.8nm,0.4s,baz=37,slow=0.8,SNR=4.7						
CMAR				LR	LR	06 15 43.1	
	comp=Z,136nm,21.7s,baz=110,slow=34						
CHTO	**Chiang Mai**	**26.75**	**289**	*e*P	**P**	**06 06 17.3**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,18nm,1.1s						
CHTO	**Chiang Mai**	**26.75**	**289**	P	**P**	**06 06 17.5**	**-0.1**
	comp=Z,57nm,1.1s						
CHTO	**Chiang Mai**	**26.75**	**289**	*e*P	**P**	**06 06 17.3**	**-0.3**
	comp=Z,18nm,1.1s						
CMAI	**Chiengmai2**	**26.92**	**292**	P	**P**	**06 06 19.2**	**-0.1**
	comp=Z,44nm,1.1s						
XAN	**Xi'an**	**27.28**	**329**	P	**P**	**06 06 22.2**	**0.0**
XAN				pP	**pP**	**06 06 34.6**	**+0.4**
XAN				PMZ			
	comp=Z,10.0nm,0.9s						
XAN				PMZ			
	comp=Z,44nm,7.7s						
MAJO	**Matsushiro**	**27.61**	**22**	⇑*e*P	**P**	**06 06 24.9**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,180nm,1.7s						
MAJO	**Matsushiro**	**27.61**	**22**	*e*P	**P**	**06 06 25.1**	**0.0**
	comp=Z,195nm,2.6s						
MAT	**Matsushiro**	**27.61**	**22**	P	**P**	**06 06 24.9**	**-0.2**
MAT				*e*S	**S**	**06 11 06.8**	**+3.1**
MJAR	**Matsushiro Arr**	**27.61**	**22**	P	**P**	**06 06 24.8**	**-0.3**
	comp=Z,7.5nm,0.8s,baz=199,slow=8.9,SNR=13						
MJAR				LR	LR	06 15 33.8	
	comp=Z,163nm,21.7s,baz=200,slow=32						
PSI	**Prapat**	**27.73**	**254**	P	**P**	**06 06 25.8**	**-0.8**
	comp=Z,3.4nm,0.6s,baz=55,slow=6.6,SNR=6.3						
PSI				PcP	**PcP**	**06 09 41.5**	**-1.2**
	comp=Z,2.1nm,0.4s,baz=268,slow=1.4,SNR=3.7						
PSI				pPcP		06 09 54.5	
	comp=Z,7.8nm,0.9s,baz=141,slow=1.6,SNR=5.2						
PSI				LR	LR	06 17 52.9	
	comp=Z,257nm,18.2s,baz=68,slow=37						
CD2	**Chengdu**	**28.10**	**317**	*e*P	**P**	**06 06 29.8**	**+0.2**
CD2				pP	**pP**	**06 06 42.7**	**+1.1**
CD2				sP	**sP**	**06 06 48.2**	**+1.1**
CD2				PP	**PnPn**	**06 07 21.1**	**+2.3**
CD2				PcP	**PcP**	**06 09 46.8**	**+3.6**
CD2				S	**S**	**06 11 09.3**	**-2.2**
CD2				sS	**sS**	**06 11 28.2**	**-3.6**
CD2				PMZ			
	comp=Z,40nm,0.8s						
CD2				PMZ			
	comp=Z,210nm,5.7s						
CD2				LN			
	comp=Z,360nm,16.1s						
CD2				LZ			
	comp=Z,390nm,12.3s						
KCSI	**Kotacane, Aceh**	**28.60**	**256**	P	**P**	**06 06 34.5**	**+0.3**
LHMI	**Lhok Sumawe**	**28.94**	**260**	P	**P**	**06 06 37.1**	**-0.1**
BJI	**Beijing**	**29.82**	**345**	P	**P**	**06 06 45.4**	**+0.8**
BJI				pP	**pP**	**06 06 57.2**	**+0.5**
BJI				sP	**sP**	**06 07 02.4**	**+0.2**
BJI				S	**S**	**06 11 42.6**	**+4.4**
BJI				PMZ			
	comp=Z,31nm,1.0s						
BJI				LN			
	comp=Z,180nm,7.8s						
BJI				LE			
	comp=Z,280nm,4.7s						
SNY	**Shenyang**	**30.47**	**357**	⇑P	**P**	**06 06 51.9**	**+1.5**
SNY				S	S	06 11 59.5	+11
SNY				PMZ			
	comp=Z,71nm,0.8s						
SNY				PMZ			
	comp=Z,260nm,3.8s						
SNY				LN			
	comp=Z,350nm,4.4s						
SNY				LE			
	comp=Z,340nm,3.4s						
SNY				LZ			
	comp=Z,350nm,4.8s						
COEN	**Coen**	**30.56**	**145**	*e*P	**P**	**06 06 50.5**	**-1.0**
	comp=Z,74nm,0.9s						
LZH	**Lanzhou**	**31.55**	**325**	*e*P	**P**	**06 07 01.4**	**+1.2**
LZH				pP	**pP**	**06 07 12.3**	**0.0**
LZH				sP	**sP**	**06 07 18.8**	**+1.0**
LZH				PMZ			
	comp=Z,19nm,1.0s						
HHC	**Hu-ho-hao-te**	**31.93**	**340**	*e*P	**P**	**06 07 05.2**	**+1.8**
HHC				PP	**PnPn**	**06 08 12.4**

ASAR Alice Springs 35.69 167 P **P** **06 07 35.2 -0.9**
comp=Z,8.5nm,0.7s,baz=346,slow=6.7,SNR=73
ASAR PcP **PcP** **06 10 03.1 -0.7**
comp=Z,6.7nm,0.9s,baz=343,slow=2.6,SNR=12
ASAR pPcP 06 10 15.6
comp=Z,4.2nm,0.9s,baz=355,slow=2.8,SNR=6.7
ASAR LR LR 06 23 33.6
comp=Z,102nm,21.3s,baz=350,slow=39
ASAJ Asahikawa 35.86 21 P **P** **06 07 38.6 +1.3**
comp=Z,31nm,0.7s,baz=222,slow=9.1,SNR=19
ASAJ Asahikawa 35.86 21 *e*P **P** **06 07 38.8 +1.5**
GTA Gaotai 36.16 325 ⇑P **P** **06 07 41.1 +1.0**
GTA pP **pP** **06 07 53.3 +0.9**
GTA sP **sP** **06 07 58.6 +0.8**
GTA PcP **PcP** **06 10 05.5 +0.4**
GTA S **S** **06 13 17.6 +0.6**
GTA sS **sS** **06 13 37.6 +0.2**
GTA SS **SnSn** **06 15 43.0 -2.8**
GTA PMZ
comp=Z,30nm,1.4s
GTA PMZ
comp=Z,140nm,5.0s
GTA LN
comp=Z,200nm,18.5s
GTA LE
comp=Z,190nm,16.6s
GTA LZ
comp=Z,270nm,18.1s
LSA Lhasa 36.88 305 P **P** **06 07 47.0 +0.2**
LSA Lhasa 36.88 305 *e*P **P** **06 07 46.8 0.0**
LSA pmax pmax
comp=Z,16nm,0.6s
LSA Lhasa 36.88 305 *e*P **P** **06 07 46.8 0.0**
comp=Z,16nm,0.6s
HIA Hailar 38.17 354 *e*P **P** **06 07 56.6 -0.3**
HIA pmax pmax
comp=Z,15nm,0.9s
HIA Hailar 38.17 354 *e*P **P** **06 07 56.6 -0.3**
comp=Z,15nm,0.9s
KLR Kul'dur 38.17 7 *e*P **P** **06 07 54.0 -2.9**
YSS Yuzh-Sakhalins 38.40 19 *e*P **P** **06 08 00.0 +1.1**
TAPN Taplejung 38.95 300 *e*P **P** **06 08 04.2 +0.1**
comp=Z,97nm,0.5s
ODAN Odare 39.08 299 *e*P **P** **06 08 05.0 -0.2**
comp=Z,225nm,0.8s
ULN Ulaanbaatar 39.63 340*c i*P **P** **06 08 10.6 +1.2**
ULN pmax pmax
comp=Z,65nm,1.0s
ULN Ulaanbaatar 39.63 340 *e*P **P** **06 08 10.2 +0.8**
comp=Z,48nm,0.6s
RAMN Ramite 39.79 299 *e*P **P** **06 08 11.2 +0.1**
comp=Z,155nm,0.9s
SONM Songino Array 39.83 340 P **P** **06 08 12.0 +1.1**
comp=Z,25nm,0.6s,baz=157,slow=10,SNR=227
SONM LR LR 06 25 48.5
comp=Z,94nm,19.0s,baz=149,slow=38
H11S3 WAKE ISLAND Hy 40.30 75 T T 06 51 25.7
baz=262,slow=74,SNR=169
H11S1 WAKE ISLAND Hy 40.32 75 T T 06 51 23.2
baz=262,slow=74,SNR=96
H11S2 WAKE ISLAND Hy 40.32 75 T T 06 51 26.8
baz=262,slow=74,SNR=72
JIRN Jiri 40.33 300 *e*P **P** **06 08 15.7 0.0**
comp=Z,124nm,0.3s
H11N1 WAKE ISLAND Hy 40.60 73 T T 06 51 39.4
baz=265,slow=75,SNR=356
H11N2 WAKE ISLAND Hy 40.61 73 T T 06 51 41.1
baz=265,slow=75,SNR=273
H11N3 WAKE ISLAND Hy 40.62 73 T T 06 51 40.7
baz=265,slow=75,SNR=259
GUN Gumba 40.66 300 *e*P **P** **06 08 18.3 -0.1**
PKI Pulchoki 40.97 299 *e*P **P** **06 08 20.3 -0.7**
comp=Z,71nm,0.5s
PKIN Phulchoki 40.98 299 *e*P **P** **06 08 20.5 -0.5**
comp=Z,36nm,0.6s
KKN Kakani 41.14 299 *e*P **P** **06 08 21.7 -0.5**
DMN Daman 41.24 299 *e*P **P** **06 08 22.6 -0.5**
comp=Z,57nm,0.4s
GKN Gorkha 41.74 300 *e*P **P** **06 08 26.2 -0.9**
comp=Z,42nm,0.4s
CIT Chita 41.77 349 *e*P **P** **06 08 28.1 +1.3**
KOLN Koldanda 42.57 299 *e*P **P** **06 08 33.5 -0.4**
comp=Z,98nm,0.7s
DANN Dangsing 42.58 300 *e*P **P** **06 08 33.6 -0.5**
comp=Z,212nm,0.5s
ZAK Zakamensk 43.07 339⇑*i*P **P** **06 08 37.9 +0.4**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
PYUN Piuthan 43.18 299 *e*P **P** **06 08 38.5 -0.3**
comp=Z,258nm,0.5s
TLY Talaya 44.05 340 P **P** **06 08 46.0 +0.8**
comp=Z,296nm,0.6s,SNR=17
TLY Talaya 44.05 340*c i*P **P** **06 08 46.3 +1.1**
TLY pmax pmax
comp=Z,44nm,0.9s
TLY Talaya 44.05 340 P **P** **06 08 46.9 +1.6**
comp=Z,31nm,0.7s,baz=180,slow=5.2,SNR=64
TLY Talaya 44.05 340 *e*P **P** **06 08 46.3 +1.1**
comp=Z,37nm,0.8s
PALK Pallekele 44.43 269 LR LR 06 28 13.6
comp=Z,142nm,18.4s,baz=99,slow=37
MOY Mondy 44.95 338 *e*P **P** **06 08 53.8 +1.3**
MOY pmax pmax
comp=Z,31nm,1.6s
BBOO Buckleboo 44.98 167 *e*P **P** **06 08 54.2 +1.3**
comp=Z,629nm,0.8s
BBOO *e*pP **pP** **06 09 04.2 -1.1**
CLNS Chul'man 45.45 359 *e*P **P** **06 08 57.2 +0.9**
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS pmax pmax
comp=Z,26nm,1.0s
CLNS pmax pmax
comp=N,16nm,0.9s
WMQ Urumqi 46.00 322 P **P** **06 09 01.7 +0.8**
WMQ pP **pP** **06 09 13.9 +0.4**
WMQ sP **sP** **06 09 18.0 -0.8**
WMQ PcP **PcP** **06 10 37.7 +0.7**
WMQ PP **PP** **06 10 49.3 -0.1**
WMQ S **S** **06 15 42.2 -0.7**
WMQ sS **sS** **06 16 03.0 -0.8**
WMQ ScS **ScS** **06 18 50.7 -2.2**
WMQ SS SS 06 19 00.0 -8.2
WMQ PMZ
comp=N,13nm,1.8s
WMQ PMZ
comp=N,310nm,6.0s
WMQ LN
comp=N,97nm,18.0s
WMQ LE
comp=N,130nm,18.0s
BOD Bodaibo 47.26 352⇓*i*P **P** **06 09 11.3 +0.8**
BOD pmax pmax
comp=Z,17nm,1.0s
HVS Khovu-Aksy 47.47 333*d i*P **P** **06 09 13.9 +1.6**
HVS pmax pmax
comp=Z,81nm,1.2s
NDI New Delhi 48.27 298 *e*P P 06 09 14.0 -4.8
PETK Petropavlovsk- 49.00 25 P **P** **06 09 25.8 +1.8**
comp=Z,14nm,0.6s,baz=211,slow=3.7,SNR=18
PETK PcP **PcP** **06 10 47.6 +0.2**
comp=Z,7.7nm,0.7s,baz=182,slow=4.5,SNR=4.3
PETK LR LR 06 27 55.9
comp=Z,66nm,22.0s,baz=221,slow=33
PET Petropavlovsk 49.34 26⇓*i*P **P** **06 09 28.3 +1.7**
PET *i* S **S** **06 16 31.5 +1.6**
PET pmax pmax
comp=Z,27nm,0.7s
PET MLR MLR
comp=Z,200nm,20.0s
PET Petropavlovsk 49.34 26 *e*P **P** **06 09 28.4 +1.8**
comp=Z,19nm,0.8s
YAK Yakutsk 50.74 3 *e*P **P** **06 09 36.2 -0.8**
YAK *e* 06 09 50.0
YAK pmax pmax
comp=Z,87nm,0.9s
YAK pmax pmax
comp=N,32nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK Yakutsk 50.74 3 *e*P **P** **06 09 37.9 +0.9**
comp=E,97nm,0.8s
MK31 Makanchi Array 50.80 323 *e*P **P** **06 09 37.9 +0.1**
MK31 pmax pmax
comp=Z,5.0nm,0.3s
MKAR Makanchi Array 50.80 323 P **P** **06 09 38.2 +0.4**
comp=Z,16nm,0.6s,baz=122,slow=8.3,SNR=160
MKAR PcP **PcP** **06 10 53.2 -1.0**
comp=Z,4.7nm,0.7s,baz=98,slow=6.7,SNR=4.1
KSH Kashi 52.04 312 P **P** **06 09 49.2 +1.9**
KSH sP **sP** **06 10 07.1 +1.7**
KSH PP **PP** **06 11 49.1 +3.3**
KSH S **S** **06 17 07.9 -0.1**
KSH sS **sS** **06 17 30.0 +0.7**
KSH SS **SS** **06 20 43.2 -2.4**
KSH PMZ
comp=Z,8.0nm,0.5s
KSH PMZ
comp=Z,100nm,4.2s
KSH LN
comp=Z,370nm,6.4s
KSH LE
comp=Z,190nm,6.3s
KSH LZ
comp=Z,170nm,8.7s
ZALV Zalesovo Beam 53.41 331 P **P** **06 09 56.8 -0.1**
comp=Z,19nm,0.7s,baz=118,slow=6.9,SNR=91
ZALV pP **pP** **06 10 09.2 -0.5**
comp=Z,11nm,0.8s,baz=122,slow=7.2,SNR=6.2
ZALV LR LR 06 32 49.6
comp=Z,80nm,18.9s,baz=242,slow=36
TKM2 Tokmak 2 53.46 316 *e*P **P** **06 09 58.0 +0.2**
TKM2 pmax pmax
comp=Z,42nm,2.3s
TKM2 Tokmak 2 53.46 316 *e*P **P** **06 09 58.0 +0.2**
comp=Z,42nm,2.3s
AAK Ala-Archa 54.12 315⇓*i*P **P** **06 10 03.3 +0.7**
AAK pmax pmax
comp=Z,30nm,2.5s
AAK Ala-Archa 54.12 315 LR LR 06 34 59.1
comp=Z,195nm,19.0s,baz=77,slow=38
AAK Ala-Archa 54.12 315 *e*P **P** **06 10 02.7 0.0**
comp=Z,8.2nm,1.3s
EKS2 Erkin-Say 54.63 315 *e*P **P** **06 10 06.6 +0.3**
EKS2 *e**PP **pP** **06 10 16.5 -2.6**
EKS2 pmax pmax
comp=Z,42nm,1.8s
EKS2 Erkin-Say 54.63 315 *e*P **P** **06 10 06.6 +0.3**
comp=Z,42nm,1.8s
EKS2 *e*pP **pP** **06 10 16.5 -2.6**
NVS Novosibirsk 54.68 331⇑*i*P **P** **06 10 05.9 -0.3**
NVS *e* 06 10 17.7
NVS pmax pmax
comp=N,11nm,0.9s
NVS pmax pmax
comp=E,15nm,0.9s
NVS pmax pmax
comp=Z,26nm,0.9s
KURK Kurchatov 54.84 325 P **P** **06 10 07.1 -0.4**
comp=Z,290nm,0.7s,SNR=46
KURK Kurchatov 54.84 325 *e*P **P** **06 10 07.7 +0.2**
KURK pmax pmax
comp=Z,32nm,0.7s
KURK Kurchatov 54.84 325 *e*P **P** **06 10 07.7 +0.2**
comp=Z,32nm,0.7s
SEY Seymchan 55.01 15 P **P** **06 10 10.7 +2.2**
comp=Z,6.5nm,0.7s,baz=217,slow=5.1,SNR=42
SEY PcP **PcP** **06 11 10.4 +0.8**
comp=Z,10.0nm,0.7s,baz=212,slow=4.1,SNR=8.7
KBL Kabul 56.19 304 *e*P **P** **06 10 17.3 -0.5**
KBL pmax pmax
comp=Z,40nm,0.6s
KBL Kabul 56.19 304 *e*P **P** **06 10 17.3 -0.5**
comp=Z,40nm,0.6s
FX1 Attu Island--F 56.25 33 P **P** **06 10 19.5 +2.0**
comp=Z,44nm,0.8s,baz=276,slow=3.2,SNR=9.8
FX1 LR LR 06 29 04.4
comp=Z,50nm,21.9s,baz=264,slow=30
KK31 Karatay Array 57.05 314 *i* P **P** **06 10 23.3 -0.2**
KK31 pmax pmax
comp=Z,14nm,0.7s
KKAR Karatay Array 57.05 314 *e*P **P** **06 10 23.3 -0.2**
KKAR Karatay Array 57.05 314 *e*P **P** **06 10 23.3 -0.2**
VOSK Vostochnaya 59.99 325 P **P** **06 10 42.9 -0.9**
VOSK pmax pmax
comp=Z,9.0nm,0.5s
TIXI Tiksi 60.35 1*c i*P **P** **06 10 46.0 +0.1**
TIXI pmax pmax
comp=Z,29nm,1.0s
TIXI Tiksi 60.35 1 *e*P **P** **06 10 45.8 -0.1**
comp=Z,24nm,0.9s
BVA0 Borovoye Array 60.44 325 *i* P **P** **06 10 46.2 -0.6**
BVA0 pmax pmax
comp=Z,10.0nm,1.0s
BVAR Borovoye Array 60.44 325 P **P** **06 10 46.6 -0.2**
comp=Z,10nm,0.8s,baz=120,slow=8.8,SNR=20
BRVK Borovoye 60.51 325 P **P** **06 10 47.9 +0.6**
comp=Z,17nm,0.7s,SNR=11
BRVK Borovoye 60.51 325*c i*P **P** **06 10 47.2 -0.1**
BRVK pmax pmax
comp=Z,17nm,0.6s
BRVK Borovoye 60.51 325 *e*P **P** **06 10 47.2 -0.1**
BILL Biiibino 62.62 16 *e*P **P** **06 11 02.1 +0.9**
BILL pmax pmax
comp=Z,15nm,0.6s
BILL Biiibino 62.62 16 *e*P **P** **06 11 02.1 +0.9**
comp=Z,15nm,0.6s
IMYA Miami 63.66 305 *e*P **P** **06 11 08.5 -0.5**
IKRD Kardeh 64.98 305 *e*P P 06 11 12.1 -5.6
GEYT Alibeck 65.39 307 P **P** **06 11 20.0 -0.1**
comp=Z,20nm,0.9s,baz=218,slow=1.6,SNR=21
GEYT LR LR 06 41 44.7
comp=Z,124nm,18.6s,baz=0.0,slow=38
ISFR Sfrayin 65.41 306 *e*P **P** **06 11 19.7 -0.8**
AB31 Akbulak array 65.66 319 P **P** **06 11 20.8 -0.7**
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 65.66 319 *e*P **P** **06 11 21.1 -0.4**
SVE Sverdlovsk 66.98 327 *e*P **P** **06 11 30.1 +0.2**
SVE pmax pmax
comp=Z,31nm,1.0s
AKTO Aktyubinsk 67.10 320 P **P** **06 11 30.5 -0.3**
baz=90,slow=10
IBAF Bafgh 67.19 300 *e*P P 06 11 28.4 -3.5
ARU Arti 68.00 327*d i*P **P** **06 11 35.4 -0.9**
ARU S **S** **06 20 32.0 -0.1**
ARU pmax pmax
comp=Z,20nm,0.7s
ARU Arti 68.00 327 *e*P **P** **06 11 35.6 -0.7**
comp=Z,65nm,1.3s
GAMB Gambell 68.04 25 *e*P **P** **06 11 38.0 +1.7**
comp=Z,17nm,1.4s
IANJ Anjilo 68.63 304 *e*P **P** **06 11 39.6 -1.4**
IGLO Ghaloghah 68.72 305 *e*P **P** **06 11 40.3 -1.2**
IKIA Kiasar 68.83 304 *e*P **P** **06 11 40.5 -1.8**
BKZ Black Stump Fm 69.00 140 *e*P **P** **06 11 43.2 +0.3**
comp=Z,17nm,0.8s
BKZ *e*pP **pP** **06 11 56.9 +0.8**
ISRV Sarvestan 69.33 297 *e*P P 06 11 41.5 -4.0
IPAR Pars 69.37 298 *e*P **P** **06 11 43.7 -2.0**
IFIR Firoozkooh 69.58 304 *e*P **P** **06 11 46.2 -0.7**
TNA Tin City 70.15 24 *e*P **P** **06 11 51.0 +1.6**
IKAZ Kazeroun 70.42 298 *e*P **P** **06 11 50.7 -1.5**
IKLH Kolahrood 70.56 301 *e*P **P** **06 11 51.0 -1.9**
IPIR Pirpir 71.15 301 *e*P **P** **06 11 54.0 -2.6**
PRGR Permogore 75.36 331 *e*P **P** **06 12 18.5 -1.9**
PRGR *e* 06 12 31.4
PRGR *e**SP **sP** **06 12 38.4 -0.5**
PRGR pmax pmax
comp=Z,56nm,0.6s
KDAK Kodiak Island 76.18 33 *i* P **P** **06 12 26.2 +1.0**
ZEI Tsey 76.33 311 *e*P **P** **06 12 25.2 -1.5**
ZEI pmax pmax
comp=Z,32nm,1.3s
KBZ Khabaz 77.02 312 P **P** **06 12 29.2 -0.9**
comp=Z,9.9nm,1.0s,baz=107,slow=4.6,SNR=13
KIV Kislovodsk 77.15 313 *e*P **P** **06 12 30.9 -0.2**
KIV pmax pmax
comp=Z,24nm,0.7s
KIV Kislovodsk 77.15 313 *e*P **P** **06 12 30.9 -0.2**
comp=Z,24nm,0.7s
COLD Coldfoot 77.43 23 *e*P **P** **06 12 33.7 +1.6**
VRHR Novokhopersk 77.51 320 *e*P **P** **06 12 30.2 -2.6**
VRHR *e**PP **PcP** **06 12 43.7 +0.7**
VRHR pmax pmax
comp=Z,40nm,0.9s
VRHR pmax pmax
comp=N,20nm,1.9s
VRHR pmax pmax
comp=E,40nm,1.2s
MCK McKinley 77.97 27 *e*P **P** **06 12 35.4 +0.2**
MCK McKinley 77.97 27 *e*P **P** **06 12 35.4 +0.2**
KLMR Klimovskoe 78.30 330 *e*P P 06 12 32.2 -4.8
KLMR pmax pmax
comp=Z,25nm,0.6s
COLA College 78.41 26 *e*P **P** **06 12 38.0 +0.5**
COLA pmax pmax
comp=Z,140nm,2.3s
COLA College 78.41 26 *e*P **P** **06 12 38.0 +0.5**
comp=Z,140nm,2.3s
ILAR Eielson Array 78.83 26 P **P** **06 12 39.1 -0.8**
comp=Z,4.0nm,0.7s,baz=239,slow=4.9,SNR=76
ILAR pP **pP** **06 12 52.9 -0.4**
comp=Z,1.9nm,0.7s,baz=251,slow=5.4,SNR=5.9
ILAR LR LR 06 46 12.9
comp=Z,36nm,21.1s,baz=98,slow=35
VORD Divnogorie 78.99 320 *e*P **P** **06 12 38.2 -2.8**
VORD *e**PP **PcP** **06 12 51.9 +2.5**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 79.05 320 *e*P **P** **06 12 38.8 -2.5**
VSR *e**PP **PcP** **06 12 52.2 +2.5**
VSR pmax pmax
comp=Z,20nm,0.8s
VSR pmax pmax
comp=N,3.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.9s
DOT Dot Lake 80.14 27 *e*P **P** **06 12 47.8 +0.8**
comp=E,148nm,2.6s
OBN Obninsk 80.27 324 *e*P **P** **06 12 46.8 -1.0**
OBN *i* 06 12 58.8
OBN *i* *PP PP 06 15 59.7 +9.1
OBN pmax pmax
comp=Z,17nm,1.0s
APA Apatity 80.48 337⇑*i*P **P** **06 12 48.0 -0.7**
APA *i* S **S** **06 22 46.0 -5.6**
APA *i* PS **PnS** **06 23 34.0 -7.8**
APA *i* SS **SS** **06 28 04.0 +0.2**
APA MLR MLR
comp=Z,2μm,16.0s
JOF Joensuu 81.97 333 *e*P **P** **06 12 56.9 +0.1**
JOF pmax pmax
comp=Z,12nm,0.5s
JOF Joensuu 81.97 333 *e*p **P** **06 12 56.9 +0.1**
comp=Z,12nm,0.5s
KEV Kevo 82.44 340 *e*P **P** **06 12 58.9 -0.2**
KEV pmax pmax
comp=Z,2.0nm,0.3s
KEV Kevo 82.44 340 *e*p **P** **06 12 58.9 -0.2**
comp=Z,1.7nm,0.3s
KEV Kevo 82.44 340 *e*P **P** **06 12 58.4 -0.7**
OPO Ambohidratompo 82.77 249 P **P** **06 13 00.7 -1.3**
comp=Z,17nm,0.9s,baz=66,slow=3.5,SNR=13
SPITS Spitsbergen Ar 82.89 349 P **P** **06 13 01.4 +0.1**
comp=Z,22nm,0.7s,baz=109,slow=6.4,SNR=24
ASF Jabal al Asfar 82.97 301 P **P** **06 13 02.5 -0.3**
comp=Z,2.6nm,0.6s,baz=140,slow=3.8,SNR=5.2
ARCES ARCESS Array B 83.00 340 P **P** **06 13 02.0 0.0**
comp=Z,7.6nm,0.4s,baz=79,slow=6.2,SNR=61
INK Inuvik 83.59 22 P **P** **06 13 05.1 +0.1**
comp=Z,3.9nm,0.5s,baz=294,slow=2.9
MMAI Mount Meron Ar 84.08 302 P **P** **06 13 07.5 -0.9**
comp=Z,1.1nm,0.4s,baz=55,slow=11,SNR=2.7
BRTR Keskin Array B 84.36 309 P **P** **06 13 08.2 -1.5**
comp=Z,2.8nm,0.7s,baz=131,slow=3.0,SNR=11
KAF Kangasniemi 84.41 332 *e*P **P** **06 13 08.6 -0.7**
KAF pmax pmax
comp=Z,11nm,0.5s
KAF Kangasniemi 84.41 332 *e*p **P** **06 13 08.6 -0.7**
comp=Z,11nm,0.5s
FINES FINESS Array B 84.67 332 P **P** **06 13 09.2 -1.4**
comp=Z,9.2nm,0.4s,baz=85,slow=4.5,SNR=49
FINES pP **pP** **06 13 22.7 -1.5**
comp=Z,6.8nm,0.7s,baz=93,slow=7.6,SNR=5.7
FINES LR LR 06 57 03.0
comp=Z,84nm,21.9s,baz=44,slow=40
AKASG Malin Array Be 85.34 321 P **P** **06 13 12.8 -1.5**
comp=Z,15nm,0.6s,baz=66,slow=4.8,SNR=30
AKASG pP **pP** **06 13 25.6 -2.2**
comp=Z,12nm,0.8s,baz=67,slow=4.7,SNR=8.9
AKASG LR LR 06 53 58.5
comp=Z,64nm,18.1s,baz=325,slow=38
KIEV Kiev 85.35 321 *e*P **P** **06 13 12.8 -1.5**
KIEV *e**PP **pP** **06 13 25.3 -2.6**
KIEV pmax pmax
comp=Z,16nm,0.7s
KIEV Kiev 85.35 321 *e*P **P** **06 13 12.8 -1.5**
comp=Z,16nm,0.7s
KIEV *e*pP **pP** **06 13 25.2 -2.6**
CSS Prodhromos 85.44 305 *e*P **P** **06 13 14.5 -0.6**
KMBO Kilima Mbogo 88.57 269 *e*P **P** **06 13 30.9 -0.1**
KMBO Kilima Mbogo 88.57 269 P **P** **06 13 29.8 -1.2**
comp=Z,3.1nm,0.9s,baz=41,slow=5.5,SNR=5.5
KMBO Kilima Mbogo 88.57 269 *e*P **P** **06 13 30.9 -0.1**
MLR Muntele Rosu 88.69 316 P **P** **06 13 29.6 -1.2**
comp=Z,0.6nm,0.6s,baz=321,slow=5.3,SNR=7.1
DAG Danmarks Havn 89.65 352 *i* P **P** **06 13 33.2 -1.3**
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 89.65 352 *i* P **P** **06 13 33.2 -1.3**
comp=Z,4.3nm,0.8s
KOLS Kolonicke sedl 90.14 320 *e*P **P** **06 13 37.2 -0.2**
KOLS pmax pmax
comp=Z,208nm,3.8s
KOLS Kolonicke sedl 90.14 320 *e*P **P** **06 13 37.2 -0.2**
KOLS *e* 06 19 05.1
UZH Uzhgorod 90.22 320*c i*P **P** **06 13 37.3 -0.4**
RES Resolute Bay 90.62 10 *e*P **P** **06 13 39.0 0.0**
RES Resolute Bay 90.62 10 P **P** **06 13 38.9 -0.2**
comp=Z,7.1nm,0.8s,baz=308,slow=5.6,SNR=16
RES Resolute Bay 90.62 10 *e*P **P** **06 13 39.0 0.0**
STHS Stebnicka Huta 90.64 321 *e*P **P** **06 13 38.7 -1.0**
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 90.64 321 *e*P **P** **06 13 38.7 -1.0**
STHS *e* 06 19 13.5
CRVS Cervenica-Dubn 90.66 320 *e*P **P** **06 13 39.2 -0.6**
CRVS pmax pmax
comp=Z,14nm,1.0s
CRVS Cervenica-Dubn 90.66 320 *e*P **P** **06 13 39.2 -0.6**
CRVS *e* 06 19 04.9
HFS Hagfors 90.83 332 P **P** **06 13 39.0 -1.3**
comp=Z,3.3nm,0.5s,baz=92,slow=4.6,SNR=26
VNDA Vanda 91.03 173 P **P** **06 13 39.7 -1.0**
comp=Z,2.0nm,0.7s,baz=318,slow=5.4,SNR=5.0
VNDA LR LR 06 53 59.6
comp=Z,56nm,21.5s,baz=158,slow=35
NB2 NORSAR Subarra 91.54 334 P **P** **06 13 41.8 -1.9**
comp=Z,1.5nm,0.6s,baz=66,slow=4.6
NOA NORSAR Array B 91.54 334 P **P** **06 13 41.8 -1.9**
comp=Z,2.0nm,0.7s,baz=64,slow=4.7,SNR=9.9
NOA LR LR 06 58 14.1
comp=Z,68nm,18.0s,baz=315,slow=38
YKA Yellowknife Ar 93.11 24 P **P** **06 13 51.1 +0.3**
comp=Z,2.3nm,0.6s,baz=305,slow=4.4,SNR=56
GERES GERESS Array B 95.47 322 P **P** **06 14 00.8 -1.3**
comp=Z,1.6nm,0.8s,baz=76,slow=5.6,SNR=8.2
GERES pP **pP** **06 14 14.3 -1.4**
comp=Z,1.0nm,0.6s,baz=60,slow=3.2,SNR=4.0
YBH Yreka Blue Hor 98.20 45 LR LR 06 50 45.8
comp=Z,33nm,19.7s,baz=297,slow=30
BGNE Belgrade 113.89 35 P **PKiKP** **06 19 15.4 -0.8**
baz=114
P32A Huiting Farm, 114.82 36 P PKPdf 06 19 17.5 -0.5
baz=115
T33A Patterson Ranc 116.69 38 P **PKPdf** **06 19 21.8 +0.1**
baz=117
W31A Holland Ranch, 116.83 41 P **PKPdf** **06 19 21.9 -0.2**
baz=117
129A Stewart Farms, 117.09 44 P **PKPdf** **06 19 22.2 -0.5**
baz=117
TXAR Lajitas Array 117.67 48 PKP **PKPdf** **06 19 24.3 +0.4**
comp=Z,1.7nm,0.6s,baz=221,slow=0.3,SNR=16
Z31A Sharp Cattle R 117.85 43 P **PKPdf** **06 19 23.5 -0.5**
baz=118
X33A Lawton 118.16 41 P **PKPdf** **06 19 24.9 +0.3**
baz=118
429A Davenport Ranc 118.23 46 P **PKPdf** **06 19 24.9 -0.1**
baz=118
529A Stev Forest Ra 118.28 47 P **PKPdf** **06 19 24.9 -0.2**
baz=118
Z32A Haskell 118.30 42 P **PKPdf** **06 19 24.9 0.0**

	baz=118							
X34A	Smith Ranch, M	118.55	40	P		PKPdf	06 19 25.7	+0.3
	baz=118							
430A	Baggett Ranch,	118.60	46	P		PKPdf	06 19 25.5	-0.2
	baz=119							
Z33A	Whitaker Ranch	118.78	42	P		PKPdf	06 19 25.6	-0.2
	baz=119							
331A	San Angelo	118.86	45	P		PKPdf	06 19 25.8	-0.3
	baz=119							
530A	J-C Ranch, Com	118.90	46	P		PKPdf	06 19 26.3	+0.1
	baz=119							
Y34A	Reagan Ranch,	119.01	41	P		PKPdf	06 19 26.2	0.0
	baz=119							
133A	Hamilton Ranch	119.10	43	P		PKPdf	06 19 26.3	-0.2
	baz=119							
431A	Sonora	119.10	45	P		PKPdf	06 19 26.6	0.0
	baz=119							
TORD	Torodi Ar. Bea	119.25	292	PKP		PKPdf	06 19 25.3	-1.8
	comp=Z,1.1nm,0.4s,baz=69,slow=2.5,SNR=29							
332A	Millersview	119.28	44	P		PKPdf	06 19 27.0	+0.1
	baz=119							
531A	Rocksprings	119.45	46	P		PKPdf	06 19 26.9	-0.3
	baz=119							
233A	Rising Star	119.47	43	P		PKPdf	06 19 27.2	-0.1
	baz=119							
134A	White-Moore Ra	119.67	42	P		PKPdf	06 19 27.7	+0.1
	baz=120							
JCT	Junction City	119.78	45	ePKIKP		PKPdf	06 19 27.8	-0.1
JCT	Junction City	119.78	45	P		PKPdf	06 19 27.9	+0.1
	baz=120							
JCT	Junction City	119.78	45	ePKPdf		PKPdf	06 19 27.8	-0.1
333A	Richland Sprin	119.84	44	P		PKPdf	06 19 27.6	-0.3
	baz=120							
532A	Rocksprings	119.92	45	P		PKPdf	06 19 28.1	0.0
	baz=120							
234A	Clairette	119.99	43	P		PKPdf	06 19 28.3	+0.1
	baz=120							
433A	Art	120.11	44	P		PKPdf	06 19 28.2	-0.3
	baz=120							
135A	Vickery Place,	120.12	42	P		PKPdf	06 19 29.2	+0.8
	baz=120							
334A	Lometa	120.34	43	P		PKPdf	06 19 28.6	-0.3
	baz=120							
632A	Uvalde	120.36	46	P		PKPdf	06 19 29.4	+0.4
	baz=120							
533A	Kerrville	120.56	45	P		PKPdf	06 19 29.2	-0.1
	baz=120							
434A	Burnet	120.63	44	P		PKPdf	06 19 29.2	-0.3
	baz=121							
732A	Laxson Ranch,	120.69	47	P		PKPdf	06 19 29.6	0.0
	baz=121							
335A	Moody	120.91	43	P		PKPdf	06 19 29.7	-0.3
	baz=121							
832A	Faith Ranch, C	120.94	47	P		PKPdf	06 19 30.6	+0.5
	baz=121							
534A	Blanco	120.97	45	P		PKPdf	06 19 29.9	-0.2
	baz=121							
MIAR	Mount Ida	121.21	38	ePKIKP		PKPdf	06 19 29.7	-0.7
MIAR	Mount Ida	121.21	38	ePKPdf		PKPdf	06 19 29.7	-0.7
336A	Riesel	121.23	42	P		PKPdf	06 19 30.9	+0.3
	baz=121							
833A	Chaparral WMA,	121.33	47	P		PKPdf	06 19 31.6	+0.8
	baz=121							
138A	Matatall Enter	121.55	40	P		PKPdf	06 19 32.3	+1.1
	baz=122							
535A	Dale	121.59	44	P		PKPdf	06 19 32.0	+0.7
	baz=122							
734A	La Parita Cree	121.62	46	P		PKPdf	06 19 32.2	+0.8
	baz=122							
436A	Wall Ranch, Ga	121.65	43	P		PKPdf	06 19 32.1	+0.7
	baz=122							
933A	Laredo	121.83	47	P		PKPdf	06 19 32.9	+1.0
	baz=122							
635A	Leesville	121.84	45	P		PKPdf	06 19 32.7	+0.9
	baz=122							
536A	Bastrop	121.91	44	P		PKPdf	06 19 32.9	+1.0
	baz=122							
337A	Centerville	121.91	42	P		PKPdf	06 19 32.8	+1.0
	baz=122							
834A	Tilden	122.05	47	P		PKPdf	06 19 32.9	+0.7
	baz=122							
735A	Kenedy	122.14	45	P		PKPdf	06 19 32.7	+0.4
	baz=122							
338A	Crockett	122.26	41	P		PKPdf	06 19 33.4	+0.9
	baz=122							
636A	Smothers Creek	122.28	44	P		PKPdf	06 19 33.7	+1.1
	baz=122							
WVT	Waverly	123.28	32	ePKIKP		PKPdf	06 19 33.7	-0.7
WVT	Waverly	123.28	32	ePKPdf		PKPdf	06 19 33.7	-0.7
TKL	Tuckaleechee C	125.69	29	ePKIKP		PKPdf	06 19 38.1	-0.9
TKL	Tuckaleechee C	125.69	29	ePKPdf		PKPdf	06 19 38.1	-0.9
KIC	Kosan Boka	127.54	287	ePKIKP		PKPdf	06 19 42.2	-0.9
	comp=Z,290nm,2.2s							
TIC	Toumodi	127.71	288	ePKIKP		PKPdf	06 19 42.3	-1.1
	comp=Z,8.1nm,0.4s							
LIC	Lamto	127.85	287	ePKIKP		PKPdf	06 19 41.7	-2.0
	comp=Z,117nm,1.9s							
JTS	JuntasAbangare	142.85	56	PKP		PKPdf	06 20 10.7	-0.9
	comp=Z,4.0nm,0.5s,baz=240,slow=20,SNR=3.8							
SDDR	Presa de Saban	145.63	29	ePKPdf		PKPab	06 20 16.8	0.0
SMN1	Samana, DR	146.36	26	ePKPbc		PKPbc	06 20 19.0	+0.2
PLCA	Paso Flores	147.41	157	PKPbc		PKPbc	06 20 21.4	+0.1
	comp=Z,14nm,0.8s,baz=206,slow=4.8,SNR=18							
CRPR	Cabo Rojo, PR	148.31	23	ePKPbc		PKPbc	06 20 23.4	-0.7
STVI	Saint Thomas	148.77	20	ePKPdf		PKPdf	06 20 17.8	-3.7
STVI				ePKPbc		PKPbc	06 20 25.1	-0.2
OTAV	Otavalo	153.53	66	ePKPbc		PKPbc	06 20 34.4	-2.9
SDV	Santo Domingo	154.28	39	ePKPdf		PKPdf	06 20 30.0	-0.2
SDV				ePKPbc		PKPbc	06 20 38.1	-0.4
ATAH	Atahualpa	155.99	82	PKPab		PKPab	06 21 02.2	+2.1
	comp=Z,7.7nm,0.8s,baz=309,slow=3.9,SNR=4.6							
CPUP	Villa Florida	164.79	170	PKP		PKPdf	06 20 40.2	-1.4
	comp=Z,2.8nm,0.3s,baz=210,slow=10,SNR=16							
LPAZ	La Paz	165.80	112	PKP		PKPdf	06 20 43.2	-0.3
	comp=Z,2.9nm,0.9s,baz=347,slow=1.2,SNR=10.0							
LPAZ				PKPab		PKPab	06 21 44.4	+1.3
	comp=Z,3.6nm,0.9s,baz=238,slow=2.5,SNR=7.4							
LPAZ	La Paz	165.80	112	ePKPdf		PKPdf	06 20 43.2	-0.3
LPAZ				PKP		PKPdf	06 20 43.2	-0.3
LPAZ				PKPab		PKPab	06 21 44.4	+1.3

TAP 09 06:11:09.7,23°.96N×121°.00E,h8km,ML3.5,3C-9D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLT	Sun Moon Lake	0.12	230	⇓iP	Pg	06 11 13.1	+0.5
	baz=226						
SMLT				i S	Sg	06 11 15.6	+0.9
	baz=226						
TYC	Yuchr	0.14	246	⇓iP	Pg	06 11 13.3	+0.4
	baz=244						
TYC				i S	Sg	06 11 15.5	+0.4
	baz=244						
WHF	Hehuan Shan	0.30	53	⇓iP	Pg	06 11 16.8	+0.5
	baz=66						
WHF				i S	Sg	06 11 20.9	+0.2
	baz=66						
WNT	Mingjian	0.30	254	P	Pb	06 11 17.3	-0.1
	baz=253						
WNT				i S	Sb	06 11 22.5	0.0
	baz=253						
TWT	Tachien	0.33	29	⇓iP	Pg	06 11 16.4	-0.1
	baz=27						
TWT				i S	Sg	06 11 20.9	-0.2
	baz=27						
TCU	Taichung	0.35	302	P	Pb	06 11 18.3	+0.1
	baz=302						
TCU				eS	Sb	06 11 24.8	+0.9
	baz=302						
ESL	Shilin	0.42	111	⇑iP	Pb	06 11 18.9	-0.6
	baz=110						
ESL				S	Sg	06 11 24.3	+0.7
	baz=110						
TWQ1	Liyutan	0.44	331	⇑iP	Pb	06 11 19.8	+0.1
	baz=343						
TWQ1				S	Sb	06 11 26.3	-0.1
	baz=343						
CHN5	Tsauling	0.47	219	⇓iP	Pb	06 11 20.3	-0.1
	baz=218						
CHN5				i S	Sb	06 11 27.7	+0.2
	baz=218						
ESF	Shoufeng Towns	0.47	101	eP	Pb	06 11 20.2	-0.1
	baz=103						
YUS	Yu-Shan	0.47	186	eP	Pg	06 11 19.5	-0.1
	baz=178						
YUS				eS	Sg	06 11 26.0	-0.3
	baz=178						
ALS	Alishan	0.48	202	⇓iP	Pg	06 11 19.9	+0.3
	baz=188						
ALS				eS	Sb	06 11 27.4	-1.0
	baz=188						
WGK	Gukeng	0.49	236	P	Pb	06 11 20.5	-0.1
	baz=234						
WGK				S	Sb	06 11 28.7	+0.9
	baz=234						
NSY	Sanyi	0.50	334	eP	Pb	06 11 21.3	+0.4
	baz=347						
NSY				eS	Sb	06 11 29.1	+0.8
	baz=347						
HWA	Hwalien	0.55	88	iP	Pb	06 11 21.1	-0.5
	baz=89						
HWA				i S	Sb	06 11 29.7	0.0
	baz=89						
TWD	Chiawan	0.56	78	eP	Pb	06 11 21.4	-0.3
	baz=78						
TWD				i S	Sg	06 11 28.1	+0.3
	baz=78						
NNS	Nan Shan	0.58	35	eP	Pg	06 11 20.8	-0.4
	baz=44						
NNS				eS	Sg	06 11 28.2	-0.8
	baz=44						
CHN2	Minshiung	0.65	228	P	Pb	06 11 23.6	+0.4
	baz=228						
CHN2				S	Sb	06 11 33.6	+1.3
	baz=228						
NSTT	Nanjuang	0.67	360	⇑P	Pb	06 11 23.2	-0.4
	baz=1.0						
NSTT				S	Sb	06 11 33.0	0.0
	baz=1.0						
WTCT	Ta-ch'eng	0.67	262	eP	Pb	06 11 23.3	-0.3
	baz=261						
WTCT				eS	Sb	06 11 33.8	+0.8
	baz=261						
CHY	Chiayi	0.70	229	iP	Pb	06 11 24.6	+0.4
	baz=228						
CHY				S	Sb	06 11 35.1	+1.0
	baz=228						
CHN4	Tsaushan	0.71	212	⇓iP	Pb	06 11 24.7	+0.2
	baz=210						
CHN4				eS	Sn	06 11 36.0	-1.3
	baz=210						
ELDTW	Lidau	0.77	179	eP	Pg	06 11 24.2	-0.6
	baz=177						
NSK	Sanguang	0.78	25	eP	Pg	06 11 24.5	-0.4
	baz=20						
NSK				eS	Sg	06 11 33.6	-1.5
	baz=20						
WSF	Szhu	0.78	246	eP	Pb	06 11 25.3	-0.3
	baz=245						
WSF				eS	Sb	06 11 37.0	+0.7
	baz=245						
WTP	Ta-pu	0.80	207	⇓iP	Pb	06 11 25.8	-0.2
	baz=205						
WTP				eS	Sb	06 11 37.4	+0.5
	baz=205						
ENA	Nanau	0.82	55	P	Pg	06 11 25.6	+0.1
	baz=49						
ENA				eS	Sg	06 11 36.1	-0.1
	baz=49						
STYT	Tauyuan	0.83	196	eP	Pg	06 11 26.1	+0.3
	baz=186						
STYT				eS	Sb	06 11 37.7	-0.1
	baz=186						
HSN	Hsinchu	0.84	358	eP	Pn	06 11 27.5	-0.3
	baz=9.0						
HSN				eS	Sn	06 11 40.0	-0.2
	baz=9.0						
TWK	Hsinying	0.84	214	⇓iP	Pb	06 11 26.6	0.0
	baz=212						
TWK				eS	Sb	06 11 38.6	+0.5
	baz=212						
ENTT	Nioudou	0.85	37	eP	Pg	06 11 25.7	-0.5
	baz=31						
ENTT				eS	Sb	06 11 38.5	+0.2
	baz=31						
CHN1	Nanshi	0.89	209	P	Pb	06 11 27.4	0.0
	baz=208						
CHN1				eS	Sb	06 11 39.9	+0.5
	baz=208						
CHKT	Chengkung	0.92	159	eP	Pg	06 11 27.6	+0.2
	baz=157						
CHKT				eS	Sn	06 11 41.9	-0.5
	baz=157						
CHN8	Yiju	0.95	230	eP	Pn	06 11 29.2	-0.1
	baz=228						
CHN8				eS	Sn	06 11 42.6	-0.4
	baz=228						
SGST	Jiashian	0.96	204	eP	Pb	06 11 28.6	0.0
	baz=215						
SGST				S	Sn	06 11 43.0	-0.3
	baz=215						
TWE	Neicheng	0.97	39	P	Pg	06 11 27.9	-0.5
	baz=40						
TWE				eS	Sb	06 11 42.1	+0.4
	baz=40						
TWC	Suao	1.01	50	P	Pg	06 11 28.8	-0.2
	baz=51						
TWC				S	Sg	06 11 41.8	-0.4
	baz=51						
NCU	National Centr	1.02	10	eP	Pn	06 11 30.4	+0.1
	baz=12						
NCU				eS	Sn	06 11 45.9	+1.2
	baz=12						
CHN3	Shinhua	1.06	214	eP	Pn	06 11 31.0	+0.2
	baz=225						
CHN3				eS	Sn	06 11 47.0	+1.2
	baz=225						
SCLT	Jiali	1.08	224	eP	Pn	06 11 31.2	+0.1
	baz=222						
SCLT				eS	Sn	06 11 47.1	+0.9
	baz=222						
TWG	Pinlang	1.14	177	eP	Pn	06 11 32.5	+0.5
	baz=167						
TWG				eS	Sn	06 11 48.0	+0.3
	baz=167						
TWA	Mucha	1.14	28	eP	Pg	06 11 31.5	-0.3
	baz=36						
TAI1	Yung-k'ang	1.16	218	eP	Pn	06 11 32.9	+0.7
	baz=216						
TAI1				eS	Sn	06 11 49.7	+1.5
	baz=216						
TWS1	Kuangyinshan	1.19	18	eP	Pn	06 11 33.8	+1.1
	baz=6.0						
TWS1				eS	Sn	06 11 50.9	+1.7
	baz=6.0						
TWM1	Shoushan	1.25	205	eP	Pg	06 11 34.5	+0.6
	baz=202						
SSD	Sandimen	1.26	196	eP	Pg	06 11 34.1	+0.2
	baz=181						
NWF	Wu-fen Shan	1.31	33	eP	Pg	06 11 35.1	0.0
	baz=34						
NWF				eS	Sg	06 11 52.9	+0.7
	baz=34						
TWB1	Santiao Chiao	1.38	41	eP	Pg	06 11 36.2	0.0
	baz=54						
TWB1				S	Sg	06 11 55.2	+1.2
	baz=54						
PNG	Penghu	1.38	254	eP	Pn	06 11 35.0	-0.3
	baz=251						
WDGT	Dungji	1.42	241	eP	Pn	06 11 35.7	-0.1
	baz=237						
EAST	Anshuo	1.58	185	eP	Pb	06 11 38.8	-0.4
	baz=174						
EAST				eS	Sg	06 12 00.3	-0.3
	baz=174						
SCZT	Fangliau	1.62	193	eP	Pn	06 11 39.1	+0.5
	baz=190						
SCZT				eS	Sg	06 12 01.6	-0.4
	baz=190						
TWK1	Hengchun	2.02	185	eP	Pn	06 11 45.2	+1.2
	baz=198						
KNM	Kinmen	2.39	281	eP	Pn	06 11 50.9	+1.8
	baz=278						

*IDC **09** 06:12:37.0±1.6,37°.04S×73°.87W,h0km,mb3.6/4, mb1 3.8/6,mb1mx3.7/27,mbtmp3.5/6,ML3.1/2,Error ellipse: s-maj=43.2km s-min=31.4km az=59.0*
*ISCJB **09** 06:12:40.9±1.2,37°.0S±0°.1×73°.6W±0°.3,h33km,mb3.6/4, Error ellipse: s-maj=29.4km s-min=16.3km az=168.4*
ISC 09 06:12:42.5±1.3,37°.0S±0°.1×73°.6W±0°.2,h35km,n6,σ1§19/6, mb3.6/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.45	148	Pn	Pn	06 13 47.4	-0.1
	0.3nm,0.3s,baz=307,slow=14,SNR=3.4						
PLCA				Lg	Lg	06 15 06.0	
	0.8nm,0.3s,baz=60,slow=13,SNR=3.3						
CFAA	Coronel Fontan	6.99	41	Pn	Pn	06 14 21.5	-0.9
	0.1nm,0.3s,baz=206,slow=12,SNR=12						
LPAZ	La Paz	21.19	15	P	P	06 17 27.2	+1.6
	3.5nm,1.1s,baz=168,slow=10,SNR=6.6						
TXAR	Lajitas Array	71.74	333	P	P	06 24 00.8	-0.3
	0.5nm,0.8s,baz=144,slow=11,SNR=2.9						
PDAR	Pinedale Array	85.86	334	P	P	06 25 17.9	-0.6
	0.3nm,0.8s,baz=132,slow=3.8,SNR=3.0						
TORD	Torodi Ar. Bea	86.44	71	P	P	06 25 22.5	+0.8
	0.7nm,0.9s,baz=246,slow=2.8,SNR=2.7						

*NSSC **09** 06:14:35.5±3.4,40°.32N×40°.70E,h0km±170km,MD2.6, ML3.8*
*ISK **09** 06:14:57.0,38°.74N×40°.14E,h5km,ML4.2*
*DDA **09** 06:14:57.2,38°.73N×39°.99E,h17km,ML4.3*
*NEIC **09** 06:14:57.0,38°.74N×40°.14E,h5km,mb4.1/1,ML4.2(ISK), ML4.3(DDA),After ISK.*
*TEH **09** 06:14:58.3,38°.70N×40°.07E,h2km,ML4.3*
*IDC **09** 06:14:58.9±0.9,38°.76N×39°.94E,h0km,mb3.5/9, mb1 3.7/15,mb1mx3.6/39,mbtmp3.6/15,ML3.0/5,MS3.4/14, Ms1 3.4/14,ms1mx3.3/41,Error ellipse: s-maj=18.8km s-min=10.5km az=162.0*
*CSEM **09** 06:14:58.5±0.1,38°.69N×40°.13E,h2km,ML4.2,Error ellipse: s-maj=4.3km s-min=3.5km az=141.0*
*ISN **09** 06:15:01.7±2.0,38°.79N×40°.64E,h0km±6km,ML4.5*
ISC 09 06:14:58.7±0.8,38°.72N±0°.02×40°.12E±0°.02,h4km±5km, n196,σ1§44/220,mb3.6/10,MS3.3/6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.33	61	ePg	Pb	06 15 07.1	-0.1
BNGB	Bing˜¶l	0.51	58	ePG	Pg	06 15 07.1	-1.5
BNGB				eSG	Sg	06 15 15.3	0.0
DYBB	Diyarbakir	0.76	179	ePG	Pg	06 15 13.3	0.0
DIY	Diyarbakir	0.82	174	ePg	Pg	06 15 13.3	-1.3
BNGL	BINGOL	0.83	73	iP	Pg	06 15 13.7	-1.1
BNGL				i S	Sg	06 15 26.7	+1.1
ERZN	Erzincan	0.92	340	ePG	Pg	06 15 14.1	-2.3
VRTB	Varto-Mus	1.13	67	ePN	Pg	06 15 19.1	-1.3
VRTB				eSN	Sb	06 15 36.4	+0.4
VRTB	Varto-Mus	1.13	67	ePn	Pg	06 15 19.1	-1.3
VRTB				eSn	Sb	06 15 36.4	+0.4
BTMT	Batman	1.19	116	ePN	Pg	06 15 21.4	-0.2
BTMT	Batman	1.19	116	ePn	Pg	06 15 21.4	-0.2
BEST	Besiri	1.22	132	iP	Pg	06 15 22.4	+0.2
BEST	Besiri	1.22	132	iP	Pg	06 15 21.8	-0.4
BEST				i S	Sn	06 15 40.5	+0.7
BEST	Besiri	1.22	132	iP	Pg	06 15 22.4	+0.2
MAZI	Mazidag	1.28	168	ePN	Pg	06 15 22.2	-1.1
MAZI	Mazidag	1.28	168	ePn	Pg	06 15 22.2	-1.1
KOPT	Kop Dagi	1.33	12	iP	Pn	06 15 21.9	-2.5
KOPT				i S	Sb	06 15 42.5	+0.6
KOPT	Kop Dagi	1.33	12	iP	Pn	06 15 21.9	-2.5
KOPT				i S	Sb	06 15 42.5	+0.6
MALT	Malatya	1.39	254	ePN	Pn	06 15 23.1	-1.9
MALT	Malatya	1.39	254	ePn	Pn	06 15 23.1	-1.9
MALT	Malatya	1.39	254	Pn	Pn	06 15 23.1	-1.9
ILIC	ilic-Erzincan	1.42	302	ePN	Pn	06 15 24.9	-0.4
ILIC	ilic-Erzincan	1.42	302	ePn	Pn	06 15 25.0	-0.4
MARD	Mardin	1.50	160	iP	Pn	06 15 25.4	-1.1
MARD				i S	Sg	06 15 47.1	+0.3
EZM	Erzurum	1.53	39	ePN	Pn	06 15 26.0	-1.1
EZM	Erzurum	1.53	39	Pn	Pn	06 15 26.0	-1.1
KELT	Kelkit	1.58	335	iP	Pn	06 15 25.6	-2.1
KELT				i S	Sn	06 15 46.2	-2.5
KELT	Kelkit	1.58	335	iP	Pn	06 15 25.6	-2.1
KELT				i S	Sn	06 15 46.2	-2.5
EKAR	Karacoban	1.60	70	iP	Pn	06 15 27.9	-0.2
EKAR	Karacoban	1.60	70	iP	Pn	06 15 27.9	-0.2
EKAR				i S	Sg	06 15 56.7	+6.4
URFA	Urfa	1.64	219	ePN	Pn	06 15 27.6	-0.8
URFA	Urfa	1.64	219	ePn	Pn	06 15 27.6	-0.8
URFA	Urfa	1.64	219	Pn	Pn	06 15 27.6	-0.8
BAYT	Ayd¨–ntepe-Bay	1.67	0	ePN	Pn	06 15 29.2	+0.2
BAYT	Ayd¨–ntepe-Bay	1.67	0	ePn	Pn	06 15 29.2	+0.2
TATV	Tatvan	1.69	96	iP	Pn	06 15 29.1	-0.2
TATV				i S	Sg	06 15 53.9	+0.8
TATV	Tatvan	1.69	96	iP	Pn	06 15 29.1	-0.2
TATV				i S	Sg	06 15 53.9	+0.8
KBSD	Kabsdagh	1.75	169	eP	Pn	06 15 29.9	+0.1
	SNR=45						
KBSD	Kabsdagh	1.75	169	eP	Pn	06 15 29.9	+0.1
KBSD				AML	AML	06 16 04.3	
	comp=Z,4μm,0.6s						
GUMT	Gumushane	1.81	344	ePN	Pn	06 15 30.3	-0.5
GUMT	Gumushane	1.81	344	ePn	Pn	06 15 30.3	-0.5
GUMT	Gumushane	1.81	344	Pn	Pn	06 15 30.3	-0.5
ATAB	Bozova	1.91	230	iP	Pn	06 15 30.9	-1.2
ATAB				i S	Sn	06 15 55.9	-0.6
ATAB	Bozova	1.91	230	iP	Pn	06 15 30.9	-1.2
ATAB				i S	Sn	06 15 55.9	-0.6
HOMI	Horasan	1.91	46	iP	Pn	06 15 32.2	-0.1
HOMI				i S	Sg	06 16 07.6	+7.4
DARE	Darende-Malaty	2.07	267	ePN	Pn	06 15 35.5	+1.1
DARE	Darende-Malaty	2.07	267	ePn	Pn	06 15 35.5	+1.1
SUSE	Susehri	2.10	316	iP	Pn	06 15 35.2	+0.3
SUSE				i S	Sb	06 16 04.8	+0.7
SUSE	Susehri	2.10	316	iP	Pn	06 15 35.2	+0.3
SUSE				i S	Sb	06 16 04.8	+0.7
EATA	Eleskirt	2.16	57	iP	Pb	06 15 37.6	-1.1
EATA	Eleskirt	2.16	57	iP	Pb	06 15 37.6	-1.1
EATA				i S	Sg	06 16 10.6	+2.4
SIRN	S¨–rnak	2.18	123	iP	Pn	06 15 35.0	-0.9
SIRN				i S	Sb	06 16 05.1	-1.1
SIRN	S¨–rnak	2.18	123	iP	Pn	06 15 35.0	-0.9
SIRN				i S	Sb	06 16 05.1	-1.1
SIRT	Sirnak	2.19	123	ePN	Pn	06 15 36.6	+0.5
SIRT	Sirnak	2.19	123	ePn	Pn	06 15 36.6	+0.5
TUTA	Tutak	2.20	71	iP	Pn	06 15 32.4	-3.9
TUTA				i S	Sb	06 16 06.0	-1.0
TUTA	Tutak	2.20	71	iP	Pn	06 15 32.4	-3.9
TUTA				i S	Sb	06 16 06.0	-1.0
SFNV	Sufian	2.30	180	eP	Pn	06 15 37.4	0.0
	SNR=45						
SFNV	Sufian	2.30	180	eP	Pn	06 15 37.4	0.0
SFNV				AML	AML	06 16 25.8	
	comp=Z,2μm,0.7s						
GEVA	Gevas	2.34	99	iP	Pn	06 15 38.5	+0.4
GEVA	Gevas	2.34	99	iP	Pn	06 15 38.5	+0.4
GEVA				i S	Sg	06 16 14.7	+0.9
AGRB	Hanur-Agry	2.39	68	ePN	Pn	06 15 38.3	-0.6
AGRB	Hanur-Agry	2.39	68	ePn	Pn	06 15 38.3	-0.6
DDEM	Demirkent	2.51	29	iP	Pn	06 15 39.6	-0.8
DDEM	Demirkent	2.51	29	iP	Pn	06 15 39.6	-0.8
DDEM				i S	Sg	06 16 22.8	+3.5
VANB	Van	2.56	92	ePN	Pn	06 15 41.2	+0.1
VANB	Van	2.56	92	ePn	Pn	06 15 41.2	+0.1
TVAN	Van	2.58	93	iP	Pn	06 15 41.9	+0.4
TVAN	Van	2.58	93	iP	Pn	06 15 41.9	+0.4
TVAN				i S	Sg	06 16 21.9	+0.3
DBAD	Bademkaya	2.60	27	iP	Pn	06 15 41.2	-0.4
DBAD	Bademkaya	2.60	27	iP	Pn	06 15 41.2	-0.4
DBAD				i S	Sg	06 16 21.1	-1.0
GRSN	GIRESUNGRSN	2.63	328

MZRK AML AML 06 16 57.2
comp=Z,612nm,0.7s
KARS Kars 2.97 49 *e*PN **Pn 06 15 46.8 0.0**
KARS Kars 2.97 49 *e*Pn **Pn 06 15 46.8 0.0**
KSRV Kasrt alli 2.99 198 AML AML 06 16 42.6
comp=Z,356nm,0.6s
CLDR Caldiran 2.99 81 *e*PN **Pn 06 15 47.8 +0.7**
CLDR Caldiran 2.99 81 *e*Pn **Pn 06 15 47.8 +0.7**
DIGO Kars 3.03 55 *i* P **Pn 06 15 47.8 +0.1**
DIGO Kars 3.03 55 *i* P **Pn 06 15 47.8 +0.1**
DIGO *i* S **Sg 06 16 34.8 -1.3**
SLMH Al Salmeh 3.05 216 *e*P **Pn 06 15 46.9 -0.9**
SNR=45
SLMH Al Salmeh 3.05 216 *e*P **Pn 06 15 46.9 -0.9**
HAKT HAKKARI 3.05 111 *i* P **Pn 06 15 47.0 -1.0**
HAKT *i* S **Sb 06 16 29.5 -2.0**
HAKT HAKKARI 3.05 111 *i* P **Pn 06 15 47.0 -1.0**
HAKT *i* S **Sb 06 16 29.5 -2.0**
KUZU Kuzuini 3.10 232 *i* P **Pb 06 15 55.3 +0.8**
KUZU *i* S **Sb 06 16 30.9 -1.7**
BNN Bunyan 3.34 274 *e*PN **Pn 06 15 53.2 +1.3**
BNN Bunyan 3.34 274 *e*Pn **Pn 06 15 53.3 +1.3**
AKH Akhalkalaki 3.73 43 *e*PN **Pn 06 15 57.7 +0.4**
AKH Akhalkalaki 3.73 43 P **Pb 06 16 07.0 +1.7**
AKH Akhalkalaki 3.73 43 *e*Pn **Pn 06 15 57.7 +0.4**
GNI Garni 3.85 67 *e*PN **Pn 06 15 59.8 +0.9**
GNI Garni 3.85 67 Pn **Pn 06 16 01.4 +2.5**
GNI Pg **Pb 06 16 08.5 +1.2**
GNI LR LR 06 17 43.8
comp=Z,374nm,20.1s,baz=252,slow=42
GNI Garni 3.85 67 *e*Pn **Pn 06 15 57.3 -1.6**
GNI Garni 3.85 67 *e*Pn **Pn 06 15 57.3 -1.6**
GNI *e*Pg **Pb 06 16 08.5 +1.2**
CEYT Ceyhan 3.86 245 *e*PN **Pn 06 16 00.6 +1.8**
CEYT Ceyhan 3.86 245 *e*Pn **Pn 06 16 00.6 +1.8**
KVT Kavak 3.92 308 *e*PN **Pn 06 16 01.4 +1.6**
KVT Kavak 3.92 308 *e*Pn **Pn 06 16 01.4 +1.6**
BTCH Batrach 3.96 229 *e*P **Pn 06 15 59.2 -1.1**
SNR=45
BTCH Batrach 3.96 229 *e*P **Pn 06 15 59.2 -1.1**
BTCH AML AML 06 17 20.3
comp=E,990nm,0.7s
BTCH AML AML 06 17 24.0
comp=N,852nm,0.6s
HAVZ Havza 4.12 306 *i* P **Pb 06 16 11.0 -0.9**
HAVZ *i* S **Sg 06 17 10.8 -0.5**
KARA Karaisali 4.26 252 *e*PN **Pn 06 16 06.4 +2.0**
WRDH Warideh 4.37 224 *e*P **Pn 06 16 05.1 -0.8**
SNR=45
WRDH Warideh 4.37 224 *e*P **Pn 06 16 05.1 -0.8**
WRDH *e*S **Sb 06 17 07.2 -1.9**
ARNB Al Arnab 4.37 231 *e*P **Pn 06 16 05.0 -1.0**
SNR=45
ARNB Al Arnab 4.37 231 *e*P **Pn 06 16 05.0 -1.0**
ARNB *e*S **Sb 06 17 06.6 -2.6**
ARNB AML AML 06 17 27.0
comp=E,266nm,0.7s
ARNB AML AML 06 17 45.5
comp=N,211nm,0.6s
KFRA Kufra 4.40 218 *e*P **Pn 06 16 06.2 -0.1**
SNR=45
KFRA Kufra 4.40 218 *e*P **Pn 06 16 06.2 -0.1**
KFRA AML AML 06 17 28.7
comp=N,2µm,0.7s
KFRA AML AML 06 17 41.3
comp=E,540nm,0.6s
CORM Corum 4.50 291 *e*PN **Pn 06 16 09.6 +1.9**
CORM Corum 4.50 291 *e*Pn **Pn 06 16 09.6 +1.9**
CDAG Cicekdag 4.56 283 *i* P **Pb 06 16 18.1 -1.3**
CDAG *i* S **Sg 06 17 23.5 -1.7**
ONI Oni 4.62 32 P **Pn 06 16 11.7 +2.3**
ONI S **Sg 06 17 26.5 -0.7**
IKRK Kirkuk 4.73 133 *e*PN **Pn 06 16 10.9 +0.1**
IKRK *e*SN **Sn 06 17 01.5 -4.6**
IAZR Azarshahr 4.73 101 *e*P **Pb 06 16 22.6 +0.3**
BIDA Albida 4.79 221 *e*P **Pn 06 16 11.5 -0.3**
SNR=45
BIDA Albida 4.79 221 *e*P **Pn 06 16 11.5 -0.3**
BIDA AML AML 06 17 38.9
comp=E,496nm,0.6s
BIDA AML AML 06 17 49.9
comp=N,765nm,0.6s
DUS Dusheti 4.85 45 P **Pn 06 16 14.6 +2.0**
DUS Dusheti 4.85 45 P **Pn 06 16 14.6 +2.0**
DGRG David-gareji 4.86 54 P **Pn 06 16 14.0 +1.3**
DGRG David-gareji 4.86 54 P **Pn 06 16 14.0 +1.3**
ROOS tl_alroos 5.08 208 *e*P **Pn 06 16 15.4 -0.4**
SNR=45
ROOS tl_alroos 5.08 208 *e*P **Pn 06 16 15.4 -0.4**
ROOS AML AML 06 17 57.0
comp=N,1.7nm,0.7s
ROOS AML AML 06 17 59.7
comp=E,2.5nm,0.6s
ROOS AML AML 06 18 01.6
comp=Z,1.8nm,0.6s
BRTR Keskin Array B 5.13 283 Pn **Pn 06 16 15.1 -1.4**
comp=Z,0.6nm,0.3s,baz=107,slow=14,SNR=16
HAWK Haweek 5.15 217 *e*P **Pn 06 16 16.3 -0.4**
SNR=45
HAWK Haweek 5.15 217 *e*P **Pn 06 16 16.3 -0.4**
HAWK AML AML 06 17 56.8
comp=E,203nm,0.7s
HAWK AML AML 06 18 00.7
comp=N,146nm,0.7s
KBZ Khabaz 5.42 22 Pn **Pn 06 16 23.3 +3.0**
comp=N,0.2nm,0.3s,baz=198,slow=18,SNR=5.2
KBZ LR LR 06 18 54.3
comp=N,537nm,20.7s,baz=211,slow=43
IBST Bostanabad 5.43 99 *e*P Pn 06 16 25.4 +4.7
IHRS Heris 5.44 92 *e*P **Pb 06 16 35.5 +1.0**
MARH Ras Al Marh 5.53 213 *e*P **Pn 06 16 21.5 -0.6**
SNR=45
MARH Ras Al Marh 5.53 213 *e*P **Pn 06 16 21.5 -0.6**
MARH AML AML 06 18 18.3
comp=N,297nm,0.7s
MARH AML AML 06 18 23.0
comp=E,182nm,0.7s
HWQ Hawqa 5.56 218 *e*P **Pn 06 16 22.0 -0.4**
HWQ Hawqa 5.56 218 *e*P **Pn 06 16 22.0 -0.4**
RTB Rutbah 5.68 178 *e*Pn Pn 06 16 29.6 +5.7
SNR=39
RTB *e*Sn **Sn 06 17 31.1 +1.5**
SNR=39
ANTO Ankara 5.80 284 *e*Pg **Pb 06 16 41.8 +1.3**
ANTO Ankara 5.80 284 *e*Pg **Pb 06 16 41.8 +1.3**
ISRB Sarab 6.00 96 *e*P Pn 06 16 32.2 +3.7
BHL Bhannes 6.01 218 *e*P **Pn 06 16 28.9 +0.4**
BHL Bhannes 6.01 218 *e*P **Pn 06 16 28.9 +0.4**
TOTH TOTAH 6.13 210 AML AML 06 18 23.9
comp=E,97nm,0.6s
TOTH AML AML 06 18 26.7
comp=N,89nm,0.6s
ZALF Zalf 6.21 202 AML AML 06 18 29.6
comp=N,102nm,0.7s
ZALF AML AML 06 18 30.1
comp=E,91nm,0.6s
BRBR Barbar 6.28 214 *e*P **Pn 06 16 33.2 +0.9**
SNR=45
BRBR Barbar 6.28 214 *e*P **Pn 06 16 33.2 +0.9**
BRBR AML AML 06 18 34.3
comp=N,92nm,0.7s
BRBR AML AML 06 18 46.6
comp=E,122nm,0.7s
IDHR Dehrash 6.43 127 *e*P **Pn 06 16 32.3 -2.1**
IDHR Dehrash 6.43 127 *e*P **Pn 06 16 32.3 -2.1**
BHD Baghdad 6.44 146 *e*PN **Pn 06 16 36.4 +2.1**
BHD *e*SN **Sn 06 17 44.7 -3.5**
BHD Baghdad 6.44 146 *e*Pn **Pn 06 16 36.4 +2.1**
SNR=39
BHD *e*Sn **Sn 06 17 44.7 -3.5**
SNR=39
SALA Sala 6.60 206 *e*P **Pn 06 16 36.8 +0.1**
SNR=45
SALA Sala 6.60 206 *e*P **Pn 06 16 36.8 +0.1**
SALA AML AML 06 18 45.6
comp=E,17nm,0.6s
SALA AML AML 06 18 45.8
comp=N,97nm,0.8s
ILIN Lien 6.67 123 *e*P **Pn 06 16 39.8 +2.1**
ILIN Lien 6.67 123 *e*P **Pn 06 16 39.8 +2.1**
IGHG Ghaleghazi 6.79 128 *e*P Pn 06 16 43.8 +4.5
MMAI Mount Meron Ar 6.86 215 Pn **Pn 06 16 39.9 -0.2**
comp=N,5.7nm,0.3s,baz=69,slow=15,SNR=12
MMAI LR LR 06 19 19.8
comp=N,305nm,21.2s,baz=20,slow=38
TCHB Talchebab 6.92 210 *e*P **Pn 06 16 38.8 -2.1**
SNR=45
TCHB Talchebab 6.92 210 *e*P **Pn 06 16 38.8 -2.1**
TCHB *e*S Sb 06 18 15.2 -7.2
TCHB AML AML 06 18 57.0
comp=N,165nm,0.7s
TCHB AML AML 06 19 04.5
comp=E,106nm,0.7s
ASF Jabal al Asfar 7.04 203 Pn **Pn 06 16 41.6 -1.1**
comp=E,0.6nm,0.3s,baz=16,slow=8.1,SNR=4.4
IKOM Komasi 7.48 125 *e*P Pb 06 16 59.4 -10
IKFM Kafar-mosalman 8.12 127 *e*P **Pg 06 17 36.2 +2.1**
NSR Nassriya 9.14 145 *e*PN Pn 06 17 15.7 +4.4
NSR *e*SN **Sn 06 18 49.7 -4.9**
NSR Nassriya 9.14 145 *e*Pn Pn 06 17 15.7 +4.4
SNR=39
NSR *e*Sn **Sn 06 18 49.7 -4.9**
SNR=39
MLR Muntele Rosu 12.51 307 LR LR 06 22 55.5
comp=E,61nm,21.4s,baz=136,slow=38
IDI Anoyia 12.65 259 LR LR 06 23 56.0
comp=E,259nm,18.3s,baz=78,slow=43
GEYT Alibeck 14.15 88 LR LR 06 25 59.9
comp=E,122nm,18.9s,baz=260,slow=46
AKASG Malin Array Be 14.25 331 Pn **Pn 06 18 20.2 -1.0**
comp=E,0.1nm,0.3s,baz=134,slow=14,SNR=4.1
OBN Obninsk 16.58 353 LR LR 06 27 05.4
comp=E,110nm,19.7s,baz=290,slow=44
AKTO Aktyubinsk 17.26 41 P **P 06 19 03.5 +1.4**
comp=E,0.1nm,0.3s,baz=248,slow=18,SNR=4.4
AKTO LR LR 06 27 30.2
comp=E,144nm,18.2s,baz=232,slow=43
ABKAR Akbulak array 17.68 47 P **Pn 06 19 01.0 -4.7**
VRAC Vranov 19.88 310 LR LR 06 27 21.2
comp=E,104nm,21.7s,baz=124,slow=38
GERES GERESS Array B 21.50 307 P **P 06 19 47.4 -1.1**
comp=E,0.4nm,0.6s,baz=106,slow=9.7,SNR=2.5
GERES LR LR 06 28 02.8
comp=E,118nm,19.3s,baz=92,slow=37
CLL Collm 22.78 312 *e*(sP) **sP 06 20 04.0 +0.2**
CLL *e* 06 20 10.0
CLL Lm MLR 06 28 00.0
comp=Z,200nm,19.5s
KKAR Karatay Array 23.31 69 *e*P **P 06 20 07.5 -0.2**
KKAR Karatay Array 23.31 69 *e*P **P 06 20 07.5 -0.2**
DAVOX Davos/Dischmat 23.52 300 LR LR 06 32 18.2
comp=Z,95nm,19.4s,baz=86,slow=44
FINES FINESS Array B 24.36 344 P **P 06 20 17.8 +0.2**
comp=Z,2.0nm,0.8s,baz=147,slow=18,SNR=4.1
KEST Kesra 24.63 273 P **P 06 20 20.6 +0.2**
comp=Z,2.2nm,1.0s,baz=279,slow=3.8,SNR=4.2
KEST LR LR 06 31 39.7
comp=Z,55nm,19.7s,baz=295,slow=41
BVAR Borovoye Array 25.23 46 P **P 06 20 26.7 +1.1**
comp=Z,0.3nm,0.6s,baz=227,slow=5.7,SNR=2.8
AAK Ala-Archa 26.25 70 P **P 06 20 38.8 +3.7**
comp=Z,0.5nm,0.4s,baz=183,slow=17,SNR=2.6
HFS Hagfors 27.14 331 LR LR 06 32 25.2
comp=Z,294nm,19.8s,baz=136,slow=39
MKAR Makanchi Array 31.68 61 P **P 06 21 24.1 +0.9**
comp=Z,0.4nm,0.6s,baz=275,slow=6.8,SNR=5.5
TAM Tamanrasset 33.47 252 P **P 06 21 40.8 +1.6**
comp=Z,2.0nm,0.8s
TAM Tamanrasset 33.47 252 P **P 06 21 40.8 +1.6**
comp=Z,2.1nm,0.8s
ZALV Zalesovo Beam 33.78 48 P **P 06 21 43.6 +2.2**
comp=Z,0.3nm,0.3s,baz=242,slow=3.1,SNR=2.8
TORD Torodi Ar. Bea 42.46 244 P **P 06 22 56.1 +1.2**
comp=Z,1.1nm,0.9s,baz=36,slow=7.3,SNR=4.0
CMAR Chiang Mai Arr 54.52 94 LR LR 06 50 29.9
comp=Z,31nm,19.8s,baz=60,slow=39
YKA Yellowknife Ar 77.10 348 P **P 06 26 54.8 +2.0**
comp=Z,0.6nm,0.9s,baz=22,slow=6.0,SNR=9.7

*ISCJB **09** 06:18:26.1±1.2,31°.7S±0°.2×66°.3W±0°.1,h132km,mb3.7/4, Error ellipse: s-maj=30.1km s-min=11.5km az=169.3*
*IDC **09** 06:18:26.9±2.2,31°.60S×66°.32W,h127km±20km,mb3.6/4, mb1 3.7/5,mb1mx3.5/23,mbtmp4.0/5,Error ellipse: s-maj=44.4km s-min=26.5km az=157.0*
ISC 09 06:18:27.5±1.1,31°.6S±0°.2×66°.4W±0°.1,h132km,n8, σ1§09/10,mb3.6/4,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**1.60**	**269**			**P**	**Pn**	**06 18 57.4**	**+0.4**
CFAA						S	**Sn**	**06 19 18.6**	**-0.9**
LPAZ	**La Paz**	**15.31**	**354**			**P**	**Pn**	**06 21 57.4**	**+0.1**
BDFB	**Brasilia**	**23.06**	**51**			**P**	**P**	**06 23 20.1**	**-1.5**
DBIC	**Dimbokro**	**69.86**	**68**			**P**	**P**	**06 29 24.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**78.88**	**67**			**P**	**P**	**06 30 16.8**	**+0.3**
PDAR	**Pinedale Array**	**83.94**	**330**			**P**	**P**	**06 30 43.2**	**+0.4**
WRA	**Warramunga Arr**	**125.06**	**204**		PKP		**PKPdf**	**06 37 11.7**	**-1.1**
MKAR	**Makanchi Array**	**151.58**	**49**		PKPbc		**PKPbc**	**06 38 06.2**	**+0.3**
MKAR					pPKPbc		**pPKPbc**	**06 38 43.0**	**+1.9**

*IDC **09** 06:24:40.6±1.2,58°.59S×25°.53W,h0km,mb3.7/2, mb1 3.8/3,mb1mx3.5/21,mbtmp3.7/3,ML3.6/1,MS3.5/1, Ms1 3.5/1,ms1mx2.9/22,Error ellipse: s-maj=53.1km s-min=37.0km az=39.0*
*ISCJB **09** 06:24:43.6±1.1,58°.7S±0°.2×25°.7W±0°.6,h38km,mb3.7/2, MS3.5/1,Error ellipse: s-maj=49.4km s-min=16.3km az=155.0*
ISC 09 06:24:45.5±1.0,58°.8S±0°.2×25°.5W±0°.3,h38km,n9,σ1§62/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**14.08**	**159**			**P**	**Pn**	**06 28 03.1**	**+1.1**
SNAA	**Sanae**	**15.85**	**153**			**P**	**P**	**06 28 26.9**	**-1.9**
SNAA	**Sanae**	**15.85**	**153**			Pn	**P**	**06 28 27.0**	**-1.8**
2.0nm,0.3s,baz=321,slow=16,SNR=18									
TSUM	**Tsumeb**	**50.34**	**57**			LR	LR	06 52 10.8	
comp=Z,47nm,18.6s,baz=346,slow=33									
LPAZ	**La Paz**	**52.71**	**305**			P	**P**	**06 33 55.8**	**-1.0**
0.4nm,0.4s,baz=153,slow=2.3,SNR=3.6									
TORD	**Torodi Ar. Bea**	**75.06**	**27**			P	**P**	**06 36 22.8**	**-0.2**
0.4nm,0.5s,baz=199,slow=6.8,SNR=8.4									
YKA	**Yellowknife Ar**	**138.80**	**315**		PKP		**PKPdf**	**06 44 06.7**	**+1.0**
0.2nm,0.6s,baz=134,slow=2.7,SNR=5.6									
SONM	**Songino Array**	**149.91**	**90**		PKPbc		**PKPbc**	**06 44 30.8**	**+0.2**
0.1nm,0.5s,baz=259,slow=2.9,SNR=3.5									
ILAR	**Eielson Array**	**152.57**	**307**		PKPbc		**PKPbc**	**06 44 37.9**	**+1.8**
0.7nm,0.6s,baz=149,slow=4.3,SNR=17									

*ISCJB **09** 06:34:28.9±0.6,37°.04S±0°.06×72°.7W±0°.1,h35km, mb4.2/13,MS3.4/2,Error ellipse: s-maj=13.0km s-min=8.6km az=12.8*
*NEIC **09** 06:34:30.4±0.5,37°.06S×72°.75W,h35km,mb4.5/3,Error ellipse: s-maj=12.2km s-min=8.6km az=84.0*
*IDC **09** 06:34:31.9±0.8,37°.07S×72°.58W,h47km±7km,mb3.9/11, mb1 4.0/14,mb1mx3.8/36,mbtmp4.1/14,MS3.1/4, Ms1 3.2/4,ms1mx2.9/21,Error ellipse: s-maj=22.0km s-min=13.3km az=101.0*
ISC 09 06:34:30.9±0.6,37°.05S±0°.08×72°.7W±0°.1,h35km,n24, σ1§26/29,mb4.3/13,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.03**	**156**			**P**	**Pn**	**06 35 32.0**	**+1.9**
1.7nm,0.3s,baz=330,slow=12,SNR=33									
PLCA						Lg	Lg	06 36 31.2	
7.8nm,0.3s,baz=288,slow=7.5,SNR=3.3									
CFAA	**Coronel Fontan**	**6.55**	**35**			P	**Pn**	**06 36 05.5**	**+0.7**
0.7nm,0.3s,baz=206,slow=12,SNR=29									
CFAA						S	**Sn**	**06 37 19.3**	**+0.9**
0.4nm,0.3s,baz=111,slow=14,SNR=2.9									
CFAA						LR	LR	06 38 50.9	
comp=Z,18nm,19.2s,baz=231,slow=40									
LCO	**Las Campanas**	**8.19**	**12**			*e*Pn	**Pn**	**06 36 27.8**	**+0.3**
29nm,0.6s									
TRQA	**Tornquist**	**8.55**	**100**			*e*Pn	**Pn**	**06 36 33.2**	**+1.1**
44nm,1.1s									
CPUP	**Villa Florida**	**16.85**	**55**			P	**Pn**	**06 38 24.9**	**+0.9**
0.4nm,0.3s,baz=213,slow=8.4,SNR=4.1									
CPUP						LR	LR	06 45 32.3	
comp=Z,112nm,19.3s,baz=183,slow=39									
CPUP	**Villa Florida**	**16.85**	**55**			*e*Pn	**Pn**	**06 38 23.9**	**-0.1**
LPAZ	**La Paz**	**21.07**	**12**			P	**P**	**06 39 14.3**	**+1.5**
7.1nm,0.8s,baz=175,slow=11,SNR=12									
LPAZ	**La Paz**	**21.07**	**12**			*e*P	**P**	**06 39 14.0**	**+1.2**
8.1nm,0.8s									
SIV	**San Ignacio**	**23.36**	**29**			P	**P**	**06 39 35.7**	**-0.7**
4.3nm,0.7s,baz=231,slow=12,SNR=12									
SIV						LR	LR	06 50 55.4	
comp=Z,78nm,19.2s,baz=191,slow=42									
BDFB	**Brasilia**	**30.54**	**52**			P	**P**	**06 40 41.0**	**-0.3**
1.8nm,0.6s,baz=231,slow=8.8,SNR=5.4									
BDFB						LR	LR	06 53 42.9	
comp=Z,137nm,18.4s,baz=226,slow=38									
QSPA	**South Pole Qui**	**53.19**	**180**			P	**P**	**06 43 45.0**	**-0.3**
2.6nm,0.8s,baz=320,slow=2.3,SNR=14									
QSPA						pP	**pP**	**06 43 58.3**	**+2.5**
3.8nm,1.0s,baz=151,slow=4.0,SNR=5.0									
TXAR	**Lajitas Array**	**72.16**	**332**			P	**P**	**06 45 52.3**	**+0.3**
0.2nm,0.4s,baz=159,slow=3.9,SNR=3.6									
TXAR						pP	**pP**	**06 46 05.5**	**+2.6**
0.8nm,0.7s,baz=152,slow=8.2,SNR=5.2									
SWET	**Sewanee**	**72.95**	**349**			*e*P	**P**	**06 45 56.4**	**-0.1**
3.5nm,0.7s									
DBIC	**Dimbokro**	**76.65**	**71**			P	**P**	**06 46 17.8**	**-0.6**
3.8nm,0.5s,baz=189,slow=4.7,SNR=12									
LENM	**Lemitar**	**77.73**	**331**			*e*P	**P**	**06 46 23.1**	**-1.1**
12nm,0.9s									
BOSA	**Boshof**	**79.11**	**118**			P	**P**	**06 46 31.2**	**-0.9**
3.1nm,0.8s,baz=198,slow=6.1,SNR=4.9									
LBTB	**Lobatse**	**81.49**	**115**			P	**P**	**06 46 43.2**	**-1.7**
6.2nm,0.7s,baz=254,slow=4.4,SNR=8.9									
TORD	**Torodi Ar. Bea**	**85.73**	**70**			P	**P**	**06 47 04.7**	**-1.9**
1.7nm,0.9s,baz=219,slow=4.4,SNR=7.0									
PDAR	**Pinedale Array**	**86.26**	**334**			P	**P**	**06 47 08.4**	**-0.4**
0.3nm,0.9s,baz=191,slow=2.8,SNR=2.7									
PDAR						pP	**pP**	**06 47 21.8**	**+1.8**
1.0nm,1.1s,baz=180,slow=4.4,SNR=4.3									
ULM	**Lac du Bonnet**	**89.31**	**345**			P	**P**	**06 47 21.9**	**-1.1**
1.1nm,0.7s,baz=104,slow=0.1,SNR=3.6									
KAPI	**Kappang**	**136.57**	**198**		*e*PKPdf		**PKPdf**	**06 53 48.6**	**-1.2**
ZALV	**Zalesovo Beam**	**157.04**	**35**		PKPab		**PKPab**	**06 54 52.1**	**-0.5**
0.5nm,0.5s,baz=339,slow=6.5,SNR=3.8									
MKAR	**Makanchi Array**	**159.06**	**54**		PKP		**PKPdf**	**06 54 24.4**	**-0.4**
0.5nm,0.8s,baz=45,slow=1.9,SNR=5.1									
MKAR					PKPab		**PKPab**	**06 55 00.9**	**-0.7**
1.3nm,0.8s,baz=283,slow=3.8,SNR=13									
SONM	**Songino Array**	**169.20**	**3**		PKPab		**PKPab**	**06 55 46.0**	**-0.1**
0.3nm,0.7s,baz=349,slow=1.5,SNR=4.2									

*AWI **09** 06:38:23.1,58°.17S×24°.34W*
*IDC **09** 06:38:24.0±1.9,58°.70S×25°.23W,h0km,mb4.0/2, mb1 4.1/2,mb1mx3.5/30,mbtmp4.0/2,Error ellipse: s-maj=76.3km s-min=44.2km az=3.0*
ISC 09 06:38:24.0±1.0,59°.1S±0°.2×25°.3W±0°.3,h10km,n9,σ1§49/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.57**	**155**			P	**P**	**06 41 44.3**	**-1.1**
VNA3	**Neumayer Olymp**	**13.76**	**159**			P	**P**	**06 41 47.3**	**-0.2**
VNA2	**Neumayer--Watz**	**13.97**	**155**			P	**P**	**06 41 48.8**	**-1.1**
SNAA	**Sanae**	**15.53**	**153**			P	**P**	**06 42 09.7**	**+2.5**
LPAZ	**La Paz**	**52.98**	**305**			P	**P**	**06 47 41.0**	**-0.4**
0.7nm,0.3s,baz=134,slow=12,SNR=3.1									
TORD	**Torodi Ar. Bea**	**75.27**	**27**			P	**P**	**06 50 06.3**	**-0.6**
0.8nm,0.5s,baz=201,slow=6.5,SNR=11									
YKA	**Yellowknife Ar**	**139.10**	**315**		PKP		**PKPdf**	**06 57 48.8**	**-0.5**
0.5nm,0.6s,baz=134,slow=2.4,SNR=9.4									
SONM	**Songino Array**	**149.78**	**90**		PKPbc		**PKPbc**	**06 58 14.0**	**+0.7**
0.3nm,0.5s,baz=232,slow=3.3,SNR=4.0									
ILAR	**Eielson Array**	**152.85**	**307**		PKPbc		**PKPbc**	**06 58 21.5**	**+1.9**
1.4nm,0.7s,baz=146,slow=5.0,SNR=22									

IDC 09 06:48:08.8±1.4,36°.51S×73°.19W,h0km,mb3.5/3, mb1 3.8/5,mb1mx3.7/22,mbtmp3.4/5,ML3.2/2,MS3.3/1, Ms1 3.3/1,ms1mx2.8/14,Error ellipse: s-maj=47.1km s-min=20.5km az=71.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.69**	**155**			Pn	Pn	06 49 21.9	+0.9
0.3nm,0.3s,baz=331,slow=9.8,SNR=2.9									
PLCA						Lg	Lg	06 50 36.8	
4.0nm,0.3s,baz=305,slow=10,SNR=5.6									
CFAA	**Coronel Fontan**	**6.39**	**41**			Pn	Pn	06 49 44.1	-0.1
0.4nm,0.3s,baz=209,slow=11,SNR=29									
CFAA						LR	LR	06 52 17.5	
comp=Z,26nm,21.6s,baz=226,slow=39									
CPUP	**Villa Florida**	**16.90**	**58**			LR	LR	06 59 49.5	
comp=Z,109nm,21.0s,baz=194,slow=42									
LPAZ	**La Paz**	**20.64**	**14**			P	P	06 52 50.6	-0.1
0.7nm,0.7s,baz=204,slow=10.0,SNR=4.1									
MAW	**Mawson**	**71.04**	**164**			LR	LR	07 29 42.9	
comp=Z,214nm,18.4s,baz=228,slow=35									
TXAR	**Lajitas Array**	**71.48**	**332**			P	P	06 59 30.2	-1.1
0.7nm,0.7s,baz=147,slow=7.4,SNR=4.9									
PDAR	**Pinedale Array**	**85.59**	**334**			P	P	07 00 50.0	+1.0
0.3nm,0.7s,baz=152,slow=8.1,SNR=2.2									

*ISCJB **09** 07:05:21.0±0.4,34°.59S±0°.03×71°.87W±0°.06,h10km, mb4.5/18,Error ellipse: s-maj=7.5km s-min=4.5km az=11.5*
*IDC **09** 07:05:21.4±0.8,34°.48S×71°.84W,h0km,mb4.3/9, mb1 4.4/13,mb1mx4.2/26,mbtmp4.2/13,ML4.4/4,MS3.1/3, Ms1 3.1/3,ms1mx2.9/23,Error ellipse: s-maj=26.2km s-min=19.2km az=95.0*
*GUC **09** 07:05:22.6±0.7,34°.63S×71°.81W,h27km±6km,ML4.7*
*NEIC **09** 07:05:23.1±3.2,34°.53S×71°.82W,h12km±19km,mb4.7/12, Error ellipse: s-maj=12.3km s-min=7.4km az=79.0*
ISC 09 07:05:21.6±2.0,34°.57S±0°.04×71°.83W±0°.07,h4km±12km, n54,σ1§20/61,mb4.6/18,5C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.66**	**131**	⇑	*iP*		**Pg**	**07 05 34.1**	**0.0**
NICH					*i* S1		**Sg**	**07 05 42.5**	**-0.2**
CACH	**El Canelo**	**1.12**	**66**	⇓	*iP*		**Pb**	**07 05 42.8**	**-0.7**
CACH					*i* S1		**Sn**	**07 05 58.4**	**-1.6**
CHCH	**Chadas Angostu**	**1.17**	**57**	⇑	*iP*		**Pb**	**07 05 43.5**	**-0.8**
LNCH	**Linares**	**1.29**	**172**	⇓	*iP*		**Pn**	**07 05 44.6**	**-1.7**
LNCH					*i* S		**Sb**	**07 06 01.4**	**-1.8**
RCDM	**Rinconada Maip**	**1.38**	**39**	⇓	*iP*		**Pn**	**07 05 46.7**	**-0.9**
RCDM					*i* S1		**Sn**	**07 06 05.0**	**-1.2**
ANTU	**Antumapu**	**1.41**	**45**	⇓	*iP*		**Pn**	**07 05 47.4**	**-0.6**
ANTU					*i* S1		**Sn**	**07 06 06.1**	**-1.0**
ANTU					AML		AML	07 06 08.8	
comp=N,10µm,0.4s									
STL	**Santa Lucia**	**1.50**	**41**	⇑	*iP*		**Pn**	**07 05 48.1**	**-1.2**
STL					*i* S1		**Sn**	**07 06 07.6**	**-1.8**
IHA	**Instituto Hidr**	**1.55**	**6**		*i* P4		**Pn**	**07 05 48.5**	**-1.4**
IHA					*i* S1		**Sn**	**07 06 10.3**	**-0.1**
LACH	**Col Las Americ**	**1.56**	**44**	⇓	*iP*		**Pn**	**07 05 49.5**	**-0.6**
LACH					*i* S1		**Sn**	**07 06 10.2**	**-0.5**
CLCH	**Cerro Calan**	**1.59**	**43**	⇓	*iP*		**Pn**	**07 05 50.5**	**0.0**
CLCH					*i* S1		**Sn**	**07 06 11.6**	**0.0**
CLCH					AML		AML	07 06 17.4	
comp=N,17µm,0.6s									
CLCH					AML		AML	07 06 18.0	
comp=N,21µm,0.6s									
PEL	**Peldehue**	**1.71**	**34**	⇑	*iP*		**Pn**	**07 05 52.5**	**+0.2**
PEL					*i* S		**Sb**	**07 06 15.4**	**-0.1**
PEL					AML		AML	07 06 23.4	
comp=E,13µm,0.5s									
COCH	**Cobquecura**	**1

LCO					eSg		Sb	07 08 15.4 +7.0
PLCA	**Paso Flores**		**6.23**	**171**	Pn		**Pn**	**07 06 56.1 +1.7**
	comp=E,4.4nm,0.3s,baz=336,slow=12,SNR=27							
PLCA					Lg		Lg	07 08 32.5
	comp=E,1.4nm,0.3s,baz=276,slow=12,SNR=3.0							
PLCA					LR		LR	07 09 11.2
	comp=E,316nm,19.0s,baz=280,slow=36							
PLCA	**Paso Flores**		**6.23**	**171**	ePn		**Pn**	**07 06 55.6 +1.2**
	comp=E,1.5nm,0.4s							
PLCA					eS		**Sb**	**07 08 30.3 +4.7**
PLCA					Lg		Lg	07 08 32.5
TRQA	**Tornquist**		**8.68**	**116**	ePn		**Pn**	**07 07 27.7 -0.2**
	comp=E,9.5nm,0.6s							
LVC	**Limon Verde**		**12.19**	**13**	ePn		**Pn**	**07 08 14.1 -2.2**
CPUP	**Villa Florida**		**14.95**	**61**	Pn		**Pn**	**07 08 54.9 +1.2**
	comp=E,0.6nm,0.3s,baz=229,slow=11,SNR=3.9							
CPUP					LR		LR	07 14 37.2
	comp=E,110nm,19.3s,baz=217,slow=37							
LPAZ	**La Paz**		**18.51**	**11**	P		**Pn**	**07 09 40.2 +0.7**
	comp=E,0.4nm,0.3s,baz=187,slow=7.3,SNR=18							
LPAZ	**La Paz**		**18.51**	**11**	eP		**Pn**	**07 09 40.4 +0.8**
	comp=E,6.0nm,0.8s							
SIV	**San Ignacio**		**20.88**	**30**	P		**P**	**07 10 04.5 -0.3**
	comp=E,7.2nm,0.8s,baz=231,slow=13,SNR=13							
BDFB	**Brasilia**		**28.52**	**55**	P		**P**	**07 11 19.1 +0.7**
	comp=E,5.7nm,1.0s,baz=201,slow=8.3,SNR=3.7							
QSPA	**South Pole Qui**		**55.67**	**180**	P		**P**	**07 15 00.7 +2.1**
	comp=E,3.1nm,0.8s,baz=155,slow=1.7,SNR=10							
QSPA	**South Pole Qui**		**55.67**	**180**	eP		**P**	**07 14 59.7 +1.1**
	comp=E,25nm,1.8s							
JCT	**Junction City**		**69.87**	**334**	eP		**P**	**07 16 32.7 -0.9**
	comp=E,3.7nm,0.8s							
TXAR	**Lajitas Array**		**70.31**	**331**	P		**P**	**07 16 37.4 +1.0**
	comp=E,1.4nm,0.5s,baz=158,slow=8.5,SNR=12							
SWET	**Sewanee**		**70.67**	**348**	eP		**P**	**07 16 38.3 0.0**
	comp=E,2.1nm,0.4s							
WVT	**Waverly**		**71.91**	**346**	eP		**P**	**07 16 45.3 -0.4**
	comp=E,11nm,0.7s							
TUL1	**Leonard**		**73.60**	**340**	eP		**P**	**07 16 55.5 -0.3**
	comp=E,3.8nm,0.6s							
DBIC	**Dimbokro**		**75.20**	**71**	P		**P**	**07 17 04.9 -0.7**
	comp=E,7.1nm,1.0s,baz=182,slow=7.5,SNR=3.8							
ANMO	**Albuquerque**		**76.36**	**331**	eP		**P**	**07 17 13.1 +1.1**
	comp=E,2.3nm,0.9s							
SDCO	**Great Sand Dun**		**78.46**	**333**	eP		**P**	**07 17 24.8 +1.0**
	comp=E,1.3nm,0.9s							
BOSA	**Boshof**		**79.66**	**118**	P		**P**	**07 17 30.8 +0.2**
	comp=E,2.4nm,0.7s,baz=271,slow=3.9,SNR=3.9							
PV10	**Paradox Valley**		**80.37**	**331**	eP		**P**	**07 17 34.7 +0.5**
	comp=E,47nm,0.8s							
ECSD	**EROS Data Cent**		**81.14**	**342**	eP		**P**	**07 17 37.7 -0.2**
	comp=E,12nm,1.3s							
TORD	**Torodi Ar. Bea**		**84.25**	**70**	P		**P**	**07 17 54.5 -0.2**
	comp=E,2.5nm,0.7s,baz=260,slow=4.0,SNR=15							
PDAR	**Pinedale Array**		**84.35**	**333**	P		**P**	**07 17 54.1 -0.8**
	comp=E,0.8nm,0.8s,baz=158,slow=4.3,SNR=5.3							
HVU	**Hansel Valley**		**84.76**	**331**	eP		**P**	**07 17 57.4 +0.5**
	comp=E,7.1nm,1.2s							
RLMT	**Red Lodge**		**86.28**	**334**	eP		**P**	**07 18 04.7 +0.3**
	comp=E,12nm,1.7s							
ULM	**Lac du Bonnet**		**87.09**	**345**	P		**P**	**07 18 06.2 -1.9**
	comp=E,1.5nm,0.6s,baz=149,slow=8.3,SNR=4.6							
YKA	**Yellowknife Ar**		**102.65**	**341**	P		**Pdif**	**07 19 18.3 -0.6**
	comp=E,0.1nm,0.7s,baz=142,slow=3.9,SNR=3.8							
H11S2	**WAKE ISLAND Hyl**		**25.93**	**269**	T		T	09 42 52.1
	baz=118,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hyl**		**25.94**	**269**	T		T	09 42 53.1
	baz=118,slow=75,SNR=12							
H11S3	**WAKE ISLAND Hyl**		**25.95**	**269**	T		T	09 42 49.2
	baz=118,slow=75,SNR=9.2							
H11N3	**WAKE ISLAND Hyl**		**26.36**	**270**	T		T	09 43 17.4
	baz=122,slow=76,SNR=7.6							
H11N1	**WAKE ISLAND Hyl**		**26.37**	**270**	T		T	09 43 14.3
	baz=122,slow=76,SNR=14							
H11N2	**WAKE ISLAND Hyl**		**26.38**	**270**	T		T	09 43 20.1
	baz=122,slow=76,SNR=12							
BRVK	**Borovoye**		**147.51**	**44**	ePKPbc		**PKPbc**	**07 25 06.7 +0.3**
BVAR	**Borovoye Array**		**147.58**	**44**	PKPbc		**PKPbc**	**07 25 07.4 +0.8**
	comp=E,1.1nm,0.6s,baz=281,slow=3.8,SNR=7.3							
AAK	**Ala-Archa**		**152.62**	**63**	PKPab		**PKPab**	**07 25 30.3 +0.3**
	comp=E,1.3nm,0.6s,baz=247,slow=7.7,SNR=4.8							
ZALV	**Zalesovo Beam**		**154.61**	**33**	PKPab		**PKPab**	**07 25 37.2 -0.6**
	comp=E,0.9nm,0.6s,baz=250,slow=4.3,SNR=3.6							
MKAR	**Makanchi Array**		**157.00**	**50**	PKPab		**PKPab**	**07 25 47.5 -0.8**
	comp=E,0.6nm,0.8s,baz=305,slow=4.3,SNR=7.0							

*ATH **09** 07:09:39.2, 35°.43N×25°.50E, h37km±2km, MD3.5/22*
*ISCJB **09** 07:09:40.1±0.4, 35°.48N±0°.03×25°.50E±0°.02, h29km±4km, mb4.2/5, Error ellipse: s-maj=5.4km s-min=3.1km az=13.9*
*IDC **09** 07:09:40.9±1.4, 35°.84N×25°.89E, h0km, mb3.9/4, mb1 3.7/5, mb1mx3.4/46, mbtmp3.7/5, ML2.2/1, Error ellipse: s-maj=47.5km s-min=23.0km az=147.0*
*CSEM **09** 07:09:40.6±0.2, 35°.45N×25°.52E, h20km, MD3.5, Error ellipse: s-maj=5.3km s-min=3.4km az=25.0*
*THE **09** 07:09:41.2, 35°.43N×25°.49E, h21km±1km, ML3.4/3, Error ellipse: s-maj=2.1km s-min=0.6km az=181.0*
ISC 09 07:09:40.7±0.8, 35°.42N±0°.03×25°.52E±0°.02, h28km±6km, n89, σ1s03/137, mb3.7/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.18**	**154**	P		**Pb**	**07 09 46.4**	**0.0**
NPS				S		**Sb**	**07 09 50.0**	**-0.3**
NPS	**Neapolis**	**0.18**	**154**	ePB		**Pb**	**07 09 46.5**	**0.0**
NPS				eSB		**Sb**	**07 09 50.3**	**0.0**
NPS	**Neapolis**	**0.18**	**154**	P		**Pb**	**07 09 46.4**	**0.0**
NPS				S		**Sb**	**07 09 50.0**	**-0.3**
LAST	**Lasithi**	**0.26**	**187**	P		**Pb**	**07 09 47.4**	**-0.1**
LAST				S		**Sb**	**07 09 52.0**	**-0.1**
LAST	**Lasithi**	**0.26**	**187**	ePB		**Pb**	**07 09 47.4**	**-0.1**
LAST				eSB		**Sb**	**07 09 52.1**	**-0.1**
LAST	**Lasithi**	**0.26**	**187**	P		**Pb**	**07 09 47.4**	**-0.1**
LAST				S		**Sb**	**07 09 52.0**	**-0.1**
ZKR	**Zakros**	**0.65**	**118**	P		**Pn**	**07 09 54.2**	**+0.1**
ZKR				S		**Sn**	**07 10 03.9**	**+0.4**
ZKR	**Zakros**	**0.65**	**118**	ePN		**Pn**	**07 09 54.6**	**+0.5**
ZKR				eSN		**Sn**	**07 10 03.0**	**-0.5**
ZKR	**Zakros**	**0.65**	**118**	P		**Pn**	**07 09 54.2**	**+0.1**
ZKR	**Zakros**	**0.65**	**118**	ePn		**Pn**	**07 09 54.6**	**+0.5**
ZKR				eSn		**Sn**	**07 10 03.0**	**-0.5**
SIVA	**Sivas**	**0.71**	**235**	P		**Pn**	**07 09 54.9**	**+0.1**
SIVA				S		**Sn**	**07 10 04.1**	**-0.7**
SIVA	**Sivas**	**0.71**	**235**	ePN		**Pn**	**07 09 54.9**	**+0.1**
SIVA				eSN		**Sb**	**07 10 03.9**	**+0.1**
SIVA	**Sivas**	**0.71**	**235**	P		**Pn**	**07 09 54.9**	**+0.1**
SIVA				S		**Sn**	**07 10 04.1**	**-0.7**
THR2	**Thira island,**	**1.02**	**356**	P		**Pn**	**07 09 59.0**	**-0.2**
THR2	**Thira island,**	**1.02**	**356**	P		**Pn**	**07 09 59.0**	**-0.2**
VAM	**Vamos**	**1.08**	**270**	ePB		**Pn**	**07 09 58.4**	**-1.5**
VAM	**Vamos**	**1.08**	**270**	ePb		**Pn**	**07 09 58.4**	**-1.5**
KARP	**Karpathos**	**1.35**	**84**	P		**Pn**	**07 10 04.1**	**+0.4**
KARP				S		**Sb**	**07 10 21.3**	**-0.8**
KARP	**Karpathos**	**1.35**	**84**	ePN		**Pn**	**07 10 03.8**	**+0.1**
KARP				eSN		**Sn**	**07 10 20.7**	**0.0**
KARP	**Karpathos**	**1.35**	**84**	ePn		**Pn**	**07 10 03.8**	**+0.1**
KARP	**Karpathos**	**1.35**	**84**	P		**Pn**	**07 10 04.1**	**+0.4**
KARP				eSn		**Sn**	**07 10 20.7**	**0.0**
KARP				S		**Sb**	**07 10 21.3**	**-0.8**
APE	**Apeiranthos**	**1.64**	**0**	ePB		**Pn**	**07 10 07.5**	**-0.3**
APE				eSN		**Sn**	**07 10 28.0**	**-0.1**
APE	**Apeiranthos**	**1.64**	**0**	ePb		**Pn**	**07 10 07.5**	**-0.3**
APE				eSn		**Sn**	**07 10 28.0**	**-0.1**
ANKY	**Antikythira Is**	**1.86**	**284**	P		**Pn**	**07 10 10.5**	**-0.2**
ANKY				S		**Sn**	**07 10 32.5**	**-0.8**
ANKY	**Antikythira Is**	**1.86**	**284**	ePN		**Pn**	**07 10 10.4**	**-0.2**
ANKY				eSN		**Sn**	**07 10 32.2**	**-1.1**
ANKY	**Antikythira Is**	**1.86**	**284**	P		**Pn**	**07 10 10.5**	**-0.2**
ANKY				eSn		**Sn**	**07 10 32.2**	**-1.1**
KYTH	**Kithira**	**2.19**	**294**	P		**Pn**	**07 10 15.2**	**-0.1**
KYTH	**Kithira**	**2.19**	**294**	ePN		**Pn**	**07 10 14.6**	**-0.7**
KYTH	**Kithira**	**2.19**	**294**	ePn		**Pn**	**07 10 14.6**	**-0.7**
KYTH	**Kithira**	**2.19**	**294**	P		**Pn**	**07 10 15.2**	**-0.1**
ARG	**Arkhangelos**	**2.26**	**69**	ePN		**Pn**	**07 10 15.7**	**-0.6**
ARG				eSN		**Sn**	**07 10 42.5**	**-0.8**
ARG	**Arkhangelos**	**2.26**	**69**	ePn		**Pn**	**07 10 15.7**	**-0.6**
ARG				eSn		**Sn**	**07 10 42.5**	**-0.8**
VLI	**Veliai**	**2.46**	**302**	P		**Pn**	**07 10 19.0**	**0.0**
VLI				S		**Sn**	**07 10 47.6**	**-0.5**
VLI	**Veliai**	**2.46**	**302**	ePN		**Pn**	**07 10 18.8**	**-0.2**
VLI				eSN		**Sn**	**07 10 46.1**	**-2.0**
VLI	**Veliai**	**2.46**	**302**	P		**Pn**	**07 10 19.0**	**0.0**
VLI				eSn		**Sn**	**07 10 46.1**	**-2.0**
VLI				S		**Sn**	**07 10 47.6**	**-0.5**
SMG	**Samos**	**2.52**	**25**	ePN		**Pn**	**07 10 19.5**	**-0.3**
SMG				eSN		**Sn**	**07 10 48.2**	**-1.4**
SMG	**Samos**	**2.52**	**25**	ePn		**Pn**	**07 10 19.5**	**-0.3**
SMG				eSn		**Sn**	**07 10 48.2**	**-1.4**
DID	**Didima**	**2.77**	**319**	ePN		**Pn**	**07 10 24.5**	**+1.1**
DID				eSN		**Sn**	**07 10 55.7**	**-0.3**
DID	**Didima**	**2.77**	**319**	ePn		**Pn**	**07 10 24.5**	**+1.1**
DID				eSn		**Sn**	**07 10 55.7**	**-0.3**
NAIG	**Nisos Aigina**	**2.85**	**326**	ePB		**Pn**	**07 10 25.9**	**+1.6**
NAIG	**Nisos Aigina**	**2.85**	**326**	ePb		**Pn**	**07 10 25.9**	**+1.6**
VLX	**Vlachokerasia**	**3.19**	**308**	ePN		**Pn**	**07 10 29.8**	**+0.7**
VLX				eSN		**Sn**	**07 11 04.9**	**-1.4**
VLX	**Vlachokerasia**	**3.19**	**308**	ePn		**Pn**	**07 10 29.8**	**+0.7**
VLX				eSn		**Sn**	**07 11 04.9**	**-1.4**
LTK	**Loutraki**	**3.31**	**322**	ePN		**Pn**	**07 10 31.6**	**+1.0**
LTK				eSN		**Sn**	**07 11 07.3**	**-1.7**
LTK	**Loutraki**	**3.31**	**322**	ePn		**Pn**	**07 10 31.6**	**+1.0**
LTK				eSn		**Sn**	**07 11 07.3**	**-1.7**
ITM	**Ithomi**	**3.39**	**302**	ePN		**Pn**	**07 10 33.7**	**+1.9**
ITM				eSN		**Sn**	**07 11 10.4**	**-0.7**
ITM	**Ithomi**	**3.39**	**302**	ePn		**Pn**	**07 10 33.7**	**+1.9**
ITM				eSn		**Sn**	**07 11 10.4**	**-0.7**
AKAS	**Kas**	**3.42**	**75**	*i* P		**Pn**	**07 10 30.7**	**-1.6**
AKAS				eS		**Sn**	**07 11 08.9**	**-3.1**
AKAS	**Kas**	**3.42**	**75**	*i* P		**Pn**	**07 10 30.7**	**-1.6**
AKAS				eS		**Sn**	**07 11 08.9**	**-3.1**
GUR	**Goura**	**3.58**	**315**	ePN		**Pn**	**07 10 35.8**	**+1.3**
GUR				eSN		**Sn**	**07 11 14.6**	**-1.3**
GUR	**Goura**	**3.58**	**315**	ePn		**Pn**	**07 10 35.8**	**+1.3**
GUR				eSn		**Sn**	**07 11 14.6**	**-1.3**
MRKA	**Markates**	**3.62**	**335**	ePN		**Pn**	**07 10 34.9**	**-0.1**
MRKA	**Markates**	**3.62**	**335**	ePn		**Pn**	**07 10 34.9**	**-0.1**
GOLH	**Golhisar**	**3.73**	**60**	*i* P		Pn	07 10 39.4	+2.8
GOLH				*i* S		**Sn**	**07 11 20.9**	**+1.2**
GOLH	**Golhisar**	**3.73**	**60**	*i* P		Pn	07 10 39.4	+2.8
GOLH				*i* S		**Sn**	**07 11 20.9**	**+1.2**
KLV	**Kalavryta, Ach**	**3.76**	**315**	ePN		**Pn**	**07 10 38.2**	**+1.3**
KLV				eSN		**Sn**	**07 11 19.4**	**-1.0**
KLV	**Kalavryta, Ach**	**3.76**	**315**	ePn		**Pn**	**07 10 38.2**	**+1.3**
KLV				eSn		**Sn**	**07 11 19.4**	**-1.0**
LKR	**Lokris**	**3.80**	**329**	ePN		**Pn**	**07 10 38.2**	**+0.8**
LKR	**Lokris**	**3.80**	**329**	ePn		**Pn**	**07 10 38.2**	**+0.8**
DSF	**Desfina**	**3.83**	**322**	ePN		**Pn**	**07 10 38.8**	**+1.0**
DSF				eSN		**Sn**	**07 11 21.2**	**-0.7**
DSF	**Desfina**	**3.83**	**322**	ePn		**Pn**	**07 10 38.8**	**+1.0**
DSF				eSn		**Sn**	**07 11 21.2**	**-0.7**
DRO	**Drossia**	**3.97**	**311**	ePN		**Pn**	**07 10 40.6**	**+0.9**
DRO	**Drossia**	**3.97**	**311**	ePn		**Pn**	**07 10 40.6**	**+0.9**
LAKA	**Lakka**	**4.00**	**316**	ePN		**Pn**	**07 10 41.4**	**+1.3**
LAKA	**Lakka**	**4.00**	**316**	ePn		**Pn**	**07 10 41.4**	**+1.3**
KALE	**Kalithea**	**4.01**	**319**	ePN		**Pn**	**07 10 41.5**	**+1.1**
KALE				eSN		**Sn**	**07 11 25.4**	**-1.1**
KALE	**Kalithea**	**4.01**	**319**	ePn		**Pn**	**07 10 41.5**	**+1.1**
KALE				eSn		**Sn**	**07 11 25.4**	**-1.1**
AXAR	**Agios Charalam**	**4.04**	**326**	ePN		**Pn**	**07 10 42.1**	**+1.3**
AXAR				eSN		**Sn**	**07 11 26.0**	**-1.2**
AXAR	**Agios Charalam**	**4.04**	**326**	ePn		**Pn**	**07 10 42.1**	**+1.3**
AXAR				eSn		**Sn**	**07 11 26.0**	**-1.2**
EFP	**Efpalio**	**4.17**	**317**	ePN		**Pn**	**07 10 43.5**	**+1.1**
EFP	**Efpalio**	**4.17**	**317**	ePn		**Pn**	**07 10 43.5**	**+1.1**
RLS	**Riolos of Patr**	**4.18**	**310**	ePN		**Pn**	**07 10 44.0**	**+1.4**
RLS	**Riolos of Patr**	**4.18**	**310**	ePn		**Pn**	**07 10 44.0**	**+1.4**
AGG	**Agios Georgios**	**4.40**	**326**	ePN		**Pn**	**07 10 46.1**	**+0.4**
AGG	**Agios Georgios**	**4.40**	**326**	ePn		**Pn**	**07 10 46.1**	**+0.4**
MAKR	**Makrakomi, Fth**	**4.49**	**324**	ePN		**Pn**	**07 10 48.2**	**+1.3**
MAKR	**Makrakomi, Fth**	**4.49**	**324**	ePn		**Pn**	**07 10 48.2**	**+1.3**
PDO	**Prodromos**	**4.70**	**314**	ePN		**Pn**	**07 10 51.6**	**+1.9**
PDO	**Prodromos**	**4.70**	**314**	ePn		**Pn**	**07 10 51.6**	**+1.9**
VLS	**Valsamata**	**4.82**	**306**	ePN		**Pn**	**07 10 51.4**	**0.0**
VLS	**Valsamata**	**4.82**	**306**	ePn		**Pn**	**07 10 51.4**	**0.0**
THL	**Klokotos Trika**	**4.99**	**327**	ePN		**Pn**	**07 10 55.1**	**+1.4**
THL	**Klokotos Trika**	**4.99**	**327**	ePn		**Pn**	**07 10 55.1**	**+1.4**
BRTR	**Keskin Array B**	**7.75**	**54**	Pn		**Pn**	**07 11 31.4**	**-0.4**
	0.0nm,0.3s,baz=232,slow=16,SNR=2.4							
TORD	**Torodi Ar. Bea**	**30.88**	**230**	P		P	07 16 03.6	+8.7
	0.3nm,0.5s,baz=32,slow=8.5,SNR=6.0							
JMIC	**Jan Mayen**	**39.91**	**343**	P		**P**	**07 17 13.6**	**+1.7**
	252nm,0.4s,baz=173,slow=14,SNR=7.5							
KURBB	**Kurchatov Arra**	**40.73**	**51**	P		**P**	**07 17 18.8**	**-0.1**
	0.4nm,0.3s,baz=274,slow=8.6,SNR=6.0							
MKAR	**Makanchi Array**	**43.39**	**57**	P		**P**	**07 17 41.1**	**+0.5**
	0.6nm,0.4s,baz=267,slow=8.1,SNR=22							
ZALV	**Zalesovo Beam**	**44.61**	**46**	P		**P**	**07 17 50.0**	**-0.4**
	0.7nm,0.4s,baz=287,slow=8.4,SNR=4.5							

*IDC **09** 07:12:43.1±0.9, 24°.18N×125°.59E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/50, mbtmp3.6/6, ML2.4/1, Error ellipse: s-maj=35.7km s-min=19.2km az=70.0*
*JMA **09** 07:12:43.7±0.3, 23°.89N×125°.85E, h41km, M3.8*
ISC 09 07:12:43.1±3.4, 24°.06N±0°.08×125°.69E±0°.06, h0km±22km, n20, σ0s97/25, mb3.6/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.74**	**340**	P		**Pn**	**07 13 01.0**	**+0.1**
JMJ	**Miyako jima 2**	**0.83**	**335**	P		**Pn**	**07 13 02.3**	**+0.2**
JMJ				eS		**Sn**	**07 13 15.9**	**+0.8**
JIRB	**Irabujima**	**0.90**	**329**	P		**Pn**	**07 13 03.1**	**+0.1**
JIRB				eS		**Sn**	**07 13 17.4**	**+0.7**
JIKM	**Ikemajima**	**0.95**	**335**	P		**Pn**	**07 13 04.1**	**+0.4**
JTJ	**Tarama**	**1.07**	**303**	P		**Pn**	**07 13 05.4**	**+0.1**
JTJ				eS		**Sn**	**07 13 22.4**	**+1.5**
JISG	**Ishigakijimahi**	**1.36**	**293**	P		**Pb**	**07 13 09.6**	**+0.1**
JISG				eS		**Sn**	**07 13 29.4**	**+1.3**
JIJ	**Ishigaki jima**	**1.44**	**282**	P		**Pb**	**07 13 10.9**	**+0.1**
JKRS	**Kuro-shima**	**1.54**	**277**	P		**Pb**	**07 13 12.6**	**0.0**
JKRS				eS		**Sn**	**07 13 32.5**	**-0.1**
HATJ	**Hateruma jima**	**1.72**	**270**	P		**Pn**	**07 13 14.4**	**+0.1**
HATJ				eS		**Sn**	**07 13 36.7**	**-0.3**
JKE	**Kume jima 2**	**2.47**	**24**	P		**Pn**	**07 13 24.4**	**-0.2**
JOW	**Kunigami**	**3.62**	**40**	Pn		**Pn**	**07 13 40.8**	**+0.3**
	0.6nm,0.3s,baz=173,slow=19,SNR=2.5							
JOKE	**Okinoerabujima**	**4.19**	**38**	P		**Pn**	**07 13 49.9**	**+1.6**
JTK	**Tokunoshima**	**4.73**	**38**	P		**Pn**	**07 13 54.9**	**-0.9**
MKAR	**Makanchi Array**	**41.33**	**314**	P		**P**	**07 20 29.9**	**-0.7**
	0.7nm,0.6s,baz=96,slow=11,SNR=11							
ZALV	**Zalesovo Beam**	**42.64**	**325**	P		**P**	**07 20 39.3**	**-1.9**
	0.4nm,0.4s,baz=100,slow=7.6,SNR=2.6							
WRA	**Warramunga Arr**	**44.54**	**168**	P		**P**	**07 20 56.8**	**+0.1**
	0.5nm,0.4s,baz=348,slow=8.9,SNR=14							
KURBB	**Kurchatov Arra**	**44.89**	**319**	P		**P**	**07 20 58.1**	**-1.2**
	0.3nm,0.4s,baz=110,slow=8.1,SNR=7.1							
ASAR	**Alice Springs**	**48.11**	**170**	P		**P**	**07 21 27.0**	**+2.2**
	0.4nm,0.6s,baz=355,slow=14,SNR=7.3							
ONI	**Oni**	**68.62**	**308**	P		P	07 23 52.4	+4.2
YKA	**Yellowknife Ar**	**81.45**	**24**	P		**P**	**07 25 00.9**	**-0.9**
	0.4nm,0.8s,baz=298,slow=4.6,SNR=7.2							

*NSSC **09** 07:21:08.7±1.8, 39°.43N×41°.68E, h0km±115km, MD2.8, ML3.8*
*IDC **09** 07:21:23.8±1.0, 38°.81N×40°.16E, h0km, mb3.8/11, mb1 3.9/17, mb1mx3.7/53, mbtmp3.8/17, ML3.5/6, MS3.5/17, Ms1 3.5/17, ms1mx3.3/44, Error ellipse: s-maj=19.6km s-min=11.8km az=154.0*
*DDA **09** 07:21:23.5, 38°.85N×40°.14E, h17km, ML4.4*
*ISK **09** 07:21:23.7, 38°.88N×40°.26E, h5km, ML4.2*
*NEIC **09** 07:21:23.7, 38°.88N×40°.26E, h5km, mb4.0/6, ML4.2(ISK), ML4.4(DDA), After ISK.*
*MOS **09** 07:21:24.6±1.5, 38°.91N×40°.17E, h10km, mb4.3/8, Error ellipse: s-maj=9.3km s-min=5.3km az=87.7*
*CSEM **09** 07:21:24.9±0.1, 38°.90N×40°.24E, h2km, mb4.2/7, Error ellipse: s-maj=3.1km s-min=2.8km az=139.0*
*ISN **09** 07:21:29.2±2.1, 38°.70N×40°.59E, h0km±7km, ML4.2*
ISC 09 07:21:25.3±0.8, 38°.85N±0°.02×40°.24E±0°.02, h7km±6km, n234, σ1s57/268, mb4.0/24, MS3.5/9, 2C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.19**	**83**	ePg		**Pg**	**07 21 31.4**	**+2.1**
BNGB	**Bing¶ll**	**0.37**	**68**	ePG		**Pg**	**07 21 31.4**	**-1.1**
BNGB				eSG		**Sg**	**07 21 37.3**	**-0.1**
BNGL	**BINGOL**	**0.71**	**82**	*i* P		**Pg**	**07 21 38.2**	**-0.9**
BNGL				*i* S		**Sb**	**07 21 50.6**	**+0.3**
ERZN	**Erzincan**	**0.84**	**331**	ePG		**Pg**	**07 21 40.0**	**-1.5**
ERZN				eSG		**Sg**	**07 21 52.2**	**-0.2**
DYBB	**Diyarbakir**	**0.90**	**185**	ePG		**Pg**	**07 21 42.1**	**-0.5**
DIY	**Diyarbakir**	**0.95**	**181**	ePg		**Pg**	**07 21 42.1**	**-1.5**
VRTB	**Varto-Mus**	**0.99**	**72**	ePG		**Pg**	**07 21 43.9**	**-0.5**
VRTB	**Varto-Mus**	**0.99**	**72**	ePg		**Pg**	**07 21 43.9**	**-0.5**
BTMT	**Batman**	**1.18**	**124**	ePN		**Pg**	**07 21 47.2**	**-0.7**
BTMT	**Batman**	**1.18**	**124**	ePn		**Pg**	**07 21 47.2**	**-0.7**
KOPT	**Kop Dagi**	**1.18**	**10**	*i* P		**Pg**	**07 21 45.9**	**-2.1**
KOPT				*i* S		**Sb**	**07 22 04.3**	**+0.5**
KOPT	**Kop Dagi**	**1.18**	**10**	*i* P		**Pg**	**07 21 45.9**	**-2.1**
KOPT				*i* S		**Sb**	**07 22 04.3**	**+0.5**
BEST	**Besiri**	**1.25**	**140**	*i* P		**Pg**	**07 21 48.4**	**-1.0**
BEST	**Besiri**	**1.25**	**140**	*i* P		**Pg**	**07 21 48.2**	**-1.1**
BEST				*i* S		**Sn**	**07 22 07.3**	**+0.9**
BEST	**Besiri**	**1.25**	**140**	*i* P		**Pg**	**07 21 48.4**	**-1.0**
EZM	**Erzurum**	**1.36**	**39**	ePN		**Pn**	**07 21 49.9**	**-1.1**
EZM	**Erzurum**	**1.36**	**39**	Pn		**Pn**	**07 21 49.9**	**-1.1**
ERZM	**Erzurum**	**1.37**	**39**	*i* P		**Pn**	**07 21 49.8**	**-1.2**
ERZM	**Erzurum**	**1.37**	**39**	*i* P		**Pn**	**07 21 49.8**	**-1.2**
MAZI	**Mazidag**	**1.40**	**173**	ePN		**Pn**	**07 21 51.3**	**0.0**
MAZI	**Mazidag**	**1.40**	**173**	ePn		**Pn**	**07 21 51.3**	**0.0**
ILIC	**ilic-Erzincan**	**1.43**	**295**	ePN		**Pb**	**07 21 52.2**	**-0.2**
ILIC	**ilic-Erzincan**	**1.43**	**295**	ePn		**Pb**	**07 21 52.2**	**-0.2**
EKAR	**Karacoban**	**1.47**	**74**	*i* P		**Pn**	**07 21 52.2**	**-0.3**
EKAR	**Karacoban**	**1.47**	**74**	*i* P		**Pn**	**07 21 52.2**	**-0.3**
EKAR				*i* S		**Sg**	**07 22 17.4**	**+4.7**
KELT	**Kelkit**	**1.50**	**330**	*i* P		**Pn**	**07 21 51.0**	**-1.9**
KELT				*i* S		**Sn**	**07 22 11.4**	**-1.4**
KELT	**Kelkit**	**1.50**	**330**	*i* P		**Pn**	**07 21 51.0**	**-1.9**
KELT				*i* S		**Sn**	**07 22 11.4**	**-1.4**
MALT	**Malatya**	**1.52**	**250**	ePN		**Pn**	**07 21 52.9**	**-0.1**
MALT	**Malatya**	**1.52**	**250**	ePn		**Pn**	**07 21 52.9**	**-0.1**
MALT	**Malatya**	**1.52**	**250**	Pn		**Pn**	**07 21 52.9**	**-0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.54**	**357**	ePN		**Pn**	**07 21 53.0**	**-0.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.54**	**357**	ePn		**Pn**	**07 21 53.1**	**-0.3**
MARD	**Mardin**	**1.59**	**164**	*i* P		**Pn**	**07 21 52.5**	**-1.5**

CEYT	**Ceyhan**	**4.00 244**	*e*Pn	**Pn**	**07 22 28.8 +1.8**
BTCH	**Batrach**	**4.12 228**	*e*P	**Pn**	**07 22 29.9 +1.3**
	SNR=45				
BTCH	**Batrach**	**4.12 228**	*e*P	**Pn**	**07 22 29.9 +1.3**
BTCH			*e*S	**Sb**	**07 23 30.8 +2.7**
BTCH			AML	AML	07 23 45.2
	comp=E,516nm,0.7s				
BTCH			AML	AML	07 23 56.5
	comp=N,520nm,0.8s				
TBLG	**Delisi**	**4.48 49**	*e*PN	Pn	07 22 37.0 +3.4
TBLG	**Delisi**	**4.48 49**	P	**Pg**	**07 22 49.3 -1.9**
ARNB	**Al Arnab**	**4.53 230**	*e*P	**Pn**	**07 22 35.0 +0.7**
	SNR=45				
ARNB	**Al Arnab**	**4.53 230**	*e*P	**Pn**	**07 22 35.0 +0.7**
ARNB			*e*S	**Sb**	**07 23 39.3 -0.6**
ARNB			AML	AML	07 23 59.7
	comp=E,162nm,0.7s				
ARNB			AML	AML	07 24 07.4
	comp=N,130nm,0.7s				
DUS	**Dusheti**	**4.69 45**	P	Pn	07 22 40.4 +3.8
DUS			S	**Pg**	**07 22 56.4 +1.2**
DUS	**Dusheti**	**4.69 45**	P	Pn	07 22 40.4 +3.8
SOC	**Sochi**	**4.74 355**	*e*P	**Pn**	**07 22 36.1 -1.1**
SOC			*e*		07 23 32.3
SOC			pmax	pmax	
	comp=Z,38nm,0.8s				
SOC			MLR	MLR	
	comp=E,415nm,9.0s				
SOC			MLR	MLR	
	comp=N,311nm,9.0s				
SOC			MLR	MLR	
	comp=Z,247nm,8.0s				
SOC	**Sochi**	**4.74 355**	*e*P	**Pn**	**07 22 36.1 -1.1**
	comp=Z,38nm,0.8s				
SOC			*e*S	**Sn**	**07 23 32.3 -0.1**
	comp=Z,247nm,8.0s				
IKRK	**Kirkuk**	**4.75 135**	*e*PN	**Pn**	**07 22 39.6 +2.2**
IKRK			*e*SN	**Sn**	**07 23 28.1 -4.5**
ZEI	**Tsey**	**4.81 34**	*e*P	**Pn**	**07 22 38.2 -0.1**
ZEI			pmax	pmax	
	comp=Z,78nm,1.1s				
BIDA	**Albida**	**4.95 221**	*e*P	**Pn**	**07 22 41.0 +0.8**
	SNR=45				
BIDA	**Albida**	**4.95 221**	*e*P	**Pn**	**07 22 41.0 +0.8**
BIDA			*e*S	**Sb**	**07 23 48.7 -3.5**
BIDA			AML	AML	07 24 12.0
	comp=E,342nm,0.7s				
BIDA			AML	AML	07 24 17.0
	comp=N,336nm,0.6s				
BRTR	**Keskin Array B**	**5.20 282**	Pn	**Pn**	**07 22 42.9 -0.7**
	comp=N,0.9nm,0.3s,baz=107,slow=13,SNR=36				
BRTR			LR	LR	07 24 58.1
	comp=N,553nm,19.7s,baz=91,slow=42				
KBZ	**Khabaz**	**5.27 21**	Pn	**Pn**	**07 22 46.2 +1.9**
	comp=N,0.4nm,0.3s,baz=176,slow=12,SNR=7.9				
HAWK	**Haweek**	**5.31 217**	*e*P	**Pn**	**07 22 47.2 +2.1**
	SNR=45				
HAWK	**Haweek**	**5.31 217**	*e*P	**Pn**	**07 22 47.2 +2.1**
HAWK			*e*S	**Sb**	**07 23 56.6 -5.8**
HAWK			AML	AML	07 24 26.2
	comp=N,87nm,0.7s				
HAWK			AML	AML	07 24 34.5
	comp=E,97nm,0.6s				
KIV	**Kislovodsk**	**5.42 19**	*e*P	**Pn**	**07 22 44.2 -2.4**
KIV			*e*S	**Sn**	**07 23 48.7 -0.5**
KIV			pmax	pmax	
	comp=Z,7.0nm,0.9s				
KIV			MLR	MLR	
	comp=Z,125nm,7.0s				
KIV	**Kislovodsk**	**5.42 19**	*e*P	**Pn**	**07 22 44.2 -2.4**
	comp=Z,7.0nm,0.9s				
KIV	**Kislovodsk**	**5.42 19**	Pn	**Pn**	**07 22 45.9 -0.7**
	comp=Z,22nm,0.9s				
KIV			*e*S	**Sn**	**07 23 48.7 -0.5**
	comp=Z,125nm,7.0s				
KIV	**Kislovodsk**	**5.42 19**	Pn	**Pn**	**07 22 45.9 -0.7**
	comp=Z,22nm,0.9s				
MARH	**Ras Al Marh**	**5.69 213**	*e*P	**Pn**	**07 22 51.0 +0.5**
	SNR=45				
MARH	**Ras Al Marh**	**5.69 213**	*e*P	**Pn**	**07 22 51.0 +0.5**
MARH			*e*S	Sb	07 24 05.6 -8.0
MARH			AML	AML	07 24 42.0
	comp=E,132nm,0.7s				
MARH			AML	AML	07 24 54.2
	comp=N,143nm,0.7s				
HWQ	**Hawqa**	**5.73 218**	*e*P	Pn	07 22 44.7 -6.2
RTB	**Rutbah**	**5.81 179**	*e*Pn	Pn	07 22 56.0 +4.1
	SNR=39				
RTB			*e*Sn	**Sn**	**07 23 57.2 -1.6**
	SNR=39				
ANTO	**Ankara**	**5.86 282**	*e*P	**Pn**	**07 22 52.6 0.0**
ANTO			pmax	pmax	
	comp=Z,74nm,1.2s				
ANTO	**Ankara**	**5.86 282**	*e*P	**Pn**	**07 22 52.6 0.0**
	comp=Z,74nm,1.2s				
ANTO	**Ankara**	**5.86 282**	*e*Pg	Pg	07 23 12.9 -4.7
ANTO	**Ankara**	**5.86 282**	*e*Pn	**Pn**	**07 22 52.6 0.0**
	comp=Z,74nm,1.2s				
ANTO			*e*Pg	Pg	07 23 12.9 -4.7
ANTO			*e*Sg	**Sg**	**07 24 34.1 +0.6**
BHL	**Bhannes**	**6.17 218**	*e*P	**Pn**	**07 22 58.2 +1.3**
BHL	**Bhannes**	**6.17 218**	*e*P	**Pn**	**07 22 58.2 +1.3**
ANN	**Anapa**	**6.30 341**	*e*P	**Pn**	**07 22 57.2 -1.4**
ANN	**Anapa**	**6.30 341**	*e*P	**Pn**	**07 22 57.2 -1.4**
BRBR	**Barbar**	**6.44 214**	*e*P	**Pn**	**07 23 01.8 +1.0**
	SNR=45				
BRBR	**Barbar**	**6.44 214**	*e*P	**Pn**	**07 23 01.8 +1.0**
BRBR			*e*S	Sn	07 24 22.9 +8.2
BRBR			AML	AML	07 25 07.3
	comp=N,65nm,0.7s				
BRBR			AML	AML	07 25 11.6
	comp=E,75nm,0.7s				
BHD	**Baghdad**	**6.50 148**	*e*PN	**Pn**	**07 23 03.8 +2.5**
BHD			*e*SN	**Sn**	**07 24 10.2 -5.5**
BHD			*e*SG	Sg	07 25 23.6 +30
BHD	**Baghdad**	**6.50 148**	*e*Pn	**Pn**	**07 23 03.8 +2.5**
	SNR=39				
BHD			*e*Sn	**Sn**	**07 24 10.2 -5.5**
	SNR=39				
BHD			*e*Sg	Sg	07 25 23.6 +30
	SNR=90				
GOF	**Gofitskoye**	**6.54 18**	*e*P	Pn	07 22 56.8 -5.1
SALA	**Sala**	**6.76 206**	*e*P	**Pn**	**07 23 05.6 +0.5**
	SNR=45				
SALA	**Sala**	**6.76 206**	*e*P	**Pn**	**07 23 05.6 +0.5**
SALA			*e*S	**Sn**	**07 24 27.6 +5.3**
SALA			AML	AML	07 25 14.8
	comp=N,58nm,0.6s				
SALA			AML	AML	07 25 26.1
	comp=E,9.0nm,0.8s				
MMAI	**Mount Meron Ar**	**7.02 215**	Pn	**Pn**	**07 23 09.0 +0.4**
	comp=E,5.4nm,0.3s,baz=70,slow=18,SNR=4.5				
MMAI	**Mount Meron Ar**	**7.02 215**	Pn	**Pn**	**07 23 09.0 +0.4**
ASF	**Jabal al Asfar**	**7.20 203**	Pn	**Pn**	**07 23 11.5 +0.4**
	comp=E,0.3nm,0.3s,baz=335,slow=18,SNR=4.8				
ASF			LR	LR	07 26 26.6
	comp=E,941nm,21.4s,baz=334,slow=42				
NSR	**Nassriya**	**9.20 147**	*e*PN	**Pn**	**07 23 41.3 +3.0**
NSR			*e*SN	Sn	07 25 14.3 -7.8
NSR	**Nassriya**	**9.20 147**	*e*Pn	**Pn**	**07 23 41.3 +3.0**
	SNR=39				
NSR			*e*Sn	Sn	07 25 14.3 -7.8
	SNR=39				
EIL	**Elat**	**10.15 207**	LR	LR	07 27 50.8
	comp=E,316nm,21.2s,baz=20,slow=38				
VORD	**Divnogorie**	**12.13 357**	*e*P	Pn	07 24 22.7 +4.3
VORD			pmax	pmax	
	comp=Z,5.0nm,1.0s				
VORD			pmax	pmax	
	comp=N,40nm,0.8s				
VORD			pmax	pmax	
	comp=E,50nm,0.7s				
VRHR	**Novokhopersk**	**12.28 4**	*e*P	**Pn**	**07 24 20.8 +0.3**
VRHR			pmax	pmax	
	comp=Z,6.0nm,0.8s				
VRHR			pmax	pmax	
	comp=N,10.0nm,0.7s				
VRHR			pmax	pmax	
	comp=E,30nm,1.9s				
VRHR	**Novokhopersk**	**12.28 4**	*e*P	**Pn**	**07 24 20.8 +0.3**
	comp=E,10.0nm,0.7s				
VSR	**Storozhevoye**	**12.39 357**	*e*P	**Pn**	**07 24 20.7 -1.2**
VSR			pmax	pmax	
	comp=Z,6.0nm,0.8s				
VSR			pmax	pmax	
	comp=N,10.0nm,1.0s				
VSR			pmax	pmax	
	comp=E,8.0nm,0.9s				
VSR	**Storozhevoye**	**12.39 357**	*e*P	**Pn**	**07 24 20.7 -1.2**
	comp=E,10.0nm,1.0s				
MLR	**Muntele Rosu**	**12.50 307**	LR	LR	07 29 34.2
	comp=E,68nm,19.3s,baz=134,slow=39				
IDI	**Anoyia**	**12.77 259**	LR	LR	07 30 26.2
	comp=E,183nm,19.4s,baz=72,slow=43				
GEYT	**Alibeck**	**14.05 88**	LR	LR	07 31 30.2
	comp=E,112nm,18.7s,baz=15,slow=43				
AKASG	**Malin Array Be**	**14.18 330**	Pn	**Pn**	**07 24 45.7 -0.6**
	comp=E,0.4nm,0.3s,baz=133,slow=13,SNR=5.5				
KIEV	**Kiev**	**14.18 330**	*i* P	**Pn**	**07 24 48.6 +2.2**
KIEV	**Kiev**	**14.18 330**	*i* P	**Pn**	**07 24 48.6 +2.2**
KOLS	**Kolonicke sedl**	**16.37 314**	*e*P	**P**	**07 25 19.3 +0.9**
KOLS	**Kolonicke sedl**	**16.37 314**	*e*P	**P**	**07 25 19.3 +0.9**
KOLS	**Kolonicke sedl**	**16.37 314**	*es*P	**P**	**07 25 19.3 +0.9**
OBN	**Obninsk**	**16.46 353**	‖*e*P	**Pn**	**07 25 14.8 -1.6**
OBN			pmax	pmax	
	comp=Z,26nm,1.1s				
OBN	**Obninsk**	**16.46 353**	LR	LR	07 32 33.8
	comp=Z,172nm,18.1s,baz=226,slow=41				
CRVS	**Cervenica-Dubn**	**16.82 313**	*e*P	**P**	**07 25 22.9 -0.4**
CRVS	**Cervenica-Dubn**	**16.82 313**	*e*P	**P**	**07 25 22.9 -0.4**
CRVS	**Cervenica-Dubn**	**16.82 313**	*e*P	**P**	**07 25 22.9 -0.4**
AKTK	**Aktyubinsk**	**17.10 42**	P	**P**	**07 25 25.8 -0.6**
AKTO	**Aktyubinsk**	**17.10 42**	P	**P**	**07 25 25.8 -0.6**
	comp=Z,0.2nm,0.3s,baz=246,slow=9.9,SNR=10				
AKTO			LR	LR	07 33 44.6
	comp=Z,151nm,21.0s,baz=228,slow=43				
STHS	**Stebnicka Huta**	**17.20 314**	*e*P	**P**	**07 25 31.0 +3.4**
STHS	**Stebnicka Huta**	**17.20 314**	*e*	**P**	**07 25 31.0 +3.4**
ABKAR	**Akbulak array**	**17.52 47**	*e*P	**Pn**	**07 25 29.6 -0.3**
	comp=Z,3.1nm,0.8s				
ABKAR	**Akbulak array**	**17.52 47**	*e*P	**Pn**	**07 25 29.6 -0.3**
	comp=Z,3.1nm,0.8s				
VRAC	**Vranov**	**19.87 309**	LR	LR	07 34 14.1
	comp=Z,145nm,18.1s,baz=149,slow=39				
ARU	**Arti**	**21.37 29***c*	*i* P	**P**	**07 26 14.5 +1.5**
ARU					07 26 31.1
ARU			S	Sn	07 30 15.4 -2.3
ARU			SS	**SnSn**	**07 30 38.1 +5.5**
ARU			pmax	pmax	
	comp=Z,9.0nm,1.0s				
ARU	**Arti**	**21.37 29**	*e*P	**P**	**07 26 13.0 0.0**
	comp=Z,11nm,0.9s				
ARU	**Arti**	**21.37 29**	*e*P	**P**	**07 26 13.0 0.0**
	comp=Z,11nm,0.9s				
GERES	**GERESS Array B**	**21.49 306**	P	**P**	**07 26 13.8 -0.7**
	comp=Z,0.9nm,0.7s,baz=111,slow=10,SNR=7.2				
KLMR	**Klimovskoe**	**22.03 359**	*e*P	**P**	**07 26 21.9 +1.8**
KLMR			pmax	pmax	
	comp=Z,44nm,1.4s				
KLMR	**Klimovskoe**	**22.03 359**	*e*P	**P**	**07 26 21.9 +1.8**
	comp=Z,44nm,1.4s				
BRG	**Berggiesshubel**	**22.05 312**	*e*(P)	P	07 26 27.0 +6.6
	comp=Z,3.0nm,1.0s				
BRG	**Berggiesshubel**	**22.05 312**	*e*P	P	07 26 27.0 +6.6
BRG			pmax	pmax	
	comp=Z,3.0nm,1.0s				
CLL	**Collm**	**22.76 312**	*e*P	**P**	**07 26 27.0 -1.0**
CLL			*e*		07 26 29.0
CLL			MLR	MLR	
	comp=Z,200nm,18.3s				
CLL	**Collm**	**22.76 312**	*e*P	**P**	**07 26 27.0 -1.0**
CLL			*ep*P	**pP**	**07 26 29.0 -1.1**
	comp=Z,7.0nm,1.3s				
CLL			LmV		07 36 00.0
	comp=Z,200nm,18.3s				
CLL	**Collm**	**22.76 312**	*e*P	**P**	**07 26 27.0 -1.0**
	comp=Z,200nm,18.3s				
PRGR	**Permogore**	**23.05 7**	*e*P	**P**	**07 26 28.1 -2.8**
PRGR			pmax	pmax	
	comp=Z,105nm,1.9s				
KKAR	**Karatay Array**	**23.18 70**	*e*P	**P**	**07 26 33.6 +1.2**
KKAR			pmax	pmax	
	comp=Z,4.0nm,0.7s				
KKAR	**Karatay Array**	**23.18 70**	*e*P	**P**	**07 26 33.6 +1.2**
	comp=Z,3.8nm,0.7s				
KKAR	**Karatay Array**	**23.18 70**	*e*P	**P**	**07 26 33.6 +1.2**
	comp=Z,3.8nm,0.7s				
DAVOX	**Davos/Dischmat**	**23.53 300**	P	**P**	**07 26 36.5 +0.4**
	comp=Z,3.0nm,0.6s,baz=146,slow=15,SNR=4.4				
DAVOX			LR	LR	07 38 17.7
	comp=Z,152nm,19.1s,baz=92,slow=43				
FINES	**FINESS Array B**	**24.26 343**	P	**P**	**07 26 43.2 +0.5**
	comp=Z,3.2nm,0.6s,baz=158,slow=12,SNR=12				
FINES			LR	LR	07 37 45.6
	comp=Z,72nm,19.8s,baz=56,slow=40				
JOF	**Joensuu**	**24.70 350**	*e*P	**P**	**07 26 48.8 +2.1**
JOF			pmax	pmax	
	comp=Z,7.0nm,0.8s				
JOF	**Joensuu**	**24.70 350**	*ep*	**P**	**07 26 48.8 +2.1**
	comp=Z,6.5nm,0.8s				
KEST	**Kesra**	**24.72 272**	P	**P**	**07 26 47.0 -0.2**
	comp=Z,1.8nm,0.9s,baz=6.2,slow=13,SNR=3.6				
KEST	**Kesra**	**24.72 272**	P	**P**	**07 26 47.0 -0.2**
BVAR	**Borovoye Array**	**25.07 46**	P	**P**	**07 26 50.1 -0.1**
	comp=Z,0.5nm,0.6s,baz=230,slow=3.6,SNR=3.0				
BVAR			LR	LR	07 38 03.8
	comp=Z,134nm,19.6s,baz=254,slow=40				
TMCR	**Tamitsa**	**25.38 358**	*e*P	**P**	**07 26 54.4 +1.6**
TMCR			*e*		07 27 32.6
TMCR			pmax	pmax	
	comp=Z,34nm,1.3s				
EKS2	**Erkin-Say**	**25.59 71**	*e*P	**P**	**07 26 57.4 +2.3**
EKS2			pmax	pmax	
	comp=Z,7.0nm,0.8s				
EKS2	**Erkin-Say**	**25.59 71**	*e*P	**P**	**07 26 57.4 +2.3**
	comp=Z,6.5nm,0.8s				
EKS2	**Erkin-Say**	**25.59 71**	*e*P	**P**	**07 26 57.4 +2.3**
	comp=Z,6.5nm,0.8s				
AAK	**Ala-Archa**	**26.12 71**‖	*e*P	**P**	**07 26 59.6 -0.3**
AAK			pmax	pmax	
	comp=Z,4.0nm,1.4s				
AAK	**Ala-Archa**	**26.12 71**	LR	LR	07 38 09.7
	comp=Z,71nm,19.4s,baz=262,slow=38				
AAK	**Ala-Archa**	**26.12 71**	*e*P	**P**	**07 26 59.7 -0.2**
	comp=Z,2.6nm,0.9s				
AAK	**Ala-Archa**	**26.12 71**	*e*P	**P**	**07 26 59.7 -0.2**
	comp=Z,2.6nm,0.9s				
HFS	**Hagfors**	**27.07 331**	P	**P**	**07 27 08.5 +0.4**
	comp=Z,3.1nm,0.8s,baz=182,slow=4.5,SNR=4.5				
NOA	**NORSAR Array B**	**28.59 330**	P	**P**	**07 27 22.6 +0.8**
	comp=Z,0.6nm,0.8s,baz=128,slow=8.9,SNR=3.3				
NOA			LR	LR	07 40 22.9
	comp=Z,104nm,19.3s,baz=145,slow=40				
KURBB	**Kurchatov Arra**	**29.31 54**	P	**P**	**07 27 28.1 0.0**
	comp=Z,1.3nm,0.6s,baz=266,slow=8.9,SNR=12				
KURK	**Kurchatov**	**29.38 54**	*e*P	**P**	**07 27 28.7 -0.1**
KURK			pmax	pmax	
	comp=Z,1.0nm,0.8s				
KURK	**Kurchatov**	**29.38 54**	*e*P	**P**	**07 27 28.7 -0.1**
	comp=Z,1.1nm,0.8s				
KURK	**Kurchatov**	**29.38 54**	*e*P	**P**	**07 27 28.7 -0.1**
	comp=Z,1.1nm,0.8s				
MKAR	**Makanchi Array**	**31.54 62**	P	**P**	**07 27 48.5 +0.5**
	comp=Z,1.3nm,0.7s,baz=277,slow=7.1,SNR=9.9				
MKAR			LR	LR	07 43 47.1
	comp=Z,50nm,18.4s,baz=323,slow=42				
ARCES	**ARCESS Array B**	**31.74 350**	LR	LR	07 41 36.5
	comp=Z,315nm,18.7s,baz=172,slow=38				
TORD	**Torodi Ar. Bea**	**42.60 244**	P	**P**	**07 29 19.6 -2.6**
	comp=Z,0.8nm,1.0s,baz=36,slow=5.7,SNR=4.7				
ZAK	**Zakamensk**	**45.04 54**	*e*P	**P**	**07 29 43.3 +1.7**
ZAK			pmax	pmax	
	comp=Z,3.0nm,0.8s				
TLY	**Talaya**	**45.05 52**	*e*P	**P**	**07 29 43.7 +2.2**
TLY			pmax	pmax	
	comp=Z,5.0nm,1.6s				
BOD	**Bodaibo**	**49.86 42**	*e*P	**P**	**07 30 17.3 -1.5**
BOD			pmax	pmax	
	comp=Z,5.0nm,1.1s				
FRB	**Frobisher Bay**	**63.40 332**	LR	LR	07 58 59.7
	comp=Z,51nm,18.9s,baz=276,slow=36				
YKA	**Yellowknife Ar**	**76.99 348**	P	**P**	**07 33 17.6 -0.6**
	comp=Z,0.8nm,0.8s,baz=22,slow=6.0,SNR=14				

*ISCJB **09** 07:23:09.5±0.8, 36°.27N±0°.03×21°.83E±0°.05, h19km±5km, Error ellipse: s-maj=7.9km s-min=4.0km az=141.4*
*CSEM **09** 07:23:09.7±0.3, 36°.29N×21°.89E, h10km, ML3.5, Error ellipse: s-maj=8.7km s-min=3.7km az=48.0*
*ATH **09** 07:23:10.1, 36°.30N×21°.89E, h31km±2km, MD3.6/30, ML3.5*

*THE **09** 07:23:11.9, 36°.37N×21°.99E, h11km, ML3.5/5, Error ellipse: s-maj=1.2km s-min=0.6km az=47.0*
ISC 09 07:23:10.3±1.5, 36°.31N±0°.04×21°.91E±0°.05, h11km±9km, n107, σ0.56/56/131, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.60**	**347**	P	**Pb**	**07 23 22.5**	**-0.3**
PYL				S	**Sb**	**07 23 31.1**	**-0.1**
PYL	**PYLOS**	**0.60**	**347**	*e*PN	**Pb**	**07 23 22.5**	**-0.3**
PYL				*e*SN	**Sb**	**07 23 32.2**	**+1.0**
PYL	**PYLOS**	**0.60**	**347**	P	**Pb**	**07 23 22.5**	**-0.3**
PYL				S	**Sb**	**07 23 31.1**	**-0.1**
PYL				*e*Sn	**Sb**	**07 23 32.2**	**+1.0**
ITM	**Ithomi**	**0.87**	**1**	P	**Pg**	**07 23 26.9**	**-0.2**
ITM				S	**Sg**	**07 23 38.7**	**+0.3**
ITM	**Ithomi**	**0.87**	**1**	*e*PN	**Pg**	**07 23 26.9**	**-0.2**
ITM				*e*SN	**Sb**	**07 23 39.7**	**+0.7**
ITM	**Ithomi**	**0.87**	**1**	P	**Pg**	**07 23 26.9**	**-0.2**
ITM				S	**Sg**	**07 23 38.7**	**+0.3**
ITM				*e*Sn	**Sb**	**07 23 39.7**	**+0.7**
KYTH	**Kithira**	**0.91**	**92**	P	**Pg**	**07 23 27.9**	**0.0**
KYTH	**Kithira**	**0.91**	**92**	*e*PN	**Pg**	**07 23 28.1**	**+0.2**
KYTH	**Kithira**	**0.91**	**92**	P	**Pg**	**07 23 27.9**	**0.0**
VLI	**Veliai**	**0.93**	**64**	P	**Pg**	**07 23 28.1**	**-0.1**
VLI				S	**Sg**	**07 23 40.5**	**+0.3**
VLI	**Veliai**	**0.93**	**64**	*e*PB	**Pg**	**07 23 27.7**	**-0.5**
VLI				*e*SN	**Sn**	**07 23 42.0**	**-0.5**
VLI	**Veliai**	**0.93**	**64**	*e*Pb	**Pg**	**07 23 27.7**	**-0.5**
VLI	**Veliai**	**0.93**	**64**	P	**Pg**	**07 23 28.1**	**-0.1**
VLI				S	**Sg**	**07 23 40.5**	**+0.3**
VLI				*e*Sn	**Sn**	**07 23 42.0**	**-0.5**
VLX	**Vlachokerasia**	**1.12**	**20**	P	**Pb**	**07 23 31.3**	**-0.5**
VLX				S	**Sg**	**07 23 46.7**	**+0.1**
VLX	**Vlachokerasia**	**1.12**	**20**	*e*PN	**Pb**	**07 23 31.5**	**-0.3**
VLX				*e*SN	**Sg**	**07 23 46.6**	**0.0**
VLX	**Vlachokerasia**	**1.12**	**20**	*e*Pn	**Pb**	**07 23 31.5**	**-0.3**
VLX				S	**Sg**	**07 23 46.7**	**+0.1**
ANKY	**Antikythira Is**	**1.21**	**111**	P	**Pn**	**07 23 32.9**	**-0.3**
ANKY				S	**Sn**	**07 23 50.1**	**+0.5**
ANKY	**Antikythira Is**	**1.21**	**111**	*e*PN	**Pn**	**07 23 33.4**	**+0.2**
ANKY	**Antikythira Is**	**1.21**	**111**	P	**Pn**	**07 23 32.9**	**-0.3**
ANKY	**Antikythira Is**	**1.21**	**111**	*e*Pn	**Pn**	**07 23 33.4**	**+0.2**
ANKY				S	**Sn**	**07 23 50.1**	**+0.5**
AMT	**Artemida-Makis**	**1.23**	**353**	P	**Pn**	**07 23 33.4**	**0.0**
AMT				S	**Sn**	**07 23 50.3**	**+0.3**
AMT	**Artemida-Makis**	**1.23**	**353**	*e*PN	**Pn**	**07 23 32.7**	**-0.7**
AMT	**Artemida-Makis**	**1.23**	**353**	*e*Pn	**Pn**	**07 23 32.7**	**-0.7**
AMT	**Artemida-Makis**	**1.23**	**353**	P	**Pn**	**07 23 33.4**	**0.0**
AMT				S	**Sn**	**07 23 50.3**	**+0.3**
DID	**Didima**	**1.60**	**41**	P	**Pn**	**07 23 37.8**	**-0.7**
DID				S	**Sn**	**07 23 58.5**	**-0.7**
DID	**Didima**	**1.60**	**41**	*e*PB	**Pn**	**07 23 38.1**	**-0.4**
DID				*e*SN	**Sn**	**07 23 58.7**	**-0.5**
DID	**Didima**	**1.60**	**41**	P	**Pn**	**07 23 37.8**	**-0.7**
DID	**Didima**	**1.60**	**41**	*e*Pb	**Pn**	**07 23 38.1**	**-0.4**
DID				*e*Sn	**Sn**	**07 23 58.7**	**-0.5**
DRO	**Drossia**	**1.65**	**355**	P	**Pn**	**07 23 39.5**	**+0.3**
DRO	**Drossia**	**1.65**	**355**	*e*PN	**Pn**	**07 23 40.0**	**+0.8**
DRO	**Drossia**	**1.65**	**355**	P	**Pn**	**07 23 39.5**	**+0.3**
DRO	**Drossia**	**1.65**	**355**	*e*Pn	**Pn**	**07 23 40.0**	**+0.8**
GUR	**Goura**	**1.66**	**12**	P	**Pn**	**07 23 39.7**	**+0.3**
GUR	**Goura**	**1.66**	**12**	*e*PN	**Pn**	**07 23 40.1**	**+0.7**
GUR	**Goura**	**1.66**	**12**	P	**Pn**	**07 23 39.7**	**+0.3**
GUR	**Goura**	**1.66**	**12**	*e*Pn	**Pn**	**07 23 40.1**	**+0.7**
KLV	**Kalavryta, Ach**	**1.74**	**6**	P	**Pn**	**07 23 40.8**	**+0.3**
KLV				S	**Sn**	**07 24 02.1**	**-0.6**
KLV	**Kalavryta, Ach**	**1.74**	**6**	*e*PB	**Pn**	**07 23 40.8**	**+0.3**
KLV	**Kalavryta, Ach**	**1.74**	**6**	P	**Pn**	**07 23 40.8**	**+0.3**
KLV				S	**Sn**	**07 24 02.1**	**-0.6**
RLS	**Riolos of Patr**	**1.78**	**349**	*e*PN	**Pn**	**07 23 40.6**	**-0.3**
RLS	**Riolos of Patr**	**1.78**	**349**	*e*Pn	**Pn**	**07 23 40.6**	**-0.3**
LTK	**Loutraki**	**1.91**	**26**	*e*PN	**Pn**	**07 23 42.7**	**-0.1**
LTK	**Loutraki**	**1.91**	**26**	*e*Pn	**Pn**	**07 23 42.7**	**-0.1**
NAIG	**Nisos Aigina**	**1.92**	**41**	*e*PN	**Pn**	**07 23 43.1**	**+0.2**
NAIG	**Nisos Aigina**	**1.92**	**41**	*e*Pn	**Pn**	**07 23 43.1**	**+0.2**
LAKA	**Lakka**	**1.93**	**2**	*e*PB	**Pn**	**07 23 43.9**	**+0.9**
LAKA	**Lakka**	**1.93**	**2**	*e*Pb	**Pn**	**07 23 43.9**	**+0.9**
VAM	**Vamos**	**2.07**	**115**	*e*PN	**Pn**	**07 23 44.2**	**-0.8**
VAM	**Vamos**	**2.07**	**115**	*e*PB	**Pn**	**07 23 45.5**	**+0.5**
VAM	**Vamos**	**2.07**	**115**	*e*Pn	**Pn**	**07 23 44.2**	**-0.8**
VAM	**Vamos**	**2.07**	**115**	*e*Pb	**Pn**	**07 23 45.5**	**+0.5**
KALE	**Kalithea**	**2.08**	**5**	P	**Pn**	**07 23 45.6**	**+0.4**
KALE	**Kalithea**	**2.08**	**5**	*e*PN	**Pn**	**07 23 44.9**	**-0.3**
KALE	**Kalithea**	**2.08**	**5**	*e*Pn	**Pn**	**07 23 44.9**	**-0.3**
KALE	**Kalithea**	**2.08**	**5**	P	**Pn**	**07 23 45.6**	**+0.4**
EFP	**Efpalio**	**2.11**	**0**	*e*PN	**Pn**	**07 23 45.4**	**-0.1**
EFP	**Efpalio**	**2.11**	**0**	*e*Pn	**Pn**	**07 23 45.4**	**-0.1**
VLS	**Valsamata**	**2.14**	**331**	*e*PB	**Pn**	**07 23 46.5**	**+0.6**
VLS	**Valsamata**	**2.14**	**331**	*e*Pb	**Pn**	**07 23 46.5**	**+0.6**
DSF	**Desfina**	**2.15**	**13**	*e*PN	**Pn**	**07 23 45.2**	**-1.0**
DSF	**Desfina**	**2.15**	**13**	*e*Pn	**Pn**	**07 23 45.2**	**-1.0**
ATH	**Athens Observa**	**2.20**	**41**	*e*PB	**Pn**	**07 23 47.4**	**+0.6**
ATH	**Athens Observa**	**2.20**	**41**	*e*Pb	**Pn**	**07 23 47.4**	**+0.6**
PTL	**Penteli**	**2.34**	**41**	*e*PN	**Pn**	**07 23 48.9**	**+0.2**
PTL	**Penteli**	**2.34**	**41**	*e*Pn	**Pn**	**07 23 48.9**	**+0.2**
PDO	**Prodromos**	**2.35**	**346**	*e*PB	**Pn**	**07 23 49.8**	**+0.9**
PDO	**Prodromos**	**2.35**	**346**	*e*Pb	**Pn**	**07 23 49.8**	**+0.9**
LKR	**Lokris**	**

BNGL	BINGOL	0.83	75	*i* P		Pg	07 34 51.8	-0.5
BNGL				*i* S		Sn	07 35 06.0	-1.3
DIY	Diyarbakir	0.84	175	*e*Pg		Pg	07 34 52.0	-0.6
ERZN	Erzincan	0.90	340	*e*PG		Pg	07 34 52.5	-1.3
ERZN				*e*SG		Sb	07 35 06.6	-0.2
SVAN	Silvan-Diyarba	1.03	124	*e*PG		Pb	07 34 56.0	-0.5
VRTB	Varto-Mus	1.12	67	*e*Pn		Pn	07 34 58.2	-0.4
VRTB				*e*SN		Sn	07 35 13.9	-0.5
VRTB	Varto-Mus	1.12	67	*e*Pn		Pn	07 34 58.2	-0.4
VRTB				*e*Sn		Sn	07 35 13.9	-0.5
BTMT	Batman	1.20	117	*e*PN		Pn	07 34 59.4	-0.2
BTMT	Batman	1.20	117	*e*Pn		Pn	07 34 59.4	-0.2
BEST	Besiri	1.23	133	*i* P		Pn	07 35 00.3	+0.2
BEST				*i* S		Sn	07 35 17.8	+0.6
MAZI	Mazidag	1.30	169	*e*PN		Pn	07 35 00.5	-0.6
MAZI				*e*SN		Sn	07 35 20.1	+1.3
MAZI	Mazidag	1.30	169	*e*Pn		Pn	07 35 00.5	-0.6
MAZI				*e*Sn		Sn	07 35 20.1	+1.3
KOPT	Kop Dagi	1.31	13	*i* P		Pn	07 34 59.5	-1.9
KOPT				*i* S		Sn	07 35 19.8	+0.5
KOPT	Kop Dagi	1.31	13	*i* P		Pn	07 34 59.5	-1.9
KOPT				*i* S		Sn	07 35 19.8	+0.5
MALT	Malatya	1.40	253	*e*PN		Pb	07 35 02.4	-0.5
MALT				*e*SN		Sg	07 35 23.7	+2.4
MALT	Malatya	1.40	253	*e*Pn		Pb	07 35 02.4	-0.5
MALT				*e*Sn		Sg	07 35 23.7	+2.4
ILIC	ilic-Erzincan	1.41	301	*e*PN		Pg	07 35 04.0	+0.6
ILIC				*e*SN		Sg	07 35 23.5	+1.9
ILIC	ilic-Erzincan	1.41	301	*e*Pn		Pg	07 35 04.0	+0.6
ILIC				*e*Sn		Sg	07 35 23.5	+1.9
EZM	Erzurum	1.51	39	*e*PN		Pb	07 35 04.0	-0.9
ERZM	Erzurum	1.51	39	*i* P		Pb	07 35 04.0	-0.9
ERZM				*i* S		Sg	07 35 26.6	+1.6
ERZM	Erzurum	1.51	39	*i* P		Pb	07 35 04.0	-0.9
ERZM				*i* S		Sg	07 35 26.6	+1.6
MARD	Mardin	1.51	160	*i* P		Pn	07 35 03.9	-0.1
MARD				*i* S		Sg	07 35 25.8	+0.8
KELT	Kelkit	1.56	335	*i* P		Pn	07 35 04.0	-0.8
KELT	Kelkit	1.56	335	*i* P		Pn	07 35 04.0	-0.8
EKAR	Karacoban	1.60	70	*i* P		Pg	07 35 06.3	-0.7
EKAR				*i* S		Sg	07 35 30.7	+3.0
EKAR	Karacoban	1.60	70	*i* P		Pg	07 35 06.3	-0.7
EKAR				*i* S		Sg	07 35 30.7	+3.0
BAYT	Ayd¯–ntepe-Bay	1.65	0	*e*PN		Pb	07 35 06.6	-0.7
BAYT	Ayd¯–ntepe-Bay	1.65	0	*e*Pn		Pb	07 35 06.6	-0.7
URFA	Urfa	1.65	219	*e*PN		Pb	07 35 07.0	-0.2
URFA	Urfa	1.65	219	*e*Pn		Pb	07 35 07.0	-0.2
TATV	Tatvan	1.69	97	*i* P		Pg	07 35 07.6	-1.3
TATV				*i* S		Sg	07 35 33.7	+2.9
TATV	Tatvan	1.69	97	*i* P		Pg	07 35 07.6	-1.3
TATV				*i* S		Sg	07 35 33.7	+2.9
GUMT	Gumushane	1.79	344	*e*PN		Pb	07 35 08.1	-1.5
GUMT	Gumushane	1.79	344	*e*Pn		Pb	07 35 08.1	-1.5
HOMI	Horasan	1.90	46	*i* P		Pb	07 35 10.7	-0.9
ATAB	Bozova	1.92	229	*i* P		Pn	07 35 09.1	-0.4
ATAB				*i* S		Sb	07 35 35.8	-0.1
ATAB	Bozova	1.92	229	*i* P		Pn	07 35 09.1	-0.4
ATAB				*i* S		Sb	07 35 35.8	-0.1
DARE	Darende-Malaty	2.08	266	*e*PN		Pb	07 35 13.2	-1.2
DARE	Darende-Malaty	2.08	266	*e*Pn		Pb	07 35 13.2	-1.2
SUSE	Susehri	2.09	315	*i* P		Pn	07 35 12.8	+0.8
SUSE				*i* S		Sb	07 35 40.0	-1.0
SUSE	Susehri	2.09	315	*i* P		Pn	07 35 12.8	+0.8
SUSE				*i* S		Sb	07 35 40.0	-1.0
EATA	Eleskirt	2.15	58	*i* P		Pb	07 35 14.4	-1.4
EATA				*i* S		Sg	07 35 45.7	+0.1
EATA	Eleskirt	2.15	58	*i* P		Pb	07 35 14.4	-1.4
EATA				*i* S		Sg	07 35 45.7	+0.1
TUTA	Tutak	2.19	72	*i* P		Pn	07 35 11.3	-2.2
TUTA				*i* S		Sb	07 35 43.1	-1.0
TUTA	Tutak	2.19	72	*i* P		Pn	07 35 11.3	-2.2
TUTA				*i* S		Sb	07 35 43.1	-1.0
SIRT	Sirnak	2.20	123	*e*PN		Pb	07 35 14.6	-2.0
SIRT	Sirnak	2.20	123	*e*Pn		Pb	07 35 14.6	-2.0
KTUT	Trabzon	2.26	353	*e*PN		Pb	07 35 15.3	-2.3
KTUT	Trabzon	2.26	353	*e*Pn		Pb	07 35 15.3	-2.3
GEVA	Gevas	2.34	100	*i* P		Pb	07 35 16.9	-2.1
GEVA	Gevas	2.34	100	*i* P		Pb	07 35 16.9	-2.1
GEVA				*i* S		Sg	07 35 54.3	+2.7
AGRB	Hanur-Agry	2.38	69	*e*PN		Pn	07 35 16.9	+0.9
AGRB	Hanur-Agry	2.38	69	*e*Pn		Pn	07 35 16.9	+0.9
ESPY	Espiye-Giresun	2.43	334	*e*PN		Pb	07 35 17.8	-2.6
ESPY	Espiye-Giresun	2.43	334	*e*Pn		Pb	07 35 17.8	-2.6
GZT	Gaziantep	2.45	236	*i* P		Pn	07 35 16.2	-0.7
GZT				*i* S		Sg	07 35 53.5	-1.5
DDEM	Demirkent	2.49	30	*i* P		Pn	07 35 17.6	+0.2
DDEM	Demirkent	2.49	30	*i* P		Pn	07 35 17.6	+0.2
VANB	Van	2.56	92	*e*PN		Pn	07 35 19.6	+1.2
VANB	Van	2.56	92	*e*Pn		Pn	07 35 19.6	+1.2
DBAD	Bademkaya	2.58	27	*i* P		Pn	07 35 19.4	+0.7
DBAD	Bademkaya	2.58	27	*i* P		Pn	07 35 19.4	+0.7
GRSN	GIRESUNGRSN	2.61	327	*i* P		Pb	07 35 21.7	-1.8
GRSN	GIRESUNGRSN	2.61	327	*i* P		Pb	07 35 21.7	-1.8
SVSK	Karacayir	2.70	297	*e*PN		Pb	07 35 22.3	-2.6
SVSK	Karacayir	2.70	297	*e*Pn		Pb	07 35 22.3	-2.6
DAGI	Agillar	2.71	30	*i* P		Pn	07 35 20.8	+0.3
RSDY	Resadiye-TOKAT	2.73	308	*e*PN		Pb	07 35 22.6	-2.9
RSDY	Resadiye-TOKAT	2.73	308	*e*Pn		Pb	07 35 22.6	-2.9
ARTV	Artvin	2.81	29	*i* P		Pn	07 35 22.5	+0.6
ARTV	Artvin	2.81	29	*i* P		Pn	07 35 22.5	+0.6
KMRS	Kahramanmaras	2.83	245	*e*PN		Pn	07 35 23.9	+1.9
KMRS	Kahramanmaras	2.83	245	*e*Pn		Pn	07 35 23.9	+1.9
DBOC	Borcka	2.86	24	*i* P		Pn	07 35 22.4	-0.1
DBOC	Borcka	2.86	24	*i* P		Pn	07 35 22.4	-0.1
MNKR	ALMNKUR	2.87	194		AML	AML	07 36 19.4	
	comp=E,607nm,0.4s							
MNKR					AML	AML	07 36 20.9	
	comp=N,1µm,0.5s							
MZRK	Al-Mazaregh	2.94	172	*e*P		Pn	07 35 23.2	-0.3
	SNR=45							
MZRK	Al-Mazaregh	2.94	172	*e*P		Pn	07 35 23.2	-0.3
MZRK				*e*S		Sg	07 36 08.1	-2.6
KARS	Kars	2.96	49	*e*PN		Pn	07 35 25.5	+1.6
KARS	Kars	2.96	49	*e*Pn		Pn	07 35 25.5	+1.6
CLDR	Caldiran	2.98	81	*e*PN		Pn	07 35 25.9	+1.6
CLDR	Caldiran	2.98	81	*e*Pn		Pn	07 35 25.9	+1.6
KSRV	Kasrt alli	3.00	198	*e*P		Pg	07 35 32.5	-1.5
KSRV					AML	AML	07 36 18.4	
	comp=E,515nm,0.4s							
KSRV					AML	AML	07 36 19.7	
	comp=N,564nm,0.6s							
DIGO	Kars	3.02	55	*i* P		Pb	07 35 31.4	+0.8
HAKT	HAKKARI	3.06	112	*i* P		Pn	07 35 27.0	+1.6
HAKT	HAKKARI	3.06	112	*i* P		Pn	07 35 27.0	+1.6
HAKT				*i* S		Sg	07 36 18.6	+3.9
SLMH	Al Salmeh	3.07	215	*e*P		Pn	07 35 25.2	-0.1
	SNR=45							
SLMH	Al Salmeh	3.07	215	*e*P		Pn	07 35 25.2	-0.1
SLMH				*e*S		Sg	07 36 14.1	-0.8
SLMH					AML	AML	07 36 17.1	
	comp=E,556nm,0.6s							
SLMH					AML	AML	07 36 23.5	
	comp=Z,399nm,0.5s							
SLMH					AML	AML	07 36 26.1	
	comp=N,669nm,0.7s							
CUKT	Cukurca	3.13	117	*e*PN		Pn	07 35 27.8	+1.6
CUKT	Cukurca	3.13	117	*e*Pn		Pn	07 35 27.8	+1.6
BNN	Bunyan	3.35	273	*e*PN		Pn	07 35 31.1	+1.9
BNN	Bunyan	3.35	273	*e*Pn		Pn	07 35 31.1	+1.9
KOZT	Kozan	3.62	251	*e*PN		Pn	07 35 35.2	+2.4
KOZT	Kozan	3.62	251	*e*Pn		Pn	07 35 35.2	+2.4
AKH	Akhalkalaki	3.71	43	*e*PN		Pn	07 35 35.9	+1.6
AKH	Akhalkalaki	3.71	43	P		Pg	07 35 47.3	-0.2
AKH				S		Sg	07 36 47.6	+11
AKH	Akhalkalaki	3.71	43	*e*Pn		Pn	07 35 35.9	+1.6
GNI	Garni	3.84	67	*e*PN		Pn	07 35 38.0	+1.9
GNI	Garni	3.84	67	Pn		Pb	07 35 44.4	-0.1
	baz=270,slow=7.1							
GNI	Garni	3.84	67	*e*Pn		Pn	07 35 38.0	+1.9
KVT	Kavak	3.91	308	*e*PN		Pn	07 35 38.8	+1.9
KVT	Kavak	3.91	308	*e*Pn		Pn	07 35 38.8	+1.9
ARNB	Al Arnab	4.38	230	*e*P		Pn	07 35 44.4	+1.0
	SNR=45							
ARNB	Al Arnab	4.38	230	*e*P		Pn	07 35 44.4	+1.0
ARNB				*e*S		Sb	07 36 48.4	+1.5
ARNB					AML	AML	07 37 04.5	
	comp=N,134nm,0.6s							
ARNB					AML	AML	07 37 05.6	
	comp=E,135nm,0.7s							
ONI	Oni	4.61	32	P		Pn	07 35 50.1	+3.6
ONI				S		Sg	07 37 06.3	+2.0
TBLG	Delisi	4.63	48	P		Pg	07 36 04.5	-0.4
TBLG				S		Sg	07 37 21.9	+17
BIDA	Albida	4.81	221	*e*P		Pn	07 35 49.5	+0.2
	SNR=45							
BIDA	Albida	4.81	221	*e*P		Pn	07 35 49.5	+0.2
BIDA				*e*S		Sb	07 36 58.3	-0.8
BIDA					AML	AML	07 37 17.4	
	comp=N,560nm,0.6s							
BIDA					AML	AML	07 37 30.1	
	comp=E,286nm,0.6s							
DGRG	David-gareji	4.85	54	P		Pn	07 35 52.2	+2.4
DGRG	David-gareji	4.85	54	P		Pn	07 35 52.2	+2.4
BRTR	Keskin Array B	5.13	283	Pn		Pn	07 35 53.0	-0.8
	comp=E,0.5nm,0.3s,baz=107,slow=16,SNR=8.5							
BRTR					LR	LR	07 38 07.5	
	comp=E,527nm,18.5s,baz=98,slow=44							
HAWK	Haweek	5.16	217	*e*P		Pn	07 35 54.5	+0.3
	SNR=45							
HAWK	Haweek	5.16	217	*e*P		Pn	07 35 54.5	+0.3
HAWK				*e*S		Sb	07 37 07.2	-2.1
HAWK					AML	AML	07 37 31.3	
	comp=E,103nm,0.6s							
HAWK					AML	AML	07 37 31.8	
	comp=N,81nm,0.5s							
KBZ	Khabaz	5.41	22	Pn		Pn	07 36 00.3	+2.9
	comp=N,0.2nm,0.3s,baz=199,slow=16,SNR=3.3							
KBZ					LR	LR	07 38 21.3	
	comp=N,663nm,18.3s,baz=228,slow=42							
MARH	Ras Al Marh	5.54	213	*e*P		Pn	07 36 00.0	+0.4
	SNR=45							
MARH	Ras Al Marh	5.54	213	*e*P		Pn	07 35 60.0	+0.4
MARH				*e*S		Sb	07 37 15.5	-5.0
HWQ	Hawqa	5.58	218	*e*P		Pn	07 36 00.1	+0.2
HWQ	Hawqa	5.58	218	*e*P		Pn	07 36 00.1	+0.2
BRBR	Barbar	6.30	214	*e*P		Pn	07 36 11.3	+1.4
	SNR=45							
BRBR	Barbar	6.30	214	*e*P		Pn	07 36 11.3	+1.4
BRBR				*e*S		Sb	07 37 34.4	-7.7
BRBR					AML	AML	07 38 09.1	
	comp=Z,73nm,0.7s							
BRBR					AML	AML	07 38 09.2	
	comp=N,35nm,0.7s							
BRBR					AML	AML	07 38 10.1	
	comp=E,67nm,0.7s							
MMAI	Mount Meron Ar	6.88	215	Pn		Pn	07 36 19.4	+1.7
	comp=E,5.8nm,0.3s,baz=63,slow=14,SNR=6.6							
ASF	Jabal al Asfar	7.06	203	Pn		Pn	07 36 24.9	+4.7
	comp=E,0.6nm,0.3s,baz=313,slow=18,SNR=3.9							
EIL	Elat	10.01	207	LR		LR	07 41 19.1	
	comp=E,345nm,18.0s,baz=18,slow=40							
MLR	Muntele Rosu	12.50	307	LR		LR	07 43 32.1	
	comp=E,37nm,19.8s,baz=132,slow=44							
IDI	Anoyia	12.65	259	LR		LR	07 43 36.3	
	comp=E,139nm,21.0s,baz=78,slow=44							
KOLS	Kolonicke sedl	16.39	314	*e*P		P	07 38 37.6	+8.0
OBN	Obninsk	16.56	353	LR		LR	07 45 16.9	
	comp=E,87nm,21.9s,baz=290,slow=39							
CRVS	Cervenica-Dubn	16.83	313	*e*P		P	07 38 40.5	+6.0
STHS	Stebnicka Huta	17.21	314	*e*P		P	07 38 46.9	+8.1
AKTO	Aktyubinsk	17.24	42	LR		LR	07 47 18.0	
	comp=E,118nm,21.2s,baz=226,slow=44							
GERES	GERESS Array B	21.48	307	LR		LR	07 47 45.4	
	comp=E,71nm,20.2s,baz=82,slow=37							
DAVOX	Davos/Dischmat	23.51	300	LR		LR	07 51 30.3	
	comp=E,105nm,18.9s,baz=118,slow=44							
FINES	FINESS Array B	24.34	344	P		P	07 39 55.1	+0.5
	comp=E,0.7nm,0.5s,baz=134,slow=8.0,SNR=4.6							
FINES					LR	LR	07 50 50.0	
	comp=E,113nm,21.5s,baz=120,slow=40							
BVAR	Borovoye Array	25.22	46	LR		LR	07 51 18.5	
	comp=E,135nm,19.1s,baz=247,slow=40							
NOA	NORSAR Array B	28.65	331	LR		LR	07 53 08.1	
	comp=E,108nm,20.4s,baz=15,slow=39							
MKAR	Makanchi Array	31.67	61	P		P	07 41 04.0	+3.7
	comp=E,0.3nm,0.8s,baz=258,slow=7.2,SNR=4.7							
ARCES	ARCESS Array B	31.84	350	LR		LR	07 54 43.9	
	comp=E,135nm,21.0s,baz=176,slow=38							
ZALV	Zalesovo Beam	33.77	48	LR		LR	07 56 16.1	
	comp=E,64nm,18.7s,baz=252,slow=38							
TORD	Torodi Ar. Bea	42.47	244	P		P	07 42 30.9	-1.3
	comp=E,0.6nm,1.1s,baz=52,slow=9.3,SNR=2.7							
YKA	Yellowknife Ar	77.08	348	P		P	07 46 32.1	+2.3
	comp=E,0.4nm,0.8s,baz=21,slow=6.0,SNR=8.9							

SZGRF ***09*** *07:46:58.9, 18°.17S×175°.38W, h33km, Tonga Islands*
IDC ***09*** *07:47:59.2±2.2, 18°.28S×178°.16W, h565km±25km,*
mb3.6/14, mb1 3.8/15, mb1mx3.6/31, mbtmp4.5/15, Error
ellipse: s-maj=19.8km s-min=12.7km az=143.0
ISC 09 07:48:00.9±0.8, 18°.2S±0°.2×178°.2W±0°.1, h590km, n79,
σ19±51/74, mb3.9/13, 8C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.96	252	P	P	07 51 07.6	-1.5
	3.4nm,0.3s,baz=138,slow=14,SNR=23						
URZ	Urewera	20.45	191	P	P	07 51 56.3	-2.6
	3.4nm,0.3s,baz=289,slow=2.5,SNR=20						
EIDS	Eidsvold	29.39	250	P	P	07 53 18.2	+0.2
	baz=30,SNR=3.4						
ARMA	Armidale	30.01	240	P	P	07 53 24.8	+1.4
	baz=30,SNR=11						
MGCD	Mangrove Creek	31.33	235	P	P	07 53 36.5	+1.9
	baz=32,SNR=6.5						
MGCD				S	S	07 58 18.4	+17
	baz=32,SNR=7.5						
RMQ	Roma	31.62	249	P	P	07 53 38.3	+1.2
	baz=32,SNR=6.6						
CNB	Canberra Magne	33.45	233	P	P	07 53 54.0	+1.5
	baz=34,SNR=26						
CTA	Charters Tower	33.62	261	P	P	07 53 54.2	+0.2
	3.6nm,0.4s,baz=95,slow=12,SNR=12						
CMSA	Cobar Meteorol	35.22	241	P	P	07 54 08.1	+1.0
	baz=35,SNR=22						
QLP	Quilpie	35.65	250	P	P	07 54 11.2	+0.4
	baz=36,SNR=32						
TOO	Toolangi	37.19	231	P	P	07 54 24.6	+1.3
	baz=37,SNR=19						
COEN	Coen	37.33	271	P	P	07 54 25.5	+0.8
	baz=38,SNR=15						
MCQ	Macquarie Isla	40.30	201	P	P	07 54 51.9	+4.0
	baz=40,SNR=3.4						
HTT	Hallett	41.21	240	P	P	07 54 56.8	+1.2
	baz=41,SNR=12						
BBOO	Buckleboo	43.48	241	P	P	07 55 14.1	+0.8
	baz=44,SNR=23						
WRA	Warramunga Arr	44.81	260	P	P	07 55 23.5	-0.2
	2.3nm,0.5s,baz=97,slow=7.0,SNR=82						
WRA				PcP	PcP	07 56 53.8	+1.0
	0.6nm,0.3s,baz=89,slow=3.7,SNR=8.2						
ASAR	Alice Springs	44.94	254	P	P	07 55 25.1	+0.3
	19nm,0.6s,baz=89,slow=8.6,SNR=376						
ASAR				PcP	PcP	07 56 54.1	+0.9
	1.7nm,0.5s,baz=104,slow=3.8,SNR=8.0						
ASAR				S	S	08 01 20.2	-0.8
	2.0nm,1.1s,baz=89,slow=16,SNR=13						
KDU	Kakadu	47.77	269	P	P	07 55 46.2	+0.1
	baz=48,SNR=7.2						
WRKA	Warakurna	49.98	252	P	P	07 56 02.8	+0.5
	baz=50,SNR=41						
MJAR	Matsushiro Arr	68.24	323	P	P	07 58 03.6	-0.1
	7.2nm,0.6s,baz=155,slow=6.0,SNR=24						
MAT	Matsushiro	68.24	323	P	P	07 58 03.8	0.0
UGM	Wanagama	69.86	268	P	P	07 58 14.5	+0.5
	baz=70,SNR=4.4						
PETK	Petropavlovsk-	73.98	345	P	P	07 58 37.1	+0.2
	9.6nm,0.6s,baz=122,slow=7.7,SNR=34						
KSRS	Korea Array	75.03	318	P	P	07 58 44.5	+1.4
	1.2nm,0.5s,baz=130,slow=5.9,SNR=4.2						
USRK	Uesurisk Ar.	76.95	326	P	P	07 58 55.2	+1.7
	1.5nm,0.5s,baz=114,slow=4.3,SNR=6.0						
TXAR	Lajitas Array	85.94	58	P	P	07 59 41.2	+1.3
	0.3nm,0.6s,baz=225,slow=5.1,SNR=4.7						
ILAR	Eielson Array	86.08	13	P	P	07 59 39.3	-0.3
	2.1nm,0.4s,baz=222,slow=5.0,SNR=90						
PDAR	Pinedale Array	87.38	43	P	P	07 59 47.5	+0.9
	0.8nm,0.7s,baz=238,slow=2.7,SNR=6.7						
CMAR	Chiang Mai Arr	89.18	290	P	P	07 59 57.0	+1.9
	1.2nm,0.5s,baz=107,slow=3.0,SNR=12						
SONM	Songino Array	93.89	319	P	P	08 00 17.2	+1.0
	0.5nm,0.6s,baz=116,slow=3.7,SNR=4.7						
YKA	Yellowknife Ar	94.47	25	P	P	08 00 18.8	+0.5
	0.4nm,0.5s,baz=237,slow=4.6,SNR=14						
MKAR	Makanchi Array	109.47	314	PKiKP	PKiKP	08 05 24.9	-0.2
	0.5nm,0.5s,baz=171,slow=0.5,SNR=13						
ARCES	ARCESS Array B	126.60	350	PKP	PKPdf	08 05 57.4	+0.1
	7.0nm,1.0s,baz=337,slow=2.8,SNR=5.0						
FINES	FINESS Array B	133.49	344	PKhKP	PKPpre	08 06 04.2	
	2.9nm,1.0s,baz=144,slow=4.5,SNR=4.6						
FINES				PKP	PKiKP	08 06 11.3	-0.5
	1.6nm,0.7s,baz=75,slow=2.2,SNR=4.6						
EKA	Eskdalemuir Ar	142.70	5	PKhKP	PKPpre	08 06 24.9	
	0.4nm,0.4s,baz=353,slow=3.4,SNR=4.9						
BSEG	Bad Segeberg	143.69	352	*e*PKPbc	PKPdf	08 06 28.9	-0.3
HLG	Helgoland	143.74	354	*e*PKPbc	PKPdf	08 06 29.4	+0.1
KWP	Kalwaria Pacla	144.39	337 ⇓	*i*P	PKPab	08 06 31.7	+0.5
BURAR	Bucovina Array	144.94	332 ⇑	*i*P	PKPab	08 06 34.3	+0.8
BRTR	Keskin Array B	145.12	315	PKPbc	PKPab	08 06 34.1	-0.4
	3.2nm,0.5s,baz=73,slow=2.1,SNR=15						
ASF	Jabal al Asfar	145.50	301	PKPbc	PKPab	08 06 36.0	-0.2
	3.0nm,0.7s,baz=195,slow=3.2,SNR=5.0						
IBBN	Ibbenburen	145.61	354	*e*PKPbc	PKPab	08 06 35.1	-0.7
TRPA	Tarpa	145.67	335 ⇓	*i*P	PKPab	08 06 35.6	-0.6
CLZ	Clausthal	145.72	351	*e*PKPbc	PKPab	08 06 35.8	-0.5
CLL	Collm	145.75	348	*e*PKPbc	PKPab	08 06 35.6	-0.8
CLL	Collm	145.75	348	*i* PKP	PKPab	08 06 35.6	-0.8
	comp=Z,17nm,0.9s						
UPC	Upice	145.79	344	*e*P	PKPab	08 06 35.7	-0.9
UPC				*e*x	x	08 06 38.0	
DPC	Dobruska-Polom	145.85	343	*e*P	PKPab	08 06 36.4	-0.5
BRG	Berggiesshubel	145.96	346	*i* PKP	PKPab	08 06 36.2	-1.1
	comp=Z,8.6nm,0.8s						
BRG				*e*		08 06 38.0	
	comp=Z,7.9nm,0.8s						
BRG				*e*		08 06 42.8	
	comp=Z,12nm,1.4s						
BRG	Berggiesshubel	145.96	346	*e*PKPbc	PKPab	08 06 36.3	-1.0
KRLC	Kraliky	145.97	343	*e*P	PKPab	08 06 36.7	-0.7
FBE	Freiberg	146.05	347	*e*PKPbc	PKPab	08 06 36.8	-0.8
PVCC	Panska Ves	146.14	345	*e*P	PKPab	08 06 37.3	-0.7
MLR	Muntele Rosu	146.16	329 ⇑	*i*P	PKPab	08 06 36.8	-1.7
MMAI	Mount Meron Ar	146.46	303	PKPbc	PKPab	08 06 38.7	-1.3
	comp=Z,6.7nm,0.6s,baz=69,slow=4.7,SNR=5.5						
VOIR		146.63	330 ⇓	*i*P	PKPab	08 06 38.8	-1.5
PRU	Pruhonice	146.64	345	*e*P	PKPab	08 06 38.3	-1.7
MOX	Moxa	146.66	349	*e*PKPbc	PKPab	08 06 38.1	-2.0
PLN	Plauen	146.71	348	*e*PKPbc	PKPab	08 06 38.4	-1.9
TANN	Tannenbergstha	146.71	348	*e*PKPbc	PKPab	08 06 38.5	-1.9
WERD	Werda	146.71	348	*e*PKPbc	PKPab	08 06 38.5	-1.8
GUNZ	Gunzen	146.79	348	*e*PKPbc	PKPab	08 06 38.8	-1.9
PSZ	Piszkesteto	146.85	338 ⇑	*i*P	PKPbc	08 06 35.2	-2.6
TREC	Trest	147.04	343	*e*P	PKPab	08 06 39.4	-2.3
ROTZ	Rotzenmuhle	147.38	347	*e*PKPbc	PKPab	08 06 40.5	-2.5
KHC	Kasperske Hory	147.67	346	*e*P	PKPab	08 06 40.8	-3.5
KHC				*e*x	x	08 06 45.4	
GZR	Gura Zlata	147.72	332 ⇑	*i*P	PKPab	08 06 40.4	-4.3
GEC2	GERESS Array S	147.91	345	*e*PKPbc	PKPab	08 06 41.6	-3.8
GERES	GERESS Array B	147.91	345	PKPbc	PKPab	08 06 41.5	-3.9
	comp=Z,4.4nm,0.6s,baz=20,slow=2.9,SNR=19						
CONA	Conrad Observa	148.17	342 ⇓	*i*PKPbc	PKPab	08 06 42.7	-3.8
	comp=Z,6.8nm,0.9s						
BFO	Black Forest	149.44	351	*e*PKPbc	PKPbc	08 06 45.1	+0.8
VTS	Vitosha	149.62	328 ⇓	*i*P	PKPbc	08 06 46.0	+1.0
WATA	Walderalm	149.82	347 ⇑	*i*PKPbc	PKPbc	08 06 46

APA	**Apatity**	**10.34**	**146**	P	**Pn**	**07 52 18.0 +1.7**
APA				S	**Sn**	**07 54 07.3 -4.8**
FINES	**FINESS Array B**	**15.70**	**166**	Pn	**Pn**	**07 53 29.8 +0.8**
	comp=Z,0.1nm,0.3s,baz=355,slow=14,SNR=2.3					
FINES				Sn	**Sn**	**07 56 17.2 -5.4**
	comp=Z,0.3nm,0.3s,baz=350,slow=18,SNR=3.9					
ILAR	**Eielson Array**	**38.31**	**350**	P	**P**	**07 57 09.4 +1.2**
	comp=Z,0.2nm,0.6s,baz=354,slow=7.0,SNR=5.7					
MKAR	**Makanchi Array**	**39.07**	**102**	P	P	07 57 20.4 +5.6
	comp=Z,0.3nm,0.6s,baz=356,slow=5.3,SNR=3.9					

NIED ***09*** *07:59:00,26°.10N×128°.70E,h14km,Mw4.1 Best double couple: M0=1.48000×1015 NP1:φ=209.00000°,δ=36.00000°, λ=79.00000°. NP2:φ=42.00000°,δ=55.00000°,λ=98.00000°.*
IDC ***09*** *07:59:19.2±0.8,26°.17N×128°.73E,h0km,mb3.9/12, mb1 4.1/13,mb1mx3.9/40,mbtmp3.9/13,ML3.9/1,MS2.9/2, Ms1 3.0/2,ms1mx2.7/37,Error ellipse: s-maj=27.0km s-min=15.2km az=72.0*
ISCJB ***09*** *07:59:21.5±0.8,26°.09N±0°.04×128°.71E±0°.04,h28km±5km, mb3.9/16,MS3.4/3,Error ellipse: s-maj=6.0km s-min=5.4km az=158.5*
NEIC ***09*** *07:59:21.9±1.8,26°.11N×128°.59E,h17km±11km,mb4.0/4, Error ellipse: s-maj=13.9km s-min=9.7km az=90.0*
JMA ***09*** *07:59:22.0±0.3,26°.08N×128°.68E,h30km±5km,M3.6*
ISC 09 07:59:21.6±1.5,26°.10N±0°.05×128°.69E±0°.04,h17km±9km, n41,σ0°91/49,mb4.0/16,MS3.1/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.73**	**305**	P	**Pg**	**07 59 35.6**	**-0.3**
JNTH				*e*S	**Sb**	**07 59 45.7**	**+0.1**
JOW	**Kunigami**	**0.82**	**333**	P	**Pg**	**07 59 37.7**	**+0.1**
JOW				*e*S	**Sb**	**07 59 48.3**	**+0.1**
JOW	**Kunigami**	**0.82**	**333**	Pn	**Pg**	**07 59 37.8**	**+0.1**
	79nm,0.3s,baz=143,slow=18,SNR=296						
JOW				Sn	**Sb**	**07 59 45.2**	**-3.1**
	65nm,0.3s,baz=126,slow=19,SNR=30						
JOW	**Kunigami**	**0.82**	**333**	*e*Pg	**Pb**	**07 59 37.5**	**+0.1**
JJT2	**Tamagusuku 2**	**0.84**	**273**	P	**Pb**	**07 59 37.6**	**-0.2**
JJT2				*e*S	**Sg**	**07 59 49.5**	**+0.3**
JIH	**Iheya**	**1.13**	**326**	P	**Pb**	**07 59 42.6**	**-0.2**
JIH				*e*S	**Sb**	**07 59 56.6**	**-0.7**
JOKE	**Okinoerabujima**	**1.26**	**355**	P	**Pn**	**07 59 44.6**	**+0.1**
JOKE				*e*S	**Sb**	**08 00 01.0**	**0.0**
JAGN	**Aguni-jima**	**1.39**	**291**	P	**Pn**	**07 59 45.7**	**-0.5**
JAGN				*e*S	**Sn**	**08 00 02.8**	**-1.3**
JTK	**Tokunoshima**	**1.70**	**8**	P	**Pn**	**07 59 50.8**	**+0.3**
JTK				*e*S	**Sn**	**08 00 11.6**	**-0.3**
JKE	**Kume jima 2**	**1.72**	**278**	P	**Pn**	**07 59 49.5**	**-1.3**
JKE				*e*S	**Sn**	**08 00 11.4**	**-1.0**
JAMN	**Amaminishikomi**	**2.18**	**11**	P	**Pn**	**07 59 57.6**	**+0.5**
JMZ	**Minamidaito 2**	**2.30**	**96**	P	**Pn**	**07 59 58.4**	**-0.4**
JMZ				*e*S	**Sn**	**08 00 24.0**	**-2.7**
JAM	**Amami Oshima**	**2.45**	**19**	P	**Pn**	**07 59 59.1**	**-1.7**
JAM				*e*S	**Sn**	**08 00 30.0**	**-0.3**
JNU	**Nakatsue**	**7.26**	**15**	Pn	**Pn**	**08 01 07.0**	**0.0**
	1.9nm,0.3s,baz=288,slow=3.2,SNR=10						
SSLB	**Suanglung**	**7.38**	**254**	*e*Pn	Pn	08 01 05.7	-3.1
SONM	**Songino Array**	**27.89**	**327**	P	**P**	**08 05 11.9**	**+1.2**
	1.9nm,0.7s,baz=140,slow=10,SNR=14						
CMAR	**Chiang Mai Arr**	**28.51**	**261**	P	**P**	**08 05 18.3**	**+1.9**
	1.0nm,0.3s,baz=65,slow=5.1,SNR=5.2						
CMAR				LR	LR	08 16 18.4	
	comp=Z,16nm,21.6s,baz=355,slow=36						
PETK	**Petropavlovsk-**	**34.60**	**31**	LR	LR	08 22 07.6	
	comp=Z,31nm,19.3s,baz=282,slow=40						
TAPN	**Taplejung**	**36.51**	**281**	*e*P	**P**	**08 06 26.8**	**+0.2**
ODAN	**Odare**	**36.86**	**281**	*e*P	**P**	**08 06 29.7**	**+0.2**
GUN	**Gumba**	**38.04**	**283**	*e*P	**P**	**08 06 40.5**	**+0.8**
KKN	**Kakani**	**38.58**	**283**	*e*P	**P**	**08 06 43.7**	**-0.4**
GKN	**Gorkha**	**39.12**	**283**	*e*P	**P**	**08 06 48.1**	**-0.4**
DANN	**Dangsing**	**39.84**	**284**	*e*P	**P**	**08 06 55.0**	**+0.3**
	18nm,0.7s						
MKAR	**Makanchi Array**	**41.93**	**312**	P	**P**	**08 07 10.8**	**-0.6**
	1.0nm,0.6s,baz=93,slow=9.8,SNR=22						
ZALV	**Zalesovo Beam**	**42.60**	**323**	P	**P**	**08 07 14.9**	**-1.7**
	0.4nm,0.3s,baz=104,slow=9.9,SNR=4.0						
KURK	**Kurchatov**	**45.20**	**317**	*e*P	**P**	**08 07 37.7**	**+0.1**
	0.9nm,0.7s						
WRAB	**Tennant Creek**	**46.09**	**173**	*e*P	**P**	**08 07 45.4**	**+0.5**
	2.1nm,0.8s						
WRA	**Warramunga Arr**	**46.09**	**173**	P	**P**	**08 07 45.5**	**+0.6**
	1.0nm,0.5s,baz=354,slow=8.5,SNR=18						
WB2	**Warramunga Arr**	**46.09**	**173**	*e*P	**P**	**08 07 45.6**	**+0.6**
ASAR	**Alice Springs**	**49.73**	**174**	P	**P**	**08 08 13.8**	**+0.7**
	0.4nm,0.6s,baz=8.0,slow=13,SNR=15						
KKAR	**Karatay Array**	**49.82**	**305**	*e*P	**P**	**08 08 13.9**	**+0.2**
	0.5nm,0.4s						
ABKAR	**Akbulak array**	**57.03**	**313**	*e*P	**P**	**08 09 06.4**	**-0.1**
	1.6nm,0.6s						
ILAR	**Eielson Array**	**64.36**	**28**	P	**P**	**08 09 55.9**	**-0.4**
	0.2nm,0.5s,baz=253,slow=4.6,SNR=4.9						
FINES	**FINESS Array B**	**73.18**	**331**	P	**P**	**08 10 50.8**	**-0.4**
	1.7nm,0.8s,baz=98,slow=6.4,SNR=7.1						
AKASG	**Malin Array Be**	**75.90**	**320**	P	**P**	**08 11 07.2**	**+0.1**
	2.1nm,0.6s,baz=57,slow=7.3,SNR=4.1						
BRTR	**Keskin Array B**	**77.44**	**308**	P	**P**	**08 11 16.6**	**+0.3**
	1.1nm,0.6s,baz=110,slow=4.9,SNR=3.5						
YKA	**Yellowknife Ar**	**78.47**	**25**	P	**P**	**08 11 21.9**	**+0.5**
	0.3nm,0.6s,baz=300,slow=5.5,SNR=6.8						
NB2	**NORSAR Subarra**	**79.61**	**334**	P	**P**	**08 11 27.8**	**0.0**
	comp=Z,0.8nm,0.6s,baz=54,slow=5.6						
NOA	**NORSAR Array B**	**79.61**	**334**	P	**P**	**08 11 27.7**	**0.0**
	comp=Z,1.2nm,0.7s,baz=52,slow=5.6,SNR=4.6						
KMBO	**Kilima Mbogo**	**91.78**	**270**	LR	LR	08 55 58.6	
	comp=Z,271nm,20.2s,baz=113,slow=37						

ISCJB ***09*** *08:03:55.6±0.4,14°.72N±0°.07×52°.09E±0°.06,h10km, mb4.0/21,MS3.5/12,Error ellipse: s-maj=11.3km s-min=6.9km az=151.1*
IDC ***09*** *08:03:55.5±0.7,14°.62N×52°.22E,h0km,mb4.0/15, mb1 4.1/15,mb1mx3.9/47,mbtmp4.0/15,MS3.6/12, Ms1 3.6/12,ms1mx3.3/42,Error ellipse: s-maj=20.1km s-min=17.3km az=112.0*
CSEM ***09*** *08:03:56.3±0.4,14°.79N×52°.23E,h2km,mb4.2/8,Error ellipse: s-maj=21.5km s-min=11.9km az=119.0*
NEIC ***09*** *08:03:57.0±0.4,14°.60N×52°.18E,h10km,mb4.2/8,Error ellipse: s-maj=12.5km s-min=9.2km az=122.0*
OMAN ***09*** *08:04:00.7±0.4,15°.00N×52°.26E,h116km±1km,Error ellipse: s-maj=26.9km s-min=10.9km az=281.0*
ISC 09 08:03:57.3±0.6,14°.85N±0°.08×52°.01E±0°.07,h10km,n66, σ1°65/59,mb4.1/21,MS3.5/12,2C-5D,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**2.78**	**26**	⇑P	**Pn**	**08 04 40.6**	**-1.3**
ABTO				⇓S	**Sn**	**08 05 12.6**	**-3.0**
ABTO	**Aybut**	**2.78**	**26**	P	**Pn**	**08 04 40.6**	**-1.3**
ABTO				S	**Sn**	**08 05 12.6**	**-3.0**
MUKL	**Al Mukalla**	**2.90**	**263**	*i* P	**Pn**	**08 04 42.7**	**-0.8**
MUKL				*e*		08 04 42.9	
	baz=81,slow=7.4						
MUKL				*i* S	**Sn**	**08 05 14.5**	**-3.9**
MUKL				AML	AML	08 05 17.9	
	comp=N,1μm,0.2s						
RBK	**Rabkut**	**3.38**	**38**	⇑P	**Pn**	**08 04 49.3**	**-0.8**
RBK	**Rabkut**	**3.38**	**38**	P	**Pn**	**08 04 49.3**	**-0.8**
BDHA	**Al Bayda'**	**6.30**	**263**	*i* P	**Pn**	**08 05 31.8**	**+1.3**
ARQ	**Araqi**	**9.46**	**26**	⇓P	**Pn**	**08 06 12.5**	**-1.2**
ARQ	**Araqi**	**9.46**	**26**	P	**Pn**	**08 06 12.5**	**-1.2**
SMDO	**Samad**	**9.96**	**34**	⇓P	Pn	08 06 17.3	-3.4
SMDO	**Samad**	**9.96**	**34**	P	Pn	08 06 17.3	-3.4
ASHO	**Ashiyiah**	**10.50**	**21**	⇓P	**Pn**	**08 06 25.2**	**-2.7**
ASHO	**Ashiyiah**	**10.50**	**21**	P	**Pn**	**08 06 25.2**	**-2.7**
RAYN	**Ar Rayn**	**10.59**	**326**	*e*Pn	**Pn**	**08 06 27.4**	**-1.8**
	comp=N,28nm,0.5s						
RAYN	**Ar Rayn**	**10.59**	**326**	*e*Pn	**Pn**	**08 06 27.4**	**-1.8**
	comp=N,28nm,0.5s						
BANOM	**Banah**	**11.73**	**19**	⇓P	**Pn**	**08 06 42.4**	**-2.4**
BANOM	**Banah**	**11.73**	**19**	P	**Pn**	**08 06 42.4**	**-2.4**
EIL	**Elat**	**21.56**	**316**	LR	LR	08 17 17.6	
	comp=N,99nm,18.8s,baz=137,slow=37						
KMBO	**Kilima Mbogo**	**21.57**	**224**	P	**P**	**08 08 46.6**	**-0.9**
	comp=N,1.3nm,0.3s,baz=37,slow=13,SNR=5.5						
KMBO	**Kilima Mbogo**	**21.57**	**224**	*e*P	**P**	**08 08 46.9**	**-0.6**
	comp=N,3.5nm,0.8s						
KMBO	**Kilima Mbogo**	**21.57**	**224**	*e*P	**P**	**08 08 46.9**	**-0.6**
	comp=N,3.5nm,0.8s						

GEYT	**Alibeck**	**23.62**	**12**	P	**P**	**08 09 10.8**	**+2.3**
	comp=N,2.4nm,0.6s,baz=262,slow=10,SNR=4.8					
GEYT				LR	LR	08 20 26.0	
	comp=N,157nm,19.0s,baz=335,slow=42						
KBL	**Kabul**	**24.91**	**35**	*e*P	**P**	**08 09 21.6**	**+0.9**
	comp=N,12nm,1.1s						
KBL	**Kabul**	**24.91**	**35**	*e*P	**P**	**08 09 21.6**	**+0.9**
	comp=N,12nm,1.1s						
GNI	**Garni**	**25.99**	**347**	LR	LR	08 22 05.4	
	comp=N,93nm,18.9s,baz=122,slow=42						
BRTR	**Keskin Array B**	**29.55**	**330**	LR	LR	08 23 04.5	
	comp=N,68nm,19.4s,baz=127,slow=38						
KBZ	**Khabaz**	**29.82**	**347**	P	P	08 10 07.1	+2.7
	comp=N,3.2nm,0.8s,baz=184,slow=9.7,SNR=5.4						
KBZ				LR	LR	08 25 06.1	
	comp=N,152nm,19.2s,baz=158,slow=42						
PYUN	**Piuthan**	**31.60**	**60**	*e*P	**P**	**08 10 21.4**	**+0.7**
	comp=N,18nm,0.6s						
KOLN	**Koldanda**	**32.01**	**61**	*e*P	**P**	**08 10 25.1**	**+0.8**
	comp=N,17nm,1.0s						
DANN	**Dangsing**	**32.32**	**60**	*e*P	**P**	**08 10 27.6**	**+0.5**
KKAR	**Karatay Array**	**32.32**	**26**	*e*P	**P**	**08 10 29.3**	**+2.7**
	comp=N,2.0nm,0.7s						
KKAR	**Karatay Array**	**32.32**	**26**	*e*P	**P**	**08 10 29.3**	**+2.7**
	comp=N,2.0nm,0.7s						
DMN	**Daman**	**33.25**	**62**	*e*P	**P**	**08 10 35.8**	**+0.6**
KKN	**Kakani**	**33.45**	**62**	*e*P	**P**	**08 10 37.5**	**+0.6**
PKI	**Pulchoki**	**33.50**	**62**	*e*P	**P**	**08 10 37.3**	**-0.2**
AAK	**Ala-Archa**	**33.77**	**31**	*e*P	**P**	**08 10 41.7**	**+2.2**
	comp=N,1.7nm,0.8s						
AAK	**Ala-Archa**	**33.77**	**31**	*e*P	**P**	**08 10 41.7**	**+2.2**
	comp=N,1.7nm,0.8s						
GUN	**Gumba**	**33.99**	**62**	*e*P	**P**	**08 10 42.0**	**+0.2**
JIRN	**Jiri**	**34.19**	**62**	*e*P	**P**	**08 10 43.3**	**-0.2**
RAMN	**Ramite**	**34.37**	**64**	*e*P	**P**	**08 10 44.5**	**-0.5**
ABKAR	**Akbulak array**	**34.92**	**9**	*e*P	**P**	**08 10 50.5**	**+1.4**
	comp=N,2.1nm,0.7s						
ABKAR	**Akbulak array**	**34.92**	**9**	*e*P	**P**	**08 10 50.5**	**+1.4**
	comp=N,2.1nm,0.7s						
TAPN	**Taplejung**	**35.43**	**64**	*e*P	**P**	**08 10 54.2**	**+0.1**
AKASG	**Malin Array Be**	**40.23**	**338**	P	**P**	**08 11 35.8**	**+1.8**
	comp=N,2.6nm,0.6s,baz=140,slow=7.7,SNR=8.8						
AKASG				LR	LR	08 30 42.7	
	comp=N,49nm,18.4s,baz=285,slow=40						
MKAR	**Makanchi Array**	**40.64**	**32**	P	**P**	**08 11 38.6**	**+1.0**
	comp=N,1.2nm,0.6s,baz=222,slow=7.2,SNR=19						
MKAR				LR	LR	08 30 29.6	
	comp=N,44nm,18.9s,baz=189,slow=39						
KURK	**Kurchatov**	**41.74**	**25**	*e*P	**P**	**08 11 47.8**	**+1.3**
	comp=N,2.1nm,1.2s						
KURK	**Kurchatov**	**41.74**	**25**	*e*P	**P**	**08 11 47.8**	**+1.3**
	comp=N,2.1nm,1.2s						
CMAR	**Chiang Mai Arr**	**45.02**	**79**	P	**P**	**08 12 11.3**	**-2.1**
	comp=N,4.1nm,0.8s,baz=275,slow=8.9,SNR=20						
ZALV	**Zalesovo Beam**	**46.70**	**26**	P	**P**	**08 12 26.4**	**+0.2**
	comp=N,2.5nm,0.8s,baz=234,slow=6.8,SNR=9.1						
LBTB	**Lobatse**	**47.26**	**213**	P	**P**	**08 12 31.6**	**+0.6**
	comp=N,5.4nm,0.7s,baz=52,slow=4.1,SNR=7.1						
LBTB	**Lobatse**	**47.26**	**213**	*e*P	**P**	**08 12 31.4**	**+0.4**
	comp=N,4.9nm,0.7s						
LBTB	**Lobatse**	**47.26**	**213**	*e*P	**P**	**08 12 31.4**	**+0.4**
	comp=N,4.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**48.77**	**275**	P	**P**	**08 12 43.8**	**+1.0**
	comp=N,0.4nm,0.8s,baz=94,slow=7.5,SNR=2.6						
FINES	**FINESS Array B**	**50.12**	**344**	P	**P**	**08 12 54.0**	**+1.6**
	comp=N,1.2nm,0.5s,baz=146,slow=13,SNR=5.4						
FINES	**FINESS Array B**	**50.12**	**344**	P	**P**	**08 12 54.0**	**+1.6**
BOSA	**Boshof**	**50.37**	**211**	LR	LR	08 35 16.7	
	comp=N,72nm,18.6s,baz=164,slow=37						
HFS	**Hagfors**	**53.11**	**337**	P	**P**	**08 13 16.3**	**+1.5**
	comp=N,1.6nm,0.6s,baz=119,slow=12,SNR=5.2						
NOA	**NORSAR Array B**	**54.63**	**337**	P	**P**	**08 13 27.2**	**+1.2**
	comp=N,0.3nm,0.6s,baz=130,slow=6.3,SNR=1.5						
NOA				LR	LR	08 40 05.9	
	comp=N,56nm,18.2s,baz=145,slow=40						
TLY	**Talaya**	**55.04**	**37**	LR	LR	08 38 16.0	
	comp=N,42nm,18.5s,baz=242,slow=37						
SONM	**Songino Array**	**55.42**	**42**	P	**P**	**08 13 32.8**	**+0.8**
	comp=N,1.5nm,0.8s,baz=245,slow=7.3,SNR=11						
ARCES	**ARCESS Array B**	**57.13**	**349**	LR	LR	08 41 24.7	
	comp=N,97nm,18.0s,baz=228,slow=39						
KSRS	**Korea Array**	**70.03**	**55**	LR	LR	08 47 15.9	
	comp=N,47nm,18.2s,baz=141,slow=37						
WRA	**Warramunga Arr**	**87.99**	**111**	P	**P**	**08 16 46.4**	**-1.8**
	0.5nm,0.6s,baz=301,slow=3.8,SNR=13						
WRAB	**Tennant Creek**	**88.00**	**111**	*e*P	**P**	**08 16 46.6**	**-1.7**
	comp=N,7.0nm,1.5s						
WRAB	**Tennant Creek**	**88.00**	**111**	*e*P	**P**	**08 16 46.6**	**-1.7**
	comp=N,7.0nm,1.5s						
ASAR	**Alice Springs**	**88.66**	**115**	P	**P**	**08 16 49.7**	**-1.7**
	comp=N,0.6nm,0.7s,baz=292,slow=4.6,SNR=14						
NVAR	**Mina Array Bea**	**126.23**	**351**	PKP	**PKPdf**	**08 22 59.5**	**-1.4**
	comp=N,0.7nm,0.7s,baz=69,slow=2.1,SNR=3.7						

IDC 09 08:36:07.1±5.7,33°.15S×56°.84E,h0km,mb3.4/1, mb1 3.8/1,mb1mx3.2/36,mbtmp3.4/1,Error ellipse: s-maj=339.5km s-min=60.6km az=32.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**29.74**	**29**	T	T	09 14 25.3	
	baz=204,slow=76,SNR=22						
H08N1	**Diego Garcia H**	**29.75**	**29**	T	T	09 14 26.2	
	baz=204,slow=76,SNR=20						
H08N2	**Diego Garcia H**	**29.76**	**29**	T	T	09 14 26.9	
	baz=204,slow=76,SNR=24						
WRA	**Warramunga Arr**	**69.18**	**101**	P	P	08 47 15.8	0.0
	0.4nm,0.8s,baz=238,slow=5.5,SNR=2.4						
ILAR	**Eielson Array**	**145.17**	**18**	PKPbc	PKPbc	08 55 44.8	-0.6
	0.4nm,0.7s,baz=319,slow=4.4,SNR=6.2						
YKA	**Yellowknife Ar**	**150.13**	**352**	PKPbc	PKPbc	08 55 58.4	-0.6
	0.7nm,0.7s,baz=7.9,slow=2.4,SNR=18						

JMA ***09*** *08:37:32.9±0.3,43°.85N×147°.49E,h14km,M3.6*
SKHL ***09*** *08:37:33.9±0.5,44°.13N×147°.60E,h40km±8km,mb4.7/2*
ISC 09 08:37:31.0±3.5,44°.0N±0°.1×147°.8E±0°.2,h32km±19km,n10, σ1°34/17,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.71**	**258**	*e*P	**Pn**	**08 37 45.3**	**+0.5**
SHO				*e*S	**Sb**	**08 37 53.8**	**-0.7**
KUR	**Kuril'sk**	**1.21**	**2**	*e*P	**Pn**	**08 37 52.3**	**+0.6**
KUR				AMB	AMB	08 37 52.4	
	70nm,0.1s						
KUR				*e*S	**Sn**	**08 38 05.7**	**-1.3**
KUR				A	A	08 38 08.5	
	255nm,0.2s						
KUR				A	A	08 38 08.5	
	126nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.39**	**271**	*e*P	**Pn**	**08 37 54.5**	**+0.3**
YUK				AMB	AMB	08 37 55.6	
	75nm,0.1s						
YUK				*e*S	**Sn**	**08 38 10.3**	**-1.1**
YUK				A	A	08 38 12.8	
	589nm,0.2s						
YUK				A	A	08 38 12.8	
	242nm,0.2s						
NEM2	**Nemuro 2**	**1.62**	**247**	P	**Pn**	**08 37 57.5**	**+0.2**
NEM2				*e*S	**Sn**	**08 38 15.3**	**-1.8**
JRA	**Rausu**	**1.93**	**268**	P	**Pn**	**08 38 02.6**	**+1.1**
JNK	**Nakash**	**2.27**	**260**	P	**Pn**	**08 38 07.1**	**+0.9**
JNK				*e*S	**Sn**	**08 38 32.1**	**-0.9**
JAK	**Akkeshi**	**2.48**	**247**	P	**Pn**	**08 38 09.6**	**+0.6**
JAK				*e*S	**Sn**	**08 38 37.0**	**-1.1**
JTKR	**Abashiri--Toko**	**2.80**	**270**	P	**Pn**	**08 38 16.0**	**+2.5**
JAR	**Ashorobuto**	**3.01**	**257**	P	**Pn**	**08 38 18.2**	**+1.8**
JAR				*e*S	**Sn**	**08 38 51.6**	**+0.3**
JOB	**Onbets**	**3.09**	**250**	P	**Pn**	**08 38 18.9**	**+1.4**

NIED ***09*** *08:40:00,26°.00N×128°.70E,h8km,Mw4.1 Best double couple: M0=1.36000×1015 NP1:φ=205.00000°,δ=46.00000°, λ=68.00000°. NP2:φ=55.00000°,δ=48.00000°,λ=111.00000°.*
IDC ***09*** *08:40:28.0±0.8,25°.96N×128°.42E,h0km,mb3.9/11, mb1 4.0/12,mb1mx3.8/40,mbtmp3.9/12,ML3.4/1,MS2.6/1, Ms1 2.6/1,ms1mx2.3/35,Error ellipse: s-maj=34.1km s-min=15.6km az=79.0*
ISCJB ***09*** *08:40:29.8±1.0,25°.98N±0°.04×128°.63E±0°.05,h26km±7km, mb4.0/15,Error ellipse: s-maj=7.6km s-min=6.1km az=12.6*

NEIC ***09*** *08:40:29.6±0.5,25°.90N×128°.42E,h10km,mb4.3/5,Error ellipse: s-maj=9.6km s-min=6.9km az=103.0*
JMA ***09*** *08:40:30.0±0.4,25°.98N×128°.67E,h31km,M3.5*
ISC 09 08:40:31.0±1.7,26°.01N±0°.06×128°.55E±0°.06,h20km±7km, n37,σ1°12/40,mb4.0/15,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.69**	**317**	P	**Pg**	**08 40 44.5**	**-0.3**
JJT2	**Tamagusuku 2**	**0.73**	**280**	P	**Pb**	**08 40 45.8**	**+0.7**
JOW	**Kunigami**	**0.85**	**343**	P	**Pb**	**08 40 47.0**	**-0.2**
JOW	**Kunigami**	**0.85**	**343**	Pn	**Pb**	**08 40 47.1**	**-0.2**
	8.2nm,0.3s,baz=163,slow=24,SNR=42						
JOW				Sn	**Sb**	**08 40 58.5**	**+0.2**
	12nm,0.3s,baz=341,slow=28,SNR=8.6						
JOW	**Kunigami**	**0.85**	**343**	*e*Pg	**Pb**	**08 40 46.6**	**-0.7**
JIH	**Iheya**	**1.15**	**333**	P	**Pn**	**08 40 51.6**	**-0.4**
JIH				*e*S	**Sb**	**08 41 07.5**	**+0.8**
JAGN	**Aguni-jima**	**1.31**	**296**	P	**Pn**	**08 40 54.3**	**+0.1**
JOKE	**Okinoerabujima**	**1.35**	**1**	P	**Pn**	**08 40 54.1**	**-0.7**
JOKE				*e*S	**Sn**	**08 41 10.3**	**-1.8**
JKE	**Kume jima 2**	**1.61**	**282**	P	**Pn**	**08 40 57.7**	**-0.7**
JKE				*e*S	**Sn**	**08 41 17.5**	**-1.2**
JTK	**Tokunoshima**	**1.81**	**11**	P	**Pn**	**08 41 00.1**	**-1.0**
JAMN	**Amaminishikomi**	**2.29**	**14**	P	**Pn**	**08 41 07.9**	**+0.1**
JAMN				*e*S	**Sn**	**08 41 34.1**	**-1.3**
JMZ	**Minamidaito 2**	**2.41**	**94**	P	Pn	08 41 06.2	-3.2
JMZ				*e*S	Sn	08 41 31.9	-6.5
JAM	**Amami Oshima**	**2.57**	**21**	P	**Pn**	**08 41 10.2**	**-1.4**
JAM				*e*S	**Sn**	**08 41 40.5**	**-1.8**
TATO	**Taipei**	**6.46**	**262**	*e*Pn	**Pn**	**08 42 04.9**	**-0.2**
NACB	**Ninganchiao**	**6.56**	**255**	*e*Pn	**Pn**	**08 42 04.1**	**-2.5**
YULB	**Yu-li**	**7.09**	**250**	*e*Pn	Pn	08 42 09.7	-4.1
SSLB	**Suanglung**	**7.24**	**254**	*e*Pn	**Pn**	**08 42 12.8**	**-3.0**
JNU	**Nakatsue**	**7.37**	**15**	Pn	**Pn**	**08 42 18.4**	**+0.7**
	0.5nm,0.3s,baz=188,slow=15,SNR=4.5						
MJAR	**Matsushiro Arr**	**13.35**	**36**	LR	LR	08 48 36.3	
	comp=Z,25nm,18.8s,baz=150,slow=36						
BJT	**Baijiatuan**	**17.38**	**327**	*e*P	**Pn**	**08 44 33.2**	**+0.9**
	19nm,0.7s						
ULN	**Ulaanbaatar**	**27.59**	**328**	*e*P	**P**	**08 46 19.0**	**+1.9**
	3.2nm,0.8s						
SONM	**Songino Array**	**27.89**	**327**	P	**P**	**08 46 21.4**	**+1.6**
	1.4nm,0.5s,baz=136,slow=10,SNR=6.8						
MKAR	**Makanchi Array**	**41.89**	**312**	P	**P**	**08 48 19.8**	**-0.3**
	0.9nm,0.6s,baz=101,slow=10,SNR=10						
WRAB	**Tennant Creek**	**46.02**	**172**	*e*P	**P**	**08 48 52.7**	**-0.6**
	7.2nm,1.0s						
WRA	**Warramunga Arr**	**46.02**	**172**	P	**P**	**08 48 52.8**	**-0.6**
	2.2nm,0.6s,baz=353,slow=8.4,SNR=27						
WB2	**Warramunga Arr**	**46.02**	**172**	*e*P	**P**	**08 48 52.5**	**-0.9**
ASAR	**Alice Springs**	**49.66**	**174**	P	**P**	**08 49 21.4**	**-0.2**
	1.2nm,0.7s,baz=6.2,slow=9.5,SNR=13						
BVAR	**Borovoye Array**	**50.63**	**318**	P	**P**	**08 49 28.0**	**-0.6**
	0.7nm,0.6s,baz=69,slow=8.7,SNR=3.9						
ABKAR	**Akbulak array**	**57.01**	**313**	*e*P	**P**	**08 50 15.8**	**+0.5**
	1.7nm,0.8s						
ILAR	**Eielson Array**	**64.50**	**28**	P	**P**	**08 51 07.2**	**+1.1**
	0.2nm,0.9s,baz=270,slow=8.1,SNR=1.3						
FINES	**FINESS Array B**	**73.19**	**331**	P	**P**	**08 52 00.1**	**-0.2**
	1.3nm,0.7s,baz=101,slow=7.2,SNR=2.4						
AKASG	**Malin Array Be**	**75.88**	**320**	P	**P**	**08 52 15.7**	**-0.4**
	1.2nm,0.5s,baz=60,slow=6.1,SNR=4.7						
BRTR	**Keskin Array B**	**77.39**	**308**	P	**P**	**08 52 25.4**	**+0.3**
	0.9nm,0.7s,baz=99,slow=6.4,SNR=3.7						
YKA	**Yellowknife Ar**	**78.60**	**25**	P	**P**	**08 52 32.5**	**+1.4**
	0.2nm,0.8s,baz=298,slow=5.5,SNR=5.2						
NB2	**NORSAR Subarra**	**79.64**	**334**

I46RU	ZALESOVO INFRA	0.37 246	*i*					08 51 50.0	
	baz=70,slow=330,SNR=1.0								
ZALV	Zalesovo Beam	0.37 245		Pn		Pg		08 46 00.3	-1.2
	3.0nm,0.3s,baz=69,slow=16,SNR=26								
ZALV						Pg		**08 46 02.6**	**-0.3**
	3.0nm,0.3s,baz=67,slow=16,SNR=27								
ZALV						Lg		08 46 15.3	
	11nm,0.3s,baz=82,slow=29,SNR=38								
KURK	Kurchatov	5.35 233		⇑Pn		Pn		08 47 15.6	+1.5
	2.7nm,1.3s								
KURK				⇓Lg		Lg		08 48 37.1	
	3.9nm,1.0s								
KURBB	Kurchatov Arra	5.46 233		Pn		Pn		08 47 16.3	+0.8
	0.5nm,0.3s,baz=50,slow=13,SNR=35								
KURBB				Lg		Lg		08 48 56.5	
	0.1nm,0.3s,baz=42,slow=28,SNR=5.3								
MK31	Makanchi Array	7.58 196		⇑Pn		Pn		08 47 43.3	-1.5
	1.5nm,0.6s,baz=202,slow=17,SNR=28								
MK31				⇑Sn		Sn		08 49 10.6	0.0
	0.5nm,0.6s								
MK31				⇑Lg		Lg		08 49 52.2	
	1.3nm,0.7s,baz=25,slow=28,SNR=3.5								
MKAR	Makanchi Array	7.58 196		Pn		Pn		08 47 42.9	-1.8
	0.4nm,0.3s,baz=26,slow=13,SNR=29								
MKAR				Sn		Sn		08 49 12.2	+1.6
	0.3nm,0.3s,baz=36,slow=22,SNR=5.2								
MKAR				Lg		Lg		08 49 54.8	
	0.1nm,0.3s,baz=19,slow=28,SNR=3.9								
VOSK	Vostochnaya	8.72 267		⇑Pn		Pn		08 48 00.1	-0.1
	2.3nm,1.1s								
VOSK				⇑Sn		Sn		08 49 35.9	-2.6
	2.5nm,0.8s								
BVA0	Borovoye Array	8.99 269		⇑Pn		Pn		08 48 03.7	-0.4
	2.5nm,1.3s,baz=67,slow=15,SNR=4.6								
BVA0				⇑Sn		Sn		08 49 43.1	-2.1
	6.4nm,1.4s,baz=77,slow=9.4,SNR=4.4								
BVAR	Borovoye Array	8.99 269		Pn		Pn		08 48 05.1	+1.0
	0.4nm,0.3s,baz=72,slow=16,SNR=5.5								
BVAR				Sn		Sn		08 49 44.1	-1.2
	0.4nm,0.3s,baz=76,slow=24,SNR=4.2								
BRVK	Borovoye	9.05 269		⇑Pn		Pn		08 48 08.3	+3.5
	1.5nm,0.5s								
BRVK				⇑Sn		Sn		08 49 46.7	+0.1
	2.1nm,0.7s								

*IDC **09** 08:58:41.6±0.9, 7°.92N×126°.98E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/38, mbtmp3.6/7, Error ellipse: s-maj=55.4km s-min=19.6km az=71.0*
*ISCJB **09** 08:58:46.0±0.8, 7°.8N±0°.2×126°.7E±0°.4, h46km, mb3.5/7, Error ellipse: s-maj=52.9km s-min=17.5km az=161.8*
ISC 09 08:58:48.1±1.0, 7°.9N±0°.2×126°.9E±0°.4, h46km, n7, σ0°78/7, mb3.8/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.58	165	P	P	09 04 39.0	-1.0
	0.2nm,0.7s,baz=349,slow=9.4,SNR=3.1						
ASAR	Alice Springs	32.07	168	P	P	09 05 11.7	+0.9
	0.1nm,0.5s,baz=339,slow=8.2,SNR=3.7						
MKAR	Makanchi Array	54.33	324	P	P	09 08 10.2	+0.2
	2.2nm,0.9s,baz=117,slow=7.4,SNR=15						
ZALV	Zalesovo Beam	57.03	332	P	P	09 08 28.5	-0.7
	0.8nm,0.5s,baz=142,slow=7.3,SNR=4.3						
BVAR	Borovoye Array	64.00	326	P	P	09 09 16.9	+0.1
	0.4nm,0.4s,baz=86,slow=7.8,SNR=2.2						
ILAR	Eielson Array	81.31	26	P	P	09 10 59.2	-0.1
	0.2nm,0.7s,baz=256,slow=4.3,SNR=3.3						
YKA	Yellowknife Ar	95.67	24	P	P	09 12 09.1	+0.4
	0.2nm,0.6s,baz=306,slow=4.9,SNR=4.8						

*CSEM **09** 09:07:47.8, 38°.67N×29°.28W, h8km, ML3.4*
PDA 09 09:07:47.8±0.8, 38°.67N×29°.28W, h8km±4km, MD3.5, ML3.4, Error ellipse: s-maj=5.6km s-min=4.5km az=28.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.45	95	*e*P	Pg	09 07 55.1	-1.5
PCED				*e*S	Sg	09 08 01.2	-1.4
PCED				A	A	09 08 02.6	
	1μm,0.3s						
PCED	Cedros	0.45	95	*e*P	Pg	09 07 55.1	-1.5
PCED				*e*S	Sg	09 08 01.2	-1.4
CALA	Caldeira	0.46	101	*e*P	Pg	09 07 56.1	-0.7
CALA				*e*S	Sg	09 08 01.6	-1.4
CALA	Caldeira	0.46	101	*e*P	Pg	09 07 56.1	-0.7
CALA				*e*S	Sg	09 08 01.6	-1.4
HOR	Horta	0.53	106	*e*P	Pg	09 07 56.6	-1.4
HOR				*e*S	Sg	09 08 03.2	-1.7
HOR	Horta	0.53	106	*e*P	Pg	09 07 56.6	-1.4
HOR				*e*S	Sg	09 08 03.2	-1.7
PCAN	Candelaria	0.65	108	*e*P	Pg	09 07 58.8	-1.7
PCAN				*e*S	Sg	09 08 06.2	-2.8
PCAN				A	A	09 08 09.2	
	1μm,0.2s						
PCAN	Candelaria	0.65	108	*e*P	Pg	09 07 58.8	-1.7
PCAN				*e*S	Sg	09 08 06.2	-2.8
PICO	Pico	0.69	104	*e*P	Pg	09 07 59.1	-2.1
PICO				*e*S	Sg	09 08 07.4	-2.8
PICO	Pico	0.69	104	*e*P	Pg	09 07 59.1	-2.1
PICO				*e*S	Sg	09 08 07.4	-2.8
ROSA	Rosais	0.81	86	*i* P	Pg	09 08 00.6	-2.8
ROSA				*e*S	Sg	09 08 10.5	-3.5
ROSA				A	A	09 08 11.5	
	1μm,0.2s						
ROSA	Rosais	0.81	86	*i* P	Pg	09 08 00.6	-2.8
ROSA				*e*S	Sg	09 08 10.5	-3.5
PMAN	Manadas	0.93	92	*e*P	Pg	09 08 02.1	-3.6
PMAN				*e*S	Sg	09 08 13.4	-4.4
PMAN				A	A	09 08 15.4	
	348nm,0.3s						
PMAN	Manadas	0.93	92	*e*P	Pg	09 08 02.1	-3.6
PMAN				*e*S	Sg	09 08 13.4	-4.4
PID	Ribeirinha	0.94	104	*e*P	Pg	09 08 02.4	-3.4
PID	Ribeirinha	0.94	104	*e*P	Pg	09 08 02.4	-3.4
TOPO	Topo	1.06	94	*e*P	Pg	09 08 04.3	-4.1
TOPO				*e*S	Sg	09 08 16.5	-5.8
TOPO	Topo	1.06	94	*e*P	Pg	09 08 04.3	-4.1
TOPO				*e*S	Sg	09 08 16.5	-5.8
PGRA	Graciosa	1.07	70	*e*P	Pg	09 08 04.2	-4.2
PGRA				*e*S	Sg	09 08 16.5	-5.8
PGRA				A	A	09 08 20.9	
	141nm,0.3s						
PGRA	Graciosa	1.07	70	*e*P	Pg	09 08 04.2	-4.2
PGRA				*e*S	Sg	09 08 16.5	-5.8
ADH	Angra Heroismo	1.60	90	*e*S	Sn	09 08 29.6	-7.5
ADH				A	A	09 08 31.5	
	130nm,0.3s						
ADH	Angra Heroismo	1.60	90	*e*S	Sn	09 08 29.6	-7.5

IDC 09 09:22:33.3±3.7, 6°.08S×149°.36E, h0km, mb3.2/2, mb1 3.7/3, mb1mx3.4/24, mbtmp3.5/3, ML3.1/1, MS2.2/1, Ms1 2.2/1, ms1mx2.2/10, Error ellipse: s-maj=126.8km s-min=41.3km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.96	213	Pn	Pn	09 23 36.2	+0.8
	10nm,0.3s,baz=360,slow=3.4,SNR=23						
PMG				Sn	Sn	09 24 19.5	-3.0
	7.6nm,0.3s,baz=46,slow=19,SNR=3.5						
PMG				LR	LR	09 24 34.3	
	comp=Z,31nm,18.9s,baz=194,slow=30						
WRA	Warramunga Arr	20.07	225	P	P	09 27 08.3	-0.2
	0.8nm,0.3s,baz=51,slow=11,SNR=13						
ASAR	Alice Springs	22.95	219	P	P	09 27 39.2	-0.3
	0.3nm,0.5s,baz=52,slow=9.6,SNR=11						
TORD	Torodi Ar. Bea	147.38	285	PKPbc	PKPbc	09 42 19.5	-0.7
	0.3nm,0.4s,baz=76,slow=4.1,SNR=7.0						

IDC 09 09:25:50.8±7.8, 15°.88S×176°.67W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/23, mbtmp3.8/3, Error ellipse: s-maj=346.1km s-min=34.2km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.67	257	P	P	09 34 21.1	-0.6
	0.1nm,0.4s,baz=93,slow=6.7,SNR=9.1						
ASAR	Alice Springs	46.97	252	P	P	09 34 24.2	+0.2
	2.6nm,0.4s,baz=85,slow=7.9,SNR=52						
ILAR	Eielson Array	83.55	12	P	P	09 38 20.4	0.0
	0.6nm,0.7s,baz=224,slow=5.1,SNR=9.4						

*ISCJB **09** 09:41:08.0±0.7, 39°.28N±0°.04×38°.56E±0°.05, h13km±6km, Error ellipse: s-maj=8.4km s-min=4.9km az=137.0*
*ISK **09** 09:41:07.5, 39°.27N×38°.56E, h12km, MD2.8*
*CSEM **09** 09:41:08.1±0.2, 39°.27N×38°.46E, h10km, MD2.8, Error ellipse: s-maj=8.3km s-min=5.8km az=115.0*
ISC 09 09:41:07.6±0.8, 39°.28N±0°.03×38°.53E±0°.04, h13km±5km, n22, σ0°84/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	Kemaliye	0.03	256	*i* P	Pg	09 41 09.6	-0.6
KEMA				*i* S	Sg	09 41 12.7	+0.8
KEMA	Kemaliye	0.03	256	*i* P	Pg	09 41 09.6	-0.6
KEMA				*i* S	Sg	09 41 12.7	+0.8
ILIC	ilic-Erzincan	0.18	10	PG	Pg	09 41 12.4	+0.5
ILIC	ilic-Erzincan	0.18	10	*i* Pg	Pg	09 41 12.4	+0.5
EZC	Erzincan	0.80	53	*i* Pg	Pn	09 41 26.0	+1.3
MALT	Malatya	0.96	185	PG	Pg	09 41 26.7	+0.4
MALT				*e*SG	Sn	09 41 40.7	+0.2
MALT	Malatya	0.96	185	*i* Pg	Pg	09 41 26.7	+0.4
MALT				*e*Sg	Sn	09 41 40.7	+0.2
ERZN	Erzincan	0.98	71	PG	Pb	09 41 26.0	-0.5
ERZN				*e*SG	Sg	09 41 39.6	+0.3
KELT	Kelkit	1.04	33	*i* P	Pb	09 41 24.0	-3.6
KELT				*i* S	Sb	09 41 39.0	-2.2
KELT	Kelkit	1.04	33	*i* P	Pb	09 41 24.0	-3.6
KELT				*i* S	Sb	09 41 39.0	-2.2
DARE	Darende-Malaty	1.08	230	PN	Pn	09 41 28.5	0.0
DARE	Darende-Malaty	1.08	230	*i* Pn	Pn	09 41 28.5	0.0
SVSK	Karacayir	1.34	299	*e*PN	Pn	09 41 32.7	+0.7
SVSK	Karacayir	1.34	299	*e*Pn	Pn	09 41 32.7	+0.7
GUMT	Gumushane	1.39	31	*e*PN	Pb	09 41 33.6	0.0
GUMT	Gumushane	1.39	31	*e*Pn	Pb	09 41 33.6	0.0
RSDY	Resadiye-TOKAT	1.45	321	*e*PN	Pb	09 41 34.5	0.0
RSDY	Resadiye-TOKAT	1.45	321	*e*Pn	Pb	09 41 34.5	0.0
BINT	Bingol	1.58	104	*e*Pn	Pb	09 41 37.0	+0.3
BAYT	Ayd¨–ntepe-Bay	1.67	48	*e*PN	Pn	09 41 37.5	+0.7
BAYT	Ayd¨–ntepe-Bay	1.67	48	*e*Pn	Pn	09 41 37.5	+0.7
BNGB	Bing¶l	1.70	99	*e*PN	Pn	09 41 37.0	-0.1

*IDC **09** 09:46:01.4±0.9, 6°.11S×103°.41E, h0km, mb4.4/12, mb1 4.4/12, mb1mx4.2/37, mbtmp4.4/12, MS3.6/2, Ms1 3.7/2, ms1mx2.9/39, Error ellipse: s-maj=28.4km s-min=17.9km az=50.0*
*DJA **09** 09:46:02.4±0.5, 6°.5±3°.3×10°.3E±°, h10km, M4.8/16, mb4.8/6, mB6.0/1, MLv4.8/16, Mw(mB)5.6/1*
*ISCJB **09** 09:46:03.2±0.4, 6°.43S±0°.05×103°.27E±0°.05, h35km, mb4.3/17, MS3.5/2, Error ellipse: s-maj=8.5km s-min=4.5km az=139.8*
*NEIC **09** 09:46:06.7±0.4, 6°.14S×103°.46E, h35km, mb4.5/5, Error ellipse: s-maj=14.3km s-min=6.3km az=45.0*
ISC 09 09:46:04.9±0.6, 6°.46S±0°.06×103°.26E±0°.07, h35km, n65, σ1°51/57, mb4.4/17, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	Kota Agung	1.55	53	P	Pn	09 46 28.3	-1.7
LWLI	Liwa	1.64	29	P	Pn	09 46 29.2	-2.2
MNAI	Manna	2.11	352	P	Pn	09 46 36.8	-0.9
MNAI	Manna	2.11	352	P	Pn	09 46 36.9	-0.9
	baz=2.0,SNR=17						
MNAI	Manna	2.11	352	*e*Pn	Pn	09 46 36.9	-0.9
MDSI	Maura Dua	2.17	25	P	Pn	09 46 37.2	-1.3
MDSI				S	Sn	09 47 04.8	+0.6
CGJI	Cibinong	2.42	94	P	Pn	09 46 42.3	+0.2
LHSI	Lahat	2.63	6	P	Pn	09 46 44.9	0.0
TNG	Tangerang	3.38	85	P	Pn	09 46 51.8	-3.4
TNG	Tangerang	3.38	85	P	Pn	09 46 52.0	-3.2
CNJI	Cibinong	3.94	103	P	Pn	09 47 03.2	+0.4
XMI	Christmas Isla	4.63	149	P	Pn	09 47 11.3	-1.2
	baz=4.7,SNR=5.8						
XMI				S	Sn	09 48 09.2	+4.1
	baz=4.7,SNR=3.0						
XMIS	Christmas Isla	4.64	149	P	Pn	09 47 11.1	-1.4
	baz=4.7,SNR=17						
XMIS				S	Sn	09 48 01.2	-4.1
	baz=4.7,SNR=5.2						
XMIS	Christmas Isla	4.64	149	*e*Pn	Pn	09 47 11.2	-1.4
CISI	Cisompet, Garu	4.65	104	P	Pn	09 47 13.4	+0.6
	baz=4.5,SNR=5.9						
CISI	Cisompet, Garu	4.65	104	*e*Pn	Pn	09 47 13.1	+0.3
CISI				*e*Sn	Sn	09 48 03.0	-2.6
CMJI	Cimerak	5.32	105	P	Pn	09 47 22.6	+0.8
	71nm,0.8s,0.3nm						
KPJI	Karang Pucung	5.70	99	P	Pn	09 47 30.7	+3.6
	24nm,1.2s,0.1nm						
DSRI	Dabo	6.09	13	P	Pn	09 47 36.8	+4.3
PDSI	Padang	6.18	333	P	Pn	09 47 32.2	-1.6
	38nm,0.5s,11μm0.5nm						
UGM	Wanagama	7.35	102	P	Pn	09 47 50.2	+0.3
	105nm,1.4s,0.5nm						
UGM	Wanagama	7.35	102	P	Pn	09 47 52.9	+3.1
	baz=7.2,SNR=5.5						
PWJI	Pagerwojo	8.62	101	P	Pn	09 48 08.9	+1.7
JAGI	Jajag, Banyuwa	10.98	101	P	Pn	09 48 38.1	-1.6
	baz=11,SNR=6.1						
BATI	Baumata	20.53	102	P	P	09 50 41.2	+0.7
	25nm,0.3s,baz=268,slow=5.1,SNR=6.3						
CMAR	Chiang Mai Arr	25.13	350	P	P	09 51 24.8	-2.0
	2.8nm,0.7s,baz=180,slow=9.0,SNR=18						
CMAR				LR	LR	10 00 58.1	
	comp=Z,95nm,18.1s,baz=185,slow=36						
PALK	Pallekele	26.32	301	LR	LR	10 01 28.8	
	comp=Z,151nm,18.8s,baz=110,slow=35						
KNRA	Kununurra	26.62	112	P	P	09 51 49.6	+9.2
	baz=26,SNR=8.6						
MTN	Manton Dam	28.18	105	P	P	09 51 55.3	+0.9
	baz=28,SNR=4.4						
H01W3	Cape Leeuwin H	30.01	162	T	T	10 23 54.2	
	baz=339,slow=76,SNR=6.9						
H01W2	Cape Leeuwin H	30.02	162	T	T	10 23 54.2	
	baz=339,slow=76,SNR=7.6						
H01W1	Cape Leeuwin H	30.02	162	T	T	10 23 43.8	
	baz=339,slow=76,SNR=6.6						
H08S2	Diego Garcia H	30.55	266	T	T	10 24 19.2	
	baz=89,slow=75,SNR=25						
H08S3	Diego Garcia H	30.56	266	T	T	10 24 18.7	
	baz=89,slow=75,SNR=25						
H08S1	Diego Garcia H	30.57	266	T	T	10 24 23.3	
	baz=89,slow=75,SNR=26						
WRA	Warramunga Arr	33.01	117	P	P	09 52 38.0	+1.0
	0.7nm,0.7s,baz=285,slow=12,SNR=6.9						
WRAB	Tennant Creek	33.02	117	P	P	09 52 38.5	+1.3
	23nm,1.8s						
PALU	Palau	34.03	67	S	S	09 58 04.7	-4.6
	baz=34,SNR=4.2						
ASAR	Alice Springs	34.05	123	P	P	09 52 48.0	+1.9
	0.2nm,0.4s,baz=299,slow=7.3,SNR=5.7						
TAPN	Taplejung	36.83	337	*e*P	P	09 53 10.4	+0.2
RAMN	Ramite	36.93	335	*e*P	P	09 53 11.6	+0.6
	6.2nm,0.4s						
JIRN	Jiri	37.72	335	*e*P	P	09 53 18.2	+0.3
	20nm,0.7s						
GUN	Gumba	38.07	335	*e*P	P	09 53 21.2	+0.4
	15nm,0.4s						
KKN	Kakani	38.23	334	*e*P	P	09 53 21.7	-0.2
GKN	Gorkha	38.70	333	*e*P	P	09 53 25.7	-0.1
KOLN	Koldanda	38.98	332	*e*P	P	09 53 28.7	+0.5
	10nm,0.6s						
DANN	Dangsing	39.39	332	*e*P	P	09 53 31.9	+0.1
	27nm,0.8s						
COEN	Coen	39.94	104	P	P	09 53 36.5	+0.3
	baz=40,SNR=5.5						
JNU	Nakatsue	47.31	32	P	P	09 54 33.5	-1.8
	18nm,1.0s,baz=198,slow=9.6,SNR=3.2						
KSAR	Wonju Array Be	49.36	26	P	P	09 54 50.7	-0.3
KSRS	Korea Array	49.39	26	P	P	09 54 50.7	-0.5
	3.3nm,0.6s,baz=226,slow=7.4,SNR=12						
SONM	Songino Array	54.13	3	P	P	09 55 26.3	-0.3
	7.8nm,0.9s,baz=180,slow=9.1,SNR=54						
SONM				PcP	PcP	09 56 31.4	+0.4
	0.5nm,0.4s,baz=184,slow=3.5,SNR=4.2						
ULN	Ulaanbaatar	54.20	3	*e*P	P	09 55 27.0	-0.1
	1.6nm,0.6s						
TKM2	Tokmak 2	55.20	335	*e*P	P	09 55 34.8	+0.3
	4.0nm,0.4s						
MKAR	Makanchi Array	56.20	343	P	P	09 55 41.0	-0.4
	1.7nm,0.4s,baz=149,slow=8.8,SNR=26						
USRK	Ussuriysk Ar.	56.70	24	P	P	09 55 43.6	-1.4
	6.9nm,0.6s,baz=214,slow=6.0,SNR=36						
KURK	Kurchatov	60.80	342	*e*P	P	09 56 12.9	-0.4
	1.4nm,0.7s						
ZALV	Zalesovo Beam	62.16	348	P	P	09 56 21.7	-0.8
	3.9nm,0.3s,baz=160,slow=5.5,SNR=20						
ABKAR	Akbulak array	67.09	331	*e*P	P	09 56 55.2	+0.5
	2.4nm,0.6s						
BOSA	Boshof	76.41	242	P	P	09 57 55.8	+4.3
	1.9nm,0.8s,baz=90,slow=13,SNR=2.1						
BRTR	Keskin Array B	78.71	313	P	P	09 58 05.0	+0.9
	0.5nm,0.7s,baz=33,slow=40,SNR=2.3						
FINES	FINESS Array B	89.55	332	P	P	09 58 59.8	+1.3
	0.5nm,0.5s,baz=121,slow=7.3,SNR=6.5						
YKA	Yellowknife Ar	117.60	19	PKP	PKPdf	10 04 47.3	+0.4
	0.1nm,0.7s,baz=354,slow=2.5,SNR=2.9						
PDAR	Pinedale Array	133.68	33	PKP	PKPdf	10 05 20.2	+1.7
	0.2nm,0.5s,baz=5.2,slow=1.0,SNR=2.1						
TXAR	Lajitas Array	145.91	45	PKPbc	PKPab	10 05 42.9	+0.9
	3.8nm,0.5s,baz=303,slow=1.0,SNR=108						

IDC 09 09:46:22.4±3.5, 5°.88S×150°.13E, h0km, mb3.0/2, mb1 3.5/3, mb1mx3.3/35, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=130.9km s-min=41.6km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.58	220	Pn	Pn	09 47 33.8	+0.9
	5.0nm,0.3s,baz=13,slow=9.7,SNR=14						
PMG				Sn	Sn	09 48 20.2	-6.6
	3.6nm,0.3s,baz=11,slow=19,SNR=3.4						
WRA	Warramunga Arr	20.76	226	P	P	09 51 04.1	-0.9
	0.7nm,0.5s,baz=52,slow=11,SNR=9.4						
ASAR	Alice Springs	23.59	220	P	P	09 51 35.0	-0.1
	0.1nm,0.4s,baz=56,slow=9.0,SNR=6.1						
TORD	Torodi Ar. Bea	148.06	285	PKPbc	PKPbc	10 06 10.8	-0.4
	0.3nm,0.4s,baz=58,slow=2.4,SNR=6.5						

*IDC **09** 09:52:06.7±2.5, 44°.15N×129°.09W, h0km, mb3.3/4, mb1 3.6/10, mb1mx3.5/43, mbtmp3.4/10, ML3.3/6, MS2.9/2, Ms1 3.0/2, ms1mx2.6/17, Error ellipse: s-maj=43.1km s-min=19.2km az=54.0*
*ISCJB **09** 09:52:08.0±1.7, 44°.27N±0°.07×129°.0W±0°.2, h15km, mb3.2/3, Error ellipse: s-maj=20.3km s-min=8.7km az=165.9*
*NEIC **09** 09:52:09.1±1.3, 44°.27N×129°.08W, h10km, mb3.7/1, Error ellipse: s-maj=16.7km s-min=7.7km az=72.0*
ISC 09 09:52:08.4±2.0, 44°.23N±0°.10×129°.3W±0°.2, h15km, n37, σ1°45/29, mb3.2/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COR	Corvallis	4.33	83	*e*Pn	Pn	09 53 11.7	-2.0
COR				*e*Sg	Sg	09 54 41.4	+14
OSR	Olympics--Salm	4.98	47	P	Pn	09 53 21.3	-1.3
OOW	Octopus West	5.01	44	P	Pn	09 53 22.2	-0.9
BBOR	Butler Butte	5.01	103	P	Pn	09 53 19.4	-3.8
HBO	Huckleberry Mo	5.07	92	P	Pn	09 53 22.6	-1.4
OBC	Olympics--Boni	5.27	42	P	Pn	09 53 25.7	-0.9
OSD	Olympics--Snow	5.32	46	P	Pn	09 53 26.1	-1.2
YBH	Yreka Blue Hor	5.46	115	Pn	Pn	09 53 25.4	-3.9
	0.3nm,0.3s,baz=304,slow=12,SNR=7.6						
YBH	Yreka Blue Hor	5.46	115	Pn	Pn	09 53 28.2	-1.0
YBH				*e*Sn	Sb	09 54 37.4	-11
STW	Striped Peak	5.55	43	P	Pn	09 53 29.7	-0.7
HDW	Hoodsport	5.55	50	P	Pn	09 53 29.8	-0.7
VFP	Flag Point	5.70	76	P	Pn	09 53 31.4	-1.2
LON	Longmire	5.86	62	*e*Pn	Pn	09 53 33.5	-1.2
FMW	Mount Fremont	6.01	61	P	Pn	09 53 35.9	-1.1
JCW	Jim Creek	6.49	50	P	Pn	09 53 42.7	-0.6
CMW	Cultus Mountai	6.52	47	P	Pn	09 53 43.7	-0.1
VDB	Vedder Mountai	6.91	43	P	Pn	09 53 48.6	-0.4
MOD	Modoc Plateau	7.01	106	*e*Pn	Pn	09 53 49.8	-0.7
NEW	Newport	9.37	60	Pn	Pn	09 54 20.9	-1.9
	0.2nm,0.3s,baz=243,slow=10,SNR=4.1						
NEW				LR	LR	09 57 03.3	
	comp=Z,62nm,19.4s,baz=270,slow=32						
NVAR	Mina Array Bea	10.11	121	Pn	Pn	09 54 32.3	-0.9
	0.1nm,0.3s,baz=281,slow=14,SNR=5.2						
BSMT	Bassoo Peak	10.74	65	*e*Pn	Pn	09 54 41.0	-0.7
ELK	Elko	10.97	104	Pn	Pn	09 54 46.4	+1.4
	0.1nm,0.3s,baz=284,slow=5.4,SNR=3.8						
SWMT	Swartz Lake	11.18	68	*e*Pn	Pn	09 54 46.6	-1.1
	2.2nm,1.0s						
PDAR	Pinedale Array	14.43	89	Pn	P	09 55 35.3	-3.7
	0.0nm,0.3s,baz=278,slow=12,SNR=5.2						
PDAR				LR	LR	10 01 17.0	
	comp=Z,64nm,18.6s,baz=292,slow=39						
PV01	Paradox Valley	16.75	104	*e*P	P	09 56 03.9	-1.0
	392nm,0.8s						
MVCO	Mesa Verde	17.25	107	*e*P	P	09 56 10.5	+0.1
	7.7nm,1.1s						
MVCO				*e*S	S	09 59 34.1	+4.5
ANMO	Albuquerque	19.86	110	P	P	09 56 38.8	-0.3
	0.0nm,0.3s,baz=327,slow=17,SNR=1.9						
YKA	Yellowknife Ar	20.20	20	P	P	09 56 42.5	+0.2
	1.0nm,0.9s,baz=207,slow=10,SNR=8.8						
ILAR	Eielson Array	22.81	341	P	P	09 57 12.4	+2.1
	0.9nm,1.0s,baz=135,slow=6.7,SNR=4.8						
ULM	Lac du Bonnet	23.36	63	P	P	09 57 16.4	+0.4
	1.8nm,0.7s,baz=270,slow=7.6,SNR=4.5						
TXAR	Lajitas Array	25.23	117	P	P	09 57 31.9	-

ellipse: s-maj=20.2km s-min=11.9km az=85.0

ISC 09 10:16:30.6±2.0, 34°28S±0°04×72°50W±0°07, h11km±12km, n36, σ1§24/47, mb4.4/7, MS3.8/3, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.27**	**125**	⇓*iP*	**Pg**	**10 16 55.1**	**0.0**
NICH				*i* S	**Sg**	**10 17 12.6**	**+1.0**
IHA	**Instituto Hidr**	**1.44**	**30**	⇑*iP*	**Pn**	**10 16 55.9**	**-0.7**
IHA				*i* S	**Sn**	**10 17 14.1**	**-1.5**
CHCH	**Chadas Angostu**	**1.57**	**78**	⇓*iP*	**Pn**	**10 16 58.8**	**+0.3**
CACH	**El Canelo**	**1.58**	**85**	⇑*iP*	**Pb**	**10 16 59.8**	**-0.2**
ANTU	**Antumapu**	**1.70**	**66**	*e*P9	**Pn**	**10 16 59.7**	**-0.7**
ANTU				*i* S	**Sn**	**10 17 21.9**	**-0.3**
ANTU				IAML		10 17 31.9	
	comp=N,4μm,0.9s						
LNCH	**Linares**	**1.73**	**155**	*e*P9	**Pn**	**10 17 02.4**	**+1.7**
LNCH				*i* S	**Sb**	**10 17 24.5**	**+0.3**
LACH	**Col Las Americ**	**1.83**	**64**	*e*P	**Pn**	**10 17 02.5**	**+0.3**
LACH				*i* S	**Sn**	**10 17 25.6**	**+0.2**
CLCH	**Cerro Calan**	**1.85**	**62**	⇑*iP*	**Pn**	**10 17 02.5**	**+0.1**
CLCH				*i* S	**Sn**	**10 17 26.2**	**+0.2**
CLCH				IAML		10 17 46.7	
	comp=N,4μm,0.5s						
COCH	**Cobquecura**	**1.86**	**187**	⇓*iP*	**Pn**	**10 17 02.5**	**-0.1**
PEL	**Peldehue**	**1.89**	**54**	⇓*iP*	**Pn**	**10 17 03.3**	**+0.4**
PEL				*e*S	**Sn**	**10 17 26.6**	**-0.2**
PEL				IAML		10 17 43.2	
	comp=E,4μm,1.0s						
SJCH	**San Jose de Ma**	**1.89**	**71**	*e*P9	**Pn**	**10 17 02.4**	**-0.7**
SJCH				*i* S	**Sn**	**10 17 26.8**	**-0.2**
CHNG	**Los Chungos**	**2.53**	**20**	⇑*iP*	**Pn**	**10 17 10.6**	**-1.1**
CHNG				*i* S4	**Sn**	**10 17 39.2**	**-3.3**
CMCH	**Combarbala**	**3.34**	**23**	*e*P1	**Pn**	**10 17 22.2**	**-0.8**
CFAA	**Coronel Fontan**	**4.46**	**55**	Pn	**Pn**	**10 17 39.3**	**+0.9**
	comp=E,0.6nm,0.3s,baz=66,slow=4.5,SNR=28						
CFAA				Lg	Lg	10 18 44.4	
	comp=E,1.1nm,0.3s,baz=118,slow=12,SNR=4.3						
CFAA				LR	LR	10 18 50.2	
	comp=E,18nm,19.8s,baz=217,slow=33						
LCO	**Las Campanas**	**5.47**	**17**	*e*Pn	**Pn**	**10 17 51.3**	**-1.1**
	comp=E,29nm,0.5s						
LCO				*e*Sn	**Sn**	**10 18 55.8**	**+0.3**
PLCA	**Paso Flores**	**6.63**	**167**	*e*Pn	**Pn**	**10 18 07.5**	**-0.6**
PLCA				*e*Sn	**Sn**	**10 19 20.1**	**-3.5**
TRQA	**Tornquist**	**9.30**	**117**	*e*Pn	**Pn**	**10 18 42.6**	**-2.2**
	comp=E,11nm,0.8s						
LVC	**Limon Verde**	**12.04**	**16**	*e*Pn	**Pn**	**10 19 20.3**	**-2.2**
LVC				*e*Sn	Sn	10 21 30.4	-6.6
CPUP	**Villa Florida**	**15.30**	**63**	LR	LR	10 26 56.6	
	comp=E,218nm,18.6s,baz=216,slow=42						
LPAZ	**La Paz**	**18.34**	**13**	P	**P**	**10 20 46.5**	**+0.7**
	comp=E,0.2nm,0.3s,baz=194,slow=7.6,SNR=14						
LPAZ	**La Paz**	**18.34**	**13**	*e*P	**Pn**	**10 20 45.9**	**+0.1**
	comp=E,5.0nm,0.8s						
SIV	**San Ignacio**	**20.91**	**32**	P	**P**	**10 21 12.6**	**-0.7**
	comp=E,8.8nm,0.8s,baz=232,slow=12,SNR=19						
SIV				LR	LR	10 31 01.0	
	comp=E,389nm,18.3s,baz=240,slow=42						
SAML	**Samuel**	**26.62**	**21**	*e*P	**P**	**10 22 11.8**	**+2.5**
	comp=E,3.7nm,0.8s						
BDFB	**Brasilia**	**28.80**	**56**	P	**P**	**10 22 27.0**	**-2.0**
	comp=E,5.5nm,0.8s,baz=204,slow=9.9,SNR=6.3						
BDFB				LR	LR	10 35 00.8	
	comp=E,256nm,18.0s,baz=220,slow=39						
RPN	**Rapa Nui**	**32.34**	**273**	LR	LR	10 33 03.2	
	comp=E,159nm,21.4s,baz=57,slow=30						
TXAR	**Lajitas Array**	**69.79**	**331**	P	**P**	**10 27 42.9**	**+1.7**
	comp=E,0.2nm,0.6s,baz=145,slow=9.7,SNR=2.8						
WVT	**Waverly**	**71.49**	**347**	*e*P	**P**	**10 27 51.5**	**+0.3**
	comp=E,9.0nm,1.4s						
DBIC	**Dimbokro**	**75.63**	**72**	P	**P**	**10 28 15.7**	**-0.4**
	comp=E,5.0nm,0.9s,baz=239,slow=5.9,SNR=1.9						
ECSD	**EROS Data Cent**	**80.70**	**343**	*e*P	**P**	**10 28 45.5**	**+2.0**
	comp=E,1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**84.66**	**70**	P	**P**	**10 29 04.2**	**-0.6**
	comp=E,2.3nm,0.8s,baz=253,slow=4.3,SNR=12						
BVAR	**Borovoye Array**	**147.74**	**43**	PKPbc	**PKPbc**	**10 36 15.8**	**+0.8**
	comp=E,1.6nm,0.5s,baz=276,slow=3.1,SNR=7.5						
EKS2	**Erkin-Say**	**152.44**	**62**	*e*PKPdf	**PKPdf**	**10 36 20.8**	**+0.8**
EKS2				*e*PKPbc	**PKiKP**	**10 36 27.7**	**+0.5**
EKS2				*e*PKPab	**PKPab**	**10 36 37.8**	**+0.6**
KURBB	**Kurchatov Arra**	**153.33**	**43**	PKPbc	**PKPbc**	**10 36 28.4**	**0.0**
	comp=E,1.1nm,0.5s,baz=303,slow=2.7,SNR=5.2						
KURK	**Kurchatov**	**153.34**	**43**	PKPbc	**PKPbc**	**10 36 28.4**	**0.0**
ZALV	**Zalesovo Beam**	**154.66**	**32**	PKPbc	**PKPbc**	**10 36 31.2**	**+0.1**
	comp=E,2.0nm,0.6s,baz=313,slow=3.0,SNR=5.0						
MKAR	**Makanchi Array**	**157.23**	**49**	PKPab	**PKPab**	**10 36 57.1**	**-0.2**
	comp=E,0.8nm,0.8s,baz=225,slow=1.8,SNR=1.4						

*IDC **09** 10:20:42.5±0.9, 25°95N×128°45E, h0km, mb3.9/9, mb1 3.9/11, mb1mx3.7/45, mbtmp3.9/11, ML3.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/38, Error ellipse: s-maj=38.5km s-min=15.2km az=78.0*

*ISCJB **09** 10:20:44.0±0.9, 25°94N±0°04×128°64E±0°04, h29km±6km, mb3.8/9, Error ellipse: s-maj=6.9km s-min=5.1km az=137.2*

*JMA **09** 10:20:44.5±0.3, 25°98N×128°68E, h29km, M3.4*

ISC 09 10:20:43.7±1.9, 25°94N±0°05×128°65E±0°04, h15km±11km, n26, σ1§38/36, mb4.0/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.81**	**316**	P	**Pg**	**10 20 59.0**	**-0.4**
JJT2	**Tamagusuku 2**	**0.83**	**284**	P	**Pb**	**10 21 00.3**	**+0.4**
JJT2				*e*S	**Sb**	**10 21 11.8**	**+0.9**
JOW	**Kunigami**	**0.95**	**340**	P	**Pb**	**10 21 01.6**	**-0.3**
JOW				*e*S	**Sb**	**10 21 13.0**	**-1.5**
JOW	**Kunigami**	**0.95**	**340**	Pn	**Pb**	**10 21 01.7**	**-0.3**
	15nm,0.3s,baz=131,slow=21,SNR=69						
JOW				Sn	Sb	10 21 09.1	-5.3
	38nm,0.3s,baz=151,slow=18,SNR=13						
JIH	**Iheya**	**1.25**	**331**	P	**Pn**	**10 21 06.2**	**-0.5**
JIH				*e*S	**Sb**	**10 21 22.1**	**-0.9**
JAGN	**Aguni-jima**	**1.42**	**298**	P	**Pn**	**10 21 08.8**	**-0.2**
JAGN				*e*S	**Sn**	**10 21 27.3**	**-0.1**
JOKE	**Okinoerabujima**	**1.42**	**357**	P	**Pn**	**10 21 08.6**	**-0.5**
JOKE				*e*S	**Sn**	**10 21 25.1**	**-2.5**
JKE	**Kume jima 2**	**1.72**	**284**	P	**Pn**	**10 21 12.2**	**-0.9**
JKE				*e*S	**Sn**	**10 21 32.6**	**-2.2**
JTK	**Tokunoshima**	**1.86**	**8**	P	**Pn**	**10 21 14.8**	**-0.3**
JTK				*e*S	**Sn**	**10 21 36.8**	**-1.6**
JMZ	**Minamidaito 2**	**2.32**	**92**	P	**Pn**	**10 21 20.8**	**-0.6**
JMZ				*e*S	**Sn**	**10 21 46.3**	**-3.5**
JAMN	**Amaminishikomi**	**2.35**	**11**	P	**Pn**	**10 21 22.2**	**+0.4**
JAMN				*e*S	**Sn**	**10 21 49.3**	**-1.0**
JAM	**Amami Oshima**	**2.61**	**19**	P	**Pn**	**10 21 25.4**	**0.0**
JAM				*e*S	**Sn**	**10 21 55.5**	**-1.4**
JTJ	**Tarama**	**3.80**	**251**	P	**Pn**	**10 21 40.9**	**-0.8**
JTJ				*e*S	**Sn**	**10 22 23.5**	**-2.6**
JISG	**Ishigakijimahi**	**4.15**	**252**	P	**Pn**	**10 21 46.3**	**-0.2**
JISG				*e*S	**Sn**	**10 22 32.4**	**-2.4**
JNU	**Nakatsue**	**7.42**	**15**	Pn	**Pn**	**10 22 32.6**	**+1.1**
	1.1nm,0.3s,baz=226,slow=11,SNR=11						
KSRS	**Korea Array**	**11.50**	**357**	LR	LR	10 28 14.9	
	comp=Z,34nm,19.8s,baz=160,slow=39						
USRK	**Ussuriysk Ar.**	**18.42**	**8**	P	**Pn**	**10 25 00.5**	**+2.0**
	0.1nm,0.3s,baz=186,slow=9.8,SNR=6.2						
SONM	**Songino Array**	**28.00**	**327**	P	**P**	**10 26 35.9**	**+1.7**
	1.3nm,0.5s,baz=140,slow=11,SNR=21						
MKAR	**Makanchi Array**	**42.01**	**312**	P	**P**	**10 28 33.9**	**-0.6**
	0.9nm,0.6s,baz=97,slow=10,SNR=13						
WRA	**Warramunga Arr**	**45.94**	**173**	P	**P**	**10 29 07.2**	**+1.0**
	1.9nm,0.6s,baz=353,slow=8.4,SNR=32						
ASAR	**Alice Springs**	**49.57**	**174**	P	**P**	**10 29 35.8**	**+1.4**
	0.8nm,0.5s,baz=4.2,slow=14,SNR=17						
BVAR	**Borovoye Array**	**50.74**	**318**	P	**P**	**10 29 42.7**	**-0.2**
	0.5nm,0.3s,baz=72,slow=9.5,SNR=4.3						
FINES	**FINESS Array B**	**73.30**	**331**	P	**P**	**10 32 14.5**	**+0.1**
	1.5nm,0.9s,baz=100,slow=5.8,SNR=1.7						
AKASG	**Malin Array Be**	**76.00**	**320**	P	**P**	**10 32 30.2**	**0.0**
	1.3nm,0.5s,baz=64,slow=5.8,SNR=3.0						
BRTR	**Keskin Array B**	**77.51**	**308**	P	**P**	**10 32 40.2**	**+1.0**
	1.2nm,0.8s,baz=57,slow=5.3,SNR=2.2						
YKA	**Yellowknife Ar**	**78.63**	**25**	P	P	10 32 46.4	+1.6
	0.2nm,0.7s,baz=300,slow=6.5,SNR=3.2						

WEL 09 10:22:34.1±0.5, 36°60S×177°46E, h165km±5km, ML3.6/15, Error ellipse: s-maj=4.8km s-min=4.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.17**	**145**	PN	Pn	10 23 01.9	+0.1
MXZ				SN	Sn	10 23 23.3	+0.2
HAZ	**Te Kaha**	**1.18**	**168**	PN	Pn	10 23 01.9	+0.1
WMGZ	**Waiomatatini S**	**1.43**	**148**	PN	Pn	10 23 04.1	0.0
PUZ	**Puketiti**	**1.60**	**157**	AML	AML	10 23 07.3	
PUZ				SN	Sn	10 23 29.0	-1.5
TWGZ	**Tauwhareparae**	**1.62**	**165**	*e*PN	Pn	10 23 06.7	+0.6
URZ	**Urewera**	**1.68**	**189**	PN	Pn	10 23 07.2	+0.5
URZ				SN	Sn	10 23 33.4	+1.5
URZ				AML	AML	10 23 36.3	
MWZ	**Matawai**	**1.73**	**178**	PN	Pn	10 23 07.4	+0.1
MWZ				AML	AML	10 23 40.4	
MWZ				AML	AML	10 23 44.1	
RAGZ	**Rawiri**	**1.89**	**181**	*e*PN	Pn	10 23 09.7	+0.6
CNGZ	**Carnagh Statio**	**1.97**	**163**	PN	Pn	10 23 10.2	+0.3
RIGZ	**Rimuhau**	**2.11**	**174**	PN	Pn	10 23 11.7	+0.1
SNGZ	**Shannon Statio**	**2.18**	**182**	*e*PN	Pn	10 23 12.8	+0.5
RAHZ	**Arahi**	**2.33**	**187**	*e*PN	Pn	10 23 14.4	+0.4
KNZ	**Kokohu**	**2.42**	**176**	PN	Pn	10 23 14.6	-0.4
WHHZ	**Waihua**	**2.48**	**184**	*e*PN	Pn	10 23 16.3	+0.6
NMHZ	**Naumai**	**2.54**	**192**	PN	Pn	10 23 17.8	+1.2
MHGZ	**Mahia Peninsul**	**2.57**	**172**	PN	Pn	10 23 16.9	+0.1
BKZ	**Black Stump Fm**	**2.67**	**196**	PN	Pn	10 23 18.4	+0.2
MCHZ	**McNeill Hill**	**2.90**	**192**	PN	Pn	10 23 21.9	+1.1
FWVZ	**Far West T-bar**	**3.05**	**209**	*e*PN	Pn	10 23 24.1	+1.1
BHHZ	**Black Hill Sta**	**3.09**	**201**	PN	Pn	10 23 23.2	0.0
TRVZ	**Turoa**	**3.09**	**209**	*e*PN	Pn	10 23 24.5	+1.0
KRHZ	**Kereru**	**3.16**	**195**	*e*PN	Pn	10 23 24.3	+0.2
KAHZ	**Kahuranaki**	**3.22**	**188**	*e*PN	Pn	10 23 24.4	-0.5
PNHZ	**Pukenui**	**3.45**	**196**	*e*PN	Pn	10 23 26.8	-1.0
PXZ	**Pawanui**	**3.46**	**188**	PN	Pn	10 23 26.9	-0.8
TSZ	**Takapari Road**	**3.65**	**198**	*e*PN	Pn	10 23 29.2	-1.1
WAZ	**Wanganui**	**3.70**	**211**	*e*PN	Pn	10 23 32.1	+1.2
PRHZ	**Porangahau**	**3.72**	**190**	*e*PN	Pn	10 23 29.8	-1.3
DVHZ	**Dannevirke**	**3.83**	**195**	PN	Pn	10 23 31.5	-1.1
ANWZ	**Angora Road**	**3.93**	**191**	PN	Pn	10 23 33.0	-0.8
POWZ	**Post Office Ro**	**4.01**	**199**	PN	Pn	10 23 34.2	-0.7
PRWZ	**Pori Road**	**4.12**	**196**	PN	Pn	10 23 35.4	-0.9
BFZ	**Birch Farm**	**4.18**	**193**	PN	Pn	10 23 35.7	-1.4
MRZ	**Mangatainoka R**	**4.31**	**199**	PN	Pn	10 23 36.8	-2.0
TIWZ	**Tintock**	**4.35**	**196**	AML	AML	10 23 39.0	
HOWZ	**Holdsworth Sta**	**4.55**	**199**	*e*PN	Pn	10 23 39.8	-2.1
OGWZ	**Otaki Gorge**	**4.58**	**202**	*e*PN	Pn	10 23 40.0	-2.2
TMWZ	**Te Maipa**	**4.66**	**195**	*e*PN	Pn	10 23 41.4	-2.0
KIW	**Kapiti Island**	**4.70**	**204**	PN	Pn	10 23 41.6	-2.2
MTW	**Mount Morrison**	**4.80**	**198**	PN	Pn	10 23 42.8	-2.4
CAW	**Cannon Point**	**4.87**	**202**	PN	Pn	10 23 43.7	-2.4
TCW	**Tory Channel**	**5.23**	**207**	*e*PN	Pn	10 23 48.1	-2.6
PLWZ	**Palliser**	**5.25**	**198**	*e*PN	Pn	10 23 47.8	-3.3
TUWZ	**Tuamarina**	**5.54**	**209**	*e*PN	Pn	10 23 52.1	-2.8
NNZ	**Nelson**	**5.60**	**213**	PN	Pn	10 23 53.7	-1.9
QRZ	**Quartz Range**	**5.71**	**221**	*e*PN	Pn	10 23 54.9	-2.2
THZ	**Tophouse**	**6.25**	**213**	*e*PN	Pn	10 24 01.9	-2.4
KHZ	**Kahutara**	**6.55**	**206**	*e*PN	Pn	10 24 05.4	-2.8
OXZ	**Oxford**	**7.90**	**210**	*e*PN	Pn	10 24 21.6	-4.4
MQZ	**McQueen's Vall**	**7.99**	**206**	SN	Sn	10 25 49.1	-7.4

*IDC **09** 10:27:20.5±1.6, 0°09N×98°19E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.7/41, mbtmp3.8/10, ML4.0/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/38, Error ellipse: s-maj=49.6km s-min=18.5km az=61.0*

*ISCJB **09** 10:27:23.2±1.0, 0°19N±0°08×98°0E±0°1, h29km, mb3.8/8, Error ellipse: s-maj=19.5km s-min=8.2km az=149.4*

*DJA **09** 10:27:28.4±0.5, 1°N±5°×98°8E±°, h10km, M4.2/12, mb4.4/2, mB4.8/1, MLv4.1/12, Mw(mB)4.0/1*

ISC 09 10:27:24.2±1.0, 0°15N±0°09×98°13E±0°08, h29km, n22, σ1§09/20, mb4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.27**	**334**	P	**Pn**	**10 27 46.3**	**+0.2**
GSI				S	Sb	10 28 09.4	+5.8
MNSI	**Mandailing Nat**	**1.58**	**66**	P	**Pb**	**10 27 51.9**	**-1.0**
PDSI	**Padang**	**2.56**	**114**	P	**Pb**	**10 28 07.6**	**-1.9**
PDSI				S	Sb	10 28 47.8	+7.2
PSI	**Prapat**	**2.75**	**17**	Pn	**Pn**	**10 28 06.2**	**-0.4**
	8.3nm,0.3s,baz=234,slow=1.8,SNR=16						
PSI				LR	LR	10 29 29.7	
	comp=Z,242nm,19.1s,baz=97,slow=48						
SNSI	**Sinabang, Aceh**	**2.88**	**321**	P	**Pb**	**10 28 13.2**	**-1.7**
BKNI	**Bangkinang**	**2.92**	**87**	P	**Pb**	**10 28 15.0**	**-0.6**
TPTI		**3.23**	**343**	P	**Pn**	**10 28 12.3**	**-0.7**
KCSI	**Kotacane, Aceh**	**3.37**	**354**	P	**Pn**	**10 28 14.6**	**-0.3**
KCSI				S	**Sn**	**10 28 53.0**	**-1.0**
SDSI	**Sungai Dareh**	**3.47**	**108**	P	**Pb**	**10 28 23.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**18.21**	**2**	P	**Pn**	**10 31 34.0**	**-1.1**
	0.4nm,0.3s,baz=201,slow=13,SNR=4.8						
H08S2	**Diego Garcia H**	**26.71**	**253**	T	T	11 00 22.1	
	baz=73,slow=75,SNR=1364						
H08S3	**Diego Garcia H**	**26.71**	**253**	T	T	11 00 20.0	
	baz=73,slow=75,SNR=1491						
H08S1	**Diego Carcia H**	**26.73**	**253**	T	T	11 00 21.0	
	baz=73,slow=75,SNR=1520						
WRA	**Warramunga Arr**	**40.70**	**122**	P	**P**	**10 35 02.1**	**-0.5**
	0.3nm,0.5s,baz=322,slow=11,SNR=14						
ASAR	**Alice Springs**	**42.03**	**127**	P	**P**	**10 35 13.6**	**+0.1**
	0.3nm,0.4s,baz=297,slow=7.7,SNR=9.0						
KSRS	**Korea Array**	**46.19**	**33**	P	**P**	**10 35 47.9**	**+1.3**
	2.1nm,0.8s,baz=222,slow=8.5,SNR=5.1						
SONM	**Songino Array**	**48.03**	**7**	P	**P**	**10 36 01.9**	**+0.9**
	0.4nm,0.3s,baz=190,slow=9.8,SNR=5.7						
MKAR	**Makanchi Array**	**48.48**	**345**	P	**P**	**10 36 05.2**	**+0.8**
	1.2nm,0.5s,baz=157,slow=9.0,SNR=14						
USRK	**Ussuriysk Ar.**	**53.19**	**30**	P	**P**	**10 36 39.7**	**-0.1**
	1.4nm,0.7s,baz=244,slow=5.6,SNR=6.6						
ZALV	**Zalesovo Beam**	**54.74**	**350**	P	**P**	**10 36 52.3**	**+1.4**
	1.1nm,0.4s,baz=179,slow=11,SNR=3.0						
BVAR	**Borovoye Array**	**57.54**	**341**	P	**P**	**10 37 12.6**	**+1.6**
	0.6nm,0.5s,baz=134,slow=10,SNR=2.6						
TXAR	**Lajitas Array**	**144.04**	**34**	PKP	**PKPdf**	**10 46 57.8**	**-0.2**
	0.1nm,0.5s,baz=198,slow=0.6,SNR=3.5						

NNC 09 10:29:13.3±3.6, 54°26N×86°79E, h25km±21km, mb3.8, mpv3.4, 5C-7D, Error ellipse: s-maj=23.0km s-min=15.9km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.12**	**238**	⇓Pn	Pn	10 30 42.3	+0.2
	1.5nm,0.7s						
KURK				⇑Sn	Sn	10 31 53.4	+2.1
	2.4nm,0.7s						
KURK				⇑Lg	Lg	10 32 27.8	
	12nm,1.0s						
KURBB	**Kurchatov Arra**	**6.23**	**238**	⇓Pn	Pn	10 30 43.7	+0.2
	6.5nm,1.1s						
KURBB				⇓Sn	Sn	10 31 54.7	+0.9
	8.2nm,0.6s						
KURBB				⇓Lg	Lg	10 32 31.7	
	30nm,0.8s						
MK31	**Makanchi Array**	**8.01**	**203**	Pn	Pn	10 31 06.7	-1.3
	0.3nm,0.2s,baz=28,slow=14,SNR=7.8						
MK31				⇓Sn	Sn	10 32 37.6	-0.1
	1.9nm,0.7s,baz=32,slow=25,SNR=5.0						
MK31				⇑Lg	Lg	10 33 21.7	
	2.9nm,0.9s,baz=1.4,slow=15,SNR=5.4						
VOSK	**Vostochnaya**	**9.55**	**267**	⇓Pn	Pn	10 31 30.1	+1.0
	2.8nm,0.9s						
VOSK				⇑Sn	Sn	10 33 15.2	-0.3
	17nm,1.0s						
BVA0	**Borovoye Array**	**9.82**	**269**	⇓Sn	Sn	10 33 21.7	-0.4
	9.8nm,1.1s,baz=75,slow=27,SNR=8.1						
BRVK	**Borovoye**	**9.87**	**270**	⇑Sn	Sn	10 33 22.3	-1.1
	12nm,1.0s						

*ISCJB **09** 10:30:51.0±0.7, 6°85N±0°07×73°03W±0°09, h166km, mb3.3/1, Error ellipse: s-maj=14.8km s-min=6.3km az=37.2*

*FUNV **09** 10:30:52.0, 6°76N×73°09W, h172km, MW3.1*

*IDC **09** 10:30:56.4±5.8, 6°73N×75°11W, h164km±100km, mb3.0/1, mb1 3.3/2, mb1mx2.8/39, mbtmp3.4/2, Error ellipse: s-maj=366.5km s-min=31.3km az=86.0*

ISC 09 10:30:51.6±1.1, 6°82N±0°08×73°01W±0°10, h166km, n16, σ1§01/21, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.25**	**34**	⇑*e*P	**Pn**	**10 31 21.3**	**+1.1**
CAPV				*e*S	**Sn**	**10 31 43.0**	**+0.7**
ROSC	**El Rosal**	**2.35**	**214**	P	**Pn**	**10 31 33.3**	**+1.1**
	7.4nm,0.3s,baz=95,slow=23,SNR=18						
ROSC				S	**Sn**	**10 32 01.8**	**-1.7**
	13nm,0.3s,baz=91,slow=23,SNR=10						
SOCV	**Socops**	**2.58**	**56**	*e*P	**Pn**	**10 31 35.2**	**+0.7**
SOCV				*e*S	**Sn**	**10 32 06.9**	**-0.9**
VIGV	**El Vigia**	**2.59**	**39**	*e*P	**Pn**	**10 31 35.5**	**+1.0**
VIGV				*e*S	**Sn**	**10 32 08.0**	**0.0**
VIRV	**Villa del Rosa**	**3.71**	**9**	*e*P	**Pn**	**10 31 48.1**	**-0.4**
VIRV				*e*S	**Sn**	**10 32 30.5**	**-2.5**
SANV	**Sanarito**	**4.35**	**52**	*e*P	**Pn**	**10 31 57.4**	**+0.4**
CURV	**Curarigua**	**4.38**	**43**	*e*P	**Pn**	**10 31 57.8**	**+0.6**
DABV	**Dabajuro**	**4.70**	**30**	*e*P	**Pn**	**10 32 02.3**	**+1.0**
SIQV	**Siquisique**	**4.95**	**40**	*e*P	**Pn**	**10 32 04.7**	**0.0**
BAUV	**El Baul**	**5.36**	**67**	*e*P	**Pn**	**10 32 09.1**	**-0.8**
MONV	**Montecano**	**5.92**	**30**	*e*P	**Pn**	**10 32 17.1**	**-0.3**
BIRV	**Birongo**	**7.59**	**61**	*e*P	**Pn**	**10 32 38.9**	**-0.7**
CUPV	**Cœpira**	**7.83**	**65**	*e*P	**Pn**	**10 32 42.4**	**-0.5**
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**10 41 03.3**	**+0.9**
	0.3nm,0.6s,baz=133,slow=6.8,SNR=15						
ASAR	**Alice Springs**	**149.20**	**234**	PKPbc	**PKPbc**	**10 50 21.2**	**-0.1**
	0.3nm,0.5s,baz=115,slow=4.2,SNR=6.6						
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	**PKPbc**	**10 50 24.2**	**-0.2**
	0.3nm,0.4s,baz=108,slow=2.8,SNR=7.8						

*IDC **09** 10:32:25.6±3.4, 13°30N×91°25W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/40, mbtmp3.6/5, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/36, Error ellipse: s-maj=54.4km s-min=32.1km az=157.0*

*CASC **09** 10:32:27.4±1.9, 13°17N×91°78W, h15km, MD3.8, ML3.5*

ISC 09 10:32:21.5±1.4, 13°4N±0°1×91°54W±0°06, h28km, n20, σ1§32/23, mb3.8/3, 3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.95**	**354**	⇓*e*P	**Pn**	**10 32 49.4**	**+0.3**
NBG	**Las Nubes**	**1.68**	**43**	⇓*e*P	**Pn**	**10 33 00.4**	**+1.2**
RTR	**El Retiro**	**1.92**	**74**	*e*P	**Pn**	**10 33 02.8**	**+0.3**
APG	**El Apazote**	**1.94**	**32**	Pn	Pn	10 32 58.8	-4.0
	35nm,0.3s,baz=250,slow=7.3,SNR=382						
APG				Sn	**Sn**	**10 33 25.6**	**-0.7**
	20nm,0.3s,baz=312,slow=22,SNR=5.4						
SNJE	**San Jose**	**1.95**	**75**	*e*P	**Pn**	**10 33 03.3**	**+0.5**
RBDL	**Robledal**	**1.95**	**67**	*e*P	**Pn**	**10 33 03.5**	**+0.6**
RBDL				*e*S	**Sb**	**10 33 30.5**	**+0.2**
BOQS	**Boqueron**	**2.23**	**80**	*e*P	**Pn**	**10 33 07.2**	**+0.4**
SNET	**Serv Nac Est T**	**2.27**	**82**	*e*P	**Pn**	**10 33 08.3**	**+1.1**
SNET				*e*S	**Sb**	**10 33 39.6**	**+0.2**
SNET				AML	AML	10 33 43.6	
	comp=Z,314nm,0.5s						
MTO2	**Montecristo 2**	**2.35**	**64**	*e*P	**Pn**	**10 33 09.2**	**+0.7**
LFRS	**El Faro**	**2.42**	**84**	*e*P	**Pn**	**10 33 10.6**	**+1.2**
LFRS				*e*S	**Sb**	**10 33 43.6**	**-0.4**
LBRS	**Las Brisas**	**2.46**	**81**	*e*P	**Pn**	**10 33 10.7**	**+1.0**
MRL	**Marmol**	**2.46**	**46**	⇓*e*P	**Pn**	**10 33 11.9**	**+2.0**
MRL				*e*S	Sb	10 33 51.6	+6.3
VSM	**San Miguel**	**3.18**	**88**	*e*P	**Pn**	**10 33 21.

comp=N,2μm,0.3s

*ISCJB **09** 10:45:17.1±0.5,25°.22N±0°.08×124°.24E±0°.06, h117km±6km, mb3.6/6, Error ellipse: s-maj=15.0km s-min=6.2km az=149.1*
*IDC **09** 10:45:17.6±3.7,25°.32N×124°.30E, h107km±37km, mb3.3/6, mb1 3.4/7, mb1mx3.2/40, mbtmp3.6/7, Error ellipse: s-maj=30.6km s-min=16.3km az=66.0*
*JMA **09** 10:45:19.0±0.2,25°.16N×124°.26E, h108km±4km, M3.1*
ISC 09 10:45:17.9±0.9,25°.3N±0°.1×124°.24E±0°.07, h112km±10km, n20, σ0°75/32, mb3.6/6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.67**	**174**	P	**Pn**	**10 45 36.4**	**+0.2**
JISG				eS	**Sn**	**10 45 49.2**	**-0.7**
JTJ	**Tarama**	**0.74**	**145**	P	**Pn**	**10 45 36.9**	**+0.1**
JTJ				eS	**Sn**	**10 45 51.1**	**+0.1**
JIJ	**Ishigaki jima**	**0.89**	**186**	P	**Pn**	**10 45 37.9**	**-0.3**
JIJ				eS	**Sn**	**10 45 52.0**	**-1.4**
JIRB	**Irabujima**	**0.95**	**116**	P	**Pn**	**10 45 39.0**	**+0.3**
JIRB				eS	**Sn**	**10 45 53.7**	**-0.7**
JIKM	**Ikemajima**	**0.97**	**110**	P	**Pn**	**10 45 39.5**	**+0.6**
JIKM				eS	**Sn**	**10 45 55.4**	**+0.6**
IRIF	**Iriomote-Funau**	**1.03**	**207**	P	**Pn**	**10 45 39.6**	**+0.1**
IRIF				eS	**Sn**	**10 45 55.4**	**-0.4**
JKRS	**Kuro-shima**	**1.03**	**192**	P	**Pn**	**10 45 39.8**	**+0.2**
JKRS				eS	**Sn**	**10 45 55.2**	**-0.7**
JMJ	**Miyako jima 2**	**1.05**	**114**	P	**Pn**	**10 45 40.2**	**+0.4**
JMJ				eS	**Sn**	**10 45 56.2**	**-0.1**
JOGS	**Gusukube**	**1.17**	**115**	P	**Pn**	**10 45 41.8**	**+0.8**
JOGS				eS	**Sn**	**10 45 58.9**	**+0.4**
HATJ	**Hateruma jima**	**1.26**	**198**	P	**Pn**	**10 45 42.2**	**+0.2**
HATJ				eS	**Sn**	**10 46 00.0**	**-0.2**
YOJ	**Yonaguni jima**	**1.37**	**235**	P	**Pn**	**10 45 44.4**	**+1.2**
JKE	**Kume jima 2**	**2.53**	**65**	P	**Pn**	**10 45 58.6**	**+0.8**
JKE				eS	**Sn**	**10 46 29.4**	**+0.9**
JOW	**Kunigami**	**3.96**	**66**	P	**Pn**	**10 46 16.4**	**-0.3**
JOW	**Kunigami**	**3.96**	**66**	P	**Pn**	**10 46 16.5**	**-0.2**
	1.4nm,0.3s,baz=142,slow=24,SNR=15						
JOW				S	**Sn**	**10 46 59.8**	**-2.5**
	0.4nm,0.3s,baz=119,slow=27,SNR=1.7						
MKAR	**Makanchi Array**	**39.55**	**314**	P	**P**	**10 52 37.9**	**-0.1**
	0.2nm,0.4s,baz=97,slow=10,SNR=10						
ZALV	**Zalesovo Beam**	**40.91**	**325**	P	**P**	**10 52 48.7**	**-0.3**
	1.0nm,0.5s,baz=109,slow=8.7,SNR=5.3						
KURBB	**Kurchatov Arra**	**43.12**	**318**	P	**P**	**10 53 06.7**	**-0.4**
	0.2nm,0.3s,baz=111,slow=9.0,SNR=2.3						
WRA	**Warramunga Arr**	**45.99**	**167**	P	**P**	**10 53 30.1**	**0.0**
	1.1nm,0.7s,baz=349,slow=8.6,SNR=12						
ASAR	**Alice Springs**	**49.53**	**168**	P	**P**	**10 53 58.0**	**+0.7**
	0.6nm,0.5s,baz=351,slow=8.2,SNR=19						
YKA	**Yellowknife Ar**	**80.89**	**24**	P	**P**	**10 57 19.5**	**+0.1**
	0.3nm,0.5s,baz=304,slow=5.5,SNR=10						

*IDC **09** 10:48:13.6±0.6,37°.54S×73°.58W, h0km, mb4.6/13, mb1 4.7/17, mb1mx4.6/28, mbtmp4.5/17, ML4.3/4, MS4.4/13, Ms1 4.4/13, ms1mx4.2/24, Error ellipse: s-maj=19.7km s-min=12.2km az=90.0*
*GUC **09** 10:48:15.5±0.8,37°.53S×73°.90W, h38km±12km, ML5.6*
*ISCJB **09** 10:48:16.1±0.2,37°.49S±0°.03×73°.38W±0°.04, h23km, mb4.8/66, MS4.4/12, Error ellipse: s-maj=5.3km s-min=4.2km az=155.2*
*BJI **09** 10:48:17.1,36°.53S×74°.23W, h33km, mB5.2/8, Ms5.4/6, Ms7 4.9/6*
*NEIC **09** 10:48:18.7±1.9,37°.50S×73°.33W, h30km±13km, mb4.9/55, Error ellipse: s-maj=9.2km s-min=4.6km az=76.0*
NEIC Felt at Concepcion.
ISC 09 10:48:17.5±0.3,37°.52S±0°.04×73°.39W±0°.07, h23km, n334, σ1°01/357, mb4.8/67, MS4.4/12, 107C-100D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.71**	**19**	⇓*i*P	**Pn**	**10 48 32.5**	**+0.4**
CCSP				*i*S	**Sn**	**10 48 45.1**	**+2.9**
LNCH	**Linares**	**2.20**	**41**	*e*P1	**Pn**	**10 48 54.6**	**+1.9**
LNCH				AML	AML	10 49 43.1	
	comp=N,23μm,0.6s						
VLCH	**Valdivia**	**2.29**	**177**	*e*P1	**Pn**	**10 48 52.0**	**-1.8**
NICH	**Los Niches**	**3.06**	**36**	⇓*i*P	**Pn**	**10 49 06.5**	**+2.1**
NICH				AML	AML	10 50 16.6	
	comp=N,13μm,0.7s						
OSCH	**Osorno**	**3.06**	**176**	*e*P1	**Pn**	**10 49 03.5**	**-1.0**
PLCA	**Paso Flores**	**3.90**	**146**	Pn	**Pn**	**10 49 17.2**	**+1.2**
	comp=N,8.4nm,0.3s,baz=319,slow=11,SNR=38						
PLCA				Lg	Lg	10 50 18.0	
	comp=N,24nm,0.3s,baz=64,slow=24,SNR=3.4						
PLCA	**Paso Flores**	**3.90**	**146**	*e*Pn	**Pn**	**10 49 17.0**	**+1.0**
PLCA				*e*Sn	**Sn**	**10 50 03.0**	**+1.8**
PLCA				Lg	Lg	10 50 18.0	
ANTU	**Antumapu**	**4.54**	**31**	⇑*i*P	**Pn**	**10 49 25.9**	**+1.1**
PEL	**Peldehue**	**4.89**	**28**	⇓*i*P	**Pn**	**10 49 30.3**	**+0.6**
CFAA	**Coronel Fontan**	**7.27**	**37**	Pn	**Pn**	**10 50 02.8**	**+0.5**
	comp=N,1.9nm,0.3s,baz=33,slow=6.4,SNR=16						
CFAA				Sn	**Sn**	**10 51 27.0**	**+2.8**
	comp=N,0.5nm,0.3s,baz=219,slow=19,SNR=1.4						
CFAA				Lg	Lg	10 52 08.8	
	comp=N,0.3nm,0.3s,baz=37,slow=6.9,SNR=3.9						
CFAA				LR	LR	10 52 37.4	
	comp=N,101nm,20.8s,baz=224,slow=36						
LCO	**Las Campanas**	**8.78**	**16**	*e*Pn	**Pn**	**10 50 22.3**	**-0.9**
LCO				*e*Sn	**Sn**	**10 52 00.1**	**-1.5**
TRQA	**Tornquist**	**9.05**	**97**	*e*Pn	**Pn**	**10 50 26.3**	**-0.5**
TRQA				*e*Sn	**Sn**	**10 52 09.1**	**+1.1**
LVC	**Limon Verde**	**15.35**	**16**	*e*Pn	**Pn**	**10 51 53.8**	**+0.9**
	comp=N,40nm,1.0s						
LVC				*e*Sn	**Sn**	**10 54 41.8**	**-0.6**
CPUP	**Villa Florida**	**17.59**	**55**	P	**P**	**10 52 23.5**	**+1.5**
	comp=N,0.8nm,0.3s,baz=198,slow=9.7,SNR=2.9						
CPUP				LR	LR	10 59 57.8	
	comp=N,2μm,18.1s,baz=214,slow=40						
CPUP	**Villa Florida**	**17.59**	**55**	*e*Pn	**Pn**	**10 52 19.6**	**-1.5**
USHA	**Ushuaia**	**17.65**	**171**	P	**Pn**	**10 52 21.4**	**-0.2**
	comp=N,0.2nm,0.3s,baz=318,slow=14,SNR=5.1						
EFI	**East Falkland**	**17.82**	**147**	*e*Pn	**P**	**10 52 24.1**	**-0.3**
	comp=N,704nm,2.6s						
LPAZ	**La Paz**	**21.65**	**14**	P	**P**	**10 53 08.7**	**+1.6**
	comp=N,16nm,0.9s,baz=164,slow=8.4,SNR=31						
LPAZ	**La Paz**	**21.65**	**14**	*e*P	**P**	**10 53 07.1**	**+0.1**
	comp=N,17nm,1.1s						
SIV	**San Ignacio**	**24.05**	**30**	P	**P**	**10 53 31.7**	**+0.6**
	comp=N,18nm,0.8s,baz=227,slow=13,SNR=42						
SIV				LR	LR	11 04 45.8	
	comp=N,966nm,20.1s,baz=220,slow=41						
NNA	**Nana**	**25.61**	**352**	*e*P	**P**	**10 53 43.3**	**-1.9**
	comp=N,6.7nm,0.7s						
PMSA	**Palmer Station**	**27.85**	**171**	LR	LR	11 04 00.5	
	comp=N,970nm,20.8s,baz=343,slow=34						
SAML	**Samuel**	**29.90**	**21**	*e*P	**P**	**10 54 23.6**	**0.0**
	comp=N,26nm,1.5s						
BDFB	**Brasilia**	**31.28**	**53**	P	**P**	**10 54 35.9**	**0.0**
	comp=N,3.3nm,0.8s,baz=214,slow=10,SNR=4.5						
BDFB				LR	LR	11 08 10.1	
	comp=N,839nm,19.9s,baz=222,slow=38						
OTAV	**Otavalo**	**37.86**	**352**	*e*P	**P**	**10 55 35.1**	**+2.0**
	comp=N,24nm,1.3s						
SDV	**Santo Domingo**	**46.23**	**4**	*e*P	**P**	**10 56 40.7**	**-0.4**
	comp=N,11nm,1.0s						
RCBR	**Riachuelo**	**46.46**	**57**	*e*P	**P**	**10 56 43.3**	**+0.4**
	comp=N,71nm,1.5s						
VNA3	**Neumayer Olymp**	**46.55**	**156**	P	**P**	**10 56 44.0**	**+1.1**
VNA2	**Neumayer--Watz**	**47.23**	**156**	P	**P**	**10 56 48.5**	**+0.3**
	baz=282,slow=8.8						
JTS	**JuntasAbangare**	**48.77**	**345**	*e*P	**P**	**10 57 01.8**	**+1.1**
	comp=N,16nm,1.1s						
SNAA	**Sanae**	**48.77**	**157**	P	**P**	**10 56 60.0**	**-0.2**
SNAA	**Sanae**	**48.77**	**157**	P	**P**	**10 57 00.3**	**0.0**
	comp=N,8.1nm,1.0s,baz=252,slow=5.7,SNR=12						
QSPA	**South Pole Qui**	**52.73**	**180**	P	**P**	**10 57 29.7**	**-0.4**
	comp=N,12nm,1.0s,baz=138,slow=3.2,SNR=18						
QSPA	**South Pole Qui**	**52.73**	**180**	*e*P	**P**	**10 57 30.0**	**-0.2**
	comp=N,12nm,1.0s						
RKT	**Rikitea**	**54.19**	**267**	*e*S	S	11 05 23.9	+6.7
	comp=N,157nm,27.0s						
RKT				*e*LR	LR	11 13 33.8	
	comp=N,807nm,29.2s,baz=122						
RKT	**Rikitea**	**54.19**	**267**	*e*T	T	11 55 39.1	
	comp=N,3.3nm,0.2s						
TEIG	**Tepich**	**59.12**	**344**	*e*P	**P**	**10 58 15.7**	**-0.5**
	comp=N,26nm,1.0s						
SBA	**Scott Base**	**59.41**	**192**	*e*P	**P**	**10 58 18.9**	**+1.3**
	comp=N,223nm,2.6s						
VNDA	**Vanda**	**60.44**	**192**	P	**P**	**10 58 25.4**	**+0.8**
	comp=N,3.1nm,0.9s,baz=163,slow=3.9,SNR=5.2						
MEH	**Mehetia**	**67.35**	**264**	*e*T	T	12 12 06.8	
	comp=N,27nm,0.2s						
TIAR	**Tiarei**	**68.53**	**264**	*e*T	T	12 13 35.8	
	comp=N,5.5nm,0.3s						
PPT2	**Papeete2**	**68.70**	**264**	*e*S	**S**	**11 08 26.7**	**+5.0**
	comp=N,179nm,22.8s						
PPT2	**Papeete2**	**68.70**	**264**	*e*LR	LR	11 20 10.2	
	comp=N,425nm,25.0s						
PPT	**Papeete**	**68.71**	**264**	LR	LR	11 23 14.1	
	comp=N,392nm,18.1s,baz=114,slow=31						
TIGA	**Tifton**	**69.26**	**351**	*e*P	**P**	**10 59 22.2**	**-0.3**
	comp=N,19nm,0.3s						
834A	**Tilden**	**69.43**	**336**	⇑P	**P**	**10 59 24.5**	**+0.8**
	baz=70						
833A	**Chaparral WMA,**	**69.89**	**336**	⇓P	**P**	**10 59 27.3**	**+0.8**
	baz=70						
832A	**Faith Ranch, C**	**70.05**	**335**	⇑P	**P**	**10 59 28.0**	**+0.5**
	baz=70						
MAW	**Mawson**	**70.12**	**164**	LR	LR	11 32 21.4	
	comp=N,355nm,18.2s,baz=238,slow=38						
732A	**Laxson Ranch,**	**70.45**	**335**	⇑P	**P**	**10 59 29.6**	**-0.3**
	baz=71,SNR=5.6						
633A	**Saathoff Ranch**	**70.87**	**336**	⇑P	**P**	**10 59 32.7**	**+0.2**
	baz=71						
632A	**Uvalde**	**71.11**	**336**	⇑P	**P**	**10 59 33.6**	**-0.3**
	baz=71,SNR=5.6						
GOGA	**Godfrey**	**71.19**	**351**	*e*P	**P**	**10 59 33.7**	**-0.6**
	comp=N,17nm,1.5s						
LRAL	**Lakeview Retre**	**71.33**	**348**	*e*P	**P**	**10 59 34.8**	**-0.4**
	comp=N,9.3nm,1.1s						
533A	**Kerrville**	**71.39**	**337**	⇑P	**P**	**10 59 35.8**	**+0.2**
	baz=72						
532A	**Rocksprings**	**71.72**	**336**	⇑P	**P**	**10 59 37.6**	**-0.1**
	baz=72,SNR=7.5						
434A	**Burnet**	**71.85**	**338**	⇓P	**P**	**10 59 37.8**	**-0.5**
	baz=72,SNR=6.5						
336A	**Riesel**	**71.97**	**339**	⇑P	**P**	**10 59 39.3**	**+0.3**
	baz=72						
531A	**Rocksprings**	**71.97**	**335**	⇓P	**P**	**10 59 39.0**	**-0.1**
	baz=72						
JCT	**Junction City**	**72.02**	**336**	⇑P	**P**	**10 59 39.3**	**-0.1**
	baz=72						
433A	**Art**	**72.05**	**337**	⇓P	**P**	**10 59 38.9**	**-0.7**
	baz=72,SNR=6.2						
530A	**J-C Ranch, Com**	**72.22**	**335**	⇓P	**P**	**10 59 40.5**	**-0.1**
	baz=72,SNR=7.9						
TXAR	**Lajitas Array**	**72.30**	**332**	P	**P**	**10 59 40.9**	**-0.3**
	comp=N,3.7nm,1.0s,baz=153,slow=8.7,SNR=26						
TXAR				LR	LR	11 26 42.6	
	comp=N,230nm,18.3s,baz=0.0,slow=32						
334A	**Lometa**	**72.32**	**338**	⇑P	**P**	**10 59 40.9**	**-0.3**
	baz=73,SNR=7.9						
431A	**Sonora**	**72.47**	**336**	⇑P	**P**	**10 59 42.2**	**+0.1**
	baz=73						
529A	**Stev Forest Ra**	**72.50**	**334**	⇓P	**P**	**10 59 41.8**	**-0.5**
	baz=73,SNR=6.8						
333A	**Richland Sprin**	**72.54**	**337**	⇑P	**P**	**10 59 41.6**	**-0.9**
	baz=73						
KMSC	**Kings Mountain**	**72.67**	**353**	⇓P	**P**	**10 59 42.7**	**-0.5**
	baz=73						
KMSC	**Kings Mountain**	**72.67**	**353**	*e*P	**P**	**10 59 42.6**	**-0.5**
	comp=N,11nm,1.2s						
WHTX	**Lake Whitney,**	**72.71**	**339**	⇓P	**P**	**10 59 43.3**	**-0.1**
	baz=73						
WHTX	**Lake Whitney,**	**72.71**	**339**	*e*P	**P**	**10 59 43.6**	**+0.2**
	comp=N,102nm,2.5s						
430A	**Baggett Ranch,**	**72.77**	**335**	⇓P	**P**	**10 59 43.2**	**-0.8**
	baz=73,SNR=6.0						
137A	**Heron Place, G**	**72.81**	**340**	⇓P	**P**	**10 59 44.1**	**+0.1**
	baz=73						
332A	**Millersview**	**72.83**	**337**	⇑P	**P**	**10 59 43.4**	**-0.8**
	baz=73,SNR=6.8						
429A	**Davenport Ranc**	**72.84**	**335**	⇓P	**P**	**10 59 44.0**	**-0.4**
	baz=73,SNR=7.2						
234A	**Clairette**	**72.92**	**338**	⇓P	**P**	**10 59 44.1**	**-0.6**
	baz=73						
331A	**San Angelo**	**72.98**	**336**	⇓P	**P**	**10 59 44.3**	**-0.8**
	baz=73,SNR=7.3						
233A	**Rising Star**	**73.16**	**338**	⇓P	**P**	**10 59 45.8**	**-0.4**
	baz=74						
232A	**Coleman**	**73.27**	**337**	⇑P	**P**	**10 59 46.4**	**-0.4**
	baz=74						
SWET	**Sewanee**	**73.30**	**349**	*e*P	**P**	**10 59 46.1**	**-0.8**
	comp=N,26nm,1.1s						
330A	**Mertzon**	**73.32**	**335**	⇓P	**P**	**10 59 46.5**	**-0.6**
	baz=74						
231A	**Bronte**	**73.53**	**336**	⇓P	**P**	**10 59 47.8**	**-0.6**
	baz=74						
329A	**Wagon Wheel Ra**	**73.66**	**335**	⇓P	**P**	**10 59 48.8**	**-0.4**
	baz=74						
133A	**Hamilton Ranch**	**73.72**	**338**	⇑P	**P**	**10 59 49.2**	**-0.3**
	baz=74						
230A	**Sterling City**	**73.74**	**336**	⇓P	**P**	**10 59 48.9**	**-0.7**
	baz=74						
Z35A	**Perchaven, San**	**73.91**	**339**	⇑P	**P**	**10 59 50.2**	**-0.3**
	baz=74						
ABTX	**Abilene, Hawle**	**73.95**	**337**	⇓P	**P**	**10 59 50.4**	**-0.4**
	baz=74						
229A	**Bryant Ranch,**	**74.05**	**335**	⇓P	**P**	**10 59 51.4**	**0.0**
	baz=74						
MIAR	**Mount Ida**	**74.11**	**343**	*e*P	**P**	**10 59 50.8**	**-0.9**
	comp=N,5.6nm,1.2s						
131A	**Roby**	**74.23**	**337**	⇑P	**P**	**10 59 52.0**	**-0.4**
	baz=75						
TZTN	**Tazewell**	**74.29**	**352**	*e*P	**P**	**10 59 52.0**	**-0.7**
	comp=N,24nm,1.4s						
Z33A	**Whitaker Ranch**	**74.30**	**338**	⇓P	**P**	**10 59 52.6**	**-0.2**
	baz=75						
130A	**Snyder**	**74.34**	**336**	⇑P	**P**	**10 59 52.6**	**-0.6**
	baz=75						
228A	**UT Block 9, Go**	**74.45**	**335**	⇑P	**P**	**10 59 53.1**	**-0.7**
	baz=75						
WVT	**Waverly**	**74.49**	**348**	*e*P	**P**	**10 59 53.0**	**-0.8**
	comp=N,12nm,1.1s						
Z32A	**Haskell**	**74.54**	**338**	⇓P	**P**	**10 59 53.9**	**-0.3**
	baz=75						
Z31A	**Sharp Cattle R**	**74.75**	**337**	⇑P	**P**	**10 59 55.2**	**-0.3**
	baz=75						
128A	**Castleberry Fa**	**74.87**	**335**	⇓P	**P**	**10 59 56.2**	**0.0**
	baz=75						
Y33A	**Hilltop Ranch,**	**74.94**	**338**	⇑P	**P**	**10 59 56.4**	**-0.1**
	baz=75						
Z30A	**Sanderson Ranc**	**75.03**	**336**	⇑P	**P**	**10 59 56.5**	**-0.6**
	baz=75,SNR=5.4						
Y32A	**R-V Farms, Ver**	**75.17**	**338**	⇑P	**P**	**10 59 57.2**	**-0.6**
	baz=76						
Z29A	**Hungry Hill Ra**	**75.20**	**336**	⇓P	**P**	**10 59 57.5**	**-0.6**
	baz=76						
Y31A	**Rekieta Farm,**	**75.39**	**337**	⇓P	**P**	**10 59 58.9**	**-0.1**
	baz=76						
Z28A	**Tucker Farm, M**	**75.45**	**335**	⇑P	**P**	**10 59 59.2**	**-0.4**
	baz=76						
PBMO	**Poplar Bluff**	**75.59**	**346**	*e*P	**P**	**10 59 59.4**	**-0.8**
	comp=N,6.5nm,1.0s						
WMOK	**Wichita Mounta**	**75.66**	**339**	*e*P	**P**	**11 00 00.2**	**-0.4**
	comp=N,2.2nm,0.9s						
Y29A	**Porterfield Fa**	**75.74**	**336**	⇓P	**P**	**11 00 00.9**	**-0.2**
	baz=76						
TUL1	**Leonard**	**75.95**	**341**	⇑P	**P**	**11 00 02.1**	**-0.2**
	baz=76						
TUL1	**Leonard**	**75.95**	**341**	*e*P	**P**	**11 00 01.7**	**-0.6**
	comp=N,12nm,1.0s						
W33A	**Caddo, Fort Co**	**75.96**	**339**	⇓P	**P**	**11 00 02.4**	**0.0**
	baz=76						
X30A	**Coker Ranch, T**	**76.02**	**337**	⇑P	**P**	**11 00 02.7**	**-0.1**
	baz=76						
W32A	**Sentinel**	**76.16**	**338**	⇑P	**P**	**11 00 03.5**	**0.0**
	baz=76						
MSTX	**Muleshoe**	**76.20**	**335**	⇑P	**P**	**11 00 03.8**	**0.0**
	baz=76						
MSTX	**Muleshoe**	**76.20**	**335**	*e*P	**P**	**11 00 03.9**	**0.0**
	comp=N,28nm,1.6s						
Y27A	**Causey**	**76.25**	**335**	⇑P	**P**	**11 00 04.0**	**-0.2**
	baz=77						
X29A	**Tulia**	**76.28**	**336**	⇓P	**P**	**11 00 04.8**	**+0.5**
	baz=77						
319A	**Douglas**	**76.30**	**329**	⇓P	**P**	**11 00 04.9**	**+0.4**
	baz=77						
X28A	**Dimmitt**	**76.51**	**336**	⇓P	**P**	**11 00 05.8**	**+0.2**
	baz=77						
Y26A	**Elida**	**76.51**	**334**	⇑P	**P**	**11 00 05.5**	**-0.2**
	baz=77						
V33A	**Lossen Ranch,**	**76.54**	**339**	⇓P	**P**	**11 00 05.8**	**+0.2**
	baz=77						
V32A	**Arapaho**	**76.66**	**339**	⇓P	**P**	**11 00 06.6**	**+0.3**
	baz=77						
AMTX	**Amarillo**	**76.68**	**336**	⇓P	**P**	**11 00 06.8**	**+0.3**
	baz=77						
121A	**Cookes Peak, D**	**76.72**	**331**	⇓P	**P**	**11 00 07.6**	**+0.7**
	baz=77						
W29A	**Amarillo**	**76.89**	**337**	⇓P	**P**	**11 00 08.0**	**+0.3**
	baz=77						
U34A	**Anderson Ranch**	**76.91**	**340**	⇑P	**P**	**11 00 08.2**	**+0.6**
	baz=77						
X27A	**F and S Farms,**	**76.93**	**335**	⇓P	**P**	**11 00 07.8**	**-0.2**
	baz=77						
LIC	**Lamto**	**76.93**	**72**	*e*P	**P**	**11 00 08.4**	**+0.1**
	comp=N,74nm,1.0s						
V31A	**Spring Creek L**	**76.94**	**338**	⇑P	**P**	**11 00 08.6**	**+0.7**
	baz=77						
Z22A	**Elephant Butte**	**77.05**	**332**	⇑P	**P**	**11 00 09.7**	**+1.0**
	baz=77						
X26A	**CR and CF Fran**	**77.08**	**335**	⇓P	**P**	**11 00 09.0**	**+0.2**
	baz=77						
Y24A	**Capitan**	**77.08**	**333**	⇓P	**P**	**11 00 09.5**	**+0.6**
	baz=77						
TIC	**Toumodi**	**77.21**	**71**	*e*P	**P**	**11 00 11.1**	**+1.2**
	comp=N,22nm,0.2s						
KIC	**Kosan Boka**	**77.23**	**72**	*e*P	**P**	**11 00 11.2**	**+1.1**
	comp=N,49nm,0.9s						
U32A	**Winter Ranch,**	**77.26**	**339**	⇓P	**P**	**11 00 10.4**	**+0.8**
	baz=78						
W27A	**Bowe Ranch, En**	**77.30**	**335**	⇑P	**P**	**11 00 10.3**	**+0.3**
	baz=78						
Y23A	**Lovelace Mesa,**	**77.31**	**333**	⇑P	**P**	**11 00 11.2**	**+0.9**
	baz=78						
DBIC	**Dimbokro**	**77.35**	**71**	P	**P**	**11 00 11.5**	**+0.8**
	comp=N,17nm,0.8s,baz=210,slow=5.3,SNR=11						
DBIC				LR	LR	11 32 20.5	
	comp=N,175nm,18.1s,baz=210,slow=34						
DBIC	**Dimbokro**	**77.35**	**71**	*e*P	**P**	**11 00 11.4**	**+0.8**
	comp=N,27nm,0.9s						
T33A	**Patterson Ranc**	**77.71**	**340**	⇓P	**P**	**11 00 12.4**	**+0.3**
	baz=78						
TUC	**Tucson**	**77.74**	**328**	*e*P	**P**	**11 00 13.4**	**+0.9**
	comp=N,9.0nm,1.4s						
U30A	**WK&E Inc. Balk**	**77.88**	**338**	⇑P	**P**	**11 00 13.1**	**-0.1**
	baz=78						
W25A	**X Bar L Ranch,**	**77.91**	**334**	⇓P	**P**	**11 00 13.0**	**-0.5**
	baz=78,SNR=5.1						
T32A	**Huddler Ranch,**	**77.99**	**339**	⇓P	**P**	**11 00 14.4**	**+0.6**
	baz=78						
LAZ	**Ladron**	**78.13**	**332**	*e*P	**P**	**11 00 14.9**	**+0.1**
	comp=N,8.8nm,1.6s						
V26A	**Tequesquite Ra**	**78.20**	**335**	⇑P	**P**	**11 00 15.4**	**+0.3**
	baz=78						
U28A	**Mallet**	**78.23**	**337**	⇑P	**P**	**11 00 15.4**	**+0.2**
	baz=79						
W24A	**Lazy 6 Ranch,**	**78.23**	**334**	⇑P	**P**	**11 00 16.0**	**+0.7**
	baz=79						
214A	**Organ Pipe Nat**	**78.30**	**327**	⇑P	**P**	**11 00 16.0**	**+0.4**
	baz=79						
ANMO	**Albuquerque**	**78.37**	**333**	LR	LR	11 29 17.8	
	comp=N,157nm,19.9s,baz=154,slow=32						
ANMO	**Albuquerque**	**78.37**	**333**	*e*P	**P**	**11 00 16.6**	**+0.5**
	comp=N,22nm,1.8s						
W23A	**Werner Place,**	**78.45**	**333**	⇓P	**P**	**11 00 17.2**	**+0.7**
	baz=79						
U27A	**Thompson Grove**	**78.46**	**336**	⇓P	**P**	**11 00 16.9**	**+0.5**
	baz=79						
S32A	**Newby Ranch, P**	**78.48**	**340**	⇑P	**P**	**11 00 16.4**	**0.0**
	baz=79						
V25A	**Rancho No Teng**	**78.52**	**335**	⇑P	**P**	**11 00 17.3**	**+0.3**
	baz=79,SNR=5.2						
V24A	**Rampart Ranch,**	**78.65**	**334**	⇓P	**P**	**11 00 18.2**	**+0.5**
	baz=79						
U26A	**Atchley Ranch,**	**78.73**	**335**	⇓P	**P**	**11 00 18.4**	**+0.4**
	baz=79						
R33A	**Olander Ranch,**	**78.79**	**341**	⇓P	**P**	**11 00 18.5**	**+0.4**
	baz=79						
S30A	**Montezuma**	**78.86**	**338**	⇑P	**P**	**11 00 18.8**	**+0.2**
	baz=79						
U25A	**Circle Dot Ran**	**78.96**	**335**	⇑P	**P**	**11 00 19.3**	**0.0**
	baz=79,SNR=5.6						
V23A	**Ortiz Mt. (NFS**	**78.98**	**333**	⇑P	**P**	**11 00 20.3**	**+0.8**
	baz=79						
R32A	**Long Quarter,**	**79.09**	**340**	⇓P	**P**	**11 00 20.5**	**+0.8**
	baz=79						
R31A	**Burdett**	**79.19**	**339**	⇓P	**P**	**11 00 20.0**	**-0.4**
	baz=80						
TSUM	**Tsumeb**	**79.31**	**106**	*e*P	**P**	**11 00 23.2**	**+1.4**
	comp=N,20nm,1.8s						
T26A	**Comanche Natio**	**79.39**	**336**	⇓P	**P**	**11 00 22.2**	**+0.5**
	baz=80						
V22A	**San Miguel Ran**	**79.40**	**333**	⇓P	**P**	**11 00 22.5**	**+0.7**
	baz=80						
BOSA	**Boshof**	**79.41**	**118**	P	**P**	**11 00 22.6**	**+0.5**
	comp=N,7.2nm,0.8s,baz=211,slow=6.1,SNR=7.4						
BOSA				LR	LR	11 36 12.1	

M31A	Lambtecht Ranc baz=82	81.90	341	⇑P	P	11 00 35.5	+0.7
U15A	North Rim baz=82	81.92	329	⇑P	P	11 00 36.2	+0.8
PV01	Paradox Valley comp=N,1μm,1.6s	81.97	333	eP	P	11 00 36.2	+0.7
SMCO	Snowmass comp=N,18nm,1.4s	82.34	334	eP	P	11 00 38.4	+0.8
ISCO	Idaho Springs baz=83	82.44	336	⇓P	P	11 00 38.7	+0.7
ISCO	Idaho Springs comp=N,6.5nm,1.4s	82.44	336	eP	P	11 00 38.7	+0.7
P22A	Eagle baz=83	82.64	335	⇑P	P	11 00 39.1	+0.1
L31A	Butterfield Fa baz=83	82.64	341	⇑P	P	11 00 39.2	+0.5
O23A	Lake Granby, G baz=83	82.91	335	⇑P	P	11 00 40.8	+0.3
O22A	Kremmling baz=83	83.07	335	⇓P	P	11 00 42.1	+0.8
EDW2	Edwards Air Fo baz=83	83.09	324	⇓P	P	11 00 42.1	+0.9
K30A	Basset baz=84	83.31	341	⇓P	P	11 00 42.8	+0.7
CCUT	Cedar City comp=N,8.2nm,1.2s	83.32	329	eP	P	11 00 44.0	+1.4
N23A	Red Feather La baz=84	83.53	336	⇓P	P	11 00 43.7	+0.1
SRU	San Rafael Swe comp=N,7.0nm,1.1s	83.56	332	eP	P	11 00 43.7	0.0
ECSD	EROS Data Cent baz=84	83.57	343	⇑P	P	11 00 43.6	+0.2
ECSD	EROS Data Cent comp=N,12nm,1.0s	83.57	343	eP	P	11 00 43.0	-0.5
N22A	Wattenberg Ran baz=84	83.62	335	⇑P	P	11 00 44.8	+0.7
MVU	Marysvale comp=N,14nm,1.8s	83.68	330	eP	P	11 00 45.7	+1.3
M24A	Cheyenne baz=84	83.69	337	⇑P	P	11 00 44.8	+0.5
K27A	Flueckinger Fa baz=84	84.05	339	⇑P	P	11 00 46.7	+0.7
J29A	Okreek baz=84	84.18	341	⇑P	P	11 00 47.1	+0.6
SMMC	Simmler baz=85	84.39	323	⇑P	P	11 00 48.5	+0.7
VES	Vestal, Richgr baz=85	84.39	324	⇓P	P	11 00 48.8	+1.1
J28A	Allard Ranch, baz=85	84.44	340	⇑P	P	11 00 48.6	+0.7
J27A	Elkhorn Farm, baz=85	84.49	339	⇓P	P	11 00 49.3	+1.1
MPU	Maple Canyon comp=N,9.7nm,1.2s	84.77	331	eP	P	11 00 50.7	+0.9
J26A	Sides Ranch, S baz=85	84.85	339	⇓P	P	11 00 50.3	+0.3
R11A	Troy Canyon, C baz=85	84.92	328	⇑P	P	11 00 51.4	+0.8
R11A	Troy Canyon, C comp=N,5.1nm,1.1s	84.92	328	eP	P	11 00 51.5	+0.8
I28A	Midland baz=85	84.96	340	⇑P	P	11 00 51.2	+0.7
K23A	Bowen Ranch, D baz=86	85.11	337	⇓P	P	11 00 52.0	+0.6
JLU	Jordanelle comp=N,35nm,2.3s	85.21	332	eP	P	11 00 52.8	+0.7
I27A	Quinn baz=86	85.26	340	⇓P	P	11 00 52.2	+0.2
H29A	Onida baz=86	85.29	341	⇓P	P	11 00 52.3	+0.2
K22A	Casper baz=86	85.30	336	⇓P	P	11 00 52.5	+0.1
K22A	Casper comp=N,12nm,1.3s	85.30	336	eP	P	11 00 52.2	-0.1
J24A	Dixon Ranch, L baz=86	85.34	338	⇑P	P	11 00 52.9	+0.4
DUG	Dugway, Tooele baz=86	85.37	331	⇑P	P	11 00 53.3	+0.5
DUG	Dugway, Tooele comp=N,7.9nm,1.2s	85.37	331	eP	P	11 00 53.3	+0.5
TPH	Tonopah comp=N,11nm,1.3s	85.39	327	eP	P	11 00 54.3	+1.3
I26A	New Underwood baz=86	85.45	339	⇓P	P	11 00 53.2	+0.3
G30A	Faulkton baz=86	85.49	342	⇓P	P	11 00 53.1	0.0
K21A	Alcova baz=86	85.52	336	⇓P	P	11 00 53.3	-0.2
H28A	Mission Ridge baz=86	85.54	341	⇓P	P	11 00 53.5	+0.1
I25A	Rochford baz=86	85.69	339	⇑P	P	11 00 54.4	+0.1
G29A	Hoven baz=86	85.74	342	⇑P	P	11 00 54.6	+0.2
H27A	Howes baz=86	85.79	340	⇑P	P	11 00 54.7	+0.1
RSSD	Black Hills comp=N,76nm,3.0s	85.87	338	eP	P	11 00 55.4	+0.1
G28A	Parade baz=86	85.89	341	⇑P	P	11 00 55.4	+0.3
NVAR	Mina Array Bea comp=N,1.9nm,0.9s,baz=156,slow=3.2,SNR=4.4	86.16	326	P	P	11 00 57.0	+0.1
H25A	Fruitdale baz=87	86.20	339	⇓P	P	11 00 56.9	+0.2
F29A	Eureka baz=87	86.32	342	⇓P	P	11 00 57.0	-0.1
PDAR	Pinedale Array comp=N,2.4nm,1.1s,baz=145,slow=5.4,SNR=9.0	86.42	334	P	P	11 00 56.4	-1.6
TORD	Torodi Ar. Bea comp=N,4.1nm,0.8s,baz=234,slow=4.3,SNR=20	86.43	71	P	P	11 00 58.2	-0.2
TORD				LR	LR	11 35 39.3	
	comp=N,110nm,21.2s,baz=225,slow=33						
G27A	Dupree baz=87	86.44	340	⇓P	P	11 00 57.5	-0.3
J20A	Shoshoni baz=87	86.44	335	⇑P	P	11 00 57.8	-0.2
G26A	Maurine baz=87,SNR=6.3	86.54	340	⇑P	P	11 00 57.2	-1.1
F28A	McLaughlin baz=87	86.58	341	⇓P	P	11 00 58.5	+0.1
I21A	Big Trails, Te baz=87	86.59	336	⇑P	P	11 00 58.7	0.0
H24A	Dirks Ranch, A baz=87	86.59	338	⇑P	P	11 00 58.7	+0.1
G25A	Newell baz=87	86.68	339	⇑P	P	11 00 59.0	0.0
J19A	Crowheart baz=87	86.69	335	⇑P	P	11 00 59.3	0.0
E30A	Jud baz=87	86.72	343	⇑P	P	11 00 59.4	+0.2
HVU	Hansel Valley comp=N,7.2nm,1.1s	86.72	332	eP	P	11 00 59.3	-0.2
ELK	Elko comp=N,3.6nm,0.9s	86.80	329	eP	P	11 01 00.7	+0.7
F27A	Lemmon baz=87,SNR=6.1	86.92	340	⇑P	P	11 00 59.3	-0.8
F26A	Lodgepole baz=87	87.07	340	⇑P	P	11 01 00.9	0.0
E28A	Huff baz=88	87.23	342	⇑P	P	11 01 01.6	+0.1
D30A	Buchanan baz=88	87.26	343	⇑P	P	11 01 01.8	+0.1
G23A	Biddle baz=88	87.26	338	⇑P	P	11 01 01.0	-0.8
E27A	Carson baz=88	87.31	341	⇓P	P	11 01 02.2	+0.2
I19A	Meeteetse baz=88	87.35	335	⇑P	P	11 01 02.5	0.0
F25A	Bowman baz=88	87.36	340	⇑P	P	11 01 02.5	+0.2
D29A	Pettibone, Tap baz=88	87.41	342	⇑P	P	11 01 02.6	+0.2
H20A	Greybull baz=88	87.42	336	⇑P	P	11 01 02.7	0.0
TPAW	Teton Pass comp=N,5.0nm,1.0s	87.54	334	eP	P	11 01 03.8	+0.3
F24A	Ekalaka baz=88	87.56	339	⇓P	P	11 01 03.0	-0.3
E26A	Carlson Angus baz=88	87.59	340	⇑P	P	11 01 03.1	-0.2
F23A	Volborg baz=88	87.73	338	⇓P	P	11 01 03.8	-0.3
AGMN	Agassiz Nation baz=88,SNR=5.9	87.75	345	⇓P	P	11 01 02.8	-1.2
AGMN	Agassiz Nation comp=N,26nm,1.8s	87.75	345	eP	P	11 01 03.0	-1.0
C30A	Mose, Pekin baz=88,SNR=13	87.75	343	⇓P	P	11 01 03.9	-0.2
D28A	Regan baz=88,SNR=7.6	87.77	342	⇓P	P	11 01 03.9	-0.3
I17A	Pilgrim Ck. baz=88	87.79	334	⇓P	P	11 01 04.5	-0.1
E25A	Miller Ranch, baz=88	87.87	340	⇓P	P	11 01 04.5	-0.3
IMW	Indian Meadow comp=N,5.9nm,1.1s	87.89	334	eP	P	11 01 05.5	+0.3
D26A	Manning baz=88	88.10	341	⇑P	P	11 01 05.9	+0.1
H18A	Shoshone NF, C baz=88	88.14	335	⇑P	P	11 01 06.2	-0.1
MDND	Maddock comp=N,16nm,1.5s	88.15	343	eP	P	11 01 06.2	+0.3
B30A	Myrvik Farm, E baz=89,SNR=13	88.42	344	⇓P	P	11 01 06.8	-0.4
C27A	Sayler Ranch, baz=89	88.49	341	⇑P	P	11 01 07.9	+0.3
B29A	Wagenman Farm, baz=89,SNR=8.5	88.67	343	⇓P	P	11 01 08.1	-0.3
HLID	Hailey baz=89	88.87	331	⇑P	P	11 01 10.6	+0.9
HLID	Hailey comp=N,26nm,1.9s	88.87	331	eP	P	11 01 10.8	+1.1
A30A	Hoffart Farm, baz=89	88.88	344	⇑P	P	11 01 09.4	+0.1
B28A	Dugan Ranch, T baz=89,SNR=7.7	88.89	342	⇑P	P	11 01 09.4	-0.1
A29A	Manning Farm, baz=89,SNR=8.2	89.07	343	⇑P	P	11 01 09.3	-0.9
C24A	Savage baz=89	89.10	340	⇓P	P	11 01 10.7	+0.2
A28A	Rude Farm, Bot baz=90	89.30	343	⇓P	P	11 01 11.4	0.0
MCMT	McKenzie Canyo comp=N,2.7nm,1.3s	89.38	333	eP	P	11 01 12.7	+0.5
ULM	Lac du Bonnet comp=N,8.1nm,1.2s,baz=179,slow=4.7,SNR=5.2	89.61	346	P	P	11 01 11.6	-1.1
ULM	Lac du Bonnet	89.61	346	eP	P	11 01 11.8	-0.9
ESDC	Sonseca Array comp=N,112nm,19.4s,baz=240,slow=34	99.79	47	LR	LR	11 45 32.1	
GERES	GERESS Array B comp=N,0.6nm,0.6s,baz=94,slow=4.2,SNR=2.3	115.38	47	PKP	PKPdf	11 06 56.9	0.0
WRA	Warramunga Arr comp=N,0.5nm,1.0s,baz=148,slow=1.8,SNR=2.4	117.16	209	PKP	PKPdf	11 06 59.5	-1.7
STHS	Stebnicka Huta	120.08	49	ePKP	PKPdf	11 07 08.4	+2.6
KOLS	Kolonicke sedl	120.51	50	ePKP	PKPdf	11 07 09.6	+3.0
BRTR	Keskin Array B comp=N,1.9nm,0.8s,baz=158,slow=4.2,SNR=2.0	124.45	63	PKP	PKPdf	11 07 14.9	+0.2
GEYT	Alibeck comp=N,0.8nm,0.3s,baz=254,slow=5.5,SNR=3.7	141.99	74	PKhKP	PKPpre	11 07 42.3	
ARU	Arti	143.09	43	ePKPdf	PKPbc	11 07 46.7	+1.1
TIXI	Tiksi	143.93	348	ePKPdf	PKPab	11 07 45.9	-1.1
ABKAR	Akbulak array	144.65	55	ePKPdf	PKPab	11 07 50.4	0.0
IPM	Ipoh	146.72	170	ePKPdf	PKPdf	11 07 55.7	-0.7
HYB	Hyderabad	148.25	121	i PKP	PKPbc	11 08 01.0	-1.1
KBL	Kabul	149.61	84	ePKPdf	PKPdf	11 08 01.0	+0.3
KBL				ePKPbc	PKPbc	11 08 05.5	+0.2
KBL				ePKPab	PKPab	11 08 10.7	+0.2
BRVK	Borovoye	150.48	47	ePKPdf	PKPdf	11 08 01.2	0.0
BRVK				ePKPbc	PKiKP	11 08 07.1	-0.2
YAK	Yakutsk	151.60	337	ePKPdf	PKPdf	11 08 03.3	+0.7
YAK				ePKPbc	PKPbc	11 08 08.5	-0.3
YAK				ePKPab	PKPab	11 08 16.6	-1.0
EKS2	Erkin-Say	154.46	68	ePKPdf	PKPdf	11 08 08.4	+0.7
AAK	Ala-Archa	154.99	68	ePKPdf	PKPdf	11 08 08.9	+0.5
AAK				ePKPbc	PKPbc	11 08 16.9	-0.3
AAK				ePKPab	PKPab	11 08 33.5	+0.7
TKM2	Tokmak 2	155.79	67	ePKPdf	PKPdf	11 08 09.6	+0.1
TKM2				ePKPab	PKPab	11 08 36.2	-0.1
KSH	Kashi	156.00	76	ePKP	PKPdf	11 08 09.5	-0.3
KSH				sPKP		11 08 22.6	
KSH				PKS	PKSdf	11 11 43.1	-0.8
KSH				PP	PP	11 12 12.9	-2.2
KSH				SKS	SKSdf	11 15 13.3	-1.4
KSH				SKKS	SKKSac	11 18 59.0	-3.9
KSH				SS	SS	11 31 57.7	-5.2
KSH				PPMZ			
	comp=N,110nm,5.2s						
KSH				LN			
	comp=N,51nm,4.7s						
KSH				LE			
	comp=N,55nm,3.8s						
KSH				LZ			
	comp=N,180nm,8.7s						
KURK	Kurchatov	156.13	48	ePKPdf	PKPdf	11 08 09.8	+0.4
KURK				ePKPab	PKPab	11 08 37.6	+0.4
ZALV	Zalesovo Beam comp=N,3.7nm,0.9s,baz=300,slow=2.9,SNR=16	157.75	35	PKP	PKPdf	11 08 10.1	-1.3
ZALV				PKPab	PKPab	11 08 44.1	+0.1
	comp=N,7.9nm,1.0s,baz=297,slow=6.5,SNR=11						
MKAR	Makanchi Array comp=N,3.2nm,1.1s,baz=318,slow=1.6,SNR=15	159.80	55	PKP	PKPdf	11 08 13.8	-0.3
MKAR				PKPab	PKPab	11 08 53.4	+0.1
	comp=N,2.8nm,0.9s,baz=316,slow=3.3,SNR=11						
MKAR				PP	PP	11 12 33.1	-2.2
	comp=N,0.3nm,0.7s,baz=279,slow=2.3,SNR=3.7						
CMAR	Chiang Mai Arr comp=N,0.6nm,0.4s,baz=218,slow=5.4,SNR=6.2	159.86	158	PKPab	PKPab	11 08 52.8	-1.2
WMQ	Urumqi	164.34	60	ePKP	PKPdf	11 08 18.0	-0.9
WMQ				pPKP	pPKPdf	11 08 29.0	+2.3
WMQ				PKPab	PKPab	11 09 14.2	+0.9
WMQ				PKS	PKSdf	11 11 49.8	-2.0
WMQ				PP	PP	11 13 01.4	+1.6
WMQ				SKS	SKSdf	11 15 17.2	-4.6
WMQ				SS	SS	11 33 24.4	-5.6
WMQ				PPMZ			
	comp=N,260nm,5.6s						
WMQ				LN			
	comp=N,84nm,18.0s						
WMQ				LE			
	comp=N,82nm,20.0s						
WMQ				LZ			
	comp=N,97nm,20.0s						
GYA	Guiyang	168.97	180	ePKP	PKPdf	11 08 22.0	-1.0
GYA				pPKP	pPKPdf	11 08 32.6	+1.8
GYA				PKPab	PKPab	11 09 35.4	+1.4
GYA				PKS	PKSdf	11 11 53.8	-1.9
GYA				PP	PP	11 13 25.0	+2.6
GYA				SKKS		11 20 07.6	
GYA				PPMZ			
	comp=N,120nm,8.4s						
GYA				LN			
	comp=N,120nm,22.8s						
GYA				LE			
	comp=N,110nm,22.2s						
GYA				LZ			
	comp=N,120nm,21.4s						
SONM	Songino Array comp=N,1.4nm,1.0s,baz=6.3,slow=1.9,SNR=6.4	169.69	1	PKPab	PKPab	11 09 36.5	-0.1
CD2	Chengdu	173.00	159	ePKP	PKPdf	11 08 24.8	-0.1
GTA	Gaotai	174.34	68	ePKP	PKPdf	11 08 25.1	-0.1
GTA				pPKP	pPKPdf	11 08 35.0	+2.0
GTA				sPKP		11 08 38.9	
GTA				PKPab	PKPab	11 09 59.1	+1.3
HHC	Hu-ho-hao-te	174.91	312	ePKP	PKPdf	11 08 25.0	-0.3
HHC				PKS	PKSdf	11 11 55.8	-1.7
HHC				SKS	SKSdf	11 15 22.8	-4.1
HHC				PPMZ			
	comp=N,92nm,5.6s						
HHC				LN			
	comp=N,330nm,19.2s						
HHC				LE			
	comp=N,300nm,18.4s						
HHC				LZ			
	comp=N,300nm,19.8s						

IDC 09 11:03:27.7±2.2,38°.15S×73°.92W,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.6/18,mbtmp3.5/4,ML3.4/1,Error ellipse: s-maj=72.0km s-min=20.0km az=54.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores 0.8nm,0.3s,baz=290,slow=10,SNR=7.9	3.66	136	Pn	Pn	11 04 26.8	+1.1
PLCA				Lg	Lg	11 05 24.4	
	7.5nm,0.3s,baz=51,slow=20,SNR=7.2						
LPAZ	La Paz 1.2nm,0.7s,baz=193,slow=11,SNR=4.2	22.37	15	P	P	11 08 29.1	+0.8
TXAR	Lajitas Array 0.3nm,0.7s,baz=157,slow=9.1,SNR=5.3	72.67	333	P	P	11 14 57.6	+0.3
TORD	Torodi Ar. Bea 0.3nm,0.7s,baz=282,slow=2.8,SNR=1.9	87.03	71	P	P	11 16 14.4	-0.9
MKAR	Makanchi Array 0.4nm,0.7s,baz=289,slow=3.7,SNR=5.0	160.50	56	PKPab	PKPab	11 24 09.2	-1.1

DJA 09 11:17:57.2±1.2,8°.S±4°.×11°.8E±°,h13km±8km,M3.5/5, MLv3.5/5,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	2.01	144	S	Sn	11 18 57.0	+1.0
SRBI	Singaraja	2.95	268	P	Pn	11 18 42.9	-0.9
SRBI				S	Sn	11 19 19.7	+0.6
BKSI	Bulukumba	3.29	36	P	Pn	11 18 49.1	+0.6
BKSI				S	Sn	11 19 28.8	+1.3
JAGI	Jajag, Banyuwa	4.02	263	P	Pn	11 18 59.0	+0.4

*IDC **09** 11:29:41.9±2.1,0°.54S×128°.02E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.4/39,mbtmp3.5/3,MS4.0/1,Ms1 4.0/1, ms1mx2.8/21,Error ellipse: s-maj=155.2km s-min=24.9km az=67.0*

ISC 09 11:29:46.0±3.0,0°.3S±0°.5×12°.9E±°,h35km,n9,σ0°.24/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.6nm,0.5s,baz=342,slow=12,SNR=10	20.29	165	P	P	11 34 18.6	-0.2
ASAR	Alice Springs 1.6nm,0.7s,baz=345,slow=12,SNR=31	23.77	168	P	P	11 34 55.8	+0.3
PALK	Pallekele comp=Z,153nm,18.2s,baz=191,slow=38	48.45	280	LR	LR	12 00 06.3	
RAMN	Ramite 13nm,0.6s	48.70	307	eP	P	11 38 27.4	-0.1
JIRN	Jiri 7.3nm,0.5s	49.34	308	eP	P	11 38 32.8	+0.2
GUN	Gumba 10.0nm,0.6s	49.70	308	eP	P	11 38 35.5	+0.2
KOLN	Koldanda	51.45	307	eP	P	11 38 48.2	-0.2
DANN	Dangsing	51.57	307	eP	P	11 38 49.3	-0.1
MKAR	Makanchi Array 0.3nm,0.4s,baz=113,slow=7.5,SNR=8.6	61.97	326	P	P	11 40 02.5	0.0

*IDC **09** 11:35:57.4±1.3,25°.97N×128°.53E,h0km,mb3.4/4, mb1 3.5/5,mb1mx3.3/41,mbtmp3.4/5,ML3.4/1,MS3.5/2, Ms1 3.6/2,ms1mx2.8/25,Error ellipse: s-maj=59.8km s-min=17.2km az=77.0*

*ISCJB **09** 11:35:58.6±0.6,25°.97N±0°.05×128°.72E±0°.04,h27km, mb3.3/4,MS3.4/2,Error ellipse: s-maj=6.5km s-min=4.7km az=3.8*

*JMA **09** 11:35:58.4±0.3,25°.95N×128°.73E,h26km,M3.3*

ISC 09 11:35:59.8±0.9,25°.96N±0°.06×128°.69E±0°.04,h27km,n19, σ1°.44/24,mb3.3/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.82	313	P	Pb	11 36 13.9	-1.5
JNTH				eS	Sb	11 36 25.5	-0.5
JJT2	Tamagusuku 2	0.86	282	P	Pb	11 36 15.2	-0.9
JJT2				eS	Sb	11 36 26.9	-0.4
JOW	Kunigami	0.94	337	P	Pn	11 36 16.3	-1.0
JOW	Kunigami 11nm,0.3s,baz=148,slow=22,SNR=34	0.94	337	Pn	Pn	11 36 16.4	-0.9
JIH	Iheya	1.25	329	P	Pn	11 36 21.0	-0.5
JOKE	Okinoerabujima	1.40	356	P	Pn	11 36 23.1	-0.5
JOKE				eS	Sn	11 36 40.0	-1.2
JAGN	Aguni-jima	1.44	296	P	Pn	11 36 24.5	+0.4
JAGN				eS	Sn	11 36 41.7	-0.4
JKE	Kume jima 2	1.75	282	P	Pn	11 36 27.2	-1.1
JKE				eS	Sn	11 36 47.7	-2.0
JTK	Tokunoshima	1.83	7	P	Pn	11 36 29.0	-0.5
JTK				eS	Sn	11 36 50.2	-1.7
JMZ	Minamidaito 2	2.29	93	P	Pn	11 36 34.3	-1.4
JMZ				eS	Sn	11 37 00.4	-2.6
JAMN	Amaminishikomi	2.32	11	P	Pn	11 36 36.9	+0.8
JAM	Amami Oshima	2.58	18	eS	Sn	11 37 09.7	-0.5
JNU	Nakatsue 0.5nm,0.3s,baz=23,slow=4.5,SNR=4.9	7.39	14	Pn	Pn	11 37 47.3	+1.4
SONM	Songino Array 0.7nm,0.5s,baz=139,slow=11,SNR=7.1	28.00	327	P	P	11 41 51.1	+2.6
CMAR	Chiang Mai Arr comp=Z,83nm,18.2s,baz=236,slow=38	28.48	261	LR	LR	11 53 46.3	
PETK	Petropavlovsk- comp=Z,62nm,19.0s,baz=78,slow=40	34.72	31	LR	LR	11 59 18.6	
MKAR	Makanchi Array 0.4nm,0.5s,baz=98,slow=10,SNR=7.5	42.02	312	P	P	11 43 48.8	-0.1
WRA	Warramunga Arr 0.3nm,0.8s,baz=353,slow=8.6,SNR=4.5	45.96	173	P	P	11 44 21.5	+0.9
ASAR	Alice Springs 0.2nm,0.8s,baz=2.1,slow=15,SNR=4.0	49.59	174	P	P	11 44 51.6	+2.9

*IDC **09** 11:43:41.2±0.7,37°.57S×73°.68W,h0km,mb4.4/12, mb1 4.4/15,mb1mx4.3/27,mbtmp4.3/15,ML3.9/3,MS3.8/13, Ms1 3.8/13,ms1mx3.6/25,Error ellipse: s-maj=21.3km s-min=13.6km az=83.0*

*ISCJB **09** 11:43:43.8±0.4,37°.49S±0°.04×73°.54W±0°.06,h23km, mb4.7/29,MS3.9/10,Error ellipse: s-maj=7.1km s-min=5.5km az=177.7*

*GUC **09** 11:43:43.8±0.5,37°.58S×73°.75W,h44km±5km,ML5.0*

*NEIC **09** 11:43:46.9±0.2,37°.51S×73°.58W,h35km,mb4.6/20,Error ellipse: s-maj=7.8km s-min=5.0km az=78.0*

NEIC Felt [III] at Concepcion. Also felt at La Laja.

*BJI **09** 11:43:47.4,37°.50S×73°.50W,h35km,mB5.0/4,Ms7 4.6/1*

ISC 09 11:43:44.8±0.4,37°.55S±0°.04×73°.67W±0°.06,h23km,n81, σ1°.27/94,mb4.5/29,MS3.9/10,2C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	Angol	0.82	109	⇑i P	Pb	11 44 00.1	-0.1
AGCH				i S1	Sn	11 44 12.2	0.0
CCSP	San Pedro de C	0.84	33	eP1	Pn	11 44 00.5	-0.6
CCSP				eS1	Sn	11 44 12.6	-0.2
CCSP				AML	AML	11 44 16.9	
	comp=E,81μm,0.4s						
PSCH	Puerto Saavedr	1.26	170	⇓i P	Pn	11 44 05.5	-1.5
PSCH				eS1	Sn	11 44 21.6	-1.7
COCH	Cobquecura	1.59	27	eP1	Pn	11 44 10.5	-0.9
PLCA	Paso Flores comp=E,1.2nm,0.3s,baz=326,slow=13,SNR=31	4.00	144	Pn	Pn	11 44 45.3	+0.6
PLCA				Lg	Lg	11 45 46.6	
	comp=E,10nm,0.3s,baz=67,slow=6.4,SNR=2.6						
CACH	El Canelo	4.24	37	⇓i P	Pn	11 44 48.0	-0.1
CHCH	Chadas Angostu	4.37	35	⇑i P	Pn	11 44 49.6	-0.2
ANTU	Antumapu	4.68	33	eP1	Pn	11 44 53.8	-0.3
CLCH	Cerro Calan	4.87	33	⇓i P	Pn	11 44 56.4	-0.4
PEL	Peldehue	5.03	30	⇓i P	Pn	11 44 58.2	-0.7
CFAA	Coronel Fontan comp=E,1.3nm,0.3s,baz=206,slow=8.0,SNR=35	7.43	39	Pn	Pn	11 45 30.8	-1.1
CFAA				Sn	Sn	11 46 54.5	-1.1
	comp=E,0.4nm,0.3s,baz=8.3,slow=16,SNR=2.1						
CFAA				Lg	Lg	11 47 38.5	
	comp=E,0.2nm,0.3s,baz=109,slow=13,SNR=3.0						
CFAA				LR	LR	11 48 39.8	
	comp=E,93nm,19.2s,baz=225,slow=40						
LCO	Las Campanas	8.88	17	ePn	Pn	11 45 51.3	-0.6
LCO				eSn	Sn	11 47 27.0	-4.2
TRQA	Tornquist comp=E,21nm,0.8s	9.27	97	ePn	Pn	11 45 58.0	+0.9
TRQA				eSn	Sn	11 47 40.8	+0.2
LVC	Limon Verde comp=E,15nm,0.7s	15.45	17	ePn	Pn	11 47 22.0	+0.6
LVC				eSn	Sn	11 50 15.1	+3.1
USHA	Ushuaia comp=E,0.2nm,0.3s,baz=321,slow=6.9,SNR=3.6	17.65	170	P	P	11 47 50.6	+0.9
USHA				LR	LR	11 55 40.4	
	comp=E,439nm,19.7s,baz=333,slow=41						
CPUP	Villa Florida comp=E,0.2nm,0.3s,baz=219,slow=9.8,SNR=3.1	17.79	56	P	Pn	11 47 48.9	-2.0
CPUP				LR	LR	11 55 58.9	
	comp=E,295nm,19.4s,baz=217,slow=41						
CPUP	Villa Florida	17.79	56	ePn	Pn	11 47 50.4	-0.5
EFI	East Falkland comp=E,42nm,0.7s	17.91	147	eP	P	11 47 52.9	+0.3
LPAZ	La Paz comp=E,11nm,0.9s,baz=162,slow=6.1,SNR=23	21.74	14	P	P	11 48 36.6	+1.4
LPAZ	La Paz comp=E,16nm,0.8s	21.74	14	eP	P	11 48 35.0	-0.3
SIV	San Ignacio

SIV LR LR 12 00 22.6
comp=E,272nm,18.2s,baz=230,slow=41
SAML Samuel 30.02 21 *e*P **P 11 49 51.7 -0.2**
comp=E,19nm,1.6s
BDFB Brasilia 31.48 53 P **P 11 50 06.5 +1.5**
comp=E,4.9nm,0.6s,baz=212,slow=7.5,SNR=7.9
BDFB LR LR 12 02 14.5
comp=E,178nm,18.5s,baz=216,slow=35
SDV Santo Domingo 46.28 4 *e*P **P 11 52 08.4 -0.4**
comp=E,5.0nm,0.8s
SNAA Sanae 48.83 157 P **P 11 52 28.4 +0.5**
comp=E,5.6nm,1.1s,baz=242,slow=9.2,SNR=6.3
SNAA Sanae 48.83 157 *e*P **P 11 52 28.0 +0.1**
comp=E,24nm,1.3s
QSPA South Pole Qui 52.69 180 P **P 11 52 57.8 +0.7**
comp=E,6.0nm,0.9s,baz=148,slow=3.1,SNR=12
QSPA LR LR 12 14 28.5
comp=E,94nm,18.1s,baz=160,slow=35
QSPA South Pole Qui 52.69 180 *e*P **P 11 52 58.0 +0.8**
comp=E,54nm,1.9s
RKT Rikitea 53.96 267 *e*T T 12 51 04.1
comp=E,1.9nm,0.2s
SYO Syowa Base 63.06 158⇓ *e*P P 11 54 05.4 -4.2
MEH Mehetia 67.12 265 *e*T T 13 07 34.4
comp=E,17nm,0.3s
PPT2 Papeete2 68.47 264 *e*LR LR 12 15 41.1
comp=E,112nm,23.5s
PPT Papeete 68.49 264 LR LR 12 18 06.6
comp=E,91nm,21.1s,baz=135,slow=30
TXAR Lajitas Array 72.23 333 P **P 11 55 08.8 +0.8**
comp=E,1.4nm,0.7s,baz=152,slow=8.4,SNR=22
TXAR LR LR 12 22 01.5
comp=E,97nm,18.9s,baz=0.0,slow=32
SWET Sewanee 73.29 350 *e*P **P 11 55 14.2 +0.1**
comp=E,7.6nm,0.7s
WVT Waverly 74.48 348 *e*P **P 11 55 20.5 -0.5**
comp=E,6.1nm,1.1s
LIC Lamto 77.15 72 *e*P **P 11 55 36.8 -0.1**
comp=E,74nm,1.2s
TIC Toumodi 77.43 71 *e*P **P 11 55 38.9 +0.5**
comp=E,44nm,0.2s
KIC Kosan Boka 77.46 72 *e*P **P 11 55 38.7 +0.1**
comp=E,38nm,0.9s
DBIC Dimbokro 77.57 72 P **P 11 55 39.7 +0.5**
comp=E,9.4nm,0.7s,baz=200,slow=6.6,SNR=11
DBIC LR LR 12 28 15.4
comp=E,43nm,18.6s,baz=166,slow=34
DBIC Dimbokro 77.57 72 *e*P **P 11 55 39.5 +0.4**
comp=E,9.7nm,0.7s
ANMO Albuquerque 78.30 333 *e*P **P 11 55 43.1 +0.1**
comp=E,6.0nm,1.3s
TSUM Tsumeb 79.52 106 P **P 11 55 50.7 +0.6**
comp=E,1.6nm,0.7s,baz=250,slow=4.5,SNR=5.7
BOSA Boshof 79.59 118 P **P 11 55 50.1 -0.3**
comp=E,5.4nm,0.9s,baz=230,slow=7.6,SNR=5.5
BOSA LR LR 12 31 29.9
comp=E,67nm,18.6s,baz=184,slow=36
LBTB Lobatse 82.01 115 *e*P **P 11 56 03.4 0.0**
comp=E,4.9nm,0.7s
SMCO Snowmass 82.27 334 *e*P **P 11 56 05.5 +0.9**
comp=E,4.8nm,1.1s
CCUT Cedar City 83.24 329 *e*P **P 11 56 11.4 +2.0**
comp=E,4.5nm,1.2s
SRU San Rafael Swe 83.48 332 *e*P **P 11 56 11.6 +1.0**
comp=E,3.5nm,0.9s
ECSD EROS Data Cent 83.55 343 *e*P **P 11 56 10.8 +0.3**
comp=E,6.5nm,0.9s
TMUT Trail Mountain 83.91 332 *e*P **P 11 56 13.3 +0.5**
comp=E,32nm,0.4s
PDAR Pinedale Array 86.36 334 P **P 11 56 24.8 -0.2**
comp=E,2.0nm,1.1s,baz=134,slow=6.4,SNR=6.6
HVU Hansel Valley 86.65 332 *e*P **P 11 56 27.4 +1.1**
comp=E,4.6nm,0.9s
TORD Torodi Ar. Bea 86.65 71 P **P 11 56 26.1 -0.7**
comp=E,2.9nm,0.8s,baz=215,slow=4.9,SNR=17
TORD LR LR 12 33 45.7
comp=E,21nm,18.8s,baz=45,slow=35
AGMN Agassiz Nation 87.73 345 *e*P **P 11 56 32.0 +0.8**
comp=E,61nm,2.6s
MDND Maddock 88.12 343 *e*P **P 11 56 33.8 +0.7**
comp=E,3.8nm,1.1s
ULM Lac du Bonnet 89.60 346 P **P 11 56 38.9 -1.0**
comp=E,1.6nm,0.6s,baz=213,slow=9.2,SNR=3.4
MDT Midelt 95.06 52 LR LR 12 39 40.6
comp=E,115nm,19.7s,baz=345,slow=35
ESDC Sonseca Array 99.98 47 *e* **PKPdf 12 02 37.0 +3.6**
comp=E,34nm,18.1s,baz=5.0,slow=36
STHS Stebnicka Huta 120.27 49 *e* **PKPdf 12 02 37.0 +3.6**
KOLS Kolonicke sedl 120.70 50 *e*PKP **PKPdf 12 02 35.0 +0.7**
BRTR Keskin Array B 124.66 64 PKP **PKPdf 12 02 41.2 -1.2**
comp=E,1.5nm,0.7s,baz=198,slow=3.5,SNR=5.0
AKTO Aktyubinsk 143.57 54 PKPhKP PKPpre 12 03 13.8
comp=E,1.1nm,0.6s,baz=277,slow=5.5,SNR=4.4
TIXI Tiksi 143.92 348 *e*PKPdf PKPab 12 03 14.0 -0.3
PSI Prapat 144.75 167 PKP **PKPab 12 03 18.8 -0.4**
comp=E,14nm,0.7s,baz=150,slow=0.6,SNR=14
ABKAR Akbulak array 144.86 55 *e*PKPdf PKPbc 12 03 18.7 +0.2
HYB Hyderabad 148.42 122 *i* PKP **PKPbc 12 03 29.0 -0.8**
BRVK Borovoye 150.66 46 *e*PKPdf **PKPdf 12 03 28.9 +0.2**
BRVK *e*PKPbc **PKiKP 12 03 34.9 -0.1**
BVAR Borovoye Array 150.74 46 PKPbc **PKPbc 12 03 35.2 +0.8**
baz=298,slow=3.1
YAK Yakutsk 151.55 337 *e*PKPbc **PKPbc 12 03 36.2 +0.2**
YAK *e*PKPab **PKPab 12 03 44.4 -0.2**
KKAR Karatay Array 152.28 67 *e*PKPbc **PKPbc 12 03 38.5 +0.1**
EKS2 Erkin-Say 154.68 68 *e*PKPdf **PKPdf 12 03 36.3 +1.1**
EKS2 *e*PKPbc **PKiKP 12 03 44.5 +0.7**
AAK Ala-Archa 155.21 68 *e*PKPdf **PKPdf 12 03 36.8 +0.9**
AAK *e*PKPbc PKPbc 12 03 45.4
TKM2 Tokmak 2 156.01 67 *e*PKPdf **PKPdf 12 03 37.0 -0.1**
KSH Kashi 156.23 76 *e*PKP **PKPdf 12 03 38.3 +0.9**
KSH sPKP 12 03 51.3
KSH PKS **PKSdf 12 07 12.1 +0.7**
KSH PP **PP 12 07 42.4 -1.2**
KSH SKS **SKSdf 12 10 42.7 +0.5**
KSH SKKS **SKKSac 12 14 28.7 -2.6**
KSH SS **SS 12 27 28.4 -4.2**
KSH PPMZ
comp=E,190nm,5.8s
ZALV Zalesovo Beam 157.91 35 PKP **PKPdf 12 03 37.8 -1.0**
comp=E,1.6nm,0.7s,baz=318,slow=2.0,SNR=10
ZALV PKPab **PKPab 12 04 11.8 -0.1**
comp=E,3.5nm,0.6s,baz=304,slow=4.7,SNR=11
CMAR Chiang Mai Arr 159.90 159 PKP **PKPdf 12 03 42.1 -0.2**
comp=E,0.4nm,0.4s,baz=253,slow=0.9,SNR=3.8
CMAR PKPab **PKPab 12 04 20.9 -0.6**
comp=E,0.8nm,0.5s,baz=210,slow=5.2,SNR=5.5
MKAR Makanchi Array 160.00 55 PKP **PKPdf 12 03 41.4 -0.2**
comp=E,1.3nm,1.0s,baz=304,slow=2.2,SNR=8.2
MKAR PKPab **PKPab 12 04 20.8 -0.6**
comp=E,1.6nm,0.8s,baz=278,slow=3.7,SNR=11
NJ2 Nanjing 168.34 246 *e*PKP **PKPdf 12 03 51.2 +1.7**
SONM Songino Array 169.72 360 PKPab **PKPab 12 05 04.5 +0.4**
comp=E,0.6nm,0.8s,baz=343,slow=2.6,SNR=4.9
GTA Gaotai 174.56 68 *e*PKP PKPdf 12 03 46.6 -6.0
GTA pPKP pPKPdf 12 03 57.5 -2.9
GTA sPKP 12 04 00.9
GTA PKPab **PKPab 12 05 24.3 -1.8**
HHC Hu-ho-hao-te 174.77 311 *e*PKP **PKPdf 12 03 53.0 +0.5**
HHC PKS **PKSdf 12 07 23.0 -1.7**
HHC PP **PP 12 09 23.0 +3.6**
HHC SKS **SKSdf 12 10 50.8 -3.4**
HHC SKKS **SKKSac 12 16 03.7 -0.5**
HHC SS **SS 12 30 39.0 -1.5**
HHC PPMZ
comp=E,87nm,5.4s
HHC LZ
comp=E,130nm,20.2s

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*IDC **09** 12:00:35.1±0.8,33°.96S×71°.89W,h0km,mb3.9/6, mb1 4.1/8,mb1mx4.0/18,mbtmp4.0/8,ML4.3/2,MS3.4/4, Ms1 3.4/4,ms1mx3.1/23, Error ellipse: s-maj=26.3km s-min=17.4km az=118.0*
*ISCJB **09** 12:00:36.1±0.5,34°.04S±0°.04×71°.82W±0°.09,h19km, mb4.4/10,MS3.4/2, Error ellipse: s-maj=11.0km s-min=5.7km az=167.6*
*NEIC **09** 12:00:40.4±0.4,33°.98S×71°.89W,h35km,mb4.5/6, Error ellipse: s-maj=11.3km s-min=8.1km az=87.0*
ISC 09 12:00:38.1±0.6,**34°.00S**±0°.06×**71°.92W**±0°.09,**h19**km,**n29**, σ0°.**93**/35,**mb4.4**/10,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.92**	**53**	Pn	**Pn**	**12 01 40.2**	**+2.9**
	2.6nm,0.3s,baz=229,slow=12,SNR=25						
CFAA				Pg	**Pb**	**12 01 45.7**	**-0.8**
	2.6nm,0.3s,baz=224,slow=13,SNR=28						
CFAA				Lg	Lg	12 02 37.7	
	3.8nm,0.3s,baz=76,slow=12,SNR=7.7						
LCO	**Las Campanas**	**5.08**	**12**	*e*Pn	**Pn**	**12 01 53.1**	**-0.5**
	38nm,0.6s						
LCO				*e*Sn	**Sn**	**12 02 53.3**	**+1.4**
PLCA	**Paso Flores**	**6.80**	**171**	Pn	**Pn**	**12 02 18.1**	**+1.1**
	1.4nm,0.3s,baz=332,slow=11,SNR=21						
PLCA				LR	LR	12 05 27.3	
	comp=Z,188nm,19.1s,baz=276,slow=43						
PLCA	**Paso Flores**	**6.80**	**171**	*e*Pn	**Pn**	**12 02 18.5**	**+1.5**
	8.4nm,0.8s						
PLCA				*e*Sn	**Sn**	**12 03 33.1**	**-0.9**
TRQA	**Tornquist**	**9.01**	**120**	*e*Pn	**Pn**	**12 02 46.8**	**-0.3**
	16nm,1.0s						
TRQA				*e*Sn	**Sn**	**12 04 28.1**	**0.0**
CPUP	**Villa Florida**	**14.74**	**63**	LR	LR	12 10 40.8	
	comp=Z,104nm,18.5s,baz=213,slow=41						
CPUP	**Villa Florida**	**14.74**	**63**	*e*Pn	**Pn**	**12 04 04.5**	**-1.1**
LPAZ	**La Paz**	**17.97**	**12**	P	**Pn**	**12 04 47.7**	**+0.1**
	0.3nm,0.3s,baz=206,slow=13,SNR=13						
LPAZ	**La Paz**	**17.97**	**12**	*e*P	**P**	**12 04 48.2**	**+0.2**
	7.4nm,0.8s						
SIV	**San Ignacio**	**20.43**	**31**	P	**P**	**12 05 13.1**	**-1.3**
	1.6nm,0.6s,baz=209,slow=9.2,SNR=3.9						
SIV				LR	LR	12 14 32.1	
	comp=Z,137nm,18.8s,baz=245,slow=41						
RPN	**Rapa Nui**	**32.81**	**272**	LR	LR	12 16 34.0	
	comp=Z,105nm,21.7s,baz=34,slow=29						
QSPA	**South Pole Qui**	**56.23**	**180**	P	**P**	**12 10 17.4**	**+0.6**
	2.4nm,0.9s,baz=175,slow=0.5,SNR=7.3						
QSPA	**South Pole Qui**	**56.23**	**180**	*e*P	**P**	**12 10 17.1**	**+0.2**
	3.2nm,0.9s						
TXAR	**Lajitas Array**	**69.79**	**331**	P	**P**	**12 11 47.7**	**+0.4**
	0.2nm,0.5s,baz=149,slow=9.3,SNR=3.9						
SWET	**Sewanee**	**70.10**	**348**	*e*P	**P**	**12 11 48.4**	**-0.5**
	3.3nm,0.6s						
WVT	**Waverly**	**71.34**	**346**	*e*P	**P**	**12 11 56.0**	**-0.5**
	8.7nm,0.7s						
ACSO	**Alum Creek Sta**	**74.57**	**351**	*e*P	**P**	**12 12 14.8**	**-0.7**
	5.2nm,0.2s						
BOSA	**Boshof**	**79.98**	**118**	P	**P**	**12 12 47.0**	**+0.4**
	1.6nm,0.7s,baz=232,slow=5.9,SNR=3.7						
ECSD	**EROS Data Cent**	**80.58**	**342**	*e*P	**P**	**12 12 48.6**	**-0.4**
DUG	**Dugway, Tooele**	**82.93**	**330**	*e*P	**P**	**12 13 01.6**	**-0.1**
	2.6nm,0.9s						
PDAR	**Pinedale Array**	**83.81**	**333**	P	**P**	**12 13 06.8**	**+0.5**
	0.4nm,0.7s,baz=148,slow=5.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**84.12**	**70**	P	**P**	**12 13 08.2**	**0.0**
	2.2nm,0.7s,baz=261,slow=4.3,SNR=12						
MSVF	**Nonsavu**	**95.89**	**244**	*e*P	P	12 14 08.3	+4.2
	18nm,0.4s						
YKA	**Yellowknife Ar**	**102.09**	**341**	P	**Pdif**	**12 14 29.4**	**-1.1**
	0.1nm,0.6s,baz=143,slow=4.2,SNR=4.9						
WRA	**Warramunga Arr**	**120.81**	**209**	PKP	**PKPdf**	**12 19 28.2**	**-1.3**
	0.3nm,0.7s,baz=160,slow=1.8,SNR=6.4						
EKS2	**Erkin-Say**	**151.89**	**62**	*e*PKPdf	**PKPdf**	**12 20 25.3**	**+0.1**
EKS2				*e*PKPbc	**PKiKP**	**12 20 32.1**	**0.0**
EKS2				*e*PKPab	**PKPab**	**12 20 42.8**	**+1.8**
AAK	**Ala-Archa**	**152.42**	**62**	*e*PKPdf	**PKPdf**	**12 20 26.0**	**-0.1**
AAK				*e*PKPbc	**PKiKP**	**12 20 33.6**	**+0.4**
AAK				*e*PKPab	**PKPab**	**12 20 43.2**	**-0.1**
ZALV	**Zalesovo Beam**	**154.18**	**32**	PKPbc	**PKPbc**	**12 20 35.6**	**-0.5**
	1.7nm,0.6s,baz=302,slow=3.3,SNR=11						
ZALV				PKPab	**PKPab**	**12 20 50.0**	**+0.1**
	1.3nm,0.5s,baz=297,slow=4.8,SNR=5.9						
MKAR	**Makanchi Array**	**156.69**	**49**	PKPab	**PKPab**	**12 21 00.9**	**-0.1**
	0.5nm,0.6s,baz=310,slow=3.5,SNR=8.2						

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*ISCJB **09** 12:08:46.3±2.4,35°.04S±0°.06×72°.4W±0°.1,h25km±17km, mb3.9/5, Error ellipse: s-maj=18.7km s-min=6.1km az=24.6*
*GUC **09** 12:08:47.6±0.8,35°.06S×72°.31W,h30km±7km,ML4.2*
*IDC **09** 12:08:50.5±2.9,35°.04S×72°.11W,h49km±26km,mb3.7/5, mb1 3.8/8,mb1mx3.6/19,mbtmp3.8/8,ML3.5/3, Error ellipse: s-maj=39.9km s-min=20.0km az=93.0*
ISC 09 12:08:48.2±2.2,**35°.10S**±0°.06×**72°.3W**±0°.1,**h29**km±15km, **n15**,σ1°**25**/20,**mb4.0**/5,**3C-1D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.89**	**84**⇓	*i*P	**Pn**	**12 09 03.7**	**-0.9**
NICH				*i* S	**Sb**	**12 09 16.0**	**-0.5**
LNCH	**Linares**	**0.94**	**143**⇑	*i*P	**Pb**	**12 09 06.2**	**+0.3**
LNCH				*i* S	**Sb**	**12 09 18.8**	**+0.7**
COCH	**Cobquecura**	**1.11**	**201**⇑	*i*P	**Pn**	**12 09 07.2**	**-0.5**
COCH				*i* S	**Sn**	**12 09 22.5**	**+0.5**
ANTU	**Antumapu**	**2.06**	**43**	*e*P9	**Pn**	**12 09 22.3**	**+1.4**
ANTU				*e*S	**Sb**	**12 09 47.9**	**-2.1**
ANTU				IAML		12 09 53.7	
	comp=N,3μm,0.4s						
CLCH	**Cerro Calan**	**2.24**	**41**	*e*P	**Pn**	**12 09 24.0**	**+0.6**
CLCH				*i* S	**Sn**	**12 09 51.2**	**+1.2**
CLCH				IAML		12 09 59.5	
	comp=E,2μm,0.7s						
PEL	**Peldehue**	**2.37**	**35**⇑	*i*P	**Pn**	**12 09 25.4**	**+0.3**
PEL				*i* S4	**Sn**	**12 09 55.8**	**+2.7**
PEL				IAML		12 10 01.1	
	comp=N,2μm,0.5s						
FCH	**Farellones**	**2.43**	**44**	*e*P9	Pb	12 09 36.1	+4.8
FCH				*i* S	Sb	12 10 06.8	+5.8
FCH				IAML		12 10 14.7	
	comp=E,1μm,0.2s						
CFAA	**Coronel Fontan**	**4.87**	**45**	P	**Pn**	**12 09 59.5**	**+0.1**
	comp=E,0.3nm,0.3s,baz=222,slow=15,SNR=23						
PLCA	**Paso Flores**	**5.80**	**167**	P	**Pn**	**12 10 14.0**	**+1.8**
	comp=E,0.3nm,0.3s,baz=338,slow=13,SNR=7.9						
LPAZ	**La Paz**	**19.10**	**12**	P	**P**	**12 13 09.3**	**0.0**
	comp=E,0.2nm,0.3s,baz=186,slow=8.1,SNR=7.0						
SIV	**San Ignacio**	**21.52**	**31**	P	**P**	**12 13 33.5**	**-1.5**
	comp=E,4.4nm,0.6s,baz=215,slow=11,SNR=11						
QSPA	**South Pole Qui**	**55.14**	**180**	P	**P**	**12 18 18.5**	**+0.8**
	comp=E,1.4nm,0.9s,baz=180,slow=7.1,SNR=3.2						
TXAR	**Lajitas Array**	**70.58**	**331**	P	**P**	**12 20 00.8**	**+0.1**
	comp=E,0.3nm,0.6s,baz=158,slow=8.1,SNR=5.9						
BOSA	**Boshof**	**79.76**	**118**	P	**P**	**12 20 53.0**	**-0.9**
	comp=E,2.2nm,0.6s,baz=221,slow=3.9,SNR=6.2						
TORD	**Torodi Ar. Bea**	**84.79**	**70**	P	**P**	**12 21 19.2**	**-0.9**
	comp=E,0.8nm,0.7s,baz=222,slow=1.9,SNR=10						

IDC 09 12:14:56.9±4.2,**29°.81S**×**177°.55W**,**h41**km±39km,**mb3.2**/2, **mb1 3.4**/2,**mb1mx3.3**/16,**mbtmp3.4**/2,**Error ellipse: s-maj=70.4km s-min=48.0km az=40.0**,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.64**	**330**	P	Pn	12 15 10.2	+0.6
	261nm,0.3s,baz=81,slow=9.4,SNR=19						
RAO				S	Sn	12 15 20.3	+1.6
	632nm,0.3s,baz=68,slow=19,SNR=14						
ASAR	**Alice Springs**	**43.53**	**266**	P	P	12 22 56.8	0.0
	0.3nm,0.5s,baz=106,slow=7.4,SNR=6.6						
WRA	**Warramunga Arr**	**44.47**	**271**	P	P	12 23 04.0	-0.3
	0.3nm,0.5s,baz=110,slow=8.1,SNR=9.9						
FINES	**FINESS Array B**	**144.73**	**341**	PKP	PKPbc	12 34 27.7	+0.3
	0.7nm,0.7s,baz=52,slow=3.1,SNR=3.6						

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*ISCJB **09** 12:30:42.5±0.7,19°.85N±0°.10×145°.4E±0°.1,h109km, mb3.8/17,Error ellipse: s-maj=18.4km s-min=13.8km az=6.2*
*IDC **09** 12:30:53.1±5.4,19°.91N×145°.35E,h194km±52km, mb3.4/17,mb1 3.5/18,mb1mx3.5/29,mbtmp3.9/18,Error ellipse: s-maj=18.6km s-min=11.6km az=99.0*
ISC 09 12:30:44.0±0.9,**19°.9N**±0°.1×**145°.4E**±0°.2,**h109**km,**n18**, σ1°**04**/18,**mb3.9**/17,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**17.80**	**341**	P	**Pn**	**12 34 46.3**	**+1.7**
	0.3nm,0.3s,baz=161,slow=7.8,SNR=4.5						
KSRS	**Korea Array**	**23.25**	**323**	P	**P**	**12 35 42.6**	**+0.9**
	1.9nm,0.6s,baz=151,slow=9.4,SNR=9.5						
ASAJ	**Asahikawa**	**24.31**	**355**	P	**P**	**12 35 52.7**	**+1.4**
	6.6nm,0.9s,baz=141,slow=6.5,SNR=6.9						
PETK	**Petropavlovsk-**	**34.53**	**13**	P	**P**	**12 37 21.7**	**0.0**
	2.2nm,1.0s,baz=165,slow=7.1,SNR=7.5						
WRA	**Warramunga Arr**	**41.01**	**196**	P	**P**	**12 38 18.0**	**+1.4**
	1.4nm,0.5s,baz=17,slow=8.7,SNR=34						
SONM	**Songino Array**	**42.09**	**321**	P	**P**	**12 38 25.9**	**+0.5**
	0.2nm,0.4s,baz=132,slow=6.7,SNR=5.2						
CMAR	**Chiang Mai Arr**	**43.83**	**276**	P	**P**	**12 38 39.6**	**0.0**
	0.4nm,0.3s,baz=69,slow=8.1,SNR=3.8						
ASAR	**Alice Springs**	**44.69**	**195**	P	**P**	**12 38 46.6**	**+0.4**
	0.7nm,0.4s,baz=13,slow=6.6,SNR=30						
ZALV	**Zalesovo Beam**	**56.96**	**322**	P	**P**	**12 40 17.3**	**-0.5**
	0.3nm,0.3s,baz=108,slow=9.3,SNR=2.4						
MKAR	**Makanchi Array**	**57.49**	**313**	P	**P**	**12 40 21.8**	**0.0**
	0.3nm,0.5s,baz=88,slow=9.0,SNR=10						
ILAR	**Eielson Array**	**62.73**	**26**	P	**P**	**12 40 56.5**	**-0.7**
	1.3nm,0.8s,baz=252,slow=5.1,SNR=17						
BVAR	**Borovoye Array**	**65.43**	**320**	P	**P**	**12 41 13.9**	**-1.1**
	0.4nm,0.3s,baz=78,slow=9.0,SNR=4.1						
INK	**Inuvik**	**68.42**	**23**	P	**P**	**12 41 33.8**	**+0.1**
	1.3nm,0.7s						
GEYT	**Alibeck**	**76.03**	**306**	P	**P**	**12 42 18.1**	**-1.5**
	1.1nm,0.5s,baz=91,slow=7.4,SNR=1.9						
YKA	**Yellowknife Ar**	**77.09**	**28**	P	**P**	**12 42 25.1**	**0.0**
	1.8nm,0.5s,baz=291,slow=5.5,SNR=30						
NVAR	**Mina Array Bea**	**82.63**	**52**	P	**P**	**12 42 56.3**	**+0.6**
	1.5nm,0.7s,baz=268,slow=5.8,SNR=6.6						
FINES	**FINESS Array B**	**85.74**	**335**	P	**P**	**12 43 08.8**	**-1.8**
	0.3nm,0.3s,baz=72,slow=5.2,SNR=6.8						
PDAR	**Pinedale Array**	**87.20**	**45**	P	**P**	**12 43 18.2**	**-0.4**
	0.3nm,0.7s,baz=267,slow=1.8,SNR=3.3						

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*ISCJB **09** 12:35:16.2±1.2,33°.7S±0°.1×72°.5W±0°.4,h12km,mb3.8/3, Error ellipse: s-maj=45.3km s-min=19.8km az=11.0*
*IDC **09** 12:35:16.2±1.2,33°.74S×72°.47W,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.8/26,mbtmp3.7/5,ML3.5/1,MS3.2/1, Ms1 3.2/1,ms1mx2.4/32,Error ellipse: s-maj=46.5km s-min=26.5km az=96.0*
ISC 09 12:35:18.1±1.2,**33°.7S**±0°.2×**72°.5W**±0°.3,**h12**km,**n8**,σ0°**23**/6, **mb3.9**/3,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.14**	**60**	Pn	Pn	12 36 11.1	-10
	0.4nm,0.3s,baz=227,slow=12,SNR=9.8						
CPUP	**Villa Florida**	**15.03**	**65**	LR	LR	12 45 53.9	
	comp=Z,85nm,18.1s,baz=210,slow=42						
LPAZ	**La Paz**	**17.80**	**14**	Pn	**Pn**	**12 39 26.2**	**-0.2**
	0.1nm,0.3s,baz=222,slow=12,SNR=3.1						
SIV	**San Ignacio**	**20.43**	**33**	P	**P**	**12 39 55.7**	**+0.3**
	1.9nm,0.6s,baz=200,slow=12,SNR=2.3						
QSPA	**South Pole Qui**	**56.50**	**180**	P	**P**	**12 44 59.9**	**+0.1**
	1.0nm,0.6s,baz=131,slow=11,SNR=8.1						
TXAR	**Lajitas Array**	**69.33**	**331**	P	**P**	**12 46 25.6**	**0.0**
	0.4nm,0.5s,baz=154,slow=8.2,SNR=11						
TORD	**Torodi Ar. Bea**	**84.45**	**70**	P	**P**	**12 47 50.8**	**-0.1**
	0.4nm,0.6s,baz=235,slow=4.8,SNR=4.1						
MKAR	**Makanchi Array**	**156.85**	**48**	PKPab	**PKPab**	**12 55 42.8**	**-0.1**
	0.4nm,0.7s,baz=298,slow=4.0,SNR=5.0						

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*IDC **09** 12:42:42.6±2.2,23°.40S×179°.84W,h496km±22km,mb3.6/8, mb1 3.9/9,mb1mx3.6/30,mbtmp4.4/9,Error ellipse: s-maj=22.5km s-min=17.7km az=160.0*
*BJI **09** 12:42:43.6,23°.81S×179°.76W,h519km,mB5.1/8, mb4.8/11*
*NEIC **09** 12:42:44.9±0.9,23°.61S×179°.87W,h521km±11km, mb4.9/18,Error ellipse: s-maj=14.1km s-min=9.0km az=79.0*
*ISCJB **09** 12:42:46.1±0.3,23°.63S±0°.04×179°.93W±0°.06,h550km, mb4.6/23,Error ellipse: s-maj=7.8km s-min=5.1km az=13.8*
ISC 09 12:42:46.8±0.6,**23°.84S**±0°.07×**179°.69W**±0°.09,**h550**km, **n71**,σ1°**84**/90,**mb4.7**/23,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.43**	**340**	P	P	12 44 23.6	-6.0
	167nm,1.0s,SNR=8.5						
MSVF	**Nonsavu**	**6.43**	**340**	*e*P	P	12 44 23.6	-6.0
MSVF				*e*S	S	12 45 41.0	-13
OUZ	**Omahuta**	**12.76**	**206**	*e*P	**P**	**12 45 34.7**	**+1.7**
OUZ				*e*Pn	**P**	**12 45 35.4**	**+2.4**
DZM	**Mont Dzumac**	**12.89**	**275**	P	**P**	**12 45 33.2**	**-1.5**
	0.4nm,0.3s,baz=90,slow=18,SNR=4.0						
URZ	**Urewera**	**14.64**	**190**	P	**P**	**12 45 52.7**	**+0.3**
	2.4nm,0.3s,baz=40,slow=16,SNR=26						
URZ				S	**S**	**12 48 25.2**	**-0.1**
	1.1nm,0.3s,baz=227,slow=21,SNR=9.8						
URZ	**Urewera**	**14.64**	**190**	*e*P	**P**	**12 45 52.4**	**+0.1**
URZ				*e*Pn	**P**	**12 45 52.5**	**+0.2**
BKZ	**Black Stump Fm**	**15.63**	**191**	*e*P	**P**	**12 46 01.8**	**-0.8**
	107nm,2.3s						
BFZ	**Birch Farm**	**17.14**	**191**	*e*P	**P**	**12 46 17.1**	**+0.5**
	261nm,2.3s						
MRZ	**Mangatainoka R**	**17.24**	**192**	*e*PN	**P**	**12 46 16.8**	**-0.8**
MRZ				*e*SN	**S**	**12 49 09.7**	**+0.4**
SNZO	**South Karori**	**18.05**	**194**	*e*P	**P**	**12 46 26.8**	**+2.0**
	2μm,1.4s						
QRZ	**Quartz Range**	**18.16**	**199**	PN	**P**	**12 46 27.3**	**+1.4**
QRZ				*e*SN	**S**	**12 49 25.7**	**+1.5**
NNZ	**Nelson**	**18.28**	**197**	PN	**P**	**12 46 27.6**	**+0.5**
NNZ				*e*SN	**S**	**12 49 27.0**	**+0.8**
THZ	**Tophouse**	**18.92**	**197**	*e*PN	**P**	**12 46 33.5**	**+0.6**
THZ				SN	**S**	**12 49 38.4**	**+1.8**
KHZ	**Kahutara**	**19.37**	**195**	*e*P	**P**	**12 46 37.0**	**+0.1**
	26nm,1.0s						
RPZ	**Rata Peaks**	**21.24**	**199**	*e*P	**P**	**12 46 54.1**	**+0.2**
	3.2nm,0.5s						
DCZ	**Deep Cove**	**24.09**	**203**	*e*P	**P**	**12 47 20.4**	**+1.2**
	503nm,2.8s						
WHZ	**Wether Hill Ro**	**24.18**	**201**	*e*P	**P**	**12 47 22.1**	**+2.0**
	62nm,1.3s						
EIDS	**Eidsvold**	**26.59**	**261**	*e*P	**P**	**12 47 41.1**	**-0.6**
	20nm,0.6s						
CTAO	**Charters Tower**	**31.76**	**270**	*e*P	**P**	**12 48 25.6**	**-0.9**
	79nm,0.5s						
TOO	**Toolangi**	**32.72**	**237**	P	**P**	**12 48 35.2**	**+0.8**
	baz=33,SNR=6.7						
TAU	**Tasmania Unive**	**33.18**	**227**	*e*P	**P**	**12 48 39.0**	**+0.8**
	7.9nm,0.5s						
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NJ2	Nanjing	80.83	311	*e*P	P	12 54 04.0	+0.3
NJ2				PMZ			
30nm,0.8s							
NVAR	Mina Array Bea	84.51	44	P	P	12 54 22.2	-0.2
0.6nm,0.5s,baz=218,slow=9.3,SNR=3.8							
GYA	Guiyang	86.96	301	P	P	12 54 35.2	+1.0
GYA				pP	pP	12 56 30.8	-3.2
GYA				sP	sP	12 57 21.0	-8.5
GYA				PP	PP	12 58 09.6	+1.7
GYA				SKS	SKSac	13 04 11.2	+1.9
GYA				S	ScS	13 04 29.0	-3.3
GYA				sS	sS	13 07 51.0	-10
GYA				PMZ			
20nm,1.0s							
GYA				PMZ			
130nm,5.2s							
U15A	North Rim	87.35	48	P	P	12 54 36.6	+0.5
baz=88							
Z22A	Elephant Butte	89.51	53	P	P	12 54 45.3	-0.8
baz=90							
TMUT	Trail Mountain	89.59	46	*e*P	P	12 54 47.8	+1.4
5.1nm,0.8s							
CMAR	Chiang Mai Arr	89.77	290	P	P	12 54 48.4	+1.1
1.6nm,0.8s,baz=133,slow=3.2,SNR=12							
HLID	Hailey	89.86	41	P	P	12 54 46.6	-0.8
baz=90							
SRU	San Rafael Swe	89.95	47	*e*P	P	12 54 48.5	+0.5
4.4nm,0.9s							
TXAR	Lajitas Array	90.16	58	P	P	12 54 50.1	+1.1
1.2nm,0.7s,baz=219,slow=6.5,SNR=20							
HHC	Hu-ho-hao-te	90.57	315	*e*P	P	12 54 52.0	+1.3
HHC				PP	PP	12 58 38.0	+2.0
HHC				SKS	SKSac	13 04 34.1	+4.4
HHC				S	ScS	13 05 01.8	+0.1
HHC				sS	sS	13 08 23.5	-12
HHC				SS	SS	13 11 22.0	+3.5
HHC				PMZ			
13nm,1.0s							
HHC				PMZ			
190nm,5.3s							
Y24A	Capitan	90.95	53	P	P	12 54 53.1	+0.3
baz=91							
CD2	Chengdu	91.28	303	*e*P	P	12 54 54.3	+0.2
CD2				PMZ			
20nm,1.6s							
S22A	4UR Ranch, Cre	91.78	49	P	P	12 54 57.0	+0.4
baz=92							
ILAR	Eielson Array	91.90	13	P	P	12 54 53.5	-2.6
0.5nm,1.0s,baz=214,slow=4.4,SNR=3.0							
429A	Davenport Ranc	92.11	57	P	P	12 54 58.0	0.0
baz=92							
N20A	Spence Gulch,	92.32	46	P	P	12 54 58.0	-0.9
baz=92							
PDAR	Pinedale Array	92.45	44	P	P	12 54 59.0	-0.5
0.8nm,0.8s,baz=224,slow=3.2,SNR=6.1							
631A	Perdido Creek	92.61	59	P	P	12 55 00.4	+0.2
baz=93							
MKAR	Makanchi Array	112.32	313	PKiKP	PKiKP	13 00 18.6	-1.7
0.2nm,0.6s,baz=106,slow=0.5,SNR=4.8							
KSH	Kashi	115.47	304	*e*PKP	PKPdf	13 00 27.1	+0.4
KSH				PP	PP	13 01 41.7	+2.6
KSH				PKS	PKSdf	13 04 04.7	+1.2
KSH				SKS	SKSdf	13 06 51.7	+4.8
KSH				SKKS	SKKSac	13 07 38.7	-4.0
KSH				SS	SS	13 17 02.4	+5.6
KSH				PPMZ			
120nm,4.7s							
FINES	FINESS Array B	138.47	342	SKPbc	SKiKP	13 03 54.4	-1.4
1.1nm,0.5s,baz=36,slow=3.5,SNR=6.4							
HFS	Hagfors	142.54	349	PKhKP	PKPpre	13 01 12.5	
2.4nm,0.3s,baz=64,slow=3.4,SNR=26							
HFS				SKPbc	SKiKP	13 04 05.1	+0.9
2.2nm,0.7s,baz=343,slow=4.5,SNR=4.1							
AKASG	Malin Array Be	145.07	328	PKP	PKPbc	13 01 20.9	-1.5
1.7nm,0.5s,baz=45,slow=4.1,SNR=8.8							
BRTR	Keskin Array B	147.76	307	PKPbc	PKPbc	13 01 29.4	-0.9
1.8nm,0.6s,baz=137,slow=4.9,SNR=2.4							
MMAI	Mount Meron Ar	147.93	295	PKPbc	PKPbc	13 01 31.4	+0.5
5.0nm,0.5s,baz=79,slow=4.5,SNR=6.2							
STHS	Stebnicka Huta	149.64	333	*e*PKP	PKPbc	13 01 32.7	-1.7

ARO 09 12:48:00.1, 11°N±4°×4°1E±°, h5km±6km, ML3.5, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBR	Grand-Bara	0.98	101	*e*P	Pg	12 48 16.9	-2.2
LDLD	Lac de Lave	1.03	77	*e*P	Pg	12 48 17.2	-2.6
MAOD	Malaho	1.04	44	*e*P	Pg	12 48 18.1	-2.1
SGH	Sud-Ghoubbet	1.13	85	*e*P	Pg	12 48 19.4	-2.6
ATD	Arta Tunnel	1.35	82	*e*P	Pn	12 48 22.9	-2.8
ATD				*e*S	Sb	12 48 41.4	-2.3
TDD	Tadjoura Ara	1.47	72	*e*P	Pn	12 48 24.4	-2.8
ATA	Atar	1.70	86	*e*P	Pn	12 48 28.0	-2.3
OBO	Obock	1.89	70	*e*P	Pn	12 48 30.9	-2.0

IDC 09 12:49:52.1±3.7, 35°.87S×72°.54W, h45km±40km, mb3.5/2, mb1 3.7/5, mb1mx3.5/33, mbtmp3.5/5, ML3.8/2, MS1.9/1, Ms1 1.9/1, ms1mx1.9/18, Error ellipse: s-maj=61.4km s-min=27.9km az=102.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.11	163	P	Pn	12 51 05.9	-0.3
0.5nm,0.3s,baz=338,slow=12,SNR=11							
CFAA	Coronel Fontan	5.56	41	P	Pn	12 51 12.9	+0.5
0.1nm,0.3s,baz=239,slow=14,SNR=2.7							
CFAA				LR	LR	12 53 18.8	
comp=Z,13nm,19.8s,baz=244,slow=37							
LPAZ	La Paz	19.89	13	P	P	12 54 21.1	+0.5
0.2nm,0.3s,baz=189,slow=2.4,SNR=8.4							
SIV	San Ignacio	22.28	30	P	P	12 54 44.5	-1.1
2.0nm,0.6s,baz=223,slow=13,SNR=7.5							
TXAR	Lajitas Array	71.16	332	P	P	13 01 06.1	-0.1
0.4nm,0.6s,baz=153,slow=7.6,SNR=7.7							
MKAR	Makanchi Array	158.27	52	PKPab	PKPab	13 10 18.3	0.0
0.5nm,0.9s,baz=323,slow=0.7,SNR=3.6							

DJA 09 12:50:10.1±0.4, 8°S±6°×11°8E±°, h10km, M3.6/9, MLv3.6/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.92	143	P	Pn	12 50 44.1	+1.2
SRBI	Singaraja	2.98	270	P	Pn	12 50 57.1	-0.3
IGBI	Denpasar	3.12	257	P	Pn	12 50 59.2	-0.2
BKSI	Bulukumba	3.34	35	P	Pn	12 51 02.3	-0.2
JAGI	Jajag, Banyuwa	4.04	264	P	Pn	12 51 12.5	+0.4

*IDC **09** 12:54:48.3±1.6, 37°.47S×73°.64W, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.6/36, mbtmp3.4/6, ML3.4/2, MS3.3/3, Ms1 3.2/3, ms1mx3.0/18, Error ellipse: s-maj=45.1km s-min=19.9km az=68.0*

*ISCJB **09** 12:54:51.0±1.4, 37°.4S±0°.1×73°.5W±0°.3, h23km, mb3.5/4, MS3.8/1, Error ellipse: s-maj=32.6km s-min=15.0km az=170.9*

ISC 09 12:54:52.1±1.4, 37°.4S±0°.1×73°.6W±0°.2, h23km, n10, σ0§66/9, mb3.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.06	146	Pn	Pn	12 55 53.2	+0.4
1.1nm,0.3s,baz=310,slow=11,SNR=11							
PLCA				Lg	Lg	12 56 56.9	
1.9nm,0.3s,baz=45,slow=23,SNR=4.8							
PLCA				LR	LR	12 57 03.7	
comp=Z,92nm,19.8s,baz=238,slow=34							
CFAA	Coronel Fontan	7.27	39	Pn	Pn	12 56 36.8	-0.2
0.1nm,0.3s,baz=201,slow=17,SNR=4.3							
CPUP	Villa Florida	17.64	56	LR	LR	13 06 22.4	
comp=Z,104nm,21.0s,baz=215,slow=39							
LPAZ	La Paz	21.59	14	P	P	12 59 41.9	+0.9
0.9nm,0.8s,baz=193,slow=8.1,SNR=2.9							
SIV	San Ignacio	24.03	31	P	P	13 00 06.1	+0.6
1.5nm,0.7s,baz=221,slow=11,SNR=4.9							
RCBR	Riachuelo	46.52	57	LR	LR	13 24 23.8	
comp=Z,98nm,18.5s,baz=216,slow=38							
TXAR	Lajitas Array	72.15	333	P	P	13 06 15.0	+0.1
0.4nm,0.9s,baz=139,slow=8.2,SNR=3.5							
TORD	Torodi Ar. Bea	86.52	71	P	P	13 07 33.2	-0.3
0.4nm,0.9s,baz=226,slow=5.8,SNR=2.3							
ZALV	Zalesovo Beam	157.75	35	PKP	PKPdf	13 14 45.3	-0.7
0.3nm,0.3s,baz=126,slow=2.0,SNR=1.9							
ZALV				PKPab	PKPab	13 15 18.8	+0.1
0.3nm,0.4s,baz=302,slow=2.7,SNR=3.7							
MKAR	Makanchi Array	159.85	55	PKPab	PKPab	13 15 27.4	-0.7
0.3nm,0.9s,baz=297,slow=6.3,SNR=2.7							

GUC 09 13:00:02.6±0.7, 34°.89S×71°.93W, h36km±6km, ML4.2, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.59	101	⇓*i*P	Pn	13 00 14.7	+0.1
NICH				*i* S	Sn	13 00 23.2	+0.2
LNCH	Linares	0.99	164	⇑*i*P	Pn	13 00 20.8	+0.8
LNCH				*i* S	Sn	13 00 33.9	+1.1
RCDM	Rinconada Maip	1.68	34	*e*P	Pn	13 00 30.5	+1.0
RCDM				*i* S	Sn	13 00 52.0	+2.2
ANTU	Antumapu	1.70	40	⇑*i*P	Pn	13 00 31.2	+1.4
ANTU				*e*S	Sn	13 00 53.1	+2.7
ANTU				IAML		13 00 55.3	
comp=E,6μm,0.6s							
SJCH	San Jose de Ma	1.81	47	*e*P9	Pn	13 00 31.7	+0.4
SJCH				*e*S	Sn	13 00 54.3	+1.2
SJCH				IAML		13 01 03.5	
comp=E,1μm,0.5s							
LACH	Col Las Americ	1.85	39	*e*P9	Pn	13 00 31.7	-0.2
LACH				*e*S	Sn	13 00 55.6	+1.7
CLCH	Cerro Calan	1.89	38	⇑*i*P	Pn	13 00 33.8	+1.4
CLCH				*i* S	Sn	13 00 57.7	+2.7
CLCH				IAML		13 01 00.8	
comp=N,3μm,0.6s							
PEL	Peldehue	2.03	31	⇓*i*P	Pn	13 00 36.0	+1.7
PEL				*e*S	Sn	13 01 01.1	+2.7
PEL				IAML		13 01 05.6	
comp=N,3μm,0.6s							

*ISCJB **09** 13:03:28.7±1.0, 20°.42N±0°.06×99°.00E±0°.07, h10km, mb3.3/3, MS4.0/1, Error ellipse: s-maj=12.0km s-min=5.6km az=44.5*

*IDC **09** 13:03:28.6±1.4, 20°.38N×98°.99E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/45, mbtmp3.4/3, MS4.0/1, Ms1 4.0/1, ms1mx2.9/34, Error ellipse: s-maj=29.3km s-min=20.9km az=61.0*

*BKK **09** 13:03:30.2±1.7, 20°N±11°×9°9E±°, h2km±5km, M4.4/11, MLv4.4/11*

*PLV **09** 13:03:40.7±2.0, 22°.54N×99°.38E, h0km±999km, MD3.4, ML3.4*

ISC 09 13:03:29.6±1.1, 20°.33N±0°.07×98°.92E±0°.07, h10km, n21, σ1§89/22, mb3.5/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAI	Chiengmai2	0.41	164	P	Pg	13 03 37.7	-0.1
CRAI	Chiangrai	1.37	94	P	Pn	13 03 53.0	-1.8
CHTO	Chiang Mai	1.51	179	P	Pn	13 03 56.1	-0.7
CMMT	Chiang Mai	1.51	179	P	Pn	13 03 56.1	-0.7
CMAR	Chiang Mai Arr	1.86	179	Pn	Pb	13 04 03.5	-0.3
52nm,0.3s,baz=355,slow=18,SNR=142							
CMAR				Sn	Sb	13 04 27.9	+0.7
410nm,0.3s,baz=7.8,slow=22,SNR=45							
LAMP	Lampang	1.92	159	P	Pb	13 04 04.3	-0.5
MHMT	Maesarieng	2.34	204	P	Pb	13 04 11.3	-0.6
SUKH	Sukhothai	2.91	167	P	Pn	13 04 15.7	-0.3
UTTA	Uttaradit	3.00	149	P	Pn	13 04 17.2	-0.1
LOEI	Loei	3.58	141	P	Pn	13 04 28.2	+3.0
DBV	Dienbien	3.98	74	*e*Pg	Pg	13 04 48.3	+2.4
DBV				*e*Sg	Sg	13 05 36.5	-1.0
PBKT	Sadao Pong	4.22	152	P	Pn	13 04 38.7	+4.7
MLVB	Muong La stati	4.30	66	*e*Pg	Pg	13 05 05.4	+13
MLVB				*e*Sg	Sg	13 06 05.6	+18
TGV	Tuan Giao	4.38	73	*e*Sg	Sg	13 05 46.4	-4.1
TGV				AML	AML	13 05 54.6	
comp=N,58nm,0.6s							
UTHA	Uthaitani	4.77	174	P	Pn	13 04 42.0	+0.4
TTVN	Tram Tau	5.21	76	*e*Pg	Pg	13 05 12.5	+3.1
TTVN				*e*Sg	Sg	13 06 14.3	-2.5
VTVB	Vinh Tuy	5.89	70	*e*Pg	Pg	13 05 19.9	-2.6
VTVB				*e*Sg	Sb	13 06 25.8	+2.7
MKAR	Makanchi Array	29.68	337	P	P	13 09 36.2	+0.6
comp=N,0.2nm,0.6s,baz=155,slow=10,SNR=3.3							
BATI	Baumata	38.91	139	LR	LR	13 29 17.3	
comp=N,193nm,18.2s,baz=248,slow=40							
WRA	Warramunga Arr	52.96	137	P	P	13 12 46.7	+0.1
comp=N,0.4nm,0.6s,baz=324,slow=7.7,SNR=8.3							
ASAR	Alice Springs	55.45	140	P	P	13 13 04.9	+0.2
comp=N,0.3nm,0.7s,baz=322,slow=7.1,SNR=7.5							

*IDC **09** 13:13:06.9±1.3, 35°.03S×66°.70W, h0km, mb4.1/2, mb1 4.3/4, mb1mx4.0/17, mbtmp4.2/4, ML4.5/2, MS4.2/1, Ms1 4.2/1, ms1mx3.0/26, Error ellipse: s-maj=42.6km s-min=24.6km az=99.0*

*ISCJB **09** 13:13:09.6±0.9, 34°.99S±0°.08×66°.9W±0°.2, h33km, mb4.0/2, Error ellipse: s-maj=25.8km s-min=9.3km az=18.8*

ISC 09 13:13:11.9±0.9, 34°.97S±0°.10×66°.8W±0°.2, h35km, n7, σ0§55/7, San Luis Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.56	340	Pn	Pn	13 14 04.8	0.0
0.4nm,0.3s,baz=224,slow=13,SNR=18							
PLCA	Paso Flores	6.46	206	Pn	Pn	13 14 44.0	-0.6
3.1nm,0.3s,baz=348,slow=11,SNR=8.3							
PLCA				Sn	Sn	13 15 57.8	+0.7
3.6nm,0.3s,baz=80,slow=23,SNR=2.0							
SIV	San Ignacio	19.59	17	P	P	13 17 37.0	-0.2
0.6nm,0.3s,baz=225,slow=10.0,SNR=9.9							
USHA	Ushuaia	19.89	183	LR	LR	13 25 15.3	
comp=Z,580nm,18.7s,baz=322,slow=37							
BOSA	Boshof	75.78	115	P	P	13 24 54.3	-0.3
3.4nm,0.7s,baz=246,slow=7.1,SNR=5.8							
TORD	Torodi Ar. Bea	80.56	67	P	P	13 25 21.5	+0.5
0.6nm,0.7s,baz=253,slow=3.8,SNR=3.8							
ZALV	Zalesovo Beam	152.55	38	PKPbc	PKPbc	13 33 04.2	+0.2
0.7nm,0.6s,baz=297,slow=5.0,SNR=3.6							

GUC 09 13:18:25.5±0.6, 36°.38S×73°.18W, h20km±10km, ML4.3, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.40	53	⇑*i*P	Pb	13 18 33.9	+0.1
COCH				*i* S	Sb	13 18 39.3	-0.1
CCSP	San Pedro de C	0.47	173	⇓*i*P	Pb	13 18 34.8	-0.4
CCSP				*i* S	Sb	13 18 41.7	+0.1
LNCH	Linares	1.38	68	⇑*i*P	Pn	13 18 49.6	0.0
LNCH				*i* S	Sb	13 19 08.1	+0.2
NICH	Los Niches	2.10	50	*e*P1	Pn	13 19 01.1	+1.6
NICH				*i* S	Sb	13 19 28.0	-0.4
NICH				IAML		13 19 36.8	
comp=N,3μm,0.4s							

SJA 09 13:21:44.9±0.4, 33°.92S×68°.76W, h24km±1km, ML3.9, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	Agrelo	0.83	356	*i* P	Pn	13 22 01.5	+0.2
ARCO	CERRO ARCO	1.08	352	*i* P	Pb	13 22 05.8	+0.6
ARCO				*i* S	Sn	13 22 21.3	+2.1
ARCO				AML	AML	13 22 24.4	
comp=Z,3μm,0.6s							
ASAL	Salagasta	1.32	357	*i* P	Pb	13 22 09.9	+0.7
ASAL				*i* S	Sb	13 22 28.4	+2.6
AUSP	Uspallata	1.77	342	*i* P	Pb	13 22 16.9	-0.2
AUSP				*i* S	Sb	13 22 40.8	+1.7
ACAN	Cantantal	2.10	39	*i* P	Pb	13 22 21.0	-1.4
RTLS	Leoncito	2.16	348	*i* P	Pb	13 22 22.5	-1.2
CFAA	Coronel Fontan	2.35	11	*i* P	Pb	13 22 24.5	-2.1
RTLL	Cerro Villicun	2.59	5	*i* P	Pn	13 22 28.1	+2.7
AMOG	MOGNA	2.98	4	*i* P	Pn	13 22 33.5	+2.8
AVFE	Valle Fertil	3.43	19	*i* P	Pn	13 22 40.3	+3.3
AVFE				AML	AML	13 23 35.1	
comp=Z,259nm,0.3s							

IDC 09 13:26:39.2±2.2, 4°.93N×127°.34E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/46, mbtmp3.5/3, Error ellipse: s-maj=164.2km s-min=25.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.66	165	P	P	13 32 10.8	-0.2
0.5nm,0.5s,baz=345,slow=10,SNR=9.8							
ASAR	Alice Springs	29.14	168	P	P	13 32 42.3	+0.1
0.2nm,0.5s,baz=351,slow=6.9,SNR=8.1							
MKAR	Makanchi Array	56.93	325	P	P	13 36 26.2	-0.1
0.2nm,0.4s,baz=110,slow=7.3,SNR=7.4							

*ISCJB **09** 13:41:04.1±1.4, 33°.70S±0°.05×72°.36W±0°.06, h20km±10km, mb3.6/2, Error ellipse: s-maj=8.6km s-min=8.3km az=174.2*

*GUC **09** 13:41:05.2±0.6, 33°.74S×72°.22W, h10km, ML3.9*

*IDC **09** 13:41:08.5±4.0, 33°.71S×72°.20W, h39km±33km, mb3.5/3, mb1 3.7/6, mb1mx3.6/18, mbtmp3.7/6, ML3.8/2, MS2.7/2, Ms1 2.8/2, ms1mx2.7/15, Error ellipse: s-maj=47.0km s-min=27.3km az=101.0*

ISC 09 13:41:05.8±0.9, 33°.70S±0°.05×72°.27W±0°.08, h21km±4km, n21, σ0§81/29, 5C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.85	38	⇓*i*P	Pb	13 41 22.0	+0.1
IHA				*i* S1	Sn	13 41 34.3	0.0
RCDM	Rinconada Maip	1.24	81	⇑*i*P	Pn	13 41 26.8	-1.1
RCDM				*i* S	Sn	13 41 43.4	-0.5
CHCH	Chadas Angostu	1.36	100	⇑*i*P	Pn	13 41 28.9	-0.7
ANTU	Antumapu	1.37	85	⇓*i*P	Pn	13 41 29.6	-0.1
ANTU				*i* S	Sb	13 41 47.9	+0.1
ANTU				IAML		13 41 49.1	
comp=N,4μm,0.6s							
PEL	Peldehue	1.44	68	⇑*i*P	Pn	13 41 30.9	+0.3
PEL				*i* S	Sb	13 41 50.5	+0.8
PEL				IAML		13 41 57.6	
comp=E,8μm,0.5s							
CACH	El Canelo	1.45	107	⇑*i*P	Pn	13 41 31.0	+0.2
CLCH	Cerro Calan	1.48	79	*e*P1	Pn	13 41 31.3	+0.1
CLCH				*i* S	Sb	13 41 51.1	+0.2
CLCH				IAML		13 41 52.9	
comp=E,2μm,0.4s							
NICH	Los Niches	1.56	147	⇓*i*P	Pn	13 41 31.9	-0.3
NICH				*i* S	Sb	13 41 52.8	-0.4
SJCH	San Jose de Ma	1.60	88	*e*P9	Pn	13 41 31.6	-1.3
SJCH				*i* S	Sn	13 41 52.8	-0.1
FCH	Farellones	1.69	78	⇑*i*P	Pn	13 41 33.6	-0.7
FCH				*i* S	Sb	13 41 57.0	-0.4
FCH				IAML		13 42 05.3	
comp=E,2μm,0.5s							
CHNG	Los Chungos	1.92	20	⇓*i*P	Pn	13 41 36.5	-0.7
CHNG				*i* S4	Sn	13 41 58.5	-2.2
CFAA	Coronel Fontan	3.99	60	Pn	Pn	13 42 07.6	+1.9
comp=E,0.3nm,0.3s,baz=246,slow=6.6,SNR=14							
CFAA				LR	LR	13 43 59.3	
comp=E,28nm,19.4s,baz=243,slow=43							
PLCA	Paso Flores	7.15	169	Pn	Pn	13 42 50.1	+0.9
comp=E,0.4nm,0.3s,baz=334,slow=9.7,SNR=9.6							
CPUP	Villa Florida	14.87	64	LR	LR	13 50 40.6	
comp=E,117nm,20.4s,baz=212,slow=39							
LPAZ	La Paz	17.73	13	P	Pn	13 45 12.2	+0.2
comp=E,0.1nm,0.3s,baz=173,slow=7.4,SNR=8.4							
SIV	San Ignacio	20.32	33	P	P	13 45 40.6	+0.1
comp=E,2.5nm,0.6s,baz=231,slow=11,SNR=6.1							
TXAR	Lajitas Array	69.38	331	P	P	13 52 12.9	+0.9
comp=E,0.2nm,0.6s,baz=134,slow=7.2,SNR=3.7							
TORD	Torodi Ar. Bea	84.29	70	P	P	13 53 36.0	-0.3
comp=E,1.6nm,1.1s,baz=272,slow=4.4,SNR=5.7							
WRA	Warramunga Arr	120.93	209	PKP	PKPdf	13 59 56.6	-0.5
comp=E,0.4nm,1.0s,baz=149,slow=1.7,SNR=2.8							
ZALV	Zalesovo Beam	154.07	32	PKPbc	PKPbc	14 01 03.7	+0.4
comp=E,0.4nm,0.5s,baz=304,slow=0.5,SNR=3.2							
MKAR	Makanchi Array	156.71	48	PKPab	PKPab	14 01 28.6	+0.2
comp=E,0.2nm,0.6s,baz=346,slow=2.0,SNR=2.9							

*IDC **09** 13:42:21.8±2.6, 10°.43S×124°.16E, h0km, mb3.8/1, mb1 3.4/3, mb1mx3.2/19, mbtmp3.3/3, ML2.9/2, Error ellipse: s-maj=206.6km s-min=34.9km az=55.0*

ISC 09 13:42:25.4±1.6, 10°.2S±0°.3×124°.4E±0°.3, h27km, n7, σ1§88/5, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.47	343	P	Pn	13 42 35.5	-1.1
baz=4.1,SNR=8.5							
KNRA	Kununurra	6.89	142	P	Pn	13 44 09.2	+4.5
baz=11,SNR=7.4							
MTN	Manton Dam	7.09	112	P	Pn	13 44 07.5	+0.1
baz=11,SNR=5.0							
FITZ	Fitzroy Crossi	7.93	171	P	Pn	13 44 23.7	+4.7
baz=12,SNR=3.1							
WRA	Warramunga Arr	13.62	136	Pn	Pn	13 45 37.5	+0.7
0.1nm,0.3s,baz=315,slow=15,SNR=8.3							
ASAR	Alice Springs	16.16	147	Pn	Pn	13 46 08.9	-1.9
0.0nm,0.3s,baz=318,slow=11,SNR=4.2							
ZALV	Zalesovo Beam	72.16	337	P	P	13 53 48.9	+1.4
0.7nm,0.6s,baz=156,slow=7.6,SNR=3.7							

DJA 09 13:42:51.3±0.2, 8°S±3°×11°8E±°, h10km, M4.0/14, mb4.2/1, MLv3.9/14, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.93	145	P	Pn	13 43 24.8	+0.6
WBSI				S	Sb	13 43 52.0	+1.3
WSI	Waingapu	2.56	129	P	Pg	13 43 46.1	+5.6
SRBI	Singaraja	3.04	269	P	Pn	13 43 38.9	-0.6
IGBI	Denpasar	3.19	256	P	Pn	13 43 43.8	+2.2
BKSI	Bulukumba	3.27	34	P	Pn	13 43 42.8	+0.1
ABJI	Asem Bagus	4.02	273	P	Pn	13 43 52.7	-0.2
BNSI	Bone	4.05	27	P	Pn	13 43 54.7	+1.2
JAGI	Jajag, Banyuwa	4.11	264	P	Pn	13 43 52.8	-1.4
JAGI	Jajag, Banyuwa	4.11	264	S	Sn	13 44 40.4	-1.9
baz=7.6,SNR=4.8							
SPSI	Sidrap Palu	4.32	20	P	Pn	13 43 53.6	-3.5
SOEI	Soe	6.15	106	P	Pn	13 44 25.1	+2.6

*ISCJB **09** 14:06:49.9±0.8, 51°.45N±0°.02×173°.52W±0°.02, h29km±5km, mb5.6/449, MS5.5/215, Error ellipse: s-maj=3.9km s-min=1.9km az=6.4*

*BJI **09** 14:06:50.8, 51°.92N×173°.58W, h35km, mB5.8/57, mb5.7/76, Ms5.9/84, Ms7 5.6/78*

*MOS **09** 14:06:50.9±1.0, 51°.56N×173°.48W, h34km, mb5.9/135, MS5.5/60, Error ellipse: s-maj=6.4km s-min=3.9km az=93.3*

*GCMT **09** 14:06:52.3±0.1, 51°.48N×173°.58W, h18km, MW5.8/126, Moment

δ18.00000°, λ57.00000°. NP2:ϕ₀95.00000°, δ75.00000°, λ100.00000°. Principal axes: T 7.6300, Plg59.0000°, Azm19.0000°; N -0.5800, Plg9.0000°, Azm272.0000°; P -7.0500, Plg28.0000°, Azm177.0000°;

ISC 09 14:06:52.7±0.2,51.44N±0.04×173.55W±0.03,h35km±2km, h35km:pP-P,n1640,σ1.13/1724,mb5.6/452,MS5.5/218, 395C-227D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.90**	**338**	**P**	**Pn**	**14 07 08.2**	**-0.7**
KOWE	**Korovin West**	**1.02**	**335**	**P**	**Pn**	**14 07 10.1**	**-0.4**
KONW	**Korovin Northw**	**1.04**	**337**	**P**	**Pn**	**14 07 10.3**	**-0.4**
NIKH	**Nikolski High**	**3.27**	**60**	**P**	**Pn**	**14 07 40.1**	**-1.2**
NIKH				S	**Sn**	**14 08 21.2**	**+2.2**
OKFG	**Magazine Ridge**	**3.98**	**58**	**P**	**Pn**	**14 07 51.8**	**+0.8**
OKFG				S	**Sn**	**14 08 38.8**	**+2.4**
MREP	**Makushin Rep't**	**4.78**	**58**	**P**	**Pn**	**14 08 03.2**	**+1.1**
MSW	**Makushin Switc**	**4.81**	**56**	**P**	**Pn**	**14 08 02.7**	**+0.3**
MSW				S	**Sn**	**14 08 58.9**	**+2.1**
UNV	**Unalaska Valle**	**4.92**	**58**	**P**	**Pn**	**14 08 03.9**	**-0.1**
AKRB	**Akutan Reef Bi**	**5.28**	**56**	**P**	**Pn**	**14 08 09.5**	**+0.6**
AKRB				S	**Sn**	**14 09 10.7**	**+2.2**
ZRO	**Akutan Zero**	**5.31**	**57**	**P**	**Pn**	**14 08 10.3**	**+1.0**
AKUT	**Akutan**	**5.44**	**57**	**P**	**Pn**	**14 08 12.0**	**+0.9**
SPIA	**Saint Paul Isl**	**6.06**	**17**	**P**	**Pn**	**14 08 20.8**	**+1.1**
SPIA				S	**Sn**	**14 09 33.1**	**+5.4**
WESN	**West Dahl Nort**	**6.25**	**56**	**P**	**Pn**	**14 08 23.2**	**+0.9**
ISNN	**Isanotski Nort**	**6.79**	**56**	**P**	**Pn**	**14 08 30.1**	**+0.4**
FALS	**False Pass**	**6.99**	**57**	**P**	**Pn**	**14 08 33.5**	**+1.1**
DT1	**Dutton Round H**	**7.69**	**57**	**P**	**Pn**	**14 08 42.5**	**+0.5**
SMY	**Shemya**	**7.72**	**284**	**P**	**Pn**	**14 08 42.1**	**-0.3**
SMY	**Shemya**	**7.72**	**284**	**P**	**Pn**	**14 08 42.1**	**-0.3**
HAG	**Hague Volcano**	**7.97**	**56**	**P**	**Pn**	**14 08 46.6**	**+0.7**
HAG	**Hague Volcano**	**7.97**	**56**	**P**	**Pn**	**14 08 46.6**	**+0.7**
FX1	**Attu Island--F**	**8.29**	**285**	**P**	**Pn**	**14 08 50.5**	**+0.2**
	30nm,0.3s,baz=170,slow=3.6,SNR=75						
FX1				S	Sn	14 10 30.6	+8.0
	5.5nm,0.3s,baz=80,slow=18,SNR=1.5						
FX1				LR	LR	14 12 02.7	
	comp=Z,24μm,21.4s,baz=114,slow=37						
SDPT	**Sand Point**	**8.74**	**58**	**P**	**Pn**	**14 08 55.5**	**-0.9**
CHGN	**Chignik**	**10.17**	**56**	*eP*	**Pn**	**14 09 14.8**	**-1.2**
GAMB	**Gambell**	**12.41**	**4**	*eP*	**Pn**	**14 09 47.7**	**+1.3**
	9.0nm,0.4s						
OHAK	**Old Harbor**	**13.14**	**56**	*eP*	Pn	14 09 50.5	-5.9
	76nm,0.5s						
KDAK	**Kodiak Island**	**13.68**	**54**	Pn	**P**	**14 10 13.0**	**+1.0**
	2μm,0.4s,SNR=7.0						
TNA	**Tin City**	**14.45**	**9**	*eP*	**Pn**	**14 10 15.8**	**+1.5**
	114nm,0.9s						
RSO	**Redoubt South**	**14.68**	**44**	*eP*	Pn	14 10 13.7	-4.0
	328nm,1.0s						
SEW	**Seward**	**16.01**	**48**	*eP*	**Pn**	**14 10 30.7**	**-4.1**
	172nm,0.7s						
PPLA	**Purkeypile**	**16.20**	**37**	*eP*	**Pn**	**14 10 37.5**	**0.0**
	468nm,1.3s						
RC01	**Rabbit Creek A**	**16.28**	**44**	*eP*	**Pn**	**14 10 34.8**	**-3.5**
	114nm,0.9s						
PMR	**Palmer**	**16.77**	**43**	*eP*	**Pn**	**14 10 42.1**	**-2.3**
PMR				pmax	pmax		
	comp=Z,44nm,0.7s						
PMR	**Palmer**	**16.77**	**43**	*eP*	**Pn**	**14 10 42.1**	**-2.3**
	comp=Z,44nm,0.7s						
KTH	**Kantishna Hill**	**17.05**	**36**	*eP*	**Pn**	**14 10 47.3**	**-0.7**
	comp=Z,5.8nm,0.4s						
PET	**Petropavlovsk**	**17.06**	**286**	*c iP*	**Pn**	**14 10 47.5**	**-0.6**
PET				*eS*	**Sn**	**14 13 53.0**	**-3.4**
PET				pmax	pmax		
	comp=Z,4μm,11.9s						
PET				pmax	pmax		
	comp=Z,89nm,0.7s						
PET				pmax	pmax		
	comp=Z,4μm,11.7s						
PET				MLR	MLR		
	comp=Z,9μm,19.0s						
PET				MLR	MLR		
	comp=Z,8μm,17.0s						
PET	**Petropavlovsk**	**17.06**	**286**	*eP*	**P**	**14 10 48.9**	**-0.6**
	comp=Z,70nm,0.8s						
TRF	**Thorofare Moun**	**17.23**	**37**	*eP*	**Pn**	**14 10 49.2**	**-1.1**
	comp=Z,167nm,0.9s						
PETK	**Petropavlovsk-**	**17.62**	**287**	P	**Pn**	**14 10 55.4**	**+0.2**
	comp=Z,5.0nm,0.3s,baz=97,slow=15,SNR=106						
PETK				PcP	**PcP**	**14 15 33.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=103,slow=3.8,SNR=3.6						
PETK				LR	LR	14 17 12.3	
	comp=Z,7μm,21.7s,baz=90,slow=35						
PETK				ScP	**ScP**	**14 19 04.8**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=141,slow=7.3,SNR=3.9						
MCK	**McKinley**	**17.89**	**37**	*eP*	**Pn**	**14 10 55.6**	**-2.8**
MCK				pmax	pmax		
	comp=Z,283nm,1.0s						
MCK	**McKinley**	**17.89**	**37**	*eP*	**Pn**	**14 10 55.6**	**-2.8**
	comp=Z,283nm,1.0s						
DIV	**Divide**	**18.07**	**47**	*eP*	**Pn**	**14 10 57.9**	**-2.8**
	comp=Z,81nm,0.6s						
COLA	**College**	**18.91**	**35**	*i P*	**P**	**14 11 07.9**	**-1.9**
COLA				pmax	pmax		
	comp=Z,527nm,0.9s						
COLA				MLR	MLR		
	comp=Z,70μm,16.0s						
COLA	**College**	**18.91**	**35**	*eP*	**P**	**14 11 07.2**	**-2.6**
	comp=Z,147nm,0.9s						
PAX	**Paxson**	**18.91**	**42**	*eP*	**P**	**14 11 06.7**	**-3.3**
PAX				pmax	pmax		
	comp=Z,79nm,0.8s						
PAX	**Paxson**	**18.91**	**42**	*eP*	**P**	**14 11 06.7**	**-3.3**
	comp=Z,79nm,0.8s						
SKR	**Severo-Kuril's**	**19.02**	**280**	*eP*	P	14 11 02.0	-9.1
SKR				*eS*	**Sn**	**14 14 39.0**	**-4.8**
SKR				pmax	pmax		
	comp=N,2μm,4.0s						
SKR				pmax	pmax		
	comp=E,5μm,4.0s						
SKR				pmax	pmax		
	comp=Z,5μm,4.0s						
SKR				pmax	pmax		
	comp=N,120nm,0.8s						
SKR				pmax	pmax		
	comp=E,100nm,0.8s						
SKR				smax	smax		
	comp=N,6μm,16.0s						
SKR				smax	smax		
	comp=E,3μm,14.0s						
SKR				smax	smax		
	comp=N,640nm,1.5s						
SKR				MLR	MLR		
	comp=N,8μm,18.0s						
SKR				MLR	MLR		
	comp=E,8μm,18.0s						
ILAR	**Eielson Array**	**19.20**	**36**	P	**P**	**14 11 10.8**	**-2.3**
	comp=E,11nm,0.3s,baz=237,slow=6.4,SNR=218						
ILAR				ScP	**ScP**	**14 19 07.5**	**-0.4**
	baz=286,slow=3.0,SNR=5.8						
ILAR				LR	LR	14 19 17.1	
	comp=E,18μm,18.2s,baz=246,slow=39						
ILAR				P3KPbc		14 45 42.5	
	comp=E,0.0nm,0.3s,baz=41,slow=3.8,SNR=17						
BILL	**Bilibino**	**19.33**	**337**	*eP*	**P**	**14 11 14.1**	**-0.4**
BILL				pmax	pmax		
	comp=Z,395nm,1.4s						
BILL	**Bilibino**	**19.33**	**337**	*eP*	**P**	**14 11 14.1**	**-0.4**
	comp=Z,395nm,1.4s						
COLD	**Coldfoot**	**19.59**	**27**	*eP*	**P**	**14 11 17.1**	**-0.3**
	comp=Z,126nm,0.9s						
MENT	**Mentasta**	**19.63**	**43**	*eP*	**P**	**14 11 15.1**	**-2.7**
DOT	**Dot Lake**	**19.77**	**41**	*eP*	**P**	**14 11 15.1**	**-4.2**
	comp=Z,133nm,0.6s						
EGAK	**Eagle**	**21.39**	**39**	*eP*	**P**	**14 11 34.9**	**-1.9**
	comp=Z,1μm,0.8s						
EGAK				LR	LR		
	comp=Z,21μm,20.0s						
SEY	**Seymchan**	**21.45**	**316**	P	**P**	**14 11 36.7**	**-0.8**
	comp=Z,59nm,0.8s,baz=113,slow=8.8,SNR=104						
SEY				PcP	**PcP**	**14 15 39.5**	**+0.2**
	comp=Z,12nm,0.8s,baz=118,slow=6.3,SNR=4.1						
DAWY	**Dawson**	**21.84**	**42**	*eP*	**P**	**14 11 38.5**	**-3.2**
HYT	**Haines Junctio**	**21.90**	**51**	*eP*	**P**	**14 11 41.0**	**-1.5**
SIT	**Sitka**	**22.80**	**61**	*eP*	**P**	**14 11 53.6**	**+1.7**
SIT				pmax	pmax		
	comp=Z,292nm,1.1s						
SIT	**Sitka**	**22.80**	**61**	*eP*	**P**	**14 11 53.5**	**+1.7**
	comp=Z,292nm,1.1s						
MIDW	**Midway**	**23.38**	**189**	PFAKE		14 12 10.0	+12
MIDW				LR	LR		
	comp=Z,10μm,19.0s						
CRAG	**Craig**	**24.16**	**64**	*eP*	**P**	**14 12 05.4**	**+0.3**
	comp=Z,515nm,1.4s						
WRAK	**Wrangell Islan**	**24.48**	**62**	*eP*	**P**	**14 12 08.0**	**0.0**
	comp=Z,252nm,1.0s						
WRAK				LR	LR		
	comp=Z,17μm,21.0s						
INK	**Inuvik**	**25.55**	**34**	P	**P**	**14 12 16.0**	**-1.6**
INK	**Inuvik**	**25.55**	**34**	P	**P**	**14 12 15.9**	**-1.6**
	comp=Z,286nm,1.0s,baz=244,slow=9.5,SNR=277						
INK				P3KPbc		14 45 12.4	
	comp=Z,1.7nm,0.9s,baz=71,slow=7.6,SNR=5.2						
DLBC	**Dease Lake**	**25.58**	**57**	P	**P**	**14 12 18.3**	**+0.2**
	comp=Z,289nm,1.0s,baz=282,slow=9.2,SNR=106						
DLBC	**Dease Lake**	**25.58**	**57**	*eP*	**P**	**14 12 19.5**	**+1.4**
KUR	**Kuril'sk**	**26.16**	**272**	*d iP*	**P**	**14 12 21.3**	**-2.0**
KUR				*i* S	**S**	**14 16 54.1**	**+1.6**
KUR				pmax	pmax		
	comp=Z,2μm,2.9s						
KUR				pmax	pmax		
	comp=N,108nm,1.5s						
KUR				pmax	pmax		
	comp=Z,701nm,1.5s						
KUR				pmax	pmax		
	comp=E,244nm,1.5s						
KUR				smax	smax		
	comp=N,18nm,1.2s						
KUR				MLR	MLR		
	comp=E,684nm,9.0s						
KUR				MLR	MLR		
	comp=N,2μm,18.0s						
KUR				MLR	MLR		
	comp=Z,1μm,18.0s						
BBB	**Bella Bella**	**27.75**	**70**	P	**P**	**14 12 37.0**	**-0.6**
	comp=Z,107nm,0.9s,baz=286,slow=7.1,SNR=9.2						
YUK	**Yuzh-Kuril'sk**	**27.99**	**271**	*c iP*	P	14 12 32.7	-7.1
YUK				*i* PPP	PPP	14 13 39.8	
YUK				*i*		14 15 50.4	
YUK				*i* S	**S**	**14 17 21.9**	**+0.5**
YUK				pmax	pmax		
	comp=Z,3μm,3.6s						
YUK				pmax	pmax		
	comp=Z,917nm,1.3s						
YUK				pmax	pmax		
	comp=N,269nm,1.4s						
YUK				pmax	pmax		
	comp=E,275nm,1.4s						
YUK				MLR	MLR		
	comp=N,2μm,17.0s						
YUK				MLR	MLR		
	comp=E,3μm,17.0s						
YUK				MLR	MLR		
	comp=Z,4μm,17.0s						
YSS	**Yuzh-Sakhalins**	**28.57**	**278**	*α iP*	**P**	**14 12 46.0**	**+1.0**
YSS				*e*SP*	**sP**	**14 12 59.8**	**+0.4**
YSS				*e*PPP	PPP	14 13 52.0	
YSS				*eS*	**S**	**14 17 36.0**	**+5.4**
YSS				*e*SSS	SSS	14 19 20.0	
YSS				pmax	pmax		
	comp=Z,190nm,1.0s						
YSS				pmax	pmax		
	comp=N,80nm,0.9s						
YSS				pmax	pmax		
	comp=E,170nm,1.0s						
YSS				MLR	MLR		
	comp=Z,14μm,18.0s						
YSS				MLR	MLR		
	comp=N,4μm,20.0s						
YSS				MLR	MLR		
	comp=E,11μm,20.0s						
YSS	**Yuzh-Sakhalins**	**28.57**	**278**	*eP*	**P**	**14 12 45.0**	**0.0**
	comp=E,464nm,1.4s						
YSS				LR	LR		
	comp=Z,5μm,20.0s						
ASAJ	**Asahikawa**	**29.99**	**273**	LR	LR	14 24 40.5	
	comp=Z,6μm,20.8s,baz=66,slow=36						
ASAJ	**Asahikawa**	**29.99**	**273**	*eP*	**P**	**14 12 57.2**	**-0.4**
	comp=Z,72nm,0.9s						
ERM	**Erimo**	**30.73**	**269**	P	**P**	**14 13 05.5**	**+1.4**
	comp=Z,371nm,1.1s,SNR=34						
ERM	**Erimo**	**30.73**	**269**	*d iP*	**P**	**14 13 05.4**	**+1.4**
ERM				pmax	pmax		
	comp=Z,72nm,1.0s						
ERM				MLR	MLR		
	comp=Z,5μm,20.0s						
ERM	**Erimo**	**30.73**	**269**	*eP*	**P**	**14 13 04.2**	**+0.1**
	comp=Z,58nm,0.8s						
ERM				LR	LR		
	comp=Z,6μm,19.0s						
YAK	**Yakutsk**	**31.84**	**312**	*eP*	**P**	**14 13 11.4**	**-2.2**
YAK				*e*PP*	**pP**	**14 13 24.5**	**+0.7**
YAK				*e*		14 14 14.6	
YAK				*e*		14 16 01.8	
YAK				*eS*	**S**	**14 18 21.3**	**-0.1**
YAK				pmax	pmax		
	comp=Z,72nm,1.1s						
YAK				pmax	pmax		
	comp=E,15nm,1.3s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,74nm,2.2s						
YAK				pmax	pmax		
	comp=N,71nm,2.8s						
YAK				pmax	pmax		
	comp=E,75nm,2.3s						
YAK				smax	smax		
	comp=E,409nm,4.2s						
YAK				smax	smax		
	comp=N,357nm,4.2s						
YAK				MLR	MLR		
	comp=Z,19μm,19.0s						
YAK				MLR	MLR		
	comp=E,14μm,22.0s						
YAK				MLR	MLR		
	comp=N,6μm,18.0s						
YAK	**Yakutsk**	**31.84**	**312**	*eP*	**P**	**14 13 10.9**	**-2.8**
	comp=N,62nm,0.8s						
YAK				LR	LR		
	comp=Z,17μm,20.0s						
NLWA	**Neilton Lookou**	**32.07**	**77**	*eP*	**P**	**14 13 17.0**	**+1.1**
	comp=Z,63nm,0.9s						
NLWA				LR	LR		
	comp=Z,5μm,20.0s						
TIXI	**Tiksi**	**32.22**	**330**	*c iP*	**P**	**14 13 15.8**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,53nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,8μm,19.0s						
TIXI	**Tiksi**	**32.22**	**330**	*eP*	**P**	**14 13 15.0**	**-1.8**
	comp=Z,51nm,1.0s						
TIXI				LR	LR		
	comp=Z,7μm,19.0s						
KIP	**Kipapa**	**32.32**	**152**	PFAKE		14 13 30.0	+12
KIP				LR	LR		
	comp=Z,5μm,19.0s						
VDB	**Vedder Mountai**	**32.45**	**74**	P	**P**	**14 13 19.3**	**+0.2**
MBW	**Mount Baker**	**32.67**	**74**	P	**P**	**14 13 21.7**	**+0.4**
CMW	**Cultus Mountai**	**32.69**	**75**	P	**P**	**14 13 22.7**	**+1.2**
YKA	**Yellowknife Ar**	**32.79**	**47**	P	**P**	**14 13 20.0**	**-1.9**
	comp=Z,41nm,0.9s,baz=272,slow=9.7,SNR=208						
YKA				PcP	**PcP**	**14 16 07.1**	**+0.9**
	comp=Z,19nm,0.8s,baz=282,slow=2.8,SNR=15						
YKA				ScP	**ScP**	**14 19 47.4**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=290,slow=3.4,SNR=3.4						
YKA				PKiKP	**PKiKP**	**14 23 30.8**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=283,slow=1.1,SNR=4.4						
YKA				P3KPbc		14 44 41.0	
	comp=Z,0.9nm,0.8s,baz=96,slow=5.4,SNR=15						
F04D	**Rainier, OR**	**33.19**	**79**	⇑P	**P**	**14 13 26.6**	**+0.9**
	baz=33						
G03D	**McMinnville, O**	**33.45**	**81**	⇑P	**P**	**14 13 29.1**	**+1.1**
	baz=33						
TDL	**Tradedollar La**	**33.55**	**78**	P	**P**	**14 13 29.7**	**+0.7**
LON	**Longmire**	**33.62**	**77**	*eP*	**P**	**14 13 29.0**	**-0.5**
LON				pmax	pmax		
	comp=Z,78nm,1.3s						
LON	**Longmire**	**33.62**	**77**	*eP*	**P**	**14 13 29.0**	**-0.5**
	comp=Z,78nm,1.3s						
KEBM	**Edson Butte**	**33.98**	**85**	*eP*	**P**	**14 13 32.8**	**+0.1**
	comp=Z,116nm,1.1s						
ETW	**Entiat**	**34.13**	**75**	P	**P**	**14 13 34.4**	**+0.4**
I03D	**Drain, OR**	**34.16**	**83**	⇑P	**P**	**14 13 35.3**	**+1.2**
	baz=34						
KLR	**Kul'dur**	**34.30**	**288**	*eP*	P	14 13 30.5	-4.8
KLR				*e*PPP	PPP	14 14 51.0	
KLR				*eS*	S	14 18 51.0	-8.9
KLR				*e*		14 23 51.2	
KLR				pmax	pmax		
	comp=E,80nm,2.2s						
KLR				pmax	pmax		
	comp=Z,140nm,2.2s						
KLR				pmax	pmax		
	comp=Z,1μm,9.5s						
KLR				MLR	MLR		
	comp=N,4μm,13.5s						
KLR				MLR	MLR		
	comp=Z,6μm,13.5s						
WTV	**Waterville**	**34.31**	**75**	P	**P**	**14 13 35.5**	**0.0**
G05D	**Wamic, OR**	**34.64**	**79**	⇓P	**P**	**14 13 39.1**	**+0.8**
	baz=34						
POHA	**Pohakuloa**	**34.65**	**149**	PFAKE		14 13 50.0	+11
POHA				LR	LR		
	comp=Z,7μm,20.0s						
I04A	**Tendick Farm,**	**34.69**	**82**	⇑P	**P**	**14 13 39.9**	**+1.1**
	baz=34						
L02D	**Cave Junction,**	**34.82**	**85**	⇑P	**P**	**14 13 41.2**	**+1.3**
	baz=35						
HUMO	**Hull Mountain**	**34.98**	**84**	*eP*	**P**	**14 13 41.4**	**+0.2**
	comp=Z,49nm,1.0s						
I05D	**Terrebonne, OR**	**35.08**	**81**	⇑P	**P**	**14 13 43.1**	**+1.0**
	baz=35						
KTRM	**Thompson Ridge**	**35.10**	**86**	P	**P**	**14 13 44.6**	**+2.2**
J04D	**Umpqua Nationa**	**35.17**	**83**	⇓P	**P**	**14 13 44.0**	**+0.9**
	baz=35						
HAWA	**Hanford**	**35.17**	**76**	*eP*	**P**	**14 13 42.3**	**-0.6**
	comp=Z,92nm,0.9s						
HAWA				LR	LR		
	comp=Z,5μm,20.0s						
H11N2	**WAKE ISLAND Hy**	**35.18**	**213**	T	T	14 51 45.4	
	baz=21,slow=76,SNR=1274						
H11N3	**WAKE ISLAND Hy**	**35.19**	**213**	T	T	14 51 45.9	
	baz=21,slow=76,SNR=1345						
H11N1	**WAKE ISLAND Hy**	**35.20**	**213**	T	T	14 51 50.3	
	baz=21,slow=76,SNR=1173						
OD2	**Odessa Site #2**	**35.20**	**74**	P	**P**	**14 13 42.7**	**-0.4**
CLNS	**Chul'man**	**35.37**	**303**	*eP*	P	14 13 40.8	-3.7
CLNS				*e*PP*	pP	14 13 49.3	-5.4
CLNS				*e*PPP	PPP	14 15 10.4	
CLNS				*e*		14 16 12.9	
CLNS				*eS*	S	14 19 09.5	-6.8
CLNS				*e*		14 23 53.4	
CLNS				pmax	pmax		
	comp=Z,11nm,1.0s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,15nm,0.9s						
CLNS				pmax	pmax		
	comp=E,20nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,11nm,0.9s						
CLNS				smax	smax		
	comp=E,840nm,14.0s						
CLNS				smax	smax		
	comp=N,441nm,21.3s						
CLNS				MLR	MLR		
	comp=N,4μm,18.0s						
CLNS				MLR	MLR		
	comp=E,5μm,18.0s						
CLNS				MLR	MLR		
	comp=Z,7μm,19.0s						
KHMM	**Horse Mountain**	**35.45**	**87**	*eP*	**P**	**14 13 47.4**	**+1.9**
	comp=Z,83nm,1.0s						
YBH	**Yreka Blue Hor**	**35.61**	**85**	*eP*	**P**	**14 13 47.4**	**+0.6**
YBH				pmax	pmax		
	comp=Z,51nm,1.0s						
YBH	**Yreka Blue Hor**	**35.61**	**85**	*eP*	**P**	**14 13 47.4**	**+0.6**
	comp=Z,51nm,1.0s						
PINOR	**Pine Mountain**	**35.64**	**81**	*eP*	**P**	**14 13 47.2**	**+0.4**
	comp=Z,130nm,1.4s						
WAKE	**Wake Island**	**35.68**	**213**	PFAKE		14 14 00.0	+13
WAKE				LR	LR		
	comp=Z,3μm,21.0s						
J05D	**Fort Rock, OR**	**35.69**	**82**	⇓P	**P**	**14 13 48.3**	**+0.8**
	baz=36						
M02C	**Callahan**	**35.71**	**86**	⇓P	**P**	**14 13 49.0**	**+1.4**
	baz=36						
K04D	**Chiloquin, OR**	**35.72**	**83**	⇑P	**P**	**14 13 49.1**	**+1.4**
	baz=36						
NEW	**Newport**	**35.76**	**72**	*eP*	**P**	**14 13 47.4**	**-0.5**
NEW				pmax	pmax		
	comp=Z,150nm,1.0s						
NEW				MLR	MLR		
	comp=Z,6μm,19.0s						
NEW	**Newport**	**35.76**	**72**	⇑P	**P**	**14 13 47.8**	**-0.1**
	baz=36,SNR=100						
NEW	**Newport**	**35.76**	**72**	*eP*	**P**	**14 13 47.4**	**-0.5**
	comp=Z,150nm,1.0s						
NEW				LR	LR		
	comp=Z,6μm,19.0s						
EDM	**Edmonton**	**35.89**	**63**	*eP*	**P**	**14 13 48.5**	**-0.5**
EDM	**Edmonton**	**35.89**	**63**	*eP*	**P**	**14 13 48.5**	**-0.5**
N02D	**Trinity Center**	**36.03**	**86**	⇑P	**P**	**14 13 51.8**	**+1.4**
	baz=36						
M04C	**Macdoel**	**36.12**	**85**	⇑P	**P**	**14 13 52.1**	**+0.9**
	baz=36						
KIPM	**Iron Peak**	**36.22**	**89**	*eP*	**P**	**14 13 52.6**	**+0.6**
	comp=Z,80nm,0.9s						
WDC	**Whiskeytown Da**	**36.36**	**87**	*eP*	**P**	**14 13 54.9**	**+1.8**
WDC				pmax	pmax		
	comp=Z,58nm,1.0s						
WDC	**Whiskeytown Da**	**36.36**	**87**	*eP*	**P**	**14 13 54.9**	**+1.8**
	comp=Z,58nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**36.38**	**213**	T	T	14 53 06.7	
	baz=20,slow=76,SNR=4085						
H11S2	**WAKE ISLAND Hy**	**36.40**	**213**	T	T	14 53 05.2	
	baz=20,slow=76,SNR=1169						
H11S3	**WAKE ISLAND Hy**	**36.40**	**213**	T	T	14 53 03.3	
	baz=20,slow=76,SNR=746						
USRK	**Ussuriysk Ar.**	**36.53**	**281**	P	**P**	**14 13 53.6**	**-0.8**
	comp=Z,114nm,0.9s,baz=58,slow=7.9,SNR=88						
USRK				PcP	**PcP**	**14 16 18.2**	**+0.8**
	comp=Z,22nm,0.8s,baz=48,slow=3.2,SNR=5.7						
USRK				LR	LR	14 27 54.6	
	comp=Z,8μm,21.9s,baz=57,slow=34						
MOD	**Modoc Plateau**	**37.01**	**84**	*eP*	**P**	**14 13 59.0**	**+0.2**
	comp=Z,67nm,1.1s						
MAJO	**Matsushiro**	**37.05**	**265**	*c iP*	**P**	**14 14 00.2**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,469nm,0.9s						
MAJO	**Matsushiro**	**37.05**	**265**	*eP*	**P**	**14 13 59.2**	**+0.2**
	comp=Z,106nm,0.8s						
MAJO				LR	LR		
	comp=Z,6μm,21.0s						
MAT	**Matsushiro**	**37.05**	**265**	P	**P**	**14 14 00.2**	**+1.1**
MAT				S	**S**	**14 19 45.0**	**+2.6**
MJAR	**Matsushiro Arr**	**37.05**	**265**	P	**P**	**14 14 00.2**	**+1.2**
	comp=Z,25nm,0.9s,baz=55,slow=7.6,SNR=31						
MJAR				PcP	**PcP**	**14 16 20.1**	**+1.0**
	comp=Z,17nm,0.9s,baz=73,slow=1.3,SNR=8.5						
MJAR				LR	LR	14 27 44.0	
	comp=Z,5μm,21.4s,baz=65,slow=34						
VLA	**Vladivostok**	**37.16**	**279**	⇓*iP*	**P**	**14 13 59.8**	**-0.1**
VLA				*eS*	**S**	**14 19 45.0**	**+1.1**
VLA				pmax	pmax		
	comp=Z,174nm,0.8s						
BMO	**Blue Mountains**	**37.29**	**77**	*eP*	**P**	**14 14 00.4**	**-0.7**
	comp=Z,38nm,1.1s						
BMO				LR	LR		
	comp=Z,4μm,19.0s						
WALA	**Waterton Lakes**	**37.30**	**70**	*eP*	**P**	**14 14 00.5**	**-0.6**
	comp=Z,4.9nm,0.9s						
BSMT	**Bassoo Peak**	**37.34**	**72**	*eP*	**P**	**14 14 00.8**	**-0.7**
	comp=Z,112nm,0.9s					

MDJ S **S** **14 19 57.5 +4.2**
MDJ sS **sS** **14 20 09.5 -0.7**
MDJ PMZ
comp=Z,57nm,0.8s
MDJ PMZ
comp=Z,800nm,9.3s
MDJ LN
comp=Z,4µm,18.9s
MDJ LE
comp=Z,9µm,18.9s
MDJ LZ
comp=Z,12µm,17.6s
MDJ Mudanjiang 37.78 283 *e*P **P** **14 14 04.4 -0.7**
MDJ comp=Z,46nm,0.8s
MDJ LR LR
comp=Z,13µm,20.0s
YBMT Yellow Bay 37.79 71 *e*P **P** **14 14 04.9 -0.4**
comp=Z,79nm,1.0s
SWMT Swartz Lake 37.97 72 *e*P **P** **14 14 06.6 -0.2**
comp=Z,41nm,1.0s
MSO Missoula 38.34 73 ⇓P **P** **14 14 09.8 -0.1**
baz=38,SNR=70
SLMT Seeley Lake 38.40 72 *e*P **P** **14 14 09.8 -0.7**
comp=Z,118nm,1.2s
CHMT Chamberlain Mo 38.70 72 *e*P **P** **14 14 12.0 -1.1**
comp=Z,44nm,1.0s
MFID Camas Ranch 38.95 79 *e*P **P** **14 14 14.5 -0.6**
comp=Z,34nm,0.9s
CMB Columbia Colle 39.21 89 P **P** **14 14 18.1 +0.8**
CMB pmax pmax
comp=Z,44nm,1.1s
CMB Columbia Colle 39.21 89 P **P** **14 14 18.1 +0.8**
comp=Z,44nm,1.1s
WAKR Walker 39.52 87 *e*P **P** **14 14 20.3 +0.2**
comp=Z,64nm,1.0s
HRY Holter Researc 39.65 72 *e*P **P** **14 14 19.9 -1.0**
comp=Z,105nm,0.9s
LRM Limekiln Ridge 39.73 73 *e*P **P** **14 14 21.0 -0.7**
comp=Z,409nm,1.0s
HLID Hailey 39.74 77 ⇓P **P** **14 14 22.0 +0.3**
baz=40,SNR=53
HLID Hailey 39.74 77 *e*P **P** **14 14 20.2 -1.5**
comp=Z,61nm,1.1s
HLID LR LR
comp=Z,3µm,21.0s
BMN Battle Mountai 39.76 83 *e*P **P** **14 14 21.7 -0.3**
BMN pmax pmax
comp=Z,34nm,0.9s
BMN Battle Mountai 39.76 83 *e*P **P** **14 14 21.7 -0.3**
comp=Z,34nm,0.9s
MCMT McKenzie Canyo 40.01 75 *e*P **P** **14 14 23.0 -1.1**
comp=Z,61nm,0.9s
EGMT Eagleton 40.22 69 ⇓P **P** **14 14 24.5 -1.1**
baz=40,SNR=217
EGMT Eagleton 40.22 69 *e*P **P** **14 14 24.9 -0.7**
EGMT comp=Z,343nm,0.8s
EGMT LR LR
comp=Z,6µm,20.0s
NVAR Mina Array Bea 40.27 87 P **P** **14 14 26.0 -0.3**
comp=Z,43nm,0.8s,baz=292,slow=7.8,SNR=88
NVAR PcP **PcP** **14 16 30.6 +1.2**
comp=Z,7.0nm,0.8s,baz=311,slow=3.5,SNR=3.6
NVAR ScP **ScP** **14 20 16.6 +0.9**
comp=Z,5.4nm,0.8s,baz=276,slow=4.6,SNR=9.3
BOZ Bozeman (W) 40.32 73 *e*P **P** **14 14 25.7 -0.8**
BOZ pmax pmax
comp=Z,110nm,1.1s
BOZ MLR MLR
comp=Z,4µm,19.0s
BOZ Bozeman (W) 40.32 73 *e*P **P** **14 14 25.7 -0.8**
comp=Z,110nm,1.1s
BOZ LR LR
comp=Z,4µm,19.0s
A19A Klindworth Far 40.36 67 ⇓P **P** **14 14 25.5 -1.2**
baz=40,SNR=186
NV11 Mina Array Sit 40.37 86 *e*P **P** **14 14 27.6 +0.6**
MLAC Mammoth, Mammo 40.43 88 ⇓P **P** **14 14 28.1 +0.5**
baz=40,SNR=9.3
B19A Brinkman Farms 40.48 68 ⇑P **P** **14 14 26.8 -0.8**
baz=40,SNR=243
BOD Bodaibo 40.55 308 ⇑*i*P **P** **14 14 26.2 -1.8**
BOD pmax pmax
comp=Z,30nm,1.1s
CN2 Changchun 40.74 284 *e*P **P** **14 14 30.1 +0.3**
CN2 *e*PP **PnPn** **14 16 07.6 -0.5**
CN2 *e*S **S** **14 20 35.7 -2.0**
CN2 *e*SS **SS** **14 23 32.3 -6.6**
CN2 PMZ
comp=Z,50nm,0.9s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,10µm,18.0s
CN2 LE
comp=Z,8µm,18.0s
CN2 LZ
comp=Z,2µm,18.0s
C19A Slack Wire Ran 40.78 69 ⇑P **P** **14 14 29.6 -0.6**
baz=41,SNR=417
A20A Cobblestone Ra 40.86 67 ⇑P **P** **14 14 30.0 -0.8**
baz=41,SNR=88
QLMT Earthquake Lak 40.87 74 *e*P **P** **14 14 30.8 -0.3**
comp=Z,10nm,1.2s
RCTC Rector, Farmer 41.00 90 ⇓P **P** **14 14 33.5 +1.5**
baz=41
B20A Solberg Farm, 41.02 67 ⇓P **P** **14 14 31.6 -0.6**
baz=41,SNR=115
CBIJ Chichi jima 41.16 251 P **P** **14 14 34.4 +1.1**
JCJ Chichijima 41.16 251 P **P** **14 14 34.4 +1.0**
comp=Z,153nm,0.9s,baz=315,slow=8.6,SNR=3.8
JCJ LR LR 14 29 16.5
comp=Z,2µm,20.3s,baz=8.5,slow=33
SMMC Simmler 41.16 92 ⇑P **P** **14 14 35.1 +1.7**
baz=41
D19A Cripps Ranch, 41.16 70 ⇑P **P** **14 14 33.0 -0.4**
baz=41,SNR=162
TIN Tinemaha, Big 41.17 88 ⇓P **P** **14 14 33.7 +0.1**
baz=41,SNR=7.0
TPH Tonopah 41.17 86 *e*P **P** **14 14 33.2 -0.4**
TPH pmax pmax
comp=Z,55nm,1.0s
TPH Tonopah 41.17 86 *e*P **P** **14 14 33.2 -0.4**
comp=Z,55nm,1.0s
YMR Madison River 41.23 74 *e*P **P** **14 14 34.2 0.0**
comp=Z,106nm,1.0s
HIA Hailar 41.28 294 *e*P **P** **14 14 33.1 -1.2**
HIA pmax pmax
comp=Z,68nm,0.8s
HIA MLR MLR
comp=Z,4µm,20.0s
HIA Hailar 41.28 294 *e*P **P** **14 14 33.0 -1.2**
comp=Z,68nm,0.8s
HIA LR LR
comp=Z,4µm,20.0s
A21A Bergtoll Ranch 41.38 66 ⇑P **P** **14 14 34.7 -0.3**
baz=41,SNR=88
YNR Norris Junctio 41.38 74 *e*P **P** **14 14 35.2 -0.1**
comp=Z,118nm,1.1s
VES Vestal, Richgr 41.39 90 ⇑P **P** **14 14 35.2 0.0**
baz=41,SNR=13
C20A Veseth Ranch, 41.40 68 ⇓P **P** **14 14 35.0 -0.2**
baz=41,SNR=284
FFC Flin Flon 41.41 56 P **P** **14 14 34.0 -1.1**
comp=Z,1µm,0.8s,SNR=82
FFC Flin Flon 41.41 56 *e*P **P** **14 14 34.1 -1.1**
FFC pmax pmax
comp=Z,182nm,0.9s
FFC MLR MLR
comp=Z,9µm,20.0s
FFC Flin Flon 41.41 56 *e*P **P** **14 14 34.1 -1.1**
comp=Z,182nm,0.9s
FFC LR LR
comp=Z,9µm,20.0s
YFT Old Faithful 41.43 74 *e*P **P** **14 14 36.2 +0.4**
comp=Z,62nm,1.0s
E19A Rath Farm, Rou 41.58 70 ⇑P **P** **14 14 36.7 -0.1**
baz=41,SNR=104
B21A Ellsworth Farm 41.61 67 ⇓P **P** **14 14 36.6 -0.3**
baz=41,SNR=44
H17A Grant Village 41.62 74 ⇓P **P** **14 14 38.2 +0.9**
baz=41,SNR=83
H17A Grant Village 41.62 74 *e*P **P** **14 14 37.8 +0.4**
comp=Z,131nm,1.2s
D20A Manuel Ranch, 41.64 69 ⇑P **P** **14 14 37.3 0.0**
baz=41,SNR=74
HVU Hansel Valley 41.74 79 *e*P **P** **14 14 37.8 -0.4**
HVU Hansel Valley 41.74 79 *e*P **P** **14 14 37.8 -0.4**

F19A Roth Farm, Mol 41.81 71 ⇓P **P** **14 14 38.7 0.0**
baz=42,SNR=41
I17A Pilgrim Ck. 41.88 75 ⇓P **P** **14 14 40.1 +0.7**
baz=42,SNR=19
ISA Isabella, Lake 41.89 90 *e*P **P** **14 14 38.4 -1.0**
ISA pmax pmax
comp=Z,52nm,1.0s
ISA Isabella, Lake 41.89 90 ⇓P **P** **14 14 39.9 +0.5**
baz=42,SNR=26
ISA Isabella, Lake 41.89 90 *e*P **P** **14 14 38.4 -1.0**
comp=Z,52nm,1.0s
E20A Meyer Farm, Mu 41.95 70 ⇓P **P** **14 14 39.7 -0.1**
baz=42,SNR=43
A22A Carney Farms, 41.95 66 ⇑P **P** **14 14 39.1 -0.7**
baz=42,SNR=69
RLMT Red Lodge 42.01 72 *e*P **P** **14 14 39.7 -0.8**
comp=Z,60nm,1.1s
RLMT LR LR
comp=Z,5µm,19.0s
ARVC Arvin 42.01 91 ⇑P **P** **14 14 40.7 +0.4**
baz=42
H18A Shoshone NF, C 42.01 73 ⇓P **P** **14 14 40.3 -0.2**
baz=42,SNR=42
R11A Troy Canyon, C 42.02 85 ⇓P **P** **14 14 40.7 +0.1**
baz=42,SNR=47
R11A Troy Canyon, C 42.02 85 *e*P **P** **14 14 39.5 -1.1**
comp=Z,57nm,1.0s
DAC Darwin (Calif) 42.05 89 *e*P **P** **14 14 40.2 -0.7**
DAC pmax pmax
comp=Z,34nm,0.9s
DAC Darwin (Calif) 42.05 89 *e*P **P** **14 14 40.2 -0.7**
comp=Z,34nm,0.9s
BGU Big Grassy Mou 42.07 80 *e*P **P** **14 14 40.5 -0.5**
comp=Z,36nm,1.3s
AHID Auburn Hatcher 42.20 76 *e*P **P** **14 14 43.2 +1.2**
comp=Z,76nm,1.1s
AHID LR LR
comp=Z,5µm,19.0s
SPUT South Promonto 42.21 79 *e*P **P** **14 14 43.1 +1.1**
comp=Z,98nm,1.4s
B22A Reddig Ranch S 42.26 67 ⇑P **P** **14 14 42.2 -0.1**
baz=42,SNR=49
F20A Billings 42.31 71 ⇓P **P** **14 14 42.4 -0.4**
baz=42,SNR=33
D21A La Casta Ranch 42.32 69 ⇓P **P** **14 14 42.7 -0.1**
baz=42,SNR=51
FURC Furnace Creek, 42.39 88 ⇓P **P** **14 14 43.9 +0.6**
baz=42,SNR=21
OSI Osito Audit: C 42.41 91 ⇓P **P** **14 14 44.2 +0.6**
baz=42
OSI Osito Audit: C 42.41 91 *e*P **P** **14 14 45.0 +1.4**
comp=Z,47nm,0.8s
H19A Powell 42.42 73 ⇓P **P** **14 14 43.9 +0.1**
baz=42,SNR=94
LRMC Laurel Mtn Rad 42.50 90 ⇓P **P** **14 14 44.7 +0.2**
baz=42
E21A Keefer Ranch, 42.55 69 ⇑P **P** **14 14 44.6 -0.1**
baz=42,SNR=35
A23A Redstone 42.56 65 ⇑P **P** **14 14 44.6 -0.1**
baz=42,SNR=130
G20A Bridger 42.58 72 ⇓P **P** **14 14 44.6 -0.4**
baz=42,SNR=236
C22A Vida 42.61 67 ⇑P **P** **14 14 45.0 -0.1**
baz=42,SNR=84
DUG Dugway, Tooele 42.63 81 *e*P **P** **14 14 44.8 -0.7**
DUG pmax pmax
comp=Z,178nm,1.3s
DUG MLR MLR
comp=Z,4µm,19.0s
DUG Dugway, Tooele 42.63 81 ⇓P **P** **14 14 45.8 +0.3**
baz=42,SNR=33
DUG Dugway, Tooele 42.63 81 *e*P **P** **14 14 44.8 -0.7**
comp=Z,178nm,1.3s
DUG LR LR
comp=Z,4µm,19.0s
EDW2 Edwards Air Fo 42.70 91 ⇓P **P** **14 14 46.1 +0.1**
baz=43,SNR=9.4
D22A Cohagen 42.75 68 ⇓P **P** **14 14 46.3 0.0**
baz=42,SNR=170
B23A Brockton 42.75 66 ⇓P **P** **14 14 45.9 -0.3**
baz=42,SNR=291
I19A Meeteetse 42.76 74 ⇑P **P** **14 14 46.5 -0.1**
baz=43,SNR=29
F21A Absaloka Mine, 42.90 70 ⇑P **P** **14 14 47.0 -0.6**
baz=43
KSRS Korea Array 42.92 275 P **P** **14 14 48.0 +0.4**
KSRS 14 16 38.9
KSRS pmax pmax
comp=Z,87nm,0.9s
KSRS pmax pmax
comp=Z,20nm,0.9s
KSRS Korea Array 42.92 275 P **P** **14 14 48.0 +0.4**
comp=Z,87nm,0.9s,baz=56,slow=7.2,SNR=66
KSRS PcP **PcP** **14 16 38.9 +1.1**
comp=Z,20nm,0.9s,baz=58,slow=3.9,SNR=6.2
KSRS LR LR 14 31 57.1
comp=Z,3µm,20.5s,baz=52,slow=35
KSAR Wonju Array Be 42.95 275 P **P** **14 14 48.0 +0.1**
KSAR 14 16 38.9
KSAR Wonju Array Be 42.95 275 P **P** **14 14 48.0 +0.1**
KSAR PcP **PcP** **14 16 38.9 +1.0**
TCUT Toone Canyon 42.96 79 *e*P **P** **14 14 47.7 -0.6**
comp=Z,125nm,1.2s
LAO LASA Array 42.97 69 *e*P **P** **14 14 47.7 -0.4**
comp=Z,152nm,0.9s
LAO LR LR
comp=Z,6µm,19.0s
C23A Lambert 42.98 67 ⇓P **P** **14 14 48.0 -0.1**
baz=43,SNR=361
SNY Shenyang 42.99 283 ⇑P **P** **14 14 49.2 +1.1**
SNY S **S** **14 21 10.0 -0.9**
SNY PMZ
comp=Z,200nm,1.0s
SNY LN
comp=Z,6µm,20.4s
SNY LE
comp=Z,4µm,19.8s
SNY LZ
comp=Z,7µm,23.3s
CTU Camp Tracy 42.99 79 *e*P **P** **14 14 48.1 -0.3**
comp=Z,54nm,0.9s
PASC Pasadena Art C 43.03 91 *e*P **P** **14 14 48.9 +0.2**
A24A Westby 43.08 65 ⇑P **P** **14 14 48.5 -0.3**
baz=43,SNR=292
MWC Mount Wilson 43.08 91 *e*P **P** **14 14 49.9 +0.6**
MWC pmax pmax
comp=Z,98nm,1.2s
MWC Mount Wilson 43.08 91 *e*P **P** **14 14 49.9 +0.6**
comp=Z,98nm,1.2s
H20A Greybull 43.11 72 ⇓P **P** **14 14 48.9 -0.3**
baz=43,SNR=32
SHOC Shoshone, Teco 43.11 88 ⇑P **P** **14 14 49.7 +0.4**
baz=43
BW06 Boulder Array 43.14 75 *e*P **P** **14 14 48.7 -1.0**
comp=Z,82nm,1.0s
BW06 LR LR
comp=Z,3µm,20.0s
PDAR Pinedale Array 43.14 75 P **P** **14 14 48.9 -0.8**
comp=Z,45nm,0.7s,baz=313,slow=3.3,SNR=161
PDAR ScP **ScP** **14 20 26.9 -0.1**
comp=Z,2.6nm,0.9s,baz=270,slow=3.0,SNR=4.1
PDAR LR LR 14 32 35.6
comp=Z,3µm,19.0s,baz=305,slow=36
J19A Crowheart 43.16 75 ⇓P **P** **14 14 50.4 +0.6**
baz=43,SNR=31
GSC Goldstone, Bar 43.16 89 *e*P **P** **14 14 49.6 -0.2**
GSC pmax pmax
comp=Z,123nm,1.0s
GSC Goldstone, Bar 43.16 89 ⇓P **P** **14 14 50.3 +0.5**
baz=43,SNR=49
GSC Goldstone, Bar 43.16 89 *e*P **P** **14 14 49.6 -0.2**
comp=Z,123nm,1.0s
G21A Lodge Grass 43.18 71 ⇓P **P** **14 14 49.4 -0.4**
baz=43,SNR=28
DGMT Dagmar 43.20 65 ⇑P **P** **14 14 49.4 -0.5**
baz=43,SNR=66
DGMT Dagmar 43.20 65 *e*P **P** **14 14 48.2 -1.6**
comp=Z,212nm,1.0s
DGMT LR LR
comp=Z,6µm,20.0s
NLU North Lily Min 43.23 80 *e*P **P** **14 14 50.0 -0.4**
comp=Z,45nm,0.9s
JLU Jordanelle 43.23 79 *e*P **P** **14 14 49.2 -1.3**
comp=Z,64nm,1.0s
E22A Miles City 43.26 69 ⇓P **P** **14 14 50.5 +0.1**
baz=43,SNR=13
D23A Lindsay 43.30 68 ⇓P **P** **14 14 50.9 +0.1**
baz=43,SNR=54

RRX Edison Barstow 43.31 90 ⇓P **P** **14 14 51.8 +0.9**
baz=43
BFSC Mount Baldy Ra 43.32 91 ⇓P **P** **14 14 51.2 +0.1**
baz=43,SNR=16
I20A Worland 43.33 73 P **P** **14 14 51.0 -0.1**
baz=43
CIT Chita 43.37 301 *e*P P 14 14 40.3 -11
CIT *e* 14 14 50.2
CIT *e* 14 16 38.1
CIT pmax pmax
comp=Z,132nm,0.9s
SHPR Sheep Range 43.43 87 *e*P **P** **14 14 51.7 -0.3**
comp=Z,37nm,1.2s
F22A Rosebud 43.43 70 ⇓P **P** **14 14 51.4 -0.4**
baz=43,SNR=62
DAU Daniels Canyon 43.47 79 *e*P **P** **14 14 52.2 -0.2**
DAU pmax pmax
comp=Z,238nm,1.3s
DAU Daniels Canyon 43.47 79 *e*P **P** **14 14 52.2 -0.2**
comp=Z,238nm,1.3s
MPU Maple Canyon 43.47 80 *e*P **P** **14 14 51.3 -1.0**
comp=Z,36nm,0.7s
FCC Fort Churchill 43.51 48 *e*P **P** **14 14 50.9 -1.2**
FCC Fort Churchill 43.51 48 *e*P **P** **14 14 50.9 -1.2**
comp=Z,4.0nm,0.7s
C24A Savage 43.56 67 ⇑P **P** **14 14 53.1 +0.3**
baz=43,SNR=127
A25A Svangstu Ranch 43.57 64 ⇑P **P** **14 14 52.5 -0.3**
baz=43,SNR=197
E23A Ismay 43.60 68 ⇓P **P** **14 14 53.1 -0.1**
baz=43,SNR=20
H21A Big Horn, Sher 43.60 72 ⇑P **P** **14 14 53.1 -0.1**
baz=43,SNR=56
TUQ Turquoise Moun 43.63 88 ⇑P **P** **14 14 53.5 -0.1**
baz=44
J20A Shoshoni 43.69 74 ⇑P **P** **14 14 54.2 +0.1**
baz=44,SNR=67
ARUT Antelope Range 43.70 84 *e*P **P** **14 14 53.7 -0.5**
ARUT pmax pmax
comp=Z,993nm,1.0s
ARUT Antelope Range 43.70 84 *e*P **P** **14 14 53.6 -0.5**
comp=Z,993nm,1.0s
INCN Inchon 43.70 276 *e*P **P** **14 14 54.9 +0.9**
comp=Z,208nm,0.9s
INCN LR LR
comp=Z,2µm,20.0s
G22A Birney 43.72 71 ⇓P **P** **14 14 53.9 -0.2**
baz=44,SNR=53
BBRC Big Bear Solar 43.77 90 ⇑P **P** **14 14 55.0 +0.2**
baz=44
HEC Hector,Ludlow 43.77 89 ⇓P **P** **14 14 54.9 +0.2**
baz=44,SNR=8.1
D24A Glendive 43.84 67 ⇑P **P** **14 14 55.6 +0.5**
baz=44,SNR=97
JNU Nakatsue 43.85 268 *e*P **P** **14 14 55.7 +0.4**
comp=Z,59nm,0.8s
B25A Knox Farm, Ray 43.89 65 ⇓P **P** **14 14 55.1 -0.3**
baz=44,SNR=67
CCUT Cedar City 43.90 84 *e*P **P** **14 14 54.9 -0.9**
comp=Z,64nm,1.3s
I21A Big Trails, Te 43.91 73 ⇓P **P** **14 14 55.4 -0.4**
baz=44,SNR=102
F23A Volborg 43.97 69 ⇓P **P** **14 14 55.5 -0.6**
baz=44,SNR=173
MVU Marysvale 44.02 82 *e*P **P** **14 14 56.1 -0.7**
comp=Z,56nm,1.0s
MURC Murrieta 44.03 91 ⇑P **P** **14 14 56.6 -0.1**
baz=44,SNR=6.8
H22A Clearmont 44.03 71 ⇓P **P** **14 14 56.3 -0.4**
baz=44,SNR=30
J21A Lysite 44.08 73 ⇑P **P** **14 14 56.9 -0.3**
baz=44,SNR=35
C25A Freed Ranch, W 44.13 66 ⇑P **P** **14 14 57.2 -0.2**
baz=44,SNR=37
E24A Baker 44.15 68 ⇓P **P** **14 14 57.6 0.0**
baz=44,SNR=66
TMUT Trail Mountain 44.16 81 *e*P **P** **14 14 57.7 -0.4**
comp=Z,68nm,0.9s
A26A Wade Farm, Ken 44.20 64 ⇓P **P** **14 14 57.2 -0.7**
baz=44,SNR=151
GMRC Granite Mounta 44.22 89 ⇓P **P** **14 14 58.3 0.0**
baz=44,SNR=23
G23A Biddle 44.26 70 ⇑P **P** **14 14 58.0 -0.5**
baz=44,SNR=38
I22A 9 Mile Ranch, 44.35 72 ⇓P **P** **14 14 59.8 +0.5**
baz=44,SNR=54
B26A Jensen Ranch, 44.36 65 ⇑P **P** **14 14 59.0 -0.2**
baz=44,SNR=35
LDFC Landfair 44.37 88 *e*P **P** **14 15 00.0 +0.5**
comp=Z,62nm,0.4s
D25A Fairfield 44.40 67 ⇑P **P** **14 14 59.6 0.0**
baz=44,SNR=32
F24A Ekalaka 44.46 69 ⇑P **P** **14 14 59.7 -0.4**
baz=44,SNR=110
PFO Pinyon Flats O 44.49 91 *e*P **P** **14 14 59.9 -0.6**
PFO pmax pmax
comp=Z,42nm,1.0s
PFO MLR MLR
comp=Z,4µm,22.0s
PFO Pinyon Flats O 44.49 91 *e*P **P** **14 14 59.9 -0.6**
comp=Z,42nm,1.0s
PFO LR LR
comp=Z,4µm,22.0s
BELC Belle Mtn. Jos 44.52 90 ⇑P **P** **14 15 00.3 -0.4**
baz=44,SNR=10
109C Camp Elliot, M 44.56 92 ⇓P **P** **14 15 00.8 0.0**
baz=44
K21A Alcova 44.61 74 ⇑P **P** **14 15 01.0 -0.4**
baz=44,SNR=68
H23A Clabaugh Cattl 44.61 71 ⇓P **P** **14 15 00.1 -1.2**
baz=44
A27A Ledoux Ranch, 44.62 63 P **P** **14 15 00.7 -0.5**
baz=44
J22A Midwest 44.62 73 ⇑P **P** **14 15 01.2 -0.3**
baz=44,SNR=104
SRU San Rafael Swe 44.70 80 *e*P **P** **14 15 01.5 -0.7**
SRU pmax pmax
comp=Z,72nm,0.7s
SRU San Rafael Swe 44.70 80 *e*P **P** **14 15 01.4 -0.7**
comp=Z,72nm,0.7s
E25A Miller Ranch, 44.71 67 ⇑P **P** **14 15 02.0 0.0**
baz=44,SNR=57
C26A Wahner Farm, P 44.73 65 ⇑P **P** **14 15 01.6 -0.6**
baz=44,SNR=86
G24A Alzada 44.76 69 ⇑P **P** **14 15 01.9 -0.6**
baz=45,SNR=17
NEE2 Needles Airpor 44.88 88 ⇑P **P** **14 15 03.5 +0.1**
baz=45,SNR=5.3
B27A Peters Farms, 44.90 64 ⇑P **P** **14 15 03.0 -0.4**
baz=45,SNR=40
I23A Meade Ranch, G 44.91 72 ⇑P **P** **14 15 03.0 -0.8**
baz=45
IRM Iron Mountain 44.94 89 ⇓P **P** **14 15 04.0 0.0**
baz=45,SNR=7.7
BAR Barrett 44.97 92 *e*P **P** **14 15 04.0 -0.3**
comp=Z,236nm,1.0s
D26A Manning 44.97 66 ⇑P **P** **14 15 03.6 -0.5**
baz=45,SNR=36
MONP Monument Peak, 44.98 91 ⇓P **P** **14 15 04.3 -0.2**
baz=45
F25A Bowman 44.99 68 ⇑P **P** **14 15 04.2 -0.1**
baz=45,SNR=49
H24A Dirks Ranch, A 45.01 70 ⇑P **P** **14 15 03.5 -1.0**
baz=45,SNR=57
K22A Casper 45.03 74 ⇑P **P** **14 15 04.2 -0.6**
baz=45,SNR=43
K22A Casper 45.03 74 *e*P **P** **14 15 03.9 -0.9**
comp=Z,82nm,1.0s
N20A Spence Gulch, 45.05 77 ⇑P **P** **14 15 05.0 0.0**
baz=45,SNR=25
BC3 Big Chuckawall 45.08 90 ⇑P **P** **14 15 05.1 -0.1**
baz=45,SNR=5.7
W13A Hualapai Mount 45.12 87 ⇑P **P** **14 15 05.7 0.0**
baz=45,SNR=30
C27A Sayler Ranch, 45.13 65 ⇑P **P** **14 15 05.0 -0.3**
baz=45,SNR=26
J23A Dilts Ranch, B 45.18 72 ⇑P **P** **14 15 06.4 +0.5**
baz=45,SNR=39
A28A Rude Farm, Bot 45.18 63 ⇓P **P** **14 15 05.4 -0.4**
baz=45,SNR=164
E26A Carlson Angus 45.26 67 ⇓P **P** **14 15 06.1 -0.3**
baz=45,SNR=162
U15A North Rim 45.27 85 ⇑P **P** **14 15 06.8 0.0**
baz=45,SNR=57
SWSC Sam W. Stewart 45.34 91 ⇓P **P** **14 15 07.1 -0.1**
baz=45
B28A Dugan Ranch, T 45.38 64 ⇓P **P** **14 15 07.2 -0.1**
baz=45,SNR=52

G25A	Newell	45.42	69	⇓P	P	14 15 07.4	-0.3
	baz=45,SNR=33						
L22A	Ellis Ranch, M	45.45	74	⇑P	P	14 15 08.2	+0.1
	baz=45,SNR=40						
D27A	Center	45.45	66	⇓P	P	14 15 07.6	-0.3
	baz=45,SNR=29						
I24A	Kuemmerle Ranc	45.47	71	⇑P	P	14 15 07.8	-0.4
	baz=45,SNR=21						
O20A	White River Ci	45.48	78	⇑P	P	14 15 07.8	-0.6
	baz=45,SNR=35						
O20A	White River Ci	45.48	78	eP	P	14 15 07.2	-1.2
	comp=Z,45nm,0.5s						
PDMCI	Parker Dam,Lak	45.48	88	⇑P	P	14 15 08.0	-0.2
	baz=45,SNR=17						
F26A	Lodgepole	45.49	68	⇑P	P	14 15 08.0	-0.2
	baz=45,SNR=50						
K23A	Bowen Ranch, D	45.51	73	⇑P	P	14 15 08.1	-0.5
	baz=45,SNR=27						
Y12C	Blythe	45.60	89	⇑P	P	14 15 09.2	0.0
	baz=46,SNR=24						
H25A	Fruitdale	45.64	70	⇑P	P	14 15 08.9	-0.6
	baz=45,SNR=66						
RSSD	Black Hills	45.67	71	eP	P	14 15 08.3	-1.5
RSSD				pmax	pmax		
	comp=Z,40nm,0.8s						
RSSD	Black Hills	45.67	71	eP	P	14 15 08.3	-1.5
	comp=Z,40nm,0.8s						
M22A	Cedar Creek Ra	45.72	75	⇑P	P	14 15 09.8	-0.6
	baz=46,SNR=48						
A29A	Manning Farm,	45.75	62	⇓P	P	14 15 09.8	-0.4
	baz=46,SNR=131						
J24A	Dixon Ranch, L	45.75	72	⇓P	P	14 15 09.9	-0.5
	baz=46,SNR=52						
C28A	Hausauer Farms	45.76	64	⇑P	P	14 15 10.0	-0.3
	baz=46,SNR=19						
E27A	Carson	45.80	67	⇓P	P	14 15 10.2	-0.5
	baz=46,SNR=52						
L23A	Garrett	45.84	74	⇓P	P	14 15 10.8	-0.5
	baz=46,SNR=143						
G26A	Maurine	45.84	68	⇓P	P	14 15 10.5	-0.6
	baz=46,SNR=175						
F27A	Lemmon	45.85	67	⇓P	P	14 15 10.6	-0.4
	baz=46,SNR=174						
GLA	Glamis	45.88	90	eP	P	14 15 10.4	-1.0
GLA				pmax	pmax		
	comp=Z,38nm,0.9s						
GLA	Glamis	45.88	90	⇑P	P	14 15 11.0	-0.4
	baz=46,SNR=14						
GLA	Glamis	45.88	90	eP	P	14 15 10.4	-1.0
	comp=Z,38nm,0.9s						
I25A	Rochford	45.91	71	⇑P	P	14 15 10.8	-1.0
	baz=46,SNR=31						
DL2	Dalian	45.92	281	⇑iP	P	14 15 12.2	+0.6
DL2				S	S	14 21 59.0	+5.4
DL2				PMZ			
	comp=Z,200nm,0.9s						
DL2				PMZ			
	comp=Z,800nm,8.4s						
DL2				LN			
	comp=Z,2μm,17.1s						
DL2				LZ			
	comp=Z,2μm,16.5s						
B29A	Wagenman Farm,	45.93	63	⇓P	P	14 15 11.3	-0.3
	baz=46,SNR=71						
D28A	Regan	45.95	65	⇓P	P	14 15 11.4	-0.4
	baz=46,SNR=134						
K24A	Anderson Ranch	46.02	73	⇑P	P	14 15 11.9	-0.6
	baz=46,SNR=13						
H26A	Fairpoint	46.13	69	⇑P	P	14 15 12.6	-0.7
	baz=46,SNR=8.3						
MDND	Maddock	46.13	64	⇓P	P	14 15 12.9	-0.3
	baz=46,SNR=34						
MDND	Maddock	46.13	64	eP	P	14 15 12.1	-1.1
	comp=Z,141nm,0.9s						
PV04	Paradox Valley	46.14	80	eP	P	14 15 12.4	-1.2
N22A	Wattenberg Ran	46.17	76	⇓P	P	14 15 13.4	-0.5
	baz=46,SNR=15						
G27A	Dupree	46.18	68	⇑P	P	14 15 13.1	-0.6
	baz=46,SNR=77						
M23A	Laramie	46.21	75	⇓P	P	14 15 13.6	-0.6
	baz=46,SNR=25						
E28A	Huff	46.22	66	⇓P	P	14 15 13.6	-0.3
	baz=46,SNR=42						
J25A	Sunshine Ranch	46.23	71	⇑P	P	14 15 13.8	-0.3
	baz=46,SNR=14						
A30A	Hoffart Farm,	46.26	62	⇓P	P	14 15 13.5	-0.7
	baz=46,SNR=224						
L24A	Wheatland	46.34	73	⇑P	P	14 15 15.2	0.0
	baz=46						
I26A	New Underwood	46.41	70	⇑P	P	14 15 15.0	-0.6
	baz=46,SNR=19						
N23A	Red Feather La	46.42	75	⇓P	P	14 15 15.9	0.0
	baz=46,SNR=35						
WUAZ	Wupatki	46.42	85	⇑P	P	14 15 15.8	0.0
	baz=46,SNR=42						
WUAZ	Wupatki	46.42	85	eP	P	14 15 15.1	-0.7
	comp=Z,73nm,0.9s						
WUAZ				LR	LR		
	comp=Z,5μm,21.0s						
Y14A	Wickenburg	46.43	88	⇓P	P	14 15 15.6	-0.1
	baz=46,SNR=21						
O22A	Kremmling	46.50	77	⇓P	P	14 15 15.8	-0.7
	baz=46,SNR=15						
PV01	Paradox Valley	46.50	80	eP	P	14 15 15.4	-1.2
	comp=Z,7μm,0.8s						
B30A	Myrvik Farm, E	46.51	63	⇑P	P	14 15 15.6	-0.6
	baz=46,SNR=105						
H27A	Howes	46.52	69	⇑P	P	14 15 15.7	-0.7
	baz=46,SNR=20						
F28A	McLaughlin	46.57	67	⇑P	P	14 15 16.3	-0.4
	baz=46,SNR=54						
D29A	Pettibone, Tap	46.57	65	⇑P	P	14 15 15.9	-0.8
	baz=46,SNR=61						
K25A	Mack Ranch, Ha	46.64	72	⇑P	P	14 15 16.7	-0.7
	baz=46,SNR=8.0						
J26A	Sides Ranch, S	46.70	71	⇑P	P	14 15 17.3	-0.6
	baz=46,SNR=29						
P22A	Eagle	46.71	77	⇓P	P	14 15 18.0	-0.1
	baz=46,SNR=13						
113A	Mohawk Valley,	46.73	89	⇓P	P	14 15 18.3	+0.3
	baz=47,SNR=8.0						
M24A	Cheyenne	46.75	74	⇑P	P	14 15 18.4	0.0
	baz=47,SNR=7.1						
E29A	Napoleon	46.82	65	⇓P	P	14 15 18.4	-0.3
	baz=47,SNR=38						
C30A	Mose, Pekin	46.84	63	⇑P	P	14 15 18.0	-0.8
	baz=47,SNR=90						
Z14A	Wintersburg	46.85	88	⇓P	P	14 15 19.2	+0.2
	baz=47,SNR=7.2						
O23A	Lake Granby, G	46.85	76	⇓P	P	14 15 19.3	0.0
	baz=47,SNR=54						
L25A	Engebretsen Ra	46.86	73	⇓P	P	14 15 18.9	-0.2
	baz=47,SNR=18						
ULM	Lac du Bonnet	46.86	59	P	P	14 15 17.6	-1.3
	comp=Z,74nm,0.9s,baz=304,slow=8.2,SNR=89						
ULM				LR	LR	14 34 56.7	
	comp=Z,5μm,19.9s,baz=318,slow=36						
I27A	Quinn	46.87	70	⇑P	P	14 15 18.5	-0.6
	baz=47,SNR=59						
G28A	Parade	46.95	68	⇓P	P	14 15 19.4	-0.3
	baz=47,SNR=38						
K26A	Motz Farm, Whi	47.00	72	⇓P	P	14 15 19.6	-0.6
	baz=47,SNR=11						
D30A	Buchanan	47.02	64	⇓P	P	14 15 19.6	-0.5
	baz=47,SNR=35						
X16A	Lo Mia Camp, P	47.09	86	⇑P	P	14 15 21.4	+0.3
	baz=47,SNR=25						
N24A	Carr	47.10	75	⇑P	P	14 15 20.9	-0.2
	baz=47,SNR=11						
H28A	Mission Ridge	47.12	68	⇑P	P	14 15 20.7	-0.3
	baz=47,SNR=85						
MVCO	Mesa Verde	47.13	81	⇑P	P	14 15 21.4	0.0
	baz=47,SNR=19						
MVCO	Mesa Verde	47.13	81	eP	P	14 15 20.2	-1.2
	comp=Z,93nm,1.2s						
MVCO				LR	LR		
	comp=Z,3μm,19.0s						
F29A	Eureka	47.14	66	⇑P	P	14 15 20.5	-0.7
	baz=47,SNR=59						
M25A	Palm-Egli Farm	47.23	74	⇑P	P	14 15 22.4	+0.3
	baz=47,SNR=24						
E30A	Jud	47.28	65	⇓P	P	14 15 21.4	-0.8
	baz=47,SNR=74						
ISCO	Idaho Springs	47.29	76	eP	P	14 15 22.2	-0.5
ISCO				pmax	pmax		
	comp=Z,48nm,1.3s						
ISCO				MLR	MLR		
	comp=Z,4μm,19.0s						
ISCO	Idaho Springs	47.29	76	⇓P	P	14 15 22.9	+0.1
	baz=47,SNR=22						
ISCO	Idaho Springs	47.29	76	eP	P	14 15 22.2	-0.5
	comp=Z,48nm,1.3s						
ISCO				LR	LR		
	comp=Z,4μm,19.0s						
J27A	Elkhorn Farm,	47.37	70	⇑P	P	14 15 22.7	-0.3
	baz=47,SNR=32						
KULLO	Kullorsuaq	47.37	19	⇑iP	P	14 15 22.2	-0.3
KULLO				pmax	pmax		
	comp=Z,48nm,1.0s						
KULLO	Kullorsuaq	47.37	19	⇑iP	P	14 15 22.2	-0.3
	comp=Z,48nm,1.0s						
P23A	Jefferson	47.41	77	⇓P	P	14 15 24.5	+0.7
	baz=47,SNR=23						
O24A	Longmont	47.42	76	⇓P	P	14 15 24.0	+0.4
	baz=47						
I28A	Midland	47.42	69	⇑P	P	14 15 23.0	-0.4
	baz=47,SNR=127						
G29A	Hoven	47.45	67	⇓P	P	14 15 23.0	-0.5
	baz=47,SNR=6.4						
L26A	Underwood Farm	47.46	72	⇑P	P	14 15 23.2	-0.6
	baz=47						
K27A	Flueckinger Fa	47.56	71	⇑P	P	14 15 23.9	-0.7
	baz=47,SNR=14						
F30A	Leola	47.59	66	P	P	14 15 23.3	-1.4
	baz=47						
H29A	Onida	47.61	68	⇑P	P	14 15 24.7	-0.1
	baz=47,SNR=132						
W18A	Petrified Fore	47.70	84	⇑P	P	14 15 25.8	0.0
	baz=48,SNR=19						
W18A	Petrified Fore	47.70	84	eP	P	14 15 25.7	0.0
	comp=Z,68nm,1.0s						
J28A	Allard Ranch,	47.72	70	⇑P	P	14 15 25.2	-0.5
	baz=48,SNR=33						
M26A	McRoberts Ranc	47.76	73	⇓P	P	14 15 26.4	+0.2
	baz=48,SNR=8.2						
S22A	4UR Ranch, Cre	47.82	79	⇓P	P	14 15 27.5	+0.6
	baz=48,SNR=30						
214A	Organ Pipe Nat	47.87	90	⇓P	P	14 15 26.7	-0.3
	baz=48,SNR=9.0						
214A	Organ Pipe Nat	47.87	90	eP	P	14 15 26.0	-1.0
	comp=Z,34nm,1.1s						
L27A	T5 Ranch, Ells	47.88	72	⇑P	P	14 15 26.8	-0.3
	baz=48,SNR=9.4						
I29A	Vivian Onida	47.91	69	⇑P	P	14 15 26.7	-0.5
	baz=48,SNR=36						
G30A	Faulkton	47.94	67	⇑P	P	14 15 26.7	-0.6
	baz=48,SNR=132						
X18A	Snowflake	47.95	85	⇑P	P	14 15 27.7	-0.1
	baz=48,SNR=12						
AGMN	Agassiz Nation	47.96	61	⇑P	P	14 15 26.5	-0.9
	baz=48,SNR=330						
AGMN	Agassiz Nation	47.96	61	eP	P	14 15 25.8	-1.6
	comp=Z,395nm,0.9s						
AGMN				LR	LR		
	comp=Z,5μm,20.0s						
O25A	Wiggins	48.00	75	⇓P	P	14 15 28.5	+0.5
	baz=48,SNR=15						
K28A	Ten Mile Ranch	48.07	71	⇓P	P	14 15 28.3	-0.2
	baz=48,SNR=8.5						
Q24A	Divide	48.08	77	⇑P	P	14 15 29.1	+0.2
	baz=48,SNR=7.8						
N26A	Koester Ranch,	48.10	74	⇓P	P	14 15 29.0	+0.2
	baz=48,SNR=11						
IRK	Irkutsk	48.13	305	eP	P	14 15 27.3	-1.4
IRK				e		14 25 20.0	
IRK				pmax	pmax		
	comp=Z,133nm,2.9s						
R23A	Moffat	48.15	78	P	P	14 15 29.3	-0.1
	baz=48						
M27A	Reverse DX Ran	48.18	72	⇓P	P	14 15 29.3	0.0
	baz=48,SNR=26						
J29A	Okreek	48.27	69	⇑P	P	14 15 29.6	-0.4
	baz=48,SNR=199						
P25A	Willow Gulch B	48.34	76	⇑P	P	14 15 30.7	-0.1
	baz=48,SNR=31						
S23A	Nye Farm, Mont	48.35	79	⇑P	P	14 15 30.3	-0.6
	baz=48						
O26A	Horse Wrangler	48.41	74	⇓P	P	14 15 30.9	-0.3
	baz=48,SNR=9.1						
BRSD	Miller	48.45	67	⇓P	P	14 15 30.7	-0.6
	baz=48,SNR=77						
BRSD	Miller	48.45	67	eP	P	14 15 29.8	-1.5
	comp=Z,688nm,0.8s						
I30A	Oacoma	48.49	68	⇑P	P	14 15 31.1	-0.5
	baz=48,SNR=49						
N27A	Anderson Farm,	48.53	73	⇓P	P	14 15 32.0	0.0
	baz=48,SNR=18						
BJI	Beijing	48.55	285	P	P	14 15 31.3	-0.8
BJI				pP	pP	14 15 39.7	-2.9
BJI				S	S	14 22 29.7	-1.2
BJI				ScS	ScS	14 25 20.7	-0.9
BJI				PMZ			
	comp=Z,95nm,0.8s						
BJI				PMZ			
	comp=Z,1μm,5.4s						
BJI				LN			
	comp=Z,10μm,19.6s						
BJI				LE			
	comp=Z,4μm,23.3s						
BJI				LZ			
	comp=Z,8μm,22.0s						
BJT	Baijiatuau	48.57	285	eP	P	14 15 31.9	-0.3
BJT				pmax	pmax		
	comp=Z,87nm,0.9s						
BJT				MLR	MLR		
	comp=Z,10μm,20.0s						
BJT	Baijiatuau	48.57	285	eP	P	14 15 31.9	-0.3
	comp=Z,87nm,0.9s						
BJT				LR	LR		
	comp=Z,10μm,20.0s						
R24A	Sanders Place,	48.57	78	⇓P	P	14 15 32.1	-0.4
	baz=48,SNR=21						
SDCO	Great Sand Dun	48.63	78	eP	P	14 15 32.1	-1.1
	comp=Z,70nm,1.2s						
SDCO				LR	LR		
	comp=Z,2μm,19.0s						
K29A	Lazy Trails An	48.66	70	⇓P	P	14 15 32.5	-0.5
	baz=48,SNR=20						
Q25A	Bedland, Calha	48.66	76	⇑P	P	14 15 33.1	-0.2
	baz=48,SNR=18						
U22A	Llaves	48.67	81	P	P	14 15 33.2	-0.2
	baz=48						
T23A	Casias Ranch,	48.76	80	⇓P	P	14 15 33.6	-0.5
	baz=49						
TLY	Talaya	48.77	305	P	P	14 15 33.6	0.0
	comp=Z,333nm,0.7s,SNR=16						
TLY	Talaya	48.77	305	c iP	P	14 15 32.2	-1.4
TLY				e		14 15 47.5	
TLY				e		14 17 04.7	
TLY				e		14 17 27.8	
TLY				ePPP	PPP	14 18 26.9	
TLY				eS	S	14 22 49.8	+16
TLY				e		14 25 26.3	
TLY				pmax	pmax		
	comp=Z,50nm,0.9s						
TLY				MLR	MLR		
	comp=Z,4μm,14.0s						
TLY	Talaya	48.77	305	eP	P	14 15 32.5	-1.1
	comp=Z,48nm,0.8s						
TLY				LR	LR		
	comp=Z,5μm,19.0s						
J30A	Dallas	48.80	69	⇓P	P	14 15 33.3	-0.8
	baz=49,SNR=28						
P26A	Davis Ranch, A	48.81	75	⇑P	P	14 15 34.4	+0.1
	baz=49,SNR=38						
M28A	Bar X Bar Ranc	48.86	72	⇓P	P	14 15 34.2	-0.4
	baz=49,SNR=14						
S24A	Houchin Ranch,	48.88	78	⇑P	P	14 15 35.1	+0.1
	baz=49,SNR=19						
TUC	Tucson	48.90	88	P	P	14 15 32.9	-2.1
TUC				pmax	pmax		
	comp=Z,33nm,0.9s						
TUC				MLR	MLR		
	comp=Z,3μm,19.0s						
TUC	Tucson	48.90	88	P	P	14 15 32.9	-2.1
	comp=Z,33nm,0.9s						
TUC				LR	LR		
	comp=Z,3μm,19.0s						
V22A	San Miguel Ran	48.94	81	⇓P	P	14 15 34.9	-0.5
	baz=49,SNR=25						
O27A	Beecher Island	48.94	74	⇓P	P	14 15 35.0	-0.3
	baz=49,SNR=11						
L29A	Maesberg Ranch	48.98	71	⇓P	P	14 15 34.7	-0.8
	baz=49,SNR=5.3						
Q26A	Hugo	49.10	76	⇓P	P	14 15 36.3	-0.3
	baz=49						
U23A	El Rito	49.11	80	⇓P	P	14 15 36.8	0.0
	baz=49,SNR=72						
K30A	Basset	49.12	70	⇑P	P	14 15 36.0	-0.5
	baz=49,SNR=50						
R25A	Fountain Ranch	49.12	77	⇑P	P	14 15 36.5	-0.2
	baz=49,SNR=20						
T24B	San Luis	49.14	79	⇑P	P	14 15 37.2	+0.1
	baz=49,SNR=24						
ULN	Ulaanbaatar	49.14	299	c iP	P	14 15 36.3	-0.4
ULN				pmax	pmax		
	comp=Z,59nm,0.8s						
ULN				MLR	MLR		
	comp=Z,8μm,17.0s						
ULN	Ulaanbaatar	49.14	299	eP	P	14 15 35.7	-1.1
	comp=Z,69nm,0.9s						
ULN				LR	LR		
	comp=Z,10μm,19.0s						
N28A	Pribbeno Ranch	49.20	73	⇑P	P	14 15 36.9	-0.3
	baz=49,SNR=6.3						
M29A	Burnside Ranch	49.24	72	⇑P	P	14 15 37.2	-0.3
	baz=49,SNR=17						
P27A	Ficken Ranch,	49.28	75	⇑P	P	14 15 37.6	-0.3
	baz=49,SNR=7.4						
S25A	Robets Cordova	49.34	78	⇑P	P	14 15 38.2	-0.3
	baz=49,SNR=43						
O28A	Krutsinger Ran	49.41	74	⇓P	P	14 15 38.5	-0.2
	baz=49,SNR=15						
V23A	Ortiz Mt. (NFS	49.50	81	⇑P	P	14 15 39.7	0.0
	baz=49,SNR=29						
L30A	Spencer Herefo	49.50	70	⇓P	P	14 15 39.0	-0.5
	baz=49,SNR=9.1						
SONM	Songino Array	49.52	299	P	P	14 15 38.8	-0.8
	comp=Z,20nm,0.4s,baz=60,slow=5.8,SNR=246						
SONM				ScP	ScP	14 20 53.9	+0.4
	comp=Z,3.5nm,0.8s,baz=37,slow=3.3,SNR=5.9						
SONM				LR	LR	14 37 43.2	
	comp=Z,11μm,19.3s,baz=56,slow=37						
R26A	Arlington	49.54	77	⇑P	P	14 15 39.8	-0.1
	baz=49,SNR=27						
KSCO	Kaye Shedlock'	49.59	75	⇑P	P	14 15 40.1	-0.1
	baz=49,SNR=26						
KSCO	Kaye Shedlock'	49.59	75	eP	P	14 15 39.1	-1.1
	comp=Z,108nm,0.9s						
N29A	Votaw Ranch, W	49.66	72	⇓P	P	14 15 40.5	-0.2
	baz=50,SNR=16						
M30A	Dale-Ortello V	49.67	71	⇑P	P	14 15 40.6	-0.1
	baz=50						
T25A	Trinidad	49.69	78	⇑P	P	14 15 41.5	+0.3
	baz=50,SNR=41						
ZAK	Zakamensk	49.70	304	eP	P	14 15 40.6	-0.3
ZAK				pmax	pmax		
	comp=Z,35nm,1.2s						
P28A	Saint Francis	49.76	74	⇓P	P	14 15 41.4	-0.1
	baz=50,SNR=17						
LAZ	Ladron	49.78	83	eP	P	14 15 41.0	-0.8
	comp=Z,40nm,1.1s						
ANMO	Albuquerque	49.85	82	c eP	P	14 15 42.3	0.0
ANMO				pmax	pmax		
	comp=Z,75nm,1.2s						
ANMO				MLR	MLR		
	comp=Z,18μm,17.0s						
ANMO	Albuquerque	49.85	82	eP	P	14 15 41.8	-0.6
	comp=Z,46nm,1.3s						
ANMO				LR	LR		
	comp=Z,2μm,20.0s						
KBS	Kingsbay	49.85	359	eP	P	14 15 43.6	+2.0
KBS	Kingsbay	49.85	359	PFAKE		14 15 50.0	+8.5
KBS				LR	LR		
	comp=Z,3μm,20.0s						
L31A	Butterfield Fa	49.88	70	⇑P	P	14 15 42.1	-0.2
	baz=50,SNR=20						
W23A	Werner Place,	49.90	81	⇑P	P	14 15 42.7	-0.1
	baz=50,SNR=21						
R27A	Eads	49.94	76	⇑P	P	14 15 42.8	-0.1
	baz=50,SNR=23						
S26A	Kim	49.95	77	⇓P	P	14 15 42.3	-0.7
	baz=50,SNR=44						
N30A	Hueftle Ranch,	49.99	72	⇑P	P	14 15 42.9	-0.2
	baz=50						
O29A	4D Ranch, Culb	49.99	73	⇑P	P	14 15 43.2	0.0
	baz=50,SNR=41						
Q28A	Sharon Springs	50.04	75	⇑P	P	14 15 43.1	-0.5
	baz=50,SNR=12						
V24A	Rampart Ranch,	50.07	80	⇑P	P	14 15 43.9	-0.1
	baz=50,SNR=41						
MOY	Mondy	50.13	306	eP	P	14 15 43.6	-0.5
MOY				pmax	pmax		
	comp=Z,122nm,2.2s						
LPM	Los Pinos Moun	50.16	83	eP	P	14 15 44.0	-0.7
	comp=Z,57nm,1.2s						
T26A	Comanche Natio	50.17	78	⇓P	P	14 15 44.2	-0.5
	baz=50,SNR=17						
U25A	Circle Dot Ran	50.17	79	⇓P	P	14 15 44.3	-0.5
	baz=50,SNR=57						
ECSD	EROS Data Cent	50.22	67	⇑P	P	14 15 43.6	-1.2
	baz=50,SNR=154						
ECSD	EROS Data Cent	50.22	67	eP	P	14 15 42.7	-2.2
	comp=Z,203nm,0.9s						
ECSD				LR	LR		
	comp=Z,5μm,20.0s						
P29A	Atwood	50.24	74	⇑P	P	14 15 44.5	-0.6
	baz=50,SNR=41						
X23A	Hourglass Bar	50.25	82	⇓P	P	14 15 45.1	-0.3
	baz=50,SNR=26						
S27A	Las Animas	50.26	77	⇓P	P	14 15 44.9	-0.5
	baz=50						
M31A	Lambtecht Ranc	50.31	71	⇓P	P	14 15 45.1	-0.5
	baz=50,SNR=10						
W24A	Lazy 6 Ranch,	50.32	81	⇑P	P	14 15 45.8	-0.2
	baz=50,SNR=29						
TIA	Tai'an	50.40	281	⇑P	P	14 15 47.0	+0.8
TIA				pP	pP	14 15 59.3	+2.5
TIA				PP	PP	14 17 44.8	+3.1
TIA				S	S	14 23 03.4	+6.5
TIA				sS	sS	14 23 16.0	+1.7
TIA				PMZ			
	comp=Z,150nm,0.9s						
TIA				LN			
	comp=Z,5μm,17.7s						
TIA				LE			
	comp=Z,5μm,20.2s						
TIA				LZ			
	comp=Z,5μm,19.6s						
O30A	MW Ranch, Wils	50.40	72	⇓P	P	14 15 46.3	+0.1
	baz=50,SNR=36						
V25A	Rancho No Teng	50.40	80	⇑P	P	14 15 46.4	-0.1
	baz=50,SNR=43						
GUMO	Guam	50.41	237	PFAKE		14 16 00.0	+14
GUMO				LR	LR		
	comp=Z,1μm,19.0s						
319A	Douglas	50.47	87	⇑P	P	14 15 47.3	+0.3
	baz=50,SNR=8.0						
SPA0	Spitsbergen Ar	50.50	357	eP	P	14 15 45.3	-1.2
SPA0				IAMs_20	IAMs_20	14 36 48.1	
	comp=Z,5μm,19.0s						
R28A	Tribune	50.51	75	⇓P	P	14 15 46.8	-0.3
	baz=50,SNR=11						
EYMN	Ely	50.54	60	eP	P	14 15 45.5	-1.7
	comp=Z,229nm,1.0s						
EYMN				LR	LR		
	comp=Z,5μm,20.0s						
U26A	Atchley Ranch,	50.58	79	⇑P	P	14 15 47.6	-0.2
	baz=50,SNR=62						
121A	Cookes Peak, D	50.62	85	⇑P	P	14 15 48.1	-0.1
	baz=50,SNR=24						
121A	Cookes Peak, D	50.62	85	eP	P	14 15 47.5	-0.7
	comp=Z,57nm,1.1s						
N31A	Bailey Ranch,	50.65	71	⇑P	P	14 15 48.0	-0.2
	baz=50,SNR=8.6						
Z22A	Elephant Butte	50.65	84	⇑P	P	14 15 48.4	0.0
	baz=50,SNR=23						
Q29A	Oakley	50.66	74	⇓P	P	14 15 47.8	-0.4
	baz=50,SNR=18						
P30A	Selden	50.69	73	⇑P	P	14 15 48.1	-0.3
	baz=50,SNR=49						
X24A	Lazy VL Ranch,	50.73	82	P	P	14 15 49.5	+0.5
	baz=51						
BGNE	Belgrade	50.76	70	⇑P	P	14 15 48.8	-0.2
	baz=50,S

HHC				S	S	14 23 01.2	-1.5
HHC				sS	sS	14 23 17.8	-2.3
HHC				ScS	ScS	14 25 35.4	-1.7
HHC				SS	SS	14 26 32.8	-4.2
HHC				PMZ			
	comp=Z,62nm,1.3s						
HHC				PMZ			
	comp=Z,2µm,5.5s						
HHC				LN			
	comp=Z,10µm,18.0s						
HHC				LE			
	comp=Z,7µm,19.2s						
HHC				LZ			
	comp=Z,7µm,19.0s						
O31A	Woolen Ranch,	50.85	72	⇑P	P	14 15 49.7	+0.1
	baz=51,SNR=41						
R29A	Marienthal	50.86	75	⇑P	P	14 15 49.6	-0.2
	baz=51,SNR=7.1						
W25A	X Bar L. Ranch,	50.90	80	⇑P	P	14 15 50.1	-0.1
	baz=51,SNR=71						
S28A	Manter	50.93	76	⇓P	P	14 15 50.1	-0.3
	baz=51,SNR=21						
V26A	Tequesquite Ra	50.94	79	⇓P	P	14 15 50.5	0.0
	baz=51,SNR=60						
XMAS	Kiritimati	51.06	159	PFAKE		14 16 00.0	+8.7
XMAS				LR	LR		
	comp=Z,8µm,19.0s						
Q30A	Quinter	51.06	74	⇓P	P	14 15 51.5	+0.2
	baz=51,SNR=24						
DAG	Danmarks Havn	51.06	7	*i* P	P	14 15 48.8	-1.9
DAG				pmax	pmax		
	comp=Z,26nm,0.9s						
DAG	Danmarks Havn	51.06	7	*i* P	P	14 15 48.8	-1.9
	comp=Z,31nm,0.9s						
N32A	Stulken Farm,	51.08	71	⇑P	P	14 15 50.8	-0.6
	baz=51,SNR=6.6						
T28A	Walsh	51.10	77	⇓P	P	14 15 51.3	-0.4
	baz=51,SNR=10						
U27A	Thompson Grove	51.12	78	⇓P	P	14 15 51.3	-0.5
	baz=51,SNR=13						
Y24A	Capitan	51.15	82	⇑P	P	14 15 52.1	-0.1
	baz=51,SNR=138						
TARA	Tarawa	51.20	197	PFAKE		14 16 00.0	+7.6
TARA				LR	LR		
	comp=Z,3µm,19.0s						
P31A	Stockton	51.22	73	⇑P	P	14 15 52.2	-0.3
	baz=51,SNR=39						
X25A	Clemmons Ranch	51.23	81	⇑P	P	14 15 52.7	-0.1
	baz=51,SNR=13						
SSE	Sheshan	51.28	273	P	P	14 15 53.2	+0.3
SSE				S	S	14 23 09.0	-0.2
SSE				sS	sS	14 23 28.3	+1.7
SSE				PMZ			
	comp=Z,110nm,1.1s						
SSE				PMZ			
	comp=Z,1µm,8.5s						
SSE				LN			
	comp=Z,1µm,19.6s						
SSE				LE			
	comp=Z,1µm,19.6s						
SSE				LZ			
	comp=Z,2µm,20.9s						
S29A	Ulysses	51.39	76	⇑P	P	14 15 53.4	-0.4
	baz=51						
O32A	Brockman Farm,	51.41	71	⇑P	P	14 15 53.3	-0.5
	baz=51,SNR=8.9						
W26A	Owens Ranch, T	51.42	80	⇓P	P	14 15 53.6	-0.5
	baz=51,SNR=17						
R30A	Dighton	51.47	74	⇓P	P	14 15 53.8	-0.5
	baz=51,SNR=33						
SPMN	Marine on St.	51.47	63	⇓P	P	14 15 53.8	-0.4
	baz=51,SNR=32						
SPMN	Marine on St.	51.47	63	*e*P	P	14 15 52.6	-1.6
	comp=Z,147nm,1.0s						
U28A	Mallet	51.52	78	⇑P	P	14 15 54.3	-0.5
	baz=51,SNR=15						
Q31A	Ellis	51.54	73	⇓P	P	14 15 54.3	-0.5
	baz=51,SNR=16						
V27A	Dan Oppiter Fa	51.55	79	⇓P	P	14 15 54.7	-0.4
	baz=51,SNR=8.6						
T29A	Hugoton	51.58	76	⇑P	P	14 15 55.1	-0.1
	baz=51						
P32A	Huiting Farm,	51.62	72	⇑P	P	14 15 55.1	-0.3
	baz=51,SNR=17						
HSPB	Hornsund (broa	51.70	357	*e*P	P	14 15 55.7	+0.3
HSPB				IAMs_20	IAMs_20	14 37 03.0	
	comp=Z,5µm,19.5s						
X26A	CR and CF Fran	51.74	80	⇓P	P	14 15 56.3	-0.2
	baz=52,SNR=13						
HOPEN	Hopen	51.77	355	*e*P	P	14 15 54.0	-1.9
S30A	Montezuma	51.77	75	⇓P	P	14 15 56.4	-0.3
	baz=52,SNR=11						
W27A	Bowe Ranch, En	51.87	79	⇑P	P	14 15 57.2	-0.2
	baz=52,SNR=8.1						
BTO	Baotou	51.87	290	*e*P	P	14 15 58.2	+0.9
R31A	Burdett	51.92	74	⇓P	P	14 15 57.5	-0.1
	baz=52,SNR=39						
V28A	Channing	51.93	78	⇓P	P	14 15 57.1	-0.7
	baz=52						
Q32A	Meitler Ranch,	52.05	73	⇑P	P	14 15 58.2	-0.4
	baz=52,SNR=79						
U29A	Oasis Ranch, S	52.05	77	⇑P	P	14 15 58.5	-0.2
	baz=52						
NJ2	Nanjing	52.09	276	*e*P	P	14 15 59.8	+0.9
NJ2				pP	pP	14 16 07.2	-2.3
NJ2				sP	sP	14 16 12.3	-1.4
NJ2				PcP	PcP	14 17 14.7	+4.1
NJ2				PP	PP	14 17 56.0	-1.1
NJ2				sS	sS	14 23 38.0	+0.3
NJ2				PMZ			
	comp=Z,80nm,0.8s						
NJ2				PMZ			
	comp=Z,1µm,5.3s						
NJ2				LN			
	comp=Z,2µm,21.4s						
NJ2				LE			
	comp=Z,3µm,19.2s						
NJ2				LZ			
	comp=Z,5µm,24.6s						
T30A	Plains	52.11	76	⇑P	P	14 15 59.1	-0.1
	baz=52						
X27A	F and S Farms,	52.12	80	⇓P	P	14 15 59.1	-0.2
	baz=52						
Y26A	Elida	52.15	81	⇓P	P	14 15 59.2	-0.4
	baz=52,SNR=11						
W28A	Vega	52.27	79	⇓P	P	14 16 00.3	-0.1
	baz=52						
P33A	Williams Farm,	52.28	72	⇑P	P	14 15 59.9	-0.4
	baz=52,SNR=11						
V29A	Stinnett	52.28	78	⇓P	P	14 16 00.5	0.0
	baz=52						
TIY	Taiyuan	52.28	285	*e*P	P	14 16 01.1	+0.7
TIY				pP	pP	14 16 14.0	+3.0
TIY				sP	sP	14 16 19.5	+4.3
TIY				S	S	14 23 28.5	+5.5
TIY				PMZ			
	comp=Z,100nm,1.1s						
TIY				PMZ			
	comp=Z,1µm,4.2s						
TIY				LN			
	comp=Z,5µm,23.3s						
TIY				LE			
	comp=Z,4µm,17.7s						
TIY				LZ			
	comp=Z,7µm,21.2s						
R32A	Long Quarter,	52.32	73	⇑P	P	14 15 59.8	-0.9
	baz=52,SNR=11						
S31A	Mullinville	52.38	75	⇑P	P	14 16 00.6	-0.5
	baz=52,SNR=15						
U30A	WK&E Inc. Balk	52.38	76	⇑P	P	14 16 00.7	-0.5
	baz=52,SNR=11						
SUMG	Summit	52.40	16	*i* P	P	14 16 00.0	-1.2
SUMG				pmax	pmax		
	comp=Z,69nm,1.1s						
SUMG	Summit	52.40	16	*i* P	P	14 16 00.0	-1.2
	comp=Z,69nm,1.1s						
SUMG	Summit	52.40	16	*e*P	P	14 15 59.5	-1.7
	comp=Z,110nm,1.0s						
Q33A	Connelly Farm,	52.48	72	⇑P	P	14 16 01.0	-0.7
	baz=52,SNR=58						
ILULI	Ilulissat	52.51	22	*i* P	P	14 16 00.6	-0.9
ILULI				pmax	pmax		
	comp=Z,25nm,0.9s						
ILULI	Ilulissat	52.51	22	*i* P	P	14 16 00.6	-0.9
	comp=Z,25nm,0.9s						
Y27A	Causey	52.59	81	⇑P	P	14 16 02.4	-0.4
	baz=52,SNR=65						
T31A	Randall Ranch,	52.60	75	⇑P	P	14 16 02.3	-0.4
	baz=52,SNR=25						
S32A	Newby Ranch, P	52.65	74	⇑P	P	14 16 02.8	-0.3
	baz=52						
MNTX	Cornudas Mount	52.69	84	*e*P	P	14 16 02.1	-1.3
	comp=Z,37nm,1.1s						
MNTX				LR	LR		
	comp=Z,2µm,20.0s						
W29A	Amarillo	52.70	78	⇑P	P	14 16 03.5	-0.1
	baz=52						
CPRX	Cap Rock	52.73	82	*e*P	P	14 16 03.3	-0.6
	comp=Z,23nm,0.7s						
X28A	Dimmitt	52.76	79	⇓P	P	14 16 03.2	-0.8
	baz=53,SNR=7.5						
MSTX	Muleshoe	52.77	80	⇑P	P	14 16 03.9	-0.3
	baz=53,SNR=27						
MSTX	Muleshoe	52.77	80	*e*P	P	14 16 03.5	-0.6
	comp=Z,132nm,1.1s						
R33A	Olander Ranch,	52.83	73	⇓P	P	14 16 04.1	-0.4
	baz=53,SNR=17						
AMTX	Amarillo	52.84	79	⇑P	P	14 16 04.3	-0.3
	baz=53						
AMTX	Amarillo	52.84	79	*e*P	P	14 16 03.6	-1.0
	comp=Z,31nm,0.8s						
U31A	Nine Bar Ranch	52.97	76	⇓P	P	14 16 05.2	-0.3
	baz=53						
GDL2	Guadalupe Moun	52.98	83	*e*P	P	14 16 05.2	-0.5
	comp=Z,42nm,0.8s						
T32A	Huddler Ranch,	53.00	75	P	P	14 16 05.3	-0.4
	baz=53						
X29A	Tulia	53.11	79	⇑P	P	14 16 06.1	-0.5
	baz=53,SNR=15						
Y28A	McKinney Farm,	53.14	80	⇑P	P	14 16 06.2	-0.6
	baz=53,SNR=23						
KSU1	Kansas State U	53.14	71	⇑P	P	14 16 05.9	-0.7
	baz=53,SNR=15						
KSU1	Kansas State U	53.14	71	*e*P	P	14 16 05.2	-1.5
	comp=Z,166nm,1.0s						
KSU1				LR	LR		
	comp=Z,3µm,21.0s						
S33A	Kaszmaul Farm,	53.28	74	⇑P	P	14 16 07.3	-0.4
	baz=53,SNR=13						
W30A	Crocket Farms	53.31	78	⇓P	P	14 16 07.9	-0.2
	baz=53						
SCIA	State Center	53.32	67	*e*P	P	14 16 06.6	-1.3
	comp=Z,252nm,0.7s						
SCIA				LR	LR		
	comp=Z,5µm,19.0s						
V31A	Spring Creek L	53.37	77	⇓P	P	14 16 08.4	0.0
	baz=53						
Z28A	Tucker Farm, M	53.47	81	⇑P	P	14 16 08.8	-0.5
	baz=53,SNR=7.9						
T33A	Patterson Ranc	53.47	74	⇓P	P	14 16 08.9	-0.3
	baz=53						
U32A	Winter Ranch,	53.48	75	⇓P	P	14 16 08.7	-0.5
	baz=53,SNR=13						
Y29A	Porterfield Fa	53.52	80	⇑P	P	14 16 09.3	-0.4
	baz=53,SNR=27						
X30A	Coker Ranch, T	53.62	79	⇓P	P	14 16 09.8	-0.5
	baz=53,SNR=7.2						
W31A	Holland Ranch,	53.70	77	⇓P	P	14 16 10.2	-0.6
	baz=54,SNR=12						
128A	Castleberry Fa	53.86	81	⇑P	P	14 16 11.8	-0.3
	baz=54,SNR=55						
V32A	Arapaho	53.89	76	⇑P	P	14 16 12.0	-0.3
	baz=54						
Z29A	Hungry Hill Ra	53.91	80	⇓P	P	14 16 12.2	-0.2
	baz=54,SNR=55						
U33A	Lingo Farm, Me	53.98	75	⇓P	P	14 16 12.3	-0.5
	baz=54,SNR=12						
Y30A	Stafford Cattl	53.99	79	⇑P	P	14 16 12.4	-0.6
	baz=54,SNR=21						
X31A	McDonald Ranch	54.05	78	⇑P	P	14 16 13.0	-0.3
	baz=54,SNR=15						
HVS	Khovu-Aksy	54.07	309	*c i* P	P	14 16 12.9	-0.5
HVS				pmax	pmax		
	comp=Z,203nm,1.0s						
HVS				MLR	MLR		
	comp=Z,32µm,23.0s						
228A	UT Block 9, Go	54.13	82	⇓P	P	14 16 13.5	-0.7
	baz=54,SNR=8.6						
W32A	Sentinel	54.16	77	⇑P	P	14 16 14.0	-0.2
	baz=54						
129A	Stewart Farms,	54.23	81	⇑P	P	14 16 14.3	-0.6
	baz=54,SNR=15						
Z30A	Sanderson Ranc	54.24	80	⇓P	P	14 16 14.3	-0.6
	baz=54,SNR=27						
V33A	Lossen Ranch,	54.28	75	⇓P	P	14 16 14.6	-0.5
	baz=54,SNR=11						
SFJD	Kangerlussuaq	54.31	24	*i* P	P	14 16 13.9	-0.8
SFJD				pmax	pmax		
	comp=Z,36nm,1.0s						
SFJD	Kangerlussuaq	54.31	24	*i* P	P	14 16 13.9	-0.8
	comp=Z,36nm,1.0s						
SFJD	Kangerlussuaq	54.31	24	*e*P	P	14 16 13.3	-1.5
	comp=Z,49nm,0.9s						
SFJD				LR	LR		
	comp=Z,4µm,20.0s						
Y31A	Rekieta Farm,	54.32	79	⇓P	P	14 16 15.1	-0.3
	baz=54						
U34A	Anderson Ranch	54.33	74	⇓P	P	14 16 15.2	-0.1
	baz=54,SNR=19						
U34A	Anderson Ranch	54.33	74	*e*P	P	14 16 14.0	-1.4
	comp=Z,127nm,0.9s						
JFWS	Jewell Farm	54.36	64	*e*P	P	14 16 12.6	-2.9
JFWS				pmax	pmax		
	comp=Z,159nm,0.9s						
JFWS				MLR	MLR		
	comp=Z,10µm,19.0s						
JFWS	Jewell Farm	54.36	64	*e*P	P	14 16 12.6	-2.9
	comp=Z,160nm,0.9s						
JFWS				LR	LR		
	comp=Z,10µm,19.0s						
X32A	Elmer	54.61	77	⇓P	P	14 16 17.5	+0.1
	baz=54,SNR=18						
W33A	Caddo, Fort Co	54.62	76	⇑P	P	14 16 17.4	-0.1
	baz=54,SNR=5.8						
WMOK	Wichita Mounta	54.70	77	*e*P	P	14 16 16.8	-1.4
WMOK				pmax	pmax		
	comp=Z,63nm,1.0s						
WMOK				MLR	MLR		
	comp=Z,4µm,19.0s						
WMOK	Wichita Mounta	54.70	77	*e*P	P	14 16 16.8	-1.4
	comp=Z,63nm,1.0s						
WMOK				LR	LR		
	comp=Z,4µm,19.0s						
229A	Bryant Ranch,	54.72	81	⇑P	P	14 16 17.6	-0.8
	baz=55,SNR=8.2						
V34A	Guthrie	54.74	75	⇑P	P	14 16 18.0	-0.4
	baz=54,SNR=14						
V34A	Guthrie	54.74	75	*e*P	P	14 16 16.8	-1.6
	comp=Z,84nm,0.9s						
Y32A	R-V Farms, Ver	54.80	78	⇑P	P	14 16 18.4	-0.4
	baz=55,SNR=26						
130A	Snyder	54.81	80	⇓P	P	14 16 18.5	-0.5
	baz=55,SNR=8.4						
Z31A	Sharp Cattle R	54.83	79	⇑P	P	14 16 18.8	-0.3
	baz=55,SNR=12						
329A	Wagon Wheel Ra	54.94	82	⇓P	P	14 16 19.6	-0.4
	baz=55,SNR=14						
W34A	Bridge Creek,	54.98	76	⇓P	P	14 16 19.9	-0.2
	baz=55						
W34A	Bridge Creek,	54.98	76	*e*P	P	14 16 19.3	-0.8
	comp=Z,41nm,0.8s						
X33A	Lawton	55.01	77	⇑P	P	14 16 20.0	-0.3
	baz=55						
131A	Roby	55.12	80	⇓P	P	14 16 20.5	-0.7
	baz=55,SNR=10						
230A	Sterling City	55.21	81	⇓P	P	14 16 21.4	-0.5
	baz=55,SNR=28						
Z32A	Haskell	55.24	79	⇓P	P	14 16 21.7	-0.4
	baz=55,SNR=49						
Y33A	Hilltop Ranch,	55.29	77	⇑P	P	14 16 22.0	-0.4
	baz=55,SNR=11						
X34A	Smith Ranch, M	55.38	76	⇓P	P	14 16 23.0	0.0
	baz=55,SNR=9.5						
TXAR	Lajitas Array	55.38	85	P	P	14 16 21.9	-1.3
	comp=Z,22nm,0.8s,baz=297,slow=3.8,SNR=121						
TXAR				ScP	ScP	14 21 19.7	+0.6
	comp=Z,2.6nm,0.9s,baz=291,slow=3.8,SNR=4.5						
TXAR				LR	LR	14 39 37.9	
	comp=Z,3µm,18.1s,baz=0.0,slow=36						
TXAR				PKPPKP	P'P'df	14 46 22.2	-7.9
	comp=Z,0.6nm,0.9s,baz=226,slow=4.7,SNR=3.5						
TXAR				PKP2bc		14 46 45.1	
	comp=Z,0.5nm,0.8s,baz=145,slow=4.6,SNR=3.6						
TATO	Taipei	55.39	267	PFAKE		14 16 40.0	+17
TATO				LR	LR		
	comp=Z,5µm,21.0s						
330A	Mertzon	55.50	81	⇓P	P	14 16 23.5	-0.5
	baz=55,SNR=16						
429A	Davenport Ranc	55.59	83	⇑P	P	14 16 24.3	-0.3
	baz=55,SNR=29						
ABTX	Abilene, Hawle	55.61	79	⇓P	P	14 16 24.5	-0.3
	baz=55,SNR=11						
ABTX	Abilene, Hawle	55.61	79	*e*P	P	14 16 24.6	-0.1
	comp=Z,97nm,1.2s						
231A	Bronte	55.66	80	⇑P	P	14 16 24.4	-0.7
	baz=56						
YHNB	Yeheng	55.69	267	PFAKE		14 16 40.0	+15
YHNB				LR	LR		
	comp=Z,3µm,22.0s						
Z33A	Whitaker Ranch	55.70	78	⇑P	P	14 16 25.0	-0.3
	baz=56,SNR=8.1						
TUL1	Leonard	55.73	74	⇑P	P	14 16 25.3	-0.2
	baz=56,SNR=14						
TUL1	Leonard	55.73	74	*e*P	P	14 16 24.4	-1.1
	comp=Z,70nm,0.9s						
529A	Stev Forest Ra	55.73	83	⇓P	P	14 16 25.4	-0.3
	baz=56,SNR=33						
Y34A	Reagan Ranch,	55.86	77	⇓P	P	14 16 26.4	0.0
	baz=56,SNR=34						
430A	Baggett Ranch,	55.89	82	⇓P	P	14 16 26.3	-0.5
	baz=56,SNR=52						
NACB	Ninganchiao	55.91	267	*e*P	P	14 16 26.3	-0.6
	comp=Z,81nm,0.9s						
WHN	Wuhan	55.92	278	P	P	14 16 27.7	+0.8
WHN				S	S	14 24 13.4	+1.3
WHN				LN			
	comp=Z,2µm,12.4s						
WHN				LE			
	comp=Z,6µm,18.6s						
WHN				LZ			
	comp=Z,5µm,15.8s						
331A	San Angelo	56.03	81	⇓P	P	14 16 27.2	-0.6
	baz=56,SNR=22						
133A	Hamilton Ranch	56.07	79	⇑P	P	14 16 27.6	-0.4
	baz=56,SNR=34						
232A	Coleman	56.11	80	⇑P	P	14 16 27.8	-0.5
	baz=56,SNR=24						
Z34A	Collier Ranch,	56.16	77	⇑P	P	14 16 28.1	-0.5
	baz=56,SNR=8.9						
530A	J-C Ranch, Com	56.27	83	⇓P	P	14 16 29.1	-0.4
	baz=56,SNR=77						
ZALV	Zalesovo Beam	56.32	316	P	P	14 16 27.7	-1.7
	comp=Z,2.0nm,0.4s,baz=11,slow=3.0,SNR=10						
ZALV				PcP	PcP	14 17 27.2	+0.8
	comp=Z,26nm,1.0s,baz=61,slow=3.7,SNR=8.5						
ZALV				LR	LR	14 43 24.9	
	comp=Z,5µm,18.3s,baz=42,slow=39						
431A	Sonora	56.35	82	⇑P	P	14 16 29.4	-0.7
	baz=56,SNR=49						
NVS	Novosibirsk	56.40	317	⇑*i*P	P	14 16 27.3	-2.6
NVS				*e*		14 17 23.8	
NVS				*e*S	S	14 24 17.4	-0.4
NVS				*e*		14 26 14.9	
NVS				pmax	pmax		
	comp=Z,231nm,3.1s						
NVS				pmax	pmax		
	comp=E,121nm,3.0s						
NVS				smax	smax		
	comp=E,95nm,3.7s						
332A	Millersview	56.40	80	⇑P	P	14 16 30.1	-0.3
	baz=56,SNR=22						
233A	Rising Star	56.48	79	⇓P	P	14 16 30.6	-0.4
	baz=56,SNR=34						
SSLB	Suanglung	56.59	267	*e*P	P	14 16 31.6	-0.2
	comp=E,157nm,0.8s						
Z35A	Perchaven, San	56.59	77	⇓P	P	14 16 31.3	-0.4
	baz=56,SNR=11						
134A	White-Moore Ra	56.60	78	⇑P	P	14 16 31.4	-0.4
	baz=56,SNR=20						
YULB	Yu-li	56.66	266	*e*P	P	14 16 32.4	+0.1
	comp=E,57nm,0.8s						
432A	Menard	56.72	81	⇑P	P	14 16 32.1	-0.6
	baz=56,SNR=12						
531A	Rocksprings	56.75	82	⇓P	P	14 16 32.6	-0.3
	baz=57,SNR=23						
XAN	Xi'an	56.85	284	P	P	14 16 33.2	-0.4
XAN				pP	pP	14 16 44.4	+0.1
XAN				PP	PP	14 18 41.1	+1.2
XAN				PcS	PcS	14 21 25.8	-4.0
XAN				ScS	ScS	14 26 16.3	-3.7
XAN				PMZ			
	comp=E,29nm,1.1s						
XAN				PMZ			
	comp=E,280nm,9.2s						
XAN				LN			
	comp=E,2µm,21.5s						
XAN				LE			
	comp=E,1µm,21.5s						
XAN				LZ			
	comp=E,2µm,20.5s						
333A	Richland Sprin	56.91	80	⇑P	P	14 16 33.5	-0.4
	baz=57,SNR=48						
234A	Clairette	56.96	79	P	P	14 16 34.0	-0.4
	baz=57						
JCT	Junction City	56.99	81	*e*P	P	14 16 33.0	-1.6
JCT				pmax	pmax		
	comp=Z,30nm,0.7s						
JCT				MLR	MLR		
	comp=Z,4µm,20.0s						
JCT	Junction City	56.99	81	⇑P	P	14 16 34.4	-0.2
	baz=57,SNR=15						
JCT	Junction City	56.99	81	*e*P	P	14 16 33.0	-1.6
	comp=Z,30nm,0.7s						
JCT				LR	LR		
	comp=Z,4µm,20.0s						
135A	Vickery Place,	57.02	78	⇑P	P	14 16 34.7	-0.1
	baz=57,SNR=6.8						
TPUB	Ta-pu	57.15	267	*e*P	P	14 16 36.8	+1.0
	comp=Z,141nm,1.1s						
532A	Rocksprings	57.17	82	⇑P	P	14 16 35.0	-0.9
	baz=57,SNR=10						
SLM	Saint Louis	57.18	68	*e*P	P	14 16 33.8	-2.0
SLM				pmax	pmax		
	comp=Z,132nm,0.8s						
SLM	Saint Louis	57.18	68	*e*P	P	14 16 33.8	-2.0
	comp=Z,132nm,0.8s						
QZH	Quanzhou	57.23	270	⇑*i*P	P	14 16 37.7	+1.4
QZH				S	S	14 24 35.3	+5.8
QZH				PMZ			
	comp=Z,2µm,2.5s						
QZH				LZ			
	comp=Z,4µm,22.8s						
433A	Art	57.24	81	⇑P	P	14 16 35.9	-0.4
	baz=57,SNR=36						
631A	Perdido Creek	57.25	83	⇓P	P	14 16 35.4	-1.1
	baz=57,SNR=20						
334A	Lometa	57.36	79	⇑P	P	14 16 37.1	-0.1
	baz=57,SNR=87						
WHTX	Lake Whitney,	57.39	78	⇓P	P	14 16 37.1	-0.2
	baz=57,SNR=14						
WHTX	Lake Whitney,	57.39	78	*e*P	P	14 16 36.6	-0.7
	comp=Z,318nm,1.5s						
632A	Uvalde	57.68	82	⇑P	P	14 16 39.2	-0.2
	baz=58,SNR=11						
434A	Burnet	57.70	80	⇑P	P	14 16 39.3	-0.3
	baz=58,SNR=39						
533A	Kerrville	57.75	81	⇓P	P	14 16 39.3	-0.7
	baz=58,SNR=15						
SFIN	Lafayette	57.80	64	⇑P	P	14 16 39.7	-0.5
	baz=58,SNR=76						
SFIN	Lafayette	57.80	64	*e*P	P	14 16 38.6	-1.5
	comp=Z,273nm,0.9s						
SCHQ	Schefferville	57.86	41	P	P	14 16 39.2	-1.2
	comp=Z,34nm,0.8s,baz=317,slow=7.7,SNR=33						
SCHQ				LR	LR	14 43 46.8	
	comp=Z,7µm,18.0s,baz=318,slow=38						
335A	Moody	57.90	79	⇑P	P	14 16 40.8	-0.2
	baz=58						
MIAR	Mount Ida	57.98	73	*e*P	P	14 16 39.8	-1.7
MIAR				pmax	pmax		
	comp=Z,151nm,0.9s						
MIAR				MLR	MLR		
	comp=Z,3µm,20.0s						
MIAR	Mount Ida	57.98	73	*e*P	P	14 16 39.8	-1.7
	comp=Z,151nm,0.9s						
MIAR				LR	LR		
	comp=Z,3µm,20.0s						
137A	Heron Place, G	58.01	77	⇑P	P	14 16 42.0	+0.3
	baz=58,SNR=5.2						
633A	Saathoff Ranch	58.09	82	⇑P	P	14 16 41.4	-1.0
	baz=58						
732A	Laxson Ranch,	58.11	83	⇓P	P	14 16 42.5	+0.1
	baz=58						

534A **Blanco** 58.12 81 ⇑P P 14 16 42.3 -0.3
baz=58,SNR=13
435B **Jarrell** 58.15 79 ⇑P P 14 16 42.0 -0.6
baz=58,SNR=5.9
336A **Riesel** 58.18 78 ⇑P P 14 16 42.9 0.0
baz=58,SNR=13
KEV **Kevo** 58.19 352 eP P 14 16 41.7 -0.7
KEV pmax pmax
comp=Z,3.0nm,0.3s
KEV **Kevo** 58.19 352 ep P 14 16 41.7 -0.7
comp=Z,3.2nm,0.3s
KEV **Kevo** 58.19 352 PFAKE 14 16 50.0 +7.6
KEV LR LR
comp=Z,4μm,19.0s
OLIL **Olney** 58.34 66 eP P 14 16 42.4 -1.5
comp=Z,465nm,0.9s
138A **Matatall Enter** 58.37 76 ⇑P P 14 16 44.2 0.0
baz=58,SNR=10
237A **Washetta, Mont** 58.39 77 ⇑P P 14 16 44.1 -0.2
baz=58,SNR=6.6
SIUC **Southern Illin** 58.39 68 eP P 14 16 42.8 -1.5
comp=Z,116nm,0.7s
AAM **Ann Arbor** 58.41 61 eP P 14 16 43.3 -1.0
AAM pmax pmax
comp=Z,90nm,0.7s
AAM MLR MLR
comp=Z,5μm,20.0s
AAM **Ann Arbor** 58.41 61 eP P 14 16 43.3 -1.0
comp=Z,90nm,0.7s
AAM LR LR
comp=Z,5μm,20.0s
832A **Faith Ranch, C** 58.42 83 ⇑P P 14 16 44.2 -0.4
baz=58,SNR=23
LZH **Lanzhou** 58.49 290 eP P 14 16 45.8 +0.6
LZH pP pP 14 16 55.2 -0.8
LZH sP sP 14 17 00.0 -0.1
LZH eS S 14 24 44.1 -2.1
LZH SS SS 14 28 39.3 +0.9
LZH PMZ
comp=Z,160nm,1.0s
LZH PMZ
comp=Z,1μm,4.0s
LZH LN
comp=Z,6μm,18.2s
LZH LE
comp=Z,2μm,15.9s
LZH LZ
comp=Z,11μm,21.0s
ARCES **ARCESS Array B** 58.53 352 P P 14 16 43.4 -1.4
comp=Z,20nm,0.7s,baz=18,slow=6.0,SNR=25
ARCES PcP PcP 14 17 35.0 +0.2
comp=Z,58nm,0.8s,baz=20,slow=3.9,SNR=19
ARCES LR LR 14 41 45.2
comp=Z,3μm,21.8s,baz=5.0,slow=36
ARE0 **ARCESS Array S** 58.53 352 eP P 14 16 43.8 -1.0
733A **Divot King Ran** 58.54 82 ⇑P P 14 16 45.1 -0.3
baz=58,SNR=8.7
GTA **Gaotai** 58.56 295 eP P 14 16 45.0 -0.6
GTA pP pP 14 16 55.2 -1.1
GTA sP sP 14 16 59.1 -1.4
GTA PP PP 14 18 56.7 +1.7
GTA S S 14 24 45.9 -1.0
GTA sS sS 14 25 01.5 -3.1
GTA SS SS 14 28 39.8 +0.6
GTA PMZ
comp=Z,63nm,1.2s
GTA PMZ
comp=Z,830nm,6.4s
GTA LN
comp=Z,6μm,17.6s
GTA LE
comp=Z,7μm,16.6s
GTA LZ
comp=Z,8μm,17.6s
UALR **University of** 58.56 72 eP P 14 16 45.0 -0.5
comp=Z,61nm,1.0s
436A **Wall Ranch, Ga** 58.64 79 ⇑P P 14 16 46.1 0.0
baz=58,SNR=5.9
535A **Dale** 58.68 80 ⇓P P 14 16 46.2 -0.2
baz=58
833A **Chaparral WMA,** 58.75 83 ⇓P P 14 16 46.9 0.0
baz=59,SNR=22
238A **Jacksonville** 58.80 77 ⇓P P 14 16 47.2 -0.1
baz=59,SNR=6.4
337A **Centerville** 58.82 78 ⇑P P 14 16 47.8 +0.5
baz=59
TRO **Tromso** 58.89 355 eP P 14 16 46.4 -0.9
734A **La Parita Cree** 58.90 82 ⇑P P 14 16 48.2 +0.2
baz=59,SNR=7.1
BLO **Bloomington** 58.95 65 eP P 14 16 46.5 -1.6
BLO pmax pmax
comp=Z,299nm,0.9s
BLO **Bloomington** 58.95 65 eP P 14 16 46.5 -1.6
comp=Z,299nm,0.9s
536A **Bastrop** 58.96 80 ⇓P P 14 16 48.9 +0.5
baz=59
437A **Phantom Ranch,** 59.00 78 ⇓P P 14 16 49.4 +0.7
baz=59
635A **Leesville** 59.01 81 ⇓P P 14 16 48.6 -0.1
baz=59,SNR=9.2
HBAR **Harrisburg** 59.03 71 eP P 14 16 47.7 -1.1
ENH **Enshi** 59.11 281 eP P 14 16 49.3 -0.1
comp=Z,95nm,1.4s
ENH LR LR
comp=Z,2μm,21.0s
USIN **University of** 59.12 67 eP P 14 16 48.1 -1.2
comp=Z,458nm,0.8s
LVZ **Lovozero** 59.12 348 ⇓iP P 14 16 48.6 -0.4
LVZ pmax pmax
comp=Z,60nm,1.1s
LVZ MLR MLR
comp=Z,4μm,18.0s
LVZ **Lovozero** 59.12 348 eP P 14 16 47.7 -1.3
comp=Z,45nm,0.9s
LVZ LR LR
comp=Z,4μm,19.0s
338A **Crockett** 59.14 77 ⇓P P 14 16 50.4 +0.8
baz=59
239A **Gary** 59.19 76 ⇓P P 14 16 49.7 -0.2
baz=59,SNR=5.6
KTK1 **Kautokeino** 59.22 353 eP P 14 16 51.9 +2.2
NATX **Nacogdoches** 59.25 77 eP P 14 16 50.0 -0.4
comp=Z,183nm,1.3s
933A **Laredo** 59.33 83 ⇓P P 14 16 51.0 0.0
baz=59
735A **Kenedy** 59.36 81 ⇑P P 14 16 51.3 +0.2
baz=59
636A **Smothers Creek** 59.38 80 ⇑P P 14 16 51.8 +0.6
baz=59
834A **Tilden** 59.42 82 ⇓P P 14 16 52.5 +1.0
baz=59
537A **Green Hill Far** 59.42 79 ⇑P P 14 16 52.0 +0.5
baz=59
438A **Sam Houston St** 59.46 78 ⇓P P 14 16 52.3 +0.5
baz=59,SNR=7.5
WCI **Wyandotte Cave** 59.72 66 eP P 14 16 52.0 -1.5
WCI pmax pmax
comp=Z,234nm,0.8s
WCI **Wyandotte Cave** 59.72 66 eP P 14 16 52.0 -1.5
comp=Z,234nm,0.8s
835A **Beeville** 59.75 82 ⇑P P 14 16 54.3 +0.5
baz=60,SNR=5.2
HKT **Hockley** 59.80 79 eP P 14 16 53.3 -0.8
HKT pmax pmax
comp=Z,85nm,1.4s
HKT **Hockley** 59.80 79 eP P 14 16 53.2 -0.8
comp=Z,85nm,1.4s
934A **Benavides** 59.81 83 ⇑P P 14 16 54.6 +0.4
baz=60
340A **Bronson** 59.96 76 ⇑P P 14 16 55.5 +0.2
baz=60
034A **Hebbronville** 60.09 83 ⇓P P 14 16 56.7 +0.6
baz=60
ACSO **Alum Creek Sta** 60.20 62 eP P 14 16 55.1 -1.6
comp=Z,62nm,0.7s
ACSO LR LR
comp=Z,5μm,20.0s
WVT **Waverly** 60.29 68 eP P 14 16 55.7 -1.7
WVT pmax pmax
comp=Z,91nm,0.9s
WVT **Waverly** 60.29 68 eP P 14 16 55.7 -1.7
comp=Z,91nm,0.9s
OXF **Oxford** 60.49 71 eP P 14 16 57.5 -1.3
OXF pmax pmax
comp=Z,388nm,1.0s
OXF **Oxford** 60.49 71 eP P 14 16 57.5 -1.3
comp=Z,388nm,1.0s

035A **Encino** 60.54 83 ⇑P P 14 17 00.2 +0.9
baz=60
ALLY **Alegheny Colle** 60.76 59 eP P 14 16 59.7 -0.9
comp=Z,701nm,0.9s
STEI **Steigen** 60.77 356 eP P 14 16 59.3 -0.9
KURK **Kurchatov** 61.30 316 P P 14 17 03.5 -0.6
comp=Z,261nm,1.0s,SNR=47
KURK **Kurchatov** 61.30 316 eP P 14 17 02.7 -1.4
KURK pmax pmax
comp=Z,36nm,0.8s
KURK MLR MLR
comp=Z,4μm,20.0s
KURK **Kurchatov** 61.30 316 eP P 14 17 02.7 -1.4
comp=Z,36nm,0.8s
KURK LR LR
comp=Z,4μm,20.0s
LONY **Lake Ozonia** 61.56 53 eP P 14 17 04.2 -1.7
comp=Z,239nm,0.9s
LONY LR LR
comp=Z,5μm,19.0s
GZH **Guangzhou** 61.86 272 P P 14 17 04.2 -4.0
GZH S S 14 25 27.7 -1.6
GZH LN
comp=Z,2μm,16.1s
GZH LE
comp=Z,3μm,15.8s
WMQ **Urumqi** 62.02 306 P P 14 17 09.2 +0.1
WMQ pP pP 14 17 19.5 -0.4
WMQ sP sP 14 17 23.5 -0.6
WMQ PcP PcP 14 17 50.8 +1.4
WMQ PP PP 14 19 27.7 +2.3
WMQ sS sS 14 25 46.0 -2.8
WMQ ScS SKKSac 14 26 54.5 -3.5
WMQ SS SS 14 29 32.0 -1.1
WMQ PMZ
comp=Z,25nm,1.0s
WMQ PMZ
comp=Z,1μm,4.6s
WMQ LN
comp=Z,5μm,21.0s
WMQ LE
comp=Z,5μm,20.0s
WMQ LZ
comp=Z,4μm,22.0s
SWET **Sewanee** 62.03 68 eP P 14 17 07.2 -2.1
comp=Z,68nm,1.0s
SOKR **Solikamsk** 62.07 334c iP P 14 17 08.5 -0.6
SOKR pmax pmax
comp=Z,40nm,0.9s
TMCR **Tamitsa** 62.13 345 eP P 14 17 08.2 -1.2
TMCR e 14 19 25.3
TMCR pmax pmax
comp=Z,37nm,1.1s
CD2 **Chengdu** 62.15 285 eP P 14 17 10.2 0.0
CD2 pP pP 14 17 25.8 +4.8
CD2 PcP PcP 14 17 50.4 +0.3
CD2 PP PP 14 19 28.1 +1.2
CD2 S S 14 25 31.5 -1.5
CD2 sS sS 14 25 51.5 +0.7
CD2 SS SS 14 29 33.4 -2.3
CD2 PMZ
comp=Z,260nm,0.9s
CD2 PMZ
comp=Z,2μm,7.6s
CD2 LN
comp=Z,2μm,18.0s
CD2 LE
comp=Z,4μm,17.1s
CD2 LZ
comp=Z,5μm,21.8s
NCB **Newcomb** 62.20 54 eP P 14 17 09.2 -1.1
comp=Z,131nm,0.9s
NCB LR LR
comp=Z,5μm,19.0s
KONS **Konsvik** 62.28 357 eP P 14 17 10.0 -0.3
PVCP **Virac** 62.28 257⇑eP P 14 17 16.1 +5.0
MKAR **Makanchi Array** 62.51 311 P P 14 17 10.9 -1.5
comp=Z,58nm,0.9s,baz=47,slow=6.0,SNR=270
MKAR LR LR 14 44 57.0
comp=Z,5μm,19.7s,baz=36,slow=37
MKAR PKPPKP P'P'df 14 46 15.1 -6.7
comp=Z,0.6nm,0.9s,baz=251,slow=3.7,SNR=5.9
MOR8 **Moi Rana** 62.56 356 eP P 14 17 10.1 -2.3
MOR8 IAmb IAmb 14 17 12.0
comp=Z,32nm,0.7s
MOR8 epP pP 14 17 20.8 -2.3
BINY **Binghamton** 62.57 56 eP P 14 17 11.8 -0.9
comp=Z,152nm,0.8s
BINY LR LR
comp=Z,5μm,20.0s
CPCT **Cooper Cave** 62.68 67 eP P 14 17 14.4 +0.8
SSPA **Standing Stone** 62.68 58 eP P 14 17 12.5 -1.0
comp=Z,173nm,0.8s
MDV **Middlebury** 62.70 53 eP P 14 17 11.2 -2.4
ACCN **Adirondack Com** 62.90 54 eP P 14 17 13.7 -1.3
comp=Z,286nm,0.9s
BRVK **Borovoye** 62.92 323 P P 14 17 14.4 -0.5
comp=Z,273nm,0.8s,SNR=30
BRVK **Borovoye** 62.92 323c iP P 14 17 14.7 -0.2
BRVK pmax pmax
comp=Z,55nm,1.2s
BRVK MLR MLR
comp=Z,14μm,18.0s
BRVK **Borovoye** 62.92 323 eP P 14 17 13.6 -1.3
comp=Z,46nm,0.8s
BRVK LR LR
comp=Z,14μm,19.0s
LRAL **Lakeview Retre** 62.95 70 eP P 14 17 14.1 -1.3
comp=Z,59nm,1.2s
TKL **Tuckaleechee C** 62.96 66 eP P 14 17 14.3 -1.2
TKL **Tuckaleechee C** 62.96 66 eP P 14 17 14.3 -1.2
PRGR **Permogore** 63.03 340⇑iP P 14 17 14.6 -0.8
PRGR e 14 17 52.5
PRGR pmax pmax
comp=Z,65nm,0.8s
LBNH **Lisbon** 63.16 52 eP P 14 17 14.0 -2.6
LBNH pmax pmax
comp=Z,173nm,0.9s
LBNH MLR MLR
comp=Z,4μm,19.0s
LBNH **Lisbon** 63.16 52 eP P 14 17 14.0 -2.6
comp=Z,172nm,0.9s
LBNH LR LR
comp=Z,4μm,19.0s
SVE **Sverdlovsk** 63.24 330deP P 14 17 16.4 -0.6
SVE pmax pmax
comp=Z,66nm,0.8s
SVE MLR MLR
comp=Z,9μm,17.0s
GYA **Guiyang** 63.57 280⇓iP P 14 17 20.2 +0.5
GYA pP pP 14 17 31.4 +0.8
GYA PP PP 14 19 42.0 +2.5
GYA ScP 14 21 54.6
GYA S S 14 25 49.8 -1.2
GYA sS sS 14 26 05.0 -3.8
GYA SS SS 14 29 56.7 -1.5
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,1μm,5.3s
GYA LN
comp=Z,3μm,18.6s
GYA LE
comp=Z,2μm,19.0s
GYA LZ
comp=Z,3μm,18.4s
PKME **Peaks-Kenny Pk** 63.69 50 eP P 14 17 19.4 -0.6
comp=Z,133nm,1.0s
PKME LR LR
comp=Z,9μm,19.0s
BLA **Blacksburg** 63.75 63 eP P 14 17 20.1 -0.6
BLA pmax pmax
comp=Z,284nm,0.9s
BLA MLR MLR
comp=Z,7μm,19.0s
BLA **Blacksburg** 63.75 63 eP P 14 17 20.1 -0.6
comp=Z,284nm,0.9s
BLA LR LR
comp=Z,7μm,19.0s
TGY **Tagaytay City** 63.86 260 P P 14 17 23.3 +1.6
comp=Z,164nm,0.4s,baz=96,slow=10,SNR=5.7
SDMD **Soldier's Deli** 64.12 59 eP P 14 17 21.9 -1.1
comp=Z,265nm,0.9s
ARU **Arti** 64.22 331 P P 14 17 22.5 -0.9
comp=Z,609nm,0.5s,SNR=30
ARU **Arti** 64.22 331d iP P 14 17 22.5 -0.9

ARU 14 17 58.8
ARU 14 19 42.4
ARU S S 14 25 58.5 +0.6
ARU SS SS 14 30 07.9 +1.3
ARU pmax pmax
comp=Z,68nm,0.8s
ARU MLR MLR
comp=Z,9μm,18.0s
JOF **Joensuu** 64.31 348 eP P 14 17 22.6 -1.3
JOF pmax pmax
comp=Z,11nm,0.4s
JOF **Joensuu** 64.31 348 ep P 14 17 22.6 -1.3
comp=Z,11nm,0.4s
BRAL **Brewton** 64.36 72 P P 14 17 22.7 -2.0
comp=Z,84nm,0.6s
BRAL LR LR
comp=Z,3μm,20.0s
BRNJ **Basking Ridge** 64.40 56 eP P 14 17 25.7 +0.9
comp=Z,164nm,0.9s
CPNY **Central Park** 64.64 56 eP P 14 17 26.3 0.0
comp=Z,209nm,0.9s
KMSC **Kings Mountain** 64.72 65 ⇑P P 14 17 26.9 -0.2
baz=64
KMSC **Kings Mountain** 64.72 65 eP P 14 17 26.2 -0.9
comp=Z,319nm,0.9s
GOGA **Godfrey** 64.74 68 eP P 14 17 25.0 -2.2
GOGA pmax pmax
comp=Z,121nm,1.0s
GOGA MLR MLR
comp=Z,3μm,20.0s
GOGA **Godfrey** 64.74 68 eP P 14 17 24.9 -2.2
comp=Z,121nm,1.0s
GOGA LR LR
comp=Z,3μm,20.0s
JSRW **J. Sargeant Re** 64.80 61 eP P 14 17 27.1 -0.4
HNR **Honiara** 64.81 209 LR LR 14 41 33.5
comp=Z,1μm,20.1s,baz=16,slow=32
KLMR **Klimovskoe** 64.95 343 eP P 14 17 26.3 -1.8
KLMR pmax pmax
comp=Z,92nm,1.6s
TBLU **Trondheim** 65.61 358 eP P 14 17 30.6 -1.8
KAF **Kangasniemi** 65.70 350 eP P 14 17 31.9 -1.0
KAF pmax pmax
comp=Z,14nm,0.5s
KAF **Kangasniemi** 65.70 350 ep P 14 17 31.9 -1.0
comp=Z,14nm,0.5s
TIGA **Tifton** 66.10 69 ⇓P P 14 17 35.4 -0.6
baz=66
MOL **Molde** 66.33 359 eP P 14 17 36.2 -0.7
FINES **FINESS Array B** 66.38 350 P P 14 17 35.5 -1.8
comp=Z,28nm,0.9s,baz=26,slow=4.9,SNR=35
FINES pP pP 14 17 49.8 +1.6
comp=Z,13nm,0.6s,baz=35,slow=7.0,SNR=8.0
FINES LR LR 14 47 09.3
comp=Z,2μm,21.7s,baz=16,slow=36
DAV **Davao City (W)** 66.56 251 PFAKE 14 17 50.0 +11
DAV LR LR
comp=Z,2μm,20.0s
CNNC **Cliffs of the** 66.58 63 P P 14 17 39.2 +0.2
comp=Z,39nm,0.6s
CNNC LR LR
comp=Z,6μm,19.0s
AKN **Aaknes** 66.73 360 eP P 14 17 38.4 -1.2
NHSC **New Hope** 66.86 66 P P 14 17 40.9 +0.1
comp=Z,383nm,1.0s
NHSC LR LR
comp=Z,6μm,19.0s
KMI **Kunming** 66.95 282 P P 14 17 42.9 +1.1
KMI pP pP 14 17 54.5 +1.8
KMI PP PP 14 20 10.9 +1.7
KMI S S 14 26 34.6 +1.9
KMI sS sS 14 26 52.0 +1.4
KMI SKS SKSac 14 27 33.9 -2.5
KMI PMZ
comp=Z,84nm,1.3s
KMI PMZ
comp=Z,1μm,5.0s
KMI LN
comp=Z,1μm,16.4s
KMI LE
comp=Z,2μm,17.8s
KMI LZ
comp=Z,2μm,16.6s
CSU **Charleston Sou** 67.00 66 eP P 14 17 41.9 +0.2
QIZ **Qiongzhong** 67.05 272 P P 14 17 41.8 -0.4
QIZ sP sP 14 17 54.9 -2.3
QIZ PP PP 14 20 09.1 -0.9
QIZ S S 14 26 33.8 +0.3
QIZ sS sS 14 26 49.2 -2.2
QIZ SS SS 14 30 53.1 +0.7
QIZ PMZ
comp=Z,990nm,6.6s
QIZ LN
comp=Z,2μm,21.8s
QIZ LZ
comp=Z,2μm,22.8s
QIZ **Qiongzhong** 67.05 272 PFAKE 14 17 50.0 +7.8
QIZ LR LR
comp=Z,2μm,20.0s
CTBH **Cotabato--PC H** 67.23 252⇑iP P 14 17 43.2 -0.2
PUL **Pulkovo** 67.48 347 eP P 14 17 43.9 -0.4
PUL pmax pmax
comp=Z,40nm,0.7s
AAA **Alma-Ata** 67.66 312 eP P 14 17 46.3 +0.5
AAA pmax pmax
comp=Z,1μm,7.9s
AAA MLR MLR
comp=Z,6μm,19.0s
HYA **Hoyanger** 67.74 0 eP P 14 17 45.4 -0.6
NB2 **NORSAR Subarra** 67.80 357 P P 14 17 44.8 -1.6
comp=Z,15nm,0.8s,baz=3.7,slow=6.5
NB2 **NORSAR Subarra** 67.80 357 P P 14 17 44.8 -1.6
baz=3.7,slow=6.5
NOA **NORSAR Array B** 67.80 357 P P 14 17 44.5 -1.9
comp=Z,12nm,0.7s,baz=2.8,slow=6.3,SNR=42
NOA LR LR 14 48 23.8
comp=Z,1μm,18.7s,baz=355,slow=37
NC602 **NORSAR Array S** 68.10 357 eP P 14 17 46.8 -1.4
TKM2 **Tokmak 2** 68.56 312 P P 14 17 52.0 +0.4
SNR=89
TKM2 **Tokmak 2** 68.56 312 eP P 14 17 51.9 +0.2
TKM2 pmax pmax
comp=Z,77nm,1.0s
TKM2 MLR MLR
comp=Z,3μm,20.0s
TKM2 **Tokmak 2** 68.56 312 eP P 14 17 51.9 +0.2
comp=Z,77nm,1.0s
TKM2 LR LR
comp=Z,3μm,20.0s
HFS **Hagfors** 68.62 356 LR LR 14 52 03.3
comp=Z,1μm,18.1s,baz=10.0,slow=40
RKPI **Ransiki, Papua** 68.75 238 P P 14 17 52.2 -0.7
comp=Z,88nm,1.3s,comp=Z,13μm
ULHL **Ulahol** 68.78 312 P P 14 17 54.1 +0.9
SNR=52
ULHL **Ulahol** 68.78 312 iP P 14 17 54.0 +0.9
USP **Ospenovka** 68.79 313 P P 14 17 52.7 -0.2
SNR=154
USP **Ospenovka** 68.79 313 iP P 14 17 52.7 -0.2
CHMS **Chumysh** 68.89 313 P P 14 17 54.4 +0.9
SNR=54
CHMS **Chumysh** 68.89 313 iP P 14 17 54.3 +0.9
ODD1 **Odda** 69.00 360 eP P 14 17 53.3 -0.6
SLVN **Son La** 69.03 278 eP P 14 17 54.4 -0.4
comp=Z,49nm,1.0s
KBK **Karagaybulak** 69.06 313 P P 14 17 54.7 -0.1
SNR=108
KBK **Karagaybulak** 69.06 313 iP P 14 17 54.7 -0.1
FRU **Bishkek** 69.08 313⇑iP P 14 17 54.0 -0.7
FRU i 14 18 08.0
FRU e 14 27 19.0
FRU pmax pmax
comp=Z,513nm,2.2s
VSU **Vasula** 69.21 349c iP P 14 17 54.3 -0.8
VSU pmax pmax
comp=Z,281nm,1.1s
VSU MLR MLR
comp=Z,8μm,22.0s
KONO **Kongsberg** 69.23 358 eP P 14 17 53.8 -1.5
KONO pmax pmax
comp=Z,44nm,1.2s
KONO MLR MLR
comp=Z,2μm,20.0s
KONO **Kongsberg** 69.23 358 eP P 14 17 53.8 -1.5
comp=Z,44nm,1.2s
KONO LR LR

comp=Z,2µm,20.0s
MSVF Nonsavu 69.27 189 PFAKE 14 18 10.0 +14
MSVF LR LR
comp=Z,6µm,20.0s
AAK Ala-Archa 69.29 313 P **P** **14 17 56.0 -0.2**
comp=Z,960nm,1.0s
AAK Ala-Archa 69.29 313 P **P** **14 17 55.1 -1.0**
SNR=118
AAK Ala-Archa 69.29 313 *e*P **P** **14 17 55.9 -0.2**
AAK pmax pmax
comp=Z,144nm,0.9s
AAK MLR MLR
comp=Z,3µm,19.0s
AAK Ala-Archa 69.29 313 *e*P **P** **14 17 55.9 -0.3**
comp=Z,144nm,0.9s
AAK LR LR
comp=Z,3µm,19.0s
KZA Kyzart 69.38 312 P **P** **14 17 56.5 -0.5**
SNR=85
KZA Kyzart 69.38 312 *i* P **P** **14 17 56.5 -0.5**
PMG Port Moresby 69.43 222 *ce*P **P** **14 17 57.0 0.0**
PMG pmax pmax
comp=Z,39nm,1.2s
PMG MLR MLR
comp=Z,1µm,17.0s
PMG Port Moresby 69.43 222 P **P** **14 17 57.3 +0.2**
comp=Z,23nm,1.0s,baz=70,slow=1.2,SNR=13
PMG LR LR 14 44 55.6
comp=Z,2µm,19.9s,baz=36,slow=33
PMG Port Moresby 69.43 222 *e*P **P** **14 17 56.8 -0.3**
comp=Z,44nm,1.1s
AKTO Aktyubinsk 69.46 328 LR LR 14 52 04.3
comp=Z,5µm,18.5s,baz=29,slow=39
BLS5 Blasjo 69.49 360 *e*P **P** **14 17 55.9 -1.1**
BLS5 IAmb IAmb 14 17 57.5
comp=Z,7.8nm,0.8s
EKS2 Erkin-Say 69.59 313 P **P** **14 17 58.0 0.0**
SNR=226
EKS2 Erkin-Say 69.59 313 *i* P **P** **14 17 58.0 0.0**
EKS2 Erkin-Say 69.59 313 *e*P **P** **14 17 57.7 -0.3**
comp=Z,124nm,0.9s
EKS2 LR LR
comp=Z,3µm,19.0s
UCH Uchtor 69.60 313 P **P** **14 17 59.6 +1.1**
SNR=75
UCH Uchtor 69.60 313 *i* P **P** **14 17 59.5 +1.1**
KMY Karmoy 69.70 1 *e*P **P** **14 17 57.9 -0.3**
SWI Sorong 69.78 241 P **P** **14 17 59.0 -0.3**
comp=Z,153nm,1.4s,comp=Z,2µm
ABKAR Akbulak array 69.80 326 *e*P **P** **14 17 58.1 -0.8**
comp=Z,108nm,0.9s
PMOR Pomariorio Ree 69.85 154 *e*P **P** **14 17 56.6 -2.9**
comp=Z,96nm,1.4s
PMOR Pomariorio Ree 69.85 154 *e*T T 15 34 53.9
comp=Z,16nm,0.2s
AML Almayashu 70.05 313 P **P** **14 18 01.4 +0.2**
SNR=148
AML Almayashu 70.05 313 *i* P **P** **14 18 01.3 +0.2**
BIGH Upper Bighouse 70.10 6 *e*P **P** **14 18 00.0 -0.6**
BIGH AMB AMB 14 18 05.8
comp=Z,204nm,4.4s
MOS Moscow 70.10 342 *e*P P 14 17 55.7 -5.0
MOS *e* 14 18 14.1
MOS pmax pmax
comp=Z,79nm,1.3s
MOS MLR MLR
comp=Z,4µm,17.0s
MOS MLR MLR
comp=N,4µm,19.0s
MOS MLR MLR
comp=E,1µm,17.0s
VAH Vaihoa 70.14 153 *e*P **P** **14 17 59.0 -2.3**
comp=E,106nm,1.2s
LSA Lhasa 70.48 293 P **P** **14 18 05.2 +1.2**
LSA sP **sP** **14 18 18.5 -0.6**
LSA S **S** **14 27 11.9 -3.0**
LSA LN
comp=E,2µm,19.0s
LSA LE
comp=E,2µm,19.0s
LSA LZ
comp=E,4µm,19.0s
LSA Lhasa 70.48 293 *e*P **P** **14 18 04.9 +0.9**
LSA pmax pmax
comp=Z,273nm,0.8s
LSA MLR MLR
comp=Z,5µm,20.0s
LSA Lhasa 70.48 293 *e*P **P** **14 18 04.9 +0.9**
comp=Z,273nm,0.8s
LSA LR LR
comp=Z,5µm,20.0s
SNART Snartemo 70.58 360 *e*P **P** **14 18 03.7 +0.1**
TNTI Ternate 70.61 245 P **P** **14 18 03.3 -1.1**
comp=Z,82nm,2.0s,comp=Z,2µm
HOMB Homborsund 70.64 359 *e*P **P** **14 18 04.3 +0.4**
MVH1 Achvaich 70.65 6⇑*e*P **P** **14 18 02.9 -1.1**
KKAR Karatay Array 70.70 316 *e*P **P** **14 18 03.5 -1.1**
KKAR pmax pmax
comp=Z,60nm,0.9s
KKAR Karatay Array 70.70 316 *e*P **P** **14 18 03.5 -1.1**
comp=Z,60nm,0.9s
KMPI Kaimana, Papua 70.81 237 P **P** **14 18 06.4 +0.9**
comp=Z,108nm,1.2s,comp=Z,2µm
OBN Obninsk 70.89 342 *c i*P **P** **14 18 04.0 -1.5**
OBN pmax pmax
comp=Z,51nm,1.2s
OBN Obninsk 70.89 342 LR LR 14 54 04.6
comp=Z,2µm,18.7s,baz=20,slow=40
OBN Obninsk 70.89 342 P **P** **14 18 02.7 -2.8**
comp=Z,48nm,0.9s
FAKI Fak Fak 70.96 239 P **P** **14 18 06.7 +0.2**
comp=Z,115nm,2.0s,comp=Z,2µm
FAKI Fak Fak 70.96 239 *e*P **P** **14 18 06.1 -0.3**
comp=Z,81nm,1.0s
KSH Kashi 71.04 310⇑*i*P P 14 18 10.1 +3.2
KSH sP sP 14 18 25.1 +3.2
KSH PP PP 14 20 49.6 +5.6
KSH S **S** **14 27 22.3 +1.8**
KSH sS sS 14 27 39.3 +0.8
KSH SS **SS** **14 31 58.3 +5.3**
KSH PMZ
comp=Z,180nm,0.8s
KSH PMZ
comp=Z,880nm,3.0s
KSH LN
comp=Z,1µm,12.6s
KSH LE
comp=Z,1µm,13.8s
KSH LZ
comp=Z,3µm,15.9s
MCD Coleburn Disti 71.05 6⇑*e*P **P** **14 18 05.3 -1.2**
MDO Dochfour 71.12 6⇑*e*P **P** **14 18 06.1 -0.8**
KPL Plockton 71.13 7 *e*P **P** **14 18 06.8 0.0**
MME1 Meikle Cairn 71.33 5⇑*e*P **P** **14 18 06.8 -1.3**
TEIG Tepich 71.55 81 PFAKE 14 18 20.0 +10
TEIG LR LR
comp=Z,1µm,20.0s
LBMI Labuha 71.69 244 P **P** **14 18 11.3 +0.4**
comp=Z,98nm,1.3s,comp=Z,2µm
PPT Papeete 71.85 156 LR LR 14 45 58.1
comp=Z,2µm,18.7s,baz=322,slow=32
PPT2 Papeete2 71.87 156 *e*S **S** **14 27 31.5 +1.4**
comp=Z,6µm,27.0s
PPT2 Papeete2 71.87 156 *e*LR LR 14 39 54.4
comp=Z,4µm,22.0s,baz=342
PPT2 Papeete2 71.87 156 *e*T T 15 37 24.8
comp=Z,6.1nm,0.3s
CRAI Chiangrai 72.04 280 P **P** **14 18 12.5 -0.5**
comp=Z,72nm,0.9s,comp=Z,1µm
ISAL Salakas 72.11 348 *e*P **P** **14 18 11.0 -1.8**
ISAL AMB AMB 14 18 14.7
comp=Z,20nm,1.2s
IDID Didziasalis 72.28 348 *e*P **P** **14 18 11.9 -1.9**
IDID AMB AMB 14 18 15.7
comp=Z,29nm,1.1s
IIGN Ignalina 72.31 348 *e*P **P** **14 18 12.2 -1.9**
IIGN AMB AMB 14 18 14.2
comp=Z,30nm,1.0s
EAB Aberfoyle 72.36 6⇑*e*P **P** **14 18 13.7 -0.7**
MUD Monsted U'grnd 72.44 358 *i* P **P** **14 18 14.9 +0.1**
MUD pmax pmax
comp=Z,19nm,0.9s
MUD Monsted U'grnd 72.44 358 *i* P **P** **14 18 14.9 +0.1**
comp=Z,19nm,0.8s
NACGM Naroch 72.68 348 *e* P 14 18 13.0 -3.3
KMSI Cibinong 72.72 248 P **P** **14 18 16.5 -0.5**
comp=Z,216nm,0.8s,comp=Z,4µm
PGBU Glenifferbraes 72.73 6 *e*P **P** **14 18 15.9 -0.7**
PGBU AMB AMB 14 18 16.9
comp=Z,80nm,1.8s
ESY Stoneypath 72.74 5 *e*P **P** **14 18 15.8 -0.8**
EBL Broad Law 72.86 6⇑*e*P **P** **14 18 17.4 0.0**
MICGM Minsk 72.92 347 *e*P **P** **14 18 16.0 -1.7**
MNK Minsk 72.93 347 *e*P **P** **14 18 16.0 -1.7**
MNK pmax pmax
comp=Z,220nm,1.0s
KKM Kota Kinabalu 73.02 258 *e*P **P** **14 18 18.9 -0.1**
comp=Z,83nm,1.1s
KKM LR LR
comp=Z,2µm,22.0s
CMAI Chiengmai2 73.08 281 P **P** **14 18 20.2 +0.8**
comp=Z,72nm,1.9s,comp=Z,3µm
MSAI Masohi 73.12 242 P **P** **14 18 20.3 +0.9**
comp=Z,13nm,1.2s,comp=Z,268nm
COP Copenhagen 73.12 356 *i* P **P** **14 18 19.4 +0.6**
COP pmax pmax
comp=Z,28nm,0.9s
COP Copenhagen 73.12 356 *i* P **P** **14 18 19.4 +0.6**
comp=Z,28nm,0.8s
SHL Shillong 73.16 290⇑*i*P **P** **14 18 19.5 -0.3**
SHL *i* S **SKiKP** **14 27 48.5 -0.2**
GTOI Gorontalo 73.23 249 P **P** **14 18 18.7 -1.4**
comp=Z,77nm,1.0s,comp=Z,1µm
EKA Eskdalemuir Ar 73.29 6 LR LR 14 52 44.3
comp=Z,964nm,18.1s,baz=330,slow=38
ESK Eskdalemuir 73.31 6 P **P** **14 18 19.0 -1.0**
comp=Z,220nm,1.1s,SNR=8.1
ESK Eskdalemuir 73.31 6 *e*P **P** **14 18 19.3 -0.7**
ESK Eskdalemuir 73.31 6 *i* P **P** **14 18 20.2 +0.2**
ESK Eskdalemuir 73.31 6 *e*P **P** **14 18 19.0 -1.0**
comp=Z,175nm,1.1s
ESK LR LR
comp=Z,2µm,21.0s
ECK Cauldkaine Hil 73.45 6⇑*e*P **P** **14 18 19.8 -1.0**
LOEI Loei 73.54 277 P **P** **14 18 20.7 -1.2**
comp=Z,50nm,1.7s,comp=Z,7µm
BNDI Bandanaira 73.57 240 P **P** **14 18 22.6 +0.6**
comp=Z,177nm,1.4s,comp=Z,3µm
VRHR Novokhopersk 73.58 338 *e*P **P** **14 18 19.2 -2.4**
VRHR pmax pmax
comp=Z,180nm,0.9s
VRHR pmax pmax
comp=N,140nm,1.0s
VRHR pmax pmax
comp=E,70nm,0.7s
BSD Bornholm Skovb 73.58 355 *i* P **P** **14 18 20.7 -0.8**
BSD pmax pmax
comp=Z,18nm,0.9s
BSD Bornholm Skovb 73.58 355 *i* P **P** **14 18 20.7 -0.8**
comp=Z,18nm,0.8s
GAL1 Galloway 73.65 7 *e*P **P** **14 18 21.0 -1.0**
GAL1 AMB AMB 14 18 23.8
comp=Z,61nm,1.1s
SANI Sanana 73.70 245 P **P** **14 18 22.6 -0.2**
comp=Z,69nm,1.3s,comp=Z,1µm
LAMP Lampang 73.78 279 P **P** **14 18 25.0 +1.7**
comp=Z,14nm,0.9s,comp=Z,162nm
UTTA Uttaradit 73.80 278 P **P** **14 18 23.7 +0.3**
comp=Z,27nm,0.6s,comp=Z,269nm
CMMT Chiang Mai 73.99 280 P **P** **14 18 25.2 +0.6**
comp=Z,81nm,2.1s,comp=Z,2µm
SUW Suwalki 73.99 350 *e*P **P** **14 18 22.7 -1.3**
SUW Suwalki 73.99 350 *e*P **P** **14 18 22.7 -1.3**
SUW Suwalki 73.99 350 *e*P **P** **14 18 22.5 -1.5**
comp=Z,235nm,1.1s
CHTO Chiang Mai 73.99 280 *e*P **P** **14 18 24.4 -0.2**
CHTO pmax pmax
comp=Z,43nm,1.1s
CHTO MLR MLR
comp=Z,2µm,19.0s
CHTO Chiang Mai 73.99 280 P **P** **14 18 25.2 +0.6**
comp=Z,126nm,1.0s,comp=Z,7µm
CHTO Chiang Mai 73.99 280 *e*P **P** **14 18 24.4 -0.2**
comp=Z,42nm,1.1s
CHTO LR LR
comp=Z,2µm,19.0s
MRSI Marisa 73.99 250 P **P** **14 18 23.6 -0.9**
comp=Z,114nm,0.9s,comp=Z,2µm
VSR Storozhevoye 74.03 339 *e*P **P** **14 18 23.3 -1.0**
VSR pmax pmax
comp=Z,160nm,0.9s
VSR pmax pmax
comp=N,170nm,1.0s
VSR pmax pmax
comp=E,60nm,0.9s
KESW Keswick, Cumbr 74.04 6⇑*e*P **P** **14 18 23.4 -0.9**
KESW AMB AMB 14 18 26.4
comp=Z,54nm,1.3s
NLAI Namlea 74.05 243 P **P** **14 18 25.4 +0.6**
comp=Z,33nm,1.0s,comp=Z,793nm
TAPN Taplejung 74.22 294 *e*P **P** **14 18 26.5 +0.3**
comp=Z,692nm,0.9s
VORD Divnogorie 74.23 339 *e*P **P** **14 18 24.4 -1.1**
VORD pmax pmax
comp=Z,130nm,0.8s
VORD pmax pmax
comp=N,210nm,0.9s
VORD pmax pmax
comp=E,90nm,1.0s
CMAR Chiang Mai Arr 74.26 280 P **P** **14 18 26.6 +0.5**
comp=E,26nm,0.9s,baz=27,slow=7.0,SNR=69
CMAR PKKPbc **PKKPbc** **14 37 52.5 -0.2**
comp=E,0.4nm,0.3s,baz=241,slow=2.9,SNR=4.8
CMAR LR LR 14 55 11.1
comp=E,2µm,18.6s,baz=40,slow=39
PBKT Sadao Pong 74.43 277 P **P** **14 18 27.5 +0.4**
comp=E,74nm,1.6s,comp=E,2µm
SUKH Sukhothai 74.57 279 P **P** **14 18 28.8 +0.9**
comp=E,13nm,0.8s,comp=E,117nm
LUWI Luwuk 74.73 248 P **P** **14 18 28.0 -0.8**
comp=E,237nm,1.3s,comp=E,3µm
LUWI Luwuk 74.73 248 *e*P **P** **14 18 27.7 -1.1**
comp=E,120nm,0.7s
ODAN Odare 74.78 294 *e*P **P** **14 18 29.4 0.0**
comp=E,237nm,0.7s
GUN Gumba 74.83 296 *e*P **P** **14 18 30.2 +0.4**
comp=E,2µm,1.0s
JIRN Jiri 74.85 295 *e*P **P** **14 18 30.4 +0.5**
comp=E,810nm,0.8s
BSEG Bad Segeberg 74.94 358 *e*P **P** **14 18 29.7 +0.2**
comp=Z,78nm,1.3s
BSEG *e*pP **PcP** **14 18 47.0 +3.8**
MHMT Maesarieng 75.09 280 P **P** **14 18 31.7 +0.7**
comp=Z,82nm,1.6s,comp=Z,1µm
DSB Dublin 75.13 8 *e*P **P** **14 18 29.9 -0.8**
comp=Z,32nm,1.0s
WME Myndd Eilian 75.14 7⇑*e*P **P** **14 18 29.3 -1.4**
RAMN Ramite 75.16 295 *e*P **P** **14 18 31.7 +0.1**
comp=Z,1µm,0.8s
COEN Coen 75.20 223 *e*P **P** **14 18 30.2 -1.2**
comp=Z,715nm,1.8s
WLF1 Llynfaes 75.24 7 *e*P **P** **14 18 30.6 -0.6**
WLF1 AMB AMB 14 18 33.5
comp=Z,32nm,1.1s
KKN Kakani 75.27 296 *e*P **P** **14 18 32.1 0.0**
comp=Z,330nm,0.9s
GKP Gorka Klasztor 75.27 353 *e*P **P** **14 18 30.6 -0.8**
GKP Gorka Klasztor 75.27 353 *e*P **P** **14 18 30.6 -0.8**
APSI Ampana 75.28 249 P **P** **14 18 31.4 -0.6**
comp=Z,118nm,1.4s,comp=Z,1µm
DZM Mont Dzumac 75.28 199 LR LR 14 48 54.3
comp=Z,3µm,18.8s,baz=23,slow=33
MPSI Mapaga 75.31 252 P **P** **14 18 32.1 -0.1**
comp=Z,104nm,0.9s,comp=Z,1µm
LMK Market Rasen 75.32 4 *e*P **P** **14 18 30.8 -0.9**
PKI Pulchoki 75.36 296 *e*P **P** **14 18 32.7 -0.1**
comp=Z,498nm,0.9s
PKIN Phulchoki 75.36 296 *e*P **P** **14 18 33.0 +0.2**
comp=Z,224nm,0.9s
KBI1 Birley Grange 75.46 5 *e*P **P** **14 18 31.7 -0.8**
GKN Gorkha 75.46 297 *e*P **P** **14 18 33.1 -0.1**
comp=Z,464nm,0.8s
DMN Daman 75.50 296 *e*P **P** **14 18 33.8 +0.3**
comp=Z,318nm,0.8s
YRE Yr Eifl 75.55 7 *e*P **P** **14 18 32.0 -1.0**
STNC Stoke 75.58 5 *e*P **P** **14 18 32.9 -0.3**
STNC AMB AMB 14 18 35.0
comp=Z,105nm,1.1s
DANN Dangsing 75.68 297 *e*P **P** **14 18 34.9 +0.3**
comp=Z,1µm,0.9s
SAUI Saumlaki 75.72 237 P **P** **14 18 36.0 +1.5**
comp=Z,349nm,1.4s,comp=Z,6µm
FOEL Foel Wylfa 75.72 6⇑*e*P **P** **14 18 33.5 -0.6**
FOEL AMB AMB 14 18 36.4
comp=Z,75nm,1.1s
BBSR BB Station 75.85 56 *e*P **P** **14 18 33.5 -1.6**
comp=Z,85nm,0.8s
BBSR LR LR
comp=Z,2µm,20.0s
VAL Valentia 76.03 11 *e*P **P** **14 18 35.8 0.0**
HLM1 Long Mynd 76.11 6 *e*P **P** **14 18 35.3 -1.0**
UTHA Uthaitani 76.15 278 P **P** **14 18 37.9 +0.9**
comp=Z,20nm,0.8s,comp=Z,182nm
KOLN Koldanda 76.22 297 *e*P **P** **14 18 37.3 -0.3**
comp=Z,375nm,0.9s
BEL Belsk 76.38 351 *e*P **P** **14 18 37.4 -0.4**
BEL Belsk 76.38 351 *e*P **P** **14 18 37.4 -0.4**
NRDL Niedersach Rie 76.39 358 *e*P **P** **14 18 37.6 -0.1**
comp=Z,30nm,1.1s
NRDL *e*pP PcP 14 18 54.9 +5.5
AKASG Malin Array Be 76.41 345 P **P** **14 18 36.0 -1.9**
comp=Z,11nm,0.3s,baz=14,slow=5.6,SNR=42
AKASG LR LR 15 00 11.3
comp=Z,2µm,18.3s,baz=20,slow=42
KIEV Kiev 76.42 345 *i* P **P** **14 18 36.2 -1.8**
KIEV Kiev 76.42 345 *e*P **P** **14 18 35.6 -2.4**
comp=Z,26nm,0.5s
KIEV LR LR
comp=Z,3µm,19.0s
DLH Dalhousie 76.55 306 *e*P **P** **14 18 38.0 -1.4**
DLH *e*x x 14 18 52.0
IBBN Ibbenburen 76.62 359 *e*P **P** **14 18 39.3 +0.2**
comp=Z,81nm,1.1s
IBBN *e*pP PcP 14 18 56.6 +6.1
MCH1 Michaelchurch 76.63 6 *e*P **P** **14 18 38.4 -0.8**
MCH1 AMB AMB 14 18 40.6
comp=Z,59nm,1.1s
LGTI Lohaghat 76.75 301 *e*P **P** **14 18 40.3 +0.1**
MONM Monmouth 76.80 6 *e*P **P** **14 18 39.5 -0.6**
MONM AMB AMB 14 18 42.3
comp=Z,87nm,1.2s
SDNR Sundarnagar 76.86 304 *e*P **P** **14 18 41.0 +0.1**
WTSB Winterswijk 76.97 360 *e*P **P** **14 18 40.6 -0.4**
PONG Pong 77.03 305 *e*P **P** **14 18 40.0 -1.8**
CLZ Clausthal 77.04 358 *e*P **P** **14 18 41.8 +0.2**
comp=Z,94nm,1.3s
CLZ *e*pP pP 14 18 59.0 +6.4
SMLA Simla 77.06 304 *i* P **P** **14 18 41.5 -0.5**
BHK Bhakra 77.22 305 *e*P3 P 14 18 46.2 +3.3
BHK *e*x x 14 19 03.5
KHLT Khaolaem Dam 77.26 278 P **P** **14 18 44.9 +1.6**
comp=Z,27nm,0.7s,comp=Z,3µm
SRDT SRDT 77.27 277 P **P** **14 18 44.7 +1.4**
comp=Z,156nm,1.3s,comp=Z,9µm
TBI Tubuai 77.42 157 *e*T T 15 44 20.5
comp=Z,15nm,0.3s
CLL Collm 77.47 356⇑*i*P **P** **14 18 43.2 -0.8**
CLL *i* 14 18 56.8
CLL *i* 14 18 59.9
CLL *e*S **S** **14 28 30.0 -1.9**
CLL pmax pmax
comp=Z,66nm,1.1s
CLL MLR MLR
comp=Z,2µm,19.2s
CLL Collm 77.47 356 *e*P **P** **14 18 43.5 -0.5**
comp=Z,66nm,1.2s
CLL *e*pP pP 14 19 00.8 +5.8
CLL Collm 77.47 356⇑*i*P **P** **14 18 43.2 -0.8**
comp=Z,66nm,1.1s
CLL *i* sP **sP** **14 18 56.8 -2.3**
CLL *i* 14 18 59.9
CLL *e*PP **PP** **14 21 36.0 -2.0**
CLL *e*PPP PPP 14 23 30.0
CLL *e*S **S** **14 28 30.0 -1.9**
CLL *e*PPS PPS 14 29 27.0
CLL *e*SS **SS** **14 33 36.0 +6.3**
CLL *e*(SSSS) 14 39 00.0
CLL Lm MLR 15 01 00.0
comp=Z,2µm,19.2s
BUG Bochum--Univer 77.49 359 *e*P **P** **14 18 43.7 -0.3**
comp=Z,45nm,1.2s
BUG *e*pP pP 14 19 01.0 +5.9
HTL Hartland 77.52 7 *e*P **P** **14 18 44.2 +0.1**
HTL AMB AMB 14 18 45.7
comp=Z,59nm,1.1s
KSP Ksiaz 77.75 354⇑*e*P **P** **14 18 44.3 -1.2**
KSP *e*S **S** **14 28 36.0 +1.1**
KSP *e*SS **SS** **14 33 34.0 +0.1**
KSP MLR MLR
comp=Z,12µm,20.2s
KSP Ksiaz 77.75 354 *e*P **P** **14 18 45.0 -0.5**
BRG Berggiesshubel 77.86 355 *i* P **P** **14 18 45.9 -0.2**
comp=Z,92nm,1.1s
BRG *i* 14 18 59.3
comp=Z,116nm,1.4s
BRG S **S** **14 28 37.0 +0.8**
BRG SS **SS** **14 33 34.0 -1.6**
BRG *e*PKPPKP **P'P'df** **14 45 57.0 +0.9**
comp=Z,37nm,2.1s
BRG Berggiesshubel 77.86 355 *i* P **P** **14 18 45.9 -0.2**
BRG *i* 14 18 59.3
BRG S **S** **14 28 37.0 +0.8**
BRG SS **SS** **14 33 34.0 -1.6**
BRG pmax pmax
comp=Z,92nm,1.1s
BRG MLR MLR
comp=N,2µm,18.6s
BRG MLR MLR
comp=E,1µm,19.6s
BRG MLR MLR
comp=Z,2µm,15.8s
BRG Berggiesshubel 77.86 355 *e*P **P** **14 18 45.8 -0.3**
comp=Z,92nm,1.1s
BRG *e*pP pP 14 19 03.0 +5.8
LVV L'vov 78.01 348 *e*P **P** **14 18 46.1 -0.9**
LVV *e*S **S** **14 28 33.1 -4.7**
TTSI Tana Toraja 78.07 250 P **P** **14 18 48.0 +0.3**
comp=Z,114nm,1.1s,comp=Z,1µm
UBBA Unterbreizbach 78.07 358 *e*pP pP 14 19 04.3 +6.1
OJC Ojcow 78.08 351 *e*P **P** **14 18 46.7 -0.7**
OJC *e* 14 18 56.9
OJC Ojcow 78.08 351 *e*P **P** **14 18 46.7 -0.7**
OJC *e*PcP **PcP** **14 18 56.9 0.0**
OJC L L 15 00 02.0
comp=Z,4µm,18.6s
UPC Upice 78.10 354 *e*P **P** **14 18 46.5 -1.0**
UPC *e* 14 19 00.9
UPC Upice 78.10 354 *e*P **P** **14 18 46.5 -1.0**
UPC *e*pP **pP** **14 19 00.9 +2.3**
HGN Heimansgroeve 78.17 0 *e*P **P** **14 18 47.6 -0.2**
PVCC Panska Ves 78.17 355 *e*P **P** **14 18 47.7 -0.2**
PVCC *e* 14 19 02.1
PVCC MLR MLR
comp=Z,2µm,19.2s
PVCC Panska Ves 78.17 355 *e*P **P** **14 18 47.7 -0.2**
PVCC *e*pP **pP** **14 19 02.1 +3.2**
PVCC AMS AMS 15 04 00.0
comp=Z,2µm,19.2s
MOX Moxa 78.19 357 *e*P **P** **14 18 47.9 -0.1**
comp=Z,72nm,1.1s
MOX *e*pP pP 14 19 05.2 +6.1
DPC Dobruska-Polom 78.24 354 *e*P **P** **14 18 47.7 -0.6**
DPC *e* 14 18 57.1
DPC *e* 14 19 02.0
DPC *e*S S 14 28 46.5 +6.2
DPC *e*SS **SS** **14 33 38.9 -2.5**
DPC Dobruska-Polom 78.24 354 *e*P **P** **14 18 47.7 -0.6**
DPC *e*pP **PcP** **14 18 57.1 -0.6**
DPC *e*sP **sP** **14 19 02.0 -1.5**
DPC *e*S S 14 28 46.5 +6.2
DPC *e*SS **SS** **14 33 38.9 -2.5**
DPC AMS AMS 15 03 10.0
KBL Kabul 78.32 312 *e*P **P** **14 18 47.8 -1.5**
KBL pmax pmax
comp=Z,193nm,0.9s
KBL Kabul 78.32 312 *e*P **P** **14 18 47.8 -1.5**
comp=Z,193nm,0.9s
MEM Membach 78.33 0 P **P** **14 18 48.3 -0.4**
comp=Z,38nm,1.4s
KWP Kalwaria Pacla 78.35 349 *e*P **P** **14 18 48.5 -0.4**
KWP Kalwaria Pacla 78.35 349 *e*P **P** **14 18 48.5 -0.4**
KWP Kalwaria Pacla 78.35 349⇑*i*P **P** **14 18 48.9 0.0**
KWP Kalwaria Pacla 78.35 349 *e*P **P** **14 18 47.7 -1.2**
comp=Z,127nm,1.0s
KWP LR LR
comp=Z,4µm,19.0s
TANN Tannenbergstha 78.39 356 *e*pP pP 14 19 06.3 +6.1

SNF	**Seneffe**	**78.41**	**1**	P	**P**	**14 18 49.1**	**0.0**
KRLC	**Kraliky**	**78.48**	**353**	*e*P	**P**	**14 18 48.7**	**-0.9**
KRLC				*e*		14 19 02.9	
KRLC				*e*		14 19 06.3	
KRLC	**Kraliky**	**78.48**	**353**	*e*P	**P**	**14 18 48.7**	**-0.9**
KRLC				*e*pP	**pP**	**14 19 02.9**	**+2.2**
KRLC				*e*sP	**sP**	**14 19 06.3**	**+1.5**
BCLA	**Clavier**	**78.51**	**1**	P	**P**	**14 18 49.4**	**-0.3**
	comp=Z,23nm,1.4s						
OKC	**Ostrava-Krasne**	**78.61**	**352**	*e*P	**P**	**14 18 50.0**	**-0.3**
OKC				*e*		14 18 57.7	
OKC				MLR	MLR		
	comp=Z,2μm,16.4s						
OKC	**Ostrava-Krasne**	**78.61**	**352**	*e*P	**P**	**14 18 50.0**	**-0.3**
OKC				*e*pP	**PcP**	**14 18 57.7**	**-1.5**
OKC				AMS	AMS	15 04 30.0	
	comp=Z,2μm,16.4s						
PRA	**Prague**	**78.64**	**355**	*e*P	**P**	**14 18 50.4**	**0.0**
PRA				*e*		14 18 58.7	
PRA				*e*		14 19 04.0	
PRA	**Prague**	**78.64**	**355**	*e*P	**P**	**14 18 50.4**	**0.0**
PRA				*e*x	x	14 18 58.7	
PRA				*e*pP	**pP**	**14 19 04.0**	**+2.5**
TNS	**Taunus Mts**	**78.70**	**359**	*e*P	**P**	**14 18 50.8**	**-0.1**
	comp=Z,75nm,1.1s						
TNS				*e*pP	pP	14 19 08.1	+6.2
PRU	**Pruhonice**	**78.71**	**355**	*e*P	**P**	**14 18 50.4**	**-0.5**
PRU				*e*		14 18 59.1	
PRU				*e*		14 19 03.8	
PRU				*e*S	S	14 28 52.2	+6.9
PRU				*e*SS	**SS**	**14 33 50.1**	**+1.7**
PRU				MLR	MLR		
	comp=Z,2μm,20.9s						
PRU	**Pruhonice**	**78.71**	**355**	*e*P	**P**	**14 18 50.4**	**-0.5**
PRU				*e*PCP	**PcP**	**14 18 59.1**	**-0.6**
PRU				*e*pP	**pP**	**14 19 03.8**	**+1.9**
PRU				*e*S	S	14 28 52.2	+6.9
PRU				*e*SS	**SS**	**14 33 50.1**	**+1.7**
PRU				AMS	AMS	15 00 10.0	
	comp=Z,2μm,20.9s						
STHS	**Stebnicka Huta**	**78.73**	**350**	*e*P	**P**	**14 18 51.2**	**+0.2**
STHS				pmax	pmax		
	comp=Z,29nm,1.1s						
STHS	**Stebnicka Huta**	**78.73**	**350**	*e*P	**P**	**14 18 51.2**	**+0.2**
GOF	**Gofitskoye**	**78.81**	**334**	*e*P	**P**	**14 18 51.9**	**+0.4**
GOF				pmax	pmax		
	comp=Z,440nm,1.0s						
NIE	**Niedzica**	**78.82**	**351**	*e*P	**P**	**14 18 51.5**	**0.0**
NIE				*e*		14 19 01.3	
NIE				MLR	MLR		
	comp=Z,2μm,21.1s						
NIE	**Niedzica**	**78.82**	**351**	*e*P	**P**	**14 18 51.5**	**0.0**
NIE				*e*PcP	**PcP**	**14 19 01.3**	**+1.1**
NIE				L	L	14 54 03.0	
	comp=Z,2μm,21.1s						
GIVF	**Givet**	**78.82**	**1**	*e*P	**P**	**14 18 51.4**	**-0.1**
	comp=Z,103nm,1.1s						
GIVF	**Givet**	**78.82**	**1**	*e*P	**P**	**14 18 51.4**	**-0.1**
GIVF				pmax	pmax		
	comp=Z,103nm,1.1s						
GIVF	**Givet**	**78.82**	**1**	*e*P	**P**	**14 18 51.4**	**-0.1**
	comp=Z,103nm,1.1s						
DOU	**Dourbes**	**78.83**	**1**	P	**P**	**14 18 50.6**	**-0.8**
	comp=Z,34nm,1.5s						
SPSI	**Sidrap Palu**	**78.83**	**249**	P	**P**	**14 18 51.6**	**-0.4**
	comp=Z,34nm,1.0s,comp=Z,875nm						
BAIF	**Baives**	**78.86**	**1⇑**	*i*P	**P**	**14 18 51.7**	**+0.1**
	comp=Z,120nm,1.1s						
BAIF	**Baives**	**78.86**	**1⇑**	*i*P	**P**	**14 18 51.7**	**+0.1**
BAIF				pmax	pmax		
	comp=Z,120nm,1.1s						
BAIF	**Baives**	**78.86**	**1⇑**	*i*P	**P**	**14 18 51.7**	**+0.1**
	comp=Z,120nm,1.1s						
NDI	**New Delhi**	**78.97**	**302**	*e*P	**P**	**14 18 52.0**	**-0.6**
BNSI	**Bone**	**78.99**	**248**	P	**P**	**14 18 53.8**	**+1.0**
	comp=Z,58nm,1.1s,comp=Z,745nm						
ROTZ	**Rotzenmuhle**	**79.05**	**356**	*e*P	**P**	**14 18 53.0**	**+0.3**
	comp=Z,55nm,1.1s						
ROTZ				*e*pP	pP	14 19 10.3	+6.5
KOLS	**Kolonicke sedl**	**79.09**	**349**	*e*P	**P**	**14 18 52.3**	**-0.7**
KOLS				pmax	pmax		
	comp=Z,30nm,1.0s						
KOLS	**Kolonicke sedl**	**79.09**	**349**	*e*P	**P**	**14 18 52.3**	**-0.7**
GRF	**Grafenberg Arr**	**79.16**	**357**	*e*P	**P**	**14 18 53.7**	**+0.3**
	comp=Z,140nm,1.1s						
GRF				*e*pP	pP	14 19 10.7	+6.3
GRFO	**Grafenberg**	**79.16**	**357**	*e*P	**P**	**14 18 52.8**	**-0.5**
GRFO				pmax	pmax		
	comp=Z,98nm,0.9s						
GRFO	**Grafenberg**	**79.16**	**357**	*e*P	**P**	**14 18 52.8**	**-0.5**
	comp=Z,98nm,0.9s						
CRVS	**Cervenica-Dubn**	**79.21**	**350**	*e*P	**P**	**14 18 53.2**	**-0.4**
CRVS				pmax	pmax		
	comp=Z,92nm,2.2s						
CRVS	**Cervenica-Dubn**	**79.21**	**350**	*e*P	**P**	**14 18 53.2**	**-0.4**
VRAC	**Vranov**	**79.25**	**353⇑**	*i*P	**P**	**14 18 53.8**	**-0.1**
VRAC	**Vranov**	**79.25**	**353**	P	**P**	**14 18 53.0**	**-0.8**
	comp=Z,76nm,0.9s,baz=9.0,slow=5.2,SNR=44						
VRAC				LR	LR	14 55 39.2	
	comp=Z,789nm,20.8s,baz=6.5,slow=37						
WLF	**Walferdange**	**79.27**	**0**	P	**P**	**14 18 54.4**	**+0.5**
	comp=Z,26nm,1.2s						
WLF	**Walferdange**	**79.27**	**0**	P	**P**	**14 18 53.0**	**-0.9**
WLF				pmax	pmax		
	comp=Z,36nm,0.9s						
WLF				MLR	MLR		
	comp=Z,3μm,19.0s						
WLF	**Walferdange**	**79.27**	**0**	*e*P	**P**	**14 18 54.2**	**+0.3**
	comp=Z,43nm,1.1s						
WLF				*e*pP	pP	14 19 11.6	+6.6
WLF	**Walferdange**	**79.27**	**0**	P	**P**	**14 18 53.0**	**-0.9**
	comp=Z,36nm,0.9s						
WLF				LR	LR		
	comp=Z,3μm,19.0s						
TREC	**Trest**	**79.34**	**354**	*e*P	**P**	**14 18 53.9**	**-0.5**
TREC				*e*		14 19 02.5	
TREC				MLR	MLR		
	comp=Z,3μm,18.1s						
TREC	**Trest**	**79.34**	**354**	*e*P	**P**	**14 18 53.9**	**-0.5**
TREC				*e*pP	**PcP**	**14 19 02.5**	**0.0**
TREC				AMS	AMS	15 06 50.0	
	comp=Z,3μm,18.1s						
UZH	**Uzhgorod**	**79.39**	**349**	*e*P	**P**	**14 18 54.0**	**-0.6**
UZH				*e*		14 19 02.6	
UZH				*e*		14 19 10.6	
UZH				*e*		14 21 51.0	
UZH				*e*S	**S**	**14 28 47.8**	**-4.7**
UZH				*i* PS	PnS	14 29 54.4	+16
MAK	**Makhachkala**	**79.45**	**331**	*e*P	**P**	**14 18 53.1**	**-1.9**
MAK				*e*		14 21 51.8	
MAK				*e*PPP	PPP	14 23 43.6	
MAK				*e*S	**S**	**14 28 52.0**	**-1.3**
CTA	**Charters Tower**	**79.45**	**218**	P	**P**	**14 18 55.6**	**+0.5**
	comp=Z,18nm,0.8s,baz=39,slow=8.8,SNR=14						
CTA				pP	**pP**	**14 19 09.6**	**+3.4**
	comp=Z,22nm,0.8s,baz=45,slow=7.6,SNR=7.9						
CTAO	**Charters Tower**	**79.45**	**218**	*e*P	**P**	**14 18 55.5**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,22nm,0.8s						
CTAO				MLR	MLR		
	comp=Z,1μm,20.0s						
CTAO	**Charters Tower**	**79.45**	**218**	*e*P	**P**	**14 18 55.5**	**+0.4**
	comp=Z,22nm,0.8s						
CTAO				LR	LR		
	comp=Z,1μm,20.0s						
JSA	**Saint Aubin**	**79.48**	**6**	*e*P	**P**	**14 18 53.9**	**-1.1**
JSA				AMB	AMB	14 18 56.0	
	comp=Z,99nm,1.0s						
KHC	**Kasperske Hory**	**79.62**	**355**	*e*P	**P**	**14 18 55.4**	**-0.5**
KHC				*e*		14 19 09.7	
KHC				*e*		14 19 13.0	
KHC				*e*S	**S**	**14 28 59.9**	**+4.8**
KHC				*e*SS	**SS**	**14 34 03.4**	**+1.3**
KHC				MLR	MLR		
	comp=Z,3μm,18.8s						
KHC	**Kasperske Hory**	**79.62**	**355**	*e*P	**P**	**14 18 55.4**	**-0.5**
KHC				*e*pP	**pP**	**14 19 09.7**	**+2.7**
KHC				*e*sP	**sP**	**14 19 13.0**	**+1.9**
KHC				*e*S	**S**	**14 28 59.9**	**+4.8**
KHC				*e*SS	**SS**	**14 34 03.4**	**+1.3**
KHC				AMS	AMS	15 05 00.0	
	comp=Z,3μm,18.8s						
KHC	**Kasperske Hory**	**79.62**	**355**	*e*P	**P**	**14 18 55.0**	**-0.9**
	comp=Z,59nm,1.0s						

MTDJ	**Mount Denham**	**79.62**	**74**	PFAKE		14 19 10.0	+14
MTDJ				LR	LR		
	comp=Z,2μm,19.0s						
WET	**Wettzell**	**79.64**	**356**	*e*P	**P**	**14 18 56.0**	**0.0**
	comp=Z,40nm,1.0s						
WET				*e*pP	pP	14 19 13.5	+6.4
KAPI	**Kappang**	**79.69**	**248**	P	**P**	**14 18 57.1**	**+0.5**
	comp=Z,160nm,0.9s,SNR=9.4						
KAPI	**Kappang**	**79.69**	**248**	*e*P	**P**	**14 18 56.7**	**0.0**
	comp=Z,308nm,1.3s						
KAPI				LR	LR		
	comp=Z,700nm,21.0s						
BKSI	**Bulukumba**	**79.72**	**248**	P	**P**	**14 18 57.7**	**+0.9**
	comp=Z,80nm,1.5s,comp=Z,982nm						
GTBY	**Guantanamo Bay**	**79.76**	**71**	PFAKE		14 19 10.0	+13
GTBY				LR	LR		
	comp=Z,3μm,20.0s						
TRPA	**Tarpa**	**79.85**	**349⇓**	*i*P	**P**	**14 18 57.3**	**+0.2**
TRPA	**Tarpa**	**79.85**	**349⇓**	*e*P	**P**	**14 18 56.9**	**-0.2**
GEC2	**GERESS Array S**	**79.90**	**355**	*e*P	**P**	**14 18 57.3**	**-0.2**
	comp=Z,50nm,1.1s						
GEC2				*e*pP	pP	14 19 14.5	+5.9
GERES	**GERESS Array B**	**79.90**	**355**	P	**P**	**14 18 56.4**	**-1.1**
	comp=Z,32nm,0.9s,baz=20,slow=4.4,SNR=57						
GERES				pP	**pP**	**14 19 11.1**	**+2.5**
	comp=Z,12nm,0.7s,baz=16,slow=4.9,SNR=8.5						
KIV	**Kislovodsk**	**79.93**	**334**	P	**P**	**14 18 57.8**	**+0.1**
	comp=Z,846nm,0.8s,SNR=14						
KIV	**Kislovodsk**	**79.93**	**334**	*e*P	**P**	**14 18 57.0**	**-0.7**
KIV				*e*		14 21 56.5	
KIV				*e*S	**S**	**14 28 58.5**	**-0.1**
KIV				*e*SS	**SS**	**14 34 10.2**	**+3.1**
KIV				pmax	pmax		
	comp=Z,131nm,0.9s						
KIV				pmax	pmax		
	comp=Z,297nm,5.8s						
KIV	**Kislovodsk**	**79.93**	**334**	*e*P	**P**	**14 18 56.8**	**-0.9**
	comp=Z,130nm,0.9s						
KIV				LR	LR		
	comp=Z,3μm,20.0s						
LANF	**Langenberg**	**79.95**	**359⇑**	*e*P	**P**	**14 18 57.8**	**+0.1**
FLN	**La Foliniere**	**80.00**	**5**	*e*P	**P**	**14 18 57.5**	**-0.4**
	comp=Z,155nm,1.1s						
FLN				*e*R			
	comp=Z,2μm,19.2s						
FLN	**La Foliniere**	**80.00**	**5**	*e*P	**P**	**14 18 57.5**	**-0.4**
FLN				pmax	pmax		
	comp=Z,155nm,1.1s						
FLN	**La Foliniere**	**80.00**	**5**	*e*P	**P**	**14 18 57.5**	**-0.4**
	comp=Z,155nm,1.1s						
BURAR	**Bucovina Array**	**80.02**	**347⇓**	*i*P	**P**	**14 18 57.3**	**-0.8**
KIS	**Kishinev**	**80.07**	**345**	*e*P	**P**	**14 18 57.0**	**-1.3**
KIS				*i*		14 19 12.0	
KIS				*e*		14 22 06.0	
KIS				*e*S	S	14 29 06.0	+6.2
KIS				*e*		14 29 50.0	
KIS				*e*SS	**SS**	**14 34 12.0**	**+3.2**
KIS	**Kishinev**	**80.07**	**345**	*e*P	**P**	**14 18 57.0**	**-1.3**
KIS				*e*S	S	14 29 06.0	+6.2
KIS				*e*SS	**SS**	**14 34 12.0**	**+3.2**
KIS				LRM	MLR	15 00 38.0	
	comp=Z,5μm,18.0s						
KBZ	**Khabaz**	**80.08**	**334**	P	**P**	**14 18 58.4**	**+0.1**
	comp=Z,85nm,0.9s,baz=40,slow=3.4,SNR=101						
KBZ				LR	LR	15 00 53.9	
	comp=Z,3μm,18.1s,baz=24,slow=40						
NCK	**Nalchik**	**80.10**	**334⇑**	*i*P	**P**	**14 18 59.0**	**+0.4**
STU	**Stuttgart**	**80.14**	**358**	*e*P	**P**	**14 18 58.1**	**-0.5**
STU				pmax	pmax		
	comp=Z,61nm,0.9s						
STU	**Stuttgart**	**80.14**	**358**	*e*P	**P**	**14 18 58.7**	**+0.1**
	comp=Z,83nm,1.1s						
STU				*e*pP	pP	14 19 15.7	+6.0
STU	**Stuttgart**	**80.14**	**358**	*e*P	**P**	**14 18 58.1**	**-0.5**
	comp=Z,61nm,0.9s						
BSSI	**Bau Bau, Buton**	**80.17**	**247**	P	**P**	**14 19 00.0**	**+0.7**
ABKT	**Ailbek**	**80.18**	**321**	P	**P**	**14 18 59.1**	**-0.1**
	comp=Z,551nm,1.0s,SNR=31						
GEYT	**Alibeck**	**80.18**	**321**	P	**P**	**14 18 59.0**	**-0.2**
	comp=Z,84nm,0.9s,baz=343,slow=4.6,SNR=100						
GEYT				LR	LR	14 58 20.4	
	comp=Z,6μm,18.1s,baz=20,slow=39						
BMR	**Baia Mare**	**80.19**	**348⇑**	*i*P	**P**	**14 18 59.4**	**+0.5**
LDF	**La Druitiere**	**80.19**	**4⇑**	*i*P	**P**	**14 18 58.3**	**-0.6**
	comp=Z,152nm,1.0s						
LDF	**La Druitiere**	**80.19**	**4⇑**	*i*P	**P**	**14 18 58.3**	**-0.6**
LDF				pmax	pmax		
	comp=Z,152nm,1.0s						
LDF	**La Druitiere**	**80.19**	**4⇑**	*i*P	**P**	**14 18 58.3**	**-0.6**
	comp=Z,152nm,1.0s						
KSM	**Kuching**	**80.22**	**260**	*e*P	**P**	**14 18 59.9**	**+0.3**
	comp=Z,36nm,0.9s						
KSM				LR	LR		
	comp=Z,893nm,21.0s						
ROSF	**Rostrenen**	**80.25**	**7**	*e*P	**P**	**14 18 58.9**	**-0.4**
	comp=Z,75nm,1.1s						
ROSF	**Rostrenen**	**80.25**	**7**	*e*P	**P**	**14 18 58.9**	**-0.4**
ROSF				pmax	pmax		
	comp=Z,75nm,1.1s						
ROSF	**Rostrenen**	**80.25**	**7**	*e*P	**P**	**14 18 58.9**	**-0.4**
	comp=Z,75nm,1.1s						
PSZ	**Piszkesteto**	**80.35**	**351**	*e*P	**P**	**14 18 59.3**	**-0.6**
PSZ				pmax	pmax		
	comp=Z,34nm,1.0s						
PSZ				MLR	MLR		
	comp=Z,3μm,21.0s						
PSZ	**Piszkesteto**	**80.35**	**351⇓**	*i*P	**P**	**14 19 00.3**	**+0.4**
PSZ	**Piszkesteto**	**80.35**	**351⇑**	*e*P	**P**	**14 18 59.9**	**0.0**
PSZ	**Piszkesteto**	**80.35**	**351**	*e*P	**P**	**14 18 59.3**	**-0.6**
	comp=Z,34nm,1.0s						
PSZ				LR	LR		
	comp=Z,3μm,21.0s						
GRR	**Gorron**	**80.35**	**5**	*e*P	**P**	**14 18 59.5**	**-0.3**
	comp=Z,166nm,1.0s						
GRR	**Gorron**	**80.35**	**5**	*e*P	**P**	**14 18 59.5**	**-0.3**
GRR				pmax	pmax		
	comp=Z,166nm,1.0s						
GRR	**Gorron**	**80.35**	**5**	*e*P	**P**	**14 18 59.5**	**-0.3**
	comp=Z,166nm,1.0s						
PAGF	**Fort de Pagny**	**80.38**	**0⇑**	*i*P	**P**	**14 19 00.4**	**+0.4**
	comp=Z,77nm,0.9s						
PAGF	**Fort de Pagny**	**80.38**	**0⇑**	*i*P	**P**	**14 19 00.4**	**+0.4**
	comp=Z,77nm,0.9s						
SGMF	**Saint Gilles**	**80.38**	**6⇑**	*i*P	**P**	**14 18 59.8**	**-0.2**
	comp=Z,164nm,1.1s						
SGMF	**Saint Gilles**	**80.38**	**6⇑**	*i*P	**P**	**14 18 59.8**	**-0.2**
SGMF				pmax	pmax		
	comp=Z,164nm,1.1s						
SGMF	**Saint Gilles**	**80.38**	**6⇑**	*i*P	**P**	**14 18 59.8**	**-0.2**
	comp=Z,164nm,1.1s						
MEZF	**Maizieres J'vi**	**80.43**	**1**	*e*P	**P**	**14 19 00.4**	**+0.2**
	comp=Z,106nm,0.9s						
MEZF	**Maizieres J'vi**	**80.43**	**1**	*e*P	**P**	**14 19 00.4**	**+0.2**
	comp=Z,106nm,0.9s						
RAO	**Raoul Island**	**80.43**	**184**	LR	LR	14 47 28.9	
	comp=Z,2μm,22.0s,baz=7.5,slow=30						
ANN	**Anapa**	**80.46**	**338**	*e*P	**P**	**14 18 59.0**	**-1.4**
ANN				*e*S	**S**	**14 29 07.2**	**+3.3**
ANN				pmax	pmax		
	comp=Z,96nm,0.9s						
CDF	**Champ du Feu**	**80.52**	**359⇑**	*i*P	**P**	**14 19 00.8**	**0.0**
	comp=Z,76nm,0.8s						
CDF	**Champ du Feu**	**80.52**	**359⇑**	*i*P	**P**	**14 19 00.8**	**0.0**
CDF				pmax	pmax		
	comp=Z,76nm,0.8s						
CDF	**Champ du Feu**	**80.52**	**359⇑**	*i*P	**P**	**14 19 00.8**	**0.0**
	comp=Z,76nm,0.8s						
BFO	**Black Forest**	**80.59**	**359**	P	**P**	**14 19 01.0**	**-0.1**
	comp=Z,223nm,0.9s,SNR=11						
BFO	**Black Forest**	**80.59**	**359**	*i* P	**P**	**14 19 01.2**	**+0.1**
BFO	**Black Forest**	**80.59**	**359**	*e*P	**P**	**14 19 01.1**	**-0.1**
	comp=Z,58nm,1.2s						
BFO				*e*pP	pP	14 19 18.3	+6.1
BFO	**Black Forest**	**80.59**	**359**	*e*P	**P**	**14 18 60.0**	**-1.2**
	comp=Z,35nm,0.9s						
BFO				LR	LR		
	comp=Z,2μm,19.0s						
ZEI	**Tsey**	**80.67**	**333**	*e*P	**P**	**14 19 00.1**	**-1.8**
ZEI				pmax	pmax		
	comp=Z,90nm,0.9s						
ZEI				pmax	pmax		
	comp=N,65nm,0.8s						
ZEI				pmax	pmax		
	comp=E,146nm,0.9s						
ZEI				pmax	pmax		
	comp=Z,273nm,7.9s						

LEOM	**Leova**	**80.67**	**345⇑**	*i*P	**P**	**14 19 02.1**	**+0.6**
QUIF	**Quistinic**	**80.68**	**7**	*e*P	**P**	**14 19 01.5**	**0.0**
	comp=Z,101nm,1.1s						
QUIF	**Quistinic**	**80.68**	**7**	*e*P	**P**	**14 19 01.5**	**0.0**
QUIF				pmax	pmax		
	comp=Z,101nm,1.1s						
QUIF	**Quistinic**	**80.68**	**7**	*e*P	**P**	**14 19 01.5**	**0.0**
	comp=Z,101nm,1.1s						
CONA	**Conrad Observa**	**80.68**	**354**	*i* P	**P**	**14 19 02.0**	**+0.4**
	comp=Z,53nm,0.9s,SNR=26						
CONA				⇓*i*sP	**sP**	**14 19 19.6**	**+2.8**
	comp=Z,57nm,1.1s						
FUR	**Furstenfeldbru**	**80.69**	**357**	*e*P	**P**	**14 19 01.5**	**-0.1**
	comp=Z,104nm,1.4s						
FUR				*e*pP	pP	14 19 19.0	+6.3
THEF	**They Montfort**	**80.71**	**0⇑**	*e*P	**P**	**14 19 01.9**	**+0.2**
ECH	**Echery**	**80.72**	**360**	*e*P	**P**	**14 19 00.3**	**-1.5**
ECH				pmax	pmax		
	comp=Z,98nm,1.0s						
ECH				MLR	MLR		
	comp=Z,2μm,22.0s						
ECH	**Echery**	**80.72**	**360⇑**	*e*P	**P**	**14 19 01.7**	**-0.1**
ECH	**Echery**	**80.72**	**360**	*e*P	**P**	**14 19 00.3**	**-1.5**
	comp=Z,98nm,1.0s						
ECH				LR	LR		
	comp=Z,2μm,22.0s						
SFTF	**Sexfontaines**	**80.72**	**1⇑**	*i*P	**P**	**14 19 01.8**	**0.0**
	comp=Z,276nm,1.1s						
SFTF	**Sexfontaines**	**80.72**	**1⇑**	*i*P	**P**	**14 19 01.8**	**0.0**
	comp=Z,276nm,1.0s						
GUDG	**Gudauri**	**80.80**	**332**	P	**P**	**14 19 02.7**	**+0.1**
GRTK	**Grand Turk**	**80.85**	**67**	PFAKE		14 19 10.0	+7.1
GRTK				LR	LR		
	comp=Z,3μm,21.0s						
MOA	**Molln**	**80.86**	**355⇓**	*i*P	**P**	**14 19 02.7**	**+0.1**
	comp=Z,31nm,1.2s						
TESR	**Tescani**	**80.89**	**346⇑**	*i*P	**P**	**14 19 02.3**	**-0.4**
SURA	**Surathani**	**80.92**	**273**	P	**P**	**14 19 04.2**	**+0.9**
	comp=Z,61nm,1.1s,comp=Z,1μm						
HAU	**Haudompre**	**80.93**	**0⇑**	*i*P	**P**	**14 19 03.0**	**0.0**
	comp=Z,168nm,1.0s						
HAU				*e*R			
	comp=Z,2μm,20.2s						
HAU	**Haudompre**	**80.93**	**0⇑**	*i*P	**P**	**14 19 03.0**	**0.0**
HAU				pmax	pmax		
	comp=Z,168nm,1.0s						
HAU	**Haudompre**	**80.93**	**0⇑**	*i*P	**P**	**14 19 03.0**	**0.0**
	comp=Z,168nm,1.0s						
ONI	**Oni**	**80.98**	**333**	P	**P**	**14 19 04.9**	**+1.6**
SOEI	**Soe**	**80.99**	**242**	*e*P	**P**	**14 19 03.2**	**-0.5**
	comp=Z,65nm,0.9s						
PKSG		**81.01**	**352⇑**	*e*P	**P**	**14 19 03.6**	**+0.3**
RJOB	**Jochberg**	**81.05**	**356**	*e*P	**P**	**14 19 03.7**	**+0.1**
	comp=Z,40nm,0.9s						
SIM	**Simferopol'**	**81.05**	**340**	*c*eP	**P**	**14 19 03.0**	**-0.6**
SIM				*e*S	S	14 29 01.0	-9.1
SIM				pmax	pmax		
	comp=Z,51nm,0.8s						
SIM				pmax	pmax		
	comp=Z,380nm,8.7s						
SOC	**Sochi**	**81.05**	**336**	*c i*P	**P**	**14 19 03.1**	**-0.5**
SOC				*e*		14 22 06.1	
SOC				*e*S	**S**	**14 29 11.6**	**+1.4**
SOC				*e*SS	SS	14 34 31.0	+7.3
SOC				pmax	pmax		
	comp=Z,77nm,0.7s						
DUS	**Dusheti**	**81.08**	**332**	P	**P**	**14 19 06.5**	**+2.6**
MOF	**Molkenrain**	**81.08**	**360⇑**	*e*P	**P**	**14 19 03.6**	**-0.3**
CJR	**Cluj-Napoca**	**81.12**	**348⇓**	*i*P	**P**	**14 19 04.2**	**+0.2**
HINF	**Hinteralfeld**	**81.12**	**360⇑**	*i*P	**P**	**14 19 03.7**	**-0.3**
	comp=Z,53nm,0.8s						
HINF	**Hinteralfeld**	**81.12**	**360⇑**	*i*P	**P**	**14 19 03.7**	**-0.3**
HINF				pmax	pmax		
	comp=Z,53nm,0.8s						
HINF	**Hinteralfeld**	**81.12**	**360⇑**	*i*P	**P**	**14 19 03.7**	**-0.3**
	comp=Z,53nm,0.8s						
JTS	**JuntasAbangare**	**81.17**	**85**	PFAKE		14 19 20.0	+15
JTS				LR	LR		
	comp=Z,1μm,21.0s						
MMRI	**Maumere**	**81.20**	**244**	*e*P	**P**	**14 19 04.2**	**-0.5**
	comp=Z,71nm,1.3s						
SEAG	**Tbilisi Sea**	**81.35**	**332**	P	**P**	**14 19 05.7**	**+0.3**
ARSA	**Arzberg**	**81.38**	**354⇑**	*i*P	**P**	**14 19 05.8**	**+0.4**
	comp=Z,10nm,0.7s,SNR=9.1						
TBLG	**Delisi**	**81.40**	**332**	P	**P**	**14 19 06.2**	**+0.6**
WATA	**Walderalm**	**81.50**	**356⇓**	*i*P	**P**	**14 19 06.4**	**+0.2**
	comp=Z,66nm,1.1s,SNR=9.9						
VRI	**Vrincioaia**	**81.50**	**346⇓**	*i*P	**P**	**14 19 06.0**	**0.0**
MOTA	**Moosalm**	**81.51**	**357⇑**	*i*P	**P**	**14 19 06.1**	**-0.1**
	comp=Z,76nm,1.1s,SNR=22						
PLOR	**Plostina**	**81.53**	**346⇓**	*i*P	**P**	**14 19 07.2**	**+1.0**
WTTA	**Wattenberg**	**81.57**	**356⇑**	*i*P	**P**	**14 19 06.8**	**+0.3**
	comp=Z,57nm,1.0s,SNR=11						
WTTA	**Wattenberg**	**81.57**	**356**	P	sP	14 19 24.5	+2.7
	comp=Z,73nm,1.2s						
LOMF	**Lomont**	**81.59**	**360⇑**	*e*P	**P**	**14 19 06.7**	**+0.2**
DOPR	**Dopca**	**81.60**	**347⇓**	*i*P	**P**	**14 19 07.5**	**+0.9**
SURT	**Suratani**	**81.61**	**274**	P	**P**	**14 19 07.8**	**+0.8**
	comp=Z,21nm,1.4s,comp=Z,510nm						
DAVA	**Damuels**	**81.61**	**358**	*i* PcP	**P**	**14 19 07.6**	**+0.9**
	comp=Z,22nm,0.8s,SNR=5.3						
RKT	**Rikitea**	**81.61**	**145**	*e*S	**S**	**14 29 16.1**	**0.0**
	comp=Z,1μm,32.8s						
RKT				*e*SS	**SS**	**14 34 35.4**	**+1.0**
	comp=Z,925nm,25.8s						
RKT				*e*LR	LR	14 44 29.6	
	comp=Z,4μm,21.2s,baz=338						
RKT	**Rikitea**	**81.61**	**145**	*e*T	T	15 49 35.8	
	comp=Z,2.1nm,0.2s						
HYF	**Humbligny**	**81.61**	**3**	*e*P	**P**	**14

KOGS **Kog** 82.12 353 *eP* **P** 14 19 09.0 -0.2
KOGS **Kog** 82.12 353 *eP* **P** 14 19 09.0 -0.2
PKSM **Moragy** 82.16 351⇓*iP* **P** 14 19 08.9 -0.5
MFF **Saint Martin d** 82.17 5⇑*iP* **P** 14 19 09.6 +0.1
comp=Z,134nm,0.9s
MFF **Saint Martin d** 82.17 5⇑*iP* **P** 14 19 09.6 +0.1
MFF pmax pmax
comp=Z,134nm,0.9s
MFF **Saint Martin d** 82.17 5⇑*iP* **P** 14 19 09.6 +0.1
comp=Z,134nm,0.9s
VOIR 82.17 347⇑*iP* **P** 14 19 09.7 +0.1
OBKA **Obir** 82.18 354⇑*iP* **P** 14 19 09.6 0.0
comp=Z,23nm,0.6s
OBKA ⇑*is*P **sP** 14 19 22.4 -2.5
comp=Z,44nm,1.0s
SMF **Signal de Mont** 82.27 2⇑*iP* **P** 14 19 09.9 -0.1
comp=Z,137nm,0.9s
SMF **Signal de Mont** 82.27 2⇑*iP* **P** 14 19 09.9 -0.1
SMF pmax pmax
comp=Z,137nm,0.9s
SMF **Signal de Mont** 82.27 2⇑*iP* **P** 14 19 09.9 -0.1
comp=Z,137nm,0.9s
ARR **Arges** 82.30 347⇑*iP* **P** 14 19 10.6 +0.3
CABF **La Chapelle** 82.33 0⇑*iP* **P** 14 19 10.8 +0.4
comp=Z,229nm,1.0s
CABF **La Chapelle** 82.33 0⇑*iP* **P** 14 19 10.8 +0.4
CABF pmax pmax
comp=Z,229nm,1.0s
CABF **La Chapelle** 82.33 0⇑*iP* **P** 14 19 10.8 +0.4
comp=Z,229nm,1.0s
BGF **Bois d'Agland** 82.33 3⇑*iP* **P** 14 19 10.3 0.0
comp=Z,91nm,1.0s
BGF **Bois d'Agland** 82.33 3⇑*iP* **P** 14 19 10.3 0.0
BGF pmax pmax
comp=Z,91nm,1.0s
BGF **Bois d'Agland** 82.33 3⇑*iP* **P** 14 19 10.3 0.0
comp=Z,91nm,1.0s
LOT **Lotru** 82.34 348⇑*iP* **P** 14 19 10.3 -0.2
MTUR **Matau** 82.38 347⇓*iP* **P** 14 19 12.2 +1.5
SECR 82.42 346⇓*iP* **P** 14 19 11.6 +0.8
TUE **Stuetta** 82.43 358 *eP* **P** 14 19 10.6 -0.5
comp=Z,98nm,1.1s
TUE LR LR
comp=Z,2μm,21.0s
BZS **Buzias** 82.44 349⇑*iP* **P** 14 19 10.3 -0.6
ROBS **Robic** 82.50 355 *iP* **P** 14 19 10.2 -1.0
ROBS **Robic** 82.50 355 *iP* **P** 14 19 10.2 -1.0
GZR **Gura Zlata** 82.52 348⇓*iP* **P** 14 19 10.6 -0.8
EIDS **Eidsvold** 82.56 212 *eP* **P** 14 19 11.2 -0.4
comp=Z,29nm,1.0s
TCF **Toulx Ste Croi** 82.58 3⇑*iP* **P** 14 19 11.5 -0.2
comp=Z,106nm,1.0s
TCF **Toulx Ste Croi** 82.58 3⇑*iP* **P** 14 19 11.5 -0.2
TCF pmax pmax
comp=Z,106nm,1.0s
TCF **Toulx Ste Croi** 82.58 3⇑*iP* **P** 14 19 11.5 -0.2
comp=Z,106nm,1.0s
TIRR **Tirgusor** 82.60 344 *eP* **P** 14 19 11.0 -0.8
TIRR pmax pmax
comp=Z,80nm,0.8s
TIRR **Tirgusor** 82.60 344⇑*iP* **P** 14 19 12.3 +0.5
TIRR **Tirgusor** 82.60 344 *eP* **P** 14 19 11.0 -0.8
comp=Z,80nm,0.8s
PKDT **Phuket** 82.71 273 P **P** 14 19 14.4 +1.6
comp=Z,63nm,2.1s,comp=Z,1μm
SDDR **Presa de Saban** 82.74 69 PFAKE 14 19 20.0 +7.0
SDDR LR LR
comp=Z,2μm,20.0s
GCIS **Gornji Cirnik** 82.75 354 *i*P **P** 14 19 11.9 -0.6
GCIS **Gornji Cirnik** 82.75 354 *i*P **P** 14 19 11.9 -0.6
AGO **Saint Agoulin** 82.84 2⇑*eP* **P** 14 19 13.0 0.0
GNI **Garni** 82.85 331*c*/*iP* **P** 14 19 13.5 +0.1
GNI pmax pmax
comp=Z,92nm,2.2s
GNI **Garni** 82.85 331 P **P** 14 19 14.4 +1.0
comp=Z,18nm,0.9s,baz=337,slow=4.9
GNI **Garni** 82.85 331⇑*iP* **P** 14 19 13.7 +0.3
SNR=8.3
GNI **Garni** 82.85 331 *eP* **P** 14 19 13.2 -0.2
comp=Z,50nm,1.0s
GNI LR LR
comp=Z,3μm,20.0s
PLDF **La Plantade** 82.94 2⇑*eP* **P** 14 19 13.8 +0.2
PYM **Petit Puy Mans** 83.14 2⇑*eP* **P** 14 19 14.2 -0.5
RSL **Roselend** 83.25 360 *eP* **P** 14 19 16.6 +1.3
KULM **Kulim** 83.27 270 *eP* **P** 14 19 15.4 -0.3
comp=Z,26nm,0.9s
COLF **Collangettes** 83.39 2 *eP* **P** 14 19 16.1 +0.2
PSN **Preselentsi** 83.40 344⇑*iP* **P** 14 19 16.5 +0.6
LPL **La Plagne** 83.42 360 *eP* **P** 14 19 17.2 +0.9
comp=Z,44nm,0.9s
LPL **La Plagne** 83.42 360 *eP* **P** 14 19 17.2 +0.9
LPL pmax pmax
comp=Z,44nm,0.9s
LPL **La Plagne** 83.42 360 *eP* **P** 14 19 17.2 +0.9
comp=Z,44nm,0.9s
LPG **La Plagne** 83.44 360 *eP* **P** 14 19 17.5 +1.0
comp=Z,74nm,1.0s
LPG **La Plagne** 83.44 360 *eP* **P** 14 19 17.5 +1.0
LPG pmax pmax
comp=Z,74nm,1.0s
LPG **La Plagne** 83.44 360 *eP* **P** 14 19 17.5 +1.0
comp=Z,74nm,1.0s
RJF **Les Rejaudoux** 83.54 3 *eP* **P** 14 19 16.3 -0.3
comp=Z,62nm,1.0s
RJF *e*R
comp=Z,2μm,20.0s
RJF **Les Rejaudoux** 83.54 3 *eP* **P** 14 19 16.3 -0.3
RJF pmax pmax
comp=Z,62nm,1.0s
RJF **Les Rejaudoux** 83.54 3 *eP* **P** 14 19 16.3 -0.3
comp=Z,62nm,1.0s
SSB **Saint Sauveur** 83.64 1 *eP* **P** 14 19 17.2 0.0
SSB pmax pmax
comp=Z,33nm,0.9s
SSB MLR MLR
comp=Z,2μm,19.0s
SSB **Saint Sauveur** 83.64 1 *eP* **P** 14 19 17.2 0.0
comp=Z,33nm,0.9s
SSB LR LR
comp=Z,2μm,19.0s
IPM **Ipoh** 83.67 269 *eP* **P** 14 19 17.2 -0.5
comp=Z,37nm,1.0s
LBL **Lubilhac** 83.67 2⇑*eP* **P** 14 19 17.5 +0.1
LFF **La Frestale** 83.87 4⇑*iP* **P** 14 19 18.5 +0.2
comp=Z,136nm,1.0s
LFF **La Frestale** 83.87 4⇑*iP* **P** 14 19 18.5 +0.2
LFF pmax pmax
comp=Z,136nm,1.0s
LFF **La Frestale** 83.87 4⇑*iP* **P** 14 19 18.5 +0.2
comp=Z,136nm,1.0s
BNI **Bardonecchia** 83.89 360 *eP* **P** 14 19 19.2 +0.6
BNI pmax pmax
comp=Z,87nm,1.0s
BNI MLR MLR
comp=Z,2μm,19.0s
BNI **Bardonecchia** 83.89 360 *eP* **P** 14 19 19.2 +0.6
comp=Z,87nm,1.0s
BNI LR LR
comp=Z,2μm,19.0s
CAF **Calviac** 83.94 3⇑*iP* **P** 14 19 18.9 +0.2
comp=Z,72nm,1.0s
CAF **Calviac** 83.94 3⇑*iP* **P** 14 19 18.9 +0.2
CAF pmax pmax
comp=Z,72nm,1.0s
CAF **Calviac** 83.94 3⇑*iP* **P** 14 19 18.9 +0.2
comp=Z,72nm,1.0s
ORIF **Oris-en-Rattie** 84.02 0 *eP* **P** 14 19 19.8 +0.6
comp=Z,70nm,0.9s
ORIF *e*R
comp=Z,2μm,19.2s
ORIF **Oris-en-Rattie** 84.02 0 *eP* **P** 14 19 19.8 +0.6
ORIF pmax pmax
comp=Z,70nm,0.9s
ORIF **Oris-en-Rattie** 84.02 0 *eP* **P** 14 19 19.8 +0.6
comp=Z,70nm,0.9s
VIVF **Saint-Julien-l** 84.07 1 *eP* **P** 14 19 19.8 +0.4
comp=Z,125nm,1.1s
VIVF **Saint-Julien-l** 84.07 1 *eP* **P** 14 19 19.8 +0.4
VIVF pmax pmax
comp=Z,125nm,1.1s
VIVF **Saint-Julien-l** 84.07 1 *eP* **P** 14 19 19.8 +0.4
comp=Z,125nm,1.1s
MBDF **Montbardon** 84.21 360 *eP* **P** 14 19 21.2 +0.9
comp=Z,61nm,0.7s
MBDF **Montbardon** 84.21 360 *eP* **P** 14 19 21.2 +0.9
MBDF pmax pmax
comp=Z,61nm,0.7s
MBDF **Montbardon** 84.21 360 *eP* **P** 14 19 21.2 +0.9
comp=Z,61nm,0.7s
WRAB **Tennant Creek** 84.41 228 P **P** 14 19 21.0 -0.2
comp=Z,159nm,1.1s,SNR=11
WRAB **Tennant Creek** 84.41 228 *eP* **P** 14 19 20.1 -1.1
WRAB pmax pmax
comp=Z,47nm,1.2s
WRAB MLR MLR
comp=Z,1μm,21.0s
WRAB **Tennant Creek** 84.41 228 *eP* **P** 14 19 20.1 -1.1
comp=Z,47nm,1.2s
WRAB LR LR
comp=Z,1μm,21.0s
WB2 **Warramunga Arr** 84.42 228 *eP* **P** 14 19 20.0 -1.2
WRA **Warramunga Arr** 84.42 228 P **P** 14 19 20.7 -0.6
comp=Z,13nm,0.9s,baz=36,slow=5.9,SNR=69
WRA pP **pP** 14 19 34.3 +1.8
comp=Z,27nm,1.1s,baz=32,slow=5.5,SNR=10
WRA LR LR 14 53 03.1
comp=Z,999nm,20.9s,baz=25,slow=33
VLC **Villacollemand** 84.72 357 PFAKE 14 19 30.0 +7.3
VLC LR LR
comp=Z,2μm,21.0s
LASF **Ste Croix** 84.83 2 *eP* **P** 14 19 23.8 +0.5
comp=Z,126nm,1.4s
LASF **Ste Croix** 84.83 2 *eP* **P** 14 19 23.8 +0.5
comp=Z,126nm,1.4s
JMB **Yambol** 84.84 345⇓*iP* **P** 14 19 24.0 +0.7
AUTN **L'Aution** 84.94 359⇑*eP* **P** 14 19 25.1 +1.1
PLE **Pljevlja** 84.94 351⇑*iP* **P** 14 19 24.1 +0.2
SAOF **Saorge** 84.95 359⇑*eP* **P** 14 19 24.6 +0.8
SMRF **Simiane la Rot** 84.96 1 *eP* **P** 14 19 24.2 +0.3
comp=Z,401nm,1.2s
SMRF **Simiane la Rot** 84.96 1 *eP* **P** 14 19 24.2 +0.3
comp=Z,401nm,1.2s
MVIF **Mont Vial** 85.04 359⇑*eP* **P** 14 19 25.4 +1.0
SBF **Sospel** 85.07 359 *eP* **P** 14 19 24.6 +0.1
comp=Z,344nm,1.1s
SBF **Sospel** 85.07 359 *eP* **P** 14 19 24.6 +0.1
SBF pmax pmax
comp=Z,344nm,1.1s
SBF **Sospel** 85.07 359 *eP* **P** 14 19 24.6 +0.1
comp=Z,344nm,1.1s
UPM **Unac-Piva** 85.11 351⇑*iP* **P** 14 19 23.9 -1.0
REVF **Revere** 85.19 359⇑*eP* **P** 14 19 25.3 +0.2
BCIP **Isla Barro Col** 85.22 81 PFAKE 14 19 40.0 +14
BCIP LR LR
comp=Z,1μm,21.0s
VTS **Vitosha** 85.22 348 P **P** 14 19 24.2 -1.2
VTS **Vitosha** 85.22 348 P **P** 14 19 24.2 -1.2
VTS **Vitosha** 85.22 348⇑*iP* **P** 14 19 25.1 -0.3
VTS **Vitosha** 85.22 348 P **P** 14 19 24.2 -1.2
PTCN **Pitcairn Islan** 85.22 141 PFAKE 14 19 40.0 +15
PTCN LR LR
comp=Z,5μm,19.0s
IVA **Berane** 85.34 350⇑*iP* **P** 14 19 25.3 -0.6
FRF **La Foret Royal** 85.38 360 *eP* **P** 14 19 26.2 +0.3
comp=Z,239nm,1.1s
FRF **La Foret Royal** 85.38 360 *eP* **P** 14 19 26.2 +0.3
FRF pmax pmax
comp=Z,239nm,1.1s
FRF **La Foret Royal** 85.38 360 *eP* **P** 14 19 26.2 +0.3
comp=Z,239nm,1.1s
BRY **Bratogost** 85.45 351⇑*iP* **P** 14 19 25.0 -1.5
PLD **Plovdiv** 85.49 346 P **P** 14 19 26.4 -0.1
PLD **Plovdiv** 85.49 346 P **P** 14 19 26.4 -0.1
PLD **Plovdiv** 85.49 346 P **P** 14 19 26.4 -0.1
NKY **Niksic** 85.49 351⇑*iP* **P** 14 19 26.7 0.0
MTLF **Montolieu** 85.53 3⇑*iP* **P** 14 19 27.1 +0.4
comp=Z,123nm,1.1s
MTLF **Montolieu** 85.53 3⇑*iP* **P** 14 19 27.1 +0.4
MTLF pmax pmax
comp=Z,123nm,1.1s
MTLF **Montolieu** 85.53 3⇑*iP* **P** 14 19 27.1 +0.4
comp=Z,123nm,1.1s
NKME **Niksic** 85.54 351⇑*iP* **P** 14 19 25.3 -1.5
SJPF **Ste Jean** 85.59 6 *eP* **P** 14 19 27.6 +0.6
comp=Z,45nm,1.0s
SJPF **Ste Jean** 85.59 6 *eP* **P** 14 19 27.6 +0.6
SJPF pmax pmax
comp=Z,45nm,1.0s
SJPF **Ste Jean** 85.59 6 *eP* **P** 14 19 27.6 +0.6
comp=Z,45nm,1.0s
LMR **La Mourre** 85.60 360 *eP* **P** 14 19 27.6 +0.5
comp=Z,228nm,1.1s
LMR **La Mourre** 85.60 360 *eP* **P** 14 19 27.6 +0.5
LMR pmax pmax
comp=Z,228nm,1.1s
LMR **La Mourre** 85.60 360 *eP* **P** 14 19 27.6 +0.5
comp=Z,228nm,1.1s
PVY **Plav** 85.61 350 *eP* **P** 14 19 29.8 +2.5
EPF **Esparros** 85.76 4 *eP* **P** 14 19 27.5 -0.4
comp=Z,62nm,1.0s
EPF **Esparros** 85.76 4 *eP* **P** 14 19 27.5 -0.4
EPF pmax pmax
comp=Z,62nm,1.0s
EPF **Esparros** 85.76 4 *eP* **P** 14 19 27.5 -0.4
comp=Z,62nm,1.0s
KDZ **Kurdzhali** 85.82 346⇓*iP* **P** 14 19 28.5 +0.3
ETSF **Etsaut** 85.84 5 *eP* **P** 14 19 28.8 +0.4
comp=Z,97nm,1.0s
ETSF **Etsaut** 85.84 5 *eP* **P** 14 19 28.8 +0.4
ETSF pmax pmax
comp=Z,97nm,1.0s
ETSF **Etsaut** 85.84 5 *eP* **P** 14 19 28.8 +0.4
comp=Z,97nm,1.0s
TTG **Podgorica** 85.84 351 *eP* **P** 14 19 27.3 -1.0
LRS **Lares** 85.85 66 *eP* **P** 14 19 28.8 0.0
HCY **Herceg Novi** 85.90 351⇑*iP* **P** 14 19 27.8 -0.8
CRPR **Cabo Rojo, PR** 85.93 66 *eP* **P** 14 19 29.8 +0.8
BUM **Brajici-Budva** 86.01 351⇑*iP* **P** 14 19 28.7 -0.5
SKO **Skopje** 86.05 349 P **P** 14 19 28.5 -0.8
SKO **Skopje** 86.05 349 P **P** 14 19 28.5 -0.8
SKO **Skopje** 86.05 349 P **P** 14 19 28.5 -0.8
DRME **Dracevica, Mon** 86.09 351⇑*iP* **P** 14 19 28.7 -0.8
PGAV **Gavieira, Arco** 86.09 11 *eP* **P** 14 19 31.8 +2.1
comp=Z,70nm,1.9s
PGAV **Gavieira, Arco** 86.09 11 *eS* S 14 30 15.6 +14
PGAV **Gavieira, Arco** 86.09 11 *eLQ* LQ 14 51 30.5
PGAV *eLR* LR 14 54 29.9
comp=Z,2μm,18.0s
MMB **Musomiste** 86.13 347⇑*iP* **P** 14 19 30.6 +0.8
BRTR **Keskin Array B** 86.15 339 P **P** 14 19 28.9 -1.1
comp=Z,38nm,0.8s,baz=48,slow=2.4,SNR=72
BRTR PKKPbc **PKKPbc** 14 37 25.9 -0.5
comp=Z,0.5nm,0.4s,baz=183,slow=4.6,SNR=3.7
BRTR LR LR 15 04 50.5
comp=Z,1μm,18.6s,baz=23,slow=40
CELP **Cerrillos** 86.18 66 P **P** 14 19 30.6 +0.3
OBIP **Obispado Ponce** 86.19 66 P **P** 14 19 29.5 -0.8
comp=Z,71nm,1.1s
ANTO **Ankara** 86.20 340 *eP* **P** 14 19 29.9 -0.3
ANTO pmax pmax
comp=Z,34nm,1.0s
ANTO MLR MLR
comp=Z,2μm,21.0s
ANTO **Ankara** 86.20 340⇑*iP* **P** 14 19 31.7 +1.5
ANTO **Ankara** 86.20 340 *eP* **P** 14 19 29.9 -0.3
comp=Z,34nm,1.0s
ANTO LR LR
comp=Z,2μm,21.0s
PSI **Prapat** 86.28 270 P **P** 14 19 31.0 +0.1
baz=359,slow=5.2
PSI pP **pP** 14 19 45.3 +3.2
baz=26,slow=9.7
RDO **Rodhopi** 86.30 346 P **P** 14 19 31.4 +0.9
RDO **Rodhopi** 86.30 346 P **P** 14 19 31.4 +0.9
ULC **Ulcinj** 86.31 350⇑*iP* **P** 14 19 29.4 -1.2
PAYG **Puerto Ayora** 86.32 96 PFAKE 14 19 40.0 +9.0
PAYG LR LR
comp=Z,2μm,20.0s
MALT **Malatya** 86.33 335⇑*iP* **P** 14 19 32.0 +1.1
NVR **Nevrokopi** 86.35 347 P **P** 14 19 30.6 -0.2
NVR **Nevrokopi** 86.35 347 P **P** 14 19 30.6 -0.2
PGF **Pioggiola** 86.36 358 *eP* **P** 14 19 30.9 -0.1
comp=Z,321nm,1.1s
PGF **Pioggiola** 86.36 358 *eP* **P** 14 19 30.9 -0.1
PGF pmax pmax
comp=Z,321nm,1.1s
PGF **Pioggiola** 86.36 358 *eP* **P** 14 19 30.9 -0.1
comp=Z,321nm,1.1s
PCAB **Cabril** 86.37 11 *eP* **P** 14 19 31.3 +0.3
comp=Z,60nm,1.8s
PCAB pP **pP** 14 19 43.9 +1.8
AQU **L'Aquila** 86.39 355 *eP* **P** 14 19 30.5 -0.5
AQU pmax pmax
comp=Z,92nm,0.9s
AQU MLR MLR
comp=Z,2μm,21.0s
AQU **L'Aquila** 86.39 355 *eP* **P** 14 19 30.5 -0.5
comp=Z,92nm,0.9s
AQU LR LR
comp=Z,2μm,21.0s
PBRG **Braganca** 86.42 10 *eP* **P** 14 19 30.8 -0.4
comp=Z,44nm,1.1s
PBRG pP **pP** 14 19 44.6 +2.2
PHP **Peshkopia** 86.45 350 P **P** 14 19 31.0 -0.4
PHP **Peshkopia** 86.45 350 P **P** 14 19 31.0 -0.4
PHP **Peshkopia** 86.45 350 P **P** 14 19 31.0 -0.4
VAY **Valandovo** 86.55 348 P **P** 14 19 31.1 -0.7
VAY **Valandovo** 86.55 348 P **P** 14 19 31.1 -0.7
VAY **Valandovo** 86.55 348 P **P** 14 19 31.1 -0.7
KAVA **Kavala** 86.60 346 P **P** 14 19 31.3 -0.7
KAVA **Kavala** 86.60 346 P **P** 14 19 31.3 -0.7
SRS **Serrai** 86.61 347 P **P** 14 19 31.4 -0.7
SRS **Serrai** 86.61 347 P **P** 14 19 31.4 -0.7
SRS **Serrai** 86.61 347 P **P** 14 19 31.4 -0.7
KNT **Kendrikon** 86.67 348 P **P** 14 19 31.4 -1.0
KNT **Kendrikon** 86.67 348 P **P** 14 19 31.4 -1.0
KNT **Kendrikon** 86.67 348 P **P** 14 19 31.4 -1.0
POLO **Lamas de Olo** 86.73 11 *eP* **P** 14 19 32.4 -0.4
comp=Z,22nm,1.7s
POLO pP **pP** 14 19 46.1 +2.1
PVRL **Vila Real** 86.84 11 *eP* **P** 14 19 33.0 -0.3
comp=Z,52nm,1.4s
PVRL pP **pP** 14 19 46.9 +2.5
GRG **Griva** 86.93 348 P **P** 14 19 33.2 -0.5
GRG **Griva** 86.93 348 P **P** 14 19 33.2 -0.5
GRG **Griva** 86.93 348 P **P** 14 19 33.2 -0.5
SOH **Sokhos** 86.94 347 P **P** 14 19 33.7 0.0
SOH **Sokhos** 86.94 347 P **P** 14 19 33.7 0.0
SOH **Sokhos** 86.94 347 P **P** 14 19 33.7 0.0
KBSD **Kabsdagh** 86.99 333 *eP* **P** 14 19 34.5 +0.4
MVO **Moncorvo** 87.03 10 *eP* **P** 14 19 33.7 -0.5
comp=Z,70nm,1.5s
MVO pP **pP** 14 19 47.3 +1.9
MVO **Moncorvo** 87.03 10 *eS* S 14 30 23.8 +13
MVO **Moncorvo** 87.03 10 *eLR* LR 14 53 36.6
comp=Z,1μm,22.0s
ARMA **Armidale** 87.08 210 *eP* **P** 14 19 36.3 +2.0
comp=Z,125nm,1.5s
FITZ **Fitzroy Crossi** 87.16 236 *eP* **P** 14 19 34.5 -0.4
comp=Z,50nm,0.9s
HYB **Hyderabad** 87.22 295 *i*P **P** 14 19 34.0 -1.5
HYB *eS* **S** 14 30 12.0 -0.8
FNA **Florina** 87.23 349 P **P** 14 19 33.8 -1.4
FNA **Florina** 87.23 349 P **P** 14 19 33.8 -1.4
FNA **Florina** 87.23 349 P **P** 14 19 33.8 -1.4
PVIS **Viseu** 87.37 11 *eP* **P** 14 19 35.5 -0.4
comp=Z,74nm,1.1s
PVIS pP **pP** 14 19 49.4 +2.4
LATR **Latur** 87.55 297 *ex* **P** 14 19 36.0 -0.9
NEST **Nestorio** 87.64 349 P **P** 14 19 36.2 -1.0
KZN **Kozani** 87.65 348 P **P** 14 19 36.9 -0.3
KZN **Kozani** 87.65 348 P **P** 14 19 36.9 -0.3
KZN **Kozani** 87.65 348 P **P** 14 19 36.9 -0.3
MTE **Manteigas** 87.72 11 *eP* **P** 14 19 37.6 0.0
comp=Z,72nm,1.1s
MTE pP pP 14 19 54.2 +5.4
MTE **Manteigas** 87.72 11 *eS* **S** 14 30 21.7 +4.7
MTE **Manteigas** 87.72 11 *eLR* LR 14 49 31.9
comp=Z,2μm,20.0s
MTE **Manteigas** 87.72 11 *eP* **P** 14 19 37.4 -0.2
comp=Z,39nm,0.9s
MTE LR LR
comp=Z,2μm,19.0s
LIT **Litokhoron** 87.76 348 P **P** 14 19 36.0 -1.7
LIT **Litokhoron** 87.76 348 P **P** 14 19 36.0 -1.7
LIT **Litokhoron** 87.76 348 P **P** 14 19 36.0 -1.7
AS31 **Alice Springs** 87.84 227 *eP* **P** 14 19 38.0 -0.1
ASAR **Alice Springs** 87.84 227 P **P** 14 19 37.9 -0.2
comp=Z,32nm,0.9s,baz=32,slow=4.5,SNR=152
ASAR LR LR 14 54 31.7
comp=Z,1μm,21.3s,baz=24,slow=32
PCAS **Casmilo, Conde** 87.95 11 *eP* **P** 14 19 38.0 -0.6
comp=Z,100nm,2.5s
PCAS pP **pP** 14 19 51.6 +1.8
MEV **Metsovon** 88.23 349 P **P** 14 19 40.6 +0.5
MEV **Metsovon** 88.23 349 P **P** 14 19 40.6 +0.5
GSI **Gunungsitoli** 88.28 270 *eP* **P** 14 19 40.6 +0.1
comp=Z,176nm,1.4s
PCBR **Castelo Branco** 88.28 11 *eP* **P** 14 19 39.8 -0.3
comp=Z,43nm,1.0s
PCBR pP **pP** 14 19 49.1 -2.2
SRN **Sarande** 88.29 350 P **P** 14 19 39.5 -0.6
SRN **Sarande** 88.29 350 P **P** 14 19 39.5 -0.6
JAN **Janina** 88.41 349 P **P** 14 19 40.5 -0.3
JAN **Janina** 88.41 349 P **P** 14 19 40.5 -0.3
JAN **Janina** 88.41 349 P **P** 14 19 40.5 -0.3
KEK **Kerkira** 88.47 350 P **P** 14 19 39.5 -1.6
KEK **Kerkira** 88.47 350 P **P** 14 19 39.5 -1.6
KSRV **Kasrt alli** 88.49 334 *eP* **P** 14 19 41.7 +0.5
CUC **Castrocucco** 88.57 353 PFAKE 14 19 50.0 +8.4
CUC LR LR
comp=Z,2μm,19.0s
ISP **Isparta** 88.64 341 PFAKE 14 19 50.0 +8.0
ISP LR LR
comp=Z,2μm,20.0s
PMRV **Marv??o** 88.70 11 *eP* **P** 14 19 41.5 -0.7
comp=Z,44nm,1.4s
PMRV **Marv??o** 88.70 11 *eLR* LR 14 49 49.0
comp=Z,1μm,20.0s
ESDC **Sonseca Array** 88.81 8 P **P** 14 19 42.0 -0.7
comp=Z,22nm,0.9s,baz=350,slow=4.6,SNR=51
ESDC pP **pP** 14 19 56.1 +2.2
comp=Z,8.6nm,0.8s,baz=353,slow=4.9,SNR=5.3
MAKR **Makrakomi, Fth** 88.88 348 P **P** 14 19 42.8 -0.2
MAKR **Makrakomi, Fth** 88.88 348 P **P** 14 19 42.8 -0.2
DSL **Palaion Diasel** 88.89 349 P **P** 14 19 42.3 -0.8
DSL **Palaion Diasel** 88.89 349 P **P** 14 19 42.3 -0.8
PAB **San Pablo** 88.90 8 *eP* **P** 14 19 43.0 -0.2
PAB pmax pmax
comp=Z,26nm,1.2s
PAB MLR MLR
comp=Z,3μm,19.0s
PAB **San Pablo** 88.90 8 *eP* **P** 14 19 43.0 -0.2
comp=Z,26nm,1.2s
PAB LR LR
comp=Z,3μm,19.0s
PMAFR **Mafra** 88.93 12 *eP* **P** 14 19 43.2 0.0
comp=Z,182nm,1.3s
PMAFR **Mafra** 88.93 12 *eS* S 14 30 44.4 +16
PMTG **Montargil** 88.95 11 *eP* **P** 14 19 42.7 -0.6
comp=Z,38nm,1.2s
POO **Poona** 88.96 299⇓*iP* **P** 14 19 43.0 -0.7
comp=Z,100nm,1.0s
BTCH **Batrach** 88.99 336 *eP* **P** 14 19 42.6 -1.0
EVR **Evrytania** 89.02 348 P **P** 14 19 43.4 -0.4
EVR **Evrytania** 89.02 348 P **P** 14 19 43.4 -0.4
ANWB **Willy Bob** 89.20 62 PFAKE 14 20 00.0 +15
ANWB LR LR
comp=Z,3μm,20.0s
PESTR **Estremoz** 89.23 11 *eP* **P** 14 19 44.7 +0.1
comp=Z,63nm,1.5s
PESTR **Estremoz** 89.23 11 *eS* **S** 14 30 32.4 +1.2
ARNB **Al Arnab** 89.28 336 *eP* **P** 14 19 44.7 -0.3
LKD2 **Lefkada island** 89.29 349 P **P** 14 19 43.7 -1.2
LKD2 **Lefkada island** 89.29 349 P **P** 14 19 43.7 -1.2
TIP **Timpagrande** 89.31 352 P **P** 14 19 44.3 -0.8
comp=Z,48nm,1.4s
TIP LR LR
comp=Z,654nm,20.0s
VSL **Villasalto** 89.40 358 PFAKE 14 20 00.0 +15
VSL LR LR
comp=Z,2μm,19.0s
PDO **Prodromos** 89.41 349 P **P** 14 19 44.4 -1.1
EFP **Efpalio** 89.49 348 P **P** 14 19 46.2 +0.4
WRDH **Warideh** 89.51 336 *eP* **P** 14 19 45.3 -0.8
EVO **Evora** 89.51 11 *eP* **P** 14 19 45.1 -0.8
comp=Z,53nm,1.7s
EVO pP **pP** 14 20 00.8 +3.6
MDRS **Chennai** 89.71 291 *ex* P 14 19 52.4 +5.2
KLV **Kalavryta, Ach** 89.83 348 P **P** 14 19 46.2 -1.3
KLV **Kalavryta, Ach** 89.83 348 P **P** 14 19 46.2 -1.3
PNCL **Nicolau / Gran** 89.86 12 *eP* **P** 14 19 47.5 -0.1
comp=Z,60nm,1.8s
PNCL **Nicolau / Gran** 89.86 12 *eS* S 14 30 46.4 +9.3

RLS	Riolos of Patr	89.91	348	P	P	14 19 47.9	+0.1
RLS	Riolos of Patr	89.91	348	P	P	14 19 47.9	+0.1
GUR	Goura	89.91	347	P	P	14 19 45.8	-2.2
GUR	Goura	89.91	347	P	P	14 19 45.8	-2.2
KFL	Anninata	89.94	349	P	P	14 19 47.3	-0.7
PBAR	Barrancos	89.98	11	eP	P	14 19 47.7	-0.4
comp=Z,178nm,1.3s							
PBAR	Barrancos	89.98	11	eS	S	14 30 38.1	-0.1
BIDA	Albida	90.00	336	eP	P	14 19 47.3	-1.1
MESJ	Messejana	90.17	12	eP	P	14 19 48.0	-1.0
MESJ				AMS	AMS	15 09 52.6	
comp=Z,2μm,18.4s							
MESJ	Messejana	90.17	12	eP	P	14 19 48.0	-1.0
CEL	Celeste	90.29	353	eP	P	14 19 48.5	-1.2
comp=Z,63nm,1.0s							
CEL				LR	LR		
comp=Z,2μm,19.0s							
HAWK	Haweek	90.44	336	eP	P	14 19 49.8	-0.7
MORF	Marmelete	90.64	12	eP	P	14 19 50.3	-1.0
MORF				AMS	AMS	15 04 01.0	
comp=Z,2μm,19.6s							
MORF	Marmelete	90.64	12	eP	P	14 19 51.1	-0.2
comp=Z,113nm,1.7s							
MORF	Marmelete	90.64	12	eP	P	14 19 50.2	-1.0
PVAQ	Vaqueiros	90.66	11	eLQ	LQ	14 53 58.6	
PVAQ				eLR	LR	15 01 43.6	
comp=Z,2μm,18.0s							
CSS	Prodhromos	90.78	338	PFAKE		14 20 00.0	+8.1
CSS				LR	LR		
comp=Z,404nm,20.0s							
MARH	Ras Al Marh	90.89	335	eP	P	14 19 49.4	-3.5
SANT	Santorini	90.98	345	PFAKE		14 20 00.0	+7.1
SANT				LR	LR		
comp=Z,2μm,20.0s							
SDV	Santo Domingo	91.07	74	eP	P	14 19 52.8	-1.0
comp=Z,21nm,0.8s							
SDV				LR	LR		
comp=Z,2μm,21.0s							
TOTH	TOTAH	91.54	335	eP	P	14 19 56.0	+0.4
BRBR	Barbar	91.61	336	eP	P	14 19 51.8	-4.3
ZALF	Zalf	91.71	334	eP	P	14 19 56.0	-0.4
FDF	Fort de France	91.93	64	PFAKE		14 20 10.0	+12
FDF				LR	LR		
comp=Z,3μm,19.0s							
IDI	Anoyia	92.13	345	P	P	14 19 58.0	-0.3
comp=Z,9.9nm,0.7s,baz=6.9,slow=10,SNR=4.8							
IDI				LR	LR	15 04 57.4	
comp=Z,923nm,21.5s,baz=3.0,slow=38							
MMAI	Mount Meron Ar	92.13	336	P	P	14 19 57.4	-0.9
comp=Z,32nm,0.9s,baz=18,slow=5.5,SNR=19							
UOSS	Wadi Hilu	92.29	316	P	P	14 19 57.6	-1.5
comp=Z,249nm,1.2s,SNR=17							
TCHB	Talchebab	92.31	335	eP	P	14 19 54.7	-4.4
HATD	Hatta, Dubai	92.42	316	i P	P	14 19 58.9	-0.8
SNR=18							
CAN	Canberra	92.44	210	PFAKE		14 20 10.0	+11
CAN				LR	LR		
comp=Z,1μm,20.0s							
NAZ	Nazwa, Dubai	92.48	317	i P	P	14 19 59.1	-0.8
SNR=11							
ASF	Jabal al Asfar	92.54	335	P	P	14 19 59.3	-0.9
comp=Z,25nm,0.9s,baz=115,slow=1.8,SNR=23							
ASHO	Ashiyiah	92.58	316	P	P	14 19 59.4	-1.1
SNR=16							
FAQ	Al Faqa, Dubai	92.73	316	i P	P	14 19 59.9	-1.1
SNR=14							
WDD	Wield Dalam	92.77	353	PFAKE		14 20 10.0	+8.9
WDD				LR	LR		
comp=Z,2μm,20.0s							
MBWA	Marble Bar	92.81	239	eP	P	14 19 59.9	-1.4
comp=Z,30nm,0.9s							
MBWA				LR	LR		
comp=Z,944nm,21.0s							
SNZO	South Karori	92.94	189	PFAKE		14 20 10.0	+8.7
SNZO				LR	LR		
comp=Z,3μm,19.0s							
ASUD	Al Ashush, Dub	92.94	317	i P	P	14 20 01.5	-0.6
SNR=25							
OTAV	Otavalo	93.01	86	eP	P	14 20 03.5	+0.4
comp=Z,4.7nm,0.8s							
OTAV				LR	LR		
comp=Z,719nm,19.0s							
WBK	Wadi Bani Khal	93.08	313	P	P	14 20 03.0	+0.2
SNR=21							
KEST	Kesra	93.16	358	P	P	14 20 02.0	-1.0
comp=Z,7.9nm,1.0s,baz=273,slow=5.3,SNR=7.0							
ARQ	Araqi	93.55	315	P	P	14 20 04.2	-0.8
SNR=28							
PMOZ	Porto Moniz, M	93.55	20	eP	P	14 20 05.0	+0.1
comp=Z,161nm,1.4s							
PMOZ	Porto Moniz, M	93.55	20	eLR	LR	14 56 44.9	
comp=Z,1μm,18.0s							
JMDO	Jabal Madar	93.69	313	P	P	14 20 04.9	-0.7
SNR=33							
GRGR	Grenville	93.75	65	PFAKE		14 20 20.0	+14
GRGR				LR	LR		
comp=Z,2μm,20.0s							
PALK	Pallekele	94.04	287	eP	P	14 20 07.0	-0.3
PALK				pmax	pmax		
comp=Z,62nm,1.2s							
PALK	Pallekele	94.04	287	i P	P	14 20 08.1	+0.8
SNR=6.0							
PALK	Pallekele	94.04	287	eP	P	14 20 07.0	-0.3
comp=Z,62nm,1.2s							
RTC	Rabat Centre	94.13	11	PFAKE		14 20 20.0	+13
RTC				LR	LR		
comp=Z,1μm,19.0s							
EIL	Elat	95.43	335	P	P	14 20 13.4	0.0
comp=Z,8.2nm,0.9s,baz=17,slow=9.7,SNR=4.5							
MDT	Midelt	95.54	9	P	P	14 20 14.2	+0.2
comp=Z,29nm,0.9s,baz=355,slow=4.9,SNR=8.9							
MDT				LR	LR	15 03 08.0	
comp=Z,579nm,21.7s,baz=338,slow=35							
RAYN	Ar Rayn	97.85	324	P	Pdif	14 20 24.9	+0.3
comp=Z,102nm,1.5s,SNR=6.8							
ABTO	Aybut	100.23	315	P	Pdif	14 20 34.6	-0.7
SNR=8.0							
NNA	Nana	103.45	92	PFAKE		14 21 00.0	+11
NNA				LR	LR		
comp=Z,2μm,20.0s							
TAM	Tamanrasset	106.09	1	PFAKE		14 25 20.0	
TAM				LR	LR		
comp=Z,1μm,20.0s							
SACV	Santiago Islan	108.87	31	PFAKE		14 25 30.0	
SACV				LR	LR		
comp=Z,2μm,19.0s							
SAML	Samuel	109.62	80	PFAKE		14 25 30.0	
SAML				LR	LR		
comp=Z,1μm,21.0s							
DGAR	Diego Garcia	110.63	284	PFAKE		14 25 30.0	
DGAR				LR	LR		
comp=Z,1μm,21.0s							
TORD	Torodi Ar. Bea	115.55	5	PKP	PKPdf	14 25 29.2	-1.8
comp=Z,1.5nm,0.6s,baz=347,slow=1.9,SNR=14							
TORD				PKKPbc	PKKPbc	14 36 03.2	+1.2
comp=Z,2.2nm,0.8s,baz=162,slow=2.7,SNR=9.0							
LVC	Limon Verde	116.38	94	PFAKE		14 25 40.0	+7.4
LVC				LR	LR		
comp=Z,948nm,20.0s							
MSEY	Mahe Island	118.17	301	PFAKE		14 25 50.0	+14
MSEY				LR	LR		
comp=Z,1μm,19.0s							
LCO	Las Campanas	119.89	100	PFAKE		14 25 50.0	+11
LCO				LR	LR		
comp=Z,734nm,20.0s							
DBIC	Dimbokro	121.31	13	PKP	PKPdf	14 25 41.8	-0.3
comp=Z,9.9nm,1.0s,baz=350,slow=3.5,SNR=5.4							
RCBR	Riachuelo	122.61	53	PFAKE		14 26 00.0	+15
RCBR				LR	LR		
comp=Z,2μm,19.0s							
DRV	Dumont d'Urvil	122.93	200	SS	SS	14 43 50.0	-14
DRV				L	L	14 58 00.0	
DRV				R		15 02 00.0	
KMBO	Kilima Mbogo	123.55	322	ePKIKP	PKPdf	14 25 46.9	+0.2
KMBO				MLR	MLR		
comp=Z,2μm,19.0s							
KMBO	Kilima Mbogo	123.55	322	PKP	PKPdf	14 25 47.4	+0.7
comp=Z,5.2nm,0.8s,baz=352,slow=3.4,SNR=12							
KMBO	Kilima Mbogo	123.55	322	ePKPdf	PKPdf	14 25 46.9	+0.2
KMBO				PKP	PKPdf	14 25 47.4	+0.7
KMBO				LR	LR		
comp=Z,2μm,19.0s							
BDFB	Brasilia	124.02	71	PKP	PKPdf	14 25 47.0	-0.2
comp=Z,3.4nm,0.7s,baz=228,slow=6.0,SNR=4.5							
CPUP	Villa Florida	126.32	88	PKP	PKPdf	14 25 51.0	-0.2
comp=Z,6.3nm,0.7s,baz=333,slow=2.4,SNR=12							
CPUP	Villa Florida	126.32	88	ePKPdf	PKPdf	14 25 51.0	-0.2
PLCA	Paso Flores	127.88	110	ePKIKP	PKPdf	14 25 54.0	+0.1
PLCA	Paso Flores	127.88	110	PKP	PKPdf	14 25 54.3	+0.4
comp=Z,19nm,0.8s,baz=285,slow=3.1,SNR=36							
PLCA	Paso Flores	127.88	110	ePKPdf	PKPdf	14 25 54.0	+0.1
PLCA				PKP	PKPdf	14 25 54.3	+0.4
SBA	Scott Base	129.60	185	PFAKE		14 26 10.0	+14
SBA				LR	LR		
comp=Z,970nm,20.0s							
VNDA	Vanda	129.60	187	PKP	PKPdf	14 25 56.2	+0.2
comp=Z,1.5nm,0.9s,baz=347,slow=4.7,SNR=3.0							
CASY	Casey	130.66	211	PFAKE		14 26 10.0	+12
CASY				LR	LR		
comp=Z,1μm,19.0s							
TRQA	Tornquist	131.33	102	ePKPdf	PKPdf	14 25 58.4	-2.1
TRQA				LR	LR		
comp=Z,1μm,19.0s							
ASCN	Ascension	133.35	29	PFAKE		14 26 20.0	+15
ASCN				LR	LR		
comp=Z,2μm,20.0s							
ABPO	Ambohimpanom	134.51	300	PFAKE		14 26 20.0	+13
ABPO				LR	LR		
comp=Z,1μm,20.0s							
EFI	East Falkland	141.08	117	ePKIKP	PKPdf	14 26 18.2	+0.2
EFI				MLR	MLR		
comp=Z,2μm,19.0s							
EFI	East Falkland	141.08	117	ePKPdf	PKPdf	14 26 18.2	+0.2
EFI				LR	LR		
comp=Z,2μm,19.0s							
QSPA	South Pole Qui	141.20	180	ePKPpre	PKPpre	14 26 11.9	
QSPA				LR	LR		
comp=Z,960nm,20.0s							
PMSA	Palmer Station	142.58	138	PFAKE		14 26 30.0	+10
PMSA				LR	LR		
comp=Z,5μm,20.0s							
SHEL	Horse Pasture	143.28	20	PFAKE		14 26 30.0	+6.9
SHEL				LR	LR		
comp=Z,875nm,21.0s							
MATP	Matopo	144.55	323	i P	PKPbc	14 26 24.0	-0.1
MATP				i		14 26 24.2	
baz=340,slow=2.6							
RUDU	RUNDU	144.92	338	eP	PKPdf	14 26 25.7	-0.4
RUDU				AMS	AMS	15 32 49.9	
comp=Z,1μm,26.5s							
MSNA	Messina	145.68	319	eP	PKPab	14 26 27.6	-0.2
MSNA				AMS	AMS	15 46 14.1	
comp=Z,919nm,8.8s							
MOPA	Mopani	146.13	316	eP	PKPbc	14 26 28.4	-0.4
MAW	Mawson	148.54	218	PKP2	PKPbc	14 26 35.0	+0.9
MAW	Mawson	148.54	218	PKPbc	PKPbc	14 26 35.0	+0.9
comp=Z,79nm,0.9s,baz=17,slow=1.6,SNR=10							
MAW				pPKPbc	pPKPbc	14 26 48.2	+2.6
comp=Z,68nm,1.0s,baz=257,slow=4.4,SNR=4.2							
SLR	Silverton	149.41	319	eP	PKPbc	14 26 37.7	-0.1
SLR				AMS	AMS	15 55 46.8	
comp=Z,2μm,24.9s							
LBTB	Lobatse	149.81	324	eP	PKPbc	14 26 39.1	+0.3
LBTB				AMS	AMS	15 50 24.0	
comp=Z,2μm,20.5s							
OBSV	Observatory	149.89	319	eP	PKPbc	14 26 39.2	+0.1
CRWM	Crown Mines	149.96	319	eP	PKPbc	14 26 39.4	+0.2
ERPM	east rand prop	149.96	318	eP	PKPbc	14 26 39.1	-0.1
WIN	Windhoek	150.01	340	eP	PKPdf	14 26 36.7	+2.2
WIN				AMS	AMS	15 53 52.5	
comp=Z,420nm,11.2s							
KSR	Koster	150.07	321	eP	PKPbc	14 26 40.6	+1.1
KLOF	Kloof	150.23	319	eP	PKPbc	14 26 39.3	-0.5
WDLM	Western Deep L	150.37	320	eP	PKPbc	14 26 40.4	+0.2
SWZ	Schweizer	151.87	322	eP	PKPbc	14 26 43.5	-0.1
KSD	Kokstad	153.06	312	eP	PKPbc	14 26 45.3	-0.9
BOSA	Boshof	153.18	321	eP	PKPbc	14 26 44.9	-1.5
BOSA				AMS	AMS	15 53 49.6	
comp=Z,2μm,18.3s							
BOSA	Boshof	153.18	321	PKPbc	PKPbc	14 26 46.1	-0.4
comp=Z,12nm,0.4s,baz=26,slow=2.9,SNR=14							
BOSA				pPKPbc	PKPab	14 26 59.1	+0.9
comp=Z,74nm,0.9s,baz=36,slow=3.7,SNR=19							
BOSA	Boshof	153.18	321	i P	PKPbc	14 26 46.3	-0.2
BOSA				i		14 26 46.4	
baz=310,slow=16							
BOSA				i S	PKPab	14 27 00.5	+2.3
HOPE	Hope Point	154.22	113	PFAKE		14 26 50.0	+2.3
HOPE				LR	LR		
comp=Z,1μm,19.0s							
UPI	Upington	154.40	329	eP	PKPbc	14 26 49.1	0.0
UPI				AMS	AMS	15 47 34.5	
comp=Z,1μm,24.4s							
SYO	Syowa Base	156.40	209	eX	PKPdf	14 26 37.0	-5.0
SUR	Sutherland	158.23	326	PFAKE		14 27 00.0	+14
SUR				LR	LR		
comp=Z,3μm,20.0s							
VNA3	Neumayer Olymp	158.83	166	P	PKPdf	14 26 43.5	-1.5
SNAA	Sanae	159.28	172	P	PKPab	14 27 22.9	-0.3
SNAA	Sanae	159.28	172	eP	PKPab	14 27 23.3	+0.1

*CSEM **09** 14:15:32.3, 59°.89N×10°.96E, h0km, ML1.3, Suspected Mining explosion.*

UPP 09 14:15:32.3, 59°.89N×10°.96E, h0km, ML1.3, Suspected Mining explosion., Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STRU	Stroemstad	0.87	172	P	Pg	14 15 48.6	-0.3
FINU	Finntorp	0.91	122	P	Pg	14 15 49.4	-0.4
UDD	Uddeholm	1.34	80	P	Pg	14 15 57.1	-1.0
NASU	Vaermlandsnaes	1.49	129	P	Pn	14 15 59.7	-0.6
NASU				S	Sg	14 16 19.8	-0.4
VANU	Vaenersborg	1.52	157	P	Pn	14 16 00.2	-0.4

PRU 09 14:17:44.9, 50°.26N×19°.00E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.03	351	ePg	Pg	14 17 48.2	+2.6
CHZP				eSg	Sg	14 17 50.2	+4.2
OJC	Ojcow	0.51	94	ePg	Pg	14 17 55.8	+1.0
OJC				eSg	Sg	14 18 01.7	+0.2
KRLC	Kraliky	1.44	263	ePG	Pn	14 18 11.5	-0.8
KRLC				eSG	Sg	14 18 31.1	-0.2
DPC	Dobruska-Polom	1.72	274	ePG	Pn	14 18 16.0	-0.2
DPC				eSG	Sg	14 18 40.2	-0.1

*IDC **09** 14:33:39.8±1.1, 34°.77S×72°.29W, h0km, mb4.0/5, mb1 4.1/6, mb1mx4.0/20, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=42.8km s-min=25.7km az=80.0*

ISC 09 14:33:43.0±1.1, 35°.0S±0°.1×72°.3W±0°.3, h18km, n9, σ1§63/9, mb4.3/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.94	167	Pn	Pn	14 35 09.2	-0.8
0.7nm,0.3s,baz=338,slow=13,SNR=18							
PLCA				Lg	Lg	14 36 45.2	
1.4nm,0.3s,baz=84,slow=22,SNR=5.4							
LPAZ	La Paz	18.95	12	P	Pn	14 38 06.3	+1.8
0.3nm,0.3s,baz=192,slow=2.7,SNR=16							
QSPA	South Pole Qui	55.29	180	P	P	14 43 17.6	+2.5
1.5nm,0.9s,baz=88,slow=0.3,SNR=5.2							
TXAR	Lajitas Array	70.46	331	P	P	14 44 54.9	-1.5
0.1nm,0.5s,baz=158,slow=7.6,SNR=2.9							
DBIC	Dimbokro	75.68	71	P	P	14 45 27.6	+0.1
4.9nm,0.8s,baz=174,slow=7.5,SNR=3.5							
BOSA	Boshof	79.82	118	P	P	14 45 49.6	-1.1
2.3nm,0.7s,baz=216,slow=2.2,SNR=5.3							
TORD	Torodi Ar. Bea	84.73	70	P	P	14 46 16.8	+0.5
1.4nm,0.8s,baz=258,slow=4.3,SNR=7.4							
ZALV	Zalesovo Beam	155.13	33	PKPbc		14 53 42.0	
1.1nm,0.8s,baz=318,slow=2.0,SNR=4.0							
ZALV				PKPab	PKPab	14 53 58.2	-0.9
1.0nm,0.6s,baz=322,slow=4.5,SNR=5.1							
MKAR	Makanchi Array	157.53	51	PKPab	PKPab	14 54 08.6	-1.2
0.3nm,0.7s,baz=293,slow=3.1,SNR=5.5							

IDC 09 14:35:03.3±6.1, 3°.70S×150°.59E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/30, mbtmp3.4/3, Error ellipse: s-maj=189.7km s-min=29.9km az=102.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.62	223	P	P	14 40 05.6	-0.3
0.8nm,0.8s,baz=47,slow=10,SNR=6.3							
ASAR	Alice Springs	25.57	218	P	P	14 40 34.2	0.0
0.9nm,0.8s,baz=49,slow=6.9,SNR=9.7							
SONM	Songino Array	64.24	329	P	P	14 45 40.5	+0.1
0.2nm,0.4s,baz=122,slow=7.2,SNR=2.8							

*ISCJB **09** 14:52:28.6±0.3, 51°.65N±0°.06×173°.55W±0°.03, h33km, mb4.5/55, Error ellipse: s-maj=8.4km s-min=3.0km az=176.5*

*MOS **09** 14:52:28.0±0.9, 51°.61N×173°.47W, h33km, mb4.9/22, Error ellipse: s-maj=11.6km s-min=7.5km az=103.8*

*NEIC **09** 14:52:29.8±0.4, 51°.48N×173°.53W, h35km, mb4.6/13, Error ellipse: s-maj=8.8km s-min=4.5km az=179.0*

*BJI **09** 14:52:30.3, 51°.99N×174°.09W, h34km, mB5.3/8, mb4.8/30, Ms5.0/8, Ms7 4.7/7*

*IDC **09** 14:52:32.5±3.2, 51°.62N×173°.54W, h58km±28km, mb4.0/25, mb1 4.1/28, mb1mx4.1/39, mbtmp4.2/28, ML4.0/3, Error ellipse: s-maj=20.9km s-min=10.3km az=170.0*

ISC 09 14:52:30.0±0.6, 51°.5N±0°.1×173°.47W±0°.05, h38km±3km, h38km: pP-P, n206, σ1§13/215, mb4.5/55, 39C-32D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	Korovin Flat P	0.92	335	P	Pn	14 52 45.6	-0.7
KOKL	Mount Kliuchef	0.99	333	P	Pn	14 52 46.6	-0.7
KOKV	Korovin Volcan	1.01	335	P	Pn	14 52 45.6	-2.1
KOWE	Korovin West	1.04	332	P	Pn	14 52 47.6	-0.4
NIKH	Nikolski High	3.22	60	P	Pn	14 53 18.3	+0.4
NIKH				S	Sn	14 53 54.4	-0.7
OKFG	Magazine Ridge	3.93	58	P	Pn	14 53 27.8	+0.2
OKFG				S	Sn	14 54 10.4	-1.9
MSOM	Makushin Julie	4.62	57	P	Pn	14 53 37.5	+0.4
MSOM	Makushin Julie	4.62	57	P	Pn	14 53 37.5	+0.4
MREP	Makushin Rep't	4.73	57	P	Pn	14 53 39.5	+0.8
UNV	Unalaska Valle	4.87	58	P	Pn	14 53 40.8	+0.2
UNV				S	Sn	14 54 32.5	-3.2
AKUT	Akutan	5.39	57	P	Pn	14 53 50.6	+3.0
SPIA	Saint Paul Isl	6.04	17	P	Pn	14 53 52.4	-4.2
SMY	Shemya	7.77	284	P	Pn	14 54 24.5	+4.2
SMY	Shemya	7.77	284	P	Pn	14 54 24.5	+4.2
FX1	Attu Island--F	8.35	285	eP	Pn	14 54 29.1	+0.9
FX1	Attu Island--F	8.35	285	P	Pn	14 54 30.1	+1.9
4.0nm,0.3s,baz=119,slow=1.3,SNR=14							
FX1	Attu Island--F	8.35	285	eP	Pn	14 54 29.1	+0.9
SDPT	Sand Point	8.69	58	P	Pn	14 54 32.7	-0.1
GAMB	Gambell	12.40	4	eP	Pn	14 55 25.2	+1.7
10nm,0.6s							
PETK	Petropavlovsk-	17.67	287	P	Pn	14 56 33.0	+0.2
0.8nm,0.3s,baz=96,slow=13,SNR=25							
COLA	College	18.87	35	eP	P	14 56 46.7	+0.2
ILAR	Eielson Array	19.16	36	P	P	14 56 48.5	-1.2
1.3nm,0.3s,baz=230,slow=9.5,SNR=98							
BILL	Bilibino	19.34	337	eP	P	14 56 52.1	+0.4
BILL				pmax	pmax		
comp=Z,15nm,1.0s							
BILL	Bilibino	19.34	337	eP	P	14 56 52.1	+0.4
comp=Z,15nm,1.0s							
EGAK	Eagle	21.35	39	eP	P	14 57 12.7	-0.7
comp=Z,39nm,0.8s							
SEY	Seymchan	21.49	315	P	P	14 57 13.8	-1.0
comp=Z,1.9nm,0.6s,baz=108,slow=10,SNR=8.4							
INK	Inuvik	25.52	34	P	P	14 57 53.6	-0.7
comp=Z,8.4nm,0.9s,baz=244,slow=7.5,SNR=19							
DLBC	Dease Lake	25.53	57	P	P	14 57 55.1	+0.5
comp=Z,9.7nm,0.8s,baz=255,slow=12,SNR=7.4							
ASAJ	Asahikawa	30.04	273	P	P	14 58 36.1	+1.1
ASAJ				pmax	pmax		
comp=Z,10.0nm,0.9s							
ASAJ	Asahikawa	30.04	273	P	P	14 58 36.1	+1.1
comp=Z,10nm,0.9s,baz=39,slow=10,SNR=6.1							
ERM	Erimo	30.79	269	eP	P	14 58 42.9	+1.3
ERM				pmax	pmax		
comp=Z,12nm,1.2s							
TIXI	Tiksi	32.24	330	eP	P	14 58 53.5	-0.5
TIXI				pmax	pmax		
comp=Z,8.0nm,2.5s							
TIXI	Tiksi	32.24	330	eP	P	14 58 53.1	-0.9
comp=Z,0.8nm,0.4s							
YKA	Yellowknife Ar	32.74	47	P	P	14 58 58.4	-0.2
comp=Z,1.0nm,0.5s,baz=272,slow=8.4,SNR=18							
YKA				PcP	PcP	15 01 43.8	+0.8
comp=Z,0.5nm,0.7s,baz=284,slow=3.0,SNR=5.7							
H11N2	WAKE ISLAND Hy	35.22	213	T	T	15 37 25.6	
baz=21,slow=76,SNR=52							
H11N3	WAKE ISLAND Hy	35.23	213	T	T	15 37 21.4	
baz=21,slow=76,SNR=50							
H11N1	WAKE ISLAND Hy	35.24	213	T	T	15 37 27.2	
baz=21,slow=76,SNR=48							
NEW	Newport	35.70	72	P	P	14 59 26.1	+1.6
baz=36							
H11S1	WAKE ISLAND Hy	36.42	213	T	T	15 38 45.7	
baz=20,slow=76,SNR=52							
H11S2	WAKE ISLAND Hy	36.43	213	T	T	15 38 46.1	
baz=20,slow=76,SNR=37							
H11S3	WAKE ISLAND Hy	36.44	213	T	T	15 38 46.4	
baz=20,slow=76,SNR=22							
USRK	Ussuriysk Ar.	36.58	281	P	P	14 59 31.7	-0.2
comp=Z,6.8nm,0.7s,baz=48,slow=9.5,SNR=14							
MAJO	Matsushiro	37.11	266	eP	P	14 59 36.5	0.0
MAJO				pmax	pmax		
comp=Z,70nm,1.3s							
VLA	Vladivostok	37.22	279	eP	P	14 59 37.7	+0.4
VLA				pmax	pmax		
comp=Z,24nm,1.2s							
BSMT	Bassoo Peak	37.28	72	eP	P	14 59 39.1	+1.0
comp=Z,2.4nm,0.8s							
MCMT	McKenzie Canyo	39.96	75	eP	P	15 00 01.4	+0.8
comp=Z,2.0nm,0.7s							
EGMT	Eagleton	40.17	69	P	P	15 00 03.2	+1.1
baz=40,SNR=6.5							
EGMT	Eagleton	40.17	69	eP	P	15 00 01.6	-0.5
comp=Z,9.5nm,0.8s							
NVAR	Mina Array Bea	40.22	87	P	P	15 00 04.7	+1.9
comp=Z,0.9nm,0.6s,baz=293,slow=5.6,SNR=4.1							
A19A	Klindworth Far	40.31	67	P	P	15 00 03.8	+0.5
baz=40							
B19A	Brinkman Farms	40.42	68	P	P	15 00 04.8	+0.6
baz=40,SNR=7.6							
C19A	Slack Wire Ran	40.72	69	P	P	15 00 08.1	+1.4
baz=41,SNR=11							
CN2	Changchun	40.79	284	eP	P	15 00 06.6	-0.6
CN2				PMZ			
comp=Z,10.0nm,0.9s							
A20A	Cobblestone Ra	40.80	67	P	P	15 00 08.0	+0.6
baz=41							
D19A	Cripps Ranch,	41.11	70	P	P	15 00 11.7	+1.8
baz=41							
A21A	Bergtoll Ranch	41.32	66	P	P	15 00 12.5	+0.9

baz=43
C23A **Lambert** 42.93 67 ⇑P P 15 00 25.3 +0.7
baz=43,SNR=8.4
KSRS **Korea Array** 42.97 275 P P 15 00 25.9 +0.9
KSRS pmax pmax
comp=Z,7.0nm,1.0s
KSRS **Korea Array** 42.97 275 P P 15 00 25.9 +0.9
comp=Z,6.8nm,1.0s,baz=49,slow=8.6,SNR=7.7
KSAR **Wonju Array Be** 43.00 275 P P 15 00 25.9 +0.6
KSAR **Wonju Array Be** 43.00 275 P P 15 00 25.9 +0.6
A24A **Westby** 43.02 65 ⇓P P 15 00 26.0 +0.6
baz=43,SNR=10
PDAR **Pinedale Array** 43.08 76 P P 15 00 26.9 +0.7
comp=Z,1.5nm,0.5s,baz=307,slow=3.4,SNR=17
GSC **Goldstone, Bar** 43.11 89 ⇑P P 15 00 29.4 +3.0
baz=43
E22A **Miles City** 43.21 69 ⇑P P 15 00 27.9 +1.0
baz=43
F22A **Rosebud** 43.38 70 ⇑P P 15 00 29.6 +1.2
baz=43
A25A **Svangstu Ranch** 43.52 64 ⇑P P 15 00 29.9 +0.5
baz=43,SNR=6.8
H21A **Big Horn, Sher** 43.55 72 ⇓P P 15 00 30.8 +1.0
baz=43
G22A **Birney** 43.67 71 ⇓P P 15 00 31.7 +0.9
baz=44
D24A **Glendive** 43.78 67 ⇓P P 15 00 33.0 +1.4
baz=44,SNR=5.7
B25A **Knox Farm, Ray** 43.84 65 ⇓P P 15 00 32.6 +0.6
baz=44
I21A **Big Trails, Te** 43.85 73 ⇑P P 15 00 33.3 +0.9
baz=44
E24A **Baker** 44.09 68 ⇑P P 15 00 35.3 +1.2
baz=44
A26A **Wade Farm, Ken** 44.15 64 ⇓P P 15 00 34.8 +0.4
baz=44
G23A **Biddle** 44.21 70 ⇓P P 15 00 35.5 +0.5
baz=44
B26A **Jensen Ranch,** 44.31 65 ⇑P P 15 00 36.5 +0.7
baz=44
J22A **Midwest** 44.57 73 ⇑P P 15 00 38.8 +0.8
baz=44
C26A **Wahner Farm, P** 44.68 65 ⇓P P 15 00 39.5 +0.7
baz=44
A28A **Rude Farm, Bot** 45.13 63 ⇑P P 15 00 42.7 +0.4
baz=45,SNR=5.5
A29A **Manning Farm,** 45.70 62 ⇓P P 15 00 47.1 +0.3
baz=46
L23A **Garrett** 45.79 74 ⇓P P 15 00 48.8 +1.0
baz=46
G26A **Maurine** 45.79 68 ⇓P P 15 00 48.4 +0.8
baz=46
I25A **Rochford** 45.85 71 ⇓P P 15 00 48.4 +0.1
baz=46
D28A **Regan** 45.90 65 ⇑P P 15 00 49.2 +0.8
baz=46
MDND **Maddock** 46.08 64 ⇑P P 15 00 50.2 +0.4
baz=46
A30A **Hoffart Farm,** 46.20 62 ⇑P P 15 00 51.3 +0.6
baz=46
PV01 **Paradox Valley** 46.45 80 *e*P P 15 00 53.1 0.0
comp=Z,264nm,0.9s
B30A **Myrvik Farm, E** 46.46 63 ⇓P P 15 00 53.0 +0.2
baz=46
C30A **Mose, Pekin** 46.79 64 ⇑P P 15 00 55.8 +0.4
baz=47
ULM **Lac du Bonnet** 46.81 59 P P 15 00 55.2 -0.3
comp=Z,2.7nm,0.7s,baz=302,slow=7.5,SNR=6.5
D30A **Buchanan** 46.97 64 ⇑P P 15 00 56.9 +0.1
baz=47
H28A **Mission Ridge** 47.06 68 ⇑P P 15 00 58.1 +0.5
baz=47
F29A **Eureka** 47.08 66 ⇓P P 15 00 58.0 +0.2
baz=47
I28A **Midland** 47.37 69 ⇓P P 15 01 00.7 +0.7
baz=47
H29A **Onida** 47.56 68 ⇑P P 15 01 02.0 +0.6
baz=47
J28A **Allard Ranch,** 47.67 70 ⇓P P 15 01 03.2 +0.8
baz=48
AGMN **Agassiz Nation** 47.91 62 ⇓P P 15 01 03.8 -0.2
baz=48,SNR=5.9
AGMN **Agassiz Nation** 47.91 62 *e*P P 15 01 03.4 -0.6
comp=Z,11nm,1.0s
J29A **Okreek** 48.21 69 ⇓P P 15 01 07.5 +1.0
baz=48
J30A **Dallas** 48.75 69 ⇑P P 15 01 11.6 +1.0
baz=49
TLY **Talaya** 48.81 305 *e*P P 15 01 10.2 -0.7
TLY pmax pmax
comp=Z,2.0nm,0.4s
R25A **Fountain Ranch** 49.07 77 ⇑P P 15 01 14.3 +1.0
baz=49
ULN **Ulaanbaatar** 49.19 299 *e*P P 15 01 13.8 -0.3
ULN pmax pmax
comp=Z,7.0nm,1.7s
SONM **Songino Array** 49.56 299 P P 15 01 16.6 -0.3
comp=Z,3.9nm,0.6s,baz=55,slow=6.2,SNR=35
ZAK **Zakamensk** 49.74 304 *e*P P 15 01 17.9 -0.3
ZAK *e* 15 02 39.4
ZAK pmax pmax
comp=Z,4.0nm,1.3s
ECSD **EROS Data Cent** 50.17 67 ⇑P P 15 01 20.7 -0.7
baz=50,SNR=5.4
U26A **Atchley Ranch,** 50.52 79 ⇓P P 15 01 25.4 +1.0
baz=50
HHC **Hu-ho-hao-te** 50.85 289 *e*P P 15 01 27.5 +0.8
HHC PP **PP** 15 03 25.3 +2.4
HHC S **S** 15 08 39.1 -1.0
HHC PMZ
comp=Z,35nm,1.1s
HHC LN
comp=Z,590nm,16.1s
HHC LE
comp=Z,370nm,16.1s
HHC LZ
comp=Z,540nm,16.5s
Y24A **Capitan** 51.10 82 ⇑P P 15 01 29.9 +1.2
baz=51
SPMN **Marine on St.** 51.42 63 ⇑P P 15 01 30.4 -0.4
baz=51
Q32A **Meitler Ranch,** 51.99 73 ⇑P P 15 01 35.9 +0.8
baz=52
NJ2 **Nanjing** 52.14 276 *e*P P 15 01 35.1 -1.2
NJ2 PMZ
comp=Z,20nm,0.6s
HVS **Khovu-Aksy** 54.11 309 ⇑*i*P P 15 01 50.1 -0.6
HVS pmax pmax
comp=Z,12nm,1.0s
TXAR **Lajitas Array** 55.33 85 P P 15 02 00.3 +0.5
comp=Z,0.4nm,0.7s,baz=298,slow=5.4,SNR=5.3
XAN **Xi'an** 56.90 284 P P 15 02 09.3 -1.6
XAN pP **pP** 15 02 20.3 -2.0
SCHQ **Schefferville** 57.82 41 P P 15 02 16.6 -0.5
comp=Z,1.7nm,0.5s,baz=277,slow=14,SNR=4.6
ARCES **ARCESS Array B** 58.53 352 P P 15 02 21.9 +0.1
comp=Z,3.7nm,0.8s,baz=41,slow=6.1,SNR=5.2
ARCES PcP **PcP** 15 03 11.5 -0.3
comp=Z,6.1nm,0.9s,baz=23,slow=4.1,SNR=6.1
LZH **Lanzhou** 58.54 290 *e*P P 15 02 23.7 +1.2
LZH pP **pP** 15 02 33.7 -0.2
LZH sP **sP** 15 02 38.3 -0.1
LZH PMZ
comp=Z,19nm,1.0s
GTA **Gaotai** 58.60 295 *e*P P 15 02 21.6 -1.3
GTA pP **pP** 15 02 31.8 -2.5
GTA sP **sP** 15 02 34.7 -4.1
GTA PMZ
comp=Z,5.0nm,1.7s
KURK **Kurchatov** 61.33 316 *e*P P 15 02 40.2 -1.1
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK **Kurchatov** 61.33 316 *e*P P 15 02 40.2 -1.1
comp=Z,2.7nm,0.6s
WMQ **Urumqi** 62.06 306 *e*P P 15 02 48.0 +1.6
WMQ pP **pP** 15 02 58.5 +0.7
WMQ PMZ
comp=Z,4.0nm,1.0s
WMQ PMZ
comp=Z,480nm,7.0s
CD2 **Chengdu** 62.20 285 *e*P P 15 02 47.8 +0.3
MKAR **Makanchi Array** 62.55 311 P P 15 02 48.4 -1.2
comp=Z,1.6nm,0.5s,baz=48,slow=6.2,SNR=58
BRVK **Borovoye** 62.95 323*c* *i*P P 15 02 51.7 -0.3
BRVK pmax pmax
comp=Z,3.0nm,0.6s
PRGR **Permogore** 63.04 340 P P 15 02 50.9 -1.6
PRGR pmax pmax
comp=Z,4.0nm,0.5s
ARU **Arti** 64.24 331*c* *i*P P 15 02 59.6 -0.9
ARU 15 05 18.4
ARU S **S** 15 11 37.9 +3.0
ARU SS **SS** 15 15 46.4 +2.8
ARU pmax pmax
comp=Z,22nm,2.5s
KMSC **Kings Mountain** 64.67 65 ⇓P P 15 03 03.6 0.0
baz=64
FINES **FINESS Array B** 66.38 350 P P 15 03 13.1 -1.2
comp=Z,2.6nm,0.8s,baz=15,slow=7.9,SNR=7.8
NOA **NORSAR Array B** 67.80 358 P P 15 03 22.7 -0.7
comp=Z,0.5nm,0.5s,baz=0.5,slow=6.3,SNR=3.7
TKM2 **Tokmak 2** 68.59 313 P P 15 03 29.6 +0.7
SNR=5.4
TKM2 **Tokmak 2** 68.59 313 *i*P P 15 03 29.6 +0.7
USP **Ospenovka** 68.82 313 P P 15 03 31.1 +0.9
SNR=7.9
USP **Ospenovka** 68.82 313 *i*P P 15 03 31.0 +0.9
KBK **Karagaybulak** 69.10 313 P P 15 03 32.9 +0.9
SNR=6.1
KBK **Karagaybulak** 69.10 313 *i*P P 15 03 32.9 +0.9
AAK **Ala-Archa** 69.32 313 P P 15 03 33.8 +0.5
SNR=9.9
AAK **Ala-Archa** 69.32 313 *e*P P 15 03 33.6 +0.3
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK **Ala-Archa** 69.32 313 *e*P P 15 03 33.6 +0.3
comp=Z,8.8nm,0.8s
EKS2 **Erkin-Say** 69.63 313 P P 15 03 35.6 +0.4
SNR=14
EKS2 **Erkin-Say** 69.63 313 *i*P P 15 03 35.5 +0.4
ABKAR **Akbulak array** 69.83 326 *e*P P 15 03 35.5 -0.6
comp=Z,4.3nm,0.6s
AML **Almayashu** 70.08 313 P P 15 03 38.8 +0.5
SNR=9.0
AML **Almayashu** 70.08 313 *i*P P 15 03 38.8 +0.5
LSA **Lhasa** 70.52 293 P P 15 03 42.0 +0.7
LSA **Lhasa** 70.52 293 *e*P P 15 03 42.5 +1.2
LSA pmax pmax
comp=Z,17nm,0.6s
LSA **Lhasa** 70.52 293 *e*P P 15 03 42.5 +1.2
comp=Z,17nm,0.6s
OBN **Obninsk** 70.90 342⇑*e*P P 15 03 40.8 -1.7
OBN *i* 15 04 07.7
OBN pmax pmax
comp=Z,47nm,2.5s
KSH **Kashi** 71.07 310 P P 15 03 47.7 +3.6
KSH sP sP 15 04 01.7 +1.6
KSH PP PP 15 06 27.7 +6.4
KSH S **S** 15 13 02.6 +5.0
KSH sS **SKiKP** 15 13 19.3 -2.5
KSH SKS **ScS** 15 13 44.6 -0.6
KSH PMZ
comp=Z,12nm,0.9s
KSH PMZ
comp=Z,280nm,7.8s
KSH LN
comp=Z,150nm,4.5s
KSH LE
comp=Z,180nm,5.8s
KSH LZ
comp=Z,290nm,7.9s
VRHR **Novokhopersk** 73.59 338 *e*P P 15 03 56.3 -2.4
VRHR pmax pmax
comp=Z,9.0nm,0.8s
VRHR pmax pmax
comp=N,20nm,1.2s
VRHR pmax pmax
comp=E,10.0nm,1.4s
VSR **Storozhevoye** 74.04 339 *e*P P 15 04 00.1 -1.2
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,8.0nm,1.1s
VSR pmax pmax
comp=E,5.0nm,1.2s
TAPN **Taplejung** 74.27 294 *e*P P 15 04 04.0 +0.6
comp=E,42nm,0.8s
CMAR **Chiang Mai Arr** 74.31 280 P P 15 04 03.9 +0.5
comp=E,1.7nm,0.8s,baz=24,slow=7.1,SNR=12
ODAN **Odare** 74.83 294 *e*P P 15 04 06.8 +0.2
comp=E,15nm,0.8s
GUN **Gumba** 74.88 296 *e*P P 15 04 07.6 +0.6
comp=E,59nm,0.8s
JIRN **Jiri** 74.90 295 *e*P P 15 04 07.7 +0.5
comp=E,64nm,0.7s
RAMN **Ramite** 75.21 295 *e*P P 15 04 09.1 +0.3
comp=E,68nm,0.8s
KKN **Kakani** 75.31 296 *e*P P 15 04 09.7 +0.4
comp=E,25nm,0.8s
PKI **Pulchoki** 75.41 296 *e*P P 15 04 10.2 +0.2
comp=E,35nm,1.0s
PKIN **Phulchoki** 75.41 296 *e*P P 15 04 10.4 +0.4
comp=E,13nm,0.7s
GKN **Gorkha** 75.51 297 *e*P P 15 04 10.6 +0.2
comp=E,35nm,0.8s
DMN **Daman** 75.55 296 *e*P P 15 04 11.2 +0.4
comp=E,31nm,0.9s
DANN **Dangsing** 75.73 298 *e*P P 15 04 12.2 +0.4
comp=E,80nm,0.8s
KOLN **Koldanda** 76.27 297 *e*P P 15 04 14.9 +0.1
comp=E,21nm,0.8s
AKASG **Malin Array Be** 76.42 345 P P 15 04 13.6 -1.4
comp=E,2.2nm,0.4s,baz=17,slow=6.1,SNR=6.5
BRG **Berggiesshubel** 77.86 355 *e*P P 15 04 22.7 -0.4
comp=E,5.8nm,1.1s
BRG **Berggiesshubel** 77.86 355 *e*P P 15 04 22.7 -0.4
BRG 15 15 12.8
BRG pmax pmax
comp=Z,6.0nm,1.1s
DPC **Dobruska-Polom** 78.24 354 *e*P P 15 04 24.8 -0.5
DPC *e* 15 04 38.5
DPC **Dobruska-Polom** 78.24 354 *e*P P 15 04 24.8 -0.5
DPC *e*pP **pP** 15 04 38.5 +1.5
KBL **Kabul** 78.36 312 *e*P P 15 04 25.2 -1.2
KBL pmax pmax
comp=Z,15nm,1.0s
KBL **Kabul** 78.36 312 *e*P P 15 04 25.2 -1.2
comp=Z,15nm,1.0s
KRLC **Kraliky** 78.48 353 *e*P P 15 04 25.9 -0.7
KRLC **Kraliky** 78.48 353 *e*P P 15 04 25.9 -0.7
STHS **Stebnicka Huta** 78.73 350 *e*P P 15 04 28.6 +0.6
STHS pmax pmax
comp=Z,11nm,1.9s
STHS **Stebnicka Huta** 78.73 350 *e*P P 15 04 28.6 +0.6
KOLS **Kolonicke sedl** 79.09 350 *e*P P 15 04 29.0 -0.9
KOLS **Kolonicke sedl** 79.09 350 *e*P P 15 04 29.0 -0.9
KHC **Kasperske Hory** 79.62 355 *e*P P 15 04 33.2 +0.4
KHC *e* 15 04 41.2
KHC **Kasperske Hory** 79.62 355 *e*P P 15 04 33.2 +0.4
KHC *e*pP **PcP** 15 04 41.2 +0.6
VYHS **Vyhne** 79.88 352 *e*P P 15 04 33.5 -0.7
VYHS pmax pmax
comp=Z,7.0nm,1.7s
VYHS **Vyhne** 79.88 352 *e*P P 15 04 33.5 -0.7
GERES **GERESS Array B** 79.90 355 P P 15 04 33.1 -1.3
comp=Z,1.1nm,0.7s,baz=37,slow=5.2,SNR=5.3
KBZ **Khabaz** 80.10 334 P P 15 04 35.9 +0.5
comp=Z,4.1nm,0.9s,baz=98,slow=2.1,SNR=7.0
GEYT **Alibeck** 80.21 321 P P 15 04 35.4 -0.9
comp=Z,5.7nm,1.0s,baz=299,slow=3.1,SNR=9.7
ZEI **Tsey** 80.69 333 *e*P P 15 04 37.8 -1.1
ZEI pmax pmax
comp=Z,7.0nm,0.9s
WRA **Warramunga Arr** 84.47 228 P P 15 04 57.6 -0.9
comp=Z,0.6nm,0.6s,baz=32,slow=5.7,SNR=11
BRTR **Keskin Array B** 86.16 339*c*e*P P 15 05 07.5 +0.5
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR **Keskin Array B** 86.16 339 P P 15 05 07.3 +0.3
comp=Z,2.3nm,0.8s,baz=28,slow=3.9,SNR=6.1
ASAR **Alice Springs** 87.89 227 P P 15 05 15.4 +0.1
comp=Z,1.2nm,0.8s,baz=27,slow=4.7,SNR=19

GUC 09 14:56:03.1±0.8, 34°78S×72°05W, h13km±5km, ML3.9, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.71**	**108**	⇓*i*P		Pg	14 56 16.3	-0.6
NICH				*i* S		Sg	14 56 26.4	+0.1
LNCH	**Linares**	**1.12**	**161**	⇑*i*P		Pb	14 56 22.1	-2.3
LNCH				*i* S		Sb	14 56 37.7	-1.3
RCDM	**Rinconada Maip**	**1.65**	**39**	*e*P4		Pn	14 56 30.1	-1.8
RCDM				*i* S4		Sn	14 56 50.7	-2.3
ANTU	**Antumapu**	**1.69**	**45**	*e*P		Pn	14 56 32.4	0.0
ANTU				*i* S		Sn	14 56 53.5	-0.3
SJCH	**San Jose de Ma**	**1.81**	**51**	*e*P9		Pn	14 56 33.1	-1.0
SJCH				*e*S		Sn	14 56 55.9	-1.1
CLCH	**Cerro Calan**	**1.87**	**43**	⇑*i*P		Pn	14 56 34.8	-0.1
CLCH				*i* S		Sn	14 56 59.3	+1.0
CLCH				IAML			14 57 03.0	
comp=N,2μm,0.7s								
PEL	**Peldehue**	**1.99**	**35**	⇑*i*P		Pn	14 56 36.6	+0.1
PEL				*i* S		Sn	14 57 02.4	+1.1
PEL				IAML			14 57 08.4	
comp=N,2μm,0.8s								
FCH	**Farellones**	**2.06**	**46**	⇑*i*P		Pn	14 56 38.4	+0.6
FCH				*i* S		Sb	14 57 05.8	-0.8

*CSEM **09** 15:02:08.5, 39°49N×26°15E, h23km, MD2.7*
ATH 09 15:02:08.5, 39°49N×26°15E, h23km±1km, MD2.7/6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.26**	**159**	*e*PB		Pb	15 02 15.1	+0.3
PRK				*e*SB		Sb	15 02 19.3	+0.3
PRK	**Paraskevi**	**0.26**	**159**	*e*Pb		Pb	15 02 15.1	+0.3
PRK				*e*Sb		Sb	15 02 19.3	+0.3
SIGR	**SIGRI**	**0.36**	**219**	*e*PB		Pb	15 02 16.6	+0.3
SIGR				*e*SB		Sb	15 02 22.0	+0.4
SIGR	**SIGRI**	**0.36**	**219**	*e*Pb		Pb	15 02 16.6	+0.3
SIGR				*e*Sb		Sb	15 02 22.0	+0.4
LIA	**Limnos Island**	**0.85**	**299**	*e*PN		Pn	15 02 25.3	+0.3
LIA				*e*SN		Sn	15 02 37.1	+0.3
LIA	**Limnos Island**	**0.85**	**299**	*e*Pn		Pn	15 02 25.3	+0.3
LIA				*e*Sn		Sn	15 02 37.1	+0.3
SMTH	**Samothraki Isl**	**1.09**	**334**	*e*PN		Pb	15 02 29.0	+0.3
SMTH				*e*SN		Sn	15 02 43.5	+0.7
SMTH	**Samothraki Isl**	**1.09**	**334**	*e*Pn		Pb	15 02 29.0	+0.3
SMTH				*e*Sn		Sn	15 02 43.5	+0.7
CHOS	**Chios island**	**1.10**	**184**	*e*PN		Pb	15 02 29.5	+0.5
CHOS	**Chios island**	**1.10**	**184**	*e*Pn		Pb	15 02 29.5	+0.5
ALN	**Alexandroupoli**	**1.41**	**357**	*e*PN		Pb	15 02 34.6	+0.5
ALN				*e*SN		Sb	15 02 53.5	+1.9
ALN	**Alexandroupoli**	**1.41**	**357**	*e*Pn		Pb	15 02 34.6	+0.5
ALN				*e*Sn		Sb	15 02 53.5	+1.9

GUC 09 15:03:29.8±0.7, 33°64S×71°93W, h16km±18km, ML3.7, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.65**	**21**	⇓*i*P		Pg	15 03 42.6	0.0
IHA				*i* S1		Sn	15 03 52.3	-2.0
RCDM	**Rinconada Maip**	**0.94**	**81**	⇑*i*P		Pg	15 03 48.1	-0.1
RCDM				*i* S		Sn	15 04 02.0	+0.4
ANTU	**Antumapu**	**1.08**	**87**	⇑*i*P		Pn	15 03 50.3	-0.1
ANTU				*i* S		Sn	15 04 05.9	+0.9
ANTU				IAML			15 04 11.9	
comp=N,2μm,0.8s								
PEL	**Peldehue**	**1.15**	**65**	⇑*i*P		Pg	15 03 51.8	-0.3
PEL				*i* S		Sg	15 04 08.3	+1.1
PEL				IAML			15 04 09.3	
comp=E,7μm,0.9s								
CLCH	**Cerro Calan**	**1.18**	**79**	*e*P		Pb	15 03 51.9	-0.1
CLCH				*i* S		Sg	15 04 09.2	+0.8
CLCH				IAML			15 04 15.2	
comp=E,2μm,0.5s								
CLCH				IAML			15 04 15.8	
comp=E,3μm,0.6s								
SJCH	**San Jose de Ma**	**1.31**	**91**	⇑*i*P		Pn	15 03 53.0	-0.6
SJCH				*i* S		Sb	15 04 11.4	+0.6
FCH	**Farellones**	**1.40**	**78**	⇓*i*P		Pn	15 03 51.0	-4.1
FCH				*i* S		Sn	15 04 10.7	-2.8
NICH	**Los Niches**	**1.48**	**157**	*e*P1		Pn	15 03 57.2	+1.4
NICH				*i* S		Sg	15 04 17.0	-0.6

*LJU **09** 15:07:38.9, 46°39N×15°07E, h0km Rockburst*
CSEM 09 15:07:38.9, 46°39N×15°07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

IDC 09 15:07:45.4±1.9, 19°96N×93°36E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/34, mbtmp3.2/4, ML3.6/1, Error ellipse: s-maj=77.7km s-min=26.1km az=56.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.48**	**105**	Pn		Pn	15 09 08.1	-0.4
0.5nm,0.3s,baz=284,slow=14,SNR=9.5								
MKAR	**Makanchi Array**	**28.25**	**344**	P		P	15 13 40.2	-0.1
0.2nm,0.6s,baz=152,slow=10,SNR=3.8								
WRA	**Warramunga Arr**	**56.42**	**132**	P		P	15 17 28.8	-0.4
0.1nm,0.3s,baz=319,slow=7.5,SNR=5.1								
ASAR	**Alice Springs**	**58.67**	**136**	P		P	15 17 45.4	+0.4
0.5nm,1.0s,baz=313,slow=6.7,SNR=6.9								

*NSSC **09** 15:34:40.7±2.9, 41°60N×39°84E, h36km±999km, MD2.4, ML3.4*
*ISK **09** 15:35:02.8, 39°89N×39°14E, h5km, ML4.2*
*DDA **09** 15:35:02.0, 39°83N×39°09E, h15km, ML3.9*
*ISCJB **09** 15:35:03.6±0.2, 39°85N±0°02×39°10E±0°02, h10km, mb3.6/5, MS4.4/1, Error ellipse: s-maj=2.8km s-min=2.2km az=177.2*
*CSEM **09** 15:35:03.5±0.1, 39°85N×39°12E, h2km, ML4.2, Error ellipse: s-maj=4.8km s-min=3.6km az=158.0*
*IDC **09** 15:35:03.1±1.3, 39°92N×39°03E, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.4/45, mbtmp3.6/9, ML3.7/3, MS3.9/2, Ms1 4.0/2, ms1mx2.9/45, Error ellipse: s-maj=27.3km s-min=9.6km az=160.0*
ISC 09 15:35:02.8±0.5, 39°81N±0°02×39°09E±0°01, h10km, n156, σ1°51/169, mb3.5/5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KELT	**Kelkit**	**0.36**	**21**	*i* P		**Pg**	**15 35 09.7**	**-0.4**
KELT				*i* S		**Sg**	**15 35 14.4**	**-0.6**
KELT	**Kelkit**	**0.36**	**21**	*i* P		**Pg**	**15 35 09.7**	**-0.4**
KELT				*i* S		**Sg**	**15 35 14.4**	**-0.6**
EUZM	**Uzumlu**	**0.48**	**102**	*i* P		**Pg**	**15 35 11.6**	**-0.6**
EUZM				*i* S		**Sb**	**15 35 19.2**	**-1.4**
EUZM	**Uzumlu**	**0.48**	**102**	*i* P		**Pg**	**15 35 11.6**	**-0.6**
EUZM				*i* S		**Sb**	**15 35 19.2**	**-1.4**
ILIC	**ilic-Erzincan**	**0.54**	**229**	*e*PG		**Pn**	**15 35 15.3**	**-1.3**
ILIC	**ilic-Erzincan**	**0.54**	**229**	*e*Pg		**Pn**	**15 35 15.3**	**-1.3**
ERZN	**Erzincan**	**0.54**	**114**	*e*PG		**Pg**	**15 35 12.8**	**-0.5**
ERZN				*e*SG		**Sb**	**15 35 21.0**	**-1.3**
KEMA	**Kemaliye**	**0.71**	**221**	*i* P		**Pg**	**15 35 15.9**	**-0.6**
KEMA				*i* S		**Sg**	**15 35 25.8**	**+0.1**
KEMA	**Kemaliye**	**0.71**	**221**	*i* P		**Pg**	**15 35 15.9**	**-0.6**
KEMA				*i* S		**Sg**	**15 35 25.8**	**+0.1**
GUMT	**Gumushane**	**0.72**	**25**	*e*PG		**Pg**	**15 35 15.6**	**-1.1**
GUMT	**Gumushane**	**0.72**	**25**	*e*Pg		**Pg**	**15 35 15.6**	**-1.1**
SUSE	**Susehri**	**0.79**	**301**	*i* P		**Pg**	**15 35 17.9**	**-0.1**
SUSE				*i* S		**Sb**	**15 35 29.6**	**+0.1**
SUSE	**Susehri**	**0.79**	**301**	*i* P		**Pg**	**15 35 17.9**	**-0.1**
SUSE				*i* S		**Sb**	**15 35 29.6**	**+0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.00**	**54**	*e*PG		**Pg**	**15 35 20.8**	**-1.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.00**	**54**	*e*Pg		**Pg**	**15 35 20.8**	**-1.3**
KOPT	**Kop Dagi**	**1.10**	**79**	*i* P		**Pb**	**15 35 23.4**	**-0.8**
KOPT				*i* S		**Sn**	**15 35 42.2**	**+2.1**
KOPT	**Kop Dagi**	**1.10**	**79**	*i* P		**Pb**	**15 35 23.4**	**-0.8**
KOPT				*i* S		**Sn**	**15 35 42.2**	**+2.1**
MACK	**Trabzon**	**1.25**	**24**	*i* P		**Pn**	**15 35 25.1**	**-1.3**
MACK				*i* S		**Sb**	**15 35 41.8**	**-0.9**
MACK	**Trabzon**	**1.25**	**24**	*i* P		**Pn**	**15 35 25.1**	**-1.3**
MACK				*i* S		**Sb**	**15 35 41.8**	**-0.9**
GRSN	**GIRESUNGRSN**	**1.28**	**331**	*i* P		**Pn**	**15 35 25.4**	**-1.4**
GRSN	**GIRESUNGRSN**	**1.28**	**331**	*i* P		**Pn**	**15 35 25.4**	**-1.4**
KTUT	**Trabzon**	**1.29**	**24**	*e*PN		**Pn**	**15 35 26.1**	**-0.8**
KTUT	**Trabzon**	**1.29**	**24**	*e*Pn		**Pn**	**15 35 26.1**	**-0.8**
BINT	**Bingol**	**1.43**	**130**	*e*Pn		**Pg**	**15 35 30.3**	**0.0**
RSDY	**Resadiye-TOKAT**	**1.47**	**294**	*e*PN		**Pb**	**15 35 29.7**	**-0.6**
RSDY				*e*SN		**Sg**	**15 35 50.0**	**-0.2**
RSDY	**Resadiye-TOKAT**	**1.47**	**294**	*e*Pn		**Pb**	**15 35 29.7**	**-0.6**
RSDY				*e*Sn		**Sg**	**15 35 50.0**	**-0.2**
BNGB	**Bing¨¶l**	**1.48**	**123**	*e*PN		**Pg**	**15 35 30.3**	**-0.8**

SCER	**sogukcermik**	**1.51**	**273**	*i* P	**Pb**	**15 35 30.1**	**-0.9**
SCER				*i* S	**Sg**	**15 35 52.1**	**+0.8**
SCER	**sogukcermik**	**1.51**	**273**	*i* P	**Pb**	**15 35 30.1**	**-0.9**
SCER				*i* S	**Sg**	**15 35 52.1**	**+0.8**
SVSK	**Karacayir**	**1.61**	**275**	*e*PN	**Pb**	**15 35 32.4**	**-0.2**
SVSK	**Karacayir**	**1.61**	**275**	*e*Pn	**Pb**	**15 35 32.4**	**-0.2**
EZM	**Erzurum**	**1.75**	**86**	*e*PN	**Pb**	**15 35 34.0**	**-1.2**
ERZM	**Erzurum**	**1.76**	**86**	*i* P	**Pb**	**15 35 34.6**	**-0.7**
ERZM	**Erzurum**	**1.76**	**86**	*i* P	**Pb**	**15 35 34.6**	**-0.7**
BNGL	**BINGOL**	**1.81**	**117**	*i* P	**Pg**	**15 35 36.8**	**-0.8**
BNGL				*i* S	**Sg**	**15 36 03.1**	**+2.0**
VRTB	**Varto-Mus**	**1.94**	**109**	*e*PN	**Pb**	**15 35 37.4**	**-1.0**
VRTB	**Varto-Mus**	**1.94**	**109**	*e*Pn	**Pb**	**15 35 37.4**	**-1.0**
DYBB	**Diyarbakir**	**2.02**	**156**	*e*PN	**Pb**	**15 35 38.7**	**-1.0**
TOKA	**Tokat**	**2.07**	**285**	*i* P	**Pb**	**15 35 38.8**	**-1.6**
TOKA				*i* S	**Sg**	**15 36 09.3**	**+0.1**
TOKA	**Tokat**	**2.07**	**285**	*i* P	**Pb**	**15 35 38.8**	**-1.6**
TOKA				*i* S	**Sg**	**15 36 09.3**	**+0.1**
DIY	**Diyarbakir**	**2.11**	**155**	*e*Pn	**Pn**	**15 35 38.7**	**+0.5**
DDEM	**Demirkent**	**2.31**	**61**	*i* P	**Pb**	**15 35 43.0**	**-1.6**
DDEM				*i* S	**Sb**	**15 36 14.4**	**+1.2**
DDEM	**Demirkent**	**2.31**	**61**	*i* P	**Pb**	**15 35 43.0**	**-1.6**
DDEM				*i* S	**Sb**	**15 36 14.4**	**+1.2**
DBAD	**Bademkaya**	**2.33**	**58**	*i* P	**Pb**	**15 35 43.4**	**-1.6**
DBAD				*i* S	**Sb**	**15 36 13.4**	**-0.4**
DBAD	**Bademkaya**	**2.33**	**58**	*i* P	**Pb**	**15 35 43.4**	**-1.6**
DBAD				*i* S	**Sb**	**15 36 13.4**	**-0.4**
SVAN	**Silvan-Diyarba**	**2.33**	**134**	*e*PN	**Pb**	**15 35 43.8**	**-1.1**
URFA	**Urfa**	**2.37**	**185**	*e*PN	**Pb**	**15 35 45.0**	**-0.6**
URFA	**Urfa**	**2.37**	**185**	*e*Pn	**Pb**	**15 35 45.0**	**-0.6**
ATAB	**Bozova**	**2.42**	**195**	*i* P	**Pg**	**15 35 47.6**	**-1.5**
ATAB				*i* S	**Sg**	**15 36 20.3**	**-0.1**
ATAB	**Bozova**	**2.42**	**195**	*i* P	**Pg**	**15 35 47.6**	**-1.5**
ATAB				*i* S	**Sg**	**15 36 20.3**	**-0.1**
DBOC	**Borcka**	**2.49**	**51**	*i* P	**Pb**	**15 35 45.1**	**-2.6**
DBOC				*i* S	**Sb**	**15 36 17.6**	**-0.9**
DBOC	**Borcka**	**2.49**	**51**	*i* P	**Pb**	**15 35 45.1**	**-2.6**
DBOC				*i* S	**Sb**	**15 36 17.6**	**-0.9**
DAGI	**Agillar**	**2.50**	**59**	*i* P	**Pb**	**15 35 45.3**	**-2.6**
DAGI				*i* S	**Sb**	**15 36 19.9**	**+1.1**
BEST	**Besiri**	**2.56**	**138**	*i* P	**Pb**	**15 35 49.0**	**+0.1**
BEST				*i* S	**Sb**	**15 36 19.7**	**-0.8**
ARTV	**Artvin**	**2.57**	**57**	*i* P	**Pb**	**15 35 47.8**	**-1.3**
ARTV				*i* S	**Sb**	**15 36 21.6**	**+0.9**
ARTV	**Artvin**	**2.57**	**57**	*i* P	**Pb**	**15 35 47.8**	**-1.3**
ARTV				*i* S	**Sb**	**15 36 21.6**	**+0.9**
MAZI	**Mazidag**	**2.58**	**155**	*e*PN	**Pb**	**15 35 47.2**	**-1.9**
MAZI	**Mazidag**	**2.58**	**155**	*e*Pn	**Pb**	**15 35 47.2**	**-1.9**
KVT	**Kavak**	**2.65**	**300**	*e*PN	**Pb**	**15 35 48.0**	**-2.3**
KVT	**Kavak**	**2.65**	**300**	*e*Pn	**Pb**	**15 35 48.0**	**-2.3**
BNN	**Bunyan**	**2.69**	**250**	*e*PN	**Pn**	**15 35 48.1**	**+1.9**
BNN	**Bunyan**	**2.69**	**250**	*e*Pn	**Pn**	**15 35 48.1**	**+1.9**
HAVZ	**Havza**	**2.87**	**297**	*i* P	**Pb**	**15 35 53.8**	**-0.2**
HAVZ	**Havza**	**2.87**	**297**	*i* P	**Pb**	**15 35 53.8**	**-0.2**
HAVZ				*i* S	**Sg**	**15 36 35.2**	**+0.4**
KMRS	**Kahramanmaras**	**2.87**	**217**	*e*PN	**Pb**	**15 35 51.3**	**-2.7**
KMRS	**Kahramanmaras**	**2.87**	**217**	*e*Pn	**Pb**	**15 35 51.3**	**-2.7**
YOZ	**Yozgat**	**2.91**	**268**	*e*PN	**Pb**	**15 35 51.8**	**-3.0**
YOZ	**Yozgat**	**2.91**	**268**	*e*Pn	**Pb**	**15 35 51.8**	**-3.0**
AGRB	**Hanur-Agry**	**3.02**	**93**	*e*PN	**Pn**	**15 35 52.4**	**+1.5**
AGRB	**Hanur-Agry**	**3.02**	**93**	*e*Pn	**Pn**	**15 35 52.4**	**+1.5**
KBSD	**Kabsdagh**	**3.03**	**157**	*e*P	**Pn**	**15 35 50.5**	**-0.3**
	SNR=90						
KBSD	**Kabsdagh**	**3.03**	**157**	*e*P	**Pn**	**15 35 50.5**	**-0.3**
KBSD				*e*S	**Sb**	**15 36 36.3**	**+2.5**
KBSD				AML	AML	15 36 46.3	
	comp=N,156nm,0.7s						
KBSD				AML	AML	15 36 53.9	
	comp=E,148nm,0.6s						
ANDN	**Andirin**	**3.09**	**225**	*i* P	**Pb**	**15 35 59.2**	**+1.3**
ANDN	**Andirin**	**3.09**	**225**	*i* P	**Pb**	**15 35 59.2**	**+1.3**
ANDN				*i* S	**Sg**	**15 36 40.5**	**-1.5**
KARS	**Kars**	**3.16**	**74**	*e*PN	**Pn**	**15 35 54.2**	**+1.4**
KARS	**Kars**	**3.16**	**74**	*e*Pn	**Pn**	**15 35 54.2**	**+1.4**
CORM	**Corum**	**3.44**	**278**	*e*PN	Pn	15 35 59.8	+3.2
CORM	**Corum**	**3.44**	**278**	*e*Pn	Pn	15 35 59.8	+3.2
DIKM	**Dikmen**	**3.44**	**304**	*e*PN	**Pn**	**15 35 58.9**	**+2.4**
DIKM	**Dikmen**	**3.44**	**304**	*e*Pn	**Pn**	**15 35 58.9**	**+2.4**
KOZT	**Kozan**	**3.45**	**229**	*e*PN	Pb	15 36 00.7	-3.3
KOZT	**Kozan**	**3.45**	**229**	*e*Pn	Pb	15 36 00.7	-3.3
SFNV	**Sufian**	**3.48**	**166**	*e*P	**Pn**	**15 35 58.4**	**+1.4**
	SNR=90						
SFNV	**Sufian**	**3.48**	**166**	*e*P	**Pn**	**15 35 58.4**	**+1.4**
SFNV				*e*S	**Sg**	**15 36 51.4**	**-3.2**
SFNV				AML	AML	15 37 21.2	
	comp=E,101nm,0.6s						
SIRT	**Sirnak**	**3.49**	**130**	*e*PN	Pn	15 35 59.9	+2.7
SIRT	**Sirnak**	**3.49**	**130**	*e*Pn	Pn	15 35 59.9	+2.7
VANB	**Van**	**3.56**	**109**	*e*PN	**Pn**	**15 35 59.2**	**+1.1**
VANB	**Van**	**3.56**	**109**	*e*Pn	**Pn**	**15 35 59.2**	**+1.1**
CDAG	**Cicekdag**	**3.64**	**269**	*i* P	**Pb**	**15 36 07.0**	**-0.3**
CDAG				*i* S	**Sg**	**15 36 56.9**	**-2.9**
SLMH	**Al Salmeh**	**3.70**	**195**	*e*P	Pn	15 36 03.2	+3.1
	SNR=90						
SLMH	**Al Salmeh**	**3.70**	**195**	*e*P	Pn	15 36 03.1	+3.1
SLMH				*e*S	**Sg**	**15 37 00.5**	**-1.2**
SLMH				AML	AML	15 37 09.8	
	comp=E,247nm,0.7s						
SLMH				AML	AML	15 37 10.0	
	comp=N,223nm,0.7s						
AKH	**Akhalkalaki**	**3.72**	**63**	*e*PN	**Pn**	**15 36 02.1**	**+1.7**
AKH	**Akhalkalaki**	**3.72**	**63**	P	**Pb**	**15 36 10.3**	**+1.7**
AKH	**Akhalkalaki**	**3.72**	**63**	*e*Pn	**Pn**	**15 35 58.2**	**+1.7**
CLDR	**Caldiran**	**3.80**	**99**	*e*PN	**Pn**	**15 36 03.6**	**+2.0**
CLDR	**Caldiran**	**3.80**	**99**	*e*Pn	**Pn**	**15 36 03.6**	**+2.0**
CEYT	**Ceyhan**	**3.83**	**224**	*e*PN	Pb	15 36 06.0	-4.5
CEYT	**Ceyhan**	**3.83**	**224**	*e*Pn	Pb	15 36 06.0	-4.5
MNKR	**ALMNKUR**	**3.86**	**178**	*e*P	**Pn**	**15 36 04.1**	**+1.9**
	SNR=90						
MNKR	**ALMNKUR**	**3.86**	**178**	*e*P	**Pn**	**15 36 04.1**	**+1.9**
NIG	**Nigde**	**3.88**	**246**	*e*PN	Pb	15 36 06.7	-4.7
NIG	**Nigde**	**3.88**	**246**	*e*Pn	Pb	15 36 06.7	-4.7
KARA	**Karaisali**	**4.06**	**232**	*e*PN	Pn	15 36 09.1	+4.2
KARA	**Karaisali**	**4.06**	**232**	*e*Pn	Pn	15 36 09.1	+4.2
MZRK	**Al-Mazaregh**	**4.16**	**162**	*e*P	**Pn**	**15 36 05.4**	**-1.0**
	SNR=90						
MZRK	**Al-Mazaregh**	**4.16**	**162**	*e*P	**Pn**	**15 36 05.4**	**-1.0**
MZRK				*e*S	**Sb**	**15 37 06.0**	**-0.5**
MZRK				AML	AML	15 37 20.8	
	comp=N,61nm,0.6s						
MZRK				AML	AML	15 37 35.7	
	comp=E,92nm,0.7s						
BRTR	**Keskin Array B**	**4.20**	**271**	Pn	**Pn**	**15 36 08.4**	**+1.4**
	comp=E,2.6nm,0.3s,baz=90,slow=14,SNR=66						
BRTR				Pg	Pg	15 36 19.9	-3.3
	comp=E,9.9nm,0.3s,baz=106,slow=16,SNR=38						
BRTR				Lg	Lg	15 37 16.8	
	comp=E,3.2nm,0.3s,baz=104,slow=28,SNR=2.7						
CANT	**Cankiri**	**4.26**	**283**	*e*PN	**Pn**	**15 36 10.0**	**+2.2**
BTCH	**Batrach**	**4.30**	**210**	*e*P	**Pn**	**15 36 08.3**	**0.0**
	SNR=90						
BTCH	**Batrach**	**4.30**	**210**	*e*P	**Pn**	**15 36 08.3**	**0.0**
BTCH				*e*S	**Sg**	**15 37 15.9**	**-5.0**
BTCH				AML	AML	15 37 25.4	
	comp=E,142nm,0.6s						
BTCH				AML	AML	15 37 33.8	
	comp=N,173nm,0.4s						
ONI	**Oni**	**4.31**	**48**	P	Pb	15 36 13.1	-5.6
GNI	**Garni**	**4.36**	**84**	*e*PN	**Pn**	**15 36 11.6**	**+2.4**
GNI	**Garni**	**4.36**	**84**	Pg	**Pg**	**15 36 23.9**	**-2.4**
	comp=N,1.3nm,0.3s,baz=312,slow=3.0,SNR=12						
GNI	**Garni**	**4.36**	**84**	*e*Pn	**Pn**	**15 36 11.6**	**+2.4**
BZK	**Bozkurt**	**4.41**	**301**	*e*PN	**Pn**	**15 36 11.9**	**+2.1**
BZK	**Bozkurt**	**4.41**	**301**	*e*Pn	**Pn**	**15 36 11.9**	**+2.1**
SULT	**Sultanhani-AKS**	**4.63**	**251**	*e*PN	Pn	15 36 16.5	+3.7
SULT	**Sultanhani-AKS**	**4.63**	**251**	*e*Pn	Pn	15 36 16.5	+3.7
MERS	**Mersin**	**4.63**	**232**	*e*PN	Pn	15 36 16.8	+3.9
MERS	**Mersin**	**4.63**	**232**	*e*Pn	Pn	15 36 16.8	+3.9
ARNB	**Al Arnab**	**4.65**	**213**	*e*P	**Pn**	**15 36 14.1**	**+1.0**
	SNR=90						
ARNB	**Al Arnab**	**4.65**	**213**	*e*P	**Pn**	**15 36 14.1**	**+1.0**
ARNB				*e*S	**Sb**	**15 37 22.6**	**+2.1**
ARNB				AML	AML	15 37 34.0	
	comp=N,40nm,0.6s						
ARNB				AML	AML	15 37 36.6	
	comp=E,75nm,0.7s						
AFSR	**Af´ar-Bala (A**	**4.66**	**267**	*e*PN	Pn	15 36 16.7	+3.4
AFSR	**Af´ar-Bala (A**	**4.66**	**267**	*e*Pn	Pn	15 36 16.7	+3.4
TBLG	**Delisi**	**4.70**	**64**	*e*PN	**Pn**	**15 36 15.9**	**+2.1**
TBLG	**Delisi**	**4.70**	**64**	P	**Pg**	**15 36 30.7**	**-2.1**
TBLG	**Delisi**	**4.70**	**64**	*e*Pn	**Pn**	**15 36 15.9**	**+2.1**
WRDH	**Warideh**	**4.79**	**207**	*e*P	**Pn**	**15 36 15.8**	**+0.8**
	SNR=90						
WRDH	**Warideh**	**4.79**	**207**	*e*P	**Pn**	**15 36 15.8**	**+0.8**
WRDH				*e*S	**Sb**	**15 37 26.2**	**+1.7**
WRDH				AML	AML	15 37 41.0	
	comp=N,43nm,0.6s						
WRDH				AML	AML	15 37 43.4	
	comp=E,89nm,0.7s						
KBZ	**Khabaz**	**4.84**	**35**	Pn	**Pn**	**15 36 18.1**	**+2.4**
	comp=E,0.8nm,0.3s,baz=217,slow=1.7,SNR=21						
ANTO	**Ankara**	**4.84**	**273**	*e*PN	Pn	15 36 19.6	+3.8
ANTO	**Ankara**	**4.84**	**273**	*e*Pn	Pn	15 36 19.6	+3.8
GUDG	**Gudauri**	**4.86**	**55**	P	**Pb**	**15 36 30.0**	**+1.9**
LOD	**Lodumlu**	**4.87**	**273**	*e*PN	Pn	15 36 18.9	+2.8
LOD	**Lodumlu**	**4.87**	**273**	*e*Pn	Pn	15 36 18.9	+2.8
DGRG	**David-gareji**	**5.06**	**69**	P	**Pb**	**15 36 33.8**	**+2.4**
BIDA	**Albida**	**5.27**	**206**	*e*P	**Pn**	**15 36 21.8**	**+0.1**
	SNR=90						
BIDA	**Albida**	**5.27**	**206**	*e*P	**Pn**	**15 36 21.8**	**+0.1**
BIDA				*e*S	**Sb**	**15 37 39.0**	**+0.6**
BIDA				AML	AML	15 38 06.6	
	comp=E,89nm,0.7s						
BIDA				AML	AML	15 38 09.0	
	comp=N,95nm,0.7s						
HAWK	**Haweek**	**5.69**	**203**	*e*P	**Pn**	**15 36 29.8**	**+2.3**
	SNR=90						
HAWK	**Haweek**	**5.69**	**203**	*e*P	**Pn**	**15 36 29.8**	**+2.3**
HAWK				*e*S	**Sb**	**15 37 49.5**	**-1.1**
HAWK				AML	AML	15 38 15.6	
	comp=N,24nm,0.7s						
HAWK				AML	AML	15 38 19.7	
	comp=E,95nm,1.5s						
BRBR	**Barbar**	**6.86**	**203**	*e*P	**Pn**	**15 36 45.8**	**+2.1**
	SNR=90						
BRBR	**Barbar**	**6.86**	**203**	*e*P	**Pn**	**15 36 45.8**	**+2.1**
BRBR				AML	AML	15 38 49.2	
	comp=N,11nm,0.7s						
BRBR				AML	AML	15 38 58.0	
	comp=E,19nm,0.7s						
AKASG	**Malin Array Be**	**12.91**	**331**	Pn	**Pn**	**15 38 05.2**	**-0.9**
	comp=E,2.4nm,0.3s,baz=134,slow=14,SNR=4.8						
GEYT	**Alibeck**	**14.95**	**91**	LR	LR	15 44 48.1	
	comp=E,152nm,18.2s,baz=5.0,slow=39						
KOLS	**Kolonicke sedl**	**15.06**	**313**	*e*PN	**Pn**	**15 38 36.3**	**+0.7**
KOLS				*e*PG		15 39 56.2	
KOLS				*e*SG		15 40 01.8	
KOLS				*e*LG	Lg	15 40 04.1	
CRVS	**Cervenica-Dubn**	**15.51**	**312**	*e*P	P	15 38 54.0	+8.1
STHS	**Stebnicka Huta**	**15.89**	**313**	*e*PN	**Pn**	**15 38 46.4**	**-0.1**
STHS				*e*PG		15 40 12.2	
STHS				*e*SG		15 40 28.7	
STHS				*e*LG	Lg	15 40 29.3	
VYHS	**Vyhne**	**16.89**	**308**	*e*P	P	15 39 09.8	+8.6
AKTO	**Aktyubinsk**	**17.02**	**45**	Pn	**P**	**15 39 03.9**	**+1.2**
	comp=E,0.1nm,0.3s,baz=250,slow=15,SNR=3.8						
GERES	**GERESS Array B**	**20.21**	**305**	P	Pn	15 39 39.5	-0.2
	comp=E,0.4nm,0.6s,baz=106,slow=9.5,SNR=2.8						
FINES	**FINESS Array B**	**23.09**	**344**	P	**P**	**15 40 08.9**	**+0.5**
	comp=E,0.8nm,0.5s,baz=150,slow=11,SNR=8.9						
KURBB	**Kurchatov Arra**	**29.48**	**55**	P	**P**	**15 41 08.2**	**+1.4**
	comp=E,0.6nm,0.5s,baz=274,slow=8.8,SNR=3.1						
MKAR	**Makanchi Array**	**31.89**	**63**	P	**P**	**15 41 29.7**	**+1.6**
	comp=E,0.6nm,0.8s,baz=280,slow=5.9,SNR=6.4						
TORD	**Torodi Ar. Bea**	**42.24**	**242**	P	P	15 43 00.1	+3.8
	comp=E,0.6nm,0.7s,baz=44,slow=5.9,SNR=3.7						
DBIC	**Dimbokro**	**51.35**	**242**	LR	LR	16 08 24.0	
	comp=E,340nm,18.6s,baz=144,slow=39						
SEY	**Seymchan**	**64.68**	**28**	P	**P**	**15 45 42.4**	**+1.9**
	comp=E,0.8nm,0.5s,baz=346,slow=8.3,SNR=4.8						

*SJA **09** 15:36:30.6±1.0, 25°.94S×66°.78W, h131km±13km, ML3.8*
*IDC **09** 15:36:31.1±4.2, 25°.97S×66°.25W, h36km±39km, mb3.6/1, mb1 3.7/4, mb1mx3.4/28, mbtmp3.6/4, ML3.3/3, Error ellipse: s-maj=73.5km s-min=30.0km az=104.0*

ISC 09 15:36:33.4±1.2, **25°.95S**±0°.05×**66°.85W**±0°.08, **h72**km±17km, **n18**, σ1§**23**/24, **Salta Province**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AHML	**Horco Molle**	**1.60**	**122**	*i* P		**Pn**	**15 36 58.9**	**-0.9**
AHML				*i* S		**Sn**	**15 37 22.3**	**+2.6**
AHML				AML		AML	15 37 28.3	
	comp=Z,300nm,0.8s							
SLA	**San Lorenzo**	**1.72**	**45**	*i* P4		**Pn**	**15 37 00.3**	**-1.3**
SLA				*i* S		**Sn**	**15 37 25.7**	**+2.8**
SLA				AML		AML	15 37 28.2	
	comp=Z,1μm,0.6s							
AZAP	**Zapla**	**2.36**	**44**	*i* P		**Pn**	**15 37 10.0**	**-0.2**
AZAP				*i* S		**Sn**	**15 37 38.9**	**+0.6**
CYA	**Choya**	**2.66**	**160**	*i* P		**Pn**	**15 37 13.8**	**-0.2**
CYA				*i* S		**Sn**	**15 37 45.4**	**+0.2**
CYA				AML		AML	15 37 55.0	
	comp=Z,530nm,0.6s							
ASTB	**Santa Barbara**	**2.93**	**48**	*i* P		**Pn**	**15 37 17.1**	**-0.7**
ASTB				*i* S		**Sn**	**15 37 51.7**	**-0.3**
ALOL	**LOMAS DE OLMED**	**3.37**	**52**	*i* P		**Pn**	**15 37 22.8**	**-0.9**
ALOL				*i* S		**Sn**	**15 38 00.5**	**-2.0**
LVC	**Limon Verde**	**3.81**	**330**	*i* P		**Pn**	**15 37 29.8**	**-0.2**
LVC				*i* P		**Pn**	**15 37 29.8**	**-0.2**
AGUA	**GUANDACOL**	**3.81**	**202**	*i* P		**Pn**	**15 37 29.5**	**-0.4**
AGUA				*i* S		**Sn**	**15 38 13.0**	**-0.6**
APLL	**PUNTA DE LOS L**	**4.44**	**176**	*i* P		**Pn**	**15 37 37.8**	**-0.5**
AVFE	**Valle Fertil**	**4.73**	**186**	*i* P		**Pn**	**15 37 41.6**	**-0.6**
ACHE	**Chepes**	**5.20**	**178**	*i* P		**Pn**	**15 37 47.8**	**-1.0**
CFAA	**Coronel Fontan**	**5.77**	**192**	Pn		**Pn**	**15 37 55.7**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=358,slow=14,SNR=9.3							
CFAA				Lg		Lg	15 39 25.2	
	comp=Z,0.4nm,0.3s,baz=276,slow=18,SNR=2.7							
CPUP	**Villa Florida**	**8.57**	**95**	Pn		**Pn**	**15 38 33.1**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=262,slow=7.1,SNR=3.0							
CPUP				Lg		Lg	15 40 39.2	
	comp=Z,1.0nm,0.3s,baz=344,slow=18,SNR=1.8							
LPAZ	**La Paz**	**9.68**	**353**	Pn		**Pn**	**15 38 49.9**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=196,slow=6.8,SNR=12							
SIV	**San Ignacio**	**11.28**	**30**	Pn		Pn	15 39 06.7	-5.0
	comp=Z,0.3nm,0.3s,baz=233,slow=12,SNR=4.2							
TORD	**Torodi Ar. Bea**	**77.15**	**68**	P		P	15 48 18.7	-1.1
	comp=Z,0.7nm,0.8s,baz=253,slow=5.4,SNR=3.2							
ZALV	**Zalesovo Beam**	**145.03**	**29**	PKP		**PKPbc**	**15 56 02.6**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=291,slow=4.5,SNR=9.0							
MKAR	**Makanchi Array**	**147.91**	**42**	PKPbc		**PKPbc**	**15 56 11.2**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=283,slow=3.1,SNR=7.3							

*ISCJB **09** 15:39:23.6±0.6, 51°.59N±0°.09×173°.49W±0°.06, h37km, mb4.0/17, Error ellipse: s-maj=12.7km s-min=4.9km az=167.0*
*NEIC **09** 15:39:25.4±0.6, 51°.59N×173°.53W, h35km, mb4.5/1, Error ellipse: s-maj=12.1km s-min=6.9km az=176.0*
*IDC **09** 15:39:26.7±0.8, 51°.65N×173°.64W, h47km±7km, mb3.7/16, mb1 3.9/17, mb1mx3.7/47, mbtmp4.0/17, ML4.6/1, Error ellipse: s-maj=21.2km s-min=14.2km az=179.0*

ISC 09 15:39:26.2±0.8, **51°.7N**±0°.1×**173°.53W**±0°.06, **h37**km, **n36**, σ1§**15**/38, **mb4.1**/17, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.70**	**330**	P		**Pn**	**15 39 40.3**	**+0.7**
KOKV	**Korovin Volcan**	**0.80**	**331**	P		**Pn**	**15 39 40.9**	**0.0**
KOWE	**Korovin West**	**0.83**	**328**	P		**Pn**	**15 39 42.7**	**+1.4**
NIKH	**Nikolski High**	**3.15**	**64**	P		**Pn**	**15 40 13.0**	**-0.2**
NIKH				S		**Sn**	**15 40 48.7**	**-0.8**
OKFG	**Magazine Ridge**	**3.85**	**61**	P		**Pn**	**15 40 22.3**	**-0.4**
OKFG				S		**Sn**	**15 41 07.3**	**+0.6**
MREP	**Makushin Rep't**	**4.65**	**60**	P		**Pn**	**15 40 35.0**	**+1.2**
MSW	**Makushin Switc**	**4.67**	**59**	P		**Pn**	**15 40 34.7**	**+0.6**
MSW				S		**Sn**	**15 41 28.3**	**+1.3**
UNV	**Unalaska Valle**	**4.79**	**60**	P		**Pn**	**15 40 36.7**	**+1.0**
UNV				S		**Sn**	**15 41 29.7**	**-0.2**
SPIA	**Saint Paul Isl**	**5.84**	**18**	P		**Pn**	**15 40 50.9**	**+0.9**
FX1	**Attu Island--F**	**8.25**	**284**	P		**Pn**	**15 41 25.8**	**+2.7**
	2.4nm,0.3s,baz=136,slow=1.6,SNR=19							
GAMB	**Gambell**	**12.18**	**4**	*e*Pn		**Pn**	**15 42 15.9**	**-0.9**
	4.3nm,0.4s							
ILAR	**Eielson Array**	**19.01**	**36**	P		**P**	**15 43 42.9**	**-1.5**
	0.9nm,0.3s,baz=231,slow=9.4,SNR=79							
EGAK	**Eagle**	**21.20**	**39**	*e*P		**P**	**15 44 07.9**	**-0.2**
	14nm,0.6s							
SEY	**Seymchan**	**21.30**	**315**	P		**P**	**15 44 09.2**	**0.0**
	0.5nm,0.5s,baz=2.7,slow=23,SNR=6.8							
INK	**Inuvik**	**25.36**	**34**	P		**P**	**15 44 48.4**	**-0.7**
	1.5nm,0.3s,baz=240,slow=9.6,SNR=7.1							
YKA	**Yellowknife Ar**	**32.63**	**48**	P		**P**	**15 45 53.5**	**-0.4**
	0.3nm,0.3s,baz=273,slow=8.1,SNR=10.0							
YKA				PcP		**PcP**	**15 48 39.6**	**+0.6**
	0.3nm,0.7s,baz=292,slow=3.5,SNR=4.3							
H11N2	**WAKE ISLAND Hy**	**35.38**	**213**	T		T	16 24 16.4	
	baz=21,slow=76,SNR=7.9							
H11N3	**WAKE ISLAND Hy**	**35.39**	**213**	T		T	16 24 16.9	
	baz=21,slow=76,SNR=6.5							
H11N1	**WAKE ISLAND Hy**	**35.40**	**213**	T		T	16 24 14.6	
	baz=21,slow=76,SNR=7.6							
H11S1	**WAKE ISLAND Hy**	**36.58**	**213**	T		T	16 25 36.8	
	baz=20,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**36.60**	**213**	T		T	16 25 38.1	
	baz=20,slow=76,SNR=16							
H11S3	**WAKE ISLAND Hy**	**36.60**	**213**	T		T	16 25 39.8	
	baz=20,slow=76,SNR=8.5							
PDAR	**Pinedale Array**	**43.07**	**76**	P		**P**	**15 47 22.6**	**+0.2**
	1.2nm,0.5s,baz=305,slow=3.9,SNR=14							
SONM	**Songino Array**	**49.42**	**299**	P		**P**	**15 48 12.2**	**0.0**
	1.0nm,0.4s,baz=58,slow=5.9,SNR=24							
TXAR	**Lajitas Array**	**55.35**	**85**	P		**P**	**15 48 57.6**	**+1.3**
	0.3nm,0.6s,baz=285,slow=7.4,SNR=3.5							
TXAR				pP		**pP**	**15 49 10.2**	**+2.9**
	0.3nm,0.5s,baz=270,slow=1.3,SNR=3.6							
ARCES	**ARCESS Array B**	**58.31**	**352**	P		**P**	**15 49 15.7**	**-0.9**
	9.3nm,1.1s,baz=9.2,slow=7.3,SNR=3.7							
KURK	**Kurchatov**	**61.14**	**316**	P		**P**	**15 49 36.2**	**-0.1**
KURBB	**Kurchatov Arra**	**61.25**	**316**	P		**P**	**15 49 36.2**	**-0.8**
	0.9nm,0.5s,baz=45,slow=6.6,SNR=6.9							
MKAR	**Makanchi Array**	**62.37**	**311**	P		**P**	**15 49 43.7**	**-1.0**
	0.4nm,0.3s,baz=44,slow=6.6,SNR=37							
MKAR				pP		**pP**	**15 49 57.6**	**+1.7**
	0.3nm,0.4s,baz=56,slow=5.9,SNR=4.2							
BVAR	**Borovoye Array**	**62.73**	**322**	P		**P**	**15 49 47.0**	**+0.1**
	1.9nm,0.6s,baz=54,slow=6.1,SNR=14							
FINES	**FINESS Array B**	**66.15**	**350**	P		**P**	**15 50 08.5**	**-0.7**
	1.0nm,0.6s,baz=20,slow=6.3,SNR=5.0							
HFS	**Hagfors**	**68.40**	**356**	P		**P**	**15 50 22.5**	**-0.9**
	0.6nm,0.3s,baz=63,slow=0.7,SNR=6.1							
AAK	**Ala-Archa**	**69.14**	**313**	P		**P**	**15 50 28.7**	**+0.1**
	1.7nm,0.8s,baz=135,slow=1.9,SNR=8.9							
AKASG	**Malin Array Be**	**76.19**	**345**	P		**P**	**15 51 08.8**	**-1.2**
	1.0nm,0.3s,baz=19,slow=6.0,SNR=3.4	

JKO			eS	Sn	16 24 55.9	-1.1
BSO3	**Boso 3**	**2.03 351**	P	**Pn**	16 24 34.1	+1.1
BSO3			S	Sn	16 24 57.1	+0.1
JIM2	**Oshima 3**	**2.27 328**	P	**Pn**	16 24 37.1	+0.6
JIM2			S	Sn	16 25 01.5	-1.8
JIZS	**Izushimoda**	**2.55 320**	P	**Pn**	16 24 41.4	+1.1
JIZS			eS	Sn	16 25 08.4	-1.7
TK02	**Tokai 2**	**2.86 295**	P	**Pn**	16 24 46.0	+1.7
JOD2	**Odawara 2**	**2.88 329**	P	**Pn**	16 24 45.7	+0.8
JOD2			eS	Sn	16 25 15.7	-2.7
TK04	**Tokai 4**	**2.97 303**	P	**Pn**	16 24 47.3	+1.3
TK04			eS	Sn	16 25 20.9	+0.6
SHZ3	**Shizuoka 3**	**3.18 316**	P	**Pn**	16 24 51.0	+2.0
TT01	**TONANKAI O.B.S**	**3.53 285**	P	**Pn**	16 24 55.9	+2.4
JRY	**Ryogami san**	**3.61 334**	P	**Pn**	16 24 56.6	+1.6
MJAR	**Matsushiro Arr**	**4.34 330**	P	**Pn**	16 25 07.5	+2.5
	8.0nm,0.3s,baz=162,slow=14,SNR=94					
MJAR			S	Sn	16 25 55.5	+1.1
	1.5nm,0.3s,baz=138,slow=20,SNR=3.5					
MAT	**Matsushiro**	**4.35 330**	P	**Pn**	16 25 07.9	+2.9
MAT			S	Sn	16 25 55.2	+0.8
H11N2	**WAKE ISLAND Hy 26.63 113**		T	T	16 58 35.9	
	baz=304,slow=75,SNR=65					
H11N1	**WAKE ISLAND Hy 26.63 113**		T	T	16 58 33.2	
	baz=304,slow=75,SNR=41					
H11N3	**WAKE ISLAND Hy 26.64 113**		T	T	16 58 37.2	
	baz=304,slow=75,SNR=50					
H11S3	**WAKE ISLAND Hy 27.18 115**		T	T	16 59 08.6	
	baz=305,slow=75,SNR=8.5					
H11S1	**WAKE ISLAND Hy 27.18 115**		T	T	16 59 08.5	
	baz=305,slow=75,SNR=10.0					
H11S2	**WAKE ISLAND Hy 27.20 115**		T	T	16 59 06.4	
	baz=305,slow=75,SNR=4.4					
SONM	**Songino Array**	**30.00 310**	P	**P**	16 30 05.0	-1.2
	0.2nm,0.5s,baz=121,slow=9.1,SNR=3.3					
MKAR	**Makanchi Array**	**46.11 306**	P	**P**	16 32 19.9	-1.7
	0.7nm,0.6s,baz=84,slow=9.2,SNR=10					
KURBB	**Kurchatov Arra**	**48.36 311**	P	**P**	16 32 36.9	-2.0
	0.8nm,0.7s,baz=89,slow=8.1,SNR=7.7					
WRA	**Warramunga Arr**	**52.80 188**	P	**P**	16 33 11.8	-0.9
	0.8nm,0.3s,baz=6.7,slow=7.7,SNR=23					
ASAR	**Alice Springs**	**56.53 188**	P	**P**	16 33 38.9	-0.8
	0.3nm,0.3s,baz=2.9,slow=5.4,SNR=12					
AKTO	**Aktyubinsk**	**61.23 314**	P	**P**	16 34 14.0	+1.9
	1.0nm,0.6s,baz=83,slow=14,SNR=4.3					
FINES	**FINESS Array B**	**72.37 333**	P	**P**	16 35 24.6	+1.9
	0.5nm,0.5s,baz=72,slow=6.2,SNR=4.7					

*ISCJB **09** 16:30:59.5±0.6, 38°.27N±0°.07×91°.00E±0°.07, h10km, mb3.7/7, Error ellipse: s-maj=10.3km s-min=6.7km az=32.2*
*IDC **09** 16:30:59.8±0.8, 38°.20N×91°.11E, h0km, mb3.6/9, mb1 3.8/14, mb1mx3.7/59, mbtmp3.7/14, ML2.9/4, Error ellipse: s-maj=28.1km s-min=15.3km az=57.0*
*BJI **09** 16:31:01.2, 38°.26N×91°.05E, h8km, mb3.8/2, ML3.7/11, Ms3.2/2, Ms7 3.0/5*
*NNC **09** 16:31:47.8±5.3, 41°.13N×88°.00E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=53.0km s-min=51.4km az=39.0*

ISC 09 16:31:01.8±0.9, 38°.36N±0°.10×91°.09E±0°.08, h10km, n24, σ1§51/22, mb3.8/7, 5C-5D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**6.03**	**336**	Pn	**Pn**	**16 32 33.7**	**+2.6**
WMQ				Sn	**Sn**	**16 33 42.0**	**+1.7**
WMQ	86nm,0.6s			SMN			
WMQ	120nm,0.7s			SME			
WMQ	130nm,18.0s			LN			
WMQ	190nm,22.0s			LE			
WMQ	80nm,21.0s			LZ			
GTA	**Gaotai**	**6.88**	**78**	ePn	Pn	16 32 46.0	+3.1
GTA				Sn	Sn	16 34 09.4	+8.0
GTA	260nm,6.9s			LZ			
PDGK	**Podgornoye**	**10.10**	**303**	⇓Pn	**Pn**	**16 33 27.3**	**+0.5**
PDGK				⇓Lg	Lg	16 35 21.8	
MK31	**Makanchi Array**	**10.63**	**325**	⇑Pn	**Pn**	**16 33 34.7**	**+0.6**
MK31	3.1nm,0.4s,baz=140,slow=14,SNR=228			Lg	Lg	16 35 30.2	
MKAR	**Makanchi Array**	**10.63**	**325**	Pn	**Pn**	**16 33 34.4**	**+0.2**
MKAR	3.6nm,0.3s,baz=134,slow=14,SNR=180			Sn	**Sn**	**16 35 31.0**	**-2.3**
KSH	**Kashi**	**11.84**	**280**	P	Pn	16 33 54.0	+3.2
KSH				S	**Sn**	**16 36 04.1**	**+1.2**
AAK	**Ala-Archa**	**13.33**	**294**	Pn	**Pn**	**16 34 12.3**	**+1.1**
	0.1nm,0.3s,baz=98,slow=15,SNR=4.0						
SONM	**Songino Array**	**14.63**	**45**	Pn	**Pn**	**16 34 30.2**	**+1.3**
	0.1nm,0.3s,baz=232,slow=15,SNR=4.8						
KURBB	**Kurchatov Arra**	**15.16**	**328**	⇑Pn	**Pn**	**16 34 34.1**	**-1.8**
	10nm,1.1s						
KURBB	4.7nm,0.6s			⇑Lg	Lg	16 37 51.1	
KURBB	**Kurchatov Arra**	**15.16**	**328**	**Pn**	**Pn**	**16 34 34.1**	**-1.8**
	0.1nm,0.3s,baz=146,slow=12,SNR=11						
KURBB	0.0nm,0.3s,baz=122,slow=28,SNR=3.9			Sn	**Sn**	**16 37 20.6**	**-3.2**
KURK	**Kurchatov**	**15.20**	**328**	⇓Pn	**Pn**	**16 34 34.5**	**-1.8**
	3.1nm,0.8s						
KURK	1.7nm,0.9s			⇓Lg	Lg	16 37 51.7	
ZALV	**Zalesovo Beam**	**16.18**	**347**	Pn	**Pn**	**16 34 48.9**	**-0.2**
	0.0nm,0.3s,baz=172,slow=12,SNR=4.0						
VOSK	**Vostochnaya**	**20.02**	**322**	⇑Pn	**P**	**16 35 34.6**	**-0.1**
	2.8nm,0.6s						
BVA0	**Borovoye Array**	**20.49**	**322**	⇓Pn	Pn	16 35 44.4	+2.5
	2.7nm,0.9s,baz=119,slow=13,SNR=8.4						
BVAR	**Borovoye Array**	**20.49**	**322**	P	Pn	16 35 40.9	-1.0
	1.8nm,0.7s,baz=119,slow=12,SNR=9.7						
BRVK	**Borovoye**	**20.56**	**322**	⇑Pn	Pn	16 35 42.4	-0.3
	7.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.98**	**159**	P	Pn	16 35 43.5	-4.2
	0.5nm,0.6s,baz=326,slow=12,SNR=6.1						
SEY	**Seymchan**	**43.75**	**35**	P	**P**	**16 39 07.6**	**+0.6**
	1.6nm,0.7s,baz=281,slow=10,SNR=6.3						
FINES	**FINESS Array B**	**45.45**	**322**	P	**P**	**16 39 20.6**	**0.0**
	0.9nm,0.7s,baz=83,slow=6.0,SNR=3.5						
ILAR	**Eielson Array**	**67.68**	**23**	P	**P**	**16 41 59.0**	**+0.2**
	1.0nm,0.8s,baz=304,slow=5.0,SNR=13						
WRA	**Warramunga Arr**	**70.78**	**137**	P	**P**	**16 42 17.8**	**-0.7**
	0.4nm,0.6s,baz=328,slow=6.2,SNR=8.0						
ASAR	**Alice Springs**	**73.61**	**139**	P	**P**	**16 42 34.4**	**-1.0**
	0.5nm,0.6s,baz=326,slow=5.9,SNR=11						
YKA	**Yellowknife Ar**	**77.38**	**12**	P	**P**	**16 42 56.3**	**-0.2**
	0.3nm,0.6s,baz=340,slow=5.6,SNR=6.8						
TORD	**Torodi Ar. Bea**	**81.51**	**280**	P	**P**	**16 43 18.4**	**-1.4**
	0.9nm,0.6s,baz=38,slow=6.0,SNR=3.8						

*ISCJB **09** 16:43:35.6±0.4, 38°.84N±0°.01×23°.63E±0°.03, h6km±3km, Error ellipse: s-maj=3.6km s-min=2.4km az=5.9*
*THE **09** 16:43:36.4, 38°.84N×23°.61E, h7km, ML3.2/15, Error ellipse: s-maj=0.7km s-min=0.4km az=285.0*
*ATH **09** 16:43:36.4, 38°.84N×23°.58E, h12km±2km, MD2.8/20, ML3.7*
*CSEM **09** 16:43:36.1±0.1, 38°.84N×23°.60E, h10km, MD2.8, Error ellipse: s-maj=2.4km s-min=1.7km az=105.0*

ISC 09 16:43:36.3±0.8, 38°.84N±0°.01×23°.61E±0°.02, h12km±5km, n85, σ0§48/134, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.13**	**187**	P	**Pg**	**16 43 39.5**	**-0.1**
MRKA				S	**Sg**	**16 43 41.7**	**-0.2**
MRKA	**Markates**	**0.13**	**187**	ePG	**Pg**	**16 43 39.5**	**-0.1**
MRKA				eSG	**Sg**	**16 43 41.8**	**-0.2**
MRKA	**Markates**	**0.13**	**187**	P	**Pg**	**16 43 39.5**	**-0.1**
MRKA				eSg	**Sg**	**16 43 41.8**	**-0.2**
SMIA	**Simia**	**0.32**	**278**	P	**Pg**	**16 43 42.5**	**-0.3**
SMIA				S	**Sg**	**16 43 47.5**	**+0.5**
SMIA	**Simia**	**0.32**	**278**	ePG	**Pg**	**16 43 42.7**	**-0.1**
SMIA				eSG	**Sg**	**16 43 47.7**	**+0.7**
SMIA	**Simia**	**0.32**	**278**	ePg	**Pg**	**16 43 42.7**	**-0.1**
SMIA				S	**Sg**	**16 43 47.5**	**+0.5**
SKIA	**Skiathos**	**0.35**	**341**	P	**Pg**	**16 43 43.3**	**-0.1**
SKIA				S	**Sg**	**16 43 48.8**	**+0.7**

SKIA	**Skiathos**	**0.35**	**341**	ePg	**Pg**	**16 43 43.4**	**0.0**
SKIA				eSB	**Sg**	**16 43 48.9**	**+0.8**
SKIA	**Skiathos**	**0.35**	**341**	P	**Pg**	**16 43 43.3**	**-0.1**
SKIA				S	**Sg**	**16 43 48.8**	**+0.7**
AOS	**Alonnisos**	**0.40**	**32**	P	**Pg**	**16 43 44.0**	**-0.2**
AOS				S	**Sg**	**16 43 49.4**	**-0.1**
AOS	**Alonnisos**	**0.40**	**32**	ePB	**Pg**	**16 43 44.0**	**-0.2**
AOS				eSB	**Sg**	**16 43 50.1**	**+0.6**
AOS	**Alonnisos**	**0.40**	**32**	P	**Pg**	**16 43 44.0**	**-0.2**
AOS				S	**Sg**	**16 43 49.4**	**-0.1**
AOS				eSb	**Sg**	**16 43 50.1**	**+0.6**
LKR	**Lokris**	**0.51**	**249**	P	**Pg**	**16 43 45.7**	**-0.6**
LKR				S	**Sg**	**16 43 53.4**	**+0.3**
LKR	**Lokris**	**0.51**	**249**	ePG	**Pg**	**16 43 45.8**	**-0.6**
LKR				eSB	**Sg**	**16 43 53.4**	**+0.3**
LKR	**Lokris**	**0.51**	**249**	ePg	**Pg**	**16 43 45.8**	**-0.6**
LKR				S	**Sg**	**16 43 53.4**	**+0.3**
NEO	**Neokhori**	**0.56**	**328**	P	**Pg**	**16 43 47.2**	**-0.1**
NEO				S	**Sg**	**16 43 54.7**	**+0.1**
NEO	**Neokhori**	**0.56**	**328**	ePB	**Pg**	**16 43 47.2**	**-0.1**
NEO				eSB	**Sg**	**16 43 54.8**	**+0.1**
NEO	**Neokhori**	**0.56**	**328**	P	**Pg**	**16 43 47.2**	**-0.1**
NEO				S	**Sg**	**16 43 54.7**	**+0.1**
XOR	**Xorichti**	**0.62**	**329**	P	**Pg**	**16 43 48.2**	**-0.2**
XOR				S	**Sg**	**16 43 57.2**	**+0.5**
XOR	**Xorichti**	**0.62**	**329**	ePB	**Pg**	**16 43 48.2**	**-0.2**
XOR				eSB	**Sg**	**16 43 57.1**	**+0.4**
XOR	**Xorichti**	**0.62**	**329**	P	**Pg**	**16 43 48.2**	**-0.2**
XOR				eSb	**Sg**	**16 43 57.1**	**+0.4**
AXAR	**Agios Charalam**	**0.74**	**265**	P	**Pg**	**16 43 50.5**	**-0.3**
AXAR				S	**Sb**	**16 44 01.2**	**-0.2**
AXAR	**Agios Charalam**	**0.74**	**265**	ePB	**Pg**	**16 43 50.7**	**-0.1**
AXAR				eSB	**Sb**	**16 44 01.0**	**+0.5**
AXAR	**Agios Charalam**	**0.74**	**265**	ePb	**Pg**	**16 43 50.7**	**-0.1**
AXAR				eSb	**Sg**	**16 44 01.0**	**+0.5**
PTL	**Penteli**	**0.81**	**166**	P	**Pg**	**16 43 51.6**	**-0.4**
PTL				S	**Sb**	**16 44 03.3**	**0.0**
PTL	**Penteli**	**0.81**	**166**	ePG	**Pg**	**16 43 51.8**	**-0.2**
PTL				eSB	**Sb**	**16 44 03.3**	**0.0**
PTL	**Penteli**	**0.81**	**166**	ePg	**Pg**	**16 43 51.8**	**-0.2**
PTL				S	**Sb**	**16 44 03.3**	**0.0**
ATH	**Athens Observa**	**0.87**	**174**	P	**Pg**	**16 43 53.0**	**-0.1**
ATH				S	**Sb**	**16 44 05.2**	**+0.4**
ATH	**Athens Observa**	**0.87**	**174**	ePB	**Pg**	**16 43 53.2**	**+0.1**
ATH				eSB	**Sb**	**16 44 05.4**	**+0.6**
ATH	**Athens Observa**	**0.87**	**174**	P	**Pg**	**16 43 53.0**	**-0.1**
ATH				S	**Sb**	**16 44 05.2**	**+0.4**
DSF	**Desfina**	**0.95**	**244**	P	**Pg**	**16 43 53.8**	**-0.8**
DSF				S	**Sb**	**16 44 07.5**	**+0.2**
DSF	**Desfina**	**0.95**	**244**	ePB	**Pg**	**16 43 53.0**	**-1.6**
DSF	**Desfina**	**0.95**	**244**	ePb	**Pg**	**16 43 53.0**	**-1.6**
DSF	**Desfina**	**0.95**	**244**	P	**Pg**	**16 43 53.8**	**-0.8**
DSF				S	**Sb**	**16 44 07.5**	**+0.2**
LTK	**Loutraki**	**0.95**	**212**	P	**Pg**	**16 43 53.6**	**-1.2**
LTK				S	**Sb**	**16 44 08.3**	**+0.9**
LTK	**Loutraki**	**0.95**	**212**	ePG	**Pg**	**16 43 53.7**	**-1.1**
LTK	**Loutraki**	**0.95**	**212**	ePg	**Pg**	**16 43 53.7**	**-1.1**
LTK				S	**Sb**	**16 44 08.3**	**+0.9**
AGG	**Agios Georgios**	**1.01**	**281**	P	**Pb**	**16 43 54.9**	**-1.0**
AGG	**Agios Georgios**	**1.01**	**281**	ePG	**Pb**	**16 43 54.7**	**-1.2**
AGG	**Agios Georgios**	**1.01**	**281**	P	**Pb**	**16 43 54.9**	**-1.0**
NAIG	**Nisos Aigina**	**1.08**	**185**	ePG	**Pb**	**16 43 56.7**	**-0.2**
NAIG	**Nisos Aigina**	**1.08**	**185**	ePg	**Pb**	**16 43 56.7**	**-0.2**
PAIG	**Paliouri**	**1.09**	**3**	P	**Pb**	**16 43 56.5**	**-0.7**
PAIG				S	**Sn**	**16 44 12.5**	**0.0**
PAIG	**Paliouri**	**1.09**	**3**	ePG	**Pb**	**16 43 56.7**	**-0.5**
PAIG	**Paliouri**	**1.09**	**3**	ePg	**Pb**	**16 43 56.7**	**-0.5**
PAIG				S	**Sn**	**16 44 12.5**	**0.0**
MAKR	**Makrakomi, Fth**	**1.17**	**279**	P	**Pb**	**16 43 58.3**	**-0.1**
MAKR				S	**Sn**	**16 44 15.2**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.17**	**279**	P	**Pb**	**16 43 58.3**	**-0.1**
MAKR				S	**Sn**	**16 44 15.2**	**+0.8**
KALE	**Kalithea**	**1.23**	**249**	ePG	**Pn**	**16 43 59.1**	**-0.4**
KALE	**Kalithea**	**1.23**	**249**	ePg	**Pn**	**16 43 59.1**	**-0.4**
GUR	**Goura**	**1.34**	**228**	P	**Pn**	**16 44 00.9**	**-0.1**
GUR				S	**Sg**	**16 44 20.1**	**+0.6**
GUR	**Goura**	**1.34**	**228**	ePG	**Pn**	**16 44 00.9**	**-0.1**
GUR	**Goura**	**1.34**	**228**	P	**Pn**	**16 44 00.9**	**-0.1**
GUR				S	**Sg**	**16 44 20.1**	**+0.6**
DID	**Didima**	**1.36**	**193**	P	**Pn**	**16 44 00.9**	**-0.3**
DID				S	**Sn**	**16 44 19.7**	**+0.6**
DID	**Didima**	**1.36**	**193**	ePN	**Pn**	**16 44 01.1**	**-0.1**
DID	**Didima**	**1.36**	**193**	ePn	**Pn**	**16 44 01.1**	**-0.1**
DID				S	**Sn**	**16 44 19.7**	**+0.6**
KLV	**Kalavryta, Ach**	**1.39**	**236**	P	**Pn**	**16 44 01.8**	**+0.2**
KLV				S	**Sg**	**16 44 20.9**	**-0.3**
KLV	**Kalavryta, Ach**	**1.39**	**236**	ePN	**Pn**	**16 44 01.4**	**-0.2**
KLV	**Kalavryta, Ach**	**1.39**	**236**	ePn	**Pn**	**16 44 01.4**	**-0.2**
KLV	**Kalavryta, Ach**	**1.39**	**236**	P	**Pn**	**16 44 01.8**	**+0.2**
KLV				S	**Sg**	**16 44 20.9**	**-0.3**
EFP	**Efpalio**	**1.40**	**254**	ePG	**Pb**	**16 44 02.0**	**-0.3**
EFP	**Efpalio**	**1.40**	**254**	ePg	**Pb**	**16 44 02.0**	**-0.3**
LAKA	**Lakka**	**1.41**	**246**	P	**Pn**	**16 44 01.8**	**-0.1**
LAKA	**Lakka**	**1.41**	**246**	ePB	**Pb**	**16 44 02.6**	**0.0**
LAKA	**Lakka**	**1.41**	**246**	P	**Pn**	**16 44 01.8**	**-0.1**
LAKA	**Lakka**	**1.41**	**246**	ePb	**Pb**	**16 44 02.6**	**0.0**
THL	**Klokotos Trika**	**1.44**	**301**	P	**Pn**	**16 44 02.0**	**-0.2**
THL				S	**Sb**	**16 44 21.5**	**+0.2**
THL	**Klokotos Trika**	**1.44**	**301**	P	**Pn**	**16 44 02.0**	**-0.2**
THL				S	**Sb**	**16 44 21.5**	**+0.2**
OUR	**Ouranopolis**	**1.52**	**11**	P	**Pn**	**16 44 03.0**	**-0.4**
OUR	**Ouranopolis**	**1.52**	**11**	P	**Pn**	**16 44 03.0**	**-0.4**
LIT	**Litokhoron**	**1.53**	**326**	P	**Pn**	**16 44 03.2**	**-0.3**
LIT	**Litokhoron**	**1.53**	**326**	P	**Pn**	**16 44 03.2**	**-0.3**
PLG	**Polygyros**	**1.54**	**355**	P	**Pn**	**16 44 03.8**	**+0.1**
PLG	**Polygyros**	**1.54**	**355**	P	**Pn**	**16 44 03.8**	**+0.1**
LIA	**Limnos Island**	**1.62**	**49**	P	**Pn**	**16 44 04.1**	**-0.6**
LIA	**Limnos Island**	**1.62**	**49**	P	**Pn**	**16 44 04.1**	**-0.6**
VLX	**Vlachokerasia**	**1.75**	**214**	P	**Pn**	**16 44 07.1**	**+0.4**
VLX	**Vlachokerasia**	**1.75**	**214**	P	**Pn**	**16 44 07.1**	**+0.4**
HORT	**Hortiatis**	**1.80**	**348**	P	**Pn**	**16 44 07.2**	**-0.1**
HORT				S	**Sn**	**16 44 30.1**	**-0.1**
HORT	**Hortiatis**	**1.80**	**348**	P	**Pn**	**16 44 07.2**	**-0.1**
HORT				S	**Sn**	**16 44 30.1**	**-0.1**
PDO	**Prodromos**	**1.91**	**264**	P	**Pn**	**16 44 09.4**	**+0.7**
PDO	**Prodromos**	**1.91**	**264**	P	**Pn**	**16 44 09.4**	**+0.7**
CHOS	**Chios island**	**1.97**	**102**	P	**Pn**	**16 44 09.8**	**+0.2**
CHOS	**Chios island**	**1.97**	**102**	P	**Pn**	**16 44 09.8**	**+0.2**
ITM	**Ithomi**	**2.12**	**219**	P	**Pn**	**16 44 12.3**	**+0.7**
ITM	**Ithomi**	**2.12**	**219**	P	**Pn**	**16 44 12.3**	**+0.7**

*ISCJB **09** 17:05:19.7±0.3, 61°.63N±0°.03×151°.43W±0°.06, h95km±4km, mb3.7/1, Error ellipse: s-maj=5.0km s-min=3.6km az=37.2*
*NEIC **09** 17:05:21.7, 61°.62N×151°.48W, h82km, MG3.3(AEIC), After AEIC.*
*IDC **09** 17:05:21.8±6.5, 61°.80N×151°.44W, h83km±64km, mb3.2/1, mb1 3.6/4, mb1mx3.1/52, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=49.8km s-min=35.2km az=28.0*

ISC 09 17:05:20.3±0.9, 61°.63N±0°.03×151°.46W±0°.03, h89km±6km, n80, σ0§88/87, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.22**	**235**	P	**Pn**	**17 05 33.3**	**0.0**
SKT	**Skwentna**	**0.36**	**355**	P	**Pn**	**17 05 34.0**	**+0.1**
SKT				S	**Sn**	**17 05 44.2**	**+0.1**
SUA	**Susitna One**	**0.38**	**115**	P	**Pn**	**17 05 35.0**	**+0.8**
SUA				S	**Sn**	**17 05 45.2**	**+0.7**
CGLM	**Capps Glacier**	**0.41**	**220**	P	**Pn**	**17 05 34.3**	**-0.1**
SPCG	**Spurr Capps Gl**	**0.43**	**219**	P	**Pn**	**17 05 34.4**	**-0.2**
SPCG				S	**Sn**	**17 05 44.4**	**-0.7**
SPU	**Mount Spurr**	**0.53**	**213**	P	**Pn**	**17 05 35.1**	**-0.1**
SPBG	**Spurr Blockage**	**0.57**	**230**	P	**Pn**	**17 05 35.6**	**-0.1**
SPBG				S	**Sn**	**17 05 46.6**	**-0.4**
BGL	**Barrier Glacie**	**0.58**	**231**	P	**Pn**	**17 05 35.7**	**0.0**
CKL	**Chakachamna La**	**0.60**	**225**	P	**Pn**	**17 05 35.8**	**-0.1**
FIB	**Fire Island**	**0.77**	**126**	P	**Pn**	**17 05 38.9**	**+1.6**
NKA	**Nikishka**	**0.89**	**173**	P	**Pn**	**17 05 40.8**	**+2.1**
CUT	**Chulitna**	**0.96**	**35**	P	**Pn**	**17 05 40.7**	**+1.2**
RC01	**Rabbit Creek A**	**0.99**	**122**	ePn	**Pn**	**17 05 40.5**	**+0.7**
PMR	**Palmer**	**1.11**	**91**	P	**Pn**	**17 05 41.5**	**+0.3**
PMR				S	**Sn**	**17 05 57.2**	**+0.3**
DFR	**Drift River**	**1.20**	**210**	P	**Pn**	**17 05 42.6**	**+0.3**
SLKM	**Skilak Lake**	**1.27**	**151**	P	**Pn**	**17 05 43.2**	**0.0**
RDN	**Redoubt North**	**1.28**	**210**	P	**Pn**	**17 05 43.7**	**+0.3**
NCT	**North Crescent**	**1.28**	**214**	P	**Pn**	**17 05 43.9**	**+0.5**
PPLA	**Purkeypile**	**1.32**	**345**	P	**Pn**	**17 05 44.3**	**+0.4**
RDWB	**Redoubt West**	**1.32**	**211**	P	**Pn**	**17 05 44.3**	**+0.4**

RSO	**Redoubt South**	**1.33**	**209**	ePn	**Pn**	**17 05 44.1**	**+0.1**
PTE	**Portage**	**1.40**	**122**	P	**Pn**	**17 05 45.1**	**+0.4**
PWL	**Port Wells**	**1.69**	**116**	P	**Pn**	**17 05 48.6**	**+0.1**
ILW	**Iliamna West**	**1.77**	**208**	P	**Pn**	**17 05 49.7**	**+0.1**
SEW	**Seward**	**1.82**	**146**	ePn	**Pn**	**17 05 51.6**	**+1.6**
CAST	**Castle Rocks**	**1.82**	**351**	P	**Pn**	**17 05 50.5**	**+0.4**
BRLK	**Bradley Lake**	**1.89**	**171**	P	**Pn**	**17 05 51.5**	**+0.5**
TRF	**Thorofare Moun**	**1.91**	**16**	P	**Pn**	**17 05 52.2**	**+0.8**
KTH	**Kantishna Hill**	**1.95**	**7**	P	**Pn**	**17 05 52.6**	**+0.8**
SCM	**Sheep Creek Mo**	**1.98**	**82**	P	**Pn**	**17 05 52.4**	**+0.2**
SVW2	**Sparrevohn**	**2.05**	**257**	P	**Pn**	**17 05 53.1**	**0.0**
RND	**Reindeer**	**2.16**	**33**	P	**Pn**	**17 05 55.2**	**+0.6**
OPT	**Oil Point**	**2.16**	**205**	P	**Pn**	**17 05 55.5**	**+0.9**
DHT	**Denali Highway**	**2.40**	**51**	P	**Pn**	**17 05 58.9**	**+1.0**
JPK	**Jack Peak**	**2.41**	**102**	P	**Pn**	**17 05 57.6**	**-0.4**
MCK	**McKinley**	**2.42**	**28**	P	**Pn**	**17 05 59.3**	**+1.3**
TT01	**Tatalina**	**2.49**	**303**	P	**Pn**	**17 05 58.7**	**-0.2**
VLZ	**Valdez**	**2.52**	**99**	P	**Pn**	**17 05 58.8**	**-0.5**
KLU	**Klutina**	**2.66**	**90**	P	**Pn**	**17 06 00.8**	**-0.4**
BWN	**Browne**	**2.71**	**19**	P	**Pn**	**17 06 02.9**	**+1.0**
DIV	**Divide**	**2.78**	**98**	ePn	**Pn**	**17 06 01.7**	**-1.3**
EYAK	**Cordova Ski Ar**	**2.98**	**109**	P	**Pn**	**17 06 05.3**	**-0.1**
HARP	**HAARP**	**3.08**	**72**	P	**Pn**	**17 06 07.9**	**+1.1**
PAX	**Paxson**	**3.11**	**62**	P	**Pn**	**17 06 08.3**	**+1.0**
PS10	**TAPS Pump St10**	**3.20**	**53**	P	**Pn**	**17 06 10.5**	**+2.1**
SGAM	**Sherman Glacie**	**3.24**	**108**	P	**Pn**	**17 06 07.9**	**-1.1**
WRH	**Wood River Hil**	**3.24**	**27**	P	**Pn**	**17 06 09.2**	**+0.2**
DDM	**Donnelly Dome**	**3.37**	**47**	P	**Pn**	**17 06 13.4**	**+2.6**
BMRM	**Bremner River**	**3.37**	**98**	P	**Pn**	**17 06 10.2**	**-0.6**
GOAT	**Goat Mountain**	**3.43**	**105**	P	**Pn**	**17 06 10.9**	**-0.8**
MLY	**Manley**	**3.44**	**5**	P	**Pn**	**17 06 12.0**	**+0.3**
CCB	**Clear Creek Bu**	**3.46**	**27**	P	**Pn**	**17 06 12.0**	**+0.1**
HDA	**Harding Lake**	**3.46**	**34**	P	**Pn**	**17 06 13.0**	**+1.0**
PS08	**TAPS Pump Stn8**	**3.61**	**34**	P	**Pn**	**17 06 14.7**	**+0.7**
COLA	**College**	**3.65**	**25**	P	**Pn**	**17 06 14.9**	**+0.5**
MDM	**Murphy Dome**	**3.65**	**22**	P	**Pn**	**17 06 14.8**	**+0.2**
GLB	**Gilahina Butte**	**3.67**	**90**	P	**Pn**	**17 06 15.3**	**+0.5**
IL1	**Eielson Array**	**3.78**	**31**	P	**Pn**	**17 06 16.3**	**+0.1**
ILAR	**Eielson Array**	**3.78**	**31**	P	**Pn**	**17 06 16.4**	**+0.2**
	4.3nm,0.3s,baz=220,slow=14,SNR=133						
ILAR				S	**Sn**	**17 06 57.6**	**-1.9**
	6.2nm,0.3s,baz=212,slow=17,SNR=7.1						
ILB	**Eielson Array**	**3.78**	**31**	P	**Pn**	**17 06 16.4**	**+0.2**
KVTA	**Katmai Vly 10**	**3.78**	**212**	P	**Pn**	**17 06 17.3**	**+0.9**
KAKN	**Katmai Knife C**	**3.80**	**210**	P	**Pn**	**17 06 17.4**	**+0.8**
KELA	**Mount Kelaz**	**3.85**	**216**	P	**Pn**	**17 06 18.3**	**+1.0**
MENT	**Mentasta**	**3.85**	**67**	ePn	**Pn**	**17 06 16.9**	**-0.4**
KCE	**Katmai Mt Cerb**	**3.88**	**211**	P	**Pn**	**17 06 18.6**	**+1.0**
KDAK	**Kodiak Island**	**3.90**	**189**	ePn	**Pn**	**17 06 18.8**	**+0.9**
KABR	**Katmai Barrier**	**3.92**	**208**	P	**Pn**	**17 06 19.2**	**+0.9**
DOT	**Dot Lake**	**3.97**	**56**	P	**Pn**	**17 06 19.8**	**+0.9**
SCRK	**Sand Creek**	**4.16**	**52**	P	**Pn**	**17 06 22.2**	**+0.6**
PS06	**TAPS Pump Stn6**	**4.32**	**9**	P	**

DANN	Dangsing	75.64	297	eP	P	17 20 19.9	+0.2
	21nm,0.6s						
KOLN	Koldanda	76.18	297	eP	P	17 20 22.5	-0.2
AKASG	Malin Array Be	76.20	345	P	P	17 20 21.4	-0.8
	1.3nm,0.3s,baz=17,slow=6.0,SNR=4.8						
WRA	Warramunga Arr	84.64	228	P	P	17 21 05.3	-2.5
	0.7nm,1.1s,baz=41,slow=6.7,SNR=3.2						
WRA				pP	pP	17 21 18.2	-1.1
	0.5nm,0.7s,baz=33,slow=5.8,SNR=3.6						
ASAR	Alice Springs	88.06	227	P	P	17 21 23.1	-1.5
	0.5nm,0.8s,baz=28,slow=4.7,SNR=6.1						
ASAR				pP	pP	17 21 36.0	-0.1
	0.9nm,0.8s,baz=21,slow=4.6,SNR=6.3						

*NSSC **09** 17:10:22.2±2.8, 39°.79N×41°.20E, h0km±93km, MD2.6, ML3.4*
*ISK **09** 17:10:39.5, 38°.76N×40°.05E, h5km, MD3.5*
*DDA **09** 17:10:39.1, 38°.75N×39°.97E, h5km, MD3.5*
*CSEM **09** 17:10:41.1±0.2, 38°.78N×39°.97E, h2km, MD3.5, Error ellipse: s-maj=5.9km s-min=4.0km az=138.0*

ISC 09 17:10:40.1±0.8, 38°.75N±0°.02×39°.99E±0°.02, h1km±7km, n71, σ1§50/90, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	BINGOL	0.93	77	iP	Pg	17 10 57.5	-0.5
BNGL				iS	Sb	17 11 11.8	-0.3
EUZM	Uzumlu	0.98	347	iP	Pb	17 10 59.0	-1.0
EUZM	Uzumlu	0.98	347	iP	Pb	17 10 59.0	-1.0
EUZM				iS	Sn	17 11 14.0	-1.9
KEMA	Kemaliye	1.27	294	iP	Pg	17 11 03.3	-1.2
KEMA				iS	Sn	17 11 21.3	-1.7
KEMA	Kemaliye	1.27	294	iP	Pg	17 11 03.3	-1.2
KEMA				iS	Sn	17 11 21.3	-1.7
MALT	Malatya	1.30	251	ePN	Pb	17 11 05.7	+0.3
MALT				eSN	Sn	17 11 26.4	+2.8
MALT	Malatya	1.30	251	ePn	Pb	17 11 05.7	+0.3
MALT				eSn	Sn	17 11 26.4	+2.8
BTMT	Batman	1.30	115	ePN	Pg	17 11 04.7	-0.4
BTMT	Batman	1.30	115	ePn	Pg	17 11 04.7	-0.4
BEST	Besiri	1.32	130	iP	Pg	17 11 05.1	-0.3
BEST				iS	Sn	17 11 23.8	-0.4
MARD	Mardin	1.56	156	iP	Pg	17 11 09.1	-1.0
MARD				iS	Sg	17 11 30.0	-0.3
EZM	Erzurum	1.57	42	ePN	Pb	17 11 09.1	-1.1
ERZM	Erzurum	1.57	42	iP	Pb	17 11 09.4	-0.8
ERZM				iS	Sg	17 11 33.2	+2.5
ERZM	Erzurum	1.57	42	iP	Pb	17 11 09.4	-0.8
ERZM				iS	Sg	17 11 33.2	+2.5
EKAR	Karacoban	1.69	72	iP	Pg	17 11 13.1	+0.5
EKAR	Karacoban	1.69	72	iP	Pg	17 11 13.1	+0.5
EKAR				iS	Sg	17 11 39.4	+4.8
GUMT	Gumushane	1.75	347	ePN	Pb	17 11 12.3	-0.9
GUMT	Gumushane	1.75	347	ePn	Pb	17 11 12.3	-0.9
ATAB	Bozova	1.85	227	iP	Pg	17 11 14.7	-0.8
ATAB	Bozova	1.85	227	iP	Pg	17 11 14.7	-0.8
ATAB				iS	Sg	17 11 41.3	+1.8
EATA	Eleskirt	2.24	59	iP	Pg	17 11 21.9	-1.1
EATA	Eleskirt	2.24	59	iP	Pg	17 11 21.9	-1.1
EATA				iS	Sg	17 11 51.5	-0.5
SFNV	Sufian	2.33	178	eP	Pb	17 11 21.2	-1.8
	SNR=45						
SFNV	Sufian	2.33	178	eP	Pb	17 11 21.2	-1.8
SFNV				eS	Sg	17 11 56.6	+1.6
SFNV				AML	AML	17 12 01.4	
	comp=N,224nm,0.3s						
SFNV				AML	AML	17 12 08.2	
	comp=E,480nm,0.7s						
GZT	Gaziantep	2.37	235	iP	Pb	17 11 21.0	-2.6
GZT				iS	Sg	17 11 58.6	+2.5
GEVA	Gevas	2.45	99	iP	Pb	17 11 23.6	-1.4
GEVA	Gevas	2.45	99	iP	Pb	17 11 23.6	-1.4
GEVA				iS	Sg	17 11 57.9	-0.8
DDEM	Demirkent	2.53	32	iP	Pn	17 11 22.6	+0.1
DDEM	Demirkent	2.53	32	iP	Pn	17 11 22.6	+0.1
GRSN	GIRESUNGRSN	2.54	329	iP	Pg	17 11 27.3	-1.5
GRSN				iS	Sg	17 12 01.2	-0.6
DBAD	Bademkaya	2.62	30	iP	Pn	17 11 24.3	+0.6
DBAD	Bademkaya	2.62	30	iP	Pn	17 11 24.3	+0.6
VANB	Van	2.67	92	ePN	Pn	17 11 24.4	0.0
VANB	Van	2.67	92	ePn	Pn	17 11 24.4	0.0
DAGI	Agillar	2.76	32	iP	Pn	17 11 26.1	+0.5
ARTV	Artvin	2.85	31	iP	Pn	17 11 27.7	+0.7
ARTV	Artvin	2.85	31	iP	Pn	17 11 27.7	+0.7
MNKR	ALMNKUR	2.86	192	eP	Pb	17 11 28.1	-3.9
	SNR=45						
MNKR	ALMNKUR	2.86	192	eP	Pb	17 11 28.1	-3.9
MNKR				eS	Sg	17 12 13.8	+1.8
MNKR				AML	AML	17 12 17.3	
	comp=E,204nm,0.9s						
MNKR				AML	AML	17 12 20.2	
	comp=N,490nm,0.3s						
DBOC	Borcka	2.90	26	iP	Pn	17 11 28.1	+0.7
DBOC	Borcka	2.90	26	iP	Pn	17 11 28.1	+0.7
MZRK	Al-Mazaregh	2.97	169	eP	Pn	17 11 25.5	-2.9
	SNR=45						
MZRK				eS	Sb	17 12 09.9	-0.7
	comp=N,336nm,0.4s,SNR=40						
MZRK	Al-Mazaregh	2.97	169	eP	Pn	17 11 25.5	-2.9
MZRK				eS	Sb	17 12 09.9	-0.7
MZRK				AML	AML	17 12 16.3	
	comp=E,243nm,0.6s						
MZRK				AML	AML	17 12 17.6	
	comp=N,336nm,0.4s						
DYDN	Diyadin	2.98	73	eP	Pb	17 11 34.6	+0.4
SLMH	Al Salmeh	3.02	214	eP	Pn	17 11 30.1	+1.0
	SNR=45						
SLMH	Al Salmeh	3.02	214	eP	Pn	17 11 30.1	+1.0
SLMH				eS	Sg	17 12 20.9	+3.9
SLMH				AML	AML	17 12 24.6	
	comp=E,291nm,0.6s						
SLMH				AML	AML	17 12 28.4	
	comp=N,395nm,0.6s						
ANDN	Andirin	3.10	249	iP	Pb	17 11 34.2	-1.9
ANDN				iS	Sg	17 12 19.2	-0.4
HAKT	HAKKARI	3.17	111	iP	Pn	17 11 32.7	+1.4
HAKT	HAKKARI	3.17	111	iP	Pn	17 11 32.7	+1.4
HAKT				iS	Sb	17 12 17.0	+0.6
HKR	Hakkari	3.18	110	ePN	Pn	17 11 31.9	+0.4
HKR	Hakkari	3.18	110	ePn	Pn	17 11 31.9	+0.4
YOZ	Yozgat	3.73	285	ePN	Pn	17 11 41.0	+2.0
YOZ	Yozgat	3.73	285	ePn	Pn	17 11 41.1	+2.0
BTCH	Batrach	3.90	227	eP	Pn	17 11 42.3	+1.0
	SNR=45						
BTCH	Batrach	3.90	227	eP	Pn	17 11 42.3	+1.0
BTCH				eS	Sg	17 12 42.3	-3.1
BTCH				AML	AML	17 12 52.5	
	comp=E,312nm,0.5s						
BTCH				AML	AML	17 12 53.4	
	comp=N,255nm,0.7s						
GNI	Garni	3.94	68	ePN	Pn	17 11 42.7	+0.9
GNI	Garni	3.94	68	ePn	Pn	17 11 42.7	+0.9
ARNB	Al Arnab	4.31	229	eP	Pn	17 11 48.6	+1.7
	SNR=45						
ARNB	Al Arnab	4.31	229	eP	Pn	17 11 48.6	+1.7
ARNB				eS	Sb	17 12 52.1	+2.8
ARNB				AML	AML	17 13 03.1	
	comp=E,99nm,0.6s						
ARNB				AML	AML	17 13 12.0	
	comp=N,77nm,0.7s						
WRDH	Warideh	4.32	223	eP	Pn	17 11 48.0	+1.0
	SNR=45						
WRDH	Warideh	4.32	223	eP	Pn	17 11 48.0	+1.0
WRDH				eS	Sg	17 12 52.7	-6.0
WRDH				AML	AML	17 13 08.5	
	comp=E,129nm,0.7s						
WRDH				AML	AML	17 13 11.6	
	comp=N,109nm,0.7s						
BIDA	Albida	4.75	219	eP	Pn	17 11 53.3	+0.4
	SNR=45						
BIDA	Albida	4.75	219	eP	Pn	17 11 53.3	+0.4
BIDA				eS	Sb	17 13 02.0	+0.1
BIDA				AML	AML	17 13 21.0	
	comp=E,144nm,0.6s						
BIDA				AML	AML	17 13 27.4	
	comp=N,226nm,0.5s						
HAWK	Haweek	5.11	215	eP	Pn	17 11 58.9	+1.0
	SNR=45						
HAWK	Haweek	5.11	215	eP	Pn	17 11 58.9	+1.0
HAWK				eS	Sb	17 13 11.2	-1.1
HAWK				AML	AML	17 13 30.0	
	comp=N,40nm,0.6s						
HAWK				AML	AML	17 13 30.0	
	comp=E,58nm,0.6s						
ZALF	Zalf	6.20	201	eP	Pn	17 12 14.4	+1.5
	SNR=45						
ZALF	Zalf	6.20	201	eP	Pn	17 12 14.4	+1.5
ZALF				eS	Sb	17 13 34.1	-10
ZALF				AML	AML	17 14 14.5	
	comp=E,16nm,0.6s						
ZALF				AML	AML	17 14 24.3	
	comp=N,16nm,0.6s						
BRBR	Barbar	6.25	213	eP	Pn	17 12 16.7	+3.1
	SNR=45						
BRBR	Barbar	6.25	213	eP	Pn	17 12 16.7	+3.1
BRBR				eS	Sb	17 13 38.8	-6.4
BRBR				AML	AML	17 14 17.5	
	comp=E,26nm,0.6s						
BRBR				AML	AML	17 14 20.7	
	comp=N,18nm,0.6s						
SALA	Sala	6.58	205	eP	Pn	17 12 19.5	+1.3
	SNR=45						
SALA	Sala	6.58	205	eP	Pn	17 12 19.5	+1.3
SALA				eS	Sb	17 13 45.4	-9.3
SALA				AML	AML	17 14 26.1	
	comp=E,2.4nm,0.7s						
SALA				AML	AML	17 14 35.4	
	comp=N,24nm,0.7s						

*IDC **09** 17:22:52.0±1.0, 3°.86S×129°.50E, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.0/36, mbtmp4.1/8, ML4.0/2, Error ellipse: s-maj=50.4km s-min=18.4km az=72.0*
*ISCJB **09** 17:22:55.8±0.3, 3°.94S±0°.03×129°.11E±0°.05, h32km, mb4.1/13, Error ellipse: s-maj=7.6km s-min=3.8km az=158.0*
*DJA **09** 17:22:56.6±0.5, 4°.5S±4°.×12°.9E±°, h11km±4km, M4.1/10, MLv4.1/10*
*NEIC **09** 17:22:59.1±1.1, 3°.99S×129°.22E, h52km±11km, mb4.2/11, Error ellipse: s-maj=10.7km s-min=7.7km az=53.0*

ISC 09 17:22:57.3±0.5, 3°.90S±0°.05×129°.20E±0°.07, h32km, n59, σ1§42/63, mb4.2/13, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.61	334	P	Pb	17 23 07.0	-2.6
MSAI				S	Sb	17 23 15.6	-2.4
BNDI	Bandanaira	0.94	132	P	Pn	17 23 13.6	-0.7
NLAI	Namlea	2.19	287	P	Pb	17 23 36.1	-0.2
FAKI	Fak Fak	3.20	72	P	Pn	17 23 47.8	+2.5
FAKI	Fak Fak	3.20	72	P	Pn	17 23 47.6	+2.3
	baz=3.4,SNR=16						
FAKI	Fak Fak	3.20	72	ePn	Pn	17 23 47.0	+1.7
SWI	Sorong	3.65	34	P	Pn	17 23 53.8	+2.2
SWI	Sorong	3.65	34	P	Pn	17 23 54.0	+2.5
	baz=3.8,SNR=18						
LBMI	Labuha	3.65	332	P	Pn	17 23 53.5	+1.9
LBMI				S	Sn	17 24 35.0	+1.4
SANI	Sanana	3.69	300	P	Pn	17 23 51.8	-0.4
SAUI	Saumlaki	4.57	153	P	Pn	17 24 07.4	+3.2
TNTI	Ternate	4.98	338	P	Pn	17 24 11.4	+1.5
SOEI	Soe	7.61	220	ePn	Pn	17 24 46.6	+0.5
	30nm,1.3s						
BATI	Baumata	8.33	221	Pn	Pn	17 24 57.6	+1.6
	5.3nm,0.3s,baz=53,slow=2.2,SNR=14						
MTN	Manton Dam	9.10	168	P	Pn	17 25 10.1	+3.7
	baz=9.1,SNR=18						
KDU	Kakadu	9.32	160	P	Pn	17 25 09.6	+0.2
	baz=9.4,SNR=15						
KAPI	Kappang	9.48	263	ePn	Pn	17 25 13.6	+1.9
	45nm,0.6s						
KNRA	Kununurra	11.72	182	P	Pn	17 25 42.0	-0.3
	baz=12,SNR=16						
WRAB	Tennant Creek	16.71	163	ePn	Pn	17 26 46.1	-3.1
	4.1nm,0.8s						
WRA	Warramunga Arr	16.72	163	Pn	Pn	17 26 46.2	-3.1
	0.4nm,0.3s,baz=349,slow=13,SNR=25						
WRA				Sn	Sn	17 29 45.5	-8.6
	0.0nm,0.3s,baz=332,slow=22,SNR=3.2						
WB2	Warramunga Arr	16.72	163	ePn	Pn	17 26 47.0	-2.3
COEN	Coen	17.03	127	P	P	17 26 56.0	+1.2
	baz=17,SNR=6.2						
QIS	Mount Isa	19.42	149	P	Pn	17 27 22.2	-0.2
	baz=20,SNR=10						
MBWA	Marble Bar	19.47	207	eP	P	17 27 21.7	+0.1
	5.6nm,0.7s						
KSM	Kuching	19.62	285	eP	P	17 27 23.6	+0.3
	39nm,1.6s						
AS31	Alice Springs	20.17	167	eP	P	17 27 30.0	+0.7
ASAR	Alice Springs	20.18	167	P	P	17 27 29.8	+0.4
	12nm,0.6s,baz=349,slow=10,SNR=174						
ASAR				S	S	17 31 12.1	-2.2
	0.5nm,0.8s,baz=352,slow=24,SNR=2.8						
ASAR				PcP	PcP	17 31 43.3	-0.1
	0.7nm,0.5s,baz=354,slow=1.7,SNR=9.8						
WRKA	Warakurna	21.04	182	P	P	17 27 39.8	+1.2
	baz=21,SNR=33						
CTA	Charters Tower	23.14	135	P	P	17 28 02.4	+1.4
	4.4nm,0.7s,baz=308,slow=16,SNR=4.5						
CTAO	Charters Tower	23.14	135	eP	P	17 28 02.2	+1.2
	1.7nm,0.6s						
MEEK	Meekatharra	24.78	203	P	P	17 28 17.4	+1.0
	baz=25,SNR=3.5						
NACB	Ninganchiao	28.86	346	P	P	17 28 53.4	+0.3
	14nm,0.8s						
CMAR	Chiang Mai Arr	37.17	308	P	P	17 30 06.8	+1.2
	1.4nm,0.9s,baz=138,slow=7.5,SNR=13						
CMAR				PcP	PcP	17 32 27.4	+1.9
	0.3nm,0.6s,baz=140,slow=1.6,SNR=4.3						
CHTO	Chiang Mai	37.37	308	eP	P	17 30 07.8	+0.4
	5.2nm,1.0s						
LSA	Lhasa	49.43	315	P	P	17 31 45.7	+0.6
	2.5nm,0.8s						
ODAN	Odare	50.65	310	eP	P	17 31 53.5	-0.6
	7.1nm,0.8s						
TAPN	Taplejung	50.66	310	eP	P	17 31 52.8	-1.4
RAMN	Ramite	51.30	309	eP	P	17 31 59.5	+0.5
	9.9nm,0.6s						
JIRN	Jiri	51.98	310	eP	P	17 32 03.8	-0.4
	6.2nm,0.7s						
GUN	Gumba	52.34	310	eP	P	17 32 06.8	-0.1
	9.6nm,0.7s						
KKN	Kakani	52.74	309	eP	P	17 32 09.2	-0.5
DMN	Daman	52.78	309	eP	P	17 32 10.4	+0.3
GKN	Gorkha	53.34	309	eP	P	17 32 13.8	-0.2
	8.4nm,0.9s						
KOLN	Koldanda	54.03	309	eP	P	17 32 19.2	0.0
	12nm,0.8s						
DANN	Dangsing	54.19	309	eP	P	17 32 20.2	-0.2
	15nm,0.8s						
SONM	Songino Array	55.26	341	P	P	17 32 28.7	+1.0
	0.7nm,0.9s,baz=169,slow=8.5,SNR=5.1						
MKAR	Makanchi Array	65.21	326	P	P	17 33 36.0	+0.4
	0.8nm,0.4s,baz=116,slow=8.2,SNR=30						
TKM2	Tokmak 2	67.10	320	eP	P	17 33 47.1	-1.0
EKS2	Erkin-Say	68.15	319	eP	P	17 33 54.7	+0.1
KBL	Kabul	68.17	310	P	P	17 33 54.1	-1.0
ZALV	Zalesovo Beam	68.46	334	P	P	17 33 55.7	-0.5
	1.0nm,0.6s,baz=130,slow=4.6,SNR=6.1						
KURK	Kurchatov	69.47	328	eP	P	17 34 02.7	+0.3
	1.2nm,0.6s						
BRVK	Borovoye	75.10	328	P	P	17 34 35.8	-0.3
VNDA	Vanda	75.61	173	P	P	17 34 37.4	-1.2
	0.7nm,0.5s,baz=312,slow=8.4,SNR=4.6						
VNDA	Vanda	75.61	173	P	P	17 34 36.0	-2.5
ABKAR	Akbulak array	79.60	321	eP	P	17 35 01.2	-0.1
	2.1nm,0.7s						
ARU	Arti	82.67	328	eP	P	17 35 16.9	-0.5
	3.0nm,0.8s						
QSPA	South Pole Qui	86.06	180	eP	P	17 35 33.7	-1.1
	3.4nm,1.1s						
TORD	Torodi Ar. Bea	127.37	283	PKP	PKPdf	17 41 59.7	-0.1
	0.5nm,0.7s,baz=72,slow=1.0,SNR=3.0						

MEX 09 17:30:51.7±0.7, 16°.60N×93°.72W, h186km±12km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.01	152	iP	Pn	17 31 19.5	-0.6
PCIG				eS	Sn	17 31 39.6	-2.5
CMIG	Matias Romero	1.22	294	iP	Pn	17 31 20.4	-1.4
CCIG	Comitan	1.55	102	eP	Pn	17 31 23.4	-1.5
CCIG				eS	Sn	17 31 47.9	-2.6
HUIG	Huatulco	2.44	251	iP	Pn	17 31 32.2	-1.9
HUIG				eS	Sn	17 32 05.3	-1.8
VHO	Vista Hermosa	2.93	280	eP	Pn	17 31 39.5	-0.6
VHO				eS	Sn	17 32 15.9	-1.8
PNIG	Pinotepa	4.24	268	eP	Pn	17 31 55.8	-0.3
PNIG				eS	Sn	17 32 45.4	-1.2
TLIG	Tlapa	4.74	282	eP	Pn	17 32 01.4	-1.2
TLIG				iS	Sn	17 32 57.0	-1.3
ARIG	Puente Sto Nin	6.55	286	eP	Pn	17 32 28.3	+2.3
ARIG				iS	Sn	17 33 39.0	-1.5

*IDC **09** 17:36:42.4±1.4, 25°.97N×128°.75E, h0km, mb3.2/4, mb1 3.4/5, mb1mx3.3/44, mbtmp3.3/5, ML3.1/1, Error ellipse: s-maj=56.6km s-min=17.9km az=73.0*
*ISCJB **09** 17:36:43.7±1.0, 26°.01N±0°.05×128°.82E±0°.05, h24km±7km, mb3.2/4, Error ellipse: s-maj=9.7km s-min=6.5km az=25.9*
*JMA **09** 17:36:45.8±0.3, 26°.05N×128°.73E, h31km, M3.1*

ISC 09 17:36:43.3±1.7, 25°.98N±0°.07×128°.79E±0°.05, h12km±11km, n15, σ1§18/22, mb3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.88	308	P	Pb	17 37 00.3	-0.1
JNTH				eS	Sg	17 37 10.8	-0.9
JJT2	Tamagusuku 2	0.95	280	P	Pn	17 37 02.1	-0.3
JJT2				eS	Sg	17 37 14.1	0.0
JOW	Kunigami	0.97	331	P	Pb	17 37 02.1	+0.1
JOW				eS	Sb	17 37 13.2	-1.6
JOW	Kunigami	0.97	331	Pn	Pg	17 37 02.2	+0.3
	baz=152,slow=16						
JOW				Sn	Sb	17 37 13.6	-1.1
	baz=308,slow=19						
JIH	Iheya	1.28	325	P	Pn	17 37 07.1	+0.1
JIH				eS	Sb	17 37 22.6	-1.3
JOKE	Okinoerabujima	1.39	352	P	Pn	17 37 08.6	+0.1
JAGN	Aguni-jima	1.52	294	P	Pn	17 37 10.4	+0.2
JAGN				eS	Sn	17 37 28.7	-1.2
JTK	Tokunoshima	1.81	4	P	Pn	17 37 14.2	0.0
JKE	Kume jima 2	1.83	281	P	Pn	17 37 14.0	-0.6
JMZ	Minamidaito 2	2.19	94	P	Pn	17 37 19.1	-0.4
JMZ				eS	Sn	17 37 43.8	-2.8
JNU	Nakatsue	7.35	14	Pn	Pn	17 38 31.6	+1.2
	0.3nm,0.3s,baz=220,slow=7.9,SNR=5.1						
SONM	Songino Array	28.04	327	P	P	17 42 36.9	+2.4
	0.2nm,0.3s,baz=143,slow=10,SNR=5.5						
MKAR	Makanchi Array	42.08	312	P	P	17 44 35.1	+0.1
	0.1nm,0.3s,baz=88,slow=7.8,SNR=4.5						
WRA	Warramunga Arr	45.96	173	P	P	17 45 06.8	+0.4
	0.4nm,0.7s,baz=355,slow=8.4,SNR=5.9						
ASAR	Alice Springs	49.60	174	P	P	17 45 35.8	+1.2
	0.2nm,0.6s,baz=1.2,slow=7.9,SNR=5.0						

*GUC **09** 17:39:30.1±0.6, 33°.55S×71°.72W, h22km±8km, ML3.0*
*IDC **09** 17:39:34.2±1.8, 34°.87S×73°.86W, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.7/31, mbtmp3.7/4, ML3.9/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/18, Error ellipse: s-maj=49.6km s-min=32.4km az=81.0*

ISC 09 17:39:26.8±2.5, 33°.6S±0°.1×71°.97W±0°.10, h51km±50km, n15, σ1§37/15, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.59	28	‖iP	Pn	17 39 40.2	+0.9
IHA				iS1	Sn	17 39 47.6	-0.6
RCDM	Rinconada Maip	0.98	87	eP	Pn	17 39 44.4	+0.1
RCDM				iS	Sn	17 39 54.6	-2.6
RCDM				IAML		17 39 60.0	
	comp=N,2μm,0.1s						
ANTU	Antumapu	1.12	91	iP	Pn	17 39 47.0	+0.8
ANTU				eS	Sn	17 39 59.2	-1.4
ANTU				IAML		17 40 03.9	
	comp=E,629nm,0.6s						
PEL	Peldehue	1.15	70	eP4	Pn	17 39 47.9	+1.2
PEL				eS	Sn	17 40 00.6	-0.8
PEL				IAML		17 40 04.1	
	comp=N,2μm,0.3s						
CHCH	Chadas Angostu	1.17	109	‖iP	Pn	17 39 47.5	+0.6
CLCH	Cerro Calan	1.21	83	eP1	Pn	17 39 48.5	+1.0
CLCH				iS	Sn	17 40 01.8	-1.1
CLCH				IAML		17 40 06.8	
	comp=E,624nm,0.5s						
CACH	El Canelo	1.27	117	⇑iP	Pn	17 39 50.2	+1.8
CACH				iS	Sn	17 40 06.0	+1.5
FCH	Farellones	1.43	81	eP9		17 39 38.0	
FCH				eS	Sn	17 39 54.3	-14
CFAA	Coronel Fontan	3.70	59	LR	LR	17 42 43.2	
	comp=E,5.9nm,20.5s,baz=238,slow=33						
PLCA	Paso Flores	7.26	171	Pn	Pn	17 41 09.7	-0.7
	comp=E,1.0nm,0.3s,baz=326,slow=13,SNR=5.3						
PLCA				Sn	Sn	17 42 31.1	-0.2
	comp=E,0.3nm,0.3s,baz=270,slow=17,SNR=2.0						
PLCA				LR	LR	17 43 32.8	
	comp=E,171nm,19.5s,baz=344,slow=37						
CPUP	Villa Florida	14.59	64	LR	LR	17 49 31.5	
	comp=E,72nm,18.1s,baz=209,slow=36						
LPAZ	La Paz	17.54	12	P	P	17 44 01.0	+32
	comp=E,0.1nm,0.3s,baz=191,slow=10,SNR=3.3						
SIV	San Ignacio	20.07	32	P	Pn	17 44 29.6	+31
	comp=E,1.3nm,0.8s,baz=236,slow=14,SNR=3.5						
TXAR	Lajitas Array	69.37	331	P	P	17 50 46.3	+17
	comp=E,0.7nm,0.6s,baz=149,slow=8.9,SNR=9.8						
MKAR	Makanchi Array	156.43	48	PKPab	PKPab	18 00 08.4	+24
	comp=E,0.3nm,0.7s,baz=289,slow=4.4,SNR=5.2						

IDC 09 17:44:09.1±2.3, 50°.06N×114°.76W, h0km, mb2.7/1, mb1 3.4/3, mb1mx3.2/30, mbtmp3.0/3, ML3.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/11, Error ellipse: s-maj=46.5km s-min=12.6km az=112.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEW	Newport	2.37	222	Pn	Pb	17 44 51.3	-1.4
	1.2nm,0.3s,baz=42,slow=15,SNR=10						
NEW				Sn	Sn	17 45 20.4	+1.3
	1.7nm,0.3s,baz=279,slow=22,SNR=8.5						
I56US	NEWPORT INFRAS	2.38	222	i		17 59 51.8	
	baz=39,slow=322,SNR=1.8						
YBH	Yreka Blue Hor	10.00	217	LR	LR	17 50 39.8	
	comp=Z,121nm,18.9s,baz=294,slow=39						
I10CA	LAC DU BONNET	12.03	82	i		18 54 00.0	
	baz=271,slow=313,SNR=1.1						
YKA	Yellowknife Ar	12.46	0	Pn	Pn	17 47 03.2	-4.3
	0.2nm,0.3s,baz=181,slow=13,SNR=10						
ILAR	Eielson Array	22.37	323	P	P	17 49 09.1	+0.7
	0.3nm,0.8s,baz=98,slow=10,SNR=3.4			

baz=23,SNR=4.5
WRA Warramunga Arr 23.05 228 P P 17 49 21.9 -1.4
6.7nm,0.6s,baz=52,slow=10,SNR=84
KNRA Kununurra 25.50 243 P P 17 49 46.7 +0.8
baz=26,SNR=19
ASAR Alice Springs 25.79 222 P P 17 49 47.2 -1.3
3.1nm,0.8s,baz=58,slow=7.7,SNR=29
WRKA Warakurna 30.57 226 P P 17 50 29.6 -1.6
baz=32,SNR=7.0
WSI Waingapu 32.08 260 P P 17 50 42.4 -2.2
baz=33,SNR=8.0
MEEK Meekatharra 38.78 232 P P 17 51 40.8 -1.2
baz=40,SNR=5.2
CMAR Chiang Mai Arr 57.42 295 P P 17 54 07.6 +1.7
0.5nm,0.8s,baz=122,slow=5.9,SNR=5.8
MKAR Makanchi Array 80.00 319 P P 17 56 27.0 +1.0
0.2nm,0.7s,baz=100,slow=6.5,SNR=4.2
ILAR Eielson Array 82.37 22 P P 17 56 37.9 -0.3
0.4nm,0.8s,baz=248,slow=4.8,SNR=3.5
TORD Torodi Ar. Bea 149.82 288 PKPbc PKPbc 18 04 06.2 -1.2
1.1nm,0.8s,baz=76,slow=2.5,SNR=6.5

*ISCJB **09** 18:06:56.4±0.5,51°.52N±0°.07×173°.42W±0°.06, h37km, mb4.0/27, Error ellipse: s-maj=10.2km s-min=4.4km az=166.2*
*IDC **09** 18:06:58.6±0.8,51°.59N×173°.40W, h40km±6km, mb3.8/23, mb1 3.9/26, mb1mx3.8/62, mbtmp4.0/26, ML3.7/3, Error ellipse: s-maj=20.2km s-min=10.6km az=179.0*
*NEIC **09** 18:06:58.7±0.4,51°.58N×173°.44W, mb4.2/5, ML3.5(AEIC), Error ellipse: s-maj=9.6km s-min=5.3km az=178.0*
ISC 09 18:06:58.1±0.6,51°.5N±0°.1×173°.44W±0°.06, h37km, n63, σ0§92/65, mb4.0/27, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.88**	**333**	P	**Pn**	**18 07 13.4**	**-0.5**
KOKL	**Mount Kliuchef**	**0.95**	**331**	P	**Pn**	**18 07 14.5**	**-0.5**
KOKV	**Korovin Volcan**	**0.97**	**333**	P	**Pn**	**18 07 13.6**	**-1.7**
KOWE	**Korovin West**	**1.00**	**330**	P	**Pn**	**18 07 15.5**	**-0.1**
NIKH	**Nikolski High**	**3.18**	**61**	P	**Pn**	**18 07 45.1**	**-0.4**
NIKH				S	**Sn**	**18 08 22.9**	**+0.8**
OKFG	**Magazine Ridge**	**3.89**	**58**	P	**Pn**	**18 07 54.1**	**-1.1**
OKFG				S	**Sn**	**18 08 41.4**	**+1.9**
MREP	**Makushin Rep't**	**4.69**	**58**	P	**Pn**	**18 08 06.2**	**0.0**
UNV	**Unalaska Valle**	**4.83**	**58**	P	**Pn**	**18 08 08.8**	**+0.7**
UNV				S	**Sn**	**18 09 02.0**	**-0.8**
FX1	**Attu Island--F**	**8.35**	**285**	Pn	**Pn**	**18 08 57.8**	**+1.4**
	1.8nm,0.3s,baz=161,slow=3.2,SNR=16						
FX1	**Attu Island--F**	**8.35**	**285**	Pn	**Pn**	**18 08 57.8**	**+1.4**
FX1				P	**Pn**	**18 08 59.1**	**+2.7**
GAMB	**Gambell**	**12.35**	**4**	*e*P	**Pn**	**18 09 53.0**	**+2.0**
	4.6nm,0.5s						
KDAK	**Kodiak Island**	**13.59**	**54**	*e*Pn	**P**	**18 10 16.5**	**+0.2**
PETK	**Petropavlovsk-**	**17.68**	**287**	P	**Pn**	**18 11 00.0**	**-1.1**
	0.3nm,0.3s,baz=96,slow=14,SNR=7.1						
ILAR	**Eielson Array**	**19.11**	**36**	P	**P**	**18 11 15.4**	**-2.0**
	0.8nm,0.3s,baz=229,slow=9.4,SNR=64						
BILL	**Bilibino**	**19.31**	**337**	*e*P	**P**	**18 11 19.9**	**+0.4**
	2.4nm,0.8s						
EGAK	**Eagle**	**21.30**	**39**	*e*P	**P**	**18 11 40.7**	**-0.4**
	16nm,0.7s						
SEY	**Seymchan**	**21.46**	**315**	P	**P**	**18 11 41.9**	**-1.0**
	0.9nm,0.6s,baz=93,slow=7.7,SNR=4.1						
INK	**Inuvik**	**25.47**	**34**	P	**P**	**18 12 21.4**	**-0.7**
	1.8nm,0.5s,baz=249,slow=5.8,SNR=9.8						
YKA	**Yellowknife Ar**	**32.70**	**47**	P	**P**	**18 13 25.4**	**-1.1**
	0.3nm,0.4s,baz=272,slow=8.4,SNR=8.7						
YKA				PcP	**PcP**	**18 16 11.3**	**+0.1**
	0.1nm,0.3s,baz=282,slow=3.1,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**35.27**	**213**	T	T	18 52 03.2	
	baz=18						
H11N3	**WAKE ISLAND Hy**	**35.28**	**213**	T	T	18 52 01.2	
	baz=18,slow=74,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**35.29**	**213**	T	T	18 52 02.8	
	baz=18,slow=74,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**36.47**	**213**	T	T	18 52 54.4	
	baz=116,slow=75,SNR=45						
H11S2	**WAKE ISLAND Hy**	**36.48**	**213**	T	T	18 52 53.0	
	baz=116,slow=75,SNR=47						
H11S3	**WAKE ISLAND Hy**	**36.49**	**213**	T	T	18 52 54.7	
	baz=116,slow=75,SNR=48						
NVAR	**Mina Array Bea**	**40.20**	**87**	P	**P**	**18 14 32.7**	**+1.7**
	0.5nm,0.5s,baz=271,slow=8.7,SNR=3.2						
KSRS	**Korea Array**	**42.98**	**275**	P	**P**	**18 14 53.4**	**0.0**
	3.2nm,1.0s,baz=52,slow=6.9,SNR=4.1						
KSAR	**Wonju Array Be**	**43.01**	**275**	P	**P**	**18 14 53.4**	**-0.3**
PDAR	**Pinedale Array**	**43.05**	**76**	P	**P**	**18 14 55.2**	**+0.9**
	1.4nm,0.5s,baz=312,slow=3.3,SNR=5.6						
ULM	**Lac du Bonnet**	**46.77**	**59**	P	**P**	**18 15 22.8**	**-0.7**
	1.2nm,0.5s,baz=292,slow=3.4,SNR=3.9						
SONM	**Songino Array**	**49.55**	**299**	P	**P**	**18 15 44.8**	**-0.3**
	1.0nm,0.4s,baz=58,slow=6.4,SNR=23						
TXAR	**Lajitas Array**	**55.31**	**85**	P	**P**	**18 16 28.2**	**+0.3**
	0.3nm,0.6s,baz=290,slow=5.7,SNR=2.2						
SCHQ	**Schefferville**	**57.77**	**41**	P	**P**	**18 16 44.7**	**-0.3**
	2.3nm,0.8s,baz=252,slow=3.2,SNR=3.7						
KURK	**Kurchatov**	**61.31**	**316**	P	**P**	**18 17 09.7**	**+0.4**
KURBB	**Kurchatov Arra**	**61.41**	**316**	P	**P**	**18 17 09.7**	**-0.3**
	1.0nm,0.6s,baz=45,slow=6.5,SNR=9.2						
MKAR	**Makanchi Array**	**62.53**	**311**	P	**P**	**18 17 16.7**	**-1.0**
	0.5nm,0.4s,baz=47,slow=6.1,SNR=29						
BVAR	**Borovoye Array**	**62.90**	**322**	P	**P**	**18 17 20.0**	**0.0**
	1.9nm,0.5s,baz=55,slow=6.2,SNR=19						
FINES	**FINESS Array B**	**66.33**	**350**	P	**P**	**18 17 41.0**	**-1.2**
	3.0nm,1.0s,baz=358,slow=6.3,SNR=4.0						
NOA	**NORSAR Array B**	**67.75**	**358**	P	**P**	**18 17 51.5**	**+0.2**
	0.8nm,0.8s,baz=3.7,slow=6.8,SNR=3.2						
HFS	**Hagfors**	**68.57**	**356**	P	**P**	**18 17 55.1**	**-1.3**
	0.6nm,0.4s,baz=45,slow=4.3,SNR=6.5						
AAK	**Ala-Archa**	**69.30**	**313**	P	**P**	**18 18 01.9**	**+0.5**
	1.9nm,0.6s,baz=172,slow=2.7,SNR=5.8						
AKTO	**Aktyubinsk**	**69.45**	**328**	P	**P**	**18 18 01.8**	**-0.2**
	3.2nm,0.5s,baz=51,slow=7.1,SNR=15						
ABKAR	**Akbulak array**	**69.80**	**326**	*e*P	**P**	**18 18 03.5**	**-0.7**
	1.4nm,0.6s						
LSA	**Lhasa**	**70.52**	**293**	*e*P	**P**	**18 18 10.6**	**+1.1**
	6.4nm,0.6s						
KKAR	**Karatay Array**	**70.71**	**316**	*e*P	**P**	**18 18 08.9**	**-1.0**
	0.8nm,0.6s						
TAPN	**Taplejung**	**74.27**	**294**	*e*P	**P**	**18 18 31.9**	**+0.2**
	15nm,0.7s						
CMAR	**Chiang Mai Arr**	**74.32**	**280**	P	**P**	**18 18 32.2**	**+0.5**
	0.3nm,0.3s,baz=24,slow=5.7,SNR=5.4						
ODAN	**Odare**	**74.82**	**294**	*e*P	**P**	**18 18 35.3**	**+0.5**
GUN	**Gumba**	**74.88**	**296**	*e*P	**P**	**18 18 35.6**	**+0.3**
	13nm,0.4s						
JIRN	**Jiri**	**74.89**	**295**	*e*P	**P**	**18 18 35.8**	**+0.4**
	25nm,0.7s						
RAMN	**Ramite**	**75.21**	**295**	*e*P	**P**	**18 18 37.2**	**+0.1**
	28nm,0.7s						
KKN	**Kakani**	**75.31**	**296**	*e*P	**P**	**18 18 37.7**	**+0.1**
	5.0nm,0.4s						
PKI	**Pulchoki**	**75.40**	**296**	*e*P	**P**	**18 18 38.5**	**+0.2**
PKIN	**Phulchoki**	**75.40**	**296**	*e*P	**P**	**18 18 38.6**	**+0.4**
	4.6nm,0.6s						
GKN	**Gorkha**	**75.50**	**297**	*e*P	**P**	**18 18 38.7**	**+0.1**
	15nm,0.8s						
DMN	**Daman**	**75.54**	**296**	*e*P	**P**	**18 18 39.3**	**+0.3**
	11nm,0.9s						
DANN	**Dangsing**	**75.72**	**298**	*e*P	**P**	**18 18 40.3**	**+0.2**
	22nm,0.6s						
KOLN	**Koldanda**	**76.26**	**297**	*e*P	**P**	**18 18 42.9**	**-0.1**
	7.1nm,0.7s						
AKASG	**Malin Array Be**	**76.37**	**345**	P	**P**	**18 18 41.9**	**-1.1**
	1.1nm,0.4s,baz=17,slow=6.2,SNR=3.9						
WRA	**Warramunga Arr**	**84.51**	**228**	P	**P**	**18 19 26.0**	**-1.0**
	0.4nm,0.7s,baz=32,slow=5.7,SNR=5.0						
WRA				pP	**pP**	**18 19 38.5**	**-0.1**
	0.3nm,0.7s,baz=33,slow=6.0,SNR=2.1						
BRTR	**Keskin Array B**	**86.12**	**339**	P	**P**	**18 19 36.6**	**+1.5**
	0.7nm,0.6s,baz=28,slow=2.0,SNR=3.2						
ASAR	**Alice Springs**	**87.93**	**227**	P	**P**	**18 19 43.5**	**-0.3**
	0.6nm,0.8s,baz=39,slow=4.0,SNR=8.4						
ASAR				pP	**pP**	**18 19 56.8**	**+1.4**
	1.0nm,0.8s,baz=39,slow=3.3,SNR=7.5						
BOSA	**Boshof**	**153.19**	**321**	PKPbc	**PKPbc**	**18 26 51.5**	**-0.2**
	2.7nm,0.9s,baz=123,slow=2.4,SNR=3.2						
BOSA				pPKPbc	**pPKPbc**	**18 27 03.6**	**0.0**
	3.1nm,0.9s,baz=0.8,slow=1.1,SNR=2.2						

*ISCJB **09** 18:07:48.6±0.6, 4°.73S±0°.06×127°.31E±0°.06, h10km, mb3.8/1, Error ellipse: s-maj=9.7km s-min=6.9km az=138.5*
*DJA **09** 18:07:50.8±0.4, 5°.5S±4°.×12°.7E±°, h10km, M4.0/6, mB4.8/3, mb4.3/6, MLv3.7/5, Mw(mB)4.1/3*
*IDC **09** 18:07:59.2±2.0, 5°.76S×127°.56E, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.4/42, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=59.0km s-min=27.4km az=71.0*
ISC 09 18:07:50.4±1.2, 4°.67S±0°.08×127°.28E±0°.08, h10km, n15, σ1§27/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.44**	**353**	P	**Pn**	**18 08 15.7**	**-0.9**
MSAI	**Masohi**	**2.10**	**51**	P	**Pg**	**18 08 31.9**	**+1.0**
MSAI				S	**Sn**	**18 08 50.1**	**-1.9**
BNDI	**Bandanaira**	**2.62**	**87**	P	**Pn**	**18 08 31.7**	**-1.1**
SANI	**Sanana**	**2.91**	**334**	P	**Pn**	**18 08 36.5**	**-0.4**
LBMI	**Labuha**	**4.02**	**3**	P	**Pn**	**18 08 54.3**	**+2.2**
FAKI	**Fak Fak**	**5.25**	**71**	P	**Pn**	**18 09 09.6**	**+0.5**
	37nm,1.0s,599nm						
SWI	**Sorong**	**5.49**	**46**	P	**Pn**	**18 09 12.7**	**+0.4**
	32nm,0.6s,993nm						
LUWI	**Luwuk**	**5.77**	**309**	P	Pb	18 09 28.0	-3.3
SOEI	**Soe**	**5.87**	**210**	P	**Pn**	**18 09 18.2**	**+0.5**
	27nm,1.1s						
BATI	**Baumata**	**6.56**	**213**	Pn	**Pn**	**18 09 27.9**	**+0.7**
	2.0nm,0.3s,baz=81,slow=6.5,SNR=5.6						
APSI	**Ampana**	**6.76**	**303**	P	**Pn**	**18 09 31.1**	**+1.3**
	36nm,1.0s,1μm						
BKSI	**Bulukumba**	**7.16**	**265**	P	**Pn**	**18 09 34.7**	**-0.7**
WRA	**Warramunga Arr**	**16.66**	**156**	Pn	Pn	18 11 38.0	-6.2
	0.1nm,0.3s,baz=329,slow=13,SNR=9.7						
WRA				Sn	Sn	18 14 32.7	-17
	0.0nm,0.3s,baz=333,slow=22,SNR=2.5						
ASAR	**Alice Springs**	**19.93**	**162**	P	**P**	**18 12 21.8**	**-0.9**
	0.2nm,0.3s,baz=338,slow=11,SNR=18						
MKAR	**Makanchi Array**	**64.82**	**328**	P	P	18 18 46.8	+17
	0.8nm,0.9s,baz=126,slow=7.3,SNR=4.1						

*NSSC **09** 18:14:11.8±2.5, 41°.69N×39°.94E, h38km±414km, MD2.8, ML3.2*
*DDA **09** 18:14:33.8, 39°.82N×39°.07E, h13km, MD3.8*
*ISK **09** 18:14:34.7, 39°.91N×39°.14E, h6km, ML4.0*
*CSEM **09** 18:14:35.5±0.2, 39°.88N×39°.10E, h2km, ML4.0, Error ellipse: s-maj=5.0km s-min=3.7km az=144.0*
ISC 09 18:14:34.0±1.0, 39°.82N±0°.02×39°.06E±0°.01, h6km±10km, n129, σ1§54/142, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELT	**Kelkit**	**0.36**	**24**	*i* P	**Pg**	**18 14 41.7**	**+0.5**
KELT				*i* S	**Sg**	**18 14 46.7**	**+0.7**
KELT	**Kelkit**	**0.36**	**24**	*i* P	**Pg**	**18 14 41.7**	**+0.5**
KELT				*i* S	**Sg**	**18 14 46.7**	**+0.7**
EUZM	**Uzumlu**	**0.50**	**102**	*i* P	**Pg**	**18 14 43.5**	**-0.3**
EUZM	**Uzumlu**	**0.50**	**102**	*i* P	**Pg**	**18 14 43.5**	**-0.3**
ILIC	**ilic-Erzincan**	**0.53**	**226**	*e*PG	**Pn**	**18 14 48.0**	**-0.2**
ILIC				*e*SG	**Sn**	**18 14 56.9**	**-0.6**
ILIC	**ilic-Erzincan**	**0.53**	**226**	*e*Pg	**Pn**	**18 14 48.0**	**-0.2**
ILIC				*e*Sg	**Sn**	**18 14 56.9**	**-0.6**
ERZN	**Erzincan**	**0.56**	**114**	*e*PG	**Pg**	**18 14 44.4**	**-0.4**
ERZN				*e*SG	**Sg**	**18 14 52.6**	**+0.4**
KEMA	**Kemaliye**	**0.70**	**219**	*i* P	**Pg**	**18 14 47.7**	**+0.2**
KEMA				*i* S	**Sb**	**18 14 57.9**	**-0.7**
KEMA	**Kemaliye**	**0.70**	**219**	*i* P	**Pg**	**18 14 47.7**	**+0.2**
KEMA				*i* S	**Sb**	**18 14 57.9**	**-0.7**
GUMT	**Gumushane**	**0.72**	**27**	*e*PG	**Pg**	**18 14 47.4**	**-0.5**
GUMT	**Gumushane**	**0.72**	**27**	*e*Pg	**Pg**	**18 14 47.4**	**-0.5**
BAYT	**Ayd¨–ntepe-Bay**	**1.01**	**55**	*e*PG	**Pg**	**18 14 52.6**	**-0.8**
BAYT	**Ayd¨–ntepe-Bay**	**1.01**	**55**	*e*Pg	**Pg**	**18 14 52.6**	**-0.8**
ESPY	**Espiye-Giresun**	**1.13**	**347**	*e*PG	**Pb**	**18 14 55.4**	**-0.6**
ESPY	**Espiye-Giresun**	**1.13**	**347**	*e*Pg	**Pb**	**18 14 55.4**	**-0.6**
MACK	**Trabzon**	**1.25**	**25**	*i* P	**Pn**	**18 14 56.9**	**-1.2**
MACK				*i* S	**Sg**	**18 15 13.9**	**-0.3**
MACK	**Trabzon**	**1.25**	**25**	*i* P	**Pn**	**18 14 56.9**	**-1.2**
MACK				*i* S	**Sg**	**18 15 13.9**	**-0.3**
KTUT	**Trabzon**	**1.29**	**25**	*e*PN	**Pn**	**18 14 57.8**	**-0.7**
KTUT	**Trabzon**	**1.29**	**25**	*e*Pn	**Pn**	**18 14 57.8**	**-0.7**
RSDY	**Resadiye-TOKAT**	**1.45**	**294**	*e*PN	**Pg**	**18 15 02.0**	**+0.2**
RSDY	**Resadiye-TOKAT**	**1.45**	**294**	*e*Pn	**Pg**	**18 15 02.0**	**+0.2**
BINT	**Bingol**	**1.45**	**130**	*e*Pn	**Pg**	**18 15 02.0**	**+0.1**
BNGB	**Bing¶ll**	**1.50**	**123**	*e*PN	**Pb**	**18 15 02.0**	**-0.4**
SVSK	**Karacayir**	**1.59**	**274**	*e*PN	**Pg**	**18 15 04.3**	**-0.2**
SVSK	**Karacayir**	**1.59**	**274**	*e*Pn	**Pg**	**18 15 04.3**	**-0.2**
DARE	**Darende-Malaty**	**1.75**	**225**	*e*PN	**Pg**	**18 15 07.3**	**-0.2**
DARE	**Darende-Malaty**	**1.75**	**225**	*e*Pn	**Pg**	**18 15 07.3**	**-0.2**
EZM	**Erzurum**	**1.77**	**86**	*e*PN	**Pb**	**18 15 06.5**	**-0.6**
ERZM	**Erzurum**	**1.78**	**86**	*i* P	**Pb**	**18 15 06.5**	**-0.7**
ERZM				*i* S	**Sg**	**18 15 31.9**	**+0.7**
ERZM	**Erzurum**	**1.78**	**86**	*i* P	**Pb**	**18 15 06.5**	**-0.7**
ERZM				*i* S	**Sg**	**18 15 31.9**	**+0.7**
BNGL	**BINGOL**	**1.84**	**117**	*i* P	**Pb**	**18 15 07.9**	**-0.2**
BNGL				*i* S	**Sg**	**18 15 34.8**	**+1.7**
VRTB	**Varto-Mus**	**1.97**	**109**	*e*PN	**Pb**	**18 15 09.5**	**-0.8**
VRTB	**Varto-Mus**	**1.97**	**109**	*e*Pn	**Pb**	**18 15 09.5**	**-0.8**
DYBB	**Diyarbakir**	**2.04**	**155**	*e*PN	**Pb**	**18 15 11.7**	**+0.2**
TOKA	**Tokat**	**2.04**	**285**	*i* P	**Pb**	**18 15 10.6**	**-1.0**
TOKA				*i* S	**Sg**	**18 15 41.7**	**+2.0**
TOKA	**Tokat**	**2.04**	**285**	*i* P	**Pb**	**18 15 10.6**	**-1.0**
TOKA				*i* S	**Sg**	**18 15 41.7**	**+2.0**
DIY	**Diyarbakir**	**2.12**	**154**	*e*Pn	**Pb**	**18 15 11.7**	**-1.3**
HOMI	**Horasan**	**2.20**	**83**	*i* P	**Pb**	**18 15 13.9**	**-0.5**
HOMI				*i* S	Sg	18 15 50.8	+6.0
DDEM	**Demirkent**	**2.32**	**62**	*i* P	**Pb**	**18 15 15.9**	**-0.5**
DDEM				*i* S	**Sb**	**18 15 46.1**	**+0.8**
DDEM	**Demirkent**	**2.32**	**62**	*i* P	**Pb**	**18 15 15.9**	**-0.5**
DDEM				*i* S	**Sb**	**18 15 46.1**	**+0.8**
DBAD	**Bademkaya**	**2.34**	**58**	*i* P	**Pb**	**18 15 15.9**	**-0.8**
DBAD				*i* S	**Sb**	**18 15 45.5**	**-0.4**
DBAD	**Bademkaya**	**2.34**	**58**	*i* P	**Pb**	**18 15 15.9**	**-0.8**
DBAD				*i* S	**Sb**	**18 15 45.5**	**-0.4**
SVAN	**Silvan-Diyarba**	**2.35**	**134**	*e*PN	**Pb**	**18 15 15.9**	**-1.0**
URFA	**Urfa**	**2.38**	**185**	*e*PN	**Pb**	**18 15 17.3**	**0.0**
URFA	**Urfa**	**2.38**	**185**	*e*Pn	**Pb**	**18 15 17.3**	**0.0**
ATAB	**Bozova**	**2.42**	**195**	*i* P	**Pg**	**18 15 19.2**	**-1.2**
ATAB				*i* S	**Sg**	**18 15 52.9**	**+1.2**
ATAB	**Bozova**	**2.42**	**195**	*i* P	**Pg**	**18 15 19.2**	**-1.2**
ATAB				*i* S	**Sg**	**18 15 52.9**	**+1.2**
BTMT	**Batman**	**2.49**	**130**	*e*PN	**Pb**	**18 15 17.4**	**-1.9**
BTMT	**Batman**	**2.49**	**130**	*e*Pn	**Pb**	**18 15 17.4**	**-1.9**
DBOC	**Borcka**	**2.50**	**52**	*i* P	**Pb**	**18 15 18.2**	**-1.2**
DBOC	**Borcka**	**2.50**	**52**	*i* P	**Pb**	**18 15 18.2**	**-1.2**
DBOC				*i* S	**Sb**	**18 15 49.8**	**-0.8**
DAGI	**Agillar**	**2.52**	**59**	*i* P	**Pb**	**18 15 18.2**	**-1.5**
DAGI				*i* S	**Sb**	**18 15 51.3**	**+0.3**
ARTV	**Artvin**	**2.58**	**57**	*i* P	**Pb**	**18 15 21.1**	**+0.3**
ARTV	**Artvin**	**2.58**	**57**	*i* P	**Pb**	**18 15 21.1**	**+0.3**
ARTV				*i* S	**Sb**	**18 15 52.7**	**-0.2**
MAZI	**Mazidag**	**2.59**	**155**	*e*PN	**Pb**	**18 15 19.7**	**-1.3**
MAZI	**Mazidag**	**2.59**	**155**	*e*Pn	**Pb**	**18 15 19.7**	**-1.3**
KVT	**Kavak**	**2.62**	**300**	*e*PN	**Pb**	**18 15 18.7**	**-2.7**
KVT	**Kavak**	**2.62**	**300**	*e*Pn	**Pb**	**18 15 18.7**	**-2.7**
EATA	**Eleskirt**	**2.64**	**88**	*i* P	**Pb**	**18 15 21.9**	**-0.1**
EATA	**Eleskirt**	**2.64**	**88**	*i* P	**Pb**	**18 15 21.9**	**-0.1**
EATA				*i* S	**Sg**	**18 16 00.1**	**+1.2**
BNN	**Bunyan**	**2.67**	**250**	*e*PN	**Pb**	**18 15 20.8**	**-1.5**
BNN	**Bunyan**	**2.67**	**250**	*e*Pn	**Pb**	**18 15 20.8**	**-1.5**
MARD	**Mardin**	**2.84**	**151**	*i* P	**Pb**	**18 15 25.1**	**-0.1**
MARD				*i* S	**Sg**	**18 16 02.8**	**-2.5**
KMRS	**Kahramanmaras**	**2.86**	**217**	*e*PN	**Pb**	**18 15 24.4**	**-1.1**
KMRS	**Kahramanmaras**	**2.86**	**217**	*e*Pn	**Pb**	**18 15 24.4**	**-1.1**
YOZ	**Yozgat**	**2.89**	**268**	*e*PN	**Pb**	**18 15 23.6**	**-2.4**
YOZ	**Yozgat**	**2.89**	**268**	*e*Pn	**Pb**	**18 15 23.6**	**-2.4**
TUTA	**Tutak**	**2.93**	**97**	*i* P	**Pn**	**18 15 23.4**	**+2.0**
TUTA	**Tutak**	**2.93**	**97**	*i* P	**Pn**	**18 15 23.4**	**+2.0**
TUTA				*i* S	**Sg**	**18 16 06.3**	**-1.9**
AGRB	**Hanur-Agry**	**3.04**	**93**	*e*PN	**Pn**	**18 15 24.4**	**+1.5**
AGRB	**Hanur-Agry**	**3.04**	**93**	*e*Pn	**Pn**	**18 15 24.4**	**+1.5**
ANDN	**Andirin**	**3.08**	**224**	*i* P	**Pg**	**18 15 31.9**	**-1.2**
ANDN				*i* S	**Sg**	**18 16 10.7**	**-2.3**
CTKT	**Corum**	**3.37**	**285**	*i* P	**Pn**	**18 15 29.8**	**+2.5**
CTKT	**Corum**	**3.37**	**285**	*i* P	**Pn**	**18 15 29.8**	**+2.5**
DIKM	**Dikmen**	**3.42**	**304**	*e*PN	**Pn**	**18 15 30.0**	**+2.1**
DIKM	**Dikmen**	**3.42**	**304**	*e*Pn	**Pn**	**18 15 30.0**	**+2.1**
CORM	**Corum**	**3.42**	**277**	*e*PN	Pb	18 15 31.4	-3.7
CORM	**Corum**	**3.42**	**277**	*e*Pn	Pb	18 15 31.4	-3.7
KOZT	**Kozan**	**3.44**	**228**	*e*PN	Pb	18 15 31.7	-3.7
KOZT	**Kozan**	**3.44**	**228**	*e*Pn	Pb	18 15 31.7	-3.7
SFNV	**Sufian**	**3.49**	**166**	*e*P	**Pn**	**18 15 30.7**	**+1.7**
	SNR=90						
SFNV	**Sufian**	**3.49**	**166**	*e*P	**Pn**	**18 15 30.7**	**+1.7**
SFNV				*e*S	**Sg**	**18 16 23.0**	**-3.2**
SFNV				AML	AML	18 16 29.7	
	comp=N,74nm,0.6s						
SFNV				AML	AML	18 16 43.0	
	comp=E,179nm,0.7s						
SIRT	**Sirnak**	**3.51**	**130**	*e*PN	Pn	18 15 31.7	+2.5
SIRT	**Sirnak**	**3.51**	**130**	*e*Pn	Pn	18 15 31.7	+2.5
VANB	**Van**	**3.58**	**109**	*e*PN	**Pn**	**18 15 32.5**	**+2.3**
VANB	**Van**	**3.58**	**109**	*e*Pn	**Pn**	**18 15 32.5**	**+2.3**
EAK	**Akyaka**	**3.59**	**75**	*i* P	**Pg**	**18 15 42.4**	**-0.4**
EAK				*i* S	Sg	18 16 44.2	+15
CDAG	**Cicekdag**	**3.62**	**268**	*i* P	**Pb**	**18 15 38.9**	**+0.4**
CDAG				*i* S	**Sg**	**18 16 32.2**	**+1.9**
SLMH	**Al Salmeh**	**3.71**	**194**	*e*P	Pn	18 15 34.9	+3.0
	SNR=90						
SLMH	**Al Salmeh**	**3.71**	**194**	*e*P	Pn	18 15 34.9	+3.0
SLMH				*e*S	**Sg**	**18 16 34.3**	**+1.2**
SLMH				AML	AML	18 16 35.8	
	comp=E,138nm,0.7s						
SLMH				AML	AML	18 16 47.5	
	comp=N,171nm,0.7s						
AKH	**Akhalkalaki**	**3.73**	**63**	*e*PN	**Pn**	**18 15 33.5**	**+1.2**
AKH	**Akhalkalaki**	**3.73**	**63**	P	**Pg**	**18 15 45.1**	**-0.4**
AKH				S	**Sg**	**18 16 31.2**	**-2.6**
AKH	**Akhalkalaki**	**3.73**	**63**	*e*Pn	**Pn**	**18 15 33.5**	**+1.2**
CLDR	**Caldiran**	**3.82**	**99**	*e*PN	**Pn**	**18 15 35.6**	**+2.0**
CLDR	**Caldiran**	**3.82**	**99**	*e*Pn	**Pn**	**18 15 35.6**	**+2.0**
MNKR	**ALMNKUR**	**3.87**	**177**	*e*P	**Pn**	**18 15 35.8**	**+1.7**
	SNR=90						
MNKR	**ALMNKUR**	**3.87**	**177**	*e*P	**Pn**	**18 15 35.8**	**+1.7**
MNKR				AML	AML	18 16 55.0	
	comp=E,63nm,0.6s						
KARA	**Karaisali**	**4.05**	**232**	*e*PN	Pb	18 15 40.9	-4.8
KARA	**Karaisali**	**4.05**	**232**	*e*Pn	Pb	18 15 40.9	-4.8
HAKT	**HAKKARI**	**4.28**	**120**	*i* P	**Pg**	**18 15 53.3**	**-2.7**
HAKT				*i* S	**Sg**	**18 16 55.5**	**+4.0**
HKR	**Hakkari**	**4.29**	**120**	*e*PN	**Pn**	**18 15 42.4**	**+2.4**
HKR	**Hakkari**	**4.29**	**120**	*e*Pn	**Pn**	**18 15 42.4**	**+2.4**
BTCH	**Batrach**	**4.30**	**209**	*e*P	**Pn**	**18 15 40.7**	**+0.7**
	SNR=90						
BTCH	**Batrach**	**4.30**	**209**	*e*P	**Pn**	**18 15 40.7**	**+0.7**
BTCH				*e*S	**Sg**	**18 16 48.3**	**-3.7**
BTCH				AML	AML	18 17 06.1	
	comp=E,94nm,0.7s						
BTCH				AML	AML	18 17 11.6	
	comp=N,101nm,0.6s						
ONI	**Oni**	**4.32**	**49**	P	**Pg**	**18 15 55.2**	**-1.6**
GNI	**Garni**	**4.38**	**84**	*e*PN	**Pn**	**18 15 42.4**	**+1.2**
GNI	**Garni**	**4.38**	**84**	*e*Pn	**Pn**	**18 15 42.4**	**+1.2**
CUKT	**Cuk

Error ellipse: s-maj=31.5km s-min=11.4km az=87.0

ISC 09 18:31:04.5±0.9, 38°00S±0°08×73°2W±0°2, h33km, n29, σ1§51/26, mb4.2/8, MS3.3/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.40**	**144**	Pn	Pn	18 31 56.8	+1.5
	4.9nm,0.3s,baz=314,slow=8.8,SNR=34						
CFAA	**Coronel Fontan**	**7.55**	**34**	Pn	**Pn**	**18 32 52.1**	**-0.2**
	0.2nm,0.3s,baz=208,slow=14,SNR=6.1						
CFAA				Sn	**Sn**	**18 34 19.5**	**+2.6**
	0.3nm,0.3s,baz=270,slow=13,SNR=3.7						
CFAA				LR	LR	18 35 59.8	
	comp=Z,19nm,18.4s,baz=242,slow=40						
TRQA	**Tornquist**	**8.82**	**94**	*e*Pn	Pn	18 33 14.1	+4.3
	11nm,0.7s						
LCO	**Las Campanas**	**9.20**	**14**	*e*Pn	**Pn**	**18 33 13.3**	**-1.8**
	17nm,0.6s						
LCO				*e*Sn	**Sn**	**18 34 54.6**	**-2.9**
LVC	**Limon Verde**	**15.76**	**15**	*e*Pn	**Pn**	**18 34 46.1**	**+1.8**
USHA	**Ushuaia**	**17.14**	**171**	LR	LR	18 42 25.5	
	comp=Z,252nm,18.5s,baz=24,slow=41						
EFI	**East Falkland**	**17.32**	**147**	*e*Pn	**P**	**18 35 03.4**	**-1.3**
CPUP	**Villa Florida**	**17.72**	**54**	P	**P**	**18 35 09.2**	**0.0**
	0.8nm,0.3s,baz=218,slow=8.1,SNR=3.7						
CPUP				LR	LR	18 42 49.6	
	comp=Z,270nm,18.7s,baz=210,slow=40						
CPUP	**Villa Florida**	**17.72**	**54**	*e*Pn	**Pn**	**18 35 07.0**	**-1.6**
LPAZ	**La Paz**	**22.08**	**13**	P	**P**	**18 36 00.7**	**+3.3**
	2.3nm,0.6s,baz=178,slow=8.0,SNR=6.8						
LPAZ				LR	LR	18 46 39.9	
	comp=Z,50nm,20.1s,baz=151,slow=42						
LPAZ	**La Paz**	**22.08**	**13**	Pn	**P**	**18 35 57.3**	**-0.1**
	4.8nm,0.8s						
SIV	**San Ignacio**	**24.38**	**29**	P	**P**	**18 36 19.9**	**+0.1**
	1.6nm,0.6s,baz=228,slow=8.3,SNR=3.7						
SIV				LR	LR	18 45 41.3	
	comp=Z,97nm,19.8s,baz=190,slow=36						
BDFB	**Brasilia**	**31.43**	**52**	LR	LR	18 51 03.5	
	comp=Z,75nm,18.1s,baz=219,slow=38						
SNAA	**Sanae**	**48.26**	**156**	P	**P**	**18 39 41.6**	**-0.3**
	1.7nm,1.0s,baz=333,slow=6.8,SNR=4.7						
SNAA	**Sanae**	**48.26**	**156**	P	**P**	**18 39 39.6**	**-2.3**
	21nm,1.5s						
QSPA	**South Pole Qui**	**52.24**	**180**	P	**P**	**18 40 11.8**	**-0.5**
	1.5nm,0.7s,baz=174,slow=1.7,SNR=5.2						
QSPA	**South Pole Qui**	**52.24**	**180**	*e*P	**P**	**18 40 11.2**	**-1.1**
	4.0nm,1.0s						
VNDA	**Vanda**	**60.01**	**192**	P	**P**	**18 41 09.7**	**+2.4**
TXAR	**Lajitas Array**	**72.81**	**332**	P	P	18 42 35.7	+5.9
	0.4nm,0.6s,baz=149,slow=8.4,SNR=5.3						
DBIC	**Dimbokro**	**77.33**	**71**	P	**P**	**18 42 57.5**	**+1.4**
	5.7nm,0.7s,baz=191,slow=6.3,SNR=8.1						
BOSA	**Boshof**	**79.02**	**118**	P	**P**	**18 43 05.6**	**0.0**
	2.9nm,0.9s,baz=225,slow=1.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**86.42**	**70**	P	**P**	**18 43 44.2**	**+0.3**
	1.5nm,0.7s,baz=220,slow=4.7,SNR=9.2						
BRTR	**Keskin Array B**	**124.50**	**64**	PKP	**PKPdf**	**18 49 59.9**	**-0.4**
	1.1nm,0.9s,baz=340,slow=3.8,SNR=3.2						
AKTO	**Aktyubinsk**	**143.51**	**54**	PKhKP	PKPpre	18 50 32.1	
	1.1nm,0.5s,baz=29,slow=6.3,SNR=5.4						
ABKAR	**Akbulak array**	**144.77**	**56**	*e*PKPdf	**PKPab**	**18 50 36.1**	**-0.2**
BRVK	**Borovoye**	**150.67**	**47**	*e*PKPbc	**PKPbc**	**18 50 52.4**	**-0.1**
BVAR	**Borovoye Array**	**150.74**	**47**	PKPbc	**PKPbc**	**18 50 53.0**	**+0.3**
	2.9nm,0.6s,baz=291,slow=1.4,SNR=8.9						
AAK	**Ala-Archa**	**154.99**	**69**	PKPbc	**PKPbc**	**18 51 02.5**	**-0.2**
	0.4nm,0.4s,baz=155,slow=2.6,SNR=7.1						
AAK				PKPab	**PKPab**	**18 51 18.8**	**+0.4**
	1.0nm,0.4s,baz=341,slow=1.1,SNR=8.4						
MKAR	**Makanchi Array**	**159.91**	**56**	PKPab	**PKPab**	**18 51 39.5**	**+0.2**
	0.6nm,0.7s,baz=284,slow=4.5,SNR=8.7						

*IDC **09** 18:48:20.1±1.2, 38°N×22°00E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.4/35, mbtmp3.6/7, ML2.9/1, Error ellipse: s-maj=36.9km s-min=19.7km az=152.0*

*ISCJB **09** 18:48:27.0±0.2, 38°11N±0°02×22°08E±0°02, h66km±2km, mb3.6/5, Error ellipse: s-maj=2.9km s-min=2.5km az=157.6*

*ATH **09** 18:48:26.9, 38°12N×22°08E, h56km±1km, MD3.3/47, ML3.7*

*CSEM **09** 18:48:28.2±0.1, 38°11N×22°07E, h48km±2km, ML3.7, Error ellipse: s-maj=2.3km s-min=1.9km az=61.0*

*THE **09** 18:48:28.0, 38°10N×22°10E, h56km±1km, ML3.7/23, Error ellipse: s-maj=1.2km s-min=0.6km az=214.0*

ISC 09 18:48:27.5±0.8, 38°11N±0°02×22°08E±0°02, h55km±4km, n240, σ1§06/336, mb3.6/5, 8C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.08**	**138**	P	**Pn**	**18 48 35.9**	**+0.1**
KLV				S	**Sn**	**18 48 42.3**	**+0.4**
KLV	**Kalavryta, Ach**	**0.08**	**138**	*e*P	**Pn**	**18 48 36.0**	**+0.1**
KLV	**Kalavryta, Ach**	**0.08**	**138**	*e*P	**Pn**	**18 48 36.0**	**+0.1**
KLV				S	**Sn**	**18 48 42.3**	**+0.4**
LAKA	**Lakka**	**0.16**	**329**	P	**Pn**	**18 48 36.2**	**0.0**
LAKA	**Lakka**	**0.16**	**329**	*e*P	**Pn**	**18 48 36.2**	**0.0**
LAKA	**Lakka**	**0.16**	**329**	P	**Pn**	**18 48 36.2**	**0.0**
GUR	**Goura**	**0.27**	**129**	P	**Pn**	**18 48 37.1**	**+0.2**
GUR				S	**Sn**	**18 48 44.9**	**+1.2**
GUR	**Goura**	**0.27**	**129**	*e*P	**Pn**	**18 48 37.1**	**+0.2**
GUR	**Goura**	**0.27**	**129**	P	**Pn**	**18 48 37.1**	**+0.2**
GUR				S	**Sn**	**18 48 44.9**	**+1.2**
KALE	**Kalithea**	**0.29**	**9**	P	**Pn**	**18 48 37.5**	**+0.5**
KALE				S	**Sn**	**18 48 44.8**	**+0.8**
KALE	**Kalithea**	**0.29**	**9**	*e*P	**Pn**	**18 48 37.6**	**+0.5**
KALE				*e*S	**Sn**	**18 48 44.7**	**+0.8**
KALE	**Kalithea**	**0.29**	**9**	*e*P	**Pn**	**18 48 37.6**	**+0.5**
KALE				*e*S	**Sn**	**18 48 44.7**	**+0.8**
UPR	**University Cam**	**0.29**	**308**	P	**Pn**	**18 48 37.3**	**+0.3**
UPR				S	**Sn**	**18 48 44.5**	**+0.7**
UPR	**University Cam**	**0.29**	**308**	P	**Pn**	**18 48 37.3**	**+0.3**
UPR				S	**Sn**	**18 48 44.5**	**+0.7**
DRO	**Drossia**	**0.33**	**243**	P	**Pn**	**18 48 37.0**	**-0.3**
DRO				S	**Sn**	**18 48 44.9**	**+0.5**
DRO	**Drossia**	**0.33**	**243**	*e*P	**Pn**	**18 48 37.1**	**-0.3**
DRO	**Drossia**	**0.33**	**243**	*e*P	**Pn**	**18 48 37.1**	**-0.3**
DRO				S	**Sn**	**18 48 44.9**	**+0.5**
EFP	**Efpalio**	**0.35**	**337**	P	**Pn**	**18 48 37.9**	**+0.4**
EFP				S	**Sn**	**18 48 46.0**	**+1.3**
EFP	**Efpalio**	**0.35**	**337**	*e*P	**Pn**	**18 48 37.9**	**+0.4**
EFP				*e*S	**Sn**	**18 48 45.4**	**+0.7**
EFP	**Efpalio**	**0.35**	**337**	P	**Pn**	**18 48 37.9**	**+0.4**
EFP				*e*S	**Sn**	**18 48 45.4**	**+0.7**
DSF	**Desfina**	**0.47**	**49**	P	**Pn**	**18 48 39.0**	**+0.3**
DSF				S	**Sn**	**18 48 47.6**	**+0.8**
DSF	**Desfina**	**0.47**	**49**	*e*P	**Pn**	**18 48 39.0**	**+0.3**
DSF				*e*S	**Sn**	**18 48 46.8**	**0.0**
DSF	**Desfina**	**0.47**	**49**	P	**Pn**	**18 48 39.0**	**+0.3**
DSF				*e*S	**Sn**	**18 48 46.8**	**0.0**
RLS	**Riolos of Patr**	**0.49**	**265**	P	**Pn**	**18 48 38.5**	**-0.4**
RLS				S	**Sn**	**18 48 48.1**	**+1.0**
RLS	**Riolos of Patr**	**0.49**	**265**	*e*P	**Pn**	**18 48 38.4**	**-0.4**
RLS				*e*S	**Sn**	**18 48 47.1**	**0.0**
RLS	**Riolos of Patr**	**0.49**	**265**	P	**Pn**	**18 48 38.5**	**-0.4**
RLS				*e*S	**Sn**	**18 48 47.1**	**0.0**
AMT	**Artemida-Makis**	**0.64**	**207**	P	**Pn**	**18 48 41.1**	**+0.3**
AMT				S	**Sn**	**18 48 51.6**	**+1.2**
AMT	**Artemida-Makis**	**0.64**	**207**	*e*P	**Pn**	**18 48 41.1**	**+0.3**
AMT	**Artemida-Makis**	**0.64**	**207**	P	**Pn**	**18 48 41.1**	**+0.3**
AMT				S	**Sn**	**18 48 51.6**	**+1.2**
PVO	**Paravola**	**0.67**	**320**	P	**Pn**	**18 48 42.1**	**+1.0**
PVO				S	**Sn**	**18 48 53.3**	**+2.3**
PVO	**Paravola**	**0.67**	**320**	P	**Pn**	**18 48 42.1**	**+1.0**
PVO				S	**Sn**	**18 48 53.3**	**+2.3**
LTK	**Loutraki**	**0.70**	**96**	P	**Pn**	**18 48 41.9**	**+0.5**
LTK				S	**Sn**	**18 48 52.5**	**+0.8**
LTK	**Loutraki**	**0.70**	**96**	*e*P	**Pn**	**18 48 42.0**	**+0.5**
LTK	**Loutraki**	**0.70**	**96**	*e*P	**Pn**	**18 48 42.0**	**+0.5**
LTK				S	**Sn**	**18 48 52.5**	**+0.8**
VLX	**Vlachokerasia**	**0.77**	**162**	P	**Pn**	**18 48 43.1**	**+0.7**
VLX				S	**Sn**	**18 48 53.8**	**+0.5**
VLX	**Vlachokerasia**	**0.77**	**162**	*e*P	**Pn**	**18 48 43.3**	**+0.9**
VLX	**Vlachokerasia**	**0.77**	**162**	P	**Pn**	**18 48 43.1**	**+0.7**
VLX				S	**Sn**	**18 48 53.8**	**+0.5**
AXAR	**Agios Charalam**	**0.80**	**34**	P	**Pn**	**18 48 43.4**	**+0.7**
AXAR				S	**Sn**	**18 48 55.4**	**+1.5**
AXAR	**Agios Charalam**	**0.80**	**34**	P	**Pn**	**18 48 43.4**	**+0.7**
AXAR				S	**Sn**	**18 48 55.4**	**+1.5**
EVR	**Evrytania**	**0.84**	**345**	P	**Pn**	**18 48 44.3**	**+1.0**
EVR				S	**Sn**	**18 48 56.5**	**+1.6**
EVR	**Evrytania**	**0.84**	**345**	*e*P	**Pn**	**18 48 44.5**	**+1.2**
EVR				*e*S	**Sn**	**18 48 56.1**	**+1.2**
EVR	**Evrytania**	**0.84**	**345**	P	**Pn**	**18 48 44.3**	**+1.0**
EVR				*e*S	**Sn**	**18 48 56.1**	**+1.2**
PDO	**Prodromos**	**0.86**	**305**	P	**Pn**	**18 48 44.6**	**+1.1**
PDO				S	**Sn**	**18 48 57.7**	**+2.4**
PDO	**Prodromos**	**0.86**	**305**	*e*P	**Pn**	**18 48 44.1**	**+0.6**
PDO				*e*S	**Sn**	**18 48 56.6**	**+1.3**
PDO	**Prodromos**	**0.86**	**305**	*e*P	**Pn**	**18 48 44.1**	**+0.6**
PDO				S	**Sn**	**18 48 57.7**	**+2.4**
LKR	**Lokris**	**0.90**	**53**	P	**Pn**	**18 48 44.5**	**+0.5**
LKR				S	**Sn**	**18 48 57.7**	**+1.5**
LKR	**Lokris**	**0.90**	**53**	*e*P	**Pn**	**18 48 44.6**	**+0.5**
LKR				*e*S	**Sn**	**18 48 57.7**	**+1.5**
LKR	**Lokris**	**0.90**	**53**	*e*P	**Pn**	**18 48 44.6**	**+0.5**
LKR				S	**Sn**	**18 48 57.7**	**+1.5**
MAKR	**Makrakomi, Fth**	**0.91**	**2**	P	**Pn**	**18 48 45.2**	**+1.0**
MAKR				S	**Sn**	**18 48 58.1**	**+1.7**
MAKR	**Makrakomi, Fth**	**0.91**	**2**	*e*P	**Pn**	**18 48 45.2**	**+1.0**
MAKR	**Makrakomi, Fth**	**0.91**	**2**	P	**Pn**	**18 48 45.2**	**+1.0**
MAKR				S	**Sn**	**18 48 58.1**	**+1.7**
ITM	**Ithomi**	**0.93**	**188**	P	**Pn**	**18 48 45.5**	**+1.1**
ITM				S	**Sn**	**18 48 58.5**	**+1.6**
ITM	**Ithomi**	**0.93**	**188**	*e*P	**Pn**	**18 48 45.7**	**+1.3**
ITM	**Ithomi**	**0.93**	**188**	P	**Pn**	**18 48 45.5**	**+1.1**
ITM				S	**Sn**	**18 48 58.5**	**+1.6**
AGG	**Agios Georgios**	**0.94**	**12**	P	**Pn**	**18 48 45.0**	**+0.5**
AGG				S	**Sn**	**18 48 58.3**	**+1.2**
AGG	**Agios Georgios**	**0.94**	**12**	*e*P	**Pn**	**18 48 45.1**	**+0.5**
AGG	**Agios Georgios**	**0.94**	**12**	*e*P	**Pn**	**18 48 45.1**	**+0.5**
AGG				S	**Sn**	**18 48 58.3**	**+1.2**
KFL	**Anninata**	**1.02**	**271**	P	**Pn**	**18 48 45.9**	**+0.3**
KFL	**Anninata**	**1.02**	**271**	P	**Pn**	**18 48 45.9**	**+0.3**
DID	**Didima**	**1.09**	**123**	P	**Pn**	**18 48 46.7**	**+0.1**
DID				S	**Sn**	**18 49 02.0**	**+1.3**
DID	**Didima**	**1.09**	**123**	*e*P	**Pn**	**18 48 46.9**	**+0.3**
DID				*e*S	**Sn**	**18 49 01.7**	**+1.0**
DID	**Didima**	**1.09**	**123**	*e*P	**Pn**	**18 48 46.9**	**+0.3**
DID				*e*S	**Sn**	**18 49 01.7**	**+1.0**
NAIG	**Nisos Aigina**	**1.17**	**107**	*e*P	**Pn**	**18 48 48.2**	**+0.7**
NAIG	**Nisos Aigina**	**1.17**	**107**	*e*P	**Pn**	**18 48 48.2**	**+0.7**
SMIA	**Simia**	**1.18**	**48**	P	**Pn**	**18 48 48.2**	**+0.6**
SMIA				S	**Sn**	**18 49 03.6**	**+0.9**
SMIA	**Simia**	**1.18**	**48**	*e*P	**Pn**	**18 48 48.3**	**+0.6**
SMIA				*e*S	**Sn**	**18 49 04.0**	**+1.3**
SMIA	**Simia**	**1.18**	**48**	*e*P	**Pn**	**18 48 48.3**	**+0.6**
SMIA				S	**Sn**	**18 49 03.6**	**+0.9**
VLS	**Valsamata**	**1.18**	**274**	P	**Pn**	**18 48 47.6**	**-0.1**
VLS				S	**Sn**	**18 49 03.9**	**+1.1**
VLS	**Valsamata**	**1.18**	**274**	*e*P	**Pn**	**18 48 47.6**	**-0.1**
VLS	**Valsamata**	**1.18**	**274**	P	**Pn**	**18 48 47.6**	**-0.1**
VLS				S	**Sn**	**18 49 03.9**	**+1.1**
SFD	**Strofades**	**1.20**	**225**	*e*P	**Pn**	**18 48 48.7**	**+0.7**
SFD				*e*S	**Sn**	**18 49 05.4**	**+2.2**
SFD	**Strofades**	**1.20**	**225**	*e*P	**Pn**	**18 48 48.7**	**+0.7**
SFD				*e*S	**Sn**	**18 49 05.4**	**+2.2**
PYL	**PYLOS**	**1.24**	**193**	P	**Pn**	**18 48 49.4**	**+0.9**
PYL	**PYLOS**	**1.24**	**193**	*e*P	**Pn**	**18 48 49.6**	**+1.1**
PYL	**PYLOS**	**1.24**	**193**	P	**Pn**	**18 48 49.4**	**+0.9**
DSL	**Palaion Diasel**	**1.28**	**323**	P	**Pn**	**18 48 50.3**	**+1.1**
DSL				S	**Sn**	**18 49 07.0**	**+1.6**
DSL	**Palaion Diasel**	**1.28**	**323**	P	**Pn**	**18 48 50.3**	**+1.1**
DSL				S	**Sn**	**18 49 07.0**	**+1.6**
ATH	**Athens Observa**	**1.30**	**95**	P	**Pn**	**18 48 50.0**	**+0.8**
ATH				S	**Sn**	**18 49 06.9**	**+1.3**
ATH	**Athens Observa**	**1.30**	**95**	*e*P	**Pn**	**18 48 50.1**	**+0.8**
ATH				*e*S	**Sn**	**18 49 06.4**	**+0.8**
ATH	**Athens Observa**	**1.30**	**95**	P	**Pn**	**18 48 50.0**	**+0.8**
ATH				*e*S	**Sn**	**18 49 06.4**	**+0.8**
LKD2	**Lefkada island**	**1.31**	**302**	P	**Pn**	**18 48 49.8**	**+0.3**
LKD2				S	**Sn**	**18 49 08.1**	**+2.1**
LKD2	**Lefkada island**	**1.31**	**302**	*e*P	**Pn**	**18 48 50.0**	**+0.5**
LKD2				*e*S	**Sn**	**18 49 07.0**	**+1.0**
LKD2	**Lefkada island**	**1.31**	**302**	*e*P	**Pn**	**18 48 50.0**	**+0.5**
LKD2				S	**Sn**	**18 49 08.1**	**+2.1**
MRKA	**Markates**	**1.33**	**63**	*e*P	**Pn**	**18 48 50.3**	**+0.6**
MRKA	**Markates**	**1.33**	**63**	*e*P	**Pn**	**18 48 50.3**	**+0.6**
PTL	**Penteli**	**1.41**	**92**	P	**Pn**	**18 48 51.5**	**+0.7**
PTL				S	**Sn**	**18 49 08.9**	**+0.6**
PTL	**Penteli**	**1.41**	**92**	*e*P	**Pn**	**18 48 51.6**	**+0.7**
PTL				*e*S	**Sn**	**18 49 08.1**	**-0.2**
PTL	**Penteli**	**1.41**	**92**	P	**Pn**	**18 48 51.5**	**+0.7**
PTL				S	**Sn**	**18 49 08.9**	**+0.6**
THL	**Klokotos Trika**	**1.46**	**358**	P	**Pn**	**18 48 52.1**	**+0.6**
THL				S	**Sn**	**18 49 11.7**	**+2.2**
THL	**Klokotos Trika**	**1.46**	**358**	*e*P	**Pn**	**18 48 52.1**	**+0.6**
THL				*e*S	**Sn**	**18 49 10.6**	**+1.1**
THL	**Klokotos Trika**	**1.46**	**358**	P	**Pn**	**18 48 52.1**	**+0.6**
THL				*e*S	**Sn**	**18 49 10.6**	**+1.1**
NEO	**Neokhori**	**1.50**	**36**	P	**Pn**	**18 48 52.5**	**+0.5**
NEO				S	**Sn**	**18 49 11.1**	**+0.6**
NEO	**Neokhori**	**1.50**	**36**	*e*P	**Pn**	**18 48 52.6**	**+0.5**
NEO	**Neokhori**	**1.50**	**36**	*e*P	**Pn**	**18 48 52.6**	**+0.5**
NEO				S	**Sn**	**18 49 11.1**	**+0.6**
SKIA	**Skiathos**	**1.52**	**45**	P	**Pn**	**18 48 52.8**	**+0.5**
SKIA				S	**Sn**	**18 49 12.1**	**+1.2**
SKIA	**Skiathos**	**1.52**	**45**	*e*P	**Pn**	**18 48 52.9**	**+0.6**
SKIA				*e*S	**Sn**	**18 49 11.9**	**+1.0**
SKIA	**Skiathos**	**1.52**	**45**	*e*P	**Pn**	**18 48 52.9**	**+0.6**
SKIA				*e*S	**Sn**	**18 49 11.9**	**+1.0**
XOR	**Xorichti**	**1.53**	**34**	P	**Pn**	**18 48 52.9**	**+0.5**
XOR				S	**Sn**	**18 49 12.0**	**+0.7**
XOR	**Xorichti**	**1.53**	**34**	*e*P	**Pn**	**18 48 53.0**	**+0.5**
XOR				*e*S	**Sn**	**18 49 11.6**	**+0.3**
XOR	**Xorichti**	**1.53**	**34**	*e*P	**Pn**	**18 48 53.0**	**+0.5**
XOR				S	**Sn**	**18 49 12.0**	**+0.7**
VLI	**Veliai**	**1.54**	**154**	P	**Pn**	**18 48 52.7**	**+0.1**
VLI	**Veliai**	**1.54**	**154**	P	**Pn**	**18 48 52.7**	**+0.1**
AOS	**Alonnisos**	**1.77**	**52**	P	**Pn**	**18 48 55.9**	**+0.3**
AOS				S	**Sn**	**18 49 17.0**	**0.0**
AOS	**Alonnisos**	**1.77**	**52**	*e*PN	**Pn**	**18 48 55.4**	**-0.2**
AOS	**Alonnisos**	**1.77**	**52**	*e*P	**Pn**	**18 48 55.9**	**+0.3**
AOS	**Alonnisos**	**1.77**	**52**	*e*Pn	**Pn**	**18 48 55.4**	**-0.2**
AOS	**Alonnisos**	**1.77**	**52**	P	**Pn**	**18 48 55.9**	**+0.3**
AOS				S	**Sn**	**18 49 17.0**	**0.0**
JAN	**Janina**	**1.82**	**329**	P	**Pn**	**18 48 57.7**	**+1.2**
JAN	**Janina**	**1.82**	**329**	*e*P	**Pn**	**18 48 57.8**	**+1.2**
JAN	**Janina**	**1.82**	**329**	P	**Pn**	**18 48 57.7**	**+1.2**
KYTH	**Kithira**	**1.97**	**157**	*e*P	**Pn**	**18 49 00.3**	**+1.8**
KYTH	**Kithira**	**1.97**	**157**	*e*P	**Pn**	**18 49 00.3**	**+1.8**
IGT	**Igoumenitsa**	**1.98**	**317**	P	**Pn**	**18 48 58.6**	**0.0**
IGT				S	**Sn**	**18 49 21.6**	**-0.5**
IGT	**Igoumenitsa**	**1.98**	**317**	*e*P	**Pn**	**18 48 58.5**	**0.0**
IGT	**Igoumenitsa**	**1.98**	**317**	P	**Pn**	**18 48 58.6**	**0.0**
IGT				S	**Sn**	**18 49 21.6**	**-0.5**
LIT	**Litokhoron**	**2.02**	**9**	P	**Pn**	**18 48 59.1**	**0.0**
LIT	**Litokhoron**	**2.02**	**9**	*e*P	**Pn**	**18 48 59.4**	**+0.3**
LIT	**Litokhoron**	**2.02**	**9**	*e*P	**Pn**	**18 48 59.4**	**+0.3**
PAIG	**Paliouri**	**2.21**	**34**	P	**Pn**	**18 49 01.6**	**0.0**
PAIG				S	**Sn**	**18 49 28.2**	**+0.5**
PAIG	**Paliouri**	**2.21**	**34**	*e*P	**Pn**	**18 49 01.7**	**+0.1**
PAIG				*e*S	**Sn**	**18 49 27.2**	**-0.5**
PAIG	**Paliouri**	**2.21**	**34**	*e*P	**Pn**	**18 49 01.7**	**+0.1**
PAIG				S	**Sn**	**18 49 28.2**	**+0.5**
KZN	**Kozani**	**2.21**	**354**	P	**Pn**	**18 49 02.8**	**+1.0**
KZN				S	**Sn**	**18 49 27.9**	**-0.1**
KZN	**Kozani**	**2.21**	**354**	*e*P	**Pn**	**18 49 03.3**	**+1.5**
KZN	**Kozani**	**2.21**	**354**	P	**Pn**	**18 49 02.8**	**+1.0**
KZN				S	**Sn**	**18 49 27.9**	**-0.1**
KEK	**Kerkira**	**2.40**	**313**	*e*P	**Pn**	**18 49 04.0**	**-0.3**
KEK	**Kerkira**	**2.40**	**313**	*e*P	**Pn**	**18 49 04.0**	**-0.3**
ANKY	**Antikythira Is**	**2.44**	**156**	*e*P	**Pn**	**18 49 06.2**	**+1.4**
ANKY	**Antikythira Is**	**2.44**	**156**	*e*P	**Pn**	**18 49 06.2**	**+1.4**
NEST	**Nestorio**	**2.44**	**341**	*e*P	**Pn**	**18 49 05.7**	**+0.7**
NEST	**Nestorio**	**2.44**	**341**	*e*P	**Pn**	**18 49 05.7**	**+0.7**
PLG	**Polygyros**	**2.50**	**25**	P	**Pn**	**18 49 06.0**	**+0.3**
PLG	**Polygyros**	**2.50**	**25**	*e*P	**Pn**	**18 49 05.5**	**-0.2**
PLG	**Polygyros**	**2.50**	**25**	P	**Pn**	**18 49 06.0**	**+0.3**
HORT	**Hortiatis**	**2.61**	**17**	*e*P	**Pn**	**18 49 07.1**	**-0.2**
HORT	**Hortiatis**	**2.61**	**17**	*e*P	**Pn**	**18 49 07.1**	**-0.2**
THE	**Thessaloniki**	**2.62**	**15**	*e*P	**Pn**	**18 49 06.9**	**-0.3**
THE	**Thessaloniki**	**2.62**	**15**	*e*P	**Pn**	**18 49 06.9**	**-0.3**
OUR	**Ouranopolis**	**2.67**	**33**	P	**Pn**	**18 49 08.4**	**+0.4**
OUR	**Ouranopolis**	**2.67**	**33**	*e*PN	**Pn**	**18 49 08.1**	**+0.1**
OUR	**Ouranopolis**	**2.67**	**33**	*e*P	**Pn**	**18 49 08.2**	**+0.2**
OUR	**Ouranopolis**	**2.67**	**33**	*e*Pn	**Pn**	**18 49 08.1**	**+0.1**
OUR	**Ouranopolis**	**2.67**	**33**	P	**Pn**	**18 49 08.4**	**+0.4**
FNA	**Florina**	**2.73**	**349**	P	**Pn**	**18 49 10.0**	**+1.0**
FNA				S	**Sn**	**18 49 42.4**	**+1.7**
FNA	**Florina**	**2.73**	**349**	*e*P	**Pn**	**18 49 09.9**	**+1.0**
FNA	**Florina**	**2.73**	**349**	*e*P	**Pn**	**18 49 09.9**	**+1.0**
FNA				S	**Sn**	**18 49 42.4**	**+1.7**
GRG	**Griva**	**2.86**	**5**	P	**Pn**	**18 49 11.4**	**+0.8**
GRG	**Griva**	**2.86**	**5**	P	**Pn**	**18 49 11.4**	**+0.8**
SOH	**Sokhos**	**2.89**	**20**	P	**Pn**	**18 49 11.7**	**+0.7**
SOH				S	**Sn**	**18 49 45.0**	**+0.5**
SOH	**Sokhos**	**2.89**	**20**	*e*P	**Pn**	**18 49 11.8**	**+0.7**
SOH				*e*S	**Sn**	**18 49 44.8**	**+0.3**
SOH	**Sokhos**	**2.89**	**20**	P	**Pn**	**18 49 11.7**	**+0.7**
SOH				S	**Sn**	**18 49 45.0**	**+0.5**
APE	**Apeiranthos**	**2.93**	**110**	*e*P	**Pn**	**18 49 12.2**	**+0.6**
APE	**Apeiranthos**	**2.93**	**110**	||*e*P	**Pn**	**18 49 12.4**	**+0.8**
APE	**Apeiranthos**	**2.93**	**110**	S	**Sn**	**18 49 45.0**	**-0.6**
APE	**Apeiranthos**	**2.93**	**110**	*e*P	**Pn**	**18 49 12.2**	**+0.6**
LIA	**Limnos Island**	**3.01**	**52**	*e*P	**Pn**	**18 49 13.1**	**+0.5**
LIA	**Limnos Island**	**3.01**	**52**	*e*P	**Pn**	**18 49 13.1**	**+0.5**
KNT	**Kendrikon**	**3.12**	**11**	P	**Pn**	**18 49 15.1**	**+0.9**
KNT	**Kendrikon**	**3.12**	**11**	*e*P	**Pn**	**18 49 15.0**	**+0.9**
KNT	**Kendrikon**	**3.12**	**11**	*e*P	**Pn**	**18 49 15.0**	**+0.9**
CHOS	**Chios island**	**3.14**	**84**	*e*PN	**Pn**	**18 49 15.3**	**+0.8**
CHOS	**Chios island**	**3.14**	**84**	*e*P	**Pn**	**18 49 15.9**	**+1.4**
CHOS	**Chios island**	**3.14**	**84**	*e*Pn	**Pn**	**18 49 15.3**	**+0.8**
CHOS	**Chios island**	**3.14**	**84**	*e*P	**Pn**	**18 49 15.9**	**+1.4**
SIGR	**SIGRI**	**3.15**	**68**	*e*PN	**Pn**	**18 49 15.2**	**+0.5**
SIGR	**SIGRI**	**3.15**	**68**	*e*P	**Pn**	**18 49 15.1**	**+0.5**
SIGR	**SIGRI**	**3.15**	**68**	*e*Pn	**Pn**	**18 49 15.2**	**+0.5**
OHR	**Ohrid**	**3.16**	**342**	*e*Pn	**Pn**	**18 49 13.8**	**-1.0**
OHR				*e*Sg	**Sn**	**18 49 48.5**	**-2.9**
OHR	**Ohrid**	**3.16**	**342**	*e*Pn	**Pn**	**18 49 13.8**	**-1.0**
OHR				*e*Sg	**Sn**	**18 49 48.4**	**-2.9**
VAM	**Vamos**	**3.18**	**147**	*e*P	**Pn**	**18 49 15.0**	**-0.1**
VAM	**Vamos**	**3.18**	**147**	*e*P	**Pn**	**18 49 15.0**	**-0.1**
SRS	**Serrai**	**3.23**	**21**	P	**Pn**	**18 49 16.3**	**+0.7**
SRS	**Serrai**	**3.23**	**21**	*e*P	**Pn**	**18 49 16.3**

CLCH					IAML		19 08 19.4	
	comp=N,692nm,0.6s							
PEL	**Peldehue**	**2.63**	**42**	*e*P4		**Pn**	**19 07 26.2**	**-2.4**
PEL				*i* S		**Sn**	**19 08 00.2**	**+0.9**
PEL					IAML		19 08 08.7	
	comp=N,649nm,0.9s							
PLCA	**Paso Flores**	**5.88**	**163**	Pn		**Pn**	**19 08 13.9**	**+0.6**
	comp=N,0.5nm,0.3s,baz=338,slow=9.8,SNR=14							
PLCA					Lg	Lg	19 09 46.9	
	comp=N,0.4nm,0.3s,baz=245,slow=19,SNR=2.3							
CPUP	**Villa Florida**	**15.91**	**61**	LR		LR	19 17 10.3	
	comp=N,65nm,19.5s,baz=213,slow=41							
LPAZ	**La Paz**	**19.21**	**14**	P		**Pn**	**19 11 13.8**	**+2.4**
	comp=N,0.1nm,0.3s,baz=207,slow=11,SNR=2.4							
TORD	**Torodi Ar. Bea**	**85.17**	**70**	P		**P**	**19 19 21.1**	**-0.4**
	comp=N,0.2nm,0.5s,baz=235,slow=5.1,SNR=5.1							

IDC 09 19:12:17.2±7.3, 30°.71S×177°.92W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.6/19, mbtmp3.4/2, Error ellipse: s-maj=303.2km s-min=60.4km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.16**	**267**	P	P	19 20 19.2	-0.7
	0.4nm,0.8s,baz=106,slow=7.5,SNR=4.8						
WRA	**Warramunga Arr**	**44.18**	**272**	P	P	19 20 28.4	+0.3
	0.3nm,0.3s,baz=111,slow=8.1,SNR=7.2						
FINES	**FINESS Array B**	**145.46**	**340**	PKPbc	PKPdf	19 31 55.6	-0.8
	1.6nm,0.9s,baz=0.0,slow=0.6,SNR=4.6						

*IDC **09** 19:48:39.1±1.5, 34°.59S×72°.71W, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.6/33, mbtmp3.5/6, ML3.5/3, MS3.2/5, Ms1 3.2/5, ms1mx3.0/25, Error ellipse: s-maj=38.8km s-min=28.9km az=104.0*
*ISCJB **09** 19:48:42.5±1.0, 34°.60S±0°.10×72°.7W±0°.1, h35km, mb3.5/3, MS3.3/2, Error ellipse: s-maj=19.4km s-min=11.2km az=30.0*

ISC 09 19:48:43.5±1.5, 34°.5S±0°.1×72°.9W±0°.2, h35km, n10, σ0s81/8, mb3.5/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.86**	**54**	Pn		**Pn**	**19 49 53.7**	**-0.5**
	0.3nm,0.3s,baz=215,slow=7.4,SNR=8.5							
CFAA				Sn		**Sn**	**19 50 49.5**	**+0.2**
	0.1nm,0.3s,baz=18,slow=20,SNR=3.1							
CFAA				Lg		Lg	19 51 08.7	
	0.3nm,0.3s,baz=292,slow=20,SNR=3.7							
CFAA				LR		LR	19 52 14.1	
	comp=Z,36nm,19.3s,baz=232,slow=45							
PLCA	**Paso Flores**	**6.45**	**164**	Pn		**Pn**	**19 50 16.1**	**+0.1**
	0.5nm,0.3s,baz=332,slow=13,SNR=4.5							
PLCA				Lg		Lg	19 51 57.5	
	0.2nm,0.3s,baz=254,slow=20,SNR=2.5							
PLCA				LR		LR	19 53 01.4	
	comp=Z,149nm,18.7s,baz=89,slow=41							
CPUP	**Villa Florida**	**15.69**	**63**	LR		LR	19 59 00.9	
	comp=Z,145nm,18.1s,baz=220,slow=40							
LPAZ	**La Paz**	**18.67**	**14**	P		**Pn**	**19 52 59.2**	**-0.5**
	0.1nm,0.3s,baz=238,slow=9.5,SNR=2.6							
SIV	**San Ignacio**	**21.30**	**33**	P		**P**	**19 53 28.5**	**+1.3**
	2.1nm,0.9s,baz=235,slow=15,SNR=4.4							
SIV				LR		LR	20 03 22.2	
	comp=Z,154nm,18.5s,baz=194,slow=42							
NNA	**Nana**	**22.74**	**350**	LR		LR	20 00 38.2	
	comp=Z,80nm,18.8s,baz=178,slow=32							
TXAR	**Lajitas Array**	**69.88**	**332**	P		P	19 59 53.1	+2.3
	0.4nm,0.8s,baz=154,slow=8.5,SNR=4.0							
TORD	**Torodi Ar. Bea**	**85.03**	**70**	P		**P**	**20 01 15.9**	**+0.1**
	0.5nm,0.8s,baz=252,slow=5.2,SNR=3.5							
ZALV	**Zalesovo Beam**	**155.05**	**32**	PKPab		**PKPab**	**20 08 57.0**	**+0.3**
	1.1nm,0.8s,baz=339,slow=6.2,SNR=3.5							
MKAR	**Makanchi Array**	**157.63**	**49**	PKPab		**PKPab**	**20 09 07.2**	**-1.0**
	0.8nm,1.2s,baz=297,slow=2.5,SNR=2.7							

*IDC **09** 19:48:58.1±16.0, 7°.44S×128°.44E, h103km±169km, mb3.1/1, mb1 3.4/4, mb1mx3.1/34, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=193.8km s-min=33.1km az=41.0*

ISC 09 19:49:03.0±1.5, 7°.9S±0°.1×128°.24E±0°.09, h150km, n9, σ2s46/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.32**	**245**	P		**Pn**	**19 50 07.7**	**+0.1**
	baz=4.4,SNR=20							
BATI	**Baumata**	**5.05**	**243**	P		**Pn**	**19 50 17.4**	**+0.3**
	11nm,0.3s,baz=298,slow=0.4,SNR=29							
BATI				S		**Sn**	**19 51 14.3**	**-0.6**
	6.1nm,0.3s,baz=17,slow=23,SNR=11							
MTN	**Manton Dam**	**5.64**	**150**	P		**Pn**	**19 50 28.1**	**+3.0**
	baz=5.8,SNR=30							
KDU	**Kakadu**	**6.29**	**139**	P		**Pn**	**19 50 36.0**	**+2.3**
	baz=6.4,SNR=99							
FAKI	**Fak Fak**	**6.39**	**39**	P		Pn	19 50 31.5	-3.5
	baz=6.3,SNR=6.8							
KNRA	**Kununurra**	**7.71**	**176**	P		**Pn**	**19 50 54.5**	**+1.9**
	baz=7.9,SNR=34							
KNRA				S		**Sn**	**19 52 18.1**	**-0.5**
	baz=7.9,SNR=9.6							
WRA	**Warramunga Arr**	**13.32**	**154**	P		**Pn**	**19 52 06.5**	**+0.1**
	0.5nm,0.3s,baz=328,slow=13,SNR=33							
WRA				S		**Sn**	**19 54 29.2**	**-4.6**
	0.6nm,0.3s,baz=330,slow=22,SNR=7.8							
ASAR	**Alice Springs**	**16.56**	**161**	P		**Pn**	**19 52 50.1**	**+3.5**
	0.1nm,0.3s,baz=332,slow=10.0,SNR=10							
ASAR				S		**S**	**19 55 50.4**	**-0.4**
	0.1nm,0.3s,baz=326,slow=18,SNR=5.2							
MKAR	**Makanchi Array**	**68.07**	**328**	P		**P**	**19 59 44.8**	**-1.6**
	0.1nm,0.3s,baz=114,slow=8.0,SNR=11							

*IDC **09** 19:52:05.6±0.8, 6°.82S×155°.23E, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.1/34, mbtmp4.2/10, ML3.2/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/33, Error ellipse: s-maj=27.4km s-min=19.5km az=134.0*
*NEIC **09** 19:52:09.3±6.0, 6°.90S×155°.24E, h25km±40km, mb4.3/9, Error ellipse: s-maj=19.1km s-min=12.0km az=101.0*
*ISCJB **09** 19:52:10.2±0.6, 6°.9S±0°.1×155°.14E±0°.09, h41km, mb4.2/19, MS3.5/4, Error ellipse: s-maj=17.3km s-min=8.5km az=142.8*

ISC 09 19:52:11.4±0.6, 6°.9S±0°.1×155°.2E±0°.1, h41km, n45, σ0s79/38, mb4.3/19, MS3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.32**	**119**	LR	LR	19 55 42.8	
	comp=Z,412nm,19.2s,baz=256,slow=41						
PMG	**Port Moresby**	**8.36**	**252**	Pn		**Pn**	**19 54 10.2**	**+0.1**
	1.7nm,0.3s,baz=50,slow=12,SNR=5.6						
PMG				Sn		**Sn**	**19 55 44.4**	**+1.1**
	1.2nm,0.3s,baz=345,slow=20,SNR=6.3						
PMG				LR		LR	19 57 10.2	
	comp=Z,153nm,20.4s,baz=56,slow=36							
PMG	**Port Moresby**	**8.36**	**252**	*e*Pn		**Pn**	**19 54 09.9**	**-0.2**
	14nm,0.6s							
PMG				*e*Sn		**Sn**	**19 55 41.9**	**-1.4**
PMG				Sn		Sn	19 55 44.4	+1.1
CTAO	**Charters Tower**	**15.74**	**213**	Pn		**P**	**19 55 55.0**	**+1.3**
	24nm,1.2s							
WRAB	**Tennant Creek**	**24.04**	**235**	*e*P		**P**	**19 57 22.3**	**-0.7**
	11nm,1.1s							
WRA	**Warramunga Arr**	**24.06**	**235**	P		**P**	**19 57 22.6**	**-0.4**
	2.9nm,0.6s,baz=59,slow=9.7,SNR=9.9							
WRA				PcP		**PcP**	**20 01 05.2**	**+1.0**
	0.7nm,0.5s,baz=60,slow=2.5,SNR=9.4							
ASAR	**Alice Springs**	**26.41**	**229**	P		**P**	**19 57 43.8**	**-0.6**
	1.2nm,0.6s,baz=63,slow=8.6,SNR=10							
H11S3	**WAKE ISLAND Hy**	**27.64**	**24**	T		T	20 26 22.9	
	baz=202,slow=75,SNR=22							
H11S2	**WAKE ISLAND Hy**	**27.65**	**24**	T		T	20 26 21.3	
	baz=202,slow=75,SNR=25							
H11S1	**WAKE ISLAND Hy**	**27.66**	**24**	T		T	20 26 24.5	
	baz=202,slow=75,SNR=11							
BATI	**Baumata**	**31.37**	**262**	LR		LR	20 13 35.0	
	comp=Z,338nm,18.0s,baz=262,slow=41							
MBWA	**Marble Bar**	**37.12**	**244**	*e*P		**P**	**19 59 17.7**	**-0.6**
	5.2nm,0.9s							
JOW	**Kunigami**	**42.49**	**323**	LR		LR	20 16 30.9	
	comp=Z,24nm,19.5s,baz=322,slow=34							
ASAJ	**Asahikawa**	**52.03**	**348**	LR		LR	20 27 05.1	
	comp=Z,15nm,18.2s,slow=40							
PETK	**Petropavlovsk-**	**59.80**	**2**	P		P	20 02 15.6	+3.2
	3.3nm,0.7s,baz=175,slow=9.8,SNR=5.0							
CMAR	**Chiang Mai Arr**	**60.94**	**295**	P		**P**	**20 02 22.1**	**+1.3**
	2.6nm,0.8s,baz=114,slow=5.3,SNR=18							
CASY	**Casey**	**66.76**	**198**	P		**P**	**20 02 57.5**	**-0.7**
	28nm,0.9s							
ULN	**Ulaanbaatar**	**69.03**	**328**	*e*P		**P**	**20 03 12.2**	**-0.9**
	0.6nm,0.7s							
SONM	**Songino Array**	**69.37**	**327**	P		**P**	**20 03 15.0**	**-0.1**
	0.8nm,0.6s,baz=141,slow=5.4,SNR=11							
LSA	**Lhasa**	**71.39**	**304**	*e*P		**P**	**20 03 29.0**	**+0.8**
	3.8nm,1.0s							
TAPN	**Taplejung**	**73.53**	**301**	*e*P		**P**	**20 03 40.7**	**-0.2**
	10nm,0.8s							
ODAN	**Odare**	**73.67**	**300**	*e*P		**P**	**20 03 41.6**	**0.0**
	23nm,0.6s							
RAMN	**Ramite**	**74.37**	**300**	*e*P		**P**	**20 03 45.6**	**-0.1**
	4.5nm,0.5s							
JIRN	**Jiri**	**74.92**	**301**	*e*P		**P**	**20 03 49.1**	**+0.1**
	8.1nm,0.7s							
BILL	**Bilibino**	**75.16**	**4**	P		**P**	**20 03 48.7**	**-0.4**
	3.0nm,0.8s							
GUN	**Gumba**	**75.25**	**301**	*e*P		**P**	**20 03 50.9**	**0.0**
	14nm,0.6s							
PKI	**Pulchoki**	**75.56**	**301**	*e*P		**P**	**20 03 52.5**	**-0.2**
	6.4nm,0.5s							
KKN	**Kakani**	**75.73**	**301**	*e*P		**P**	**20 03 53.4**	**-0.1**
	11nm,0.7s							
DMN	**Daman**	**75.83**	**301**	*e*P		**P**	**20 03 54.4**	**+0.3**
	17nm,0.7s							
GKN	**Gorkha**	**76.33**	**301**	*e*P		**P**	**20 03 56.8**	**-0.1**
	14nm,0.9s							
KOLN	**Koldanda**	**77.16**	**300**	*e*P		**P**	**20 04 01.2**	**-0.4**
	5.9nm,0.5s							
DANN	**Dangsing**	**77.17**	**301**	*e*P		**P**	**20 04 00.9**	**-0.9**
MCK	**McKinley**	**81.88**	**22**	*e*P		**P**	**20 04 25.8**	**-0.4**
	3.5nm,0.6s							
QSPA	**South Pole Qui**	**83.09**	**180**	P		**P**	**20 04 33.9**	**+1.2**
	2.9nm,0.7s,baz=278,slow=1.4,SNR=18							
QSPA	**South Pole Qui**	**83.09**	**180**	*e*P		**P**	**20 04 33.5**	**+0.8**
	2.8nm,0.6s							
ILAR	**Eielson Array**	**83.19**	**21**	P		**P**	**20 04 32.1**	**-0.9**
	0.6nm,0.4s,baz=242,slow=5.7,SNR=15							
ILAR				LR		LR	20 39 24.4	
	comp=Z,51nm,18.9s,baz=252,slow=34							
MKAR	**Makanchi Array**	**83.47**	**319**	P		**P**	**20 04 34.7**	**-0.2**
	0.9nm,0.8s,baz=103,slow=6.4,SNR=14							
ZALV	**Zalesovo Beam**	**84.22**	**326**	P		P	20 04 41.7	+3.2
	0.5nm,0.4s,baz=108,slow=5.5,SNR=3.8							
TKM2	**Tokmak 2**	**87.10**	**314**	P		**P**	**20 04 54.4**	**+1.0**
EKS2	**Erkin-Say**	**88.36**	**313**	P		P	20 04 55.6	-3.7
	0.8nm,0.8s							
NVAR	**Mina Array Bea**	**91.48**	**52**	P		**P**	**20 05 14.8**	**+0.7**
	1.1nm,0.9s,baz=266,slow=4.0,SNR=3.7							
YKA	**Yellowknife Ar**	**96.14**	**28**	P		**P**	**20 05 35.3**	**+0.7**
	0.9nm,0.6s,baz=267,slow=4.6,SNR=16							
TAM	**Tamanrasset**	**146.82**	**302**	*e*PKPdf		**PKPbc**	**20 11 49.6**	**-0.7**
BDFB	**Brasilia**	**147.90**	**134**	PKPbc		**PKPab**	**20 11 53.9**	**-2.0**
	4.4nm,0.6s,baz=200,slow=3.1,SNR=7.0							
TORD	**Torodi Ar. Bea**	**153.21**	**286**	PKPbc		**PKPbc**	**20 12 05.7**	**-0.2**
	1.4nm,0.7s,baz=60,slow=1.9,SNR=22							

*IDC **09** 19:56:29.6±1.4, 34°.06S×71°.50W, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.5/36, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=52.6km s-min=33.0km az=154.0*
*ISCJB **09** 19:56:37.4±0.6, 33°.59S±0°.04×71°.35W±0°.07, h58km±6km, mb3.4/2, Error ellipse: s-maj=9.9km s-min=7.0km az=161.1*
*NEIC **09** 19:56:38.1, 33°.65S×71°.37W, h25km, ML3.6(GUC), After GUC.*
NEIC Felt [III] at Rancagua and [II] at Pichilemu, Quillota, San Antonio, San Fernando and Santiago.
*GUC **09** 19:56:38.1±0.8, 33°.65S×71°.37W, h25km±34km, ML3.6*

ISC 09 19:56:38.0±1.0, 33°.58S±0°.04×71°.35W±0°.05, h51km±9km, n24, σ0s87/37, 10C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTU	**Antumapu**	**0.60**	**89**	⇑*i*P		**Pn**	**19 56 50.1**	**-0.4**
ANTU				*i* S1		**Sn**	**19 56 59.3**	**-0.4**
ANTU				AML	AML		19 57 00.8	
	comp=E,8μm,0.2s							
ANTU	**Antumapu**	**0.60**	**89**	⇑*i*P		**Pn**	**19 56 50.1**	**-0.4**
ANTU				*i* S		**Sn**	**19 56 59.3**	**-0.4**
IHA	**Instituto Hidr**	**0.60**	**336**	⇑*i*P		**Pn**	**19 56 50.4**	**-0.1**
IHA				*i* S1		**Sn**	**19 56 60.0**	**+0.4**
IHA	**Instituto Hidr**	**0.60**	**336**	⇑*i*P		**Pn**	**19 56 50.4**	**-0.1**
IHA				*i* S		**Sn**	**19 56 60.0**	**+0.4**
CHCH	**Chadas Angostu**	**0.68**	**121**	⇑*i*P		**Pn**	**19 56 50.9**	**-0.7**
CHCH	**Chadas Angostu**	**0.68**	**121**	⇑*i*P		**Pn**	**19 56 50.9**	**-0.7**
LACH	**Col Las Americ**	**0.70**	**80**	⇑*i*P		**Pn**	**19 56 51.1**	**-0.3**
LACH				*i* S		**Sn**	**19 57 01.7**	**-0.1**
LACH				AML	AML		19 57 03.5	
	comp=E,3μm,0.3s							
LACH	**Col Las Americ**	**0.70**	**80**	⇑*i*P		**Pn**	**19 56 51.5**	**-0.3**
LACH				*i* S		**Sn**	**19 57 01.7**	**-0.1**
CLCH	**Cerro Calan**	**0.70**	**75**	⇓*i*P		**Pn**	**19 56 51.8**	**-0.1**
CLCH				*i* S		**Sn**	**19 57 02.8**	**+0.8**
CLCH				AML	AML		19 57 04.1	
	comp=E,6μm,0.4s							
PEL	**Peldehue**	**0.71**	**52**	⇑*i*P		**Pn**	**19 56 52.1**	**+0.2**
PEL				*i* S1		**Sn**	**19 57 02.6**	**+0.6**
PEL				AML	AML		19 57 03.2	
	comp=N,7μm,0.5s							
PEL	**Peldehue**	**0.71**	**52**	⇑*i*P		**Pn**	**19 56 52.1**	**+0.2**
PEL				*i* S		**Sn**	**19 57 02.6**	**+0.6**
CACH	**El Canelo**	**0.82**	**131**	⇓*i*P		**Pn**	**19 56 53.5**	**-0.1**
CACH				*i* S1		**Sn**	**19 57 04.6**	**-0.3**
CACH	**El Canelo**	**0.82**	**131**	⇓*i*P		**Pn**	**19 56 53.5**	**-0.1**
CACH				*i* S		**Sn**	**19 57 04.6**	**-0.3**
NICH	**Los Niches**	**1.42**	**176**	⇓*i*P		**Pn**	**19 57 01.9**	**+0.4**
NICH				*i* S		**Sn**	**19 57 19.8**	**+0.7**
NICH				AML	AML		19 57 22.7	
	comp=E,3μm,0.2s							
NICH	**Los Niches**	**1.42**	**176**	⇓*i*P		**Pn**	**19 57 01.9**	**+0.4**
NICH				*i* S		**Sn**	**19 57 19.8**	**+0.7**
CFAA	**Coronel Fontan**	**3.28**	**54**	Pn		**Pn**	**19 57 29.2**	**+2.2**
	comp=E,2.0nm,0.3s,baz=227,slow=12,SNR=34							
CFAA				Sn		Sn	19 58 12.3	+7.5
	comp=E,2.2nm,0.3s,baz=123,slow=23,SNR=7.7							
LCO	**Las Campanas**	**4.59**	**7**	*e*Pn		Pn	19 57 41.5	-3.6
LCO				*e*Sn		**Sn**	**19 58 34.6**	**-2.6**
PLCA	**Paso Flores**	**7.17**	**175**	*e*Pn		**Pn**	**19 58 17.9**	**-2.3**
TRQA	**Tornquist**	**8.82**	**123**	*e*Pn		**Pn**	**19 58 43.9**	**+1.0**
EFI	**East Falkland**	**20.50**	**156**	P		**P**	**20 01 11.8**	**+0.3**
TXAR	**Lajitas Array**	**69.65**	**330**	P		**P**	**20 07 43.1**	**+1.0**
	comp=E,0.1nm,0.5s,baz=165,slow=7.5,SNR=2.6							
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P		**P**	**20 09 00.6**	**-0.2**
	comp=E,0.4nm,0.7s,baz=252,slow=4.6,SNR=4.0							
WRA	**Warramunga Arr**	**121.41**	**209**	PKP		**PKPdf**	**20 15 25.2**	**-0.9**
	comp=E,0.2nm,0.5s,baz=162,slow=1.6,SNR=4.9							
ZALV	**Zalesovo Beam**	**153.56**	**32**	PKPbc		**PKPbc**	**20 16 29.9**	**-0.3**
	comp=E,0.6nm,0.5s,baz=311,slow=3.3,SNR=3.6							

*GII **09** 19:58:03.4±0.0, 27°.62N×33°.67E, h15km±1km, MD3.6/5, Mm3.4/4*
*CSEM **09** 19:58:03.1±0.6, 27°.67N×33°.50E, h10km, ML3.5, Mw3.4, Error ellipse: s-maj=11.4km s-min=8.3km az=34.0*
*SGS **09** 19:58:09.3, 27°.86N×33°.68E, h13km*

ISC 09 19:58:03.9±3.1, 27°.7N±0°.2×33°.6E±0°.1, h10km, n39, σ0s84/50, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSHS		**1.22**	**59**	P		**Pg**	**19 58 28.0**	**+0.7**
RSHS				S		**Sg**	**19 58 43.0**	**-0.1**
RSHS		**1.22**	**59**	S		**Sb**	**19 58 42.5**	**-0.3**
RSHS		**1.22**	**59**	P		**Pg**	**19 58 28.3**	**+1.0**
BDAS	**Al Bad'**	**1.51**	**60**	P		**Pb**	**19 58 32.0**	**-0.1**
BDAS	**Al Bad'**	**1.51**	**60**	P		**Pb**	**19 58 31.8**	**-0.3**
HAQS	**Haql**	**1.79**	**40**	P		**Pn**	**19 58 36.0**	**+1.1**
HAQS	**Haql**	**1.79**	**40**	S		**Sn**	**19 58 55.4**	**-2.3**
HAQS	**Haql**	**1.79**	**40**	P		**Pn**	**19 58 35.7**	**+0.8**
JLOS		**1.96**	**57**	P		**Pn**	**19 58 38.0**	**+0.6**
JLOS		**1.96**	**57**	P		**Pb**	**19 58 38.5**	**-1.4**
EIL	**Elat**	**2.31**	**30**	Pn		**Pn**	**19 58 41.6**	**-0.5**
EIL				Sn		**Sn**	**19 59 09.5**	**-1.1**
EIL	**Elat**	**2.31**	**30**	Pn		**Pn**	**19 58 41.6**	**-0.5**
EIL				Sn		**Sn**	**19 59 09.5**	**-1.1**
AQBJ	**Aqaba**	**2.41**	**31**	Pn		**Pn**	**19 58 43.4**	**0.0**
KRMI	**Paran Flat**	**2.63**	**21**	Pn		**Pn**	**19 58 46.0**	**-0.4**
KRMI				Sn		**Sn**	**19 59 18.7**	**+0.3**
KRMI	**Paran Flat**	**2.63**	**21**	Pn		**Pn**	**19 58 46.0**	**-0.4**
KRMI				Sn		**Sn**	**19 59 18.7**	**+0.3**
HRFI	**Mount Harif**	**2.67**	**27**	Pn		**Pn**	**19 58 46.3**	**-0.7**
HRFI	**Mount Harif**	**2.67**	**27**	Pn		**Pn**	**19 58 46.3**	**-0.7**
PRNI	**Paran**	**2.94**	**24**	Pn		**Pn**	**19 58 50.3**	**-0.4**
PRNI				Sn		**Sn**	**19 59 26.9**	**+0.9**
PRNI	**Paran**	**2.94**	**24**	Pn		**Pn**	**19 58 50.3**	**-0.4**
PRNI				Sn		**Sn**	**19 59 26.9**	**+0.9**
RMNI	**Mount Ramon**	**3.08**	**19**	Pn		**Pn**	**19 58 52.5**	**-0.3**
RMNI	**Mount Ramon**	**3.08**	**19**	Pn		**Pn**	**19 58 52.5**	**-0.3**
ZFRI	**Zfri**	**3.18**	**25**	Pn		**Pn**	**19 58 54.2**	**+0.2**
ZFRI				Sn		**Sn**	**19 59 32.9**	**+0.9**
ZFRI	**Zfri**	**3.18**	**25**	Pn		**Pn**	**19 58 54.2**	**+0.2**
ZFRI				Sn		**Sn**	**19 59 32.9**	**+0.9**
KZIT	**Kziot**	**3.30**	**12**	Pn		**Pn**	**19 58 54.8**	**-0.8**
KZIT				Sn		**Sn**	**19 59 36.9**	**+2.0**
KZIT	**Kziot**	**3.30**	**12**	Pn		**Pn**	**19 58 54.8**	**-0.8**
KZIT				Sn		**Sn**	**19 59 36.9**	**+2.0**
RTMI	**Retamim**	**3.50**	**15**	Pn		**Pn**	**19 58 57.4**	**-1.0**
RTMI	**Retamim**	**3.50**	**15**	Pn		**Pn**	**19 58 57.4**	**-1.0**
MZDA	**Masada**	**3.93**	**22**	Pn		**Pn**	**19 59 03.7**	**-0.6**
MZDA	**Masada**	**3.93**	**22**	Pn		**Pn**	**19 59 03.7**	**-0.6**
DSI	**Dead Sea**	**4.18**	**21**	Pn		**Pn**	**19 59 07.5**	**-0.3**
DSI	**Dead Sea**	**4.18**	**21**	Pn		**Pn**	**19 59 07.5**	**-0.3**
SLTI	**Sal'it**	**4.72**	**15**	Pn		**Pn**	**19 59 15.0**	**-0.2**
SLTI	**Sal'it**	**4.72**	**15**	Pn		**Pn**	**19 59 15.0**	**-0.2**
HMDT	**Nahal Hemdat**	**4.86**	**19**	Pn		**Pn**	**19 59 16.7**	**-0.4**
HMDT	**Nahal Hemdat**	**4.86**	**19**	Pn		**Pn**	**19 59 16.7**	**-0.4**
MMLI	**Mount Malkishu**	**5.00**	**18**	Pn		**Pn**	**19 59 19.6**	**+0.5**
MMLI	**Mount Malkishu**	**5.00**	**18**	Pn		**Pn**	**19 59 19.6**	**+0.5**
OFRI	**'Ofer**	**5.08**	**13**	Pn		**Pn**	**19 59 19.6**	**-0.5**
OFRI	**'Ofer**	**5.08**	**13**	Pn		**Pn**	**19 59 19.6**	**-0.5**

*ISCJB **09** 20:05:11.8±0.5, 36°.03N±0°.02×117°.83W±0°.03, h3km±5km, Error ellipse: s-maj=3.7km s-min=3.1km az=20.8*
*NEIC **09** 20:05:12.0, 36°.06N×117°.87W, h2km, ML3.7(PAS), After PAS.*

ISC 09 20:05:12.2±1.0, 36°.04N±0°.02×117°.84W±0°.02, h8km±10km, n37, σ0s89/57, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAC	**Darwin (Calif)**	**0.31**	**40**	*e*Pg		**Pg**	**20 05 18.6**	**+0.1**
DAC				*e*Sg		**Sg**	**20 05 23.6**	**+1.0**
LRMC	**Laurel Mtn Rad**	**0.57**	**167**	P		**Pg**	**20 05 24.2**	**+0.8**
	baz=0.8							
LRMC				S		**Sb**	**20 05 32.5**	**-0.5**
	baz=0.8							
ISA	**Isabella, Lake**	**0.64**	**234**	P		**Pg**	**20 05 24.7**	**+0.2**
	baz=0.7							
ISA				S		**Sg**	**20 05 33.2**	**+0.4**
	baz=0.7							
ISA	**Isabella, Lake**	**0.64**	**234**	*e*Pg		**Pg**	**20 05 24.3**	**-0.2**
ISA				*e*Sg		**Sg**	**20 05 31.8**	**-1.0**
FURC	**Furnace Creek,**	**0.90**	**61**	P		**Pb**	**20 05 30.4**	**+0.3**
	baz=0.9							
FURC				S		**Sb**	**20 05 42.6**	**+0.3**
	baz=0.9							
VES	**Vestal, Richgr**	**1.03**	**259**	P		**Pg**	**20 05 31.8**	**-0.1**
	baz=1.0							
VES				S		**Sg**	**20 05 45.0**	**-0.3**
	baz=1.0							
TIN	**Tinemaha, Big**	**1.06**	**343**	P		**Pg**	**20 05 32.5**	**-0.1**
	baz=0.9							
TIN				S		**Sb**	**20 05 46.8**	**-0.2**
	baz=0.9							
GSC	**Goldstone, Bar**	**1.12**	**131**	P		**Pg**	**20 05 34.1**	**+0.4**
	baz=1.3							
GSC	**Goldstone, Bar**	**1.12**	**131**	*e*Pg		**Pg**	**20 05 33.6**	**-0.1**
RCTC	**Rector, Farmer**	**1.16**	**284**	P		**Pg**	**20 05 33.7**	**-0.8**
	baz=1.1							
EDW2	**Edwards Air Fo**	**1.16**	**186**	P		**Pg**	**20 05 34.5**	**0.0**
	baz=1.3							
EDW2				S		**Sg**	**20 05 49.6**	**0.0**
	baz=1.3							
SHOC	**Shoshone, Teco**	**1.28**	**96**	Pg		**Pb**	**20 05 37.7**	**+1.1**
	baz=1.4

I22A	9 Mile Ranch,	0.87	282	P	Pg	20 05 50.7 +0.3
	baz=0.9,SNR=312					
J22A	Midwest	0.91	250	P	Pg	20 05 51.1 0.0
	baz=1.0,SNR=92					
RSSD	Black Hills	1.00	66	ePg	Pg	20 05 52.6 -0.1
K23A	Bowen Ranch, D	1.00	194	⇓P	Pg	20 05 53.3 +0.5
	baz=1.1,SNR=8.7					
K24A	Anderson Ranch	1.06	160	P	Pb	20 05 54.6 -0.4
	baz=1.1,SNR=90					
J25A	Sunshine Ranch	1.14	107	⇓P	Pb	20 05 55.8 -0.5
	baz=1.1,SNR=312					
H22A	Clearmont	1.15	319	P	Pg	20 05 55.7 -0.1
	baz=1.1,SNR=101					
H24A	Dirks Ranch, A	1.16	27	⇓P	Pg	20 05 55.2 -0.7
	baz=1.1					
I25A	Rochford	1.17	75	P	Pg	20 05 55.9 -0.2
	baz=1.1,SNR=97					
K22A	Casper	1.40	220	⇑P	Pn	20 06 00.0 -0.6
	baz=1.5,SNR=381					
K22A	Casper	1.40	220	ePn	Pn	20 05 59.7 -0.9
I21A	Big Trails, Te	1.45	274	P	Pn	20 06 00.2 -1.0
	baz=1.5,SNR=299					
I21A				⇑S	Sg	20 06 20.1 0.0
	baz=1.5					
G23A	Biddle	1.48	358	P	Pn	20 06 00.9 -0.7
	baz=1.4,SNR=111					
H25A	Fruitdale	1.52	53	⇑P	Pn	20 06 02.3 +0.1
	baz=1.5,SNR=82					
K25A	Mack Ranch, Ha	1.53	136	⇓P	Pb	20 06 03.2 +0.3
	baz=1.5,SNR=108					
H21A	Big Horn, Sher	1.54	306	⇓P	Pn	20 06 02.5 -0.1
	baz=1.5,SNR=64					
H21A				⇑S	Sn	20 06 23.7 +0.2
	baz=1.5					
J21A	Lysite	1.61	257	P	Pn	20 06 03.0 -0.5
	baz=1.6,SNR=146					
J21A				⇑S	Sn	20 06 25.3 +0.3
	baz=1.6					
L23A	Garrett	1.64	191	⇓P	Pb	20 06 04.4 -0.4
	baz=1.7,SNR=1000					
L23A				⇑S	Sg	20 06 27.0 +0.8
	baz=1.7					
G22A	Birney	1.66	335	P	Pn	20 06 04.5 +0.4
	baz=1.6,SNR=198					
J26A	Sides Ranch, S	1.67	103	⇑P	Pb	20 06 05.0 -0.3
	baz=1.6,SNR=15					
L24A	Wheatland	1.70	171	⇓P	Pb	20 06 05.6 -0.3
	baz=1.7,SNR=31					
G24A	Alzada	1.72	21	P	Pn	20 06 05.9 +0.8
	baz=1.7,SNR=36					
I26A	New Underwood	1.79	79	⇓P	Pb	20 06 07.0 -0.4
	baz=1.7,SNR=27					
K21A	Alcova	1.80	233	⇓P	Pn	20 06 06.8 +0.7
	baz=1.8,SNR=108					
L25A	Engebretsen Ra	1.85	148	⇓Pb	Pg	20 06 08.7 -0.4
	baz=1.9					
K26A	Motz Farm, Whi	1.86	123	⇓P	Pb	20 06 07.9 -0.6
	baz=1.9,SNR=54					
K26A				⇓Sb	Sg	20 06 34.7 +1.4
	baz=1.9					
L22A	Ellis Ranch, M	1.89	207	⇓P	Pb	20 06 08.5 -0.6
	baz=1.9,SNR=180					
L22A				⇓Sb	Sg	20 06 34.8 +0.6
	baz=1.9					
G25A	Newell	1.99	42	⇑P	Pn	20 06 09.9 +1.2
	baz=1.9,SNR=54					
G25A				⇓Sb	Sg	20 06 38.7 +0.9
	baz=1.9					
F23A	Volborg	2.00	358	P	Pn	20 06 09.1 +0.3
	baz=1.9,SNR=125					
F23A				⇑Sb	Sb	20 06 38.2 +1.8
	baz=1.9					
H26A	Fairpoint	2.02	63	⇓P	Pb	20 06 11.0 -0.4
	baz=2.0					
H26A				⇑Sb	Sg	20 06 40.1 +1.4
	baz=2.0					
J20A	Shoshoni	2.06	261	⇓Pb	Pb	20 06 12.1 +0.1
	baz=2.1					
J20A				⇓Sb	Sb	20 06 39.8 +1.6
	baz=2.1					
H20A	Greybull	2.09	292	⇓P	Pn	20 06 10.5 +0.5
	baz=2.1,SNR=14					
H20A				⇑Sb	Sb	20 06 40.3 +1.3
	baz=2.1					
F22A	Rosebud	2.17	342	P	Pn	20 06 11.5 +0.5
	baz=2.1,SNR=103					
F24A	Ekalaka	2.21	16	⇑P	Pn	20 06 12.9 +1.2
	baz=2.1,SNR=24					
M23A	Laramie	2.28	188	⇑Pb	Pb	20 06 15.5 -0.2
	baz=2.3					
M24A	Cheyenne	2.28	171	⇓Pb	Pg	20 06 16.6 -0.8
	baz=2.3					
M24A				⇑Sb	Sg	20 06 47.3 +0.3
	baz=2.3					
K27A	Flueckinger Fa	2.46	113	⇑Sb	Sg	20 06 52.5 -0.3
	baz=2.4					
G26A	Maurine	2.49	50	⇓P	Pn	20 06 17.2 +1.7
	baz=2.4,SNR=24					
H27A	Howes	2.49	67	⇑P	Pn	20 06 17.2 +1.7
	baz=2.4,SNR=42					
M22A	Cedar Creek Ra	2.51	203	⇓Sb	Sg	20 06 53.4 -0.9
	baz=2.6					
F25A	Bowman	2.56	30	⇓P	Pn	20 06 17.9 +1.4
	baz=2.5					
G20A	Bridger	2.57	307	P	Pn	20 06 16.5 -0.1
	baz=2.6,SNR=211					
I19A	Meeteetse	2.69	278	⇑P	Pn	20 06 19.7 +1.3
	baz=2.7,SNR=30					
E22A	Miles City	2.75	351	P	Pn	20 06 18.9 -0.2
	baz=2.7,SNR=15					
E23A	Ismay	2.77	360	⇓P	Pn	20 06 20.0 +0.6
	baz=2.7					
H19A	Powell	2.81	291	⇑P	Pn	20 06 20.8 +0.8
	baz=2.8,SNR=34					
N23A	Red Feather La	2.87	190	⇓P	Pn	20 06 22.3 +1.4
	baz=2.9					
F20A	Billings	2.90	317	P	Pn	20 06 21.1 -0.1
	baz=2.9,SNR=39					
G27A	Dupree	2.92	54	⇑P	Pn	20 06 22.3 +0.9
	baz=2.9,SNR=15					
E24A	Baker	2.92	14	⇓P	Pn	20 06 22.4 +0.9
	baz=2.9,SNR=41					
LAO	LASA Array	3.04	348	ePn	Pn	20 06 23.0 0.0
RLMT	Red Lodge	3.17	298	ePn	Pn	20 06 25.4 +0.4
H28A	Mission Ridge	3.22	71	⇓P	Pn	20 06 27.4 +1.8
	baz=3.2					
PDAR	Pinedale Array	3.25	254	Pn	Pn	20 06 27.7 +1.5
	4.1nm,0.3s,baz=82,slow=14,SNR=31					
PDAR				Lg	Lg	20 07 14.7
	6.7nm,0.3s,baz=84,slow=21,SNR=9.7					
H18A	Shoshone NF, C	3.28	288	⇓P	Pn	20 06 26.9 +0.4
	baz=3.3,SNR=49					
F19A	Roth Farm, Mol	3.36	311	⇓P	Pn	20 06 28.0 +0.5
	baz=3.3,SNR=51					
E26A	Carlson Angus	3.40	35	⇑P	Pn	20 06 28.8 +0.8
	baz=3.3					
E20A	Meyer Farm, Mu	3.43	325	P	Pn	20 06 27.8 -0.6
	baz=3.4,SNR=7.4					
D23A	Lindsay	3.45	1	⇑P	Pn	20 06 29.8 +1.0
	baz=3.4,SNR=50					
D24A	Glendive	3.46	11	⇑P	Pn	20 06 29.9 +1.0
	baz=3.4,SNR=48					
D22A	Cohagen	3.48	350	⇓P	Pn	20 06 29.4 +0.3
	baz=3.4,SNR=7.7					
D21A	La Casta Ranch	3.55	341	⇑P	Pn	20 06 30.2 +0.1
	baz=3.5					
E19A	Rath Farm, Rou	3.69	319	⇑P	Pn	20 06 31.9 -0.1
	baz=3.7,SNR=14					
D25A	Fairfield	3.70	21	⇑P	Pn	20 06 33.7 +1.6
	baz=3.6,SNR=44					
GCMT	Greycliff	3.73	305	ePn	Pn	20 06 33.0 +0.3
C24A	Savage	3.86	9	⇓P	Pn	20 06 35.5 +1.3
	baz=3.8,SNR=14					
H17A	Grant Village	3.86	282	ePn	Pn	20 06 36.7 +2.2
D20A	Manuel Ranch,	3.92	330	⇑P	Pn	20 06 35.3 +0.2
	baz=3.9,SNR=11					
ISCO	Idaho Springs	3.93	184	ePn	Pn	20 06 37.5 +2.0
C22A	Vida	4.04	354	⇑P	Pn	20 06 37.9 +1.1
	baz=4.0,SNR=75					
YFT	Old Faithful	4.05	282	Pn	Pn	20 06 39.0 +1.9
C23A	Lambert	4.08	1	⇑P	Pn	20 06 38.3 +1.0
	baz=4.0,SNR=92					
G29A	Hoven	4.12	67	⇓P	Pn	20 06 38.9 +1.0
	baz=4.1,SNR=12					
YMR	Madison River	4.18	285	ePn	Pn	20 06 38.3 -0.6
O20A	White River Ci	4.20	212	ePn	Pn	20 06 40.9 +1.7
AHID	Auburn Hatcher	4.34	259	Pn	Pn	20 06 42.0 +0.9
F29A	Eureka	4.43	60	P	Pn	20 06 42.6 +0.4
	baz=4.4,SNR=6.9					
QLMT	Earthquake Lak	4.54	286	Pn	Pn	20 06 49.5 +5.7
BRSD	Miller	4.63	79	ePn	Pn	20 06 45.5 +0.7
P27A	Ficken Ranch,	4.64	153	⇓P	Pn	20 06 46.1 +1.0
	baz=4.7,SNR=7.4					
C26A	Wahner Farm, P	4.67	28	⇑P	Pn	20 06 46.6 +1.1
	baz=4.6,SNR=19					
B23A	Brockton	4.75	2	⇓P	Pn	20 06 47.4 +0.9
	baz=4.7,SNR=33					
B25A	Knox Farm, Ray	4.79	17	⇓P	Pn	20 06 48.3 +1.2
	baz=4.7,SNR=51					
C19A	Slack Wire Ran	4.79	328	⇓P	Pn	20 06 47.7 +0.6
	baz=4.8,SNR=19					
DGMT	Dagmar	4.81	9	⇓P	Pn	20 06 48.6 +1.2
	baz=4.8,SNR=34					
DGMT	Dagmar	4.81	9	ePn	Pn	20 06 48.3 +1.0
BOZ	Bozeman (W)	4.91	295	Pn	Pn	20 06 49.9 +1.1
KSCO	Kaye Shedlock'	5.12	156	Pn	Pn	20 06 50.1 -1.6
	50nm,0.3s					
TCUT	Toone Canyon	5.22	242	ePn	Pn	20 06 56.3 +3.2
	31nm,0.7s					
A23A	Redstone	5.25	3	⇑P	Pn	20 06 54.1 +0.7
	baz=5.2,SNR=30					
A24A	Westby	5.28	9	⇑P	Pn	20 06 54.8 +1.0
	baz=5.2,SNR=17					
A22A	Carney Farms,	5.29	356	⇓P	Pn	20 06 54.3 +0.4
	baz=5.2,SNR=5.6					
EGMT	Eagleton	5.31	326	ePn	Pn	20 06 53.8 -0.5
	16nm,0.4s					
A25A	Svangstu Ranch	5.43	15	⇑P	Pn	20 06 56.8 +1.0
	baz=5.4,SNR=6.2					
HRY	Holter Researc	5.50	305	ePn	Pn	20 06 56.2 -0.6
	10.0nm,0.3s					
LRM	Limekiln Ridge	5.51	295	ePn	Pn	20 06 58.1 +0.9
	38nm,0.7s					
DAU	Daniels Canyon	5.53	235	Pn	Pn	20 07 01.8 +4.3
MCMT	McKenzie Canyo	5.53	284	Pn	Pn	20 07 01.9 +4.4
	1.5nm,0.3s					
R26A	Arlington	5.60	165	⇓P	Pn	20 06 59.1 +0.8
	baz=5.6,SNR=7.8					
A26A	Wade Farm, Ken	5.65	22	⇑P	Pn	20 06 59.3 +0.5
	baz=5.6,SNR=10					
BGNE	Belgrade	5.76	111	ePn	Pn	20 07 01.4 +0.9
	42nm,0.3s					
HVU	Hansel Valley	5.84	253	Pn	Pn	20 06 58.5 -3.0
	5.9nm,0.7s					
SDCO	Great Sand Dun	5.97	182	Pn	Pn	20 07 04.8 +1.2
	2.7nm,0.7s					
PV04	Paradox Valley	5.98	208	ePn	Pn	20 07 05.1 +1.5
MPU	Maple Canyon	6.01	234	Pn	Pn	20 07 04.5 +0.6
	16nm,0.9s					
SRU	San Rafael Swe	6.05	222	ePn	Pn	20 07 06.2 +1.6
	11nm,0.3s					
ECSD	EROS Data Cent	6.29	87	⇑P	Pn	20 07 08.6 +0.9
	baz=6.2,SNR=9.8					
ECSD	EROS Data Cent	6.29	87	ePn	Pn	20 07 08.4 +0.6
	6.9nm,0.4s					
CHMT	Chamberlain Mo	6.45	302	ePn	Pn	20 07 10.2 +0.2
	3.4nm,0.7s					
MVCO	Mesa Verde	6.95	202	ePn	Pn	20 07 12.4 -4.5
	9.0nm,0.7s					
ANMO	Albuquerque	8.81	186	Pg	Pg	20 08 05.7 -17
	0.1nm,0.3s,baz=5.7,slow=0.7,SNR=3.5					
ANMO				LR	LR	20 11 19.6
	comp=Z,78nm,21.3s,baz=352,slow=41					
I10CA	LAC DI BONNET	9.06	41	i		20 59 51.4
	baz=221,slow=321,SNR=1.4					
ULM	Lac du Bonnet	9.17	41	Pn	Pn	20 07 42.7 -4.3
	1.1nm,0.3s,baz=224,slow=12,SNR=9.1					
ULM				Pg		20 08 18.6
	1.2nm,0.3s,baz=223,slow=15,SNR=5.8					
ULM				Lg	Lg	20 10 14.8
	0.2nm,0.3s,baz=162,slow=3.2,SNR=3.1					
AMTX	Amarillo	9.26	161	Pn	Pn	20 07 59.1 +11
	15nm,0.9s					
FFC	Flin Flon	11.22	10	ePn	Pn	20 08 12.9 -2.3
	2.3nm,0.3s					
TUC	Tucson	12.18	203	Pn	Pn	20 08 40.1 +12
YKA	Yellowknife Ar	19.58	347	P	P	20 10 02.3 -0.6
	0.1nm,0.3s,baz=159,slow=12,SNR=5.6					
ILAR	Eielson Array	31.27	327	P	P	20 11 55.0 +0.1
	0.3nm,0.8s,baz=111,slow=8.2,SNR=4.6					
FX1	Attu Island--F	52.23	311	LR	LR	20 36 07.4
	comp=Z,95nm,18.1s,baz=128,slow=35					
LPAZ	La Paz	68.72	141	LR	LR	20 49 57.0
	comp=Z,129nm,18.0s,baz=175,slow=39					
MKAR	Makanchi Array	89.62	355	P	P	20 18 30.8 -2.3
	0.3nm,0.7s,baz=14,slow=4.0,SNR=5.8					

*IDC **09** 20:14:03.5±1.0, 22°.88N×120°.64E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/39, mbtmp3.5/6, MS2.9/1, Ms1 2.9/1, ms1mx2.4/27, Error ellipse: s-maj=71.3km s-min=18.7km az=67.0*

*JMA **09** 20:14:06.0±0.1, 23°.04N×120°.52E, h1km±3km, M4.1*

*TAP **09** 20:14:07.0, 22°.99N×120°.60E, h16km, ML4.1, B*

*ISCJB **09** 20:14:08.5±0.2, 22°.98N±0°.01×120°.59E±0°.02, h20km±2km, mb3.4/6, Error ellipse: s-maj=2.7km s-min=1.9km az=172.0*

ISC 09 20:14:07.8±0.7, 22°.99N±0°.02×120°.58E±0°.02, h20km±1km, n75, σ1.1 s 10/131, mb3.5/6, 15C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	Jiashian	0.09	2	⇓iP	Pb	20 14 11.0	-0.9
	baz=357						
SGST				eS	Sb	20 14 13.7	-0.9
	baz=357						
CHN1	Nanshi	0.20	346	⇓iP	Pb	20 14 12.7	-1.0
	baz=348						
CHN1				eS	Sb	20 14 17.0	-0.7
	baz=348						
CHN3	Shinhua	0.22	294	⇑iP	Pb	20 14 13.9	+0.2
	baz=291						
CHN3				eS	Sb	20 14 19.2	+1.5
	baz=291						
TWM1	Shoushan	0.22	222	⇑iP	Pb	20 14 13.6	-0.1
	baz=217						
STYT	Tauyuan	0.24	43	⇑iP	Pb	20 14 13.2	-0.7
	baz=53						
STYT				eS	Sb	20 14 17.5	-0.6
	baz=53						
SSD	Sandimen	0.24	169	⇓iP	Pb	20 14 13.1	-0.8
	baz=166						
SSD				eS	Sb	20 14 17.2	-0.8
	baz=166						
WTP	Ta-pu	0.26	7	⇑iP	Pb	20 14 13.6	-0.5
	baz=6.0						
WTP				S	Sb	20 14 18.3	0.0
	baz=6.0						
SGLT	Jiouru	0.27	197	eP	Pb	20 14 14.7	+0.5
	baz=194						
SGLT				eS	Sb	20 14 20.9	+2.4
	baz=194						
TWK	Hsinying	0.29	343	⇓P	Pb	20 14 14.2	-0.3
	baz=355						
TWK				eS	Sb	20 14 19.9	+0.9
	baz=355						
TAI1	Yung-k'ang	0.33	279	⇑eP	Pb	20 14 15.6	+0.7
	baz=278						
TAI1				eS	Sb	20 14 22.3	+2.6
	baz=278						
CHN4	Tsaushan	0.36	2	⇑iP	Pb	20 14 15.2	-0.3
	baz=360						
CHN4				eS	Sb	20 14 22.0	+1.3
	baz=360						
SCLT	Jiali	0.40	298	eP	Pb	20 14 16.5	+0.4
	baz=297						
SCLT				eS	Sb	20 14 24.1	+2.3
	baz=297						
ELDTW	Ildau	0.45	63	⇑iP	Pb	20 14 16.8	-0.3
	baz=63						
ELDTW				eS	Sb	20 14 23.7	+0.4
	baz=63						
TWG	Pinlang	0.48	110	⇑iP	Pb	20 14 17.6	0.0
	baz=100						
TWG				eS	Sb	20 14 25.7	+1.5
	baz=100						
KAU	Kaohsiung	0.49	211	eP	Pb	20 14 18.4	+0.7
	baz=212						
KAU				eS	Sb	20 14 26.7	+2.3
	baz=212						
CHN8	Yiju	0.49	316	eP	Pb	20 14 18.0	+0.2
	baz=330						
CHN8				eS	Sb	20 14 26.3	+1.8
	baz=330						
ECL	Taimali	0.52	138	⇑iP	Pb	20 14 17.9	-0.4
	baz=143						
CHY	Chiayi	0.53	344	eP	Pb	20 14 18.4	0.0
	baz=344						
CHY				eS	Sb	20 14 27.2	+1.5
	baz=344						
CHN2	Minshiung	0.55	350	eP	Pb	20 14 19.0	+0.2
	baz=349						
CHN2				eS	Sn	20 14 28.4	-0.7
	baz=349						
ALS	Alishan	0.56	22	⇑iP	Pb	20 14 18.7	-0.5
	baz=22						
ALS				eS	Sb	20 14 27.9	+0.9
	baz=22						
TTN	Taitung	0.57	114	eP	Pb	20 14 19.7	+0.5
	baz=115						
TTN				eS	Sn	20 14 29.5	-0.1
	baz=115						
YUS	Yu-Shan	0.60	34	⇑iP	Pb	20 14 19.8	-0.3
	baz=34						
YUS				S	Sb	20 14 28.7	+0.2
	baz=34						
CHN5	Tsauling	0.61	8	⇑iP	Pb	20 14 19.5	-0.5
	baz=7.0						
CHN5				eS	Sb	20 14 29.6	+1.3
	baz=7.0						
SCZT	Fangliau	0.61	177	⇓P	Pb	20 14 19.5	-0.5
	baz=170						
SCZT				eS	Sn	20 14 31.2	+0.6
	baz=170						
EAST	Anshuo	0.65	158	⇓iP	Pb	20 14 20.4	-0.2
	baz=154						
EAST				eS	Sb	20 14 30.3	+1.0
	baz=154						
TWP	Hsiaoliuchiu	0.67	198	eP	Pn	20 14 22.4	+0.3
	baz=198						
TAW	Tawu	0.69	155	P	Pb	20 14 21.0	-0.2
	baz=151						
TAW				eS	Sb	20 14 31.3	+1.0
	baz=151						
WGK	Gukeng	0.69	359	⇓eP	Pb	20 14 21.6	+0.3
	baz=359						
WGK				eS	Sn	20 14 32.5	-0.2
	baz=359						
WSF	Szhu	0.73	333	eP	Pb	20 14 21.7	-0.1
	baz=333						
WSF				eS	Sb	20 14 33.0	+1.7
	baz=333						
CHKT	Chengkung	0.73	81	eP	Pb	20 14 22.0	+0.1
	baz=73						
CHKT				eS	Sb	20 14 32.5	+1.1
	baz=73						
EHY	Hungye	0.85	53	⇑iP	Pb	20 14 23.7	-0.3
	baz=60						
EHY				eS	Sn	20 14 36.2	-0.4
	baz=60						
WDGT	Dungji	0.89	288	⇑P	Pb	20 14 23.7	-0.9
	baz=288						
WDGT				eS	Sb	20 14 36.0	0.0
	baz=288						
WNT	Mingjian	0.89	6	P	Pb	20 14 24.7	+0.1
	baz=7.0						
WNT				eS	Sn	20 14 37.8	+0.3
	baz=7.0						
WTCT	Ta-ch'eng	0.91	343	eP	Pb	20 14 24.9	-0.1
	baz=343						
WTCT				eS	Sb	20 14 38.0	+1.3
	baz=343						
SMLT	Sun Moon Lake	0.94	18	eP	Pb	20 14 25.4	0.0
	baz=19						
SMLT				eS	Sn	20 14 39.3	+0.5
	baz=19						
TYC	Yuchr	0.95	16	⇓P	Pb	20 14 25.3	-0.2
	baz=16						
TYC				eS	Sn	20 14 39.5	+0.7
	baz=16						
HEN	Hengchun	0.99	171	⇓P	Pb	20 14 26.7	+0.5
	baz=161						
HEN				eS	Sn	20 14 40.8	+1.0
	baz=161						
TWK1	Hengchun	1.06	169	⇓eP	Pn	20 14 27.4	-0.1
	baz=168						
TWK1				eS	Sn	20 14 43.0	+1.4
	baz=168						
PNG	Penghu	1.10	302	eP	Pn	20 14 26.8	-1.3
	baz=302						
TSEB	Hengchuen, Pin	1.12	165	eP	Pn	20 14 28.2	-0.1
	baz=167						
TSEB				eS	Sn	20 14 44.2	+1.1
	baz=167						
ESL	Shilin	1.14	43	⇑iP	Pn	20 14 28.7	+0.2
	baz=43						
ESL				eS	Sn	20 14 44.5	+0.9
	baz=43						
TCU	Taichung	1.16	4	eP	Pn	20 14 29.0	+0.1
	baz=354						
TCU				eS	Sn	20 14 45.2	+1.1
	baz=354						
LAY	Lan-yu	1.30	136	eP	Pn	20 14 30.3	-0.6
	baz=136						
LAY				eS	Sn	20 14 47.7	0.0
	baz=136						
WHF	Hehuan Shan	1.31	28	eP	Pn	20 14 31.9	+0.5
	baz=19						
WHF				eS	Sb	20 14 50.1	+1.5
	baz=19						
HWA	Hwalien	1.36	43	eP	Pn	20 14 32.3	+0.7
	baz=35						
HWA				eS	Sb	20 14 51.3	+1.7
	baz=35						
TWQ1	Liyutan	1.36	7	eP	Pn	20 14 32.0	+0.3
	baz=8.0						
TWQ1				eS	Sb	20 14 51.6	+1.9
	baz=8.0						
TWT	Tachien	1.37	23	eP	Pn	20 14 32.3	+0.3
	baz=23						
TWT				eS	Sb	20 14 50.5	+0.4
	baz=23						
NSY	Sanyi	1.43	7	eP	Pn	20 14 33.2	+0.5
	baz=7.0						
NSY				eS	Sb	20 14 53.7	+2.0
	baz=7.0						
TWD	Chiawan	1.43	40	eP	Pn	20 14 33.4	+0.7
	baz=40						
TWD				eS	Sb	20 14 52.2	+0.6
	baz=40						
NNS	Nan Shan	1.62	27	eP	Pn	20 14 36.6	+1.3
	baz=27						
NNS				eS	Sb	20 14 57.9	+0.8
	baz=27						
NSTT	Nanjuang	1.68	13	eP	Pn	20 14 36.1	+0.1
	baz=356						
NSTT				eS	Sb	20 14 59.1	+0.3
	baz=356						
ENA	Nanau	1.79	36	eP	Pn	20 14 38.4	+0.9
	baz=36						
ENA				eS	Sb	20 15 01.2	-0.6
	baz=36						
NSK	Sanguang	1.82	23	eP	Pn	20 14 38.9	+0.8
	baz=6.0						
NSK				eS	Sb	20 15 03.2	+0.1
	baz=6.0						
ENTT	Nioudou	1.88	29	eP	Pn	20 14 40.6	+1.8
	baz=29						
ENTT				eS	Sb	20 15 04.8	+0.3
	baz=29						
TWC	Suao	1.99	36	eP	Pn	20 14 41.7	+1.5
	baz=45						
TWC				eS	Sb	20 15 07.8	+0.2
	baz=45						
TWA	Mucha	2.19	25	eP	Pb	20 14 45.8	-0.8
	baz=9.0						
TWA				eS	Sb	20 15 12.8	-0.5
	baz=9.0						
TAP	Taipei	2.21	22	eP	Pn	20 14 44.6	+1.3
	baz=23						
TWS1	Kuangyinshan	2.24	20	eP	Pn	20 14 45.0	+1.3
	baz=4.0						
NWF	Wu-fen Shan	2.35	28	eP	Pn	20 14 47.5	+2.2
	baz=12						
TWB1	Santiao Chiao	2.39	32	eP	Pn	20 14 47.8	+2.0
	baz=33						
TWB1				eS	Sb	20 15 20.1	+0.9
	baz=33						
KNM	Kinmen	2.43	306	eP	Pb	20 14 49.9	-0.9
	baz=306						
YOJ	Yonaguni jima	2.67	56	eS	Sn	20 15 24.1	+2.8
HATJ	Hateruma jima	3.15	70	P	Pn	20 14 57.5	+1.3
HATJ				eS	Sn	20 15 34.6	+1.5

IRIF	Iriomote-Funau	3.18	64	P	Pn	20 14 59.2	+2.5
JKRS	Kuro-shima	3.38	68	P	Pn	20 15 01.4	+2.0
JKRS				eS	Sn	20 15 40.3	+1.3
JIJ	Ishigaki jima	3.54	67	P	Pn	20 15 02.6	+1.0
JIJ				eS	Sn	20 15 44.4	+1.5
JISG	Ishigakijimahi	3.77	64	P	Pn	20 15 06.0	+1.2
JISG				eS	Sn	20 15 49.2	+0.7
JTJ	Tarama	4.12	66	eS	Sn	20 15 59.2	+2.1
KSRS	Korea Array	15.74	22	LR	LR	20 24 22.8	
	comp=Z,44nm,19.0s,baz=210,slow=39						
SONM	Songino Array	27.27	339	P	P	20 19 52.4	+1.6
	0.3nm,1.0s,baz=163,slow=6.9,SNR=3.4						
MKAR	Makanchi Array	38.82	317	P	P	20 21 31.2	-0.2
	0.4nm,0.7s,baz=95,slow=9.2,SNR=4.5						
ZALV	Zalesovo Beam	40.95	328	P	P	20 21 47.2	-1.7
	0.3nm,0.3s,baz=108,slow=9.4,SNR=2.4						
WRA	Warramunga Arr	44.73	161	P	P	20 22 17.6	-2.2
	1.4nm,0.7s,baz=344,slow=8.6,SNR=10						
ASAR	Alice Springs	48.15	164	P	P	20 22 44.8	-1.9
	0.5nm,0.5s,baz=356,slow=14,SNR=14						
YKA	Yellowknife Ar	84.28	23	P	P	20 26 36.8	-1.0
	0.2nm,0.6s,baz=314,slow=4.4,SNR=5.8						

*ISCJB **09** 20:15:35.2±0.7, 35°.35S±0°.04×73°.37W±0°.07, h17km, mb4.4/8, MS3.9/2, Error ellipse: s-maj=8.7km s-min=5.8km az=165.8*
*IDC **09** 20:15:35.6±1.0, 35°.34S×72°.97W, h0km, mb4.0/5, mb1 3.9/8, mb1mx3.8/27, mbtmp3.8/8, ML3.3/3, MS3.7/3, Ms1 3.7/3, ms1mx3.2/29, Error ellipse: s-maj=27.8km s-min=17.6km az=85.0*
*GUC **09** 20:15:38.3±0.3, 35°.44S×73°.24W, h38km±4km, ML4.8*
*NEIC **09** 20:15:40.0±0.8, 35°.31S×73°.09W, h35km, mb4.6/3, Error ellipse: s-maj=21.7km s-min=12.1km az=81.0*

ISC 09 20:15:37.4±0.7, 35°.34S±0°.04×73°.18W±0°.07, h17km, n28, σ1§34/29, mb4.3/8, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.85	158	⇓iP	Pb	20 15 53.0	-0.7
COCH				i S	Sb	20 16 04.2	-0.6
LNCH	Linares	1.38	112	⇑iP	Pb	20 16 02.6	-0.1
LNCH				i S	Sg	20 16 21.0	-1.0
NICH	Los Niches	1.63	79	eP	Pb	20 16 06.7	-0.3
NICH				i S	Sg	20 16 28.4	-1.5
CLCH	Cerro Calan	2.92	49	eP	Pn	20 16 25.1	+2.0
CLCH				IAML		20 17 26.2	
	comp=N,2μm,0.9s						
PEL	Peldehue	3.01	44	eP	Pn	20 16 26.1	+1.8
PEL				i S	Sn	20 17 02.8	+2.8
PEL				IAML		20 17 20.2	
	comp=N,3μm,1.1s						
CFAA	Coronel Fontan	5.56	49	Pn	Pn	20 16 58.6	-0.7
	comp=N,0.7nm,0.3s,baz=232,slow=11,SNR=23						
CFAA				Lg	Lg	20 18 26.6	
	comp=N,0.2nm,0.3s,baz=156,slow=18,SNR=8.6						
CFAA				LR	LR	20 19 06.8	
	comp=N,19nm,21.3s,baz=232,slow=39						
PLCA	Paso Flores	5.77	160	Pn	Pn	20 17 03.1	+0.8
	comp=N,0.4nm,0.3s,baz=335,slow=16,SNR=6.8						
PLCA				Lg	Lg	20 18 35.3	
	comp=N,1.9nm,0.3s,baz=246,slow=20,SNR=4.6						
PLCA	Paso Flores	5.77	160	ePn	Pn	20 17 02.7	+0.4
	comp=N,184nm,0.3s						
PLCA				Lg	Lg	20 18 35.3	
LCO	Las Campanas	6.65	19	ePn	Pn	20 17 14.0	-0.5
	comp=N,10nm,0.4s						
LCO				eSg	Sg	20 19 08.2	-2.5
TRQA	Tornquist	9.39	110	ePn	Pn	20 17 53.0	+1.1
	comp=N,8.4nm,0.7s						
CPUP	Villa Florida	16.29	61	LR	LR	20 25 21.1	
	comp=N,120nm,18.8s,baz=225,slow=36						
LPAZ	La Paz	19.50	15	P	Pn	20 20 06.1	+0.5
	comp=N,0.0nm,0.3s,baz=165,slow=14,SNR=1.8						
LPAZ	La Paz	19.50	15	Pn	P	20 20 01.4	-2.9
	comp=N,8.6nm,1.1s						
SIV	San Ignacio	22.10	32	P	P	20 20 30.7	-1.3
	comp=N,1.7nm,0.6s,baz=221,slow=6.3,SNR=4.3						
SIV				LR	LR	20 30 54.0	
	comp=N,386nm,19.4s,baz=220,slow=42						
ATAH	Atahualpa	28.47	349	P	P	20 21 32.4	+0.3
	comp=N,7.8nm,0.7s,baz=125,slow=23,SNR=4.4						
SNAA	Sanae	50.71	157	eP	P	20 24 32.6	-3.1
	comp=N,25nm,1.4s						
FDF	Fort de France	51.08	15	eP	P	20 24 37.6	-1.5
	comp=N,294nm,1.6s						
QSPA	South Pole Qui	54.90	180	P	P	20 25 11.2	+4.3
	comp=N,8.2nm,1.2s						
TXAR	Lajitas Array	70.45	332	P	P	20 26 52.0	+1.1
	comp=N,0.3nm,0.5s,baz=142,slow=4.6,SNR=4.1						
DBIC	Dimbokro	76.49	72	P	P	20 27 27.1	+0.4
BOSA	Boshof	80.28	118	P	P	20 27 47.3	-0.3
	comp=N,0.9nm,0.4s,baz=270,slow=4.0,SNR=3.4						
TORD	Torodi Ar. Bea	85.54	71	P	P	20 28 15.8	+0.9
	comp=N,0.9nm,0.9s,baz=235,slow=5.2,SNR=3.8						
LSZ	Lusaka	90.27	109	LR	LR	21 04 17.1	
	comp=N,48nm,18.6s,baz=338,slow=32						
BVAR	Borovoye Array	148.89	44	PKPbc	PKPbc	20 35 25.1	+1.5
	comp=N,0.9nm,0.6s,baz=282,slow=2.9,SNR=7.1						
KURBB	Kurchatov Arra	154.48	44	PKPbc	PKPbc	20 35 36.9	+0.4
	comp=N,0.4nm,0.6s,baz=302,slow=2.9,SNR=4.4						
KURK	Kurchatov	154.49	44	PKPbc	PKPbc	20 35 36.9	+0.4
ZALV	Zalesovo Beam	155.85	33	PKPbc	PKPdf	20 35 40.7	+11
	comp=N,0.4nm,0.3s,baz=358,slow=4.3,SNR=2.9						
ZALV				PKPab	PKPab	20 35 57.2	+0.5
	comp=N,0.5nm,0.3s,baz=287,slow=5.6,SNR=3.1						
MKAR	Makanchi Array	158.34	51	PKPab	PKPab	20 36 08.5	+0.8
	comp=N,0.3nm,0.8s,baz=308,slow=3.5,SNR=3.6						

*IDC **09** 20:17:06.4±1.1, 6°.82S×155°.18E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/41, mbtmp3.9/6, MS2.4/1, Ms1 2.4/1, ms1mx2.3/21, Error ellipse: s-maj=37.3km s-min=30.5km az=83.0*
*ISCJB **09** 20:17:11.5±1.1, 6°.8S±0°.1×155°.0E±0°.2, h41km, mb3.9/9, Error ellipse: s-maj=29.2km s-min=18.0km az=19.1*
*NEIC **09** 20:17:11.8±0.7, 6°.88S×155°.08E, h35km, mb4.3/4, Error ellipse: s-maj=19.8km s-min=15.3km az=118.0*

ISC 09 20:17:12.6±1.0, 6°.9S±0°.2×155°.1E±0°.2, h41km, n27, σ0§58/24, mb3.9/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.47	118	LR	LR	20 20 04.2	
	comp=Z,36nm,18.2s,baz=285,slow=33						
WRAB	Tennant Creek	23.91	235	eP	P	20 22 23.1	+0.3
	3.2nm,0.8s						
WRA	Warramunga Arr	23.92	235	P	P	20 22 23.5	+0.6
	1.8nm,0.6s,baz=58,slow=9.6,SNR=18						
WRA				PcP	PcP	20 26 05.6	+0.6
	0.5nm,0.7s,baz=59,slow=2.4,SNR=7.1						
H11S3	WAKE ISLAND Hy 27.71	24		T	T	20 51 20.7	
	baz=205,slow=74,SNR=5.6						
H11S2	WAKE ISLAND Hy 27.72	24		T	T	20 51 22.4	
	baz=205,slow=74,SNR=5.1						
H11S1	WAKE ISLAND Hy 27.73	24		T	T	20 51 24.5	
	baz=205						
MBWA	Marble Bar	36.97	244	P	P	20 24 17.0	-1.3
CMAR	Chiang Mai Arr	60.78	295	P	P	20 27 22.0	+1.1
	1.4nm,0.8s,baz=112,slow=5.1,SNR=15						
CHTO	Chiang Mai	60.90	296	P	P	20 27 22.1	+0.4
	2.3nm,1.0s						
SONM	Songino Array	69.27	327	P	P	20 28 15.8	+0.1
	0.4nm,0.8s,baz=136,slow=6.4,SNR=3.5						
LSA	Lhasa	71.25	304	P	P	20 28 27.9	-0.8
	1.8nm,0.6s						
TAPN	Taplejung	73.39	301	eP	P	20 28 41.0	-0.2
	8.3nm,0.9s						
ODAN	Odare	73.52	300	eP	P	20 28 42.6	+0.7
	14nm,0.6s						
JIRN	Jiri	74.77	301	eP	P	20 28 50.1	+0.7
	6.7nm,0.5s						
GUN	Gumba	75.11	301	eP	P	20 28 51.9	+0.6
	13nm,0.7s						
PKI	Pulchoki	75.41	301	eP	P	20 28 53.3	+0.3
KKN	Kakani	75.58	301	eP	P	20 28 53.8	-0.1
	6.0nm,0.6s						
DMN	Daman	75.68	301	eP	P	20 28 55.2	+0.7
GKN	Gorkha	76.19	301	eP	P	20 28 57.3	+0.1
	9.5nm,0.9s						
KOLN	Koldanda	77.01	300	eP	P	20 29 02.0	0.0
DANN	Dangsing	77.03	301	eP	P	20 29 02.3	+0.2
QSPA	South Pole Qui	83.09	180	P	P	20 29 34.3	+0.4
	1.7nm,0.6s,baz=292,slow=1.0,SNR=6.3						
QSPA	South Pole Qui	83.09	180	eP	P	20 29 34.1	+0.2
	5.7nm,1.0s						
MKAR	Makanchi Array	83.36	319	P	P	20 29 35.2	-0.3
	0.6nm,0.8s,baz=99,slow=6.3,SNR=7.9						
YKA	Yellowknife Ar	96.22	28	P	P	20 30 35.7	-0.5
	0.2nm,0.6s,baz=277,slow=4.9,SNR=4.9						
BDFB	Brasilia	148.02	135	PKPbc	PKPbc	20 36 55.0	+0.1
	1.4nm,0.6s,baz=214,slow=6.3,SNR=3.1						
TORD	Torodi Ar. Bea	153.05	285	PKPbc	PKPbc	20 37 06.2	-0.6
	0.5nm,0.6s,baz=65,slow=1.6,SNR=6.3						

TAP 09 20:17:27.3, 22°.99N×120°.59E, h15km, ML3.5, 11C-8D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	Jiashian	0.09	356	⇓iP	Pg	20 17 31.3	+0.7
SGST				i S	Sg	20 17 34.1	+1.4
CHN1	Nanshi	0.20	343	⇓iP	Pb	20 17 33.0	+0.2
	baz=350						
CHN1				eS	Sb	20 17 37.0	+0.6
	baz=350						
CHN3	Shinhua	0.22	292	⇓P	Pb	20 17 34.1	+1.0
	baz=292						
CHN3				eS	Sb	20 17 40.0	+3.1
	baz=292						
STYT	Tauyuan	0.23	42	⇑iP	Pb	20 17 33.5	+0.2
	baz=54						
STYT				i S	Sb	20 17 37.8	+0.5
	baz=54						
TWM1	Shoushan	0.23	222	⇑iP	Pb	20 17 33.9	+0.6
	baz=216						
SSD	Sandimen	0.25	171	⇓iP	Pb	20 17 33.4	-0.1
	baz=164						
SSD				i S	Sb	20 17 37.7	0.0
	baz=164						
WTP	Ta-pu	0.25	5	⇑iP	Pb	20 17 34.0	+0.3
	baz=7.0						
WTP				i S	Sb	20 17 38.8	+0.8
	baz=7.0						
SGLT	Jiouru	0.28	199	eP	Pb	20 17 35.1	+1.1
	baz=189						
SGLT				eS	Sn	20 17 41.0	-1.9
	baz=189						
TWK	Hsinying	0.29	341	⇓iP	Pb	20 17 34.5	+0.2
	baz=344						
TWK				S	Sb	20 17 39.6	+0.6
	baz=344						
TAI1	Yung-k'ang	0.34	278	eP	Pb	20 17 35.8	+0.9
	baz=278						
TAI1				eS	Sn	20 17 43.4	-0.8
	baz=278						
CHN4	Tsaushan	0.36	0	⇑iP	Pb	20 17 35.5	+0.1
	baz=1.0						
CHN4				S	Sb	20 17 41.5	+0.7
	baz=1.0						
SCLT	Jiali	0.41	296	eP	Pb	20 17 36.7	+0.5
	baz=297						
SCLT				eS	Sn	20 17 45.2	-0.7
	baz=297						
ELDTW	Lidau	0.44	64	⇑iP	Pb	20 17 37.1	+0.2
	baz=64						
ELDTW				eS	Sb	20 17 44.1	+0.7
	baz=64						
TWG	Pinlang	0.48	111	⇑iP	Pb	20 17 38.0	+0.5
	baz=100						
TWG				S	Sn	20 17 46.4	-1.3
	baz=100						
KAU	Kaohsiung	0.50	212	eP	Pn	20 17 39.6	-0.2
	baz=224						
ECL	Taimali	0.52	139	⇓iP	Pb	20 17 38.2	+0.1
	baz=142						
ECL				eS	Sg	20 17 44.9	+0.3
	baz=142						
CHY	Chiayi	0.53	343	⇑eP	Pb	20 17 38.9	+0.6
	baz=345						
CHY				eS	Sb	20 17 46.4	+0.8
	baz=345						
CHN2	Minshiung	0.55	349	eP	Pb	20 17 39.5	+0.8
	baz=350						
CHN2				eS	Sn	20 17 48.3	-1.2
	baz=350						
ALS	Alishan	0.55	21	⇑iP	Pb	20 17 39.0	-0.1
	baz=22						
ALS				eS	Sb	20 17 48.0	+1.0
	baz=22						
TTN	Taitung	0.57	115	eP	Pn	20 17 40.4	-0.4
	baz=115						
TTN				eS	Sn	20 17 50.6	+0.7
	baz=115						
YUS	Yu-Shan	0.60	34	P	Pb	20 17 40.1	0.0
	baz=35						
YUS				eS	Sb	20 17 48.9	+0.2
	baz=35						
CHN5	Tsauling	0.61	8	⇑iP	Pb	20 17 39.8	0.0
	baz=8.0						
CHN5				eS	Sn	20 17 50.7	-0.4
	baz=8.0						
SCZT	Fangliau	0.62	177	⇓iP	Pb	20 17 39.9	0.0
	baz=170						
EAST	Anshuo	0.65	159	⇓iP	Pb	20 17 40.7	+0.2
	baz=153						
EAST				eS	Sb	20 17 50.0	+0.7
	baz=153						
TWP	Hsiaoliuchiu	0.68	198	eP	Pn	20 17 43.3	+1.0
	baz=198						
TWP				eS	Sn	20 17 55.4	+2.8
	baz=198						
WGK	Gukeng	0.69	358	eP	Pn	20 17 42.0	-0.6
	baz=359						
WGK				eS	Sn	20 17 52.9	-0.1
	baz=359						
TAW	Tawu	0.69	156	eP	Pb	20 17 41.2	+0.1
	baz=151						
TAW				eS	Sn	20 17 51.9	-1.1
	baz=151						
CHKT	Chengkung	0.72	81	eP	Pn	20 17 42.4	-0.6
	baz=81						
WSF	Szhu	0.73	332	eP	Pb	20 17 41.9	+0.3
	baz=333						
WSF				eS	Sn	20 17 53.3	-0.5
	baz=333						
EHY	Hungye	0.84	53	⇑P	Pg	20 17 44.1	+0.3
	baz=52						
WNT	Mingjian	0.89	6	eP	Pg	20 17 44.7	+0.2
	baz=7.0						
WNT				eS	Sn	20 17 58.5	+0.7
	baz=7.0						
WDGT	Dungji	0.90	287	eP	Pb	20 17 44.3	-0.2
	baz=288						
WDGT				eS	Sg	20 17 56.6	+0.1
	baz=288						
SMLT	Sun Moon Lake	0.93	18	eP	Pg	20 17 45.6	+0.1
	baz=19						
SMLT				eS	Sn	20 18 00.0	+0.8
	baz=19						
TYC	Yuchr	0.94	15	eP	Pb	20 17 45.4	+0.1
	baz=17						
TYC				eS	Sn	20 18 00.3	+1.2
	baz=17						
HEN	Hengchun	0.99	172	eP	Pn	20 17 46.8	+0.1
	baz=171						
TWK1	Hengchun	1.06	169	eP	Pb	20 17 47.0	-0.5
	baz=169						
PNG	Penghu	1.11	301	eP	Pb	20 17 47.6	-0.6
	baz=302						
ESL	Shilin	1.13	43	⇑P	Pg	20 17 48.9	-0.2
	baz=44						
ESL				eS	Sg	20 18 05.5	+1.7
	baz=44						
TCU	Taichung	1.15	4	eP	Pb	20 17 49.1	+0.1
	baz=354						
TCU				eS	Sg	20 18 05.8	+1.1
	baz=354						
WHF	Hehuan Shan	1.30	28	eP	Pb	20 17 52.4	+0.3
	baz=19						
TWQ1	Liyutan	1.36	7	eP	Pb	20 17 52.8	+0.3
	baz=8.0						
TWQ1				eS	Sg	20 18 11.9	+0.6
	baz=8.0						
TWT	Tachien	1.36	23	eP	Pb	20 17 52.9	+0.1
	baz=23						
TWD	Chiawan	1.42	40	eP	Pb	20 17 53.5	0.0
	baz=40						
NNS	Nan Shan	1.61	26	eP	Pb	20 17 56.3	-0.6
	baz=13						
NSTT	Nanjuang	1.67	13	eP	Pb	20 17 58.6	+0.8
	baz=14						
ENA	Nanau	1.78	36	eP	Pn	20 17 58.4	+0.9
	baz=37						
ENA				eS	Sb	20 18 22.4	+0.7
	baz=37						
NSK	Sanguang	1.82	23	eP	Pb	20 18 00.1	-0.3
	baz=7.0						
NSK				eS	Sg	20 18 25.2	-0.9
	baz=7.0						
ENTT	Nioudou	1.87	28	eP	Pb	20 18 00.3	-0.9
	baz=13						

*IDC **09** 20:27:28.6±0.9, 51°.99N×173°.19W, h0km, mb3.9/19, mb1 4.1/21, mb1mx3.9/51, mbtmp3.9/21, ML3.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/36, Error ellipse: s-maj=27.6km s-min=11.1km az=0.0*
*ISCJB **09** 20:27:33.9±0.7, 51°.87N±0°.10×173°.29W±0°.06, h59km, mb3.9/19, MS3.0/1, Error ellipse: s-maj=14.3km s-min=4.9km az=172.7*
*NEIC **09** 20:27:33.7, 51°.86N×173°.17W, h21km, ML3.4(AEIC), After AEIC.*

ISC 09 20:27:35.8±0.8, 51°.9N±0°.1×173°.31W±0°.06, h59km, n40, σ0§99/36, mb3.9/19, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	Korovin Flat P	0.62	309	P	Pn	20 27 47.8	-1.3
KOKL	Mount Kliuchef	0.70	309	P	Pn	20 27 48.7	-1.3
KOWE	Korovin West	0.75	310	P	Pn	20 27 49.6	-1.0
NIKH	Nikolski High	2.94	66	P	Pn	20 28 18.8	-1.2
NIKH				S	Sn	20 28 52.5	-1.5
OKSP	Okmok Steeple	3.36	64	P	Pn	20 28 24.9	-0.9
OKSP				S	Sn	20 29 05.2	+0.9
MREP	Makushin Rep't	4.42	62	P	Pn	20 28 40.1	-0.3
UNV	Unalaska Valle	4.57	62	P	Pn	20 28 41.8	-0.5
UNV				S	Sn	20 29 35.6	+1.6
SPIA	Saint Paul Isl	5.60	17	P	Pn	20 28 56.3	0.0
DTNA	Dutton South F	7.36	59	P	Pn	20 29 20.0	-0.5
FX1	Attu Island--F	8.34	282	Pn	Pn	20 29 32.3	-1.5
	0.6nm,0.3s,baz=129,slow=3.1,SNR=5.5						
GAMB	Gambell	11.96	3	ePn	Pn	20 30 26.2	+3.0
ILAR	Eielson Array	18.76	36	P	P	20 31 48.5	-1.0
	0.9nm,0.3s,baz=227,slow=9.2,SNR=72						
EGAK	Eagle	20.95	40	eP	P	20 32 14.2	+0.9
	27nm,0.7s						
SEY	Seymchan	21.25	315	P	P	20 32 17.1	+0.5
	0.6nm,0.5s,baz=17,slow=23,SNR=5.2						
INK	Inuvik	25.10	34	P	P	20 32 54.0	-0.5
	2.9nm,0.6s,baz=264,slow=9.6,SNR=18						
DLBC	Dease Lake	25.21	58	P	P	20 32 52.8	-2.9
	2.9nm,0.8s,baz=274,slow=19,SNR=2.8						
YKA	Yellowknife Ar	32.38	48	P	P	20 34 00.1	+0.8
	0.4nm,0.5s,baz=274,slow=7.7,SNR=9.9						
NEW	Newport	35.48	73	P	P	20 34 26.6	+0.2
	1.5nm,0.5s,baz=315,slow=2.9,SNR=3.5						
H11N2	WAKE ISLAND Hy 35.63	213		T	T	21 12 26.6	
	baz=21,slow=75,SNR=11						
H11N3	WAKE ISLAND Hy 35.64	213		T	T	21 12 25.8	
	baz=21,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy 35.65	213		T	T	21 12 28.4	
	baz=21,slow=75,SNR=8.7						
H11S1	WAKE ISLAND Hy 36.84	213		T	T	21 13 43.5	
	baz=20,slow=76,SNR=20						
H11S2	WAKE ISLAND Hy 36.85	213		T	T	21 13 48.9	
	baz=20,slow=76,SNR=18						
H11S3	WAKE ISLAND Hy 36.85	213		T	T	21 13 47.5	
	baz=20,slow=76,SNR=7.1						
NVAR	Mina Array Bea	40.10	87	P	P	20 35 05.2	-0.5
	0.6nm,0.7s,baz=277,slow=8.6,SNR=3.3						
PDAR	Pinedale Array	42.88	76	P	P	20 35 28.8	+0.4
	1.5nm,0.7s,baz=305,slow=3.7,SNR=12						
SONM	Songino Array	49.43	299	P	P	20 36 19.3	-0.4
	0.9nm,0.5s,baz=52,slow=6.8,SNR=14						
SONM				LR	LR	20 57 09.5	
	comp=Z,14nm,20.3s,baz=121,slow=36						
TXAR	Lajitas Array	55.20	86	P	P	20 37 02.2	-0.4
	0.5nm,0.7s,baz=318,slow=5.0,SNR=4.0						
SCHQ	Schefferville	57.43	41	P	P	20 37 17.6	-0.3
	3.5nm,0.8s,baz=288,slow=13,SNR=3.2						
KURK	Kurchatov	61.08	316	P	P	20 37 43.7	+0.5
KURBB	Kurchatov Arra	61.19	316	P	P	20 37 43.7	-0.2
	0.5nm,0.6s,baz=46,slow=6.5,SNR=13						
MKAR	Makanchi Array	62.33	311	P	P	20 37 51.0	-0.7
	0.6nm,0.7s,baz=42,slow=6.4,SNR=9.0						
BVAR	Borovoye Array	62.64	322	P	P	20 37 53.8	+0.1
	2.4nm,0.5s,baz=53,slow=6.1,SNR=21						
FINES	FINESS Array B	65.97	350	P	P	20 38 15.4	+0.2
	0.6nm,0.6s,baz=57,slow=5.1,SNR=2.6						
AAK	Ala-Archa	69.10	313	P	P	20 38 36.0	+0.5
	1.4nm,0.7s,baz=207,slow=1.1,SNR=5.8						
AKTO	Aktyubinsk	69.17	328	P	P	20 38 36.1	+0.5
	3.4nm,0.6s,baz=63,slow=8.7,SNR=16						
CMAR	Chiang Mai Arr	74.33	280	P	P	20 39 08.0	+1.0
	0.5nm,0.4s,baz=27,slow=6.1,SNR=4.3						
AKASG	Malin Array Be	76.02	345	P	P	20 39 15.7	-0.5
	0.8nm,0.4s,baz=13,slow=5.2,SNR=2.9						
ASAR	Alice Springs	88.25	227	P	P	20 40 22.0	+1.6
	0.2nm,0.5s,baz=36,slow=8.0,SNR=3.4						
TSUM	Tsumeb	146.28	341	PKPbc	PKPbc	20 47 09.9	+0.2
	baz=348,slow=9.3						

*IDC **09** 20:31:09.4±0.9, 35°.93S×73°.32W, h0km, mb4.1/10, mb1 4.2/12, mb1mx4.2/19, mbtmp4.0/12, ML3.6/2, MS3.4/4, Ms1 3.4/4, ms1mx3.2/24, Error ellipse: s-maj=27.3km s-min=16.7km az=82.0*
*GUC **09** 20:31:11.7±0.7, 35°.88S×73°.47W, h40km±3km, ML4.1*
*ISCJB **09** 20:31:12.7±0.6, 35°.84S±0°.05×73°.41W±0°.07, h33km, mb4.2/12, MS3.5/3, Error ellipse: s-maj=8.2km s-min=6.9km az=151.0*
*NEIC **09** 20:31:14.9±0.6, 35°.82S×73°.24W, h35km, mb4.7/3, Error ellipse: s-maj=15.0km s-min=9.2km az=80.0*

ISC 09 20:31:14.5±0.6, 35°.90S±0°.05×73°.37W±0°.08, h35km, n28, σ1§11/28, mb4.3/12, MS3.4/3, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.53	116	⇑iP	Pn	20 31 23.8	-1.7
COCH				i S	Sn	20 31 33.5	+0.3
CCSP	San Pedro de C	0.96	167	eP1	Pn	20 31 29.8	-1.7
CCSP				i S1	Sn	20 31 43.5	-0.6
CCSP				IAML		20 31 45.3	
	comp=E,9μm,0.5s						
LNCH	Linares	1.44	88	⇑iP	Pn	20 31 37.3	-0.8
LNCH				i S	Sn	20 31 57.0	+1.2
CLCH	Cerro Calan	3.42	44	eP	Pn	20 32 03.9	-1.6
PEL	Peldehue	3.53	40	eP	Pn	20 32 05.9	-1.0
PEL				i S	Sn	20 32 47.1	-0.4
PLCA	Paso Flores	5.31	156	Pn	Pn	20 32 31.6	+0.3
	comp=E,0.5nm,0.3s,baz=331,slow=8.6,SNR=3.3						
PLCA				Lg	Lg	20 33 55.4	
	comp=E,0.9nm,0.3s,baz=308,slow=15,SNR=3.1						
CFAA	Coronel Fontan	6.05	46	Pn	Pn	20 32 40.6	-0.9
	comp=E,1.1nm,0.3s,baz=223,slow=12,SNR=15						
CFAA		

comp=E,3.0nm,0.6s,baz=193,slow=7.1,SNR=5.8
BOSA Boshof 80.15 118 P **P 20 43 21.6 +0.2**
comp=E,2.2nm,0.8s,baz=154,slow=7.9,SNR=3.4
NVAR Mina Array Bea 84.83 326 P **P 20 43 46.4 +0.9**
comp=E,0.7nm,0.3s,baz=137,slow=5.9,SNR=3.0
PDAR Pinedale Array 84.98 334 P **P 20 43 47.8 +1.7**
comp=E,0.2nm,0.5s,baz=163,slow=3.4,SNR=2.3
TORD Torodi Ar. Bea 85.88 71 P **P 20 43 50.3 -0.7**
comp=E,0.5nm,0.9s,baz=246,slow=6.8,SNR=3.3
ZALV Zalesovo Beam 156.41 33 PKPab **PKPab 20 51 33.9 +0.4**
comp=E,0.7nm,0.4s,baz=324,slow=6.2,SNR=3.6
MKAR Makanchi Array 158.82 52 PKP **PKPdf 20 51 08.1 -0.1**
comp=E,0.7nm,0.9s,baz=214,slow=0.7,SNR=3.9
SONM Songino Array 168.07 1 PKPab **PKPab 20 52 25.1 +0.3**
comp=E,0.3nm,0.8s,baz=337,slow=2.2,SNR=2.8

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*IDC **09** 20:37:43.7±0.6, 33°.35S×72°.10W, h0km, mb4.3/11, mb1 4.4/13, mb1mx4.3/30, mbtmp4.3/13, ML4.2/2, MS3.8/3, Ms1 3.7/3, ms1mx3.2/24, Error ellipse: s-maj=21.8km s-min=18.3km az=81.0*
*GUC **09** 20:37:48.0±0.5, 32°.71S×71°.92W, h10km±3km, ML4.7*
*NEIC **09** 20:37:49.4±1.4, 32°.67S×71°.67W, h21km±10km, mb4.9/33, ML4.7(GUC), Error ellipse: s-maj=12.3km s-min=7.9km az=66.0*
*ISCJB **09** 20:37:51.9±0.2, 32°.74S±0°.04×71°.64W±0°.06, h10km, mb4.7/44, MS3.7/3, Error ellipse: s-maj=8.2km s-min=3.3km az=143.5*
ISC 09 20:37:52.1±1.2, 32°.79S±0°.06×71°.60W±0°.05, h12km±8km, n316, σ1s76/269, mb4.8/44, MS3.8/3, 107C-115D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.23**	**188**	⇓*iP*	**Pg**	**20 37 56.3**	**-0.7**
IHA				*i*S	**Sg**	**20 38 02.5**	**+2.1**
IHA	**Instituto Hidr**	**0.23**	**188**	⇓*iP*	**Pg**	**20 37 56.3**	**-0.7**
IHA				*i*S	**Sg**	**20 38 02.5**	**+2.1**
PEL	**Peldehue**	**0.85**	**115**	⇓*iP*	**Pb**	**20 38 08.3**	**-0.4**
PEL				*i*S	**Sn**	**20 38 24.0**	**+1.6**
PEL				AML	AML	20 38 24.7	
	comp=E,99μm,0.3s						
PEL	**Peldehue**	**0.85**	**115**	⇓*iP*	**Pb**	**20 38 08.3**	**-0.4**
PEL				*i*S	**Sn**	**20 38 24.0**	**+1.6**
TACH	**Talagante**	**1.02**	**147**	⇑*iP*	**Pg**	**20 38 09.0**	**-2.8**
TACH	**Talagante**	**1.02**	**147**	P	**Pg**	**20 38 09.0**	**-2.8**
SAN	**Santiago**	**1.03**	**130**	⇑*iP*	**Pg**	**20 38 11.2**	**-0.7**
SAN				*i*S	**Sn**	**20 38 28.4**	**+1.7**
SAN				AML	AML	20 38 34.1	
	comp=E,14μm,0.7s						
SAN	**Santiago**	**1.03**	**130**	⇑*iP*	**Pg**	**20 38 11.2**	**-0.7**
SAN				*i*S	**Sn**	**20 38 28.4**	**+1.7**
CLCH	**Cerro Calan**	**1.08**	**124**	⇑*iP*	**Pg**	**20 38 11.8**	**-1.0**
CLCH				*i*S	**Sn**	**20 38 30.2**	**+2.1**
CLCH				AML	AML	20 38 35.9	
	comp=N,25μm,0.5s						
LACH	**Col Las Americ**	**1.11**	**126**	*e*P1	**Pn**	**20 38 12.2**	**-1.4**
LACH				*i*S	**Sn**	**20 38 30.9**	**+1.9**
LACH				AML	AML	20 38 39.7	
	comp=N,7μm,0.6s						
LACH	**Col Las Americ**	**1.11**	**126**	*e*P	**Pn**	**20 38 12.2**	**-1.4**
LACH				*i*S	**Sn**	**20 38 30.9**	**+1.9**
ANTU	**Antumapu**	**1.12**	**134**	*e*P1	**Pn**	**20 38 12.6**	**-1.1**
ANTU				*i*S1	**Sn**	**20 38 31.0**	**+1.9**
ANTU				AML	AML	20 38 43.4	
	comp=N,16μm,0.6s						
ANTU	**Antumapu**	**1.12**	**134**	*e*P	**Pn**	**20 38 12.6**	**-1.1**
ANTU				*i*S	**Sn**	**20 38 31.0**	**+1.9**
NICH	**Los Niches**	**2.23**	**172**	AML	AML	20 38 36.1	
	comp=E,8μm,0.7s						
CFAA	**Coronel Fontan**	**3.09**	**68**	Pn	**Pn**	**20 38 41.7**	**+1.0**
	comp=E,3.2nm,0.3s,baz=278,slow=4.1,SNR=32						
CFAA				Sn	**Sb**	**20 39 27.1**	**+2.4**
	comp=E,4.5nm,0.3s,baz=328,slow=2.5,SNR=6.4						
LCO	**Las Campanas**	**3.85**	**12**	*e*Pn	Pn	20 38 45.2	-6.2
LCO				*e*Sn	Sn	20 39 22.7	-14
LCO				*e*Sg	Sb	20 39 39.0	-7.8
PLCA	**Paso Flores**	**7.97**	**174**	Pn	Pn	20 39 29.4	-19
	comp=E,1.6nm,0.3s,baz=341,slow=9.6,SNR=22						
TRQA	**Tornquist**	**9.44**	**126**	*e*Pn	**Pn**	**20 40 09.2**	**+1.2**
CPUP	**Villa Florida**	**13.98**	**66**	Pn	**Pn**	**20 41 09.6**	**-0.5**
	comp=E,0.9nm,0.3s,baz=226,slow=10,SNR=3.7						
CPUP	**Villa Florida**	**13.98**	**66**	*e*Pn	Pn	20 41 07.1	-3.0
LPAZ	**La Paz**	**16.73**	**12**	P	Pn	20 41 41.5	-5.6
	comp=E,0.3nm,0.3s,baz=172,slow=5.3,SNR=27						
LPAZ	**La Paz**	**16.73**	**12**	*e*Pn	Pn	20 41 41.4	-5.6
	comp=E,12nm,0.8s						
SIV	**San Ignacio**	**19.26**	**32**	P	P	20 42 10.0	-6.7
	comp=E,0.3nm,0.3s,baz=224,slow=13,SNR=8.8						
NNA	**Nana**	**21.26**	**346**	P	P	20 42 32.5	-5.8
EFI	**East Falkland**	**21.30**	**156**	*e*P	**P**	**20 42 36.4**	**-2.1**
	comp=E,12nm,0.5s						
USHA	**Ushuaia**	**22.15**	**175**	P	P	20 42 34.8	-13
	comp=E,6.1nm,0.9s,baz=306,slow=14,SNR=2.5						
SAML	**Samuel**	**24.97**	**20**	*e*P	P	20 43 10.1	-5.5
	comp=E,5.3nm,0.8s						
BDFB	**Brasilia**	**27.36**	**57**	P	**P**	**20 43 33.5**	**-3.9**
	comp=E,11nm,1.0s,baz=208,slow=6.7,SNR=8.6						
BDFB				LR	LR	20 56 29.1	
	comp=E,128nm,20.8s,baz=224,slow=40						
OTAV	**Otavalo**	**33.48**	**348**	P	**P**	**20 44 29.8**	**-2.1**
SDV	**Santo Domingo**	**41.46**	**1**	P	P	20 45 33.4	-5.7
	comp=E,10nm,0.9s						
RCBR	**Riachuelo**	**42.70**	**59**	LR	LR	21 04 30.3	
	comp=E,169nm,18.3s,baz=208,slow=37						
RCBR	**Riachuelo**	**42.70**	**59**	P	P	20 45 44.9	-4.4
SNAA	**Sanae**	**52.56**	**158**	P	P	20 46 55.3	-10
	comp=E,2.5nm,0.9s,baz=274,slow=6.4,SNR=7.5						
TEIG	**Tepich**	**55.08**	**341**	P	P	20 47 18.5	-5.4
	comp=E,65nm,1.5s						
QSPA	**South Pole Qui**	**57.44**	**180**	P	P	20 47 29.2	-11
	comp=E,4.2nm,1.0s,baz=129,slow=2.5						
834A	**Tilden**	**65.77**	**334**	⇓P	**P**	**20 48 38.3**	**+1.3**
	baz=66						
833A	**Chaparral WMA,**	**66.27**	**333**	⇑P	**P**	**20 48 41.4**	**+1.3**
	baz=66						
832A	**Faith Ranch, C**	**66.45**	**333**	⇑P	**P**	**20 48 43.0**	**+1.7**
	baz=67						
636A	**Smothers Creek**	**66.47**	**336**	⇑P	**P**	**20 48 42.5**	**+1.1**
	baz=67						
GOGA	**Godfrey**	**66.79**	**349**	*e*P	**P**	**20 48 41.6**	**-1.8**
	comp=E,16nm,1.4s						
732A	**Laxson Ranch,**	**66.85**	**333**	⇓P	**P**	**20 48 44.4**	**+0.6**
	baz=67						
536A	**Bastrop**	**67.02**	**336**	⇑P	**P**	**20 48 46.0**	**+1.1**
	baz=67						
632A	**Uvalde**	**67.48**	**334**	⇑P	**P**	**20 48 48.2**	**+0.3**
	baz=68						
533A	**Kerrville**	**67.71**	**334**	⇓P	**P**	**20 48 49.6**	**+0.3**
	baz=68						
337A	**Centerville**	**67.77**	**338**	⇑P	**P**	**20 48 51.3**	**+1.6**
	baz=68						
532A	**Rocksprings**	**68.08**	**334**	⇓P	**P**	**20 48 52.5**	**+0.8**
	baz=68,SNR=5.6						
434A	**Burnet**	**68.11**	**335**	⇑P	**P**	**20 48 53.3**	**+1.4**
	baz=68						
336A	**Riesel**	**68.15**	**337**	⇓P	**P**	**20 48 53.8**	**+1.7**
	baz=68						
KMSC	**Kings Mountain**	**68.19**	**351**	*e*P	P	20 48 49.1	-3.1
	comp=E,17nm,1.4s						
433A	**Art**	**68.35**	**335**	⇑P	**P**	**20 48 55.0**	**+1.7**
	baz=68						
531A	**Rocksprings**	**68.36**	**333**	⇓P	**P**	**20 48 54.6**	**+1.1**
	baz=68						
JCT	**Junction City**	**68.36**	**334**	⇓P	**P**	**20 48 55.2**	**+1.7**
	baz=68						
JCT	**Junction City**	**68.36**	**334**	*e*P	**P**	**20 48 52.4**	**-1.1**
	comp=E,19nm,1.3s						
334A	**Lometa**	**68.57**	**336**	⇓P	**P**	**20 48 56.2**	**+1.5**
	baz=69						
530A	**J-C Ranch, Com**	**68.65**	**333**	⇓P	**P**	**20 48 56.5**	**+1.3**
	baz=69						
432A	**Menard**	**68.71**	**334**	⇑P	**P**	**20 48 56.3**	**+0.6**
	baz=69						
333A	**Richland Sprin**	**68.83**	**335**	⇓P	**P**	**20 48 57.7**	**+1.4**
	baz=69						
TX31	**Lajitas Ar. Si**	**68.87**	**330**	*e*P	**P**	**20 48 56.3**	**-0.4**
TXAR	**Lajitas Array**	**68.87**	**330**	P	P	20 48 51.5	-5.3
	comp=E,0.4nm,0.6s,baz=154,slow=8.1,SNR=4.4						
WHTX	**Lake Whitney,**	**68.91**	**337**	⇑P	**P**	**20 48 57.9**	**+1.1**
	baz=69						
529A	**Stev Forest Ra**	**68.97**	**332**	⇑P	**P**	**20 48 58.3**	**+1.0**
	baz=69						
234A	**Clairette**	**69.15**	**336**	⇑P	**P**	**20 48 59.0**	**+0.7**
	baz=69						
332A	**Millersview**	**69.15**	**334**	⇑P	**P**	**20 49 00.1**	**+1.7**
	baz=69						
430A	**Baggett Ranch,**	**69.17**	**333**	⇑P	**P**	**20 48 59.9**	**+1.3**
	baz=69						
429A	**Davenport Ranc**	**69.29**	**332**	⇓P	**P**	**20 49 00.9**	**+1.6**
	baz=70						
331A	**San Angelo**	**69.34**	**334**	⇓P	**P**	**20 49 00.9**	**+1.3**
	baz=70						
233A	**Rising Star**	**69.43**	**335**	⇑P	**P**	**20 49 01.2**	**+1.2**
	baz=70						
232A	**Coleman**	**69.57**	**335**	⇑P	**P**	**20 49 02.3**	**+1.4**
	baz=70						
330A	**Mertzon**	**69.71**	**333**	⇓P	**P**	**20 49 03.2**	**+1.4**
	baz=70						
231A	**Bronte**	**69.86**	**334**	⇑P	**P**	**20 49 04.1**	**+1.4**
	baz=70						
133A	**Hamilton Ranch**	**69.97**	**336**	⇑P	**P**	**20 49 04.3**	**+1.0**
	baz=70						
Z35A	**Perchaven, San**	**70.07**	**337**	⇑P	**P**	**20 49 05.3**	**+1.4**
	baz=70						
329A	**Wagon Wheel Ra**	**70.09**	**333**	⇑P	**P**	**20 49 04.8**	**+0.6**
	baz=70						
WVT	**Waverly**	**70.23**	**346**	*e*P	P	20 48 58.7	-6.1
	comp=E,38nm,1.1s						
ABTX	**Abilene, Hawle**	**70.24**	**335**	⇑P	**P**	**20 49 06.0**	**+0.9**
	baz=70						
JSRW	**J. Sargeant Re**	**70.37**	**355**	*e*P	P	20 49 00.6	-5.0
229A	**Bryant Ranch,**	**70.45**	**333**	⇓P	**P**	**20 49 07.3**	**+0.9**
	baz=71						
Z33A	**Whitaker Ranch**	**70.53**	**336**	⇓P	**P**	**20 49 07.7**	**+0.9**
	baz=71						
131A	**Roby**	**70.55**	**334**	⇑P	**P**	**20 49 07.6**	**+0.7**
	baz=71						
Z32A	**Haskell**	**70.80**	**336**	⇓P	**P**	**20 49 09.6**	**+1.1**
	baz=71						
Y34A	**Reagan Ranch,**	**70.81**	**337**	⇑P	**P**	**20 49 10.3**	**+1.9**
	baz=71						
228A	**UT Block 9, Go**	**70.88**	**332**	⇓P	**P**	**20 49 09.6**	**+0.5**
	baz=71						
Z31A	**Sharp Cattle R**	**71.04**	**335**	⇓P	**P**	**20 49 10.3**	**+0.3**
	baz=71						
Y33A	**Hilltop Ranch,**	**71.14**	**336**	⇓P	**P**	**20 49 12.0**	**+1.5**
	baz=71						
Z30A	**Sanderson Ranc**	**71.37**	**334**	⇑P	**P**	**20 49 11.7**	**-0.2**
	baz=72						
X34A	**Smith Ranch, M**	**71.42**	**337**	⇑P	**P**	**20 49 12.3**	**+0.1**
	baz=72						
Z29A	**Hungry Hill Ra**	**71.56**	**334**	⇑P	**P**	**20 49 13.7**	**+0.5**
	baz=72						
X33A	**Lawton**	**71.59**	**337**	⇑P	**P**	**20 49 13.7**	**+0.5**
	baz=72						
MNTX	**Cornudas Mount**	**71.65**	**330**	*e*P	P	20 49 06.9	-6.7
	comp=E,3.3nm,0.8s						
Y31A	**Rekieta Farm,**	**71.67**	**335**	⇓P	**P**	**20 49 14.3**	**+0.6**
	baz=72						
X32A	**Elmer**	**71.74**	**336**	⇓P	**P**	**20 49 15.0**	**+0.9**
	baz=72						
TUL1	**Leonard**	**72.00**	**340**	⇑P	**P**	**20 49 15.9**	**+0.3**
	baz=72						
W33A	**Caddo, Fort Co**	**72.14**	**337**	⇓P	**P**	**20 49 17.9**	**+1.5**
	baz=72						
X31A	**McDonald Ranch**	**72.17**	**336**	⇓P	**P**	**20 49 17.9**	**+1.2**
	baz=72						
W32A	**Sentinel**	**72.37**	**336**	⇑P	**P**	**20 49 18.8**	**+1.0**
	baz=73						
MSTX	**Muleshoe**	**72.59**	**333**	⇑P	**P**	**20 49 17.4**	**-2.0**
	baz=73						
MSTX	**Muleshoe**	**72.59**	**333**	*e*P	P	20 49 17.1	-2.2
	comp=E,31nm,1.4s						
W31A	**Holland Ranch,**	**72.66**	**336**	⇓P	**P**	**20 49 19.9**	**+0.3**
	baz=73						
Y27A	**Causey**	**72.67**	**333**	⇓P	**P**	**20 49 19.5**	**-0.3**
	baz=73						
AMTX	**Amarillo**	**73.00**	**334**	⇑P	**P**	**20 49 23.4**	**+1.6**
	baz=73						
319A	**Douglas**	**73.09**	**327**	⇑P	**P**	**20 49 22.7**	**+0.3**
	baz=73						
W29A	**Amarillo**	**73.20**	**335**	⇓P	**P**	**20 49 23.3**	**+0.4**
	baz=73						
121A	**Cookes Peak, D**	**73.39**	**329**	⇑P	**P**	**20 49 24.8**	**+0.6**
	baz=74						
ACSO	**Alum Creek Sta**	**73.42**	**351**	*e*P	P	20 49 17.0	-6.9
	comp=E,25nm,1.0s						
V30A	**Spur Ranch, Mi**	**73.44**	**336**	⇑P	**P**	**20 49 25.4**	**+1.2**
	baz=74						
Y24A	**Capitan**	**73.60**	**331**	⇑P	**P**	**20 49 25.9**	**+0.5**
	baz=74						
Z22A	**Elephant Butte**	**73.66**	**330**	⇓P	**P**	**20 49 25.8**	**0.0**
	baz=74						
W27A	**Bowe Ranch, En**	**73.67**	**334**	⇑P	**P**	**20 49 26.0**	**+0.2**
	baz=74						
T33A	**Patterson Ranc**	**73.83**	**338**	⇑P	**P**	**20 49 27.1**	**+0.6**
	baz=74						
Y23A	**Lovelace Mesa,**	**73.86**	**331**	⇑P	**P**	**20 49 27.8**	**+0.9**
	baz=74						
W26A	**Owens Ranch, T**	**73.96**	**333**	⇓P	**P**	**20 49 27.7**	**+0.2**
	baz=74						
W25A	**X Bar L Ranch,**	**74.34**	**333**	⇓P	**P**	**20 49 29.9**	**+0.2**
	baz=74						
LPM	**Los Pinos Moun**	**74.43**	**330**	*e*P	P	20 49 23.5	-6.7
DBIC	**Dimbokro**	**74.45**	**71**	P	P	20 49 27.0	-3.6
	comp=E,7.4nm,0.9s,baz=255,slow=4.8,SNR=4.8						
DBIC	**Dimbokro**	**74.45**	**71**	*e*P	P	20 49 26.4	-4.2
	comp=E,11nm,1.0s						
V26A	**Tequesquite Ra**	**74.60**	**333**	⇓P	**P**	**20 49 31.7**	**+0.6**
	baz=75						
W24A	**Lazy 6 Ranch,**	**74.71**	**332**	⇓P	**P**	**20 49 33.0**	**+1.1**
	baz=75						
ANMO	**Albuquerque**	**74.91**	**331**	*e*P	P	20 49 28.9	-4.1
	comp=E,3.6nm,0.9s						
V25A	**Rancho No Teng**	**74.95**	**333**	⇓P	**P**	**20 49 34.3**	**+1.0**
	baz=75						
W23A	**Werner Place,**	**74.97**	**331**	⇑P	**P**	**20 49 34.3**	**+1.0**
	baz=75						
SUR	**Sutherland**	**75.09**	**119**	P	P	20 49 30.9	-3.5
V24A	**Rampart Ranch,**	**75.11**	**332**	⇓P	**P**	**20 49 35.7**	**+1.5**
	baz=75						
U26A	**Atchley Ranch,**	**75.11**	**334**	⇓P	**P**	**20 49 35.4**	**+1.3**
	baz=75						
TRY	**Troy**	**75.18**	**358**	*e*P	P	20 49 29.9	-4.2
	comp=E,51nm,1.5s						
T27A	**Campo**	**75.33**	**335**	⇑P	**P**	**20 49 37.1**	**+1.8**
	baz=76						
U25A	**Circle Dot Ran**	**75.36**	**333**	⇓P	**P**	**20 49 37.0**	**+1.4**
	baz=76						
T26A	**Comanche Natio**	**75.74**	**334**	⇑P	**P**	**20 49 39.8**	**+2.0**
	baz=76						
V22A	**San Miguel Ran**	**75.93**	**331**	⇓P	**P**	**20 49 41.3**	**+2.4**
	baz=76						
Q31A	**Ellis**	**75.96**	**338**	⇓P	**P**	**20 49 40.4**	**+1.6**
	baz=76						
T25A	**Trinidad**	**76.02**	**333**	⇓P	**P**	**20 49 41.1**	**+1.7**
	baz=76						
S26A	**Kim**	**76.09**	**334**	⇑P	**P**	**20 49 41.0**	**+1.4**
	baz=76						
R28A	**Tribune**	**76.15**	**336**	⇑P	**P**	**20 49 42.1**	**+2.1**
	baz=76						
Q30A	**Quinter**	**76.19**	**337**	⇑P	**P**	**20 49 42.1**	**+2.0**
	baz=76						
U22A	**Llaves**	**76.30**	**331**	⇓P	**P**	**20 49 42.9**	**+1.8**
	baz=76						
T24B	**San Luis**	**76.32**	**333**	⇑P	**P**	**20 49 42.8**	**+1.6**
	baz=76,SNR=5.7						
P31A	**Stockton**	**76.42**	**338**	⇑P	**P**	**20 49 42.0**	**+0.6**
	baz=77						
R27A	**Eads**	**76.44**	**335**	⇑P	**P**	**20 49 42.7**	**+1.0**
	baz=77						
S25A	**Robets Cordova**	**76.48**	**334**	⇓P	**P**	**20 49 43.6**	**+1.7**
	baz=77						
X16A	**Lo Mia Camp, P**	**76.62**	**327**	⇑P	**P**	**20 49 44.3**	**+1.5**
	baz=77						
R26A	**Arlington**	**76.69**	**335**	⇓P	**P**	**20 49 45.5**	**+2.5**
	baz=77						
S24A	**Houchin Ranch,**	**76.76**	**333**	⇓P	**P**	**20 49 45.7**	**+2.0**
	baz=77,SNR=6.8						
R25A	**Fountain Ranch**	**76.86**	**334**	⇓P	**P**	**20 49 45.5**	**+1.5**
	baz=77						
SCIA	**State Center**	**76.95**	**344**	*e*P	**P**	**20 49 42.4**	**-1.9**
	comp=E,32nm,1.4s						
Y14A	**Wickenburg**	**76.96**	**326**	⇑P	**P**	**20 49 46.9**	**+2.3**
	baz=77						
SDCO	**Great Sand Dun**	**76.96**	**333**	*e*P	**P**	**20 49 42.6**	**-2.1**
O31A	**Woolen Ranch,**	**76.98**	**339**	⇓P	**P**	**20 49 46.9**	**+2.4**
	baz=77						
P29A	**Atwood**	**76.99**	**337**	⇓P	**P**	**20 49 47.2**	**+2.6**
	baz=77						
R24A	**Sanders Place,**	**77.24**	**334**	⇑P	**P**	**20 49 48.8**	**+2.5**
	baz=77						
Q26A	**Hugo**	**77.27**	**335**	⇑P	**P**	**20 49 48.9**	**+2.6**
	baz=78						
R23A	**Moffat**	**77.47**	**333**	⇑P	**P**	**20 49 49.6**	**+1.9**
	baz=78						
S22A	**4UR Ranch, Cre**	**77.48**	**332**	⇓P	**P**	**20 49 50.0**	**+2.3**
	baz=78						
Q25A	**Bedland, Calha**	**77.52**	**334**	⇑P	**P**	**20 49 49.7**	**+1.9**
	baz=78						
MVCO	**Mesa Verde**	**77.69**	**331**	⇑P	**P**	**20 49 50.4**	**+1.6**
	baz=78						
MVCO	**Mesa Verde**	**77.69**	**331**	*e*P	P	20 49 44.3	-4.6
	comp=E,10nm,1.1s						
Q24A	**Divide**	**77.90**	**334**	⇓P	**P**	**20 49 52.3**	**+2.3**
	baz=78,SNR=5.8						
M31A	**Lambtecht Ranc**	**77.97**	**339**	⇑P	**P**	**20 49 53.1**	**+3.1**
	baz=78						
P25A	**Willow Gulch B**	**78.02**	**335**	⇓P	**P**	**20 49 53.5**	**+2.9**
	baz=78						
W13A	**Hualapai Mount**	**78.32**	**326**	⇓P	**P**	**20 49 54.4**	**+2.0**
	baz=78						
PV01	**Paradox Valley**	**78.51**	**331**	*e*P	P	20 49 47.6	-5.7
	comp=E,376nm,0.9s						
N27A	**Anderson Farm,**	**78.61**	**337**	⇓P	**P**	**20 49 56.8**	**+3.1**
	baz=79						
U15A	**North Rim**	**78.67**	**328**	⇓P	**P**	**20 49 56.0**	**+1.7**
	baz=79						
L31A	**Butterfield Fa**	**78.69**	**340**	⇑P	**P**	**20 49 57.1**	**+3.1**
	baz=79						
L30A	**Spencer Herefo**	**78.75**	**339**	⇓P	**P**	**20 49 56.6**	**+2.3**
	baz=79						
SMCO	**Snowmass**	**78.77**	**333**	*e*P	P	20 49 51.9	-3.1
	comp=E,12nm,1.0s						
ISCO	**Idaho Springs**	**78.80**	**334**	⇑P	**P**	**20 49 57.3**	**+2.3**
	baz=79						
ISCO	**Idaho Springs**	**78.80**	**334**	*e*P	**P**	**20 49 54.3**	**-0.7**
	comp=E,5.5nm,1.0s						
GMRC	**Granite Mounta**	**78.92**	**324**	⇑P	**P**	**20 49 57.0**	**+1.4**
	baz=79						
P22A	**Eagle**	**79.05**	**333**	⇓P	**P**	**20 49 58.0**	**+1.7**
	baz=79						
TSUM	**Tsumeb**	**79.19**	**106**	P	P	20 49 52.8	-4.8
	comp=E,4.9nm,1.0s,baz=254,slow=16,SNR=5.3						
O23A	**Lake Granby, G**	**79.27**	**334**	⇓P	**P**	**20 49 59.5**	**+1.9**
	baz=80,SNR=5.6						
K30A	**Basset**	**79.38**	**339**	⇓P	**P**	**20 50 00.1**	**+2.4**
	baz=80						
KNB	**Kanab**	**79.40**	**328**	*e*P	**P**	**20 49 56.6**	**-1.5**
	comp=E,11nm,1.2s						
O22A	**Kremmling**	**79.47**	**333**	⇓P	**P**	**20 49 59.8**	**+1.1**
	baz=80,SNR=5.1						
ECSD	**EROS Data Cent**	**79.52**	**342**	⇑P	**P**	**20 50 00.2**	**+1.8**
	baz=80						
ECSD	**EROS Data Cent**	**79.52**	**342**	*e*P	P	20 49 51.9	-6.5
	comp=E,20nm,1.0s						
N23A	**Red Feather La**	**79.88**	**334**	⇓P	**P**	**20 50 02.5**	**+1.7**
	baz=80						
N22A	**Wattenberg Ran**	**79.99**	**334**	⇓P	**P**	**20 50 03.3**	**+1.9**
	baz=80						
PHWY	**Pilot Hill**	**80.06**	**335**	*e*P	P	20 49 55.4	-6.4
	comp=E,8.4nm,1.1s						
CCUT	**Cedar City**	**80.08**	**327**	*e*P	P	20 49 58.4	-3.6
	comp=E,13nm,1.2s						
J29A	**Okreek**	**80.26**	**339**	⇓P	**P**	**20 50 04.8**	**+2.3**
	baz=80						
BOSA	**Boshof**	**80.31**	**118**	P	P	20 49 58.8	-4.6
	comp=E,5.8nm,0.9s,baz=179,slow=4.0,SNR=6.2						
J28A	**Allard Ranch,**	**80.55**	**339**	⇓P	**P**	**20 50 07.0**	**+2.9**
	baz=81						
J27A	**Elkhorn Farm,**	**80.64**	**338**	⇓P	P	20 50 07.8	+3.2
	baz=81						
K25A	**Mack Ranch, Ha**	**80.67**	**336**	⇓P	**P**	**20 50 07.7**	**+2.8**
	baz=81						
I29A	**Vivian Onida**	**80.81**	**339**	⇑P	**P**	**20 50 08.4**	**+2.9**
	baz=81						
L23A	**Garrett**	**80.86**	**335**	⇑P	**P**	**20 50 08.0**	**+2.0**
	baz=81						
ISA	**Isabella, Lake**	**81.02**	**323**	⇓P	**P**	**20 50 08.9**	**+2.1**
	baz=81						
J26A	**Sides Ranch, S**	**81.03**	**337**	⇓P	**P**	**20 50 09.9**	**+3.2**
	baz=81						
I28A	**Midland**	**81.05**	**339**	⇑P	**P**	**20 50 09.4**	**+2.7**
	baz=81						
L22A	**Ellis Ranch, M**	**81.05**	**334**	⇑P	**P**	**20 50 09.7**	**+2.7**
	baz=81						
DAC	**Darwin (Calif)**	**81.06**	**324**	*e*P	P	20 50 02.3	-5.0
K24A	**Anderson Ranch**	**81.09**	**336**	⇑P	**P**	**20 50 10.0**	**+2.9**
	baz=81						
H29A	**Onida**	**81.34**	**340**	⇑P	**P**	**20 50 10.6**	**+2.3**
	baz=82						
J25A	**Sunshine Ranch**	**81.34**	**337**	⇓P	**P**	**20 50 10.6**	**+2.3**
	baz=82						
I27A	**Quinn**	**81.39**	**338**	⇓P	**P**	**20 50 11.3**	**+2.8**
	baz=82						
K23A	**Bowen Ranch, D**	**81.40**	**335**	⇑P	**P**	**20 50 11.4**	**+2.6**
	baz=82						
G30A	**Faulkton**	**81.49**	**341**	⇓P	**P**	**20 50 11.9**	**+2.8**
	baz=82						
J24A	**Dixon Ranch, L**	**81.57**	**336**	⇓P	**P**	**20 50 12.3**	**+2.7**
	baz=82						
I26A	**New Underwood**	**81.61**	**338**	⇑P	**P**	**20 50 12.4**	**+2.6**
	baz=82						
H28A	**Mission

H22A	Clearmont	83.27 336	⇓P		P	20 50 19.7 +1.3
	baz=84					
HVU	Hansel Valley	83.32 330	eP		P	20 50 18.5 -0.3
	comp=E,9.1nm,1.1s					
I20A	Worland	83.33 334	⇑P		P	20 50 19.8 +1.0
	baz=84					
D29A	Pettibone, Tap	83.39 341	⇓P		P	20 50 20.8 +1.9
	baz=84					
TORD	Torodi Ar. Bea	83.45 70	P		P	20 50 16.1 -3.8
	comp=E,4.7nm,0.8s,baz=259,slow=4.3,SNR=24					
TORD			LR		LR	21 26 35.2
	comp=E,33nm,18.1s,baz=265,slow=35					
G23A	Biddle	83.47 337	⇓P		P	20 50 21.0 +1.6
	baz=84					
F25A	Bowman	83.49 338	⇓P		P	20 50 20.8 +1.3
	baz=84					
AGMN	Agassiz Nation	83.60 344	⇓P		P	20 50 21.9 +2.0
	baz=84					
AGMN	Agassiz Nation	83.60 344	eP		P	20 50 13.8 -6.1
	comp=E,22nm,1.7s					
E26A	Carlson Angus	83.68 339	⇓P		P	20 50 21.9 +1.5
	baz=84					
C30A	Mose, Pekin	83.69 342	⇑P		P	20 50 22.4 +2.0
	baz=84					
D28A	Regan	83.78 341	⇑P		P	20 50 22.6 +1.7
	baz=84					
G22A	Birney	83.79 336	⇓P		P	20 50 22.3 +1.2
	baz=84					
F23A	Volborg	83.94 337	⇑P		P	20 50 23.2 +1.4
	baz=84					
MDND	Maddock	84.12 341	⇑P		P	20 50 24.8 +2.2
	baz=84					
MDND	Maddock	84.12 341	eP		P	20 50 20.6 -2.0
	comp=E,12nm,1.1s					
D26A	Manning	84.17 339	⇑P		P	20 50 24.6 +1.7
	baz=84					
C28A	Hausauer Farms	84.21 341	⇑P		P	20 50 25.5 +2.4
	baz=84					
I17A	Pilgrim Ck.	84.23 333	⇓P		P	20 50 24.2 +0.7
	baz=84					
H19A	Powell	84.27 334	⇓P		P	20 50 24.7 +1.1
	baz=84					
F22A	Rosebud	84.27 336	⇑P		P	20 50 25.1 +1.6
	baz=84					
E24A	Baker	84.33 338	⇓P		P	20 50 25.0 +1.3
	baz=84					
B30A	Myrvik Farm, E	84.34 342	⇑P		P	20 50 25.0 +1.3
	baz=84					
G20A	Bridger	84.46 335	⇓P		P	20 50 25.9 +1.4
	baz=85					
C27A	Sayler Ranch,	84.52 340	⇓P		P	20 50 26.6 +1.9
	baz=85					
H18A	Shoshone NF, C	84.53 334	⇓P		P	20 50 26.2 +1.2
	baz=85					
D25A	Fairfield	84.55 339	⇑P		P	20 50 26.9 +2.0
	baz=85					
B29A	Wagenman Farm,	84.62 342	⇑P		P	20 50 27.2 +2.1
	baz=85					
D24A	Glendive	84.82 338	⇓P		P	20 50 27.7 +1.4
	baz=85					
B28A	Dugan Ranch, T	84.87 341	⇑P		P	20 50 27.9 +1.5
	baz=85					
A29A	Manning Farm,	85.01 342	⇓P		P	20 50 28.8 +1.7
	baz=85					
D23A	Lindsay	85.15 338	⇑P		P	20 50 29.0 +1.1
	baz=85					
A28A	Rude Farm, Bot	85.27 341	⇑P		P	20 50 29.8 +1.4
	baz=86					
F19A	Roth Farm, Mol	85.27 335	⇓P		P	20 50 29.1 +0.5
	baz=86					
ULM	Lac du Bonnet	85.43 345	P		P	20 50 22.9 -6.2
	comp=E,2.9nm,0.9s,baz=200,slow=6.4,SNR=4.4					
ULM	Lac du Bonnet	85.43 345	eP		P	20 50 22.7 -6.4
	comp=E,6.4nm,0.9s					
D22A	Cohagen	85.45 337	⇓P		P	20 50 31.0 +1.6
	baz=86					
HLID	Hailey	85.47 330	⇑P		P	20 50 30.1 +0.4
	baz=86					
HLID	Hailey	85.47 330	eP		P	20 50 24.7 -5.0
	comp=E,69nm,2.9s					
E20A	Meyer Farm, Mu	85.54 336	⇓P		P	20 50 31.0 +1.1
	baz=86					
A27A	Ledoux Ranch,	85.57 341	⇓P		P	20 50 31.7 +1.8
	baz=86					
C23A	Lambert	85.70 338	⇑P		P	20 50 31.7 +1.1
	baz=86					
E19A	Rath Farm, Rou	85.73 335	⇓P		P	20 50 31.9 +1.1
	baz=86,SNR=6.7					
A26A	Wade Farm, Ken	85.74 340	⇑P		P	20 50 32.2 +1.5
	baz=86					
MCMT	McKenzie Canyo	85.88 332	eP		P	20 50 31.0 -0.8
DGMT	Dagmar	85.99 339	⇑P		P	20 50 33.6 +1.6
	baz=86					
DGMT	Dagmar	85.99 339	eP		P	20 50 29.4 -2.6
	comp=E,21nm,1.0s					
D20A	Manuel Ranch,	86.05 336	⇓P		P	20 50 33.1 +0.8
	baz=86,SNR=5.6					
A25A	Svangstu Ranch	86.09 340	⇓P		P	20 50 33.8 +1.3
	baz=86					
B23A	Brockton	86.23 338	⇑P		P	20 50 35.0 +1.8
	baz=86					
A24A	Westby	86.34 339	⇓P		P	20 50 35.4 +1.7
	baz=86					
D19A	Cripps Ranch,	86.37 336	⇑P		P	20 50 35.3 +1.3
	baz=87					
B22A	Reddig Ranch S	86.40 338	⇓P		P	20 50 35.5 +1.4
	baz=87					
C20A	Veseth Ranch,	86.55 336	⇑P		P	20 50 36.0 +1.2
	baz=87					
B21A	Ellsworth Farm	86.84 337	⇑P		P	20 50 37.7 +1.5
	baz=87					
C19A	Slack Wire Ran	86.92 336	⇓P		P	20 50 37.8 +1.2
	baz=87					
A22A	Carney Farms,	86.98 338	⇓P		P	20 50 37.5 +0.6
	baz=87,SNR=6.2					
B20A	Solberg Farm,	87.18 337	⇑P		P	20 50 39.0 +1.2
	baz=87					
A21A	Bergtoll Ranch	87.30 338	⇓P		P	20 50 39.7 +1.3
	baz=88					
M04C	Macdoel	87.42 325	⇓P		P	20 50 40.0 +0.7
	baz=88					
A20A	Cobblestone Ra	87.53 337	⇓P		P	20 50 40.2 +0.6
	baz=88,SNR=5.8					
J05D	Fort Rock, OR	88.27 326	⇓P		P	20 50 44.9 +1.5
	baz=88					
NEW	Newport	90.39 332	⇓P		P	20 50 54.0 +1.0
	baz=91					
YKA	Yellowknife Ar	101.04 341	P		Pdif	20 51 35.1 -5.9
	comp=E,0.1nm,0.4s,baz=133,slow=3.5,SNR=2.7					
ASAR	Alice Springs	118.81 207	PKP		PKPdf	20 56 34.5 -6.4
	comp=E,0.2nm,0.7s,baz=132,slow=2.8,SNR=2.6					
WRA	Warramunga Arr	121.99 209	PKP		PKPdf	20 56 37.5 -10
	comp=E,0.5nm,0.9s,baz=159,slow=1.6,SNR=5.1					
H11S2	WAKE ISLAND Hyl	26.15 270	T		T	23 15 47.2
	baz=118,slow=75,SNR=149					
H11S1	WAKE ISLAND Hyl	26.16 270	T		T	23 15 48.3
	baz=118,slow=75,SNR=138					
H11S3	WAKE ISLAND Hyl	26.17 270	T		T	23 15 48.6
	baz=118,slow=75,SNR=129					
H11N3	WAKE ISLAND Hyl	26.53 271	T		T	23 16 16.0
	baz=117,slow=76,SNR=8.0					
H11N1	WAKE ISLAND Hyl	26.54 271	T		T	23 16 18.4
	baz=117,slow=76,SNR=6.1					
H11N2	WAKE ISLAND Hyl	26.55 271	T		T	23 16 16.6
	baz=117,slow=76,SNR=28					
YAK	Yakutsk	147.71 341	ePKPdf		PKPdf	20 57 30.2 -2.9
KKAR	Karatay Array	148.64 60	ePKPdf		PKPdf	20 57 34.2 -1.1
ASAJ	Asahikawa	151.13 303	PKPab		PKPbc	20 57 46.2 +1.3
	comp=E,11nm,1.0s,baz=72,slow=19,SNR=5.7					
AAK	Ala-Archa	151.60 60	ePKPbc		PKPdf	20 57 42.7 +2.5
KURK	Kurchatov	151.75 42	ePKPbc		PKPdf	20 57 41.4 +1.6
KURK			ePKPab		PKiKP	20 57 48.6 +2.0
TKM2	Tokmak 2	152.35 59	ePKPbc		PKPdf	20 57 43.7 +2.4
ZALV	Zalesovo Beam	153.01 31	PKPbc		PKPdf	20 57 44.3 +2.7
	comp=E,2.5nm,0.6s,baz=305,slow=2.9,SNR=13					
MKAR	Makanchi Array	155.69 47	PKP		PKPdf	20 57 41.0 -4.6
	comp=E,0.4nm,0.8s,baz=306,slow=2.9,SNR=3.6					
MKAR			PKPab		PKPab	20 58 07.7 -4.3
	comp=E,1.6nm,0.7s,baz=297,slow=4.3,SNR=13					
CMAR	Chiang Mai Arr	163.39 147	PKP		PKPdf	20 57 49.3 -6.0
	comp=E,0.6nm,1.0s,baz=247,slow=1.2,SNR=4.4					
SONM	Songino Array	164.90 5	PKPab		PKPab	20 58 48.1 -4.0
	comp=E,0.3nm,0.7s,baz=349,slow=2.2,SNR=2.8					
SONM			PP		PP	21 02 31.5 -6.4
	comp=E,0.3nm,1.0s,baz=67,slow=4.8,SNR=2.3					

*JMA **09** 20:39:25.8±0.3, 43°.53N×147°.57E, h24km, M3.5*

*SKHL **09** 20:39:26.3±0.6, 43°.67N×147°.72E, h35km, mb4.5/2*

ISC 09 20:39:25.9±2.9, 43°.7N±0°.1×147°.7E±0°.1, h33km±7km, n11, σ0.677/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.65	286	eP	Pb	20 39 38.5	-0.4
SHO				eS	Sb	20 39 48.2	+0.3
YUK	Yuzh-Kuril'sk	1.37	285	eP	Pn	20 39 48.6	-0.1
YUK				AMB	AMB	20 39 50.0	
	249nm,0.2s						
YUK				eS	Sn	20 40 05.2	-0.5
YUK				A	A	20 40 07.9	
	527nm,0.5s						
YUK				A	A	20 40 07.9	
	303nm,0.5s						
NEM2	Nemuro 2	1.46	258	P	Pn	20 39 49.5	-0.4
NEM2				eS	Sn	20 40 06.4	-1.5
KUR	Kuril'sk	1.54	4	eP	Pn	20 39 51.3	+0.2
KUR				AMB	AMB	20 39 53.2	
	49nm,0.2s						
KUR				eS	Sn	20 40 09.7	-0.3
KUR				A	A	20 40 11.0	
	141nm,0.2s						
KUR				A	A	20 40 11.0	
	135nm,0.2s						
JRA	Rausu	1.88	278	P	Pn	20 39 56.1	+0.4
JRA				eS	Sn	20 40 18.9	+0.6
JNK	Nakash	2.17	268	P	Pn	20 39 59.8	+0.2
JAK	Akkeshi	2.30	253	P	Pn	20 40 01.5	+0.1
JAK				eS	Sn	20 40 27.9	-0.7
JTKR	Abashiri--Toko	2.76	277	P	Pn	20 40 09.1	+1.3
JAR	Ashorobuto	2.89	263	P	Pn	20 40 10.4	+0.8
JAR				eS	Sn	20 40 42.8	-0.3
JCH	Churui	3.35	253	P	Pn	20 40 16.9	+1.0
JCH				eS	Sn	20 40 54.7	+0.1
JNBK	Urakawa-nobuka	3.89	250	P	Pn	20 40 24.4	+1.0

*IDC **09** 20:43:54.5±1.8, 38°.63S×73°.69W, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.7/28, mbtmp3.6/6, ML3.8/2, MS3.0/2, Ms1 3.1/2, ms1mx2.8/22, Error ellipse: s-maj=40.7km s-min=29.0km az=70.0*

*ISCJB **09** 20:43:59.0±0.9, 38°.62S±0°.07×73°.4W±0°.2, h33km, mb3.9/6, Error ellipse: s-maj=19.5km s-min=10.3km az=1.7*

*NEIC **09** 20:44:00.1±1.1, 38°.50S×73°.44W, h35km, mb4.6/3, Error ellipse: s-maj=26.8km s-min=14.0km az=83.0*

ISC 09 20:44:00.6±1.0, 38°.66S±0°.08×73°.5W±0°.2, h35km, n15, σ1.980/14, mb3.9/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.09	133	Pn	Pn	20 44 48.4	+1.5
	3.5nm,0.3s,baz=314,slow=9.1,SNR=42						
PLCA				Lg	Lg	20 45 32.6	
	34nm,0.3s,baz=250,slow=18,SNR=6.9						
PLCA	Paso Flores	3.09	133	ePn	Pn	20 44 47.7	+0.8
PLCA				Lg	Lg	20 45 32.6	
CFAA	Coronel Fontan	8.25	33	Pn	Pn	20 45 58.0	+0.1
	0.4nm,0.3s,baz=201,slow=13,SNR=11						
CFAA				Sn	Sn	20 47 33.8	+3.8
	0.1nm,0.3s,baz=285,slow=23,SNR=5.7						
CFAA				LR	LR	20 49 03.5	
	comp=Z,17nm,19.5s,baz=211,slow=37						
TRQA	Tornquist	9.08	90	ePn	Pn	20 46 07.2	-1.9
LCO	Las Campanas	9.90	14	ePn	Pn	20 46 13.8	-6.8
EFI	East Falkland	16.93	145	Pn	Pn	20 47 54.5	-0.1
	61nm,1.5s						
CPUP	Villa Florida	18.34	53	LR	LR	20 55 56.6	
	comp=Z,243nm,18.8s,baz=201,slow=39						
LPAZ	La Paz	22.78	13	P	P	20 49 00.3	-0.5
	0.6nm,0.5s,baz=236,slow=3.6,SNR=1.9						
BDFB	Brasilia	32.06	51	P	P	20 50 22.5	-1.8
	2.9nm,0.7s,baz=231,slow=3.0,SNR=4.3						
SNAA	Sanae	47.77	156	eP	P	20 52 33.7	-0.3
	12nm,1.1s						
QSPA	South Pole Qui	51.59	180	P	P	20 53 04.7	+1.6
	6.0nm,1.2s						
TXAR	Lajitas Array	73.26	333	P	P	20 55 27.7	-0.6
	0.4nm,0.8s,baz=145,slow=9.2,SNR=4.5						
TORD	Torodi Ar. Bea	86.90	71	P	P	20 56 42.4	+0.4
	0.2nm,0.6s,baz=245,slow=5.3,SNR=2.7						
ABKAR	Abkulak array	145.37	57	ePKPdf	PKPbc	21 03 32.3	-1.8
MKAR	Makanchi Array	160.51	58	PKPab	PKPab	21 04 35.5	-2.2
	0.2nm,0.8s,baz=301,slow=1.9,SNR=3.1						

MEX 09 20:45:40.5±0.8, 17°.01N×94°.67W, h132km±8km, MD3.5, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.22	293	iP	Pn	20 45 57.5	-1.1
CMIG				iS	Sn	20 46 09.8	-2.5
HUIG	Huatulco	1.85	228	eP	Pn	20 46 10.7	-2.0
HUIG				iS	Sn	20 46 35.7	-1.7
PCIG		1.90	133	eP	Pn	20 46 12.5	-0.8
PCIG				eS	Sn	20 46 37.6	-0.9
VHO	Vista Hermosa	1.97	272	iP	Pn	20 46 14.0	-0.5
VHO				iS	Sn	20 46 39.3	-1.2
CCIG	Comitan	2.53	106	eP	Pn	20 46 20.2	-1.3
PNIG	Pinotepa	3.37	260	eP	Pn	20 46 29.9	-2.1
PNIG				eS	Sn	20 47 09.8	-2.0

NNC 09 20:49:49.9±2.5, 37°.22N×71°.60E, h0km, mb3.6, mpv3.2, 6C-2D, Error ellipse: s-maj=21.9km s-min=8.8km az=166.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.71	307	⇓P	Pn	20 50 34.3	-0.6
DZET				⇓S	Sn	20 51 09.8	+1.4
AAK	Ala-Archa	5.85	21	⇑P	Pn	20 51 19.6	+1.5
	2.0nm,0.5s						
AAK				⇑S	Sn	20 52 26.4	+0.4
	4.0nm,0.5s						
KK31	Karatay Array	5.94	352	⇑P	Pn	20 51 17.7	-1.5
	0.6nm,0.4s,baz=170,slow=12,SNR=25						
KK31				⇑S	Sn	20 52 29.0	+1.1
	1.8nm,0.3s,baz=183,slow=16,SNR=17						
TKM2	Tokmak 2	6.47	27	⇑P	Pn	20 51 27.7	+1.1
	2.0nm,0.7s						
TKM2				⇑S	Sn	20 52 42.3	+0.9
	2.0nm,0.7s						

BUC 09 21:10:40.4±0.7, 44°.99N×22°.73E, h10km±7km, MD2.5/2, 12C-4D, Error ellipse: s-maj=7.5km s-min=5.7km az=89.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMGR	Halanga-Turnu	0.33	185	⇑iP	Pg	21 10 47.3	+0.4
RMGR	Halanga-Turnu	0.33	185	S	Sg	21 10 52.2	+0.9
RMGR	Halanga-Turnu	0.33	185	⇑iP	Pg	21 10 47.3	+0.4
RMGR				iS	Sg	21 10 52.2	+0.9
GZR	Gura Zlata	0.41	5	⇓iP	Pg	21 10 49.1	+0.6
GZR	Gura Zlata	0.41	5	S	Sb	21 10 55.3	-0.9
GZR	Gura Zlata	0.41	5	⇓iP	Pg	21 10 49.1	+0.6
GZR				iS	Sb	21 10 55.3	-0.9
SRE	Strehaia	0.47	134	⇑iP	Pg	21 10 49.5	-0.1
SRE	Strehaia	0.47	134	S	Sb	21 10 57.2	-0.6
SRE	Strehaia	0.47	134	⇑iP	Pg	21 10 49.5	-0.1
SRE				iS	Sb	21 10 57.2	-0.6
LOT	Lotru	0.87	58	⇓iP	Pg	21 10 57.1	-0.2
LOT	Lotru	0.87	58	⇓iP	Pg	21 10 57.1	-0.2
DEV	Deva	0.90	8	⇑iP	Pb	21 10 58.2	0.0
DEV	Deva	0.90	8	⇑iP	Pb	21 10 58.2	0.0
DEV				iS	Sb	21 11 10.7	+0.4
BZS	Buzias	1.01	309	⇑iP	Pb	21 11 00.1	+0.2
BZS	Buzias	1.01	309	⇑iP	Pb	21 11 00.1	+0.2
BZS				iS	Sb	21 11 13.8	+0.5
ARR	Arges	1.40	74	⇑iP	Pb	21 11 06.9	+0.2
ARR	Arges	1.40	74	⇑iP	Pb	21 11 06.9	+0.2
ARR				iS	Sg	21 11 25.9	+0.3
VOIR		1.70	74	S	Sb	21 11 34.3	+0.9
VOIR		1.70	74	iS	Sb	21 11 34.3	+0.9
MLR	Muntele Rosu	2.33	76	⇑iP	Pn	21 11 20.5	+1.6
MLR	Muntele Rosu	2.33	76	⇑iP	Pn	21 11 20.5	+1.6
MLR				iS	Sb	21 11 50.3	-1.3

SKHL 09 21:17:03.4±0.9, 52°.74N×135°.47E, h13km±1km, mb3.9/3, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	Ekimchan	1.56	283	ePg	Pb	21 17 31.8	-0.4
EKMR				AMB	AMB	21 17 32.7	
	30nm,0.5s						
EKMR				AMB	AMB	21 17 32.7	
	60nm,0.5s						
EKMR				AMB	AMB	21 17 32.7	
	100nm,0.5s						
EKMR				pPg	pPg	21 17 36.5	
EKMR				sPg	sPg	21 17 40.4	
EKMR				eSg	Sb	21 17 52.6	+0.7
EKMR				A	A	21 19 55.1	
	460nm,0.5s						
EKMR				A	A	21 19 55.1	
	330nm,0.5s						
EKMR				A	A	21 19 55.1	
	230nm,0.5s						
GRNR	Gornyy	2.06	163	ePg	Pb	21 17 40.6	-0.1
GRNR				eSg	Sb	21 18 07.4	+1.2
GRNR				A	A	21 18 10.3	
	300nm,0.2s						
NKL	Nikolayevsk	3.18	81	ePg	Pb	21 18 00.5	+0.8
NKL				AMB	AMB	21 18 04.0	
	10.0nm,0.3s						
NKL				eSg	Sb	21 18 41.5	+3.2
NKL				A	A	21 18 45.0	
	50nm,0.7s						
NKL				A	A	21 18 45.0	
	20nm,0.7s						
KLR	Kul'dur	4.23	215	ePg	Pb	21 18 20.0	+2.4
KLR				eSg	Sg	21 19 15.9	-3.2
KHBR	Khabarovsk	4.28	184	eSg	Sg	21 19 16.4	-4.3
BMKR	Bomnak	4.40	299	erx	rx	21 18 18.9	
BMKR				eSg	Sg	21 19 20.5	-4.3
BMKR				A	A	21 19 30.8	
	30nm,0.4s						
ZEA	Zeya	5.04	285	eSg	Sg	21 19 38.5	-6.6
KROS	Kirovskiy	5.34	292	ePn	Pn	21 18 24.0	+1.2
KROS				ePg	Pb	21 18 37.0	+0.5
KROS				eSg	Sg	21 19 49.6	-5.2
KROS				A	A	21 19 55.5	
	13nm,0.5s						

*GCMT **09** 21:28:08.0±0.3, 59°.10S×149°.12E, h12km, MW5.0/71, Moment Tensor Solution. s32,c37; s71,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.17±.15; $M_{\theta\theta}$2.12±.13; $M_{\phi\phi}$-2.29±.15; $M_{r\theta}$-0.27±.37; $M_{\theta\phi}$-3.64±.11; $M_{\phi r}$0.81±.40; Best double couple: $M_0$4.34200×10^{16} NP1:ϕ_s345.00000°, δ89.00000°, λ11.00000°. NP2: ϕ_s254.00000°, δ79.00000°, λ179.00000°. Principal axes: T 4.2690, Plg9.0000°, Azm210.0000°; N 0.1460, Plg79.0000°, Azm350.0000°; P -4.4140, Plg7.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **09** 21:28:14.5±1.7, 59°.33S×148°.73E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.9/25, mbtmp3.9/5, ML2.8/1, MS4.3/11, Ms1 4.3/11, ms1mx4.1/26 Error ellipse: s-maj=116.6km s-min=20.9km az=78.0*

ISC 09 21:28:15.8±1.8, 59°.4S±0°.2×148°.9E±0°.9, h10km, n24, σ1.936/9, mb3.9/4, MS4.3/10, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	18.77	171	P	Pn	21 32 34.4	-0.5
	0.0nm,0.3s,baz=334,slow=11,SNR=4.9						
VNDA				LR	LR	21 39 13.5	
	comp=Z,2μm,18.5s,baz=343,slow=35						
URZ	Urewera	27.75	53	LR	LR	21 44 13.0	
	comp=Z,797nm,18.7s,baz=206,slow=34						
QSPA	South Pole Qui	30.75	180	P	P	21 34 31.0	+0.2
	1.7nm,1.0s,baz=68,slow=19,SNR=3.0						
H01W1	Cape Leeuwin H	33.38	302	T	T	22 10 15.5	
	baz=146,slow=75,SNR=50						
H01W2	Cape Leeuwin H	33.38	302	T	T	22 10 15.9	
	baz=146,slow=75,SNR=62						
H01W3	Cape Leeuwin H	33.40	302	T	T	22 10 16.7	
	baz=146,slow=75,SNR=51						
MAW	Mawson	36.22	220	LR	LR	21 50 22.5	
	comp=Z,402nm,18.8s,baz=70,slow=37						
ASAR	Alice Springs	37.20	337	P	P	21 35 26.2	-0.8
	1.6nm,0.9s,baz=163,slow=9.5,SNR=14						
ASAR				PcP	PcP	21 37 46.3	-0.4
	0.4nm,0.8s,baz=156,slow=2.9,SNR=3.8						
ASAR				LR	LR	21 48 25.1	
	comp=Z,303nm,20.6s,baz=164,slow=33						
RAO	Raoul Island	37.60	52	LR	LR	21 48 59.7	
	comp=Z,679nm,20.0s,baz=152,slow=33						
DZM	Mont Dzumac	39.29	26	LR	LR	21 48 00.5	
	comp=Z,683nm,20.2s,baz=210,slow=30						
WRA	Warramunga Arr	40.74	339	P	P	21 35 55.6	-1.0
	2.9nm,1.0s,baz=168,slow=7.4,SNR=13						
WRA				LR	LR	21 50 28.4	
	comp=Z,313nm,21.2s,baz=175,slow=33						
HNR	Honiara	50.51	14	LR	LR	21 53 49.4	
	comp=Z,407nm,21.2s,baz=220,slow=30						
PPT	Papeete	60.61	74	LR	LR	21 57 52.6	
	comp=Z,66nm,21.5s,baz=190,slow=29						
H08S2	Diego Garcia H	76.54	278	T	T	23 04 20.1	
	baz=149,slow=76,SNR=31						
H08S1	Diego Carcia H	76.55	278	T	T	23 04 24.6	
	baz=149,slow=76,SNR=18						
H08S3	Diego Garcia H	76.56	278	T	T	23 04 21.1	
	baz=149,slow=76,SNR=32						
H08N1	Diego Carcia H	78.40	277	T	T	23 06 45.0	
	baz=148,slow=76,SNR=5.9						
H08N3	Diego Garcia H	78.41	277	T	T	23 06 46.3	
	baz=148,slow=76,SNR=6.5						
H08N2	Diego Garcia H	78.42	277	T	T	23 06 45.8	
	baz=148,slow=76,SNR=6.5						
BOSA	Boshof	80.82	228	LR	LR	22 12 44.2	
	comp=Z,139nm,18.3s,baz=172,slow=33						
CMAR	Chiang Mai Arr	87.56	313	P	P	21 41 05.5	+1.8
	0.5nm,0.9s,baz=163,slow=3.7,SNR=3.9						
CMAR				LR	LR	22 18 15.8	
	comp=Z,106nm,19.4s,baz=190,slow=34						
MKAR	Makanchi Array	118.97	314	PKP	PKPdf	21 47 03.5	+0.1
	0.1nm,0.6s,baz=117,slow=1.6,SNR=3.0						
GERES	GERESS Array B	152.24	268	PKPab	PKPab	21 48 18.7	-1.8
	0.8nm,0.9s,baz=152,slow=4.3,SNR=3.7						
FINES	FINESS Array B	152.45	299	PKPbc	PKPbc	21 48 12.1	+1.6
	1.1nm,0.6s,baz=92,slow=4.3,SNR=5.7						

IDC 09 21:44:35.1±1.4, 15°.49S×173°.35W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.7/49, mbtmp3.8/5, Error ellipse: s-maj=59.2km s-min=26.1km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	24.20	199	P	P	21 49 53.4	0.0
	2.8nm,0.3s,baz=331,slow=3.6,SNR=2.2						
WRA	Warramunga Arr	49.87	257	P	P	21 53 30.8	+0.1
	0.6nm,1.0s,baz=90,slow=6.2,SNR=4.5						
ASAR	Alice Springs	50.13	252	P	P	21 53 32.4	-0.3
	1.0nm,0.7s,baz=86,slow=8.5,SNR=13						
NVAR	Mina Array Bea	74.36	42	P	P	21 56 15.3	+0.1
	0.2nm,0.5s,baz=228,slow=9.1,SNR=4.1						
ILAR	Eielson Array	82

RIGZ	Rimuhau	1.63 131	PN	Pn	21 47 56.4	+0.2
WHHZ	Waihua	1.65 151	*e*PN	Pn	21 47 56.2	-0.1
MXZ	Matakaoa Point	1.67 88	PN	Pn	21 47 56.7	+0.1
TUVZ	Tukino	1.68 195	PN	Pn	21 47 57.4	+0.5
PUZ	Puketiti	1.68 106	PN	Pn	21 47 56.1	-0.6
PUZ			AML	AML	21 48 22.9	
TRVZ	Turoa	1.73 197	PN	Pn	21 47 58.0	+0.4
WNVZ	Wahianoa	1.75 195	PN	Pn	21 47 58.0	+0.3
WMGZ	Waiomatatini S	1.77 97	PN	Pn	21 47 57.4	-0.2
PKVZ	Pokaka	1.78 202	PN	Pn	21 47 58.4	+0.6
CNGZ	Carnagh Statio	1.79 119	PN	Pn	21 47 58.5	+0.6
MOVZ	Moawhango	1.80 191	PN	Pn	21 47 57.8	-0.3
KNZ	Kokohu	1.80 140	PN	Pn	21 47 57.7	-0.2
MCHZ	McNeill Hill	1.84 168	PN	Pn	21 47 58.7	+0.3
PRGZ	Paritu Road	1.84 135	*e*PN	Pn	21 47 58.1	-0.3
BHHZ	Black Hill Sta	1.85 183	PN	Pn	21 47 58.2	-0.3
KRHZ	Kereru	2.01 176	PN	Pn	21 47 59.8	-0.5
MHGZ	Mahia Peninsul	2.02 139	PN	Pn	21 48 00.1	-0.3
CKHZ	Cape Kidnapper	2.13 161	PN	Pn	21 48 01.3	-0.3
KAHZ	Kahuranaki	2.22 166	PN	Pn	21 48 02.1	-0.5
PNHZ	Pukenui	2.27 180	PN	Pn	21 48 02.4	-0.9
WAZ	Wanganui	2.32 204	PN	Pn	21 48 04.0	+0.2
TSZ	Takapari Road	2.42 184	PN	Pn	21 48 03.9	-1.2
TSZ			AML	AML	21 48 38.5	
WPHZ	Waipukurau	2.43 176	PN	Pn	21 48 04.4	-0.7
PXZ	Pawanui	2.44 168	⇓PN	Pn	21 48 04.1	-1.1
PRHZ	Porangahau	2.65 173	PN	Pn	21 48 06.1	-1.5
DVHZ	Dannevirke	2.66 181	PN	Pn	21 48 06.3	-1.6
POWZ	Post Office Ro	2.77 187	PN	Pn	21 48 07.4	-1.8
ANWZ	Angora Road	2.83 176	PN	Pn	21 48 08.4	-1.4
BFZ	Birch Farm	3.04 179	PN	Pn	21 48 10.2	-2.2
MRZ	Mangatainoka R	3.06 189	⇓PN	Pn	21 48 10.4	-2.3
MRZ			SN	Sn	21 48 46.7	-4.0
OGWZ	Otaki Gorge	3.27 194	PN	Pn	21 48 13.2	-2.2
HOWZ	Holdsworth Sta	3.30 189	PN	Pn	21 48 13.0	-2.8
KIW	Kapiti Island	3.37 197	PN	Pn	21 48 14.1	-2.5
TMWZ	Te Maipa	3.47 184	PN	Pn	21 48 15.1	-2.9
MTW	Mount Morrison	3.56 189	PN	Pn	21 48 15.8	-3.2
CAW	Cannon Point	3.57 194	PN	Pn	21 48 16.4	-2.8
TRWZ	Traveller	3.78 186	PN	Pn	21 48 18.7	-3.1
PAWZ	Paruwai Farm	3.79 189	⇑PN	Pn	21 48 18.5	-3.4
MSWZ	Moikau Station	3.84 191	PN	Pn	21 48 18.9	-3.7
TCW	Tory Channel	3.87 202	PN	Pn	21 48 19.9	-3.0
BHW	Baring Head	3.90 195	PN	Pn	21 48 19.6	-3.8
PLWZ	Palliser	3.99 190	⇑PN	Pn	21 48 20.8	-3.8
TUWZ	Tuamarina	4.17 204	PN	Pn	21 48 23.7	-3.1
NNZ	Nelson	4.19 211	PN	Pn	21 48 24.0	-3.1
QRZ	Quartz Range	4.27 221	PN	Pn	21 48 25.1	-3.1
KHZ	Kahutara	5.19 202	PN	Pn	21 48 36.3	-3.8
DSZ	Denniston Nort	5.32 218	*e*PN	Pn	21 48 39.4	-2.5
OXZ	Oxford	6.50 208	SN	Sn	21 50 01.7	-9.2
MQZ	McQueen's Vall	6.63 203	SN	Sn	21 50 03.0	-11

*IDC **09** 21:54:39.9±0.8, 23°.24N×144°.40E, h0km, mb3.7/11, mb1 4.0/13, mb1mx3.8/40, mbtmp3.8/13, ML4.2/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/41, Error ellipse: s-maj=27.2km s-min=17.8km az=81.0*

*ISCJB **09** 21:54:43.4±0.7, 23°.29N±0°.09×144°.3E±0°.2, h33km, mb3.7/12, MS3.2/1, Error ellipse: s-maj=23.4km s-min=9.7km az=159.2*

ISC 09 21:54:45.3±0.9, 23°.3N±0°.1×144°.3E±0°.2, h35km, n16, σ0°.71/16, mb3.8/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.23**	**334**	Pn	**Pn**	**21 55 46.3**	**-1.0**
	18nm,0.3s,baz=234,slow=16,SNR=4.9						
JCJ				Sn	**Sn**	**21 56 35.8**	**+0.3**
	12nm,0.3s,baz=127,slow=20,SNR=3.3						
MJAR	**Matsushiro Arr**	**14.20**	**340**	Pn	**Pn**	**21 58 02.7**	**-1.2**
	0.7nm,0.3s,baz=148,slow=12,SNR=4.5						
KSRS	**Korea Array**	**19.91**	**319**	P	**Pn**	**21 59 16.0**	**+0.3**
	2.6nm,0.8s,baz=131,slow=12,SNR=5.6						
USRK	**Ussuriysk Ar.**	**23.16**	**337**	P	**P**	**21 59 49.8**	**+1.2**
	3.0nm,0.9s,baz=168,slow=11,SNR=5.6						
HNR	**Honiara**	**35.96**	**153**	LR	LR	22 16 22.1	
	comp=Z,37nm,18.2s,baz=262,slow=36						
SONM	**Songino Array**	**38.78**	**319**	P	**P**	**22 02 07.1**	**+0.4**
	0.4nm,0.6s,baz=126,slow=8.6,SNR=7.5						
WRA	**Warramunga Arr**	**44.07**	**194**	P	**P**	**22 02 49.1**	**-1.0**
	0.5nm,0.3s,baz=15,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**47.77**	**193**	P	**P**	**22 03 19.0**	**-0.3**
	0.2nm,0.3s,baz=10,slow=7.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**53.60**	**321**	P	**P**	**22 04 03.1**	**+0.2**
	0.7nm,0.5s,baz=115,slow=6.7,SNR=4.9						
MKAR	**Makanchi Array**	**54.38**	**312**	P	**P**	**22 04 09.4**	**+0.6**
	0.4nm,0.5s,baz=85,slow=9.0,SNR=7.4						
ILAR	**Eielson Array**	**60.14**	**27**	P	**P**	**22 04 48.8**	**-0.4**
	0.9nm,0.8s,baz=251,slow=6.1,SNR=10						
YKA	**Yellowknife Ar**	**74.56**	**28**	P	**P**	**22 06 20.7**	**+0.4**
	0.5nm,0.8s,baz=291,slow=5.6,SNR=6.0						
JOF	**Joensuu**	**79.31**	**335**	*e*p	**P**	**22 06 47.5**	**+0.5**
	0.8nm,0.4s						
NVAR	**Mina Array Bea**	**81.34**	**52**	P	**P**	**22 06 59.2**	**+0.4**
	0.4nm,0.5s,baz=258,slow=6.4,SNR=3.4						
KAF	**Kangasniemi**	**81.70**	**335**	*e*p	**P**	**22 07 00.1**	**+0.2**
	0.5nm,0.3s						
FINES	**FINESS Array B**	**82.17**	**335**	P	**P**	**22 07 02.2**	**-0.2**
	1.1nm,0.5s,baz=81,slow=5.1,SNR=14						

*IDC **09** 21:59:17.9±0.4, 34°.76S×74°.15W, h0km, mb4.6/19, mb1 4.7/23, mb1mx4.6/35, mbtmp4.6/23, ML4.5/4, MS3.0/2, Ms1 3.0/2, ms1mx2.9/19, Error ellipse: s-maj=18.6km s-min=12.0km az=81.0*

*GUC **09** 21:59:20.0±0.6, 34°.84S×73°.97W, h28km±7km, ML5.0*

*MOS **09** 21:59:21.8±1.0, 34°.75S×73°.95W, h33km, mb5.3/17, Error ellipse: s-maj=18.1km s-min=8.5km az=101.7*

*ISCJB **09** 21:59:21.5±0.2, 34°.77S±0°.03×73°.96W±0°.03, h33km, mb4.9/60, Error ellipse: s-maj=4.7km s-min=3.7km az=14.9*

*BJI **09** 21:59:23.5, 34°.70S×73°.90W, h33km, mB5.1/17, Ms5.4/12, Ms7 5.1/13*

*NEIC **09** 21:59:23.2±0.2, 34°.77S×73°.95W, h35km, mb5.0/44, Error ellipse: s-maj=6.3km s-min=4.1km az=73.0*

NEIC Felt at Santiago.

ISC 09 21:59:23.3±0.3, 34°.80S±0°.04×74°.00W±0°.06, h35km, n430, σ0°.88/462, mb4.9/60, 123C-145D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.66**	**144**	⇓*i*P	**Pn**	**21 59 47.8**	**-2.1**
COCH				*i* S1	**Sn**	**22 00 07.7**	**-2.2**
CCSP	**San Pedro de C**	**2.17**	**161**	*e*P1	**Pn**	**21 59 54.6**	**-2.2**
CCSP				AML	AML	22 00 22.5	
	comp=E,4μm,0.4s						
LNCH	**Linares**	**2.22**	**119**	⇑*i*P	**Pn**	**21 59 57.6**	**0.0**
LNCH				*i* S1	**Sn**	**22 00 24.6**	**+0.8**
NICH	**Los Niches**	**2.29**	**96**	⇓*i*P	**Pn**	**21 59 58.1**	**-0.4**
NICH				*i* S1	**Sn**	**22 00 26.4**	**+1.0**
ANTU	**Antumapu**	**3.05**	**67**	⇓*i*P	**Pn**	**22 00 07.5**	**-1.5**
ANTU				*i* S1	**Sn**	**22 00 43.9**	**-0.4**
ANTU				AML	AML	22 00 44.8	
	comp=N,5μm,0.5s						
SAN	**Santiago**	**3.08**	**65**	⇑*i*P	**Pn**	**22 00 07.9**	**-1.5**
SAN				*i* S1	**Sn**	**22 00 44.1**	**-0.9**
LACH	**Col Las Americ**	**3.17**	**66**	*i* S	**Sn**	**22 00 47.0**	**-0.5**
LACH				AML	AML	22 00 52.0	
	comp=E,1μm,0.7s						
CLCH	**Cerro Calan**	**3.19**	**65**	⇑*i*P	**Pn**	**22 00 09.4**	**-1.6**
CLCH				*i* S	**Sn**	**22 00 47.4**	**-0.6**
CLCH				AML	AML	22 00 53.7	
	comp=E,4μm,0.7s						
CLCH				AML	AML	22 00 53.9	
	comp=E,3μm,0.9s						
PEL	**Peldehue**	**3.21**	**60**	⇓*i*P	**Pn**	**22 00 09.8**	**-1.4**
PEL				*i* S	**Sn**	**22 00 48.0**	**-0.4**
PEL				AML	AML	22 00 50.2	
	comp=N,6μm,0.6s						
CFAA	**Coronel Fontan**	**5.79**	**58**	Pn	**Pn**	**22 00 45.9**	**-0.8**
	comp=N,2.2nm,0.3s,baz=229,slow=12,SNR=135						
CFAA				Sn	**Sn**	**22 01 51.8**	**-0.1**
	comp=N,7.3nm,0.3s,baz=332,slow=17,SNR=18						
CFAA				LR	LR	22 02 55.3	
	comp=N,50nm,20.3s,baz=238,slow=37						
LCO	**Las Campanas**	**6.42**	**27**	*e*Pn	Pn	22 00 52.1	-3.4
LCO				*e*Sn	Sn	22 01 57.4	-10
PLCA	**Paso Flores**	**6.52**	**156**	*e*P	**Pn**	**22 00 56.3**	**-0.5**
PLCA				*e*		22 02 09.1	
PLCA	**Paso Flores**	**6.52**	**156**	Pn	**Pn**	**22 00 56.7**	**-0.1**
	comp=N,11nm,0.3s,baz=324,slow=10,SNR=149						
PLCA				Sn	Sn	22 02 19.7	+10
	comp=N,2.4nm,0.3s,baz=30,slow=22,SNR=3.0						
PLCA	**Paso Flores**	**6.52**	**156**	*e*Pn	**Pn**	**22 00 56.3**	**-0.5**
PLCA				*e*Sn	**Sn**	**22 02 09.1**	**-0.9**
PLCA				Sn	Sn	22 02 19.7	+10
TRQA	**Tornquist**	**10.22**	**112**	*e*Pn	**Pn**	**22 01 48.1**	**+0.7**
LVC	**Limon Verde**	**12.93**	**21**	*e*Pn	**Pn**	**22 02 24.7**	**-0.1**
CPUP	**Villa Florida**	**16.64**	**64**	*e*P	**Pn**	**22 03 12.3**	**-1.5**
CPUP				pmax	pmax		
	comp=Z,2.0nm,1.1s						
CPUP	**Villa Florida**	**16.64**	**64**	Pn	**P**	**22 03 14.9**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=220,slow=12,SNR=7.2						
CPUP				LR	LR	22 09 35.9	
	comp=Z,151nm,21.9s,baz=224,slow=37						
CPUP	**Villa Florida**	**16.64**	**64**	*e*P	**Pn**	**22 03 12.2**	**-1.5**
	comp=Z,2.0nm,1.1s						
LPAZ	**La Paz**	**19.17**	**17**	*e*P	**Pn**	**22 03 46.1**	**+0.5**
LPAZ						22 07 22.3	
LPAZ				pmax	pmax		
	comp=Z,12nm,0.9s						
LPAZ	**La Paz**	**19.17**	**17**	P	**Pn**	**22 03 45.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=201,slow=9.4,SNR=12						
LPAZ				Sn	**S**	**22 07 22.3**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=213,slow=8.5,SNR=6.1						
LPAZ	**La Paz**	**19.17**	**17**	*e*Pn	**Pn**	**22 03 46.1**	**+0.5**
	comp=Z,12nm,0.9s						
LPAZ				Sn	**S**	**22 07 22.3**	**+2.1**
EFI	**East Falkland**	**20.40**	**151**	P	Pn	22 03 58.7	-0.5
	comp=Z,507nm,0.9s,SNR=5.1						
EFI	**East Falkland**	**20.40**	**151**	*e*P	**P**	**22 03 58.2**	**+1.2**
EFI				pmax	pmax		
	comp=Z,71nm,0.8s						
EFI	**East Falkland**	**20.40**	**151**	*e*Pn	**P**	**22 03 58.1**	**+1.2**
	comp=Z,71nm,0.8s						
USHA	**Ushuaia**	**20.40**	**171**	P	Pn	22 03 58.3	-0.9
	comp=Z,9.5nm,0.8s,baz=310,slow=8.7,SNR=6.8						
SIV	**San Ignacio**	**22.03**	**35**	P	**P**	**22 04 14.3**	**-0.6**
	comp=Z,11nm,1.1s,baz=230,slow=12,SNR=9.3						
NNA	**Nana**	**22.86**	**353**	P	**P**	**22 04 22.8**	**-0.9**
	comp=Z,5.2nm,0.5s,baz=195,slow=7.8,SNR=3.9						
SAML	**Samuel**	**27.57**	**24**	*e*P	**P**	**22 05 07.3**	**+0.1**
	comp=Z,15nm,1.4s						
BDFB	**Brasilia**	**30.12**	**57**	P	**P**	**22 05 29.4**	**-0.6**
	comp=Z,3.5nm,0.9s,baz=227,slow=11,SNR=4.6						
OTAV	**Otavalo**	**35.10**	**352**	*e*P	**P**	**22 06 15.0**	**+1.1**
	comp=Z,19nm,1.3s						
SDV	**Santo Domingo**	**43.56**	**5**	*e*P	**P**	**22 07 23.2**	**-0.9**
	comp=Z,9.0nm,0.8s						
JTS	**JuntasAbangare**	**46.03**	**345**	P	**P**	**22 07 43.7**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=225,slow=8.6,SNR=3.3						
VNA3	**Neumayer Olymp**	**49.24**	**157**	P	**P**	**22 08 09.2**	**+1.3**
VNA2	**Neumayer--Watz**	**49.91**	**157**	P	**P**	**22 08 14.1**	**+1.1**
SNAA	**Sanae**	**51.47**	**157**	P	**P**	**22 08 25.6**	**+0.8**
SNAA	**Sanae**	**51.47**	**157**	⇑*e*P	**P**	**22 08 24.9**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,50nm,1.4s						
SNAA	**Sanae**	**51.47**	**157**	P	**P**	**22 08 25.5**	**+0.7**
	comp=Z,7.1nm,0.9s,baz=277,slow=8.5,SNR=20						
SNAA	**Sanae**	**51.47**	**157**	*e*P	**P**	**22 08 25.8**	**+1.0**
	comp=Z,69nm,1.5s						
APG	**El Apazote**	**51.94**	**340**	P	P	22 08 24.8	-4.3
	comp=Z,13nm,0.9s,baz=167,slow=8.8,SNR=11						
QSPA	**South Pole Qui**	**55.44**	**180**	P	**P**	**22 08 53.9**	**-0.1**
	comp=Z,9.4nm,0.8s,baz=149,slow=1.7,SNR=42						
QSPA	**South Pole Qui**	**55.44**	**180**	*e*P	**P**	**22 08 53.8**	**-0.3**
	comp=Z,17nm,1.1s						
NVL	**N'lazarevskaya**	**56.23**	**157**	*e*P	**P**	**22 08 59.3**	**-0.2**
NVL				pmax	pmax		
	comp=Z,11nm,0.9s						
VNDA	**Vanda**	**63.00**	**192**	P	**P**	**22 09 46.9**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=128,slow=2.5,SNR=4.0						
SYO	**Syowa Base**	**65.72**	**159**	⇑*e*P	**P**	**22 10 03.0**	**-0.8**
034A	**Hebbronville**	**65.81**	**336**	⇑P	**P**	**22 10 06.1**	**+1.1**
	baz=66						
933A	**Laredo**	**66.52**	**336**	⇑P	**P**	**22 10 09.8**	**+0.4**
	baz=67						
835A	**Beeville**	**66.67**	**337**	⇓P	**P**	**22 10 11.2**	**+0.8**
	baz=67						
834A	**Tilden**	**66.75**	**336**	⇓P	**P**	**22 10 11.8**	**+0.9**
	baz=67						
735A	**Kenedy**	**67.19**	**337**	⇓P	**P**	**22 10 14.6**	**+0.9**
	baz=68						
833A	**Chaparral WMA,**	**67.21**	**336**	⇑P	**P**	**22 10 13.5**	**-0.4**
	baz=68,SNR=6.2						
832A	**Faith Ranch, C**	**67.38**	**335**	⇑P	**P**	**22 10 14.3**	**-0.6**
	baz=68,SNR=7.1						
734A	**La Parita Cree**	**67.42**	**337**	⇓P	**P**	**22 10 15.6**	**+0.4**
	baz=68						
636A	**Smothers Creek**	**67.54**	**338**	⇑P	**P**	**22 10 16.9**	**+1.1**
	baz=68						
732A	**Laxson Ranch,**	**67.78**	**335**	⇓P	**P**	**22 10 17.1**	**-0.4**
	baz=68,SNR=11						
633A	**Saathoff Ranch**	**68.19**	**336**	⇓P	**P**	**22 10 20.3**	**+0.3**
	baz=68						
GOGA	**Godfrey**	**68.43**	**351**	*e*P	**P**	**22 10 20.6**	**-0.8**
GOGA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GOGA	**Godfrey**	**68.43**	**351**	*e*P	**P**	**22 10 20.6**	**-0.8**
	comp=Z,8.0nm,0.9s						
632A	**Uvalde**	**68.44**	**336**	⇑P	**P**	**22 10 21.1**	**-0.5**
	baz=69,SNR=6.4						
340A	**Bronson**	**68.47**	**342**	⇓P	**P**	**22 10 22.0**	**+0.2**
	baz=69						
339A	**Huntington**	**68.57**	**341**	⇓P	**P**	**22 10 22.8**	**+0.5**
	baz=69						
LRAL	**Lakeview Retre**	**68.57**	**348**	*e*P	**P**	**22 10 21.9**	**-0.4**
	comp=Z,36nm,1.8s						
533A	**Kerrville**	**68.71**	**337**	⇑P	**P**	**22 10 23.5**	**+0.2**
	baz=69						
337A	**Centerville**	**68.92**	**340**	⇓P	**P**	**22 10 25.2**	**+0.7**
	baz=69						
532A	**Rocksprings**	**69.05**	**336**	⇑P	**P**	**22 10 24.9**	**-0.5**
	baz=69,SNR=15						
434A	**Burnet**	**69.15**	**338**	⇓P	**P**	**22 10 25.4**	**-0.6**
	baz=70,SNR=8.4						
336A	**Riesel**	**69.26**	**339**	⇓P	**P**	**22 10 27.1**	**+0.5**
	baz=70						
531A	**Rocksprings**	**69.30**	**336**	⇑P	**P**	**22 10 26.6**	**-0.4**
	baz=70,SNR=6.8						
335A	**Moody**	**69.33**	**339**	⇓P	**P**	**22 10 27.2**	**+0.1**
	baz=70						
JCT	**Junction City**	**69.34**	**336**	*e*P	**P**	**22 10 27.3**	**+0.1**
JCT				pmax	pmax		
	comp=Z,20nm,1.0s						
JCT	**Junction City**	**69.34**	**336**	⇑P	**P**	**22 10 26.8**	**-0.4**
	baz=70,SNR=5.5						
JCT	**Junction City**	**69.34**	**336**	*e*P	**P**	**22 10 27.3**	**+0.1**
	comp=Z,20nm,1.0s						
433A	**Art**	**69.36**	**337**	⇑P	**P**	**22 10 26.7**	**-0.6**
	baz=70,SNR=8.6						
237A	**Washetta, Mont**	**69.54**	**340**	⇓P	**P**	**22 10 28.2**	**-0.1**
	baz=70						
530A	**J-C Ranch, Com**	**69.56**	**335**	⇑P	**P**	**22 10 28.5**	**0.0**
	baz=70,SNR=16						
334A	**Lometa**	**69.62**	**338**	⇑P	**P**	**22 10 28.3**	**-0.6**
	baz=70,SNR=6.6						
TXAR	**Lajitas Array**	**69.67**	**333**	P	**P**	**22 10 29.2**	**-0.1**
	comp=Z,5.8nm,0.7s,baz=153,slow=8.5,SNR=55						
432A	**Menard**	**69.70**	**336**	⇓P	**P**	**22 10 28.9**	**-0.5**
	baz=70						
431A	**Sonora**	**69.79**	**336**	⇓P	**P**	**22 10 29.5**	**-0.5**
	baz=70						
529A	**Stev Forest Ra**	**69.84**	**334**	⇓P	**P**	**22 10 30.3**	**-0.1**
	baz=70,SNR=13						
333A	**Richland Sprin**	**69.85**	**337**	⇓P	**P**	**22 10 29.6**	**-0.7**
	baz=70,SNR=5.5						
WHTX	**Lake Whitney,**	**70.00**	**339**	⇑P	**P**	**22 10 31.0**	**-0.2**
	baz=70						
430A	**Baggett Ranch,**	**70.10**	**335**	⇓P	**P**	**22 10 31.8**	**-0.2**
	baz=70,SNR=8.0						
332A	**Millersview**	**70.15**	**337**	⇓P	**P**	**22 10 31.7**	**-0.5**
	baz=70,SNR=6.0						
429A	**Davenport Ranc**	**70.18**	**335**	⇓P	**P**	**22 10 32.1**	**-0.3**
	baz=70,SNR=9.0						
331A	**San Angelo**	**70.31**	**336**	⇓P	**P**	**22 10 32.3**	**-0.9**
	baz=71						
233A	**Rising Star**	**70.47**	**338**	⇓P	**P**	**22 10 33.6**	**-0.5**
	baz=71						
232A	**Coleman**	**70.58**	**337**	⇑P	**P**	**22 10 34.5**	**-0.4**
	baz=71,SNR=5.1						
330A	**Mertzon**	**70.65**	**336**	⇓P	**P**	**22 10 34.6**	**-0.6**
	baz=71,SNR=5.5						
134A	**White-Moore Ra**	**70.73**	**339**	⇓P	**P**	**22 10 34.8**	**-0.9**
	baz=71						
231A	**Bronte**	**70.84**	**336**	⇓P	**P**	**22 10 35.9**	**-0.5**
	baz=71,SNR=7.3						
329A	**Wagon Wheel Ra**	**71.00**	**335**	⇓P	**P**	**22 10 37.1**	**-0.3**
	baz=71						
133A	**Hamilton Ranch**	**71.02**	**338**	⇑P	**P**	**22 10 37.4**	**-0.1**
	baz=71						
Z35A	**Perchaven, San**	**71.20**	**340**	⇓P	**P**	**22 10 38.4**	**0.0**
	baz=72						
ABTX	**Abilene, Hawle**	**71.26**	**337**	⇓P	**P**	**22 10 38.7**	**-0.2**
	baz=72						
MIAR	**Mount Ida**	**71.38**	**343**	*e*P	**P**	**22 10 38.7**	**-0.8**
MIAR				pmax	pmax		
	comp=Z,81nm,2.6s						
MIAR	**Mount Ida**	**71.38**	**343**	*e*P	**P**	**22 10 38.7**	**-0.8**
	comp=Z,81nm,2.6s						
229A	**Bryant Ranch,**	**71.38**	**335**	⇓P	**P**	**22 10 39.3**	**-0.4**
	baz=72						
Z34A	**Collier Ranch,**	**71.43**	**339**	⇑P	**P**	**22 10 39.7**	**-0.2**
	baz=72						
131A	**Roby**	**71.55**	**337**	⇑P	**P**	**22 10 40.4**	**-0.2**
	baz=72						
Z33A	**Whitaker Ranch**	**71.60**	**338**	⇑P	**P**	**22 10 40.5**	**-0.4**
	baz=72,SNR=6.0						
WVT	**Waverly**	**71.73**	**348**	*e*P	**P**	**22 10 39.9**	**-1.7**
WVT				pmax	pmax		
	comp=Z,24nm,1.1s						
WVT	**Waverly**	**71.73**	**348**	*e*P	**P**	**22 10 39.9**	**-1.7**
	comp=Z,24nm,1.1s						
228A	**UT Block 9, Go**	**71.79**	**335**	⇓P	**P**	**22 10 41.7**	**-0.4**
	baz=72,SNR=5.2						
Z32A	**Haskell**	**71.84**	**338**	⇑P	**P**	**22 10 42.1**	**-0.3**
	baz=72,SNR=9.1						
Y34A	**Reagan Ranch,**	**71.93**	**339**	⇓P	**P**	**22 10 42.2**	**-0.6**
	baz=72						
Z31A	**Sharp Cattle R**	**72.06**	**337**	⇓P	**P**	**22 10 43.1**	**-0.6**
	baz=72,SNR=8.4						
128A	**Castleberry Fa**	**72.20**	**335**	⇑P	**P**	**22 10 44.2**	**-0.4**
	baz=72						
JSRW	**J. Sargeant Re**	**72.22**	**357**	*e*P	**P**	**22 10 44.7**	**+0.3**
Y33A	**Hilltop Ranch,**	**72.23**	**339**	⇓P	**P**	**22 10 44.3**	**-0.4**
	baz=72						
Z30A	**Sanderson Ranc**	**72.35**	**336**	⇓P	**P**	**22 10 44.7**	**-0.7**
	baz=73,SNR=6.5						
MNTX	**Cornudas Mount**	**72.43**	**332**	*e*P	**P**	**22 10 43.6**	**-2.3**
	comp=Z,7.8nm,1.1s						
Y32A	**R-V Farms, Ver**	**72.48**	**338**	⇓P	**P**	**22 10 45.6**	**-0.5**
	baz=73						
Z29A	**Hungry Hill Ra**	**72.52**	**336**	⇑P	**P**	**22 10 45.6**	**-0.9**
	baz=73,SNR=5.2						
X34A	**Smith Ranch, M**	**72.55**	**340**	⇑P	**P**	**22 10 46.6**	**0.0**
	baz=73						
Y31A	**Rekieta Farm,**	**72.69**	**337**	⇓P	**P**	**22 10 47.3**	**-0.2**
	baz=73						
X32A	**Elmer**	**72.81**	**338**	⇓P	**P**	**22 10 48.0**	**-0.2**
	baz=73						
W34A	**Bridge Creek,**	**73.13**	**340**	⇓P	**P**	**22 10 49.7**	**-0.3**
	baz=74						
X31A	**McDonald Ranch**	**73.22**	**338**	⇑P	**P**	**22 10 50.5**	**0.0**
	baz=74						
TUL1	**Leonard**	**73.23**	**342**	⇑P	**P**	**22 10 50.1**	**-0.5**
	baz=74,SNR=5.3						
TUL1	**Leonard**	**73.23**	**342**	*e*P	**P**	**22 10 49.9**	**-0.7**
	comp=Z,25nm,0.8s						
W33A	**Caddo, Fort Co**	**73.25**	**339**	⇓P	**P**	**22 10 50.8**	**+0.1**
	baz=74,SNR=5.2						
W32A	**Sentinel**	**73.45**	**339**	⇑P	**P**	**22 10 51.5**	**-0.4**
	baz=74,SNR=13						
MSTX	**Muleshoe**	**73.53**	**335**	⇓P	**P**	**22 10 52.0**	**-0.6**
	baz=74,SNR=6.8						
MSTX	**Muleshoe**	**73.53**	**335**	*e*P	**P**	**22 10 52.2**	**-0.3**
	comp=Z,20nm,0.9s						
Y27A	**Causey**	**73.59**	**335**	⇑P	**P**	**22 10 52.4**	**-0.5**
	baz=74						
X29A	**Tulia**	**73.60**	**336**	⇓P	**P**	**22 10 52.8**	**-0.1**
	baz=74						
V34A	**Guthrie**	**73.62**	**340**	⇓P	**P**	**22 10 52.4**	**-0.4**
	baz=74						
V34A	**Guthrie**	**73.62**	**340**	*e*P	**P**	**22 10 52.5**	**-0.4**
	comp=Z,15nm,0.8s						
W31A	**Holland Ranch,**	**73.72**	**338**	⇓P	**P**	**22 10 53.1**	**-0.4**
	baz=74						
V33A	**Lossen Ranch,**	**73.82**	**340**	⇑P	**P**	**22 10 53.7**	**-0.4**
	baz=74,SNR=5.3						
Y26A	**Elida**	**73.85**	**334**	⇓P	**P**	**22 10 54.4**	**-0.1**
	baz=74						
**V32

baz=77
T26A Comanche Natio 76.72 336 ⇓P P 22 11 11.3 +0.4
baz=77
X18A Snowflake 76.73 330 ⇑P P 22 11 11.7 +0.7
baz=77
V22A San Miguel Ran 76.76 333 ⇓P P 22 11 12.1 +0.9
baz=77,SNR=14
Q32A Meitler Ranch, 76.86 341 ⇑P P 22 11 11.5 0.0
baz=77
T25A Trinidad 76.96 335 ⇑P P 22 11 13.0 +0.7
baz=77,SNR=10
DBIC Dimbokro 76.97 72 eP P 22 11 13.7 +1.0
DBIC pmax pmax
comp=Z,45nm,1.4s
DBIC Dimbokro 76.97 72 P P 22 11 13.6 +1.0
comp=Z,13nm,1.1s,baz=210,slow=5.4,SNR=11
DBIC Dimbokro 76.97 72 eP P 22 11 13.7 +1.0
comp=Z,45nm,1.4s
Z14A Wintersburg 77.02 327 ⇓P P 22 11 12.4 0.0
baz=77
S26A Kim 77.08 336 ⇓P P 22 11 13.3 +0.4
baz=77,SNR=12
U22A Llaves 77.15 333 ⇓P P 22 11 14.3 +0.9
baz=78,SNR=5.1
W18A Petrified Fore 77.16 331 ⇑P P 22 11 14.2 +0.8
baz=78
R28A Tribune 77.21 338 ⇑P P 22 11 13.7 +0.1
baz=78
T24B San Luis 77.23 335 ⇓P P 22 11 14.6 +0.7
baz=78,SNR=7.3
MMNY Mt. Morris Dam 77.24 357 eP P 22 11 13.4 0.0
comp=Z,28nm,0.9s
X16A Lo Mia Camp, P 77.26 329 ⇑P P 22 11 14.7 +0.6
baz=78
Q30A Quinter 77.32 339 ⇓P P 22 11 14.2 +0.1
baz=78,SNR=5.2
T23A Casias Ranch, 77.44 334 ⇑P P 22 11 15.4 +0.4
baz=78
Q29A Oakley 77.46 339 ⇑P P 22 11 14.8 -0.1
baz=78
P32A Huiting Farm, 77.46 341 ⇓P P 22 11 14.9 0.0
baz=78
R27A Eads 77.47 337 ⇓P P 22 11 15.1 +0.1
baz=78,SNR=6.0
Y14A Wickenburg 77.53 328 ⇓P P 22 11 15.8 +0.4
baz=78
P31A Stockton 77.58 340 ⇑P P 22 11 15.8 +0.2
baz=78
S24A Houchin Ranch, 77.69 335 ⇑P P 22 11 17.1 +0.6
baz=78,SNR=8.6
R26A Arlington 77.69 337 ⇓P P 22 11 16.7 +0.5
baz=78
R25A Fountain Ranch 77.83 336 ⇓P P 22 11 17.5 +0.4
baz=78
P30A Selden 77.85 340 ⇓P P 22 11 17.5 +0.5
baz=78
P29A Atwood 78.10 339 ⇑P P 22 11 18.9 +0.4
baz=78,SNR=5.1
O31A Woolen Ranch, 78.16 340 ⇓P P 22 11 18.8 +0.1
baz=78
R24A Sanders Place, 78.18 335 ⇑P P 22 11 20.1 +1.0
baz=78,SNR=7.1
P28A Saint Francis 78.32 338 ⇑P P 22 11 20.4 +0.7
baz=79
S22A 4UR Ranch, Cre 78.35 334 ⇓P P 22 11 20.9 +0.7
baz=79,SNR=6.2
O30A MW Ranch, Wils 78.39 340 ⇓P P 22 11 20.6 +0.6
baz=79
R23A Moffat 78.39 335 ⇑P P 22 11 21.1 +0.7
baz=79
MVCO Mesa Verde 78.50 333 ⇓P P 22 11 21.2 +0.3
baz=79,SNR=5.3
MVCO Mesa Verde 78.50 333 eP P 22 11 21.3 +0.4
comp=Z,6.0nm,0.7s
Q25A Bedland, Calha 78.51 336 ⇑P P 22 11 21.6 +0.7
baz=79
P26A Davis Ranch, A 78.80 337 ⇑P P 22 11 23.4 +0.9
baz=79
PFO Pinyon Flats O 78.83 325 P P 22 11 22.4 -0.2
comp=Z,8.4nm,0.8s,baz=86,slow=4.3,SNR=6.0
O28A Krutsinger Ran 78.84 339 ⇓P P 22 11 23.2 +0.7
baz=79
Q24A Divide 78.86 336 ⇑P P 22 11 23.6 +0.7
baz=79
W13A Hualapai Mount 78.89 328 ⇓P P 22 11 23.9 +0.8
baz=79
P25A Willow Gulch B 79.03 337 ⇓P P 22 11 24.7 +1.0
baz=79
M31A Lambtecht Ranc 79.17 341 ⇑P P 22 11 24.8 +0.5
baz=80
U15A North Rim 79.34 329 ⇑P P 22 11 26.1 +0.5
baz=80,SNR=8.7
PV01 Paradox Valley 79.34 333 eP P 22 11 24.4 -1.1
comp=Z,1μm,1.6s
GMRC Granite Mounta 79.43 326 ⇓P P 22 11 26.7 +0.8
baz=80
SMCO Snowmass 79.68 335 eP P 22 11 28.6 +1.0
comp=Z,16nm,1.3s
PV04 Paradox Valley 79.69 333 eP P 22 11 28.0 +0.7
ISCO Idaho Springs 79.76 336 eP P 22 11 28.4 +0.5
ISCO pmax pmax
comp=Z,27nm,1.9s
ISCO Idaho Springs 79.76 336 ⇑P P 22 11 28.1 +0.2
baz=80,SNR=5.4
ISCO Idaho Springs 79.76 336 eP P 22 11 28.4 +0.5
comp=Z,27nm,1.9s
BFSC Mount Baldy Ra 79.92 324 ⇓P P 22 11 29.6 +1.0
baz=80
P22A Eagle 79.97 335 ⇑P P 22 11 30.0 +1.0
baz=80
O23A Lake Granby, G 80.23 336 ⇓P P 22 11 30.7 +0.4
baz=81,SNR=6.2
GSC Goldstone, Bar 80.39 326 ⇑P P 22 11 31.5 +0.4
baz=81
O22A Kremmling 80.41 335 ⇓P P 22 11 31.7 +0.3
baz=81,SNR=6.8
TSUM Tsumeb 80.55 107 eP P 22 11 32.5 0.0
comp=Z,17nm,1.3s
CCUT Cedar City 80.74 329 eP P 22 11 34.0 +0.9
ECSD EROS Data Cent 80.83 344 ⇓P P 22 11 32.9 -0.2
baz=81,SNR=13
ECSD EROS Data Cent 80.83 344 eP P 22 11 32.5 -0.7
comp=Z,34nm,1.3s
N23A Red Feather La 80.86 336 ⇑P P 22 11 33.8 +0.1
baz=81
SRU San Rafael Swe 80.93 332 eP P 22 11 34.3 +0.3
SRU pmax pmax
comp=Z,72nm,2.2s
SRU San Rafael Swe 80.93 332 eP P 22 11 34.3 +0.3
comp=Z,72nm,2.2s
N22A Wattenberg Ran 80.95 336 ⇓P P 22 11 34.5 +0.4
baz=81,SNR=5.5
O20A White River Ci 80.98 334 ⇑P P 22 11 34.7 +0.4
baz=81
M24A Cheyenne 81.01 337 ⇓P P 22 11 34.8 +0.5
baz=81
PHWY Pilot Hill 81.06 337 eP P 22 11 35.0 +0.3
comp=Z,27nm,1.5s
MVU Marysvale 81.08 331 eP P 22 11 35.5 +0.6
BOSA Boshof 81.12 119 P P 22 11 36.4 +0.9
comp=Z,18nm,1.1s,baz=248,slow=3.8,SNR=13
J30A Dallas 81.16 341 ⇓P P 22 11 35.0 +0.1
baz=82
M23A Laramie 81.30 336 ⇓P P 22 11 36.4 +0.4
baz=82
J29A Okreek 81.46 341 ⇓P P 22 11 36.5 0.0
baz=82,SNR=7.6
ISA Isabella, Lake 81.46 325 ⇑P P 22 11 37.6 +0.8
baz=82
M22A Cedar Creek Ra 81.53 336 ⇑P P 22 11 37.7 +0.5
baz=82
DAC Darwin (Calif) 81.55 326 eP P 22 11 38.3 +0.9
DAC Darwin (Calif) 81.55 326 eP P 22 11 38.3 +0.9
J28A Allard Ranch, 81.72 340 ⇑P P 22 11 38.5 +0.6
baz=82
J27A Elkhorn Farm, 81.78 340 ⇑P P 22 11 38.7 +0.4
baz=82
L23A Garrett 81.87 337 ⇑P P 22 11 39.0 +0.1
baz=82
VES Vestal, Richgr 81.90 324 ⇑P P 22 11 39.1 +0.2
baz=82
RPZ Rata Peaks 81.98 222 eP P 22 11 40.7 +1.2
comp=Z,36nm,1.0s
J26A Sides Ranch, S 82.14 339 ⇑P P 22 11 41.0 +0.8
baz=82
I28A Midland 82.23 341 ⇓P P 22 11 40.9 +0.4
baz=83
DAU Daniels Canyon 82.34 332 eP P 22 11 42.2 +0.6
DAU Daniels Canyon 82.34 332 eP P 22 11 42.2 +0.6
R11A Troy Canyon, C 82.36 328 ⇑P P 22 11 41.8 +0.2
baz=83,SNR=6.2
I27A Quinn 82.54 340 ⇓P P 22 11 42.4 +0.2
baz=83
H29A Onida 82.56 341 ⇓P P 22 11 42.1 -0.1
baz=83,SNR=5.2
JLU Jordanelle 82.58 332 eP P 22 11 43.2 +0.5
K22A Casper 82.62 336 ⇓P P 22 11 43.2 +0.4
baz=83,SNR=5.2
K22A Casper 82.62 336 eP P 22 11 43.2 +0.4
J24A Dixon Ranch, L 82.64 338 ⇓P P 22 11 43.5 +0.7
baz=83
G30A Faulkton 82.76 342 ⇓P P 22 11 43.6 +0.4
baz=83
DUG Dugway, Tooele 82.76 331 eP P 22 11 44.3 +0.7
DUG pmax pmax
comp=Z,17nm,1.3s
DUG Dugway, Tooele 82.76 331 ⇑P P 22 11 44.0 +0.4
baz=83,SNR=7.4
DUG Dugway, Tooele 82.76 331 eP P 22 11 44.3 +0.7
comp=Z,17nm,1.3s
H28A Mission Ridge 82.82 341 ⇑P P 22 11 43.7 +0.1
baz=83
K21A Alcova 82.85 336 ⇓P P 22 11 43.9 -0.2
baz=83,SNR=8.9
I25A Rochford 82.98 339 ⇑P P 22 11 45.2 +0.5
baz=83,SNR=5.4
H27A Howes 83.07 340 ⇓P P 22 11 44.9 0.0
baz=83
RSSD Black Hills 83.17 339 eP P 22 11 45.3 -0.4
RSSD Black Hills 83.17 339 eP P 22 11 45.3 -0.4
J22A Midwest 83.29 337 ⇑P P 22 11 45.9 -0.4
baz=84
LBTB Lobatse 83.43 116 eP P 22 11 47.1 -0.4
LBTB pmax pmax
comp=Z,21nm,1.3s
LBTB Lobatse 83.43 116 eP P 22 11 47.1 -0.4
comp=Z,21nm,1.3s
HWUT Hardware Ranch 83.49 333 eP P 22 11 47.0 -0.4
comp=Z,52nm,1.7s
H25A Fruitdale 83.49 339 ⇓P P 22 11 47.3 +0.2
baz=84
F29A Eureka 83.59 342 ⇑P P 22 11 46.8 -0.8
baz=84
NVAR Mina Array Bea 83.63 326 P P 22 11 47.9 -0.3
comp=Z,2.6nm,0.8s,baz=151,slow=6.6,SNR=11
I22A 9 Mile Ranch, 83.72 337 ⇑P P 22 11 47.7 -0.7
baz=84
BW06 Boulder Array 83.76 334 eP P 22 11 47.5 -1.3
comp=Z,4.8nm,1.4s
PDAR Pinedale Array 83.76 334 P P 22 11 48.0 -0.7
comp=Z,3.7nm,1.1s,baz=152,slow=6.7,SNR=13
J20A Shoshoni 83.77 336 ⇓P P 22 11 48.9 +0.3
baz=84,SNR=7.1
G26A Maurine 83.82 340 ⇑P P 22 11 48.2 -0.6
baz=84
EYMN Ely 83.85 348 eP P 22 11 48.5 -0.3
comp=Z,12nm,1.1s
H24A Dirks Ranch, A 83.89 339 ⇑P P 22 11 48.8 -0.4
baz=84
I21A Big Trails, Te 83.91 336 ⇓P P 22 11 49.0 -0.4
baz=84
E30A Jud 83.98 343 ⇓P P 22 11 49.4 -0.1
baz=84
J19A Crowheart 84.02 335 ⇑P P 22 11 50.1 +0.1
baz=84,SNR=10
HVU Hansel Valley 84.10 332 eP P 22 11 50.6 +0.1
HVU pmax pmax
comp=Z,16nm,0.9s
HVU Hansel Valley 84.10 332 eP P 22 11 50.6 +0.1
comp=Z,16nm,0.9s
F27A Lemmon 84.20 341 ⇑P P 22 11 50.4 -0.3
baz=84
ELK Elko 84.21 330 P P 22 11 51.2 +0.1
comp=Z,2.8nm,0.8s,baz=214,slow=1.4,SNR=7.5
E29A Napoleon 84.23 343 ⇑P P 22 11 50.3 -0.5
baz=85
H22A Clearmont 84.31 337 ⇓P P 22 11 50.5 -0.8
baz=85
F26A Lodgepole 84.36 340 ⇓P P 22 11 50.9 -0.6
baz=85
G24A Alzada 84.38 339 ⇑P P 22 11 51.3 -0.4
baz=85
E28A Huff 84.50 342 ⇑P P 22 11 51.7 -0.4
baz=85
D30A Buchanan 84.52 343 ⇑P P 22 11 51.8 -0.4
baz=85
G23A Biddle 84.56 338 ⇓P P 22 11 52.2 -0.4
baz=85
F25A Bowman 84.64 340 ⇓P P 22 11 52.6 -0.3
baz=85
D29A Pettibone, Tap 84.67 343 ⇓P P 22 11 52.9 -0.1
baz=85
I19A Meeteetse 84.68 335 ⇑P P 22 11 53.0 -0.3
baz=85
H20A Greybull 84.74 336 ⇑P P 22 11 53.1 -0.4
baz=85
REDW Red Top Meadow 84.75 334 eP P 22 11 53.5 -0.2
comp=Z,12nm,1.3s
G22A Birney 84.85 338 ⇓P P 22 11 53.9 -0.2
baz=85
F24A Ekalaka 84.86 339 ⇑P P 22 11 53.8 -0.3
baz=85
LOHW Long Hollow 84.87 334 eP P 22 11 54.3 -0.1
comp=Z,10nm,1.4s
TPAW Teton Pass 84.89 334 eP P 22 11 54.6 +0.1
comp=Z,7.1nm,1.0s
C30A Mose, Pekin 85.01 344 ⇓P P 22 11 54.8 +0.1
baz=85,SNR=11
F23A Volborg 85.03 339 ⇓P P 22 11 54.4 -0.5
baz=85
D28A Regan 85.04 342 ⇑P P 22 11 54.6 -0.3
baz=85
FXWY Fox Creek 85.05 334 eP P 22 11 55.0 -0.3
comp=Z,5.8nm,1.3s
I17A Pilgrim Ck. 85.13 334 ⇓P P 22 11 55.5 -0.1
baz=85,SNR=5.2
H19A Powell 85.24 336 ⇑P P 22 11 55.6 -0.5
baz=86
IMW Indian Meadow 85.24 334 eP P 22 11 56.4 +0.1
FLWY Flagg Ranch 85.32 334 eP P 22 11 56.9 +0.4
F22A Rosebud 85.34 338 ⇓P P 22 11 56.1 -0.4
baz=86
D26A Manning 85.38 341 ⇑P P 22 11 56.1 -0.4
baz=86
MDND Maddock 85.41 343 ⇓P P 22 11 55.9 -0.8
baz=86
G20A Bridger 85.47 337 ⇑P P 22 11 56.3 -0.9
baz=86,SNR=6.2
E24A Baker 85.47 340 ⇑P P 22 11 56.5 -0.6
baz=86
H18A Shoshone NF, C 85.47 335 ⇓P P 22 11 57.1 -0.3
baz=86,SNR=11
B30A Myrvik Farm, E 85.68 344 ⇓P P 22 11 57.5 -0.5
baz=86,SNR=11
C27A Sayler Ranch, 85.76 342 ⇑P P 22 11 58.4 0.0
baz=86
E22A Miles City 85.84 338 ⇑P P 22 11 58.3 -0.6
baz=86
YMR Madison River 85.92 335 eP P 22 12 00.4 +0.9
B29A Wagenman Farm, 85.93 343 ⇓P P 22 11 59.1 -0.1
baz=86,SNR=5.9
D24A Glendive 85.98 340 ⇓P P 22 11 59.6 0.0
baz=86
TORD Torodi Ar. Bea 86.00 71 P P 22 12 00.9 +0.5
comp=Z,6.3nm,0.8s,baz=293,slow=7.8,SNR=41
C26A Wahner Farm, P 86.02 341 ⇓P P 22 11 59.4 -0.3
baz=86
A30A Hoffart Farm, 86.13 344 ⇑P P 22 11 59.7 -0.5
baz=86
B28A Dugan Ranch, T 86.16 343 ⇓P P 22 12 00.1 -0.3
baz=86,SNR=5.5
HLID Hailey 86.25 332 ⇓P P 22 12 01.4 +0.2
baz=87,SNR=5.1
HLID Hailey 86.25 332 eP P 22 12 01.7 +0.5
comp=Z,58nm,2.3s
F19A Roth Farm, Mol 86.27 336 ⇓P P 22 12 00.6 -0.5
baz=87
E21A Keefer Ranch, 86.28 338 ⇓P P 22 12 00.9 -0.1
baz=87
D23A Lindsay 86.28 339 ⇑P P 22 12 00.8 -0.2
baz=87,SNR=7.1
A29A Manning Farm, 86.33 344 ⇑P P 22 12 00.7 -0.5
baz=87,SNR=12
C24A Savage 86.38 340 ⇓P P 22 12 01.6 0.0
baz=87
D22A Cohagen 86.55 339 ⇓P P 22 12 02.0 -0.4
baz=87
B26A Jensen Ranch, 86.56 342 ⇑P P 22 12 01.8 -0.6
baz=87
A28A Rude Farm, Bot 86.56 343 ⇑P P 22 12 02.3 -0.1
baz=87
E20A Meyer Farm, Mu 86.58 337 ⇓P P 22 12 02.1 -0.4
baz=87,SNR=8.3
B25A Knox Farm, Ray 86.71 341 ⇓P P 22 12 03.0 -0.1
baz=87
D21A La Casta Ranch 86.72 338 ⇓P P 22 12 02.8 -0.4
baz=87
MCMT McKenzie Canyo 86.74 333 eP P 22 12 03.0 -0.6
comp=Z,7.7nm,1.1s
E19A Rath Farm, Rou 86.75 337 ⇓P P 22 12 03.0 -0.4
baz=87,SNR=6.8
C23A Lambert 86.84 340 ⇑P P 22 12 03.3 -0.5
baz=87,SNR=7.2
ULM Lac du Bonnet 86.86 346 P P 22 12 02.7 -1.1
comp=Z,7.7nm,0.9s,baz=173,slow=4.5,SNR=13
A26A Wade Farm, Ken 86.99 342 ⇑P P 22 12 04.0 -0.4
baz=87,SNR=5.5
D20A Manuel Ranch, 87.10 337 ⇓P P 22 12 04.3 -0.8
baz=87,SNR=6.4
DGMT Dagmar 87.17 340 ⇑P P 22 12 05.0 -0.3
baz=88,SNR=6.8
DGMT Dagmar 87.17 340 eP P 22 12 05.5 +0.2
A25A Svangstu Ranch 87.31 341 ⇓P P 22 12 05.9 -0.1
baz=88
B23A Brockton 87.39 340 ⇓P P 22 12 06.3 -0.1
baz=88
B22A Reddig Ranch S 87.53 339 ⇓P P 22 12 07.3 +0.2
baz=88
A24A Westby 87.53 341 ⇓P P 22 12 07.0 -0.1
baz=88
N02D Trinity Center 87.70 325 ⇑P P 22 12 08.1 0.0
baz=88
A23A Redstone 87.81 340 ⇑P P 22 12 08.0 -0.4
baz=88
C19A Slack Wire Ran 87.96 337 ⇑P P 22 12 09.4 +0.2
baz=88
M02C Callahan 88.10 325 ⇓P P 22 12 10.1 +0.1
baz=88
A22A Carney Farms, 88.13 340 ⇓P P 22 12 09.4 -0.5
baz=88,SNR=5.8
B20A Solberg Farm, 88.26 338 ⇑P P 22 12 10.0 -0.6
baz=89
K05A Summer Lake 88.26 327 eP P 22 12 12.2 +1.2
comp=Z,27nm,1.0s
YBH Yreka Blue Hor 88.30 326 P P 22 12 10.7 -0.3
comp=Z,2.7nm,0.8s,baz=110,slow=5.9,SNR=5.7
A21A Bergtoll Ranch 88.42 339 ⇑P P 22 12 10.9 -0.4
baz=89
B19A Brinkman Farms 88.56 338 ⇓P P 22 12 11.3 -0.7
baz=89
A20A Cobblestone Ra 88.62 338 ⇑P P 22 12 11.5 -0.8
baz=89
MSO Missoula 88.84 334 ⇑P P 22 12 14.4 +0.9
baz=89
J05D Fort Rock, OR 88.86 328 ⇑P P 22 12 13.9 +0.3
baz=89,SNR=5.4
SCHQ Schefferville 89.48 4 P P 22 12 15.3 -0.8
comp=Z,5.0nm,0.8s,baz=158,slow=6.5,SNR=4.9
TAM Tamanrasset 94.63 66 eP P 22 12 40.7 -0.2
TAM pmax pmax
comp=Z,5.0nm,1.3s
TAM Tamanrasset 94.63 66 eP P 22 12 40.7 -0.2
comp=Z,5.3nm,1.3s
YKA Yellowknife Ar 102.30 342 P Pdif 22 13 13.3 -0.9
comp=Z,0.4nm,0.8s,baz=144,slow=4.4,SNR=6.5
ILAR Eielson Array 114.17 333 PKP PKPdf 22 17 56.6 -1.4
comp=Z,0.7nm,0.8s,baz=178,slow=2.7,SNR=7.7
ASAR Alice Springs 116.11 209 PKP PKPdf 22 18 02.2 -1.0
comp=Z,0.3nm,0.8s,baz=129,slow=1.4,SNR=3.7
VYHS Vyhne 116.83 48 ePKIKP PKPdf 22 18 03.7 +0.1
VYHS Vyhne 116.83 48 ePKP PKPdf 22 18 03.7 +0.1
STHS Stebnicka Huta 118.64 48 ePKIKP PKPdf 22 18 12.0 +4.9
STHS Stebnicka Huta 118.64 48 ePKP PKPdf 22 18 12.0 +4.9
UZH Uzhgorod 119.01 49 ePKIKP PKPdf 22 18 06.8 -0.9
KOLS Kolonicke sedl 119.10 49 ePKIKP PKPdf 22 18 10.1 +2.2
KOLS Kolonicke sedl 119.10 49 ePKP PKPdf 22 18 10.1 +2.2
WRA Warramunga Arr 119.26 211 PKP PKPdf 22 18 08.6 -0.7
comp=Z,0.9nm,0.6s,baz=160,slow=1.5,SNR=7.3
BRTR Keskin Array B 123.64 62c iPKIKP PKPdf 22 18 17.3 +0.2
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 123.64 62 PKP PKPdf 22 18 17.1 0.0
comp=Z,1.4nm,0.8s,baz=186,slow=0.7,SNR=4.8
KLMR Klimovskoe 131.01 36 ePKIKP PKPdf 22 18 29.7 -0.6
KLMR pmax pmax
comp=Z,33nm,1.7s
PETK Petropavlovsk- 139.53 313 PKIKP PKPdf 22 18 46.0 -0.5
PETK Petropavlovsk- 139.53 313 PKP PKPdf 22 18 46.0 -0.5
comp=Z,5.2nm,0.9s,baz=69,slow=4.8,SNR=4.6
SEY Seymchan 139.90 329 PKP PKPdf 22 18 46.6 -0.2
comp=Z,6.3nm,0.9s,baz=116,slow=2.9,SNR=19
GEYT Alibeck 141.65 71 PKP PKPdf 22 18 50.4 -0.5
comp=Z,0.8nm,0.4s,baz=3.8,slow=2.2,SNR=4.3
ABKAR Akbulak array 143.45 52 ePKPdf PKPab 22 18 50.3 +0.4
GSI Gunungsitoli 145.76 165 ePKPdf PKPbc 22 18 59.1 -0.1
KSM Kuching 146.60 188 ePKPdf PKPdf 22 18 59.3 -0.9
PSI Prapat 147.49 167 PKPbc PKPbc 22 19 03.7 -0.7
comp=Z,18nm,0.5s,baz=188,slow=2.1,SNR=14
BRVK Borovoye 148.90 43c iPKP2 PKPbc 22 19 07.6 +0.9
BRVK pmax pmax
comp=Z,17nm,1.7s
BRVK Borovoye 148.90 43 ePKPbc PKPbc 22 19 06.6 -0.2
YAK Yakutsk 148.91 338 ePKP2 PKPbc 22 19 05.4 -1.0
YAK pmax pmax
comp=Z,37nm,0.8s
YAK pmax pmax
comp=E,6.0nm,1.5s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK Yakutsk 148.91 338 ePKPbc PKPbc 22 19 06.3 -0.2
IPM Ipoh 149.48 170 ePKPbc PKPbc 22 19 08.4 -1.0
KBL Kabul 149.71 80 ePKPdf PKPdf 22 19 04.9 0.0
HYB Hyderabad 150.03 118 i PKP PKPbc 22 19 09.5 -1.1
ASAJ Asahikawa 150.46 299 PKPbc PKPbc 22 19 10.3 -0.5
comp=N,18nm,1.0s,baz=270,slow=6.7,SNR=8.7
AAK Ala-Archa 154.31 63 PKIKP PKPdf 22 19 11.7 +0.2
AAK e 22 19 19.7
AAK 22 19 20.4
AAK Ala-Archa 154.31 63 PKP PKPdf 22 19 11.7 +0.2
comp=N,0.6nm,0.6s,baz=229,slow=9.3,SNR=1.6
AAK PKPbc PKiKP 22 19 20.4 +0.6
comp=N,2.7nm,0.9s,baz=218,slow=3.1,SNR=3.2
AAK Ala-Archa 154.31 63 PKP PKPdf 22 19 11.7 +0.2
AAK ePKPbc PKPbc 22 19 19.7 -0.1
AAK PKPbc PKiKP 22 19 20.4 +0.6
KSH Kashi 155.67 70 PKP PKPdf 22 19 13.4 0.0
KSH sPKP 22 19 27.1
KSH PKS PKSdf 22 22 47.6 +0.1
KSH PP PP 22 23 13.8 -3.5
KSH SKS SKSdf 22 26 16.8 -0.4
KSH PPMZ
comp=N,140nm,9.2s
KSH LN
comp=N,42nm,5.4s
KSH LE
comp=N,37nm,5.0s
KSH LZ
comp=N,220nm,6.4s
ZALV Zalesovo Beam 155.76 31 PKP PKPdf 22 19 12.4 -0.4
comp=N,1.9nm,0.8s,baz=318,slow=2.0,SNR=9.0
ZALV PKPbc PKPbc 22 19 21.8
comp=N,3.2nm,0.8s,baz=303,slow=3.0,SNR=9.7
BOD Bodaibo 156.35 349 ePKIKP PKPdf 22 19 08.4 -5.1
BOD e 22 19 40.1
BOD pmax pmax
comp=Z,9.0nm,1.3s
MKAR Makanchi Array 158.51 49 PKP PKPdf 22 19 16.3 -0.3
comp=Z,0.2nm,0.5s,baz=247,slow=0.9,SNR=5.1
MKAR PKPab PKPab 22 19 51.9 +0.2
comp=Z,1.0nm,0.7s,baz=299,slow=4.5,SNR=8.0
MDJ Mudanjiang 159.43 306 PKP PKPdf 22 19 20.6 +2.9
MDJ PPMZ
comp=Z,77nm,4.7s
CMAR Chiang Mai Arr 162.56 157 PKP PKPdf 22 19 21.6 -0.2
comp=Z,0.3nm,0.3s,baz=247,slow=3.4,SNR=6.4
CMAR PKPab PKPab 22 20 10.1 +0.2
comp=Z,0.8nm,0.7s,baz=220,slow=4.1,SNR=6.0
TLY Talaya 163.04 5 ePKIKP PKPdf 22 19 21.4 0.0
TLY pmax pmax
comp=Z,4.0nm,2.0s
WMQ Urumqi 163.24 52 ePKP PKPdf 22 19 21.2 -0.7
WMQ pP pP 22 19 32.0

WMQ					PKPab	**PKPab**	**22 20 13.7**	**+1.2**
WMQ					PKS	**PKSdf**	**22 22 53.2**	**-1.7**
WMQ					PP	**PP**	**22 23 58.8**	**+0.9**
WMQ					SKS	**SKSdf**	**22 26 20.7**	**-3.1**
WMQ					SKKS	**SKKSac**	**22 30 41.7**	**-1.3**
WMQ					PPMZ			
	comp=Z,270nm,6.0s							
WMQ					LN			
	comp=Z,36nm,16.0s							
WMQ					LE			
	comp=Z,13nm,18.0s							
WMQ					LZ			
	comp=Z,71nm,22.0s							
ZAK	**Zakamensk**	**164.30**	**6**	⇓*i*PKP2	**PKPab**	**22 20 16.9**	**+0.1**
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.2s							
LSA	**Lhasa**	**166.45**	**108**	*e*PKIKP	**PKPdf**	**22 19 25.7**	**+0.1**
LSA	**Lhasa**	**166.45**	**108**	*e*PKPdf	**PKPdf**	**22 19 25.7**	**+0.1**
SONM	**Songino Array**	**166.97**	**359**	PKP	**PKPdf**	**22 19 24.5**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=82,slow=1.1,SNR=9.4							
SONM				PKPab	**PKPab**	**22 20 29.2**	**+0.5**
	comp=Z,4.0nm,1.0s,baz=340,slow=4.8,SNR=19							
SONM				PP	**PP**	**22 24 17.5**	**+1.2**
	comp=Z,0.7nm,1.0s,baz=336,slow=1.0,SNR=3.9							
NJ2	**Nanjing**	**168.92**	**259**	*e*PKP	**PKPdf**	**22 19 29.1**	**+2.4**
GYA	**Guiyang**	**171.67**	**184**	*e*PKP	**PKPdf**	**22 19 28.0**	**-0.5**
GYA				pPKP	**pPKPdf**	**22 19 39.4**	**-0.7**
GYA				PKPab	**PKPab**	**22 20 52.0**	**+2.0**
GYA				PKS	**PKSdf**	**22 22 59.4**	**-1.7**
GYA				PP	**PP**	**22 24 44.3**	**+4.4**
GYA				SS	SS	22 45 45.8	+1.6
GYA				PPMZ			
	comp=Z,120nm,8.4s							
GYA				LN				
	comp=Z,120nm,22.6s							
GYA				LE				
	comp=Z,110nm,22.4s							
GYA				LZ				
	comp=Z,120nm,21.8s							
HHC	**Hu-ho-hao-te**	**172.53**	**326**	*e*PKP	**PKPdf**	**22 19 28.2**	**-0.3**
HHC				PKS	**PKSdf**	**22 22 59.1**	**-1.7**
HHC				PP	**PP**	**22 24 47.5**	**+2.8**
HHC				SKKS		22 31 29.4	
HHC				SS	**SS**	**22 45 53.0**	**-0.6**
HHC				PPMZ			
	comp=Z,48nm,5.7s							
HHC				LN				
	comp=Z,230nm,20.6s							
HHC				LE				
	comp=Z,230nm,19.8s							
HHC				LZ				
	comp=Z,150nm,19.2s							
GTA	**Gaotai**	**173.25**	**45**	*e*PKP	**PKPdf**	**22 19 29.5**	**+0.6**
GTA				pPKP	**pPKPdf**	**22 19 40.2**	**-0.2**
GTA				sPKP		22 19 43.9	
GTA				PKPab	**PKPab**	**22 20 58.3**	**+1.4**
GTA				PP	**PP**	**22 24 51.7**	**+3.0**
GTA				SKS	**SKSdf**	**22 26 26.9**	**-2.5**
GTA				PPMZ			
	comp=Z,100nm,6.2s							
GTA				LN				
	comp=Z,120nm,16.4s							
GTA				LE				
	comp=Z,120nm,16.6s							
GTA				LZ				
	comp=Z,150nm,16.2s							
CD2	**Chengdu**	**175.69**	**153**	*e*PKP	**PKPdf**	**22 19 29.7**	**-0.1**
LZH	**Lanzhou**	**177.82**	**53**	*e*PKP	**PKPdf**	**22 19 31.9**	**+1.7**
LZH				pPKP	**pPKPdf**	**22 19 41.9**	**+0.2**
LZH				sPKP		22 19 45.9	

*ISCJB **09** 22:06:54.6±0.8, 33°.51N±0°.10×138°.4E±0°.1, h321km±8km, mb3.4/6, Error ellipse: s-maj=18.1km s-min=14.6km az=146.0*
*IDC **09** 22:06:54.8±1.9, 33°.32N×138°.14E, h307km±17km, mb3.2/6, mb1 3.2/9, mb1mx3.0/44, mbtmp3.8/9, Error ellipse: s-maj=36.4km s-min=18.1km az=74.0*
*JMA **09** 22:06:54.1±0.3, 33°.43N×138°.29E, h323km, M3.5*
ISC 09 22:06:55.6±1.1, 33°.5N±0°.1×138°.4E±0°.1, h318km±11km, n20, σ0°98/28, mb3.4/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**1.82**	**19**	P	**Pn**	**22 07 43.2**	**+0.6**
BSO3	**Boso 3**	**2.18**	**54**	P	**Pn**	**22 07 45.2**	**+0.2**
BSO3				*e*S	**S**	**22 08 25.7**	**+1.2**
BSO4	**Boso 4**	**2.19**	**48**	P	**Pn**	**22 07 45.9**	**+0.7**
JHU	**Hanno**	**2.43**	**18**	P	**Pn**	**22 07 47.9**	**+0.6**
JHU				*e*S	**S**	**22 08 28.3**	**-0.4**
BSO1	**Boso 1**	**2.44**	**62**	P	**Pn**	**22 07 46.9**	**+0.1**
BSO1				*e*S	**S**	**22 08 27.9**	**0.0**
JRY	**Ryogami san**	**2.51**	**10**	P	**Pn**	**22 07 49.2**	**+1.1**
JRY				*e*S	**S**	**22 08 30.6**	**+0.5**
MJAR	**Matsushiro Arr**	**3.00**	**358**	P	**Pn**	**22 07 52.8**	**+0.3**
	2.2nm,0.3s,baz=179,slow=11,SNR=19						
MAT	**Matsushiro**	**3.00**	**358**	P	**Pn**	**22 07 52.9**	**+0.4**
JAG	**Ashikaga**	**3.01**	**17**	P	**Pn**	**22 07 52.5**	**-0.2**
JAG				*e*S	**S**	**22 08 36.6**	**-1.8**
JYT	**Yasato**	**3.08**	**29**	P	**Pn**	**22 07 53.1**	**-0.1**
JYT				*e*S	**S**	**22 08 38.0**	**-1.4**
JHO	**Hitachi**	**3.56**	**30**	P	**Pn**	**22 07 58.0**	**-0.1**
JHO				*e*S	**S**	**22 08 47.0**	**-1.2**
JFK	**Kawauchi**	**4.33**	**28**	P	**Pn**	**22 08 06.7**	**+0.3**
JFK				*e*S	**S**	**22 09 01.5**	**-1.7**
KSRS	**Korea Array**	**9.36**	**298**	P	**Pn**	**22 09 04.0**	**-1.7**
	0.3nm,0.3s,baz=112,slow=13,SNR=5.7						
USRK	**Ussuriysk Ar.**	**11.74**	**337**	P	**P**	**22 09 36.0**	**+0.3**
	0.1nm,0.3s,baz=149,slow=8.2,SNR=4.9						
SONM	**Songino Array**	**27.89**	**310**	P	**P**	**22 12 17.5**	**+0.4**
	0.5nm,0.3s,baz=119,slow=9.5,SNR=10						
MKAR	**Makanchi Array**	**43.95**	**305**	P	**P**	**22 14 31.5**	**-0.5**
	0.3nm,0.4s,baz=86,slow=9.5,SNR=15						
WRA	**Warramunga Arr**	**53.32**	**185**	P	**P**	**22 15 41.3**	**-1.6**
	0.2nm,0.3s,baz=0.3,slow=7.6,SNR=5.3						
ARCES	**ARCESS Array B**	**66.37**	**339**	P	**P**	**22 17 11.9**	**+1.3**
	4.8nm,0.9s,baz=42,slow=7.2,SNR=2.9						
FINES	**FINESS Array B**	**70.72**	**332**	P	**P**	**22 17 38.3**	**+1.0**
	1.3nm,0.4s,baz=66,slow=5.7,SNR=22						
NOA	**NORSAR Array B**	**76.41**	**336**	P	**P**	**22 18 10.6**	**+0.3**
	0.4nm,0.6s,baz=44,slow=5.7,SNR=2.6						

*GUC **09** 22:10:41.2±0.6, 34°.05S×72°.98W, h21km±3km, ML5.5*
*GCMT **09** 22:10:41.2±0.3, 33°.88S×72°.83W, h20km±1km, MW5.1/57, Moment Tensor Solution. s28,c33; s57,c76; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.84±.28; $M_{\theta\theta}$-0.06±.15; $M_{\phi\phi}$-3.78±.19; $M_{r\theta}$-1.15±.26; $M_{\theta\phi}$-0.36±.10; $M_{\phi r}$-3.95±.38; Best double couple: $M_0$5.61800×10^{16} NP1:ϕ_s193.00000°, δ69.00000°, λ96.00000°. NP2: ϕ_s358.00000°, δ22.00000°, λ76.00000°. Principal axes: T 5.6670, Plg66.0000°, Azm113.0000°; N -0.0910, Plg5.0000°, Azm11.0000°; P -5.5700, Plg23.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **09** 22:10:45.4±0.4, 33°.85S×72°.36W, h0km, mb4.6/15, mb1 4.7/18, mb1mx4.6/27, mbtmp4.6/18, ML4.4/3, MS4.5/10, Ms1 4.4/10, ms1mx4.2/20 Error ellipse: s-maj=17.7km s-min=11.8km az=97.0*
*BJI **09** 22:10:47.5, 33°.80S×72°.30W, h10km, mB5.1/13, Ms5.4/9, Ms7 4.9/11*
*MOS **09** 22:10:49.3±1.2, 33°.87S×72°.28W, h33km, mb5.4/11, Error ellipse: s-maj=15.5km s-min=9.7km az=87.7*
*ISCJB **09** 22:10:49.9±0.9, 33°.84S±0°.04×72°.29W±0°.07, h43km±8km, mb4.8/38, MS4.5/8, Error ellipse: s-maj=10.2km s-min=6.4km az=164.3*
*NEIC **09** 22:10:50.7±0.8, 33°.86S×72°.32W, h36km±6km, mb4.9/31, Error ellipse: s-maj=8.9km s-min=4.5km az=77.0*
NEIC Felt [III] at San Antonio and Santiago. Also felt at Limache, Melipilla, Penaflor, Quilpue, Rengo, Valparaiso, Villa Alemana and Vina del Mar.
ISC 09 22:10:50.1±1.2, 33°.90S±0°.04×72°.45W±0°.06, h31km±7km, n293, σ1§12/326, mb4.9/38, MS4.4/8, 7C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.10**	**38**	⇑*i*P	**Pn**	**22 11 07.3**	**-2.1**
IHA				*i* S1	**Sn**	**22 11 26.3**	**+2.7**
IHA	**Instituto Hidr**	**1.10**	**38**	⇑*i*P	**Pn**	**22 11 07.3**	**-2.1**
IHA				*i* S	**Sn**	**22 11 26.3**	**+2.7**
NICH	**Los Niches**	**1.49**	**138**	*e*P9	**Pb**	**22 11 15.2**	**-2.0**
NICH				*i* S	**Sb**	**22 11 37.6**	**+1.9**
NICH				AML	AML	22 11 46.2	
	comp=N,84μm,0.7s						
NICH	**Los Niches**	**1.49**	**138**	*e*P	**Pb**	**22 11 15.2**	**-2.0**
NICH				*i* S	**Sb**	**22 11 37.6**	**+1.9**
ANTU	**Antumapu**	**1.55**	**78**	*e*P	**Pn**	**22 11 15.1**	**-0.5**
ANTU				*i* S	**Sb**	**22 11 40.5**	**+3.1**
ANTU				AML	AML	22 11 49.6	
	comp=E,39μm,0.6s						
ANTU	**Antumapu**	**1.55**	**78**	*e*P	**Pn**	**22 11 15.1**	**-0.5**
ANTU				*i* S	**Sb**	**22 11 40.5**	**+3.1**
PEL	**Peldehue**	**1.66**	**63**	⇓*i*P	**Pn**	**22 11 16.6**	**-0.5**
PEL	**Peldehue**	**1.66**	**63**	⇓*i*P	**Pn**	**22 11 16.6**	**-0.5**
PEL				*i* S	**Sb**	**22 11 43.9**	**+3.5**
PEL				AML	AML	22 11 54.1	
	comp=N,71μm,0.6s						
PEL	**Peldehue**	**1.66**	**63**	⇓*i*P	**Pn**	**22 11 16.6**	**-0.5**
PEL				*i* S	**Sb**	**22 11 43.9**	**+3.5**
LACH	**Col Las Americ**	**1.66**	**75**	*e*P1	**Pn**	**22 11 16.6**	**-0.6**
LACH				*i* S	**Sb**	**22 11 43.9**	**+3.3**
LACH	**Col Las Americ**	**1.66**	**75**	*e*P	**Pn**	**22 11 16.6**	**-0.6**
LACH				*i* S	**Sb**	**22 11 43.9**	**+3.3**
CLCH	**Cerro Calan**	**1.67**	**73**	⇑*i*P	**Pn**	**22 11 16.8**	**-0.6**
CLCH				*i* S	**Sb**	**22 11 43.8**	**+2.8**
CLCH				AML	AML	22 11 52.3	
	comp=N,36μm,0.7s						
CMCH	**Combarbala**	**2.98**	**25**	*e*P	**Pn**	**22 11 33.1**	**-2.3**
CMCH	**Combarbala**	**2.98**	**25**	*e*P	**Pn**	**22 11 33.1**	**-2.3**
CFAA	**Coronel Fontan**	**4.22**	**58**	Pn	**Pn**	**22 11 52.0**	**-0.4**
	comp=N,0.6nm,0.3s,baz=232,slow=12,SNR=88						
CFAA				Lg	Lg	22 12 56.3	
	comp=N,4.6nm,0.3s,baz=152,slow=15,SNR=3.6						
LCO	**Las Campanas**	**5.10**	**18**	*e*Pn	**Pn**	**22 12 01.9**	**-2.7**
PLCA	**Paso Flores**	**6.99**	**168**	Pn	**Pn**	**22 12 30.1**	**-0.2**
	comp=N,2.1nm,0.3s,baz=336,slow=13,SNR=49						
PLCA				Lg	Lg	22 14 25.6	
	comp=N,1.9nm,0.3s,baz=288,slow=6.4,SNR=3.1						
PLCA				LR	LR	22 15 19.2	
	comp=N,3μm,19.4s,baz=351,slow=39						
TRQA	**Tornquist**	**9.44**	**119**	*e*Pn	**Pn**	**22 13 04.1**	**+0.1**
LVC	**Limon Verde**	**11.67**	**16**	*e*Pn	Pn	22 13 29.4	-5.3
CPUP	**Villa Florida**	**15.09**	**64**	*e*P	**Pn**	**22 14 18.6**	**-2.5**
CPUP				*e*		22 17 03.6	
CPUP	**Villa Florida**	**15.09**	**64**	Pn	**Pn**	**22 14 20.4**	**-0.7**
	comp=N,0.2nm,0.3s,baz=252,slow=20,SNR=4.1						
CPUP				LR	LR	22 19 55.4	
	comp=N,688nm,21.9s,baz=226,slow=37						
CPUP	**Villa Florida**	**15.09**	**64**	*e*Pn	**Pn**	**22 14 18.6**	**-2.5**
CPUP				*e*Sn	**Sn**	**22 17 03.6**	**-3.7**
LPAZ	**La Paz**	**17.96**	**14**	*e*P	**Pn**	**22 14 57.6**	**-0.6**
LPAZ				pmax	pmax		
	comp=Z,44nm,0.9s						
LPAZ	**La Paz**	**17.96**	**14**	P	**Pn**	**22 14 57.4**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=181,slow=7.2,SNR=36						
LPAZ	**La Paz**	**17.96**	**14**	*e*P	**Pn**	**22 14 57.6**	**-0.6**
	comp=Z,44nm,0.9s						
SIV	**San Ignacio**	**20.57**	**33**	P	**P**	**22 15 24.4**	**-2.0**
	comp=Z,37nm,0.8s,baz=226,slow=12,SNR=41						
SIV				LR	LR	22 24 54.5	
	comp=Z,2μm,18.3s,baz=230,slow=41						
EFI	**East Falkland**	**20.60**	**154**	P	**P**	**22 15 25.9**	**-0.5**
	comp=Z,406nm,0.7s,SNR=17						
EFI	**East Falkland**	**20.60**	**154**	*e*P	**P**	**22 15 25.9**	**-0.5**
EFI				pmax	pmax		
	comp=Z,53nm,0.7s						
EFI	**East Falkland**	**20.60**	**154**	*e*P	**P**	**22 15 25.9**	**-0.5**
	comp=Z,53nm,0.7s						
USHA	**Ushuaia**	**21.12**	**174**	P	**P**	**22 15 31.9**	**-0.1**
	comp=Z,23nm,1.0s,baz=323,slow=18,SNR=3.3						
USHA				LR	LR	22 24 30.0	
	comp=Z,1μm,18.2s,baz=332,slow=39						
NNA	**Nana**	**22.18**	**349**	*e*P	**P**	**22 15 45.7**	**+1.9**
NNA	**Nana**	**22.18**	**349**	P	**P**	**22 15 44.6**	**+0.9**
	comp=Z,15nm,0.8s,baz=183,slow=5.6,SNR=5.0						
NNA				LR	LR	22 22 26.1	
	comp=Z,782nm,20.5s,baz=179,slow=32						
NNA	**Nana**	**22.18**	**349**	*e*P	**P**	**22 15 45.8**	**+1.9**
	comp=Z,57nm,1.1s						
SAML	**Samuel**	**26.26**	**21**	*e*P	**P**	**22 16 21.9**	**-0.8**
	comp=Z,35nm,0.9s						
BDFB	**Brasilia**	**28.56**	**56**	P	**P**	**22 16 41.8**	**-1.7**
	comp=Z,18nm,0.7s,baz=229,slow=8.6,SNR=32						
BDFB				LR	LR	22 29 37.8	
	comp=Z,1μm,21.6s,baz=222,slow=40						
OTAV	**Otavalo**	**34.42**	**349**	*e*P	**P**	**22 17 36.0**	**+0.7**
	comp=Z,31nm,1.6s						
SDV	**Santo Domingo**	**42.58**	**3**	*e*P	**P**	**22 18 45.8**	**+2.2**
	comp=Z,19nm,1.1s						
VNA3	**Neumayer Olymp**	**49.58**	**158**	P	**P**	**22 19 38.8**	**+1.0**
VNA2	**Neumayer--Watz**	**50.24**	**157**	P	**P**	**22 19 43.9**	**+1.0**
SNAA	**Sanae**	**51.81**	**158**	P	**P**	**22 19 55.5**	**+0.7**
SNAA	**Sanae**	**51.81**	**158**	*c*P	**P**	**22 19 55.4**	**+0.7**
SNAA				pmax	pmax		
	comp=Z,75nm,1.3s						
SNAA	**Sanae**	**51.81**	**158**	P	**P**	**22 19 55.4**	**+0.7**
	comp=Z,14nm,0.8s,baz=280,slow=7.4,SNR=36						
SNAA	**Sanae**	**51.81**	**158**	*e*P	**P**	**22 19 55.3**	**+0.7**
	comp=Z,55nm,1.0s						
OBIP	**Obispado Ponce**	**51.95**	**7**	*e*P	**P**	**22 19 55.1**	**-1.1**
	comp=Z,32nm,0.9s						
SABA	**Saba**	**51.98**	**11**	*e*P	**P**	**22 19 56.2**	**-0.3**
CELP	**Cerrillos**	**51.98**	**7**	*e*P	**P**	**22 19 55.6**	**-0.9**
RKT	**Rikitea**	**55.25**	**264**	*e*S	**S**	**22 28 03.6**	**+1.3**
	comp=Z,175nm,27.5s						
RKT				*e*LR	LR	22 36 18.9	
	comp=Z,282nm,27.2s						
QSPA	**South Pole Qui**	**56.34**	**180**	P	**P**	**22 20 28.7**	**+0.8**
	comp=Z,12nm,0.9s,baz=145,slow=3.4,SNR=21						
QSPA	**South Pole Qui**	**56.34**	**180**	*e*P	**P**	**22 20 28.7**	**+0.8**
	comp=Z,37nm,1.2s						
VNDA	**Vanda**	**64.13**	**191**	P	**P**	**22 21 22.6**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=79,slow=11,SNR=3.0						
VNDA	**Vanda**	**64.13**	**191**	*e*P	P	22 21 30.3	+9.4
	comp=Z,168nm,3.0s						
SYO	**Syowa Base**	**66.08**	**159**	⇑*i*P	**P**	**22 21 32.5**	**-1.1**
732A	**Laxson Ranch,**	**67.52**	**334**	P	**P**	**22 21 43.7**	**+0.4**
	baz=68						
GOGA	**Godfrey**	**67.75**	**350**	*e*P	**P**	**22 21 44.1**	**-0.5**
GOGA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GOGA	**Godfrey**	**67.75**	**350**	*e*P	**P**	**22 21 44.0**	**-0.5**
	comp=Z,9.6nm,0.9s						
632A	**Uvalde**	**68.16**	**334**	P	**P**	**22 21 47.9**	**+0.6**
	baz=68						
533A	**Kerrville**	**68.41**	**335**	P	**P**	**22 21 49.3**	**+0.4**
	baz=69						
532A	**Rocksprings**	**68.77**	**335**	P	**P**	**22 21 51.2**	**0.0**
	baz=69						
434A	**Burnet**	**68.83**	**336**	P	**P**	**22 21 51.4**	**-0.1**
	baz=69						
531A	**Rocksprings**	**69.03**	**334**	P	**P**	**22 21 53.0**	**+0.3**
	baz=69						
JCT	**Junction City**	**69.05**	**335**	*e*P	**P**	**22 21 53.6**	**+0.8**
JCT				pmax	pmax		
	comp=Z,48nm,1.4s						
JCT	**Junction City**	**69.05**	**335**	P	**P**	**22 21 52.6**	**-0.3**
	baz=69						
JCT	**Junction City**	**69.05**	**335**	*e*P	**P**	**22 21 53.6**	**+0.8**
	comp=Z,48nm,1.4s						
433A	**Art**	**69.05**	**336**	P	**P**	**22 21 52.9**	**+0.1**
	baz=69						
KMSC	**Kings Mountain**	**69.19**	**352**	P	**P**	**22 21 53.1**	**-0.4**
	baz=70						
KMSC	**Kings Mountain**	**69.19**	**352**	*e*P	**P**	**22 21 53.3**	**-0.2**
334A	**Lometa**	**69.29**	**337**	P	**P**	**22 21 54.8**	**+0.5**
	baz=70						
530A	**J-C Ranch, Com**	**69.31**	**333**	P	**P**	**22 21 55.2**	**+0.7**
	baz=70						
TXAR	**Lajitas Array**	**69.48**	**331**	P	**P**	**22 21 56.2**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=152,slow=8.3,SNR=12						
TXAR				LR	LR	22 48 01.6	
	comp=Z,352nm,18.4s,baz=0.0,slow=32						
333A	**Richland Sprin**	**69.54**	**336**	P	**P**	**22 21 56.1**	**+0.3**
	baz=70						
529A	**Stev Forest Ra**	**69.62**	**333**	P	**P**	**22 21 57.2**	**+0.8**
	baz=70						
137A	**Heron Place, G**	**69.69**	**339**	P	**P**	**22 21 57.0**	**+0.4**
	baz=70						
430A	**Baggett Ranch,**	**69.84**	**334**	P	**P**	**22 21 57.7**	**-0.1**
	baz=70						
332A	**Millersview**	**69.85**	**335**	P	**P**	**22 21 57.7**	**-0.1**
	baz=70						
234A	**Clairette**	**69.88**	**337**	P	**P**	**22 21 58.3**	**+0.4**
	baz=70						
PPT2	**Papeete2**	**69.91**	**262**	*e*S	**S**	**22 31 06.8**	**-0.1**
	comp=Z,284nm,24.0s						
PPT2	**Papeete2**	**69.91**	**262**	*e*LR	LR	22 43 15.2	
	comp=Z,412nm,27.2s						
331A	**San Angelo**	**70.02**	**335**	P	**P**	**22 21 58.9**	**0.0**
	baz=70						
233A	**Rising Star**	**70.14**	**336**	P	**P**	**22 21 59.4**	**-0.2**
	baz=70						
232A	**Coleman**	**70.28**	**336**	P	**P**	**22 22 00.6**	**+0.2**
	baz=71						
231A	**Bronte**	**70.55**	**335**	P	**P**	**22 22 01.7**	**-0.3**
	baz=71						
133A	**Hamilton Ranch**	**70.69**	**337**	P	**P**	**22 22 02.7**	**-0.2**
	baz=71						
ABTX	**Abilene, Hawle**	**70.95**	**336**	P	**P**	**22 22 04.3**	**-0.2**
	baz=71						
ABTX	**Abilene, Hawle**	**70.95**	**336**	*e*P	**P**	**22 22 04.7**	**+0.2**
WVT	**Waverly**	**71.14**	**347**	*e*P	**P**	**22 22 05.3**	**-0.2**
WVT	**Waverly**	**71.14**	**347**	*e*P	**P**	**22 22 05.3**	**-0.2**
Z33A	**Whitaker Ranch**	**71.26**	**337**	P	**P**	**22 22 06.4**	**+0.1**
	baz=72						
JSRW	**J. Sargeant Re**	**71.41**	**355**	*e*P	**P**	**22 22 07.5**	**+0.5**
Z32A	**Haskell**	**71.52**	**336**	P	**P**	**22 22 08.1**	**+0.3**
	baz=72						
Y34A	**Reagan Ranch,**	**71.56**	**338**	P	**P**	**22 22 07.8**	**-0.3**
	baz=72						
Z31A	**Sharp Cattle R**	**71.75**	**336**	P	**P**	**22 22 08.0**	**-1.3**
	baz=72						
128A	**Castleberry Fa**	**71.95**	**334**	P	**P**	**22 22 10.3**	**-0.3**
	baz=72						
Z30A	**Sanderson Ranc**	**72.06**	**335**	P	**P**	**22 22 10.9**	**-0.3**
	baz=72						
Y32A	**R-V Farms, Ver**	**72.14**	**337**	P	**P**	**22 22 11.4**	**-0.2**
	baz=72						
X34A	**Smith Ranch, M**	**72.18**	**338**	P	**P**	**22 22 11.4**	**-0.4**
	baz=72						
MNTX	**Cornudas Mount**	**72.26**	**331**	*e*P	**P**	**22 22 12.0**	**-0.4**
	comp=Z,6.4nm,1.0s						
PBMO	**Poplar Bluff**	**72.29**	**345**	*e*P	**P**	**22 22 11.7**	**-0.6**
Y31A	**Rekieta Farm,**	**72.38**	**336**	P	**P**	**22 22 12.9**	**-0.1**
	baz=73						
TUL1	**Leonard**	**72.80**	**340**	*e*P	**P**	**22 22 13.6**	**-1.8**
	comp=Z,14nm,0.8s						
W33A	**Caddo, Fort Co**	**72.89**	**338**	P	**P**	**22 22 16.3**	**+0.3**
	baz=73						
X31A	**McDonald Ranch**	**72.89**	**336**	P	**P**	**22 22 16.2**	**+0.1**
	baz=73						
W32A	**Sentinel**	**73.11**	**337**	P	**P**	**22 22 17.4**	**+0.1**
	baz=73						
MSTX	**Muleshoe**	**73.27**	**334**	P	**P**	**22 22 18.1**	**-0.3**
	baz=74						
MSTX	**Muleshoe**	**73.27**	**334**	*e*P	**P**	**22 22 18.6**	**+0.2**
	comp=Z,15nm,1.0s						
X29A	**Tulia**	**73.31**	**335**	P	**P**	**22 22 18.1**	**-0.6**
	baz=74						
MAW	**Mawson**	**73.37**	**164**	LR	LR	22 56 01.0	
	comp=Z,655nm,18.0s,baz=234,slow=37						
W31A	**Holland Ranch,**	**73.39**	**337**	P	**P**	**22 22 18.9**	**-0.1**
	baz=74						
V33A	**Lossen Ranch,**	**73.45**	**338**	P	**P**	**22 22 18.3**	**-1.0**
	baz=74						
MVL	**Millersville**	**73.62**	**357**	*e*P	**P**	**22 22 20.8**	**+0.6**
AMTX	**Amarillo**	**73.70**	**335**	P	**P**	**22 22 20.3**	**-0.6**
	baz=74						
AMTX	**Amarillo**	**73.70**	**335**	*e*P	**P**	**22 22 21.3**	**+0.4**
U34A	**Anderson Ranch**	**73.79**	**339**	P	**P**	**22 22 20.8**	**-0.5**
	baz=74						
U34A	**Anderson Ranch**	**73.79**	**339**	*e*P	**P**	**22 22 21.0**	**-0.3**
121A	**Cookes Peak, D**	**73.98**	**329**	*e*P	**P**	**22 22 22.4**	**-0.3**
	comp=Z,15nm,1.1s						
W27A	**Bowe Ranch, En**	**74.35**	**334**	P	**P**	**22 22 25.0**	**+0.2**
	baz=75						
ACSO	**Alum Creek Sta**	**74.40**	**352**	*e*P	**P**	**22 22 24.4**	**-0.3**
Y23A	**Lovelace Mesa,**	**74.48**	**331**	P	**P**	**22 22 26.8**	**+1.2**
	baz=75						
W26A	**Owens Ranch, T**	**74.63**	**334**	P	**P**	**22 22 26.0**	**-0.4**
	baz=75						
W25A	**X Bar L Ranch,**	**75.00**	**333**	P	**P**	**22 22 28.6**	**0.0**
	baz=75						
SUR	**Sutherland**	**75.18**	**119**	*e*P	**P**	**22 22 29.5**	**-0.5**
V26A	**Tequesquite Ra**	**75.27**	**334**	P	**P**	**22 22 29.7**	**-0.3**
	baz=76						
LAZ	**Ladron**	**75.33**	**331**	*e*P	**P**	**22 22 29.8**	**-0.7**
	comp=Z,5.8nm,1.2s						
W24A	**Lazy 6 Ranch,**	**75.36**	**333**	P	**P**	**22 22 30.2**	**-0.5**
	baz=76						
DBIC	**Dimbokro**	**75.47**	**72**	*e*P	**P**	**22 22 30.8**	**-0.8**
DBIC				pmax	pmax		
	comp=Z,15nm,0.8s						
DBIC	**Dimbokro**	**75.47**	**72**	P	**P**	**22 22 31.1**	**-0.4**
	comp=Z,16nm,0.7s,baz=211,slow=6.1,SNR=20						
DBIC				LR	LR	22 54 32.4	
	comp=Z,176nm,18.0s,baz=222,slow=35						
DBIC	**Dimbokro**	**75.47**	**72**	*e*P	**P**	**22 22 30.8**	**-0.8**
	comp=Z,15nm,0.8s						
ANMO	**Albuquerque**	**75.53**	**332**	⇑*i*P	**P**	**22 22 31.8**	**+0.1**
ANMO				pmax	pmax		
	comp=Z,23nm,1.2s						
ANMO	**Albuquerque**	**75.53**	**332**	*e*P	**P**	**22 22 31.1**	**-0.6**
	comp=Z,10.0nm,1.2s						
W23A	**Werner Place,**	**75.60**	**332**	P	**P**	**22 22 32.7**	**+0.6**
	baz=76						
V25A	**Rancho No Teng**	**75.61**	**333**	P	**P**	**22 22 31

Q24A	Divide	78.58 335	P	P	22 22 49.6	+0.7
	baz=79					
P25A	Willow Gulch B	78.72 335	P	P	22 22 50.4	+0.9
	baz=79					
M31A	Lambtecht Ranc	78.75 340	P	P	22 22 49.8	+0.3
	baz=79					
U15A	North Rim	79.23 328	P	P	22 22 53.8	+1.3
	baz=79					
GMRC	Granite Mounta	79.41 325	P	P	22 22 54.5	+1.2
	baz=80					
ISCO	Idaho Springs	79.49 335	P	P	22 22 53.2	-0.6
	baz=80					
TSUM	Tsumeb	79.57 106	eP	P	22 22 54.5	-0.2
	comp=Z,14nm,1.0s					
O23A	Lake Granby, G	79.96 335	P	P	22 22 57.1	+0.8
	baz=80					
O22A	Kremmling	80.14 334	P	P	22 22 57.2	-0.1
	baz=80					
ECSD	EROS Data Cent	80.35 342	P	P	22 22 57.8	-0.2
	baz=81					
ECSD	EROS Data Cent	80.35 342	eP	P	22 22 57.5	-0.5
	comp=Z,29nm,1.3s					
BOSA	Boshof	80.42 118	P	P	22 22 59.0	-0.1
	comp=Z,7.6nm,0.7s,baz=249,slow=5.3,SNR=14					
N23A	Red Feather La	80.57 335	P	P	22 23 00.4	+0.8
	baz=81					
SHPR	Sheep Range	80.58 326	eP	P	22 23 00.4	+0.8
	comp=Z,18nm,1.3s					
N22A	Wattenberg Ran	80.67 335	P	P	22 23 00.9	+0.8
	baz=81					
ARUT	Antelope Range	80.87 328	eP	P	22 23 01.1	-0.1
ARUT			pmax	pmax		
	comp=Z,160nm,1.1s					
ARUT	Antelope Range	80.87 328	eP	P	22 23 01.1	-0.1
	comp=Z,160nm,1.1s					
J29A	Okreek	81.04 340	P	P	22 23 01.7	0.0
	baz=81					
N20A	Spence Gulch,	81.36 333	P	P	22 23 03.7	-0.1
	baz=82					
I28A	Midland	81.83 339	P	P	22 23 05.7	-0.2
	baz=82					
H29A	Onida	82.13 340	P	P	22 23 07.2	-0.3
	baz=82					
J24A	Dixon Ranch, L	82.30 337	P	P	22 23 09.0	+0.5
	baz=83					
G30A	Faulkton	82.31 341	P	P	22 23 08.4	0.0
	baz=83					
K22A	Casper	82.33 335	P	P	22 23 09.4	+0.6
	baz=83					
K22A	Casper	82.33 335	eP	P	22 23 08.9	+0.2
K21A	Alcova	82.57 335	P	P	22 23 09.7	-0.3
	baz=83					
I25A	Rochford	82.62 338	P	P	22 23 10.2	0.0
	baz=83					
LBTB	Lobatse	82.66 115	eP	P	22 23 10.8	-0.2
LBTB			pmax	pmax		
	comp=Z,44nm,1.3s					
LBTB	Lobatse	82.66 115	eP	P	22 23 10.8	-0.2
	comp=Z,44nm,1.3s					
G28A	Parade	82.74 340	P	P	22 23 10.6	0.0
	baz=83					
F29A	Eureka	83.14 341	P	P	22 23 12.4	-0.3
	baz=84					
I22A	9 Mile Ranch,	83.41 336	P	P	22 23 13.3	-1.0
	baz=84					
E30A	Jud	83.52 342	P	P	22 23 14.2	-0.3
	baz=84					
PDAR	Pinedale Array	83.52 333	P	P	22 23 15.2	+0.3
	comp=Z,1.4nm,0.8s,baz=158,slow=4.7,SNR=9.7					
H24A	Dirks Ranch, A	83.54 338	P	P	22 23 14.1	-0.7
	baz=84					
G25A	Newell	83.58 339	P	P	22 23 14.8	-0.3
	baz=84					
NVAR	Mina Array Bea	83.61 325	P	P	22 23 15.1	-0.4
	comp=Z,1.5nm,0.6s,baz=158,slow=5.8,SNR=8.7					
J19A	Crowheart	83.76 334	P	P	22 23 16.0	-0.2
	baz=84					
F27A	Lemmon	83.79 340	P	P	22 23 16.0	-0.1
	baz=84					
D30A	Buchanan	84.04 342	P	P	22 23 17.0	-0.3
	baz=84					
D29A	Pettibone, Tap	84.21 342	P	P	22 23 18.2	+0.1
	baz=85					
TORD	Torodi Ar. Bea	84.50 70	P	P	22 23 20.1	-0.3
	comp=Z,15nm,0.8s,baz=257,slow=4.3,SNR=70					
TORD			LR	LR	23 00 58.4	
	comp=Z,156nm,18.4s,baz=235,slow=36					
C30A	Mose, Pekin	84.52 343	P	P	22 23 19.3	-0.4
	baz=85					
I17A	Pilgrim Ck.	84.89 333	P	P	22 23 22.0	+0.1
	baz=85					
MDND	Maddock	84.94 342	P	P	22 23 22.0	+0.2
	baz=85					
MDND	Maddock	84.94 342	eP	P	22 23 21.3	-0.5
	comp=Z,6.9nm,0.8s					
H19A	Powell	84.96 335	P	P	22 23 22.1	-0.1
	baz=85					
G20A	Bridger	85.17 336	P	P	22 23 22.7	-0.5
	baz=86					
B30A	Myrvik Farm, E	85.18 343	P	P	22 23 22.4	-0.6
	baz=86					
H18A	Shoshone NF, C	85.21 334	P	P	22 23 23.3	-0.2
	baz=86					
C27A	Sayler Ranch,	85.32 341	P	P	22 23 23.9	+0.1
	baz=86					
B29A	Wagenman Farm,	85.45 342	P	P	22 23 24.1	-0.2
	baz=86					
A30A	Hoffart Farm,	85.63 343	P	P	22 23 24.5	-0.8
	baz=86					
B28A	Dugan Ranch, T	85.69 342	P	P	22 23 25.7	+0.1
	baz=86					
A29A	Manning Farm,	85.84 343	P	P	22 23 25.6	-0.7
	baz=86					
D23A	Lindsay	85.91 338	P	P	22 23 26.5	-0.2
	baz=86					
C24A	Savage	85.99 339	P	P	22 23 27.1	0.0
	baz=86					
D22A	Cohagen	86.19 338	P	P	22 23 27.9	-0.2
	baz=86					
E20A	Meyer Farm, Mu	86.26 336	P	P	22 23 28.2	-0.2
	baz=87					
ULM	Lac du Bonnet	86.31 345	P	P	22 23 27.9	-0.6
	comp=Z,4.9nm,0.8s,baz=146,slow=4.3,SNR=7.4					
D21A	La Casta Ranch	86.38 337	P	P	22 23 29.1	+0.1
	baz=87					
E19A	Rath Farm, Rou	86.44 336	P	P	22 23 29.1	-0.3
	baz=87					
C23A	Lambert	86.47 339	P	P	22 23 29.3	-0.1
	baz=87					
MCMT	McKenzie Canyo	86.52 332	eP	P	22 23 30.1	+0.1
	comp=Z,8.2nm,1.4s					
DGMT	Dagmar	86.77 339	P	P	22 23 31.0	+0.2
	baz=87					
D20A	Manuel Ranch,	86.78 336	P	P	22 23 30.7	-0.3
	baz=87					
A25A	Svangstu Ranch	86.88 340	P	P	22 23 31.3	-0.1
	baz=87					
B23A	Brockton	87.00 339	P	P	22 23 31.8	-0.2
	baz=87					
A24A	Westby	87.12 340	P	P	22 23 32.5	-0.1
	baz=88					
B22A	Reddig Ranch S	87.16 338	P	P	22 23 32.4	-0.4
	baz=88					
LRM	Limekiln Ridge	87.21 333	eP	P	22 23 33.4	0.0
	comp=Z,68nm,1.3s					
B20A	Solberg Farm,	87.92 337	P	P	22 23 36.1	-0.3
	baz=88					
A21A	Bergtoll Ranch	88.06 338	P	P	22 23 36.7	-0.4
	baz=88					
B19A	Brinkman Farms	88.23 337	P	P	22 23 37.4	-0.6
	baz=88					
A20A	Cobblestone Ra	88.27 337	P	P	22 23 38.0	-0.1
	baz=89					
TAM	Tamanrasset	93.09 65	eP	P	22 23 59.2	-2.1
TAM			pmax	pmax		
	comp=Z,3.0nm,1.0s					
TAM	Tamanrasset	93.09 65	eP	P	22 23 59.2	-2.1
	comp=Z,3.3nm,1.0s					
ESDC	Sonseca Array	96.75 46	P	P	22 24 17.2	-0.3
	comp=Z,0.9nm,0.8s,baz=228,slow=5.1,SNR=4.3					
YKA	Yellowknife Ar	101.85 341	P	Pdif	22 24 39.1	-0.6
	comp=Z,0.3nm,0.6s,baz=140,slow=4.6,SNR=5.7					
VYHS	Vyhne	115.27 47	ePKIKP	PKPdf	22 29 28.2	+0.1
VYHS	Vyhne	115.27 47	ePKP	PKPdf	22 29 28.2	+0.1
ASAR	Alice Springs	117.50 207	PKP	PKPdf	22 29 32.1	-1.2
	comp=Z,0.3nm,0.6s,baz=121,slow=1.6,SNR=4.5					
KOLS	Kolonicke sedl	117.55 48	ePKIKP	PKPdf	22 29 36.0	+3.6
KOLS	Kolonicke sedl	117.55 48	ePKP	PKPdf	22 29 36.0	+3.6
WRA	Warramunga Arr	120.68 210	PKP	PKPdf	22 29 38.6	-0.9
	comp=Z,0.8nm,0.5s,baz=167,slow=1.6,SNR=5.3					
MMAI	Mount Meron Ar	121.02 69	PKP	PKPdf	22 29 40.0	+0.3
	comp=Z,1.3nm,0.5s,baz=95,slow=1.9,SNR=4.9					
BRTR	Keskin Array B	122.08 61	PKP	PKPdf	22 29 41.6	-0.1
	comp=Z,1.7nm,0.7s,baz=182,slow=2.0,SNR=8.8					
AKASG	Malin Array Be	122.38 48	PKP	PKPdf	22 29 40.5	-1.1
	comp=Z,1.6nm,0.7s,baz=263,slow=3.1,SNR=6.1					
KLMR	Klimovskoe	129.52 36	ePKIKP	PKPdf	22 29 54.6	-0.4
KLMR			pmax	pmax		
	comp=Z,32nm,1.4s					
KIV	Kislovodsk	129.73 58	ePKIKP	PKPdf	22 29 59.2	+3.1
KIV			pmax	pmax		
	comp=Z,10.0nm,0.9s					
GEYT	Alibeck	140.13 70	PKhKP	PKPpre	22 30 07.5	
	comp=Z,0.5nm,0.3s,baz=253,slow=4.4,SNR=3.0					
AKTO	Aktyubinsk	140.53 50	PKP	PKPdf	22 30 14.2	-1.7
	comp=Z,1.4nm,0.7s,baz=287,slow=17,SNR=3.1					
PALK	Pallekele	143.71 131	PKP	PKPbc	22 30 20.2	-0.1
	comp=Z,17nm,0.9s,baz=136,slow=3.3,SNR=4.1					
BRVK	Borovoye	147.37 43	ePKIKP	PKPdf	22 30 28.0	+0.3
BRVK	Borovoye	147.37 43	ePKPdf	PKPdf	22 30 28.0	+0.3
BVAR	Borovoye Array	147.44 43	PKPbc	PKPdf	22 30 28.7	+0.8
	comp=Z,7.2nm,0.7s,baz=290,slow=3.9,SNR=38					
PSI	Prapat	148.03 164	PKPbc	PKPbc	22 30 32.6	-0.7
	comp=Z,20nm,0.8s,baz=276,slow=0.8,SNR=12					
YAK	Yakutsk	148.52 340	ePKP2	PKPbc	22 30 32.4	-0.5
YAK			pmax	pmax		
	comp=Z,12nm,0.9s					
YAK			pmax	pmax		
	comp=N,2.0nm,0.9s					
HYB	Hyderabad	149.28 115	i PKP	PKPbc	22 30 36.0	-0.3
IPM	Ipoh	150.10 167	ePKPdf	PKPdf	22 30 34.2	+0.8
AML	Almayashu	152.23 63	P	PKPbc	22 30 43.4	+0.3
	SNR=13					
EKS2	Erkin-Say	152.23 62	P	PKPbc	22 30 43.3	+0.6
	SNR=15					
EKS2	Erkin-Say	152.23 62	ePKIKP	PKPdf	22 30 36.0	+0.1
EKS2	Erkin-Say	152.23 62	ePKPdf	PKPdf	22 30 36.0	+0.1
USP	Ospenovka	152.67 60	P	PKPbc	22 30 44.3	+0.8
	SNR=7.6					
AAK	Ala-Archa	152.76 62	P	PKPbc	22 30 44.7	+0.8
	SNR=14					
AAK	Ala-Archa	152.76 62	PKIKP	PKPdf	22 30 37.3	+0.5
AAK			e		22 30 37.7	
AAK					22 30 44.6	
AAK	Ala-Archa	152.76 62	PKP	PKPdf	22 30 37.3	+0.5
	comp=N,1.0nm,0.7s,baz=247,slow=4.5,SNR=4.0					
AAK			PKPbc	PKiKP	22 30 44.6	+0.5
	comp=N,11nm,0.7s,baz=187,slow=2.3,SNR=41					
AAK	Ala-Archa	152.76 62	PKP	PKPdf	22 30 37.3	+0.5
AAK			ePKPdf	PKPdf	22 30 37.6	+0.9
AAK			PKPbc	PKiKP	22 30 44.6	+0.5
FRU	Bishkek	152.82 61	ePKIKP	PKPbc	22 30 44.0	+0.1
FRU			i		22 30 52.0	
FRU			pmax	pmax		
	comp=Z,67nm,2.0s					
UCH	Uchtor	152.82 62	P	PKPbc	22 30 45.7	+1.2
	SNR=10					
KURBB	Kurchatov Arra	153.03 43	PKP	PKPdf	22 30 36.4	-0.3
	comp=Z,0.3nm,0.2s,baz=300,slow=2.6,SNR=4.7					
KURBB			PKPbc	PKPbc	22 30 44.0	0.0
	comp=Z,4.2nm,0.7s,baz=297,slow=2.9,SNR=23					
NVS	Novosibirsk	153.04 32	i PKIKP	PKPbc	22 30 43.4	-0.4
NVS			pmax	pmax		
	comp=Z,30nm,1.3s					
NVS			pmax	pmax		
	comp=E,9.0nm,1.4s					
KURK	Kurchatov	153.04 43	PKIKP	PKPdf	22 30 36.4	-0.3
KURK					22 30 44.0	
KURK	Kurchatov	153.04 43	PKP	PKPdf	22 30 36.4	-0.3
KURK			ePKPdf	PKPdf	22 30 36.7	0.0
KURK			PKPbc	PKPbc	22 30 44.0	0.0
KBK	Karagaybulak	153.09 61	P	PKPbc	22 30 45.4	+0.7
	SNR=5.2					
TKM2	Tokmak 2	153.52 61	P	PKPbc	22 30 45.9	+0.2
	SNR=8.5					
KSH	Kashi	154.15 68	PKPbc	PKPdf	22 30 39.4	+0.6
KSH			PKS	PKSdf	22 34 13.0	-0.1
KSH			PP	PP	22 34 34.6	-1.6
KSH			SKS	SKSdf	22 37 45.0	+1.5
KSH			SKKS	SKKSac	22 41 18.9	-4.8
KSH			SS	SS	22 54 11.6	-2.0
KSH			PPMZ			
	comp=E,270nm,5.3s					
KSH			LN			
	comp=E,60nm,4.2s					
KSH			LE			
	comp=E,74nm,5.7s					
KSH			LZ			
	comp=E,250nm,6.0s					
ZALV	Zalesovo Beam	154.32 32	PKP	PKPdf	22 30 38.1	-0.3
	comp=E,1.9nm,0.9s,baz=270,slow=3.0,SNR=5.9					
ZALV			PKPbc	PKPbc	22 30 46.8	+0.1
	comp=E,7.8nm,0.6s,baz=302,slow=3.0,SNR=33					
BOD	Bodaibo	155.68 352	ePKIKP	PKPdf	22 30 38.6	-1.5
BOD			e		22 31 05.2	
BOD			pmax	pmax		
	comp=Z,8.0nm,1.4s					
MKAR	Makanchi Array	156.95 49	PKP	PKPdf	22 30 42.0	-0.2
	comp=Z,0.6nm,0.8s,baz=27,slow=1.4,SNR=5.1					
MKAR			PKPab	PKPab	22 31 12.3	-0.1
	comp=Z,4.3nm,0.6s,baz=278,slow=2.7,SNR=20					
MDJ	Mudanjiang	159.92 309	PKP	PKPdf	22 30 46.5	+0.7
MDJ			PPMZ			
	comp=Z,80nm,4.7s					
WMQ	Urumqi	161.68 51	ePKP	PKPdf	22 30 47.2	-0.6
WMQ			PKPab	PKPab	22 31 33.5	+0.4
WMQ			PKS	PKSdf	22 34 19.2	-1.8
WMQ			PP	PP	22 35 18.4	+1.4
WMQ			SKS	SKSdf	22 37 51.0	+0.5
WMQ			SS	SS	22 55 33.4	+0.5
WMQ			PPMZ			
	comp=Z,140nm,5.0s					
WMQ			LN			
	comp=Z,110nm,19.0s					
WMQ			LE			
	comp=Z,41nm,21.0s					
WMQ			LZ			
	comp=Z,130nm,20.0s					
CMAR	Chiang Mai Arr	162.80 151	PKP	PKPdf	22 30 49.6	0.0
	comp=Z,1.2nm,0.8s,baz=241,slow=2.5,SNR=5.8					
CMAR			PKPab	PKPab	22 31 37.4	-1.0
	comp=Z,0.3nm,0.3s,baz=228,slow=5.1,SNR=4.3					
CN2	Changchun	162.94 311	ePKP	PKPdf	22 30 42.7	-6.3
SONM	Songino Array	166.05 3	PKP	PKPdf	22 30 50.1	-1.7
	comp=Z,0.4nm,0.8s,baz=264,slow=1.4,SNR=3.5					
SONM			PKPab	PKPab	22 31 52.6	+0.5
	comp=Z,2.1nm,0.9s,baz=338,slow=5.1,SNR=11					
NJ2	Nanjing	170.33 262	ePKP	PKPdf	22 30 56.4	+1.4
GTA	Gaotai	171.70 46	ePKP	PKPdf	22 30 56.0	+0.3
GTA			sPKP		22 31 04.6	
GTA			PKPab	PKPab	22 32 18.2	+0.7
GTA			PP	PP	22 36 11.5	+3.0
GTA			SKS	SKSdf	22 37 54.6	-2.3
GTA			SKKS	SKKSac	22 42 53.4	+0.3
GTA			SS	SS	22 57 12.5	-1.7
GTA			PPMZ			
	comp=Z,120nm,6.2s					
GTA			LN			
	comp=Z,140nm,18.1s					
GTA			LE			
	comp=Z,170nm,17.1s					
GTA			LZ			
	comp=Z,140nm,18.0s					
HHC	Hu-ho-hao-te	172.36 336	ePKP	PKPdf	22 30 52.1	-3.8
HHC			PKS	PKSdf	22 34 23.1	-5.1
HHC			PP	PP	22 36 10.5	-0.6
HHC			PPMZ			
	comp=Z,190nm,5.3s					
HHC			LN			
	comp=Z,220nm,19.2s					
HHC			LE			
	comp=Z,480nm,20.4s					
HHC			LZ			
	comp=Z,200nm,19.4s					
GYA	Guiyang	172.54 174	ePKP	PKPdf	22 30 56.8	+0.4
GYA			PKPab	PKPab	22 32 27.2	+5.8
GYA			PKS	PKSdf	22 34 27.6	-1.3
GYA			PP	PP	22 36 16.5	+4.8
GYA			SKKS		22 43 00.2	
GYA			SS	SS	22 57 24.6	+4.0
GYA			PPMZ			
	comp=Z,120nm,8.5s					
GYA			LN			
	comp=Z,120nm,22.4s					
GYA			LE			
	comp=Z,110nm,22.2s					
GYA			LZ			
	comp=Z,120nm,21.5s					
CD2	Chengdu	175.62 132	ePKP	PKPdf	22 30 57.4	+0.1
LZH	Lanzhou	176.26 53	ePKP	PKPdf	22 30 57.3	-0.1

ISCJB ***09*** *22:21:08.0±0.3, 30°.64N±0°.04×83°.83E±0°.04, h10km, mb4.0/17, MS3.8/15, Error ellipse: s-maj=6.7km s-min=4.6km az=22.1*
IDC ***09*** *22:21:08.2±0.8, 30°.70N×83°.81E, h0km, mb4.0/15, mb1 4.1/18, mb1mx3.9/49, mbtmp4.0/18, ML3.5/3, MS3.8/18, Ms1 3.8/18, ms1mx3.6/41, Error ellipse: s-maj=21.4km s-min=15.6km az=50.0*
BJI ***09*** *22:21:12.8, 30°.85N×83°.85E, h23km, mB4.6/5, mb4.3/16, ML4.5/1, Ms4.4/13, Ms7 4.0/11*
NEIC ***09*** *22:21:13.5±1.2, 30°.66N×83°.77E, h40km±11km, mb4.2/3, Error ellipse: s-maj=16.1km s-min=7.5km az=225.0*
NDI ***09*** *22:21:16.3±3.1, 30°.51N×84°.00E, h33km, ML3.4*
ISC 09 22:21:10.3±0.5, 30°.67N±0°.06×83°.84E±0°.04, h10km, n57, σ1§80/54, mb4.0/17, MS3.9/15, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	Lohaghat	3.35	250	eP	Pb	22 22 10.1	+0.4
LGTI				eS4	Sg	22 23 01.1	+3.3
DDI	Dehra Dun	5.01	267	eP	Pn	22 22 30.2	+4.6
DDI				eS	Sn	22 23 27.0	+3.5
DDI				AML	AML	22 23 54.4	
	comp=E,130nm,0.2s						
DDI				AML	AML	22 23 54.4	
	comp=N,120nm,2.1s						
SMLA	Simla	5.75	276	eP	Pn	22 22 40.3	+4.6
SMLA				eS	Sn	22 23 42.6	+0.8
SMLA				AML	AML	22 24 25.0	
	comp=N,32nm,0.2s						
SMLA				AML	AML	22 24 26.3	
	comp=E,41nm,0.2s						
NDI	New Delhi	6.10	253	eP	Pn	22 22 46.0	+5.6
LSA	Lhasa	6.40	97	Pn	Pn	22 22 47.5	+2.4
LSA				Sn	Sn	22 24 00.3	+1.9
LSA				LN			
	comp=E,5μm,11.1s						
LSA	Lhasa	6.40	97	ePn	Pn	22 22 47.7	+2.6
	comp=E,79nm,0.8s						
LSA				eSn	Sn	22 23 56.2	-2.2
BOK	Bokaro	7.09	165	eP	Pn	22 22 53.4	-0.7
BOK				eS	Sn	22 24 07.0	-7.8
BOK				AML	AML	22 24 55.5	
	comp=N,27nm,1.7s						
BOK				AML	AML	22 24 56.0	
	comp=E,33nm,0.7s						
SHL	Shillong	8.73	124	eP	Pn	22 23 16.0	-0.8
SHL				eS	Sn	22 24 46.1	-9.4
SHL				AML	AML	22 25 52.5	
	comp=N,25nm,0.8s						
SHL				AML	AML	22 25 55.2	
	comp=E,16nm,0.5s						
BHPL	Bhopal	9.36	219	eP9	Pn	22 23 23.6	-1.6
BHPL				eS	Sn	22 24 57.9	-13
CHCP	Chirah Chowk	9.45	291	P	Pn	22 23 28.3	+1.8
NGP	Nagpur	10.41	206	ex	Pn	22 23 35.7	-4.1
NGP				eS	Sn	22 25 28.1	-8.4
CEP	Cherat	10.58	290	P	Pn	22 23 42.6	+0.5
KSH	Kashi	10.92	326	P	Pn	22 23 44.5	-2.2
KSH				S	Sn	22 25 38.3	-11
KSH				PMZ			
	comp=E,34nm,1.4s						
KSH				LN			
	comp=E,500nm,7.8s						
KSH				LE			
	comp=E,720nm,8.6s						
KSH				LZ			
	comp=E,510nm,15.0s						
VIS	Vishakhapatnam	12.90	182	eP	Pn	22 24 13.7	-0.1
VIS				ex	x	22 26 26.9	
TKM2	Tokmak 2	13.88	334	ePn	Pn	22 24 28.7	+1.4
HYB	Hyderabad	14.05	201	i P	Pn	22 24 22.5	-7.0
AAK	Ala-Archa	14.09	330	Pn	Pn	22 24 30.3	+0.3
	comp=E,0.2nm,0.3s,baz=106,slow=2.1,SNR=6.7						
AAK				LR	LR	22 29 59.8	
	comp=E,104nm,21.3s,baz=132,slow=38						
AAK	Ala-Archa	14.09	330	ePn	Pn	22 24 30.6	+0.6
EKS2	Erkin-Say	14.42	329	ePn	Pn	22 24 35.4	+0.8
GTA	Gaotai	15.70	52	P	P	22 24 55.4	-0.4
GTA				pP	pP	22 24 59.7	+1.1
GTA				sP	sP	22 25 02.4	+2.5
GTA				S	Sn	22 27 46.5	+0.7
GTA				sS	S	22 27 51.7	-9.2
GTA				SS	SnSn	22 28 04.6	+5.9
GTA				PMZ			
	comp=E,15nm,1.1s						
GTA				PMZ			
	comp=E,100nm,5.5s						
GTA				LN			
	comp=E,750nm,14.7s						
GTA				LE			
	comp=E,620nm,14.5s						
GTA				LZ			
	comp=E,580nm,15.2s						
MKAR	Makanchi Array	16.14	356	Pn	Pn	22 24 55.8	-1.4
	comp=E,0.0nm,0.3s,baz=172,slow=11,SNR=6.5						
MKAR				LR	LR	22 32 17.4	
	comp=E,201nm,18.5s,baz=170,slow=42						
MKAR	Makanchi Array	16.14	356	ePn	Pn	22 24 57.8	+0.6
KKAR	Karatay Array	16.33	323	ePn	Pn	22 24 56.7	-3.0
LZH	Lanzhou	17.55	67	eP	P	22 25 16.4	+0.1
LZH				pP	pP	22 25 19.5	+0.4
LZH				PMZ			
	comp=E,17nm,1.0s						
LZH				LN			
	comp=E,960nm,12.6s						
LZH				LE			
	comp=E,620nm,16.6s						
LZH				LZ			
	comp=E,570nm,13.6s						
CHTO	Chiang Mai	18.07	127	ePn	Pn	22 25 21.7	+0.1
	comp=E,9.1nm,1.1s						
CMAR	Chiang Mai Arr	18.32	128	P	Pn	22 25 22.3	-2.3
	comp=E,0.3nm,0.3s,baz=315,slow=12,SNR=16						
CMAR				LR	LR	22 33 40.2	
	comp=E,223nm,18.8s,baz=327,slow=41						
KURBB	Kurchatov Arra	20.32	350	P	P	22 25 44.8	-1.6
	comp=E,18nm,0.8s,baz=173,slow=9.8,SNR=108						
KURK	Kurchatov	20.40	350	eP	P	22 25 45.8	-1.4
XAN	Xi'an	21.43	74	P	P	22 25 56.9	-1.7
XAN				pP	pP	22 26 05.8	+4.3
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,32nm,4.2s						
GEYT	Alibeck	22.41	296	P	P	22 26 09.2	+0.1
	comp=Z,8.0nm,1.0s,baz=97,slow=6.4,SNR=14						
ZALV	Zalesovo Beam	23.27	1	P	P	22 26 16.4	-1.4
	comp=Z,4.9nm,0.8s,baz=187,slow=11,SNR=23						
ZALV				LR	LR	22 36 12.4	
	comp=Z,148nm,19.4s,baz=242,slow=39						
PALK	Pallekele	23.46	188	LR	LR	22 34 36.3	
	comp=Z,435nm,20.9s,baz=10,slow=34						
SONM	Songino Array	24.33	39	P	P	22 26 28.7	+0.5
	comp=Z,4.4nm,0.8s,baz=225,slow=10,SNR=45						
SONM				LR	LR	22 35 28.8	
	comp=Z,133nm,18.6s,baz=240,slow=35						
BVAR	Borovoye Array	24.40	340	P	P	22 26 27.9	-0.7
	comp=Z,3.0nm,0.9s,baz=141,slow=9.6,SNR=11						
BRVK	Borovoye	24.46	340	eP	P	22 26 28.7	-0.5
	comp=Z,10nm,1.3s						
ULN	Ulaanbaatar	24.70	39	eP	P	22 26 31.9	+0.3
TLY	Talaya	25.59	29	LR	LR	22 37 36.5	
	comp=Z,163nm,21.4s,baz=226,slow=39						
ABKAR	Akbulak array	25.90	323	eP	P	22 26 42.4	+0.1
AKTO	Aktyubinsk	27.60	323	P	P	22 26 56.7	-0.9
	comp=Z,1.4nm,0.8s,baz=108,slow=9.6,SNR=5.1						
AKTO				LR	LR	22 39 54.5	
	comp=Z,76nm,19.0s,baz=133,slow=41						
KSRS	Korea Array	36.88	67	LR	LR	22 45 18.8	
	comp=Z,132nm,18.3s,baz=262,slow=39						
USRK	Ussuriysk Ar.	39.99	56	P	P	22 28 45.0	-0.1
	comp=Z,1.7nm,0.8s,baz=288,slow=1.8,SNR

comp=Z,58nm,20.2s,baz=105,slow=39
AKASG **Malin Array Be 44.85 313** LR LR 22 49 51.0
comp=Z,150nm,21.7s,baz=100,slow=38
MJAR **Matsushiro Arr 45.16 67** LR LR 22 49 28.9
comp=Z,173nm,19.5s,baz=250,slow=38
TIXI **Tiksi 47.60 18** *eP* **P 22 29 44.9 -0.9**
comp=Z,4.1nm,0.7s
ASAJ **Asahikawa 47.62 56** LR LR 22 51 11.0
comp=Z,258nm,19.5s,slow=38
FINES **FINESS Array B 48.24 327** P **P 22 29 49.5 -1.5**
comp=Z,2.0nm,0.6s,baz=116,slow=8.9,SNR=4.7
FINES LR LR 22 51 40.5
comp=Z,222nm,19.0s,baz=102,slow=38
ARCES **ARCESS Array B 50.64 337** LR LR 22 52 16.0
comp=Z,223nm,18.6s,baz=137,slow=37
NB2 **NORSAR Subarra 55.34 326** P **P 22 30 42.4 -1.7**
comp=Z,0.9nm,0.6s,baz=87,slow=7.4
NOA **NORSAR Array B 55.34 326** P **P 22 30 42.3 -1.8**
comp=Z,1.5nm,0.8s,baz=88,slow=7.2,SNR=5.5
NOA LR LR 22 57 02.4
comp=Z,142nm,20.0s,baz=85,slow=39
PETK **Petropavlovsk- 56.67 44** LR LR 22 56 14.9
comp=Z,93nm,19.3s,baz=276,slow=37
WRA **Warramunga Arr 69.91 129** P **P 22 32 21.1 -0.6**
comp=Z,0.9nm,0.5s,baz=324,slow=6.5,SNR=5.1
ASAR **Alice Springs 72.27 132** P **P 22 32 37.5 +1.4**
comp=Z,0.4nm,0.6s,baz=313,slow=6.2,SNR=5.2
TORD **Torodi Ar. Bea 76.74 278** P **P 22 33 02.0 -0.3**
comp=Z,0.6nm,0.7s,baz=54,slow=3.9,SNR=5.6
ILAR **Eielson Array 77.00 20** P **P 22 33 02.2 -0.7**
comp=Z,1.0nm,0.8s,baz=299,slow=5.2,SNR=8.9
BOSA **Boshof 81.20 229** P **P 22 33 26.0 -0.5**
comp=Z,3.2nm,0.8s,baz=72,slow=3.0,SNR=4.5
YKA **Yellowknife Ar 85.98 8** P **P 22 33 49.1 -1.4**
comp=Z,0.6nm,0.7s,baz=337,slow=5.1,SNR=10

*ISCJB **09** 22:35:11.0±1.1, 51°.5N±0°.1×173°.31W±0°.06, h37km, mb3.7/6, Error ellipse: s-maj=18.1km s-min=5.4km az=172.5*
*IDC **09** 22:35:17.0±3.9, 51°.57N×173°.31W, h76km±25km, mb3.4/6, mb1 3.6/8, mb1mx3.3/47, mbtmp3.7/8, Error ellipse: s-maj=63.8km s-min=19.2km az=179.0*
*NEIC **09** 22:35:17.7, 52°.23N×173°.30W, h35km, ML3.2(AEIC), After AEIC.*
ISC 09 22:35:12.9±1.8, 51°.5N±0°.2×173°.36W±0°.07, h37km, n20, σ0.91/21, mb3.5/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.89**	**329**	P	**Pn**	**22 35 28.5**	**-0.4**
KOKL	**Mount Kliuchef**	**0.96**	**327**	P	**Pn**	**22 35 29.6**	**-0.3**
KOKV	**Korovin Volcan**	**0.98**	**330**	P	**Pn**	**22 35 28.7**	**-1.5**
KOWE	**Korovin West**	**1.02**	**327**	P	**Pn**	**22 35 30.5**	**-0.1**
NIKH	**Nikolski High**	**3.13**	**60**	P	**Pn**	**22 35 59.3**	**-0.2**
NIKH				S	**Sn**	**22 36 34.6**	**-1.0**
OKSP	**Okmok Steeple**	**3.56**	**59**	P	**Pn**	**22 36 06.9**	**+1.3**
OKSP				S	**Sn**	**22 36 46.5**	**+0.2**
OKFG	**Magazine Ridge**	**3.83**	**58**	P	**Pn**	**22 36 10.1**	**+0.8**
OKFG				S	**Sn**	**22 36 53.8**	**+0.8**
MREP	**Makushin Rep't**	**4.63**	**58**	P	**Pn**	**22 36 20.8**	**+0.5**
UNV	**Unalaska Valle**	**4.78**	**58**	P	**Pn**	**22 36 23.3**	**+1.1**
UNV				S	**Sn**	**22 37 17.2**	**+1.0**
FX1	**Attu Island--F**	**8.40**	**285**	P	**Pn**	**22 37 13.9**	**+2.1**
	0.4nm,0.3s,baz=74,slow=20,SNR=4.1						
ILAR	**Eielson Array**	**19.07**	**36**	P	**P**	**22 39 31.2**	**-0.6**
	0.5nm,0.3s,baz=221,slow=9.1,SNR=35						
YKA	**Yellowknife Ar**	**32.65**	**47**	P	**P**	**22 41 40.4**	**-0.4**
	0.3nm,0.4s,baz=274,slow=8.1,SNR=6.3						
YKA				ScP	ScP	22 47 59.4	-7.2
	0.2nm,0.7s,baz=316,slow=1.7,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**35.31**	**213**	T	T	23 20 07.4	
	baz=21,slow=75,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**35.32**	**213**	T	T	23 20 07.4	
	baz=21,slow=75,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**35.33**	**213**	T	T	23 20 08.5	
	baz=21,slow=75,SNR=4.5						
PDAR	**Pinedale Array**	**43.00**	**76**	P	**P**	**22 43 08.7**	**+0.1**
	0.4nm,0.5s,baz=347,slow=3.7,SNR=3.5						
SONM	**Songino Array**	**49.59**	**299**	P	**P**	**22 44 00.7**	**+0.5**
	0.2nm,0.5s,baz=69,slow=6.0,SNR=6.0						
MKAR	**Makanchi Array**	**62.56**	**311**	P	**P**	**22 45 32.2**	**-0.5**
	0.1nm,0.4s,baz=47,slow=5.3,SNR=6.2						
BVAR	**Borovoye Array**	**62.92**	**323**	P	**P**	**22 45 34.8**	**-0.2**
	0.9nm,0.5s,baz=51,slow=7.2,SNR=10						
FINES	**FINESS Array B**	**66.33**	**350**	P	**P**	**22 45 57.1**	**+0.1**
	3.4nm,1.1s,baz=12,slow=7.7,SNR=2.9						

*IDC **09** 22:45:36.2±2.4, 26°.41N×129°.41E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.7/42, mbtmp3.9/10, ML3.5/1, Error ellipse: s-maj=55.3km s-min=29.6km az=1.0*
*JMA **09** 22:45:36.1±0.1, 26°.15N×129°.57E, h45km, M3.6*
ISC 09 22:45:33.5±1.9, 26°.17N±0°.05×129°.55E±0°.04, h0km±12km, n23, σ1.74/33, mb3.9/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.32**	**300**	P	**Pg**	**22 45 59.1**	**+0.2**
JOW				*eS*	**Sb**	**22 46 15.3**	**-1.5**
JOW	**Kunigami**	**1.32**	**300**	Pn	**Pg**	**22 45 59.4**	**+0.4**
	baz=150,slow=14						
JOW				Sn	**Sb**	**22 46 14.3**	**-2.4**
	baz=120,slow=20						
JOW				LR	LR	22 46 19.2	
	comp=Z,39nm,18.1s,baz=282,slow=39						
JNTH	**Nagotoyohara**	**1.42**	**285**	P	**Pb**	**22 46 00.1**	**-0.7**
JNTH				*eS*	**Sn**	**22 46 17.6**	**-2.3**
JOKE	**Okinoerabujima**	**1.48**	**324**	P	**Pb**	**22 46 01.7**	**-0.2**
JOKE				S	**Sn**	**22 46 19.4**	**-2.1**
JMZ	**Minamidaito 2**	**1.54**	**103**	P	**Pn**	**22 46 01.4**	**-0.9**
JMZ				S	**Sn**	**22 46 19.4**	**-3.6**
JJT2	**Tamagusuku 2**	**1.62**	**269**	P	**Pb**	**22 46 03.6**	**-0.7**
JJT2				*eS*	**Sn**	**22 46 23.3**	**-1.7**
JIH	**Iheya**	**1.66**	**302**	P	**Pb**	**22 46 04.0**	**-1.0**
JIH				S	**Sn**	**22 46 23.4**	**-2.6**
JTK	**Tokunoshima**	**1.70**	**342**	P	**Pb**	**22 46 04.6**	**-1.1**
JTK				S	**Sn**	**22 46 23.7**	**-3.2**
JAMN	**Amaminishikomi**	**2.09**	**351**	P	**Pn**	**22 46 10.2**	**+0.3**
JAMN				*eS*	**Sn**	**22 46 35.1**	**-1.6**
JAGN	**Aguni-jima**	**2.11**	**282**	P	**Pn**	**22 46 10.7**	**+0.6**
JZK	**Kikaishima**	**2.17**	**10**	*eS*	**Sn**	**22 46 37.3**	**-1.3**
JAM	**Amami Oshima**	**2.24**	**1**	P	**Pn**	**22 46 12.1**	**+0.3**
JAM				*eS*	**Sn**	**22 46 37.6**	**-2.5**
JKE	**Kume jima 2**	**2.49**	**274**	P	**Pn**	**22 46 14.9**	**-0.4**
JKE				*eS*	**Sn**	**22 46 43.3**	**-3.1**
JNU	**Nakatsue**	**7.03**	**9**	Pn	**Pn**	**22 47 17.7**	**0.0**
	0.8nm,0.3s,baz=153,slow=13,SNR=5.2						
SONM	**Songino Array**	**28.26**	**326**	P	**P**	**22 51 30.3**	**+1.8**
	0.7nm,0.9s,baz=141,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**42.46**	**312**	P	**P**	**22 53 29.8**	**-0.5**
	0.7nm,0.7s,baz=100,slow=10,SNR=10.0						
ZALV	**Zalesovo Beam**	**43.02**	**322**	P	**P**	**22 53 33.2**	**-1.4**
	0.5nm,0.5s,baz=114,slow=7.2,SNR=4.1						
BVAR	**Borovoye Array**	**51.11**	**318**	P	**P**	**22 54 39.5**	**+1.6**
	0.9nm,0.6s,baz=82,slow=7.8,SNR=8.0						
GEYT	**Alibeck**	**60.35**	**300**	P	**P**	**22 55 46.1**	**+1.6**
	1.2nm,0.7s,baz=64,slow=6.6,SNR=4.0						
KBZ	**Khabaz**	**70.11**	**310**	P	P	22 56 49.6	+1.9
	2.6nm,1.0s,baz=29,slow=2.5,SNR=4.8						
FINES	**FINESS Array B**	**73.50**	**331**	P	**P**	**22 57 08.3**	**+0.6**
	1.9nm,0.8s,baz=70,slow=6.3,SNR=4.9						
AKASG	**Malin Array Be**	**76.35**	**320**	P	**P**	**22 57 24.6**	**+0.2**
	0.5nm,0.5s,baz=58,slow=5.6,SNR=2.4						
BRTR	**Keskin Array B**	**78.01**	**308**	P	**P**	**22 57 35.4**	**+1.2**
	1.3nm,0.8s,baz=81,slow=7.9,SNR=4.4						

*IDC **09** 22:49:26.1±0.8, 5°.16N×127°.52E, h0km, mb4.1/8, mb1 4.3/8, mb1mx3.9/40, mbtmp4.1/8, ML5.3/1, Error ellipse: s-maj=54.0km s-min=15.9km az=74.0*
*DJA **09** 22:49:36.7±3.9, 5°.N±33°.×12°.7E±1°.3, h10km, M4.9/11, mb5.0/11, mB5.3/8, MLv5.1/7, Mw(mB)4.7/8*
*ISCJB **09** 22:49:37.3±0.5, 4°.92N±0°.03×127°.22E±0°.06, h108km, mb4.2/11, Error ellipse: s-maj=9.3km s-min=4.5km az=168.6*
*NEIC **09** 22:49:38.0±1.9, 4°.92N×127°.05E, h102km±18km, mb4.6/4, Error ellipse: s-maj=23.5km s-min=9.7km az=66.0*
ISC 09 22:49:38.5±0.7, 4°.97N±0°.06×127°.29E±0°.07, h108km, n43, σ1.39/40, mb4.2/10, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.17**	**234**	P	**Pn**	**22 50 12.1**	**-1.5**
MATI	**Mati**	**2.21**	**332**	*eP*	**Pn**	**22 50 15.3**	**+1.2**
MATI				*eS*	**Sn**	**22 50 43.0**	**+1.5**
BUKP	**Musuan**	**3.64**	**323**	*eP*	**Pn**	**22 50 34.0**	**+1.0**
CTBH	**Cotabato--PC H**	**3.76**	**307**	↑*iP*	**Pn**	**22 50 32.6**	**-2.0**
TNTI	**Ternate**	**4.17**	**179**	P	**Pn**	**22 50 41.8**	**+1.7**
TNTI	**Ternate**	**4.17**	**179**	*ePn*	**Pn**	**22 50 39.3**	**-0.9**
CGP	**Cagayan de Oro**	**4.32**	**323**	*eP*	**Pn**	**22 50 42.9**	**+0.8**
CGP				*i* S	**Sn**	**22 51 31.8**	**+0.4**
PAGZ	**Pagadian**	**4.82**	**307**	*eP*	**Pn**	**22 50 47.4**	**-1.5**
KMSI	**Cibinong**	**5.48**	**217**	P	**Pn**	**22 50 59.7**	**+1.9**
LBMI	**Labuha**	**5.58**	**178**	P	**Pn**	**22 51 00.9**	**+1.8**
	146nm,0.9s,2μm0.5nm						
GTOI	**Gorontalo**	**6.07**	**225**	P	**Pn**	**22 51 04.4**	**-1.4**
	273nm,0.6s,3μm1.0nm						
MRSI	**Marisa**	**6.96**	**230**	P	**Pn**	**22 51 17.0**	**-0.9**
	120nm,0.7s,1μm0.8nm						
SANI	**Sanana**	**7.09**	**191**	P	**Pn**	**22 51 17.0**	**-2.7**
LUWI	**Luwuk**	**7.49**	**217**	P	**Pn**	**22 51 26.0**	**+1.0**
	200nm,1.0s,3μm0.8nm						
LUWI	**Luwuk**	**7.49**	**217**	P	**Pn**	**22 51 26.0**	**+1.0**
	baz=7.4,SNR=13						
LUWI	**Luwuk**	**7.49**	**217**	*ePn*	**Pn**	**22 51 22.1**	**-3.0**
	194nm,0.8s						
PALU	**Palau**	**7.52**	**71**	S	**Sn**	**22 52 47.0**	**-2.3**
	baz=7.5,SNR=3.8						
APSI	**Ampana**	**8.12**	**224**	P	**Pn**	**22 51 34.2**	**+0.6**
	67nm,0.6s,2μm						
NLAI	**Namlea**	**8.16**	**181**	P	**Pn**	**22 51 33.8**	**-0.4**
	79nm,0.4s,3μm						
MPSI	**Mapaga**	**8.70**	**238**	P	**Pn**	**22 51 40.3**	**-1.2**
	13nm,0.9s,500nm						
TTSI	**Tana Toraja**	**10.91**	**223**	P	**Pn**	**22 52 10.3**	**-1.3**
	32nm,1.1s,2μm						
SPSI	**Sidrap Palu**	**11.63**	**220**	P	**Pn**	**22 52 18.3**	**-2.8**
KAPI	**Kappang**	**12.45**	**217**	*ePn*	Pn	22 52 27.9	-4.1
	165nm,1.0s						
SOEI	**Soe**	**14.94**	**192**	P	P	22 53 12.6	+5.4
SOEI	**Soe**	**14.94**	**192**	*ePn*	Pn	22 52 59.2	-5.1
	33nm,0.7s						
BBKI	**Banjar Baru**	**14.99**	**236**	P	**Pn**	**22 53 03.7**	**-1.2**
BATI	**Baumata**	**15.50**	**193**	P	**P**	**22 53 15.3**	**+1.9**
BATI	**Baumata**	**15.50**	**193**	Pn	**Pn**	**22 53 11.4**	**+0.1**
	12nm,0.3s,baz=95,slow=1.2,SNR=18						
WBSI	**Waikabubak, Su**	**16.51**	**208**	P	**P**	**22 53 24.1**	**-0.5**
JAGI	**Jajag, Banyuwa**	**18.71**	**225**	P	**P**	**22 53 47.4**	**-1.3**
	baz=19,SNR=5.6						
KNRA	**Kununurra**	**20.57**	**176**	P	**P**	**22 54 09.5**	**+0.7**
	baz=20,SNR=13						
WRAB	**Tennant Creek**	**25.70**	**165**	*eP*	**P**	**22 54 58.8**	**0.0**
	9.4nm,0.6s						
WRA	**Warramunga Arr**	**25.71**	**165**	P	**P**	**22 54 59.1**	**+0.2**
	8.3nm,0.5s,baz=343,slow=10,SNR=26						
WB2	**Warramunga Arr**	**25.71**	**165**	*eP*	**P**	**22 54 58.5**	**-0.4**
ASAR	**Alice Springs**	**29.18**	**167**	P	**P**	**22 55 30.4**	**+0.4**
	1.1nm,0.6s,baz=339,slow=6.3,SNR=19						
STKA	**Stephens Creek**	**39.09**	**161**	P	**P**	**22 56 56.2**	**+0.9**
	4.0nm,0.4s,baz=337,slow=8.8,SNR=13						
SONM	**Songino Array**	**46.31**	**341**	P	**P**	**22 57 53.9**	**+0.3**
	0.4nm,0.6s,baz=161,slow=9.5,SNR=5.2						
MSVF	**Nonsavu**	**54.93**	**116**	*eP*	P	22 58 52.8	-5.9
	21nm,0.8s						
MKAR	**Makanchi Array**	**56.87**	**325**	P	**P**	**22 59 12.2**	**+0.1**
	0.9nm,0.4s,baz=112,slow=7.8,SNR=19						
ZALV	**Zalesovo Beam**	**59.75**	**332**	P	**P**	**22 59 31.8**	**-0.1**
	0.3nm,0.3s,baz=124,slow=8.3,SNR=3.0						
KURK	**Kurchatov**	**61.01**	**327**	*eP*	**P**	**22 59 40.2**	**-0.3**
	1.5nm,0.5s						
ILAR	**Eielson Array**	**83.75**	**25**	P	**P**	**23 01 55.6**	**+0.3**
	0.8nm,0.6s,baz=247,slow=5.5,SNR=14						
YKA	**Yellowknife Ar**	**98.15**	**24**	P	Pdif	23 03 03.3	+0.4
	0.3nm,0.6s,baz=296,slow=4.2,SNR=4.0						

*ISCJB **09** 22:54:04.4±0.3, 6°.26S±0°.04×154°.98E±0°.06, h56km, mb4.8/40, MS3.7/7, Error ellipse: s-maj=8.1km s-min=6.1km az=15.9*
*BJI **09** 22:54:06.1, 6°.10S×155°.08E, h73km, mB5.1/6, mb4.6/20, Ms5.4/1, Ms7 5.0/1*
*IDC **09** 22:54:10.8±2.2, 6°.32S×154°.86E, h97km±20km, mb4.2/19, mb1 4.4/21, mb1mx4.4/25, mbtmp4.6/21, MS3.7/9, Ms1 3.7/9, ms1mx3.5/25, Error ellipse: s-maj=13.3km s-min=10.1km az=108.0*
*NEIC **09** 22:54:10.2±1.6, 6°.33S×154°.90E, h96km±14km, mb4.6/9, Error ellipse: s-maj=10.0km s-min=6.8km az=68.0*
ISC 09 22:54:06.0±0.4, 6°.29S±0°.07×155°.04E±0°.07, h56km, n91, σ1.24/86, mb4.9/39, MS3.8/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.54**	**306**	P	Pn	22 55 05.8	+7.3
	baz=26,SNR=5.2						
HNR	**Honiara**	**5.78**	**123**	LR	LR	22 57 51.0	
	comp=Z,496nm,21.5s,baz=296,slow=37						
PMG	**Port Moresby**	**8.40**	**248**	P	**Pn**	**22 56 05.9**	**+0.8**
	5.7nm,0.3s,baz=52,slow=8.6,SNR=14						
PMG				S	**Sn**	**22 57 40.4**	**+1.9**
	2.1nm,0.3s,baz=120,slow=20,SNR=4.7						
PMG				LR	LR	22 59 11.9	
	comp=Z,524nm,21.1s,baz=52,slow=37						
PMG	**Port Moresby**	**8.40**	**248**	P	**Pn**	**22 56 06.2**	**+1.1**
	baz=8.6,SNR=21						
PMG				S	**Sn**	**22 57 43.3**	**+4.7**
	baz=8.6,SNR=6.4						
PMG	**Port Moresby**	**8.40**	**248**	*ePn*	**Pn**	**22 56 06.9**	**+1.8**
	108nm,0.8s						
PMG				*eSn*	**Sn**	**22 57 37.6**	**-0.9**
DZM	**Mont Dzumac**	**19.18**	**146**	P	**Pn**	**22 58 27.6**	**+1.0**
	3.0nm,0.3s,baz=284,slow=8.7,SNR=24						
DZM	**Mont Dzumac**	**19.18**	**146**	*eP*	**Pn**	**22 58 26.3**	**-0.3**
	36nm,1.0s						
EIDS	**Eidsvold**	**19.35**	**191**	*eP*	**P**	**22 58 27.0**	**0.0**
QIS	**Mount Isa**	**20.62**	**225**	P	Pn	22 58 45.2	+1.5
	baz=21,SNR=3.9						
QLP	**Quilpie**	**22.66**	**206**	P	**P**	**22 59 02.9**	**+0.3**
	baz=23,SNR=11						
KDU	**Kakadu**	**23.14**	**252**	P	**P**	**22 59 07.0**	**-0.6**
	baz=23,SNR=4.2						
ARMA	**Armidale**	**24.22**	**187**	*eP*	**P**	**22 59 17.2**	**-0.5**
	17nm,1.1s						
WRAB	**Tennant Creek**	**24.25**	**234**	*eP*	**P**	**22 59 17.2**	**-0.7**
	50nm,1.2s						
WB2	**Warramunga Arr**	**24.25**	**234**	*eP*	**P**	**22 59 17.7**	**-0.2**
WRA	**Warramunga Arr**	**24.26**	**234**	P	**P**	**22 59 18.4**	**+0.4**
	9.9nm,0.5s,baz=57,slow=9.4,SNR=34						
WRA				PcP	**PcP**	**23 02 57.2**	**0.0**
	1.1nm,0.4s,baz=61,slow=2.6,SNR=4.1						
WRA				S	**S**	**23 03 28.4**	**-4.7**
	0.5nm,0.4s,baz=54,slow=16,SNR=1.9						
WRA				LR	LR	23 08 24.8	
	comp=Z,208nm,20.4s,baz=330,slow=35						
MTN	**Manton Dam**	**24.44**	**253**	P	**P**	**22 59 20.0**	**+0.2**
	baz=25,SNR=6.1						
PALU	**Palau**	**24.58**	**303**	P	**P**	**22 59 23.4**	**+2.4**
	baz=25,SNR=3.1						
ASAR	**Alice Springs**	**26.68**	**227**	P	**P**	**22 59 39.8**	**-0.2**
	2.7nm,0.5s,baz=58,slow=8.6,SNR=34						
ASAR				PcP	**PcP**	**23 03 02.8**	**+0.1**
	1.7nm,0.7s,baz=58,slow=2.6,SNR=7.7						
ASAR				LR	LR	23 09 56.9	
	comp=Z,222nm,18.5s,baz=78,slow=36						
H11S3	**WAKE ISLAND Hy**	**27.17**	**25**	T	T	23 27 53.3	
	baz=205,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**27.18**	**25**	T	T	23 27 55.7	
	baz=205,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**27.19**	**25**	T	T	23 27 54.8	
	baz=205,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**28.35**	**24**	T	T	23 29 45.4	
	baz=206,slow=76,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**28.36**	**24**	T	T	23 29 42.0	
	baz=206,slow=76,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**28.37**	**24**	T	T	23 29 44.2	
	baz=206,slow=76,SNR=7.2						
STKA	**Stephens Creek**	**28.39**	**205**	P	**P**	**22 59 54.0**	**-1.1**
	2.6nm,0.6s,baz=31,slow=12,SNR=7.8						
STKA				LR	LR	23 10 32.0	
	comp=Z,266nm,21.6s,baz=52,slow=35						
WRKA	**Warakurna**	**31.67**	**231**	P	**P**	**23 00 23.5**	**-0.8**
	baz=32,SNR=8.0						
RAO	**Raoul Island**	**34.25**	**135**	P	**P**	**23 00 48.0**	**+1.2**
	263nm,0.3s,baz=40,slow=18,SNR=5.2						
CBIJ	**Chichi jima**	**35.44**	**340**	P	**P**	**23 00 57.0**	**+0.1**
JCJ	**Chichijima**	**35.44**	**340**	P	**P**	**23 00 57.0**	**0.0**
	109nm,0.7s,baz=209,slow=19,SNR=3.0						
URZ	**Urewera**	**37.60**	**151**	P	**P**	**23 01 16.5**	**+1.2**
	4.9nm,0.4s,baz=317,slow=5.4,SNR=5.9						
MEEK	**Meekatharra**	**40.14**	**236**	P	**P**	**23 01 36.3**	**-0.5**
	baz=40,SNR=8.0						
KLBR	**Kellerberrin**	**42.98**	**229**	P	**P**	**23 01 59.0**	**-0.9**
	baz=43,SNR=6.1						
MORW	**Morawa**	**43.21**	**234**	P	**P**	**23 02 01.1**	**-0.7**
	baz=44,SNR=3.4						
XMIS	**Christmas Isla**	**49.00**	**262**	P	P	23 02 38.2	-9.3
	baz=49,SNR=3.1						
PMBI	**Palembang**	**50.20**	**271**	S	S	23 09 56.2	-9.0
	baz=50,SNR=3.4						
KSRS	**Korea Array**	**50.34**	**332**	P	**P**	**23 02 57.0**	**-0.3**
	1.7nm,0.6s,baz=148,slow=6.5,SNR=4.7						
KSRS				LR	LR	23 22 41.2	
	comp=Z,16nm,20.5s,baz=80,slow=34						
KSAR	**Wonju Array Be**	**50.34**	**332**	P	**P**	**23 02 57.0**	**-0.4**
ASAJ	**Asahikawa**	**51.41**	**349**	P	**P**	**23 03 06.4**	**+1.1**
	6.3nm,0.8s,baz=178,slow=6.7,SNR=5.6						
USRK	**Ussuriysk Ar.**	**54.38**	**340**	P	**P**	**23 03 26.1**	**-1.1**
	1.6nm,0.7s,baz=165,slow=7.4,SNR=4.3						
PBKT	**Sadao Pong**	**58.09**	**294**	P	**P**	**23 03 55.2**	**+1.1**
	14nm,0.9s						
LOEI	**Loei**	**58.12**	**295**	P	**P**	**23 03 52.3**	**-2.1**
	42nm,0.8s						
UTTA	**Uttaradit**	**58.84**	**295**	P	**P**	**23 04 00.1**	**+0.8**
	11nm,0.8s,86nm						
SRDT	**SRDT**	**59.13**	**291**	P	**P**	**23 04 02.5**	**+1.1**
	57nm,1.2s,8μm						
UTHA	**Uthaitani**	**59.18**	**292**	P	**P**	**23 04 02.4**	**+0.7**
	9.4nm,0.9s,71nm						
PETK	**Petropavlovsk-**	**59.21**	**2**	P	**P**	**23 04 02.7**	**+1.5**
	17nm,0.8s,baz=161,slow=6.3,SNR=22						
PETK				LR	LR	23 25 39.7	
	comp=Z,38nm,20.9s,baz=144,slow=32						
XAN	**Xi'an**	**59.23**	**316**	P	**P**	**23 04 01.4**	**-0.4**
XAN				PMZ			
	2.0nm,0.8s						
KHLT	**Khaolaem Dam**	**59.75**	**291**	P	**P**	**23 04 06.9**	**+1.3**
	9.1nm,1.2s						
CRAI	**Chiangrai**	**59.83**	**298**	P	**P**	**23 04 06.2**	**0.0**
	221nm,1.0s						
LAMP	**Lampang**	**59.92**	**295**	P	**P**	**23 04 07.8**	**+1.0**
	14nm,0.8s,112nm						
CMAR	**Chiang Mai Arr**	**60.52**	**295**	P	**P**	**23 04 11.4**	**+0.5**
	16nm,0.8s,baz=120,slow=5.2,SNR=84						
CMMT	**Chiang Mai**	**60.63**	**296**	P	**P**	**23 04 12.0**	**+0.3**
	23nm,1.0s						
CHTO	**Chiang Mai**	**60.63**	**296**	P	**P**	**23 04 12.1**	**+0.4**
	78nm,1.0s						
CHTO	**Chiang Mai**	**60.63**	**296**	*eP*	**P**	**23 04 10.8**	**-0.8**
	17nm,1.1s						
CMAI	**Chiengmai2**	**60.91**	**297**	P	**P**	**23 04 14.5**	**+0.8**
	39nm,1.4s						
FX1	**Attu Island--F**	**60.92**	**12**	P	**P**	**23 04 13.1**	**+0.2**
	16nm,0.7s,baz=281,slow=2.6,SNR=10.0						
FX1				LR	LR	23 26 30.3	
	comp=Z,101nm,21.4s,baz=190,slow=32						
MHMT	**Maesarieng**	**61.35**	**295**	P	**P**	**23 04 17.3**	**+0.8**
	8.9nm,0.9s						
GTA	**Gaotai**	**68.25**	**317**	*eP*	**P**	**23 05 01.5**	**+0.2**
GTA				PMZ			
	5.0nm,1.3s						
ULN	**Ulaanbaatar**	**68.43**	**327**	*eP*	**P**	**23 05 00.7**	**-1.5**
	4.2nm,0.8s						
SONM	**Songino Array**	**68.77**	**327**	P	**P**	**23 05 04.6**	**+0.3**
	4.5nm,0.8s,baz=130,slow=5.9,SNR=37						
LSA	**Lhasa**	**70.91**	**304**	*eP*	**P**	**23 05 16.2**	**-2.0**
	2.3nm,0.6s						
VNDA	**Vanda**	**71.28**	**178**	P	**P**	**23 05 19.3**	**+0.3**
	1.6nm,1.0s,baz=334,slow=3.8,SNR=4.3						
VNDA	**Vanda**	**71.28**	**178**	*eP*	**P**	**23 05 18.4**	**-0.7**
TLY	**Talaya**	**72.48**	**329**	P	**P**	**23 05 26.3**	**-0.4**
	2.3nm,0.8s,baz=215,slow=3.2,SNR=5.9						
TAPN	**Taplejung**	**73.08**	**301**	*eP*	**P**	**23 05 30.8**	**-0.3**
	11nm,0.7s						
ODAN	**Odare**	**73.21**	**300**	*eP*	**P**	**23 05 31.5**	**-0.3**
	35nm,0.7s						
RAMN	**Ramite**	**73.92**	**300**	*eP*	**P**	**23 05 35.4**	**-0.5**
	8.0nm,0.7s						
JIRN	**Jiri**	**74.46**	**301**	*eP*	**P**	**23 05 39.0**	**-0.2**
	13nm,0.7s						
BILL	**Biliibino**	**74.58**	**4**	*eP*	**P**	**23 05 38.4**	**-0.2**
	11nm,0.8s						
GUN	**Gumba**	**74.79**	**301**	*eP*	**P**	**23 05 40.8**	**-0.3**
	23nm,0.7s						
PKI	**Pulchoki**	**75.10**	**301**	*eP*	**P**	**23 05 42.0**	**-0.9**
	8.0nm,0.6s						
PKIN	**Phulchoki**	**75.11**

SAN			*i* S	Sn	23 13 18.4	-0.6
CLCH	**Cerro Calan**	**0.40 117**	⇑*i*P	Pn	23 13 10.1	-0.4
CLCH			*i* S	Sn	23 13 19.5	-0.3
CLCH			IAML		23 13 20.5	
	comp=N,2μm,0.6s					
LACH	**Col Las Americ**	**0.43 123**	⇑*i*P	Pn	23 13 10.1	-0.6
LACH			*i* S	Sn	23 13 19.6	-0.5
TACH	**Talagante**	**0.44 177**	⇑*i*P	Pn	23 13 10.2	-0.4
TACH			*i* S1	Sn	23 13 19.3	-0.9
ANTU	**Antumapu**	**0.45 142**	⇑*i*P	Pn	23 13 10.5	-0.3
ANTU			*i* S	Sn	23 13 20.2	-0.1
ANTU			IAML		23 13 20.5	
	comp=E,10μm,0.2s					
FCH	**Farellones**	**0.57 101**	IAML		23 13 28.6	
	comp=N,2μm,0.2s					
IHA	**Instituto Hidr**	**0.60 288**	⇑*i*P	Pn	23 13 11.7	-0.4
IHA			*i* S1	Sn	23 13 22.3	-0.3
CHNG	**Los Chungos**	**1.40 341**	⇑*i*P	Pn	23 13 21.4	-0.3
CHNG			*i* S	Sn	23 13 39.8	+0.1

*IDC **09** 23:20:48.5±2.0, 41°.31N×78°.49E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.2/29, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=50.7km s-min=18.8km az=130.0*
*NNC **09** 23:20:51.9±2.3, 41°.27N×78°.72E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=18.5km s-min=8.1km az=154.0*
*KRNET **09** 23:20:53.4±0.1, 41°.45N×78°.59E, h3km, mb4.3*
ISC 09 23:20:50.8±2.4, 41°.34N±0°.08×78°.70E±0°.06, h5km±14km, n25, σ1§32/28, 8C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**1.63**	**332**	*i* P	**Pg**	**23 21 22.0**	**-0.1**
	baz=333						
ANVS				*e*S	**Sg**	**23 21 44.4**	**+1.1**
	baz=333						
NRN	**Naryn**	**2.03**	**273**	*i* P	**Pb**	**23 21 29.6**	**+1.1**
	baz=270						
NRN				*i* S	**Sg**	**23 21 56.4**	**+0.3**
	baz=270						
ULHL	**Ulahol**	**2.05**	**297**	P	**Pb**	**23 21 28.8**	**+0.2**
	SNR=142						
ULHL	**Ulahol**	**2.05**	**297**	⇓*i*P	**Pb**	**23 21 28.8**	**+0.2**
	baz=295						
ULHL				⇓*i*S	**Sb**	**23 21 55.6**	**+1.1**
	baz=295						
PDGK	**Podgornoye**	**2.07**	**16**	⇑Pn	**Pb**	**23 21 28.7**	**-0.1**
PDGK				⇓Sn	**Sg**	**23 21 57.7**	**+0.4**
KNDC	**Almaty**	**2.27**	**326**	⇑Pn	**Pb**	**23 21 32.6**	**+0.2**
KNDC				⇓Sn	**Sg**	**23 22 03.2**	**-0.6**
BOOM	**Boomskoye usch**	**2.36**	**300**	*e*P	**Pb**	**23 21 35.0**	**+1.1**
	baz=299						
BOOM				*e*S	**Sg**	**23 22 06.0**	**-0.5**
	baz=299						
KZA	**Kyzart**	**2.68**	**287**	P	**Pb**	**23 21 41.2**	**+1.5**
	SNR=5.6						
TKM2	**Tokmak 2**	**2.79**	**305**	⇓Pn	**Pb**	**23 21 39.4**	**-2.0**
	24nm,0.3s						
TKM2				⇓Lg	Lg	23 22 20.1	
	47nm,0.3s						
TKM2	**Tokmak 2**	**2.79**	**305**	P	**Pb**	**23 21 39.5**	**-2.0**
	SNR=93						
KBK	**Karagaybulak**	**3.09**	**296**	P	**Pb**	**23 21 47.2**	**+0.9**
	SNR=15						
UCH	**Uchtor**	**3.25**	**287**	P	**Pg**	**23 21 52.2**	**-0.9**
	SNR=8.1						
AAK	**Ala-Archa**	**3.39**	**294**	⇓Pg	**Pb**	**23 21 53.4**	**+1.9**
	5.7nm,0.4s						
AAK				⇑Lg	Lg	23 22 38.7	
	58nm,0.8s						
AAK	**Ala-Archa**	**3.39**	**294**	P	**Pb**	**23 21 52.2**	**+0.7**
	SNR=11						
AML	**Almayashu**	**3.83**	**284**	P	**Pb**	**23 22 01.6**	**+2.5**
	SNR=12						
EKS2	**Erkin-Say**	**3.90**	**291**	P	**Pg**	**23 22 04.0**	**-1.5**
	SNR=14						
MK31	**Makanchi Array**	**6.03**	**24**	Pn	**Pn**	**23 22 21.8**	**+1.0**
	0.5nm,0.4s,baz=203,slow=12,SNR=62						
MK31				⇑Sn	**Sn**	**23 23 31.1**	**+0.9**
	2.1nm,0.5s,baz=345,slow=4.5,SNR=4.1						
MK31				⇓Lg	Lg	23 24 00.9	
	7.6nm,0.7s,baz=208,slow=30,SNR=4.5						
MKAR	**Makanchi Array**	**6.03**	**24**	Pn	**Pn**	**23 22 22.0**	**+1.3**
	0.6nm,0.3s,baz=203,slow=12,SNR=37						
MKAR				Sn	**Sn**	**23 23 30.9**	**+0.7**
	0.9nm,0.3s,baz=203,slow=22,SNR=6.3						
MKAR				Lg	Lg	23 24 02.4	
	1.0nm,0.3s,baz=205,slow=27,SNR=4.6						
KK31	**Karatay Array**	**6.33**	**289**	⇑Pg	Pg	23 22 47.9	-4.1
	1.9nm,0.6s,baz=102,slow=15,SNR=37						
KK31				⇑Lg	Lg	23 24 10.1	
	3.9nm,0.6s,baz=101,slow=27,SNR=7.4						
OTUK	**Ortayu**	**8.25**	**329**	⇓Lg	Lg	23 25 15.1	
KURBB	**Kurchatov Arra**	**9.28**	**359**	⇑Lg	Lg	23 25 45.8	
	5.9nm,0.8s						
KURBB	**Kurchatov Arra**	**9.28**	**359**	Lg	Lg	23 25 44.7	
	0.1nm,0.3s,baz=165,slow=33,SNR=6.4						
KURK	**Kurchatov**	**9.38**	**360**	⇑Lg	Lg	23 25 50.4	
	2.3nm,0.7s						
SONM	**Songino Array**	**20.70**	**62**	P	**P**	**23 25 32.2**	**+0.3**
	1.7nm,0.6s,baz=261,slow=11,SNR=19						
TORD	**Torodi Ar. Bea**	**71.72**	**272**	P	**P**	**23 32 11.5**	**-2.7**
	0.1nm,0.5s,baz=46,slow=4.5,SNR=5.1						

KRSC 09 23:50:39.2±2.2, 48°.77N×157°.02E, h30km±29km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.00**	**343**	*i* P	Pn	23 51 10.9	0.0
SKR				*e*S	Sn	23 51 34.7	-0.2
PAU	**Pauzhetka**	**2.70**	**357**	*i* P	Pn	23 51 23.2	+2.7
PAU				*e*S	Sb	23 51 56.0	-3.5
RUS	**Russkaya**	**3.79**	**14**	*e*P	Pn	23 51 39.5	+4.1
RUS				*e*S	Sn	23 52 24.3	+5.4
MTVR	**Mutnovka**	**3.79**	**11**	*e*P	Pn	23 51 40.3	+4.6
MTVR				*e*S	Sb	23 52 25.7	-5.4
UGLR	**Uglovaya**	**4.59**	**14**	*e*P	Pn	23 51 51.5	+4.9
AVH	**Avacha**	**4.63**	**13**	*e*P	Pn	23 51 52.5	+5.4
SMAR	**Somma**	**4.64**	**13**	*e*P	Pn	23 51 52.3	+4.9
KOK	**Koryaka**	**4.64**	**12**	*e*P	Pn	23 51 52.4	+5.1
SDLR	**Sedlovina**	**4.67**	**14**	*e*P	Pn	23 51 52.1	+4.5
KRER	**Koryakskii**	**4.67**	**13**	*e*P	Pn	23 51 52.6	+4.8
KRX	**Arik**	**4.71**	**12**	*e*P	Pn	23 51 53.8	+5.5
GNL	**Ganaly**	**4.97**	**6**	*e*P	Pn	23 51 55.7	+3.9
MKZ	**Mys Kozlova**	**6.49**	**25**	*e*P	Pn	23 52 16.8	+4.3
KBTR	**Krutoberegovo**	**8.24**	**23**	*e*P	Pn	23 52 40.9	+4.4

IDC 09 23:51:53.7±1.8, 37°.36S×72°.11W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/32, mbtmp3.5/4, ML3.3/1, MS3.0/6, Ms1 3.0/6, ms1mx2.9/26, Error ellipse: s-maj=66.4km s-min=29.9km az=74.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.58**	**161**	Pn	Pn	23 52 51.0	+0.4
	0.6nm,0.3s,baz=316,slow=11,SNR=17						
PLCA				Lg	Lg	23 53 55.8	
	2.0nm,0.3s,baz=33,slow=5.9,SNR=3.1						
PLCA				LR	LR	23 53 56.4	
	comp=Z,80nm,18.5s,baz=258,slow=34						
CFAA	**Coronel Fontan**	**6.57**	**30**	LR	LR	23 56 48.2	
	comp=Z,23nm,18.6s,baz=230,slow=45						
CPUP	**Villa Florida**	**16.67**	**53**	LR	LR	00 01 16.2	
	comp=Z,49nm,21.3s,baz=202,slow=34						
LPAZ	**La Paz**	**21.29**	**11**	P	P	23 56 43.1	+0.4
	1.7nm,0.6s,baz=190,slow=8.1,SNR=8.9						
SIV	**San Ignacio**	**23.42**	**28**	LR	LR	00 08 23.6	
	comp=Z,95nm,18.7s,baz=214,slow=42						
BDFB	**Brasilia**	**30.38**	**51**	LR	LR	00 11 37.9	
	comp=Z,56nm,18.4s,baz=215,slow=39						
LPIG	**La Paz**	**70.93**	**323**	LR	LR	00 28 57.7	
	comp=Z,35nm,18.2s,baz=125,slow=31						
TXAR	**Lajitas Array**	**72.65**	**331**	P	P	00 03 23.1	0.0
	0.4nm,0.6s,baz=149,slow=6.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**85.42**	**70**	P	P	00 04 33.4	0.0
	0.4nm,0.5s,baz=219,slow=4.0,SNR=8.5						
MKAR	**Makanchi Array**	**158.87**	**55**	PKPab	PKPab	00 12 28.4	-0.9
	0.3nm,0.8s,baz=268,slow=4.3,SNR=3.8						

IDC 09 23:52:16.1±5.5, 3°.44N×127°.32E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/35, mbtmp3.6/3, Error ellipse: s-maj=183.4km s-min=86.9km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.24**	**164**	P	P	23 57 34.9	-0.1
	0.5nm,0.3s,baz=343,slow=9.9,SNR=3.4						
ASAR	**Alice Springs**	**27.70**	**167**	P	P	23 58 06.7	+0.4
	0.5nm,0.5s,baz=352,slow=7.6,SNR=13						
STKA	**Stephens Creek**	**37.66**	**160**	P	P	23 59 32.6	-0.6
	1.1nm,0.6s,baz=321,slow=6.5,SNR=3.2						

GUC 10 00:07:07.6±0.5, 34°.41S×72°.14W, h32km±3km, ML3.7, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.95**	**129**	⇓*i*P	Pn	00 07 24.8	0.0
NICH				*i* S	Sb	00 07 38.0	+0.1
NICH				AML	AML	00 07 40.1	
	comp=N,8μm,0.2s						
CACH	**El Canelo**	**1.30**	**77**	⇓*i*P	Pb	00 07 31.0	-0.7
CACH				*i* S1	Sb	00 07 49.0	+0.7
CHCH	**Chadas Angostu**	**1.32**	**69**	⇑*i*P	Pn	00 07 30.8	+0.9
CHCH				*i* S1	Sn	00 07 47.5	+1.1
LNCH	**Linares**	**1.50**	**163**	⇓*i*P	Pn	00 07 33.2	+0.9
LNCH				*i* S	Sb	00 07 52.7	-0.8
LNCH				AML	AML	00 07 53.8	
	comp=N,2μm,0.7s						
ANTU	**Antumapu**	**1.50**	**56**	⇑*i*P	Pb	00 07 33.8	-1.2
ANTU				*i* S	Sb	00 07 53.1	-0.7
ANTU				AML	AML	00 07 58.3	
	comp=E,1μm,0.5s						
CLCH	**Cerro Calan**	**1.67**	**53**	⇓*i*P	Pn	00 07 36.2	+1.5
CLCH				*i* S	Sb	00 07 58.0	-0.6
CLCH				AML	AML	00 08 02.8	
	comp=E,979nm,0.4s						

CASC 10 00:13:51.2±1.0, 13°.09N×89°.30W, h34km±2km, MD3.8, ML3.9, 2C-8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.58**	**24**	⇓*i*P	Pn	00 14 03.1	-0.1
LFRS				*e*S	Sb	00 14 12.4	+0.7
SNET	**Serv Nac Est T**	**0.60**	**7**	*i* P	Pn	00 14 03.4	0.0
SNET				*e*S	Sb	00 14 13.0	+0.9
SNET				AML	AML	00 14 14.1	
	comp=Z,5μm,0.3s						
BOQS	**Boqueron**	**0.65**	**2**	⇑*i*P	Pn	00 14 04.2	+0.1
BOQS				*e*S	Sb	00 14 14.5	+0.9
SNVI	**San Vicente**	**0.69**	**41**	⇓*i*P	Pn	00 14 04.4	-0.3
SNVI				*e*S	Sb	00 14 14.9	+0.1
LBRS	**Las Brisas**	**0.70**	**21**	⇓*e*P	Pn	00 14 04.8	+0.1
SBLS	**San Blas**	**0.81**	**338**	⇓*i*P	Pn	00 14 06.4	-0.1
SNJE	**San Jose**	**0.83**	**339**	⇓*i*P	Pn	00 14 06.6	-0.2
RTR	**El Retiro**	**0.87**	**338**	⇓*i*P	Pn	00 14 07.3	0.0
RTR				*e*S	Sb	00 14 20.0	+0.2
VSM	**San Miguel**	**1.06**	**71**	⇓*e*P	Pn	00 14 10.1	+0.1
RBDL	**Robledal**	**1.09**	**340**	⇓*i*P	Pn	00 14 10.0	-0.3
RBDL				*e*S	Sn	00 14 24.7	+0.4
BLLM	**Bellamira**	**1.10**	**71**	*e*P	Pn	00 14 10.5	+0.3
BLLM				*e*S	Sb	00 14 25.2	-0.7
CAHU	**Cacacuatique**	**1.26**	**57**	*e*P	Pn	00 14 12.6	-0.1
CNCH	**Conchagua**	**1.45**	**82**	*i* P	Pn	00 14 15.2	+0.1
IXG	**Ixpaco**	**1.56**	**314**	⇑*i*P	Pn	00 14 16.4	-0.3
MRL	**Marmol**	**2.00**	**349**	*e*P	Pn	00 14 23.8	+1.0

*IDC **10** 00:14:42.5±0.5, 33°.66S×71°.35W, h0km, mb4.4/15, mb1 4.5/17, mb1mx4.4/23, mbtmp4.4/17, ML4.5/2, MS3.5/13, Ms1 3.5/13, ms1mx3.4/23, Error ellipse: s-maj=17.8km s-min=12.8km az=97.0*
*ISCJB **10** 00:14:45.8±0.4, 33°.76S±0°.03×71°.68W±0°.04, h35km, mb4.5/19, MS3.6/10, Error ellipse: s-maj=5.4km s-min=4.5km az=36.9*
*BJI **10** 00:14:47.5, 32°.96S×71°.74W, h41km, mB5.3/4, Ms5.3/3, Ms7 5.0/3*
*NEIC **10** 00:14:49.3, 33°.81S×71°.42W, h12km, mb4.9/9, ML4.5(GUC), After GUC.*
NEIC Felt [V] at Puente Alto; [IV] at Casablanca, Colina, Melipilla, San Antonio and Talagante; [III] at Rancagua, San Fernando, Santiago and Valparaiso; [II] at Los Andes and San Felipe. Also felt at Buin, Lampa, Limache, Machali, Penaflor, Quilpue, San Bernardo, Villa Alemana and Vina del Mar.
*GUC **10** 00:14:49.3±0.7, 33°.81S×71°.42W, h12km±4km, ML4.5*
ISC 10 00:14:48.0±0.4, 33°.72S±0°.03×71°.43W±0°.05, h35km, n89, σ1§51/92, mb4.5/19, MS3.6/9, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**0.42**	**81**	*e*P	**Pn**	**00 14 58.9**	**+1.3**
ANTU	**Antumapu**	**0.68**	**78**	⇓*i*P	**Pn**	**00 15 02.6**	**+1.3**
ANTU				*i* S	**Sn**	**00 15 12.8**	**+2.1**
ANTU				AML	AML	00 15 14.9	
	comp=N,37μm,0.5s						
SAN	**Santiago**	**0.70**	**68**	⇑*i*P	**Pn**	**00 15 03.0**	**+1.6**
SAN				*i* S	**Sn**	**00 15 13.4**	**+2.4**
IHA	**Instituto Hidr**	**0.71**	**346**	⇑*i*P	**Pn**	**00 15 04.2**	**+2.6**
PCH	**Pirque**	**0.77**	**83**	⇑*i*P	**Pn**	**00 15 04.0**	**+1.5**
LACH	**Col Las Americ**	**0.80**	**71**	⇑*i*P	**Pn**	**00 15 04.2**	**+1.3**
LACH				*i* S	**Sn**	**00 15 16.0**	**+2.4**
LACH				AML	AML	00 15 16.5	
	comp=E,13μm,0.3s						
CLCH	**Cerro Calan**	**0.81**	**67**	⇓*i*P	**Pn**	**00 15 04.8**	**+1.8**
CLCH				*i* S	**Sn**	**00 15 16.8**	**+2.8**
CLCH				AML	AML	00 15 17.6	
	comp=E,46μm,0.3s						
PEL	**Peldehue**	**0.85**	**48**	*i* P	**Pn**	**00 15 05.7**	**+2.2**
				i S	**Sn**	**00 15 18.7**	**+3.9**
PEL				AML	AML	00 15 22.2	
	comp=E,94μm,0.6s						
NICH	**Los Niches**	**1.29**	**173**	*e*P	**Pn**	**00 15 10.6**	**+1.1**
NICH				*i* S	**Sn**	**00 15 26.7**	**+1.1**
NICH				AML	AML	00 15 30.4	
	comp=E,23μm,0.4s						
LNCH	**Linares**	**2.13**	**184**	⇑*i*P	Pn	00 15 23.6	+2.5
LNCH				*i* S	**Sn**	**00 15 50.5**	**+4.2**
CFAA	**Coronel Fontan**	**3.42**	**53**	Pg	Pn	00 15 42.9	+4.0
	comp=E,6.6nm,0.3s,baz=222,slow=13,SNR=153						
CFAA				Lg	Lg	00 16 28.1	
	comp=E,35nm,0.3s,baz=98,slow=18,SNR=15						
CFAA				LR	LR	00 17 18.7	
	comp=E,120nm,20.6s,baz=236,slow=47						
LCO	**Las Campanas**	**4.74**	**8**	*e*Pn	**Pn**	**00 15 58.2**	**+1.1**
LCO				*e*Sn	Sn	00 16 47.9	-3.1
PLCA	**Paso Flores**	**7.04**	**175**	Pn	**Pn**	**00 16 29.5**	**+0.9**
	comp=E,1.8nm,0.3s,baz=336,slow=11,SNR=19						
PLCA				Lg	Lg	00 18 26.3	
	comp=E,0.4nm,0.3s,baz=296,slow=18,SNR=2.4						
PLCA				LR	LR	00 19 21.8	
	comp=E,331nm,20.5s,baz=320,slow=39						
PLCA	**Paso Flores**	**7.04**	**175**	*e*Pn	**Pn**	**00 16 28.2**	**-0.3**
PLCA				*e*Sn	**Sn**	**00 17 46.4**	**-1.0**
PLCA				Lg	Lg	00 18 26.3	
TRQA	**Tornquist**	**8.81**	**122**	*e*Pn	Pn	00 16 49.1	-3.7
LVC	**Limon Verde**	**11.29**	**12**	*e*Pn	Pn	00 17 24.8	-2.2
LVC				*e*Sn	**Sn**	**00 19 35.0**	**+2.9**
CPUP	**Villa Florida**	**14.26**	**63**	Pn	**Pn**	**00 18 08.3**	**+1.0**
	comp=E,1.2nm,0.3s,baz=180,slow=9.5,SNR=6.0						
CPUP				LR	LR	00 24 24.2	
	comp=E,332nm,18.9s,baz=228,slow=41						
CPUP	**Villa Florida**	**14.26**	**63**	*e*Pn	Pn	00 18 03.7	-3.6
CPUP				*e*Sn	Sn	00 20 32.2	-12
LPAZ	**La Paz**	**17.61**	**11**	Pn	**Pn**	**00 18 52.2**	**+0.9**
	comp=E,0.2nm,0.3s,baz=192,slow=9.6,SNR=14						
LPAZ	**La Paz**	**17.61**	**11**	*e*Pn	**Pn**	**00 18 51.9**	**+0.6**
	comp=E,17nm,0.8s						
SIV	**San Ignacio**	**19.97**	**30**	P	**P**	**00 19 17.2**	**-0.2**
	comp=E,1.3nm,0.3s,baz=220,slow=10,SNR=32						
SIV				LR	LR	00 28 29.9	
	comp=E,188nm,20.1s,baz=224,slow=42						
EFI	**East Falkland**	**20.40**	**156**	*e*P	**P**	**00 19 19.6**	**-2.1**
	comp=E,79nm,1.3s						
USHA	**Ushuaia**	**21.21**	**175**	P	**P**	**00 19 30.8**	**+0.3**
	comp=E,18nm,1.0s,baz=359,slow=11,SNR=4.5						
USHA				LR	LR	00 28 04.7	
	comp=E,350nm,18.8s,baz=28,slow=38						
NNA	**Nana**	**22.19**	**346**	LR	LR	00 26 45.8	
	comp=E,66nm,20.8s,baz=162,slow=33						
ATAH	**Atahualpa**	**27.23**	**345**	LR	LR	00 30 05.5	
	comp=E,57nm,21.9s,baz=104,slow=34						
BDFB	**Brasilia**	**27.76**	**55**	P	**P**	**00 20 33.4**	**-0.3**
	comp=E,6.9nm,1.0s,baz=220,slow=9.8,SNR=6.9						
BDFB				LR	LR	00 32 45.2	
	comp=E,233nm,20.3s,baz=228,slow=39						
SNAA	**Sanae**	**51.66**	**158**	P	**P**	**00 23 50.7**	**-0.2**
	comp=E,2.0nm,0.9s,baz=334,slow=15,SNR=6.0						
SNAA	**Sanae**	**51.66**	**158**	*e*P	**P**	**00 23 48.9**	**-2.0**
	comp=E,42nm,1.8s						
CELP	**Cerrillos**	**51.71**	**6**	*e*P	**P**	**00 23 50.9**	**-0.9**
TEIG	**Tepich**	**56.00**	**341**	P	P	00 24 21.7	-1.4
	comp=E,14nm,0.8s,baz=133,slow=18,SNR=3.6						
TEIG	**Tepich**	**56.00**	**341**	*e*P	**P**	**00 24 22.9**	**-0.2**
QSPA	**South Pole Qui**	**56.52**	**180**	P	**P**	**00 24 26.6**	**+0.1**
	comp=E,4.0nm,0.8s,baz=151,slow=6.7,SNR=25						
QSPA	**South Pole Qui**	**56.52**	**180**	*e*P	**P**	**00 24 26.1**	**-0.5**
	comp=E,12nm,1.1s						
VNDA	**Vanda**	**64.47**	**191**	LR	LR	00 51 28.0	
	comp=E,62nm,18.1s,baz=188,slow=34						
SYO	**Syowa Base**	**65.94**	**158**	⇑*e*P	**P**	**00 25 27.6**	**-2.4**
TXAR	**Lajitas Array**	**69.74**	**330**	P	**P**	**00 25 55.7**	**+1.2**
	comp=E,0.8nm,0.6s,baz=151,slow=7.6,SNR=14						
TX31	**Lajitas Ar. Si**	**69.74**	**330**	*e*P	**P**	**00 25 55.7**	**+1.1**
TKL	**Tuckaleechee C**	**69.98**	**349**	P	**P**	**00 25 54.6**	**-1.1**
	comp=E,3.1nm,0.8s,baz=159,slow=9.2,SNR=6.2						
PPT2	**Papeete2**	**70.77**	**261**	*e*LR	LR	00 47 38.9	
	comp=E,146nm,28.2s						
PPT	**Papeete**	**70.78**	**261**	LR	LR	00 47 12.0	
	comp=E,22nm,19.7s,baz=184,slow=28						
WVT	**Waverly**	**71.16**	**346**	*e*P	**P**	**00 26 03.0**	**+0.1**
	comp=E,16nm,0.8s						
JSRW	**J. Sargeant Re**	**71.30**	**355**	*e*P	**P**	**00 26 04.2**	**+0.5**
MAW	**Mawson**	**73.31**	**163**	LR	LR	00 58 54.0	
	comp=E,108nm,19.0s,baz=246,slow=36						
ACSO	**Alum Creek Sta**	**74.35**	**351**	*e*P	**P**	**00 26 21.8**	**0.0**
	comp=E,11nm,0.8s						
DBIC	**Dimbokro**	**74.61**	**71**	P	**P**	**00 26 23.3**	**-0.6**
	comp=E,6.1nm,0.9s,baz=226,slow=8.2,SNR=4.1						
DBIC				LR	LR	00 57 45.1	
	comp=E,25nm,18.3s,baz=207,slow=35						
SADO	**Sadowa**	**78.43**	**354**	P	**P**	**00 26 43.6**	**-1.2**
	comp=E,3.6nm,0.7s,baz=170,slow=1.5,SNR=4.9						
BOSA	**Boshof**	**79.75**	**117**	P	**P**	**00 26 52.3**	**-0.5**
	comp=E,13nm,1.0s,baz=206,slow=3.8,SNR=11						
BOSA				LR	LR	00 59 25.9	
	comp=E,26nm,19.3s,baz=172,slow=34						
BOSA	**Boshof**	**79.75**	**117**	*e*P	**P**	**00 26 52.3**	**-0.5**
	comp=E,15nm,1.0s						
ECSD	**EROS Data Cent**	**80.44**	**342**	*e*P	**P**	**00 26 56.0**	**+0.2**
	comp=E,4.1nm,0.8s						
LBTB	**Lobatse**	**81.96**	**115**	*e*P	**P**	**00 27 04.0**	**-0.7**
	comp=E,158nm,2.8s						
TOA0	**Torodi Ar. Sit**	**83.64**	**70**	*e*P	**P**	**00 27 12.2**	**-1.1**
TORD	**Torodi Ar. Bea**	**83.64**	**70**	P	**P**	**00 27 12.2**	**-1.1**
	comp=E,6.5nm,0.8s,baz=294,slow=6.3,SNR=38						
PDAR	**Pinedale Array**	**83.74**	**333**	P	**P**	**00 27 14.6**	**+1.2**
	comp=E,0.5nm,0.8s,baz=184,slow=3.6,SNR=4.1						
NVAR	**Mina Array Bea**	**83.94**	**325**	P	**P**	**00 27 16.2**	**+1.7**
	comp=E,0.3nm,0.5s,baz=160,slow=6.4,SNR=2.8						
ELK	**Elko**	**84.39**	**328**	P	**P**	**00 27 15.4**	**-1.3**
	comp=E,1.1nm,0.7s,baz=288,slow=19,SNR=4.4						
ULM	**Lac du Bonnet**	**86.36**	**345**	P	P	00 27 24.3	-1.8
	comp=E,2.4nm,0.8s,baz=176,slow=4.0,SNR=5.4						
FINES	**FINESS Array B**	**122.47**	**34**	PKP	**PKPdf**	**00 33 37.9**	**-0.8**
	comp=E,0.5nm,0.6s,baz=270,slow=1.4,SNR=5.5						
ARCES	**ARCESS Array B**	**123.55**	**25**	PKP	**PKPdf**	**00 33 39.5**	**-1.1**
	comp=E,4.4nm,0.9s,baz=120,slow=1.2,SNR=4.7						
H11S2	**WAKE ISLAND Hyl**	**26.28**	**269**	T	T	02 52 45.9	
	baz=118,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hyl**	**26.29**	**269**	T	T	02 52 49.2	
	baz=118,slow=75,SNR=34						
H11S3	**WAKE ISLAND Hyl**	**26.30**	**269**	T	T	02 52 50.3	
	baz=118,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hyl**	**26.69**	**270**	T	T	02 53 17.6	
	baz=114,slow=78,SNR=5.8						
H11N1	**WAKE ISLAND Hyl**	**26.70**	**270**	T	T	02 53 19.1	
	baz=114,slow=78,SNR=7.0						
H11N2	**WAKE ISLAND Hyl**	**26.70**	**270**	T	T	02 53 18.9	
	baz=114,slow=78,SNR=12						
ABKAR	**Akbulak array**	**141.11**	**52**	*e*PKPpre	PKPpre	00 34 07.5	
BRVK	**Borovoye**	**146.66**	**43**	*e*PKPdf	**PKPdf**	**00 34 24.0**	**+0.2**
VOSK	**Vostochnaya**	**147.17**	**43**	*e*PKPdf	**PKPdf**	**00 34 26.8**	**+2.1**
AML	**Almayashu**	**151.40**	**63**	P	**PKPbc**	**00 34 38.2**	**-0.2**
	SNR=5.6						
EKS2	**Erkin-Say**	**151.40**	**62**	P	**PKPbc**	**00 34 37.7**	**-0.3**
	SNR=6.0						
EKS2	**Erkin-Say**	**151.40**	**62**	*e*PKPdf	**PKPdf**	**00 34 32.5**	**+0.5**
USP	**Ospenovka**	**151.85**	**60**	P	**PKPbc**	**00 34 38.9**	**0.0**
	SNR=5.2						
AAK	**Ala-Archa**	**151.93**	**61**	P	**PK

SVKR	**Severomuysk**	**0.30**	**181**	⇓*i*Pg	**Pg**	**00 44 15.5**	**+0.3**
	comp=N,517nm,0.2s						
SVKR				⇑*i*Pg	**Pg**	**00 44 15.5**	**+0.3**
	comp=N,161nm,0.2s						
SVKR				⇑*i*Pg	**Pg**	**00 44 15.5**	**+0.3**
	comp=N,3μm,0.2s						
SVKR				*e*Sg	**Sg**	**00 44 19.9**	**+0.7**
SVKR				Pmax			
	comp=N,3μm,0.1s						
SVKR				Smax			
	comp=N,5μm,0.5s						
YOA	**Uoyan**	**1.07**	**255**	*e*PG	**Pb**	**00 44 29.6**	**-0.6**
YOA				*e*		00 44 44.0	
YOA				pmax	pmax		
	comp=Z,216nm,0.2s						
YOA				smax	smax		
	comp=E,956nm,0.4s						
YOA	**Uoyan**	**1.07**	**255**	*e*	**Pn**	**00 44 32.5**	**+1.7**
YOA				*e*Sg	**Sg**	**00 44 44.2**	**+0.6**
YOA				Smax			
	comp=E,957nm,0.5s						
NLYR	**Nelyaty**	**1.19**	**85**	*e*PG	**Pb**	**00 44 31.3**	**-0.9**
NLYR				*e*		00 44 46.8	
NLYR				pmax	pmax		
	comp=Z,39nm,0.2s						
NLYR				smax	smax		
	comp=N,491nm,0.9s						
NLYR	**Nelyaty**	**1.19**	**85**	⇑*i*Pg	**Pb**	**00 44 31.3**	**-0.9**
NLYR				*e*Pb	**Pg**	**00 44 33.2**	**+1.1**
NLYR				*e*Sg	**Sb**	**00 44 47.8**	**0.0**
NLYR				*e*Sb	**Sn**	**00 44 50.4**	**+1.5**
NLYR				max			
	comp=N,40nm,0.4s						
NLYR				max			
	comp=N,490nm,0.9s						
BOD	**Bodaibo**	**1.43**	**9**	⇑*i*PG	**Pn**	**00 44 34.6**	**-1.1**
BOD				*e*		00 44 52.8	
BOD				pmax	pmax		
	comp=Z,51nm,0.2s						
BOD				smax	smax		
	comp=E,516nm,0.2s						
BOD	**Bodaibo**	**1.43**	**9**	⇑*i*Pg	**Pn**	**00 44 35.0**	**-0.7**
	comp=E,61nm,0.4s						
BOD				⇑*i*Pg	**Pn**	**00 44 35.0**	**-0.7**
	comp=E,11nm,0.4s						
BOD				⇑*i*Pg	**Pn**	**00 44 35.0**	**-0.7**
	comp=E,46nm,0.4s						
BOD				*e*		00 44 36.7	
BOD				*e*Sg	**Sn**	**00 44 53.6**	**-1.1**
BOD				Pmax			
	comp=E,51nm,0.2s						
BOD				Smax			
	comp=E,517nm,0.2s						
KMO	**Kumora**	**1.43**	**249**	*e*PG	**Pn**	**00 44 35.3**	**-0.4**
KMO				*e*		00 44 54.1	
KMO				pmax	pmax		
	comp=Z,35nm,0.2s						
KMO				smax	smax		
	comp=N,335nm,1.0s						
KMO	**Kumora**	**1.43**	**249**	⇑*i*Pg	**Pn**	**00 44 35.4**	**-0.3**
KMO				*e*		00 44 43.7	
KMO				*i* Sg	**Sb**	**00 44 55.4**	**+0.7**
KMO				max			
	comp=N,44nm,0.4s						
KMO				Smax			
	comp=N,335nm,1.0s						
YLYR	**Ulyunkhan**	**2.06**	**222**	⇓*i*Pn	**Pn**	**00 44 44.5**	**+0.1**
YLYR				*e*Pg	**Pb**	**00 44 46.0**	**-1.1**
YLYR				*e*		00 44 53.0	
YLYR				*e*Sg	**Sb**	**00 45 13.8**	**+0.9**
YLYR				max			
	comp=N,18nm,0.3s						
YLYR				Smax			
	comp=N,125nm,0.3s						
NIZ	**Nizh Angarsk**	**2.35**	**256**	*e*Pn	**Pn**	**00 44 48.3**	**0.0**
NIZ				*e*Pg	**Pb**	**00 44 50.3**	**-1.6**
NIZ				*e*		00 44 52.0	
NIZ				*e*		00 44 59.4	
NIZ				*e*Sg	**Sb**	**00 45 22.5**	**+1.4**
NIZ				max			
	comp=N,22nm,0.7s						
NIZ				Smax			
	comp=N,105nm,0.4s						
CRS	**Chara**	**2.64**	**77**	*e*Pn	Pn	00 44 49.3	-3.1
CRS				*e*Pg	**Pb**	**00 44 56.1**	**-0.9**
CRS				*e*		00 44 59.1	
CRS				*i* Sg	**Sb**	**00 45 31.9**	**+2.3**
CRS				Pmax			
	comp=N,7.0nm,0.4s						
CRS				Smax			
	comp=N,65nm,0.8s						
VTMR	**Vitim**	**3.08**	**350**	*e*Pg	**Pb**	**00 45 03.7**	**-0.8**
VTMR				*e*Sg	**Sb**	**00 45 44.9**	**+2.7**
SYVR	**Suvo**	**3.44**	**218**	⇓*i*Pn	**Pn**	**00 45 03.0**	**-0.4**
SYVR				Pg	**Pb**	**00 45 10.2**	**-0.4**
SYVR				*e*		00 45 25.7	
SYVR				*e*Sn	**Sn**	**00 45 42.8**	**-1.6**
SYVR				*e*Sg	**Sb**	**00 45 56.3**	**+3.6**
SYVR				Pmax			
	comp=N,3.0nm,0.3s						
SYVR				Smax			
	comp=N,38nm,1.8s						
KHNR	**Khani**	**3.57**	**79**	*e*	**Pn**	**00 45 05.5**	**+0.3**
KHNR				*e*Pg	**Pb**	**00 45 13.1**	**+0.2**
KHNR				*e*		00 45 21.4	
KHNR				*e*		00 45 43.2	
KHNR				*e*Sg	**Sb**	**00 46 00.7**	**+4.3**
TUP	**Tupik**	**4.15**	**116**	*e*Pn	**Pn**	**00 45 12.7**	**-0.4**
TUP				*e*Pg	**Pb**	**00 45 23.2**	**+0.5**
TUP				*e*Sn	**Sn**	**00 45 59.0**	**-2.9**
TUP				*e*Sg	**Sg**	**00 46 18.9**	**-3.6**
TUP				*e*		00 46 23.3	
TUP				Pmax			
	comp=N,5.0nm,0.2s						
TUP				max			
	comp=N,32nm,0.5s						
MXMB	**Maximikha**	**4.21**	**223**	*e*	Pg	00 45 37.1	+7.1
MXMB				*e*Sg	**Sg**	**00 46 21.5**	**-3.0**
MXMB				Smax			
	comp=N,42nm,1.0s						
CIT	**Chita**	**4.40**	**180**	*e*Sg	Sb	00 46 26.2	+5.9
CIT				Smax			
	comp=N,73nm,0.2s						
OGRR	**Ongureny**	**4.42**	**234**	⇓*i*Pn	**Pn**	**00 45 16.5**	**-0.3**
OGRR				⇓*i*		00 45 24.3	
OGRR				*e*Pg	**Pb**	**00 45 27.6**	**+0.3**
OGRR				*e*		00 46 01.8	
OGRR				*e*Sg	Sb	00 46 25.8	+5.1
OGRR				Smax			
	comp=N,17nm,0.3s						
YKLR	**Yuktali**	**4.48**	**84**	*e*Sg	Sb	00 46 28.7	+6.1
ZRHB	**Zarechye**	**5.38**	**227**	Sg	Sg	00 46 56.0	-6.0
ZRHB				Smax			
	comp=N,27nm,0.9s						
TRG	**Tyrgan**	**5.57**	**232**	*e*Pn	Pn	00 45 28.5	-4.1
TRG				*e*Pg	**Pb**	**00 45 47.8**	**+0.9**
TRG				*e*		00 45 53.2	
TRG				*e*Sg	Sb	00 47 00.9	+7.0
TRG				max			
	comp=N,1.0nm,0.2s						
TRG				Smax			
	comp=N,10.0nm,0.9s						
UUDB	**Ulan-Yde**	**5.73**	**220**	Sg	Sg	00 47 06.4	-6.7
UUDB				Smax			
	comp=N,11nm,0.9s						
HRMR	**Khuramsha**	**6.18**	**222**	*e*	Pg	00 46 16.9	+9.3
HRMR				*e*Sg	Sg	00 47 21.7	-5.9
HRMR				Smax			
	comp=N,30nm,0.7s						
KPC	**Khapcheranga**	**6.76**	**187**	*e*	Pn	00 45 46.1	-2.9
KPC				*e*		00 45 55.7	
KPC				*e*		00 47 19.6	
KPC				*e*Sg	Sg	00 47 39.2	-7.1
KPC				Smax			
	comp=N,16nm,1.0s						
LSTR	**Listvyanka**	**6.86**	**232**	Sg	Sg	00 47 42.9	-6.5
TLY	**Talaya**	**7.52**	**235**	*e*	Pg	00 47 11.5	+38
TLY				*e*Sg	Sb	00 48 00.2	+10
ARS	**Arshan**	**7.94**	**240**	*e*Sg	Sg	00 48 14.3	-10
ARS				Smax			
	comp=N,17nm,0.8s						
ZAK	**Zakamensk**	**8.61**	**230**	*e*Sg	Sg	00 48 35.3	-10
MOY	**Mondy**	**8.79**	**243**	*e*Sg	Sg	00 48 42.8	-8.5
MOY				*e*		00 48 46.1	
MOY				max			
	comp=N,5.0nm,1.0s						
ORL	**Orlik**	**8.90**	**250**	*e*		00 48 12.2	
ORL				*e*Sg	Sg	00 48 43.3	-12
ORL				*e*		00 48 49.9	
ORL				max			
	comp=N,5.0nm,0.8s						

IDC 10 00:46:27.7±1.6, 35°.43S×71°.85W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/19, mbtmp3.5/3, ML3.8/1, MS2.4/2, Ms1 2.5/2, ms1mx2.3/26, Error ellipse: s-maj=65.3km s-min=23.4km az=77.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.86**	**39**	Pn	Pb	00 47 49.2	-4.6
	0.2nm,0.3s,baz=221,slow=12,SNR=10						
CFAA				Lg	Lg	00 48 57.8	
	0.3nm,0.3s,baz=111,slow=23,SNR=9.4						
CFAA				LR	LR	00 50 07.5	
	comp=Z,11nm,20.9s,baz=221,slow=45						
PLCA	**Paso Flores**	**5.39**	**169**	Pn	Pn	00 47 51.3	+1.8
	0.8nm,0.3s,baz=341,slow=12,SNR=18						
PLCA				Lg	Lg	00 49 17.2	
	0.6nm,0.3s,baz=260,slow=23,SNR=4.0						
CPUP	**Villa Florida**	**15.40**	**58**	LR	LR	00 57 16.7	
	comp=Z,47nm,18.1s,baz=199,slow=42						
TXAR	**Lajitas Array**	**71.05**	**331**	P	P	00 57 47.7	+0.1
	0.1nm,0.4s,baz=156,slow=7.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	**84.56**	**70**	P	P	00 59 02.7	-0.3
	0.6nm,0.9s,baz=224,slow=5.7,SNR=5.2						

*ISCJB **10** 00:57:49.4±0.7, 31°.82N±0°.03×115°.75W±0°.03, h11km±4km, Error ellipse: s-maj=4.4km s-min=4.0km az=9.5*
*NEIC **10** 00:57:51.2, 31°.83N×115°.82W, h3km, ML3.7(ECX), ML3.9(PAS), After ECX.*
NEIC Felt at Julian, California.
*ECX **10** 00:57:51.2±0.5, 31°.83N×115°.82W, h3km, MD3.7, ML3.7, Fault plane solution: NP1,φs326.60000°, δ75.50000°, λ-26.60000°.*

ISC 10 00:57:49.9±0.9, 31°.85N±0°.03×115°.79W±0°.03, h16km±6km, n35, σ0s97/56, 20C-14D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDX	**Rancho Dawling**	**0.16**	**302**	⇑*e*P	**Pg**	**00 57 54.1**	**-0.1**
RDX				*e*S	**Sg**	**00 57 56.8**	**-0.2**
RDX	**Rancho Dawling**	**0.16**	**302**	*e*P	**Pg**	**00 57 54.1**	**-0.1**
RDX				*e*S	**Sg**	**00 57 56.8**	**-0.2**
ZAX	**El Zacaton**	**0.53**	**232**	⇑*e*P	**Pg**	**00 58 00.3**	**-0.2**
ZAX				*e*S	**Sg**	**00 58 07.5**	**-0.2**
CPBX	**Cerro Prieto**	**0.70**	**35**	⇓*e*P	**Pb**	**00 58 04.6**	**+0.8**
ECNX	**Esteban Cantu**	**0.72**	**255**	⇑*e*P	**Pg**	**00 58 03.7**	**-0.3**
ECNX				*e*S	**Sg**	**00 58 13.2**	**-0.3**
ECNX				⇑*e*		00 58 18.8	
	comp=N,3μm,0.6s						
RMX	**La Rumorosa**	**0.80**	**342**	⇓*e*P	**Pg**	**00 58 05.2**	**-0.2**
RMX				*e*S	**Sg**	**00 58 16.4**	**+0.5**
RMX				⇑*e*		00 58 16.7	
	comp=E,2μm,0.2s						
RMX	**La Rumorosa**	**0.80**	**342**	*e*P	**Pg**	**00 58 05.2**	**-0.2**
RMX				*e*S	**Sg**	**00 58 16.4**	**+0.5**
PBX	**Punta Banda**	**0.81**	**263**	⇑*e*P	**Pg**	**00 58 05.4**	**-0.3**
PBX				*e*S	**Sg**	**00 58 15.7**	**-0.6**
PBX	**Punta Banda**	**0.81**	**263**	*e*P	**Pg**	**00 58 05.4**	**-0.3**
PBX				*e*S	**Sg**	**00 58 15.7**	**-0.6**
SPX	**San Pedro Mart**	**0.84**	**161**	⇓*e*P	**Pg**	**00 58 06.3**	**-0.1**
SPX				*e*S	**Sg**	**00 58 17.7**	**+0.2**
SPX	**San Pedro Mart**	**0.84**	**161**	*e*P	**Pg**	**00 58 06.3**	**-0.1**
SPX				*e*S	**Sg**	**00 58 17.7**	**+0.2**
CBX	**Cerro Bola**	**0.88**	**302**	⇑*e*P	**Pg**	**00 58 06.9**	**-0.1**
CBX				*e*S	**Sg**	**00 58 18.7**	**+0.1**
CBX				⇑*e*		00 58 19.9	
	comp=N,6μm,0.5s						
CBX	**Cerro Bola**	**0.88**	**302**	*e*P	**Pg**	**00 58 06.9**	**-0.1**
CBX				*e*S	**Sg**	**00 58 18.7**	**+0.1**
SWSC	**Sam W. Stewart**	**1.09**	**360**	⇑P	**Pb**	**00 58 10.8**	**+0.4**
	baz=1.1,SNR=170						
MONP	**Monument Peak,**	**1.17**	**333**	⇑P	**Pn**	**00 58 12.0**	**+0.1**
	baz=1.2,SNR=93						
MONP				⇑S	**Sb**	**00 58 27.3**	**+0.3**
	baz=1.2						
GLA	**Glamis**	**1.45**	**34**	⇑P	**Pn**	**00 58 15.3**	**-0.3**
	baz=1.5,SNR=22						
GLA				⇑S	**Sn**	**00 58 33.2**	**-1.1**
	baz=1.5						
109C	**Camp Elliot, M**	**1.53**	**313**	⇓P	**Pn**	**00 58 17.1**	**+0.6**
	baz=1.5,SNR=47						
109C				⇑S	**Sn**	**00 58 36.9**	**+0.7**
	baz=1.5						
BC3	**Big Chuckawall**	**1.83**	**9**	⇓P	**Pn**	**00 58 21.0**	**+0.2**
	baz=1.9,SNR=59						
PFO	**Pinyon Flats O**	**1.85**	**342**	⇓P	**Pn**	**00 58 21.5**	**+0.3**
	baz=1.9,SNR=13						
PFO				⇓Sb	**Sg**	**00 58 48.7**	**-0.7**
	baz=1.9						
PFO	**Pinyon Flats O**	**1.85**	**342**	*e*Pn	**Pn**	**00 58 21.2**	**+0.1**
PFO				*e*Sn	**Sb**	**00 58 47.3**	**+0.9**
113A	**Mohawk Valley,**	**1.94**	**61**	⇑P	**Pn**	**00 58 22.4**	**+0.2**
	baz=2.0						
MURC	**Murrieta**	**2.12**	**326**	⇓P	**Pn**	**00 58 25.6**	**+0.8**
	baz=2.1,SNR=22						
MURC				⇑S	**Sb**	**00 58 54.1**	**0.0**
	baz=2.1						
BELC	**Belle Mtn. Jos**	**2.16**	**355**	⇓P	**Pn**	**00 58 26.0**	**+0.7**
	baz=2.2,SNR=19						
Y12C	**Blythe**	**2.18**	**29**	⇓P	**Pn**	**00 58 25.8**	**+0.3**
	baz=2.2						
IRM	**Iron Mountain**	**2.37**	**13**	⇑P	**Pn**	**00 58 28.5**	**+0.3**
	baz=2.4						
214A	**Organ Pipe Nat**	**2.53**	**87**	⇑P	**Pn**	**00 58 29.4**	**-1.0**
	baz=2.6						
214A				⇓S	**Sn**	**00 58 59.5**	**-1.5**
	baz=2.6						
BBRC	**Big Bear Solar**	**2.59**	**339**	⇓P	**Pn**	**00 58 32.1**	**+0.7**
	baz=2.6						
BBRC				⇑Sb	**Sg**	**00 59 11.8**	**-1.5**
	baz=2.6						
CIS	**Catalina Islan**	**2.70**	**306**	⇓S	**Sn**	**00 59 06.6**	**+1.4**
	baz=2.7						
BFSC	**Mount Baldy Ra**	**2.86**	**327**	⇓P	**Pn**	**00 58 35.9**	**+0.9**
	baz=2.9						
MWC	**Mount Wilson**	**3.04**	**322**	*e*Pn	**Pb**	**00 58 42.3**	**-1.6**
MWC				*e*Sn	**Sn**	**00 59 11.3**	**-2.6**
RRX	**Edison Barstow**	**3.19**	**342**	⇑Sb	**Sg**	**00 59 30.1**	**-2.4**
	baz=3.2						
GSC	**Goldstone, Bar**	**3.55**	**346**	*e*Pn	**Pn**	**00 58 46.3**	**+1.8**
TUC	**Tucson**	**4.27**	**82**	*e*Pn	**Pn**	**00 58 55.5**	**+1.1**
SHPR	**Sheep Range**	**4.68**	**6**	*e*Pn	**Pn**	**00 59 02.1**	**+2.0**
CCUT	**Cedar City**	**6.03**	**19**	*e*Pn	**Pn**	**00 59 21.7**	**+3.0**
	comp=N,2.9nm,0.5s						

*MOS **10** 00:59:16.8±0.9, 51°.73N×173°.51W, h33km, mb5.0/40, Error ellipse: s-maj=10.0km s-min=5.4km az=94.6*
*ISCJB **10** 00:59:19.4±0.6, 51°.77N±0°.05×173°.50W±0°.03, h53km±4km, mb4.6/99, MS3.5/17, Error ellipse: s-maj=8.2km s-min=2.8km az=4.3*
*IDC **10** 00:59:19.2±0.6, 51°.75N×173°.57W, h39km±4km, mb4.2/39, mb1 4.3/41, mb1mx4.3/45, mbtmp4.4/41, ML4.4/2, MS3.5/18, Ms1 3.5/18, ms1mx3.3/53, Error ellipse: s-maj=16.3km s-min=9.0km az=170.0*
*NEIC **10** 00:59:20.1±0.5, 51°.69N×173°.55W, h50km±3km, mb4.7/47, Error ellipse: s-maj=7.5km s-min=3.1km az=181.0*
*BJI **10** 00:59:22.0, 51°.90N×173°.50W, h100km, mB5.1/12, mb4.9/21*

ISC 10 00:59:19.7±0.6, 51°.67N±0°.08×173°.50W±0°.04, h47km±4km, h46km: pP-P, n476, σ0s86/492, mb4.6/99, MS3.6/17, 110C-87D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.71**	**329**	P	**Pn**	**00 59 33.3**	**-0.2**
KOKL	**Mount Kliuchef**	**0.79**	**327**	P	**Pn**	**00 59 34.3**	**-0.2**
KOKL				S	**Sn**	**00 59 45.9**	**+0.6**
KOKV	**Korovin Volcan**	**0.81**	**329**	P	**Pn**	**00 59 33.3**	**-1.5**
KOWE	**Korovin West**	**0.84**	**327**	P	**Pn**	**00 59 34.0**	**-1.2**
NIKH	**Nikolski High**	**3.13**	**64**	P	**Pn**	**01 00 06.0**	**-0.5**
NIKH				S	**Sn**	**01 00 43.6**	**+1.0**
OKSP	**Okmok Steeple**	**3.56**	**61**	P	**Pn**	**01 00 12.4**	**+0.1**
OKFG	**Magazine Ridge**	**3.83**	**61**	P	**Pn**	**01 00 17.5**	**+1.5**
OKFG				S	**Sn**	**01 01 00.6**	**+0.9**
MSOM	**Makushin Julie**	**4.52**	**59**	P	**Pn**	**01 00 26.2**	**+0.7**
MSOM	**Makushin Julie**	**4.52**	**59**	P	**Pn**	**01 00 26.2**	**+0.7**
MGOD	**Makushin Gods**	**4.55**	**60**	P	**Pn**	**01 00 26.6**	**+0.6**
MGOD				S	**Sn**	**01 01 18.8**	**+1.2**
MREP	**Makushin Rep't**	**4.63**	**60**	P	**Pn**	**01 00 28.4**	**+1.4**
MSW	**Makushin Switc**	**4.65**	**58**	P	**Pn**	**01 00 28.3**	**+1.0**
MSW				S	**Sn**	**01 01 21.9**	**+1.9**
MTBL	**Makushin Table**	**4.73**	**58**	P	**Pn**	**01 00 29.2**	**+0.7**
UNV	**Unalaska Valle**	**4.78**	**60**	P	**Pn**	**01 00 29.8**	**+0.8**
UNV				S	**Sn**	**01 01 23.0**	**0.0**
AKRB	**Akutan Reef Bi**	**5.13**	**58**	P	**Pn**	**01 00 33.8**	**-0.1**
AKRB				S	**Sn**	**01 01 32.1**	**+0.5**
AKV	**Akutan Volcano**	**5.18**	**59**	P	**Pn**	**01 00 35.5**	**+0.8**
AKUT	**Akutan**	**5.29**	**59**	*e*Pn	**Pn**	**01 00 37.9**	**+1.9**
AKUT				*e*Sn	**Sn**	**01 01 34.8**	**-0.8**
WESN	**West Dahl Nort**	**6.10**	**58**	P	**Pn**	**01 00 48.8**	**+1.6**
FALS	**False Pass**	**6.84**	**58**	*e*Pn	**Pn**	**01 00 58.5**	**+1.3**
FALS				*e*Sn	**Sn**	**01 02 12.5**	**-1.1**
DRIA	**Deer Island**	**7.49**	**59**	P	**Pn**	**01 01 07.0**	**+0.7**
DT1	**Dutton Round H**	**7.54**	**58**	P	**Pn**	**01 01 07.8**	**+1.0**
DTNA	**Dutton South F**	**7.57**	**58**	P	**Pn**	**01 01 08.3**	**+1.0**
FX1	**Attu Island--F**	**8.27**	**284**	*e*P	**Pn**	**01 01 19.2**	**+2.2**
FX1				*e*		01 02 54.3	
FX1	**Attu Island--F**	**8.27**	**284**	Pn	**Pn**	**01 01 18.4**	**+1.4**
	4.7nm,0.3s,baz=96,slow=2.8,SNR=28						
FX1	**Attu Island--F**	**8.27**	**284**	*e*Pn	**Pn**	**01 01 19.2**	**+2.2**
FX1				*e*Sn	**Sn**	**01 02 54.3**	**+5.4**
GAMB	**Gambell**	**12.18**	**4**	*e*Pn	**Pn**	**01 02 12.9**	**+2.7**
	4.8nm,0.8s						
KDAK	**Kodiak Island**	**13.51**	**55**	*e*P	**Pn**	**01 02 26.9**	**-1.6**
KDAK	**Kodiak Island**	**13.51**	**55**	*e*Pn	**Pn**	**01 02 26.9**	**-1.6**
TNA	**Tin City**	**14.22**	**9**	*e*Pn	**Pn**	**01 02 40.5**	**+2.5**
	9.5nm,0.6s						
SEW	**Seward**	**15.83**	**48**	*e*Pn	**Pn**	**01 02 58.6**	**-0.5**
PPLA	**Purkeypile**	**16.00**	**37**	*e*Pn	**P**	**01 03 04.2**	**0.0**
	15nm,0.8s						
KTH	**Kantishna Hill**	**16.85**	**36**	*e*Pn	**Pn**	**01 03 12.5**	**+0.5**
	18nm,0.8s						
TRF	**Thorofare Moun**	**17.03**	**37**	*e*Pn	**Pn**	**01 03 13.8**	**-0.4**
	8.3nm,0.8s						
PETK	**Petropavlovsk-**	**17.59**	**286**	P	**Pn**	**01 03 20.6**	**-0.6**
	0.7nm,0.3s,baz=84,slow=14,SNR=4.7						
PETK				LR	LR	01 09 35.5	
	comp=Z,92nm,21.8s,baz=91,slow=35						
COLA	**College**	**18.70**	**35**	*e*P	**Pn**	**01 03 34.5**	**0.0**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
COLA	**College**	**18.70**	**35**	*e*Pn	**Pn**	**01 03 34.5**	**0.0**
	comp=Z,10nm,0.9s						
ILAR	**Eielson Array**	**19.00**	**36**	P	**P**	**01 03 35.4**	**-1.7**
	comp=Z,2.2nm,0.3s,baz=228,slow=9.7,SNR=108						
ILAR				LR	LR	01 11 21.7	
	comp=Z,208nm,18.4s,baz=256,slow=38						
BILL	**Biiibino**	**19.14**	**337**	⇓*i*P	**Pn**	**01 03 40.2**	**+0.5**
BILL				pmax	pmax		
	comp=Z,13nm,0.9s						
BILL	**Biiibino**	**19.14**	**337**	*e*P	**Pn**	**01 03 39.5**	**-0.3**
	comp=Z,22nm,1.0s						
COLD	**Coldfoot**	**19.38**	**28**	*e*P	**Pn**	**01 03 42.0**	**-0.6**
	comp=Z,14nm,1.0s						
EGAK	**Eagle**	**21.19**	**39**	*e*P	**P**	**01 04 00.4**	**-0.4**
	comp=Z,69nm,0.8s						
SEY	**Seymchan**	**21.32**	**315**	P	**P**	**01 04 02.2**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=114,slow=9.1,SNR=10						
DAWY	**Dawson**	**21.65**	**42**	*e*P	**P**	**01 04 04.6**	**-1.2**
DLBC	**Dease Lake**	**25.42**	**57**	P	**P**	**01 04 44.6**	**+1.9**
	comp=Z,16nm,0.9s,baz=277,slow=9.8,SNR=9.4						
YSS	**Yuzh-Sakhalins**	**28.58**	**278**	*e*P	**P**	**01 05 11.0**	**0.0**
YSS				*e*		01 05 25.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**28.58**	**278**	*e*P	**P**	**01 05 09.8**	**-1.2**
	comp=Z,13nm,0.6s						
ASAJ	**Asahikawa**	**30.01**	**273**	P	**P**	**01 05 24.1**	**+0.4**
	comp=Z,16nm,0.9s,baz=21,slow=6.8,SNR=8.2						
ASAJ				LR	LR	01 17 24.4	
	comp=Z,61nm,20.8s,baz=110,slow=36						
ASAJ	**Asahikawa**	**30.01**	**273**	*e*P	**P**	**01 05 22.6**	**-1.1**
	comp=Z,12nm,1.1s						
YKA	**Yellowknife Ar**	**32.61**	**48**	P	**P**	**01 05 46.1**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=274,slow=7.9,SNR=25						
YKA				PcP	**PcP**	**01 08 32.1**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=286,slow=2.9,SNR=9.4						
H11N2	**WAKE ISLAND Hy**	**35.39**	**213**	T	T	01 44 24.6	
	baz=21,slow=76,SNR=116						
H11N3	**WAKE ISLAND Hy**	**35.40**	**213**	T	T	01 44 25.3	
	baz=21,slow=76,SNR=166						
H11N1	**WAKE ISLAND Hy**	**35.41**	**213**	T	T	01 44 19.4	
	baz=21,slow=76,SNR=104						
NEW	**Newport**	**35.65**	**73**	P	**P**	**01 06 13.6**	**+0.6**
	comp=Z,7.0nm,0.9s,baz=279,slow=5.3,SNR=11						
NEW	**Newport**	**35.65**	**73**	⇓P	**P**	**01 06 14.3**	**+1.3**
	baz=35						
EDM	**Edmonton**	**35.75**	**63**	*e*P	**P**	**01 06 13.9**	**+0.2**
EDM	**Edmonton**	**35.75**	**63**	*e*P	**P**	**01 06 13.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**36.52**	**280**	P	**P**	**01 06 19.7**	**-0.7**
	comp=Z,9.6nm,0.8s,baz=53,slow=7.4,SNR=14						
USRK				LR	LR	01 20 50.2	
	comp=Z,111nm,21.6s,baz=9.4,slow=35						
H11S1	**WAKE ISLAND Hy**	**36.59**	**213**	T	T	01 45 35.0	
	baz=20,slow=76,SNR=67						
H11S2	**WAKE ISLAND Hy**	**36.61**	**213**	T	T	01 45 30.8	
	baz=20,slow=76,SNR=87						
H11S3	**WAKE ISLAND Hy**	**36.61**	**213**	T	T	01 45 34.9	
	baz=20,slow=76,SNR=33						
MJAR	**Matsushiro Ar**	**37.11**	**265**	P	**P**	**01 06 24.6**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=42,slow=6.6,SNR=3.3						
MJAR				LR	LR	01 20 59.6	
	comp=Z,46nm,20.9s,baz=70,slow=35						
BSMT	**Bassoo Peak**	**37.23**	**72**	*e*P	**P**	**01 06 27.4**	**+0.8**
	comp=Z,4.3nm,0.7s						
JTMT	**Jette**	**37.58**	**72**	*e*P	**P**	**01 06 30.6**	**+1.2**
	comp=Z,5.6nm,1.3s						
RES	**Resolute Bay**	**38.09**	**25**	PcP	**PcP**	**01 08 48.0**	**+0.7**
	comp=Z,0.8nm,0

comp=Z,4.6nm,0.9s
H19A **Powell** 42.32 73 ⇓P P 01 07 09.8 +1.0
baz=42
A23A **Redstone** 42.43 65 ⇑P P 01 07 09.6 0.0
baz=42,SNR=9.2
G20A **Bridger** 42.48 72 ⇑P P 01 07 10.6 +0.6
baz=42,SNR=9.1
C22A **Vida** 42.49 68 ⇓P P 01 07 10.8 +0.8
baz=42
B23A **Brockton** 42.62 66 ⇑P P 01 07 11.1 -0.1
baz=42,SNR=9.3
D22A **Cohagen** 42.63 68 ⇑P P 01 07 11.9 +0.7
baz=42,SNR=9.6
I19A **Meeteetse** 42.66 74 ⇑P P 01 07 12.3 +0.6
baz=42
F21A **Absaloka Mine,** 42.79 71 ⇑P P 01 07 12.9 +0.3
baz=42
C23A **Lambert** 42.86 67 ⇓P P 01 07 13.9 +0.9
baz=42,SNR=8.7
KSRS **Korea Array** 42.93 274 P P 01 07 13.7 0.0
comp=Z,10.0nm,0.9s,baz=59,slow=7.8,SNR=12
KSRS LR LR 01 27 36.6
comp=Z,10nm,18.7s,baz=58,slow=40
A24A **Westby** 42.95 65 ⇑P P 01 07 13.8 0.0
baz=42,SNR=12
KSAR **Wonju Array Be** 42.97 274 P P 01 07 13.7 -0.2
KSAR **Wonju Array Be** 42.97 274 P P 01 07 13.7 -0.2
H20A **Greybull** 43.01 73 ⇓P P 01 07 14.8 +0.4
baz=43
BW06 **Boulder Array** 43.04 76 *e*P P 01 07 16.1 +1.3
comp=Z,3.9nm,0.5s
PDAR **Pinedale Array** 43.04 76 P P 01 07 15.6 +0.7
comp=Z,3.8nm,0.5s,baz=301,slow=4.3,SNR=24
PDAR LR LR 01 24 51.8
comp=Z,86nm,18.1s,baz=308,slow=36
J19A **Crowheart** 43.06 75 ⇑P P 01 07 15.5 +0.6
baz=43
G21A **Lodge Grass** 43.07 71 ⇑P P 01 07 15.0 +0.2
baz=43
DGMT **Dagmar** 43.07 66 ⇓P P 01 07 14.8 +0.1
baz=43
GSC **Goldstone, Bar** 43.13 89 *e*P P 01 07 19.5 +4.1
GSC pmax pmax
comp=Z,8.0nm,0.9s
GSC **Goldstone, Bar** 43.13 89 ⇓P P 01 07 16.8 +1.4
baz=43
GSC **Goldstone, Bar** 43.13 89 *e*P P 01 07 19.5 +4.1
comp=Z,8.1nm,0.9s
E22A **Miles City** 43.14 69 ⇓P P 01 07 15.7 +0.3
baz=43
D23A **Lindsay** 43.18 68 ⇑P P 01 07 16.0 +0.3
baz=43
I20A **Worland** 43.23 73 ⇓P P 01 07 17.0 +0.9
baz=43
F22A **Rosebud** 43.32 70 ⇑P P 01 07 17.2 +0.4
baz=43
C24A **Savage** 43.44 67 ⇓P P 01 07 18.5 +0.8
baz=43
A25A **Svangstu Ranch** 43.44 65 ⇑P P 01 07 17.8 +0.2
baz=43,SNR=7.6
H21A **Big Horn, Sher** 43.50 72 ⇓P P 01 07 19.1 +0.8
baz=43
J20A **Shoshoni** 43.59 74 ⇑P P 01 07 19.9 +0.7
baz=43
G22A **Birney** 43.61 71 ⇑P P 01 07 19.5 +0.3
baz=43
D24A **Glendive** 43.72 67 ⇓P P 01 07 20.5 +0.6
baz=43,SNR=5.6
B25A **Knox Farm, Ray** 43.76 65 ⇑P P 01 07 20.5 +0.2
baz=43
I21A **Big Trails, Te** 43.81 73 ⇓P P 01 07 21.3 +0.5
baz=43
F23A **Volborg** 43.85 70 ⇑P P 01 07 21.1 0.0
baz=44,SNR=6.1
H22A **Clearmont** 43.92 72 ⇑P P 01 07 22.6 +0.9
baz=44
J21A **Lysite** 43.98 74 ⇑P P 01 07 23.3 +1.0
baz=44
E24A **Baker** 44.03 68 ⇑P P 01 07 23.1 +0.6
baz=44
A26A **Wade Farm, Ken** 44.06 64 ⇑P P 01 07 22.3 -0.4
baz=44,SNR=5.6
G23A **Biddle** 44.15 70 ⇓P P 01 07 24.0 +0.5
baz=44
I22A **9 Mile Ranch,** 44.24 73 ⇑P P 01 07 25.1 +0.8
baz=44
F24A **Ekalaka** 44.34 69 ⇓P P 01 07 25.3 +0.3
baz=44
K21A **Alcova** 44.51 74 ⇑P P 01 07 27.3 +0.8
baz=44
J22A **Midwest** 44.52 73 ⇓P P 01 07 27.2 +0.7
baz=44,SNR=6.8
E25A **Miller Ranch,** 44.59 68 ⇑P P 01 07 27.5 +0.6
baz=44
C26A **Wahner Farm, P** 44.61 65 ⇓P P 01 07 27.4 +0.4
baz=44
G24A **Alzada** 44.65 70 ⇓P P 01 07 27.5 0.0
baz=44
D26A **Manning** 44.85 67 ⇑P P 01 07 29.3 +0.3
baz=44
H24A **Dirks Ranch, A** 44.90 70 ⇓P P 01 07 29.1 -0.4
baz=44
K22A **Casper** 44.94 74 ⇓P P 01 07 30.5 +0.6
baz=45
N20A **Spence Gulch,** 44.96 77 ⇑P P 01 07 31.5 +1.3
baz=45
C27A **Sayler Ranch,** 45.00 65 ⇑P P 01 07 30.4 +0.2
baz=45
A28A **Rude Farm, Bot** 45.05 63 ⇑P P 01 07 31.0 +0.4
baz=45
E26A **Carlson Angus** 45.14 67 ⇓P P 01 07 31.0 -0.4
baz=45
U15A **North Rim** 45.21 85 ⇓P P 01 07 33.3 +1.0
baz=45
B28A **Dugan Ranch, T** 45.24 64 ⇓P P 01 07 32.0 -0.1
baz=45,SNR=5.8
L22A **Ellis Ranch, M** 45.35 75 ⇓P P 01 07 34.0 +0.7
baz=45
O20A **White River Ci** 45.40 78 ⇑P P 01 07 34.5 +0.9
baz=45
H25A **Fruitdale** 45.53 70 ⇑P P 01 07 34.6 +0.1
baz=45
A29A **Manning Farm,** 45.61 63 ⇓P P 01 07 34.7 -0.3
baz=45,SNR=9.6
M22A **Cedar Creek Ra** 45.63 75 ⇑P P 01 07 36.0 +0.5
baz=45
J24A **Dixon Ranch, L** 45.65 72 ⇓P P 01 07 35.2 -0.2
baz=45
G26A **Maurine** 45.73 69 ⇓P P 01 07 35.6 -0.4
baz=45,SNR=6.3
F27A **Lemmon** 45.73 68 ⇑P P 01 07 36.3 +0.2
baz=45
L23A **Garrett** 45.74 74 ⇑P P 01 07 37.1 +0.7
baz=45,SNR=9.6
I25A **Rochford** 45.80 71 ⇓P P 01 07 36.8 0.0
baz=45
B29A **Wagenman Farm,** 45.80 63 ⇓P P 01 07 36.7 +0.3
baz=45
D28A **Regan** 45.82 65 ⇓P P 01 07 37.2 +0.5
baz=45
K24A **Anderson Ranch** 45.91 73 ⇓P P 01 07 37.8 +0.1
baz=46
MDND **Maddock** 46.00 64 ⇓P P 01 07 38.4 +0.4
baz=46
G27A **Dupree** 46.06 68 ⇑P P 01 07 39.1 +0.5
baz=46
N22A **Wattenberg Ran** 46.08 76 ⇑P P 01 07 40.1 +1.0
baz=46
M23A **Laramie** 46.12 75 ⇑P P 01 07 40.1 +0.7
baz=46
A30A **Hoffart Farm,** 46.12 62 ⇓P P 01 07 38.6 -0.4
baz=46,SNR=8.3
N23A **Red Feather La** 46.33 76 ⇓P P 01 07 42.3 +1.3
baz=46
WUAZ **Wupatki** 46.37 85 *e*P P 01 07 45.0 +3.7
comp=Z,3.5nm,0.6s
B30A **Myrvik Farm, E** 46.37 63 ⇑P P 01 07 40.7 -0.3
baz=46,SNR=6.0
D29A **Pettibone, Tap** 46.44 65 ⇑P P 01 07 41.8 +0.2
baz=46
J26A **Sides Ranch, S** 46.60 71 ⇑P P 01 07 43.1 +0.3
baz=46
M24A **Cheyenne** 46.66 74 ⇓P P 01 07 43.8 +0.3
baz=46
C30A **Mose, Pekin** 46.71 64 ⇓P P 01 07 43.3 -0.3
baz=46
ULM **Lac du Bonnet** 46.72 59 P P 01 07 43.7 +0.1
comp=Z,3.5nm,0.5s,baz=304,slow=8.1,SNR=14

I27A **Quinn** 46.75 70 ⇓P P 01 07 44.2 +0.2
baz=46
O23A **Lake Granby, G** 46.76 76 ⇑P P 01 07 45.0 +0.6
baz=46
G28A **Parade** 46.83 68 ⇑P P 01 07 44.9 +0.3
baz=46
D30A **Buchanan** 46.89 65 ⇑P P 01 07 45.1 +0.1
baz=46
H28A **Mission Ridge** 47.00 68 ⇓P P 01 07 45.9 0.0
baz=47
F29A **Eureka** 47.01 67 ⇓P P 01 07 45.5 -0.5
baz=47
E30A **Jud** 47.15 65 ⇓P P 01 07 46.9 -0.2
baz=47
ISCO **Idaho Springs** 47.20 77 ⇑P P 01 07 48.9 +1.1
baz=47
I28A **Midland** 47.31 69 ⇑P P 01 07 48.7 +0.4
baz=47
H29A **Onida** 47.49 68 ⇓P P 01 07 50.3 +0.5
baz=47
J28A **Allard Ranch,** 47.61 70 ⇑P P 01 07 51.2 +0.5
baz=47
G30A **Faulkton** 47.81 67 ⇑P P 01 07 51.7 -0.5
baz=47,SNR=6.4
AGMN **Agassiz Nation** 47.82 62 ⇑P P 01 07 52.0 -0.2
baz=47,SNR=13
AGMN **Agassiz Nation** 47.82 62 *e*P P 01 07 51.7 -0.5
comp=Z,16nm,0.9s
J29A **Okreek** 48.15 69 ⇑P P 01 07 55.3 +0.3
baz=48,SNR=7.7
P25A **Willow Gulch B** 48.25 76 ⇓P P 01 07 57.1 +1.2
baz=48
R24A **Sanders Place,** 48.48 78 ⇓P P 01 07 57.7 -0.1
baz=48
TLY **Talaya** 48.66 305 *e*P P 01 07 58.6 -0.1
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY MLR MLR
comp=Z,99nm,16.0s
TLY **Talaya** 48.66 305 P P 01 07 58.6 -0.1
comp=Z,4.3nm,0.6s,baz=53,slow=5.0,SNR=9.9
J30A **Dallas** 48.69 69 ⇑P P 01 07 59.5 +0.5
baz=48
P26A **Davis Ranch, A** 48.72 75 ⇑P P 01 08 00.3 +0.8
baz=48
K30A **Basset** 49.01 70 ⇓P P 01 08 01.8 +0.3
baz=49
R25A **Fountain Ranch** 49.04 77 ⇓P P 01 08 02.7 +0.7
baz=49
ULN **Ulaanbaatar** 49.06 299 *ce*P P 01 08 01.4 -0.6
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN **Ulaanbaatar** 49.06 299 *e*P P 01 08 01.4 -0.6
comp=Z,5.5nm,0.9s
T24B **San Luis** 49.06 79 ⇓P P 01 08 03.5 +1.2
baz=49
S25A **Robets Cordova** 49.26 78 ⇓P P 01 08 05.9 +2.2
baz=49
V23A **Ortiz Mt. (NFS** 49.42 81 ⇑P P 01 08 06.2 +1.2
baz=49
SONM **Songino Array** 49.44 299 P P 01 08 04.8 -0.1
comp=Z,4.6nm,0.6s,baz=49,slow=7.6,SNR=36
SONM PcP PcP 01 09 27.0 +0.6
comp=Z,0.8nm,0.6s,baz=46,slow=2.1,SNR=3.1
SONM LR LR 01 30 06.9
comp=Z,116nm,19.1s,baz=26,slow=37
R26A **Arlington** 49.45 77 ⇑P P 01 08 06.0 +1.0
baz=49
ZAK **Zakamensk** 49.60 303 *e*P P 01 08 04.6 -1.4
ZAK pmax pmax
comp=Z,4.0nm,1.2s
T25A **Trinidad** 49.61 79 ⇓P P 01 08 07.5 +1.2
baz=49
P28A **Saint Francis** 49.66 74 ⇑P P 01 08 07.5 +0.9
baz=49
ANMO **Albuquerque** 49.78 82 LR LR 01 27 17.4
comp=Z,35nm,19.6s,baz=324,slow=34
R27A **Eads** 49.85 76 ⇑P P 01 08 08.9 +0.8
baz=50
S26A **Kim** 49.87 77 ⇑P P 01 08 09.7 +1.5
baz=50
O29A **4D Ranch, Culb** 49.89 73 ⇑P P 01 08 09.3 +1.1
baz=50
T26A **Comanche Natio** 50.08 78 ⇓P P 01 08 09.8 -0.2
baz=50
U25A **Circle Dot Ran** 50.09 79 ⇑P P 01 08 10.7 +0.7
baz=50
ECSD **EROS Data Cent** 50.10 67 ⇓P P 01 08 08.7 -1.1
baz=50,SNR=7.1
W24A **Lazy 6 Ranch,** 50.25 81 ⇑P P 01 08 12.4 +1.1
baz=50
V25A **Rancho No Teng** 50.33 80 ⇑P P 01 08 13.3 +1.5
baz=50
U26A **Atchley Ranch,** 50.50 79 ⇑P P 01 08 14.1 +1.1
baz=50
P30A **Selden** 50.59 73 ⇓P P 01 08 14.6 +1.1
baz=50
Y23A **Lovelace Mesa,** 50.70 83 ⇑P P 01 08 15.9 +1.3
baz=50
R29A **Marienthal** 50.77 75 ⇑P P 01 08 16.0 +1.0
baz=50
W25A **X Bar L Ranch,** 50.83 80 ⇑P P 01 08 16.5 +1.0
baz=50
S28A **Manter** 50.84 76 ⇓P P 01 08 16.1 +0.5
baz=50
V26A **Tequesquite Ra** 50.86 79 ⇑P P 01 08 16.7 +0.9
baz=50
Q30A **Quinter** 50.96 74 ⇓P P 01 08 17.4 +1.0
baz=51
FRB **Frobisher Bay** 51.00 34 P P 01 08 15.6 -0.6
comp=Z,3.6nm,0.6s,baz=307,slow=7.9,SNR=12
T28A **Walsh** 51.02 77 ⇑P P 01 08 17.5 +0.6
baz=51
U27A **Thompson Grove** 51.04 78 ⇓P P 01 08 18.1 +1.0
baz=51
Y24A **Capitan** 51.09 82 ⇓P P 01 08 17.6 0.0
baz=51
P31A **Stockton** 51.12 73 ⇓P P 01 08 18.0 +0.5
baz=51
R30A **Dighton** 51.37 75 ⇑P P 01 08 20.5 +1.1
baz=51
Q31A **Ellis** 51.44 73 ⇑P P 01 08 20.7 +0.8
baz=51
R31A **Burdett** 51.82 74 ⇓P P 01 08 23.0 +0.2
baz=52
Q32A **Meitler Ranch,** 51.95 73 ⇑P P 01 08 24.6 +0.9
baz=52
R32A **Long Quarter,** 52.22 74 ⇓P P 01 08 26.0 +0.2
baz=52
Q33A **Connelly Farm,** 52.37 72 ⇓P P 01 08 26.9 +0.1
baz=52
Y27A **Causey** 52.52 81 ⇓P P 01 08 28.3 +0.2
baz=52
MNTX **Cornudas Mount** 52.63 84 *e*P P 01 08 29.3 +0.4
comp=Z,2.1nm,0.8s
T32A **Huddler Ranch,** 52.91 75 ⇑P P 01 08 31.9 +1.1
baz=52
U32A **Winter Ranch,** 53.39 76 ⇓P P 01 08 36.0 +1.6
baz=53
128A **Castleberry Fa** 53.79 81 ⇑P P 01 08 38.1 +0.7
baz=54
Z29A **Hungry Hill Ra** 53.83 80 ⇑P P 01 08 38.5 +0.8
baz=54
WMOK **Wichita Mounta** 54.62 77 *e*P P 01 08 43.1 -0.3
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK **Wichita Mounta** 54.62 77 *e*P P 01 08 43.1 -0.3
comp=Z,4.3nm,0.8s
230A **Sterling City** 55.13 81 ⇓P P 01 08 49.1 +1.9
baz=55
Z32A **Haskell** 55.16 79 ⇑P P 01 08 48.2 +0.8
baz=55
TXAR **Lajitas Array** 55.33 85 P P 01 08 49.0 +0.4
comp=Z,1.5nm,0.8s,baz=292,slow=3.9,SNR=15
TXAR pP pP 01 08 59.2 -2.5
comp=Z,2.1nm,0.7s,baz=289,slow=5.6,SNR=8.5
Z33A **Whitaker Ranch** 55.61 78 ⇑P P 01 08 52.2 +1.7
baz=55
529A **Stev Forest Ra** 55.67 84 ⇑P P 01 08 52.4 +1.3
baz=55
Y34A **Reagan Ranch,** 55.77 77 ⇑P P 01 08 53.0 +1.3
baz=55
430A **Baggett Ranch,** 55.82 82 ⇓P P 01 08 53.1 +1.0
baz=56
133A **Hamilton Ranch** 55.99 79 ⇑P P 01 08 54.6 +1.4
baz=56
ZALV **Zalesovo Beam** 56.18 316 LR LR 01 34 28.4
comp=Z,48nm,18.0s,baz=66,slow=38

530A **J-C Ranch, Com** 56.20 83 ⇑P P 01 08 55.5 +0.7
baz=56
431A **Sonora** 56.28 82 ⇓P P 01 08 56.5 +1.1
baz=56
531A **Rocksprings** 56.68 82 ⇑P P 01 09 00.0 +1.8
baz=56
XAN **Xi'an** 56.83 284 P P 01 08 58.8 -0.5
XAN PMZ
comp=Z,3.0nm,1.1s
JCT **Junction City** 56.92 81 ⇑P P 01 09 01.9 +2.0
baz=57
334A **Lometa** 57.28 80 ⇑P P 01 09 03.4 +0.9
baz=57
434A **Burnet** 57.63 80 ⇑P P 01 09 06.6 +1.7
baz=57
SCHQ **Schefferville** 57.67 41 P P 01 09 04.8 -0.1
comp=Z,3.3nm,0.5s,baz=331,slow=7.8,SNR=6.7
SCHQ pP pP 01 09 16.3 -1.6
comp=Z,4.3nm,0.8s,baz=284,slow=8.1,SNR=3.0
SFIN **Lafayette** 57.67 64 ⇓P P 01 09 06.1 +1.1
baz=57
335A **Moody** 57.82 79 ⇓P P 01 09 06.2 0.0
baz=58
MIAR **Mount Ida** 57.89 74 *e*P P 01 09 07.0 +0.4
MIAR pmax pmax
comp=Z,12nm,0.8s
MIAR **Mount Ida** 57.89 74 *e*P P 01 09 07.0 +0.4
comp=Z,12nm,0.8s
KEV **Kevo** 57.96 352 *e*P P 01 09 05.9 -0.7
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV **Kevo** 57.96 352 *e*p P 01 09 05.9 -0.7
comp=Z,0.5nm,0.3s
ARCES **ARCESS Array B** 58.31 352 P P 01 09 08.4 -0.7
comp=Z,3.4nm,0.8s,baz=7.8,slow=7.3,SNR=7.9
ARCES PcP PcP 01 09 59.8 +0.1
comp=Z,7.7nm,0.8s,baz=16,slow=5.4,SNR=7.2
ARCES LR LR 01 34 41.3
comp=Z,43nm,21.0s,baz=24,slow=36
GTA **Gaotai** 58.49 295 *e*P P 01 09 10.2 -0.8
GTA PMZ
comp=Z,6.0nm,0.8s
ALLY **Alegheny Colle** 60.61 59 *e*P P 01 09 25.8 +0.4
comp=Z,17nm,0.2s
KURK **Kurchatov** 61.16 316 P P 01 09 29.2 +0.3
KURK **Kurchatov** 61.16 316 P P 01 09 29.2 +0.3
KURBB **Kurchatov Arra** 61.27 316 P P 01 09 29.2 -0.5
comp=Z,3.9nm,0.5s,baz=44,slow=6.6,SNR=11
MKAR **Makanchi Array** 62.39 311 P P 01 09 36.6 -0.7
comp=Z,2.8nm,0.7s,baz=42,slow=7.2,SNR=14
MKAR LR LR 01 37 09.9
comp=Z,58nm,20.3s,baz=19,slow=36
BINY **Binghamton** 62.41 56 *e*P P 01 09 37.1 -0.4
comp=Z,9.9nm,0.8s
SSPA **Standing Stone** 62.53 59 *e*P P 01 09 38.5 +0.2
comp=Z,10.0nm,0.9s
ACCN **Adirondack Com** 62.74 54 *e*P P 01 09 38.9 -0.8
comp=Z,20nm,1.1s
BVA0 **Borovoye Array** 62.74 322 P P 01 09 35.8 -3.7
BVA0 pmax pmax
comp=Z,6.0nm,0.6s
BVAR **Borovoye Array** 62.74 322 P P 01 09 39.2 -0.4
comp=Z,6.4nm,0.6s,baz=53,slow=5.9,SNR=31
BVAR PcP PcP 01 10 18.1 +0.3
comp=Z,4.7nm,0.7s,baz=57,slow=5.3,SNR=8.1
BRVK **Borovoye** 62.76 322 *ce*P P 01 09 39.5 -0.1
BRVK pmax pmax
comp=Z,10.0nm,2.5s
PRGR **Permogore** 62.82 340 ⇑*i*P P 01 09 36.6 -3.3
PRGR 01 10 17.2
PRGR pmax pmax
comp=Z,37nm,1.0s
BLA **Blacksburg** 63.61 63 *e*P P 01 09 45.4 -0.2
BLA pmax pmax
comp=Z,8.0nm,1.0s
BLA **Blacksburg** 63.61 63 *e*P P 01 09 45.4 -0.2
comp=Z,7.7nm,1.0s
ARU **Arti** 64.03 331 *c i*P P 01 09 47.5 -0.5
ARU 01 12 06.1
ARU S S 01 18 19.2 -1.3
ARU SS SS 01 22 24.6 -4.2
ARU pmax pmax
comp=Z,19nm,1.7s
ARU **Arti** 64.03 331 *e*P P 01 09 47.8 -0.2
comp=Z,5.4nm,0.4s
JOF **Joensuu** 64.09 348 *e*P P 01 09 46.4 -1.8
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF **Joensuu** 64.09 348 *e*p P 01 09 46.4 -1.8
comp=Z,2.5nm,0.6s
KMSC **Kings Mountain** 64.59 65 ⇓P P 01 09 52.4 +0.4
baz=64
KAF **Kangasniemi** 65.48 350 *e*P P 01 09 55.6 -1.7
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF **Kangasniemi** 65.48 350 *e*p P 01 09 55.6 -1.7
comp=Z,2.2nm,0.4s
FINES **FINESS Array B** 66.16 350 P P 01 10 00.9 -0.7
comp=Z,1.2nm,0.5s,baz=28,slow=6.8,SNR=12
FINES PcP PcP 01 10 31.4 -0.2
comp=Z,2.5nm,0.6s,baz=67,slow=3.1,SNR=6.6
FINES LR LR 01 44 27.0
comp=Z,50nm,18.1s,baz=350,slow=41
NB2 **NORSAR Subarra** 67.58 358 P P 01 10 10.1 -0.7
comp=Z,1.1nm,0.7s,baz=352,slow=7.4
NOA **NORSAR Array B** 67.58 358 P P 01 10 10.6 -0.2
comp=Z,0.8nm,0.5s,baz=38,slow=14,SNR=5.9
NOA LR LR 01 41 35.4
comp=Z,17nm,18.3s,baz=15,slow=38
HFS **Hagfors** 68.40 356 P P 01 10 14.9 -1.0
comp=Z,1.5nm,0.5s,baz=348,slow=2.1,SNR=25
TKM2 **Tokmak 2** 68.43 312 P P 01 10 17.7 +1.1
SNR=6.0
TKM2 **Tokmak 2** 68.43 312 *i*P P 01 10 17.7 +1.1
TKM2 **Tokmak 2** 68.43 312 *e*P P 01 10 17.3 +0.7
comp=Z,5.2nm,1.0s
USP **Ospenovka** 68.66 313 P P 01 10 18.4 +0.5
SNR=8.7
USP **Ospenovka** 68.66 313 *i*P P 01 10 18.3 +0.5
KBK **Karagaybulak** 68.93 313 P P 01 10 19.9 +0.2
SNR=7.8
KBK **Karagaybulak** 68.93 313 *i*P P 01 10 19.9 +0.2
AAK **Ala-Archa** 69.16 313 P P 01 10 21.4 +0.2
SNR=12
AAK **Ala-Archa** 69.16 313 ⇓*i*P P 01 10 20.7 -0.4
AAK pmax pmax
comp=Z,29nm,1.1s
AAK **Ala-Archa** 69.16 313 P P 01 10 21.1 0.0
comp=Z,5.9nm,0.6s,baz=91,slow=3.0,SNR=27
AAK **Ala-Archa** 69.16 313 *e*P P 01 10 21.9 +0.7
AKTO **Aktyubinsk** 69.29 328 P P 01 10 21.4 -0.2
comp=Z,14nm,0.6s,baz=58,slow=7.1,SNR=52
EKS2 **Erkin-Say** 69.46 313 P P 01 10 23.4 +0.4
SNR=14
EKS2 **Erkin-Say** 69.46 313 *i*P P 01 10 23.3 +0.4
EKS2 **Erkin-Say** 69.46 313 *e*P P 01 10 23.0 +0.1
comp=Z,12nm,0.9s
AB31 **Akbulak array** 69.63 326 *i*P P 01 10 23.2 -0.5
AB31 pmax pmax
comp=Z,8.0nm,0.7s
ABKAR **Akbulak array** 69.63 326 *e*P P 01 10 23.3 -0.4
comp=Z,6.4nm,0.6s
AML **Almayashu** 69.92 313 P P 01 10 26.4 +0.3
SNR=10
AML **Almayashu** 69.92 313 *i*P P 01 10 26.4 +0.3
LSA **Lhasa** 70.42 293 P P 01 10 30.7 +1.3
LSA PMZ
comp=Z,40nm,0.7s
LSA **Lhasa** 70.42 293 *e*P P 01 10 30.4 +1.0
LSA pmax pmax
comp=Z,26nm,0.7s
LSA **Lhasa** 70.42 293 *e*P P 01 10 30.4 +1.0
comp=Z,26nm,0.7s
KKAR **Karatay Array** 70.56 316 *e*P P 01 10 28.8 -0.7
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR **Karatay Array** 70.56 316 *e*P P 01 10 28.8 -0.7
comp=Z,2.6nm,0.6s
OBN **Obninsk** 70.69 342 *i*P P 01 10 32.0 +2.0
OBN pmax pmax
comp=Z,6.0nm,1.2s
KSH **Kashi** 70.92 310 P P 01 10 34.2 +2.3
KSH PMZ
comp=Z,25nm,1.2s
KSH PMZ
comp=Z,94nm,5.5s
EKA **Eskdalemuir Ar** 73.06 6 P P 01 10 44.0 -0.2

comp=Z,2.2nm,1.0s,baz=347,slow=6.1,SNR=3.6
VRHR Novokhopersk 73.38 338 *e*P **P 01 10 44.5 -1.7**
VRHR pmax pmax
comp=N,6.0nm,0.9s
VRHR pmax pmax
comp=E,7.0nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 73.83 339 *e*P **P 01 10 48.1 -0.7**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,2.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 74.03 339 *e*P **P 01 10 49.4 -0.6**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,4.0nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
TAPN Taplejung 74.16 294 *e*P **P 01 10 51.7 +0.1**
comp=Z,67nm,0.7s
CMAR Chiang Mai Arr 74.25 280 P **P 01 10 52.3 +0.4**
comp=Z,1.4nm,0.3s,baz=25,slow=6.9,SNR=11
ODAN Odare 74.72 294 *e*P **P 01 10 54.8 0.0**
GUN Gumba 74.77 296 *e*P **P 01 10 55.4 +0.2**
comp=Z,138nm,0.9s
JIRN Jiri 74.79 295 *e*P **P 01 10 55.6 +0.3**
comp=Z,108nm,0.7s
RAMN Ramite 75.10 295 *e*P **P 01 10 57.2 +0.2**
comp=Z,106nm,0.7s
KKN Kakani 75.20 296 *e*P **P 01 10 57.7 +0.2**
PKI Pulchoki 75.30 296 *e*P **P 01 10 58.1 -0.1**
comp=Z,59nm,1.0s
PKIN Phulchoki 75.30 296 *e*P **P 01 10 58.4 +0.3**
comp=Z,17nm,0.7s
GKN Gorkha 75.39 297 *e*P **P 01 10 58.6 +0.1**
comp=Z,107nm,1.0s
DMN Daman 75.44 296 *e*P **P 01 10 59.2 +0.3**
comp=Z,49nm,0.9s
DANN Dangsing 75.61 297 *e*P **P 01 11 00.3 +0.4**
comp=Z,127nm,0.7s
KOLN Koldanda 76.15 297 *e*P **P 01 11 02.9 0.0**
AKASG Malin Array Be 76.20 345 P **P 01 11 01.6 -0.9**
comp=Z,2.9nm,0.3s,baz=17,slow=6.2,SNR=7.0
AKASG PcP **PcP 01 11 14.9 +0.4**
comp=Z,1.4nm,0.4s,baz=14,slow=5.6,SNR=3.8
AKASG LR LR 01 49 21.5
comp=Z,33nm,19.3s,baz=20,slow=39
CLL Collm 77.25 356 *e*P **P 01 11 08.0 -0.4**
CLL pmax pmax
comp=Z,3.0nm,0.6s
CLL Collm 77.25 356 *e*P **P 01 11 08.0 -0.4**
comp=Z,3.0nm,0.6s
BRG Berggiesshubel 77.64 355 *e*P **P 01 11 10.5 -0.2**
comp=Z,5.5nm,0.8s
BRG *e* 01 11 24.7
comp=Z,9.5nm,1.0s
BRG *e*pP pP 01 11 35.0 +11
comp=Z,6.8nm,1.6s
BRG Berggiesshubel 77.64 355 *e*P **P 01 11 10.5 -0.2**
BRG *e* 01 11 24.7
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG pmax pmax
comp=Z,7.0nm,1.6s
UPC Upice 77.88 354 *e*P **P 01 11 12.2 +0.2**
UPC *e* 01 11 26.2
UPC Upice 77.88 354 *e*P **P 01 11 12.2 +0.2**
UPC *e*pP **pP 01 11 26.2 +0.6**
PVCC Panska Ves 77.95 355 *e*P **P 01 11 12.3 -0.1**
PVCC *e* 01 11 26.6
PVCC Panska Ves 77.95 355 *e*P **P 01 11 12.3 -0.1**
PVCC *e*pP **pP 01 11 26.6 +0.6**
DPC Dobruska-Polom 78.01 354 *e*P **P 01 11 12.6 -0.2**
DPC *e* 01 11 21.7
DPC *e* 01 11 27.5
DPC Dobruska-Polom 78.01 354 *e*P **P 01 11 12.6 -0.2**
DPC *e*PCP **PcP 01 11 21.7 -0.7**
DPC *e*pP **pP 01 11 27.5 +1.0**
KWP Kalwaria Pacla 78.14 349 *e*P **P 01 11 13.6 +0.1**
KWP pmax pmax
comp=Z,15nm,1.1s
KWP Kalwaria Pacla 78.14 349 ⇑*i*P **P 01 11 13.6 +0.1**
KWP Kalwaria Pacla 78.14 349 *e*P **P 01 11 13.6 +0.1**
comp=Z,16nm,1.1s
KBL Kabul 78.20 312 *e*P **P 01 11 12.8 -1.5**
KBL pmax pmax
comp=Z,18nm,1.0s
KBL Kabul 78.20 312 *e*P **P 01 11 12.8 -1.5**
comp=Z,18nm,1.0s
KRLC Kraliky 78.25 353 *e*P **P 01 11 13.6 -0.5**
KRLC *e* 01 11 22.5
KRLC *e* 01 11 28.6
KRLC Kraliky 78.25 353 *e*P **P 01 11 13.6 -0.5**
KRLC *e*PCP **PcP 01 11 22.5 -0.9**
KRLC *e*pP **pP 01 11 28.6 +0.8**
OKC Ostrava-Krasne 78.39 352 *e*P **P 01 11 14.4 -0.4**
OKC *e* 01 11 21.7
OKC *e* 01 11 28.6
OKC Ostrava-Krasne 78.39 352 *e*P **P 01 11 14.4 -0.4**
OKC *e*PCP **PcP 01 11 21.7 -2.2**
OKC *e*pP **pP 01 11 28.6 +0.2**
PRU Pruhonice 78.49 355 *e*P **P 01 11 15.1 -0.3**
PRU *e* 01 11 29.5
PRU Pruhonice 78.49 355 *e*P **P 01 11 15.1 -0.3**
PRU *e*pP **pP 01 11 29.5 +0.5**
STHS Stebnicka Huta 78.51 350 *e*P **P 01 11 15.9 +0.4**
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 78.51 350 *e*P **P 01 11 15.9 +0.4**
BAIF Baives 78.63 2 *e*P **P 01 11 16.4 +0.3**
BAIF Baives 78.63 2 *e*P **P 01 11 16.4 +0.3**
BAIF Baives 78.63 2 *e*P **P 01 11 16.4 +0.3**
KOLS Kolonicke sedl 78.87 349 *e*P **P 01 11 18.0 +0.5**
KOLS pmax pmax
comp=Z,80nm,2.9s
KOLS Kolonicke sedl 78.87 349 *e*P **P 01 11 18.0 +0.5**
CRVS Cervenica-Dubn 78.99 350 *e*P **P 01 11 18.0 -0.2**
CRVS Cervenica-Dubn 78.99 350 *e*P **P 01 11 18.0 -0.2**
VRAC Vranov 79.03 353 ⇑P **P 01 11 18.8 +0.4**
VRAC Vranov 79.03 353 ⇑*i*P **P 01 11 18.8 +0.4**
VRAC Vranov 79.03 353 P **P 01 11 19.0 +0.6**
comp=Z,4.8nm,0.7s,baz=29,slow=6.0,SNR=9.7
VRAC LR LR 01 52 05.7
comp=Z,67nm,19.1s,baz=345,slow=40
TREC Trest 79.12 354 *e*P **P 01 11 18.6 -0.3**
TREC *e* 01 11 27.3
TREC *e* 01 11 33.6
TREC Trest 79.12 354 *e*P **P 01 11 18.6 -0.3**
TREC *e*PCP **PcP 01 11 27.3 +0.1**
TREC *e*pP **pP 01 11 33.6 +1.0**
KHC Kasperske Hory 79.40 355 *e*pP pP 01 11 33.5 -0.6
TRPA Tarpa 79.63 349 ⇓*i*P **P 01 11 21.8 +0.2**
VYHS Vyhne 79.66 352 *e*P **P 01 11 21.7 -0.1**
VYHS Vyhne 79.66 352 *e*P **P 01 11 21.7 -0.1**
GERES GERESS Array B 79.67 355 P **P 01 11 22.1 +0.1**
comp=Z,2.3nm,0.8s,baz=34,slow=5.0,SNR=7.0
KIV Kislovodsk 79.74 334 *e*P **P 01 11 22.2 -0.2**
KIV pmax pmax
comp=Z,12nm,0.8s
KIV Kislovodsk 79.74 334 *e*P **P 01 11 22.2 -0.2**
comp=Z,12nm,0.8s
FLN La Foliniere 79.77 5 *e*P **P 01 11 22.5 +0.1**
FLN La Foliniere 79.77 5 *e*P **P 01 11 22.5 +0.1**
FLN La Foliniere 79.77 5 *e*P **P 01 11 22.5 +0.1**
BURAR Bucovina Array 79.80 347 ⇓P **P 01 11 22.4 -0.3**
BURAR Bucovina Array 79.80 347 ⇓*i*P **P 01 11 22.4 -0.3**
KBZ Khabaz 79.89 334 P **P 01 11 23.6 +0.5**
comp=Z,7.7nm,0.9s,baz=119,slow=2.7,SNR=8.9
LDF La Druitiere 79.95 4 *e*P **P 01 11 23.1 -0.3**
comp=Z,8.5nm,0.7s
LDF La Druitiere 79.95 4 *e*P **P 01 11 23.1 -0.3**
LDF pmax pmax
comp=Z,9.0nm,0.7s
LDF La Druitiere 79.95 4 *e*P **P 01 11 23.1 -0.3**
comp=Z,8.5nm,0.7s
GEYT Alibeck 80.03 321 P **P 01 11 24.6 +0.6**
comp=Z,6.9nm,1.0s,baz=328,slow=5.3,SNR=14
GRR Gorron 80.12 5 *e*P **P 01 11 24.3 0.0**
GRR Gorron 80.12 5 *e*P **P 01 11 24.3 0.0**
PAGF Fort de Pagny 80.15 1 *e*P **P 01 11 25.2 +0.7**
comp=Z,4.7nm,0.8s
PAGF Fort de Pagny 80.15 1 *e*P **P 01 11 25.2 +0.7**
comp=Z,4.7nm,0.8s
MEZF Maizieres J'vi 80.20 1 *e*P **P 01 11 25.2 +0.5**
MEZF Maizieres J'vi 80.20 1 *e*P **P 01 11 25.2 +0.5**
CDF Champ du Feu 80.29 359 *e*P **P 01 11 25.5 +0.2**
comp=Z,5.2nm,0.5s
CDF Champ du Feu 80.29 359 *e*P **P 01 11 25.5 +0.2**
CDF pmax pmax
comp=Z,5.0nm,0.5s
CDF Champ du Feu 80.29 359 *e*P **P 01 11 25.5 +0.2**
comp=Z,5.2nm,0.5s
CONA Conrad Observa 80.46 354 ⇑*i*P **P 01 11 26.7 +0.4**
comp=Z,12nm,1.5s
ZEI Tsey 80.48 333 *e*P **P 01 11 25.6 -1.0**
ZEI pmax pmax
comp=Z,12nm,1.1s
SFTF Sexfontaines 80.50 1 *e*P **P 01 11 26.6 +0.3**
comp=Z,6.4nm,0.4s
SFTF Sexfontaines 80.50 1 *e*P **P 01 11 26.6 +0.3**
comp=Z,6.4nm,0.4s
HAU Haudompre 80.70 0 *e*P **P 01 11 27.7 +0.2**
comp=Z,5.2nm,0.6s
HAU Haudompre 80.70 0 *e*P **P 01 11 27.7 +0.2**
HAU pmax pmax
comp=Z,5.0nm,0.6s
HAU Haudompre 80.70 0 *e*P **P 01 11 27.7 +0.2**
comp=Z,5.2nm,0.6s
HINF Hinteralfeld 80.89 360 *e*P **P 01 11 28.5 0.0**
comp=Z,7.9nm,0.6s
HINF Hinteralfeld 80.89 360 *e*P **P 01 11 28.5 0.0**
HINF pmax pmax
comp=Z,8.0nm,0.6s
HINF Hinteralfeld 80.89 360 *e*P **P 01 11 28.5 0.0**
comp=Z,7.9nm,0.6s
LOR Lormes 81.42 2 *e*P **P 01 11 31.5 +0.2**
comp=Z,6.4nm,0.6s
LOR Lormes 81.42 2 *e*P **P 01 11 31.5 +0.2**
LOR pmax pmax
comp=Z,6.0nm,0.6s
LOR Lormes 81.42 2 *e*P **P 01 11 31.5 +0.2**
comp=Z,6.4nm,0.6s
SSF Saint Saulge 81.61 2 *e*P **P 01 11 32.5 +0.2**
comp=Z,6.5nm,0.6s
SSF Saint Saulge 81.61 2 *e*P **P 01 11 32.5 +0.2**
SSF pmax pmax
comp=Z,7.0nm,0.6s
SSF Saint Saulge 81.61 2 *e*P **P 01 11 32.5 +0.2**
comp=Z,6.5nm,0.6s
CFR Carcaliu 81.74 345 ⇑P **P 01 11 33.6 +0.7**
CFR Carcaliu 81.74 345 ⇑*i*P **P 01 11 33.6 +0.7**
MLR Muntele Rosu 81.78 346 ⇓P **P 01 11 33.6 +0.3**
MLR Muntele Rosu 81.78 346 ⇓*i*P **P 01 11 33.6 +0.3**
MLR Muntele Rosu 81.78 346 P **P 01 11 33.3 0.0**
comp=Z,0.9nm,0.7s,baz=20,slow=8.0,SNR=10
AVF Avril sur Loir 81.88 2 *e*P **P 01 11 33.8 +0.1**
comp=Z,8.6nm,0.6s
AVF Avril sur Loir 81.88 2 *e*P **P 01 11 33.8 +0.1**
AVF pmax pmax
comp=Z,9.0nm,0.6s
AVF Avril sur Loir 81.88 2 *e*P **P 01 11 33.8 +0.1**
comp=Z,8.6nm,0.6s
DAVOX Davos/Dischmat 81.89 358 P **P 01 11 35.0 +1.0**
comp=Z,2.4nm,0.5s,baz=338,slow=19
MFF Saint Martin d 81.94 5 *e*P **P 01 11 34.2 +0.2**
MFF Saint Martin d 81.94 5 *e*P **P 01 11 34.2 +0.2**
MFF Saint Martin d 81.94 5 *e*P **P 01 11 34.2 +0.2**
VOIR 81.96 347 ⇓P **P 01 11 35.2 +1.0**
VOIR 81.96 347 ⇓*i*P **P 01 11 35.2 +1.0**
SMF Signal de Mont 82.04 2 ⇑*i*P **P 01 11 34.7 +0.2**
comp=Z,7.2nm,0.6s
SMF Signal de Mont 82.04 2 ⇑*i*P **P 01 11 34.7 +0.2**
SMF pmax pmax
comp=Z,7.0nm,0.6s
SMF Signal de Mont 82.04 2 ⇑*i*P **P 01 11 34.7 +0.2**
comp=Z,7.2nm,0.6s
ARR Arges 82.08 347 ⇓*i*P **P 01 11 35.4 +0.5**
CABF La Chapelle 82.10 0 *e*P **P 01 11 35.7 +0.7**
CABF La Chapelle 82.10 0 *e*P **P 01 11 35.7 +0.7**
CABF La Chapelle 82.10 0 *e*P **P 01 11 35.7 +0.7**
BZS Buzias 82.22 349 ⇓P **P 01 11 34.9 -0.6**
BZS Buzias 82.22 349 ⇓*i*P **P 01 11 34.8 -0.7**
HARR Harsova 82.25 345 ⇑P **P 01 11 36.3 +0.7**
HARR Harsova 82.25 345 ⇑*i*P **P 01 11 36.3 +0.7**
GZR Gura Zlata 82.30 349 ⇑P **P 01 11 36.0 0.0**
GZR Gura Zlata 82.30 349 ⇑*i*P **P 01 11 36.0 0.0**
TCF Toulx Ste Croi 82.35 3 *e*P **P 01 11 36.2 0.0**
comp=Z,11nm,0.8s
TCF Toulx Ste Croi 82.35 3 *e*P **P 01 11 36.2 0.0**
TCF pmax pmax
comp=Z,11nm,0.8s
TCF Toulx Ste Croi 82.35 3 *e*P **P 01 11 36.2 0.0**
comp=Z,11nm,0.8s
RJF Les Rejaudoux 83.31 4 *e*P **P 01 11 41.1 -0.1**
RJF Les Rejaudoux 83.31 4 *e*P **P 01 11 41.1 -0.1**
RJF Les Rejaudoux 83.31 4 *e*P **P 01 11 41.1 -0.1**
LFF La Frestale 83.64 4 *e*P **P 01 11 43.3 +0.5**
LFF La Frestale 83.64 4 *e*P **P 01 11 43.3 +0.5**
LFF La Frestale 83.64 4 *e*P **P 01 11 43.3 +0.5**
CAF Calviac 83.71 3 *e*P **P 01 11 43.8 +0.5**
CAF Calviac 83.71 3 *e*P **P 01 11 43.8 +0.5**
CAF Calviac 83.71 3 *e*P **P 01 11 43.8 +0.5**
MBDF Montbardon 83.98 360 *e*P **P 01 11 45.8 +1.0**
comp=Z,7.1nm,0.6s
MBDF Montbardon 83.98 360 *e*P **P 01 11 45.8 +1.0**
MBDF pmax pmax
comp=Z,7.0nm,0.6s
MBDF Montbardon 83.98 360 *e*P **P 01 11 45.8 +1.0**
comp=Z,7.1nm,0.6s
WRA Warramunga Arr 84.60 228 P **P 01 11 49.3 +1.3**
comp=Z,0.3nm,0.5s,baz=34,slow=5.9,SNR=2.4
WRA pP **pP 01 11 59.3 -2.4**
comp=Z,1.3nm,0.6s,baz=36,slow=6.0,SNR=3.5
VTS Vitosha 85.00 348 ⇑P **P 01 11 49.7 -0.3**
VTS Vitosha 85.00 348 ⇑*i*P **P 01 11 49.7 -0.3**
BRTR Keskin Array B 85.95 339 *ce*P **P 01 11 55.2 +0.5**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 85.95 339 P **P 01 11 55.3 +0.5**
comp=Z,3.5nm,0.8s,baz=30,slow=1.9,SNR=12
RDO Rodhopi 86.09 346 *e*P **P 01 11 56.3 +1.1**
NVR Nevrokopi 86.13 347 *e*P **P 01 11 55.7 +0.2**
SRS Serrai 86.40 347 *e*P **P 01 11 57.3 +0.5**
KNT Kendrikon 86.45 348 *e*P **P 01 11 57.5 +0.5**
SOH Sokhos 86.72 347 *e*P **P 01 12 01.5 +3.1**
HORT Hortiatis 86.98 347 *e*P **P 01 11 59.7 0.0**
OUR Ouranopolis 87.11 347 *e*P P 01 12 04.1 +3.9
ASAR Alice Springs 88.02 227 P **P 01 12 03.9 -0.8**
comp=Z,1.8nm,0.8s,baz=33,slow=5.3,SNR=15
ASAR pP **pP 01 12 17.9 -0.6**
comp=Z,2.7nm,0.8s,baz=30,slow=4.7,SNR=12
ESDC Sonseca Array 88.57 8 P **P 01 12 07.2 -0.1**
comp=Z,0.1nm,0.3s,baz=345,slow=8.0,SNR=4.1
ESDC pP **pP 01 12 21.1 -0.1**
comp=Z,0.8nm,0.6s,baz=352,slow=4.9,SNR=4.2
IDI Anoyia 91.92 345 LR LR 01 57 19.7
comp=Z,21nm,19.0s,baz=338,slow=38
STKA Stephens Creek 92.06 217 P **P 01 12 24.0 +0.7**
comp=Z,1.9nm,0.7s,baz=119,slow=10,SNR=3.1
STKA pP **pP 01 12 36.1 -1.0**
comp=Z,6.2nm,0.8s,baz=335,slow=6.6,SNR=5.9
EIL Elat 95.23 335 LR LR 01 58 48.2
comp=Z,11nm,21.3s,baz=21,slow=38
TORD Torodi Ar. Bea 115.32 5 PKP **PKPdf 01 17 54.8 -1.4**
comp=Z,0.3nm,0.6s,baz=359,slow=2.1,SNR=3.8
SIV San Ignacio 116.28 83 PKP **PKPdf 01 17 58.2 +0.3**
comp=Z,0.9nm,0.6s,baz=277,slow=3.6,SNR=3.3
TSUM Tsumeb 146.45 341 *e*PKP **PKPbc 01 18 55.5 -0.2**
LBTB Lobatse 149.65 324 *e*PKP2 **PKPbc 01 19 03.5 -0.5**
LBTB Lobatse 149.65 324 *e*PKPdf **PKPbc 01 19 03.5 -0.5**
BOSA Boshof 153.03 321 PKPbc **PKPbc 01 19 11.5 -0.3**
comp=Z,3.1nm,0.7s,baz=29,slow=2.0,SNR=4.0

NNC 10 01:06:19.7±3.8, 53°.53N×87°.47E, h0km, mb4.0, mpv3.8, 3C-8D, Error ellipse: s-maj=28.3km s-min=24.1km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.13**	**246**	⇓Pn	Pn	01 07 52.0	+0.6
	3.3nm,0.7s						
KURK				⇑Sn	Sn	01 09 02.2	0.0
	1.8nm,0.7s						
KURK				⇓Lg	Lg	01 09 35.6	
	7.2nm,0.7s						
KURBB	**Kurchatov Arra**	**6.23**	**246**	⇓Pn	Pn	01 07 53.3	+0.5
	12nm,0.5s						
KURBB				⇓Sn	Sn	01 09 07.9	+3.2
	13nm,0.6s						
KURBB				⇓Lg	Lg	01 09 41.0	
	20nm,0.7s						
MK31	**Makanchi Array**	**7.51**	**208**	⇓Pn	Pn	01 08 10.9	+0.4
	1.5nm,0.5s,baz=30,slow=12,SNR=53						
MK31				⇑Sn	Sn	01 09 36.0	-0.3
	4.3nm,0.8s,baz=44,slow=7.6,SNR=16						
MK31				⇑Lg	Lg	01 10 16.8	
	5.2nm,0.7s,baz=37,slow=30,SNR=6.4						
VOSK	**Vostochnaya**	**9.95**	**272**	⇓Pn	Pn	01 08 43.5	-0.3
	0.7nm,0.5s						
VOSK				⇓Sn	Sn	01 10 33.8	-2.3
	5.5nm,1.4s						

GUC ***10*** *01:07:52.4±0.5, 43°.27S×75°.90W, h24km±12km, ML3.9*
ISCJB ***10*** *01:07:54.0±2.9, 43°.19S±0°.04×75°.7W±0°.1, h30km±20km, mb4.7/42, MS3.6/6, Error ellipse: s-maj=13.2km s-min=6.1km az=169.8*
NEIC ***10*** *01:07:54.9±0.2, 43°.19S×75°.81W, mb4.8/27, Error ellipse: s-maj=6.7km s-min=5.2km az=80.0*
NEIC Felt at Puerto Montt.
IDC ***10*** *01:07:54.9±0.6, 43°.22S×75°.70W, h25km±3km, mb4.2/14, mb1 4.3/15, mb1mx4.3/20, mbtmp4.3/15, ML4.2/1, MS3.6/8, Ms1 3.5/8, ms1mx3.3/21, Error ellipse: s-maj=19.1km s-min=14.0km az=84.0*
BJI ***10*** *01:07:55.9, 42°.77S×75°.21W, h36km, mB5.1/3, Ms5.3/1, Ms7 4.9/2*
ISC 10 01:07:55.4±0.5, 43°.18S±0°.04×75°.66W±0°.06, h26km±3km**, h26**km**:pP-P, n105,** σ1**9**14**/139, mb4.7/42, MS3.6/6, 3C, Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COYC	**Coyhaique**	**3.51**	**134**	*i* P	**Pn**	**01 08 47.7**	**-0.5**
COYC				*i* S	**Sn**	**01 09 29.2**	**+0.3**
COYC				AML	AML	01 09 34.7	
	comp=N,162nm,0.6s						
COYC	**Coyhaique**	**3.51**	**134**	⇑*i*P	**Pn**	**01 08 48.0**	**-0.2**
COYC				*i* S	**Sn**	**01 09 28.8**	**0.0**
VLCH	**Valdivia**	**3.83**	**29**	*e*P	**Pn**	**01 08 53.2**	**+0.6**
VLCH				*e*S	**Sn**	**01 09 39.1**	**+2.5**
VLCH	**Valdivia**	**3.83**	**29**	*e*P	**Pn**	**01 08 53.7**	**+1.1**
VLCH				*i* S	**Sn**	**01 09 38.7**	**+2.0**
CHRN	**Cochrane**	**4.47**	**154**	*e*P	**Pn**	**01 09 01.6**	**+0.3**
CHRN				*i* S	**Sn**	**01 09 54.7**	**+2.2**
CHRN	**Cochrane**	**4.47**	**154**	⇑*i*P	**Pn**	**01 09 03.4**	**+2.0**
CHRN				*i* S	**Sn**	**01 09 54.7**	**+2.2**
PLCA	**Paso Flores**	**4.53**	**59**	Pn	**Pn**	**01 09 04.0**	**+1.7**
	comp=N,2.9nm,0.3s,baz=238,slow=10.0,SNR=76						
PLCA				Sn	**Sb**	**01 10 04.4**	**-3.9**
	comp=N,3.2nm,0.3s,baz=252,slow=16,SNR=3.2						
PLCA				LR	LR	01 11 05.1	
	comp=N,479nm,22.0s,baz=216,slow=42						
PLCA	**Paso Flores**	**4.53**	**59**	*e*Pn	**Pn**	**01 09 03.6**	**+1.4**
PLCA				*e*Sn	**Sb**	**01 10 05.1**	**-3.2**
TRQA	**Tornquist**	**11.59**	**68**	*e*Pn	**Pn**	**01 10 40.7**	**+1.7**
USHA	**Ushuaia**	**12.58**	**160**	LR	LR	01 16 37.7	
	comp=N,266nm,18.7s,baz=272,slow=42						
CFAA	**Coronel Fontan**	**12.97**	**29**	Pn	**Pn**	**01 10 58.4**	**+0.5**
	comp=N,0.1nm,0.3s,baz=210,slow=12,SNR=4.1						
CFAA				LR	LR	01 16 32.4	
	comp=N,7.5nm,21.1s,baz=208,slow=40						
LVC	**Limon Verde**	**21.26**	**17**	*e*P	**P**	**01 12 40.2**	**+0.3**
	comp=N,26nm,1.0s						
CPUP	**Villa Florida**	**22.49**	**48**	P	**P**	**01 12 52.4**	**-0.4**
	comp=N,13nm,0.4s,baz=214,slow=12,SNR=23						
CPUP				LR	LR	01 22 21.7	
	comp=N,106nm,19.0s,baz=206,slow=38						
CPUP	**Villa Florida**	**22.49**	**48**	*e*P	**P**	**01 12 52.2**	**-0.6**
	comp=N,3.3nm,0.8s						
LPAZ	**La Paz**	**27.56**	**16**	P	**P**	**01 13 40.6**	**-0.2**
	comp=N,0.4nm,0.5s,baz=23,slow=13,SNR=2.5						
LPAZ				PcP	**PcP**	**01 16 58.9**	**+0.4**
	comp=N,1.9nm,0.8s,baz=190,slow=5.3,SNR=5.7						
LPAZ	**La Paz**	**27.56**	**16**	*e*P	**P**	**01 13 39.6**	**-1.3**
	comp=N,2.9nm,1.0s						
LPAZ				PcP	**PcP**	**01 16 58.9**	**+0.4**
SIV	**San Ignacio**	**29.82**	**29**	P	**P**	**01 13 59.6**	**-0.7**
	comp=N,4.5nm,0.9s,baz=225,slow=9.7,SNR=7.1						
SAML	**Samuel**	**35.80**	**21**	*e*P	**P**	**01 14 52.3**	**-0.2**
	comp=N,10nm,1.1s						
ATAH	**Atahualpa**	**35.98**	**355**	P	**P**	**01 14 54.4**	**-0.1**
	comp=N,5.2nm,0.8s,baz=202,slow=1.8,SNR=4.8						
BDFB	**Brasilia**	**36.20**	**49**	P	**P**	**01 14 56.8**	**+0.7**
	comp=N,7.7nm,0.8s,baz=203,slow=9.9,SNR=9.3						
BDFB				LR	LR	01 29 31.0	
	comp=N,168nm,19.2s,baz=213,slow=36						
OTAV	**Otavalo**	**43.30**	**356**	*e*P	**P**	**01 15 55.6**	**+0.1**
	comp=N,15nm,1.4s						
SNAA	**Sanae**	**44.34**	**154**	P	**P**	**01 16 03.1**	**+0.2**
	comp=N,3.3nm,1.1s,baz=280,slow=8.6,SNR=3.2						
QSPA	**South Pole Qui**	**47.07**	**180**	P	**P**	**01 16 24.4**	**-0.2**
	comp=N,7.1nm,0.9s,baz=155,slow=3.0,SNR=22						
QSPA	**South Pole Qui**	**47.07**	**180**	*e*P	**P**	**01 16 23.7**	**-0.8**
	comp=N,14nm,1.2s						
RCBR	**Riachuelo**	**51.08**	**55**	*e*P	**P**	**01 16 56.9**	**+1.2**
	comp=N,15nm,0.9s						
VNDA	**Vanda**	**54.55**	**193**	P	**P**	**01 17 19.0**	**-1.5**
	comp=N,2.9nm,1.1s,baz=123,slow=8.4,SNR=5.1						
VNDA	**Vanda**	**54.55**	**193**	*e*P	**P**	**01 17 20.8**	**+0.3**
	comp=N,5.9nm,1.2s						
SYO	**Syowa Base**	**58.43**	**158**	⇑*e*P	**P**	**01 17 47.0**	**-1.2**
LPIG	**La Paz**	**74.15**	**327**	P	**P**	**01 19 28.9**	**-0.5**
	comp=N,49nm,0.3s,baz=198,slow=3.2,SNR=2.0						
LRAL	**Lakeview Retre**	**76.55**	**350**	*e*P	**P**	**01 19 42.8**	**-0.2**
	comp=N,12nm,1.0s						
GOGA	**Godfrey**	**76.56**	**353**	*e*P	**P**	**01 19 42.5**	**-0.5**
	comp=N,18nm,1.3s						
TXAR	**Lajitas Array**	**76.61**	**335**	P	**P**	**01 19 43.5**	**0.0**
	comp=N,0.9nm,0.8s,baz=155,slow=9.2,SNR=10						
TXAR				pP	**pP**	**01 19 51.6**	**-0.3**
	comp=N,1.5nm,1.1s,baz=168,slow=7.7,SNR=5.2						
TXAR				LR	LR	01 46 47.4	
	comp=N,34nm,20.7s,baz=0.0,slow=30						
KMSC	**Kings Mountain**	**78.12**	**355**	*e*P	**P**	**01 19 51.2**	**-0.6**
	comp=N,8.5nm,0.8s						
BOSA	**Boshof**	**78.28**	**118**	P	**P**	**01 19 52.4**	**-0.9**
	comp=N,7.4nm,1.1s,baz=214,slow=3.6,SNR=2.6						
BOSA				pP	**pP**	**01 20 00.3**	**-1.3**
	comp=N,15nm,0.7s,baz=210,slow=5.7,SNR=8.9						
BOSA				LR	LR	01 51 53.5	
	comp=N,24nm,18.6s,baz=178,slow=34						
ABTX	**Abilene, Hawle**	**78.57**	**340**	*e*P	**P**	**01 19 53.2**	**-1.2**
	comp=N,3.9nm,1.0s						
SWET	**Sewanee**	**78.58**	**351**	*e*P	**P**	**01 19 53.0**	**-1.4**
	comp=N,14nm,0.8s						
WVT	**Waverly**	**79.71**	**350**	*e*P	**P**	**01 19 59.2**	**-1.2**
LIC	**Lamto**	**80.34**	**72**	*e*P	P	01 20 11.9	+7.5
	comp=N,57nm,0.6s						
WMOK	**Wichita Mounta**	**80.37**	**341**	*e*P	**P**	**01 20 02.8**	**-1.2**
	comp=N,1.5nm,0.8s						
JSRW	**J. Sargeant Re**	**80.52**	**358**	*e*P	**P**	**01 20 04.8**	**+0.1**
KIC	**Kosan Boka**	**80.64**	**72**	*e*P	P	01 20 13.4	+7.4
	comp=N,25nm,0.7s						
TIC	**Toumodi**	**80.65**	**72**	*e*P	P	01 20 13.5	+7.4
	comp=N,24nm,0.5s						
DBIC	**Dimbokro**	**80.78**	**72**	P	**P**	**01 20 07.4**	**+0.7**
	comp=N,2.5nm,0.6s,baz=231,slow=7.9,SNR=5.9						
DBIC				pP	**pP**	**01 20 14.4**	**-0.7**
	comp=N,12nm,0.6s,baz=201,slow=5.9,SNR=9.7						
DBIC				LR	LR	01 51 49.8	
	comp=N,45nm,21.6s,baz=196,slow=33						
DBIC	**Dimbokro**	**80.78**	**72**	*e*P	**P**	**01 20 07.5**	**+0.7**
	comp=N,13nm,0.6s						
DBIC				pP	**pP**	**01 20 14.4**	**-0.7**
TUL1	**Leonard**	**80.83**	**344**	*e*P	**P**	**01 20 05.9**	**-0.6**
LBTB	**Lobatse**	**80.96**	**116**	*e*P	P	01 20 15.3	+7.4
	comp=N,27nm,0.8s						
SIUC	**Southern Illin**	**81.45**	**349**	*e*P	**P**	**01 20 09.1**	**-0.7**
ANMO	**Albuquerque**	**82.68**	**335**	P	**P**	**01 20 17.1**	**+0.5**
	comp=N,5.8nm,0.9s,baz=165,slow=6.5,SNR=19						
ANMO				pP	**pP**	**01 20 25.1**	**+0.1**
	comp=N,3.1nm,1.0s,baz=152,slow=6.7,SNR=4.6						
MVL	**Millersville**	**82.80**	**359**	*e*P	**P**	**01 20 17.1**	**+0.4**
	comp=N,11nm,1.0s						
ACSO	**Alum Creek Sta**	**83.29**	**354**	*e*P	**P**	**01 20 18.4**	**-0.8**
	comp=N,22nm,1.1s						

SDCO	**Great Sand Dun**	**84.99 337**	*e*P	**P**	**01 20 27.8**	**-0.5**
	comp=N,4.0nm,1.3s					
MMNY	**Mt. Morris Dam**	**85.55 358**	*e*P	**P**	**01 20 30.5**	**-0.1**
	comp=N,43nm,1.2s					
JFWS	**Jewell Farm**	**86.70 349**	*e*P	**P**	**01 20 36.0**	**-0.4**
	comp=N,21nm,1.4s					
SMCO	**Snowmass**	**86.75 336**	*e*P	**P**	**01 20 35.3**	**-1.9**
	comp=N,9.0nm,1.1s					
CCUT	**Cedar City**	**87.35 331**	*e*P	**P**	**01 20 41.2**	**+1.3**
PHWY	**Pilot Hill**	**88.28 338**	*e*P	**P**	**01 20 44.4**	**0.0**
ECSD	**EROS Data Cent**	**88.54 345**	*e*P	**P**	**01 20 44.3**	**-0.9**
	comp=N,12nm,0.9s					
TPH	**Tonopah**	**89.24 328**	*e*P	**P**	**01 20 49.8**	**+0.9**
SPMN	**Marine on St.**	**89.34 348**	*e*P	**P**	**01 20 47.8**	**-1.1**
DUG	**Dugway, Tooele**	**89.53 332**	*e*P	**P**	**01 20 49.2**	**-0.8**
	comp=N,3.5nm,1.1s					
COWI	**Conover**	**89.70 351**	*e*P	**P**	**01 20 49.9**	**-0.7**
	comp=N,6.3nm,0.8s					
K22A	**Casper**	**89.83 338**	*e*P	**P**	**01 20 51.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**89.89 72**	P	**P**	**01 20 52.4**	**+0.2**
	comp=N,1.8nm,1.1s,baz=238,slow=4.9,SNR=5.1					
TORD			pP	**pP**	**01 21 00.8**	**+0.1**
	comp=N,3.0nm,0.7s,baz=223,slow=4.2,SNR=14					
TORD			LR	LR	01 58 57.4	
	comp=N,19nm,19.1s,baz=300,slow=34					
NVAR	**Mina Array Bea**	**89.97 328**	P	**P**	**01 20 53.0**	**+0.8**
	comp=N,2.5nm,0.8s,baz=154,slow=6.1,SNR=12					
HWUT	**Hardware Ranch**	**90.38 334**	*e*P	**P**	**01 20 54.0**	**-0.1**
BW06	**Boulder Array**	**90.81 336**	*e*P	**P**	**01 20 55.5**	**-0.6**
	comp=N,3.8nm,1.2s					
PDAR	**Pinedale Array**	**90.81 336**	P	**P**	**01 20 55.2**	**-0.9**
	comp=N,1.5nm,0.9s,baz=138,slow=7.4,SNR=8.8					
AGMN	**Agassiz Nation**	**92.82 347**	*e*P	**P**	**01 21 04.0**	**-0.9**
HLID	**Hailey**	**93.07 333**	*e*P	**P**	**01 21 06.3**	**-0.1**
	comp=N,3.2nm,1.1s					
ULM	**Lac du Bonnet**	**94.71 347**	P	**P**	**01 21 10.8**	**-2.7**
	comp=N,1.8nm,0.6s,baz=176,slow=5.9,SNR=6.1					
YKA	**Yellowknife Ar**	**109.86 342**	PKiKP	**PKiKP**	**01 26 21.7**	**-1.2**
	comp=N,0.2nm,0.4s,baz=158,slow=2.0,SNR=5.0					
STU	**Stuttgart**	**117.90 48**	*e*PKPdf	**PKPdf**	**01 26 38.9**	**+0.1**
GERES	**GERESS Array B**	**120.43 50**	PKP	**PKPdf**	**01 26 43.3**	**-0.5**
	comp=N,1.5nm,0.6s,baz=222,slow=1.8,SNR=6.0					
ILAR	**Eielson Array**	**121.01 332**	PKP	**PKPdf**	**01 26 43.4**	**-0.9**
	comp=N,0.8nm,0.7s,baz=168,slow=2.7,SNR=10					
VYHS	**Vyhne**	**123.18 52**	*e*PKP	**PKPdf**	**01 26 48.9**	**-0.1**
PSZ	**Piszkesteto**	**123.52 53**	*e*PKPdf	**PKPdf**	**01 26 50.4**	**+0.7**
KOLS	**Kolonicke sedl**	**125.39 53**	*e*PKP	**PKPdf**	**01 26 54.0**	**+0.8**
BRTR	**Keskin Array B**	**128.35 68**	PKP	**PKPdf**	**01 26 58.0**	**-1.3**
	comp=N,2.0nm,1.0s,baz=320,slow=3.7,SNR=3.7					
FINES	**FINESS Array B**	**132.03 39**	PKP	**PKPdf**	**01 27 04.9**	**-0.5**
	comp=N,2.9nm,1.1s,baz=30,slow=6.4,SNR=3.3					
ARCES	**ARCESS Array B**	**133.48 28**	PKP	**PKPdf**	**01 27 07.0**	**-0.9**
	comp=N,3.8nm,0.9s,baz=320,slow=3.6,SNR=5.7					
PALK	**Pallekele**	**138.64 143**	*e*PKPdf	**PKPdf**	**01 27 21.1**	**+1.8**
PETK	**Petropavlovsk-**	**143.82 305**	PKP	**PKPdf**	**01 27 27.2**	**-0.1**
	comp=N,4.5nm,0.9s,baz=126,slow=9.7,SNR=3.7					
GEYT	**Alibeck**	**144.84 83**	PKP	PKPbc	01 27 29.2	+0.3
	comp=N,5.9nm,0.8s,baz=270,slow=5.9,SNR=14					
GEYT			pPKP	pPKPdf	01 27 36.4	-2.0
	comp=N,5.0nm,0.8s,baz=264,slow=4.5,SNR=5.8					
ARU	**Arti**	**148.25 49**	*e*PKPdf	**PKPdf**	**01 27 34.0**	**-0.7**
ARU			*e*PKPbc	**PKPbc**	**01 27 37.8**	**-0.4**
ARU			*e*PKPab	**PKPab**	**01 27 40.6**	**-0.7**
ABKAR	**Akbulak array**	**149.04 63**	*e*PKPdf	**PKPdf**	**01 27 35.9**	**-0.4**
ABKAR			*e*PKPbc	**PKPbc**	**01 27 40.1**	**-0.3**
MAJO	**Matsushiro**	**153.30 267**	*e*PKPdf	**PKPdf**	**01 27 43.9**	**+0.6**
MAJO			*e*PKPbc	**PKiKP**	**01 27 51.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**154.94 168**	PKP	**PKPdf**	**01 27 44.8**	**-1.2**
	comp=N,0.9nm,0.3s,baz=184,slow=4.2,SNR=3.4					
CMAR			PKPbc	**PKPbc**	**01 27 54.2**	**-0.6**
	comp=N,1.4nm,0.4s,baz=232,slow=3.4,SNR=9.0					
BRVK	**Borovoye**	**155.43 54**	*e*PKPdf	**PKPdf**	**01 27 45.7**	**+0.1**
BVAR	**Borovoye Array**	**155.50 54**	PKP	**PKPdf**	**01 27 45.8**	**+0.1**
	comp=N,2.6nm,0.8s,baz=318,slow=2.0,SNR=15					
BVAR			pPKP	**pPKPdf**	**01 27 53.9**	**-0.6**
	comp=N,1.3nm,0.7s,baz=132,slow=2.1,SNR=5.1					
EKS2	**Erkin-Say**	**157.67 81**	*e*PKPdf	**PKPdf**	**01 27 49.2**	**+0.2**
EKS2			*e*PKPab	**PKPab**	**01 28 21.7**	**+0.2**
AAK	**Ala-Archa**	**158.18 81**	PKP	**PKPdf**	**01 27 50.0**	**+0.2**
	comp=N,0.8nm,0.7s,baz=240,slow=8.1,SNR=3.2					
AAK	**Ala-Archa**	**158.18 81**	*e*PKPdf	**PKPdf**	**01 27 49.1**	**-0.6**
AAK			*e*PKPab	**PKPab**	**01 28 24.1**	**+0.2**
KSH	**Kashi**	**158.44 90**	*e*PKP	**PKPdf**	**01 27 49.7**	**-0.4**
KSH			sPKP		01 28 05.0	
KSH			PKS	**PKSdf**	**01 31 25.1**	**+1.3**
KSH			PP	**PP**	**01 32 06.3**	**+0.5**
KSH			SKS	**SKSdf**	**01 34 53.5**	**-0.5**
KSH			PPMZ			
	comp=N,110nm,6.6s					
KSH			LN			
	comp=N,15nm,3.6s					
KSH			LE			
	comp=N,16nm,5.0s					
KSH			LZ			
	comp=N,130nm,7.1s					
TKM2	**Tokmak 2**	**159.03 81**	*e*PKPdf	**PKPdf**	**01 27 51.4**	**+0.6**
TKM2			*e*PKPab	**PKPab**	**01 28 27.8**	**+0.3**
KURBB	**Kurchatov Arra**	**160.93 58**	PKP	**PKPdf**	**01 27 52.0**	**-0.3**
	comp=N,0.5nm,0.6s,baz=279,slow=1.4,SNR=8.7					
KURBB			PKPab	**PKPab**	**01 28 35.0**	**-0.3**
	comp=N,1.0nm,0.8s,baz=282,slow=5.1,SNR=8.7					
KURK	**Kurchatov**	**160.96 58**	*e*PKPdf	**PKPdf**	**01 27 52.1**	**-0.3**
KURK			*e*PKPab	**PKPab**	**01 28 35.0**	**-0.4**
KMI	**Kunming**	**161.94 175**	PKP	**PKPdf**	**01 27 55.2**	**+0.6**
ZALV	**Zalesovo Beam**	**163.24 43**	PKP	**PKPdf**	**01 27 53.2**	**-1.4**
	comp=N,2.0nm,0.8s,baz=270,slow=1.5,SNR=11					
ZALV			PKPab	**PKPab**	**01 28 46.0**	**+0.7**
	comp=N,0.5nm,0.5s,baz=356,slow=4.3,SNR=3.0					
MKAR	**Makanchi Array**	**164.00 69**	PKP	**PKPdf**	**01 27 54.2**	**-1.4**
	comp=N,0.5nm,0.9s,baz=45,slow=0.7,SNR=4.0					
MKAR			PKPab	**PKPab**	**01 28 48.5**	**-0.4**
	comp=N,1.5nm,0.8s,baz=268,slow=3.7,SNR=14					
MKAR			pPKPab	**pPKPab**	**01 28 58.4**	**+0.9**
	comp=N,2.1nm,0.8s,baz=259,slow=4.6,SNR=8.1					
MKAR			PP	**PP**	**01 32 38.6**	**+3.3**
	comp=N,0.5nm,0.9s,baz=338,slow=3.1,SNR=3.1					
NJ2	**Nanjing**	**164.04 231**	*e*PKP	**PKPdf**	**01 27 57.6**	**+1.5**
CD2	**Chengdu**	**167.74 178**	*e*PKP	**PKPdf**	**01 27 59.3**	**+0.1**
WMQ	**Urumqi**	**167.89 81**	*e*PKP	**PKPdf**	**01 27 58.6**	**-0.3**
WMQ			pPKP	**pPKPdf**	**01 28 09.4**	**+1.7**
HHC	**Hu-ho-hao-te**	**174.14 249**	*e*PKP	**PKPdf**	**01 28 02.9**	**+0.6**
HHC			PP	**PP**	**01 33 29.6**	**+2.9**
HHC			SKKS		01 40 10.5	
HHC			SS	**SS**	**01 54 42.1**	**-2.7**
HHC			PPMZ			
	comp=N,180nm,5.4s					
HHC			LN			
	comp=N,320nm,20.4s					
HHC			LE			
	comp=N,300nm,21.0s					
HHC			LZ			
	comp=N,130nm,21.0s					
GTA	**Gaotai**	**174.92 136**	*e*PKP	**PKPdf**	**01 28 03.5**	**+0.9**
GTA			pPKP	**pPKPdf**	**01 28 14.1**	**+2.7**
GTA			sPKP		01 28 17.9	
GTA			PKPab	**PKPab**	**01 29 40.2**	**+2.7**
SONM	**Songino Array**	**175.12 343**	PKPab	**PKPab**	**01 29 36.5**	**-1.6**
	comp=N,0.7nm,0.9s,baz=35,slow=5.4,SNR=5.6					
SONM			pPKPab	**pPKPab**	**01 29 46.3**	**-0.4**
	comp=N,0.3nm,0.6s,baz=312,slow=5.6,SNR=3.5					

*CSEM **10** 01:13:35.2±0.1, 45°.37N×6°.48E, h5km, ML1.0/6, Error ellipse: s-maj=3.6km s-min=2.1km az=124.0*

LDG 10 01:13:35.3±0.0, 45°.35N×6°.53E, h11km, Md1.6/3, Ml1.7/2, Error ellipse: s-maj=1.2km s-min=0.7km az=128.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPG	**La Plagne**	**0.22**	**48**	*e*Pg	Pg	01 13 40.4	+0.1
LPG				*e*Sg	Sg	01 13 43.5	-0.2
	5.5nm,0.2s						
LPG	**La Plagne**	**0.22**	**48**	*e*Pg	Pg	01 13 40.4	+0.1
LPG				*e*Sg	Sg	01 13 43.5	-0.2
	2.8nm,0.2s						
LPL	**La Plagne**	**0.22**	**42**	*e*Pg	Pg	01 13 40.3	0.0
LPL				*e*Sg	Sg	01 13 43.6	0.0
	4.7nm,0.2s						
LPL	**La Plagne**	**0.22**	**42**	*e*Pg	Pg	01 13 40.3	0.0
LPL				*e*Sg	Sg	01 13 43.6	0.0
	2.3nm,0.2s						
RSL	**Roselend**	**0.34**	**12**	Pg	Pg	01 13 41.2	-1.2
RSL				Sg	Sg	01 13 44.8	-2.4
RSL	**Roselend**	**0.34**	**12**	Pg	Pg	01 13 41.2	-1.2
RSL				Sg	Sg	01 13 44.8	-2.4
ORIF	**Oris-en-Rattie**	**0.63**	**227**	*e*Pg	Pg	01 13 47.5	-0.2
ORIF				*e*Sg	Sg	01 13 55.7	-0.4
	3.2nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.63**	**227**	*e*Pg	Pg	01 13 47.5	-0.2
ORIF				*e*Sg	Sg	01 13 55.7	-0.4
	1.6nm,0.3s						
MBDF	**Montbardon**	**0.65**	**164**	*e*Pg	Pg	01 13 48.1	0.0
MBDF				*e*Sg	Sg	01 13 56.8	0.0
	0.3nm,0.2s						
MBDF	**Montbardon**	**0.65**	**164**	*e*Pg	Pg	01 13 48.1	0.0
MBDF				*e*Sg	Sg	01 13 56.8	0.0
	0.2nm,0.2s						
CABF	**La Chapelle**	**1.29**	**347**	*e*P	Pn	01 13 59.6	+0.1
CABF				*e*Sg	Sn	01 14 16.8	-0.1
	3.5nm,0.4s						
CABF	**La Chapelle**	**1.29**	**347**	*e*P	Pn	01 13 59.6	+0.1
CABF				*e*Sg	Sn	01 14 16.8	-0.1
	1.8nm,0.4s						
VIVF	**Saint-Julien-l**	**1.40**	**250**	*e*Pg	Pb	01 14 01.8	+0.2
VIVF				*e*Sg	Sb	01 14 19.6	+0.1
	0.5nm,0.2s						
VIVF	**Saint-Julien-l**	**1.40**	**250**	*e*Pg	Pb	01 14 01.8	+0.2
VIVF				*e*Sg	Sb	01 14 19.6	+0.1
	0.2nm,0.2s						

*ISCJB **10** 01:14:30.4±0.4, 58°.49S±0°.07×26°.3W±0°.1, h100km, mb4.3/21, Error ellipse: s-maj=10.8km s-min=7.5km az=135.8*

*IDC **10** 01:14:34.3±0.6, 58°.41S×26°.36W, h124km±4km, mb4.0/12, mb1 4.1/13, mb1mx4.0/23, mbtmp4.4/13, Error ellipse: s-maj=14.8km s-min=13.2km az=41.0*

*NEIC **10** 01:14:35.4±1.9, 58°.50S×26°.41W, h135km±17km, mb4.4/14, Error ellipse: s-maj=10.6km s-min=7.1km az=200.0*

*AWI **10** 01:14:56.1, 58°.59S×25°.38W*

ISC 10 01:14:31.6±0.4, 58°.54S±0°.07×26°.27W±0°.09, h100km, n58, σ2°.36/59, mb4.4/21, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.30**	**155**	P	**P**	**01 17 55.4**	**+2.2**
VNA1	**Neumayer--Stat**	**14.30**	**155**	S	**Sn**	**01 20 24.7**	**-1.6**
VNA3	**Neumayer Olymp**	**14.48**	**158**	P	**P**	**01 17 56.3**	**+1.2**
VNA3	**Neumayer Olymp**	**14.48**	**158**	S	Sn	01 20 22.4	-8.1
VNA2	**Neumayer--Watz**	**14.70**	**155**	P	**P**	**01 17 60.0**	**+2.4**
	baz=319,slow=14						
VNA2	**Neumayer--Watz**	**14.70**	**155**	S	**Sn**	**01 20 31.0**	**-4.9**
SNAA	**Sanae**	**16.27**	**153**	P	**P**	**01 18 16.8**	**+1.7**
SNAA	**Sanae**	**16.27**	**153**	S	Sn	01 21 06.5	-7.4
SNAA	**Sanae**	**16.27**	**153**	P	**P**	**01 18 16.7**	**+1.7**
	0.7nm,0.3s,baz=308,slow=11,SNR=44						
SNAA				S	Sn	01 21 05.5	-8.3
	0.2nm,0.3s,baz=351,slow=19,SNR=5.1						
SNAA	**Sanae**	**16.27**	**153**	*e*Pn	**P**	**01 18 16.4**	**+1.3**
	19nm,0.8s						
EFI	**East Falkland**	**19.30**	**277**	*e*P	**P**	**01 18 49.2**	**+0.9**
	46nm,0.8s						
USHA	**Ushuaia**	**23.16**	**261**	P	**P**	**01 19 28.5**	**-0.6**
	12nm,0.6s,baz=100,slow=9.6,SNR=12						
QSPA	**South Pole Qui**	**31.70**	**180**	P	**P**	**01 20 47.3**	**+1.9**
	3.4nm,0.4s,baz=231,slow=0.4,SNR=20						
QSPA	**South Pole Qui**	**31.70**	**180**	*e*P	**P**	**01 20 46.0**	**+0.5**
	3.9nm,0.6s						
PLCA	**Paso Flores**	**32.99**	**283**	P	**P**	**01 20 56.9**	**+0.1**
	6.2nm,0.7s,baz=147,slow=6.2,SNR=12						
PLCA	**Paso Flores**	**32.99**	**283**	*e*P	**P**	**01 20 56.5**	**-0.2**
	19nm,1.2s						
CPUP	**Villa Florida**	**38.85**	**312**	P	**P**	**01 21 45.5**	**-1.3**
	1.0nm,0.4s,baz=128,slow=12,SNR=5.4						
CPUP	**Villa Florida**	**38.85**	**312**	*e*P	P	01 21 45.1	-1.6
	0.1nm,0.5s						
CFAA	**Coronel Fontan**	**39.04**	**295**	P	**P**	**01 21 48.4**	**0.0**
	0.8nm,0.6s,baz=144,slow=8.7,SNR=1.9						
SUR	**Sutherland**	**40.89**	**71**	*e*P	**P**	**01 22 05.5**	**+1.7**
	12nm,0.9s						
LCO	**Las Campanas**	**42.37**	**295**	*e*P	**P**	**01 22 15.4**	**-0.6**
	14nm,1.0s						
VNDA	**Vanda**	**44.10**	**183**	P	**P**	**01 22 31.6**	**+2.5**
	2.0nm,0.6s,baz=180,slow=6.7,SNR=14						
VNDA	**Vanda**	**44.10**	**183**	*e*P	**P**	**01 22 30.9**	**+1.8**
	1.9nm,0.4s						
BDFB	**Brasilia**	**45.78**	**330**	P	**P**	**01 22 43.3**	**+0.2**
	2.9nm,0.5s,baz=162,slow=8.7,SNR=8.7						
BOSA	**Boshof**	**46.17**	**73**	P	**P**	**01 22 46.8**	**+0.6**
	8.6nm,0.5s,baz=217,slow=7.2,SNR=20						
LVC	**Limon Verde**	**47.00**	**301**	*e*P	**P**	**01 22 52.1**	**-0.8**
	2.5nm,0.6s						
LBTB	**Lobatse**	**49.32**	**70**	*e*P	**P**	**01 23 10.8**	**+0.3**
	8.5nm,0.7s						
H10S2	**ASCENSION HYDR**	**50.27**	**15**	T	T	02 18 06.6	
	baz=188,slow=75,SNR=3.5						
H10S3	**ASCENSION HYDR**	**50.27**	**15**	T	T	02 17 53.4	
	baz=188,slow=75,SNR=3.2						
H10S1	**ASCENSION HYDR**	**50.28**	**15**	T	T	02 17 54.8	
	baz=188,slow=75,SNR=3.4						
TSUM	**Tsumeb**	**50.52**	**58**	*e*P	**P**	**01 23 20.4**	**+0.8**
	4.7nm,0.9s						
H10N1	**ASCENSION HYDR**	**51.38**	**15**	T	T	02 19 28.3	
	baz=191						
H10N3	**ASCENSION HYDR**	**51.39**	**15**	T	T	02 19 17.3	
	baz=191,slow=74						
H10N2	**ASCENSION HYDR**	**51.40**	**15**	T	T	02 19 32.4	
	baz=191,slow=74						
LPAZ	**La Paz**	**52.23**	**306**	P	**P**	**01 23 32.5**	**-0.5**
	1.5nm,0.5s,baz=131,slow=6.3,SNR=8.0						
LPAZ	**La Paz**	**52.23**	**306**	*e*P	**P**	**01 23 32.2**	**-0.8**
	1.6nm,0.5s						
SAML	**Samuel**	**56.92**	**315**	*e*P	P	01 24 04.2	-1.9
	1.6nm,0.7s						
LSZ	**Lusaka**	**58.86**	**67**	*e*P	**P**	**01 24 19.6**	**-0.3**
	2.5nm,0.6s						
ATAH	**Atahualpa**	**64.88**	**300**	P	**P**	**01 25 03.1**	**+2.6**
	2.9nm,0.5s,baz=126,slow=17,SNR=2.2						
DBIC	**Dimbokro**	**67.25**	**23**	P	**P**	**01 25 15.4**	**+0.3**
	1.6nm,0.5s,baz=169,slow=5.4,SNR=6.3						
TORD	**Torodi Ar. Bea**	**75.00**	**28**	P	**P**	**01 26 02.3**	**+0.5**
	3.1nm,0.4s,baz=199,slow=6.2,SNR=124						
TORD				pP	**pP**	**01 26 30.6**	**+3.2**
	1.6nm,0.6s,baz=194,slow=6.3,SNR=3.3						
JTS	**JuntasAbangare**	**83.27**	**302**	*e*P	**P**	**01 26 47.3**	**+0.3**
	4.4nm,0.9s						
ASAR	**Alice Springs**	**96.46**	**162**	P	**P**	**01 27 49.0**	**-0.5**
	0.7nm,0.6s,baz=182,slow=4.0,SNR=7.7						
PDAR	**Pinedale Array**	**122.07**	**300**	PKP	**PKPdf**	**01 33 12.4**	**-1.3**
	0.1nm,0.3s,baz=132,slow=6.7,SNR=3.6						
HWUT	**Hardware Ranch**	**122.07**	**298**	*e*PKPdf	**PKPdf**	**01 33 13.5**	**-0.2**
NOA	**NORSAR Array B**	**122.77**	**21**	PKP	**PKPdf**	**01 33 14.0**	**-0.1**
	0.6nm,0.8s,baz=199,slow=2.0,SNR=3.2						
FINES	**FINESS Array B**	**126.36**	**28**	PKP	**PKPdf**	**01 33 19.0**	**-1.9**
	1.6nm,0.6s,baz=211,slow=2.2,SNR=10						
FINES				SKP		01 36 41.9	
	1.1nm,0.8s,baz=191,slow=2.8,SNR=3.5						
ARCES	**ARCESS Array B**	**133.07**	**22**	PKP	**PKPdf**	**01 33 33.2**	**-0.3**
	8.1nm,1.0s,baz=270,slow=1.8,SNR=4.2						
ARCES				SKPbc	**SKPbc**	**01 36 47.2**	**-4.7**
	7.0nm,0.9s,baz=264,slow=1.8,SNR=6.5						
MKAR	**Makanchi Array**	**137.17**	**73**	PKP	**PKPdf**	**01 33 40.9**	**-1.0**
	0.4nm,0.7s,baz=226,slow=3.1,SNR=3.8						
MKAR				SKPbc	**SKPbc**	**01 37 01.8**	**-3.9**
	0.3nm,0.8s,baz=253,slow=3.2,SNR=5.1						
KURBB	**Kurchatov Arra**	**137.88**	**67**	PKhKP	PKPpre	01 33 39.4	
	0.2nm,0.5s,baz=234,slow=3.0,SNR=3.8						
KURBB				SKPbc	**SKPbc**	**01 37 02.8**	**-4.7**
	0.3nm,0.4s,baz=232,slow=3.4,SNR=7.3						
KURK	**Kurchatov**	**137.98**	**67**	PKPpre	PKPpre	01 33 39.4	
KURK				SKPbc	**SKPbc**	**01 37 02.8**	**-5.0**
YKA	**Yellowknife Ar**	**138.34**	**316**	PKP	**PKPdf**	**01 33 42.6**	**-0.9**
	1.1nm,0.6s,baz=128,slow=2.3,SNR=17						
YKA				pPKP	**pPKPdf**	**01 34 15.7**	**+4.8**
	0.6nm,0.6s,baz=127,slow=2.3,SNR=4.1						
YKA				SKPbc	**SKPbc**	**01 37 03.1**	**-5.3**
	0.4nm,0.7s,baz=129,slow=3.3,SNR=11						
RES	**Resolute Bay**	**140.36**	**337**	*e*PKPdf	**PKPdf**	**01 33 47.2**	**+0.4**
ZALV	**Zalesovo Beam**	**142.97**	**66**	PKhKP	PKPpre	01 33 47.9	
	0.7nm,0.3s,baz=219,slow=4.6,SNR=7.1						
ZALV				PKP	**PKPdf**	**01 33 52.0**	**-0.1**
	0.8nm,0.4s,baz=215,slow=4.5,SNR=3.3						
ZALV				SKPbc	**SKPbc**	**01 37 16.1**	**-4.7**
	0.4nm,0.4s,baz=240,slow=5.4,SNR=3.9						
SONM	**Songino Array**	**150.30**	**90**	PKPbc	**PKPbc**	**01 34 09.8**	**-0.4**
	3.0nm,0.7s,baz=220,slow=3.1,SNR=25						
SONM				pPKPbc	**pPKPbc**	**01 34 42.0**	**+4.6**
	0.9nm,0.4s,baz=219,slow=3.5,SNR=3.5						
ILAR	**Eielson Array**	**152.10**	**308**	PKPbc	**PKPbc**	**01 34 12.6**	**-1.0**
	1.7nm,0.7s,baz=319,slow=0.9,SNR=28						
ILAR				pPKPbc	**pPKPbc**	**01 34 46.0**	**+5.1**
	1.5nm,1.0s,baz=153,slow=3.5,SNR=3.7						
COLA	**College**	**152.52**	**308**	*e*PKPdf	**PKPdf**	**01 34 05.9**	**-1.6**
COLA				*e*PKPbc	**PKPbc**	**01 34 13.2**	**-1.2**
COLA				*e*PKPdf	**PKPab**	**01 34 23.3**	**-2.1**
MCK	**McKinley**	**152.68**	**305**	*e*PKPbc	**PKPbc**	**01 34 15.2**	**+0.2**
MCK				*e*PKPab	**PKPab**	**01 34 24.6**	**-1.6**

*ISCJB **10** 01:15:28.6±0.4, 12°.28N±0°.07×88°.11W±0°.06, h10km, mb4.3/33, MS3.3/2, Error ellipse: s-maj=12.7km s-min=3.7km az=43.1*

*NEIC **10** 01:15:28.9±4.2, 12°.29N×88°.16W, h2km±27km, mb4.4/23, Error ellipse: s-maj=19.4km s-min=6.9km az=50.0*

*IDC **10** 01:15:29.4±1.1, 12°.61N×87°.97W, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.0/25, mbtmp4.1/9, ML3.1/3, MS3.2/5, Ms1 3.2/5, ms1mx2.8/37, Error ellipse: s-maj=47.7km s-min=17.8km az=50.0*

*CASC **10** 01:15:30.7±1.5, 12°.06N×88°.35W, h18km±10km, MD4.1*

ISC 10 01:15:30.0±0.6, 12°.16N±0°.08×88°.25W±0°.08, h10km, n226, σ0°.93/218, mb4.4/33, 85C-76D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.18**	**20**	*e*P	**Pn**	**01 15 53.8**	**+1.0**
VSM	**San Miguel**	**1.26**	**359**	⇑*e*P	**Pn**	**01 15 55.0**	**+1.0**
BLLM	**Bellamira**	**1.28**	**0**	*e*P	**Pn**	**01 15 55.1**	**+1.1**
CAHU	**Cacacuatique**	**1.60**	**1**	*e*P	**Pn**	**01 16 00.3**	**+1.7**
COPN	**Copaltepe**	**1.62**	**89**	*e*P	**Pn**	**01 15 58.2**	**-0.5**
LFRS	**El Faro**	**1.66**	**331**	*e*P	**Pn**	**01 15 58.9**	**-0.4**
LFRS				*e*S	**Sn**	**01 16 21.6**	**+0.8**
LBRS	**Las Brisas**	**1.75**	**334**	*e*P	**Pn**	**01 16 00.9**	**+0.3**
BOQS	**Boqueron**	**1.86**	**327**	*e*P	**Pn**	**01 16 02.5**	**+0.2**
HUEN		**2.04**	**85**	*e*P	**Pn**	**01 16 04.4**	**+0.1**
SBLS	**San Blas**	**2.14**	**321**	*e*P	**Pn**	**01 16 05.8**	**-0.3**
SNJE	**San Jose**	**2.16**	**322**	*e*P	**Pn**	**01 16 06.1**	**-0.2**
RTR	**El Retiro**	**2.20**	**322**	*e*P	**Pn**	**01 16 07.0**	**+0.1**
RBDL	**Robledal**	**2.40**	**324**	*e*P	**Pn**	**01 16 10.0**	**+0.5**
APG	**El Apazote**	**3.56**	**323**	Pn	Pn	01 16 22.1	-3.5
	0.6nm,0.3s,baz=113,slow=13,SNR=6.9						
APG				LR	LR	01 17 19.9	
	comp=Z,81nm,21.5s,baz=211,slow=32						
JTS	**JuntasAbangare**	**3.73**	**120**	Pn	**Pn**	**01 16 28.8**	**+1.1**
	1.7nm,0.3s,baz=295,slow=14,SNR=11						
JTS				LR	LR	01 18 03.5	
	comp=Z,246nm,18.3s,baz=308,slow=41						
JTS	**JuntasAbangare**	**3.73**	**120**	*e*Pn	**Pn**	**01 16 27.1**	**-0.6**
JTS				*e*Sn	**Sn**	**01 17 07.7**	**-3.9**
JCR	**Jicaral**	**3.84**	**126**	*e*P	**Pg**	**01 16 45.5**	**+1.9**
CGA2	**Cerro Gallo 2**	**4.28**	**119**	*e*P	**Pn**	**01 16 36.6**	**+1.2**
QCR	**Quepos**	**4.84**	**124**	*e*P	**Pn**	**01 16 43.2**	**+0.2**
URSC	**Urasca**	**4.96**	**117**	*e*P	**Pn**	**01 16 47.0**	**+2.3**
BUS	**Buena Vista**	**5.11**	**120**	*e*P	**Pn**	**01 16 48.3**	**+1.2**
BUS				*e*S	Sn	01 17 41.0	-5.4
TEIG	**Tepich**	**8.02**	**360**	LR	LR	01 20 53.8	
	comp=Z,242nm,21.2s,baz=119,slow=43						
CMIG	**Matias Romero**	**8.08**	**308**	Pn	**Pn**	**01 17 26.7**	**-0.8**
	0.5nm,0.3s,baz=111,slow=9.

baz=23,SNR=5.1
Z35A Perchaven, San 22.63 340 ⇑P P 01 20 30.2 -1.0
baz=23
MIAR Mount Ida 22.81 349 *e*P P 01 20 32.5 -0.6
28nm,1.0s
UALR University of 22.82 351 *e*P P 01 20 33.7 +0.4
12nm,0.9s
ABTX Abilene, Hawle 22.90 335 ⇓P P 01 20 33.4 -0.7
baz=23
ABTX Abilene, Hawle 22.90 335 *e*P P 01 20 32.1 -2.0
8.7nm,0.8s
230A Sterling City 22.93 331 ⇑P P 01 20 33.9 -0.6
baz=23
Z33A Whitaker Ranch 23.13 337 ⇓P P 01 20 34.9 -1.6
baz=23
131A Roby 23.26 333 ⇓P P 01 20 37.3 -0.5
baz=23
Z32A Haskell 23.43 336 ⇓P P 01 20 37.7 -1.8
baz=23,SNR=8.3
Z31A Sharp Cattle R 23.71 335 ⇓P P 01 20 40.7 -1.5
baz=24,SNR=5.9
KMSC Kings Mountain 23.73 14 *e*P P 01 20 41.3 -1.1
10nm,1.0s
TKL Tuckaleechee C 23.75 9 P P 01 20 41.6 -0.9
18nm,1.0s,baz=186,slow=10,SNR=13
TKL Tuckaleechee C 23.75 9 *e*P P 01 20 42.5 -0.1
228A UT Block 9, Go 23.85 329 ⇑P P 01 20 43.0 -0.7
baz=24
129A Stewart Farms, 23.91 331 ⇓P P 01 20 43.1 -1.1
baz=24
X34A Smith Ranch, M 23.98 340 ⇓P P 01 20 44.2 -0.6
baz=24,SNR=9.3
Z30A Sanderson Ranc 24.11 333 ⇑P P 01 20 45.1 -1.0
baz=24,SNR=6.9
X33A Lawton 24.16 339 ⇓P P 01 20 45.6 -0.9
baz=24,SNR=12
128A Castleberry Fa 24.20 330 ⇑P P 01 20 46.2 -0.8
baz=24
Y31A Rekieta Farm, 24.32 335 ⇓P P 01 20 47.0 -1.0
baz=24
X32A Elmer 24.34 337 ⇑P P 01 20 47.5 -0.6
baz=24,SNR=6.0
Z29A Hungry Hill Ra 24.35 332 ⇑P P 01 20 47.4 -1.0
baz=24
WMOK Wichita Mounta 24.43 339 *e*P P 01 20 48.1 -0.9
12nm,1.2s
W34A Bridge Creek, 24.55 341 ⇑P P 01 20 49.0 -1.0
baz=24,SNR=6.6
W34A Bridge Creek, 24.55 341 *e*P P 01 20 49.6 -0.4
36nm,0.8s
PBMO Poplar Bluff 24.59 356 *e*P P 01 20 49.2 -1.2
8.2nm,0.8s
TUL1 Leonard 24.61 345 *e*P P 01 20 50.0 -0.6
15nm,1.1s
W33A Caddo, Fort Co 24.70 340 ⇑P P 01 20 50.3 -1.1
baz=25
X31A McDonald Ranch 24.79 336 ⇓P P 01 20 51.5 -0.8
baz=25
Y29A Porterfield Fa 24.84 333 ⇑P P 01 20 52.0 -0.7
baz=25
W32A Sentinel 24.95 338 ⇑P P 01 20 52.7 -0.9
baz=25,SNR=8.5
X30A Coker Ranch, T 24.99 335 ⇑P P 01 20 53.8 -0.3
baz=25,SNR=11
Y28A McKinney Farm, 25.14 332 ⇓P P 01 20 55.2 -0.3
baz=25
V33A Lossen Ranch, 25.25 341 ⇑P P 01 20 55.5 -0.9
baz=25
W31A Holland Ranch, 25.26 337 ⇑P P 01 20 55.4 -1.2
baz=25
X29A Tulia 25.34 333 ⇑P P 01 20 57.0 -0.3
baz=25
V32A Arapaho 25.41 339 ⇑P P 01 20 57.1 -0.8
baz=25
MSTX Muleshoe 25.44 331 ⇓P P 01 20 58.0 -0.2
baz=25
MSTX Muleshoe 25.44 331 *e*P P 01 20 58.3 +0.1
16nm,1.3s
Y27A Causey 25.55 330 ⇑P P 01 20 59.0 -0.3
baz=26,SNR=6.3
U34A Anderson Ranch 25.58 342 ⇑P P 01 20 58.0 -1.4
baz=26
AMTX Amarillo 25.70 334 ⇓P P 01 20 59.9 -0.7
baz=26
AMTX Amarillo 25.70 334 *e*P P 01 21 00.7 0.0
25nm,1.2s
V31A Spring Creek L 25.75 338 ⇓P P 01 21 00.0 -0.9
baz=26
U33A Lingo Farm, Me 25.75 341 ⇓P P 01 20 59.5 -1.5
baz=26
W29A Amarillo 25.89 334 ⇑P P 01 21 01.7 -0.6
baz=26
Y26A Elida 25.91 329 ⇑P P 01 21 01.7 -0.8
baz=26
U32A Winter Ranch, 25.99 340 ⇓P P 01 21 02.1 -1.1
baz=26
WCI Wyandotte Cave 26.02 4 *e*P P 01 21 02.1 -1.3
W28A Vega 26.25 333 ⇑P P 01 21 05.7 +0.2
baz=26
W27A Bowe Ranch, En 26.47 332 ⇓P P 01 21 07.9 +0.3
baz=26
NNA Nana 26.52 154 *e*P P 01 21 08.4 +0.2
12nm,0.7s
V28A Channing 26.67 334 ⇑P P 01 21 08.9 -0.5
baz=27
T32A Huddler Ranch, 26.70 341 ⇑P P 01 21 08.9 -0.7
baz=27
Y24A Capitan 26.75 327 ⇓P P 01 21 10.5 +0.3
baz=27
W26A Owens Ranch, T 26.82 331 ⇑P P 01 21 11.3 +0.5
baz=27
Y23A Lovelace Mesa, 27.09 326 ⇑P P 01 21 13.6 +0.4
baz=27
W25A X Bar L Ranch, 27.26 330 ⇑P P 01 21 15.0 +0.2
baz=27
V26A Tequesquite Ra 27.41 332 ⇑P P 01 21 16.2 +0.1
baz=27
R33A Olander Ranch, 27.45 343 ⇓P P 01 21 15.5 -0.8
baz=28
U27A Thompson Grove 27.50 334 ⇑P P 01 21 17.1 +0.3
baz=28
W24A Lazy 6 Ranch, 27.73 329 ⇓P P 01 21 20.1 +1.1
baz=28
V25A Rancho No Teng 27.83 331 ⇓P P 01 21 19.8 -0.2
baz=28,SNR=7.2
KSU1 Kansas State U 27.84 346 ⇓P P 01 21 18.7 -1.0
baz=28
U26A Atchley Ranch, 27.88 333 ⇑P P 01 21 20.2 -0.2
baz=28
R31A Burdett 27.90 341 ⇑P P 01 21 20.0 -0.3
baz=28
T27A Campo 28.00 335 ⇑P P 01 21 20.9 -0.4
baz=28
Q33A Connelly Farm, 28.06 344 ⇑P P 01 21 21.9 +0.2
baz=28
SFIN Lafayette 28.13 2 ⇑P P 01 21 20.5 -1.7
baz=28
Q32A Meitler Ranch, 28.25 343 ⇑P P 01 21 22.6 -0.8
baz=28
P33A Williams Farm, 28.43 345 ⇓P P 01 21 24.2 -0.8
baz=28
P31A Stockton 28.98 342 ⇑P P 01 21 29.1 -0.8
baz=29
SDCO Great Sand Dun 29.79 332 *e*P P 01 21 38.7 +1.2
1.9nm,1.0s
R23A Moffat 30.30 332 ⇑P P 01 21 42.2 +0.2
baz=30
L31A Butterfield Fa 31.30 345 ⇑P P 01 21 50.0 -0.4
baz=31
K30A Basset 31.97 344 ⇓P P 01 21 56.0 -0.3
baz=32
J30A Dallas 32.54 345 ⇑P P 01 22 00.6 -0.7
baz=32
SAML Samuel 32.56 129 *e*P P 01 22 00.7 -1.1
4.2nm,0.8s
N22A Wattenberg Ran 32.72 334 ⇓P P 01 22 03.3 +0.1
baz=33
J29A Okreek 32.84 344 ⇓P P 01 22 03.1 -0.9
baz=33,SNR=6.1
O20A White River Ci 32.98 331 *e*P P 01 22 07.3 +1.9
O20A *e*pP pP 01 22 18.6 +10
I30A Oacoma 33.08 345 ⇓P P 01 22 04.7 -1.3
baz=33
SPMN Marine on St. 33.18 354 ⇓P P 01 22 05.1 -1.8
baz=33,SNR=10
SPMN Marine on St. 33.18 354 *e*P P 01 22 05.0 -1.8
21nm,0.9s
L23A Garrett 33.50 336 ⇑P P 01 22 09.5 -0.5
baz=34
G30A Faulkton 34.15 346 ⇓P P 01 22 13.7 -1.7
baz=34
H28A Mission Ridge 34.21 344 ⇓P P 01 22 15.2 -0.7
baz=34
LPAZ La Paz 34.56 144 LR LR 01 37 29.9
comp=Z,56nm,18.6s,baz=350,slow=38
RSSD Black Hills 34.63 340 *e*P P 01 22 19.1 -0.6
1.6nm,0.7s
J22A Midwest 34.90 337 ⇓P P 01 22 21.5 -0.5
baz=35
J21A Lysite 35.23 335 ⇑P P 01 22 24.8 -0.1
baz=35
I22A 9 Mile Ranch, 35.31 337 ⇓P P 01 22 24.7 -0.8
baz=35
DUG Dugway, Tooele 35.34 327 *e*P P 01 22 23.3 -2.5
18nm,1.8s
H24A Dirks Ranch, A 35.35 340 ⇑P P 01 22 24.9 -0.9
baz=35
E30A Jud 35.40 347 ⇓P P 01 22 24.5 -1.6
baz=35
PDAR Pinedale Array 35.67 333 P P 01 22 27.8 -0.9
0.6nm,0.8s,baz=141,slow=15,SNR=2.5
PDAR PcP PcP 01 24 57.2 +0.1
0.4nm,0.7s,baz=150,slow=5.8,SNR=3.7
HWUT Hardware Ranch 35.72 329 *e*P P 01 22 29.1 0.0
2.3nm,0.8s
F26A Lodgepole 35.75 343 ⇑P P 01 22 28.4 -0.7
baz=36
D30A Buchanan 35.95 348 ⇓P P 01 22 29.0 -1.7
baz=36
I20A Worland 36.01 335 ⇑P P 01 22 30.9 -0.6
baz=36
H21A Big Horn, Sher 36.15 337 ⇓P P 01 22 32.2 -0.4
baz=36
D28A Regan 36.43 346 ⇑P P 01 22 33.9 -1.0
baz=36
C30A Mose, Pekin 36.46 348 ⇓P P 01 22 33.5 -1.6
baz=36,SNR=5.8
AGMN Agassiz Nation 36.59 351 ⇑P P 01 22 34.4 -1.8
baz=37,SNR=9.5
AGMN Agassiz Nation 36.59 351 *e*P P 01 22 33.9 -2.3
15nm,1.0s
REDW Red Top Meadow 36.72 332 *e*P P 01 22 37.6 -0.2
D26A Manning 36.76 344 ⇑P P 01 22 36.6 -1.1
baz=37
E24A Baker 36.88 341 ⇓P P 01 22 38.4 -0.5
baz=37
G20A Bridger 37.10 336 ⇑P P 01 22 40.0 -0.7
baz=37
B30A Myrvik Farm, E 37.15 349 ⇓P P 01 22 39.7 -1.3
baz=37
C27A Sayler Ranch, 37.15 345 ⇑P P 01 22 39.9 -1.1
baz=37
H18A Shoshone NF, C 37.24 334 ⇓P P 01 22 41.7 -0.4
baz=37
B29A Wagenman Farm, 37.36 348 ⇓P P 01 22 41.3 -1.5
baz=37
C26A Wahner Farm, P 37.40 345 ⇑P P 01 22 42.5 -0.7
baz=37
B28A Dugan Ranch, T 37.56 347 ⇑P P 01 22 43.0 -1.5
baz=38
A30A Hoffart Farm, 37.61 349 ⇓P P 01 22 43.5 -1.4
baz=38
A29A Manning Farm, 37.77 348 ⇑P P 01 22 44.7 -1.6
baz=38
C24A Savage 37.79 342 ⇑P P 01 22 45.9 -0.6
baz=38
D22A Cohagen 38.01 340 ⇓P P 01 22 48.1 -0.2
baz=38
B25A Knox Farm, Ray 38.09 344 ⇑P P 01 22 48.8 -0.2
baz=38
E20A Meyer Farm, Mu 38.14 338 ⇑P P 01 22 49.6 +0.1
baz=38
C23A Lambert 38.26 342 ⇓P P 01 22 49.9 -0.6
baz=38
A26A Wade Farm, Ken 38.38 345 ⇑P P 01 22 50.1 -1.3
baz=38
ULM Lac du Bonnet 38.50 352 P P 01 22 49.7 -2.6
11nm,0.8s,baz=174,slow=8.6,SNR=23
DGMT Dagmar 38.56 343 ⇓P P 01 22 52.3 -0.7
baz=39
DGMT Dagmar 38.56 343 *e*P P 01 22 52.7 -0.3
25nm,1.3s
D20A Manuel Ranch, 38.64 338 ⇑P P 01 22 53.4 -0.3
baz=39
MCMT McKenzie Canyo 38.77 332 *e*P P 01 22 55.4 +0.4
1.3nm,0.7s
B23A Brockton 38.79 342 ⇓P P 01 22 54.9 0.0
baz=39
SIV San Ignacio 38.79 135 P P 01 22 56.7 +1.5
3.2nm,0.6s,baz=311,slow=12,SNR=5.7
BOZ Bozeman (W) 38.85 334 *e*P P 01 22 55.6 -0.1
5.0nm,1.1s
A24A Westby 38.92 343 ⇓P P 01 22 55.4 -0.6
baz=39
C19A Slack Wire Ran 39.52 338 ⇓P P 01 23 00.9 -0.2
baz=40
A22A Carney Farms, 39.54 342 ⇑P P 01 23 01.4 +0.2
baz=40
B20A Solberg Farm, 39.75 339 ⇓P P 01 23 02.5 -0.4
baz=40
A21A Bergtoll Ranch 39.86 341 ⇑P P 01 23 03.7 -0.1
baz=40
EGMT Eagleton 40.02 337 ⇑P P 01 23 05.4 +0.1
baz=40
B19A Brinkman Farms 40.09 339 ⇑P P 01 23 05.4 -0.3
baz=40
A20A Cobblestone Ra 40.09 340 ⇑P P 01 23 05.6 -0.2
baz=40
A19A Klindworth Far 40.41 339 ⇓P P 01 23 08.0 -0.5
baz=40
FFC Flin Flon 43.82 349 *e*P P 01 23 34.8 -1.4
SCHQ Schefferville 45.78 17 P P 01 23 48.4 -3.3
8.3nm,0.9s,baz=209,slow=12,SNR=5.9
FCC Fort Churchill 46.72 356 *e*P P 01 23 57.0 -1.9
0.2nm,0.8s
CPUP Villa Florida 48.66 142 *e*P P 01 24 13.9 -0.6
2.2nm,1.4s
YKA Yellowknife Ar 53.69 345 P P 01 24 49.9 -1.9
1.4nm,0.8s,baz=139,slow=7.7,SNR=28
YKA PcP PcP 01 25 57.1 -0.9
0.7nm,0.7s,baz=141,slow=3.8,SNR=8.3
ILAR Eielson Array 65.97 336 P P 01 26 14.0 -2.4
1.0nm,1.1s,baz=107,slow=4.8,SNR=5.2
ASCN Ascension 76.10 101 *e*P P 01 27 18.3 -0.4
86nm,1.1s
ASAR Alice Springs 138.44 248 PKP PKPdf 01 34 59.0 +2.2
0.4nm,0.8s,baz=123,slow=2.5,SNR=3.0
CMAR Chiang Mai Arr 148.76 347 PKP PKPdf 01 35 15.6 +0.7
2.4nm,0.7s,baz=347,slow=3.7,SNR=13
CMAR PKPbc PKPbc 01 35 18.6 -0.2
2.7nm,0.7s,baz=347,slow=3.8,SNR=14

IDC 10 01:18:48.1±5.1, 18°.64S×176°.58W, h0km, mb4.4/2, mb1 4.7/2, mb1mx3.7/31, mbtmp4.4/2, Error ellipse: s-maj=289.2km s-min=72.4km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.22**	**260**	P	P	P	01 27 15.7	+0.3
	2.7nm,0.3s,baz=96,slow=7.6,SNR=31							
ASAR	**Alice Springs**	**46.27**	**255**	P	P	P	01 27 15.2	-0.6
	2.3nm,0.6s,baz=92,slow=7.5,SNR=29							
HFS	**Hagfors**	**137.90**	**352**	PKP		PKPdf	01 38 12.6	-1.7
	2.2nm,0.9s,baz=57,slow=5.3,SNR=6.5							
AKASG	**Malin Array Be**	**142.00**	**333**	PKP		PKPdf	01 38 23.6	+1.6
	1.0nm,0.4s,baz=47,slow=5.3,SNR=4.9							

JMA 10 01:28:55.6±0.3, 43°.81N×147°.52E, h16km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.37**	**252**	P	Pn	Pn	01 29 20.3	+0.3
NEM2				*e*S	Sb	Sb	01 29 38.1	+0.1
JRA	**Rausu**	**1.74**	**275**	P	Pn	Pn	01 29 25.9	+0.8
JRA				*e*S	Sb	Sb	01 29 48.3	-0.4
JNK	**Nakash**	**2.04**	**265**	P	Pn	Pn	01 29 30.1	+0.8
JNK				*e*S	Sn	Sn	01 29 55.7	+1.2
JAK	**Akkeshi**	**2.21**	**249**	P	Pn	Pn	01 29 32.5	+0.9
JAK				*e*S	Sn	Sn	01 29 59.6	+1.0
JTKR	**Abashiri--Toko**	**2.62**	**275**	P	Pn	Pn	01 29 38.1	+0.9
JAR	**Ashorobuto**	**2.77**	**261**	P	Pn	Pn	01 29 41.3	+1.9
JAR				*e*S	Sn	Sn	01 30 15.0	+2.5
JOB	**Onbets**	**2.84**	**253**	*e*S	Sn	Sn	01 30 15.9	+1.9
JMP	**Maruseppu**	**3.01**	**275**	P	Pn	Pn	01 29 44.6	+1.9
JCH	**Churui**	**3.27**	**250**	*e*S	Sn	Sn	01 30 26.6	+2.0

GUC 10 01:58:47.3±0.6, 33°.95S×71°.38W, h40km±4km, ML3.7, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**0.47**	**51**	⇑*i*P		Pn	01 58 57.9	+0.2
ANTU	**Antumapu**	**0.73**	**59**	⇑*i*P		Pn	01 59 01.7	+0.5
ANTU				*i* S		Sn	01 59 12.5	+1.2
ANTU				AML		AML	01 59 14.8	
	comp=N,5μm,0.5s							
SAN	**Santiago**	**0.78**	**51**	⇑*i*P		Pn	01 59 02.2	+0.3
SAN				*i* S		Sn	01 59 13.6	+1.2
SAN				AML		AML	01 59 15.1	
	comp=N,4μm,0.5s							
FSR	**Penalolen**	**0.85**	**57**	⇓*i*P		Pn	01 59 04.3	+1.3
FSR				*i* S		Sn	01 59 16.1	+1.7
LACH	**Col Las Americ**	**0.87**	**55**	⇓*i*P		Pn	01 59 03.2	+0.1
LACH				*i* S		Sn	01 59 15.8	+1.2
CLCH	**Cerro Calan**	**0.90**	**52**	⇓*i*P		Pn	01 59 04.0	+0.4
CLCH				*i* S		Sn	01 59 16.5	+1.1
CLCH				AML		AML	01 59 22.6	
	comp=E,3μm,0.2s							
PEL	**Peldehue**	**0.99**	**36**	⇑*i*P		Pn	01 59 05.2	+0.3
PEL				*i* S		Sn	01 59 19.5	+1.7
PEL				AML		AML	01 59 22.8	
	comp=N,5μm,0.3s							
NICH	**Los Niches**	**1.06**	**173**	⇑*i*P		Pn	01 59 06.4	+0.8
NICH				*i* S		Sn	01 59 20.6	+1.4
NICH				AML		AML	01 59 24.4	
	comp=E,5μm,0.4s							
FCH	**Farellones**	**1.10**	**56**	⇑*i*P		Pn	01 59 09.9	+3.2
FCH				*i* S		Sn	01 59 25.2	+4.1
FCH				AML		AML	01 59 28.8	
	comp=N,5μm,0.3s							
LNCH	**Linares**	**1.90**	**185**	⇑*i*P		Pn	01 59 18.0	+0.8
LNCH				*i* S		Sn	01 59 41.9	+1.9
LNCH				AML		AML	01 59 48.3	
	comp=N,802nm,0.4s							

*IDC **10** 02:06:58.5±0.7, 34°.89S×72°.39W, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/23, mbtmp4.2/10, ML3.6/2, MS3.3/3, Ms1 3.3/3, ms1mx3.0/19, Error ellipse: s-maj=24.7km s-min=21.0km az=96.0*
*ISCJB **10** 02:07:00.4±1.5, 34°.79S±0°.04×72°.51W±0°.07, h22km±11km, mb4.3/25, MS3.5/1, Error ellipse: s-maj=10.1km s-min=5.7km az=27.0*
*NEIC **10** 02:07:01.6, 34°.78S×72°.45W, h31km, mb4.3/15, ML4.5(GUC), After GUC.*
*GUC **10** 02:07:01.6±0.7, 34°.78S×72°.45W, h31km±4km, ML4.5*
ISC 10 02:07:02.1±2.4, 34°.79S±0°.04×72°.48W±0°.08, h24km±15km, n70, σ1°12/77, mb4.3/25, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.05**	**102**	⇓*i*P		**Pn**	**02 07 19.9**	**-1.5**
NICH				*i* S		**Sb**	**02 07 33.5**	**-1.3**
NICH				AML		AML	02 07 39.8	
	comp=E,17μm,0.7s							
LNCH	**Linares**	**1.28**	**146**	⇓*i*P		**Pn**	**02 07 23.4**	**-1.1**
LNCH				*i* S		**Sn**	**02 07 40.9**	**0.0**
LNCH				AML		AML	02 07 47.4	
	comp=E,11μm,0.8s							
CACH	**El Canelo**	**1.69**	**67**	⇑*i*P		**Pn**	**02 07 30.7**	**+0.4**
CACH				*i* S1		**Sn**	**02 07 52.6**	**+1.3**
TACH	**Talagante**	**1.71**	**49**	⇑*i*P		**Pn**	**02 07 30.1**	**-0.3**
CHCH	**Chadas Angostu**	**1.73**	**61**	⇑*i*P		**Pn**	**02 07 31.2**	**+0.4**
IHA	**Instituto Hidr**	**1.89**	**22**	⇑*i*P		**Pn**	**02 07 32.5**	**-0.4**
ANTU	**Antumapu**	**1.95**	**52**	*e*P		**Pn**	**02 07 33.8**	**-0.1**
ANTU				*i* S		**Sn**	**02 07 58.0**	**+0.3**
CLCH	**Cerro Calan**	**2.13**	**50**	*e*P		**Pn**	**02 07 36.2**	**0.0**
CLCH				*e*S		**Sn**	**02 08 02.7**	**+0.8**
CLCH				AML		AML	02 08 12.8	
	comp=E,4μm,0.7s							
PEL	**Peldehue**	**2.21**	**43**	*e*P		**Pn**	**02 07 37.7**	**+0.3**
PEL				*i* S		**Sn**	**02 08 04.5**	**+0.3**
PEL				AML		AML	02 08 11.3	
	comp=N,7μm,0.5s							
CFAA	**Coronel Fontan**	**4.76**	**49**	Pn		**Pn**	**02 08 13.7**	**+1.2**
	comp=N,0.4nm,0.3s,baz=214,slow=17,SNR=12							
CFAA				Sn		**Sn**	**02 09 09.0**	**+2.0**
	comp=N,0.8nm,0.3s,baz=249,slow=17,SNR=2.7							
LCO	**Las Campanas**	**5.96**	**15**	*e*Pn		**Pn**	**02 08 27.3**	**-1.8**
	comp=N,15nm,0.6s							
LCO				*e*Sn		**Sn**	**02 09 32.9**	**-3.8**
PLCA	**Paso Flores**	**6.13**	**166**	Pn		**Pn**	**02 08 32.5**	**+1.3**
	comp=N,1.7nm,0.3s,baz=338,slow=12,SNR=24							
PLCA				Lg		Lg	02 10 07.8	
	comp=N,1.4nm,0.3s,baz=301,slow=8.7,SNR=3.9							
PLCA				LR		LR	02 10 55.0	
	comp=N,204nm,20.1s,baz=14,slow=39							
PLCA	**Paso Flores**	**6.13**	**166**	*e*Pn		**Pn**	**02 08 31.8**	**+0.6**
	comp=N,14nm,0.7s							
PLCA				Lg		Lg	02 10 07.8	
TRQA	**Tornquist**	**9.07**	**114**	*e*Pn		**Pn**	**02 09 12.1**	**+0.5**
LVC	**Limon Verde**	**12.53**	**15**	*e*Pn		**Pn**	**02 09 58.1**	**-1.1**
CPUP	**Villa Florida**	**15.52**	**61**	LR		LR	02 17 29.6	
	comp=N,78nm,20.0s,baz=210,slow=41							
CPUP	**Villa Florida**	**15.52**	**61**	*e*Pn		**Pn**	**02 10 38.0**	**-1.5**
LPAZ	**La Paz**	**18.83**	**13**	P		**Pn**	**02 11 22.8**	**+1.2**
	comp=N,0.3nm,0.3s,baz=190,slow=7.6,SNR=14							
LPAZ	**La Paz**	**18.83**	**13**	*e*P		**Pn**	**02 11 22.3**	**+0.7**
	comp=N,390nm,0.6s							
SIV	**San Ignacio**	**21.33**	**32**	P		**P**	**02 11 46.9**	**-0.6**
	comp=N,6.2nm,0.7s,baz=222,slow=10,SNR=20							
SAML	**Samuel**	**27.09**	**21**	*e*P		**P**	**02 12 42.0**	**-1.2**
	comp=N,5.7nm,1.4s							
BDFB	**Brasilia**	**29.08**	**55**	LR		LR	02 25 44.4	
	comp=E,99nm,18.6s,baz=257,slow=39							
PMSA	**Palmer Station**	**30.45**	**173**	*e*P		**P**	**02 13 13.6**	**+1.1**
	comp=N,66nm,0.4s							
OTAV	**Otavalo**	**35.29**	**350**	*e*P		**P**	**02 13 55.5**	**-0.3**
	comp=N,3.6nm,1.1s							
JTS	**JuntasAbangare**	**46.37**	**343**	*e*P		**P**	**02 15 25.6**	**-1.0**
	comp=N,6.8nm,1.0s							
QSPA	**South Pole Qui**	**55.45**	**180**	P		**P**	**02 16 34.8**	**+0.3**
	comp=N,1.5nm,0.8s,baz=157,slow=0.9,SNR=5.6							
TXAR	**Lajitas Array**	**70.25**	**331**	P		**P**	**02 18 14.6**	**+1.2**
	comp=N,1.4nm,0.6s,baz=153,slow=8.8,SNR=22							
WVT	**Waverly**	**71.99**	**347**	*e*P		**P**	**02 18 23.7**	**+0.1**
	comp=N,9.8nm,0.8s							
WMOK	**Wichita Mounta**	**73.41**	**338**	*e*P		**P**	**02 18 32.4**	**+0.2**
	comp=N,5.2nm,1.4s							
DBIC	**Dimbokro**	**75.77**	**71**	P		**P**	**02 18 46.5**	**+0.2**
	comp=N,3.5nm,0.9s,baz=240,slow=8.1,SNR=2.9							
ANMO	**Albuquerque**	**76.30**	**332**	*e*P		**P**	**02 18 50.3**	**+1.2**
	comp=N,2.6nm,1.0s							
SDCO	**Great Sand Dun**	**78.42**	**334**	*e*P		**P**	**02 19 01.9**	**+0.9**
	comp=N,1.2nm,0.8s							
BOSA	**Boshof**	**80.02**	**118**	P		**P**	**02 19 09.7**	**-0.4**
	comp=N,2.7nm,0.6s,baz=250,slow=4.8,SNR=7.3							
LBTB	**Lobatse**	**82.30**	**115**	*e*P		**P**	**02 19 21.3**	**-0.8**
	comp=N,3.9nm,0.8s							
DUG	**Dugway, Tooele**	**83.37**	**330**	*e*P		**P**	**02 19 27.9**	**+0.6**
	comp=N,7.7nm,1.3s							
RSSD	**Black Hills**	**83.62**	**338**	*e*P		**P**	**02 19 28.7**	**+0.2**
	comp=N,2.8nm,0.9s							
HWUT	**Hardware Ranch**	**84.07**	**332**	*e*P		**P**	**02 19 30.8**	**0.0**
	comp=N,2.3nm,0.8s							
BW06	**Boulder Array**	**84.30**	**333**	*e*P		**P**	**02 19 32.1**	**0.0**
	comp=N,0.9nm,0.7s							
PDAR	**Pinedale Array**	**84.30**	**333**	P		**P**	**02 19 32.5**	**+0.4**
	comp=N,0.5nm,0.6s,baz=150,slow=8.8,SNR=5.7							
NVAR	**Mina Array Bea**	**84.33**	**326**	P		**P**	**02 19 34.0**	**+1.8**
	comp=N,0.8nm,0.7s,baz=151,slow=6.2,SNR=4.9							
TORD	**Torodi Ar. Bea**	**84.82**	**70**	P		**P**	**02 19 34.1**	**-0.9**
	comp=N,0.9nm,0.9s,baz=300,slow=7.3,SNR=16							
HLID	**Hailey**	**86.84**	**331**	*e*P		**P**	**02 19 45.3**	**+0.7**
	comp=N,1.7nm,0.9s							
ULM	**Lac du Bonnet**	**87.17**	**345**	P		**P**	**02 19 45.5**	**-0.3**
	comp=N,1.9nm,0.7s,baz=226,slow=2.0,SNR=6.0							
WVOR	**Wild Horse Val**	**87.70**	**328**	*e*P		**P**	**02 19 49.5**	**+0.9**
	comp=N,8.9nm,1.3s							
FCC	**Fort Churchill**	**94.93**	**349**	*e*P		**P**	**02 20 21.0**	**-0.7**
	comp=N,0.2nm,0.9s							
YKA	**Yellowknife Ar**	**102.69**	**341**	P		**Pdif**	**02 20 55.6**	**-0.8**
	comp=N,0.1nm,0.7s,baz=116,slow=8.3,SNR=3.1							
WRA	**Warramunga Arr**	**119.90**	**209**	PKP		**PKPdf**	**02 25 50.4**	**-0.6**

comp=N,0.5nm,0.5s,baz=167,slow=1.4,SNR=4.2
H11S2 WAKE ISLAND Hyl 25.39 269 T T 04 44 06.4
baz=118
H11S1 WAKE ISLAND Hyl 25.41 269 T T 04 44 09.9
baz=118
H11S3 WAKE ISLAND Hyl 25.41 269 T T 04 44 08.1
baz=118
H11N3 WAKE ISLAND Hyl 25.83 270 T T 04 44 41.2
baz=115,slow=78,SNR=4.7
H11N1 WAKE ISLAND Hyl 25.84 270 T T 04 44 39.7
baz=115,slow=78,SNR=8.6
H11N2 WAKE ISLAND Hyl 25.84 270 T T 04 44 37.0
baz=115,slow=78,SNR=9.2
KIV Kislovodsk 130.21 59 *e*PKPdf **PKPdf 02 26 09.3 -0.8**
GNI Garni 130.79 64 *e*PKPdf **PKPdf 02 26 11.5 +0.1**
GEYT Alibeck 140.46 71 PKP **PKPdf 02 26 30.9 +1.6**
comp=N,1.1nm,0.3s,baz=251,slow=3.8,SNR=7.3
ABKAR Akbulak array 142.45 53 *e*PKPpre PKPpre 02 26 26.6
ABKAR *e*PKPdf **PKPdf 02 26 32.4 0.0**
PALK Pallekele 143.14 132 *e*PKPdf **PKPdf 02 26 35.3 +0.5**
BRVK Borovoye 148.03 44 *e*PKPbc **PKPbc 02 26 45.1 0.0**
KULM Kulim 149.97 166 *e*PKPdf **PKPdf 02 26 47.0 +0.8**
EKS2 Erkin-Say 152.66 63 *e*PKPdf **PKPdf 02 26 49.1 -0.5**
EKS2 *e*PKPbc **PKPbc 02 26 56.7 0.0**
AAK Ala-Archa 153.19 63 *e*PKPbc **PKPbc 02 26 58.0 0.0**
AAK *e*PKPab **PKPab 02 27 09.5 -0.2**
KURK Kurchatov 153.70 44 *e*PKPbc **PKPbc 02 26 58.2 -0.3**
TKM2 Tokmak 2 153.96 62 *e*PKPbc **PKPbc 02 26 59.0 -0.7**
ZALV Zalesovo Beam 155.08 33 PKPab **PKPab 02 27 17.4 +0.3**
comp=N,1.0nm,0.6s,baz=306,slow=5.0,SNR=5.5
MKAR Makanchi Array 157.55 50 PKP **PKPdf 02 26 55.7 -0.4**
comp=N,0.3nm,0.7s,baz=158,slow=0.8,SNR=3.2
MKAR PKPab **PKPab 02 27 27.9 -0.2**
comp=N,0.5nm,0.6s,baz=270,slow=2.7,SNR=7.6
CHTO Chiang Mai 162.36 152 *e*PKPdf **PKPdf 02 27 02.8 +0.5**
ULN Ulaanbaatar 166.93 1 *e*PKPdf **PKPdf 02 27 05.5 -0.1**
ULN *e*PKPab **PKPab 02 28 09.6 +0.5**
SONM Songino Array 166.94 3 PKPab **PKPab 02 28 10.2 +1.1**
comp=N,0.8nm,0.8s,baz=335,slow=6.5,SNR=5.6
HHC Hu-ho-hao-te 173.16 333 *e*PKP **PKPdf 02 27 09.6 +0.3**
HHC PKS **PKSdf 02 30 40.4 -1.2**
HHC PP **PP 02 32 32.0 +3.9**
HHC SKS **SKSdf 02 34 07.5 -3.6**

GUC 10 02:13:47.1±0.4, 34°.39S×71°.95W, h36km±2km, ML3.9, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.85**	**136**	⇓*i*P	Pn	02 14 02.7	+0.1
NICH				*i* S	Sn	02 14 14.6	+0.7
NICH				AML	AML	02 14 15.8	
comp=E,12μm,0.2s							
CACH	**El Canelo**	**1.15**	**77**	⇓*i*P	Pn	02 14 08.1	+1.2
CACH				*i* S1	Sn	02 14 24.2	+2.7
CHCH	**Chadas Angostu**	**1.17**	**67**	⇑*i*P	Pn	02 14 07.8	+0.8
ANTU	**Antumapu**	**1.36**	**54**	*e*P	Pn	02 14 11.0	+1.3
ANTU				*i* S	Sn	02 14 29.1	+2.5
ANTU				AML	AML	02 14 32.0	
comp=N,3μm,0.3s							
LNCH	**Linares**	**1.48**	**169**	⇓*i*P	Pn	02 14 12.8	+1.6
LNCH				*i* S	Sn	02 14 32.1	+2.7
LNCH				AML	AML	02 14 34.2	
comp=N,3μm,0.4s							
CLCH	**Cerro Calan**	**1.54**	**50**	⇓*i*P	Pn	02 14 13.5	+1.4
CLCH				*i* S	Sn	02 14 33.9	+3.0
CLCH				AML	AML	02 14 38.3	
comp=E,2μm,0.2s							
PEL	**Peldehue**	**1.63**	**41**	⇑*i*P	Pn	02 14 14.7	+1.3
PEL				*i* S	Sn	02 14 36.0	+2.8
PEL				AML	AML	02 14 39.6	
comp=N,2μm,0.6s							
FCH	**Farellones**	**1.74**	**53**	AML	AML	02 14 47.2	
comp=N,2μm,0.3s							

GUC 10 02:23:07.0±0.5, 36°.30S×73°.04W, h22km±5km, ML3.7, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.26**	**51**	⇑*i*P	Pb	02 23 13.2	0.0
COCH				*i* S	Sb	02 23 17.7	+0.2
COCH				AML	AML	02 23 18.0	
comp=N,11μm,0.3s							
CCSP	**San Pedro de C**	**0.55**	**186**	⇑*i*P	Pb	02 23 17.5	-0.5
CCSP				*i* S	Sb	02 23 25.4	-0.1
LNCH	**Linares**	**1.25**	**69**	⇑*i*P	Pn	02 23 28.6	-0.5
LNCH				*i* S	Sn	02 23 45.2	-0.1
LNCH				AML	AML	02 23 51.6	
comp=N,2μm,0.7s							
NICH	**Los Niches**	**1.96**	**49**	*e*P	Pn	02 23 40.2	+1.3
NICH				*e*S	Sb	02 24 04.7	-1.3
NICH				AML	AML	02 24 12.0	
comp=E,2μm,0.6s							

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*IDC **10** 02:25:07.8±1.8, 38°.11S×73°.59W, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.6/24, mbtmp3.5/6, ML3.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/19, Error ellipse: s-maj=52.3km s-min=18.7km az=62.0*

ISC 10 02:25:11.5±1.6, 38°.3S±0°.1×73°.2W±0°.3, h25km, n7, σ1ᵢ92/7, mb3.5/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.18**	**141**	Pn	**Pb**	**02 26 05.7**	**-1.6**
0.5nm,0.3s,baz=315,slow=16,SNR=5.7							
PLCA				Lg	Lg	02 26 58.9	
6.0nm,0.3s,baz=232,slow=19,SNR=3.3							
PLCA				LR	LR	02 27 11.9	
comp=Z,110nm,18.7s,baz=264,slow=35							
CFAA	**Coronel Fontan**	**7.79**	**33**	Pn	**Pn**	**02 27 02.4**	**-0.9**
0.0nm,0.3s,baz=204,slow=20,SNR=1.6							
LPAZ	**La Paz**	**22.35**	**13**	P	**P**	**02 30 08.3**	**0.0**
0.5nm,0.5s,baz=205,slow=14,SNR=2.7							
TXAR	**Lajitas Array**	**73.05**	**332**	P	**P**	**02 36 37.7**	**-1.6**
0.2nm,0.7s,baz=168,slow=6.4,SNR=3.4							
BOSA	**Boshof**	**78.90**	**118**	P	**P**	**02 37 15.6**	**+2.5**
2.5nm,0.9s,baz=218,slow=2.5,SNR=3.6							
TORD	**Torodi Ar. Bea**	**86.52**	**70**	P	**P**	**02 37 54.0**	**+1.5**
0.5nm,1.1s,baz=210,slow=5.6,SNR=2.7							
MKAR	**Makanchi Array**	**160.07**	**57**	PKPab	**PKPab**	**02 45 48.2**	**+0.1**
0.2nm,0.7s,baz=319,slow=5.9,SNR=3.1							

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*IDC **10** 02:34:13.6±1.1, 33°.58S×71°.31W, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.7/16, mbtmp3.6/5, ML3.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/20, Error ellipse: s-maj=34.0km s-min=20.2km az=141.0*

*ISCJB **10** 02:34:19.8±0.6, 33°.76S±0°.04×71°.46W±0°.07, h58km±6km, mb3.8/5, MS3.3/1, Error ellipse: s-maj=10.0km s-min=6.7km az=164.7*

*NEIC **10** 02:34:20.1, 33°.74S×71°.44W, h49km, mb4.2/2, After GUC.*

NEIC Felt [IV] at Casablanca, Maipo, San Antonio and Talagante; [III] at Melipilla and Santiago; [II] at Los Andes, Quillota, Rancagua, San Fernando and Valparaiso. Also felt at Graneros, Penaflor and San Bernardo.

*GUC **10** 02:34:20.1±0.8, 33°.74S×71°.44W, h49km±13km, ML4.0*

ISC 10 02:34:20.3±1.0, 33°.74S±0°.04×71°.47W±0°.06, h52km±9km, n37, σ0ᵢ58/48, mb3.7/5, 6C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TACH	**Talagante**	**0.45**	**79**	⇓*i*P	**Pn**	**02 34 30.8**	**-0.3**
TACH	**Talagante**	**0.45**	**79**	⇓*i*P	**Pn**	**02 34 30.8**	**-0.3**
CHCH	**Chadas Angostu**	**0.70**	**106**	⇑*i*P	**Pn**	**02 34 34.2**	**-0.1**
CHCH				*i* S1	**Sn**	**02 34 43.9**	**-0.4**
CHCH	**Chadas Angostu**	**0.70**	**106**	⇑*i*P	**Pn**	**02 34 34.2**	**-0.1**
CHCH				*i* S	**Sn**	**02 34 43.9**	**-0.4**
ANTU	**Antumapu**	**0.71**	**76**	⇓*i*P	**Pn**	**02 34 34.3**	**-0.1**
ANTU				*i* S1	**Sn**	**02 34 44.8**	**+0.2**
ANTU				AML	AML	02 34 45.6	
comp=E,13μm,0.2s							
ANTU	**Antumapu**	**0.71**	**76**	⇓*i*P	**Pn**	**02 34 34.3**	**-0.1**
ANTU				*i* S	**Sn**	**02 34 44.8**	**+0.2**
IHA	**Instituto Hidr**	**0.73**	**348**	⇓*i*P	**Pn**	**02 34 34.6**	**+0.1**
IHA				*e*S1	**Sn**	**02 34 45.2**	**+0.3**
IHA	**Instituto Hidr**	**0.73**	**348**	⇓*i*P	**Pn**	**02 34 34.6**	**+0.1**
IHA				*e*S	**Sn**	**02 34 45.2**	**+0.3**
SAN	**Santiago**	**0.73**	**67**	⇑*i*P	**Pn**	**02 34 34.5**	**0.0**
SAN				*i* S	**Sn**	**02 34 45.0**	**0.0**
SAN				AML	AML	02 34 46.4	
comp=E,10μm,0.2s							
SAN	**Santiago**	**0.73**	**67**	⇑*i*P	**Pn**	**02 34 34.5**	**0.0**
SAN				*i* S	**Sn**	**02 34 45.0**	**0.0**
CACH	**El Canelo**	**0.81**	**118**	⇓*i*P	**Pn**	**02 34 36.4**	**+0.7**
CACH	**El Canelo**	**0.81**	**118**	⇓*i*P	**Pn**	**02 34 36.4**	**+0.7**
LACH	**Col Las Americ**	**0.83**	**70**	*e*P1	**Pn**	**02 34 35.7**	**-0.2**
LACH				*i* S	**Sn**	**02 34 47.4**	**+0.1**
LACH				AML	AML	02 34 48.6	
comp=E,4μm,0.5s							
LACH	**Col Las Americ**	**0.83**	**70**	*e*P	**Pn**	**02 34 35.7**	**-0.2**
LACH				*i* S	**Sn**	**02 34 47.4**	**+0.1**
CLCH	**Cerro Calan**	**0.85**	**66**	⇓*i*P	**Pn**	**02 34 36.2**	**0.0**
CLCH				*i* S	**Sn**	**02 34 48.0**	**+0.3**
CLCH				AML	AML	02 34 50.2	
comp=E,7μm,0.3s							
CLCH				AML	AML	02 34 52.1	
comp=E,7μm,0.3s							
PEL	**Peldehue**	**0.89**	**48**	⇑*i*P	**Pn**	**02 34 36.9**	**+0.3**
PEL				*i* S	**Sn**	**02 34 49.4**	**+0.8**
PEL				AML	AML	02 34 50.2	
comp=N,25μm,0.3s							
PEL	**Peldehue**	**0.89**	**48**	⇑*i*P	**Pn**	**02 34 36.9**	**+0.3**
PEL				*i* S	**Sn**	**02 34 49.4**	**+0.8**
FCH	**Farellones**	**1.06**	**67**	AML	AML	02 34 59.7	
comp=N,17μm,0.4s							
NICH	**Los Niches**	**1.27**	**171**	AML	AML	02 35 06.2	
comp=N,4μm,0.3s							
LNCH	**Linares**	**2.10**	**183**	*e*P1	**Pn**	**02 34 52.8**	**-0.3**
LNCH	**Linares**	**2.10**	**183**	*e*P	**Pn**	**02 34 52.8**	**-0.3**
CMCH	**Combarbala**	**2.59**	**9**	*e*P1	**Pn**	**02 35 00.3**	**+0.5**
CMCH				*i* S1	**Sn**	**02 35 30.2**	**0.0**
CMCH	**Combarbala**	**2.59**	**9**	*e*P	**Pn**	**02 35 00.3**	**+0.5**
CMCH				*i* S	**Sn**	**02 35 30.2**	**0.0**
CFAA	**Coronel Fontan**	**3.46**	**53**	Pg	**Pn**	**02 35 12.6**	**+0.9**
comp=N,0.2nm,0.3s,baz=233,slow=11,SNR=9.8							
CFAA				Lg	Lg	02 35 57.9	
comp=N,3.3nm,0.3s,baz=347,slow=17,SNR=5.7							
LCO	**Las Campanas**	**4.76**	**8**	*e*Pn	Pn	02 35 32.3	+2.5
PLCA	**Paso Flores**	**7.01**	**174**	Pn	**Pn**	**02 36 01.6**	**+1.1**
comp=N,0.5nm,0.3s,baz=348,slow=14,SNR=9.6							
PLCA	**Paso Flores**	**7.01**	**174**	*e*Pn	**Pn**	**02 36 01.3**	**+0.8**
comp=N,6.3nm,0.8s							
TRQA	**Tornquist**	**8.82**	**122**	*e*Pn	**Pn**	**02 36 26.7**	**+1.6**
SIV	**San Ignacio**	**20.01**	**30**	P	**P**	**02 38 47.0**	**-1.8**
comp=N,0.2nm,0.3s,baz=207,slow=5.6,SNR=3.7							
ATAH	**Atahualpa**	**27.24**	**345**	LR	LR	02 48 23.8	
comp=N,95nm,21.7s,baz=27,slow=31							
JTS	**JuntasAbangare**	**45.63**	**341**	*e*P	P	02 42 32.1	-3.6
comp=N,6.1nm,1.0s							
TXAR	**Lajitas Array**	**69.75**	**330**	P	**P**	**02 45 25.4**	**+0.5**
comp=N,0.3nm,0.6s,baz=146,slow=8.5,SNR=5.0							
TORD	**Torodi Ar. Bea**	**83.67**	**70**	P	**P**	**02 46 43.2**	**-0.5**
comp=N,0.6nm,0.7s,baz=254,slow=4.6,SNR=4.9							
PDAR	**Pinedale Array**	**83.75**	**333**	P	**P**	**02 46 44.3**	**+0.5**
comp=N,0.2nm,0.6s,baz=96,slow=8.3,SNR=2.6							
HLID	**Hailey**	**86.35**	**330**	*e*P	**P**	**02 46 57.5**	**+0.8**
comp=N,0.9nm,0.9s							
AAK	**Ala-Archa**	**151.97**	**62**	PKPbc	**PKPbc**	**02 54 09.0**	**-0.6**
comp=N,1.3nm,0.7s,baz=225,slow=1.4,SNR=4.2							
ZALV	**Zalesovo Beam**	**153.75**	**33**	PKPbc	**PKPbc**	**02 54 12.6**	**-0.3**
comp=N,1.1nm,0.5s,baz=302,slow=3.3,SNR=4.6							
ZALV				PKPab	**PKPab**	**02 54 26.2**	**+0.2**
comp=N,1.1nm,0.6s,baz=304,slow=3.4,SNR=4.2							

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*AZER **10** 02:36:17.9±0.0, 37°.77N×47°.19E, h7km, Error ellipse: s-maj=0.5km s-min=0.3km az=290.0*

*TEH **10** 02:36:20.0, 37°.87N×46°.99E, h3km, ML3.5*

*ISCJB **10** 02:36:21.3±0.4, 37°.73N±0°.03×47°.12E±0°.03, h10km, Error ellipse: s-maj=4.1km s-min=3.7km az=162.2*

*CSEM **10** 02:36:21.7±0.2, 37°.77N×47°.17E, h5km, ML3.5, Error ellipse: s-maj=5.8km s-min=5.5km az=14.0*

ISC 10 02:36:20.5±0.8, 37°.82N±0°.03×47°.01E±0°.02, h10km, n66, σ1ᵢ91/92, 15C-15D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHRS	**Heris**	**0.50**	**3**	*e*Pg	**Pg**	**02 36 27.5**	**-2.8**
IHRS				*e*Sg	**Sg**	**02 36 34.3**	**-2.5**
IHRS				*e*		02 36 35.9	
comp=Z,7μm,0.1s							
ISRB	**Sarab**	**0.52**	**89**	*e*Pg	**Pg**	**02 36 29.2**	**-1.4**
ISRB				*e*Sg	**Sg**	**02 36 37.8**	**+0.3**
ISRB				*e*		02 36 41.6	
comp=Z,67μm,0.2s							
IFTB	**Fath-abad**	**0.53**	**292**	*e*Pg	**Pg**	**02 36 28.8**	**-2.0**
IFTB				*e*Sg	**Sg**	**02 36 36.2**	**-1.6**
IFTB				*e*		02 36 38.3	
comp=Z,4079μm,0.1s							
ITBZ	**Tabriz**	**0.80**	**301**	*e*Pg	**Pg**	**02 36 33.4**	**-2.5**
ITBZ				*e*Sg	**Sg**	**02 36 44.1**	**-2.2**
ITBZ				*e*		02 36 46.7	
comp=Z,49μm,0.1s							
IAZR	**Azarshahr**	**0.83**	**260**	*e*Pg	**Pg**	**02 36 34.1**	**-2.5**
IAZR				*e*		02 36 48.5	
comp=Z,35μm,0.1s							
LRK	**Lerik**	**1.33**	**51**	⇓P	**Pn**	**02 36 43.3**	**-2.0**
LRK				⇑S	**Sb**	**02 37 02.6**	**-0.2**
LRK	**Lerik**	**1.33**	**51**	P	**Pn**	**02 36 43.3**	**-2.0**
LRK				S	**Sb**	**02 37 02.6**	**-0.2**
LKRN	**Lenkeran, Azer**	**1.65**	**57**	⇑P	**Pn**	**02 36 49.5**	**0.0**
SNR=31							
LKRN				⇓S	**Sg**	**02 37 12.7**	**-0.9**
LKRN	**Lenkeran, Azer**	**1.65**	**57**	P	**Pn**	**02 36 49.5**	**0.0**
SNR=31							
LKRN				S	**Sg**	**02 37 12.7**	**-0.9**
GLBA	**Clilabad**	**1.79**	**37**	⇑P	**Pn**	**02 36 52.0**	**+0.6**
SNR=136							
GLBA				⇓S	**Sb**	**02 37 16.2**	**+0.5**
GLBA	**Clilabad**	**1.79**	**37**	P	**Pn**	**02 36 52.0**	**+0.6**
SNR=136							
GLBA				S	**Sb**	**02 37 16.2**	**+0.5**
NAX	**Nakhchivan**	**1.80**	**319**	⇓Pg	**Pn**	**02 36 52.3**	**+0.6**
SNR=229							
NAX				⇓Sg	**Sg**	**02 37 18.6**	**+0.2**
NAX	**Nakhchivan**	**1.80**	**319**	Pg	**Pn**	**02 36 52.3**	**+0.6**
SNR=229							
NAX				Sg	**Sg**	**02 37 18.6**	**+0.2**
BRDA	**Brd**	**2.44**	**3**	⇓Pg	**Pb**	**02 37 03.3**	**-1.2**
SNR=7.6							
BRDA				⇑Sg	**Sb**	**02 37 37.2**	**+2.6**
BRDA	**Brd**	**2.44**	**3**	Pg	**Pb**	**02 37 03.3**	**-1.2**
SNR=7.6							
BRDA				Sg	**Sb**	**02 37 37.2**	**+2.6**
HKR	**Hakkari**	**2.61**	**266**	*e*PN	**Pn**	**02 37 05.0**	**+2.1**
HKR	**Hakkari**	**2.61**	**266**	*e*Pn	**Pn**	**02 37 05.0**	**+2.1**
HAKT	**HAKKARI**	**2.63**	**265**	*i* P	**Pb**	**02 37 06.5**	**-1.4**
HAKT	**HAKKARI**	**2.63**	**265**	*i* P	**Pb**	**02 37 06.5**	**-1.4**
HAKT				*i* S	**Sg**	**02 37 45.6**	**+0.4**
ALIB	**Äli-Bayra**	**2.64**	**35**	⇓Pg	**Pn**	**02 37 04.9**	**+1.8**
ALIB				⇓Sg	**Sb**	**02 37 41.0**	**+0.6**
ALIB	**Äli-Bayra**	**2.64**	**35**	Pg	**Pn**	**02 37 04.9**	**+1.8**
KDMR	**Kurdemir**	**2.71**	**19**	⇓Pn	**Pn**	**02 37 05.7**	**+1.6**
SNR=3.7							
KDMR				⇓Sn	**Sb**	**02 37 42.7**	**+0.3**
CLDR	**Caldiran**	**2.76**	**299**	*e*PN	**Pb**	**02 37 09.4**	**-0.7**
CLDR				*e*SN	**Sb**	**02 37 42.6**	**-1.6**
CLDR	**Caldiran**	**2.76**	**299**	*e*Pn	**Pb**	**02 37 09.5**	**-0.7**
CLDR				*e*Sn	**Sb**	**02 37 42.6**	**-1.6**
GANJ	**Ganja**	**2.87**	**349**	⇑Pn	**Pn**	**02 37 08.6**	**+2.2**
SNR=11							
GANJ				⇑Sn	**Sb**	**02 37 45.9**	**-1.1**
GANJ	**Ganja**	**2.87**	**349**	Pn	**Pn**	**02 37 08.6**	**+2.2**
SNR=11							
GANJ				Sn	**Sb**	**02 37 45.9**	**-1.1**
GNI	**Garni**	**2.92**	**323**	*e*PN	**Pb**	**02 37 10.7**	**-2.1**
GNI	**Garni**	**2.92**	**323**	*e*Pn	**Pb**	**02 37 10.7**	**-2.1**
IGZV	**Ghazvin**	**2.94**	**118**	*e*Pn	**Pn**	**02 37 08.0**	**+0.6**
IGZV				*e*		02 38 03.3	
comp=Z,2μm,0.2s							
IGZV	**Ghazvin**	**2.94**	**118**	*e*Pn	**Pn**	**02 37 08.0**	**+0.6**
IML	**Ismayilli**	**3.10**	**17**	⇑Pn	**Pn**	**02 37 10.3**	**+0.7**
SNR=8.7							
IML				⇑Sn	**Sb**	**02 37 51.3**	**-2.4**
IML	**Ismayilli**	**3.10**	**17**	Pn	**Pn**	**02 37 10.3**	**+0.7**
SNR=8.7							
IML				Sn	**Sb**	**02 37 51.3**	**-2.4**
IDHR	**Dehrash**	**3.16**	**189**	*e*Pn	**Pn**	**02 37 12.1**	**+1.7**
IDHR				*e*		02 38 13.4	
comp=N,787nm,0.3s							
IDHR	**Dehrash**	**3.16**	**189**	*e*Pn	**Pn**	**02 37 12.1**	**+1.7**
PQL	**Pirkuli**	**3.21**	**22**	⇓Pn	**Pn**	**02 37 12.7**	**+1.6**
SNR=7.1							
PQL				⇓Sn	**Sn**	**02 37 53.5**	**+4.1**
PQL	**Pirkuli**	**3.21**	**22**	Pn	**Pn**	**02 37 12.7**	**+1.6**
SNR=7.1							
PQL				Sn	**Sn**	**02 37 53.5**	**+4.1**
IRAZ	**Razeghan**	**3.37**	**135**	*e*Pn	**Pn**	**02 37 13.8**	**+0.5**
IRAZ				*e*		02 38 19.3	
comp=Z,849nm,0.3s							
IRAZ	**Razeghan**	**3.37**	**135**	*e*Pn	**Pn**	**02 37 13.8**	**+0.5**
ATGJ	**Altiaghaj**	**3.38**	**26**	⇓Pn	**Pn**	**02 37 14.5**	**+1.0**
ATGJ				⇑Sn	**Sn**	**02 37 58.0**	**+4.3**
ATGJ	**Altiaghaj**	**3.38**	**26**	Pn	**Pn**	**02 37 14.5**	**+1.0**
ATGJ				Sn	**Sn**	**02 37 58.0**	**+4.3**
SEKA	**Sheki**	**3.39**	**2**	⇑Pn	**Pn**	**02 37 15.7**	**+2.2**
SNR=5.6							
SEKA				⇑Sn	**Sb**	**02 37 58.8**	**-3.1**
SEKA	**Sheki**	**3.39**	**2**	Pn	**Pn**	**02 37 15.7**	**+2.2**
SNR=5.6							
SEKA				Sn	**Sb**	**02 37 58.8**	**-3.1**
QZX	**Qazax, Azerbai**	**3.47**	**339**	⇑Pn	**Pb**	**02 37 19.7**	**-2.4**
QZX				⇑Sn	**Sb**	**02 38 04.9**	**+0.6**
QZX	**Qazax, Azerbai**	**3.47**	**339**	Pn	**Pb**	**02 37 19.7**	**-2.4**
SIZA	**Siyzn**	**3.56**	**24**	⇑Pn	**Pn**	**02 37 18.2**	**+2.3**
SNR=4.9							
SIZA				⇓Sn	**Sn**	**02 38 01.5**	**+3.4**
SIZA	**Siyzn**	**3.56**	**24**	Pn	**Pn**	**02 37 18.2**	**+2.3**
SNR=4.9							
SIZA				Sn	**Sn**	**02 38 01.5**	**+3.4**
AGRB	**Hanur-Agry**	**3.60**	**300**	*e*PN	Pn	02 37 20.9	+4.4
AGRB	**Hanur-Agry**	**3.60**	**300**	*e*Pn	Pn	02 37 20.9	+4.4
IMHD	**Mahdasht**	**3.63**	**125**	*e*Pn	**Pn**	**02 37 17.3**	**+0.4**
IMHD				*e*		02 38 17.3	
comp=N,3μm,0.2s							
IMHD	**Mahdasht**	**3.63**	**125**	*e*Pn	**Pn**	**02 37 17.3**	**+0.4**
SIRT	**Sirnak**	**3.64**	**266**	*e*PN	**Pn**	**02 37 19.9**	**+2.9**
SIRT	**Sirnak**	**3.64**	**266**	*e*Pn	**Pn**	**02 37 19.9**	**+2.9**
QUBA	**Quba, Azerbaij**	**3.71**	**18**	⇓Pn	**Pn**	**02 37 19.7**	**+1.8**
QUBA	**Quba, Azerbaij**	**3.71**	**18**	Pn	**Pn**	**02 37 19.7**	**+1.8**
ZKTA	**Zakatala**	**3.82**	**356**	⇑Pn	**Pn**	**02 37 21.6**	**+2.1**
TBLG	**Delisi**	**4.28**	**337**	*e*PN	Pb	02 37 31.6	-4.2
TBLG	**Delisi**	**4.28**	**337**	*e*Pn	Pb	02 37 31.6	-4.2
VRTB	**Varto-Mus**	**4.56**	**289**	*e*PN	Pn	02 37 34.6	+4.9
VRTB	**Varto-Mus**	**4.56**	**289**	*e*Pn	Pn	02 37 34.6	+4.9
IDMV	**Damavand**	**4.61**	**118**	*e*Pn	**Pn**	**02 37 30.9**	**+0.3**
IDMV				*e*		02 38 54.4	
comp=Z,188nm,0.2s							
IDMV	**Damavand**	**4.61**	**118**	*e*Pn	**Pn**	**02 37 30.9**	**+0.3**
DUS	**Dusheti**	**4.62**	**338**	P	**Pb**	**02 37 43.7**	**+2.0**
IVRN	**Varamin**	**4.73**	**125**	*e*Pn	**Pn**	**02 37 32.0**	**0.0**
IVRN				*e*		02 38 58.4	
comp=Z,186nm,0.2s							
IVRN	**Varamin**	**4.73**	**125**	*e*Pn	**Pn**	**02 37 32.0**	**0.0**
GUDG	**Gudauri**	**5.03**	**338**	P	**Pn**	**02 37 37.6**	**+1.4**
GUDG	**Gudauri**	**5.03**	**338**	P	**Pn**	**02 37 37.6**	**+1.4**

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*IDC **10** 02:40:25.9±1.5, 26°.03S×67°.05W, h0km, mb3.9/4, mb1 4.2/7, mb1mx4.0/25, mbtmp4.0/7, ML4.3/3, Error ellipse: s-maj=39.9km s-min=27.8km az=15.0*

*SJA **10** 02:40:27.8±0.5, 25°.82S×66°.89W, h2km±3km, ML4.5*

*ISCJB **10** 02:40:30.6±0.4, 25°.76S±0°.04×67°.13W±0°.05, h33km, mb4.2/10, Error ellipse: s-maj=7.2km s-min=5.1km az=159.4*

*NEIC **10** 02:40:32.8±0.8, 25°.80S×66°.88W, h44km±7km, mb4.3/8, Error ellipse: s-maj=10.2km s-min=8.8km az=106.0*

ISC 10 02:40:32.2±0.7, 25°.81S±0°.05×67°.05W±0°.07, h35km, n31, σ1ᵢ71/35, mb4.2/10, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHML	**Horco Molle**	**1.82**	**122**	*i* P	**Pn**	**02 41 00.2**	**-0.9**
AHML				*i* S	**Sn**	**02 41 24.2**	**+1.2**
AZAP	**Zapla**	**2.40**	**49**	*i* P	**Pn**	**02 41 09.9**	**+0.7**
AZAP				*i* S	**Sn**	**02 41 40.5**	**+3.0**
AZAP				AML	AML	02 41 45.6	
comp=Z,4μm,0.6s							
CYA	**Choya**	**2.85**	**157**	*i* P	**Pn**	**02 41 16.1**	**+0.9**
CYA				*i* S	**Sn**	**02 41 52.2**	**+3.9**
CYA				AML	AML	02 42 01.2	
comp=Z,1μm,0.7s							
ASTB	**Santa Barbara**	**2.98**	**52**	*i* P	**Pn**	**02 41 18.1**	**+0.9**
ALOL	**LOMAS DE OLMED**	**3.44**	**55**	*i* P	**Pn**	**02 41 23.9**	**+0.6**
LVC	**Limon Verde**	**3.61**	**332**	*e*Pn	**Pn**	**02 41 27.9**	**+2.0**
LVC				*e*Sn	**Sn**	**02 42 07.0**	**-0.4**
LVC	**Limon Verde**	**3.61**	**332**	*i* P	Pn	02 41 29.2	+3.3
LCO	**Las Campanas**	**4.55**	**225**	*e*Pn	**Pn**	**02 41 40.3**	**+1.5**
CFAA	**Coronel Fontan**	**5.

NP1:ϕ_s178.00000°,δ60.00000°,λ80.00000°. NP2: ϕ_s19.00000°,δ32.00000°,λ107.00000°. Principal axes: T 7.2810, Plg73.0000°, Azm62.0000°; N 0.4260, Plg9.0000°, Azm184.0000°; P -7.7080, Plg14.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s.

ISC 10 02:41:48.3±0.2,36°.98S±0°.04×72°.83W±0°.06,h36km±1km, h36km:pP-P,n865,σ1°09/944,mb5.4/135,MS4.6/19, 204C-235D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.26**	**300**	⇑*i*P		**Pn**		**02 41 56.3**	**+0.2**
CCSP				*i* S1		**Sn**		**02 42 02.1**	**-0.5**
CCSP	**San Pedro de C**	**0.26**	**300**	⇑*i*P		**Pn**		**02 41 56.3**	**+0.2**
CCSP				*i* S		**Sn**		**02 42 02.1**	**-0.5**
LNCH	**Linares**	**1.50**	**42**	⇑*i*P		**Pn**		**02 42 14.0**	**+1.3**
LNCH				*i* S1		**Sn**		**02 42 34.4**	**+3.5**
LNCH					AML	AML		02 42 40.8	
	comp=N,52μm,0.6s								
LNCH	**Linares**	**1.50**	**42**	⇑*i*P		**Pn**		**02 42 14.0**	**+1.3**
LNCH				*i* S		**Sn**		**02 42 34.4**	**+3.5**
NICH	**Los Niches**	**2.36**	**34**	⇓*i*P		**Pn**		**02 42 25.9**	**+1.4**
NICH				*e*S1		**Sn**		**02 42 54.3**	**+2.1**
NICH					AML	AML		02 43 13.8	
	comp=N,32μm,0.7s								
NICH	**Los Niches**	**2.36**	**34**	⇓*i*P		**Pn**		**02 42 25.9**	**+1.4**
NICH				*e*S		**Sn**		**02 42 54.3**	**+2.1**
VLCH	**Valdivia**	**2.84**	**186**	⇓*i*P		**Pn**		**02 42 32.0**	**+0.9**
VLCH	**Valdivia**	**2.84**	**186**	⇓*i*P		**Pn**		**02 42 32.0**	**+0.9**
CHCH	**Chadas Angostu**	**3.52**	**31**	⇑*i*P		**Pn**		**02 42 41.6**	**+1.2**
CHCH	**Chadas Angostu**	**3.52**	**31**	⇑*i*P		**Pn**		**02 42 41.6**	**+1.2**
OSCH	**Osorno**	**3.60**	**184**	*e*P1		**Pn**		**02 42 41.9**	**+0.4**
OSCH	**Osorno**	**3.60**	**184**	*e*P		**Pn**		**02 42 41.9**	**+0.4**
ANTU	**Antumapu**	**3.84**	**28**	*e*P1		**Pn**		**02 42 45.5**	**+0.5**
ANTU	**Antumapu**	**3.84**	**28**	*e*P		**Pn**		**02 42 45.5**	**+0.5**
IHA	**Instituto Hidr**	**4.06**	**14**	⇓*i*P		**Pn**		**02 42 47.8**	**-0.1**
IHA	**Instituto Hidr**	**4.06**	**14**	⇓*i*P		**Pn**		**02 42 47.8**	**-0.1**
PLCA	**Paso Flores**	**4.15**	**155**	*e*P		**Pn**		**02 42 51.0**	**+1.8**
PLCA	**Paso Flores**	**4.15**	**155**	Pn		**Pn**		**02 42 51.5**	**+2.3**
	comp=N,17nm,0.3s,baz=327,slow=11,SNR=93								
PLCA				Lg		Lg		02 43 52.8	
	comp=N,66nm,0.3s,baz=72,slow=20,SNR=2.9								
PLCA				LR		LR		02 44 41.8	
	comp=N,6μm,19.6s,baz=340,slow=43								
PLCA	**Paso Flores**	**4.15**	**155**	*e*Pn		**Pn**		**02 42 51.0**	**+1.8**
PLCA				Lg		Lg		02 43 52.8	
PEL	**Peldehue**	**4.21**	**25**	⇓*i*P		**Pn**		**02 42 50.6**	**+0.7**
PEL				S		**Sn**		**02 43 40.5**	**+2.6**
PEL	**Peldehue**	**4.21**	**25**	⇓*i*P		**Pn**		**02 42 50.6**	**+0.7**
PEL				*i* S4		**Sn**		**02 43 40.5**	**+2.6**
PEL	**Peldehue**	**4.21**	**25**	⇓*i*P		**Pn**		**02 42 50.6**	**+0.7**
PEL				S		**Sn**		**02 43 40.5**	**+2.6**
CFAA	**Coronel Fontan**	**6.57**	**37**	Pn		**Pn**		**02 43 22.0**	**-0.4**
	comp=N,1.0nm,0.3s,baz=33,slow=5.1,SNR=18								
CFAA				Sn		**Sn**		**02 44 37.0**	**+1.0**
	comp=N,2.6nm,0.3s,baz=114,slow=20,SNR=2.1								
CFAA				LR		LR		02 46 06.8	
	comp=N,603nm,21.0s,baz=228,slow=41								
LCO	**Las Campanas**	**8.14**	**13**	*e*Pn		**Pn**		**02 43 43.6**	**-0.6**
TRQA	**Tornquist**	**8.69**	**100**	*e*Pn		**Pn**		**02 43 53.4**	**+1.9**
TRQA				*e*Sn		Sn		02 45 19.6	-8.6
LVC	**Limon Verde**	**14.71**	**14**	*e*Pn		**Pn**		**02 45 14.7**	**+0.6**
CPUP	**Villa Florida**	**16.91**	**56**	LR		LR		02 52 48.9	
	comp=N,3μm,19.5s,baz=212,slow=40								
EFI	**East Falkland**	**18.04**	**149**	Pn		**Pn**		**02 45 55.0**	**-1.0**
	comp=N,426nm,0.4s,SNR=9.3								
USHA	**Ushuaia**	**18.11**	**172**	P		**P**		**02 45 58.1**	**+1.2**
	comp=N,1.6nm,0.3s,baz=335,slow=5.0,SNR=18								
LPAZ	**La Paz**	**21.02**	**13**	*e*P		**P**		**02 46 30.8**	**+1.2**
LPAZ					pmax	pmax			
	comp=Z,109nm,1.1s								
LPAZ	**La Paz**	**21.02**	**13**	P		**P**		**02 46 31.1**	**+1.6**
	comp=Z,60nm,1.0s,baz=176,slow=7.6,SNR=44								
LPAZ	**La Paz**	**21.02**	**13**	*e*P		**P**		**02 46 30.8**	**+1.2**
	comp=Z,109nm,1.1s								
SIV	**San Ignacio**	**23.36**	**30**	P		**P**		**02 46 52.6**	**-1.1**
	comp=Z,139nm,0.9s,baz=227,slow=14,SNR=41								
NNA	**Nana**	**25.14**	**351**	P		**P**		**02 47 09.3**	**-0.8**
	comp=Z,34nm,0.8s,baz=196,slow=11,SNR=14								
SAML	**Samuel**	**29.24**	**20**	*e*P		**P**		**02 47 46.8**	**-0.1**
	comp=Z,94nm,1.0s								
ATAH	**Atahualpa**	**30.13**	**349**	P		**P**		**02 47 57.2**	**+2.0**
	comp=Z,20nm,1.1s,baz=175,slow=8.7,SNR=10								
BDFB	**Brasilia**	**30.60**	**53**	P		**P**		**02 47 56.8**	**-2.2**
	comp=Z,26nm,0.9s,baz=207,slow=5.7,SNR=25								
BDFB				LR		LR		03 01 33.8	
	comp=Z,2μm,18.9s,baz=222,slow=39								
OTAV	**Otavalo**	**37.39**	**351**	*e*P		**P**		**02 49 00.1**	**+1.7**
	comp=Z,57nm,1.2s								
OTAV				*e*PcP		**PcP**		**02 51 17.5**	**+0.7**
ROSC	**El Rosal**	**41.64**	**358**	P		**P**		**02 49 35.4**	**+1.8**
	comp=Z,20nm,0.8s,baz=97,slow=5.3,SNR=13								
ROSC				LR		LR		03 06 58.2	
	comp=Z,189nm,18.9s,baz=199,slow=36								
ROSC	**El Rosal**	**41.64**	**358**	*e*P		P		02 49 37.0	+3.4
SDV	**Santo Domingo**	**45.67**	**3**	*e*P		**P**		**02 50 05.5**	**-0.3**
	comp=Z,52nm,0.9s								
RCBR	**Riachuelo**	**45.79**	**57**	*e*P		**P**		**02 50 06.7**	**0.0**
	comp=Z,53nm,1.1s								
RCBR				*e*PcP		**PcP**		**02 51 43.7**	**-0.2**
RCBR				*e*PP		**PP**		**02 51 53.2**	**-1.2**
BCIP	**Isla Barro Col**	**46.37**	**350**	*e*P		**P**		**02 50 11.2**	**+0.1**
	comp=Z,48nm,1.1s								
VNA3	**Neumayer Olymp**	**46.87**	**157**	P		**P**		**02 50 15.2**	**+0.7**
VNA1	**Neumayer--Stat**	**47.21**	**156**	P		**P**		**02 50 18.5**	**+1.5**
VNA2	**Neumayer--Watz**	**47.54**	**156**	P		**P**		**02 50 20.4**	**+0.7**
JTS	**JuntasAbangare**	**48.38**	**344**	P		**P**		**02 50 28.0**	**+1.3**
	comp=Z,195nm,1.2s,SNR=7.4								
SNAA	**Sanae**	**49.09**	**157**	P		**P**		**02 50 32.1**	**+0.4**
SNAA	**Sanae**	**49.09**	**157**	*e*P		**P**		**02 50 32.2**	**+0.5**
SNAA	**Sanae**	**49.09**	**157**	*ce*P		**P**		**02 50 31.6**	**-0.1**
SNAA					pmax	pmax			
	comp=Z,77nm,1.0s								
SNAA	**Sanae**	**49.09**	**157**	P		**P**		**02 50 32.2**	**+0.5**
	comp=Z,20nm,1.0s,baz=282,slow=6.6,SNR=26								
SNAA	**Sanae**	**49.09**	**157**	*e*P		**P**		**02 50 32.2**	**+0.5**
	comp=Z,68nm,1.0s								
GRGR	**Grenville**	**49.97**	**14**	*e*P		**P**		**02 50 39.0**	**+0.2**
	comp=Z,243nm,1.0s								
QSPA	**South Pole Qui**	**53.27**	**180**	*e*P		**P**		**02 51 04.2**	**+1.0**
	comp=Z,102nm,0.9s								
NVL	**N'lazarevskaya**	**53.86**	**156**	*e*P		**P**		**02 51 06.8**	**-0.5**
NVL					pmax	pmax			
	comp=Z,21nm,0.8s								
RKT	**Rikitea**	**54.67**	**266**	*e*S		**S**		**02 58 47.8**	**-3.8**
	comp=Z,284nm,32.0s								
RKT				*e*LR		LR		03 07 18.8	
	comp=Z,1μm,27.8s								
RKT	**Rikitea**	**54.67**	**266**	*e*T		T		03 49 23.4	
	comp=Z,1.8nm,0.2s								
OBIP	**Obispado Ponce**	**55.04**	**7**	*e*P		**P**		**02 51 15.7**	**-0.6**
	comp=Z,119nm,1.2s								
CBYP	**Canovanas**	**55.34**	**8**	*e*P		**P**		**02 51 16.5**	**-2.1**
	comp=Z,90nm,1.0s								
SDDR	**Presa de Saban**	**55.67**	**2**	*e*P		**P**		**02 51 20.6**	**-0.4**
	comp=Z,25nm,1.0s								
GTBY	**Guantanamo Bay**	**56.64**	**357**	*e*P		**P**		**02 51 27.1**	**-0.7**
	comp=Z,67nm,1.0s								
TEIG	**Tepich**	**58.73**	**343**	*e*P		**P**		**02 51 43.1**	**+0.6**
	comp=Z,43nm,0.9s								
SBA	**Scott Base**	**60.04**	**192**	*e*P		**P**		**02 51 53.5**	**+2.6**
SBA				*e**PP		**pP**		**02 52 03.7**	**+2.0**
SBA					pmax	pmax			
	comp=Z,234nm,2.6s								
SBA	**Scott Base**	**60.04**	**192**	*e*P		**P**		**02 51 53.5**	**+2.6**
	comp=Z,234nm,2.6s								
SBA				*e*pP		**pP**		**02 52 03.7**	**+2.0**
VNDA	**Vanda**	**61.06**	**192**	*e*P		**P**		**02 52 00.0**	**+2.1**
VNDA					pmax	pmax			
	comp=Z,16nm,1.2s								
VNDA	**Vanda**	**61.06**	**192**	P		**P**		**02 51 59.9**	**+2.1**
	comp=Z,6.5nm,0.9s,baz=132,slow=4.6,SNR=17								
VNDA				LR		LR		03 14 57.5	
	comp=Z,140nm,19.5s,baz=144,slow=33								
VNDA	**Vanda**	**61.06**	**192**	*e*P		**P**		**02 51 60.0**	**+2.1**
	comp=Z,16nm,1.2s								
SYO	**Syowa Base**	**63.34**	**158**	⇓*e*P		P		02 52 09.0	-4.3
035Z	**Hargill**	**67.43**	**336**	⇑P		**P**		**02 52 42.3**	**+2.2**
	baz=68								
MEH	**Mehetia**	**67.85**	**264**	*e*T		T		04 05 50.2	
	comp=Z,24nm,0.3s								
035A	**Encino**	**67.88**	**336**	⇓P		**P**		**02 52 45.1**	**+2.2**
	baz=68								
034A	**Hebbronville**	**68.19**	**335**	⇓P		**P**		**02 52 46.7**	**+1.8**
	baz=68								
934A	**Benavides**	**68.63**	**336**	⇓P		**P**		**02 52 50.1**	**+2.4**
	baz=69,SNR=6.3								
TIGA	**Tifton**	**68.80**	**350**	⇑P		**P**		**02 52 48.6**	**-0.1**
	baz=69								
TIGA	**Tifton**	**68.80**	**350**	*e*P		**P**		**02 52 48.4**	**-0.3**
	comp=Z,59nm,0.9s								
933A	**Laredo**	**68.89**	**335**	⇓P		**P**		**02 52 50.5**	**+1.2**
	baz=69,SNR=9.5								
VAH	**Vaihoa**	**68.95**	**266**	*e*P		**P**		**02 52 52.6**	**+2.5**
	comp=Z,23nm,1.1s								
835A	**Beeville**	**69.04**	**336**	⇑P		**P**		**02 52 52.2**	**+2.0**
	baz=69,SNR=5.9								
TIAR	**Tiarei**	**69.04**	**263**	*e*P		**P**		**02 52 53.4**	**+2.8**
	comp=Z,13nm,1.0s								
834A	**Tilden**	**69.12**	**336**	⇑P		**P**		**02 52 52.2**	**+1.5**
	baz=70,SNR=20								
PPT2	**Papeete2**	**69.21**	**263**	*e*P		**P**		**02 52 54.8**	**+3.1**
	comp=Z,66nm,1.3s								
PPT2				*e*S		**S**		**03 01 52.8**	**-2.7**
	comp=Z,259nm,29.5s								
PPT2	**Papeete2**	**69.21**	**263**	*e*LR		LR		03 13 58.4	
	comp=Z,1μm,24.5s								
PPT	**Papeete**	**69.22**	**263**	P		**P**		**02 52 54.2**	**+2.5**
	comp=Z,35nm,1.0s,baz=61,slow=4.2,SNR=3.3								
PPT				LR		LR		03 17 04.9	
	comp=Z,625nm,18.3s,baz=175,slow=31								
735A	**Kenedy**	**69.56**	**337**	⇓P		**P**		**02 52 54.6**	**+1.2**
	baz=70,SNR=7.7								
833A	**Chaparral WMA,**	**69.59**	**335**	⇓P		**P**		**02 52 54.7**	**+1.1**
	baz=70,SNR=17								
832A	**Faith Ranch, C**	**69.75**	**335**	⇑P		**P**		**02 52 55.4**	**+0.8**
	baz=70,SNR=20								
734A	**La Parita Cree**	**69.79**	**336**	⇓P		**P**		**02 52 55.7**	**+0.8**
	baz=70								
636A	**Smothers Creek**	**69.91**	**338**	⇑P		**P**		**02 52 56.9**	**+1.4**
	baz=70,SNR=17								
733A	**Divot King Ran**	**69.92**	**335**	⇓P		**P**		**02 52 56.5**	**+0.8**
	baz=70,SNR=6.7								
635A	**Leesville**	**70.04**	**337**	⇑P		**P**		**02 52 57.6**	**+1.2**
	baz=70								
732A	**Laxson Ranch,**	**70.16**	**335**	⇑P		**P**		**02 52 57.9**	**+0.8**
	baz=70,SNR=37								
537A	**Green Hill Far**	**70.25**	**338**	⇑P		**P**		**02 52 59.1**	**+1.5**
	baz=71,SNR=6.4								
LPIG	**La Paz**	**70.27**	**324**	LR		LR		03 17 08.1	
	comp=Z,341nm,18.1s,baz=165,slow=30								
536A	**Bastrop**	**70.47**	**338**	⇓P		**P**		**02 53 00.2**	**+1.2**
	baz=71								
MAW	**Mawson**	**70.52**	**164**	P		**P**		**02 52 58.5**	**-0.4**
	comp=Z,49nm,1.0s,baz=228,slow=8.3,SNR=4.2								
MAW				LR		LR		03 25 13.5	
	comp=Z,513nm,19.1s,baz=237,slow=37								
633A	**Saathoff Ranch**	**70.56**	**336**	⇑P		**P**		**02 53 00.1**	**+0.6**
	baz=71,SNR=19								
535A	**Dale**	**70.58**	**337**	⇑P		**P**		**02 53 00.2**	**+0.6**
	baz=71,SNR=9.9								
438A	**Sam Houston St**	**70.64**	**339**	⇑P		**P**		**02 53 00.8**	**+0.9**
	baz=71,SNR=7.4								
GOGA	**Godfrey**	**70.73**	**351**	*e*P		**P**		**02 53 00.2**	**-0.2**
GOGA					pmax	pmax			
	comp=Z,39nm,0.9s								
GOGA	**Godfrey**	**70.73**	**351**	*e*P		**P**		**02 53 00.2**	**-0.2**
	comp=Z,39nm,0.9s								
VBMS	**Vicksburg**	**70.80**	**344**	*e*P		**P**		**02 53 02.0**	**+1.1**
	comp=Z,84nm,1.0s								
632A	**Uvalde**	**70.81**	**335**	⇑P		**P**		**02 53 02.0**	**+0.9**
	baz=71,SNR=18								
340A	**Bronson**	**70.84**	**341**	⇑P		**P**		**02 53 01.9**	**+0.8**
	baz=71,SNR=5.9								
534A	**Blanco**	**70.86**	**337**	⇓P		**P**		**02 53 02.1**	**+0.7**
	baz=71								
LRAL	**Lakeview Retre**	**70.90**	**347**	*e*P		**P**		**02 53 01.6**	**+0.2**
	comp=Z,50nm,1.2s								
339A	**Huntington**	**70.93**	**340**	⇑P		**P**		**02 53 02.5**	**+0.8**
	baz=71,SNR=9.0								
631A	**Perdido Creek**	**70.99**	**335**	⇑P		**P**		**02 53 02.6**	**+0.4**
	baz=71,SNR=7.8								
436A	**Wall Ranch, Ga**	**71.04**	**338**	⇑P		**P**		**02 53 03.5**	**+1.1**
	baz=71								
533A	**Kerrville**	**71.08**	**336**	⇓P		**P**		**02 53 03.5**	**+0.8**
	baz=71,SNR=15								
338A	**Crockett**	**71.16**	**340**	⇑P		**P**		**02 53 04.6**	**+1.5**
	baz=72,SNR=16								
337A	**Centerville**	**71.28**	**339**	⇑P		**P**		**02 53 05.5**	**+1.6**
	baz=72,SNR=9.4								
435B	**Jarrell**	**71.28**	**338**	⇓P		**P**		**02 53 05.0**	**+1.1**
	baz=72								
532A	**Rocksprings**	**71.42**	**335**	⇓P		**P**		**02 53 05.7**	**+0.9**
	baz=72,SNR=28								
434A	**Burnet**	**71.53**	**337**	⇓P		**P**		**02 53 06.0**	**+0.6**
	baz=72,SNR=34								
239A	**Gary**	**71.56**	**341**	⇑P		**P**		**02 53 06.5**	**+1.0**
	baz=72,SNR=6.9								
336A	**Riesel**	**71.63**	**338**	⇓P		**P**		**02 53 06.5**	**+0.5**
	baz=72,SNR=18								
531A	**Rocksprings**	**71.67**	**335**	⇑P		**P**		**02 53 07.2**	**+0.9**
	baz=72,SNR=23								
335A	**Moody**	**71.70**	**338**	⇑P		**P**		**02 53 07.0**	**+0.6**
	baz=72,SNR=7.7								
JCT	**Junction City**	**71.71**	**336**	*e*P		**P**		**02 53 07.7**	**+1.2**
JCT					pmax	pmax			
	comp=Z,74nm,1.1s								
JCT	**Junction City**	**71.71**	**336**	⇓P		**P**		**02 53 07.1**	**+0.5**
	baz=72,SNR=34								
JCT	**Junction City**	**71.71**	**336**	*e*P		**P**		**02 53 07.7**	**+1.2**
	comp=Z,74nm,1.1s								
238A	**Jacksonville**	**71.72**	**340**	⇓P		**P**		**02 53 07.5**	**+1.0**
	baz=72								
433A	**Art**	**71.73**	**336**	⇑P		**P**		**02 53 07.0**	**+0.3**
	baz=72,SNR=40								
237A	**Washetta, Mont**	**71.91**	**340**	⇑P		**P**		**02 53 08.6**	**+1.0**
	baz=72,SNR=6.5								
530A	**J-C Ranch, Com**	**71.93**	**334**	⇓P		**P**		**02 53 09.0**	**+1.1**
	baz=72,SNR=36								
334A	**Lometa**	**72.00**	**337**	⇑P		**P**		**02 53 08.9**	**+0.7**
	baz=72,SNR=43								
CNNC	**Cliffs of the**	**72.00**	**356**	*e*P		**P**		**02 53 08.8**	**+0.7**
	comp=Z,52nm,0.8s								
TXAR	**Lajitas Array**	**72.03**	**332**	P		**P**		**02 53 09.5**	**+0.9**
	comp=Z,17nm,1.1s,baz=152,slow=7.4,SNR=80								
TXAR				LR		LR		03 19 24.5	
	comp=Z,359nm,20.5s,baz=0.0,slow=31								
432A	**Menard**	**72.07**	**336**	⇑P		**P**		**02 53 09.0**	**+0.3**
	baz=72,SNR=9.0								
431A	**Sonora**	**72.16**	**335**	⇑P		**P**		**02 53 09.6**	**+0.3**
	baz=72,SNR=19								
KMSC	**Kings Mountain**	**72.19**	**353**	⇓P		**P**		**02 53 09.2**	**-0.1**
	baz=73								
KMSC	**Kings Mountain**	**72.19**	**353**	*e*P		**P**		**02 53 09.1**	**-0.2**
	comp=Z,42nm,0.8s								
529A	**Stev Forest Ra**	**72.22**	**333**	⇑P		**P**		**02 53 10.4**	**+0.7**
	baz=73,SNR=30								
333A	**Richland Sprin**	**72.22**	**337**	⇓P		**P**		**02 53 09.9**	**+0.3**
	baz=73,SNR=21								
CER	**Ceres**	**72.36**	**119**	*e*P		**P**		**02 53 09.1**	**-1.6**
CER					AMB	AMB		02 53 10.1	
	comp=Z,145nm,2.6s								
CER	**Ceres**	**72.36**	**119**	P		**P**		**02 53 09.1**	**-1.6**
	comp=Z,145nm,2.6s								
WHTX	**Lake Whitney,**	**72.37**	**338**	⇑P		**P**		**02 53 10.7**	**+0.3**
	baz=73,SNR=18								
WHTX	**Lake Whitney,**	**72.37**	**338**	*e*P		**P**		**02 53 10.5**	**+0.1**
	comp=Z,84nm,1.3s								
137A	**Heron Place, G**	**72.45**	**340**	⇑P		**P**		**02 53 11.8**	**+0.9**
	baz=73,SNR=8.9								
430A	**Baggett Ranch,**	**72.47**	**335**	⇑P		**P**		**02 53 11.8**	**+0.6**
	baz=73,SNR=36								
332A	**Millersview**	**72.52**	**336**	⇑P		**P**		**02 53 11.8**	**+0.4**
	baz=73,SNR=34								
429A	**Davenport Ranc**	**72.55**	**334**	⇓P		**P**		**02 53 12.4**	**+0.7**
	baz=73,SNR=36								
234A	**Clairette**	**72.59**	**338**	⇓P		**P**		**02 53 12.1**	**+0.3**
	baz=73,SNR=17								
331A	**San Angelo**	**72.68**	**335**	⇑P		**P**		**02 53 12.9**	**+0.5**
	baz=73,SNR=47								
OXF	**Oxford**	**72.78**	**346**	*e*P		**P**		**02 53 12.8**	**0.0**
OXF					pmax	pmax			
	comp=Z,149nm,1.4s								
OXF	**Oxford**	**72.78**	**346**	*e*P		**P**		**02 53 12.8**	**0.0**
	comp=Z,149nm,1.4s								
233A	**Rising Star**	**72.84**	**337**	⇑P		**P**		**02 53 13.6**	**+0.3**
	baz=73,SNR=15								
SWET	**Sewanee**	**72.85**	**349**	*e*P		**P**		**02 53 12.9**	**-0.3**
	comp=Z,288nm,1.2s								
135A	**Vickery Place,**	**72.89**	**338**	⇓P		**P**		**02 53 13.9**	**+0.4**
	baz=73								
232A	**Coleman**	**72.96**	**336**	⇓P		**P**		**02 53 14.3**	**+0.3**
	baz=73,SNR=21								
TKL	**Tuckaleechee C**	**72.98**	**351**	*e*P		**P**		**02 53 13.5**	**-0.5**
TKL	**Tuckaleechee C**	**72.98**	**351**	*e*P		**P**		**02 53 13.5**	**-0.5**
KOMG	**Komaggas**	**73.00**	**115**	*e*P		**P**		**02 53 15.0**	**+0.5**
KOMG					AMB	AMB		02 53 15.5	
	comp=Z,56nm,0.9s								
KOMG	**Komaggas**	**73.00**	**115**	P		**P**		**02 53 15.0**	**+0.5**
	comp=Z,56nm,0.9s								
330A	**Mertzon**	**73.02**	**335**	⇑P		**P**		**02 53 14.8**	**+0.4**
	baz=73,SNR=13								
134A	**White-Moore Ra**	**73.10**	**338**	⇑P		**P**		**02 53 15.1**	**+0.4**
	baz=74,SNR=8.1								
231A	**Bronte**	**73.22**	**336**	⇑P		**P**		**02 53 15.7**	**+0.2**
	baz=74,SNR=17								
329A	**Wagon Wheel Ra**	**73.37**	**334**	⇓P		**P**		**02 53 17.1**	**+0.6**
	baz=74,SNR=24								
133A	**Hamilton Ranch**	**73.39**	**337**	⇓P		**P**		**02 53 16.9**	**+0.5**
	baz=74,SNR=17								
230A	**Sterling City**	**73.44**	**335**	⇓P		**P**		**02 53 16.8**	**0.0**
	baz=74								
Z35A	**Perchaven, San**	**73.57**	**339**	⇓P		**P**		**02 53 18.0**	**+0.5**
	baz=74,SNR=7.0								
ABTX	**Abilene, Hawle**	**73.63**	**337**	⇑P		**P**		**02 53 18.5**	**+0.6**
	baz=74,SNR=12								
ABTX	**Abilene, Hawle**	**73.63**	**337**	*e*P		**P**		**02 53 18.4**	**+0.5**
	comp=Z,42nm,1.0s								
UALR	**University of**	**73.66**	**343**	*e*P		**P**		**02 53 18.3**	**+0.3**
	comp=Z,22nm,1.1s								
UALR				*ep*P		**pP**		**02 53 27.9**	**-1.1**
MIAR	**Mount Ida**	**73.73**	**342**	*e*P		**P**		**02 53 18.8**	**+0.4**
MIAR					pmax	pmax			
	comp=Z,14nm,1.0s								
MIAR	**Mount Ida**	**73.73**	**342**	*e*P		**P**		**02 53 18.8**	**+0.4**
	comp=Z,14nm,1.0s								
229A	**Bryant Ranch,**	**73.75**	**335**	⇑P		**P**		**02 53 19.2**	**+0.5**
	baz=74,SNR=7.5								
Z34A	**Collier Ranch,**	**73.80**	**338**	⇓P		**P**		**02 53 19.3**	**+0.5**
	baz=74,SNR=7.0								
TZTN	**Tazewell**	**73.82**	**351**	*e*P		**P**		**02 53 18.5**	**-0.4**
	comp=Z,59nm,1.1s								
131A	**Roby**	**73.92**	**336**	⇓P		**P**		**02 53 20.0**	**+0.4**
	baz=74,SNR=7.8								
SUR	**Sutherland**	**73.97**	**119**	P		**P**		**02 53 21.7**	**+1.3**
	comp=Z,457nm,0.9s,SNR=8.0								
SUR	**Sutherland**	**73.97**	**119**	*e*P		**P**		**02 53 20.7**	**+0.3**
	comp=Z,91nm,1.0s								
Z33A	**Whitaker Ranch**	**73.97**	**338**	⇑P		**P**		**02 53 20.1**	**+0.2**
	baz=74,SNR=18								
130A	**Snyder**	**74.04**	**336**	⇑P		**P**		**02 53 20.6**	**+0.3**
	baz=74,SNR=6.2								
BLA	**Blacksburg**	**74.15**	**354**	*e*P		**P**		**02 53 20.5**	**-0.4**
BLA					pmax	pmax			
	comp=Z,24nm,0.8s								
BLA	**Blacksburg**	**74.15**	**354**	*e*P		**P**		**02 53 20.5**	**-0.4**
	comp=Z,24nm,0.8s								
228A	**UT Block 9, Go**	**74.16**	**334**	⇓P		**P**		**02 53 21.5**	**+0.5**
	baz=74,SNR=16								
Z32A	**Haskell**	**74.21**	**337**	⇓P		**P**		**02 53 21.6**	**+0.3**
	baz=75,SNR=22								
Y34A	**Reagan Ranch,**	**74.30**	**339**	⇑P		**P**		**02 53 21

MVL	Millersville	76.67	357	eP	P	02 53 35.6 +0.5
	comp=Z,28nm,1.1s					
MVL				eP	pP	02 53 45.8 -0.5
U33A	Lingo Farm, Me	76.71	339	⇓P	P	02 53 35.7 +0.1
	baz=77					
WIN	Windhoek	76.74	108	eP	P	02 53 36.4 -0.1
WIN				AMB	AMB	02 53 37.2
	comp=Z,12nm,1.0s					
WIN	Windhoek	76.74	108	P	P	02 53 36.4 -0.1
WIN				pmax	pmax	
	comp=Z,12nm,1.0s					
WIN	Windhoek	76.74	108	P	P	02 53 36.4 -0.1
	comp=Z,12nm,1.0s					
DBIC	Dimbokro	76.75	71	eP	P	02 53 35.7 -0.6
DBIC	Dimbokro	76.75	71	eP	P	02 53 36.3 0.0
DBIC				pmax	pmax	
	comp=Z,99nm,0.8s					
DBIC	Dimbokro	76.75	71	P	P	02 53 36.2 -0.1
	comp=Z,76nm,0.7s,baz=202,slow=5.8,SNR=102					
DBIC				LR	LR	03 24 49.3
	comp=Z,368nm,19.1s,baz=216,slow=34					
DBIC	Dimbokro	76.75	71	eP	P	02 53 36.3 0.0
	comp=Z,99nm,0.8s					
X26A	CR and CF Fran	76.79	334	⇓P	P	02 53 37.0 +0.8
	baz=77,SNR=11					
Z22A	Elephant Butte	76.79	331	⇓P	P	02 53 37.3 +1.1
	baz=77					
Y24A	Capitan	76.81	333	⇓P	P	02 53 37.3 +0.9
	baz=77,SNR=21					
BLO	Bloomington	76.82	349	eP	P	02 53 35.6 -0.5
BLO				pmax	pmax	
	comp=Z,48nm,0.9s					
BLO	Bloomington	76.82	349	eP	P	02 53 35.6 -0.5
	comp=Z,48nm,0.9s					
V30A	Spur Ranch, Mi	76.86	337	⇑P	P	02 53 37.9 +1.4
	baz=77					
U32A	Winter Ranch,	76.92	339	⇑P	P	02 53 37.1 +0.3
	baz=77,SNR=12					
SLM	Saint Louis	76.94	346	eP	P	02 53 36.3 -0.4
SLM				pmax	pmax	
	comp=Z,85nm,0.9s					
SLM	Saint Louis	76.94	346	eP	P	02 53 36.3 -0.4
	comp=Z,85nm,0.9s					
W27A	Bowe Ranch, En	76.99	335	⇓P	P	02 53 37.9 +0.6
	baz=77,SNR=21					
CASY	Casey	77.04	181	eP	P	02 53 37.6 +0.5
	comp=Z,55nm,0.9s					
Y23A	Lovelace Mesa,	77.04	332	⇑P	P	02 53 38.9 +1.2
	baz=77,SNR=18					
X25A	Clemmons Ranch	77.07	333	⇓P	P	02 53 38.1 +0.4
	baz=77,SNR=5.8					
W26A	Owens Ranch, T	77.26	334	⇓P	P	02 53 39.7 +0.9
	baz=78,SNR=13					
V28A	Channing	77.34	336	⇑P	P	02 53 39.9 +0.7
	baz=78,SNR=6.5					
T33A	Patterson Ranc	77.36	339	⇑P	P	02 53 39.9 +0.7
	baz=78,SNR=32					
GRM	Grahamstown	77.37	122	eP	P	02 53 40.7 +1.0
GRM				AMB	AMB	02 53 49.5
	comp=Z,81nm,3.4s					
GRM	Grahamstown	77.37	122	P	P	02 53 40.7 +1.0
GRM				pmax	pmax	
	comp=Z,81nm,3.4s					
GRM	Grahamstown	77.37	122	P	P	02 53 40.7 +1.0
	comp=Z,81nm,3.4s					
X24A	Lazy VL Ranch,	77.38	333	⇑P	P	02 53 40.8 +1.2
	baz=78					
ACSO	Alum Creek Sta	77.40	352	eP	P	02 53 38.9 -0.4
	comp=Z,60nm,0.8s					
TUC	Tucson	77.52	328	eP	P	02 53 41.6 +1.3
TUC				pmax	pmax	
	comp=Z,33nm,1.3s					
TUC	Tucson	77.52	328	eP	P	02 53 41.6 +1.3
	comp=Z,33nm,1.3s					
V27A	Dan Oppiter Fa	77.55	335	⇓P	P	02 53 41.3 +0.9
	baz=78					
U30A	WK&E Inc. Balk	77.56	337	⇓P	P	02 53 41.0 +0.6
	baz=78,SNR=7.9					
LENM	Lemitar	77.60	332	eP	P	02 53 42.1 +1.4
LPM	Los Pinos Moun	77.60	332	eP	P	02 53 42.3 +1.5
PAL	Palisades	77.61	359	eP	P	02 53 41.1 +0.7
PAL				pmax	pmax	
	comp=Z,16nm,1.0s					
PAL	Palisades	77.61	359	eP	P	02 53 41.1 +0.7
	comp=Z,16nm,1.0s					
W25A	X Bar L Ranch,	77.62	334	⇑P	P	02 53 41.3 +0.5
	baz=78,SNR=24					
T32A	Huddler Ranch,	77.64	339	⇑P	P	02 53 41.5 +0.7
	baz=78,SNR=7.4					
X23A	Hourglass Bar	77.67	332	⇑P	P	02 53 42.3 +1.0
	baz=78,SNR=17					
ODNJ	Ogdensburg	77.70	359	eP	P	02 53 41.8 +0.9
	comp=Z,20nm,1.0s					
S33A	Kaszmaul Farm,	77.77	340	⇑P	P	02 53 42.2 +0.7
	baz=78					
T31A	Randall Ranch,	77.78	338	⇓P	P	02 53 42.3 +0.7
	baz=78,SNR=6.4					
V26A	Tequesquite Ra	77.91	335	⇓P	P	02 53 42.8 +0.4
	baz=78,SNR=7.8					
U28A	Mallet	77.91	336	⇓P	P	02 53 43.1 +0.7
	baz=78,SNR=6.3					
YLE	Yale	77.92	360	eP	P	02 53 43.6 +1.5
	comp=Z,68nm,0.8s					
W24A	Lazy 6 Ranch,	77.95	333	⇓P	P	02 53 43.9 +1.2
	baz=78,SNR=19					
T30A	Plains	78.00	338	⇑P	P	02 53 43.7 +0.9
	baz=78					
SFIN	Lafayette	78.09	349	⇑P	P	02 53 42.2 -0.9
	baz=78					
SFIN	Lafayette	78.09	349	eP	P	02 53 42.0 -1.1
ANMO	Albuquerque	78.10	332	eP	P	02 53 44.5 +1.0
ANMO	Albuquerque	78.10	332	LR	LR	03 22 49.3
	comp=Z,321nm,20.3s,baz=159,slow=32					
ANMO	Albuquerque	78.10	332	eP	P	02 53 44.5 +1.0
	comp=Z,45nm,1.2s					
214A	Organ Pipe Nat	78.10	326	⇑P	P	02 53 44.4 +0.9
	baz=78,SNR=8.3					
214A	Organ Pipe Nat	78.10	326	eP	P	02 53 45.2 +1.7
	comp=Z,37nm,1.3s					
S32A	Newby Ranch, P	78.13	339	⇓P	P	02 53 44.2 +0.7
	baz=78,SNR=11					
U27A	Thompson Grove	78.15	336	⇓P	P	02 53 44.5 +0.8
	baz=78,SNR=7.7					
W23A	Werner Place,	78.17	333	⇓P	P	02 53 45.0 +1.0
	baz=78,SNR=18					
KSPA	Keystone Colle	78.20	358	eP	P	02 53 44.4 +0.6
	comp=Z,19nm,1.2s					
S31A	Mullinville	78.21	339	⇑P	P	02 53 44.4 +0.4
	baz=79,SNR=9.2					
V25A	Rancho No Teng	78.23	334	⇑P	P	02 53 44.9 +0.6
	baz=79,SNR=24					
HVD	Gariep Dam	78.26	119	eP	P	02 53 43.6 -1.2
HVD				AMB	AMB	02 53 45.3
	comp=Z,72nm,1.0s					
HVD	Gariep Dam	78.26	119	P	P	02 53 43.6 -1.2
HVD				pmax	pmax	
	comp=Z,73nm,1.0s					
HVD	Gariep Dam	78.26	119	P	P	02 53 43.6 -1.2
	comp=Z,72nm,1.0s					
T29A	Hugoton	78.33	337	⇓P	P	02 53 45.2 +0.5
	baz=79,SNR=5.6					
V24A	Rampart Ranch,	78.36	334	⇓P	P	02 53 46.1 +1.0
	baz=79,SNR=13					
R33A	Olander Ranch,	78.43	340	⇓P	P	02 53 45.5 +0.3
	baz=79,SNR=10					
U26A	Atchley Ranch,	78.43	335	⇓P	P	02 53 46.2 +0.8
	baz=79,SNR=12					
S30A	Montezuma	78.52	338	⇓P	P	02 53 46.3 +0.6
	baz=79,SNR=12					
T28A	Walsh	78.56	336	⇑P	P	02 53 46.4 +0.5
	baz=79,SNR=17					
U25A	Circle Dot Ran	78.66	334	⇓P	P	02 53 47.5 +0.8
	baz=79,SNR=18					
T27A	Campo	78.70	336	⇓P	P	02 53 47.7 +0.9
	baz=79,SNR=11					
S29A	Ulysses	78.70	337	⇑P	P	02 53 47.7 +1.0
	baz=79,SNR=8.0					
V23A	Ortiz Mt. (NFS	78.71	333	⇑P	P	02 53 48.2 +1.3
	baz=79,SNR=11					
R32A	Long Quarter,	78.74	340	⇑P	P	02 53 47.3 +0.5
	baz=79,SNR=15					
KSU1	Kansas State U	78.81	341	⇓P	P	02 53 47.3 +0.1
	baz=79					
KSU1	Kansas State U	78.81	341	eP	P	02 53 46.8 -0.3
	comp=Z,9.2nm,0.5s					
R31A	Burdett	78.85	339	⇓P	P	02 53 47.9 +0.4
	baz=79,SNR=13					
S28A	Manter	78.92	337	⇓P	P	02 53 48.5 +0.6
	baz=79,SNR=16					
Q33A	Connelly Farm,	79.04	340	⇓P	P	02 53 48.6 +0.2
	baz=79,SNR=11					
R30A	Dighton	79.06	338	⇑P	P	02 53 49.2 +0.5
	baz=79,SNR=7.5					
T26A	Comanche Natio	79.09	335	⇑P	P	02 53 50.0 +1.1
	baz=80,SNR=18					
X18A	Snowflake	79.09	330	⇓P	P	02 53 50.7 +1.6
	baz=80,SNR=14					
HRV	Adam Dziewonsk	79.11	1	eP	P	02 53 50.0 +1.3
HRV				pmax	pmax	
	comp=Z,41nm,0.9s					
HRV	Adam Dziewonsk	79.11	1	eP	P	02 53 50.0 +1.3
	comp=Z,41nm,0.9s					
V22A	San Miguel Ran	79.12	332	⇓P	P	02 53 50.9 +1.6
	baz=80,SNR=45					
113A	Mohawk Valley,	79.22	326	⇑P	P	02 53 50.9 +1.4
	baz=80,SNR=6.4					
Q32A	Meitler Ranch,	79.23	340	⇑P	P	02 53 50.2 +0.7
	baz=80,SNR=14					
U23A	El Rito	79.23	333	⇓P	P	02 53 51.4 +1.6
	baz=80,SNR=22					
BOSA	Boshof	79.26	118	eP	P	02 53 49.5 -0.8
BOSA				AMB	AMB	02 53 50.3
	comp=Z,59nm,1.2s					
BOSA				AMS	AMS	03 29 51.9
	comp=Z,484nm,5.2s					
BOSA	Boshof	79.26	118	eP	P	02 53 49.0 -1.3
BOSA				pmax	pmax	
	comp=Z,43nm,0.9s					
BOSA	Boshof	79.26	118	P	P	02 53 50.1 -0.2
	comp=Z,36nm,0.9s,baz=233,slow=4.8,SNR=35					
BOSA				LR	LR	03 23 24.8
	comp=Z,164nm,21.2s,baz=235,slow=32					
BOSA	Boshof	79.26	118	eP	P	02 53 49.0 -1.3
	comp=Z,43nm,0.9s					
T25A	Trinidad	79.33	335	⇓P	P	02 53 51.5 +1.2
	baz=80,SNR=33					
TRY	Troy	79.33	359	eP	P	02 53 51.1 +1.2
	comp=Z,63nm,1.0s					
Z14A	Wintersburg	79.36	327	⇑P	P	02 53 51.6 +1.3
	baz=80					
P33A	Williams Farm,	79.41	341	⇓P	P	02 53 50.9 +0.5
	baz=80,SNR=6.2					
R29A	Marienthal	79.45	338	⇓P	P	02 53 51.5 +0.7
	baz=80,SNR=6.2					
S26A	Kim	79.45	336	⇑P	P	02 53 52.0 +1.2
	baz=80,SNR=29					
MMNY	Mt. Morris Dam	79.47	356	eP	P	02 53 51.0 +0.4
	comp=Z,80nm,1.0s					
Q31A	Ellis	79.47	339	⇑P	P	02 53 51.6 +0.8
	baz=80,SNR=8.6					
U22A	Llaves	79.52	333	⇓P	P	02 53 53.0 +1.6
	baz=80,SNR=15					
W18A	Petrified Fore	79.52	330	⇓P	P	02 53 52.6 +1.3
	baz=80,SNR=8.8					
W18A	Petrified Fore	79.52	330	eP	P	02 53 53.3 +1.9
	comp=Z,77nm,1.2s					
AAM	Ann Arbor	79.52	352	eP	P	02 53 50.1 -0.8
AAM				pmax	pmax	
	comp=Z,52nm,1.1s					
AAM	Ann Arbor	79.52	352	eP	P	02 53 50.1 -0.8
	comp=Z,52nm,1.1s					
R28A	Tribune	79.58	337	⇓P	P	02 53 52.2 +0.7
	baz=80,SNR=18					
T24B	San Luis	79.60	334	⇓P	P	02 53 53.4 +1.6
	baz=80,SNR=18					
X16A	Lo Mia Camp, P	79.61	328	⇓P	P	02 53 53.4 +1.5
	baz=80,SNR=33					
T23A	Casias Ranch,	79.81	334	⇓P	P	02 53 54.3 +1.3
	baz=80,SNR=12					
S25A	Robets Cordova	79.81	335	⇓P	P	02 53 53.8 +0.9
	baz=80,SNR=22					
P32A	Huiting Farm,	79.83	340	⇑P	P	02 53 53.2 +0.4
	baz=80,SNR=13					
Q29A	Oakley	79.83	338	⇓P	P	02 53 53.2 +0.4
	baz=80,SNR=9.9					
R27A	Eads	79.84	336	⇑P	P	02 53 53.5 +0.6
	baz=80,SNR=20					
Y14A	Wickenburg	79.87	327	⇑P	P	02 53 54.8 +1.6
	baz=80,SNR=12					
GLA	Glamis	79.94	325	eP	P	02 53 54.7 +1.2
GLA				pmax	pmax	
	comp=Z,36nm,1.3s					
GLA	Glamis	79.94	325	⇑P	P	02 53 55.0 +1.5
	baz=80					
GLA	Glamis	79.94	325	eP	P	02 53 54.7 +1.2
	comp=Z,36nm,1.3s					
P31A	Stockton	79.95	339	⇑P	P	02 53 54.1 +0.7
	baz=80,SNR=8.1					
ACCN	Adirondack Com	79.99	359	eP	P	02 53 54.0 +0.6
	comp=Z,43nm,1.1s					
S24A	Hoxin Ranch,	80.06	334	⇓P	P	02 53 55.7 +1.3
	baz=80,SNR=24					
R26A	Arlington	80.06	336	⇓P	P	02 53 55.3 +1.2
	baz=80,SNR=25					
SWZ	Schweizer	80.16	116	eP	P	02 53 54.4 -0.8
SWZ	Schweizer	80.16	116	P	P	02 53 54.4 -0.8
R25A	Fountain Ranch	80.20	335	⇑P	P	02 53 55.5 +0.6
	baz=81,SNR=6.3					
P30A	Selden	80.22	339	⇑P	P	02 53 55.6 +0.8
	baz=81,SNR=7.9					
Q28A	Sharon Springs	80.25	337	⇓P	P	02 53 56.2 +1.1
	baz=81					
SDCO	Great Sand Dun	80.25	334	eP	P	02 53 55.7 +0.3
	comp=Z,9.4nm,1.0s					
HNH	Hanover	80.31	0	eP	P	02 53 56.2 +1.1
	comp=Z,20nm,0.8s					
O32A	Brockman Farm,	80.34	341	⇓P	P	02 53 56.0 +0.6
	baz=81					
Y12C	Blythe	80.39	326	⇑P	P	02 53 57.6 +1.8
	baz=81,SNR=17					
S23A	Nye Farm, Mont	80.39	334	⇓P	P	02 53 57.1 +1.0
	baz=81					
KSCO	Kaye Shedlock'	80.45	337	⇓P	P	02 53 57.4 +1.1
	baz=81,SNR=6.3					
KSCO	Kaye Shedlock'	80.45	337	eP	P	02 53 57.3 +1.1
P29A	Atwood	80.47	338	⇑P	P	02 53 57.1 +0.9
	baz=81,SNR=8.8					
O31A	Woolen Ranch,	80.52	340	⇑P	P	02 53 57.0 +0.5
	baz=81,SNR=9.2					
WUAZ	Wupatki	80.53	329	⇓P	P	02 53 58.2 +1.4
	baz=81,SNR=6.6					
WUAZ	Wupatki	80.53	329	eP	P	02 53 58.3 +1.6
	comp=Z,41nm,1.1s					
R24A	Sanders Place,	80.55	335	⇓P	P	02 53 58.2 +1.3
	baz=81,SNR=30					
MDV	Middlebury	80.60	360	eP	P	02 53 57.0 +0.4
Q26A	Hugo	80.65	336	⇑P	P	02 53 58.6 +1.2
	baz=81,SNR=12					
PDMCI	Parker Dam,Lak	80.68	326	⇑P	P	02 53 58.6 +1.2
	baz=81					
P28A	Saint Francis	80.69	338	⇑P	P	02 53 58.5 +1.1
	baz=81					
S22A	4UR Ranch, Cre	80.72	333	⇑P	P	02 53 59.3 +1.4
	baz=81,SNR=18					
BC3	Big Chuckawall	80.73	325	⇓P	P	02 53 59.2 +1.4
	baz=81,SNR=7.2					
O30A	MW Ranch, Wils	80.75	339	⇓P	P	02 53 58.5 +0.8
	baz=81,SNR=13					
R23A	Moffat	80.77	334	⇑P	P	02 53 59.3 +1.2
	baz=81,SNR=19					
N32A	Stulken Farm,	80.81	341	⇑P	P	02 53 59.8 +1.8
	baz=81					
MVCO	Mesa Verde	80.86	332	⇓P	P	02 53 59.7 +1.1
	baz=81,SNR=22					
MVCO	Mesa Verde	80.86	332	eP	P	02 53 59.9 +1.3
	comp=Z,32nm,1.1s					
Q25A	Bedland, Calha	80.88	336	⇓P	P	02 53 59.4 +0.8
	baz=81,SNR=12					
O29A	4D Ranch, Culb	80.92	339	⇑P	P	02 54 00.1 +1.5
	baz=81					
P27A	Ficken Ranch,	80.93	337	⇓P	P	02 54 00.2 +1.4
	baz=81					
BKZ	Black Stump Fm	80.97	227	eP	P	02 54 02.2 +3.0
	comp=Z,31nm,1.2s					
RPZ	Rata Peaks	80.98	221	eP	P	02 54 01.4 +2.2
IRM	Iron Mountain	81.01	326	⇓P	P	02 54 01.1 +1.8
	baz=81,SNR=9.0					
JFWS	Jewell Farm	81.08	347	eP	P	02 53 58.6 -0.7
JFWS				pmax	pmax	
	comp=Z,37nm,1.1s					
JFWS	Jewell Farm	81.08	347	eP	P	02 53 58.6 -0.7
	comp=Z,37nm,1.1s					
PFO	Pinyon Flats O	81.15	324	LR	LR	03 23 52.4
	comp=Z,268nm,19.9s,baz=170,slow=31					
PFO	Pinyon Flats O	81.15	324	⇑P	P	02 54 01.9 +1.7
	baz=82,SNR=6.7					
P26A	Davis Ranch, A	81.18	337	⇓P	P	02 54 01.0 +0.9
	baz=82,SNR=6.4					
O28A	Krutsinger Ran	81.21	338	⇑P	P	02 54 01.4 +1.2
	baz=82,SNR=12					
WVL	Waterville	81.22	2	eP	P	02 54 01.3 +1.3
Q24A	Divide	81.23	335	⇑P	P	02 54 01.8 +1.1
	baz=82,SNR=16					
LONY	Lake Ozonia	81.23	359	eP	P	02 54 00.4 +0.3
	comp=Z,38nm,1.0s					
W13A	Hualapai Mount	81.24	327	⇑P	P	02 54 01.6 +0.9
	baz=82,SNR=12					
BELC	Belle Mtn. Jos	81.27	325	⇓P	P	02 54 01.9 +1.2
	baz=82					
BGNE	Belgrade	81.38	341	⇑P	P	02 54 01.4 +0.4
	baz=82,SNR=5.1					
BGNE	Belgrade	81.38	341	eP	P	02 54 01.0 0.0
	comp=Z,22nm,0.6s					
P25A	Willow Gulch B	81.40	336	⇓P	P	02 54 02.6 +1.3
	baz=82,SNR=16					
RUDU	RUNDU	81.42	106	eP	P	02 54 02.2 +0.2
RUDU				AMB	AMB	02 54 19.1
	comp=Z,50nm,1.2s					
RUDU				AMS	AMS	03 35 39.3
	comp=Z,385nm,16.1s					
RUDU	RUNDU	81.42	106	P	P	02 54 02.2 +0.2
	comp=Z,50nm,1.2s					
O27A	Beecher Island	81.48	337	⇓P	P	02 54 02.7 +1.0
	baz=82,SNR=6.6					
N29A	Votaw Ranch, W	81.51	339	⇑P	P	02 54 02.5 +0.7
	baz=82,SNR=6.2					
M31A	Lambtecht Ranc	81.54	340	⇑P	P	02 54 02.8 +0.9
	baz=82,SNR=12					
LBTB	Lobatse	81.64	115	⇑iP	P	02 54 02.4 -0.7
LBTB				AMB	AMB	02 54 02.9
	comp=Z,60nm,0.8s					
LBTB				AMS	AMS	03 37 19.9
	comp=Z,465nm,5.0s					
LBTB	Lobatse	81.64	115	eP	P	02 54 02.4 -0.7
LBTB				pmax	pmax	
	comp=Z,53nm,0.8s					
LBTB	Lobatse	81.64	115	P	P	02 54 02.4 -0.7
	comp=Z,48nm,0.7s,baz=256,slow=6.4					
LBTB	Lobatse	81.64	115	eP	P	02 54 02.4 -0.7
	comp=Z,52nm,0.8s					
P24A	Kohler Place,	81.64	335	⇑P	P	02 54 03.9 +1.3
	baz=82					
N28A	Pribbeno Ranch	81.65	338	⇓P	P	02 54 03.2 +0.7
	baz=82,SNR=6.1					
U15A	North Rim	81.69	329	⇓P	P	02 54 04.6 +1.5
	baz=82,SNR=35					
PV01	Paradox Valley	81.70	332	eP	P	02 54 03.8 +0.7
	comp=Z,2µm,1.2s					
GMRC	Granite Mounta	81.76	326	⇑P	P	02 54 04.9 +1.6
	baz=82,SNR=9.9					
O26A	Horse Wrangler	81.79	337	⇓P	P	02 54 04.4 +1.1
	baz=82,SNR=9.9					
P23A	Jefferson	81.83	335	⇑P	P	02 54 04.9 +1.1
	baz=82,SNR=9.6					
O25A	Wiggins	81.93	336	⇑P	P	02 54 05.3 +1.2
	baz=82,SNR=5.9					
M30A	Dale-Ortello V	81.96	340	⇓P	P	02 54 05.0 +0.9
	baz=82					
PV04	Paradox Valley	82.06	332	eP	P	02 54 05.5 +0.6
N27A	Anderson Farm,	82.06	338	⇓P	P	02 54 05.7 +1.0
	baz=82,SNR=7.9					
M29A	Burnside Ranch	82.11	339	⇓P	P	02 54 06.2 +1.3
	baz=82					
WDLM	Western Deep L	82.11	117	eP	P	02 54 02.3 -3.3
WDLM				AMB	AMB	02 54 03.1
	comp=Z,22nm,4.7s					
ISCO	Idaho Springs	82.14	335	eP	P	02 54 06.3 +0.9
ISCO				pmax	pmax	
	comp=Z,13nm,1.0s					
ISCO	Idaho Springs	82.14	335	⇓P	P	02 54 06.0 +0.6
	baz=82,SNR=21					
ISCO	Idaho Springs	82.14	335	eP	P	02 54 06.3 +0.9
	comp=Z,13nm,1.0s					
BFSC	Mount Baldy Ra	82.24	324	⇓P	P	02 54 07.3 +1.4
	baz=83					
O24A	Longmont	82.25	336	⇓P	P	02 54 06.8 +1.1
	baz=83					
M28A	Bar X Bar Ranc	82.26	339	⇓P	P	02 54 07.1 +1.4
	baz=83					
L31A	Butterfield Fa	82.28	341	⇓P	P	02 54 06.5 +0.8
	baz=83,SNR=18					
L30A	Spencer Herefo	82.30	340	⇓P	P	02 54 06.9 +1.0
	baz=83,SNR=9.1					
P22A	Eagle	82.34	334	⇑P	P	02 54 07.6 +1.2
	baz=83,SNR=13					
TUQ	Turquoise Moun	82.42	326	⇓P	P	02 54 08.4 +1.6
	baz=83,SNR=8.7					
O23A	Lake Granby, G	82.61	335	⇑P	P	02 54 08.8 +1.0
	baz=83,SNR=22					
L29A	Maesberg Ranch	82.62	340	⇑P	P	02 54 09.1 +1.6
	baz=83					
CRWM	Crown Mines	82.64	117	eP	P	02 54 06.3 -2.2
CRWM				AMB	AMB	02 54 21.3
	comp=Z,43nm,5.9s					
M27A	Reverse DX Ran	82.68	338	⇑P	P	02 54 08.9 +1.0
	baz=83,SNR=5.2					
GSC	Goldstone, Bar	82.71	325	⇑P	P	02 54 09.7 +1.5
	baz=83					
OBSV	Observatory	82.72	117	eP	P	02 54 07.7 -1.2
OBSV				AMB	AMB	02 54 09.2
	comp=Z,33nm,5.9s					
ERPM	east rand prop	82.74	117	eP	P	02 54 07.7 -1.2
ERPM				AMB	AMB	02 54 20.6
	comp=Z,47nm,68.8s					
ERPM	east rand prop	82.74	117	P	P	02 54 07.7 -1.2
O22A	Kremmling	82.78	335	⇑P	P	02 54 09.5 +0.7
	baz=83,SNR=22					
N24A	Carr	82.82	336	⇓P	P	02 54 09.9 +1.2
	baz=83,SNR=7.1					
EDW2	Edwards Air Fo	82.92	324	⇑P	P	02 54 10.8 +1.5
	baz=83					
K30A	Basset	82.95	340	⇑P	P	02 54 10.4 +1.2
	baz=83,SNR=37					
SHPR	Sheep Range	82.98	327	eP	P	02 54 11.1 +1.4
	comp=Z,40nm,1.2s					
CCUT	Cedar City	83.09	329	eP	P	02 54 11.8 +1.5
	comp=Z,32nm,1.0s					
M25A	Palm-Egli Farm	83.10	337	⇓P	P	02 54 11.3 +1.1
	baz=84,SNR=8.6					
SLR	Silverton	83.14	117	eP	P	02 54 10.0 -0.9
SLR				AMB	AMB	02 54 17.8
	comp=Z,51nm,4.2s					
SLR				AMS	AMS	03 31 20.7
	comp=Z,507nm,5.6s					
SLR	Silverton	83.14	117	P	P	02 54 10.0 -0.9
SLR				pmax	pmax	
	comp=Z,51nm,4.2s					
SLR	Silverton	83.14	117	P	P	02 54 10.0 -0.9
	comp=Z,51nm,4.2s					
ECSD	EROS Data Cent	83.19	343	⇑P	P	02 54 10.7 +0.3
	baz=84,SNR=49					
ECSD	EROS Data Cent	83.19	343	eP	P	02 54 10.5 +0.2
	comp=Z,49nm,0.9s					
K29A	Lazy Trails An	83.22	340	⇓P	P	02 54 11.7 +1.1
	baz=84,SNR=12					
N23A	Red Feather La	83.23	335	⇑P	P	02 54 12.3 +1.3
	baz=84,SNR=18					
CRZF	Crozet Islands	83.26	145	S	S	03 03 46.0 -43
CRZF				R		03 20 00.0
LRMC	Laurel Mtn Rad	83.27	325	⇑P	P	02 54 12.7 +1.6
	baz=84,SNR=6.6					
SRU	San Rafael Swe	83.30	331	eP	P	02 54 12.2 +0.9
SRU	San Rafael Swe	83.30	331	eP	P	02

M23A **Laramie** 83.67 336 ⇊P P 02 54 14.4 +1.2
baz=84,SNR=15
FURC **Furnace Creek,** 83.70 326 ⇊P P 02 54 14.9 +1.8
baz=84
K27A **Flueckinger Fa** 83.71 339 ⇊P P 02 54 14.1 +0.9
baz=84,SNR=9.1
L25A **Engebretsen Ra** 83.73 337 ⇑P P 02 54 14.7 +1.3
baz=84
ISA **Isabella, Lake** 83.78 324 *e*P P 02 54 15.2 +1.5
ISA pmax pmax
comp=Z,24nm,1.2s
ISA **Isabella, Lake** 83.78 324 ⇑P P 02 54 15.3 +1.6
baz=84,SNR=6.8
ISA **Isabella, Lake** 83.78 324 *e*P P 02 54 15.2 +1.5
comp=Z,24nm,1.2s
SPMN **Marine on St.** 83.79 346 ⇑P P 02 54 13.0 -0.4
baz=84,SNR=7.7
SPMN **Marine on St.** 83.79 346 *e*P P 02 54 12.4 -1.0
comp=Z,14nm,0.8s
J29A **Okreek** 83.82 340 ⇑P P 02 54 14.5 +0.9
baz=84,SNR=39
DAC **Darwin (Calif)** 83.88 325 *e*P P 02 54 15.9 +1.6
DAC pmax pmax
comp=Z,36nm,1.3s
DAC **Darwin (Calif)** 83.88 325 *e*P P 02 54 15.9 +1.6
comp=Z,36nm,1.3s
M22A **Cedar Creek Ra** 83.90 335 ⇊P P 02 54 15.6 +1.2
baz=84,SNR=7.6
L24A **Wheatland** 83.93 337 ⇑P P 02 54 15.9 +1.4
baz=84
N20A **Spence Gulch,** 83.97 334 ⇊P P 02 54 15.8 +1.0
baz=84,SNR=9.9
K26A **Motz Farm, Whi** 83.99 338 ⇊P P 02 54 15.9 +1.3
baz=84
I30A **Oacoma** 84.06 341 ⇊P P 02 54 15.3 +0.5
baz=84,SNR=16
J28A **Aliard Ranch,** 84.09 340 ⇊P P 02 54 16.0 +0.9
baz=84,SNR=6.6
K25A **Mack Ranch, Ha** 84.12 338 ⇊P P 02 54 17.0 +1.7
baz=84
J27A **Elkhorn Farm,** 84.15 339 ⇊P P 02 54 16.7 +1.3
baz=84,SNR=19
VES **Vestal, Richgr** 84.22 324 ⇑P P 02 54 17.4 +1.6
baz=85,SNR=9.4
L23A **Garrett** 84.24 336 ⇊P P 02 54 16.4 +0.3
baz=85,SNR=12
I29A **Vivian Onida** 84.39 340 ⇑P P 02 54 17.4 +0.9
baz=85
L22A **Ellis Ranch, M** 84.41 336 ⇑P P 02 54 17.9 +1.0
baz=85,SNR=9.5
BRSD **Miller** 84.43 342 ⇑P P 02 54 16.8 +0.1
baz=85,SNR=5.6
BRSD **Miller** 84.43 342 *e*P P 02 54 16.6 -0.1
comp=Z,56nm,1.1s
MPU **Maple Canyon** 84.51 331 *e*P P 02 54 18.4 +0.9
comp=Z,38nm,1.1s
K24A **Anderson Ranch** 84.51 337 ⇊P P 02 54 18.4 +1.0
baz=85,SNR=7.3
J26A **Sides Ranch, S** 84.52 338 ⇊P P 02 54 18.2 +0.9
baz=85,SNR=22
I28A **Midland** 84.60 340 ⇑P P 02 54 18.1 +0.5
baz=85,SNR=21
NLU **North Lily Min** 84.63 331 *e*P P 02 54 19.0 +0.9
comp=Z,42nm,1.4s
RCTC **Rector, Farmer** 84.67 324 ⇑P P 02 54 19.4 +1.3
baz=85
DAU **Daniels Canyon** 84.71 332 *e*P P 02 54 19.5 +0.9
DAU **Daniels Canyon** 84.71 332 *e*P P 02 54 19.5 +0.9
R11A **Troy Canyon, C** 84.71 328 ⇊P P 02 54 20.0 +1.5
baz=85
R11A **Troy Canyon, C** 84.71 328 *e*P P 02 54 19.9 +1.5
comp=Z,34nm,1.3s
K23A **Bowen Ranch, D** 84.80 336 ⇑P P 02 54 19.7 +0.9
baz=85,SNR=22
J25A **Sunshine Ranch** 84.80 338 ⇑P P 02 54 20.5 +1.7
baz=85
TIN **Tinemaha, Big** 84.81 325 ⇑P P 02 54 20.4 +1.4
baz=85
I27A **Quinn** 84.91 339 ⇊P P 02 54 20.0 +0.8
baz=85,SNR=12
H29A **Onida** 84.92 341 ⇊P P 02 54 19.6 +0.4
baz=85,SNR=16
JLU **Jordanelle** 84.94 332 *e*P P 02 54 20.4 +0.7
comp=Z,29nm,1.2s
K22A **Casper** 84.99 336 ⇊P P 02 54 20.8 +1.0
baz=85,SNR=30
K22A **Casper** 84.99 336 *e*P P 02 54 20.4 +0.6
comp=Z,71nm,1.2s
J24A **Dixon Ranch, L** 85.01 337 ⇊P P 02 54 20.8 +1.0
baz=85,SNR=16
I26A **New Underwood** 85.11 339 ⇑P P 02 54 20.9 +0.6
baz=86,SNR=6.7
G30A **Faulkton** 85.12 342 ⇊P P 02 54 20.4 +0.2
baz=86,SNR=14
DUG **Dugway, Tooele** 85.12 330 *e*P P 02 54 21.2 +0.7
DUG pmax pmax
comp=Z,46nm,1.3s
DUG **Dugway, Tooele** 85.12 330 ⇊P P 02 54 21.6 +1.1
baz=86,SNR=26
DUG **Dugway, Tooele** 85.12 330 *e*P P 02 54 21.2 +0.7
comp=Z,46nm,1.3s
H28A **Mission Ridge** 85.19 340 ⇑P P 02 54 21.0 +0.5
baz=86,SNR=18
TPH **Tonopah** 85.19 326 *e*P P 02 54 22.5 +1.5
TPH pmax pmax
comp=Z,57nm,1.2s
TPH **Tonopah** 85.19 326 *e*P P 02 54 22.5 +1.5
comp=Z,57nm,1.2s
K21A **Alcova** 85.22 335 ⇑P P 02 54 21.7 +0.7
baz=86,SNR=27
I25A **Rochford** 85.36 338 ⇊P P 02 54 22.2 +0.6
baz=86,SNR=29
TCUT **Toone Canyon** 85.37 332 *e*P P 02 54 22.7 +0.9
comp=Z,67nm,1.3s
G29A **Hoven** 85.38 341 ⇑P P 02 54 21.9 +0.5
baz=86,SNR=5.9
H27A **Howes** 85.44 340 ⇊P P 02 54 22.2 +0.4
baz=86,SNR=14
I24A **Kuemmerle Ranc** 85.48 338 ⇑P P 02 54 22.8 +0.7
baz=86,SNR=6.2
G28A **Parade** 85.53 340 ⇑P P 02 54 22.7 +0.4
baz=86,SNR=16
RSSD **Black Hills** 85.54 338 *e*P P 02 54 22.4 -0.2
RSSD pmax pmax
comp=Z,35nm,1.0s
RSSD **Black Hills** 85.54 338 *e*P P 02 54 22.4 -0.2
comp=Z,35nm,1.0s
MLAC **Mammoth, Mammo** 85.56 325 ⇑P P 02 54 24.5 +1.6
baz=86
J22A **Midwest** 85.66 336 ⇊P P 02 54 23.2 +0.1
baz=86,SNR=16
F30A **Leola** 85.75 342 ⇊P P 02 54 24.1 +0.8
baz=86
TORD **Torodi Ar. Bea** 85.83 70 P P 02 54 23.8 -0.6
comp=Z,38nm,1.0s,baz=241,slow=4.3,SNR=101
TORD LR LR 03 31 08.7
comp=Z,324nm,18.4s,baz=230,slow=35
H25A **Fruitdale** 85.86 339 ⇊P P 02 54 24.8 +0.9
baz=86,SNR=32
J21A **Lysite** 85.92 335 ⇑P P 02 54 25.3 +0.8
baz=86,SNR=15
F29A **Eureka** 85.95 341 ⇑P P 02 54 24.7 +0.5
baz=86,SNR=10
NVAR **Mina Array Bea** 85.97 326 P P 02 54 26.2 +1.4
comp=Z,7.2nm,0.8s,baz=155,slow=5.8,SNR=40
NVAR PKKPbc **PKKPbc** 03 12 26.0 +0.1
comp=Z,0.6nm,0.7s,baz=308,slow=1.3,SNR=4.3
G27A **Dupree** 86.08 340 ⇊P P 02 54 25.3 +0.3
baz=86,SNR=16
I22A **9 Mile Ranch,** 86.09 336 ⇑P P 02 54 25.4 +0.2
baz=86,SNR=19
PDAR **Pinedale Array** 86.13 334 P P 02 54 25.6 +0.1
comp=Z,16nm,1.1s,baz=149,slow=3.9,SNR=54
PDAR PKKPbc **PKKPdf** 03 12 22.6 +2.9
comp=Z,1.0nm,0.7s,baz=102,slow=1.8,SNR=8.6
PDAR LR LR 03 28 33.6
comp=Z,255nm,20.6s,baz=164,slow=33
J20A **Shoshoni** 86.14 335 ⇊P P 02 54 26.5 +1.0
baz=86,SNR=34
EYMN **Ely** 86.17 348 *e*P P 02 54 24.7 -0.6
comp=Z,29nm,1.1s
G26A **Maurine** 86.19 339 ⇑P P 02 54 25.8 +0.3
baz=87,SNR=35
F28A **McLaughlin** 86.21 341 ⇑P P 02 54 26.2 +0.6
baz=87,SNR=18
H24A **Dirks Ranch, A** 86.26 338 ⇊P P 02 54 26.2 +0.2
baz=87,SNR=27
I21A **Big Trails, Te** 86.28 336 ⇊P P 02 54 26.4 +0.2
baz=87,SNR=30
G25A **Newell** 86.33 339 ⇊P P 02 54 26.8 +0.5
baz=87,SNR=38
E30A **Jud** 86.34 342 ⇊P P 02 54 26.8 +0.6
baz=87,SNR=11
J19A **Crowheart** 86.39 334 ⇊P P 02 54 27.1 +0.3
baz=87,SNR=34
MSNA **Messina** 86.48 115 *e*P P 02 54 27.8 +0.1
MSNA AMB AMB 02 54 44.5
comp=Z,30nm,3.3s
MSNA **Messina** 86.48 115 P P 02 54 27.8 +0.1
comp=Z,30nm,3.3s
WAKR **Walker** 86.54 325 *e*P P 02 54 29.3 +1.7
comp=Z,27nm,1.3s
F27A **Lemmon** 86.56 340 ⇑P P 02 54 27.8 +0.4
baz=87,SNR=22
E29A **Napoleon** 86.59 342 ⇑P P 02 54 27.5 +0.1
baz=87,SNR=7.4
H22A **Clearmont** 86.68 337 ⇊P P 02 54 28.1 +0.1
baz=87,SNR=10
I20A **Worland** 86.68 335 ⇊P P 02 54 28.7 +0.7
baz=87,SNR=18
F26A **Lodgepole** 86.72 340 ⇑P P 02 54 28.7 +0.5
baz=87,SNR=25
G24A **Alzada** 86.75 338 ⇑P P 02 54 28.7 +0.3
baz=87,SNR=7.8
E28A **Huff** 86.86 341 ⇊P P 02 54 29.2 +0.4
baz=87,SNR=13
D30A **Buchanan** 86.87 343 ⇊P P 02 54 29.4 +0.6
baz=87,SNR=23
G23A **Biddle** 86.93 338 ⇊P P 02 54 29.3 +0.1
baz=87,SNR=12
H21A **Big Horn, Sher** 86.93 336 ⇑P P 02 54 29.3 0.0
baz=87,SNR=8.8
E27A **Carson** 86.95 341 ⇑P P 02 54 29.6 +0.4
baz=87,SNR=13
F25A **Bowman** 87.01 339 ⇑P P 02 54 30.1 +0.5
baz=87,SNR=20
D29A **Pettibone, Tap** 87.03 342 ⇊P P 02 54 29.9 +0.3
baz=87,SNR=14
I19A **Meeteetse** 87.05 335 ⇑P P 02 54 30.5 +0.5
baz=87,SNR=7.8
H20A **Greybull** 87.12 336 ⇑P P 02 54 30.2 0.0
baz=88,SNR=12
G22A **Birney** 87.22 337 ⇊P P 02 54 30.6 -0.1
baz=88,SNR=7.2
F24A **Ekalaka** 87.23 338 ⇑P P 02 54 30.8 +0.2
baz=88,SNR=16
E26A **Carlson Angus** 87.23 340 ⇊P P 02 54 30.7 +0.1
baz=88,SNR=25
AGMN **Agassiz Nation** 87.35 345 ⇊P P 02 54 31.0 0.0
baz=88,SNR=35
AGMN **Agassiz Nation** 87.35 345 *e*P P 02 54 30.1 -0.9
comp=Z,32nm,0.9s
C30A **Mose, Pekin** 87.36 343 ⇊P P 02 54 31.9 +0.8
baz=88,SNR=58
D28A **Regan** 87.40 341 ⇑P P 02 54 31.8 +0.4
baz=88,SNR=13
F23A **Volborg** 87.40 338 ⇊P P 02 54 31.4 0.0
baz=88,SNR=20
I17A **Pilgrim Ck.** 87.50 334 ⇊P P 02 54 33.1 +1.0
baz=88,SNR=15
E25A **Miller Ranch,** 87.52 339 ⇊P P 02 54 32.5 +0.5
baz=88,SNR=20
D27A **Center** 87.57 341 ⇑P P 02 54 32.4 +0.3
baz=88,SNR=5.4
H19A **Powell** 87.61 335 ⇑P P 02 54 32.9 +0.3
baz=88,SNR=7.5
F22A **Rosebud** 87.71 337 ⇊P P 02 54 33.0 +0.1
baz=88,SNR=10
D26A **Manning** 87.74 340 ⇊P P 02 54 33.6 +0.6
baz=88,SNR=35
MDND **Maddock** 87.77 342 ⇊P P 02 54 33.5 +0.4
baz=88,SNR=28
MDND **Maddock** 87.77 342 *e*P P 02 54 33.0 -0.1
comp=Z,46nm,1.1s
E24A **Baker** 87.83 339 ⇊P P 02 54 34.1 +0.6
baz=88,SNR=12
G20A **Bridger** 87.84 336 ⇊P P 02 54 33.5 -0.2
baz=88,SNR=9.0
C28A **Hausauer Farms** 87.84 342 ⇊P P 02 54 34.0 +0.5
baz=88,SNR=7.1
H18A **Shoshone NF, C** 87.84 335 ⇊P P 02 54 34.0 +0.2
baz=88,SNR=18
H17A **Grant Village** 87.92 334 ⇊P P 02 54 35.7 +1.5
baz=88
B30A **Myrvik Farm, E** 88.03 343 ⇑P P 02 54 34.6 +0.3
baz=88,SNR=18
E23A **Ismay** 88.07 338 ⇊P P 02 54 34.7 +0.1
baz=88,SNR=5.9
D25A **Fairfield** 88.09 340 ⇑P P 02 54 35.3 +0.6
baz=88,SNR=17
C27A **Sayler Ranch,** 88.12 341 ⇊P P 02 54 35.4 +0.6
baz=88,SNR=23
E22A **Miles City** 88.21 338 ⇊P P 02 54 35.2 0.0
baz=89
B29A **Wagenman Farm,** 88.29 343 ⇊P P 02 54 35.8 +0.3
baz=89,SNR=26
F20A **Billings** 88.33 336 ⇑P P 02 54 36.0 +0.1
baz=89
D24A **Glendive** 88.34 339 ⇊P P 02 54 36.2 +0.3
baz=89,SNR=16
C26A **Wahner Farm, P** 88.38 341 ⇊P P 02 54 36.5 +0.5
baz=89,SNR=12
A30A **Hoffart Farm,** 88.49 344 ⇊P P 02 54 36.5 0.0
baz=89,SNR=27
B28A **Dugan Ranch, T** 88.52 342 ⇑P P 02 54 37.1 +0.5
baz=89,SNR=25
C25A **Freed Ranch, W** 88.59 340 ⇊P P 02 54 38.0 +1.0
baz=89
QLMT **Earthquake Lak** 88.59 334 *e*P P 02 54 38.8 +1.4
comp=Z,2.5nm,1.3s
HLID **Hailey** 88.62 331 ⇊P P 02 54 38.4 +1.0
baz=89,SNR=12
F19A **Roth Farm, Mol** 88.64 336 ⇊P P 02 54 37.4 0.0
baz=89,SNR=5.4
E21A **Keefer Ranch,** 88.65 337 ⇊P P 02 54 37.4 +0.1
baz=89,SNR=7.5
D23A **Lindsay** 88.65 339 ⇑P P 02 54 37.8 +0.4
baz=89,SNR=16
A29A **Manning Farm,** 88.69 343 ⇊P P 02 54 37.5 +0.2
baz=89,SNR=51
B27A **Peters Farms,** 88.70 341 ⇊P P 02 54 38.1 +0.6
baz=89
C24A **Savage** 88.75 339 ⇊P P 02 54 38.4 +0.6
baz=89,SNR=12
D22A **Cohagen** 88.92 338 ⇊P P 02 54 38.8 +0.2
baz=89,SNR=9.6
A28A **Rude Farm, Bot** 88.92 342 ⇊P P 02 54 38.8 +0.2
baz=89,SNR=12
B26A **Jensen Ranch,** 88.92 341 ⇊P P 02 54 39.0 +0.5
baz=89
E20A **Meyer Farm, Mu** 88.95 336 ⇊P P 02 54 39.1 +0.3
baz=89,SNR=10
MFID **Camas Ranch** 89.05 330 *e*P P 02 54 40.2 +0.9
comp=Z,20nm,1.2s
B25A **Knox Farm, Ray** 89.08 340 ⇊P P 02 54 40.3 +1.0
baz=90
D21A **La Casta Ranch** 89.09 337 ⇊P P 02 54 39.5 +0.1
baz=90
MCMT **McKenzie Canyo** 89.11 333 *e*P P 02 54 40.6 +0.9
comp=Z,13nm,1.2s
E19A **Rath Farm, Rou** 89.12 336 ⇑P P 02 54 39.9 +0.3
baz=90,SNR=14
ULM **Lac du Bonnet** 89.20 345 P P 02 54 39.3 -0.4
comp=Z,33nm,0.9s,baz=171,slow=3.7,SNR=54
ULM PKKP **PKKPdf** 03 12 15.0 +0.7
comp=Z,1.0nm,0.6s,baz=41,slow=2.3,SNR=2.7
C23A **Lambert** 89.21 339 ⇑P P 02 54 40.3 +0.3
baz=90,SNR=10
A26A **Wade Farm, Ken** 89.35 341 ⇊P P 02 54 40.8 +0.3
baz=90,SNR=7.4
C22A **Vida** 89.37 338 ⇊P P 02 54 41.3 +0.6
baz=90
D20A **Manuel Ranch,** 89.47 337 ⇊P P 02 54 41.1 -0.1
baz=90,SNR=12
LSZ **Lusaka** 89.48 109 P P 02 54 43.3 +1.1
comp=Z,14nm,0.9s,baz=23,slow=4.7,SNR=5.0
DGMT **Dagmar** 89.54 340 ⇊P P 02 54 41.8 +0.4
baz=90,SNR=11
DGMT **Dagmar** 89.54 340 *e*P P 02 54 41.2 -0.3
comp=Z,60nm,1.3s
A25A **Svangstu Ranch** 89.67 341 ⇊P P 02 54 42.7 +0.6
baz=90
MOD **Modoc Plateau** 89.68 327 *e*P P 02 54 43.4 +0.9
comp=Z,20nm,1.1s
B23A **Brockton** 89.76 339 ⇑P P 02 54 42.9 +0.5
baz=90
D19A **Cripps Ranch,** 89.77 336 ⇊P P 02 54 42.8 +0.1
baz=90
LRM **Limekiln Ridge** 89.81 334 *e*P P 02 54 43.6 +0.5
comp=Z,106nm,1.2s
A24A **Westby** 89.90 340 ⇊P P 02 54 43.2 +0.1
baz=90
B22A **Reddig Ranch S** 89.90 339 ⇊P P 02 54 43.5 +0.3
baz=90
C20A **Veseth Ranch,** 89.98 337 ⇑P P 02 54 43.4 -0.2
baz=90
A23A **Redstone** 90.17 340 ⇊P P 02 54 44.6 +0.2
baz=91
C19A **Slack Wire Ran** 90.33 336 ⇊P P 02 54 45.2 0.0
baz=91
A22A **Carney Farms,** 90.50 339 ⇑P P 02 54 46.1 +0.2
baz=91,SNR=8.9
B20A **Solberg Farm,** 90.63 337 ⇑P P 02 54 46.3 -0.3
baz=91
A21A **Bergtoll Ranch** 90.79 338 ⇑P P 02 54 46.8 -0.5
baz=91,SNR=5.8
EGMT **Eagleton** 90.81 336 ⇊P P 02 54 47.3 -0.1
baz=91
BMO **Blue Mountains** 90.83 330 *e*P P 02 54 47.1 -0.5
comp=Z,25nm,0.9s
B19A **Brinkman Farms** 90.93 337 ⇊P P 02 54 47.8 -0.2
baz=91,SNR=5.9
A20A **Cobblestone Ra** 90.99 338 ⇊P P 02 54 48.1 -0.2
baz=91,SNR=8.2
J05D **Fort Rock, OR** 91.20 327 ⇑P P 02 54 50.5 +1.1
baz=92
MSO **Missoula** 91.21 333 ⇊P P 02 54 50.8 +1.4
baz=92
A19A **Klindworth Far** 91.29 337 ⇊P P 02 54 49.3 -0.3
baz=92,SNR=6.9
SCHQ **Schefferville** 91.59 3 P P 02 54 49.9 -0.9
comp=Z,13nm,1.0s,baz=124,slow=1.8,SNR=6.5
SCHQ LR LR 03 37 46.1
comp=Z,62nm,19.2s,baz=209,slow=37
I05D **Terrebonne, OR** 92.09 327 ⇊P P 02 54 55.0 +1.6
baz=92
YBMT **Yellow Bay** 92.12 334 *e*P P 02 54 54.6 +1.0
comp=Z,1.8nm,0.7s
BLMT **Blacktail Moun** 92.37 334 *e*P P 02 54 55.1 +0.3
comp=Z,11nm,1.0s
BSMT **Bassoo Peak** 92.38 333 *e*P P 02 54 55.2 +0.3
comp=Z,9.2nm,1.2s
NEW **Newport** 93.59 332 ⇑P P 02 55 00.2 0.0
baz=94
TAM **Tamanrasset** 94.67 65 *e*P P 02 55 05.5 -0.5
TAM pmax pmax
comp=Z,17nm,1.0s
TAM **Tamanrasset** 94.67 65 *e*P P 02 55 05.5 -0.5
comp=Z,18nm,1.0s
FCC **Fort Churchill** 97.02 349 *e*P P 02 55 15.0 -0.6
FCC **Fort Churchill** 97.02 349 *e*P P 02 55 14.9 -0.6
ESDC **Sonseca Array** 99.09 47 P **Pdif** 02 55 25.4 -0.1
comp=Z,2.4nm,0.9s,baz=256,slow=4.1,SNR=6.3
ESDC LR LR 03 38 05.1
comp=Z,202nm,20.6s,baz=265,slow=34
YKA **Yellowknife Ar** 104.66 341 P **Pdif** 02 55 49.0 -0.6
YKA **Yellowknife Ar** 104.66 341 Pdiff **Pdif** 02 55 48.9 -0.6
comp=Z,1.5nm,1.0s,baz=142,slow=4.3,SNR=16
YKA PKiKP **PKiKP** 03 00 04.4 -0.5
comp=Z,0.3nm,0.8s,baz=146,slow=2.1,SNR=4.7
YKA PKKPbc **PKKPbc** 03 11 32.1 -3.4
comp=Z,0.3nm,0.8s,baz=313,slow=3.6,SNR=5.7
NWAO **Narrogin (SRO)** 109.82 189 PKiKP **PKiKP** 03 00 16.5 +0.7
comp=Z,9.5nm,0.9s,baz=116,slow=1.4,SNR=3.1
ASAR **Alice Springs** 114.63 207 PKP PKPdf 03 00 24.2 -0.9
comp=Z,2.7nm,0.7s,baz=146,slow=2.1,SNR=23
ASAR PKKPbc **PKKPbc** 03 11 02.5 +0.1
comp=Z,1.4nm,0.8s,baz=339,slow=2.5,SNR=8.4
ASAR PKKPab **PKKPab** 03 11 09.2 -2.9
comp=Z,1.5nm,0.9s,baz=340,slow=5.2,SNR=5.2
ASAR PKKP **PKKPdf** 03 11 23.6 -0.7
comp=Z,0.7nm,0.8s,baz=353,slow=4.7,SNR=3.1
GERES **GERESS Array B** 114.68 47 PKP PKPdf 03 00 24.1 -0.3
comp=Z,3.6nm,0.9s,baz=204,slow=2.9,SNR=14
KHC **Kasperske Hory** 114.75 46 *e*PKiKP PKPdf 03 00 24.6 +0.2
KHC **Kasperske Hory** 114.75 46 *e*PKPdf PKPdf 03 00 24.6 +0.2
CLL **Collm** 115.45 44 *e*PKiKP **PKPdf** 03 00 25.0 -0.6
CLL pmax pmax
comp=Z,9.0nm,1.3s
CLL MLR MLR
comp=Z,300nm,20.5s
CLL **Collm** 115.45 44 *e*PKiKP **PKPdf** 03 00 25.0 -0.6
comp=Z,9.0nm,1.3s
CLL LmV 03 47 00.0
comp=Z,300nm,20.5s
CLL LmH 03 51 00.0
comp=Z,200nm,20.6s
BRG **Berggiesshubel** 115.77 45 *e*PKP **PKPdf** 03 00 25.0 -1.3
comp=Z,6.1nm,1.2s
BRG **Berggiesshubel** 115.77 45 *e*PKiKP **PKPdf** 03 00 25.0 -1.3
BRG pmax pmax
comp=Z,6.0nm,1.2s
TREC **Trest** 115.93 47 *e*PKiKP **PKPdf** 03 00 26.0 -0.7
TREC **Trest** 115.93 47 *e*PKPdf **PKPdf** 03 00 26.0 -0.7
PVCC **Panska Ves** 115.97 45 *e*PKiKP **PKPdf** 03 00 26.7 0.0
PVCC **Panska Ves** 115.97 45 *e*PKPdf **PKPdf** 03 00 26.7 0.0
ILAR **Eielson Array** 116.54 333 PKP **PKPdf** 03 00 26.6 -0.7
comp=Z,2.0nm,1.0s,baz=174,slow=2.0,SNR=11
ILAR PKKPbc **PKKPbc** 03 10 54.6 -1.9
comp=Z,0.6nm,0.7s,baz=323,slow=4.6,SNR=9.6
ILAR PKKP **PKKPdf** 03 11 22.4 -0.9
comp=Z,0.3nm,0.8s,baz=0.0,slow=2.7,SNR=2.4
DPC **Dobruska-Polom** 116.89 46 *e*PKiKP **PKPdf** 03 00 28.3 -0.2
DPC **Dobruska-Polom** 116.89 46 *e*PKPdf **PKPdf** 03 00 28.3 -0.2
KRLC **Kraliky** 117.03 46 *e*PKiKP **PKPdf** 03 00 28.8 0.0
KRLC **Kraliky** 117.03 46 *e*PKPdf **PKPdf** 03 00 28.8 0.0
KSP **Ksiaz** 117.09 45 *e*PKP PKPdf 03 00 41.5 +13
MORC **Moravsky Berou** 117.35 47 *e*PKiKP **PKPdf** 03 00 29.0 -0.4
MORC **Moravsky Berou** 117.35 47 *e*PKPdf **PKPdf** 03 00 29.0 -0.4
VYHS **Vyhne** 117.56 49 *e*PKiKP **PKPdf** 03 00 29.7 -0.1
VYHS **Vyhne** 117.56 49 *e*PKP **PKPdf** 03 00 29.7 -0.1
OKC **Ostrava-Krasne** 117.73 47 *e*PKiKP **PKPdf** 03 00 30.1 0.0
OKC **Ostrava-Krasne** 117.73 47 *e*PKPdf **PKPdf** 03 00 30.1 0.0
WRA **Warramunga Arr** 117.85 209 PKP **PKPdf** 03 00 30.6 -0.8
comp=Z,5.9nm,0.7s,baz=165,slow=1.5,SNR=31
WRA PKKPbc **PKKPbc** 03 10 50.1 -0.9
comp=Z,0.9nm,0.8s,baz=342,slow=3.8,SNR=3.5
WRA PKKP **PKKPdf** 03 11 17.8 -0.4
comp=Z,0.4nm,0.9s,baz=343,slow=4.5,SNR=2.0
WRAB **Tennant Creek** 117.86 209 *c i*PKiKP **PKPdf** 03 00 31.4 0.0
WRAB pmax pmax
comp=Z,19nm,1.2s
WRAB **Tennant Creek** 117.86 209 *e*PKPdf **PKPdf** 03 00 30.6 -0.8
BZS **Buzias** 118.05 52 ⇑PKiKP **PKPdf** 03 00 30.4 -0.4
BZS **Buzias** 118.05 52 ⇑*i*P **PKPdf** 03 00 30.4 -0.4
GKP **Gorka Klasztor** 118.65 43 *e*PKiKP **PKPdf** 03 00 31.8 0.0
GKP **Gorka Klasztor** 118.65 43 *e*PKP **PKPdf** 03 00 31.7 0.0
NOA **NORSAR Array B** 118.86 34 PKP **PKPdf** 03 00 30.8 -1.2
comp=Z,3.8nm,1.1s,baz=239,slow=1.8,SNR=2.9
COEN **Coen** 119.04 221 *e*PKPdf **PKPdf** 03 00 32.7 -1.1
STHS **Stebnicka Huta** 119.39 48 *e*PKiKP **PKPdf** 03 00 34.1 +0.8
STHS **Stebnicka Huta** 119.39 48 *e*PKP **PKPdf** 03 00 34.1 +0.8
HFS **Hagfors** 119.62 35 PKP **PKPdf** 03 00 31.8 -1.6
comp=Z,4.6nm,1.1s,baz=185,slow=7.4,SNR=3.9
TRPA **Tarpa** 119.66 50 ⇊*i*P **PKPdf** 03 00 33.7 -0.1
UZH **Uzhgorod** 119.71 50 *de*PKiKP **PKPdf** 03 00 31.4 -2.5
UZH *i* 03 00 41.4
KOLS **Kolonicke sedl** 119.81 49 *e*PKiKP **PKPdf** 03 00 34.4 +0.2
KOLS **Kolonicke sedl** 119.81 49 *e*PKP **PKPdf** 03 00 34.4 +0.2
ARR **Arges** 119.88 54 ⇑*i*P **PKPdf** 03 00 34.0 -0.5
KWP **Kalwaria Pacla** 120.35 49 ⇑PKiKP **PKPdf** 03 00 35.0 -0.2
KWP **Kalwaria Pacla** 120.35 49 *e*PKP **PKPdf** 03 00 35.4 +0.2
KWP **Kalwaria Pacla** 120.35 49 ⇑*i*P **PKPdf** 03 00 35.0 -0.2
KWP **Kalwaria Pacla** 120.35 49 *e*PKPdf **PKPdf** 03 00 35.2 0.0
EIL **Elat** 120.52 74 PKP **PKPdf** 03 00 34.6 -1.5
comp=Z,6.6nm,0.9s,baz=313,slow=7.1,SNR=6.9
MLR **Muntele Rosu** 120.77 54 ⇊PKiKP **PKPdf** 03 00 35.5 -0.8
MLR **Muntele Rosu** 120.77 54 ⇊*i*P **PKPdf** 03 00 35.5 -0.8
MBWA **Marble Bar** 120.97 194 *e*PKPdf **PKPdf** 03 00 36.3 -1.0
BURAR **Bucovina Array** 121.12 51 ⇑PKiKP **PKPdf** 03 00 37.1 +0.3
BURAR **Bucovina Array** 121.12 51 ⇑*i*P **PKPdf** 03 00 37.1 +0.3
VRI **Vrincioaia** 121.42 54 ⇊PKiKP **PKPdf** 03 00 36.3 -1.1
VRI **Vrincioaia** 121.42 54 ⇊*i*P **PKPdf** 03 00 36.3 -1.1
CFR **Carcaliu** 122.08 55 ⇑PKiKP **PKPdf** 03 00 37.8 -0.8
CFR **Carcaliu** 122.08 55 ⇑*i*P **PKPdf** 03 00 37.8 -0.8
SUW **Suwalki** 122.21 44 *e*PKiKP **PKPdf** 03 00 37.8 -0.7
SUW **Suwalki** 122.21 44 *e*PKP **PKPdf** 03 00 38.1 -0.4
SUW **Suwalki** 122.21 44 *e*PKPdf **PKPdf** 03 00 37.8 -0.7
MMAI **Mount Meron Ar** 122.36 71 PKP **PKPdf** 03 00 39.8 +0.1
comp=Z,4.2nm,0.7s,baz=307,slow=0.4,SNR=6.2
ASF **Jabal al Asfar** 123.13 72 PKP **PKPdf** 03 00 41.7 +0.5

comp=Z,5.3nm,1.0s,baz=96,slow=0.7,SNR=8.0
SALA Sala 123.24 72 *e*P **PKPdf 03 00 44.7 +3.2**
TOTH TOTAH 123.29 71 *e*P **PKPdf 03 00 42.3 +0.9**
MARH Ras Al Marh 123.61 70 *e*P **PKPdf 03 00 42.8 +0.5**
HAWK Haweek 123.76 70 *e*P **PKPdf 03 00 42.2 -0.1**
ZALF Zalf 123.79 72 *e*P **PKPdf 03 00 42.4 0.0**
BRTR Keskin Array B 123.80 63 PKP **PKPdf 03 00 42.1 -0.2**
comp=Z,5.9nm,0.8s,baz=193,slow=3.3,SNR=27
BRTR PP **PP 03 02 25.9 -0.3**
comp=Z,1.3nm,0.9s,baz=216,slow=6.4,SNR=3.5
BIDA Albida 123.90 69 *e*P **PKPdf 03 00 42.6 0.0**
ARNB Al Arnab 123.98 68 *e*P **PKPdf 03 00 42.4 -0.3**
WRDH Warideh 124.17 69 *e*P **PKPdf 03 00 40.9 -2.1**
ROOS tl_alroos 124.28 70 *e*P **PKPdf 03 00 42.9 -0.4**
BTCH Batrach 124.42 68 *e*P **PKPdf 03 00 42.6 -0.8**
NACGM Naroch 124.48 44 *e* **PKPdf 03 00 39.0 -3.9**
KIEV Kiev 124.64 49 *e*PKIKP **PKPdf 03 00 42.1 -1.2**
KIEV Kiev 124.64 49 *e*PKPdf **PKPdf 03 00 42.1 -1.2**
AKASG Malin Array Be 124.65 49 PKP **PKPdf 03 00 42.1 -1.2**
comp=Z,6.2nm,0.8s,baz=259,slow=2.9,SNR=15
AKASG PP **PP 03 02 27.2 -4.2**
comp=Z,2.3nm,0.7s,baz=250,slow=8.4,SNR=7.3
MNK Minsk 124.95 44 *e*PKIKP **PKPdf 03 00 40.0 -3.8**
MICGM Minsk 124.98 44 *e* **PKPdf 03 00 40.0 -3.8**
H11S2 WAKE ISLAND Hyl 125.04 267 T T 05 18 45.9
baz=120
TNA Tin City 125.04 330 *e*PKPdf **PKPdf 03 00 43.8 +0.2**
H11S1 WAKE ISLAND Hyl 125.05 268 T T 05 18 26.9
baz=120
H11S3 WAKE ISLAND Hyl 125.06 267 T T 05 18 22.4
baz=120
SLMH Al Salmeh 125.58 68 *e*P **PKPdf 03 00 45.7 0.0**
SPITS Spitsbergen Ar 125.71 15 PKP **PKPdf 03 00 43.1 -1.6**
comp=Z,17nm,1.0s,baz=0.0,slow=0.3,SNR=4.5
FINES FINESS Array B 125.79 36 PKP **PKPdf 03 00 44.7 -0.5**
comp=Z,5.0nm,0.9s,baz=50,slow=3.0,SNR=9.8
RAYN Ar Rayn 125.91 86 *e*PKPdf **PKPdf 03 00 46.9 +0.2**
KAF Kangasniemi 126.04 35 *e*PKIKP **PKPdf 03 00 43.6 -2.1**
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF Kangasniemi 126.04 35 *e*p **PKPdf 03 00 43.6 -2.1**
comp=Z,4.8nm,0.7s
MALT Malatya 126.74 66 ⇑PKIKP **PKPdf 03 00 48.2 +0.3**
MALT Malatya 126.74 66 ⇑*i*P **PKPdf 03 00 48.2 +0.3**
ARCES ARCESS Array B 126.98 26 PKIKP **PKPdf 03 00 47.0 -0.3**
ARCES ARCESS Array B 126.98 26 PKP **PKPdf 03 00 47.0 -0.3**
comp=Z,1.6nm,0.6s,baz=297,slow=1.1,SNR=6.6
SFNV Sufian 127.29 69 *e*P **PKPdf 03 00 46.3 -2.7**
MZRK Al-Mazaregh 127.47 70 *e*P **PKPdf 03 00 49.6 +0.3**
KBSD Kabsdagh 127.82 68 *e*P **PKPdf 03 00 50.4 +0.5**
JOF Joensuu 128.47 35 *e*PKIKP **PKPdf 03 00 48.0 -2.3**
JOF pmax pmax
comp=Z,7.0nm,0.9s
JOF Joensuu 128.47 35 *e*p **PKPdf 03 00 48.0 -2.3**
comp=Z,7.0nm,0.9s
OBN Obninsk 130.02 45 ⇓*i*PKIKP **PKPdf 03 00 53.1 -0.3**
OBN *i* 03 01 04.4
OBN pmax pmax
comp=Z,24nm,1.2s
OBN MLR MLR
comp=Z,135nm,17.0s
OBN Obninsk 130.02 45 PKP **PKPdf 03 00 53.2 -0.2**
comp=Z,9.1nm,0.7s,baz=203,slow=7.9,SNR=5.0
VSR Storozhevoye 130.86 50 *e*PKIKP **PKPdf 03 00 53.9 -1.3**
VSR pmax pmax
comp=N,3.0nm,1.1s
VSR pmax pmax
comp=E,3.0nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
TMCR Tamitsa 131.55 33 *e*PKIKP **PKPdf 03 00 56.1 0.0**
TMCR *e* 03 03 22.5
TMCR pmax pmax
comp=Z,26nm,1.1s
KIV Kislovodsk 131.56 61 *i* PKIKP **PKPdf 03 00 57.0 +0.1**
KIV *e* 03 03 14.4
KIV *e*SS SS 03 20 47.3 -1.8
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,93nm,21.0s
KIV Kislovodsk 131.56 61 *e*PKPdf **PKPdf 03 00 56.7 -0.2**
KBZ Khabaz 131.65 61 PKP **PKPdf 03 00 57.2 +0.4**
comp=Z,3.1nm,1.0s,baz=269,slow=4.5,SNR=4.6
GNI Garni 131.97 66*c i*PKIKP **PKPdf 03 00 59.7 +1.8**
GNI pmax pmax
comp=Z,10.0nm,1.2s
GNI Garni 131.97 66 PKP **PKPdf 03 00 58.4 +0.6**
comp=Z,4.9nm,0.7s,baz=122,slow=9.5,SNR=4.1
KLMR Klimovskoe 132.17 38 *e*PKIKP **PKPdf 03 00 55.1 -2.2**
KLMR pmax pmax
comp=Z,51nm,1.3s
VRHR Novokhopersk 132.37 51 *e*PKIKP **PKPdf 03 00 57.2 -0.8**
VRHR pmax pmax
comp=N,4.0nm,1.0s
VRHR pmax pmax
comp=E,4.0nm,1.0s
VRHR pmax pmax
comp=Z,10.0nm,1.0s
PRGR Permogore 135.11 37 *e*PKIKP **PKPdf 03 00 58.6 -4.2**
PRGR pmax pmax
comp=Z,48nm,1.2s
BILL Bilibino 135.20 333 *e*PKIKP **PKPdf 03 01 03.4 +0.5**
BILL Bilibino 135.20 333 *e*PKPdf **PKPdf 03 01 03.4 +0.5**
PET Petropavlovsk 141.13 311 *e*P Pdif 02 58 47.3 +15
PET pmax pmax
comp=Z,13nm,0.4s
GEYT Alibeck 141.41 73 PKhKP PKPpre 03 01 09.1
comp=Z,5.3nm,0.7s,baz=282,slow=7.4,SNR=8.5
GEYT PKP **PKPdf 03 01 15.3 0.0**
comp=Z,6.7nm,0.8s,baz=270,slow=5.9,SNR=8.8
PETK Petropavlovsk- 141.70 311 PKhKP PKPpre 03 01 11.4
comp=Z,4.1nm,0.8s,baz=72,slow=11,SNR=3.1
PETK PKP **PKPdf 03 01 16.0 +0.8**
comp=Z,13nm,1.0s,baz=94,slow=6.2,SNR=7.8
PALK Pallekele 141.86 134 PKP **PKPdf 03 01 16.3 -0.5**
comp=Z,5.6nm,0.5s,baz=226,slow=8.4,SNR=4.0
PALK Pallekele 141.86 134 PKP **PKPdf 03 01 16.3 -0.5**
PALK *e*PKPdf **PKiKP 03 01 16.6 -3.2**
SEY Seymchan 142.25 328 PKhKP PKPpre 03 01 11.1
comp=Z,2.2nm,0.6s,baz=60,slow=2.1,SNR=10.0
SEY PKP **PKPdf 03 01 17.0 +1.1**
comp=Z,22nm,0.9s,baz=82,slow=3.3,SNR=36
ARU Arti 142.39 43 *i* PKHKP PKPpre 03 01 11.2
AKTO Aktyubinsk 142.69 53 PKhKP PKPpre 03 01 12.2
comp=Z,6.0nm,0.8s,baz=284,slow=4.2,SNR=32
AKTO PP **PP 03 04 26.3 0.0**
comp=Z,7.8nm,1.1s,baz=270,slow=7.1,SNR=4.0
GSI Gunungsitoli 143.41 164 *e*PKPdf PKPbc 03 01 16.8 +0.1
AB31 Akbulak array 143.97 55 *i* PKIKP PKPab 03 01 16.6 -0.2
AB31 pmax pmax
comp=Z,16nm,0.8s
ABKAR Akbulak array 143.97 55 *e*PKPdf PKPab 03 01 16.5 -0.3
KSM Kuching 144.55 185 *e*PKPdf **PKPab 03 01 20.0 +0.1**
PSI Prapat 145.15 165 PKPbc **PKPbc 03 01 21.6 -0.6**
comp=Z,160nm,0.8s,baz=180,slow=3.5,SNR=92
PSI PP **PP 03 04 41.5 +1.4**
comp=Z,4.3nm,0.8s,baz=180,slow=11,SNR=2.2
LHMI Lhok Sumawe 147.04 161 *e*PKPbc **PKPbc 03 01 27.4 -0.4**
IPM Ipoh 147.17 169 *e*PKPdf **PKPdf 03 01 25.0 -1.0**
IPM *e*PKPbc **PKPbc 03 01 27.3 -0.9**
KULM Kulim 147.90 168 *e*PKPbc **PKPbc 03 01 29.4 -0.8**
KULM *e*PKPab **PKPab 03 01 32.6 -0.1**
KKM Kota Kinabalu 148.12 197 *e*PKPbc **PKPbc 03 01 30.6 -0.3**
HYB Hyderabad 148.14 120 *i* PKP **PKPdf 03 01 28.5 +1.0**
KBL Kabul 149.10 83 *e*PKIKP **PKPdf 03 01 28.8 0.0**
KBL *e* 03 01 37.2
KBL Kabul 149.10 83 *e*PKPdf **PKPdf 03 01 28.8 0.0**
KBL *e*PKPbc **PKPbc 03 01 32.1 -0.9**
KBL *e*PKPab **PKPab 03 01 37.2 -0.2**
BRVK Borovoye 149.78 46 *e*PKPdf **PKPdf 03 01 28.6 -0.4**
BRVK *e*PKPbc **PKPbc 03 01 33.8 +0.1**
BRVK *e*PKPab **PKPab 03 01 38.5 -0.8**
BVA0 Borovoye Array 149.85 46 *i* PKHKP **PKPdf 03 01 29.6 +0.5**
BVA0 pmax pmax
comp=Z,65nm,1.5s
BVAR Borovoye Array 149.85 46 PKP **PKPdf 03 01 29.6 +0.5**
comp=Z,19nm,1.0s,baz=260,slow=2.6,SNR=24
BVAR PKPbc **PKPbc 03 01 34.4 +0.4**
comp=Z,29nm,1.0s,baz=285,slow=2.8,SNR=43
BVAR PP **PP 03 05 07.2 -1.2**
comp=Z,1.2nm,1.0s,baz=205,slow=6.4,SNR=2.2
SURT Suratani 151.09 163 PKP **PKPbc 03 01 37.5 -0.6**
YAK Yakutsk 151.28 338 *e*PKIKP **PKPdf 03 01 31.0 0.0**
YAK *e* 03 01 36.8
YAK *e* 03 01 44.7
YAK Yakutsk 151.28 338 *e*PKPdf **PKPdf 03 01 30.9 0.0**
YAK *e*PKPbc **PKPbc 03 01 36.8 -0.2**
YAK *e*PKPab **PKPab 03 01 44.7 -0.4**
KK31 Karatay Array 151.44 66 *i* PKIKP **PKPbc 03 01 35.5 -2.6**
KK31 pmax pmax
comp=Z,26nm,0.9s
KKAR Karatay Array 151.44 66 *e*PKIKP **PKPdf 03 01 31.7 -0.2**
KKAR *e* 03 01 37.5
KKAR *e* 03 01 46.1
KKAR Karatay Array 151.44 66 *e*PKPdf **PKPdf 03 01 31.7 -0.2**
KKAR *e*PKPbc **PKPbc 03 01 37.5 -0.6**
KKAR *e*PKPab **PKPab 03 01 46.1 -0.4**
YSS Yuzh-Sakhalins 151.94 302⇑*e*PKIKP **PKPbc 03 01 38.5 -0.5**
YSS *e* 03 01 48.0
YSS pmax pmax
comp=Z,60nm,1.0s
YSS Yuzh-Sakhalins 151.94 302 *e*PKPbc **PKPbc 03 01 38.8 -0.3**
ASAJ Asahikawa 152.31 296 *e*PKPdf **PKPdf 03 01 32.3 -0.8**
ASAJ *e*PKPbc **PKPbc 03 01 39.5 -0.5**
ASAJ *e*PKPab **PKPab 03 01 51.3 +1.2**
AML Almayashu 153.79 68 P **PKPdf 03 01 36.7 +0.8**
SNR=11
EKS2 Erkin-Say 153.84 67 P **PKPdf 03 01 35.6 0.0**
SNR=15
EKS2 Erkin-Say 153.84 67 *e*PKIKP **PKPdf 03 01 36.0 +0.3**
EKS2 *e* 03 01 43.9
EKS2 *e* 03 01 56.1
EKS2 Erkin-Say 153.84 67 *e*PKPdf **PKPdf 03 01 36.0 +0.3**
EKS2 *e*PKPbc **PKiKP 03 01 43.9 +0.3**
EKS2 *e*PKPab **PKPab 03 01 56.1 -0.7**
USP Ospenovka 154.35 66 P **PKPdf 03 01 36.9 +0.7**
SNR=9.2
AAK Ala-Archa 154.37 67 P **PKPdf 03 01 36.8 +0.4**
SNR=9.8
AAK Ala-Archa 154.37 67 *e*PKIKP **PKPdf 03 01 36.9 +0.5**
AAK *e* 03 01 44.8
AAK *e* 03 01 58.8
AAK 03 05 33.8
AAK Ala-Archa 154.37 67 PKP **PKPdf 03 01 37.3 +0.8**
comp=Z,8.4nm,0.9s,baz=180,slow=1.6,SNR=20
AAK PKPbc **PKiKP 03 01 45.5 +0.7**
comp=Z,17nm,0.9s,baz=248,slow=2.5,SNR=26
AAK PKPab **PKPab 03 01 59.2 +0.1**
comp=Z,33nm,0.8s,baz=197,slow=5.8,SNR=20
AAK PP **PP 03 05 33.8 -1.1**
comp=Z,6.1nm,0.9s,baz=239,slow=4.2,SNR=4.9
AAK Ala-Archa 154.37 67 *e*PKPdf **PKPdf 03 01 36.9 +0.4**
AAK *e*PKPbc **PKiKP 03 01 44.8 0.0**
AAK *e*PKPab **PKPab 03 01 58.8 -0.3**
AAK PP **PP 03 05 33.8 -1.1**
UCH Uchtor 154.39 68 P **PKPdf 03 01 37.6 +0.7**
SNR=21
FRU Bishkek 154.45 67 *e*PKIKP **PKPdf 03 01 36.0 -0.4**
FRU *e* 03 01 56.0
FRU *e* 03 05 34.0
CHMS Chumysh 154.55 66 P **PKPab 03 01 59.4 -0.2**
SNR=5.7
KBK Karagaybulak 154.70 67 P **PKPdf 03 01 37.5 +0.6**
SNR=5.7
KZA Kyzart 154.94 68 P **PKPab 03 02 02.2 +0.3**
SNR=5.7
TKM2 Tokmak 2 155.17 66 P **PKPdf 03 01 37.6 +0.1**
SNR=18
TKM2 Tokmak 2 155.17 66 *e*PKIKP **PKPdf 03 01 37.4 -0.2**
TKM2 *e* 03 01 46.7
TKM2 *e* 03 02 02.1
TKM2 Tokmak 2 155.17 66 *e*PKPdf **PKPdf 03 01 37.4 -0.2**
TKM2 *e*PKPbc PKPbc 03 01 46.7
TKM2 *e*PKPab **PKPab 03 02 02.1 -0.5**
MJAR Matsushiro Arr 155.18 278 PKP **PKPdf 03 01 38.6 +1.0**
comp=Z,1.0nm,0.6s,baz=224,slow=5.1,SNR=3.4
MJAR PKPab **PKPab 03 02 02.4 -0.2**
comp=Z,5.9nm,1.0s,baz=150,slow=3.0,SNR=7.2
KURBB Kurchatov Arra 155.42 47 PKP **PKPdf 03 01 37.3 0.0**
comp=Z,1.1nm,0.3s,baz=291,slow=2.1,SNR=12
KURBB PKPab **PKPab 03 02 03.0 0.0**
comp=Z,14nm,0.8s,baz=291,slow=4.7,SNR=8.6
KURBB PP **PP 03 05 41.3 +1.3**
comp=Z,2.0nm,0.8s,baz=288,slow=6.6,SNR=5.6
KSH Kashi 155.43 74 PKPbc **PKPdf 03 01 38.0 +0.1**
KSH sPKP 03 01 51.7
KSH PKS **PKSdf 03 05 12.5 +0.5**
KSH PP **PP 03 05 38.6 -2.3**
KSH SKS **SKSdf 03 08 42.1 +0.4**
KSH PPMZ
comp=Z,170nm,4.5s
KSH LN
comp=Z,130nm,5.1s
KSH LE
comp=Z,110nm,5.7s
KSH LZ
comp=Z,190nm,6.7s
KURK Kurchatov 155.44 47 *e*PKIKP **PKPdf 03 01 37.6 +0.3**
KURK *e* 03 01 46.4
KURK *e* 03 02 02.7
KURK 03 05 41.3
KURK Kurchatov 155.44 47 *e*PKPdf **PKPdf 03 01 37.6 +0.3**
KURK *e*PKPbc PKPbc 03 01 46.4
KURK *e*PKPab **PKPab 03 02 02.7 -0.4**
KURK PP **PP 03 05 41.3 +1.2**
NVS Novosibirsk 155.77 35 *e*PKIKP **PKPdf 03 01 36.4 -1.3**
NVS *e* 03 05 48.2
NVS pmax pmax
comp=Z,37nm,1.1s
KHLT Khaolaem Dam 156.62 159 PKP **PKPab 03 02 08.3 -0.7**
ZALV Zalesovo Beam 157.06 35 PKP **PKPdf 03 01 38.8 -0.6**
comp=Z,15nm,0.9s,baz=281,slow=2.4,SNR=22
ZALV PKPab **PKPab 03 02 10.2 +0.2**
comp=Z,14nm,0.8s,baz=306,slow=4.7,SNR=11
ZALV PP **PP 03 05 47.0 -1.7**
comp=Z,0.5nm,0.5s,baz=308,slow=7.1,SNR=3.1
KOLN Koldanda 158.12 108 *e*P **PKPdf 03 01 41.1 -0.8**
comp=Z,26nm,1.2s
DANN Dangsing 158.54 107 *e*P **PKPdf 03 01 42.0 -0.5**
comp=Z,52nm,1.1s
BOD Bodaibo 158.66 350 *e*PKIKP PKPdf 03 01 34.9 -6.3
BOD *e* 03 02 15.8
BOD pmax pmax
comp=Z,34nm,0.9s
GKN Gorkha 159.03 109 *e*P **PKPdf 03 01 42.1 -0.8**
MK31 Makanchi Array 159.12 54 PKIKP **PKPdf 03 01 41.3 -0.9**
MK31 pmax pmax
comp=Z,13nm,0.8s
MKAR Makanchi Array 159.12 54 PKP **PKPdf 03 01 41.8 -0.4**
comp=Z,9.4nm,0.9s,baz=318,slow=1.6,SNR=31
MKAR PKPab **PKPab 03 02 18.6 -0.6**
comp=Z,12nm,0.8s,baz=286,slow=4.4,SNR=14
MKAR PP **PP 03 05 58.6 -2.1**
comp=Z,4.8nm,0.9s,baz=284,slow=4.9,SNR=9.8
DMN Daman 159.18 110 *e*P **PKPdf 03 01 42.2 -1.0**
PKI Pulchoki 159.39 111 *e*P **PKPdf 03 01 42.7 -0.8**
comp=Z,20nm,1.0s
KKN Kakani 159.41 110 *e*P **PKPdf 03 01 42.8 -0.6**
GUN Gumba 159.92 111 *e*P **PKPdf 03 01 43.5 -0.6**
RAMN Ramite 159.92 114 *e*P **PKPdf 03 01 43.8 -0.2**
JIRN Jiri 160.02 112 *e*P **PKPdf 03 01 43.6 -0.7**
CMAR Chiang Mai Arr 160.18 156 PKP **PKPdf 03 01 44.5 +0.3**
comp=Z,1.6nm,0.3s,baz=253,slow=2.3,SNR=7.8
CMAR PKPab **PKPab 03 02 23.9 -0.4**
comp=Z,4.2nm,0.8s,baz=220,slow=5.1,SNR=6.7
TAPN Taplejung 160.96 115 *e*P **PKPdf 03 01 45.1 -0.1**
MDJ Mudanjiang 161.43 301 PKP **PKPdf 03 01 46.5 +1.7**
MDJ pPKP **pPKPdf 03 01 57.7 +1.3**
MDJ sPKP 03 02 00.5
MDJ PPMZ
comp=Z,130nm,4.8s
MDJ LN
comp=Z,170nm,4.9s
MDJ LE
comp=Z,65nm,5.3s
MDJ LZ
comp=Z,120nm,6.3s
KSRS Korea Array 163.46 278 PKP **PKPdf 03 01 46.7 -0.3**
comp=Z,2.7nm,0.9s,baz=150,slow=2.8,SNR=4.6
KSRS PKPab **PKPab 03 02 40.5 +2.1**
comp=Z,3.3nm,1.0s,baz=101,slow=5.2,SNR=4.1
KSAR Wonju Array Be 163.49 278 PKIKP **PKPdf 03 01 46.7 -0.3**
KSAR Wonju Array Be 163.49 278 PKP **PKPdf 03 01 46.7 -0.3**
KSAR PKPab **PKPab 03 02 40.5 +1.9**
WMQ Urumqi 163.68 59 PKP **PKPdf 03 01 47.1 -0.1**
WMQ pPKP **pPKPdf 03 01 58.1 -0.7**
WMQ PKPab **PKPab 03 02 39.7 +0.4**
WMQ PKS **PKSdf 03 05 19.0 -1.1**
WMQ PP **PP 03 06 27.2 +1.9**
WMQ SKS **SKSdf 03 08 46.9 -1.9**
WMQ SKKS **SKKSac 03 13 09.6 -0.4**
WMQ SS **SS 03 26 48.7 -2.3**
WMQ PPMZ
comp=Z,310nm,6.0s
WMQ LN
comp=Z,120nm,23.5s
WMQ LE
comp=Z,150nm,24.0s
WMQ LZ
comp=Z,230nm,23.0s
LSA Lhasa 164.78 114 PKP **PKPdf 03 01 49.5 +0.4**
LSA Lhasa 164.78 114 *e*PKIKP **PKPdf 03 01 49.2 +0.1**
LSA *e* 03 02 44.8
LSA Lhasa 164.78 114 *e*PKPdf **PKPdf 03 01 49.2 +0.1**
LSA *e*PKPab **PKPab 03 02 44.8 -0.2**
TLY Talaya 165.09 9 PKP **PKPdf 03 01 50.0 +1.9**
comp=Z,0.6nm,0.2s,baz=234,slow=19,SNR=2.4
TLY PKPab **PKPab 03 02 45.6 +0.6**
comp=Z,5.3nm,0.8s,baz=325,slow=3.6,SNR=14
ZAK Zakamensk 166.31 11 *e*PKP2 **PKPab 03 02 49.4 -1.2**
ZAK *e* 03 06 36.5
ZAK pmax pmax
comp=Z,8.0nm,1.1s
KMI Kunming 167.59 161 PKP **PKPdf 03 01 52.0 +0.9**
KMI PP **PP 03 06 47.8 +3.2**
KMI PPMZ
comp=Z,130nm,9.7s
KMI LN
comp=Z,210nm,21.0s
KMI LE
comp=Z,200nm,18.3s
KMI LZ
comp=Z,220nm,13.3s
ULN Ulaanbaatar 169.12 0 *e*PKIKP **PKPdf 03 01 50.1 -1.2**
ULN *e* 03 03 03.7
ULN Ulaanbaatar 169.12 0 *e*PKPdf **PKPdf 03 01 50.1 -1.2**
ULN *e*PKPab **PKPab 03 03 03.7 +0.6**
SONM Songino Array 169.13 3 PKP **PKPdf 03 01 50.5 -0.9**
comp=Z,1.8nm,1.0s,baz=204,slow=1.7,SNR=8.8
SONM PKPab **PKPab 03 03 03.7 +0.6**
comp=Z,11nm,0.9s,baz=335,slow=4.7,SNR=37
SONM PP **PP 03 06 50.5 -1.7**
comp=Z,1.5nm,1.0s,baz=353,slow=3.1,SNR=4.6
NJ2 Nanjing 169.19 246 *e*PKP **PKPdf 03 01 53.2 +1.5**
GYA Guiyang 169.50 178 *e*PKP **PKPdf 03 01 52.2 0.0**
GYA pPKP **pPKPdf 03 02 03.6 -0.3**
GYA PKPab **PKPab 03 03 08.5 +3.2**
GYA PKS **PKSdf 03 05 23.4 -1.5**
GYA PP **PP 03 06 58.6 +4.6**
GYA SKKS 03 13 40.0
GYA PPMZ
comp=Z,130nm,8.6s
GYA LN
comp=Z,140nm,22.5s
GYA LE
comp=Z,120nm,22.8s
GYA LZ
comp=Z,150nm,21.4s
BJI Beijing 172.31 296 PKP **PKPdf 03 01 53.5 +0.4**
BJI LZ
comp=Z,120nm,32.6s
CD2 Chengdu 173.32 154 *e*PKP **PKPdf 03 01 53.9 0.0**
CD2 sPKP 03 02 08.9
CD2 PKPab **PKPab 03 03 24.8 +2.7**
CD2 PKS **PKSdf 03 05 23.4 -2.8**
CD2 PP **PP 03 07 18.1 +4.9**
CD2 SKS **SKSdf 03 08 52.0 -2.4**
CD2 SKKS **SKKSac 03 13 58.5 +0.9**
CD2 PPMZ
comp=Z,190nm,6.6s
CD2 LN
comp=Z,320nm,15.2s
CD2 LZ
comp=Z,200nm,19.9s
GTA Gaotai 173.72 65 ⇑PKP **PKPdf 03 01 53.7 -0.2**
GTA pPKP **pPKPdf 03 02 04.6 -1.0**
GTA sPKP 03 02 07.9
GTA PKPab **PKPab 03 03 24.1 +0.1**
GTA PP **PP 03 07 17.6 +1.2**
GTA SKS **SKSdf 03 08 51.2 -3.1**
GTA SKKS **SKKSac 03 13 58.0 -1.8**
GTA PPMZ
comp=Z,120nm,7.8s
GTA LN
comp=Z,170nm,17.6s
GTA LE
comp=Z,220nm,18.5s
GTA LZ
comp=Z,210nm,18.5s
HHC Hu-ho-hao-te 174.83 320 *e*PKP **PKPdf 03 01 55.7 +1.5**
HHC PKS **PKSdf 03 05 26.5 +0.1**
HHC SKS **SKSdf 03 08 53.5 -1.0**
HHC PPMZ
comp=Z,100nm,5.3s
HHC LN
comp=Z,290nm,19.8s
HHC LE
comp=Z,380nm,20.6s
HHC LZ
comp=Z,210nm,20.4s
XAN Xi'an 176.74 206 PKP **PKPdf 03 01 54.6 -0.2**
XAN pPKP **pPKPdf 03 02 05.0 -1.4**
LZH Lanzhou 177.18 107 *e*PKP **PKPdf 03 01 55.6 +0.7**
LZH pPKP **pPKPdf 03 02 07.7 +1.1**
LZH sPKP 03 02 12.2

*IDC **10** 02:43:09.2±4.3, 7°.32N×126°.74E, h48km±41km, mb4.0/21, mb1 4.1/22, mb1mx4.1/30, mbtmp4.3/22, ML4.8/1, MS3.4/5, Ms1 3.5/5, ms1mx3.1/33, Error ellipse: s-maj=28.5km s-min=12.2km az=74.0*
*ISCJB **10** 02:43:11.6±0.7, 7°.19N±0°.04× 126°.67E±0°.07, h87km±6km, mb4.2/34, Error ellipse: s-maj=11.4km s-min=5.0km az=160.7*
*NEIC **10** 02:43:12.1±1.1, 7°.23N×126°.65E, h75km±10km, mb4.3/12, Error ellipse: s-maj=12.7km s-min=5.6km az=69.0*
NEIC Felt [II PIVS] at Caraga and Tarragona.
*MAN **10** 02:43:12, 7°.16N×126°.59E, h29km, mb4.9, ML3.8, MS3.8*
MAN INTENSITY II - TARAGONA & CARAGA DAVAO ORIENTAL.

ISC 10 02:43:11.7±0.9, 7°.15N±0°.05×126°.67E±0°.08, h69km±8km, n89, σ1°51/87, mb4.2/34, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.46**	**244**	*e*P	**Pn**	**02 43 22.1**	**-2.0**
MATI				*e*S	**Sn**	**02 43 30.3**	**-2.8**
DAV	**Davao City (W)**	**1.09**	**266**	*e*Pn	**Pn**	**02 43 32.3**	**+1.0**
DAV				*e*Sn	**Sn**	**02 43 47.1**	**+1.3**
BUKP	**Musuan**	**1.75**	**294**	*e*P	**Pn**	**02 43 41.1**	**+1.1**
BUKP				*e*S	**Sn**	**02 44 00.6**	**-1.0**
BUTP	**Butuan**	**2.08**	**330**	*e*P	**Pn**	**02 43 45.8**	**+1.4**
CGP	**Cagayan de Oro**	**2.35**	**304**	*e*P	**Pn**	**02 43 48.6**	**+0.6**
CGP				*i* S	**Sn**	**02 44 17.8**	**+2.0**
CTBH	**Cotabato--PC H**	**2.41**	**272**	‖*i*P	**Pn**	**02 43 49.8**	**+1.0**
SCPH	**Surigao**	**2.86**	**336**	*e*P	**Pn**	**02 43 56.9**	**+1.9**
SCPH				*e*S	**Sn**	**02 44 33.6**	**+5.2**
PAGZ	**Pagadian**	**3.33**	**282**	*e*P	**Pn**	**02 44 02.9**	**+1.5**
MSLP	**Maasin**	**3.46**	**329**	*e*P	**Pn**	**02 44 03.9**	**+0.7**
LLP	**Lapu-Lapu**	**4.13**	**320**	*e*P	**Pn**	**02 44 13.5**	**+1.2**
LLP				*e*S	**Sn**	**02 45 01.0**	**+1.6**
PLP	**Palo**	**4.32**	**337**	‖*e*P	**Pn**	**02 44 18.1**	**+3.1**
PLP				*i* S	Sn	02 45 13.6	+9.5
GUIM	**Jordan**	**5.31**	**311**	*e*P	**Pn**	**02 44 30.7**	**+2.2**
GTOI	**Gorontalo**	**7.43**	**210**	P	**Pn**	**02 44 59.8**	**+2.3**
MRSI	**Marisa**	**8.14**	**216**	P	Pn	02 45 00.5	-6.7
MRSI				S	Px	02 45 11.1	
LUWI	**Luwuk**	**9.02**	**206**	P	Pn	02 45 13.3	-6.0
LUWI	**Luwuk**	**9.02**	**206**	P	Pn	02 45 29.0	+10
baz=9.5,SNR=4.1							
LUWI	**Luwuk**	**9.02**	**206**	*e*Pn	**Pn**	**02 45 21.1**	**+1.8**
45nm,0.6s							
SWI	**Sorong**	**9.18**	**150**	P	**Pn**	**02 45 22.4**	**+0.9**
baz=9.4,SNR=3.2							
APSI	**Ampana**	**9.45**	**212**	P	Pn	02 45 20.3	-4.8
KKM	**Kota Kinabalu**	**10.45**	**265**	*e*Pn	**Pn**	**02 45 39.0**	**+0.2**
FAKI	**Fak Fak**	**11.45**	**151**	P	**Pn**	**02 45 53.0**	**+0.6**
baz=12,SNR=3.8							
FAKI				S	**Sn**	**02 47 56.4**	**-2.3**
baz=12,SNR=3.6							

KAPI	Kappang	13.92	210	*e*Pn		Pn	02 46 26.3 +0.5
	58nm,1.0s						
BATI	Baumata	17.50	190	P		P	02 47 12.4 +0.9
	3.0nm,0.3s,baz=349,slow=3.0,SNR=2.0						
MTN	Manton Dam	20.35	167	P		P	02 47 43.6 +0.9
	baz=21,SNR=4.2						
KDU	Kakadu	20.54	164	P		P	02 47 46.0 +1.3
	baz=21,SNR=13						
KNRA	Kununurra	22.78	175	P		P	02 48 09.7 +1.1
	baz=23,SNR=12						
COEN	Coen	26.61	142	P		P	02 48 48.3 +4.4
	baz=27,SNR=5.7						
COEN	Coen	26.61	142	*e*P		P	02 48 42.6 -1.2
WRAB	Tennant Creek	27.96	164	*e*P		P	02 48 53.7 -2.1
	2.3nm,0.5s						
WRA	Warramunga Arr	27.96	164	P		P	02 48 55.9 0.0
	1.1nm,0.6s,baz=336,slow=12,SNR=11						
WRA				PcP		PcP	02 52 10.6 +0.8
	0.9nm,0.6s,baz=340,slow=2.5,SNR=4.6						
CMAR	Chiang Mai Arr	29.23	295	LR		LR	03 00 58.7
	comp=Z,97nm,18.2s,baz=136,slow=37						
KSRS	Korea Array	30.18	2	LR		LR	03 03 27.7
	comp=Z,16nm,18.5s,baz=230,slow=41						
QIS	Mount Isa	30.33	155	P		P	02 49 17.9 +1.0
	baz=31,SNR=12						
MAJO	Matsushiro	31.09	18	*e*P		P	02 49 22.3 -1.2
	8.0nm,0.6s						
MJAR	Matsushiro Arr	31.09	18	P		P	02 49 21.6 -1.9
	3.1nm,0.7s,baz=196,slow=9.5,SNR=7.3						
MJAR				LR		LR	03 02 34.2
	comp=Z,20nm,19.6s,baz=230,slow=38						
AS31	Alice Springs	31.43	167	*e*P		P	02 49 28.2 +1.6
ASAR	Alice Springs	31.43	167	P		P	02 49 27.4 +0.7
	1.2nm,0.4s,baz=339,slow=7.1,SNR=30						
ASAR				PcP		PcP	02 52 19.8 +1.0
	1.0nm,0.4s,baz=349,slow=2.4,SNR=8.2						
WRKA	Warakurna	32.03	177	P		P	02 49 33.7 +1.8
	baz=33,SNR=6.0						
MEEK	Meekatharra	34.49	193	P		P	02 49 54.8 +1.6
	baz=35,SNR=4.0						
USRK	Ussuriysk Ar.	37.20	6	P		P	02 50 13.9 -2.2
	2.2nm,0.4s,baz=185,slow=8.3,SNR=9.3						
H11S3	WAKE ISLAND Hy	40.52	70	T		T	03 34 15.7
	baz=250						
H11S1	WAKE ISLAND Hy	40.53	70	T		T	03 34 12.2
	baz=250						
H11S2	WAKE ISLAND Hy	40.53	70	T		T	03 34 19.0
	baz=250						
BBOO	Buckleboo	40.73	168	P		P	02 50 47.1 +1.2
	baz=41,SNR=17						
H11N1	WAKE ISLAND Hy	40.95	68	T		T	03 34 55.0
	baz=263						
H11N2	WAKE ISLAND Hy	40.95	68	T		T	03 35 13.3
	baz=263						
H11N3	WAKE ISLAND Hy	40.96	68	T		T	03 34 56.5
	baz=263						
STKA	Stephens Creek	41.34	161	P		P	02 50 51.9 +1.0
	3.5nm,0.5s,baz=335,slow=8.8,SNR=10						
ULN	Ulaanbaatar	43.88	341	*e*P		P	02 51 10.1 -1.3
	1.4nm,0.7s						
SONM	Songino Array	44.07	340	P		P	02 51 11.9 -1.0
	0.3nm,0.3s,baz=162,slow=9.4,SNR=3.8						
PETK	Petropavlovsk-	52.31	23	P		P	02 52 17.3 +1.1
	11nm,0.6s,baz=193,slow=5.8,SNR=18						
MKAR	Makanchi Array	54.75	324	P		P	02 52 34.1 -0.1
	3.2nm,0.7s,baz=124,slow=8.2,SNR=40						
MKAR				PcP		PcP	02 53 34.1 -1.9
	0.5nm,0.4s,baz=112,slow=6.1,SNR=4.6						
TKM2	Tokmak 2	57.19	317	*e*P		P	02 52 51.5 -0.5
	1.9nm,0.7s						
ZALV	Zalesovo Beam	57.54	332	P		P	02 52 52.6 -1.4
	0.7nm,0.4s,baz=126,slow=5.9,SNR=5.2						
ZALV				PcP		PcP	02 53 45.4 -1.3
	0.3nm,0.4s,baz=153,slow=1.6,SNR=2.3						
AAK	Ala-Archa	57.82	316	P		P	02 52 55.8 -0.6
	1.0nm,0.5s,baz=130,slow=7.9,SNR=5.2						
AAK				LR		LR	03 22 01.6
	comp=Z,43nm,18.5s,baz=135,slow=40						
AAK	Ala-Archa	57.82	316	*e*P		P	02 52 55.4 -1.0
	1.3nm,0.6s						
EKS2	Erkin-Say	58.33	316	*e*P		P	02 52 59.6 -0.2
	3.0nm,0.6s						
KURK	Kurchatov	58.86	326	*e*P		P	02 53 02.4 -0.8
	1.7nm,0.6s						
KKAR	Karatay Array	60.73	316	*e*P		P	02 53 15.6 -0.6
	5.0nm,0.8s						
BVAR	Borovoye Array	64.45	326	P		P	02 53 40.2 -0.6
	0.9nm,0.5s,baz=127,slow=9.3,SNR=2.9						
BRVK	Borovoye	64.52	326	*e*P		P	02 53 40.6 -0.6
	2.1nm,0.6s						
GEYT	Alibeck	68.74	308	P		P	02 54 09.2 +0.7
	1.6nm,0.6s,baz=204,slow=3.3,SNR=4.5						
ABKAR	Akbulak array	69.49	320	*e*P		P	02 54 12.1 -0.8
	1.8nm,0.8s						
AKTO	Aktyubinsk	70.97	321	P		P	02 54 21.1 -0.7
	1.4nm,0.5s,baz=99,slow=11						
MCK	McKinley	81.15	27	*e*P		P	02 55 19.1 -0.4
	4.8nm,0.6s						
ILAR	Eielson Array	82.06	26	P		P	02 55 23.1 -1.2
	0.7nm,0.5s,baz=245,slow=5.0,SNR=27						
JOF	Joensuu	86.13	333	*e*p		P	02 55 43.6 -1.3
	2.6nm,0.7s						
VNDA	Vanda	86.81	173	P		P	02 55 48.6 +0.7
	1.8nm,0.7s,baz=292,slow=5.4,SNR=6.8						
VNDA	Vanda	86.81	173	*e*P		P	02 55 48.2 +0.3
	1.8nm,0.7s						
SPITS	Spitsbergen Ar	87.13	349	P		P	02 55 49.5 -0.1
	15nm,1.1s,baz=101,slow=12,SNR=3.1						
ARCES	ARCESS Array B	87.24	340	P		P	02 55 50.1 -0.2
	6.3nm,1.0s,baz=86,slow=5.5,SNR=3.4						
BRTR	Keskin Array B	87.81	310	P		P	02 55 52.1 -1.7
	1.1nm,0.9s,baz=147,slow=4.5,SNR=4.4						
KAF	Kangasniemi	88.56	332	*e*p		P	02 55 54.4 -2.2
	0.3nm,0.4s						
FINES	FINESS Array B	88.81	332	P		P	02 55 56.8 -1.1
	1.2nm,0.6s,baz=64,slow=4.3,SNR=11						
AKASG	Malin Array Be	89.22	321	P		P	02 55 58.9 -1.1
	0.6nm,0.4s,baz=65,slow=4.9,SNR=2.6						
HFS	Hagfors	94.98	332	P		P	02 56 24.5 -1.9
	1.5nm,0.8s,baz=52,slow=7.5,SNR=3.2						
YKA	Yellowknife Ar	96.42	24	P		P	02 56 32.0 -1.0
	0.4nm,0.7s,baz=298,slow=4.6,SNR=7.4						
GERES	GERESS Array B	99.38	322	LR		LR	03 45 44.1
	comp=Z,137nm,19.0s,baz=259,slow=38						
H06E1	SOCORRO T-PHASE	117.66	65	T		T	05 10 45.5
	SNR=23						
TXAR	Lajitas Array	119.52	51	PKP		PKPdf	03 01 55.3 +1.0
	0.4nm,0.6s,baz=358,slow=3.7,SNR=8.1						
WMOK	Wichita Mounta	120.21	43	*e*PKPdf		PKPdf	03 01 55.8 +0.4
TORD	Torodi Ar. Bea	121.75	290	PKP		PKPdf	03 01 58.5 -0.3
	0.5nm,0.4s,baz=78,slow=1.9,SNR=8.8						
JCT	Junction City	121.84	47	*e*PKPdf		PKPdf	03 01 58.9 +0.2
WVT	Waverly	126.12	35	*e*PKPdf		PKPdf	03 02 07.4 +0.7
OTAV	Otavalo	153.89	75	*e*PKPbc		PKPbc	03 03 05.0 +0.1
NNA	Nana	156.33	104	*e*PKPdf		PKPdf	03 02 59.2 -0.4
LVC	Limon Verde	158.52	137	*e*PKPab		PKPab	03 03 38.6 +1.1
CPUP	Villa Florida	160.55	169	*e*PKPdf		PKPdf	03 03 03.6 -0.7
CPUP				*e*PKPab		PKPab	03 03 44.3 -1.4
LPAZ	La Paz	162.91	123	*e*PKPab		PKPab	03 03 59.0 +1.7

*CSEM **10** 02:52:13.9±0.1, 40°.63N×15°.69E, h20km, ML3.5/18, Error ellipse: s-maj=1.8km s-min=1.8km az=39.0*
*ROM **10** 02:52:13.9±0.1, 40°.63N×15°.69E, h20km±1km, Ml3.0/25, Error ellipse: s-maj=0.9km s-min=0.8km az=30.0*
*ISCJB **10** 02:52:14.0±0.2, 40°.64N±0°.02×15°.67E±0°.02, h24km±2km, Error ellipse: s-maj=2.8km s-min=2.6km az=36.9*
ISC 10 02:52:13.8±0.9, 40°.63N±0°.02×15°.69E±0°.02, h20km±2km, n103, σ0.85/152, 4C-2D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZUN	Potenza	0.09	78	Pg	Pb	02 52 17.9	+0.1
PZUN				Sg	Sb	02 52 21.0	+0.6
	2μm,0.4s						
PZUN	Potenza	0.09	78	Pg	Pb	02 52 17.9	+0.1
PZUN				Sg	Sb	02 52 21.0	+0.6
	2μm,0.4s						
MRLC	Muro Lucano	0.20	311	Pg	Pb	02 52 19.6	+0.2
MRLC				Sg	Sb	02 52 22.5	-0.7
	2μm,0.5s						
MRLC	Muro Lucano	0.20	311	Pg	Pb	02 52 19.6	+0.2
MRLC				Sg	Sb	02 52 22.5	-0.7
	2μm,0.5s						
ACER	Acerenza	0.25	50	Pg	Pb	02 52 19.8	-0.1
ACER				Sg	Sb	02 52 24.6	+0.5
ACER	Acerenza	0.25	50	Pg	Pb	02 52 19.8	-0.1
ACER				Sg	Sb	02 52 24.6	+0.5
SGO	Sicignano	0.30	257⇑	*i*Pg	Pb	02 52 20.7	+0.2
SGO	Sicignano	0.30	257⇑	*i*Pg	Pb	02 52 20.7	+0.2
PTRP	Pietrapertosa	0.30	110	Pg	Pb	02 52 21.1	+0.4
PTRP				Sg	Sb	02 52 25.4	+0.1
	339μm,8.7s						
PTRP	Pietrapertosa	0.30	110	Pg	Pb	02 52 21.1	+0.4
PTRP				Sg	Sb	02 52 25.4	+0.1
	339μm,8.7s						
MCEL	Monticello	0.31	164	Pg	Pb	02 52 20.7	-0.1
MCEL				Sg	Sb	02 52 25.9	+0.4
	792nm,0.4s						
MCEL	Monticello	0.31	164	Pg	Pb	02 52 20.7	-0.1
MCEL				Sg	Sb	02 52 25.9	+0.4
	792nm,0.4s						
CDRU	Civita di Ruta	0.32	245	Pg	Pb	02 52 21.0	+0.1
CDRU				Sg	Sb	02 52 26.5	+0.7
	982nm,0.3s						
CDRU	Civita di Ruta	0.32	245	Pg	Pb	02 52 21.0	+0.1
CDRU				Sg	Sb	02 52 26.5	+0.7
	982nm,0.3s						
VULT	Monte Vulture	0.33	351	Pg	Pb	02 52 21.1	0.0
VULT				Sg	Sb	02 52 26.4	+0.3
	3μm,0.1s						
VULT	Monte Vulture	0.33	351	Pg	Pb	02 52 21.1	0.0
VULT				Sg	Sb	02 52 26.4	+0.3
	3μm,0.1s						
MTSN	Montesano sull	0.36	172	Pg	Pb	02 52 21.5	-0.1
MTSN				Sg	Sb	02 52 28.1	+1.3
	343nm,0.5s						
MTSN	Montesano sull	0.36	172	Pg	Pb	02 52 21.5	-0.1
MTSN				Sg	Sb	02 52 28.1	+1.3
	343nm,0.5s						
PALZ	Palazzo San Ge	0.38	33	Pg	Pb	02 52 21.6	-0.2
PALZ				Sg	Sb	02 52 27.9	+0.6
	3μm,1.0s						
PALZ	Palazzo San Ge	0.38	33	Pg	Pb	02 52 21.6	-0.2
PALZ				Sg	Sb	02 52 27.9	+0.6
	3μm,1.0s						
MCRV	Calabrutti - M	0.42	292	Pg	Pb	02 52 22.6	-0.1
MCRV				Sg	Sb	02 52 29.3	+0.6
	783nm,0.3s						
MCRV	Calabrutti - M	0.42	292	Pg	Pb	02 52 22.6	-0.1
MCRV				Sg	Sb	02 52 29.3	+0.6
	783nm,0.3s						
CMPR	Campora	0.42	224	Pg	Pb	02 52 22.5	-0.1
CMPR				Sg	Sb	02 52 29.1	+0.5
	837nm,0.4s						
CMPR	Campora	0.42	224	Pg	Pb	02 52 22.5	-0.1
CMPR				Sg	Sb	02 52 29.1	+0.5
	837nm,0.4s						
SIRI	Monte Sirino -	0.46	163	Pg	Pb	02 52 22.9	-0.5
SIRI				Sg	Sb	02 52 31.1	+1.3
SIRI	Monte Sirino -	0.46	163	Pg	Pb	02 52 22.9	-0.5
SIRI				Sg	Sb	02 52 31.1	+1.3
SNAL	S. Angelo Dei	0.47	310	Pg	Pb	02 52 23.6	+0.1
	881nm,0.8s						
SNAL	S. Angelo Dei	0.47	310	Pg	Pb	02 52 23.6	+0.1
	881nm,0.8s						
MGR	Morigerati	0.50	192	Pg	Pb	02 52 23.8	-0.1
MGR				Sg	Sn	02 52 32.4	-1.4
	585nm,0.5s						
MGR	Morigerati	0.50	192	Pg	Pb	02 52 23.8	-0.1
MGR				Sg	Sn	02 52 32.4	-1.4
	585nm,0.5s						
SCHR	S. Chirico Rap	0.52	145	Pg	Pb	02 52 23.8	-0.5
SCHR				Sg	Sb	02 52 31.7	+0.2
	221nm,0.3s						
CAFE	Carife	0.53	320	Pg	Pb	02 52 24.6	+0.1
	362nm,0.3s						
CAFE	Carife	0.53	320	Pg	Pb	02 52 24.6	+0.1
	362nm,0.3s						
MIGL	Miglionico	0.57	92	Pg	Pb	02 52 24.8	-0.5
MIGL				Sg	Sb	02 52 33.5	+0.5
	2μm,0.6s						
MIGL	Miglionico	0.57	92	Pg	Pb	02 52 24.8	-0.5
MIGL				Sg	Sb	02 52 33.5	+0.5
	2μm,0.6s						
MRVN	Minervino Murg	0.58	41	Pg	Pb	02 52 25.0	-0.4
MRVN				Sg	Sb	02 52 33.5	+0.2
	451nm,0.6s						
MRVN	Minervino Murg	0.58	41	Pg	Pb	02 52 25.0	-0.4
MRVN				Sg	Sb	02 52 33.5	+0.2
	451nm,0.6s						
BULG	Bulgheria - Ca	0.60	203	Pg	Pb	02 52 25.7	0.0
	969nm,0.3s						
BULG	Bulgheria - Ca	0.60	203	Pg	Pb	02 52 25.7	0.0
	969nm,0.3s						
CRAC	Craco	0.63	114	Pg	Pb	02 52 26.2	0.0
CRAC				Sg	Sn	02 52 35.9	-1.1
	711nm,0.2s						
CRAC	Craco	0.63	114	Pg	Pb	02 52 26.2	0.0
CRAC				Sg	Sn	02 52 35.9	-1.1
	711nm,0.2s						
CDT	Castel del Mon	0.64	44	*e*Pg	Pb	02 52 26.0	-0.4
CDT				Sg	Sb	02 52 35.5	+0.6
CUC	Castrocucco	0.64	171	Pg	Pb	02 52 26.6	+0.2
	578nm,0.4s						
CUC	Castrocucco	0.64	171	Pg	Pb	02 52 26.6	+0.2
	578nm,0.4s						
MRB1	Monte Rocchett	0.74	313	Pg	Pb	02 52 28.4	+0.4
	909nm,0.9s						
MRB1	Monte Rocchett	0.74	313	Pg	Pb	02 52 28.4	+0.4
	909nm,0.9s						
AMUR	Altamura	0.75	68	Pg	Pb	02 52 28.7	+0.5
AMUR				Sg	Sn	02 52 39.3	-0.8
	690nm,0.5s						
AMUR	Altamura	0.75	68	Pg	Pb	02 52 28.7	+0.5
AMUR				Sg	Sn	02 52 39.3	-0.8
	690nm,0.5s						
MMN	Mormanno	0.77	162	Pg	Pn	02 52 29.1	-0.4
	172nm,0.7s						
MMN	Mormanno	0.77	162	Pg	Pn	02 52 29.1	-0.4
	172nm,0.7s						
MATE	Matera	0.78	88	Pg	Pb	02 52 28.6	0.0
MATE				Sg	Sn	02 52 39.9	-0.7
	551nm,0.4s						
MATE	Matera	0.78	88	Pg	Pb	02 52 28.6	0.0
MATE				Sg	Sn	02 52 39.9	-0.7
	551nm,0.4s						
SG1	Sgolgore (BA)	0.78	74	*e*Pg	Pb	02 52 29.0	+0.2
PSB1	Pescosannita	0.89	312	Pg	Pn	02 52 31.2	-0.1
PSB1	Pescosannita	0.89	312	Pg	Pn	02 52 31.2	-0.1
SALB	San Lorenzo Be	0.90	146	Pg	Pb	02 52 30.2	-0.7
SALB	San Lorenzo Be	0.90	146	Pg	Pb	02 52 30.2	-0.7
BAI	Bari	1.02	62	*e*Pg	Pn	02 52 32.6	-0.4
BAI				Sg	Sn	02 52 47.8	+1.0
NOCI	Noci	1.06	81	Pg	Pn	02 52 33.3	-0.3
NOCI				Sg	Sn	02 52 47.9	+0.2
	776nm,0.6s						
NOCI	Noci	1.06	81	Pg	Pn	02 52 33.3	-0.3
NOCI				Sg	Sn	02 52 47.9	+0.2
	776nm,0.6s						
MS1	Monte Sant'Ang	1.09	10	*e*Pg	Pb	02 52 34.4	+0.3
MS1				Sg	Sn	02 52 50.6	+1.9
MSAG	Monte S. Angel	1.10	9	Pg	Pn	02 52 33.7	-0.5
	706nm,0.3s						
MSAG	Monte S. Angel	1.10	9	Pg	Pn	02 52 33.7	-0.5
	706nm,0.3s						
SGRT	San Giovanni R	1.13	2	Pg	Pn	02 52 34.1	-0.5
SGRT				Sg	Sn	02 52 49.2	-0.3
SGRT	San Giovanni R	1.13	2	Pg	Pn	02 52 34.1	-0.5
SGRT				Sg	Sn	02 52 49.2	-0.3
PTRJ	Pietraroja	1.15	310	Pg	Pb	02 52 36.0	+1.0
PTRJ	Pietraroja	1.15	310	Pg	Pb	02 52 36.0	+1.0
MELA	Melanico ??? S	1.16	339	Pg	Pn	02 52 34.5	-0.4
MELA	Melanico ??? S	1.16	339	Pg	Pn	02 52 34.5	-0.4
TAR1	Taranto	1.22	94	*e*Pg	Pn	02 52 35.8	+0.1
TAR1				Sg	Sb	02 52 53.3	+1.8
SGG	Gregorio Mates	1.25	308	Pg	Pb	02 52 37.7	+1.0
SGG	Gregorio Mates	1.25	308	Pg	Pb	02 52 37.7	+1.0
VAGA	Valle Agricola	1.35	306	Pg	Pb	02 52 38.8	+0.3
VAGA	Valle Agricola	1.35	306	Pg	Pb	02 52 38.8	+0.3
MSC	Monte Massico	1.42	294	Pg	Pb	02 52 39.5	-0.1
MSC	Monte Massico	1.42	294	Pg	Pb	02 52 39.5	-0.1
MESG	Mesagne	1.65	91	Pg	Pb	02 52 43.1	-0.4
MESG	Mesagne	1.65	91	Pg	Pb	02 52 43.1	-0.4
SDI	San Donato	1.78	308	Pg	Pn	02 52 44.6	+1.1
	47nm,0.9s						
SDI	San Donato	1.78	308	Pg	Pn	02 52 44.6	+1.1
	47nm,0.9s						
IGT	Igoumenitsa	3.73	106	*e*PN	Pn	02 53 11.9	+1.7
UDBI	Udbina	3.90	1	*e*Pn	Pn	02 53 13.0	+0.4
UDBI				Sn	Sn	02 53 56.0	-1.8
NEST	Nestorio	4.09	91	*e*PN	Pn	02 53 18.6	+3.3
BBLS	Lazići	4.25	39	*e*Pn	Pn	02 53 19.2	+1.7
FNA	Florina	4.33	86	*e*PN	Pn	02 53 20.4	+1.9
IVAS	Ivanjica	4.44	47	*e*Pn	Pn	02 53 21.0	+0.9
SELS	Selova	4.81	56	*e*Pn	Pn	02 53 25.6	+0.5
BOJS	Bojanci	4.89	356	*i* Pn	Pn	02 53 27.1	+0.9
BOJS				*i* Sn	Sn	02 54 19.5	-2.5
BOJS	Bojanci	4.89	356	*i* Pn	Pn	02 53 27.0	+0.9
BOJS				*i* Sn	Sn	02 54 19.5	-2.5
GBRS	Gornja Briga	4.95	353	*i* Pn	Pn	02 53 28.2	+1.2
GBRS				*i* Sn	Sn	02 54 23.1	-0.5
THL	Klokotos Trika	4.97	100	*e*PN	Pn	02 53 30.3	+3.1
TRUS	Trudelj	5.01	43	*e*Pn	Pn	02 53 28.5	+0.6
BARS	Barje	5.08	62	*e*Pn	Pn	02 53 29.4	+0.6
AGG	Agios Georgios	5.36	105	*e*PN	Pn	02 53 36.5	+3.8
PDKS	Podkum	5.46	355	*i* Pn	Pn	02 53 34.2	+0.2
PDKS				*i* Sn	Sn	02 54 33.1	-3.0
PDKS	Podkum	5.46	355	*i* Pn	Pn	02 53 34.2	+0.2
KNT	Kendrikon	5.49	82	*e*PN	Pn	02 53 29.8	-4.7
ZAPS	Zavoj	5.82	61	*e*Pn	Pn	02 53 37.3	-1.6
OBKA	Obir	5.94	352⇑	*i*Pn	Pn	02 53 41.1	+0.4
	1.3nm,0.2s						
OBKA			⇑	*i*Sn	Sn	02 54 46.6	-1.5
	7.5nm,0.6s						
OBKA	Obir	5.94	352	Pn	Pn	02 53 41.1	+0.4
	1.3nm,0.2s						
OBKA				Sn	Sn	02 54 46.6	-1.5
	7.5nm,0.6s						
NVR	Nevrokopi	6.23	81	*e*PN	Pn	02 53 47.3	+2.7
MOA	Molln	7.29	352⇓	*i*Pn	Pn	02 54 00.0	+0.8
	1.1nm,0.2s						
MOA			⇓	*i*Sn	Sn	02 55 18.8	-2.6
	3.9nm,0.5s						
MOA	Molln	7.29	352	Pn	Pn	02 54 00.0	+0.8
	1.1nm,0.2s						

*CSEM **10** 03:00:31.3, 45°.31N×6°.52E, h2km, ML1.8/2*
LDG 10 03:00:31.3±0.1, 45°.31N×6°.52E, h2km, Md2.0/3, Ml1.8/2, Error ellipse: s-maj=2.1km s-min=1.1km az=125.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPG	La Plagne	0.25	42	*e*Pg	Pg	03 00 36.4	-0.1
LPG				*e*Sg	Sg	03 00 40.2	+0.2
	8.9nm,0.2s						
LPG	La Plagne	0.25	42	*e*Pg	Pg	03 00 36.4	-0.1
LPG				*e*Sg	Sg	03 00 40.2	+0.2
	4.4nm,0.2s						
LPL	La Plagne	0.25	36	*e*Pg	Pg	03 00 36.5	0.0
LPL				*e*Sg	Sg	03 00 40.2	+0.1
	9.4nm,0.2s						
LPL	La Plagne	0.25	36	*e*Pg	Pg	03 00 36.5	0.0
LPL				*e*Sg	Sg	03 00 40.2	+0.1
	4.7nm,0.2s						
ORIF	Oris-en-Rattie	0.60	229	*e*Pg	Pg	03 00 43.1	+0.1
ORIF				*e*Sg	Sg	03 00 49.9	-1.0
	4.7nm,0.2s						
ORIF	Oris-en-Rattie	0.60	229	*e*Pg	Pg	03 00 43.1	+0.1
ORIF				*e*Sg	Sg	03 00 49.9	-1.0
	2.3nm,0.2s						
MBDF	Montbardon	0.61	163	*e*Pg	Pg	03 00 43.0	-0.3
MBDF				*e*Sg	Sg	03 00 51.2	-0.2
	3.0nm,0.3s						
MBDF	Montbardon	0.61	163	*e*Pg	Pg	03 00 43.0	-0.3
MBDF				*e*Sg	Sg	03 00 51.2	-0.2
	1.5nm,0.3s						
CABF	La Chapelle	1.33	347	*e*Pg	Pg	03 00 56.2	-0.8
CABF				*e*Sg	Sg	03 01 13.5	-0.9
	1.3nm,0.2s						
CABF	La Chapelle	1.33	347	*e*Pg	Pg	03 00 56.2	-0.8
CABF				*e*Sg	Sg	03 01 13.5	-0.9
	0.6nm,0.2s						
VIVF	Saint-Julien-l	1.39	251	*e*Pg	Pn	03 00 57.3	-0.4
VIVF				*e*Sg	Sg	03 01 15.1	-0.9
	2.6nm,0.4s						
VIVF	Saint-Julien-l	1.39	251	*e*Pg	Pn	03 00 57.3	-0.4
VIVF				*e*Sg	Sg	03 01 15.1	-0.9
	1.3nm,0.4s						

*CSEM **10** 03:02:13.3±0.6, 50°.18N×19°.04E, h2km, ML2.2/4, Error ellipse: s-maj=15.5km s-min=5.8km az=11.0*
PRU 10 03:02:14.1, 50°.13N×19°.03E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.16	351	*e*Pg	Pg	03 02 18.5	+1.2
CHZP				*e*		03 02 19.7	
CHZP				*e*Sg	Sg	03 02 22.3	+2.9
OJC	Ojcow	0.50	79	*e*Pg	Pg	03 02 22.0	-1.8
OJC				*e*Sg	Sg	03 02 29.0	-1.3
OKC	Ostrava-Krasne	0.64	243	*e*PG	Pg	03 02 25.8	-0.6
OKC				*e*SG	Sg	03 02 35.1	+0.4
	comp=Z,5.4nm,0.3s						
OKC	Ostrava-Krasne	0.64	243	Pg	Pg	03 02 25.8	-0.6
OKC				Sg	Sg	03 02 35.1	+0.4
	5.4nm,0.3s						
LANS	Liptovska Anna	1.02	164	*e*Sn	Sg	03 02 46.5	-0.6
MORC	Moravsky Berou	1.02	250	*e*Pg	Pb	03 02 34.8	0.0
MORC				*e*Sg	Sb	03 02 48.8	0.0
NIE	Niedzica	1.09	130	*e*Pg	Pg	03 02 34.0	-1.2
NIE				*e

BSO3				S	Sn	03 08 06.0	+1.8
BSO4	**Boso 4**	**2.96**	**353**	P	Pn	03 07 35.2	+1.4
BSO4				S	Sn	03 08 11.5	+2.0
JHO	**Hitachi**	**4.56**	**358**	*e*S	Sn	03 08 49.5	+0.3

GUC 10 03:09:56.1±0.7, 35°.08S×71°.88W, h42km±6km, MD3.8, ML3.6, 2C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.54**	**82**	⇓*i*P	Pn	03 10 07.6	+0.1
NICH				*i* S1	Sn	03 10 16.3	+0.7
NICH				AML	AML	03 10 17.1	
	comp=E,11μm,0.4s						
LNCH	**Linares**	**0.80**	**163**	⇓*i*P	Pn	03 10 11.5	+0.5
LNCH				*i* S1	Sn	03 10 22.6	+0.9
LNCH				AML	AML	03 10 23.8	
	comp=N,2μm,0.3s						
CACH	**El Canelo**	**1.43**	**48**	⇑*i*P	Pn	03 10 19.8	0.0
CACH				*i* S1	Sn	03 10 39.1	+1.6
CHCH	**Chadas Angostu**	**1.53**	**42**	*e*P1	Pn	03 10 22.0	+0.9
CHCH				*i* S1	Sn	03 10 41.6	+1.8
TACH	**Talagante**	**1.62**	**29**	*e*P1	Pn	03 10 22.6	+0.3
ANTU	**Antumapu**	**1.83**	**35**	*e*P1	Pn	03 10 26.1	+1.0
ANTU				*e*S1	Sn	03 10 49.1	+2.0
ANTU				AML	AML	03 10 51.0	
	comp=E,874nm,0.5s						
SAN	**Santiago**	**1.91**	**32**	*e*P1	Pn	03 10 27.1	+0.8
SAN				AML	AML	03 10 57.7	
	comp=N,779nm,0.5s						
CLCH	**Cerro Calan**	**2.02**	**34**	⇑*i*P	Pn	03 10 28.7	+1.0
CLCH				*e*S1	Sn	03 10 53.3	+1.5
CLCH				AML	AML	03 11 04.6	
	comp=N,967nm,0.5s						
PEL	**Peldehue**	**2.17**	**28**	*e*P1	Pn	03 10 31.3	+1.5
PEL				*i* S4	Sn	03 10 59.6	+4.0
PEL				AML	AML	03 11 04.6	
	comp=N,836nm,0.4s						

NIED ***10*** *03:18:00,26°.00N×128°.70E, h8km, Mw4.2 Best double couple: M0=2.24000×10^15 NP1:φs=73.00000°, δ51.00000°, λ151.00000°. NP2:φs=182.00000°, δ68.00000°, λ43.00000°.*
IDC ***10*** *03:18:58.0±0.8, 26°.01N×128°.68E, h0km, mb4.0/16, mb1 4.1/17, mb1mx4.0/43, mbtmp4.0/17, ML3.6/1, MS3.7/3, Ms1 3.7/3, ms1mx2.9/39, Error ellipse: s-maj=24.4km s-min=14.8km az=76.0*
JMA ***10*** *03:18:59.2±0.3, 25°.95N×128°.72E, h17km±4km, M3.9*
ISCJB ***10*** *03:18:59.7±0.9, 25°.98N±0°.04×128°.73E±0°.04, h24km±6km, mb4.0/21, MS4.0/2, Error ellipse: s-maj=6.6km s-min=5.6km az=149.7*
NEIC ***10*** *03:18:59.7±0.6, 25°.91N×128°.46E, h10km, mb4.3/3, Error ellipse: s-maj=13.9km s-min=9.5km az=107.0*
MOS ***10*** *03:19:01.6±1.4, 25°.88N×128°.43E, h33km, mb4.4/5, Error ellipse: s-maj=20.6km s-min=10.7km az=108.5*

ISC 10 03:18:59.1±3.3, 25°.97N±0°.05×128°.67E±0°.05, h8km±20km, n60, σ1°.26/62, mb4.1/21, 2C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotyohara**	**0.80**	**313**	P	**Pb**	**03 19 14.8**	**-0.5**
JNTH				*e*S	**Sb**	**03 19 26.2**	**-0.1**
JJT2	**Tamagusuku 2**	**0.85**	**282**	P	**Pb**	**03 19 16.0**	**-0.1**
JJT2				*e*S	**Sb**	**03 19 27.6**	**-0.1**
JOW	**Kunigami**	**0.93**	**338**	P	**Pb**	**03 19 17.4**	**-0.1**
JOW				*e*S	**Sb**	**03 19 30.3**	**+0.2**
JOW	**Kunigami**	**0.93**	**338**	Pn	**Pb**	**03 19 17.5**	**-0.1**
	15nm,0.3s,baz=154,slow=15,SNR=53						
JOW				LR	LR	03 19 29.0	
	comp=Z,30nm,18.1s,baz=96,slow=34						
JOW	**Kunigami**	**0.93**	**338**	*e*Pg	**Pb**	**03 19 17.4**	**-0.1**
JOW				*e*S	**Sb**	**03 19 25.8**	**-4.3**
JIH	**Iheya**	**1.24**	**329**	P	**Pn**	**03 19 22.1**	**-0.6**
JOKE	**Okinoerabujima**	**1.39**	**356**	P	**Pn**	**03 19 24.3**	**-0.5**
JOKE				*e*S	**Sn**	**03 19 41.1**	**-2.4**
JAGN	**Aguni-jima**	**1.43**	**296**	P	**Pn**	**03 19 25.4**	**+0.1**
JAGN				*e*S	**Sb**	**03 19 44.6**	**+0.3**
JKE	**Kume jima 2**	**1.73**	**282**	P	**Pn**	**03 19 28.0**	**-1.5**
JTK	**Tokunoshima**	**1.83**	**8**	P	**Pn**	**03 19 30.7**	**-0.1**
JMZ	**Minamidaito 2**	**2.30**	**93**	P	**Pn**	**03 19 36.6**	**-0.7**
JMZ				*e*S	**Sn**	**03 20 02.3**	**-3.5**
JAMN	**Amaminishikomi**	**2.31**	**11**	P	**Pn**	**03 19 38.4**	**+0.9**
JAM	**Amami Oshima**	**2.57**	**19**	P	**Pn**	**03 19 40.9**	**-0.1**
JAM				*e*S	**Sn**	**03 20 09.5**	**-3.0**
NACB	**Ninganchiao**	**6.66**	**256**	*e*P	**Pn**	**03 20 34.4**	**-2.9**
	21nm,0.3s						
YULB	**Yu-li**	**7.18**	**251**	*e*Pn	Pn	03 20 40.0	-4.4
SSLB	**Suanglung**	**7.34**	**254**	*e*Pn	Pn	03 20 43.4	-3.3
	12nm,0.3s						
SSLB				*e*S	Sn	03 21 54.6	-16
JNU	**Nakatsue**	**7.38**	**15**	Pn	**Pn**	**03 20 48.0**	**+0.8**
	0.9nm,0.3s,baz=180,slow=18,SNR=6.3						
JNU				Sn	**Sn**	**03 22 11.8**	**+0.5**
	0.5nm,0.3s,baz=115,slow=19,SNR=2.5						
KSRS	**Korea Array**	**11.47**	**357**	LR	LR	03 26 31.0	
	comp=Z,111nm,19.0s,baz=177,slow=40						
YSS	**Yuzh-Sakhalins**	**23.74**	**24**	*e*P	**P**	**03 24 13.9**	**+2.2**
ULN	**Ulaanbaatar**	**27.69**	**328**	*i* P	**P**	**03 24 48.8**	**+1.0**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ULN	**Ulaanbaatar**	**27.69**	**328**	*e*P	**P**	**03 24 49.1**	**+1.3**
	comp=Z,3.8nm,0.9s						
SONM	**Songino Array**	**27.99**	**327**	P	**P**	**03 24 52.1**	**+1.7**
	comp=Z,2.1nm,0.8s,baz=138,slow=9.8,SNR=8.8						
CMAR	**Chiang Mai Arr**	**28.48**	**261**	P	**P**	**03 24 56.0**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=50,slow=6.0,SNR=4.2						
TAPN	**Taplejung**	**36.52**	**282**	*e*P	**P**	**03 26 05.7**	**+0.1**
RAMN	**Ramite**	**37.56**	**281**	*e*P	**P**	**03 26 14.1**	**-0.2**
JIRN	**Jiri**	**37.82**	**282**	*e*P	**P**	**03 26 16.8**	**+0.1**
GUN	**Gumba**	**38.06**	**283**	*e*P	**P**	**03 26 18.6**	**-0.1**
PKI	**Pulchoki**	**38.52**	**282**	*e*P	**P**	**03 26 21.9**	**-0.7**
KKN	**Kakani**	**38.60**	**283**	*e*P	**P**	**03 26 23.2**	**+0.1**
DMN	**Daman**	**38.78**	**282**	*e*P	**P**	**03 26 25.0**	**+0.3**
GKN	**Gorkha**	**39.14**	**283**	*e*P	**P**	**03 26 26.3**	**-1.3**
	comp=Z,29nm,1.1s						
PMG	**Port Moresby**	**39.49**	**151**	LR	LR	03 42 26.6	
	comp=Z,203nm,19.7s,baz=116,slow=36						
DANN	**Dangsing**	**39.86**	**284**	*e*P	**P**	**03 26 33.2**	**-0.5**
	comp=Z,42nm,1.1s						
KOLN	**Koldanda**	**40.08**	**283**	*e*P	**P**	**03 26 35.1**	**-0.4**
SEY	**Seymchan**	**40.16**	**17**	*e*P	P	03 26 38.3	+3.0
KNRA	**Kununurra**	**41.39**	**180**	P	**P**	**03 26 46.6**	**+0.6**
	baz=36,SNR=3.2						
MKAR	**Makanchi Array**	**42.01**	**312**	P	**P**	**03 26 50.2**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=97,slow=10,SNR=17						
ZALV	**Zalesovo Beam**	**42.70**	**323**	P	**P**	**03 26 55.0**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=112,slow=9.6,SNR=6.0						
KURK	**Kurchatov**	**45.28**	**317**	P	**P**	**03 27 16.0**	**-1.2**
KURK	**Kurchatov**	**45.28**	**317**	P	**P**	**03 27 16.0**	**-1.2**
KURBB	**Kurchatov Arra**	**45.32**	**317**	P	**P**	**03 27 16.0**	**-1.4**
	comp=Z,2.0nm,1.0s,baz=105,slow=8.4,SNR=8.2						
WRAB	**Tennant Creek**	**45.96**	**173**	*e*P	**P**	**03 27 23.4**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRAB	**Tennant Creek**	**45.96**	**173**	*e*P	**P**	**03 27 23.4**	**+0.7**
	comp=Z,2.6nm,0.7s						
WRA	**Warramunga Arr**	**45.97**	**173**	P	**P**	**03 27 22.7**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=353,slow=8.4,SNR=14						
BILL	**Bilibino**	**47.80**	**18**	⇓*e*P	P	03 27 41.1	+4.5
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ASAR	**Alice Springs**	**49.60**	**174**	P	**P**	**03 27 51.6**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=1.1,slow=8.9,SNR=16						
BVAR	**Borovoye Array**	**50.74**	**318**	P	**P**	**03 28 00.1**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=76,slow=9.3,SNR=6.7						
BRVK	**Borovoye**	**50.80**	**318**	*ce*P	**P**	**03 28 00.1**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ABKAR	**Akbulak array**	**57.12**	**313**	*e*P	**P**	**03 28 46.7**	**+0.7**
	comp=Z,2.3nm,0.8s						
AKTO	**Aktyubinsk**	**58.30**	**315**	P	**P**	**03 28 55.9**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=85,slow=12,SNR=4.5						
GEYT	**Alibeck**	**59.77**	**300**	P	**P**	**03 29 05.8**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=76,slow=13,SNR=3.7						
GEYT				LR	LR	03 57 33.0	
	comp=Z,111nm,21.5s,baz=225,slow=39						
ILAR	**Eielson Array**	**64.48**	**28**	P	**P**	**03 29 35.4**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=270,slow=3.3,SNR=3.8						
FINES	**FINESS Array B**	**73.29**	**331**	P	**P**	**03 30 29.6**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=73,slow=5.1,SNR=7.2						
AKASG	**Malin Array Be**	**75.99**	**320**	*ce*P	**P**	**03 30 46.0**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**75.99**	**320**	P	**P**	**03 30 45.5**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=59,slow=6.3,SNR=4.5						
BRTR	**Keskin Array B**	**77.51**	**308**	P	**P**	**03 30 56.0**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=64,slow=3.1,SNR=3.7						
YKA	**Yellowknife Ar**	**78.59**	**25**	P	**P**	**03 31 02.3**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=297,slow=5.5,SNR=8.4						
NB2	**NORSAR Subarra**	**79.72**	**334**	P	**P**	**03 31 06.8**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=53,slow=5.6						
NOA	**NORSAR Array B**	**79.72**	**334**	P	**P**	**03 31 07.2**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=55,slow=5.4,SNR=4.6						
BORG	**Borgarnes**	**86.62**	**348**	*i* P	P	03 31 49.6	+6.8

ISCJB ***10*** *03:20:18.2±0.6, 6°.90N±0°.07×72°.94W±0°.07, h166km, mb3.3/5, Error ellipse: s-maj=12.9km s-min=5.7km az=135.4*
IDC ***10*** *03:20:18.7±4.4, 7°.37N×73°.66W, h97km±50km, mb3.2/5, mb1 3.5/6, mb1mx3.3/23, mbtmp3.6/6, Error ellipse: s-maj=49.2km s-min=26.4km az=49.0*
FUNV ***10*** *03:20:20.4, 6°.87N×73°.09W, h150km, MW3.6*

ISC 10 03:20:19.2±0.9, 6°.87N±0°.08×72°.95W±0°.09, h166km, n15, σ1°.64/20, mb3.3/5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.18**	**33**	*e*P	**Pn**	**03 20 47.6**	**+0.4**
CAPV				*e*S	**Sn**	**03 21 06.5**	**-2.4**
ROSC	**El Rosal**	**2.42**	**214**	P	**Pn**	**03 20 59.7**	**-1.0**
	30nm,0.3s,baz=304,slow=1.5,SNR=180						
ROSC				S	**Sn**	**03 21 30.8**	**-1.9**
	34nm,0.3s,baz=110,slow=5.5,SNR=11						
SOCV	**Socops**	**2.51**	**56**	*e*P	**Pn**	**03 21 01.9**	**+0.7**
SOCV				*e*S	**Sn**	**03 21 33.2**	**-0.7**
VIGV	**El Vigia**	**2.51**	**39**	*e*P	**Pn**	**03 21 02.1**	**+0.8**
VIGV				*e*S	**Sn**	**03 21 32.4**	**-1.6**
VIRV	**Villa del Rosa**	**3.65**	**8**	*e*P	**Pn**	**03 21 14.5**	**-0.9**
VIRV				*e*S	**Sn**	**03 21 55.9**	**-3.5**
CURV	**Curarigua**	**4.30**	**43**	*e*P	**Pn**	**03 21 24.2**	**+0.3**
CURV				*e*S	**Sn**	**03 22 11.9**	**-2.5**
DABV	**Dabajuro**	**4.63**	**29**	*e*P	**Pn**	**03 21 28.8**	**+0.7**
SIQV	**Siquisique**	**4.88**	**39**	*e*P	**Pn**	**03 21 31.5**	**+0.1**
BAUV	**El Baul**	**5.28**	**67**	*e*S	**Sn**	**03 22 34.2**	**-3.1**
TXAR	**Lajitas Array**	**36.55**	**312**	P	**P**	**03 27 09.8**	**+0.6**
	0.4nm,0.7s,baz=128,slow=8.9,SNR=5.5						
ULM	**Lac du Bonnet**	**47.30**	**340**	P	**P**	**03 28 36.4**	**+0.5**
	0.9nm,0.4s,baz=127,slow=4.6,SNR=5.0						
PDAR	**Pinedale Array**	**48.14**	**324**	P	**P**	**03 28 43.7**	**+0.9**
	0.2nm,0.6s,baz=116,slow=8.1,SNR=3.0						
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**03 30 30.8**	**+0.9**
	0.6nm,0.5s,baz=134,slow=6.6,SNR=12						
TORD	**Torodi Ar. Bea**	**73.56**	**78**	P	P	03 31 46.3	+12
	0.2nm,1.0s,baz=276,slow=5.9,SNR=4.4						
WRA	**Warramunga Arr**	**150.51**	**241**	PKP	**PKPbc**	**03 39 52.7**	**+0.5**
	0.4nm,0.6s,baz=109,slow=3.0,SNR=4.7						

IDC ***10*** *03:24:15.0±1.7, 33°.78S×73°.35W, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.6/18, mbtmp3.5/6, ML3.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/18, Error ellipse: s-maj=32.9km s-min=31.6km az=112.0*
ISCJB ***10*** *03:24:17.7±1.1, 33°.9S±0°.1×73°.3W±0°.1, h33km, mb3.6/2, MS3.3/1, Error ellipse: s-maj=17.4km s-min=12.5km az=39.2*

ISC 10 03:24:19.9±1.3, 33°.8S±0°.1×73°.3W±0°.1, h35km, n7, σ0°.68/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.81**	**64**	Pn	**Pn**	**03 25 28.9**	**-0.9**
	0.3nm,0.3s,baz=236,slow=13,SNR=8.5						
CFAA				Sn	**Sn**	**03 26 25.1**	**+0.8**
	0.6nm,0.3s,baz=325,slow=23,SNR=9.4						
PLCA	**Paso Flores**	**7.25**	**163**	Pn	**Pn**	**03 26 03.4**	**-0.1**
	0.8nm,0.3s,baz=354,slow=13,SNR=5.1						
LPAZ	**La Paz**	**18.06**	**16**	P	**Pn**	**03 28 28.3**	**-0.4**
	0.1nm,0.3s,baz=199,slow=4.9,SNR=2.6						
SIV	**San Ignacio**	**20.89**	**35**	P	**P**	**03 28 59.6**	**+0.3**
	1.7nm,0.8s,baz=228,slow=11,SNR=4.6						
PMSA	**Palmer Station**	**31.51**	**172**	LR	LR	03 41 10.1	
	comp=Z,74nm,20.5s,baz=158,slow=32						
TXAR	**Lajitas Array**	**69.06**	**332**	P	**P**	**03 35 22.3**	**+0.1**
	0.4nm,0.6s,baz=152,slow=7.6,SNR=8.0						
TORD	**Torodi Ar. Bea**	**85.14**	**71**	P	**P**	**03 36 53.2**	**+0.5**
	0.6nm,1.2s,baz=231,slow=4.2,SNR=2.6						

DDA ***10*** *03:27:13.9, 35°.65N×29°.45E, h25km, MD3.5*
ISK ***10*** *03:27:13.3, 35°.73N×29°.49E, h12km, MD3.5*
CSEM ***10*** *03:27:16.9±0.2, 35°.86N×29°.52E, h20km, MD3.5, Error ellipse: s-maj=5.0km s-min=3.2km az=17.0*
ISCJB ***10*** *03:27:16.9±0.3, 35°.82N±0°.04×29°.56E±0°.02, h38km±18km, Error ellipse: s-maj=6.5km s-min=3.3km az=5.6*
ATH ***10*** *03:27:18.2, 36°.04N×29°.44E, h43km±13km, MD3.5/6*
NIC ***10*** *03:27:22.9, 35°.97N×30°.27E, h2km, ML3.5*
NSSC ***10*** *03:27:27.9±2.1, 35°.49N×30°.74E, h0km±145km, ML2.2*

ISC 10 03:27:17.6±1.0, 35°.87N±0°.04×29°.55E±0°.02, h31km±9km, n98, σ1°.14/106, 2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.36**	**6**	*i* P	**Pb**	**03 27 25.5**	**-0.6**
AKAS				*i* S	**Sb**	**03 27 32.3**	**+0.4**
AKAS	**Kas**	**0.36**	**6**	*i* P	**Pb**	**03 27 25.4**	**-0.6**
AKAS				*i* S	**Sb**	**03 27 32.3**	**+0.4**
FETY	**Fethiye**	**0.85**	**334**	*e*PG	Pn	03 27 32.3	-1.2
FETY	**Fethiye**	**0.85**	**334**	*e*Pg	Pn	03 27 32.3	-1.2
ELL	**Elmali**	**0.92**	**18**	*e*PG	**Pn**	**03 27 34.0**	**-0.5**
ELL	**Elmali**	**0.92**	**18**	*e*Pg	**Pn**	**03 27 34.0**	**-0.5**
DALY	**Dalyan (Mu¨la**	**1.19**	**323**	*e*PN	Pn	03 27 37.2	-0.9
DALY	**Dalyan (Mu¨la**	**1.19**	**323**	*e*Pn	Pn	03 27 37.2	-0.9
ARG	**Arkhangelos**	**1.21**	**287**	*e*PN	Pn	03 27 37.0	-1.3
ARG				*e*SN	**Sn**	**03 27 53.1**	**-0.5**
ARG	**Arkhangelos**	**1.21**	**287**	*e*P	**Pn**	**03 27 38.1**	**-0.2**
ARG				*e*S	**Sn**	**03 27 52.9**	**-0.8**
ARG	**Arkhangelos**	**1.21**	**287**	*e*Pn	Pn	03 27 37.1	-1.3
ARG	**Arkhangelos**	**1.21**	**287**	*e*P	**Pn**	**03 27 38.1**	**-0.2**
ARG				*e*Sn	**Sn**	**03 27 53.1**	**-0.5**
ANTB	**Antalya**	**1.36**	**40**	*e*PN	**Pn**	**03 27 40.6**	**+0.2**
ANTB	**Antalya**	**1.36**	**40**	*e*Pn	**Pn**	**03 27 40.6**	**+0.2**
GOLH	**Golhisar**	**1.36**	**0**	*i* P	**Pn**	**03 27 41.4**	**+0.8**
GOLH				*i* S	**Sn**	**03 27 59.2**	**+1.5**
GOLH	**Golhisar**	**1.36**	**0**	*i* P	**Pn**	**03 27 41.4**	**+0.8**
GOLH				*i* S	**Sn**	**03 27 59.2**	**+1.5**
YER	**Yerkesik**	**1.62**	**321**	*e*PN	**Pn**	**03 27 43.7**	**-0.4**
YER	**Yerkesik**	**1.62**	**321**	*e*Pn	**Pn**	**03 27 43.7**	**-0.4**
BCK	**Bucak**	**1.79**	**27**	*e*PN	**Pn**	**03 27 47.2**	**+0.7**
BCK	**Bucak**	**1.79**	**27**	*e*Pn	**Pn**	**03 27 47.2**	**+0.7**
KARP	**Karpathos**	**1.97**	**261**	*e*P	**Pn**	**03 27 49.9**	**+1.0**
KARP				*e*S	**Sn**	**03 28 12.7**	**+0.1**
KARP	**Karpathos**	**1.97**	**261**	*e*P	**Pn**	**03 27 49.9**	**+1.0**
KARP				*e*S	**Sn**	**03 28 12.7**	**+0.1**
NIS1	**Nisyros Isl.**	**2.06**	**292**	*e*PN	Pn	03 27 48.4	-1.6
NIS1	**Nisyros Isl.**	**2.06**	**292**	*e*Pn	Pn	03 27 48.4	-1.6
BDRM	**Kayabasi**	**2.08**	**306**	*i* P	**Pn**	**03 27 50.1**	**-0.2**
BDRM	**Kayabasi**	**2.08**	**306**	*i* P	**Pn**	**03 27 50.1**	**-0.2**
BDRM				*i* S	**Sb**	**03 28 20.1**	**+0.1**
ISP	**Isparta**	**2.10**	**21**	*e*PN	**Pn**	**03 27 51.4**	**+0.7**
ISP	**Isparta**	**2.10**	**21**	*e*Pn	**Pn**	**03 27 51.4**	**+0.7**
BODT	**Bodrum**	**2.17**	**304**	*e*PN	**Pn**	**03 27 51.0**	**-0.5**
BODT	**Bodrum**	**2.17**	**304**	*e*Pn	**Pn**	**03 27 51.0**	**-0.5**
GAZI	**Gazipasa**	**2.27**	**80**	*i* P	**Pn**	**03 27 52.3**	**-0.6**
GAZI				*i* S	**Sn**	**03 28 20.1**	**+0.3**
GAZI	**Gazipasa**	**2.27**	**80**	*i* P	**Pn**	**03 27 52.3**	**-0.6**
GAZI				*i* S	**Sn**	**03 28 20.1**	**+0.3**
AKMC	**Akamas**	**2.42**	**110**	⇓*i*P	**Pn**	**03 27 56.4**	**+1.4**
	baz=299						
AKMC				S	**Sn**	**03 28 21.7**	**-1.9**
AKMC	**Akamas**	**2.42**	**110**	⇓*i*P	**Pn**	**03 27 56.4**	**+1.4**
AKMC				S	**Sn**	**03 28 21.7**	**-1.9**
KHL	**Karahalli**	**2.45**	**359**	*e*PN	**Pn**	**03 27 57.2**	**+1.7**
KHL	**Karahalli**	**2.45**	**359**	*e*Pn	**Pn**	**03 27 57.2**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**2.46**	**328**	*e*PN	Pn	03 27 54.9	-0.8
AYDB	**Zeytinkoy-Aydi**	**2.46**	**328**	*e*Pn	Pn	03 27 54.9	-0.8
PPCY	**Paphos**	**2.48**	**113**	P	**Pn**	**03 27 57.6**	**+1.7**
	baz=302						
PPCY	**Paphos**	**2.48**	**113**	P	**Pn**	**03 27 57.6**	**+1.7**
ALFC	**Alevga**	**2.58**	**105**	P	**Pn**	**03 27 58.1**	**+0.8**
	baz=294						
ALFC				S	**Sn**	**03 28 25.6**	**-2.1**
ALFC	**Alevga**	**2.58**	**105**	P	**Pn**	**03 27 58.1**	**+0.8**
ALFC				S	**Sn**	**03 28 25.6**	**-2.1**
KULA	**Kula-Manisa**	**2.73**	**345**	*e*PN	**Pn**	**03 28 00.3**	**+0.9**
KULA	**Kula-Manisa**	**2.73**	**345**	*e*Pn	**Pn**	**03 28 00.3**	**+0.9**
SHUT	**Suhut-Afyon**	**2.79**	**16**	*e*PN	**Pn**	**03 28 01.5**	**+1.2**
SHUT	**Suhut-Afyon**	**2.79**	**16**	*e*Pn	**Pn**	**03 28 01.5**	**+1.2**
ERMK	**Ermenek**	**2.82**	**73**	*i* P	**Pn**	**03 28 03.6**	**+2.9**
ERMK	**Ermenek**	**2.82**	**73**	*i* P	**Pn**	**03 28 03.6**	**+2.9**
ERMK				*i* S	Sn	03 28 40.2	+6.4
LEF	**Lefka**	**2.82**	**104**	*e*PN	Pn	03 27 59.1	-1.4
LEF	**Lefka**	**2.82**	**104**	*e*Pn	Pn	03 27 59.1	-1.4
ZKR	**Zakros**	**2.83**	**255**	*e*P	**Pn**	**03 28 02.1**	**+1.5**
ZKR				*e*S	**Sn**	**03 28 33.8**	**+0.2**
ZKR	**Zakros**	**2.83**	**255**	*e*P	**Pn**	**03 28 02.1**	**+1.5**
ZKR				*e*S	**Sn**	**03 28 33.8**	**+0.2**
SMG	**Samos**	**2.85**	**311**	*e*P	**Pn**	03 28 00.1	-0.8
SMG				*e*S	**Sn**	**03 28 31.2**	**-3.0**
SMG	**Samos**	**2.85**	**311**	*e*P	Pn	03 28 00.1	-0.8
SMG				*e*S	**Sn**	**03 28 31.2**	**-3.0**
SZAC	**Souni-Zanaja**	**2.94**	**111**	P	**Pn**	**03 28 03.5**	**+1.3**
	baz=300						
SZAC	**Souni-Zanaja**	**2.94**	**111**	P	**Pn**	**03 28 03.5**	**+1.3**
KONT	**Konya--Tatoy**	**3.06**	**47**	*e*PN	**Pn**	**03 28 04.6**	**+0.8**
KONT	**Konya--Tatoy**	**3.06**	**47**	*e*Pn	**Pn**	**03 28 04.6**	**+0.8**
ALT	**Altintas**	**3.21**	**8**	*e*PN	**Pn**	**03 28 07.2**	**+1.2**
ALT	**Altintas**	**3.21**	**8**	*e*Pn	**Pn**	**03 28 07.2**	**+1.2**
BLCB	**Balcova**	**3.21**	**322**	*e*PN	**Pn**	**03 28 06.9**	**+1.0**
BLCB	**Balcova**	**3.21**	**322**	*e*Pn	**Pn**	**03 28 06.9**	**+1.0**
CSS	**Prodhromos**	**3.21**	**105**	*e*PN	**Pn**	**03 28 05.5**	**-0.4**
CSS	**Prodhromos**	**3.21**	**105**	*e*Pn	**Pn**	**03 28 05.6**	**-0.4**
LADK	**Ladik-KONYA**	**3.23**	**43**	*e*PN	**Pn**	**03 28 06.9**	**+0.6**
LADK	**Ladik-KONYA**	**3.23**	**43**	*e*Pn	**Pn**	**03 28 06.9**	**+0.6**
NPS	**Neapolis**	**3.27**	**260**	*e*P	**Pn**	**03 28 08.0**	**+1.3**
NPS				*e*S	**Sn**	**03 28 43.7**	**-0.9**
NPS	**Neapolis**	**3.27**	**260**	*e*P	**Pn**	**03 28 08.0**	**+1.3**
NPS				*e*S	**Sn**	**03 28 43.7**	**-0.9**
LFK	**Lefkose**	**3.30**	**99**	*e*PN	**Pn**	**03 28 06.5**	**-0.6**
LFK	**Lefkose**	**3.30**	**99**	*e*Pn	**Pn**	**03 28 06.5**	**-0.6**
AKS	**Akhisar**	**3.31**	**336**	*e*PN	**Pn**	**03 28 07.9**	**+0.7**
AKS	**Akhisar**	**3.31**	**336**	*e*Pn	**Pn**	**03 28 07.9**	**+0.7**
LAST	**Lasithi**	**3.40**	**259**	*e*P	**Pn**	**03 28 10.1**	**+1.5**
LAST	**Lasithi**	**3.40**	**259**	*e*P	**Pn**	**03 28 10.1**	**+1.5**
TVSB	**Tavsanli**	**3.57**	**359**	*e*PN	**Pn**	**03 28 12.3**	**+1.3**
TVSB	**Tavsanli**	**3.57**	**359**	*e*Pn	**Pn**	**03 28 12.3**	**+1.3**
CHOS	**Chios island**	**3.76**	**313**	*e*PN	**Pn**	**03 28 13.7**	**+0.2**
CHOS	**Chios island**	**3.76**	**313**	*e*P	**Pn**	**03 28 13.3**	**-0.2**
CHOS	**Chios island**	**3.76**	**313**	*e*P	**Pn**	**03 28 13.3**	**-0.2**
CHOS	**Chios island**	**3.76**	**313**	*e*Pn	**Pn**	**03 28 13.7**	**+0.2**
SVRH	**Sivrihisar-ESK**	**3.90**	**23**	*e*PN	**Pn**	**03 28 17.0**	**+1.6**
SVRH	**Sivrihisar-ESK**	**3.90**	**23**	*e*

0.7nm,0.4s,baz=138,slow=5.4,SNR=3.8
ZALV LR LR 04 13 18.7
comp=Z,124nm,21.2s,baz=250,slow=37

*IDC **10** 03:30:00.0±1.4, 35°.92S×73°.57W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.7/22, mbtmp3.5/7, ML3.4/2, MS3.0/3, Ms1 3.0/3, ms1mx2.8/20, Error ellipse: s-maj=36.7km s-min=20.6km az=73.0*
*ISCJB **10** 03:30:03.3±1.1, 35°.9S±0°.1×73°.3W±0°.2, h33km, mb3.6/4, MS3.1/2, Error ellipse: s-maj=25.6km s-min=14.8km az=178.3*
ISC 10 03:30:05.2±1.2, 35°.9S±0°.1×73°.4W±0°.2, h35km, n8, σ1§26/7, mb3.7/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.29**	**156**	Pn	**Pn**	**03 31 21.1**	**-0.6**
	0.3nm,0.3s,baz=317,slow=14,SNR=4.4						
PLCA				Lg	Lg	03 32 49.6	
	0.7nm,0.3s,baz=248,slow=20,SNR=4.8						
CFAA	**Coronel Fontan**	**6.05**	**46**	Pn	**Pn**	**03 31 31.2**	**-1.0**
	0.8nm,0.3s,baz=209,slow=5.0,SNR=38						
CFAA				LR	LR	03 34 15.9	
	comp=Z,25nm,18.7s,baz=316,slow=41						
LPAZ	**La Paz**	**20.09**	**15**	P	**P**	**03 34 36.3**	**-0.2**
	1.2nm,0.9s,baz=179,slow=2.7,SNR=4.4						
SIV	**San Ignacio**	**22.67**	**32**	P	**P**	**03 35 04.3**	**+0.7**
	2.8nm,0.8s,baz=225,slow=15,SNR=6.1						
SIV				LR	LR	03 43 11.4	
	comp=Z,46nm,20.0s,baz=244,slow=35						
BDFB	**Brasilia**	**30.31**	**55**	LR	LR	03 49 41.3	
	comp=Z,80nm,18.5s,baz=218,slow=39						
TXAR	**Lajitas Array**	**70.90**	**332**	P	**P**	**03 41 18.1**	**-0.6**
	0.4nm,0.6s,baz=153,slow=9.3,SNR=5.9						
NVAR	**Mina Array Bea**	**84.86**	**326**	P	**P**	**03 42 36.3**	**0.0**
	0.4nm,0.7s,baz=159,slow=9.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**85.87**	**71**	P	**P**	**03 42 43.6**	**+2.0**
	0.2nm,0.8s,baz=236,slow=4.9,SNR=2.5						

*ISCJB **10** 03:34:42.9±1.5, 39°.46N±0°.08×74°.90E±0°.08, h10km, Error ellipse: s-maj=13.4km s-min=7.3km az=150.7*
*KRNET **10** 03:34:42.0±0.1, 39°.48N×74°.94E, h4km, mb3.8*
*NNC **10** 03:34:45.1±1.6, 39°.64N×74°.77E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=15.3km s-min=6.3km az=136.0*
ISC 10 03:34:44.2±2.1, 39°.52N±0°.10×74°.86E±0°.07, h10km, n8, σ1§41/16, 4C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.16**	**296**	*e*P	**Pb**	**03 35 03.8**	**-2.6**
	baz=296						
SFK				*e*S	**Sb**	**03 35 21.0**	**-0.6**
	baz=296						
OHH	**Osh**	**1.88**	**303**	*e*P	**Pb**	**03 35 17.2**	**-1.5**
	baz=303						
OHH				*e*S	**Sg**	**03 35 44.8**	**0.0**
	baz=303						
NRN	**Naryn**	**2.10**	**24**	*i* P	**Pn**	**03 35 19.0**	**-0.8**
	baz=22						
ARSB	**Arslanbob**	**2.31**	**322**	*e*P	**Pn**	**03 35 22.9**	**+0.5**
	baz=322						
ARSB				*e*S	**Sb**	**03 35 54.2**	**-0.4**
	baz=322						
AAK	**Ala-Archa**	**3.12**	**355**	⇑Pn	**Pn**	**03 35 34.6**	**+1.0**
	1.5nm,0.5s						
AAK				⇓Pg	**Pb**	**03 35 38.8**	**-1.2**
	8.5nm,0.7s						
AAK				⇑Lg	Lg	03 36 17.7	
	10.0nm,0.8s						
TKM2	**Tokmak 2**	**3.44**	**9**	⇓Pn	**Pn**	**03 35 38.6**	**+0.5**
	1.7nm,0.2s						
TKM2				⇓Sn	**Sn**	**03 36 21.0**	**+1.9**
	12nm,0.5s						
DZET	**Dzherino**	**4.74**	**263**	⇓Pn	**Pn**	**03 35 56.3**	**+0.4**
DZET				⇓Sn	**Sn**	**03 36 53.8**	**+2.9**
DZET				⇑Lg	Lg	03 37 18.0	
KK31	**Karatay Array**	**4.85**	**319**	⇓Pn	**Pn**	**03 35 56.9**	**-0.4**
	0.7nm,0.6s,baz=129,slow=12,SNR=4.5						
KK31				Pg	**Pb**	**03 36 09.9**	**+0.6**
	2.2nm,0.6s,baz=134,slow=18,SNR=15						
KK31				⇓Sn	**Sn**	**03 36 54.1**	**+0.5**
	1.4nm,0.5s,baz=132,slow=24,SNR=4.2						
KK31				⇑Lg	Lg	03 37 16.7	
	4.7nm,0.8s,baz=130,slow=29,SNR=3.8						

GUC 10 03:59:15.1±0.4, 34°.03S×71°.85W, h7km±4km, ML3.5, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCH	**Chadas Angostu**	**1.00**	**85**	⇑*i*P	Pg	03 59 33.9	-0.5
IHA	**Instituto Hidr**	**1.02**	**10**	⇓*i*P	Pg	03 59 33.8	-0.9
CACH	**El Canelo**	**1.04**	**95**	⇓*i*P	Pg	03 59 35.0	-0.3
CACH				*i* S1	Sn	03 59 50.0	-1.1
NICH	**Los Niches**	**1.09**	**152**	⇑*i*P	Pg	03 59 34.8	-1.3
NICH				*i* S	Sg	03 59 50.5	+0.1
NICH				AML	AML	03 59 54.7	
	comp=E,3μm,0.6s						
ANTU	**Antumapu**	**1.11**	**66**	⇑*i*P	Pg	03 59 35.6	-0.9
ANTU				*i* S	Sg	03 59 51.0	0.0
ANTU				AML	AML	03 59 52.5	
	comp=E,2μm,0.3s						
LACH	**Col Las Americ**	**1.24**	**62**	*e*P1	Pn	03 59 37.6	-1.4
LACH				*i* S	Sb	03 59 54.5	-0.6
CLCH	**Cerro Calan**	**1.26**	**60**	*i* P	Pn	03 59 38.1	-1.2
CLCH				⇓*i*P	Pn	03 59 38.1	-1.2
CLCH				*i* S	Sb	03 59 55.3	-0.6
CLCH				AML	AML	03 59 58.5	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**1.31**	**48**	⇑*i*P	Pn	03 59 38.8	-1.1
PEL				*e*S1	Sn	03 59 57.0	-0.8
PEL				AML	AML	03 59 59.4	
	comp=E,3μm,0.4s						

*GUC **10** 04:01:41.6±0.5, 37°.14S×74°.25W, h22km±7km, ML5.5*
*IDC **10** 04:01:43.1±0.6, 37°.21S×73°.74W, h0km, mb4.3/13, mb1 4.4/16, mb1mx4.4/21, mbtmp4.2/16, ML4.0/3, MS4.4/17, Ms1 4.4/17, ms1mx4.2/28, Error ellipse: s-maj=21.6km s-min=13.3km az=83.0*
*ISCJB **10** 04:01:46.4±0.3, 37°.21S±0°.03×73°.80W±0°.07, h33km, mb4.6/26, MS4.5/15, Error ellipse: s-maj=7.7km s-min=4.7km az=175.1*
*BJI **10** 04:01:46.6, 37°.20S×74°.00W, h20km, mB5.1/4, Ms5.3/3, Ms7 5.2/3*
*NEIC **10** 04:01:48.8±1.1, 37°.16S×73°.68W, h37km±9km, mb4.8/16, Error ellipse: s-maj=13.8km s-min=6.0km az=83.0*
NEIC Felt at Chiguayante and Concepcion.
*GCMT **10** 04:01:48.8±0.4, 37°.32S×74°.12W, h15km, MW5.2/58, Moment Tensor Solution. s27,c33; s58,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.62±.11; $M_{\theta\theta}$0.09±.08; $M_{\phi\phi}$-2.71±.10; $M_{r\theta}$0.49±.36; $M_{\theta\phi}$-0.28±.08; $M_{\phi r}$-6.09±.33; Best double couple: $M_0$6.67200×10^{16} NP1:ϕ_s176.00000°, δ78.00000°, λ86.00000°. NP2: ϕ_s15.00000°, δ12.00000°, λ109.00000°. Principal axes: T 6.6520, Plg57.0000°, Azm81.0000°; N 0.0400, Plg4.0000°, Azm177.0000°; P -6.6930, Plg33.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 04:01:48.1±0.4, 37°.18S±0°.05×73°.86W±0°.07, h35km, n85, σ1§31/97, mb4.6/26, MS4.5/15, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.69**	**61**	*e*P	**Pn**	**04 01 58.8**	**-2.6**
CCSP				*i* S	**Sn**	**04 02 11.4**	**+0.5**
AGCH	**Angol**	**1.12**	**124**	*e*P	**Pn**	**04 02 05.3**	**-1.9**
AGCH				*i* S	**Sn**	**04 02 23.1**	**+1.6**
COCH	**Cobquecura**	**1.36**	**40**	*e*P	**Pn**	**04 02 07.9**	**-2.6**
LNCH	**Linares**	**2.26**	**55**	*e*P	**Pn**	**04 02 21.9**	**-1.0**
LNCH				AML	AML	04 03 10.2	
	comp=N,19μm,0.7s						
VLCH	**Valdivia**	**2.67**	**170**	⇑*i*P	**Pn**	**04 02 25.6**	**-2.9**
VLCH				AML	AML	04 03 24.0	
	comp=E,24μm,0.4s						
NICH	**Los Niches**	**3.04**	**45**	*e*P1	**Pn**	**04 02 32.5**	**-1.3**
NICH				AML	AML	04 03 44.4	
	comp=E,9μm,0.7s						
OSCH	**Osorno**	**3.44**	**171**	*i* P	Pn	04 02 35.8	-3.3
OSCH				*i* S	**Sn**	**04 03 16.8**	**-1.8**
PLCA	**Paso Flores**	**4.39**	**145**	Pn	**Pn**	**04 02 52.1**	**-0.2**
	comp=E,2.7nm,0.3s,baz=322,slow=9.8,SNR=11						
PLCA				Lg	Lg	04 03 59.4	
	comp=E,14nm,0.3s,baz=345,slow=15,SNR=3.9						
PLCA	**Paso Flores**	**4.39**	**145**	*e*Pn	**Pn**	**04 02 52.1**	**-0.2**
PLCA				*e*S	**Sn**	**04 03 44.2**	**+2.0**
PLCA				Lg	Lg	04 03 59.4	
CFAA	**Coronel Fontan**	**7.25**	**42**	Pn	**Pn**	**04 03 29.1**	**-2.5**
	comp=E,0.3nm,0.3s,baz=216,slow=14,SNR=11						
CFAA				LR	LR	04 06 55.1	
	comp=E,325nm,19.8s,baz=224,slow=43						
LCO	**Las Campanas**	**8.57**	**19**	*e*Pn	**Pn**	**04 03 48.1**	**-1.8**
	comp=E,26nm,0.6s						
TRQA	**Tornquist**	**9.47**	**99**	*e*Pn	**Pn**	**04 04 01.7**	**-0.3**
LVC	**Limon Verde**	**15.14**	**18**	*e*Pn	**Pn**	**04 05 19.8**	**+0.3**
	comp=E,216nm,2.7s						
CPUP	**Villa Florida**	**17.71**	**57**	P	**Pn**	**04 05 49.6**	**-2.3**
	comp=E,0.4nm,0.3s,baz=204,slow=12,SNR=2.8						
CPUP				LR	LR	04 12 36.4	
	comp=E,926nm,19.1s,baz=218,slow=37						
CPUP	**Villa Florida**	**17.71**	**57**	*e*Pn	**Pn**	**04 05 50.6**	**-1.3**
	comp=E,0.4nm,0.6s						
USHA	**Ushuaia**	**18.04**	**170**	P	**P**	**04 05 57.8**	**+1.8**
	comp=E,0.5nm,0.3s,baz=336,slow=8.9,SNR=5.9						
EFI	**East Falkland**	**18.30**	**147**	*e*P	**P**	**04 05 58.3**	**-0.6**
	comp=E,32nm,0.5s						
LPAZ	**La Paz**	**21.42**	**15**	P	**P**	**04 06 34.3**	**+0.5**
	comp=E,9.4nm,0.7s,baz=187,slow=5.8,SNR=29						
LPAZ	**La Paz**	**21.42**	**15**	*e*P	**P**	**04 06 34.2**	**+0.5**
	comp=E,26nm,1.0s						
SIV	**San Ignacio**	**23.96**	**32**	P	**P**	**04 06 59.0**	**-0.2**
	comp=E,8.3nm,1.0s,baz=230,slow=11,SNR=16						
SIV				LR	LR	04 18 14.8	
	comp=E,2μm,19.1s,baz=222,slow=41						
NNA	**Nana**	**25.23**	**353**	LR	LR	04 15 25.1	
	comp=E,381nm,19.2s,baz=173,slow=32						
PMSA	**Palmer Station**	**28.24**	**171**	LR	LR	04 19 54.9	
	comp=E,823nm,18.2s,baz=351,slow=39						
SAML	**Samuel**	**29.73**	**22**	*e*P	**P**	**04 07 51.6**	**+0.6**
	comp=E,4.4nm,1.0s						
BDFB	**Brasilia**	**31.38**	**54**	P	**P**	**04 08 04.9**	**-1.0**
	comp=E,5.5nm,0.8s,baz=223,slow=8.5,SNR=7.7						
BDFB				LR	LR	04 21 58.7	
	comp=E,1μm,20.1s,baz=223,slow=39						
OTAV	**Otavalo**	**37.47**	**352**	*e*P	**P**	**04 09 00.2**	**+1.3**
	comp=E,30nm,1.8s						
ROSC	**El Rosal**	**41.82**	**359**	P	**P**	**04 09 36.7**	**+1.6**
	comp=E,3.8nm,0.5s,baz=145,slow=7.1,SNR=4.3						
ROSC	**El Rosal**	**41.82**	**359**	*e*P	**P**	**04 09 38.2**	**+3.2**
SDV	**Santo Domingo**	**45.92**	**4**	*e*P	**P**	**04 10 07.8**	**+0.1**
	comp=E,3.9nm,0.8s						
RCBR	**Riachuelo**	**46.59**	**57**	LR	LR	04 31 29.4	
	comp=E,1μm,18.1s,baz=207,slow=38						
VNA3	**Neumayer Olymp**	**47.01**	**157**	P	**P**	**04 10 16.0**	**+0.6**
VNA2	**Neumayer-Watz**	**47.69**	**156**	P	**P**	**04 10 21.3**	**+0.6**
	baz=276,slow=8.9						
SNAA	**Sanae**	**49.23**	**157**	P	**P**	**04 10 32.9**	**+0.2**
SNAA	**Sanae**	**49.23**	**157**	P	**P**	**04 10 32.8**	**+0.2**
	comp=E,5.8nm,0.9s,baz=293,slow=8.2,SNR=13						
SNAA				LR	LR	04 30 53.8	
	comp=E,159nm,18.2s,baz=308,slow=36						
SNAA	**Sanae**	**49.23**	**157**	*e*P	**P**	**04 10 32.5**	**-0.1**
	comp=E,23nm,1.0s						
QSPA	**South Pole Qui**	**53.06**	**180**	P	**P**	**04 11 01.8**	**+0.2**
	comp=E,5.6nm,0.8s,baz=149,slow=1.7,SNR=18						
QSPA				LR	LR	04 33 09.0	
	comp=E,305nm,18.2s,baz=159,slow=36						
QSPA	**South Pole Qui**	**53.06**	**180**	*e*P	**P**	**04 11 01.8**	**+0.2**
	comp=E,8.0nm,1.0s						
RKT	**Rikitea**	**53.83**	**267**	*e*S	**S**	**04 18 40.3**	**+0.1**
	comp=E,198nm,26.5s						
RKT				*e*LR	LR	04 26 42.2	
	comp=E,648nm,27.0s,baz=126						
RKT	**Rikitea**	**53.83**	**267**	*e*T	T	05 08 52.5	
	comp=E,2.6nm,0.2s						
VNDA	**Vanda**	**60.69**	**192**	P	**P**	**04 11 56.4**	**+1.1**
	comp=E,1.6nm,1.0s,baz=155,slow=4.7,SNR=3.6						
VNDA				LR	LR	04 34 15.6	
	comp=E,169nm,19.6s,baz=129,slow=32						
MEH	**Mehetia**	**67.01**	**265**	*e*T	T	05 25 20.7	
	comp=E,39nm,0.2s						
PPT2	**Papeete2**	**68.36**	**264**	*e*S	**S**	**04 21 41.5**	**-4.0**
	comp=E,170nm,23.5s						
PPT2	**Papeete2**	**68.36**	**264**	*e*LR	LR	04 33 24.0	
	comp=E,586nm,24.8s,baz=117						
PPT	**Papeete**	**68.37**	**264**	LR	LR	04 34 13.4	
	comp=E,364nm,18.7s,baz=111,slow=28						
MAW	**Mawson**	**70.55**	**164**	LR	LR	04 44 00.2	
	comp=E,393nm,18.6s,baz=234,slow=36						
JCT	**Junction City**	**71.56**	**337**	*e*P	**P**	**04 13 06.8**	**+1.2**
	comp=E,14nm,1.4s						
TXAR	**Lajitas Array**	**71.83**	**333**	P	**P**	**04 13 07.6**	**+0.3**
	comp=E,1.4nm,0.7s,baz=149,slow=8.3,SNR=21						
TXAR				LR	LR	04 39 47.1	
	comp=E,152nm,18.3s,baz=0.0,slow=32						
SWET	**Sewanee**	**72.90**	**350**	*e*P	**P**	**04 13 13.9**	**+0.5**
	comp=E,14nm,0.9s						
WVT	**Waverly**	**74.08**	**348**	*e*P	**P**	**04 13 19.7**	**-0.6**
	comp=E,6.5nm,1.0s						
LIC	**Lamto**	**77.18**	**72**	*e*P	**P**	**04 13 39.5**	**+0.9**
	comp=E,48nm,1.2s						
TIC	**Toumodi**	**77.46**	**72**	*e*P	**P**	**04 13 41.0**	**+0.8**
	comp=E,5.5nm,0.2s						
KIC	**Kosan Boka**	**77.49**	**72**	*e*P	**P**	**04 13 41.0**	**+0.7**
	comp=E,44nm,1.0s						
ACSO	**Alum Creek Sta**	**77.49**	**353**	*e*P	**P**	**04 13 39.9**	**+0.1**
	comp=E,10nm,0.7s						
DBIC	**Dimbokro**	**77.60**	**72**	P	**P**	**04 13 41.6**	**+0.7**
	comp=E,9.5nm,0.9s,baz=167,slow=6.3,SNR=5.2						
DBIC				LR	LR	04 46 18.3	
	comp=E,257nm,18.0s,baz=215,slow=34						
DBIC	**Dimbokro**	**77.60**	**72**	*e*P	**P**	**04 13 41.1**	**+0.2**
	comp=E,2.9nm,0.7s						
ANMO	**Albuquerque**	**77.90**	**333**	*e*P	**P**	**04 13 42.7**	**+0.3**
	comp=E,44nm,2.8s						
BOSA	**Boshof**	**79.90**	**118**	P	**P**	**04 13 53.5**	**-0.1**
	comp=E,6.6nm,0.9s,baz=246,slow=8.1,SNR=7.5						
BOSA				LR	LR	04 46 05.8	
	comp=E,164nm,18.4s,baz=214,slow=33						
LBTB	**Lobatse**	**82.30**	**115**	*e*P	**P**	**04 14 06.6**	**+0.1**
	comp=E,9.6nm,0.7s						
ECSD	**EROS Data Cent**	**83.14**	**344**	*e*P	**P**	**04 14 10.1**	**+0.1**
	comp=E,10.0nm,1.0s						
NVAR	**Mina Array Bea**	**85.68**	**327**	P	**P**	**04 14 24.7**	**+1.4**
	comp=E,0.5nm,0.7s,baz=157,slow=4.5,SNR=4.2						
PDAR	**Pinedale Array**	**85.96**	**334**	P	**P**	**04 14 25.5**	**+0.9**
	comp=E,0.5nm,0.8s,baz=139,slow=5.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**86.67**	**71**	P	**P**	**04 14 27.1**	**-1.4**
	comp=E,2.7nm,0.9s,baz=218,slow=5.2,SNR=10						
TORD				LR	LR	04 51 52.6	
	comp=E,193nm,18.1s,baz=225,slow=35						
ESDC	**Sonseca Array**	**99.83**	**47**	LR	LR	04 59 20.4	
	comp=E,161nm,19.6s,baz=325,slow=35						
ILAR	**Eielson Array**	**116.34**	**333**	PKP	**PKPdf**	**04 20 26.2**	**-0.7**
	comp=E,0.3nm,0.9s,baz=92,slow=2.7,SNR=3.5						
WRA	**Warramunga Arr**	**117.27**	**210**	PKP	**PKPdf**	**04 20 28.9**	**-1.3**
	comp=E,0.5nm,0.6s,baz=160,slow=1.9,SNR=5.0						
BRTR	**Keskin Array B**	**124.63**	**63**	PKP	**PKPdf**	**04 20 43.5**	**-0.3**
	comp=E,1.1nm,0.8s,baz=162,slow=2.0,SNR=5.5						
AKTO	**Aktyubinsk**	**143.47**	**53**	PKhKP	PKPpre	04 21 14.2	
	comp=E,2.8nm,1.0s,baz=262,slow=4.6,SNR=4.8						
ABKAR	**Akbulak array**	**144.77**	**55**	*e*PKPdf	PKPbc	04 21 20.0	+0.3
HYB	**Hyderabad**	**148.74**	**122**	*i* PKP	**PKPbc**	**04 21 31.5**	**-0.7**
BRVK	**Borovoye**	**150.52**	**46**	*e*PKPbc	**PKPbc**	**04 21 36.7**	**+1.2**
BVAR	**Borovoye Array**	**150.59**	**46**	PKPbc	**PKPbc**	**04 21 36.7**	**+1.1**
	comp=E,3.7nm,0.8s,baz=298,slow=3.2,SNR=17						
KKAR	**Karatay Array**	**152.28**	**66**	*e*PKPbc	**PKPbc**	**04 21 40.5**	**+0.6**
EKS2	**Erkin-Say**	**154.68**	**67**	*e*PKPdf	**PKPdf**	**04 21 38.5**	**+1.8**
AAK	**Ala-Archa**	**155.21**	**67**	PKP	**PKPdf**	**04 21 37.7**	**+0.2**
	comp=E,1.1nm,0.6s,baz=210,slow=23,SNR=4.8						
AAK				PKPab	**PKPab**	**04 22 02.4**	**-0.2**
	comp=E,2.9nm,0.5s,baz=239,slow=3.4,SNR=6.1						
AAK	**Ala-Archa**	**155.21**	**67**	PKP	**PKPdf**	**04 21 37.7**	**+0.2**
AAK				*e*PKPdf	**PKPdf**	**04 21 38.5**	**+1.0**
AAK				PKPab	**PKPab**	**04 22 02.4**	**-0.2**
KURBB	**Kurchatov Arra**	**156.16**	**47**	PKP	**PKPdf**	**04 21 37.6**	**-0.7**
	comp=E,0.2nm,0.3s,baz=323,slow=2.6,SNR=3.7						
KURBB				PKPab	**PKPab**	**04 22 06.6**	**+0.5**
	comp=E,1.0nm,0.8s,baz=290,slow=5.0,SNR=6.6						
KURK	**Kurchatov**	**156.18**	**47**	PKP	**PKPdf**	**04 21 37.6**	**-0.7**
KURK				PKPab	**PKPab**	**04 22 06.6**	**+0.4**
KSH	**Kashi**	**156.28**	**75**	*e*PKP	**PKPdf**	**04 21 38.3**	**-0.7**
KSH				sPKP		04 21 52.3	
KSH				PKS	**PKSdf**	**04 25 13.2**	**+0.2**
KSH				PP	**PP**	**04 25 44.3**	**-1.2**
KSH				SKS	**SKSdf**	**04 28 42.8**	**+0.3**
KSH				SKKS	**SKKSac**	**04 32 32.8**	**+0.9**
KSH				SS	**SS**	**04 45 32.3**	**-1.3**
KSH				PPMZ			
	comp=E,44nm,4.0s						
KSH				LN			
	comp=E,42nm,4.8s						
KSH				LE			
	comp=E,38nm,4.0s						
KSH				LZ			
	comp=E,100nm,6.3s						
ZALV	**Zalesovo Beam**	**157.69**	**34**	PKP	**PKPdf**	**04 21 39.5**	**-0.6**
	comp=E,3.3nm,0.8s,baz=281,slow=2.4,SNR=9.7						
ZALV				PKPab	**PKPab**	**04 22 13.9**	**+1.3**
	comp=E,1.3nm,0.5s,baz=286,slow=4.5,SNR=3.0						
MKAR	**Makanchi Array**	**159.91**	**54**	PKP	**PKPdf**	**04 21 42.6**	**-0.4**
	comp=E,1.1nm,1.0s,baz=270,slow=1.2,SNR=5.7						
MKAR				PKPab	**PKPab**	**04 22 22.4**	**-0.1**
	comp=E,1.6nm,0.8s,baz=289,slow=2.9,SNR=11						
MKAR	**Makanchi Array**	**159.91**	**54**	PKP	**PKPdf**	**04 21 42.6**	**-0.4**
MKAR				*e*PKPdf	**PKPdf**	**04 21 43.5**	**+0.5**
MKAR				PKPab	**PKPab**	**04 22 22.4**	**-0.1**
WMQ	**Urumqi**	**164.50**	**59**	*e*PKP	**PKPdf**	**04 21 47.4**	**-0.4**
WMQ				pPKP	**pPKPdf**	**04 21 58.2**	**-1.1**
KMI	**Kunming**	**167.63**	**165**	PKP	**PKPdf**	**04 21 51.3**	**+0.2**
SONM	**Songino Array**	**169.35**	**359**	PKPab	**PKPab**	**04 23 04.9**	**+0.9**
	comp=E,0.8nm,1.0s,baz=348,slow=5.3,SNR=5.2						
HHC	**Hu-ho-hao-te**	**174.41**	**313**	*e*PKP	**PKPdf**	**04 21 54.6**	**+0.7**
HHC				PP	**PP**	**04 27 22.7**	**+3.6**
HHC				SKS	**SKSdf**	**04 28 52.5**	**-1.8**
HHC				SKKS	**SKKSac**	**04 34 03.6**	**+0.8**
HHC				SS	**SS**	**04 48 36.7**	**-0.6**
HHC				PPMZ			
	comp=E,180nm,5.1s						
HHC				LN			
	comp=E,250nm,20.6s						
HHC				LE			
	comp=E,290nm,19.8s						
HHC				LZ			
	comp=E,190nm,20.0s						
LZH	**Lanzhou**	**177.86**	**120**	*e*PKP	**PKPdf**	**04 21 52.8**	**-2.1**
LZH				pPKP	**pPKPdf**	**04 22 02.4**	**-4.0**
LZH				sPKP		04 22 07.6	

*IDC **10** 04:22:21.6±1.6, 37°.44S×73°.41W, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.7/36, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=45.5km s-min=28.5km az=79.0*
*ISCJB **10** 04:22:24.2±1.4, 37°.4S±0°.1×73°.3W±0°.3, h23km, mb3.7/4, Error ellipse: s-maj=33.9km s-min=15.3km az=172.3*
ISC 10 04:22:25.5±1.4, 37°.4S±0°.1×73°.4W±0°.2, h23km, n9, σ0§88/9, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.98**	**148**	Pn	**Pn**	**04 23 25.7**	**+0.5**
	1.4nm,0.3s,baz=321,slow=10,SNR=34						
CFAA	**Coronel Fontan**	**7.15**	**38**	Pn	**Pn**	**04 24 08.8**	**0.0**
	0.4nm,0.3s,baz=201,slow=14,SNR=21						
LPAZ	**La Paz**	**21.52**	**14**	P	**P**	**04 27 14.8**	**+1.1**
	1.6nm,0.6s,baz=223,slow=2.3,SNR=6.6						
SIV	**San Ignacio**	**23.93**	**30**	P	**P**	**04 27 38.2**	**+0.3**
	4.9nm,0.8s,baz=220,slow=11,SNR=13						
TXAR	**Lajitas Array**	**72.21**	**332**	P	**P**	**04 33 48.7**	**0.0**
	0.2nm,0.5s,baz=148,slow=8.1,SNR=5.2						
TORD	**Torodi Ar. Bea**	**86.36**	**71**	P	**P**	**04 35 05.5**	**-0.6**
	0.8nm,0.8s,baz=219,slow=5.4,SNR=7.3						
BVAR	**Borovoye Array**	**150.44**	**46**	PKPbc	**PKPbc**	**04 42 14.6**	**+0.1**
	1.2nm,0.7s,baz=305,slow=5.2,SNR=6.1						
ZALV	**Zalesovo Beam**	**157.63**	**35**	PKPab	**PKPab**	**04 42 51.6**	**+0.1**
	0.7nm,0.4s,baz=330,slow=8.6,SNR=3.6						
MKAR	**Makanchi Array**	**159.70**	**55**	PKPab	**PKPab**	**04 42 59.2**	**-1.6**
	0.3nm,0.7s,baz=274,slow=4.2,SNR=3.3						

*IDC **10** 04:24:10.8±0.8, 37°.39S×73°.60W, h0km, mb4.1/9, mb1 4.2/11, mb1mx4.1/35, mbtmp4.1/11, ML3.2/1, MS3.8/10, Ms1 3.8/10, ms1mx3.6/26, Error ellipse: s-maj=29.1km s-min=15.9km az=79.0*
*ISCJB **10** 04:24:12.6±0.7, 37°.39S±0°.08×73°.6W±0°.1, h23km, mb4.2/10, MS3.9/6, Error ellipse: s-maj=17.0km s-min=11.2km az=170.4*
*NEIC **10** 04:24:15.6±0.5, 37°.38S×73°.68W, h35km, mb4.4/4, Error ellipse: s-maj=14.7km s-min=10.4km az=81.0*
ISC 10 04:24:14.1±0.7, 37°.39S±0°.09×73°.7W±0°.1, h23km, n29, σ0§82/24, mb4.2/10, MS3.9/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.13**	**145**	Pn	**Pn**	**04 25 15.7**	**-0.2**
	baz=312,slow=13,SNR=0.9						
PLCA				Lg	Lg	04 26 22.2	
	6.8nm,0.3s,baz=49,slow=19,SNR=2.7						
PLCA				LR	LR	04 27 11.4	
	comp=Z,996nm,21.1s,baz=300,slow=44						
**C

az=168.3
NAO ***10*** *04:49:04.9±1.0, 69°.40N×11°.44E, ML3.4*
CSEM ***10*** *04:49:05.7±0.2, 69°.37N×11°.08E, h10km, ML2.9, Error ellipse: s-maj=4.0km s-min=3.5km az=167.0*
IDC ***10*** *04:49:06.1±0.9, 69°.33N×11°.38E, h0km, mb3.3/4, mb1 3.6/10, mb1mx3.3/51, mbtmp3.5/10, ML3.7/6, Error ellipse: s-maj=17.2km s-min=9.9km az=96.0*
BER ***10*** *04:49:07.9±3.2, 69°.45N×11°.35E, h10km, MD2.9, ML2.7, ML3.4(NAO)*
HEL ***10*** *04:49:08.4±0.3, 69°.35N×11°.68E, h10km, ML2.9, ML2.7(BER), ML2.7(UPP)*
UPP ***10*** *04:49:11.0, 69°.29N×12°.18E, h0km, ML2.7*
KOLA ***10*** *04:49:12.8, 68°.97N×12°.44E, h0km*

ISC 10 04:49:05.1±0.7, 69°.42N±0°.04×11°.27E±0°.05, h10km, n197, σ1§69/243, **mb3.0/3, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**1.54**	**146**	*eP*	**Pn**	**04 49 32.8**	**+0.2**
LOF				*eS*	**Sn**	**04 49 52.2**	**-0.4**
LOF				IAML		04 49 54.8	
	comp=Z,317nm,0.4s						
LOF	**Lofoten**	**1.54**	**146**	*eP*	**Pn**	**04 49 32.8**	**+0.2**
LOF				*eS*	**Sn**	**04 49 52.2**	**-0.4**
LOF				IAML		04 49 54.8	
	comp=Z,317nm,0.4s						
LOF	**Lofoten**	**1.54**	**146**	P	**Pn**	**04 49 32.8**	**+0.2**
LOF				*eS*	**Sn**	**04 49 52.2**	**-0.4**
	SNR=50						
STEI	**Steigen**	**2.09**	**134**	*eP*	**Pn**	**04 49 41.3**	**+1.1**
STEI				*eS*	**Sn**	**04 50 05.7**	**-0.4**
STEI				IAML		04 50 07.0	
	comp=Z,46nm,0.2s						
STEI	**Steigen**	**2.09**	**134**	*eP*	**Pn**	**04 49 41.3**	**+1.1**
STEI				*eS*	**Sn**	**04 50 05.7**	**-0.4**
STEI				IAML		04 50 07.0	
	comp=Z,46nm,0.2s						
STEI	**Steigen**	**2.09**	**134**	P	**Pn**	**04 49 41.2**	**+1.1**
STEI				S	**Sn**	**04 50 05.7**	**-0.4**
TRO	**Tromso**	**2.70**	**82**	*eP*	**Pn**	**04 49 49.8**	**+1.3**
TRO				*eS*	**Sn**	**04 50 18.1**	**-3.1**
TRO				IAML		04 50 21.5	
	comp=Z,65nm,0.4s						
TRO	**Tromso**	**2.70**	**82**	*eP*	**Pn**	**04 49 49.8**	**+1.3**
TRO				*eS*	**Sn**	**04 50 18.1**	**-3.1**
TRO				IAML		04 50 21.5	
	comp=Z,65nm,0.4s						
TRO	**Tromso**	**2.70**	**82**	P	**Pn**	**04 49 49.8**	**+1.3**
TRO				*eS*	**Sn**	**04 50 18.1**	**-3.1**
	SNR=50						
KONS	**Konsvik**	**3.02**	**166**	*eP*	**Pn**	**04 49 53.8**	**+0.8**
KONS				*eS*	**Sn**	**04 50 26.3**	**-2.8**
KONS				IAML		04 50 28.3	
	comp=Z,152nm,0.2s						
KONS	**Konsvik**	**3.02**	**166**	*eP*	**Pn**	**04 49 53.8**	**+0.8**
KONS				*eS*	**Sn**	**04 50 26.3**	**-2.8**
KONS				IAML		04 50 28.3	
	comp=Z,152nm,0.2s						
KONS	**Konsvik**	**3.02**	**166**	P	**Pn**	**04 49 53.7**	**+0.8**
KONS				S	**Sn**	**04 50 26.2**	**-2.8**
STOK	**Stokkvaagen**	**3.17**	**167**	*eP*	**Pn**	**04 49 56.1**	**+1.0**
STOK				*eS*	**Sn**	**04 50 31.1**	**-1.8**
STOK				IAML		04 50 32.6	
	comp=N,80nm,0.3s						
STOK	**Stokkvaagen**	**3.17**	**167**	*eP*	**Pn**	**04 49 56.1**	**+1.0**
STOK				*eS*	**Sn**	**04 50 31.1**	**-1.8**
STOK				IAML		04 50 32.6	
	comp=N,80nm,0.3s						
STOK	**Stokkvaagen**	**3.17**	**167**	P	**Pn**	**04 49 56.0**	**+1.0**
STOK				S	**Sn**	**04 50 31.0**	**-1.8**
FLOS	**Flostrand**	**3.20**	**165**	*eP*	**Pn**	**04 49 58.6**	**+3.1**
FLOS				*eS*	**Sn**	**04 50 34.4**	**+0.8**
FLOS				IAML		04 50 38.8	
	comp=Z,88nm,0.3s						
FLOS	**Flostrand**	**3.20**	**165**	*eP*	**Pn**	**04 49 58.6**	**+3.1**
FLOS				*eS*	**Sn**	**04 50 34.4**	**+0.8**
FLOS				IAML		04 50 38.8	
	comp=Z,88nm,0.3s						
FLOS	**Flostrand**	**3.20**	**165**	P	**Pn**	**04 49 58.5**	**+3.1**
FLOS				S	**Sn**	**04 50 34.3**	**+0.8**
NIKU	**Nikkaluokta**	**3.24**	**115**	*eP*	**Pn**	**04 49 58.3**	**+2.3**
NIKU				*eS*	**Sn**	**04 50 34.8**	**+0.2**
NIKU	**Nikkaluokta**	**3.24**	**115**	P	**Pn**	**04 49 58.3**	**+2.3**
NIKU				S	**Sn**	**04 50 34.8**	**+0.2**
NIKU	**Nikkaluokta**	**3.24**	**115**	P	**Pn**	**04 49 58.3**	**+2.3**
NIKU				S	**Sn**	**04 50 34.8**	**+0.2**
SALU	**Saltoluokta**	**3.37**	**124**	*eP*	**Pn**	**04 50 00.2**	**+2.3**
SALU				*eS*	**Sn**	**04 50 38.1**	**+0.3**
SALU	**Saltoluokta**	**3.37**	**124**	P	**Pn**	**04 50 00.1**	**+2.3**
SALU				S	**Sn**	**04 50 38.1**	**+0.3**
SALU	**Saltoluokta**	**3.37**	**124**	P	**Pn**	**04 50 00.2**	**+2.3**
SALU				S	**Sn**	**04 50 38.1**	**+0.3**
KIF	**Kilpisjarvi**	**3.42**	**93**	*eP*	**Pn**	**04 50 00.9**	**+2.4**
KIF				*eS*	**Sn**	**04 50 36.5**	**-2.5**
KIF				MSN		04 50 40.2	
	comp=Z,24nm,0.1s						
KIF	**Kilpisjarvi**	**3.42**	**93**	P	**Pn**	**04 50 00.8**	**+2.4**
KIF				S	**Sn**	**04 50 36.5**	**-2.5**
MOR8	**Moi Rana**	**3.48**	**158**	*eP*	**Pn**	**04 50 00.1**	**+0.8**
MOR8	**Moi Rana**	**3.48**	**158**	*eP*	**Pn**	**04 50 00.1**	**+0.8**
MOR8	**Moi Rana**	**3.48**	**158**	P	**Pn**	**04 50 00.1**	**+0.8**
KUA	**Kurravaara**	**3.62**	**110**	*eP*	**Pn**	**04 50 03.3**	**+2.1**
KUA	**Kurravaara**	**3.62**	**110**	P	**Pn**	**04 50 03.3**	**+2.1**
KUA	**Kurravaara**	**3.62**	**110**	P	**Pn**	**04 50 03.3**	**+2.1**
LANU	**Lannavaara**	**4.14**	**104**	*eP*	**Pn**	**04 50 10.2**	**+1.9**
LANU				*eS*	**Sn**	**04 50 53.0**	**-3.7**
LANU	**Lannavaara**	**4.14**	**104**	P	**Pn**	**04 50 10.2**	**+1.9**
LANU				S	**Sn**	**04 50 53.0**	**-3.7**
LANU	**Lannavaara**	**4.14**	**104**	P	**Pn**	**04 50 10.6**	**+2.3**
DUNU	**Dundret**	**4.16**	**119**	*eP*	**Pn**	**04 50 10.3**	**+1.7**
DUNU	**Dundret**	**4.16**	**119**	P	**Pn**	**04 50 10.3**	**+1.7**
DUNU	**Dundret**	**4.16**	**119**	P	**Pn**	**04 50 10.3**	**+1.7**
KTK1	**Kautokeino**	**4.29**	**90**	*eP*	**Pn**	**04 50 13.1**	**+2.8**
KTK1	**Kautokeino**	**4.29**	**90**	*eP*	**Pn**	**04 50 13.1**	**+2.8**
KTK1	**Kautokeino**	**4.29**	**90**	P	**Pn**	**04 50 13.0**	**+2.8**
MASU	**Masugnsbyn**	**4.42**	**111**	*eP*	**Pn**	**04 50 13.9**	**+1.7**
MASU	**Masugnsbyn**	**4.42**	**111**	P	**Pn**	**04 50 13.9**	**+1.7**
MASU	**Masugnsbyn**	**4.42**	**111**	P	**Pn**	**04 50 13.9**	**+1.7**
HEF	**Hetta**	**4.59**	**97**	*eP*	**Pn**	**04 50 16.5**	**+1.9**
HEF				*eS*	**Sn**	**04 51 04.2**	**-3.5**
HEF				MSN		04 51 08.3	
	comp=Z,6.1nm,0.1s						
HEF	**Hetta**	**4.59**	**97**	P	**Pn**	**04 50 16.4**	**+1.9**
HARU	**Harads**	**4.92**	**127**	*eP*	**Pn**	**04 50 20.5**	**+1.5**
HARU	**Harads**	**4.92**	**127**	P	**Pn**	**04 50 20.5**	**+1.5**
HARU	**Harads**	**4.92**	**127**	P	**Pn**	**04 50 20.5**	**+1.5**
NSS	**Namsos**	**4.92**	**176**	*eP*	**Pn**	**04 50 20.2**	**+1.1**
NSS				*eS*	**Sn**	**04 51 14.7**	**-1.2**
NSS				IAML		04 51 16.9	
	comp=Z,33nm,0.2s						
NSS	**Namsos**	**4.92**	**176**	*eP*	**Pn**	**04 50 20.2**	**+1.1**
NSS				*eS*	**Sn**	**04 51 14.7**	**-1.2**
NSS				IAML		04 51 16.9	
	comp=Z,33nm,0.2s						
NSS	**Namsos**	**4.92**	**176**	P	**Pn**	**04 50 20.1**	**+1.1**
NSS				S	**Sn**	**04 51 14.7**	**-1.2**
ARA0	**ARCESS Array S**	**5.01**	**82**	Pn	**Pn**	**04 50 21.9**	**+1.6**
	baz=275,slow=14						
ARA0				Sn	**Sn**	**04 51 14.8**	**-3.4**
	baz=267,slow=22						
ARA0	**ARCESS Array S**	**5.01**	**82**	Pn	**Pn**	**04 50 21.9**	**+1.6**
	baz=275,slow=14						
ARA0				Sn	**Sn**	**04 51 14.8**	**-3.4**
	baz=267,slow=22						
ARA0	**ARCESS Array S**	**5.01**	**82**	*eP*	**Pn**	**04 50 21.9**	**+1.6**
ARA0				*eS*	**Sn**	**04 51 14.8**	**-3.4**
ARA0	**ARCESS Array S**	**5.01**	**82**	Pn	**Pn**	**04 50 21.9**	**+1.6**
	SNR=50						
ARA0				S	**Sn**	**04 51 14.7**	**-3.4**
ARCES	**ARCESS Array B**	**5.01**	**82**	Pn	**Pn**	**04 50 22.1**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=278,slow=12,SNR=55						
ARCES				Sn	**Sn**	**04 51 14.8**	**-3.3**
	comp=Z,5.8nm,0.3s,baz=267,slow=20,SNR=8.5						
ARE0	**ARCESS Array S**	**5.01**	**82**	*eP*	**Pn**	**04 50 22.4**	**+2.2**
ARE0				*eS*	**Sn**	**04 51 14.7**	**-3.4**
ARE0	**ARCESS Array S**	**5.01**	**82**	*eP*	**Pn**	**04 50 22.2**	**+1.9**
ARE0				*eP*	Pb	04 50 22.4	-10
ARE0				*eS*	Sn	04 51 13.9	-4.3
ARE0				*eS*	Sb	04 51 14.7	-18
ARE0	**ARCESS Array S**	**5.01**	**82**	P	**Pn**	**04 50 22.1**	**+1.9**
ARE0				S	Sn	04 51 13.8	-4.3
LILU	**Lilltraesk**	**5.31**	**137**	*eP*	**Pn**	**04 50 26.0**	**+1.6**
LILU	**Lilltraesk**	**5.31**	**137**	P	**Pn**	**04 50 26.0**	**+1.6**
LILU	**Lilltraesk**	**5.31**	**137**	P	**Pn**	**04 50 26.0**	**+1.6**
KEV	**Kevo**	**5.52**	**79**	*eP*	**Pn**	**04 50 28.9**	**+1.7**
KEV				*eS*	Sn	04 51 26.3	-4.2
KEV				MSN		04 51 27.4	
	comp=Z,6.4nm,0.2s						
KEV	**Kevo**	**5.52**	**79**	P	**Pn**	**04 50 28.8**	**+1.7**
SJUU	**Sjulsmark**	**5.59**	**130**	*eP*	**Pn**	**04 50 29.7**	**+1.5**
SJUU	**Sjulsmark**	**5.59**	**130**	P	**Pn**	**04 50 29.6**	**+1.5**
SJUU	**Sjulsmark**	**5.59**	**130**	P	**Pn**	**04 50 29.7**	**+1.5**
KALU	**Kalix**	**5.83**	**122**	*eP*	**Pn**	**04 50 32.6**	**+1.1**
KALU				*eS*	Sn	04 51 33.4	-4.9
KALU	**Kalix**	**5.83**	**122**	P	**Pn**	**04 50 32.6**	**+1.1**
KALU	**Kalix**	**5.83**	**122**	P	**Pn**	**04 50 32.8**	**+1.3**
SVAU	**Svanoeiden**	**5.92**	**143**	*eP*	**Pn**	**04 50 34.4**	**+1.7**
SVAU	**Svanoeiden**	**5.92**	**143**	P	**Pn**	**04 50 34.4**	**+1.7**
SVAU	**Svanoeiden**	**5.92**	**143**	P	**Pn**	**04 50 34.4**	**+1.7**
SGF	**Sodankyl**	**5.96**	**102**	*eP*	**Pn**	**04 50 34.5**	**+1.1**
SGF				*eS*	Sn	04 51 36.6	-4.9
SGF	**Sodankyl**	**5.96**	**102**	P	**Pn**	**04 50 34.4**	**+1.1**
SGF				S	Sn	04 51 36.6	-4.9
NOD	**Norderasen**	**6.18**	**165**	*eP*	**Pn**	**04 50 38.1**	**+1.8**
NOD				*eS*	**Sn**	**04 51 44.1**	**-2.7**
NOD	**Norderasen**	**6.18**	**165**	P	**Pn**	**04 50 38.1**	**+1.8**
NOD				S	**Sn**	**04 51 44.1**	**-2.7**
NOD	**Norderasen**	**6.18**	**165**	P	**Pn**	**04 50 38.1**	**+1.8**
NOD				S	**Sn**	**04 51 44.1**	**-2.7**
RNF	**Rovaniemi**	**6.21**	**110**	*eP*	**Pn**	**04 50 37.9**	**+1.2**
RNF				*eS*	Sn	04 51 42.4	-5.2
RNF	**Rovaniemi**	**6.21**	**110**	P	**Pn**	**04 50 37.8**	**+1.2**
TBLU	**Trondheim**	**6.21**	**184**	*eP*	**Pn**	**04 50 35.1**	**-1.7**
TBLU				IAML		04 51 45.8	
	comp=Z,18nm,0.2s						
TBLU	**Trondheim**	**6.21**	**184**	*eP*	**Pn**	**04 50 35.1**	**-1.7**
	SNR=49						
SOLU	**Sollefteaa**	**6.65**	**156**	*eP*	**Pn**	**04 50 44.5**	**+1.8**
SOLU	**Sollefteaa**	**6.65**	**156**	P	**Pn**	**04 50 44.5**	**+1.8**
SOLU	**Sollefteaa**	**6.65**	**156**	P	**Pn**	**04 50 44.5**	**+1.8**
JNE	**Jan Mayen East**	**6.82**	**292**	*eP*	**Pn**	**04 50 45.3**	**+0.3**
JNE	**Jan Mayen East**	**6.82**	**292**	*eP*	**Pn**	**04 50 45.3**	**+0.3**
JNE	**Jan Mayen East**	**6.82**	**292**	P	**Pn**	**04 50 45.3**	**+0.3**
JNW	**Jan Mayen West**	**6.86**	**293**	*eP*	**Pn**	**04 50 45.5**	**-0.1**
JNW	**Jan Mayen West**	**6.86**	**293**	*eP*	**Pn**	**04 50 45.5**	**-0.1**
JNW	**Jan Mayen West**	**6.86**	**293**	*eP*	**Pn**	**04 50 45.5**	**-0.1**
	SNR=47						
JMIC	**Jan Mayen**	**6.88**	**292**	Pn	**Pn**	**04 50 45.6**	**-0.3**
JMIC	**Jan Mayen**	**6.88**	**292**	Pn	**Pn**	**04 50 45.6**	**-0.3**
JMIC	**Jan Mayen**	**6.88**	**292**	*e*	**Pn**	**04 50 45.6**	**-0.3**
JMIC	**Jan Mayen**	**6.88**	**292**	Pn	**Pn**	**04 50 45.6**	**-0.3**
	SNR=50						
VRF	**Varrio**	**6.91**	**95**	*eP*	**Pn**	**04 50 47.5**	**+1.1**
VRF				*eS*	Sn	04 51 58.9	-6.1
VRF				MSN		04 52 06.3	
	comp=Z,1.8nm,0.1s						
VRF	**Varrio**	**6.91**	**95**	P	**Pn**	**04 50 47.4**	**+1.1**
JMI	**Jan Mayen**	**6.95**	**292**	*eP*	**Pn**	**04 50 47.1**	**+0.2**
JMI	**Jan Mayen**	**6.95**	**292**	*eP*	**Pn**	**04 50 47.1**	**+0.2**
JMI	**Jan Mayen**	**6.95**	**292**	P	**Pn**	**04 50 47.0**	**+0.2**
MOL	**Molde**	**7.05**	**194**	*eP*	**Pn**	**04 50 47.9**	**-0.3**
MOL				IAML		04 52 09.1	
	comp=Z,10.0nm,0.2s						
MOL	**Molde**	**7.05**	**194**	*eP*	**Pn**	**04 50 47.9**	**-0.3**
MOL				IAML		04 52 09.1	
	comp=Z,10.0nm,0.2s						
MOL	**Molde**	**7.05**	**194**	*eP*	**Pn**	**04 50 47.9**	**-0.3**
	SNR=47						
OUL	**Oulu**	**7.14**	**121**	*eP*	**Pn**	**04 50 50.3**	**+0.9**
OUL				*eS*	Sn	04 52 05.3	-5.1
OUL	**Oulu**	**7.14**	**121**	P	**Pn**	**04 50 50.3**	**+0.9**
OUL				S	Sn	04 52 05.3	-5.1
AKN	**Aaknes**	**7.48**	**196**	Pn	**Pn**	**04 50 54.0**	**-0.2**
AKN	**Aaknes**	**7.48**	**196**	*eP*	**Pn**	**04 50 54.0**	**-0.2**
AKN				IAML		04 52 17.5	
	comp=Z,8.0nm,0.2s						
AKN	**Aaknes**	**7.48**	**196**	*eP*	**Pn**	**04 50 54.0**	**-0.2**
AKN				IAML		04 52 17.5	
	comp=Z,8.0nm,0.2s						
AKN	**Aaknes**	**7.48**	**196**	*eP*	**Pn**	**04 50 54.0**	**-0.2**
	SNR=47						
MSF	**Maaselka**	**7.62**	**109**	*eP*	**Pn**	**04 50 56.6**	**+0.6**
MSF				*eS*	Sn	04 52 15.4	-6.8
MSF	**Maaselka**	**7.62**	**109**	P	**Pn**	**04 50 56.6**	**+0.6**
HSP	**Hornsund**	**7.72**	**7**	*eP*	**Pn**	**04 50 57.9**	**+0.5**
KU6	**Riekki**	**7.84**	**107**	*eP*	**Pn**	**04 50 59.9**	**+0.9**
KU6				*eS*	Sn	04 52 20.9	-6.7
KU6				MSN		04 52 30.4	
	comp=Z,2.2nm,0.2s						
KU6	**Riekki**	**7.84**	**107**	P	**Pn**	**04 50 59.9**	**+0.9**
VAF	**Ylistaro**	**7.88**	**139**	*eP*	**Pn**	**04 51 01.0**	**+1.5**
VAF				*eS*	**Sn**	**04 52 23.7**	**-4.9**
VAF	**Ylistaro**	**7.88**	**139**	P	**Pn**	**04 51 01.0**	**+1.5**
ARNU	**Arnoeviken**	**8.16**	**159**	*eP*	**Pn**	**04 51 04.5**	**+1.0**
ARNU				*eS*	**Sn**	**04 52 30.6**	**-5.0**
ARNU	**Arnoeviken**	**8.16**	**159**	P	**Pn**	**04 51 04.4**	**+1.0**
ARNU				S	**Sn**	**04 52 30.5**	**-5.0**
ARNU	**Arnoeviken**	**8.16**	**159**	P	**Pn**	**04 51 04.5**	**+1.0**
ARNU				S	**Sn**	**04 52 30.6**	**-5.0**
APA0	**Apatity Array**	**8.16**	**93**	P	**Pn**	**04 51 04.1**	**+0.7**
APA0				S	Sn	04 52 28.0	-7.6
FOO	**Floro**	**8.27**	**201**	*eP*	**Pn**	**04 51 05.0**	**+0.1**
FOO				IAML		04 52 39.5	
	comp=Z,2.4nm,0.2s						
FOO	**Floro**	**8.27**	**201**	*eP*	**Pn**	**04 51 05.0**	**+0.1**
FOO				IAML		04 52 39.5	
	comp=Z,2.4nm,0.2s						
FOO	**Floro**	**8.27**	**201**	P	**Pn**	**04 51 04.9**	**+0.1**
KJN	**Kajaani**	**8.40**	**122**	*eP*	**Pn**	**04 51 07.5**	**+0.8**
KJN				*eS*	Sn	04 52 34.7	-6.8
KJN	**Kajaani**	**8.40**	**122**	P	**Pn**	**04 51 07.5**	**+0.8**
NB2	**NORSAR Subarra**	**8.42**	**180**	Pn	**Pn**	**04 51 07.5**	**+0.4**
	baz=1.0,slow=14						
NB2	**NORSAR Subarra**	**8.42**	**180**	Pn	**Pn**	**04 51 07.5**	**+0.4**
	baz=1.0,slow=14						
NB2	**NORSAR Subarra**	**8.42**	**180**	*eP*	**Pn**	**04 51 07.5**	**+0.4**
NB2	**NORSAR Subarra**	**8.42**	**180**	P	**Pn**	**04 51 07.4**	**+0.4**
NOA	**NORSAR Array B**	**8.42**	**180**	Pn	**Pn**	**04 51 07.3**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=349,slow=12,SNR=29						
NOA				Sn	Sn	04 52 33.4	-8.7
	comp=Z,1.1nm,0.3s,baz=278,slow=6.3,SNR=5.2						
HYA	**Hoyanger**	**8.56**	**197**	*eP*	**Pn**	**04 51 09.3**	**+0.4**
HYA	**Hoyanger**	**8.56**	**197**	*eP*	**Pn**	**04 51 09.3**	**+0.4**
HYA	**Hoyanger**	**8.56**	**197**	P	**Pn**	**04 51 09.2**	**+0.4**
SPA0	**Spitsbergen Ar**	**8.91**	**7**	Pn	**Pn**	**04 51 14.7**	**+1.0**
	baz=180,slow=18						
SPA0				Sn	Sn	04 52 47.7	-6.3
	baz=165,slow=18						
SPA0	**Spitsbergen Ar**	**8.91**	**7**	Pn	**Pn**	**04 51 14.7**	**+1.0**
	baz=180,slow=18						
SPA0				Sn	Sn	04 52 47.7	-6.3
	baz=165,slow=18						
SPA0	**Spitsbergen Ar**	**8.91**	**7**	*eP*	**Pn**	**04 51 14.7**	**+1.0**
SPA0				*e*		04 52 47.7	
SPA0	**Spitsbergen Ar**	**8.91**	**7**	P	**Pn**	**04 51 14.7**	**+1.0**
SPITS	**Spitsbergen Ar**	**8.91**	**7**	Pn	**Pn**	**04 51 15.0**	**+1.3**
	baz=169,slow=16,SNR=90						
SPITS				Sn	**Sn**	**04 52 50.7**	**-3.3**
	baz=180,slow=22,SNR=6.5						
IGGU	**Iggoen**	**8.95**	**161**	*eP*	**Pn**	**04 51 15.1**	**+0.9**
IGGU	**Iggoen**	**8.95**	**161**	P	**Pn**	**04 51 15.1**	**+0.9**
IGGU	**Iggoen**	**8.95**	**161**	P	**Pn**	**04 51 15.1**	**+0.9**
SUF	**Sumiainen**	**9.02**	**131**	*eP*	**Pn**	**04 51 16.2**	**+0.9**
SUF				*eS*	Sn	04 52 49.6	-7.1
SUF	**Sumiainen**	**9.02**	**131**	P	**Pn**	**04 51 16.1**	**+0.9**
FALU	**Falun**	**9.17**	**166**	*eP*	**Pn**	**04 51 18.2**	**+1.0**
FALU	**Falun**	**9.17**	**166**	P	**Pn**	**04 51 18.2**	**+1.0**
FALU	**Falun**	**9.17**	**166**	P	**Pn**	**04 51 18.2**	**+1.0**
ASK	**Askoy**	**9.33**	**199**	*eP*	**Pn**	**04 51 18.4**	**-1.1**
ASK	**Askoy**	**9.33**	**199**	*eP*	**Pn**	**04 51 18.4**	**-1.1**
RUND	**Rundenannen**	**9.38**	**198**	*eP*	**Pn**	**04 51 19.2**	**-1.0**
RUND	**Rundenannen**	**9.38**	**198**	*eP*	**Pn**	**04 51 19.2**	**-1.0**
RUND	**Rundenannen**	**9.38**	**198**	P	**Pn**	**04 51 19.2**	**-1.0**
HFS	**Hagfors**	**9.38**	**173**	Pn	**Pn**	**04 51 20.5**	**+0.3**
	baz=351,slow=16						
HFS	**Hagfors**	**9.38**	**173**	Pn	**Pn**	**04 51 20.5**	**+0.3**
	baz=351,slow=16						
HFS	**Hagfors**	**9.38**	**173**	Pn	**Pn**	**04 51 21.1**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=2.8,slow=14,SNR=18						
HFS	**Hagfors**	**9.38**	**173**	*eP*	**Pn**	**04 51 20.5**	**+0.3**
HFS	**Hagfors**	**9.38**	**173**	P	**Pn**	**04 51 20.5**	**+0.3**
RAF	**Rauma**	**9.50**	**147**	*eP*	**Pn**	**04 51 21.8**	**0.0**
RAF				*eS*	Sn	04 53 02.5	-5.8
RAF	**Rauma**	**9.50**	**147**	P	**Pn**	**04 51 21.7**	**0.0**
RAF				S	Sn	04 53 02.5	-5.8
OSTU	**Oestervaala**	**9.56**	**162**	*eP*	**Pn**	**04 51 23.4**	**+0.9**
OSTU	**Oestervaala**	**9.56**	**162**	P	**Pn**	**04 51 23.4**	**+0.9**
OSTU	**Oestervaala**	**9.56**	**162**	P	**Pn**	**04 51 23.4**	**+0.9**
KAF	**Kangasniemi**	**9.56**	**133**	*eP*	**Pn**	**04 51 23.1**	**+0.5**
KAF				*eS*	Sn	04 53 02.5	-7.4
KAF	**Kangasniemi**	**9.56**	**133**	P	**Pn**	**04 51 23.1**	**+0.5**
GRAU	**Graesoe**	**9.62**	**158**	*eP*	**Pn**	**04 51 24.8**	**+1.3**
GRAU	**Graesoe**	**9.62**	**158**	P	**Pn**	**04 51 24.8**	**+1.3**
GRAU	**Graesoe**	**9.62**	**158**	P	**Pn**	**04 51 24.8**	**+1.3**
ODD1	**Odda**	**9.75**	**194**	*eP*	**Pn**	**04 51 24.4**	**-0.9**
ODD1	**Odda**	**9.75**	**194**	*eP*	**Pn**	**04 51 24.4**	**-0.9**
ODD1	**Odda**	**9.75**	**194**	P	**Pn**	**04 51 24.4**	**-0.9**
AAL	**Aland**	**9.98**	**154**	*eP*	**Pn**	**04 51 29.4**	**+1.0**
AAL				*eS*	**Sn**	**04 53 14.6**	**-5.7**
AAL	**Aland**	**9.98**	**154**	P	**Pn**	**04 51 29.4**	**+1.0**
FIA0	**FINESS Array S**	**10.07**	**135**	Pn	**Pn**	**04 51 30.3**	**+0.7**
	baz=326,slow=12						
FIA0				Sn	Sn	04 53 15.0	-7.4
	baz=331,slow=22						
FIA0	**FINESS Array S**	**10.07**	**135**	Pn	**Pn**	**04 51 30.3**	**+0.7**
	baz=326,slow=12						
FIA0				Sn	Sn	04 53 15.0	-7.4
	baz=331,slow=22						
FIA0	**FINESS Array S**	**10.07**	**135**	*eP*	**Pn**	**04 51 29.6**	**0.0**
FIA0				*eS*	Sn	04 53 14.2	-8.2
FIA0	**FINESS Array S**	**10.07**	**135**	P	**Pn**	**04 51 29.5**	**-0.1**
FIA0	**FINESS Array S**	**10.07**	**135**	Pn	**Pn**	**04 51 30.3**	**+0.7**
	SNR=50						
FINES	**FINESS Array B**	**10.07**	**135**	Pn	**Pn**	**04 51 29.6**	**0.0**
	comp=Z,0.8nm,0.3s,baz=336,slow=13,SNR=38						
FINES				Sn	Sn	04 53 15.0	-7.4
	comp=Z,1.4nm,0.3s,baz=325,slow=22,SNR=8.2						
BLS5	**Blasjo**	**10.25**	**194**	*eP*	**Pn**	**04 51 32.4**	**+0.3**
BLS5	**Blasjo**	**10.25**	**194**	*eP*	**Pn**	**04 51 32.4**	**+0.3**
BLS5	**Blasjo**	**10.25**	**194**	P	**Pn**	**04 51 32.4**	**+0.3**
JOF	**Joensuu**	**10.36**	**119**	*eP*	**Pn**	**04 51 33.0**	**-0.6**
JOF				*eS*	Sn	04 53 20.5	-9.0
JOF	**Joensuu**	**10.36**	**119**	P	**Pn**	**04 51 32.9**	**-0.6**
KMY	**Karmoy**	**10.57**	**197**	*eP*	**Pn**	**04 51 36.5**	**+0.1**
KMY	**Karmoy**	**10.57**	**197**	*eP*	**Pn**	**04 51 36.5**	**+0.1**
KMY	**Karmoy**	**10.57**	**197**	P	**Pn**	**04 51 36.5**	**+0.1**
MEF	**Metsahovi**	**10.77**	**143**	*eP*	**Pn**	**04 51 38.5**	**-0.6**
MEF				*eS*	Sn	04 53 32.0	-7.5
MEF	**Metsahovi**	**10.77**	**143**	P	**Pn**	**04 51 38.4**	**-0.6**
PVF	**Pernaja**	**10.80**	**138**	*eP*	**Pn**	**04 51 39.9**	**+0.2**
PVF				*eS*	Sn	04 53 32.4	-8.0
PVF	**Pernaja**	**10.80**	**138**	P	**Pn**	**04 51 39.8**	**+0.2**
VJF	**Virojoki**	**11.22**	**135**	*eP*	**Pn**	**04 51 44.6**	**-0.7**
VJF				*eS*	Sn	04 53 41.4	-9.2
VJF	**Virojoki**	**11.22**	**135**	P	**Pn**	**04 51 44.5**	**-0.7**
EKA	**Eskdalemuir Ar**	**15.57**	**212**	Pn	**Pn**	**04 52 43.9**	**-0.4**
	baz=21,slow=12,SNR=6.7						
AKASG	**Malin Array Be**	**20

mb5.0/46
ISC 10 05:19:06.3±0.4, 18°50S±0°05×169°01E±0°05, h218km±2km, h218km:pP-P, n422, c0=97/417, mb4.9/82, 74C-52D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.14**	**208**	*e*S	S	05 21 12.4	+11
DZM	**Mont Dzumac**	**4.29**	**214**	P	**Pn**	**05 20 11.8**	**-0.6**
	51nm,0.3s,baz=291,slow=23,SNR=266						
DZM				S	**S**	**05 21 02.9**	**-1.4**
	8.4nm,0.3s,baz=204,slow=5.1,SNR=6.4						
NOUC	**Port Laguerre**	**4.39**	**215**	*e*P	**Pn**	**05 20 12.2**	**-1.3**
NOUC				*e*S	S	05 21 16.2	+10
NOUC				AMP		05 21 36.3	
	comp=Z,111nm,5.2s						
NORM	**Noumea**	**4.40**	**212**	*e*P	**Pn**	**05 20 12.2**	**-1.4**
MSVF	**Nonsavu**	**8.64**	**86**	Pn	**Pn**	**05 21 09.6**	**+1.7**
	comp=Z,973nm,1.0s,SNR=12						
MSVF	**Nonsavu**	**8.64**	**86**	*e*P	**Pn**	**05 21 09.3**	**+1.4**
MSVF	**Nonsavu**	**8.64**	**86**	*e*Pn	**Pn**	**05 21 09.3**	**+1.4**
NFK	**Norfolk Island**	**10.54**	**185**	P	**P**	**05 21 37.5**	**-1.0**
	baz=11,SNR=3.5						
OUZ	**Omahuta**	**17.14**	**167**	*e*Pn	**Pn**	**05 22 53.5**	**+0.3**
	comp=Z,423nm,1.0s						
EIDS	**Eidsvold**	**17.97**	**244**	P	**Pn**	**05 23 03.5**	**+0.4**
	baz=18,SNR=4.0						
EIDS	**Eidsvold**	**17.97**	**244**	*e*Pn	**Pn**	**05 23 03.0**	**-0.1**
	comp=Z,68nm,2.0s						
RMQ	**Roma**	**20.31**	**243**	P	**P**	**05 23 28.2**	**+2.4**
	baz=20,SNR=5.6						
URZ	**Urewera**	**20.92**	**162**	P	**P**	**05 23 32.7**	**+0.5**
	comp=Z,12nm,0.3s,baz=274,slow=3.0,SNR=34						
URZ	**Urewera**	**20.92**	**162**	*e*P	**P**	**05 23 33.4**	**+1.3**
CTA	**Charters Tower**	**21.53**	**262**	P	**P**	**05 23 40.0**	**+1.4**
	comp=Z,9.8nm,0.7s,baz=94,slow=11,SNR=7.3						
CTA				S	**S**	**05 27 25.1**	**+2.5**
	comp=Z,4.9nm,0.9s,baz=209,slow=8.2,SNR=3.0						
CTAO	**Charters Tower**	**21.53**	**262**	*e*P	**P**	**05 23 38.0**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,29nm,1.3s						
CTAO	**Charters Tower**	**21.53**	**262**	*e*P	**P**	**05 23 38.0**	**-0.6**
	comp=Z,29nm,1.3s						
BKZ	**Black Stump Fm**	**21.59**	**164**	*e*P	**P**	**05 23 39.7**	**+0.6**
	comp=Z,68nm,1.0s						
BFZ	**Birch Farm**	**22.96**	**166**	*e*P	**P**	**05 23 52.5**	**+0.8**
	comp=Z,54nm,1.1s						
PMG	**Port Moresby**	**23.03**	**290**	P	**P**	**05 23 53.5**	**+1.0**
	comp=Z,18nm,0.6s,baz=91,slow=7.6,SNR=8.8						
SNZO	**South Karori**	**23.25**	**169**	*e*P	**P**	**05 23 55.2**	**+1.0**
	comp=Z,109nm,1.4s						
MTSU	**Mount Surprise**	**23.44**	**267**	P	**P**	**05 23 58.3**	**+2.0**
	baz=24,SNR=22						
KHZ	**Kahutara**	**24.15**	**172**	*e*P	**P**	**05 24 03.4**	**+1.0**
CMSA	**Cobar Meteorol**	**24.73**	**234**	P	**P**	**05 24 09.5**	**+1.6**
	baz=25,SNR=7.5						
COEN	**Coen**	**25.20**	**277**	P	**P**	**05 24 15.8**	**+3.6**
	baz=25,SNR=3.7						
QIS	**Mount Isa**	**27.77**	**261**	P	**P**	**05 24 36.2**	**+1.0**
	baz=28,SNR=3.3						
STKA	**Stephens Creek**	**28.06**	**236**	P	**P**	**05 24 37.6**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=75,slow=8.5,SNR=6.0						
STKA				PcP	**PcP**	**05 27 46.7**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=29,slow=2.8,SNR=4.4						
STKA	**Stephens Creek**	**28.06**	**236**	P	**P**	**05 24 39.1**	**+1.5**
	baz=28,SNR=4.7						
STKA				S	S	05 29 17.5	+11
	baz=28,SNR=117						
HTT	**Hallett**	**30.72**	**235**	P	**P**	**05 25 02.6**	**+1.4**
	baz=31,SNR=4.4						
WB2	**Warramunga Arr**	**32.72**	**262**	*e*P	**P**	**05 25 17.5**	**-1.2**
WRAB	**Tennant Creek**	**32.72**	**262**	P	**P**	**05 25 18.3**	**-0.4**
	comp=Z,46nm,0.4s,SNR=26						
WRAB	**Tennant Creek**	**32.72**	**262**	*e*P	**P**	**05 25 17.9**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,16nm,1.5s						
WRAB	**Tennant Creek**	**32.72**	**262**	*e*P	**P**	**05 25 17.9**	**-0.8**
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**32.73**	**262**	P	**P**	**05 25 18.1**	**-0.7**
	comp=Z,3.9nm,0.5s,baz=82,slow=6.6,SNR=50						
WRA				PP	**PP**	**05 26 39.6**	**+2.1**
	comp=Z,1.2nm,0.6s,baz=90,slow=10,SNR=5.2						
WRA				PcP	**PcP**	**05 27 58.5**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=87,slow=2.3,SNR=9.9						
WRA				S	**S**	**05 30 17.1**	**-2.1**
	comp=Z,9.6nm,1.1s,baz=89,slow=16,SNR=16						
WRA				ScP	**ScP**	**05 31 23.9**	**+1.6**
	comp=Z,1.4nm,0.9s,baz=85,slow=3.5,SNR=6.6						
WRA				LR	LR	05 38 49.2	
	comp=Z,92nm,18.5s,baz=290,slow=36						
BBOO	**Buckleboo**	**32.78**	**238**	P	**P**	**05 25 20.3**	**+1.2**
	baz=33,SNR=5.0						
ASAR	**Alice Springs**	**33.10**	**255**	P	**P**	**05 25 21.9**	**0.0**
	comp=Z,24nm,0.5s,baz=81,slow=8.7,SNR=335						
ASAR				pP	**pP**	**05 26 08.4**	**+2.0**
	comp=Z,9.7nm,0.8s,baz=84,slow=8.8,SNR=2.8						
ASAR				PcP	**PcP**	**05 27 59.8**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=97,slow=3.1,SNR=6.8						
ASAR				S	**S**	**05 30 23.9**	**-0.9**
	comp=Z,4.0nm,1.0s,baz=86,slow=16,SNR=15						
ASAR				ScP	**ScP**	**05 31 25.4**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=86,slow=3.8,SNR=3.9						
ASAR				LR	LR	05 39 46.9	
	comp=Z,61nm,18.7s,baz=79,slow=37						
KDU	**Kakadu**	**35.61**	**274**	P	**P**	**05 25 43.9**	**+0.3**
	baz=36,SNR=5.7						
MTN	**Manton Dam**	**36.85**	**273**	P	**P**	**05 25 54.7**	**+0.7**
	baz=37,SNR=5.4						
WRKA	**Warakurna**	**38.25**	**253**	P	**P**	**05 26 06.0**	**+0.2**
	baz=38,SNR=35						
KNRA	**Kununurra**	**38.51**	**268**	P	**P**	**05 26 08.1**	**+0.2**
	baz=38,SNR=12						
FAKI	**Fak Fak**	**39.17**	**289**	P	**P**	**05 26 14.0**	**+0.6**
	baz=39,SNR=4.6						
BATI	**Baumata**	**44.59**	**274**	P	**P**	**05 26 59.2**	**+1.9**
	comp=Z,18nm,0.5s,baz=22,slow=4.4,SNR=3.7						
MBWA	**Marble Bar**	**46.28**	**258**	*e*P	**P**	**05 27 11.5**	**+1.0**
	comp=Z,20nm,0.9s						
MEEK	**Meekatharra**	**46.99**	**251**	P	**P**	**05 27 16.3**	**+0.4**
	baz=47,SNR=29						
KLBR	**Kellerberrin**	**47.83**	**244**	P	**P**	**05 27 22.4**	**+0.1**
	baz=48,SNR=6.8						
NWAO	**Narrogin (SRO)**	**48.35**	**242**	P	**P**	**05 27 26.7**	**+0.4**
	comp=Z,6.3nm,0.7s,baz=81,slow=8.1,SNR=4.4						
GIRL	**Giralia**	**51.21**	**256**	P	**P**	**05 27 49.6**	**+1.8**
	baz=51,SNR=8.3						
VNDA	**Vanda**	**59.16**	**182**	P	**P**	**05 28 43.7**	**0.0**
	comp=Z,0.4nm,0.5s,baz=57,slow=2.0,SNR=3.0						
MJAR	**Matsushiro Arr**	**62.00**	**332**	P	**P**	**05 29 03.3**	**-0.2**
	comp=Z,16nm,0.8s,baz=164,slow=7.4,SNR=22						
MAJO	**Matsushiro**	**62.00**	**332**	*e*P	**P**	**05 29 03.6**	**+0.1**
MAJO	**Matsushiro**	**62.00**	**332**	*e*P	**P**	**05 29 03.6**	**+0.1**
MAT	**Matsushiro**	**62.00**	**332**	P	**P**	**05 29 03.0**	**-0.5**
MAT				S	**S**	**05 37 08.8**	**-1.6**
JNU	**Nakatsue**	**62.94**	**324**	P	**P**	**05 29 09.9**	**+0.1**
	comp=Z,29nm,0.8s,baz=300,slow=0.1,SNR=11						
YHNB	**Yeheng**	**63.20**	**311**	*e*P	**P**	**05 29 11.7**	**0.0**
ERM	**Erimo**	**64.78**	**339**	*e*P	**P**	**05 29 21.7**	**+0.2**
ERM				pmax	pmax		
	comp=Z,16nm,0.7s						
ASAJ	**Asahikawa**	**66.84**	**340**	P	**P**	**05 29 35.8**	**+1.2**
	comp=Z,36nm,0.8s,baz=211,slow=8.2,SNR=23						
ASAJ	**Asahikawa**	**66.84**	**340**	*e*P	**P**	**05 29 36.0**	**+1.4**
KSRS	**Korea Array**	**67.78**	**326**	P	**P**	**05 29 40.9**	**+0.3**
	comp=Z,6.9nm,1.0s,baz=137,slow=6.4,SNR=9.0						
KSAR	**Wonju Array Be**	**67.79**	**326**	P	**P**	**05 29 40.9**	**+0.2**
KSAR	**Wonju Array Be**	**67.79**	**326**	P	**P**	**05 29 40.9**	**+0.2**
YSS	**Yuzh-Sakhalins**	**69.32**	**341**	*e*P	**P**	**05 29 51.0**	**+1.1**
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
NJ2	**Nanjing**	**69.53**	**316**	*e*P	**P**	**05 29 51.1**	**-0.5**
NJ2				PMZ			
	comp=Z,30nm,0.7s						
SKR	**Severo-Kuril's**	**69.81**	**351**	*e*P	**P**	**05 29 51.0**	**-1.8**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
USRK	**Ussuriysk Ar.**	**70.98**	**333**	P	**P**	**05 30 01.1**	**+1.0**
	comp=Z,8.5nm,0.7s,baz=122,slow=5.1,SNR=16						
FX1	**Attu Island--F**	**71.18**	**3**	P	**P**	**05 30 01.1**	**+0.1**
	comp=Z,40nm,0.6s,baz=231,slow=6.5,SNR=6.2						
QSPA	**South Pole Qui**	**71.55**	**180**	P	**P**	**05 30 02.8**	**-0.6**
	comp=Z,4.7nm,1.0s,baz=23,slow=0.8,SNR=11						
QSPA				pP	**pP**	**05 30 54.2**	**-0.5**
	comp=Z,6.5nm,1.0s,baz=20,slow=6.0,SNR=4.7						
WHN	**Wuhan**	**71.69**	**312**	P	**P**	**05 30 04.6**	**-0.1**
PET	**Petropavlovsk**	**71.79**	**353**	⇓*i*P	**P**	**05 30 05.3**	**+0.6**
PET				pmax	pmax		
	comp=Z,60nm,0.7s						
PET	**Petropavlovsk**	**71.79**	**353**	*e*P	**P**	**05 30 05.0**	**+0.3**
	comp=Z,20nm,0.6s						
PETK	**Petropavlovsk-**	**71.98**	**353**	P	**P**	**05 30 06.4**	**+0.5**
	comp=Z,64nm,0.8s,baz=157,slow=9.2,SNR=25						
PSI	**Prapat**	**72.08**	**279**	LR	LR	06 05 22.4	
	comp=Z,118nm,18.3s,baz=170,slow=38						
MDJ	**Mudanjiang**	**72.37**	**332**	P	**P**	**05 30 09.6**	**+1.2**
MDJ				pP	**pP**	**05 30 59.2**	**-0.6**
MDJ				sP	**sP**	**05 31 21.8**	**-1.3**
MDJ				S	**SKiKP**	**05 39 17.6**	**-3.4**
MDJ				sS	sS	05 40 34.8	-8.9
MDJ				PMZ			
	comp=Z,28nm,0.9s						
MDJ				PMZ			
	comp=Z,110nm,6.2s						
MDJ				LN			
	comp=Z,17nm,14.2s						
MDJ				LE			
	comp=Z,34nm,17.2s						
MDJ				LZ			
	comp=Z,55nm,18.7s						
MDJ	**Mudanjiang**	**72.37**	**332**	*e*P	**P**	**05 30 08.6**	**+0.2**
	comp=Z,12nm,0.9s						
CN2	**Changchun**	**73.72**	**329**	⇑P	**P**	**05 30 17.0**	**+0.7**
CN2				*es*P	**sP**	**05 31 33.5**	**+2.3**
CN2				*e*S	**S**	**05 39 28.3**	**-0.6**
CN2				PMZ			
	comp=Z,40nm,0.8s						
CN2				PMZ			
	comp=Z,200nm,3.0s						
CN2				LN			
	comp=Z,1μm,18.0s						
CN2				LE			
	comp=Z,600nm,18.0s						
CN2				LZ			
	comp=Z,500nm,17.0s						
KLR	**Kul'dur**	**75.11**	**336**	*e*P	**P**	**05 30 22.0**	**-2.2**
KLR				pmax	pmax		
	comp=Z,40nm,1.4s						
GYA	**Guiyang**	**75.22**	**305**	P	**P**	**05 30 26.2**	**+0.7**
GYA				pP	**pP**	**05 31 18.4**	**+1.1**
GYA				sP	**sP**	**05 31 41.0**	**+0.5**
GYA				PP	**PP**	**05 33 19.6**	**+2.3**
GYA				S	**S**	**05 39 46.2**	**-0.4**
GYA				SKS	**SKSac**	**05 40 10.3**	**-4.0**
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,120nm,5.6s						
BJT	**Baijiatuau**	**76.22**	**321**	*e*P	**P**	**05 30 30.9**	**+0.2**
BJT				pmax	pmax		
	comp=Z,22nm,0.8s						
BJT	**Baijiatuau**	**76.22**	**321**	*e*P	**P**	**05 30 30.9**	**+0.2**
	comp=Z,22nm,0.8s						
BJI	**Beijing**	**76.23**	**321**	P	**P**	**05 30 31.6**	**+0.9**
BJI				PMZ			
	comp=Z,48nm,0.8s						
BJI				PMZ			
	comp=Z,88nm,4.0s						
XAN	**Xi'an**	**77.45**	**312**	P	**P**	**05 30 38.7**	**+0.9**
XAN				PMZ			
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**77.70**	**302**	⇑P	**P**	**05 30 40.9**	**+1.4**
KMI				pP	**pP**	**05 31 32.0**	**+0.3**
KMI				sP	**sP**	**05 31 54.6**	**-0.2**
KMI				S	**S**	**05 40 13.4**	**-0.4**
KMI				PMZ			
	comp=Z,38nm,0.8s						
KMI				LN			
	comp=Z,180nm,15.6s						
KMI				LE			
	comp=Z,260nm,13.2s						
KMI				LZ			
	comp=Z,140nm,18.9s						
SDPT	**Sand Point**	**78.00**	**17**	*e*P	**P**	**05 30 39.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**78.00**	**294**	P	**P**	**05 30 42.9**	**+1.8**
	comp=Z,11nm,0.8s,baz=130,slow=4.1,SNR=51						
CHTO	**Chiang Mai**	**78.15**	**295**	*e*P	**P**	**05 30 42.7**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,13nm,0.8s						
CHTO	**Chiang Mai**	**78.15**	**295**	*e*P	**P**	**05 30 42.7**	**+0.8**
	comp=Z,13nm,0.8s						
HHC	**Hu-ho-hao-te**	**79.52**	**319**	*e*P	**P**	**05 30 49.7**	**+0.7**
HHC				PP	**PP**	**05 33 54.9**	**+1.9**
HHC				S	**S**	**05 40 31.4**	**-0.8**
HHC				PMZ			
	comp=Z,47nm,1.1s						
HHC				PMZ			
	comp=Z,110nm,5.0s						
HHC				LN			
	comp=Z,240nm,16.9s						
HHC				LE			
	comp=Z,170nm,16.9s						
HHC				LZ			
	comp=Z,190nm,16.1s						
CD2	**Chengdu**	**79.61**	**307**	*e*P	**P**	**05 30 51.0**	**+1.3**
CD2				sP	**sP**	**05 32 05.6**	**+0.5**
CD2				PP	**PP**	**05 33 50.0**	**-3.9**
CD2				S	**S**	**05 40 33.6**	**+0.1**
CD2				PMZ			
	comp=Z,30nm,1.4s						
CD2				PMZ			
	comp=Z,280nm,8.5s						
HIA	**Hailar**	**80.37**	**330**	*e*P	**P**	**05 30 52.2**	**-1.0**
HIA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
OHAK	**Old Harbor**	**81.74**	**20**	*e*P	**P**	**05 31 00.9**	**+0.7**
	comp=Z,60nm,0.7s						
LZH	**Lanzhou**	**82.07**	**312**	*e*P	**P**	**05 31 04.6**	**+1.9**
LZH				pP	**pP**	**05 31 56.8**	**+1.4**
LZH				sP	**sP**	**05 32 19.6**	**+1.2**
LZH				PMZ			
	comp=Z,74nm,1.3s						
SEY	**Seymchan**	**82.22**	**352**	P	**P**	**05 31 02.5**	**0.0**
	comp=Z,19nm,0.9s,baz=156,slow=5.7,SNR=38						
KDAK	**Kodiak Island**	**82.42**	**20**	*i*P	**P**	**05 31 04.8**	**+1.1**
GAMB	**Gambell**	**83.38**	**8**	*e*P	**P**	**05 31 09.3**	**+0.8**
	comp=Z,28nm,0.8s						
CLNS	**Chul'man**	**83.63**	**337**	*e*P	**P**	**05 31 10.3**	**+0.3**
CLNS				pmax	pmax		
	comp=Z,33nm,1.0s						
CLNS				pmax	pmax		
	comp=N,11nm,0.9s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.8s						
SVW2	**Sparrevohn**	**84.26**	**16**	*e*P	**P**	**05 31 12.1**	**-1.0**
	comp=E,51nm,1.2s						
RSO	**Redoubt South**	**84.53**	**18**	*e*P	**P**	**05 31 15.7**	**+1.1**
SYO	**Syowa Base**	**85.57**	**196**	⇑*e*P	**P**	**05 31 18.0**	**-1.6**
TNA	**Tin City**	**85.62**	**9**	*e*P	**P**	**05 31 20.5**	**+0.8**
RC01	**Rabbit Creek A**	**85.93**	**19**	*e*P	**P**	**05 31 21.3**	**0.0**
	comp=E,328nm,3.0s						
YAK	**Yakutsk**	**86.11**	**343**	*e*P	**P**	**05 31 21.6**	**-0.5**
YAK				pmax	pmax		
	comp=E,9.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,90nm,1.1s						
YAK				pmax	pmax		
	comp=N,11nm,1.0s						
YAK	**Yakutsk**	**86.11**	**343**	*e*P	**P**	**05 31 22.7**	**+0.6**
ULN	**Ulaanbaatar**	**86.14**	**323**	*e*P	**P**	**05 31 23.3**	**+0.4**
ULN	**Ulaanbaatar**	**86.14**	**323**	*e*P	**P**	**05 31 23.3**	**+0.4**
BILL	**Bilibino**	**86.32**	**359**	*c i*P	**P**	**05 31 23.0**	**-0.1**
BILL				pmax	pmax		
	comp=Z,109nm,1.3s						
BILL	**Bilibino**	**86.32**	**359**	*e*P	**P**	**05 31 23.2**	**+0.2**
	comp=Z,69nm,0.9s						
GTA	**Gaotai**	**86.46**	**313**	⇑P	**P**	**05 31 25.5**	**+0.9**
GTA				pP	**pP**	**05 32 17.9**	**+0.1**
GTA				sP	**sP**	**05 32 40.0**	**-0.7**
GTA				S	**S**	**05 41 42.5**	**+0.3**
GTA				sS	**sS**	**05 43 10.6**	**-4.7**
GTA				PMZ			
	comp=Z,20nm,1.3s						
GTA				PMZ			
	comp=Z,89nm,5.5s						
GTA				LN			
	comp=Z,83nm,15.2s						
GTA				LE			
	comp=Z,87nm,15.7s						
GTA				LZ			
	comp=Z,110nm,16.6s						
SONM	**Songino Array**	**86.50**	**323**	P	**P**	**05 31 25.3**	**+0.7**
	comp=Z,15nm,0.7s,baz=149,slow=6.1,SNR=68						
WDC	**Whiskeytown Da**	**86.50**	**45**	*e*P	**P**	**05 31 25.7**	**+1.1**
WDC				pmax	pmax		
	comp=Z,27nm,1.0s						
WDC	**Whiskeytown Da**	**86.50**	**45**	*e*P	**P**	**05 31 25.7**	**+1.1**
	comp=Z,27nm,1.0s						
N02D	**Trinity Center**	**86.58**	**45**	⇓P	**P**	**05 31 26.4**	**+1.4**
	baz=87,SNR=6.5						
PPLA	**Purkeypile**	**86.66**	**17**	P	**P**	**05 31 24.9**	**-0.1**
M02C	**Callahan**	**86.67**	**44**	⇑P	**P**	**05 31 26.8**	**+1.3**
	baz=87,SNR=6.8						
VES	**Vestal, Richgr**	**86.82**	**51**	⇑P	**P**	**05 31 26.5**	**+0.3**
	baz=87						
CMB	**Columbia Colle**	**86.83**	**48**	*e*P	**P**	**05 31 26.6**	**+0.2**
CMB	**Columbia Colle**	**86.83**	**48**	*e*P	**P**	**05 31 26.6**	**+0.2**
YBH	**Yreka Blue Hor**	**86.93**	**44**	P	**P**	**05 31 27.5**	**+0.7**
	comp=Z,17nm,0.9s,baz=187,slow=4.4,SNR=16						
CAST	**Castle Rocks**	**87.11**	**16**	*e*P	**P**	**05 31 26.0**	**-1.0**
	comp=Z,15nm,0.9s						
ISA	**Isabella, Lake**	**87.19**	**51**	*e*P	**P**	**05 31 29.0**	**+0.9**
ISA	**Isabella, Lake**	**87.19**	**51**	⇑P	**P**	**05 31 28.7**	**+0.5**
	baz=87,SNR=11						
ISA	**Isabella, Lake**	**87.19**	**51**	*e*P	**P**	**05 31 29.0**	**+0.9**
BFSC	**Mount Baldy Ra**	**87.20**	**53**	⇑P	**P**	**05 31 28.4**	**0.0**
	baz=87						
EDW2	**Edwards Air Fo**	**87.22**	**52**	⇓P	**P**	**05 31 28.8**	**+0.5**
	baz=87						
MURC	**Murrieta**	**87.29**	**53**	⇑P	**P**	**05 31 29.3**	**+0.6**
	baz=88						
M04C	**Macdoel**	**87.53**	**44**	⇑P	**P**	**05 31 30.8**	**+1.1**
	baz=88						
KTH	**Kantishna Hill**	**87.53**	**17**	*e*P	**P**	**05 31 26.9**	**-2.1**
MONP	**Monument Peak,**	**87.60**	**54**	⇓P	**P**	**05 31 31.2**	**+0.9**
	baz=88						
TRF	**Thorofare Moun**	**87.62**	**17**	*e*P	**P**	**05 31 28.7**	**-1.0**
WAKR	**Walker**	**87.71**	**48**	*e*P	**P**	**05 31 31.5**	**+0.8**
MTUM	**Tungsten Hills**	**87.84**	**49**	*e*P	**P**	**05 31 32.4**	**+1.1**
PFO	**Pinyon Flats O**	**87.86**	**54**	P	**P**	**05 31 31.9**	**+0.5**
	baz=88						
K04D	**Chiloquin, OR**	**87.97**	**44**	⇑P	**P**	**05 31 32.9**	**+1.2**
	baz=88						
J04D	**Umpqua Nationa**	**88.03**	**43**	⇑P	**P**	**05 31 33.3**	**+1.2**
	baz=88						
I04A	**Tendick Farm,**	**88.09**	**42**	⇑P	**P**	**05 31 33.1**	**+0.9**
	baz=88						
DAC	**Darwin (Calif)**	**88.10**	**51**	*e*P	**P**	**05 31 33.2**	**+0.6**
DAC				pmax	pmax		
	comp=Z,35nm,1.6s						
DAC	**Darwin (Calif)**	**88.10**	**51**	*e*P	**P**	**05 31 33.2**	**+0.6**
	comp=Z,35nm,1.6s						
SWSC	**Sam W. Stewart**	**88.10**	**54**	⇓P	**P**	**05 31 33.1**	**+0.7**
	baz=88						
MCK	**McKinley**	**88.22**	**17**	*e*P	**P**	**05 31 32.0**	**-0.3**
MCK	**McKinley**	**88.22**	**17**	*e*P	**P**	**05 31 31.9**	**-0.3**
BELC	**Belle Mtn. Jos**	**88.37**	**53**	⇓P	**P**	**05 31 34.4**	**+0.6**
	baz=89,SNR=6.4						
HEC	**Hector,Ludlow**	**88.45**	**53**	⇓P	**P**	**05 31 34.7**	**+0.6**
	baz=89						
NVAR	**Mina Array Bea**	**88.48**	**49**	P	**P**	**05 31 35.0**	**+0.6**
	comp=Z,7.8nm,0.8s,baz=227,slow=8.2,SNR=35						
BOD	**Bodaibo**	**88.58**	**334**	⇑*i*P	**P**	**05 31 33.8**	**-0.2**
BOD				pmax	pmax		
	comp=Z,18nm,1.3s						
K05A	**Summer Lake**	**88.58**	**44**	*e*P	**P**	**05 31 36.0**	**+1.3**
	comp=Z,40nm,1.0s						
MOD	**Modoc Plateau**	**88.61**	**45**	*e*P	**P**	**05 31 35.4**	**+0.6**
	comp=Z,24nm,0.9s						
J05D	**Fort Rock, OR**	**88.61**	**43**	⇓P	**P**	**05 31 35.5**	**+0.8**
	baz=89,SNR=11						
H04A	**Detroit Lake**	**88.65**	**42**	*e*P	**P**	**05 31 35.4**	**+0.6**
	comp=Z,48nm,1.2s						
BC3	**Big Chuckawall**	**88.65**	**54**	⇑P	**P**	**05 31 35.9**	**+0.7**
	baz=89						
FURC	**Furnace Creek,**	**88.72**	**51**	⇑P	**P**	**05 31 35.6**	**+0.4**
	baz=89,SNR=5.1						
IM04	**Indian Mountai**	**88.76**	**14**	*e*P	**P**	**05 31 34.9**	**+0.1**
GLA	**Glamis**	**88.89**	**55**	*e*P	**P**	**05 31 37.6**	**+1.4**
GLA	**Glamis**	**88.89**	**55**	⇑P	**P**	**05 31 37.4**	**+1.2**
	baz=89						
GLA	**Glamis**	**88.89**	**55**	*e*P	**P**	**05 31 37.6**	**+1.4**
SHOC	**Shoshone, Teco**	**88.91**	**52**	⇓P	**P**	**05 31 36.7**	**+0.5**
	baz=89,SNR=5.7						
LSA	**Lhasa**	**88.96**	**302**	*e*P	**P**	**05 31 37.6**	**+0.5**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LSA	**Lhasa**	**88.96**	**302**	*e*P	**P**	**05 31 37.6**	**+0.5**
	comp=Z,5.6nm,0.7s						
TUQ	**Turquoise Moun**	**89.00**	**52**	⇑P	**P**	**05 31 37.3**	**+0.5**
	baz=89,SNR=5.4						
I05D	**Terrebonne, OR**	**89.03**	**42**	⇓P	**P**	**05 31 37.5**	**+0.9**
	baz=89						
IRM	**Iron Mountain**	**89.08**	**54**	⇓P	**P**	**05 31 37.6**	**+0.6**
	baz=89,SNR=6.9						
F04A	**Amboy**	**89.08**	**41**	*e*P	**P**	**05 31 37.7**	**+1.0**
	comp=Z,271nm,2.1s						
TPH	**Tonopah**	**89.11**	**49**	*e*P	**P**	**05 31 37.6**	**+0.3**
TPH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TPH	**Tonopah**	**89.11**	**49**	*e*P	**P**	**05 31 37.5**	**+0.3**
	comp=Z,9.6nm,1.0s						
VLL	**Laurance Lake**	**89.33**	**41**	P	**P**	**05 31 39.0**	**+0.9**
Y12C	**Blythe**	**89.40**	**54**	⇓P	**P**	**05 31 39.2**	**+0.8**
	baz=90,SNR=5.7						
COLA	**College**	**89.41**	**17**	*e*P	**P**	**05 31 36.5**	**-1.2**
COLA	**College**	**89.41**	**17**	*e*P	**P**	**05 31 36.5**	**-1.2**
G05D	**Wamic, OR

ELK pmax pmax
comp=Z,6.0nm,0.9s
ELK Elko 91.59 47 *e*P **P 05 31 49.5 +0.7**
comp=Z,5.6nm,0.9s
CCUT Cedar City 91.71 51 *e*P **P 05 31 50.3 +0.8**
comp=Z,13nm,1.1s
RAMN Ramite 91.73 298 *e*P **P 05 31 49.6 -0.2**
ARUT Antelope Range 91.75 51 *e*P **P 05 31 50.0 +0.5**
ARUT pmax pmax
comp=Z,72nm,0.9s
ARUT Antelope Range 91.75 51 *e*P **P 05 31 50.0 +0.5**
comp=Z,72nm,0.9s
TUC Tucson 91.79 57 *e*P **P 05 31 50.4 +0.7**
TUC pmax pmax
comp=Z,13nm,1.1s
TUC Tucson 91.79 57 *e*P **P 05 31 50.4 +0.7**
comp=Z,14nm,1.1s
E09A Wood Farm, Sta 92.00 41 *e*P **P 05 31 50.6 +0.4**
comp=Z,112nm,2.6s
X16A Lo Mia Camp, P 92.02 54 ⇑P **P 05 31 52.1 +1.2**
baz=92
U15A North Rim 92.10 52 ⇓P **P 05 31 52.2 +0.9**
baz=92
MFID Camas Ranch 92.24 45 *e*P **P 05 31 52.1 +0.6**
comp=Z,8.7nm,0.8s
JIRN Jiri 92.31 298 *e*P **P 05 31 52.9 +0.3**
comp=Z,7.4nm,0.6s
F10A Beach Ranch, E 92.36 42 *e*P **P 05 31 52.2 +0.1**
comp=Z,9.0nm,0.8s
WUAZ Wupatki 92.46 53 ⇓P **P 05 31 53.8 +0.9**
baz=93
GUN Gumba 92.66 298 *e*P **P 05 31 54.1 -0.1**
319A Douglas 92.66 58 ⇑P **P 05 31 54.9 +1.0**
baz=93
PKI Pulchoki 92.94 298 *e*P **P 05 31 55.2 -0.3**
comp=Z,25nm,1.0s
DUG Dugway, Tooele 93.09 49 ⇓P **P 05 31 56.3 +0.7**
baz=93
DMN Daman 93.20 298 *e*P **P 05 31 56.8 +0.2**
X18A Snowflake 93.21 55 ⇓P **P 05 31 57.1 +0.7**
baz=93
HLID Hailey 93.24 45 ⇓P **P 05 31 57.2 +1.0**
baz=93
HLID Hailey 93.24 45 *e*P **P 05 31 56.5 +0.3**
comp=Z,6.9nm,0.9s
NEW Newport 93.36 40 P **P 05 31 55.9 -0.6**
comp=Z,3.9nm,1.0s,baz=259,slow=5.1,SNR=6.1
NEW Newport 93.36 40 ⇓P **P 05 31 57.4 +0.9**
baz=94
HVU Hansel Valley 93.70 47 *e*P **P 05 31 59.9 +1.5**
HVU pmax pmax
comp=Z,10.0nm,1.0s
HVU Hansel Valley 93.70 47 *e*P **P 05 31 59.9 +1.5**
comp=Z,10nm,1.0s
TIXI Tiksi 93.98 348 *e*P **P 05 31 58.1 -0.6**
TIXI pmax pmax
comp=Z,68nm,3.0s
TIXI Tiksi 93.98 348 *e*P **P 05 31 58.1 -0.6**
comp=Z,68nm,3.0s
121A Cookes Peak, D 94.25 57 ⇑P **P 05 32 01.9 +0.7**
baz=94
KOLN Koldanda 94.52 298 *e*P **P 05 32 01.9 -0.7**
comp=Z,4.0nm,0.5s
DANN Dangsing 94.57 298 *e*P **P 05 32 01.8 -1.1**
DLMT Dillon 95.12 44 *e*P **P 05 32 05.1 +0.3**
Z22A Elephant Butte 95.13 57 ⇑P **P 05 32 05.3 +0.1**
baz=95
PYUN Piuthan 95.14 298 *e*P **P 05 32 04.3 -1.1**
comp=Z,16nm,0.8s
HVS Khovu-Aksy 95.35 322 *e*P **P 05 32 05.6 0.0**
HVS pmax pmax
comp=Z,40nm,1.0s
FXWY Fox Creek 95.56 46 *e*P **P 05 32 07.2 +0.2**
comp=Z,15nm,1.9s
REDW Red Top Meadow 95.59 46 *e*P **P 05 32 07.8 +0.7**
comp=Z,7.7nm,1.2s
IMW Indian Meadow 95.71 46 *e*P **P 05 32 08.1 +0.3**
comp=Z,4.4nm,1.0s
I17A Pilgrim Ck. 95.97 46 ⇑P **P 05 32 09.1 +0.3**
baz=96
V22A San Miguel Ran 96.02 54 ⇑P **P 05 32 10.0 +0.8**
baz=96
ANMO Albuquerque 96.07 55 *ce*P **P 05 32 08.5 -0.9**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 96.07 55 P **P 05 32 08.8 -0.6**
comp=Z,1.6nm,0.9s,baz=248,slow=3.4,SNR=5.2
ANMO Albuquerque 96.07 55 *e*P **P 05 32 09.5 0.0**
H17A Grant Village 96.12 45 ⇑P **P 05 32 10.3 +0.7**
baz=96
PDAR Pinedale Array 96.28 47 P **P 05 32 08.8 -1.5**
comp=Z,1.2nm,1.1s,baz=202,slow=3.9,SNR=6.4
O20A White River Ci 96.36 50 ⇓P **P 05 32 10.9 +0.3**
baz=96
WMQ Urumqi 96.54 314 *e*P **P 05 32 11.0 -0.2**
WMQ pP **pP 05 33 04.6 -0.3**
WMQ PMZ
comp=Z,7.0nm,1.0s
WMQ PMZ
comp=Z,200nm,5.0s
Y24A Capitan 96.56 57 ⇓P **P 05 32 12.1 +0.5**
baz=97
N20A Spence Gulch, 96.57 49 ⇓P **P 05 32 12.1 +0.5**
baz=97
TXAR Lajitas Array 96.61 61 P **P 05 32 12.0 +0.1**
comp=Z,2.9nm,0.9s,baz=226,slow=5.0,SNR=18
S22A 4UR Ranch, Cre 96.65 53 ⇓P **P 05 32 12.7 +0.6**
baz=97
J19A Crowheart 96.79 47 ⇑P **P 05 32 13.0 +0.5**
baz=98
H18A Shoshone NF, C 96.83 45 ⇑P **P 05 32 13.6 +0.8**
baz=97
W24A Lazy 6 Ranch, 96.97 55 ⇑P **P 05 32 14.6 +1.1**
baz=97
H19A Powell 97.29 45 ⇑P Pdif 05 32 15.2 +0.5
baz=98
R23A Moffat 97.54 52 ⇑P Pdif 05 32 16.6 +0.4
baz=98
T24B San Luis 97.54 54 ⇓P Pdif 05 32 17.2 +1.0
baz=98
O22A Kremmling 97.60 50 ⇑Pdiff Pdif 05 32 16.8 +0.4
baz=98
F19A Roth Farm, Mol 97.69 44 ⇓Pdiff Pdif 05 32 16.9 +0.5
baz=98
W25A X Bar L Ranch, 97.71 56 ⇑Pdiff **P 05 32 16.7 -0.1**
baz=98
K21A Alcova 97.85 48 ⇓Pdiff Pdif 05 32 17.6 +0.2
baz=98
EGMT Eagleton 97.86 42 ⇓Pdiff **P 05 32 17.0 0.0**
baz=98
J21A Lysite 97.93 47 ⇑Pdiff Pdif 05 32 17.8 +0.1
baz=98
M22A Cedar Creek Ra 97.94 49 ⇑Pdiff Pdif 05 32 18.6 +0.8
baz=98
E19A Rath Farm, Rou 97.99 44 ⇓Pdiff Pdif 05 32 18.7 +1.0
baz=98
529A Stev Forest Ra 98.05 61 ⇓Pdiff Pdif 05 32 18.6 +0.3
baz=98
D19A Cripps Ranch, 98.15 43 ⇑Pdiff Pdif 05 32 19.4 +1.0
baz=98
L22A Ellis Ranch, M 98.25 49 ⇑Pdiff Pdif 05 32 19.4 +0.3
baz=98
N23A Red Feather La 98.26 50 ⇓Pdiff Pdif 05 32 19.5 +0.2
baz=98
V26A Tequesquite Ra 98.40 55 ⇓Pdiff Pdif 05 32 20.1 +0.2
baz=99
E20A Meyer Farm, Mu 98.44 44 ⇓Pdiff Pdif 05 32 20.4 +0.8
baz=99
429A Davenport Ranc 98.46 61 ⇑Pdiff **P 05 32 19.9 -0.2**
baz=99
128A Castleberry Fa 98.54 59 ⇑Pdiff **P 05 32 19.8 -0.7**
baz=99
D20A Manuel Ranch, 98.61 43 ⇓Pdiff **P 05 32 20.8 +0.4**
baz=99
J22A Midwest 98.62 47 ⇑Pdiff **P 05 32 20.7 +0.1**
baz=99
MSTX Muleshoe 98.68 57 ⇓Pdiff Pdif 05 32 21.0 -0.2
baz=99
L23A Garrett 98.79 49 ⇓Pdiff **P 05 32 22.4 +0.8**
baz=99
C20A Veseth Ranch, 98.89 43 ⇓Pdiff **P 05 32 22.5 +0.9**
baz=99
129A Stewart Farms, 99.04 59 ⇑Pdiff **Pdif 05 32 23.2 +0.5**
baz=99
S26A Kim 99.16 53 ⇓Pdiff **Pdif 05 32 23.8 +0.7**
baz=99
631A Perdido Creek 99.22 62 ⇑Pdiff **Pdif 05 32 23.7 +0.2**
baz=99
330A Mertzon 99.27 60 ⇑Pdiff **Pdif 05 32 23.8 +0.1**
baz=99
A20A Cobblestone Ra 99.29 42 ⇑Pdiff **Pdif 05 32 24.1 +0.7**
baz=100
D21A La Casta Ranch 99.35 44 ⇓Pdiff **Pdif 05 32 24.2 +0.5**
baz=100
R26A Arlington 99.37 53 ⇓Pdiff **Pdif 05 32 24.1 +0.1**
baz=100
832A Faith Ranch, C 99.42 63 ⇓Pdiff **Pdif 05 32 24.8 +0.4**
baz=100
531A Rocksprings 99.45 61 ⇑Pdiff **Pdif 05 32 24.6 +0.1**
baz=100
Y29A Porterfield Fa 99.53 58 ⇑Pdiff **Pdif 05 32 25.2 +0.4**
baz=100
H23A Clabaugh Cattl 99.70 46 ⇑Pdiff **Pdif 05 32 25.6 +0.3**
baz=100
D22A Cohagen 99.91 44 ⇑Pdiff **Pdif 05 32 26.4 +0.3**
baz=100
231A Bronte 100.11 60 ⇓Pdiff **Pdif 05 32 27.2 -0.3**
baz=100
YKA Yellowknife Ar 100.12 27 P **Pdif 05 32 26.7 +0.1**
comp=Z,5.5nm,0.7s,baz=255,slow=4.7,SNR=92
YKA PP **PP 05 36 34.8 -0.6**
comp=Z,0.4nm,0.9s,baz=243,slow=8.2,SNR=3.6
432A Menard 100.26 61 ⇑Pdiff **Pdif 05 32 28.3 +0.2**
baz=100
H24A Dirks Ranch, A 100.33 46 ⇓Pdiff **Pdif 05 32 28.2 0.0**
baz=100
633A Saathoff Ranch 100.41 62 ⇑Pdiff **Pdif 05 32 29.6 +0.8**
baz=101
D23A Lindsay 100.55 44 ⇓Pdiff **Pdif 05 32 29.8 +0.7**
baz=101
Z31A Sharp Cattle R 100.62 58 ⇑Pdiff **Pdif 05 32 29.3 -0.3**
baz=101
232A Coleman 100.65 60 ⇓Pdiff **Pdif 05 32 29.9 +0.1**
baz=101
I25A Rochford 100.70 47 ⇓Pdiff **Pdif 05 32 29.7 -0.3**
baz=101
C23A Lambert 100.73 43 ⇑Pdiff **Pdif 05 32 30.3 +0.5**
baz=101
ABTX Abilene, Hawle 100.84 59 ⇓Pdiff **Pdif 05 32 30.7 0.0**
baz=101
H25A Fruitdale 100.96 47 ⇑Pdiff **Pdif 05 32 31.6 +0.7**
baz=101
MKAR Makarrchi Array 101.06 316 P **Pdif 05 32 31.7 +0.5**
comp=Z,2.6nm,0.6s,baz=97,slow=6.2,SNR=32
534A Blanco 101.14 62 ⇓Pdiff **Pdif 05 32 32.6 +0.6**
baz=101
Z32A Haskell 101.15 59 ⇓Pdiff **Pdif 05 32 32.0 0.0**
baz=101
Y32A R-V Farms, Ver 101.36 58 ⇑Pdiff **Pdif 05 32 32.8 -0.1**
baz=102
ZALV Zalesovo Beam 101.40 323 P **Pdif 05 32 32.0 -0.5**
ZALV Zalesovo Beam 101.40 323 P **Pdif 05 32 32.0 -0.5**
comp=Z,0.9nm,0.6s,baz=103,slow=4.6,SNR=5.4
133A Hamilton Ranch 101.43 59 ⇓Pdiff **Pdif 05 32 33.1 -0.1**
baz=102
X32A Elmer 101.59 58 ⇑Pdiff **Pdif 05 32 34.1 +0.2**
baz=102
BVAR Borovoye Array 109.71 321 PKiKP **PKiKP 05 37 10.1 -0.8**
comp=Z,0.4nm,0.4s,baz=98,slow=2.1,SNR=5.1
ARU Arti 116.51 324 *i* PKIKP **PKPdf 05 37 23.4 -0.4**
ARU 05 38 34.5
ARU 05 43 49.8
ARU SS SS 05 54 17.8 -4.1
GEYT Alibeck 117.43 304 PKP **PKPdf 05 37 26.2 0.0**
comp=Z,3.8nm,0.6s,baz=338,slow=0.8,SNR=6.6
BOSA Boshof 121.50 218 PKP **PKPdf 05 37 34.5 0.0**
comp=Z,4.6nm,0.8s,baz=120,slow=4.1,SNR=5.1
ARCES ARCESS Array B 124.30 345 PKP **PKPdf 05 37 37.5 -1.0**
comp=Z,2.9nm,0.3s,baz=74,slow=2.5,SNR=56
KLMR Klimovskoe 124.78 333 *e*PKIKP **PKPdf 05 37 36.8 -2.8**
KLMR pmax pmax
comp=Z,18nm,1.2s
VRHR Novokhopersk 127.45 321 *e*PKIKP PKPdf 05 37 51.9 +6.9
VRHR pmax pmax
comp=N,1.0nm,0.5s
VRHR pmax pmax
comp=E,6.0nm,0.5s
VRHR pmax pmax
comp=Z,9.0nm,0.5s
OBN Obninsk 128.76 327 *i* PKIKP **PKPdf 05 37 47.4 +0.1**
OBN pmax pmax
comp=Z,7.0nm,1.0s
VSR Storozhevoye 128.87 322 *e*PKIKP **PKPdf 05 37 46.8 -0.9**
VSR pmax pmax
comp=N,5.0nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=E,7.0nm,1.0s
FINES FINESS Array B 129.83 338 PKhKP PKPpre 05 37 42.5
comp=E,0.7nm,0.7s,baz=98,slow=2.8,SNR=2.7
FINES PKP **PKPdf 05 37 49.0 -0.2**
comp=E,1.1nm,0.7s,baz=96,slow=3.8,SNR=3.8
FINES SKPbc SKPbc 05 40 51.0 +0.2
comp=E,5.0nm,0.6s,baz=74,slow=3.9,SNR=19
BDFB Brasilia 130.20 131 PKP **PKPdf 05 37 50.4 -1.1**
comp=E,0.6nm,0.3s,baz=182,slow=2.0,SNR=5.4
BDFB SKPbc **SKPab 05 40 54.9 +0.9**
comp=E,1.7nm,0.8s,baz=233,slow=5.2,SNR=3.4
NOA NORSAR Array B 134.68 345 PKP **PKPdf 05 37 58.3 -0.1**
comp=E,0.9nm,0.7s,baz=42,slow=4.2,SNR=3.2
AKASG Malin Array Be 134.77 325 PKP **PKPdf 05 37 58.3 -0.5**
comp=E,1.6nm,0.7s,baz=58,slow=3.1,SNR=4.7
AKASG SKPbc **SKPbc 05 41 08.5 +0.1**
comp=E,1.9nm,0.8s,baz=36,slow=3.0,SNR=4.1
MMAI Mount Meron Ar 136.13 299 PKP **PKPdf 05 38 01.7 -0.3**
comp=E,2.6nm,0.6s,baz=131,slow=4.0,SNR=4.3
BRTR Keskin Array B 136.19 308 PKP **PKPdf 05 38 03.4 +1.3**
comp=E,1.1nm,0.6s,baz=132,slow=2.1,SNR=3.4
EIL Elat 136.85 294 PKP **PKPdf 05 38 03.1 -0.3**
comp=E,3.1nm,0.8s,baz=37,slow=10,SNR=3.5
KOLS Kolonicke sedl 139.50 326 *e*PKIKP **PKPdf 05 38 05.1 -2.6**
KOLS Kolonicke sedl 139.50 326 *e*PKP **PKPdf 05 38 05.1 -2.6**
STHS Stebnicka Huta 139.74 327 *e*PKIKP PKPpre 05 38 03.2
STHS Stebnicka Huta 139.74 327 *e*PKP PKPpre 05 38 03.2
CRVS Cervenica-Dubn 139.94 327 *e*PKIKP PKPpre 05 38 05.7
CRVS Cervenica-Dubn 139.94 327 *e*PKP PKPpre 05 38 05.7
DPC Dobruska-Polom 141.48 332 *e*PKHKP PKPpre 05 38 05.9
DPC Dobruska-Polom 141.48 332 *e*PKP PKPpre 05 38 05.9
DPC *ex* x 05 38 14.5
UPC Upice 141.50 332 *e*PKHKP PKPpre 05 38 05.3
UPC Upice 141.50 332 *e*PKP PKPpre 05 38 05.3
VYHS Vyhne 141.55 328 *e*PKIKP PKPpre 05 38 07.3
VYHS Vyhne 141.55 328 *e*PKP PKPpre 05 38 07.2
BRG Berggiesshubel 142.11 334 *e*PKP PKPpre 05 38 08.6
comp=E,5.3nm,0.7s
BRG Berggiesshubel 142.11 334 *e*PKIKP PKPpre 05 38 08.6
BRG pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 142.16 335 *e*PKIKP PKPpre 05 38 09.0
CLL Collm 142.16 335 *e*PKPpre PKPpre 05 38 09.0
CLL *e*PKPdf **PKPdf 05 38 13.0 +0.6**
CLL *e*SKPbc **SKiKP 05 41 30.0 -0.7**
PRU Pruhonice 142.52 333 *e*PKIKP **PKPdf 05 38 10.2 -2.9**
PRU Pruhonice 142.52 333 *e*PKP **PKPdf 05 38 10.2 -2.9**
TANN Tannenbergstha 143.07 335 *e*PKPbc PKPbc 05 38 11.0 -0.6
MOX Moxa 143.22 336 *e*PKPbc PKPab 05 38 11.1 +0.5
CONA Conrad Observa 143.40 329 ⇑ *i*PKPdf PKPbc 05 38 13.5 +0.8
comp=Z,24nm,0.8s,SNR=8.3
KHC Kasperske Hory 143.58 333 *e*PKIKP PKPbc 05 38 12.9 -0.1
KHC Kasperske Hory 143.58 333 *e*PKP PKPbc 05 38 12.9 -0.1
KHC *ex* x 05 38 21.2
KHC *ex* x 05 39 41.0
KHC Kasperske Hory 143.58 333 *e*PKPdf PKPbc 05 38 12.8 -0.2
ROTZ Rotzenmuhle 143.68 334 *e*PKPbc PKPbc 05 38 13.5 +0.3
UBBA Unterbreizbach 143.69 337 *e*PKPbc PKPbc 05 38 12.9 -0.2
GEC2 GERESS Array S 143.74 332 *e*PKPbc PKPbc 05 38 13.2 -0.4
GERES GERESS Array B 143.74 332 PKIKP PKPab 05 38 13.0 +0.2
GERES GERESS Array B 143.74 332 PKP PKPab 05 38 13.0 +0.2
comp=Z,12nm,0.9s,baz=35,slow=3.3,SNR=24
WTSB Winterswijk 143.79 341 *e*PKP PKPab 05 38 12.9 +0.2
comp=Z,88nm,2.0s
SKO Skopje 143.84 317 *i* PKP PKPbc 05 38 14.2 +0.2
WET Wettzell 143.88 333 *e*PKPbc PKPbc 05 38 13.7 -0.2
ARSA Arzberg 144.03 329 ⇑ *i*PKPdf PKPbc 05 38 14.6 +0.2
comp=Z,26nm,1.1s
IDI Anoyia 144.13 305 PKP PKPbc 05 38 15.1 -0.1
comp=Z,14nm,0.5s,baz=106,slow=4.9,SNR=18
GRF Grafenberg Arr 144.13 335 *e*PKPbc PKPbc 05 38 15.0 +0.4
GRFO Grafenberg 144.13 335 *e*PKIKP PKPbc 05 38 14.6 0.0
GRFO Grafenberg 144.13 335 *e*PKPdf PKPbc 05 38 14.6 0.0
MOA Molln 144.21 331 ⇑ *i*PKPdf PKPbc 05 38 15.3 +0.4
comp=Z,74nm,1.1s,SNR=14
PERS Pernice 144.66 328 *i* PKPbc PKPbc 05 38 16.6 +0.2
SOKA Soboth 144.67 328 ⇑ *i*PKPdf **PKPdf 05 38 16.8 -0.3**
comp=Z,75nm,1.0s,SNR=8.6
OHR Ohrid 144.69 316 *i* PKP **PKPab 05 38 15.5 -1.1**
TNS Taunus Mts 144.74 338 *e*PKPbc **PKPdf 05 38 16.9 -0.1**
RJOB Jochberg 144.97 332 *e*PKPbc **PKPdf 05 38 17.5 0.0**
OBKA Obir 145.03 329 ⇑ *i*PKPab **PKPbc 05 38 17.4 -0.2**
comp=Z,52nm,0.9s,SNR=5.1
HGN Heimansgroeve 145.10 341 *e*PKP **PKPbc 05 38 17.4 -0.1**
comp=Z,58nm,1.2s
BEBN Eben Emael 145.15 341 PKP **PKPab 05 38 18.3 +0.4**
KBA Koelnbreinsper 145.20 330 ⇑ *i*PKPab **PKPdf 05 38 17.8 -0.3**
comp=Z,67nm,1.3s,SNR=6.8
MEM Membach 145.22 341 PKP **PKPdf 05 38 17.7 0.0**
FUR Furstenfeldbru 145.31 334 *e*PKPbc **PKPab 05 38 18.7 0.0**
BOJS Bojanci 145.37 327 *e*PKPdf **PKPab 05 38 19.0 0.0**
VISS Visnje 145.38 328 *i* PKPbc **PKPab 05 38 18.8 -0.2**
MYKA Terra Mystica 145.39 330 ⇑ *i*PKPab **PKPdf 05 38 18.0 -0.3**
comp=Z,21nm,0.6s
RCBR Riachuelo 145.54 132 PKPbc **PKPdf 05 38 18.3 -1.2**
comp=Z,13nm,0.9s,baz=149,slow=4.2,SNR=6.2
UCC Uccle 145.54 343 PKP **PKPbc 05 38 18.7 -0.1**
BCLA Clavier 145.60 341 PKP **PKPbc 05 38 18.9 -0.2**
BCLA APKP **pPKPdf 05 39 14.3 -0.4**
STU Stuttgart 145.66 336 *e*PKP2 **PKPbc 05 38 19.3 0.0**
STU Stuttgart 145.66 336 *e*PKPbc **PKPab 05 38 19.8 -0.2**
STU Stuttgart 145.66 336 *e*PKPdf **PKPbc 05 38 19.3 0.0**
STON Ston 145.67 321 P **PKPdf 05 38 19.0 +0.3**
JAVS Javornik 145.70 328 *i* PKPbc **PKPbc 05 38 19.9 +0.2**
UDBI Udbina 145.74 325 P **PKPbc 05 38 19.6 -0.2**
WATA Walderalm 145.82 332 ⇑ *i*PKPab **PKPbc 05 38 19.7 -0.3**
comp=Z,23nm,1.0s,SNR=5.8
SNF Seneffe 145.82 343 PKP **PKPab 05 38 20.1 -0.3**
ABTA Abfaltersbach 145.83 331 ⇑ *i*PKPbc **PKPdf 05 38 19.3 +0.3**
comp=Z,35nm,1.0s,SNR=5.7
WTTA Wattenberg 145.84 332 ⇑ *i*PKPab **PKPbc 05 38 20.2 +0.1**
comp=Z,36nm,1.1s,SNR=6.2
WLF Walferdange 145.99 340 PKP **PKPab 05 38 21.0 -0.2**
WLF Walferdange 145.99 340 *e*PKP2 **PKPbc 05 38 19.7 -0.6**
WLF Walferdange 145.99 340 *e*PKPbc **PKPab 05 38 21.0 -0.2**
WLF Walferdange 145.99 340 *e*PKPdf **PKPbc 05 38 19.7 -0.6**
LANF Langenberg 146.01 338 PKP **PKPbc 05 38 20.6 +0.2**
MOTA Moosalm 146.02 333 ⇑ *i*PKPab **PKPbc 05 38 20.5 -0.2**
comp=Z,54nm,0.9s,SNR=19
SQTA Sankt Quirin 146.06 333 ⇑ *i*PKPab **PKPbc 05 38 20.8 +0.1**
DOU Dourbes 146.10 342 PKP **PKPbc 05 38 20.6 0.0**
DOU APKP **pPKPdf 05 39 14.0 -1.6**
BFO Black Forest 146.36 337 *e*PKP2 **PKPbc 05 38 21.0 -0.4**
BFO Black Forest 146.36 337 *e*PKPbc **PKPbc 05 38 21.3 -0.1**
BFO Black Forest 146.36 337 *e*PKPbc **PKPbc 05 38 21.0 -0.4**
FETA Feichten 146.43 333 ⇑ *i*PKPab **PKPbc 05 38 22.1 +0.2**
comp=Z,41nm,0.9s,SNR=8.4
DAVA Damuels 146.58 334 ⇑ *i*PKPab **PKPbc 05 38 22.2 0.0**
comp=Z,55nm,0.9s,SNR=9.0
ECH Echery 146.89 338 *e*PKIKP **PKPdf 05 38 21.2 +0.5**
ECH Echery 146.89 338 PKP **PKPbc 05 38 22.6 -0.3**
ECH Echery 146.89 338 *e*PKPdf **PKPdf 05 38 21.2 +0.5**
DAVOX Davos/Dischmat 146.98 333 PKPbc **PKPbc 05 38 23.3 -0.1**
comp=Z,36nm,0.7s,baz=40,slow=1.1,SNR=40
MOF Molkenrain 147.20 337 PKP **PKPbc 05 38 23.0 -0.9**
THEF They Montfort 147.29 339 PKP **PKPbc 05 38 23.9 -0.1**
TUE Stuetta 147.45 333 *e*PKPbc **PKPbc 05 38 24.3 -0.4**
LOMF Lomont 147.73 337 PKP **PKPbc 05 38 25.2 -0.1**
BNI Bardonecchia 149.70 335 *e*PKPdf **PKPdf 05 38 26.1 +0.6**
BNI *e*PKPbc **PKPbc 05 38 30.4 0.0**
PLDF La Plantade 150.05 339 PKP **PKPbc 05 38 31.2 0.0**
AGO Saint Agoulin 150.14 340 PKP **PKPbc 05 38 31.0 -0.3**
SSB Saint Sauveur 150.33 338 *e*PKIKP **PKPdf 05 38 26.7 +0.3**
SSB *e* 05 38 39.4
SSB Saint Sauveur 150.33 338 *e*PKPdf **PKPdf 05 38 26.7 +0.3**
SSB *e*PKPbc **PKPbc 05 38 31.9 +0.1**
SSB *e*PKPab **PKPab 05 38 39.4 +0.5**
PYM Petit Puy Mans 150.45 340 PKP **PKPbc 05 38 32.1 0.0**
LBL Lubilhac 150.82 339 PKP **PKPbc 05 38 32.9 -0.1**
KEST Kesra 155.14 318 PKPab **PKPab 05 38 59.0 -0.6**
comp=Z,3.3nm,0.9s,baz=67,slow=4.6,SNR=3.7
ESDC Sonseca Array 158.04 345 PKPab **PKPab 05 39 11.6 -0.1**
comp=Z,2.2nm,0.7s,baz=10,slow=3.5,SNR=10.0
TORD Torodi Ar. Bea 166.68 248 PKP **PKPdf 05 38 45.5 -1.0**
comp=Z,6.4nm,1.0s,baz=64,slow=0.3,SNR=24
TORD PKPab **PKPab 05 39 49.9 -0.5**
comp=Z,1.9nm,1.0s,baz=94,slow=3.9,SNR=5.8

IDC 10 05:22:00.7±4.3, 38°.74S×74°.00W, h0km, mb3.3/1, mb1 3.6/2, mb1mx3.4/37, mbtmp3.4/2, ML3.7/1, MS2.0/1, Ms1 2.0/1, ms1mx2.0/11, Error ellipse: s-maj=101.8km s-min=21.4km az=53.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.32**	**128**	Pn	Pn	05 22 54.0	0.0
	1.6nm,0.3s,baz=302,slow=15,SNR=27						
PLCA				Lg	Lg	05 23 46.1	
	5.6nm,0.3s,baz=28,slow=21,SNR=9.8						
CFAA	**Coronel Fontan**	**8.54**	**35**	LR	LR	05 27 37.3	
	comp=Z,11nm,21.5s,baz=216,slow=39						
LPAZ	**La Paz**	**22.96**	**15**	P	P	05 27 07.2	-0.4
	0.9nm,0.7s,baz=213,slow=11,SNR=3.8						
ZALV	**Zalesovo Beam**	**159.03**	**37**	PKPab	PKPab	05 42 36.3	-0.2
	0.3nm,0.3s,baz=334,slow=5.6,SNR=3.1						

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*IDC **10** 05:26:29.4±0.7, 53°.08N×170°.82E, h0km, mb3.8/11, mb1 4.1/11, mb1mx3.8/54, mbtmp3.8/11, Error ellipse: s-maj=23.7km s-min=12.7km az=13.0*
*MOS **10** 05:26:31.9±0.8, 53°.06N×170°.88E, h33km, mb4.5/2, Error ellipse: s-maj=23.3km s-min=12.1km az=32.9*
*ISCJB **10** 05:26:32.4±0.5, 53°.06N±0°.06×170°.53E±0°.05, h24km, mb3.8/11, Error ellipse: s-maj=8.8km s-min=4.4km az=9.8*
*KRSC **10** 05:26:35.8±2.2, 53°.05N×170°.21E, h47km±25km, ML4.5*
ISC 10 05:26:32.4±0.7, 52°.95N±0°.08×170°.79E±0°.05, h24km, n57, σ2°39/30, mb3.9/11, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.44**	**92**	P	**Pn**	**05 26 55.3**	**-1.6**
FX1						05 27 12.5	
FX1				pmax	pmax		
	comp=Z,710nm,0.3s						
FX1	**Attu Island--F**	**1.44**	**92**	Pn	**Pn**	**05 26 55.3**	**-1.6**
	comp=Z,710nm,0.3s,baz=317,slow=4.8,SNR=846						
FX1				Sn	**Sn**	**05 27 12.5**	**-2.6**
	comp=Z,2μm,0.3s,baz=154,slow=18,SNR=40						
BKI	**Bering**	**3.63**	**310**	P	**Pn**	**05 27 27.6**	**+0.7**
BKI				S	**Sn**	**05 28 07.9**	**-1.0**
BKI	**Bering**	**3.63**	**310**	*e*P	**Pn**	**05 27 27.6**	**+0.7**
BKI				*e*S	**Sn**	**05 28 07.9**	**-1.0**
MKZ	**Mys Kozlova**	**5.61**	**290**	P	**Pn**	**05 27 55.4**	**+1.2**
MKZ				S	**Sn**	**05 28 55.2**	**-2.6**
MKZ	**Mys Kozlova**	**5.61**	**290**	*e*P	**Pn**	**05 27 55.4**	**+1.2**
MKZ				*e*S	**Sn**	**05 28 55.2**	**-2.6**
KBTR	**Krutoberegovo**	**5.67**	**308**	P	**Pn**	**05 27 55.3**	**+0.3**
KBTR				S	**Sn**	**05 28 55.3**	**-4.0**
KBTR	**Krutoberegovo**	**5.67**	**308**	*e*P	**Pn**	**05 27 55.3**	**+0.3**
KBTR				*e*S	**Sn**	**05 28 55.2**	**-4.0**
SPN	**Mys Shipunski**	**6.50**	**276**	S	**Sn**	**05 29 15.5**	**-4.2**
SMKR	**Semkarok**	**6.51**	**308**	*e*P	**Pn**	**05 28 08.4**	**+1.8**
SMKR				*e*S	**Sn**	**05 29 17.6**	**-2.4**
BDR	**Baidarnaya**	**6.62**	**307**	*e*P	**Pn**	**05 28 11.3**	**+3.1**
BDR				*e*S	**Sn**	**05 29 22.7**	**-0.2**
TUMR	**Tumrok**	**6.68**	**295**	*e*P	**Pn**	**05 28 11.1**	**+2.1**
TUMR				*e*S	**Sn**	**05 29 22.4**	**-1.9**
SRKR	**Sorokina**	**6.69**	**308**	*e*P	**Pn**	**05 28 10.4**	**+1.4**
SRKR				*e*S	**Sn**	**05 29 20.1**	**-4.3**
KMNR	**Kamenistaya**	**6.78**	**299**	*e*P	**Pn**	**05 28 12.8**	**+2.5**
KII	**Karymskiy**	**6.86**	**284**	*e*P	**Pn**	**05 28 13.4**	**+2.0**
KII				*e*S	**Sn**	**05 29 25.6**	**-3.0**
NLC	**Nalytchevo**	**6.90**	**276**	P	**Pn**	**05 28 13.1**	**+1.2**
NLC				S	**Sn**	**05 29 25.2**	**-4.4**
NLC	**Nalytchevo**	**6.90**	**276**	*e*P	**Pn**	**05 28 13.1**	**+1.2**
NLC				*e*S	**Sn**	**05 29 25.2**	**-4.4**
SDLR	**Sedlovina**	**7.18**	**277**	*e*P	**Pn**	**05 28 18.1**	**+2.3**
SDLR				*e*S	**Sn**	**05 29 34.4**	**-2.1**
UGLR	**Uglovaya**	**7.22**	**277**	*e*P	**Pn**	**05 28 18.6**	**+2.3**
UGLR				*e*S	**Sn**	**05 29 34.8**	**-2.7**
SMAR	**Somma**	**7.23**	**277**	*e*P	**Pn**	**05 28 18.8**	**+2.2**
SMAR				S	**Sn**	**05 29 35.4**	**-2.5**
KRER	**Koryakskii**	**7.26**	**278**	*e*P	**Pn**	**05 28 19.0**	**+2.0**
KRER				*e*S	**Sn**	**05 29 35.1**	**-3.5**
SRDR	**Sredinnyy**	**7.26**	**302**	*e*P	**Pn**	**05 28 19.3**	**+2.4**
SRDR				*e*S	**Sn**	**05 29 35.9**	**-2.5**
AVH	**Avacha**	**7.26**	**277**	*e*P	**Pn**	**05 28 19.1**	**+2.1**

AVH				*e*S	**Sn**	**05 29 36.1**	**-2.5**
KRX	**Arik**	**7.32**	**278**	*e*P	**Pn**	**05 28 19.4**	**+1.7**
KRX				*e*S	**Sn**	**05 29 35.8**	**-4.2**
KOK	**Koryaka**	**7.33**	**278**	*e*P	**Pn**	**05 28 19.6**	**+1.8**
KOK				*e*S	**Sn**	**05 29 36.9**	**-3.3**
PET	**Petropavlovsk**	**7.33**	**275**	P	**Pn**	**05 28 20.5**	**+2.7**
PET				S	**Sn**	**05 29 37.0**	**-3.1**
PET	**Petropavlovsk**	**7.33**	**275**	P	**Pn**	**05 28 20.5**	**+2.7**
PET				S	**Sn**	**05 29 37.0**	**-3.1**
RUS	**Russkaya**	**7.48**	**271**	P	**Pn**	**05 28 21.5**	**+1.6**
RUS				S	**Sn**	**05 29 40.0**	**-3.8**
RUS	**Russkaya**	**7.48**	**271**	*e*P	**Pn**	**05 28 21.4**	**+1.6**
RUS				*e*S	**Sn**	**05 29 40.0**	**-3.8**
OSSR	**Ossora**	**7.65**	**329**	*e*P	Pn	05 28 26.0	+3.9
ESO	**Esso**	**7.65**	**298**	P	**Pn**	**05 28 23.9**	**+1.7**
ESO	**Esso**	**7.65**	**298**	P	**Pn**	**05 28 23.9**	**+1.7**
MTVR	**Mutnovka**	**7.67**	**272**	*e*P	**Pn**	**05 28 23.7**	**+1.1**
MTVR				*e*S	**Sn**	**05 29 44.3**	**-4.5**
GNL	**Ganaly**	**7.73**	**281**	*e*P	Pn	05 28 26.8	+3.4
GNL				S	**Sn**	**05 29 49.0**	**-1.2**
PETK	**Petropavlovsk-**	**7.90**	**276**	P	**Pn**	**05 28 28.6**	**+3.0**
PETK						05 29 52.0	
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				smax	smax		
	comp=N,3.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.90**	**276**	Pn	**Pn**	**05 28 28.6**	**+3.0**
	comp=N,2.9nm,0.3s,baz=90,slow=19,SNR=21						
PETK				Sn	**Sn**	**05 29 52.0**	**-2.1**
	comp=N,2.9nm,0.3s,baz=88,slow=19,SNR=12						
APC	**Apacha**	**8.24**	**275**	P	**Pn**	**05 28 33.2**	**+3.0**
APC				*e*S	**Sn**	**05 30 00.4**	**-2.0**
H11N2	**WAKE ISLAND Hy 33.29**	**187**		T	T	06 08 29.9	
	baz=4.8,slow=76,SNR=560						
H11N3	**WAKE ISLAND Hy 33.30**	**187**		T	T	06 08 31.3	
	baz=4.8,slow=76,SNR=556						
H11N1	**WAKE ISLAND Hy 33.31**	**187**		T	T	06 08 31.3	
	baz=4.8,slow=76,SNR=588						
H11S1	**WAKE ISLAND Hy 34.52**	**187**		T	T	06 10 01.9	
	baz=4.8,slow=76,SNR=975						
H11S3	**WAKE ISLAND Hy 34.53**	**187**		T	T	06 10 03.1	
	baz=4.8,slow=76,SNR=664						
H11S2	**WAKE ISLAND Hy 34.54**	**187**		T	T	06 10 03.2	
	baz=4.8,slow=76,SNR=504						
YKA	**Yellowknife Ar**	**38.77**	**46**	P	**P**	**05 33 53.7**	**-0.6**
	comp=N,0.1nm,0.3s,baz=290,slow=7.7,SNR=3.7						
YKA				PcP	**PcP**	**05 36 04.8**	**-0.5**
	comp=N,0.2nm,0.5s,baz=292,slow=3.1,SNR=6.3						
NVAR	**Mina Array Bea**	**49.59**	**77**	P	**P**	**05 35 21.6**	**0.0**
	comp=N,0.5nm,0.6s,baz=305,slow=8.4,SNR=2.8						
PDAR	**Pinedale Array**	**51.78**	**67**	P	**P**	**05 35 37.6**	**-0.4**
	comp=N,1.1nm,0.7s,baz=310,slow=2.5,SNR=9.4						
MKAR	**Makanchi Array**	**53.89**	**302**	P	**P**	**05 35 53.2**	**-0.1**
	comp=N,0.2nm,0.4s,baz=48,slow=6.0,SNR=4.8						
ARCES	**ARCESS Array B**	**55.23**	**346**	P	**P**	**05 36 02.3**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES	**ARCESS Array B**	**55.23**	**346**	P	**P**	**05 36 02.3**	**-0.4**
	comp=Z,5.1nm,1.0s,baz=33,slow=8.0,SNR=7.3						
BVAR	**Borovoye Array**	**55.35**	**314**	P	**P**	**05 36 04.0**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=64,slow=14,SNR=4.3						
TXAR	**Lajitas Array**	**64.59**	**75**	P	**P**	**05 37 07.8**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=303,slow=5.4,SNR=13						
NB2	**NORSAR Subarra**	**65.20**	**349**	P	**P**	**05 37 11.1**	**0.0**
	comp=Z,1.1nm,0.5s,baz=13,slow=6.5						
NOA	**NORSAR Array B**	**65.20**	**349**	P	**P**	**05 37 11.1**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**65.20**	**349**	P	**P**	**05 37 11.1**	**0.0**
	comp=Z,1.5nm,0.6s,baz=349,slow=3.1,SNR=11						
WRA	**Warramunga Arr**	**79.17**	**215**	P	**P**	**05 38 36.1**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=30,slow=6.3,SNR=7.5						
BRTR	**Keskin Array B**	**80.52**	**328**	P	**P**	**05 38 44.3**	**+1.9**
	comp=Z,2.2nm,1.1s,baz=44,slow=4.4,SNR=2.8						
ASAR	**Alice Springs**	**82.76**	**214**	P	**P**	**05 38 55.9**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=19,slow=4.8,SNR=8.1						

*ISCJB **10** 05:28:28.5±1.1, 11°.94N±0°.08×43°.78E±0°.09, h4km, Error ellipse: s-maj=16.2km s-min=4.4km az=42.6*
*DHMR **10** 05:28:28.9±1.0, 12°.01N×43°.93E, h2km±7km, ML3.4*
*ARO **10** 05:28:30.3, 12°.N±2°.×4°.4E±°., h8km±3km, ML3.9*

ISC 10 05:28:28.0±1.2, 12°.00N±0°.07×43°.76E±0°.08, h4km, n10, σ0:52/14, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.46**	**269**	*e*P	**Pb**	**05 28 39.3**	**+0.6**
ATA	**Atar**	**0.77**	**225**	*e*P	**Pb**	**05 28 43.8**	**-0.1**
TDD	**Tadjoura Ara**	**0.86**	**257**	*e*P	**Pb**	**05 28 45.3**	**-0.1**
ATD	**Arta Tunnel**	**1.01**	**243**	*e*P	**Pb**	**05 28 47.8**	**-0.3**
ATD				*e*S	**Sb**	**05 29 02.0**	**+0.3**
SGH	**Sud-Ghoubbet**	**1.24**	**243**	*e*P	**Pg**	**05 28 51.7**	**-0.1**
TRBA	**At Turbah**	**1.27**	**16**	*i* P	**Pg**	**05 28 52.3**	**-0.2**
TRBA				AML	AML	05 29 03.1	
	comp=N,1μm,0.5s						
TRBA				*i* S	**Sg**	**05 29 09.4**	**+0.4**
MAOD	**Malaho**	**1.51**	**274**	*e*P	**Pn**	**05 28 55.7**	**-0.1**
GBR	**Grand-Bara**	**1.52**	**237**	*e*P	**Pn**	**05 28 55.8**	**-0.3**
UDYN	**Al 'Udayn**	**1.97**	**6**	*i* P	**Pb**	**05 29 04.0**	**-0.5**
UDYN				*i* S	**Sg**	**05 29 31.2**	**-0.1**
BDHA	**Al Bayda'**	**2.64**	**42**	*i* P	**Pn**	**05 29 12.7**	**+1.1**
BDHA				*i* S	**Sb**	**05 29 48.1**	**-0.8**
BDHA				AML	AML	05 30 02.5	
	comp=N,238nm,0.5s						

IDC 10 05:30:16.8±6.6, 5°.48S×150°.99E, h92km±60km, mb3.4/2, mb1 3.7/3, mb1mx3.2/26, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=116.9km s-min=55.6km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.44**	**224**	P	Pn	05 31 36.1	+0.6
	12nm,0.3s,baz=39,slow=8.9,SNR=16						
PMG				S	Sn	05 32 36.4	-0.5
	5.3nm,0.3s,baz=125,slow=19,SNR=11						
WRA	**Warramunga Arr**	**21.66**	**227**	P	P	05 35 01.3	+1.4
	2.8nm,0.4s,baz=52,slow=9.9,SNR=28						
ASAR	**Alice Springs**	**24.45**	**221**	P	P	05 35 27.2	0.0
	0.6nm,0.5s,baz=55,slow=9.0,SNR=7.7						
TORD	**Torodi Ar. Bea**	**148.78**	**286**	PKPbc	PKPbc	05 49 53.4	-1.2
	1.0nm,0.6s,baz=84,slow=2.9,SNR=11						

MAN 10 05:32:55, 8°.75N×124°.80E, h4km, mb4.3, ML3.1, MS2.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.31**	**199**	*e*P	Pg	05 33 01.6	+0.7
CGP				*i* S	Sg	05 33 04.4	-0.6
BUTP	**Butuan**	**0.84**	**75**	*e*P	Pb	05 33 11.8	-0.4
BUKP	**Musuan**	**0.90**	**163**	*e*P	Pb	05 33 12.9	-0.3
BUKP				*e*S	Sb	05 33 25.3	-0.4
PAGZ	**Pagadian**	**1.66**	**238**	*e*P	Pn	05 33 25.0	0.0
PAGZ				*e*S	Sb	05 33 47.4	-0.1

GUC 10 05:46:28.4±0.7, 34°.71S×72°.64W, h13km±6km, ML3.5, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.19**	**105**	⇓*i*P	Pn	05 46 49.5	-1.3
NICH				*i* S	Sb	05 47 05.1	-1.2
NICH				AML	AML	05 47 05.4	
	comp=N,3μm,0.5s						
LNCH	**Linares**	**1.42**	**144**	⇑*i*P	Pn	05 46 53.1	-0.9
LNCH				*i* S	Sn	05 47 11.9	-0.7
LNCH				AML	AML	05 47 20.2	
	comp=N,2μm,0.5s						
COCH	**Cobquecura**	**1.43**	**185**	⇓*i*P	Pn	05 46 52.6	-1.5
COCH				*e*S	Sn	05 47 11.9	-0.8
COCH				AML	AML	05 47 16.3	
	comp=N,308nm,0.3s						
ANTU	**Antumapu**	**2.01**	**56**	*e*P1	Pn	05 47 02.7	+0.6
ANTU				*e*S	Sn	05 47 28.3	+1.0
ANTU				AML	AML	05 47 35.6	
	comp=E,762nm,0.5s						
CLCH	**Cerro Calan**	**2.18**	**54**	*e*P1	Pn	05 47 05.6	+1.1
CLCH				AML	AML	05 47 45.9	
	comp=E,483nm,0.7s						

*ISCJB **10** 05:51:20.9±0.5, 8°.35S±0°.06×119°.80E±0°.05, h172km, mb4.0/4, Error ellipse: s-maj=9.1km s-min=5.7km az=28.0*
*IDC **10** 05:51:22.2±2.7, 8°.22S×119°.81E, h188km±21km, mb3.6/5, mb1 3.7/7, mb1mx3.4/32, mbtmp4.2/7, Error ellipse: s-maj=80.7km s-min=14.2km az=57.0*
*DJA **10** 05:51:23.7±0.5, 8°.S±4°.×12°.0E±°., h156km±6km, M3.7/7, MLv3.7/7*

ISC 10 05:51:20.2±0.7, 8°.33S±0°.07×119°.74E±0°.06, h172km, n19, σ1:93/25, mb4.0/4, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.35**	**195**	P	**Pn**	**05 51 51.4**	**+1.2**
WBSI				S	**Sn**	**05 52 14.3**	**+0.9**
WSI	**Waingapu**	**1.44**	**158**	P	**Pn**	**05 51 52.8**	**+1.8**
WSI				S	**Sn**	**05 52 15.3**	**+0.5**
WSI	**Waingapu**	**1.44**	**158**	S	**Sn**	**05 52 14.6**	**-0.2**
	baz=1.7,SNR=7.7						
BASI	**Baing, Sumba**	**2.05**	**156**	P	**Pn**	**05 51 59.0**	**+1.7**
BKSI	**Bulukumba**	**3.01**	**7**	P	**Pn**	**05 52 10.8**	**+2.1**
BNSI	**Bone**	**3.92**	**5**	P	Pn	05 52 24.1	+4.0
BATI	**Baumata**	**4.30**	**116**	P	**Pn**	**05 52 26.6**	**+1.6**
	16nm,0.3s,baz=300,slow=5.0,SNR=9.8						
BATI				S	**Sn**	**05 53 14.7**	**-0.9**
	15nm,0.3s,baz=339,slow=17,SNR=7.8						
IGBI	**Denpasar**	**4.57**	**264**	P	Pn	05 52 31.9	+3.4
SOEI	**Soe**	**4.69**	**108**	P	Pn	05 52 33.5	+3.4
SOEI	**Soe**	**4.69**	**108**	P	**Pn**	**05 52 31.6**	**+1.5**
	baz=4.8,SNR=9.4						
SOEI				S	**Sn**	**05 53 24.9**	**+0.1**
	baz=4.8,SNR=5.9						
JAGI	**Jajag, Banyuwa**	**5.53**	**268**	P	**Pn**	**05 52 43.5**	**+2.4**
	baz=5.6,SNR=5.9						
JAGI				S	**Sn**	**05 53 41.0**	**-3.5**
	baz=5.6,SNR=9.1						
UGM	**Wanagama**	**9.14**	**272**	P	**Pn**	**05 53 30.0**	**+1.3**
	baz=9.2,SNR=5.6						
WRA	**Warramunga Arr**	**18.25**	**131**	P	**P**	**05 55 21.2**	**+0.4**
	0.9nm,0.3s,baz=304,slow=12,SNR=41						
WRA				S	**S**	**05 58 36.4**	**-4.3**
	0.2nm,0.3s,baz=306,slow=24,SNR=7.3						
WRA				ScP	**ScP**	**06 03 02.1**	**-3.0**
	0.0nm,0.3s,baz=323,slow=2.3,SNR=2.9						
ASAR	**Alice Springs**	**20.41**	**140**	P	**P**	**05 55 45.1**	**+1.0**
	4.1nm,0.5s,baz=316,slow=10,SNR=39						
ASAR				S	**S**	**05 59 20.6**	**-2.9**
	1.0nm,0.9s,baz=326,slow=24,SNR=7.8						
ASAR				ScP	**ScP**	**06 03 08.2**	**-1.8**
	0.3nm,0.5s,baz=316,slow=2.3,SNR=4.1						
STKA	**Stephens Creek**	**31.01**	**142**	P	**P**	**05 57 23.4**	**+1.7**
	5.0nm,0.5s,baz=317,slow=9.4,SNR=15						
SONM	**Songino Array**	**57.15**	**349**	P	**P**	**06 00 49.6**	**+0.5**
	0.5nm,0.5s,baz=165,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**64.20**	**332**	P	**P**	**06 01 36.6**	**-0.1**
	0.7nm,0.5s,baz=153,slow=6.8,SNR=14						
ZALV	**Zalesovo Beam**	**68.68**	**339**	P	**P**	**06 02 04.0**	**-0.9**
	1.2nm,0.3s,baz=160,slow=4.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**119.06**	**280**	PKP	**PKPdf**	**06 09 49.1**	**-0.5**
	0.4nm,0.9s,baz=21,slow=1.9,SNR=2.3						

*ISCJB **10** 06:02:04.0±0.9, 25°.75S±0°.06×66°.98W±0°.09, h33km, mb3.6/1, MS3.9/1, Error ellipse: s-maj=11.7km s-min=8.5km az=6.8*
*IDC **10** 06:02:04.9±3.9, 25°.72S×66°.68W, h35km±31km, mb3.5/1, mb1 3.5/5, mb1mx3.4/29, mbtmp3.5/5, ML3.4/4, MS3.0/5, Ms1 3.1/5, ms1mx2.9/16, Error ellipse: s-maj=32.9km s-min=29.7km az=92.0*
*SJA **10** 06:02:04.7±0.6, 26°.09S×66°.30W, h176km±10km, ML4.1*

ISC 10 06:02:06.0±1.3, 25°.73S±0°.09×66°.8W±0°.1, h35km, n14, σ1:83/12, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHML	**Horco Molle**	**1.68**	**129**	*i* P	**Pn**	**06 02 33.2**	**+0.3**
AHML				*i* S	**Sn**	**06 02 54.6**	**+1.3**
AZAP	**Zapla**	**2.17**	**47**	*i* P	Pn	06 02 44.3	+4.5
AZAP				*i* S	Sn	06 03 14.0	+8.5
AZAP				AML	AML	06 03 17.9	
	comp=Z,703nm,0.7s						
ASTB	**Santa Barbara**	**2.74**	**50**	*i* P	**Pn**	**06 02 50.7**	**+3.0**
ALOL	**LOMAS DE OLMED**	**3.19**	**54**	*i* P	**Pn**	**06 02 55.3**	**+1.5**
ACLC	**CERRO LA CRUZ**	**3.69**	**182**	*i* P	**Pn**	**06 02 58.4**	**-2.3**
AGUA	**GUANDACOL**	**4.04**	**202**	*i* P	**Pn**	**06 03 05.7**	**+0.3**
CFAA	**Coronel Fontan**	**5.99**	**192**	Pn	**Pn**	**06 03 32.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=14,slow=13,SNR=9.5						
CFAA				Lg	Lg	06 05 01.1	
	comp=Z,0.3nm,0.3s,baz=292,slow=3.1,SNR=4.1						
CFAA				LR	LR	06 05 59.1	
	comp=Z,15nm,18.9s,baz=11,slow=39						
CPUP	**Villa Florida**	**8.53**	**96**	Pn	**Pn**	**06 04 06.5**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=265,slow=12,SNR=5.8						
CPUP				Lg	Lg	06 06 33.0	
	comp=Z,1.4nm,0.3s,baz=338,slow=19,SNR=2.5						
LPAZ	**La Paz**	**9.47**	**352**	Pn	**Pn**	**06 04 20.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=174,slow=10,SNR=11						
LPAZ				LR	LR	06 09 29.7	
	comp=Z,77nm,20.2s,baz=246,slow=47						
SIV	**San Ignacio**	**11.06**	**30**	Pn	**Pn**	**06 04 41.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=216,slow=8.7,SNR=2.6						
SIV				LR	LR	06 08 32.2	
	comp=Z,53nm,21.0s,baz=212,slow=35						
PLCA	**Paso Flores**	**15.29**	**191**	LR	LR	06 11 50.8	
	comp=Z,145nm,19.1s,baz=56,slow=38						
PFO	**Pinyon Flats O**	**75.56**	**319**	LR	LR	06 40 19.1	
	comp=Z,64nm,20.0s,baz=330,slow=30						
TORD	**Torodi Ar. Bea**	**77.02**	**68**	P	**P**	**06 13 52.9**	**-2.9**
	comp=Z,0.7nm,0.9s,baz=250,slow=6.3,SNR=2.9						
MKAR	**Makanchi Array**	**147.71**	**41**	PKPbc	**PKPdf**	**06 21 45.6**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=306,slow=2.7,SNR=3.1						

*IDC **10** 06:10:46.7±0.9, 15°.12S×173°.58W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.1/34, mbtmp4.2/8, MS3.7/5, Ms1 3.7/5, ms1mx3.2/26, Error ellipse: s-maj=36.2km s-min=20.5km az=129.0*
*ISCJB **10** 06:10:49.5±0.9, 15°.2S±0°.2×173°.6W±0°.2, h30km, mb4.1/7, MS3.8/4, Error ellipse: s-maj=31.0km s-min=18.0km az=43.7*

ISC 10 06:10:51.3±1.0, 15°.1S±0°.2×173°.7W±0°.3, h30km, n14, σ0:99/9, mb4.2/7, MS3.9/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**14.62**	**195**	LR	LR	06 19 09.5	
	comp=Z,120nm,21.8s,baz=48,slow=34						
DZM	**Mont Dzumac**	**20.09**	**247**	P	Pn	06 15 24.4	-0.3
	9.9nm,1.1s,baz=86,slow=18,SNR=2.7						
URZ	**Urewera**	**24.47**	**198**	P	**P**	**06 16 05.9**	**-1.8**
	5.5nm,0.3s,baz=11,slow=16,SNR=23						
URZ				LR	LR	06 24 30.2	
	comp=Z,84nm,18.3s,baz=20,slow=34						
STKA	**Stephens Creek**	**43.98**	**240**	P	**P**	**06 18 56.7**	**+0.6**
	1.3nm,0.5s,baz=91,slow=9.1,SNR=3.6						
WRA	**Warramunga Arr**	**49.68**	**257**	P	**P**	**06 19 40.7**	**-0.2**
	0.8nm,0.3s,baz=97,slow=7.8,SNR=18						
ASAR	**Alice Springs**	**49.98**	**252**	P	**P**	**06 19 43.1**	**0.0**
	4.2nm,0.6s,baz=88,slow=8.0,SNR=67						
VNDA	**Vanda**	**63.64**	**186**	P	**P**	**06 21 20.3**	**+1.2**
	2.6nm,0.9s,baz=347,slow=4.7,SNR=6.1						
YBH	**Yreka Blue Hor**	**73.51**	**37**	LR	LR	06 50 13.0	
	comp=Z,102nm,18.9s,baz=305,slow=32						
NVAR	**Mina Array Bea**	**74.27**	**42**	P	**P**	**06 22 26.3**	**+0.2**
	2.0nm,0.9s,baz=229,slow=9.1,SNR=4.9						
ANMO	**Albuquerque**	**80.80**	**50**	LR	LR	06 52 27.6	
	comp=Z,64nm,20.4s,baz=309,slow=31						
ILAR	**Eielson Array**	**82.20**	**11**	P	**P**	**06 23 08.6**	**-0.5**
	0.4nm,0.8s,baz=192,slow=5.5,SNR=7.4						
PDAR	**Pinedale Array**	**82.21**	**42**	LR	LR	06 51 26.1	
	comp=Z,50nm,20.6s,baz=312,slow=30						
MLR	**Muntele Rosu**	**145.50**	**335**	PKPbc	**PKPab**	**06 30 27.7**	**+0.5**
	0.7nm,0.8s,baz=22,slow=7.6,SNR=4.1						
BRTR	**Keskin Array B**	**145.78**	**321**	PKPbc	**PKPdf**	**06 30 27.1**	**-0.5**
	1.5nm,0.8s,baz=46,slow=3.6,SNR=5.6						

IDC 10 06:11:27.9±2.3, 1°.78N×127°.02E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.2/33, mbtmp3.1/3, Error ellipse: s-maj=195.5km s-min=25.2km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.75**	**162**	P	P	06 16 31.9	0.0
	0.2nm,0.4s,baz=341,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**26.16**	**166**	P	P	06 17 04.2	0.0
	0.1nm,0.3s,baz=345,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**59.32**	**326**	P	P	06 21 31.8	0.0
	0.1nm,0.5s,baz=129,slow=7.7,SNR=3.4						

*ISCJB **10** 06:11:32.9±0.6, 51°.51N±0°.04×173°.39W±0°.03, h42km±4km, mb4.7/137, MS3.8/7, Error ellipse: s-maj=7.4km s-min=2.6km az=7.7*
*MOS **10** 06:11:32.2±1.0, 51°.57N×173°.41W, h33km, mb5.1/52, Error ellipse: s-maj=7.7km s-min=5.2km az=93.2*
*BJI **10** 06:11:32.6, 51°.50N×173°.50W, h44km, mB5.1/28, mb4.9/42, Ms5.0/26, Ms7 4.7/24*
*IDC **10** 06:11:35.0±0.8, 51°.59N×173°.44W, h45km±5km, mb4.2/30, mb1 4.3/32, mb1mx4.3/45, mbtmp4.4/32, ML3.8/2, MS3.7/8, Ms1 3.7/8, ms1mx3.4/35, Error ellipse: s-maj=18.7km s-min=8.9km az=0.0*
*NEIC **10** 06:11:34.8±0.7, 51°.52N×173°.47W, h44km±4km, mb4.9/87, ML4.1(AEIC), Error ellipse: s-maj=7.2km s-min=3.0km az=190.0*

ISC 10 06:11:34.9±0.5, 51°.56N±0°.08×173°.43W±0°.03, h45km±2km, h45km:pP-P, n641, σ0:91/694, mb4.8/139, MS3.9/7, 127C-145D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.83**	**330**	P	**Pn**	**06 11 50.0**	**-0.3**
KOKL	**Mount Kliuchef**	**0.91**	**328**	P	**Pn**	**06 11 51.0**	**-0.3**
KOWE	**Korovin West**	**0.96**	**328**	P	**Pn**	**06 11 52.0**	**0.0**
NIKH	**Nikolski High**	**3.15**	**61**	P	**Pn**	**06 12 21.1**	**-0.9**
NIKH				S	**Sn**	**06 12 55.8**	**-2.4**
OKFG	**Magazine Ridge**	**3.85**	**59**	P	**Pn**	**06 12 31.7**	**+0.2**
OKFG				S	**Sn**	**06 13 13.9**	**-1.5**
MSOM	**Makushin Julie**	**4.54**	**58**	P	**Pn**	**06 12 40.8**	**-0.3**
MSOM	**Makushin Julie**	**4.54**	**58**	P	**Pn**	**06 12 40.8**	**-0.3**
MSW	**Makushin Switc**	**4.68**	**57**	P	**Pn**	**06 12 42.6**	**-0.3**
MSW				S	**Sn**	**06 13 35.1**	**-0.7**
MTBL	**Makushin Table**	**4.76**	**57**	P	**Pn**	**06 12 45.0**	**+0.9**
UNV	**Unalaska Valle**	**4.79**	**59**	*e*Pn	**Pn**	**06 12 45.2**	**+0.7**
UNV				S	**Sn**	**06 13 37.4**	**-1.2**
AKRB	**Akutan Reef Bi**	**5.15**	**57**	P	**Pn**	**06 12 49.5**	**+0.1**
AKGG	**Akutan Green G**	**5.22**	**57**	P	**Pn**	**06 12 49.1**	**-1.2**
AKUT	**Akutan**	**5.31**	**58**	*e*Pn	**Pn**	**06 12 54.2**	**+2.7**
FALS	**False Pass**	**6.86**	**57**	*e*Pn	**Pn**	**06 13 13.9**	**+1.1**
FX1	**Attu Island--F**	**8.34**	**284**	P	**Pn**	**06 13 34.4**	**+1.3**
FX1				S	**Sn**	**06 15 06.3**	**+0.4**
FX1				pmax	pmax		
	comp=Z,5.0nm,0.3s						
FX1	**Attu Island--F**	**8.34**	**284**	P	**Pn**	**06 13 34.4**	**+1.3**
	comp=Z,4.5nm,0.3s,baz=131,slow=2.0,SNR=23						
FX1				S	**Sn**	**06 15 06.3**	**+0.4**
	baz=252,slow=20,SNR=2.1						
FX1	**Attu Island--F**	**8.34**	**284**	*e*Pn	**Pn**	**06 13 33.7**	**+0.5**
FX1				S	**Sn**	**06 15 06.3**	**+0.4**
GAMB	**Gambell**	**12.29**	**4**	*e*Pn	**Pn**	**06 14 29.5**	**+2.6**
KDAK	**Kodiak Island**	**13.54**	**54**	*i* P	Pn	06 14 42.2	-1.9
TNA	**Tin City**	**14.32**	**9**	*e*Pn	**Pn**	**06 14 57.5**	**+2.8**
PPLA	**Purkeypile**	**16.06**	**37**	*e*P	**P**	**06 15 21.5**	**+1.3**
	comp=Z,121nm,1.6s						
CAST	**Castle Rocks**	**16.41**	**35**	*e*Pn	**P**	**06 15 24.4**	**+0.4**
	comp=Z,31nm,1.4s						
KTH	**Kantishna Hill**	**16.91**	**36**	*e*Pn	**P**	**06 15 29.4**	**-0.1**
	comp=Z,26nm,0.9s						
TRF	**Thorofare Moun**	**17.09**	**37**	*e*Pn	**P**	**06 15 31.2**	**-0.4**
	comp=Z,22nm,1.0s						
PET	**Petropavlovsk**	**17.10**	**286**	*e*P	**P**	**06 15 31.2**	**-0.4**
IM04	**Indian Mountai**	**17.55**	**27**	*e*P	**P**	**06 15 37.7**	**+1.2**
PETK	**Petropavlovsk-**	**17.67**	**286**	P	**P**	**06 15 37.8**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=101,slow=13,SNR=8.9						
PETK				LR	LR	06 21 53.1	
	comp=Z,152nm,20.9s,baz=91,slow=35						
MCK	**McKinley**	**17.75**	**37**	*e*P	**Pn**	**06 15 37.2**	**-1.2**
MCK				pmax	pmax		
	comp=Z,33nm,1.2s						
MCK	**McKinley**	**17.75**	**37**	*e*Pn	**Pn**	**06 15 37.2**	**-1.2**
	comp=Z,32nm,1.2s						
COLA	**College**	**18.77**	**35**	*e*P	**P**	**06 15 48.8**	**-1.0**
COLA				pmax	pmax		
	comp=Z,22nm,0.6s						
COLA	**College**	**18.77**	**35**	*e*Pn	**Pn**	**06 15 51.1**	**+0.5**
	comp=Z,37nm,1.5s						
PAX	**Paxson**	**18.77**	**42**	*e*P	**Pn**	**06 15 51.4**	**+0.6**
PAX				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PAX	**Paxson**	**18.77**	**42**	*e*Pn	**Pn**	**06 15 51.4**	**+0.6**
	comp=Z,9.5nm,0.8s						
ILAR	**Eielson Array**	**19.06**	**36**	P	**P**	**06 15 50.4**

H11S2	WAKE ISLAND Hy	36.54	213	T	T		06 57 51.9
	baz=18						
H11S3	WAKE ISLAND Hy	36.54	213	T	T		06 57 58.8
	baz=18						
USRK	Ussuriysk Ar.	36.59	280	P	P		06 18 35.5 -0.8
	comp=Z,6.5nm,0.7s,baz=56,slow=8.0,SNR=11						
MAJO	Matsushiro	37.14	265	eP	P		06 18 41.3 +0.2
MAJO				pmax	pmax		
	comp=Z,72nm,1.1s						
MJAR	Matsushiro Arr	37.14	265	P	P		06 18 41.3 +0.2
	comp=Z,1.0nm,0.3s,baz=45,slow=7.7,SNR=5.2						
WALA	Waterton Lakes	37.18	70	eP	P		06 18 42.3 +0.9
BSMT	Bassoo Peak	37.23	72	eP	P		06 18 42.3 +0.4
BLMT	Blacktail Moun	37.40	71	eP	P		06 18 43.5 +0.1
WVOR	Wild Horse Val	37.66	82	eP	P		06 18 47.1 +1.6
WVOR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WVOR	Wild Horse Val	37.66	82	eP	P		06 18 47.1 +1.6
	comp=Z,8.5nm,0.9s						
MDJ	Mudanjiang	37.84	283	P	P		06 18 46.3 -0.6
MDJ				PMZ			
	comp=Z,7.0nm,1.4s						
MDJ				PMZ			
	comp=Z,82nm,5.6s						
MSO	Missoula	38.22	73	⇓P	P		06 18 50.6 +0.3
	baz=38						
MSO	Missoula	38.22	73	eP	P		06 18 50.6 +0.3
	comp=Z,12nm,1.1s						
HRY	Holter Researc	39.54	72	eP	P		06 19 01.7 +0.4
HLID	Hailey	39.64	78	⇑P	P		06 19 02.1 -0.1
	baz=40						
HLID	Hailey	39.64	78	eP	P		06 19 03.3 +1.1
	comp=Z,7.3nm,1.2s						
EGMT	Eagleton	40.10	69	⇑P	P		06 19 06.2 +0.3
	baz=40,SNR=14						
EGMT	Eagleton	40.10	69	eP	P		06 19 06.0 +0.2
	comp=Z,22nm,0.8s						
NVAR	Mina Array Bea	40.19	87	P	P		06 19 07.9 +1.0
	comp=Z,3.0nm,0.9s,baz=293,slow=8.2,SNR=13						
NVAR				pP	pP		06 19 19.4 +0.3
	comp=Z,4.8nm,0.8s,baz=293,slow=8.6,SNR=11						
A19A	Klindworth Far	40.24	67	⇑P	P		06 19 07.2 +0.2
	baz=40,SNR=9.0						
B19A	Brinkman Farms	40.36	68	⇑P	P		06 19 08.3 +0.4
	baz=40,SNR=17						
BOD	Bodaibo	40.54	308	eP	P		06 19 05.5 -3.7
BOD				pmax	pmax		
	comp=Z,3.0nm,1.6s						
C19A	Slack Wire Ran	40.66	69	⇓P	P		06 19 11.3 +0.8
	baz=40,SNR=24						
MTUM	Tungsten Hills	40.69	88	eP	P		06 19 11.6 +0.7
MTUM				epP	pP		06 19 23.6 +0.4
A20A	Cobblestone Ra	40.74	67	⇓P	P		06 19 11.3 +0.2
	baz=41,SNR=12						
D19A	Cripps Ranch,	41.05	70	⇓P	P		06 19 14.4 +0.7
	baz=41,SNR=13						
TPH	Tonopah	41.08	86	eP	P		06 19 15.4 +1.2
TPH				e*PP	pP		06 19 26.1 -0.4
TPH				pmax	pmax		
	comp=Z,13nm,1.4s						
TPH	Tonopah	41.08	86	eP	P		06 19 15.4 +1.2
	comp=Z,13nm,1.4s						
TPH				epP	pP		06 19 26.1 -0.4
YMR	Madison River	41.12	74	eP	P		06 19 15.6 +1.1
	comp=Z,100nm,2.5s						
A21A	Bergtoll Ranch	41.26	66	⇓P	P		06 19 15.8 +0.5
	baz=41,SNR=8.4						
YNR	Norris Junctio	41.27	74	eP	P		06 19 17.5 +1.7
	comp=Z,12nm,1.0s						
FFC	Flin Flon	41.27	56	eP	P		06 19 15.4 +0.1
FFC				pmax	pmax		
	comp=Z,32nm,1.5s						
FFC	Flin Flon	41.27	56	eP	P		06 19 15.4 +0.1
	comp=Z,32nm,1.5s						
C20A	Veseth Ranch,	41.28	69	⇑P	P		06 19 16.4 +0.8
	baz=41,SNR=16						
HIA	Hailar	41.31	294	eP	P		06 19 15.2 -0.5
HIA				pmax	pmax		
	comp=Z,13nm,1.1s						
E19A	Rath Farm, Rou	41.47	71	⇑P	P		06 19 17.9 +0.8
	baz=41,SNR=6.5						
B21A	Ellsworth Farm	41.49	67	⇓P	P		06 19 17.7 +0.5
	baz=41						
H17A	Grant Village	41.51	74	⇓P	P		06 19 19.0 +1.3
	baz=41						
H17A	Grant Village	41.51	74	eP	P		06 19 19.8 +2.1
	comp=Z,15nm,1.4s						
LKWY	Lake	41.52	74	eP	P		06 19 19.7 +1.9
LKWY				pmax	pmax		
	comp=Z,112nm,2.7s						
LKWY	Lake	41.52	74	eP	P		06 19 19.7 +1.9
	comp=Z,112nm,2.7s						
D20A	Manuel Ranch,	41.52	69	⇓P	P		06 19 17.7 +0.2
	baz=41						
IMW	Indian Meadow	41.56	75	eP	P		06 19 19.6 +1.4
	comp=Z,9.2nm,1.3s						
F19A	Roth Farm, Mol	41.70	71	⇓P	P		06 19 19.3 +0.2
	baz=42						
I17A	Pilgrim Ck.	41.77	75	⇓P	P		06 19 20.5 +0.7
	baz=42						
ISA	Isabella, Lake	41.81	90	⇓P	P		06 19 20.1 +0.1
	baz=42						
E20A	Meyer Farm, Mu	41.83	70	⇓P	P		06 19 20.8 +0.7
	baz=42						
A22A	Carney Farms,	41.83	66	⇑P	P		06 19 20.5 +0.4
	baz=42,SNR=8.4						
H18A	Shoshone NF, C	41.90	73	⇑P	P		06 19 21.5 +0.6
	baz=42						
R11A	Troy Canyon, C	41.93	85	⇑P	P		06 19 21.7 +0.5
	baz=42						
R11A	Troy Canyon, C	41.93	85	eP	P		06 19 21.6 +0.5
	comp=Z,4.4nm,0.9s						
DAC	Darwin (Calif)	41.97	89	eP	P		06 19 21.8 +0.3
DAC				e*PP	pP		06 19 33.5 -0.3
DAC				pmax	pmax		
	comp=Z,42nm,2.3s						
DAC	Darwin (Calif)	41.97	89	eP	P		06 19 21.8 +0.3
	comp=Z,42nm,2.3s						
DAC				epP	pP		06 19 33.5 -0.3
B22A	Reddig Ranch S	42.14	67	⇓P	P		06 19 23.1 +0.6
	baz=42						
F20A	Billings	42.19	71	⇓P	P		06 19 23.2 +0.1
	baz=42						
D21A	La Casta Ranch	42.20	69	⇓P	P		06 19 23.5 +0.4
	baz=42						
H19A	Powell	42.31	73	⇑P	P		06 19 24.7 +0.6
	baz=42,SNR=5.0						
E21A	Keefer Ranch,	42.43	70	⇓P	P		06 19 25.1 +0.2
	baz=42						
A23A	Redstone	42.44	65	⇑P	P		06 19 25.4 +0.5
	baz=42,SNR=6.5						
G20A	Bridger	42.47	72	⇑P	P		06 19 25.7 +0.3
	baz=42,SNR=10						
HWUT	Hardware Ranch	42.48	78	eP	P		06 19 27.5 +1.9
	comp=Z,4.7nm,1.0s						
HWUT				epP	pP		06 19 41.5 +3.6
C22A	Vida	42.49	67	⇓P	P		06 19 25.7 +0.3
	baz=42,SNR=9.1						
DUG	Dugway, Tooele	42.54	81	eP	P		06 19 26.8 +0.8
DUG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
DUG	Dugway, Tooele	42.54	81	⇑P	P		06 19 25.1 -0.9
	baz=42						
DUG	Dugway, Tooele	42.54	81	eP	P		06 19 26.8 +0.8
	comp=Z,7.7nm,0.9s						
EDW2	Edwards Air Fo	42.62	91	⇓P	P		06 19 27.1 +0.4
	baz=42						
B23A	Brockton	42.63	66	⇓P	P		06 19 27.0 +0.4
	baz=42,SNR=20						
D22A	Cohagen	42.63	68	⇑P	P		06 19 27.4 +0.8
	baz=42,SNR=11						
I19A	Meeteetse	42.65	74	⇑P	P		06 19 27.3 +0.4
	baz=42						
F21A	Absaloka Mine,	42.79	71	⇑P	P		06 19 28.1 +0.3
	baz=43						
C23A	Lambert	42.86	67	⇓P	P		06 19 29.1 +0.7
	baz=43,SNR=8.3						
A24A	Westby	42.95	65	⇑P	P		06 19 29.7 +0.6
	baz=43,SNR=18						
KSRS	Korea Array	42.99	275	P	P		06 19 30.5 +1.0
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSRS	Korea Array	42.99	275	P	P		06 19 30.5 +1.0
	comp=Z,6.3nm,0.8s,baz=55,slow=8.0,SNR=10						
H20A	Greybull	43.00	73	⇓P	P		06 19 29.9 +0.2
	baz=43						
KSAR	Wonju Array Be	43.02	275	P	P		06 19 30.5 +0.8
KSAR	Wonju Array Be	43.02	275	P	P		06 19 30.5 +0.8
SHOC	Shoshone, Teco	43.03	88	⇑P	P		06 19 30.5 +0.7
	baz=43						
PDAR	Pinedale Array	43.03	76	P	P		06 19 30.1 0.0
	comp=Z,3.8nm,0.7s,baz=306,slow=3.5,SNR=26						
J19A	Crowheart	43.05	75	⇑P	P		06 19 30.8 +0.6
	baz=43						
G21A	Lodge Grass	43.06	71	⇑P	P		06 19 30.3 +0.1
	baz=43						
DGMT	Dagmar	43.08	66	⇓P	P		06 19 30.4 +0.2
	baz=43,SNR=6.2						
DGMT	Dagmar	43.08	66	eP	P		06 19 30.7 +0.5
	comp=Z,32nm,1.2s						
GSC	Goldstone, Bar	43.08	89	eP	P		06 19 30.8 +0.4
GSC				e*PP	pP		06 19 41.2 -1.6
GSC				pmax	pmax		
	comp=Z,20nm,1.0s						
GSC	Goldstone, Bar	43.08	89	⇓P	P		06 19 30.8 +0.4
	baz=43						
GSC	Goldstone, Bar	43.08	89	eP	P		06 19 30.8 +0.4
	comp=Z,20nm,1.0s						
GSC				epP	pP		06 19 41.2 -1.6
JLU	Jordanelle	43.13	79	eP	P		06 19 30.5 -0.5
	comp=Z,5.1nm,0.9s						
E22A	Miles City	43.14	69	⇓P	P		06 19 31.1 +0.4
	baz=43,SNR=6.9						
D23A	Lindsay	43.18	68	⇓P	P		06 19 31.3 +0.3
	baz=43						
I20A	Wotland	43.22	73	⇓P	P		06 19 31.8 +0.3
	baz=43						
F22A	Rosebud	43.32	70	⇑P	P		06 19 32.3 +0.2
	baz=43,SNR=5.1						
FCC	Fort Churchill	43.37	48	eP	P		06 19 32.3 0.0
FCC	Fort Churchill	43.37	48	eP	P		06 19 32.3 0.0
C24A	Savage	43.44	67	⇓P	P		06 19 33.5 +0.4
	baz=43						
A25A	Svangstu Ranch	43.45	65	⇓P	P		06 19 33.6 +0.5
	baz=43						
H21A	Big Horn, Sher	43.49	72	⇑P	P		06 19 34.0 +0.3
	baz=43						
J20A	Shoshoni	43.58	74	⇑P	P		06 19 34.7 +0.3
	baz=44						
G22A	Birney	43.61	71	⇓P	P		06 19 34.4 -0.2
	baz=44						
D24A	Glendive	43.72	67	⇓P	P		06 19 36.4 +1.0
	baz=44,SNR=9.7						
B25A	Knox Farm, Ray	43.77	65	⇑P	P		06 19 36.2 +0.4
	baz=44,SNR=7.7						
I21A	Big Trails, Te	43.80	73	⇓P	P		06 19 35.9 -0.2
	baz=44,SNR=6.2						
CCUT	Cedar City	43.80	84	eP	P		06 19 38.5 +2.1
	comp=Z,38nm,2.3s						
F23A	Volborg	43.85	70	⇓P	P		06 19 36.6 +0.1
	baz=44,SNR=12						
H22A	Clearmont	43.92	72	⇑P	P		06 19 36.8 -0.3
	baz=44						
J21A	Lysite	43.97	74	⇓P	P		06 19 37.3 -0.3
	baz=44						
C25A	Freed Ranch, W	44.01	66	⇑P	P		06 19 38.1 +0.4
	baz=44,SNR=5.3						
E24A	Baker	44.03	68	⇓P	P		06 19 37.9 0.0
	baz=44						
TMUT	Trail Mountain	44.06	81	eP	P		06 19 39.2 +0.6
	comp=Z,12nm,0.8s						
TMUT				epP	pP		06 19 47.7 -3.2
A26A	Wade Farm, Ken	44.08	64	⇓P	P		06 19 38.4 +0.2
	baz=44,SNR=11						
G23A	Biddle	44.15	70	⇑P	P		06 19 38.3 -0.5
	baz=44						
I22A	9 Mile Ranch,	44.23	72	⇓P	P		06 19 40.4 +0.8
	baz=44						
D25A	Fairfield	44.28	67	⇑P	P		06 19 39.9 0.0
	baz=44						
F24A	Ekalaka	44.34	69	⇑P	P		06 19 40.4 0.0
	baz=44,SNR=9.0						
109C	Camp Elliot, M	44.48	92	⇑P	P		06 19 41.2 -0.3
	baz=44						
K21A	Alcova	44.50	74	⇓P	P		06 19 41.2 -0.7
	baz=44						
J22A	Midwest	44.51	73	⇓P	P		06 19 41.5 -0.3
	baz=44,SNR=6.9						
E25A	Miller Ranch,	44.59	68	⇓P	P		06 19 42.7 +0.4
	baz=44,SNR=6.2						
SRU	San Rafael Swe	44.60	81	eP	P		06 19 43.5 +0.9
SRU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SRU	San Rafael Swe	44.60	81	eP	P		06 19 43.5 +0.9
	comp=Z,8.4nm,0.8s						
C26A	Wahner Farm, P	44.61	65	⇓P	P		06 19 42.7 +0.2
	baz=44,SNR=5.5						
G24A	Alzada	44.65	70	⇓P	P		06 19 42.6 -0.3
	baz=44,SNR=5.6						
B27A	Peters Farms,	44.77	64	⇓P	P		06 19 43.9 +0.2
	baz=45						
D26A	Manning	44.85	66	⇑P	P		06 19 44.6 +0.2
	baz=45						
F25A	Bowman	44.87	68	⇑P	P		06 19 44.7 +0.1
	baz=45						
BAR	Barrett	44.89	92	eP	P		06 19 46.1 +1.2
	comp=Z,85nm,0.2s						
H24A	Dirks Ranch, A	44.89	70	⇑P	P		06 19 44.5 -0.3
	baz=45						
K22A	Casper	44.92	74	⇓P	P		06 19 44.8 -0.4
	baz=45						
N20A	Spence Gulch,	44.94	77	⇑P	P		06 19 45.1 -0.3
	baz=45						
C27A	Sayler Ranch,	45.01	65	⇓P	P		06 19 46.1 +0.4
	baz=45						
A28A	Rude Farm, Bot	45.06	63	⇑P	P		06 19 46.3 +0.3
	baz=45,SNR=10						
E26A	Carlson Angus	45.15	67	⇓P	P		06 19 47.1 +0.4
	baz=45,SNR=7.9						
U15A	North Rim	45.18	85	⇑P	P		06 19 47.4 0.0
	baz=45,SNR=6.4						
B28A	Dugan Ranch, T	45.25	64	⇓P	P		06 19 47.7 +0.2
	baz=45,SNR=8.7						
G25A	Newell	45.31	69	⇑P	P		06 19 48.1 0.0
	baz=45						
D27A	Center	45.33	66	⇓P	P		06 19 48.2 0.0
	baz=45						
L22A	Ellis Ranch, M	45.34	75	⇓P	P		06 19 48.4 -0.2
	baz=45						
I24A	Kuemmerle Ranc	45.36	71	⇑P	P		06 19 48.2 -0.3
	baz=45						
F26A	Lodgepole	45.37	68	⇑P	P		06 19 48.4 -0.1
	baz=45						
O20A	White River Ci	45.38	78	eP	P		06 19 49.0 +0.2
	comp=Z,12nm,0.7s						
PDMCI	Parker Dam,Lak	45.40	88	⇓P	P		06 19 49.1 +0.3
	baz=45						
Y12C	Blythe	45.52	89	⇑P	P		06 19 49.7 -0.1
	baz=45						
H25A	Fruitdale	45.52	70	⇑P	P		06 19 49.5 -0.3
	baz=45,SNR=8.2						
RSSD	Black Hills	45.55	71	eP	P		06 19 49.9 -0.3
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RSSD	Black Hills	45.55	71	eP	P		06 19 49.9 -0.3
	comp=Z,4.6nm,0.8s						
M22A	Cedar Creek Ra	45.62	75	⇓P	P		06 19 50.4 -0.4
	baz=46						
A29A	Manning Farm,	45.63	63	⇑P	P		06 19 50.4 -0.1
	baz=46,SNR=10						
J24A	Dixon Ranch, L	45.64	72	⇑P	P		06 19 50.7 -0.1
	baz=46						
E27A	Carson	45.68	67	⇑P	P		06 19 51.0 0.0
	baz=46,SNR=6.0						
G26A	Maurine	45.73	69	⇓P	P		06 19 51.4 0.0
	baz=46,SNR=9.0						
L23A	Garrett	45.73	74	⇓P	P		06 19 51.3 -0.3
	baz=46						
F27A	Lemmon	45.73	68	⇑P	P		06 19 51.4 0.0
	baz=46,SNR=9.7						
I25A	Rochford	45.79	71	⇑P	P		06 19 51.6 -0.4
	baz=46						
B29A	Wagenman Farm,	45.81	63	⇑P	P		06 19 51.9 -0.1
	baz=46,SNR=5.6						
D28A	Regan	45.83	65	⇑P	P		06 19 52.5 +0.4
	baz=46						
MDND	Maddock	46.01	64	⇑P	P		06 19 53.7 +0.2
	baz=46,SNR=13						
MDND	Maddock	46.01	64	eP	P		06 19 53.8 +0.3
	comp=Z,15nm,1.1s						
PV04	Paradox Valley	46.04	80	eP	P		06 19 54.5 +0.5
N22A	Wattenberg Ran	46.06	76	⇓P	P		06 19 54.4 +0.1
	baz=46						
G27A	Dupree	46.06	68	⇑P	P		06 19 53.8 -0.2
	baz=46,SNR=5.8						
E28A	Huff	46.10	66	⇑P	P		06 19 54.7 +0.4
	baz=46						
M23A	Laramie	46.10	75	⇑P	P		06 19 54.8 +0.2
	baz=46						
J25A	Sunshine Ranch	46.12	71	⇓P	P		06 19 53.8 -0.7
	baz=46						
A30A	Hoffart Farm,	46.13	62	⇓P	P		06 19 54.3 -0.2
	baz=46,SNR=10						
I26A	New Underwood	46.30	70	⇑P	P		06 19 56.3 +0.3
	baz=46						
WUAZ	Wupatki	46.33	85	⇓P	P		06 19 56.9 +0.5
	baz=46						
Y14A	Wickenburg	46.34	88	⇓P	P		06 19 56.7 +0.3
	baz=46						
B30A	Myrvik Farm, E	46.39	63	⇓P	P		06 19 56.5 +0.1
	baz=46,SNR=13						
F28A	McLaughlin	46.45	67	⇑P	P		06 19 56.8 -0.2
	baz=46,SNR=5.8						
D29A	Pettibone, Tap	46.45	65	⇓P	P		06 19 57.0 0.0
	baz=46						
K25A	Mack Ranch, Ha	46.53	72	⇑P	P		06 19 57.9 0.0
	baz=46						
J26A	Sides Ranch, S	46.59	71	⇑P	P		06 19 58.3 +0.1
	baz=46						
E29A	Napoleon	46.70	66	⇑P	P		06 19 58.5 -0.5
	baz=47						
C30A	Mose, Pekin	46.72	64	⇑P	P		06 19 58.8 -0.3
	baz=47,SNR=5.8						
SMCO	Snowmass	46.73	78	epP	pP		06 20 15.1 +2.8
ULM	Lac du Bonnet	46.74	59	P	P		06 19 58.7 -0.5
	comp=Z,3.7nm,0.5s,baz=303,slow=8.8,SNR=11						
L25A	Engebretsen Ra	46.75	73	⇓P	P		06 19 59.7 +0.2
	baz=47						
I27A	Quinn	46.75	70	⇑P	P		06 19 58.7 -0.8
	baz=47,SNR=6.1						
G28A	Parade	46.83	68	⇓P	P		06 19 59.9 -0.1
	baz=47						
K26A	Motz Farm, Whi	46.89	72	⇓P	P		06 20 00.4 -0.2
	baz=47						
D30A	Buchanan	46.90	64	⇓P	P		06 20 00.3 -0.2
	baz=47,SNR=8.1						
H28A	Mission Ridge	47.00	68	⇓P	P		06 20 01.1 -0.2
	baz=47,SNR=5.0						
X16A	Lo Mia Camp, P	47.00	86	⇓P	P		06 20 01.8 +0.2
	baz=47						
F29A	Eureka	47.02	66	⇓P	P		06 20 01.2 -0.2
	baz=47,SNR=8.2						
M25A	Palm-Egli Farm	47.12	74	⇑P	P		06 20 02.8 +0.2
	baz=47						
E30A	Jud	47.16	65	⇓P	P		06 20 01.9 -0.6
	baz=47,SNR=7.1						
J27A	Elkhorn Farm,	47.26	71	⇓P	P		06 20 03.7 +0.3
	baz=47						
I28A	Midland	47.31	69	⇑P	P		06 20 03.6 -0.1
	baz=47,SNR=6.9						
F30A	Leola	47.47	66	⇑P	P		06 20 05.1 +0.1
	baz=47						
H29A	Onida	47.49	68	⇓P	P		06 20 05.2 0.0
	baz=47,SNR=9.9						
J28A	Allard Ranch,	47.61	70	⇑P	P		06 20 06.1 0.0
	baz=48,SNR=5.8						
I29A	Vivian Onida	47.80	69	⇑P	P		06 20 07.7 +0.1
	baz=48						
G30A	Faulkton	47.82	67	⇓P	P		06 20 07.6 -0.1
	baz=48,SNR=21						
AGMN	Agassiz Nation	47.83	62	⇓P	P		06 20 07.5 -0.2
	baz=48,SNR=20						
AGMN	Agassiz Nation	47.83	62	eP	P		06 20 07.2 -0.5
	comp=Z,25nm,1.0s						
K28A	Ten Mile Ranch	47.95	71	⇑P	P		06 20 09.0 +0.2
	baz=48						
R23A	Moffat	48.05	78	⇑P	P		06 20 10.0 +0.1
	baz=48						
J29A	Okreek	48.15	69	⇓P	P		06 20 10.2 -0.1
	baz=48,SNR=16						
P25A	Willow Gulch B	48.23	76	⇓P	P		06 20 11.9 +0.7
	baz=48						
BRSD	Miller	48.33	68	⇑P	P		06 20 11.3 -0.4
	baz=48,SNR=11						
BRSD	Miller	48.33	68	eP	P		06 20 11.3 -0.4
	comp=Z,36nm,0.9s						
I30A	Oacoma	48.37	68	⇓P	P		06 20 11.9 -0.1
	baz=48						
N27A	Anderson Farm,	48.42	74	⇑P	P		06 20 12.8 +0.3
	baz=48						
K29A	Lazy Trails An	48.54	70	⇓P	P		06 20 13.3 0.0
	baz=48						
U22A	Llaves	48.58	81	⇑P	P		06 20 13.9 +0.1
	baz=48						
BJI	Beijing	48.60	285	P	P		06 20 11.6 -2.1
BJI				S	S		06 27 11.5 -0.5
BJI				PMZ			
	comp=Z,7.0nm,0.8s						
BJI				LN			
	comp=Z,560nm,14.1s						
BJI				LE			
	comp=Z,690nm,19.4s						
BJI				LZ			
	comp=Z,190nm,26.0s						
J30A	Dallas	48.69	69	⇓P	P		06 20 14.0 -0.4
	baz=48,SNR=7.6						
P26A	Davis Ranch, A	48.70	75	⇑P	P		06 20 15.1 +0.4
	baz=49						
TLY	Talaya	48.77	305	eP	P		06 20 15.3 +0.4
TLY				eS	S		06 27 08.6 -5.6
TLY				eSS	ScS		06 30 01.7 -1.2
TLY				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TLY				MLR	MLR		
	comp=Z,156nm,19.0s						
TLY	Talaya	48.77	305	P	P		06 20 15.1 +0.3
	baz=42,slow=0.7						
TLY	Talaya	48.77	305	eP	P		06 20 15.3 +0.4
S24A	Houchin Ranch,	48.78	79	⇑P	P		06 20 15.7 +0.2
	baz=49						
V22A	San Miguel Ran	48.84	81	⇓P	P		06 20 15.7 -0.2
	baz=49						
K30A	Basset	49.01	70	⇓P	P		06 20 16.9 0.0
	baz=49,SNR=6.5						
U23A	El Rito	49.02	81	⇓P	P		06 20 17.6 +0.3
	baz=49,SNR=6.1						
R25A	Fountain Ranch	49.02	77	⇑P	P		06 20 17.3 +0.1
	baz=49						
M29A	Burnside Ranch	49.13	72	⇑P	P		06 20 17.6 -0.3
	baz=49						
ULN	Ulaanbaatar	49.16	299	cP	P		06 20 18.1 0.0
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ULN	Ulaanbaatar	49.16	299	eP	P		06 20 17.7 -0.3
	comp=Z,7.6nm,1.0s						
S25A	Robets Cordova	49.24	78	⇓P	P		06 20 19.0 +0.1
	baz=49						
O28A	Krutsinger Ran	49.30	74	⇓P	P		06 20 19.5 +0.3
	baz=49						
L30A	Spencer Herefo	49.39	71	⇑P	P		06 20 19.7 -0.1
	baz=49						
R26A	Arlington	49.43	77	⇑P	P		06 20 19.7 -0.6
	baz=49						
SONM	Songino Array	49.53	299	P	P		06 20 20.8 -0.1
	comp=Z,5.1nm,0.6s,baz=48,slow=7.8,SNR=37						
SONM				pP	pP		06 20 33.5 -0.1
	comp=Z,3.3nm,0.7s,baz=47,slow=8.5,SNR=8.4						
SONM				PcP	PcP		06 21 43.7 +1.6
	comp=Z,0.7nm,0.7s,baz=59,slow=5.6,SNR=3.3						
SONM				pPcP			06 21 56.1
	comp=Z,2.1nm,0.8s,baz=45,slow=2.2,SNR=4.3						
SONM		

Q28A	Sharon Springs	49.93	75	⇓P	P	06 20 24.7	+0.7
	baz=50						
V24A	Rampart Ranch,	49.97	80	⇓P	P	06 20 24.9	+0.3
	baz=50						
U25A	Circle Dot Ran	50.06	79	⇓P	P	06 20 25.3	+0.1
	baz=50						
ECSD	EROS Data Cent	50.10	67	⇓P	P	06 20 24.4	-0.7
	baz=50,SNR=11						
ECSD	EROS Data Cent	50.10	67	eP	P	06 20 24.1	-1.1
	comp=Z,13nm,1.2s						
MOY	Mondy	50.12	306	eP	P	06 20 26.1	+0.8
P29A	Atwood	50.13	74	⇑P	P	06 20 25.6	+0.1
	baz=50						
W24A	Lazy 6 Ranch,	50.23	81	⇑P	P	06 20 26.2	-0.3
	baz=50						
O30A	MW Ranch, Wils	50.29	73	⇑P	P	06 20 27.3	+0.6
	baz=50						
V25A	Rancho No Teng	50.30	80	⇓P	P	06 20 27.5	+0.5
	baz=50						
319A	Douglas	50.39	88	⇓P	P	06 20 27.6	0.0
	baz=50						
R28A	Tribune	50.40	76	⇓P	P	06 20 27.6	+0.1
	baz=50						
EYMN	Ely	50.42	60	eP	P	06 20 27.4	-0.1
	comp=Z,18nm,1.1s						
121A	Cookes Peak, D	50.53	85	⇑P	P	06 20 28.9	+0.2
	baz=50						
Q29A	Oakley	50.55	74	⇑P	P	06 20 28.9	+0.2
	baz=50						
P30A	Selden	50.58	73	⇓P	P	06 20 29.4	+0.6
	baz=50						
BGNE	Belgrade	50.65	70	⇑P	P	06 20 29.1	-0.2
	baz=50						
Y23A	Lovelace Mesa,	50.67	83	⇓P	P	06 20 29.9	+0.1
	baz=51						
O31A	Woolen Ranch,	50.74	72	⇓P	P	06 20 30.3	+0.3
	baz=51						
W25A	X Bar L Ranch,	50.80	80	⇓P	P	06 20 30.9	+0.2
	baz=51						
S28A	Manter	50.83	76	⇑P	P	06 20 30.9	+0.1
	baz=51						
V26A	Tequesquite Ra	50.84	79	⇓P	P	06 20 30.9	-0.1
	baz=51						
HHC	Hu-ho-hao-te	50.84	289	eP	P	06 20 31.2	+0.3
HHC				pP	pP	06 20 43.6	+0.1
HHC				sP	sP	06 20 49.0	+0.2
HHC				PP	PP	06 22 28.3	+1.2
HHC				S	S	06 27 41.7	-1.9
HHC				sS	sS	06 28 03.6	-1.1
HHC				PMZ			
	comp=Z,38nm,0.7s						
HHC				LZ			
	comp=Z,930nm,14.8s						
Q30A	Quinter	50.95	74	⇑P	P	06 20 32.2	+0.5
	baz=51						
U27A	Thompson Grove	51.02	78	⇓P	P	06 20 32.4	0.0
	baz=51						
Y24A	Capitan	51.06	82	⇑P	P	06 20 32.8	+0.1
	baz=51,SNR=8.1						
P31A	Stockton	51.11	73	⇑P	P	06 20 32.3	-0.5
	baz=51						
SPMN	Marine on St.	51.35	63	⇓P	P	06 20 34.5	0.0
	baz=51						
SPMN	Marine on St.	51.35	63	eP	P	06 20 34.4	-0.1
	comp=Z,10nm,1.1s						
U28A	Mallet	51.41	78	⇑P	P	06 20 35.0	-0.3
	baz=51						
P32A	Huiting Farm,	51.51	72	⇓P	P	06 20 35.4	-0.4
	baz=51						
X26A	CR and CF Fran	51.65	81	⇓P	P	06 20 37.0	-0.1
	baz=52						
Q32A	Meitler Ranch,	51.94	73	⇑P	P	06 20 38.9	-0.1
	baz=52						
R32A	Long Quarter,	52.21	73	⇑P	P	06 20 40.7	-0.4
	baz=52						
SUMG	Summit	52.27	16	eP	P	06 20 41.6	+0.2
SUMG				pmax	pmax		
	comp=Z,181nm,3.0s						
SUMG	Summit	52.27	16	eP	P	06 20 41.6	+0.2
	comp=Z,181nm,3.0s						
Q33A	Connelly Farm,	52.36	72	⇑P	P	06 20 41.8	-0.3
	baz=52,SNR=5.2						
Y27A	Causey	52.49	81	⇓P	P	06 20 43.0	-0.3
	baz=52,SNR=7.2						
MSTX	Muleshoe	52.67	80	⇓P	P	06 20 44.9	+0.2
	baz=53						
MSTX	Muleshoe	52.67	80	eP	P	06 20 44.9	+0.2
KSU1	Kansas State U	53.02	71	⇑P	P	06 20 46.8	-0.2
	baz=53						
Z28A	Tucker Farm, M	53.37	81	⇓P	P	06 20 49.6	-0.1
	baz=53						
Y29A	Porterfield Fa	53.42	80	⇓P	P	06 20 50.4	+0.2
	baz=53						
X30A	Coker Ranch, T	53.52	79	⇑P	P	06 20 50.7	-0.1
	baz=53						
W31A	Holland Ranch,	53.59	77	⇓P	P	06 20 51.0	-0.3
	baz=54						
128A	Castleberry Fa	53.76	81	⇓P	P	06 20 52.5	-0.1
	baz=54						
Z29A	Hungry Hill Ra	53.81	80	⇑P	P	06 20 52.7	-0.2
	baz=54,SNR=5.3						
W32A	Sentinel	54.06	77	⇑P	P	06 20 54.3	-0.4
	baz=54						
HVS	Khovu-Aksy	54.06	309	d iP	P	06 20 54.2	-0.3
HVS				pmax	pmax		
	comp=Z,43nm,1.0s						
Z30A	Sanderson Ranc	54.15	80	⇑P	P	06 20 54.9	-0.5
	baz=54						
U34A	Anderson Ranch	54.22	75	⇑P	P	06 20 55.3	-0.6
	baz=54						
JFWS	Jewell Farm	54.23	64	eP	P	06 20 55.0	-0.8
JFWS				pmax	pmax		
	comp=Z,28nm,1.4s						
JFWS	Jewell Farm	54.23	64	eP	P	06 20 55.0	-0.8
	comp=Z,28nm,1.4s						
WMOK	Wichita Mounta	54.60	77	eP	P	06 20 58.6	0.0
WMOK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WMOK	Wichita Mounta	54.60	77	eP	P	06 20 58.6	0.0
	comp=Z,7.5nm,0.9s						
V34A	Guthrie	54.63	75	epP	pP	06 21 12.7	+1.1
Y32A	R-V Farms, Ver	54.69	78	⇑P	P	06 20 59.3	0.0
	baz=55						
329A	Wagon Wheel Ra	54.85	82	⇑P	P	06 20 59.6	-0.9
	baz=55						
230A	Sterling City	55.11	81	⇓P	P	06 21 02.2	-0.2
	baz=55,SNR=5.4						
Z32A	Haskell	55.14	79	⇓P	P	06 21 01.9	-0.7
	baz=55						
Y33A	Hilltop Ranch,	55.19	78	⇓P	P	06 21 02.6	-0.3
	baz=55						
X34A	Smith Ranch, M	55.27	76	⇓P	P	06 21 02.5	-0.9
	baz=55						
TXAR	Lajitas Array	55.30	85	P	P	06 21 02.9	-0.9
	comp=Z,2.5nm,0.9s,baz=298,slow=5.3,SNR=19						
TXAR				ScP	ScP	06 25 59.1	+0.3
	comp=Z,0.3nm,0.8s,baz=258,slow=4.5,SNR=3.4						
330A	Mertzon	55.40	82	⇑P	P	06 21 03.9	-0.5
	baz=55						
429A	Davenport Ranc	55.50	83	⇓P	P	06 21 05.0	-0.2
	baz=55						
ABTX	Abilene, Hawle	55.51	79	⇓P	P	06 21 05.3	+0.1
	baz=55						
ABTX	Abilene, Hawle	55.51	79	eP	P	06 21 05.6	+0.4
ABTX				epP	pP	06 21 14.9	-3.1
231A	Bronte	55.57	81	⇓P	P	06 21 05.6	0.0
	baz=55						
Z33A	Whitaker Ranch	55.59	78	⇓P	P	06 21 05.8	0.0
	baz=56						
TUL1	Leonard	55.62	74	⇓P	P	06 21 05.6	-0.3
	baz=56						
TUL1	Leonard	55.62	74	epP	pP	06 21 19.6	+0.9
529A	Stev Forest Ra	55.64	83	⇓P	P	06 21 06.2	0.0
	baz=56						
Y34A	Reagan Ranch,	55.75	77	⇑P	P	06 21 06.9	0.0
	baz=56						
430A	Baggett Ranch,	55.79	82	⇑P	P	06 21 06.9	-0.4
	baz=56						
331A	San Angelo	55.93	81	⇑P	P	06 21 07.9	-0.4
	baz=56						
133A	Hamilton Ranch	55.97	79	⇓P	P	06 21 08.3	-0.1
	baz=56						
232A	Coleman	56.01	80	⇓P	P	06 21 08.6	-0.3
	baz=56						
530A	J-C Ranch, Com	56.17	83	⇓P	P	06 21 09.6	-0.4
	baz=56,SNR=6.6						
431A	Sonora	56.25	82	⇓P	P	06 21 10.3	-0.3
	baz=56						
ZALV	Zalesovo Beam	56.29	316	P	P	06 21 10.2	-0.3
	comp=Z,0.4nm,0.3s,baz=57,slow=5.3,SNR=3.2						
ZALV				pPcP		06 22 20.7	
	comp=Z,2.3nm,0.7s,baz=44,slow=3.5,SNR=5.2						
332A	Millersview	56.30	81	⇑P	P	06 21 10.8	-0.1
	baz=56						
233A	Rising Star	56.38	79	⇑P	P	06 21 11.2	-0.3
	baz=56						
134A	White-Moore Ra	56.50	78	⇑P	P	06 21 12.1	-0.1
	baz=56						
432A	Menard	56.62	81	⇓P	P	06 21 12.6	-0.7
	baz=56						
531A	Rocksprings	56.65	82	⇑P	P	06 21 12.8	-0.6
	baz=56						
333A	Richland Sprin	56.81	80	⇑P	P	06 21 14.0	-0.5
	baz=57						
JCT	Junction City	56.89	81	eP	P	06 21 24.1	+9.0
JCT	Junction City	56.89	81	epP	P	06 21 24.1	+9.0
XAN	Xi'an	56.90	284	P	P	06 21 15.1	0.0
XAN				pP	pP	06 21 24.9	-3.0
XAN				PMZ			
	comp=Z,4.0nm,1.2s						
XAN				PMZ			
	comp=Z,27nm,5.1s						
532A	Rocksprings	57.07	82	⇓P	P	06 21 16.4	0.0
	baz=57						
433A	Art	57.14	81	⇓P	P	06 21 16.5	-0.4
	baz=57						
631A	Perdido Creek	57.16	83	⇑P	P	06 21 16.4	-0.6
	baz=57						
334A	Lometa	57.26	80	⇑P	P	06 21 17.7	0.0
	baz=57,SNR=7.0						
WHTX	Lake Whitney,	57.28	78	⇑P	P	06 21 17.9	+0.1
	baz=57						
WHTX	Lake Whitney,	57.28	78	epP	pP	06 21 31.5	+0.9
434A	Burnet	57.60	80	⇓P	P	06 21 19.7	-0.4
	baz=58						
SFIN	Lafayette	57.68	64	⇓P	P	06 21 19.9	-0.6
	baz=58,SNR=7.2						
SFIN	Lafayette	57.68	64	eP	P	06 21 20.4	0.0
	comp=Z,18nm,0.9s						
SCHQ	Schefferville	57.72	41	P	P	06 21 19.6	-1.0
	comp=Z,1.7nm,0.5s,baz=296,slow=8.6,SNR=6.2						
MIAR	Mount Ida	57.88	74	eP	P	06 21 21.6	-0.3
MIAR				pmax	pmax		
	comp=Z,20nm,1.0s						
MIAR	Mount Ida	57.88	74	eP	P	06 21 21.6	-0.3
	comp=Z,20nm,1.0s						
534A	Blanco	58.02	81	⇑P	P	06 21 22.5	-0.6
	baz=58						
OLIL	Olney	58.23	66	eP	P	06 21 23.8	-0.5
	comp=Z,57nm,1.3s						
832A	Faith Ranch, C	58.33	83	⇑P	P	06 21 24.8	-0.4
	baz=58						
ARCES	ARCESS Array B	58.43	352	P	P	06 21 24.7	-0.6
	comp=Z,5.7nm,0.7s,baz=18,slow=6.1,SNR=11						
ARCES				PcP	PcP	06 22 15.2	-0.3
	comp=Z,12nm,0.9s,baz=2.3,slow=4.5,SNR=4.9						
ARCES				LR	LR	06 50 52.1	
	comp=Z,53nm,18.0s,baz=346,slow=40						
LZH	Lanzhou	58.53	290	eP	P	06 21 27.9	+1.2
LZH				pP	pP	06 21 42.1	+2.6
LZH				sP	sP	06 21 47.2	+2.5
LZH				PMZ			
	comp=Z,42nm,1.2s						
GTA	Gaotai	58.58	295	⇑P	P	06 21 27.1	+0.1
GTA				pP	pP	06 21 40.1	+0.3
GTA				sP	sP	06 21 45.2	+0.2
GTA				S	S	06 29 24.9	-2.7
GTA				sS	sS	06 29 46.7	-2.3
GTA				SS	SS	06 33 19.1	-1.0
GTA				PMZ			
	comp=Z,16nm,1.2s						
GTA				PMZ			
	comp=Z,95nm,4.7s						
GTA				LN			
	comp=Z,410nm,14.3s						
GTA				LE			
	comp=Z,360nm,16.6s						
GTA				LZ			
	comp=Z,510nm,14.3s						
USIN	University of	59.00	67	eP	P	06 21 29.8	+0.1
	comp=Z,36nm,1.0s						
WCI	Wyandotte Cave	59.60	66	eP	P	06 21 33.5	-0.4
WCI				pmax	pmax		
	comp=Z,13nm,0.8s						
WCI	Wyandotte Cave	59.60	66	eP	P	06 21 33.5	-0.4
	comp=Z,13nm,0.8s						
ACSO	Alum Creek Sta	60.07	62	eP	P	06 21 37.0	-0.1
	comp=Z,39nm,1.6s						
WVT	Waverly	60.17	69	eP	P	06 21 37.7	-0.1
WVT				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WVT	Waverly	60.17	69	eP	P	06 21 37.7	-0.1
	comp=Z,10nm,1.1s						
OXF	Oxford	60.38	71	eP	P	06 21 40.8	+1.6
OXF				pmax	pmax		
	comp=Z,31nm,1.0s						
OXF	Oxford	60.38	71	eP	P	06 21 40.8	+1.6
	comp=Z,31nm,1.0s						
ERPA	Erie	60.39	59	eP	P	06 21 39.7	+0.5
KURK	Kurchatov	61.27	316	eP	P	06 21 43.7	-1.3
KURK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KURK	Kurchatov	61.27	316	eP	P	06 21 43.7	-1.3
	comp=Z,7.1nm,1.3s						
LONY	Lake Ozonia	61.42	53	eP	P	06 21 46.1	-0.2
	comp=Z,22nm,1.1s						
WMQ	Urumqi	62.01	306	eP	P	06 21 51.0	+0.7
WMQ				pP	pP	06 22 03.5	+0.3
WMQ				PcP	PcP	06 22 31.0	+0.6
WMQ				S	S	06 30 10.5	-0.8
WMQ				ScS	SKKSac	06 31 35.2	-3.0
WMQ				SS	SS	06 34 15.0	+1.4
WMQ				PMZ			
	comp=Z,5.0nm,1.3s						
WMQ				PMZ			
	comp=Z,73nm,3.8s						
WMQ				LN			
	comp=Z,320nm,23.0s						
WMQ				LE			
	comp=Z,68nm,20.0s						
WMQ				LZ			
	comp=Z,130nm,19.0s						
NCB	Newcomb	62.07	54	eP	P	06 21 50.9	+0.3
	comp=Z,69nm,1.9s						
CD2	Chengdu	62.20	285	eP	P	06 21 52.0	+0.3
CD2				sP	sP	06 22 08.5	-1.3
CD2				PP	PP	06 24 11.2	+2.6
CD2				S	S	06 30 10.5	-3.4
CD2				sS	sS	06 30 34.2	-1.3
CD2				SS	SS	06 34 15.7	-1.3
CD2				PMZ			
	comp=Z,30nm,1.1s						
CD2				PMZ			
	comp=Z,110nm,8.5s						
CD2				LN			
	comp=Z,820nm,15.2s						
CD2				LE			
	comp=Z,780nm,15.2s						
CD2				LZ			
	comp=Z,700nm,16.1s						
TZTN	Tazewell	62.34	65	eP	P	06 21 52.6	+0.1
	comp=Z,13nm,1.0s						
MK31	Makanchi Array	62.50	311	i P	P	06 21 52.6	-0.8
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	62.50	311	P	P	06 21 52.4	-1.0
	comp=Z,3.6nm,0.7s,baz=49,slow=5.9,SNR=42						
MKAR				LR	LR	06 51 10.8	
	comp=Z,159nm,18.8s,baz=98,slow=38						
SSPA	Standing Stone	62.55	59	eP	P	06 21 53.9	+0.1
ACCN	Adirondack Com	62.77	54	eP	P	06 21 55.5	+0.2
	comp=Z,30nm,1.1s						
BVA0	Borovoye Array	62.86	322	i P	P	06 21 55.7	0.0
BVA0				pmax	pmax		
	comp=Z,8.0nm,0.6s						
VOSK	Vostochnaya	62.87	322	P	P	06 21 55.4	-0.4
VOSK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	Borovoye	62.88	323	c iP	P	06 21 55.8	0.0
BRVK				pmax	pmax		
	comp=Z,12nm,1.2s						
PRGR	Permogore	62.95	340	eP	P	06 21 53.2	-2.9
KSPA	Keystone Colle	63.01	57	eP	P	06 21 57.6	+0.7
	comp=Z,75nm,2.2s						
TRY	Troy	63.24	54	eP	P	06 21 59.0	+0.6
GYA	Guiyang	63.63	280	eP	P	06 22 02.4	+1.1
GYA				pP	pP	06 22 15.6	+1.3
GYA				sP	sP	06 22 20.8	+1.3
GYA				PP	PP	06 24 23.4	+2.1
GYA				ScP		06 26 36.9	
GYA				S	S	06 30 29.7	-2.3
GYA				sS	sS	06 30 52.6	-1.1
GYA				SS	SS	06 34 39.8	+0.2
GYA				PMZ			
	comp=Z,10.0nm,0.9s						
GYA				PMZ			
	comp=Z,120nm,5.2s						
GYA				LN			
	comp=Z,480nm,19.6s						
GYA				LE			
	comp=Z,410nm,20.0s						
GYA				LZ			
	comp=Z,490nm,19.4s						
MVL	Millersville	63.83	58	eP	P	06 22 02.5	+0.2
	comp=Z,9.7nm,0.9s						
WVL	Waterville	63.89	51	eP	P	06 22 03.1	+0.5
	comp=Z,38nm,1.1s						
ODNJ	Ogdensburg	63.96	56	eP	P	06 22 03.7	+0.6
	comp=Z,12nm,1.0s						
ARU	Arti	64.15	331	c iP	P	06 22 04.0	-0.1
ARU						06 24 24.4	
ARU				S	S	06 30 38.6	+1.1
ARU				SS	SS	06 34 42.6	-3.5
ARU				pmax	pmax		
	comp=Z,15nm,1.2s						
PAL	Palisades	64.38	56	eP	P	06 22 05.9	+0.1
PAL				pmax	pmax		
	comp=Z,28nm,1.1s						
PAL	Palisades	64.38	56	eP	P	06 22 05.9	+0.1
	comp=Z,28nm,1.1s						
HRV	Adam Dziewonsk	64.47	53	eP	P	06 22 06.4	0.0
HRV				pmax	pmax		
	comp=Z,44nm,1.5s						
HRV	Adam Dziewonsk	64.47	53	eP	P	06 22 06.4	0.0
	comp=Z,44nm,1.5s						
KMSC	Kings Mountain	64.60	65	⇓P	P	06 22 07.2	-0.2
	baz=64						
KMSC	Kings Mountain	64.60	65	eP	P	06 22 07.6	+0.1
GOGA	Godfrey	64.63	68	eP	P	06 22 06.3	-1.3
GOGA				pmax	pmax		
	comp=Z,162nm,3.0s						
GOGA	Godfrey	64.63	68	eP	P	06 22 06.3	-1.3
	comp=Z,162nm,3.0s						
JSRW	J. Sargeant Re	64.67	61	eP	P	06 22 07.9	0.0
FINES	FINESS Array B	66.28	350	P	P	06 22 17.0	-0.8
FINES	FINESS Array B	66.28	350	P	P	06 22 17.0	-0.8
	comp=Z,2.8nm,0.8s,baz=33,slow=7.3,SNR=7.2						
KMI	Kunming	67.01	282	P	P	06 22 24.4	+1.1
KMI				pP	pP	06 22 37.2	+0.8
KMI				sP	sP	06 22 42.2	+0.6
KMI				S	S	06 31 10.8	-2.9
KMI				SS	SS	06 35 32.2	-0.2
KMI				PMZ			
	comp=Z,8.0nm,1.0s						
KMI				PMZ			
	comp=Z,140nm,3.5s						
KMI				LN			
	comp=Z,870nm,11.3s						
KMI				LE			
	comp=Z,460nm,11.0s						
KMI				LZ			
	comp=Z,560nm,9.6s						
NB2	NORSAR Subarra	67.69	358	P	P	06 22 26.2	-0.6
	comp=Z,0.9nm,0.6s,baz=3.1,slow=6.5						
NOA	NORSAR Array B	67.69	358	P	P	06 22 26.3	-0.6
	comp=Z,1.5nm,0.8s,baz=3.6,slow=6.4,SNR=5.8						
NOA				pP	pP	06 22 39.2	-0.8
	comp=Z,1.0nm,0.6s,baz=2.9,slow=6.2,SNR=3.4						
NOA				LR	LR	06 52 17.8	
	comp=Z,27nm,19.1s,baz=0.0,slow=36						
TKM2	Tokmak 2	68.54	313	P	P	06 22 33.6	+0.8
	SNR=12						
TKM2	Tokmak 2	68.54	313	eP	P	06 22 33.5	+0.8
TKM2	Tokmak 2	68.54	313	eP	P	06 22 33.5	+0.8
USP	Ospenovka	68.77	313	P	P	06 22 34.7	+0.8
	SNR=13						
USP	Ospenovka	68.77	313	i P	P	06 22 34.7	+0.8
KBK	Karagaybulak	69.04	313	P	P	06 22 36.5	+0.7
	SNR=11						
KBK	Karagaybulak	69.04	313	i P	P	06 22 36.5	+0.7
VSU	Vasula	69.11	349	eP	P	06 22 35.5	-0.2
VSU				pmax	pmax		
	comp=Z,57nm,1.2s						
AAK	Ala-Archa	69.27	313	P	P	06 22 37.8	+0.6
	SNR=18						
AAK	Ala-Archa	69.27	313	P	P	06 22 37.5	+0.3
AAK				pmax	pmax		
	comp=Z,17nm,0.9s						
AAK	Ala-Archa	69.27	313	P	P	06 22 37.5	+0.3
	comp=Z,17nm,0.9s,baz=103,slow=3.0,SNR=46						
AAK	Ala-Archa	69.27	313	eP	P	06 22 37.4	+0.2
	comp=Z,17nm,0.8s						
AKTO	Aktyubinsk	69.41	328	P	P	06 22 37.7	0.0
	comp=Z,20nm,0.7s,baz=47,slow=6.7,SNR=77						
AKTO				pP	pP	06 22 50.6	-0.2
	comp=Z,7.0nm,0.6s,baz=79,slow=5.6,SNR=7.7						
EKS2	Erkin-Say	69.57	313	P	P	06 22 39.8	+0.8
	SNR=19						
EKS2	Erkin-Say	69.57	313	eP	P	06 22 39.8	+0.8
EKS2	Erkin-Say	69.57	313	eP	P	06 22 39.8	+0.8
UCH	Uchtor	69.58	313	P	P	06 22 40.6	+1.1
	SNR=10						
UCH	Uchtor	69.58	313	i P	P	06 22 40.6	+1.1
AB31	Akbulak array	69.75	326	i P	P	06 22 39.5	-0.3
AB31				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ABKAR	Akbulak array	69.75	326	eP	P	06 22 40.0	+0.2
AML	Almayashu	70.03	313	P	P	06 22 42.9	+0.7
	SNR=18						
AML	Almayashu	70.03	313	i P	P	06 22 42.9	+0.7
LSA	Lhasa	70.50	293	P	P	06 22 46.3	+1.0
KK31	Karatay Array	70.67	316	i P	P	06 22 45.3	-0.3
KK31				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KKAR	Karatay Array	70.67	316	eP	P	06 22 45.5	-0.1
KKAR	Karatay Array	70.67	316	eP	P	06 22 45.5	-0.1
OBN	Obninsk	70.81	342	ceP	P	06 22 47.4	+1.3
OBN				pmax	pmax		
	comp=Z,43nm,2.5s						
KSH	Kashi	71.02	310	⇑iP	P	06 22 51.7	+3.8
KSH				sP	sP	06 23 09.9	+3.6
KSH				PP	PP	06 25 31.0	+5.8
KSH				S	S	06 32 03.1	+2.5
KSH				sS	SKiKP	06 32 25.2	0.0
KSH				ScS	SKKSac	06 32 47.1	+0.3
KSH				SS	SS	06 36 40.0	+6.6
KSH				PMZ			
	comp=Z,30nm,1.0s						
KSH				PMZ			
	comp=Z,140nm,5.8s						
KSH				LN			
	comp=Z,74nm,5.4s						
KSH				LE			
	comp=Z,84nm,4.0s						
KSH				LZ			
	comp=Z,120nm,5.3s						
PPT	Papeete	71.92	156	LR	LR	06 49 20.5	
	comp=Z,64nm,21.0s,baz=358,slow=32						
VRHR	Novokhopersk	73.50	338	eP	P	06 23 00.7	-1.6
VRHR				pmax	pmax		
	comp=N,20nm,1.0s						
VRHR				pmax	pmax		
	comp=Z,20nm,1.0s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
VSR	Storozhevoye	73.95	339	eP	P	06 23 04.1	-0.8
VSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,7.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VORD	Divnogorie	74.15	339	eP	P	06 23 04.7	-1.4
VORD				pmax	pmax		
	comp=N,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,3.0nm,0.6s						

TAPN	Taplejung	74.25	294	eP	P	06 23 08.3 +0.8
	comp=E,54nm,0.8s					
CMAR	Chiang Mai Arr	74.32	280	P	P	06 23 07.5 -0.1
	comp=E,2.1nm,0.4s,baz=34,slow=7.3,SNR=11					
CMAR				PP	PP	06 25 55.1 +1.4
	comp=E,1.0nm,0.3s,baz=12,slow=7.6,SNR=5.0					
BSEG	Bad Segeberg	74.83	358	eP	P	06 23 10.6 +0.6
	comp=Z,7.0nm,0.8s					
GUN	Gumba	74.86	296	eP	P	06 23 11.8 +0.7
JIRN	Jiri	74.88	295	eP	P	06 23 12.2 +1.0
RAMN	Ramite	75.19	295	eP	P	06 23 13.4 +0.5
	comp=Z,70nm,0.7s					
KKN	Kakani	75.29	296	eP	P	06 23 14.0 +0.6
PKI	Pulchoki	75.38	296	eP	P	06 23 14.5 +0.4
	comp=Z,75nm,1.1s					
GKN	Gorkha	75.48	297	eP	P	06 23 14.8 +0.4
DMN	Daman	75.52	296	eP	P	06 23 15.6 +0.8
	comp=Z,38nm,0.8s					
DANN	Dangsing	75.70	298	eP	P	06 23 16.6 +0.8
	comp=Z,110nm,0.8s					
KOLN	Koldanda	76.24	297	eP	P	06 23 19.3 +0.5
	comp=Z,43nm,0.9s					
NRDL	Niedersach Rie	76.28	358	eP	P	06 23 18.5 +0.3
	comp=Z,7.0nm,0.9s					
AKASG	Malin Array Be	76.32	345	P	P	06 23 17.7 -0.9
	comp=Z,2.6nm,0.4s,baz=12,slow=5.4,SNR=8.9					
AKASG				LR	LR	07 05 03.9
	comp=Z,50nm,18.3s,baz=25,slow=42					
PYUN	Piuthan	76.32	298	eP	P	06 23 19.8 +0.5
	comp=Z,118nm,0.9s					
KIEV	Kiev	76.33	345	⇑iP	P	06 23 17.6 -1.0
KIEV	Kiev	76.33	345	eP	P	06 23 12.7 -6.0
	comp=Z,14nm,1.2s					
CLZ	Clausthal	76.93	358	eP	P	06 23 22.7 +0.6
	comp=Z,7.0nm,0.8s					
CLL	Collm	77.37	356	iP	P	06 23 24.3 -0.2
CLL				pmax	pmax	
	comp=Z,31nm,1.8s					
CLL	Collm	77.37	356	eP	P	06 23 24.5 0.0
	comp=Z,33nm,1.8s					
CLL	Collm	77.37	356	iP	P	06 23 24.3 -0.2
	comp=Z,31nm,1.8s					
BRG	Berggiesshubel	77.75	355	eP	P	06 23 26.8 +0.1
	comp=Z,9.5nm,0.9s					
BRG	Berggiesshubel	77.75	355	eP	P	06 23 26.8 +0.1
BRG				pmax	pmax	
	comp=Z,10.0nm,0.9s					
BRG	Berggiesshubel	77.75	355	eP	P	06 23 26.9 +0.2
	comp=Z,9.0nm,0.9s					
UPC	Upice	78.00	354	eP	P	06 23 28.4 +0.4
UPC	Upice	78.00	354	eP	P	06 23 28.4 +0.4
MOX	Moxa	78.08	357	eP	P	06 23 29.0 +0.5
	comp=Z,7.0nm,0.9s					
DPC	Dobruska-Polom	78.13	354	eP	P	06 23 29.4 +0.6
DPC	Dobruska-Polom	78.13	354	eP	P	06 23 29.4 +0.6
DPC	Dobruska-Polom	78.13	354	eP	P	06 23 29.3 +0.4
DPC				epP	pP	06 23 41.9 -0.3
KWP	Kalwaria Pacla	78.25	349	⇓P	P	06 23 29.8 +0.3
KWP	Kalwaria Pacla	78.25	349	⇓iP	P	06 23 29.8 +0.3
TANN	Tannenbergstha	78.28	356	eP	P	06 23 30.0 +0.3
	comp=Z,17nm,1.5s					
TNS	Taunus Mts	78.58	359	eP	P	06 23 31.8 +0.4
	comp=Z,6.0nm,0.8s					
STHS	Stebnicka Huta	78.63	350	eP	P	06 23 33.0 +1.4
STHS				pmax	pmax	
	comp=Z,4.0nm,1.1s					
STHS	Stebnicka Huta	78.63	350	eP	P	06 23 32.9 +1.4
GIVF	Givet	78.71	1	eP	P	06 23 32.4 +0.5
GIVF	Givet	78.71	1	eP	P	06 23 32.4 +0.5
GIVF	Givet	78.71	1	eP	P	06 23 32.4 +0.5
BAIF	Baives	78.74	2	eP	P	06 23 32.7 +0.6
BAIF	Baives	78.74	2	eP	P	06 23 32.7 +0.6
BAIF	Baives	78.74	2	eP	P	06 23 32.7 +0.6
ROTZ	Rotzenmuhle	78.94	356	eP	P	06 23 33.9 +0.6
	comp=Z,14nm,1.4s					
KOLS	Kolonicke sedl	78.99	350	eP	P	06 23 34.5 +0.9
KOLS	Kolonicke sedl	78.99	350	eP	P	06 23 34.5 +0.9
GRF	Grafenberg Arr	79.05	357	eP	P	06 23 34.8 +0.9
	comp=Z,23nm,1.2s					
WLF	Walferdange	79.16	0	eP	P	06 23 35.5 +1.1
	comp=Z,8.0nm,0.6s					
KHC	Kasperske Hory	79.51	355	eP	P	06 23 36.8 +0.4
KHC	Kasperske Hory	79.51	355	eP	P	06 23 37.1 +0.7
KHC	Kasperske Hory	79.51	355	eP	P	06 23 36.8 +0.4
WET	Wettzell	79.53	356	eP	P	06 23 37.0 +0.5
	comp=Z,4.0nm,1.0s					
TRPA	Tarpa	79.75	349	⇓iP	P	06 23 38.4 +0.7
VYHS	Vyhne	79.78	352	eP	P	06 23 38.0 +0.2
VYHS				pmax	pmax	
	comp=Z,3.0nm,0.9s					
VYHS	Vyhne	79.78	352	eP	P	06 23 38.0 +0.2
GEC2	GERESS Array S	79.79	355	eP	P	06 23 38.2 +0.2
	comp=Z,13nm,1.4s					
GERES	GERESS Array B	79.79	355	P	P	06 23 37.8 -0.2
	comp=Z,2.3nm,0.6s,baz=19,slow=5.7,SNR=8.5					
KIV	Kislovodsk	79.86	334	eP	P	06 23 39.2 +0.7
KIV				pmax	pmax	
	comp=Z,12nm,0.8s					
FLN	La Foliniere	79.88	5	eP	P	06 23 38.5 +0.2
FLN	La Foliniere	79.88	5	eP	P	06 23 38.5 +0.2
FLN	La Foliniere	79.88	5	eP	P	06 23 38.5 +0.2
BURAR	Bucovina Array	79.92	347	⇑P	P	06 23 38.6 -0.1
BURAR	Bucovina Array	79.92	347	⇑iP	P	06 23 38.6 -0.1
KBZ	Khabaz	80.01	334	P	P	06 23 39.2 +0.1
	comp=Z,5.6nm,0.8s,baz=47,slow=4.6,SNR=6.5					
LDF	La Druitiere	80.06	5	eP	P	06 23 39.2 -0.2
LDF	La Druitiere	80.06	5	eP	P	06 23 39.2 -0.2
LDF	La Druitiere	80.06	5	eP	P	06 23 39.2 -0.2
ROSF	Rostrenen	80.13	7	eP	P	06 23 40.8 +1.1
	comp=Z,38nm,1.0s					
ROSF	Rostrenen	80.13	7	eP	P	06 23 40.8 +1.1
ROSF				pmax	pmax	
	comp=Z,38nm,1.0s					
ROSF	Rostrenen	80.13	7	eP	P	06 23 40.8 +1.1
	comp=Z,38nm,1.0s					
GEYT	Alibeck	80.14	321	P	P	06 23 40.6 +0.5
	comp=Z,7.7nm,0.9s,baz=343,slow=4.6,SNR=14					
GRR	Gorron	80.23	5	eP	P	06 23 40.5 +0.2
GRR	Gorron	80.23	5	eP	P	06 23 40.5 +0.2
GRR	Gorron	80.23	5	eP	P	06 23 40.5 +0.2
SGMF	Saint Gilles	80.26	6	eP	P	06 23 41.8 +1.4
SGMF	Saint Gilles	80.26	6	eP	P	06 23 41.8 +1.4
SGMF	Saint Gilles	80.26	6	eP	P	06 23 41.8 +1.4
PAGF	Fort de Pagny	80.26	1	eP	P	06 23 41.3 +0.8
	comp=Z,6.3nm,0.8s					
PAGF	Fort de Pagny	80.26	1	eP	P	06 23 41.3 +0.8
	comp=Z,6.3nm,0.8s					
CDF	Champ du Feu	80.41	360	eP	P	06 23 41.7 +0.4
	comp=Z,10nm,0.7s					
CDF	Champ du Feu	80.41	360	eP	P	06 23 41.7 +0.4
CDF				pmax	pmax	
	comp=Z,10.0nm,0.7s					
CDF	Champ du Feu	80.41	360	eP	P	06 23 41.7 +0.4
	comp=Z,10nm,0.7s					
QUIF	Quistinic	80.55	7	eP	P	06 23 43.2 +1.2
QUIF	Quistinic	80.55	7	eP	P	06 23 43.2 +1.2
QUIF	Quistinic	80.55	7	eP	P	06 23 43.2 +1.2
SFTF	Sexfontaines	80.61	1	eP	P	06 23 42.8 +0.5
SFTF	Sexfontaines	80.61	1	eP	P	06 23 42.8 +0.5
HAU	Haudompre	80.82	0	eP	P	06 23 43.9 +0.4
	comp=Z,10nm,0.7s					
HAU	Haudompre	80.82	0	eP	P	06 23 43.9 +0.4
HAU				pmax	pmax	
	comp=Z,10.0nm,0.7s					
HAU	Haudompre	80.82	0	eP	P	06 23 43.9 +0.4
	comp=Z,10nm,0.7s					
HINF	Hinteralfeld	81.00	360	eP	P	06 23 44.6 +0.1
	comp=Z,9.0nm,0.7s					
HINF	Hinteralfeld	81.00	360	eP	P	06 23 44.6 +0.1
HINF				pmax	pmax	
	comp=Z,9.0nm,0.7s					
HINF	Hinteralfeld	81.00	360	eP	P	06 23 44.6 +0.1
	comp=Z,9.0nm,0.7s					
JTS	JuntasAbangare	81.08	85	eP	P	06 23 45.2 -0.1
JTS				pmax	pmax	
	comp=Z,11nm,1.2s					
LOR	Lormes	81.53	2	eP	P	06 23 47.6 +0.4
	comp=Z,6.7nm,0.7s					
LOR	Lormes	81.53	2	eP	P	06 23 47.6 +0.4
LOR				pmax	pmax	
	comp=Z,7.0nm,0.7s					
LOR	Lormes	81.53	2	eP	P	06 23 47.6 +0.4
	comp=Z,6.7nm,0.7s					
GIUM	Giurgiulesti	81.55	345	⇑iP	P	06 23 52.1 +4.8
SSF	Saint Saulge	81.72	2	eP	P	06 23 48.7 +0.4
	comp=Z,11nm,0.8s					
SSF	Saint Saulge	81.72	2	eP	P	06 23 48.7 +0.4
SSF				pmax	pmax	
	comp=Z,11nm,0.8s					
SSF	Saint Saulge	81.72	2	eP	P	06 23 48.7 +0.4
	comp=Z,11nm,0.8s					
CFR	Carcaliu	81.86	345	⇓P	P	06 23 49.7 +0.7
CFR	Carcaliu	81.86	345	⇓iP	P	06 23 49.7 +0.7
MLR	Muntele Rosu	81.89	346	⇓P	P	06 23 50.9 +1.5
MLR	Muntele Rosu	81.89	346	⇓iP	P	06 23 50.8 +1.4
AVF	Avril sur Loir	81.99	2	eP	P	06 23 50.0 +0.3
	comp=Z,9.9nm,0.7s					
AVF	Avril sur Loir	81.99	2	eP	P	06 23 50.0 +0.3
AVF				pmax	pmax	
	comp=Z,10.0nm,0.7s					
AVF	Avril sur Loir	81.99	2	eP	P	06 23 50.0 +0.3
	comp=Z,9.9nm,0.7s					
MFF	Saint Martin d	82.05	5	eP	P	06 23 50.5 +0.5
	comp=Z,35nm,1.1s					
MFF	Saint Martin d	82.05	5	eP	P	06 23 50.5 +0.5
MFF				pmax	pmax	
	comp=Z,35nm,1.1s					
MFF	Saint Martin d	82.05	5	eP	P	06 23 50.5 +0.5
	comp=Z,35nm,1.1s					
VOIR		82.08	347	⇓P	P	06 23 52.5 +2.3
VOIR		82.08	347	⇓iP	P	06 23 52.5 +2.3
SMF	Signal de Mont	82.15	2	eP	P	06 23 50.8 +0.3
	comp=Z,23nm,0.9s					
SMF	Signal de Mont	82.15	2	eP	P	06 23 50.8 +0.3
SMF				pmax	pmax	
	comp=Z,23nm,0.9s					
SMF	Signal de Mont	82.15	2	eP	P	06 23 50.8 +0.3
	comp=Z,23nm,0.9s					
CABF	La Chapelle	82.21	0	eP	P	06 23 51.8 +0.9
	comp=Z,14nm,0.8s					
CABF	La Chapelle	82.21	0	eP	P	06 23 51.8 +0.9
CABF				pmax	pmax	
	comp=Z,14nm,0.8s					
CABF	La Chapelle	82.21	0	eP	P	06 23 51.8 +0.9
	comp=Z,14nm,0.8s					
TUE	Stuetta	82.32	358	eP	P	06 23 52.8 +1.1
GZR	Gura Zlata	82.42	349	⇓P	P	06 23 52.3 +0.3
GZR	Gura Zlata	82.42	349	⇓iP	P	06 23 52.3 +0.3
TLB	Topalu	82.45	345	⇓P	P	06 23 53.0 +0.9
TLB	Topalu	82.45	345	⇓iP	P	06 23 53.0 +0.9
TCF	Toulx Ste Croi	82.46	3	eP	P	06 23 52.4 +0.2
TCF	Toulx Ste Croi	82.46	3	eP	P	06 23 52.4 +0.2
TCF	Toulx Ste Croi	82.46	3	eP	P	06 23 52.4 +0.2
TIRR	Tirgusor	82.51	344	⇓P	P	06 23 53.3 +0.9
TIRR	Tirgusor	82.51	344	⇓iP	P	06 23 53.3 +0.9
LFF	La Frestale	83.75	4	eP	P	06 23 59.3 +0.5
	comp=Z,10nm,0.7s					
LFF	La Frestale	83.75	4	eP	P	06 23 59.3 +0.5
LFF				pmax	pmax	
	comp=Z,10.0nm,0.7s					
LFF	La Frestale	83.75	4	eP	P	06 23 59.3 +0.5
	comp=Z,10nm,0.7s					
MBDF	Montbardon	84.09	360	eP	P	06 24 02.5 +1.7
	comp=Z,8.1nm,0.7s					
MBDF	Montbardon	84.09	360	eP	P	06 24 02.5 +1.7
MBDF				pmax	pmax	
	comp=Z,8.0nm,0.7s					
MBDF	Montbardon	84.09	360	eP	P	06 24 02.5 +1.7
	comp=Z,8.1nm,0.7s					
WRA	Warramunga Arr	84.56	228	P	P	06 24 01.4 -1.7
	comp=Z,1.0nm,0.8s,baz=34,slow=6.2,SNR=5.5					
SBF	Sospel	84.96	359	eP	P	06 24 05.6 +0.6
	comp=Z,57nm,0.9s					
SBF	Sospel	84.96	359	eP	P	06 24 05.6 +0.6
SBF				pmax	pmax	
	comp=Z,57nm,0.9s					
SBF	Sospel	84.96	359	eP	P	06 24 05.6 +0.6
	comp=Z,57nm,0.9s					
MTLF	Montolieu	85.41	3	eP	P	06 24 07.9 +0.7
	comp=Z,7.6nm,0.8s					
MTLF	Montolieu	85.41	3	eP	P	06 24 07.9 +0.7
MTLF				pmax	pmax	
	comp=Z,8.0nm,0.8s					
MTLF	Montolieu	85.41	3	eP	P	06 24 07.9 +0.7
	comp=Z,7.6nm,0.8s					
LMR	La Mourre	85.49	0	eP	P	06 24 08.6 +1.0
LMR	La Mourre	85.49	0	eP	P	06 24 08.6 +1.0
LMR	La Mourre	85.49	0	eP	P	06 24 08.6 +1.0
EPF	Esparros	85.64	5	eP	P	06 24 08.4 0.0
EPF	Esparros	85.64	5	eP	P	06 24 08.4 0.0
EPF	Esparros	85.64	5	eP	P	06 24 08.4 0.0
ETSF	Etsaut	85.72	5	eP	P	06 24 09.9 +1.0
	comp=Z,7.3nm,0.7s					
ETSF	Etsaut	85.72	5	eP	P	06 24 09.9 +1.0
ETSF				pmax	pmax	
	comp=Z,7.0nm,0.7s					
ETSF	Etsaut	85.72	5	eP	P	06 24 09.9 +1.0
	comp=Z,7.3nm,0.7s					
SKO	Skopje	85.95	349	eP	P	06 24 10.5 +0.5
MMB	Musomiste	86.04	347	⇓P	P	06 24 11.7 +1.3
MMB	Musomiste	86.04	347	⇓iP	P	06 24 11.7 +1.3
BRTR	Keskin Array B	86.07	339	P	P	06 24 11.2 +0.4
	comp=Z,2.2nm,0.8s,baz=45,slow=3.0,SNR=7.3					
BRTR				LR	LR	07 09 13.3
	comp=Z,24nm,18.4s,baz=30,slow=40					
VAY	Valandovo	86.45	348	eP	P	06 24 13.1 +0.7
ASAR	Alice Springs	87.98	227	P	P	06 24 18.3 -1.5
	comp=Z,2.4nm,0.9s,baz=30,slow=4.8,SNR=16					
ESDC	Sonseca Array	88.68	8	P	P	06 24 22.6 -0.6
	comp=Z,0.8nm,0.5s,baz=350,slow=5.0,SNR=5.9					
TORD	Torodi Ar. Bea	115.43	5	PKP	PKPdf	06 30 11.0 -0.8
	comp=Z,0.8nm,1.1s,baz=350,slow=1.4,SNR=2.5					
BOSA	Boshof	153.14	321	PKPbc	PKPbc	06 31 27.8 +0.4
	comp=Z,1.7nm,0.6s,baz=354,slow=1.6,SNR=4.2					
BOSA				PKPab	PKPab	06 31 39.1 0.0
	comp=Z,6.4nm,0.8s,baz=355,slow=5.8,SNR=3.0					

ISCJB ***10*** *06:17:00.7±0.5, 19°.81S±0°.09×177°.9W±0°.1, h400km, mb3.6/12, Error ellipse: s-maj=15.1km s-min=9.1km az=36.5*

IDC ***10*** *06:17:03.0±5.5, 19°.80S×177°.96W, h412km±60km, mb3.4/12, mb1 3.6/14, mb1mx3.5/31, mbtmp4.1/14, Error ellipse: s-maj=21.8km s-min=18.6km az=79.0*

ISC 10 06:17:01.3±0.6, 19°.9S±0°.1×177.73W±0°.09, h400km, n27, σ1§15/29, mb3.6/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.41	85	P	S	06 20 16.1	-2.1
	baz=11,SNR=5.4						
DZM	Mont Dzumac	14.93	259	P	P	06 20 13.4	+0.2
	0.3nm,0.3s,baz=73,slow=19,SNR=3.2						
URZ	Urewera	18.81	193	P	P	06 20 54.3	0.0
	1.3nm,0.3s,baz=355,slow=3.4,SNR=8.1						
URZ				S	S	06 24 03.0	-2.7
	0.4nm,0.3s,baz=135,slow=17,SNR=3.9						
ARMA	Armidale	29.55	243	P	P	06 22 32.6	+1.3
	baz=26,SNR=5.9						
CMSA	Cobar Meteorol	34.77	243	P	P	06 23 16.3	+0.3
	baz=31,SNR=6.2						
QLP	Quilpie	35.47	252	P	P	06 23 22.1	+0.1
	baz=32,SNR=5.0						
TOO	Toolangi	36.44	233	P	P	06 23 30.6	+0.6
	baz=33,SNR=7.8						
STKA	Stephens Creek	38.27	244	P	P	06 23 45.7	+0.4
	3.5nm,0.4s,baz=85,slow=11,SNR=12						
STKA	Stephens Creek	38.27	244	P	P	06 23 45.8	+0.5
	baz=35,SNR=9.3						
HTT	Hallett	40.72	242	P	P	06 24 05.5	+0.2
	baz=37,SNR=7.2						
BBOO	Buckleboo	43.03	243	P	P	06 24 23.4	-0.3
	baz=39,SNR=17						
ASAR	Alice Springs	44.90	256	P	P	06 24 37.6	-0.8
	8.5nm,0.8s,baz=95,slow=8.3,SNR=96						
WRA	Warramunga Arr	44.93	261	P	P	06 24 37.5	-1.3
	1.5nm,0.3s,baz=97,slow=7.5,SNR=27						
WRKA	Warakurna	49.87	254	P	P	06 25 15.8	-0.4
	baz=46,SNR=34						
KNRA	Kununurra	50.95	266	P	P	06 25 23.8	-0.5
	baz=48,SNR=4.3						
MEEK	Meekatharra	58.35	250	P	P	06 26 15.3	-1.3
	baz=55,SNR=3.7						
VNDA	Vanda	58.50	185	P	P	06 26 18.8	+2.0
	1.4nm,0.8s,baz=7.6,slow=7.6,SNR=7.6						
GIRL	Giralia	62.95	254	P	P	06 26 48.1	+0.8
	baz=59,SNR=3.4						
MJAR	Matsushiro Arr	69.90	323	P	P	06 27 29.1	-1.3
	1.9nm,0.6s,baz=165,slow=6.5,SNR=3.7						
PETK	Petropavlovsk-	75.78	345	P	P	06 28 04.3	+0.1
	2.7nm,0.6s,baz=126,slow=7.4,SNR=3.2						
YBH	Yreka Blue Hor	79.69	39	P	P	06 28 27.2	+1.3
	9.1nm,1.2s,baz=186,slow=5.2,SNR=3.8						
NVAR	Mina Array Bea	80.44	43	P	P	06 28 31.2	+1.1
	0.4nm,0.5s,baz=219,slow=7.8,SNR=3.8						
TXAR	Lajitas Array	86.53	57	P	P	06 29 02.7	+1.9
	0.2nm,0.6s,baz=224,slow=7.6,SNR=3.3						
ILAR	Eielson Array	87.70	13	P	P	06 29 04.3	-1.0
	0.6nm,0.7s,baz=230,slow=4.7,SNR=13						
PDAR	Pinedale Array	88.37	43	P	P	06 29 09.4	+0.1
	0.4nm,0.9s,baz=241,slow=8.8,SNR=3.1						
YKA	Yellowknife Ar	95.89	25	P	P	06 29 43.1	0.0
	0.1nm,0.7s,baz=238,slow=4.8,SNR=4.1						
TORD	Torodi Ar. Bea	173.24	175	PKP	PKPdf	06 36 23.1	-1.1
	1.0nm,1.0s,baz=166,slow=0.6,SNR=3.6						
TORD				PKPab	PKPab	06 37 54.9	+0.4
	0.2nm,0.5s,baz=186,slow=4.2,SNR=4.2						

IDC ***10*** *06:23:38.8±1.2, 32°.43N×105°.36E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.3/49, mbtmp3.3/5, ML3.4/1, MS4.1/1, Ms1 4.1/1, ms1mx2.7/22, Error ellipse: s-maj=65.7km s-min=23.0km az=65.0*

ISCJB ***10*** *06:23:39.1±0.6, 32°.43N±0°.05×105°.37E±0°.07, h11km, mb3.3/4, MS3.9/1, Error ellipse: s-maj=9.4km s-min=5.0km az=36.2*

BJI ***10*** *06:23:39.2, 32°.56N×105°.27E, h8km, ML3.4/14, Ms3.3/3, Ms7 3.1/3*

ISC 10 06:23:40.3±0.7, 32°.44N±0°.04×105°.31E±0°.05, h11km, n9, σ1§04/17, mb3.5/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	2.02	221	ePn	Pb	06 24 16.7	-0.4
CD2				Pg	Pg	06 24 18.3	-0.8
CD2				Sn	Sb	06 24 41.6	-0.7
CD2				Sg	Sg	06 24 46.6	+1.3
CD2				SMN			
	3μm,0.8s						
CD2				SME			
	2μm,0.8s						
XAN	Xi'an	3.42	61	Pn	Pn	06 24 33.7	+0.1
XAN				Pg	Pb	06 24 39.9	-1.0
XAN				Sn	Sn	06 25 14.3	+0.1
XAN				Sg	Sb	06 25 23.9	+1.4
XAN				SMN			
	180nm,0.8s						
XAN				SME			
	65nm,0.5s						
LZH	Lanzhou	3.83	342	ePn	Pn	06 24 41.1	+1.7
LZH				Pg	Pb	06 24 46.2	-1.8
LZH				Sn	Sn	06 25 25.4	+0.9
LZH				Sg	Sb	06 25 34.4	-0.1
LZH				SMN			
	140nm,0.6s						
LZH				SME			
	330nm,0.6s						
LZH				LN			
	240nm,7.5s						
LZH				LE			
	340nm,5.5s						
LZH				LZ			
	200nm,7.1s						
SONM	Songino Array	15.39	3	Pn	Pn	06 27 16.4	-1.2
	0.1nm,0.3s,baz=187,slow=10.0,SNR=3.6						
JNU	Nakatsue	21.50	81	LR	LR	06 36 35.8	
	comp=Z,514nm,20.9s,baz=204,slow=36						
MKAR	Makanchi Array	22.69	316	P	P	06 28 42.1	+0.3
	0.5nm,0.6s,baz=119,slow=11,SNR=7.1						
WRA	Warramunga Arr	59.04	148	P	P	06 33 40.1	-0.3
	0.8nm,1.0s,baz=342,slow=7.5,SNR=3.3						
ASAR	Alice Springs	62.12	150	P	P	06 34 01.6	+0.1
	0.3nm,0.6s,baz=332,slow=7.1,SNR=3.3						
YKA	Yellowknife Ar	80.11	18	P	P	06 35 50.7	+0.7
	0.1nm,0.7s,baz=322,slow=4.9,SNR=3.1						

NIED ***10*** *06:27:00, 23°.30N×123°.20E, h17km, Mw4.6 Best double couple: M0 8.27000×1015 NP1:φ0 120.00000°, δ51.00000°, λ12.00000°. NP2:φ0 22.00000°, δ80.00000°, λ140.00000°.*

IDC ***10*** *06:27:55.5±0.5, 23°.38N×123°.28E, h0km, mb4.4/28, mb1 4.4/29, mb1mx4.3/51, mbtmp4.4/29, ML2.5/1, MS3.8/9, Ms1 3.8/9, ms1mx3.5/26, Error ellipse: s-maj=14.7km s-min=12.8km az=77.0*

NEIC ***10*** *06:27:57.1±0.3, 23°.35N×123°.27E, h10km, mb4.7/17, MW4.5(NIED), Error ellipse: s-maj=6.3km s-min=5.2km az=155.0*

NEIC Recorded [1 TAP] in Hua-lien, Taiwan.

MOS ***10*** *06:27:58.7±1.1, 23°.37N×123°.35E, h33km, mb4.8/22, Error ellipse: s-maj=9.5km s-min=5.6km az=115.5*

ISCJB ***10*** *06:27:58.4±0.9, 23°.34N±0°.03×123°.28E±0°.02, h30km±6km, mb4.4/66, MS3.9/11, Error ellipse: s-maj=4.9km s-min=2.8km az=150.2*

JMA ***10*** *06:27:58.4±0.1, 23°.31N×123°.21E, h49km, M4.5*

BJI ***10*** *06:27:59.5, 23°.50N×123°.03E, h16km, mB4.7/28, mb4.4/40, ML4.4/1, Ms4.4/38, Ms7 4.2/37*

ISC 10 06:28:00.0±0.5, 23°.32N±0°.04×123°.26E±0°.03, h30km±2km, n172, σ1§71/231, mb4.4/66, MS3.8/11, 5C-4D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.88	34	P	Pn	06 28 15.2	-1.2
HATJ				S	Sn	06 28 27.3	-0.9
IRIF	Iriomote-Funau	1.09	23	P	Pn	06 28 18.4	-0.9
IRIF				S	Sn	06 28 32.4	-1.0
JKRS	Kuro-shima	1.14	37	P	Pn	06 28 19.2	-0.7
JKRS				S	Sn	06 28 33.7	-0.8
YOJ	Yonaguni jima	1.16	348	eP	Pn	06 28 18.9	-1.3
YOJ	Yonaguni jima	1.16	348	P	Pn	06 28 18.9	-1.3
YOJ				S	Sn	06 28 32.9	-2.1
YOJ	Yonaguni jima	1.16	348	ePn	Pn	06 28 18.9	-1.3
JYNG	Yonagunijimaku	1.16	345	P	Pn	06 28 18.7	-1.5
JYNG				eS	Sn	06 28 33.0	-2.0
JIJ	Ishigaki jima	1.31	38	P	Pn	06 28 21.2	-1.1
JIJ				eS	Sn	06 28 37.1	-1.7
JISG	Ishigakijimahi	1.58	37	P	Pn	06 28 24.8	-1.2
JISG				S	Sn	06 28 44.2	-1.2
NACB	Ninganchiao	1.75	299	ePn	Pn	06 28 25.8	-2.5
YULB	Yu-li	1.81	273	ePn	Pn	06 28 26.1	-3.1
JTJ	Tarama	1.86	45	P	Pn	06 28 29.2	-0.6
JTJ				S

2μm,11.8s
NJ2 Nanjing 9.53 337 *e*P Pn 06 30 15.7 +0.5
NJ2 S **Sn 06 32 04.4 +3.1**
NJ2 PMZ
20nm,0.6s
NJ2 LN
720nm,6.4s
NJ2 LE
1μm,7.0s
NJ2 LZ
2μm,14.2s
WHN Wuhan 10.72 314 *e*P Pn 06 30 35.3 +3.8
WHN LZ
3μm,16.9s
QIZ Qiongzhong 13.23 254 P **Pn 06 31 06.3 +0.4**
QIZ S **Sn 06 33 34.1 +2.1**
QIZ PMZ
49nm,2.4s
QIZ LN
720nm,15.9s
QIZ LZ
870nm,14.5s
KSAR Wonju Array Be 14.62 15 P **Pn 06 31 25.4 +0.6**
KSAR Wonju Array Be 14.62 15 Pn **Pn 06 31 25.4 +0.6**
KSRS Korea Array 14.64 15 Pn **Pn 06 31 25.4 +0.4**
0.6nm,0.3s,baz=195,slow=12,SNR=9.2
KSRS LR LR 06 37 51.4
comp=Z,323nm,18.3s,baz=204,slow=41
GYA Guiyang 15.38 285 P **Pn 06 31 35.4 +0.3**
GYA PP **pP 06 31 47.6 +0.1**
GYA S **Sn 06 34 25.0 +0.3**
GYA SS **S 06 34 43.4 +3.2**
GYA PMZ
10.0nm,0.8s
GYA PMZ
90nm,4.7s
GYA LN
470nm,14.2s
GYA LE
460nm,15.0s
GYA LZ
490nm,14.6s
BJI Beijing 17.71 342 P **P 06 32 05.5 +0.5**
BJI PMZ
7.0nm,0.6s
SLVN Son La 18.02 267 *e*Pn **P 06 32 09.9 +1.2**
10nm,1.0s
MAJO Matsushiro 18.44 41 *e*P **P 06 32 12.5 -0.7**
MAJO Matsushiro 18.44 41 *e*P **P 06 32 12.4 -0.7**
MAT Matsushiro 18.44 41 P **P 06 32 12.6 -0.6**
MAT S **Sn 06 35 38.0 -0.6**
MJAR Matsushiro Arr 18.44 41 P **Pn 06 32 14.0 +0.6**
MJAR Matsushiro Arr 18.44 41 P **Pn 06 32 13.9 +0.6**
0.6nm,0.3s,baz=227,slow=10,SNR=15
MJAR LR LR 06 39 44.8
comp=Z,230nm,20.1s,baz=230,slow=38
KMI Kunming 18.81 280 P **Pn 06 32 19.1 +1.0**
KMI pP **pP 06 32 26.4 +0.9**
KMI sP **sP 06 32 29.6 +0.3**
KMI S **Sn 06 35 44.2 -3.6**
KMI PMZ
28nm,0.8s
KMI PMZ
150nm,4.4s
KMI LN
730nm,13.2s
KMI LE
350nm,13.2s
KMI LZ
330nm,11.8s
CD2 Chengdu 18.92 298⇑ *i*P **Pn 06 32 19.4 +0.1**
CD2 sP **sP 06 32 31.1 +0.7**
CD2 PP **PnPn 06 32 36.2 +4.3**
CD2 S **Sn 06 35 45.4 -4.9**
CD2 sS **S 06 35 57.1 +5.3**
CD2 SS **SnSn 06 36 11.3 +6.9**
CD2 PMZ
40nm,0.9s
CD2 PMZ
100nm,7.2s
CD2 LN
740nm,15.0s
CD2 LE
820nm,15.2s
CD2 LZ
710nm,12.3s
HHC Hu-ho-hao-te 20.06 333 *e*P Pn 06 32 33.5 +0.7
HHC sP sP 06 32 46.1 +3.3
HHC PP **PnPn 06 32 52.8 +5.3**
HHC S **S 06 36 11.7 -3.1**
HHC PMZ
39nm,0.7s
HHC PMZ
290nm,6.3s
HHC LN
550nm,11.8s
HHC LE
670nm,12.7s
HHC LZ
930nm,13.7s
CN2 Changchun 20.50 5 *e*P **P 06 32 31.5 -4.1**
LZH Lanzhou 21.08 312 *e*P **P 06 32 43.8 +1.7**
LZH pP **pP 06 32 50.5 +0.4**
LZH sP **sP 06 32 55.7 +1.7**
LZH *e*S **S 06 36 31.3 -3.9**
LZH sS Sn 06 36 39.1 -3.3
LZH PMZ
24nm,1.0s
LZH PMZ
150nm,4.6s
LZH LN
470nm,11.5s
LZH LE
530nm,12.1s
LZH LZ
880nm,15.0s
CRAI Chiangrai 21.48 266 P **P 06 32 48.0 +1.7**
74nm,0.9s
MDJ Mudanjiang 21.86 12 P **P 06 32 52.0 +1.8**
MDJ pP **pP 06 32 57.7 -0.6**
MDJ sP **sP 06 33 00.5 -1.7**
MDJ PcP **PcP 06 36 50.1 +1.0**
MDJ S **S 06 36 53.9 +3.7**
MDJ PMZ
9.0nm,0.8s
MDJ PMZ
110nm,6.1s
MDJ LN
170nm,21.0s
MDJ LE
740nm,21.0s
MDJ LZ
810nm,12.8s
MDJ Mudanjiang 21.86 12 *e*P **P 06 32 49.2 -1.0**
16nm,1.3s
MDJ *e*ScS ScS 06 44 13.1 +4.5
PBKT Sadao Pong 21.99 256 P **P 06 32 54.2 +2.4**
38nm,1.6s
USRK Ussuriysk Ar. 22.02 17 P **P 06 32 50.1 -1.9**
3.1nm,0.6s,baz=218,slow=11,SNR=8.2
LAMP Lampang 22.57 262 P **P 06 33 01.3 +3.2**
8.0nm,1.0s
CMAI Chiengmai2 22.76 266 P **P 06 33 01.9 +1.7**
13nm,1.6s
CHTO Chiang Mai 23.12 263 *e*P **P 06 33 05.0 +1.2**
CHTO pmax pmax
comp=Z,26nm,1.2s
CHTO Chiang Mai 23.12 263 P **P 06 33 05.0 +1.2**
comp=Z,87nm,1.1s
CHTO Chiang Mai 23.12 263 *e*P **P 06 33 05.0 +1.2**
comp=Z,26nm,1.2s
CM01 Chiang Mai Arr 23.22 262 *e*P **P 06 33 05.4 +0.7**
CMAR Chiang Mai Arr 23.22 263 P **P 06 33 06.0 +1.2**
comp=Z,4.1nm,0.8s,baz=62,slow=8.8,SNR=18
CMAR PcP **PcP 06 36 53.4 +1.1**
comp=Z,1.8nm,0.7s,baz=40,slow=1.6,SNR=6.8
CMAR LR LR 06 42 42.8
comp=Z,177nm,20.3s,baz=78,slow=38
SBUM Sibu 23.35 209 *e*P **P 06 33 05.2 -0.8**
comp=Z,15nm,0.8s
UTHA Uthaitani 23.73 255 P **P 06 33 11.3 +1.6**
comp=Z,6.8nm,0.8s
MHMT Maesarieng 24.22 263 P **P 06 33 17.5 +3.2**
comp=Z,9.1nm,1.2s
SRDT SRDT 24.50 253 P **P 06 33 19.2 +2.3**
comp=Z,76nm,1.2s

KHLT Khaolaem Dam 24.79 254 P **P 06 33 22.4 +2.9**
comp=Z,13nm,1.0s
GTA Gaotai 25.54 314⇑P **P 06 33 26.2 -0.1**
GTA pP **pP 06 33 35.1 +0.1**
GTA sP **sP 06 33 38.6 -0.1**
GTA S **S 06 37 49.7 -2.5**
GTA sS **sS 06 38 04.5 -2.1**
GTA SS **SnSn 06 38 53.9 +7.2**
GTA PMZ
comp=Z,5.0nm,1.9s
GTA LN
comp=Z,410nm,14.2s
GTA LE
comp=Z,360nm,15.7s
GTA LZ
comp=Z,510nm,14.7s
HIA Hailar 26.04 355⇓ *e*P **P 06 33 29.4 -1.2**
HIA pmax pmax
comp=Z,6.0nm,1.1s
HIA MLR MLR
comp=Z,360nm,16.0s
ASAJ Asahikawa 26.12 33 P **P 06 33 30.9 -0.4**
comp=Z,3.7nm,0.4s,baz=209,slow=19,SNR=4.2
ULN Ulaanbaatar 27.70 336⇑ *i*P **P 06 33 45.0 -0.6**
ULN pmax pmax
comp=Z,2.0nm,0.8s
ULN MLR MLR
comp=Z,200nm,17.0s
SONM Songino Array 27.92 335 P **P 06 33 46.7 -0.9**
comp=Z,3.7nm,0.7s,baz=147,slow=9.6,SNR=19
SONM LR LR 06 45 47.2
comp=Z,234nm,19.6s,baz=123,slow=38
YSS Yuzh-Sakhalins 28.31 29 *e*P P 06 33 55.0 +4.1
LSA Lhasa 29.37 289 *e*P **P 06 34 01.9 +0.8**
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA MLR MLR
comp=Z,200nm,19.0s
LSA Lhasa 29.37 289 *e*P **P 06 34 01.9 +0.8**
comp=Z,6.1nm,0.8s
TLY Talaya 32.09 337 P **P 06 34 22.9 -1.5**
TLY MLR MLR
comp=Z,200nm,21.0s
TLY Talaya 32.09 337 P **P 06 34 22.9 -1.5**
comp=Z,2.7nm,0.5s,baz=205,slow=6.6,SNR=4.5
WMQ Urumqi 35.62 314 *e*P **P 06 34 55.4 +0.2**
WMQ pP **pP 06 35 05.0 +1.0**
WMQ S **S 06 40 28.4 -1.2**
WMQ sS **sS 06 40 44.0 -0.1**
WMQ SS **SnSn 06 42 48.8 -3.0**
WMQ PMZ
comp=Z,7.0nm,1.2s
WMQ PMZ
comp=Z,110nm,4.0s
WMQ LN
comp=Z,300nm,22.0s
WMQ LE
comp=Z,120nm,20.0s
WMQ LZ
comp=Z,130nm,18.0s
YAK Yakutsk 38.94 5 *i*P **P 06 35 21.8 -1.1**
PETK Petropavlovsk- 39.54 32 P **P 06 35 26.8 -1.3**
comp=Z,3.5nm,0.7s,baz=180,slow=5.7,SNR=4.7
PET Petropavlovsk 39.97 33 *e*P **P 06 35 31.3 -0.3**
PET pmax pmax
comp=Z,19nm,0.7s
PET Petropavlovsk 39.97 33 *e*P **P 06 35 31.2 -0.3**
comp=Z,19nm,0.7s
MK01 Makanchi Array 40.27 316 *e*P **P 06 35 34.5 +0.2**
MK31 Makanchi Array 40.28 316 *i*P **P 06 35 34.4 0.0**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 40.28 316 P **P 06 35 34.6 +0.2**
comp=Z,4.0nm,0.8s,baz=109,slow=10.0,SNR=50
MKAR PcP **PcP 06 37 36.4 -1.3**
comp=Z,1.7nm,0.8s,baz=89,slow=5.3,SNR=5.7
ZAA0 Zalesovo Array 42.00 327 *e*P **P 06 35 47.1 -1.3**
ZALV Zalesovo Beam 42.00 327 P **P 06 35 47.5 -0.9**
comp=Z,2.8nm,0.6s,baz=114,slow=8.0,SNR=12
ZALV PcP **PcP 06 37 42.1 -1.0**
comp=Z,0.8nm,0.5s,baz=102,slow=5.4,SNR=3.0
ZALV LR LR 06 52 59.6
comp=Z,109nm,21.8s,baz=68,slow=36
KSH Kashi 42.96 303 P P 06 35 59.9 +3.3
KSH sP sP 06 36 12.6 +3.4
KSH PP **PcP 06 37 42.8 -4.0**
KSH PcS **PcS 06 41 39.2 0.0**
KSH S **S 06 42 23.2 +3.1**
KSH sS sS 06 42 39.5 +4.7
KSH SS **SS 06 45 28.9 -3.4**
KSH PMZ
comp=Z,13nm,1.2s
KSH PMZ
comp=Z,210nm,6.5s
KSH LN
comp=Z,160nm,8.1s
KSH LE
comp=Z,140nm,4.8s
KSH LZ
comp=Z,270nm,6.4s
ULHL Ulahol 43.20 307 P **P 06 35 59.5 +0.9**
SNR=14
ULHL Ulahol 43.20 307 *i*P **P 06 35 59.4 +0.9**
TKM2 Tokmak 2 43.79 308 P **P 06 36 04.5 +1.1**
SNR=33
TKM2 Tokmak 2 43.79 308 *i*P **P 06 36 04.4 +1.1**
TKM2 Tokmak 2 43.79 308 *e*P **P 06 36 04.6 +1.3**
comp=Z,23nm,0.8s
PALK Pallekele 43.85 256 P **P 06 36 05.1 +1.2**
comp=Z,17nm,0.9s,baz=77,slow=13,SNR=3.8
KZA Kyzart 43.89 307 P **P 06 36 06.3 +1.9**
SNR=6.3
KZA Kyzart 43.89 307 *i*P **P 06 36 06.3 +1.9**
KURK Kurchatov 43.97 320 *e*P **P 06 36 03.7 -0.7**
KURK 06 37 49.2
KURK pmax pmax
comp=Z,8.0nm,1.5s
KURK Kurchatov 43.97 320 *e*P **P 06 36 03.7 -0.7**
comp=Z,7.5nm,1.5s
KURK PcP **PcP 06 37 49.2 -0.6**
KURBB Kurchatov Arra 43.99 320 P **P 06 36 04.3 -0.2**
comp=Z,2.4nm,0.7s,baz=116,slow=8.4,SNR=13
KURBB PcP **PcP 06 37 49.2 -0.7**
comp=Z,0.5nm,0.5s,baz=115,slow=3.6,SNR=4.9
SEY Seymchan 44.16 19 *e*P **P 06 36 05.7 0.0**
KBK Karagaybulak 44.21 308 P **P 06 36 08.1 +1.4**
SNR=12
KBK Karagaybulak 44.21 308 *i*P **P 06 36 08.1 +1.4**
WRAB Tennant Creek 44.33 165 *e*P **P 06 36 07.4 -0.2**
WRAB pmax pmax
comp=Z,7.0nm,1.1s
WRAB Tennant Creek 44.33 165 *e*P **P 06 36 07.4 -0.2**
comp=Z,7.0nm,1.1s
WRA Warramunga Arr 44.34 165 P **P 06 36 07.5 -0.1**
comp=Z,3.3nm,0.8s,baz=346,slow=8.4,SNR=16
WRA PcP **PcP 06 37 51.5 0.0**
comp=Z,0.9nm,0.6s,baz=351,slow=3.7,SNR=5.6
CHMS Chumysh 44.42 308 P **P 06 36 09.2 +1.1**
SNR=8.7
CHMS Chumysh 44.42 308 *i*P **P 06 36 09.2 +1.1**
UCH Uchtor 44.46 307 P **P 06 36 10.9 +1.9**
SNR=31
UCH Uchtor 44.46 307 *i*P **P 06 36 10.9 +1.9**
AAK Ala-Archa 44.54 308 P **P 06 36 10.8 +1.5**
SNR=7.7
AAK Ala-Archa 44.54 308 *e*P **P 06 36 10.3 +1.0**
AAK 06 37 52.1
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 44.54 308 P **P 06 36 10.0 +0.7**
comp=Z,5.6nm,0.8s,baz=117,slow=5.5,SNR=17
AAK PcP **PcP 06 37 52.1 0.0**
comp=Z,2.2nm,0.6s,baz=125,slow=5.9,SNR=3.9
AAK Ala-Archa 44.54 308 *e*P **P 06 36 10.3 +1.0**
comp=Z,6.6nm,0.8s
AAK PcP **PcP 06 37 52.1 0.0**
AML Almayashu 45.04 307 P **P 06 36 15.1 +1.5**
SNR=14
AML Almayashu 45.04 307 *i*P **P 06 36 15.1 +1.5**
EKS2 Erkin-Say 45.06 308 P **P 06 36 14.9 +1.4**
SNR=7.8
EKS2 Erkin-Say 45.06 308 *e*P **P 06 36 14.8 +1.4**
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 45.06 308 *e*P **P 06 36 14.8 +1.4**
comp=Z,7.2nm,0.8s

KK31 Karatay Array 47.50 308 *e*P **P 06 36 32.7 +0.2**
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 47.50 308 *e*P **P 06 36 33.1 +0.6**
KKAR *e* 06 38 02.6
KKAR Karatay Array 47.50 308 *e*P **P 06 36 33.1 +0.6**
KKAR *e*PcP **PcP 06 38 02.6 +0.3**
FX1 Attu Island--F 47.78 39 P **P 06 36 35.4 +1.0**
comp=Z,16nm,0.8s,baz=254,slow=5.0,SNR=4.8
AS31 Alice Springs 47.84 167 *e*P **P 06 36 35.4 +0.2**
ASAR Alice Springs 47.84 167 P **P 06 36 35.8 +0.6**
comp=Z,2.1nm,0.8s,baz=353,slow=5.7,SNR=17
ASAR PcP **PcP 06 38 03.8 +0.1**
comp=Z,1.2nm,0.7s,baz=341,slow=3.3,SNR=4.7
AS01 Alice Springs 47.85 167 *e*P **P 06 36 35.6 +0.4**
KBL Kabul 48.25 296 *e*P **P 06 36 39.9 +1.3**
KBL pmax pmax
comp=Z,12nm,0.8s
KBL Kabul 48.25 296 *e*P **P 06 36 39.9 +1.3**
comp=Z,12nm,0.8s
TIXI Tiksi 48.46 2⇑ *i*P **P 06 36 38.6 -0.7**
TIXI pmax pmax
comp=Z,13nm,2.5s
TIXI MLR MLR
comp=Z,254nm,15.0s
TIXI Tiksi 48.46 2 *e*P **P 06 36 38.3 -1.0**
comp=Z,13nm,1.5s
BVAR Borovoye Array 49.54 321 P **P 06 36 47.9 -0.1**
comp=Z,1.6nm,0.7s,baz=105,slow=11,SNR=6.8
BVAR PcP **PcP 06 38 09.2 -0.3**
comp=Z,2.1nm,0.7s,baz=108,slow=4.8,SNR=5.8
BRVK Borovoye 49.61 321⇑ *e*P **P 06 36 49.0 +0.6**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 49.61 321 *e*P **P 06 36 49.1 +0.6**
comp=Z,5.0nm,0.7s
AB31 Akbulak array 55.40 315 *i*P **P 06 37 31.6 +0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 55.40 315 *e*P **P 06 37 31.8 +0.4**
AKTO Aktyubinsk 56.72 316 P **P 06 37 40.1 -0.7**
comp=Z,1.6nm,0.6s,baz=120,slow=8.9,SNR=5.6
GEYT Alibeck 56.87 301 P **P 06 37 43.4 +1.1**
comp=Z,2.5nm,0.5s,baz=0.0,slow=1.5,SNR=6.7
ARU Arti 56.94 323*d* *i*P **P 06 37 42.0 -0.3**
ARU 06 39 44.1
ARU S **S 06 45 35.9 +1.7**
ARU SS **SS 06 49 18.6 -3.9**
ARU pmax pmax
comp=Z,38nm,2.5s
ARU Arti 56.94 323 *e*P **P 06 37 42.4 +0.2**
comp=Z,52nm,1.8s
STKA Stephens Creek 57.62 162 P **P 06 37 47.4 0.0**
comp=Z,2.2nm,0.7s,baz=351,slow=7.3,SNR=3.7
STKA LR LR 07 00 54.3
comp=Z,39nm,21.7s,baz=26,slow=34
PRGR Permogore 63.90 329 *e*P **P 06 38 28.7 -1.0**
PRGR pmax pmax
comp=Z,14nm,0.5s
KLMR Klimovskoe 66.90 328 *e*P **P 06 38 47.6 -1.6**
KLMR pmax pmax
comp=Z,28nm,1.5s
VRHR Novokhopersk 67.06 317 *e*P **P 06 38 48.9 -1.4**
VRHR pmax pmax
comp=N,9.0nm,1.0s
VRHR pmax pmax
comp=E,9.0nm,1.0s
VRHR pmax pmax
comp=Z,10.0nm,1.0s
MCK McKinley 68.39 29 *e*P **P 06 39 00.0 +1.4**
MCK pmax pmax
comp=Z,24nm,1.2s
MCK McKinley 68.39 29 *e*P **P 06 39 00.0 +1.4**
comp=Z,24nm,1.2s
VORD Divnogorie 68.53 317 *e*P **P 06 38 58.1 -1.5**
VORD pmax pmax
comp=N,7.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,5.0nm,0.9s
VSR Storozhevoye 68.56 318 *e*P **P 06 38 58.6 -1.2**
VSR pmax pmax
comp=N,4.0nm,0.9s
VSR pmax pmax
comp=E,5.0nm,0.9s
VSR pmax pmax
comp=Z,8.0nm,0.9s
COLA College 68.68 27 P **P 06 39 00.0 -0.2**
COLA pmax pmax
comp=Z,87nm,4.0s
ILAR Eielson Array 69.10 27 P **P 06 39 04.1 +1.1**
comp=Z,0.5nm,0.6s,baz=246,slow=4.3,SNR=16
JOF Joensuu 70.39 331 *e*P **P 06 39 09.5 -1.3**
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 70.39 331 *e*p **P 06 39 09.5 -1.3**
comp=Z,3.1nm,0.6s
KEV Kevo 70.48 338 *e*P **P 06 39 10.5 -0.8**
KEV Kevo 70.48 338 *e*p **P 06 39 10.5 -0.8**
comp=Z,0.4nm,0.3s
ARCES ARCESS Array B 71.04 338 P **P 06 39 15.3 +0.6**
comp=Z,4.2nm,0.9s,baz=57,slow=8.9,SNR=3.0
ARCES LR LR 07 19 03.3
comp=Z,43nm,19.2s,baz=14,slow=43
KAF Kangasniemi 72.84 331 *e*P **P 06 39 24.3 -1.3**
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 72.84 331 *e*p **P 06 39 24.3 -1.3**
comp=Z,2.2nm,0.6s
FINES FINESS Array B 73.14 330 P **P 06 39 27.3 -0.1**
comp=Z,4.4nm,0.7s,baz=63,slow=5.2,SNR=12
FINES LR LR 07 15 45.4
comp=Z,186nm,18.2s,baz=54,slow=39
AKASG Malin Array Be 74.77 319 P **P 06 39 36.1 -1.1**
comp=Z,2.6nm,0.7s,baz=59,slow=6.4,SNR=4.5
KIEV Kiev 74.78 319⇓ *i*P **P 06 39 36.3 -0.9**
BRTR Keskin Array B 75.21 307 P **P 06 39 40.5 +0.3**
comp=Z,1.7nm,0.8s,baz=98,slow=4.8,SNR=5.9
HFS Hagfors 79.24 331 P **P 06 40 01.7 -0.5**
comp=Z,4.0nm,0.8s,baz=108,slow=8.4,SNR=6.4
NB2 NORSAR Subarra 79.87 333 P **P 06 40 05.0 -0.6**
comp=Z,1.4nm,0.7s,baz=59,slow=5.6
NOA NORSAR Array B 79.87 333 P **P 06 40 05.1 -0.5**
comp=Z,3.1nm,0.8s,baz=58,slow=5.5,SNR=7.9
NOA LR LR 07 19 35.0
comp=Z,148nm,18.8s,baz=350,slow=39
STHS Stebnicka Huta 80.03 320 *e*P **P 06 40 07.0 +0.2**
STHS pmax pmax
comp=Z,3.0nm,1.4s
STHS Stebnicka Huta 80.03 320 *e*P **P 06 40 06.9 +0.2**
CRVS Cervenica-Dubn 80.11 319 *e*P **P 06 40 06.8 -0.3**
CRVS Cervenica-Dubn 80.11 319 *e*P **P 06 40 06.8 -0.3**
VYHS Vyhne 81.86 319 *e*P **P 06 40 17.2 +0.7**
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 81.86 319 *e*P **P 06 40 17.1 +0.6**
YKA Yellowknife Ar 83.01 23 P **P 06 40 22.6 +0.5**
comp=Z,1.3nm,0.7s,baz=309,slow=4.9,SNR=22
IDI Anoyia 83.29 305 P **P 06 40 23.4 -0.9**
comp=Z,15nm,1.0s,baz=95,slow=12,SNR=3.1
MCQ Macquarie Isla 83.36 160 *e*P P 06 40 32.0 +8.2
CLL Collm 83.88 324 *e*P **P 06 40 26.0 -0.8**
CLL Collm 83.88 324 *e*P **P 06 40 26.0 -0.8**
GERES GERESS Array B 84.71 321 P **P 06 40 30.7 -0.6**
comp=Z,3.4nm,0.9s,baz=62,slow=6.2,SNR=8.1
NEW Newport 90.61 36 P **P 06 41 01.9 +2.3**
comp=Z,1.2nm,0.7s,baz=315,slow=4.3,SNR=4.2
BSMT Bassoo Peak 92.10 35 *e*P **P 06 41 06.9 +0.2**
FFC Flin Flon 93.14 24 *e*P **P 06 41 10.0 -1.1**
FFC pmax pmax
comp=Z,64nm,2.5s
FFC Flin Flon 93.14 24 *e*P **P 06 41 10.0 -1.1**
comp=Z,64nm,2.5s
SDV Santo Domingo 145.22 25 *e*PKPbc **PKPab 06 47 35.6 +0.1**

TAP 10 06:28:18.5,23°.05N×120°.90E,h10km±1km,ML1.7,1D,B,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.17**	**37**⇓	*i*P	Pg	06 28 22.8	+0.4
	baz=37						
ELDTW				*e*S	Sg	06 28 25.1	+0.1
	baz=37						

STYT	**Tauyuan**	**0.17**	**309**	*i* P	Pg	06 28 22.7	+0.3
	baz=312						
STYT				S	Sg	06 28 25.2	+0.2
	baz=312						
TWG	**Pinlang**	**0.28**	**146**	P	Pg	06 28 24.8	+0.7
	baz=145						
TWG				*e*S	Sg	06 28 29.1	+1.2
	baz=145						
SGST	**Jiashian**	**0.30**	**276**	*e*P	Pb	06 28 26.0	0.0
	baz=277						
CHN1	**Nanshi**	**0.37**	**291**	*e*P	Pb	06 28 27.4	+0.1
	baz=296						
CHN1				*e*S	Sb	06 28 34.7	+1.5
	baz=296						
CHN4	**Tsaushan**	**0.41**	**316**	*e*P	Pg	06 28 27.0	+0.4
	baz=328						
TWK	**Hsinying**	**0.44**	**299**	*e*P	Pb	06 28 28.3	-0.2
	baz=302						

GUC 10 06:30:26.8±0.5, 34°.64S×72°.21W, h35km±3km, ML3.5, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.88**	**114**	⇓*i*P	Pn	06 30 42.8	0.0
NICH				*i* S	Sb	06 30 55.3	0.0
NICH				AML	AML	06 30 55.9	
	comp=E,6μm,0.3s						
LNCH	**Linares**	**1.30**	**158**	⇓*i*P	Pn	06 30 49.3	+0.8
LNCH				*i* S	Sb	06 31 06.6	-0.6
LNCH				AML	AML	06 31 11.3	
	comp=E,1μm,0.6s						
COCH	**Cobquecura**	**1.56**	**198**	⇑*i*P	Pn	06 30 51.7	-0.3
COCH				*i* S	Sn	06 31 12.0	+1.0
ANTU	**Antumapu**	**1.69**	**51**	⇑*i*P	Pn	06 30 55.3	+1.3
ANTU				*i* S	Sb	06 31 17.2	-1.2
ANTU				AML	AML	06 31 22.7	
	comp=N,655nm,0.3s						
LACH	**Col Las Americ**	**1.83**	**50**	⇑*i*P	Pn	06 30 57.2	+1.3
LACH				*i* S	Sb	06 31 20.7	-1.7
CLCH	**Cerro Calan**	**1.86**	**49**	⇓*i*P	Pn	06 30 57.9	+1.5
CLCH				*i* S	Sn	06 31 21.1	+2.3
CLCH				AML	AML	06 31 29.1	
	comp=E,568nm,0.4s						
PEL	**Peldehue**	**1.96**	**41**	⇓*i*P	Pn	06 30 59.4	+1.7
PEL				*i* S	Sb	06 31 23.7	-2.5
PEL				AML	AML	06 31 34.9	
	comp=N,874nm,0.5s						

GUC 10 06:33:33.3±0.6, 34°.94S×71°.51W, h63km±5km, MD3.7, ML3.5, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.24**	**105**	⇓*i*P	Pn	06 33 43.3	0.0
NICH				*i* S	Sn	06 33 51.2	+0.6
NICH				AML	AML	06 33 51.6	
	comp=E,11μm,0.2s						
LNCH	**Linares**	**0.91**	**185**	⇑*i*P	Pn	06 33 50.5	+0.2
LNCH				*i* S	Sn	06 34 03.8	+1.0
LNCH				AML	AML	06 34 06.6	
	comp=E,1μm,0.8s						
CACH	**El Canelo**	**1.11**	**43**	⇓*i*P	Pn	06 33 53.4	+0.3
CACH				*i* S1	Sn	06 34 09.5	+1.6
CHCH	**Chadas Angostu**	**1.23**	**35**	⇓*i*P	Pn	06 33 54.9	+0.3
ANTU	**Antumapu**	**1.55**	**28**	⇑*i*P	Pn	06 33 59.0	+0.2
ANTU				*e*S1	Sn	06 34 19.4	+1.3
ANTU				AML	AML	06 34 22.0	
	comp=E,1μm,0.5s						
COCH	**Cobquecura**	**1.58**	**221**	*e*P	Pn	06 33 59.5	+0.3
COCH				*i* S	Sn	06 34 19.4	+0.8
LACH	**Col Las Americ**	**1.69**	**29**	*e*P1	Pn	06 34 00.9	+0.1
LACH				AML	AML	06 34 28.8	
	comp=N,334nm,0.6s						
CLCH	**Cerro Calan**	**1.74**	**28**	⇓*i*P	Pn	06 34 01.9	+0.5
CLCH				*i* S	Sn	06 34 24.0	+1.3
CLCH				AML	AML	06 34 29.8	
	comp=E,957nm,0.4s						
PEL	**Peldehue**	**1.92**	**21**	⇑*i*P	Pn	06 34 04.2	+0.4
PEL				*i* S4	Sn	06 34 29.7	+2.7
PEL				AML	AML	06 34 33.3	
	comp=N,683nm,0.4s						

*SJA **10** 06:40:51.8±0.4, 25°.80S×66°.74W, h3km±3km, MD4.0, ML4.1, MW3.5*
*ISCJB **10** 06:40:54.6±0.7, 25°.72S±0°.05×67°.01W±0°.08, h33km, mb3.5/3, MS3.4/2, Error ellipse: s-maj=10.7km s-min=6.7km az=171.4*
*IDC **10** 06:40:55.1±4.7, 25°.66S×66°.68W, h35km±38km, mb3.4/3, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, ML3.7/3, MS3.3/6, Ms1 3.4/6, ms1mx3.3/11, Error ellipse: s-maj=33.8km s-min=27.9km az=140.0*

ISC 10 06:40:55.1±0.9, 25°.73S±0°.05×66°.89W±0°.10, h35km, n18, σ2°55/17, mb3.5/3, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHML	**Horco Molle**	**1.75**	**127**	*i* P	**Pn**	**06 41 22.6**	**-0.5**
AHML				*i* S	**Sn**	**06 41 45.6**	**+1.5**
AZAP	**Zapla**	**2.24**	**48**	*i* P	**Pn**	**06 41 32.2**	**+2.3**
AZAP				*i* S	**Sn**	**06 42 01.9**	**+5.4**
AZAP				AML	AML	06 42 07.0	
	comp=Z,2μm,0.4s						
ASTB	**Santa Barbara**	**2.82**	**51**	*i* P	**Pn**	**06 41 40.3**	**+2.4**
CYA	**Choya**	**2.87**	**160**	*i* P	**Pn**	**06 41 39.5**	**+1.1**
CYA				*i* S	**Sn**	**06 42 15.3**	**+3.5**
CYA				AML	AML	06 42 23.7	
	comp=Z,431nm,0.7s						
ALOL	**LOMAS DE OLMED**	**3.27**	**55**	*i* P	**Pn**	**06 41 46.1**	**+2.1**
AGUA	**GUANDACOL**	**4.00**	**200**	*i* P	Pn	06 41 57.6	+3.5
CFAA	**Coronel Fontan**	**5.97**	**191**	**Pn**	**Pn**	**06 42 22.5**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=16,slow=12,SNR=12						
CFAA				Lg	Lg	06 43 52.5	
	comp=Z,0.6nm,0.3s,baz=78,slow=11,SNR=4.2						
CFAA				LR	LR	06 44 47.5	
	comp=Z,34nm,20.2s,baz=22,slow=38						
CPUP	**Villa Florida**	**8.62**	**96**	Pn	**Pn**	**06 42 55.6**	**-1.8**
	comp=Z,1.8nm,0.3s,baz=262,slow=11,SNR=15						
CPUP				Lg	Lg	06 45 23.0	
	comp=Z,2.1nm,0.3s,baz=343,slow=19,SNR=2.6						
CPUP				LR	LR	06 46 42.3	
	comp=Z,363nm,18.2s,baz=252,slow=41						
LPAZ	**La Paz**	**9.47**	**353**	Pn	Pn	06 43 12.0	+2.4
	comp=Z,0.2nm,0.3s,baz=173,slow=8.9,SNR=16						
SIV	**San Ignacio**	**11.11**	**30**	Pn	**Pn**	**06 43 30.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=220,slow=7.8,SNR=5.6						
SIV				Sn	**Sn**	**06 45 30.3**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=204,slow=18,SNR=2.0						
SIV				LR	LR	06 48 20.4	
	comp=Z,187nm,20.7s,baz=200,slow=41						
PLCA	**Paso Flores**	**15.27**	**191**	LR	LR	06 51 01.3	
	comp=Z,280nm,19.0s,baz=38,slow=39						
BDFB	**Brasilia**	**20.29**	**64**	LR	LR	06 54 26.8	
	comp=Z,206nm,20.4s,baz=220,slow=40						
ROSC	**El Rosal**	**31.25**	**346**	LR	LR	07 02 45.8	
	comp=Z,52nm,18.3s,baz=306,slow=42						
TXAR	**Lajitas Array**	**65.14**	**325**	P	**P**	**06 51 33.0**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=122,slow=9.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**77.11**	**68**	P	**P**	**06 52 43.4**	**-2.0**
	comp=Z,0.8nm,0.8s,baz=224,slow=5.3,SNR=4.8						
YKA	**Yellowknife Ar**	**95.78**	**340**	P	**P**	**06 54 16.7**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=120,slow=3.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**144.86**	**29**	PKP	**PKPdf**	**07 00 27.5**	**-0.6**
	comp=Z,5.2nm,0.8s,baz=302,slow=4.5,SNR=20						
MKAR	**Makanchi Array**	**147.78**	**41**	PKPbc	**PKPbc**	**07 00 35.5**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=291,slow=3.8,SNR=12						

*ISCJB **10** 06:53:46.5±1.5, 11°.92N±0°.09×43°.7E±0°.1, h5km±10km, Error ellipse: s-maj=21.5km s-min=6.2km az=41.2*
*ARO **10** 06:53:47.8, 12°.N±3°.×4°.4E±°, h7km±5km, ML3.9*
*CSEM **10** 06:53:47.7, 12°.10N×43°.69E, h5km, ML3.6*
*DHMR **10** 06:53:47.7±2.0, 12°.10N×43°.69E, h5km±21km, ML3.6*

ISC 10 06:53:47.1±2.0, 11°.91N±0°.08×43°.69E±0°.09, h12km±15km, n12, σ1°29/19, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.40**	**280**	*e*P	**Pb**	**06 53 56.2**	**+0.1**
ATA	**Atar**	**0.66**	**226**	*e*P	**Pb**	**06 54 00.8**	**+0.2**
TDD	**Tadjoura Ara**	**0.77**	**262**	*e*P	**Pg**	**06 54 02.1**	**0.0**
ATD	**Arta Tunnel**	**0.91**	**245**	*e*P	**Pb**	**06 54 04.8**	**-0.1**
ATD				*e*S	**Sn**	**06 54 18.9**	**-0.1**
SGH	**Sud-Ghoubbet**	**1.14**	**246**	*e*P	**Pb**	**06 54 08.6**	**-0.3**
TRBA	**At Turbah**	**1.37**	**18**	*i* P	**Pn**	**06 54 09.8**	**-2.6**
TRBA				AML	AML	06 54 20.0	
	comp=N,899nm,0.5s						
TRBA				*i* S	**Sn**	**06 54 28.0**	**-2.7**
GBR	**Grand-Bara**	**1.42**	**238**	*e*P	**Pn**	**06 54 12.9**	**0.0**
UDYN	**Al 'Udayn**	**2.06**	**8**	*i* P	**Pn**	**06 54 22.4**	**+0.7**
UDYN				*i* S	**Sn**	**06 54 47.9**	**+0.4**
UDYN				AML	AML	06 54 55.1	
	comp=E,716nm,0.5s						
UDYN	**Al 'Udayn**	**2.06**	**8**	*i* P	**Pn**	**06 54 22.4**	**+0.7**
UDYN				*i* S	**Sn**	**06 54 47.9**	**+0.4**
	comp=E,358nm,0.5s						
DHBB	**Dhamar BB**	**2.73**	**14**	*i* P	**Pn**	**06 54 32.9**	**+1.8**
DHBB				*i* S	**Sn**	**06 55 06.3**	**+2.1**
BDHA	**Al Bayda'**	**2.75**	**42**	*i* P	**Pn**	**06 54 32.2**	**+0.9**
BDHA				*i* S	**Sb**	**06 55 09.6**	**-0.6**
BDHA	**Al Bayda'**	**2.75**	**42**	*i* P	**Pn**	**06 54 32.2**	**+0.9**
BDHA				*i* S	**Sb**	**06 55 09.6**	**-0.6**

*ISCJB **10** 07:01:19.3±0.7, 35°.51S±0°.04×73°.28W±0°.07, h17km, mb3.9/8, MS3.5/2, Error ellipse: s-maj=8.0km s-min=5.8km az=172.8*
*IDC **10** 07:01:19.4±1.1, 35°.50S×73°.00W, h0km, mb3.9/7, mb1 3.9/9, mb1mx3.9/23, mbtmp3.9/9, ML3.4/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/26, Error ellipse: s-maj=35.4km s-min=19.6km az=95.0*
*GUC **10** 07:01:20.7±0.5, 35°.63S×73°.26W, h35km±7km, ML4.9*
*NEIC **10** 07:01:25.1±0.9, 35°.55S×72°.67W, h35km, mb4.0/2, Error ellipse: s-maj=21.4km s-min=10.7km az=91.0*

ISC 10 07:01:21.6±0.8, 35°.55S±0°.05×73°.09W±0°.07, h17km, n32, σ1°05/28, mb4.0/8, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.63**	**157**	⇑*i*P	**Pg**	**07 01 33.0**	**-1.0**
COCH				*i* S	**Sg**	**07 01 42.2**	**-0.2**
LNCH	**Linares**	**1.25**	**104**	⇑*i*P	**Pb**	**07 01 44.5**	**-0.2**
LNCH				*i* S	**Sg**	**07 02 02.4**	**+0.5**
NICH	**Los Niches**	**1.62**	**71**	⇓*i*P	**Pb**	**07 01 50.4**	**-0.6**
NICH				*i* S	**Sg**	**07 02 12.8**	**-1.0**
NICH				AML	AML	07 02 22.9	
	comp=E,17μm,0.6s						
LACH	**Col Las Americ**	**2.98**	**46**	*e*P1	**Pn**	**07 02 08.7**	**+0.6**
CLCH	**Cerro Calan**	**3.01**	**45**	⇑*i*P	**Pn**	**07 02 09.2**	**+0.6**
CLCH				AML	AML	07 03 05.9	
	comp=N,3μm,0.5s						
PEL	**Peldehue**	**3.12**	**40**	*e*P1	**Pn**	**07 02 11.3**	**+1.3**
PEL				AML	AML	07 03 11.0	
	comp=E,2μm,0.7s						
PLCA	**Paso Flores**	**5.54**	**160**	Pn	**Pn**	**07 02 44.1**	**+0.7**
	comp=E,0.4nm,0.3s,baz=337,slow=13,SNR=11						
PLCA				Lg	Lg	07 04 10.6	
	comp=E,1.4nm,0.3s,baz=254,slow=19,SNR=4.8						
PLCA	**Paso Flores**	**5.54**	**160**	*e*Pn	**Pn**	**07 02 43.8**	**+0.4**
	comp=E,9.3nm,1.1s						
PLCA				Lg	Lg	07 04 10.6	
CFAA	**Coronel Fontan**	**5.65**	**47**	Pn	**Pn**	**07 02 45.5**	**+0.7**
	comp=E,0.6nm,0.3s,baz=208,slow=11,SNR=17						
CFAA				Sn	**Sn**	**07 03 51.7**	**+2.4**
	comp=E,0.5nm,0.3s,baz=219,slow=14,SNR=2.6						
CFAA				Lg	Lg	07 04 10.3	
	comp=E,0.6nm,0.3s,baz=321,slow=18,SNR=5.6						
CFAA				LR	LR	07 04 43.2	
	comp=E,6.5nm,21.4s,baz=229,slow=37						
LCO	**Las Campanas**	**6.83**	**18**	*e*Pn	**Pn**	**07 02 59.6**	**-1.6**
	comp=E,14nm,0.4s						
TRQA	**Tornquist**	**9.25**	**109**	*e*Pn	Pn	07 03 28.5	-5.7
LVC	**Limon Verde**	**13.40**	**17**	*e*Pn	**Pn**	**07 04 30.2**	**-1.1**
CPUP	**Villa Florida**	**16.33**	**60**	LR	LR	07 11 58.6	
	comp=E,222nm,21.7s,baz=212,slow=39						
CPUP	**Villa Florida**	**16.33**	**60**	Pn	**Pn**	**07 05 08.7**	**-1.5**
LPAZ	**La Paz**	**19.69**	**14**	P	**Pn**	**07 05 54.0**	**+1.8**
	comp=E,0.2nm,0.3s,baz=200,slow=8.5,SNR=10						
LPAZ	**La Paz**	**19.69**	**14**	*e*P	**Pn**	**07 05 52.7**	**+0.5**
	comp=E,8.2nm,1.1s						
SIV	**San Ignacio**	**22.25**	**32**	P	**P**	**07 06 17.6**	**-0.1**
	comp=E,4.0nm,0.7s,baz=238,slow=13,SNR=11						
SIV				LR	LR	07 16 42.6	
	comp=E,245nm,19.0s,baz=234,slow=42						
SAML	**Samuel**	**27.98**	**21**	P	**P**	**07 07 11.1**	**-0.4**
	comp=E,5.1nm,1.5s						
BDFB	**Brasilia**	**29.93**	**55**	P	**P**	**07 07 27.7**	**-1.3**
	comp=E,1.4nm,0.7s,baz=215,slow=14,SNR=3.0						
BDFB				LR	LR	07 21 11.3	
	comp=E,77nm,20.9s,baz=200,slow=40						
SNAA	**Sanae**	**50.48**	**157**	P	**P**	**07 10 20.1**	**+1.9**
	comp=E,2.1nm,1.0s,baz=333,slow=11,SNR=3.9						
QSPA	**South Pole Qui**	**54.69**	**180**	P	**P**	**07 10 50.1**	**+0.6**
	comp=E,1.7nm,1.0s,baz=146,slow=2.9,SNR=5.6						
TXAR	**Lajitas Array**	**70.68**	**332**	P	**P**	**07 12 37.1**	**+0.6**
	comp=E,0.2nm,0.5s,baz=149,slow=7.2,SNR=3.4						
BOSA	**Boshof**	**80.11**	**118**	P	**P**	**07 13 30.7**	**-0.3**
	comp=E,2.2nm,0.7s,baz=162,slow=19,SNR=3.2						
TORD	**Torodi Ar. Bea**	**85.55**	**71**	P	**P**	**07 13 58.6**	**-0.5**
	comp=E,1.0nm,1.0s,baz=234,slow=6.5,SNR=3.6						
H11S2	**WAKE ISLAND Hyl**	**24.88**	**269**	T	T	09 37 50.6	
	baz=117						
H11S1	**WAKE ISLAND Hyl**	**24.89**	**269**	T	T	09 37 46.0	
	baz=117						
H11S3	**WAKE ISLAND Hyl**	**24.89**	**269**	T	T	09 37 48.3	
	baz=117						
H11N3	**WAKE ISLAND Hyl**	**25.33**	**270**	T	T	09 38 08.2	
	baz=122,slow=76,SNR=5.3						
H11N1	**WAKE ISLAND Hyl**	**25.34**	**270**	T	T	09 38 08.1	
	baz=122,slow=76,SNR=6.2						
H11N2	**WAKE ISLAND Hyl**	**25.35**	**270**	T	T	09 38 10.8	
	baz=122,slow=76,SNR=5.6						
ZALV	**Zalesovo Beam**	**156.00**	**33**	PKPab	**PKPab**	**07 21 41.5**	**-0.1**
	comp=E,0.7nm,0.4s,baz=313,slow=5.3,SNR=3.0						
MKAR	**Makanchi Array**	**158.42**	**51**	PKPab	**PKPab**	**07 21 52.1**	**-0.2**
	comp=E,0.2nm,0.5s,baz=291,slow=3.3,SNR=2.6						

IDC 10 07:07:15.0±2.0, 1°.94N×125°.06E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/28, mbtmp3.4/3, Error ellipse: s-maj=200.7km s-min=26.5km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.57**	**158**	P	P	07 12 27.0	-0.5
	0.2nm,0.3s,baz=336,slow=10,SNR=7.7						
ASAR	**Alice Springs**	**26.87**	**162**	P	P	07 12 58.1	+0.4
	0.2nm,0.3s,baz=346,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**58.10**	**327**	P	P	07 17 10.2	-0.1
	1.8nm,1.3s,baz=125,slow=8.1,SNR=4.2						

IDC 10 07:09:52.1±561.0, 39°.42N×118°.76E, h0km, Error ellipse: s-maj=211.4km s-min=171.4km az=48.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**10.96**	**60**	*i*		08 19 40.0	
	baz=246,slow=338,SNR=1.1						
I34MN	**SONGINO INFRAS**	**12.25**	**317**	*i*		08 23 00.0	
	baz=127,slow=320,SNR=0.1						
I30JP	**ISUMI INFRASON**	**17.61**	**97**	*i*		09 04 50.0	
	baz=292,slow=318,SNR=0.5						
I44RU	**PETROPAVLOVSK**	**29.80**	**50**	*i*		10 12 00.0	
	baz=257,slow=333,SNR=1.4						

*MOS **10** 07:14:35.7±0.6, 46°.75N×152°.22E, h105km, mb4.0/3, Error ellipse: s-maj=38.4km s-min=18.9km az=69.4*
*IDC **10** 07:14:40.1±7.9, 46°.87N×152°.64E, h126km±54km, mb3.3/6, mb1 3.5/7, mb1mx3.2/31, mbtmp3.7/7, Error ellipse: s-maj=79.4km s-min=23.6km az=5.0*

ISC 10 07:14:32.4±1.4, 46°.4N±0°.2×152°.7E±0°.2, h67km, n19, σ1°94/15, mb3.6/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.60**	**253**	PN	**Pn**	**07 15 27.9**	**+2.3**
KUR				*e*S	**Sn**	**07 16 07.4**	**+0.6**
KUR				pmax	pmax		
	comp=Z,72nm,0.2s						
KUR				pmax	pmax		
	comp=E,31nm,0.1s						
KUR				pmax	pmax		
	comp=Z,35nm,0.1s						
KUR				smax	smax		
	comp=N,123nm,0.6s						
KUR				smax	smax		
	comp=E,38nm,0.1s						
SKR	**Severo-Kuril's**	**4.85**	**26**	*e*PN	**Pn**	**07 15 45.5**	**+2.8**
SKR				MLR	MLR		
	comp=E,90nm,0.2s						
PETK	**Petropavlovsk-**	**7.46**	**24**	PN	**Pn**	**07 16 21.0**	**+2.6**
PETK	**Petropavlovsk-**	**7.46**	**24**	P	**Pn**	**07 16 21.0**	**+2.6**
	comp=E,0.3nm,0.3s,baz=193,slow=18,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**29.02**	**152**	T	T	07 51 49.5	
	baz=340,slow=76,SNR=253						
H11N1	**WAKE ISLAND Hy**	**29.03**	**152**	T	T	07 51 51.1	
	baz=340,slow=76,SNR=211						
H11N3	**WAKE ISLAND Hy**	**29.03**	**152**	T	T	07 51 50.8	
	baz=340,slow=76,SNR=172						
H11S1	**WAKE ISLAND Hy**	**30.10**	**153**	T	T	07 53 09.8	
	baz=340,slow=76,SNR=254						
H11S3	**WAKE ISLAND Hy**	**30.11**	**153**	T	T	07 53 17.0	
	baz=340,slow=76,SNR=209						
H11S2	**WAKE ISLAND Hy**	**30.11**	**153**	T	T	07 53 10.6	
	baz=340,slow=76,SNR=233						
MKAR	**Makanchi Array**	**46.88**	**298**	P	**P**	**07 22 54.5**	**-1.2**
	comp=E,0.2nm,0.5s,baz=71,slow=10,SNR=4.6						
MKAR				PcP	PcP		
	comp=E,0.3nm,0.7s,baz=85,slow=3.3,SNR=3.8						
FINES	**FINESS Array B**	**64.26**	**335**	P	**P**	**07 24 58.3**	**-1.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.26**	**335**	P	**P**	**07 24 58.3**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=32,slow=6.6,SNR=9.0						
PDAR	**Pinedale Array**	**65.17**	**54**	P	**P**	**07 25 05.1**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=269,slow=4.5,SNR=3.0						
NOA	**NORSAR Array B**	**68.49**	**341**	P	**P**	**07 25 25.7**	**-1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**68.49**	**341**	P	**P**	**07 25 25.7**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=29,slow=5.5,SNR=4.9						
AKASG	**Malin Array Be**	**71.71**	**326**	P	**P**	**07 25 45.3**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**71.71**	**326**	P	**P**	**07 25 45.3**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=36,slow=6.5,SNR=2.9						
TXAR	**Lajitas Array**	**77.90**	**60**	P	**P**	**07 26 24.2**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=316,slow=5.0,SNR=3.5						

*IDC **10** 07:22:29.2±1.4, 33°.87S×72°.06W, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.7/28, mbtmp3.8/5, ML3.2/2, MS2.0/1, Ms1 2.0/1, ms1mx2.0/26, Error ellipse: s-maj=48.3km s-min=33.8km az=151.0*
*ISCJB **10** 07:22:33.4±1.5, 33°.59S±0°.06×72°.14W±0°.08, h30km±12km, mb3.7/3, Error ellipse: s-maj=11.2km s-min=9.4km az=28.8*
*GUC **10** 07:22:33.4±0.6, 33°.68S×72°.05W, h10km±5km, ML4.0*

ISC 10 07:22:33.2±1.0, 33°.69S±0°.05×72°.05W±0°.09, h20km±6km, n17, σ1°52/19, mb4.0/3, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.75**	**28**	⇓*i*P	**Pb**	**07 22 47.1**	**-0.3**
IHA				*i* S1	**Sg**	**07 22 58.4**	**+1.2**
ANTU	**Antumapu**	**1.19**	**85**	⇑*i*P	**Pb**	**07 22 54.8**	**-0.3**
ANTU				*i* S	**Sn**	**07 23 10.7**	**+0.4**
ANTU				AML	AML	07 23 13.8	
	comp=E,3μm,0.4s						
PEL	**Peldehue**	**1.27**	**65**	⇑*i*P	**Pb**	**07 22 56.3**	**-0.1**
PEL				*i* S	**Sb**	**07 23 13.2**	**+1.0**
PEL				AML	AML	07 23 21.6	
	comp=E,8μm,0.5s						
LACH	**Col Las Americ**	**1.29**	**80**	⇑*i*P	**Pb**	**07 22 56.2**	**-0.6**
LACH				*i* S	**Sb**	**07 23 14.0**	**+1.0**
NICH	**Los Niches**	**1.48**	**153**	*e*P	**Pb**	**07 22 59.4**	**-0.5**
NICH				AML	AML	07 23 28.9	
	comp=N,5μm,0.4s						
LNCH	**Linares**	**2.19**	**170**	*e*P1	Pn	07 23 10.8	+2.5
LNCH				*i* S	**Sb**	**07 23 38.6**	**0.0**
LNCH				AML	AML	07 23 48.9	
	comp=N,2μm,0.6s						
CFAA	**Coronel Fontan**	**3.83**	**58**	Pn	**Pn**	**07 23 33.0**	**+1.9**
	comp=N,0.5nm,0.3s,baz=232,slow=6.5,SNR=30						
CFAA				Sn	**Sb**	**07 24 21.3**	**-4.7**
	comp=N,0.7nm,0.3s,baz=88,slow=17,SNR=4.8						
CFAA				LR	LR	07 25 04.6	
	comp=N,19nm,20.1s,baz=240,slow=40						
LPAZ	**La Paz**	**17.68**	**12**	P	**Pn**	**07 26 38.8**	**-0.1**
	comp=N,0.1nm,0.3s,baz=200,slow=5.7,SNR=5.8						
BDFB	**Brasilia**	**28.17**	**56**	P	**P**	**07 28 23.3**	**-1.2**
	comp=N,1.2nm,0.5s,baz=214,slow=11,SNR=3.7						
TXAR	**Lajitas Array**	**69.46**	**331**	P	**P**	**07 33 40.9**	**+0.8**
	comp=N,0.2nm,0.6s,baz=145,slow=8.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**84.11**	**70**	P	**P**	**07 35 03.0**	**0.0**
	comp=N,1.1nm,0.7s,baz=291,slow=6.8,SNR=7.6						
WRA	**Warramunga Arr**	**121.03**	**209**	PKP	**PKPdf**	**07 41 23.6**	**-1.2**
	comp=N,0.3nm,1.0s,baz=141,slow=1.1,SNR=3.5						
H11S2	**WAKE ISLAND Hyl**	**25.76**	**269**	T	T	10 00 24.6	
	baz=115						
H11S1	**WAKE ISLAND Hyl**	**25.78**	**269**	T	T	10 00 29.8	
	baz=115						
H11S3	**WAKE ISLAND Hyl**	**25.78**	**269**	T	T	10 00 30.2	
	baz=115						
ZALV	**Zalesovo Beam**	**153.97**	**32**	PKPbc	**PKPbc**	**07 42 30.4**	**-0.1**
	comp=N,0.5nm,0.5s,baz=267,slow=2.9,SNR=2.7						
MKAR	**Makanchi Array**	**156.57**	**48**	PKPab	**PKPab**	**07 42 55.1**	**-0.3**
	comp=N,2.7nm,1.3s,baz=284,slow=3.7,SNR=3.6						

*NSSC **10** 07:24:46.6±1.6, 35°.05N×40°.73E, h12km±7km, ML2.6*
*

MARD				*i* S	**Sn**	**07 25 53.8**	**+1.3**
MAZI	**Mazidag**	**2.37**	**358**	*e*PN	**Pn**	**07 25 28.6**	**+1.8**
MAZI				*e*SN	**Sn**	**07 25 55.9**	**-0.1**
MAZI	**Mazidag**	**2.37**	**358**	*e*Pn	**Pn**	**07 25 28.6**	**+1.8**
MAZI				*e*Sn	**Sn**	**07 25 55.9**	**-0.1**
DIY	**Diyarbakir**	**2.82**	**355**	*e*Pn	**Pn**	**07 25 35.3**	**+2.4**
SIRN	**S¨–rnak**	**2.84**	**31**	*i* P	**Pn**	**07 25 31.2**	**-2.0**
SIRN				*i* S	**Sn**	**07 26 08.3**	**+0.9**
SIRN	**S¨–rnak**	**2.84**	**31**	*i* P	**Pn**	**07 25 31.2**	**-2.0**
SIRN				*i* S	**Sn**	**07 26 08.3**	**+0.9**
SIRT	**Sirnak**	**2.85**	**32**	*e*PN	**Pn**	**07 25 34.5**	**+1.1**
SIRT	**Sirnak**	**2.85**	**32**	*e*Pn	**Pn**	**07 25 34.5**	**+1.1**
BEST	**Besiri**	**2.86**	**11**	*i* P	**Pn**	**07 25 30.5**	**-3.0**
BEST				*i* S	**Sb**	**07 26 12.2**	**-1.8**
DYBB	**Diyarbakir**	**2.88**	**353**	*e*PN	**Pn**	**07 25 35.3**	**+1.5**
SVAN	**Silvan-Diyarba**	**3.10**	**9**	*e*PN	**Pn**	**07 25 38.1**	**+1.2**
CUKT	**Cukurca**	**3.28**	**48**	*e*PN	**Pn**	**07 25 40.0**	**+0.7**
CUKT	**Cukurca**	**3.28**	**48**	*e*Pn	**Pn**	**07 25 40.1**	**+0.7**
WRDH	**Warideh**	**3.42**	**278**	*e*P	**Pn**	**07 25 41.0**	**-0.1**
	SNR=51						
WRDH				*e*S	**Sn**	**07 26 22.7**	**+1.1**
	comp=Z,28nm,0.4s,SNR=49						
WRDH	**Warideh**	**3.42**	**278**	*e*P	**Pn**	**07 25 41.0**	**-0.1**
WRDH				*e*S	**Sn**	**07 26 22.7**	**+1.1**
WRDH				AML	AML	07 26 39.1	
	comp=E,37nm,0.7s						
WRDH				AML	AML	07 26 49.1	
	comp=N,28nm,0.4s						
ZALF	**Zalf**	**3.44**	**232**	*e*P	**Pn**	**07 25 41.4**	**0.0**
	SNR=51						
ZALF				*e*S	**Sn**	**07 26 21.7**	**-0.4**
	comp=N,25nm,0.6s,SNR=49						
ZALF	**Zalf**	**3.44**	**232**	*e*P	**Pn**	**07 25 41.4**	**0.0**
ZALF				*e*S	**Sn**	**07 26 21.7**	**-0.4**
ZALF				AML	AML	07 26 39.5	
	comp=N,29nm,0.7s						
ZALF				AML	AML	07 26 40.6	
	comp=E,25nm,0.6s						
BTCH	**Batrach**	**3.47**	**287**	*e*P	**Pn**	**07 25 42.8**	**+0.9**
	SNR=51						
BTCH				*e*S	**Sn**	**07 26 23.5**	**+0.5**
	SNR=49						
BTCH	**Batrach**	**3.47**	**287**	*e*P	**Pn**	**07 25 42.8**	**+0.9**
BTCH				*e*S	**Sn**	**07 26 23.4**	**+0.5**
MARH	**Ras Al Marh**	**3.52**	**254**	*e*P	**Pn**	**07 25 43.1**	**+0.2**
	SNR=51						
MARH				*e*S	**Sn**	**07 26 25.0**	**+0.4**
	comp=E,32nm,0.4s,SNR=49						
MARH	**Ras Al Marh**	**3.52**	**254**	*e*P	**Pn**	**07 25 43.1**	**+0.2**
MARH				*e*S	**Sn**	**07 26 25.0**	**+0.4**
MARH				AML	AML	07 26 52.6	
	comp=N,36nm,0.5s						
MARH				AML	AML	07 26 52.8	
	comp=E,32nm,0.4s						
HAKT	**HAKKARI**	**3.54**	**45**	*i* P	**Pn**	**07 25 42.5**	**-0.6**
HAKT				*i* S	**Sn**	**07 26 25.0**	**-0.1**
HAKT	**HAKKARI**	**3.54**	**45**	*i* P	**Pn**	**07 25 42.5**	**-0.6**
HAKT				*i* S	**Sn**	**07 26 25.0**	**-0.1**
MALT	**Malatya**	**3.65**	**333**	*e*PN	**Pn**	**07 25 45.1**	**+0.7**
MALT	**Malatya**	**3.65**	**333**	*e*Pn	**Pn**	**07 25 45.1**	**+0.7**
BINT	**Bingol**	**3.79**	**359**	*e*Pn	**Pn**	**07 25 48.8**	**+2.5**
BNGB	**Bing¨¶l**	**3.90**	**1**	*e*PN	**Pn**	**07 25 48.8**	**+0.9**
SALA	**Sala**	**3.96**	**234**	*e*P	**Pn**	**07 25 49.8**	**+1.1**
	SNR=51						
SALA				*e*S	**Sn**	**07 26 34.5**	**-0.8**
	comp=E,4.2nm,0.4s,SNR=49						
SALA	**Sala**	**3.96**	**234**	*e*P	**Pn**	**07 25 49.9**	**+1.1**
SALA				*e*S	**Sn**	**07 26 34.5**	**-0.8**
SALA				AML	AML	07 26 55.3	
	comp=N,27nm,0.4s						
SALA				AML	AML	07 26 58.4	
	comp=E,4.2nm,0.4s						

*IDC **10** 07:32:37.8±0.9, 35°.46S×73°.14W, h0km, mb4.0/6, mb1 4.0/9, mb1mx3.9/27, mbtmp3.9/9, ML3.6/3, MS3.7/6, Ms1 3.7/6, ms1mx3.5/29, Error ellipse: s-maj=35.8km s-min=18.3km az=93.0*
*ISCJB **10** 07:32:41.1±0.7, 35°.42S±0°.06×73°.1W±0°.1, h33km, mb4.0/7, MS3.8/4, Error ellipse: s-maj=15.3km s-min=8.0km az=19.4*
*NEIC **10** 07:32:43.0±0.6, 35°.38S×73°.12W, h35km, mb4.0/1, Error ellipse: s-maj=15.6km s-min=9.0km az=95.0*
ISC 10 07:32:42.3±0.9, 35°.36S±0°.08×73°.3W±0°.1, h35km, n29, σ1§24/22, mb4.1/7, MS3.7/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.63**	**50**	Pn	**Pn**	**07 34 03.2**	**-0.3**
	0.8nm,0.3s,baz=237,slow=16,SNR=72						
CFAA				Sn	**Sn**	**07 35 09.1**	**+2.0**
	1.1nm,0.3s,baz=236,slow=17,SNR=3.6						
CFAA				Lg	Lg	07 35 29.5	
	0.3nm,0.3s,baz=119,slow=23,SNR=8.5						
PLCA	**Paso Flores**	**5.78**	**159**	Pn	**Pn**	**07 34 04.2**	**-1.3**
	0.5nm,0.3s,baz=330,slow=10,SNR=19						
PLCA				Lg	Lg	07 35 31.3	
	1.3nm,0.3s,baz=13,slow=20,SNR=3.7						
PLCA				LR	LR	07 35 44.0	
	comp=Z,203nm,20.9s,baz=333,slow=33						
PLCA	**Paso Flores**	**5.78**	**159**	*e*Pn	**Pn**	**07 34 05.0**	**-0.5**
PLCA				Lg	Lg	07 35 31.3	
LCO	**Las Campanas**	**6.70**	**20**	*e*Pn	**Pn**	**07 34 16.2**	**-2.1**
	22nm,0.8s						
TRQA	**Tornquist**	**9.46**	**110**	*e*Pn	**Pn**	**07 34 55.7**	**-0.2**
	115nm,1.6s						
CPUP	**Villa Florida**	**16.37**	**61**	LR	LR	07 42 25.3	
	comp=Z,210nm,19.4s,baz=221,slow=36						
CPUP	**Villa Florida**	**16.37**	**61**	Pn	**P**	**07 36 28.6**	**-3.2**
LPAZ	**La Paz**	**19.54**	**15**	P	**Pn**	**07 37 09.6**	**+0.6**
	0.1nm,0.3s,baz=184,slow=8.8,SNR=3.3						
LPAZ	**La Paz**	**19.54**	**15**	*e*P	**Pn**	**07 37 09.8**	**+0.8**
SIV	**San Ignacio**	**22.16**	**33**	P	**P**	**07 37 35.4**	**+0.1**
	9.0nm,1.1s,baz=226,slow=12,SNR=4.6						
SIV				LR	LR	07 48 06.2	
	comp=Z,810nm,18.6s,baz=227,slow=42						
NNA	**Nana**	**23.50**	**351**	LR	LR	07 44 47.7	
	comp=Z,167nm,21.7s,baz=178,slow=31						
SAML	**Samuel**	**27.86**	**22**	*e*P	**P**	**07 38 28.7**	**0.0**
	3.8nm,1.1s						
ATAH	**Atahualpa**	**28.48**	**349**	LR	LR	07 47 21.4	
	comp=Z,130nm,21.8s,baz=186,slow=31						
VNA3	**Neumayer Olymp**	**48.49**	**157**	P	**P**	**07 41 21.9**	**+0.8**
VNA2	**Neumayer--Watz**	**49.16**	**157**	P	**P**	**07 41 27.2**	**+0.9**
	baz=301,slow=9.8						
SNAA	**Sanae**	**50.72**	**157**	P	P	07 41 39.3	+1.2
SNAA	**Sanae**	**50.72**	**157**	P	**P**	**07 41 37.8**	**-0.3**
	2.4nm,1.0s,baz=270,slow=7.1,SNR=4.8						
RKT	**Rikitea**	**54.43**	**265**	*e*T	T	08 40 28.2	
	0.8nm,0.2s						
QSPA	**South Pole Qui**	**54.88**	**180**	P	**P**	**07 42 09.7**	**+0.7**
	0.9nm,0.8s,baz=117,slow=3.2,SNR=3.5						
MEH	**Mehetia**	**67.67**	**263**	*e*T	T	08 56 56.5	
	5.1nm,0.1s						
PPT2	**Papeete2**	**69.05**	**263**	*e*LR	LR	08 04 35.5	
	150nm,25.5s						
TXAR	**Lajitas Array**	**70.44**	**332**	P	P	07 43 55.0	+2.0
	0.2nm,0.5s,baz=158,slow=7.8,SNR=7.9						
PFO	**Pinyon Flats O**	**79.64**	**325**	LR	LR	08 14 29.8	
	comp=Z,48nm,18.2s,baz=125,slow=32						
BOSA	**Boshof**	**80.33**	**118**	P	**P**	**07 44 50.0**	**-0.2**
	4.5nm,1.1s,baz=241,slow=8.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**85.62**	**71**	P	**P**	**07 45 17.8**	**+0.4**
	1.1nm,0.9s,baz=250,slow=4.1,SNR=5.2						
WRA	**Warramunga Arr**	**119.08**	**210**	PKP	**PKPdf**	**07 51 27.3**	**-0.6**
	0.4nm,1.1s,baz=158,slow=1.9,SNR=3.0						
ABKAR	**Akbulak array**	**143.31**	**53**	*e*PKPdf	**PKPdf**	**07 52 13.4**	**+1.1**
ZALV	**Zalesovo Beam**	**155.92**	**33**	PKPbc	PKPdf	07 52 40.9	+8.9
	0.2nm,0.3s,baz=90,slow=1.8,SNR=3.7						
ZALV				PKPab	**PKPab**	**07 52 59.9**	**+0.8**
	0.4nm,0.3s,baz=316,slow=4.0,SNR=3.1						
MKAR	**Makanchi Array**	**158.42**	**51**	PKP	**PKPdf**	**07 52 37.2**	**+1.7**
	0.3nm,0.9s,baz=316,slow=4.0,SNR=3.0						
MKAR				PKPab	**PKPab**	**07 53 09.9**	**-0.3**
	0.4nm,0.8s,baz=336,slow=2.7,SNR=3.8						

IDC 10 07:47:07.6±1.8, 35°.17S×73°.96W, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.4/23, mbtmp3.3/3, ML3.4/2, MS2.0/1, Ms1 2.0/1, ms1mx2.0/14, Error ellipse: s-maj=38.5km s-min=36.1km az=86.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.96**	**55**	Pn	Pn	07 48 37.3	+0.1
	0.2nm,0.3s,baz=229,slow=12,SNR=15						
CFAA				Sn	Sn	07 49 46.1	-0.1
	0.4nm,0.3s,baz=355,slow=16,SNR=9.2						
CFAA				LR	LR	07 50 53.9	
	comp=Z,12nm,18.1s,slow=38						
PLCA	**Paso Flores**	**6.17**	**155**	Pn	Pn	07 48 39.5	-0.5
	0.5nm,0.3s,baz=341,slow=12,SNR=8.0						
TXAR	**Lajitas Array**	**70.01**	**333**	P	P	07 58 20.8	-0.4
	0.3nm,0.6s,baz=161,slow=8.4,SNR=4.1						
MKAR	**Makanchi Array**	**158.72**	**50**	PKPab	PKPab	08 07 42.7	+0.2
	0.3nm,0.9s,baz=302,slow=3.2,SNR=2.8						

*IDC **10** 07:47:50.6±0.8, 1°.39N×126°.32E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/37, mbtmp4.0/8, MS3.7/1, Ms1 3.7/1, ms1mx2.6/30, Error ellipse: s-maj=72.1km s-min=15.7km az=71.0*
*ISCJB **10** 07:47:54.0±0.7, 1°.70N±0°.05×126°.78E±0°.06, h35km, mb4.1/8, MS3.2/2, Error ellipse: s-maj=9.9km s-min=6.1km az=147.2*
*DJA **10** 07:47:55.9±0.7, 2°.N±4°.×12°.7E±°., h17km±11km, M4.4/7, mb4.6/2, mB5.1/1, MLv4.2/7, Mw(mB)4.4/1*
ISC 10 07:47:56.2±0.8, 1°.63N±0°.07×126°.85E±0°.08, h35km, n20, σ1§39/22, mb4.1/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.00**	**149**	P	**Pn**	**07 48 13.2**	**-0.5**
TNTI				S	**Sn**	**07 48 28.8**	**+2.2**
LBMI	**Labuha**	**2.35**	**164**	P	**Pn**	**07 48 32.7**	**+0.4**
LBMI				S	**Sn**	**07 49 01.7**	**+1.8**
SANI	**Sanana**	**3.76**	**193**	P	**Pn**	**07 48 50.1**	**-1.6**
SANI				S	**Sn**	**07 49 37.4**	**+2.7**
GTOI	**Gorontalo**	**3.96**	**256**	P	**Pn**	**07 48 53.9**	**-0.6**
NLAI	**Namlea**	**4.84**	**177**	P	**Pn**	**07 49 05.8**	**-0.8**
MRSI	**Marisa**	**5.04**	**257**	P	**Pn**	**07 49 08.5**	**-0.8**
APSI	**Ampana**	**5.78**	**244**	P	**Pn**	**07 49 20.3**	**+0.8**
	136nm,1.0s,2μm0.6nm						
APSI				S	Sn	07 50 39.2	+15
	136nm,1.0s,2μm0.6nm						
MPSI	**Mapaga**	**7.07**	**260**	P	**Pn**	**07 49 37.4**	**+0.2**
SPSI	**Sidrap Palu**	**9.00**	**232**	P	**Pn**	**07 50 03.5**	**-0.2**
WRA	**Warramunga Arr**	**22.66**	**161**	P	**P**	**07 52 52.6**	**-2.0**
	8.5nm,0.5s,baz=338,slow=11,SNR=66						
ASAR	**Alice Springs**	**26.07**	**165**	P	**P**	**07 53 25.0**	**-1.6**
	7.0nm,0.8s,baz=349,slow=12,SNR=33						
ASAR				S	**S**	**07 57 55.6**	**0.0**
	0.9nm,1.0s,baz=344,slow=20,SNR=4.6						
CMAR	**Chiang Mai Arr**	**32.07**	**303**	LR	LR	08 07 20.5	
	comp=Z,22nm,21.1s,baz=90,slow=37						
STKA	**Stephens Creek**	**36.14**	**158**	P	**P**	**07 54 54.7**	**-0.5**
	2.2nm,0.4s,baz=2.2,slow=7.5,SNR=6.7						
DZM	**Mont Dzumac**	**45.26**	**124**	LR	LR	08 16 02.9	
	comp=Z,76nm,18.1s,baz=106,slow=37						
SONM	**Songino Array**	**49.31**	**342**	P	**P**	**07 56 43.1**	**+1.1**
	0.4nm,0.5s,baz=165,slow=12,SNR=3.9						
MKAR	**Makanchi Array**	**59.34**	**326**	P	**P**	**07 57 52.9**	**-1.9**
	0.7nm,0.5s,baz=116,slow=7.6,SNR=19						
ZALV	**Zalesovo Beam**	**62.50**	**334**	P	**P**	**07 58 16.2**	**+0.1**
	0.3nm,0.3s,baz=153,slow=9.7,SNR=3.2						
SEY	**Seymchan**	**64.04**	**13**	P	**P**	**07 58 27.8**	**+1.7**
	0.8nm,0.6s,baz=217,slow=20,SNR=5.0						
VNDA	**Vanda**	**81.34**	**173**	P	**P**	**08 00 08.1**	**-0.6**
	3.0nm,1.1s,baz=333,slow=6.3,SNR=6.5						
TORD	**Torodi Ar. Bea**	**123.66**	**287**	PKP	**PKPdf**	**08 06 50.6**	**-0.6**
	0.4nm,0.8s,baz=28,slow=1.9,SNR=2.5						

*IDC **10** 07:56:57.0±0.9, 35°.23S×74°.11W, h0km, mb4.0/8, mb1 4.1/11, mb1mx4.0/33, mbtmp3.9/11, ML3.9/3, MS3.4/2, Ms1 3.4/2, ms1mx2.9/23, Error ellipse: s-maj=28.5km s-min=21.3km az=84.0*
*ISCJB **10** 07:57:01.9±0.5, 35°.35S±0°.06×73°.52W±0°.09, h33km, mb4.6/28, Error ellipse: s-maj=10.2km s-min=8.9km az=24.1*
*NEIC **10** 07:57:04.3±0.5, 35°.29S×73°.49W, h35km, mb4.9/19, Error ellipse: s-maj=11.9km s-min=8.4km az=80.0*
ISC 10 07:57:05.7±0.7, 35°.36S±0°.08×73°.4W±0°.1, h35km, n45, σ2§08/33, mb4.7/28, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.68**	**50**	Pn	**Pn**	**07 58 27.1**	**-0.6**
	0.4nm,0.3s,baz=234,slow=12,SNR=16						
CFAA				Sn	**Sn**	**07 59 35.3**	**+3.6**
	0.3nm,0.3s,baz=135,slow=22,SNR=5.9						
CFAA				LR	LR	08 00 24.1	
	comp=Z,6.5nm,19.9s,baz=240,slow=34						
PLCA	**Paso Flores**	**5.80**	**158**	Pn	**Pn**	**07 58 29.6**	**+0.4**
	1.4nm,0.3s,baz=328,slow=11,SNR=22						
PLCA				LR	LR	08 00 45.9	
	comp=Z,297nm,19.9s,baz=312,slow=37						
PLCA	**Paso Flores**	**5.80**	**158**	*e*Pn	**Pn**	**07 58 29.3**	**+0.1**
LCO	**Las Campanas**	**6.72**	**20**	*e*Pn	**Pn**	**07 58 39.0**	**-3.1**
	18nm,0.8s						
TRQA	**Tornquist**	**9.52**	**110**	*e*Pn	**Pn**	**07 59 20.2**	**0.0**
LVC	**Limon Verde**	**13.28**	**18**	*e*Pn	**Pn**	**08 00 10.1**	**-1.9**
CPUP	**Villa Florida**	**16.43**	**61**	LR	LR	08 07 07.0	
	comp=Z,134nm,18.3s,baz=229,slow=36						
CPUP	**Villa Florida**	**16.43**	**61**	*e*Pn	**Pn**	**08 00 52.5**	**-1.0**
LPAZ	**La Paz**	**19.56**	**15**	P	**P**	**08 01 28.9**	**-2.2**
	0.2nm,0.3s,baz=163,slow=8.1,SNR=4.2						
LPAZ	**La Paz**	**19.56**	**15**	*e*P	**P**	**08 01 29.5**	**-1.7**
	3.0nm,0.8s						
SIV	**San Ignacio**	**22.20**	**33**	P	**P**	**08 01 58.1**	**-1.0**
	2.4nm,0.9s,baz=221,slow=9.0,SNR=4.5						
NNA	**Nana**	**23.49**	**351**	*e*P	**P**	**08 02 10.5**	**-1.9**
SAML	**Samuel**	**27.89**	**22**	*e*P	**P**	**08 02 51.0**	**-1.3**
OTAV	**Otavalo**	**35.74**	**351**	*e*P	**P**	**08 03 59.3**	**-2.3**
BCIP	**Isla Barro Col**	**44.71**	**351**	P	**P**	**08 05 14.3**	**-1.2**
HUMP	**Col San Antoni**	**53.69**	**9**	*e*P	P	08 06 31.2	+7.2
QSPA	**South Pole Qui**	**54.88**	**180**	P	**P**	**08 06 30.1**	**-2.3**
	2.4nm,0.9s,baz=271,slow=2.2,SNR=8.4						
QSPA	**South Pole Qui**	**54.88**	**180**	*e*P	**P**	**08 06 31.3**	**-1.1**
JCT	**Junction City**	**70.07**	**336**	*e*P	**P**	**08 08 16.9**	**+2.8**
	7.7nm,0.9s						
TXAR	**Lajitas Array**	**70.41**	**332**	P	P	08 08 10.4	-5.9
	0.9nm,0.8s,baz=153,slow=8.1,SNR=11						
WVT	**Waverly**	**72.40**	**348**	*e*P	**P**	**08 08 30.3**	**+2.4**
	9.2nm,1.1s						
LAZ	**Ladron**	**76.25**	**332**	P	**P**	**08 08 52.0**	**+1.3**
	1.0nm,1.0s						
ANMO	**Albuquerque**	**76.47**	**333**	*e*P	**P**	**08 08 54.2**	**+2.2**
	5.8nm,1.2s						
DBIC	**Dimbokro**	**76.64**	**72**	P	**P**	**08 08 53.3**	**+0.2**
	10nm,1.2s,baz=190,slow=7.0,SNR=3.3						
NCB	**Newcomb**	**78.96**	**359**	*e*P	**P**	**08 09 06.8**	**+1.4**
	138nm,2.7s						
NCB				*e*pP	x	08 10 03.8	
MVCO	**Mesa Verde**	**79.25**	**332**	*e*P	**P**	**08 09 10.4**	**+3.0**
	8.2nm,1.3s						
SMCO	**Snowmass**	**80.42**	**334**	*e*P	P	08 09 17.8	+4.0
	14nm,1.3s						
ISCO	**Idaho Springs**	**80.50**	**335**	*e*P	**P**	**08 09 12.9**	**-1.3**
	18nm,2.1s						
CCUT	**Cedar City**	**81.50**	**329**	*e*P	P	08 09 15.7	-3.8
	30nm,2.2s						
ECSD	**EROS Data Cent**	**81.53**	**343**	*e*P	P	08 09 14.1	-5.1
	8.6nm,0.8s						
PHWY	**Pilot Hill**	**81.79**	**336**	*e*P	**P**	**08 09 23.4**	**+2.3**
	5.5nm,1.1s						
URZ	**Urewera**	**81.94**	**229**	*e*P	P	08 09 15.1	-6.7
	15nm,0.6s						
R11A	**Troy Canyon, C**	**83.12**	**328**	*e*P	**P**	**08 09 30.1**	**+2.2**
	65nm,2.8s						
K22A	**Casper**	**83.35**	**336**	*e*P	**P**	**08 09 31.9**	**+3.0**
	11nm,1.1s						
DUG	**Dugway, Tooele**	**83.52**	**331**	*e*P	P	08 09 25.4	-4.4
	8.5nm,1.2s						
HWUT	**Hardware Ranch**	**84.24**	**332**	*e*P	**P**	**08 09 36.4**	**+2.9**
	17nm,1.4s						
NVAR	**Mina Array Bea**	**84.40**	**326**	P	P	08 09 29.3	-5.2
	0.6nm,0.7s,baz=157,slow=6.3,SNR=6.5						
PDAR	**Pinedale Array**	**84.50**	**334**	P	P	08 09 30.1	-4.7
	0.4nm,0.7s,baz=180,slow=5.9,SNR=3.6						
HVU	**Hansel Valley**	**84.85**	**332**	*e*P	**P**	**08 09 38.5**	**+2.0**
	114nm,2.6s						
AGMN	**Agassiz Nation**	**85.68**	**345**	*e*P	P	08 09 35.4	-5.0
	32nm,2.1s						
TORD	**Torodi Ar. Bea**	**85.69**	**71**	P	**P**	**08 09 40.3**	**-0.8**
	1.6nm,1.0s,baz=296,slow=3.5,SNR=5.0						
IMW	**Indian Meadow**	**85.98**	**334**	*e*P	**P**	**08 09 45.3**	**+3.0**
	5.6nm,1.4s						
YMR	**Madison River**	**86.66**	**334**	*e*P	P	08 09 42.0	-3.6
	86nm,2.7s						
ULM	**Lac du Bonnet**	**87.54**	**346**	P	P	08 09 43.9	-5.5
	1.7nm,0.7s,baz=170,slow=2.4,SNR=4.2						
DGMT	**Dagmar**	**87.88**	**340**	*e*P	**P**	**08 09 51.0**	**-0.1**

*ISCJB **10** 08:00:40.7±0.5, 10°.48N±0°.03×62°.72W±0°.02, h21km±5km, Error ellipse: s-maj=5.0km s-min=2.8km az=153.3*
*FUNV **10** 08:00:41.1, 10°.44N×62°.64W, h6km, MW3.5*
*TRN **10** 08:00:41.6, 10°.55N×62°.57W, h3km, MD3.9*
ISC 10 08:00:40.9±1.1, 10°.46N±0°.03×62°.67W±0°.03, h15km±9km, n35, σ0§91/53, 3C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNV	**Guanoco**	**0.40**	**221**	⇑*i*P	**Pg**	**08 00 48.7**	**-0.3**
GUNV				*e*S	**Sg**	**08 00 55.8**	**+1.2**
CRUV	**Carupano**	**0.59**	**291**	⇑*e*P	**Pb**	**08 00 51.8**	**-1.2**
CRUV				*e*S	**Sg**	**08 01 00.2**	**-0.3**
TCE	**Chacachacare**	**0.94**	**76**	*e*P	**Pb**	**08 00 56.9**	**-1.9**
TCE				*e*S	**Sb**	**08 01 09.4**	**-1.6**
TPP	**Pointe-a-Pierr**	**1.21**	**97**	*e*P	**Pn**	**08 01 03.3**	**0.0**
TPP				*e*S	**Sb**	**08 01 19.3**	**+0.4**
TRN	**Trinidad (W)**	**1.26**	**82**	*e*P	**Pn**	**08 01 03.9**	**-0.1**
TRN				*e*S	**Sb**	**08 01 19.6**	**-0.9**
ORIV	**Oritupano**	**1.56**	**208**	⇑*i*P	**Pb**	**08 01 09.7**	**+0.2**
ORIV				*e*S	**Sb**	**08 01 30.0**	**+0.9**
TBH	**Brigand Hill**	**1.58**	**89**	*e*P	**Pb**	**08 01 09.8**	**0.0**
GRGR	**Grenville**	**1.94**	**31**	*e*P	**Pn**	**08 01 13.2**	**0.0**
GRGR	**Grenville**	**1.94**	**31**	*e*P	**Pn**	**08 01 14.0**	**+0.7**
GRGR				*e*S	**Sn**	**08 01 38.0**	**+0.7**
GRW	**Mount Saint Ca**	**1.96**	**30**	*e*P	**Pn**	**08 01 15.2**	**+1.5**
GRW				*e*S	**Sn**	**08 01 37.3**	**-0.6**
TPR	**Prospect**	**2.00**	**69**	*e*P	**Pn**	**08 01 14.6**	**+0.5**
TPR				*e*S	**Sn**	**08 01 38.8**	**0.0**
GRHS	**Sauteurs**	**2.02**	**30**	*e*S	**Sn**	**08 01 39.5**	**+0.1**
BOT	**Bacolet**	**2.04**	**70**	*e*P	**Pn**	**08 01 16.5**	**+1.7**
BOT				*e*S	**Sn**	**08 01 41.0**	**+1.0**
GRSS	**Sisters**	**2.10**	**30**	*e*P	**Pn**	**08 01 16.2**	**+0.7**
GRSS				*e*S	**Sn**	**08 01 42.6**	**+1.3**
RIOV	**Rio Grande**	**2.53**	**160**	*e*P	**Pn**	**08 01 21.1**	**-0.3**
RIOV				*e*S	**Sn**	**08 01 51.2**	**-0.7**
PRGV	**PARIAGUAN**	**2.58**	**229**	*e*P	**Pn**	**08 01 22.4**	**+0.3**
PRGV				*e*S	**Sn**	**08 01 54.1**	**+0.9**
CUPV	**Cœpira**	**3.09**	**263**	*e*P	**Pn**	**08 01 29.8**	**+0.6**
CUPV				*e*S	**Sn**	**08 02 05.6**	**-0.4**
SVB	**Belmont**	**3.12**	**26**	*e*P	**Pn**	**08 01 31.3**	**+1.8**
SVB				*e*S	**Sn**	**08 02 07.0**	**+0.4**
BIRV	**Birongo**	**3.54**	**271**	*e*P	**Pn**	**08 01 35.6**	**+0.3**
BIRV				*e*S	**Sn**	**08 02 15.7**	**-1.1**
MCLT	**Moule a Chique**	**3.64**	**28**	*e*P	**Pn**	**08 01 38.2**	**+1.4**
MCLT				*e*S	**Sn**	**08 02 19.4**	**-0.2**
MERV	**Las Mercedes**	**3.77**	**252**	*e*P	**Pn**	**08 01 39.4**	**+1.0**
MERV				*e*S	**Sn**	**08 02 22.0**	**-0.6**
FDF	**Fort de France**	**4.50**	**19**	*e*P	**Pn**	**08 01 49.7**	**+1.2**
TURV	**Turiamo**	**5.08**	**270**	*e*P	**Pn**	**08 01 56.9**	**+0.4**
BAUV	**El Baul**	**5.50**	**255**	*e*P	**Pn**	**08 02 02.2**	**-0.1**
HMG	**Houelmont**	**5.57**	**10**	*e*P	**Pn**	**08 02 04.8**	**+1.6**
SCG	**Saint Claude**	**5.62**	**10**	*e*P	**Pn**	**08 02 04.9**	**+0.9**
MLG	**Mont-d'or**	**5.64**	**9**	*e*P	**Pn**	**08 02 05.3**	**+1.0**
JACV	**Jacura**	**6.08**	**276**	*e*P	**Pn**	**08 02 10.6**	**+0.3**
SANV	**Sanarito**	**6.83**	**263**	*e*P	**Pn**	**08 02 19.3**	**-1.4**
SIQV	**Siquisique**	**7.02**	**272**	*e*P	**Pn**	**08 02 23.0**	**-0.2**
CURV	**Curarigua**	**7.19**	**267**	*e*P	**Pn**	**08 02 25.6**	**0.0**
MONV	**Montecano**	**7.31**	**282**	*e*P	**Pn**	**08 02 26.9**	**-0.3**
SOCV	**Socops**	**8.36**	**256**	*e*P	**Pn**	**08 02 40.5**	**-1.2**
VIGV	**El Vigia**	**8.72**	**260**	*e*P	**Pn**	**08 02 46.4**	**-0.2**
VIRV	**Villa del Rosa**	**9.57**	**271**	*e*P	**Pn**	**08 02 57.6**	**-0.6**

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ASAJ pmax pmax
comp=Z,21nm,0.7s
ASAJ Asahikawa 30.06 273 P **P 08 11 32.2 +1.4**
comp=Z,15nm,0.7s,baz=104,slow=0.2,SNR=7.8
ASAJ pP **pP 08 11 43.1 -0.9**
comp=Z,21nm,0.7s,baz=80,slow=15,SNR=6.2
ASAJ Asahikawa 30.06 273 P **P 08 11 32.2 +1.4**
ASAJ pP **pP 08 11 43.1 -0.9**
ASAJ *e*pP **pP 08 11 44.8 +0.8**
TIXI Tiksi 32.10 330 ⇓*i*P **P 08 11 48.4 0.0**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI MLR MLR
comp=Z,158nm,21.0s
YKA Yellowknife Ar 32.60 47 P **P 08 11 52.4 -0.5**
comp=Z,1.3nm,0.4s,baz=271,slow=8.2,SNR=41
YKA PcP **PcP 08 14 38.2 +0.4**
comp=Z,0.2nm,0.3s,baz=282,slow=3.2,SNR=5.3
YKA pScP 08 18 26.0
comp=Z,0.4nm,0.5s,baz=284,slow=3.3,SNR=5.7
B06A Marblemount 32.90 75 *e*pP pP 08 12 19.4 +10
HAWA Hanford 35.05 77 *e*pP pP 08 12 25.8 -1.8
H11N2 WAKE ISLAND Hy 35.38 213 T T 08 50 24.4
baz=20,slow=74
H11N3 WAKE ISLAND Hy 35.39 213 T T 08 50 25.0
baz=20,slow=74
H11N1 WAKE ISLAND Hy 35.40 213 T T 08 50 25.7
baz=20
NEW Newport 35.62 73 P **P 08 12 19.6 +0.3**
comp=Z,4.0nm,0.7s,baz=286,slow=4.8,SNR=13
NEW Newport 35.62 73 ⇑P **P 08 12 20.2 +1.0**
baz=36
WDC Whiskeytown Da 36.27 87 *e*pP pP 08 12 40.5 +2.3
USRK Ussuriysk Ar. 36.58 280 P **P 08 12 26.2 -1.3**
comp=Z,6.6nm,0.6s,baz=40,slow=9.0,SNR=8.0
H11S1 WAKE ISLAND Hy 36.58 213 T T 08 51 40.2
baz=20,slow=76,SNR=82
H11S2 WAKE ISLAND Hy 36.60 213 T T 08 51 41.6
baz=20,slow=76,SNR=42
H11S3 WAKE ISLAND Hy 36.60 213 T T 08 51 41.5
baz=20,slow=76,SNR=23
MAT Matsushiro 37.16 265 P **P 08 12 34.3 +1.9**
MJAR Matsushiro Arr 37.16 265 P **P 08 12 32.0 -0.4**
comp=Z,3.0nm,0.9s,baz=52,slow=7.9,SNR=4.2
MJAR LR LR 08 26 16.0
comp=Z,115nm,21.9s,baz=70,slow=34
JTMT Jette 37.55 72 *e*P **P 08 12 36.1 +0.3**
WVOR Wild Horse Val 37.64 82 *e*pP pP 08 12 53.3 +3.2
MDJ Mudanjiang 37.83 282 P **P 08 12 37.1 -0.9**
MDJ PMZ
comp=Z,6.0nm,1.3s
MDJ PMZ
comp=Z,100nm,5.9s
RES Resolute Bay 38.11 25 P **P 08 12 38.8 -1.2**
comp=Z,2.5nm,1.1s,baz=313,slow=2.5,SNR=4.6
RES PcP **PcP 08 14 54.6 +0.8**
comp=Z,1.2nm,0.8s,baz=222,slow=5.0,SNR=3.5
MSO Missoula 38.20 73 ⇓P **P 08 12 41.9 +0.7**
baz=38
SLMT Seeley Lake 38.26 72 *e*P **P 08 12 42.0 +0.2**
comp=Z,9.6nm,1.1s
CHMT Chamberlain Mo 38.57 73 *e*P **P 08 12 44.5 +0.1**
comp=Z,3.3nm,0.8s
HLID Hailey 39.62 78 ⇓P **P 08 12 53.3 0.0**
baz=40
MCMT McKenzie Canyo 39.88 75 *e*P **P 08 12 55.5 0.0**
comp=Z,3.7nm,0.7s
EGMT Eagleton 40.07 69 ⇓P **P 08 12 56.4 -0.5**
baz=40,SNR=11
NVAR Mina Array Bea 40.18 87 P **P 08 12 59.5 +1.4**
comp=Z,2.4nm,0.8s,baz=287,slow=7.6,SNR=13
NVAR pP **pP 08 13 10.9 -0.6**
comp=Z,3.8nm,0.7s,baz=296,slow=7.0,SNR=11
BOZ Bozeman (W) 40.18 73 *e*P **P 08 12 58.0 +0.1**
BOZ pmax pmax
comp=Z,4.0nm,0.6s
BOZ Bozeman (W) 40.18 73 *e*P **P 08 12 58.0 +0.1**
comp=Z,4.0nm,0.6s
A19A Klindworth Far 40.21 67 ⇓P **P 08 12 57.5 -0.5**
baz=40,SNR=6.4
B19A Brinkman Farms 40.33 68 ⇑P **P 08 12 58.7 -0.2**
baz=40,SNR=5.6
BOD Bodaibo 40.50 308 *e*P P 08 12 56.7 -3.4
BOD pmax pmax
comp=Z,4.0nm,1.7s
C19A Slack Wire Ran 40.63 69 ⇑P **P 08 13 01.3 -0.1**
baz=41,SNR=20
ELK Elko 40.70 82 *e*pP pP 08 13 18.5 +2.6
A20A Cobblestone Ra 40.71 67 ⇑P **P 08 13 01.8 -0.2**
baz=41,SNR=9.1
B20A Solberg Farm, 40.87 68 ⇓P **P 08 13 03.3 -0.1**
baz=41,SNR=7.0
D19A Cripps Ranch, 41.02 70 ⇑P **P 08 13 04.4 -0.3**
baz=41,SNR=10.0
TPH Tonopah 41.07 87 *e*pP pP 08 13 19.9 +1.1
A21A Bergtoll Ranch 41.22 66 ⇑P **P 08 13 06.2 -0.1**
baz=41
C20A Veseth Ranch, 41.25 69 ⇑P **P 08 13 06.5 0.0**
baz=41,SNR=11
VES Vestal, Richgr 41.31 91 ⇓P **P 08 13 07.6 +0.5**
baz=41
E19A Rath Farm, Rou 41.44 71 ⇓P **P 08 13 08.4 +0.2**
baz=41
B21A Ellsworth Farm 41.45 67 ⇑P **P 08 13 08.2 0.0**
baz=41
H17A Grant Village 41.48 74 ⇓P **P 08 13 08.7 0.0**
baz=41
D20A Manuel Ranch, 41.49 70 ⇓P **P 08 13 08.9 +0.4**
baz=41
HVU Hansel Valley 41.62 79 *e*pP pP 08 13 26.0 +2.7
F19A Roth Farm, Mol 41.67 72 ⇓P **P 08 13 10.5 +0.4**
baz=42
A22A Carney Farms, 41.80 66 ⇓P **P 08 13 11.2 +0.1**
baz=42,SNR=7.1
E20A Meyer Farm, Mu 41.80 70 ⇓P **P 08 13 11.1 0.0**
baz=42
H18A Shoshone NF, C 41.88 73 ⇑P **P 08 13 11.6 -0.3**
baz=42
R11A Troy Canyon, C 41.92 85 ⇑P **P 08 13 12.2 0.0**
baz=42
R11A Troy Canyon, C 41.92 85 *e*pP pP 08 13 23.3 -2.5
B22A Reddig Ranch S 42.10 67 ⇓P **P 08 13 13.4 -0.1**
baz=42
F20A Billings 42.17 71 ⇑P **P 08 13 13.8 -0.3**
baz=42
D21A La Casta Ranch 42.17 69 ⇑P **P 08 13 13.8 -0.3**
baz=42
H19A Powell 42.28 73 ⇑P **P 08 13 15.2 +0.1**
baz=42
FURC Furnace Creek, 42.30 88 ⇑P **P 08 13 14.8 -0.2**
baz=42
E21A Keefer Ranch, 42.40 70 ⇑P **P 08 13 15.6 -0.4**
baz=42
A23A Redstone 42.41 65 ⇓P **P 08 13 16.2 +0.3**
baz=42,SNR=8.2
G20A Bridger 42.44 72 ⇓P **P 08 13 16.4 0.0**
baz=42,SNR=11
C22A Vida 42.46 68 ⇓P **P 08 13 16.4 0.0**
baz=42,SNR=5.5
DUG Dugway, Tooele 42.52 81 ⇓P **P 08 13 17.1 0.0**
baz=42
B23A Brockton 42.60 66 ⇓P **P 08 13 17.6 +0.1**
baz=42,SNR=15
D22A Cohagen 42.60 68 ⇓P **P 08 13 17.8 +0.2**
baz=42,SNR=13
F21A Absaloka Mine, 42.76 71 ⇓P **P 08 13 18.9 +0.1**
baz=43
C23A Lambert 42.83 67 ⇓P **P 08 13 19.5 +0.1**
baz=43,SNR=15
A24A Westby 42.92 65 ⇑P **P 08 13 20.2 +0.1**
baz=43,SNR=12
KSRS Korea Array 42.99 275 P **P 08 13 21.5 +0.8**
KSRS pmax pmax
comp=Z,5.0nm,0.8s
KSRS MLR MLR
comp=Z,59nm,20.2s
KSRS Korea Array 42.99 275 P **P 08 13 21.5 +0.8**
comp=Z,5.1nm,0.8s,baz=53,slow=6.6,SNR=9.1
KSRS LR LR 08 30 29.8
comp=Z,58nm,20.2s,baz=47,slow=35
BW06 Boulder Array 43.01 76 *e*P **P 08 13 21.0 -0.1**
comp=Z,5.5nm,0.8s
PDAR Pinedale Array 43.01 76 P **P 08 13 21.2 +0.1**
comp=Z,3.3nm,0.8s,baz=314,slow=2.9,SNR=26
KSAR Wonju Array Be 43.02 275 P **P 08 13 21.5 +0.5**
KSAR Wonju Array Be 43.02 275 P **P 08 13 21.5 +0.5**
J19A Crowheart 43.03 75 ⇑P **P 08 13 21.5 +0.3**
baz=43
DGMT Dagmar 43.05 66 ⇓P **P 08 13 21.4 +0.3**
baz=43
GSC Goldstone, Bar 43.08 89 *e*P pP 08 13 34.6 -0.6
GSC Goldstone, Bar 43.08 89 ⇓P **P 08 13 21.3 -0.3**
baz=43
GSC Goldstone, Bar 43.08 89 *e*pP pP 08 13 34.6 -0.6
E22A Miles City 43.11 69 ⇑P **P 08 13 22.2 +0.5**
baz=43
JLU Jordanelle 43.11 80 *e*pP pP 08 13 36.6 +0.9
D23A Lindsay 43.15 68 ⇓P **P 08 13 22.5 +0.5**
baz=43,SNR=8.1
I20A Worland 43.20 73 ⇑P **P 08 13 22.5 0.0**
baz=43
F22A Rosebud 43.29 70 ⇑P **P 08 13 23.4 +0.2**
baz=43
DAU Daniels Canyon 43.35 80 *e*pP pP 08 13 40.1 +2.5
MPU Maple Canyon 43.35 80 *e*P **P 08 13 24.1 +0.3**
MPU *e*pP **pP 08 13 39.8 +2.2**
C24A Savage 43.41 67 ⇑P **P 08 13 24.7 +0.6**
baz=43,SNR=6.2
A25A Svangstu Ranch 43.41 65 ⇑P **P 08 13 24.1 0.0**
baz=43,SNR=8.8
E23A Ismay 43.45 69 ⇓P **P 08 13 24.8 +0.4**
baz=43
H21A Big Horn, Sher 43.46 72 ⇓P **P 08 13 25.0 +0.4**
baz=43
J20A Shoshoni 43.56 74 ⇓P **P 08 13 26.2 +0.7**
baz=44
G22A Birney 43.58 71 ⇑P **P 08 13 25.7 +0.2**
baz=44
ARUT Antelope Range 43.59 84 *e*P **P 08 13 26.8 +1.0**
ARUT pmax pmax
comp=Z,94nm,0.9s
ARUT Antelope Range 43.59 84 *e*P **P 08 13 26.8 +1.0**
comp=Z,94nm,0.9s
D24A Glendive 43.69 67 ⇑P **P 08 13 26.4 +0.1**
baz=44,SNR=10
I21A Big Trails, Te 43.77 73 ⇑P **P 08 13 26.6 -0.5**
baz=44
F23A Volborg 43.82 70 ⇓P **P 08 13 27.1 -0.3**
baz=44,SNR=8.8
H22A Clearmont 43.89 72 ⇓P **P 08 13 28.2 +0.1**
baz=44
JNU Nakatsue 43.95 267 P **P 08 13 27.1 -1.4**
comp=Z,10nm,0.8s,baz=352,slow=7.1,SNR=3.0
C25A Freed Ranch, W 43.98 66 ⇓P **P 08 13 28.9 +0.2**
baz=44
E24A Baker 44.00 68 ⇓P **P 08 13 28.8 -0.1**
baz=44
A26A Wade Farm, Ken 44.04 64 ⇑P **P 08 13 29.1 0.0**
baz=44,SNR=6.9
TMUT Trail Mountain 44.05 81 *e*P P 08 13 36.4 +6.8
comp=Z,16nm,0.9s
G23A Biddle 44.12 70 ⇓P **P 08 13 29.7 -0.1**
baz=44
B26A Jensen Ranch, 44.21 65 ⇓P **P 08 13 30.4 0.0**
baz=44
F24A Ekalaka 44.31 69 ⇓P **P 08 13 31.5 +0.2**
baz=44,SNR=5.6
K21A Alcova 44.47 74 ⇓P **P 08 13 32.6 -0.2**
baz=44
J22A Midwest 44.48 73 ⇑P **P 08 13 32.8 0.0**
baz=44
E25A Miller Ranch, 44.56 68 ⇑P **P 08 13 33.3 +0.1**
baz=44
C26A Wahner Farm, P 44.58 65 ⇑P **P 08 13 33.3 -0.1**
baz=44,SNR=6.5
B27A Peters Farms, 44.74 64 ⇑P **P 08 13 34.5 -0.1**
baz=45
D26A Manning 44.82 67 ⇓P **P 08 13 35.1 -0.3**
baz=45
F25A Bowman 44.84 68 ⇑P **P 08 13 35.8 +0.2**
baz=45
IRM Iron Mountain 44.85 89 ⇑P **P 08 13 36.1 +0.3**
baz=45
H24A Dirks Ranch, A 44.87 70 ⇑P **P 08 13 35.8 0.0**
baz=45
K22A Casper 44.90 74 ⇓P **P 08 13 36.6 +0.4**
baz=45
K22A Casper 44.90 74 *e*pP pP 08 13 50.5 +0.6
C27A Sayler Ranch, 44.98 65 ⇓P **P 08 13 36.9 +0.3**
baz=45
A28A Rude Farm, Bot 45.02 63 ⇑P **P 08 13 36.8 -0.2**
baz=45,SNR=6.9
E26A Carson Angus 45.11 67 ⇓P **P 08 13 37.5 -0.2**
baz=45,SNR=6.4
B28A Dugan Ranch, T 45.22 64 ⇑P **P 08 13 38.6 +0.1**
baz=45,SNR=5.7
F26A Lodgepole 45.34 68 ⇑P **P 08 13 39.8 +0.3**
baz=45
O20A White River Ci 45.36 78 ⇑P **P 08 13 39.4 -0.5**
baz=45
K23A Bowen Ranch, D 45.38 73 ⇓P **P 08 13 39.5 -0.4**
baz=45
PDMCI Parker Dam,Lak 45.39 88 ⇓P **P 08 13 40.5 +0.6**
baz=45
H25A Fruitdale 45.50 70 ⇓P **P 08 13 40.8 0.0**
baz=45,SNR=6.1
A29A Manning Farm, 45.59 63 ⇓P **P 08 13 41.2 -0.1**
baz=46,SNR=12
J24A Dixon Ranch, L 45.61 72 ⇓P **P 08 13 41.8 0.0**
baz=46
E27A Carson 45.65 67 ⇓P **P 08 13 42.0 +0.1**
baz=46
G26A Maurine 45.70 69 ⇑P **P 08 13 42.1 -0.2**
baz=46,SNR=8.4
F27A Lemmon 45.70 68 ⇑P **P 08 13 42.3 -0.1**
baz=46
L23A Garrett 45.71 74 ⇓P **P 08 13 42.6 0.0**
baz=46,SNR=5.4
I25A Rochford 45.76 71 ⇑P **P 08 13 42.7 -0.4**
baz=46
B29A Wagenman Farm, 45.77 63 ⇑P **P 08 13 43.1 +0.2**
baz=46
D28A Regan 45.79 65 ⇑P **P 08 13 43.1 +0.1**
baz=46,SNR=9.3
MDND Maddock 45.97 64 ⇑P **P 08 13 44.8 +0.3**
baz=46
G27A Dupree 46.03 68 ⇓P **P 08 13 45.2 +0.2**
baz=46
M23A Laramie 46.08 75 ⇓P **P 08 13 45.8 +0.2**
baz=46
J25A Sunshine Ranch 46.09 72 ⇓P **P 08 13 45.6 +0.1**
baz=46
A30A Hoffart Farm, 46.09 62 ⇑P **P 08 13 45.5 +0.1**
baz=46,SNR=8.7
Y14A Wickenburg 46.34 88 ⇓P **P 08 13 48.0 +0.5**
baz=46
B30A Myrvik Farm, E 46.35 63 ⇓P **P 08 13 47.5 +0.1**
baz=46,SNR=11
H27A Howes 46.38 69 ⇑P **P 08 13 48.2 +0.5**
baz=46
PV01 Paradox Valley 46.39 80 *e*P **P 08 13 47.1 -1.0**
comp=Z,834nm,0.7s
D29A Pettibone, Tap 46.42 65 ⇑P **P 08 13 47.8 -0.2**
baz=46
F28A McLaughlin 46.42 67 ⇑P **P 08 13 47.8 -0.2**
baz=46
E29A Napoleon 46.67 66 ⇑P **P 08 13 50.0 +0.1**
baz=47
C30A Mose, Pekin 46.68 64 ⇑P **P 08 13 49.8 -0.2**
baz=47,SNR=5.8
ULM Lac du Bonnet 46.70 59 P **P 08 13 49.7 -0.4**
comp=Z,4.2nm,0.5s,baz=304,slow=8.3,SNR=12
I27A Quinn 46.72 70 ⇓P **P 08 13 50.2 -0.2**
baz=47
G28A Parade 46.80 68 ⇓P **P 08 13 50.9 -0.1**
baz=47
D30A Buchanan 46.86 65 ⇑P **P 08 13 51.1 -0.3**
baz=47,SNR=8.0
H28A Mission Ridge 46.97 68 ⇑P **P 08 13 52.3 +0.1**
baz=47
F29A Eureka 46.98 67 ⇑P **P 08 13 51.7 -0.7**
baz=47
MVCO Mesa Verde 47.01 81 *e*P **P 08 13 53.1 +0.1**
comp=Z,11nm,1.2s
E30A Jud 47.12 65 ⇓P **P 08 13 53.0 -0.4**
baz=47
ISCO Idaho Springs 47.16 77 *e*P P 08 14 02.6 +8.4
ISCO Idaho Springs 47.16 77 *e*pP P 08 14 02.5 +8.4
J27A Elkhorn Farm, 47.23 71 ⇓P **P 08 13 54.5 +0.1**
baz=47
I28A Midland 47.28 69 ⇓P **P 08 13 54.6 -0.1**
baz=47,SNR=8.1
G29A Hoven 47.30 67 ⇑P **P 08 13 55.3 +0.4**
baz=47
F30A Leola 47.44 66 ⇓P **P 08 13 55.6 -0.3**
baz=47
H29A Onida 47.46 68 ⇓P **P 08 13 56.2 +0.1**
baz=47,SNR=15
J28A Allard Ranch, 47.58 70 ⇑P **P 08 13 57.5 +0.4**
baz=48,SNR=8.3
I29A Vivian Onida 47.77 69 ⇑P **P 08 13 58.3 -0.2**
baz=48,SNR=5.9
G30A Faulkton 47.78 67 ⇓P **P 08 13 58.2 -0.4**
baz=48,SNR=16
AGMN Agassiz Nation 47.80 62 ⇑P **P 08 13 58.3 -0.3**
baz=48,SNR=14
K28A Ten Mile Ranch 47.93 71 ⇑P **P 08 13 59.9 +0.1**
baz=48
J29A Okreek 48.12 69 ⇑P **P 08 14 01.3 0.0**
baz=48,SNR=12
BRSD Miller 48.30 68 ⇓P **P 08 14 02.5 -0.1**
baz=48,SNR=7.0
I30A Oacoma 48.34 68 ⇓P **P 08 14 03.2 +0.3**
baz=48
K29A Lazy Trails An 48.51 70 ⇑P **P 08 14 05.1 +0.8**
baz=48
Q25A Bedland, Calha 48.54 77 ⇑P **P 08 14 04.8 +0.1**
baz=48
BJI Beijing 48.59 285 P **P 08 14 03.9 -0.9**
BJI S **S 08 21 03.1 +0.5**
BJI PMZ
comp=Z,13nm,1.1s
BJI LN
comp=Z,260nm,19.6s
BJI LE
comp=Z,260nm,23.1s
BJI LZ
comp=Z,140nm,19.9s
J30A Dallas 48.66 69 ⇑P **P 08 14 05.4 0.0**
baz=49,SNR=6.6
TLY Talaya 48.73 305 P **P 08 14 05.5 -0.3**
comp=Z,5.0nm,0.6s,baz=158,slow=0.1,SNR=12
TUC Tucson 48.81 88 P **P 08 14 06.4 -0.3**
TUC pmax pmax
comp=Z,4.0nm,0.9s
TUC Tucson 48.81 88 P **P 08 14 06.4 -0.3**
comp=Z,3.6nm,0.9s
O27A Beecher Island 48.81 74 ⇓P **P 08 14 07.1 +0.5**
baz=49
K30A Basset 48.98 70 ⇑P **P 08 14 08.3 +0.4**
baz=49
U23A El Rito 49.00 81 ⇑P **P 08 14 08.7 +0.3**
baz=49
M29A Burnside Ranch 49.10 72 ⇑P **P 08 14 08.9 +0.1**
baz=49
ULN Ulaanbaatar 49.13 299 *c i*P **P 08 14 08.7 -0.4**
ULN pmax pmax
comp=Z,11nm,1.0s
S25A Robets Cordova 49.22 78 ⇑P **P 08 14 09.8 -0.1**
baz=49
O28A Krutsinger Ran 49.27 74 ⇓P **P 08 14 10.5 +0.4**
baz=49
KSCO Kaye Shedlock' 49.46 75 ⇑P **P 08 14 11.8 +0.2**
baz=49
KSCO Kaye Shedlock' 49.46 75 *e*P P 08 14 19.0 +7.4
comp=Z,14nm,0.9s
SONM Songino Array 49.51 299 P **P 08 14 12.1 +0.2**
comp=Z,6.5nm,0.4s,baz=50,slow=8.2,SNR=6.5
SONM ScP **ScP 08 19 25.1 +1.2**
comp=Z,14nm,0.9s,baz=74,slow=5.1,SNR=6.3
SONM LR LR 08 36 25.5
comp=Z,238nm,19.1s,baz=80,slow=38
ZAK Zakamensk 49.67 303 *e*P **P 08 14 13.2 +0.1**
ZAK *e* 08 15 32.8
ZAK pmax pmax
comp=Z,7.0nm,1.3s
LAZ Ladron 49.67 83 *e*P **P 08 14 14.7 +1.3**
comp=Z,1.5nm,0.8s
ANMO Albuquerque 49.74 82 *e*P P 08 14 23.4 +9.5
ANMO Albuquerque 49.74 82 *e*pP P 08 14 23.4 +9.5
L31A Butterfield Fa 49.74 70 ⇓P **P 08 14 14.2 +0.5**
baz=50
R27A Eads 49.81 76 ⇓P **P 08 14 13.7 -0.7**
baz=50
S26A Kim 49.83 77 ⇓P **P 08 14 14.6 +0.1**
baz=50
O29A 4D Ranch, Culb 49.85 73 ⇓P **P 08 14 15.0 +0.4**
baz=50
V24A Rampart Ranch, 49.95 81 ⇑P **P 08 14 15.7 +0.1**
baz=50
T26A Comanche Natio 50.04 78 ⇓P **P 08 14 15.8 -0.4**
baz=50
ECSD EROS Data Cent 50.07 67 ⇑P **P 08 14 15.3 -0.8**
baz=50,SNR=7.1
MOY Mondy 50.09 306 *e*P **P 08 14 16.6 +0.3**
O30A MW Ranch, Wils 50.26 73 ⇑P **P 08 14 18.2 +0.5**
baz=50
SPITS Spitsbergen Ar 50.32 357 P **P 08 14 17.2 -0.4**
comp=Z,5.7nm,0.9s,baz=38,slow=9.5,SNR=12
Q29A Oakley 50.53 75 ⇓P **P 08 14 19.4 -0.3**
baz=50
BGNE Belgrade 50.62 70 ⇑P **P 08 14 20.7 +0.4**
baz=50
Y23A Lovelace Mesa, 50.66 83 ⇓P **P 08 14 21.0 +0.2**
baz=51
O31A Woolen Ranch, 50.71 72 ⇑P **P 08 14 21.3 +0.3**
baz=51
S28A Manter 50.81 76 ⇑P **P 08 14 21.8 0.0**
baz=51
V26A Tequesquite Ra 50.82 79 ⇑P **P 08 14 21.7 -0.3**
baz=51
HHC Hu-ho-hao-te 50.83 289 *e*P **P 08 14 21.8 -0.2**
HHC pP **pP 08 14 37.4 +1.5**
HHC PP **PP 08 16 19.8 +1.5**
HHC S **S 08 21 30.6 -3.5**
HHC PMZ
comp=Z,49nm,0.8s
HHC PMZ
comp=Z,200nm,7.3s
HHC LN
comp=Z,390nm,16.0s
HHC LE
comp=Z,440nm,16.4s
HHC LZ
comp=Z,280nm,16.0s
U27A Thompson Grove 51.00 78 ⇓P **P 08 14 23.1 -0.3**
baz=51
Y24A Capitan 51.04 82 ⇑P **P 08 14 23.8 0.0**
baz=51
P31A Stockton 51.08 73 ⇓P **P 08 14 23.9 0.0**
baz=51
SPMN Marine on St. 51.31 63 ⇑P **P 08 14 25.5 0.0**
baz=51
P32A Huiting Farm, 51.48 72 ⇓P **P 08 14 26.3 -0.5**
baz=51
R32A Long Quarter, 52.19 74 ⇑P **P 08 14 32.1 0.0**
baz=52
U30A WK&E Inc. Balk 52.25 77 ⇑P **P 08 14 32.9 +0.3**
baz=52
Q33A Connelly Farm, 52.34 72 ⇓P **P 08 14 33.1 -0.1**
baz=52
Y27A Causey 52.47 81 ⇑P **P 08 14 34.5 +0.1**
baz=52
MSTX Muleshoe 52.66 80 ⇑P **P 08 14 35.8 +0.1**
baz=53
AMTX Amarillo 52.71 79 *e*pP pP 08 14 51.4 +1.3
COWI Conover 52.78 60 *e*P **P 08 14 35.7 -0.7**
comp=Z,4.1nm,0.6s
Z28A Tucker Farm, M 53.35 81 ⇓P **P 08 14 40.8 0.0**
baz=53
Y29A Porterfield Fa 53.41 80 ⇓P **P 08 14 42.0 +0.8**
baz=53
128A Castleberry Fa 53.74 82 ⇑P **P 08 14 44.2 +0.5**
baz=54
Z29A Hungry Hill Ra 53.79 80 ⇑P **P 08 14 45.0 +1.0**
baz=54
X31A McDonald Ranch 53.92 78 ⇓P **P 08 14 45.5 +0.6**
baz=54
HVS Khovu-Aksy 54.02 309 ⇓*e*P **P 08 14 45.1 -0.4**
HVS pmax pmax
comp=Z,40nm,1.0s
Z30A Sanderson Ranc 54.13 80 ⇓P **P 08 14 47.0 +0.5**
baz=54
U34A Anderson Ranch 54.20 75 *e*pP pP 08 15 00.2 -0.7
Y32A R-V Farms, Ver 54.67 78 ⇑P **P 08 14 50.7 +0.3**
baz=55
Z31A Sharp Cattle R 54.71 79 ⇓P **P 08 14 51.0 +0.3**
baz=55
230A Sterling City 55.09 81 ⇑P **P 08 14 53.6 +0.2**
baz=55
Z32A Haskell 55.12 79 ⇑P **P 08 14 53.7 +0.1**
baz=55
TXAR Lajitas Array 55.28 85 P **P 08 14 54.2 -0.7**

comp=Z,0.9nm,0.7s,baz=302,slow=6.6,SNR=14
429A Davenport Ranc 55.48 83 ⇓P P 08 14 56.2 0.0
baz=55
ABTX Abilene, Hawle 55.49 80 *e*pP pP 08 15 11.6 +1.2
Z33A Whitaker Ranch 55.57 78 ⇓P P 08 14 56.4 -0.4
baz=56
TUL1 Leonard 55.59 74 ⇑P P 08 14 56.5 -0.4
baz=56
TUL1 Leonard 55.59 74 *e*pP pP 08 15 11.1 +0.1
529A Stev Forest Ra 55.63 84 ⇑P P 08 14 56.9 -0.4
baz=56
Y34A Reagan Ranch, 55.73 77 ⇓P P 08 14 57.7 -0.3
baz=56
430A Baggett Ranch, 55.78 82 ⇓P P 08 14 58.3 0.0
baz=56
331A San Angelo 55.91 81 ⇓P P 08 14 59.1 -0.3
baz=56
133A Hamilton Ranch 55.95 79 ⇑P P 08 14 59.6 +0.1
baz=56
232A Coleman 55.99 80 ⇓P P 08 15 00.1 +0.2
baz=56
530A J-C Ranch, Com 56.16 83 ⇓P P 08 15 00.8 -0.3
baz=56
431A Sonora 56.24 82 ⇓P P 08 15 01.5 -0.2
baz=56
ZALV Zalesovo Beam 56.25 316 P **P 08 15 00.4 -1.0**
comp=Z,0.7nm,0.4s,baz=74,slow=6.8,SNR=3.2
ZALV PcP **PcP 08 15 58.9 +0.6**
comp=Z,0.5nm,0.3s,baz=57,slow=5.3,SNR=2.5
332A Millersview 56.28 81 ⇑P P 08 15 01.9 0.0
baz=56
233A Rising Star 56.36 80 ⇓P P 08 15 02.6 +0.1
baz=56
134A White-Moore Ra 56.48 78 ⇑P P 08 15 03.3 0.0
baz=56
432A Menard 56.60 81 ⇓P P 08 15 04.0 -0.3
baz=56
531A Rocksprings 56.64 82 ⇑P P 08 15 04.6 +0.1
baz=57
333A Richland Sprin 56.79 80 ⇓P P 08 15 05.4 -0.1
baz=57
XAN Xi'an 56.89 284 P **P 08 15 05.9 -0.3**
XAN pP **pP 08 15 18.7 -1.6**
XAN PMZ
comp=Z,3.0nm,1.2s
XAN PMZ
comp=Z,35nm,5.9s
334A Lometa 57.24 80 ⇓P P 08 15 08.9 +0.1
baz=57
WHTX Lake Whitney, 57.26 79 ⇑P P 08 15 08.2 -0.6
baz=57
WHTX Lake Whitney, 57.26 79 *e*pP pP 08 15 18.4 -4.5
434A Burnet 57.59 80 ⇑P P 08 15 11.2 0.0
baz=58
SFIN Lafayette 57.65 64 ⇑P P 08 15 11.2 -0.2
baz=58
SCHQ Schefferville 57.67 41 P **P 08 15 11.4 0.0**
comp=Z,2.4nm,0.6s,baz=295,slow=7.9,SNR=8.5
KEV Kevo 58.02 352 *e*P **P 08 15 12.4 -1.1**
KEV pmax pmax
comp=Z,7.0nm,0.6s
KEV Kevo 58.02 352 *e*p **P 08 15 12.4 -1.1**
comp=Z,7.0nm,0.6s
ARCES ARCESS Array B 58.36 352 P **P 08 15 15.8 -0.3**
comp=Z,3.0nm,0.6s,baz=14,slow=7.1,SNR=15
ARCES PcP **PcP 08 16 06.3 -0.1**
comp=Z,5.6nm,0.9s,baz=25,slow=4.3,SNR=5.0
LZH Lanzhou 58.51 290 *e*P **P 08 15 18.5 +0.8**
LZH pP **pP 08 15 33.9 +2.0**
LZH PMZ
comp=Z,36nm,1.0s
GTA Gaotai 58.56 295 ⇑P P 08 15 18.0 0.0
GTA pP **pP 08 15 34.1 +2.0**
GTA S **S 08 23 16.2 -1.8**
GTA SS **SS 08 27 10.9 +0.3**
GTA PMZ
comp=Z,15nm,1.2s
GTA PMZ
comp=Z,130nm,5.2s
GTA LN
comp=Z,200nm,17.3s
GTA LE
comp=Z,160nm,16.9s
GTA LZ
comp=Z,220nm,18.1s
OXF Oxford 60.35 71 *e*P P 08 15 38.1 +7.9
OXF pmax pmax
comp=Z,30nm,0.9s
OXF Oxford 60.35 71 *e*P P 08 15 38.1 +7.9
comp=Z,30nm,0.9s
WMQ Urumqi 61.98 306 *e*P **P 08 15 43.4 +2.2**
WMQ PcP **PcP 08 16 21.5 +0.1**
WMQ PP **PP 08 18 02.6 +5.0**
WMQ S **S 08 24 01.6 +0.1**
WMQ ScS **SKKSac 08 25 26.0 -2.4**
WMQ PMZ
comp=Z,5.0nm,1.0s
WMQ PMZ
comp=Z,100nm,5.0s
WMQ LN
comp=Z,200nm,20.0s
WMQ LE
comp=Z,140nm,21.0s
WMQ LZ
comp=Z,120nm,18.0s
CD2 Chengdu 62.19 285 *e*P **P 08 15 42.9 +0.1**
CD2 sP **sP 08 16 04.4 +1.5**
CD2 PP **PP 08 18 02.1 +2.4**
CD2 S **S 08 24 02.2 -2.3**
CD2 sS **sS 08 24 25.8 -2.6**
CD2 SS **SS 08 28 04.5 -3.1**
CD2 PMZ
comp=Z,20nm,1.1s
CD2 PMZ
comp=Z,240nm,5.7s
BINY Binghamton 62.39 56 *e*P **P 08 15 44.1 +0.2**
comp=Z,31nm,1.0s
MK31 Makanchi Array 62.46 311 *e*P **P 08 15 43.8 -0.5**
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 62.46 311 P **P 08 15 43.4 -0.9**
comp=Z,2.4nm,0.4s,baz=46,slow=6.6,SNR=71
BRVK Borovoye 62.83 323*c i*P **P 08 15 45.7 -0.9**
BRVK pmax pmax
comp=Z,19nm,1.2s
PRGR Permogore 62.88 340 P **P 08 15 45.9 -0.9**
PRGR pmax pmax
comp=Z,8.0nm,0.7s
BLA Blacksburg 63.59 63 *e*P **P 08 15 51.9 0.0**
BLA pmax pmax
comp=Z,44nm,0.9s
BLA Blacksburg 63.59 63 *e*P **P 08 15 51.9 0.0**
comp=Z,44nm,0.9s
GYA Guiyang 63.62 280 *e*P **P 08 15 52.4 0.0**
GYA pP **pP 08 16 08.3 +1.6**
GYA PP **PP 08 18 15.0 +2.5**
GYA ScP 08 20 24.7
GYA S **S 08 24 19.3 -3.3**
GYA sS **sS 08 24 46.2 -0.4**
GYA SS **SS 08 28 29.0 -1.3**
GYA PMZ
comp=Z,10.0nm,0.9s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,510nm,19.8s
GYA LE
comp=Z,440nm,20.2s
GYA LZ
comp=Z,490nm,19.6s
SDMD Soldier's Deli 63.95 59 *e*P **P 08 15 54.0 -0.3**
comp=Z,14nm,0.9s
ARU Arti 64.10 331*c i*P **P 08 15 54.9 0.0**
ARU S **S 08 24 29.2 +1.8**
ARU SS SS 08 28 46.1 +10
ARU pmax pmax
comp=Z,15nm,1.2s
JOF Joensuu 64.15 348 *e*P **P 08 15 53.8 -1.4**
JOF pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 64.15 348 *e*p **P 08 15 53.8 -1.4**
comp=Z,1.3nm,0.5s
KMSC Kings Mountain 64.56 65 ⇓P P 08 15 58.5 +0.2
baz=64,SNR=9.0
KLMR Klimovskoe 64.81 343 *e*P P 08 15 56.2 -3.3
KLMR pmax pmax
comp=Z,23nm,1.6s
KAF Kangasniemi 65.53 350 *e*P **P 08 16 02.6 -1.6**
KAF pmax pmax
comp=Z,3.0nm,0.7s
KAF Kangasniemi 65.53 350 *e*p **P 08 16 02.6 -1.6**
comp=Z,2.5nm,0.7s
FINES FINESS Array B 66.21 350 *i*P **P 08 16 10.6 +2.1**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 66.21 350 P **P 08 16 07.5 -1.0**
comp=Z,1.2nm,0.5s,baz=8.0,slow=8.3,SNR=9.3
KMI Kunming 67.00 282 P **P 08 16 14.2 -0.2**
KMI PMZ
comp=Z,7.0nm,0.5s
NB2 NORSAR Subarra 67.62 358 P **P 08 16 17.3 -0.3**
comp=Z,1.1nm,0.6s,baz=4.2,slow=6.5
NOA NORSAR Array B 67.62 358 P **P 08 16 17.4 -0.3**
comp=Z,0.8nm,0.7s,baz=2.7,slow=7.3,SNR=6.4
TKM2 Tokmak 2 68.50 313 P **P 08 16 23.8 +0.1**
SNR=14
TKM2 Tokmak 2 68.50 313 *i*P **P 08 16 23.7 +0.1**
USP Ospenovka 68.73 313 P **P 08 16 25.7 +0.8**
SNR=13
USP Ospenovka 68.73 313 *i*P **P 08 16 25.6 +0.8**
KBK Karagaybulak 69.00 313 P **P 08 16 28.0 +1.3**
SNR=11
KBK Karagaybulak 69.00 313 *i*P **P 08 16 28.0 +1.3**
VSU Vasula 69.05 349 P **P 08 16 24.0 -2.4**
VSU pmax pmax
comp=Z,45nm,1.1s
AAK Ala-Archa 69.23 313 P **P 08 16 28.7 +0.6**
SNR=22
AAK Ala-Archa 69.23 313*c i*P **P 08 16 28.6 +0.5**
AAK pmax pmax
comp=Z,64nm,1.2s
AAK MLR MLR
comp=Z,209nm,14.0s
KZA Kyzart 69.32 312 P **P 08 16 29.9 +0.9**
SNR=5.8
KZA Kyzart 69.32 312 *i*P **P 08 16 29.8 +0.9**
AKTO Aktyubinsk 69.35 328 P **P 08 16 28.7 +0.2**
AKTO pmax pmax
comp=Z,20nm,0.7s
EKS2 Erkin-Say 69.53 313 P **P 08 16 30.8 +0.9**
SNR=23
EKS2 Erkin-Say 69.53 313 *i*P **P 08 16 30.8 +0.9**
UCH Uchtor 69.54 313 P **P 08 16 31.2 +0.8**
SNR=10
UCH Uchtor 69.54 313 *i*P **P 08 16 31.2 +0.8**
AB31 Akbulak array 69.70 326 *i*P **P 08 16 30.9 +0.2**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
AML Almayashu 69.99 313 P **P 08 16 34.0 +1.0**
SNR=18
AML Almayashu 69.99 313 *i*P **P 08 16 34.0 +1.0**
LSA Lhasa 70.48 293 *e*P **P 08 16 36.9 +0.5**
LSA pmax pmax
comp=Z,22nm,0.8s
LSA Lhasa 70.48 293 *e*P **P 08 16 36.9 +0.5**
comp=Z,22nm,0.8s
KK31 Karatay Array 70.63 316 *i*P **P 08 16 36.3 -0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
OBN Obninsk 70.75 342 *e*P **P 08 16 36.1 -0.8**
OBN pmax pmax
comp=Z,14nm,1.3s
KSH Kashi 70.99 310 P P 08 16 42.6 +3.7
KSH PP PP 08 19 23.6 +7.5
KSH S **S 08 25 52.5 +1.7**
KSH ScS **SKKSac 08 26 37.5 +0.4**
KSH SS **SS 08 30 28.6 +5.1**
KSH PMZ
comp=Z,47nm,1.3s
KSH PMZ
comp=Z,120nm,3.3s
KSH LN
comp=Z,69nm,5.4s
KSH LE
comp=Z,34nm,3.9s
KSH LZ
comp=Z,160nm,5.7s
VRHR Novokhopersk 73.44 338 *e*P **P 08 16 51.7 -1.4**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,6.0nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 73.89 339 *e*P **P 08 16 52.8 -2.9**
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=E,1.0nm,0.8s
VORD Divnogorie 74.09 339 *e*P **P 08 16 56.1 -0.8**
VORD pmax pmax
comp=N,9.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
TAPN Taplejung 74.23 294 *e*P **P 08 16 59.2 +0.7**
comp=Z,65nm,0.8s
CMAR Chiang Mai Arr 74.31 280 P **P 08 16 58.9 +0.1**
comp=Z,1.4nm,0.4s,baz=28,slow=6.3,SNR=9.9
ODAN Odare 74.79 294 *e*P **P 08 17 02.3 +0.6**
GUN Gumba 74.83 296 *e*P **P 08 17 02.8 +0.7**
comp=Z,122nm,0.9s
JIRN Jiri 74.85 295 *e*P **P 08 17 03.1 +0.9**
RAMN Ramite 75.17 295 *e*P **P 08 17 04.4 +0.5**
comp=Z,92nm,0.9s
KKN Kakani 75.26 296 *e*P **P 08 17 05.1 +0.7**
PKI Pulchoki 75.36 296 *e*P **P 08 17 05.3 +0.2**
comp=Z,66nm,1.1s
PKIN Phulchoki 75.36 296 *e*P **P 08 17 05.4 +0.4**
comp=Z,48nm,1.1s
GKN Gorkha 75.46 297 *e*P **P 08 17 05.8 +0.4**
comp=Z,58nm,0.8s
DMN Daman 75.50 296 *e*P **P 08 17 06.4 +0.6**
DANN Dangsing 75.68 298 *e*P **P 08 17 07.6 +0.8**
comp=Z,117nm,0.8s
KOLN Koldanda 76.22 297 *e*P **P 08 17 10.2 +0.4**
comp=Z,40nm,0.8s
AKASG Malin Array Be 76.25 345 *i*P **P 08 17 08.6 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 76.25 345 P **P 08 17 08.5 -0.8**
comp=Z,1.8nm,0.3s,baz=11,slow=5.5,SNR=8.6
KIEV Kiev 76.27 345 *i*P **P 08 17 10.2 +0.8**
PYUN Piuthan 76.30 298 *e*P **P 08 17 10.6 +0.3**
comp=Z,33nm,0.5s
CLL Collm 77.30 356 *e*P **P 08 17 15.0 -0.2**
comp=Z,8.0nm,1.1s
BRG Berggiesshubel 77.69 355 *e*P **P 08 17 16.0 -1.4**
comp=Z,9.5nm,1.4s
LVV L'vov 77.85 349 *e*P P 08 17 25.0 +6.7
UPC Upice 77.93 354 *e*pP pP 08 17 32.0 -1.5
DPC Dobruska-Polom 78.06 354 *e*P **P 08 17 20.3 +0.7**
DPC Dobruska-Polom 78.06 354 *e*P **P 08 17 20.3 +0.7**
KBL Kabul 78.27 312 *e*P **P 08 17 20.8 -0.4**
KBL pmax pmax
comp=Z,11nm,0.8s
KBL Kabul 78.27 312 *e*P **P 08 17 20.8 -0.4**
comp=Z,11nm,0.8s
PRU Pruhonice 78.54 355 *e*P **P 08 17 23.6 +1.4**
MORC Moravsky Berou 78.55 353 ⇓P **P 08 17 22.8 +0.5**
MORC Moravsky Berou 78.55 353 ⇓*i*P **P 08 17 22.8 +0.5**
STHS Stebnicka Huta 78.56 350 *e*P **P 08 17 23.3 +1.0**
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 78.56 350 *e*P **P 08 17 23.3 +1.0**
GIVF Givet 78.64 1 *e*P **P 08 17 23.2 +0.5**
GIVF Givet 78.64 1 *e*P **P 08 17 23.2 +0.5**
GIVF Givet 78.64 1 *e*P **P 08 17 23.2 +0.5**
BAIF Baives 78.67 2 *e*P **P 08 17 23.6 +0.7**
BAIF Baives 78.67 2 *e*P **P 08 17 23.6 +0.7**
BAIF Baives 78.67 2 *e*P **P 08 17 23.6 +0.7**
KOLS Kolonicke sedl 78.93 350 *e*P **P 08 17 25.3 +1.0**
KOLS pmax pmax
comp=Z,7.0nm,1.2s
KOLS Kolonicke sedl 78.93 350 *e*P **P 08 17 25.3 +1.0**
CRVS Cervenica-Dubn 79.05 350 *e*P **P 08 17 25.0 0.0**
CRVS Cervenica-Dubn 79.05 350 *e*P **P 08 17 25.0 0.0**
CRVS *e* 08 18 00.0
TREC Trest 79.17 354 *e*P **P 08 17 25.1 -0.6**
UZH Uzhgorod 79.22 349 *e*P P 08 17 18.2 -7.7
UZH *i* 08 17 41.4
VYHS Vyhne 79.71 352 *e*P **P 08 17 29.1 +0.5**
VYHS pmax pmax
comp=Z,5.0nm,1.4s
VYHS Vyhne 79.71 352 *e*P **P 08 17 29.1 +0.5**
GERES GERESS Array B 79.72 355 P **P 08 17 28.1 -0.7**
comp=Z,3.3nm,0.7s,baz=324,slow=2.5,SNR=7.5
KIV Kislovodsk 79.80 334 *e*P **P 08 17 30.5 +1.2**
KIV pmax pmax
comp=Z,20nm,1.1s
FLN La Foliniere 79.81 5 *e*P **P 08 17 29.5 +0.4**
FLN La Foliniere 79.81 5 *e*P **P 08 17 29.5 +0.4**
FLN La Foliniere 79.81 5 *e*P **P 08 17 29.5 +0.4**
BURAR Bucovina Array 79.86 347 ⇓P **P 08 17 29.9 +0.4**
BURAR Bucovina Array 79.86 347 ⇓*i*P **P 08 17 29.9 +0.4**
KBZ Khabaz 79.95 334 P **P 08 17 30.4 +0.4**
comp=Z,3.9nm,0.8s,baz=125,slow=5.0,SNR=6.4
LDF La Druitiere 80.00 5 *e*P **P 08 17 30.0 -0.1**
LDF La Druitiere 80.00 5 *e*P **P 08 17 30.0 -0.1**
LDF La Druitiere 80.00 5 *e*P **P 08 17 30.0 -0.1**
ROSF Rostrenen 80.06 7 *e*P **P 08 17 32.2 +1.7**
comp=Z,34nm,1.0s
ROSF Rostrenen 80.06 7 *e*P **P 08 17 32.2 +1.7**
ROSF pmax pmax
comp=Z,34nm,1.0s
ROSF Rostrenen 80.06 7 *e*P **P 08 17 32.2 +1.7**
comp=Z,34nm,1.0s
GEYT Alibeck 80.10 321 P **P 08 17 31.6 +0.7**
comp=Z,12nm,1.1s,baz=332,slow=4.9,SNR=13
PAGF Fort de Pagny 80.20 1 *e*P **P 08 17 32.3 +1.1**
comp=Z,8.5nm,0.8s
PAGF Fort de Pagny 80.20 1 *e*P **P 08 17 32.3 +1.1**
comp=Z,8.5nm,0.8s
CDF Champ du Feu 80.34 360 *e*P **P 08 17 32.6 +0.5**
comp=Z,12nm,0.9s
CDF Champ du Feu 80.34 360 *e*P **P 08 17 32.6 +0.5**
CDF pmax pmax
comp=Z,12nm,0.9s
CDF Champ du Feu 80.34 360 *e*P **P 08 17 32.6 +0.5**
comp=Z,12nm,0.9s
SFTF Sexfontaines 80.54 1 *e*P **P 08 17 33.7 +0.6**
comp=Z,15nm,0.6s
SFTF Sexfontaines 80.54 1 *e*P **P 08 17 33.7 +0.6**
comp=Z,15nm,0.6s
HAU Haudompre 80.75 0 *e*P **P 08 17 34.7 +0.5**
HAU Haudompre 80.75 0 *e*P **P 08 17 34.7 +0.5**
HAU Haudompre 80.75 0 *e*P **P 08 17 34.7 +0.5**
HINF Hinteralfeld 80.94 360 *e*P **P 08 17 35.6 +0.3**
HINF Hinteralfeld 80.94 360 *e*P **P 08 17 35.6 +0.3**
HINF Hinteralfeld 80.94 360 *e*P **P 08 17 35.6 +0.3**
LOR Lormes 81.46 2 *e*P **P 08 17 38.6 +0.6**
comp=Z,12nm,0.7s
LOR Lormes 81.46 2 *e*P **P 08 17 38.6 +0.6**
LOR pmax pmax
comp=Z,12nm,0.7s
LOR Lormes 81.46 2 *e*P **P 08 17 38.6 +0.6**
comp=Z,12nm,0.7s
SSF Saint Saulge 81.66 2 *e*P **P 08 17 39.5 +0.5**
comp=Z,5.6nm,0.6s
SSF Saint Saulge 81.66 2 *e*P **P 08 17 39.5 +0.5**
SSF pmax pmax
comp=Z,6.0nm,0.6s
SSF Saint Saulge 81.66 2 *e*P **P 08 17 39.5 +0.5**
comp=Z,5.6nm,0.6s
CFR Carcaliu 81.80 345 ⇓P **P 08 17 40.9 +1.1**
CFR Carcaliu 81.80 345 ⇓*i*P **P 08 17 40.9 +1.1**
AVF Avril sur Loir 81.92 2 *e*P **P 08 17 40.9 +0.5**
comp=Z,13nm,0.9s
AVF Avril sur Loir 81.92 2 *e*P **P 08 17 40.9 +0.5**
AVF pmax pmax
comp=Z,13nm,0.9s
AVF Avril sur Loir 81.92 2 *e*P **P 08 17 40.9 +0.5**
comp=Z,13nm,0.9s
MFF Saint Martin d 81.98 5 *e*P **P 08 17 41.3 +0.6**
comp=Z,22nm,1.0s
MFF Saint Martin d 81.98 5 *e*P **P 08 17 41.3 +0.6**
MFF pmax pmax
comp=Z,22nm,1.0s
MFF Saint Martin d 81.98 5 *e*P **P 08 17 41.3 +0.6**
comp=Z,22nm,1.0s
VOIR 82.01 347 ⇓*i*P P 08 17 44.3 +3.3
SMF Signal de Mont 82.08 2 *e*P **P 08 17 41.8 +0.5**
SMF Signal de Mont 82.08 2 *e*P **P 08 17 41.8 +0.5**
SMF Signal de Mont 82.08 2 *e*P **P 08 17 41.8 +0.5**
ARR Arges 82.14 347 ⇑*i*P P 08 17 45.3 +3.6
CABF La Chapelle 82.14 0 *e*P **P 08 17 42.8 +1.1**
comp=Z,47nm,1.3s
CABF La Chapelle 82.14 0 *e*P **P 08 17 42.8 +1.1**
CABF pmax pmax
comp=Z,47nm,1.3s
CABF La Chapelle 82.14 0 *e*P **P 08 17 42.8 +1.1**
comp=Z,47nm,1.3s
TCF Toulx Ste Croi 82.39 3 *e*P **P 08 17 43.2 +0.2**
TCF Toulx Ste Croi 82.39 3 *e*P **P 08 17 43.2 +0.2**
TCF Toulx Ste Croi 82.39 3 *e*P **P 08 17 43.2 +0.2**
TIRR Tirgusor 82.45 344 ⇓P **P 08 17 44.2 +1.0**
TIRR Tirgusor 82.45 344 ⇓*i*P **P 08 17 44.2 +1.0**
LPL La Plagne 83.24 360 *e*P **P 08 17 49.0 +1.4**
comp=Z,6.6nm,0.7s
LPL La Plagne 83.24 360 *e*P **P 08 17 49.0 +1.4**
LPL pmax pmax
comp=Z,7.0nm,0.7s
LPL La Plagne 83.24 360 *e*P **P 08 17 49.0 +1.4**
comp=Z,6.6nm,0.7s
LPG La Plagne 83.26 360 *e*P **P 08 17 48.6 +0.8**
comp=Z,14nm,1.1s
LPG La Plagne 83.26 360 *e*P **P 08 17 48.6 +0.8**
LPG pmax pmax
comp=Z,14nm,1.1s
LPG La Plagne 83.26 360 *e*P **P 08 17 48.6 +0.8**
comp=Z,14nm,1.1s
RJF Les Rejaudoux 83.35 4 *e*P **P 08 17 48.6 +0.7**
RJF Les Rejaudoux 83.35 4 *e*P **P 08 17 48.6 +0.7**
RJF Les Rejaudoux 83.35 4 *e*P **P 08 17 48.6 +0.7**
LFF La Frestale 83.68 4 *e*P **P 08 17 50.3 +0.7**
LFF La Frestale 83.68 4 *e*P **P 08 17 50.3 +0.7**
LFF La Frestale 83.68 4 *e*P **P 08 17 50.3 +0.7**
CAF Calviac 83.75 3 *e*P **P 08 17 51.1 +1.1**
CAF Calviac 83.75 3 *e*P **P 08 17 51.1 +1.1**
CAF Calviac 83.75 3 *e*P **P 08 17 51.1 +1.1**
MBDF Montbardon 84.03 360 *e*P **P 08 17 53.3 +1.7**
comp=Z,43nm,1.1s
MBDF Montbardon 84.03 360 *e*P **P 08 17 53.3 +1.7**
MBDF pmax pmax
comp=Z,43nm,1.1s
MBDF Montbardon 84.03 360 *e*P **P 08 17 53.3 +1.7**
comp=Z,43nm,1.1s
WRA Warramunga Arr 84.61 228 P **P 08 17 52.5 -1.9**
comp=Z,0.6nm,0.8s,baz=33,slow=6.0,SNR=3.4
FRF La Foret Royal 85.19 360 *e*P **P 08 17 57.9 +0.6**
FRF La Foret Royal 85.19 360 *e*P **P 08 17 57.9 +0.6**
FRF La Foret Royal 85.19 360 *e*P **P 08 17 57.9 +0.6**
MTLF Montolieu 85.34 3 *e*P **P 08 17 58.8 +0.8**
MTLF Montolieu 85.34 3 *e*P **P 08 17 58.8 +0.8**
MTLF Montolieu 85.34 3 *e*P **P 08 17 58.8 +0.8**
BRTR Keskin Array B 86.01 339 *i*P **P 08 18 02.5 +0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 86.01 339 P **P 08 18 02.3 +0.7**
comp=Z,3.0nm,0.8s,baz=34,slow=2.8,SNR=7.9
ASAR Alice Springs 88.03 227 P **P 08 18 10.3 -0.9**
comp=Z,1.3nm,0.8s,baz=44,slow=5.0,SNR=4.7
ASAR pP **pP 08 18 23.4 -2.8**
comp=Z,2.6nm,0.9s,baz=29,slow=4.4,SNR=4.5
ESDC Sonseca Array 88.61 8 P **P 08 18 13.9 -0.1**
comp=Z,0.3nm,0.3s,baz=4.7,slow=4.4,SNR=4.2
SDV Santo Domingo 90.93 75 *e*pP pP 08 18 45.1 +4.7
TSUM Tsumeb 146.50 341 *e*PKPdf **PKPbc 08 25 02.4 0.0**
LBTB Lobatse 149.72 324 *e*PKP2 **PKPbc 08 25 10.8 +0.1**
LBTB Lobatse 149.72 324 *e*PKPbc **PKPbc 08 25 10.8 +0.1**
BOSA Boshof 153.10 322 PKPbc **PKPbc 08 25 18.1 -0.3**
comp=Z,1.2nm,0.4s,baz=0.0,slow=6.1,SNR=4.4

IDC ***10*** *08:06:08.8± 1.2, 23°.40S× 179°.88W, h521km± 11km, mb3.8/13, mb1 4.1/15, mb1mx3.9/36, mbtmp4.7/15, Error ellipse: s-maj=14.4km s-min=13.6km az=49.0*
BJI ***10*** *08:06:08.7, 23°.05S× 179°.79W, h515km, mB4.9/7, mb4.5/11*
ISCJB ***10*** *08:06:09.3± 0.2, 23°.56S± 0°.05× 179°.99E± 0°.04, h532km, mb4.5/38, Error ellipse: s-maj=6.9km s-min=4.8km*

az=152.2
NEIC ***10*** *08:06:09.8±0.6, 23°.57S×179°.93W, h535km, m7km, mb4.6/25, Error ellipse: s-maj=9.1km s-min=7.1km az=158.0*
ISC 10 08:06:09.6±0.4, 23°.62S±0°.06×179°.88W±0°.06, h532km, n98, σ1°32/121, mb4.5/38, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.88**	**163**	P	**P**	**08 07 46.1**	**-0.1**
	105nm,0.3s,baz=285,slow=20,SNR=4.1						
RAO				S	**S**	**08 09 04.9**	**-0.3**
	64nm,0.3s,baz=90,slow=20,SNR=3.0						
MSVF	**Nonsavu**	**6.17**	**341**	*e*P	**P**	**08 07 48.5**	**-0.7**
NIUE	**Niue**	**10.32**	**66**	P	P	08 08 34.2	+3.5
	baz=10,SNR=4.1						
NIUE				S	**S**	**08 10 27.8**	**+1.2**
	baz=10,SNR=8.5						
DZM	**Mont Dzumac**	**12.70**	**274**	P	**P**	**08 08 56.9**	**+1.2**
	1.3nm,0.3s,baz=119,slow=16,SNR=9.6						
URZ	**Urewera**	**14.82**	**189**	P	**P**	**08 09 17.1**	**-0.3**
	2.9nm,0.3s,baz=34,slow=4.8,SNR=24						
URZ				S	**S**	**08 11 49.2**	**-3.0**
	1.1nm,0.3s,baz=240,slow=21,SNR=13						
URZ	**Urewera**	**14.82**	**189**	*e*P	**P**	**08 09 17.9**	**+0.6**
URZ				S	**S**	**08 11 49.1**	**-3.0**
BKZ	**Black Stump Fm**	**15.81**	**190**	*e*P	**P**	**08 09 27.5**	**-0.1**
	20nm,1.4s						
ARMA	**Armidale**	**26.22**	**249**	P	**P**	**08 11 04.3**	**+2.0**
	baz=26,SNR=5.1						
EIDS	**Eidsvold**	**26.46**	**260**	P	**P**	**08 11 05.1**	**+0.9**
	baz=26,SNR=19						
EIDS	**Eidsvold**	**26.46**	**260**	*e*Pdif	**P**	**08 11 05.2**	**+0.9**
MGCD	**Mangrove Creek**	**27.17**	**243**	P	**P**	**08 11 12.7**	**+2.2**
	baz=27,SNR=6.2						
RMQ	**Roma**	**28.52**	**258**	P	**P**	**08 11 24.4**	**+2.0**
	baz=28,SNR=5.1						
CMSA	**Cobar Meteorol**	**31.42**	**248**	P	**P**	**08 11 48.2**	**+0.9**
	baz=32,SNR=17						
CTAO	**Charters Tower**	**31.58**	**270**	*e*P	**P**	**08 11 48.6**	**-0.3**
	103nm,0.6s						
QLP	**Quilpie**	**32.56**	**257**	P	**P**	**08 11 57.8**	**+0.7**
	baz=33,SNR=24						
TOO	**Toolangi**	**32.69**	**237**	P	**P**	**08 11 59.6**	**+1.4**
	baz=33,SNR=11						
MTSU	**Mount Surprise**	**33.83**	**272**	P	**P**	**08 12 08.6**	**+0.7**
	baz=34,SNR=49						
PMG	**Port Moresby**	**34.51**	**289**	P	**P**	**08 12 13.2**	**-0.4**
	68nm,0.7s,baz=111,slow=6.8,SNR=48						
PMG	**Port Moresby**	**34.51**	**289**	P	**P**	**08 12 13.5**	**-0.1**
	baz=34,SNR=4.9						
PMG	**Port Moresby**	**34.51**	**289**	*e*P	**P**	**08 12 13.4**	**-0.2**
STKA	**Stephens Creek**	**34.93**	**248**	P	**P**	**08 12 17.7**	**+0.8**
	16nm,0.6s,baz=93,slow=10,SNR=60						
STKA	**Stephens Creek**	**34.93**	**248**	P	**P**	**08 12 18.1**	**+1.1**
	baz=35,SNR=36						
STKA	**Stephens Creek**	**34.93**	**248**	*e*P	**P**	**08 12 18.0**	**+1.1**
COEN	**Coen**	**36.18**	**279**	P	**P**	**08 12 27.8**	**+0.3**
	baz=36,SNR=14						
COEN	**Coen**	**36.18**	**279**	*e*P	**P**	**08 12 27.8**	**+0.3**
	73nm,0.8s						
HTT	**Hallett**	**37.29**	**245**	P	**P**	**08 12 37.1**	**+0.6**
	baz=37,SNR=16						
QIS	**Mount Isa**	**37.58**	**267**	P	**P**	**08 12 38.7**	**-0.3**
	baz=38,SNR=12						
BBOO	**Buckleboo**	**39.66**	**247**	P	**P**	**08 12 55.7**	**0.0**
	baz=40,SNR=20						
ASAR	**Alice Springs**	**42.19**	**260**	P	**P**	**08 13 15.9**	**0.0**
	26nm,0.6s,baz=95,slow=7.3,SNR=360						
ASAR				ScP	**ScP**	**08 18 00.1**	**+2.2**
	4.4nm,0.9s,baz=113,slow=3.9,SNR=16						
ASAR				S	**S**	**08 18 56.4**	**-1.4**
	1.1nm,0.7s,baz=97,slow=13,SNR=7.4						
WB2	**Warramunga Arr**	**42.52**	**266**	*e*P	**P**	**08 13 17.9**	**-0.7**
WRAB	**Tennant Creek**	**42.53**	**266**	*e*P	**P**	**08 13 17.3**	**-1.4**
	42nm,0.9s						
WRA	**Warramunga Arr**	**42.53**	**266**	P	**P**	**08 13 17.8**	**-1.0**
	37nm,0.5s,baz=102,slow=8.4,SNR=313						
WRA				ScP	**ScP**	**08 18 01.5**	**+2.1**
	3.8nm,0.9s,baz=98,slow=4.1,SNR=10						
WRA				S	**S**	**08 18 58.8**	**-3.9**
	1.5nm,0.8s,baz=102,slow=14,SNR=4.1						
JAY	**Jayapura**	**43.51**	**293**	P	**P**	**08 13 25.8**	**-0.6**
	baz=44,SNR=5.0						
KDU	**Kakadu**	**46.37**	**275**	P	**P**	**08 13 47.4**	**-0.9**
	baz=46,SNR=15						
FORT	**Forrest**	**46.51**	**249**	P	**P**	**08 13 49.0**	**-0.2**
	baz=46,SNR=29						
FORT	**Forrest**	**46.51**	**249**	*e*P	**P**	**08 13 48.6**	**-0.6**
	69nm,0.6s						
WRKA	**Warakurna**	**47.00**	**257**	P	**P**	**08 13 53.1**	**0.0**
	baz=47,SNR=47						
MTN	**Manton Dam**	**47.54**	**274**	P	**P**	**08 13 56.1**	**-1.1**
	baz=48,SNR=15						
KNRA	**Kununurra**	**48.80**	**269**	P	**P**	**08 14 06.4**	**-0.1**
	baz=49,SNR=35						
FAKI	**Fak Fak**	**50.61**	**287**	P	**P**	**08 14 19.2**	**-0.6**
	baz=51,SNR=4.5						
FITZ	**Fitzroy Crossi**	**50.96**	**265**	P	**P**	**08 14 22.4**	**+0.1**
	baz=51,SNR=35						
FITZ	**Fitzroy Crossi**	**50.96**	**265**	*e*P	**P**	**08 14 22.5**	**+0.1**
VNDA	**Vanda**	**54.67**	**185**	P	**P**	**08 14 50.3**	**+2.4**
	1.4nm,0.6s,baz=1.4,slow=5.9,SNR=11						
VNDA				PcP	**PcP**	**08 15 43.4**	**+0.9**
	1.4nm,0.7s,baz=3.4,slow=3.7,SNR=5.2						
VNDA				ScP	**ScP**	**08 18 50.8**	**+0.9**
	0.8nm,0.7s,baz=353,slow=3.5,SNR=3.7						
SOEI	**Soe**	**54.93**	**275**	P	**P**	**08 14 52.0**	**+1.1**
	baz=55,SNR=8.9						
SOEI	**Soe**	**54.93**	**275**	*e*P	**P**	**08 14 52.0**	**+1.1**
	51nm,0.9s						
KLBR	**Kellerberrin**	**55.20**	**247**	P	**P**	**08 14 52.4**	**0.0**
	baz=55,SNR=8.5						
MEEK	**Meekatharra**	**55.30**	**253**	P	**P**	**08 14 52.5**	**-0.7**
	baz=55,SNR=5.4						
MBWA	**Marble Bar**	**55.53**	**260**	*e*P	**P**	**08 14 53.6**	**-1.2**
	22nm,1.0s						
BLDU	**Ballidu**	**56.23**	**248**	P	**P**	**08 14 59.4**	**-0.1**
	baz=56,SNR=26						
MORW	**Morawa**	**57.07**	**250**	P	**P**	**08 15 05.3**	**-0.1**
	baz=57,SNR=9.8						
GIRL	**Giralia**	**60.09**	**257**	P	**P**	**08 15 27.0**	**+1.3**
	baz=60,SNR=6.3						
QSPA	**South Pole Qui**	**66.47**	**180**	P	**P**	**08 16 07.9**	**+1.8**
	11nm,0.6s,baz=347,slow=0.5,SNR=96						
UGM	**Wanagama**	**68.21**	**271**	P	**P**	**08 16 17.2**	**-0.4**
	baz=68,SNR=5.2						
MJAR	**Matsushiro Arr**	**71.73**	**325**	P	**P**	**08 16 36.6**	**-1.4**
	2.4nm,0.8s,baz=162,slow=7.2,SNR=5.6						
ISA	**Isabella, Lake**	**82.75**	**46**	*e*P	**P**	**08 17 38.1**	**+0.1**
	11nm,0.9s						
CMB	**Columbia Colle**	**82.92**	**43**	*e*P	**P**	**08 17 39.2**	**+0.5**
	7.2nm,0.8s						
SYO	**Syowa Base**	**83.31**	**193**	*e*P	**P**	**08 17 39.0**	**-1.1**
WAKR	**Walker**	**83.80**	**43**	*e*P	**P**	**08 17 43.3**	**+0.1**
	20nm,1.7s						
NVAR	**Mina Array Bea**	**84.47**	**44**	P	**P**	**08 17 46.4**	**-0.2**
	1.6nm,0.7s,baz=226,slow=8.0,SNR=9.2						
SNAA	**Sanae**	**84.95**	**179**	P	**P**	**08 17 47.9**	**-0.4**
	0.8nm,0.5s,baz=208,slow=8.8,SNR=13						
TPH	**Tonopah**	**84.96**	**45**	*e*P	**P**	**08 17 49.4**	**+0.4**
	4.3nm,0.9s						
TUC	**Tucson**	**86.26**	**52**	*e*P	**P**	**08 17 56.2**	**+1.0**
	6.7nm,0.9s						
GYA	**Guiyang**	**86.70**	**301**	*e*P	**P**	**08 17 58.2**	**+0.7**
GYA				pP	**pP**	**08 19 55.2**	**+1.3**
GYA				sP	**sP**	**08 20 48.6**	**+0.8**
GYA				PP	**PP**	**08 21 33.4**	**+3.6**
GYA				SKS	**SKSac**	**08 27 33.0**	**-0.8**
GYA				S	**S**	**08 27 51.8**	**+1.2**
GYA				PMZ			
	10.0nm,1.0s						
GYA				PMZ			
	90nm,5.2s						
CCUT	**Cedar City**	**87.21**	**47**	*e*P	**P**	**08 18 00.8**	**+1.0**
	4.6nm,1.0s						
G08A	**Pilot Rock**	**88.14**	**38**	*e*P	**P**	**08 18 04.0**	**+0.2**
	6.1nm,0.9s						
MFID	**Camas Ranch**	**88.88**	**41**	*e*P	**P**	**08 18 07.8**	**+0.5**
	7.0nm,0.9s						
KMI	**Kunming**	**89.23**	**298**	P	**P**	**08 18 10.4**	**+1.0**
KMI				PMZ			
	7.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	**P**	**08 18 12.3**	**+1.6**
	1.1nm,0.3s,baz=146,slow=3.4,SNR=6.4						
TMUT	**Trail Mountain**	**89.57**	**46**	*e*P	**P**	**08 18 11.9**	**+1.1**
	9.7nm,0.8s						
HLID	**Hailey**	**89.81**	**41**	*e*P	**P**	**08 18 12.0**	**+0.3**
	3.2nm,0.9s						
HVU	**Hansel Valley**	**89.86**	**44**	*e*P	**P**	**08 18 12.2**	**+0.3**
	5.8nm,0.7s						
LAZ	**Ladron**	**89.94**	**52**	*e*P	**P**	**08 18 12.7**	**+0.2**
	0.6nm,0.8s						
JLU	**Jordanelle**	**90.09**	**45**	*e*P	**P**	**08 18 13.5**	**+0.4**
	8.8nm,1.1s						
TXAR	**Lajitas Array**	**90.19**	**58**	P	**P**	**08 18 14.2**	**+0.6**
	2.9nm,0.7s,baz=215,slow=6.7,SNR=19						
LPM	**Los Pinos Moun**	**90.27**	**52**	*e*P	**P**	**08 18 13.8**	**-0.3**
	1.8nm,0.6s						
HHC	**Hu-ho-hao-te**	**90.30**	**315**	*e*P	**P**	**08 18 13.5**	**-0.4**
HHC				pP	**pP**	**08 20 09.6**	**-1.7**
HHC				sP	**sP**	**08 21 03.0**	**-1.8**
HHC				PP	**PP**	**08 21 59.4**	**+1.5**
HHC				S	**S**	**08 28 20.7**	**-2.3**
HHC				sS	**sS**	**08 31 49.4**	**-3.4**
HHC				PMZ			
	34nm,1.1s						
HHC				PMZ			
	230nm,5.4s						
HWUT	**Hardware Ranch**	**90.54**	**44**	*e*P	**P**	**08 18 15.1**	**0.0**
	16nm,0.8s						
ANMO	**Albuquerque**	**90.70**	**52**	*e*P	**P**	**08 18 16.1**	**+0.1**
	16nm,1.4s						
ILAR	**Eielson Array**	**91.73**	**14**	P	**P**	**08 18 17.9**	**-1.9**
	0.3nm,0.8s,baz=213,slow=4.2,SNR=4.5						
REDW	**Red Top Meadow**	**91.90**	**43**	*e*P	**P**	**08 18 21.1**	**-0.2**
	42nm,1.4s						
SMCO	**Snowmass**	**92.36**	**48**	*e*P	**P**	**08 18 23.9**	**+0.1**
	17nm,1.1s						
PDAR	**Pinedale Array**	**92.41**	**44**	P	**P**	**08 18 23.3**	**-0.5**
	1.5nm,0.6s,baz=216,slow=4.2,SNR=9.5						
RWWY	**Rawlins**	**93.40**	**46**	*e*P	P	08 18 32.0	+3.6
	28nm,1.3s						
SONM	**Songino Array**	**96.96**	**319**	PKKPbc	PKKPbc	08 35 22.7	-1.1
	0.1nm,0.3s,baz=302,slow=0.4,SNR=3.6						
MKAR	**Makanchi Array**	**112.04**	**313**	PKiKP	**PKiKP**	**08 23 42.3**	**-2.1**
	0.2nm,0.5s,baz=200,slow=0.5,SNR=3.8						
MKAR				SKP		08 26 28.9	
	0.5nm,0.7s,baz=116,slow=1.7,SNR=3.7						
MKAR				PKKPab	**PKKPab**	**08 34 48.2**	**+1.0**
	0.3nm,0.5s,baz=296,slow=3.3,SNR=5.6						
KSH	**Kashi**	**115.20**	**304**	PKP	**PKPdf**	**08 23 52.3**	**+1.5**
KSH				PKS	**PKSdf**	**08 27 27.0**	**-0.6**
KSH				SKS	**SKSdf**	**08 30 14.1**	**+1.5**
KSH				SKKS	**SKKSac**	**08 31 07.4**	**+0.5**
KSH				SS	**SS**	**08 40 24.5**	**+5.8**
KSH				PPMZ			
	140nm,4.7s						
AAK	**Ala-Archa**	**116.82**	**307**	PKKPbc	PKKPbc	08 34 22.0	-0.4
	1.1nm,0.6s,baz=14,slow=4.2,SNR=4.2						
ARCES	**ARCESS Array B**	**131.63**	**348**	PKP	**PKPdf**	**08 24 20.1**	**-1.1**
	3.5nm,0.9s,baz=351,slow=1.6,SNR=5.0						
JOF	**Joensuu**	**135.50**	**340**	*e*p	**SKPbc**	**08 27 08.2**	**-1.7**
	1.8nm,0.6s						
FINES	**FINESS Array B**	**138.21**	**342**	PKhKP	PKPpre	08 24 22.0	
	0.8nm,0.7s,baz=86,slow=4.6,SNR=2.1						
FINES				PKP	**PKPdf**	**08 24 33.1**	**-0.6**
	1.7nm,0.9s,baz=38,slow=2.5,SNR=4.0						
FINES				SKPbc	**SKPbc**	**08 27 17.4**	**-0.5**
	2.9nm,0.6s,baz=82,slow=2.1,SNR=13						
NB2	**NORSAR Subarra**	**141.82**	**351**	PKP	**SKPbc**	**08 27 26.9**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**141.82**	**351**	PKhKP	PKPpre	08 24 34.6	
	comp=Z,0.5nm,0.8s,baz=27,slow=0.5,SNR=4.0						
NOA				SKPbc	**SKPbc**	**08 27 27.0**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=16,slow=4.2,SNR=4.3						
HFS	**Hagfors**	**142.29**	**349**	PKhKP	PKPpre	08 24 36.5	
	comp=Z,3.0nm,0.3s,baz=64,slow=3.4,SNR=29						
HFS				SKP		08 27 27.0	
	comp=Z,2.6nm,0.8s,baz=90,slow=1.5,SNR=3.8						
AKASG	**Malin Array Be**	**144.79**	**328**	PKP	**PKPdf**	**08 24 44.8**	**-0.9**
	comp=Z,2.1nm,0.4s,baz=46,slow=4.4,SNR=7.4						
AKASG				SKPbc	**SKPbc**	**08 27 34.4**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=38,slow=1.9,SNR=5.3						
BRTR	**Keskin Array B**	**147.49**	**308**	PKPbc	**PKPbc**	**08 24 53.8**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=136,slow=4.1,SNR=3.0						
EKA	**Eskdalemuir Ar**	**148.23**	**4**	PKPbc	**PKPbc**	**08 24 54.3**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=348,slow=2.9,SNR=7.9						
CLL	**Collm**	**150.62**	**343**	*i* PKPbc	**PKPbc**	**08 25 00.9**	**-0.3**
	comp=Z,7.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**169.48**	**188**	PKP	**PKPdf**	**08 25 15.6**	**-1.2**
	comp=Z,1.2nm,1.0s,baz=312,slow=1.6,SNR=3.3						
TORD				PKPab	**PKPab**	**08 26 33.7**	**+0.3**
	comp=Z,2.0nm,1.0s,baz=164,slow=5.4,SNR=5.6						

ISCJB ***10*** *08:07:22.1±0.2, 7°.12N±0°.04×34°.36W±0°.02, h10km, mb5.0/213, MS4.6/21, Error ellipse: s-maj=6.4km s-min=2.9km az=166.2*
IDC ***10*** *08:07:22.4±0.4, 7°.20N×34°.30W, h0km, mb4.6/27, mb1 4.8/29, mb1mx4.7/44, mbtmp4.7/29, ML5.1/2, MS4.5/21, Ms1 4.5/21, ms1mx4.4/27, Error ellipse: s-maj=14.2km s-min=10.5km az=143.0*
BJI ***10*** *08:07:22.9, 6°.79N×33°.66W, h10km, mB5.7/7, mb5.3/1, Ms5.3/9, Ms7 4.9/11*
MOS ***10*** *08:07:22.5±1.1, 7°.18N×34°.31W, h10km, mb5.4/62, Error ellipse: s-maj=8.0km s-min=4.8km az=59.5*
NEIC ***10*** *08:07:24.2±0.2, 7°.13N×34°.31W, h10km, mb5.2/132, Error ellipse: s-maj=5.1km s-min=3.1km az=165.0*
GCMT ***10*** *08:07:24.2±0.1, 7°.23N×34°.32W, h19km, MW5.3/107, Moment Tensor Solution. s80,c119; s107,c190; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.02±.02; Mθθ-0.03±.02; Mφφ0.00±.02; Mrθ-0.21±.04; Mθφ-1.10±.02; Mφr-0.06±.04; Best double couple: M0 1.12200×10^17 NP1:φs91.00000°, δ87.00000°, λ-169.00000°. NP2:φs0.00000°, δ79.00000°, λ-3.00000°. Principal axes: T 1.0990, Plg6.0000°, Azm225.0000°; N 0.0450, Plg79.0000°, Azm104.0000°; P -1.1450, Plg10.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***10*** *08:07:37.4, 8°.01N×32°.95W, h33km, mb4.9, Central Mid-Atlantic Ridge*
ISC 10 08:07:24.0±0.3, 7°.11N±0°.06×34°.30W±0°.06, h10km, n804, σ1°04/788, mb5.2/216, MS4.6/21, 192C-189D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.95**	**187**	Pn	**Pn**	**08 10 26.9**	**-1.3**
	26nm,0.3s,baz=3.2,slow=15,SNR=144						
RCBR				Sn	Sn	08 12 42.2	-10
	6.7nm,0.3s,baz=253,slow=19,SNR=6.2						
RCBR				LR	LR	08 14 17.3	
	comp=Z,3μm,19.3s,baz=12,slow=32						
RCBR	**Riachuelo**	**12.95**	**187**	*e*Pn	**Pn**	**08 10 27.6**	**-0.6**
RCBR				Sn	Sn	08 12 42.2	-10
SACV	**Santiago Islan**	**13.08**	**52**	Pn	Pn	08 10 23.1	-6.8
	2μm,0.5s,SNR=46						
SACV	**Santiago Islan**	**13.08**	**52**	*e*Pn	Pn	08 10 22.8	-7.1
	192nm,0.8s						
BBTS	**Babate**	**18.98**	**65**	P	**P**	**08 11 45.5**	**-0.3**
	2.8nm,0.3s,baz=253,slow=9.2,SNR=6.3						
BBTS				LR	LR	08 17 11.1	
	comp=Z,2μm,21.2s,baz=246,slow=31						
H10N3	**ASCENSION HYDR**	**24.70**	**127**	T	T	08 38 29.7	
	baz=306,slow=75,SNR=797						
H10N2	**ASCENSION HYDR**	**24.71**	**127**	T	T	08 38 29.9	
	baz=306,slow=75,SNR=619						
H10N1	**ASCENSION HYDR**	**24.72**	**127**	T	T	08 38 31.2	
	baz=306,slow=75,SNR=750						
H10S3	**ASCENSION HYDR**	**25.25**	**129**	T	T	08 39 19.7	
	baz=308,slow=75,SNR=897						
H10S1	**ASCENSION HYDR**	**25.25**	**129**	T	T	08 39 10.7	
	baz=308,slow=75,SNR=1063						
H10S2	**ASCENSION HYDR**	**25.27**	**129**	T	T	08 39 18.1	
	baz=308,slow=75,SNR=674						
BDFB	**Brasilia**	**26.37**	**211**	P	**P**	**08 13 00.7**	**-0.1**
	30nm,1.0s,baz=31,slow=9.5,SNR=28						
BDFB				LR	LR	08 22 43.8	
	comp=Z,2μm,19.0s,baz=27,slow=35						
H05S1	**Guadeloupe/Mar**	**27.05**	**288**	T	T	08 41 01.5	
	SNR=68						
H05N1	**Guadeloupe/Mar**	**27.72**	**292**	T	T	08 41 57.5	
	SNR=16						
LIC	**Lamto**	**29.08**	**90**	*e*P	**P**	**08 13 23.9**	**-1.1**
	77nm,1.3s,baz=251						
LIC				*e*R			
	533nm,18.0s						
LIC	**Lamto**	**29.08**	**90**	*e*P	**P**	**08 13 23.9**	**-1.1**
	77nm,1.3s						
DBIC	**Dimbokro**	**29.23**	**89**	*e*P	**P**	**08 13 28.3**	**+2.0**
DBIC	**Dimbokro**	**29.23**	**89**	P	**P**	**08 13 25.6**	**-0.7**
	8.7nm,0.9s,baz=265,slow=9.4,SNR=6.0						
DBIC				LR	LR	08 22 57.8	
	comp=Z,657nm,18.1s,baz=247,slow=32						
DBIC	**Dimbokro**	**29.23**	**89**	*e*P	**P**	**08 13 28.3**	**+2.0**
SMRT	**St. Maarten**	**30.07**	**294**	*e*P	**P**	**08 13 33.5**	**-0.2**
	45nm,0.8s						
PMOZ	**Porto Moniz, M**	**30.12**	**30**	*e*LR	LR	08 21 05.5	
	630nm,22.0s						
PSMA	**Santa Maria**	**30.90**	**14**	*e*T	T	08 45 37.0	
PSMN	**Pico do Norte,**	**30.92**	**14**	*e*T	T	08 45 38.1	
SAML	**Samuel**	**32.91**	**241**	*e*P	**P**	**08 13 59.4**	**+0.6**
	42nm,1.1s						
CELP	**Cerrillos**	**33.28**	**292**	*e*P	**P**	**08 14 01.6**	**-0.3**
OBIP	**Obispado Ponce**	**33.29**	**292**	*e*P	**P**	**08 14 01.6**	**-0.5**
	28nm,0.8s						
LRS	**Lares**	**33.58**	**292**	*e*P	**P**	**08 14 03.9**	**-0.7**
SIV	**San Ignacio**	**35.06**	**229**	P	**P**	**08 14 18.6**	**+1.1**
	32nm,0.9s,baz=73,slow=11,SNR=44						
TORD	**Torodi Ar. Bea**	**35.91**	**77**	P	**P**	**08 14 23.6**	**-1.1**
	14nm,1.0s,baz=274,slow=8.8,SNR=45						
TORD				LR	LR	08 26 57.1	
	comp=Z,1μm,20.4s,baz=245,slow=33						
SDV	**Santo Domingo**	**36.02**	**275**	*e*P	**P**	**08 14 25.7**	**-0.3**
	21nm,0.8s						
SMN1	**Samana, DR**	**36.03**	**293**	*e*P	**P**	**08 14 24.9**	**-0.9**
MDT	**Midelt**	**37.60**	**43**	LR	LR	08 27 27.5	
	comp=Z,763nm,20.1s,baz=224,slow=32						
SDDR	**Presa de Saban**	**37.83**	**292**	*e*P	**P**	**08 14 41.7**	**+0.6**
	45nm,1.0s						
MORF	**Marmelete**	**38.04**	**34**	*e*P	**P**	**08 14 43.4**	**+0.6**
MORF				AMb	AMB	08 14 47.1	
	comp=Z,54nm,1.8s						
MORF	**Marmelete**	**38.04**	**34**	*e*P	**P**	**08 14 43.5**	**+0.8**
	comp=Z,55nm,1.7s						
MORF	**Marmelete**	**38.04**	**34**	*e*P	**P**	**08 14 43.3**	**+0.6**
PBDV	**Barranco-do-Ve**	**38.40**	**35**	*e*P	**P**	**08 14 46.7**	**+1.0**
	comp=Z,101nm,1.5s						
PVAQ	**Vaqueiros**	**38.64**	**35**	*e*P	**P**	**08 14 47.3**	**-0.3**
	comp=Z,58nm,1.7s						
PVAQ	**Vaqueiros**	**38.64**	**35**	*e*LR	LR	08 24 55.3	
	comp=Z,746nm,20.0s						
MESJ	**Messejana**	**38.66**	**34**	*e*P	**P**	**08 14 48.5**	**+0.6**
MESJ				AMb	AMB	08 14 54.0	
	comp=Z,22nm,1.1s						
MESJ				*e*S	**S**	**08 20 46.0**	**+1.3**
MESJ	**Messejana**	**38.66**	**34**	*e*P	**P**	**08 14 49.2**	**+1.3**
	comp=Z,23nm,1.2s						
MESJ	**Messejana**	**38.66**	**34**	*e*P	**P**	**08 14 48.4**	**+0.6**
MESJ				*e*S	**S**	**08 20 45.9**	**+1.3**
PNCL	**Nicolau / Gran**	**38.69**	**33**	*e*P	**P**	**08 14 49.0**	**+0.9**
	comp=Z,65nm,1.4s						
EVO	**Evora**	**39.27**	**33**	*e*P	**P**	**08 14 53.8**	**+0.8**
	comp=Z,42nm,1.1s						
PMTG	**Montargil**	**39.55**	**33**	*e*P	**P**	**08 14 56.1**	**+0.9**
	comp=Z,78nm,1.3s						
PBAR	**Barrancos**	**39.56**	**35**	*e*P	**P**	**08 14 56.6**	**+1.2**
	comp=Z,75nm,1.4s						
PTOM	**Tomar**	**39.85**	**32**	*e*P	**P**	**08 14 58.8**	**+1.0**
	comp=Z,69nm,1.1s						
ROSC	**El Rosal**	**39.87**	**269**	P	**P**	**08 15 00.1**	**+1.4**
	comp=Z,27nm,0.7s,baz=79,slow=4.3,SNR=17						
ROSC				LR	LR	08 32 25.7	
	comp=Z,435nm,18.2s,baz=68,slow=38						
CPUP	**Villa Florida**	**40.06**	**213**	P	**P**	**08 15 00.2**	**+0.7**
	comp=Z,8.7nm,0.9s,baz=48,slow=6.9,SNR=5.9						
CPUP				LR	LR	08 31 17.2	
	comp=Z,978nm,18.6s,baz=34,slow=36						
CPUP	**Villa Florida**	**40.06**	**213**	*e*P	**P**	**08 15 00.4**	**+0.8**
PMRV	**Marv??o**	**40.25**	**33**	*e*P	**P**	**08 15 02.3**	**+1.1**
	comp=Z,99nm,1.3s						
PMRV	**Marv??o**	**40.25**	**33**	*e*LR	LR	08 25 39.9	
	comp=Z,498nm,20.0s						
PCBR	**Castelo Branco**	**40.51**	**32**	*e*P	**P**	**08 15 04.2**	**+1.0**
	comp=Z,44nm,1.7s						
LPAZ	**La Paz**	**40.76**	**235**	*e*P	**P**	**08 15 06.2**	**-0.1**
LPAZ				pmax	pmax		
	comp=Z,28nm,0.8s						
LPAZ	**La Paz**	**40.76**	**235**	P	**P**	**08 15 06.5**	**+0.2**
	comp=Z,19nm,0.7s,baz=36,slow=7.5,SNR=44						
LPAZ				LR	LR	08 31 30.0	
	comp=Z,894nm,18.9s,baz=66,slow=36						
LPAZ	**La Paz**	**40.76**	**235**	*e*P	**P**	**08 15 06.2**	**-0.1**
	comp=Z,28nm,0.8s						
MTE	**Manteigas**	**40.88**	**32**	*e*LR	LR	08 26 27.9	
	comp=Z,551nm,18.0s						
PVIS	**Viseu**	**40.93**	**31**	*e*P	**P**	**08 15 07.4**	**+0.7**
	comp=Z,51nm,2.5s						
TAM	**Tamanrasset**	**41.34**	**63**	*e*P	**P**	**08 15 11.4**	**+0.8**
TA

MFF	Saint Martin d	49.06	31	eP	P	08 16 11.3	0.0
	comp=Z,31nm,1.0s						
MFF	Saint Martin d	49.06	31	eP	P	08 16 11.3	0.0
MFF				pmax	pmax		
	comp=Z,31nm,1.0s						
MFF	Saint Martin d	49.06	31	eP	P	08 16 11.3	0.0
	comp=Z,31nm,1.0s						
RJF	Les Rejaudoux	49.08	33	eP	P	08 16 11.5	0.0
	comp=Z,48nm,1.1s						
RJF				eR			
	comp=Z,1µm,21.0s						
RJF	Les Rejaudoux	49.08	33	eP	P	08 16 11.5	0.0
RJF				pmax	pmax		
	comp=Z,48nm,1.1s						
RJF	Les Rejaudoux	49.08	33	eP	P	08 16 11.5	0.0
	comp=Z,48nm,1.1s						
CAF	Calviac	49.14	34	eP	P	08 16 12.4	+0.4
	comp=Z,122nm,1.3s						
CAF	Calviac	49.14	34	eP	P	08 16 12.4	+0.4
CAF				pmax	pmax		
	comp=Z,122nm,1.3s						
CAF	Calviac	49.14	34	eP	P	08 16 12.4	+0.4
	comp=Z,122nm,1.3s						
TRY	Troy	49.58	322	eP	P	08 16 16.0	+0.7
	comp=Z,31nm,0.9s						
LASF	Ste Croix	49.63	36	eP	P	08 16 16.4	+0.6
LASF	Ste Croix	49.63	36	eP	P	08 16 16.4	+0.6
NHSC	New Hope	49.71	308	eP	P	08 16 13.0	-3.5
	comp=Z,41nm,1.0s						
JSRW	J. Sargeant Re	49.82	314	eP	P	08 16 17.3	0.0
SDMD	Soldier's Deli	49.90	317	P	P	08 16 17.6	-0.2
	comp=Z,31nm,1.0s						
GRR	Gorron	49.94	29	eP	P	08 16 18.0	0.0
	comp=Z,66nm,1.2s						
GRR	Gorron	49.94	29	eP	P	08 16 18.0	0.0
GRR				pmax	pmax		
	comp=Z,66nm,1.2s						
GRR	Gorron	49.94	29	eP	P	08 16 18.0	0.0
	comp=Z,66nm,1.2s						
MDV	Middlebury	50.01	324	eP	P	08 16 19.0	+0.4
CFAA	Coronel Fontan	50.33	218	P	P	08 16 21.1	-0.2
	comp=Z,1.2nm,0.8s,baz=0.0,slow=10,SNR=5.5						
FLN	La Foliniere	50.38	29	eP	P	08 16 21.2	-0.1
	comp=Z,76nm,1.2s						
FLN				eR			
	comp=Z,606nm,20.5s						
FLN	La Foliniere	50.38	29	eP	P	08 16 21.2	-0.1
FLN				pmax	pmax		
	comp=Z,76nm,1.2s						
FLN	La Foliniere	50.38	29	eP	P	08 16 21.2	-0.1
	comp=Z,76nm,1.2s						
LDF	La Druitiere	50.43	29	eP	P	08 16 21.7	0.0
	comp=Z,29nm,0.9s						
LDF	La Druitiere	50.43	29	eP	P	08 16 21.7	0.0
LDF				pmax	pmax		
	comp=Z,29nm,0.9s						
LDF	La Druitiere	50.43	29	eP	P	08 16 21.7	0.0
	comp=Z,29nm,0.9s						
VIVF	Saint-Julien-l	50.57	35	eP	P	08 16 22.9	0.0
	comp=Z,37nm,1.0s						
VIVF	Saint-Julien-l	50.57	35	eP	P	08 16 22.9	0.0
VIVF				pmax	pmax		
	comp=Z,37nm,1.0s						
VIVF	Saint-Julien-l	50.57	35	eP	P	08 16 22.9	0.0
	comp=Z,37nm,1.0s						
SMRF	Simiane la Rot	50.59	37	eP	P	08 16 22.9	-0.1
SMRF	Simiane la Rot	50.59	37	eP	P	08 16 22.9	-0.1
SSB	Saint Sauveur	50.74	35	eP	P	08 16 25.2	+1.0
SSB				pmax	pmax		
	comp=Z,20nm,1.0s						
SSB	Saint Sauveur	50.74	35	eP	P	08 16 25.2	+1.0
	comp=Z,20nm,1.0s						
AVF	Avril sur Loir	51.01	33	eP	P	08 16 26.3	+0.2
	comp=Z,23nm,1.0s						
AVF	Avril sur Loir	51.01	33	eP	P	08 16 26.3	+0.2
AVF				pmax	pmax		
	comp=Z,23nm,1.0s						
AVF	Avril sur Loir	51.01	33	eP	P	08 16 26.3	+0.2
	comp=Z,23nm,1.0s						
VWCC	Virginia Weste	51.14	313	eP	P	08 16 28.2	+0.9
SSF	Saint Saulge	51.26	32	eP	P	08 16 28.1	+0.1
SSF	Saint Saulge	51.26	32	eP	P	08 16 28.1	+0.1
SSF	Saint Saulge	51.26	32	eP	P	08 16 28.1	+0.1
KMSC	Kings Mountain	51.34	310	⇓P	P	08 16 28.9	+0.2
	baz=51						
LOR	Lormes	51.58	32	eP	P	08 16 30.4	0.0
	comp=Z,35nm,0.9s						
LOR				eR			
	comp=Z,662nm,19.8s						
LOR	Lormes	51.58	32	eP	P	08 16 30.4	0.0
LOR				pmax	pmax		
	comp=Z,35nm,0.9s						
LOR	Lormes	51.58	32	eP	P	08 16 30.4	0.0
	comp=Z,35nm,0.9s						
SBF	Sospel	51.64	38	eP	P	08 16 31.3	+0.3
	comp=Z,61nm,0.9s						
SBF	Sospel	51.64	38	eP	P	08 16 31.3	+0.3
SBF				pmax	pmax		
	comp=Z,61nm,0.9s						
SBF	Sospel	51.64	38	eP	P	08 16 31.3	+0.3
	comp=Z,61nm,0.9s						
BNI	Bardonecchia	51.84	36	eP	P	08 16 34.0	+1.4
BNI				pmax	pmax		
	comp=Z,51nm,1.3s						
BNI	Bardonecchia	51.84	36	eP	P	08 16 34.0	+1.4
	comp=Z,51nm,1.3s						
TIGA	Tifton	51.90	305	⇓P	P	08 16 33.2	+0.1
	baz=52						
TIGA	Tifton	51.90	305	eP	P	08 16 33.4	+0.3
	comp=Z,44nm,1.2s						
LPL	La Plagne	52.14	36	eP	P	08 16 35.6	+0.7
LPL	La Plagne	52.14	36	eP	P	08 16 35.6	+0.7
LPL	La Plagne	52.14	36	eP	P	08 16 35.6	+0.7
LPG	La Plagne	52.14	36	eP	P	08 16 35.8	+0.8
	comp=Z,28nm,1.1s						
LPG	La Plagne	52.14	36	eP	P	08 16 35.8	+0.8
LPG				pmax	pmax		
	comp=Z,28nm,1.1s						
LPG	La Plagne	52.14	36	eP	P	08 16 35.8	+0.8
	comp=Z,28nm,1.1s						
MMNY	Mt. Morris Dam	52.23	320	eP	P	08 16 35.7	+0.4
	comp=Z,80nm,1.0s						
CABF	La Chapelle	52.40	34	eP	P	08 16 37.0	+0.4
	comp=Z,52nm,1.3s						
CABF	La Chapelle	52.40	34	eP	P	08 16 37.0	+0.4
CABF				pmax	pmax		
	comp=Z,52nm,1.3s						
CABF	La Chapelle	52.40	34	eP	P	08 16 37.0	+0.4
	comp=Z,52nm,1.3s						
GOGA	Godfrey	52.40	307	eP	P	08 16 37.7	+0.9
GOGA				pmax	pmax		
	comp=Z,29nm,1.4s						
GOGA	Godfrey	52.40	307	eP	P	08 16 37.7	+0.9
	comp=Z,29nm,1.4s						
SFTF	Sexfontaines	52.78	32	eP	P	08 16 39.3	0.0
SFTF	Sexfontaines	52.78	32	eP	P	08 16 39.3	0.0
MEZF	Maizieres J'vi	52.97	32	eP	P	08 16 40.7	0.0
MEZF	Maizieres J'vi	52.97	32	eP	P	08 16 40.7	0.0
ALLY	Alegheny Colle	53.17	318	eP	P	08 16 42.3	0.0
	comp=Z,64nm,1.0s						
ERPA	Erie	53.28	318	eP	P	08 16 43.6	+0.5
	comp=Z,191nm,1.8s						
PAGF	Fort de Pagny	53.36	32	eP	P	08 16 43.5	-0.1
	comp=Z,22nm,1.1s						
PAGF	Fort de Pagny	53.36	32	eP	P	08 16 43.5	-0.1
	comp=Z,22nm,1.1s						
HAU	Haudompre	53.36	33	eP	P	08 16 43.7	0.0
	comp=Z,32nm,1.0s						
HAU				eR			
	comp=Z,592nm,22.5s						
HAU	Haudompre	53.36	33	eP	P	08 16 43.7	0.0
HAU				pmax	pmax		
	comp=Z,32nm,1.0s						
HAU	Haudompre	53.36	33	eP	P	08 16 43.7	0.0
	comp=Z,32nm,1.0s						
TZTN	Tazewell	53.52	311	eP	P	08 16 45.7	+0.7
	comp=Z,88nm,1.7s						
BAIF	Baives	53.52	30	eP	P	08 16 44.5	-0.2
	comp=Z,40nm,0.9s						
BAIF	Baives	53.52	30	eP	P	08 16 44.5	-0.2
BAIF				pmax	pmax		
	comp=Z,40nm,0.9s						
BAIF	Baives	53.52	30	eP	P	08 16 44.5	-0.2
	comp=Z,40nm,0.9s						
HINF	Hinteralfeld	53.53	33	eP	P	08 16 44.8	-0.1
HINF	Hinteralfeld	53.53	33	eP	P	08 16 44.8	-0.1
HINF	Hinteralfeld	53.53	33	eP	P	08 16 44.8	-0.1
GIVF	Givet	53.85	30	eP	P	08 16 46.9	-0.3
GIVF	Givet	53.85	30	eP	P	08 16 46.9	-0.3
GIVF	Givet	53.85	30	eP	P	08 16 46.9	-0.3
CPCT	Cooper Cave	53.89	309	eP	P	08 16 50.0	+2.3
ECH	Echery	53.92	33	eP	P	08 16 47.6	-0.2
ECH				pmax	pmax		
	comp=Z,14nm,1.0s						
ECH	Echery	53.92	33	eP	P	08 16 47.5	-0.2
	comp=Z,14nm,1.0s						
CDF	Champ du Feu	54.10	33	eP	P	08 16 49.1	-0.1
	comp=Z,18nm,0.9s						
CDF	Champ du Feu	54.10	33	eP	P	08 16 49.1	-0.1
CDF				pmax	pmax		
	comp=Z,18nm,0.9s						
CDF	Champ du Feu	54.10	33	eP	P	08 16 49.1	-0.1
	comp=Z,18nm,0.9s						
SCHQ	Schefferville	54.24	337	P	P	08 16 49.2	-0.7
	comp=Z,4.8nm,0.4s,baz=126,slow=6.3,SNR=11						
SCHQ				LR	LR	08 37 51.5	
	comp=Z,451nm,18.7s,baz=107,slow=34						
WLF	Walferdange	54.26	31	eP	P	08 16 50.0	-0.1
	comp=Z,12nm,1.0s						
BCLA	Clavier	54.29	30	P	P	08 16 50.0	-0.4
	comp=Z,11nm,1.4s						
ACSO	Alum Creek Sta	54.50	315	eP	P	08 16 52.2	+0.2
	comp=Z,47nm,0.9s						
BFO	Black Forest	54.63	34	iP	P	08 16 54.0	+1.1
MEM	Membach	54.76	30	P	P	08 16 53.9	+0.2
	comp=Z,14nm,1.3s						
MEM	Membach	54.76	30	eP	P	08 16 54.4	+0.6
MEM				pmax	pmax		
	comp=Z,21nm,1.0s						
MEM	Membach	54.76	30	eP	P	08 16 54.4	+0.6
	comp=Z,21nm,1.0s						
SWET	Sewanee	54.91	308	eP	P	08 16 55.4	+0.3
	comp=Z,110nm,1.7s						
DAVA	Damuels	54.93	35	⇑iP	P	08 16 55.4	+0.1
	comp=Z,28nm,1.2s						
LRAL	Lakeview Retre	55.12	305	eP	P	08 16 57.3	+0.6
	comp=Z,52nm,1.5s						
FETA	Feichten	55.28	36	⇑iP	P	08 16 57.9	+0.1
	comp=Z,17nm,1.2s						
TNS	Taunus Mts	55.78	32	eP	P	08 17 01.1	-0.1
	comp=Z,16nm,1.3s						
AAM	Ann Arbor	55.81	317	eP	P	08 17 01.9	+0.4
AAM				pmax	pmax		
	comp=Z,51nm,0.6s						
AAM	Ann Arbor	55.81	317	eP	P	08 17 01.9	+0.4
	comp=Z,51nm,0.6s						
WTTA	Wattenberg	55.94	36	⇓ipP	P	08 17 05.6	+3.0
	comp=Z,26nm,1.1s						
WCI	Wyandotte Cave	56.15	312	eP	P	08 17 04.5	+0.4
WCI				pmax	pmax		
	comp=Z,19nm,0.7s						
WCI	Wyandotte Cave	56.15	312	eP	P	08 17 04.5	+0.4
	comp=Z,19nm,0.7s						
ABTA	Abfaltersbach	56.20	37	⇑iP	P	08 17 04.1	-0.2
	comp=Z,52nm,1.5s						
BLO	Bloomington	56.64	313	eP	P	08 17 08.0	+0.5
BLO				pmax	pmax		
	comp=Z,18nm,0.8s						
BLO	Bloomington	56.64	313	eP	P	08 17 08.0	+0.5
	comp=Z,18nm,0.8s						
WVT	Waverly	56.65	309	eP	P	08 17 07.1	-0.5
WVT				pmax	pmax		
	comp=Z,19nm,0.8s						
WVT	Waverly	56.65	309	eP	P	08 17 07.1	-0.5
	comp=Z,19nm,0.8s						
JAVS	Javornik	56.74	39	eP	P	08 17 08.8	+0.7
MYKA	Terra Mystica	56.82	38	⇑iP	P	08 17 09.0	+0.3
	comp=Z,36nm,1.3s						
RJOB	Jochberg	56.85	36	eP	P	08 17 08.5	-0.4
	comp=Z,9.0nm,1.1s						
GRF	Grafenberg Arr	56.97	34	eP	P	08 17 09.8	+0.1
	comp=Z,26nm,1.2s						
BOJS	Bojanci	57.30	39	eP	P	08 17 19.2	+7.2
OBKA	Obir	57.32	38	⇑isP	P	08 17 17.2	+4.9
	comp=Z,37nm,1.2s						
TSUM	Tsumeb	57.40	118	P	P	08 17 13.8	+0.4
	comp=Z,4.6nm,1.0s,baz=269,slow=8.8,SNR=4.8						
OXF	Oxford	57.45	307	eP	P	08 17 12.3	-1.0
OXF				pmax	pmax		
	comp=Z,35nm,0.9s						
OXF	Oxford	57.45	307	eP	P	08 17 12.3	-1.0
	comp=Z,35nm,0.9s						
SFIN	Lafayette	57.47	314	⇑P	P	08 17 13.4	0.0
	baz=58						
SFIN	Lafayette	57.47	314	eP	P	08 17 13.6	+0.2
	comp=Z,130nm,1.8s						
ROTZ	Rotzenmuhle	57.55	34	eP	P	08 17 13.8	0.0
	comp=Z,9.0nm,1.0s						
OLIL	Olney	57.66	312	eP	P	08 17 15.0	+0.3
	comp=Z,37nm,0.8s						
SOKA	Soboth	57.69	38	⇑iP	P	08 17 14.9	0.0
	comp=Z,21nm,1.0s						
PERS	Pernice	57.73	38	iP	P	08 17 15.4	+0.3
MOA	Molln	57.78	37	⇓epP	P	08 17 18.5	+3.0
	comp=Z,30nm,1.4s						
GERES	GERESS Array B	57.93	35	P	P	08 17 15.2	-1.4
	comp=Z,1.0nm,0.6s,baz=193,slow=5.5,SNR=4.1						
GERES				LR	LR	08 38 59.1	
	comp=Z,583nm,21.4s,baz=266,slow=33						
NRDL	Niedersach Rie	57.94	30	eP	P	08 17 17.0	+0.7
	comp=Z,36nm,1.9s						
KHC	Kasperske Hory	58.00	35	eP	P	08 17 17.2	+0.2
TANN	Tannenbergstha	58.03	33	eP	P	08 17 17.4	+0.2
	comp=Z,21nm,1.3s						
PLCA	Paso Flores	58.11	212	P	P	08 17 17.6	-0.3
	comp=Z,5.6nm,1.0s,baz=40,slow=9.5,SNR=4.3						
SIUC	Southern Illin	58.18	310	eP	P	08 17 18.9	+0.5
	comp=Z,38nm,0.8s						
ARSA	Arzberg	58.25	38	⇑eP	P	08 17 18.7	-0.1
	comp=Z,13nm,1.1s						
HBAR	Harrisburg	58.70	307	eP	P	08 17 22.5	+0.4
CONA	Conrad Observa	58.76	37	⇑iP	P	08 17 23.1	+0.7
	comp=Z,20nm,1.1s						
CLL	Collm	58.79	33	eP	P	08 17 22.9	+0.5
	comp=Z,4.0nm,0.7s						
CLL	Collm	58.79	33	iSP	sP	08 17 27.6	+0.8
	comp=Z,19nm,1.6s						
CLL				eS	S	08 25 28.0	+0.3
	comp=N,200nm,28.3s						
CLL				eS	S	08 25 28.0	+0.3
	comp=E,400nm,28.5s						
CLL				eSS	SS	08 29 24.0	+3.0
CLL				LmV		08 38 00.0	
	comp=Z,400nm,19.2s						
BSEG	Bad Segeberg	58.88	29	eP	P	08 17 23.0	+0.1
	comp=Z,36nm,1.2s						
BRG	Berggiesshubel	59.08	33	eP	P	08 17 24.4	0.0
	comp=Z,10.0nm,1.2s						
BRG	Berggiesshubel	59.08	33	S	S	08 25 39.0	+7.6
UALR	University of	59.86	306	eP	P	08 17 29.6	-0.5
	comp=Z,34nm,1.0s						
MUD	Monsted U'grnd	59.86	26	iP	P	08 17 32.1	+2.4
MUD				pmax	pmax		
	comp=Z,12nm,0.9s						
MUD	Monsted U'grnd	59.86	26	iP	P	08 17 32.1	+2.4
	comp=Z,12nm,0.8s						
340A	Bronson	60.45	302	⇑P	P	08 17 33.2	-0.9
	baz=60,SNR=6.9						
JFWS	Jewell Farm	60.55	316	eP	P	08 17 34.3	-0.4
JFWS				pmax	pmax		
	comp=Z,176nm,1.8s						
JFWS	Jewell Farm	60.55	316	eP	P	08 17 34.3	-0.4
	comp=Z,176nm,1.8s						
MORC	Moravsky Berou	60.59	36	eP	P	08 17 34.4	-0.5
MORC				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MORC	Moravsky Berou	60.59	36	eP	P	08 17 34.4	-0.5
	comp=Z,6.3nm,1.2s						
MIAR	Mount Ida	60.80	306	eP	P	08 17 35.7	-0.8
MIAR	Mount Ida	60.80	306	eP	P	08 17 35.7	-0.8
VYHS	Vyhne	60.80	38	eP	P	08 17 39.1	+2.8
VYHS	Vyhne	60.80	38	eP	P	08 17 39.1	+2.8
COWI	Conover	60.92	319	eP	P	08 17 36.3	-0.9
	comp=Z,44nm,1.3s						
339A	Huntington	60.99	302	⇑P	P	08 17 37.5	-0.5
	baz=61						
PSZ	Piszkesteto	61.22	38	⇓iP	P	08 17 40.0	+0.8
PSZ	Piszkesteto	61.22	38	eP	P	08 17 39.8	+0.6
	comp=Z,22nm,1.1s						
VTS	Vitosha	61.54	45	⇑P	P	08 17 40.3	-1.3
VTS	Vitosha	61.54	45	⇑iP	P	08 17 40.3	-1.3
238A	Jacksonville	61.58	302	⇑P	P	08 17 41.5	-0.4
	baz=62						
338A	Crockett	61.63	302	⇓P	P	08 17 41.8	-0.5
	baz=62						
438A	Sam Houston St	61.68	301	⇑P	P	08 17 41.9	-0.6
	baz=62						
BSD	Bornholm Skovb	61.77	30	iP	P	08 17 41.9	-0.8
BSD				pmax	pmax		
	comp=Z,13nm,0.9s						
BSD	Bornholm Skovb	61.77	30	iP	P	08 17 41.9	-0.8
	comp=Z,13nm,0.9s						
HKT	Hockley	61.86	300	eP	P	08 17 44.8	+1.1
HKT				pmax	pmax		
	comp=Z,38nm,1.7s						
HKT	Hockley	61.86	300	eP	P	08 17 44.8	+1.1
	comp=Z,38nm,1.7s						
GZR	Gura Zlata	62.14	42	⇓iP	P	08 17 43.4	-2.1
237A	Washetta, Mont	62.16	302	⇑P	P	08 17 45.2	-0.6
	baz=62						
137A	Heron Place, G	62.21	303	⇑P	P	08 17 46.1	-0.1
	baz=62						
SCIA	State Center	62.34	314	eP	P	08 17 46.1	-0.7
	comp=Z,68nm,1.8s						
636A	Smothers Creek	62.85	299	⇓P	P	08 17 50.4	0.0
	baz=63						
TUL1	Leonard	62.85	307	⇑P	P	08 17 48.9	-1.5
	baz=63,SNR=9.3						
TUL1	Leonard	62.85	307	eP	P	08 17 49.5	-0.8
	comp=Z,29nm,1.0s						
336A	Riesel	62.94	302	⇑P	P	08 17 50.1	-0.8
	baz=63						
SPMN	Marine on St.	63.04	317	⇓P	P	08 17 50.2	-1.3
	baz=63,SNR=13						
SPMN	Marine on St.	63.04	317	eP	P	08 17 50.6	-0.9
	comp=Z,25nm,0.7s						
635A	Leesville	63.46	299	⇑P	P	08 17 53.7	-0.8
	baz=63						
435B	Jarrell	63.48	301	⇑P	P	08 17 54.0	-0.6
	baz=64						
035A	Encino	63.48	296	⇑P	P	08 17 54.3	-0.3
	baz=64						
NB2	NORSAR Subarra	63.52	23	P	P	08 17 54.2	-0.2
	comp=Z,10nm,1.0s,baz=234,slow=6.5						
NOA	NORSAR Array B	63.52	23	P	P	08 17 53.8	-0.6
	comp=Z,3.0nm,0.8s,baz=233,slow=6.7,SNR=7.9						
NOA				LR	LR	08 41 26.6	
	comp=Z,445nm,20.7s,baz=230,slow=32						
WHTX	Lake Whitney,	63.54	302	⇑P	P	08 17 54.7	-0.3
	baz=64						
WHTX	Lake Whitney,	63.54	302	eP	P	08 17 54.2	-0.8
	comp=Z,15nm,0.9s						
Z35A	Perchaven, San	63.58	304	⇑P	P	08 17 54.9	-0.3
	baz=64						
135A	Vickery Place,	63.59	303	⇓P	P	08 17 55.2	-0.1
	baz=64						
934A	Benavides	63.92	297	⇑P	P	08 17 57.3	-0.2
	baz=64						
834A	Tilden	64.00	298	⇑P	P	08 17 57.5	-0.6
	baz=64						
034A	Hebbronville	64.01	297	⇑P	P	08 17 57.7	-0.5
	baz=64						
434A	Burnet	64.07	301	⇓P	P	08 17 57.0	-1.5
	baz=64,SNR=5.7						
Y34A	Reagan Ranch,	64.09	304	⇑P	P	08 17 57.8	-0.8
	baz=64						
334A	Lometa	64.11	301	⇓P	P	08 17 57.3	-1.5
	baz=64,SNR=7.0						
234A	Clairette	64.11	302	⇓P	P	08 17 57.7	-1.1
	baz=64						
Z34A	Collier Ranch,	64.13	304	⇑P	P	08 17 57.7	-1.2
	baz=64						
534A	Blanco	64.14	300	⇓P	P	08 17 57.8	-1.3
	baz=64						
134A	White-Moore Ra	64.15	303	⇓P	P	08 17 57.9	-1.1
	baz=64						
KSU1	Kansas State U	64.15	310	⇑P	P	08 17 56.8	-2.1
	baz=64,SNR=5.6						
KSU1	Kansas State U	64.15	310	eP	P	08 17 58.0	-0.9
	comp=Z,22nm,0.6s						
V34A	Guthrie	64.22	306	⇓P	P	08 17 58.4	-1.0
	baz=64						
V34A	Guthrie	64.22	306	eP	P	08 17 58.8	-0.6
	comp=Z,37nm,1.1s						
X34A	Smith Ranch, M	64.26	305	⇑P	P	08 17 58.7	-1.0
	baz=64						
MLR	Muntele Rosu	64.29	43	⇓P	P	08 18 00.4	+0.6
MLR	Muntele Rosu	64.29	43	⇓iP	P	08 18 00.4	+0.6
W34A	Bridge Creek,	64.32	306	⇓P	P	08 17 58.9	-1.2
	baz=64,SNR=5.4						
W34A	Bridge Creek,	64.32	306	eP	P	08 17 59.4	-0.7
	comp=Z,26nm,1.3s						
U34A	Anderson Ranch	64.34	307	⇓P	P	08 17 59.8	-0.4
	baz=64						
U34A	Anderson Ranch	64.34	307	eP	P	08 17 59.7	-0.5
	comp=Z,78nm,1.7s						
LVV	L'vov	64.46	38	eP	P	08 18 02.0	+1.3
933A	Laredo	64.58	297	⇓P	P	08 18 01.2	-0.7
	baz=65						
533A	Kerrville	64.63	300	⇓P	P	08 18 00.7	-1.6
	baz=65,SNR=6.0						
733A	Divot King Ran	64.71	298	⇑P	P	08 18 01.8	-0.9
	baz=65						
333A	Richland Sprin	64.74	301	⇓P	P	08 18 01.0	-1.9
	baz=65,SNR=14						
233A	Rising Star	64.76	302	⇓P	P	08 18 01.4	-1.6
	baz=65,SNR=9.3						
833A	Chaparral WMA,	64.76	298	⇑P	P	08 18 02.1	-0.9
	baz=65,SNR=10						
433A	Art	64.76	301	⇓P	P	08 18 01.0	-2.0
	baz=65,SNR=8.5						
U33A	Lingo Farm, Me	64.80	307	⇑P	P	08 18 01.8	-1.4
	baz=65,SNR=6.6						
Y33A	Hilltop Ranch,	64.81	304	⇑P	P	08 18 01.8	-1.6
	baz=65,SNR=5.3						
Z33A	Whitaker Ranch	64.82	303	⇑P	P	08 18 01.8	-1.6
	baz=65,SNR=6.1						
V33A	Lossen Ranch,	64.83	306	⇑P	P	08 18 02.5	-0.9
	baz=65						
133A	Hamilton Ranch	64.85	303	⇓P	P	08 18 02.8	-0.9
	baz=65						
W33A	Caddo, Fort Co	64.86	305	⇓P	P	08 18 02.9	-0.8
	baz=65						
S33A	Kaszmaul Farm,	64.92	308	⇑P	P	08 18 03.3	-0.7
	baz=65						
VRI	Vrincioaia	64.92	42	⇑P	P	08 18 05.0	+1.2
VRI	Vrincioaia	64.92	42	⇑iP	P	08 18 05.0	+1.2
T33A	Patterson Ranc	65.02	308	⇑P	P	08 18 03.4	-1.2
	baz=65,SNR=9.8						
R33A	Olander Ranch,	65.04	309	⇑P	P	08 18 03.9	-0.8
	baz=65,SNR=7.4						
P33A	Williams Farm,	65.04	310	⇓P	P	08 18 04.0	-0.8
	baz=65						
TESR	Tescani	65.06	42	⇑iP	P	08 18 13.5	+8.8
Q33A	Connelly Farm,	65.06	310	⇓P	P	08 18 03.8	-1.0
	baz=65,SNR=8.6						
632A	Uvalde	65.22	299	⇓P	P	08 18 05.0	-1.1
	baz=65,SNR=6.8						
ECSD	EROS Data Cent	65.23	315	⇓P	P	08

comp=Z,8.0nm,0.8s
SUMG Summit 65.45 359 eP P 08 18 07.2 -0.1
comp=Z,229nm,2.7s
ABTX Abilene, Hawle 65.46 303 ⇑P P 08 18 06.6 -1.0
baz=65
ABTX Abilene, Hawle 65.46 303 eP P 08 18 06.6 -1.0
Y32A R-V Farms, Ver 65.48 304 ⇑P P 08 18 06.0 -1.7
baz=66,SNR=5.3
W32A Sentinel 65.49 305 ⇑P P 08 18 06.9 -0.8
baz=66
U32A Winter Ranch, 65.49 307 ⇓P P 08 18 07.0 -0.8
baz=66
T32A Huddler Ranch, 65.57 308 ⇑P P 08 18 07.1 -1.1
baz=66,SNR=6.0
Q32A Meitler Ranch, 65.61 310 ⇓P P 08 18 07.7 -0.8
baz=66
R32A Long Quarter, 65.62 309 ⇑P P 08 18 07.3 -1.2
baz=66,SNR=12
O32A Brockman Farm, 65.65 311 ⇑P P 08 18 07.3 -1.4
baz=66,SNR=8.8
S32A Newby Ranch, P 65.67 308 ⇑P P 08 18 07.7 -1.1
baz=66,SNR=6.5
P32A Huiting Farm, 65.77 310 ⇓P P 08 18 08.0 -1.4
baz=66,SNR=8.9
N32A Stulken Farm, 65.77 312 ⇓P P 08 18 08.6 -0.9
baz=66
BGNE Belgrade 65.80 312 ⇓P P 08 18 08.2 -1.4
baz=66,SNR=21
BGNE Belgrade 65.80 312 eP P 08 18 08.7 -0.9
comp=Z,100nm,1.0s
631A Perdido Creek 65.89 299 ⇓P P 08 18 09.5 -0.9
baz=66
231A Bronte 65.94 302 ⇓P P 08 18 09.6 -1.2
baz=66
531A Rocksprings 65.94 300 ⇓P P 08 18 09.8 -1.0
baz=66
331A San Angelo 65.96 301 ⇓P P 08 18 09.6 -1.3
baz=66
Z31A Sharp Cattle R 65.97 303 ⇓P P 08 18 09.1 -1.7
baz=66,SNR=6.2
AGMN Agassiz Nation 65.98 320 ⇑P P 08 18 08.9 -1.7
baz=66,SNR=9.8
AGMN Agassiz Nation 65.98 320 eP P 08 18 09.3 -1.3
comp=Z,20nm,1.1s
X31A McDonald Ranch 66.01 305 ⇓P P 08 18 09.9 -1.2
baz=66
431A Sonora 66.05 300 ⇓P P 08 18 10.1 -1.3
baz=66,SNR=8.2
W31A Holland Ranch, 66.06 305 ⇓P P 08 18 10.5 -1.0
baz=66
V31A Spring Creek L 66.07 306 ⇑P P 08 18 10.8 -0.7
baz=66
S31A Mullinville 66.08 308 ⇓P P 08 18 10.9 -0.6
baz=66,SNR=8.8
131A Roby 66.09 302 ⇑P P 08 18 10.5 -1.2
baz=66
T31A Randall Ranch, 66.15 307 ⇑P P 08 18 11.2 -0.8
baz=66,SNR=5.7
Y31A Rekieta Farm, 66.15 304 ⇑P P 08 18 11.3 -0.7
baz=66,SNR=5.3
U31A Nine Bar Ranch 66.17 307 ⇑P P 08 18 11.6 -0.6
baz=66
R31A Burdett 66.23 309 ⇓P P 08 18 11.9 -0.6
baz=66,SNR=10
Q31A Ellis 66.26 309 ⇓P P 08 18 11.5 -1.1
baz=66,SNR=5.6
N31A Bailey Ranch, 66.27 311 ⇑P P 08 18 12.3 -0.4
baz=66
P31A Stockton 66.34 310 ⇓P P 08 18 12.4 -0.7
baz=66,SNR=5.4
M31A Lambtecht Ranc 66.39 312 ⇑P P 08 18 12.7 -0.8
baz=66
O31A Woolen Ranch, 66.42 311 ⇓P P 08 18 12.7 -0.9
baz=66
L31A Butterfield Fa 66.46 313 ⇓P P 08 18 13.0 -0.9
baz=66,SNR=9.8
130A Snyder 66.56 302 ⇓P P 08 18 13.8 -0.9
baz=66
ULM Lac du Bonnet 66.58 322 P P 08 18 12.4 -2.0
comp=Z,17nm,1.1s,baz=113,slow=6.8,SNR=12
430A Baggett Ranch, 66.60 300 ⇑P P 08 18 14.2 -0.9
baz=67,SNR=8.0
230A Sterling City 66.61 302 ⇑P P 08 18 14.1 -0.9
baz=67
330A Mertzon 66.61 301 ⇓P P 08 18 14.2 -0.8
baz=67,SNR=8.4
530A J-C Ranch, Com 66.62 300 ⇓P P 08 18 14.4 -0.7
baz=67,SNR=9.1
Y30A Stafford Cattl 66.67 304 ⇓P P 08 18 14.6 -0.8
baz=67
X30A Coker Ranch, T 66.72 304 ⇓P P 08 18 14.8 -0.9
baz=67
V30A Spur Ranch, Mi 66.75 306 ⇑P P 08 18 15.2 -0.7
baz=67
Z30A Sanderson Ranc 66.78 303 ⇑P P 08 18 15.2 -0.9
baz=67,SNR=7.6
R30A Dighton 66.81 309 ⇓P P 08 18 15.7 -0.5
baz=67,SNR=14
U30A WK&E Inc. Balk 66.83 307 ⇓P P 08 18 15.6 -0.8
baz=67,SNR=6.5
S30A Montezuma 66.85 308 ⇑P P 08 18 16.0 -0.6
baz=67,SNR=7.3
O30A MW Ranch, Wils 66.97 311 ⇑P P 08 18 16.6 -0.6
baz=67,SNR=9.8
P30A Selden 67.00 310 ⇑P P 08 18 16.9 -0.5
baz=67,SNR=5.7
BRSD Miller 67.04 315 ⇓P P 08 18 16.1 -1.4
baz=67,SNR=9.2
BRSD Miller 67.04 315 eP P 08 18 16.2 -1.3
comp=Z,25nm,0.9s
L30A Spencer Herefo 67.06 313 ⇑P P 08 18 16.8 -0.9
baz=67,SNR=14
K30A Basset 67.13 313 ⇓P P 08 18 17.4 -0.7
baz=67
429A Davenport Ranc 67.15 300 ⇑P P 08 18 17.6 -0.9
baz=67,SNR=14
J30A Dallas 67.18 314 ⇑P P 08 18 17.6 -0.8
baz=67
229A Bryant Ranch, 67.21 302 ⇑P P 08 18 17.8 -1.1
baz=67
I30A Oacoma 67.26 315 ⇓P P 08 18 17.4 -1.5
baz=67,SNR=5.6
Y29A Porterfield Fa 67.30 304 ⇓P P 08 18 18.4 -1.1
baz=67
329A Wagon Wheel Ra 67.30 301 ⇓P P 08 18 18.4 -1.1
baz=67
G30A Faulkton 67.33 316 ⇓P P 08 18 18.2 -1.1
baz=67,SNR=21
S29A Ulysses 67.36 308 ⇓P P 08 18 19.1 -0.7
baz=67
529A Stev Forest Ra 67.38 300 ⇑P P 08 18 19.0 -1.0
baz=67,SNR=7.8
X29A Tulia 67.40 304 ⇑P P 08 18 19.3 -0.8
baz=67
F30A Leola 67.41 317 ⇑P P 08 18 19.0 -0.9
baz=67,SNR=10
T29A Hugoton 67.43 307 ⇓P P 08 18 19.3 -1.0
baz=67
AMTX Amarillo 67.43 305 ⇓P P 08 18 19.2 -1.0
baz=67
AMTX Amarillo 67.43 305 eP P 08 18 19.6 -0.7
comp=Z,10nm,0.8s
W29A Amarillo 67.44 305 ⇑P P 08 18 19.6 -0.7
baz=67
BOSA Boshof 67.44 125 eP P 08 18 19.8 -0.7
BOSA Boshof 67.44 125 P P 08 18 19.6 -0.8
comp=Z,7.1nm,0.9s,baz=285,slow=8.0,SNR=6.5
BOSA LR LR 08 41 26.8
comp=Z,452nm,21.6s,baz=288,slow=30
BOSA Boshof 67.44 125 eP P 08 18 19.8 -0.7
Q29A Oakley 67.45 309 ⇑P P 08 18 19.5 -0.8
baz=67
E30A Jud 67.49 318 ⇑P P 08 18 19.4 -1.0
baz=68,SNR=12
R29A Marienthal 67.50 309 ⇓P P 08 18 20.0 -0.7
baz=68
C30A Mose, Pekin 67.50 319 ⇓P P 08 18 19.1 -1.3
baz=68,SNR=11
N29A Votaw Ranch, W 67.52 311 ⇓P P 08 18 20.1 -0.6
baz=68
P29A Atwood 67.53 310 ⇑P P 08 18 20.1 -0.8
baz=68,SNR=7.9
D30A Buchanan 67.54 318 ⇑P P 08 18 19.6 -1.0
baz=68,SNR=13
B30A Myrvik Farm, E 67.60 320 ⇑P P 08 18 20.0 -1.0
baz=68,SNR=26
K29A Lazy Trails An 67.65 313 ⇓P P 08 18 21.0 -0.5
baz=68,SNR=10
M29A Burnside Ranch 67.67 312 ⇑P P 08 18 21.0 -0.7
baz=68
A30A Hoffart Farm, 67.71 320 ⇓P P 08 18 20.6 -1.1
baz=68,SNR=14
Y28A McKinney Farm, 67.78 304 ⇓P P 08 18 21.7 -0.8
baz=68,SNR=5.7
J29A Okreek 67.79 314 ⇑P P 08 18 21.4 -0.8
baz=68,SNR=17
NACGM Naroch 67.82 33 e P 08 18 20.0 -2.1
Z28A Tucker Farm, M 67.83 303 ⇑P P 08 18 22.1 -0.7
baz=68
128A Castleberry Fa 67.84 302 ⇑P P 08 18 21.8 -1.1
baz=68
G29A Hoven 67.88 316 ⇓P P 08 18 22.3 -0.5
baz=68
228A UT Block 9, Go 67.88 302 ⇑P P 08 18 21.9 -1.2
baz=68
KIEV Kiev 67.89 38 ⇓P P 08 18 22.4 -0.2
KIEV Kiev 67.89 38 eP P 08 18 22.4 -0.2
comp=Z,13nm,1.0s
I29A Vivian Onida 67.90 315 ⇓P P 08 18 22.1 -0.8
baz=68,SNR=10
AKASG Malin Array Be 67.90 38 i P P 08 18 22.1 -0.6
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 67.90 38 P P 08 18 21.9 -0.9
comp=Z,7.4nm,0.8s,baz=254,slow=5.9,SNR=19
F29A Eureka 67.96 317 ⇑P P 08 18 22.5 -0.7
baz=68
H29A Onida 67.96 315 ⇓P P 08 18 22.5 -0.8
baz=68
S28A Manter 67.97 308 ⇓P P 08 18 22.9 -0.7
baz=68,SNR=7.5
E29A Napoleon 68.00 317 ⇓P P 08 18 22.6 -1.0
baz=68,SNR=16
R28A Tribune 68.01 308 ⇑P P 08 18 23.0 -0.8
baz=68,SNR=8.0
U28A Mallet 68.06 306 ⇑P P 08 18 23.5 -0.8
baz=68
T28A Walsh 68.08 307 ⇓P P 08 18 23.6 -0.8
baz=68,SNR=12
D29A Pettibone, Tap 68.08 318 ⇓P P 08 18 23.2 -0.8
baz=68,SNR=13
Q28A Sharon Springs 68.14 309 ⇓P P 08 18 24.1 -0.6
baz=68,SNR=5.3
P28A Saint Francis 68.16 310 ⇓P P 08 18 24.3 -0.4
baz=68
M28A Bar X Bar Ranc 68.17 312 ⇓P P 08 18 24.2 -0.6
baz=68
N28A Pribbeno Ranch 68.18 311 ⇓P P 08 18 24.1 -0.7
baz=68
MSTX Muleshoe 68.22 304 ⇓P P 08 18 24.8 -0.5
baz=68
MSTX Muleshoe 68.22 304 eP P 08 18 25.1 -0.2
comp=Z,22nm,1.1s
O28A Krutsinger Ran 68.26 310 ⇑P P 08 18 24.7 -0.6
baz=68,SNR=14
B29A Wagenman Farm, 68.27 319 ⇑P P 08 18 24.0 -1.1
baz=68,SNR=5.8
MDND Maddock 68.28 319 ⇓P P 08 18 24.1 -1.2
baz=68,SNR=14
MDND Maddock 68.28 319 eP P 08 18 24.6 -0.6
A29A Manning Farm, 68.30 320 ⇑P P 08 18 24.2 -1.1
baz=68,SNR=17
L28A Connealy Angus 68.39 312 ⇓P P 08 18 25.7 -0.5
baz=68
K28A Ten Mile Ranch 68.40 313 ⇓P P 08 18 25.7 -0.6
baz=68,SNR=17
J28A Allard Ranch, 68.44 314 ⇑P P 08 18 25.8 -0.6
baz=68,SNR=15
I28A Midland 68.50 314 ⇓P P 08 18 26.2 -0.6
baz=68,SNR=9.0
H28A Mission Ridge 68.53 315 ⇑P P 08 18 26.3 -0.7
baz=68
Y27A Causey 68.54 304 ⇓P P 08 18 26.7 -0.6
baz=68,SNR=8.6
G28A Parade 68.54 316 ⇑P P 08 18 26.3 -0.7
baz=68
BRTR Keskin Array B 68.55 50 P P 08 18 27.5 +0.2
comp=Z,6.7nm,0.9s,baz=243,slow=5.4,SNR=13
T27A Campo 68.55 307 ⇑P P 08 18 26.3 -1.0
baz=68
U27A Thompson Grove 68.55 306 ⇓P P 08 18 26.6 -0.7
baz=68,SNR=9.8
X27A F and S Farms, 68.56 304 ⇑P P 08 18 26.5 -1.0
baz=68
TXAR Lajitas Array 68.58 299 P P 08 18 26.9 -0.7
comp=Z,1.7nm,0.6s,baz=105,slow=5.8,SNR=12
FCC Fort Churchill 68.58 331 eP P 08 18 25.8 -1.1
FCC Fort Churchill 68.58 331 eP P 08 18 25.8 -1.1
W27A Bowe Ranch, En 68.58 305 ⇓P P 08 18 26.5 -1.1
baz=69,SNR=11
F28A McLaughlin 68.62 316 ⇑P P 08 18 27.1 -0.4
baz=69
E28A Huff 68.71 317 ⇓P P 08 18 27.4 -0.6
baz=69,SNR=12
KSCO Kaye Shedlock' 68.74 309 ⇓P P 08 18 28.2 -0.2
baz=69,SNR=6.5
KSCO Kaye Shedlock' 68.74 309 eP P 08 18 28.3 -0.1
comp=Z,63nm,1.7s
C28A Hausauer Farms 68.76 319 ⇓P P 08 18 27.6 -0.7
baz=69
D28A Regan 68.76 318 ⇓P P 08 18 27.5 -0.8
baz=69,SNR=6.6
R27A Eads 68.77 308 ⇓P P 08 18 28.4 -0.2
baz=69,SNR=9.9
P27A Ficken Ranch, 68.78 310 ⇓P P 08 18 28.4 -0.3
baz=69
O27A Beecher Island 68.80 310 ⇑P P 08 18 28.5 -0.3
baz=69
B28A Dugan Ranch, T 68.91 319 ⇑P P 08 18 28.7 -0.5
baz=69
N27A Anderson Farm, 68.94 311 ⇓P P 08 18 29.3 -0.4
baz=69
A28A Rude Farm, Bot 68.96 320 ⇓P P 08 18 28.7 -0.8
baz=69,SNR=10
J27A Elkhorn Farm, 68.96 314 ⇓P P 08 18 29.3 -0.4
baz=69,SNR=13
K27A Flueckinger Fa 69.03 313 ⇑P P 08 18 29.3 -0.8
baz=69
X26A CR and CF Fran 69.14 304 ⇑P P 08 18 30.1 -1.0
baz=69
I27A Quinn 69.14 314 ⇑P P 08 18 30.2 -0.6
baz=69
W26A Owens Ranch, T 69.16 305 ⇑P P 08 18 30.3 -0.8
baz=69
S26A Kim 69.21 307 ⇑P P 08 18 31.2 -0.3
baz=69,SNR=5.9
V26A Tequesquite Ra 69.25 305 ⇑P P 08 18 30.8 -1.0
baz=69
T26A Comanche Natio 69.25 307 ⇑P P 08 18 31.5 -0.2
baz=69,SNR=9.4
E27A Carson 69.27 317 ⇑P P 08 18 31.2 -0.3
baz=69
H27A Howes 69.27 315 ⇓P P 08 18 31.3 -0.2
baz=69,SNR=28
R26A Arlington 69.28 308 ⇑P P 08 18 31.3 -0.5
baz=69
U26A Atchley Ranch, 69.28 306 ⇑P P 08 18 31.5 -0.5
baz=69,SNR=12
G27A Dupree 69.31 316 ⇑P P 08 18 31.4 -0.3
baz=69,SNR=22
P26A Davis Ranch, A 69.37 310 ⇓P P 08 18 31.9 -0.5
baz=69,SNR=8.4
D27A Center 69.38 318 ⇑P P 08 18 31.8 -0.4
baz=69
Q26A Hugo 69.42 309 ⇓P P 08 18 32.7 0.0
baz=69
F27A Lemmon 69.46 316 ⇓P P 08 18 32.3 -0.4
baz=69,SNR=12
C27A Sayler Ranch, 69.49 318 ⇓P P 08 18 32.4 -0.5
baz=70
M26A McRoberts Ranc 69.50 312 ⇑P P 08 18 32.6 -0.5
baz=70
L26A Underwood Farm 69.54 312 ⇓P P 08 18 32.8 -0.5
baz=70
I26A New Underwood 69.71 314 ⇑P P 08 18 33.8 -0.5
baz=70,SNR=7.9
K26A Motz Farm, Whi 69.72 313 ⇑P P 08 18 33.8 -0.6
baz=70,SNR=11
W25A X Bar L Ranch, 69.74 305 ⇓P P 08 18 34.1 -0.6
baz=70
J26A Sides Ranch, S 69.74 314 ⇑P P 08 18 34.0 -0.6
baz=70,SNR=13
G26A Maurine 69.75 316 ⇓P P 08 18 34.1 -0.5
baz=70,SNR=12
U25A Circle Dot Ran 69.82 306 ⇓P P 08 18 35.1 -0.2
baz=70,SNR=12
X25A Clemmons Ranch 69.84 304 ⇓P P 08 18 35.0 -0.4
baz=70
E26A Carlson Angus 69.88 317 ⇑P P 08 18 35.0 -0.3
baz=70
T25A Trinidad 69.90 307 ⇓P P 08 18 35.9 +0.1
baz=70,SNR=6.5
F26A Lodgepole 69.91 316 ⇑P P 08 18 35.3 -0.2
baz=70,SNR=16
C26A Wahner Farm, P 69.91 318 ⇑P P 08 18 35.0 -0.4
baz=70
FINES FINESS Array B 69.91 26 P P 08 18 37.9 +2.9
comp=Z,3.4nm,0.8s,baz=242,slow=4.1,SNR=6.4
R25A Fountain Ranch 69.92 308 ⇑P P 08 18 35.2 -0.5
baz=70
V25A Rancho No Teng 69.93 305 ⇓P P 08 18 36.0 +0.1
baz=70,SNR=7.1
D26A Manning 69.97 317 ⇓P P 08 18 35.6 -0.3
baz=70
S25A Robets Cordova 69.98 307 ⇓P P 08 18 36.5 +0.3
baz=70,SNR=6.4
Q25A Bedland, Calha 69.98 309 ⇓P P 08 18 36.1 -0.1
baz=70,SNR=6.5
O25A Wiggins 70.04 310 ⇓P P 08 18 36.6 +0.1
baz=70,SNR=8.1
A26A Wade Farm, Ken 70.10 319 ⇓P P 08 18 36.2 -0.3
baz=70,SNR=7.5
B26A Jensen Ranch, 70.11 319 ⇓P P 08 18 36.4 -0.2
baz=70
DAG Danmarks Havn 70.14 4 i P P 08 18 39.0 +2.8
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG Danmarks Havn 70.14 4 i P P 08 18 39.0 +2.8
comp=Z,5.0nm,0.9s
M25A Palm-Egli Farm 70.17 311 ⇑P P 08 18 37.2 -0.1
baz=70,SNR=6.7
K25A Mack Ranch, Ha 70.21 313 ⇓P P 08 18 36.9 -0.5
baz=70
L25A Engebretsen Ra 70.21 312 ⇓P P 08 18 37.0 -0.5
baz=70
KAF Kangasniemi 70.27 26 eP P 08 18 39.1 +1.8
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 70.27 26 ep P 08 18 39.1 +1.8
comp=Z,3.9nm,0.7s
J25A Sunshine Ranch 70.28 313 ⇓P P 08 18 37.4 -0.5
baz=70
G25A Newell 70.30 315 ⇓P P 08 18 37.7 -0.2
baz=70,SNR=9.0
I25A Rochford 70.33 314 ⇑P P 08 18 37.7 -0.6
baz=70,SNR=12
H25A Fruitdale 70.33 315 ⇑P P 08 18 37.6 -0.5
baz=70,SNR=9.3
Y24A Capitan 70.42 303 ⇑P P 08 18 38.7 -0.3
baz=70,SNR=12
V24A Rampart Ranch, 70.44 305 ⇓P P 08 18 39.1 -0.1
baz=70,SNR=6.3
W24A Lazy 6 Ranch, 70.51 305 ⇑P P 08 18 39.9 +0.3
baz=70,SNR=12
U24A Moreno Valley 70.52 306 ⇑P P 08 18 40.0 +0.3
baz=70,SNR=8.2
E25A Miller Ranch, 70.52 317 ⇓P P 08 18 39.0 -0.2
baz=70
R24A Sanders Place, 70.57 308 ⇑P P 08 18 40.4 +0.5
baz=70
S24A Houchin Ranch, 70.59 307 ⇓P P 08 18 40.2 +0.1
baz=71,SNR=5.9
D25A Fairfield 70.59 317 ⇑P P 08 18 39.8 +0.2
baz=71
C25A Freed Ranch, W 70.65 318 ⇓P P 08 18 40.3 +0.4
baz=71
T24B San Luis 70.66 307 ⇑P P 08 18 40.8 +0.2
baz=71
Q24A Divide 70.68 309 ⇑P P 08 18 40.8 +0.1
baz=71,SNR=7.8
N24A Carr 70.71 311 ⇓P P 08 18 40.7 +0.1
baz=71
M24A Cheyenne 70.75 311 ⇓P P 08 18 41.0 +0.1
baz=71,SNR=12
O24A Longmont 70.76 310 ⇑P P 08 18 41.4 +0.5
baz=71
A25A Svangstu Ranch 70.80 319 ⇓P P 08 18 40.7 -0.1
baz=71
J24A Dixon Ranch, L 70.89 313 ⇓P P 08 18 41.1 -0.5
baz=71
L24A Wheatland 70.91 312 ⇓P P 08 18 41.6 -0.2
baz=71
K24A Anderson Ranch 70.91 313 ⇓P P 08 18 41.5 -0.3
baz=71
Y23A Lovelace Mesa, 70.94 303 ⇑P P 08 18 41.7 -0.5
baz=71,SNR=6.8
H24A Dirks Ranch, A 71.03 315 ⇓P P 08 18 42.2 -0.2
baz=71,SNR=8.2
X23A Hourglass Bar 71.10 304 ⇑P P 08 18 43.4 +0.3
baz=71
W23A Werner Place, 71.11 305 ⇓P P 08 18 43.3 0.0
baz=71
F24A Ekalaka 71.12 316 ⇑P P 08 18 42.8 -0.1
baz=71
R23A Moffat 71.13 308 ⇓P P 08 18 43.4 0.0
baz=71
ISCO Idaho Springs 71.14 310 eP P 08 18 44.0 +0.6
ISCO pmax pmax
comp=Z,26nm,1.4s
ISCO Idaho Springs 71.14 310 ⇓P P 08 18 43.7 +0.3
baz=71,SNR=14
ISCO Idaho Springs 71.14 310 eP P 08 18 44.0 +0.6
comp=Z,26nm,1.4s
E24A Baker 71.15 317 ⇑P P 08 18 43.2 +0.2
baz=71
T23A Casias Ranch, 71.18 307 ⇑P P 08 18 44.1 +0.4
baz=71,SNR=7.6
V23A Ortiz Mt. (NFS 71.19 305 ⇓P P 08 18 44.3 +0.7
baz=71,SNR=7.3
PHWY Pilot Hill 71.20 311 eP P 08 18 43.6 -0.2
S23A Nye Farm, Mont 71.22 307 ⇑P P 08 18 44.2 +0.3
baz=71
U23A El Rito 71.24 306 ⇑P P 08 18 44.2 +0.2
baz=71,SNR=7.6
D24A Glendive 71.26 317 ⇓P P 08 18 43.9 +0.2
baz=71,SNR=11
P23A Jefferson 71.26 309 ⇓P P 08 18 44.5 +0.2
baz=71,SNR=6.6
ANMO Albuquerque 71.34 304 eP P 08 18 44.2 -0.4
ANMO pmax pmax
comp=Z,38nm,1.5s
ANMO Albuquerque 71.34 304 eP P 08 18 44.7 +0.1
comp=Z,16nm,1.4s
A24A Westby 71.37 319 ⇓P P 08 18 44.2 -0.1
baz=71,SNR=10
C24A Savage 71.40 318 ⇑P P 08 18 44.7 +0.2
baz=71
FFC Flin Flon 71.41 326 P P 08 18 43.0 -1.3
comp=Z,159nm,1.0s,SNR=13
FFC Flin Flon 71.41 326 eP P 08 18 43.1 -1.3
FFC Flin Flon 71.41 326 eP P 08 18 43.1 -1.3
DGMT Dagmar 71.41 319 ⇓P P 08 18 44.7 +0.1
baz=71,SNR=21
DGMT Dagmar 71.41 319 eP P 08 18 45.0 +0.4
comp=Z,90nm,1.1s
O23A Lake Granby, G 71.42 310 ⇓P P 08 18 45.1 +0.1
baz=71
M23A Laramie 71.42 311 ⇑P P 08 18 44.9 -0.1
baz=71,SNR=13
LPM Los Pinos Moun 71.44 304 eP P 08 18 46.0 +0.8
L23A Garrett 71.48 312 ⇑P P 08 18 45.2 -0.2
baz=72
K23A Bowen Ranch, D 71.51 313 ⇓P P 08 18 45.0 -0.4
baz=72
N23A Red Feather La 71.51 311 ⇑P P 08 18 45.5 -0.1
baz=72,SNR=11
Z22A Elephant Butte 71.65 303 ⇑P P 08 18 46.1 -0.3
baz=72,SNR=7.0
G23A Biddle 71.68 315 ⇓P P 08 18 46.2 -0.2
baz=72,SNR=12
F23A Volborg 71.77 316 ⇓P P 08 18 46.6 -0.3
baz=72,SNR=24
V22A San Miguel Ran 71.79 305 ⇑P P 08 18 47.8 +0.5
baz=72
E23A Ismay 71.82 317 ⇓P P 08 18 47.1 +0.1
baz=72,SNR=8.7
KMBO Kilima Mbogo 71.84 94 LR LR 08 46 55.1
comp=Z,440nm,21.9s,baz=349,slow=33
D23A Lindsay 71.86 317 ⇑P P 08 18 47.8 +0.4
baz=72,SNR=27
LAZ Ladron 71.87 304 eP P 08 18 47.8 0.0
comp=Z,13nm,1.2s
S22A 4UR Ranch, Cre 71.88 307 ⇑P P 08 18 47.8 -0.1
baz=72,SNR=8.0

N22A	Wattenberg Ran	71.89	311	⇊P	P	08 18 48.1	+0.2
	baz=72						
O22A	Kremmling	71.89	310	⇊P	P	08 18 47.6	-0.3
	baz=72						
B23A	Brockton	71.93	319	⇊P	P	08 18 48.1	+0.4
	baz=72,SNR=12						
A23A	Redstone	71.94	319	⇑P	P	08 18 47.9	+0.1
	baz=72,SNR=9.9						
C23A	Lambert	71.95	318	⇊P	P	08 18 48.2	+0.3
	baz=72,SNR=21						
P22A	Eagle	71.99	309	⇑P	P	08 18 48.6	+0.1
	baz=72,SNR=14						
L22A	Ellis Ranch, M	72.01	312	⇑P	P	08 18 48.4	-0.2
	baz=72						
M22A	Cedar Creek Ra	72.06	311	⇑P	P	08 18 49.0	+0.1
	baz=72,SNR=7.9						
ANN	Anapa	72.07	45	eP	P	08 18 57.6	+9.1
ANN				i *PP	PcP	08 19 00.6	-6.4
ANN				i		08 19 11.9	
ANN				pmax	pmax		
	comp=Z,110nm,1.5s						
SMCO	Snowmass	72.12	309	eP	P	08 18 49.9	+0.4
	comp=Z,17nm,1.1s						
K22A	Casper	72.15	312	⇑P	P	08 18 48.7	-0.6
	baz=72						
K22A	Casper	72.15	312	eP	P	08 18 49.0	-0.3
	comp=Z,11nm,1.1s						
J22A	Midwest	72.21	313	⇊P	P	08 18 49.0	-0.7
	baz=72						
E22A	Miles City	72.25	316	⇊P	P	08 18 49.6	-0.1
	baz=72,SNR=22						
H22A	Clearmont	72.27	314	⇊P	P	08 18 49.8	-0.1
	baz=72,SNR=6.1						
I22A	9 Mile Ranch,	72.28	314	⇊P	P	08 18 49.8	-0.1
	baz=72,SNR=16						
121A	Cookes Peak, D	72.30	302	⇑P	P	08 18 50.5	+0.1
	baz=72,SNR=5.3						
121A	Cookes Peak, D	72.30	302	eP	P	08 18 50.6	+0.2
	comp=Z,14nm,1.1s						
G22A	Birney	72.31	315	⇊P	P	08 18 50.1	-0.1
	baz=72,SNR=12						
F22A	Rosebud	72.37	316	⇊P	P	08 18 50.1	-0.2
	baz=72,SNR=8.9						
C22A	Vida	72.41	318	⇊P	P	08 18 50.9	+0.3
	baz=72,SNR=17						
LAO	LASA Array	72.47	317	eP	P	08 18 51.0	0.0
	comp=Z,61nm,1.1s						
D22A	Cohagen	72.51	317	⇑P	P	08 18 51.8	+0.6
	baz=72,SNR=33						
B22A	Reddig Ranch S	72.57	318	⇑P	P	08 18 51.9	+0.3
	baz=72						
A22A	Carney Farms,	72.62	319	⇊P	P	08 18 51.7	-0.1
	baz=73,SNR=19						
K21A	Alcova	72.68	312	⇑P	P	08 18 51.9	-0.6
	baz=73,SNR=11						
JOF	Joensuu	72.73	26	eP	P	08 18 50.5	-1.6
JOF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JOF	Joensuu	72.73	26	ep	P	08 18 50.5	-1.6
	comp=Z,3.4nm,0.8s						
H21A	Big Horn, Sher	72.77	314	⇑P	P	08 18 52.5	-0.4
	baz=73,SNR=8.3						
I21A	Big Trails, Te	72.85	314	⇑P	P	08 18 53.1	-0.3
	baz=73,SNR=34						
J21A	Lysite	72.91	313	⇑P	P	08 18 53.6	-0.3
	baz=73,SNR=20						
G21A	Lodge Grass	72.96	315	⇑P	P	08 18 54.0	0.0
	baz=73						
F21A	Absaloka Mine,	72.97	316	⇑P	P	08 18 54.4	+0.3
	baz=73						
E21A	Keefer Ranch,	73.04	316	⇑P	P	08 18 54.6	+0.3
	baz=73,SNR=9.8						
D21A	La Casta Ranch	73.05	317	⇑P	P	08 18 55.1	+0.6
	baz=73,SNR=12						
ARCES	ARCESS Array B	73.10	19	P	P	08 18 56.3	+2.1
	comp=Z,3.8nm,0.7s,baz=259,slow=5.7,SNR=6.2						
MVCO	Mesa Verde	73.16	307	⇊P	P	08 18 55.4	-0.1
	baz=73						
MVCO	Mesa Verde	73.16	307	eP	P	08 18 55.8	+0.3
	comp=Z,64nm,2.0s						
O20A	White River Ci	73.18	310	⇑P	P	08 18 55.7	+0.1
	baz=73,SNR=29						
O20A	White River Ci	73.18	310	eP	P	08 18 56.1	+0.6
N20A	Spence Gulch,	73.26	310	⇊P	P	08 18 56.0	0.0
	baz=73,SNR=9.1						
B21A	Ellsworth Farm	73.26	318	⇑P	P	08 18 56.4	+0.8
	baz=73						
PV01	Paradox Valley	73.28	308	eP	P	08 18 56.6	+0.4
	comp=Z,2μm,1.1s						
A21A	Bergtoll Ranch	73.28	319	⇑P	P	08 18 55.7	0.0
	baz=73,SNR=16						
OBN	Obninsk	73.29	35	i P	P	08 18 54.4	-1.1
OBN				i		08 19 02.4	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,190nm,16.0s						
J20A	Shoshoni	73.37	313	⇊P	P	08 18 56.6	+0.1
	baz=73,SNR=22						
H20A	Greybull	73.43	314	⇊P	P	08 18 56.7	-0.1
	baz=73,SNR=9.2						
I20A	Worland	73.46	314	⇑P	P	08 18 56.9	-0.1
	baz=73,SNR=27						
319A	Douglas	73.52	301	⇊P	P	08 18 57.7	0.0
	baz=74						
PV04	Paradox Valley	73.56	308	eP	P	08 18 57.8	+0.1
G20A	Bridger	73.66	315	⇊P	P	08 18 58.2	0.0
	baz=74,SNR=12						
KEV	Kevo	73.67	19	eP	P	08 19 01.5	+4.0
KEV	Kevo	73.67	19	ep	P	08 19 01.5	+4.0
	comp=Z,0.5nm,0.4s						
F20A	Billings	73.68	316	⇑P	P	08 18 58.2	-0.1
	baz=74						
E20A	Meyer Farm, Mu	73.75	316	⇑P	P	08 18 58.6	0.0
	baz=74,SNR=9.8						
C20A	Veseth Ranch,	73.82	318	⇊P	P	08 18 59.0	+0.1
	baz=74,SNR=12						
D20A	Manuel Ranch,	73.83	317	⇑P	P	08 18 59.2	+0.1
	baz=74,SNR=17						
A20A	Cobblestone Ra	73.92	319	⇑P	P	08 18 59.6	+0.1
	baz=74,SNR=23						
B20A	Solberg Farm,	73.92	318	⇑P	P	08 18 59.7	+0.2
	baz=74,SNR=12						
W18A	Petrified Fore	74.04	304	⇑P	P	08 19 00.3	-0.3
	baz=74						
J19A	Crowheart	74.06	313	⇊P	P	08 19 00.4	-0.2
	baz=74,SNR=24						
I19A	Meeteetse	74.09	314	⇊P	P	08 19 00.7	-0.1
	baz=74,SNR=12						
VSR	Storozhevoye	74.14	39	eP	P	08 18 59.6	-1.1
VSR				pmax	pmax		
	comp=N,4.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,8.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
H19A	Powell	74.15	314	⇑P	P	08 19 01.3	+0.2
	baz=74,SNR=19						
VORD	Divnogorie	74.19	39	eP	P	08 19 00.1	-0.8
VORD				pmax	pmax		
	comp=N,5.0nm,0.9s						
VORD				pmax	pmax		
	comp=Z,20nm,0.9s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.8s						
X18A	Snowflake	74.19	304	⇊P	P	08 19 01.7	+0.1
	baz=74,SNR=7.0						
E19A	Rath Farm, Rou	74.20	316	⇊P	P	08 19 01.3	+0.1
	baz=74,SNR=22						
F19A	Roth Farm, Mol	74.24	316	⇊P	P	08 19 01.3	-0.2
	baz=74,SNR=9.1						
D19A	Cripps Ranch,	74.34	317	⇊P	P	08 19 01.8	-0.3
	baz=74,SNR=12						
BW06	Boulder Array	74.39	312	eP	P	08 19 01.6	-1.0
	comp=E,37nm,1.4s						
PDAR	Pinedale Array	74.39	312	P	P	08 19 02.3	-0.3
	comp=E,6.9nm,0.7s,baz=99,slow=6.3,SNR=27						
PDAR				LR	LR	08 47 18.4	
	comp=E,279nm,21.6s,baz=118,slow=32						
A19A	Klindworth Far	74.46	319	⇊P	P	08 19 02.5	-0.2
	baz=74,SNR=11						
C19A	Slack Wire Ran	74.52	317	⇑P	P	08 19 03.1	0.0
	baz=74,SNR=17						
B19A	Brinkman Farms	74.53	318	⇑P	P	08 19 03.0	-0.1
	baz=74						
H18A	Shoshone NF, C	74.63	314	⇊P	P	08 19 03.8	-0.2
	baz=75,SNR=7.5						
TUC	Tucson	74.83	301	eP	P	08 19 05.4	+0.2
TUC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TUC	Tucson	74.83	301	eP	P	08 19 05.3	+0.2
	comp=Z,8.2nm,0.8s						
SRU	San Rafael Swe	74.87	308	eP	P	08 19 06.6	+1.2
SRU				pmax	pmax		
	comp=Z,27nm,1.3s						
SRU	San Rafael Swe	74.87	308	eP	P	08 19 06.6	+1.2
	comp=Z,27nm,1.3s						
EGMT	Eagleton	75.03	318	⇑P	P	08 19 06.0	0.0
	baz=75						
EGMT	Eagleton	75.03	318	eP	P	08 19 05.6	-0.4
	comp=Z,15nm,1.1s						
APA	Apatity	75.05	22	⇊i P	P	08 19 06.6	+1.0
APA				i		08 19 16.0	
APA				i S	S	08 28 50.0	+6.6
APA				i		08 29 08.0	
APA				i PS	PnS	08 29 26.0	+7.7
APA				i SS	SS	08 33 26.0	-6.0
APA				i SSS	SSS	08 36 50.0	
APA				MLR	MLR		
	comp=Z,1μm,13.0s						
LKWY	Lake	75.15	314	eP	P	08 19 08.0	+1.0
LKWY				pmax	pmax		
	comp=Z,12nm,0.9s						
LKWY	Lake	75.15	314	eP	P	08 19 08.0	+1.0
	comp=Z,12nm,0.9s						
LOHW	Long Hollow	75.22	313	eP	P	08 19 07.4	+0.1
I17A	Pilgrim Ck.	75.22	313	⇑P	P	08 19 08.0	+0.6
	baz=75,SNR=18						
H17A	Grant Village	75.26	314	⇑P	P	08 19 08.5	+0.9
	baz=75						
H17A	Grant Village	75.26	314	eP	P	08 19 09.3	+1.7
	comp=Z,13nm,1.1s						
FLWY	Flagg Ranch	75.32	314	eP	P	08 19 08.5	+0.6
	comp=Z,28nm,0.8s						
YNR	Norris Junctio	75.36	314	eP	P	08 19 09.5	+1.3
	comp=Z,18nm,1.2s						
REDW	Red Top Meadow	75.38	313	eP	P	08 19 08.0	-0.3
	comp=Z,42nm,1.4s						
WUAZ	Wupatki	75.39	305	⇑P	P	08 19 08.9	+0.4
	baz=75						
WUAZ	Wupatki	75.39	305	eP	P	08 19 12.4	+3.9
	comp=Z,25nm,0.9s						
TMUT	Trail Mountain	75.41	309	eP	P	08 19 09.8	+1.2
	comp=Z,53nm,1.9s						
X16A	Lo Mia Camp, P	75.42	304	⇑P	P	08 19 09.2	+0.5
	baz=75,SNR=9.2						
YFT	Old Faithful	75.45	314	eP	P	08 19 10.4	+1.7
	comp=Z,93nm,1.7s						
TPAW	Teton Pass	75.46	313	eP	P	08 19 08.9	+0.1
	comp=Z,20nm,0.9s						
IMW	Indian Meadow	75.48	313	eP	P	08 19 09.2	+0.2
	comp=Z,36nm,1.3s						
DAU	Daniels Canyon	75.50	310	eP	P	08 19 09.9	+0.7
DAU	Daniels Canyon	75.50	310	eP	P	08 19 09.8	+0.7
FXWY	Fox Creek	75.53	313	eP	P	08 19 09.0	-0.1
	comp=Z,35nm,1.5s						
YMR	Madison River	75.56	314	eP	P	08 19 10.2	+0.9
	comp=Z,43nm,0.8s						
JLU	Jordanelle	75.66	310	eP	P	08 19 10.7	+0.7
	comp=Z,32nm,1.5s						
VRHR	Novokhopersk	75.66	39	eP	P	08 19 08.2	-1.2
VRHR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=E,2.0nm,0.9s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KIV	Kislovodsk	75.73	47	eP	P	08 19 11.2	+1.1
KIV				pmax	pmax		
	comp=Z,31nm,1.0s						
HWUT	Hardware Ranch	75.80	311	eP	P	08 19 10.7	0.0
	comp=Z,21nm,0.8s						
KBZ	Khabaz	75.87	47	P	P	08 19 11.0	+0.3
	comp=Z,6.9nm,1.0s,baz=256,slow=7.5,SNR=4.5						
CTU	Camp Tracy	75.89	310	eP	P	08 19 11.9	+0.7
	comp=Z,11nm,1.1s						
QLMT	Earthquake Lak	75.90	314	eP	P	08 19 12.4	+1.2
KLMR	Klimovskoe	75.96	29	eP	P	08 19 08.6	-2.3
KLMR				pmax	pmax		
	comp=Z,53nm,1.3s						
NLU	North Lily Min	76.11	309	eP	P	08 19 13.8	+1.2
	comp=Z,12nm,1.1s						
MVU	Marysvale	76.16	308	eP	P	08 19 14.1	+1.2
	comp=Z,15nm,0.9s						
U15A	North Rim	76.16	306	⇊P	P	08 19 13.6	+0.6
	baz=76,SNR=6.6						
HRY	Holter Researc	76.31	316	eP	P	08 19 13.0	-0.5
214A	Organ Pipe Nat	76.54	301	⇊P	P	08 19 15.2	+0.3
	baz=76						
214A	Organ Pipe Nat	76.54	301	eP	P	08 19 15.0	0.0
	comp=Z,11nm,1.0s						
DUG	Dugway, Tooele	76.68	310	eP	P	08 19 16.3	+0.6
DUG				pmax	pmax		
	comp=Z,35nm,1.5s						
DUG	Dugway, Tooele	76.68	310	⇊P	P	08 19 16.1	+0.4
	baz=77,SNR=8.6						
DUG	Dugway, Tooele	76.68	310	eP	P	08 19 16.3	+0.6
	comp=Z,34nm,1.5s						
LRM	Limekiln Ridge	76.68	315	eP	P	08 19 16.0	+0.3
Y14A	Wickenburg	76.71	303	⇊P	P	08 19 15.9	0.0
	baz=77						
DLMT	Dillon	76.76	315	eP	P	08 19 16.8	+0.8
	comp=Z,23nm,1.1s						
BGU	Big Grassy Mou	76.87	310	eP	P	08 19 17.6	+0.8
	comp=Z,10nm,1.2s						
MCMT	McKenzie Canyo	76.91	314	eP	P	08 19 15.8	-1.2
	comp=Z,3.1nm,1.0s						
CCUT	Cedar City	77.04	307	eP	P	08 19 19.0	+1.1
	comp=Z,20nm,1.1s						
GNI	Garni	77.08	51	P	P	08 19 19.0	+1.0
GNI				pmax	pmax		
	comp=Z,27nm,1.8s						
ARUT	Antelope Range	77.11	307	eP	P	08 19 18.8	+0.6
ARUT				pmax	pmax		
	comp=Z,246nm,1.0s						
ARUT	Antelope Range	77.11	307	eP	P	08 19 18.8	+0.6
	comp=Z,246nm,1.0s						
CHMT	Chamberlain Mo	77.30	316	eP	P	08 19 19.0	-0.1
113A	Mohawk Valley,	77.35	302	⇊P	P	08 19 19.2	-0.1
	baz=77						
W13A	Hualapai Mount	77.44	304	⇑P	P	08 19 20.6	+0.5
	baz=77						
SLMT	Seeley Lake	77.48	317	eP	P	08 19 20.9	+0.9
PDMCI	Parker Dam,Lak	77.65	303	⇊P	P	08 19 21.2	+0.1
	baz=78						
MSO	Missoula	77.77	316	⇑P	P	08 19 21.6	0.0
	baz=78						
MSO	Missoula	77.77	316	eP	P	08 19 21.8	+0.2
	comp=Z,15nm,1.3s						
EDM	Edmonton	77.79	323	eP	P	08 19 21.5	0.0
EDM	Edmonton	77.79	323	eP	P	08 19 21.5	0.0
SWMT	Swartz Lake	77.84	317	eP	P	08 19 21.8	-0.3
WALA	Waterton Lakes	77.86	319	eP	P	08 19 21.8	-0.3
YBMT	Yellow Bay	77.86	317	eP	P	08 19 22.4	+0.2
RAYN	Ar Rayn	77.87	68	eP	P	08 19 24.1	+1.5
	comp=Z,9.9nm,1.3s						
Y12C	Blythe	77.97	303	⇊P	P	08 19 23.0	+0.1
	baz=78						
HLID	Hailey	77.98	313	⇑P	P	08 19 23.3	+0.3
	baz=78,SNR=16						
HLID	Hailey	77.98	313	eP	P	08 19 23.4	+0.5
	comp=Z,12nm,1.0s						
JTMT	Jette	78.04	317	eP	P	08 19 22.9	-0.2
BLMT	Blacktail Moun	78.11	317	eP	P	08 19 24.0	+0.3
BSMT	Bassoo Peak	78.39	317	eP	P	08 19 25.5	+0.4
IRM	Iron Mountain	78.49	303	⇑P	P	08 19 25.6	-0.2
	baz=78						
ELK	Elko	78.54	310	eP	P	08 19 26.6	+0.4
ELK				pmax	pmax		
	comp=Z,32nm,1.8s						
ELK	Elko	78.54	310	eP	P	08 19 26.6	+0.4
	comp=Z,32nm,1.8s						
BC3	Big Chuckawall	78.75	303	⇊P	P	08 19 27.0	-0.3
	baz=79						
R11A	Troy Canyon, C	78.81	308	⇊P	P	08 19 27.3	-0.3
	baz=79						
R11A	Troy Canyon, C	78.81	308	eP	P	08 19 27.9	+0.3
	comp=Z,16nm,1.4s						
GMRC	Granite Mounta	78.90	304	⇑P	P	08 19 28.4	+0.2
	baz=79						
PRGR	Permogore	78.99	29	eP	P	08 19 26.3	-1.6
PRGR				pmax	pmax		
	comp=Z,42nm,1.5s						
MFID	Camas Ranch	79.01	313	eP	P	08 19 29.2	+0.7
	comp=Z,59nm,2.5s						
BELC	Belle Mtn. Jos	79.20	303	⇊P	P	08 19 30.1	+0.3
	baz=79						
YKA	Yellowknife Ar	79.25	332	P	P	08 19 27.8	-1.5
	comp=Z,12nm,0.8s,baz=98,slow=5.7,SNR=34						
GSC	Goldstone, Bar	79.83	305	eP	P	08 19 36.3	+3.1
GSC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GSC	Goldstone, Bar	79.83	305	eP	P	08 19 36.3	+3.1
	comp=Z,10nm,0.9s						
VNA2	Neumayer--Watz	79.93	171	P	P	08 19 31.1	-1.6
	baz=304,slow=14						
NEW	Newport	79.96	318	eP	P	08 19 33.3	-0.3
NEW				pmax	pmax		
	comp=Z,25nm,1.6s						
NEW	Newport	79.96	318	⇊P	P	08 19 33.3	-0.3
	baz=80						
NEW	Newport	79.96	318	eP	P	08 19 33.3	-0.3
	comp=Z,25nm,1.6s						
BMN	Battle Mountai	80.05	310	eP	P	08 19 35.0	+0.6
BMN				pmax	pmax		
	comp=Z,20nm,1.3s						
BMN	Battle Mountai	80.05	310	eP	P	08 19 35.0	+0.6
	comp=Z,20nm,1.3s						
TPH	Tonopah	80.10	307	eP	P	08 19 35.3	+0.6
TPH				pmax	pmax		
	comp=Z,23nm,1.0s						
TPH	Tonopah	80.10	307	eP	P	08 19 35.3	+0.6
	comp=Z,23nm,1.0s						
DAC	Darwin (Calif)	80.44	306	eP	P	08 19 37.7	+1.1
DAC				pmax	pmax		
	comp=Z,12nm,1.1s						
DAC	Darwin (Calif)	80.44	306	eP	P	08 19 37.7	+1.1
	comp=Z,12nm,1.1s						
E09A	Wood Farm, Sta	80.66	316	eP	P	08 19 36.8	-0.4
	comp=Z,33nm,1.5s						
NVAR	Mina Array Bea	80.94	308	P	P	08 19 40.1	+0.8
	comp=Z,2.9nm,0.9s,baz=97,slow=5.7,SNR=9.3						
WVOR	Wild Horse Val	81.08	312	eP	P	08 19 40.9	+1.1
WVOR				pmax	pmax		
	comp=Z,68nm,1.9s						
WVOR	Wild Horse Val	81.08	312	eP	P	08 19 40.9	+1.1
	comp=Z,68nm,1.9s						
ISA	Isabella, Lake	81.18	305	eP	P	08 19 42.1	+1.7
ISA	Isabella, Lake	81.18	305	eP	P	08 19 42.1	+1.7
SNAA	Sanae	81.30	170	P	P	08 19 45.7	+5.5
WAKR	Walker	81.83	308	eP	P	08 19 45.8	+1.9
MOD	Modoc Plateau	82.33	311	eP	P	08 19 48.0	+1.5
ARU	Arti	85.72	34	d/i P	P	08 20 04.1	+0.9
ARU						08 23 16.8	
ARU				S	S	08 30 29.6	-6.2
ARU				SS	SS	08 36 09.1	-2.7
ARU				pmax	pmax		
	comp=Z,18nm,1.7s						
ARU	Arti	85.72	34	eP	P	08 20 04.0	+0.8
	comp=Z,8.2nm,0.8s						
AKTO	Aktyubinsk	86.05	40	LR	LR	08 56 47.1	
	comp=Z,147nm,21.5s,baz=275,slow=34						
DLBC	Dease Lake	86.99	328	P	P	08 20 10.6	+1.0
	comp=Z,19nm,1.2s,baz=52,slow=5.7,SNR=6.1						
ABKAR	Akbulak array	87.43	41	eP	P	08 20 12.3	+0.5
GEYT	Alibeck	87.58	52	P	P	08 20 13.0	+0.2
	comp=Z,1.4nm,0.7s,baz=302,slow=8.3,SNR=3.0						
GEYT				LR	LR	09 02 05.2	
	comp=Z,94nm,18.8s,baz=350,slow=38						
SYO	Syowa Base	90.89	160	⇑eP	P	08 20 28.4	+0.9
ILAR	Eielson Array	93.00	337	P	P	08 20 36.6	-0.9
	comp=Z,3.0nm,1.0s,baz=55,slow=3.5,SNR=13						
ILAR				PP	PP	08 24 20.3	+0.4
	comp=Z,1.5nm,1.1s,baz=73,slow=6.8,SNR=6.0						
ILAR				LR	LR	08 59 36.0	
	comp=Z,320nm,20.5s,baz=78,slow=34						
BRVK	Borovoye	93.03	36	P	P	08 20 37.0	-0.8
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BVAR	Borovoye Array	93.10	36	LR	LR	08 59 40.1	
	comp=Z,227nm,21.8s,baz=295,slow=34						
COLA	College	93.33	337	P	P	08 20 40.0	+1.0
COLA				pmax	pmax		
	comp=Z,47nm,2.0s						
KSH	Kashi	100.84	48	eP	Pdif	08 21 12.8	-0.9
KSH				pP	pP	08 21 17.7	+0.6
KSH				PP	PP	08 25 22.7	+1.5
KSH				SKS	SKSac	08 31 50.0	-3.4
KSH				S	Sdif	08 32 44.2	-7.9
KSH				sS	sS	08 32 53.2	-4.6
KSH				SS	SS	08 39 45.2	-4.1
KSH				PMZ			
	comp=Z,2.0nm,0.4s						
KSH				PMZ			
	comp=Z,74nm,4.9s						
KSH				LN			
	comp=Z,87nm,4.3s						
KSH				LE			
	comp=Z,91nm,4.9s						
KSH				LZ			
	comp=Z,140nm,6.1s						
RKT	Rikitea	102.55	248	eLR	LR	08 54 55.1	
	comp=Z,503nm,42.0s						
PAF	Port-aux-Franc	104.81	139	SS	SS	08 41 07.0	+23
PAF				R		08 55 00.0	
WMQ	Urumqi	107.20	40	ePdif	Pdif	08 21 44.1	+2.3
WMQ				S	Sdif	08 33 44.5	-0.4
WMQ				PPMZ			
	comp=Z,160nm,5.0s						
WMQ				LN			
	comp=Z,290nm,25.0s						
WMQ				LE			
	comp=Z,230nm,25.0s						
WMQ				LZ			
	comp=Z,300nm,21.0s						
SONM	Songino Array	115.25	28	PP	PP	08 27 03.1	-2.6
	comp=Z,0.8nm,0.9s,baz=308,slow=7.0,SNR=4.5						
PPT2	Papeete2	116.18	254	eSS	SS	08 43 07.5	-10
	comp=Z,134nm,25.5s						
PPT2	Papeete2	116.18	254	eLR	LR	09 01 13.0	
	comp=Z,206nm,23.0s						
GTA	Gaotai	117.22	39	ePKP	PKPdf	08 26 12.7	+2.5
HHC	Hu-ho-hao-te	122.89	30	ePKP	PKPdf	08 26 21.9	+0.9
HHC				SKS	SKSdf	08 33 28.1	-5.4
HHC				PPMZ			
	comp=Z,200nm,8.0s						
HHC				LN			
	comp=Z,470nm,17.3s						
HHC				LE			
	comp=Z,470nm,16.0s						
HHC				LZ			
	comp=Z,450nm,18.5s						
CD2	Chengdu	124.86	44	ePKP	PKPdf	08 26 24.3	-0.7
CD2				PP	PP	08 28 18.2	+5.9
CD2				SKKS		08 35 06.4	
CD2				PPMZ			
	comp=Z,160nm,10.4s						
CD2				LE			
	comp=Z,340nm,18.0s						
CD2				LZ			
	comp=Z,430nm,17.1s						
BJI	Beijing	125.74	28	PKP	PKPdf	08 26 24.8	-1.5
BJI				LN			
	comp=Z,370nm,15.6s						
BJI				LE			
	comp=Z,220nm,25.2s						
BJI				LZ			
	comp=Z,190nm,20.4s						
KMI	Kunming	127.33	51	PKP	PKPdf	08 26 30.5	+0.4
KMI				PP	PP	08 28 33.2	+4.0
KMI				LN			
	comp=Z,230nm,14.4s						
KMI				LE			
	comp=Z,170nm,20.4s						
KMI				LZ			
	comp=Z,240nm,21.0s						
CMAR	Chiang Mai Arr	127.35	60	PKP	PKPdf	08 26 32.0	+2.0
	comp=Z,1.1nm,0.4s,baz=290,slow=4.2,SNR

QIZ LZ
comp=Z,120nm,46.3s
MBWA Marble Bar 151.27 122 *e*PKPbc **PKPbc 08 27 20.4 +1.7**
ASAR Alice Springs 160.01 147 PKP **PKPdf 08 27 24.6 +0.1**
comp=Z,3.9nm,1.1s,baz=158,slow=1.2,SNR=17
AS31 Alice Springs 160.01 147 *e*PKPdf **PKPdf 08 27 25.7 +1.3**
WRA Warramunga Arr 163.14 140 PKP **PKPdf 08 27 28.5 +0.7**
comp=Z,2.0nm,1.1s,baz=225,slow=1.5,SNR=6.2
WRA PKPab **PKPab 08 28 19.9 +2.3**
comp=Z,1.9nm,1.2s,baz=209,slow=3.6,SNR=3.5

*IDC **10** 08:10:35.2±0.7, 34°.76S×72°.85W, h0km, mb4.1/9, mb1 4.2/12, mb1mx4.1/29, mbtmp4.0/12, ML3.9/3, MS3.5/2, Ms1 3.4/2, ms1mx3.1/20, Error ellipse: s-maj=29.2km s-min=16.4km az=84.0*
*GUC **10** 08:10:35.0±0.7, 34°.68S×73°.01W, h25km±8km, ML4.6*
*ISCJB **10** 08:10:38.6±0.5, 34°.73S±0°.04×72°.74W±0°.09, h33km, mb4.0/10, MS3.8/1, Error ellipse: s-maj=10.5km s-min=5.7km az=2.6*
*NEIC **10** 08:10:40.5±0.4, 34°.75S×72°.69W, h35km, mb4.3/1, Error ellipse: s-maj=11.4km s-min=6.9km az=83.0*
ISC 10 08:10:40.4±0.6, 34°.72S±0°.05×72°.83W±0°.09, h35km, n34, σ1§26/36, mb4.1/10, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.35**	**102**	*e*P	**Pn**	**08 11 00.7**	**-2.0**
NICH				*i* S	**Sn**	**08 11 20.4**	**+1.0**
NICH				AML	AML	08 11 21.6	
	comp=N,18μm,0.3s						
COCH	**Cobquecura**	**1.41**	**179**	⇓*i*P	Pn	08 10 59.9	-3.6
COCH				*i* S	**Sn**	**08 11 18.9**	**-1.9**
LNCH	**Linares**	**1.51**	**138**	⇑*i*P	**Pn**	**08 11 03.6**	**-1.3**
LNCH				*i* S	**Sn**	**08 11 24.5**	**+1.2**
LNCH				AML	AML	08 11 27.3	
	comp=N,16μm,0.4s						
IHA	**Instituto Hidr**	**1.96**	**31**	*i* P	**Pn**	**08 11 08.3**	**-2.8**
CLCH	**Cerro Calan**	**2.32**	**56**	⇑*i*P	**Pn**	**08 11 14.0**	**-2.2**
CLCH				AML	AML	08 12 08.1	
	comp=E,2μm,0.5s						
PEL	**Peldehue**	**2.38**	**49**	⇓*i*P	**Pn**	**08 11 15.1**	**-1.8**
PEL				*e*S1	**Sn**	**08 11 45.3**	**+0.4**
PEL				AML	AML	08 11 54.6	
	comp=E,3μm,0.6s						
CFAA	**Coronel Fontan**	**4.95**	**52**	Pn	**Pn**	**08 11 51.2**	**-1.1**
	comp=E,0.8nm,0.3s,baz=230,slow=11,SNR=61						
CFAA				Lg	Lg	08 13 04.7	
	comp=E,1.1nm,0.3s,baz=322,slow=3.5,SNR=6.2						
LCO	**Las Campanas**	**5.97**	**18**	*e*Pn	**Pn**	**08 12 05.5**	**-1.1**
	comp=E,26nm,0.8s						
PLCA	**Paso Flores**	**6.27**	**164**	Pn	**Pn**	**08 12 09.6**	**-0.8**
	comp=E,1.3nm,0.3s,baz=339,slow=9.8,SNR=35						
PLCA				Lg	Lg	08 13 49.6	
	comp=E,0.5nm,0.3s,baz=265,slow=18,SNR=4.9						
PLCA				LR	LR	08 14 06.7	
	comp=E,112nm,20.5s,baz=348,slow=34						
TRQA	**Tornquist**	**9.36**	**114**	Pn	**Pn**	**08 12 50.5**	**-2.2**
LPAZ	**La Paz**	**18.84**	**14**	P	**Pn**	**08 14 59.6**	**+1.0**
	comp=E,0.2nm,0.3s,baz=181,slow=8.3,SNR=9.2						
USHA	**Ushuaia**	**20.34**	**173**	LR	LR	08 24 15.4	
	comp=E,446nm,18.9s,baz=286,slow=40						
SIV	**San Ignacio**	**21.43**	**32**	P	**P**	**08 15 25.5**	**0.0**
	comp=E,6.8nm,0.8s,baz=235,slow=19,SNR=2.4						
NNA	**Nana**	**22.92**	**350**	P	**P**	**08 15 42.1**	**+0.6**
	comp=E,3.5nm,0.4s,baz=206,slow=8.7,SNR=3.8						
VNA3	**Neumayer Olymp**	**48.94**	**157**	P	**P**	**08 19 25.6**	**+2.9**
SNAA	**Sanae**	**51.17**	**158**	P	**P**	**08 19 39.9**	**+0.3**
	comp=E,1.7nm,1.0s,baz=315,slow=16,SNR=3.2						
QSPA	**South Pole Qui**	**55.52**	**180**	P	**P**	**08 20 12.1**	**+0.4**
	comp=E,2.1nm,1.0s,baz=132,slow=4.6,SNR=3.5						
TXAR	**Lajitas Array**	**70.05**	**332**	P	**P**	**08 21 49.0**	**+0.2**
	comp=E,1.1nm,0.8s,baz=149,slow=8.0,SNR=4.4						
BOSA	**Boshof**	**80.31**	**118**	P	**P**	**08 22 48.1**	**-0.1**
	comp=E,3.2nm,1.0s,baz=233,slow=5.4,SNR=3.6						
NVAR	**Mina Array Bea**	**84.11**	**326**	P	**P**	**08 23 07.8**	**+0.1**
	comp=E,0.8nm,0.8s,baz=152,slow=6.6,SNR=3.9						
PDAR	**Pinedale Array**	**84.11**	**334**	P	**P**	**08 23 08.1**	**+0.5**
	comp=E,1.1nm,1.1s,baz=189,slow=4.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**85.07**	**70**	P	**P**	**08 23 12.4**	**-0.4**
	comp=E,1.2nm,0.5s,baz=266,slow=5.3,SNR=14						
MCMT	**McKenzie Canyo**	**87.10**	**333**	*e*P	**P**	**08 23 23.0**	**+0.5**
	comp=E,1.7nm,1.0s						
WRA	**Warramunga Arr**	**119.81**	**210**	PKP	**PKPdf**	**08 29 26.5**	**-1.0**
	comp=E,0.3nm,0.6s,baz=154,slow=1.7,SNR=3.9						
H11S2	**WAKE ISLAND Hyl**	**25.10**	**269**	T	T	10 47 13.0	
	baz=119,slow=75,SNR=3.6						
H11S1	**WAKE ISLAND Hyl**	**25.12**	**269**	T	T	10 47 11.5	
	baz=119,slow=75,SNR=8.1						
H11S3	**WAKE ISLAND Hyl**	**25.12**	**269**	T	T	10 47 14.0	
	baz=119,slow=75,SNR=6.0						
BVAR	**Borovoye Array**	**148.25**	**43**	PKP	**PKPdf**	**08 30 18.1**	**-0.7**
	comp=E,0.3nm,0.3s,baz=305,slow=5.1,SNR=2.9						
BVAR				PKPbc	**PKiKP**	**08 30 23.4**	**-0.4**
	comp=E,1.1nm,0.7s,baz=267,slow=3.0,SNR=5.4						
AAK	**Ala-Archa**	**153.42**	**63**	PKPbc	**PKPbc**	**08 30 36.5**	**+1.6**
	comp=E,1.6nm,0.8s,baz=196,slow=6.1,SNR=3.0						
KURBB	**Kurchatov Arra**	**153.84**	**44**	PKP	**PKPdf**	**08 30 26.9**	**-0.5**
	comp=E,0.6nm,1.0s,baz=204,slow=2.0,SNR=3.5						
KURBB				PKPbc	**PKPbc**	**08 30 34.9**	**-0.5**
	comp=E,0.6nm,0.8s,baz=302,slow=3.3,SNR=5.8						
KURK	**Kurchatov**	**153.85**	**44**	PKP	**PKPdf**	**08 30 26.9**	**-0.6**
KURK				PKPbc	**PKPbc**	**08 30 34.9**	**-0.5**
ZALV	**Zalesovo Beam**	**155.19**	**32**	PKPbc	PKPbc	08 30 37.9	
	comp=E,0.7nm,0.5s,baz=318,slow=2.0,SNR=3.9						
ZALV				PKPab	**PKPab**	**08 30 55.0**	**+0.9**
	comp=E,1.5nm,0.7s,baz=305,slow=5.2,SNR=4.6						
MKAR	**Makanchi Array**	**157.73**	**50**	PKPab	**PKPab**	**08 31 05.0**	**-0.4**
	comp=E,0.5nm,0.9s,baz=264,slow=4.5,SNR=3.5						
SONM	**Songino Array**	**166.89**	**2**	PKPab	**PKPab**	**08 31 45.9**	**+0.4**
	comp=E,0.3nm,0.8s,baz=0.0,slow=3.6,SNR=3.0						

*CSEM **10** 08:15:57.4, 40°.65N×35°.24E, h7km, MD2.4*
DDA 10 08:15:57.4, 40°.65N×35°.24E, h7km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.35**	**265**	*i* P	Pg	08 16 04.5	+0.1
CTKT				*i* S	Sb	08 16 10.8	-1.2
CTKT	**Corum**	**0.35**	**265**	*i* P	Pg	08 16 04.5	0.0
CTKT				*i* S	Sb	08 16 10.8	-1.3
HAVZ	**Havza**	**0.55**	**40**	*i* P	Pg	08 16 08.2	0.0
HAVZ				*i* S	Sb	08 16 16.7	-1.0
HAVZ	**Havza**	**0.55**	**40**	*i* P	Pg	08 16 08.2	0.0
HAVZ				*i* S	Sb	08 16 16.7	-1.0
BOYT	**Boyabat**	**0.81**	**342**	*i* P	Pg	08 16 12.9	-0.2
BOYT				*i* S	Sg	08 16 23.3	-0.4
BOYT	**Boyabat**	**0.81**	**342**	*i* P	Pg	08 16 12.9	-0.2
BOYT				*i* S	Sg	08 16 23.3	-0.4
CDAG	**Cicekdag**	**1.23**	**213**	*i* P	Pb	08 16 20.4	-0.7
CDAG				*i* S	Sn	08 16 38.3	+0.3
CDAG	**Cicekdag**	**1.23**	**213**	*i* P	Pb	08 16 20.4	-0.6
CDAG				*i* S	Sn	08 16 38.3	+0.3
ILGA	**Ilgaz**	**1.23**	**289**	*i* P	Pb	08 16 20.7	-0.5
ILGA				*i* S	Sn	08 16 38.2	-0.1
ILGA	**Ilgaz**	**1.23**	**289**	*i* P	Pb	08 16 20.7	-0.5
ILGA				*i* S	Sn	08 16 38.2	-0.1
ELDT	**Eldivan**	**1.39**	**264**	*i* P	Pg	08 16 24.2	-0.2
ELDT				*i* S	Sg	08 16 43.4	+0.8
ELDT	**Eldivan**	**1.39**	**264**	*i* P	Pb	08 16 24.2	+0.2
ELDT				*i* S	Sg	08 16 43.4	+0.8

IDC 10 08:18:56.0±2.1, 2°.22N×127°.20E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/32, mbtmp3.3/3, Error ellipse: s-maj=170.8km s-min=24.1km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.11**	**163**	P	P	08 24 02.1	-1.8
	0.7nm,0.6s,baz=341,slow=9.9,SNR=9.7						
ASAR	**Alice Springs**	**26.54**	**166**	P	P	08 24 35.6	-0.2
	0.2nm,0.4s,baz=352,slow=15,SNR=5.9						
MKAR	**Makanchi Array**	**59.06**	**326**	P	P	08 28 59.2	+1.1
	0.1nm,0.3s,baz=113,slow=8.4,SNR=3.8						

*ISCJB **10** 08:41:52.7±1.3, 33°.37S±0°.08×177°.8W±0°.2, h32km, mb4.3/4, MS3.8/1, Error ellipse: s-maj=23.5km s-min=8.1km az=19.3*
*IDC **10** 08:42:00.3±1.1, 33°.00S×178°.53W, h43km±6km, mb4.1/4, mb1 4.3/4, mb1mx3.8/27, mbtmp4.3/4, MS3.9/2, Ms1 3.8/2, ms1mx3.1/26, Error ellipse: s-maj=32.7km s-min=24.4km az=28.0*
ISC 10 08:41:56.8±1.2, 33°.42S±0°.09×177°.9W±0°.1, h32km, n33, σ1§42/40, mb4.4/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.15**	**0**	S	Sn	08 43 31.8	-14
	88nm,0.3s,baz=90,slow=20,SNR=3.6						
RAO				LR	LR	08 44 19.4	
	comp=Z,58nm,19.5s,baz=196,slow=37						
MXZ	**Matakaoa Point**	**5.15**	**215**	*e*PN	**Pn**	**08 43 11.9**	**+0.3**
MXZ				SN	**Sn**	**08 44 11.5**	**+1.7**
WMGZ	**Waiomatatini S**	**5.30**	**213**	*e*PN	**Pn**	**08 43 14.7**	**+1.0**
HAZ	**Te Kaha**	**5.56**	**218**	PN	**Pn**	**08 43 18.1**	**+0.9**
HAZ				SN	**Sn**	**08 44 22.5**	**+2.6**
PUZ	**Puketiti**	**5.58**	**213**	PN	**Pn**	**08 43 17.4**	**-0.2**
PUZ				*e*SN	**Sn**	**08 44 21.9**	**+1.3**
CNGZ	**Carnagh Statio**	**5.95**	**211**	*e*PN	**Pn**	**08 43 22.5**	**-0.1**
MWZ	**Matawai**	**6.13**	**216**	*e*PN	**Pn**	**08 43 25.2**	**0.0**
MWZ				SN	**Sn**	**08 44 35.1**	**+0.8**
URZ	**Urewera**	**6.29**	**218**	P	**Pn**	**08 43 27.8**	**+0.6**
	8.5nm,0.3s,baz=13,slow=3.2,SNR=65						
URZ				S	**Sn**	**08 44 39.0**	**+1.1**
	13nm,0.3s,baz=193,slow=15,SNR=8.4						
URZ	**Urewera**	**6.29**	**218**	*e*PN	**Pn**	**08 43 27.7**	**+0.5**
URZ				SN	**Sn**	**08 44 39.3**	**+1.4**
RAGZ	**Rawiri**	**6.31**	**215**	*e*PN	**Pn**	**08 43 27.4**	**-0.3**
RIGZ	**Rimuhau**	**6.32**	**212**	*e*PN	**Pn**	**08 43 27.5**	**-0.3**
KNZ	**Kokohu**	**6.62**	**211**	PN	**Pn**	**08 43 31.6**	**-0.2**
MHGZ	**Mahia Peninsul**	**6.63**	**209**	*e*PN	**Pn**	**08 43 32.0**	**0.0**
RAHZ	**Arahi**	**6.80**	**215**	SN	**Sn**	**08 44 52.5**	**+1.8**
OUZ	**Omahuta**	**7.23**	**253**	PN	**Pn**	**08 43 41.2**	**+1.1**
BKZ	**Black Stump Fm**	**7.29**	**216**	PN	**Pn**	**08 43 39.7**	**-1.3**
BKZ				SN	**Sn**	**08 45 02.0**	**-0.6**
MCHZ	**McNeill Hill**	**7.41**	**214**	PN	**Pn**	**08 43 43.4**	**+0.8**
KAHZ	**Kahuranaki**	**7.61**	**212**	*e*PN	**Pn**	**08 43 43.7**	**-1.7**
PXZ	**Pawanui**	**7.81**	**211**	SN	**Sn**	**08 45 13.2**	**-2.1**
BFZ	**Birch Farm**	**8.61**	**211**	SN	**Sn**	**08 45 32.5**	**-2.6**
MRZ	**Mangatainoka R**	**8.89**	**214**	*e*PN	**Pn**	**08 44 01.7**	**-1.3**
DZM	**Mont Dzumac**	**17.83**	**305**	LR	LR	08 51 33.6	
	comp=Z,329nm,18.7s,baz=143,slow=33						
STKA	**Stephens Creek**	**33.96**	**261**	LR	LR	09 01 53.3	
	comp=Z,173nm,18.1s,baz=54,slow=36						
CTA	**Charters Tower**	**34.44**	**284**	P	**P**	**08 48 40.2**	**-1.4**
	3.1nm,0.5s,baz=119,slow=11,SNR=6.2						
CTA				pP	**pP**	**08 48 52.4**	**+1.5**
	6.5nm,0.5s,baz=110,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**43.08**	**270**	P	**P**	**08 49 51.9**	**-2.2**
	2.9nm,0.7s,baz=112,slow=7.5,SNR=33						
ASAR				pP	**pP**	**08 50 02.8**	**-0.7**
	3.6nm,0.7s,baz=106,slow=7.4,SNR=10.0						
WRA	**Warramunga Arr**	**44.34**	**275**	P	**P**	**08 50 01.8**	**-2.4**
	3.7nm,0.7s,baz=115,slow=7.7,SNR=32						
WRA				pP	**pP**	**08 50 13.8**	**+0.1**
	7.0nm,0.5s,baz=116,slow=7.7,SNR=15						
QSPA	**South Pole Qui**	**56.70**	**180**	P	P	08 51 42.7	+5.7
	3.5nm,0.9s,baz=4.3,slow=1.3,SNR=12						
FINES	**FINESS Array B**	**147.97**	**338**	PKPbc	**PKPbc**	**09 01 37.9**	**-0.2**
	4.5nm,0.7s,baz=79,slow=4.1,SNR=12						
FINES				pPKPbc	**pPKPbc**	**09 01 51.4**	**+2.9**
	4.4nm,0.5s,baz=62,slow=2.8,SNR=6.0						
NB2	**NORSAR Subarra**	**151.73**	**351**	PKP	**PKPbc**	**09 01 47.9**	**+0.6**
	comp=Z,7.9nm,1.4s,baz=16,slow=4.1						
NOA	**NORSAR Array B**	**151.73**	**351**	PKPbc	**PKPbc**	**09 01 47.6**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=14,slow=4.1,SNR=3.7						
AKASG	**Malin Array Be**	**153.67**	**319**	PKPab	**PKPab**	**09 02 04.0**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=59,slow=4.4,SNR=4.2						
BRTR	**Keskin Array B**	**153.95**	**293**	PKPbc	**PKPbc**	**09 01 53.2**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=138,slow=4.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**159.82**	**179**	PKPab	**PKPab**	**09 02 35.1**	**+3.2**
	comp=Z,0.3nm,0.6s,baz=171,slow=3.9,SNR=3.2						

*IDC **10** 08:45:17.3±0.5, 34°.93S×74°.02W, h0km, mb4.6/14, mb1 4.7/18, mb1mx4.7/24, mbtmp4.6/18, ML4.7/4, MS4.0/18, Ms1 4.0/18, ms1mx3.9/27, Error ellipse: s-maj=20.1km s-min=13.3km az=88.0*
*ISCJB **10** 08:45:17.1±1.7, 34°.97S±0°.03×73°.94W±0°.04, h6km±10km, mb5.0/111, MS4.0/16, Error ellipse: s-maj=5.9km s-min=3.9km az=44.0*
*GUC **10** 08:45:20.2±0.6, 35°.13S×73°.95W, h30km±3km, ML5.0*
*BJI **10** 08:45:21.4, 34°.85S×74°.57W, h35km, mB5.2/15, Ms5.5/13, Ms7 5.1/13*
*MOS **10** 08:45:21.5±1.2, 35°.00S×73°.91W, h33km, mb5.3/30, Error ellipse: s-maj=17.7km s-min=7.7km az=102.4*
*NEIC **10** 08:45:23.1±0.2, 34°.99S×73°.83W, h35km, mb5.1/97, Error ellipse: s-maj=6.1km s-min=4.3km az=65.0*
NEIC Felt at Concepcion, San Antonio and Talca.
*GCMT **10** 08:45:23.1±0.4, 35°.16S×74°.29W, h18km±1km, MW5.1/65, Moment Tensor Solution. s16,c18; s65,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.26±.32; $M_{\theta\theta}$1.05±.17; $M_{\phi\phi}$3.21±.23; $M_{r\theta}$-0.42±.42; $M_{\theta\phi}$1.98±.12; $M_{r\phi}$2.81±.48; Best double couple: $M_0$5.16100×10^{16} NP1:ϕ_S192.00000°, δ61.00000°, λ-109.00000°. NP2: ϕ_S48.00000°, δ34.00000°, λ-59.00000°. Principal axes: T 4.9510, Plg14.0000°, Azm296.0000°; N 0.4210, Plg17.0000°, Azm201.0000°; P -5.3710, Plg68.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 08:45:22.9±0.3, 35°.02S±0°.04×73°.94W±0°.07, h35km±4km, h36km: pP-P, n602, σ0§87/638, mb5.1/111, MS4.0/16, 165C-183D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.46**	**140**	*e*P	**Pn**	**08 45 44.1**	**-2.5**
COCH				*i* S	**Sn**	**08 46 02.1**	**-2.3**
CCSP	**San Pedro de C**	**1.94**	**160**	*e*P1	**Pn**	**08 45 50.8**	**-2.5**
LNCH	**Linares**	**2.08**	**114**	⇑*i*P	**Pn**	**08 45 54.8**	**-0.4**
LNCH				*i* S	**Sn**	**08 46 20.9**	**+1.0**
LNCH				AML	AML	08 46 24.1	
	comp=N,15μm,0.5s						
NICH	**Los Niches**	**2.22**	**90**	⇑*i*P	**Pn**	**08 45 56.4**	**-0.8**
NICH				*i* S	**Sn**	**08 46 24.3**	**+0.9**
NICH				AML	AML	08 46 26.6	
	comp=N,15μm,0.3s						
CLCH	**Cerro Calan**	**3.25**	**61**	⇑*i*P	**Pn**	**08 46 09.6**	**-1.7**
CLCH				*i* S	**Sn**	**08 46 48.4**	**-0.5**
CLCH				AML	AML	08 46 58.1	
	comp=E,2μm,0.7s						
VLCH	**Valdivia**	**4.81**	**174**	⇑*i*P	**Pn**	**08 46 30.3**	**-2.5**
VLCH				*e*S	**Sn**	**08 47 23.6**	**-3.7**
CFAA	**Coronel Fontan**	**5.86**	**56**	Pn	**Pn**	**08 46 46.0**	**-1.3**
	comp=E,3.5nm,0.3s,baz=228,slow=9.7,SNR=175						
CFAA				Sn	**Sn**	**08 47 52.0**	**-1.2**
	comp=E,3.2nm,0.3s,baz=149,slow=23,SNR=11						
PLCA	**Paso Flores**	**6.30**	**156**	*e*P	**Pn**	**08 46 52.8**	**-0.6**
PLCA						08 48 07.3	
PLCA	**Paso Flores**	**6.30**	**156**	Pn	**Pn**	**08 46 53.2**	**-0.2**
	comp=E,13nm,0.3s,baz=326,slow=11,SNR=116						
PLCA				Sn	**Sn**	**08 48 07.3**	**+3.1**
	baz=18,slow=19,SNR=1.4						
PLCA				LR	LR	08 49 19.7	
	comp=E,2μm,20.9s,baz=340,slow=38						
PLCA	**Paso Flores**	**6.30**	**156**	*e*Pn	**Pn**	**08 46 52.8**	**-0.6**
PLCA				Sn	**Sn**	**08 48 07.3**	**+3.1**
LCO	**Las Campanas**	**6.59**	**26**	*e*Pn	**Pn**	**08 46 55.8**	**-1.7**
TRQA	**Tornquist**	**10.09**	**111**	*e*Pn	**Pn**	**08 47 46.5**	**+1.3**
LVC	**Limon Verde**	**13.12**	**21**	*e*Pn	**Pn**	**08 48 27.7**	**+0.8**
CPUP	**Villa Florida**	**16.69**	**63**	*e*P	**P**	**08 49 15.1**	**-0.9**
CPUP	**Villa Florida**	**16.69**	**63**	Pn	**Pn**	**08 49 14.9**	**+0.9**
	comp=E,0.7nm,0.3s,baz=229,slow=11,SNR=8.7						
CPUP				LR	LR	08 56 51.6	
	comp=E,190nm,19.6s,baz=226,slow=42						
CPUP	**Villa Florida**	**16.69**	**63**	*e*Pn	**P**	**08 49 15.1**	**-0.9**
CPUP				*es*P	**sP**	**08 49 29.2**	**-0.5**
LPAZ	**La Paz**	**19.36**	**17**	*e*P	**Pn**	**08 49 47.5**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,15nm,0.9s						
LPAZ	**La Paz**	**19.36**	**17**	P	**P**	**08 49 45.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=185,slow=7.0,SNR=20						
LPAZ				LR	LR	08 57 44.0	
	comp=Z,99nm,18.8s,baz=154,slow=39						
LPAZ	**La Paz**	**19.36**	**17**	*e*P	**Pn**	**08 49 47.5**	**+0.1**
	comp=Z,15nm,0.9s						
USHA	**Ushuaia**	**20.18**	**171**	P	**P**	**08 49 54.1**	**0.0**
	comp=Z,60nm,1.2s,baz=354,slow=1.5,SNR=4.6						
USHA				LR	LR	08 56 47.6	
	comp=Z,453nm,21.5s,baz=319,slow=34						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**20.19**	**150**	Pn	Pn	08 49 55.5	-0.8
	comp=Z,1μm,0.6s,SNR=10.0						
EFI	**East Falkland**	**20.19**	**150**	*e*P	Pn	08 49 55.4	-0.9
EFI				pmax	pmax		
	comp=Z,195nm,0.9s						
EFI	**East Falkland**	**20.19**	**150**	*e*P	Pn	08 49 55.4	-0.9
	comp=Z,195nm,0.9s						
SIV	**San Ignacio**	**22.18**	**35**	P	**P**	**08 50 14.7**	**-1.3**
	comp=Z,7.9nm,0.7s,baz=232,slow=13,SNR=22						
SIV				LR	LR	09 00 18.9	
	comp=Z,116nm,18.5s,baz=242,slow=41						
NNA	**Nana**	**23.08**	**353**	P	**P**	**08 50 27.4**	**+2.0**
	comp=Z,8.5nm,1.0s,baz=197,slow=7.6,SNR=3.7						
NNA				LR	LR	08 57 00.2	
	comp=Z,442nm,21.2s,baz=186,slow=31						
SAML	**Samuel**	**27.75**	**23**	*e*P	**P**	**08 51 06.7**	**-1.6**
	comp=Z,9.6nm,1.1s						
ATAH	**Atahualpa**	**28.05**	**351**	P	**P**	**08 51 13.6**	**+2.2**
	comp=Z,5.3nm,0.7s,baz=148,slow=8.1,SNR=3.9						
ATAH				LR	LR	09 00 21.0	
	comp=Z,323nm,19.2s,baz=200,slow=32						
BDFB	**Brasilia**	**30.20**	**57**	*e*P	**P**	**08 51 29.6**	**-0.6**
BDFB	**Brasilia**	**30.20**	**57**	P	**P**	**08 51 28.8**	**-1.4**
	comp=Z,7.3nm,0.8s,baz=223,slow=10,SNR=10						
BDFB				LR	LR	09 03 04.9	
	comp=Z,136nm,19.6s,baz=216,slow=35						
BDFB	**Brasilia**	**30.20**	**57**	*e*P	**P**	**08 51 29.6**	**-0.6**
PMSA	**Palmer Station**	**30.39**	**172**	LR	LR	09 02 36.0	
	comp=Z,206nm,18.6s,baz=321,slow=34						
OTAV	**Otavalo**	**35.32**	**352**	*e*P	**P**	**08 52 17.8**	**+2.4**
	comp=Z,36nm,1.4s						
OTAV				*e*PcP	**PcP**	**08 54 46.1**	**+0.8**
ROSC	**El Rosal**	**39.66**	**359**	LR	LR	09 08 58.6	
	comp=Z,252nm,18.2s,baz=284,slow=36						
SDV	**Santo Domingo**	**43.77**	**5**	*e*P	**P**	**08 53 24.8**	**-0.6**
	comp=Z,12nm,1.0s						
RCBR	**Riachuelo**	**45.51**	**59**	LR	LR	09 14 16.5	
	comp=Z,387nm,18.5s,baz=212,slow=38						
JTS	**JuntasAbangare**	**46.25**	**345**	P	**P**	**08 53 46.0**	**+1.1**
JTS				pmax	pmax		
	comp=Z,32nm,1.5s						
JTS	**JuntasAbangare**	**46.25**	**345**	P	**P**	**08 53 45.9**	**+1.1**
	comp=Z,5.2nm,1.1s,baz=110,slow=7.0,SNR=3.9						
JTS				LR	LR	09 08 30.8	
	comp=Z,111nm,21.7s,baz=155,slow=30						
JTS	**JuntasAbangare**	**46.25**	**345**	*e*P	**P**	**08 53 47.1**	**+2.3**
	comp=Z,24nm,1.4s						
VNA3	**Neumayer Olymp**	**49.02**	**157**	P	**P**	**08 54 06.4**	**+0.7**
VNA2	**Neumayer--Watz**	**49.69**	**157**	P	**P**	**08 54 11.8**	**+1.0**
SNAA	**Sanae**	**51.24**	**157**	P	**P**	**08 54 23.3**	**+0.6**
SNAA	**Sanae**	**51.24**	**157**	*e*P	**P**	**08 54 23.1**	**+0.5**
SNAA				pmax	pmax		
	comp=Z,70nm,1.2s						
SNAA	**Sanae**	**51.24**	**157**	P	**P**	**08 54 23.1**	**+0.5**
	comp=Z,18nm,1.1s,baz=277,slow=6.4,SNR=15						
SNAA				LR	LR	09 13 21.7	
	comp=Z,75nm,20.6s,baz=256,slow=33						
SNAA	**Sanae**	**51.24**	**157**	*e*P	**P**	**08 54 23.1**	**+0.5**
	comp=Z,70nm,1.2s						
APG	**El Apazote**	**52.16**	**340**	P	**P**	**08 54 27.4**	**-2.9**
	comp=Z,10nm,1.0s,baz=164,slow=15,SNR=4.7						
CELP	**Cerrillos**	**53.26**	**9**	P	**P**	**08 54 37.2**	**-0.8**
QSPA	**South Pole Qui**	**55.22**	**180**	P	**P**	**08 54 52.3**	**+0.2**
	comp=Z,27nm,1.0s,baz=140,slow=4.3,SNR=29						
NVL	**N'lazarevskaya**	**56.01**	**157**	*e*P	**P**	**08 54 56.7**	**-0.8**
NVL				pmax	pmax		
	comp=Z,38nm,1.0s						
GRTK	**Grand Turk**	**56.28**	**3**	*e*P	**P**	**08 55 00.0**	**+0.2**
	comp=Z,185nm,1.3s						
TEIG	**Tepich**	**56.60**	**344**	*e*P	**P**	**08 55 02.2**	**0.0**
VNDA	**Vanda**	**62.80**	**192**	*e*P	**P**	**08 55 45.8**	**+1.6**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
VNDA	**Vanda**	**62.80**

TXAR	Lajitas Array	69.88	333	P	P	08 56 30.0 -0.2
	comp=Z,2.0nm,0.7s,baz=155,slow=8.1,SNR=22					
TXAR				LR	LR	09 22 38.0
	comp=Z,160nm,18.0s,baz=0.0,slow=32					
432A	Menard	69.92	336	⇑P	P	08 56 30.2 -0.1
	baz=70					
431A	Sonora	70.01	336	⇓P	P	08 56 30.9 0.0
	baz=70					
529A	Stev Forest Ra	70.06	334	⇓P	P	08 56 31.4 +0.1
	baz=70,SNR=11					
333A	Richland Sprin	70.07	337	⇑P	P	08 56 31.1 -0.1
	baz=70,SNR=6.4					
KMSC	Kings Mountain	70.14	354	⇑P	P	08 56 31.1 -0.4
	baz=70					
KMSC	Kings Mountain	70.14	354	eP	P	08 56 31.4 -0.1
KMSC				epP	pP	08 56 39.2 -3.2
138A	Matatall Enter	70.19	341	⇑P	P	08 56 31.9 +0.1
	baz=70					
WHTX	Lake Whitney,	70.22	339	⇑P	P	08 56 32.3 +0.2
	baz=71					
WHTX	Lake Whitney,	70.22	339	eP	P	08 56 31.9 -0.2
	comp=Z,38nm,1.4s					
137A	Heron Place, G	70.31	341	⇓P	P	08 56 32.3 -0.3
	baz=71					
430A	Baggett Ranch,	70.32	335	⇑P	P	08 56 32.5 -0.3
	baz=71,SNR=11					
332A	Millersview	70.37	337	⇑P	P	08 56 32.4 -0.7
	baz=71,SNR=8.0					
429A	Davenport Ranc	70.40	335	⇑P	P	08 56 33.0 -0.4
	baz=71,SNR=7.7					
234A	Clairette	70.44	338	⇓P	P	08 56 33.1 -0.4
	baz=71,SNR=11					
331A	San Angelo	70.52	336	⇓P	P	08 56 33.7 -0.3
	baz=71,SNR=6.4					
OXF	Oxford	70.67	346	eP	P	08 56 34.0 -0.7
OXF				pmax	pmax	
	comp=Z,53nm,1.4s					
OXF	Oxford	70.67	346	eP	P	08 56 34.0 -0.7
	comp=Z,53nm,1.4s					
233A	Rising Star	70.69	338	⇑P	P	08 56 34.6 -0.4
	baz=71,SNR=6.6					
232A	Coleman	70.80	337	⇑P	P	08 56 35.3 -0.4
	baz=71					
330A	Mertzon	70.86	336	⇑P	P	08 56 35.7 -0.5
	baz=71					
TKL	Tuckaleechee C	70.91	352	eP	P	08 56 35.4 -0.8
TKL	Tuckaleechee C	70.91	352	eP	P	08 56 35.4 -0.8
134A	White-Moore Ra	70.95	339	⇓P	P	08 56 36.3 -0.2
	baz=71					
231A	Bronte	71.06	336	⇓P	P	08 56 36.7 -0.5
	baz=71					
329A	Wagon Wheel Ra	71.22	335	⇑P	P	08 56 38.0 -0.2
	baz=72,SNR=5.8					
133A	Hamilton Ranch	71.24	338	⇓P	P	08 56 37.8 -0.5
	baz=72,SNR=9.6					
Z35A	Perchaven, San	71.42	340	⇑P	P	08 56 39.0 -0.3
	baz=72					
ABTX	Abilene, Hawle	71.48	337	⇓P	P	08 56 39.3 -0.5
	baz=72					
ABTX	Abilene, Hawle	71.48	337	eP	P	08 56 39.9 +0.1
	comp=Z,45nm,1.4s					
229A	Bryant Ranch,	71.59	335	⇓P	P	08 56 39.9 -0.6
	baz=72					
MIAR	Mount Ida	71.60	343	eP	P	08 56 40.0 -0.4
MIAR				pmax	pmax	
	comp=Z,10.0nm,1.2s					
MIAR	Mount Ida	71.60	343	eP	P	08 56 40.0 -0.4
	comp=Z,9.5nm,1.2s					
Z34A	Collier Ranch,	71.65	339	⇓P	P	08 56 40.3 -0.5
	baz=72					
TZTN	Tazewell	71.76	352	eP	P	08 56 41.8 +0.4
TZTN				ePcP	PcP	08 57 07.0 +6.8
131A	Roby	71.77	337	⇑P	P	08 56 41.1 -0.4
	baz=72					
Z33A	Whitaker Ranch	71.82	338	⇓P	P	08 56 41.3 -0.5
	baz=72					
130A	Snyder	71.89	336	⇓P	P	08 56 41.6 -0.7
	baz=72					
WVT	Waverly	71.96	348	eP	P	08 56 41.9 -0.6
WVT				e*PP	pP	08 56 57.1 +3.6
WVT				pmax	pmax	
	comp=Z,44nm,1.2s					
WVT	Waverly	71.96	348	eP	P	08 56 41.9 -0.6
	comp=Z,44nm,1.2s					
WVT				epP	pP	08 56 57.1 +3.6
228A	UT Block 9, Go	72.00	335	⇑P	P	08 56 42.8 -0.2
	baz=72					
Z32A	Haskell	72.06	338	⇓P	P	08 56 43.1 -0.1
	baz=72,SNR=12					
Y34A	Reagan Ranch,	72.15	339	⇓P	P	08 56 43.5 -0.2
	baz=72					
129A	Stewart Farms,	72.22	335	⇓P	P	08 56 43.9 -0.3
	baz=73					
Z31A	Sharp Cattle R	72.28	337	⇓P	P	08 56 44.3 -0.3
	baz=73,SNR=6.7					
128A	Castleberry Fa	72.42	335	⇑P	P	08 56 45.1 -0.4
	baz=73					
JSRW	J. Sargeant Re	72.44	357	eP	P	08 56 44.9 -0.4
Y33A	Hilltop Ranch,	72.45	339	⇑P	P	08 56 45.3 -0.2
	baz=73					
Z30A	Sanderson Ranc	72.57	336	⇑P	P	08 56 45.8 -0.6
	baz=73,SNR=5.8					
Y32A	R-V Farms, Ver	72.70	338	⇓P	P	08 56 46.6 -0.4
	baz=73					
Z29A	Hungry Hill Ra	72.74	336	⇓P	P	08 56 47.1 -0.2
	baz=73					
X34A	Smith Ranch, M	72.77	340	⇑P	P	08 56 46.9 -0.6
	baz=73					
X33A	Lawton	72.91	339	⇓P	P	08 56 47.8 -0.5
	baz=73					
Y31A	Rekieta Farm,	72.91	337	⇓P	P	08 56 47.9 -0.4
	baz=73					
Z28A	Tucker Farm, M	73.00	335	⇓P	P	08 56 48.4 -0.5
	baz=73					
X32A	Elmer	73.03	338	⇑P	P	08 56 48.8 -0.2
	baz=73					
PBMO	Poplar Bluff	73.06	346	eP	P	08 56 48.5 -0.6
	comp=Z,32nm,1.4s					
Y29A	Porterfield Fa	73.28	336	⇑P	P	08 56 50.1 -0.5
	baz=74					
W34A	Bridge Creek,	73.35	340	⇓P	P	08 56 50.1 -0.7
	baz=74					
X31A	McDonald Ranch	73.44	338	⇓P	P	08 56 51.0 -0.4
	baz=74,SNR=5.5					
TUL1	Leonard	73.45	342	⇑P	P	08 56 51.0 -0.4
	baz=74,SNR=8.3					
TUL1	Leonard	73.45	342	eP	P	08 56 51.0 -0.4
	comp=Z,23nm,1.0s					
W33A	Caddo, Fort Co	73.47	339	⇓P	P	08 56 51.3 -0.2
	baz=74					
Y28A	McKinney Farm,	73.51	336	⇑P	P	08 56 51.6 -0.4
	baz=74					
X30A	Coker Ranch, T	73.55	337	⇓P	P	08 56 52.1 0.0
	baz=74					
W32A	Sentinel	73.67	339	⇓P	P	08 56 52.5 -0.2
	baz=74,SNR=13					
USIN	University of	73.72	349	eP	P	08 56 51.6 -1.4
	comp=Z,40nm,1.2s					
SIUC	Southern Illin	73.74	347	eP	P	08 56 52.5 -0.6
	comp=Z,20nm,0.9s					
MSTX	Muleshoe	73.75	335	⇑P	P	08 56 53.5 +0.1
	baz=74					
MSTX	Muleshoe	73.75	335	eP	P	08 56 53.1 -0.2
	comp=Z,23nm,1.3s					
X29A	Tulia	73.82	336	⇑P	P	08 56 53.9 +0.2
	baz=74					
V34A	Guthrie	73.84	340	⇓P	P	08 56 53.7 +0.1
	baz=74					
V34A	Guthrie	73.84	340	eP	P	08 56 53.3 -0.4
	comp=Z,44nm,1.5s					
319A	Douglas	73.94	329	⇓P	P	08 56 54.4 -0.1
	baz=74					
W31A	Holland Ranch,	73.94	338	⇓P	P	08 56 54.4 0.0
	baz=74					
V33A	Lossen Ranch,	74.04	340	⇓P	P	08 56 55.1 +0.2
	baz=74					
V32A	Arapaho	74.17	339	⇓P	P	08 56 55.9 +0.3
	baz=74					
AMTX	Amarillo	74.22	337	⇓P	P	08 56 56.6 +0.6
	baz=75					
AMTX	Amarillo	74.22	337	eP	P	08 56 56.6 +0.6
	comp=Z,28nm,1.3s					
121A	Cookes Peak, D	74.33	331	⇑P	P	08 56 57.2 +0.3
	baz=75					
121A	Cookes Peak, D	74.33	331	eP	P	08 56 57.6 +0.8
	comp=Z,22nm,1.4s					
U34A	Anderson Ranch	74.41	340	⇑P	P	08 56 57.4 +0.4
	baz=75					
U34A	Anderson Ranch	74.41	340	eP	P	08 56 57.2 +0.2
	comp=Z,23nm,1.1s					
W29A	Amarillo	74.42	337	⇑P	P	08 56 57.3 0.0
	baz=75					
V31A	Spring Creek L	74.46	338	⇑P	P	08 56 57.5 +0.1
	baz=75					
U33A	Lingo Farm, Me	74.57	340	⇑P	P	08 56 58.2 +0.3
	baz=75					
X26A	CR and CF Fran	74.63	335	⇑P	P	08 56 58.6 +0.1
	baz=75					
Y24A	Capitan	74.66	333	⇓P	P	08 56 58.7 0.0
	baz=75					
MVL	Millersville	74.68	358	eP	P	08 56 58.7 +0.3
	comp=Z,34nm,1.6s					
BLO	Bloomington	74.73	350	eP	P	08 56 58.7 -0.1
BLO				pmax	pmax	
	comp=Z,27nm,1.4s					
BLO	Bloomington	74.73	350	eP	P	08 56 58.7 -0.1
	comp=Z,27nm,1.4s					
U32A	Winter Ranch,	74.77	339	⇓P	P	08 56 59.5 +0.4
	baz=75					
SLM	Saint Louis	74.82	347	eP	P	08 56 58.9 -0.4
SLM				pmax	pmax	
	comp=Z,68nm,1.4s					
SLM	Saint Louis	74.82	347	eP	P	08 56 58.9 -0.4
	comp=Z,68nm,1.4s					
W27A	Bowe Ranch, En	74.84	336	⇓P	P	08 56 59.4 -0.3
	baz=75					
Y23A	Lovelace Mesa,	74.89	333	⇑P	P	08 56 59.7 -0.4
	baz=75					
T33A	Patterson Ranc	75.21	340	⇑P	P	08 57 02.6 +0.9
	baz=76					
BNM	Barren Site	75.30	332	eP	P	08 57 04.4 +1.9
ACSO	Alum Creek Sta	75.34	353	eP	P	08 57 01.3 -1.0
	comp=Z,22nm,1.0s					
SSPA	Standing Stone	75.37	357	eP	P	08 57 03.7 +1.3
	comp=Z,12nm,1.2s					
TUC	Tucson	75.38	328	eP	P	08 57 04.0 +1.2
TUC				pmax	pmax	
	comp=Z,11nm,1.4s					
TUC	Tucson	75.38	328	eP	P	08 57 04.0 +1.2
	comp=Z,11nm,1.4s					
V27A	Dan Oppiter Fa	75.39	336	⇓P	P	08 57 03.2 +0.4
	baz=76					
U30A	WK&E Inc. Balk	75.40	338	⇓P	P	08 57 03.3 +0.5
	baz=76					
W25A	X Bar L Ranch,	75.46	335	⇑P	P	08 57 03.6 +0.3
	baz=76					
T32A	Huddler Ranch,	75.49	340	⇑P	P	08 57 03.9 +0.6
	baz=76					
T31A	Randall Ranch,	75.64	339	⇑P	P	08 57 04.2 +0.1
	baz=76					
LAZ	Ladron	75.72	332	eP	P	08 57 06.6 +1.7
ODNJ	Ogdensburg	75.73	359	eP	P	08 57 06.1 +1.6
ODNJ				epP	pP	08 57 13.1 -2.4
V26A	Tequesquite Ra	75.75	335	⇓P	P	08 57 04.8 -0.2
	baz=76,SNR=5.7					
U28A	Mallet	75.76	337	⇓P	P	08 57 04.8 -0.1
	baz=76					
W24A	Lazy 6 Ranch,	75.80	334	⇑P	P	08 57 05.0 -0.3
	baz=76					
ANMO	Albuquerque	75.95	333	eP	P	08 57 07.0 +0.9
ANMO				pmax	pmax	
	comp=Z,17nm,1.4s					
ANMO	Albuquerque	75.95	333	eP	P	08 57 07.0 +0.9
	comp=Z,17nm,1.4s					
214A	Organ Pipe Nat	75.98	327	⇑P	P	08 57 06.1 0.0
	baz=76					
S32A	Newby Ranch, P	75.98	340	⇓P	P	08 57 06.0 -0.1
	baz=76					
U27A	Thompson Grove	76.00	336	⇓P	P	08 57 06.2 -0.1
	baz=76					
W23A	Werner Place,	76.02	333	⇓P	P	08 57 06.7 +0.1
	baz=76					
V25A	Rancho No Teng	76.08	335	⇓P	P	08 57 06.9 0.0
	baz=76,SNR=7.5					
T29A	Hugoton	76.18	338	⇓P	P	08 57 07.6 +0.3
	baz=76					
V24A	Rampart Ranch,	76.21	334	⇓P	P	08 57 07.2 -0.4
	baz=77					
U26A	Atchley Ranch,	76.28	336	⇑P	P	08 57 07.6 -0.4
	baz=77					
S30A	Montezuma	76.37	339	⇑P	P	08 57 08.5 +0.2
	baz=77					
T28A	Walsh	76.40	337	⇑P	P	08 57 08.5 -0.1
	baz=77,SNR=12					
U25A	Circle Dot Ran	76.51	335	⇑P	P	08 57 09.2 -0.1
	baz=77					
T27A	Campo	76.55	337	⇑P	P	08 57 09.4 0.0
	baz=77,SNR=8.8					
S29A	Ulysses	76.55	338	⇓P	P	08 57 09.6 +0.2
	baz=77					
V23A	Ortiz Mt. (NFS	76.56	333	⇓P	P	08 57 09.6 0.0
	baz=77					
LIC	Lamto	76.58	72	ePKP1	P	08 57 10.5 +0.5
	comp=Z,48nm,1.4s					
R32A	Long Quarter,	76.59	340	⇓P	P	08 57 09.3 -0.2
	baz=77,SNR=8.1					
R31A	Burdett	76.70	340	⇓P	P	08 57 10.1 0.0
	baz=77,SNR=5.9					
S28A	Manter	76.77	338	⇓P	P	08 57 10.6 +0.1
	baz=77,SNR=14					
U24A	Moreno Valley	76.82	334	⇓P	P	08 57 11.5 +0.3
	baz=77					
TIC	Toumodi	76.84	72	ePKP1	P	08 57 11.5 0.0
	comp=Z,3.4nm,0.2s					
KIC	Kosan Boka	76.89	73	ePKP1	P	08 57 11.3 -0.4
	comp=Z,73nm,1.4s					
Q33A	Connelly Farm,	76.89	341	⇑P	P	08 57 11.6 +0.4
	baz=77					
R30A	Dighton	76.91	339	⇓P	P	08 57 11.5 +0.1
	baz=77,SNR=5.4					
QUA2	Belchertown	76.94	1	eP	P	08 57 11.3 0.0
	comp=Z,15nm,0.9s					
T26A	Comanche Natio	76.94	336	⇓P	P	08 57 12.0 +0.3
	baz=77					
V22A	San Miguel Ran	76.97	333	⇑P	P	08 57 12.2 +0.2
	baz=77,SNR=9.9					
DBIC	Dimbokro	76.98	72	P	P	08 57 12.6 +0.4
	comp=Z,4.3nm,0.5s,baz=229,slow=6.5,SNR=11					
U23A	El Rito	77.08	334	⇑P	P	08 57 12.8 +0.2
	baz=77					
Q32A	Meitler Ranch,	77.08	341	⇓P	P	08 57 12.8 +0.5
	baz=77					
T25A	Trinidad	77.18	335	⇓P	P	08 57 13.3 +0.2
	baz=78					
P33A	Williams Farm,	77.27	341	⇓P	P	08 57 13.6 +0.3
	baz=78					
R29A	Marienthal	77.30	338	⇑P	P	08 57 13.8 +0.2
	baz=78					
S26A	Kim	77.30	336	⇑P	P	08 57 14.1 +0.5
	baz=78,SNR=13					
Q31A	Ellis	77.33	340	⇓P	P	08 57 13.9 +0.3
	baz=78					
U22A	Llaves	77.36	333	⇑P	P	08 57 14.4 +0.2
	baz=78					
W18A	Petrified Fore	77.37	331	⇑P	P	08 57 14.4 +0.2
	baz=78					
W18A	Petrified Fore	77.37	331	eP	P	08 57 15.2 +1.0
	comp=Z,26nm,1.4s					
TRY	Troy	77.38	0	eP	P	08 57 14.3 +0.6
	comp=Z,14nm,0.9s					
R28A	Tribune	77.43	338	⇑P	P	08 57 14.2 -0.1
	baz=78,SNR=12					
T24B	San Luis	77.45	335	⇑P	P	08 57 14.8 +0.1
	baz=78					
MMNY	Mt. Morris Dam	77.46	357	eP	P	08 57 14.0 -0.2
	comp=Z,122nm,1.6s					
X16A	Lo Mia Camp, P	77.47	329	⇑P	P	08 57 15.6 +0.8
	baz=78,SNR=7.4					
Q30A	Quinter	77.54	339	⇓P	P	08 57 15.1 +0.2
	baz=78					
T23A	Casias Ranch,	77.65	334	⇑P	P	08 57 16.1 +0.3
	baz=78					
S25A	Robets Cordova	77.66	336	⇑P	P	08 57 15.8 0.0
	baz=78,SNR=8.7					
P32A	Huiting Farm,	77.68	341	⇓P	P	08 57 15.8 +0.2
	baz=78,SNR=6.2					
R27A	Eads	77.69	337	⇓P	P	08 57 15.8 0.0
	baz=78,SNR=8.7					
P31A	Stockton	77.80	340	⇓P	P	08 57 16.6 +0.3
	baz=78					
S24A	Houchin Ranch,	77.91	335	⇓P	P	08 57 17.4 +0.1
	baz=78,SNR=8.3					
R26A	Arlington	77.91	337	⇓P	P	08 57 17.1 +0.1
	baz=78,SNR=12					
P30A	Selden	78.07	339	⇓P	P	08 57 18.2 +0.4
	baz=78					
Q28A	Sharon Springs	78.10	338	⇓P	P	08 57 18.3 +0.3
	baz=78,SNR=6.7					
SDCO	Great Sand Dun	78.10	335	eP	P	08 57 18.7 +0.4
	comp=Z,18nm,1.9s					
Y12C	Blythe	78.26	326	⇓P	P	08 57 19.2 +0.3
	baz=79					
KSCO	Kaye Shedlock'	78.30	338	⇑P	P	08 57 19.2 0.0
	baz=79,SNR=7.4					
KSCO	Kaye Shedlock'	78.30	338	eP	P	08 57 19.9 +0.7
	comp=Z,22nm,1.2s					
P29A	Atwood	78.32	339	⇓P	P	08 57 19.2 0.0
	baz=79,SNR=12					
O31A	Woolen Ranch,	78.38	340	⇓P	P	08 57 19.7 +0.3
	baz=79					
R24A	Sanders Place,	78.40	335	⇑P	P	08 57 20.7 +0.9
	baz=79,SNR=14					
Q26A	Hugo	78.50	337	⇑P	P	08 57 21.0 +0.7
	baz=79,SNR=6.5					
P28A	Saint Francis	78.54	338	⇓P	P	08 57 20.9 +0.4
	baz=79					
SCIA	State Center	78.57	345	eP	P	08 57 20.1 -0.3
	comp=Z,48nm,1.3s					
S22A	4UR Ranch, Cre	78.57	334	⇓P	P	08 57 21.5 +0.6
	baz=79,SNR=11					
O30A	MW Ranch, Wils	78.61	340	⇑P	P	08 57 21.1 +0.4
	baz=79,SNR=8.8					
BC3	Big Chuckawall	78.61	326	⇑P	P	08 57 21.2 +0.2
	baz=79					
R23A	Moffat	78.61	335	⇑P	P	08 57 21.3 +0.1
	baz=79					
MVCO	Mesa Verde	78.72	332	⇓P	P	08 57 21.4 -0.2
	baz=79,SNR=6.6					
MVCO	Mesa Verde	78.72	332	eP	P	08 57 22.3 +0.7
	comp=Z,12nm,1.3s					
Q25A	Bedland, Calha	78.73	336	⇓P	P	08 57 22.0 +0.4
	baz=79					
P27A	Ficken Ranch,	78.78	338	⇓P	P	08 57 22.8 +1.0
	baz=79					
CTCC	Cactus City	78.86	325	eP	P	08 57 23.9 +1.6
IRM	Iron Mountain	78.89	326	⇑P	P	08 57 22.8 +0.4
	baz=79					
JFWS	Jewell Farm	78.98	348	eP	P	08 57 22.2 -0.4
JFWS				e*PP	PcP	08 57 31.0 -0.1
JFWS				pmax	pmax	
	comp=Z,49nm,1.4s					
JFWS	Jewell Farm	78.98	348	eP	P	08 57 22.2 -0.4
	comp=Z,48nm,1.4s					
JFWS				epP	PcP	08 57 31.0 -0.1
P26A	Davis Ranch, A	79.02	337	⇑P	P	08 57 23.9 +0.7
	baz=79					
PFO	Pinyon Flats O	79.04	325	LR	LR	09 25 11.3
	comp=Z,83nm,19.5s,baz=132,slow=30					
O28A	Krutsinger Ran	79.06	339	⇓P	P	08 57 23.7 +0.4
	baz=79,SNR=8.2					
Q24A	Divide	79.07	336	⇓P	P	08 57 23.8 +0.1
	baz=79					
BGNE	Belgrade	79.24	342	⇓P	P	08 57 24.6 +0.4
	baz=80					
BGNE	Belgrade	79.24	342	eP	P	08 57 24.3 +0.1
	comp=Z,42nm,1.3s					
P25A	Willow Gulch B	79.24	337	⇓P	P	08 57 24.8 +0.4
	baz=80,SNR=10					
LONY	Lake Ozonia	79.27	360	eP	P	08 57 24.1 0.0
	comp=Z,43nm,1.7s					
O27A	Beecher Island	79.33	338	⇑P	P	08 57 25.4 +0.6
	baz=80					
N29A	Votaw Ranch, W	79.36	340	⇑P	P	08 57 25.7 +0.8
	baz=80					
M31A	Lambtecht Ranc	79.39	341	⇓P	P	08 57 25.9 +0.9
	baz=80					
N28A	Pribbeno Ranch	79.50	339	⇓P	P	08 57 26.6 +0.9
	baz=80					
U15A	North Rim	79.55	329	⇓P	P	08 57 27.2 +0.9
	baz=80,SNR=6.5					
PV01	Paradox Valley	79.55	333	eP	P	08 57 27.3 +1.1
O26A	Horse Wrangler	79.63	338	⇑P	P	08 57 27.3 +0.8
	baz=80					
GMRC	Granite Mounta	79.64	326	⇓P	P	08 57 27.2 +0.6
	baz=80					
P23A	Jefferson	79.68	335	⇑P	P	08 57 27.5 +0.6
	baz=80					
SMCO	Snowmass	79.90	335	eP	P	08 57 29.2 +1.0
	comp=Z,28nm,1.3s					
PV04	Paradox Valley	79.91	333	eP	P	08 57 30.0 +2.0
N27A	Anderson Farm,	79.91	338	⇑P	P	08 57 28.2 +0.3
	baz=80					
PV10	Paradox Valley	79.94	333	eP	P	08 57 29.5 +1.1
M29A	Burnside Ranch	79.96	340	⇓P	P	08 57 28.6 +0.4
	baz=80					
ISCO	Idaho Springs	79.98	336	eP	P	08 57 29.7 +1.1
ISCO				pmax	pmax	
	comp=Z,15nm,1.4s					
ISCO	Idaho Springs	79.98	336	⇓P	P	08 57 29.2 +0.6
	baz=80,SNR=5.4					
ISCO	Idaho Springs	79.98	336	eP	P	08 57 29.7 +1.1
	comp=Z,15nm,1.4s					
PV09	Paradox Valley	80.08	333	eP	P	08 57 30.0 +0.8
L31A	Butterfield Fa	80.14	341	⇓P	P	08 57 29.6 +0.6
	baz=80,SNR=13					
N26A	Koester Ranch,	80.14	338	⇑P	P	08 57 29.9 +0.7
	baz=80					
L30A	Spencer Herefo	80.16	341	⇓P	P	08 57 29.4 +0.2
	baz=80					
P22A	Eagle	80.19	335	⇑P	P	08 57 30.3 +0.7
	baz=80,SNR=8.2					
KNB	Kanab	80.27	329	eP	P	08 57 31.3 +1.2
KNB				pmax	pmax	
	comp=Z,33nm,1.5s					
KNB	Kanab	80.27	329	eP	P	08 57 31.3 +1.2
	comp=Z,33nm,1.5s					
TSUM	Tsumeb	80.44	107	eP	P	08 57 32.4 +0.9
	comp=Z,13nm,1.1s					
O23A	Lake Granby, G	80.45	336	⇓P	P	08 57 31.5 +0.4
	baz=81,SNR=8.2					
L29A	Maesberg Ranch	80.47	340	⇓P	P	08 57 31.3 +0.5
	baz=81					
M27A	Reverse DX Ran	80.53	339	⇑P	P	08 57 31.6 +0.4
	baz=81					
O22A	Kremmling	80.62	335	⇑P	P	08 57 32.4 +0.3
	baz=81,SNR=12					
EDW2	Edwards Air Fo	80.80	325	eP	P	08 57 33.8 +0.9
K30A	Basset	80.81	341	⇑P	P	08 57 33.0 +0.4
	baz=81,SNR=16					
SHPR	Sheep Range	80.85	327	eP	P	08 57 35.8 +2.7
M25A	Palm-Egli Farm	80.95	338	⇑P	P	08 57 34.0 +0.4
	baz=81					
CCUT	Cedar City	80.95	329	eP	P	08 57 35.4 +1.7
	comp=Z,27nm,1.5s					
BOSA	Boshof	80.98	119	eP	P	08 57 34.5 +0.3
BOSA				pmax	pmax	
	comp=Z,27nm,1.1s					
BOSA	Boshof	80.98	119	P	P	08 57 34.3 +0.1
	comp=Z,18nm,0.9s,baz=239,slow=4.9,SNR=21					
BOSA				LR	LR	09 29 02.7
	comp=Z,211nm,19.1s,baz=202,slow=32					
BOSA	Boshof	80.98	119	eP	P	08 57 34.5 +0.3
	comp=Z,27nm,1.1s					
L27A	T5 Ranch, Ells	81.02	339	⇓P	P	08 57 33.8 0.0
	baz=81					
ECSD	EROS Data Cent	81.06	344	⇑P	P	08 57 33.8 -0.1
	baz=81,SNR=25					
ECSD	EROS Data Cent	81.06	344	eP	P	08 57 33.3 -0.6
	comp=Z,44nm,1.3s					
N23A	Red Feather La	81.08	336	⇑P	P	08 57 34.6 +0.3
	baz=81,SNR=8.0					
K29A	Lazy Trails An	81.08	341	⇑P	P	08 57 33.8 -0.3
	baz=81					
SRU	San Rafael Swe	81.15	332	eP	P	08 57 35.0 +0.3
SRU				pmax	pmax	
	comp=Z,12nm,1.2s					
SRU	San Rafael Swe	81.15	332	eP	P	08 57 35.0 +0.3
	comp=Z,12nm,1.2s					
N22A	Wattenberg Ran	81.17	336	⇓P	P	08 57 35.4 +0.5
	baz=82,SNR=8.2					
ARUT	Antelope Range	81.19	329	eP	P	08 57 37.0 +2.1
ARUT	Antelope Range	81.19	329	eP

M23A	Laramie	81.52	336	⇑P	P	08 57 36.9	+0.2
	baz=82,SNR=9.5						
K27A	Flueckinger Fa	81.56	339	⇑P	P	08 57 36.8	+0.1
	baz=82,SNR=6.2						
L25A	Engebretsen Ra	81.58	338	⇑P	P	08 57 36.3	-0.5
	baz=82						
FURC	Furnace Creek,	81.58	326	⇓P	P	08 57 36.3	-0.5
	baz=82						
BKZ	Black Stump Fm	81.63	228	eP	P	08 57 38.9	+1.5
	comp=Z,26nm,1.3s						
ISA	Isabella, Lake	81.67	325	⇓P	P	08 57 36.9	-0.5
	baz=82						
SPMN	Marine on St.	81.68	347	⇑P	P	08 57 36.7	-0.4
	baz=82						
SPMN	Marine on St.	81.68	347	eP	P	08 57 36.2	-0.9
	comp=Z,15nm,1.1s						
J29A	Okreek	81.68	341	⇓P	P	08 57 37.3	+0.1
	baz=82,SNR=24						
M22A	Cedar Creek Ra	81.75	336	⇑P	P	08 57 37.7	-0.2
	baz=82						
DAC	Darwin (Calif)	81.76	326	eP	P	08 57 39.0	+1.0
DAC				pmax	pmax		
	comp=Z,14nm,1.4s						
DAC	Darwin (Calif)	81.76	326	eP	P	08 57 39.0	+1.0
	comp=Z,14nm,1.4s						
L24A	Wheatland	81.78	337	⇑P	P	08 57 38.2	+0.3
	baz=82						
N20A	Spence Gulch,	81.82	334	⇓P	P	08 57 37.8	-0.5
	baz=82						
COWI	Conover	81.90	349	eP	P	08 57 37.1	-1.2
	comp=Z,18nm,1.4s						
I30A	Oacoma	81.91	342	⇓P	P	08 57 38.2	-0.2
	baz=82,SNR=8.0						
J28A	Allard Ranch,	81.94	340	⇓P	P	08 57 38.8	+0.2
	baz=82,SNR=11						
J27A	Elkhorn Farm,	82.00	340	⇓P	P	08 57 39.4	+0.4
	baz=82,SNR=8.9						
L23A	Garrett	82.09	337	⇓P	P	08 57 39.4	-0.3
	baz=82						
I29A	Vivian Onida	82.24	341	⇓P	P	08 57 40.4	+0.2
	baz=83						
BRSD	Miller	82.29	342	⇓P	P	08 57 40.1	-0.2
	baz=83						
BRSD	Miller	82.29	342	eP	P	08 57 40.0	-0.3
	comp=Z,25nm,1.1s						
MPU	Maple Canyon	82.36	332	eP	P	08 57 41.9	+0.8
	comp=Z,17nm,1.2s						
J26A	Sides Ranch, S	82.37	339	⇓P	P	08 57 41.4	+0.5
	baz=83,SNR=6.8						
I28A	Midland	82.46	341	⇑P	P	08 57 40.9	-0.4
	baz=83,SNR=14						
NLU	North Lily Min	82.48	331	eP	P	08 57 42.8	+1.1
	comp=Z,9.1nm,1.1s						
DAU	Daniels Canyon	82.56	332	eP	P	08 57 42.8	+0.5
DAU	Daniels Canyon	82.56	332	eP	P	08 57 42.8	+0.5
R11A	Troy Canyon, C	82.57	328	⇓P	P	08 57 42.2	0.0
	baz=83						
R11A	Troy Canyon, C	82.57	328	eP	P	08 57 43.8	+1.6
	comp=Z,14nm,1.5s						
K23A	Bowen Ranch, D	82.64	337	⇑P	P	08 57 42.5	0.0
	baz=83						
I27A	Quinn	82.77	340	⇓P	P	08 57 42.8	-0.1
	baz=83						
H29A	Onida	82.78	341	⇓P	P	08 57 42.8	-0.1
	baz=83,SNR=15						
JLU	Jordanelle	82.80	332	eP	P	08 57 44.2	+0.8
	comp=Z,17nm,1.4s						
K22A	Casper	82.84	336	⇑P	P	08 57 43.4	-0.1
	baz=83,SNR=12						
K22A	Casper	82.84	336	eP	P	08 57 43.6	+0.1
	comp=Z,34nm,1.4s						
J24A	Dixon Ranch, L	82.86	338	⇓P	P	08 57 43.5	0.0
	baz=83						
I26A	New Underwood	82.96	339	⇓P	P	08 57 44.0	0.0
	baz=83						
DUG	Dugway, Tooele	82.98	331	eP	P	08 57 44.6	+0.4
DUG				pmax	pmax		
	comp=Z,26nm,1.3s						
DUG	Dugway, Tooele	82.98	331	⇓P	P	08 57 44.6	+0.4
	baz=83						
DUG	Dugway, Tooele	82.98	331	eP	P	08 57 44.6	+0.4
	comp=Z,26nm,1.3s						
G30A	Faulkton	82.98	342	⇓P	P	08 57 43.4	-0.5
	baz=83,SNR=11						
H28A	Mission Ridge	83.04	341	⇑P	P	08 57 43.9	-0.4
	baz=83,SNR=5.9						
TPH	Tonopah	83.06	327	eP	P	08 57 45.9	+1.1
TPH				pmax	pmax		
	comp=Z,14nm,1.4s						
TPH	Tonopah	83.06	327	eP	P	08 57 45.9	+1.1
	comp=Z,14nm,1.4s						
K21A	Alcova	83.07	336	⇓P	P	08 57 44.5	-0.2
	baz=83,SNR=11						
I25A	Rochford	83.20	339	⇓P	P	08 57 44.4	-1.0
	baz=84,SNR=8.5						
G29A	Hoven	83.23	342	⇓P	P	08 57 45.1	-0.1
	baz=84						
LBTB	Lobatse	83.29	116	eP	P	08 57 46.3	-0.1
LBTB				pmax	pmax		
	comp=Z,26nm,1.1s						
LBTB	Lobatse	83.29	116	eP	P	08 57 46.2	-0.1
	comp=Z,26nm,1.1s						
H27A	Howes	83.29	340	⇓P	P	08 57 45.0	-0.6
	baz=84,SNR=6.8						
G28A	Parade	83.38	341	⇑P	P	08 57 46.0	0.0
	baz=84						
RSSD	Black Hills	83.39	339	eP	P	08 57 46.8	+0.5
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.9s						
RSSD	Black Hills	83.39	339	eP	P	08 57 46.8	+0.5
	comp=Z,6.8nm,0.9s						
J22A	Midwest	83.51	337	⇓P	P	08 57 46.5	-0.4
	baz=84						
F30A	Leola	83.61	343	⇓P	P	08 57 46.9	-0.3
	baz=84						
BGU	Big Grassy Mou	83.69	331	eP	P	08 57 50.0	+2.1
	comp=Z,8.4nm,1.4s						
HWUT	Hardware Ranch	83.71	333	eP	P	08 57 48.3	+0.3
	comp=Z,44nm,1.5s						
H25A	Fruitdale	83.72	339	⇓P	P	08 57 47.6	-0.2
	baz=84						
J21A	Lysite	83.77	336	⇓P	P	08 57 47.8	-0.4
	baz=84						
F29A	Eureka	83.81	342	⇑P	P	08 57 47.8	-0.4
	baz=84,SNR=11						
NV01	Mina Array Sit	83.84	326	eP	P	08 57 49.6	+0.8
NVAR	Mina Array Bea	83.84	326	P	P	08 57 49.3	+0.5
	comp=Z,1.5nm,0.8s,baz=160,slow=5.5,SNR=11						
G27A	Dupree	83.94	341	⇑P	P	08 57 48.6	-0.3
	baz=84						
I22A	9 Mile Ranch,	83.94	337	⇓P	P	08 57 48.2	-0.8
	baz=84,SNR=5.7						
BW06	Boulder Array	83.98	334	eP	P	08 57 49.2	-0.2
PDAR	Pinedale Array	83.98	334	P	P	08 57 48.6	-0.8
	comp=Z,7.0nm,1.1s,baz=157,slow=4.8,SNR=21						
J20A	Shoshoni	83.99	336	⇓P	P	08 57 49.8	+0.5
	baz=84,SNR=10.0						
G26A	Maurine	84.05	340	⇑P	P	08 57 49.2	-0.2
	baz=84,SNR=6.7						
F28A	McLaughlin	84.07	341	⇓P	P	08 57 49.4	-0.2
	baz=84,SNR=7.1						
EYMN	Ely	84.07	348	eP	P	08 57 49.1	-0.4
	comp=Z,24nm,1.4s						
H24A	Dirks Ranch, A	84.11	339	⇓P	P	08 57 49.1	-0.8
	baz=84						
I21A	Big Trails, Te	84.13	336	⇑P	P	08 57 49.6	-0.5
	baz=84,SNR=9.1						
G25A	Newell	84.19	340	⇓P	P	08 57 50.0	-0.2
	baz=84,SNR=8.2						
E30A	Jud	84.21	343	⇓P	P	08 57 50.3	+0.1
	baz=85,SNR=7.4						
J19A	Crowheart	84.24	335	⇑P	P	08 57 50.5	-0.2
	baz=85,SNR=10						
HVU	Hansel Valley	84.32	332	eP	P	08 57 51.2	+0.1
HVU				pmax	pmax		
	comp=Z,20nm,1.1s						
HVU	Hansel Valley	84.32	332	eP	P	08 57 51.2	+0.1
	comp=Z,20nm,1.1s						
F27A	Lemmon	84.42	341	⇓P	P	08 57 51.1	-0.2
	baz=85,SNR=9.4						
ELK	Elko	84.43	330	eP	P	08 57 52.4	+0.7
ELK				pmax	pmax		
	comp=Z,61nm,2.6s						
ELK	Elko	84.43	330	eP	P	08 57 52.4	+0.7
	comp=Z,61nm,2.6s						
E29A	Napoleon	84.45	343	⇑P	P	08 57 51.3	-0.2
	baz=85						
H22A	Clearmont	84.53	337	⇑P	P	08 57 51.6	-0.4
	baz=85						
I20A	Worland	84.53	336	⇓P	P	08 57 51.9	-0.1
	baz=85,SNR=7.6						
F26A	Lodgepole	84.58	340	⇓P	P	08 57 51.7	-0.5
	baz=85						
G24A	Alzada	84.60	339	⇓P	P	08 57 51.5	-0.8
	baz=85						
E28A	Huff	84.72	342	⇓P	P	08 57 52.1	-0.7
	baz=85						
D30A	Buchanan	84.74	343	⇓P	P	08 57 52.7	-0.1
	baz=85,SNR=15						
G23A	Biddle	84.78	338	⇓P	P	08 57 52.5	-0.7
	baz=85						
H21A	Big Horn, Sher	84.78	337	⇑P	P	08 57 52.6	-0.7
	baz=85						
E27A	Carson	84.81	341	⇓P	P	08 57 53.0	-0.3
	baz=85						
F25A	Bowman	84.86	340	⇓P	P	08 57 53.4	-0.2
	baz=85						
D29A	Pettibone, Tap	84.90	343	⇑P	P	08 57 53.5	-0.2
	baz=85						
I19A	Meeteetse	84.90	335	⇑P	P	08 57 53.5	-0.5
	baz=85						
REDW	Red Top Meadow	84.96	334	eP	P	08 57 54.5	+0.1
	comp=Z,30nm,1.4s						
H20A	Greybull	84.96	336	⇑P	P	08 57 53.9	-0.3
	baz=85,SNR=12						
SNOW	Snow King Moun	85.01	334	eP	P	08 57 54.9	+0.2
	comp=Z,14nm,1.3s						
G22A	Birney	85.07	338	⇑P	P	08 57 54.0	-0.7
	baz=85						
F24A	Ekalaka	85.08	339	⇓P	P	08 57 54.4	-0.3
	baz=85						
E26A	Carlson Angus	85.09	341	⇓P	P	08 57 54.6	-0.1
	baz=85						
LOHW	Long Hollow	85.09	334	eP	P	08 57 55.1	+0.1
	comp=Z,19nm,1.4s						
TPAW	Teton Pass	85.11	334	eP	P	08 57 55.4	+0.2
	comp=Z,16nm,1.4s						
AGMN	Agassiz Nation	85.22	346	⇑P	P	08 57 54.9	-0.4
	baz=86,SNR=8.1						
AGMN	Agassiz Nation	85.22	346	eP	P	08 57 54.9	-0.4
	comp=Z,18nm,1.3s						
C30A	Mose, Pekin	85.23	344	⇓P	P	08 57 55.1	-0.3
	baz=86,SNR=6.6						
F23A	Volborg	85.25	338	⇑P	P	08 57 54.9	-0.6
	baz=86,SNR=9.4						
D28A	Regan	85.26	342	⇑P	P	08 57 55.7	+0.2
	baz=86						
FXWY	Fox Creek	85.27	334	eP	P	08 57 55.9	0.0
	comp=Z,10.0nm,1.3s						
I17A	Pilgrim Ck.	85.35	334	⇓P	P	08 57 55.9	-0.4
	baz=86,SNR=6.8						
G21A	Lodge Grass	85.36	337	⇑P	P	08 57 55.5	-0.7
	baz=86						
E25A	Miller Ranch,	85.38	340	⇑P	P	08 57 55.5	-0.6
	baz=86						
H19A	Powell	85.45	336	⇓P	P	08 57 55.9	-0.8
	baz=86						
IMW	Indian Meadow	85.46	334	eP	P	08 57 57.1	+0.2
	comp=Z,17nm,1.3s						
FLWY	Flagg Ranch	85.53	334	eP	P	08 57 57.7	+0.5
	comp=Z,148nm,2.6s						
F22A	Rosebud	85.56	338	⇑P	P	08 57 56.6	-0.5
	baz=86,SNR=10						
D26A	Manning	85.60	341	⇑P	P	08 57 57.1	-0.1
	baz=86						
G20A	Bridger	85.68	336	⇑P	P	08 57 57.1	-0.7
	baz=86,SNR=10						
E24A	Baker	85.69	340	⇑P	P	08 57 57.6	-0.1
	baz=86						
H18A	Shoshone NF, C	85.69	335	⇑P	P	08 57 57.8	-0.1
	baz=86,SNR=16						
H17A	Grant Village	85.76	335	⇓P	P	08 57 57.9	-0.4
	baz=86						
H17A	Grant Village	85.76	335	eP	P	08 57 59.4	+1.0
	comp=Z,48nm,2.6s						
F21A	Absaloka Mine,	85.87	337	⇑P	P	08 57 58.3	-0.3
	baz=86						
B30A	Myrvik Farm, E	85.90	344	⇓P	P	08 57 58.2	-0.4
	baz=86,SNR=14						
YFT	Old Faithful	85.90	334	eP	P	08 58 00.4	+1.3
	comp=Z,56nm,2.1s						
E23A	Ismay	85.92	339	⇓P	P	08 57 58.3	-0.5
	baz=86						
D25A	Fairfield	85.95	340	⇑P	P	08 57 59.2	+0.3
	baz=86,SNR=12						
RLMT	Red Lodge	85.95	336	eP	P	08 57 59.3	+0.1
	comp=Z,19nm,1.5s						
C27A	Sayler Ranch,	85.98	342	⇑P	P	08 57 58.8	-0.3
	baz=86						
TOA0	Torodi Ar. Sit	86.03	71	eP	P	08 57 59.9	-0.2
TORD	Torodi Ar. Bea	86.03	71	P	P	08 57 59.9	-0.1
	comp=Z,5.6nm,1.0s,baz=258,slow=3.6,SNR=21						
E22A	Miles City	86.06	338	⇑P	P	08 57 58.8	-0.8
	baz=86						
YMR	Madison River	86.14	334	eP	P	08 58 01.3	+1.1
	comp=Z,26nm,1.2s						
B29A	Wagenman Farm,	86.15	343	⇓P	P	08 57 60.0	+0.1
	baz=86,SNR=14						
F20A	Billings	86.18	337	⇑P	P	08 57 59.4	-0.8
	baz=86						
D24A	Glendive	86.20	340	⇓P	P	08 58 00.4	+0.3
	baz=86,SNR=11						
C26A	Wahner Farm, P	86.24	341	⇑P	P	08 58 00.0	-0.3
	baz=87,SNR=6.1						
A30A	Hoffart Farm,	86.36	344	⇑P	P	08 57 60.0	-0.9
	baz=87						
LAO	LASA Array	86.37	338	eP	P	08 58 01.0	-0.1
	comp=Z,34nm,1.6s						
B28A	Dugan Ranch, T	86.38	343	⇑P	P	08 58 01.2	+0.2
	baz=87,SNR=8.2						
QLMT	Earthquake Lak	86.44	334	eP	P	08 58 03.2	+1.6
C25A	Freed Ranch, W	86.44	341	⇑P	P	08 58 01.6	+0.3
	baz=87						
HLID	Hailey	86.47	332	⇓P	P	08 58 02.0	+0.2
	baz=87						
HLID	Hailey	86.47	332	eP	P	08 58 02.7	+0.9
	comp=Z,16nm,1.4s						
F19A	Roth Farm, Mol	86.48	336	⇑P	P	08 58 01.6	-0.1
	baz=87						
E21A	Keefer Ranch,	86.50	338	⇓P	P	08 58 01.3	-0.4
	baz=87,SNR=7.8						
D23A	Lindsay	86.50	339	⇑P	P	08 58 01.8	+0.1
	baz=87,SNR=12						
A29A	Manning Farm,	86.55	344	⇓P	P	08 58 01.5	-0.3
	baz=87,SNR=18						
B27A	Peters Farms,	86.56	342	⇓P	P	08 58 02.1	+0.2
	baz=87						
C24A	Savage	86.60	340	⇓P	P	08 58 02.4	+0.3
	baz=87,SNR=14						
D22A	Cohagen	86.77	339	⇓P	P	08 58 02.7	-0.3
	baz=87,SNR=7.0						
A28A	Rude Farm, Bot	86.78	343	⇑P	P	08 58 02.8	-0.2
	baz=87						
E20A	Meyer Farm, Mu	86.80	337	⇓P	P	08 58 03.1	-0.1
	baz=87						
MFID	Camas Ranch	86.90	331	eP	P	08 58 04.5	+0.7
	comp=Z,18nm,1.4s						
B25A	Knox Farm, Ray	86.93	341	⇓P	P	08 58 03.5	-0.2
	baz=87,SNR=6.5						
D21A	La Casta Ranch	86.94	338	⇑P	P	08 58 03.1	-0.8
	baz=87						
MCMT	McKenzie Canyo	86.95	333	eP	P	08 58 05.1	+0.9
E19A	Rath Farm, Rou	86.97	337	⇑P	P	08 58 03.8	-0.2
	baz=87,SNR=11						
A27A	Ledoux Ranch,	87.06	342	⇓P	P	08 58 03.9	-0.4
	baz=87						
C23A	Lambert	87.07	340	⇑P	P	08 58 04.3	-0.1
	baz=87,SNR=10						
ULM	Lac du Bonnet	87.09	346	eP	P	08 58 03.7	-0.7
ULM	Lac du Bonnet	87.09	346	P	P	08 58 03.1	-1.2
	comp=Z,9.7nm,1.1s,baz=178,slow=4.7,SNR=12						
ULM	Lac du Bonnet	87.09	346	eP	P	08 58 03.7	-0.7
A26A	Wade Farm, Ken	87.21	342	⇓P	P	08 58 04.6	-0.5
	baz=88,SNR=6.2						
C22A	Vida	87.22	339	⇑P	P	08 58 04.4	-0.8
	baz=88						
BOZ	Bozeman (W)	87.22	335	eP	P	08 58 04.2	-1.2
BOZ				pmax	pmax		
	comp=Z,17nm,1.5s						
BOZ	Bozeman (W)	87.22	335	eP	P	08 58 04.2	-1.2
	comp=Z,17nm,1.5s						
WVOR	Wild Horse Val	87.25	329	eP	P	08 58 05.9	+0.3
WVOR				pmax	pmax		
	comp=Z,19nm,1.4s						
WVOR	Wild Horse Val	87.25	329	eP	P	08 58 05.9	+0.3
	comp=Z,19nm,1.4s						
D20A	Manuel Ranch,	87.32	337	⇑P	P	08 58 05.0	-0.7
	baz=88,SNR=6.3						
DLMT	Dillon	87.32	334	eP	P	08 58 06.5	+0.7
	comp=Z,20nm,1.3s						
DGMT	Dagmar	87.39	340	⇓P	P	08 58 05.8	-0.1
	baz=88,SNR=16						
DGMT	Dagmar	87.39	340	eP	P	08 58 06.1	+0.1
	comp=Z,44nm,1.0s						
A25A	Svangstu Ranch	87.53	341	⇑P	P	08 58 06.2	-0.4
	baz=88,SNR=6.7						
MOD	Modoc Plateau	87.55	327	eP	P	08 58 08.4	+1.3
	comp=Z,27nm,1.4s						
B23A	Brockton	87.61	340	⇓P	P	08 58 06.4	-0.7
	baz=88						
D19A	Cripps Ranch,	87.62	337	⇑P	P	08 58 06.5	-0.6
	baz=88						
LRM	Limekiln Ridge	87.66	334	eP	P	08 58 08.3	+0.7
B22A	Reddig Ranch S	87.75	339	⇑P	P	08 58 07.2	-0.6
	baz=88						
A24A	Westby	87.75	341	⇓P	P	08 58 07.0	-0.6
	baz=88						
C20A	Veseth Ranch,	87.83	338	⇓P	P	08 58 07.0	-1.1
	baz=88,SNR=5.3						
M04C	Macdoel	88.15	326	⇓P	P	08 58 09.0	-0.9
	baz=88						
C19A	Slack Wire Ran	88.18	337	⇓P	P	08 58 09.3	-0.5
	baz=88						
HRY	Holter Researc	88.21	335	eP	P	08 58 10.2	+0.2
M02C	Callahan	88.31	325	⇑P	P	08 58 09.6	-0.9
	baz=89						
A22A	Carney Farms,	88.35	340	⇓P	P	08 58 10.0	-0.6
	baz=89,SNR=8.0						
K05A	Summer Lake	88.47	327	eP	P	08 58 12.4	+0.9
	comp=Z,48nm,1.3s						
B20A	Solberg Farm,	88.48	338	⇓P	P	08 58 10.3	-0.8
	baz=89						
A21A	Bergtoll Ranch	88.64	339	⇑P	P	08 58 11.0	-0.9
	baz=89						
EGMT	Eagleton	88.66	337	⇓P	P	08 58 11.1	-1.0
	baz=89						
B19A	Brinkman Farms	88.78	338	⇑P	P	08 58 11.7	-0.8
	baz=89						
A20A	Cobblestone Ra	88.84	338	⇓P	P	08 58 12.0	-0.8
	baz=89						
I07A	Izee	88.96	329	eP	P	08 58 13.6	0.0
	comp=Z,175nm,2.6s						
J05D	Fort Rock, OR	89.07	328	⇑P	P	08 58 14.1	-0.1
	baz=89						
A19A	Klindworth Far	89.14	338	⇑P	P	08 58 13.8	-0.5
	baz=90						
G08A	Pilot Rock	89.72	330	eP	P	08 58 18.4	+1.2
	comp=Z,37nm,1.8s						
NEW	Newport	91.44	333	⇓P	P	08 58 24.8	-0.2
	baz=92						
G03D	McMinnville, O	91.48	328	⇑P	P	08 58 24.9	-0.3
	baz=92						
C09A	Chrisman Ranch	91.50	332	eP	P	08 58 26.2	+0.9
	comp=Z,165nm,2.7s						
DZM	Mont Dzumac	99.38	235	LR	LR	09 31 58.3	
	comp=Z,192nm,20.6s,baz=330,slow=28						
YKA	Yellowknife Ar	102.52	342	P	Pdif	08 59 12.9	-1.8
	comp=Z,0.4nm,0.9s,baz=150,slow=4.5,SNR=5.3						
ILAR	Eielson Array	114.39	333	PKiKP	PKPdf	09 03 57.3	-0.6
	comp=Z,0.6nm,1.0s,baz=169,slow=2.3,SNR=4.3						
ASAR	Alice Springs	115.34	208	PKKPbc	PKKPbc	09 14 32.5	-0.2
	comp=Z,0.2nm,0.6s,baz=334,slow=3.2,SNR=4.4						
STHS	Stebnicka Huta	118.75	48	ePKiKP	PKPdf	09 04 08.9	+2.1
STHS	Stebnicka Huta	118.75	48	ePKP	PKPdf	09 04 08.9	+2.1
WRA	Warramunga Arr	119.10	211	PKP	PKPdf	09 04 07.3	-1.2
	comp=Z,0.7nm,0.7s,baz=156,slow=1.7,SNR=6.4						
WRAB	Tennant Creek	119.11	211	PKiKP	PKPdf	09 04 08.0	-0.5
BRTR	Keskin Array B	123.69	62	PKP	PKPdf	09 04 16.6	-0.2
	comp=Z,2.1nm,0.8s,baz=218,slow=3.1,SNR=7.2						
KIEV	Kiev	124.02	48	i PKiKP	PKPdf	09 04 16.0	-0.8
AKASG	Malin Array Be	124.03	48	PKP	PKPdf	09 04 15.6	-1.2
	comp=Z,0.9nm,0.6s,baz=257,slow=3.6,SNR=4.1						
OBN	Obninsk	129.25	44	i PKiKP	PKPdf	09 04 25.1	-1.5
OBN				pmax	pmax		
	comp=Z,11nm,1.4s						
KLMR	Klimovskoe	131.15	37	ePKiKP	PKPdf	09 04 27.8	-2.3
KLMR				pmax	pmax		
	comp=Z,25nm,1.3s						
KIV	Kislovodsk	131.36	59	i PKiKP	PKPdf	09 04 32.2	+1.0
KIV				pmax	pmax		
	comp=Z,16nm,1.0s						
KIV				MLR	MLR		
	comp=Z,55nm,20.0s						
BILL	Bilibino	133.05	333	⇓i PKiKP	PKPdf	09 04 33.7	+0.2
BILL				i *PP	PP	09 07 07.3	+6.9
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PET	Petropavlovsk	139.15	313	ePKiKP	PKPdf	09 04 46.3	+1.0
PETK	Petropavlovsk-	139.72	313	PKP	PKPdf	09 04 46.0	-0.3
	comp=Z,4.7nm,0.9s,baz=122,slow=7.0,SNR=3.4						
TIXI	Tiksi	141.40	349	⇑i PKiKP	PKPdf	09 04 48.5	-0.3
GEYT	Alibeck	141.67	71	PKhKP	PKPpre	09 04 43.4	
	comp=Z,1.7nm,0.6s,baz=267,slow=8.9,SNR=4.3						
AB31	Akbulak array	143.54	53	i PKiKP	PKPab	09 04 50.2	+0.4
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ABKAR	Akbulak array	143.54	53	ePKPdf	PKPab	09 04 50.1	+0.3
GSI	Gunungsitoli	145.54	165	ePKPdf	PKPdf	09 04 57.9	-0.1
BRVK	Borovoye	149.02	43	ePKiKP	PKPdf	09 05 02.3	-0.2
BRVK				e		09 05 06.5	
BRVK	Borovoye	149.02	43	ePKPdf	PKPdf	09 05 02.2	-0.2
BRVK				ePKPbc	PKPbc	09 05 06.5	-0.1
BVA0	Borovoye Array	149.09	43	i PKiKP	PKPdf	09 05 03.4	+0.8
BVA0				pmax	pmax		
	comp=Z,13nm,1.0s						
BVAR	Borovoye Array	149.09	43	PKP	PKPdf	09 05 02.8	+0.2
	comp=Z,5.2nm,0.8s,baz=304,slow=2.7,SNR=23						
BVAR				PKPbc	PKPbc	09 05 07.3	+0.6
	comp=Z,5.2nm,0.8s,baz=264,slow=2.9,SNR=23						
YAK	Yakutsk	149.13	338	ePKiKP	PKPbc	09 05 05.2	-1.3
YAK				pmax	pmax		
	comp=Z,42nm,1.2s						
VOSK	Vostochnaya	149.54	44	PKP2	PKPbc	09 05 07.9	0.0
VOSK				pmax	pmax		
	comp=Z,22nm,1.0s						
KBL	Kabul	149.70	80	ePKPdf	PKPdf	09 05 04.3	-0.2
KBL				ePKPbc	PKPbc	09 05 09.0	-0.1
HYB	Hyderabad	149.88	119	i PKP	PKPbc	09 05 09.0	-0.8
YSS	Yuzh-Sakhalins	150.11	305	ePKiKP	PKPbc	09 05 08.0	-1.4
KK31	Karatay Array	151.41	63	i PKiKP	PKPbc	09 05 12.5	-0

MKAR				PKPab	**PKPab**	**09 05 51.8**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=276,slow=3.4,SNR=21						
MKAR				PP	**PP**	**09 09 31.2**	**-1.2**
	comp=Z,0.7nm,1.0s,baz=297,slow=3.7,SNR=4.6						
CMAR	**Chiang Mai Arr**	**162.34**	**157**	PKP	**PKPdf**	**09 05 21.4**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=252,slow=2.3,SNR=5.3						
CMAR				PKPab	**PKPab**	**09 06 08.2**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=221,slow=5.0,SNR=7.4						
CMAR				PP	**PP**	**09 09 50.5**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=196,slow=8.5,SNR=6.5						
TLY	**Talaya**	**163.25**	**5**	*e*PKP2	**PKPab**	**09 06 13.3**	**+1.7**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.3s						
WMQ	**Urumqi**	**163.33**	**53**	*e*PKP	**PKPdf**	**09 05 21.6**	**+0.1**
WMQ				pPKP	**pPKPdf**	**09 05 32.4**	**-0.7**
WMQ				PKPab	**PKPab**	**09 06 14.3**	**+1.9**
WMQ				PKS	**PKSdf**	**09 08 53.6**	**-0.9**
WMQ				PP	**PP**	**09 10 00.0**	**+2.1**
WMQ				SKS	**SKSdf**	**09 12 21.0**	**-2.3**
WMQ				SKKS	**SKKSac**	**09 16 42.9**	**0.0**
WMQ				SS	**SS**	**09 30 20.0**	**-1.7**
WMQ				PPMZ			
	comp=Z,200nm,5.0s						
WMQ				LN			
	comp=Z,75nm,20.0s						
WMQ				LE			
	comp=Z,40nm,18.0s						
WMQ				LZ			
	comp=Z,110nm,23.0s						
ZAK	**Zakamensk**	**164.51**	**7**	*e*PKP2	**PKPab**	**09 06 16.3**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ULN	**Ulaanbaatar**	**167.14**	**357⇑**	*i*PKIKP	**PKPdf**	**09 05 24.1**	**-0.6**
SONM	**Songino Array**	**167.19**	**359**	PKPab	**PKPab**	**09 06 29.4**	**+0.2**
	comp=Z,3.5nm,1.1s,baz=339,slow=3.7,SNR=5.4						
SONM				PP	**PP**	**09 10 18.0**	**+1.1**
	comp=Z,0.6nm,1.0s,baz=347,slow=4.6,SNR=4.6						
NJ2	**Nanjing**	**168.92**	**258**	*e*PKP	**PKPdf**	**09 05 27.3**	**+1.1**
KMI	**Kunming**	**169.73**	**163**	PKP	**PKPdf**	**09 05 27.5**	**+0.3**
BJI	**Beijing**	**170.53**	**305**	PKP	**PKPdf**	**09 05 26.6**	**-0.3**
GYA	**Guiyang**	**171.46**	**184**	*e*PKP	**PKPdf**	**09 05 27.0**	**-1.0**
GYA				pPKP	**pPKPdf**	**09 05 38.0**	**-1.6**
GYA				PKPab	**PKPab**	**09 06 50.4**	**+1.8**
GYA				PKS	**PKSdf**	**09 08 58.3**	**-2.2**
GYA				PP	**PP**	**09 10 41.5**	**+3.1**
GYA				SKKS		09 17 23.0	
GYA				SS	**SS**	**09 31 42.5**	**+0.9**
GYA				PPMZ			
	comp=Z,130nm,8.4s						
GYA				LN			
	comp=Z,130nm,22.6s						
GYA				LE			
	comp=Z,120nm,22.4s						
GYA				LZ			
	comp=Z,140nm,21.5s						
HHC	**Hu-ho-hao-te**	**172.73**	**325**	*e*PKP	**PKPdf**	**09 05 28.4**	**+0.3**
HHC				sPKP		09 05 43.6	
HHC				PP	**PP**	**09 10 48.5**	**+3.2**
HHC				SKKS		09 17 30.6	
HHC				PPMZ			
	comp=Z,130nm,9.9s						
HHC				LN			
	comp=Z,290nm,17.3s						
HHC				LE			
	comp=Z,400nm,18.5s						
HHC				LZ			
	comp=Z,260nm,16.0s						
GTA	**Gaotai**	**173.36**	**47**	⇑PKP	**PKPdf**	**09 05 29.2**	**+0.8**
GTA				pPKP	**pPKPdf**	**09 05 39.8**	**-0.2**
GTA				sPKP		09 05 43.6	
GTA				PKPab	**PKPab**	**09 06 57.9**	**+0.9**
GTA				PP	**PP**	**09 10 51.4**	**+2.6**
GTA				SKS	**SKSdf**	**09 12 26.9**	**-2.0**
GTA				SKKS	**SKKSac**	**09 17 33.3**	**+0.7**
GTA				SS	**SS**	**09 32 01.0**	**-1.0**
GTA				PPMZ			
	comp=Z,110nm,9.3s						
GTA				LN			
	comp=Z,91nm,16.6s						
GTA				LE			
	comp=Z,100nm,17.3s						
GTA				LZ			
	comp=Z,100nm,17.1s						
CD2	**Chengdu**	**175.47**	**154**	*e*PKP	**PKPdf**	**09 05 29.4**	**+0.1**

*IDC **10** 08:49:40.9±2.4, 53°.72N×86°.75E, h0km, mb1 2.9/2, mb1mx2.9/31, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=21.3km s-min=11.8km az=70.0*
*NNC **10** 08:49:41.1±9.3, 53°.52N×86°.95E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=73.0km s-min=54.2km az=17.0*
ISC 10 08:49:41.4±4.1, 53°.9N±0°.2×87°.1E±0°.2, h35km, n7, σ0s95/10, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**273**	*i*		08 59 10.0	
	baz=98,slow=327,SNR=0.4						
ZALV	**Zalesovo Beam**	**1.32**	**273**	Pg	**Pn**	**08 50 03.0**	**-0.4**
	2.4nm,0.3s,baz=101,slow=16,SNR=27						
ZALV				Lg	Lg	08 50 18.7	
	2.4nm,0.3s,baz=102,slow=28,SNR=9.4						
KURK	**Kurchatov**	**6.08**	**242**	⇑Pn	**Pn**	**08 51 10.1**	**+1.4**
	2.0nm,1.2s						
KURK				⇑Sn	**Sn**	**08 52 16.1**	**-0.8**
	0.6nm,0.8s						
KURK				⇑Lg	Lg	08 52 45.9	
	1.1nm,1.1s						
KURBB	**Kurchatov Arra**	**6.18**	**241**	⇑Pn	**Pn**	**08 51 09.9**	**-0.2**
	0.6nm,0.3s						
KURBB				⇓Sn	**Sn**	**08 52 19.6**	**+0.3**
	1.2nm,0.3s						
KURBB				⇑Lg	Lg	08 52 46.5	
	2.4nm,0.7s						
KURBB	**Kurchatov Arra**	**6.18**	**241**	Pn	**Pn**	**08 51 11.1**	**+1.0**
	0.1nm,0.3s,baz=59,slow=14,SNR=7.4						
KURBB				Lg	Lg	08 52 47.2	
	0.0nm,0.3s,baz=60,slow=32,SNR=4.1						
MK31	**Makanchi Array**	**7.74**	**205**	⇑Pn	**Pn**	**08 51 30.9**	**-0.6**
	0.1nm,0.3s,baz=26,slow=13,SNR=16						
MK31				⇓Sn	**Sn**	**08 52 57.7**	**-0.2**
	0.4nm,0.6s,baz=12,slow=30,SNR=5.3						
MK31				⇑Lg	Lg	08 53 38.9	
	1.0nm,1.1s,baz=31,slow=29						
MKAR	**Makanchi Array**	**7.74**	**205**	Pn	**Pn**	**08 51 32.5**	**+1.0**
	0.2nm,0.3s,baz=27,slow=14,SNR=20						
MKAR				Sn	**Sn**	**08 52 56.9**	**-1.0**
	0.1nm,0.3s,baz=22,slow=25,SNR=5.6						
MKAR				Lg	Lg	08 53 37.1	
	0.0nm,0.3s,baz=23,slow=31,SNR=3.2						

*NNC **10** 08:51:56.5±5.9, 37°.06N×70°.77E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=53.2km s-min=39.5km az=147.0*
ISC 10 08:51:58.4±4.8, 36°.8N±0°.3×70°.9E±0°.2, h35km, n9, σ0s70/11, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.73**	**21**	P	**Pn**	**08 53 21.9**	**+0.6**
	SNR=105						
UCH	**Uchtor**	**6.08**	**26**	P	**Pn**	**08 53 26.5**	**+0.3**
	SNR=11						
EKS2	**Erkin-Say**	**6.24**	**20**	P	**Pn**	**08 53 28.7**	**+0.5**
	SNR=8.9						
KK31	**Karatay Array**	**6.28**	**357**	⇓Pn	**Pn**	**08 53 28.7**	**+0.1**
	1.0nm,0.3s,baz=190,slow=13,SNR=47						
KK31				⇓Sn	**Sn**	**08 54 38.5**	**-0.6**
	0.8nm,0.2s,baz=188,slow=24,SNR=6.9						
AAK	**Ala-Archa**	**6.43**	**24**	⇑Pn	**Pn**	**08 53 30.8**	**-0.1**
	1.5nm,0.3s						
AAK				⇑Sn	**Sn**	**08 54 44.2**	**+1.1**
	5.0nm,0.5s						
AAK	**Ala-Archa**	**6.43**	**24**	P	**Pn**	**08 53 31.1**	**+0.3**
	SNR=6.0						
TKM2	**Tokmak 2**	**7.08**	**29**	⇑Pn	**Pn**	**08 53 39.1**	**-0.6**
	5.3nm,0.5s						
TKM2				⇓Sn	**Sn**	**08 54 58.3**	**-0.9**
	2.1nm,0.8s						
TKM2	**Tokmak 2**	**7.08**	**29**	P	**Pn**	**08 53 39.3**	**-0.5**
	SNR=12						
AB31	**Akbulak array**	**14.77**	**331**	⇓Pn	Pn	08 55 18.8	-5.7
	0.5nm,0.6s,baz=159,slow=13,SNR=14						

*IDC **10** 09:01:20.8±1.0, 37°.46S×75°.02W, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.8/30, mbtmp3.7/8, ML3.9/3, Error ellipse: s-maj=30.1km s-min=21.2km az=78.0*
*ISCJB **10** 09:01:24.5±0.9, 37°.40S±0°.09×74°.7W±0°.1, h33km, mb3.8/5, Error ellipse: s-maj=16.9km s-min=10.9km az=26.4*
ISC 10 09:01:26.2±0.9, 37°.36S±0°.08×74°.9W±0°.1, h35km, n11, σ1s37/13, mb3.8/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.80**	**136**	Pn	**Pn**	**09 02 34.3**	**-1.7**
	2.1nm,0.3s,baz=303,slow=9.7,SNR=85						
PLCA				Sn	**Sn**	**09 03 33.3**	**+2.8**
	6.5nm,0.3s,baz=222,slow=12,SNR=4.0						
CFAA	**Coronel Fontan**	**7.97**	**46**	Pn	**Pn**	**09 03 18.1**	**-1.4**
	0.3nm,0.3s,baz=205,slow=13,SNR=20						
CFAA				Sn	**Sn**	**09 04 48.0**	**-0.4**
	0.2nm,0.3s,baz=6.3,slow=18,SNR=4.4						
CPUP	**Villa Florida**	**18.54**	**59**	P	**Pn**	**09 05 41.6**	**+1.6**
	0.2nm,0.3s,baz=214,slow=18,SNR=2.6						
LPAZ	**La Paz**	**21.83**	**18**	P	**P**	**09 06 16.9**	**+0.7**
	2.2nm,0.7s,baz=180,slow=8.9,SNR=5.0						
QSPA	**South Pole Qui**	**52.89**	**180**	P	**P**	**09 10 37.3**	**-1.1**
	1.2nm,0.8s,baz=311,slow=9.3,SNR=3.5						
TXAR	**Lajitas Array**	**71.60**	**334**	P	**P**	**09 12 44.7**	**+0.8**
	0.5nm,0.6s,baz=153,slow=9.4,SNR=5.3						
PDAR	**Pinedale Array**	**85.75**	**335**	P	**P**	**09 14 01.9**	**+0.3**
	0.6nm,0.9s,baz=182,slow=9.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**87.54**	**72**	P	**P**	**09 14 10.3**	**-0.4**
	0.8nm,0.9s,baz=221,slow=5.3,SNR=3.8						
ZALV	**Zasovo Beam**	**158.32**	**34**	PKPab	**PKPab**	**09 21 53.7**	**+0.4**
	0.4nm,0.5s,baz=319,slow=7.9,SNR=3.0						
MKAR	**Makanchi Array**	**160.70**	**54**	PKPab	**PKPab**	**09 22 04.1**	**0.0**
	0.3nm,0.7s,baz=289,slow=4.4,SNR=3.0						
SONM	**Songino Array**	**169.48**	**355**	PKPab	**PKPab**	**09 22 43.4**	**+0.8**
	0.6nm,0.9s,baz=325,slow=2.3,SNR=2.0						

*IDC **10** 09:04:05.9±0.9, 36°.53S×72°.50W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.2/17, mbtmp4.1/7, Error ellipse: s-maj=39.2km s-min=24.1km az=92.0*
*ISCJB **10** 09:04:06.6±0.3, 36°.55S±0°.04×72°.78W±0°.08, h10km, mb5.0/50, Error ellipse: s-maj=9.3km s-min=5.1km az=13.3*
ISC 10 09:04:07.4±0.4, 36°.57S±0°.06×72°.77W±0°.09, h10km, n346, σ0s99/336, mb5.1/50, 122C-120D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.39**	**224**	*e*P	**Pg**	**09 04 15.4**	**+0.4**
CCSP				*i* S	**Sg**	**09 04 19.2**	**-1.0**
VLCH	**Valdivia**	**3.26**	**186**	*e*P	**Pn**	**09 04 58.4**	**-0.1**
VLCH				*e*S1		09 05 35.1	
VLCH				AML	AML	09 06 02.2	
	comp=E,18μm,0.5s						
PLCA	**Paso Flores**	**4.51**	**158**	*e*Pn	**Pn**	**09 05 16.9**	**+1.1**
LCO	**Las Campanas**	**7.73**	**14**	*e*Pn	Pn	09 05 49.6	-11
LVC	**Limon Verde**	**14.30**	**15**	*e*Pn	P	09 07 31.7	-5.8
	comp=E,46nm,1.1s						
LVC				*e*Sn	Sn	09 09 44.4	-25
CPUP	**Villa Florida**	**16.64**	**57**	*e*P	P	09 08 05.2	+2.0
CPUP	**Villa Florida**	**16.64**	**57**	*e*P	P	09 08 05.2	+2.0
	comp=E,0.2nm,0.7s						
LPAZ	**La Paz**	**20.61**	**13**	P	**P**	**09 08 45.0**	**-2.5**
	comp=E,10nm,0.8s,baz=189,slow=7.7,SNR=13						
SIV	**San Ignacio**	**22.98**	**30**	P	**P**	**09 09 10.7**	**-1.5**
	comp=E,3.6nm,0.5s,baz=230,slow=12,SNR=10						
SIV	**San Ignacio**	**22.98**	**30**	P	**P**	**09 09 10.7**	**-1.5**
NNA	**Nana**	**24.75**	**350**	*e*P	**P**	**09 09 29.2**	**0.0**
NNA				pmax	pmax		
	comp=Z,14nm,0.8s						
NNA	**Nana**	**24.75**	**350**	*e*P	**P**	**09 09 29.2**	**0.0**
	comp=Z,14nm,0.8s						
SAML	**Samuel**	**28.84**	**20**	*e*P	P	09 10 08.0	+2.0
	comp=Z,14nm,0.8s						
OTAV	**Otavalo**	**36.99**	**351**	*e*P	**P**	**09 11 17.5**	**-0.1**
	comp=Z,30nm,1.4s						
SDV	**Santo Domingo**	**45.25**	**3**	*e*P	**P**	**09 12 26.1**	**+0.9**
	comp=Z,20nm,0.9s						
VNA3	**Neumayer Olymp**	**47.23**	**157**	P	P	09 12 42.1	+2.0
VNA2	**Neumayer--Watz**	**47.90**	**156**	P	**P**	**09 12 46.3**	**+1.1**
JTS	**JuntasAbangare**	**47.99**	**344**	P	**P**	**09 12 46.2**	**-0.4**
JTS				pmax	pmax		
	comp=Z,19nm,1.2s						
JTS	**JuntasAbangare**	**47.99**	**344**	P	**P**	**09 12 46.2**	**-0.4**
	comp=Z,19nm,1.2s						
SNAA	**Sanae**	**49.45**	**157**	P	**P**	**09 12 57.4**	**+0.2**
QSPA	**South Pole Qui**	**53.68**	**180**	P	**P**	**09 13 28.4**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=126,slow=1.5,SNR=7.6						
QSPA	**South Pole Qui**	**53.68**	**180**	P	**P**	**09 13 28.4**	**-0.6**
CELP	**Cerrillos**	**54.66**	**7**	*e*P	**P**	**09 13 37.2**	**+0.7**
TEIG	**Tepich**	**58.35**	**343**	*e*P	**P**	**09 14 02.0**	**-0.7**
	comp=Z,47nm,1.1s						
SYO	**Syowa Base**	**63.71**	**158**	‖*e*X	**P**	**09 14 37.6**	**-1.0**
035A	**Encino**	**67.52**	**336**	⇓P	**P**	**09 15 05.4**	**+1.8**
	baz=68						
936A	**North Padre Is**	**67.71**	**336**	⇑P	**P**	**09 15 06.3**	**+1.5**
	baz=68						
034A	**Hebbronville**	**67.83**	**335**	⇓P	**P**	**09 15 07.4**	**+1.8**
	baz=68						
934A	**Bevides**	**68.27**	**335**	⇓P	**P**	**09 15 10.2**	**+1.8**
	baz=69						
738A	**Farr-Stevens R**	**68.52**	**338**	⇓P	**P**	**09 15 11.6**	**+1.7**
	baz=69						
933A	**Laredo**	**68.54**	**335**	⇑P	**P**	**09 15 11.5**	**+1.4**
	baz=69,SNR=5.9						
835A	**Beeville**	**68.68**	**336**	⇑P	**P**	**09 15 12.3**	**+1.4**
	baz=69						
834A	**Tilden**	**68.77**	**336**	⇓P	**P**	**09 15 13.2**	**+1.7**
	baz=69,SNR=6.8						
735A	**Kenedy**	**69.20**	**337**	⇑P	**P**	**09 15 15.5**	**+1.4**
	baz=70						
833A	**Chaparral WMA,**	**69.23**	**335**	⇓P	**P**	**09 15 15.3**	**+1.0**
	baz=70,SNR=8.2						
832A	**Faith Ranch, C**	**69.40**	**334**	⇑P	**P**	**09 15 16.7**	**+1.3**
	baz=70,SNR=7.8						
636A	**Smothers Creek**	**69.55**	**337**	⇓P	**P**	**09 15 17.7**	**+1.4**
	baz=70						
733A	**Divot King Ran**	**69.56**	**335**	⇓P	**P**	**09 15 18.2**	**+1.9**
	baz=70						
635A	**Leesville**	**69.69**	**337**	⇓P	**P**	**09 15 18.8**	**+1.7**
	baz=70						
732A	**Laxson Ranch,**	**69.80**	**335**	⇑P	**P**	**09 15 19.0**	**+1.1**
	baz=70,SNR=9.3						
537A	**Green Hill Far**	**69.88**	**338**	⇓P	**P**	**09 15 20.2**	**+1.9**
	baz=70						
633A	**Saathoff Ranch**	**70.21**	**336**	⇓P	**P**	**09 15 21.7**	**+1.4**
	baz=70,SNR=5.2						
535A	**Dale**	**70.22**	**337**	⇑P	**P**	**09 15 21.7**	**+1.3**
	baz=70,SNR=5.2						
438A	**Sam Houston St**	**70.27**	**339**	⇓P	**P**	**09 15 22.3**	**+1.7**
	baz=71						
GOGA	**Godfrey**	**70.33**	**351**	*e*P	**P**	**09 15 20.5**	**-0.5**
GOGA				pmax	pmax		
	comp=Z,19nm,1.3s						
GOGA	**Godfrey**	**70.33**	**351**	*e*P	**P**	**09 15 20.5**	**-0.5**
	comp=Z,19nm,1.3s						
632A	**Uvalde**	**70.45**	**335**	⇓P	**P**	**09 15 23.1**	**+1.2**
	baz=71,SNR=5.5						
340A	**Bronson**	**70.46**	**341**	⇑P	**P**	**09 15 23.3**	**+1.5**
	baz=71						
534A	**Blanco**	**70.50**	**336**	⇓P	**P**	**09 15 22.7**	**+0.5**
	baz=71						
339A	**Huntington**	**70.56**	**340**	⇑P	P	09 15 24.5	+2.1
	baz=71						
631A	**Perdido Creek**	**70.64**	**334**	⇓P	**P**	**09 15 24.6**	**+1.6**
	baz=71						
533A	**Kerrville**	**70.72**	**336**	⇓P	**P**	**09 15 24.8**	**+1.2**
	baz=71,SNR=6.6						
338A	**Crockett**	**70.79**	**340**	⇑P	**P**	**09 15 25.8**	**+1.9**
	baz=71						
337A	**Centerville**	**70.92**	**339**	⇓P	**P**	**09 15 25.4**	**+0.8**
	baz=71						
532A	**Rocksprings**	**71.06**	**335**	⇑P	**P**	**09 15 26.8**	**+1.2**
	baz=71,SNR=9.2						
434A	**Burnet**	**71.17**	**337**	⇑P	**P**	**09 15 27.1**	**+0.9**
	baz=72,SNR=8.5						
239A	**Gary**	**71.19**	**341**	⇓P	**P**	**09 15 27.2**	**+1.0**
	baz=72						
336A	**Riesel**	**71.26**	**338**	⇑P	**P**	**09 15 27.9**	**+1.2**
	baz=72,SNR=6.4						
531A	**Rocksprings**	**71.32**	**335**	⇑P	**P**	**09 15 28.2**	**+1.1**
	baz=72,SNR=7.8						
238A	**Jacksonville**	**71.35**	**340**	⇓P	**P**	**09 15 28.3**	**+1.1**
	baz=72						
JCT	**Junction City**	**71.35**	**336**	*e*P	**P**	**09 15 28.3**	**+0.9**
JCT				pmax	pmax		
	comp=Z,36nm,1.2s						
JCT	**Junction City**	**71.35**	**336**	⇑P	**P**	**09 15 28.3**	**+0.9**
	baz=72,SNR=6.7						
JCT	**Junction City**	**71.35**	**336**	*e*P	**P**	**09 15 28.3**	**+0.9**
	comp=Z,36nm,1.2s						
433A	**Art**	**71.37**	**336**	⇑P	**P**	**09 15 28.1**	**+0.7**
	baz=72,SNR=9.9						
530A	**J-C Ranch, Com**	**71.58**	**334**	⇑P	**P**	**09 15 30.2**	**+1.4**
	baz=72,SNR=12						
334A	**Lometa**	**71.64**	**337**	⇑P	**P**	**09 15 30.0**	**+1.0**
	baz=72,SNR=11						
TXAR	**Lajitas Array**	**71.69**	**332**	P	**P**	**09 15 30.1**	**+0.6**
TXAR	**Lajitas Array**	**71.69**	**332**	P	**P**	**09 15 30.1**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=154,slow=8.6,SNR=19						
TXAR	**Lajitas Array**	**71.69**	**332**	P	**P**	**09 15 30.1**	**+0.6**
432A	**Menard**	**71.71**	**336**	⇓P	**P**	**09 15 30.2**	**+0.6**
	baz=72						
KMSC	**Kings Mountain**	**71.79**	**353**	⇑P	**P**	**09 15 30.6**	**+0.8**
	baz=72						
KMSC	**Kings Mountain**	**71.79**	**353**	*e*P	**P**	**09 15 30.1**	**+0.3**
	comp=Z,3.8nm,0.5s						
431A	**Sonora**	**71.81**	**335**	⇑P	**P**	**09 15 31.0**	**+0.8**
	baz=72,SNR=8.1						
333A	**Richland Sprin**	**71.86**	**337**	⇓P	**P**	**09 15 30.7**	**+0.3**
	baz=72,SNR=9.3						
529A	**Stev Forest Ra**	**71.87**	**333**	⇓P	**P**	**09 15 31.0**	**+0.5**
	baz=72,SNR=10						
WHTX	**Lake Whitney,**	**72.01**	**338**	⇑P	**P**	**09 15 31.8**	**+0.5**
	baz=72						
WHTX	**Lake Whitney,**	**72.01**	**338**	*e*P	**P**	**09 15 31.7**	**+0.5**
	comp=Z,24nm,1.0s						
430A	**Baggett Ranch,**	**72.12**	**334**	⇓P	**P**	**09 15 32.8**	**+0.8**
	baz=72,SNR=12						
332A	**Millersview**	**72.16**	**336**	⇓P	**P**	**09 15 32.9**	**+0.7**
	baz=72,SNR=9.1						
429A	**Davenport Ranc**	**72.20**	**334**	⇓P	**P**	**09 15 33.6**	**+1.0**
	baz=72,SNR=8.7						
234A	**Clairette**	**72.23**	**338**	⇓P	**P**	**09 15 32.9**	**+0.4**
	baz=73,SNR=8.1						
331A	**San Angelo**	**72.32**	**335**	⇑P	**P**	**09 15 33.7**	**+0.5**
	baz=73,SNR=8.8						
OXF	**Oxford**	**72.39**	**346**	*e*P	P	09 15 35.6	+2.2
OXF				pmax	pmax		
	comp=Z,19nm,1.0s						
OXF	**Oxford**	**72.39**	**346**	*e*P	P	09 15 35.6	+2.2
	comp=Z,19nm,1.0s						
SWET	**Sewanee**	**72.46**	**349**	*e*P	**P**	**09 15 34.5**	**+0.6**
	comp=Z,35nm,0.9s						
233A	**Rising Star**	**72.48**	**337**	⇓P	**P**	**09 15 34.5**	**+0.5**
	baz=73,SNR=7.9						
232A	**Coleman**	**72.60**	**336**	⇑P	**P**	**09 15 35.0**	**+0.2**
	baz=73						
330A	**Mertzon**	**72.67**	**335**	⇑P	**P**	**09 15 36.0**	**+0.7**
	baz=73,SNR=7.0						
134A	**White-Moore Ra**	**72.74**	**338**	⇓P	**P**	**09 15 36.0**	**+0.4**
	baz=73						
231A	**Bronte**	**72.86**	**336**	⇓P	**P**	**09 15 36.7**	**+0.3**
	baz=73,SNR=6.4						
329A	**Wagon Wheel Ra**	**73.02**	**334**	⇑P	**P**	**09 15 38.1**	**+0.7**
	baz=73,SNR=7.7						
133A	**Hamilton Ranch**	**73.03**	**337**	⇓P	**P**	**09 15 37.7**	**+0.4**
	baz=73,SNR=6.1						
Z35A	**Perchaven, San**	**73.20**	**339**	⇓P	**P**	**09 15 39.1**	**+0.8**
	baz=74,SNR=6.7						
ABTX	**Abilene, Hawle**	**73.28**	**337**	⇑P	**P**	**09 15 39.1**	**+0.4**
	baz=74,SNR=5.7						
ABTX	**Abilene, Hawle**	**73.28**	**337**	P	**P**	**09 15 38.6**	**-0.2**
	comp=Z,38nm,1.3s						
229A	**Bryant Ranch,**	**73.40**	**334**	⇓P	**P**	**09 15 39.9**	**+0.4**
	baz=74						
Z34A	**Collier Ranch,**	**73.43**	**338**	⇓P	**P**	**09 15 40.2**	**+0.6**
	baz=74						
131A	**Roby**	**73.56**	**336**	⇓P	**P**	**09 15 40.4**	**-0.1**
	baz=74						
Z33A	**Whitaker Ranch**	**73.61**	**338**	⇓P	**P**	**09 15 41.1**	**+0.4**
	baz=74,SNR=5.9						
WVT	**Waverly**	**73.67**	**347**	*e*P	**P**	**09 15 40.9**	**-0.1**
WVT				pmax	pmax		
	comp=Z,23nm,0.8s						
WVT	**Waverly**	**73.67**	**347**	*e*P	**P**	**09 15 40.9**	**-0.1**
	comp=Z,23nm,0.8s						
130A	**Snyder**	**73.68**	**335**	⇑P	**P**	**09 15 41.5**	**+0.3**
	baz=74						
228A	**UT Block 9, Go**	**73.81**	**334**	⇓P	**P**	**09 15 42.3**	**+0.3**
	baz=74,SNR=5.7						
Z32A	**Haskell**	**73.85**	**337**	⇑P	**P**	**09 15 42.4**	**+0.3**
	baz=74,SNR=8.0						
Y34A	**Reagan Ranch,**	**73.93**	**339**	⇑P	**P**	**09 15 43.2**	**+0.6**
	baz=74						
129A	**Stewart Farms,**	**74.02**	**335**	⇑P	**P**	**09 15 43.5**	**+0.3**
	baz=74						
JSRW	**J. Sargeant Re**	**74.04**	**356**	*e*P	**P**	**09 15 42.8**	**-0.3**
Z31A	**Sharp Cattle R**	**74.08**	**336**	⇑P	**P**	**09 15 43.8**	**+0.4**
	baz=74,SNR=6.3						
128A	**Castleberry Fa**	**74.23**	**334**	⇓P	**P**	**09 15 45.0**	**+0.6**
	baz=74,SNR=5.9						
Y33A	**Hilltop Ranch,**	**74.24**	**338**	⇓P	**P**	**09 15 45.0**	**+0.6**
	baz=75						
Z30A	**Sanderson Ranc**	**74.37**	**336**	⇑P	**P**	**09 15 45.8**	**+0.6**
	baz=75,SNR=6.3						
MNTX	**Cornudas Mount**	**74.46**	**332**	*e*P	**P**	**09 15 46.0**	**+0.3**
	comp=Z,8.3nm,1.0s						
Y32A	**R-V Farms, Ver**	**74.49**	**337**	⇑P	**P**	**09 15 46.1**	**+0.3**
	baz=75,SNR=5.7						
Z29A	**Hungry Hill Ra**	**74.54**	**335**	⇑P	**P**	**09 15 46.1**	**-0.1**
	baz=75						
X34A	**Smith Ranch, M**	**74.56**	**339**	⇓P	**P**	**09 15

V27A	Dan Oppiter Fa	77.19 335	⇑P	P	09 16 02.0 +0.6
	baz=78				
TUC	Tucson	77.20 328	*e*P	P	09 15 59.3 -2.2
TUC			pmax	pmax	
	comp=Z,11nm,1.3s				
TUC	Tucson	77.20 328	*e*P	P	09 15 59.3 -2.2
	comp=Z,11nm,1.3s				
LPM	Los Pinos Moun	77.26 332	*e*P	P	09 16 03.6 +1.8
	comp=Z,5.4nm,1.0s				
W25A	X Bar L. Ranch,	77.27 334	⇓P	P	09 16 02.5 +0.6
	baz=78,SNR=6.7				
LAZ	Ladron	77.53 331	*e*P	P	09 16 03.9 +0.5
	comp=Z,11nm,1.3s				
V26A	Tequesquite Ra	77.55 335	⇓P	P	09 16 04.3 +0.9
	baz=78				
W24A	Lazy 6 Ranch,	77.60 333	⇑P	P	09 16 04.6 +0.7
	baz=78				
ANMO	Albuquerque	77.75 332	*e*P	P	09 16 05.3 +0.6
	comp=Z,16nm,1.1s				
U27A	Thompson Grove	77.79 336	⇓P	P	09 16 05.3 +0.6
	baz=78,SNR=5.1				
W23A	Werner Place,	77.83 333	⇓P	P	09 16 06.1 +1.0
	baz=78,SNR=6.0				
S31A	Mullinville	77.85 339	⇓P	P	09 16 05.6 +0.6
	baz=78				
V25A	Rancho No Teng	77.88 334	⇓P	P	09 16 05.9 +0.5
	baz=78,SNR=7.4				
V24A	Rampart Ranch,	78.01 333	⇑P	P	09 16 07.1 +1.0
	baz=78				
U26A	Atchley Ranch,	78.08 335	⇓P	P	09 16 07.1 +0.7
	baz=78				
S30A	Montezuma	78.16 338	⇑P	P	09 16 07.3 +0.6
	baz=78				
T28A	Walsh	78.20 336	⇑P	P	09 16 08.0 +1.0
	baz=78,SNR=8.3				
U25A	Circle Dot Ran	78.31 334	⇑P	P	09 16 08.5 +0.8
	baz=79,SNR=5.5				
T27A	Campo	78.34 336	⇓P	P	09 16 09.1 +1.3
	baz=79,SNR=5.6				
V23A	Ortiz Mt. (NFS	78.36 333	⇓P	P	09 16 09.0 +1.0
	baz=79				
R31A	Burdett	78.48 339	⇑P	P	09 16 09.8 +1.4
	baz=79				
S28A	Manter	78.56 337	⇓P	P	09 16 10.2 +1.3
	baz=79,SNR=6.1				
U24A	Moreno Valley	78.63 334	⇓P	P	09 16 10.6 +1.1
	baz=79				
T26A	Comanche Natio	78.73 335	⇓P	P	09 16 11.4 +1.4
	baz=79,SNR=6.8				
V22A	San Miguel Ran	78.78 332	⇑P	P	09 16 12.0 +1.6
	baz=79,SNR=9.8				
U23A	El Rito	78.89 333	⇑P	P	09 16 12.4 +1.5
	baz=79,SNR=7.5				
T25A	Trinidad	78.98 335	⇓P	P	09 16 13.0 +1.6
	baz=79,SNR=8.3				
S26A	Kim	79.10 336	⇓P	P	09 16 13.3 +1.3
	baz=79,SNR=7.3				
U22A	Llaves	79.17 333	⇓P	P	09 16 13.2 +0.7
	baz=80				
R28A	Tribune	79.22 337	⇑P	P	09 16 13.5 +0.9
	baz=80,SNR=7.3				
T24B	San Luis	79.25 334	⇓P	P	09 16 13.9 +0.9
	baz=80,SNR=5.4				
X16A	Lo Mia Camp, P	79.29 328	⇑P	P	09 16 14.0 +0.9
	baz=80				
Q30A	Quinter	79.32 339	⇑P	P	09 16 13.9 +0.9
	baz=80,SNR=5.3				
P32A	Huiting Farm,	79.46 340	⇑P	P	09 16 15.0 +1.2
	baz=80				
S25A	Robets Cordova	79.46 335	⇑P	P	09 16 14.7 +0.7
	baz=80,SNR=6.2				
T23A	Casias Ranch,	79.46 333	⇑P	P	09 16 15.6 +1.5
	baz=80,SNR=5.8				
Q29A	Oakley	79.47 338	⇓P	P	09 16 14.8 +1.0
	baz=80				
R27A	Eads	79.48 336	⇓P	P	09 16 14.5 +0.5
	baz=80,SNR=6.7				
R26A	Arlington	79.71 336	⇑P	P	09 16 16.8 +1.6
	baz=80,SNR=7.0				
S24A	Houchin Ranch,	79.71 334	⇑P	P	09 16 16.4 +0.9
	baz=80,SNR=8.2				
Y12C	Blythe	80.07 326	⇓P	P	09 16 18.6 +1.4
	baz=80				
P29A	Atwood	80.11 338	⇑P	P	09 16 18.1 +0.8
	baz=80,SNR=5.8				
MDV	Middlebury	80.19 360	*e*P	P	09 16 18.5 +1.0
	comp=Z,13μm,0.4s				
R24A	Sanders Place,	80.20 335	⇓P	P	09 16 19.1 +1.1
	baz=80,SNR=8.1				
Q26A	Hugo	80.30 336	⇑P	P	09 16 19.5 +1.1
	baz=81,SNR=5.6				
S22A	4UR Ranch, Cre	80.38 333	⇑P	P	09 16 20.4 +1.3
	baz=81,SNR=7.4				
O30A	MW Ranch, Wils	80.39 339	⇑P	P	09 16 20.2 +1.4
	baz=81,SNR=5.5				
R23A	Moffat	80.42 334	⇓P	P	09 16 20.7 +1.5
	baz=81				
BC3	Big Chuckawall	80.42 325	⇑P	P	09 16 20.4 +1.3
	baz=81				
MVCO	Mesa Verde	80.53 332	⇓P	P	09 16 20.4 +0.6
	baz=81,SNR=8.1				
MVCO	Mesa Verde	80.53 332	*e*P	P	09 16 20.0 +0.2
	comp=Z,22nm,1.3s				
Q25A	Bedland, Calha	80.53 336	⇓P	P	09 16 21.0 +1.2
	baz=81,SNR=5.2				
IRM	Iron Mountain	80.70 326	⇑P	P	09 16 21.6 +1.0
	baz=81				
P26A	Davis Ranch, A	80.82 337	⇑P	P	09 16 22.1 +0.8
	baz=81				
O28A	Krutsinger Ran	80.84 338	⇑P	P	09 16 22.4 +1.1
	baz=81				
Q24A	Divide	80.88 335	⇓P	P	09 16 22.6 +0.8
	baz=81				
W13A	Hualapai Mount	80.92 327	⇑P	P	09 16 22.7 +0.7
	baz=81				
BELC	Belle Mtn. Jos	80.96 325	⇑P	P	09 16 22.8 +0.7
	baz=81				
BGNE	Belgrade	81.01 341	*e*P	P	09 16 18.8 -3.3
P25A	Willow Gulch B	81.04 336	⇑P	P	09 16 23.5 +1.0
	baz=81,SNR=7.6				
M31A	Lambtecht Ranc	81.17 340	⇑P	P	09 16 24.0 +1.1
	baz=82				
U15A	North Rim	81.36 329	⇓P	P	09 16 26.1 +1.7
	baz=82				
PV01	Paradox Valley	81.36 332	*e*P	P	09 16 24.8 +0.5
	comp=Z,1μm,1.1s				
GMRC	Granite Mounta	81.45 325	⇑P	P	09 16 26.3 +1.7
	baz=82				
LBTB	Lobatse	81.77 115	*e*P	P	09 16 27.6 +0.8
	comp=Z,31nm,0.8s				
ISCO	Idaho Springs	81.78 335	⇑P	P	09 16 26.8 +0.2
	baz=82,SNR=6.2				
L31A	Butterfield Fa	81.91 341	⇓P	P	09 16 28.3 +1.5
	baz=82,SNR=7.6				
P22A	Eagle	82.00 334	⇑P	P	09 16 29.5 +1.9
	baz=82				
TUQ	Turquoise Moun	82.11 326	⇓P	P	09 16 29.7 +1.5
	baz=82				
O23A	Lake Granby, G	82.25 335	⇓P	P	09 16 30.1 +1.1
	baz=83,SNR=6.3				
O22A	Kremmling	82.43 335	⇑P	P	09 16 31.1 +1.2
	baz=83,SNR=8.2				
K30A	Basset	82.58 340	⇓P	P	09 16 31.9 +1.6
	baz=83,SNR=9.2				
SHPR	Sheep Range	82.66 327	*e*P	P	09 16 31.5 +0.5
	comp=Z,17nm,1.1s				
L27A	T5 Ranch, Ells	82.80 338	⇓P	P	09 16 32.6 +1.0
	baz=83				
ECSD	EROS Data Cent	82.81 343	⇑P	P	09 16 32.1 +0.6
	baz=83,SNR=14				
ECSD	EROS Data Cent	82.81 343	*e*P	P	09 16 31.4 0.0
	comp=Z,22nm,1.0s				
N23A	Red Feather La	82.88 335	⇑P	P	09 16 33.4 +1.2
	baz=83,SNR=5.0				
SRU	San Rafael Swe	82.96 331	*e*P	P	09 16 33.2 +0.6
SRU			pmax	pmax	
	comp=Z,2.0nm,0.8s				
SRU	San Rafael Swe	82.96 331	*e*P	P	09 16 33.2 +0.6
	comp=Z,1.8nm,0.8s				
N22A	Wattenberg Ran	82.97 335	⇓P	P	09 16 34.5 +1.8
	baz=83,SNR=6.3				
ARUT	Antelope Range	83.00 329	*e*P	P	09 16 34.9 +2.1
ARUT			pmax	pmax	
	comp=Z,253nm,1.1s				
ARUT	Antelope Range	83.00 329	*e*P	P	09 16 34.9 +2.1
	comp=Z,253nm,1.1s				
K28A	Ten Mile Ranch	83.10 339	⇑P	P	09 16 34.8 +1.7
	baz=84				
MVU	Marysvale	83.10 330	*e*P	P	09 16 35.1 +1.7
	comp=Z,14nm,1.2s				
M23A	Laramie	83.31 336	⇑P	P	09 16 35.5 +1.1
	baz=84,SNR=7.9				
J29A	Okreek	83.45 340	⇓P	P	09 16 35.7 +0.9
	baz=84,SNR=10				
DAC	Darwin (Calif)	83.57 325	*e*P	P	09 16 36.5 +0.7
DAC			pmax	pmax	
	comp=Z,9.0nm,1.0s				
DAC	Darwin (Calif)	83.57 325	*e*P	P	09 16 36.5 +0.7
	comp=Z,9.4nm,1.0s				
N20A	Spence Gulch,	83.62 334	⇑P	P	09 16 36.5 +0.4
	baz=84				
I30A	Oacoma	83.68 341	⇓P	P	09 16 36.8 +0.8
	baz=84,SNR=6.8				
J28A	Allard Ranch,	83.72 340	⇓P	P	09 16 37.6 +1.3
	baz=84,SNR=5.7				
I29A	Vivian Onida	84.02 340	⇑P	P	09 16 38.5 +0.8
	baz=84				
BRSD	Miller	84.05 341	*e*P	P	09 16 37.3 -0.6
	comp=Z,11nm,0.8s				
K24A	Anderson Ranch	84.15 337	⇓P	P	09 16 39.7 +1.1
	baz=84				
J26A	Sides Ranch, S	84.15 338	⇑P	P	09 16 39.8 +1.4
	baz=84				
I28A	Midland	84.23 340	⇑P	P	09 16 39.9 +1.1
	baz=85,SNR=6.6				
R11A	Troy Canyon, C	84.38 328	⇓P	P	09 16 40.9 +1.0
	baz=85				
R11A	Troy Canyon, C	84.38 328	*e*P	P	09 16 40.9 +1.0
	comp=Z,13nm,1.1s				
K23A	Bowen Ranch, D	84.44 336	⇑P	P	09 16 41.3 +1.2
	baz=85,SNR=5.1				
H29A	Onida	84.55 341	⇑P	P	09 16 41.1 +0.7
	baz=85,SNR=7.5				
JLU	Jordanelle	84.61 331	*e*P	P	09 16 41.5 +0.5
	comp=Z,10nm,0.9s				
K22A	Casper	84.64 336	⇑P	P	09 16 42.3 +1.2
	baz=85,SNR=8.1				
K22A	Casper	84.64 336	*e*P	P	09 16 41.6 +0.5
	comp=Z,22nm,1.1s				
J24A	Dixon Ranch, L	84.65 337	⇓P	P	09 16 42.4 +1.3
	baz=85,SNR=6.9				
G30A	Faulkton	84.74 342	⇑P	P	09 16 42.0 +0.7
	baz=85				
DUG	Dugway, Tooele	84.79 330	*e*P	P	09 16 43.3 +1.4
DUG			pmax	pmax	
	comp=Z,23nm,1.3s				
DUG	Dugway, Tooele	84.79 330	⇑P	P	09 16 42.8 +0.9
	baz=85				
DUG	Dugway, Tooele	84.79 330	*e*P	P	09 16 43.3 +1.4
	comp=Z,23nm,1.3s				
K21A	Alcova	84.87 335	⇓P	P	09 16 43.1 +0.9
	baz=85,SNR=7.8				
TPH	Tonopah	84.88 326	*e*P	P	09 16 43.5 +1.1
TPH			pmax	pmax	
	comp=Z,23nm,1.1s				
TPH	Tonopah	84.88 326	*e*P	P	09 16 43.5 +1.1
	comp=Z,24nm,1.1s				
I25A	Rochford	84.99 338	⇑P	P	09 16 43.7 +0.9
	baz=85,SNR=6.7				
H27A	Howes	85.07 339	⇓P	P	09 16 44.0 +1.0
	baz=85,SNR=7.7				
I24A	Kuemmerle Ranc	85.12 337	⇓P	P	09 16 43.8 +0.5
	baz=86				
G28A	Parade	85.16 340	⇑P	P	09 16 44.1 +0.7
	baz=86				
RSSD	Black Hills	85.17 338	*e*P	P	09 16 44.2 +0.4
RSSD			pmax	pmax	
	comp=Z,12nm,1.0s				
RSSD	Black Hills	85.17 338	*e*P	P	09 16 44.2 +0.4
	comp=Z,12nm,1.0s				
J22A	Midwest	85.31 336	⇑P	P	09 16 44.9 +0.5
	baz=86,SNR=5.9				
H25A	Fruitdale	85.50 338	⇑P	P	09 16 46.2 +1.1
	baz=86,SNR=6.5				
HWUT	Hardware Ranch	85.52 332	*e*P	P	09 16 45.7 +0.2
	comp=Z,29nm,1.0s				
J21A	Lysite	85.56 335	⇑P	P	09 16 45.9 +0.2
	baz=86				
F29A	Eureka	85.57 341	⇓P	P	09 16 45.9 +0.5
	baz=86				
TORD	Torodi Ar. Bea	85.64 70	P	P	09 16 47.1 +0.6
	comp=Z,0.9nm,1.1s,baz=248,slow=7.6,SNR=3.6				
TORD	Torodi Ar. Bea	85.64 70	P	P	09 16 47.1 +0.6
NVAR	Mina Array Bea	85.65 326	P	P	09 16 47.4 +1.1
	comp=Z,1.2nm,0.8s,baz=151,slow=5.7,SNR=9.4				
NVAR	Mina Array Bea	85.65 326	P	P	09 16 47.4 +1.1
G27A	Dupree	85.72 340	⇑P	P	09 16 46.5 +0.3
	baz=86				
I22A	9 Mile Ranch,	85.73 336	⇓P	P	09 16 46.8 +0.3
	baz=86,SNR=7.0				
PDAR	Pinedale Array	85.78 334	P	P	09 16 47.6 +0.8
	comp=Z,0.8nm,0.9s,baz=170,slow=4.6,SNR=5.4				
PDAR	Pinedale Array	85.78 334	P	P	09 16 47.6 +0.8
J20A	Shoshoni	85.79 335	⇑P	P	09 16 47.5 +0.7
	baz=86,SNR=7.6				
G26A	Maurine	85.82 339	⇑P	P	09 16 47.0 +0.2
	baz=86,SNR=8.2				
H24A	Dirks Ranch, A	85.90 338	⇑P	P	09 16 47.6 +0.4
	baz=86,SNR=6.2				
I21A	Big Trails, Te	85.93 336	⇓P	P	09 16 47.4 0.0
	baz=86,SNR=7.7				
G25A	Newell	85.97 339	⇓P	P	09 16 48.1 +0.6
	baz=86,SNR=7.6				
J19A	Crowheart	86.04 334	⇑P	P	09 16 48.2 +0.2
	baz=86,SNR=8.7				
HVU	Hansel Valley	86.13 331	*e*P	P	09 16 49.1 +0.6
HVU			pmax	pmax	
	comp=Z,14nm,0.9s				
HVU	Hansel Valley	86.13 331	*e*P	P	09 16 49.1 +0.6
	comp=Z,14nm,0.9s				
F27A	Lemmon	86.19 340	⇓P	P	09 16 48.7 +0.1
	baz=87,SNR=7.6				
H22A	Clearmont	86.32 337	⇑P	P	09 16 49.1 -0.2
	baz=87				
I20A	Worland	86.33 335	⇓P	P	09 16 49.7 +0.3
	baz=87,SNR=5.9				
F26A	Lodgepole	86.35 340	⇑P	P	09 16 49.7 +0.4
	baz=87,SNR=6.7				
G24A	Alzada	86.38 338	⇑P	P	09 16 50.0 +0.4
	baz=87				
D30A	Buchanan	86.50 343	⇑P	P	09 16 50.6 +0.6
	baz=87,SNR=5.2				
G23A	Biddle	86.56 338	⇑P	P	09 16 50.5 0.0
	baz=87,SNR=5.1				
E27A	Carson	86.58 341	⇓P	P	09 16 50.5 0.0
	baz=87				
F25A	Bowman	86.65 339	⇓P	P	09 16 51.0 +0.2
	baz=87,SNR=5.5				
D29A	Pettibone, Tap	86.66 342	⇑P	P	09 16 51.3 +0.5
	baz=87				
H20A	Greybull	86.76 336	⇓P	P	09 16 51.2 -0.3
	baz=87,SNR=6.1				
F24A	Ekalaka	86.86 338	⇓P	P	09 16 52.2 +0.3
	baz=87,SNR=5.9				
G22A	Birney	86.86 337	⇓P	P	09 16 51.4 -0.5
	baz=87				
E26A	Carlson Angus	86.86 340	⇓P	P	09 16 52.2 +0.4
	baz=87,SNR=5.9				
AGMN	Agassiz Nation	86.96 345	⇑P	P	09 16 52.2 0.0
	baz=87,SNR=5.4				
C30A	Mose, Pekin	86.99 343	⇓P	P	09 16 52.8 +0.4
	baz=87,SNR=8.7				
D28A	Regan	87.03 341	⇑P	P	09 16 53.1 +0.5
	baz=87,SNR=5.8				
F23A	Volborg	87.04 338	⇓P	P	09 16 52.5 -0.2
	baz=87,SNR=6.1				
I17A	Pilgrim Ck.	87.15 334	⇓P	P	09 16 54.0 +0.5
	baz=88,SNR=7.2				
E25A	Miller Ranch,	87.15 339	⇑P	P	09 16 53.8 +0.5
	baz=88,SNR=5.5				
D27A	Center	87.20 341	⇓P	P	09 16 53.9 +0.4
	baz=88				
H19A	Powell	87.25 335	⇑P	P	09 16 54.0 +0.1
	baz=88				
D26A	Manning	87.37 340	⇑P	P	09 16 55.2 +0.9
	baz=88,SNR=9.5				
MDND	Maddock	87.39 342	⇑P	P	09 16 55.2 +0.9
	baz=88,SNR=5.5				
E24A	Baker	87.47 339	⇑P	P	09 16 55.0 +0.2
	baz=88				
G20A	Bridger	87.48 336	⇑P	P	09 16 55.3 +0.3
	baz=88				
H18A	Shoshone NF, C	87.49 335	⇑P	P	09 16 55.5 +0.4
	baz=88,SNR=6.4				
D25A	Fairfield	87.72 340	⇑P	P	09 16 57.2 +1.2
	baz=88,SNR=6.2				
C27A	Sayler Ranch,	87.75 341	⇓P	P	09 16 56.9 +0.8
	baz=88,SNR=6.7				
B29A	Wagenman Farm,	87.91 343	⇑P	P	09 16 58.3 +1.5
	baz=88,SNR=8.1				
D24A	Glendive	87.98 339	⇓P	P	09 16 58.7 +1.5
	baz=88,SNR=5.3				
C26A	Wahner Farm, P	88.01 341	⇓P	P	09 16 58.9 +1.5
	baz=88,SNR=6.0				
A30A	Hoffart Farm,	88.11 343	⇓P	P	09 16 58.2 +0.5
	baz=88				
B28A	Dugan Ranch, T	88.14 342	⇑P	P	09 16 58.7 +0.9
	baz=88,SNR=5.9				
HLID	Hailey	88.28 331	⇓P	P	09 16 58.6 -0.3
	baz=89				
D23A	Lindsay	88.29 339	⇑P	P	09 16 59.5 +0.8
	baz=89,SNR=7.2				
A29A	Manning Farm,	88.31 343	⇑P	P	09 16 58.9 +0.3
	baz=89,SNR=8.0				
C24A	Savage	88.38 339	⇑P	P	09 16 59.5 +0.4
	baz=89,SNR=5.4				
A28A	Rude Farm, Bot	88.54 342	⇓P	P	09 17 00.2 +0.3
	baz=89				
E20A	Meyer Farm, Mu	88.59 336	⇑P	P	09 17 00.5 +0.4
	baz=89				
E19A	Rath Farm, Rou	88.77 336	⇓P	P	09 17 03.1 +2.1
	baz=89				
C23A	Lambert	88.85 339	⇓P	P	09 17 03.0 +1.7
	baz=89				
D20A	Manuel Ranch,	89.11 337	⇓P	P	09 17 05.1 +2.5
	baz=89				
DGMT	Dagmar	89.17 340	⇑P	P	09 17 04.9 +2.1
	baz=90				
DGMT	Dagmar	89.17 340	*e*P	P	09 17 03.8 +1.1
	comp=Z,12nm,1.0s				
BRTR	Keskin Array B	123.57 63	PKIKP	PKPdf	09 23 05.7 +0.7
BRTR	Keskin Array B	123.57 63	PKP	PKPdf	09 23 05.7 +0.7
	comp=Z,1.0nm,0.8s,baz=262,slow=2.9,SNR=3.3				
BRTR	Keskin Array B	123.57 63	PKP	PKPdf	09 23 05.7 +0.7
AKASG	Malin Array Be	124.34 49	PKIKP	PKPdf	09 23 05.4 -0.6
AKASG	Malin Array Be	124.34 49	PKP	PKPdf	09 23 05.3 -0.6
	comp=Z,0.7nm,0.5s,baz=243,slow=3.0,SNR=2.2				
AKASG	Malin Array Be	124.34 49	PKP	PKPdf	09 23 05.3 -0.6
PETK	Petropavlovsk-	141.46 312	PKIKP	PKPdf	09 23 37.9 -0.1
PETK	Petropavlovsk-	141.46 312	PKP	PKPdf	09 23 37.9 -0.1
	comp=Z,2.4nm,0.8s,baz=188,slow=2.9,SNR=3.3				
PETK	Petropavlovsk-	141.46 312	PKP	PKPdf	09 23 37.9 -0.1
SEY	Seymchan	141.92 328	PKIKP	PKPdf	09 23 38.6 +0.1
SEY	Seymchan	141.92 328	PKP	PKPdf	09 23 38.5 +0.1
	comp=Z,1.0nm,0.8s,baz=96,slow=3.7,SNR=7.6				
SEY	Seymchan	141.92 328	PKP	PKPdf	09 23 38.5 +0.1
ABKAR	Akbulak array	143.70 54	*e*PKPdf	PKPdf	09 23 39.7 -2.4
ZALV	Zalesovo Beam	156.69 35	PKP	PKPdf	09 24 01.7 -0.4
	comp=Z,0.5nm,0.4s,baz=225,slow=1.9,SNR=4.9				
ZALV			PKPab	PKPab	09 24 28.8 -2.7
	comp=Z,1.8nm,0.7s,baz=313,slow=2.4,SNR=4.7				
ZALV	Zalesovo Beam	156.69 35	PKP	PKPdf	09 24 01.7 -0.4
ZALV			PKPab	PKPab	09 24 28.8 -2.7
ZALV	Zalesovo Beam	156.69 35	PKIKP	PKPdf	09 24 01.7 -0.4
ZALV				PKPab	09 24 28.8 -2.7
MKAR	Makanchi Array	158.84 53	PKIKP	PKPdf	09 24 05.3 +0.2
MKAR	Makanchi Array	158.84 53	PKP	PKPdf	09 24 05.3 +0.2
	comp=Z,0.6nm,1.0s,baz=33,slow=1.6,SNR=4.0				
MKAR	Makanchi Array	158.84 53	PKP	PKPdf	09 24 05.3 +0.2

NEIC ***10*** *09:04:09.9, 36°.70S×73°.19W, h27km, mb5.1/36, ML5.4(GUC), After GUC.*
NEIC Felt [IV] at Concepcion and Talcahuano. Also felt at Angol and San Antonio.
GUC ***10*** *09:04:09.9±0.6, 36°.70S×73°.19W, h27km±2km, ML5.4*
BJI ***10*** *09:04:14.5, 36°.30S×73°.00W, h35km, mB5.1/12, Ms5.4/8, Ms7 5.0/10*
MOS ***10*** *09:04:14.0±2.1, 36°.03S×73°.32W, h33km, mb5.3/19, Error ellipse: s-maj=21.8km s-min=12.0km az=98.1*
ISCJB ***10*** *09:04:14.8±0.4, 36°.69S±0°.05×72°.84W±0°.08, h25km, mb4.8/21, Error ellipse: s-maj=9.2km s-min=6.0km az=22.8*
IDC ***10*** *09:04:17.3±3.5, 36°.68S×72°.85W, h33km±26km, mb4.5/17, mb1 4.6/21, mb1mx4.5/26, mbtmp4.6/21, ML4.2/4, Error ellipse: s-maj=21.3km s-min=11.1km az=83.0*
ISC 10 09:04:15.1±0.3, 36°.63S±0°.06×73°.00W±0°.08, h25km, n97, σ1§86/113, mb4.8/21, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LNCH	Linares	1.38	56	⇑*i*P		Pn	Pn	09 04 35.9	-2.9
LNCH				*i*S		Sn	Sn	09 04 56.1	0.0
LNCH				AML		AML	AML	09 05 07.2	
	comp=N,44μm,1.3s								
NICH	Los Niches	2.17	42	*e*P		Pn	Pn	09 04 47.8	-1.9
NICH				*i*S		Sn	Sn	09 05 16.3	+0.5
NICH				AML		AML	AML	09 05 35.2	
	comp=E,23μm,0.5s								
OSCH	Osorno	3.94	181	*e*P1		Pn	Pn	09 05 08.1	-5.8
PLCA	Paso Flores	4.52	156	Pn		Pn	Pn	09 05 21.6	-0.4
	comp=E,2.6nm,0.3s,baz=304,slow=14,SNR=12								
PLCA				Lg		Lg	Lg	09 06 37.4	
	comp=E,32nm,0.3s,baz=236,slow=23,SNR=5.9								
CFAA	Coronel Fontan	6.38	40	Pn		Pn	Pn	09 05 48.9	+1.3
	comp=E,3.2nm,0.3s,baz=239,slow=14,SNR=28								
TRQA	Tornquist	8.89	103	*e*Pn		Pn	Pn	09 06 21.3	-0.7
	comp=E,136nm,1.2s								
CPUP	Villa Florida	16.84	57	Pn		Pn	Pn	09 08 08.4	-0.7
	comp=E,0.4nm,0.3s,baz=208,slow=11,SNR=4.7								
USHA	Ushuaia	18.47	172	P		Pn	Pn	09 08 30.3	+1.2
	comp=E,0.4nm,0.3s,baz=340,slow=3.9,SNR=4.2								
LPAZ	La Paz	20.72	13	P		Pn	Pn	09 08 56.4	-0.6
	comp=E,16nm,0.9s,baz=199,slow=8.1,SNR=10								
LPAZ	La Paz	20.72	13	P		Pn	Pn	09 08 56.4	-0.6
	comp=E,1.3nm,0.5s								
SIV	San Ignacio	23.13	30	P		P	P	09 09 21.1	+1.6
	comp=E,21nm,1.0s,baz=232,slow=12,SNR=19								
NNA	Nana	24.78	351	P		P	P	09 09 36.0	+0.9
	comp=E,5.7nm,0.3s,baz=202,slow=6.6,SNR=4.8								
ATAH	Atahualpa	29.77	349	P		P	P	09 10 23.0	+2.7
	comp=E,5.8nm,0.8s,baz=148,slow=6.8,SNR=5.4								
BDFB	Brasilia	30.50	53	P		P	P	09 10 26.9	+0.5
	comp=E,4.7nm,0.8s,baz=239,slow=7.0,SNR=4.7								
JTS	JuntasAbangare	48.01	344	P		P	P	09 12 54.4	+2.3
	comp=E,7.9nm,1.0s,baz=180,slow=10.0,SNR=5.2								
SNAA	Sanae	49.46	157	*e*P		P	P	09 13 04.1	+1.3
SNAA	Sanae	49.46	157⇑	*e*P		P	P	09 13 04.0	+1.2
SNAA				pmax		pmax	pmax		
	comp=Z,25nm,1.7s								
SNAA	Sanae	49.46	157	P		P	P	09 13 03.7	+0.9
	comp=Z,6.2nm,0.9s,baz=292,slow=8.5,SNR=11								
SNAA	Sanae	49.46	157	*e*P		P	P	09 13 01.1	-1.7
	comp=Z,22nm,1.0s								
QSPA	South Pole Qui	53.61	180	P		P	P	09 13 35.3	+1.3
	comp=Z,21nm,0.9s,baz=133,slow=3.7,SNR=30								
RKT	Rikitea	54.55	266	*e*T		T	T	10 11 53.4	
	comp=Z,3.7nm,0.4s								
VNDA	Vanda	61.37	192	P		P	P	09 14 29.6	+1.3
	comp=Z,3.9nm,1.1s,baz=105,slow=4.2,SNR=8.3								
TBI	Tubuai	65.97	258	*e*T		T	T	10 26 14.4	
	comp=Z,10nm,0.4s								
MEH	Mehetia	67.75	264	*e*T		T	T	10 28 23.8	
	comp=Z,29nm,0.2s								
TIAR	Tiarei	68.94	263	*e*T		T	T

BOSA Boshof 79.54 118 *e*P P 09 16 21.3 +1.0
BOSA AMB AMB 09 16 22.3
comp=Z,60nm,3.9s
BOSA AMS AMS 09 29 07.8
comp=Z,447nm,5.4s
BOSA Boshof 79.54 118 P **P 09 16 20.9 +0.7**
comp=Z,20nm,0.9s,baz=236,slow=4.7,SNR=20
SWZ Schweizer 80.44 117 *e*P **P 09 16 25.8 +0.7**
SWZ AMB AMB 09 16 41.0
comp=Z,52nm,4.2s
SWZ Schweizer 80.44 117 P **P 09 16 25.8 +0.7**
comp=Z,52nm,4.2s
PFO Pinyon Flats O 80.79 324 P **P 09 16 29.2 +2.7**
comp=Z,3.8nm,0.9s,baz=67,slow=1.2,SNR=3.9
LBTB Lobatse 81.91 115 *e*P **P 09 16 34.1 +1.2**
LBTB AMB AMB 09 16 34.5
comp=Z,32nm,0.8s
LBTB AMS AMS 09 43 11.7
comp=Z,624nm,5.3s
NVAR Mina Array Bea 85.61 326 P **P 09 16 53.5 +2.1**
comp=Z,5.0nm,0.8s,baz=162,slow=5.9,SNR=24
PDAR Pinedale Array 85.76 334 P **P 09 16 53.2 +1.1**
comp=Z,4.9nm,1.0s,baz=145,slow=5.4,SNR=21
TORD Torodi Ar. Bea 85.84 70 P **P 09 16 53.2 +0.3**
comp=Z,5.3nm,1.0s,baz=259,slow=4.4,SNR=17
MOPA Mopani 87.01 117 *e*P **P 09 16 59.7 +1.0**
MOPA AMB AMB 09 17 07.5
comp=Z,18nm,5.8s
MOPA Mopani 87.01 117 P **P 09 16 59.7 +1.0**
comp=Z,18nm,5.8s
ULM Lac du Bonnet 88.84 346 P **P 09 17 06.6 +0.1**
comp=Z,5.8nm,0.9s,baz=168,slow=4.2,SNR=11
YKA Yellowknife Ar 104.30 341 Pdiff **Pdif 09 18 16.4 0.0**
comp=Z,0.7nm,1.1s,baz=150,slow=4.0,SNR=5.3
ASAR Alice Springs 114.87 207 PKKPbc PKKPbc 09 33 34.8 +4.8
comp=Z,0.6nm,0.9s,baz=349,slow=4.3,SNR=4.3
VYHS Vyhne 117.44 49 *e*PKIKP **PKPdf 09 22 59.5 +1.4**
VYHS Vyhne 117.44 49 *e* **PKPdf 09 22 59.5 +1.4**
WRA Warramunga Arr 118.08 209 PKP **PKPdf 09 22 59.3 -1.0**
comp=Z,0.7nm,0.9s,baz=147,slow=1.7,SNR=5.0
BRTR Keskin Array B 123.77 63 PKP **PKPdf 09 23 11.1 +0.4**
comp=Z,3.2nm,0.9s,baz=208,slow=0.9,SNR=7.9
KIEV Kiev 124.52 49 ||*i*PKIKP **PKPdf 09 23 10.7 -0.8**
AKASG Malin Array Be 124.53 49 PKP **PKPdf 09 23 10.8 -0.8**
comp=Z,1.5nm,0.6s,baz=260,slow=2.6,SNR=5.4
AKASG Malin Array Be 124.53 49 PKP **PKPdf 09 23 10.8 -0.8**
AKASG Malin Array Be 124.53 49 **PKPdf 09 23 10.8 -0.8**
OBN Obninsk 129.87 45*c i*PKIKP **PKPdf 09 23 19.9 -1.7**
OBN *i* 09 23 30.4
OBN pmax pmax
comp=Z,37nm,2.5s
LVZ Lovozero 129.96 28*c i*PKIKP **PKPdf 09 23 21.1 -0.4**
LVZ pmax pmax
comp=Z,23nm,1.2s
KLMR Klimovskoe 131.98 37 *e*PKIKP **PKPdf 09 23 22.8 -2.6**
KLMR pmax pmax
comp=Z,22nm,1.5s
PRGR Permogore 134.91 36 *e*PKIKP **PKPdf 09 23 29.4 -1.5**
PRGR pmax pmax
comp=Z,15nm,1.0s
PETK Petropavlovsk- 141.37 312 PKP **PKPdf 09 23 44.2 +1.1**
comp=Z,2.6nm,0.8s,baz=116,slow=3.4,SNR=3.6
SEY Seymchan 141.88 328 PKP **PKPdf 09 23 45.5 +1.8**
comp=Z,4.5nm,0.9s,baz=139,slow=2.4,SNR=11
TIXI Tiksi 143.13 349 *e*PKIKP PKPab 09 23 40.4 -0.8
TIXI Tiksi 143.13 349 *e*PKPdf PKPab 09 23 40.4 -0.8
AB31 Akbulak array 143.89 54 *i* PKIKP PKPbc 09 23 46.1 +0.6
AB31 pmax pmax
comp=Z,7.0nm,0.7s
IPM Ipoh 147.53 169 *e*PKPbc **PKPdf 09 23 56.0 +1.0**
HYB Hyderabad 148.43 120 *i* PKP **PKPbc 09 24 00.0 +0.1**
BRVK Borovoye 149.64 46 ↑*i*PKIKP PKPpre 09 23 55.8
BRVK Borovoye 149.64 46 *e*PKPbc **PKPdf 09 23 57.2 0.0**
BRVK *e*PKPab **PKiKP 09 24 03.4 +0.5**
BVA0 Borovoye Array 149.71 46 *i* PKP2 **PKPbc 09 24 03.3 +1.2**
BVA0 pmax pmax
comp=Z,14nm,1.0s
VOSK Vostochnaya 150.15 46 PKHKP PKPpre 09 23 58.2
VOSK pmax pmax
comp=Z,24nm,1.0s
YAK Yakutsk 150.91 338 *e*PKIKP **PKPdf 09 23 58.6 -0.3**
YAK pmax pmax
comp=Z,11nm,0.8s
YAK Yakutsk 150.91 338 *e*PKPbc **PKPdf 09 23 59.0 +0.1**
YAK *e*PKPab **PKiKP 09 24 05.5 +0.3**
KK31 Karatay Array 151.42 66 *i* PKIKP **PKPbc 09 24 06.8 +0.3**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 151.42 66 *e*PKIKP **PKPdf 09 24 01.3 +1.0**
KKAR Karatay Array 151.42 66 *e*PKPbc **PKPdf 09 24 01.3 +1.0**
AAK Ala-Archa 154.36 66 *e*PKIKP **PKPdf 09 24 06.2 +1.3**
AAK *e* 09 24 15.2
AAK Ala-Archa 154.36 66 *e*PKPbc **PKPdf 09 24 06.2 +1.3**
AAK *e*PKPab **PKiKP 09 24 15.2 +1.9**
KSH Kashi 155.47 74 *e*PKPbc **PKPdf 09 24 03.2 -3.2**
KSH sPKP 09 24 16.4
KSH PKS **PKSdf 09 27 37.6 -3.0**
KSH PP PP 09 28 03.9 -5.6
KSH SKS **SKSdf 09 31 07.7 -3.6**
KSH SKKS **SKKSac 09 34 54.6 -2.6**
KSH SS SS 09 47 46.6 -7.6
KSH PPMZ
comp=Z,51nm,5.1s
KSH LN
comp=Z,68nm,7.1s
KSH LE
comp=Z,79nm,6.7s
KSH LZ
comp=Z,110nm,5.5s
NVS Novosibirsk 155.57 34 *e*PKIKP **PKPdf 09 24 05.2 -0.7**
NVS *e* 09 24 30.6
NVS pmax pmax
comp=Z,11nm,1.3s
ZALV Zalesovo Beam 156.85 35 **PKPdf 09 24 06.5 -1.1**
ZALV Zalesovo Beam 156.85 35 PKP **PKPdf 09 24 06.5 -1.1**
comp=Z,5.5nm,0.9s,baz=302,slow=3.2,SNR=19
ZALV PKPab **PKPab 09 24 37.2 -0.2**
comp=Z,7.7nm,0.8s,baz=302,slow=3.2,SNR=11
ZALV Zalesovo Beam 156.85 35 PKP **PKPdf 09 24 06.5 -1.1**
MKAR Makanchi Array 159.03 53 PKP **PKPdf 09 24 10.8 +0.2**
comp=Z,2.8nm,0.9s,baz=278,slow=2.4,SNR=22
MKAR PKPab **PKPab 09 24 48.0 +0.8**
comp=Z,4.4nm,0.8s,baz=289,slow=4.4,SNR=16
MKAR PP PP 09 28 28.9 +0.5
comp=Z,1.1nm,0.9s,baz=282,slow=6.1,SNR=4.8
CMAR Chiang Mai Arr 160.55 156 PKPab **PKPab 09 24 54.5 +0.1**
comp=Z,0.7nm,0.3s,baz=220,slow=4.8,SNR=6.9
WMQ Urumqi 163.62 58 *e*PKP **PKPdf 09 24 15.2 -0.4**
WMQ pPKP **pPKPdf 09 24 26.0 +2.0**
WMQ PKPab **PKPab 09 25 08.5 +1.0**
WMQ PKS **PKSdf 09 27 47.1 -1.4**
WMQ PP **PP 09 28 54.8 +1.5**
WMQ SKS **SKSdf 09 31 14.6 -3.8**
WMQ SKKS **SKKSac 09 35 37.0 -2.3**
WMQ SS **SS 09 49 16.0 -3.7**
WMQ PPMZ
comp=Z,62nm,8.5s
WMQ LN
comp=Z,12nm,18.0s
WMQ LE
comp=Z,39nm,17.0s
WMQ LZ
comp=Z,61nm,17.0s
KMI Kunming 167.96 161 PKP **PKPdf 09 24 16.1 -3.8**
ULN Ulaanbaatar 168.78 360 PKIKP **PKPdf 09 24 19.0 -0.6**
SONM Songino Array 168.80 2 PKP **PKPdf 09 24 18.5 -1.1**
comp=Z,0.4nm,0.7s,baz=123,slow=3.1,SNR=3.7
SONM PKPab **PKPab 09 25 31.2 +1.2**
comp=Z,2.5nm,1.0s,baz=323,slow=4.3,SNR=11
NJ2 Nanjing 169.19 248 *e*PKP **PKPdf 09 24 18.0 -2.1**
GYA Guiyang 169.85 178 *e*PKP **PKPdf 09 24 17.0 -3.9**
GYA pPKP **pPKPdf 09 24 29.6 +0.3**
GYA PKPab **PKPab 09 25 35.8 +0.6**
GYA PKS PKSdf 09 27 48.4 -5.2
GYA PP **PP 09 29 26.0 +1.8**
GYA SKKS 09 36 08.2
GYA SS **SS 09 50 21.5 +1.0**
GYA PPMZ
comp=Z,130nm,8.3s
GYA LN
comp=Z,130nm,22.5s
GYA LE
comp=Z,120nm,22.0s
GYA LZ
comp=Z,140nm,21.3s

CD2 Chengdu 173.69 154 *e*PKP **PKPdf 09 24 19.8 -2.7**
GTA Gaotai 173.69 62 PKP **PKPdf 09 24 19.1 -3.2**
GTA pPKP **pPKPdf 09 24 29.8 -1.0**
GTA sPKP 09 24 33.4
GTA PKPab **PKPab 09 25 53.9 +1.7**
HHC Hu-ho-hao-te 174.48 321 *e*PKP **PKPdf 09 24 19.8 -2.7**
HHC sPKP 09 24 33.9
HHC PP **PP 09 29 47.0 -0.7**
HHC SKS **SKSdf 09 31 17.0 -7.0**
HHC SKKS **SKKSac 09 36 28.2 -4.4**
HHC SS **SS 09 51 00.7 -6.3**
HHC PPMZ
comp=Z,84nm,7.4s
HHC LN
comp=Z,330nm,14.8s
HHC LE
comp=Z,340nm,14.8s
LZH Lanzhou 177.40 101 *e*PKP **PKPdf 09 24 22.4 -1.0**
LZH pPKP **pPKPdf 09 24 32.7 +0.8**
LZH sPKP 09 24 37.3

*IDC **10** 09:16:27.4±1.8, 37°.41S×74°.96W, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.6/22, mbtmp3.5/5, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/17, Error ellipse: s-maj=40.5km s-min=26.9km az=64.0*
*ISCJB **10** 09:16:31.3±1.3, 37°.29S±0°.07×74°.8W±0°.1, h33km, mb3.5/3, Error ellipse: s-maj=16.8km s-min=9.8km az=171.2*
ISC 10 09:16:32.7±1.4, 37°.34S±0°.09×75°.0W±0°.1, h35km, n6, σ1°39/8, mb3.5/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.82**	**136**	Pn	**Pn**	**09 17 41.6**	**-1.2**
	1.1nm,0.3s,baz=307,slow=12,SNR=28						
PLCA				Sn	**Sn**	**09 18 39.4**	**+2.0**
	2.0nm,0.3s,baz=296,slow=16,SNR=2.8						
PLCA				LR	LR	09 19 43.0	
	comp=Z,184nm,21.2s,baz=294,slow=41						
CFAA	**Coronel Fontan**	**7.97**	**46**	Pn	**Pn**	**09 18 25.1**	**-0.9**
	0.2nm,0.3s,baz=214,slow=13,SNR=15						
CFAA				Sn	**Sn**	**09 19 55.2**	**+0.3**
	0.1nm,0.3s,baz=30,slow=18,SNR=4.2						
LPAZ	**La Paz**	**21.82**	**18**	P	**P**	**09 21 24.3**	**+1.7**
	1.7nm,0.9s,baz=173,slow=13,SNR=3.5						
TXAR	**Lajitas Array**	**71.58**	**334**	P	**P**	**09 27 50.8**	**+0.4**
	0.3nm,0.6s,baz=155,slow=8.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**87.55**	**72**	P	**P**	**09 29 17.1**	**-0.2**
	0.3nm,0.7s,baz=236,slow=4.7,SNR=2.8						
MKAR	**Makanchi Array**	**160.70**	**54**	PKPab	**PKPab**	**09 37 10.1**	**-0.5**
	0.3nm,0.9s,baz=211,slow=1.7,SNR=3.2						

IDC 10 09:23:12.3±2.6, 4°.54S×130°.36E, h0km, mb3.5/1, mb1 3.3/3, mb1mx3.2/22, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=176.6km s-min=30.4km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.79**	**166**	Pn	Pn	09 26 54.3	-2.0
	0.1nm,0.3s,baz=349,slow=14,SNR=6.6						
WRA				Sn	Sn	09 29 41.3	-11
	0.1nm,0.3s,baz=358,slow=23,SNR=6.6						
ASAR	**Alice Springs**	**19.32**	**170**	P	Pn	09 27 40.1	-0.1
	0.0nm,0.3s,baz=348,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**66.39**	**326**	P	P	09 34 03.2	0.0
	0.4nm,0.6s,baz=112,slow=7.4,SNR=5.4						

*IDC **10** 09:26:47.8±1.3, 34°.77S×72°.43W, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/23, mbtmp3.8/6, ML4.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/25, Error ellipse: s-maj=40.0km s-min=25.1km az=84.0*
*GUC **10** 09:26:49.3±0.4, 34°.77S×72°.54W, h6km±3km, ML4.3*
ISC 10 09:26:50.4±1.9, 34°.80S±0°.05×72°.52W±0°.07, h18km±6km, n13, σ0°87/18, mb3.7/4, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.08**	**101**	*i* P	**Pn**	**09 27 09.7**	**-0.9**
NICH				*i* S	**Sb**	**09 27 24.9**	**+0.8**
LNCH	**Linares**	**1.28**	**145**	↑*i*P	**Pb**	**09 27 14.2**	**+0.2**
LNCH				*i* S	**Sg**	**09 27 32.2**	**+0.3**
COCH	**Cobquecura**	**1.34**	**189**	*e*P	**Pn**	**09 27 13.8**	**-0.4**
COCH				*i* S	**Sb**	**09 27 32.3**	**+0.5**
CLCH	**Cerro Calan**	**2.16**	**50**	*e*P9	**Pn**	**09 27 27.1**	**+1.5**
CLCH				*i* S	**Sb**	**09 27 55.4**	**-0.1**
CLCH				AML	AML	09 28 03.5	
	comp=N,3μm,0.6s						
CLCH				AML	AML	09 28 04.1	
	comp=N,3μm,0.5s						
PEL	**Peldehue**	**2.25**	**43**	||*i*P	**Pn**	**09 27 27.4**	**+0.7**
PEL				*i* S	**Sb**	**09 27 57.0**	**-1.0**
PEL				AML	AML	09 28 05.0	
	comp=E,2μm,0.5s						
CFAA	**Coronel Fontan**	**4.80**	**50**	Pn	**Pn**	**09 28 02.3**	**+0.5**
	comp=E,0.3nm,0.3s,baz=225,slow=13,SNR=33						
CFAA				Lg	Lg	09 29 08.9	
	comp=E,0.8nm,0.3s,baz=241,slow=4.0,SNR=4.2						
PLCA	**Paso Flores**	**6.12**	**166**	Pn	**Pn**	**09 28 21.2**	**+1.2**
	comp=E,1.7nm,0.3s,baz=342,slow=11,SNR=30						
PLCA				LR	LR	09 30 51.7	
	comp=E,116nm,20.9s,baz=309,slow=40						
LPAZ	**La Paz**	**18.85**	**13**	P	**P**	**09 31 09.8**	**-0.3**
	comp=E,0.1nm,0.3s,baz=200,slow=8.2,SNR=4.5						
SIV	**San Ignacio**	**21.36**	**32**	P	**P**	**09 31 35.4**	**-1.5**
	comp=E,2.3nm,0.7s,baz=219,slow=10,SNR=7.0						
TXAR	**Lajitas Array**	**70.24**	**331**	P	**P**	**09 38 03.0**	**+0.6**
	comp=E,0.3nm,0.5s,baz=150,slow=7.3,SNR=6.4						
BOSA	**Boshof**	**80.05**	**118**	P	**P**	**09 38 59.0**	**-0.2**
	comp=E,2.3nm,0.9s,baz=252,slow=6.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**84.85**	**70**	P	**P**	**09 39 23.6**	**-0.7**
	comp=E,0.2nm,0.5s,baz=250,slow=4.2,SNR=4.4						
BVAR	**Borovoye Array**	**148.13**	**44**	PKPbc	**PKPbc**	**09 46 34.5**	**+0.1**
	comp=E,0.5nm,0.6s,baz=318,slow=4.1,SNR=2.1						

NNC 10 09:27:13.5±6.9, 37°.10N×70°.54E, h0km, mb3.6, mpv3.1, 5C-1D, Error ellipse: s-maj=54.3km s-min=45.0km az=165.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.00**	**360**	⇑Pn	Pn	09 28 45.4	+1.9
	0.8nm,0.3s,baz=187,slow=12,SNR=21						
KK31				⇑Sn	Sn	09 29 55.2	+2.3
	6.2nm,0.6s,baz=185,slow=18,SNR=13						
AAK	**Ala-Archa**	**6.31**	**28**	||Pn	Pn	09 28 47.6	-0.4
	0.5nm,0.3s						
AAK				⇑Sn	Sn	09 30 00.7	-0.2
	3.2nm,0.5s						
AB31	**Akbulak array**	**14.38**	**331**	⇑Pn	Pn	09 30 35.8	-2.4
	1.3nm,0.8s,baz=154,slow=12,SNR=12						
AB31				⇑Sn	Sn	09 33 15.5	-2.8
	0.5nm,0.6s						

*ISCJB **10** 09:35:48.5±2.9, 20°.S±1°.×178°.6W±0°.6, h587km, mb3.4/5, Error ellipse: s-maj=159.8km s-min=21.5km az=153.2*
*IDC **10** 09:35:52.0±6.3, 20°.31S×178°.65W, h617km±68km, mb2.9/5, mb1 3.2/5, mb1mx2.9/25, mbtmp3.8/5, Error ellipse: s-maj=117.0km s-min=26.0km az=150.0*
ISC 10 09:35:49.2±2.4, 20°.5S±0°.9×178°.5W±0°.5, h587km, n7, σ0°94/8, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.05**	**257**	P	**P**	**09 43 06.5**	**+0.1**
	1.2nm,0.7s,baz=94,slow=7.6,SNR=18						
ASAR				PcP	**PcP**	**09 44 38.8**	**+0.2**
	0.5nm,0.6s,baz=100,slow=4.3,SNR=7.8						
WRA	**Warramunga Arr**	**44.12**	**262**	P	**P**	**09 43 07.0**	**0.0**
	0.7nm,0.3s,baz=96,slow=7.4,SNR=42						
NVAR	**Mina Array Bea**	**81.34**	**44**	P	**P**	**09 47 05.1**	**-0.6**
	0.4nm,0.6s,baz=223,slow=9.2,SNR=3.7						
ILAR	**Eielson Array**	**88.40**	**13**	P	**P**	**09 47 39.2**	**+0.3**
	0.4nm,0.6s,baz=219,slow=5.4,SNR=11						
PDAR	**Pinedale Array**	**89.28**	**43**	P	**P**	**09 47 44.9**	**+0.9**
	0.4nm,0.7s,baz=212,slow=3.2,SNR=3.6						
AKASG	**Malin Array Be**	**142.75**	**331**	PKP	**PKPdf**	**09 54 14.6**	**-1.6**
	1.7nm,0.4s,baz=45,slow=4.2,SNR=7.1						
BRTR	**Keskin Array B**	**146.46**	**312**	PKPbc	**PKPdf**	**09 54 23.8**	**+0.6**
	0.5nm,0.6s,baz=136,slow=3.6,SNR=2.6						

*IDC **10** 09:37:53.9±0.5, 36°.90S×73°.43W, h0km, mb4.6/16, mb1 4.7/19, mb1mx4.6/25, mbtmp4.6/19, ML4.1/4, MS4.2/22, Ms1 4.2/22, ms1mx4.2/26, Error ellipse: s-maj=19.2km s-min=11.2km az=81.0*
*GUC **10** 09:37:56.6±0.3, 36°.94S×73°.55W, h24km±4km, ML5.1*
*BJI **10** 09:37:57.8, 36°.72S×73°.38W, h36km, mB5.1/12, Ms5.3/10, Ms7 5.0/10*
*ISCJB **10** 09:37:57.0±0.9, 36°.91S±0°.03×73°.47W±0°.07, h30km±6km, mb5.0/51, MS4.3/18, Error ellipse: s-maj=9.3km s-min=4.8km az=168.1*
*MOS **10** 09:37:57.9±1.0, 36°.94S×73°.52W, h33km, mb5.3/9, Error ellipse: s-maj=19.2km s-min=9.8km az=101.2*
*NEIC **10** 09:37:59.1±0.2, 36°.93S×73°.50W, h35km, mb5.2/23, ML5.4(GUC), Error ellipse: s-maj=6.5km s-min=4.4km az=80.0*
NEIC Felt [III] at Concepcion. Also felt at Angol, Los Angeles and Talcahuano.
ISC 10 09:37:58.6±0.7, 36°.88S±0°.04×73°.44W±0°.06, h33km±4km, n574, σ0°88/597, mb5.1/51, MS4.2/18, 212C-204D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.27**	**81**	↑*i*P	**Pb**	**09 38 04.4**	**-1.5**
CCSP				*i* S	**Sb**	**09 38 10.2**	**-0.7**
COCH	**Cobquecura**	**0.92**	**35**	↑*e*P	**Pn**	**09 38 14.5**	**-0.7**
COCH				*i* S	**Sb**	**09 38 28.0**	**+0.1**
AGCH	**Angol**	**1.10**	**148**	*e*P9	**Pn**	**09 38 16.6**	**-1.1**
AGCH				*e*S	**Sn**	**09 38 31.3**	**-0.4**
LNCH	**Linares**	**1.81**	**56**	↑*i*P	**Pb**	**09 38 29.7**	**-1.4**
LNCH				*i* S	**Sb**	**09 38 54.3**	**+0.9**
LNCH				AML	AML	09 39 04.7	
	comp=N,20μm,0.8s						
LNCH	**Linares**	**1.81**	**56**	↑*i*P	**Pb**	**09 38 29.7**	**-1.4**
LNCH				*i* S	**Sb**	**09 38 54.3**	**+0.9**
NICH	**Los Niches**	**2.59**	**44**	AML	AML	09 39 28.8	
	comp=N,12μm,0.6s						
NICH	**Los Niches**	**2.59**	**44**	*e*P	**Pb**	**09 38 42.0**	**-2.5**
NICH				*e*S	**Sb**	**09 39 16.8**	**+0.8**
VLCH	**Valdivia**	**2.92**	**177**	*e*P	**Pn**	**09 38 41.9**	**-0.9**
VLCH	**Valdivia**	**2.92**	**177**	||*i*P	**Pn**	**09 38 41.2**	**-1.6**
OSCH	**Osorno**	**3.69**	**176**	*i* P	**Pn**	**09 38 52.5**	**-0.9**
OSCH	**Osorno**	**3.69**	**176**	*e*P	**Pn**	**09 38 52.0**	**-1.5**
PLCA	**Paso Flores**	**4.46**	**150**	Pn	**Pn**	**09 39 03.8**	**-0.2**
	comp=N,2.1nm,0.3s,baz=323,slow=11,SNR=4.5						
PLCA				Lg	Lg	09 40 13.1	
	comp=N,55nm,0.3s,baz=252,slow=20,SNR=6.6						
PLCA				LR	LR	09 41 05.9	
	comp=N,5μm,19.1s,baz=324,slow=43						
CFAA	**Coronel Fontan**	**6.80**	**41**	Pn	**Pn**	**09 39 35.3**	**-0.9**
	comp=N,1.0nm,0.3s,baz=209,slow=14,SNR=13						
CFAA				Sn	**Sn**	**09 40 52.7**	**+0.1**
	comp=N,0.2nm,0.3s,baz=17,slow=19,SNR=2.3						
CFAA				Lg	Lg	09 41 34.2	
	comp=N,0.5nm,0.3s,baz=281,slow=14,SNR=5.9						
CFAA				LR	LR	09 42 36.3	
	comp=N,205nm,18.2s,baz=228,slow=42						
LCO	**Las Campanas**	**8.18**	**17**	*e*Pn	**Pn**	**09 39 53.1**	**-2.2**
COYC	**Coyhaique**	**8.74**	**174**	||*i*P	**Pn**	**09 40 01.9**	**-0.8**
TRQA	**Tornquist**	**9.19**	**101**	*e*Pn	**Pn**	**09 40 10.4**	**+1.5**
CHRN	**Cochrane**	**10.27**	**177**	*i* P4	**Pn**	**09 40 24.8**	**+1.2**
LVC	**Limon Verde**	**14.75**	**17**	*e*Pn	**Pn**	**09 41 25.4**	**+0.2**
CPUP	**Villa Florida**	**17.27**	**57**	*e*P	**P**	**09 41 58.9**	**+0.5**
CPUP	**Villa Florida**	**17.27**	**57**	P	**P**	**09 41 58.3**	**-0.2**
	comp=N,0.7nm,0.3s,baz=217,slow=6.6,SNR=3.8						
CPUP				Lg	Lg	09 47 13.5	
	comp=N,0.9nm,0.3s,baz=352,slow=1.6,SNR=3.0						
CPUP				LR	LR	09 48 40.2	
	comp=N,565nm,20.6s,baz=218,slow=37						
CPUP	**Villa Florida**	**17.27**	**57**	*e*P	**P**	**09 41 58.9**	**+0.5**
CPUP				Lg	Lg	09 47 13.5	
USHA	**Ushuaia**	**18.28**	**171**	P	**P**	**09 42 09.4**	**0.0**
	comp=N,0.4nm,0.3s,baz=346,slow=5.4,SNR=5.2						
USHA				LR	LR	09 49 10.6	
	comp=N,1μm,21.3s,baz=325,slow=37						
EFI	**East Falkland**	**18.38**	**148**	*e*P	**Pn**	**09 42 11.6**	**+0.9**
EFI	**East Falkland**	**18.38**	**148**	*e*P	**Pn**	**09 42 11.6**	**+0.9**
LPAZ	**La Paz**	**21.05**	**14**	*e*P	**P**	**09 42 40.3**	**-0.3**
LPAZ	**La Paz**	**21.05**	**14**	P	**P**	**09 42 42.0**	**+1.4**
	comp=N,8.2nm,0.8s,baz=186,slow=8.7,SNR=17						
LPAZ	**La Paz**	**21.05**	**14**	*e*P	**P**	**09 42 40.3**	**-0.3**
SIV	**San Ignacio**	**23.53**	**31**	P	**P**	**09 43 05.4**	**-0.6**
	comp=N,5.8nm,1.0s,baz=226,slow=14,SNR=14						
SIV				LR	LR	09 52 31.0	
	comp=N,342nm,18.8s,baz=220,slow=37						
NNA	**Nana**	**24.98**	**352**	*e*P	**P**	**09 43 19.2**	**-0.2**
NNA	**Nana**	**24.98**	**352**	P	**P**	**09 43 18.4**	**-1.0**
	comp=N,7.1nm,0.6s,baz=202,slow=14,SNR=3.1						
NNA				LR	LR	09 51 12.3	
	comp=N,508nm,18.1s,baz=180,slow=32						
NNA	**Nana**	**24.98**	**352**	*e*P	**P**	**09 43 19.2**	**-0.2**
PMSA	**Palmer Station**	**28.48**	**172**	LR	LR	09 54 36.6	
	comp=N,882nm,19.1s,baz=344,slow=35						
ATAH	**Atahualpa**	**29.95**	**350**	P	**P**	**09 44 04.9**	**+0.5**
	comp=N,3.4nm,0.6s,baz=181,slow=7.7,SNR=6.3						
ATAH				LR	LR	09 53 55.3	
	comp=N,408nm,19.3s,baz=190,slow=32						
BDFB	**Brasilia**	**30.93**	**54**	P	**P**	09 44 16.6	+3.8
	comp=N,2.0nm,0.6s,baz=238,slow=13,SNR=2.6						
BDFB				LR	LR	09 58 01.1	
	comp=N,1μm,18.8s,baz=224,slow=39						
OTAV	**Otavalo**	**37.23**	**352**	*e*P	**P**	**09 45 07.8**	**+0.1**
	comp=N,48nm,1.4s						
ROSC	**El Rosal**	**41.53**	**359**	P	**P**	**09 45 44.9**	**+1.3**
	comp=N,6.2nm,0.5s,baz=248,slow=6.3,SNR=5.7						
ROSC				LR	LR	10 02 24.6	
	comp=N,288nm,18.1s,baz=200,slow=35						
SDV	**Santo Domingo**	**45.60**	**4**	*e*P	**P**	**09 46 15.9**	**-0.1**
	comp=N,23nm,1.0s						
VNA3	**Neumayer Olymp**	**47.15**	**157**	P	**P**	**09 46 28.3**	**+0.9**
VNA2	**Neumayer--Watz**	**47.82**	**156**	P	**P**	**09 46 33.7**	**+1.1**
JTS	**JuntasAbangare**	**48.16**	**345**	*e*P	**P**	**09 46 36.6**	**+0.8**
JTS				pmax	pmax		
	comp=Z,72nm,2.1s						
JTS	**JuntasAbangare**	**48.16**	**345**	P	**P**	**09 46 36.8**	**+1.0**
	comp=Z,8.9nm,1.0s,baz=282,slow=12,SNR=6.3						
JTS				LR	LR	10 02 15.1	
	comp=Z,161nm,19.3s,baz=160,slow=30						
SNAA	**Sanae**	**49.37**	**157**	P	**P**	**09 46 45.1**	**+0.5**
SNAA	**Sanae**	**49.37**	**157***c i*P	**P**	**09 46 45.2**	**+0.6**
SNAA				pmax	pmax		
	comp=Z,38nm,1.4s						
SNAA	**Sanae**	**49.37**	**157**	P	**P**	**09 46 44.8**	**+0.2**
	comp=Z,5.9nm,1.0s,baz=324,slow=7.3,SNR=6.2						
SNAA				LR	LR	10 06 55.5	
	comp=Z,108nm,18.2s,baz=282,slow=35						
QSPA	**South Pole Qui**	**53.36**	**180**	P	**P**	**09 47 15.1**	**+0.5**
	comp=Z,26nm,0.9s,baz=148,slow=2.2,SNR=44						
NVL	**N'Iazarevskaya**	**54.14**	**156**	*e*P	**P**	**09 47 19.3**	**-0.8**
NVL				pmax	pmax		
	comp=Z,11nm,1.0s						
RKT	**Rikitea**	**54.19**	**266**	*e*LR	LR	10 03 07.6	
	comp=Z,286nm,24.8s						
RKT	**Rikitea**	**54.19**	**266**	*e*T	T	10 45 25.7	
	comp=Z,4.2nm,0.2s						
CELP	**Cerrillos**	**55.04**	**8**	*e*P	**P**	**09 47 27.1**	**-0.1**
VNDA	**Vanda**	**61.05**	**192**	P	**P**	**09 48 09.7**	**+1.1**
	comp=Z,5.1nm,1.2s,baz=152,slow=4.0,SNR=5.3						
VNDA		

738A Farr-Stevens R 68.63 339 ⇑P P 09 49 00.1 +1.7
baz=69
TIGA Tifton 68.63 351 ⇓P P 09 48 57.9 -0.5
baz=69
PPT2 Papeete2 68.73 264 eS S 09 58 07.6 +6.6
comp=Z,92nm,25.2s
PPT2 Papeete2 68.73 264 eLR LR 10 09 56.0
comp=Z,253nm,22.2s
PPT Papeete 68.75 264 LR LR 10 12 08.8
comp=Z,377nm,18.0s,baz=112,slow=30
835A Beeville 68.76 337 ⇓P P 09 49 00.8 +1.6
baz=69
834A Tilden 68.84 336 ⇓P P 09 49 01.0 +1.3
baz=69,SNR=13
735A Kenedy 69.28 337 ⇑P P 09 49 03.7 +1.2
baz=70,SNR=6.0
833A Chaparral WMA, 69.30 336 ⇓P P 09 49 03.2 +0.6
baz=70,SNR=20
832A Faith Ranch, C 69.46 335 ⇑P P 09 49 04.1 +0.5
baz=70,SNR=19
734A La Parita Cree 69.51 337 ⇓P P 09 49 04.7 +0.8
baz=70
733A Divot King Ran 69.63 336 ⇑P P 09 49 05.3 +0.7
baz=70,SNR=5.3
636A Smothers Creek 69.64 338 ⇓P P 09 49 05.8 +1.1
baz=70,SNR=16
635A Leesville 69.77 337 ⇑P P 09 49 06.1 +0.6
baz=70
732A Laxson Ranch, 69.87 335 ⇑P P 09 49 06.5 +0.4
baz=70,SNR=30
634A China Grove, S 69.94 337 ⇓P P 09 49 06.8 +0.2
baz=70
537A Green Hill Far 69.98 339 ⇑P P 09 49 07.8 +1.0
baz=70,SNR=6.3
536A Bastrop 70.20 338 ⇓P P 09 49 08.7 +0.6
baz=70
633A Saathoff Ranch 70.28 336 ⇓P P 09 49 09.2 +0.5
baz=71,SNR=11
535A Dale 70.31 338 ⇓P P 09 49 09.1 +0.3
baz=71,SNR=7.7
438A Sam Houston St 70.38 340 ⇑P P 09 49 10.1 +0.9
baz=71
632A Uvalde 70.52 336 ⇓P P 09 49 10.5 +0.4
baz=71,SNR=10
534A Blanco 70.58 337 ⇓P P 09 49 10.7 +0.2
baz=71
340A Bronson 70.59 342 ⇓P P 09 49 10.9 +0.4
baz=71,SNR=12
437A Phantom Ranch, 70.64 339 ⇑P P 09 49 11.0 +0.3
baz=71
339A Huntington 70.69 341 ⇑P P 09 49 11.8 +0.8
baz=71
631A Perdido Creek 70.70 335 ⇑P P 09 49 11.2 0.0
baz=71,SNR=8.4
MAW Mawson 70.74 164 LR LR 10 19 38.6
comp=Z,402nm,18.6s,baz=238,slow=35
436A Wall Ranch, Ga 70.77 339 ⇑P P 09 49 12.1 +0.5
baz=71
533A Kerrville 70.80 337 ⇓P P 09 49 12.2 +0.4
baz=71,SNR=15
338A Crockett 70.91 340 ⇑P P 09 49 13.2 +0.8
baz=71
435B Jarrell 71.02 338 ⇓P P 09 49 13.7 +0.6
baz=71
337A Centerville 71.03 340 ⇑P P 09 49 14.3 +1.1
baz=71,SNR=6.7
532A Rocksprings 71.13 336 ⇓P P 09 49 14.1 +0.2
baz=72,SNR=22
434A Burnet 71.25 338 ⇑P P 09 49 14.9 +0.3
baz=72,SNR=23
239A Gary 71.31 341 ⇓P P 09 49 15.9 +1.1
baz=72
336A Riesel 71.36 339 ⇑P P 09 49 15.4 +0.3
baz=72,SNR=14
531A Rocksprings 71.38 335 ⇑P P 09 49 16.1 +0.7
baz=72,SNR=21
JCT Junction City 71.42 336 ⇑P P 09 49 16.0 +0.4
baz=72,SNR=18
335A Moody 71.44 338 ⇓P P 09 49 15.9 +0.2
baz=72,SNR=5.4
433A Art 71.45 337 ⇑P P 09 49 15.9 +0.2
baz=72,SNR=21
238A Jacksonville 71.47 341 ⇓P P 09 49 16.6 +0.8
baz=72
530A J-C Ranch, Com 71.63 335 ⇓P P 09 49 17.7 +0.8
baz=72,SNR=29
237A Washetta, Mont 71.65 340 ⇑P P 09 49 17.8 +0.9
baz=72
TXAR Lajitas Array 71.72 332 P P 09 49 18.1 +0.5
comp=Z,7.9nm,0.9s,baz=152,slow=8.3,SNR=53
TXAR LR LR 10 16 03.3
comp=Z,332nm,18.3s,baz=0.0,slow=32
334A Lometa 71.73 338 ⇑P P 09 49 17.5 +0.1
baz=72,SNR=27
432A Menard 71.79 336 ⇓P P 09 49 17.8 0.0
baz=72,SNR=6.2
431A Sonora 71.88 336 ⇑P P 09 49 18.6 +0.2
baz=72,SNR=13
529A Stev Forest Ra 71.92 334 ⇑P P 09 49 19.0 +0.4
baz=72,SNR=21
333A Richland Sprin 71.95 337 ⇓P P 09 49 18.5 -0.2
baz=72,SNR=17
KMSC Kings Mountain 72.04 353 ⇑P P 09 49 18.9 -0.3
baz=72
138A Matatall Enter 72.08 341 ⇓P P 09 49 20.3 +0.8
baz=72,SNR=5.7
WHTX Lake Whitney, 72.11 339 ⇑P P 09 49 19.9 +0.3
baz=72,SNR=16
WHTX Lake Whitney, 72.11 339 eP P 09 49 19.8 +0.1
comp=Z,45nm,1.1s
430A Baggett Ranch, 72.18 335 ⇑P P 09 49 20.5 +0.3
baz=72,SNR=22
137A Heron Place, G 72.20 340 ⇓P P 09 49 21.0 +0.8
baz=73,SNR=5.3
332A Millersview 72.24 337 ⇑P P 09 49 20.5 0.0
baz=73,SNR=23
429A Davenport Ranc 72.26 334 ⇓P P 09 49 21.2 +0.6
baz=73,SNR=19
234A Clairette 72.32 338 ⇓P P 09 49 21.3 +0.3
baz=73,SNR=15
331A San Angelo 72.39 336 ⇑P P 09 49 21.6 +0.1
baz=73,SNR=20
233A Rising Star 72.57 337 ⇓P P 09 49 22.7 +0.3
baz=73,SNR=17
135A Vickery Place, 72.63 339 ⇑P P 09 49 22.7 0.0
baz=73
SWET Sewanee 72.67 349 eP P 09 49 22.8 -0.1
comp=Z,63nm,1.0s
232A Coleman 72.68 337 ⇑P P 09 49 23.3 +0.2
baz=73,SNR=15
CPCT Cooper Cave 72.70 351 eP P 09 49 25.0 +1.9
330A Mertzon 72.73 335 ⇑P P 09 49 23.4 0.0
baz=73,SNR=10
134A White-Moore Ra 72.84 338 ⇓P P 09 49 24.0 0.0
baz=73,SNR=6.2
231A Bronte 72.94 336 ⇓P P 09 49 24.5 -0.1
baz=73,SNR=11
329A Wagon Wheel Ra 73.08 335 ⇓P P 09 49 25.6 +0.1
baz=73,SNR=12
133A Hamilton Ranch 73.12 338 ⇑P P 09 49 25.9 +0.2
baz=74,SNR=17
230A Sterling City 73.15 336 ⇓P P 09 49 25.5 -0.4
baz=74
Z35A Perchaven, San 73.31 339 ⇓P P 09 49 26.9 +0.2
baz=74,SNR=17
ABTX Abilene, Hawle 73.36 337 ⇑P P 09 49 27.2 +0.1
baz=74,SNR=8.5
229A Bryant Ranch, 73.46 335 ⇓P P 09 49 28.1 +0.3
baz=74,SNR=7.4
Z34A Collier Ranch, 73.53 339 ⇓P P 09 49 28.0 -0.1
baz=74
131A Roby 73.64 337 ⇑P P 09 49 28.9 +0.2
baz=74
Z33A Whitaker Ranch 73.70 338 ⇓P P 09 49 29.0 -0.1
baz=74,SNR=11
130A Snyder 73.75 336 ⇑P P 09 49 29.3 -0.1
baz=74
228A UT Block 9, Go 73.86 335 ⇓P P 09 49 30.2 +0.1
baz=74,SNR=9.9
HALT Halls 73.92 347 eP P 09 49 30.4 +0.1
Z32A Haskell 73.94 338 ⇑P P 09 49 30.6 +0.1
baz=74,SNR=16
Y34A Reagan Ranch, 74.04 339 ⇓P P 09 49 31.1 0.0
baz=74
129A Stewart Farms, 74.08 335 ⇑P P 09 49 31.5 +0.1
baz=74,SNR=6.8
Z31A Sharp Cattle R 74.16 337 ⇓P P 09 49 31.8 +0.1
baz=74,SNR=12

128A Castleberry Fa 74.28 335 ⇑P P 09 49 32.7 +0.1
baz=75,SNR=12
Y33A Hilltop Ranch, 74.34 338 ⇓P P 09 49 32.8 0.0
baz=75,SNR=5.1
Z30A Sanderson Ranc 74.44 336 ⇑P P 09 49 33.4 -0.1
baz=75,SNR=13
MNTX Cornudas Mount 74.49 332 eP P 09 49 32.9 -0.8
comp=Z,9.6nm,1.0s
Y32A R-V Farms, Ver 74.58 338 ⇓P P 09 49 34.3 +0.1
baz=75,SNR=6.9
Z29A Hungry Hill Ra 74.61 336 ⇑P P 09 49 34.1 -0.4
baz=75,SNR=10
X34A Smith Ranch, M 74.66 339 ⇓P P 09 49 34.9 +0.3
baz=75,SNR=9.0
Y31A Rekieta Farm, 74.79 337 ⇑P P 09 49 35.9 +0.5
baz=75,SNR=9.8
X33A Lawton 74.80 339 ⇑P P 09 49 35.1 -0.3
baz=75
Z28A Tucker Farm, M 74.86 335 ⇑P P 09 49 35.8 -0.2
baz=75,SNR=5.5
Y30A Stafford Cattl 74.91 337 ⇑P P 09 49 36.1 -0.1
baz=75
X32A Elmer 74.92 338 ⇓P P 09 49 36.4 +0.3
baz=75,SNR=7.2
Y29A Porterfield Fa 75.15 336 ⇓P P 09 49 37.7 +0.1
baz=76,SNR=8.4
W34A Bridge Creek, 75.24 340 ⇑P P 09 49 38.1 +0.2
baz=76
W34A Bridge Creek, 75.24 340 eP P 09 49 37.9 -0.1
comp=Z,38nm,1.4s
X31A McDonald Ranch 75.32 338 ⇑P P 09 49 38.6 +0.1
baz=76,SNR=11
TUL1 Leonard 75.35 341 ⇑P P 09 49 38.1 -0.4
baz=76,SNR=7.3
TUL1 Leonard 75.35 341 eP P 09 49 38.1 -0.4
comp=Z,62nm,1.3s
W33A Caddo, Fort Co 75.36 339 ⇑P P 09 49 39.3 +0.6
baz=76,SNR=15
Y28A McKinney Farm, 75.38 336 ⇑P P 09 49 38.5 -0.4
baz=76
X30A Coker Ranch, T 75.43 337 ⇑P P 09 49 38.8 -0.3
baz=76
W32A Sentinel 75.56 338 ⇑P P 09 49 40.1 +0.3
baz=76,SNR=28
MSTX Muleshoe 75.61 335 ⇓P P 09 49 40.3 +0.1
baz=76,SNR=6.6
MSTX Muleshoe 75.61 335 eP P 09 49 40.5 +0.3
comp=Z,38nm,1.4s
Y27A Causey 75.67 335 ⇓P P 09 49 40.6 0.0
baz=76
X29A Tulia 75.69 336 ⇑P P 09 49 40.8 +0.1
baz=76
V34A Guthrie 75.73 340 ⇑P P 09 49 40.7 -0.1
baz=76
319A Douglas 75.74 329 ⇑P P 09 49 41.8 +0.8
baz=76
W31A Holland Ranch, 75.83 338 ⇓P P 09 49 41.5 +0.1
baz=76,SNR=5.3
X28A Dimmitt 75.92 336 ⇓P P 09 49 42.1 +0.1
baz=76
Y26A Elida 75.93 334 ⇑P P 09 49 42.4 +0.3
baz=76,SNR=5.3
V33A Lossen Ranch, 75.93 339 ⇓P P 09 49 42.1 +0.2
baz=76,SNR=12
W30A Crocket Farms 76.02 337 ⇑P P 09 49 42.8 +0.3
baz=76
V32A Arapaho 76.06 339 ⇑P P 09 49 43.0 +0.4
baz=76
AMTX Amarillo 76.09 336 ⇑P P 09 49 43.4 +0.5
baz=76
121A Cookes Peak, D 76.15 331 ⇑P P 09 49 44.7 +1.3
baz=76,SNR=7.4
121A Cookes Peak, D 76.15 331 eP P 09 49 44.8 +1.3
comp=Z,36nm,1.5s
W29A Amarillo 76.30 336 ⇓P P 09 49 44.4 +0.2
baz=77,SNR=7.8
U34A Anderson Ranch 76.30 340 ⇑P P 09 49 44.5 +0.4
baz=77
X27A F and S Farms, 76.34 335 ⇑P P 09 49 44.8 +0.4
baz=77,SNR=5.3
V31A Spring Creek L 76.34 338 ⇑P P 09 49 45.5 +1.2
baz=77,SNR=7.0
U33A Lingo Farm, Me 76.46 340 ⇓P P 09 49 44.8 -0.1
baz=77
Z22A Elephant Butte 76.47 332 ⇓P P 09 49 46.5 +1.3
baz=77,SNR=7.9
X26A CR and CF Fran 76.49 335 ⇑P P 09 49 45.7 +0.4
baz=77,SNR=8.4
Y24A Capitan 76.50 333 ⇓P P 09 49 46.2 +0.8
baz=77,SNR=19
V30A Spur Ranch, Mi 76.59 337 ⇑P P 09 49 46.8 +1.0
baz=77
W28A Vega 76.60 336 ⇑P P 09 49 46.3 +0.5
baz=77
U32A Winter Ranch, 76.66 339 ⇓P P 09 49 46.3 +0.3
baz=77
W27A Bowe Ranch, En 76.71 335 ⇑P P 09 49 47.0 +0.6
baz=77,SNR=12
Y23A Lovelace Mesa, 76.74 333 ⇓P P 09 49 47.9 +1.1
baz=77,SNR=9.7
LIC Lamto 76.77 72 eP P 09 49 47.9 +0.7
comp=Z,90nm,1.0s
X25A Clemmons Ranch 76.77 334 ⇓P P 09 49 47.1 +0.2
baz=77
U31A Nine Bar Ranch 76.90 338 ⇑P P 09 49 48.3 +0.8
baz=77
V29A Stinnett 76.95 337 ⇓P P 09 49 47.9 +0.2
baz=77
W26A Owens Ranch, T 76.97 335 ⇑P P 09 49 48.6 +0.7
baz=77
TIC Toumodi 77.04 71 eP P 09 49 49.6 +0.9
comp=Z,3.8nm,0.2s
V28A Channing 77.06 336 ⇑P P 09 49 48.8 +0.4
baz=77
KIC Kosan Boka 77.07 72 eP P 09 49 49.7 +0.8
comp=Z,26nm,0.9s
X24A Lazy VL Ranch, 77.08 333 ⇑P P 09 49 49.5 +0.8
baz=77,SNR=7.1
T33A Patterson Ranc 77.10 340 ⇑P P 09 49 49.2 +0.7
baz=78
DBIC Dimbokro 77.18 72 P P 09 49 50.4 +0.9
comp=Z,5.8nm,0.7s,baz=206,slow=6.6,SNR=10.0
DBIC LR LR 10 21 48.0
comp=Z,198nm,18.0s,baz=232,slow=34
V27A Dan Oppiter Fa 77.26 336 ⇑P P 09 49 50.0 +0.5
baz=78,SNR=6.0
U30A WK&E Inc. Balk 77.28 338 ⇑P P 09 49 50.1 +0.4
baz=78,SNR=6.8
LPM Los Pinos Moun 77.29 332 eP P 09 49 50.8 +1.0
comp=Z,14nm,1.2s
W25A X Bar L Ranch, 77.32 334 ⇑P P 09 49 50.5 +0.5
baz=78,SNR=9.5
X23A Hourglass Bar 77.37 333 ⇑P P 09 49 50.8 +0.5
baz=78
T32A Huddler Ranch, 77.38 339 ⇑P P 09 49 50.5 +0.4
baz=78
U29A Oasis Ranch, S 77.40 337 ⇑P P 09 49 50.8 +0.5
baz=78
S33A Kaszmaul Farm, 77.52 340 ⇓P P 09 49 51.1 +0.3
baz=78
T31A Randall Ranch, 77.52 339 ⇓P P 09 49 51.3 +0.4
baz=78
V26A Tequesquite Ra 77.61 335 ⇓P P 09 49 51.6 0.0
baz=78,SNR=8.0
U28A Mallet 77.63 337 ⇑P P 09 49 51.8 +0.1
baz=78
W24A Lazy 6 Ranch, 77.65 334 ⇑P P 09 49 52.4 +0.5
baz=78,SNR=6.7
T30A Plains 77.73 338 ⇑P P 09 49 52.3 +0.2
baz=78
214A Organ Pipe Nat 77.76 327 ⇑P P 09 49 53.4 +1.0
baz=78
214A Organ Pipe Nat 77.76 327 eP P 09 49 52.5 +0.1
comp=Z,26nm,1.3s
ANMO Albuquerque 77.79 333 dP P 09 49 53.5 +0.8
ANMO Albuquerque 77.79 333 eP P 09 49 53.4 +0.8
comp=Z,26nm,1.2s
U27A Thompson Grove 77.87 336 ⇑P P 09 49 53.5 +0.6
baz=78,SNR=9.5
W23A Werner Place, 77.87 333 ⇓P P 09 49 54.0 +0.9
baz=78,SNR=11
S32A Newby Ranch, P 77.87 340 ⇓P P 09 49 53.2 +0.4
baz=78,SNR=5.5
SFIN Lafayette 77.91 349 ⇑P P 09 49 51.7 -1.2
baz=78
V25A Rancho No Teng 77.94 335 ⇓P P 09 49 54.0 +0.6
baz=78,SNR=19
S31A Mullinville 77.95 339 ⇓P P 09 49 54.3 +1.0
baz=78

T29A Hugoton 78.06 338 ⇓P P 09 49 54.5 +0.6
baz=78
V24A Rampart Ranch, 78.06 334 ⇓P P 09 49 54.7 +0.5
baz=78,SNR=5.4
U26A Atchley Ranch, 78.14 335 ⇓P P 09 49 54.8 +0.2
baz=78,SNR=7.2
R33A Olander Ranch, 78.18 340 ⇑P P 09 49 54.8 +0.3
baz=78
S30A Montezuma 78.26 338 ⇓P P 09 49 55.3 +0.3
baz=79
T28A Walsh 78.28 337 ⇑P P 09 49 55.6 +0.4
baz=79,SNR=17
U25A Circle Dot Ran 78.37 335 ⇑P P 09 49 56.6 +0.7
baz=79,SNR=6.8
V23A Ortiz Mt. (NFS 78.41 333 ⇑P P 09 49 56.8 +0.8
baz=79
T27A Campo 78.42 336 ⇓P P 09 49 56.6 +0.6
baz=79,SNR=12
S29A Ulysses 78.43 338 ⇑P P 09 49 56.6 +0.6
baz=79,SNR=5.6
R32A Long Quarter, 78.48 340 ⇑P P 09 49 56.5 +0.3
baz=79
KSU1 Kansas State U 78.57 342 ⇑P P 09 49 56.8 +0.1
baz=79
R31A Burdett 78.59 339 ⇓P P 09 49 56.9 +0.1
baz=79,SNR=5.7
S28A Manter 78.64 337 ⇓P P 09 49 57.7 +0.5
baz=79,SNR=8.2
U24A Moreno Valley 78.68 334 ⇑P P 09 49 59.4 +1.7
baz=79,SNR=5.4
X18A Snowflake 78.77 330 ⇑P P 09 49 58.9 +0.8
baz=79
Q33A Connelly Farm, 78.79 341 ⇓P P 09 49 58.1 +0.2
baz=79
R30A Dighton 78.80 339 ⇓P P 09 49 58.5 +0.5
baz=79
T26A Comanche Natio 78.80 336 ⇓P P 09 49 59.2 +1.0
baz=79,SNR=17
V22A San Miguel Ran 78.82 333 ⇑P P 09 49 60.0 +1.6
baz=79,SNR=25
113A Mohawk Valley, 78.87 326 ⇑P P 09 49 59.8 +1.4
baz=79
U23A El Rito 78.93 334 ⇑P P 09 50 00.3 +1.4
baz=79,SNR=14
Q32A Meitler Ranch, 78.98 340 ⇓P P 09 49 59.4 +0.6
baz=79
Z14A Wintersburg 79.01 327 ⇑P P 09 50 00.1 +0.9
baz=79
S27A Las Animas 79.04 337 ⇓P P 09 50 00.1 +0.7
baz=79
T25A Trinidad 79.04 335 ⇓P P 09 50 00.6 +1.1
baz=79,SNR=22
P33A Williams Farm, 79.17 341 ⇑P P 09 50 00.2 +0.3
baz=80
S26A Kim 79.17 336 ⇓P P 09 50 01.2 +1.1
baz=80,SNR=18
R29A Marienthal 79.18 338 ⇓P P 09 50 00.3 +0.2
baz=80
W18A Petrified Fore 79.19 330 ⇑P P 09 50 01.0 +0.6
baz=80
U22A Llaves 79.21 333 ⇑P P 09 50 02.0 +1.5
baz=80,SNR=8.2
Q31A Ellis 79.22 340 ⇑P P 09 50 00.8 +0.5
baz=80,SNR=6.2
X16A Lo Mia Camp, P 79.28 329 ⇑P P 09 50 02.0 +1.2
baz=80
T24B San Luis 79.30 334 ⇑P P 09 50 02.5 +1.4
baz=80,SNR=11
R28A Tribune 79.31 338 ⇓P P 09 50 01.0 +0.2
baz=80,SNR=12
Q30A Quinter 79.42 339 ⇓P P 09 50 02.0 +0.6
baz=80,SNR=13
T23A Casias Ranch, 79.51 334 ⇓P P 09 50 03.0 +0.8
baz=80,SNR=10
S25A Robets Cordova 79.52 335 ⇓P P 09 50 03.1 +1.0
baz=80,SNR=15
Y14A Wickenburg 79.53 327 ⇓P P 09 50 03.3 +1.2
baz=80
R27A Eads 79.56 337 ⇓P P 09 50 02.7 +0.5
baz=80,SNR=19
P32A Huiting Farm, 79.58 340 ⇓P P 09 50 02.2 +0.1
baz=80,SNR=5.9
GLA Glamis 79.58 326 ⇑P P 09 50 04.0 +1.6
baz=80
P31A Stockton 79.69 340 ⇓P P 09 50 03.6 +0.8
baz=80
BOSA Boshof 79.74 118 P P 09 50 04.1 +0.4
comp=Z,11nm,1.1s,baz=238,slow=6.4,SNR=5.6
BOSA LR LR 10 19 30.3
comp=Z,111nm,21.8s,baz=213,slow=31
S24A Houchin Ranch, 79.77 335 ⇓P P 09 50 05.2 +1.6
baz=80,SNR=19
R26A Arlington 79.78 336 ⇑P P 09 50 04.1 +0.7
baz=80,SNR=16
R25A Fountain Ranch 79.91 336 ⇓P P 09 50 05.0 +0.8
baz=80
SWSC Sam W. Stewart 79.94 325 ⇓P P 09 50 05.4 +1.2
baz=80
P30A Selden 79.96 339 ⇓P P 09 50 04.6 +0.4
baz=80,SNR=5.5
SDCO Great Sand Dun 79.96 335 eP P 09 50 05.4 +0.8
comp=Z,6.1nm,1.0s
Q28A Sharon Springs 79.98 338 ⇓P P 09 50 05.2 +0.8
baz=80,SNR=7.0
Y12C Blythe 80.04 326 ⇓P P 09 50 06.1 +1.3
baz=80
O32A Brockman Farm, 80.09 341 ⇓P P 09 50 05.4 +0.4
baz=80
S23A Nye Farm, Mont 80.10 334 ⇑P P 09 50 06.3 +1.0
baz=80
KSCO Kaye Shedlock' 80.17 337 ⇓P P 09 50 06.5 +1.0
baz=80,SNR=8.0
KSCO Kaye Shedlock' 80.17 337 eP P 09 50 06.5 +1.0
comp=Z,49nm,1.4s
WUAZ Wupatki 80.20 329 ⇑P P 09 50 07.3 +1.5
baz=80
P29A Atwood 80.21 339 ⇓P P 09 50 06.5 +0.8
baz=81,SNR=6.8
R24A Sanders Place, 80.27 335 ⇓P P 09 50 07.0 +0.8
baz=81,SNR=26
O31A Woolen Ranch, 80.27 340 ⇑P P 09 50 06.3 +0.4
baz=81,SNR=5.2
PDMCI Parker Dam,Lak 80.33 327 ⇑P P 09 50 07.3 +1.0
baz=81
Q26A Hugo 80.37 337 ⇑P P 09 50 07.6 +0.9
baz=81,SNR=12
BC3 Big Chuckawall 80.38 326 ⇓P P 09 50 08.0 +1.3
baz=81
S22A 4UR Ranch, Cre 80.42 334 ⇓P P 09 50 08.2 +1.0
baz=81,SNR=12
P28A Saint Francis 80.42 338 ⇓P P 09 50 07.6 +0.8
baz=81,SNR=7.3
R23A Moffat 80.47 335 ⇓P P 09 50 08.1 +0.7
baz=81
O30A MW Ranch, Wils 80.50 340 ⇑P P 09 50 07.6 +0.5
baz=81,SNR=7.9
MDV Middlebury 80.51 0 eP P 09 50 07.2 +0.2
MVCO Mesa Verde 80.56 332 ⇓P P 09 50 08.4 +0.6
baz=81,SNR=12
MVCO Mesa Verde 80.56 332 eP P 09 50 08.4 +0.6
comp=Z,21nm,1.3s
N32A Stulken Farm, 80.57 341 ⇑P P 09 50 08.2 +0.7
baz=81
Q25A Bedland, Calha 80.60 336 ⇓P P 09 50 08.5 +0.6
baz=81,SNR=9.6
O29A 4D Ranch, Culb 80.66 339 ⇓P P 09 50 09.5 +1.5
baz=81
P27A Ficken Ranch, 80.66 338 ⇓P P 09 50 09.2 +1.1
baz=81
IRM Iron Mountain 80.66 326 ⇓P P 09 50 09.4 +1.3
baz=81
PFO Pinyon Flats O 80.80 325 ⇓P P 09 50 10.1 +1.1
baz=81
N31A Bailey Ranch, 80.80 341 ⇑P P 09 50 09.1 +0.4
baz=81
W13A Hualapai Mount 80.90 327 ⇑P P 09 50 10.5 +0.8
baz=81
P26A Davis Ranch, A 80.90 337 ⇑P P 09 50 10.1 +0.7
baz=81,SNR=6.7
O28A Krutsinger Ran 80.94 338 ⇑P P 09 50 10.4 +0.8
baz=81
Q24A Divide 80.94 335 ⇓P P 09 50 10.9 +1.1
baz=81,SNR=9.5
P25A Willow Gulch B 81.12 336 ⇑P P 09 50 11.5 +0.9
baz=82,SNR=6.4
MURC Murrieta 81.14 324 ⇓P P 09 50 12.0 +1.3
baz=81

O27A	Beecher Island	81.21	338	⇓P	P	09 50 11.7 +0.6
	baz=82,SNR=8.4					
N29A	Votaw Ranch, W	81.25	339	⇓P	P	09 50 12.1 +1.0
	baz=82					
SCI	San Clemente I	81.27	323	⇓P	P	09 50 12.0 +0.6
	baz=82					
M31A	Lambtecht Ranc	81.29	341	⇑P	P	09 50 11.9 +0.5
	baz=82					
P24A	Kohler Place,	81.36	336	⇑P	P	09 50 13.2 +1.2
	baz=82					
U15A	North Rim	81.36	329	⇑P	P	09 50 13.4 +1.3
	baz=82					
N28A	Pribbeno Ranch	81.39	339	⇑P	P	09 50 12.6 +0.7
	baz=82,SNR=5.0					
PV01	Paradox Valley	81.40	333	eP	P	09 50 13.5 +1.2
	comp=Z,1um,1.2s					
GMRC	Granite Mounta	81.41	326	⇓P	P	09 50 13.5 +1.3
	baz=82					
O26A	Horse Wrangler	81.51	337	⇑P	P	09 50 13.6 +1.0
	baz=82,SNR=9.3					
P23A	Jefferson	81.54	335	⇓P	P	09 50 14.4 +1.3
	baz=82					
O25A	Wiggins	81.65	337	⇑P	P	09 50 14.3 +0.9
	baz=82,SNR=5.4					
N27A	Anderson Farm,	81.79	338	⇓P	P	09 50 14.6 +0.5
	baz=82,SNR=6.7					
ISCO	Idaho Springs	81.85	336	⇑P	P	09 50 15.0 +0.3
	baz=82,SNR=11					
M29A	Burnside Ranch	81.85	340	⇓P	P	09 50 15.5 +1.2
	baz=82					
BFSC	Mount Baldy Ra	81.88	324	⇓P	P	09 50 15.8 +1.1
	baz=82					
O24A	Longmont	81.96	336	⇓P	P	09 50 15.7 +0.6
	baz=82					
M28A	Bar X Bar Ranc	82.00	339	⇑P	P	09 50 15.8 +0.7
	baz=82					
N26A	Koester Ranch,	82.02	338	⇓P	P	09 50 16.2 +0.9
	baz=82					
L31A	Butterfield Fa	82.03	341	⇑P	P	09 50 15.7 +0.4
	baz=82,SNR=12					
P22A	Eagle	82.05	335	⇓P	P	09 50 17.2 +1.5
	baz=82,SNR=9.3					
L30A	Spencer Herefo	82.05	341	⇑P	P	09 50 15.9 +0.5
	baz=82,SNR=8.2					
TUQ	Turquoise Moun	82.08	326	⇓P	P	09 50 17.1 +1.4
	baz=82					
LBTB	Lobatse	82.12	115	eP	P	09 50 16.2 -0.2
LBTB				pmax	pmax	
	comp=Z,43nm,1.0s					
LBTB	Lobatse	82.12	115	eP	P	09 50 16.1 -0.2
	comp=Z,43nm,1.0s					
O23A	Lake Granby, G	82.32	335	⇑P	P	09 50 18.2 +1.1
	baz=83,SNR=18					
GSC	Goldstone, Bar	82.36	325	⇑P	P	09 50 18.7 +1.6
	baz=83					
O22A	Kremmling	82.49	335	⇓P	P	09 50 18.7 +0.7
	baz=83,SNR=17					
EDW2	Edwards Air Fo	82.56	324	⇓P	P	09 50 19.1 +0.9
	baz=83					
L28A	Connealy Angus	82.60	339	⇑P	P	09 50 19.7 +1.4
	baz=83					
SHOC	Shoshone, Teco	82.62	326	⇑P	P	09 50 20.1 +1.7
	baz=83					
SHPR	Sheep Range	82.64	327	eP	P	09 50 19.8 +1.1
	comp=Z,14nm,1.2s					
K30A	Basset	82.70	341	⇓P	P	09 50 19.1 +0.4
	baz=83,SNR=16					
M25A	Palm-Egli Farm	82.83	337	⇑P	P	09 50 20.6 +1.0
	baz=83					
LRMC	Laurel Mtn Rad	82.91	325	⇓P	P	09 50 21.5 +1.4
	baz=83					
N23A	Red Feather La	82.94	336	⇓P	P	09 50 21.1 +0.7
	baz=83,SNR=9.9					
ECSD	EROS Data Cent	82.96	343	⇑P	P	09 50 20.1 +0.1
	baz=83,SNR=35					
ECSD	EROS Data Cent	82.96	343	eP	P	09 50 19.9 -0.1
	comp=Z,33nm,0.9s					
K29A	Lazy Trails An	82.97	340	⇓P	P	09 50 20.9 +0.7
	baz=83,SNR=5.3					
SRU	San Rafael Swe	82.98	332	eP	P	09 50 20.9 +0.4
SRU				pmax	pmax	
	comp=Z,25nm,1.4s					
SRU	San Rafael Swe	82.98	332	eP	P	09 50 20.9 +0.4
	comp=Z,25nm,1.4s					
ARUT	Antelope Range	83.00	329	eP	P	09 50 20.9 +0.4
ARUT				pmax	pmax	
	comp=Z,263nm,1.3s					
ARUT	Antelope Range	83.00	329	eP	P	09 50 20.9 +0.4
	comp=Z,263nm,1.3s					
N22A	Wattenberg Ran	83.03	335	⇑P	P	09 50 21.9 +1.1
	baz=83,SNR=12					
O20A	White River Ci	83.05	334	⇓P	P	09 50 21.7 +0.9
	baz=83					
M24A	Cheyenne	83.10	337	⇓P	P	09 50 22.0 +1.0
	baz=84,SNR=9.9					
K28A	Ten Mile Ranch	83.21	340	⇑P	P	09 50 22.2 +0.8
	baz=84,SNR=9.3					
J30A	Dallas	83.28	341	⇑P	P	09 50 21.7 0.0
	baz=84,SNR=6.4					
FURC	Furnace Creek,	83.36	326	⇓P	P	09 50 23.0 +0.9
	baz=84					
M23A	Laramie	83.39	336	⇑P	P	09 50 23.3 +0.8
	baz=84,SNR=5.1					
ISA	Isabella, Lake	83.43	325	⇑P	P	09 50 24.0 +1.3
	baz=84					
K27A	Flueckinger Fa	83.45	339	⇑P	P	09 50 23.4 +0.8
	baz=84,SNR=6.9					
J29A	Okreek	83.57	341	⇓P	P	09 50 23.5 +0.3
	baz=84,SNR=22					
SPMN	Marine on St.	83.58	346	⇓P	P	09 50 22.7 -0.5
	baz=84					
M22A	Cedar Creek Ra	83.62	336	⇓P	P	09 50 24.5 +0.7
	baz=84					
L24A	Wheatland	83.66	337	⇓P	P	09 50 24.7 +0.9
	baz=84					
N20A	Spence Gulch,	83.68	334	⇓P	P	09 50 25.0 +1.0
	baz=84,SNR=6.7					
K26A	Motz Farm, Whi	83.72	338	⇓P	P	09 50 25.1 +1.0
	baz=84					
I30A	Oacoma	83.81	341	⇓P	P	09 50 23.9 -0.5
	baz=84,SNR=8.5					
J28A	Allard Ranch,	83.83	340	⇓P	P	09 50 25.2 +0.6
	baz=84,SNR=9.9					
K25A	Mack Ranch, Ha	83.85	338	⇓P	P	09 50 25.7 +0.9
	baz=84					
VES	Vestal, Richgr	83.86	324	⇑P	P	09 50 26.2 +1.4
	baz=84					
SMMC	Simmler	83.86	323	⇑P	P	09 50 26.4 +1.5
	baz=84					
J27A	Elkhorn Farm,	83.89	339	⇑P	P	09 50 25.9 +1.0
	baz=84,SNR=11					
L23A	Garrett	83.96	336	⇑P	P	09 50 25.6 +0.2
	baz=84,SNR=5.3					
L22A	Ellis Ranch, M	84.13	336	⇑P	P	09 50 27.1 +0.8
	baz=84					
I29A	Vivian Onida	84.14	341	⇑P	P	09 50 26.0 -0.1
	baz=84,SNR=7.3					
BRSD	Miller	84.19	342	⇓P	P	09 50 26.1 -0.2
	baz=85,SNR=7.6					
BRSD	Miller	84.19	342	eP	P	09 50 25.2 -1.1
	comp=Z,24nm,0.9s					
J26A	Sides Ranch, S	84.25	339	⇑P	P	09 50 27.6 +0.9
	baz=85,SNR=10					
NLU	North Lily Min	84.31	331	eP	P	09 50 28.7 +1.4
	comp=Z,49nm,1.8s					
RCTC	Rector, Farmer	84.31	324	⇑P	P	09 50 28.2 +1.1
	baz=85					
I28A	Midland	84.35	340	⇓P	P	09 50 27.4 +0.2
	baz=85,SNR=15					
R11A	Troy Canyon, C	84.37	328	⇓P	P	09 50 28.7 +1.1
	baz=85					
K23A	Bowen Ranch, D	84.52	337	⇓P	P	09 50 28.4 +0.3
	baz=85,SNR=6.8					
J25A	Sunshine Ranch	84.54	338	⇓P	P	09 50 29.1 +0.9
	baz=85					
I27A	Quinn	84.66	340	⇓P	P	09 50 29.0 +0.3
	baz=85,SNR=7.9					
H29A	Onida	84.68	341	⇓P	P	09 50 28.8 0.0
	baz=85,SNR=13					
K22A	Casper	84.71	336	⇓P	P	09 50 29.8 +0.6
	baz=85,SNR=9.6					
K22A	Casper	84.71	336	eP	P	09 50 29.3 +0.1
	comp=Z,52nm,1.5s					
J24A	Dixon Ranch, L	84.74	338	⇓P	P	09 50 30.1 +0.8
	baz=85,SNR=8.4					
DUG	Dugway, Tooele	84.81	331	eP	P	09 50 30.2 +0.5
DUG				pmax	pmax	
	comp=Z,27nm,1.4s					
DUG	Dugway, Tooele	84.81	331	⇑P	P	09 50 30.6 +0.9
	baz=85					
DUG	Dugway, Tooele	84.81	331	eP	P	09 50 30.2 +0.5
	comp=Z,27nm,1.4s					
I26A	New Underwood	84.85	339	⇓P	P	09 50 30.1 +0.4
	baz=85					
TPH	Tonopah	84.85	327	eP	P	09 50 31.2 +1.2
TPH				pmax	pmax	
	comp=Z,19nm,1.2s					
TPH	Tonopah	84.85	327	eP	P	09 50 31.2 +1.2
	comp=Z,19nm,1.2s					
G30A	Faulkton	84.88	342	⇓P	P	09 50 29.7 -0.1
	baz=85,SNR=9.4					
K21A	Alcova	84.93	336	⇑P	P	09 50 30.9 +0.5
	baz=85,SNR=12					
H28A	Mission Ridge	84.94	341	⇓P	P	09 50 30.0 -0.1
	baz=85,SNR=6.2					
J23A	Dilts Ranch, B	85.08	337	⇓P	P	09 50 31.9 +0.9
	baz=85					
I25A	Rochford	85.09	339	⇑P	P	09 50 31.4 +0.4
	baz=86,SNR=15					
G29A	Hoven	85.13	342	⇑P	P	09 50 31.2 +0.1
	baz=86					
H27A	Howes	85.18	340	⇓P	P	09 50 31.3 0.0
	baz=86,SNR=9.2					
I24A	Kuemmerle Ranc	85.21	338	⇑P	P	09 50 32.4 +0.8
	baz=86					
RSSD	Black Hills	85.27	338	eP	P	09 50 31.6 -0.4
RSSD				pmax	pmax	
	comp=Z,15nm,0.9s					
RSSD	Black Hills	85.27	338	eP	P	09 50 31.6 -0.4
	comp=Z,16nm,0.9s					
G28A	Parade	85.28	341	⇑P	P	09 50 32.2 +0.4
	baz=86,SNR=9.3					
J22A	Midwest	85.38	337	⇓P	P	09 50 32.3 -0.3
	baz=86,SNR=5.5					
F30A	Leola	85.51	342	⇓P	P	09 50 33.3 +0.4
	baz=86					
HWUT	Hardware Ranch	85.55	332	eP	P	09 50 33.7 +0.3
	comp=Z,100nm,1.7s					
H25A	Fruitdale	85.60	339	⇑P	P	09 50 33.7 +0.3
	baz=86,SNR=14					
NVAR	Mina Array Bea	85.62	326	P	P	09 50 35.1 +1.2
	comp=Z,4.1nm,0.9s,baz=154,slow=5.5,SNR=20					
J21A	Lysite	85.64	336	⇓P	P	09 50 33.9 0.0
	baz=86					
F29A	Eureka	85.71	342	⇓P	P	09 50 33.9 0.0
	baz=86,SNR=9.9					
I22A	9 Mile Ranch,	85.81	337	⇑P	P	09 50 34.3 -0.3
	baz=86,SNR=7.4					
G27A	Dupree	85.83	340	⇓P	P	09 50 34.9 +0.3
	baz=86,SNR=7.9					
PDAR	Pinedale Array	85.84	334	P	P	09 50 35.0 +0.2
	comp=Z,6.4nm,1.1s,baz=145,slow=5.4,SNR=26					
PDAR				LR	LR	10 24 32.2
	comp=Z,219nm,18.2s,baz=178,slow=33					
J20A	Shoshoni	85.85	335	⇑P	P	09 50 34.3 -0.5
	baz=86,SNR=15					
G26A	Maurine	85.94	340	⇓P	P	09 50 34.8 -0.3
	baz=86,SNR=13					
F28A	McLaughlin	85.97	341	⇓P	P	09 50 35.2 0.0
	baz=86,SNR=11					
H24A	Dirks Ranch, A	86.00	338	⇑P	P	09 50 35.2 -0.3
	baz=86,SNR=9.2					
I21A	Big Trails, Te	86.00	336	⇓P	P	09 50 35.2 -0.4
	baz=86,SNR=9.1					
G25A	Newell	86.07	339	⇑P	P	09 50 35.9 +0.2
	baz=86,SNR=20					
J19A	Crowheart	86.10	335	⇓P	P	09 50 36.0 -0.1
	baz=86,SNR=20					
E30A	Jud	86.11	343	⇓P	P	09 50 35.8 -0.1
	baz=86,SNR=8.1					
TORD	Torodi Ar. Bea	86.25	71	P	P	09 50 37.2 -0.1
	comp=Z,1.9nm,0.8s,baz=238,slow=4.1,SNR=9.5					
TORD				LR	LR	10 27 48.5
	comp=Z,283nm,18.6s,baz=240,slow=35					
F27A	Lemmon	86.31	340	⇑P	P	09 50 37.0 +0.1
	baz=87,SNR=18					
E29A	Napoleon	86.35	342	⇑P	P	09 50 36.9 -0.1
	baz=87,SNR=5.4					
AHID	Auburn Hatcher	86.38	333	eP	P	09 50 37.7 +0.1
	comp=Z,45nm,1.8s					
I20A	Wetland	86.40	336	⇓P	P	09 50 37.5 0.0
	baz=87,SNR=11					
H22A	Clearmont	86.40	337	⇓P	P	09 50 37.4 -0.1
	baz=87,SNR=5.8					
F26A	Lodgepole	86.47	340	⇓P	P	09 50 37.8 +0.1
	baz=87,SNR=12					
G24A	Alzada	86.48	339	⇓P	P	09 50 37.8 0.0
	baz=87,SNR=5.1					
E28A	Huff	86.62	342	⇑P	P	09 50 38.5 +0.1
	baz=87,SNR=5.7					
D30A	Buchanan	86.64	343	⇓P	P	09 50 38.1 -0.3
	baz=87,SNR=7.4					
H21A	Big Horn, Sher	86.65	337	⇑P	P	09 50 38.5 -0.2
	baz=87					
G23A	Biddle	86.66	338	⇓P	P	09 50 38.4 -0.3
	baz=87,SNR=5.4					
E27A	Carson	86.71	341	⇓P	P	09 50 38.9 +0.1
	baz=87,SNR=6.4					
F25A	Bowman	86.75	340	⇓P	P	09 50 38.9 -0.2
	baz=87,SNR=9.1					
I19A	Meeteetse	86.76	335	⇑P	P	09 50 39.4 0.0
	baz=87					
D29A	Pettibone, Tap	86.80	342	⇓P	P	09 50 39.2 0.0
	baz=87,SNR=8.8					
H20A	Greybull	86.83	336	⇓P	P	09 50 39.2 -0.3
	baz=87,SNR=6.4					
G22A	Birney	86.95	337	⇑P	P	09 50 39.8 -0.3
	baz=87					
F24A	Ekalaka	86.96	339	⇓P	P	09 50 40.3 +0.1
	baz=87,SNR=7.8					
E26A	Carlson Angus	86.98	340	⇓P	P	09 50 40.4 +0.2
	baz=87,SNR=12					
AGMN	Agassiz Nation	87.13	345	⇑P	P	09 50 40.6 -0.2
	baz=88,SNR=8.6					
F23A	Volborg	87.13	338	⇑P	P	09 50 40.6 -0.4
	baz=88,SNR=7.3					
C30A	Mose, Pekin	87.14	343	⇑P	P	09 50 41.3 +0.4
	baz=88,SNR=12					
D28A	Regan	87.16	342	⇑P	P	09 50 41.2 +0.2
	baz=88,SNR=11					
I17A	Pilgrim Ck.	87.20	334	⇓P	P	09 50 42.4 +0.8
	baz=88,SNR=9.2					
G21A	Lodge Grass	87.24	337	⇑P	P	09 50 41.8 +0.3
	baz=88					
E25A	Miller Ranch,	87.27	340	⇑P	P	09 50 41.9 +0.3
	baz=88,SNR=9.0					
H19A	Powell	87.32	335	⇓P	P	09 50 42.3 +0.3
	baz=88					
D27A	Center	87.32	341	⇑P	P	09 50 42.3 +0.5
	baz=88					
F22A	Rosebud	87.44	338	⇓P	P	09 50 42.7 +0.2
	baz=88					
D26A	Manning	87.49	341	⇑P	P	09 50 42.9 +0.3
	baz=88,SNR=14					
MDND	Maddock	87.54	343	⇓P	P	09 50 43.4 +0.6
	baz=88					
H18A	Shoshone NF, C	87.55	335	⇑P	P	09 50 43.2 -0.1
	baz=88,SNR=10					
G20A	Bridger	87.56	336	⇓P	P	09 50 43.1 0.0
	baz=88					
E24A	Baker	87.58	339	⇑P	P	09 50 43.2 +0.1
	baz=88,SNR=5.5					
C28A	Hausauer Farms	87.60	342	⇑P	P	09 50 43.5 +0.4
	baz=88					
B30A	Myrvik Farm, E	87.81	344	⇓P	P	09 50 43.9 -0.1
	baz=88,SNR=15					
D25A	Fairfield	87.84	340	⇑P	P	09 50 44.7 +0.4
	baz=88,SNR=5.5					
C27A	Sayler Ranch,	87.88	341	⇑P	P	09 50 44.8 +0.3
	baz=88,SNR=11					
E22A	Miles City	87.94	338	⇓P	P	09 50 44.9 +0.1
	baz=88					
F20A	Billings	88.05	337	⇑P	P	09 50 45.7 +0.3
	baz=88					
B29A	Wagenman Farm,	88.06	343	⇓P	P	09 50 45.4 +0.1
	baz=88,SNR=14					
D24A	Glendive	88.09	339	⇑P	P	09 50 45.9 +0.4
	baz=88,SNR=9.2					
C26A	Wahner Farm, P	88.14	341	⇑P	P	09 50 45.9 +0.2
	baz=88,SNR=6.1					
A30A	Hoffart Farm,	88.26	344	⇑P	P	09 50 46.1 -0.1
	baz=89,SNR=6.2					
B28A	Dugan Ranch, T	88.28	342	⇑P	P	09 50 46.7 +0.4
	baz=89,SNR=9.3					
HLID	Hailey	88.30	332	⇑P	P	09 50 47.5 +0.8
	baz=89					
C25A	Freed Ranch, W	88.34	340	⇑P	P	09 50 46.9 +0.3
	baz=89					
F19A	Roth Farm, Mol	88.35	336	⇑P	P	09 50 46.8 0.0
	baz=89					
E21A	Keefer Ranch,	88.38	338	⇑P	P	09 50 47.1 +0.2
	baz=89					
D23A	Lindsay	88.39	339	⇓P	P	09 50 47.1 +0.2
	baz=89,SNR=10					
A29A	Manning Farm,	88.46	343	⇑P	P	09 50 46.9 -0.2
	baz=89,SNR=22					
B27A	Peters Farms,	88.46	342	⇓P	P	09 50 47.6 +0.5
	baz=89					
C24A	Savage	88.49	340	⇑P	P	09 50 47.5 +0.1
	baz=89,SNR=11					
D22A	Cohagen	88.65	338	⇑P	P	09 50 48.6 +0.5
	baz=89					
E20A	Meyer Farm, Mu	88.67	337	⇑P	P	09 50 48.6 +0.3
	baz=89					
B26A	Jensen Ranch,	88.68	341	⇑P	P	09 50 48.7 +0.4
	baz=89					
A28A	Rude Farm, Bot	88.69	343	⇓P	P	09 50 48.2 0.0
	baz=89					
MCMT	McKenzie Canyo	88.80	333	eP	P	09 50 49.7 +0.6
	comp=Z,5.6nm,1.2s					
D21A	La Casta Ranch	88.82	338	⇓P	P	09 50 48.5 -0.4
	baz=89					
B25A	Knox Farm, Ray	88.83	341	⇑P	P	09 50 49.8 +0.9
	baz=89					
E19A	Rath Farm, Rou	88.84	336	⇑P	P	09 50 49.5 +0.4
	baz=89					
C23A	Lambert	88.95	339	⇑P	P	09 50 50.0 +0.5
	baz=89					
A27A	Ledoux Ranch,	88.96	342	⇑P	P	09 50 50.2 +0.7
	baz=89					
ULM	Lac du Bonnet	89.00	346	P	P	09 50 49.5 -0.1
	comp=Z,8.8nm,1.0s,baz=180,slow=4.3,SNR=13					
C22A	Vida	89.10	339	⇑P	P	09 50 50.7 +0.5
	baz=90					
A26A	Wade Farm, Ken	89.11	342	⇓P	P	09 50 50.7 +0.5
	baz=90					
D20A	Manuel Ranch,	89.19	337	⇓P	P	09 50 51.0 +0.3
	baz=90					
DGMT	Dagmar	89.29	340	⇓P	P	09 50 51.6 +0.5
	baz=90					
A25A	Svangstu Ranch	89.43	341	⇑P	P	09 50 52.8 +1.1
	baz=90					
D19A	Cripps Ranch,	89.49	337	⇓P	P	09 50 52.3 +0.2
	baz=90					
B23A	Brockton	89.50	340	⇑P	P	09 50 52.5 +0.4
	baz=90					
B22A	Reddig Ranch S	89.64	339	⇑P	P	09 50 52.5 -0.3
	baz=90					
A24A	Westby	89.65	340	⇑P	P	09 50 52.2 -0.6
	baz=90					
B21A	Ellsworth Farm	90.05	338	⇓P	P	09 50 55.1 +0.5
	baz=90					
C19A	Slack Wire Ran	90.05	337	⇑P	P	09 50 55.0 +0.3
	baz=90					
A22A	Carney Farms,	90.24	339	⇑P	P	09 50 55.5 0.0
	baz=91,SNR=5.7					
A21A	Bergtoll Ranch	90.53	339	⇓P	P	09 50 56.6 -0.3
	baz=91					
EGMT	Eagleton	90.53	337	⇓P	P	09 50 56.7 -0.2
	baz=91					
B19A	Brinkman Farms	90.66	337	⇓P	P	09 50 57.6 +0.1
	baz=91					
A20A	Cobblestone Ra	90.72	338	⇑P	P	09 50 58.1 +0.3
	baz=91					
A19A	Klindworth Far	91.02	338	⇑P	P	09 50 59.1 -0.1
	baz=91					
I05D	Terrebonne, OR	91.75	328	⇓P	P	09 51 02.5 -0.2
	baz=92					
NEW	Newport	93.28	332	⇓P	P	09 51 09.8 +0.2
	baz=94					
DZM	Mont Dzumac	98.62	234	LR	LR	10 25 50.2
	comp=Z,92nm,19.8s,baz=6.0,slow=29					
ESDC	Sonseca Array	99.38	47	LR	LR	10 36 44.5
	comp=Z,58nm,18.2s,baz=190,slow=36					
YKA	Yellowknife Ar	104.42	342	Pdiff	Pdif	09 51 56.0 -3.3
	comp=Z,0.5nm,1.1s,baz=128,slow=4.0,SNR=5.1					
YKA				PP	PKiKP	09 56 14.9 -0.4
	comp=Z,0.6nm,1.0s,baz=140,slow=8.2,SNR=5.3					
ASAR	Alice Springs	114.49	208	PKP	PKPdf	09 56 34.5 -1.2
	comp=Z,0.9nm,0.8s,baz=157,slow=1.7,SNR=8.7					
ILAR	Eielson Array	116.24	333	PKP	PKPdf	09 56 37.3 -0.3
	comp=Z,1.0nm,0.9s,baz=194,slow=1.4,SNR=7.5					
WB2	Warramunga Arr	117.69	210	ePdif	Pdif	09 52 58.1 -1.5
WRA	Warramunga Arr	117.69	210	PKP	PKPdf	09 56 41.1 -0.8
	comp=Z,1.8nm,0.8s,baz=164,slow=1.6,SNR=14					
WRAB	Tennant Creek	117.70	210c	iP	Pdif	09 53 02.0 +2.4
WRAB	Tennant Creek	117.70	210	ePdif	Pdif	09 52 58.2 -1.4
VYHS	Vyhne	117.86	49	ePKIKP	PKPdf	09 56 41.9 +0.7
VYHS	Vyhne	117.86	49	ePKP	PKPdf	09 56 41.9 +0.7
KOLS	Kolonicke sedl	120.12	49	ePKIKP	PKPdf	09 56 47.7 +2.1
KOLS	Kolonicke sedl	120.12	49	ePKP	PKPdf	09 56 47.7 +2.1
BRTR	Keskin Array B	124.19	63	PKP	PKPdf	09 56 53.9 0.0
	comp=Z,2.1nm,0.9s,baz=306,slow=2.9,SNR=5.6					
H11S2	WAKE ISLAND Hyl	24.56	268	T	T	12 13 52.3
	baz=118,slow=72,SNR=13					
H11S1	WAKE ISLAND Hyl	24.57	268	T	T	12 13 55.8
	baz=118,slow=72,SNR=9.5					
H11S3	WAKE ISLAND Hyl	24.57	268	T	T	12 14 01.3
	baz=118,slow=72,SNR=8.5					
AKASG	Malin Array Be	124.96	49	PKP	PKPdf	09 56 53.3 -1.4
	comp=Z,1.3nm,0.8s,baz=272,slow=2.2,SNR=4.3					
H11N3	WAKE ISLAND Hyl	25.04	269	T	T	12 14 27.4
	baz=335					
H11N1	WAKE ISLAND Hyl	25.05	269	T	T	12 14 19.9
	baz=335					
H11N2	WAKE ISLAND Hyl	25.06	269	T	T	12 14 15.5
	baz=335					
GAMB	Gambell	125.92	327	ePKPdf	PKPdf	09 56 56.8 +0.6
OBN	Obninsk	130.30	45	iPKIKP	PKPdf	09 57 05.3 +0.5
OBN				pmax	pmax	
	comp=Z,8.0nm,1.3s					
BILL	Bilibino	134.90	333	iPKIKP	PKPdf	09 57 13.7 +0.6
BILL				pmax	pmax	
	comp=Z,4.0nm,1.2s					
PRGR	Permogore	135.32	36	PKIKP	PKPdf	09 57 13.4 -0.7
PETK	Petropavlovsk-	141.27	311	PKP	PKPdf	09 57 26.4 +1.2
	comp=Z,4.7nm,1.0s,baz=83,slow=3.4,SNR=4.4					
TIXI	Tiksi	143.30	348	ePKPdf	PKPab	09 57 24.0 -0.3
HYB	Hyderabad	148.61	121	iPKP	PKPbc	09 57 41.5 -1.3
BRVK	Borovoye	150.07	46	ePKPbc	PKPbc	09 57 45.9 +0.7
BRVK				ePKPab	PKPab	09 57 51.4 +0.2
YAK	Yakutsk	151.01	338	ePKIKP	PKPdf	09 57 40.2 -1.2
YAK				pmax	pmax	
	comp=Z,13nm,0.9s					
YAK	Yakutsk	151.01	338	ePKPdf	PKPdf	09 57 40.8 -0.6
YAK				ePKPbc	PKPbc	09 57 47.0 -0.2
YSS	Yuzh-Sakhalins	151.48	302	ePKIKP	PKPbc	09 57 48.0 -0.8
YSS				e		09 57 53.0
YSS	Yuzh-Sakhalins	151.48	302	ePKPbc	PKPbc	09 57 48.1 -0.6
MJAR	Matsushiro Arr	154.69	279	PKPab	PKPab	09 58 11.5 +0.3
	comp=Z,4.7nm,1.0s,baz=156,slow=2.3,SNR=5.6					
AAK	Ala-Archa	154.78	67	ePKIKP	PKPdf	09 57 48.6 +0.8
AAK				e		09 57 57.3
AAK				e		09 58 11.9
AAK	Ala-Archa

KSH LE
comp=Z,45nm,5.6s
KSH LZ
comp=Z,210nm,5.6s
NVS Novosibirsk 155.97 34 *e*PKIKP **PKPdf 09 57 46.5 -2.3**
NVS pmax pmax
comp=Z,15nm,1.3s
ZALV Zalesovo Beam 157.26 35 PKIKP **PKPdf 09 57 50.0 -0.5**
ZALV Zalesovo Beam 157.26 35 PKP **PKPdf 09 57 50.0 -0.5**
comp=Z,5.8nm,0.9s,baz=279,slow=2.9,SNR=24
ZALV PKPab **PKPab 09 58 22.1 +0.5**
comp=Z,3.6nm,0.7s,baz=309,slow=4.6,SNR=7.6
BOD Bodaibo 158.48 349 *e*PKIKP **PKPdf 09 57 49.3 -2.5**
BOD *e* 09 58 25.5
BOD pmax pmax
comp=Z,12nm,1.1s
MKAR Makanchi Array 159.46 54 PKP **PKPdf 09 57 53.5 +0.1**
comp=Z,2.8nm,1.0s,baz=286,slow=2.3,SNR=14
MKAR PKPab **PKPab 09 58 31.9 +0.4**
comp=Z,2.5nm,0.8s,baz=290,slow=4.0,SNR=12
MKAR PP **PP 10 02 12.5 -0.7**
comp=Z,0.6nm,0.8s,baz=316,slow=3.3,SNR=3.9
CMAR Chiang Mai Arr 160.46 158 PKP **PKPdf 09 57 53.8 -1.5**
comp=Z,1.0nm,0.7s,baz=249,slow=1.9,SNR=7.9
CMAR PKPab **PKPab 09 58 38.7 +2.3**
comp=Z,1.0nm,0.7s,baz=232,slow=4.4,SNR=5.9
KSRS Korea Array 162.96 278 PKPab **PKPab 09 58 47.4 +0.3**
comp=Z,1.5nm,0.7s,baz=90,slow=4.9,SNR=4.4
KSAR Wonju Array Be 162.99 278 PKP2 **PKPab 09 58 47.4 +0.2**
KSAR Wonju Array Be 162.99 278 PKPab **PKPab 09 58 47.4 +0.2**
WMQ Urumqi 164.05 58 *e*PKP **PKPdf 09 57 57.4 -0.9**
WMQ pPKP **pPKPdf 09 58 08.2 -0.9**
WMQ PKPab **PKPab 09 58 52.7 +0.9**
WMQ PKS **PKSdf 10 01 29.2 -2.0**
WMQ PP **PP 10 02 40.4 +2.4**
WMQ SKS **SKSdf 10 04 56.6 -3.7**
WMQ SKKS **SKKSac 10 09 22.0 -1.0**
WMQ SS **SS 10 23 05.0 -0.8**
WMQ PPMZ
comp=Z,120nm,6.0s
WMQ LN
comp=Z,28nm,26.0s
WMQ LE
comp=Z,71nm,22.0s
WMQ LZ
comp=Z,57nm,20.0s
TLY Talaya 165.06 7 *e*PKP2 **PKPab 09 58 56.9 +1.2**
TLY pmax pmax
comp=Z,9.0nm,1.4s
KMI Kunming 167.83 163 PKP **PKPdf 09 58 02.0 -0.1**
NJ2 Nanjing 168.77 248 *e*PKP **PKPdf 09 58 02.0 -0.2**
SONM Songino Array 169.06 1 PKP **PKPdf 09 58 01.4 -0.7**
comp=Z,0.9nm,0.8s,baz=132,slow=2.2,SNR=6.8
SONM PKPab **PKPab 09 59 14.0 +0.4**
comp=Z,3.6nm,1.0s,baz=330,slow=4.7,SNR=15
SONM PP **PP 10 02 58.2 -4.4**
comp=Z,2.5nm,1.3s,baz=30,slow=2.7,SNR=1.9
GYA Guiyang 169.60 181 *e*PKP **PKPdf 09 58 02.0 -1.1**
GYA pPKP **pPKPdf 09 58 12.7 -1.2**
GYA PKPab **PKPab 09 59 18.4 +1.9**
GYA PKS **PKSdf 10 01 33.0 -2.8**
GYA PP **PP 10 03 07.5 +2.2**
GYA SKKS 10 09 50.0
GYA SS **SS 10 24 00.2 +0.5**
GYA PPMZ
comp=Z,130nm,8.6s
GYA LN
comp=Z,130nm,22.2s
GYA LE
comp=Z,120nm,22.6s
GYA LZ
comp=Z,140nm,21.3s
BJI Beijing 171.83 296 PKP PKPdf 09 57 57.4 -6.3
CD2 Chengdu 173.60 158 *e*PKP **PKPdf 09 58 05.1 +0.3**
GTA Gaotai 174.11 63 ⇑PKP **PKPdf 09 58 05.5 +0.7**
GTA pPKP **pPKPdf 09 58 16.1 +0.5**
GTA sPKP 09 58 19.9
GTA PKPab **PKPab 09 59 38.4 +1.9**
GTA PP **PP 10 03 32.4 +3.3**
GTA SKS **SKSdf 10 05 03.1 -2.5**
GTA SKKS **SKKSac 10 10 13.3 +0.5**
GTA SS **SS 10 24 45.7 -0.8**
GTA PPMZ
comp=Z,150nm,5.5s
GTA LN
comp=Z,100nm,15.4s
GTA LE
comp=Z,110nm,15.9s
GTA LZ
comp=Z,100nm,16.4s
HHC Hu-ho-hao-te 174.44 317 *e*PKP **PKPdf 09 58 04.8 -0.1**
HHC sPKP 09 58 18.9
HHC PP **PP 10 03 33.6 +3.5**
HHC SKS **SKSdf 10 05 02.0 -3.5**
HHC SS **SS 10 24 47.2 -1.4**
HHC PPMZ
comp=Z,190nm,7.7s
HHC LN
comp=Z,410nm,16.0s
HHC LE
comp=Z,320nm,16.0s
HHC LZ
comp=Z,160nm,16.0s
XAN Xi'an 176.57 215 PKP **PKPdf 09 58 05.7 +0.1**
XAN pPKP **pPKPdf 09 58 16.4 +0.1**

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*ISCJB **10** 09:59:45.0±0.6, 64°.64N±0°.02×30°.38E±0°.10, h0km, Error ellipse: s-maj=6.1km s-min=3.5km az=5.0*
*IDC **10** 09:59:46.5±3.2, 64°.62N×31°.65E, h0km, mb1 3.1/4, mb1mx2.9/38, mbtmp3.0/4, ML2.9/3, Error ellipse: s-maj=46.0km s-min=10.5km az=99.0*
*CSEM **10** 09:59:47.1, 64°.74N×30°.77E, h0km, ML1.8, Mining explosion.*
*HEL **10** 09:59:47.1±0.1, 64°.74N×30°.77E, h0km, ML1.8, Explosion*
ISC 10 09:59:48.0±1.0, 64°.76N±0°.03×30°.79E±0°.06, h0km, n30, σ1§50/46, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.33**	**344**	PN	**Pg**		**10 00 12.9**	**-0.5**
KU6				SN	**Sb**		**10 00 31.3**	**0.0**
KU6	**Riekki**	**1.33**	**344**	Pn	**Pg**		**10 00 12.9**	**-0.5**
KU6				Sn	**Sb**		**10 00 31.3**	**0.0**
MSF	**Maaselka**	**1.37**	**328**	PN	**Pg**		**10 00 13.2**	**-1.0**
MSF				SN	**Sg**		**10 00 32.2**	**+0.2**
MSF				MSG			10 00 32.2	
comp=Z,5.5nm,0.3s								
MSF	**Maaselka**	**1.37**	**328**	Pn	**Pg**		**10 00 13.2**	**-1.0**
MSF				Sn	**Sg**		**10 00 32.2**	**+0.2**
JOF	**Joensuu**	**1.86**	**173**	PG	**Pn**		**10 00 20.0**	**-1.0**
JOF				SG	**Sn**		**10 00 44.3**	**-0.9**
JOF				MSG			10 00 44.3	
comp=Z,8.4nm,0.2s								
JOF	**Joensuu**	**1.86**	**173**	Pg	**Pn**		**10 00 20.0**	**-1.0**
JOF				Sg	**Sn**		**10 00 44.3**	**-0.9**
OUL	**Oulu**	**2.11**	**281**	PG	**Pn**		**10 00 25.0**	**+0.5**
baz=95								
OUL				SG	**Sn**		**10 00 51.4**	**-0.1**
OUL				MSG			10 00 51.4	
comp=Z,5.5nm,0.3s								
OUL	**Oulu**	**2.11**	**281**	Pg	**Pn**		**10 00 25.0**	**+0.5**
OUL				Sg	**Sn**		**10 00 51.3**	**-0.1**
RNF	**Rovaniemi**	**2.71**	**315**	PG	**Pb**		**10 00 35.5**	**-1.9**
baz=128								
RNF	**Rovaniemi**	**2.71**	**315**	Pg	**Pb**		**10 00 35.4**	**-1.9**
SUF	**Sumiainen**	**2.91**	**227**	PB	**Pn**		**10 00 36.2**	**+0.8**
SUF				SG	**Sb**		**10 01 13.8**	**-2.8**
SUF				MSG			10 01 13.8	
comp=Z,3.0nm,0.2s								
SUF	**Sumiainen**	**2.91**	**227**	Pb	**Pn**		**10 00 36.2**	**+0.8**
SUF				Sg	**Sb**		**10 01 13.8**	**-2.8**
VRF	**Varrio**	**3.04**	**351**	PB	**Pn**		**10 00 39.3**	**+2.0**
VRF	**Varrio**	**3.04**	**351**	Pb	**Pn**		**10 00 39.2**	**+2.0**
SGF	**Sodankyl**	**3.21**	**329**	PG	**Pb**		**10 00 45.5**	**-0.2**
SGF	**Sodankyl**	**3.21**	**329**	Pg	**Pb**		**10 00 45.5**	**-0.2**
KAF	**Kangasniemi**	**3.33**	**219**	PB	**Pn**		**10 00 42.7**	**+1.4**
KAF	**Kangasniemi**	**3.33**	**219**	Pb	**Pn**		**10 00 42.6**	**+1.4**
FIA0	**FINESS Array S**	**3.96**	**215**	SG	**Sb**		**10 01 49.6**	**+2.8**
FIA0	**FINESS Array S**	**3.96**	**215**	Sg	**Sb**		**10 01 49.6**	**+2.8**
FINES	**FINESS Array B**	**3.96**	**215**	Pn	**Pn**		**10 00 48.7**	**-1.1**
comp=Z,0.1nm,0.3s,baz=38,slow=13,SNR=3.2								
FINES				Pg	**Pb**		**10 00 57.7**	**-0.7**
comp=Z,0.3nm,0.3s,baz=31,slow=16,SNR=7.1								
FINES				Lg	Lg		10 01 44.6	
comp=Z,0.5nm,0.3s,baz=203,slow=20,SNR=6.8								
VAF	**Ylistaro**	**3.98**	**248**	PB	**Pn**		**10 00 51.7**	**+1.6**
VAF				SG	**Sb**		**10 01 49.6**	**+2.1**
VAF	**Ylistaro**	**3.98**	**248**	Pb	**Pn**		**10 00 51.7**	**+1.6**
VAF				Sg	**Sb**		**10 01 49.6**	**+2.1**
VJF	**Virojoki**	**4.49**	**201**	SG	**Sb**		**10 02 04.7**	**+2.5**
VJF				MSG			10 02 04.7	
comp=Z,1.4nm,0.2s								
VJF	**Virojoki**	**4.49**	**201**	Sg	**Sb**		**10 02 04.6**	**+2.5**
HEF	**Hetta**	**4.64**	**325**	PG	**Pb**		**10 01 11.6**	**+1.5**
HEF				SG	**Sb**		**10 02 06.4**	**0.0**
HEF				MSG			10 02 06.4	
comp=Z,0.8nm,0.2s								
HEF	**Hetta**	**4.64**	**325**	Pg	**Pb**		**10 01 11.6**	**+1.5**
HEF				Sg	**Sb**		**10 02 06.4**	**0.0**
ARCES	**ARCESS Array B**	**5.22**	**339**	Pn	**Pn**		**10 01 07.1**	**-0.1**
comp=Z,0.2nm,0.3s,baz=156,slow=15,SNR=14								
ARCES				Sn	**Sn**		**10 02 07.5**	**-0.5**
comp=Z,0.3nm,0.3s,baz=158,slow=22,SNR=3.3								
ARCES				Lg	Lg		10 02 28.5	
comp=Z,0.5nm,0.3s,baz=141,slow=37,SNR=4.5								
HFS	**Hagfors**	**9.16**	**248**	Pn	**Pn**		**10 01 59.7**	**-1.5**
comp=Z,0.2nm,0.3s,baz=54,slow=13,SNR=5.1								
NOA	**NORSAR Array B**	**9.66**	**256**	Pn	**Pn**		**10 02 06.6**	**-1.5**
comp=Z,0.1nm,0.3s,baz=64,slow=19,SNR=4.1								

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*IDC **10** 10:17:41.3±3.3, 53°.73N×88°.12E, h0km, mb1 2.7/2, mb1mx2.7/31, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=25.9km s-min=17.0km az=54.0*
*NNC **10** 10:17:42.7±4.4, 53°.96N×87°.56E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=36.0km s-min=29.8km az=178.0*
ISC 10 10:17:46.3±4.1, 53°.8N±0°.1×88°.0E±0°.2, h35km, n7, σ2§06/10, 6C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**276**	*i*			10 32 30.0	
baz=91,slow=340,SNR=1.1								
ZALV	**Zalesovo Beam**	**1.87**	**276**	Pg	**Pn**		**10 18 16.6**	**+0.8**
2.4nm,0.3s,baz=98,slow=11,SNR=35								
ZALV				Lg	Lg		10 18 43.2	
3.1nm,0.3s,baz=102,slow=22,SNR=19								
KURK	**Kurchatov**	**6.51**	**246**	⇑Pn	**Pn**		**10 19 16.4**	**-3.1**
1.0nm,1.0s								
KURK				⇑Sn	**Sn**		**10 20 32.8**	**+0.3**
0.6nm,0.7s								
KURK				⇓Lg	Lg		10 21 08.3	
4.2nm,1.2s								
KURBB	**Kurchatov Arra**	**6.61**	**245**	⇑Pn	**Pn**		**10 19 18.1**	**-2.8**
1.9nm,0.5s								
KURBB				⇑Sn	**Sn**		**10 20 35.0**	**+0.2**
4.0nm,0.7s								
KURBB				⇑Lg	Lg		10 21 07.9	
6.9nm,0.7s								
KURBB	**Kurchatov Arra**	**6.61**	**245**	Pn	**Pn**		**10 19 21.5**	**+0.7**
0.1nm,0.3s,baz=62,slow=14,SNR=5.1								
KURBB				Sn	**Sn**		**10 20 36.7**	**+1.8**
0.1nm,0.3s,baz=47,slow=29,SNR=4.4								
KURBB				Lg	Lg		10 21 13.1	
0.1nm,0.3s,baz=60,slow=29,SNR=9.2								
MK31	**Makanchi Array**	**7.88**	**210**	Pn			10 19 42.1	+3.7
1.6nm,1.1s,baz=27,slow=13,SNR=4.7								
MK31				⇓Sn	**Sn**		**10 21 09.0**	**+2.6**
0.8nm,0.8s								
MK31				⇑Lg	Lg		10 21 53.8	
1.3nm,0.8s,baz=28,slow=32,SNR=3.7								
MKAR	**Makanchi Array**	**7.88**	**210**	Pn	**Pn**		**10 19 38.6**	**+0.2**
0.0nm,0.3s,baz=26,slow=13,SNR=3.8								
MKAR				Sn	**Sn**		**10 21 05.4**	**-1.0**
0.0nm,0.3s,baz=31,slow=25,SNR=2.3								
MKAR				Lg	Lg		10 21 49.6	
0.0nm,0.3s,baz=32,slow=30,SNR=3.8								

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*IDC **10** 10:28:30.6±0.7, 9°.33S×66°.96E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/38, mbtmp3.9/10, MS3.8/10, Ms1 3.8/10, ms1mx3.3/43, Error ellipse: s-maj=22.6km s-min=18.4km az=153.0*
*ISCJB **10** 10:28:33.2±0.8, 9°.07S±0°.10×67°.55E±0°.06, h13km, mb4.0/10, MS3.9/10, Error ellipse: s-maj=14.6km s-min=7.5km az=157.6*
ISC 10 10:28:35.1±1.0, 9°.1S±0°.1×67°.50E±0°.10, h13km, n32, σ0§88/24, mb4.0/10, MS3.8/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**4.40**	**52**	Pn	**Pn**		**10 29 41.4**	**+0.1**
H08N3				Sn	**Sn**		**10 30 32.2**	**-0.1**
H08N3				T	T		10 34 21.1	
baz=234,slow=75,SNR=342								
H08N2	**Diego Garcia H**	**4.42**	**52**	Pn	**Pn**		**10 29 41.6**	**+0.1**
H08N2				Sn	**Sn**		**10 30 32.4**	**-0.3**
H08N2				T	T		10 34 21.5	
baz=234,slow=75,SNR=347								
H08N1	**Diego Garcia H**	**4.42**	**52**	Pn	**Pn**		**10 29 41.7**	**+0.1**
H08N1				Sn	**Sn**		**10 30 32.5**	**-0.3**
H08N1				T	T		10 34 21.4	
baz=234,slow=75,SNR=318								
H08S1	**Diego Garcia H**	**5.12**	**74**	Pn	**Pn**		**10 29 50.3**	**-1.0**
baz=273,slow=15,SNR=431								
H08S1				Sn	**Sn**		**10 30 50.0**	**-0.3**
H08S1				T	T		10 35 31.3	
baz=242,slow=77,SNR=8.5								
H08S3	**Diego Garcia H**	**5.14**	**74**	Pn	**Pn**		**10 29 50.5**	**-1.0**
baz=273,slow=15,SNR=263								
H08S3				Sn	**Sn**		**10 30 50.2**	**-0.5**
H08S3				T	T		10 35 28.4	
baz=242,slow=77,SNR=8.4								
H08S2	**Diego Garcia H**	**5.14**	**74**	Pn	**Pn**		**10 29 50.5**	**-1.0**
baz=273,slow=15,SNR=493								
H08S2				Sn	**Sn**		**10 30 50.2**	**-0.5**
H08S2				T	T		10 35 35.6	
baz=242,slow=77,SNR=4.6								
PALK	**Pallekele**	**20.90**	**39**	P	Pn		10 33 20.6	+0.6
14nm,0.8s,baz=188,slow=14,SNR=2.5								
PALK				LR	LR		10 39 31.7	
comp=Z,199nm,19.6s,baz=215,slow=31								
PSI	**Prapat**	**33.47**	**71**	LR	LR		10 47 60.0	
comp=Z,163nm,18.3s,baz=220,slow=34								
LSZ	**Lusaka**	**38.88**	**257**	P			10 35 53.4	-7.4
1.9nm,0.5s,baz=80,slow=12,SNR=2.2								
CMAR	**Chiang Mai Arr**	**41.37**	**49**	P	**P**		**10 36 23.4**	**+2.2**
0.8nm,0.3s,baz=246,slow=10,SNR=7.4								
BOSA	**Boshof**	**44.15**	**238**	P	P		10 36 35.4	-8.6
1.9nm,1.0s,baz=291,slow=14,SNR=1.8								
BOSA				LR	LR		10 51 42.4	
comp=Z,49nm,18.3s,baz=158,slow=32								
H01W3	**Cape Leeuwin H**	**49.70**	**128**	T	T		11 31 04.3	
baz=290,slow=75,SNR=48								
H01W2	**Cape Leeuwin H**	**49.70**	**128**	T	T		11 31 04.6	
baz=290,slow=75,SNR=46								
H01W1	**Cape Leeuwin H**	**49.72**	**128**	T	T		11 31 05.6	
baz=290,slow=75,SNR=49								
AAK	**Ala-Archa**	**51.86**	**7**	P	**P**		**10 37 42.6**	**-0.7**
0.6nm,0.5s,baz=181,slow=14,SNR=2.6								
BATI	**Baumata**	**55.32**	**96**	P	**P**		**10 38 10.6**	**+1.5**
19nm,0.4s,baz=355,slow=14,SNR=2.9								
MKAR	**Makanchi Array**	**57.17**	**12**	P	**P**		**10 38 20.9**	**-0.8**
0.4nm,0.7s,baz=206,slow=9.0,SNR=4.9								
MAW	**Mawson**	**58.53**	**182**	LR	LR		10 59 39.6	
comp=Z,66nm,18.4s,baz=57,slow=32								
AKTO	**Aktyubinsk**	**59.84**	**353**	LR	LR		11 04 05.5	
comp=Z,59nm,19.0s,baz=278,slow=36								
BVAR	**Borovoye Array**	**61.91**	**2**	LR	LR		11 06 55.7	
comp=Z,82nm,18.4s,baz=228,slow=37								
ZALV	**Zalesovo Beam**	**64.47**	**11**	P	**P**		**10 39 09.4**	**-1.8**
0.5nm,0.6s,baz=212,slow=5.1,SNR=3.0								
ASAR	**Alice Springs**	**64.84**	**112**	P	**P**		**10 39 14.1**	**-0.3**
1.1nm,0.8s,baz=273,slow=5.6,SNR=9.6								
WRA	**Warramunga Arr**	**65.25**	**108**	P	**P**		**10 39 17.4**	**+0.3**
1.7nm,1.0s,baz=277,slow=6.2,SNR=9.4								
WRA				LR	LR		11 04 24.4	
comp=Z,107nm,21.7s,baz=135,slow=33								
SONM	**Songino Array**	**66.29**	**28**	P	**P**		**10 39 24.0**	**+0.7**
1.1nm,0.8s,baz=210,slow=7.5,SNR=6.3								
TORD	**Torodi Ar. Bea**	**68.97**	**288**	LR	LR		11 08 13.9	
comp=Z,55nm,19.0s,baz=170,slow=35								
STKA	**Stephens Creek**	**71.78**	**121**	LR	LR		11 06 49.9	
comp=Z,46nm,21.1s,baz=208,slow=32								
H09N1	**TRISTAN DA CUN**	**76.48**	**234**	T	T		12 03 38.7	
SNR=31								
BBTS	**Babate**	**86.56**	**285**	LR	LR		11 19 56.1	
comp=Z,307nm,19.1s,baz=326,slow=36								
YKA	**Yellowknife Ar**	**126.66**	**1**	PKP	**PKPdf**		**10 47 37.4**	**-0.5**
0.3nm,0.9s,baz=352,slow=2.1,SNR=5.6								
PDAR	**Pinedale Array**	**146.34**	**356**	PKPbc	**PKPdf**		**10 48 14.6**	**-0.5**
0.6nm,1.1s,baz=27,slow=1.0,SNR=2.7								
NVAR	**Mina Array Bea**	**150.31**	**9**	PKPbc	**PKPbc**		**10 48 27.0**	**+0.2**
0.3nm,0.6s,baz=270,slow=2.6,SNR=3.5								
TXAR	**Lajitas Array**	**158.21**	**339**	PKPab	**PKPab**		**10 49 06.2**	**-0.4**
0.5nm,0.9s,baz=87,slow=5.7,SNR=4.2								

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*IDC **10** 10:32:27.4±1.6, 1°.90S×67°.99E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/37, mbtmp3.6/7, Error ellipse: s-maj=51.4km s-min=25.9km az=65.0*
ISC 10 10:32:29.7±1.9, 1°.9S±0°.3×67°.9E±0°.3, h15km, n15, σ1§32/9, mb3.8/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.34**	**145**	T	T		10 39 00.6	
baz=325,slow=75,SNR=280								
H08N3	**Diego Garcia H**	**5.35**	**145**	T	T		10 39 03.3	
baz=325,slow=75,SNR=190								
H08N1	**Diego Garcia H**	**5.36**	**145**	T	T		10 39 02.2	
baz=325,slow=75,SNR=214								
H08S3	**Diego Garcia H**	**7.26**	**141**	T	T		10 41 34.1	
baz=300								
H08S1	**Diego Carcia H**	**7.27**	**141**	T	T		10 41 30.9	
baz=300								
H08S2	**Diego Garcia H**	**7.28**	**141**	T	T		10 41 36.8	
baz=300								
CMAR	**Chiang Mai Arr**	**36.65**	**55**	P	**P**		**10 39 37.0**	**+1.0**
0.6nm,0.3s,baz=243,slow=11,SNR=4.9								
AAK	**Ala-Archa**	**44.77**	**7**	P	**P**		**10 40 42.2**	**-0.7**
0.4nm,0.3s,baz=180,slow=20,SNR=1.5								
MKAR	**Makanchi Array**	**50.15**	**13**	P	**P**		**10 41 22.8**	**-1.7**
0.3nm,0.7s,baz=190,slow=5.9,SNR=2.6								
ZALV	**Zalesovo Beam**	**57.45**	**12**	P	**P**		**10 42 16.4**	**-1.3**
0.5nm,0.5s,baz=210,slow=5.0,SNR=2.6								
SONM	**Songino Array**	**59.85**	**29**	P	**P**		**10 42 35.7**	**+0.9**
0.3nm,0.4s,baz=216,slow=8.7,SNR=3.8								
WRA	**Warramunga Arr**	**67.21**	**111**	P	**P**		**10 43 23.3**	**-0.6**
0.4nm,0.6s,baz=289,slow=5.8,SNR=8.6								
ASAR	**Alice Springs**	**67.28**	**115**	P	**P**		**10 43 23.4**	**-0.9**
0.3nm,0.7s,baz=285,slow=5.9,SNR=5.3								
YKA	**Yellowknife Ar**	**119.56**	**1**	PKP	**PKPdf**		**10 51 19.5**	**+0.9**
0.1nm,0.7s,baz=353,slow=3.1,SNR=3.5								
TXAR	**Lajitas Array**	**151.60**	**344**	PKPbc	**PKPbc**		**10 52 25.5**	**+1.2**
0.4nm,0.9s,baz=127,slow=6.9,SNR=3.5								

MEX 10 10:32:31.3±0.6, 16°.76N×93°.95W, h180km±7km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.96**	**290**	*i* P		Pn	10 32 57.6	-1.1
CMIG				*i* S		Sn	10 33 17.4	-2.4
PCIG		**1.26**	**146**	*i* P		Pn	10 33 00.2	-0.9
PCIG				*i* S		Sn	10 33 22.0	-2.1
CCIG	**Comitan**	**1.80**	**105**	*i* P		Pn	10 33 04.7	-1.7
CCIG				*e*S		Sn	10 33 30.8	-2.9
HUIG	**Huatulco**	**2.30**	**245**	*i* P		Pn	10 33 10.1	-1.6
HUIG				*e*S		Sn	10 33 40.8	-2.3
VHO	**Vista Hermosa**	**2.69**	**277**	*e*P		Pn	10 33 15.8	-0.6
VHO				*i* S		Sn	10 33 49.3	-2.3
PNIG	**Pinotepa**	**4.03**	**265**	*e*P		Pn	10 33 32.4	-0.4
PNIG				*e*S		Sn	10 34 19.7	-1.1
TLIG	**Tlapa**	**4.49**	**281**	*i* P		Pn	10 33 38.2	-0.6

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*IDC **10** 10:42:04.6±0.6, 33°.37S×72°.57W, h29km±5km, ML4.4*
*NEIC **10** 10:42:09.9±0.3, 33°.32S×72°.13W, h35km, mb4.5/8, Error ellipse: s-maj=10.1km s-min=5.5km az=76.0*
ISC 10 10:42:07.5±1.7, 33°.35S±0°.05×72°.30W±0°.07, h20km±7km, n52, σ0§72/53, mb4.3/19, MS3.9/6, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.64**	**60**	⇓*i*P		**Pg**	**10 42 20.0**	**-0.3**
IHA				*i* S		**Sn**	**10 42 31.7**	**+0.6**
PEL	**Peldehue**	**1.37**	**82**	⇓*i*P		**Pn**	**10 42 31.9**	**+0.3**
PEL				*i* S		**Sg**	**10 42 52.8**	**+0.9**
PEL				AML		AML	10 42 56.6	
comp=N,12μm,0.7s								
ANTU	**Antumapu**	**1.41**	**99**	⇓*i*P		**Pb**	**10 42 32.7**	**-0.5**
ANTU				*i* S		**Sg**	**10 42 53.3**	**+0.1**
ANTU				AML		AML	10 43 00.8	
comp=N,6μm,0.6s								
CLCH	**Cerro Calan**	**1.48**	**92**	⇑*i*P		**Pn**	**10 42 33.5**	**+0.4**
CLCH				*i* S		**Sg**	**10 42 56.1**	**+0.8**
CLCH				AML		AML	10 43 04.0	
comp=N,9μm,0.8s								
CLCH				AML		AML	10 43 04.6	
comp=N,10μm,0.8s								
LACH	**Col Las Americ**	**1.48**	**94**	⇑*i*P		**Pn**	**10 42 33.8**	**+0.6**
LACH				*i* S		**Sg**	**10 42 55.4**	**-0.1**
LACH				AML		AML	10 43 04.8	
comp=E,4μm,0.7s								
NICH	**Los Niches**	**1.87**	**152**	*e*P1		**Pn**	**10 42 37.4**	**-1.1**
NICH				*e*S1		**Sn**	**10 43 02.4**	**+0.8**
CMCH	**Combarbala**	**2.43**	**27**	⇑*i*P		**Pn**	**10 42 45.6**	**-0.7**
CFAA	**Coronel Fontan**	**3.85**	**64**	Pg		Pn	10 43 09.9	+4.2
comp=E,0.4nm,0.3s,baz=247,slow=15,SNR=4.8								
CFAA				LR		LR	10 44 03.4	
comp=E,36nm,21.5s,baz=322,slow=32								
CFAA				Lg		Lg	10 44 09.7	
comp=E,4.6nm,0.3s,baz=109,slow=20,SNR=7.8								
PLCA	**Paso Flores**	**7.50**	**170**	Pn		**Pn**	**10 43 55.6**	**-0.3**
comp=E,2.8nm,0.3s,baz=340,slow=10,SNR=3.4								
PLCA				Lg		Lg	10 46 00.4	
comp=E,0.3nm,0.3s,baz=289,slow=14,SNR=2.6								
PLCA				LR		LR	10 47 17.4	
comp=E,692nm,18.0s,baz=348,slow=42								
TRQA	**Tornquist**	**9.61**	**122**	*e*Pn		**Pn**	**10 44 25.0**	**+0.2**
comp=E,270nm,1.9s								
CPUP	**Villa Florida**	**14.75**	**66**	LR		LR	10 51 40.1	
comp=E,390nm,19.3s,baz=228,slow=40								
LPAZ	**La Paz**	**17.40**	**13**	P		**Pn**	**10 46 09.5**	**-0.3**
comp=E,0.4nm,0.3s,baz=187,slow=6.4,SNR=16								
LPAZ	**La Paz**	**17.40**	**13**	*e*Pn		**Pn**	**10 46 09.9**	**+0.1**
SIV	**San Ignacio**	**20.04**	**33**	P		**P**	**10 46 38.4**	**-1.1**
comp=E,0.4nm,0.3s,baz=233,slow=15,SNR=16								
SIV				LR		LR	10 55 47.5	
comp=E,439nm,18.3s,baz=232,slow=41								
USHA	**Ushuaia**	**21.65**	**174**

SDCO	Great Sand Dun	77.19	334	*eP*		**P**	**10 54 00.8 +0.6**
	comp=E,0.7nm,0.7s						
BOSA	Boshof	80.56	118	P		**P**	**10 54 19.1 +0.1**
	comp=E,4.9nm,1.0s,baz=253,slow=4.9,SNR=5.7						
LBTB	Lobatse	82.78	115	*eP*		**P**	**10 54 30.9 +0.2**
	comp=E,11nm,1.1s						
PDAR	Pinedale Array	83.09	333	P		**P**	**10 54 33.0 +1.2**
	comp=E,0.4nm,0.9s,baz=140,slow=4.7,SNR=3.0						
NVAR	Mina Array Bea	83.23	325	P		**P**	**10 54 33.8 +1.1**
	comp=E,0.3nm,0.6s,baz=82,slow=31,SNR=3.0						
TORD	Torodi Ar. Bea	84.19	70	P		**P**	**10 54 37.4 -0.5**
	comp=E,3.9nm,0.9s,baz=250,slow=4.1,SNR=15						
SCHQ	Schefferville	87.95	3	LR		LR	11 38 18.1
	comp=E,43nm,18.0s,baz=14,slow=38						
MDT	Midelt	91.58	51	LR		LR	11 36 46.7
	comp=E,56nm,18.8s,slow=36						
ASAR	Alice Springs	118.05	207	PKP		**PKPdf**	**11 00 52.5 -1.1**
	comp=E,0.4nm,0.9s,baz=146,slow=3.3,SNR=4.2						
WRA	Warramunga Arr	121.22	210	PKP		**PKPdf**	**11 00 58.9 -0.8**
	comp=E,0.4nm,0.8s,baz=166,slow=1.9,SNR=7.4						
H11S2	WAKE ISLAND Hyl	25.56	270	T		T	13 20 08.8
	baz=118						
H11S1	WAKE ISLAND Hyl	25.57	270	T		T	13 20 07.7
	baz=118						
H11S3	WAKE ISLAND Hyl	25.58	270	T		T	13 20 08.3
	baz=118						
BVAR	Borovoye Array	146.95	42	PKPbc		**PKPdf**	**11 01 46.5 +0.3**
	comp=E,0.9nm,0.6s,baz=306,slow=5.0,SNR=5.8						
KKAR	Karatay Array	149.42	60	*e*PKPbc		**PKPbc**	**11 01 55.5 +0.4**
EKS2	Erkin-Say	151.86	61	*eP*		**PKPbc**	**11 02 01.2 +0.2**
AAK	Ala-Archa	152.38	61	PKPbc		**PKPbc**	**11 02 02.2 -0.1**
	comp=E,2.4nm,0.7s,baz=186,slow=4.9,SNR=6.7						
AAK				PKPab		**PKPab**	**11 02 12.0 -0.4**
	comp=E,3.0nm,0.7s,baz=259,slow=3.0,SNR=7.5						
KURBB	Kurchatov Arra	152.54	42	PKPbc		**PKPbc**	**11 02 02.5 +0.4**
	comp=E,1.2nm,0.6s,baz=307,slow=3.0,SNR=12						
KURK	Kurchatov	152.55	42	PKPbc		**PKPbc**	**11 02 02.5 +0.4**
ZALV	Zalesovo Beam	153.79	31	PKP		**PKPdf**	**11 01 56.5 -0.3**
	comp=E,0.3nm,0.3s,baz=248,slow=1.6,SNR=3.8						
ZALV				PKPbc		**PKiKP**	**11 02 04.8 +0.1**
	comp=E,2.7nm,0.7s,baz=286,slow=2.6,SNR=7.9						
MKAR	Makanchi Array	156.50	48	PKP		**PKPdf**	**11 02 00.8 0.0**
	comp=E,0.8nm,1.0s,baz=251,slow=4.4,SNR=4.4						
MKAR				PKPab		**PKPab**	**11 02 29.6 0.0**
	comp=E,0.9nm,0.7s,baz=280,slow=2.9,SNR=7.2						

IDC ***10*** *10:54:54.5±0.5, 46°.61N×131°.59E, h0km, mb4.1/19, mb1 4.2/23, mb1mx4.1/40, mbtmp4.0/23, ML3.2/4, MS3.3/8, Ms1 3.3/8, ms1mx2.9/54, Error ellipse: s-maj=13.7km s-min=11.3km az=68.0*

ISCJB ***10*** *10:54:54.8±0.2, 46°.75N±0°.03×131°.72E±0°.04, h10km, mb4.2/30, MS3.6/5, Error ellipse: s-maj=4.2km s-min=3.3km az=37.9*

SKHL ***10*** *10:54:56.1±0.9, 46°.61N×131°.58E, h15km±3km, mb4.5/9, ms4.3/4, msh4.6/1*

BJI ***10*** *10:54:56.0, 46°.64N×131°.51E, h7km, mB4.5/4, mb4.4/3, ML4.7/12, Ms4.2/8, Ms7 4.0/5*

MOS ***10*** *10:54:58.3±1.8, 46°.66N×131°.66E, h33km, mb4.3/17, Error ellipse: s-maj=10.5km s-min=7.4km az=102.3*

NEIC ***10*** *10:55:00.1±0.6, 46°.62N×131°.61E, h38km±7km, mb4.5/9, Error ellipse: s-maj=6.6km s-min=4.9km az=172.0*

ISC 10 10:54:56.2±0.3, 46°.62N±0°.03×131°.63E±0°.03, h10km, n109, σ1§64/121, mb4.3/30, MS3.6/5, 3C-6D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Ar.**	**2.43**	**174**	Pn	**Pn**	**10 55 36.3**	**+0.3**
	51nm,0.3s,baz=351,slow=15,SNR=440						
USRK				Lg	Lg	10 56 11.2	
	288nm,0.3s,baz=348,slow=30,SNR=23						
USRK				LR	LR	10 56 43.1	
	comp=Z,382nm,18.2s,baz=354,slow=45						
MDJ	**Mudanjiang**	**2.46**	**216**	*e*Pn	**Pn**	**10 55 37.0**	**+0.6**
MDJ				*e*Sn	**Sb**	**10 56 11.5**	**+0.7**
KLR	**Kul'dur**	**2.62**	**2**	*e*P	Pn	10 55 34.7	-3.9
KLR				*e*		10 56 14.0	
KLR	**Kul'dur**	**2.62**	**2**	*e*Pn	**Pn**	**10 55 37.9**	**-0.7**
KLR				*e*Sg	**Sb**	**10 56 17.2**	**+1.8**
GRTR	**Gornotajezhnoj**	**2.93**	**173**	⇑*i*Pn	**Pn**	**10 55 43.3**	**+0.4**
GRTR				*e*Pg	**Pb**	**10 55 49.6**	**+1.1**
GRTR				*e*Sg	**Sb**	**10 56 26.6**	**+2.2**
KHBR	**Khabarovsk**	**2.97**	**50**	*e*Pn	**Pn**	**10 55 41.3**	**-2.1**
KHBR				sPn	**sPn**	**10 55 48.6**	**+1.4**
KHBR				*e*Pg	**Pb**	**10 55 50.4**	**+1.2**
KHBR				*e*Sg	**Sb**	**10 56 28.2**	**+2.6**
VLA	**Vladivostok**	**3.50**	**177**	⇓*i*P	**Pn**	**10 55 51.5**	**+0.8**
VLA				*i* S	**Sb**	**10 56 38.8**	**-2.0**
VLA				pmax	pmax		
	comp=Z,99nm,0.9s						
VLA				smax	smax		
	comp=N,3μm,0.7s						
VLA	**Vladivostok**	**3.50**	**177**	*i* P	**Pn**	**10 55 51.5**	**+0.8**
VLA				AMB	AMB	10 56 00.7	
	comp=N,99nm,0.9s						
VLA	**Vladivostok**	**3.50**	**177**	*eP*	**Pn**	**10 55 51.5**	**+0.8**
TEY	**Ternei**	**3.82**	**113**	*e*Pn	**Pn**	**10 55 54.5**	**-0.5**
TEY				pPn	**pPn**	**10 55 57.6**	**+0.2**
TEY				*e*Pg	**Pb**	**10 56 05.0**	**+1.4**
TEY				AMB	AMB	10 56 08.5	
	comp=N,49nm,0.4s						
TEY				*e*Sn	**Sn**	**10 56 37.5**	**-2.4**
TEY				*e*Sn	**Sb**	**10 56 45.2**	**-4.7**
TEY				*e*Sg	**Sg**	**10 56 55.0**	**-3.8**
TEY				A	A	10 57 01.2	
	comp=N,1μm,0.6s						
TEY				*e*Sg	Sg	10 57 01.6	+2.8
TEY				A	A	10 57 04.6	
	comp=N,2μm,0.5s						
CN2	**Changchun**	**5.20**	**239**	*e*Pn	**Pn**	**10 56 14.6**	**+0.6**
CN2				*e*Pg	Pg	10 56 31.7	-4.0
CN2				Sg	**Sg**	**10 57 38.8**	**-4.2**
CN2				SMN			
	comp=N,100nm,0.9s						
CN2				SME			
	comp=N,100nm,0.9s						
GRNR	**Gornyy**	**5.23**	**36**	*e*Pn	**Pn**	**10 56 13.8**	**-0.6**
GRNR				sPn	**sPn**	**10 56 21.0**	**+2.8**
GRNR				*e*Pg	Pb	10 56 31.2	+3.5
GRNR				AMB	AMB	10 56 36.8	
	comp=N,54nm,0.3s						
GRNR				*e*Sn	**Sn**	**10 57 11.4**	**-3.3**
GRNR				*e*Sg	Sb	10 57 37.4	+6.9
GRNR				A	A	10 57 44.0	
	comp=N,285nm,0.4s						
EKMR	**Ekimchan**	**6.52**	**7**	*e*Pn	**Pn**	**10 56 31.2**	**-0.9**
EKMR				*e*Pg	Pg	10 56 57.8	-3.1
EKMR				AMB	AMB	10 57 02.7	
	comp=N,28nm,0.5s						
EKMR				*e*Sg	**Sg**	**10 58 20.1**	**-5.2**
EKMR				A	A	10 58 31.0	
	comp=N,230nm,0.6s						
EKMR				A	A	10 58 31.0	
	comp=N,190nm,0.6s						
UGL	**Uglegorsk**	**7.44**	**67**	*e*Sg	Sg	10 58 47.0	-7.9
UGL				A	A	10 59 03.0	
	comp=N,180nm,0.8s						
SNY	**Shenyang**	**7.50**	**233**	Pn	Pn	10 56 50.2	+4.5
SNY				SMN			
	comp=N,560nm,1.2s						
SNY				SME			
	comp=N,410nm,1.1s						
YSS	**Yuzh-Sakhalins**	**7.65**	**83**	*e*Sg	Sg	10 58 56.0	-5.4
YSS				AMS	AMS	11 00 18.0	
	comp=N,400nm,10.0s						
ZEA	**Zeya**	**7.66**	**340**	*e*Pn	**Pn**	**10 56 47.1**	**-0.7**
ZEA				AMB	AMB	10 56 48.2	
	comp=N,26nm,0.8s						
ZEA				*e*Sg	**Sg**	**10 58 56.2**	**-5.8**
ZEA				A	A	10 58 59.0	
	comp=N,200nm,3.0s						
ZEA				A	A	10 59 01.7	
	comp=N,110nm,0.8s						
ZEA				A	A	10 59 01.7	
	comp=N,140nm,0.8s						
ZEA				AMS	AMS	10 59 44.0	
	comp=N,400nm,7.0s						
ZEA				AMS	AMS	10 59 44.0	
	comp=N,300nm,7.0s						
ZEA				AMS	AMS	10 59 44.0	
	comp=N,500nm,7.0s						
ASAJ	**Asahikawa**	**8.12**	**104**	Pn	**Pn**	**10 56 55.2**	**+1.1**
	comp=N,0.4nm,0.3s,baz=162,slow=20,SNR=1.9						
JKA	**Kamikawa-asahi**	**8.12**	**104**	P	**Pn**	**10 56 55.2**	**+1.1**
BMKR	**Bomnak**	**8.30**	**349**	*e*Pn	**Pn**	**10 56 56.4**	**-0.1**
BMKR				AMB	AMB	10 56 57.0	
	comp=N,16nm,0.5s						
BMKR				*e*Sg	Sg	10 59 16.0	-6.2
BMKR				A	A	10 59 24.9	
	comp=N,114nm,0.6s						
HIA	**Hailar**	**8.41**	**293**	P	Pn	10 57 04.0	+5.9
HIA	**Hailar**	**8.41**	**293**	*e*Pn	**Pn**	**10 56 58.2**	**+0.1**
TYV	**Tymovskoe**	**8.43**	**56**	*e*Pn	**Pn**	**10 57 00.5**	**+2.1**
TYV				*e*Pg	Pg	10 57 34.0	-3.6
TYV				AMB	AMB	10 57 36.2	
	comp=N,22nm,1.0s						
TYV				*e*Sg	**Sg**	**10 59 25.4**	**-1.3**
TYV				A	A	10 59 41.0	
	comp=N,33nm,0.8s						
TYV				AMS	AMS	11 00 56.0	
	comp=N,500nm,8.0s						
TYV				AMS	AMS	11 00 56.0	
	comp=N,400nm,8.0s						
NKL	**Nikolayevsk**	**8.77**	**38**	*e*Pn	**Pn**	**10 57 05.5**	**+2.6**
NKL				*e*Pg	Pg	10 57 36.5	-7.4
NKL				AMB	AMB	10 57 39.0	
	comp=N,9.0nm,0.5s						
NKL				sPg	sPg	10 57 43.0	
NKL				*e*Sg	**Sg**	**10 59 35.0**	**-2.3**
NKL				AMS	AMS	11 00 30.0	
	comp=N,550nm,6.0s						
KSRS	**Korea Array**	**9.56**	**198**	Pn	Pn	10 57 20.4	+6.6
	comp=N,0.2nm,0.3s,baz=21,slow=14,SNR=3.4						
KSRS				Lg	Lg	10 59 59.5	
	comp=N,0.9nm,0.3s,baz=5.7,slow=30,SNR=6.0						
KSRS				LR	LR	11 00 16.3	
	comp=N,72nm,20.6s,baz=14,slow=34						
KSAR	**Wonju Array Be**	**9.58**	**198**	Pn	Pn	10 57 20.4	+6.3
KSAR				Lg	Lg	10 59 59.5	
MJAR	**Matsushiro Arr**	**11.20**	**152**	LR	LR	11 01 42.2	
	comp=N,63nm,19.2s,baz=310,slow=36						
BJT	**Baijiatuau**	**13.04**	**245**	*e*Pn	**Pn**	**10 58 02.7**	**+1.3**
YAK	**Yakutsk**	**15.49**	**357**	*eP*	**P**	**10 58 39.4**	**+0.5**
YAK	**Yakutsk**	**15.49**	**357**	*e*Pn	**Pn**	**10 58 34.9**	**+0.4**
	comp=N,12nm,0.6s						
BOD	**Bodaibo**	**15.52**	**323**	*eP*	**P**	**10 58 39.3**	**0.0**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ULN	**Ulaanbaatar**	**16.72**	**283**	⇓*iP*	**P**	**10 58 54.8**	**+1.9**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ULN	**Ulaanbaatar**	**16.72**	**283**	*eP*	**P**	**10 58 53.3**	**+0.4**
	comp=Z,5.0nm,1.1s						
SONM	**Songino Array**	**17.17**	**283**	P	**P**	**10 58 57.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=74,slow=11,SNR=3.7						
SONM				Lg	Lg	11 03 59.7	
	comp=Z,0.2nm,0.3s,baz=80,slow=25,SNR=5.2						
PETK	**Petropavlovsk-**	**17.96**	**59**	P	**P**	**10 59 09.2**	**+2.9**
	comp=Z,0.3nm,0.3s,baz=243,slow=6.3,SNR=9.5						
PETK				LR	LR	11 07 01.3	
	comp=Z,47nm,19.3s,baz=273,slow=40						
PET	**Petropavlovsk**	**18.51**	**60**	*eP*	**Pn**	**10 59 16.1**	**+3.6**
PET	**Petropavlovsk**	**18.51**	**60**	*eP*	**Pn**	**10 59 16.1**	**+3.6**
PET	**Petropavlovsk**	**18.51**	**60**	P	**Pn**	**10 59 13.5**	**+1.0**
	comp=Z,53nm,1.1s						
TLY	**Talaya**	**18.93**	**296**	P	**Pn**	**10 59 17.7**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=132,slow=2.6,SNR=6.8						
TLY				Lg	Lg	11 04 50.6	
	comp=Z,0.0nm,0.3s,baz=347,slow=16,SNR=5.3						
TLY				LR	LR	11 07 02.2	
	comp=Z,124nm,18.3s,baz=271,slow=38						
ZAK	**Zakamensk**	**19.11**	**292**	*eP*	**P**	**10 59 19.0**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,2.0s						
SEY	**Seymchan**	**20.10**	**28**	P	**P**	**10 59 30.6**	**+0.9**
SEY				pmax	pmax		
	comp=Z,5.0nm,0.3s						
SEY	**Seymchan**	**20.10**	**28**	P	**P**	**10 59 30.6**	**+0.9**
	comp=Z,5.1nm,0.3s,baz=224,slow=3.4,SNR=36						
MOY	**Mondy**	**20.58**	**295**	*eP*	**P**	**10 59 35.8**	**+0.6**
MOY	**Mondy**	**20.58**	**295**	*eP*	**P**	**10 59 35.8**	**+0.6**
GTA	**Gaotai**	**24.23**	**264**	*eP*	P	11 00 18.1	+4.8
GTA				pP	pP	11 00 22.6	+6.3
GTA				sP	sP	11 00 25.2	+7.6
GTA				PMZ			
	comp=Z,63nm,5.0s						
GTA				LN			
	comp=Z,390nm,15.4s						
GTA				LE			
	comp=Z,200nm,16.9s						
GTA				LZ			
	comp=Z,160nm,15.7s						
TIXI	**Tiksi**	**25.14**	**358**	⇓*eP*	**P**	**11 00 20.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TIXI	**Tiksi**	**25.14**	**358**	*eP*	**P**	**11 00 20.5**	**-0.5**
TIXI	**Tiksi**	**25.14**	**358**	*eP*	**P**	**11 00 20.3**	**-0.7**
	comp=Z,9.0nm,0.6s						
HVS	**Khovu-Aksy**	**25.16**	**294**	⇓*eP*	**P**	**11 00 22.4**	**+0.9**
HVS				pmax	pmax		
	comp=Z,41nm,1.5s						
HVS	**Khovu-Aksy**	**25.16**	**294**	*eP*	**P**	**11 00 22.4**	**+0.9**
FX1	**Attu Island--F**	**27.26**	**61**	P	**P**	**11 00 40.9**	**+0.6**
FX1				pmax	pmax		
	comp=Z,9.0nm,0.7s						
FX1	**Attu Island--F**	**27.26**	**61**	P	**P**	**11 00 40.9**	**+0.6**
	comp=Z,9.0nm,0.7s,baz=127,slow=15,SNR=4.3						
BILL	**Bilibino**	**27.80**	**27**	⇓*eP*	**P**	**11 00 48.9**	**+3.8**
BILL				*i*	*i*	11 01 03.6	
BILL				*i* *PP	**PP**	**11 01 43.6**	**-4.1**
BILL				*i* SS	SS	11 07 05.6	-19
BILL				pmax	pmax		
	comp=Z,6.0nm,1.6s						
BILL				MLR	MLR		
	comp=Z,71nm,17.0s						
BILL	**Bilibino**	**27.80**	**27**	*eP*	**P**	**11 00 44.4**	**-0.7**
ZALV	**Zalesovo Beam**	**30.32**	**301**	P	**P**	**11 01 07.7**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**30.32**	**301**	P	**P**	**11 01 07.7**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=89,slow=7.7,SNR=7.3						
QIZ	**Qiongzhong**	**32.83**	**220**	P	**P**	**11 01 29.3**	**-0.6**
QIZ				PMZ			
	comp=Z,22nm,2.7s						
MKAR	**Makanchi Array**	**33.39**	**289**	P	**P**	**11 01 34.0**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**33.39**	**289**	P	**P**	**11 01 34.0**	**-0.6**
MKAR	**Makanchi Array**	**33.39**	**289**	P	**P**	**11 01 34.0**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=77,slow=9.0,SNR=4.6						
KURK	**Kurchatov**	**34.63**	**297**	P	**P**	**11 01 46.0**	**+0.7**
KURK						11 04 17.7	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**34.63**	**297**	P	**P**	**11 01 46.0**	**+0.7**
KURK	**Kurchatov**	**34.63**	**297**	P	**P**	**11 01 46.0**	**+0.7**
KURK				PcP	**PcP**	**11 04 17.7**	**-1.6**
KURBB	**Kurchatov Arra**	**34.70**	**297**	P	**P**	**11 01 46.0**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=80,slow=9.9,SNR=13						
KURBB				PcP	**PcP**	**11 04 17.7**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=71,slow=2.8,SNR=4.4						
TNA	**Tin City**	**36.85**	**37**	*eP*	**P**	**11 02 03.5**	**-0.6**
	comp=Z,8.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**38.86**	**235**	LR	LR	11 20 08.1	
	comp=Z,39nm,18.7s,baz=200,slow=39						
TKM2	**Tokmak 2**	**39.24**	**286**	*eP*	**P**	**11 02 25.8**	**+0.9**
	comp=Z,2.0nm,0.5s						
AAK	**Ala-Archa**	**40.10**	**286**	*i* P	**P**	**11 02 32.8**	**+0.8**
AAK				pmax	pmax		
	comp=Z,13nm,1.6s						
AAK	**Ala-Archa**	**40.10**	**286**	*i* P	**P**	**11 02 32.8**	**+0.8**
KSH	**Kashi**	**40.54**	**281**	*eP*	**P**	11 02 38.7	+3.1
KSH				PP	**PnPn**	**11 04 12.9**	**+0.2**
KSH				S	**S**	**11 08 48.8**	**+4.0**
KSH				PMZ			
	comp=Z,48nm,3.3s						
KSH				LN			
	comp=Z,33nm,4.7s						
KSH				LE			
	comp=Z,22nm,4.2s						
KSH				LZ			
	comp=Z,98nm,9.7s						
COLA	**College**	**45.28**	**36**	P	**P**	**11 03 14.0**	**+0.5**
COLA				pmax	pmax		
	comp=Z,50nm,2.1s						
COLA	**College**	**45.28**	**36**	P	**P**	**11 03 14.0**	**+0.5**
ILAR	**Eielson Array**	**45.71**	**36**	P	**P**	**11 03 17.1**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**45.71**	**36**	P	**P**	**11 03 17.1**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=288,slow=8.1,SNR=47						
ABKAR	**Akbulak array**	**46.43**	**301**	*eP*	**P**	**11 03 22.7**	**-0.1**
	comp=Z,20nm,1.1s						
AKTO	**Aktyubinsk**	**47.05**	**303**	P	**P**	**11 03 27.6**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**47.05**	**303**	P	**P**	**11 03 27.6**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=39,slow=3.6,SNR=4.0						
KBL	**Kabul**	**47.87**	**279**	*eP*	**P**	**11 03 34.8**	**+0.3**
	comp=Z,3.7nm,1.1s						
GEYT	**Alibeck**	**53.26**	**289**	P	**P**	**11 04 15.2**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=45,slow=16,SNR=2.3						
FINES	**FINESS Array B**	**56.87**	**326**	P	**P**	**11 04 40.1**	**-0.5**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES	**FINESS Array B**	**56.87**	**326**	P	**P**	**11 04 40.1**	**-0.5**
	comp=Z,5.3nm,0.9s,baz=72,slow=8.2,SNR=8.6						
YKA	**Yellowknife Ar**	**59.16**	**30**	P	**P**	**11 04 56.5**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**59.16**	**30**	P	**P**	**11 04 56.5**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=312,slow=6.6,SNR=23						
KIV	**Kislovodsk**	**59.32**	**303**	*eP*	**P**	**11 04 59.2**	**+1.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KIV				MLR	MLR		
	comp=Z,34nm,16.0s						
KIV	**Kislovodsk**	**59.32**	**303**	*eP*	**P**	**11 04 59.2**	**+1.0**
AKASG	**Malin Array Be**	**62.29**	**315**	P	**P**	**11 05 17.3**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**62.29**	**315**	P	**P**	**11 05 17.3**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=45,slow=7.4,SNR=8.1						
KIEV	**Kiev**	**62.31**	**315**	*eP*	**P**	**11 05 17.3**	**-1.0**
NB2	**NORSAR Subarra**	**62.42**	**332**	P	**P**	**11 05 17.9**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=42,slow=6.5						
NOA	**NORSAR Array B**	**62.42**	**332**	P	**P**	**11 05 18.2**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**62.42**	**332**	P	**P**	**11 05 18.2**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=41,slow=6.5,SNR=4.9						
WRA	**Warramunga Arr**	**66.29**	**177**	P	**P**	**11 05 43.9**	**-0.7**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**66.29**	**177**	P	**P**	**11 05 43.9**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=356,slow=7.3,SNR=26						
SFJD	**Kangerlussuaq**	**66.71**	**1**	LR	LR	11 34 23.9	
	comp=Z,33nm,19.3s,baz=288,slow=36						
BRTR	**Keskin Array B**	**67.22**	**304**	*ceP*	**P**	**11 05 52.0**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**67.22**	**304**	P	**P**	**11 05 50.4**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=69,slow=4.2,SNR=4.2						
CTA	**Charters Tower**	**67.69**	**165**	LR	LR	11 32 48.1	
	comp=Z,179nm,21.0s,slow=34						
ASAR	**Alice Springs**	**69.98**	**178**	P	**P**	**11 06 07.9**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**69.98**	**178**	P	**P**	**11 06 07.8**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=353,slow=6.1,SNR=10						
NVAR	**Mina Array Bea**	**74.77**	**50**	P	**P**	**11 06 37.4**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=299,slow=6.1,SNR=4.0						
ULM	**Lac du Bonnet**	**75.14**	**29**	P	**P**	**11 06 37.0**	**-1.2**
ULM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ULM	**Lac du Bonnet**	**75.14**	**29**	P	**P**	**11 06 37.0**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=333,slow=7.8,SNR=4.7						
PDAR	**Pinedale Array**	**75.79**	**42**	P	**P**	**11 06 42.6**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=16,slow=2.0,SNR=7.8						
STKA	**Stephens Creek**	**78.64**	**171**	P	**P**	**11 06 58.3**	**+0.3**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STKA	**Stephens Creek**	**78.64**	**171**	P	**P**	**11 06 58.3**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=349,slow=5.2,SNR=2.9						
BRSD	**Miller**	**78.93**	**34**	*eP*	**P**	**11 06 59.4**	**-0.4**
	comp=Z,8.4nm,0.8s						
ANMO	**Albuquerque**	**83.47**	**45**	⇓*iP*	**P**	**11 07 23.3**	**-1.0**
ANMO				pmax	pmax		
	comp=Z,15nm,2.5s						
LPAZ	**La Paz**	**145.58**	**35**	PKP2	**PKPdf**	**11 14 35.1**	**-0.5**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ	**La Paz**	**145.58**	**35**	PKPbc	**PKPdf**	**11 14 35.1**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=334,slow=4.4,SNR=5.0						

IDC ***10*** *10:56:28.1±0.6, 35°.81S×73°.12W, h0km, mb4.3/13, mb1 4.4/18, mb1mx4.2/35, mbtmp4.2/18, ML4.0/5, MS3.9/12, Ms1 3.9/12, ms1mx3.7/25, Error ellipse: s-maj=23.3km s-min=14.0km az=83.0*

ISCJB ***10*** *10:56:30.5±0.4, 35°.83S±0°.03×73°.22W±0°.06, h28km, mb4.3/23, MS4.0/8, Error ellipse: s-maj=7.0km s-min=4.7km az=161.3*

GUC ***10*** *10:56:30.0±0.7, 35°.85S×73°.22W, h6km±2km, ML5.1*

NEIC ***10*** *10:56:33.4±0.3, 35°.80S×73°.11W, h35km, mb4.4/10, Error ellipse: s-maj=9.4km s-min=6.4km az=83.0*

ISC 10 10:56:32.0±0.5, 35°.86S±0°.05×73°.18W±0°.07, h28km, n52, σ0§97/49, mb4.4/23, MS4.2/8, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.42**	**

BDFB Brasilia 30.17 55 P **P 11 02 38.4 -1.5**
comp=E,5.6nm,0.9s,baz=225,slow=9.2,SNR=3.9
BDFB LR LR 11 16 25.4
comp=E,264nm,22.0s,baz=226,slow=40
SDV Santo Domingo 44.57 4 *eP* **P 11 04 40.9 -0.9**
comp=E,35nm,1.5s
VNA3 Neumayer Olymp 48.01 157 P **P 11 05 09.5 +1.5**
VNA2 Neumayer--Watz 48.67 156 P **P 11 05 14.6 +1.4**
baz=297,slow=10
SNAA Sanae 50.23 157 P **P 11 05 26.2 +1.1**
SNAA Sanae 50.23 157 P **P 11 05 25.9 +0.8**
comp=E,7.4nm,0.9s,baz=276,slow=6.8,SNR=13
QSPA South Pole Qui 54.38 180 P **P 11 05 57.0 +1.0**
comp=E,4.4nm,0.9s,baz=318,slow=2.4,SNR=12
RKT Rikitea 54.46 266 *eT* T 12 04 23.4
comp=E,1.8nm,0.3s
MEH Mehetia 67.69 264 *eT* T 12 20 53.7
comp=E,24nm,0.2s
PPT2 Papeete2 69.06 263 *eLR* LR 11 28 39.3
comp=E,208nm,24.8s
PPT Papeete 69.07 263 LR LR 11 29 39.2
comp=E,102nm,18.0s,baz=111,slow=29
JCT Junction City 70.58 336 *eP* **P 11 07 44.3 -0.1**
comp=E,1.4nm,0.4s
TXAR Lajitas Array 70.92 332 P **P 11 07 47.1 +0.5**
comp=E,0.6nm,0.6s,baz=152,slow=7.9,SNR=11
TKL Tuckaleechee C 71.84 351 P **P 11 07 51.5 -0.4**
comp=E,1.9nm,0.8s,baz=220,slow=17,SNR=3.5
ABTX Abilene, Hawle 72.50 337 *eP* **P 11 07 56.2 +0.2**
comp=E,4.6nm,0.8s
MIAR Mount Ida 72.59 342 *eP* **P 11 07 56.4 -0.1**
comp=E,5.9nm,1.4s
WVT Waverly 72.91 348 *eP* **P 11 07 57.3 -1.0**
comp=E,7.6nm,0.9s
WMOK Wichita Mounta 74.19 338 *eP* **P 11 08 06.0 +0.1**
comp=E,2.4nm,0.7s
DBIC Dimbokro 76.66 72 P **P 11 08 20.5 -0.1**
comp=E,4.5nm,0.9s,baz=206,slow=11,SNR=3.1
DBIC LR LR 11 38 46.3
comp=E,118nm,20.2s,baz=205,slow=33
ANMO Albuquerque 76.98 332 *eP* **P 11 08 22.9 +0.8**
comp=E,4.0nm,1.2s
SDCO Great Sand Dun 79.13 334 *eP* **P 11 08 34.4 +0.3**
comp=E,1.9nm,1.1s
BOSA Boshof 80.03 118 P **P 11 08 39.7 +0.4**
comp=E,6.9nm,0.8s,baz=224,slow=7.3,SNR=11
BOSA LR LR 11 39 38.0
comp=E,116nm,19.2s,baz=197,slow=32
ISCO Idaho Springs 81.00 335 *eP* **P 11 08 44.4 +0.2**
comp=E,2.1nm,0.4s
NVAR Mina Array Bea 84.89 326 P **P 11 09 05.3 +1.1**
comp=E,1.0nm,0.7s,baz=156,slow=6.9,SNR=7.9
PDAR Pinedale Array 85.01 334 P **P 11 09 06.8 +2.0**
comp=E,0.4nm,0.8s,baz=171,slow=6.1,SNR=3.6
TORD Torodi Ar. Bea 85.72 71 P **P 11 09 08.2 -0.5**
comp=E,2.3nm,0.9s,baz=238,slow=2.9,SNR=8.6
TORD LR LR 11 47 03.7
comp=E,145nm,18.1s,baz=200,slow=35
ULM Lac du Bonnet 88.06 346 P **P 11 09 18.3 -0.9**
comp=E,3.9nm,0.8s,baz=175,slow=3.3,SNR=10.0
YKA Yellowknife Ar 103.52 342 Pdiff **Pdif 11 10 29.6 +0.3**
comp=E,0.1nm,0.7s,baz=142,slow=5.2,SNR=2.8
WRA Warramunga Arr 118.68 210 PKP **PKPdf 11 15 16.9 -1.0**
comp=E,0.2nm,0.8s,baz=147,slow=1.7,SNR=2.9
ABKAR Akbulak array 143.56 54 *e*PKPdf PKPab 11 16 00.2 +0.2
ZALV Zalesovo Beam 156.30 33 PKP **PKPdf 11 16 23.2 -0.1**
comp=E,0.4nm,0.4s,baz=322,slow=9.1,SNR=4.4
ZALV PKPab **PKPab 11 16 51.8 +0.3**
comp=E,0.7nm,0.5s,baz=328,slow=5.1,SNR=2.7
SONM Songino Array 168.03 1 PKPab **PKPab 11 17 43.9 +0.8**
comp=E,0.3nm,0.4s,baz=349,slow=4.9,SNR=3.8

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*ISCJB **10** 11:03:48.4±0.7, 32°.17N±0°.08×137°.94E±0°.10, h376km, mb3.2/8, Error ellipse: s-maj=12.8km s-min=8.4km az=42.2*
*JMA **10** 11:03:49.3±0.3, 32°.41N×138°.03E, h405km, M3.5*
*IDC **10** 11:03:50.2±1.6, 32°.33N×137°.82E, h388km±15km, mb2.9/7, mb1 3.1/10, mb1mx3.0/29, mbtmp3.7/10, Error ellipse: s-maj=19.9km s-min=17.2km az=133.0*
ISC 10 11:03:50.1±1.3, 32°.4N±0°.1×137°.91E±0°.09, h376km, n25, σ1§64/30, mb3.2/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**1.54**	**332**	P	Pn	11 04 44.6	+4.0
JHJ2	**Mitsune**	**1.77**	**65**	P	**Pn**	**11 04 45.0**	**+2.7**
JWZ	**Kozaga**	**2.17**	**302**	P	**Pn**	**11 04 47.1**	**+2.2**
JOD2	**Odawara 2**	**3.04**	**19**	P	**Pn**	**11 04 54.5**	**+2.8**
JOD2				*eS*	**S**	**11 05 44.9**	**+3.4**
JAI	**Aioi**	**3.23**	**297**	P	**Pn**	**11 04 55.4**	**+2.0**
BSO3	**Boso 3**	**3.25**	**41**	P	**Pn**	**11 04 53.7**	**+0.5**
BSO3				*eS*	**S**	**11 05 45.2**	**+0.9**
BSO4	**Boso 4**	**3.30**	**37**	P	**Pn**	**11 04 55.6**	**+1.7**
BSO4				*eS*	**S**	**11 05 46.1**	**+0.6**
BSO1	**Boso 1**	**3.42**	**48**	P	**Pn**	**11 04 55.1**	**+0.6**
JHU	**Hanno**	**3.65**	**18**	P	**Pn**	**11 04 58.7**	**+1.5**
JHU				*eS*	**S**	**11 05 51.3**	**-0.2**
JRY	**Ryogami san**	**3.72**	**13**	P	**Pn**	**11 05 00.4**	**+2.5**
JRY				*eS*	**S**	**11 05 53.9**	**+1.1**
MJAR	**Matsushiro Arr**	**4.16**	**3**	P	**Pn**	**11 05 04.0**	**+1.8**
0.9nm,0.3s,baz=179,slow=10,SNR=12							
MJAR				S	**S**	**11 06 02.2**	**+1.6**
0.3nm,0.3s,baz=169,slow=13,SNR=3.3							
JAG	**Ashikaga**	**4.23**	**17**	P	**Pn**	**11 05 03.4**	**+0.5**
JYT	**Yasato**	**4.28**	**26**	P	**Pn**	**11 05 03.5**	**+0.1**
JHO	**Hitachi**	**4.76**	**27**	P	**Pn**	**11 05 08.5**	**+0.2**
JFK	**Kawauchi**	**5.54**	**25**	P	**Pn**	**11 05 17.3**	**+0.6**
JFK				*eS*	**S**	**11 06 24.4**	**-2.7**
KSRS	**Korea Array**	**9.63**	**304**	P	**Pn**	**11 06 04.8**	**+1.1**
0.4nm,0.3s,baz=119,slow=10,SNR=9.2							
ASAJ	**Asahikawa**	**12.28**	**16**	P	**Pn**	**11 06 34.8**	**+0.2**
0.8nm,0.3s,baz=191,slow=10,SNR=3.9							
SONM	**Songino Array**	**28.38**	**312**	P	**P**	**11 09 10.6**	**-0.7**
0.5nm,0.3s,baz=134,slow=10,SNR=6.4							
FX1	**Attu Island--F**	**32.58**	**41**	P	**P**	**11 09 49.0**	**+1.3**
21nm,0.8s,baz=280,slow=6.1,SNR=3.6							
ZALV	**Zalesovo Beam**	**43.09**	**316**	P	**P**	**11 11 12.9**	**-1.6**
0.5nm,0.4s,baz=87,slow=8.9,SNR=3.0							
MKAR	**Makanchi Array**	**44.31**	**306**	P	**P**	**11 11 22.9**	**-1.4**
0.6nm,0.5s,baz=87,slow=10.0,SNR=8.4							
WRA	**Warramunga Arr**	**52.14**	**184**	P	P	11 12 21.9	-1.7
0.3nm,0.9s,baz=360,slow=7.6,SNR=3.2							
ILAR	**Eielson Array**	**54.96**	**30**	P	**P**	**11 12 42.2**	**-1.0**
0.4nm,0.5s,baz=271,slow=6.2,SNR=9.3							
YKA	**Yellowknife Ar**	**69.27**	**28**	P	**P**	**11 14 16.5**	**-0.8**
0.3nm,0.5s,baz=301,slow=6.1,SNR=8.2							
TXAR	**Lajitas Array**	**95.28**	**50**	P	**P**	**11 16 32.2**	**-0.3**
0.3nm,0.7s,baz=339,slow=3.1,SNR=3.4							

MEX 10 11:17:31.3±0.8, 16°.46N×94°.38W, h118km±9km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.80**	**323**	*iP*	Pn	11 17 50.1	-1.2
CMIG				*iS*	Sn	11 18 04.2	-2.2
PCIG		**1.34**	**124**	*eP*	Pn	11 17 55.9	-0.9
PCIG				*eS*	Sn	11 18 14.6	-1.5
HUIG	**Huatulco**	**1.79**	**248**	*iP*	Pn	11 18 00.1	-2.1
HUIG				*eS*	Sn	11 18 24.3	-1.4
CCIG	**Comitan**	**2.16**	**94**	*eP*	Pn	11 18 05.8	-1.1
CCIG				*eS*	Sn	11 18 31.9	-2.3
VHO	**Vista Hermosa**	**2.33**	**286**	*iP*	Pn	11 18 07.7	-1.4
VHO				*eS*	Sn	11 18 37.2	-1.0
PNIG	**Pinotepa**	**3.59**	**270**	*eP*	Pn	11 18 24.4	-1.0
PNIG				*eS*	Sn	11 19 05.2	-2.2
TLIG	**Tlapa**	**4.15**	**286**	*eP*	Pn	11 18 32.2	-0.8
TLIG				*eS*	Sn	11 19 18.6	-2.3

IDC 10 11:26:15.1±8.7, 5°.54S×151°.85E, h93km±61km, mb3.4/2, mb1 3.5/3, mb1mx3.1/19, mbtmp3.7/3, ML2.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/14, Error ellipse: s-maj=116.0km s-min=53.5km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.03**	**230**	P	Pn	11 27 41.0	-0.9
1.1nm,0.3s,baz=32,slow=14,SNR=4.5							
PMG				S	Sn	11 28 51.3	+1.8
0.8nm,0.3s,baz=159,slow=8.6,SNR=3.7							
WRA	**Warramunga Arr**	**22.25**	**228**	P	P	11 31 03.8	-0.7
0.7nm,0.4s,baz=53,slow=10,SNR=12							
ASAR	**Alice Springs**	**24.97**	**222**	P	P	11 31 30.1	0.0
2.1nm,0.7s,baz=56,slow=9.0,SNR=33							
ASAR				LR	LR	11 42 28.1	
comp=Z,39nm,18.0s,baz=128,slow=39							
TORD	**Torodi Ar. Bea**	**149.63**	**287**	PKPbc	PKPbc	11 45 54.9	0.0
0.3nm,0.6s,baz=89,slow=1.9,SNR=3.6							

IDC 10 11:30:00.1±2.6, 28°.76S×178°.03W, h116km±30km, mb3.4/2, mb1 3.6/2, mb1mx3.3/20, mbtmp3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/10, Error ellipse: s-maj=120.1km s-min=41.3km az=171.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.50**	**169**	P	Pn	11 30 19.0	+1.5
652nm,0.3s,baz=175,slow=1.3,SNR=39							
RAO				S	Sn	11 30 32.2	+1.4
584nm,0.3s,baz=249,slow=23,SNR=8.9							
URZ	**Urewera**	**10.30**	**202**	LR	LR	11 36 01.0	
comp=Z,149nm,19.1s,baz=106,slow=35							
ASAR	**Alice Springs**	**43.19**	**265**	P	P	11 37 49.0	-0.7
0.7nm,0.5s,baz=100,slow=6.3,SNR=20							
ASAR				PcP	PcP	11 39 37.5	+0.3
0.4nm,0.6s,baz=107,slow=4.0,SNR=7.1							
WRA	**Warramunga Arr**	**44.03**	**270**	P	P	11 37 56.8	+0.3
0.7nm,0.5s,baz=110,slow=7.8,SNR=14							
MKAR	**Makanchi Array**	**116.69**	**311**	PKP	PKPdf	11 48 29.7	-0.7
0.2nm,0.6s,baz=92,slow=2.0,SNR=3.2							
FINES	**FINESS Array B**	**143.60**	**341**	PKP	PKPbc	11 49 18.6	+0.5
0.9nm,0.6s,baz=310,slow=3.1,SNR=3.3							

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*IDC **10** 11:36:50.8±1.7, 2°.04N×98°.95E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/29, mbtmp3.5/5, Error ellipse: s-maj=83.8km s-min=25.9km az=49.0*
*ISCJB **10** 11:36:54.7±0.8, 2°.00N±0°.07×99°.14E±0°.07, h33km, mb3.5/5, Error ellipse: s-maj=10.3km s-min=9.4km az=25.3*
*DJA **10** 11:36:55.8±0.7, 2°N±5°×9°9E±°, h99km±27km, M3.7/8, MLv3.7/8*
ISC 10 11:36:56.4±0.9, 1°.95N±0°.06×99°.02E±0°.08, h35km, n11, σ1§83/14, mb3.7/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.28**	**154**	P	**Pn**	**11 37 19.0**	**+1.2**
GSI	**Gunungsitoli**	**1.58**	**246**	P	**Pn**	**11 37 22.2**	**+0.2**
GSI				S	**Sn**	**11 37 43.5**	**+2.2**
TSI	**Tuntungan**	**1.60**	**343**	P	**Pn**	**11 37 23.1**	**+0.8**
KCSI	**Kotacane, Aceh**	**2.00**	**321**	P	**Pn**	**11 37 29.1**	**+1.4**
KCSI				S	**Sn**	**11 37 55.5**	**+4.0**
TPTI		**2.25**	**305**	P	**Pn**	**11 37 30.3**	**-0.9**
TPTI				S	**Sn**	**11 37 59.8**	**+2.0**
SNSI	**Sinabang, Aceh**	**2.73**	**280**	P	**Pn**	**11 37 37.6**	**-0.2**
WRA	**Warramunga Arr**	**40.91**	**124**	P	**P**	**11 44 36.2**	**+0.5**
0.4nm,0.6s,baz=303,slow=9.1,SNR=6.7							
AAK	**Ala-Archa**	**46.07**	**335**	P	**P**	**11 45 16.9**	**-0.2**
0.4nm,0.3s,baz=165,slow=18,SNR=2.5							
MKAR	**Makanchi Array**	**46.98**	**344**	P	**P**	**11 45 22.8**	**-1.3**
0.2nm,0.7s,baz=158,slow=7.3,SNR=3.8							
ZALV	**Zalesovo Beam**	**53.13**	**350**	P	**P**	**11 46 08.7**	**-1.8**
0.3nm,0.3s,baz=174,slow=5.5,SNR=3.1							
BRTR	**Keskin Array B**	**69.97**	**312**	P	**P**	**11 48 03.4**	**-1.2**
1.0nm,0.9s,baz=106,slow=7.7,SNR=2.9							

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*IDC **10** 11:58:21.6±1.4, 35°.45S×72°.58W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, ML3.2/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/26, Error ellipse: s-maj=46.0km s-min=31.0km az=137.0*
*ISCJB **10** 11:58:23.6±1.8, 35°.4S±0°.2×72°.6W±0°.2, h20km, mb3.7/3, MS3.1/1, Error ellipse: s-maj=41.2km s-min=15.4km az=145.5*
ISC 10 11:58:24.8±1.4, 35°.4S±0°.2×72°.7W±0°.2, h20km, n10, σ0§85/10, mb3.7/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.28**	**45**	Pn	**Pn**	**11 59 42.9**	**+0.2**
0.8nm,0.3s,baz=216,slow=14,SNR=16							
CFAA				Sn	**Sn**	**12 00 43.5**	**+0.5**
1.4nm,0.3s,baz=18,slow=19,SNR=4.8							
CPUP	**Villa Florida**	**15.95**	**60**	LR	LR	12 08 26.2	
comp=Z,64nm,19.6s,baz=206,slow=38							
LPAZ	**La Paz**	**19.46**	**13**	P	**Pn**	**12 02 52.3**	**+0.1**
0.0nm,0.3s,baz=201,slow=8.6,SNR=2.8							
SIV	**San Ignacio**	**21.93**	**31**	P	**P**	**12 03 15.7**	**-1.4**
1.0nm,0.4s,baz=225,slow=12,SNR=3.6							
SIV				LR	LR	12 11 54.7	
comp=Z,72nm,19.2s,baz=248,slow=37							
TXAR	**Lajitas Array**	**70.72**	**332**	P	**P**	**12 09 40.0**	**+0.5**
0.3nm,0.5s,baz=155,slow=9.0,SNR=7.6							
TORD	**Torodi Ar. Bea**	**85.16**	**70**	P	**P**	**12 11 00.5**	**+0.6**
0.8nm,0.7s,baz=250,slow=4.0,SNR=7.2							
WRA	**Warramunga Arr**	**119.29**	**209**	PKP	**PKPdf**	**12 17 13.3**	**+0.2**
0.3nm,0.8s,baz=159,slow=1.4,SNR=3.5							
ZALV	**Zalesovo Beam**	**155.68**	**33**	PKPab	**PKPab**	**12 18 41.9**	**-0.9**
0.4nm,0.5s,baz=316,slow=6.0,SNR=2.8							
MKAR	**Makanchi Array**	**158.05**	**51**	PKPab	**PKPab**	**12 18 52.3**	**-1.1**
0.4nm,0.9s,baz=299,slow=4.5,SNR=3.3							
SONM	**Songino Array**	**167.56**	**3**	PKPab	**PKPab**	**12 19 35.3**	**+0.3**
0.4nm,0.8s,baz=20,slow=5.4,SNR=3.4							

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*IDC **10** 12:20:53.4±0.3, 33°.60S×72°.40W, h0km, mb4.7/24, mb1 4.8/27, mb1mx4.8/32, mbtmp4.7/27, ML4.6/3, MS5.4/16, Ms1 5.4/16, ms1mx5.1/28, Error ellipse: s-maj=14.7km s-min=10.9km az=85.0*
*GUC **10** 12:20:54.3±0.4, 33°.60S×72°.65W, h38km±5km, ML4.8*
*ISCJB **10** 12:20:57.1±0.1, 33°.55S±0°.03×72°.34W±0°.04, h33km, mb5.3/131, MS5.5/159, Error ellipse: s-maj=5.3km s-min=3.4km az=151.0*
*GCMT **10** 12:20:58.9±0.2, 33°.60S×72°.85W, h15km, MW5.6/90, Moment Tensor Solution. s58,c81; s90,c121; Duration: 1§4 Moment tensor: Scale 10^17^Nm; M_{rr}0.58±.03; $M_{\theta\theta}$-0.07±.02; $M_{\phi\phi}$-0.51±.03; $M_{r\theta}$-0.90±.09; $M_{\theta\phi}$-0.36±.02; $M_{\phi r}$-3.37±.08; Best double couple: $M_0$3.54900×10^17^ NP1:ϕ_s195.00000°, δ85.00000°, λ87.00000°. NP2: ϕ_s47.00000°, δ6.00000°, λ122.00000°. Principal axes: T 3.5060, Plg50.0000°, Azm102.0000°; N 0.0840, Plg3.0000°, Azm195.0000°; P -3.5910, Plg40.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 12:20:58.9±0.1, 33°.56S×72°.30W, h35km, mb5.5/96, MS5.5/144 Error ellipse: s-maj=5.2km s-min=3.5km az=66.0*
NEIC Felt [II] at Santiago and Vina del Mar. Also felt at Curico, Quilpue, Rancagua and San Antonio.
*BJI **10** 12:20:59.1, 33°.50S×72°.30W, h35km, mB5.7/32, Ms5.8/35, Ms7 5.6/35*
*MOS **10** 12:21:00.4±1.0, 33°.28S×72°.37W, h48km, mb5.6/39, MS5.4/26, Error ellipse: s-maj=15.4km s-min=8.1km az=102.6*
ISC 10 12:20:58.8±0.6, 33°.60S±0°.04×72°.43W±0°.04, h34km±2km, n901, σ0§92/870, mb5.4/131, MS5.5/160, 233C-234D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.87**	**49**	‖*iP*	**Pn**	**12 21 12.7**	**-1.9**
ANTU	**Antumapu**	**1.50**	**89**	AML	AML	12 21 54.2	
comp=E,19μm,0.5s							
CHCH	**Chadas Angostu**	**1.51**	**103**	*e*P1	**Pn**	**12 21 22.7**	**-0.7**
PEL	**Peldehue**	**1.52**	**73**	‖*iP*	**Pn**	**12 21 23.1**	**-0.6**
PEL				*iS*	**Sb**	**12 21 44.6**	**-0.9**
PEL				AML	AML	12 21 59.5	
comp=E,27μm,0.5s							
LACH	**Col Las Americ**	**1.59**	**85**	AML	AML	12 22 02.2	
comp=N,8μm,0.6s							
CLCH	**Cerro Calan**	**1.59**	**83**	*eP*	**Pn**	**12 21 24.2**	**-0.3**
CLCH				*iS*	**Sb**	**12 21 46.7**	**-0.7**
CLCH				AML	AML	12 22 08.6	
comp=E,16μm,0.2s							
CLCH				AML	AML	12 22 09.1	
comp=E,18μm,0.6s							
CACH	**El Canelo**	**1.60**	**109**	‖*iP*	**Pn**	**12 21 24.5**	**-0.3**
NICH	**Los Niches**	**1.71**	**145**	*e*P1	**Pn**	**12 21 24.5**	**-1.7**
NICH				*iS*	**Sn**	**12 21 47.7**	**+0.8**
FCH	**Farellones**	**1.81**	**82**	*e*P9	**Pn**	**12 21 25.2**	**-2.5**
FCH				*e*S	**Sn**	**12 21 50.5**	**+0.9**
FCH				AML	AML	12 22 05.0	
comp=E,8μm,0.6s							
LNCH	**Linares**	**2.34**	**163**	‖*iP*	**Pn**	**12 21 33.2**	**-1.6**
LNCH				*i*S	**Sn**	**12 22 02.1**	**-0.3**
COCH	**Cobquecura**	**2.54**	**187**	*e*P	Pn	12 21 34.1	-3.5
CFAA	**Coronel Fontan**	**4.05**	**62**	Pn	**Pn**	**12 21 57.7**	**-0.8**
comp=E,0.9nm,0.3s,baz=237,slow=12,SNR=42							
CFAA				Lg	Lg	12 23 06.8	
comp=E,8.6nm,0.3s,baz=43,slow=19,SNR=5.2							
LCO	**Las Campanas**	**4.80**	**18**	*e*Pn	**Pn**	**12 22 06.0**	**-3.0**
LCO				*e*Sn	**Sn**	**12 23 00.1**	**-3.5**
PLCA	**Paso Flores**	**7.28**	**169**	Pn	**Pn**	**12 22 41.7**	**-1.0**
comp=E,5.6nm,0.3s,baz=334,slow=11,SNR=48							
PLCA				Lg	Lg	12 24 45.0	
comp=E,0.9nm,0.3s,baz=251,slow=19,SNR=4.4							
PLCA				LR	LR	12 25 15.2	
comp=E,9μm,19.2s,baz=352,slow=36							
PLCA	**Paso Flores**	**7.28**	**169**	Pn	**Pn**	**12 22 41.7**	**-1.0**
PLCA				*e*Sn	**Sn**	**12 24 03.8**	**-0.3**
PLCA				Lg	Lg	12 24 45.0	
TRQA	**Tornquist**	**9.57**	**121**	*e*Pn	**Pn**	**12 23 13.3**	**-0.9**
LVC	**Limon Verde**	**11.37**	**17**	*e*Pn	**Pn**	**12 23 36.3**	**-2.8**
CPUP	**Villa Florida**	**14.95**	**65**	Pn	**Pn**	**12 24 26.9**	**-0.6**
comp=E,0.2nm,0.3s,baz=218,slow=12,SNR=2.3							
CPUP				Sn	Sn	12 27 18.3	+6.4
comp=E,0.4nm,0.3s,baz=254,slow=17,SNR=1.9							
CPUP				Lg	Lg	12 28 44.0	
comp=E,0.3nm,0.3s,baz=135,slow=20,SNR=3.0							
CPUP				LR	LR	12 29 54.5	
comp=E,6μm,19.3s,baz=227,slow=36							
LPAZ	**La Paz**	**17.67**	**14**	P	**Pn**	**12 25 03.1**	**+0.3**
LPAZ				pmax	pmax		
comp=Z,117nm,1.8s							
LPAZ	**La Paz**	**17.67**	**14**	P	**Pn**	**12 25 03.1**	**+0.3**
comp=Z,0.7nm,0.3s,baz=184,slow=7.3,SNR=52							
LPAZ	**La Paz**	**17.67**	**14**	P	**Pn**	**12 25 03.1**	**+0.3**
comp=Z,117nm,1.8s							
SIV	**San Ignacio**	**20.31**	**33**	P	**P**	**12 25 31.0**	**-0.9**
comp=Z,9.9nm,0.7s,baz=227,slow=11,SNR=25							
SIV				S	**S**	**12 29 19.0**	**+1.2**
comp=Z,1.1nm,0.4s,baz=242,slow=18,SNR=2.2							
SIV				LR	LR	12 34 28.3	
comp=Z,19μm,18.2s,baz=232,slow=40							
EFI	**East Falkland**	**20.86**	**154**	P	**P**	**12 25 36.6**	**-0.9**
comp=Z,905nm,0.9s,SNR=5.5							
EFI	**East Falkland**	**20.86**	**154**	*e*P	**P**	**12 25 36.6**	**-0.9**
EFI				pmax	pmax		
comp=Z,130nm,0.9s							
EFI				MLR	MLR		
comp=Z,10μm,19.0s							
EFI	**East Falkland**	**20.86**	**154**	*e*P	**P**	**12 25 36.6**	**-0.9**
comp=Z,130nm,0.9s							
EFI				LR	LR		
comp=Z,10μm,19.0s							
USHA	**Ushuaia**	**21.41**	**174**	P	**P**	**12 25 43.0**	**-0.4**
comp=Z,65nm,1.0s,baz=264,slow=3.7,SNR=13							
USHA				S	Sn	12 29 46.9	-1.0
comp=Z,14nm,1.0s,baz=351,slow=19,SNR=5.0							
NNA	**Nana**	**21.89**	**348**	P	**P**	**12 25 49.4**	**+0.5**
comp=Z,616nm,1.8s,SNR=8.3							
NNA	**Nana**	**21.89**	**348**	P	**P**	**12 25 48.6**	**-0.3**
NNA				pmax	pmax		
comp=Z,34nm,1.5s							
NNA	**Nana**	**21.89**	**348**	P	**P**	**12 25 48.6**	**-0.3**
comp=Z,17nm,0.5s,baz=195,slow=11,SNR=15							
NNA				LR	LR	12 32 27.1	
comp=Z,13μm,19.9s,baz=175,slow=32							
NNA	**Nana**	**21.89**	**348**	P	**P**	**12 25 48.6**	**-0.3**
comp=Z,34nm,1.5s							
SAML	**Samuel**	**25.97**	**21**	*e*P	**P**	**12 26 27.8**	**-0.5**
comp=Z,193nm,1.7s							
SAML				LR	LR		
comp=Z,15μm,21.0s							
ATAH	**Atahualpa**	**26.91**	**347**	P	**P**	**12 26 36.0**	**-1.2**
comp=Z,7.1nm,1.0s,baz=156,slow=7.0,SNR=14							
ATAH				LR	LR	12 35 40.5	
comp=Z,9μm,18.8s,baz=147,slow=33							
BDFB	**Brasilia**	**28.38**	**57**	P	**P**	**12 26 48.4**	**-1.6**
comp=Z,12nm,0.8s,baz=222,slow=9.5,SNR=15							
BDFB				LR	LR	12 39 27.1	
comp=Z,18μm,18.2s,baz=224,slow=39							
PMSA	**Palmer Station**	**31.62**	**173**	PFAKE		12 27 30.0	+12
PMSA				LR	LR		
comp=Z,8μm,19.0s							
HOPE	**Hope Point**	**32.60**	**140**	*e*P	**P**	**12 27 27.9**	**+1.1**
comp=Z,61nm,1.3s							
HOPE				LR	LR		
comp=Z,5μm,19.0s							
OTAV	**Otavalo**	**34.13**	**349**	*e*P	**P**	**12 27 40.2**	**-0.8**
comp=Z,45nm,1.1s							
OTAV				LR	LR		
comp=Z,5μm,19.0s							
PAYG	**Puerto Ayora**	**36.79**	**329**	PFAKE		12 28 20.0	+17
PAYG				LR	LR		
comp=Z,6μm,19.0s							
ROSC	**El Rosal**	**38.29**	**357**	P	**P**	**12 28 16.4**	**-0.1**
comp=Z,6.8nm,0.4s,baz=252,slow=8.9,SNR=6.2							
SDV	**Santo Domingo**	**42.28**	**3**	*e*P	**P**	**12 28 49.0**	**-0.3**
comp=Z,17nm,0.9s							
SDV				LR	LR		
comp=Z,8μm,19.0s							
BCIP	**Isla Barro Col**	**43.11**	**349**	PFAKE		12 29 10.0	+14
BCIP				LR	LR		
comp=Z,3μm,19.0s							
RCBR	**Riachuelo**	**43.71**	**59**	P	**P**	**12 29 00.9**	**+0.1**
comp=Z,10.0nm,1.1s,baz=238,slow=9.5,SNR=3.0							
RCBR	**Riachuelo**	**43.71**	**59**	P	**P**	**12 29 00.9**	**+0.1**
RCBR				LR	LR		
comp=Z,10μm,20.0s							
JTS	**JuntasAbangare**	**45.24**	**343**	P	**P**	**12 29 14.8**	**+1.8**
comp=Z,204nm,1.7s,SNR=5.2							
JTS	**JuntasAbangare**	**45.24**	**343**	*d iP*	**P**	**12 29 13.2**	**+0.2**
JTS				pmax	pmax		
comp=Z,160nm,1.5s							
JTS	**JuntasAbangare**	**45.24**	**343**	P	**P**	**12 29 13.1**	**+0.1**
comp=Z,8.0nm,0.8s,baz=164,slow=5.2,

QSPA **South Pole Qui** 56.64 180 P P 12 30 38.1 -0.1
QSPA LR LR
comp=Z,4μm,20.0s
NVL **N'lazarevskaya** 56.81 157 eP P 12 30 38.9 -0.3
NVL eS S 12 38 30.7 +0.9
NVL pmax pmax
comp=Z,304nm,1.1s
ASCN **Ascension** 59.15 78 PFAKE 12 31 10.0 +14
ASCN LR LR
comp=Z,3μm,21.0s
SHEL **Horse Pasture** 62.07 91 PFAKE 12 31 30.0 +14
SHEL LR LR
comp=Z,2μm,19.0s
SBA **Scott Base** 63.40 192 PFAKE 12 31 40.0 +16
SBA LR LR
comp=Z,2μm,20.0s
VNDA **Vanda** 64.43 191 P P 12 31 30.8 -0.2
comp=Z,4.7nm,1.0s,baz=125,slow=5.0,SNR=9.0
035Z **Hargill** 64.51 335 ⇓P P 12 31 32.5 +0.4
baz=65
035A **Encino** 64.95 335 ⇑P P 12 31 35.6 +0.7
baz=65
034A **Hebbronville** 65.28 334 ⇑P P 12 31 37.5 +0.4
baz=66
KVTX **Kingsville** 65.44 335 PFAKE 12 31 50.0 +12
KVTX LR LR
comp=Z,1μm,19.0s
TIGA **Tifton** 65.54 350 ⇑P P 12 31 38.2 -0.5
baz=66
934A **Benavides** 65.71 335 ⇓P P 12 31 40.9 +1.0
baz=66
BRAL **Brewton** 65.73 346 PFAKE 12 31 50.0 +10
BRAL LR LR
comp=Z,1μm,20.0s
738A **Farr-Stevens R** 65.88 338 ⇑P P 12 31 42.1 +1.1
baz=66
933A **Laredo** 65.99 334 ⇓P P 12 31 42.2 +0.5
baz=66,SNR=7.1
BBSR **BB Station** 66.02 7 PFAKE 12 31 50.0 +8.2
BBSR LR LR
comp=Z,2μm,19.0s
835A **Beeville** 66.09 336 ⇓P P 12 31 43.8 +1.4
baz=66
834A **Tilden** 66.20 335 ⇑P P 12 31 44.4 +1.4
baz=66
SYO **Syowa Base** 66.36 159 ⇓eP P 12 31 39.0 -4.6
735A **Kenedy** 66.61 336 ⇓P P 12 31 46.6 +1.0
baz=67,SNR=5.7
833A **Chaparral WMA,** 66.68 334 ⇓P P 12 31 46.4 +0.3
baz=67,SNR=26
NHSC **New Hope** 66.75 353 eP P 12 31 46.9 +0.5
comp=Z,20nm,0.4s
NHSC LR LR
comp=Z,2μm,22.0s
832A **Faith Ranch, C** 66.86 334 ⇓P P 12 31 47.4 +0.1
baz=67,SNR=32
734A **La Parita Cree** 66.86 335 ⇑P P 12 31 47.4 +0.2
baz=67
636A **Smothers Creek** 66.93 337 ⇑P P 12 31 48.4 +0.7
baz=67,SNR=7.6
HKT **Hockley** 66.97 338 eP P 12 31 47.7 -0.1
HKT pmax pmax
comp=Z,102nm,1.6s
HKT **Hockley** 66.97 338 eP P 12 31 47.7 -0.1
comp=Z,102nm,1.6s
733A **Divot King Ran** 67.00 334 ⇑P P 12 31 47.9 -0.2
baz=67,SNR=14
SACV **Santiago Islan** 67.06 52 PFAKE 12 32 00.0 +11
SACV LR LR
comp=Z,2μm,19.0s
635A **Leesville** 67.08 336 ⇑P P 12 31 48.7 +0.1
baz=67
538A **Harpers Horsep** 67.12 338 ⇓P P 12 31 50.0 +1.2
baz=67
537A **Green Hill Far** 67.25 338 ⇓P P 12 31 50.3 +0.6
baz=68
732A **Laxson Ranch,** 67.26 334 ⇓P P 12 31 49.8 0.0
baz=68,SNR=42
732A ⇑S S 12 40 45.8 +3.4
baz=68
634A **China Grove, S** 67.28 336 ⇑P P 12 31 49.6 -0.3
baz=68
GOGA **Godfrey** 67.46 350 eP P 12 31 50.5 -0.4
GOGA pmax pmax
comp=Z,12nm,1.1s
GOGA MLR MLR
comp=Z,2μm,20.0s
GOGA **Godfrey** 67.46 350 eP P 12 31 50.5 -0.4
comp=Z,12nm,1.1s
GOGA LR LR
comp=Z,2μm,20.0s
536A **Bastrop** 67.48 337 ⇓P P 12 31 51.5 +0.4
baz=68
438A **Sam Houston St** 67.61 339 ⇑P P 12 31 52.7 +0.8
baz=68
535A **Dale** 67.61 337 ⇓P P 12 31 52.0 +0.1
baz=68
633A **Saathoff Ranch** 67.64 335 ⇑P P 12 31 52.3 +0.2
baz=68,SNR=14
LRAL **Lakeview Retre** 67.69 347 eP P 12 31 52.5 +0.2
340A **Bronson** 67.77 340 ⇓P P 12 31 53.0 +0.1
baz=68
339A **Huntington** 67.88 340 ⇓P P 12 31 54.4 +0.8
baz=68
437A **Phantom Ranch,** 67.89 338 ⇑P P 12 31 54.0 +0.3
baz=68
632A **Uvalde** 67.90 334 ⇑P P 12 31 54.1 +0.3
baz=68,SNR=22
534A **Blanco** 67.91 336 ⇓P P 12 31 53.6 -0.3
baz=68,SNR=5.9
436A **Wall Ranch, Ga** 68.04 337 ⇓P P 12 31 55.4 +0.8
baz=68
631A **Perdido Creek** 68.10 334 ⇓P P 12 31 54.7 -0.4
baz=68,SNR=17
338A **Crockett** 68.12 339 ⇑P P 12 31 55.3 +0.2
baz=68
533A **Kerrville** 68.14 335 ⇓P P 12 31 55.2 -0.2
baz=68,SNR=9.6
337A **Centerville** 68.26 338 ⇓P P 12 31 57.1 +1.0
baz=69
435B **Jarrell** 68.31 337 ⇑P P 12 31 56.8 +0.5
baz=69
NATX **Nacogdoches** 68.31 340 eP P 12 31 57.3 +1.0
comp=Z,23nm,0.3s
239A **Gary** 68.50 340 ⇓P P 12 31 57.8 +0.3
baz=69
532A **Rocksprings** 68.50 335 ⇑P P 12 31 57.6 0.0
baz=69,SNR=39
434A **Burnet** 68.56 336 ⇑P P 12 31 57.8 -0.2
baz=69,SNR=21
336A **Riesel** 68.62 338 ⇓P P 12 31 58.3 0.0
baz=69,SNR=8.5
238A **Jacksonville** 68.67 339 ⇑P P 12 31 59.3 +0.7
baz=69
CNNC **Cliffs of the** 68.67 355 PFAKE 12 32 10.0 +12
CNNC LR LR
comp=Z,2μm,20.0s
335A **Moody** 68.71 337 ⇓P P 12 31 59.0 +0.1
baz=69
531A **Rocksprings** 68.77 334 ⇑P P 12 31 59.2 -0.2
baz=69,SNR=29
JCT **Junction City** 68.79 335 eP P 12 31 59.3 0.0
JCT MLR MLR
comp=Z,995nm,19.0s
JCT **Junction City** 68.79 335 ⇓P P 12 31 59.4 0.0
baz=69,SNR=18
JCT **Junction City** 68.79 335 eP P 12 31 59.3 0.0
JCT LR LR
comp=Z,995nm,19.0s
433A **Art** 68.79 336 ⇓P P 12 31 59.3 -0.1
baz=69,SNR=40
237A **Washetta, Mont** 68.88 339 ⇑P P 12 32 00.3 +0.4
baz=69
KMSC **Kings Mountain** 68.89 352 ⇑P P 12 31 59.1 -0.7
baz=69
KMSC **Kings Mountain** 68.89 352 eP P 12 31 59.4 -0.4
comp=Z,62nm,1.9s
334A **Lometa** 69.03 336 ⇓P P 12 32 00.9 +0.1
baz=69,SNR=20
530A **J-C Ranch, Com** 69.05 333 ⇓P P 12 32 01.4 +0.3
baz=69,SNR=31
432A **Menard** 69.14 335 ⇓P P 12 32 01.2 -0.4
baz=70,SNR=12
TXAR **Lajitas Array** 69.23 331 P P 12 32 02.7 +0.4
comp=Z,3.7nm,0.8s,baz=154,slow=6.3,SNR=40
TXAR LR LR 12 58 10.7
comp=Z,3μm,18.3s,baz=0.0,slow=32

431A **Sonora** 69.26 334 ⇑P P 12 32 02.2 -0.2
baz=70,SNR=17
333A **Richland Sprin** 69.27 336 ⇓P P 12 32 02.1 -0.3
baz=70,SNR=18
138A **Matatall Enter** 69.28 340 ⇑P P 12 32 03.0 +0.7
baz=70
529A **Stev Forest Ra** 69.36 333 ⇑P P 12 32 03.2 +0.2
baz=70,SNR=23
WHTX **Lake Whitney,** 69.38 337 ⇓P P 12 32 02.5 -0.5
baz=70,SNR=5.3
WHTX **Lake Whitney,** 69.38 337 eP P 12 32 03.1 +0.1
comp=Z,95nm,1.4s
137A **Heron Place, G** 69.41 339 ⇑P P 12 32 03.5 +0.3
baz=70
VAH **Vaihoa** 69.54 265 eP P 12 32 05.0 +0.6
comp=Z,68nm,1.2s
430A **Baggett Ranch,** 69.58 334 ⇑P P 12 32 04.3 0.0
baz=70,SNR=18
332A **Millersview** 69.59 335 ⇑P P 12 32 03.7 -0.6
baz=70,SNR=18
OXF **Oxford** 69.60 345 eP P 12 32 04.4 +0.1
OXF **Oxford** 69.60 345 eP P 12 32 04.4 +0.1
TVO **Taravao** 69.61 262 eP P 12 32 05.7 +0.8
comp=Z,25nm,1.4s
234A **Clairette** 69.61 337 ⇑P P 12 32 04.2 -0.3
baz=70,SNR=11
429A **Davenport Ranc** 69.68 333 ⇓P P 12 32 04.9 -0.1
baz=70,SNR=30
TKL **Tuckaleechee C** 69.71 350 eP P 12 32 03.7 -1.3
TKL **Tuckaleechee C** 69.71 350 eP P 12 32 03.7 -1.3
331A **San Angelo** 69.76 335 ⇓P P 12 32 04.8 -0.6
baz=70,SNR=20
TIAR **Tiarei** 69.80 262 eP P 12 32 06.7 +0.7
comp=Z,16nm,1.1s
PMOR **Pomariorio Ree** 69.88 265 eP P 12 32 07.2 +0.7
comp=Z,34nm,1.2s
233A **Rising Star** 69.88 336 ⇓P P 12 32 06.0 -0.1
baz=70,SNR=12
135A **Vickery Place,** 69.89 338 ⇑P P 12 32 05.8 -0.3
baz=70
PAE **Paea** 69.94 262 eP P 12 32 08.7 +1.8
comp=Z,18nm,1.2s
PPT2 **Papeete2** 69.97 262 eP P 12 32 08.0 +0.8
comp=Z,74nm,1.2s
PPT2 eS S 12 41 16.1 +0.7
comp=Z,1μm,22.2s
PPT2 eLQ LQ 12 49 40.3
comp=Z,908nm,25.2s
PPT2 eLR LR 12 53 22.3
comp=Z,1μm,25.2s,baz=124
PPT **Papeete** 69.98 262 P P 12 32 08.0 +0.8
comp=Z,57nm,1.0s,baz=302,slow=1.2,SNR=5.3
PPT LR LR 12 55 35.1
comp=Z,2μm,18.1s,baz=126,slow=30
232A **Coleman** 70.01 336 ⇓P P 12 32 06.6 -0.3
baz=70,SNR=16
134A **White-Moore Ra** 70.11 337 ⇑P P 12 32 07.3 -0.2
baz=70
330A **Mertzon** 70.12 334 ⇓P P 12 32 07.1 -0.5
baz=70,SNR=13
231A **Bronte** 70.29 335 ⇑P P 12 32 07.6 -1.1
baz=71,SNR=14
133A **Hamilton Ranch** 70.42 336 ⇑P P 12 32 09.3 -0.2
baz=71,SNR=19
329A **Wagon Wheel Ra** 70.49 333 ⇓P P 12 32 10.0 +0.1
baz=71,SNR=15
230A **Sterling City** 70.53 334 ⇑P P 12 32 09.8 -0.4
baz=71
Z35A **Perchaven, San** 70.55 338 ⇓P P 12 32 10.1 -0.1
baz=71,SNR=6.4
MIAR **Mount Ida** 70.63 342 eP P 12 32 10.6 0.0
MIAR pmax pmax
comp=Z,106nm,1.8s
MIAR MLR MLR
comp=Z,1μm,19.0s
MIAR **Mount Ida** 70.63 342 eP P 12 32 10.6 0.0
comp=Z,106nm,1.8s
MIAR LR LR
comp=Z,1μm,19.0s
ABTX **Abilene, Hawle** 70.68 336 ⇑P P 12 32 10.8 -0.1
baz=71,SNR=12
ABTX **Abilene, Hawle** 70.68 336 eP P 12 32 10.9 -0.1
comp=Z,255nm,1.8s
Z34A **Collier Ranch,** 70.80 338 ⇑P P 12 32 11.3 -0.4
baz=71
VWCC **Virginia Weste** 70.83 354 eP P 12 32 12.1 +0.3
BLA **Blacksburg** 70.84 353 PFAKE 12 32 20.0 +8.1
BLA LR LR
comp=Z,1μm,21.0s
WVT **Waverly** 70.85 347 eP P 12 32 10.3 -1.6
WVT pmax pmax
comp=Z,304nm,1.8s
WVT **Waverly** 70.85 347 eP P 12 32 10.3 -1.6
comp=Z,304nm,1.8s
229A **Bryant Ranch,** 70.86 334 ⇑P P 12 32 11.7 -0.4
baz=71
HALT **Halls** 70.94 346 eP P 12 32 11.8 -0.6
131A **Roby** 70.98 335 ⇓P P 12 32 12.4 -0.5
baz=71,SNR=9.4
Z33A **Whitaker Ranch** 71.00 337 ⇑P P 12 32 12.6 -0.3
baz=71,SNR=11
JSRW **J. Sargeant Re** 71.11 355 eP P 12 32 13.8 +0.4
130A **Snyder** 71.12 335 ⇑P P 12 32 13.6 -0.1
baz=71
Z32A **Haskell** 71.25 336 ⇑P P 12 32 14.4 0.0
baz=72,SNR=20
GLAT **Glass** 71.27 346 eP P 12 32 14.2 -0.2
228A **UT Block 9, Go** 71.28 333 ⇓P P 12 32 14.3 -0.5
baz=72,SNR=9.9
Y34A **Reagan Ranch,** 71.29 338 ⇓P P 12 32 14.0 -0.6
baz=72,SNR=7.4
129A **Stewart Farms,** 71.47 334 ⇑P P 12 32 15.6 -0.3
baz=72
Z31A **Sharp Cattle R** 71.49 336 ⇑P P 12 32 15.6 -0.3
baz=72,SNR=17
PVMO **Portageville** 71.50 345 eP P 12 32 16.2 +0.5
comp=Z,136nm,0.6s
Y33A **Hilltop Ranch,** 71.61 337 ⇑P P 12 32 16.5 -0.1
baz=72,SNR=9.8
128A **Castleberry Fa** 71.69 334 ⇓P P 12 32 17.0 -0.2
baz=72,SNR=16
PARMO **Parma** 71.75 345 eP P 12 32 18.0 +0.7
Z30A **Sanderson Ranc** 71.80 335 ⇓P P 12 32 17.7 -0.1
baz=72,SNR=13
Y32A **R-V Farms, Ver** 71.88 337 ⇓P P 12 32 18.2 0.0
baz=72,SNR=11
X34A **Smith Ranch, M** 71.91 338 ⇑P P 12 32 18.3 -0.1
baz=72,SNR=12
Z29A **Hungry Hill Ra** 71.98 334 ⇑P P 12 32 18.0 -0.9
baz=72,SNR=20
MNTX **Cornudas Mount** 72.00 331 eP P 12 32 18.5 -0.5
comp=Z,20nm,1.3s
MNTX LR LR
comp=Z,3μm,19.0s
X33A **Lawton** 72.06 338 ⇑P P 12 32 18.3 -1.0
baz=72
Y31A **Rekieta Farm,** 72.11 336 ⇓P P 12 32 19.2 -0.4
baz=72,SNR=11
X32A **Elmer** 72.21 337 ⇑P P 12 32 19.6 -0.5
baz=72,SNR=9.6
Y30A **Stafford Cattl** 72.25 335 ⇑P P 12 32 20.3 -0.2
baz=73
Z28A **Tucker Farm, M** 72.25 334 ⇑P P 12 32 20.0 -0.6
baz=73,SNR=8.4
WMOK **Wichita Mounta** 72.33 337 eP P 12 32 20.5 -0.4
WMOK pmax pmax
comp=Z,87nm,1.7s
WMOK MLR MLR
comp=Z,1μm,19.0s
WMOK **Wichita Mounta** 72.33 337 eP P 12 32 20.5 -0.4
comp=Z,87nm,1.7s
WMOK LR LR
comp=Z,1μm,19.0s
W34A **Bridge Creek,** 72.47 338 ⇑P P 12 32 21.2 -0.6
baz=73
W34A **Bridge Creek,** 72.47 338 eP P 12 32 21.8 +0.1
comp=Z,97nm,1.4s
Y29A **Porterfield Fa** 72.51 335 ⇑P P 12 32 21.5 -0.5
baz=73,SNR=11
TUL1 **Leonard** 72.52 340 ⇓P P 12 32 21.4 -0.5
baz=73
TUL1 **Leonard** 72.52 340 eP P 12 32 21.8 -0.2
comp=Z,37nm,1.1s
USIN **University of** 72.60 347 eP P 12 32 21.6 -0.8
comp=Z,7.1nm,0.5s
W33A **Caddo, Fort Co** 72.61 338 ⇑P P 12 32 22.5 -0.1
baz=73,SNR=11
X31A **McDonald Ranch** 72.63 336 ⇓P P 12 32 22.4 -0.3
baz=73,SNR=18
SDMD **Soldier's Deli** 72.76 356 eP P 12 32 23.3 0.0
Y28A **McKinney Farm,** 72.76 334 ⇓P P 12 32 23.1 -0.4
baz=73,SNR=7.5
X30A **Coker Ranch, T** 72.76 336 ⇓P P 12 32 22.6 -1.0
baz=73
W32A **Sentinel** 72.84 337 ⇑P P 12 32 23.4 -0.5
baz=73,SNR=24
V34A **Guthrie** 72.95 339 ⇓P P 12 32 24.0 -0.6
baz=73,SNR=7.7
V34A **Guthrie** 72.95 339 eP P 12 32 24.4 -0.1
comp=Z,133nm,1.5s
MSTX **Muleshoe** 73.01 334 ⇓P P 12 32 24.6 -0.5
baz=73,SNR=14
MSTX **Muleshoe** 73.01 334 eP P 12 32 24.7 -0.3
comp=Z,78nm,1.5s
X29A **Tulia** 73.05 335 ⇓P P 12 32 25.1 -0.2
baz=73,SNR=7.6
Y27A **Causey** 73.07 334 ⇑P P 12 32 25.1 -0.4
baz=73,SNR=6.6
W31A **Holland Ranch,** 73.12 337 ⇑P P 12 32 25.3 -0.3
baz=74,SNR=8.3
V33A **Lossen Ranch,** 73.17 338 ⇓P P 12 32 25.3 -0.6
baz=74,SNR=8.6
X28A **Dimmitt** 73.29 335 ⇑P P 12 32 26.4 -0.3
baz=74
V32A **Arapaho** 73.32 338 ⇓P P 12 32 26.6 -0.1
baz=74
W30A **Crocket Farms** 73.33 336 ⇓P P 12 32 26.5 -0.3
baz=74
Y26A **Elida** 73.36 333 ⇓P P 12 32 26.8 -0.4
baz=74,SNR=5.1
319A **Douglas** 73.39 328 ⇓P P 12 32 28.0 +0.6
baz=74,SNR=13
OLIL **Olney** 73.42 347 eP P 12 32 26.4 -0.8
comp=Z,68nm,1.9s
AMTX **Amarillo** 73.44 335 ⇓P P 12 32 27.0 -0.5
baz=74
AMTX **Amarillo** 73.44 335 eP P 12 32 27.8 +0.3
comp=Z,280nm,1.8s
U34A **Anderson Ranch** 73.52 339 ⇓P P 12 32 27.6 -0.3
baz=74,SNR=7.5
U34A **Anderson Ranch** 73.52 339 eP P 12 32 27.7 -0.2
comp=Z,112nm,1.5s
BLO **Bloomington** 73.58 349 eP P 12 32 27.3 -0.8
BLO **Bloomington** 73.58 349 eP P 12 32 27.3 -0.8
V31A **Spring Creek L** 73.62 337 ⇑P P 12 32 28.5 0.0
baz=74,SNR=8.9
W29A **Amarillo** 73.64 335 ⇑P P 12 32 29.0 +0.2
baz=74,SNR=8.5
MAW **Mawson** 73.65 164 LR LR 13 06 32.9
comp=Z,4μm,18.0s,baz=230,slow=37
121A **Cookes Peak, D** 73.73 329 ⇑P P 12 32 30.2 +0.8
baz=74,SNR=18
121A **Cookes Peak, D** 73.73 329 eP P 12 32 30.1 +0.7
comp=Z,215nm,1.9s
X27A **F and S Farms,** 73.73 334 ⇓P P 12 32 28.9 -0.5
baz=74
V30A **Spur Ranch, Mi** 73.89 336 ⇓P P 12 32 30.7 +0.5
baz=74,SNR=7.6
X26A **CR and CF Fran** 73.91 333 ⇓P P 12 32 30.6 +0.2
baz=74,SNR=8.6
U32A **Winter Ranch,** 73.91 338 ⇓P P 12 32 30.3 +0.1
baz=74
W28A **Vega** 73.96 335 ⇓P P 12 32 30.7 +0.1
baz=74
Y24A **Capitan** 73.98 332 ⇑P P 12 32 31.1 +0.2
baz=74,SNR=15
Z22A **Elephant Butte** 74.01 330 ⇓P P 12 32 31.5 +0.5
baz=74,SNR=27
SSPA **Standing Stone** 74.04 356 eP P 12 32 31.2 +0.4
comp=Z,80nm,2.0s
W27A **Bowe Ranch, En** 74.09 334 ⇑P P 12 32 31.6 +0.2
baz=74,SNR=17
ACSO **Alum Creek Sta** 74.11 352 eP P 12 32 31.0 -0.2
comp=Z,81nm,1.4s
ACSO LR LR
comp=Z,2μm,21.0s
U31A **Nine Bar Ranch** 74.17 337 ⇑P P 12 32 31.7 0.0
baz=74
X25A **Clemmons Ranch** 74.21 333 ⇓P P 12 32 32.0 -0.2
baz=74
Y23A **Lovelace Mesa,** 74.23 331 ⇑P P 12 32 33.2 +0.9
baz=75,SNR=27
V29A **Stinnett** 74.28 336 ⇓P P 12 32 32.1 -0.4
baz=75
T33A **Patterson Ranc** 74.33 339 ⇑P P 12 32 32.6 +0.1
baz=75,SNR=16
W26A **Owens Ranch, T** 74.37 334 ⇑P P 12 32 33.3 +0.3
baz=75,SNR=20
V28A **Channing** 74.41 335 ⇑P P 12 32 33.3 +0.1
baz=75,SNR=7.5
X24A **Lazy VL Ranch,** 74.54 332 ⇑P P 12 32 34.3 +0.1
baz=75
U30A **WK&E Inc. Balk** 74.58 337 ⇑P P 12 32 34.3 +0.2
baz=75
T32A **Huddler Ranch,** 74.62 338 ⇓P P 12 32 34.2 -0.1
baz=75,SNR=6.9
V27A **Dan Oppiter Fa** 74.63 335 ⇓P P 12 32 34.6 +0.1
baz=75
Y22D **IRIS PASSCAL I** 74.70 331 ⇓P P 12 32 35.9 +0.9
baz=75
U29A **Oasis Ranch, S** 74.72 336 ⇓P P 12 32 34.7 -0.2
baz=75
S33A **Kaszmaul Farm,** 74.73 339 ⇓P P 12 32 34.8 -0.1
baz=75
W25A **X Bar L Ranch,** 74.75 333 ⇓P P 12 32 35.1 -0.1
baz=75,SNR=16
T31A **Randall Ranch,** 74.78 338 ⇑P P 12 32 35.4 +0.1
baz=75,SNR=6.7
LPM **Los Pinos Moun** 74.79 331 eP P 12 32 36.3 +0.7
comp=Z,33nm,1.5s
LENM **Lemitar** 74.81 331 eP P 12 32 36.5 +0.8
comp=Z,7.1nm,1.2s
SFIN **Lafayette** 74.85 348 ⇑P P 12 32 34.0 -1.5
baz=75
X23A **Hourglass Bar** 74.85 332 ⇑P P 12 32 36.8 +0.8
baz=75,SNR=10
TUC **Tucson** 74.86 327 eP P 12 32 36.6 +0.7
TUC pmax pmax
comp=Z,110nm,1.8s
TUC MLR MLR
comp=Z,2μm,20.0s
TUC **Tucson** 74.86 327 eP P 12 32 36.6 +0.7
comp=Z,110nm,1.8s
TUC LR LR
comp=Z,2μm,20.0s
LIC **Lamto** 74.95 72 eP P 12 32 36.8 0.0
comp=Z,92nm,1.6s
U28A **Mallet** 74.98 335 ⇑P P 12 32 36.5 0.0
baz=75
V26A **Tequesquite Ra** 75.01 334 ⇑P P 12 32 36.8 0.0
baz=75,SNR=11
T30A **Plains** 75.02 337 ⇑P P 12 32 36.7 +0.1
baz=75
LAZ **Ladron** 75.08 331 eP P 12 32 38.1 +0.8
comp=Z,52nm,1.8s
W24A **Lazy 6 Ranch,** 75.10 333 ⇓P P 12 32 37.6 +0.3
baz=75,SNR=8.2
S32A **Newby Ranch, P** 75.11 339 ⇓P P 12 32 37.0 -0.1
baz=75
S31A **Mullinville** 75.20 338 ⇑P P 12 32 37.9 +0.2
baz=76,SNR=5.8
TIC **Toumodi** 75.21 72 eP P 12 32 37.3 -1.0
comp=Z,14nm,0.2s
ALLY **Alegheny Colle** 75.22 354 eP P 12 32 37.4 -0.3
U27A **Thompson Grove** 75.22 335 ⇓P P 12 32 38.0 0.0
baz=76,SNR=14
KIC **Kosan Boka** 75.26 72 eP P 12 32 38.8 +0.2
comp=Z,163nm,1.6s
ANMO **Albuquerque** 75.28 332 eP P 12 32 38.7 +0.3
ANMO pmax pmax
comp=Z,58nm,1.6s
ANMO MLR MLR
comp=Z,3μm,20.0s
ANMO **Albuquerque** 75.28 332 eP P 12 32 38.7 +0.3
comp=Z,58nm,1.6s
ANMO LR LR
comp=Z,3μm,20.0s
SUR **Sutherland** 75.30 119 PFAKE 12 32 50.0 +11
SUR LR LR
comp=Z,2μm,19.0s
W23A **Werner Place,** 75.34 332 ⇓P P 12 32 39.3 +0.5
baz=76
V25A **Rancho No Teng** 75.35 333 ⇓P P 12 32 39.1 +0.3
baz=76,SNR=23
DBIC **Dimbokro** 75.36 72 eP P 12 32 39.1 0.0
DBIC pmax pmax

comp=Z,23nm,1.3s
DBIC Dimbokro 75.36 72 P P 12 32 39.8 +0.7
comp=Z,13nm,1.1s,baz=225,slow=5.0,SNR=5.3
DBIC LR LR 13 02 50.1
comp=Z,2μm,20.0s,baz=222,slow=33
DBIC Dimbokro 75.36 72 eP P 12 32 39.1 0.0
comp=Z,23nm,1.3s
T29A Hugoton 75.36 337 ⇓P P 12 32 38.3 -0.3
baz=76
R33A Olander Ranch, 75.38 339 ⇓P P 12 32 38.4 -0.3
baz=76
BINY Binghamton 75.50 357 PFAKE 12 32 50.0 +11
BINY LR LR
comp=Z,2μm,19.0s
V24A Rampart Ranch, 75.50 333 ⇓P P 12 32 40.1 +0.3
baz=76,SNR=5.8
214A Organ Pipe Nat 75.50 325 ⇓P P 12 32 40.4 +0.8
baz=76,SNR=10.0
214A Organ Pipe Nat 75.50 325 eP P 12 32 40.3 +0.8
comp=Z,152nm,1.9s
U26A Atchley Ranch, 75.53 334 ⇑P P 12 32 39.7 -0.1
baz=76,SNR=11
S30A Montezuma 75.53 337 ⇑P P 12 32 39.7 +0.1
baz=76,SNR=6.4
T28A Walsh 75.61 336 ⇓P P 12 32 40.0 -0.1
baz=76,SNR=13
ERPA Erie 75.67 354 PFAKE 12 32 50.0 +10
ERPA LR LR
comp=Z,2μm,19.0s
R32A Long Quarter, 75.70 339 ⇑P P 12 32 40.7 +0.2
baz=76,SNR=6.5
S29A Ulysses 75.72 337 ⇓P P 12 32 40.8 0.0
baz=76,SNR=9.4
KSU1 Kansas State U 75.73 341 ⇑P P 12 32 40.0 -0.6
baz=76
KSU1 Kansas State U 75.73 341 eP P 12 32 40.4 -0.3
comp=Z,6.0nm,0.5s
KSU1 LR LR
comp=Z,2μm,19.0s
T27A Campo 75.76 335 ⇓P P 12 32 41.1 +0.1
baz=76,SNR=10
U25A Circle Dot Ran 75.78 334 ⇑P P 12 32 41.1 -0.1
baz=76,SNR=14
R31A Burdett 75.83 338 ⇓P P 12 32 41.0 -0.2
baz=76,SNR=6.0
V23A Ortiz Mt. (NFS 75.87 332 ⇓P P 12 32 42.8 +1.0
baz=76,SNR=8.3
S28A Manter 75.96 336 ⇑P P 12 32 42.0 -0.1
baz=76,SNR=16
Q33A Connelly Farm, 75.98 340 ⇓P P 12 32 41.5 -0.5
baz=76,SNR=5.7
R30A Dighton 76.06 338 ⇓P P 12 32 42.8 +0.2
baz=76,SNR=6.5
U24A Moreno Valley 76.11 333 ⇑P P 12 32 44.0 +0.8
baz=76
T26A Comanche Natio 76.17 335 ⇑P P 12 32 43.8 +0.3
baz=76,SNR=15
Q32A Meitler Ranch, 76.19 339 ⇑P P 12 32 43.2 -0.1
baz=76
AAM Ann Arbor 76.23 351 eP P 12 32 42.8 -0.6
AAM MLR MLR
comp=Z,2μm,21.0s
AAM Ann Arbor 76.23 351 eP P 12 32 42.8 -0.6
AAM LR LR
comp=Z,2μm,21.0s
V22A San Miguel Ran 76.30 332 ⇓P P 12 32 45.3 +1.1
baz=77,SNR=27
P33A Williams Farm, 76.35 340 ⇓P P 12 32 44.0 -0.2
baz=77
X18A Snowflake 76.37 329 ⇓P P 12 32 45.5 +0.9
baz=77,SNR=10.0
S27A Las Animas 76.38 336 ⇓P P 12 32 44.9 +0.3
baz=77
U23A El Rito 76.38 332 ⇓P P 12 32 45.6 +0.8
baz=77,SNR=15
T25A Trinidad 76.43 334 ⇓P P 12 32 45.7 +0.8
baz=77,SNR=31
Q31A Ellis 76.45 339 ⇓P P 12 32 44.8 0.0
baz=77
R29A Marienthal 76.46 337 ⇓P P 12 32 45.1 +0.2
baz=77,SNR=5.5
S26A Kim 76.53 335 ⇑P P 12 32 45.7 +0.3
baz=77,SNR=26
R28A Tribune 76.61 337 ⇑P P 12 32 45.9 +0.1
baz=77,SNR=8.8
113A Mohawk Valley, 76.63 325 ⇑P P 12 32 46.7 +0.8
baz=77
Q30A Quinter 76.68 338 ⇑P P 12 32 46.2 +0.1
baz=77,SNR=13
U22A Llaves 76.68 332 ⇑P P 12 32 47.6 +1.2
baz=77,SNR=18
T24B San Luis 76.72 333 ⇑P P 12 32 47.5 +0.8
baz=77,SNR=20
Z14A Wintersburg 76.73 326 ⇓P P 12 32 47.1 +0.7
baz=77
W18A Petrified Fore 76.78 329 ⇓P P 12 32 47.3 +0.4
baz=77,SNR=11
W18A Petrified Fore 76.78 329 eP P 12 32 47.5 +0.6
comp=Z,140nm,1.6s
P32A Huiting Farm, 76.78 340 ⇑P P 12 32 46.7 +0.1
baz=77,SNR=8.5
Q29A Oakley 76.84 337 ⇑P P 12 32 46.7 -0.3
baz=77,SNR=8.1
R27A Eads 76.89 336 ⇓P P 12 32 46.9 -0.5
baz=77,SNR=13
S25A Robets Cordova 76.91 334 ⇓P P 12 32 47.5 0.0
baz=77,SNR=33
P31A Stockton 76.92 339 ⇓P P 12 32 47.7 +0.3
baz=77,SNR=7.5
X16A Lo Mia Camp, P 76.93 328 ⇓P P 12 32 48.4 +0.6
baz=77,SNR=27
T23A Casias Ranch, 76.95 333 ⇑P P 12 32 48.2 +0.3
baz=77,SNR=5.2
R26A Arlington 77.13 335 ⇓P P 12 32 49.2 +0.4
baz=78,SNR=26
S24A Houchin Ranch, 77.17 334 ⇑P P 12 32 49.9 +0.7
baz=78,SNR=30
P30A Selden 77.20 338 ⇑P P 12 32 49.4 +0.3
baz=78
NCB Newcomb 77.22 359 PFAKE 12 33 00.0 +11
NCB LR LR
comp=Z,2μm,20.0s
MDV Middlebury 77.23 359 eP P 12 32 49.2 +0.2
Y14A Wickenburg 77.24 326 ⇑P P 12 32 50.0 +0.6
baz=78,SNR=6.3
Q28A Sharon Springs 77.27 337 ⇓P P 12 32 49.5 0.0
baz=78,SNR=15
O32A Brockman Farm, 77.28 340 ⇓P P 12 32 49.3 -0.1
baz=78,SNR=5.0
R25A Fountain Ranch 77.28 335 ⇑P P 12 32 49.7 0.0
baz=78
SDCO Great Sand Dun 77.37 334 eP P 12 32 50.3 0.0
comp=Z,153nm,2.3s
SDCO LR LR
comp=Z,1μm,21.0s
GLA Glamis 77.37 325 eP P 12 32 51.4 +1.3
GLA pmax pmax
comp=Z,41nm,1.4s
GLA Glamis 77.37 325 ⇑P P 12 32 51.1 +0.9
baz=78
GLA Glamis 77.37 325 eP P 12 32 51.4 +1.3
comp=Z,41nm,1.4s
P29A Atwood 77.47 338 ⇑P P 12 32 51.1 +0.6
baz=78,SNR=15
LBNH Lisbon 77.47 0 PFAKE 12 33 00.0 +10
LBNH LR LR
comp=Z,2μm,20.0s
O31A Woolen Ranch, 77.48 339 ⇓P P 12 32 50.6 0.0
baz=78
KSCO Kaye Shedlock' 77.49 336 ⇓P P 12 32 51.2 +0.4
baz=78,SNR=13
KSCO Kaye Shedlock' 77.49 336 eP P 12 32 51.6 +0.9
comp=Z,215nm,1.8s
S23A Nye Farm, Mont 77.52 333 ⇑P P 12 32 51.8 +0.7
baz=78
SCIA State Center 77.53 344 eP P 12 32 50.7 0.0
comp=Z,56nm,1.4s
SCIA LR LR
comp=Z,2μm,19.0s
R24A Sanders Place, 77.66 334 ⇑P P 12 32 52.5 +0.7
baz=78,SNR=28
P28A Saint Francis 77.71 337 ⇓P P 12 32 52.2 +0.3
baz=78,SNR=9.9
Q26A Hugo 77.71 336 ⇓P P 12 32 52.5 +0.5
baz=78
O30A MW Ranch, Wils 77.73 339 ⇓P P 12 32 52.2 +0.2
baz=78
N32A Stulken Farm, 77.75 340 ⇑P P 12 32 51.8 -0.2
baz=78
SWSC Sam W. Stewart 77.75 324 ⇓P P 12 32 53.0 +0.9
baz=78
Y12C Blythe 77.80 325 ⇓P P 12 32 52.8 +0.4
baz=78,SNR=7.0
WUAZ Wupatki 77.82 328 ⇓P P 12 32 53.6 +0.9
baz=78,SNR=13
WUAZ Wupatki 77.82 328 eP P 12 32 53.4 +0.7
comp=Z,108nm,1.6s
WUAZ LR LR
comp=Z,1μm,19.0s
S22A 4UR Ranch, Cre 77.87 333 ⇓P P 12 32 53.5 +0.4
baz=78,SNR=15
LONY Lake Ozonia 77.87 358 eP P 12 32 52.8 +0.2
comp=Z,44nm,1.6s
LONY LR LR
comp=Z,2μm,22.0s
JFWS Jewell Farm 77.88 347 eP P 12 32 51.8 -0.8
JFWS pmax pmax
comp=Z,133nm,1.7s
JFWS MLR MLR
comp=Z,3μm,19.0s
JFWS Jewell Farm 77.88 347 eP P 12 32 51.8 -0.8
comp=Z,133nm,1.7s
JFWS LR LR
comp=Z,3μm,19.0s
R23A Moffat 77.88 334 ⇓P P 12 32 53.7 +0.5
baz=78
O29A 4D Ranch, Culb 77.91 338 ⇑P P 12 32 53.4 +0.5
baz=78
Q25A Bedland, Calha 77.95 335 ⇑P P 12 32 53.4 -0.1
baz=78,SNR=13
P27A Ficken Ranch, 77.96 337 ⇓P P 12 32 53.3 0.0
baz=78,SNR=8.8
N31A Bailey Ranch, 77.99 340 ⇓P P 12 32 53.9 +0.5
baz=78
MONP Monument Peak, 78.02 323 ⇓P P 12 32 54.8 +0.8
baz=78
MVCO Mesa Verde 78.06 331 ⇓P P 12 32 54.6 +0.5
baz=78,SNR=10
MVCO Mesa Verde 78.06 331 eP P 12 32 54.5 +0.5
comp=Z,55nm,1.5s
MVCO LR LR
comp=Z,4μm,20.0s
PDMCI Parker Dam,Lak 78.06 326 ⇑P P 12 32 54.8 +0.9
baz=78
BC3 Big Chuckawall 78.17 324 ⇓P P 12 32 55.6 +1.0
baz=78,SNR=9.1
O28A Krutsinger Ran 78.21 337 ⇓P P 12 32 55.1 +0.4
baz=79,SNR=16
P26A Davis Ranch, A 78.22 336 ⇓P P 12 32 55.3 +0.4
baz=79,SNR=8.5
N30A Hueftle Ranch, 78.31 339 ⇑P P 12 32 55.4 +0.2
baz=79
BGNE Belgrade 78.31 341 ⇓P P 12 32 54.7 -0.4
baz=79
BGNE Belgrade 78.31 341 eP P 12 32 55.0 -0.1
comp=Z,80nm,1.4s
Q24A Divide 78.32 335 ⇑P P 12 32 56.1 +0.5
baz=79,SNR=16
109C Camp Elliot, M 78.37 323 ⇓P P 12 32 56.4 +0.8
baz=79
IRM Iron Mountain 78.43 325 ⇑P P 12 32 56.6 +0.7
baz=79
P25A Willow Gulch B 78.46 335 ⇑P P 12 32 56.8 +0.6
baz=79,SNR=9.8
M31A Lambtecht Ranc 78.48 340 ⇓P P 12 32 56.6 +0.5
baz=79,SNR=7.1
N29A Votaw Ranch, W 78.49 339 ⇓P P 12 32 56.4 +0.2
baz=79
O27A Beecher Island 78.50 337 ⇑P P 12 32 56.8 +0.5
baz=79,SNR=8.8
Q23A Hartsel 78.52 334 ⇓P P 12 32 57.3 +0.6
baz=79
PKME Peaks-Kenny Pk 78.55 2 PFAKE 12 33 10.0 +14
PKME LR LR
comp=Z,2μm,21.0s
W13A Hualapai Mount 78.60 326 ⇓P P 12 32 57.9 +0.8
baz=79,SNR=13
PFO Pinyon Flats O 78.62 324 eP P 12 32 58.6 +1.4
PFO pmax pmax
comp=Z,35nm,1.3s
PFO MLR MLR
comp=Z,2μm,21.0s
PFO Pinyon Flats O 78.62 324 ⇑P P 12 32 58.1 +0.9
baz=79,SNR=6.2
PFO Pinyon Flats O 78.62 324 eP P 12 32 58.6 +1.4
comp=Z,35nm,1.3s
PFO LR LR
comp=Z,2μm,21.0s
N28A Pribbeno Ranch 78.65 338 ⇓P P 12 32 57.3 +0.2
baz=79,SNR=6.2
NEE2 Needles Airpor 78.67 326 ⇑P P 12 32 57.9 +0.7
baz=79
BELC Belle Mtn. Jos 78.71 324 ⇓P P 12 32 58.7 +1.0
baz=79
P24A Kohler Place, 78.72 335 ⇑P P 12 32 58.6 +0.9
baz=79
O26A Horse Wrangler 78.82 336 ⇓P P 12 32 59.0 +0.9
baz=79
PV01 Paradox Valley 78.89 332 eP P 12 32 56.5 -2.2
comp=Z,6μm,1.7s
M30A Dale-Ortello V 78.92 339 ⇑P P 12 32 58.4 -0.1
baz=79
P23A Jefferson 78.93 334 ⇑P P 12 33 00.1 +1.1
baz=79,SNR=11
O25A Wiggins 78.98 336 ⇑P P 12 32 59.6 +0.7
baz=79,SNR=7.6
MURC Murrieta 78.98 323 ⇑P P 12 33 00.1 +1.1
baz=79,SNR=5.8
U15A North Rim 78.99 328 ⇓P P 12 33 00.0 +0.7
baz=79,SNR=22
N27A Anderson Farm, 79.08 337 ⇑P P 12 32 59.9 +0.5
baz=79,SNR=8.2
M29A Burnside Ranch 79.08 339 ⇑P P 12 32 59.7 +0.3
baz=79
SCI San Clemente I 79.17 322 ⇓P P 12 33 00.7 +0.6
baz=80
GMRC Granite Mounta 79.18 325 ⇓P P 12 33 01.3 +1.1
baz=80,SNR=6.6
L31A Butterfield Fa 79.21 340 ⇓P P 12 33 00.5 +0.4
baz=80,SNR=17
ISCO Idaho Springs 79.22 335 eP P 12 33 01.3 +0.8
ISCO pmax pmax
comp=Z,61nm,1.7s
ISCO MLR MLR
comp=Z,1μm,19.0s
ISCO Idaho Springs 79.22 335 ⇑P P 12 33 01.3 +0.8
baz=80,SNR=18
ISCO Idaho Springs 79.22 335 eP P 12 33 01.3 +0.8
comp=Z,61nm,1.7s
ISCO LR LR
comp=Z,1μm,19.0s
M28A Bar X Bar Ranc 79.24 338 ⇑P P 12 33 00.5 +0.2
baz=80
L30A Spencer Herefo 79.25 340 ⇓P P 12 33 00.6 +0.2
baz=80,SNR=6.4
N26A Koester Ranch, 79.32 337 ⇑P P 12 33 01.3 +0.5
baz=80,SNR=5.2
O24A Longmont 79.32 335 ⇑P P 12 33 01.5 +0.6
baz=80
BBRC Big Bear Solar 79.37 324 ⇑P P 12 33 02.3 +0.9
baz=80
CIS Catalina Islan 79.44 322 ⇑P P 12 33 00.9 -0.6
baz=80
P22A Eagle 79.46 334 ⇑P P 12 33 02.2 +0.5
baz=80,SNR=15
HEC Hector,Ludlow 79.54 325 ⇑P P 12 33 03.4 +1.2
baz=80,SNR=5.1
L29A Maesberg Ranch 79.58 339 ⇓P P 12 33 02.6 +0.5
baz=80
N25A Grover 79.59 336 ⇓P P 12 33 03.2 +0.9
baz=80
FMP Fort Macarthur 79.62 323 ⇑P P 12 33 03.5 +1.0
baz=80
TSUM Tsumeb 79.63 106 P **P 12 33 02.3 -0.9**
comp=Z,4.8nm,0.9s,baz=226,slow=12,SNR=4.9
TSUM Tsumeb 79.63 106 P **P 12 33 02.3 -0.9**
TSUM LR LR
comp=Z,2μm,19.0s
M27A Reverse DX Ran 79.68 338 ⇑P P 12 33 03.5 +0.7
baz=80
O23A Lake Granby, G 79.70 335 ⇑P P 12 33 03.6 +0.5
baz=80,SNR=22
BFSC Mount Baldy Ra 79.72 323 ⇑P P 12 33 03.4 +0.3
baz=80
TUQ Turquoise Moun 79.83 325 ⇑P P 12 33 04.6 +0.8
baz=80,SNR=8.3
L28A Connealy Angus 79.84 338 ⇓P P 12 33 04.4 +0.8
baz=80,SNR=6.0
N24A Carr 79.88 336 ⇓P P 12 33 04.6 +0.7
baz=80,SNR=6.3
O22A Kremmling 79.88 334 ⇑P P 12 33 04.5 +0.4
baz=80,SNR=21
K30A Basset 79.89 340 ⇑P P 12 33 03.8 0.0
baz=80,SNR=15
RRX Edison Barstow 79.91 324 ⇑P P 12 33 04.9 +0.9
baz=80
DECC Green Verdugo 80.07 323 ⇓P P 12 33 04.9 0.0
baz=80
ECSD EROS Data Cent 80.07 342 ⇑P P 12 33 04.3 -0.4
baz=80,SNR=15
ECSD EROS Data Cent 80.07 342 eP P 12 33 04.3 -0.4
comp=Z,104nm,1.5s
ECSD LR LR
comp=Z,2μm,20.0s
M25A Palm-Egli Farm 80.14 336 ⇑P P 12 33 05.7 +0.4
baz=80
GSC Goldstone, Bar 80.15 325 eP P 12 33 06.9 +1.5
GSC pmax pmax
comp=Z,23nm,1.4s
GSC Goldstone, Bar 80.15 325 ⇓P P 12 33 06.0 +0.6
baz=80,SNR=6.5
GSC Goldstone, Bar 80.15 325 eP P 12 33 06.9 +1.5
comp=Z,23nm,1.4s
L27A T5 Ranch, Ells 80.16 338 ⇑P P 12 33 06.1 +0.7
baz=80
K29A Lazy Trails An 80.17 340 ⇓P P 12 33 05.4 +0.1
baz=80,SNR=7.6
N23A Red Feather La 80.31 335 ⇑P P 12 33 07.2 +0.8
baz=81,SNR=14
SHPR Sheep Range 80.35 326 eP P 12 33 07.0 +0.4
comp=Z,97nm,1.6s
L26A Underwood Farm 80.36 337 ⇑P P 12 33 06.6 +0.2
baz=81
SHOC Shoshone, Teco 80.38 325 ⇑P P 12 33 07.1 +0.6
baz=81
CCUT Cedar City 80.39 328 eP P 12 33 07.7 +0.9
comp=Z,81nm,1.5s
EDW2 Edwards Air Fo 80.39 323 ⇑P P 12 33 07.2 +0.5
baz=81,SNR=6.9
N22A Wattenberg Ran 80.41 334 ⇓P P 12 33 07.6 +0.7
baz=81,SNR=18
CASY Casey 80.42 181 PFAKE 12 33 20.0 +14
CASY LR LR
comp=Z,4μm,19.0s
M24A Cheyenne 80.43 336 ⇓P P 12 33 07.5 +0.6
baz=81,SNR=9.6
K28A Ten Mile Ranch 80.44 339 ⇑P P 12 33 07.7 +0.9
baz=81,SNR=16
J30A Dallas 80.46 340 ⇓P P 12 33 06.8 0.0
baz=81,SNR=8.2
O20A White River Ci 80.49 333 ⇑P P 12 33 07.5 +0.2
baz=81,SNR=10
O20A White River Ci 80.49 333 eP P 12 33 07.6 +0.3
comp=Z,99nm,1.8s
SRU San Rafael Swe 80.51 331 eP P 12 33 07.7 +0.4
SRU pmax pmax
comp=Z,50nm,1.4s
SRU San Rafael Swe 80.51 331 eP P 12 33 07.7 +0.4
comp=Z,50nm,1.4s
BSC Santa Cruz Isl 80.53 322 ⇑P P 12 33 07.6 +0.2
baz=81
BOSA Boshof 80.54 118 P **P 12 33 06.9 -1.1**
comp=Z,3.0nm,0.6s,baz=206,slow=4.4,SNR=7.5
OSI Osito Audit: C 80.55 323 ⇓P P 12 33 07.5 0.0
baz=81
SPMN Marine on St. 80.61 346 ⇓P P 12 33 06.1 -1.3
baz=81,SNR=5.1
SPMN Marine on St. 80.61 346 eP P 12 33 06.8 -0.7
comp=Z,19nm,0.9s
ARUT Antelope Range 80.63 328 eP P 12 33 09.4 +1.4
ARUT Antelope Range 80.63 328 eP P 12 33 09.4 +1.4
comp=Z,2μm,1.6s
MVU Marysvale 80.69 329 eP P 12 33 09.4 +1.0
comp=Z,49nm,1.5s
K27A Flueckinger Fa 80.70 338 ⇓P P 12 33 08.9 +0.7
baz=81,SNR=10.0
LRMC Laurel Mtn Rad 80.72 324 ⇑P P 12 33 08.7 +0.1
baz=81
M23A Laramie 80.74 335 ⇑P P 12 33 09.1 +0.5
baz=81,SNR=13
L25A Engebretsen Ra 80.76 337 ⇑P P 12 33 08.8 +0.3
baz=81
J29A Okreek 80.77 340 ⇓P P 12 33 08.2 -0.3
baz=81,SNR=23
SBC Santa Barbara 80.92 322 ⇑P P 12 33 09.7 +0.3
baz=81
TMUT Trail Mountain 80.94 331 eP P 12 33 07.4 -2.5
comp=Z,92nm,1.7s
L24A Wheatland 80.98 336 ⇑P P 12 33 10.3 +0.5
baz=81
I30A Oacoma 80.98 341 ⇑P P 12 33 09.0 -0.6
baz=81
M22A Cedar Creek Ra 80.99 335 ⇓P P 12 33 10.7 +0.7
baz=81,SNR=6.5
K26A Motz Farm, Whi 80.99 338 ⇓P P 12 33 10.4 +0.6
baz=81,SNR=6.2
ARVC Arvin 81.01 323 ⇓P P 12 33 10.2 +0.3
baz=81
J28A Allard Ranch, 81.05 339 ⇓P P 12 33 10.2 +0.2
baz=81,SNR=22
MPMC Manual Prospec 81.09 325 ⇓P P 12 33 11.2 +0.7
baz=81
N20A Spence Gulch, 81.10 333 ⇑P P 12 33 10.4 -0.2
baz=81,SNR=7.4
FURC Furnace Creek, 81.12 325 ⇓P P 12 33 11.0 +0.7
baz=81,SNR=6.1
J27A Elkhorn Farm, 81.13 339 ⇓P P 12 33 10.9 +0.5
baz=82,SNR=20
K25A Mack Ranch, Ha 81.14 337 ⇑P P 12 33 10.9 +0.3
baz=82
ISA Isabella, Lake 81.26 324 eP P 12 33 12.5 +1.2
ISA pmax pmax
comp=Z,7.0nm,0.7s
ISA Isabella, Lake 81.26 324 ⇑P P 12 33 12.0 +0.7
baz=82,SNR=8.0
ISA Isabella, Lake 81.26 324 eP P 12 33 12.5 +1.2
comp=Z,6.8nm,0.7s
L23A Garrett 81.31 336 ⇓P P 12 33 11.4 -0.2
baz=82,SNR=8.5
DAC Darwin (Calif) 81.31 325 eP P 12 33 11.9 +0.2
DAC pmax pmax
comp=Z,63nm,1.4s
DAC Darwin (Calif) 81.31 325 eP P 12 33 11.9 +0.2
comp=Z,63nm,1.4s
I29A Vivian Onida 81.33 340 ⇑P P 12 33 11.3 -0.1
baz=82,SNR=9.8
BRSD Miller 81.34 341 ⇓P P 12 33 10.6 -0.8
baz=82
BRSD Miller 81.34 341 eP P 12 33 11.2 -0.2
comp=Z,19nm,0.9s
L22A Ellis Ranch, M 81.49 335 ⇑P P 12 33 13.3 +0.8
baz=82
J26A Sides Ranch, S 81.51 338 ⇑P P 12 33 13.3 +0.9
baz=82,SNR=18
K24A Anderson Ranch 81.55 336 ⇓P P 12 33 12.9 +0.1
baz=82
I28A Midland 81.56 339 ⇑P P 12 33 12.4 -0.3
baz=82,SNR=19
VES Vestal, Richgr 81.70 323 ⇓P P 12 33 14.3 +0.8
baz=82,SNR=11
MPU Maple Canyon 81.72 331 eP P 12 33 14.5 +0.6
comp=Z,27nm,1.2s
SMMC Simmler 81.75 322 ⇑P P 12 33 13.9 +0.1
baz=82
J25A Sunshine Ranch 81.81 337 ⇓P P 12 33 14.8 +0.7
baz=82
K23A Bowen Ranch, D 81.85 336 ⇓P P 12 33 14.3 0.0
baz=82,SNR=8.6
H29A Onida 81.86 340 ⇑P P 12 33 13.8 -0.4
baz=82,SNR=20
NLU North Lily Min 81.86 330 eP P 12 33 15.7 +1.1
comp=Z,94nm,1.8s
I27A Quinn 81.88 339 ⇑P P 12 33 14.5 +0.2
baz=82,SNR=14
DAU Daniels Canyon 81.91 331 eP P 12 33 15.5 +0.6
DAU pmax pmax
comp=Z,85nm,1.7s
DAU Daniels Canyon 81.91 331 eP P 12 33 15.5 +0.6
comp=Z,84nm,1.7s
G30A Faulkton 82.03 341 ⇓P P 12 33 14.5 -0.6
baz=82,SNR=7.7
J24A Dixon Ranch, L 82.04 337 ⇑P P 12 33 15.7 +0.4
baz=82,SNR=5.6
R11A Troy Canyon, C 82.05 327 ⇑P P 12 33 16.0 +0.4

baz=82,SNR=44
R11A Troy Canyon, C 82.05 327 *eP* **P 12 33 16.3 +0.7**
comp=Z,81nm,1.6s
K22A Casper 82.06 335 ⇑P **P 12 33 15.7 +0.2**
baz=82,SNR=15
K22A Casper 82.06 335 *eP* **P 12 33 15.8 +0.3**
comp=Z,116nm,1.6s
I26A New Underwood 82.09 338 ⇓P **P 12 33 15.1 -0.4**
baz=82,SNR=5.9
H28A Mission Ridge 82.13 340 ⇓P **P 12 33 15.4 -0.3**
baz=82,SNR=14
JLU Jordanelle 82.15 331 *eP* **P 12 33 16.3 +0.2**
comp=Z,97nm,1.8s
RCTC Rector, Farmer 82.15 324 ⇓P **P 12 33 15.7 -0.2**
baz=82
TIN Tinemaha, Big 82.24 325 ⇑P **P 12 33 17.2 +0.7**
baz=83
G29A Hoven 82.30 341 ⇑P **P 12 33 16.1 -0.4**
baz=83,SNR=8.6
K21A Alcova 82.30 335 ⇓P **P 12 33 16.7 -0.1**
baz=83,SNR=15
I25A Rochford 82.36 338 ⇑P **P 12 33 17.2 +0.2**
baz=83,SNR=13
DUG Dugway, Tooele 82.36 330 *eP* **P 12 33 17.3 +0.2**
DUG pmax pmax
comp=Z,127nm,1.7s
DUG MLR MLR
comp=Z,2μm,19.0s
DUG Dugway, Tooele 82.36 330 ⇑P **P 12 33 17.7 +0.6**
baz=83,SNR=26
DUG Dugway, Tooele 82.36 330 *eP* **P 12 33 17.3 +0.2**
comp=Z,128nm,1.7s
DUG LR LR
comp=Z,2μm,19.0s
J23A Dilts Ranch, B 82.40 336 ⇑P **P 12 33 17.1 -0.1**
baz=83
H27A Howes 82.40 339 ⇓P **P 12 33 16.8 -0.3**
baz=83,SNR=17
G28A Parade 82.47 340 ⇑P **P 12 33 16.7 -0.7**
baz=83,SNR=30
I24A Kuemmerle Ranc 82.50 337 ⇓P **P 12 33 18.0 +0.3**
baz=83
RSSD Black Hills 82.54 338 *eP* **P 12 33 17.7 -0.3**
RSSD pmax pmax
comp=Z,9.0nm,1.1s
RSSD Black Hills 82.54 338 *eP* **P 12 33 17.7 -0.3**
comp=Z,9.2nm,1.1s
TCUT Toone Canyon 82.57 331 *eP* **P 12 33 18.9 +0.6**
comp=Z,118nm,1.7s
TPH Tonopah 82.58 326 *eP* **P 12 33 19.3 +0.9**
TPH pmax pmax
comp=Z,78nm,1.4s
TPH Tonopah 82.58 326 *eP* **P 12 33 19.3 +0.9**
comp=Z,78nm,1.4s
H26A Fairpoint 82.60 339 ⇓P **P 12 33 18.0 -0.1**
baz=83
F30A Leola 82.65 342 ⇓P **P 12 33 17.7 -0.6**
baz=83
J22A Midwest 82.72 336 ⇑P **P 12 33 18.1 -0.8**
baz=83,SNR=5.7
LBTB Lobatse 82.77 115 *eP* **P 12 33 19.6 -0.1**
LBTB pmax pmax
comp=Z,50nm,1.3s
LBTB Lobatse 82.77 115 *eP* **P 12 33 19.6 -0.1**
comp=Z,50nm,1.3s
H25A Fruitdale 82.85 338 ⇓P **P 12 33 19.3 -0.1**
baz=83,SNR=6.2
F29A Eureka 82.86 341 ⇑P **P 12 33 18.9 -0.5**
baz=83,SNR=19
EYMN Ely 82.96 347 PFAKE 12 33 30.0 +10
EYMN LR LR
comp=Z,2μm,19.0s
MLAC Mammoth, Mammo 82.99 325 ⇑P **P 12 33 20.9 +0.4**
baz=83
J21A Lysite 83.00 335 ⇑P **P 12 33 20.3 -0.1**
baz=83
G27A Dupree 83.04 340 ⇑P **P 12 33 20.2 -0.2**
baz=83,SNR=15
BGU Big Grassy Mou 83.07 330 *eP* **P 12 33 21.1 +0.3**
comp=Z,17nm,1.4s
F28A McLaughlin 83.14 340 ⇑P **P 12 33 20.8 0.0**
baz=84,SNR=17
I22A 9 Mile Ranch, 83.14 336 ⇓P **P 12 33 20.8 -0.3**
baz=84,SNR=8.4
G26A Maurine 83.16 339 ⇓P **P 12 33 20.8 -0.2**
baz=84,SNR=22
J20A Shoshoni 83.23 335 ⇓P **P 12 33 21.7 +0.2**
baz=84,SNR=12
SNZO South Karori 83.23 224 PFAKE 12 33 30.0 +8.3
SNZO LR LR
comp=Z,2μm,19.0s
E30A Jud 83.24 342 ⇓P **P 12 33 20.7 -0.6**
baz=84,SNR=21
BW06 Boulder Array 83.26 333 PFAKE 12 33 30.0 +8.2
BW06 LR LR
comp=Z,3μm,19.0s
PDAR Pinedale Array 83.26 333 P **P 12 33 21.6 -0.2**
comp=Z,6.3nm,1.1s,baz=143,slow=4.0,SNR=26
PDAR LR LR 13 06 51.1
comp=Z,2μm,18.7s,baz=132,slow=33
H24A Dirks Ranch, A 83.27 338 ⇓P **P 12 33 21.4 -0.2**
baz=84,SNR=7.2
G25A Newell 83.31 338 ⇓P **P 12 33 21.7 -0.1**
baz=84
I21A Big Trails, Te 83.35 335 ⇓P **P 12 33 21.7 -0.5**
baz=84,SNR=13
NVAR Mina Array Bea 83.37 325 P **P 12 33 22.7 +0.2**
comp=Z,4.3nm,0.7s,baz=150,slow=6.4,SNR=37
NVAR PKKPbc **PKKPbc 12 51 44.3 +1.3**
comp=Z,0.5nm,0.7s,baz=273,slow=5.2,SNR=3.9
H23A Clabaugh Cattl 83.38 337 ⇑P **P 12 33 21.7 -0.5**
baz=84
E29A Napoleon 83.49 341 ⇑P **P 12 33 22.0 -0.6**
baz=84,SNR=12
J19A Crowheart 83.50 334 ⇓P **P 12 33 22.5 -0.5**
baz=84,SNR=18
F27A Lemmon 83.51 340 ⇓P **P 12 33 22.5 -0.3**
baz=84,SNR=7.2
HVU Hansel Valley 83.68 331 *eP* **P 12 33 23.9 0.0**
HVU pmax pmax
comp=Z,69nm,1.5s
HVU Hansel Valley 83.68 331 *eP* **P 12 33 23.9 0.0**
comp=Z,69nm,1.5s
F26A Lodgepole 83.68 339 ⇓P **P 12 33 23.3 -0.4**
baz=84,SNR=17
URZ Urewera 83.69 228 P **P 12 33 24.1 0.0**
comp=Z,11nm,1.0s,baz=58,slow=4.5,SNR=4.6
H22A Clearmont 83.72 336 ⇓P **P 12 33 23.5 -0.5**
baz=84
G24A Alzada 83.74 338 ⇑P **P 12 33 24.0 -0.1**
baz=84
D30A Buchanan 83.76 342 ⇑P **P 12 33 23.6 -0.4**
baz=84,SNR=23
I20A Worland 83.77 335 ⇓P **P 12 33 24.2 -0.1**
baz=84,SNR=16
E28A Huff 83.78 341 ⇓P **P 12 33 24.1 0.0**
baz=84,SNR=11
AHID Auburn Hatcher 83.84 332 *eP* **P 12 33 24.0 -0.7**
comp=Z,72nm,1.6s
AHID LR LR
comp=Z,2μm,20.0s
E27A Carson 83.89 340 ⇓P **P 12 33 24.8 +0.1**
baz=84,SNR=5.3
D29A Pettibone, Tap 83.93 342 ⇓P **P 12 33 24.4 -0.5**
baz=84,SNR=15
G23A Biddle 83.94 337 ⇑P **P 12 33 24.2 -0.8**
baz=84,SNR=6.8
WAKR Walker 83.97 325 *eP* **P 12 33 27.2 +1.6**
comp=Z,83nm,1.8s
F25A Bowman 83.99 339 ⇑P **P 12 33 25.0 -0.3**
baz=84
CMB Columbia Colle 84.07 324 *eP* **P 12 33 26.7 +0.9**
CMB pmax pmax
comp=Z,39nm,1.6s
CMB Columbia Colle 84.07 324 *eP* **P 12 33 26.7 +0.9**
comp=Z,39nm,1.6s
I19A Meeteetse 84.15 334 ⇓P **P 12 33 25.8 -0.6**
baz=84,SNR=11
AGMN Agassiz Nation 84.18 345 ⇓P **P 12 33 25.7 -0.4**
baz=84,SNR=13
AGMN Agassiz Nation 84.18 345 *eP* **P 12 33 25.8 -0.3**
comp=Z,44nm,1.4s
AGMN LR LR
comp=Z,2μm,19.0s
E26A Carlson Angus 84.19 340 ⇓P **P 12 33 25.7 -0.5**
baz=84,SNR=8.2
H20A Greybull 84.19 335 ⇑P **P 12 33 25.7 -0.7**
baz=84,SNR=8.5

F24A Ekalaka 84.22 338 ⇑P **P 12 33 25.6 -0.8**
baz=85,SNR=5.8
C30A Mose, Pekin 84.24 343 ⇓P **P 12 33 26.1 -0.4**
baz=85,SNR=31
G22A Birney 84.25 337 ⇓P **P 12 33 26.3 -0.4**
baz=85
D28A Regan 84.31 341 ⇓P **P 12 33 26.9 +0.1**
baz=85,SNR=9.8
TORD Torodi Ar. Bea 84.38 70 P **P 12 33 27.6 -0.3**
comp=Z,5.6nm,0.7s,baz=250,slow=4.4,SNR=25
TORD LR LR 13 10 10.1
comp=Z,3μm,18.1s,baz=240,slow=35
F23A Volborg 84.41 337 ⇓P **P 12 33 27.1 -0.3**
baz=85,SNR=11
E25A Miller Ranch, 84.49 339 ⇑P **P 12 33 28.0 +0.2**
baz=85,SNR=8.9
D27A Center 84.50 341 ⇑P **P 12 33 27.6 -0.2**
baz=85
G21A Lodge Grass 84.56 336 ⇓P **P 12 33 28.1 -0.1**
baz=85
I17A Pilgrim Ck. 84.63 333 ⇑P **P 12 33 29.0 +0.2**
baz=85,SNR=9.7
MDND Maddock 84.66 342 ⇓P **P 12 33 27.9 -0.6**
baz=85,SNR=20
MDND Maddock 84.66 342 *eP* **P 12 33 28.6 0.0**
comp=Z,42nm,1.4s
D26A Manning 84.69 340 ⇑P **P 12 33 28.4 -0.3**
baz=85,SNR=10
H19A Powell 84.70 335 ⇓P **P 12 33 28.5 -0.5**
baz=85,SNR=9.2
F22A Rosebud 84.73 337 ⇑P **P 12 33 28.4 -0.7**
baz=85,SNR=9.7
C28A Hausauer Farms 84.75 341 ⇓P **P 12 33 28.9 0.0**
baz=85,SNR=6.1
E24A Baker 84.81 339 ⇓P **P 12 33 29.4 0.0**
baz=85,SNR=6.9
B30A Myrvik Farm, E 84.90 343 ⇓P **P 12 33 29.4 -0.4**
baz=85,SNR=35
G20A Bridger 84.90 335 ⇑P **P 12 33 29.4 -0.6**
baz=85,SNR=22
H18A Shoshone NF, C 84.94 334 ⇓P **P 12 33 30.2 -0.1**
baz=85,SNR=34
C27A Sayler Ranch, 85.05 341 ⇓P **P 12 33 30.7 +0.2**
baz=85,SNR=8.4
D25A Fairfield 85.05 339 ⇑P **P 12 33 30.7 +0.1**
baz=85,SNR=7.0
F21A Absaloka Mine, 85.06 336 ⇑P **P 12 33 30.1 -0.6**
baz=85
E23A Ismay 85.07 338 ⇑P **P 12 33 30.1 -0.5**
baz=85
B29A Wagenman Farm, 85.17 342 ⇑P **P 12 33 30.8 -0.3**
baz=86,SNR=15
YFT Old Faithful 85.18 333 *eP* **P 12 33 33.1 +1.6**
comp=Z,30nm,1.4s
RLMT Red Lodge 85.19 335 PFAKE 12 33 40.0 +8.5
RLMT LR LR
comp=Z,1μm,20.0s
E22A Miles City 85.22 337 ⇑P **P 12 33 30.9 -0.5**
baz=86
C26A Wahner Farm, P 85.31 340 ⇓P **P 12 33 31.6 -0.2**
baz=86,SNR=7.6
D24A Glendive 85.32 339 ⇑P **P 12 33 31.8 -0.1**
baz=86,SNR=7.3
A30A Hoff Farm, 85.35 343 ⇓P **P 12 33 31.2 -0.7**
baz=86,SNR=9.9
F20A Billings 85.39 336 ⇑P **P 12 33 32.2 -0.2**
baz=86
B28A Dugan Ranch, T 85.41 342 ⇓P **P 12 33 31.9 -0.4**
baz=86,SNR=9.9
YMR Madison River 85.42 334 *eP* **P 12 33 33.2 +0.5**
comp=Z,95nm,1.4s
LAO LASA Array 85.53 337 PFAKE 12 33 40.0 +7.0
LAO LR LR
comp=Z,1μm,19.0s
C25A Freed Ranch, W 85.54 340 ⇓P **P 12 33 32.6 -0.4**
baz=86
A29A Manning Farm, 85.56 343 ⇑P **P 12 33 32.5 -0.5**
baz=86,SNR=15
B27A Peters Farms, 85.61 341 ⇑P **P 12 33 32.2 -1.0**
baz=86
D23A Lindsay 85.64 338 ⇑P **P 12 33 33.7 +0.2**
baz=86,SNR=15
E21A Keefer Ranch, 85.67 337 ⇓P **P 12 33 33.9 +0.2**
baz=86
F19A Roth Farm, Mol 85.71 335 ⇓P **P 12 33 33.3 -0.7**
baz=86,SNR=16
C24A Savage 85.72 339 ⇓P **P 12 33 34.1 +0.2**
baz=86,SNR=8.3
QLMT Earthquake Lak 85.73 333 *eP* **P 12 33 35.4 +1.2**
comp=Z,2.6nm,1.2s
A28A Rude Farm, Bot 85.81 342 ⇑P **P 12 33 34.2 -0.1**
baz=86,SNR=7.3
HLID Hailey 85.83 331 ⇓P **P 12 33 34.8 +0.1**
baz=86,SNR=35
HLID Hailey 85.83 331 *eP* **P 12 33 35.1 +0.4**
comp=Z,76nm,1.6s
HLID LR LR
comp=Z,1μm,20.0s
CRZF Crozet Islands 85.84 145 P P 12 33 16.0 -19
CRZF PP PP 12 36 26.0 -28
CRZF S SKSac 12 43 42.0 -16
CRZF SS **SS 12 49 35.0 -6.6**
CRZF R 13 02 00.0
B26A Jensen Ranch, 85.85 341 ⇓P **P 12 33 34.4 -0.1**
baz=86
D22A Cohagen 85.92 338 ⇓P **P 12 33 34.5 -0.4**
baz=86,SNR=14
E20A Meyer Farm, Mu 85.99 336 ⇓P **P 12 33 35.1 -0.2**
baz=86,SNR=15
B25A Knox Farm, Ray 86.02 340 ⇓P **P 12 33 35.6 +0.3**
baz=86
ULM Lac du Bonnet 86.03 345 P **P 12 33 35.0 -0.2**
comp=Z,10.0nm,0.9s,baz=158,slow=4.1,SNR=17
A27A Ledoux Ranch, 86.11 341 ⇑P **P 12 33 36.2 +0.4**
baz=86
D21A La Casta Ranch 86.11 337 ⇓P **P 12 33 35.5 -0.3**
baz=86,SNR=17
E19A Rath Farm, Rou 86.18 336 ⇑P **P 12 33 35.7 -0.5**
baz=86,SNR=34
C23A Lambert 86.19 339 ⇑P **P 12 33 35.8 -0.4**
baz=86,SNR=20
MCMT McKenzie Canyo 86.26 332 *eP* **P 12 33 37.5 +0.6**
comp=Z,30nm,1.4s
A26A Wade Farm, Ken 86.27 341 ⇓P **P 12 33 36.1 -0.5**
baz=87,SNR=8.3
C22A Vida 86.36 338 ⇑P **P 12 33 36.6 -0.4**
baz=87,SNR=13
BOZ Bozeman (W) 86.50 334 *eP* **P 12 33 38.1 +0.2**
BOZ pmax pmax
comp=Z,189nm,2.5s
BOZ MLR MLR
comp=Z,2μm,19.0s
BOZ Bozeman (W) 86.50 334 *eP* **P 12 33 38.1 +0.2**
comp=Z,189nm,2.5s
BOZ LR LR
comp=Z,2μm,19.0s
DGMT Dagmar 86.50 339 ⇑P **P 12 33 37.7 -0.1**
baz=87,SNR=22
DGMT Dagmar 86.50 339 *eP* **P 12 33 37.6 -0.1**
comp=Z,162nm,1.4s
DGMT LR LR
comp=Z,1μm,20.0s
D20A Manuel Ranch, 86.51 336 ⇑P **P 12 33 37.2 -0.6**
baz=87,SNR=34
A25A Svangstu Ranch 86.61 340 ⇑P **P 12 33 38.4 +0.1**
baz=87,SNR=12
WVOR Wild Horse Val 86.72 328 *eP* **P 12 33 39.5 +0.5**
WVOR pmax pmax
comp=Z,95nm,2.0s
WVOR MLR MLR
comp=Z,2μm,20.0s
WVOR Wild Horse Val 86.72 328 *eP* **P 12 33 39.5 +0.5**
comp=Z,95nm,2.0s
WVOR LR LR
comp=Z,2μm,20.0s
B23A Brockton 86.73 339 ⇑P **P 12 33 38.3 -0.5**
baz=87,SNR=13
D19A Cripps Ranch, 86.82 336 ⇓P **P 12 33 39.0 -0.4**
baz=87,SNR=19
A24A Westby 86.85 340 ⇓P **P 12 33 39.4 0.0**
baz=87,SNR=11
B22A Reddig Ranch S 86.89 338 ⇑P **P 12 33 38.9 -0.7**
baz=87,SNR=32
LRM Limekiln Ridge 86.95 333 *eP* **P 12 33 40.4 +0.2**
comp=Z,358nm,1.5s
C20A Veseth Ranch, 87.01 337 ⇑P **P 12 33 39.4 -0.9**
baz=87,SNR=21
WDC Whiskeytown Da 87.09 324 *eP* **P 12 33 39.9 -0.9**

WDC pmax pmax
comp=Z,19nm,0.8s
WDC Whiskeytown Da 87.09 324 *eP* **P 12 33 39.9 -0.9**
comp=Z,19nm,0.8s
A23A Redstone 87.14 339 ⇑P **P 12 33 40.4 -0.4**
baz=88,SNR=7.3
B21A Ellsworth Farm 87.32 338 ⇑P **P 12 33 41.4 -0.3**
baz=88,SNR=17
C19A Slack Wire Ran 87.37 336 ⇑P **P 12 33 41.0 -1.0**
baz=88
HRY Holter Researc 87.47 334 *eP* **P 12 33 42.8 +0.2**
comp=Z,41nm,1.6s
N02D Trinity Center 87.47 324 ⇑P **P 12 33 42.5 -0.2**
baz=88,SNR=6.9
A22A Carney Farms, 87.48 339 ⇓P **P 12 33 42.2 -0.2**
baz=88,SNR=29
B20A Solberg Farm, 87.65 337 ⇑P **P 12 33 42.7 -0.6**
baz=88,SNR=7.7
M04C Macdoel 87.68 325 ⇓P **P 12 33 43.6 -0.1**
baz=88
A21A Bergtoll Ranch 87.78 338 ⇓P **P 12 33 43.1 -0.9**
baz=88,SNR=14
EGMT Eagleton 87.86 336 ⇓P **P 12 33 43.7 -0.7**
baz=88,SNR=9.8
M02C Callahan 87.87 325 ⇓P **P 12 33 43.6 -0.9**
baz=88,SNR=5.9
LAMM Antelope Mount 87.92 325 P **P 12 33 45.8 +0.8**
B19A Brinkman Farms 87.97 337 ⇑P **P 12 33 44.4 -0.4**
baz=88,SNR=26
A20A Cobblestone Ra 88.00 337 ⇑P **P 12 33 44.2 -0.8**
baz=88,SNR=34
YBH Yreka Blue Hor 88.06 325 LR LR 13 07 25.0
comp=Z,793nm,21.4s,baz=130,slow=32
BMO Blue Mountains 88.08 330 PFAKE 12 34 00.0 +14
BMO LR LR
comp=Z,1μm,20.0s
CHMT Chamberlain Mo 88.17 333 P **P 12 33 46.2 +0.2**
SCHQ Schefferville 88.20 3 P **P 12 33 44.7 -1.0**
comp=Z,6.7nm,0.7s,baz=126,slow=3.5,SNR=11
SCHQ LR LR 13 12 41.4
comp=Z,1μm,21.9s,baz=168,slow=35
K04D Chiloquin, OR 88.29 326 ⇑P **P 12 33 46.9 +0.3**
baz=89
A19A Klindworth Far 88.31 337 ⇑P **P 12 33 45.9 -0.6**
baz=89,SNR=16
MSO Missoula 88.36 333 ⇓P **P 12 33 47.2 +0.4**
baz=89,SNR=6.8
SLMT Seeley Lake 88.53 333 *eP* **P 12 33 47.5 -0.2**
comp=Z,21nm,1.3s
J05D Fort Rock, OR 88.56 327 ⇑P **P 12 33 47.8 -0.1**
baz=89,SNR=7.2
PINOR Pine Mountain 88.81 327 *eP* **P 12 33 49.4 +0.6**
comp=Z,8.4nm,0.3s
J04D Umpqua Nationa 88.93 326 ⇓P **P 12 33 49.8 +0.1**
baz=89
SWMT Swartz Lake 88.95 333 P **P 12 33 49.8 +0.3**
comp=Z,3.0nm,0.8s
JTMT Jette 89.25 333 *eP* **P 12 33 50.9 -0.1**
comp=Z,19nm,1.4s
I05D Terrebonne, OR 89.43 327 ⇑P **P 12 33 52.1 +0.3**
baz=90
BLMT Blacktail Moun 89.50 333 *eP* **P 12 33 52.6 +0.3**
comp=Z,28nm,1.4s
BSMT Bassoo Peak 89.53 333 P **P 12 33 52.6 +0.2**
AFI Afiamalu 90.01 253 PFAKE 12 34 10.0 +15
AFI LR LR
comp=Z,3μm,21.0s
LSZ Lusaka 90.24 108 *eP* **P 12 33 58.8 +2.3**
LSZ pmax pmax
comp=Z,30nm,1.4s
LSZ MLR MLR
comp=Z,3μm,19.0s
LSZ Lusaka 90.24 108 *eP* **P 12 33 58.8 +2.3**
comp=Z,30nm,1.4s
LSZ LR LR
comp=Z,3μm,19.0s
HAWA Hanford 90.25 330 PFAKE 12 34 10.0 +14
HAWA LR LR
comp=Z,2μm,20.0s
OD2 Odessa Site #2 90.70 331 P **P 12 33 57.9 +0.2**
NEW Newport 90.77 332 *eP* **P 12 33 57.7 -0.2**
NEW pmax pmax
comp=Z,6.0nm,1.1s
NEW MLR MLR
comp=Z,2μm,19.0s
NEW Newport 90.77 332 ⇑P **P 12 33 57.8 -0.2**
baz=91
NEW Newport 90.77 332 *eP* **P 12 33 57.7 -0.2**
comp=Z,5.6nm,1.1s
NEW LR LR
comp=Z,2μm,19.0s
DPW Davenport 90.88 331 P **P 12 33 59.5 +1.0**
DPW Davenport 90.88 331 P **P 12 33 59.5 +1.0**
PAF Port-aux-Franc 90.98 157 P P 12 33 47.0 -12
PAF PP PP 12 37 23.0 -12
PAF S SKSac 12 44 37.0 +8.5
PAF SS SS 12 50 38.0 -18
PAF L L 12 59 00.0
PAF R 13 05 00.0
PAF Port-aux-Franc 90.98 157 PFAKE 12 34 10.0 +11
PAF LR LR
comp=Z,4μm,20.0s
EBG Ellensburg 91.10 329 P **P 12 34 00.4 +0.9**
RTC Rabat Centre 91.13 49 PFAKE 12 34 10.0 +10
RTC LR LR
comp=Z,3μm,20.0s
WTV Waterville 91.46 330 P **P 12 34 01.4 +0.2**
ETW Entiat 91.54 330 P **P 12 34 01.8 +0.1**
FFC Flin Flon 91.58 343 *eP* **P 12 34 00.7 -0.8**
FFC pmax pmax
comp=Z,17nm,1.4s
FFC MLR MLR
comp=Z,2μm,19.0s
FFC Flin Flon 91.58 343 *eP* **P 12 34 00.7 -0.8**
comp=Z,17nm,1.4s
FFC LR LR
comp=Z,2μm,19.0s
MDT Midelt 91.81 51 LR LR 13 12 35.4
comp=Z,425nm,20.4s,slow=34
NLWA Neilton Lookou 92.91 328 PFAKE 12 34 20.0 +12
NLWA LR LR
comp=Z,1μm,21.0s
TAM Tamanrasset 92.94 65 *eP* **P 12 34 09.4 +0.6**
TAM pmax pmax
comp=Z,38nm,1.8s
TAM MLR MLR
comp=Z,2μm,20.0s
TAM Tamanrasset 92.94 65 *eP* **P 12 34 09.4 +0.6**
comp=Z,38nm,1.8s
TAM LR LR
comp=Z,2μm,20.0s
MTE Manteigas 94.88 44 PFAKE 12 34 30.0 +13
MTE LR LR
comp=Z,3μm,19.0s
TAU Tasmania Unive 95.61 208 PFAKE 12 34 30.0 +9.4
TAU LR LR
comp=Z,1μm,19.0s
MSVF Nonsavu 95.69 245 PFAKE 12 34 30.0 +8.5
MSVF LR LR
comp=Z,994nm,19.0s
PAB San Pablo 96.22 46 PFAKE 12 34 30.0 +6.7
PAB LR LR
comp=Z,4μm,19.0s
ESDC Sonseca Array 96.53 46 P **P 12 34 22.9 -1.8**
comp=Z,0.2nm,0.3s,baz=228,slow=4.6,SNR=2.9
ESDC LR LR 13 17 52.2
comp=Z,3μm,18.5s,baz=240,slow=35
CAN Canberra 101.23 213 PFAKE 12 35 00.0 +14
CAN LR LR
comp=Z,2μm,19.0s
YKA Yellowknife Ar 101.58 341 P **Pdif 12 34 46.2 -0.4**
comp=Z,1.2nm,0.7s,baz=144,slow=4.6,SNR=26
SFJD Kangerlussuaq 101.65 9 PFAKE 12 35 00.0 +13
SFJD LR LR
comp=Z,2μm,19.0s
ABPO Ambohimpanom 102.25 123 PFAKE 12 35 00.0 +8.9
ABPO LR LR
comp=Z,1μm,19.0s
VSL Villasalto 104.88 52 PFAKE 12 35 10.0 +8.1
VSL LR LR
comp=Z,2μm,19.0s
SSB Saint Sauveur 104.90 45 PFAKE 12 35 10.0 +8.1
SSB LR LR
comp=Z,2μm,19.0s
KMBO Kilima Mbogo 105.68 102 PFAKE 12 39 30.0
KMBO LR LR

comp=Z,1μm,19.0s
BNI Bardonecchia 106.06 46 PFAKE 12 39 30.0
BNI LR LR
comp=Z,4μm,19.0s
ESK Eskdalemuir 106.42 34 PFAKE 12 39 30.0
ESK LR LR
comp=Z,2μm,19.0s
RER Riviere de l'E 106.49 130 PFAKE 12 39 30.0
RER LR LR
comp=Z,2μm,19.0s
WDD Wield Dalam 106.57 58 PFAKE 12 39 30.0
WDD LR LR
comp=Z,6μm,20.0s
ECH Echery 107.97 44 PFAKE 12 39 30.0
ECH LR LR
comp=Z,2μm,20.0s
WLF Walferdange 108.14 42 PFAKE 12 39 30.0
WLF LR LR
comp=Z,4μm,19.0s
TUE Stuetta 108.39 46 PFAKE 12 39 40.0
TUE LR LR
comp=Z,2μm,19.0s
CEL Celeste 108.69 56 PFAKE 12 39 40.0
CEL LR LR
comp=Z,5μm,19.0s
BFO Black Forest 108.71 44 PFAKE 12 39 40.0
BFO LR LR
comp=Z,2μm,19.0s
AQU L'Aquila 108.95 51 PFAKE 12 39 40.0
AQU LR LR
comp=Z,1μm,19.0s
CUC Castrocucco 109.45 55 PFAKE 12 39 40.0
CUC LR LR
comp=Z,2μm,20.0s
TIP Timpagrande 109.71 56 PFAKE 12 39 40.0
TIP LR LR
comp=Z,3μm,19.0s
EGAK Eagle 111.59 335 PFAKE 12 39 40.0
EGAK LR LR
comp=Z,2μm,19.0s
CLL Collm 112.77 43 *e*Sdif Sdif 12 48 05.0 +6.8
CLL *e*PS **PS** **12 49 56.0 +1.5**
CLL *e*PPS PPS 12 51 03.0
CLL *e*SS **SS** **12 56 03.0 +3.0**
CLL *e*SSS SSS 13 00 00.0
CLL *e* 13 06 57.0
CLL Lm MLR 13 26 00.0
comp=N,800nm,19.5s
CLL Lm MLR 13 26 00.0
comp=E,2μm,19.1s
CLL Lm MLR 13 26 00.0
comp=Z,3μm,18.9s
KDAK Kodiak Island 112.87 325 PFAKE 12 39 40.0
KDAK LR LR
comp=Z,1μm,21.0s
ILAR Eielson Array 113.69 333 PKiKP **PKiKP** **12 39 32.9 +0.2**
comp=Z,0.4nm,0.7s,baz=171,slow=2.2,SNR=5.1
COLA College 114.10 333 PFAKE 12 39 50.0 +17
COLA LR LR
comp=Z,1μm,20.0s
HNR Honiara 114.40 239 PFAKE 12 39 50.0 +14
HNR LR LR
comp=Z,153nm,22.0s
KONO Kongsberg 114.56 34 PFAKE 12 39 50.0 +16
KONO LR LR
comp=Z,2μm,21.0s
SANT Santorini 114.68 62 PFAKE 12 39 50.0 +14
SANT LR LR
comp=Z,1μm,19.0s
VYHS Vyhne 115.06 47 *e*P **Pdif** **12 35 48.4 +1.4**
VYHS *e* 12 39 37.5
VYHS Vyhne 115.06 47 PDIF **Pdif** **12 35 48.4 +1.4**
VYHS Vyhne 115.06 47 *e*PKP **PKPdf** **12 39 37.5 +1.7**
PSZ Pészkesteto 115.48 48 PFAKE 12 39 50.0 +13
PSZ LR LR
comp=Z,2μm,20.0s
ASAR Alice Springs 117.78 207 PKP **PKPdf** **12 39 40.5 -1.5**
comp=Z,1.9nm,1.0s,baz=184,slow=2.8,SNR=8.9
MSEY Mahe Island 117.81 117 PFAKE 12 39 50.0 +7.7
MSEY LR LR
comp=Z,1μm,20.0s
KWP Kalwaria Pacla 117.84 47 PFAKE 12 39 50.0 +8.9
KWP LR LR
comp=Z,3μm,19.0s
ISP Isparta 118.97 62 PFAKE 12 40 00.0 +16
ISP LR LR
comp=Z,1μm,19.0s
CSS Prodhromos 120.02 66 PFAKE 12 40 00.0 +14
CSS LR LR
comp=Z,292nm,20.0s
WRA Warramunga Arr 120.95 210 PKP **PKPdf** **12 39 47.4 -0.8**
comp=Z,9.5nm,1.2s,baz=171,slow=1.6,SNR=30
WRAB Tennant Creek 120.96 210 *d* *i* PKIKP **PKPdf** **12 39 48.4 +0.2**
WRAB pmax pmax
comp=Z,44nm,1.7s
WRAB Tennant Creek 120.96 210 PFAKE 12 40 00.0 +12
WRAB LR LR
comp=Z,1μm,20.0s
ANTO Ankara 121.35 60 PFAKE 12 40 00.0 +12
ANTO LR LR
comp=Z,1μm,19.0s
KBS Kingsbay 121.64 13 PFAKE 12 40 00.0 +12
KBS LR LR
comp=Z,916nm,20.0s
BRTR Keskin Array B 121.92 61 PKP **PKPdf** **12 39 49.6 +0.2**
comp=Z,2.1nm,0.7s,baz=198,slow=4.1,SNR=7.8
KIEV Kiev 122.15 47 ⇑ *i* PKIKP **PKPdf** **12 39 47.5 -1.8**
KIEV Kiev 122.15 47 PFAKE 12 40 00.0 +11
KIEV LR LR
comp=Z,1μm,20.0s
FINES FINESS Array B 122.84 34 PKP **PKPdf** **12 39 50.8 +0.4**
comp=Z,1.6nm,0.7s,baz=129,slow=2.7,SNR=4.3
PMG Port Moresby 123.04 229 ⇑ *i* PKIKP **PKPdf** **12 39 52.1 -0.1**
PMG pmax pmax
comp=Z,14nm,1.7s
PMG Port Moresby 123.04 229 PFAKE 12 40 00.0 +7.8
PMG LR LR
comp=Z,730nm,20.0s
ARCES ARCESS Array B 123.79 25 PKP **PKPdf** **12 39 52.4 +0.4**
comp=Z,3.3nm,0.7s,baz=166,slow=0.5,SNR=5.6
MBWA Marble Bar 124.33 194 PFAKE 12 40 10.0 +15
MBWA LR LR
comp=Z,2μm,20.0s
KEV Kevo 124.33 25 PFAKE 12 40 00.0 +7.0
KEV LR LR
comp=Z,1μm,19.0s
LVZ Lovozero 127.06 27 PFAKE 12 40 10.0 +12
LVZ LR LR
comp=Z,1μm,20.0s
DGAR Diego Garcia 127.33 134 PFAKE 12 40 10.0 +10
DGAR LR LR
comp=Z,1μm,19.0s
OBN Obninsk 127.36 43 ⇑ *i* PKIKP **PKPdf** **12 40 00.5 +1.3**
OBN pmax pmax
comp=Z,19nm,1.3s
OBN Obninsk 127.36 43 PKP **PKPdf** **12 39 59.6 +0.5**
comp=Z,14nm,0.4s,baz=226,slow=9.9,SNR=6.2
OBN Obninsk 127.36 43 PKP **PKPdf** **12 39 59.6 +0.5**
OBN LR LR
comp=Z,2μm,20.0s
MOS Moscow 128.03 42 *e*PKIKP **PKPdf** **12 39 56.7 -3.7**
VSR Storozhevoye 128.42 48 *e*PKIKP **PKPdf** **12 39 59.6 -1.7**
VSR pmax pmax
comp=N,10.0nm,1.5s
VSR pmax pmax
comp=Z,10.0nm,1.5s
VSR pmax pmax
comp=E,5.0nm,1.1s
VSR MLR MLR
comp=Z,2μm,22.0s
VSR MLR MLR
comp=N,260nm,17.0s
VSR MLR MLR
comp=E,1μm,22.0s
VORD Divnogorie 128.46 49 *e*PKIKP **PKPdf** **12 40 00.3 -1.1**
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,4.0nm,0.8s
VORD pmax pmax
comp=Z,6.0nm,0.8s
KLMR Klimovskoe 129.27 36 *e*PKIKP **PKPdf** **12 39 59.0 -3.6**
KLMR pmax pmax
comp=Z,63nm,1.5s
KIV Kislovodsk 129.55 58 *i* PKIKP **PKPdf** **12 40 06.0 +2.1**

KIV *e* 12 42 15.6
KIV *e*PS **PS** **12 52 25.2 +0.2**
KIV *e*SS SS 12 59 36.7 +1.3
KIV *e*SSS SSS 13 04 25.7
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,572nm,20.0s
KIV Kislovodsk 129.55 58 PFAKE 12 40 20.0 +16
KIV LR LR
comp=Z,626nm,20.0s
KBZ Khabaz 129.66 58 PKP **PKPdf** **12 40 03.9 -0.1**
comp=Z,3.4nm,1.0s,baz=219,slow=14,SNR=2.9
VRHR Novokhopersk 129.94 49 *e*PKIKP **PKPdf** **12 40 03.6 -0.6**
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=Z,10.0nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,0.9s
GNI Garni 130.23 63 PFAKE 12 40 20.0 +15
GNI LR LR
comp=Z,611nm,20.0s
PRGR Permogore 132.17 35 PKIKP **PKPdf** **12 40 07.7 -0.4**
PRGR pmax pmax
comp=Z,7.0nm,0.3s
BILL Biiibino 132.34 334 *c* *i* PKIKP **PKPdf** **12 40 09.1 +0.8**
BILL *i* 12 40 20.4
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL Biiibino 132.34 334 *e*PKPdf **PKPdf** **12 40 09.1 +0.8**
BILL LR LR
comp=Z,1μm,20.0s
MAK Makhachkala 132.82 60 *e*P Pdif 12 37 17.8 +12
MAK *e* 12 42 35.6
MAK *e*PS **PS** **12 52 56.7 +3.7**
COCO West Island 133.33 165 PFAKE 12 40 20.0 +8.2
COCO LR LR
comp=Z,2μm,20.0s
PET Petropavlovsk 139.09 314 *e*PKHKP PKPpre 12 40 13.2
PET *i* 12 40 21.8
PET *e* 12 43 24.4
PET *e*PPS PPS 12 55 32.9
PET Petropavlovsk 139.09 314 PFAKE 12 40 30.0 +8.8
PET LR LR
comp=Z,760nm,20.0s
PETK Petropavlovsk- 139.65 314 PKP **PKPdf** **12 40 21.8 -0.6**
comp=Z,5.2nm,1.1s,baz=65,slow=8.4,SNR=4.8
ARU Arti 139.65 40 *i* PKIKP **PKPdf** **12 40 23.0 +0.8**
ARU 12 43 14.9
ARU SS SS 13 01 29.6 -6.1
ARU MLR MLR
comp=Z,2μm,19.0s
ARU Arti 139.65 40 *e*PKPdf **PKPdf** **12 40 21.7 -0.5**
ARU LR LR
comp=Z,2μm,19.0s
KAPI Kappang 139.90 199 PFAKE 12 40 40.0 +16
KAPI LR LR
comp=Z,1μm,19.0s
GEYT Alibeck 140.01 69 PKP **PKPdf** **12 40 22.9 -0.7**
comp=Z,2.9nm,0.6s,baz=90,slow=1.5,SNR=6.4
TIXI Tiksi 140.24 350 ⇓ *i* PKIKP **PKPdf** **12 40 23.6 +0.8**
TIXI pmax pmax
comp=Z,18nm,2.5s
TIXI Tiksi 140.24 350 *e*PKPdf **PKPdf** **12 40 22.1 -0.7**
TIXI LR LR
comp=Z,747nm,20.0s
AKTO Aktyubinsk 140.32 50 PKP **PKPdf** **12 40 24.0 +0.4**
comp=Z,2.7nm,0.8s,baz=183,slow=0.3,SNR=8.7
AB31 Akbulak array 141.69 51 *i* PKHKP PKPpre 12 40 20.2
AB31 pmax pmax
comp=Z,7.0nm,0.8s
ABKAR Akbulak array 141.69 51 *e*PKPdf **PKPdf** **12 40 26.5 +0.4**
MNSI Mandailing Nat 146.52 165 P **PKPdf** **12 40 36.1 +0.4**
GSI Gunungsitoli 146.53 162 P **PKPab** **12 40 38.5 +0.4**
GSI Gunungsitoli 146.53 162 *e*PKPdf **PKPbc** **12 40 37.0 -0.2**
BRVK Borovoye 147.13 42 ⇑ *i* PKIKP **PKPdf** **12 40 36.2 +0.7**
BRVK pmax pmax
comp=Z,58nm,2.5s
BRVK Borovoye 147.13 42 *e*PKPdf **PKPdf** **12 40 35.9 +0.4**
BRVK LR LR
comp=Z,2μm,20.0s
BVA0 Borovoye Array 147.20 42 *i* PKIKP **PKPdf** **12 40 36.6 +1.0**
BVA0 pmax pmax
comp=Z,29nm,1.1s
BVAR Borovoye Array 147.20 42 PKPbc **PKPbc** **12 40 37.2 -0.7**
comp=Z,8.2nm,0.7s,baz=259,slow=1.5,SNR=24
VOSK Vostochnaya 147.65 43 PKIKP **PKPdf** **12 40 35.9 -0.4**
VOSK pmax pmax
comp=Z,37nm,0.9s
KSM Kuching 147.94 185 PFAKE 12 40 50.0 +6.4
KSM LR LR
comp=Z,1μm,19.0s
KBL Kabul 148.19 77 *e*PKIKP **PKPdf** **12 40 38.1 0.0**
KBL Kabul 148.19 77 *e*PKPdf **PKPdf** **12 40 38.1 0.0**
YAK Yakutsk 148.25 340 *e*PKIKP **PKPdf** **12 40 37.0 0.0**
YAK *e* 12 40 40.5
YAK MLR MLR
comp=Z,679nm,19.0s
YAK Yakutsk 148.25 340 *e*PKPdf **PKPdf** **12 40 37.0 0.0**
YAK *e*PKPbc **PKPbc** **12 40 40.5 +0.2**
YAK LR LR
comp=Z,679nm,19.0s
TPTI 148.29 160 P **PKPbc** **12 40 42.8 +0.8**
YUK Yuzh-Kuril'sk 148.65 301 *i* PKHKP PKPpre 12 40 26.8
YUK *i* 12 44 20.4
KCSI Kotacane, Aceh 148.71 161 P **PKPbc** **12 40 41.7 -1.4**
DAV Davao City (W) 148.78 216 PFAKE 12 40 50.0 +3.0
DAV LR LR
comp=Z,615nm,19.0s
HYB Hyderabad 149.39 115 *i* PKP **PKPbc** **12 40 44.0 -0.7**
KK31 Karatay Array 149.63 61 *i* PKP2 **PKPbc** **12 40 44.3 -0.3**
KK31 pmax pmax
comp=Z,41nm,1.2s
KKAR Karatay Array 149.63 61 *e*PKIKP **PKPdf** **12 40 38.7 -1.2**
KKAR Karatay Array 149.63 61 *e*PKPdf **PKPdf** **12 40 38.7 -1.2**
KKAR *e*PKPbc **PKPbc** **12 40 44.6 +0.1**
YSS Yuzh-Sakhalins 150.29 307 *b* *i* PKIKP **PKPbc** **12 40 45.5 -0.5**
YSS *e* 12 40 52.0
YSS *e* 12 41 05.0
YSS pmax pmax
comp=Z,80nm,1.3s
YSS Yuzh-Sakhalins 150.29 307 *e*PKPbc **PKPbc** **12 40 46.1 +0.2**
YSS LR LR
comp=Z,385nm,20.0s
IPM Ipoh 150.39 167 *e*PKPdf **PKPdf** **12 40 42.5 +0.4**
IPM *e*PKPbc **PKPbc** **12 40 47.5 +0.2**
ERM Erimo 150.82 297 PFAKE 12 40 50.0 +2.6
ERM LR LR
comp=Z,1μm,19.0s
ASAJ Asahikawa 150.97 302 PKPbc **PKPbc** **12 40 47.0 -0.7**
comp=Z,21nm,1.0s,baz=349,slow=9.8,SNR=4.3
KULM Kulim 151.11 166 *e*PKPdf **PKPdf** **12 40 42.8 -0.3**
KULM *e*PKPbc **PKPbc** **12 40 48.6 -0.3**
KULM LR LR
comp=Z,1μm,19.0s
KKM Kota Kinabalu 151.43 198 PFAKE 12 41 00.0 +2.0
KKM LR LR
comp=Z,805nm,20.0s
EKS2 Erkin-Say 152.07 61 P **PKPbc** **12 40 52.1 +1.7**
SNR=7.1
EKS2 Erkin-Say 152.07 61 *e*PKIKP **PKPdf** **12 40 44.4 +0.6**
EKS2 MLR MLR
comp=Z,1μm,20.0s
EKS2 Erkin-Say 152.07 61 *e*PKPdf **PKPdf** **12 40 44.4 +0.6**
EKS2 *e*PKPbc **PKiKP** **12 40 51.5 +0.8**
EKS2 LR LR
comp=Z,1μm,20.0s
AML Almayashu 152.07 62 P **PKPbc** **12 40 52.3 +1.5**
SNR=7.2
USP Ospenovka 152.50 60 P **PKPdf** **12 40 45.3 +1.0**
SNR=6.2
AAK Ala-Archa 152.60 61 P **PKPbc** **12 40 52.8 +1.1**
SNR=9.0
AAK Ala-Archa 152.60 61 *e*PKIKP **PKPdf** **12 40 44.8 +0.1**
AAK 12 40 45.9
AAK MLR MLR
comp=Z,1μm,20.0s
AAK Ala-Archa 152.60 61 PKP **PKPdf** **12 40 45.9 +1.2**
comp=Z,2.7nm,0.9s,baz=274,slow=3.5,SNR=6.3
AAK PKPbc **PKiKP** **12 40 53.0 +1.0**
comp=Z,11nm,0.8s,baz=161,slow=2.6,SNR=22
AAK Ala-Archa 152.60 61 *e*PKPdf **PKPdf** **12 40 44.8 +0.1**
AAK PKP **PKPdf** **12 40 45.9 +1.2**

AAK *e*PKPbc **PKiKP** **12 40 52.9 +1.0**
AAK LR LR
comp=Z,1μm,20.0s
FRU Bishkek 152.66 61 *e*PKIKP **PKPdf** **12 40 46.0 +1.4**
FRU *e* 12 41 00.0
FRU pmax pmax
comp=Z,100nm,1.6s
UCH Uchtor 152.67 62 P **PKPdf** **12 40 46.5 +1.4**
SNR=9.1
CHMS Chumysh 152.73 60 P **PKPbc** **12 40 52.6 +0.8**
SNR=5.2
NVS Novosibirsk 152.77 31 *i* PKIKP **PKPbc** **12 40 51.0 -0.4**
NVS pmax pmax
comp=Z,72nm,1.5s
NVS pmax pmax
comp=N,15nm,0.9s
KURBB Kurchatov Arra 152.80 43 PKP **PKPdf** **12 40 45.3 +0.8**
comp=N,2.0nm,0.7s,baz=300,slow=2.1,SNR=13
KURBB PKPbc **PKiKP** **12 40 52.0 +0.2**
comp=N,8.1nm,0.8s,baz=298,slow=2.9,SNR=35
KURBB PKPab **PKPab** **12 41 03.8 +1.1**
comp=N,7.0nm,0.8s,baz=298,slow=3.0,SNR=13
KURK Kurchatov 152.80 42 *e*PKIKP **PKPdf** **12 40 40.9 -3.5**
KURK 12 40 45.3
KURK 12 40 52.1
KURK MLR MLR
comp=Z,947nm,19.0s
KURK Kurchatov 152.80 42 *e*PKPdf **PKPdf** **12 40 40.9 -3.5**
KURK PKP **PKPdf** **12 40 45.3 +0.8**
KURK *e*PKPbc **PKPbc** **12 40 50.9 -0.7**
KURK PKPbc **PKPbc** **12 40 52.0 +0.4**
KURK PKPab **PKPab** **12 41 03.8 +1.1**
KURK LR LR
comp=Z,947nm,19.0s
TKM2 Tokmak 2 153.35 60 P **PKPdf** **12 40 47.1 +1.3**
SNR=5.3
TKM2 Tokmak 2 153.35 60 *e*PKIKP **PKPdf** **12 40 45.7 -0.1**
TKM2 *e* 12 41 05.3
TKM2 MLR MLR
comp=Z,968nm,20.0s
TKM2 Tokmak 2 153.35 60 *e*PKPdf **PKPdf** **12 40 45.7 -0.1**
TKM2 *e*PKPbc **PKiKP** **12 40 54.1 +0.6**
TKM2 *e*PKPab **PKPab** **12 41 05.3 -0.3**
TKM2 LR LR
comp=Z,968nm,20.0s
KSH Kashi 154.02 68 PKPbc **PKPdf** **12 40 46.9 +0.1**
KSH sPKP 12 41 00.0
KSH PKS **PKSdf** **12 44 20.0 -1.1**
KSH PP **PP** **12 44 43.1 -0.6**
KSH SKS **SKSdf** **12 47 51.1 0.0**
KSH SKKS **SKKSac** **12 51 32.2 +1.4**
KSH SS **SS** **13 04 16.4 -3.6**
KSH PPMZ
comp=Z,190nm,3.5s
KSH LN
comp=Z,170nm,6.5s
KSH LE
comp=Z,130nm,6.1s
KSH LZ
comp=Z,500nm,23.7s
ZALV Zalesovo Beam 154.06 32 PKP **PKPdf** **12 40 45.7 -0.4**
comp=Z,6.9nm,1.0s,baz=307,slow=1.5,SNR=26
ZALV PKPbc **PKPbc** **12 40 54.1 -0.2**
comp=Z,18nm,0.7s,baz=296,slow=2.0,SNR=36
ZALV PKPab **PKPab** **12 41 06.3 -1.5**
comp=Z,11nm,0.7s,baz=298,slow=3.2,SNR=8.1
MJAR Matsushiro Arr 154.81 285 PKP **PKPdf** **12 40 46.7 -1.1**
comp=Z,2.6nm,1.0s,baz=40,slow=1.6,SNR=4.0
MJAR PKPab **PKPab** **12 41 12.0 +0.3**
comp=Z,3.4nm,1.0s,baz=22,slow=6.9,SNR=4.7
MAJO Matsushiro 154.81 285 PFAKE 12 41 00.0 +3.5
MAJO LR LR
comp=Z,811nm,20.0s
BOD Bodaibo 155.39 352 *e*PKIKP **PKPdf** **12 40 46.4 -1.5**
BOD *e* 12 41 12.8
BOD pmax pmax
comp=Z,33nm,1.3s
MKAR Makanchi Array 156.74 48 PKP **PKPdf** **12 40 49.8 -0.3**
comp=Z,2.6nm,1.0s,baz=314,slow=1.1,SNR=16
MKAR PKPab **PKPab** **12 41 19.0 -0.7**
comp=Z,5.5nm,0.7s,baz=305,slow=3.5,SNR=22
USRK Ussuriysk Ar. 158.33 306 PKPab **PKPab** **12 41 27.2 +0.7**
comp=Z,3.9nm,0.9s,baz=48,slow=2.8,SNR=6.6
MDJ Mudanjiang 159.74 309 PFAKE 12 41 00.0 +6.3
MDJ LR LR
comp=Z,737nm,20.0s
HVS Khovu-Aksy 159.76 26 ⇓ *e*PKIKP **PKPdf** **12 40 53.7 0.0**
IRK Irkutsk 161.21 6 *e*PKIKP **PKPdf** **12 40 55.1 0.0**
IRK *e* 12 41 38.2
IRK *e* 12 45 21.7
IRK pmax pmax
comp=Z,29nm,1.6s
WMQ Urumqi 161.47 51 *e*PKP **PKPdf** **12 40 55.1 -0.7**
WMQ pPKP **pPKPdf** **12 41 07.5 +0.5**
WMQ PKPab **PKPab** **12 41 41.2 +0.8**
WMQ PKS **PKSdf** **12 44 27.1 -1.9**
WMQ PP **PP** **12 45 26.6 +2.6**
WMQ SKS **SKSdf** **12 47 55.0 -3.1**
WMQ SKKS **SKKSac** **12 52 09.0 -0.6**
WMQ SS **SS** **13 05 36.7 -1.8**
WMQ PPMZ
comp=Z,460nm,9.0s
WMQ LN
comp=Z,830nm,19.0s
WMQ LE
comp=Z,1μm,17.0s
WMQ LZ
comp=Z,2μm,20.0s
TLY Talaya 161.70 8 ⇓ *i* PKIKP **PKPdf** **12 40 55.1 -0.6**
TLY *e* 12 45 25.6
TLY *e*SS SS 13 05 41.7 +2.8
TLY pmax pmax
comp=Z,13nm,2.0s
TLY Talaya 161.70 8 PKP **PKPdf** **12 40 55.6 -0.1**
comp=Z,1.5nm,0.6s,baz=166,slow=4.0,SNR=3.5
TLY PKPab **PKPab** **12 41 41.2 +0.2**
comp=Z,3.9nm,0.7s,baz=353,slow=3.2,SNR=7.8
TLY Talaya 161.70 8 PKP **PKPdf** **12 40 55.6 -0.1**
TLY PKPab **PKPab** **12 41 41.2 +0.2**
TLY LR LR
comp=Z,822nm,19.0s
HIA Hailar 161.92 334 PFAKE 12 41 10.0 +14
HIA LR LR
comp=Z,1μm,19.0s
CN2 Changchun 162.76 311 *e*PKP PKPdf 12 40 49.0 -7.9
CN2 *e*PP **PP** **12 45 25.9 -4.8**
CN2 Changchun 162.76 311 *e*SS SS 13 05 38.9 -13
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,19.0s
CN2 LR LR
comp=E,600nm,19.0s
CN2 LR LR
comp=Z,500nm,20.0s
ZAK Zakamensk 162.93 9 *e*PKIKP **PKPdf** **12 40 56.9 -0.2**
ZAK *e* 12 41 44.1
ZAK pmax pmax
comp=Z,3.0nm,1.7s
ZAK pmax pmax
comp=Z,9.0nm,1.7s
KSRS Korea Array 163.00 289 PKP **PKPdf** **12 40 56.6 -0.8**
comp=Z,5.0nm,1.1s,baz=225,slow=0.5,SNR=9.5
KSRS PKPab **PKPab** **12 41 47.5 +0.3**
comp=Z,9.0nm,1.2s,baz=94,slow=3.9,SNR=6.2
KSAR Wonju Array Be 163.03 289 PKIKP **PKPdf** **12 40 56.6 -0.8**
KSAR 12 41 47.5
KSAR Wonju Array Be 163.03 289 PKP **PKPdf** **12 40 56.6 -0.8**
KSAR PKPab **PKPab** **12 41 47.5 +0.2**
CMAR Chiang Mai Arr 163.06 151 PKP **PKPdf** **12 40 58.3 +0.3**
comp=Z,2.8nm,1.0s,baz=237,slow=1.8,SNR=20
CMAR PKPab **PKPab** **12 41 48.2 +0.6**
comp=Z,1.4nm,0.9s,baz=218,slow=5.4,SNR=3.2
CHTO Chiang Mai 163.38 150 PFAKE 12 41 10.0 +12
CHTO LR LR
comp=Z,1μm,19.0s
INCN Inchon 164.01 289 PFAKE 12 41 10.0 +12
INCN LR LR
comp=Z,768nm,20.0s
YHNB Yeheng 165.03 237 PFAKE 12 41 10.0 +10
YHNB LR LR
comp=Z,822nm,19.0s
QIZ Qiongzhong 165.35 189 PKP **PKPdf** **12 40 59.3 -0.8**
QIZ PP **PP** **12 45 44.3 +1.0**
QIZ SS SS 13 06 18.8 +2.4

QIZ				LN			
	comp=Z,790nm,20.1s						
QIZ				LZ			
	comp=Z,820nm,18.8s						
QIZ	**Qiongzhong**	**165.35**	**189**	PFAKE		12 41 10.0	+10
QIZ				LR	LR		
	comp=Z,1μm,19.0s						
LSA	**Lhasa**	**165.48**	**101**	PKP	**PKPdf**	**12 41 01.0**	**+0.5**
LSA				PP	**PP**	**12 45 45.8**	**-0.5**
LSA				LZ			
	comp=Z,900nm,22.0s						
LSA	**Lhasa**	**165.48**	**101**	PFAKE		12 41 10.0	+10
LSA				LR	LR		
	comp=Z,1μm,19.0s						
ULN	**Ulaanbaatar**	**165.74**	**1⇑**	*e*PKIKP	**PKPdf**	**12 40 58.8**	**-0.9**
ULN	**Ulaanbaatar**	**165.74**	**1**	PFAKE		12 41 10.0	+10
ULN				LR	LR		
	comp=Z,1μm,19.0s						
SONM	**Songino Array**	**165.75**	**3**	PKP	**PKPdf**	**12 40 59.4**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=190,slow=0.5,SNR=11						
SONM				PKPab	**PKPab**	**12 41 59.1**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=332,slow=3.9,SNR=11						
KMI	**Kunming**	**170.56**	**152**	PKP	**PKPdf**	**12 41 03.5**	**-0.3**
KMI				pPKP	**pPKPdf**	**12 41 14.2**	**-0.8**
KMI				sPKP		12 41 18.4	
BJI	**Beijing**	**170.58**	**315**	PKP	**PKPdf**	**12 41 03.5**	**+0.5**
BJI				PP	PP	12 46 16.3	+5.5
BJI				SS	SS	13 07 14.3	+3.8
BJI				PPMZ			
	comp=Z,460nm,12.5s						
BJI				LN			
	comp=Z,480nm,23.4s						
BJI				LE			
	comp=Z,400nm,19.4s						
BJT	**Baijiatuan**	**170.59**	**315**	PFAKE		12 41 10.0	+7.0
BJT				LR	LR		
	comp=Z,1μm,19.0s						
GTA	**Gaotai**	**171.48**	**45**	PKP	**PKPdf**	**12 41 03.6**	**-0.1**
GTA				pPKP	**pPKPdf**	**12 41 14.5**	**-0.5**
GTA				sPKP		12 41 18.3	
GTA				PKPab	**PKPab**	**12 42 26.0**	**+1.3**
GTA				PP	**PP**	**12 46 17.6**	**+2.1**
GTA				SKS	**SKSdf**	**12 48 02.1**	**-2.4**
GTA				SKKS	**SKKSac**	**12 53 00.0**	**+0.2**
GTA				SS	**SS**	**13 07 18.4**	**-1.3**
GTA				PPMZ			
	comp=Z,600nm,8.8s						
GTA				LN			
	comp=Z,620nm,18.0s						
GTA				LE			
	comp=Z,920nm,19.5s						
GTA				LZ			
	comp=Z,1μm,20.0s						
HHC	**Hu-ho-hao-te**	**172.09**	**337**	*e*PKP	**PKPdf**	**12 41 04.8**	**+0.9**
HHC				sPKP		12 41 19.2	
HHC				PP	**PP**	**12 46 22.3**	**+4.4**
HHC				SKS	**SKSdf**	**12 48 03.4**	**-1.3**
HHC				SKKS	**SKKSac**	**12 53 04.4**	**+2.0**
HHC				SS	**SS**	**13 07 26.5**	**+2.0**
HHC				PPMZ			
	comp=Z,540nm,8.6s						
HHC				LN			
	comp=Z,2μm,17.6s						
HHC				LE			
	comp=Z,1μm,18.5s						
HHC				LZ			
	comp=Z,2μm,17.3s						
GYA	**Guiyang**	**172.84**	**173**	PKP	**PKPdf**	**12 41 04.0**	**-0.7**
GYA				pPKP	**pPKPdf**	**12 41 15.6**	**-0.4**
GYA				PKPab	**PKPab**	**12 42 32.5**	**+1.7**
GYA				PKS	**PKSdf**	**12 44 35.5**	**-1.7**
GYA				PP	**PP**	**12 46 24.4**	**+3.1**
GYA				SKKS		12 53 06.2	
GYA				SS	**SS**	**13 07 31.9**	**+0.6**
GYA				PPMZ			
	comp=Z,140nm,8.6s						
GYA				LN			
	comp=Z,160nm,22.8s						
GYA				LE			
	comp=Z,140nm,22.4s						
GYA				LZ			
	comp=Z,170nm,21.6s						
WHN	**Wuhan**	**173.49**	**244**	PKP	PKPdf	12 40 56.4	-8.2
WHN				PP	**PP**	**12 46 23.2**	**-2.6**
WHN	**Wuhan**	**173.49**	**244**	SS	SS	13 07 38.9	-1.2
WHN				LR	LR		
	comp=Z,2μm,26.1s						
CD2	**Chengdu**	**175.80**	**129**	*e*PKP	**PKPdf**	**12 41 05.9**	**+0.4**
CD2				pPKP	**pPKPdf**	**12 41 15.6**	**-1.1**
CD2				PKPab	**PKPab**	**12 42 48.5**	**+4.5**
CD2				PKS	**PKSdf**	**12 44 36.6**	**-1.1**
CD2				PP	**PP**	**12 46 35.2**	**-1.5**
CD2				SKS	**SKSdf**	**12 48 02.9**	**-3.1**
CD2				SKKS	**SKKSac**	**12 53 19.9**	**-0.7**
CD2				SS	**SS**	**13 07 55.3**	**-6.5**
CD2				PPMZ			
	comp=Z,870nm,10.4s						
CD2				LN			
	comp=Z,1μm,18.0s						
CD2				LE			
	comp=Z,990nm,17.2s						
CD2				LZ			
	comp=Z,2μm,16.2s						
LZH	**Lanzhou**	**176.05**	**50**	*e*PKP	**PKPdf**	**12 41 06.6**	**+1.1**
LZH				pPKP	**pPKPdf**	**12 41 15.3**	**-1.5**
LZH				sPKP		12 41 19.5	
LZH				PP	**PP**	**12 46 41.0**	**+3.0**
LZH				SKKS		12 53 23.2	
LZH				SS	**SS**	**13 08 04.0**	**-0.4**
LZH				PPMZ			
	comp=Z,610nm,4.8s						
LZH				LN			
	comp=Z,2μm,17.3s						
LZH				LE			
	comp=Z,470nm,16.5s						
LZH				LZ			
	comp=Z,1μm,19.6s						
ENH	**Enshi**	**176.31**	**207**	PFAKE		12 41 20.0	+14
ENH				LR	LR		
	comp=Z,507nm,20.0s						
XAN	**Xi'an**	**178.80**	**292**	PKP	**PKPdf**	**12 41 05.3**	**-0.5**
XAN				pPKP	**pPKPdf**	**12 41 16.6**	**-0.5**
XAN				PKPab		12 42 54.2	
XAN				PKS	PKSdf	12 44 32.2	-5.8
XAN				PP	**PP**	**12 46 51.2**	**-0.1**
XAN				SKS	**SKSdf**	**12 48 06.7**	**+0.5**
XAN				PPMZ			
	comp=Z,300nm,10.1s						
XAN				LN			
	comp=Z,630nm,16.3s						
XAN				LZ			
	comp=Z,270nm,19.4s						

MEX 10 12:30:02.6±0.5, 14°.09N×91°.71W, h75km±9km, MD3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.98**	**327**	*e*P	Pn	12 30 19.6	-1.5
THIG				*e*S	Sn	12 30 33.2	-1.6
PCIG		**2.17**	**318**	*i* P	Pn	12 30 35.8	-0.9
PCIG				*i* S	Sn	12 31 00.7	-2.0
CCIG	**Comitan**	**2.22**	**349**	*i* P	Pn	12 30 36.1	-1.5
CCIG				*e*S	Sn	12 31 02.7	-1.6
CMIG	**Matias Romero**	**4.28**	**315**	*e*P	Pn	12 31 04.3	-1.0
CMIG				*e*S	Sn	12 31 53.2	-0.8
HUIG	**Huatulco**	**4.57**	**292**	*e*P	Pn	12 31 07.9	-1.4
HUIG				*e*S	Sn	12 31 59.7	-1.5

MEX 10 12:33:22.6±0.4, 14°.17N×92°.27W, h9km±56km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.74**	**1**	*i* P	Pg	12 33 35.0	-1.9
THIG				*i* S	Sg	12 33 44.9	-1.5
PCIG		**1.78**	**329**	*i* P	Pn	12 33 50.4	-3.2
PCIG				*e*S	Sn	12 34 11.5	-4.9
CCIG	**Comitan**	**2.11**	**4**	*e*P	Pn	12 33 55.5	-2.8
CCIG				*i* S	Sn	12 34 21.0	-3.9
CMIG	**Matias Romero**	**3.84**	**319**	*e*P	Pn	12 34 19.4	-2.6
CMIG				*e*S	Sn	12 35 03.7	-3.7

IDC ***10*** *12:34:34.3±0.9, 21°.14S×174°.32W, h0km, mb4.1/11, mb1 4.3/13, mb1mx4.1/36, mbtmp4.1/13, ML3.9/2, MS4.3/2, Ms1 4.3/2, ms1mx3.6/27, Error ellipse: s-maj=40.4km s-min=18.0km az=141.0*

ISCJB ***10*** *12:34:36.5±0.8, 21°.35±0°.1×174°.3W±0°.2, h27km, mb4.1/11, MS5.0/1, Error ellipse: s-maj=25.6km s-min=13.3km az=135.5*

ISC 10 12:34:38.3±0.9, 21°.2S±0°.2×174°.3W±0°.2, h27km, n20, σ0°.77/21, mb4.1/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.92**	**264**	P	**P**	**12 38 46.1**	**-0.1**
	0.4nm,0.3s,baz=26,slow=23,SNR=3.4						
DZM				LR	LR	12 44 28.5	
	comp=Z,225nm,18.3s,baz=2.0,slow=33						
URZ	**Urewera**	**18.55**	**202**	P	**P**	**12 38 52.6**	**-0.2**
	0.4nm,0.3s,baz=344,slow=2.6,SNR=4.2						
STKA	**Stephens Creek**	**40.62**	**245**	P	**P**	**12 42 16.0**	**0.0**
	1.2nm,0.6s,baz=81,slow=10.0,SNR=5.1						
ASAR	**Alice Springs**	**47.72**	**257**	P	**P**	**12 43 12.2**	**-0.9**
	3.8nm,0.7s,baz=100,slow=7.4,SNR=60						
ASAR				PcP	**PcP**	**12 44 43.2**	**+1.0**
	0.7nm,0.8s,baz=103,slow=3.9,SNR=3.8						
WRA	**Warramunga Arr**	**47.92**	**262**	P	**P**	**12 43 13.9**	**-0.8**
	1.7nm,0.8s,baz=98,slow=8.1,SNR=17						
WRA				PcP	**PcP**	**12 44 44.4**	**+1.5**
	0.5nm,0.7s,baz=102,slow=3.4,SNR=3.1						
MJAR	**Matsushiro Arr**	**72.86**	**322**	P	**P**	**12 46 04.5**	**-0.4**
	4.3nm,0.7s,baz=158,slow=6.6,SNR=9.8						
PETK	**Petropavlovsk-**	**77.88**	**343**	P	**P**	**12 46 33.6**	**+0.3**
	1.3nm,0.7s,baz=165,slow=8.5,SNR=3.9						
NVAR	**Mina Array Bea**	**79.21**	**42**	P	**P**	**12 46 41.6**	**+0.3**
	0.8nm,0.7s,baz=222,slow=8.8,SNR=6.8						
PDAR	**Pinedale Array**	**87.14**	**42**	P	**P**	**12 47 21.4**	**-0.7**
	0.5nm,0.9s,baz=193,slow=3.6,SNR=2.8						
DLBC	**Dease Lake**	**87.39**	**22**	LR	LR	13 18 39.7	
	comp=Z,674nm,21.9s,baz=144,slow=30						
SEY	**Seymchan**	**87.88**	**345**	P	**P**	**12 47 24.6**	**-0.2**
	3.1nm,0.2s,baz=124,slow=8.5,SNR=3.9						
ILAR	**Eielson Array**	**88.27**	**11**	P	**P**	**12 47 25.8**	**-0.9**
	0.3nm,0.7s,baz=211,slow=6.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**93.61**	**288**	P	**P**	**12 47 54.1**	**+1.5**
	1.3nm,0.7s,baz=133,slow=2.6,SNR=8.5						
YKA	**Yellowknife Ar**	**95.73**	**24**	P	**P**	**12 48 01.8**	**+0.5**
	0.2nm,0.6s,baz=241,slow=4.2,SNR=4.5						
MKAR	**Makanchi Array**	**114.19**	**313**	PKiKP	**PKiKP**	**12 53 15.3**	**+0.1**
	0.2nm,0.6s,baz=90,slow=1.4,SNR=3.5						
AKASG	**Malin Array Be**	**145.24**	**334**	PKPbc	**PKPbc**	**12 54 12.4**	**-0.6**
	2.7nm,0.5s,baz=40,slow=4.1,SNR=11						
EKA	**Eskdalemuir Ar**	**145.28**	**9**	PKPbc	**PKPdf**	**12 54 13.0**	**-0.2**
	2.0nm,0.6s,baz=343,slow=3.3,SNR=8.0						
BRTR	**Keskin Array B**	**149.84**	**314**	PKPbc	**PKPbc**	**12 54 27.1**	**+0.8**
	1.3nm,0.8s,baz=142,slow=6.2,SNR=5.0						
MLR	**Muntele Rosu**	**150.61**	**330**	PKPbc	**PKPbc**	**12 54 27.3**	**-0.7**
	baz=142,slow=19						
GERES	**GERESS Array B**	**151.68**	**349**	PKPbc	**PKPbc**	**12 54 30.0**	**-0.3**
	0.7nm,0.4s,baz=23,slow=3.0,SNR=3.2						

IDC ***10*** *12:46:38.8±0.7, 33°.31S×72°.23W, h0km, mb4.2/8, mb1 4.3/12, mb1mx4.1/26, mbtmp4.2/12, ML4.2/4, Error ellipse: s-maj=20.6km s-min=14.9km az=113.0*

ISCJB ***10*** *12:46:39.5±1.3, 33°.34S±0°.04×72°.48W±0°.05, h25km±9km, mb4.3/14, Error ellipse: s-maj=7.5km s-min=6.3km az=173.1*

GUC ***10*** *12:46:40.6±0.6, 33°.46S×72°.41W, h15km±27km, ML4.7*

NEIC ***10*** *12:46:43.5±0.4, 33°.29S×72°.23W, h35km, mb4.7/7, ML4.7(GUC), Error ellipse: s-maj=7.8km s-min=6.0km az=71.0*

NEIC Felt [III] at Santiago.

ISC 10 12:46:39.1±2.0, 33°.32S±0°.05×72°.34W±0°.06, h6km±12km, n53, σ0°.75/65, mb4.4/14, 13C-2D, Off coast of Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.66**	**64⇓**	*i*P	**Pn**	**12 46 54.7**	**-0.3**
IHA				*i* S1	**Sn**	**12 47 05.0**	**-0.7**
IHA	**Instituto Hidr**	**0.66**	**64⇓**	*i*P	**Pn**	**12 46 54.7**	**-0.3**
IHA				*i* S	**Sn**	**12 47 05.0**	**-0.7**
TACH	**Talagante**	**1.22**	**106⇑**	*i*P	**Pg**	**12 47 02.1**	**-0.5**
TACH	**Talagante**	**1.22**	**106⇑**	*i*P	**Pg**	**12 47 02.1**	**-0.5**
PEL	**Peldehue**	**1.40**	**83⇑**	*i*P	**Pb**	**12 47 05.8**	**+0.1**
PEL				*i* S	**Sg**	**12 47 25.3**	**+1.2**
PEL				AML	AML	12 47 34.1	
	comp=N,30μm,0.5s						
PEL	**Peldehue**	**1.40**	**83⇑**	*i*P	**Pb**	**12 47 05.8**	**+0.1**
PEL				*i* S	**Sg**	**12 47 25.3**	**+1.2**
SAN	**Santiago**	**1.41**	**96⇑**	*e*P	**Pb**	**12 47 05.8**	**-0.2**
SAN				*i* S	**Sg**	**12 47 24.8**	**+0.2**
SAN	**Santiago**	**1.41**	**96⇑**	*e*P	**Pb**	**12 47 05.8**	**-0.2**
SAN				*i* S	**Sg**	**12 47 24.8**	**+0.2**
ANTU	**Antumapu**	**1.45**	**100⇑**	*i*P	**Pb**	**12 47 06.5**	**-0.2**
ANTU				*i* S	**Sb**	**12 47 25.4**	**0.0**
ANTU				AML	AML	12 47 28.8	
	comp=E,17μm,0.5s						
ANTU	**Antumapu**	**1.45**	**100⇑**	*i*P	**Pb**	**12 47 06.5**	**-0.2**
ANTU				*i* S	**Sb**	**12 47 25.4**	**0.0**
CLCH	**Cerro Calan**	**1.51**	**94**	*e*P	**Pb**	**12 47 07.7**	**0.0**
CLCH				*i* S	**Sg**	**12 47 27.8**	**0.0**
CLCH				AML	AML	12 47 33.9	
	comp=E,19μm,0.6s						
CHCH	**Chadas Angostu**	**1.54**	**114⇑**	*i*P	**Pn**	**12 47 06.7**	**-0.5**
CHCH	**Chadas Angostu**	**1.54**	**114⇑**	*i*P	**Pn**	**12 47 06.7**	**-0.5**
PCH	**Pirque**	**1.56**	**102**	*e*P1	**Pn**	**12 47 08.1**	**+0.6**
PCH	**Pirque**	**1.56**	**102**	*e*P	**Pn**	**12 47 08.1**	**+0.6**
CACH	**El Canelo**	**1.66**	**119⇑**	*i*P	**Pn**	**12 47 09.1**	**+0.1**
CACH	**El Canelo**	**1.66**	**119⇑**	*i*P	**Pn**	**12 47 09.1**	**+0.1**
CFAA	**Coronel Fontan**	**3.87**	**65**	Pn	**Pn**	**12 47 39.3**	**+0.1**
	comp=E,0.3nm,0.3s,baz=230,slow=14,SNR=19						
CFAA				Lg	Lg	12 48 39.1	
	comp=E,12nm,0.3s,baz=69,slow=3.8,SNR=9.8						
LCO	**Las Campanas**	**4.52**	**19**	*e*Pn	**Pn**	**12 47 49.4**	**+1.1**
LCO				*e*Sn	**Sn**	**12 48 42.0**	**+0.6**
PLCA	**Paso Flores**	**7.54**	**170**	Pn	**Pn**	**12 48 29.9**	**+0.2**
	comp=E,1.5nm,0.3s,baz=338,slow=11,SNR=26						
PLCA	**Paso Flores**	**7.54**	**170**	Pn	**Pn**	**12 48 29.9**	**+0.2**
	comp=E,11nm,0.8s						
PLCA				*e*Sn	**Sn**	**12 49 54.6**	**-1.0**
TRQA	**Tornquist**	**9.66**	**122**	*e*Pn	**Pn**	**12 48 59.4**	**+0.7**
	comp=E,28nm,0.8s						
LVC	**Limon Verde**	**11.08**	**17**	*e*Pn	**Pn**	**12 49 16.9**	**-1.6**
	comp=E,11nm,0.7s						
CPUP	**Villa Florida**	**14.77**	**66**	Pn	**Pn**	**12 50 09.1**	**+0.5**
	comp=E,0.2nm,0.3s,baz=327,slow=12,SNR=2.4						
LPAZ	**La Paz**	**17.38**	**14**	P	**Pn**	**12 50 43.3**	**+0.3**
	comp=E,0.3nm,0.3s,baz=192,slow=7.1,SNR=18						
LPAZ	**La Paz**	**17.38**	**14**	P	**Pn**	**12 50 43.3**	**+0.3**
	comp=E,6.1nm,1.0s						
SIV	**San Ignacio**	**20.03**	**33**	P	**P**	**12 51 12.6**	**-0.4**
	comp=E,0.3nm,0.3s,baz=217,slow=10,SNR=21						
EFI	**East Falkland**	**21.09**	**155**	*e*P	**P**	**12 51 23.4**	**-0.7**
	comp=E,69nm,1.1s						
USHA	**Ushuaia**	**21.69**	**174**	P	**P**	**12 51 31.6**	**+1.1**
	comp=E,17nm,1.1s,baz=5.7,slow=10,SNR=3.0						
SAML	**Samuel**	**25.68**	**21**	*e*P	**P**	**12 52 09.5**	**-0.6**
	comp=E,12nm,0.9s						
BDFB	**Brasilia**	**28.17**	**57**	P	**P**	**12 52 31.7**	**-0.9**
	comp=E,3.5nm,0.5s,baz=247,slow=8.0,SNR=6.0						
SDV	**Santo Domingo**	**42.00**	**3**	P	**P**	**12 54 30.8**	**-0.7**
	comp=E,9.8nm,1.1s						
VNA3	**Neumayer Olymp**	**50.09**	**158**	P	**P**	**12 55 35.0**	**+0.5**
VNA2	**Neumayer--Watz**	**50.74**	**157**	P	**P**	**12 55 40.1**	**+0.6**
	baz=283,slow=8.7						
SNAA	**Sanae**	**52.31**	**158**	P	**P**	**12 55 51.7**	**+0.3**
SNAA	**Sanae**	**52.31**	**158**	P	**P**	**12 55 51.6**	**+0.3**
	comp=E,1.4nm,0.7s,baz=289,slow=7.9,SNR=6.9						
SNAA	**Sanae**	**52.31**	**158**	*e*P	**P**	**12 55 51.4**	**+0.1**
	comp=E,11nm,0.9s						
QSPA	**South Pole Qui**	**56.92**	**180**	P	**P**	**12 56 25.7**	**+0.8**
	comp=E,3.1nm,0.7s,baz=182,slow=1.7,SNR=22						
SYO	**Syowa Base**	**66.59**	**159⇑**	*e*P	P	12 57 24.4	-5.4
JCT	**Junction City**	**68.56**	**335**	*e*P	**P**	**12 57 40.0**	**-2.7**
	comp=E,14nm,1.5s						
TXAR	**Lajitas Array**	**69.02**	**331**	P	**P**	**12 57 46.2**	**+0.6**
	comp=E,0.1nm,0.4s,baz=195,slow=6.5,SNR=2.2						
WVT	**Waverly**	**70.59**	**347**	*e*P	P	12 57 51.0	-4.1
	comp=E,20nm,0.7s						
DBIC	**Dimbokro**	**75.20**	**72**	P	**P**	**12 58 23.4**	**+0.5**
	comp=E,3.0nm,0.8s,baz=279,slow=8.4,SNR=3.4						
BOSA	**Boshof**	**80.61**	**118**	P	**P**	**12 58 52.5**	**-0.6**
	comp=E,2.1nm,0.7s,baz=284,slow=4.1,SNR=4.6						
NVAR	**Mina Array Bea**	**83.18**	**325**	P	**P**	**12 59 07.8**	**+1.5**
	comp=E,0.2nm,0.4s,baz=153,slow=5.4,SNR=2.1						
TORD	**Torodi Ar. Bea**	**84.22**	**70**	P	**P**	**12 59 12.3**	**+0.4**
	comp=E,2.7nm,0.7s,baz=257,slow=4.4,SNR=17						
PAX	**Paxson**	**112.04**	**332**	*e*PKPdf	**PKiKP**	**13 05 14.3**	**-0.4**
WRA	**Warramunga Arr**	**121.23**	**210**	PKP	**PKPdf**	**13 05 33.6**	**-0.1**
	comp=E,0.4nm,0.8s,baz=168,slow=1.9,SNR=3.9						
KKAR	**Karatay Array**	**149.44**	**60**	*e*PKPdf	PKPdf	13 06 18.5	-6.1
KKAR				*e*PKPab	**PKPbc**	**13 06 29.4**	**+0.3**
AAK	**Ala-Archa**	**152.40**	**61**	*e*PKPbc	**PKPbc**	**13 06 37.5**	**+1.3**
AAK				*e*PKPab	**PKPab**	**13 06 46.0**	**-0.5**
ZALV	**Zalesovo Beam**	**153.78**	**31**	PKP	**PKPdf**	**13 06 30.8**	**+0.1**
	comp=E,0.2nm,0.3s,baz=297,slow=2.7,SNR=3.2						
ZALV				PKPbc	**PKPbc**	**13 06 38.5**	**-0.2**
	comp=E,1.2nm,0.7s,baz=303,slow=3.2,SNR=6.9						
MKAR	**Makanchi Array**	**156.50**	**48**	PKP	**PKPdf**	**13 06 33.3**	**-1.5**
	comp=E,1.3nm,1.2s,baz=352,slow=1.4,SNR=2.7						
MKAR				PKPab	**PKPab**	**13 07 04.0**	**+0.4**
	comp=E,1.3nm,0.6s,baz=296,slow=4.0,SNR=16						
SONM	**Songino Array**	**165.47**	**3**	PKPab	**PKPab**	**13 07 44.0**	**+1.4**
	comp=E,0.5nm,0.8s,baz=2.3,slow=5.1,SNR=2.8						

ISCJB ***10*** *12:48:35.5±0.6, 34°.65S±0°.07×72°.42W±0°.1, h10km, mb4.0/7, Error ellipse: s-maj=15.0km s-min=8.2km az=25.0*

IDC ***10*** *12:48:35.3±1.0, 34°.66S×72°.42W, h0km, mb4.0/5, mb1 4.3/8, mb1mx4.0/27, mbtmp4.1/8, ML4.4/2, Error ellipse: s-maj=36.8km s-min=19.8km az=95.0*

GUC ***10*** *12:48:38.0±0.8, 34°.70S×72°.26W, h6km±11km, ML3.9*

NEIC ***10*** *12:48:40.4±0.5, 34°.66S×72°.26W, h35km, mb4.2/2, Error ellipse: s-maj=16.7km s-min=9.2km az=95.0*

ISC 10 12:48:36.9±0.7, 34°.65S±0°.08×72°.4W±0°.1, h10km, n16, σ0°.81/18, mb4.2/7, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.52**	**192⇓**	*i*P	**Pn**	**12 49 04.0**	**-0.1**
COCH				*i* S1	**Sn**	**12 49 24.9**	**+1.0**
COCH				AML	AML	12 49 28.6	
	comp=E,3μm,0.6s						
STL	**Santa Lucia**	**1.90**	**51**	*e*P1	**Pn**	**12 49 10.0**	**+0.6**
STL				*i* S	**Sb**	**12 49 34.4**	**-1.1**
LACH	**Col Las Americ**	**1.96**	**53**	*e*P1	**Pn**	**12 49 11.4**	**+1.1**
CFAA	**Coronel Fontan**	**4.63**	**50**	Pn	**Pn**	**12 49 46.5**	**-0.5**
	baz=180,slow=12,SNR=0.9						
PLCA	**Paso Flores**	**6.25**	**167**	Pn	**Pn**	**12 50 09.4**	**+0.1**
	comp=E,1.4nm,0.3s,baz=340,slow=7.3,SNR=3.8						
LPAZ	**La Paz**	**18.68**	**13**	P	**Pn**	**12 52 57.3**	**+1.0**
	comp=E,0.9nm,0.3s,baz=189,slow=7.3,SNR=14						
LPAZ	**La Paz**	**18.68**	**13**	*e*P	**Pn**	**12 52 56.7**	**+0.5**
SIV	**San Ignacio**	**21.18**	**32**	P	**P**	**12 53 21.7**	**-0.9**
	comp=E,9.3nm,0.8s,baz=201,slow=10,SNR=8.6						
NNA	**Nana**	**22.91**	**349**	P	**P**	**12 53 41.0**	**-0.1**
	comp=E,9.0nm,0.7s,baz=171,slow=10.0,SNR=3.6						
QSPA	**South Pole Qui**	**55.59**	**180**	P	**P**	**12 58 12.8**	**+0.3**
	comp=E,4.3nm,0.8s,baz=160,slow=0.3,SNR=7.3						
TXAR	**Lajitas Array**	**70.15**	**331**	P	**P**	**12 59 50.0**	**+0.3**
	comp=E,0.4nm,0.7s,baz=148,slow=6.1,SNR=4.6						
U34A	**Anderson Ranch**	**74.50**	**339**	P	**P**	**13 00 16.1**	**+0.7**
	comp=E,2.8nm,0.3s						
SDCO	**Great Sand Dun**	**78.31**	**334**	*e*P	**P**	**13 00 37.6**	**+0.2**
	comp=E,0.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**84.72**	**70**	P	**P**	**13 01 11.7**	**+0.2**
	comp=E,0.4nm,0.8s,baz=231,slow=5.2,SNR=2.1						
UNV	**Unalaska Valle**	**119.39**	**317**	*e*PKPdf	**PKPdf**	**13 07 25.6**	**-0.3**
WRA	**Warramunga Arr**	**120.05**	**209**	PKP	**PKPdf**	**13 07 26.8**	**-1.7**
	comp=E,0.1nm,0.4s,baz=160,slow=1.9,SNR=5.4						

NIED ***10*** *12:50:00, 42°.00N×141°.30E, h101km, Mw4.1 Best double couple: M0 1.72000×10^15 NP1:φs83.00000°, δ38.00000°, λ-134.00000°. NP2:φs314.00000°, δ64.00000°, λ-62.00000°.*

BJI ***10*** *12:50:00.9, 41°.86N×141°.19E, h112km, mB5.0/6, mb4.6/29*

MOS ***10*** *12:50:01.4±1.0, 42°.10N×141°.24E, h112km, mb4.7/20, Error ellipse: s-maj=7.8km s-min=6.2km az=90.7*

ISCJB ***10*** *12:50:01.2±0.2, 42°.06N±0°.03×141°.25E±0°.03, h109km±1km, mb4.3/57, Error ellipse: s-maj=5.1km s-min=3.2km az=135.7*

IDC ***10*** *12:50:02.2±1.2, 42°.06N×141°.23E, h105km±9km, mb3.9/24, mb1 4.0/29, mb1mx3.9/47, mbtmp4.2/29, MS4.8/1, Ms1 4.8/1, ms1mx3.1/39, Error ellipse: s-maj=13.6km s-min=9.5km az=128.0*

JMA ***10*** *12:50:02.3±0.1, 42°.04N×141°.28E, h100km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs322.00000°, δ69.00000°, λ-66.00000°. NP2:φs91.00000°, δ32.00000°, λ-136.00000°. Principal axes: T Plg20.0000°, Azm34.0000°; N Plg22.0000°, Azm133.0000°; P Plg59.0000°, Azm266.0000°;*

JMA Felt I J1.

NEIC ***10*** *12:50:02.6±0.4, 42°.11N×141°.22E, h106km±4km, mb4.6/12, MW4.1(NIED) Error ellipse: s-maj=6.8km s-min=4.1km az=134.0*

NEIC Recorded [1 JMA] in southern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.

SKHL ***10*** *12:50:02.8±0.0, 42°.14N×141°.35E, h113km±9km, mb5.4/2, msh5.9/2*

ISC 10 12:50:02.2±0.5, 42°.07N±0°.03×141°.23E±0°.03, h104km±3km, h104km: pP-P, n177, σ1°.09/214, mb4.4/57, 15C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.23**	**220**	⇓P	**Pn**	**12 50 16.5**	**-0.5**
JKB				*e*S	**Sn**	**12 50 27.1**	**-1.0**
JNB	**Noboribetsu**	**0.43**	**340**	⇓P	**Pn**	**12 50 17.5**	**-0.5**

comp=E,848nm,0.6s
YUK Yuzh-Kuril'sk 3.92 58 *e*P **Pn 12 51 00.4 +0.1**
YUK AMB AMB 12 51 03.4
comp=E,427nm,0.2s
YUK *e*S **Sn 12 51 43.6 -1.8**
YUK A A 12 51 55.9
comp=E,404nm,0.6s
YUK A A 12 51 55.9
comp=E,850nm,0.6s
SHO Shikotan 4.49 64 *e*P **Pn 12 51 06.7 -1.2**
SHO *e*S **Sn 12 51 54.6 -4.4**
YSS Yuzh-Sakhalins 5.01 12 *e*PN **Pn 12 51 15.5 +0.6**
YSS Yuzh-Sakhalins 5.01 12 *e*P **Pn 12 51 15.5 +0.6**
YSS *e*S **Sn 12 52 08.5 -3.1**
YSS Yuzh-Sakhalins 5.01 12 *e*Pn **Pn 12 51 15.5 +0.6**
KUR Kuril'sk 5.76 54 ⇑*i*PN **Pn 12 51 24.7 -0.5**
KUR *i* S **Sn 12 52 29.9 0.0**
KUR pmax pmax
comp=N,43nm,0.9s
KUR pmax pmax
comp=Z,77nm,0.9s
KUR pmax pmax
comp=E,41nm,0.3s
KUR smax smax
comp=N,111nm,0.2s
KUR smax smax
comp=E,62nm,0.2s
KUR Kuril'sk 5.76 54 *e*P **Pn 12 51 24.7 -0.5**
KUR AMB AMB 12 51 36.0
comp=E,77nm,0.9s
KUR *e*S **Sn 12 52 29.9 0.0**
KUR A A 12 52 33.7
comp=E,111nm,0.2s
MAJO Matsushiro 5.99 204 ⇑*i*PN **Pn 12 51 31.2 +2.7**
MAJO Matsushiro 5.99 204 *e*P **Pn 12 51 30.1 +1.7**
MAJO Matsushiro 5.99 204 *e*Pn **Pn 12 51 30.2 +1.7**
MAT Matsushiro 5.99 204 P **Pn 12 51 29.3 +0.8**
MAT *e*S **Sn 12 52 36.5 +0.8**
MJAR Matsushiro Arr 5.99 204 P **Pn 12 51 28.9 +0.4**
comp=E,6.8nm,0.3s,baz=13,slow=15,SNR=88
MJAR S **Sn 12 52 40.0 +4.2**
baz=38,slow=24,SNR=2.5
VLA Vladivostok 6.98 282 PN **Pn 12 51 44.0 +2.3**
VLA pmax pmax
comp=Z,57nm,0.7s
USRK Ussuriysk Ar. 7.09 291 P **Pn 12 51 44.7 +1.5**
comp=Z,1.3nm,0.3s,baz=106,slow=14,SNR=28
MDJ Mudanjiang 8.86 291 P **Pn 12 52 05.2 -2.0**
MDJ PMZ
comp=Z,12nm,2.0s
MDJ PMZ
comp=Z,190nm,7.5s
KSRS Korea Array 11.23 250 P **Pn 12 52 40.2 +0.8**
comp=Z,0.3nm,0.3s,baz=63,slow=13,SNR=5.0
KSAR Wonju Array Be 11.26 250 PN **Pn 12 52 40.2 +0.3**
KSAR Wonju Array Be 11.26 250 P **Pn 12 52 40.2 +0.3**
PETK Petropavlovsk- 15.62 39 P **Pn 12 53 34.7 -1.6**
comp=Z,0.5nm,0.3s,baz=181,slow=12,SNR=14
PET Petropavlovsk 16.03 41 *e*P **Pn 12 53 40.1 -1.3**
HIA Hailar 16.62 303 ⇓*i*P **Pn 12 53 48.2 -0.6**
HIA Hailar 16.62 303 *e*P **Pn 12 53 48.2 -0.6**
BJI Beijing 18.99 272 P **P 12 54 14.1 -1.3**
BJI PMZ
comp=Z,16nm,0.8s
SEY Seymchan 21.91 14 P **P 12 54 45.1 -1.5**
comp=Z,2.6nm,0.5s,baz=207,slow=7.1,SNR=18
HHC Hu-ho-hao-te 22.22 277 *e*P **P 12 54 49.0 -1.2**
HHC pP **pP 12 55 10.8 +0.4**
HHC sP **sP 12 55 23.4 0.0**
HHC S S 12 58 39.4 -8.6
HHC sS **sS 12 59 17.7 -5.0**
HHC SS **SnSn 12 59 27.6 +2.2**
HHC PMZ
comp=Z,21nm,0.6s
HHC PMZ
comp=Z,500nm,6.5s
HHC LN
comp=Z,730nm,16.0s
HHC LE
comp=Z,730nm,15.7s
HHC LZ
comp=Z,460nm,16.9s
FX1 Attu Island--F 23.95 52 *e*P **P 12 55 07.4 +0.9**
FX1 Attu Island--F 23.95 52 *e*P **P 12 55 07.4 +0.9**
ULN Ulaanbaatar 24.73 295 ⇓*e*P **P 12 55 12.0 -1.8**
ULN pmax pmax
comp=Z,4.0nm,1.2s
ULN Ulaanbaatar 24.73 295 *e*P **P 12 55 12.1 -1.8**
SONM Songino Array 25.17 295 P **P 12 55 17.0 -0.8**
SONM Songino Array 25.17 295 P **P 12 55 17.0 -0.8**
comp=Z,2.0nm,0.5s,baz=79,slow=8.0,SNR=18
XAN Xi'an 26.56 263 P **P 12 55 31.0 +0.7**
TLY Talaya 27.16 304 *e*P **P 12 55 35.7 +0.1**
ZAK Zakamensk 27.29 301 *e*P **P 12 55 37.0 +0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.7s
H11N2 WAKE ISLAND Hy 31.10 128 T T 13 28 51.9
baz=321,slow=75,SNR=82
H11N1 WAKE ISLAND Hy 31.11 128 T T 13 28 52.0
baz=321,slow=75,SNR=96
H11N3 WAKE ISLAND Hy 31.12 128 T T 13 28 52.5
baz=321,slow=75,SNR=86
GTA Gaotai 31.28 279 *e*P **P 12 56 14.1 +1.8**
GTA pP **pP 12 56 38.5 +3.0**
GTA sP **sP 12 56 51.8 +4.2**
GTA PMZ
comp=Z,7.0nm,1.5s
H11S1 WAKE ISLAND Hy 31.95 130 T T 13 29 52.5
baz=323,slow=76,SNR=47
H11S3 WAKE ISLAND Hy 31.95 130 T T 13 29 50.0
baz=323,slow=76,SNR=25
H11S2 WAKE ISLAND Hy 31.97 130 T T 13 29 53.0
baz=323,slow=76,SNR=34
GYA Guiyang 32.28 252 *e*P **P 12 56 22.2 +1.1**
GYA PMZ
comp=Z,10.0nm,0.8s
HVS Khovu-Aksy 33.37 302 P **P 12 56 31.0 +0.6**
HVS pmax pmax
comp=Z,61nm,1.7s
KRAR Krasnoyarsk 33.88 311 P **P 12 56 33.0 -1.6**
KMI Kunming 35.89 254 P **P 12 56 54.5 +2.0**
KMI PMZ
comp=Z,7.0nm,1.2s
SLVN Son La 37.49 248 *e*P **P 12 57 06.3 +0.4**
comp=Z,7.5nm,0.9s
ZALV Zalesovo Beam 38.56 308 P **P 12 57 14.1 -0.4**
comp=Z,5.7nm,0.4s,baz=93,slow=8.9,SNR=29
ZALV PcP **PcP 12 59 25.1 +0.3**
comp=Z,2.7nm,0.5s,baz=102,slow=2.8,SNR=11
ZALV ScP **ScP 13 03 03.6 +0.5**
comp=Z,0.5nm,0.6s,baz=93,slow=4.1,SNR=3.4
WMQ Urumqi 38.66 291 *e*P **P 12 57 15.6 +0.1**
WMQ pP **pP 12 57 40.0 +0.7**
WMQ PMZ
comp=Z,12nm,1.3s
MK31 Makanchi Array 41.50 297 *i* P **P 12 57 38.6 -0.3**
MK31 pmax pmax
comp=Z,8.0nm,0.8s
MKAR Makanchi Array 41.50 297 P **P 12 57 38.7 -0.2**
comp=Z,4.3nm,0.7s,baz=83,slow=9.1,SNR=48
MKAR PcP **PcP 12 59 34.5 0.0**
comp=Z,0.8nm,0.4s,baz=67,slow=4.9,SNR=6.6
MKAR ScP **ScP 13 03 14.2 -0.6**
comp=Z,0.4nm,0.8s,baz=76,slow=4.5,SNR=4.8
IM04 Indian Mountai 42.45 33 *e*P **P 12 57 46.3 0.0**
CHTO Chiang Mai 42.63 250 *e*P **P 12 57 48.6 +0.3**
CHTO Chiang Mai 42.63 250 *e*P **P 12 57 48.6 +0.3**
KURK Kurchatov 42.86 304 P **P 12 57 50.2 +0.4**
KURK 12 59 39.1
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 42.86 304 *e*P **P 12 57 49.3 -0.5**
KURK Kurchatov 42.86 304 P **P 12 57 50.2 +0.4**
comp=Z,0.8nm,0.7s
KURK PcP **PcP 12 59 39.1 +0.2**
CMAR Chiang Mai Arr 42.87 250 P **P 12 57 51.0 +0.7**
CMAR Chiang Mai Arr 42.87 250 P **P 12 57 51.0 +0.7**
comp=Z,1.6nm,0.7s,baz=42,slow=7.4,SNR=13
CMAR Chiang Mai Arr 42.87 250 *e*P **P 12 57 51.0 +0.7**
KURBB Kurchatov Arra 42.94 304 P **P 12 57 50.2 -0.2**
comp=Z,10nm,0.6s,baz=78,slow=8.8,SNR=37
KURBB PcP **PcP 12 59 39.1 0.0**
comp=Z,1.3nm,0.5s,baz=81,slow=3.2,SNR=7.4
KDAK Kodiak Island 43.55 45 *i* P **P 12 57 55.7 +0.5**
KDAK Kodiak Island 43.55 45 *e*P **P 12 57 55.8 +0.5**

MCK McKinley 44.60 37 *e*P **P 12 58 04.4 +0.8**
MCK pmax pmax
comp=Z,7.0nm,1.0s
MCK McKinley 44.60 37 *e*P **P 12 58 04.3 +0.7**
MCK McKinley 44.60 37 *e*P **P 12 58 04.4 +0.7**
comp=Z,7.2nm,1.0s
COLA College 44.96 35 *c i*P **P 12 58 07.6 +1.2**
COLA pmax pmax
comp=Z,45nm,1.6s
COLA College 44.96 35 *e*P **P 12 58 07.7 +1.3**
ILAR Eielson Array 45.38 35 P **P 12 58 10.0 +0.2**
comp=Z,3.4nm,1.0s,baz=270,slow=6.6,SNR=26
TAPN Taplejung 45.67 269 *e*P **P 12 58 13.1 +0.2**
comp=Z,9.5nm,0.5s
ODAN Odare 46.18 269 *e*P **P 12 58 17.1 +0.3**
JIRN Jiri 46.63 270 *e*P **P 12 58 21.0 +0.5**
comp=Z,10nm,0.3s
RAMN Ramite 46.71 269 *e*P **P 12 58 21.0 0.0**
comp=Z,30nm,0.9s
GUN Gumba 46.73 271 *e*P **P 12 58 21.3 +0.1**
comp=Z,43nm,0.3s
VOSK Vostochnaya 46.93 308 P **P 12 58 22.9 +0.8**
VOSK pmax pmax
comp=Z,2.0nm,0.6s
BVA0 Borovoye Array 47.19 309 *i* P **P 12 58 23.9 -0.2**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 47.19 309 P **P 12 58 24.1 0.0**
comp=Z,2.9nm,0.4s,baz=78,slow=8.9,SNR=25
BVAR PcP **PcP 12 59 54.1 +0.3**
comp=Z,1.8nm,0.5s,baz=71,slow=3.5,SNR=7.4
KKN Kakani 47.24 271 *e*P **P 12 58 25.1 +0.1**
comp=Z,18nm,0.6s
BRVK Borovoye 47.24 309 P **P 12 58 27.0 +2.6**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
PKI Pulchoki 47.26 271 *e*P **P 12 58 25.0 -0.3**
comp=Z,8.8nm,0.4s
TKM2 Tokmak 2 47.27 294 *e*P **P 12 58 25.6 +0.6**
TKM2 pmax pmax
comp=Z,10.0nm,0.6s
TKM2 Tokmak 2 47.27 294 *e*P **P 12 58 25.6 +0.6**
comp=Z,9.9nm,0.6s
PKIN Phulchoki 47.27 271 *e*P **P 12 58 24.9 -0.4**
comp=Z,7.7nm,0.4s
DMN Daman 47.47 271 *e*P **P 12 58 27.0 +0.1**
GKN Gorkha 47.60 272 *e*P **P 12 58 27.6 -0.2**
comp=Z,17nm,0.5s
DANN Dangsing 48.07 273 *e*P **P 12 58 32.1 +0.6**
comp=Z,92nm,0.5s
AAK Ala-Archa 48.13 294 P **P 12 58 32.0 +0.3**
AAK pmax pmax
comp=Z,18nm,1.7s
AAK Ala-Archa 48.13 294 *e*P **P 12 58 31.3 -0.4**
AAK Ala-Archa 48.13 294 *e*P **P 12 58 31.3 -0.4**
comp=Z,3.1nm,0.5s
KSH Kashi 48.39 290 *e*P P 12 58 36.9 +3.3
KSH sP sP 12 59 15.9 +5.9
KSH PP PP 13 00 32.4 +5.5
KSH S **S 13 05 28.2 +2.0**
KSH sS sS 13 06 14.2 +5.5
KSH SS **SS 13 08 55.1 -1.7**
KSH PMZ
comp=Z,3.0nm,0.8s
KSH PMZ
comp=Z,190nm,6.4s
KSH LN
comp=Z,57nm,7.2s
KSH LE
comp=Z,110nm,5.5s
KSH LZ
comp=Z,150nm,6.7s
KOLN Koldanda 48.50 272 *e*P **P 12 58 35.1 +0.3**
comp=Z,29nm,0.4s
EKS2 Erkin-Say 48.60 295 *e*P **P 12 58 35.5 +0.3**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 48.60 295 *e*P **P 12 58 35.5 +0.3**
comp=Z,3.9nm,0.8s
HYT Haines Junctio 50.41 39 *e*P **P 12 58 49.4 +0.7**
KK31 Karatay Array 50.61 297 *i* P **P 12 58 49.7 -0.7**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 50.61 297 *e*P **P 12 58 50.2 -0.2**
KKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 50.61 297 *e*P **P 12 58 50.2 -0.2**
comp=Z,1.7nm,0.4s
ARU Arti 52.57 316 *c i*P **P 12 59 04.4 -0.2**
ARU 13 01 01.5
ARU S **S 13 06 21.4 -2.0**
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 52.57 316 *e*P **P 12 59 04.5 -0.2**
AB31 Akbulak array 54.68 307 *i* P **P 12 59 20.0 -0.2**
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 54.68 307 *e*P **P 12 59 19.9 -0.3**
comp=Z,2.4nm,0.5s
ABKAR *e*PcP **PcP 13 00 21.5 -0.2**
ARCES ARCESS Array B 59.26 338 P **P 12 59 51.9 -0.3**
comp=Z,7.9nm,1.0s,baz=45,slow=7.1,SNR=3.3
ARCES LR LR 13 28 39.7
comp=Z,866nm,21.4s,baz=250,slow=39
YKA Yellowknife Ar 59.56 31 P **P 12 59 54.7 +0.4**
comp=Z,0.4nm,0.5s,baz=307,slow=6.5,SNR=19
GEYT Alibeck 61.37 297 P **P 13 00 06.7 -0.4**
comp=Z,1.9nm,0.5s,baz=46,slow=8.5,SNR=3.6
JOF Joensuu 61.48 331 *e*P **P 13 00 05.6 -1.8**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 61.48 331 *ep* **P 13 00 05.6 -1.8**
comp=Z,2.0nm,0.6s
WRAB Tennant Creek 62.01 187 ⇑*e*P **P 13 00 10.6 -0.8**
WRAB pmax pmax
comp=Z,23nm,1.7s
WRA Warramunga Arr 62.02 187 P **P 13 00 10.6 -0.9**
comp=Z,1.4nm,0.4s,baz=4.5,slow=7.0,SNR=72
KAF Kangasniemi 63.80 332 *e*P **P 13 00 21.5 -1.2**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 63.80 332 *ep* **P 13 00 21.5 -1.2**
comp=Z,1.5nm,0.5s
FINES FINESS Array B 64.32 331 P **P 13 00 25.8 -0.4**
comp=Z,2.0nm,0.5s,baz=28,slow=8.9,SNR=17
FINES PcP **PcP 13 00 59.1 -0.8**
comp=Z,0.7nm,0.4s,baz=66,slow=3.8,SNR=4.7
ASAR Alice Springs 65.75 187 P **P 13 00 35.5 -0.3**
comp=Z,0.6nm,0.6s,baz=7.1,slow=6.8,SNR=11
KIV Kislovodsk 67.56 309 *e*P **P 13 00 47.4 +0.1**
KIV pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 67.57 309 P **P 13 00 48.0 +0.8**
comp=Z,2.8nm,0.7s,baz=320,slow=0.8,SNR=4.3
HFS Hagfors 69.46 335 P **P 13 00 58.8 0.0**
comp=Z,1.8nm,0.4s,baz=46,slow=6.4,SNR=19
NB2 NORSAR Subarra 69.51 337 P **P 13 00 58.7 -0.4**
comp=Z,1.0nm,0.4s,baz=36,slow=6.5
NOA NORSAR Array B 69.51 337 P **P 13 00 58.9 -0.2**
comp=Z,0.6nm,0.4s,baz=51,slow=7.3,SNR=6.6
ANN Anapa 69.98 313 *e*P **P 13 01 00.9 -1.3**
ANN *e*PP **pP 13 01 26.8 -1.6**
ANN *e*S **S 13 10 02.4 -1.6**
ANN pmax pmax
comp=Z,40nm,1.2s
AKASG Malin Array Be 70.26 321 *c*e*P **P 13 01 03.5 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 70.26 321 P **P 13 01 03.6 -0.3**
comp=Z,1.7nm,0.5s,baz=44,slow=6.5,SNR=5.1
KIEV Kiev 70.27 321 ⇓*i*P **P 13 01 03.8 -0.1**
NVAR Mina Array Bea 72.12 54 P **P 13 01 16.3 +0.7**
comp=Z,0.8nm,0.6s,baz=290,slow=6.8,SNR=6.4
BRTR Keskin Array B 75.44 311 P **P 13 01 35.5 +0.7**
comp=Z,0.7nm,0.3s,baz=49,slow=4.4,SNR=6.0
CLL Collm 76.68 330 *e*P **P 13 01 41.0 -0.4**
CLL Collm 76.68 330 *e*P **P 13 01 41.0 -0.4**
EKA Eskdalemuir Ar 78.35 340 P **P 13 01 50.8 +0.1**
comp=Z,0.6nm,0.4s,baz=32,slow=4.4,SNR=3.8
GERES GERESS Array B 78.38 328 P **P 13 01 50.1 -0.9**
comp=Z,1.6nm,0.6s,baz=48,slow=6.0,SNR=3.9
DAVOX Davos/Dischmat 81.56 329 P **P 13 02 09.3 +1.0**
comp=Z,2.7nm,0.6s,baz=232,slow=23,SNR=4.3
LPL La Plagne 83.81 330 *e*P **P 13 02 20.6 +0.5**
comp=Z,7.0nm,0.5s
LPG La Plagne 83.82 330 *e*P **P 13 02 20.8 +0.6**

comp=Z,11nm,0.4s
AVF Avril sur Loir 83.94 332 *e*P **P 13 02 20.3 -0.1**
comp=Z,14nm,0.7s
AVF Avril sur Loir 83.94 332 *e*P **P 13 02 20.3 -0.1**
AVF pmax pmax
comp=Z,14nm,0.7s
AVF Avril sur Loir 83.94 332 *e*P **P 13 02 20.3 -0.1**
comp=Z,14nm,0.7s
MBDF Montbardon 84.47 329 *e*P **P 13 02 23.3 0.0**
comp=Z,7.6nm,0.6s
MBDF Montbardon 84.47 329 *e*P **P 13 02 23.3 0.0**
ORIF Oris-en-Rattie 84.64 330 *e*P **P 13 02 24.3 +0.2**
comp=Z,10nm,0.6s
ORIF Oris-en-Rattie 84.64 330 *e*P **P 13 02 24.3 +0.2**
ORIF pmax pmax
comp=Z,10.0nm,0.6s
ORIF Oris-en-Rattie 84.64 330 *e*P **P 13 02 24.3 +0.2**
comp=Z,10nm,0.6s
VIVF Saint-Julien-l 85.14 331 *e*P **P 13 02 26.6 0.0**
comp=Z,11nm,0.8s
VIVF Saint-Julien-l 85.14 331 *e*P **P 13 02 26.6 0.0**
VIVF pmax pmax
comp=Z,11nm,0.8s
VIVF Saint-Julien-l 85.14 331 *e*P **P 13 02 26.6 0.0**
comp=Z,11nm,0.8s
MFF Saint Martin d 85.28 334 *e*P **P 13 02 27.3 +0.2**
comp=Z,5.0nm,0.5s
MFF Saint Martin d 85.28 334 *e*P **P 13 02 27.3 +0.2**
RJF Les Rejaudoux 85.87 333 *e*P **P 13 02 30.5 +0.4**
RJF Les Rejaudoux 85.87 333 *e*P **P 13 02 30.5 +0.4**
RJF Les Rejaudoux 85.87 333 *e*P **P 13 02 30.5 +0.4**
CAF Calviac 86.01 332 *e*P **P 13 02 31.5 +0.6**
comp=Z,16nm,0.8s
CAF Calviac 86.01 332 *e*P **P 13 02 31.5 +0.6**
CAF pmax pmax
comp=Z,16nm,0.8s
CAF Calviac 86.01 332 *e*P **P 13 02 31.5 +0.6**
comp=Z,16nm,0.8s
TXAR Lajitas Array 87.16 52 P **P 13 02 36.8 -0.1**
comp=Z,0.1nm,0.4s,baz=299,slow=3.7,SNR=2.5
ETSF Etsaut 88.69 333 *e*P **P 13 02 44.5 +0.7**
comp=Z,13nm,0.8s
ETSF Etsaut 88.69 333 *e*P **P 13 02 44.5 +0.7**
SNAA Sanae 145.49 199 P **PKPab 13 09 27.7 +0.2**
VNA2 Neumayer--Watz 147.08 198 P **PKPbc 13 09 32.1 +0.4**
baz=88,slow=1.3
VNA3 Neumayer Olymp 147.36 197 P **PKPbc 13 09 32.2 -0.2**

IDC ***10*** *13:05:42.5±3.3, 60°.24N×153°.19W, h112km±31km, mb3.7/10, mb1 3.8/12, mb1mx3.5/37, mbtmp4.1/12, Error ellipse: s-maj=30.0km s-min=16.4km az=11.0*
ISCJB ***10*** *13:05:43.2±0.2, 60°.25N±0°.02×152°.93W±0°.04, h138km±2km, mb3.9/10, Error ellipse: s-maj=4.4km s-min=2.9km az=137.8*
NEIC ***10*** *13:05:44.9, 60°.24N×152°.88W, h136km, mb3.8/1, After AEIC.*
NEIC Felt at Anchorage.
BJI ***10*** *13:05:45.7, 61°.16N×153°.27W, h130km, mb4.4/10*
ISC 10 13:05:44.2±0.5, 60°.26N±0°.04×152°.91W±0°.03,
h134km±4km, n115, σ0.97/139, mb3.9/10, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INE	**Iliamna NE**	**0.21**	**201**	P	**Pn**	**13 06 02.9**	**+0.2**
INE				S	**Sn**	**13 06 16.5**	**-0.2**
RSO	**Redoubt South**	**0.22**	**20**	*e*Pn	**Pn**	**13 06 03.0**	**+0.2**
ILW	**Iliamna West**	**0.23**	**210**	P	**Pn**	**13 06 02.9**	**+0.2**
ILW				S	**Sn**	**13 06 16.4**	**-0.3**
RDWB	**Redoubt West**	**0.23**	**8**	P	**Pn**	**13 06 02.8**	**+0.1**
RDWB				S	**Sn**	**13 06 16.9**	**+0.1**
REF	**Redoubt East F**	**0.26**	**24**	P	**Pn**	**13 06 03.1**	**+0.3**
RDN	**Redoubt North**	**0.27**	**16**	P	**Pn**	**13 06 03.1**	**+0.3**
NCT	**North Crescent**	**0.31**	**358**	P	**Pn**	**13 06 03.3**	**+0.4**
NCT				S	**Sn**	**13 06 17.3**	**+0.2**
DFR	**Drift River**	**0.35**	**18**	P	**Pn**	**13 06 03.2**	**+0.1**
DFR				S	**Sn**	**13 06 18.1**	**+0.7**
OPT	**Oil Point**	**0.63**	**195**	P	**Pn**	**13 06 04.8**	**+0.3**
HOM	**Homer**	**0.88**	**133**	P	**Pn**	**13 06 07.0**	**+0.8**
HOM				S	**Sn**	**13 06 24.5**	**+1.5**
AUL	**Augustine Lava**	**0.92**	**197**	P	**Pn**	**13 06 07.2**	**+0.5**
AUL				S	**Sn**	**13 06 23.7**	**0.0**
AUP	**Augustine Pinn**	**0.93**	**196**	P	**Pn**	**13 06 07.1**	**+0.2**
AUI	**Augustine Isla**	**0.96**	**196**	P	**Pn**	**13 06 07.2**	**+0.2**
AUI				S	**Sn**	**13 06 23.9**	**-0.5**
SPU	**Mount Spurr**	**1.02**	**24**	*e*Pn	**Pn**	**13 06 08.2**	**+0.6**
SPBG	**Spurr Blockage**	**1.04**	**15**	P	**Pn**	**13 06 08.7**	**+0.9**
SPBG				S	**Sn**	**13 06 27.0**	**+1.1**
BRLK	**Bradley Lake**	**1.13**	**115**	P	**Pn**	**13 06 09.0**	**+0.4**
BRLK				S	**Sn**	**13 06 27.3**	**+0.1**
CGLM	**Capps Glacier**	**1.15**	**22**	P	**Pn**	**13 06 09.4**	**+0.6**
MCNL	**McNeil River**	**1.29**	**215**	P	**Pn**	**13 06 10.1**	**-0.2**
STLK	**Strandline Lak**	**1.35**	**22**	P	**Pn**	**13 06 11.6**	**+0.6**
SLKM	**Skilak Lake**	**1.36**	**78**	P	**Pn**	**13 06 11.1**	**+0.2**
SVW2	**Sparrevohn**	**1.56**	**304**	P	**Pn**	**13 06 12.8**	**-0.4**
SVW2				S	**Sn**	**13 06 34.3**	**-1.0**
SUA	**Susitna One**	**1.61**	**40**	P	**Pn**	**13 06 14.5**	**+0.7**
SUA				S	**Sn**	**13 06 37.9**	**+1.4**
FIB	**Fire Island**	**1.62**	**55**	P	**Pn**	**13 06 15.1**	**+1.2**
SEW	**Seward**	**1.74**	**94**	*e*Pn	**Pn**	**13 06 15.1**	**-0.1**
SEW				*e*Sn	**Sn**	**13 06 37.8**	**-1.0**
RC01	**Rabbit Creek A**	**1.77**	**60**	P	**Pn**	**13 06 15.8**	**+0.3**
RC01				S	**Sn**	**13 06 39.8**	**+0.2**
SKT	**Skwentna**	**1.85**	**21**	P	**Pn**	**13 06 17.1**	**+0.6**
KVTA	**Katmai Vly 10**	**2.24**	**214**	P	**Pn**	**13 06 21.1**	**-0.2**
KAKN	**Katmai Knife C**	**2.25**	**210**	P	**Pn**	**13 06 21.3**	**-0.2**
PMR	**Palmer**	**2.28**	**52**	P	**Pn**	**13 06 21.1**	**-0.6**
PMR				S	**Sn**	**13 06 49.6**	**-0.9**
KELA	**Mount Kelaz**	**2.33**	**220**	P	**Pn**	**13 06 22.0**	**-0.4**
KCE	**Katmai Mt Cerb**	**2.33**	**211**	P	**Pn**	**13 06 22.7**	**+0.2**
PWL	**Port Wells**	**2.34**	**73**	P	**Pn**	**13 06 21.7**	**-0.7**
PWL				S	**Sn**	**13 06 51.0**	**-0.9**
KABR	**Katmai Barrier**	**2.38**	**207**	P	**Pn**	**13 06 22.5**	**-0.5**
KDAK	**Kodiak Island**	**2.49**	**176**	P	**Pn**	**13 06 23.1**	**-1.2**
PPLA	**Purkeypile**	**2.67**	**7**	*e*Pn	**Pn**	**13 06 27.8**	**+1.0**
GLI	**Glacier Island**	**2.94**	**75**	P	**Pn**	**13 06 30.3**	**+0.2**
TT01	**Tatalina**	**3.05**	**332**	P	**Pn**	**13 06 31.2**	**-0.2**
OHAK	**Old Harbor**	**3.05**	**184**	P	**Pn**	**13 06 29.6**	**-1.9**
PLK3	**Peulik 3**	**3.11**	**215**	P	**Pn**	**13 06 32.4**	**+0.1**
PLK1	**Peulik 1**	**3.12**	**219**	P	**Pn**	**13 06 32.4**	**+0.1**
SCM	**Sheep Creek Mo**	**3.14**	**57**	P	**Pn**	**13 06 32.4**	**-0.4**
CAST	**Castle Rocks**	**3.20**	**7**	P	**Pn**	**13 06 33.9**	**+0.5**
JPK	**Jack Peak**	**3.21**	**73**	P	**Pn**	**13 06 33.0**	**-0.6**
VLZ	**Valdez**	**3.35**	**72**	P	**Pn**	**13 06 34.7**	**-0.6**
MID	**Middleton Isla**	**3.42**	**101**	P	**Pn**	**13 06 36.4**	**+0.2**
TRF	**Thorofare Moun**	**3.44**	**20**	*e*Pn	**Pn**	**13 06 36.9**	**+0.2**
KTH	**Kantishna Hill**	**3.44**	**15**	P	**Pn**	**13 06 36.6**	**+0.1**
EYAK	**Cordova Ski Ar**	**3.57**	**82**	P	**Pn**	**13 06 38.6**	**+0.4**
DIV	**Divide**	**3.62**	**73**	*e*Pn	**Pn**	**13 06 37.9**	**-1.1**
KLU	**Klutina**	**3.64**	**67**	P	**Pn**	**13 06 38.7**	**-0.4**
RND	**Reindeer**	**3.70**	**30**	P	**Pn**	**13 06 40.3**	**+0.3**
SII	**Sitkinak Islan**	**3.77**	**191**	P	**Pn**	**13 06 39.0**	**-1.9**
SGAM	**Sherman Glacie**	**3.83**	**83**	P	**Pn**	**13 06 41.7**	**0.0**
DHY	**Denali Highway**	**3.87**	**41**	P	**Pn**	**13 06 42.5**	**+0.2**
MCK	**McKinley**	**3.96**	**27**	P	**Pn**	**13 06 44.0**	**+0.7**
PS12	**TAPS Pump St12**	**3.99**	**69**	P	**Pn**	**13 06 44.7**	**+0.9**
PS11	**TAPS Pump St11**	**4.04**	**60**	P	**Pn**	**13 06 45.0**	**+0.5**
GOAT	**Goat Mountain**	**4.07**	**82**	P	**Pn**	**13 06 45.4**	**+0.5**
RAGM	**Ragged Mountai**	**4.10**	**85**	P	**Pn**	**13 06 45.6**	**+0.4**
HARP	**HAARP**	**4.31**	**57**	P	**Pn**	**13 06 48.4**	**+0.4**
PAX	**Paxson**	**4.47**	**49**	P	**Pn**	**13 06 50.5**	**+0.3**
GLB	**Gilahina Butte**	**4.61**	**71**	P	**Pn**	**13 06 52.9**	**+0.9**
PS10	**TAPS Pump St10**	**4.64**	**44**	P	**Pn**	**13 06 53.8**	**+1.3**
WRH	**Wood River Hil**	**4.79**	**26**	P	**Pn**	**13 06 54.3**	**0.0**
DDM	**Donnelly Dome**	**4.85**	**40**	P	**Pn**	**13 06 57.0**	**+1.7**
GCSA	**Galena City Sc**	**4.87**	**340**	P	**Pn**	**13 06 55.7**	**+0.3**
MLY	**Manley**	**4.90**	**11**	P	**Pn**	**13 06 55.1**	**-0.7**
CHGN	**Chignik**	**4.92**	**219**	*e*Pn	**Pn**	**13 06 54.7**	**-1.3**
CCB	**Clear Creek Bu**	**5.00**	**26**	P	**Pn**	**13 06 57.0**	**-0.1**
HDA	**Harding Lake**	**5.00**	**31**	P	**Pn**	**13 06 57.2**	**0.0**
MENT	**Mentasta**	**5.15**	**55**	*e*Pn	**Pn**	**13 06 59.1**	**-0.1**
PS08	**TAPS Pump Stn8**	**5.15**	**31**	P	**Pn**	**13 06 59.1**	**-0.1**
COLA	**College**	**5.19**	**25**	P	**Pn**	**13 06 59.7**	**0.0**
MDM	**Murphy Dome**	**5.19**	**23**	P	**Pn**	**13 06 59.8**	**+0.1**
IL1	**Eielson Array**	**5.32**	**29**	P	**Pn**	**13 07 01.1**	**-0.3**
ILAR	**Eielson Array**	**5.32**	**29**	P	**Pn**	**13 07 01.1**	**-0.3**
ILAR	50nm,0.3s,baz=215,slow=13,SNR=4418 13nm,0.3s,baz=293,slow=32,SNR=5.6			S	**Sn**	**13 07 57.3**	**-4.4**
DOT	**Dot Lake**	**5.38**	**47**	P	**Pn**	**13 07 02.2**	**-0.1**
GLM	**Gilmore Dome**	**5.39**	**26**	P	**Pn**	**13 07 02.2**	**-0.2**

SCRK	**Sand Creek**	5.61	44	P	Pn	13 07 05.0	-0.4
IM04	**Indian Mountai**	5.75	356	*e*Pn	Pn	13 07 07.3	+0.1
IM3	**Indian Mountai**	5.76	357	P	Pn	13 07 07.5	+0.1
PS06	**TAPS Pump Stn6**	5.80	13	P	Pn	13 07 08.6	+0.7
CHX	**Chaix Hills**	5.89	87	P	Pn	13 07 10.7	+1.4
BCA3	**Beaver Creek A**	6.00	57	P	Pn	13 07 11.0	+0.4
SDPT	**Sand Point**	6.37	223	P	Pn	13 07 13.8	-1.7
PS4A	**Pavlof South-4**	6.86	228	P	Pn	13 07 22.0	-0.1
HAG	**Hague Volcano**	6.90	228	P	Pn	13 07 23.3	+0.6
EGAK	**Eagle**	7.08	45	*e*Pn	Pn	13 07 24.7	-0.3
COLD	**Coldfoot**	7.10	9	P	Pn	13 07 25.8	+0.5
DT1	**Dutton Round H**	7.20	228	P	Pn	13 07 26.8	+0.1
DAWY	**Dawson**	7.39	53	P	Pn	13 07 29.7	+0.5
HYT	**Haines Junctio**	7.62	79	P	Pn	13 07 33.7	+1.3
FALS	**False Pass**	7.82	231	*e*Pn	Pn	13 07 35.6	+0.6
TNA	**Tin City**	8.66	314	*e*Pn	Pn	13 07 47.6	+1.4
AKUT	**Akutan**	9.28	234	*e*P	Pn	13 07 56.2	+1.5
WRAK	**Wrangell Islan**	11.45	101	*e*Pn	P	13 08 29.2	-2.6
CRAG	**Craig**	11.56	106	*e*Pn	Pn	13 08 26.1	+1.3
DLBC	**Dease Lake**	11.80	89	P	Pn	13 08 28.6	+0.4
	0.6nm,0.3s,baz=279,slow=8.6,SNR=37						
DLBC				S	Sn	13 10 36.9	-1.3
	0.3nm,0.3s,baz=163,slow=18,SNR=2.0						
DLBC	**Dease Lake**	11.80	89	*e*Pn	Pn	13 08 32.0	+3.8
DLBC				S	Sn	13 10 36.9	-1.3
YKA	**Yellowknife Ar**	18.31	66	P	Pn	13 09 49.1	+0.1
	0.8nm,0.3s,baz=277,slow=10.0,SNR=13						
BILL	**Bilibino**	19.07	311	*e*Pn	P	13 09 56.2	+0.4
	5.6nm,1.1s						
SEY	**Seymchan**	25.50	300	P	P	13 10 58.4	-1.1
	1.1nm,0.4s,baz=73,slow=13,SNR=5.5						
PETK	**Petropavlovsk-**	27.47	277	P	P	13 11 15.6	-1.7
	0.9nm,0.3s,baz=72,slow=10,SNR=26						
TXAR	**Lajitas Array**	45.03	111	P	P	13 13 47.7	+1.4
	0.1nm,0.4s,baz=317,slow=9.0,SNR=3.9						
USRK	**Ussuriysk Ar.**	46.02	285	P	P	13 13 53.4	-0.4
	1.0nm,0.5s,baz=47,slow=10,SNR=6.5						
KSRS	**Korea Array**	53.17	282	P	P	13 14 49.0	+1.1
	2.9nm,0.8s,baz=40,slow=6.4,SNR=6.8						
KSAR	**Wonju Array Be**	53.20	282	P	P	13 14 49.0	+0.9
SONM	**Songino Array**	54.68	306	P	P	13 14 59.7	+0.7
	5.6nm,0.7s,baz=45,slow=6.7,SNR=44						
ZALV	**Zalesovo Beam**	57.19	324	P	P	13 15 16.8	+0.2
	4.2nm,0.4s,baz=26,slow=6.8,SNR=26						
HHC	**Hu-ho-hao-te**	58.11	297	*e*P	P	13 15 25.2	+1.9
HHC				pP	pP	13 15 55.2	+0.3
HHC				sP	sP	13 16 09.2	-0.4
HHC				PP	PP	13 17 36.2	+3.2
HHC				S	S	13 23 11.3	-2.5
HHC				sS	sS	13 24 05.5	-2.7
HHC				PMZ			
	24nm,0.7s						
HHC				LN			
	350nm,16.0s						
HHC				LE			
	520nm,17.3s						
HHC				LZ			
	780nm,18.5s						
FINES	**FINESS Array B**	58.63	1	P	P	13 15 27.2	+0.7
	1.4nm,0.9s,baz=11,slow=7.0,SNR=3.3						
MKAR	**Makanchi Array**	64.26	321	P	P	13 16 04.1	-0.5
	1.7nm,0.5s,baz=40,slow=6.5,SNR=15						
GTA	**Gaotai**	64.32	305	*e*P	P	13 16 05.9	+0.7
GTA				PMZ			
	4.0nm,1.1s						
WMQ	**Urumqi**	65.11	316	*e*P	P	13 16 12.0	+1.8
WMQ				pP	pP	13 16 42.0	-0.4
WMQ				PMZ			
	6.0nm,1.0s						
CMAR	**Chiang Mai Arr**	82.80	295	P	P	13 17 53.1	-0.2
	1.0nm,0.9s,baz=21,slow=5.8,SNR=5.7						

BJI ***10*** *13:17:13.1,51°.40N×173°.50W,h35km,mB5.3/21, mb4.8/35,Ms5.0/18,Ms7 4.7/18*
ISCJB ***10*** *13:17:16.3±0.7,51°.55N±0°.05×173°.45W±0°.03,h37km±5km, mb4.5/74,MS4.2/1,Error ellipse: s-maj=8.2km s-min=3.0km az=2.3*
MOS ***10*** *13:17:16.0±1.0,51°.65N×173°.50W,h33km,mb4.9/34, Error ellipse: s-maj=9.9km s-min=6.6km az=92.6*
NEIC ***10*** *13:17:17.3±0.3,51°.45N×173°.48W,h35km,mb4.7/39, ML4.0(AEIC),Error ellipse: s-maj=6.9km s-min=3.3km az=172.0*
IDC ***10*** *13:17:18.2±0.6,51°.60N×173°.50W,h40km±4km,mb4.0/25, mb1 4.2/28,mb1mx4.2/34,mbtmp4.3/28,ML3.6/2,MS4.3/1, Ms1 4.3/1,ms1mx3.4/38,Error ellipse: s-maj=17.8km s-min=9.7km az=173.0*
ISC 10 13:17:17.7±0.5,51°.49N±0°.09×173°.46W±0°.04,h38km±3km, h38km:pP-P,n371,σ0s89/405,mb4.6/74,81C-85D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	0.88	333	P	Pn	13 17 33.8	+0.1
KOKL	**Mount Kliuchef**	0.95	331	P	Pn	13 17 34.7	+0.1
KOKL				S	Sn	13 17 48.6	+1.6
KOWE	**Korovin West**	1.00	331	P	Pn	13 17 35.6	+0.3
NIKH	**Nikolski High**	3.20	61	P	Pn	13 18 05.3	0.0
NIKH				S	Sn	13 18 41.6	-0.5
OKFG	**Magazine Ridge**	3.90	58	P	Pn	13 18 14.2	-0.8
OKFG				S	Sn	13 19 00.1	+0.7
MSOM	**Makushin Julie**	4.60	57	P	Pn	13 18 24.9	+0.4
MSOM				S	Sn	13 19 16.4	-0.2
MSOM	**Makushin Julie**	4.60	57	P	Pn	13 18 24.9	+0.4
MSOM				S	Sn	13 19 16.4	-0.2
MREP	**Makushin Rep't**	4.70	58	P	Pn	13 18 25.2	-0.8
MREP				S	Sn	13 19 19.1	-0.1
MSW	**Makushin Switc**	4.73	57	P	Pn	13 18 26.7	+0.3
MSW				S	Sn	13 19 23.6	+3.7
MTBL	**Makushin Table**	4.81	56	P	Pn	13 18 27.3	-0.3
UNV	**Unalaska Valle**	4.84	58	P	Pn	13 18 28.1	+0.2
UNV				S	Sn	13 19 22.7	0.0
AKRB	**Akutan Reef Bi**	5.20	57	P	Pn	13 18 33.1	+0.3
AKRB				S	Sn	13 19 33.2	+1.7
ZRO	**Akutan Zero**	5.23	57	P	Pn	13 18 33.6	+0.3
AKGG	**Akutan Green G**	5.27	56	P	Pn	13 18 33.5	-0.4
AHB	**Akutan Harbor**	5.33	57	P	Pn	13 18 34.8	+0.2
AKUT	**Akutan**	5.36	57	P	Pn	13 18 34.9	-0.1
AKUT				S	Sn	13 19 36.9	+1.5
SSLW	**Shishaldin Wes**	6.51	56	P	Pn	13 18 51.6	+0.8
SSLW				S	Sn	13 20 03.7	0.0
FALS	**False Pass**	6.91	57	*e*P	Pn	13 18 59.0	+2.7
FALS				S	Sn	13 20 13.9	+0.3
DRIA	**Deer Island**	7.56	58	P	Pn	13 19 05.4	+0.1
DTNA	**Dutton South F**	7.64	57	P	Pn	13 19 06.5	+0.1
FX1	**Attu Island--F**	8.34	285	P	Pn	13 19 16.2	+0.3
	2.9nm,0.3s,baz=168,slow=3.7,SNR=37						
GAMB	**Gambell**	12.36	4	*e*P	Pn	13 20 13.5	+2.8
	14nm,0.5s						
KDAK	**Kodiak Island**	13.60	54	*i*P	Pn	13 20 25.3	-2.4
TNA	**Tin City**	14.39	9	*e*P	Pn	13 20 41.0	+2.6
	4.7nm,0.5s						
PPLA	**Purkeypile**	16.13	37	*e*P	P	13 21 04.3	0.0
	20nm,1.0s						
RC01	**Rabbit Creek A**	16.21	44	P	P	13 21 03.9	-1.1
KTH	**Kantishna Hill**	16.98	36	*e*P	P	13 21 13.7	+0.2
	28nm,0.9s						
TRF	**Thorofare Moun**	17.16	37	*e*P	Pn	13 21 15.1	+0.8
	13nm,0.9s						
PETK	**Petropavlovsk-**	17.67	287	P	P	13 21 21.1	0.0
	0.9nm,0.3s,baz=96,slow=14,SNR=19						
MCK	**McKinley**	17.82	37	*e*P	Pn	13 21 21.2	-1.1
MCK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MCK	**McKinley**	17.82	37	*e*P	Pn	13 21 21.2	-1.1
	comp=Z,7.5nm,0.7s						
PAX	**Paxson**	18.83	42	*e*P	P	13 21 33.4	-0.6
PAX				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PAX	**Paxson**	18.83	42	*e*P	P	13 21 33.4	-0.6
	comp=Z,5.6nm,0.7s						
COLA	**College**	18.83	35	P	Pn	13 21 36.0	+1.4
COLA				pmax	pmax		
	comp=Z,33nm,0.9s						
SKR	**Severo-Kuril's**	19.07	280	*e*P	Pn	13 21 41.1	+3.5
ILAR	**Eielson Array**	19.13	36	P	P	13 21 36.0	-1.1
ILAR	**Eielson Array**	19.13	36	P	P	13 21 36.0	-1.1
	comp=Z,3.1nm,0.3s,baz=234,slow=10,SNR=123						
BILL	**Bilibino**	19.31	337	*i*P	Pn	13 21 40.3	0.0
BILL				pmax	pmax		
	comp=Z,11nm,1.0s						
BILL				MLR	MLR		
	comp=Z,540nm,21.0s						
BILL	**Bilibino**	19.31	337	P	P	13 21 39.9	+0.8
	comp=Z,9.7nm,0.8s						
COLD	**Coldfoot**	19.52	27	*e*P	Pn	13 21 42.6	-0.3
	comp=Z,7.7nm,0.8s						
DOT	**Dot Lake**	19.69	41	*e*P	P	13 21 42.6	-0.7
	comp=Z,8.4nm,0.7s						
EGAK	**Eagle**	21.31	39	*e*P	P	13 21 59.9	-0.9
	comp=Z,64nm,0.7s						
SEY	**Seymchan**	21.46	315	P	P	13 22 01.2	-1.2
	comp=Z,1.4nm,0.3s,baz=12,slow=21,SNR=8.1						
DAWY	**Dawson**	21.77	42	*e*P	P	13 22 04.5	-1.2
DLBC	**Dease Lake**	25.50	57	P	P	13 22 42.8	+0.6
	comp=Z,12nm,0.9s,baz=249,slow=8.4,SNR=12						
YSS	**Yuzh-Sakhalins**	28.63	278	⇑*e*P	P	13 23 11.0	+0.8
YSS				*e*		13 23 16.5	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	28.63	278	*e*P	P	13 23 11.1	+0.8
	comp=Z,28nm,1.2s						
TIXI	**Tiksi**	32.20	330	*e*P	P	13 23 41.1	-0.4
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TIXI	**Tiksi**	32.20	330	*e*P	P	13 23 41.1	-0.4
	comp=Z,2.9nm,0.7s						
YKA	**Yellowknife Ar**	32.71	47	P	P	13 23 45.8	-0.2
	comp=Z,1.6nm,0.5s,baz=274,slow=8.0,SNR=47						
YKA				PcP	PcP	13 26 31.6	+0.9
	comp=Z,0.7nm,0.8s,baz=280,slow=2.8,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	35.26	213	T	T	14 02 16.2	
	baz=21,slow=76,SNR=62						
H11N3	**WAKE ISLAND Hy**	35.26	213	T	T	14 02 16.8	
	baz=21,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	35.27	213	T	T	14 02 22.2	
	baz=21,slow=76,SNR=57						
NEW	**Newport**	35.68	72	⇑P	P	13 24 12.7	+0.6
	baz=36						
EDM	**Edmonton**	35.81	63	*e*P	P	13 24 14.0	+1.0
EDM	**Edmonton**	35.81	63	*e*P	P	13 24 14.0	+1.0
H11S1	**WAKE ISLAND Hy**	36.46	213	T	T	14 03 32.5	
	baz=20,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	36.47	213	T	T	14 03 33.6	
	baz=20,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	36.47	213	T	T	14 03 40.2	
	baz=20,slow=76,SNR=24						
USRK	**Ussuriysk Ar.**	36.58	281	P	P	13 24 19.5	-0.2
	comp=Z,6.8nm,0.6s,baz=52,slow=8.7,SNR=14						
USRK				LR	LR	13 40 11.7	
	comp=Z,468nm,21.6s,baz=47,slow=38						
MJAR	**Matsushiro Arr**	37.12	266	P	P	13 24 25.2	+0.8
	comp=Z,2.0nm,0.7s,baz=42,slow=6.9,SNR=4.9						
BSMT	**Bassoo Peak**	37.27	72	*e*P	P	13 24 27.0	+1.3
	comp=Z,10.0nm,1.1s						
SWMT	**Swartz Lake**	37.90	72	P	P	13 24 29.1	-1.8
MSO	**Missoula**	38.26	73	⇑P	P	13 24 34.8	+0.7
	baz=38						
HRY	**Holter Researc**	39.58	72	*e*P	P	13 24 46.1	+1.0
	comp=Z,6.0nm,0.7s						
HLID	**Hailey**	39.67	78	⇑P	P	13 24 46.5	+0.6
	baz=40						
MCMT	**McKenzie Canyo**	39.94	75	*e*P	P	13 24 48.4	+0.1
	comp=Z,1.8nm,0.5s						
EGMT	**Eagleton**	40.15	69	⇓P	P	13 24 50.3	+0.6
	baz=40,SNR=18						
EGMT	**Eagleton**	40.15	69	*e*P	P	13 24 50.4	+0.6
	comp=Z,15nm,0.6s						
NVAR	**Mina Array Bea**	40.21	87	P	P	13 24 51.3	+0.8
	comp=Z,2.4nm,0.9s,baz=290,slow=9.0,SNR=9.8						
A19A	**Klindworth Far**	40.29	67	⇑P	P	13 24 51.2	+0.4
	baz=40,SNR=6.6						
B19A	**Brinkman Farms**	40.40	68	⇓P	P	13 24 52.6	+0.8
	baz=40,SNR=13						
BOD	**Bodaibo**	40.56	308	*e*P	P	13 24 50.6	-2.3
C19A	**Slack Wire Ran**	40.70	69	⇑P	P	13 24 55.6	+1.3
	baz=41,SNR=28						
A20A	**Cobblestone Ra**	40.78	67	⇓P	P	13 24 55.6	+0.6
	baz=41,SNR=12						
B20A	**Solberg Farm,**	40.95	68	⇑P	P	13 24 56.8	+0.5
	baz=41,SNR=7.5						
D19A	**Cripps Ranch,**	41.09	70	⇓P	P	13 24 58.5	+0.9
	baz=41,SNR=8.8						
A21A	**Bergtoll Ranch**	41.30	66	⇓P	P	13 25 00.1	+0.9
	baz=41,SNR=5.9						
C20A	**Veseth Ranch,**	41.32	68	⇓P	P	13 25 00.2	+0.9
	baz=41,SNR=13						
HIA	**Hailar**	41.32	294	⇓*i*P	P	13 24 58.8	-0.5
HIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
FFC	**Flin Flon**	41.33	56	*e*P	P	13 24 59.2	-0.1
FFC				pmax	pmax		
	comp=Z,11nm,0.9s						
FFC	**Flin Flon**	41.33	56	*e*P	P	13 24 59.2	-0.1
	comp=Z,11nm,0.9s						
VES	**Vestal, Richgr**	41.33	90	⇑P	P	13 24 59.8	+0.3
	baz=41						
E19A	**Rath Farm, Rou**	41.51	71	⇑P	P	13 25 02.0	+1.0
	baz=41,SNR=6.2						
D20A	**Manuel Ranch,**	41.56	69	⇑P	P	13 25 02.0	+0.6
	baz=41						
F19A	**Roth Farm, Mol**	41.73	71	⇓P	P	13 25 03.5	+0.6
	baz=42						
E20A	**Meyer Farm, Mu**	41.87	70	⇓P	P	13 25 04.6	+0.7
	baz=42						
A22A	**Carney Farms,**	41.88	66	⇓P	P	13 25 04.6	+0.7
	baz=42,SNR=11						
H18A	**Shoshone NF, C**	41.94	73	⇓P	P	13 25 05.5	+0.8
	baz=42						
R11A	**Troy Canyon, C**	41.95	85	⇑P	P	13 25 05.7	+0.9
	baz=42						
F20A	**Billings**	42.23	71	⇑P	P	13 25 07.6	+0.6
	baz=42						
D21A	**La Casta Ranch**	42.24	69	⇓P	P	13 25 07.9	+0.9
	baz=42						
FURC	**Furnace Creek,**	42.33	88	⇑P	P	13 25 08.5	+0.9
	baz=42						
H19A	**Powell**	42.35	73	⇑P	P	13 25 08.6	+0.7
	baz=42						
E21A	**Keefer Ranch,**	42.47	69	⇓P	P	13 25 09.5	+0.7
	baz=42						
A23A	**Redstone**	42.48	65	⇓P	P	13 25 09.6	+0.7
	baz=42,SNR=11						
G20A	**Bridger**	42.51	72	⇑P	P	13 25 09.9	+0.7
	baz=42,SNR=11						
C22A	**Vida**	42.53	67	⇓P	P	13 25 09.7	+0.5
	baz=42,SNR=7.2						
DUG	**Dugway, Tooele**	42.56	81	⇓P	P	13 25 10.7	+0.9
	baz=42						
EDW2	**Edwards Air Fo**	42.63	91	⇓P	P	13 25 11.0	+0.8
	baz=42						
D22A	**Cohagen**	42.67	68	⇑P	P	13 25 11.4	+1.0
	baz=42,SNR=13						
B23A	**Brockton**	42.67	66	⇑P	P	13 25 11.0	+0.6
	baz=42,SNR=16						
C23A	**Lambert**	42.91	67	⇓P	P	13 25 13.2	+1.0
	baz=43,SNR=19						
KSRS	**Korea Array**	42.97	275	P	P	13 25 13.8	+1.0
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSRS	**Korea Array**	42.97	275	P	P	13 25 13.8	+1.0
	comp=Z,4.0nm,0.7s,baz=62,slow=8.1,SNR=9.0						
A24A	**Westby**	43.00	65	⇓P	P	13 25 13.9	+0.9
	baz=43,SNR=22						
KSAR	**Wonju Array Be**	43.00	275	P	P	13 25 13.8	+0.7
KSAR	**Wonju Array Be**	43.00	275	P	P	13 25 13.8	+0.7
PDAR	**Pinedale Array**	43.06	76	P	P	13 25 14.6	+0.7
	comp=Z,2.2nm,0.5s,baz=309,slow=3.6,SNR=24						
G21A	**Lodge Grass**	43.10	71	⇓P	P	13 25 14.8	+0.9
	baz=43						
GSC	**Goldstone, Bar**	43.10	89	*e*P	P	13 25 15.3	+1.2
GSC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GSC	**Goldstone, Bar**	43.10	89	⇑P	P	13 25 14.8	+0.8
	baz=43						
GSC	**Goldstone, Bar**	43.10	89	*e*P	P	13 25 15.3	+1.2
	comp=Z,8.6nm,0.8s						
DGMT	**Dagmar**	43.12	66	⇑P	P	13 25 14.7	+0.7
	baz=43						
E22A	**Miles City**	43.19	69	⇓P	P	13 25 15.1	+0.6
	baz=43						
D23A	**Lindsay**	43.22	68	⇓P	P	13 25 15.9	+1.1
	baz=43,SNR=6.9						
I20A	**Worland**	43.26	73	⇓P	P	13 25 16.1	+0.8
	baz=43						
F22A	**Rosebud**	43.36	70	⇓P	P	13 25 16.4	+0.4
	baz=43						
DAU	**Daniels Canyon**	43.40	79	*e*P	P	13 25 17.9	+1.3
DAU	**Daniels Canyon**	43.40	79	*e*P	P	13 25 17.9	+1.3
FCC	**Fort Churchill**	43.43	48	*e*P	P	13 25 16.4	+0.1
FCC	**Fort Churchill**	43.43	48	*e*P	P	13 25 16.4	+0.1
	comp=Z,0.3nm,0.6s						
C24A	**Savage**	43.49	67	⇑P	P	13 25 18.2	+1.2
	baz=43,SNR=6.9						
A25A	**Svangstu Ranch**	43.49	64	⇓P	P	13 25 17.7	+0.7
	baz=43,SNR=12						
E23A	**Ismay**	43.53	69	⇑P	P	13 25 18.4	+1.1
	baz=43						
J20A	**Shoshoni**	43.62	74	⇑P	P	13 25 19.1	+0.9
	baz=44						
G22A	**Birney**	43.65	71	⇓P	P	13 25 18.8	+0.5
	baz=44						
D24A	**Glendive**	43.76	67	⇓P	P	13 25 20.5	+1.3
	baz=44,SNR=8.2						
B25A	**Knox Farm, Ray**	43.82	65	⇑P	P	13 25 20.3	+0.7
	baz=44,SNR=5.0						
I21A	**Big Trails, Te**	43.84	73	⇑P	P	13 25 20.3	+0.3
	baz=44						
F23A	**Volborg**	43.89	70	⇑P	P	13 25 20.9	+0.7
	baz=44,SNR=11						
H22A	**Clearmont**	43.96	71	⇓P	P	13 25 21.2	+0.3
	baz=44						
E24A	**Baker**	44.07	68	⇓P	P	13 25 22.5	+0.8
	baz=44						
A26A	**Wade Farm, Ken**	44.12	64	⇑P	P	13 25 22.7	+0.7
	baz=44						
G23A	**Biddle**	44.19	70	⇑P	P	13 25 23.3	+0.6
	baz=44						
I22A	**9 Mile Ranch,**	44.27	72	⇓P	P	13 25 24.0	+0.6
	baz=44						
B26A	**Jensen Ranch,**	44.29	65	⇑P	P	13 25 23.8	+0.5
	baz=44						
F24A	**Ekalaka**	44.38	69	⇓P	P	13 25 24.6	+0.4
	baz=44,SNR=7.4						
K21A	**Alcova**	44.53	74	⇑P	P	13 25 25.8	+0.2
	baz=44						
A27A	**Ledoux Ranch,**	44.54	63	⇓P	P	13 25 25.6	+0.2
	baz=44						
J22A	**Midwest**	44.55	73	⇓P	P	13 25 26.1	+0.4
	baz=44,SNR=5.1						
E25A	**Miller Ranch,**	44.63	68	⇓P	P	13 25 26.6	+0.4
	baz=44						
C26A	**Wahner Farm, P**	44.66	65	⇑P	P	13 25 26.7	+0.3
	baz=44,SNR=6.4						
B27A	**Peters Farms,**	44.82	64	⇓P	P	13 25 28.3	+0.7
	baz=45						
D26A	**Manning**	44.90	66	⇑P	P	13 25 28.2	-0.1
	baz=45						
F25A	**Bowman**	44.91	68	⇑P	P	13 25 29.2	+0.8
	baz=45						
C27A	**Sayler Ranch,**	45.06	65	⇓P	P	13 25 29.9	+0.5
	baz=45						
W13A	**Hualapai Mount**	45.06	87	⇓P	P	13 25 30.1	+0.2
	baz=45						
A28A	**Rude Farm, Bot**	45.11	63	⇓P	P	13 25 30.2	+0.3
	baz=45,SNR=5.0						
E26A	**Carlson Angus**	45.19	67	⇑P	P	13 25 31.3	+0.7
	baz=45,SNR=8.5						
U15A	**North Rim**	45.20	85	⇑P	P	13 25 31.4	+0.3
	baz=45						
B28A	**Dugan Ranch, T**	45.30	64	⇑P	P	13 25 32.0	+0.6
	baz=45,SNR=5.4						
I24A	**Kuemmerle Ranc**	45.40	71	⇑P	P	13 25 32.7	+0.3
	baz=45						
O20A	**White River Ci**	45.41	78	⇓P	P	13 25 32.7	+0.1
	baz=45						
F26A	**Lodgepole**	45.41	68	⇓P	P	13 25 33.3	+0.9
	baz=45						
H25A	**Fruitdale**	45.57	70	⇓P	P	13 25 33.8	+0.1
	baz=45						
RSSD	**Black Hills**	45.59	71	*e*P	P	13 25 34.5	+0.5
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.5s						
RSSD	**Black Hills**	45.59	71	*e*P	P	13 25 34.5	+0.5
	comp=Z,2.5nm,0.5s						
A29A	**Manning Farm,**	45.67	63	⇓P	P	13 25 34.6	+0.2
	baz=46,SNR=7.4						
J24A	**Dixon Ranch, L**	45.68	72	⇓P	P	13 25 34.9	+0.3
	baz=46						
E27A	**Carson**	45.73	67	⇑P	P	13 25 35.0	+0.2
	baz=46						
G26A	**Maurine**	45.77	69	⇑P	P	13 25 35.6	+0.4
	baz=46,SNR=9.1						
L23A	**Garrett**	45.77	74	⇓P	P	13 25 36.0	+0.6
	baz=46,SNR=5.1						
F27A	**Lemmon**	45.78	68	⇑P	P	13 25 35.7	+0.4
	baz=46,SNR=10						
I25A	**Rochford**	45.83	71	⇑P	P	13 25 35.7	-0.1
	baz=46						
B29A	**Wagenman Farm,**	45.86	63	⇓P	P	13 25 36.4	+0.6
	baz=46						
D28A	**Regan**	45.87	65	⇓P	P	13 25 36.9	+0.9
	baz=46,SNR=9.0						
E28A	**Huff**	46.15	66	⇓P	P	13 25 38.9	+0.8
	baz=46						
J25A	**Sunshine Ranch**	46.16	71	⇓P	P	13 25 38.7	+0.3
	baz=46						
A30A	**Hoffart Farm,**	46.18	62	⇓P	P	13 25 38.6	+0.2
	baz=46,SNR=6.5						
L24A	**Wheatland**	46.27	74	⇑P	P	13 25 39.6	+0.3
	baz=46						
I26A	**New Underwood**	46.34	70	⇓P	P	13 25 40.2	+0.5
	baz=46						
B30A	**Myrvik Farm, E**	46.43	63	⇑P	P	13 25 40.1	-0.3
	baz=46,SNR=7.4						
PV01	**Paradox Valley**	46.43	80	*e*P	P	13 25 40.6	-0.1
	comp=Z,350nm,0.5s						
D29A	**Pettibone, Tap**	46.50	65	⇓P	P	13 25 41.1	+0.2
	baz

	comp=Z,4.0nm,0.5s						
TLY	Talaya	48.79	305	eP	P	13 25 57.6	-1.0
	comp=Z,4.2nm,0.5s						
S24A	Houchin Ranch,	48.81	78	⇓P	P	13 25 59.7	+0.5
	baz=49						
Q26A	Hugo	49.03	76	⇑P	P	13 26 01.4	+0.6
	baz=49						
U23A	El Rito	49.05	80	⇑P	P	13 26 01.8	+0.8
	baz=49						
ULN	Ulaanbaatar	49.17	299	⇓iP	P	13 26 01.5	-0.2
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	Ulaanbaatar	49.17	299	eP	P	13 26 01.4	-0.4
	comp=Z,5.9nm,0.9s						
S25A	Robets Cordova	49.27	78	⇓P	P	13 26 02.9	+0.2
	baz=49						
V23A	Ortiz Mt. (NFS	49.43	81	⇑P	P	13 26 04.2	+0.3
	baz=49						
R26A	Arlington	49.47	77	⇓P	P	13 26 04.2	+0.2
	baz=49						
SONM	Songino Array	49.55	299	P	P	13 26 04.6	+0.1
	comp=Z,5.1nm,0.7s,baz=50,slow=7.5,SNR=40						
SONM				pP	pP	13 26 15.8	+0.1
	comp=Z,1.8nm,0.6s,baz=50,slow=8.2,SNR=7.2						
T25A	Trinidad	49.62	78	⇓P	P	13 26 05.5	+0.2
	baz=50						
ZAK	Zakamensk	49.72	304	eP	P	13 26 04.9	-0.9
ZAK				e		13 27 25.1	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
R27A	Eads	49.87	76	⇓P	P	13 26 07.4	+0.3
	baz=50						
S26A	Kim	49.88	77	⇓P	P	13 26 07.5	+0.3
	baz=50						
V24A	Rampart Ranch,	50.00	80	⇓P	P	13 26 08.7	+0.4
	baz=50						
T26A	Comanche Natio	50.10	78	⇑P	P	13 26 09.2	+0.2
	baz=50						
U25A	Circle Dot Ran	50.10	79	⇑P	P	13 26 08.9	0.0
	baz=50						
ECSD	EROS Data Cent	50.15	67	⇑P	P	13 26 08.4	-0.6
	baz=50,SNR=8.6						
ECSD	EROS Data Cent	50.15	67	eP	P	13 26 08.3	-0.7
	comp=Z,3.5nm,0.5s						
V25A	Rancho No Teng	50.33	80	⇓P	P	13 26 11.6	+0.8
	baz=50						
BGNE	Belgrade	50.69	70	⇑P	P	13 26 13.7	+0.5
	baz=50						
Y23A	Lovelace Mesa,	50.70	83	⇓P	P	13 26 14.0	+0.5
	baz=51						
W25A	X Bar L Ranch,	50.84	80	⇑P	P	13 26 14.9	+0.4
	baz=51						
HHC	Hu-ho-hao-te	50.84	289	eP	P	13 26 15.2	+0.8
HHC				sP	sP	13 26 29.2	-0.9
HHC				PP	PP	13 28 11.8	+1.2
HHC				S	S	13 33 28.1	+0.3
HHC				sS	sS	13 33 44.2	-2.0
HHC				PMZ			
	comp=Z,16nm,0.8s						
HHC				PMZ			
	comp=Z,260nm,7.8s						
HHC				LN			
	comp=Z,410nm,16.0s						
HHC				LE			
	comp=Z,440nm,16.0s						
HHC				LZ			
	comp=Z,690nm,18.5s						
S28A	Manter	50.86	76	⇓P	P	13 26 15.1	+0.5
	baz=51						
V26A	Tequesquite Ra	50.87	79	⇑P	P	13 26 15.2	+0.4
	baz=51						
U27A	Thompson Grove	51.05	78	⇑P	P	13 26 16.1	+0.1
	baz=51						
Y24A	Capitan	51.09	82	⇓P	P	13 26 16.7	+0.2
	baz=51						
P31A	Stockton	51.15	73	⇑P	P	13 26 17.1	+0.5
	baz=51						
SPMN	Marine on St.	51.40	63	⇓P	P	13 26 18.5	+0.2
	baz=51						
R30A	Dighton	51.40	75	⇓P	P	13 26 18.8	+0.2
	baz=51						
T31A	Randall Ranch,	52.53	75	⇑P	P	13 26 27.4	+0.4
	baz=52						
Z29A	Hungry Hill Ra	53.84	80	⇑P	P	13 26 37.0	+0.3
	baz=54						
HVS	Khovu-Aksy	54.09	309	⇑iP	P	13 26 38.3	0.0
HVS				pmax	pmax		
	comp=Z,17nm,0.6s						
Z32A	Haskell	55.17	79	⇑P	P	13 26 46.4	+0.1
	baz=55						
TXAR	Lajitas Array	55.32	85	P	P	13 26 47.6	+0.1
	comp=Z,0.7nm,0.6s,baz=297,slow=4.9,SNR=9.9						
TXAR				pP	pP	13 26 59.5	+0.7
	comp=Z,2.5nm,0.7s,baz=296,slow=4.7,SNR=14						
429A	Davenport Ranc	55.52	83	⇑P	P	13 26 49.2	+0.3
	baz=55						
529A	Stev Forest Ra	55.67	83	⇑P	P	13 26 49.9	0.0
	baz=56						
430A	Baggett Ranch,	55.82	82	⇑P	P	13 26 51.1	+0.1
	baz=56						
Z34A	Collier Ranch,	56.09	78	⇓P	P	13 26 52.6	-0.3
	baz=56						
530A	J-C Ranch, Com	56.20	83	⇓P	P	13 26 53.6	-0.1
	baz=56						
431A	Sonora	56.28	82	⇑P	P	13 26 54.0	-0.3
	baz=56						
ZALV	Zalesovo Beam	56.33	316	iP	P	13 26 57.7	+3.5
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	56.33	316	P	P	13 26 53.5	-0.8
	comp=Z,0.6nm,0.5s,baz=68,slow=8.0,SNR=3.2						
332A	Millersview	56.33	81	⇑P	P	13 26 55.0	+0.4
	baz=56						
333A	Richland Sprin	56.84	80	⇓P	P	13 26 58.6	+0.4
	baz=57						
XAN	Xi'an	56.90	284	P	P	13 26 58.5	-0.2
XAN				pP	pP	13 27 08.6	-1.4
XAN				PMZ			
	comp=Z,3.0nm,1.1s						
433A	Art	57.17	81	⇑P	P	13 27 00.3	-0.2
	baz=57						
631A	Perdido Creek	57.19	83	⇑P	P	13 27 00.5	-0.2
	baz=57						
334A	Lometa	57.29	80	⇑P	P	13 27 01.6	+0.1
	baz=57						
434A	Burnet	57.63	80	⇓P	P	13 27 04.1	+0.2
	baz=58						
SFIN	Lafayette	57.73	64	⇓P	P	13 27 04.6	+0.3
	baz=58						
SCHQ	Schefferville	57.78	41	P	P	13 27 04.4	-0.2
	comp=Z,3.4nm,0.5s,baz=327,slow=6.6,SNR=7.9						
KEV	Kevo	58.15	352	eP	P	13 27 06.6	-0.2
KEV	Kevo	58.15	352	ep	P	13 27 06.6	-0.2
	comp=Z,0.4nm,0.3s						
ARCES	ARCESS Array B	58.49	352	P	P	13 27 08.2	-1.1
	comp=Z,3.4nm,0.6s,baz=18,slow=8.1,SNR=10						
ARCES				PcP	PcP	13 27 58.8	-0.7
	comp=Z,5.1nm,0.7s,baz=20,slow=5.5,SNR=7.6						
LZH	Lanzhou	58.53	290	eP	P	13 27 11.8	+1.5
LZH				pP	pP	13 27 21.9	+0.3
LZH				sP	sP	13 27 25.9	-0.1
LZH				PMZ			
	comp=Z,22nm,1.2s						
LZH				LN			
	comp=Z,230nm,12.2s						
LZH				LE			
	comp=Z,920nm,18.1s						
LZH				LZ			
	comp=Z,840nm,18.2s						
GTA	Gaotai	58.59	295	⇑P	P	13 27 10.5	-0.1
GTA				pP	pP	13 27 20.6	-1.3
GTA				sP	sP	13 27 24.6	-1.8
GTA				S	S	13 35 09.0	-2.9
GTA				sS	sS	13 35 25.9	-4.7
GTA				SS	SS	13 39 03.0	-1.3
GTA				PMZ			
	comp=Z,10.0nm,1.2s						
GTA				PMZ			
	comp=Z,62nm,5.0s						
GTA				LN			
	comp=Z,160nm,16.1s						
GTA				LE			
	comp=Z,280nm,17.3s						
GTA				LZ			
	comp=Z,250nm,18.8s						
ALLY	Alegheny Colle	60.68	59	eP	P	13 27 25.1	+0.4
	comp=Z,22nm,0.8s						
KURK	Kurchatov	61.31	316	eP	P	13 27 28.3	-0.5
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	Kurchatov	61.31	316	eP	P	13 27 28.3	-0.5
	comp=Z,3.2nm,0.6s						
WMQ	Urumqi	62.04	306	eP	P	13 27 36.6	+2.6
WMQ				pP	pP	13 27 47.0	+1.6
WMQ				PP	PP	13 29 55.4	+5.1
WMQ				S	S	13 35 57.1	+1.3
WMQ				sS	sS	13 36 14.0	-0.6
WMQ				ScS	SKKSac	13 37 22.1	-0.6
WMQ				SS	SS	13 40 01.4	+3.5
WMQ				PMZ			
	comp=Z,6.0nm,1.0s						
WMQ				PMZ			
	comp=Z,140nm,6.5s						
WMQ				LN			
	comp=Z,600nm,20.0s						
WMQ				LE			
	comp=Z,1μm,20.0s						
WMQ				LZ			
	comp=Z,1μm,20.0s						
CD2	Chengdu	62.20	285	eP	P	13 27 36.4	+1.2
MK31	Makanchi Array	62.53	311	iP	P	13 27 36.1	-1.1
MK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	Makanchi Array	62.53	311	P	P	13 27 36.4	-0.8
	comp=Z,2.2nm,0.5s,baz=48,slow=6.1,SNR=68						
SSPA	Standing Stone	62.60	59	eP	P	13 27 37.9	+0.1
	comp=Z,4.6nm,0.6s						
ACCN	Adirondack Com	62.83	54	eP	P	13 27 39.4	+0.3
	comp=Z,34nm,1.3s						
BVA0	Borovoye Array	62.90	322	iP	P	13 27 39.5	0.0
BVA0				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BRVK	Borovoye	62.92	323	⇑eP	P	13 27 39.6	0.0
BRVK				pmax	pmax		
	comp=Z,11nm,1.5s						
GYA	Guiyang	63.62	280	eP	P	13 27 45.0	+0.2
GYA				PMZ			
	comp=Z,10.0nm,0.9s						
BLA	Blacksburg	63.67	63	eP	P	13 27 45.4	+0.5
BLA				pmax	pmax		
	comp=Z,13nm,0.8s						
BLA	Blacksburg	63.67	63	eP	P	13 27 45.4	+0.5
	comp=Z,13nm,0.8s						
ARU	Arti	64.20	331	diP	P	13 27 47.9	-0.1
ARU				S	S	13 36 23.1	+0.9
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ARU	Arti	64.20	331	eP	P	13 27 46.7	-1.3
	comp=Z,5.4nm,0.4s						
JOF	Joensuu	64.27	348	eP	P	13 27 46.4	-2.0
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JOF	Joensuu	64.27	348	ep	P	13 27 46.4	-2.0
	comp=Z,1.7nm,0.5s						
KMSC	Kings Mountain	64.64	65	⇑P	P	13 27 51.7	+0.5
	baz=64						
KMSC	Kings Mountain	64.64	65	eP	P	13 27 51.5	+0.2
	comp=Z,15nm,0.9s						
KAF	Kangasniemi	65.66	350	eP	P	13 27 55.9	-1.5
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KAF	Kangasniemi	65.66	350	ep	P	13 27 55.9	-1.5
	comp=Z,1.5nm,0.4s						
FINES	FINESS Array B	66.34	350	P	P	13 28 00.3	-1.5
	comp=Z,0.7nm,0.3s,baz=18,slow=8.4,SNR=8.2						
FINES				PcP	PcP	13 28 30.8	-0.6
	comp=Z,2.1nm,0.5s,baz=40,slow=3.4,SNR=7.2						
KMI	Kunming	67.00	282	P	P	13 28 06.6	-0.3
KMI				pP	pP	13 28 20.3	+1.9
KMI				PMZ			
	comp=Z,5.0nm,0.6s						
NB2	NORSAR Subarra	67.76	358	P	P	13 28 10.4	-0.5
	comp=Z,0.7nm,0.5s,baz=5.2,slow=6.9						
NOA	NORSAR Array B	67.76	358	P	P	13 28 09.5	-1.4
	comp=Z,1.0nm,0.6s,baz=3.0,slow=6.3,SNR=4.3						
NOA				pP	pP	13 28 22.2	-0.2
	comp=Z,0.7nm,0.6s,baz=4.8,slow=6.6,SNR=2.7						
TKM2	Tokmak 2	68.57	313	P	P	13 28 17.4	+0.9
	SNR=5.8						
TKM2	Tokmak 2	68.57	313	eP	P	13 28 17.0	+0.5
TKM2				pmax	pmax		
	comp=Z,8.0nm,1.2s						
TKM2	Tokmak 2	68.57	313	eP	P	13 28 17.0	+0.5
	comp=Z,8.2nm,1.2s						
USP	Ospenovka	68.80	313	P	P	13 28 18.2	+0.5
	SNR=9.4						
USP	Ospenovka	68.80	313	iP	P	13 28 18.2	+0.5
KBK	Karagaybulak	69.07	313	P	P	13 28 11.9	-7.6
	SNR=6.7						
AAK	Ala-Archa	69.30	313	P	P	13 28 21.8	+0.8
	SNR=11						
AAK	Ala-Archa	69.30	313	eP	P	13 28 21.7	+0.8
AAK				pmax	pmax		
	comp=Z,14nm,0.9s						
AAK	Ala-Archa	69.30	313	eP	P	13 28 21.7	+0.8
	comp=Z,14nm,0.9s						
EKS2	Erkin-Say	69.60	313	P	P	13 28 23.6	+0.8
	SNR=8.6						
EKS2	Erkin-Say	69.60	313	eP	P	13 28 23.4	+0.6
EKS2				pmax	pmax		
	comp=Z,12nm,0.8s						
EKS2	Erkin-Say	69.60	313	eP	P	13 28 23.4	+0.6
	comp=Z,12nm,0.8s						
AB31	Akbulak array	69.80	326	iP	P	13 28 23.5	-0.2
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AML	Almayashu	70.06	313	P	P	13 28 27.2	+1.3
	SNR=15						
LSA	Lhasa	70.51	293	eP	P	13 28 30.7	+1.7
LSA				e		13 28 43.4	
LSA				pmax	pmax		
	comp=Z,20nm,0.6s						
LSA	Lhasa	70.51	293	eP	P	13 28 30.7	+1.7
	comp=Z,20nm,0.6s						
LSA				e		13 28 43.4	
KSH	Kashi	71.05	310	P	P	13 28 35.4	+3.7
KSH				sP	sP	13 28 47.3	-0.4
KSH				PP	PP	13 31 15.3	+6.4
KSH				S	S	13 37 48.3	+3.2
KSH				sS	sS	13 38 05.2	+0.9
KSH				ScS	ScS	13 38 32.5	-0.3
KSH				SS	SS	13 42 25.3	+7.5
KSH				PMZ			
	comp=Z,14nm,0.6s						
KSH				PMZ			
	comp=Z,95nm,4.0s						
KSH				LN			
	comp=Z,94nm,5.0s						
KSH				LE			
	comp=Z,190nm,6.9s						
KSH				LZ			
	comp=Z,620nm,15.7s						
VRHR	Novokhopersk	73.55	338	eP	P	13 28 44.6	-1.6
VRHR				pmax	pmax		
	comp=N,7.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VSR	Storozhevoye	74.00	339	eP	P	13 28 47.9	-0.9
VSR				pmax	pmax		
	comp=N,8.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,5.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TAPN	Taplejung	74.26	294	eP	P	13 28 51.9	+0.8
	comp=Z,48nm,0.9s						
CMAR	Chiang Mai Arr	74.31	280	P	P	13 28 51.2	+0.1
	comp=Z,1.7nm,0.8s,baz=28,slow=6.5,SNR=10						
ODAN	Odare	74.82	294	eP	P	13 28 54.9	+0.6
GUN	Gumba	74.87	296	eP	P	13 28 55.5	+0.8
	comp=Z,31nm,0.4s						
JIRN	Jiri	74.89	295	eP	P	13 28 55.8	+0.9
	comp=Z,68nm,0.7s						
RAMN	Ramite	75.20	295	eP	P	13 28 57.1	+0.6
	comp=Z,63nm,0.8s						
KKN	Kakani	75.30	296	eP	P	13 28 57.8	+0.8
PKI	Pulchoki	75.39	296	eP	P	13 28 58.2	+0.5
	comp=Z,42nm,1.0s						
PKIN	Phulchoki	75.40	296	eP	P	13 28 58.0	+0.3
	comp=Z,32nm,1.0s						
GKN	Gorkha	75.50	297	eP	P	13 28 58.6	+0.5
	comp=Z,63nm,0.9s						
DMN	Daman	75.54	296	eP	P	13 28 59.1	+0.6
	comp=Z,36nm,0.8s						
DANN	Dangsing	75.72	298	eP	P	13 29 00.2	+0.7
	comp=Z,100nm,0.8s						
KOLN	Koldanda	76.25	297	eP	P	13 29 02.9	+0.4
	comp=Z,29nm,0.8s						
AKASG	Malin Array Be	76.38	345	P	P	13 29 01.6	-0.9
	comp=Z,2.8nm,0.4s,baz=17,slow=6.1,SNR=7.9						
KIEV	Kiev	76.39	345	⇓iP	P	13 29 01.6	-1.0
KIEV	Kiev	76.39	345	eP	P	13 29 01.4	-1.1
	comp=Z,3.9nm,0.7s						
CLL	Collm	77.43	356	iP	P	13 29 09.1	+0.7
CLL				e		13 29 21.0	
CLL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CLL	Collm	77.43	356	iP	P	13 29 09.1	+0.7
	comp=Z,4.0nm,0.6s						
CLL				epP	pP	13 29 21.0	+0.9
BRG	Berggiesshubel	77.82	355	eP	P	13 29 10.4	-0.2
	comp=Z,5.1nm,0.6s						
BRG	Berggiesshubel	77.82	355	eP	P	13 29 10.4	-0.2
BRG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRG				MLR	MLR		
	comp=N,2μm,11.3s						
BRG				MLR	MLR		
	comp=E,3μm,9.2s						
BRG				MLR	MLR		
	comp=Z,2μm,17.3s						
KBL	Kabul	78.33	312	eP	P	13 29 13.4	-0.6
KBL				pmax	pmax		
	comp=Z,18nm,1.1s						
KBL	Kabul	78.33	312	eP	P	13 29 13.4	-0.6
	comp=Z,18nm,1.1s						
STHS	Stebnicka Huta	78.69	350	eP	P	13 29 16.4	+0.9
STHS				pmax	pmax		
	comp=Z,4.0nm,1.2s						
STHS	Stebnicka Huta	78.69	350	eP	P	13 29 16.4	+0.9
BAIF	Baives	78.81	2	eP	P	13 29 16.2	+0.1
BAIF	Baives	78.81	2	eP	P	13 29 16.2	+0.1
BAIF	Baives	78.81	2	eP	P	13 29 16.2	+0.1
VYHS	Vyhne	79.84	352	eP	P	13 29 21.7	-0.1
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.4s						
VYHS	Vyhne	79.84	352	eP	P	13 29 21.7	-0.1
GERES	GERESS Array B	79.86	355	P	P	13 29 21.9	-0.1
	comp=Z,1.5nm,0.7s,baz=6.8,slow=4.9,SNR=3.7						
KIV	Kislovodsk	79.91	334	eP	P	13 29 24.6	+2.3
KIV				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GEYT	Alibeck	80.19	321	P	P	13 29 24.6	+0.8
	comp=Z,6.0nm,0.9s,baz=328,slow=5.3,SNR=9.5						
CDF	Champ du Feu	80.47	360	eP	P	13 29 25.5	+0.2
	comp=Z,4.1nm,0.5s						
CDF	Champ du Feu	80.47	360	eP	P	13 29 25.5	+0.2
CDF				pmax	pmax		
	comp=Z,4.0nm,0.4s						
CDF	Champ du Feu	80.47	360	eP	P	13 29 25.5	+0.2
	comp=Z,4.1nm,0.4s						
SFTF	Sexfontaines	80.67	1	eP	P	13 29 26.7	+0.4
SFTF	Sexfontaines	80.67	1	eP	P	13 29 26.7	+0.4
HAU	Haudompre	80.88	0	eP	P	13 29 27.6	+0.2
HAU	Haudompre	80.88	0	eP	P	13 29 27.6	+0.2
HAU	Haudompre	80.88	0	eP	P	13 29 27.6	+0.2
HINF	Hinteralfeld	81.07	360	eP	P	13 29 28.4	0.0
	comp=Z,6.0nm,0.5s						
HINF	Hinteralfeld	81.07	360	eP	P	13 29 28.4	0.0
HINF				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HINF	Hinteralfeld	81.07	360	eP	P	13 29 28.4	0.0
	comp=Z,6.0nm,0.5s						
LOR	Lormes	81.59	2	eP	P	13 29 31.5	+0.3
	comp=Z,5.0nm,0.6s						
LOR	Lormes	81.59	2	eP	P	13 29 31.5	+0.3
LOR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LOR	Lormes	81.59	2	eP	P	13 29 31.5	+0.3
	comp=Z,5.0nm,0.6s						
SSF	Saint Saulge	81.79	2	eP	P	13 29 32.5	+0.3
SSF	Saint Saulge	81.79	2	eP	P	13 29 32.5	+0.3
SSF	Saint Saulge	81.79	2	eP	P	13 29 32.5	+0.3
AVF	Avril sur Loir	82.06	2	eP	P	13 29 33.8	+0.2
AVF	Avril sur Loir	82.06	2	eP	P	13 29 33.8	+0.2
AVF	Avril sur Loir	82.06	2	eP	P	13 29 33.8	+0.2
SMF	Signal de Mont	82.22	2	eP	P	13 29 34.6	+0.1
	comp=Z,7.2nm,0.7s						
SMF	Signal de Mont	82.22	2	eP	P	13 29 34.6	+0.1
SMF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SMF	Signal de Mont	82.22	2	eP	P	13 29 34.6	+0.1
	comp=Z,7.2nm,0.7s						
TCF	Toulx Ste Croi	82.53	3	eP	P	13 29 36.2	+0.1
TCF	Toulx Ste Croi	82.53	3	eP	P	13 29 36.2	+0.1
TCF	Toulx Ste Croi	82.53	3	eP	P	13 29 36.2	+0.1
WRA	Warramunga Arr	84.50	228	P	P	13 29 45.5	-0.9
	comp=Z,0.6nm,0.7s,baz=35,slow=6.2,SNR=7.5						
WRA				pP	pP	13 29 58.6	+0.4
	comp=Z,1.4nm,0.6s,baz=32,slow=5.7,SNR=8.2						
BRTR	Keskin Array B	86.13	339	ceP	P	13 29 55.7	+1.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	Keskin Array B	86.13	339	P	P	13 29 55.3	+0.7
	comp=Z,2.2nm,0.6s,baz=43,slow=3.0,SNR=8.8						
BRTR				pP	pP	13 30 07.2	+0.7
	comp=Z,1.5nm,0.7s,baz=23,slow=2.9,SNR=3.4						
AS31	Alice Springs	87.92	227	eP	P	13 30 03.5	+0.3
ASAR	Alice Springs	87.92	227	P	P	13 30 03.0	-0.1
	comp=Z,1.5nm,0.8s,baz=25,slow=5.1,SNR=15						
ASAR				pP	pP	13 30 16.1	+1.1
	comp=Z,2.8nm,0.7s,baz=28,slow=4.5,SNR=15						
ESDC	Sonseca Array	88.75	8	P	P	13 30 07.2	+0.1
	comp=Z,0.5nm,0.4s,baz=341,slow=4.5,SNR=6.1						

DJA 10 13:36:36.9±2.6, 2°N±19°×12°4E±1°4, h58km±28km, M3.6/4, MLv3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.04	162	P	Pn	13 36 55.5	+0.1
KMSI				S	Sn	13 37 09.8	+0.6
GTOI	Gorontalo	1.13	215	P	Pn	13 36 56.4	-0.2
MRSI	Marisa	2.02	238	P	Pn	13 37 08.9	+0.2
APSI	Ampana	3.17	219	P	Pn	13 37 24.2	-0.2

*BJI **10** 13:37:57.3, 42°.60N×19°.74E, h10km, mB5.1/23, mb4.8/42, Ms5.2/19, Ms7 4.9/18*
*TIR **10** 13:37:58.4, 42°.77N×20°.67E, h20km, ML5.1*
*PDG **10** 13:38:03.7±0.5, 42°.75N×20°.62E, h11km, MD4.6/11, ML4.6/10, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*SKO **10** 13:38:03.6, 42°.75N×20°.54E, h0km, M2.8, ML4.7*
*THE **10** 13:38:03.5, 42°.76N×20°.60E, h0km±1km, ML4.8/4, Error ellipse: s-maj=1.9km s-min=0.9km az=70.0*
*LDG **10** 13:38:03.5±0.1, 42°.78N×20°.58E, h10km, Ml4.2/19, Error ellipse: s-maj=2.0km s-min=1.5km az=21.0*
*CSEM **10** 13:38:04.5±0.1, 42°.75N×20°.59E, h10km, mb4.9/35, ML4.6/6, Mw4.6, Error ellipse: s-maj=1.8km s-min=1.4km az=42.0*
*NEIC **10** 13:38:04.2±0.2, 42°.77N×20°.56E, h10km, mb4.9/24, MW4.6, ML4.6(PDG), ML4.8(SKO), ML5.1(TIR), Error ellipse: s-maj=3.5km s-min=3.3km az=193.0 Best double couple: NP1:φ=169.00000°, δ63.00000°, λ=-152.00000°. NP2:φ=65.00000°, δ65.00000°, λ=-30.00000°. Principal axes: T 1.0400, Plg1.0000°, Azm117.0000°; N 0.0000, Plg51.0000°, Azm208.0000°; P -1.0400, Plg38.0000°, Azm26.0000°;*
NEIC Felt [V] at Kosovska Mitrovica, [IV] at Pec and Pristina and [III] at Urosevac, Kosovo. Also felt at Gnjilane, Kosovo Polje and Prizren. Felt [II] at Belgrade, Serbia. Also felt at Kraljevo. Felt [II] at Skopje, Macedonia. Also felt at Kumanovo and Tetovo. Felt at Pljevlja and Niksic, Montenegro; Skiathos, Thessaloniki and Volos, Greece; Sofia, Bulgaria.
*MOS **10** 13:38:04.6±1.6, 42°.77N×20°.32E, h33km, mb5.0/25, MS4.3/11 Error ellipse: s-maj=4.0km s-min=3.0km az=106.2*
*BEO **10** 13:38:04.7±0.2, 42°.72N×20°.60E, h5km±3km, ML4.7/1*
*ISCJB **10** 13:38:04.0±0.2, 42°.772N±0°.009×20°.60E±0°.01,*

h17km±1km, mb4.7/81, MS4.3/14, Error ellipse: s-maj=1.8km s-min=1.3km az=42.0
*PRU **10** 13:38:06.0, 42°.82N×20°.68E, h0km, M4.8*
*IDC **10** 13:38:07.3±1.8, 42°.82N×20°.54E, h31km±13km, mb4.3/26, mb1 4.4/44, mb1mx4.4/56, mbtmp4.4/44, ML4.1/16, MS4.0/15, Ms1 4.0/15, ms1mx3.8/52, Error ellipse: s-maj=9.4km s-min=7.0km az=33.0*
*SZGRF **10** 13:38:07.1, 42°.87N×20°.74E, h10km, mb4.8, Northwestern Balkan Peninsula*
*SOF **10** 13:38:11.6, 42°.67N×21°.43E, h6km, MD4.2*
ISC 10 13:38:05.1±0.4, 42°.74N±0°.01×20°.60E±0°.01, h16km±2km, n1165, σ1°29/1209, mb4.7/81, MS4.4/14, 157C-141D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PEJK	**Peje**	**0.26**	**248**	P		**Pg**	**13 38 09.4**	**-1.3**
PEJK				S		**Sg**	**13 38 13.4**	**-1.2**
ZATK	**Zatriq**	**0.29**	**176**	P		**Pg**	**13 38 09.7**	**-1.7**
PVY	**Plav**	**0.49**	**253**	⇑*i*Pg		**Pg**	**13 38 13.3**	**-1.7**
PVY				*e*Sg		**Sg**	**13 38 20.6**	**-1.0**
PVY	**Plav**	**0.49**	**253**	⇑P		**Pg**	**13 38 13.3**	**-1.7**
PVY				S		**Sg**	**13 38 20.6**	**-1.0**
BEY	**Berane**	**0.54**	**285**	P		**Pg**	**13 38 14.4**	**-1.4**
BEY				*e*Sg		**Sg**	**13 38 22.2**	**-0.8**
IVA	**Berane**	**0.54**	**285**	⇑*i*Pg		**Pg**	**13 38 14.3**	**-1.5**
IVA				*e*Sg		**Sg**	**13 38 22.2**	**-0.8**
BCI	**Bajram Curri**	**0.54**	**227**	*i* PG		**Pg**	**13 38 14.0**	**-1.8**
BCI				*i* SG		**Sg**	**13 38 21.9**	**-1.2**
BCI	**Bajram Curri**	**0.54**	**227**	*i* Pg		**Pg**	**13 38 14.0**	**-1.8**
BCI				*i* Sg		**Sg**	**13 38 21.9**	**-1.2**
BCI	**Bajram Curri**	**0.54**	**227**	P		**Pg**	**13 38 14.0**	**-1.8**
BCI				S		**Sg**	**13 38 21.9**	**-1.2**
PRZK	**Prizren**	**0.54**	**167**	P		**Pg**	**13 38 13.9**	**-1.9**
PRZK				S		**Sb**	**13 38 24.1**	**+0.4**
SELS	**Selova**	**0.61**	**38**	⇑*i*Pg		**Pg**	**13 38 15.8**	**-1.4**
SELS	**Selova**	**0.61**	**38**	⇑*i*Pg		**Pg**	**13 38 15.8**	**-1.4**
GJIK	**Gjilan**	**0.68**	**114**	P		**Pg**	**13 38 17.3**	**-1.1**
GJIK				S		**Sg**	**13 38 26.6**	**-0.8**
SJES	**Sjenica**	**0.69**	**319**	⇑*i*Pg		**Pg**	**13 38 17.2**	**-1.5**
SJES				*e*Sg		**Sg**	**13 38 27.4**	**-0.6**
PUK	**Puka**	**0.87**	**217**	*i* PG		**Pb**	**13 38 20.6**	**-1.2**
PUK				*i* SG		**Sn**	**13 38 35.0**	**-0.1**
PUK	**Puka**	**0.87**	**217**	*i* Pg		**Pb**	**13 38 20.6**	**-1.2**
PUK				*i* Sg		**Sn**	**13 38 35.0**	**-0.1**
BARS	**Barje**	**0.90**	**85**	*e*Pg		**Pb**	**13 38 21.4**	**-0.9**
BARS				*e*Sg		**Sb**	**13 38 34.1**	**+0.1**
BARS	**Barje**	**0.90**	**85**	*e*Pg		**Pb**	**13 38 21.4**	**-0.9**
BARS				*e*Sg		**Sb**	**13 38 34.1**	**+0.1**
IVAS	**Ivanjica**	**0.90**	**339**	*e*Pg		**Pb**	**13 38 21.0**	**-1.3**
IVAS				*e*Sg		**Sb**	**13 38 33.3**	**-0.8**
IVAS	**Ivanjica**	**0.90**	**339**	*e*Pg		**Pb**	**13 38 21.0**	**-1.3**
IVAS				*e*Sg		**Sb**	**13 38 33.3**	**-0.8**
SKO	**Skopje**	**0.99**	**141**	P		**Pb**	**13 38 22.1**	**-1.7**
SKO	**Skopje**	**0.99**	**141**	P		**Pb**	**13 38 22.0**	**-1.7**
SKO	**Skopje**	**0.99**	**141**	⇓*i*Pg		**Pb**	**13 38 22.0**	**-1.7**
SKO				*e*Sg		**Sb**	**13 38 36.3**	**-0.2**
SKO	**Skopje**	**0.99**	**141**	*i* Pg		**Pb**	**13 38 21.9**	**-1.8**
SKO				*i* Sg		**Sb**	**13 38 36.7**	**+0.1**
SKO				*e*Lg		Lg	13 38 40.6	
	comp=E,28μm,1.3s							
SKO				*e*Lg		Lg	13 38 41.4	
	comp=N,25μm,0.9s							
SKO	**Skopje**	**0.99**	**141**	*i* Pg		**Pb**	**13 38 21.5**	**-2.3**
SKO	**Skopje**	**0.99**	**141**	P		**Pb**	**13 38 22.1**	**-1.7**
SKO				*i* Sg		**Sb**	**13 38 36.1**	**-0.4**
SKO				*e*Lg		Lg	13 38 40.6	
	comp=N,28μm,1.3s							
SKO	**Skopje**	**0.99**	**141**	*i* Pg		**Pb**	**13 38 21.5**	**-2.3**
SKO				*i* Sg		**Sb**	**13 38 36.1**	**-0.4**
SKO				*e*Lg		Lg	13 38 39.7	
PDG	**Podgorica**	**1.04**	**253**	P		**Pb**	**13 38 22.7**	**-1.9**
PDG				S		**Sb**	**13 38 38.0**	**0.0**
PDG	**Podgorica**	**1.04**	**253**	P		Pb	13 38 21.1	-3.5
PDG	**Podgorica**	**1.04**	**253**	*e*Pg		**Pb**	**13 38 22.5**	**-2.1**
PDG				*e*Sg		**Sb**	**13 38 37.8**	**-0.2**
PDG	**Podgorica**	**1.04**	**253**	P		**Pb**	**13 38 22.7**	**-1.9**
PDG				*e*Sg		**Sb**	**13 38 37.8**	**-0.2**
TTG	**Podgorica**	**1.04**	**253**	⇑*i*Pg		**Pb**	**13 38 22.6**	**-2.1**
TTG				*e*Sg		**Sn**	**13 38 39.9**	**+0.8**
TTG	**Podgorica**	**1.04**	**253**	⇑P		**Pb**	**13 38 22.5**	**-2.1**
TTG				S		**Sn**	**13 38 39.6**	**+0.5**
TTG	**Podgorica**	**1.04**	**253**	⇑P		**Pb**	**13 38 22.5**	**-2.1**
TTG				S		**Sn**	**13 38 39.6**	**+0.5**
PHP	**Peshkopia**	**1.06**	**186**	*i* PG		**Pb**	**13 38 23.3**	**-1.8**
PHP				*i* SG		**Sb**	**13 38 38.7**	**0.0**
PHP	**Peshkopia**	**1.06**	**186**	P		**Pb**	**13 38 22.8**	**-2.2**
PHP				S		**Sg**	**13 38 39.4**	**0.0**
PHP	**Peshkopia**	**1.06**	**186**	P		**Pb**	**13 38 22.8**	**-2.2**
PHP	**Peshkopia**	**1.06**	**186**	*i* Pg		**Pb**	**13 38 23.3**	**-1.8**
PHP				*i* Sg		**Sb**	**13 38 38.7**	**0.0**
PHP				S		**Sg**	**13 38 39.4**	**0.0**
PHP	**Peshkopia**	**1.06**	**186**	P		**Pb**	**13 38 23.3**	**-1.8**
PHP				S		**Sb**	**13 38 38.7**	**0.0**
PLE	**Pljevlja**	**1.07**	**304**	⇑*i*Pg		**Pb**	**13 38 23.8**	**-1.4**
PLE				*e*Sg		**Sn**	**13 38 40.2**	**+0.2**
PLE	**Pljevlja**	**1.07**	**304**	⇑*i*Pg		**Pb**	**13 38 23.8**	**-1.4**
PLE				*e*Sg		**Sn**	**13 38 40.2**	**+0.2**
PLE	**Pljevlja**	**1.07**	**304**	⇑P		**Pb**	**13 38 23.8**	**-1.4**
PLE				S		**Sn**	**13 38 40.2**	**+0.2**
GRUS	**Gruza**	**1.15**	**4**	*e*Pg		**Pn**	**13 38 26.2**	**-0.3**
GRUS				*e*Sg		**Sn**	**13 38 41.8**	**-0.2**
GRUS	**Gruza**	**1.15**	**4**	*e*Pg		**Pn**	**13 38 26.2**	**-0.3**
GRUS				*e*Sg		**Sn**	**13 38 41.8**	**-0.2**
DRME	**Dracevica, Mon**	**1.18**	**243**	⇑*i*Pg		**Pn**	**13 38 25.8**	**-1.1**
DRME				*e*Sg		**Sg**	**13 38 44.6**	**+1.3**
DRME	**Dracevica, Mon**	**1.18**	**243**	⇑*i*Pg		**Pn**	**13 38 25.8**	**-1.1**
DRME				*e*Sg		**Sg**	**13 38 44.6**	**+1.3**
NKY	**Niksic**	**1.18**	**274**	⇑*i*Pg		**Pn**	**13 38 26.0**	**-1.0**
NKY				*e*Sg		**Sg**	**13 38 44.6**	**+1.2**
NKY	**Niksic**	**1.18**	**274**	⇑*i*Pg		**Pn**	**13 38 26.0**	**-1.0**
NKY				*e*Sg		**Sg**	**13 38 44.6**	**+1.2**
NKME	**Niksic**	**1.21**	**272**	⇓*i*Pg		**Pn**	**13 38 26.3**	**-1.1**
NKME				*e*Sg		**Sg**	**13 38 45.5**	**+1.2**
NKME	**Niksic**	**1.21**	**272**	⇓*i*Pg		**Pn**	**13 38 26.3**	**-1.1**
NKME				*e*Sg		**Sg**	**13 38 45.5**	**+1.2**
ULC	**Ulcinj**	**1.27**	**233**	⇓*i*Pg		**Pn**	**13 38 27.7**	**-0.4**
ULC				*e*Sg		**Sg**	**13 38 47.7**	**+1.7**
ULC	**Ulcinj**	**1.27**	**233**	⇓*i*Pg		**Pn**	**13 38 27.7**	**-0.4**
ULC	**Ulcinj**	**1.27**	**233**	P		**Pn**	**13 38 28.3**	**+0.2**
ULC				*e*Sg		**Sg**	**13 38 47.7**	**+1.7**
UPM	**Unac-Piva**	**1.33**	**291**	⇑*i*Pg		**Pn**	**13 38 28.7**	**-0.3**
UPM				*e*Sg		**Sg**	**13 38 49.4**	**+1.4**
UPM	**Unac-Piva**	**1.33**	**291**	P		**Pn**	**13 38 28.8**	**-0.3**
UPM				*e*Sg		**Sg**	**13 38 49.4**	**+1.4**
BUM	**Brajici-Budva**	**1.33**	**251**	⇓*i*Pg		**Pn**	**13 38 29.1**	**0.0**
BUM				*e*Sg		**Sg**	**13 38 49.6**	**+1.4**
BUM	**Brajici-Budva**	**1.33**	**251**	⇓*i*Pg		**Pn**	**13 38 29.1**	**0.0**
BUM				*e*Sg		**Sg**	**13 38 49.6**	**+1.4**
BBLS	**Lazići**	**1.42**	**323**	*e*Pg		**Pn**	**13 38 30.4**	**+0.1**
BBLS				*e*Sg		**Sg**	**13 38 51.1**	**0.0**
BBLS	**Lazići**	**1.42**	**323**	*e*Pg		**Pn**	**13 38 30.4**	**+0.1**
BBLS				*e*Sg		**Sg**	**13 38 51.1**	**0.0**
DIVS	**Divibare**	**1.43**	**342**	P		**Pn**	**13 38 30.0**	**-0.4**
DIVS				S		**Sb**	**13 38 49.4**	**0.0**
DIVS	**Divibare**	**1.43**	**342**	*e*Pg		**Pn**	**13 38 30.1**	**-0.4**
DIVS				*e*Sg		**Sb**	**13 38 49.8**	**+0.4**
DIVS	**Divibare**	**1.43**	**342**	P		**Pn**	**13 38 30.0**	**-0.4**
DIVS				S		**Sb**	**13 38 49.4**	**0.0**
TRUS	**Trudelj**	**1.49**	**355**	*e*Pg		**Pb**	**13 38 32.1**	**-0.3**
TRUS				*e*Sg		**Sg**	**13 38 53.0**	**-0.2**
TRUS	**Trudelj**	**1.49**	**355**	*e*Pg		**Pb**	**13 38 32.1**	**-0.3**
TRUS				*e*Sg		**Sg**	**13 38 53.0**	**-0.2**
BRY	**Bratogost**	**1.52**	**277**	⇓*i*Pg		**Pn**	**13 38 31.8**	**0.0**
BRY				*e*Sg		**Sg**	**13 38 55.0**	**+0.7**
BRY	**Bratogost**	**1.52**	**277**	⇓*i*Pg		**Pn**	**13 38 31.8**	**0.0**
BRY				*e*Sg		**Sg**	**13 38 55.0**	**+0.7**
HCY	**Herceg Novi**	**1.58**	**260**	⇑*i*Pn		**Pn**	**13 38 32.9**	**+0.5**
HCY				*e*Sn		**Sg**	**13 38 57.2**	**+1.2**
HCY	**Herceg Novi**	**1.58**	**260**	⇑*i*Pn		**Pn**	**13 38 32.9**	**+0.5**
HCY				*e*Sn		**Sg**	**13 38 57.2**	**+1.2**
ZAPS	**Zavoj**	**1.59**	**70**	⇑*i*Pg		**Pn**	**13 38 33.2**	**+0.7**
ZAPS				*e*Sg		**Sg**	**13 38 55.5**	**-0.7**
ZAPS	**Zavoj**	**1.59**	**70**	⇑*i*Pg		**Pn**	**13 38 33.2**	**+0.7**
ZAPS				*e*Sg		**Sg**	**13 38 55.5**	**-0.7**
SVIS	**Svilajnac**	**1.59**	**16**	*e*Pg		**Pb**	**13 38 34.4**	**+0.3**
SVIS				*e*Sg		**Sg**	**13 38 56.4**	**0.0**
OHR	**Ohrid**	**1.63**	**175**	⇑*i*Pn		**Pn**	**13 38 33.0**	**-0.2**
OHR				*i* Sn		**Sb**	**13 38 55.2**	**0.0**
OHR				*e*Lg		Lg	13 38 57.8	
	comp=E,26μm,0.8s							
OHR				*e*Lg		Lg	13 38 58.3	
	comp=N,0.0nm,0.7s							
OHR	**Ohrid**	**1.63**	**175**	⇑*i*Pn		**Pn**	**13 38 32.9**	**-0.2**
OHR				*e*Sn		**Sn**	**13 38 54.6**	**+0.7**
OHR				*e*Lg		Lg	13 38 57.8	
	comp=N,26μm,0.8s							
OHR	**Ohrid**	**1.63**	**175**	⇑*i*Pn		**Pn**	**13 38 32.4**	**-0.8**
OHR				*e*Sn		**Sn**	**13 38 54.6**	**+0.7**
OHR				*e*Lg		Lg	13 38 58.3	
VTS	**Vitosha**	**1.93**	**93**	P		**Pn**	**13 38 37.6**	**+0.2**
VTS	**Vitosha**	**1.93**	**93**	P		**Pn**	**13 38 37.9**	**+0.6**
VTS	**Vitosha**	**1.93**	**93**	*e*Pg		**Pn**	**13 38 38.1**	**+0.7**
VTS				*e*Sg		**Sb**	**13 39 05.8**	**+2.0**
VTS	**Vitosha**	**1.93**	**93**	⇑*i*P		**Pn**	**13 38 37.6**	**+0.2**
VTS	**Vitosha**	**1.93**	**93**	S		**Sb**	**13 39 05.2**	**+1.4**
VTS	**Vitosha**	**1.93**	**93**	*e*P		**Pn**	**13 38 37.3**	**-0.1**
VTS	**Vitosha**	**1.93**	**93**	*e*P		**Pn**	**13 38 37.3**	**-0.1**
VTS	**Vitosha**	**1.93**	**93**	*e*Pg		**Pn**	**13 38 38.1**	**+0.7**
VTS				*e*Sg		**Sb**	**13 39 05.8**	**+2.0**
TEKS	**Tekeris**	**1.97**	**337**	*e*Sg		**Sg**	**13 39 06.8**	**-1.7**
TEKS	**Tekeris**	**1.97**	**337**	*e*Sg		**Sg**	**13 39 06.8**	**-1.7**
FNA	**Florina**	**2.04**	**163**	P		**Pn**	**13 38 39.3**	**+0.6**
FNA				S		**Sb**	**13 39 05.8**	**-1.0**
FNA	**Florina**	**2.04**	**163**	*e*P		**Pn**	**13 38 39.5**	**+0.8**
FNA	**Florina**	**2.04**	**163**	P		**Pn**	**13 38 39.3**	**+0.6**
FNA				S		**Sb**	**13 39 05.8**	**-1.0**
KKB	**Krupnik**	**2.04**	**114**	*e*P		**Pn**	**13 38 39.4**	**+0.7**
KKB				*e*Pg		**Pb**	**13 38 42.9**	**+1.2**
KKB	**Krupnik**	**2.04**	**114**	*e*P		**Pn**	**13 38 39.4**	**+0.7**
KKB	**Krupnik**	**2.04**	**114**	Pg		Pg	13 38 48.9	+4.7
VAY	**Valandovo**	**2.04**	**133**	P		**Pn**	**13 38 38.2**	**-0.5**
VAY	**Valandovo**	**2.04**	**133**	⇑*i*Pn		**Pn**	**13 38 38.1**	**-0.7**
VAY				*e*Sn		**Sb**	**13 39 05.5**	**-1.3**
VAY	**Valandovo**	**2.04**	**133**	*i* Pn		**Pn**	**13 38 38.5**	**-0.2**
VAY				*i* Sn		**Sg**	**13 39 10.3**	**-0.4**
VAY				*e*Lg		Lg	13 39 15.9	
	comp=E,3μm,0.7s							
VAY				*e*Lg		Lg	13 39 17.0	
	comp=N,4μm,0.9s							
VAY	**Valandovo**	**2.04**	**133**	P		**Pn**	**13 38 38.2**	**-0.5**
VAY	**Valandovo**	**2.04**	**133**	*i* Pn		**Pn**	**13 38 38.5**	**-0.2**
VAY				*e*Sn		**Sb**	**13 39 05.5**	**-1.3**
VAY				*e*Lg		Lg	13 39 15.8	
	comp=N,3μm,0.7s							
VAY	**Valandovo**	**2.04**	**133**	*i* Pn		**Pn**	**13 38 38.0**	**-0.7**
BEO	**Beograd**	**2.07**	**358**	*e*Sg		**Sg**	**13 39 11.0**	**-0.7**
STON	**Ston**	**2.14**	**275**	*i* Pn		**Pb**	**13 38 41.9**	**-1.5**
STON				Sn		**Sb**	**13 39 10.9**	**+1.3**
STON	**Ston**	**2.14**	**275**	⇑*i*Pn		**Pb**	**13 38 41.8**	**-1.5**
STON				*e*Sn		**Sn**	**13 39 07.6**	**+1.4**
STON	**Ston**	**2.14**	**275**	*i* Pn		**Pb**	**13 38 41.8**	**-1.5**
STON				*e*Sn		**Sn**	**13 39 07.6**	**+1.4**
GRG	**Griva**	**2.23**	**142**	P		**Pn**	**13 38 41.7**	**+0.3**
GRG	**Griva**	**2.23**	**142**	P		**Pn**	**13 38 41.7**	**+0.3**
KNT	**Kendrikon**	**2.33**	**132**	P		**Pn**	**13 38 42.6**	**-0.1**
KNT	**Kendrikon**	**2.33**	**132**	*e*P		**Pn**	**13 38 42.8**	**+0.1**
KNT	**Kendrikon**	**2.33**	**132**	P		**Pn**	**13 38 42.6**	**-0.1**
NEST	**Nestorio**	**2.35**	**172**	P		**Pn**	**13 38 43.6**	**+0.6**
NEST				S		**Sb**	**13 39 14.2**	**-1.5**
NEST	**Nestorio**	**2.35**	**172**	*e*P		**Pn**	**13 38 43.8**	**+0.8**
NEST	**Nestorio**	**2.35**	**172**	P		**Pn**	**13 38 43.6**	**+0.6**
NEST				S		**Sb**	**13 39 14.2**	**-1.5**
DJES	**Djerdap**	**2.38**	**35**	*e*Pn		**Pn**	**13 38 44.4**	**+1.0**
DJES				*e*Sg		**Sg**	**13 39 19.7**	**-1.8**
MPEP	**Malo Peshtene**	**2.38**	**74**	P		**Pn**	**13 38 43.8**	**+0.3**
MPEP				Pg		**Pb**	**13 38 48.9**	**+1.3**
VLO	**Vlora**	**2.41**	**200**	*i* PG		**Pb**	**13 38 47.6**	**-0.5**
VLO	**Vlora**	**2.41**	**200**	*i* Pg		**Pb**	**13 38 47.6**	**-0.5**
RMGR	**Halanga-Turnu**	**2.45**	**38**	⇑*i*P		**Pn**	**13 38 44.0**	**-0.3**
RMGR	**Halanga-Turnu**	**2.45**	**38**	⇑*i*P		**Pn**	**13 38 44.0**	**-0.3**
KZN	**Kozani**	**2.58**	**160**	P		**Pn**	**13 38 47.1**	**+0.8**
KZN	**Kozani**	**2.58**	**160**	*e*P		**Pn**	**13 38 47.1**	**+0.8**
KZN	**Kozani**	**2.58**	**160**	P		**Pn**	**13 38 47.1**	**+0.8**
MMB	**Musomiste**	**2.59**	**115**	⇑*i*P		**Pn**	**13 38 47.0**	**+0.6**
MMB	**Musomiste**	**2.59**	**115**	S		**Sn**	**13 39 19.8**	**+2.2**
MMB	**Musomiste**	**2.59**	**115**	*e*P		**Pn**	**13 38 46.9**	**+0.6**
MMB	**Musomiste**	**2.59**	**115**	*e*P		**Pn**	**13 38 46.9**	**+0.6**
PGB	**Panagyurishte**	**2.64**	**93**	*e*P		**Pn**	**13 38 47.5**	**+0.5**
PGB	**Panagyurishte**	**2.64**	**93**	*e*P		**Pn**	**13 38 47.5**	**+0.5**
BANR	**Banloc**	**2.67**	**8**	⇑*i*P		**Pn**	**13 38 48.0**	**+0.6**
BANR	**Banloc**	**2.67**	**8**	⇑*i*P		**Pn**	**13 38 48.0**	**+0.6**
SRE	**Strehaia**	**2.70**	**44**	⇑*i*P		**Pn**	**13 38 48.1**	**+0.4**
SRE	**Strehaia**	**2.70**	**44**	⇑*i*P		**Pn**	**13 38 48.1**	**+0.4**
THE	**Thessaloniki**	**2.75**	**139**	P		**Pn**	**13 38 48.6**	**+0.1**
THE	**Thessaloniki**	**2.75**	**139**	*e*P		**Pn**	**13 38 48.5**	**+0.1**
THE	**Thessaloniki**	**2.75**	**139**	P		**Pn**	**13 38 48.6**	**+0.1**
SRS	**Serrai**	**2.76**	**125**	P		**Pn**	**13 38 48.6**	**0.0**
SRS	**Serrai**	**2.76**	**125**	*e*P		**Pn**	**13 38 48.7**	**+0.1**
SRS	**Serrai**	**2.76**	**125**	P		**Pn**	**13 38 48.6**	**0.0**
NVR	**Nevrokopi**	**2.80**	**119**	P		**Pn**	**13 38 49.3**	**+0.1**
NVR	**Nevrokopi**	**2.80**	**119**	*e*P		**Pn**	**13 38 49.7**	**+0.5**
NVR	**Nevrokopi**	**2.80**	**119**	P		**Pn**	**13 38 49.3**	**+0.1**
SOH	**Sokhos**	**2.81**	**132**	P		**Pn**	**13 38 49.5**	**+0.1**
SOH	**Sokhos**	**2.81**	**132**	*e*P		**Pn**	**13 38 49.6**	**+0.1**
SOH	**Sokhos**	**2.81**	**132**	P		**Pn**	**13 38 49.5**	**+0.1**
HORT	**Hortiatis**	**2.84**	**138**	P		**Pn**	**13 38 50.0**	**+0.2**
HORT	**Hortiatis**	**2.84**	**138**	*e*P		**Pn**	**13 38 50.1**	**+0.2**
HORT	**Hortiatis**	**2.84**	**138**	P		**Pn**	**13 38 50.0**	**+0.2**
SRN	**Sarande**	**2.89**	**189**	*i* PG		**Pn**	**13 38 52.5**	**+2.1**
SRN	**Sarande**	**2.89**	**189**	P		**Pn**	**13 38 52.5**	**+2.1**
SRN	**Sarande**	**2.89**	**189**	P		**Pn**	**13 38 52.5**	**+2.1**
BZS	**Buzias**	**2.97**	**14**	P		**Pn**	**13 38 53.0**	**+1.5**
BZS	**Buzias**	**2.97**	**14**	⇑*i*P		**Pn**	**13 38 51.5**	**0.0**
BZS	**Buzias**	**2.97**	**14**	S		**Sg**	**13 39 38.3**	**-2.1**
BZS	**Buzias**	**2.97**	**14**	*i* P		**Pn**	**13 38 53.0**	**+1.5**
LIT	**Litokhoron**	**3.00**	**151**	P		**Pn**	**13 38 52.2**	**+0.3**
LIT	**Litokhoron**	**3.00**	**151**	*e*P		**Pn**	**13 38 52.4**	**+0.5**
LIT	**Litokhoron**	**3.00**	**151**	P		**Pn**	**13 38 52.2**	**+0.3**
TIM	**Timisoara**	**3.03**	**8**	⇓*i*P		**Pn**	**13 38 52.7**	**+0.4**
TIM	**Timisoara**	**3.03**	**8**	S		**Sg**	**13 39 43.2**	**+0.8**
TIM	**Timisoara**	**3.03**	**8**	⇓*i*P		**Pn**	**13 38 52.7**	**+0.4**
PE1	**Pezze di Greco**	**3.06**	**232**	*e*Pn		**Pn**	**13 38 53.4**	**+0.7**
KEK	**Kerkira**	**3.08**	**192**	P		**Pn**	**13 38 53.6**	**+0.6**
KEK				S		**Sn**	**13 39 32.3**	**+2.8**
KEK	**Kerkira**	**3.08**	**192**	*e*P		**Pn**	**13 38 54.2**	**+1.2**
KEK	**Kerkira**	**3.08**	**192**	P		**Pn**	**13 38 53.6**	**+0.6**
KEK				S		**Sn**	**13 39 32.3**	**+2.8**
GZR	**Gura Zlata**	**3.08**	**30**	⇓*i*P		**Pn**	**13 38 53.4**	**+0.3**
GZR	**Gura Zlata**	**3.08**	**30**	⇓*i*P		**Pn**	**13 38 53.4**	**+0.3**
JAN	**Janina**	**3.08**	**176**	*e*P		**Pn**	**13 38 55.4**	**+2.3**
PLD	**Plovdiv**	**3.10**	**100**	Pg		**Pb**	**13 39 00.6**	**+0.8**
PLD	**Plovdiv**	**3.10**	**100**	Pg		**Pb**	**13 39 00.6**	**+0.8**
PLG	**Polygyros**	**3.19**	**137**	P		**Pn**	**13 38 55.1**	**+0.6**
PLG	**Polygyros**	**3.19**	**137**	*e*P		**Pn**	**13 38 55.4**	**+0.9**
PLG	**Polygyros**	**3.19**	**137**	P		**Pn**	**13 38 55.1**	**+0.6**
IGT	**Igoumenitsa**	**3.21**	**184**	*e*P		**Pn**	**13 38 56.4**	**+1.6**
BAI	**Bari**	**3.22**	**241**	*e*Pn		**Pn**	**13 38 55.1**	**+0.2**
RZN	**Rozhen**	**3.23**	**108**	*e*P		**Pn**	**13 38 56.0**	**+0.7**
RZN	**Rozhen**	**3.23**	**108**	*e*P		**Pn**	**13 38 56.0**	**+0.7**
THL	**Klokotos Trika**	**3.35**	**161**	P		**Pn**	**13 38 57.4**	**+0.8**
THL	**Klokotos Trika**	**3.35**	**161**	*e*P		**Pn**	**13 38 57.5**	**+0.8**
THL	**Klokotos Trika**	**3.35**	**161**	P		**Pn**	**13 38 57.4**	**+0.8**
KAVA	**Kavala**	**3.40**	**119**	P		**Pn**	**13 38 57.8**	**+0.4**
KAVA	**Kavala**	**3.40**	**119**	*e*P		**Pn**	**13 38 58.3**	**+0.9**
KAVA	**Kavala**	**3.40**	**119**	P		**Pn**	**13 38 57.8**	**+0.4**
SG1	**Sgolgore (BA)**	**3.49**	**238**	*e*Pn		**Pn**	**13 39 01.7**	**+3.0**
OUR	**Ouranopolis**	**3.50**	**132**	P		**Pn**	**13 38 59.0**	**+0.3**
OUR	**Ouranopolis**	**3.50**	**132**	P		**Pn**	**13 38 58.1**	**-0.6**
OUR	**Ouranopolis**	**3.50**	**132**	*e*P		**Pn**	**13 38 59.1**	**+0.3**
OUR	**Ouranopolis**	**3.50**	**132**	P		**Pn**	**13 38 59.0**	**+0.3**
PVL	**Pavlikeni**	**3.51**	**81**	P		**Pn**	**13 38 57.8**	**-1.1**
PVL	**Pavlikeni**	**3.51**	**81**	P		**Pn**	**13 38 57.8**	**-1.1**
LOT	**Lotru**	**3.54**	**39**	P		**Pn**	**13 39 01.2**	**+1.7**
LOT	**Lotru**	**3.54**	**39**	⇑*i*P		**Pn**	**13 38 58.9**	**-0.6**
LOT	**Lotru**	**3.54**	**39**	*i* P		**Pn**	**13 39 01.2**	**+1.7**
DEV	**Deva**	**3.55**	**27**	⇑*i*P		**Pb**	**13 39 06.3**	**-1.2**
ZIMR		**3.60**	**74**	S		**Sg**	**13 39 58.5**	**-2.3**
MS1	**Monte Sant'Ang**	**3.61**	**255**	*e*Pn		**Pn**	**13 39 00.0**	**-0.3**
CDT	**Castel del Mon**	**3.63**	**244**	*e*Pn		**Pn**	**13 39 01.0**	**+0.4**
PAIG	**Paliouri**	**3.64**	**139**	P		**Pn**	**13 39 01.0**	**+0.3**
PAIG	**Paliouri**	**3.64**	**139**	*e*P		**Pn**	**13 39 01.0**	**+0.3**
PAIG	**Paliouri**	**3.64**	**139**	P		**Pn**	**13 39 01.0**	**+0.3**
HUMR	**Humele**	**3.65**	**59**	⇑*i*P		**Pn**	**13 39 01.2**	**+0.4**
HUMR	**Humele**	**3.65**	**59**	⇑*i*P		**Pn**	**13 39 01.2**	**+0.4**
DIM	**Dimitrovgrad**	**3.72**	**99**	Pg		**Pb**	**13 39 12.6**	**+2.3**
DIM	**Dimitrovgrad**	**3.72**	**99**	Pg		**Pb**	**13 39 12.6**	**+2.3**
KDZ	**Kurdzhali**	**3.74**	**105**	S		**Sg**	**13 40 02.6**	**-2.6**
KDZ	**Kurdzhali**	**3.74**	**105**	P		**Pb**	**13 39 12.0**	**+1.3**
KDZ	**Kurdzhali**	**3.74**	**105**	P		**Pb**	**13 39 12.0**	**+1.3**
PKSM	**Moragy**	**3.74**	**339**	⇓*i*P		**Pn**	**13 39 01.7**	**-0.4**
PKSM	**Moragy**	**3.74**	**339**	⇓*i*P		**Pn**	**13 39 01.7**	**-0.4**
PKSM				*e*Sn		**Sn**	**13 39 47.1**	**+1.3**
PKSM	**Moragy**	**3.74**	**339**	⇓*e*Pn		**Pn**	**13 39 01.7**	**-0.4**
PKSM				*e*S		**Sn**	**13 39 47.1**	**+1.3**
PKS2	**Kecel**	**3.88**	**346**	⇑*e*Pn		**Pn**	**13 39 03.4**	**-0.6**
PKS2				*e*Sn		**Sn**	**13 39 50.1**	**+0.9**
PKS2	**Kecel**	**3.88**	**346**	⇑*e*Pn		**Pn**	**13 39 03.4**	**-0.6**
PKS2

GELI	Tayfur-Gelibol	4.99 116	*i* P	Pn	13 39 20.9	+1.7
PRD	Provadia	5.01 82	P	Pn	13 39 19.8	+0.3
PRD	Provadia	5.01 82	P	Pn	13 39 19.8	+0.3
LTK	Loutraki	5.04 158	*e*P	Pn	13 39 20.7	+0.7
LPK	Lapseki	5.19 115	*e*P	Pn	13 39 24.3	+2.3
LPK	Lapseki	5.19 115	*e*P	Pn	13 39 24.3	+2.3
EZN	Ezine	5.20 122	P	Pn	13 39 24.3	+2.1
EZN	Ezine	5.20 122	*i* P	Pn	13 39 24.3	+2.1
PSZ	Piszkesteto	5.20 355	*e*P	Pn	13 39 21.1	-1.1
PSZ			pmax	pmax		
	comp=Z,241nm,0.7s					
PSZ	Piszkesteto	5.20 355	⇓*i*P	Pn	13 39 21.4	-0.9
PSZ	Piszkesteto	5.20 355	*e*P	Pn	13 39 21.1	-1.1
	comp=Z,241nm,0.7s					
PSZ			*e*Sn	Sn	13 40 18.3	-3.6
PSZ	Piszkesteto	5.20 355	⇑*e*Pn	Pn	13 39 21.9	-0.4
PSZ			*e*		13 40 18.3	
PSZ	Piszkesteto	5.20 355	*e*Pn	Pn	13 39 21.1	-1.1
	comp=Z,241nm,0.7s					
PHSR	Pinarhisar	5.26 100	P	Pn	13 39 25.0	+2.0
PHSR	Pinarhisar	5.26 100	*i* P	Pn	13 39 25.0	+2.0
AMT	Artemida-Makis	5.27 170	*e*P	Pn	13 39 24.6	+1.5
GRER		5.30 58	⇓*i*P	Pn	13 39 25.2	+1.7
GRER		5.30 58	⇓*i*P	Pn	13 39 25.2	+1.7
SIGR	SIGRI	5.31 130	P	Pn	13 39 23.9	+0.2
SIGR	SIGRI	5.31 130	*e*P	Pn	13 39 24.6	+0.9
SIGR	SIGRI	5.31 130	*i* P	Pn	13 39 23.9	+0.2
ATH	Athens Observa	5.32 152	*e*P	Pn	13 39 18.0	-5.8
AQU	L'Aquila	5.33 268	*e*P	Pn	13 39 25.4	+1.4
AQU			pmax	pmax		
	comp=Z,430nm,0.8s					
AQU	L'Aquila	5.33 268	*e*P	Pn	13 39 25.4	+1.4
	comp=Z,430nm,0.8s					
AQU	L'Aquila	5.33 268	*e*Pn	Pn	13 39 25.4	+1.4
	comp=Z,430nm,0.8s					
RKY	Sarkoy-Tekirda	5.33 110	*e*P	Pn	13 39 25.0	+1.0
RKY	Sarkoy-Tekirda	5.33 110	*e*P	Pn	13 39 25.0	+1.0
BMR	Baia Mare	5.34 22	⇑*i*P	Pn	13 39 24.4	+0.3
BMR	Baia Mare	5.34 22	⇑*i*P	Pn	13 39 24.4	+0.3
PLOR	Plostina	5.34 52	⇓*i*P	Pn	13 39 24.5	+0.4
PLOR	Plostina	5.34 52	⇓*i*P	Pn	13 39 24.5	+0.4
VRI	Vrincioaia	5.40 52	⇓*i*P	Pn	13 39 25.3	+0.5
VRI	Vrincioaia	5.40 52	⇓*i*P	Pn	13 39 25.3	+0.5
NAIG	Nisos Aigina	5.44 155	*e*P	Pn	13 39 26.6	+1.1
LJU	Ljubljana	5.46 309	*e*Pn	Pn	13 39 27.0	+1.3
PERS	Pernice	5.52 317	*i* Pn	Pn	13 39 26.9	+0.4
PRK	Paraskevi	5.53 127	P	Pn	13 39 27.8	+1.1
PRK	Paraskevi	5.53 127	*e*P	Pn	13 39 27.7	+1.1
PRK	Paraskevi	5.53 127	P	Pn	13 39 27.8	+1.1
VLX	Vlachokerasia	5.53 165	*e*P	Pn	13 39 27.7	+0.9
KRBG	Karabiga-Canak	5.54 113	*e*P	Pn	13 39 28.5	+1.6
CRLT	Corlu	5.56 104	P	Pn	13 39 29.2	+2.1
TRPA	Tarpa	5.56 14	⇓*i*P	Pn	13 39 26.2	-0.9
TRPA	Tarpa	5.56 14	⇓*e*Pn	Pn	13 39 27.6	+0.5
TRPA	Tarpa	5.56 14	⇓*e*S	Pn	13 39 27.6	+0.5
SOKA	Soboth	5.59 317	⇑*i*Pn	Pn	13 39 27.8	+0.3
	comp=Z,69nm,0.5s,SNR=31					
SOKA			⇑*i*Sn	Sn	13 40 33.2	+1.7
	comp=Z,112nm,0.8s					
SOKA	Soboth	5.59 317	Pn	Pn	13 39 27.8	+0.3
	comp=Z,69nm,0.5s,SNR=31					
SOKA			Sn	Sn	13 40 33.2	+1.7
	comp=Z,112nm,0.8s					
DID	Didima	5.60 158	*e*P	Pn	13 39 28.3	+0.6
PSN	Preselentsi	5.62 78	⇑*i*P	Pn	13 39 28.2	+0.3
ITM	Ithomi	5.64 169	*e*P	Pn	13 39 29.5	+1.2
JAVS	Javornik	5.65 306	*i* Pn	Pn	13 39 29.6	+1.2
HARR	Harsova	5.66 67	⇑*i*P	Pn	13 39 28.8	+0.4
TLB	Topalu	5.71 69	⇓*i*P	Pn	13 39 29.0	-0.1
SOP	Sopron	5.71 331	*e*Pn	Pn	13 39 29.3	+0.2
SOP			*e*Sn	Sn	13 40 33.3	-0.9
SOP	Sopron	5.71 331	*e*Pn	Pn	13 39 29.3	+0.2
SOP			*e*		13 40 33.3	
OBKA	Obir	5.73 313	*e*Pn	Pn	13 39 30.5	+1.0
OBKA	Obir	5.73 313	⇑*i*Pn	Pn	13 39 30.4	+1.0
	comp=Z,70nm,0.3s,SNR=11					
OBKA	Obir	5.73 313	*e*Pn	Pn	13 39 30.5	+1.0
CEL	Celeste	5.73 220	*e*P	Pn	13 39 29.7	+0.2
	comp=Z,114nm,0.9s					
CEL	Celeste	5.73 220	*e*P	Pn	13 39 29.7	+0.2
	comp=Z,114nm,0.9s					
TESR	Tescani	5.73 47	⇓*i*P	Pn	13 39 29.5	0.0
TRI	Trieste	5.74 303	*e*P	Pn	13 39 30.8	+1.3
TRI			pmax	pmax		
	comp=Z,193nm,0.9s					
TRI	Trieste	5.74 303	*e*P	Pn	13 39 30.8	+1.3
	comp=Z,193nm,0.9s					
TRI	Trieste	5.74 303	*e*P	Pn	13 39 30.8	+1.3
	comp=Z,193nm,0.9s					
ARSA	Arzberg	5.77 323	*e*Pn	Pn	13 39 30.6	+0.6
ARSA	Arzberg	5.77 323	*i* Pn	Pn	13 39 30.6	+0.6
	comp=Z,40nm,0.3s,SNR=47					
ARSA			⇓*i*Sn	Sn	13 40 33.4	-2.5
	comp=Z,113nm,0.5s					
ARSA	Arzberg	5.77 323	*e*Pn	Pn	13 39 30.6	+0.6
CTYL	Yal??k??y-??at	5.86 100	P	Pn	13 39 32.6	+1.5
BURAR	Bucovina Array	5.87 32	⇓*i*P	Pn	13 39 32.5	+1.1
SLVT	Silivri	5.87 102	P	Pn	13 39 34.0	+2.7
VYHS	Vyhne	5.89 348	*e*P	Pn	13 39 30.8	-0.8
VYHS			*e*		13 40 34.7	
VYHS	Vyhne	5.89 348	*e*P	Pn	13 39 30.8	-0.8
VYHS	Vyhne	5.89 348	*e*PN	Pn	13 39 30.8	-0.8
VYHS			*e*SN	Sn	13 40 34.7	-4.0
PYL	PYLOS	5.90 171	*e*P	Pn	13 39 31.4	-0.4
TIRR	Tirgusor	5.93 70	P	Pn	13 39 34.9	+2.7
TIRR	Tirgusor	5.93 70	*e*P	Pn	13 39 31.8	-0.3
TIRR			pmax	pmax		
	comp=Z,91nm,0.6s					
TIRR	Tirgusor	5.93 70	⇓*i*P	Pn	13 39 31.9	-0.3
TIRR	Tirgusor	5.93 70	*e*P	Pn	13 39 31.8	-0.3
	comp=Z,90nm,0.6s					
TIRR	Tirgusor	5.93 70	*e*P	Pn	13 39 31.8	-0.3
	comp=Z,90nm,0.6s					
EDC	Edincik	5.95 111	P	Pn	13 39 34.7	+2.2
CFR	Carcaliu	5.96 63	⇓*i*P	Pn	13 39 32.2	-0.4
BNT	Bandirma	5.99 111	*e*P	Pn	13 39 34.7	+1.7
UZH	Uzhgorod	6.01 11	*e*P	Pn	13 39 35.4	+2.2
UZH			*e*S	Sn	13 40 44.4	+2.7
UZH			MLR	MLR		
	comp=N,4μm,9.0s					
UZH			MLR	MLR		
	comp=E,3μm,9.0s					
UZH			MLR	MLR		
	comp=Z,3μm,9.0s					
UZH	Uzhgorod	6.01 11	*e*P	Pn	13 39 35.4	+2.2
UZH			*e*S	Sn	13 40 44.4	+2.7
CHOS	Chios island	6.01 134	P	Pn	13 39 35.1	+1.8
CHOS	Chios island	6.01 134	*e*P	Pn	13 39 34.5	+1.1
CTKS	Kestanelik-??a	6.08 102	P	Pn	13 39 35.4	+1.2
CONA	Conrad Observa	6.17 329	⇑*i*Pn	Pn	13 39 35.2	-0.3
	comp=Z,51nm,0.8s,SNR=22					
CONA			⇑*i*Sn	Sn	13 40 46.2	+0.5
	comp=Z,144nm,0.6s					
CONA	Conrad Observa	6.17 329	Pn	Pn	13 39 35.2	-0.3
	comp=Z,51nm,0.8s,SNR=22					
CONA			Sn	Sn	13 40 46.2	+0.5
	comp=Z,144nm,0.6s					
CRVS	Cervenica-Dubn	6.19 5	*e*P	Pn	13 39 35.7	-0.1
CRVS	Cervenica-Dubn	6.19 5	*e*P	Pn	13 39 35.7	-0.1
CRVS	Cervenica-Dubn	6.19 5	*e*PN	Pn	13 39 35.7	-0.1
CRVS			*e*SG	Sg	13 41 33.9	+10
BGKT	Bogazkoy	6.29 102	*e*P	Pn	13 39 38.8	+1.8
MYKA	Terra Mystica	6.30 310	⇑*i*Pn	Pn	13 39 39.3	+1.9
	comp=Z,139nm,0.7s,SNR=22					
MYKA	Terra Mystica	6.30 310	Pn	Pn	13 39 39.3	+1.9
	comp=Z,139nm,0.7s,SNR=22					
BALB	Balikesir	6.30 117	P	Pn	13 39 40.2	+2.9
KOLS	Kolonicke sedl	6.30 10	*e*P	Pn	13 39 37.8	+0.5
KOLS	Kolonicke sedl	6.30 10	*e*P	Pn	13 39 37.8	+0.5
KOLS			*e*Sg	Sg	13 41 25.5	-1.8
KOLS	Kolonicke sedl	6.30 10	*e*PN	Pn	13 39 37.8	+0.5
KOLS			*e*		13 41 25.5	
KCTX	Karacabey (Bur	6.33 110	P	Pn	13 39 39.5	+1.9
JAVC	Velka Javorina	6.45 343	*e*Pn	Pn	13 39 40.3	+0.9
JAVC	Velka Javorina	6.45 343	*e*Pn	Pn	13 39 40.3	+0.9
LANS	Liptovska Anna	6.46 353	*e*Pn	Pn	13 39 40.7	+1.2
KLYT	Kilyos	6.46 100	P	Pn	13 39 40.2	+0.8
ISK	Istanbul-Kandi	6.53 102	*e*P	Pn	13 39 40.9	+0.5
ARMT	Armutlu	6.56 107	*e*P	Pn	13 39 44.4	+3.5
LEOM	Leova	6.61 53	*e*P	Pn	13 39 44.6	+3.1
MDNY	Mudanya-Bursa	6.65 108	P	Pn	13 39 43.7	+1.6
NIE	Niedzica	6.69 358	*e*P	Pn	13 39 43.6	+1.1
NIE			*e*		13 40 59.7	
NIE			MLR	MLR		
	comp=Z,6μm,10.8s					
NIE	Niedzica	6.69 358	*e*Pn	Pn	13 39 43.6	+1.1
NIE			*e*Sn	Sn	13 40 59.7	+1.4
NIE			L	L	13 43 06.0	
	comp=Z,6μm,10.8s					
NIE	Niedzica	6.69 358	*e*P	Pn	13 39 43.6	+1.1
	comp=Z,6μm,10.8s					
NIE			*e*S	Sn	13 40 59.7	+1.4
AKS	Akhisar	6.69 123	P	Pn	13 39 45.0	+2.4
STHS	Stebnicka Huta	6.70 4	*e*P	Pn	13 39 43.4	+0.7
STHS	Stebnicka Huta	6.70 4	*e*P	Pn	13 39 43.4	+0.7
STHS	Stebnicka Huta	6.70 4	*e*PN	Pn	13 39 43.4	+0.7
KBA	Koelnbreinsper	6.73 313	*e*Pn	Pn	13 39 44.5	+1.2
KBA	Koelnbreinsper	6.73 313	⇓*e*Pn	Pn	13 39 44.5	+1.2
	comp=Z,39nm,0.4s,SNR=20					
KBA	Koelnbreinsper	6.73 313	*e*Pn	Pn	13 39 44.5	+1.2
MOA	Molln	6.79 321	*e*Pn	Pn	13 39 45.6	+1.7
MOA	Molln	6.79 321	⇑*i*Pn	Pn	13 39 45.6	+1.7
	comp=Z,70nm,0.7s,SNR=17					
MOA			⇓*i*Sn	Sn	13 40 58.5	-2.3
	comp=Z,86nm,0.5s					
MOA	Molln	6.79 321	*e*Pn	Pn	13 39 45.6	+1.7
ORLT	Orhaneli	6.79 111	P	Pn	13 39 46.4	+2.3
APE	Apeiranthos	6.81 145	P	Pn	13 39 46.0	+1.7
APE	Apeiranthos	6.81 145	*c i*P	Pn	13 39 45.5	+1.1
APE	Apeiranthos	6.81 145	*e*P	Pn	13 39 45.3	+0.9
APE	Apeiranthos	6.81 145	⇓*i*P	Pn	13 39 45.5	+1.1
APE	Apeiranthos	6.81 145	*i* P	Pn	13 39 45.5	+1.1
GEMT	Gemlik	6.84 107	*e*P	Pn	13 39 46.4	+1.8
SILT	Sile	6.93 100	P	Pn	13 39 49.2	+3.4
KRUC	Moravsky	6.97 337	*e*Pn	Pn	13 39 48.0	+1.6
KRUC	Moravsky	6.97 337	*e*Pn	Pn	13 39 48.0	+1.6
ABTA	Abfaltersbach	7.01 308	⇓*i*Pn	Pn	13 39 48.6	+1.5
	comp=Z,44nm,0.6s,SNR=32					
ABTA			⇓*i*Sn	Sb	13 41 34.2	+4.3
	comp=Z,80nm,0.7s					
ABTA	Abfaltersbach	7.01 308	Pn	Pn	13 39 48.6	+1.5
	comp=Z,44nm,0.6s,SNR=32					
HRT	Hereke	7.04 103	P	Pn	13 39 47.8	+0.3
KWP	Kalwaria Pacla	7.05 11	*e*P	Pn	13 39 47.6	+0.1
KWP			pmax	pmax		
	comp=Z,49nm,0.9s					
KWP	Kalwaria Pacla	7.05 11	*e*P	Pn	13 39 49.5	+2.0
KWP	Kalwaria Pacla	7.05 11	*e*P	Pn	13 39 47.6	+0.1
	comp=Z,49nm,0.9s					
KWP	Kalwaria Pacla	7.05 11	*e*P	Pn	13 39 47.6	+0.1
	comp=Z,49nm,0.9s					
VRAC	Vranov	7.14 338	*e*Pn	Pn	13 39 50.6	+1.9
VRAC	Vranov	7.14 338	⇑*i*P	Pn	13 39 49.8	+1.1
VRAC	Vranov	7.14 338	Pn	Pn	13 39 49.0	+0.2
	comp=Z,1.5nm,0.3s,baz=161,slow=9.7,SNR=11					
VRAC			Sn	Sn	13 41 06.5	-2.9
	comp=Z,2.8nm,0.3s,baz=216,slow=19,SNR=2.6					
VRAC			LR	LR	13 42 06.0	
	comp=Z,340nm,21.9s,baz=204,slow=34					
KIS	Kishinev	7.23 51	*e*P	Pn	13 39 50.0	+0.1
KIS			*e*		13 41 15.0	
KIS			MLR	MLR		
	comp=Z,4μm,12.0s					
KIS			MLR	MLR		
	comp=N,3μm,13.0s					
KIS			MLR	MLR		
	comp=E,2μm,14.0s					
KIS			MLR	MLR		
	comp=Z,3μm,14.0s					
KIS	Kishinev	7.23 51	*e*P	Pn	13 39 50.0	+0.1
KIS			LRM	MLR	13 43 28.0	
	comp=Z,3μm,14.0s					
KIS	Kishinev	7.23 51	*e*P	Pn	13 39 50.0	+0.1
ADVT	Abdulvahap	7.23 106	P	Pn	13 39 51.3	+1.3
OKC	Ostrava-Krasne	7.30 347	*e*P	Pn	13 39 50.5	-0.4
OKC			*e*		13 41 10.3	
OKC			smax	smax		
	comp=N,51nm,0.8s					
OKC	Ostrava-Krasne	7.30 347	*e*Pn	Pn	13 39 51.9	+1.0
OKC			*e*Sn	Sn	13 41 12.8	-0.6
OKC	Ostrava-Krasne	7.30 347	*e*PN	Pn	13 39 50.5	-0.4
OKC			*e*SN	Sn	13 41 10.3	-3.1
OKC	Ostrava-Krasne	7.30 347	Pn	Pn	13 39 50.5	-0.4
OKC			*e*Sn	Sn	13 41 12.8	-0.6
AYDB	Zeytinkoy-Aydi	7.34 128	*e*P	Pn	13 39 52.6	+1.0
MORC	Moravsky Berou	7.35 344	*e*P	Pn	13 39 49.6	-2.1
MORC			pmax	pmax		
	comp=Z,45nm,0.8s					
MORC	Moravsky Berou	7.35 344	*e*Pn	Pn	13 39 51.1	-0.6
MORC	Moravsky Berou	7.35 344	⇓*i*P	Pn	13 39 52.8	+1.1
MORC	Moravsky Berou	7.35 344	*e*P	Pn	13 39 49.6	-2.1
	comp=Z,45nm,0.8s					
MORC	Moravsky Berou	7.35 344	*e*Pn	Pn	13 39 51.1	-0.6
MORC	Moravsky Berou	7.35 344	*e*P	Pn	13 39 49.6	-2.1
	comp=Z,45nm,0.8s					
CAVI	Cavuskoy	7.39 107	*e*P	Pn	13 39 54.7	+2.5
RJOB	Jochberg	7.43 315	*e*Pn	Pn	13 39 55.1	+2.2
RJOB			*e*Sn	Sn	13 41 16.1	-0.7
RJOB	Jochberg	7.43 315	*e*Pn	Pn	13 39 55.1	+2.2
RJOB			*e*Sn	Sn	13 41 16.1	-0.7
KULA	Kula-Manisa	7.44 122	P	Pn	13 39 54.7	+1.7
KULA	Kula-Manisa	7.44 122	P	Pn	13 39 54.0	+1.0
KULA	Kula-Manisa	7.44 122	P	Pn	13 39 54.7	+1.7
TVSB	Tavsanli	7.46 113	*e*P	Pn	13 39 54.0	+0.8
TREC	Trest	7.46 333	*e*P	Pn	13 39 54.2	+1.1
TREC			*e*		13 41 16.2	
TREC			smax	smax		
	comp=N,53nm,0.8s					
TREC	Trest	7.46 333	*e*PN	Pn	13 39 54.2	+1.1
TREC			*e*SN	Sn	13 41 16.2	-1.2
TREC	Trest	7.46 333	Pn	Pn	13 39 54.2	+1.1
TREC			Sn	Sn	13 41 16.2	-1.2
	comp=N,53nm,0.8s					
LVV	L'vov	7.47 17	*e*P	Pn	13 39 58.0	+4.7
LVV			*e*S	Sn	13 41 28.0	+10
LVV			MLR	MLR		
	comp=Z,1μm,9.0s					
OJC	Ojcow	7.50 356	*e*P	Pn	13 39 54.1	+0.4
OJC			*e*		13 41 18.1	
OJC			MLR	MLR		
	comp=Z,4μm,11.5s					
OJC	Ojcow	7.50 356	*e*Pn	Pn	13 39 54.2	+0.5
OJC	Ojcow	7.50 356	*e*Pn	Pn	13 39 54.1	+0.4
OJC			*e*Sn	Sn	13 41 18.1	-0.3
OJC			L	L	13 43 37.0	
	comp=Z,4μm,11.5s					
OJC	Ojcow	7.50 356	*e*P	Pn	13 39 54.1	+0.4
	comp=Z,4μm,11.5s					
OJC			*e*S	Sn	13 41 18.1	-0.3
BODT	Bodrum	7.66 135	*e*P	Pn	13 39 56.1	+0.1
GPA	Golpazari	7.69 105	*e*P	Pn	13 39 57.5	+1.2
GEC2	GERESS Array S	7.78 324	*e*Pn	Pn	13 39 59.1	+1.5
GEC2	GERESS Array S	7.78 324	*e*Pn	Pn	13 39 59.1	+1.5
GERES	GERESS Array B	7.78 324	Pn	Pn	13 39 57.9	+0.3
	comp=Z,1.5nm,0.3s,baz=149,slow=13,SNR=25					
GERES			Sn	Sn	13 41 21.4	-3.9
	baz=130,slow=24,SNR=1.8					
GERES			Lg	Lg	13 42 15.8	
	baz=155,slow=24,SNR=1.9					
GULT	Gulveren	7.78 104	P	Pn	13 40 00.2	+2.5
GULT	Gulveren	7.78 104	*i* P	Pn	13 40 00.2	+2.5
WTTA	Wattenberg	7.80 309	*e*Pn	Pn	13 39 59.6	+1.7
WTTA	Wattenberg	7.80 309	⇑*e*Pn	Pn	13 39 59.8	+1.9
	comp=Z,193nm,0.6s,SNR=55					
WTTA			⇑*i*Sn	Sn	13 41 26.1	+0.2
	comp=Z,79nm,0.8s					
WTTA	Wattenberg	7.80 309	*e*Pn	Pn	13 39 59.6	+1.7
WTTA			Sn	Sn	13 41 26.1	+0.2
	comp=Z,79nm,0.8s					
WATA	Walderalm	7.87 309	⇓*i*Pn	Pn	13 40 01.0	+2.1
	comp=Z,65nm,0.5s,SNR=60					
WATA	Walderalm	7.87 309	Pn	Pn	13 40 01.0	+2.1
	comp=Z,65nm,0.5s,SNR=60					
KHC	Kasperske Hory	8.05 325	*e*P	Pn	13 40 04.3	+3.1
KHC			*e*		13 41 30.1	
KHC			smax	smax		
	comp=N,80nm,0.9s					
KHC	Kasperske Hory	8.05 325	*e*Pn	Pn	13 40 04.1	+2.9
KHC	Kasperske Hory	8.05 325	*e*PN	Pn	13 40 04.3	+3.1
KHC			*e*x	x	13 40 14.5	
KHC			*e*SN	Sn	13 41 30.1	-1.8
KHC			*e*x	x	13 41 46.0	
KHC	Kasperske Hory	8.05 325	*e*P	Pn	13 40 02.2	+0.9
	comp=N,58nm,0.8s					
KHC			Sn	Sn	13 41 30.1	-1.8
	comp=N,80nm,0.9s					
KHC	Kasperske Hory	8.05 325	*e*P	Pn	13 40 02.2	+0.9
	comp=N,58nm,0.8s					
ALT	Altintas	8.09 114	P	Pn	13 40 02.3	+0.4
ALT	Altintas	8.09 114	*i* P	Pn	13 40 02.3	+0.4
KHL	Karahalli	8.10 120	P	Pn	13 40 03.0	+1.0
KHL	Karahalli	8.10 120	*i* P	Pn	13 40 03.0	+1.0
YER	Yerkesik	8.13 131	*e*P	Pn	13 40 03.7	+1.2
YER	Yerkesik	8.13 131	*e*P	Pn	13 40 03.7	+1.2
MOTA	Moosalm	8.15 308	⇑*i*Pn	Pn	13 40 04.5	+1.8
	comp=N,97nm,0.6s,SNR=124					
MOTA	Moosalm	8.15 308	Pn	Pn	13 40 04.5	+1.8
	comp=N,97nm,0.6s,SNR=124					
IDI	Anoyia	8.15 154	Pn	Pn	13 40 03.7	+0.9
	comp=N,2.1nm,0.3s,baz=355,slow=9.6,SNR=9.2					
IDI			Sn	Sn	13 41 34.3	-0.3
	comp=N,2.6nm,0.3s,baz=112,slow=19,SNR=4.8					
DPC	Dobruska-Polom	8.16 340	*e*P	Pn	13 40 04.8	+2.0
DPC			*e*		13 41 34.4	
DPC	Dobruska-Polom	8.16 340	*e*Pn	Pn	13 40 05.1	+2.3
DPC	Dobruska-Polom	8.16 340	*e*PN	Pn	13 40 04.8	+2.0
DPC			*e*SN	Sn	13 41 34.4	-0.3
DPC	Dobruska-Polom	8.16 340	Pn	Pn	13 40 04.8	+2.0
DPC			Sn	Sn	13 41 34.4	-0.3
FETA	Feichten	8.21 305	⇑*i*Pn	Pn	13 40 05.8	+2.2
	comp=N,60nm,0.7s,SNR=25					
FETA			⇑*i*Sn	Sn	13 41 36.9	+0.8
	comp=N,37nm,0.8s					
FETA	Feichten	8.21 305	Pn	Pn	13 40 05.8	+2.2
	comp=N,60nm,0.7s,SNR=25					
FETA			Sn	Sn	13 41 36.9	+0.8
	comp=N,37nm,0.8s					
MDUB	Mudurnu	8.26 102	P	Pn	13 40 07.1	+2.9
PGF	Pioggiola	8.55 273	*e*Pn	Pn	13 40 04.7	-3.6
PGF			*e*Sn	Sn	13 41 35.9	-8.5
	comp=N,81nm,1.1s					
PGF	Pioggiola	8.55 273	*e*P	Pn	13 40 04.7	-3.6
PGF			*e*		13 41 35.9	
PGF	Pioggiola	8.55 273	*e*Pn	Pn	13 40 04.7	-3.6
PGF			*e*Sn	Sn	13 41 35.9	-8.5
PGF	Pioggiola	8.55 273	*e*Pn	Pn	13 40 04.7	-3.6
PGF			*e*Sn	Sn	13 41 35.9	-8.5
KSP	Ksiaz	8.63 342	*e*P	Pn	13 40 11.2	+2.1
KSP	Ksiaz	8.63 342	*e*P	Pn	13 40 12.0	+2.9
KSP	Ksiaz	8.63 342	*e*P	Pn	13 40 11.2	+2.1
DAVOX	Davos/Dischmat	8.63 302	Pn	Pn	13 40 09.9	+0.5
	comp=N,4.4nm,0.3s,baz=108,slow=19,SNR=17					
DAVOX			LR	LR	13 44 15.7	
	comp=N,2μm,20.7s,baz=95,slow=43					
SHUT	Suhut-Afyon	8.64 116	P	Pn	13 40 10.6	+1.1
SHUT	Suhut-Afyon	8.64 116	*i* P	Pn	13 40 10.6	+1.1
ARG	Arkhangelos	8.73 136	P	Pn	13 40 11.4	+0.8
ARG	Arkhangelos	8.73 136	*i* P	Pn	13 40 11.4	+0.8
DAVA	Damuels	8.85 305	*e*Pn	Pn	13 40 15.4	+3.1
DAVA	Damuels	8.85 305	⇑Pn	Pn	13 40 14.3	+2.0
	comp=N,56nm,0.8s					
DAVA	Damuels	8.85 305	Pn	Pn	13 40 14.3	+2.0
	comp=N,56nm,0.8s					
TUE	Stuetta	8.85 299	*e*P	Pn	13 40 12.5	+0.1
	comp=N,51nm,0.8s					
TUE	Stuetta	8.85 299	*e*P	Pn	13 40 12.5	+0.1
	comp=N,51nm,0.8s					
SVRH	Sivrihisar-ESK	8.88 108	P	Pn	13 40 14.0	+1.3
SVRH	Sivrihisar-ESK	8.88 108	*i* P	Pn	13 40 14.0	+1.3
FETY	Fethiye	8.94 130	P	Pn	13 40 13.3	-0.1
FETY	Fethiye	8.94 130	*i* P	Pn	13 40 13.4	-0.1
BEL	Belsk	9.10 1	*e*P	Pn	13 40 18.6	+2.9
BEL	Belsk	9.10 1	*e*P	Pn	13 40 18.6	+2.9
SAFT	Safranbolu	9.13 95	P	Pn	13 40 16.8	+0.7
SAFT	Safranbolu	9.13 95	*i* P	Pn	13 40 16.8	+0.7
ELL	Elmali	9.34 127	*e*P	Pn	13 40 20.9	+2.0
ELL	Elmali	9.34 127	*e*P	Pn	13 40 21.0	+2.0
KIZT	Kizilcal	9.38 110	P	Pn	13 40 22.3	+2.7
KIZT	Kizilcal	9.38 110	*i* P	Pn	13 40 22.3	+2.7
WERN	Wernitzgruen	9.44 326	*e*Pn	Pn	13 40 26.0	+5.7
GRFO	Grafenberg	9.51 320	*e*P	Pn	13 40 22.7	+1.4
GRFO			pmax	pmax		
	comp=Z,88nm,1.1s					
GRFO	Grafenberg	9.51 320	*e*P	Pn	13 40 22.7	+1.4
	comp=Z,88nm,1.1s					
GRFO	Grafenberg	9.51 320	*e*P	Pn	13 40 22.7	+1.4
	comp=Z,88nm,1.1s					
SAOF	Saorge	9.58 282	*e*P	Pn	13 40 22.4	+0.1
SAOF	Saorge	9.58 282	*e*P	Pn	13 40 22.4	+0.1
SBF	Sospel	9.66 281	*e*Pn	Pn	13 40 19.8	-3.7
SBF			*e*Sn	Sn	13 42 02.2	-9.5
	comp=Z,44nm,0.7s		

BFO Black Forest 10.26 307 *eP* **Pn 13 40 30.1 -1.5**
comp=N,34nm,0.6s
BRTR Keskin Array B 10.27 103 Pn **Pn 13 40 34.8 +2.9**
comp=N,0.3nm,0.3s,baz=293,slow=13,SNR=6.7
BNI Bardonecchia 10.31 288 *eP* **Pn 13 40 31.6 -0.8**
BNI pmax pmax
comp=Z,23nm,0.8s
BNI Bardonecchia 10.31 288 *eP* **Pn 13 40 31.6 -0.8**
comp=Z,23nm,0.8s
BNI Bardonecchia 10.31 288 *eP* **Pn 13 40 31.6 -0.8**
comp=Z,23nm,0.8s
LPG La Plagne 10.33 290 *e*Pn Pn 13 40 29.1 -3.7
LPG *e*Sn Sn 13 42 18.4 -10
comp=Z,72nm,0.8s
LPG La Plagne 10.33 290 *e*P Pn 13 40 29.1 -3.7
LPG *e* 13 42 18.4
LPG La Plagne 10.33 290 *e*Pn Pn 13 40 29.1 -3.7
LPG *e*Sn Sn 13 42 18.4 -10
LPG La Plagne 10.33 290 *e*Pn Pn 13 40 29.1 -3.7
LPG *e*Sn Sn 13 42 18.4 -10
comp=Z,24nm,0.5s
LPL La Plagne 10.35 290 *e*P Pn 13 40 29.2 -3.8
LPL *e* 13 42 18.7
LPL La Plagne 10.35 290 *e*Pn Pn 13 40 29.2 -3.8
LPL *e*Sn Sn 13 42 18.7 -10
LPL La Plagne 10.35 290 *e*Pn Pn 13 40 29.2 -3.8
LPL *e*Sn Sn 13 42 18.7 -10
TOD Tromm 10.67 314 *e*P **Pn 13 40 37.2 0.0**
MOF Molkenrain 10.77 303 *e*P **Pn 13 40 37.5 -1.1**
MOF Molkenrain 10.77 303 *e*P **Pn 13 40 37.5 -1.1**
GKP Gorka Klasztor 10.77 349 *e*P **Pn 13 40 40.6 +2.1**
GKP Gorka Klasztor 10.77 349 *e*P **Pn 13 40 40.6 +2.1**
GKP Gorka Klasztor 10.77 349 *e*P **Pn 13 40 40.6 +2.1**
LOMF Lomont 10.78 300 *e*P **Pn 13 40 37.5 -1.2**
LOMF Lomont 10.78 300 *e*P **Pn 13 40 37.5 -1.2**
ORIF Oris-en-Rattie 10.86 287 *e*Pn Pn 13 40 35.8 -4.0
ORIF *e*Sn Sn 13 42 30.6 -10
comp=Z,22nm,0.7s
ORIF Oris-en-Rattie 10.86 287 *e*P Pn 13 40 35.8 -4.0
ORIF *e* 13 42 30.6
ORIF Oris-en-Rattie 10.86 287 *e*Pn Pn 13 40 35.8 -4.0
ORIF *e*Sn Sn 13 42 30.6 -10
ORIF Oris-en-Rattie 10.86 287 *e*Pn Pn 13 40 35.8 -4.0
ORIF *e*Sn Sn 13 42 30.6 -10
ECH Echery 10.91 305 P **Pn 13 40 40.3 -0.1**
ECH pmax pmax
comp=Z,37nm,1.0s
ECH Echery 10.91 305 *e*P **Pn 13 40 39.9 -0.5**
ECH Echery 10.91 305 P **Pn 13 40 40.3 -0.1**
comp=Z,37nm,1.0s
ECH Echery 10.91 305 P **Pn 13 40 40.3 -0.1**
comp=Z,37nm,1.0s
CDF Champ du Feu 10.92 306 *e*Pn Pn 13 40 36.6 -4.0
CDF Champ du Feu 10.92 306 *e*P Pn 13 40 36.6 -4.0
CDF Champ du Feu 10.92 306 *e*Pn Pn 13 40 36.6 -4.0
CDF Champ du Feu 10.92 306 *e*Pn Pn 13 40 36.6 -4.0
HINF Hinteralfeld 10.93 302 *e*Pn Pn 13 40 36.7 -4.1
HINF *e*Sn Sn 13 42 32.2 -11
comp=Z,22nm,1.0s
HINF Hinteralfeld 10.93 302 *e*P Pn 13 40 36.7 -4.1
HINF *e* 13 42 32.2
HINF Hinteralfeld 10.93 302 *e*Pn Pn 13 40 36.7 -4.1
HINF *e*Sn Sn 13 42 32.2 -11
HINF Hinteralfeld 10.93 302 *e*Pn Pn 13 40 36.7 -4.1
HINF *e*Sn Sn 13 42 32.2 -11
DIKM Dikmen 10.93 91 *e*P **Pn 13 40 42.4 +1.6**
DIKM Dikmen 10.93 91 *e*P **Pn 13 40 42.4 +1.6**
SMRF Simiane la Rot 11.01 282 *e*Pn Pn 13 40 38.1 -3.8
SMRF Simiane la Rot 11.01 282 *e*Pn Pn 13 40 38.1 -3.8
SMRF Simiane la Rot 11.01 282 *e*Pn Pn 13 40 38.1 -3.8
CABF La Chapelle 11.03 296 *e*Pn Pn 13 40 38.4 -3.8
CABF *e*Sn Sn 13 42 34.8 -11
comp=Z,29nm,0.9s
CABF La Chapelle 11.03 296 *e*P Pn 13 40 38.4 -3.8
CABF *e* 13 42 34.8
CABF La Chapelle 11.03 296 *e*Pn Pn 13 40 38.4 -3.8
CABF *e*Sn Sn 13 42 34.8 -11
CABF La Chapelle 11.03 296 *e*Pn Pn 13 40 38.4 -3.8
CABF *e*Sn Sn 13 42 34.8 -11
KEST Kesra 11.18 235 Pn **Pn 13 40 45.9 +1.6**
comp=Z,0.1nm,0.3s,baz=349,slow=10,SNR=3.0
KEST Kesra 11.18 235 P **Pn 13 40 47.3 +3.1**
KEST Kesra 11.18 235 P **Pn 13 40 47.3 +3.1**
TNS Taunus Mts 11.22 316 *e*Pn **Pn 13 40 46.8 +2.0**
TNS Taunus Mts 11.22 316 *e*Pn **Pn 13 40 46.8 +2.0**
HAU Haudompre 11.32 303 *e*Pn Pn 13 40 42.0 -4.0
HAU *e*Sn Sn 13 42 41.3 -11
comp=Z,6.4nm,0.3s
HAU Haudompre 11.32 303 *e*P Pn 13 40 42.0 -4.0
HAU *e* 13 42 41.3
HAU Haudompre 11.32 303 *e*Pn Pn 13 40 42.0 -4.0
HAU *e*Sn Sn 13 42 41.3 -11
HAU Haudompre 11.32 303 *e*Pn Pn 13 40 42.0 -4.0
HAU *e*Sn Sn 13 42 41.3 -11
SUW Suwalki 11.41 8 *e*P **Pn 13 40 48.8 +1.6**
SUW Suwalki 11.41 8 *e*P **Pn 13 40 48.8 +1.6**
SUW Suwalki 11.41 8 *e*P **Pn 13 40 48.8 +1.6**
RUP Ruppelstein 11.67 311 *e*P **Pn 13 40 52.5 +1.6**
VIVF Saint-Julien-l 11.71 286 *e*Pn Pn 13 40 47.6 -3.7
VIVF Saint-Julien-l 11.71 286 *e*P Pn 13 40 47.6 -3.7
VIVF Saint-Julien-l 11.71 286 *e*Pn Pn 13 40 47.6 -3.7
VIVF Saint-Julien-l 11.71 286 *e*Pn Pn 13 40 47.6 -3.7
SSB Saint Sauveur 11.84 288 *e*P **Pn 13 40 51.8 -1.4**
SSB pmax pmax
comp=Z,17nm,0.8s
SSB Saint Sauveur 11.84 288 *e*P **Pn 13 40 51.8 -1.4**
comp=Z,17nm,0.8s
SSB Saint Sauveur 11.84 288 *e*P **Pn 13 40 51.8 -1.4**
comp=Z,17nm,0.8s
PAGF Fort de Pagny 11.92 304 *e*Pn Pn 13 40 50.2 -4.0
PAGF Fort de Pagny 11.92 304 *e*Pn Pn 13 40 50.2 -4.0
PAGF Fort de Pagny 11.92 304 *e*Pn Pn 13 40 50.2 -4.0
SFTF Sexfontaines 12.21 302 *e*Pn Pn 13 40 54.0 -4.2
baz=126
SFTF Sexfontaines 12.21 302 *e*Pn Pn 13 40 54.0 -4.2
SFTF Sexfontaines 12.21 302 *e*Pn Pn 13 40 54.0 -4.2
LASF Ste Croix 12.25 282 *e*Pn Pn 13 40 54.9 -3.9
LASF Ste Croix 12.25 282 *e*Pn Pn 13 40 54.9 -3.9
LASF Ste Croix 12.25 282 *e*Pn Pn 13 40 54.9 -3.9
MEZF Maizieres J'vi 12.31 303 *e*Pn Pn 13 40 55.2 -4.3
MEZF Maizieres J'vi 12.31 303 *e*Pn Pn 13 40 55.2 -4.3
MEZF Maizieres J'vi 12.31 303 *e*Pn Pn 13 40 55.2 -4.3
SMF Signal de Mont 12.55 294 *e*Pn Pn 13 40 58.8 -4.0
SMF *e*Sn Sn 13 43 10.8 -11
comp=Z,3.3nm,0.4s
SMF Signal de Mont 12.55 294 *e*P Pn 13 40 58.8 -4.0
SMF *e* 13 43 10.8
SMF Signal de Mont 12.55 294 *e*Pn Pn 13 40 58.8 -4.0
SMF *e*Sn Sn 13 43 10.8 -11
SMF Signal de Mont 12.55 294 *e*Pn Pn 13 40 58.8 -4.0
SMF *e*Sn Sn 13 43 10.8 -11
LOR Lormes 12.68 297 *e*Pn Pn 13 41 00.6 -4.0
baz=115
LOR *e*Sn Sn 13 43 13.9 -12
comp=Z,12nm,0.6s
LOR Lormes 12.68 297 *e*P Pn 13 41 00.6 -4.0
LOR *e* 13 43 13.9
LOR Lormes 12.68 297 *e*Pn Pn 13 41 00.6 -4.0
LOR *e*Sn Sn 13 43 13.9 -12
LOR Lormes 12.68 297 *e*Pn Pn 13 41 00.6 -4.0
LOR *e*Sn Sn 13 43 13.9 -12
MNK Minsk 12.70 20 *e*P **Pn 13 41 02.0 -2.8**
MNK pmax pmax
comp=Z,200nm,1.0s
MICGM Minsk 12.71 20 *e*P **Pn 13 41 02.0 -2.9**
MEM Membach 12.73 313 P **Pn 13 41 08.2 +2.9**
NACGM Naroch 12.83 16 *e* **Pn 13 41 04.0 -2.6**
SSF Saint Saulge 12.86 295 *e*Pn Pn 13 41 03.2 -3.9
SSF *e*Sn Sn 13 43 18.4 -11
comp=Z,5.7nm,0.5s
SSF Saint Saulge 12.86 295 *e*P Pn 13 41 03.2 -3.9
SSF *e* 13 43 18.4
SSF Saint Saulge 12.86 295 *e*Pn Pn 13 41 03.2 -3.9
SSF *e*Sn Sn 13 43 18.4 -11
AVF Avril sur Loir 12.90 294 *e*Pn Pn 13 41 03.6 -4.1
AVF *e*Sn Sn 13 43 19.2 -12
comp=Z,3.1nm,0.3s
AVF Avril sur Loir 12.90 294 *e*P Pn 13 41 03.6 -4.1
AVF *e* 13 43 19.2
AVF Avril sur Loir 12.90 294 *e*Pn Pn 13 41 03.6 -4.1
AVF *e*Sn Sn 13 43 19.2 -12
AVF Avril sur Loir 12.90 294 *e*Pn Pn 13 41 03.6 -4.1
AVF *e*Sn Sn 13 43 19.2 -12
BCLA Clavier 13.01 311 P **Pn 13 41 08.0 -1.2**
BCLA Clavier 13.01 311 P **Pn 13 41 07.9 -1.2**
GIVF Givet 13.12 310 *e*Pn Pn 13 41 06.3 -4.4
GIVF Givet 13.12 310 *e*P Pn 13 41 06.3 -4.4
GIVF Givet 13.12 310 *e*Pn Pn 13 41 06.3 -4.4
BGF Bois d'Agland 13.20 293 *e*Pn Pn 13 41 07.7 -4.0
BGF *e*Sn Sn 13 43 26.7 -11
comp=Z,5.6nm,0.4s
BGF Bois d'Agland 13.20 293 *e*P Pn 13 41 07.7 -4.0
BGF *e* 13 43 26.7
BGF Bois d'Agland 13.20 293 *e*Pn Pn 13 41 07.7 -4.0
BGF *e*Sn Sn 13 43 26.7 -11
BGF Bois d'Agland 13.20 293 *e*Pn Pn 13 41 07.7 -4.0
BGF *e*Sn Sn 13 43 26.7 -11
DOU Dourbes 13.25 309 P **Pn 13 41 11.2 -1.2**
DOU Dourbes 13.25 309 P **Pn 13 41 11.2 -1.2**
BAIF Baives 13.46 309 *e*Pn Pn 13 41 10.7 -4.5
BAIF Baives 13.46 309 *e*P Pn 13 41 10.7 -4.5
BAIF Baives 13.46 309 *e*Pn Pn 13 41 10.7 -4.5
MTLF Montolieu 13.46 279 *e*Pn Pn 13 41 11.4 -3.9
MTLF Montolieu 13.46 279 *e*P Pn 13 41 11.4 -3.9
MTLF Montolieu 13.46 279 *e*Pn Pn 13 41 11.4 -3.9
MTLF Montolieu 13.46 279 *e*Pn Pn 13 41 11.4 -3.9
HYF Humbligny 13.48 296 *e*Pn Pn 13 41 11.6 -4.0
HYF Humbligny 13.48 296 *e*Pn Pn 13 41 11.6 -4.0
HYF Humbligny 13.48 296 *e*Pn Pn 13 41 11.6 -4.0
CAF Calviac 13.56 286 *e*Pn Pn 13 41 12.6 -4.1
CAF Calviac 13.56 286 *e*P Pn 13 41 12.6 -4.1
CAF Calviac 13.56 286 *e*Pn Pn 13 41 12.6 -4.1
CAF Calviac 13.56 286 *e*Pn Pn 13 41 12.6 -4.1
TCF Toulx Ste Croi 13.59 291 *e*Pn Pn 13 41 13.1 -4.0
TCF Toulx Ste Croi 13.59 291 *e*P Pn 13 41 13.1 -4.0
TCF Toulx Ste Croi 13.59 291 *e*Pn Pn 13 41 13.1 -4.0
RJF Les Rejaudoux 13.97 287 *e*Pn Pn 13 41 18.1 -4.1
RJF Les Rejaudoux 13.97 287 *e*P Pn 13 41 18.1 -4.1
RJF Les Rejaudoux 13.97 287 *e*Pn Pn 13 41 18.1 -4.1
RJF Les Rejaudoux 13.97 287 *e*Pn Pn 13 41 18.1 -4.1
LFF La Frestale 14.50 286 *e*Pn Pn 13 41 25.6 -3.9
LFF La Frestale 14.50 286 *e*P Pn 13 41 25.6 -3.9
LFF La Frestale 14.50 286 *e*Pn Pn 13 41 25.6 -3.9
LFF La Frestale 14.50 286 *e*Pn Pn 13 41 25.6 -3.9
MMAI Mount Meron Ar 15.17 125 Pn **Pn 13 41 39.4 +0.7**
comp=Z,0.8nm,0.3s,baz=339,slow=33,SNR=3.6
VORD Divnogorie 15.18 51 *e*P **Pn 13 41 36.5 -2.0**
VORD pmax pmax
comp=N,50nm,0.9s
VORD pmax pmax
comp=E,30nm,0.9s
VORD pmax pmax
comp=Z,20nm,0.9s
VORD MLR MLR
comp=N,980nm,16.0s
VORD MLR MLR
comp=E,1μm,16.0s
VORD MLR MLR
comp=Z,1μm,16.0s
VSR Storozhevoye 15.22 50 *e*P **Pn 13 41 38.3 -0.8**
VSR pmax pmax
comp=N,30nm,0.8s
VSR pmax pmax
comp=E,60nm,0.8s
VSR pmax pmax
comp=Z,50nm,0.8s
VSR MLR MLR
comp=N,1μm,18.0s
VSR MLR MLR
comp=E,1μm,18.0s
VSR MLR MLR
comp=Z,2μm,18.0s
MFF Saint Martin d 15.25 292 *e*Pn **Pn 13 41 35.5 -4.0**
MFF Saint Martin d 15.25 292 *e*P **Pn 13 41 35.5 -4.0**
MFF Saint Martin d 15.25 292 *e*Pn **Pn 13 41 35.5 -4.0**
MFF Saint Martin d 15.25 292 *e*Pn **Pn 13 41 35.5 -4.0**
LDF La Druitiere 15.60 299 *e*Pn **Pn 13 41 40.2 -4.0**
LDF La Druitiere 15.60 299 *e*P **Pn 13 41 40.2 -4.0**
LDF La Druitiere 15.60 299 *e*Pn **Pn 13 41 40.2 -4.0**
FLN La Foliniere 15.88 300 *e*Pn **Pn 13 41 44.0 -3.7**
FLN La Foliniere 15.88 300 *e*P **Pn 13 41 44.0 -3.7**
FLN La Foliniere 15.88 300 *e*Pn **Pn 13 41 44.0 -3.7**
GRR Gorron 16.03 298 *e*Pn **Pn 13 41 46.0 -3.7**
GRR Gorron 16.03 298 *e*P **Pn 13 41 46.0 -3.7**
GRR Gorron 16.03 298 *e*Pn **Pn 13 41 46.0 -3.7**
GRR Gorron 16.03 298 *e*Pn **Pn 13 41 46.0 -3.7**
KIV Kislovodsk 16.11 78 *e*P **Pn 13 41 52.1 +1.3**
KIV pmax pmax
comp=Z,58nm,1.1s
KIV Kislovodsk 16.11 78 *e*P **P 13 41 52.6 -1.5**
comp=Z,55nm,1.0s
KIV Kislovodsk 16.11 78 *e*P **P 13 41 52.6 -1.5**
comp=Z,55nm,1.0s
OBN Obninsk 16.18 35 *e*P **Pn 13 41 49.2 -2.3**
OBN pmax pmax
comp=Z,103nm,1.2s
OBN MLR MLR
comp=Z,878nm,15.0s
OBN Obninsk 16.18 35 Pn **Pn 13 41 48.6 -2.9**
comp=Z,1.5nm,0.3s,baz=44,slow=22,SNR=9.0
OBN Obninsk 16.18 35 *e*P **Pn 13 41 48.8 -2.7**
VSU Vasula 16.20 12 *e*P **Pn 13 41 51.2 -0.6**
VSU pmax pmax
comp=Z,127nm,1.6s
KBZ Khabaz 16.28 79 Pn **P 13 41 55.3 -0.5**
comp=Z,0.2nm,0.3s,baz=290,slow=6.3,SNR=16
VRHR Novokhopersk 16.58 52 *e*P **Pn 13 41 54.6 -2.0**
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR MLR MLR
comp=N,480nm,19.0s
VRHR MLR MLR
comp=E,2μm,19.0s
VRHR MLR MLR
comp=Z,2μm,19.0s
ASF Jabal al Asfar 16.67 124 Pn **P 13 42 01.2 +0.9**
comp=Z,0.3nm,0.3s,baz=239,slow=3.8,SNR=7.8
ONI Oni 16.81 83 P **P 13 42 03.2 +1.4**
ONI Oni 16.81 83 P **P 13 42 03.2 +1.4**
AKH Akhalkalaki 17.05 87 P **P 13 42 05.0 +0.5**
AKH Akhalkalaki 17.05 87 P **P 13 42 05.0 +0.5**
MOS Moscow 17.05 34 *e*P **Pn 13 42 00.3 -2.2**
MOS *e* 13 45 16.6
MOS pmax pmax
comp=Z,500nm,1.6s
MOS pmax pmax
comp=Z,275nm,1.3s
SGMF Saint Gilles 17.12 297 *e*Pn **Pn 13 42 01.0 -2.4**
SGMF Saint Gilles 17.12 297 *e*P **Pn 13 42 01.0 -2.4**
SGMF Saint Gilles 17.12 297 *e*Pn **Pn 13 42 01.0 -2.4**
SGMF Saint Gilles 17.12 297 *e*Pn **Pn 13 42 01.0 -2.4**
EIL Elat 17.41 134 P **P 13 42 08.5 0.0**
comp=Z,0.3nm,0.3s,baz=300,slow=7.7,SNR=6.2
QUIF Quistinic 17.46 295 *e*Pn **Pn 13 42 05.6 -2.2**
QUIF Quistinic 17.46 295 *e*P **Pn 13 42 05.6 -2.2**
QUIF Quistinic 17.46 295 *e*Pn **Pn 13 42 05.6 -2.2**
QUIF Quistinic 17.46 295 *e*Pn **Pn 13 42 05.6 -2.2**
ROSF Rostrenen 17.60 297 *e*Pn **Pn 13 42 07.6 -1.9**
ROSF Rostrenen 17.60 297 *e*P **Pn 13 42 07.6 -1.9**
ROSF Rostrenen 17.60 297 *e*Pn **Pn 13 42 07.6 -1.9**
ROSF Rostrenen 17.60 297 *e*Pn **Pn 13 42 07.6 -1.9**
TBLG Delisi 17.89 85 P **P 13 42 16.9 +3.1**
HFS Hagfors 17.93 349 P **Pn 13 42 11.8 -1.5**
comp=Z,0.4nm,0.3s,baz=158,slow=12,SNR=21
GNI Garni 18.27 90 P **P 13 42 19.7 +1.6**
comp=Z,1.2nm,0.3s,baz=78,slow=19,SNR=2.6
DGRG David-gareji 18.42 86 P **P 13 42 19.4 -0.2**
DGRG David-gareji 18.42 86 P **P 13 42 19.4 -0.2**
ESDC Sonseca Array 18.71 269 P **Pn 13 42 23.4 +0.1**
comp=Z,0.3nm,0.3s,baz=67,slow=12,SNR=12
ESDC LR LR 13 50 02.1
comp=Z,187nm,19.0s,baz=200,slow=38
FINES FINESS Array B 19.02 8 P **P 13 42 24.9 -1.1**
comp=Z,0.6nm,0.3s,baz=186,slow=13,SNR=42
FINES PcP **PcP 13 46 48.8 -1.5**
comp=Z,0.1nm,0.3s,baz=159,slow=5.9,SNR=4.5
FINES LR LR 13 49 25.4
comp=Z,608nm,19.3s,baz=194,slow=36
NB2 NORSAR Subarra 19.18 346 P **P 13 42 26.9 -0.9**
comp=Z,18nm,1.1s,baz=158,slow=11
NB2 NORSAR Subarra 19.18 346 P **P 13 42 26.9 -0.9**
comp=Z,18nm,1.1s,SNR=4.2
NOA NORSAR Array B 19.18 346 P **P 13 42 27.3 -0.5**
comp=Z,0.6nm,0.3s,baz=157,slow=11,SNR=19
NOA LR LR 13 50 47.4
comp=Z,282nm,18.3s,baz=145,slow=40
KAF Kangasniemi 19.70 8 *e*P **P 13 42 33.0 -0.4**
KAF pmax pmax
comp=Z,17nm,0.8s
KAF Kangasniemi 19.70 8 *e*p **P 13 42 33.0 -0.4**
comp=Z,17nm,0.8s
KAF Kangasniemi 19.70 8 *e*P **P 13 42 33.0 -0.4**
comp=Z,17nm,0.8s
EKA Eskdalemuir Ar 19.91 317 P **P 13 42 35.5 -0.2**
baz=116,slow=10,SNR=31
ESK Eskdalemuir 19.93 317 *i* P **Pn 13 42 37.1 -0.5**
ESK Eskdalemuir 19.93 317 *e*P **P 13 42 35.6 -0.3**
comp=Z,144nm,1.0s
ESK Eskdalemuir 19.93 317 *e*P **P 13 42 35.6 -0.3**
comp=Z,144nm,1.0s
MVO Moncorvo 20.58 275 *e*P Pn 13 42 47.1 +1.6
comp=Z,47nm,1.5s
POLO Lamas de Olo 21.09 276 *e*P **P 13 42 52.4 +3.7**
comp=Z,14nm,1.1s
MTE Manteigas 21.15 273 *e*P **P 13 42 50.3 +1.0**
comp=Z,68nm,1.8s
MTE Manteigas 21.15 273 *e*P **P 13 42 49.8 +0.5**
comp=Z,55nm,1.1s
MTE Manteigas 21.15 273 *e*P **P 13 42 49.8 +0.5**
comp=Z,55nm,1.1s
JOF Joensuu 21.17 14 *e*P **P 13 42 48.1 -1.2**
JOF pmax pmax
comp=Z,7.0nm,0.6s
JOF Joensuu 21.17 14 *e*p **P 13 42 48.1 -1.2**
comp=Z,7.1nm,0.6s
JOF Joensuu 21.17 14 *e*P **P 13 42 48.1 -1.2**
comp=Z,7.0nm,0.6s
PCBR Castelo Branco 21.25 272 *e*P **P 13 42 54.1 +3.7**
comp=Z,31nm,1.4s
PGAV Gavieira, Arco 21.31 278 *e*P P 13 42 56.1 +5.0
comp=Z,78nm,1.4s
PMRV Marv??o 21.32 271 *e*P **P 13 42 55.3 +4.2**
comp=Z,39nm,1.3s
PVIS Viseu 21.32 274 *e*P **P 13 42 54.8 +3.6**
comp=Z,51nm,1.4s
KLMR Klimovskoe 21.44 26*d i*P **P 13 42 51.2 -1.0**
KLMR pmax pmax
comp=Z,431nm,1.1s
KLMR Klimovskoe 21.44 26 *i* P **P 13 42 51.2 -1.0**
comp=Z,431nm,1.1s
PESTR Estremoz 21.64 269 *e*P P 13 43 01.3 +6.7
comp=Z,36nm,1.1s
PTOM Tomar 22.01 272 *e*P **P 13 43 02.1 +3.6**
comp=Z,86nm,1.4s
PMTG Montargil 22.04 270 *e*P **P 13 43 01.5 +2.6**
comp=Z,38nm,1.3s
PMTG Montargil 22.04 270 *e*P **P 13 43 01.5 +2.6**
comp=Z,38nm,1.3s
MDT Midelt 22.18 252 P **P 13 43 00.4 -0.1**
comp=Z,6.8nm,0.8s,baz=73,slow=12,SNR=5.0
MDT LR LR 13 52 28.5
comp=Z,301nm,18.2s,baz=37,slow=39
PVAQ Vaqueiros 22.26 266 *e*P **P 13 43 03.3 +2.1**
comp=Z,41nm,1.5s
PVAQ Vaqueiros 22.26 266 *e*P **P 13 43 03.3 +2.1**
comp=Z,41nm,1.5s
MESJ Messejana 22.46 267 *e*P **P 13 43 06.5 +3.1**
MESJ Messejana 22.46 267 *e*P **P 13 43 06.5 +3.1**
PNCL Nicolau / Gran 22.59 268 *e*P **P 13 43 06.8 +2.0**
comp=Z,60nm,1.9s
PNCL Nicolau / Gran 22.59 268 *e*P **P 13 43 06.8 +2.0**
comp=Z,60nm,1.9s
TAM Tamanrasset 23.52 217 *e*P **P 13 43 15.6 +1.1**
TAM pmax pmax
comp=Z,35nm,1.6s
TAM Tamanrasset 23.52 217 *e*P **P 13 43 15.6 +1.1**
comp=Z,35nm,1.6s
TAM Tamanrasset 23.52 217 *e*P **P 13 43 15.6 +1.1**
comp=Z,35nm,1.6s
TMCR Tamitsa 23.68 19 *e*P **P 13 43 13.1 -2.4**
TMCR *e* 13 46 56.2
TMCR pmax pmax
comp=Z,12nm,0.2s
PRGR Permogore 24.09 30 *e*P **P 13 43 17.4 -2.1**
PRGR pmax pmax
comp=Z,49nm,0.6s
APA Apatity 25.83 11⇑ *i*P **P 13 43 36.8 +1.6**
APA *i* S **S 13 48 02.0 -1.8**
APA MLR MLR
comp=Z,2μm,15.0s
APA Apatity 25.83 11 *i* P **P 13 43 36.8 +1.6**
AKTK Aktyubinsk 26.61 60 P **P 13 43 42.3 -0.2**
AKTO Aktyubinsk 26.61 60 P **P 13 43 42.2 -0.3**
comp=Z,12nm,1.0s,baz=266,slow=18,SNR=22
AKTO LR LR 13 55 31.8
comp=Z,771nm,18.5s,baz=273,slow=39
ARCES ARCESS Array B 26.98 4 P **P 13 43 44.8 -0.8**
comp=Z,4.6nm,0.7s,baz=198,slow=7.6,SNR=7.8
ARCES PcP **PcP 13 47 05.4 -1.3**
comp=Z,3.6nm,0.9s,baz=291,slow=10,SNR=2.8
KEV Kevo 27.28 5 *e*P **P 13 43 44.8 -3.5**
KEV Kevo 27.28 5 *e*p **P 13 43 44.8 -3.5**
comp=Z,0.4nm,0.4s
ARU Arti 27.76 47*d i*P **P 13 43 52.0 -0.7**
ARU 13 44 37.6
ARU S **S 13 48 35.4 +1.0**
ARU SS **SnSn 13 49 52.3 +5.4**
ARU pmax pmax
comp=Z,60nm,1.2s
ARU Arti 27.76 47 *e*P **P 13 43 52.2 -0.5**
comp=Z,71nm,1.3s
ARU S **S 13 48 35.4 +1.0**
ARU Arti 27.76 47 *e*P **P 13 43 52.2 -0.5**
comp=Z,71nm,1.3s
AB31 Akbulak array 27.86 63 P **P 13 43 53.2 -0.5**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
AB31 Akbulak array 27.86 63 P **P 13 43 53.2 -0.5**
comp=Z,4.0nm,0.6s
GEYT Alibeck 28.84 87 P **P 13 44 03.2 +0.6**
comp=Z,8.2nm,0.7s,baz=280,slow=8.9,SNR=15
SVE Sverdlovsk 28.96 47‖ *i*P **P 13 44 03.6 +0.2**
SVE pmax pmax
comp=Z,47nm,1.0s
SVE Sverdlovsk 28.96 47 *i* P **P 13 44 03.6 +0.2**
comp=Z,47nm,1.0s
JMIC Jan Mayen 31.81 342 LR LR 13 56 47.8
comp=Z,106nm,19.8s,baz=64,slow=35
TORD Torodi Ar. Bea 33.72 215 P **P 13 44 46.0 +0.4**
comp=Z,11nm,0.9s,baz=16,slow=9.3,SNR=54
TORD PcP **PcP 13 47 24.1 -1.1**
comp=Z,1.8nm,0.8s,baz=338,slow=1.7,SNR=4.1
TORD LR LR 14 00 52.5
comp=Z,271nm,18.4s,baz=85,slow=40
BRVK Borovoye 34.23 55*d i*P **P 13 44 50.2 +0.5**
BRVK pmax pmax
comp=Z,44nm,1.0s
BRVK Borovoye 34.23 55 *i* P **P 13 44 50.2 +0.5**
comp=Z,44nm,1.0s
BRVK Borovoye 34.23 55 *e*P **P 13 44 49.0 -0.7**
comp=Z,34nm,0.8s
BVA0 Borovoye Array 34.29 55 *i* P **P 13 44 50.7 +0.4**
BVA0 pmax pmax
comp=Z,28nm,1.0s
BVA0 Borovoye Array 34.29 55 *i* P **P 13 44 50.7 +0.4**
comp=Z,28nm,1.0s
BVAR Borovoye Array 34.29 55 P **P 13 44 50.7 +0.4**
comp=Z,15nm,0.8s,baz=269,slow=7.1,SNR=74
BVAR PP **PP 13 46 07.1 -0.8**
comp=Z,5.7nm,0.9s,baz=279,slow=10,SNR=4.5
VOSK Vostochnaya 34.67 55 P **P 13 44 53.1 -0.5**
VOSK pmax pmax
comp=Z,17nm,1.0s
VOSK Vostochnaya 34.67 55 P **P 13 44 53.1 -0.5**
comp=Z,17nm,1.0s
SPITS Spitsbergen Ar 35.59 359 P **P 13 45 01.3 +0.1**
comp=Z,5.5nm,0.9s,baz=160,slow=12,SNR=6.7
EKS2 Erkin-Say 38.53 71 P **P 13 45 28.4 +1.6**
SNR=35
EKS2 Erkin-Say 38.53 71 *e*P **P 13 45 28.0 +1.2**
EKS2 pmax pmax
comp=Z,43nm,1.0s

EKS2	Erkin-Say	38.53	71	eP	P	13 45 28.0	+1.2
	comp=Z,42nm,1.0s						
EKS2	Erkin-Say	38.53	71	eP	P	13 45 27.9	+1.2
	comp=Z,42nm,1.0s						
AML	Almayashu	38.65	72	P	P	13 45 29.4	+1.2
	SNR=10						
AML	Almayashu	38.65	72	iP	P	13 45 29.3	+1.2
AML	Almayashu	38.65	72	iP	P	13 45 29.3	+1.2
USP	Ospenovka	38.84	70	P	P	13 45 30.9	+1.5
	SNR=5.7						
USP	Ospenovka	38.84	70	iP	P	13 45 30.8	+1.5
USP	Ospenovka	38.84	70	iP	P	13 45 30.8	+1.5
AAK	Ala-Archa	39.04	71	P	P	13 45 32.6	+1.5
	SNR=24						
AAK	Ala-Archa	39.04	71	dP	P	13 45 32.2	+1.1
AAK				pmax	pmax		
	comp=Z,109nm,1.7s						
AAK				MLR	MLR		
	comp=Z,2μm,23.0s						
AAK	Ala-Archa	39.04	71	iP	P	13 45 32.2	+1.1
	comp=Z,2μm,23.0s						
AAK	Ala-Archa	39.04	71	eP	P	13 45 32.3	+1.1
	comp=Z,33nm,1.2s						
UCH	Uchtor	39.19	72	P	P	13 45 34.5	+1.8
	SNR=14						
UCH	Uchtor	39.19	72	iP	P	13 45 34.5	+1.8
UCH	Uchtor	39.19	72	iP	P	13 45 34.5	+1.8
KURK	Kurchatov	39.65	58	eP	P	13 45 35.3	-0.5
KURK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KURK	Kurchatov	39.65	58	eP	P	13 45 35.3	-0.5
	comp=Z,7.1nm,1.1s						
KURK	Kurchatov	39.65	58	eP	P	13 45 35.3	-0.5
	comp=Z,7.1nm,1.1s						
KZA	Kyzart	39.76	72	P	P	13 45 39.7	+2.3
	SNR=5.4						
KZA	Kyzart	39.76	72	iP	P	13 45 39.6	+2.3
KZA	Kyzart	39.76	72	iP	P	13 45 39.6	+2.3
KSH	Kashi	41.20	75	P	P	13 45 49.4	+0.4
KSH				sP	sP	13 45 55.6	-0.5
KSH				PP	PnPn	13 47 27.4	-1.1
KSH				S	S	13 52 01.0	-1.0
KSH				PMZ			
	comp=Z,15nm,1.1s						
KSH				PMZ			
	comp=Z,150nm,6.4s						
KSH				LN			
	comp=Z,150nm,6.3s						
KSH				LE			
	comp=Z,620nm,14.0s						
KSH				LZ			
	comp=Z,420nm,15.3s						
NVS	Novosibirsk	41.63	51	⇓iP	P	13 45 52.3	+0.2
NVS				pmax	pmax		
	comp=Z,58nm,1.3s						
NVS				pmax	pmax		
	comp=N,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,18nm,1.1s						
NVS	Novosibirsk	41.63	51	iP	P	13 45 52.3	+0.2
	comp=E,58nm,1.3s						
DBIC	Dimbokro	42.37	219	P	P	13 45 58.5	-0.1
	comp=E,10nm,0.7s,baz=8.1,slow=10,SNR=13						
DBIC				LR	LR	14 04 11.7	
	comp=E,187nm,18.4s,baz=15,slow=37						
DBIC	Dimbokro	42.37	219	eP	P	13 45 57.8	-0.8
	comp=E,14nm,1.0s						
TIC	Toumodi	42.47	220	eP	P	13 45 58.9	-0.5
	comp=E,16nm,0.2s						
KIC	Kosan Boka	42.59	219	eP	P	13 46 00.1	-0.3
	comp=E,16nm,0.7s						
ZALV	Zalesovo Beam	42.71	52	P	P	13 46 00.8	-0.1
	comp=E,29nm,0.8s,baz=282,slow=8.9,SNR=120						
LIC	Lamto	42.84	219	eP	P	13 46 02.2	-0.2
	comp=E,46nm,0.9s						
MK31	Makanchi Array	43.00	62	iP	P	13 46 03.2	-0.3
MK31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MK31	Makanchi Array	43.00	62	iP	P	13 46 03.2	-0.3
	comp=Z,4.0nm,0.7s						
MKAR	Makanchi Array	43.00	62	P	P	13 46 03.5	0.0
	comp=Z,4.0nm,0.8s,baz=288,slow=7.1,SNR=47						
MKAR				PcP	PcP	13 47 53.5	-0.1
	comp=Z,6.3nm,1.0s,baz=297,slow=3.7,SNR=6.9						
SFJD	Kangerlussuaq	44.36	328	P	P	13 46 13.4	-0.7
	comp=Z,9.0nm,0.8s,baz=9.3,slow=10,SNR=3.7						
SFJD				LR	LR	14 04 23.0	
	comp=Z,154nm,18.6s,baz=85,slow=36						
KMBO	Kilima Mbogo	46.17	157	P	P	13 46 30.0	+0.7
	comp=Z,0.8nm,0.4s,baz=326,slow=11,SNR=2.4						
WMQ	Urumqi	47.62	65	P	P	13 46 41.2	+1.0
WMQ				sP	sP	13 46 47.0	-0.3
WMQ				PP	PP	13 48 32.0	+0.5
WMQ				S	S	13 53 35.2	+0.2
WMQ				ScS	ScS	13 56 31.8	-1.3
WMQ				PMZ			
	comp=Z,11nm,1.1s						
WMQ				PMZ			
	comp=Z,150nm,3.6s						
WMQ				LN			
	comp=Z,240nm,20.0s						
WMQ				LE			
	comp=Z,280nm,16.0s						
WMQ				LZ			
	comp=Z,680nm,18.0s						
HVS	Khovu-Aksy	48.70	53	dP	P	13 46 48.9	+0.4
HVS	Khovu-Aksy	48.70	53	iP	P	13 46 48.9	+0.4
DANN	Dangsing	52.22	84	eP	P	13 47 15.8	+0.2
	comp=Z,66nm,0.9s						
FRB	Frobisher Bay	52.37	326	LR	LR	14 08 07.0	
	comp=Z,185nm,20.5s,baz=28,slow=34						
KOLN	Koldanda	52.43	85	eP	P	13 47 16.8	-0.3
	comp=Z,12nm,0.6s						
MOY	Mondy	52.73	51	eP	P	13 47 19.9	+1.0
MOY	Mondy	52.73	51	eP	P	13 47 19.9	+1.0
GKN	Gorkha	53.06	84	eP	P	13 47 21.3	-0.4
	comp=Z,40nm,0.8s						
DMN	Daman	53.62	84	eP	P	13 47 25.8	-0.1
	comp=Z,69nm,1.3s						
KKN	Kakani	53.65	84	eP	P	13 47 25.7	-0.4
	comp=Z,14nm,0.7s						
PKIN	Phulchoki	53.85	84	eP	P	13 47 27.2	-0.5
	comp=Z,11nm,0.6s						
PKI	Pulchoki	53.87	84	eP	P	13 47 27.4	-0.4
GUN	Gumba	54.02	83	eP	P	13 47 28.6	-0.4
	comp=Z,67nm,1.2s						
TLY	Talaya	54.22	50	eP	P	13 47 30.6	+0.9
TLY				pmax	pmax		
	comp=Z,16nm,0.9s						
TLY	Talaya	54.22	50	eP	P	13 47 30.6	+0.9
	comp=Z,16nm,0.9s						
TLY	Talaya	54.22	50	eP	P	13 47 30.6	+0.9
	comp=Z,16nm,0.9s						
JIRN	Jiri	54.39	83	eP	P	13 47 31.5	-0.2
	comp=Z,31nm,1.0s						
ZAK	Zakamensk	54.58	51	eP	P	13 47 32.2	-0.3
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ZAK	Zakamensk	54.58	51	eP	P	13 47 32.2	-0.3
	comp=Z,5.0nm,1.3s						
HYB	Hyderabad	54.95	99	iP	P	13 47 32.5	-2.9
RAMN	Ramite	55.09	84	eP	P	13 47 36.1	-0.5
	comp=Z,23nm,0.6s						
SCHQ	Schefferville	55.21	315	P	P	13 47 36.0	-0.8
	comp=Z,4.0nm,0.8s,baz=63,slow=6.0,SNR=4.5						
TIXI	Tiksi	55.37	21	⇓eP	P	13 47 37.6	-0.1
TIXI				pmax	pmax		
	comp=Z,14nm,1.2s						
TIXI				MLR	MLR		
	comp=Z,483nm,26.0s						
TIXI	Tiksi	55.37	21	eP	P	13 47 37.5	-0.1
	comp=Z,12nm,1.1s						
TIXI	Tiksi	55.37	21	eP	P	13 47 37.5	-0.2
	comp=Z,12nm,1.1s						
RES	Resolute Bay	55.42	343	P	P	13 47 37.9	-0.1
	comp=Z,2.8nm,0.5s,baz=38,slow=9.6,SNR=12						
TAPN	Taplejung	55.67	83	eP	P	13 47 40.7	-0.2
ODAN	Odare	55.72	84	eP	P	13 47 40.8	-0.3
BOD	Bodaibo	56.78	40	eP	P	13 47 46.1	-1.9
BOD				pmax	pmax		
	comp=Z,9.0nm,1.3s						
LSA	Lhasa	56.86	78	P	P	13 47 49.4	-0.1
LSA	Lhasa	56.86	78	eP	P	13 47 49.7	+0.2
LSA				pmax	pmax		
	comp=Z,19nm,1.3s						
LSA	Lhasa	56.86	78	eP	P	13 47 49.7	+0.2
	comp=Z,19nm,1.3s						
LSA	Lhasa	56.86	78	eP	P	13 47 49.7	+0.2
	comp=Z,19nm,1.3s						
SONM	Songino Array	57.58	53	P	P	13 47 54.2	+0.3
	comp=Z,9.5nm,0.9s,baz=291,slow=8.3,SNR=64						
SONM				PcP	PcP	13 48 47.7	+0.6
	comp=Z,4.4nm,1.0s,baz=260,slow=3.2,SNR=6.5						
GTA	Gaotai	57.70	64	P	P	13 47 55.7	+0.8
GTA				pP	pP	13 48 00.4	+0.3
GTA				sP	sP	13 48 02.8	+0.7
GTA				PcP	PcP	13 48 48.8	+1.0
GTA				S	S	13 55 53.3	+0.3
GTA				SS	SS	13 59 44.9	+2.1
GTA				PMZ			
	comp=Z,10.0nm,1.2s						
GTA				PMZ			
	comp=Z,180nm,4.5s						
GTA				LN			
	comp=Z,620nm,18.0s						
GTA				LE			
	comp=Z,540nm,18.1s						
GTA				LZ			
	comp=Z,430nm,17.1s						
ULN	Ulaanbaatar	57.95	52	ciP	P	13 47 57.2	+0.6
ULN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ULN				MLR	MLR		
	comp=Z,540nm,18.0s						
ULN	Ulaanbaatar	57.95	52	iP	P	13 47 57.2	+0.6
	comp=Z,540nm,18.0s						
YAK	Yakutsk	61.13	31	eP	P	13 48 16.8	-1.3
YAK	Yakutsk	61.13	31	eP	P	13 48 16.8	-1.3
YAK	Yakutsk	61.13	31	eP	P	13 48 16.8	-1.3
LZH	Lanzhou	62.18	65	eP	P	13 48 27.2	+1.4
LZH				pP	pP	13 48 31.3	+0.3
LZH				sP	sP	13 48 33.8	+0.8
LZH				PMZ			
	comp=Z,24nm,1.0s						
HHC	Hu-ho-hao-te	64.46	57	eP	P	13 48 40.7	0.0
HHC				sP	sP	13 48 47.7	-0.3
HHC				PP	PP	13 51 03.7	+1.5
HHC				S	S	13 57 15.7	-3.2
HHC				PMZ			
	comp=Z,21nm,0.7s						
HHC				PMZ			
	comp=Z,340nm,8.8s						
HHC				LN			
	comp=Z,2μm,18.5s						
HHC				LE			
	comp=Z,2μm,17.3s						
HHC				LZ			
	comp=Z,2μm,16.0s						
CD2	Chengdu	65.10	70	eP	P	13 48 45.1	+0.1
CD2				PMZ			
	comp=Z,30nm,1.1s						
BILL	Bilibino	66.57	13	diP	P	13 48 52.9	-0.9
BILL				i		13 49 23.5	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BILL	Bilibino	66.57	13	eP	P	13 48 53.5	-0.3
	comp=Z,3.8nm,0.9s						
BILL	Bilibino	66.57	13	iPcP	PcP	13 49 23.5	+0.5
BILL	Bilibino	66.57	13	eP	P	13 48 53.5	-0.3
	comp=Z,3.8nm,0.9s						
XAN	Xi'an	66.75	65	P	P	13 48 56.1	+0.5
XAN				pP	pP	13 49 02.2	+1.3
XAN				PMZ			
	comp=Z,4.0nm,1.3s						
BJI	Beijing	67.77	56	P	P	13 49 02.3	+0.5
BJI				PMZ			
	comp=Z,16nm,0.7s						
KMI	Kunming	67.86	76	P	P	13 49 04.1	+1.1
KMI				S	S	13 58 02.9	+1.9
KMI				PMZ			
	comp=Z,12nm,1.1s						
KMI				LN			
	comp=Z,610nm,14.8s						
KMI				LE			
	comp=Z,470nm,20.8s						
KMI				LZ			
	comp=Z,630nm,18.5s						
MHMT	Maesarieng	68.70	85	P	P	13 49 08.0	0.0
	comp=Z,15nm,1.0s						
CMMT	Chiang Mai	69.04	83	P	P	13 49 09.8	-0.4
	comp=Z,21nm,2.6s						
YKA	Yellowknife Ar	69.14	340	P	P	13 49 09.4	-0.6
	comp=Z,4.9nm,1.0s,baz=33,slow=6.5,SNR=49						
CRAI	Chiangrai	69.19	81	P	P	13 49 10.4	-0.7
	comp=Z,57nm,1.1s						
CMAR	Chiang Mai Arr	69.26	84	P	P	13 49 11.3	-0.2
	comp=Z,7.4nm,0.9s,baz=305,slow=7.4,SNR=55						
LAMP	Lampang	69.73	83	P	P	13 49 14.9	+0.5
	comp=Z,6.8nm,1.1s						
GYA	Guiyang	69.82	72	eP	P	13 49 16.0	+1.0
GYA				PP	PP	13 51 51.4	+2.2
GYA				S	S	13 58 23.0	-1.0
GYA				SKS	SKSac	13 59 11.8	-3.7
GYA				SS	SS	14 02 52.6	+0.4
GYA				PMZ			
	comp=Z,10.0nm,0.9s						
GYA				PMZ			
	comp=Z,90nm,5.0s						
GYA				LN			
	comp=Z,460nm,19.8s						
GYA				LE			
	comp=Z,340nm,20.4s						
GYA				LZ			
	comp=Z,470nm,19.6s						
BOSA	Boshof	71.13	176	LR	LR	14 22 53.7	
	comp=Z,221nm,18.7s,baz=360,slow=38						
UTHA	Uthaitani	71.48	86	P	P	13 49 25.0	-0.1
	comp=Z,6.6nm,0.9s						
LOEI	Loei	71.56	83	P	P	13 49 28.0	+2.4
	comp=Z,24nm,0.9s						
PBKT	Sadao Pong	71.95	84	P	P	13 49 28.4	+0.5
	comp=Z,12nm,1.2s						
ULM	Lac du Bonnet	72.08	323	P	P	13 49 27.5	-0.7
	comp=Z,5.2nm,0.7s,baz=37,slow=6.2,SNR=17						
ILAR	Eielson Array	72.38	354	P	P	13 49 29.6	-0.1
	comp=Z,1.2nm,0.7s,baz=360,slow=5.2,SNR=28						
AGMN	Agassiz Nation	73.49	321	⇑P	P	13 49 36.2	-0.4
	baz=73						
USRK	Ussuriysk Ar.	73.95	44	P	P	13 49 39.0	-0.3
	comp=Z,1.8nm,0.7s,baz=315,slow=5.2,SNR=4.2						
A30A	Hoffart Farm,	74.12	323	⇓P	P	13 49 39.8	-0.5
	baz=74						
B30A	Myrvik Farm, E	74.50	323	⇑P	P	13 49 41.9	-0.7
	baz=74						
A29A	Manning Farm,	74.54	324	⇑P	P	13 49 42.5	-0.3
	baz=74						
B29A	Wagenman Farm,	74.94	323	⇓P	P	13 49 44.9	-0.2
	baz=75						
A26A	Wade Farm, Ken	75.77	325	⇑P	P	13 49 50.0	+0.2
	baz=75						
D29A	Pettibone, Tap	76.10	323	⇓P	P	13 49 51.5	-0.3
	baz=76						
A25A	Svangstu Ranch	76.19	326	⇑P	P	13 49 52.5	+0.3
	baz=76						
E30A	Jud	76.21	322	⇓P	P	13 49 52.4	0.0
	baz=76						
KSAR	Wonju Array Be	76.40	51	P	P	13 49 54.0	+0.4
KSAR	Wonju Array Be	76.40	51	P	P	13 49 54.0	+0.4
KSAR	Wonju Array Be	76.40	51	P	P	13 49 54.0	+0.4
KSRS	Korea Array	76.42	51	P	P	13 49 54.0	+0.3
KSRS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KSRS	Korea Array	76.42	51	P	P	13 49 54.0	+0.3
	comp=Z,4.5nm,0.9s,baz=322,slow=5.0,SNR=8.4						
D28A	Regan	76.44	323	⇓P	P	13 49 53.6	-0.1
	baz=76						
E29A	Napoleon	76.50	322	⇓P	P	13 49 54.0	0.0
	baz=76						
A24A	Westby	76.57	326	⇓P	P	13 49 54.3	-0.1
	baz=76						
C26A	Wahner Farm, P	76.62	324	⇓P	P	13 49 54.9	+0.2
	baz=76						
B25A	Knox Farm, Ray	76.72	325	⇑P	P	13 49 55.7	+0.4
	baz=76						
A23A	Redstone	76.90	327	⇓P	P	13 49 56.4	+0.2
	baz=76						
YSS	Yuzh-Sakhalins	77.06	37	eP	P	13 49 57.0	-0.1
YSS				e		13 50 13.0	
YSS				MLR	MLR		
	comp=N,600nm,16.0s						
YSS				MLR	MLR		
	comp=Z,700nm,16.0s						
YSS	Yuzh-Sakhalins	77.06	37	P	P	13 49 57.5	+0.4
	comp=Z,16nm,1.0s						
YSS	Yuzh-Sakhalins	77.06	37	P	P	13 49 57.5	+0.4
	comp=Z,16nm,1.0s						
F29A	Eureka	77.14	322	⇓P	P	13 49 57.4	-0.3
	baz=77						
ECSD	EROS Data Cent	77.20	319	⇑P	P	13 49 57.8	-0.2
	baz=77						
A22A	Carney Farms,	77.29	327	⇑P	P	13 49 58.5	0.0
	baz=77						
B23A	Brockton	77.33	326	⇓P	P	13 49 58.5	-0.2
	baz=77						
G30A	Faulkton	77.36	321	⇑P	P	13 49 58.4	-0.5
	baz=77						
D26A	Manning	77.38	324	⇑P	P	13 49 59.3	+0.3
	baz=77						
E26A	Carlson Angus	77.82	324	⇓P	P	13 50 01.8	+0.3
	baz=78						
F27A	Lemmon	78.09	323	⇑P	P	13 50 03.0	-0.1
	baz=78						
A20A	Cobblestone Ra	78.17	328	⇑P	P	13 50 03.3	-0.1
	baz=78						
F26A	Lodgepole	78.40	323	⇓P	P	13 50 04.6	-0.1
	baz=78						
D23A	Lindsay	78.44	326	⇑P	P	13 50 05.5	+0.5
	baz=78						
B20A	Solberg Farm,	78.56	328	⇓P	P	13 50 05.5	-0.1
	baz=78						
H28A	Mission Ridge	78.57	322	⇓P	P	13 50 05.5	-0.2
	baz=78						
G26A	Maurine	78.80	323	⇑P	P	13 50 07.0	0.0
	baz=78						
D22A	Cohagen	78.86	326	⇑P	P	13 50 07.3	0.0
	baz=78						
B19A	Brinkman Farms	78.91	328	⇓P	P	13 50 07.7	+0.2
	baz=78						
H27A	Howes	79.08	322	⇑P	P	13 50 08.7	+0.2
	baz=79						
C20A	Veseth Ranch,	79.15	327	⇑P	P	13 50 08.9	+0.1
	baz=79,SNR=6.3						
I28A	Midland	79.15	321	⇑P	P	13 50 09.0	+0.1
	baz=79						
F24A	Ekalaka	79.17	324	⇓P	P	13 50 08.9	-0.1
	baz=79						
J29A	Okreek	79.22	320	⇑P	P	13 50 09.2	0.0
	baz=79						
LAO	LASA Array	79.25	326	eP	P	13 50 09.9	+0.5
	comp=Z,12nm,0.9s						
LAO	LASA Array	79.25	326	eP	P	13 50 09.9	+0.5
	comp=Z,12nm,0.9s						
D21A	La Casta Ranch	79.26	327	⇑P	P	13 50 10.0	+0.5
	baz=79						
C19A	Slack Wire Ran	79.54	328	⇓P	P	13 50 10.9	0.0
	baz=79						
EGMT	Eagleton	79.58	329	eP	P	13 50 11.1	-0.1
	comp=Z,11nm,0.9s						
EGMT	Eagleton	79.58	329	⇑P	P	13 50 11.3	+0.1
	baz=79,SNR=8.0						
EGMT	Eagleton	79.58	329	eP	P	13 50 11.1	-0.1
	comp=Z,11nm,0.9s						
J28A	Allard Ranch,	79.63	321	⇓P	P	13 50 11.8	+0.3
	baz=79						
LRAL	Lakeview Retre	79.64	306	eP	P	13 50 11.7	0.0
	comp=Z,12nm,1.0s						
LRAL	Lakeview Retre	79.64	306	eP	P	13 50 11.7	0.0
	comp=Z,12nm,1.0s						
F23A	Volborg	79.68	325	⇑P	P	13 50 11.8	0.0
	baz=79						
H25A	Fruitdale	79.77	323	⇓P	P	13 50 11.9	-0.3
	baz=79						
E19A	Rath Farm, Rou	80.48	327	⇓P	P	13 50 16.2	+0.1
	baz=80						
N31A	Bailey Ranch,	80.53	318	⇓P	P	13 50 16.4	0.0
	baz=80						
KSU1	Kansas State U	80.64	315	⇓P	P	13 50 17.3	+0.4
	baz=80						
F20A	Billings	80.76	326	⇑P	P	13 50 17.7	+0.1
	baz=80						
H22A	Clearmont	80.98	325	⇓P	P	13 50 19.1	+0.2
	baz=81						
F19A	Roth Farm, Mol	81.04	327	⇓P	P	13 50 19.2	+0.1
	baz=81						
G20A	Bridger	81.26	326	⇑P	P	13 50 20.4	0.0
	baz=81						
Q33A	Connelly Farm,	81.34	316	⇓P	P	13 50 20.4	-0.4
	baz=81						
SWMT	Swartz Lake	81.58	331	eP	P	13 50 22.0	0.0
	comp=Z,6.8nm,1.1s						
SWMT	Swartz Lake	81.58	331	eP	P	13 50 22.0	0.0
	comp=Z,6.8nm,1.1s						
I22A	9 Mile Ranch,	81.60	324	⇓P	P	13 50 22.0	-0.2
	baz=81						
J22A	Midwest	81.99	324	⇑P	P	13 50 23.1	-1.2
	baz=82						
I21A	Big Trails, Te	82.01	325	⇓P	P	13 50 24.3	-0.1
	baz=82						
NEW	Newport	82.02	333	⇓P	P	13 50 24.1	0.0
	baz=82						
H19A	Powell	82.02	326	⇓P	P	13 50 24.4	0.0
	baz=82,SNR=6.4						
MSO	Missoula	82.14	330	⇓P	P	13 50 24.9	0.0
	baz=82						
K23A	Bowen Ranch, D	82.14	323	⇓P	P	13 50 25.3	+0.2
	baz=82						
I20A	Worland	82.25	325	⇓P	P	13 50 25.6	-0.1
	baz=82,SNR=5.2						
H18A	Shoshone NF, C	82.29	327	⇑P	P	13 50 26.2	+0.3
	baz=82,SNR=5.9						
MIAR	Mount Ida	82.38	311	eP	P	13 50 25.0	-1.2
MIAR				pmax	pmax		
	comp=Z,11nm,1.0s						
MIAR	Mount Ida	82.38	311	eP	P	13 50 25.0	-1.2
	comp=Z,11nm,1.0s						
MIAR	Mount Ida	82.38	311	eP	P	13 50 25.0	-1.2
	comp=Z,11nm,1.0s						
J21A	Lysite	82.46	325	⇑P	P	13 50 26.6	-0.1
	baz=82						
I19A	Meeteetse	82.55	326	⇑P	P	13 50 27.4	+0.2
	baz=82,SNR=6.8						
N26A	Koester Ranch,	82.58	321	⇑P	P	13 50 27.7	+0.4
	baz=82						
TUL1	Leonard	82.59	313	⇓P	P	13 50 27.6	+0.3
	baz=82						
K22A	Casper	82.62	324	eP	P	13 50 26.7	-0.9
	comp=Z,18nm,1.3s						
K22A	Casper	82.62	324	⇑P	P	13 50 27.5	-0.1
	baz=82						
K22A	Casper	82.62	324	eP	P	13 50 26.7	-0.9
	comp=Z,18nm,1.3s						
L23A	Garrett	82.69	323	⇓P	P	13 50 28.0	0.0
	baz=82						
J20A	Shoshoni	82.72	325	⇓P	P	13 50 28.1	0.0
	baz=82,SNR=5.2						
R31A	Burdett	82.75	317	⇑P	P	13 50 28.8	+0.7
	baz=82						
MJAR	Matsushiro Arr	82.77	46	P	P	13 50 28.0	-0.3
MJAR	Matsushiro Arr	82.77	46	P	P	13 50 27.9	-0.3
	comp=Z,3.6nm,1.0s,baz=296,slow=5.9,SNR=4.4						
MJAR	Matsushiro Arr	82.77	46	P	P	13 50 28.0	-0.3
M24A	Cheyenne	82.81	322	⇑P	P	13 50 29.4	+0.8
	baz=82						
P28A	Saint Francis	82.86	319	⇑P	P	13 50 29.5	+0.7
	baz=82						
S32A	Newby Ranch, P	82.89	316	⇓P	P	13 50 29.8	+0.8
	baz=83						
Q29A	Oakley	83.01	318	⇓P	P	13 50 29.9	+0.4
	baz=83						
O26A	Horse Wrangler	83.08	320	⇓P	P	13 50 30.5	+0.5
	baz=83						
L22A	Ellis Ranch, M	83.08	323	⇓P	P	13 50 30.7	+0.6
	baz=83						
R30A	Dighton	83.13	317	⇑P	P	13 50 30.7	+0.5
	baz=83						
J19A	Crowheart	83.20	326	⇓P	P	13 50 31.0	+0.4
	baz=83,SNR=7.7						
M23A	Laramie	83.22	322	⇑P	P	13 50 31.8	+1.0
	baz=83						
S31A	Mullinville	83.24	316	⇑P	P	13 50 31.4	+0.7
	baz=83						
P27A	Ficken Ranch,	83.27	319	⇑P	P	13 50 31.5	+0.5
	baz=83						
T32A	Huddler Ranch,	83.28	316	⇑P	P	13 50 31.5	+0.6
	baz=83						
I17A	Pilgrim Ck.	83.29	327	⇓P	P	13 50 32.0	+0.9
	baz=83						
Q28A	Sharon Springs	83.29	319	⇑P

	baz=83					
R29A	Marienthal	83.45 318	⇑P		P	13 50 32.5 +0.6
	baz=83					
V34A	Guthrie	83.57 314	⇑P		P	13 50 32.9 +0.5
	baz=83					
P26A	Davis Ranch, A	83.63 320	⇑P		P	13 50 33.2 +0.3
	baz=83					
M22A	Cedar Creek Ra	83.66 323	⇑P		P	13 50 32.8 -0.3
	baz=83,SNR=5.1					
S30A	Montezuma	83.72 317	⇑P		P	13 50 33.4 +0.1
	baz=83					
KSCO	Kaye Shedlock'	83.72 319	⇑P		P	13 50 33.4 +0.1
	baz=83					
T31A	Randall Ranch,	83.73 316	⇑P		P	13 50 33.4 +0.1
	baz=83					
N23A	Red Feather La	83.78 322	⇑P		P	13 50 34.0 +0.3
	baz=83,SNR=8.5					
PDAR	Pinedale Array	83.82 326	P		P	13 50 33.6 -0.3
	comp=Z,2.7nm,0.8s,baz=61,slow=4.5,SNR=16					
PDAR			PP		PP	13 53 46.2 -0.1
	comp=Z,1.2nm,1.1s,baz=59,slow=4.3,SNR=4.3					
R28A	Tribune	83.84 318	⇓P		P	13 50 34.1 +0.2
	baz=84					
V33A	Lossen Ranch,	83.99 314	⇑P		P	13 50 34.8 +0.3
	baz=84					
P25A	Willow Gulch B	84.06 320	⇑P		P	13 50 35.0 -0.1
	baz=84					
S29A	Ulysses	84.06 317	⇓P		P	13 50 35.5 +0.5
	baz=84					
N22A	Wattenberg Ran	84.08 322	⇓P		P	13 50 35.3 0.0
	baz=84					
O23A	Lake Granby, G	84.31 322	⇓P		P	13 50 36.7 +0.1
	baz=84					
V32A	Arapaho	84.46 315	⇓P		P	13 50 37.5 +0.5
	baz=84					
S28A	Manter	84.47 318	⇑P		P	13 50 37.1 0.0
	baz=84,SNR=7.7					
ISCO	Idaho Springs	84.50 321	P		P	13 50 37.5 0.0
ISCO			pmax		pmax	
	comp=Z,2.0nm,0.9s					
ISCO	Idaho Springs	84.50 321	P		P	13 50 37.5 0.0
	comp=Z,2.3nm,0.9s					
ISCO	Idaho Springs	84.50 321	⇓P		P	13 50 37.5 0.0
	baz=84					
ISCO	Idaho Springs	84.50 321	P		P	13 50 37.5 0.0
	comp=Z,2.4nm,0.9s					
T29A	Hugoton	84.51 317	⇑P		P	13 50 37.3 0.0
	baz=84					
O22A	Kremmling	84.64 322	⇓P		P	13 50 37.9 -0.2
	baz=84					
X34A	Smith Ranch, M	84.67 313	⇑P		P	13 50 39.0 +0.9
	baz=84					
R26A	Arlington	84.67 319	⇑P		P	13 50 38.6 +0.4
	baz=84					
N20A	Spence Gulch,	84.85 324	⇓P		P	13 50 39.5 +0.3
	baz=84					
SDV	Santo Domingo	84.94 277	eP		P	13 50 40.0 +0.1
	comp=Z,14nm,1.1s					
SDV	Santo Domingo	84.94 277	eP		P	13 50 40.0 +0.1
	comp=Z,14nm,1.1s					
T28A	Walsh	84.95 318	⇓P		P	13 50 40.2 +0.7
	baz=85					
P23A	Jefferson	84.95 321	⇓P		P	13 50 40.0 +0.2
	baz=85					
W32A	Sentinel	85.02 314	⇓P		P	13 50 40.1 +0.2
	baz=85,SNR=5.9					
WMOK	Wichita Mounta	85.07 314	eP		P	13 50 40.4 +0.3
WMOK			pmax		pmax	
	comp=Z,12nm,0.9s					
WMOK	Wichita Mounta	85.07 314	eP		P	13 50 40.4 +0.3
	comp=Z,12nm,0.9s					
WMOK	Wichita Mounta	85.07 314	eP		P	13 50 40.4 +0.3
	comp=Z,12nm,0.9s					
HLID	Hailey	85.09 329	⇑P		P	13 50 40.2 0.0
	baz=85					
R25A	Fountain Ranch	85.20 320	⇑P		P	13 50 41.2 +0.4
	baz=85					
S26A	Kim	85.22 319	⇑P		P	13 50 41.2 +0.3
	baz=85					
BDFB	Brasilia	85.55 244	P		P	13 50 43.5 +0.8
	comp=Z,2.2nm,0.4s,baz=70,slow=5.5,SNR=2.7					
Y33A	Hilltop Ranch,	85.55 313	⇑P		P	13 50 43.2 +0.8
	baz=85					
U28A	Mallet	85.58 317	⇓P		P	13 50 43.3 +0.6
	baz=85					
X32A	Elmer	85.58 314	⇑P		P	13 50 43.4 +0.8
	baz=85					
V29A	Stinnett	85.62 316	⇑P		P	13 50 42.8 -0.1
	baz=85					
T26A	Comanche Natio	85.63 318	⇓P		P	13 50 43.0 0.0
	baz=85					
S25A	Robets Cordova	85.66 319	⇓P		P	13 50 43.1 -0.1
	baz=85					
T25A	Trinidad	86.06 319	⇓P		P	13 50 44.9 -0.3
	baz=86					
U26A	Atchley Ranch,	86.32 318	⇑P		P	13 50 46.2 -0.3
	baz=86,SNR=5.3					
X30A	Coker Ranch, T	86.40 315	⇓P		P	13 50 46.8 +0.1
	baz=86					
Z32A	Haskell	86.54 313	⇓P		P	13 50 47.8 +0.4
	baz=86					
T24B	San Luis	86.59 320	⇑P		P	13 50 47.6 -0.3
	baz=86					
U25A	Circle Dot Ran	86.64 319	⇑P		P	13 50 47.8 -0.3
	baz=86,SNR=5.4					
S22A	4UR Ranch, Cre	86.72 321	⇑P		P	13 50 48.1 -0.5
	baz=86					
Z31A	Sharp Cattle R	86.88 314	⇑P		P	13 50 49.1 0.0
	baz=87					
W27A	Bowe Ranch, En	87.03 317	⇑P		P	13 50 49.6 -0.3
	baz=87					
PV01	Paradox Valley	87.20 322	eP		P	13 50 50.3 -0.5
PV01	Paradox Valley	87.20 322	eP		P	13 50 50.3 -0.5
DUG	Dugway, Tooele	87.31 326	⇓P		P	13 50 50.9 -0.3
	baz=87					
334A	Lometa	87.37 311	⇓P		P	13 50 51.3 -0.2
	baz=87					
Y28A	McKinney Farm,	87.53 316	⇓P		P	13 50 51.9 -0.4
	baz=87					
333A	Richland Sprin	87.79 312	⇓P		P	13 50 53.9 +0.4
	baz=88					
U22A	Llaves	87.84 320	⇓P		P	13 50 53.9 0.0
	baz=88					
332A	Millersview	88.16 312	⇑P		P	13 50 55.9 +0.7
	baz=88					
433A	Art	88.28 312	⇑P		P	13 50 56.3 +0.4
	baz=88					
128A	Castleberry Fa	88.66 315	⇓P		P	13 50 57.7 0.0
	baz=88					
ANMO	Albuquerque	88.80 319	⇓eP		P	13 50 58.3 -0.2
ANMO			pmax		pmax	
	comp=Z,6.0nm,1.0s					
229A	Bryant Ranch,	88.82 314	⇑P		P	13 50 58.5 +0.1
	baz=88					
330A	Mertzon	88.92 313	⇓P		P	13 50 58.8 0.0
	baz=89					
228A	UT Block 9, Go	89.11 315	⇓P		P	13 50 60.0 +0.2
	baz=89					
Y24A	Capitan	89.12 318	⇑P		P	13 50 59.8 -0.1
	baz=89					
431A	Sonora	89.17 313	⇓P		P	13 51 00.2 +0.1
	baz=89					
532A	Rocksprings	89.21 312	⇓P		P	13 51 00.7 +0.4
	baz=89					
329A	Wagon Wheel Ra	89.28 314	⇑P		P	13 51 00.9 +0.3
	baz=89					
M04C	Macdoel	89.31 333	⇑P		P	13 51 00.4 -0.3
	baz=89					
Y23A	Lovelace Mesa,	89.42 318	⇑P		P	13 51 01.5 +0.1
	baz=89					
430A	Baggett Ranch,	89.43 313	⇑P		P	13 51 01.9 +0.6
	baz=89					
531A	Rocksprings	89.54 312	⇓P		P	13 51 01.9 +0.1
	baz=89					
530A	J-C Ranch, Com	89.98 313	⇑P		P	13 51 04.6 +0.8
	baz=90					
R11A	Troy Canyon, C	90.01 327	⇓P		P	13 51 04.4 +0.4
	baz=90					
U15A	North Rim	90.26 324	⇑P		P	13 51 05.2 -0.2
	baz=90					
WUAZ	Wupatki	90.62 323	⇑P		P	13 51 06.7 -0.2
	baz=90					
NVAR	Mina Array Bea	91.00 329	P		P	13 51 08.6 -0.1
	comp=Z,1.1nm,0.7s,baz=44,slow=4.9,SNR=8.6					
X16A	Lo Mia Camp, P	91.57 322	⇓P		P	13 51 11.5 +0.2
	baz=91					
TXAR	Lajitas Array	91.87 314	P		P	13 51 12.7 0.0
	comp=Z,3.4nm,0.9s,baz=55,slow=4.8,SNR=17					
TXAR			LR		LR	14 32 11.8
	comp=Z,164nm,18.3s,baz=0.0,slow=35					
GMRC	Granite Mounta	93.10 325	⇓P		P	13 51 18.1 -0.2
	baz=93					
WRA	Warramunga Arr	120.55 90	PKP		PKPdf	13 56 54.9 -1.2
	comp=Z,0.9nm,0.9s,baz=297,slow=1.9,SNR=6.4					
ASAR	Alice Springs	122.49 93	PKP		PKPdf	13 56 58.5 -1.3
	comp=Z,1.8nm,0.7s,baz=318,slow=1.5,SNR=34					
ASAR			PP		PP	13 58 37.5 +0.8
	comp=Z,0.8nm,0.8s,baz=316,slow=5.6,SNR=5.2					

*ISCJB **10** 13:49:49.2±1.0, 37°.43S±0°.07×72°.2W±0°.3, h10km, mb3.7/5, MS3.9/1, Error ellipse: s-maj=29.6km s-min=10.4km az=173.8*

*IDC **10** 13:49:49.0±1.2, 37°.43S×72°.23W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.9/20, mbtmp3.7/6, ML3.8/1, MS3.5/2, Ms1 3.4/2, ms1mx3.1/24, Error ellipse: s-maj=41.5km s-min=17.8km az=77.0*

*NEIC **10** 13:49:52.4±3.5, 37°.47S×72°.13W, h22km±25km, mb4.1/2, Error ellipse: s-maj=29.6km s-min=8.3km az=85.0*

ISC 10 13:49:50.6±1.0, 37°.46S±0°.09×72°.2W±0°.2, h10km, n14, σ0°81/13, mb3.8/5, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.51	159	Pn	Pn	13 50 46.0	+0.8
	1.7nm,0.3s,baz=304,slow=10,SNR=14						
PLCA				Lg	Lg	13 51 42.9	
	3.8nm,0.3s,baz=232,slow=23,SNR=3.9						
PLCA				LR	LR	13 51 57.1	
	comp=Z,200nm,19.6s,baz=260,slow=36						
PLCA	Paso Flores	3.51	159	eP	Pn	13 50 45.7	+0.4
PLCA				Lg	Lg	13 51 42.9	
CFAA	Coronel Fontan	6.69	30	Pn	Pn	13 51 29.1	+0.2
	0.1nm,0.3s,baz=233,slow=5.1,SNR=1.8						
LCO	Las Campanas	8.52	9	eP	Pn	13 51 54.5	+0.3
	14nm,0.7s						
EFI	East Falkland	17.37	149	eP	Pn	13 53 52.7	-0.2
	29nm,1.0s						
LPAZ	La Paz	21.39	11	P	P	13 54 40.1	+1.0
	3.4nm,0.9s,baz=178,slow=9.9,SNR=6.3						
LPAZ	La Paz	21.39	11	eP	P	13 54 40.3	+1.2
	3.8nm,0.8s						
SIV	San Ignacio	23.54	28	P	P	13 55 00.9	-0.2
	2.4nm,0.9s,baz=146,slow=3.6,SNR=2.9						
BDFB	Brasilia	30.49	51	LR	LR	14 10 18.9	
	comp=Z,238nm,18.2s,baz=52,slow=40						
TXAR	Lajitas Array	72.70	331	P	P	14 01 18.1	-0.6
	0.6nm,0.7s,baz=150,slow=6.4,SNR=4.4						
TORD	Torodi Ar. Bea	85.50	70	P	P	14 02 28.5	-0.6
	0.6nm,0.8s,baz=238,slow=5.2,SNR=3.0						
PDAR	Pinedale Array	86.79	333	P	P	14 02 35.1	+0.1
	0.8nm,0.9s,baz=157,slow=4.8,SNR=5.2						
ABKAR	Akbulak array	143.83	55	ePKPpre	PKPpre	14 09 20.4	
MKAR	Makanchi Array	158.97	56	PKP	PKPdf	14 09 49.0	+0.5
	0.3nm,0.8s,baz=307,slow=1.0,SNR=2.7						
MKAR				PKPab	PKPab	14 10 23.4	-1.5
	0.5nm,0.8s,baz=302,slow=2.3,SNR=4.2						

DDA 10 14:03:56.6, 37°.48N×35°.49E, h3km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GULE	Gulek	0.60	251	i P	Pg	14 04 05.5	-2.9
GULE				i S	Sg	14 04 17.7	+1.3

GUC 10 14:07:53.7±0.7, 34°.09S×71°.57W, h16km±5km, ML3.8, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCH	Chadas Angostu	0.78	79	⇑iP	Pb	14 08 08.1	-0.9
CACH	El Canelo	0.81	92	⇓iP	Pb	14 08 08.6	-0.9
ANTU	Antumapu	0.94	57	⇑iP	Pb	14 08 10.7	-0.9
ANTU				i S	Sb	14 08 23.1	-0.8
ANTU				AML	AML	14 08 23.5	
	comp=N,5μm,0.2s						
NICH	Los Niches	0.95	163	⇓iP	Pb	14 08 10.9	-1.0
NICH				i S	Sb	14 08 23.2	-1.0
NICH				AML	AML	14 08 23.9	
	comp=N,7μm,0.6s						
IHA	Instituto Hidr	1.06	357	eP1	Pn	14 08 11.8	-2.1
CLCH	Cerro Calan	1.10	51	⇓iP	Pb	14 08 13.2	-1.4
CLCH				i S	Sb	14 08 27.8	-1.1
CLCH				AML	AML	14 08 31.3	
	comp=N,4μm,0.6s						
PEL	Peldehue	1.20	38	⇑iP	Pn	14 08 14.6	-1.3
PEL				eS	Sb	14 08 30.8	-0.7
PEL				AML	AML	14 08 34.2	
	comp=N,3μm,0.4s						
FCH	Farellones	1.31	55	⇓iP	Pn	14 08 13.7	-4.1
FCH				i S	Sn	14 08 31.2	-4.1
FCH				AML	AML	14 08 35.0	
	comp=N,3μm,0.1s						

*ISCJB **10** 14:09:13.8±0.7, 10°.57S±0°.07×166°.1E±0°.1, h155km, mb3.8/10, Error ellipse: s-maj=15.0km s-min=10.0km az=3.6*

*IDC **10** 14:09:17.9±4.2, 10°.57S×166°.02E, h181km±37km, mb3.6/10, mb1 3.8/12, mb1mx3.6/35, mbtmp4.2/12, Error ellipse: s-maj=21.9km s-min=19.1km az=131.0*

ISC 10 14:09:15.0±0.7, 10°.56S±0°.09×166°.1E±0°.1, h155km, n22, σ1°08/25, mb3.9/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.46	178	P	Pn	14 11 56.6	+2.5
	7.1nm,0.3s,baz=310,slow=11,SNR=145						
DZM				S	Sn	14 13 57.8	-3.1
	0.2nm,0.3s,baz=156,slow=20,SNR=3.4						
PMG	Port Moresby	18.67	272	P	Pn	14 13 22.7	-0.9
	0.8nm,0.3s,baz=106,slow=4.2,SNR=7.4						
PMG	Port Moresby	18.67	272	P	Pn	14 13 24.3	+0.7
	baz=26,SNR=3.7						
CTA	Charters Tower	21.32	241	P	P	14 13 50.2	+0.4
	2.5nm,0.6s,baz=67,slow=13,SNR=3.3						
RMQ	Roma	22.77	224	P	P	14 14 05.9	+1.6
	baz=31,SNR=6.1						
STKA	Stephens Creek	31.02	223	P	P	14 15 18.5	+0.4
	3.1nm,0.4s,baz=52,slow=9.6,SNR=12						
STKA	Stephens Creek	31.02	223	P	P	14 15 18.9	+0.8
	baz=39,SNR=9.6						
WRA	Warramunga Arr	31.96	249	P	P	14 15 25.9	-0.6
	1.2nm,0.5s,baz=82,slow=9.2,SNR=53						
WRA				PcP	PcP	14 18 12.9	-0.2
	0.4nm,0.4s,baz=77,slow=3.4,SNR=6.8						
KDU	Kakadu	32.97	263	P	P	14 15 35.0	-0.4
	baz=41,SNR=3.5						
ASAR	Alice Springs	33.31	243	P	P	14 15 37.2	-1.0
	0.7nm,0.4s,baz=66,slow=10,SNR=14						
ASAR				PcP	PcP	14 18 16.5	-0.3
	0.6nm,0.3s,baz=78,slow=2.8,SNR=6.1						
HTT	Hallett	33.75	223	P	P	14 15 42.6	+0.6
	baz=42,SNR=3.6						
KNRA	Kununurra	36.66	258	P	P	14 16 07.0	-0.1
	baz=45,SNR=6.4						
WRKA	Warakurna	38.60	243	P	P	14 16 22.8	-0.4
	baz=47,SNR=16						
MEEK	Meekatharra	47.46	244	P	P	14 17 34.7	+0.3
	baz=56,SNR=6.9						
SONM	Songino Array	78.47	324	P	P	14 20 59.3	+0.4
	0.5nm,0.5s,baz=147,slow=5.2,SNR=6.0						
QSPA	South Pole Qui	79.44	180	P	P	14 21 03.9	0.0
	2.5nm,0.8s,baz=339,slow=5.1,SNR=20						
ILAR	Eielson Array	82.95	18	P	P	14 21 21.9	-0.3
	1.3nm,0.8s,baz=234,slow=5.0,SNR=34						
NVAR	Mina Array Bea	85.46	50	P	P	14 21 36.4	+0.7
	3.4nm,1.1s,baz=233,slow=7.6,SNR=7.9						
MKAR	Makanchi Array	93.39	317	P	P	14 22 12.8	+0.2
	0.8nm,0.7s,baz=88,slow=5.3,SNR=14						
YKA	Yellowknife Ar	94.39	27	P	P	14 22 15.7	-1.1
	0.2nm,0.5s,baz=257,slow=4.7,SNR=4.6						
ARCES	ARCESS Array B	115.95	346	PKP	PKPdf	14 27 38.3	-0.6
	1.0nm,0.4s,baz=78,slow=1.9,SNR=19						
FINES	FINESS Array B	121.44	339	PKP	PKPdf	14 27 48.9	-0.7
	4.2nm,1.2s,baz=327,slow=3.2,SNR=4.0						

WEL 10 14:11:52.9±0.3, 44°.82S×167°.42E, h5km, ML3.5/10, 4C, Error ellipse: s-maj=3.4km s-min=1.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.39	69	⇑PG	Pg	14 12 00.4	+0.1
MSZ				SG	Sg	14 12 04.5	-0.9
MSZ				AML	AML	14 12 05.6	
MSZ				AML	AML	14 12 06.9	
MSZ				AML	AML	14 12 07.4	
DCZ	Deep Cove	0.69	196	⇑P*	Pg	14 12 05.9	-0.2
DCZ				SG	Sg	14 12 15.0	-0.1
DCZ				AML	AML	14 12 15.5	
DCZ				AML	AML	14 12 15.5	
DCZ				AML	AML	14 12 16.7	
MLZ	Mavora Lakes	0.75	135	⇑P*	Pg	14 12 07.6	+0.2
MLZ				AML	AML	14 12 18.2	
MLZ				AML	AML	14 12 19.6	
WKZ	Wanaka	1.14	91	P*	Pg	14 12 14.3	-0.4
WKZ				AML	AML	14 12 30.2	
WKZ				AML	AML	14 12 31.7	
WHZ	Wether Hill Ro	1.14	161	⇑P*	Pg	14 12 14.3	-0.5
WHZ				S*	Sg	14 12 29.5	-0.1
JCZ	Jackson Bay	1.21	53	eP*	Pg	14 12 15.7	-0.5
JCZ				AML	AML	14 12 34.6	
JCZ				AML	AML	14 12 36.5	
EAZ	Earnscleugh	1.40	108	PN	Pn	14 12 18.7	-0.4
EAZ				AML	AML	14 12 43.3	
EAZ				AML	AML	14 12 43.8	
TUZ	Tuapeka	1.93	127	PN	Pb	14 12 27.5	-1.0
TUZ				SN	Sn	14 12 51.3	+0.3
LBZ	Lake Benmore	2.02	79	PN	Pn	14 12 28.8	+1.2
LBZ				AML	AML	14 13 00.5	
LBZ				AML	AML	14 13 04.6	
FOZ	Fox Glacier	2.05	53	PN	Pn	14 12 28.6	+0.6
APZ	The Paps	2.06	169	PN	Pn	14 12 28.8	+0.6
APZ				SN	Sn	14 12 55.4	+1.2
APZ				AML	AML	14 12 59.8	
SYZ	Scrubby Hill	2.10	146	PN	Pn	14 12 29.3	+0.6
SYZ				SN	Sb	14 12 56.6	-1.2
SYZ				AML	AML	14 12 56.8	
ODZ	Otahua Downs	2.30	97	PN	Pn	14 12 32.4	+1.0
HHSZ	Highcliff Hill	2.48	117	ePN	Pb	14 12 36.0	-1.9
RPZ	Rata Peaks	2.83	68	PN	Pn	14 12 39.4	+0.7
RPZ				AML	AML	14 13 32.9	
WVZ	Waitaha Valley	2.96	55	ePN	Pn	14 12 40.0	-0.4
MQZ	McQueen's Vall	3.92	75	ePN	Pn	14 12 53.9	+0.3
DSZ	Denniston Nort	4.43	48	ePN	Pn	14 12 60.0	-0.8
THZ	Tophouse	5.03	55	ePN	Pn	14 13 09.3	+0.2

*IDC **10** 14:12:04.9±0.7, 38°.47S×73°.69W, h0km, mb4.3/11, mb1 4.4/15, mb1mx4.3/33, mbtmp4.3/15, ML4.0/4, MS3.7/7, Ms1 3.7/7, ms1mx3.5/21, Error ellipse: s-maj=20.4km s-min=13.7km az=73.0*

*ISCJB **10** 14:12:05.8±0.5, 38°.44S±0°.05×73°.70W±0°.10, h18km, mb4.5/20, MS3.8/4, Error ellipse: s-maj=10.9km s-min=6.8km az=4.0*

*NEIC **10** 14:12:06.8±4.0, 38°.43S×73°.72W, h14km±24km, mb4.8/6, Error ellipse: s-maj=15.9km s-min=7.6km az=83.0*

NEIC Felt at San Antonio and Temuco.

*BJI **10** 14:12:06.7, 38°.40S×73°.80W, h18km, mB5.3/3, Ms5.3/3, Ms7 5.1/3*

ISC 10 14:12:07.4±0.5, 38°.46S±0°.07×73°.72W±0°.10, h18km, n52, σ1°30/62, mb4.5/20, MS3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.34	134	Pn	Pn	14 12 59.2	+0.4
	2.7nm,0.3s,baz=310,slow=9.5,SNR=26						
PLCA				Lg	Lg	14 13 50.1	
	50nm,0.3s,baz=224,slow=21,SNR=9.0						
CFAA	Coronel Fontan	8.19	35	Pn	Pn	14 14 05.7	+0.3
	0.7nm,0.3s,baz=246,slow=9.3,SNR=9.6						
CFAA				Sn	Sn	14 15 39.0	+1.6
	0.3nm,0.3s,baz=164,slow=19,SNR=2.7						
CFAA				LR	LR	14 17 40.7	
	comp=Z,58nm,20.2s,baz=224,slow=41						
TRQA	Tornquist	9.25	91	eP	Pn	14 14 21.9	+2.0
	30nm,0.8s						
LCO	Las Campanas	9.75	16	eP	Pn	14 14 24.2	-2.8
USHA	Ushuaia	16.77	169	Pn	Pn	14 16 02.0	+0.9
	0.3nm,0.3s,baz=326,slow=14,SNR=2.7						
USHA				LR	LR	14 21 45.3	
	comp=Z,237nm,20.9s,baz=327,slow=35						
EFI	East Falkland	17.18	145	eP	Pn	14 16 05.9	-0.4
CPUP	Villa Florida	18.35	54	P	P	14 16 20.4	-0.5
	0.7nm,0.3s,baz=206,slow=13,SNR=3.5						
CPUP				LR	LR	14 24 12.1	
	comp=Z,289nm,21.7s,baz=200,slow=40						
CPUP	Villa Florida	18.35	54	eP	P	14 16 19.2	-1.7
LPAZ	La Paz	22.63	14	P	P	14 17 08.7	+0.6
	4.3nm,0.9s,baz=182,slow=7.6,SNR=20						
LPAZ	La Paz	22.63	14	eP	P	14 17 09.1	+1.1
SIV	San Ignacio	25.00	30	P	P	14 17 30.3	0.0
	5.2nm,0.7s,baz=228,slow=10,SNR=7.3						
SIV				LR	LR	14 29 20.8	
	comp=Z,387nm,18.2s,baz=229,slow=41						
NNA	Nana	26.51	353	LR	LR	14 25 53.5	
	comp=Z,199nm,19.7s,baz=178,slow=31						
PMSA	Palmer Station	26.96	171	LR	LR	14 27 04.1	
	comp=Z,245nm,18.6s,baz=339,slow=33						
SAML	Samuel	30.88	21	P	P	14 18 21.5	-1.3
BDFB	Brasilia	32.06	52	P	P	14 18 34.4	+1.0
	1.7nm,0.5s,baz=135,slow=7.1,SNR=2.6						
BDFB				LR	LR	14 33 22.7	
	comp=Z,200nm,19.5s,baz=136,slow=40						
OTAV	Otavalo	38.76	352	eP	P	14 19 32.3	+1.0
	15nm,1.2s						
VNA3	Neumayer Olymp	45.80	156	P	P	14 20 27.8	+0.2
VNA2	Neumayer--Watz	46.48	155	P	P	14 20 33.3	+0.3
SDV	Santo Domingo	47.19	4	eP	P	14 20 35.8	-3.5
	12nm,0.8s						
SNAA	Sanae	48.02	156	P	P	14 20 45.3	+0.3
SNAA	Sanae	48.02	156	P	P	14 20 45.3	+0.3
	2.1nm,0.8s,baz=303,slow=8.8,SNR=4.5						
SNAA	Sanae	48.02	156	eP	P	14 20 44.8	-0.2
VNDA	Vanda	59.47	192	P	P	14 22 09.0	+0.4
	1.9nm,0.8s,baz=142,slow=7.3,SNR=3.0						
LRAL	Lakeview Retre	72.20	348	eP	P	14 23 31.2	+0.2
	13nm,1.1s						
JCT	Junction City	72.78	337	eP	P	14 23 34.8	+0.3
	17nm,1.3s						
TXAR	Lajitas Array	73.02	333	P	P	14 23 36.8	+0.7
	2.8nm,0.8s,baz=153,slow=8.4,SNR=15						
LIC	Lamto	77.47	72	eP	P	14 24 02.1	+0.1
	45nm,1.2s						
TIC	Toumodi	77.76	71	eP	P	14 24 04.5	+0.9
	9.4nm,0.2s						
KIC	Kosan Boka	77.78	72	eP	P	14 24 03.9	+0.1
	120nm,1.8s						
DBIC	Dimbokro	77.90	71	P	P	14 24 04.6	+0.2
	6.2nm,0.7s,baz=204,slow=6.3,SNR=9.0						
ANMO	Albuquerque	79.09	333	eP	P	14 24 08.9	-1.8
	6.4nm,1.1s						
BOSA	Boshof	79.20	118	P	P	14 24 11.2	-0.5
	3.9nm,0.7s,baz=213,slow=4.9,SNR=9.7						
LBTB	Lobatse	81.66	115	eP	P	14 24 23.2	-1.6
	7.0nm,0.9s						
NVAR	Mina Array Bea	86.80	326	P	P	14 24 51.5	+0.8
	0.8nm,0.7s,baz=162,slow=5.8,SNR=5.3						
TORD	Torodi Ar. Bea	86.99	71	P	P	14 24 51.4

KSH					LZ				
	250nm,5.9s								
KURBB	**Kurchatov Arra**	**156.94**	**49**		PKP	**PKPdf**	**14 32 02.1**	**+1.0**	
	0.3nm,0.3s,baz=315,slow=1.3,SNR=4.4								
KURBB					PKPab	**PKPab**	**14 32 32.6**	**+1.3**	
	0.9nm,0.7s,baz=290,slow=5.3,SNR=9.2								
KURK	**Kurchatov**	**156.96**	**49**		PKP	**PKPdf**	**14 32 02.1**	**+0.9**	
KURK					PKPab	**PKPab**	**14 32 32.6**	**+1.2**	
ZALV	**Zalesovo Beam**	**158.67**	**36**		PKP	**PKPdf**	**14 32 04.9**	**+1.7**	
	0.4nm,0.6s,baz=331,slow=5.8,SNR=3.7								
ZALV					PKPab	**PKPab**	**14 32 39.0**	**+0.4**	
	0.9nm,0.6s,baz=295,slow=4.4,SNR=5.5								
MKAR	**Makanchi Array**	**160.54**	**57**		PKP	**PKPdf**	**14 32 06.1**	**+0.4**	
	0.3nm,0.9s,baz=315,slow=2.0,SNR=3.5								
MKAR					PKPab	**PKPab**	**14 32 46.5**	**-0.7**	
	0.7nm,0.7s,baz=294,slow=3.9,SNR=7.4								
WMQ	**Urumqi**	**165.02**	**63**	*e*	PKP	**PKPdf**	**14 32 08.7**	**-1.4**	
WMQ					pPKP	**pPKPdf**	**14 32 18.0**	**+1.7**	
KMI	**Kunming**	**166.37**	**166**		PKP	**PKPdf**	**14 32 11.1**	**-0.9**	
SONM	**Songino Array**	**170.63**	**360**		PKPab	**PKPab**	**14 33 30.8**	**-0.7**	
	0.8nm,0.8s,baz=360,slow=2.8,SNR=5.5								
HHC	**Hu-ho-hao-te**	**175.27**	**302**	*e*	PKP	**PKPdf**	**14 32 17.7**	**+1.6**	
HHC					sPKP		14 32 28.2		
HHC					PP	**PP**	**14 37 49.3**	**+3.9**	
HHC					SKS	**SKSdf**	**14 39 15.5**	**-2.7**	
HHC					PPMZ				
	140nm,9.9s								
HHC					LN				
	260nm,18.5s								
HHC					LE				
	280nm,17.3s								
HHC					LZ				
	300nm,16.0s								
LZH	**Lanzhou**	**176.94**	**140**	*e*	PKP	**PKPdf**	**14 32 12.9**	**-3.8**	
LZH					pPKP	**pPKPdf**	**14 32 20.9**	**-2.0**	
LZH					sPKP		14 32 25.4		

KRSC ***10*** *14:28:40.8±0.4, 55.°11N×160.°40E, h-2km±3km, ML4.3*
ISCJB ***10*** *14:28:41.7±0.6, 55.°10N±0.°02×160.°45E±0.°05, h2km±4km, mb3.9/18, MS3.5/2, Error ellipse: s-maj=5.2km s-min=2.6km az=7.6*
IDC ***10*** *14:28:42.1±0.6, 54.°99N×160.°54E, h0km, mb3.9/13, mb1 4.1/15, mb1mx3.9/48, mbtmp3.9/15, ML3.1/3, MS3.2/2, Ms1 3.2/2, ms1mx3.0/35, Error ellipse: s-maj=15.3km s-min=10.8km az=1.0*
MOS ***10*** *14:28:43.1±1.0, 55.°11N×160.°47E, h20km, mb4.7/9, Error ellipse: s-maj=13.7km s-min=6.9km az=87.5*
NEIC ***10*** *14:28:43.4±0.3, 55.°01N×160.°50E, h10km, mb4.1/2, Error ellipse: s-maj=8.6km s-min=6.2km az=132.0*
ISC 10 14:28:42.3±1.1, 55.°07N±0.°02×160.°43E±0.°03, h1km±7km, n78, σ1§26/95, mb4.0/18, 1C-2D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.09**	**298**	*e*P	Pg	14 28 42.5	-1.7
TUMR	**Tumrok**	**0.27**	**323**	*e*P	Pg	14 28 45.9	-1.6
TUMR				S	**Sg**	**14 29 50.7**	**-0.2**
KMNR	**Kamenistaya**	**0.69**	**351**	*e*P	Pg	14 28 54.9	-0.8
KMNR				*e*S	**Sg**	**14 29 05.2**	**+0.6**
BZMR	**Bezymyannaya**	**0.86**	**2**	P	**Pg**	**14 28 58.8**	**-0.1**
BZMR				S	**Sg**	**14 29 11.3**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**0.88**	**10**	P	Pg	14 28 58.3	-1.0
BZGR				S	**Sg**	**14 29 12.5**	**+1.8**
KIRR	**Kirishev**	**0.88**	**357**	*e*P	**Pg**	**14 28 59.1**	**-0.2**
KIRR				*e*S	**Sg**	**14 29 10.5**	**-0.2**
BZWR	**Bezymyannyi-We**	**0.90**	**2**	P	**Pg**	**14 28 58.8**	**-0.7**
BZWR				S	**Sg**	**14 29 13.0**	**+1.9**
KPT	**Kopyto**	**0.90**	**353**	P	**Pg**	**14 28 59.2**	**-0.5**
KPT				S	**Sg**	**14 29 12.3**	**+0.9**
MKZ	**Mys Kozlova**	**0.91**	**124**	PN	**Pb**	**14 29 00.3**	**-0.7**
MKZ				S	**Sn**	**14 29 16.3**	**+0.2**
MKZ	**Mys Kozlova**	**0.91**	**124**	*e*P	**Pb**	**14 29 00.3**	**-0.7**
MKZ				*e*S	**Sn**	**14 29 16.3**	**+0.2**
KOZ	**Kozyrevsk**	**1.04**	**342**	P	**Pb**	**14 29 01.8**	**-1.3**
KOZ				S	**Sg**	**14 29 16.5**	**+0.8**
KOZR	**Kozyr**	**1.04**	**343**	PN	**Pb**	**14 29 01.8**	**-1.4**
KOZR				S	**Sb**	**14 29 16.5**	**-0.9**
KII	**Karymskiy**	**1.19**	**209**	*e*P	**Pb**	**14 29 04.3**	**-1.4**
ESO	**Esso**	**1.30**	**312**	PN	Pn	14 29 03.9	-3.9
ESO				S	**Sb**	**14 29 22.4**	**-2.5**
ESO	**Esso**	**1.30**	**312**	*e*P	Pn	14 29 03.9	-3.9
ESO				*e*S	**Sb**	**14 29 22.4**	**-2.5**
SRDR	**Sredinnyy**	**1.31**	**342**	*e*P	**Pn**	**14 29 05.7**	**-2.2**
SRDR				*e*S	**Sb**	**14 29 23.2**	**-2.0**
SPN	**Mys Shipunski**	**1.99**	**187**	PN	**Pn**	**14 29 16.9**	**-0.3**
SPN				S	**Sb**	**14 29 43.6**	**-1.1**
SPN	**Mys Shipunski**	**1.99**	**187**	P	**Pn**	**14 29 16.9**	**-0.3**
SPN				S	**Sb**	**14 29 43.6**	**-1.1**
GNL	**Ganaly**	**2.00**	**228**	*e*P	**Pn**	**14 29 16.8**	**-0.7**
GNL				S	**Sb**	**14 29 45.0**	**-0.2**
KRX	**Arik**	**2.01**	**212**	P	**Pb**	**14 29 18.4**	**-1.4**
SDLR	**Sedlovina**	**2.01**	**207**	*e*P	**Pn**	**14 29 17.8**	**+0.2**
SDLR				S	**Sg**	**14 29 47.0**	**0.0**
KRER	**Koryakskii**	**2.03**	**210**	P	**Pn**	**14 29 18.5**	**+0.6**
KRER				S	**Sg**	**14 29 48.6**	**+1.1**
SMAR	**Somma**	**2.05**	**209**	*e*P	**Pn**	**14 29 18.5**	**+0.3**
AVH	**Avacha**	**2.07**	**209**	P	**Pn**	**14 29 18.7**	**+0.4**
KOK	**Koryaka**	**2.07**	**211**	P	**Pn**	**14 29 19.2**	**+0.8**
UGLR	**Uglovaya**	**2.09**	**207**	P	**Pn**	**14 29 19.1**	**+0.4**
PET	**Petropavlovsk**	**2.30**	**208**	‖*e*PN	**Pn**	**14 29 21.6**	**+0.2**
PET				*e*S	**Sb**	**14 29 52.8**	**-0.8**
PET				pmax	pmax		
	comp=Z,300nm,3.4s						
PET				pmax	pmax		
	comp=Z,187nm,0.5s						
PET				smax	smax		
	comp=E,500nm,7.2s						
PET				smax	smax		
	comp=N,500nm,6.0s						
PET				smax	smax		
	comp=N,1μm,2.5s						
PET				smax	smax		
	comp=N,382nm,0.7s						
PET				smax	smax		
	comp=E,416nm,0.6s						
PET				MLR	MLR		
	comp=Z,2μm,9.0s						
PET				MLR	MLR		
	comp=Z,4μm,8.0s						
PET	**Petropavlovsk**	**2.30**	**208**	P	**Pn**	**14 29 21.9**	**+0.5**
PET				S	**Sb**	**14 29 53.3**	**-0.3**
PET	**Petropavlovsk**	**2.30**	**208**	*e*P	**Pn**	**14 29 20.8**	**-0.6**
PETK	**Petropavlovsk-**	**2.54**	**220**	Pn	**Pn**	**14 29 23.9**	**-0.8**
	comp=Z,8.2nm,0.3s,baz=64,slow=15,SNR=53						
PETK				Lg	Lg	14 30 06.0	
	comp=Z,4.8nm,0.3s,baz=354,slow=31,SNR=4.0						
PETK				LR	LR	14 30 49.2	
	comp=Z,502nm,20.8s,baz=19,slow=50						
RUS	**Russkaya**	**2.88**	**204**	PN	**Pn**	**14 29 29.8**	**+0.5**
RUS				S	**Sb**	**14 30 07.6**	**-2.6**
RUS	**Russkaya**	**2.88**	**204**	*e*P	**Pn**	**14 29 29.8**	**+0.5**
RUS				S	**Sb**	**14 30 07.6**	**-2.6**
APC	**Apacha**	**2.89**	**223**	P	**Pn**	**14 29 29.4**	**-0.1**
MTVR	**Mutnovka**	**2.92**	**208**	P	**Pn**	**14 29 32.0**	**+2.0**
BKI	**Bering**	**3.18**	**85**	PN	**Pn**	**14 29 33.0**	**-0.5**
BKI				S	**Sn**	**14 30 13.7**	**+1.6**
BKI	**Bering**	**3.18**	**85**	P	**Pn**	**14 29 33.0**	**-0.5**
BKI				S	**Sn**	**14 30 13.7**	**+1.6**
PALN	**Palana**	**4.04**	**357**	P	Pn	14 29 48.5	+3.3
PAU	**Pauzhetka**	**4.21**	**212**	PN	Pn	14 29 51.2	+3.5
PAU	**Pauzhetka**	**4.21**	**212**	P	Pn	14 29 51.2	+3.5
OSSR	**Ossora**	**4.43**	**18**	P	**Pn**	**14 29 53.0**	**+2.4**
SKR	**Severo-Kuril's**	**5.11**	**212**	*e*PN	**Pn**	**14 30 02.6**	**+2.6**
SKR				pmax	pmax		
	comp=N,70nm,1.0s						
SKR				pmax	pmax		
	comp=Z,90nm,1.0s						
SKR				MLR	MLR		
	comp=N,1μm,10.0s						
SKR				MLR	MLR		
	comp=Z,1μm,10.0s						
FX1	**Attu Island--F**	**7.82**	**101**	Pn	**Pn**	**14 30 36.0**	**-1.2**
	comp=Z,1.9nm,0.3s,baz=248,slow=19,SNR=7.6						
FX1				Sn	**Sn**	**14 32 03.4**	**-3.0**
	comp=Z,0.8nm,0.3s,baz=167,slow=19,SNR=2.6						
FX1	**Attu Island--F**	**7.82**	**101**	*e*P	**Pn**	**14 30 35.3**	**-1.9**
FX1				Sn	**Sn**	**14 32 03.4**	**-3.0**
SEY	**Seymchan**	**8.90**	**336**	Pn	**Pn**	**14 30 53.1**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=170,slow=15,SNR=2.8						
BILL	**Bilibino**	**13.30**	**10**	*e*PN	Pn	14 31 56.7	+4.7
BILL				pmax	pmax		
	comp=Z,3.0nm,1.6s						
BILL	**Bilibino**	**13.30**	**10**	P	**Pn**	**14 31 52.0**	**0.0**
	comp=Z,9.3nm,1.4s						
YSS	**Yuzh-Sakhalins**	**13.75**	**241**	*e*P	**Pn**	**14 31 58.1**	**-0.1**
YSS	**Yuzh-Sakhalins**	**13.75**	**241**	*e*P	**Pn**	**14 31 58.1**	**-0.1**
YAK	**Yakutsk**	**17.36**	**306**	*e*P	**P**	**14 32 49.7**	**+2.7**
USRK	**Ussuriysk Ar.**	**21.24**	**251**	P	**P**	**14 33 31.3**	**+1.7**
	comp=Z,6.3nm,1.1s,baz=69,slow=11,SNR=4.9						
TIXI	**Tiksi**	**21.38**	**333**	⇑*i*P	**P**	**14 33 32.7**	**+1.8**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,290nm,16.0s						
TIXI	**Tiksi**	**21.38**	**333**	*e*P	**P**	**14 33 30.1**	**-0.8**
MJAR	**Matsushiro Arr**	**23.97**	**229**	P	**P**	**14 33 57.4**	**-0.8**
	comp=Z,4.4nm,1.0s,baz=25,slow=8.4,SNR=5.1						
MJAR				LR	LR	14 43 02.4	
	comp=Z,75nm,21.6s,baz=200,slow=36						
BOD	**Bodaibo**	**25.42**	**295**	*e*P	**P**	**14 34 08.9**	**-2.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ILAR	**Eielson Array**	**27.31**	**48**	P	**P**	**14 34 28.2**	**+0.1**
	comp=Z,0.8nm,1.0s,baz=264,slow=7.1,SNR=6.2						
TLY	**Talaya**	**33.25**	**288**	*e*P	**P**	**14 35 20.6**	**-0.2**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TLY	**Talaya**	**33.25**	**288**	*e*P	**P**	**14 35 20.6**	**-0.2**
	comp=Z,1.3nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**35.62**	**170**	T	T	15 13 02.2	
	baz=355,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**35.64**	**169**	T	T	15 13 03.2	
	baz=355,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**35.64**	**170**	T	T	15 12 53.5	
	baz=355,slow=76,SNR=25						
YKA	**Yellowknife Ar**	**41.58**	**44**	P	**P**	**14 36 31.1**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=299,slow=7.9,SNR=12						
YKA				PcP	**PcP**	**14 38 27.6**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=308,slow=3.9,SNR=6.4						
KURK	**Kurchatov**	**46.88**	**300**	P	**P**	**14 37 15.6**	**+1.9**
KURK	**Kurchatov**	**46.88**	**300**	P	**P**	**14 37 15.6**	**+1.9**
KURBB	**Kurchatov Arra**	**46.98**	**300**	P	**P**	**14 37 15.6**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=57,slow=7.9,SNR=2.0						
BSMT	**Bassoo Peak**	**50.22**	**61**	*e*P	**P**	**14 37 38.5**	**-1.3**
	comp=Z,3.4nm,0.9s						
ARU	**Arti**	**52.09**	**316**	*d i*P	**P**	**14 37 53.9**	**+0.5**
ARU						14 38 59.4	
ARU						14 39 54.9	
ARU				S	**S**	**14 45 18.4**	**+0.5**
ARU				SS	**SS**	**14 48 53.5**	**-0.7**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
NVAR	**Mina Array Bea**	**54.90**	**72**	P	**P**	**14 38 15.6**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=287,slow=8.4,SNR=5.1						
FRB	**Frobisher Bay**	**55.61**	**24**	P	**P**	**14 38 19.1**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=301,slow=4.8,SNR=3.3						
PDAR	**Pinedale Array**	**56.40**	**62**	P	**P**	**14 38 25.5**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=320,slow=3.9,SNR=4.5						
FINES	**FINESS Array B**	**58.38**	**336**	*e*P	**P**	**14 38 39.0**	**+0.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**58.38**	**336**	P	**P**	**14 38 38.0**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=26,slow=9.1,SNR=7.1						
NOA	**NORSAR Array B**	**61.70**	**344**	P	**P**	**14 39 02.4**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=20,slow=6.7,SNR=3.2						
KIEV	**Kiev**	**67.03**	**329**	P	**P**	**14 39 36.0**	**-0.6**
TXAR	**Lajitas Array**	**69.69**	**68**	P	**P**	**14 39 53.5**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=270,slow=3.8,SNR=4.9						
KHC	**Kasperske Hory**	**72.51**	**338**	*i* P	**P**	**14 40 10.4**	**-0.1**
WRA	**Warramunga Arr**	**77.96**	**205**	*i* P	**P**	**14 40 42.2**	**+0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**77.96**	**205**	P	**P**	**14 40 41.9**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=20,slow=6.2,SNR=19						
ASAR	**Alice Springs**	**81.65**	**204**	P	**P**	**14 41 01.0**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=18,slow=4.2,SNR=7.0						

BJI ***10*** *14:32:19.9, 36.°60N×86.°70E, h7km, mB4.9/30, mb4.5/46, Ms5.1/57, Ms7 4.8/47*
NNC ***10*** *14:32:19.0±2.2, 36.°32N×87.°20E, h0km, mb4.7, Error ellipse: s-maj=29.0km s-min=26.0km az=27.0*
IDC ***10*** *14:32:19.9±0.5, 36.°37N×86.°96E, h0km, mb4.4/19, mb1 4.4/25, mb1mx4.3/47, mbtmp4.3/25, ML3.3/6, MS4.4/28, Ms1 4.4/28, ms1mx4.4/32, Error ellipse: s-maj=17.0km s-min=11.3km az=44.0*
ISCJB ***10*** *14:32:20.1±0.2, 36.°39N±0.°02×86.°88E±0.°03, h10km, mb4.6/55, MS4.6/38, Error ellipse: s-maj=3.5km s-min=2.6km az=145.2*
LDG ***10*** *14:32:20.0±0.2, 36.°42N×86.°89E, h10km, Mb5.0/14, Ms4.4/11, Error ellipse: s-maj=9.4km s-min=5.6km az=115.0*
GCMT ***10*** *14:32:21.8±0.2, 36.°47N×86.°94E, h21km±1km, MW5.1/87, Moment Tensor Solution. s38,c47; s87,c152; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.19±.20; $M_{\theta\theta}$-3.02±.15; $M_{\phi\phi}$4.21±.17; $M_{r\theta}$-0.55±.29; $M_{\phi\phi}$4.44±.14; $M_{\phi r}$-0.50±.27; Best double couple: $M_0$5.76700×10^{16} NP1:ϕ_s250.00000°, δ89.00000°, λ7.00000°. NP2: ϕ_s160.00000°, δ83.00000°, λ179.00000°. Principal axes: T 6.3840, Plg5.0000°, Azm116.0000°; N -1.2320, Plg83.0000°, Azm257.0000°; P -5.1510, Plg4.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***10*** *14:32:21.8±0.2, 36.°43N×86.°97E, h10km, mb4.6/13 Error ellipse: s-maj=6.7km s-min=4.1km az=219.0*
MOS ***10*** *14:32:23.1±1.1, 36.°35N×86.°96E, h33km, mb5.2/23, MS4.6/18, Error ellipse: s-maj=8.7km s-min=4.8km az=119.7*
ISC 10 14:32:22.0±0.3, 36.°41N±0.°04×86.°90E±0.°03, h10km, n224, σ1§46/228, mb4.6/55, MS4.6/39, 17C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**7.43**	**4**	Pn	**Pn**	**14 34 11.5**	**+0.9**
WMQ				Sg	**Sg**	**14 36 15.2**	**-5.3**
WMQ				LN			
	1μm,25.0s						
WMQ				LE			
	6μm,23.0s						
WMQ				LZ			
	2μm,20.0s						
LSA	**Lhasa**	**7.58**	**151**	Pn	Pn	14 34 18.2	+5.2
LSA				LE			
	13μm,14.8s						
LSA	**Lhasa**	**7.58**	**151**	*e*P	**Pn**	**14 34 12.3**	**-0.7**
LSA				pmax	pmax		
	comp=Z,191nm,1.6s						
LSA	**Lhasa**	**7.58**	**151**	*e*P	**Pn**	**14 34 12.3**	**-0.7**
	comp=Z,191nm,1.6s						
DANN	**Dangsing**	**8.46**	**199**	*e*P	**Pn**	**14 34 25.3**	**+0.4**
	comp=Z,31nm,0.6s						
GUN	**Gumba**	**8.51**	**186**	*e*P	**Pn**	**14 34 27.4**	**+1.7**
	comp=Z,42nm,1.0s						
GKN	**Gorkha**	**8.59**	**193**	*e*P	**Pn**	**14 34 27.1**	**+0.5**
	comp=Z,29nm,0.8s						
KKN	**Kakani**	**8.70**	**190**	*e*P	**Pn**	**14 34 28.6**	**+0.5**
	comp=Z,29nm,0.9s						
JIRN	**Jiri**	**8.74**	**184**	*e*P	**Pn**	**14 34 29.3**	**+0.5**
	comp=Z,18nm,0.7s						
PKIN	**Phulchoki**	**8.89**	**189**	*e*P	**Pn**	**14 34 32.8**	**+1.9**
	comp=Z,34nm,0.8s						
PKI	**Pulchoki**	**8.90**	**189**	*e*P	**Pn**	**14 34 32.7**	**+1.7**
	comp=Z,44nm,0.8s						
DMN	**Daman**	**8.90**	**190**	*e*P	**Pn**	**14 34 32.5**	**+1.6**
	comp=Z,40nm,0.8s						
KOLN	**Koldanda**	**9.05**	**199**	*e*P	**Pn**	**14 34 32.3**	**-0.7**
	comp=Z,46nm,0.8s						
TAPN	**Taplejung**	**9.06**	**175**	*e*P	**Pn**	**14 34 32.9**	**-0.2**
	comp=Z,66nm,1.1s						
KSH	**Kashi**	**9.17**	**293**	P	**Pn**	**14 34 37.4**	**+3.0**
KSH				sP		14 34 46.7	
KSH				S	**Sn**	**14 36 17.7**	**0.0**
KSH				sS		14 36 26.6	
KSH				PMZ			
	comp=Z,210nm,2.1s						
KSH				LN			
	comp=Z,2μm,8.4s						
KSH				LE			
	comp=Z,3μm,8.9s						
KSH				LZ			
	comp=Z,3μm,11.1s						
RAMN	**Ramite**	**9.43**	**182**	*e*P	**Pn**	**14 34 38.1**	**-0.1**
	comp=Z,32nm,1.1s						
ODAN	**Odare**	**9.53**	**177**	*e*P	**Pn**	**14 34 39.2**	**-0.3**
	comp=Z,33nm,1.0s						
DHRM	**DHARAMSHALA**	**9.69**	**248**	*e*P	**Pn**	**14 34 42.4**	**+0.6**
DHRM				AMB	AMB	14 34 49.3	
	comp=Z,36nm,1.0s						
DHRM				*e*S	**Sn**	**14 36 29.5**	**-1.3**
KNDC	**Almaty**	**10.22**	**315**	‖Pn	**Pn**	**14 34 50.8**	**+2.0**
KNDC				⇑Lg	Lg	14 37 55.4	
AAA	**Alma-Ata**	**10.27**	**315**	*e*P	**Pn**	**14 34 51.4**	**+2.0**
AAA				*e*S	**Sn**	**14 36 46.6**	**+2.0**
AAA				pmax	pmax		
	comp=Z,600nm,2.8s						
AAA				smax	smax		
	comp=N,1μm,4.9s						
AAA				MLR	MLR		
	comp=Z,9μm,15.0s						
GTA	**Gaotai**	**10.64**	**70**	⇑P	Pn	14 34 56.9	+2.3
GTA				pP		14 35 01.1	
GTA				sP		14 35 03.9	
GTA				S	**Sn**	**14 36 52.4**	**-1.4**
GTA				PMZ			
	comp=Z,12nm,1.7s						
GTA				PMZ			
	comp=Z,190nm,5.0s						
GTA				LN			
	comp=Z,12μm,14.2s						
GTA				LE			
	comp=Z,4μm,13.8s						
GTA				LZ			
	comp=Z,4μm,15.7s						
TKM2	**Tokmak 2**	**10.87**	**310**	‖Pn	**Pn**	**14 34 58.3**	**+0.6**
	comp=Z,24nm,0.9s						
TKM2				‖Lg	Lg	14 38 10.4	
	comp=Z,91nm,1.5s						
TKM2	**Tokmak 2**	**10.87**	**310**	P	**Pn**	**14 34 58.3**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,24nm,1.0s						
TKM2				pmax	pmax		
	comp=Z,57nm,1.5s						
TKM2				pmax	pmax		
	comp=N,47nm,1.1s						
TKM2	**Tokmak 2**	**10.87**	**310**	*e*P	**Pn**	**14 34 57.4**	**-0.4**
	comp=N,36nm,1.0s						
MK31	**Makanchi Array**	**10.93**	**343**	⇑Pn	**Pn**	**14 34 57.9**	**-0.6**
	comp=N,5.3nm,0.7s,baz=151,slow=14,SNR=81						
MK31				⇑Lg	Lg	14 38 09.5	
	comp=N,134nm,1.4s,baz=162,slow=27,SNR=3.8						
MKAR	**Makanchi Array**	**10.93**	**343**	Pn	**Pn**	**14 34 57.4**	**-1.1**
	comp=N,0.6nm,0.3s,baz=156,slow=13,SNR=25						
MKAR				Lg	Lg	14 38 11.2	
	comp=N,0.2nm,0.3s,baz=167,slow=27,SNR=3.9						
MKAR				LR	LR	14 39 53.3	
	comp=N,1μm,20.2s,baz=160,slow=41						
AAK	**Ala-Archa**	**11.41**	**307**	⇑Pn	**Pn**	**14 35 05.9**	**+0.7**
	comp=N,16nm,0.9s						
AAK				⇑Lg	Lg	14 38 27.8	
	comp=N,117nm,1.7s						
AAK	**Ala-Archa**	**11.41**	**307**	*c i*P	**Pn**	**14 35 06.7**	**+1.5**
AAK				pmax	pmax		
	comp=Z,92nm,2.5s						
AAK	**Ala-Archa**	**11.41**	**307**	Pn	**Pn**	**14 35 05.6**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=121,slow=8.6,SNR=22						
AAK				LR	LR	14 40 29.2	
	comp=Z,3μm,21.0s,baz=98,slow=43						
AAK	**Ala-Archa**	**11.41**	**307**	*e*P	**Pn**	**14 35 05.9**	**+0.7**
FRU	**Bishkek**	**11.43**	**308**	*e*P	**Pn**	**14 35 08.0**	**+2.6**
FRU				pmax	pmax		
	comp=Z,240nm,1.4s						
FRU				pmax	pmax		
	comp=N,750nm,2.0s						
SHL	**Shillong**	**11.62**	**157**	*e*P	**Pn**	**14 35 09.2**	**+1.1**
SHL				AMB	AMB	14 36 05.7	
	comp=Z,14nm,3.5s						
SHL				*i* S	**Sn**	**14 37 20.0**	**+2.0**
EKS2	**Erkin-Say**	**11.89**	**306**	*e*P	**Pn**	**14 35 12.4**	**+0.7**
EKS2				pmax	pmax		
	comp=Z,24nm,1.0s						
EKS2	**Erkin-Say**	**11.89**	**306**	*e*P	**Pn**	**14 35 12.4**	**+0.7**
	comp=Z,24nm,1.0s						
LZH	**Lanzhou**	**13.69**	**86**	*e*P	P	14 35 40.3	-4.8
LZH				pP	Pn	14 35 44.3	+8.0
LZH				sP		14 35 46.8	
LZH				PP	PnPn	14 35 52.0	+7.9
LZH				*e*S	Sn	14 38 16.4	+7.9
LZH				sS	S	14 38 18.6	-13
LZH				SS	SnSn	14 38 30.3	+10
LZH				PMZ			
	comp=Z,28nm,1.1s						
LZH				PMZ			
	comp=Z,200nm,4.8s						
LZH				LN			
	comp=Z,2μm,10.2s						
LZH				LE			
	comp=Z,2μm,8.4s						
LZH				LZ			
	comp=Z,3μm,17.0s						
KK31	**Karatay Array**	**14.26**	**303**	P	Pn	14 35 47.5	+3.6
	comp=Z,13nm,1.1s,baz=109,slow=11,SNR=23						
KK31	**Karatay Array**	**14.26**	**303**	*i* P	**P**	**14 35 52.2**	**+0.9**
KK31				pmax	pmax		
	comp=Z,30nm,1.2s						
KK31				pmax	pmax		
	comp=N,26nm,1.1s						
KKAR	**Karatay Array**	**14.26**	**303**	*e*P	**Pn**	**14 35 43.3**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,14nm,1.0s						
KKAR	**Karatay Array**	**14.26**	**303**	*e*P	**Pn**	**14 35 43.3**	**-0.6**
	comp=Z,14nm,1.0s						
KBL	**Kabul**	**14.67**	**268**	*e*P	**Pn**	**14 35 50.3**	**+0.5**
KBL				pmax	pmax		
	comp=Z,15nm,1.0s						
KBL	**Kabul**	**14.67**	**268**	*e*P	**Pn**	**14 35 50.3**	**+0.5**
	comp=Z,15nm,1.0s						
CD2	**Chengdu**	**15.07**	**106**	*e*P	**Pn**	**14 35 55.5**	**+0.5**
CD2				PP	pP	14 36 08.1	+4.9
CD2				S	**Sn**	**14 38 38.0**	**-4.

KMI LE
comp=Z,2μm,8.4s
KMI LZ
comp=Z,3μm,8.1s
XAN Xi'an 18.15 91 P **Pn 14 36 33.1 -1.1**
XAN pP **pP 14 36 40.4 +3.1**
XAN PMZ
comp=Z,6.0nm,1.1s
XAN PMZ
comp=Z,68nm,6.8s
XAN LN
comp=Z,1μm,10.6s
XAN LE
comp=Z,620nm,11.6s
XAN LZ
comp=Z,590nm,11.9s
MOY Mondy 18.26 29 *e*P **P 14 36 36.7 +1.0**
MOY pmax pmax
comp=Z,43nm,2.5s
SONM Songino Array 18.37 46 P **P 14 36 36.7 -0.2**
comp=Z,0.2nm,0.3s,baz=233,slow=12,SNR=40
SONM LR LR 14 43 55.4
comp=Z,2μm,20.1s,baz=234,slow=38
ULN Ulaanbaatar 18.77 46 *ce*P **Pn 14 36 42.2 +0.4**
ULN pmax pmax
comp=Z,12nm,0.8s
ULN MLR MLR
comp=Z,2μm,19.0s
ULN Ulaanbaatar 18.77 46 *e*P **Pn 14 36 41.4 -0.4**
comp=Z,21nm,1.2s
VIS Vishakhapatnam 18.88 191 *e*P **P 14 36 41.8 -0.8**
VIS AMB AMB 14 36 46.2
comp=Z,28nm,1.1s
TLY Talaya 19.37 33 *e*P **Pn 14 36 49.8 +0.9**
TLY *e*S **S 14 40 29.7 +2.9**
TLY pmax pmax
comp=Z,12nm,1.7s
TLY MLR MLR
comp=Z,989nm,14.0s
TLY Talaya 19.37 33 P **Pn 14 36 47.8 -1.0**
comp=Z,0.0nm,0.3s,baz=251,slow=10,SNR=7.0
TLY LR LR 14 44 42.2
comp=Z,1μm,20.4s,baz=222,slow=38
TLY Talaya 19.37 33 *e*P **Pn 14 36 48.0 -0.9**
CMAI Chiengmai2 19.57 144 P **Pn 14 36 50.9 -0.7**
comp=Z,72nm,1.1s
HHC Hu-ho-hao-te 19.75 70 *e*P **Pn 14 36 53.3 -0.3**
HHC sP sP 14 37 03.6 +7.3
HHC PP **PnPn 14 37 12.2 +4.9**
HHC S **S 14 40 29.9 -4.9**
HHC sS **sS 14 40 40.2 +0.9**
HHC SS **SnSn 14 40 56.4 +6.7**
HHC PMZ
comp=Z,35nm,0.7s
HHC PMZ
comp=Z,520nm,4.6s
HHC LN
comp=Z,2μm,8.6s
HHC LE
comp=Z,5μm,11.1s
HHC LZ
comp=Z,6μm,11.7s
VOSK Vostochnaya 19.79 330 ⇑P **Pn 14 36 53.8 -0.1**
comp=Z,46nm,1.0s
VOSK Vostochnaya 19.79 330 P **Pn 14 36 53.7 -0.1**
VOSK pmax pmax
comp=Z,46nm,1.0s
ENH Enshi 19.82 101 *e*P **Pn 14 36 54.6 +0.2**
comp=Z,28nm,1.3s
BHJ Bhuj 19.85 233 *e*P **P 14 36 53.2 +0.1**
CRAI Chiangrai 19.98 140 P **P 14 36 54.6 0.0**
comp=Z,104nm,1.1s,comp=Z,7μm
IRK Irkutsk 20.05 32 *e*P **Pn 14 36 56.9 0.0**
IRK *e* 14 37 21.0
IRK pmax pmax
comp=Z,85nm,1.8s
BVA0 Borovoye Array 20.26 330 P **P 14 36 57.7 +0.3**
comp=Z,62nm,1.6s,baz=137,slow=10.0,SNR=105
BVA0 Borovoye Array 20.26 330 *i* P **P 14 36 57.7 +0.3**
BVA0 pmax pmax
comp=Z,37nm,1.0s
BVAR Borovoye Array 20.26 330 P **P 14 36 57.7 +0.3**
comp=Z,22nm,0.8s,baz=138,slow=11,SNR=60
BVAR LR LR 14 45 39.1
comp=Z,2μm,19.1s,baz=140,slow=39
HYB Hyderabad 20.31 204 *i* P **P 14 36 57.0 -1.2**
HYB Hyderabad 20.31 204 *e*P **P 14 36 58.6 +0.4**
BRVK Borovoye 20.32 330 ⇓P Pn 14 36 59.6 -0.5
comp=Z,108nm,1.0s
BRVK Borovoye 20.32 330 ⇓*e*P **P 14 36 58.6 +0.5**
BRVK pmax pmax
comp=Z,122nm,2.5s
BRVK MLR MLR
comp=Z,3μm,17.0s
BRVK Borovoye 20.32 330 *e*P **P 14 36 57.7 -0.4**
comp=Z,96nm,1.3s
PAYA Payao 20.45 143 P Pn 14 37 06.9 +5.0
CHTO Chiang Mai 20.49 146 *e*P **P 14 36 58.0 -2.1**
CHTO pmax pmax
comp=Z,44nm,1.9s
CHTO Chiang Mai 20.49 146 *e*P **P 14 36 58.0 -2.1**
comp=Z,44nm,1.9s
CMMT Chiang Mai 20.49 146 P **P 14 36 59.9 -0.3**
comp=Z,36nm,1.9s
MHMT Maesarieng 20.61 149 P **P 14 37 01.6 +0.2**
comp=Z,27nm,1.2s
CMAR Chiang Mai Arr 20.80 146 P **P 14 37 02.2 -1.3**
comp=Z,4.1nm,0.8s,baz=333,slow=11,SNR=31
CMAR LR LR 14 45 00.8
comp=Z,628nm,21.7s,baz=329,slow=37
LAMP Lampang 21.06 144 P P 14 37 12.6 +6.3
comp=Z,5.9nm,1.0s
SLVN Son La 21.10 131 *e*P **P 14 37 06.8 0.0**
comp=Z,44nm,1.3s
POO Poona 21.20 216 *e*P **P 14 37 07.7 -0.2**
SUKH Sukhothai 21.96 146 P **P 14 37 17.0 +1.0**
comp=Z,5.3nm,1.0s
UTTA Uttaradit 22.17 143 P **P 14 37 21.5 +3.3**
comp=Z,5.4nm,1.0s
LOEI Loei 22.71 142 P P 14 37 29.1 +5.0
comp=Z,8.6nm,2.0s
GEYT Alibeck 22.95 282 P **P 14 37 26.0 -0.5**
comp=Z,8.0nm,0.9s,baz=99,slow=9.2,SNR=11
GEYT LR LR 14 48 08.9
comp=Z,2μm,18.9s,baz=80,slow=41
NONG Nongkai 23.23 138 P **P 14 37 31.5 +2.1**
comp=Z,28nm,0.9s
BJI Beijing 23.24 72 P **P 14 37 29.1 -0.2**
BJI S **S 14 41 42.6 +1.2**
BJI PMZ
comp=Z,10.0nm,0.9s
BJI LN
comp=Z,5μm,23.1s
BJI LE
comp=Z,820nm,20.7s
BJI LZ
comp=Z,1μm,25.4s
PBKT Sadao Pong 23.38 144 P **P 14 37 34.0 +3.1**
comp=Z,21nm,1.1s
AB31 Akbulak array 23.43 312 P **P 14 37 30.4 -0.7**
comp=Z,7.1nm,0.8s,baz=109,slow=10,SNR=42
ABKAR Akbulak array 23.43 312 *e*P **P 14 37 30.0 -1.2**
comp=Z,7.4nm,0.8s
UTHA Uthaitani 23.58 148 P **P 14 37 36.2 +3.3**
comp=Z,3.5nm,1.0s
DGPR DIGLIPUR 23.76 165 *e*P **P 14 37 34.3 -0.3**
DGPR AMB AMB 14 37 40.5
comp=Z,24nm,1.1s
GOA Goa 23.87 213 *e*P **P 14 37 35.7 0.0**
KHLT Khaolaem Dam 23.92 151 P **P 14 37 38.7 +2.5**
TIA Tai'an 24.32 81 ⇓P **P 14 37 40.8 +1.0**
TIA PMZ
comp=Z,20nm,1.2s
TIA PMZ
comp=Z,430nm,5.0s
TIA LN
comp=Z,7μm,14.3s
TIA LE
comp=Z,3μm,12.5s
TIA LZ
comp=Z,810nm,13.7s
AKTO Aktyubinsk 25.04 313 ⇑P **P 14 37 46.6 +0.4**
comp=Z,11nm,0.8s
AKTO Aktyubinsk 25.04 313 P **P 14 37 46.5 +0.4**
AKTO pmax pmax
comp=Z,11nm,0.9s
AKTO Aktyubinsk 25.04 313 P **P 14 37 45.4 -0.8**
comp=Z,12nm,1.0s,baz=110,slow=8.4,SNR=19
AKTO LR LR 14 48 52.4
comp=Z,3μm,18.5s,baz=118,slow=40
QIZ Qiongzhong 26.58 124 P **P 14 38 00.8 +0.4**
QIZ S **S 14 42 34.4 -0.7**
QIZ sS sS 14 42 46.2 +6.1
QIZ LN
comp=Z,1μm,14.9s
QIZ LZ
comp=Z,2μm,15.9s
NJ2 Nanjing 26.71 90 *e*P **P 14 38 02.0 +0.5**
NJ2 PMZ
comp=Z,30nm,1.0s
SVE Sverdlovsk 26.96 328 *e*P **P 14 38 06.3 +2.8**
SVE pmax pmax
comp=Z,18nm,1.0s
SVE MLR MLR
comp=Z,1μm,12.0s
ARU Arti 27.65 325 *d i*P **P 14 38 11.3 +1.6**
ARU 14 38 52.8
ARU 14 41 31.2
ARU S **S 14 42 53.9 +2.6**
ARU SS **SnSn 14 44 02.5 0.0**
ARU pmax pmax
comp=Z,16nm,2.5s
ARU MLR MLR
comp=Z,2μm,16.0s
BOD Bodaibo 27.93 31 *e*P **P 14 38 11.3 -0.9**
BOD pmax pmax
comp=Z,7.0nm,1.5s
SSE Sheshan 28.90 90 P **P 14 38 19.5 -1.6**
SSE PMZ
comp=Z,37nm,0.8s
SSE PMZ
comp=Z,260nm,12.0s
SSE LN
comp=Z,1μm,13.3s
SSE LE
comp=Z,620nm,13.3s
SSE LZ
comp=Z,1μm,13.1s
PALK Pallekele 29.55 193 LR LR 14 50 50.6
comp=Z,966nm,18.2s,baz=12,slow=38
CN2 Changchun 30.19 64 *e*P P 14 38 38.5 +6.1
CN2 *e*S **S 14 43 36.2 +4.7**
CN2 LN
comp=Z,2μm,12.0s
CN2 LE
comp=Z,1μm,12.0s
CN2 LZ
comp=Z,400nm,13.0s
MAK Makhachkala 30.80 295 *e*P **P 14 38 34.9 -2.9**
MAK *e* 14 39 36.4
MAK *e*S **S 14 43 36.9 -4.2**
KSAR Wonju Array Be 32.60 76 P **P 14 38 51.9 -1.8**
KSAR Wonju Array Be 32.60 76 P **P 14 38 51.9 -1.8**
KSRS Korea Array 32.63 76 P **P 14 38 51.9 -2.0**
comp=Z,3.0nm,1.0s,baz=278,slow=9.7,SNR=5.5
KSRS LR LR 14 51 50.2
comp=Z,189nm,20.4s,baz=284,slow=36
MDJ Mudanjiang 33.17 62 P **P 14 38 58.3 -0.3**
MDJ PMZ
comp=Z,4.0nm,1.4s
MDJ PMZ
comp=Z,120nm,5.6s
KBZ Khabaz 34.13 296 LR LR 14 55 46.7
comp=Z,584nm,19.7s,baz=68,slow=41
KIV Kislovodsk 34.27 297 *e*P **P 14 39 07.9 -0.4**
KIV *e*S **S 14 44 35.7 +0.3**
KIV pmax pmax
comp=Z,6.0nm,0.9s
KIV MLR MLR
comp=Z,369nm,15.0s
USRK Ussuriysk Ar. 34.90 63 LR LR 14 54 04.1
comp=Z,418nm,18.1s,baz=268,slow=37
VRHR Novokhopersk 35.25 309 *e*P **P 14 39 16.8 +0.3**
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s
VRHR MLR MLR
comp=N,290nm,19.0s
VRHR MLR MLR
comp=E,1μm,19.0s
VRHR MLR MLR
comp=Z,2μm,19.0s
VORD Divnogorie 36.70 309 *e*P **P 14 39 28.3 -0.7**
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,9.0nm,1.0s
VORD pmax pmax
comp=Z,6.0nm,1.0s
VORD MLR MLR
comp=N,720nm,18.0s
VORD MLR MLR
comp=E,1μm,18.0s
VORD MLR MLR
comp=Z,1μm,18.0s
VSR Storozhevoye 36.80 309 *e*P **P 14 39 28.9 -0.9**
VSR *e* 14 40 49.0
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,6.0nm,0.9s
VSR pmax pmax
comp=N,160nm,3.1s
VSR pmax pmax
comp=E,170nm,3.1s
VSR pmax pmax
comp=Z,290nm,3.1s
VSR MLR MLR
comp=N,460nm,17.0s
VSR MLR MLR
comp=E,1μm,17.0s
VSR MLR MLR
comp=Z,2μm,17.0s
YAK Yakutsk 36.84 32 *e*P **P 14 39 28.4 -1.6**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK Yakutsk 36.84 32 *e*P **P 14 39 28.4 -1.6**
comp=Z,25nm,0.9s
ANN Anapa 37.98 298 *e*P P 14 39 44.0 +4.1
ANN *e* 14 41 13.3
ANN pmax pmax
comp=Z,35nm,1.2s
ANN MLR MLR
comp=E,459nm,17.0s
ANN MLR MLR
comp=N,479nm,17.0s
ANN MLR MLR
comp=Z,696nm,17.0s
KLMR Klimovskoe 38.49 325 *e*P **P 14 39 44.2 +0.2**
KLMR pmax pmax
comp=Z,17nm,1.1s
KLMR MLR MLR
comp=Z,1μm,13.0s
OBN Obninsk 38.78 315 *e*P **P 14 39 48.5 +2.0**
OBN pmax pmax
comp=Z,74nm,3.5s
OBN MLR MLR
comp=Z,2μm,19.0s
TIXI Tiksi 41.37 19 ⇑*i*P **P 14 40 07.5 -0.2**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
TIXI MLR MLR
comp=Z,795nm,21.0s
TIXI Tiksi 41.37 19 *e*P **P 14 40 07.2 -0.6**
comp=Z,5.6nm,0.8s
BRTR Keskin Array B 41.55 291 *ce*P P 14 40 15.3 +5.4
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 41.55 291 P **P 14 40 10.2 +0.3**
comp=Z,5.7nm,0.9s,baz=108,slow=7.1,SNR=16
AKASG Malin Array Be 43.08 308 LR LR 15 00 11.8
comp=Z,1μm,19.2s,baz=75,slow=39
KIEV Kiev 43.09 308 P **P 14 40 23.0 +0.9**
VSU Vasula 44.46 319 ⇑*e*P **P 14 40 34.7 +1.7**
VSU pmax pmax
comp=Z,55nm,1.1s
VSU MLR MLR
comp=Z,9μm,25.0s
FINES FINESS Array B 44.99 324 *i* P **P 14 40 39.0 +1.8**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 44.99 324 P **P 14 40 37.1 0.0**
comp=Z,3.0nm,0.7s,baz=93,slow=7.6,SNR=7.6
FINES LR LR 15 00 30.1
comp=Z,570nm,18.1s,baz=92,slow=38
ARCES ARCESS Array B 46.45 335 P **P 14 40 48.5 -0.1**
comp=Z,8.9nm,0.9s,baz=86,slow=9.0,SNR=7.2
ARCES LR LR 15 00 46.0
comp=Z,603nm,18.1s,baz=102,slow=37
PETK Petropavlovsk- 50.85 47 LR LR 15 04 22.1
comp=Z,626nm,18.7s,baz=278,slow=38
NB2 NORSAR Subarra 52.17 323 P **P 14 41 33.2 +0.7**
comp=Z,8.6nm,0.9s,baz=81,slow=7.4
NOA NORSAR Array B 52.17 323 P **P 14 41 32.5 0.0**
comp=Z,6.7nm,0.8s,baz=83,slow=7.4,SNR=18
BRG Berggiesshubel 52.63 310 *e*P **P 14 41 37.8 +1.8**
comp=Z,22nm,1.6s
comp=N,596nm,24.5s
comp=E,1μm,16.2s
comp=Z,1μm,16.2s
BRG Berggiesshubel 52.63 310 *e*P **P 14 41 37.8 +1.8**
BRG pmax pmax
comp=Z,22nm,1.6s
BRG MLR MLR
comp=N,596nm,24.5s
BRG MLR MLR
comp=E,1μm,16.2s
BRG MLR MLR
comp=Z,1μm,16.2s
BILL Bilibino 52.88 28 *e*P **P 14 41 38.4 +0.8**
BILL *i* 14 41 47.5
BILL *i* 14 42 47.0
BILL pmax pmax
comp=Z,21nm,4.3s
BILL MLR MLR
comp=Z,642nm,17.0s
CLL Collm 53.09 311 *e*P **P 14 41 40.0 +0.6**
CLL *e*S S 14 49 20.0 +10
CLL MLR MLR
comp=Z,800nm,18.1s
CLL Collm 53.09 311 *e*P **P 14 41 40.0 +0.6**
CLL *e*S S 14 49 29.0 +19
CLL *e*SS **SS 14 52 48.0 -0.4**
CLL LmV 15 08 00.0
comp=Z,800nm,18.1s
GERES GERESS Array B 53.29 308 P **P 14 41 41.0 -0.1**
GERES GERESS Array B 53.29 308 P **P 14 41 41.0 -0.1**
comp=Z,3.6nm,0.9s,baz=68,slow=7.4,SNR=6.2
GERES LR LR 15 07 05.8
comp=Z,899nm,18.9s,baz=78,slow=39
CDF Champ du Feu 57.49 309 *e*P **P 14 42 12.0 +0.7**
CDF Champ du Feu 57.49 309 *e*P **P 14 42 12.0 +0.7**
CDF Champ du Feu 57.49 309 *e*P **P 14 42 12.0 +0.7**
HINF Hinteralfeld 57.96 308 *e*P **P 14 42 15.3 +0.8**
HINF Hinteralfeld 57.96 308 *e*P **P 14 42 15.3 +0.8**
HINF Hinteralfeld 57.96 308 *e*P **P 14 42 15.3 +0.8**
LPG La Plagne 58.86 306 *e*P **P 14 42 22.4 +1.2**
comp=Z,30nm,1.1s
LPG La Plagne 58.86 306 *e*P **P 14 42 22.4 +1.2**
LPG pmax pmax
comp=Z,30nm,1.1s
LPG La Plagne 58.86 306 *e*P **P 14 42 22.4 +1.2**
comp=Z,30nm,1.1s
LPL La Plagne 58.86 306 *e*P **P 14 42 22.4 +1.3**
comp=Z,33nm,1.1s
LPL La Plagne 58.86 306 *e*P **P 14 42 22.4 +1.3**
LPL pmax pmax
comp=Z,33nm,1.1s
LPL La Plagne 58.86 306 *e*P **P 14 42 22.4 +1.3**
comp=Z,33nm,1.1s
CABF La Chapelle 58.88 307 *e*P **P 14 42 21.2 +0.2**
CABF La Chapelle 58.88 307 *e*P **P 14 42 21.2 +0.2**
CABF La Chapelle 58.88 307 *e*P **P 14 42 21.2 +0.2**
SBF Sospel 59.02 304 *e*P **P 14 42 22.7 +0.7**
comp=Z,44nm,0.9s
SBF Sospel 59.02 304 *e*P **P 14 42 22.7 +0.7**
SBF pmax pmax
comp=Z,44nm,0.9s
SBF Sospel 59.02 304 *e*P **P 14 42 22.7 +0.7**
comp=Z,44nm,0.9s
KMBO Kilima Mbogo 59.29 242 P **P 14 42 24.6 +0.2**
comp=Z,0.9nm,0.4s,baz=45,slow=3.9,SNR=4.1
LOR Lormes 60.05 309 *e*P **P 14 42 29.3 +0.3**
LOR *e*R
comp=Z,653nm,18.2s
LOR Lormes 60.05 309 *e*P **P 14 42 29.3 +0.3**
LOR Lormes 60.05 309 *e*P **P 14 42 29.3 +0.3**
SMF Signal de Mont 60.30 308 *e*P **P 14 42 31.2 +0.5**
comp=Z,29nm,1.2s
SMF Signal de Mont 60.30 308 *e*P **P 14 42 31.2 +0.5**
SMF pmax pmax
comp=Z,29nm,1.2s
SMF Signal de Mont 60.30 308 *e*P **P 14 42 31.2 +0.5**
comp=Z,29nm,1.2s
VIVF Saint-Julien-l 60.46 306 *e*P **P 14 42 32.4 +0.5**
comp=Z,31nm,1.2s
VIVF Saint-Julien-l 60.46 306 *e*P **P 14 42 32.4 +0.5**
VIVF pmax pmax
comp=Z,31nm,1.2s
VIVF Saint-Julien-l 60.46 306 *e*P **P 14 42 32.4 +0.5**
comp=Z,31nm,1.2s
AVF Avril sur Loir 60.55 308 *e*P **P 14 42 33.0 +0.6**
comp=Z,22nm,1.2s
AVF Avril sur Loir 60.55 308 *e*P **P 14 42 33.0 +0.6**
AVF pmax pmax
comp=Z,22nm,1.2s
AVF Avril sur Loir 60.55 308 *e*P **P 14 42 33.0 +0.6**
comp=Z,22nm,1.2s
KEST Kesra 60.98 295 LR LR 15 13 50.3
comp=Z,145nm,20.0s,baz=352,slow=41
ESK Eskdalemuir 61.05 319 *i* P **P 14 42 38.1 +2.4**
TCF Toulx Ste Croi 61.47 308 *e*P **P 14 42 39.8 +1.0**
comp=Z,38nm,1.2s
TCF Toulx Ste Croi 61.47 308 *e*P **P 14 42 39.8 +1.0**
TCF pmax pmax
comp=Z,38nm,1.2s
TCF Toulx Ste Croi 61.47 308 *e*P **P 14 42 39.8 +1.0**
comp=Z,38nm,1.2s
LDF La Druitiere 61.98 311 *e*P **P 14 42 42.4 +0.3**
comp=Z,38nm,1.1s
LDF La Druitiere 61.98 311 *e*P **P 14 42 42.4 +0.3**
LDF pmax pmax
comp=Z,39nm,1.1s
LDF La Druitiere 61.98 311 *e*P **P 14 42 42.4 +0.3**
comp=Z,38nm,1.1s
GRR Gorron 62.51 311 *e*P **P 14 42 46.0 +0.4**
comp=Z,25nm,0.8s
GRR Gorron 62.51 311 *e*P **P 14 42 46.0 +0.4**
GRR pmax pmax
comp=Z,25nm,0.8s
GRR Gorron 62.51 311 *e*P **P 14 42 46.0 +0.4**
comp=Z,25nm,0.8s
MTLF Montolieu 62.70 305 *e*P **P 14 42 47.1 +0.1**
MTLF Montolieu 62.70 305 *e*P **P 14 42 47.1 +0.1**
MTLF Montolieu 62.70 305 *e*P **P 14 42 47.1 +0.1**
MFF Saint Martin d 62.83 309 *e*P **P 14 42 48.2 +0.4**
comp=Z,25nm,1.0s
MFF Saint Martin d 62.83 309 *e*P **P 14 42 48.2 +0.4**
MFF pmax pmax
comp=Z,25nm,1.0s
MFF Saint Martin d 62.83 309 *e*P **P 14 42 48.2 +0.4**
comp=Z,25nm,1.0s
SGMF Saint Gilles 63.59 312 *e*P **P 14 42 53.5 +0.7**
comp=Z,80nm,1.1s
SGMF Saint Gilles 63.59 312 *e*P **P 14 42 53.5 +0.7**
SGMF pmax pmax
comp=Z,80nm,1.1s
SGMF Saint Gilles 63.59 312 *e*P **P 14 42 53.5 +0.7**
comp=Z,80nm,1.1s
ROSF Rostrenen 63.99 312 *e*P **P 14 42 55.8 +0.4**
comp=Z,51nm,1.0s
ROSF Rostrenen 63.99 312 *e*P **P 14 42 55.8 +0.4**
ROSF pmax pmax
comp=Z,51nm,1.0s
ROSF Rostrenen 63.99 312 *e*P **P 14 42 55.8 +0.4**
comp=Z,51nm,1.0s
ESDC Sonseca Array 68.50 304 P **P 14 43 24.4 -0.2**
comp=Z,0.3nm,0.3s,baz=56,slow=6.0,SNR=7.6
COLA College 70.39 22 P **P 14 43 36.0 +0.2**
COLA pmax pmax
comp=Z,19nm,0.9s
COLA College 70.39 22 *e*P **P 14 43 35.3 -0.5**
comp=Z,3.8nm,0.7s
ILAR Eielson Array 70.75 21 P **P 14 43 37.5 -0.5**

comp=Z,1.8nm,0.7s,baz=309,slow=4.8,SNR=22
ILAR PP **PP** **14 46 16.8 +2.7**
comp=Z,0.7nm,0.8s,baz=314,slow=8.2,SNR=5.3
ILAR LR LR 15 17 38.5
comp=Z,430nm,21.2s,baz=327,slow=38
WRAB Tennant Creek 71.76 133 ⇑*i*P **P** **14 43 44.6 -0.1**
WRAB pmax pmax
comp=Z,42nm,2.7s
WRAB MLR MLR
comp=Z,264nm,19.0s
WRAB Tennant Creek 71.76 133 *e*P **P** **14 43 44.2 -0.5**
comp=Z,4.5nm,0.8s
WRA Warramunga Arr 71.76 133 P **P** **14 43 44.0 -0.7**
comp=Z,3.3nm,0.7s,baz=328,slow=6.1,SNR=27
WB2 Warramunga Arr 71.77 133 *e*P **P** **14 43 43.7 -1.0**
PMG Port Moresby 72.61 116*c i*P **P** **14 43 48.9 -1.0**
PMG pmax pmax
comp=Z,11nm,0.6s
PMG Port Moresby 72.61 116 P **P** **14 43 48.6 -1.2**
comp=Z,14nm,0.7s,baz=55,slow=9.2,SNR=15
PMG Port Moresby 72.61 116 *e*P **P** **14 43 48.6 -1.2**
comp=Z,13nm,0.7s
AS31 Alice Springs 74.42 136 *e*P **P** **14 44 00.1 -0.3**
ASAR Alice Springs 74.42 136 P **P** **14 44 00.0 -0.4**
comp=Z,3.8nm,0.8s,baz=326,slow=5.9,SNR=27
ASAR LR LR 15 19 55.9
comp=Z,116nm,18.8s,baz=314,slow=38
TORD Torodi Ar. Bea 78.50 278 P **P** **14 44 22.4 -1.3**
comp=Z,3.3nm,1.0s,baz=46,slow=4.8,SNR=12
TORD LR LR 15 23 32.0
comp=Z,152nm,18.2s,baz=35,slow=39
YKA Yellowknife Ar 79.93 10 P **P** **14 44 30.3 -0.4**
comp=Z,1.0nm,0.7s,baz=333,slow=5.7,SNR=24
STKA Stephens Creek 85.06 136 LR LR 15 28 57.2
comp=Z,91nm,19.4s,baz=352,slow=40
SCHQ Schefferville 86.36 345 LR LR 15 28 23.2
comp=Z,135nm,18.1s,baz=60,slow=39
BOSA Boshof 86.83 231 LR LR 15 22 40.7
comp=Z,68nm,19.1s,baz=44,slow=35
DBIC Dimbokro 87.50 276 P **P** **14 45 11.2 +0.8**
comp=Z,13nm,1.2s,baz=353,slow=6.4,SNR=4.7
DBIC LR LR 15 31 21.2
comp=Z,132nm,18.2s,baz=38,slow=40
ULM Lac du Bonnet 93.68 2 LR LR 15 32 03.9
comp=Z,185nm,18.1s,baz=18,slow=38
PDAR Pinedale Array 99.78 12 LR LR 15 37 06.0
comp=Z,155nm,18.5s,baz=4.0,slow=39
CPUP Villa Florida 148.00 278 PKPbc **PKPbc** **14 52 06.4 -1.5**
comp=Z,1.2nm,0.6s,baz=22,slow=8.0,SNR=3.0
LPAZ La Paz 150.12 306 PKPbc **PKPbc** **14 52 14.2 -0.1**
comp=Z,2.6nm,0.9s,baz=26,slow=6.1,SNR=6.0

IDC 10 15:10:01.4±1.7, 34°.49S×73°.85W, h0km, mb4.0/2, mb1 3.8/5, mb1mx3.6/28, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=35.1km s-min=32.8km az=52.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.52**	**60**	Pn	Pn	15 11 24.9	-0.1
	0.2nm,0.3s,baz=230,slow=10,SNR=5.3						
CFAA				Sn	Sn	15 12 27.6	-1.6
	0.9nm,0.3s,baz=130,slow=22,SNR=18						
PLCA	**Paso Flores**	**6.76**	**158**	Pn	Pn	15 11 41.5	-0.5
	0.3nm,0.3s,baz=340,slow=12,SNR=3.2						
LPAZ	**La Paz**	**18.84**	**17**	P	Pn	15 14 24.1	0.0
	0.1nm,0.3s,baz=224,slow=12,SNR=4.3						
TXAR	**Lajitas Array**	**69.45**	**332**	P	P	15 21 11.1	-0.4
	0.3nm,0.6s,baz=153,slow=6.8,SNR=3.5						
DBIC	**Dimbokro**	**76.76**	**72**	P	P	15 21 55.9	+0.8
	3.0nm,0.8s,baz=189,slow=8.6,SNR=3.0						

KRSC 10 15:11:22.1±0.6, 55°.11N×160°.34E, h-1km±3km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.02**	**278**	P	Pg	15 11 24.3	+1.5
TUMR	**Tumrok**	**0.20**	**328**	P	Pg	15 11 27.7	+1.5
KMNR	**Kamenistaya**	**0.65**	**355**	P	Pb	15 11 36.0	-0.5
KMNR				S	Sb	15 11 46.4	+0.2
KIRR	**Kirishev**	**0.85**	**0**	P	Pb	15 11 39.5	-0.3
KPT	**Kopyto**	**0.86**	**356**	P	Pb	15 11 40.7	+0.7
KPT				S	Sn	15 11 54.8	-0.2
MKZ	**Mys Kozlova**	**0.98**	**124**	P	Pb	15 11 42.1	+0.3
MKZ				S	Sn	15 11 57.6	+0.1
KOZ	**Kozyrevsk**	**0.99**	**345**	P	Pb	15 11 42.4	+0.3
KOZ				S	Sn	15 11 57.5	-0.4
KII	**Karymskiy**	**1.19**	**206**	P	Pg	15 11 45.2	+0.2
KLY	**Klyuchi**	**1.22**	**8**	P	Pn	15 11 47.5	+1.2
ESO	**Esso**	**1.24**	**312**	P	Pg	15 11 44.9	-0.9
ESO				S	Sg	15 12 02.4	+0.5
SRDR	**Sredinnyy**	**1.26**	**344**	P	Pn	15 11 47.6	+0.6
SRDR				S	Sn	15 12 05.4	+0.7
BDR	**Baidarnaya**	**1.54**	**18**	P	Pg	15 11 51.8	0.0
SMKR	**Semkarok**	**1.61**	**23**	P	Pg	15 11 53.1	+0.1
SRKR	**Sorokina**	**1.62**	**17**	P	Pg	15 11 53.3	+0.1
KBG	**Krutoberegovo**	**1.77**	**48**	P	Pb	15 11 54.6	-0.7
KBTR	**Krutoberegovo**	**1.79**	**51**	P	Pn	15 11 54.7	+0.6
KBTR				S	Sg	15 12 19.6	+0.1
GNL	**Ganaly**	**1.99**	**226**	P	Pb	15 11 58.4	-0.9
GNL				S	Sg	15 12 26.3	0.0
KRX	**Arik**	**2.01**	**210**	P	Pb	15 11 59.3	-0.4
KRX				S	Sg	15 12 26.6	-0.5
SDLR	**Sedlovina**	**2.02**	**206**	P	Pb	15 11 59.6	-0.3
SDLR				S	Sg	15 12 27.0	-0.3
SPN	**Mys Shipunski**	**2.02**	**185**	S	Sb	15 12 24.6	-0.8
KRER	**Koryakskii**	**2.04**	**208**	P	Pb	15 11 59.6	-0.6
SMAR	**Somma**	**2.06**	**207**	P	Pb	15 12 00.1	-0.5
AVH	**Avacha**	**2.07**	**208**	P	Pb	15 12 00.3	-0.3
KOK	**Koryaka**	**2.08**	**209**	P	Pb	15 12 00.3	-0.4
UGLR	**Uglovaya**	**2.10**	**206**	P	Pb	15 12 00.6	-0.6
PET	**Petropavlovsk**	**2.31**	**206**	P	Pb	15 12 03.4	-1.2
PET				S	Sb	15 12 33.8	+0.1
APC	**Apacha**	**2.88**	**222**	P	Pb	15 12 12.2	-2.1
RUS	**Russkaya**	**2.89**	**203**	P	Pn	15 12 11.4	+2.1
RUS				S	Sb	15 12 48.5	-1.8
MTVR	**Mutnovka**	**2.92**	**207**	P	Pn	15 12 11.5	+1.5
MTVR				S	Sn	15 12 48.0	+2.1
OSSR	**Ossora**	**4.41**	**19**	P	Pn	15 12 32.8	+2.7

*IDC **10** 15:13:56.5±1.9, 34°.53S×72°.12W, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.7/29, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=69.2km s-min=27.4km az=106.0*
*ISCJB **10** 15:13:59.2±1.7, 34°.45S±0°.05×72°.0W±0°.1, h16km±12km, mb4.0/1, Error ellipse: s-maj=16.3km s-min=6.9km az=17.9*
*GUC **10** 15:14:00.6±0.7, 34°.47S×71°.92W, h35km±3km, ML4.0*
ISC 10 15:13:58.2±1.8, 34°.47S±0°.05×71°.97W±0°.08, h10km±12km, n17, σ1§10/22, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.81**	**132**	⇓*i*P	**Pb**	**15 14 14.7**	**+0.3**
NICH				*i* S	**Sb**	**15 14 26.2**	**+0.8**
CACH	**El Canelo**	**1.18**	**73**	⇑*i*P	**Pg**	**15 14 21.2**	**+0.2**
CHCH	**Chadas Angostu**	**1.21**	**64**	⇑*i*P	**Pn**	**15 14 21.1**	**-0.2**
RCDM	**Rinconada Maip**	**1.37**	**45**	*e*P	**Pn**	**15 14 23.8**	**+0.3**
RCDM				*e*S4	**Sn**	**15 14 38.7**	**-3.0**
LNCH	**Linares**	**1.41**	**168**	*e*P	**Pg**	**15 14 25.0**	**-0.4**
LNCH				*i* S	**Sg**	**15 14 43.6**	**-0.1**
ANTU	**Antumapu**	**1.42**	**51**	*e*P	**Pb**	**15 14 25.1**	**+0.1**
ANTU				*e*S	**Sn**	**15 14 43.3**	**+0.2**
ANTU				AML	AML	15 14 48.0	
	comp=E,2μm,0.6s						
SJCH	**San Jose de Ma**	**1.57**	**59**	*e*P1	**Pn**	**15 14 27.2**	**+1.0**
SJCH				*e*S	**Sn**	**15 14 47.5**	**+0.7**
CLCH	**Cerro Calan**	**1.60**	**49**	⇑*i*P	**Pn**	**15 14 27.4**	**+0.7**
CLCH				*i* S	**Sn**	**15 14 47.9**	**+0.5**
CLCH				AML	AML	15 14 55.7	
	comp=E,4μm,0.5s						
CLCH				AML	AML	15 14 56.5	
	comp=E,4μm,2.3s						
PEL	**Peldehue**	**1.69**	**39**	⇑*i*P	**Pb**	**15 14 29.5**	**-0.1**
PEL				AML	AML	15 14 56.9	
	comp=N,5μm,0.6s						
COCH	**Cobquecura**	**1.79**	**202**	*e*P1	**Pn**	**15 14 30.0**	**+0.8**
FCH	**Farellones**	**1.80**	**51**	AML	AML	15 15 03.0	
	comp=E,1μm,0.3s						
CFAA	**Coronel Fontan**	**4.24**	**49**	Pn	Pn	15 15 06.3	+3.4
	comp=E,0.2nm,0.3s,baz=223,slow=13,SNR=7.0						
CFAA				Sn	**Sb**	**15 16 02.1**	**-2.0**
	comp=E,0.3nm,0.3s,baz=212,slow=19,SNR=2.4						
PLCA	**Paso Flores**	**6.36**	**170**	Pn	**Pn**	**15 15 30.6**	**-1.5**
	comp=E,0.3nm,0.3s,baz=80,slow=15,SNR=3.4						
PLCA				Lg	Lg	15 17 13.4	
	comp=E,0.4nm,0.3s,baz=268,slow=18,SNR=5.2						
LPAZ	**La Paz**	**18.43**	**12**	P	**Pn**	**15 18 15.8**	**+1.4**
	comp=E,0.1nm,0.3s,baz=193,slow=6.4,SNR=9.3						
SIV	**San Ignacio**	**20.84**	**31**	P	**P**	**15 18 39.4**	**-0.8**
	comp=E,2.0nm,0.8s,baz=232,slow=12,SNR=3.9						
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P	**P**	**15 26 31.3**	**+0.5**
	comp=E,1.2nm,1.0s,baz=243,slow=4.5,SNR=4.2						
WRA	**Warramunga Arr**	**120.39**	**209**	PKP	**PKPdf**	**15 32 50.4**	**-0.1**
	comp=E,0.2nm,0.6s,baz=177,slow=1.7,SNR=4.6						

MAN 10 15:15:53, 17°.71N×122°.14E, h33km, mb4.3, ML3.1, MS2.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.54**	**350**	*e*P	Pn	15 16 05.8	+1.4
SGCP				*e*S	Sn	15 16 13.5	+1.2
APYP	**Conner**	**0.87**	**280**	*e*P	Pb	15 16 09.8	+0.1
APYP				*e*S	Sb	15 16 21.5	+0.5
ABRA	**Dolores**	**1.36**	**268**	*e*P	Pn	15 16 16.4	+0.7
ABRA				*e*S	Sn	15 16 30.9	-1.8

*IDC **10** 15:41:40.4±1.0, 32°.06N×92°.61E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.4/36, mbtmp3.5/8, ML3.3/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/32, Error ellipse: s-maj=45.1km s-min=18.2km az=61.0*
*ISCJB **10** 15:41:43.3±0.9, 32°.2N±0°.1×92°.7E±0°.2, h33km, mb3.5/6, MS2.8/1, Error ellipse: s-maj=28.0km s-min=15.8km az=152.2*
ISC 10 15:41:45.4±1.2, 32°.2N±0°.2×92°.6E±0°.2, h35km, n8, σ1§71/8, mb3.5/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.58**	**334**	Pn	**Pn**	**15 45 33.2**	**-1.9**
	0.0nm,0.3s,baz=141,slow=13,SNR=3.8						
SONM	**Songino Array**	**18.78**	**30**	P	**Pn**	**15 46 01.8**	**-0.5**
	0.2nm,0.3s,baz=213,slow=13,SNR=9.8						
KURBB	**Kurchatov Arra**	**21.15**	**335**	P	**P**	**15 46 27.1**	**-0.2**
	0.6nm,0.4s,baz=142,slow=11,SNR=8.1						
ZALV	**Zalesovo Beam**	**22.44**	**348**	P	**P**	**15 46 43.9**	**+2.9**
	0.7nm,0.5s,baz=165,slow=12,SNR=5.1						
ZALV				LR	LR	15 57 09.7	
	comp=Z,31nm,18.9s,baz=84,slow=41						
BVAR	**Borovoye Array**	**26.27**	**329**	P	**P**	**15 47 18.8**	**+1.5**
	0.3nm,0.5s,baz=138,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**65.45**	**137**	P	**P**	**15 52 24.6**	**-0.3**
	0.7nm,0.9s,baz=334,slow=6.2,SNR=9.4						
ASAR	**Alice Springs**	**68.13**	**139**	P	**P**	**15 52 42.0**	**-0.1**
	0.5nm,0.6s,baz=328,slow=6.6,SNR=9.3						
TORD	**Torodi Ar. Bea**	**83.90**	**282**	P	**P**	**15 54 12.3**	**+0.2**
	0.5nm,0.6s,baz=58,slow=4.5,SNR=3.8						

GUC 10 15:49:39.3±0.7, 35°.59S×72°.72W, h14km±7km, ML3.8, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.55**	**186**	⇓*i*P	Pg	15 50 00.1	0.0
COCH				*i* S	Sg	15 50 07.6	+0.2
LNCH	**Linares**	**0.94**	**106**	⇓*i*P	Pb	15 50 06.2	-1.3
LNCH				*i* S	Sb	15 50 19.1	-0.8
NICH	**Los Niches**	**1.35**	**65**	⇓*i*P	Pn	15 50 12.1	-1.6
NICH				*i* S	Sn	15 50 30.6	-0.9
CLCH	**Cerro Calan**	**2.83**	**40**	AML	AML	15 51 25.5	
	comp=N,490nm,0.6s						
FCH	**Farellones**	**3.02**	**42**	AML	AML	15 51 24.7	
	comp=N,166nm,0.5s						

*IDC **10** 16:00:47.9±0.6, 38°.20S×75°.08W, h0km, mb4.4/13, mb1 4.5/16, mb1mx4.4/24, mbtmp4.4/16, ML4.3/3, MS4.2/18, Ms1 4.2/18, ms1mx4.2/20, Error ellipse: s-maj=22.6km s-min=16.3km az=85.0*
*BJI **10** 16:00:49.1, 38°.00S×74°.90W, h14km, mB5.2/3, Ms5.3/2, Ms7 5.2/3*
*NEIC **10** 16:00:52.0±3.8, 38°.09S×74°.91W, h23km±25km, mb4.9/25, Error ellipse: s-maj=16.8km s-min=8.0km az=67.0*
NEIC Felt at San Antonio.
*ISCJB **10** 16:00:52.8±0.3, 37°.99S±0°.05×74°.71W±0°.06, h33km, mb4.7/37, MS4.3/15, Error ellipse: s-maj=7.9km s-min=6.8km az=20.5*
*GCMT **10** 16:00:52.0±0.2, 38°.25S×75°.28W, h27km±1km, MW5.1/73, Moment Tensor Solution. s28,c35; s73,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.66±.21; $M_{\theta\theta}$-2.02±.14; $M_{\phi\phi}$4.68±.18; $M_{r\theta}$2.99±.29; $M_{\theta\phi}$2.96±.13; $M_{\phi r}$-0.06±.28; Best double couple: $M_0$5.84900×10^{16} NP1:ϕ_b237.00000°, δ67.00000°, λ-38.00000°. NP2: ϕ_b344.00000°, δ55.00000°, λ-152.00000°. Principal axes: T 5.9310, Plg7.0000°, Azm293.0000°; N -0.1640, Plg46.0000°, Azm31.0000°; P -5.7670, Plg43.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 16:00:53.6±0.4, 38°.10S±0°.07×74°.95W±0°.09, h35km, n264, σ1§15/270, mb4.7/37, MS4.3/15, 103C-78D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.30**	**129**	Pn	**Pn**	**16 01 56.7**	**+0.1**
	4.4nm,0.3s,baz=300,slow=6.8,SNR=138						
PLCA				Sn	Sn	16 02 52.4	+6.8
	14nm,0.3s,baz=216,slow=19,SNR=3.0						
CFAA	**Coronel Fontan**	**8.51**	**42**	Pn	**Pn**	**16 02 52.8**	**-1.5**
	1.6nm,0.3s,baz=213,slow=12,SNR=50						
CFAA				Sn	**Sn**	**16 04 28.9**	**-0.2**
	2.7nm,0.3s,baz=278,slow=19,SNR=8.1						
CFAA				LR	LR	16 06 24.4	
	comp=Z,247nm,19.9s,baz=228,slow=39						
LCO	**Las Campanas**	**9.73**	**23**	*e*P	**Pn**	**16 03 08.7**	**-2.6**
	34nm,0.4s						
TRQA	**Tornquist**	**10.22**	**94**	*e*P	**Pn**	**16 03 18.5**	**+0.6**
	39nm,0.9s						
LVC	**Limon Verde**	**16.28**	**20**	*e*P	**Pn**	**16 04 37.2**	**-2.7**
	20nm,0.9s						
USHA	**Ushuaia**	**17.31**	**167**	LR	LR	16 11 53.0	
	comp=Z,2μm,18.3s,baz=320,slow=39						
CPUP	**Villa Florida**	**18.93**	**57**	P	**P**	**16 05 11.2**	**-0.3**
	0.3nm,0.3s,baz=229,slow=9.3,SNR=6.6						
CPUP				LR	LR	16 13 12.9	
	comp=Z,964nm,19.1s,baz=216,slow=39						
CPUP	**Villa Florida**	**18.93**	**57**	*e*P	**P**	**16 05 11.2**	**-0.3**
	1.0nm,0.8s						
LPAZ	**La Paz**	**22.54**	**17**	P	**P**	**16 05 53.4**	**+2.2**
	7.5nm,0.8s,baz=192,slow=9.5,SNR=17						
LPAZ	**La Paz**	**22.54**	**17**	*e*P	**P**	**16 05 53.4**	**+2.2**
	78nm,1.6s						
SIV	**San Ignacio**	**25.19**	**33**	P	**P**	**16 06 16.3**	**+0.4**
	12nm,0.8s,baz=229,slow=9.6,SNR=22						
SIV				LR	LR	16 17 51.9	
	comp=Z,574nm,18.7s,baz=214,slow=40						
NNA	**Nana**	**26.06**	**356**	LR	LR	16 14 01.5	
	comp=Z,581nm,20.6s,baz=180,slow=30						
PMSA	**Palmer Station**	**27.48**	**170**	LR	LR	16 17 27.8	
	comp=Z,587nm,18.3s,baz=324,slow=36						
SAML	**Samuel**	**30.90**	**23**	*e*P	**P**	**16 07 04.8**	**-2.1**
	3.4nm,1.3s						
BDFB	**Brasilia**	**32.62**	**54**	LR	LR	16 21 46.7	
	comp=Z,832nm,19.3s,baz=220,slow=38						
ROSC	**El Rosal**	**42.74**	**1**	P	**P**	**16 08 47.8**	**-0.2**
	6.6nm,0.4s,baz=255,slow=20,SNR=3.1						
ROSC				LR	LR	16 25 48.5	
	comp=Z,396nm,18.7s,baz=210,slow=35						
VNA3	**Neumayer Olymp**	**46.52**	**156**	P	**P**	**16 09 17.4**	**+0.3**
SDV	**Santo Domingo**	**46.91**	**6**	*e*P	**P**	**16 09 20.8**	**-0.1**
	11nm,0.8s						
VNA2	**Neumayer--Watz**	**47.21**	**156**	P	**P**	**16 09 23.7**	**+1.2**
RCBR	**Riachuelo**	**47.81**	**58**	P	**P**	**16 09 27.4**	**-0.4**
	6.0nm,0.7s,baz=195,slow=8.5,SNR=4.5						
SNAA	**Sanae**	**48.73**	**156**	P	**P**	**16 09 34.8**	**+0.4**
SNAA	**Sanae**	**48.73**	**156**	P	**P**	**16 09 33.8**	**-0.5**
	6.5nm,1.0s,baz=292,slow=5.5,SNR=6.8						
SNAA	**Sanae**	**48.73**	**156**	*e*P	**P**	**16 09 33.8**	**-0.5**
	19nm,1.1s						
RKT	**Rikitea**	**52.93**	**268**	*e*LR	LR	16 25 11.5	
	398nm,27.8s						
VNDA	**Vanda**	**59.62**	**192**	P	**P**	**16 10 52.1**	**-1.2**
	2.4nm,1.0s,baz=141,slow=6.0,SNR=4.9						
VNDA				LR	LR	16 32 52.2	
	comp=Z,116nm,20.0s,baz=142,slow=32						
SYO	**Syowa Base**	**62.93**	**158**	⇑*e*pP	**P**	**16 11 17.3**	**+1.4**
PPT2	**Papeete2**	**67.42**	**265**	*e*S	**S**	**16 20 36.2**	**-3.4**
	457nm,30.2s						
PPT2	**Papeete2**	**67.42**	**265**	*e*LR	LR	16 31 56.4	
	257nm,26.2s						
PPT	**Papeete**	**67.43**	**265**	LR	LR	16 34 31.5	
	comp=Z,266nm,19.0s,baz=103,slow=30						
034A	**Hebbronville**	**68.54**	**337**	⇑P	**P**	**16 11 53.8**	**+1.4**
	baz=69						
933A	**Laredo**	**69.23**	**337**	⇑P	**P**	**16 11 58.2**	**+1.4**
	baz=70						
MAW	**Mawson**	**69.91**	**164**	LR	LR	16 41 51.9	
	comp=Z,356nm,19.8s,baz=239,slow=35						
833A	**Chaparral WMA,**	**69.93**	**337**	⇓P	**P**	**16 12 02.6**	**+1.5**
	baz=70						
832A	**Faith Ranch, C**	**70.07**	**337**	⇑P	**P**	**16 12 02.9**	**+0.9**
	baz=70						
732A	**Laxson Ranch,**	**70.49**	**337**	⇑P	**P**	**16 12 05.1**	**+0.7**
	baz=71						
538A	**Harpers Horsep**	**70.63**	**341**	⇑P	**P**	**16 12 06.2**	**+0.9**
	baz=71						
632A	**Uvalde**	**71.16**	**337**	⇑P	**P**	**16 12 09.4**	**+0.8**
	baz=72						
533A	**Kerrville**	**71.46**	**338**	⇓P	**P**	**16 12 11.7**	**+1.3**
	baz=72						
LRAL	**Lakeview Retre**	**71.66**	**349**	*e*P	**P**	**16 12 11.1**	**-0.4**
	6.9nm,0.7s						
532A	**Rocksprings**	**71.77**	**337**	⇑P	**P**	**16 12 13.4**	**+1.1**
	baz=72						
434A	**Burnet**	**71.94**	**339**	⇑P	**P**	**16 12 14.0**	**+0.8**
	baz=72						
531A	**Rocksprings**	**72.00**	**337**	⇑P	**P**	**16 12 15.2**	**+1.5**
	baz=72						
JCT	**Junction City**	**72.07**	**338**	⇓P	**P**	**16 12 14.7**	**+0.6**
	baz=72						
JCT	**Junction City**	**72.07**	**338**	*e*P	**P**	**16 12 14.2**	**+0.1**
	10nm,0.9s						
433A	**Art**	**72.11**	**338**	⇓P	**P**	**16 12 14.8**	**+0.5**
	baz=72						
335A	**Moody**	**72.14**	**340**	⇓P	**P**	**16 12 14.8**	**+0.4**
	baz=72						
530A	**J-C Ranch, Com**	**72.24**	**336**	⇓P	**P**	**16 12 15.9**	**+0.8**
	baz=73,SNR=7.2						
TXAR	**Lajitas Array**	**72.26**	**334**	P	**P**	**16 12 15.4**	**+0.1**
	4.1nm,0.9s,baz=153,slow=8.4,SNR=17						
TXAR				LR	LR	16 38 36.3	
	comp=Z,186nm,19.5s,baz=0.0,slow=31						
334A	**Lometa**	**72.42**	**339**	⇓P	**P**	**16 12 16.6**	**+0.6**
	baz=73						
529A	**Stev Forest Ra**	**72.50**	**335**	⇓P	**P**	**16 12 17.9**	**+1.2**
	baz=73						
431A	**Sonora**	**72.50**	**337**	⇓P	**P**	**16 12 17.9**	**+1.3**
	baz=73						
333A	**Richland Sprin**	**72.62**	**339**	⇑P	**P**	**16 12 18.7**	**+1.3**
	baz=73						
430A	**Baggett Ranch,**	**72.80**	**336**	⇓P	**P**	**16 12 19.1**	**+0.7**
	baz=73						
429A	**Davenport Ranc**	**72.86**	**336**	⇑P	**P**	**16 12 19.9**	**+1.1**
	baz=73,SNR=6.3						
332A	**Millersview**	**72.90**	**338**	⇑P	**P**	**16 12 19.4**	**+0.4**
	baz=73						
234A	**Clairette**	**73.02**	**340**	⇓P	**P**	**16 12 19.7**	**0.0**
	baz=73						
331A	**San Angelo**	**73.03**	**337**	⇑P	**P**	**16 12 20.1**	**+0.3**
	baz=73						
KMSC	**Kings Mountain**	**73.11**	**355**	⇓P	**P**	**16 12 20.8**	**+0.7**
	baz=74						
233A	**Rising Star**	**73.25**	**339**	⇓P	**P**	**16 12 21.6**	**+0.5**
	baz=74						
232A	**Coleman**	**73.34**	**338**	⇑P	**P**	**16 12 22.4**	**+0.9**
	baz=74						
330A	**Mertzon**	**73.35**	**337**	⇓P	**P**	**16 12 22.2**	**+0.5**
	baz=74						
134A	**White-Moore Ra**	**73.54**	**340**	⇑P	**P**	**16 12 24.1**	**+1.4**
	baz=74						
231A	**Bronte**	**73.58**	**338**	⇓P	**P**	**16 12 23.8**	**+0.8**
	baz=74						
SWET	**Sewanee**	**73.66**	**351**	*e*P	**P**	**16 12 23.2**	**-0.1**
	22nm,0.6s						
329A	**Wagon Wheel Ra**	**73.68**	**336**	⇓P	**P**	**16 12 24.5**	**+0.8**
	baz=74						
CPCT	**Cooper Cave**	**73.72**	**352**	*e*P	**P**	**16 12 26.0**	**+2.3**
133A	**Hamilton Ranch**	**73.81**	**339**	⇓P	**P**	**16 12 25.2**	**+1.0**
	baz=74						
TKL	**Tuckaleechee C**	**73.84**	**353**	*e*P	**P**	**16 12 24.5**	**+0.1**
ABTX	**Abilene, Hawle**	**74.03**	**338**	⇑P	**P**	**16 12 26.4**	**+0.8**
	baz=74						
Z35A	**Perchaven, San**	**74.04**	**341**	⇓P	**P**	**16 12 26.7**	**+1.2**
	baz=74						
229A	**Bryant Ranch,**	**74.07**	**336**	⇑P	**P**	**16 12 27.0**	**+1.0**
	baz=74						
131A	**Roby**	**74.29**	**338**	⇑P	**P**	**16 12 27.7**	**+0.5**
	baz=75						
Z33A	**Whitaker Ranch**	**74.40**	**339**	⇑P	**P**	**16 12 28.6**	**+0.9**
	baz=75						
Z32A	**Haskell**	**74.62**	**339**	⇓P	**P**	**16 12 28.9**	**-0.1**
	baz=75						
Y34A	**Reagan Ranch,**	**74.76**	**340**	⇑P	**P**	**16 12 29.8**	**0.0**
	baz=75						
WVT	**Waverly**	**74.82**	**349**	*e*P	**P**	**16 12 29.9**	**-0.2**
	16nm,1.2s						
Z31A	**Sharp Cattle R**	**74.82**	**338**	⇑P	**P**	**16 12 30.7**	**+0.5**
	baz=75						
128A	**Castleberry Fa**	**74.89**	**336**	⇓P	**P**	**16 12 31.6**	**+0.9**
	baz=75						
Z30A	**Sanderson Ranc**	**75.08**	**338**	⇑P	**P**	**16 12 32.8**	**+1.0**
	baz=75						
Z29A	**Hungry Hill Ra**	**75.24**	**337**	⇑P	**P**	**16 12 33.5**	**+0.8**
	baz=76						
Y32A	**R-V Farms, Ver**	**75.27**	**339**	⇑P	**P**	**16 12 33.7**	**+1.0**
	baz=76						
X34A	**Smith Ranch, M**	**75.39**	**341**	⇑P	**P**	**16 12 34.1**	**+0.7**
	baz=76					

LAZ	Ladron	78.08 333	eP	P	16 12 50.6 +1.8
	2.4nm,0.8s				
214A	Organ Pipe Nat	78.12 328	⇓P	P	16 12 50.8 +1.9
	baz=78				
214A	Organ Pipe Nat	78.12 328	eP	P	16 12 50.6 +1.7
	9.3nm,1.0s				
W24A	Lazy 6 Ranch,	78.22 335	⇓P	P	16 12 50.3 +0.6
	baz=79				
V26A	Tequesquite Ra	78.23 336	⇑P	P	16 12 50.2 +0.7
	baz=79				
ANMO	Albuquerque	78.34 334	eP	P	16 12 50.9 +0.7
	9.1nm,1.1s				
W23A	Werner Place,	78.43 334	⇓P	P	16 12 51.3 +0.5
	baz=79				
U27A	Thompson Grove	78.51 337	⇑P	P	16 12 51.9 +0.8
	baz=79				
V25A	Rancho No Teng	78.53 336	⇑P	P	16 12 52.1 +0.8
	baz=79				
V24A	Rampart Ranch,	78.64 335	⇓P	P	16 12 53.4 +1.4
	baz=79				
S31A	Mullinville	78.67 340	⇓P	P	16 12 52.7 +0.8
	baz=79				
DBIC	Dimbokro	78.70 72	P	P	16 12 53.2 +0.7
	4.2nm,0.7s,baz=262,slow=4.5,SNR=3.8				
DBIC			LR	LR	16 45 11.7
	comp=Z,132nm,18.0s,baz=202,slow=34				
DBIC	Dimbokro	78.70 72	P	P	16 12 53.7 +1.2
T28A	Walsh	78.94 338	⇓P	P	16 12 54.5 +1.0
	baz=79				
V23A	Ortiz Mt. (NFS	78.97 335	⇑P	P	16 12 55.0 +1.3
	baz=79				
U25A	Circle Dot Ran	78.98 336	⇑P	P	16 12 54.5 +0.7
	baz=79				
T27A	Campo	79.07 338	⇓P	P	16 12 54.8 +0.6
	baz=79				
S29A	Ulysses	79.12 339	⇓P	P	16 12 55.3 +1.0
	baz=80				
R31A	Burdett	79.31 341	⇑P	P	16 12 56.9 +1.5
	baz=80				
V22A	San Miguel Ran	79.37 334	⇑P	P	16 12 58.2 +2.2
	baz=80				
Z14A	Wintersburg	79.40 328	⇑P	P	16 12 58.4 +2.6
	baz=80				
T26A	Comanche Natio	79.44 337	⇑P	P	16 12 57.6 +1.4
	baz=80,SNR=5.4				
U23A	El Rito	79.50 335	⇑P	P	16 12 58.3 +1.7
	baz=80				
R30A	Dighton	79.51 340	⇑P	P	16 12 58.2 +1.8
	baz=80				
Q33A	Connelly Farm,	79.56 342	⇑P	P	16 12 58.5 +1.8
	baz=80				
T25A	Trinidad	79.66 336	⇓P	P	16 12 58.5 +1.0
	baz=80,SNR=9.8				
X16A	Lo Mia Camp, P	79.71 330	⇑P	P	16 12 59.5 +1.7
	baz=80				
U22A	Llaves	79.77 334	⇓P	P	16 12 59.5 +1.4
	baz=80				
S26A	Kim	79.81 337	⇓P	P	16 12 59.6 +1.4
	baz=80,SNR=9.5				
T24B	San Luis	79.90 336	⇓P	P	16 12 59.8 +0.9
	baz=80				
Y14A	Wickenburg	79.92 329	⇓P	P	16 13 00.7 +1.9
	baz=80				
Q31A	Ellis	79.95 341	⇑P	P	16 12 60.0 +1.2
	baz=80				
R28A	Tribune	79.99 339	⇓P	P	16 12 59.9 +0.8
	baz=80				
S25A	Robets Cordova	80.14 337	⇑P	P	16 13 00.6 +0.6
	baz=80				
Q30A	Quinter	80.15 340	⇑P	P	16 13 00.7 +0.8
	baz=80				
BOSA	Boshof	80.22 119	P	P	16 13 00.3 -0.6
	3.9nm,1.0s,baz=268,slow=3.9,SNR=4.4				
BOSA			LR	LR	16 45 04.6
	comp=Z,158nm,20.0s,baz=202,slow=33				
R27A	Eads	80.22 338	⇓P	P	16 13 01.0 +0.6
	baz=81				
SWSC	Sam W. Stewart	80.25 326	⇑P	P	16 13 01.1 +0.6
	baz=81				
Q29A	Oakley	80.27 340	⇑P	P	16 13 01.3 +0.7
	baz=81				
S24A	Houchin Ranch,	80.37 336	⇑P	P	16 13 02.8 +1.4
	baz=81				
Y12C	Blythe	80.39 327	⇑P	P	16 13 02.3 +1.0
	baz=81				
R26A	Arlington	80.43 338	⇓P	P	16 13 02.7 +1.2
	baz=81,SNR=8.0				
SDCO	Great Sand Dun	80.56 336	eP	P	16 13 02.2 -0.2
	3.5nm,0.9s				
WUAZ	Wupatki	80.65 331	⇓P	P	16 13 03.7 +0.9
	baz=81				
P30A	Selden	80.69 340	⇓P	P	16 13 03.9 +1.1
	baz=81				
R24A	Sanders Place,	80.88 336	⇑P	P	16 13 05.5 +1.5
	baz=81,SNR=10				
P29A	Atwood	80.92 340	⇓P	P	16 13 05.3 +1.2
	baz=81				
S22A	4UR Ranch, Cre	81.00 335	⇓P	P	16 13 05.5 +0.8
	baz=81				
IRM	Iron Mountain	81.01 327	⇓P	P	16 13 05.6 +0.9
	baz=81				
Q26A	Hugo	81.03 338	⇓P	P	16 13 05.6 +0.8
	baz=81				
R23A	Moffat	81.07 336	⇑P	P	16 13 05.9 +0.8
	baz=81				
MVCO	Mesa Verde	81.09 333	⇑P	P	16 13 06.0 +0.8
	baz=81				
O30A	MW Ranch, Wils	81.23 341	⇑P	P	16 13 06.7 +1.0
	baz=82				
W13A	Hualapai Mount	81.29 329	⇑P	P	16 13 07.4 +1.2
	baz=82				
MURC	Murrieta	81.44 325	⇓P	P	16 13 08.5 +1.7
	baz=82				
Q24A	Divide	81.56 337	⇓P	P	16 13 07.9 +0.1
	baz=82				
P26A	Davis Ranch, A	81.56 338	⇓P	P	16 13 08.9 +1.3
	baz=82				
O28A	Krutsinger Ran	81.64 340	⇑P	P	16 13 09.6 +1.7
	baz=82				
GMRC	Granite Mounta	81.76 327	⇑P	P	16 13 10.2 +1.5
	baz=82				
P25A	Willow Gulch B	81.76 338	⇑P	P	16 13 09.9 +1.3
	baz=82				
U15A	North Rim	81.81 330	⇑P	P	16 13 10.2 +1.1
	baz=82				
BGNE	Belgrade	81.92 343	⇑P	P	16 13 10.2 +1.0
	baz=82				
PV01	Paradox Valley	81.94 334	eP	P	16 13 10.5 +0.8
	1μm,1.3s				
M31A	Lambtecht Ranc	82.06 342	⇑P	P	16 13 11.0 +1.1
	baz=82				
O26A	Horse Wrangler	82.19 338	⇑P	P	16 13 11.9 +1.1
	baz=82				
ISCO	Idaho Springs	82.47 337	⇑P	P	16 13 13.4 +0.9
	baz=83				
ISCO	Idaho Springs	82.47 337	eP	P	16 13 13.3 +0.9
	4.8nm,0.9s				
N27A	Anderson Farm,	82.49 339	⇓P	P	16 13 13.2 +0.9
	baz=83				
LBTB	Lobatse	82.68 116	P	P	16 13 14.2 +0.3
	18nm,1.1s				
BSC	Santa Cruz Isl	82.88 324	⇓P	P	16 13 16.0 +1.6
	baz=83				
O23A	Lake Granby, G	82.94 337	⇑P	P	16 13 16.1 +1.2
	baz=83,SNR=9.5				
O22A	Kremmling	83.10 336	⇑P	P	16 13 16.1 +0.4
	baz=83,SNR=10				
CCUT	Cedar City	83.20 330	eP	P	16 13 16.8 +0.5
	11nm,1.2s				
ARUT	Antelope Range	83.44 330	P	P	16 13 18.7 +1.4
	136nm,1.3s				
K30A	Basset	83.47 342	⇑P	P	16 13 18.0 +0.7
	baz=84				
SRU	San Rafael Swe	83.50 333	eP	P	16 13 16.3 -1.4
	4.2nm,0.8s				
N23A	Red Feather La	83.57 337	⇑P	P	16 13 19.1 +0.9
	baz=84				
O20A	White River Ci	83.62 335	⇑P	P	16 13 19.7 +1.4
	baz=84				
O20A	White River Ci	83.62 335	eP	P	16 13 19.4 +1.1
	8.8nm,0.8s				
N22A	Wattenberg Ran	83.65 336	⇓P	P	16 13 19.5 +1.0
	baz=84				
ISA	Isabella, Lake	83.73 326	⇓P	P	16 13 20.1 +1.2
	baz=84				
M24A	Cheyenne	83.76 338	⇑P	P	16 13 20.0 +1.0
	baz=84				
ECSD	EROS Data Cent	83.79 344	⇑P	P	16 13 19.7 +0.9
	baz=84				
ECSD	EROS Data Cent	83.79 344	eP	P	16 13 18.6 -0.3
	9.1nm,0.8s				
M23A	Laramie	84.03 337	⇑P	P	16 13 20.6 +0.2
	baz=84				
M22A	Cedar Creek Ra	84.24 337	⇑P	P	16 13 22.1 +0.6
	baz=85				
N20A	Spence Gulch,	84.26 335	⇑P	P	16 13 22.0 +0.4
	baz=85				
J29A	Okreek	84.33 342	⇓P	P	16 13 22.6 +0.9
	baz=85				
SPMN	Marine on St.	84.49 347	⇑P	P	16 13 22.8 +0.4
	baz=85				
J28A	Allard Ranch,	84.58 341	⇑P	P	16 13 24.0 +1.1
	baz=85				
L23A	Garrett	84.61 338	⇑P	P	16 13 24.4 +1.0
	baz=85				
L22A	Ellis Ranch, M	84.76 337	⇓P	P	16 13 24.8 +0.7
	baz=85				
R11A	Troy Canyon, C	84.78 329	⇓P	P	16 13 25.6 +1.4
	baz=85				
J26A	Sides Ranch, S	84.96 340	⇑P	P	16 13 26.4 +1.5
	baz=85				
I28A	Midland	85.10 341	⇓P	P	16 13 26.7 +1.2
	baz=86				
TPH	Tonopah	85.22 328	eP	P	16 13 28.2 +1.8
	9.8nm,1.0s				
DUG	Dugway, Tooele	85.29 332	⇑P	P	16 13 27.8 +1.1
	baz=86				
K22A	Casper	85.35 337	⇑P	P	16 13 28.1 +1.2
	baz=86				
K22A	Casper	85.35 337	eP	P	16 13 28.3 +1.4
	17nm,1.2s				
J24A	Dixon Ranch, L	85.42 339	⇓P	P	16 13 28.0 +0.8
	baz=86				
H29A	Onida	85.45 342	⇑P	P	16 13 27.7 +0.5
	baz=86				
K21A	Alcova	85.56 337	⇓P	P	16 13 29.6 +1.5
	baz=86				
I25A	Rochford	85.80 340	⇓P	P	16 13 29.7 +0.5
	baz=86				
I24A	Kuemmerle Ranc	85.90 339	⇑P	P	16 13 30.4 +0.8
	baz=86				
RSSD	Black Hills	85.97 339	eP	P	16 13 30.6 +0.5
	5.6nm,0.9s				
NVAR	Mina Array Bea	85.98 327	P	P	16 13 31.3 +1.1
	0.6nm,0.7s,baz=169,slow=5.1,SNR=2.9				
G28A	Parade	86.05 342	⇑P	P	16 13 31.0 +0.9
	baz=86				
J21A	Lysite	86.27 337	⇑P	P	16 13 32.7 +1.2
	baz=87				
PDAR	Pinedale Array	86.42 335	P	P	16 13 31.4 -0.9
	1.5nm,0.8s,baz=145,slow=5.4,SNR=9.3				
PDAR			LR	LR	16 47 14.3
	comp=Z,183nm,21.6s,baz=162,slow=32				
J20A	Shoshoni	86.47 336	⇑P	P	16 13 33.0 +0.6
	baz=87,SNR=11				
I21A	Big Trails, Te	86.64 337	⇓P	P	16 13 34.5 +1.2
	baz=87				
HVU	Hansel Valley	86.66 333	eP	P	16 13 33.4 -0.1
	6.4nm,0.8s				
G26A	Maurine	86.67 341	⇑P	P	16 13 33.7 +0.5
	baz=87				
J19A	Crowheart	86.70 336	⇑P	P	16 13 33.9 +0.3
	baz=87,SNR=9.6				
G25A	Newell	86.80 340	⇓P	P	16 13 35.1 +1.3
	baz=87				
E30A	Jud	86.92 344	⇑P	P	16 13 35.1 +0.7
	baz=87				
I20A	Worland	87.02 337	⇑P	P	16 13 35.7 +0.6
	baz=87				
F27A	Lemmon	87.07 341	⇑P	P	16 13 35.6 +0.4
	baz=87				
I19A	Meeteetse	87.37 336	⇑P	P	16 13 37.5 +0.6
	baz=88				
E28A	Huff	87.40 343	⇑P	P	16 13 37.1 +0.4
	baz=88				
D29A	Pettibone, Tap	87.61 343	⇑P	P	16 13 37.6 -0.1
	baz=88				
TORD	Torodi Ar. Bea	87.78 72	P	P	16 13 40.0 +0.7
	1.2nm,0.8s,baz=234,slow=3.8,SNR=5.4				
TORD			LR	LR	16 50 21.7
	comp=Z,118nm,19.1s,baz=215,slow=34				
D28A	Regan	87.95 343	⇑P	P	16 13 39.7 +0.4
	baz=88				
C30A	Mose, Pekin	87.97 344	⇑P	P	16 13 40.3 +0.9
	baz=88				
H18A	Shoshone NF, C	88.16 336	⇓P	P	16 13 41.1 +0.4
	baz=88,SNR=8.2				
G20A	Bridger	88.19 337	⇓P	P	16 13 40.7 0.0
	baz=88				
B30A	Myrvik Farm, E	88.65 345	⇑P	P	16 13 43.3 +0.8
	baz=89				
HLID	Hailey	88.81 332	⇑P	P	16 13 44.8 +1.1
	baz=89				
B29A	Wagenman Farm,	88.88 344	⇓P	P	16 13 44.6 +1.0
	baz=89				
C26A	Wahner Farm, P	88.91 342	⇓P	P	16 13 45.0 +1.1
	baz=89				
F19A	Roth Farm, Mol	88.99 337	⇓P	P	16 13 45.0 +0.6
	baz=89				
A30A	Hoffart Farm,	89.11 345	⇓P	P	16 13 45.7 +1.0
	baz=90				
A29A	Manning Farm,	89.29 344	⇑P	P	16 13 45.9 +0.3
	baz=90				
E19A	Rath Farm, Rou	89.49 337	⇑P	P	16 13 47.1 +0.4
	baz=90				
ULM	Lac du Bonnet	89.89 347	P	P	16 13 48.4 +0.1
	2.7nm,0.7s,baz=180,slow=2.1,SNR=5.2				
SCHQ	Schefferville	92.83 5	LR	LR	16 55 46.1
	comp=Z,30nm,18.8s,baz=88,slow=36				
DZM	Mont Dzumac	96.94 235	LR	LR	16 47 43.7
	comp=Z,105nm,19.8s,baz=196,slow=29				
CRVS	Cervenica-Dubn	121.32 50	ePKP	PKPdf	16 19 43.1 +0.7
STHS	Stebnicka Huta	121.39 50	ePKP	PKPdf	16 19 44.3 +1.8
KOLS	Kolonicke sedl	121.82 50	PDIF	Pdif	16 16 12.5 +0.9
BRTR	Keskin Array B	125.81 64	PKP	PKPdf	16 19 51.5 0.0
	1.1nm,0.9s,baz=201,slow=6.6,SNR=4.6				
GEYT	Alibeck	143.33 75	PKP		
	5.8nm,0.8s,baz=258,slow=4.4,SNR=10			PKPbc	16 20 22.1 +0.8
PSI	Prapat	144.42 169	PKP	PKPab	16 20 23.4 -1.5
	20nm,0.9s,baz=206,slow=2.0,SNR=12				
HYB	Hyderabad	148.97 124	i PKP	PKPbc	16 20 38.0 -0.2
YAK	Yakutsk	151.64 336	ePKPbc	PKPbc	16 20 41.8 -1.4
BRVK	Borovoye	151.77 47	ePKPbc	PKPbc	16 20 44.3 +0.5
AAK	Ala-Archa	156.35 69	PKP	PKPdf	16 20 43.9 -0.6
	1.0nm,0.8s,baz=164,slow=1.5,SNR=5.2				
AAK			PKPab	PKPab	16 21 14.1 +1.1
	3.9nm,0.8s,baz=206,slow=4.5,SNR=8.3				
TKM2	Tokmak 2	157.15 68	ePKPdf	PKPdf	16 20 45.4 -0.2
KSH	Kashi	157.33 77	ePKP	PKPdf	16 20 45.5 -0.3
KSH			sPKP		16 20 50.7
KSH			PKS	PKSdf	16 24 20.5 +0.9
KSH			PP	PP	16 24 55.1 -1.7
KSH			SKS	SKSdf	16 27 52.1 +3.0
KSH			SKKS	SKKSac	16 31 39.0 -3.9
KSH			PPMZ		
	110nm,5.1s				
KSH			LN		
	30nm,4.1s				
KSH			LE		
	29nm,5.7s				
KSH			LZ		
	87nm,6.0s				
KURBB	Kurchatov Arra	157.42 48	PKP	PKPdf	16 20 44.8 -0.5
	1.3nm,1.0s,baz=290,slow=1.6,SNR=11				
KURBB			PKPab	PKPab	16 21 18.0 +1.0
	0.9nm,1.0s,baz=291,slow=4.6,SNR=7.6				
KURK	Kurchatov	157.43 48	PKP	PKPdf	16 20 44.8 -0.5
KURK			PKPab	PKPab	16 21 18.0 +0.9
ZALV	Zalesovo Beam	158.94 35	PKP	PKPdf	16 20 46.0 -1.0
	0.5nm,0.3s,baz=267,slow=2.8,SNR=6.6				
ZALV			PKPab	PKPab	16 21 24.7 +1.2
	3.4nm,0.9s,baz=306,slow=5.3,SNR=7.0				
CMAR	Chiang Mai Arr	159.71 163	PKPab	PKPab	16 21 26.9 -0.8
	0.4nm,0.4s,baz=216,slow=3.5,SNR=4.2				
MKAR	Makanchi Array	161.14 55	PKP	PKPdf	16 20 48.8 -1.0
	1.9nm,1.1s,baz=294,slow=1.2,SNR=8.0				
MKAR			PKPab	PKPab	16 21 32.4 -1.0
	0.3nm,0.6s,baz=195,slow=14,SNR=5.4				
WMQ	Urumqi	165.70 61	ePKP	PKPdf	16 20 53.4 -0.9
WMQ			PKPab	PKPab	16 21 54.3 +0.7
WMQ			PKS	PKSdf	16 24 24.7 -2.3
WMQ			PP	PP	16 25 42.3 +1.1
WMQ			SKS	SKSdf	16 27 54.0 -1.6
WMQ			SKKS	SKKSac	16 32 26.2 +0.6
WMQ			SS	SS	16 46 16.3 -0.8
WMQ			PPMZ		
	120nm,5.2s				
WMQ			LZ		
	95nm,22.0s				
HHC	Hu-ho-hao-te	174.26 301	ePKP	PKPdf	16 21 02.5 +3.2
HHC			sPKP		16 21 12.8
HHC			PP	PP	16 26 30.3 +6.1
HHC			SKS	SKSdf	16 28 01.0 +1.3
LZH	Lanzhou	177.77 154	ePKP	PKPdf	16 20 56.3 -4.1

*ISCJB **10** 16:05:06.8±0.7,26°.13N±0°.08×97°.01E±0°.08,h15km, mb3.5/7, Error ellipse: s-maj=12.2km s-min=10.2km az=13.8*

*IDC **10** 16:05:06.7±1.1,26°.26N×97°.09E,h0km,mb3.6/7, mb1 3.6/8,mb1mx3.4/39,mbtmp3.5/8,ML3.4/1,Error ellipse: s-maj=51.8km s-min=17.1km az=64.0*

ISC 10 16:05:08.6±1.0,26°.2N±0°.1×97°.01E±0°.10,h15km,n9, σ0°66/10,mb3.7/7,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	4.66	263	ePN	Pn	16 06 19.0	+0.4
SHL				eSN	Sn	16 07 12.0	-0.6
CMAR	Chiang Mai Arr	7.91	167	Pn	Pn	16 07 02.4	-0.7
	0.1nm,0.3s,baz=340,slow=13,SNR=4.1						
CMAR				Lg	Lg	16 09 10.5	
	0.0nm,0.3s,baz=359,slow=29,SNR=2.8						
SONM	Songino Array	22.83	16	P	P	16 10 10.4	-0.7
	0.4nm,0.7s,baz=175,slow=6.7,SNR=3.0						
MKAR	Makanchi Array	23.64	334	P	P	16 10 19.6	+0.4
	3.3nm,0.8s,baz=147,slow=9.1,SNR=42						
AAK	Ala-Archa	24.66	317	P	P	16 10 29.7	+0.8
	1.6nm,0.9s,baz=252,slow=12,SNR=7.8						
KURBB	Kurchatov Arra	28.21	335	P	P	16 11 00.4	-0.2
	0.4nm,0.7s,baz=139,slow=9.5,SNR=6.0						
ZALV	Zalesovo Beam	29.16	345	P	P	16 11 08.7	-0.3
	0.5nm,0.3s,baz=141,slow=9.3,SNR=6.0						
WRA	Warramunga Arr	58.45	138	P	P	16 15 04.8	+0.7
	0.3nm,0.7s,baz=324,slow=7.7,SNR=5.6						
ASAR	Alice Springs	61.08	141	P	P	16 15 22.8	+0.6
	0.6nm,0.9s,baz=327,slow=9.0,SNR=4.2						

*IDC **10** 16:10:36.5±0.6,37°.91S×74°.46W,h0km,mb4.4/12, mb1 4.5/16,mb1mx4.4/25,mbtmp4.4/16,ML4.1/4,MS3.5/4, Ms1 3.6/4,ms1mx3.3/17,Error ellipse: s-maj=23.0km s-min=14.5km az=98.0*

*ISCJB **10** 16:10:40.1±0.5,37°.90S±0°.04×74°.39W±0°.09,h33km, mb4.7/19,MS4.0/2,Error ellipse: s-maj=10.6km s-min=6.3km az=3.6*

*GUC **10** 16:10:40.5±0.6,38°.07S×74°.20W,h30km,ML5.3*

*NEIC **10** 16:10:41.0±2.9,37°.90S×74°.48W,h30km±19km,mb4.8/6, Error ellipse: s-maj=15.6km s-min=6.5km az=87.0*

ISC 10 16:10:41.6±0.5,37°.93S±0°.05×74°.55W±0°.08,h35km,n52, σ1°41/56,mb4.6/19,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	1.57	47	eP1	Pn	16 11 05.9	-1.2
CCSP				i S1	Sn	16 11 25.9	-0.2
VLCH	Valdivia	2.14	152	eP1	Pn	16 11 11.9	-2.8
VLCH				i S1	Sn	16 11 36.1	-3.9
VLCH				AML	AML	16 11 38.3	
	comp=N,38μm,0.4s						
COCH	Cobquecura	2.28	39	eP9	Pn	16 11 14.8	-1.9
COCH				i S1	Sn	16 11 41.9	-1.7
OSCH	Osorno	2.87	158	i S1	Sn	16 11 53.4	-4.7
OSCH				AML	AML	16 11 56.8	
	comp=E,13μm,0.6s						
PLCA	Paso Flores	4.18	133	Pn	Pn	16 11 41.7	-1.3
	comp=E,3.5nm,0.3s,baz=297,slow=14,SNR=9.1						
PLCA				Sn	Sn	16 12 34.0	+3.4
	comp=E,36nm,0.3s,baz=210,slow=23,SNR=7.2						
PLCA				LR	LR	16 13 24.4	
	comp=E,1μm,21.9s,baz=342,slow=41						
PLCA	Paso Flores	4.18	133	eP	Pn	16 11 43.5	+0.6
PLCA				Sn	Sn	16 12 34.0	+3.4
CFAA	Coronel Fontan	8.17	41	Pn	Pn	16 12 35.6	-2.1
	comp=E,1.9nm,0.3s,baz=193,slow=2.1,SNR=67						
CFAA				Sn	Sn	16 14 09.2	+0.5
	comp=E,0.3nm,0.3s,baz=288,slow=20,SNR=2.3						
CFAA				LR	LR	16 15 56.2	
	comp=E,39nm,20.6s,baz=82,slow=39						
LCO	Las Campanas	9.45	21	eP	Pn	16 12 53.4	-2.1
	comp=E,67nm,1.2s						
TRQA	Tornquist	9.93	95	eP	Pn	16 13 02.3	+0.5
	comp=E,81nm,1.6s						
LVC	Limon Verde	16.01	19	P	Pn	16 14 24.0	-0.4
	comp=E,27nm,1.4s						
USHA	Ushuaia	17.42	168	P	Pn	16 14 40.7	-0.9
	comp=E,0.2nm,0.3s,baz=180,slow=1.0,SNR=1.9						
EFI	East Falkland	17.99	145	eP	Pn	16 14 48.7	0.0
	comp=E,208nm,1.6s						
CPUP	Villa Florida	18.58	57	P	P	16 14 53.8	-1.8
	comp=E,0.2nm,0.3s,baz=222,slow=15,SNR=2.6						
CPUP	Villa Florida	18.58	57	eP	P	16 14 54.2	-1.4
LPAZ	La Paz	22.29	16	P	P	16 15 37.1	+0.7
	comp=E,15nm,1.1s,baz=183,slow=9.2,SNR=23						
LPAZ	La Paz	22.29	16	eP	P	16 15 37.3	+0.8
SIV	San Ignacio	24.88	32	P	P	16 15 59.3	-1.8
	comp=E,1.9nm,0.7s,baz=230,slow=12,SNR=6.6						
SAML	Samuel	30.62	22	eP	P	16 16 52.4	-0.1
	comp=E,9.8nm,1.3s						
BDFB	Brasilia	32.26	54	P	P	16 17 06.5	-0.6
	comp=E,6.6nm,1.0s,baz=238,slow=3.4,SNR=3.7						
OTAV	Otavalo	38.15	354	eP	P	16 17 59.9	+1.8
	comp=E,13nm,1.2s						
VNA3	Neumayer Olymp	46.55	156	P	P	16 19 05.2	-0.1
VNA2	Neumayer--Watz	47.24	156	P	P	16 19 10.9	+0.2
SNAA	Sanae	48.77	156	P	P	16 19 22.3	-0.3
SNAA	Sanae	48.77	156	P	P	16 19 22.8	+0.2
	comp=E,4.3nm,0.9s,baz=323,slow=6.5,SNR=6.5						
SNAA	Sanae	48.77	156	eP	P	16 19 22.1	-0.5
QSPA	South Pole Qui	52.32	180	P	P	16 19 49.7	+0.2
	comp=E,15nm,0.9s,baz=141,slow=2.4,SNR=46						
VNDA	Vanda	59.85	192	P	P	16 20 44.2	+1.2
	comp=E,1.9nm,0.9s,baz=151,slow=3.4,SNR=5.1						
PPT	Papeete	67.76	265	LR	LR	16 43 26.9	
	comp=E,73nm,21.8s,baz=111,slow=29						
TXAR	Lajitas Array	72.25	334	P	P	16 22 04.5	+1.3
	comp=E,3.5nm,1.0s,baz=159,slow=7.9,SNR=13						
SWET	Sewanee	73.54	350	eP	P	16 22 10.9	+0.2
	comp=E,20nm,1.0s						
LIC	Lamto	77.93	72	eP	P	16 22 37.0	+0.7
	comp=E,68nm,1.1s						
TIC	Toumodi	78.21	72	eP	P	16 22 38.7	+0.9
	comp=E,19nm,0.2s						
KIC	Kosan Boka	78.23	72	eP	P	16 22 38.6	+0.6
	comp=E,56nm,1.0s						
DBIC	Dimbokro	78.35	72	P	P	16 22 38.9	+0.3
	comp=E,10nm,0.6s,baz=203,slow=5.7,SNR=13						
DBIC	Dimbokro	78.35	72	eP	P	16 22 39.2	+0.6
BOSA	Boshof	80.03	118	P	P	16 22 47.7	-0.2
	comp=E,6.5nm,0.8s,baz=231,slow=5.7,SNR=8.9						
RAO	Raoul Island	82.08	239	LR	LR	16 49 35.0	
	comp=E,82nm,21.3s,baz=339,slow=28						
ECSD	EROS Data Cent	83.71	344	eP	P	16 23 07.0	+0.5
	comp=E,17nm,1.1s						
ECSD				e		16 23 15.7	
PDAR	Pinedale Array	86.39	335	P	P	16 23 20.6	+0.3
	comp=E,1.3nm,0.9s,baz=132,slow=8.2,SNR=8.9						
TORD	Torodi Ar. Bea	87.43	71	P	P	16 23 25.6	0.0
	comp=E,1.4nm,0.7s,baz=223,slow=5.0,SNR=7.2						
ULM	Lac du Bonnet	89.79	346	P	P	16 23 35.2	-0.7
	comp=E,1.6nm,0.4s,baz=105,slow=2.6,SNR=4.7						
WRA	Warramunga Arr	116.35	210	PKP	PKPdf	16 29 21.0	-0.9
	comp=E,0.8nm,1.1s,baz=171,slow=1.4,SNR=3.3						
ILAR	Eielson Array	116.75	333	PKP	PKPdf	16 29 21.4	+0.3
	comp=E,0.5nm,0.9s,baz=173,slow=1.8,SNR=5.2						
BRTR	Keskin Array B	125.45

MKAR	**Makanchi Array**	**160.78**	**55**	PKP	**PKPdf**	**16 30 37.2**	**-0.3**
	comp=E,1.2nm,1.0s,baz=316,slow=3.3,SNR=7.3						
MKAR				PKPab	**PKPab**	**16 31 20.0**	**+0.2**
	comp=E,1.2nm,0.7s,baz=284,slow=4.3,SNR=9.8						
MKAR				PP	**PP**	**16 35 03.6**	**+0.6**
	comp=E,0.5nm,0.9s,baz=286,slow=5.8,SNR=4.9						

DJA 10 16:18:13.2±0.9, 9°S±4°×11°7E±°, h30km±10km, M3.8/18, mb3.8/1, MLv3.8/18, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.02**	**112**	P	Pn	16 18 44.9	-0.4
WBSI				S	Sb	16 19 12.4	-1.7
DNP	**Denpasar**	**2.26**	**275**	P	Pn	16 18 49.5	+0.9
DNP				S	Sb	16 19 18.7	-2.3
IGBI	**Denpasar**	**2.32**	**272**	P	Pn	16 18 49.8	+0.5
IGBI				S	Sn	16 19 16.3	-0.5
SRBI	**Singaraja**	**2.39**	**289**	P	Pn	16 18 50.4	+0.1
SRBI				S	Sn	16 19 20.3	+1.7
WSI	**Waingapu**	**2.88**	**106**	P	Pn	16 18 56.4	-0.6
WSI				S	Sn	16 19 32.0	+1.3
JAGI	**Jajag, Banyuwa**	**3.33**	**277**	P	Pn	16 19 03.3	+0.1
JAGI				S	Sn	16 19 43.4	+1.6
ABJI	**Asem Bagus**	**3.40**	**288**	P	Pn	16 19 06.2	+2.0
KMMI	**Kalianget**	**3.94**	**297**	P	Pn	16 19 11.0	-0.7
KMMI				S	Sn	16 20 01.0	+4.1
BLJI	**Banyuglugur**	**4.02**	**286**	P	Pn	16 19 13.2	+0.5
GMJI	**Gumukmas**	**4.05**	**278**	P	Pn	16 19 13.2	+0.1
GMJI				S	Sn	16 20 01.7	+2.1
BKSI	**Bulukumba**	**4.40**	**37**	P	Pn	16 19 19.1	+1.1
BKSI				S	Sn	16 20 09.8	+1.4
MMRI	**Maumere**	**4.70**	**87**	P	Pn	16 19 22.3	+0.2
SPSI	**Sidrap Palu**	**5.39**	**25**	P	Pn	16 19 32.8	+1.2

DJA 10 16:20:00.4±0.4, 9°S±4°×11°8E±°, h59km±12km, M3.8/15, MLv3.8/15, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.04**	**114**	P	Pn	16 20 30.0	-2.5
DNP	**Denpasar**	**2.27**	**273**	P	Pn	16 20 35.7	+0.2
DNP				S	Sn	16 21 05.1	+2.8
IGBI	**Denpasar**	**2.33**	**270**	P	Pn	16 20 34.7	-1.6
IGBI				S	Sn	16 21 03.4	-0.4
SRBI	**Singaraja**	**2.38**	**287**	P	Pn	16 20 36.9	-0.1
SRBI				S	Sn	16 21 05.2	+0.2
WSI	**Waingapu**	**2.89**	**107**	P	Pn	16 20 46.9	+2.9
WSI				S	Sn	16 21 17.4	-0.2
JAGI	**Jajag, Banyuwa**	**3.33**	**276**	P	Pn	16 20 50.2	+0.2
JAGI				S	Sn	16 21 29.0	+0.6
ABJI	**Asem Bagus**	**3.38**	**287**	P	Pn	16 20 52.0	+1.2
BSSI	**Bau Bau, Buton**	**3.98**	**48**	S	Sn	16 21 47.9	+3.6
BLJI	**Banyuglugur**	**4.01**	**285**	P	Pn	16 20 59.0	-0.3
BLJI				S	Sn	16 21 46.8	+1.8
GMJI	**Gumukmas**	**4.05**	**277**	P	Pn	16 20 59.8	-0.1
GMJI				S	Sn	16 21 48.6	+2.6
BKSI	**Bulukumba**	**4.33**	**37**	P	Pn	16 21 06.5	+2.7
BKSI				S	Sn	16 21 51.9	-1.2
MMRI	**Maumere**	**4.69**	**88**	P	Pn	16 21 09.2	+0.5

KRSC 10 16:44:35.0±1.7, 60°.07N×166°.77E, h5km±17km, ML4.0, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**0.49**	**321**	*i* P	Pb	16 44 46.0	-0.1
TILK				*i* S	Sb	16 44 52.9	-0.7
OSSR	**Ossora**	**2.05**	**248**	*i* P	Pb	16 45 11.6	-1.1
OSSR				*e*S	Sb	16 45 37.4	-1.1
PALN	**Palana**	**3.60**	**257**	*e*S	Sb	16 46 20.0	-2.9

*ISCJB **10** 16:56:23.3±0.4, 23°.37N±0°.02×122°.16E±0°.02, h17km±3km, Error ellipse: s-maj=3.1km s-min=2.1km az=145.4*
*JMA **10** 16:56:24.0±0.1, 23°.39N×122°.13E, h32km, M3.0*
*TAP **10** 16:56:25.3, 23°.40N×122°.11E, h39km, ML3.7, C*
ISC 10 16:56:24.1±1.2, 23°.36N±0°.02×122°.14E±0°.02, h25km±13km, n68, σ1°.00/130, 14C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.65**	**302**	*e*P	**Pb**	**16 56 37.5**	**+0.7**
	baz=302						
TEGC				*e*S	**Sb**	**16 56 45.7**	**+0.2**
	baz=302						
CHKT	**Chengkung**	**0.76**	**250**	⇑*i*P	**Pn**	**16 56 38.3**	**-0.9**
	baz=240						
CHKT				*i* S	**Sb**	**16 56 47.5**	**-1.1**
	baz=240						
EHY	**Hungye**	**0.76**	**281**	P	**Pn**	**16 56 38.5**	**-0.8**
	baz=279						
EHY				*e*S	**Sb**	**16 56 48.8**	**0.0**
	baz=279						
ESF	**Shoufeng Towns**	**0.77**	**311**	*e*P	**Pn**	**16 56 39.0**	**-0.4**
	baz=311						
ESF				*e*S	**Sb**	**16 56 48.3**	**-0.6**
	baz=311						
HWA	**Hwalien**	**0.78**	**322**	*e*P	**Pn**	**16 56 38.8**	**-0.8**
	baz=322						
HWA				*e*S	**Sb**	**16 56 48.7**	**-0.7**
	baz=322						
ESL	**Shilin**	**0.79**	**305**	⇑*i*P	**Pn**	**16 56 38.3**	**-1.3**
	baz=305						
ESL				*e*S	**Sb**	**16 56 47.7**	**-1.7**
	baz=305						
TWD	**Chiawan**	**0.87**	**325**	P	**Pn**	**16 56 39.8**	**-1.0**
	baz=326						
TWD				*e*S	**Sn**	**16 56 49.9**	**-2.8**
	baz=326						
ELDTW	**Lidau**	**1.04**	**261**	⇑*i*P	**Pn**	**16 56 42.5**	**-0.8**
	baz=250						
ELDTW				*e*S	**Sn**	**16 56 54.2**	**-2.9**
	baz=250						
TTN	**Taitung**	**1.09**	**237**	*e*P	**Pn**	**16 56 43.9**	**+0.1**
	baz=234						
TTN				*e*S	**Sn**	**16 56 57.4**	**-0.8**
	baz=234						
YUS	**Yu-Shan**	**1.09**	**277**	⇑*i*P	**Pn**	**16 56 44.4**	**0.0**
	baz=275						
YUS				*e*S	**Sn**	**16 56 57.4**	**-1.5**
	baz=275						
WHF	**Hehuan Shan**	**1.11**	**315**	*e*P	**Pn**	**16 56 43.8**	**-0.7**
	baz=315						
WHF				*e*S	**Sn**	**16 56 57.2**	**-2.2**
	baz=315						
TWG	**Pinlang**	**1.12**	**241**	P	**Pn**	**16 56 43.8**	**-0.4**
	baz=232						
TWG				S	**Sn**	**16 56 57.6**	**-1.2**
	baz=232						
ENA	**Nanau**	**1.12**	**341**	⇓*i*P	**Pn**	**16 56 43.8**	**-0.5**
	baz=335						
ENA				*e*S	**Sn**	**16 56 57.3**	**-1.6**
	baz=335						
ALS	**Alishan**	**1.23**	**277**	⇑*i*P	**Pn**	**16 56 46.5**	**+0.5**
	baz=276						
ALS				S	**Sn**	**16 57 01.5**	**-0.5**
	baz=276						
SMLT	**Sun Moon Lake**	**1.25**	**295**	⇑P	**Pn**	**16 56 46.2**	**+0.1**
	baz=301						
SMLT				*e*S	**Sn**	**16 57 01.0**	**-1.1**
	baz=301						
TWT	**Tachien**	**1.25**	**315**	*e*P	**Pn**	**16 56 46.3**	**+0.1**
	baz=315						
TWT				*e*S	**Sn**	**16 57 00.8**	**-1.5**
	baz=315						
TWC	**Suao**	**1.27**	**348**	P	**Pn**	**16 56 46.2**	**-0.1**
	baz=360						
TWC				S	**Sn**	**16 57 01.6**	**-1.0**
	baz=360						
NNS	**Nan Shan**	**1.28**	**327**	⇓P	**Pn**	**16 56 46.3**	**-0.2**
	baz=318						
NNS				*e*S	**Sn**	**16 57 01.3**	**-1.7**
	baz=318						
STYT	**Tauyuan**	**1.28**	**261**	⇑*i*P	**Pn**	**16 56 46.8**	**+0.2**
	baz=255						
STYT				*e*S	**Sn**	**16 57 02.1**	**-0.9**
	baz=255						
TYC	**Yuchr**	**1.29**	**295**	P	**Pn**	**16 56 46.8**	**+0.2**
	baz=295						
TYC				*e*S	**Sn**	**16 57 02.7**	**-0.4**
	baz=295						
JYNG	**Yonagunijimaku**	**1.31**	**34**	P	**Pn**	**16 56 46.1**	**-0.8**
JYNG				S	**Sn**	**16 57 03.0**	**-0.6**
ECL	**Taimali**	**1.33**	**235**	⇑*i*P	**Pn**	**16 56 46.4**	**-0.7**
	baz=243						
ECL				*e*S	**Sn**	**16 57 01.6**	**-2.4**
	baz=243						
YOJ	**Yonaguni jima**	**1.36**	**36**	P	**Pn**	**16 56 47.7**	**+0.2**
YOJ				S	**Sn**	**16 57 04.4**	**-0.3**
CHN5	**Tsauling**	**1.36**	**280**	P	**Pn**	**16 56 48.8**	**+1.1**
	baz=285						
CHN5				*e*S	**Sn**	**16 57 05.2**	**+0.3**
	baz=285						
ENTT	**Nioudou**	**1.38**	**338**	⇓*i*P	**Pn**	**16 56 47.6**	**-0.1**
	baz=339						
ENTT				*e*S	**Sn**	**16 57 04.3**	**-0.9**
	baz=339						
WTP	**Ta-pu**	**1.40**	**266**	⇑*i*P	**Pn**	**16 56 49.3**	**+1.1**
	baz=264						
WTP				*e*S	**Sb**	**16 57 07.2**	**0.0**
	baz=264						
CHN4	**Tsaushan**	**1.42**	**270**	⇑*i*P	**Pn**	**16 56 49.7**	**+1.4**
	baz=268						
CHN4				*e*S	**Sn**	**16 57 07.4**	**+1.1**
	baz=268						
TWE	**Neicheng**	**1.42**	**343**	P	**Pn**	**16 56 48.2**	**-0.1**
	baz=344						
TWE				S	**Sn**	**16 57 05.6**	**-0.7**
	baz=344						
LAY	**Lan-yu**	**1.42**	**202**	*e*P	**Pn**	**16 56 49.2**	**+0.7**
	baz=201						
LAY				*e*S	**Sn**	**16 57 04.5**	**-1.8**
	baz=201						
WNT	**Mingjian**	**1.43**	**291**	*e*P	**Pb**	**16 56 50.4**	**+0.3**
	baz=291						
WNT				*e*S	**Sn**	**16 57 07.5**	**+1.1**
	baz=291						
SGST	**Jiashian**	**1.46**	**259**	⇑P	**Pn**	**16 56 50.2**	**+1.3**
	baz=254						
SGST				*e*S	**Sb**	**16 57 08.7**	**0.0**
	baz=254						
WGK	**Gukeng**	**1.48**	**283**	P	**Pn**	**16 56 50.1**	**+0.9**
	baz=282						
WGK				*e*S	**Sb**	**16 57 09.2**	**-0.2**
	baz=282						
CHN1	**Nanshi**	**1.49**	**264**	⇑*i*P	**Pb**	**16 56 51.0**	**-0.2**
	baz=262						
CHN1				*e*S	**Sb**	**16 57 09.9**	**+0.2**
	baz=262						
NSK	**Sanguang**	**1.49**	**332**	⇓*i*P	**Pn**	**16 56 49.5**	**+0.1**
	baz=333						
NSK				*e*S	**Sn**	**16 57 06.4**	**-1.7**
	baz=333						
SSD	**Sandimen**	**1.51**	**246**	*e*P	**Pn**	**16 56 49.9**	**+0.2**
	baz=241						
SSD				*e*S	**Sn**	**16 57 07.4**	**-1.2**
	baz=241						
TWK	**Hsinying**	**1.52**	**267**	⇑P	**Pn**	**16 56 51.1**	**+1.3**
	baz=265						
TWK				*e*S	**Sb**	**16 57 10.4**	**-0.1**
	baz=265						
TAW	**Tawu**	**1.52**	**229**	*e*P	**Pb**	**16 56 51.8**	**+0.2**
	baz=235						
TAW				*e*S	**Sn**	**16 57 06.7**	**-2.0**
	baz=235						
CHN2	**Minshiung**	**1.53**	**277**	*e*P	**Pn**	**16 56 51.2**	**+1.3**
	baz=275						
CHN2				*e*S	**Sb**	**16 57 11.5**	**+0.6**
	baz=275						
EAST	**Anshuo**	**1.54**	**231**	⇑*i*P	**Pn**	**16 56 49.6**	**-0.4**
	baz=236						
EAST				*e*S	**Sn**	**16 57 07.2**	**-2.0**
	baz=236						
TCU	**Taichung**	**1.55**	**301**	*e*P	**Pn**	**16 56 51.7**	**+1.5**
	baz=301						
TCU				*e*S	**Sn**	**16 57 10.6**	**+1.1**
	baz=301						
CHY	**Chiayi**	**1.58**	**275**	*e*P	**Pb**	**16 56 52.4**	**-0.3**
	baz=284						
CHY				*e*S	**Sn**	**16 57 10.0**	**-0.2**
	baz=284						
TWQ1	**Liyutan**	**1.59**	**308**	*e*P	**Pb**	**16 56 52.4**	**-0.4**
	baz=318						
TWQ1				*e*S	**Sn**	**16 57 11.3**	**+0.8**
	baz=318						
NSTT	**Nanjuang**	**1.64**	**321**	*e*P	**Pn**	**16 56 52.7**	**+1.3**
	baz=322						
NSTT				S	**Sn**	**16 57 11.7**	**+0.1**
	baz=322						
NSY	**Sanyi**	**1.64**	**310**	*e*P	**Pn**	**16 56 52.9**	**+1.4**
	baz=311						
NSY				*e*S	**Sn**	**16 57 13.0**	**+1.3**
	baz=311						
SGLT	**Jiouru**	**1.64**	**248**	*e*P	**Pb**	**16 56 53.8**	**0.0**
	baz=244						
CHN3	**Shinhua**	**1.65**	**260**	*e*P	**Pb**	**16 56 53.7**	**-0.3**
	baz=271						
CHN3				*e*S	**Sb**	**16 57 13.8**	**-0.6**
	baz=271						
TWM1	**Shoushan**	**1.67**	**252**	*e*P	**Pb**	**16 56 54.4**	**+0.3**
	baz=250						
HATJ	**Hateruma jima**	**1.68**	**65**	P	**Pn**	**16 56 52.3**	**+0.4**
HATJ				S	**Sn**	**16 57 12.3**	**-0.4**
TWA	**Mucha**	**1.69**	**343**	*e*P	**Pn**	**16 56 53.0**	**+0.9**
	baz=334						
TWA				*e*S	**Sn**	**16 57 12.7**	**-0.2**
	baz=334						
SCZT	**Fangliau**	**1.71**	**235**	*e*P	**Pn**	**16 56 52.8**	**+0.5**
	baz=228						
SCZT				*e*S	**Sn**	**16 57 13.4**	**0.0**
	baz=228						
NWF	**Wu-fen Shan**	**1.73**	**349**	*e*P	**Pn**	**16 56 51.9**	**-0.9**
	baz=350						
NWF				*e*S	**Sn**	**16 57 14.3**	**+0.2**
	baz=350						
IRIF	**Iriomote-Funau**	**1.75**	**56**	P	**Pn**	**16 56 53.1**	**+0.2**
IRIF				*e*S	**Sn**	**16 57 14.8**	**+0.3**
CHN8	**Yiju**	**1.77**	**270**	*e*P	**Pn**	**16 56 54.8**	**+1.6**
	baz=269						
CHN8				*e*S	**Sn**	**16 57 16.0**	**+1.2**
	baz=269						
WTCT	**Ta-ch'eng**	**1.77**	**287**	*e*P	**Pn**	**16 56 54.6**	**+1.4**
	baz=287						
WTCT				*e*S	**Sn**	**16 57 16.4**	**+1.4**
	baz=287						
WSF	**Szhu**	**1.78**	**279**	*e*P	**Pn**	**16 56 54.4**	**+1.1**
	baz=278						
WSF				*e*S	**Sn**	**16 57 16.1**	**+1.0**
	baz=278						
HSN	**Hsinchu**	**1.79**	**324**	*e*P	**Pn**	**16 56 55.1**	**+1.7**
	baz=326						
NCU	**National Centr**	**1.82**	**332**	*e*P	**Pn**	**16 56 54.7**	**+0.8**
	baz=333						
NCU				*e*S	**Sn**	**16 57 17.1**	**+0.9**
	baz=333						
TWS1	**Kuangyinshan**	**1.85**	**339**	*e*P	**Pn**	**16 56 55.3**	**+1.0**
	baz=341						
TWS1				*e*S	**Sn**	**16 57 17.5**	**+0.5**
	baz=341						
HEN	**Hengchun**	**1.87**	**224**	*e*P	**Pn**	**16 56 55.6**	**+1.1**
	baz=222						
HEN				*e*S	**Sn**	**16 57 17.2**	**-0.1**
	baz=222						
TWK1	**Hengchun**	**1.87**	**221**	*e*P	**Pn**	**16 56 55.5**	**+0.9**
	baz=227						
TWK1				*e*S	**Sn**	**16 57 17.3**	**-0.1**
	baz=227						
TWP	**Hsiaoliuchiu**	**1.92**	**239**	*e*P	**Pb**	**16 56 59.8**	**+1.2**
	baz=237						
JKRS	**Kuro-shima**	**1.93**	**63**	P	**Pn**	**16 56 56.0**	**+0.7**
JKRS				*e*S	**Sn**	**16 57 19.0**	**+0.3**
JIJ	**Ishigaki jima**	**2.09**	**61**	P	**Pn**	**16 56 57.7**	**+0.1**
JIJ				*e*S	**Sn**	**16 57 22.0**	**-0.8**
JISG	**Ishigakijimahi**	**2.33**	**58**	P	**Pn**	**16 57 00.7**	**-0.2**
JISG				S	**Sn**	**16 57 28.5**	**-0.3**
PNG	**Penghu**	**2.38**	**275**	P	**Pn**	**16 57 02.1**	**+0.6**
	baz=275						
PNG				*e*S	**Sn**	**16 57 30.0**	**+0.1**
	baz=275						
JTJ	**Tarama**	**2.67**	**61**	P	**Pn**	**16 57 05.7**	**+0.1**
JTJ				*e*S	**Sn**	**16 57 37.3**	**+0.2**
JOGS	**Gusukube**	**3.30**	**64**	P	**Pn**	**16 57 15.1**	**+0.9**
KNM	**Kinmen**	**3.55**	**288**	*e*P	**Pn**	**16 57 19.3**	**+1.7**
	baz=299						

NDI 10 17:05:57.9±1.9, 32°.86N×76°.27E, h10km, ML3.6, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.40**	**219**	*e*PG	Pg	17 06 06.0	-0.2
DLH				*e*SG	Sg	17 06 12.0	+0.2
BHK	**Bhakra**	**1.44**	**175**	*e*P	Pb	17 06 25.2	+0.3
SDNR	**Sundarnagar**	**1.48**	**156**	*e*P	Pn	17 06 24.0	-0.6
SMLA	**Simla**	**1.88**	**156**	*i* P	Pb	17 06 31.6	-0.8
SMLA				*i* S	Sn	17 06 53.5	-0.4
SMLA				*i* S	Sb	17 06 53.5	-2.4
SMLA				AML	AML	17 06 54.4	
	comp=E,2μm,0.1s						
SMLA				AML	AML	17 06 56.9	
	comp=N,1μm,0.3s						
KHET	**Khetri**	**4.78**	**185**	*e*S	Sn	17 08 03.9	-1.7
KHET				AML	AML	17 08 34.2	
	comp=E,89nm,0.1s						
KHET				AML	AML	17 08 34.3	
	comp=N,59nm,0.1s						

GUC 10 17:08:13.0±0.5, 34°.81S×72°.88W, h18km±7km, ML3.8, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.32**	**177**	*e*P	Pn	17 08 35.6	-1.0
COCH				*i* S	Sn	17 08 52.8	-0.9
NICH	**Los Niches**	**1.37**	**99**	⇑*i*P	Pn	17 08 36.6	-0.6
NICH				*i* S	Sn	17 08 54.3	-0.5
LNCH	**Linares**	**1.47**	**135**	⇓*i*P	Pn	17 08 38.1	-0.6
LNCH				*i* S4	Sn	17 08 56.1	-1.3
RCDM	**Rinconada Maip**	**2.16**	**53**	⇓*i*P	Pn	17 08 46.9	-1.3
ANTU	**Antumapu**	**2.23**	**57**	AML	AML	17 09 29.1	
	comp=E,745nm,0.4s						
CLCH	**Cerro Calan**	**2.40**	**55**	*e*P1	Pn	17 08 52.7	+1.2
CLCH				AML	AML	17 09 36.4	
	comp=E,555nm,0.5s						
PEL	**Peldehue**	**2.46**	**48**	*e*P1	Pn	17 08 53.5	+1.2
PEL				*e*S	Sn	17 09 24.1	+2.1
PEL				AML	AML	17 09 30.2	
	comp=N,734nm,0.6s						
FCH	**Farellones**	**2.61**	**56**	AML	AML	17 09 41.5	
	comp=N,328nm,0.6s						

IDC 10 17:23:08.9±2.1, 6°.22S×129°.38E, h0km, mb3.2/1, mb1 4.0/4, mb1mx3.6/28, mbtmp3.8/4, ML3.9/3, Error ellipse: s-maj=52.4km s-min=30.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**6.16**	**235**	P	Pn	17 24 43.8	+2.5
	baz=5.0,SNR=11						
SOEI				S	Sn	17 25 40.3	-12
	baz=5.0,SNR=5.6						
BATI	**Baumata**	**6.90**	**235**	Pn	Pn	17 24 53.0	+1.5
	3.9nm,0.3s,baz=90,slow=1.9,SNR=8.5						
BATI				Sn	Sn	17 25 56.1	-15
	7.0nm,0.3s,baz=97,slow=21,SNR=13						
KNRA	**Kununurra**	**9.42**	**184**	P	Pn	17 25 27.1	+1.1
	baz=8.7,SNR=101						
KNRA				S	Sn	17 26 57.0	-16
	baz=8.7,SNR=5.7						
WRA	**Warramunga Arr**	**14.47**	**161**	Pn	Pn	17 26 34.7	-0.4
	0.3nm,0.3s,baz=338,slow=13,SNR=30						
WRA				Sn	Sn	17 29 04.0	-12
	0.9nm,0.3s,baz=331,slow=22,SNR=7.7						
ASAR	**Alice Springs**	**17.89**	**166**	P	Pn	17 27 18.7	-0.6
	0.8nm,0.3s,baz=341,slow=11,SNR=128						
ASAR				S	Sn	17 30 22.7	-17
	0.2nm,0.3s,baz=345,slow=27,SNR=5.8						
MKAR	**Makanchi Array**	**67.24**	**327**	P	P	17 34 05.1	-0.1
	0.1nm,0.5s,baz=123,slow=7.7,SNR=4.9						

GUC 10 17:24:54.0±0.6, 35°.17S×72°.35W, h12km±4km, ML3.9, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.91**	**138**	⇑*i*P	Pg	17 25 11.4	-0.1
LNCH				*i* S	Sb	17 25 23.7	-0.1
NICH	**Los Niches**	**0.93**	**80**	⇑*i*P	Pg	17 25 11.4	-0.6
NICH				*i* S	Sg	17 25 23.9	-0.3
COCH	**Cobquecura**	**1.02**	**201**	*e*P	Pb	17 25 12.1	-1.6
COCH				*i* S	Sg	17 25 26.4	-0.6
CHCH	**Chadas Angostu**	**1.86**	**49**	⇑*i*P	Pn	17 25 25.5	-0.4
CLCH	**Cerro Calan**	**2.32**	**41**	⇑*i*P	Pn	17 25 33.2	+1.0
CLCH				*i* S	Sb	17 26 03.1	-1.5
CLCH				AML	AML	17 26 10.0	
	comp=E,722nm,0.4s						
PEL	**Peldehue**	**2.45**	**35**	⇓*i*P	Pn	17 25 34.9	+1.0
PEL				*i* S	Sn	17 26 05.9	+2.1
PEL				AML	AML	17 26 13.4	
	comp=E,768nm,0.5s						
FCH	**Farellones**	**2.50**	**43**	AML	AML	17 26 22.7	
	comp=E,634nm,0.2s						

*IDC **10** 17:28:00.4±1.4, 36°.46S×73°.52W, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.9/28, mbtmp3.9/7, ML4.4/1, MS3.1/4, Ms1 3.1/4, ms1mx2.9/25, Error ellipse: s-maj=43.9km s-min=25.2km az=76.0*
ISC 10 17:27:58.5±1.1, 36°.98S±0°.07×74°.0W±0°.1, h10km, n15, σ2°.18/14, mb3.9/6, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.31**	**50**	⇑*i*P	**Pn**	**17 28 22.8**	**0.0**
COCH				*i* S	**Sn**	**17 28 43.2**	**+2.8**
AGCH	**Angol**	**1.35**	**128**	*e*P	**Pn**	**17 28 22.7**	**-0.6**
AGCH				*i* S4	**Sn**	**17 28 40.3**	**-1.0**
PLCA	**Paso Flores**	**4.63**	**145**	Pn	Pn	17 29 14.4	+5.9
	3.9nm,0.3s,baz=307,slow=9.2,SNR=11						
PLCA				Sn	**Sb**	**17 30 18.1**	**+2.5**
	4.4nm,0.3s,baz=290,slow=14,SNR=3.6						
PLCA				LR	LR	17 30 35.1	
	comp=Z,74nm,19.4s,baz=319,slow=32						
CFAA	**Coronel Fontan**	**7.19**	**43**	LR	LR	17 32 36.7	
	comp=Z,36nm,18.2s,baz=226,slow=42						
CPUP	**Villa Florida**	**17.72**	**58**	LR	LR	17 39 53.2	
	comp=Z,166nm,19.8s,baz=219,slow=42						
LPAZ	**La Paz**	**21.26**	**16**	P	**P**	**17 32 42.6**	**-3.1**
	0.5nm,0.6s,baz=180,slow=6.1,SNR=1.9						
SIV	**San Ignacio**	**23.86**	**32**	P	**P**	**17 33 08.3**	**-3.8**
	1.9nm,0.7s,baz=180,slow=5.1,SNR=2.6						
BDFB	**Brasilia**	**31.37**	**54**	P	**P**	**17 34 18.1**	**-1.5**
	2.5nm,0.6s,baz=130,slow=23,SNR=3.8						
BDFB				LR	LR	17 48 19.3	
	comp=Z,142nm,20.8s,baz=215,slow=40						
TXAR	**Lajitas Array**	**71.59**	**333**	P	**P**	**17 39 21.6**	**+1.6**
	0.7nm,0.7s,baz=170,slow=7.6,SNR=3.6						
BOSA	**Boshof**	**80.11**	**118**	P	P	17 40 13.1	+4.0
	1.8nm,0.8s,baz=252,slow=6.4,SNR=2.1						
TORD	**Torodi Ar. Bea**	**86.73**	**71**	P	**P**	**17 40 42.8**	**-0.3**
	0.9nm,0.8s,baz=237,slow=3.0,SNR=3.9						
BRTR	**Keskin Array B**	**124.66**	**63**	PKP	**PKPdf**	**17 46 58.5**	**+0.3**
	1.6nm,1.1s,baz=337,slow=6.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**157.60**	**34**	PKPab	**PKPab**	**17 48 26.6**	**0.0**
	0.3nm,0.4s,baz=318,slow=5.8,SNR=2.7						
MKAR	**Makanchi Array**	**159.90**	**53**	PKPab	**PKPab**	**17 48 37.2**	**+0.4**
	0.5nm,0.7s,baz=292,slow=3.3,SNR=6.0						
SONM	**Songino Array**	**169.15**	**358**	PKPab	**PKPab**	**17 49 20.2**	**+2.8**
	0.5nm,0.9s,baz=288,slow=0.9,SNR=3.6						

**NEIC 10 17:46:28.6, 60°.

AUI	Augustine Isla	1.03 211	P	Pn	17 46 47.7	-0.3
AUI			S	Sn	17 47 02.2	-0.2
SPBG	Spurr Blockage	1.05 1	P	Pn	17 46 47.7	-0.6
SPBG			S	Sn	17 47 02.6	-0.5
CGLM	Capps Glacier	1.11 10	P	Pn	17 46 48.5	-0.6
SLKM	Skilak Lake	1.12 74	P	Pn	17 46 48.1	-1.0
STLK	Strandline Lak	1.32 12	P	Pn	17 46 51.0	-0.6
MCNL	McNeil River	1.43 224	P	Pn	17 46 52.2	-0.8
MCNL			S	Sn	17 47 10.2	-1.2
FIB	Fire Island	1.45 48	P	Pn	17 46 53.5	+0.4
FIB			S	Sn	17 47 14.3	+2.5
SUA	Susitna One	1.49 32	P	Pn	17 46 53.6	-0.3
SUA			S	Sn	17 47 13.3	+0.3
RC01	Rabbit Creek A	1.57 55	eP	Pn	17 46 53.7	-1.2
PTE	Portage	1.79 67	P	Pn	17 46 56.4	-1.2
SVW2	Sparrevohn	1.80 301	P	Pn	17 46 56.7	-1.2
SVW2			S	Sn	17 47 18.6	-1.5
SKT	Skwentna	1.82 13	P	Pn	17 46 57.1	-1.0
PWL	Port Wells	2.11 70	P	Pn	17 46 60.0	-1.9
PMR	Palmer	2.11 48	eP	Pn	17 47 00.4	-1.5
KAKN	Katmai Knife C	2.36 217	P	Pn	17 47 04.7	-0.7
KVTA	Katmai Vly 10	2.37 220	P	Pn	17 47 04.8	-0.6
KDAK	Kodiak Island	2.44 182	P	Pn	17 47 05.0	-1.3
KCE	Katmai Mt Cerb	2.44 217	P	Pn	17 47 06.6	+0.1
KELA	Mount Kelaz	2.47 225	P	Pn	17 47 06.2	-0.7
KABR	Katmai Barrier	2.48 214	P	Pn	17 47 06.3	-0.6
PPLA	Purkeypile	2.69 2	eP	Pn	17 47 09.8	-0.2
SCM	Sheep Creek Mo	2.95 54	P	Pn	17 47 12.0	-1.4
OHAK	Old Harbor	3.04 189	P	Pn	17 47 12.2	-2.1
MID	Middleton Isla	3.16 102	P	Pn	17 47 14.7	-1.2
TT01	Tatalina	3.21 329	P	Pn	17 47 15.8	-1.0
CAST	Castle Rocks	3.22 2	P	Pn	17 47 16.8	-0.1
PLK3	Peulik 3	3.23 220	P	Pn	17 47 17.1	+0.1
PLK1	Peulik 1	3.26 224	P	Pn	17 47 17.4	+0.1
DIV	Divide	3.38 71	P	Pn	17 47 16.9	-2.3
TRF	Thorofare Moun	3.40 16	eP	Pn	17 47 18.6	-0.8
KLU	Klutina	3.42 65	P	Pn	17 47 17.6	-2.1
KTH	Kantishna Hill	3.42 11	eP	Pn	17 47 19.2	-0.5
RND	Reindeer	3.62 26	P	Pn	17 47 22.1	-0.2
DHY	Denali Highway	3.74 38	P	Pn	17 47 23.3	-0.8
SII	Sitkinak Islan	3.79 195	P	Pn	17 47 22.8	-1.8
GOAT	Goat Mountain	3.82 81	P	Pn	17 47 22.0	-3.1
PS11	TAPS Pump St11	3.84 58	P	Pn	17 47 24.0	-1.2
MCK	McKinley	3.89 23	eP	Pn	17 47 25.4	-0.5
BMRM	Bremner River	3.92 76	P	Pn	17 47 23.2	-3.1
HARP	HAARP	4.12 55	P	Pn	17 47 27.8	-1.3
BWN	Browne	4.20 18	P	Pn	17 47 30.1	0.0
PAX	Paxson	4.31 47	P	Pn	17 47 30.8	-1.0
GLB	Gilahina Butte	4.38 70	P	Pn	17 47 30.2	-2.5
WRH	Wood River Hil	4.72 23	P	Pn	17 47 36.5	-0.7
DDM	Donnelly Dome	4.72 38	P	Pn	17 47 38.0	+0.6
MLY	Manley	4.89 8	P	Pn	17 47 38.2	-1.4
HDA	Harding Lake	4.91 29	P	Pn	17 47 39.0	-0.8
CCB	Clear Creek Bu	4.93 24	P	Pn	17 47 39.2	-0.8
MENT	Mentasta	4.96 53	eP	Pn	17 47 38.4	-2.2
PS08	TAPS Pump Stn8	5.06 28	P	Pn	17 47 40.9	-0.9
COLA	College	5.12 22	P	Pn	17 47 41.8	-0.8
MDM	Murphy Dome	5.13 20	P	Pn	17 47 41.8	-1.1
DOT	Dot Lake	5.23 45	P	Pn	17 47 43.1	-1.0
ILB	Eielson Array	5.23 27	P	Pn	17 47 43.0	-1.2
IL1	Eielson Array	5.24 27	P	Pn	17 47 43.1	-1.1
SCRK	Sand Creek	5.46 43	P	Pn	17 47 45.7	-1.8
BCA3	Beaver Creek A	5.81 56	P	Pn	17 47 50.4	-1.8
IM3	Indian Mountai	5.82 355	P	Pn	17 47 51.7	-0.5
EGAK	Eagle	6.92 44	eP	Pn	17 48 05.2	-2.0
COLD	Coldfoot	7.11 7	P	Pn	17 48 08.7	-1.1
DAWY	Dawson	7.21 52	P	Pn	17 48 09.0	-1.3
HYT	Haines Junctio	7.37 79	P	Pn	17 48 12.2	-1.4
BM3	Burnt Mountain	8.00 22	P	Pn	17 48 20.6	-1.3
TNA	Tin City	8.87 314	eP	Pn	17 48 33.1	-0.6
	13nm,1.0s					
PGC	Sidney	20.24 112	eP	P	17 50 48.4	-8.6
	16nm,1.9s					
FCC	Fort Churchill	28.81 67	eP	P	17 52 18.0	-0.6
	1.2nm,2.2s					

*CSEM **10** 17:51:02.3±0.3, 36.°41N×28.°66E, h2km, MD2.6, Error ellipse: s-maj=7.0km s-min=4.3km az=179.0*
*DDA **10** 17:51:02.3, 36.°27N×28.°52E, h5km, MD2.9*
ISK 10 17:51:00.6, 36.°37N×28.°67E, h5km, MD2.6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.42	51	ePG	Pb	17 51 10.2	-0.4
FETY	Fethiye	0.42	51	ePg	Pb	17 51 10.2	-0.5
DALY	Dalyan (Mu¨la	0.45	358	ePG	Pb	17 51 10.2	-0.8
DALY	Dalyan (Mu¨la	0.45	358	ePg	Pb	17 51 10.2	-0.8
ARG	Arkhangelos	0.47	251	ePG	Pb	17 51 10.6	-0.7
ARG				eSG	Sb	17 51 18.6	+0.1
ARG	Arkhangelos	0.47	251	ePg	Pb	17 51 10.6	-0.7
ARG				eSg	Sb	17 51 18.6	0.0
AKAS	Kas	0.76	100	i P	Pn	17 51 18.5	+0.3
AKAS				i S	Sn	17 51 32.3	+2.0
AKAS	Kas	0.76	100	i P	Pn	17 51 18.5	+0.3
AKAS				i S	Sn	17 51 32.3	+2.0
YER	Yerkesik	0.83	338	ePG	Pb	17 51 17.5	0.0
YER	Yerkesik	0.83	338	ePg	Pb	17 51 17.5	-0.1
ELL	Elmali	1.06	69	ePG	Pb	17 51 21.9	+0.2
ELL	Elmali	1.06	69	ePg	Pb	17 51 21.9	+0.2
GOLH	Golhisar	1.12	39	i P	Pn	17 51 26.7	+3.6
GOLH	Golhisar	1.12	39	i P	Pn	17 51 26.7	+3.6
GOLH				i S	Sn	17 51 44.4	+5.3
BDRM	Kayabasi	1.21	305	i P	Pn	17 51 25.2	+1.0
BDRM				i S	Sn	17 51 41.1	+0.1
BDRM	Kayabasi	1.21	305	i P	Pn	17 51 25.2	+1.0
BDRM				i S	Sn	17 51 41.1	+0.1
BODT	Bodrum	1.30	303	ePN	Pg	17 51 27.3	+1.8
BODT	Bodrum	1.30	303	ePn	Pg	17 51 27.3	+1.8
DNZL	Cakiroluk	1.35	13	i P	Pg	17 51 30.9	+4.1
DNZL				i S	Sn	17 51 48.7	+3.8
DNZL	Cakiroluk	1.35	13	i P	Pg	17 51 30.9	+4.0
DNZL				i S	Sn	17 51 48.7	+3.8
AYDB	Zeytinkoy-Aydi	1.69	339	ePN	Pb	17 51 32.7	+0.2
AYDB	Zeytinkoy-Aydi	1.69	339	ePn	Pb	17 51 32.7	+0.2

*CSEM **10** 17:52:14.2±0.3, 38.°11N×32.°20E, h20km, MD2.8, Error ellipse: s-maj=8.0km s-min=6.3km az=31.0*
ISK 10 17:52:13.4, 38.°11N×32.°11E, h8km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LADK	Ladik-KONYA	0.22	66	ePG	Pg	17 52 19.0	+1.0
LADK				eSG	Sg	17 52 21.9	+0.7
LADK	Ladik-KONYA	0.22	66	ePg	Pg	17 52 19.0	+0.9
LADK				eSg	Sg	17 52 21.9	+0.7
KONT	Konya--Tatoy	0.26	129	ePG	Pg	17 52 18.9	+0.3
KONT	Konya--Tatoy	0.26	129	ePg	Pg	17 52 18.9	+0.3
KDHN	Kadinhani	0.41	1	i P	Pb	17 52 23.0	-0.1
KDHN				i S	Sb	17 52 29.9	+0.2
KDHN	Kadinhani	0.41	1	i P	Pb	17 52 23.0	-0.2
KDHN				i S	Sb	17 52 29.9	+0.2
KIZT	Kizilcal	0.79	347	ePG	Pg	17 52 28.8	0.0
KIZT	Kizilcal	0.79	347	ePg	Pg	17 52 28.8	0.0
SULT	Sultanhani-AKS	1.11	85	ePN	Pg	17 52 34.6	-0.3
SULT	Sultanhani-AKS	1.11	85	ePn	Pg	17 52 34.6	-0.3
ISP	Isparta	1.29	258	ePN	Pg	17 52 38.6	+0.3
ISP	Isparta	1.29	258	ePn	Pg	17 52 38.6	+0.3
SHUT	Suhut-Afyon	1.30	290	ePN	Pn	17 52 38.1	0.0
SHUT	Suhut-Afyon	1.30	290	ePn	Pn	17 52 38.1	0.0
ALT	Altintas	1.83	302	ePN	Pn	17 52 46.1	+0.8
ALT	Altintas	1.83	302	ePn	Pn	17 52 46.1	+0.8

IDC 10 17:57:02.6±1.1, 7.°65N×77.°99W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/28, mbtmp3.6/3, ML2.4/1, Error ellipse: s-maj=58.1km s-min=27.0km az=52.0, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	4.57	127	Pn	Pn	17 58 13.6	0.0
	3.3nm,0.3s,baz=265,slow=22,SNR=5.2						
ROSC				Sn	Sn	17 59 09.8	+1.9
	1.8nm,0.3s,baz=108,slow=20,SNR=2.8						
YKA	Yellowknife Ar	60.89	342	P	P	18 07 16.8	0.0
	0.3nm,0.5s,baz=130,slow=7.3,SNR=10						
ILAR	Eielson Array	74.19	335	P	P	18 08 41.2	+0.2
	0.3nm,0.8s,baz=108,slow=4.7,SNR=4.2						
ASAR	Alice Springs	145.53	239	PKPbc	PKPdf	18 16 42.8	-1.0
	0.5nm,0.5s,baz=118,slow=3.8,SNR=21						
WRA	Warramunga Arr	146.39	245	PKPbc	PKPdf	18 16 45.7	+0.4
	0.7nm,1.1s,baz=106,slow=3.1,SNR=4.8						

*IDC **10** 17:58:28.4±3.2, 2.°23S×135.°12E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/29, mbtmp3.5/3, ML3.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/23, Error ellipse: s-maj=150.5km s-min=27.4km az=79.0*
*ISCJB **10** 17:58:32.8±0.7, 2.°62S±0.°05×134.°30E±0.°07, h30km, mb3.5/1, MS3.5/1, Error ellipse: s-maj=9.8km s-min=6.6km az=9.9*
*DJA **10** 17:58:34.5±1.0, 2.°S±4.°×13.°4E±.°, h15km±8km, M3.6/7, mb3.5/1, MLv3.6/7*
ISC 10 17:58:34.3±0.8, 2.°53S±0.°07×134.°27E±0.°06, h30km, n15, σ19.08/16, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	Ransiki, Papua	1.01	355	P	Pn	17 58 51.3	-1.2
RKPI				S	Sb	17 59 06.5	+0.2
FAKI	Fak Fak	2.06	259	P	Pn	17 59 07.1	+0.2
FAKI				S	Sn	17 59 32.7	+1.1
FAKI	Fak Fak	2.06	259	P	Pn	17 59 06.9	0.0
	baz=2.0,SNR=50						
SRPI	Serui, Papua	2.07	72	P	Pb	17 59 10.6	-0.7
BAKI	Biak	2.26	54	P	Pn	17 59 10.9	+1.2
SWI	Sorong	3.43	299	P	Pn	17 59 26.5	+0.6
SWI	Sorong	3.43	299	P	Pn	17 59 26.4	+0.6
	baz=3.5,SNR=11						
KDU	Kakadu	10.25	190	P	Pn	18 00 59.5	-0.1
	baz=10,SNR=3.9						
MTN	Manton Dam	10.71	197	P	Pn	18 01 05.1	-0.7
	baz=11,SNR=8.4						
KNRA	Kununurra	14.15	202	P	Pn	18 01 50.5	-2.4
	baz=14,SNR=7.6						
WRA	Warramunga Arr	17.31	180	P	P	18 02 35.6	+0.4
	0.1nm,0.3s,baz=0.5,slow=12,SNR=5.8						
FITZ	Fitzroy Crossi	17.64	208	P	Pn	18 02 36.6	-1.5
	baz=18,SNR=3.8						
ASAR	Alice Springs	21.02	181	P	P	18 03 16.7	+1.0
	2.1nm,0.8s,baz=7.7,slow=12,SNR=17						
RAO	Raoul Island	52.58	125	LR	LR	18 29 26.3	
	comp=Z,44nm,18.9s,baz=312,slow=36						
MKAR	Makanchi Array	66.98	324	P	P	18 09 25.0	+0.6
	0.2nm,0.4s,baz=101,slow=7.6,SNR=9.6						

*IDC **10** 17:59:16.7±1.3, 14.°11N×92.°92W, h0km, mb3.9/6, mb1 4.3/11, mb1mx4.0/37, mbtmp4.0/11, ML3.6/4, MS3.4/5, Ms1 3.5/5, ms1mx2.9/39, Error ellipse: s-maj=28.1km s-min=15.4km az=4.0*
*NEIC **10** 17:59:19.9±3.9, 14.°15N×92.°89W, h21km±27km, mb4.3/6, Error ellipse: s-maj=23.2km s-min=10.3km az=216.0*
*ISCJB **10** 17:59:20.4±0.7, 14.°18N±0.°07×92.°89W±0.°05, h37km, mb4.1/12, MS3.4/4, Error ellipse: s-maj=9.9km s-min=7.6km az=2.9*
*MEX **10** 17:59:26.9±0.4, 14.°58N×93.°52W, h15km, MD4.2*
ISC 10 17:59:21.5±0.9, 14.°08N±0.°09×93.°06W±0.°07, h37km, n150, σ0.96/147, mb4.2/12, MS3.3/4, 71C-47D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.62	354	eP	Pn	17 59 44.4	-3.1
PCIG				i S	Sn	17 59 58.5	-8.6
CCIG	Comitan	2.36	22	eP	Pn	17 59 59.4	+1.5
CCIG				eS	Sn	18 00 24.9	-0.7
APG	El Apazote	2.67	70	Pn	Pn	18 00 00.2	-2.0
	13nm,0.3s,baz=251,slow=7.7,SNR=48						
APG				Lg	Lg	18 00 37.2	
	20nm,0.3s,baz=273,slow=20,SNR=5.8						
HUIG	Huatulco	3.39	300	eP	Pn	18 00 08.3	-3.6
HUIG				eS	Sn	18 00 40.2	-11
CMIG	Matias Romero	3.47	330	Pn	Pn	18 00 11.2	-1.8
	18nm,0.3s,baz=142,slow=13,SNR=58						
CMIG				Sn	Sn	18 00 51.5	-1.3
	26nm,0.3s,baz=151,slow=6.3,SNR=4.5						
VHO	Vista Hermosa	4.62	310	eP	Pn	18 00 24.7	-4.4
VHO				eS	Sn	18 01 09.9	-12
PNIG	Pinotepa	5.41	296	i P	Pn	18 00 36.7	-3.0
PNIG				i S	Sn	18 01 30.6	-10
TLIG	Tlapa	6.33	304	eP	Pn	18 00 48.8	-3.7
TEIG	Tepich	7.63	36	Pn	Pn	18 01 09.6	-0.5
	17nm,0.3s,baz=226,slow=1.2,SNR=45						
TEIG				Sn	Sn	18 02 35.0	-0.3
	10nm,0.3s,baz=329,slow=22,SNR=7.6						
TEIG				LR	LR	18 04 29.0	
	comp=Z,378nm,20.7s,baz=206,slow=42						
TEIG	Tepich	7.63	36	eP	Pn	18 01 09.1	-1.0
	50nm,0.5s						
TEIG				Sn	Sn	18 02 35.0	-0.3
JTS	JuntasAbangare	8.77	115	Pn	Pn	18 01 23.4	-2.4
	0.1nm,0.3s,baz=217,slow=20,SNR=2.0						
JTS				Lg	Lg	18 03 44.2	
	0.2nm,0.3s,baz=35,slow=18,SNR=4.1						
833A	Chaparral WMA,	15.35	338	⇓P	Pn	18 02 56.8	+1.4
	baz=15						
733A	Divot King Ran	15.67	339	⇑P	Pn	18 03 01.3	+1.7
	baz=16						
632A	Uvalde	16.56	339	⇑P	Pn	18 03 10.8	-0.3
	baz=17						
534A	Blanco	16.64	343	⇓P	Pn	18 03 12.0	0.0
	baz=17						
631A	Perdido Creek	16.77	337	⇑P	Pn	18 03 13.9	+0.3
	baz=17						
532A	Rocksprings	17.17	340	⇑P	P	18 03 19.7	-0.3
	baz=17						
434A	Burnet	17.33	345	⇓P	Pn	18 03 20.8	+0.2
	baz=17						
531A	Rocksprings	17.43	338	⇑P	P	18 03 22.8	-0.1
	baz=18						
433A	Art	17.50	342	⇑P	Pn	18 03 22.6	-0.1
	baz=18						
530A	J-C Ranch, Com	17.72	336	⇓P	P	18 03 26.9	+0.8
	baz=18						
431A	Sonora	17.92	338	⇑P	P	18 03 28.3	0.0
	baz=18						
529A	Stev Forest Ra	18.07	334	⇑P	P	18 03 30.9	+1.0
	baz=18,SNR=8.3						
TXAR	Lajitas Array	18.08	329	P	P	18 03 30.6	+0.6
	0.1nm,0.3s,baz=143,slow=11,SNR=14						
429A	Davenport Ranc	18.36	335	⇓P	Pn	18 03 33.8	+0.4
	baz=18,SNR=15						
330A	Mertzon	18.78	338	⇓P	P	18 03 37.6	-0.2
	baz=19						
230A	Sterling City	19.20	339	⇑P	P	18 03 41.8	-0.5
	baz=19						
ABTX	Abilene, Hawle	19.41	343	⇓P	P	18 03 43.6	-1.0
	baz=20						
228A	UT Block 9, Go	19.96	336	⇓P	P	18 03 51.5	+0.8
	baz=20						
Z32A	Haskell	20.01	344	⇑P	P	18 03 50.6	-0.5
	baz=20						
Y34A	Reagan Ranch,	20.24	349	⇑P	P	18 03 53.4	-0.1
	baz=20						
128A	Castleberry Fa	20.36	337	⇓P	P	18 03 55.8	+0.8
	baz=20						
MIAR	Mount Ida	20.38	359	eP	P	18 03 53.6	-1.4
	13nm,1.0s						
Z30A	Sanderson Ranc	20.48	340	⇑P	P	18 03 55.9	-0.4
	baz=20						
Z29A	Hungry Hill Ra	20.65	339	⇑P	P	18 03 57.7	-0.4
	baz=21						
Y31A	Rekieta Farm,	20.84	343	⇓P	P	18 04 00.6	+0.4
	baz=21						
Y30A	Stafford Cattl	20.95	341	⇑P	P	18 04 02.0	+0.6
	baz=21						
X31A	McDonald Ranch	21.39	344	⇓P	P	18 04 06.1	0.0
	baz=22						
Y28A	McKinney Farm,	21.43	339	⇑P	P	18 04 06.4	-0.1
	baz=22						
X30A	Coker Ranch, T	21.47	342	⇑P	P	18 04 06.6	-0.4
	baz=22						
MSTX	Muleshoe	21.67	338	⇓P	P	18 04 10.0	+0.8
	baz=22						
X29A	Tulia	21.73	340	⇓P	P	18 04 10.3	+0.6
	baz=22						
AMTX	Amarillo	22.13	341	⇓P	P	18 04 13.9	-0.1
	baz=22						
V33A	Lossen Ranch,	22.15	349	⇓P	P	18 04 13.0	-1.1
	baz=22						
X27A	F and S Farms,	22.39	338	⇑P	P	18 04 16.6	-0.4
	baz=22						
Y24A	Capitan	22.72	333	⇓P	P	18 04 21.3	+0.8
	baz=23,SNR=6.8						
319A	Douglas	22.76	322	⇓P	P	18 04 22.7	+2.0
	baz=23						
W27A	Bowe Ranch, En	22.76	338	⇓P	P	18 04 20.6	-0.2
	baz=23						
121A	Cookes Peak, D	22.76	326	⇓P	P	18 04 22.8	+2.0
	baz=23,SNR=8.7						
121A	Cookes Peak, D	22.76	326	eP	P	18 04 22.6	+1.7
	12nm,0.8s						
V29A	Stinnett	22.99	342	⇑P	P	18 04 23.1	0.0
	baz=23						
Y23A	Lovelace Mesa,	23.01	331	⇑P	P	18 04 24.7	+1.3
	baz=23,SNR=7.6						
TKL	Tuckaleechee C	23.05	20	LR	LR	18 13 10.7	
	comp=Z,80nm,19.7s,baz=115,slow=36						
V28A	Channing	23.09	341	⇓P	P	18 04 24.1	-0.1
	baz=23						
X24A	Lazy VL Ranch,	23.26	333	⇑P	P	18 04 25.9	-0.1
	baz=23						
U30A	WK&E Inc. Balk	23.36	344	⇓P	P	18 04 26.1	-0.7
	baz=23						
W25A	X Bar L Ranch,	23.42	336	⇓P	P	18 04 28.1	+0.6
	baz=24,SNR=9.5						
T32A	Huddler Ranch,	23.59	348	⇑P	P	18 04 27.9	-1.0
	baz=24						
U28A	Mallet	23.67	341	⇓P	P	18 04 29.7	-0.1
	baz=24						
V26A	Tequesquite Ra	23.67	338	⇑P	P	18 04 30.9	+1.0
	baz=24,SNR=5.8						
W24A	Lazy 6 Ranch,	23.80	334	⇑P	P	18 04 31.8	+0.6
	baz=24						
T30A	Plains	23.83	345	⇑P	P	18 04 31.2	-0.1
	baz=24						
U27A	Thompson Grove	23.90	340	⇑P	P	18 04 32.2	+0.1
	baz=24						
V25A	Rancho No Teng	24.02	336	⇓P	P	18 04 34.1	+0.8
	baz=24,SNR=7.0						
ANMO	Albuquerque	24.04	332	P	P	18 04 33.6	+0.3
	2.1nm,0.7s,baz=155,slow=12,SNR=6.4						
T29A	Hugoton	24.12	344	⇓P	P	18 04 33.9	-0.2
	baz=24						
V24A	Rampart Ranch,	24.19	335	⇑P	P	18 04 35.2	+0.4
	baz=24						
U26A	Atchley Ranch,	24.19	339	⇑P	P	18 04 35.9	+1.1
	baz=24,SNR=7.3						
TUC	Tucson	24.32	321	eP	P	18 04 37.2	+1.4
	10nm,1.3s						
T28A	Walsh	24.32	342	⇓P	P	18 04 36.0	+0.1
	baz=24						
U25A	Circle Dot Ran	24.44	337	⇓P	P	18 04 37.8	+0.8
	baz=24						
T27A	Campo	24.46	341	⇑P	P	18 04 37.5	+0.4
	baz=24						
S29A	Ulysses	24.51	344	⇑P	P	18 04 37.7	+0.2
	baz=25						
V23A	Ortiz Mt. (NFS	24.59	334	⇑P	P	18 04 38.8	+0.4
	baz=25						
S28A	Manter	24.70	343	⇑P	P	18 04 39.0	-0.3
	baz=25						
T26A	Comanche Natio	24.84	340	⇑P	P	18 04 40.6	-0.1
	baz=25						
T25A	Trinidad	25.10	338	⇓P	P	18 04 43.9	+0.8
	baz=25						
S26A	Kim	25.21	340	⇑P	P	18 04 44.3	+0.4
	baz=25						
Q32A	Meitler Ranch,	25.28	350	⇓P	P	18 04 44.4	-0.1
	baz=25						
R28A	Tribune	25.38	344	⇑P	P	18 04 45.4	0.0
	baz=25						
Q30A	Quinter	25.59	347	⇓P	P	18 04 46.9	-0.4
	baz=26						
R27A	Eads	25.61	342	⇑P	P	18 04 47.8	+0.3
	baz=26						
ATAH	Atahualpa	25.61	144	LR	LR	18 12 35.6	
	comp=Z,61nm,18.6s,baz=160,slow=31						
Q29A	Oakley	25.68	346	⇑P	P	18 04 48.2	+0.1
	baz=26						
R26A	Arlington	25.82	341	⇑P	P	18 04 50.5	+1.0
	baz=26						
S24A	Houchin Ranch,	25.84	337	⇑P	P	18 04 50.8	+1.0
	baz=26						
P31A	Stockton	25.94	349	⇑P	P	18 04 50.7	+0.2
	baz=26						
SDCO	Great Sand Dun	26.04	337	eP	P	18 04 52.6	+1.0
	10nm,1.4s						
R24A	Sanders Place,	26.32	338	⇑P	P	18 04 54.6	+0.5
	baz=26						
R23A	Moffat	26.55	337	⇓P	P	18 04 57.7	+1.4
	baz=27						
S22A	4UR Ranch, Cre	26.56	335	⇓P	P	18 04 57.7	+1.3
	baz=27						
MVCO	Mesa Verde	26.83	332	⇓P	P	18 05 00.6	+1.9
	baz=27						
P23A	Jefferson	27.59	338	⇓P	P	18 05 06.6	+0.9
	baz=28						
U15A	North Rim	28.14	326	⇑P	P	18 05 12.1	+1.6
	baz=28						
O22A	Kremmling	28.55	338	⇓P	P	18 05 13.9	-0.2
	baz=29						
N22A	Wattenberg Ran	29.08	339	⇑P	P	18 05 19.7	+0.9
	baz=29						
J30A	Dallas	29.66	350	⇑P	P	18 05 23.0	-0.6
	baz=30						
ECSD	EROS Data Cent	29.70	355	⇓P	P	18 05 23.5	-0.5
	baz=30						
L23A	Garrett	30.00	341	⇑P	P	18 05 27.4	+0.4
	baz=30						
J26A	Sides Ranch, S	30.37	345	⇓P	P	18 05 30.5	+0.5
	baz=30						
SPMN	Marine on St.	31.04	0	⇑P	P	18 05 35.5	-0.3
	baz=31						
I25A	Rochford	31.20	345	⇑P	P	18 05 37.9	+0.4
	baz=31						
R11A	Troy Canyon, C	31.34	325	⇓P	P	18 05 39.9	+1.1
	baz=31						
I22A	9 Mile Ranch,	31.85	341	⇑P	P	18 05 43.3	+0.2
	baz=32						
PDAR	Pinedale Array	31.93	337	P	P	18 05 43.8	-0.2
	0.8nm,0.8s,baz=142,slow=12,SNR=4.2						
H24A	Dirks Ranch, A	32.09	344	⇑P	P	18 05 45.3	+0.2
	baz=32						
H22A	Clearmont	32.45	342	⇑P	P	18 05 48.6	+0.3

A29A	Manning Farm, baz=35	35.11 353	⇓P	P	18 06 10.7	-0.5
A26A	Wade Farm, Ken baz=36	35.49 350	⇑P	P	18 06 14.5	-0.1
D19A	Cripps Ranch, baz=36	35.53 341	⇓P	P	18 06 15.8	+0.8
B23A	Brockton baz=36	35.67 346	⇑P	P	18 06 16.6	+0.5
A24A	Westby baz=36	35.89 348	⇓P	P	18 06 18.0	-0.1
ULM	Lac du Bonnet 1.5nm,0.5s,baz=174,slow=12,SNR=4.8	36.14 357	P	P	18 06 17.4	-2.6
EGMT	Eagleton baz=37	36.57 341	⇑P	P	18 06 24.3	+0.4
B19A	Brinkman Farms baz=37	36.71 342	⇓P	P	18 06 25.8	+0.8
A20A	Cobblestone Ra baz=37	36.80 344	⇓P	P	18 06 26.5	+0.7
MSO	Missoula baz=37	37.03 336	⇓P	P	18 06 29.2	+1.3
A19A	Klindworth Far baz=37	37.07 343	⇑P	P	18 06 28.8	+0.6
M04C	Macdoel baz=37	37.20 323	⇑P	P	18 06 31.6	+2.2
NEW	Newport comp=Z,84nm,19.4s,baz=120,slow=40	39.48 335	LR	LR	18 25 51.5	
YKA	Yellowknife Ar 5.5nm,0.7s,baz=152,slow=7.4,SNR=73	50.71 347	P	P	18 08 17.6	+0.4
ILAR	Eielson Array 1.4nm,0.9s,baz=143,slow=4.6,SNR=11	62.36 337	P	P	18 09 40.8	+0.6
ESDC	Sonseca Array 0.1nm,0.3s,baz=277,slow=4.1,SNR=3.4	80.47 51	P	P	18 11 29.1	-0.8
NOA	NORSAR Array B comp=Z,21nm,21.8s,baz=330,slow=34	84.56 28	LR	LR	18 47 37.1	
TIXI	Tiksi 1.6nm,0.6s	89.96 348	*e*P	P	18 12 16.6	0.0
WRA	Warramunga Arr 0.4nm,0.7s,baz=77,slow=2.0,SNR=6.7	134.42 256	PKP	PKPdf	18 18 37.6	+1.0
ASAR	Alice Springs 0.2nm,0.8s,baz=126,slow=2.0,SNR=3.3	134.73 251	PKP	PKPdf	18 18 38.6	+1.6
CMAR	Chiang Mai Arr 2.3nm,0.7s,baz=335,slow=3.4,SNR=25	145.57 340	PKPbc	PKPab	18 18 57.5	+0.4

IDC 10 18:01:24.4±9.0, 21°26S×178°07W, h541km±98km, mb3.2/9, mb1 3.4/9, mb1mx3.2/20, mbtmp4.1/9, Error ellipse: s-maj=53.0km s-min=33.6km az=120.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower 2.6nm,0.7s,baz=60,slow=8.1,SNR=2.7	33.36	265	P	P		18 07 17.9	-0.3
STKA	Stephens Creek 1.4nm,0.8s,baz=95,slow=11,SNR=3.0	37.40	245	P	P		18 07 51.9	+0.3
ASAR	Alice Springs 2.0nm,0.5s,baz=92,slow=8.1,SNR=39	44.28	257	P	P		18 08 46.5	0.0
WRA	Warramunga Arr 0.8nm,0.5s,baz=96,slow=7.5,SNR=26	44.43	263	P	P		18 08 47.0	-0.6
MJAR	Matsushiro Arr 1.3nm,0.7s,baz=123,slow=6.9,SNR=4.0	70.78	324	P	P		18 11 45.6	-0.8
ASAJ	Asahikawa 8.4nm,1.0s,baz=247,slow=4.0,SNR=4.5	74.36	332	P	P		18 12 08.2	+1.4
PETK	Petropavlovsk- 1.7nm,0.6s,baz=135,slow=7.8,SNR=13	76.99	345	P	P		18 12 20.9	-0.3
ILAR	Eielson Array 0.2nm,0.4s,baz=212,slow=5.7,SNR=6.5	89.07	13	P	P		18 13 20.1	-1.3
PDAR	Pinedale Array 0.3nm,0.4s,baz=221,slow=3.3,SNR=3.0	89.56	43	P	P		18 13 25.0	+0.5
ARCES	ARCESS Array B 2.0nm,0.9s,baz=15,slow=3.7,SNR=3.8	129.65	349	PKP	PKPdf		18 19 32.1	+0.8
AKASG	Malin Array Be 0.5nm,0.5s,baz=42,slow=4.0,SNR=5.9	143.64	331	PKP	PKPab		18 19 55.6	-0.8
BRTR	Keskin Array B 0.5nm,0.6s,baz=158,slow=1.6,SNR=2.9	147.29	311	PKPbc	PKPbc		18 20 07.4	-0.2

*IDC **10** 18:03:37.3±2.2, 2°31S×134°83E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/29, mbtmp3.9/5, ML3.5/1, Error ellipse: s-maj=88.7km s-min=23.5km az=72.0*
*ISCJB **10** 18:03:41.5±0.5, 2°59S±0°04×134°31E±0°06, h30km, mb3.8/3, Error ellipse: s-maj=8.0km s-min=6.1km az=176.1*
*DJA **10** 18:03:41.1±0.6, 3°S±4°×13°4E±°, h10km, M4.1/4, mb4.2/2, MLv4.1/4*
ISC 10 18:03:42.9±0.7, 2°56S±0°06×134°28E±0°05, h30km, n20, σ1§37/22, mb3.9/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RKPI	Ransiki, Papua	1.05	354	P	Pn		18 04 00.5	-1.1
RKPI				S	Sn		18 04 14.3	-1.0
FAKI	Fak Fak	2.06	260	P	Pn		18 04 15.8	+0.3
FAKI				S	Sn		18 04 41.8	+1.6
SRPI	Serui, Papua	2.08	71	P	Pn		18 04 16.0	+0.3
SWI	Sorong	3.46	299	P	Pn		18 04 35.2	+0.4
SWI	Sorong baz=4.2,SNR=8.9	3.46	299	P	Pn		18 04 35.2	+0.4
LBMI	Labuha	7.04	286	P	Pn		18 05 24.0	0.0
KDU	Kakadu baz=9.4,SNR=4.7	10.22	190	P	Pn		18 06 08.2	+0.7
MTN	Manton Dam baz=10.0,SNR=29	10.68	197	P	Pn		18 06 13.7	-0.2
MTN				S	Sn		18 08 11.6	-1.0
SOEI	Soe baz=12,SNR=3.3	12.25	234	P	P		18 06 44.1	-3.5
KNRA	Kununurra baz=14,SNR=7.4	14.12	202	P	Pn		18 07 00.3	-0.7
KNRA				S	Sn		18 09 31.9	-4.9
COEN	Coen baz=14,SNR=4.2	14.33	143	P	Pn		18 07 04.1	+0.2
WSI	Waingapu baz=15,SNR=3.5	15.59	242	P	P		18 07 23.4	-1.1
WRA	Warramunga Arr 0.2nm,0.3s,baz=1.6,slow=12,SNR=14	17.27	180	P	Pn		18 07 42.3	+0.3
FITZ	Fitzroy Crossi baz=17,SNR=4.1	17.61	208	P	P		18 07 47.3	+0.2
RABL	Rabaul baz=18,SNR=4.3	17.92	96	S	S		18 11 15.2	+0.1
ASAR	Alice Springs 6.1nm,0.8s,baz=6.9,slow=11,SNR=39	20.98	181	P	P		18 08 25.5	+1.6
WRKA	Warakurna baz=22,SNR=3.7	23.08	194	P	P		18 08 51.7	+5.5
CMAR	Chiang Mai Arr 0.5nm,0.7s,baz=113,slow=6.9,SNR=5.6	40.57	302	P	P		18 11 20.5	+0.4
MKAR	Makanchi Array 0.6nm,0.5s,baz=115,slow=8.3,SNR=15	67.02	324	P	P		18 14 33.8	+0.7
QSPA	South Pole Qui 1.7nm,1.0s,baz=346,slow=5.9,SNR=3.0	87.38	180	P	P		18 16 27.4	+0.3

*IDC **10** 18:10:59.9±0.9, 34°23S×72°53W, h0km, mb4.4/6, mb1 4.3/10, mb1mx4.0/42, mbtmp4.2/10, ML4.0/4, MS3.5/5, Ms1 3.5/5, ms1mx3.2/23, Error ellipse: s-maj=37.7km s-min=17.7km az=111.0*
*ISCJB **10** 18:11:03.0±1.1, 34°25S±0°04×72°53W±0°09, h35km±10km, mb4.3/6, MS3.9/2, Error ellipse: s-maj=13.0km s-min=6.1km az=16.9*
*GUC **10** 18:11:03.5±0.5, 34°31S×72°41W, h41km±3km, ML4.5*
*NEIC **10** 18:11:03.5±3.0, 34°24S×72°55W, h24km±20km, mb4.2/1, Error ellipse: s-maj=19.5km s-min=7.9km az=98.0*
ISC 10 18:11:03.7±3.9, 34°26S±0°05×72°49W±0°08, h26km±28km, n38, σ0§82/37, mb4.3/6, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	1.27	126	⇑*i*P		Pn	18 11 24.6	-1.2
NICH				*i*S		Sn	18 11 40.8	-1.2
CHCH	Chadas Angostu	1.56	78	⇑*i*P		Pn	18 11 28.7	-1.0
CACH	El Canelo	1.57	85	⇓*i*P		Pn	18 11 29.6	-0.5
RCDM	Rinconada Maip	1.60	62	⇑*i*P		Pn	18 11 29.5	-0.8
RCDM				*i*S		Sn	18 11 49.2	-0.9
ANTU	Antumapu	1.69	66	⇑*i*P		Pn	18 11 31.2	-0.4
ANTU				*i*S		Sn	18 11 51.9	-0.5
ANTU	comp=E,8μm,0.6s			AML		AML	18 11 59.6	
LNCH	Linares	1.74	155	⇑*i*P		Pn	18 11 32.7	+0.5
LNCH				*i*S		Sn	18 11 53.9	+0.3
CLCH	Cerro Calan	1.84	63	⇑*i*P		Pn	18 11 33.3	-0.4
CLCH	comp=N,8μm,0.5s			AML		AML	18 12 03.8	
CLCH	comp=N,10μm,0.5s			AML		AML	18 12 04.3	
PEL	Peldehue	1.87	54	⇓*i*P		Pn	18 11 34.1	0.0
PEL				*i*S		Sn	18 11 57.0	+0.1
COCH	Cobquecura	1.88	187	*e*P		Pn	18 11 33.5	-0.6
COCH				*i*S4		Sn	18 11 54.8	-2.2
FCH	Farellones comp=E,3μm,0.8s	2.06	64	AML		AML	18 12 42.2	
CFAA	Coronel Fontan comp=E,1.3nm,0.3s,baz=229,slow=15,SNR=27	4.45	55	Pn		Pn	18 12 10.5	+1.0
CFAA				Lg		Lg	18 13 11.7	
CFAA	comp=E,2.2nm,0.3s,baz=108,slow=20,SNR=7.1			LR		LR	18 14 12.8	
LCO	Las Campanas comp=E,27nm,0.4s	5.45	17	*e*P		Pn	18 12 22.9	-0.6
PLCA	Paso Flores comp=E,0.7nm,0.3s,baz=348,slow=13,SNR=9.9	6.64	167	Pn		Pn	18 12 39.8	+0.2
PLCA				Lg		Lg	18 14 26.0	
PLCA	comp=E,1.2nm,0.3s,baz=255,slow=17,SNR=4.2			LR		LR	18 15 25.9	
PLCA	comp=E,421nm,18.1s,baz=341,slow=40	6.64	167	*e*P		Pn	18 12 39.5	-0.1
PLCA	comp=E,36nm,0.7s			Lg		Lg	18 14 26.0	
CPUP	Villa Florida comp=E,0.6nm,0.3s,baz=236,slow=15,SNR=2.8	15.29	63	Pn		Pn	18 14 38.5	+0.8
CPUP				LR		LR	18 21 25.4	
CPUP	comp=E,316nm,19.4s,baz=222,slow=41							
LPAZ	La Paz comp=E,0.2nm,0.3s,baz=181,slow=9.2,SNR=14	18.32	13	P		Pn	18 15 17.6	+1.0
SIV	San Ignacio comp=E,17nm,0.9s,baz=224,slow=11,SNR=20	20.89	32	P		P	18 15 44.0	-0.1
SAML	Samuel comp=E,5.1nm,0.8s	26.61	21	*e*P		P	18 16 39.7	-0.2
BDFB	Brasilia comp=E,3.7nm,0.5s,baz=225,slow=11,SNR=5.8	28.79	56	P		P	18 16 58.7	-1.0
SDV	Santo Domingo	42.95	3	*e*P		P	18 19 00.1	-0.7
SNAA	Sanae comp=E,1.8nm,0.9s,baz=252,slow=9.6,SNR=4.4	51.48	158	P		P	18 20 07.2	+0.7
QSPA	South Pole Qui comp=E,2.1nm,0.8s,baz=130,slow=7.2,SNR=7.4	55.97	180	P		P	18 20 41.1	+1.6
DBIC	Dimbokro comp=E,3.7nm,0.7s,baz=229,slow=7.3,SNR=5.1	75.62	71	P		P	18 22 47.1	+0.5
DBIC				LR		LR	18 54 08.9	
TORD	comp=E,41nm,18.7s,baz=200,slow=34 Torodi Ar. Bea	84.65	70	P		P	18 23 34.7	-0.6
TORD	comp=E,3.8nm,0.9s,baz=238,slow=4.9,SNR=16			LR		LR	19 00 30.7	
ASAR	comp=E,61nm,19.0s,baz=220,slow=35 Alice Springs	117.16	207	PKP		PKPdf	18 29 46.4	-0.5
WRA	comp=E,0.1nm,0.4s,baz=142,slow=1.9,SNR=3.2 Warramunga Arr	120.35	209	PKP		PKPdf	18 29 52.9	-0.3
WRAB	comp=E,0.3nm,0.5s,baz=160,slow=1.7,SNR=13 Tennant Creek	120.35	209	*e*P		PKPdf	18 29 52.8	-0.3
H11S2	WAKE ISLAND Hyl baz=119	25.39	269	T		T	20 48 32.4	
H11S1	WAKE ISLAND Hyl baz=119	25.41	269	T		T	20 48 27.5	
H11S3	WAKE ISLAND Hyl baz=119	25.41	269	T		T	20 48 38.6	
H11N3	WAKE ISLAND Hyl baz=122	25.81	271	T		T	20 49 01.8	
H11N1	WAKE ISLAND Hyl baz=122	25.83	271	T		T	20 48 59.0	
H11N2	WAKE ISLAND Hyl baz=122	25.83	271	T		T	20 49 05.6	
ABKAR	Abkulak array	142.14	52	*e*PKPpre		PKPpre	18 30 29.1	
BRVK	Borovoye	147.66	43	*e*PKPbc		PKPab	18 30 46.7	-0.8
ZALV	Zalesovo Beam comp=E,3.7nm,0.8s,baz=304,slow=3.3,SNR=17	154.65	32	PKPbc		PKPbc	18 31 02.5	+1.0
MKAR	Makanchi Array comp=E,0.4nm,1.0s,baz=253,slow=1.5,SNR=2.6	157.22	49	PKP		PKPdf	18 30 56.5	-0.3
MKAR				PKPab		PKPab	18 31 28.1	+0.3
SONM	comp=E,1.1nm,0.9s,baz=301,slow=3.8,SNR=7.6 Songino Array comp=E,0.8nm,0.9s,baz=336,slow=3.2,SNR=5.8	166.41	3	PKPab		PKPab	18 32 08.5	+0.5

*ISCJB **10** 18:28:55.5±1.2, 20°92S±0°09×68°8W±0°2, h112km, mb3.6/3, Error ellipse: s-maj=24.6km s-min=12.5km az=3.9*
*IDC **10** 18:28:58.0±3.7, 21°13S×68°69W, h119km±31km, mb3.6/4, mb1 3.6/6, mb1mx3.4/27, mbtmp4.0/6, Error ellipse: s-maj=33.8km s-min=31.9km az=106.0*
ISC 10 18:28:56.9±1.0, 20°9S±0°1×68°8W±0°2, h112km, n9, σ1§17/10, mb3.6/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz 0.5nm,0.3s,baz=173,slow=6.4,SNR=8.5	4.64	8	P		Pn	18 30 10.7	+5.1
LPAZ				S		Sn	18 30 57.8	-1.0
SIV	0.8nm,0.3s,baz=198,slow=10,SNR=5.4 San Ignacio	8.80	57	P		Pn	18 31 01.2	-0.2
BDFB	4.2nm,0.3s,baz=257,slow=11,SNR=36 Brasilia	20.40	79	P		P	18 33 25.8	+0.5
QSPA	6.1nm,0.5s,baz=256,slow=10,SNR=7.2 South Pole Qui	69.28	180	P		P	18 39 51.3	-0.5
TORD	0.9nm,0.5s,baz=172,slow=3.2,SNR=6.3 Torodi Ar. Bea	77.05	70	P		P	18 40 38.3	+0.1
YKA	0.5nm,0.4s,baz=260,slow=5.4,SNR=4.9 Yellowknife Ar	90.68	341	P		P	18 41 46.9	+0.4
YKA	0.2nm,0.5s,baz=138,slow=4.8,SNR=5.3			pP		pP	18 42 17.3	+1.7
ASAR	0.5nm,0.8s,baz=135,slow=5.0,SNR=5.4 Alice Springs	130.49	208	PKP		PKPdf	18 47 54.0	-1.2
WRA	0.3nm,0.8s,baz=121,slow=2.0,SNR=2.9 Warramunga Arr	133.52	211	PKP		PKPdf	18 47 59.3	-1.7
MKAR	0.3nm,0.7s,baz=156,slow=1.7,SNR=3.8 Makanchi Array	145.09	36	PKPbc		PKPdf	18 48 22.0	+0.9
MKAR	0.6nm,0.7s,baz=320,slow=3.6,SNR=9.2			pPKPbc		pPKPbc	18 48 53.5	+2.5
	0.8nm,0.8s,baz=314,slow=4.7,SNR=5.6							

*ISK **10** 18:39:49.9, 38°90N×44°70E, h5km, MD3.1*
*CSEM **10** 18:39:52.6±0.9, 38°82N×44°55E, h2km, MD3.1, Error ellipse: s-maj=19.5km s-min=9.0km az=85.0*
*DDA **10** 18:39:59.2, 38°73N×44°54E, h10km, MD3.1*
*NSSP **10** 18:41:47.0, 38°78N×44°80E, h10km, ML2.8*
ISC 10 18:39:50.9±1.7, 38°86N±0°03×44°69E±0°06, h8km±13km, n35, σ1§12/43, 3D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CLDR	Caldiran	0.67	295	*e*PG		Pg	18 40 03.1	-0.7
CLDR				*e*SG		Sb	18 40 14.5	0.0
CLDR	Caldiran	0.67	295	*e*Pg		Pg	18 40 03.1	-0.7
CLDR				*e*Sg		Sb	18 40 14.5	0.0
DYDN	Diyadin	1.03	312	*i*P		Pn	18 40 12.7	+0.6
DYDN	Diyadin	1.03	312	*i*P		Pn	18 40 12.7	+0.6
DYDN				*i*S		Sn	18 40 32.6	+5.7
VANB	Van	1.05	256	*e*PG		Pb	18 40 11.3	-0.2
VANB	Van	1.05	256	*e*Pg		Pb	18 40 11.3	-0.2
TVAN	Van	1.06	252	*i*P		Pg	18 40 10.9	-0.4
TVAN	Van	1.06	252	*i*P		Pg	18 40 10.9	-0.4
TVAN				*i*S		Sn	18 40 33.9	+6.5
GNI	Garni	1.29	2	*e*PN		Pn	18 40 15.1	-0.4
GNI	Garni	1.29	2	⇓*i*P		Pn	18 40 14.5	-1.0
GNI				⇓*i*S		Sn	18 40 34.5	+1.5
GNI	Garni	1.29	2	⇓P		Pn	18 40 14.5	-1.0
GNI				S		Sn	18 40 34.5	+1.5
GEVA	Gevas	1.39	247	*i*P		Pn	18 40 14.8	-2.1
GEVA				*i*S		Sg	18 40 37.9	+2.2
GEVA	Gevas	1.39	247	*i*P		Pn	18 40 14.8	-2.1
GEVA				*i*S		Sg	18 40 37.9	+2.2
HKR	Hakkari	1.48	211	*e*PN		Pg	18 40 19.2	-0.2
HKR	Hakkari	1.48	211	*e*Pn		Pg	18 40 19.2	-0.2
AGRB	Hanur-Agry	1.50	299	*e*PN		Pg	18 40 18.7	-1.0
AGRB	Hanur-Agry	1.50	299	*e*Pn		Pg	18 40 18.7	-1.0
HAKT	HAKKARI	1.51	211	*i*P		Pn	18 40 18.9	+0.2
HAKT				*i*S		Sg	18 40 40.3	+0.7
HAKT	HAKKARI	1.51	211	*i*P		Pn	18 40 18.9	+0.2
HAKT				*i*S		Sg	18 40 40.3	+0.7
TUTA	Tutak	1.56	291	*i*P		Pn	18 40 17.8	-1.4
TUTA				*i*S		Sg	18 40 41.9	+0.9
TUTA	Tutak	1.56	291	*i*P		Pn	18 40 17.8	-1.4
TUTA				*i*S		Sg	18 40 41.9	+0.9
CUKT	Cukurca	1.82	208	*e*PN		Pb	18 40 24.5	-0.2
CUKT	Cukurca	1.82	208	*e*Pn		Pb	18 40 24.5	-0.2
DIGO	Kars	1.85	327	*i*P		Pg	18 40 26.2	-0.3
DIGO	Kars	1.85	327	*i*P		Pg	18 40 26.2	-0.3
DIGO				*i*S		Sg	18 41 02.7	+11
EATA	Eleskirt	1.98	301	*i*P		Pg	18 40 28.3	-0.5
EATA	Eleskirt	1.98	301	*i*P		Pg	18 40 28.3	-0.5
EATA				*i*S		Sg	18 40 59.7	+5.2
EAK	Akyaka	2.00	336	*i*P		Pg	18 40 31.2	+1.8
EAK	Akyaka	2.00	336	*i*P		Pg	18 40 31.2	+1.8
EAK				*i*S		Sg	18 41 02.4	+7.0
EKAR	Karacoban	2.08	282	*i*P		Pg	18 40 32.2	+1.3
EKAR	Karacoban	2.08	282	*i*P		Pg	18 40 32.2	+1.3
SIRT	Sirnak	2.23	233	*e*PN		Pb	18 40 29.9	-1.8
SIRT	Sirnak	2.23	233	*e*Pn		Pb	18 40 29.9	-1.8
SIRN	S¨–rnak	2.25	234	*i*P		Pb	18 40 30.9	-1.1
SIRN	S¨–rnak	2.25	234	*i*P		Pb	18 40 30.9	-1.1

*IDC **10** 18:47:40.5±1.4, 34°02S×73°48W, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.8/16, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=64.1km s-min=32.2km az=70.0*
*GUC **10** 18:47:43.4±0.7, 33°82S×73°19W, h20km, ML3.6*
*ISCJB **10** 18:47:44.1±1.2, 33°86S±0°07×73°28W±0°08, h33km, mb3.8/2, Error ellipse: s-maj=10.6km s-min=9.3km az=163.5*
ISC 10 18:47:46.0±1.1, 33°90S±0°07×73°25W±0°09, h35km, n15, σ1§34/18, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHCH	Chadas Angostu	2.16	92	⇑*i*P		Pn	18 48 18.8	-0.7
ANTU	Antumapu	2.21	82	*e*S		Sn	18 48 46.2	0.0
ANTU	comp=N,559nm,0.3s			IAML			18 48 47.8	
CACH	El Canelo	2.21	96	⇑*i*P		Pn	18 48 20.0	-0.3
CACH				*i*S1		Sn	18 48 47.9	+1.3
PEL	Peldehue	2.27	71	*e*S		Sn	18 48 48.2	+0.4
PEL	comp=N,862nm,0.6s			IAML			18 48 51.5	
CLCH	Cerro Calan	2.32	78	*e*P		Pn	18 48 21.1	-0.6
CLCH				*i*S		Sn	18 48 49.4	+0.4
CLCH	comp=N,409nm,0.5s			IAML			18 48 55.5	
CHNG	Los Chungos	2.49	37	⇑*i*P		Pn	18 48 22.9	-1.1
CHNG				*i*S		Sn	18 48 51.8	-1.3
FCH	Farellones	2.53	78	*e*P9		Pn	18 48 20.0	-4.9
FCH				*i*S		Sn	18 48 51.4	-3.3
CMCH	Combarbala	3.31	36	*e*S		Sn	18 49 12.4	-1.1
PLCA	Paso Flores comp=N,0.5nm,0.3s,baz=342,slow=10,SNR=6.3	7.16	163	Pn		Pn	18 49 26.5	-1.6
LPAZ	La Paz comp=N,0.1nm,0.3s,baz=171,slow=8.9,SNR=4.1	18.13	16	P		P	18 51 57.9	+2.1
TXAR	Lajitas Array comp=N,0.5nm,0.6s,baz=155,slow=6.7,SNR=3.8	69.16	332	P		P	18 58 48.8	0.0
TORD	Torodi Ar. Bea comp=N,0.7nm,0.7s,baz=253,slow=4.9,SNR=3.7	85.12	71	P		P	19 00 18.9	+0.2
BVAR	Borovoye Array comp=N,0.8nm,0.5s,baz=311,slow=2.2,SNR=5.3	147.89	42	PKPbc		PKPbc	19 07 27.8	+1.0
KURBB	Kurchatov Arra comp=N,0.6nm,0.6s,baz=292,slow=2.9,SNR=6.9	153.48	42	PKPbc		PKPbc	19 07 41.0	+0.8
ZALV	Zalesovo Beam comp=N,0.6nm,0.6s,baz=304,slow=3.3,SNR=3.7	154.67	31	PKPbc		PKPbc	19 07 42.6	0.0

MAN 10 18:56:17, 18°28N×120°45E, h34km, mb4.4, ML3.2, MS3.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.17	73	⇑*i*P		Pb	18 56 24.6	+1.1
PIP				*e*S		Sb	18 56 30.8	+2.9
ABRA	Dolores	0.67	158	*e*P		Pb	18 56 30.9	+0.5
ABRA				*e*S		Sb	18 56 40.9	+1.3
APYP	Conner	0.86	118	*e*P		Pb	18 56 33.8	+0.1
APYP				*e*S		Sb	18 56 45.0	+0.1

*IDC **10** 19:14:01.1±3.1, 36°16S×177°89E, h194km±21km, mb3.8/4, mb1 4.0/5, mb1mx3.5/27, mbtmp4.2/5, Error ellipse: s-maj=47.2km s-min=19.7km az=47.0*
*ISCJB **10** 19:14:04.9±0.6, 36°70S±0°10×177°2E±0°2, h211km±9km, mb3.9/4, Error ellipse: s-maj=22.0km s-min=12.7km az=33.0*
*NEIC **10** 19:14:04.4, 36°55S×177°21E, h207km, MG4.5(WEL), After WEL*
*WEL **10** 19:14:05.3±0.2, 36°32S×177°07E, h166km±4km, ML4.4/10, Error ellipse: s-maj=4.3km s-min=3.8km az=0.0*
ISC 10 19:14:05.7±0.8, 36°75S±0°10×177°3E±0°1, h216km±8km, n63, σ1§08/70, mb4.0/4, 4C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	1.06	161	PN		Pn	19 14 36.7	-0.7
HAZ				SN		S	19 15 00.6	-1.6
MXZ	Matakaoa Point	1.12	137	PN		Pn	19 14 37.1	-0.7
MXZ				SN		S	19 15 01.7	-1.1
MXZ				AML		AML	19 15 04.0	
MXZ	Matakaoa Point	1.12	137	Pn		Pn	19 14 37.5	-0.3
WMGZ	Waiomatatini S	1.37	141	PN		Pn	19 14 39.4	-0.2
WMGZ				SN		S	19 15 05.5	-0.6
PUZ	Puketiti	1.51	151	⇑PN		Pn	19 14 40.8	0.0
PUZ				AML		AML	19 15 12.4	
PUZ				AML		AML	19 15 13.7	
PUZ	Puketiti	1.51	151	Pn		Pn	19 14 40.8	0.0
TWGZ	Tauwhareparae	1.51	160	⇑PN		Pn	19 14 41.5	+0.6
TWGZ				SN		S	19 15 08.6	+0.3
URZ	Urewera	1.52	187	PN		Pn	19 14 40.9	+0.1
URZ				SN		S	19 15 08.2	-0.1
URZ				AML		AML	19 15 14.5	
URZ	Urewera	1.52	187	P		Pn	19 14 41.0	+0.1
URZ	16nm,0.3s,baz=267,slow=5.3,SNR=57			S		S	19 15 08.2	-0.1
MWZ	58nm,0.3s,baz=225,slow=23,SNR=38 Matawai	1.59	175	PN		Pn	19 14 41.9	+0.3
MWZ				SN		S	19 15 09.2	-0.2
MWZ				AML		AML	19 15 10.9	
MWZ	Matawai	1.59	175	Pn		Pn	19 14 42.0	+0.4
MWZ				Sn		S	19 15 09.2	-0.2
RAGZ	Rawiri	1.74	178	PN		Pn	19 14 43.6	+0.7
CNGZ	Carnagh Statio	1.86	159	⇑PN		Pn	19 14 44.7	+0.7
CNGZ	Carnagh Statio	1.86	159	Pn		Pn	19 14 44.9	+0.9
RIGZ	Rimuhau	1.98	170	PN		Pn	19 14 45.5	+0.4
RAHZ	Arahi	2.17	185	PN		Pn	19 14 47.8	+0.7
RAHZ	Arahi	2.17	185	Pn		Pn	19 14 47.9	+0.8
PRGZ	Paritu Road	2.21	169	*e*PN		Pn	19 14 47.7	+0.2
KNZ	Kokohu	2.28	173	PN		Pn	19 14 48.1	-0.1
KNZ	Kokohu	2.28	173	Pn		Pn	19 14 48.2	0.0
WHHZ	Waihua	2.32	182	SN		S	19 15 22.2	+0.1
NMHZ	Naumai	2.38	190	PN		Pn	19 14 50.2	+0.9
NMHZ				SN		S	19 15 25.1	+1.9
NMHZ	Naumai	2.38	190	Pn		Pn	19 14 50.3	+1.0
NMHZ				Sn		S	19 15 25.1	+1.9
MHGZ	Mahia Peninsul	2.44	170

TCW			AML	AML		19 16 20.4	
PLWZ	**Palliser**	**5.08 198**	*e*PN	**Pn**		**19 15 18.9**	**-2.5**
MQZ	**McQueen's Vall**	**7.81 206**	SN	S		19 17 17.1	-7.8
COEN	**Coen**	**38.00 298**	P	**P**		**19 21 03.7**	**+0.6**
	baz=38,SNR=11						
ASAR	**Alice Springs**	**39.42 277**	P	**P**		**19 21 15.2**	**+0.3**
	4.8nm,0.8s,baz=118,slow=8.1,SNR=64						
WRA	**Warramunga Arr**	**41.01 282**	P	**P**		**19 21 27.8**	**-0.2**
	2.7nm,0.5s,baz=120,slow=7.8,SNR=28						
WRKA	**Warakurna**	**43.26 271**	P	**P**		**19 21 45.1**	**-1.0**
	baz=43,SNR=11						
MANU	**Manus Island**	**44.24 314**	S	**S**		**19 28 14.5**	**+3.4**
	baz=45,SNR=3.5						
PATS	**Pohnpei**	**46.88 334**	P	P		19 22 18.3	+3.7
	baz=48,SNR=3.2						
KNRA	**Kununurra**	**47.79 283**	P	**P**		**19 22 21.8**	**+0.3**
	baz=47,SNR=4.8						
FITZ	**Fitzroy Crossi**	**48.90 278**	P	**P**		**19 22 30.4**	**+0.4**
	baz=48,SNR=4.5						
MEEK	**Meekatharra**	**50.29 264**	P	**P**		**19 22 39.7**	**-0.8**
	baz=50,SNR=3.6						
QSPA	**South Pole Qui**	**53.37 180**	P	**P**		**19 23 05.1**	**+2.4**
	3.6nm,0.8s,baz=326,slow=0.5,SNR=19						
CMAR	**Chiang Mai Arr**	**91.96 292**	P	**P**		**19 26 50.0**	**0.0**
	0.3nm,0.5s,baz=123,slow=4.4,SNR=3.2						
MKAR	**Makanchi Array**	**118.78 309**	PKP	**PKPdf**		**19 32 24.2**	**-3.6**
	0.1nm,0.5s,baz=169,slow=2.3,SNR=3.3						
FINES	**FINESS Array B**	**149.41 333**	PKPbc	**PKPdf**		**19 33 25.4**	**+1.9**
	1.9nm,0.9s,baz=43,slow=3.9,SNR=9.5						
BRTR	**Keskin Array B**	**151.46 287**	PKPbc	**PKPbc**		**19 33 32.2**	**-1.8**
	0.5nm,0.7s,baz=114,slow=4.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	**156.17 191**	PKPbc	PKPdf		19 33 45.6	+11
	0.2nm,0.4s,baz=166,slow=3.8,SNR=5.4						
TORD			PKPab	**PKPab**		**19 34 01.9**	**-1.5**

IDC 10 19:15:10.2±1.6, 33°.45S×178°.60W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/18, mbtmp4.1/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/23, Error ellipse: s-maj=65.7km s-min=37.1km az=16.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.40**	**307**	LR	LR	19 25 02.2	
	comp=Z,141nm,18.4s,baz=257,slow=34						
CTA	**Charters Tower**	**33.91**	**284**	P	P	19 21 56.5	+1.3
	2.5nm,0.7s,baz=96,slow=15,SNR=3.7						
ASAR	**Alice Springs**	**42.53**	**271**	P	P	19 23 06.9	-0.9
	1.6nm,0.7s,baz=112,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**43.79**	**276**	P	P	19 23 17.5	-0.5
	2.2nm,0.6s,baz=116,slow=7.7,SNR=15						
FINES	**FINESS Array B**	**147.80**	**338**	PKPbc	PKPbc	19 34 55.8	-0.5
	1.3nm,0.5s,baz=64,slow=3.2,SNR=17						
BRTR	**Keskin Array B**	**153.46**	**293**	PKPbc	PKPbc	19 35 10.1	-0.6
	0.9nm,0.7s,baz=172,slow=4.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**159.79**	**181**	PKPab	PKPab	19 35 50.2	-0.2
	0.9nm,1.1s,baz=192,slow=5.0,SNR=2.6						

*IDC **10** 19:19:44.9±1.0, 36°.88S×73°.42W, h0km, mb4.0/6, mb1 4.1/7, mb1mx4.0/18, mbtmp4.0/7, ML4.1/1, MS3.6/7, Ms1 3.6/7, ms1mx3.4/18, Error ellipse: s-maj=28.3km s-min=16.1km az=96.0*
*ISCJB **10** 19:19:45.3±0.8, 36°.80S±0°.07×73°.5W±0°.1, h14km, mb4.1/6, MS3.6/5, Error ellipse: s-maj=13.1km s-min=9.3km az=11.1*
*NEIC **10** 19:19:48.0±4.1, 36°.82S×73°.46W, h21km±28km, mb4.4/2, Error ellipse: s-maj=24.5km s-min=10.3km az=85.0*
*GUC **10** 19:19:49.1±0.5, 36°.94S×73°.40W, h17km±37km, ML3.9*
ISC 10 19:19:46.8±0.8, 36°.88S±0°.05×73°.49W±0°.08, h14km, n22, σ1°.00/22, mb3.9/7, MS3.6/5, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.31**	**83**	⇑*iP*	**Pb**	**19 19 54.6**	**+0.5**
CCSP				*i* S1	**Sb**	**19 19 59.4**	**+0.3**
CCSP				AML	AML	19 20 00.6	
	comp=E,72μm,0.4s						
COCH	**Cobquecura**	**0.94**	**37**	⇑*iP*	**Pn**	**19 20 05.7**	**+0.1**
COCH				*i* S	**Sn**	**19 20 18.5**	**-0.3**
AGCH	**Angol**	**1.12**	**146**	*e*P1	**Pn**	**19 20 07.8**	**-0.3**
AGCH				*i* S1	**Sb**	**19 20 20.8**	**-1.6**
PLCA	**Paso Flores**	**4.48**	**150**	Pn	**Pn**	**19 20 55.5**	**+1.2**
	comp=E,2.3nm,0.3s,baz=322,slow=11,SNR=53						
PLCA				Lg	Lg	19 22 06.3	
	comp=E,6.3nm,0.3s,baz=240,slow=20,SNR=3.3						
PLCA				LR	LR	19 22 58.0	
	comp=E,478nm,18.8s,baz=303,slow=43						
CFAA	**Coronel Fontan**	**6.83**	**41**	Pn	**Pn**	**19 21 25.4**	**-1.2**
	comp=E,0.1nm,0.3s,baz=221,slow=12,SNR=11						
CFAA				Sn	**Sn**	**19 22 43.5**	**-0.6**
	comp=E,0.2nm,0.3s,baz=212,slow=19,SNR=1.9						
CFAA				Lg	Lg	19 23 21.9	
	comp=E,0.1nm,0.3s,baz=330,slow=20,SNR=6.9						
LCO	**Las Campanas**	**8.19**	**17**	*e*P	**Pn**	**19 21 44.0**	**-1.5**
	comp=E,10nm,0.5s						
TRQA	**Tornquist**	**9.23**	**101**	*e*P	**Pn**	**19 22 00.4**	**+1.0**
CPUP	**Villa Florida**	**17.30**	**57**	LR	LR	19 30 21.9	
	comp=E,160nm,18.8s,baz=218,slow=37						
LPAZ	**La Paz**	**21.06**	**14**	P	**P**	**19 24 32.5**	**+1.4**
	comp=E,1.7nm,0.6s,baz=189,slow=5.1,SNR=5.8						
LPAZ	**La Paz**	**21.06**	**14**	*e*P	**P**	**19 24 32.6**	**+1.4**
	comp=E,7.0nm,1.1s						
SIV	**San Ignacio**	**23.55**	**31**	P	**P**	**19 24 56.2**	**-0.6**
	comp=E,2.8nm,0.9s,baz=233,slow=14,SNR=5.2						
PMSA	**Palmer Station**	**28.49**	**172**	LR	LR	19 36 51.3	
	comp=E,127nm,18.9s,baz=298,slow=36						
BDFB	**Brasilia**	**30.97**	**54**	LR	LR	19 39 44.1	
	comp=E,154nm,21.0s,baz=229,slow=39						
ROSC	**El Rosal**	**41.53**	**359**	LR	LR	19 44 33.7	
	comp=E,62nm,19.1s,baz=278,slow=36						
QSPA	**South Pole Qui**	**53.36**	**180**	P	**P**	**19 29 06.1**	**+0.6**
	comp=E,3.9nm,1.0s,baz=137,slow=4.5,SNR=6.8						
TXAR	**Lajitas Array**	**71.70**	**332**	P	**P**	**19 31 09.6**	**+1.2**
	comp=E,0.7nm,0.6s,baz=154,slow=9.9,SNR=4.2						
TXAR				LR	LR	19 57 15.0	
	comp=E,76nm,19.1s,baz=0.0,slow=31						
BLA	**Blacksburg**	**74.00**	**354**	P	**P**	**19 31 20.8**	**-0.9**
	comp=E,6.1nm,0.5s						
DBIC	**Dimbokro**	**77.22**	**72**	P	**P**	**19 31 40.9**	**+0.2**
	comp=E,2.6nm,0.6s,baz=177,slow=5.2,SNR=7.2						
DBIC				LR	LR	20 03 20.7	
	comp=E,27nm,18.4s,baz=155,slow=34						
TORD	**Torodi Ar. Bea**	**86.30**	**71**	P	**P**	**19 32 27.7**	**-0.7**
	comp=E,0.8nm,0.9s,baz=224,slow=4.0,SNR=3.4						
WRA	**Warramunga Arr**	**117.67**	**210**	PKP	**PKPdf**	**19 38 31.8**	**-1.2**
	comp=E,0.2nm,0.6s,baz=173,slow=1.8,SNR=5.4						
ZALV	**Zalesovo Beam**	**157.28**	**34**	PKPab	**PKPab**	**19 40 13.0**	**+0.3**
	comp=E,0.9nm,0.6s,baz=317,slow=7.1,SNR=3.7						
MKAR	**Makanchi Array**	**159.49**	**54**	PKPab	**PKPab**	**19 40 22.7**	**0.0**
	comp=E,0.4nm,0.7s,baz=285,slow=3.7,SNR=5.4						

*NIED **10** 19:21:00, 39°.50N×142°.20E, h74km, Mw4.8 Best double couple: M0 1.56000×10^16 NP1:φs=311.00000°, δ37.00000°, λ175.00000°. NP2:φs=45.00000°, δ87.00000°, λ53.00000°.*
*IDC **10** 19:21:11.9±1.6, 39°.03N×143°.59E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.5/37, mbtmp3.7/6, ML4.1/2, Error ellipse: s-maj=40.3km s-min=22.3km az=78.0*
*ISCJB **10** 19:21:20.1±0.8, 39°.49N±0°.04×142°.28E±0°.10, h93km±6km, mb3.5/4, Error ellipse: s-maj=13.0km s-min=5.9km az=14.3*
*JMA **10** 19:21:22.1±0.1, 39°.48N×142°.18E, h86km±1km, M4.0*
JMA Felt II J1.
ISC 10 19:21:20.8±1.2, 39°.50N±0°.04×142°.31E±0°.09, h88km±8km, n20, σ0°.72/31, mb3.7/4, 4C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.39**	**282**	⇓*iP*	**Pn**	**19 21 35.1**	**+0.6**
MIYJ				S	**Sn**	**19 21 44.5**	**-0.2**
JTH	**Tanohata**	**0.56**	**322**	⇓P	**Pn**	**19 21 36.5**	**+0.6**
JTH				S	**Sn**	**19 21 47.1**	**0.0**
OFUJ	**Ofunato**	**0.65**	**230**	⇓P	**Pn**	**19 21 37.1**	**+0.5**
OFUJ				S	**Sn**	**19 21 48.0**	**-0.5**
JOM	**Ohasama**	**0.79**	**269**	⇓P	**Pn**	**19 21 38.3**	**+0.3**
JOM				S	**Sn**	**19 21 50.5**	**-0.4**
JMK	**Ichinoseki**	**1.01**	**238**	⇑P	**Pn**	**19 21 40.7**	**+0.3**
JMK				S	**Sn**	**19 21 54.3**	**-0.8**
JANG	**Nango**	**1.07**	**325**	⇓P	**Pn**	**19 21 41.5**	**+0.3**
JANG				S	**Sn**	**19 21 56.0**	**-0.5**
JIO	**Ouri**	**1.28**	**216**	⇑P	**Pn**	**19 21 43.6**	**-0.1**
JIO				S	**Sn**	**19 21 59.5**	**-1.5**
JRG	**Rokugo**	**1.30**	**266**	⇓P	**Pn**	**19 21 44.0**	**0.0**
JRG				S	**Sn**	**19 22 00.9**	**-0.6**
JAH	**Hinai**	**1.47**	**299**	⇓P	**Pn**	**19 21 46.2**	**+0.2**
JAH				S	**Sn**	**19 22 04.8**	**-0.2**
JTM	**Tenmabayashi**	**1.60**	**324**	⇓P	**Pn**	**19 21 48.1**	**+0.4**
JTM				*e*S	**Sn**	**19 22 07.5**	**-0.7**
JYK	**Kaneyama**	**1.62**	**250**	⇑P	**Pn**	**19 21 48.2**	**+0.2**
JYK				S	**Sn**	**19 22 08.2**	**-0.5**
JOU	**Okura**	**1.71**	**229**	⇑P	**Pn**	**19 21 49.0**	**-0.2**
JOU				S	**Sn**	**19 22 09.9**	**-0.8**
MAT	**Matsushiro**	**4.38**	**229**	P	**Pn**	**19 22 25.5**	**+0.5**
MAT				*e*S	**Sn**	**19 23 16.0**	**+1.1**
MJAR	**Matsushiro Arr**	**4.38**	**229**	Pn	**Pn**	**19 22 25.6**	**+0.6**
	5.4nm,0.3s,baz=29,slow=14,SNR=69						
MJAR				Sn	Sn	19 23 27.4	+13
	baz=83,slow=32,SNR=2.1						
ASAJ	**Asahikawa**	**4.62**	**3**	Pn	**Pn**	**19 22 29.0**	**+0.8**
	6.6nm,0.3s,baz=200,slow=14,SNR=111						
ASAJ				Sn	**Sn**	**19 23 18.4**	**-2.1**
	1.8nm,0.3s,baz=16,slow=19,SNR=3.8						
KSRS	**Korea Array**	**11.46**	**264**	Pn	Pn	19 24 06.2	+4.8
	0.2nm,0.3s,baz=74,slow=14,SNR=3.6						
ZALV	**Zalesovo Beam**	**40.82**	**310**	P	P	19 29 04.2	+11
	0.5nm,0.3s,baz=90,slow=8.8,SNR=4.3						
MKAR	**Makanchi Array**	**43.45**	**300**	P	P	19 29 25.3	+10
	0.2nm,0.6s,baz=82,slow=9.8,SNR=3.3						
WRA	**Warramunga Arr**	**59.60**	**189**	P	**P**	**19 31 15.2**	**-0.1**
	0.7nm,0.6s,baz=6.8,slow=6.8,SNR=11						
ASAR	**Alice Springs**	**63.32**	**189**	P	**P**	**19 31 40.8**	**+0.4**
	0.5nm,0.7s,baz=2.3,slow=7.2,SNR=8.4						

*IDC **10** 20:16:18.9±2.9, 33°.48S×178°.74W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.8/19, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=68.0km s-min=35.4km az=118.0*
*ISCJB **10** 20:16:20.2±2.0, 33°.75±0°.1×178°.3W±0°.3, h41km, mb3.7/2, Error ellipse: s-maj=40.7km s-min=11.7km az=18.2*
ISC 10 20:16:20.4±2.6, 33°.75±0°.2×178°.1W±0°.4, h41km, n11, σ0°.63/15, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.83**	**216**	PN	**Pn**	**20 17 30.7**	**+0.1**
MXZ				SN	**Sn**	**20 18 25.1**	**-0.2**
WMGZ	**Waiomatatini S**	**4.99**	**214**	*e*PN	**Pn**	**20 17 33.2**	**+0.5**
HAZ	**Te Kaha**	**5.25**	**219**	*e*PN	**Pn**	**20 17 37.2**	**+1.0**
PUZ	**Puketiti**	**5.26**	**213**	*e*PN	**Pn**	**20 17 36.2**	**-0.3**
PUZ				SN	**Sn**	**20 18 35.3**	**-0.7**
CNGZ	**Carnagh Statio**	**5.63**	**211**	*e*PN	**Pn**	**20 17 41.4**	**-0.1**
URZ	**Urewera**	**5.98**	**219**	Pn	**Pn**	**20 17 47.1**	**+0.8**
	4.1nm,0.3s,baz=274,slow=3.1,SNR=31						
URZ				Sn	**Sn**	**20 18 53.9**	**+0.4**
	3.0nm,0.3s,baz=257,slow=22,SNR=7.7						
URZ	**Urewera**	**5.98**	**219**	PN	**Pn**	**20 17 46.8**	**+0.5**
URZ				SN	**Sn**	**20 18 52.7**	**-0.7**
KNZ	**Kokohu**	**6.30**	**212**	PN	**Pn**	**20 17 51.8**	**+1.0**
ASAR	**Alice Springs**	**42.97**	**271**	P	**P**	**20 24 15.6**	**-0.1**
	1.0nm,0.7s,baz=106,slow=6.9,SNR=12						
WRA	**Warramunga Arr**	**44.25**	**276**	P	**P**	**20 24 25.6**	**-0.5**
	0.8nm,0.4s,baz=117,slow=7.9,SNR=25						
FINES	**FINESS Array B**	**148.21**	**338**	PKPbc	**PKPab**	**20 36 04.1**	**0.0**
	0.8nm,0.5s,baz=26,slow=3.5,SNR=8.8						

IDC 10 20:22:06.0±5.7, 37°.36S×74°.32W, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.5/16, mbtmp3.4/3, ML3.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/12, Error ellipse: s-maj=142.1km s-min=23.3km az=66.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.47**	**140**	Pn	Pn	20 23 17.0	+1.9
	0.7nm,0.3s,baz=315,slow=11,SNR=9.4						
PLCA				Lg	Lg	20 24 27.0	
	1.6nm,0.3s,baz=62,slow=22,SNR=5.0						
CPUP	**Villa Florida**	**18.12**	**57**	LR	LR	20 34 13.5	
	comp=Z,35nm,21.5s,baz=192,slow=40						
LPAZ	**La Paz**	**21.69**	**16**	P	P	20 26 59.8	+0.4
	0.7nm,0.5s,baz=192,slow=9.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**87.08**	**71**	P	P	20 34 53.2	-0.7
	0.4nm,0.9s,baz=236,slow=4.7,SNR=2.6						

*NEIC **10** 20:52:25.6±0.9, 2°.00N×124°.93E, h170km±9km, mb4.3/2, Error ellipse: s-maj=16.2km s-min=8.7km az=55.0*
*ISCJB **10** 20:52:26.2±0.4, 1°.89N±0°.06×125°.02E±0°.06, h198km, mb4.0/11, Error ellipse: s-maj=9.6km s-min=6.6km az=141.7*
*IDC **10** 20:52:26.9±8.1, 1°.90N×124°.59E, h183km±79km, mb3.8/9, mb1 3.9/9, mb1mx3.5/37, mbtmp4.3/9, Error ellipse: s-maj=50.4km s-min=13.7km az=79.0*
*DJA **10** 20:52:28.9±0.7, 2°.N±5°.×12°.5E±°, h141km±10km, M4.1/5, mb4.2/3, mB5.3/2, MLv4.0/5, Mw(mB)4.7/2*
ISC 10 20:52:27.4±0.6, 1°.81N±0°.07×125°.07E±0°.06, h198km, n30, σ1°.99/31, mb4.0/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.64**	**222**	P	**Pn**	**20 53 00.5**	**-1.7**
GTOI	**Gorontalo**	**2.37**	**241**	P	**Pn**	**20 53 08.3**	**-1.4**
TNTI	**Ternate**	**2.52**	**114**	P	**Pn**	**20 53 10.3**	**-1.0**
TNTI				S	**Sn**	**20 53 42.3**	**-3.3**
TNTI	**Ternate**	**2.52**	**114**	*e*P	**Pn**	**20 53 09.8**	**-1.5**
MRSI	**Marisa**	**3.40**	**247**	P	**Pn**	**20 53 20.8**	**-0.9**
LBMI	**Labuha**	**3.44**	**135**	P	**Pn**	**20 53 21.7**	**-0.5**
LBMI				S	**Sn**	**20 54 03.5**	**-1.6**
LUWI	**Luwuk**	**3.65**	**219**	P	**Pn**	**20 53 25.7**	**+1.0**
SANI	**Sanana**	**3.94**	**167**	P	**Pn**	**20 53 26.6**	**-1.8**
SANI				S	**Sn**	**20 54 11.1**	**-5.2**
TOLI	**Toli-Toli**	**4.33**	**261**	P	Pn	20 53 29.4	-3.8
MPSI	**Mapaga**	**5.37**	**254**	P	**Pn**	**20 53 45.7**	**-0.9**
	8.3nm,0.8s						
NLAI	**Namlea**	**5.41**	**158**	P	**Pn**	**20 53 46.8**	**-0.2**
	41nm,0.3s,5μm						
KNRA	**Kununurra**	**17.75**	**168**	P	**Pn**	**20 56 23.9**	**+1.2**
	baz=11,SNR=8.0						
WRAB	**Tennant Creek**	**23.44**	**158**	*e*P	**P**	**20 57 21.5**	**+2.4**
	9.6nm,0.6s						
WRA	**Warramunga Arr**	**23.45**	**158**	P	**P**	**20 57 21.9**	**+2.8**
	4.6nm,0.4s,baz=333,slow=11,SNR=52						
WB2	**Warramunga Arr**	**23.45**	**158**	*e*P	**P**	**20 57 21.8**	**+2.6**
COEN	**Coen**	**23.82**	**132**	P	**P**	**20 57 25.5**	**+2.9**
	baz=15,SNR=6.3						
QIS	**Mount Isa**	**26.40**	**148**	P	P	20 57 53.3	+7.5
	baz=18,SNR=3.0						
AS31	**Alice Springs**	**26.74**	**162**	*e*P	**P**	**20 57 51.7**	**+2.9**
ASAR	**Alice Springs**	**26.74**	**162**	P	**P**	**20 57 51.8**	**+3.0**
	1.0nm,0.3s,baz=343,slow=7.8,SNR=39						
STKA	**Stephens Creek**	**36.99**	**156**	P	P	20 59 21.6	+3.6
	0.9nm,0.3s,baz=334,slow=10,SNR=7.0						
LSA	**Lhasa**	**42.52**	**314**	*e*P	**P**	**21 00 04.5**	**+0.4**
USRK	**Ussuriysk Ar.**	**42.66**	**7**	P	**P**	**21 00 05.0**	**+0.6**
	2.1nm,0.5s,baz=187,slow=8.3,SNR=8.0						
ASAJ	**Asahikawa**	**44.91**	**18**	P	**P**	**21 00 23.9**	**+1.5**
	4.7nm,0.5s,baz=247,slow=7.7,SNR=5.7						
SONM	**Songino Array**	**48.62**	**343**	P	**P**	**21 00 50.3**	**-0.9**
	1.0nm,0.8s,baz=161,slow=9.3,SNR=4.9						
MKAR	**Makanchi Array**	**58.21**	**327**	P	**P**	**21 01 59.8**	**-1.1**
	0.4nm,0.3s,baz=122,slow=7.5,SNR=30						
MKAR				PcP	**PcP**	**21 02 50.2**	**+0.2**
	0.9nm,0.5s,baz=133,slow=2.7,SNR=12						
KURK	**Kurchatov**	**62.49**	**329**	*e*P	**P**	**21 02 28.7**	**-1.1**
	1.8nm,0.7s						
BRVK	**Borovoye**	**68.11**	**328**	*e*P	**P**	**21 03 05.9**	**+0.1**
ARCES	**ARCESS Array B**	**91.67**	**340**	P	**P**	**21 05 11.5**	**-0.3**
	6.6nm,1.1s,baz=90,slow=5.1,SNR=5.5						
FINES	**FINESS Array B**	**92.73**	**332**	P	**P**	**21 05 15.0**	**-1.8**
	1.1nm,0.8s,baz=90,slow=4.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**121.91**	**287**	PKP	**PKPdf**	**21 10 59.5**	**+0.4**
	0.3nm,0.6s,baz=83,slow=2.5,SNR=3.4						

IDC 10 20:58:12.4±69.0, 18°.94S×177°.90W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/30, mbtmp4.1/3, Error ellipse: s-maj=1267.0km s-min=174.1km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.57**	**242**	P	P	21 05 37.5	+0.4
	1.1nm,0.6s,baz=106,slow=7.4,SNR=3.1						
WRA	**Warramunga Arr**	**44.93**	**260**	P	P	21 06 29.2	-0.2
	0.9nm,0.3s,baz=97,slow=8.2,SNR=48						
ASAR	**Alice Springs**	**44.99**	**255**	P	P	21 06 29.5	-0.4
	1.8nm,0.5s,baz=91,slow=7.8,SNR=39						

*IDC **10** 21:36:30.8±2.9, 9°.23S×123°.68E, h100km±29km, mb3.2/1, mb1 3.4/3, mb1mx3.1/29, mbtmp3.6/3, Error ellipse: s-maj=89.0km s-min=33.6km az=52.0*
*AUST **10** 21:36:39.9, 10°.50S×124°.01E, h0km*
ISC 10 21:36:30.4±1.3, 9°.2S±0°.1×123°.70E±0°.09, h86km, n10, σ2°.13/13, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.78**	**134**	P	Pn	21 36 51.9	+4.3
	baz=0.8,SNR=68						
BATI	**Baumata**	**0.99**	**182**	P	**Pn**	**21 36 51.2**	**+1.5**
	287nm,0.3s,baz=344,slow=7.4,SNR=216						
BATI				S	**Sn**	**21 37 06.5**	**+2.3**
	53nm,0.3s,baz=20,slow=20,SNR=8.3						
KNRA	**Kununurra**	**8.11**	**143**	P	**Pn**	**21 38 25.0**	**-0.5**
	baz=6.9,SNR=21						
KNRA				S	**Sn**	**21 39 51.5**	**-4.1**
	baz=6.9,SNR=8.5						
MTN	**Manton Dam**	**8.15**	**117**	P	**Pn**	**21 38 28.1**	**+2.2**
	baz=7.4,SNR=44						
MTN				S	**Sn**	**21 39 55.8**	**-0.6**
	baz=7.4,SNR=9.5						
KDU	**Kakadu**	**9.29**	**113**	P	**Pn**	**21 38 43.4**	**+2.0**
	baz=8.6,SNR=18						
KDU				S	**Sn**	**21 40 26.6**	**+2.3**
	baz=8.6,SNR=6.5						
WRA	**Warramunga Arr**	**14.82**	**137**	P	**Pn**	**21 39 53.5**	**-2.1**
	0.4nm,0.3s,baz=310,slow=13,SNR=12						
WRA				S	Sn	21 42 27.9	-11
	0.7nm,0.3s,baz=319,slow=24,SNR=8.2						
WRKA	**Warakurna**	**16.34**	**165**	P	**Pn**	**21 40 15.0**	**+0.3**
	baz=15,SNR=7.0						
ASAR	**Alice Springs**	**17.38**	**147**	P	**Pn**	**21 40 27.8**	**+0.3**
	0.3nm,0.3s,baz=320,slow=12,SNR=22						
ASAR				S	Sn	21 43 31.4	-9.4
	0.2nm,0.3s,baz=316,slow=21,SNR=7.6						
MKAR	**Makanchi Array**	**66.84**	**330**	P	**P**	**21 47 11.9**	**-1.1**
	0.3nm,0.5s,baz=146,slow=7.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**123.06**	**280**	PKP	**PKPdf**	**21 55 16.8**	**-1.2**
	0.2nm,0.5s,baz=82,slow=1.6,SNR=4.6						

MAN 10 21:52:08, 18°.45N×120°.70E, h30km, mb4.1, ML2.9, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.15**	**210**	⇑*iP*	Pn	21 52 15.1	+0.8
PIP				*e*S	Sb	21 52 20.5	+2.9
APYP	**Conner**	**0.78**	**139**	*e*P	Pb	21 52 23.7	+0.6
APYP				*e*S	Sn	21 52 33.9	+0.1
ABRA	**Dolores**	**0.80**	**179**	*e*P	Pb	21 52 24.5	+1.1
ABRA				*e*S	Sn	21 52 34.9	+0.7
SGCP	**Mt. Cagua**	**1.30**	**99**	*e*P	Pb	21 52 31.1	-0.7
SGCP				*e*S	Sn	21 52 47.2	+0.8

*IDC **10** 22:08:09.3±2.2, 34°.03S×72°.38W, h0km, mb3.8/1, mb1 3.8/4, mb1mx3.6/34, mbtmp3.6/4, ML3.8/3, MS3.5/2, Ms1 3.4/2, ms1mx2.7/27, Error ellipse: s-maj=71.8km s-min=33.1km az=100.0*
*ISCJB **10** 22:08:12.6±1.5, 34°.03S±0°.04×72°.12W±0°.09, h15km±10km, mb3.8/1, MS4.1/1, Error ellipse: s-maj=13.0km s-min=5.8km az=17.4*
*GUC **10** 22:08:14.4±0.8, 34°.05S×72°.04W, h14km±6km, ML3.8*
ISC 10 22:08:13.4±3.4, 34°.04S±0°.05×72°.05W±0°.07, h18km±22km, n18, σ0°.94/27, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.06**	**19**	*e*P	**Pb**	**22 08 33.0**	**-0.2**
CHCH	**Chadas Angostu**	**1.17**	**85**	⇑*iP*	**Pb**	**22 08 34.8**	**-0.2**
CHCH				*i* S1	**Sn**	**22 08 50.1**	**-0.4**
NICH	**Los Niches**	**1.18**	**145**	⇑*iP*	**Pn**	**22 08 34.8**	**-0.2**
NICH				*i* S	**Sb**	**22 08 49.9**	**-0.3**
CACH	**El Canelo**	**1.21**	**94**	⇓*iP*	**Pn**	**22 08 36.0**	**+0.4**
CACH				*e*S1	**Sn**	**22 08 52.6**	**+1.0**
ANTU	**Antumapu**	**1.27**	**69**	⇓*iP*	**Pn**	**22 08 36.5**	**+0.2**
ANTU				*i* S	**Sb**	**22 08 53.1**	**+0.3**
ANTU				IAML		22 08 54.5	
	comp=E,3μm,0.2s						
STL	**Santa Lucia**	**1.32**	**63**	*e*P9	**Pn**	**22 08 36.4**	**-0.6**
STL				*i* S	**Sb**	**22 08 53.1**	**-1.2**

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CCSP                                  i S     Sb      22 47 02.2 +0.2
COCH  Cobquecura        0.96  31⇑iP      Pb      22 47 08.6 -1.5
COCH                                  i S     Sb      22 47 21.7 -0.8
COCH                                    AML   AML     22 47 23.4
      comp=N,3µm,0.4s
AGCH  Angol             1.01 147⇑iP      Pb      22 47 10.0 -1.0
AGCH                                  i S     Sb      22 47 23.0 -1.0
LNCH  Linares           1.83  53⇑iP      Pn      22 47 22.9 +0.4
LNCH                                  i S     Sn      22 47 46.1 +1.0
```

*IDC **10** 22:49:35.7±0.8, 37.°75S×73.°61W, h0km, mb4.2/10, mb1 4.3/13, mb1mx4.2/31, mbtmp4.2/13, ML4.3/3, MS3.7/8, Ms1 3.7/8, ms1mx3.4/20, Error ellipse: s-maj=21.9km s-min=15.1km az=85.0*
*ISCJB **10** 22:49:37.7±0.5, 37.°68S±0.°03×73.°56W±0.°08, h23km, mb4.4/15, MS3.6/7, Error ellipse: s-maj=9.6km s-min=4.5km az=179.4*
*GUC **10** 22:49:38.0±0.7, 37.°75S×73.°83W, h39km±3km, ML4.7*
*NEIC **10** 22:49:39.3±3.1, 37.°68S×73.°64W, h25km±20km, mb4.3/6, Error ellipse: s-maj=16.6km s-min=7.5km az=79.0*

ISC 10 22:49:38.8±0.6, 37.72S±0.°04×73.72W±0.°08, h23km, n44, σ0§86/50, mb4.3/15, MS3.6/7, 1C-1D, Near coast of central Chile

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Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
AGCH  Angol             0.81  96  eP                      Pn      22 49 54.8  0.0
AGCH                                  eS                      Sn      22 50 06.7 +0.6
CCSP  San Pedro de C    1.00  29  eP                      Pn      22 49 57.4  0.0
CCSP                                  i S                     Sn      22 50 11.7 +0.9
CCSP                                    IAML                          22 50 16.7
      comp=E,59µm,0.5s
PSCH  Puerto Saavedr    1.10 167⇓iP                      Pn      22 49 57.5 -1.4
PSCH                                  i S                     Sb      22 50 12.4 -0.8
COCH  Cobquecura        1.75  25⇑iP                      Pn      22 50 07.5 -0.3
COCH                                    IAML                          22 50 41.4
      comp=E,6µm,0.6s
VLCH  Valdivia          2.11 170  eP1                     Pn      22 50 11.9 -0.8
PLCA  Paso Flores       3.88 142  Pn                      Pn      22 50 37.0 -0.1
      comp=E,3.0nm,0.3s,baz=309,slow=11,SNR=6.5
PLCA                                    Lg      Lg            22 51 36.3
      comp=E,12nm,0.3s,baz=27,slow=11,SNR=7.4
PLCA  Paso Flores       3.88 142  ePn                     Pn      22 50 38.0 +0.8
PLCA                                  ePg                     Pb      22 50 48.2 +1.6
PLCA                                  eSn                     Sn      22 51 21.4 -0.7
PLCA                                    Lg      Lg            22 51 36.3
CFAA  Coronel Fontan    7.59  38  Pn                      Pn      22 51 26.8 -1.2
      comp=E,1.6nm,0.3s,baz=214,slow=14,SNR=27
CFAA                                    Sn                      Sn      22 52 53.5 +0.1
      comp=E,0.3nm,0.3s,baz=333,slow=18,SNR=2.2
CFAA                                    Lg      Lg            22 53 37.6
      comp=E,0.1nm,0.3s,baz=307,slow=20,SNR=3.6
LCO   Las Campanas      9.04  17  ePn                     Pn      22 51 46.6 -1.6
      comp=E,53nm,0.4s
LCO                                   eSn                     Sn      22 53 29.0 -0.5
TRQA  Tornquist         9.29  96  ePn                     Pn      22 51 52.4 +1.1
      comp=E,51nm,1.3s
TRQA                                  eSn                     Sn      22 53 32.8 -2.2
LVC   Limon Verde      15.62  17  ePn                     Pn      22 53 16.7 -1.0
      comp=E,9.2nm,0.8s
CPUP  Villa Florida    17.92  55  P                       Pn      22 53 45.5 -0.9
      comp=E,1.2nm,0.3s,baz=206,slow=9.5,SNR=4.5
CPUP                                    LR      LR            23 01 24.2
      comp=E,489nm,18.2s,baz=213,slow=40
CPUP  Villa Florida    17.92  55  ePn                     Pn      22 53 44.5 -1.9
LPAZ  La Paz           21.91  15  P                       P       22 54 32.7 +1.5
      comp=E,8.1nm,0.7s,baz=177,slow=12,SNR=14
LPAZ  La Paz           21.91  15  eP                      P       22 54 31.7 +0.5
      comp=E,8.0nm,0.7s
SIV   San Ignacio      24.36  31  P                       P       22 54 54.7 -0.5
      comp=E,4.6nm,0.9s,baz=217,slow=10,SNR=9.0
SIV                                     LR      LR            23 06 04.5
      comp=E,187nm,21.4s,baz=221,slow=41
NNA   Nana             25.78 353  LR      LR            23 03 14.7
      comp=E,89nm,19.3s,baz=166,slow=32
SAML  Samuel           30.19  21  eP                      P       22 55 47.2 -0.2
      comp=E,1.5nm,0.6s
BDFB  Brasilia         31.61  53  P                       P       22 55 59.2 -1.0
      comp=E,2.6nm,0.6s,baz=224,slow=8.3,SNR=5.2
BDFB                                    LR      LR            23 10 00.7
      comp=E,202nm,20.1s,baz=226,slow=39
SDV   Santo Domingo    46.45   4  eP                      P       22 58 04.2  0.0
VNA2  Neumayer--Watz   47.15 156  P                       P       22 58 09.7 +0.8
SNAA  Sanae            48.69 157  P                       P       22 58 21.6 +0.7
SNAA  Sanae            48.69 157  eP                      P       22 58 20.2 -0.6
QSPA  South Pole Qui   52.52 180  P                       P       22 58 50.6 +0.6
      comp=E.2.2nm,1.0s,baz=127,slow=4.8,SNR=9.2
QSPA  South Pole Qui   52.52 180  eP                      P       22 58 49.8 -0.2
      comp=E.2.8nm,0.8s
LPIG  La Paz           70.46 325  LR      LR            23 26 16.0
      comp=E,63nm,19.0s,baz=17,slow=31
TXAR  Lajitas Array    72.36 333  P                       P       23 01 04.0 +1.1
      comp=E,0.5nm,0.6s,baz=151,slow=8.0,SNR=5.6
TXAR                                    LR      LR            23 27 37.9
      comp=E,60nm,18.0s,baz=0.0,slow=32
LIC   Lamto            77.24  72  eP                      P       23 01 31.9 +0.5
      comp=E,53nm,1.4s
TIC   Toumodi          77.52  71  eP                      P       23 01 33.4 +0.4
      comp=E,17nm,0.8s
KIC   Kosan Boka       77.54  72  eP                      P       23 01 33.7 +0.6
      comp=E,26nm,0.9s
DBIC  Dimbokro         77.66  72  P                       P       23 01 34.5 +0.8
DBIC  Dimbokro         77.66  72  eP                      P       23 01 33.3 -0.4
      comp=E,32nm,1.5s
ANMO  Albuquerque      78.43 333  P                       P       23 01 38.8 +1.0
      comp=E.0.8nm,0.2s,baz=156,slow=6.6,SNR=3.6
TSUM  Tsumeb           79.50 106  eP                      P       23 01 44.0 -0.1
BOSA  Boshof           79.54 118  P                       P       23 01 43.9 -0.2
      comp=E,2.5nm,0.8s,baz=236,slow=7.3,SNR=3.6
BOSA                                    LR      LR            23 38 45.4
      comp=E,28nm,18.5s,baz=190,slow=37
ECSD  EROS Data Cent   83.70 344  eP                      P       23 02 05.0 -0.3
      comp=E,5.2nm,0.9s
PDAR  Pinedale Array   86.49 334  P                       P       23 02 20.0 +0.3
      comp=E,0.8nm,0.8s,baz=155,slow=6.6,SNR=4.9
TORD  Torodi Ar. Bea   86.74  71  P                       P       23 02 21.1 -0.2
      comp=E,1.7nm,0.8s,baz=229,slow=3.9,SNR=12
TORD                                    LR      LR            23 36 42.4
      comp=E,20nm,21.0s,baz=210,slow=33
BRTR  Keskin Array B   124.77  64  PKP                     PKPdf   23 08 37.1 +0.5
      comp=E,1.1nm,0.7s,baz=194,slow=2.4,SNR=5.9
PSI   Prapat           144.59 167  PKP                     PKPab   23 09 12.4 -0.2
      comp=E.8.6nm,0.7s,baz=232,slow=3.7,SNR=11
ABKAR Abkulak array    144.98  56  ePKPdf                  PKPbc   23 09 12.6 -0.3
BRVK  Borovoye         150.81  47  ePKPbc                  PKPbc   23 09 29.0 +0.4
ZALV  Zalesovo Beam    158.07  35  PKPab                   PKPab   23 10 07.4 +0.7
      comp=E.0.8nm,0.4s,baz=304,slow=4.4,SNR=4.9
MKAR  Makanchi Array   160.12  55  PKP                     PKPdf   23 09 35.9 +0.1
      comp=E,0.6nm,0.9s,baz=157,slow=0.6,SNR=3.9
MKAR                                    PKPab   PKPab         23 10 16.0  0.0
      comp=E,1.6nm,0.8s,baz=291,slow=4.1,SNR=16
```

DJA 10 22:57:48.4±0.4, 9.°S±9.°×11.°7E±.°, h151km±6km, M3.7/15, mb3.9/2, mB5.3/1, MLv3.6/15, Mw(mB)4.8/1, Sumbawa region

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Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
DNP   Denpasar          1.81 279  S       Sn              22 58 49.8 +3.0
IGBI  Denpasar          1.86 275  P       Pn              22 58 22.9 +1.0
IGBI                              S       Sn              22 58 50.6 +2.9
SRBI  Singaraja         1.99 296  P       Pn              22 58 24.2 +0.7
WBSI  Waikabubak, Su    2.43 106  P       Pn              22 58 28.6  -0.2
WBSI                              S       Sn              22 59 00.2 +0.2
JAGI  Jajag, Banyuwa    2.88 280  P       Pn              22 58 34.8 +0.5
JAGI                              S       Sn              22 59 08.5  -1.3
KMMI  Kalianget         3.58 302  P       Pn              22 58 44.4 +1.2
BLJI  Banyuglugur       3.60 290  P       Pn              22 58 45.8 +2.3
GMJI  Gumukmas          3.60 281  P       Pn              22 58 43.9 +0.4
GMJI                              S       Sn              22 59 24.9  -1.4
BKSI  Bulukumba         4.75  41  P       Pn              22 58 57.8  -0.8
PWJI  Pagerwojo         5.25 280  P       Pn              22 59 05.4 +0.3
      14nm,1.6s,0.1nm
PWJI                              S       Sn              23 00 05.1 +0.1
      14nm,1.6s,0.1nm
```

*IDC **10** 23:06:08.1±1.2, 37.°63S×73.°36W, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.7/24, mbtmp3.6/7, ML3.4/2, MS3.2/5, Ms1 3.2/5, ms1mx3.0/27, Error ellipse: s-maj=36.2km s-min=17.2km az=78.0*
*GUC **10** 23:06:11.8±0.8, 37.°61S×73.°26W, h24km±7km, ML4.0*
*ISCJB **10** 23:06:12.3±0.8, 37.°67S±0.°04×73.°30W±0.°10, h33km, mb3.7/5, MS3.3/1, Error ellipse: s-maj=11.2km s-min=6.2km az=174.6*

ISC 10 23:06:13.0±0.9, 37.63S±0.°04×73.2W±0.°1, h33km, n16, σ1§07/15, mb3.7/5, 1D, Near coast of central Chile

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Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
AGCH  Angol             0.42 115⇓iP                      Pn      23 06 22.3 -0.5
AGCH                                  i S                     Sn      23 06 29.6 +0.2
CCSP  San Pedro de C    0.79   4  eP                      Pb      23 06 27.2 -1.1
CCSP                                  i S                     Sb      23 06 38.0 -0.7
PSCH  Puerto Saavedr    1.18 188  eP                      Pb      23 06 33.4 -1.4
COCH  Cobquecura        1.53  12  eP1                     Pn      23 06 38.7 +0.7
COCH                                  i S                     Sb      23 06 59.1 -0.6
COCH                                    IAML                          23 07 03.3
      comp=E,3µm,1.1s
LNCH  Linares           2.19  36  eP1                     Pn      23 06 49.6 +2.6
LNCH                                  i S4                    Sn      23 07 21.2 +8.3
PLCA  Paso Flores       3.71 147  Pn                      Pn      23 07 09.7 +1.7
      comp=E,1.3nm,0.3s,baz=321,slow=13,SNR=23
PLCA                                    Lg      Lg            23 08 08.6
      comp=E,4.0nm,0.3s,baz=226,slow=23,SNR=6.4
PLCA                                    LR      LR            23 08 45.3
      comp=E,389nm,18.7s,baz=316,slow=42
CFAA  Coronel Fontan    7.26  36  Pn                      Pn      23 07 56.3 -0.5
      comp=E,0.1nm,0.3s,baz=216,slow=14,SNR=13
CFAA                                    Sn      Sn            23 09 26.0 +7.9
      comp=E,0.5nm,0.3s,baz=197,slow=17,SNR=6.8
CFAA                                    Lg      Lg            23 10 07.7
      comp=E,0.2nm,0.3s,baz=252,slow=19,SNR=3.3
CFAA                                    LR      LR            23 10 48.9
      comp=E,19nm,18.9s,baz=224,slow=38
USHA  Ushuaia          17.51 171  LR      LR            23 16 33.5
      comp=E,123nm,18.2s,baz=44,slow=36
CPUP  Villa Florida    17.52  55  LR      LR            23 17 57.5
      comp=E,119nm,18.5s,baz=206,slow=40
LPAZ  La Paz           21.72  13  P                       P       23 11 03.9 +1.8
      comp=E,0.9nm,0.9s,baz=212,slow=9.5,SNR=2.6
SIV   San Ignacio      24.07  30  P                       P       23 11 26.8 +1.4
      comp=E,1.2nm,0.6s,baz=215,slow=7.1,SNR=3.4
BDFB  Brasilia         31.22  52  LR      LR            23 24 33.9
      comp=E,63nm,19.7s,baz=224,slow=35
QSPA  South Pole Qui   52.61 180  P                       P       23 15 23.8 +0.3
      comp=E,2.9nm,1.0s,baz=145,slow=6.2,SNR=3.6
TXAR  Lajitas Array    72.48 332  P                       P       23 17 36.1  -0.2
      comp=E,0.7nm,0.8s,baz=153,slow=8.1,SNR=4.6
TORD  Torodi Ar. Bea   86.31  70  P                       P       23 18 51.5  -0.3
      comp=E,0.5nm,0.6s,baz=229,slow=4.1,SNR=8.5
MKAR  Makanchi Array   159.72  55  PKPab                   PKPab   23 26 46.2  -0.7
      comp=E,0.2nm,0.6s,baz=281,slow=4.2,SNR=3.3
```

*ISCJB **10** 23:14:27.3±0.5, 36.°01N±0.°04×70.°62E±0.°06, h100km, mb3.4/4, Error ellipse: s-maj=8.1km s-min=3.7km az=148.3*
*IDC **10** 23:14:29.4±3.0, 36.°15N×70.°53E, h94km±26km, mb3.4/4, mb1 3.5/10, mb1mx3.2/54, mbtmp3.8/10, MS4.3/1, Ms1 4.3/1, ms1mx2.6/34, Error ellipse: s-maj=27.3km s-min=16.9km az=158.0*
*NNC **10** 23:14:37.5±4.8, 36.°74N×70.°52E, h110km±59km, mb3.7, mpv4.3, Error ellipse: s-maj=35.4km s-min=26.9km az=18.0*

ISC 10 23:14:29.2±0.7, 36.11N±0.°06×70.64E±0.°06, h100km, n51, σ1§80/55, mb3.5/4, 14C-1D, Hindu Kush region

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
DLH   Dalhousie         5.67 127  eP                      Pn      23 15 53.0 +1.9
DLH                                   eS                      Sn      23 16 54.0 -1.0
AML   Almayashu         6.46  21  P                       Pn      23 16 02.9 +0.8
      SNR=85
BHK   Bhakra            6.71 133  ex                      Sn      23 17 23.9 +3.7
UCH   Uchtor            6.81  25  P                       Pn      23 16 07.7 +0.9
      SNR=34
KZA   Kyzart            6.95  30  P                       Pn      23 16 11.0 +2.3
      SNR=7.2
EKS2  Erkin-Say         6.98  19  P                       Pn      23 16 10.2 +1.4
      SNR=19
KK31  Karatay Array     6.98 359  ⇑P                      Pn      23 16 09.5 +0.7
      9.2nm,0.3s,baz=183,slow=13,SNR=296
KK31                                  ⇑S                      Sn      23 17 21.8 -4.9
      24nm,0.6s,baz=188,slow=20,SNR=10
SDNR  Sundarnagar       6.99 129  ex                      x       23 16 16.0
SDNR                                  eS                      Sn      23 17 24.0 -3.0
AAK   Ala-Archa         7.16  23  ⇑P                      Pn      23 16 12.4 +1.0
      11nm,0.5s
AAK                                   ⇑S                      Sn      23 17 29.7 -1.6
      46nm,0.8s
AAK   Ala-Archa         7.16  23  P                       Pn      23 16 12.7 +1.3
      SNR=33
AAK   Ala-Archa         7.16  23  P                       Pn      23 16 12.6 +1.2
      3.0nm,0.3s,baz=186,slow=7.9,SNR=40
AAK                                   S                       Sn      23 17 29.9 -1.4
      3.9nm,0.3s,baz=334,slow=18,SNR=16
KBK   Karagaybulak      7.34  26  P                       Pn      23 16 18.3 +4.6
      SNR=7.3
SMLA  Simla             7.37 131  i P                     Pn      23 16 15.0 +0.9
SMLA                                  i S                     Sn      23 17 33.2 -2.9
SMLA                                  i S                     Sn      23 17 33.3 -2.9
SMLA                                    AML     AML           23 17 36.9
      comp=N,747nm,0.3s
SMLA                                    AML     AML           23 17 37.2
      comp=E,844nm,0.2s
ULHL  Ulahol            7.51  34  P                       Pn      23 16 22.4 +6.2
      SNR=6.9
CHMS  Chumysh           7.58  24  P                       Pn      23 16 18.4 +1.5
      SNR=6.0
USP   Ospenovka         7.74  21  P                       Pn      23 16 19.9 +0.7
      SNR=6.5
TKM2  Tokmak 2          7.80  28  ⇑P                      Pn      23 16 20.4 +0.2
      comp=E,12nm,0.7s
TKM2                                  ⇑S                      Sn      23 17 39.8  -7.1
      comp=E,20nm,0.9s
TKM2  Tokmak 2          7.80  28  P                       Pn      23 16 17.6 -2.6
      SNR=24
KHET  Khetri            9.13 150  eP                      Pn      23 16 37.4 -0.7
KHET                                  eS                      Sn      23 18 11.9  -7.2
KHET                                    AML     AML           23 18 16.7
      comp=N,228nm,0.2s
KHET                                    AML     AML           23 18 17.4
      comp=E,312nm,0.2s
SONA  Sohna             9.55 143  eP                      Pn      23 16 43.8 +0.1
SONA                                  eS                      Sn      23 18 22.2  -7.0
SONA                                    AML     AML           23 18 27.7
      comp=E,28nm,0.3s
SONA                                    AML     AML           23 18 29.1
      comp=N,24nm,0.3s
GEYT  Alibeck          10.18 284  P                       Pn      23 16 52.2 -0.1
      comp=N,0.6nm,0.3s,baz=95,slow=12,SNR=5.7
GEYT                                    S       Sn            23 18 41.8 -2.7
      comp=N,1.6nm,0.3s,baz=118,slow=21,SNR=8.4
AGRA  Agra             10.82 143  eP                      Pn      23 17 00.4 -0.6
AGRA                                  eS                      Sn      23 18 53.8  -6.3
AGRA                                    AML     AML           23 18 59.8
      comp=N,39nm,0.3s
AGRA                                    AML     AML           23 19 01.1
      comp=E,48nm,0.3s
DANN  Dangsing         13.53 121  eP                      Pn      23 17 35.1 -2.2
      comp=E,8.9nm,0.4s
MK31  Makanchi Array   13.78  36  ⇓P                      Pn      23 17 40.3 +0.2
      comp=E.2.0nm,0.8s,baz=209,slow=11,SNR=25
MKAR  Makanchi Array   13.78  36  P                       Pn      23 17 40.5 +0.5
      comp=E.0.1nm,0.3s,baz=227,slow=12,SNR=27
KOLN  Koldanda         13.78 123  eP                      Pn      23 17 38.1 -2.4
      comp=E,5.9nm,0.4s
GKN   Gorkha           14.35 120  eP                      Pn      23 17 45.1 -2.7
      comp=E,17nm,0.6s
DMN   Daman            14.92 121  eP                      Pn      23 17 52.6 -2.5
      comp=E,12nm,0.5s
KKN   Kakani           14.93 120  eP                      Pn      23 17 53.1 -2.1
      comp=E,12nm,0.6s
PKIN  Phulchoki        15.14 120  eP                      Pn      23 17 56.1 -1.9
PKI   Pulchoki         15.15 120  eP                      Pn      23 17 56.6 -1.6
GUN   Gumba            15.28 118  eP                      Pn      23 17 57.4 -2.4
      comp=E,7.6nm,0.4s
AB31  Akbulak array    15.29 333  ⇑P                      Pn      23 17 59.3  0.0
      comp=E,2.6nm,0.3s
AB31                                    S       Sn            23 20 38.4  -10
      comp=E.2.1nm,0.5s,baz=163,slow=22,SNR=8.6
KURBB Kurchatov Arra   15.58  19  ⇑P                      P       23 18 07.1 +1.9
      comp=E,6.6nm,0.7s
KURBB Kurchatov Arra   15.58  19  P                       Pn      23 18 02.1 -0.9
      comp=E,0.1nm,0.3s,baz=212,slow=12,SNR=20
JIRN  Jiri             15.65 118  eP                      Pn      23 18 02.9 -1.6
      comp=E,9.3nm,0.3s
KURK  Kurchatov        15.69  19  ⇑P                      P       23 18 08.2 +1.8
      comp=E,2.9nm,0.8s
RAMN  Ramite           16.37 119  eP                      Pn      23 18 11.6 -1.7
      comp=E.6.4nm,0.4s
VOSK  Vostochnaya      16.61   1  ⇑P                      Pn      23 18 15.7 -0.1
      comp=E,3.5nm,0.7s
VOSK                                  ⇑S                      Sn      23 21 11.8  -8.1
      comp=E,2.5nm,1.3s
BVA0  Borovoye Array   16.91 359  P                       Pn      23 18 19.1 -0.3
      comp=E,2.0nm,0.6s,baz=183,slow=4.4,SNR=12
BVAR  Borovoye Array   16.91 359  P                       Pn      23 18 19.8 +0.3
      comp=E,0.6nm,0.3s,baz=162,slow=13,SNR=12
TAPN  Taplejung        16.93 116  eP                      Pn      23 18 19.3 -0.9
      comp=E.20nm,0.5s
BRVK  Borovoye         16.95 359  ⇑P                      Pn      23 18 19.8 -0.1
      comp=E,3.8nm,0.6s
AKTO  Aktyubinsk       16.98 331  ⇑P                      P       23 18 21.9 +1.2
      comp=E,13nm,1.1s
AKTO                                  ⇑S                      Sn      23 21 20.0  -8.8
      comp=E,6.2nm,0.9s
AKTO  Aktyubinsk       16.98 331  P                       P       23 18 21.8 +1.2
      comp=E.0.9nm,0.3s,baz=141,slow=13,SNR=27
ZALV  Zalesovo Beam    20.39  25  P                       P       23 18 58.8 +1.0
      comp=E,9.4nm,0.5s,baz=218,slow=10,SNR=48
CMAR  Chiang Mai Arr   30.53 118  P                       P       23 20 34.7 +1.5
      comp=E,0.7nm,0.3s,baz=303,slow=8.2,SNR=4.1
PSI   Prapat           42.21 135  LR      LR            23 41 26.4
      comp=E,385nm,20.8s,baz=34,slow=38
TORD  Torodi Ar. Bea   65.42 269  P                       P       23 25 01.1  -0.5
      comp=E,0.2nm,0.3s,baz=52,slow=6.1,SNR=7.8
INK   Inuvik           74.33   9  P                       P       23 25 56.9 +1.6
      comp=E.0.6nm,0.6s,baz=354,slow=4.5,SNR=5.2
YKA   Yellowknife Ar   81.64   2  P                       P       23 26 36.3 +0.5
      comp=E,0.1nm,0.4s,baz=349,slow=5.3,SNR=3.1
```

*IDC **10** 23:20:00.5±0.9, 2.°13N×126.°56E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/35, mbtmp3.9/6, Error ellipse: s-maj=80.3km s-min=17.0km az=72.0*
*ISCJB **10** 23:20:04.1±0.8, 2.°31N±0.°09×127.°0E±0.°1, h35km, mb3.8/6, Error ellipse: s-maj=16.5km s-min=12.9km az=159.1*
*DJA **10** 23:20:12.7±0.5, 2.°N±6.°×12.°6E±.°, h10km, M3.9/6, MLv3.9/6*

ISC 10 23:20:06.5±1.0, 2.3N±0.°1×126.9E±0.°1, h35km, n11, σ1§44/9, mb3.8/6, Northern Moluccas Sea

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
TNTI  Ternate          1.54 162  P                       Pn      23 20 33.6 +2.2
SGSI  Sangihe          1.98 316  P                       Pn      23 20 51.3  +14
LBMI  Labuha           2.93 168  P                       Pn      23 20 51.2 +0.6
KMSI  Cibinong         3.36 240  P                       Pn      23 20 57.6 +1.1
MRSI  Marisa           5.26 251  P                       Pn      23 21 23.3 +0.6
WRA   Warramunga Arr   23.23 162  P                       P       23 25 08.8  -1.9
      4.4nm,0.7s,baz=339,slow=11,SNR=13
ASAR  Alice Springs    26.64 166  P                       P       23 25 41.5  -0.6
      1.0nm,0.4s,baz=341,slow=8.2,SNR=18
STKA  Stephens Creek   36.69 159  P                       P       23 27 09.1  -1.1
      1.7nm,0.6s,baz=337,slow=7.7,SNR=5.3
USRK  Ussuriysk Ar.    42.02   5  P                       P       23 27 54.5  0.0
      1.4nm,0.7s,baz=194,slow=5.5,SNR=3.9
MKAR  Makanchi Array   58.87 326  P                       P       23 29 59.2  -2.7
      0.3nm,0.4s,baz=118,slow=7.5,SNR=13
ZALV  Zalesovo Beam    61.98 333  P                       P       23 30 23.5 +0.6
      0.4nm,0.6s,baz=137,slow=4.9,SNR=2.8
```

*IDC **10** 23:29:58.2±1.6, 33.°88S×72.°59W, h0km, mb3.9/3, mb1 4.0/6, mb1mx3.8/31, mbtmp3.9/6, ML4.1/3, MS3.8/12, Ms1 3.8/12, ms1mx3.6/23, Error ellipse: s-maj=35.9km s-min=17.8km az=108.0*
*ISCJB **10** 23:29:59.4±1.7, 33.°81S±0.°03×72.°63W±0.°05, h24km±14km, mb4.3/4, MS3.9/10, Error ellipse: s-maj=7.3km s-min=5.5km az=17.9*
*GUC **10** 23:30:01.0±0.6, 33.°85S×72.°50W, h30km±4km, ML4.2*
*NEIC **10** 23:30:03.1±0.8, 33.°84S×72.°42W, h35km, mb4.5/4, Error ellipse: s-maj=21.9km s-min=10.4km az=97.0*

ISC 10 23:29:59.2±2.7, 33.83S±0.°04×72.59W±0.°06, h12km±16km, n44, σ1§24/47, mb4.3/4, MS3.9/10, 5C-2D, Off coast of central Chile

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
IHA   Instituto Hidr   1.12  45  eP                      Pb      23 30 20.6  0.0
RCDM  Rinconada Maip   1.52  78⇑iP                      Pn      23 30 25.2 -1.0
RCDM                                  i S                     Sn      23 30 44.0 -2.1
RCDM                                    IAML                          23 30 47.9
      comp=N,2µm,0.4s
CHCH  Chadas Angostu   1.61  94⇓iP                      Pn      23 30 27.2 -0.3
NICH  Los Niches       1.62 137⇑iP                      Pn      23 30 27.7 +0.1
NICH                                  i S                     Sn      23 30 48.1 -0.5
ANTU  Antumapu         1.65  82  eP                      Pn      23 30 28.0 -0.1
ANTU                                  eS                      Sn      23 30 48.5 -0.7
ANTU                                    IAML                          23 30 56.9
      comp=E,6µm,0.6s
STL   Santa Lucia      1.67  77  eP9                     Pn      23 30 27.5 -0.8
STL                                   eS                      Sn      23 30 48.3 -1.4
CACH  El Canelo        1.68 101⇑iP                      Pn      23 30 28.7 +0.2
CACH                                  i S1                    Sn      23 30 50.8 +0.8
PEL   Peldehue         1.73  67⇓iP                      Pn      23 30 29.7 +0.5
PEL                                   i S                     Sb      23 30 51.6 -1.1
PEL                                     IAML                          23 31 01.0
      comp=N,7µm,0.7s
LACH  Col Las Americ   1.76  78  eP                      Pn      23 30 29.4 -0.1
LACH                                  i S                     Sn      23 30 51.7 -0.1
CLCH  Cerro Calan      1.77  77⇑iP                      Pn      23 30 30.0 +0.3
CLCH                                  i S                     Sb      23 30 52.3 -1.4
CLCH                                    IAML                          23 31 04.2
      comp=E,5µm,0.6s
LNCH  Linares          2.17 158  eP                      Pn      23 30 36.0 +0.7
LNCH                                  i S                     Sn      23 31 02.1 +0.1
COCH  Cobquecura       2.31 184⇑iP                      Pn      23 30 36.2 -0.8
COCH                                  i S4                    Sn      23 31 01.8 -3.5
CFAA  Coronel Fontan   4.28  60  Pn                      Pn      23 31 06.5 +2.2
      comp=E,0.4nm,0.3s,baz=237,slow=11,SNR=15
CFAA                                    Lg      Lg            23 32 14.5
      comp=E,1.7nm,0.3s,baz=66,slow=12,SNR=4.1
LCO   Las Campanas     5.06  19  ePn                     Pn      23 31 15.5 +0.3
      comp=E,59nm,0.6s
LCO                                   eSn                     Sn      23 32 12.4 -1.4
PLCA  Paso Flores      7.08 167  Pn                      Pn      23 31 43.5 +0.7
      comp=E,0.7nm,0.3s,baz=342,slow=13,SNR=14
PLCA                                    Lg      Lg            23 33 39.8
      comp=E,0.5nm,0.3s,baz=291,slow=18,SNR=3.6
PLCA                                    LR      LR            23 34 24.5
      comp=E,294nm,20.7s,baz=355,slow=38
PLCA  Paso Flores      7.08 167  ePn                     Pn      23 31 42.0 -0.7
      comp=E,22nm,0.7s
PLCA                                  eSn                     Sn      23 33 02.1 -1.1
PLCA                                    Lg      Lg            23 33 39.8
LVC   Limon Verde     11.63  17  ePn                     Pn      23 32 45.3  0.0
CPUP  Villa Florida   15.16  65  Pn                      Pn      23 33 34.0 +0.8
      comp=E.0.2nm,0.3s,baz=222,slow=14,SNR=1.8
CPUP                                    Lg      Lg            23 38 04.1
      comp=E,0.3nm,0.3s,baz=149,slow=19,SNR=1.9
CPUP                                    LR      LR            23 39 47.1
      comp=E,413nm,20.1s,baz=228,slow=39
CPUP  Villa Florida   15.16  65  ePn                     Pn      23 33 31.2 -2.1
      comp=E,0.2nm,0.6s
CPUP                                    Lg      Lg            23 38 04.1
LPAZ  La Paz          17.92  14  P                       P       23 34 11.5 +1.9
      comp=E,0.2nm,0.3s,baz=192,slow=9.3,SNR=14
LPAZ  La Paz          17.92  14  ePn                     P       23 34 09.7 +0.1
      comp=E,6.5nm,0.8s
SIV   San Ignacio     20.57  33  P                       P       23 34 38.4 +0.4
      comp=E,4.3nm,0.8s,baz=229,slow=11,SNR=10
SIV                                     LR      LR            23 44 09.7
      comp=E,596nm,18.2s,baz=230,slow=41
NNA   Nana            22.08 349  LR      LR            23 41 40.1
      comp=E,195nm,20.3s,baz=178,slow=32
SAML  Samuel          26.23  21  eP                      P       23 35 34.5 +0.4
      comp=E.6.4nm,1.1s
ATAH  Atahualpa       27.10 347  LR      LR            23 45 14.5
      comp=E,121nm,20.0s,baz=202,slow=34
BDFB  Brasilia        28.62  57  LR      LR            23 48 50.3
      comp=E,521nm,19.3s,baz=225,slow=40
VNA3  Neumayer Olymp  49.69 158  P                       P       23 38 51.8 +1.2
VNA2  Neumayer--Watz  50.35 157  P                       P       23 38 56.8 +1.3
APG   El Apazote      51.46 338  LR      LR            23 56 04.8
      comp=E,73nm,19.2s,baz=234,slow=30
SNAA  Sanae           51.92 158  P                       P       23 39 08.5 +1.0
SNAA  Sanae           51.92 158  P                       P       23 39 08.2 +0.8
```

comp=E,1.5nm,0.8s,baz=278,slow=9.7,SNR=7.4
SNAA Sanae 51.92 158 *eP* **P 23 39 07.8 +0.4**
comp=E,21nm,1.4s
TXAR Lajitas Array 69.36 331 LR LR 00 07 06.6
comp=E,114nm,18.6s,baz=0.0,slow=32
PPT2 Papeete2 69.81 262 *eS* **S 23 50 19.8 +0.4**
comp=E,64nm,23.8s
PPT2 Papeete2 69.81 262 *eLR* LR 00 02 30.9
comp=E,155nm,27.0s
PPT Papeete 69.82 262 LR LR 00 02 48.5
comp=E,61nm,18.4s,baz=131,slow=28
DBIC Dimbokro 75.56 72 LR LR 00 13 45.2
comp=E,64nm,18.2s,baz=206,slow=35
DBIC Dimbokro 75.56 72 *eP* **P 23 41 44.2 +0.2**
comp=E,13nm,1.3s
ECSD EROS Data Cent 80.24 343 *eP* **P 23 42 10.5 +1.0**
PDAR Pinedale Array 83.40 334 LR LR 00 16 14.7
comp=E,57nm,19.0s,baz=109,slow=33
TORD Torodi Ar. Bea 84.58 70 **P 23 42 33.5 +0.7**
comp=E,1.3nm,1.0s,baz=251,slow=4.4,SNR=10
TORD LR LR 00 18 43.9
comp=E,39nm,18.6s,baz=240,slow=35
AAK Ala-Archa 152.83 61 *ePKPbc* **PKPbc 23 49 56.7 +0.5**
ZALV Zalesovo Beam 154.32 32 PKPbc **PKPbc 23 49 59.6 +0.8**
comp=E,0.9nm,0.5s,baz=318,slow=2.9,SNR=5.2
MKAR Makanchi Array 156.99 48 PKPab **PKPab 23 50 20.9 -3.8**
comp=E,0.3nm,0.6s,baz=298,slow=3.1,SNR=3.3

*IDC **10** 23:41:27.5±0.8, 0.°12S×125.°49E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/38, mbtmp4.0/8, MS3.5/3, Ms1 3.5/3, ms1mx2.8/35, Error ellipse: s-maj=75.2km s-min=15.6km az=71.0*
*ISCJB **10** 23:41:32.5±0.5, 0.°06S±0.°08×125.°76E±0.°06, h49km, mb4.0/8, MS3.5/3, Error ellipse: s-maj=11.2km s-min=8.0km az=22.2*
*DJA **10** 23:41:32.0±0.4, 0.°S±6.°×12.°6E±.°, h10km, M4.1/8, mb4.2/1, MLv4.0/8*
ISC 10 23:41:34.1±0.8, 0.°07S±0.°07×125.°79E±0.°05, h49km, n19, σ1°21/17, mb4.0/8, MS3.4/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.78**	**62**	P	**Pn**	**23 42 03.3**	**+0.8**
LBMI	**Labuha**	**1.80**	**108**	P	**Pn**	**23 42 01.9**	**-0.8**
KMSI	**Cibinong**	**1.92**	**290**	P	**Pn**	**23 42 02.1**	**-2.3**
SANI	**Sanana**	**1.97**	**174**	P	**Pn**	**23 42 03.8**	**-1.3**
LUWI	**Luwuk**	**3.17**	**252**	P	**Pn**	**23 42 24.0**	**+2.5**
MRSI	**Marisa**	**3.89**	**278**	P	**Pn**	**23 42 31.3**	**-0.1**
APSI	**Ampana**	**4.23**	**259**	P	**Pn**	**23 42 35.6**	**-0.5**
MPSI	**Mapaga**	**5.91**	**274**	P	**Pn**	**23 42 59.6**	**+0.4**
WRA	**Warramunga Arr**	**21.45**	**158**	P	**P**	**23 46 17.1**	**-1.4**
	2.6nm,0.5s,baz=337,slow=12,SNR=11						
PMG	**Port Moresby**	**23.20**	**114**	LR	LR	23 58 17.0	
	comp=Z,91nm,19.9s,baz=243,slow=43						
ASAR	**Alice Springs**	**24.74**	**162**	P	**P**	**23 46 51.8**	**+0.5**
	2.4nm,0.6s,baz=344,slow=6.8,SNR=32						
CTA	**Charters Tower**	**28.23**	**136**	LR	LR	00 00 24.7	
	comp=Z,216nm,20.0s,baz=240,slow=40						
STKA	**Stephens Creek**	**34.99**	**156**	P	**P**	**23 48 22.9**	**+1.0**
	2.3nm,0.6s,baz=328,slow=7.0,SNR=7.0						
KSRS	**Korea Array**	**37.39**	**3**	P	**P**	**23 48 42.3**	**-0.1**
	1.4nm,0.6s,baz=187,slow=8.6,SNR=4.0						
SONM	**Songino Array**	**50.61**	**343**	P	**P**	**23 50 28.2**	**-0.1**
	0.9nm,0.8s,baz=157,slow=7.8,SNR=3.1						
MKAR	**Makanchi Array**	**60.17**	**327**	P	**P**	**23 51 35.6**	**-1.3**
	0.5nm,0.4s,baz=120,slow=8.0,SNR=19						
MKAR				LR	LR	00 18 35.2	
	comp=Z,30nm,19.9s,baz=58,slow=37						
ZALV	**Zalesovo Beam**	**63.56**	**334**	P	**P**	**23 52 00.1**	**+0.5**
	0.7nm,0.4s,baz=134,slow=6.2,SNR=3.5						
QSPA	**South Pole Qui**	**89.86**	**180**	P	**P**	**23 54 28.3**	**+0.7**
	1.7nm,1.1s,baz=27,slow=2.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**123.12**	**286**	PKP	**PKPdf**	**00 00 26.1**	**-0.4**
	0.3nm,0.6s,baz=88,slow=0.7,SNR=4.9						

*ISK **10** 23:41:40.5, 38.°62N×26.°70E, h12km, MD3.0*
*DDA **10** 23:41:40.9, 38.°62N×26.°68E, h7km, MD3.0*
*ISCJB **10** 23:41:41.7±0.3, 38.°59N±0.°02×26.°66E±0.°04, h19km±5km, Error ellipse: s-maj=4.9km s-min=3.7km az=168.0*
*THE **10** 23:41:41.4, 38.°61N×26.°61E, h11km±3km, ML2.7/4, Error ellipse: s-maj=3.6km s-min=0.8km az=263.0*
*CSEM **10** 23:41:41.4±0.2, 38.°58N×26.°67E, h20km, MD3.0, Error ellipse: s-maj=4.5km s-min=4.2km az=23.0*
ISC 10 23:41:41.3±0.9, 38.°61N±0.°02×26.°67E±0.°02, h14km±7km, n48, σ0°73/75, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.26**	**193**	*iP*	**Pg**	**23 41 46.2**	**-0.6**
URLA				*iS*	**Sg**	**23 41 51.5**	**+0.9**
URLA	**Izmir**	**0.26**	**193**	*iP*	**Pg**	**23 41 46.2**	**-0.6**
URLA				*iS*	**Sg**	**23 41 51.5**	**+0.9**
BLCB	**Balcova**	**0.37**	**128**	*ePG*	**Pg**	**23 41 48.0**	**-0.8**
BLCB	**Balcova**	**0.37**	**128**	*ePg*	**Pg**	**23 41 48.0**	**-0.8**
ZEY	**˜zmir**	**0.40**	**200**	*iP*	**Pg**	**23 41 48.5**	**-0.7**
ZEY				*iS*	**Sg**	**23 41 55.4**	**+0.8**
CHOS	**Chios island**	**0.53**	**245**	P	**Pg**	**23 41 51.4**	**-0.4**
CHOS				S	**Sg**	**23 41 58.2**	**-0.8**
CHOS	**Chios island**	**0.53**	**245**	*ePG*	**Pg**	**23 41 51.6**	**-0.2**
CHOS				*eSG*	**Sb**	**23 42 00.6**	**+0.4**
CHOS	**Chios island**	**0.53**	**245**	P	**Pg**	**23 41 51.4**	**-0.4**
CHOS				S	**Sg**	**23 41 58.2**	**-0.8**
CHOS				*eSg*	**Sb**	**23 42 00.6**	**+0.4**
AYVA	**Ayvalik**	**0.69**	**1**	*iP*	**Pg**	**23 41 54.2**	**-0.6**
AYVA				*iS*	**Sn**	**23 42 06.2**	**-1.1**
AYVA	**Ayvalik**	**0.69**	**1**	*iP*	**Pg**	**23 41 54.2**	**-0.6**
AYVA				*iS*	**Sn**	**23 42 06.2**	**-1.1**
PRK	**Paraskevi**	**0.70**	**334**	P	**Pg**	**23 41 54.5**	**-0.5**
PRK				S	**Sg**	**23 42 04.7**	**+0.4**
PRK	**Paraskevi**	**0.70**	**334**	P	**Pg**	**23 41 54.5**	**-0.5**
PRK				S	**Sg**	**23 42 04.7**	**+0.4**
SIGR	**SIGRI**	**0.87**	**313**	P	**Pg**	**23 41 57.7**	**-0.5**
SIGR				S	**Sg**	**23 42 09.6**	**-0.1**
SIGR	**SIGRI**	**0.87**	**313**	*ePG*	**Pg**	**23 41 58.1**	**-0.1**
SIGR				*eSG*	**Sb**	**23 42 10.7**	**+0.9**
SIGR	**SIGRI**	**0.87**	**313**	P	**Pg**	**23 41 57.7**	**-0.5**
SIGR	**SIGRI**	**0.87**	**313**	*ePg*	**Pg**	**23 41 58.1**	**-0.1**
SIGR				S	**Sg**	**23 42 09.6**	**-0.1**
SIGR				*eSg*	**Sb**	**23 42 10.7**	**+0.9**
SMG	**Samos**	**0.91**	**172**	P	**Pg**	**23 41 57.8**	**-1.2**
SMG				S	**Sb**	**23 42 12.4**	**+1.4**
SMG	**Samos**	**0.91**	**172**	P	**Pg**	**23 41 57.8**	**-1.2**
SMG				S	**Sb**	**23 42 12.4**	**+1.4**
AKHS	**Akhisar**	**0.93**	**73**	*iP*	**Pg**	**23 41 58.7**	**-0.6**
AKHS				*iS*	**Sn**	**23 42 12.7**	**-0.6**
AKHS	**Akhisar**	**0.93**	**73**	*iP*	**Pg**	**23 41 58.7**	**-0.6**
AKHS				*iS*	**Sn**	**23 42 12.7**	**-0.6**
AKS	**Akhisar**	**0.93**	**73**	*ePG*	**Pg**	**23 41 58.4**	**-0.9**
AKS	**Akhisar**	**0.93**	**73**	*ePg*	**Pg**	**23 41 58.4**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.17**	**124**	*ePN*	**Pb**	**23 42 02.9**	**-0.5**
AYDB				*eSN*	**Sn**	**23 42 19.7**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.17**	**124**	*ePn*	**Pb**	**23 42 02.9**	**-0.5**
AYDB				*eSn*	**Sn**	**23 42 19.7**	**+0.4**
EZN	**Ezine**	**1.24**	**348**	*ePN*	**Pn**	**23 42 04.0**	**-0.2**
EZN	**Ezine**	**1.24**	**348**	*ePn*	**Pn**	**23 42 04.0**	**-0.2**
BOZC	**Bozcaada**	**1.32**	**339**	*iP*	**Pb**	**23 42 06.1**	**+0.2**
BOZC				*iS*	**Sg**	**23 42 24.8**	**+1.0**
BALY	**Balya**	**1.34**	**33**	*iP*	**Pn**	**23 42 05.5**	**-0.3**
BALY				*iS*	**Sg**	**23 42 25.6**	**+0.9**
BALY	**Balya**	**1.34**	**33**	*iP*	**Pn**	**23 42 05.5**	**-0.3**
BALY				*iS*	**Sg**	**23 42 25.6**	**+0.9**
BALB	**Balikesir**	**1.39**	**42**	*ePN*	**Pn**	**23 42 05.8**	**-0.5**
BALB	**Balikesir**	**1.39**	**42**	*ePn*	**Pn**	**23 42 05.8**	**-0.5**
KULA	**Kula-Manisa**	**1.56**	**93**	*ePN*	**Pn**	**23 42 08.4**	**-0.4**
KULA	**Kula-Manisa**	**1.56**	**93**	*ePn*	**Pn**	**23 42 08.4**	**-0.4**
BODT	**Bodrum**	**1.63**	**162**	*ePN*	**Pn**	**23 42 09.4**	**-0.2**
BODT	**Bodrum**	**1.63**	**162**	*ePn*	**Pn**	**23 42 09.4**	**-0.2**
BDRM	**Kayabasi**	**1.66**	**158**	*iP*	**Pb**	**23 42 12.1**	**+0.3**
BDRM				*iS*	**Sg**	**23 42 36.2**	**+1.4**
DURS	**Dursunbey**	**1.71**	**54**	*iP*	**Pn**	**23 42 10.5**	**-0.4**
DURS				*iS*	**Sn**	**23 42 32.9**	**+0.2**
DURS	**Dursunbey**	**1.71**	**54**	*iP*	**Pn**	**23 42 10.5**	**-0.4**
DURS				*iS*	**Sn**	**23 42 32.9**	**+0.2**
APE	**Apeiranthos**	**1.79**	**211**	P	**Pn**	**23 42 10.2**	**-1.7**
APE	**Apeiranthos**	**1.79**	**211**	*ePN*	**Pn**	**23 42 12.0**	**+0.2**
APE	**Apeiranthos**	**1.79**	**211**	P	**Pn**	**23 42 10.2**	**-1.7**
APE	**Apeiranthos**	**1.79**	**211**	*ePn*	**Pn**	**23 42 12.0**	**+0.2**
SMTH	**Samothraki Isl**	**2.05**	**335**	P	**Pn**	**23 42 15.0**	**-0.5**
SMTH	**Samothraki Isl**	**2.05**	**335**	P	**Pn**	**23 42 15.0**	**-0.5**
AOS	**Alonnisos**	**2.25**	**285**	*ePN*	**Pn**	**23 42 18.9**	**+0.7**
AOS	**Alonnisos**	**2.25**	**285**	*ePn*	**Pn**	**23 42 18.9**	**+0.7**
TVSB	**Tavsanli**	**2.33**	**68**	*ePN*	**Pn**	**23 42 19.8**	**+0.4**
TVSB	**Tavsanli**	**2.33**	**68**	*ePn*	**Pn**	**23 42 19.8**	**+0.4**

*ISCJB **10** 23:42:23.0±0.3, 38.°40N±0.°01×22.°03E±0.°02, h6km±2km, Error ellipse: s-maj=2.3km s-min=2.2km az=24.2*
*CSEM **10** 23:42:22.8±0.1, 38.°40N×22.°02E, h6km, ML2.9, Error ellipse: s-maj=2.2km s-min=2.1km az=102.0*
*THE **10** 23:42:23.3, 38.°39N×22.°04E, h8km±1km, ML2.9/7, Error ellipse: s-maj=1.0km s-min=0.4km az=96.0*
*ATH **10** 23:42:23.1, 38.°40N×22.°03E, h13km±1km, MD3.4/44, ML2.7*
ISC 10 23:42:23.3±0.8, 38.°40N±0.°01×22.°03E±0.°01, h10km±4km, n126, σ0°63/189, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.09**	**93**	P	**Pg**	**23 42 25.6**	**-0.1**
KALE				S	**Sg**	**23 42 27.2**	**-0.2**
KALE	**Kalithea**	**0.09**	**93**	*ePG*	**Pg**	**23 42 25.7**	**0.0**
KALE				*eSG*	**Sg**	**23 42 27.6**	**+0.2**
KALE	**Kalithea**	**0.09**	**93**	*ePg*	**Pg**	**23 42 25.7**	**0.0**
KALE				S	**Sg**	**23 42 27.2**	**-0.2**
EFP	**Efpalio**	**0.10**	**287**	P	**Pg**	**23 42 25.6**	**-0.3**
EFP				S	**Sg**	**23 42 27.4**	**-0.3**
EFP	**Efpalio**	**0.10**	**287**	*ePG*	**Pg**	**23 42 25.6**	**-0.3**
EFP	**Efpalio**	**0.10**	**287**	P	**Pg**	**23 42 25.6**	**-0.3**
EFP				S	**Sg**	**23 42 27.4**	**-0.3**
LAKA	**Lakka**	**0.16**	**195**	P	**Pg**	**23 42 26.7**	**0.0**
LAKA	**Lakka**	**0.16**	**195**	*ePG*	**Pg**	**23 42 26.8**	**0.0**
LAKA	**Lakka**	**0.16**	**195**	*ePg*	**Pg**	**23 42 26.8**	**0.0**
UPR	**University Cam**	**0.22**	**240**	P	**Pg**	**23 42 28.0**	**+0.1**
UPR				S	**Sg**	**23 42 31.5**	**+0.6**
UPR	**University Cam**	**0.22**	**240**	P	**Pg**	**23 42 28.0**	**+0.1**
UPR				S	**Sg**	**23 42 31.5**	**+0.6**
KLV	**Kalavryta, Ach**	**0.36**	**165**	P	**Pg**	**23 42 30.1**	**-0.4**
KLV				S	**Sg**	**23 42 34.9**	**-0.4**
KLV	**Kalavryta, Ach**	**0.36**	**165**	*ePG*	**Pg**	**23 42 30.1**	**-0.4**
KLV				*eSB*	**Sg**	**23 42 35.8**	**+0.5**
KLV	**Kalavryta, Ach**	**0.36**	**165**	P	**Pg**	**23 42 30.1**	**-0.4**
KLV				S	**Sg**	**23 42 34.9**	**-0.4**
KLV				*eSb*	**Sg**	**23 42 35.8**	**+0.5**
DSF	**Desfina**	**0.39**	**88**	P	**Pg**	**23 42 30.6**	**-0.4**
DSF				S	**Sg**	**23 42 37.1**	**+0.9**
DSF	**Desfina**	**0.39**	**88**	*ePB*	**Pg**	**23 42 30.6**	**-0.4**
DSF				*eSB*	**Sg**	**23 42 37.0**	**+0.9**
DSF	**Desfina**	**0.39**	**88**	P	**Pg**	**23 42 30.6**	**-0.4**
DSF				*eSb*	**Sg**	**23 42 37.0**	**+0.9**
PVO	**Paravola**	**0.45**	**299**	P	**Pg**	**23 42 32.1**	**0.0**
PVO				S	**Sb**	**23 42 39.1**	**-1.1**
PVO	**Paravola**	**0.45**	**299**	P	**Pg**	**23 42 32.1**	**0.0**
PVO				S	**Sb**	**23 42 39.1**	**-1.1**
DRO	**Drossia**	**0.51**	**210**	P	**Pg**	**23 42 33.0**	**-0.2**
DRO	**Drossia**	**0.51**	**210**	*ePB*	**Pg**	**23 42 33.0**	**-0.2**
DRO				*eSB*	**Sg**	**23 42 39.7**	**-0.2**
DRO	**Drossia**	**0.51**	**210**	P	**Pg**	**23 42 33.0**	**-0.2**
DRO				*eSb*	**Sg**	**23 42 39.7**	**-0.2**
GUR	**Goura**	**0.52**	**152**	P	**Pg**	**23 42 32.8**	**-0.6**
GUR				S	**Sg**	**23 42 40.8**	**+0.5**
GUR	**Goura**	**0.52**	**152**	*ePG*	**Pg**	**23 42 33.0**	**-0.4**
GUR	**Goura**	**0.52**	**152**	P	**Pg**	**23 42 32.8**	**-0.6**
GUR				S	**Sg**	**23 42 40.8**	**+0.5**
GUR	**Goura**	**0.52**	**152**	*ePg*	**Pg**	**23 42 33.0**	**-0.4**
EVR	**Evrytania**	**0.55**	**342**	P	**Pg**	**23 42 33.7**	**-0.2**
EVR				S	**Sb**	**23 42 42.9**	**-0.2**
EVR	**Evrytania**	**0.55**	**342**	*ePB*	**Pg**	**23 42 33.8**	**-0.2**
EVR				*eSB*	**Sb**	**23 42 42.7**	**-0.4**
EVR	**Evrytania**	**0.55**	**342**	*ePb*	**Pg**	**23 42 33.8**	**-0.2**
EVR				*eSb*	**Sb**	**23 42 42.7**	**-0.4**
RLS	**Riolos of Patr**	**0.56**	**233**	P	**Pg**	**23 42 34.1**	**0.0**
RLS				S	**Sg**	**23 42 41.7**	**+0.3**
RLS	**Riolos of Patr**	**0.56**	**233**	*ePB*	**Pg**	**23 42 33.9**	**-0.2**
RLS				*eSB*	**Sg**	**23 42 41.5**	**+0.1**
RLS	**Riolos of Patr**	**0.56**	**233**	*ePb*	**Pg**	**23 42 33.9**	**-0.2**
RLS				*eSb*	**Sg**	**23 42 41.5**	**+0.1**
AXAR	**Agios Charalam**	**0.61**	**53**	P	**Pg**	**23 42 34.8**	**-0.4**
AXAR	**Agios Charalam**	**0.61**	**53**	*ePB*	**Pg**	**23 42 35.0**	**-0.2**
AXAR				*eSB*	**Sb**	**23 42 44.3**	**-0.6**
AXAR	**Agios Charalam**	**0.61**	**53**	*ePb*	**Pg**	**23 42 35.0**	**-0.2**
AXAR				*eSb*	**Sb**	**23 42 44.3**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.62**	**7**	P	**Pg**	**23 42 35.3**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.62**	**7**	*ePB*	**Pg**	**23 42 35.2**	**-0.1**
MAKR				*eSB*	**Sb**	**23 42 44.5**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.62**	**7**	P	**Pg**	**23 42 35.3**	**-0.1**
MAKR				*eSb*	**Sb**	**23 42 44.5**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.62**	**7**	*ePb*	**Pg**	**23 42 35.2**	**-0.1**
AGG	**Agios Georgios**	**0.67**	**20**	P	**Pg**	**23 42 35.5**	**-0.7**
AGG				S	**Sb**	**23 42 46.5**	**0.0**
AGG	**Agios Georgios**	**0.67**	**20**	*ePG*	**Pg**	**23 42 35.5**	**-0.7**
AGG				*eSB*	**Sg**	**23 42 45.5**	**+0.5**
AGG	**Agios Georgios**	**0.67**	**20**	P	**Pg**	**23 42 35.5**	**-0.7**
AGG				*eSb*	**Sg**	**23 42 45.5**	**+0.5**
AGG				S	**Sb**	**23 42 46.5**	**0.0**
AGG	**Agios Georgios**	**0.67**	**20**	*ePg*	**Pg**	**23 42 35.5**	**-0.7**
PDO	**Prodromos**	**0.69**	**287**	P	**Pg**	**23 42 36.2**	**-0.5**
PDO				S	**Sb**	**23 42 47.5**	**+0.3**
PDO	**Prodromos**	**0.69**	**287**	*ePB*	**Pg**	**23 42 37.0**	**+0.3**
PDO	**Prodromos**	**0.69**	**287**	P	**Pg**	**23 42 36.2**	**-0.5**
PDO	**Prodromos**	**0.69**	**287**	*ePb*	**Pg**	**23 42 37.0**	**+0.3**
PDO				S	**Sb**	**23 42 47.5**	**+0.3**
LKR	**Lokris**	**0.80**	**71**	P	**Pg**	**23 42 38.0**	**-0.7**
LKR				S	**Sb**	**23 42 49.7**	**-0.5**
LKR	**Lokris**	**0.80**	**71**	*ePG*	**Pg**	**23 42 38.0**	**-0.7**
LKR				*eSB*	**Sg**	**23 42 49.4**	**+0.2**
LKR	**Lokris**	**0.80**	**71**	P	**Pg**	**23 42 38.0**	**-0.7**
LKR				*eSb*	**Sg**	**23 42 49.4**	**+0.2**
LTK	**Loutraki**	**0.83**	**117**	P	**Pg**	**23 42 39.2**	**0.0**
LTK	**Loutraki**	**0.83**	**117**	*ePB*	**Pb**	**23 42 39.6**	**-0.2**
LTK	**Loutraki**	**0.83**	**117**	P	**Pg**	**23 42 39.2**	**0.0**
LTK	**Loutraki**	**0.83**	**117**	*ePb*	**Pb**	**23 42 39.6**	**-0.2**
AMT	**Artemida-Makis**	**0.90**	**197**	P	**Pg**	**23 42 40.3**	**-0.3**
AMT	**Artemida-Makis**	**0.90**	**197**	*ePB*	**Pg**	**23 42 40.2**	**-0.3**
AMT				*eSB*	**Sb**	**23 42 53.6**	**+0.5**
AMT	**Artemida-Makis**	**0.90**	**197**	P	**Pg**	**23 42 40.3**	**-0.3**
AMT				*eSb*	**Sb**	**23 42 53.6**	**+0.5**
KFL	**Anninata**	**1.02**	**254**	P	**Pg**	**23 42 42.3**	**-0.6**
KFL	**Anninata**	**1.02**	**254**	P	**Pg**	**23 42 42.3**	**-0.6**
SMIA	**Simia**	**1.04**	**62**	P	**Pg**	**23 42 42.7**	**-0.6**
SMIA				S	**Sb**	**23 42 57.7**	**+0.5**
SMIA	**Simia**	**1.04**	**62**	*ePB*	**Pg**	**23 42 42.8**	**-0.6**
SMIA				*eSB*	**Sg**	**23 42 56.0**	**-0.8**
SMIA	**Simia**	**1.04**	**62**	P	**Pg**	**23 42 42.7**	**-0.6**
SMIA				S	**Sb**	**23 42 57.7**	**+0.5**
SMIA	**Simia**	**1.04**	**62**	*eSb*	**Sg**	**23 42 56.0**	**-0.8**
VLX	**Vlachokerasia**	**1.06**	**165**	P	**Pg**	**23 42 42.3**	**-1.4**
VLX				S	**Sn**	**23 42 59.1**	**-0.1**
VLX	**Vlachokerasia**	**1.06**	**165**	*ePB*	**Pg**	**23 42 42.1**	**-1.6**
VLX	**Vlachokerasia**	**1.06**	**165**	P	**Pg**	**23 42 42.3**	**-1.4**
VLX				S	**Sn**	**23 42 59.1**	**-0.1**
LKD2	**Lefkada island**	**1.15**	**290**	P	**Pg**	**23 42 44.8**	**-0.5**
LKD2	**Lefkada island**	**1.15**	**290**	*ePB*	**Pg**	**23 42 45.1**	**-0.2**
LKD2	**Lefkada island**	**1.15**	**290**	P	**Pg**	**23 42 44.8**	**-0.5**
LKD2	**Lefkada island**	**1.15**	**290**	*ePb*	**Pg**	**23 42 45.1**	**-0.2**
VLS	**Valsamata**	**1.16**	**260**	P	**Pg**	**23 42 44.0**	**-1.5**
VLS				S	**Sn**	**23 43 02.4**	**+0.9**
VLS	**Valsamata**	**1.16**	**260**	*ePB*	**Pg**	**23 42 43.5**	**-2.0**
VLS				*eSB*	**Sn**	**23 43 02.3**	**+0.8**
VLS	**Valsamata**	**1.16**	**260**	*ePb*	**Pg**	**23 42 43.5**	**-2.0**
VLS	**Valsamata**	**1.16**	**260**	P	**Pg**	**23 42 44.0**	**-1.5**
VLS				*eSb*	**Sn**	**23 43 02.3**	**+0.8**
THL	**Klokotos Trika**	**1.17**	**359**	P	**Pg**	**23 42 44.9**	**-0.8**
THL	**Klokotos Trika**	**1.17**	**359**	*ePN*	**Pg**	**23 42 44.3**	**-1.4**
THL				*eSB*	**Sg**	**23 43 00.4**	**-0.5**
THL	**Klokotos Trika**	**1.17**	**359**	*ePn*	**Pg**	**23 42 44.3**	**-1.4**
THL	**Klokotos Trika**	**1.17**	**359**	P	**Pg**	**23 42 44.9**	**-0.8**
THL				*eSb*	**Sg**	**23 43 00.4**	**-0.5**
ITM	**Ithomi**	**1.22**	**184**	*ePN*	**Pb**	**23 42 45.4**	**-1.0**
ITM				*eSB*	**Sn**	**23 43 04.0**	**+1.0**
ITM	**Ithomi**	**1.22**	**184**	*ePn*	**Pb**	**23 42 45.4**	**-1.0**
ITM				*eSb*	**Sn**	**23 43 04.0**	**+1.0**
MRKA	**Markates**	**1.26**	**75**	*ePG*	**Pn**	**23 42 46.7**	**-0.3**
MRKA				*eSB*	**Sn**	**23 43 04.9**	**+0.9**
MRKA	**Markates**	**1.26**	**75**	*ePg*	**Pn**	**23 42 46.7**	**-0.3**
MRKA				*eSb*	**Sn**	**23 43 04.9**	**+0.9**
NEO	**Neokhori**	**1.30**	**45**	*ePG*	**Pn**	**23 42 47.1**	**-0.5**
NEO				*eSB*	**Sn**	**23 43 05.6**	**+0.5**
NEO	**Neokhori**	**1.30**	**45**	*ePg*	**Pn**	**23 42 47.1**	**-0.5**
NEO				*eSb*	**Sn**	**23 43 05.6**	**+0.5**
DID	**Didima**	**1.30**	**133**	P	**Pn**	**23 42 47.4**	**-0.2**
DID	**Didima**	**1.30**	**133**	*ePB*	**Pn**	**23 42 47.7**	**+0.1**
DID				*eSB*	**Sn**	**23 43 06.3**	**+1.2**
DID	**Didima**	**1.30**	**133**	P	**Pn**	**23 42 47.4**	**-0.2**
DID	**Didima**	**1.30**	**133**	*ePb*	**Pn**	**23 42 47.7**	**+0.1**
DID				*eSb*	**Sn**	**23 43 06.3**	**+1.2**
NAIG	**Nisos Aigina**	**1.31**	**119**	*ePB*	**Pg**	**23 42 48.6**	**+0.1**
NAIG	**Nisos Aigina**	**1.31**	**119**	*ePb*	**Pg**	**23 42 48.6**	**+0.1**
XOR	**Xorichti**	**1.33**	**43**	*ePB*	**Pg**	**23 42 49.0**	**+0.3**
XOR	**Xorichti**	**1.33**	**43**	*ePb*	**Pg**	**23 42 49.0**	**+0.3**
SKIA	**Skiathos**	**1.36**	**55**	*ePB*	**Pg**	**23 42 49.1**	**-0.3**
SKIA	**Skiathos**	**1.36**	**55**	*ePb*	**Pg**	**23 42 49.1**	**-0.3**
ATH	**Athens Observa**	**1.39**	**107**	*ePB*	**Pg**	**23 42 50.2**	**+0.2**
ATH				*eSB*	**Sg**	**23 43 08.3**	**+0.2**
ATH	**Athens Observa**	**1.39**	**107**	*ePb*	**Pg**	**23 42 50.2**	**+0.2**
ATH				*eSb*	**Sg**	**23 43 08.3**	**+0.2**
PTL	**Penteli**	**1.48**	**103**	*ePG*	**Pb**	**23 42 50.7**	**-0.3**
PTL				*eSB*	**Sg**	**23 43 10.9**	**-0.1**
PTL	**Penteli**	**1.48**	**103**	*ePg*	**Pb**	**23 42 50.7**	**-0.3**
PTL				*eSb*	**Sg**	**23 43 10.9**	**-0.1**
PYL	**PYLOS**	**1.52**	**189**	*ePG*	**Pn**	**23 42 51.0**	**+0.5**
PYL	**PYLOS**	**1.52**	**189**	*ePg*	**Pn**	**23 42 51.0**	**+0.5**
JAN	**Janina**	**1.56**	**324**	*ePB*	**Pg**	**23 42 53.6**	**+0.4**
JAN	**Janina**	**1.56**	**324**	*ePb*	**Pg**	**23 42 53.6**	**+0.4**
AOS	**Alonnisos**	**1.64**	**61**	*ePN*	**Pn**	**23 42 51.9**	**-0.3**
AOS	**Alonnisos**	**1.64**	**61**	*ePn*	**Pn**	**23 42 51.9**	**-0.3**
LIT	**Litokhoron**	**1.74**	**12**	*ePN*	**Pb**	**23 42 54.9**	**-0.5**
LIT	**Litokhoron**	**1.74**	**12**	*ePn*	**Pb**	**23 42 54.9**	**-0.5**
IGT	**Igoumenitsa**	**1.74**	**311**	*ePG*	**Pg**	**23 42 56.8**	**+0.1**
IGT	**Igoumenitsa**	**1.74**	**311**	*ePg*	**Pg**	**23 42 56.8**	**+0.1**
VLI	**Veliai**	**1.82**	**156**	*ePN*	**Pb**	**23 42 55.8**	**-1.0**
VLI	**Veliai**	**1.82**	**156**	*ePn*	**Pb**	**23 42 55.8**	**-1.0**
KZN	**Kozani**	**1.92**	**354**	*ePB*	**Pn**	**23 42 56.7**	**+0.6**
KZN	**Kozani**	**1.92**	**354**	*ePb*	**Pn**	**23 42 56.7**	**+0.6**
NEST	**Nestorio**	**2.15**	**340**	*ePG*	**Pb**	**23 43 02.3**	**-0.2**
NEST	**Nestorio**	**2.15**	**340**	*ePg*	**Pb**	**23 43 02.3**	**-0.2**
KYTH	**Kithira**	**2.26**	**159**	*ePG*	**Pb**	**23 43 04.4**	**+0.2**
KYTH	**Kithira**	**2.26**	**159**	*ePg*	**Pb**	**23 43 04.4**	**+0.2**
THE	**Thessaloniki**	**2.35**	**18**	*ePN*	**Pn**	**23 43 03.7**	**+1.8**
THE	**Thessaloniki**	**2.35**	**18**	*ePn*	**Pn**	**23 43 03.7**	**+1.8**
HORT	**Hortiatis**	**2.35**	**20**	*ePN*	**Pn**	**23 43 01.7**	**-0.4**

comp=Z,0.7nm,0.4s,baz=311,slow=6.5,SNR=5.9
YKA Yellowknife Ar 55.72 34 P **P 00 00 46.7 -0.4**
comp=Z,0.3nm,0.7s,baz=301,slow=6.9,SNR=4.7
KEV Kevo 59.06 340 *e*P **P 00 01 08.7 -1.8**
KEV Kevo 59.06 340 *e*p **P 00 01 08.7 -1.8**
comp=Z,0.4nm,0.3s
ARCES ARCESS Array B 59.59 340 P **P 00 01 13.5 -0.7**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 59.59 340 P **P 00 01 13.5 -0.7**
comp=Z,3.3nm,0.9s,baz=44,slow=7.9,SNR=6.5
JOF Joensuu 62.47 332 *e*P **P 00 01 32.5 -1.3**
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 62.47 332 *e*p **P 00 01 32.5 -1.3**
comp=Z,0.5nm,0.3s
GEYT Alibeck 64.92 299 P **P 00 01 50.7 +0.3**
comp=Z,1.0nm,0.5s,baz=67,slow=4.8,SNR=2.4
FINES FINESS Array B 65.25 333 P **P 00 01 51.4 -0.7**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 65.25 333 P **P 00 01 51.4 -0.7**
comp=Z,1.5nm,0.6s,baz=57,slow=7.0,SNR=12
NB2 NORSAR Subarra 69.95 339 P **P 00 02 21.4 -0.4**
comp=Z,0.8nm,0.5s,baz=31,slow=6.5
NOA NORSAR Array B 69.95 339 P **P 00 02 21.6 -0.2**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 69.95 339 P **P 00 02 21.6 -0.2**
comp=Z,1.3nm,0.6s,baz=33,slow=6.5,SNR=7.2
KBZ Khabaz 70.26 312 P **P 00 02 24.8 +0.9**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 70.26 312 P **P 00 02 24.8 +0.9**
comp=Z,1.9nm,0.8s,baz=56,slow=3.6,SNR=4.7
AKASG Malin Array Be 72.00 324 P **P 00 02 34.4 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 72.00 324 P **P 00 02 34.4 +0.1**
comp=Z,1.0nm,0.4s,baz=40,slow=6.4,SNR=2.4

*DDA **10** 23:54:42.7, 36°.05N×36°.11E, h24km, MD3.4*
*NSSC **10** 23:54:43.4±0.9, 36°.07N×36°.10E, h1km±3km, ML2.4*
*CSEM **10** 23:54:43.1±0.2, 36°.08N×36°.03E, h5km, ML2.4, Error ellipse: s-maj=5.6km s-min=3.8km az=72.0*
*ISK **10** 23:54:45.2, 36°.20N×35°.78E, h15km, MD3.4*
ISC 10 23:54:43.2±0.9, 36°.08N±0°.02×36°.09E±0°.02, h11km±7km, n69, σ1§18/101, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNB	**Al Arnab**	**0.24**	**204**	*e*P	**Pg**	**23 54 47.8**	**-0.5**
ARNB	SNR=95			*e*S	**Sg**	**23 54 52.5**	**+0.9**
	557nm,0.7s,SNR=95						
ARNB	**Al Arnab**	**0.24**	**204**	*e*P	**Pg**	**23 54 47.8**	**-0.5**
ARNB				*e*S	**Sg**	**23 54 52.5**	**+0.9**
ARNB				AML	AML	23 54 55.9	
	comp=N,474nm,0.5s						
ARNB				AML	AML	23 54 56.1	
	comp=E,557nm,0.7s						
BTCH	**Batrach**	**0.30**	**98**	*e*P	**Pg**	**23 54 49.2**	**-0.1**
BTCH	SNR=94			*e*S	**Sg**	**23 54 54.3**	**+0.9**
	comp=E,409nm,0.3s,SNR=59						
BTCH	**Batrach**	**0.30**	**98**	*e*P	**Pg**	**23 54 49.2**	**-0.1**
BTCH				*e*S	**Sg**	**23 54 54.3**	**+0.9**
BTCH				AML	AML	23 54 58.5	
	comp=N,412nm,0.4s						
BTCH				AML	AML	23 54 59.6	
	comp=E,409nm,0.3s						
WRDH	**Warideh**	**0.63**	**155**	*e*P	**Pg**	**23 54 55.5**	**+0.1**
WRDH	SNR=75			*e*S	**Sg**	**23 55 04.2**	**+0.6**
	comp=E,146nm,0.4s,SNR=59						
WRDH	**Warideh**	**0.63**	**155**	*e*P	**Pg**	**23 54 55.5**	**+0.1**
WRDH				*e*S	**Sg**	**23 55 04.2**	**+0.6**
WRDH				AML	AML	23 55 11.1	
	comp=N,138nm,0.4s						
WRDH				AML	AML	23 55 13.0	
	comp=E,146nm,0.4s						
CEYT	**Ceyhan**	**0.97**	**343**	*e*PG	**Pb**	**23 55 01.6**	**-0.5**
CEYT	**Ceyhan**	**0.97**	**343**	*e*Pg	**Pb**	**23 55 01.6**	**-0.5**
KFRA	**Kufra**	**1.04**	**146**	*e*P	**Pg**	**23 55 03.8**	**+0.6**
KFRA	SNR=67			*e*S	**Sg**	**23 55 17.3**	**+0.5**
	comp=E,424nm,0.3s,SNR=59						
KFRA	**Kufra**	**1.04**	**146**	*e*P	**Pg**	**23 55 03.8**	**+0.6**
KFRA				*e*S	**Sg**	**23 55 17.3**	**+0.5**
KFRA				AML	AML	23 55 22.4	
	comp=E,159nm,0.1s						
KFRA				AML	AML	23 55 29.2	
	comp=N,424nm,0.3s						
KUZU	**Kuzuini**	**1.05**	**49**	*i* P	**Pn**	**23 55 03.6**	**-0.4**
KUZU				*i* S	**Sn**	**23 55 19.8**	**+1.1**
KUZU	**Kuzuini**	**1.05**	**49**	*i* P	**Pn**	**23 55 03.6**	**-0.4**
KUZU				*i* S	**Sn**	**23 55 19.8**	**+1.1**
BIDA	**Albida**	**1.08**	**170**	*e*P	**Pb**	**23 55 03.3**	**-0.7**
BIDA	SNR=67			*e*S	**Sg**	**23 55 18.4**	**+0.3**
	comp=N,264nm,0.4s,SNR=59						
BIDA	**Albida**	**1.08**	**170**	*e*P	**Pb**	**23 55 03.4**	**-0.7**
BIDA				*e*S	**Sg**	**23 55 18.4**	**+0.3**
BIDA				AML	AML	23 55 22.1	
	comp=E,240nm,0.4s						
BIDA				AML	AML	23 55 25.3	
	comp=N,264nm,0.4s						
KAMA	**Osmaniye**	**1.20**	**23**	*i* P	**Pn**	**23 55 05.7**	**-0.3**
KAMA				*i* S	**Sg**	**23 55 22.2**	**+0.3**
KOZT	**Kozan**	**1.42**	**351**	*e*PN	**Pn**	**23 55 08.2**	**-0.7**
KOZT				*e*SN	**Sn**	**23 55 26.8**	**-0.8**
KOZT	**Kozan**	**1.42**	**351**	*e*Pn	**Pn**	**23 55 08.2**	**-0.7**
KOZT				*e*Sn	**Sn**	**23 55 26.8**	**-0.8**
KARA	**Karaisali**	**1.45**	**325**	*e*PN	**Pn**	**23 55 08.0**	**-1.4**
KARA	**Karaisali**	**1.45**	**325**	*e*Pn	**Pn**	**23 55 08.0**	**-1.4**
MERS	**Mersin**	**1.49**	**302**	*e*PN	**Pn**	**23 55 08.3**	**-1.7**
MERS	**Mersin**	**1.49**	**302**	*e*Pn	**Pn**	**23 55 08.3**	**-1.7**
ANDN	**Andirin**	**1.51**	**8**	*i* P	**Pb**	**23 55 11.2**	**-0.2**
ANDN				*i* S	**Sg**	**23 55 33.2**	**+1.3**
ANDN	**Andirin**	**1.51**	**8**	*i* P	**Pb**	**23 55 11.2**	**-0.2**
ANDN				*i* S	**Sg**	**23 55 33.2**	**+1.3**
KMRS	**Kahramanmaras**	**1.56**	**24**	*e*PN	**Pb**	**23 55 12.8**	**+0.6**
KMRS	**Kahramanmaras**	**1.56**	**24**	*e*Pn	**Pb**	**23 55 12.8**	**+0.6**
HAWK	**Haweek**	**1.57**	**171**	*e*P	**Pb**	**23 55 11.7**	**-0.8**
HAWK	SNR=57			*e*S	**Sb**	**23 55 32.8**	**+0.4**
	comp=N,50nm,0.2s,SNR=49						
HAWK	**Haweek**	**1.57**	**171**	*e*P	**Pb**	**23 55 11.7**	**-0.8**
HAWK				*e*S	**Sb**	**23 55 32.8**	**+0.4**
HAWK				AML	AML	23 55 35.5	
	comp=N,42nm,0.6s						
HAWK				AML	AML	23 55 35.8	
	comp=E,50nm,0.2s						
GULE	**Gulek**	**1.60**	**319**	*i* P	**Pn**	**23 55 11.9**	**+0.2**
GULE				*i* S	**Sb**	**23 55 34.4**	**+1.1**
GULE	**Gulek**	**1.60**	**319**	*i* P	**Pn**	**23 55 11.9**	**+0.2**
GULE				*i* S	**Sb**	**23 55 34.4**	**+1.1**
KIZK	**Mersin**	**1.62**	**285**	*i* S	**Sg**	**23 55 36.2**	**+0.7**
KIZK	**Mersin**	**1.62**	**285**	*i* P	**Pb**	**23 55 12.5**	**-0.7**
KIZK	**Mersin**	**1.62**	**285**	*i* P	**Pb**	**23 55 12.5**	**-0.7**
KIZK				*i* S	**Sg**	**23 55 36.2**	**+0.7**
EREN	**Erenkoy**	**1.66**	**251**	*e*PN	**Pn**	**23 55 11.6**	**-0.6**
EREN	**Erenkoy**	**1.66**	**251**	*e*Pn	**Pn**	**23 55 11.6**	**-0.6**
JHLN	**Al Jahlan**	**1.95**	**101**	*e*P	**Pg**	**23 55 20.2**	**-0.4**
JHLN	SNR=47			*e*S	**Sg**	**23 55 44.8**	**-1.1**
	comp=E,33nm,0.3s,SNR=49						
JHLN	**Al Jahlan**	**1.95**	**101**	*e*P	**Pg**	**23 55 20.2**	**-0.4**
JHLN				*e*S	**Sg**	**23 55 44.8**	**-1.1**
JHLN				AML	AML	23 55 50.0	
	comp=N,88nm,0.3s						
JHLN				AML	AML	23 55 53.1	
	comp=E,66nm,0.6s						
JHLN				AML	AML	23 55 57.5	
	comp=Z,33nm,0.3s						
MARH	**Ras Al Marh**	**2.07**	**171**	*e*P	**Pb**	**23 55 20.3**	**-0.8**
MARH	SNR=45			*e*S	**Sb**	**23 55 45.6**	**-1.3**
	comp=Z,51nm,0.8s,SNR=40						
MARH	**Ras Al Marh**	**2.07**	**171**	*e*P	**Pb**	**23 55 20.3**	**-0.8**
MARH				*e*S	**Sb**	**23 55 45.6**	**-1.3**
MARH				AML	AML	23 55 53.3	
	comp=E,40nm,0.5s						
MARH				AML	AML	23 55 53.6	
	comp=N,51nm,0.8s						
LFK	**Lefkose**	**2.23**	**250**	*e*PN	**Pn**	**23 55 20.4**	**+0.2**
LFK	**Lefkose**	**2.23**	**250**	*e*Pn	**Pn**	**23 55 20.4**	**+0.2**
NIG	**Nigde**	**2.35**	**330**	*e*PN	**Pn**	**23 55 20.8**	**-1.2**
NIG	**Nigde**	**2.35**	**330**	*e*Pn	**Pn**	**23 55 20.8**	**-1.2**
URFA	**Urfa**	**2.58**	**57**	*e*PN	**Pb**	**23 55 30.1**	**+0.5**
URFA	**Urfa**	**2.58**	**57**	*e*Pn	**Pb**	**23 55 30.1**	**+0.5**
MNKR	**ALMNKUR**	**2.58**	**92**	*e*P	**Pb**	**23 55 31.0**	**+1.4**
MNKR	SNR=47			*e*S	**Sb**	**23 56 00.7**	**-0.6**
	comp=N,152nm,0.3s,SNR=49						
MNKR	**ALMNKUR**	**2.58**	**92**	*e*P	**Pb**	**23 55 30.9**	**+1.4**
MNKR				*e*S	**Sb**	**23 56 00.7**	**-0.6**
MNKR				AML	AML	23 56 16.3	
	comp=Z,152nm,0.3s						
ERMK	**Ermenek**	**2.63**	**283**	*i* P	**Pn**	**23 55 27.6**	**+1.8**
ERMK	**Ermenek**	**2.63**	**283**	*i* P	**Pn**	**23 55 27.6**	**+1.8**
AKCD	**Akcadag**	**2.65**	**33**	*i* P	**Pn**	**23 55 27.3**	**+1.2**
AKCD	**Akcadag**	**2.65**	**33**	*i* P	**Pn**	**23 55 27.3**	**+1.2**
DARE	**Darende-Malaty**	**2.72**	**24**	*e*PN	**Pb**	**23 55 30.1**	**-2.0**
DARE	**Darende-Malaty**	**2.72**	**24**	*e*Pn	**Pb**	**23 55 30.1**	**-1.9**
BNN	**Bunyan**	**2.77**	**356**	*e*PN	**Pn**	**23 55 28.9**	**+1.1**
BNN	**Bunyan**	**2.77**	**356**	*e*Pn	**Pn**	**23 55 28.9**	**+1.1**
MALT	**Malatya**	**2.91**	**39**	*e*PN	**Pb**	**23 55 33.8**	**-1.4**
MALT	**Malatya**	**2.91**	**39**	*e*Pn	**Pb**	**23 55 33.8**	**-1.4**
ZALF	**Zalf**	**3.31**	**162**	*e*P	**Pb**	**23 55 42.4**	**+0.4**
ZALF	SNR=47			*e*S	**Sb**	**23 56 20.6**	**-1.8**
	comp=Z,8.8nm,0.5s,SNR=49						
ZALF	**Zalf**	**3.31**	**162**	*e*P	**Pb**	**23 55 42.4**	**+0.4**
ZALF				*e*S	**Sb**	**23 56 20.6**	**-1.8**
ZALF				AML	AML	23 56 32.6	
	comp=N,11nm,0.5s						
ZALF				AML	AML	23 56 37.8	
	comp=E,8.8nm,0.5s						
SALA	**Sala**	**3.40**	**171**	*e*P	**Pb**	**23 55 44.9**	**+1.2**
SALA	SNR=47			*e*S	**Sb**	**23 56 23.2**	**-1.9**
	comp=E,1.2nm,0.4s,SNR=49						
SALA	**Sala**	**3.40**	**171**	*e*P	**Pb**	**23 55 44.9**	**+1.2**
SALA				*e*S	**Sb**	**23 56 23.2**	**-1.9**
SALA				AML	AML	23 56 39.2	
	comp=N,10nm,0.6s						
SALA				AML	AML	23 56 42.1	
	comp=E,1.2nm,0.4s						
KBSD	**Kabsdagh**	**3.70**	**74**	*e*P	Pb	23 55 44.5	-4.2
KBSD	SNR=47			*e*S	**Sn**	**23 56 26.1**	**+2.1**
	comp=E,19nm,0.5s,SNR=49						
KBSD	**Kabsdagh**	**3.70**	**74**	*e*P	Pb	23 55 44.5	-4.2
KBSD				*e*S	**Sn**	**23 56 26.1**	**+2.1**
KBSD				AML	AML	23 56 47.9	
	comp=Z,19nm,0.5s						
MZRK	**Al-Mazaregh**	**3.71**	**93**	*e*P	**Pb**	**23 55 46.7**	**-2.1**
MZRK	SNR=47			*e*S	**Sn**	**23 56 26.1**	**+1.9**
	comp=Z,12nm,0.3s,SNR=49						
MZRK	**Al-Mazaregh**	**3.71**	**93**	*e*P	**Pb**	**23 55 46.7**	**-2.1**
MZRK				*e*S	**Sn**	**23 56 26.1**	**+1.9**
MZRK				AML	AML	23 56 54.8	
	comp=Z,12nm,0.3s						
DYBB	**Diyarbakir**	**3.74**	**59**	*e*PN	**Pb**	**23 55 46.6**	**-2.8**
MAZI	**Mazidag**	**3.76**	**67**	*e*PN	**Pb**	**23 55 47.0**	**-2.7**
MAZI	**Mazidag**	**3.76**	**67**	*e*Pn	**Pb**	**23 55 47.0**	**-2.7**
DIY	**Diyarbakir**	**3.77**	**60**	*e*Pn	Pb	23 55 46.6	-3.3
SVAN	**Silvan-Diyarba**	**4.58**	**62**	*e*PN	Pb	23 55 58.6	-4.9

DJA 10 23:58:36.8±0.5, 9°S±3°×12°0E±°, h30km±10km, M3.5/4, MLv3.5/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.57**	**154**	P	Pn	23 58 49.2	+0.2
WSI				S	Sn	23 58 58.1	+0.7
WBSI	**Waikabubak, Su**	**0.81**	**233**	P	Pn	23 58 52.1	-0.1
WBSI				S	Sn	23 59 03.3	+0.1
BASI	**Baing, Sumba**	**1.19**	**154**	P	Pn	23 58 57.1	-0.3

*IDC **11** 00:11:32.2±4.2, 35°.86N×71°.78E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/27, mbtmp3.7/4, ML2.6/1, Error ellipse: s-maj=91.0km s-min=35.1km az=135.0*
*NNC **11** 00:12:04.0±9.7, 36°.91N×70°.70E, h141km±168km, mb2.9, mpv3.5, Error ellipse: s-maj=84.0km s-min=60.3km az=7.0*
ISC 11 00:11:33.2±1.8, 35°.8N±0°.1×71°.9E±0°.2, h10km, n15, σ1§38/14, mb3.6/4, 4C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.48**	**12**	P	**Pb**	**00 13 27.3**	**+1.1**
UCH	**Uchtor**	**6.73**	**17**	P	**Pb**	**00 13 31.9**	**+1.3**
EKS2	**Erkin-Say**	**7.01**	**11**	P	**Pb**	**00 13 33.9**	**-1.2**
AAK	**Ala-Archa**	**7.11**	**15**	⇓P	**Pb**	**00 13 36.4**	**-0.5**
AAK	2.5nm,0.4s			⇑S	Sn	00 14 48.5	+10
	3.4nm,0.5s						
AAK	**Ala-Archa**	**7.11**	**15**	P	**Pb**	**00 13 36.4**	**-0.5**
	SNR=11						
KK31	**Karatay Array**	**7.38**	**352**	⇓P	Pb	00 13 34.4	-7.1
	0.5nm,0.2s,baz=178,slow=12,SNR=75						
KK31				⇑S	**Sn**	**00 14 44.3**	**-0.6**
	2.4nm,0.5s,baz=186,slow=25,SNR=11						
TKM2	**Tokmak 2**	**7.66**	**21**	⇑P	**Pb**	**00 13 44.1**	**-2.2**
	4.1nm,0.8s						
TKM2				⇓S	Sn	00 15 03.2	+11
	3.5nm,0.9s						
TKM2	**Tokmak 2**	**7.66**	**21**	P	**Pb**	**00 13 44.4**	**-1.9**
	SNR=8.2						
MKAR	**Makanchi Array**	**13.45**	**32**	Pn	**Pn**	**00 14 45.5**	**+1.4**
	0.0nm,0.3s,baz=200,slow=12,SNR=3.3						
AB31	**Akbulak array**	**16.07**	**331**	⇑P	P	00 15 25.6	+3.0
	0.4nm,0.5s,baz=169,slow=11,SNR=3.7						
AKTO	**Aktyubinsk**	**17.77**	**330**	⇓P	**P**	**00 15 43.2**	**+1.8**
	2.7nm,1.3s						
FINES	**FINESS Array B**	**38.49**	**326**	P	**P**	**00 18 54.4**	**-0.8**
	0.8nm,0.8s,baz=120,slow=7.5,SNR=3.8						
ARCES	**ARCESS Array B**	**42.09**	**338**	P	**P**	**00 19 24.9**	**-0.1**
	5.6nm,1.0s,baz=97,slow=6.7,SNR=3.0						
NOA	**NORSAR Array B**	**45.40**	**323**	P	**P**	**00 19 50.6**	**-1.1**
	0.5nm,0.6s,baz=96,slow=7.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**66.47**	**270**	P	**P**	**00 22 23.1**	**-0.2**
	0.2nm,0.6s,baz=49,slow=6.1,SNR=5.2						

*CSEM **11** 00:18:17.6, 38°.60N×29°.33W, h8km, ML3.1*
PDA 11 00:18:17.6±0.8, 38°.60N×29°.33W, h8km±4km, MD3.7, ML3.1, Error ellipse: s-maj=7.1km s-min=5.1km az=17.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.49**	**92**	*e*S	Sg	00 18 32.6	-1.3
CALA	**Caldeira**	**0.49**	**92**	*e*S	Sg	00 18 32.6	-1.3
PCED	**Cedros**	**0.49**	**87**	*i* P	Pg	00 18 25.6	-1.6
PCED				*e*S	Sg	00 18 32.1	-1.6
PCED				A	A	00 18 38.6	
	380nm,0.3s						
PCED	**Cedros**	**0.49**	**87**	*i* P	Pg	00 18 25.6	-1.6
PCED				*e*S	Sg	00 18 32.1	-1.6
HOR	**Horta**	**0.56**	**98**	*e*S	Sg	00 18 33.9	-1.8
HOR	**Horta**	**0.56**	**98**	*e*S	Sg	00 18 33.9	-1.8
PCAN	**Candelaria**	**0.68**	**102**	*e*P	Pg	00 18 28.8	-2.0
PCAN				*e*S	Sg	00 18 36.6	-3.1
PCAN				A	A	00 18 40.7	
	384nm,0.3s						
PCAN	**Candelaria**	**0.68**	**102**	*e*P	Pg	00 18 28.8	-2.0
PCAN				*e*S	Sg	00 18 36.6	-3.1
PICO	**Pico**	**0.72**	**98**	*e*P	Pg	00 18 30.1	-1.5
PICO				*e*S	Sg	00 18 38.1	-2.9
PICO	**Pico**	**0.72**	**98**	*e*P	Pg	00 18 30.1	-1.5
PICO				*e*S	Sg	00 18 38.1	-2.9
ROSA	**Rosais**	**0.86**	**82**	*e*P	Pg	00 18 31.2	-3.0
ROSA				*e*S	Sg	00 18 41.5	-4.0
ROSA				A	A	00 18 48.1	
	417nm,0.5s						
ROSA	**Rosais**	**0.86**	**82**	*e*P	Pg	00 18 31.2	-3.0
ROSA				*e*S	Sg	00 18 41.5	-4.0
PMAN	**Manadas**	**0.97**	**88**	*e*P	Pg	00 18 32.7	-3.7
PMAN				*e*S	Sg	00 18 44.1	-4.9
PMAN				A	A	00 18 54.8	
	182nm,0.5s						
PMAN	**Manadas**	**0.97**	**88**	*e*P	Pg	00 18 32.7	-3.7
PMAN				*e*S	Sg	00 18 44.1	-4.9
TOPO	**Topo**	**1.11**	**90**	*e*P	Pg	00 18 34.9	-4.1
TOPO				*e*S	Sg	00 18 47.4	-6.0
TOPO	**Topo**	**1.11**	**90**	*e*P	Pg	00 18 34.9	-4.1
TOPO				*e*S	Sg	00 18 47.4	-6.0
PGRA	**Graciosa**	**1.14**	**68**	*e*P	Pg	00 18 35.1	-4.4
PGRA				*e*S	Sg	00 18 48.0	-6.3
PGRA				A	A	00 18 56.2	
	65nm,0.3s						
PGRA	**Graciosa**	**1.14**	**68**	*e*P	Pg	00 18 35.1	-4.4
PGRA				*e*S	Sg	00 18 48.0	-6.3
ADH	**Angra Heroismo**	**1.64**	**88**	*e*P	Pn	00 18 42.0	-4.8
ADH				*e*S	Sn	00 19 00.5	-7.6
ADH				A	A	00 19 02.7	
	47nm,0.3s						
ADH	**Angra Heroismo**	**1.64**	**88**	*e*P	Pn	00 18 42.0	-4.8
ADH				*e*S	Sn	00 19 00.5	-7.6

*NIED **11** 00:18:00, 43°.40N×147°.90E, h17km, Mw4.2 Best double couple: M0:2.46000×10^15 NP1:φs166.00000°, δ26.00000°, λ13.00000°. NP2:φs64.00000°, δ84.00000°, λ116.00000°.*
*IDC **11** 00:18:47.0±0.8, 43°.39N×147°.82E, h0km, mb4.1/18, mb1 4.3/21, mb1mx4.2/31, mbtmp4.1/21, ML3.9/3, MS3.4/9, Ms1 3.4/9, ms1mx3.1/38, Error ellipse: s-maj=20.7km s-min=15.6km az=149.0*
*BJI **11** 00:18:47.1, 43°.50N×147°.90E, h10km, mB4.7/4, mb4.3/10, Ms4.3/2, Ms7 4.2/2*
*ISCJB **11** 00:18:50.0±0.4, 43°.40N±0°.05×147°.96E±0°.05, h34km, mb4.3/41, MS3.7/10, Error ellipse: s-maj=7.7km s-min=4.7km az=158.3*
*SKHL **11** 00:18:50.8±0.5, 43°.38N×148°.01E, h50km±7km, mb4.8/2*
*JMA **11** 00:18:50.3±0.3, 43°.39N×147°.91E, h33km, M4.0*
*MOS **11** 00:18:52.0±1.4, 43°.43N×147°.88E, h49km, mb4.6/23, Error ellipse: s-maj=12.1km s-min=7.2km az=118.6*
*NEIC **11** 00:18:53.6±1.2, 43°.37N×147°.78E, h49km±10km, mb4.4/7, Error ellipse: s-maj=11.8km s-min=8.7km az=117.0*
ISC 11 00:18:52.2±0.6, 43°.43N±0°.07×147°.93E±0°.06, h34km, n125, σ1§26/117, mb4.4/35, MS3.6/10, 3C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.60**	**268**	P	**Pn**	**00 19 17.0**	**-1.0**
NEM2				*e*S	**Sn**	**00 19 36.6**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**1.62**	**293**	*c* iPN	**Pn**	**00 19 17.5**	**-0.8**
YUK				*i* S	**Sn**	**00 19 37.2**	**-0.7**
YUK				pmax	pmax		
	comp=N,165nm,0.2s						
YUK				pmax	pmax		
	comp=E,140nm,0.2s						
YUK				pmax	pmax		
	comp=Z,334nm,0.2s						
YUK				smax	smax		
	comp=E,3μm,0.7s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.62**	**293**	*e*P	**Pn**	**00 19 17.5**	**-0.8**
YUK				AMB	AMB	00 19 20.4	
	comp=N,334nm,0.2s						
YUK				*e*S	**Sn**	**00 19 37.2**	**-0.7**
YUK				A	A	00 19 43.6	
	comp=N,3μm,0.7s						
YUK				A	A	00 19 43.6	
	comp=N,2μm,0.7s						
KUR	**Kuril'sk**	**1.80**	**358**	⇑ *i* PN	**Pn**	**00 19 19.8**	**-1.0**
KUR				*i* S	**Sn**	**00 19 41.9**	**-0.5**
KUR				pmax	pmax		
	comp=Z,278nm,0.5s						
KUR				pmax	pmax		
	comp=N,64nm,0.3s						
KUR				pmax	pmax		
	comp=E,135nm,0.3s						
KUR				smax	smax		
	comp=N,262nm,0.2s						
KUR				smax	smax		
	comp=E,81nm,0.2s						
KUR	**Kuril'sk**	**1.80**	**358**	*e*P	**Pn**	**00 19 19.8**	**-1.0**
KUR				AMB	AMB	00 19 22.0	
	comp=E,278nm,0.5s						
KUR				*e*S	**Sn**	**00 19 41.9**	**-0.5**
KUR				A	A	00 19 48.3	
	comp=E,262nm,0.2s						
JNK	**Nakash**	**2.34**	**275**	P	**Pn**	**00 19 27.4**	**-0.9**
JAK	**Akkeshi**	**2.41**	**261**	P	**Pn**	**00 19 28.9**	**-0.2**
JTKR	**Abashiri--Toko**	**2.97**	**282**	P	**Pn**	**00 19 37.1**	**+0.3**
JAR	**Ashorobuto**	**3.04**	**269**	*e*S	**Sn**	**00 20 12.4**	**-0.6**
JCH	**Churui**	**3.45**	**258**	P	**Pn**	**00 19 43.6**	**+0.1**
ERM	**Erimo**	**3.79**	**250**	⇓ *i* PN	**Pn**	**00 19 49.6**	**+1.4**
ERM	**Erimo**	**3.79**	**250**	*e*P	**Pn**	**00 19 49.6**	**+1.4**
ERM	**Erimo**	**3.79**	**250**	*e*Pn	**Pn**	**00 19 48.4**	**+0.2**
ASAJ	**Asahikawa**	**3.92**	**282**	PN	Pn	00 19 54.8	+4.8
ASAJ						00 20 38.8	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,4.0nm,0.3s						
ASAJ	**Asahikawa**	**3.92**	**282**	Pn	Pn	00 19 54.8	+4.8
	comp=N,1.4nm,0.3s,baz=129,slow=6.7,SNR=6.8						
ASAJ				Sn	**Sn**	**00 20 38.8**	**+3.9**
	comp=N,4.4nm,0.3s,baz=63,slow=19,SNR=4.7						
ASAJ	**Asahikawa**	**3.92**	**282**	*e*Pn	**Pn**	**00 19 52.1**	**+2.1**
ASAJ				Sn	**Sn**	**00 20 38.8**	**+3.9**
JNBK	**Urakawa-nobuka**	**3.98**	**255**	P	**Pn**	**00 19 50.7**	**0.0**
YSS	**Yuzh-Sakhalins**	**5.08**	**316**	PN	**Pn**	**00 20 06.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**5.08**	**316**	*e*P	**Pn**	**00 20 06.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**5.08**	**316**	*e*Pn	**Pn**	**00 20 05.7**	**-0.1**
MJAR	**Matsushiro Arr**	**10.15**	**231**	PN	**Pn**	**00 21 13.2**	**-2.2**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR	**Matsushiro Arr**	**10.15**	**231**	Pn	**Pn**	**00 21 13.2**	**-2.2**
	comp=Z,4.1nm,0.3s,baz=227,slow=20,SNR=15						
PETK	**Petropavlovsk-**	**11.65**	**30**	PN	**Pn**	**00 21 34.4**	**-1.5**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,64nm,18.4s						
PETK	**Petropavlovsk-**	**11.65**	**30**	Pn	**Pn**	**00 21 34.4**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=192,slow=14,SNR=5.3						

ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 41.64 307 P P 00 26 36.2 -0.6
comp=Z,0.8nm,0.5s,baz=101,slow=6.2,SNR=3.8
ZALV LR LR 00 45 10.1
comp=Z,36nm,18.9s,baz=40,slow=38
WMQ Urumqi 42.74 292 *eP* **P 00 26 45.3 -0.8**
WMQ PMZ
comp=Z,6.0nm,1.3s
WMQ LN
comp=Z,100nm,20.0s
WMQ LE
comp=Z,61nm,18.0s
WMQ LZ
comp=Z,110nm,18.0s
MKAR Makanchi Array 45.24 298 P **P 00 27 06.3 +0.3**
comp=Z,3.0nm,0.6s,baz=78,slow=8.9,SNR=61
MKAR LR LR 00 47 15.6
comp=Z,48nm,18.7s,baz=1.5,slow=38
KURK Kurchatov 46.18 304 *eP* **P 00 27 11.6 -1.7**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 46.18 304 *eP* **P 00 27 13.2 -0.1**
KURK Kurchatov 46.18 304 *eP* **P 00 27 11.6 -1.7**
comp=Z,4.6nm,0.9s
KURBB Kurchatov Arra 46.26 304 P **P 00 27 13.9 -0.1**
comp=Z,5.0nm,0.7s,baz=74,slow=8.3,SNR=30
INK Inuvik 46.39 30 P **P 00 27 16.5 +1.8**
INK pmax pmax
comp=Z,3.0nm,0.3s
INK Inuvik 46.39 30 P **P 00 27 16.4 +1.8**
comp=Z,2.7nm,0.3s,baz=292,slow=7.5,SNR=26
BRVK Borovoye 50.19 310‖ *eP* **P 00 27 44.5 +0.2**
BRVK pmax pmax
comp=Z,5.0nm,1.7s
BRVK Borovoye 50.19 310 *eP* **P 00 27 44.5 +0.2**
TKM2 Tokmak 2 51.16 296 *eP* **P 00 27 50.2 -1.8**
TKM2 pmax pmax
comp=Z,4.0nm,0.9s
TKM2 Tokmak 2 51.16 296 *eP* **P 00 27 50.2 -1.8**
comp=Z,4.0nm,0.9s
AAK Ala-Archa 52.01 296 P **P 00 27 58.1 -0.2**
AAK pmax pmax
comp=Z,14nm,2.3s
AAK Ala-Archa 52.01 296 *eP* **P 00 27 58.1 -0.2**
EKS2 Erkin-Say 52.46 297 *eP* **P 00 28 00.4 -1.2**
EKS2 pmax pmax
comp=Z,3.0nm,0.9s
EKS2 Erkin-Say 52.46 297 *eP* **P 00 28 00.4 -1.2**
comp=Z,3.1nm,0.9s
SVE Sverdlovsk 53.76 317 *eP* **P 00 28 10.1 -0.7**
KKAR Karatay Array 54.37 298 *eP* **P 00 28 14.2 -1.2**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 54.37 298 *eP* **P 00 28 14.2 -1.2**
comp=Z,1.7nm,0.6s
ARU Arti 54.97 317 *d iP* **P 00 28 18.3 -1.2**
ARU 00 30 19.2
ARU S **S 00 35 58.3 -0.5**
ARU pmax pmax
comp=Z,3.0nm,0.9s
ARU Arti 54.97 317 *eP* **P 00 28 18.6 -0.9**
RES Resolute Bay 55.11 17 P **P 00 28 20.6 +0.3**
RES pmax pmax
comp=Z,3.0nm,0.6s
RES Resolute Bay 55.11 17 P **P 00 28 20.6 +0.3**
comp=Z,2.6nm,0.6s,baz=311,slow=7.6,SNR=15
YKA Yellowknife Ar 55.75 34 P **P 00 28 25.9 +0.9**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 55.75 34 P **P 00 28 25.9 +0.9**
comp=Z,0.8nm,0.7s,baz=299,slow=6.8,SNR=14
ABKAR Akbulak array 57.71 309 *eP* **P 00 28 38.6 -0.6**
comp=Z,7.8nm,0.8s
ABKAR *e* 00 28 50.3
AKTO Aktyubinsk 58.17 311 LR LR 00 56 17.1
comp=Z,72nm,18.3s,slow=39
KEV Kevo 59.21 340 *eP* **P 00 28 47.7 -1.6**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 59.21 340 *ep* **P 00 28 47.7 -1.6**
comp=Z,0.9nm,0.3s
ARCES ARCESS Array B 59.74 340 P **P 00 28 52.4 -0.6**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 59.74 340 P **P 00 28 52.4 -0.6**
comp=Z,4.3nm,0.9s,baz=43,slow=7.2,SNR=14
KBL Kabul 59.83 290 *eP* **P 00 28 53.6 -0.8**
KBL pmax pmax
comp=Z,2.0nm,0.5s
KBL Kabul 59.83 290 *eP* **P 00 28 53.6 -0.8**
comp=Z,1.7nm,0.5s
JOF Joensuu 62.63 333 *eP* **P 00 29 11.0 -1.6**
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 62.63 333 *ep* **P 00 29 11.0 -1.6**
comp=Z,1.7nm,0.5s
WRAB Tennant Creek 64.28 194 P **P 00 29 23.1 -0.9**
WRAB Tennant Creek 64.28 194 P **P 00 29 23.1 -0.9**
WRA Warramunga Arr 64.29 194 P **P 00 29 21.8 -2.2**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 64.29 194 P **P 00 29 21.8 -2.2**
comp=Z,0.6nm,0.8s,baz=313,slow=14,SNR=1.9
GEYT Alibeck 65.09 299 LR LR 01 00 28.7
comp=Z,68nm,19.4s,baz=10.0,slow=38
FINES FINESS Array B 65.42 333 P **P 00 29 30.1 -0.8**
FINES LR LR 01 02 04.2
comp=Z,38nm,18.9s,baz=12,slow=40
FINES FINESS Array B 65.42 333 *eP* **P 00 29 30.6 -0.3**
OBN Obninsk 65.91 324‖ *eP* **P 00 29 34.0 -0.2**
OBN *e* 00 29 44.4
OBN pmax pmax
comp=Z,17nm,1.8s
OBN MLR MLR
comp=Z,72nm,17.0s
OBN Obninsk 65.91 324 *eP* **P 00 29 34.2 0.0**
NVAR Mina Array Bea 67.26 58 P **P 00 29 44.0 +0.5**
comp=Z,0.3nm,0.5s,baz=316,slow=6.3,SNR=2.0
ASAR Alice Springs 68.00 194 P **P 00 29 48.8 +0.9**
comp=Z,0.3nm,0.5s,baz=312,slow=38,SNR=3.7
NB2 NORSAR Subarra 70.10 339 P **P 00 30 00.1 -0.4**
comp=Z,2.0nm,0.6s,baz=32,slow=6.5
NOA NORSAR Array B 70.10 339 *eP* **P 00 30 00.5 0.0**
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA NORSAR Array B 70.10 339 P **P 00 30 00.6 0.0**
comp=Z,4.0nm,0.8s,baz=32,slow=6.6,SNR=15
KIV Kislovodsk 70.40 312 *eP* **P 00 30 04.2 +1.5**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,52nm,18.0s
KIV Kislovodsk 70.40 312 *eP* **P 00 30 04.2 +1.5**
KBZ Khabaz 70.44 312 P **P 00 30 03.2 +0.4**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 70.44 312 P **P 00 30 03.2 +0.4**
comp=Z,4.8nm,0.8s,baz=57,slow=3.2,SNR=10
AKASG Malin Array Be 72.17 324 *eP* **P 00 30 12.8 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 72.17 324 P **P 00 30 12.9 -0.3**
comp=Z,1.5nm,0.4s,baz=38,slow=6.0,SNR=5.6
KIEV Kiev 72.18 324 P **P 00 30 13.2 0.0**
DPC Dobruska-Polom 77.52 331 *eP* **P 00 30 44.3 +0.1**
DPC *e* 00 30 58.1
DPC Dobruska-Polom 77.52 331 *eP* **P 00 30 44.3 +0.1**
DPC *ep*P **pP 00 30 58.1 +3.3**
KRLC Kraliky 77.58 330 *eP* **P 00 30 44.1 -0.4**
KRLC *e* 00 30 54.9
KRLC *e* 00 30 58.2
KRLC Kraliky 77.58 330 *eP* **P 00 30 44.1 -0.4**
KRLC *e*PCP **PcP 00 30 54.9 +0.2**
KRLC *ep*P **pP 00 30 58.2 +3.0**
CLL Collm 77.86 333 *eP* **P 00 30 46.0 0.0**
CLL *i* 00 30 58.5
CLL Collm 77.86 333 *eP* **P 00 30 46.0 0.0**
CLL *i* pP **pP 00 30 58.5 +1.9**
BRTR Keskin Array B 78.17 314 LR LR 01 11 54.6
comp=Z,28nm,18.3s,baz=36,slow=41
KHC Kasperske Hory 79.51 331 *eP* **P 00 30 57.5 +2.3**
KHC *e* 00 31 07.9
KHC Kasperske Hory 79.51 331 *eP* **P 00 30 57.5 +2.3**
KHC *ep*P **pP 00 31 07.9 +2.0**
GERES GERESS Array B 79.71 331 P **P 00 30 56.2 -0.2**
comp=Z,0.9nm,0.5s,baz=34,slow=7.1,SNR=2.4
GERES LR LR 01 12 14.7
comp=Z,29nm,18.1s,baz=40,slow=40
CDF Champ du Feu 82.21 335 *eP* pP 00 31 23.1 +2.7
CDF Champ du Feu 82.21 335 *eP* pP 00 31 23.1 +2.7
TXAR Lajitas Array 82.35 57 P **P 00 31 11.5 +0.7**
comp=Z,0.3nm,0.8s,baz=274,slow=3.6,SNR=3.6
PAGF Fort de Pagny 82.56 336 *eP* pP 00 31 24.6 +2.5
comp=Z,1.0nm,0.5s
PAGF Fort de Pagny 82.56 336 *eP* pP 00 31 24.6 +2.5
SMF Signal de Mont 84.83 336 *eP* pP 00 31 36.1 +2.3
comp=Z,12nm,0.9s
SMF Signal de Mont 84.83 336 *eP* pP 00 31 36.1 +2.3
AVF Avril sur Loir 84.85 336 *eP* pP 00 31 36.2 +2.4
comp=Z,9.6nm,1.0s
AVF Avril sur Loir 84.85 336 *eP* pP 00 31 36.2 +2.4
LPL La Plagne 84.95 334 *eP* pP 00 31 37.4 +2.7
comp=Z,6.4nm,0.8s
LPL La Plagne 84.95 334 *eP* pP 00 31 37.4 +2.7
LPG La Plagne 84.96 334 *eP* pP 00 31 37.6 +2.8
comp=Z,5.8nm,0.7s
LPG La Plagne 84.96 334 *eP* pP 00 31 37.6 +2.8
ORIF Oris-en-Rattie 85.76 334 *eP* pP 00 31 41.2 +2.6
comp=Z,8.0nm,0.9s
ORIF Oris-en-Rattie 85.76 334 *eP* pP 00 31 41.2 +2.6

FUNV 11 00:20:07.4, 6.72N×73.23W, h170km, MW3.6, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.46**	**38**	↑*iP*	Pn	00 20 38.1	-0.3
CAPV				*eS*	Sn	00 20 59.8	-2.6
VIGV	**El Vigia**	**2.81**	**41**	*eP*	Pn	00 20 52.5	-0.7
VIGV				*eS*	Sn	00 21 25.5	-3.5
SOCV	**Socops**	**2.82**	**56**	*eP*	Pn	00 20 52.3	-1.1
SOCV				*eS*	Sn	00 21 25.1	-4.1
VIRV	**Villa del Rosa**	**3.85**	**12**	*eP*	Pn	00 21 04.8	-1.5
VIRV				*eS*	Sn	00 21 47.4	-5.0
SANV	**Sanarito**	**4.58**	**53**	*eP*	Pn	00 21 14.6	-1.4
SIQV	**Siquisique**	**5.17**	**41**	*eP*	Pn	00 21 22.0	-1.4
SIQV				*eS*	Sn	00 22 16.9	-6.2
BAUV	**El Baul**	**5.60**	**66**	*eP*	Pn	00 21 26.4	-2.6
BAUV				*eS*	Sn	00 22 26.7	-6.3
MAPV	**Macapo**	**5.65**	**56**	*eP*	Pn	00 21 27.8	-1.9

ISK 11 00:27:52.9, 38.74N×40.16E, h5km, MD3.0
DDA 11 00:27:54.4, 38.82N×40.04E, h7km, MD3.0
CSEM 11 00:27:54.6±0.3, 38.73N×40.12E, h10km, MD3.0, Error ellipse: s-maj=7.8km s-min=7.3km az=100.0
ISC 11 00:27:53.5±1.2, 38.75N±0.02×40.16E±0.02, h5km±11km, n42, σ0.87/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.29**	**64**	*ePg*	**Pn**	**00 28 03.1**	**-1.5**
BNGB	**Bing^¶l**	**0.47**	**59**	*ePG*	**Pg**	**00 28 03.1**	**+0.5**
BNGB				*eSG*	**Sb**	**00 28 11.5**	**-0.3**
DYBB	**Diyarbakir**	**0.80**	**181**	*ePG*	**Pb**	**00 28 09.1**	**-0.8**
BNGL	**BINGOL**	**0.80**	**75**	*i P*	**Pn**	**00 28 10.5**	**-1.2**
BNGL				*i S*	**Sn**	**00 28 24.6**	**+0.5**
DIYA	**Diyarbakir**	**0.83**	**182**	*i P*	**Pn**	**00 28 11.5**	**-0.4**
DIYA	**Diyarbakir**	**0.83**	**182**	*i P*	**Pn**	**00 28 11.5**	**-0.4**
DIYA				*i S*	**Sn**	**00 28 25.3**	**+0.7**
DIY	**Diyarbakir**	**0.86**	**176**	*ePg*	**Pg**	**00 28 09.1**	**-0.8**
ERZN	**Erzincan**	**0.90**	**338**	*ePG*	**Pg**	**00 28 10.7**	**-0.1**
ELZG	**Elazig**	**0.95**	**255**	*i P*	**Pg**	**00 28 11.2**	**-0.5**
ELZG				*i S*	**Sn**	**00 28 28.9**	**+1.1**
ELZG	**Elazig**	**0.95**	**255**	*i P*	**Pg**	**00 28 11.2**	**-0.5**
ELZG				*i S*	**Sn**	**00 28 28.9**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.01**	**126**	*ePG*	**Pb**	**00 28 13.2**	**-0.4**
EUZM	**Uzumlu**	**1.02**	**340**	*i P*	**Pg**	**00 28 12.2**	**-0.8**
EUZM	**Uzumlu**	**1.02**	**340**	*i P*	**Pg**	**00 28 12.2**	**-0.8**
VRTB	**Varto-Mus**	**1.09**	**68**	*ePN*	**Pn**	**00 28 15.0**	**-0.6**
VRTB	**Varto-Mus**	**1.09**	**68**	*ePn*	**Pn**	**00 28 15.0**	**-0.7**
BTMT	**Batman**	**1.19**	**118**	*ePN*	**Pn**	**00 28 16.4**	**-0.4**
BTMT	**Batman**	**1.19**	**118**	*ePn*	**Pn**	**00 28 16.4**	**-0.4**
BEST	**Besiri**	**1.23**	**134**	*i P*	**Pn**	**00 28 18.5**	**+1.1**
BEST				*i S*	Sn	00 28 40.1	+5.6
MAZI	**Mazidag**	**1.31**	**170**	*ePN*	**Pg**	**00 28 18.7**	**+0.1**
MAZI	**Mazidag**	**1.31**	**170**	*ePn*	**Pg**	**00 28 18.7**	**+0.1**
ILIC	**ilic-Erzincan**	**1.42**	**300**	*ePN*	**Pg**	**00 28 21.2**	**+0.5**
ILIC	**ilic-Erzincan**	**1.42**	**300**	*ePn*	**Pg**	**00 28 21.2**	**+0.5**
MALT	**Malatya**	**1.43**	**253**	*ePN*	**Pg**	**00 28 20.9**	**+0.1**
MALT	**Malatya**	**1.43**	**253**	*ePn*	**Pg**	**00 28 20.9**	**+0.1**
EZM	**Erzurum**	**1.48**	**39**	*ePN*	**Pg**	**00 28 22.2**	**+0.2**
MARD	**Mardin**	**1.52**	**161**	*i P*	**Pg**	**00 28 22.6**	**0.0**
MARD				*i S*	**Sg**	**00 28 44.4**	**+2.2**
KELT	**Kelkit**	**1.56**	**334**	*i P*	**Pn**	**00 28 21.8**	**-0.3**
KELT				*i S*	**Sg**	**00 28 44.2**	**+0.6**
KELT	**Kelkit**	**1.56**	**334**	*i P*	**Pn**	**00 28 21.8**	**-0.3**
KELT				*i S*	**Sg**	**00 28 44.2**	**+0.6**
BAYT	**Ayd¨–ntepe-Bay**	**1.64**	**360**	*ePN*	**Pb**	**00 28 24.4**	**+0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.64**	**360**	*ePn*	**Pb**	**00 28 24.4**	**+0.1**
URFA	**Urfa**	**1.68**	**219**	*ePN*	**Pb**	**00 28 24.6**	**-0.3**
URFA	**Urfa**	**1.68**	**219**	*ePn*	**Pb**	**00 28 24.6**	**-0.3**
GUMT	**Gumushane**	**1.79**	**343**	*ePN*	**Pb**	**00 28 26.3**	**-0.5**
GUMT	**Gumushane**	**1.79**	**343**	*ePn*	**Pb**	**00 28 26.3**	**-0.5**
AKCD	**Akcadag**	**1.81**	**256**	*i P*	**Pn**	**00 28 25.3**	**-0.2**
AKCD	**Akcadag**	**1.81**	**256**	*i P*	**Pn**	**00 28 25.3**	**-0.2**
AKCD				*i S*	**Sg**	**00 28 51.9**	**+0.3**
DARE	**Darende-Malaty**	**2.10**	**266**	*ePN*	**Pb**	**00 28 30.7**	**-1.5**
DARE	**Darende-Malaty**	**2.10**	**266**	*ePn*	**Pb**	**00 28 30.7**	**-1.5**
SIRT	**Sirnak**	**2.19**	**124**	*ePN*	**Pb**	**00 28 31.6**	**-2.1**
SIRT	**Sirnak**	**2.19**	**124**	*ePn*	**Pb**	**00 28 31.6**	**-2.1**
AGRB	**Hanur-Agry**	**2.35**	**69**	*ePN*	**Pn**	**00 28 34.1**	**+1.2**
AGRB	**Hanur-Agry**	**2.35**	**69**	*ePn*	**Pn**	**00 28 34.2**	**+1.2**

IDC 11 00:34:16.7±0.8, 36.98S×74.88W, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.1/17, mbtmp4.0/8, ML3.2/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/28, Error ellipse: s-maj=28.9km s-min=17.7km az=87.0
ISCJB 11 00:34:19.9±0.6, 36.97S±0.04×74.73W±0.09, h33km, mb4.2/10, MS3.4/2, Error ellipse: s-maj=9.9km s-min=6.4km az=8.2
NEIC 11 00:34:21.9±0.5, 36.95S×74.76W, h35km, mb4.1/3, Error ellipse: s-maj=13.4km s-min=8.6km az=82.0
SJA 11 00:35:28.8±1.4, 33.40S×70.27W, h121km±20km, ML2.3, MW3.0
ISC 11 00:34:21.8±0.7, 36.97S±0.06×74.88W±0.10, h35km, n34, σ1.17/37, mb4.1/10, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.06**	**139**	Pn	**Pn**	**00 35 33.9**	**-1.3**
PLCA	0.4nm,0.3s,baz=310,slow=12,SNR=16			Sn	**Sn**	**00 36 32.6**	**+0.2**
PLCA	1.4nm,0.3s,baz=283,slow=21,SNR=3.2			LR	LR	00 37 40.3	
PLCA	comp=Z,584nm,19.4s,baz=288,slow=40 **Paso Flores**	**5.06**	**139**	*ePn*	**Pn**	**00 35 33.6**	**-1.6**
PLCA	44nm,0.8s			*eSn*	**Sn**	**00 36 30.8**	**-1.6**
AAGR	**Agrelo**	**6.29**	**54**	*eP*	**Pn**	**00 35 53.7**	**+1.4**
ARCO	**CERRO ARCO**	**6.39**	**52**	*eP*	**Pn**	**00 35 55.3**	**+1.7**
ARCO				*eS*	Sn	00 36 13.4	-52
ARCO				AML	AML	00 36 15.2	
AUSP	comp=Z,29nm,0.6s **Uspallata**	**6.55**	**45**	*eP*	**Pn**	**00 35 56.0**	**+0.1**
ASAL	**Salagasta**	**6.62**	**50**	*eP*	**Pn**	**00 35 57.4**	**+0.7**
RTLS	**Leoncito**	**6.92**	**43**	*eP*	**Pn**	**00 36 01.4**	**+0.4**
CFAA	**Coronel Fontan**	**7.67**	**48**	Pn	**Pn**	**00 36 10.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=207,slow=14,SNR=7.3						
CFAA				Sn	**Sn**	**00 37 36.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=316,slow=22,SNR=3.7						
CFAA				LR	LR	00 39 27.8	
	comp=Z,10.0nm,20.2s,baz=210,slow=40						
CFAA	**Coronel Fontan**	**7.67**	**48**	*ePn*	**Pn**	**00 36 09.2**	**-1.8**
RTLL	**Cerro Villicun**	**7.73**	**45**	*eP*	**Pn**	**00 36 11.3**	**-0.6**
AMOG	**MOGNA**	**8.02**	**43**	*eP*	**Pn**	**00 36 14.4**	**-1.4**
LCO	**Las Campanas**	**8.67**	**25**	*ePn*	**Pn**	**00 36 22.1**	**-3.0**
AVFE	**Valle Fertil**	**8.81**	**47**	*eP*	**Pn**	**00 36 24.9**	**-1.9**
AVFE				AML	AML	00 38 00.5	
	comp=Z,6.6nm,0.7s						
ACHE	**Chepes**	**8.94**	**52**	*eP*	**Pn**	**00 36 26.4**	**-2.2**
TRQA	**Tornquist**	**10.31**	**100**	*ePn*	**Pn**	**00 36 46.9**	**-0.3**
CPUP	**Villa Florida**	**18.29**	**60**	P	**Pn**	**00 38 35.3**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=275,slow=5.8,SNR=2.2						
CPUP				LR	LR	00 46 19.9	
	comp=Z,92nm,21.3s,baz=218,slow=40						
USHA	**Ushuaia**	**18.41**	**168**	LR	LR	00 45 37.3	
	comp=Z,143nm,18.0s,baz=162,slow=37						
LPAZ	**La Paz**	**21.45**	**18**	P	**P**	**00 39 07.8**	**0.0**
	comp=Z,3.3nm,0.9s,baz=187,slow=9.0,SNR=6.0						
LPAZ	**La Paz**	**21.45**	**18**	*eP*	**P**	**00 39 07.3**	**-0.4**
	comp=Z,8.3nm,1.2s						
SIV	**San Ignacio**	**24.22**	**34**	P	**P**	**00 39 36.2**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=224,slow=7.8,SNR=6.6						
PMSA	**Palmer Station**	**28.59**	**170**	P	**P**	**00 40 14.5**	**+0.3**
	comp=Z,29nm,0.9s,baz=37,slow=12,SNR=3.7						
SAML	**Samuel**	**29.84**	**24**	*eP*	**P**	**00 40 25.4**	**-0.4**
	comp=Z,1.6nm,0.7s						
SDV	**Santo Domingo**	**45.78**	**6**	*eP*	**P**	**00 42 40.2**	**-0.1**
	comp=Z,2.3nm,0.4s						
SNAA	**Sanae**	**49.75**	**157**	LR	LR	01 04 15.4	
	comp=Z,20nm,18.8s,baz=32,slow=36						
SNAA	**Sanae**	**49.75**	**157**	P	**P**	**00 43 09.5**	**-0.8**
QSPA	**South Pole Qui**	**53.27**	**180**	P	**P**	**00 43 37.0**	**+0.1**
	comp=Z,5.0nm,1.1s,baz=179,slow=4.8,SNR=6.0						
TXAR	**Lajitas Array**	**71.27**	**334**	P	**P**	**00 45 38.2**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=140,slow=8.0,SNR=7.4						
TXAR				LR	LR	01 11 49.7	
	comp=Z,40nm,18.7s,baz=0.0,slow=32						
PDAR	**Pinedale Array**	**85.42**	**335**	P	**P**	**00 46 55.1**	**-0.5**
	comp=Z,1.6nm,1.2s,baz=222,slow=5.8,SNR=5.8						
TORD	**Torodi Ar. Bea**	**87.37**	**72**	P	**P**	**00 47 05.3**	**-0.3**
	comp=Z,1.7nm,1.2s,baz=198,slow=1.7,SNR=4.4						
ULM	**Lac du Bonnet**	**88.80**	**347**	P	**P**	**00 47 11.8**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=142,slow=5.3,SNR=3.2						
ABKAR	**Akbulak array**	**145.31**	**55**	*e*PKPbc	**PKPab**	**00 53 55.5**	**+0.1**
BVAR	**Borovoye Array**	**151.02**	**45**	PKPbc	**PKPbc**	**00 54 10.6**	**+0.3**
	comp=Z,2.3nm,1.0s,baz=268,slow=3.7,SNR=8.6						
ZALV	**Zalesovo Beam**	**157.97**	**33**	PKP	**PKPdf**	**00 54 13.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=345,slow=1.7,SNR=4.0						
ZALV				PKPab	**PKPab**	**00 54 47.4**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=298,slow=6.2,SNR=4.7						
SONM	**Songino Array**	**169.10**	**355**	PKP	**PKPdf**	**00 54 25.7**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=33,slow=27,SNR=2.0						
SONM				PKPab	**PKPab**	**00 55 36.8**	**+0.2**
	comp=Z,1.0nm,1.1s,baz=30,slow=3.6,SNR=3.8						

SJA 11 00:44:18.1±1.5, 28.40S×70.08W, h98km±18km, ML2.9, MW3.5, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.81**	**222**	*eP*	Pn	00 44 37.5	+0.7
LCO				*eS*	Sn	00 44 51.6	+0.9
LCO				AML	AML	00 44 52.2	
	comp=Z,322nm,0.2s						
AGUA	**GUANDACOL**	**1.76**	**128**	*eP*	Pn	00 44 50.5	+2.8
ACLC	**CERRO LA CRUZ**	**2.93**	**111**	*eP*	Pn	00 45 04.4	+1.3
ACLC				*eS*	Sn	00 45 38.2	+0.5
AVFE	**Valle Fertil**	**3.21**	**135**	*eP*	Pn	00 45 07.7	+1.0
AVFE				AML	AML	00 45 47.6	
	comp=Z,21nm,0.4s						
RTLS	**Leoncito**	**3.45**	**169**	*eP*	Pn	00 45 12.0	+1.8
APLL	**PUNTA DE LOS L**	**3.68**	**123**	*eP*	Pn	00 45 14.3	+1.2
CYA	**Choya**	**3.77**	**92**	*eP*	Pn	00 45 15.2	+0.9
CYA				AML	AML	00 45 57.5	
	comp=Z,13nm,0.3s						
AUSP	**Uspallata**	**3.85**	**171**	*eP*	Pn	00 45 17.1	+1.4
ASAL	**Salagasta**	**4.31**	**166**	*eP*	Pn	00 45 23.2	+1.6

ISCJB 11 00:44:58.5±0.2, 35.63S±0.04×73.11W±0.04, h17km, mb4.8/67, MS3.8/6, Error ellipse: s-maj=5.3km s-min=4.0km az=25.4
GUC 11 00:45:00.3±0.6, 35.68S×73.11W, h36km±5km, ML4.8
BJI 11 00:45:02.9, 35.50S×73.00W, h38km, mB5.0/4, Ms5.4/2, Ms7 5.4/2
NEIC 11 00:45:02.9±0.6, 35.60S×72.96W, h38km±4km, mb4.9/57, Error ellipse: s-maj=7.9km s-min=4.8km az=74.0
NEIC Felt at Coihueco, La Laja, San Antonio, Santiago, Talcahuano, Valparaiso and Yumbel.
IDC 11 00:45:05.6±3.2, 35.61S×72.93W, h63km±27km, mb4.3/12, mb1 4.3/16, mb1mx4.3/20, mbtmp4.4/16, ML4.2/4, MS3.7/11, Ms1 3.7/11, ms1mx3.5/32, Error ellipse: s-maj=21.9km s-min=14.1km az=89.0
ISC 11 00:44:59.6±0.3, 35.61S±0.04×73.08W±0.06, h17km, n410, σ1.09/421, mb4.9/67, MS3.8/6, 136C-134D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**1.23**	**102**	↑*iP*	**Pn**	**00 45 22.2**	**+0.2**
LNCH				*i S*	**Sn**	**00 45 38.5**	**+0.4**
LNCH				AML	AML	00 45 45.3	
	comp=E,28μm,0.5s						
NICH	**Los Niches**	**1.63**	**69**	*eP*	**Pb**	**00 45 28.6**	**-0.5**
NICH				*i S*	**Sb**	**00 45 50.0**	**+0.5**
NICH				AML	AML	00 45 56.7	
	comp=E,25μm,0.5s						
RCDM	**Rinconada Maip**	**2.83**	**42**	*eP*	**Pn**	**00 45 44.7**	**+0.7**
RCDM				AML	AML	00 46 41.5	
	comp=E,1μm,0.5s						
ANTU	**Antumapu**	**2.87**	**45**	*eP*1	**Pn**	**00 45 46.0**	**+1.5**
ANTU				AML	AML	00 46 46.6	
	comp=N,4μm,0.5s						
PEL	**Peldehue**	**3.16**	**40**	↑*iP*	**Pn**	**00 45 50.2**	**+1.6**
PLCA	**Paso Flores**	**5.49**	**159**	P	**Pn**	**00 46 21.0**	**+0.3**
	comp=N,3.0nm,0.3s,baz=324,slow=10,SNR=49						
PLCA				LR	LR	00 48 25.6	
	comp=N,529nm,20.1s,baz=328,slow=37						
PLCA	**Paso Flores**	**5.49**	**159**	*ePn*	**Pn**	**00 46 20.8**	**+0.1**
PLCA				*eSn*	**Sn**	**00 47 21.7**	**-1.7**
CFAA	**Coronel Fontan**	**5.68**	**47**	P	**Pn**	**00 46 25.2**	**+2.0**
	comp=N,1.6nm,0.3s,baz=218,slow=13,SNR=10						
CFAA				S	**Sn**	**00 47 30.4**	**+2.3**
	comp=N,1.4nm,0.3s,baz=29,slow=13,SNR=3.6						
CFAA				LR	LR	00 48 51.1	
	comp=N,143nm,18.1s,baz=229,slow=40						
LCO	**Las Campanas**	**6.88**	**18**	*ePn*	**Pn**	**00 46 39.6**	**-0.4**
LCO				*eSn*	**Sn**	**00 47 54.3**	**-3.7**
TRQA	**Tornquist**	**9.23**	**109**	*ePn*	**Pn**	**00 47 14.1**	**+2.2**
TRQA				*eSn*	Sn	00 49 04.1	+8.8
LVC	**Limon Verde**	**13.45**	**17**	*ePn*	**Pn**	**00 48 08.8**	**-1.2**
CPUP	**Villa Florida**	**16.35**	**60**	P	**Pn**	**00 48 49.2**	**+0.8**
	comp=N,0.4nm,0.3s,baz=219,slow=14,SNR=1.9						
CPUP				LR	LR	00 55 35.8	
	comp=N,530nm,18.8s,baz=218,slow=39						
EFI	**East Falkland**	**19.33**	**151**	*eP*	**Pn**	**00 49 25.5**	**+0.6**
	comp=N,1μm,2.6s						
USHA	**Ushuaia**	**19.49**	**172**	P	**Pn**	**00 49 28.0**	**+1.2**
	comp=N,0.3nm,0.3s,baz=302,slow=3.6,SNR=4.1						
USHA				LR	LR	00 58 25.1	
	comp=N,299nm,18.7s,baz=325,slow=41						
LPAZ	**La Paz**	**19.74**	**14**	P	**Pn**	**00 49 31.7**	**+0.9**
	comp=N,0.7nm,0.3s,baz=165,slow=5.5,SNR=22						
LPAZ				LR	LR	00 58 54.8	

comp=N,19nm,1.0s
CELP **Cerrillos** 53.74 8 eP P 00 54 17.6 -3.4
RKT **Rikitea** 54.57 265 eT T 01 52 58.9
comp=N,1.4nm,0.2s
QSPA **South Pole Qui** 54.63 180 eP P 00 54 26.5 -0.6
comp=N,15nm,1.0s
VNDA **Vanda** 62.36 192 P P 00 55 21.6 +1.0
comp=N,1.3nm,0.8s,baz=129,slow=6.9,SNR=8.0
034A **Hebbronville** 66.86 335 ⇓P P 00 55 52.3 +1.7
baz=67
834A **Tilden** 67.80 336 ⇓P P 00 55 58.3 +1.9
baz=68
MEH **Mehetia** 67.80 263 eT T 02 09 30.6
comp=N,23nm,0.2s
833A **Chaparral WMA,** 68.26 335 ⇓P P 00 56 00.8 +1.4
baz=69
832A **Faith Ranch, C** 68.43 335 ⇑P P 00 56 01.7 +1.2
baz=69
636A **Smothers Creek** 68.57 338 ⇑P P 00 56 02.7 +1.4
baz=69
732A **Laxson Ranch,** 68.83 335 ⇓P P 00 56 03.8 +0.9
baz=69
537A **Green Hill Far** 68.90 338 ⇓P P 00 56 04.6 +1.2
baz=69
TIAR **Tiarei** 69.00 263 eT T 02 11 00.1
comp=N,3.7nm,0.2s
536A **Bastrop** 69.13 338 ⇑P P 00 56 06.1 +1.3
baz=70
PPT2 **Papeete2** 69.17 263 eS SKiKP 01 05 49.7 -5.6
comp=N,62nm,22.5s
PPT2 **Papeete2** 69.17 263 eLR LR 01 17 28.4
PPT **Papeete** 69.18 263 LR LR 01 17 57.5
comp=N,59nm,20.4s,baz=214,slow=28
633A **Saathoff Ranch** 69.23 336 ⇑P P 00 56 06.3 +0.9
baz=70
GOGA **Godfrey** 69.35 351 eP P 00 56 05.6 -0.5
comp=N,9.1nm,0.6s
632A **Uvalde** 69.48 335 ⇑P P 00 56 07.9 +0.8
baz=70
339A **Huntington** 69.58 340 ⇑P P 00 56 08.6 +1.1
baz=70
631A **Perdido Creek** 69.67 335 ⇑P P 00 56 09.4 +1.2
baz=70
533A **Kerrville** 69.75 336 ⇓P P 00 56 09.8 +1.1
baz=70
337A **Centerville** 69.94 339 ⇑P P 00 56 11.3 +1.6
baz=70
NATX **Nacogdoches** 70.01 341 epP pP 00 56 21.5 +5.8
NATX ePcP PcP 00 56 34.5 +2.2
532A **Rocksprings** 70.09 335 ⇑P P 00 56 11.4 +0.6
baz=70,SNR=8.2
434A **Burnet** 70.19 337 ⇓P P 00 56 11.5 +0.1
baz=70,SNR=7.2
239A **Gary** 70.20 341 ⇑P P 00 56 12.1 +0.7
baz=71
336A **Riesel** 70.28 339 ⇓P P 00 56 12.7 +0.8
baz=71
531A **Rocksprings** 70.35 335 ⇑P P 00 56 13.0 +0.7
baz=71,SNR=5.4
335A **Moody** 70.36 338 ⇑P P 00 56 13.0 +0.7
baz=71
238A **Jacksonville** 70.37 340 ⇓P P 00 56 14.0 +1.6
baz=71
JCT **Junction City** 70.38 336 ⇓P P 00 56 13.3 +0.7
baz=71
JCT **Junction City** 70.38 336 eP P 00 56 13.4 +0.9
comp=N,7.3nm,0.9s
433A **Art** 70.40 336 ⇓P P 00 56 12.6 0.0
baz=71,SNR=7.9
237A **Washetta, Mont** 70.56 340 ⇑P P 00 56 14.2 +0.7
baz=71
530A **J-C Ranch, Com** 70.61 334 ⇑P P 00 56 14.6 +0.7
baz=71,SNR=5.6
334A **Lometa** 70.66 337 ⇓P P 00 56 14.5 +0.3
baz=71,SNR=6.8
TX31 **Lajitas Ar. Si** 70.73 332 eP P 00 56 15.3 +0.5
TXAR **Lajitas Array** 70.73 332 P P 00 56 15.3 +0.6
comp=N,2.1nm,0.6s,baz=158,slow=8.8,SNR=28
TXAR LR LR 01 21 59.3
comp=N,44nm,19.2s,baz=0.0,slow=31
432A **Menard** 70.74 336 ⇓P P 00 56 14.7 0.0
baz=71
KMSC **Kings Mountain** 70.81 353 ⇓P P 00 56 15.2 +0.2
baz=71
KMSC **Kings Mountain** 70.81 353 eP P 00 56 15.0 0.0
comp=N,12nm,0.7s
431A **Sonora** 70.84 335 ⇓P P 00 56 15.7 +0.3
baz=71
333A **Richland Sprin** 70.89 337 ⇑P P 00 56 15.6 0.0
baz=71,SNR=5.4
529A **Stev Forest Ra** 70.90 333 ⇑P P 00 56 16.3 +0.5
baz=71,SNR=5.5
138A **Matatall Enter** 70.98 340 ⇑P P 00 56 17.2 +1.1
baz=71
WHTX **Lake Whitney,** 71.03 338 ⇓P P 00 56 17.0 +0.6
baz=71
WHTX **Lake Whitney,** 71.03 338 eP P 00 56 17.1 +0.7
comp=N,14nm,0.8s
137A **Heron Place, G** 71.10 340 ⇑P P 00 56 17.9 +1.1
baz=72
430A **Baggett Ranch,** 71.15 335 ⇓P P 00 56 17.9 +0.7
baz=72
332A **Millersview** 71.19 336 ⇑P P 00 56 17.9 +0.5
baz=72
429A **Davenport Ranc** 71.24 334 ⇓P P 00 56 18.6 +0.8
baz=72
234A **Clairette** 71.25 338 ⇑P P 00 56 18.4 +0.7
baz=72
331A **San Angelo** 71.35 335 ⇑P P 00 56 18.7 +0.2
baz=72
233A **Rising Star** 71.50 337 ⇓P P 00 56 19.6 +0.3
baz=72
TKL **Tuckaleechee C** 71.60 351 eP P 00 56 19.3 -0.4
232A **Coleman** 71.62 336 ⇑P P 00 56 20.4 +0.4
baz=72,SNR=5.9
330A **Mertzon** 71.70 335 ⇓P P 00 56 20.9 +0.3
baz=72
134A **White-Moore Ra** 71.76 338 ⇓P P 00 56 21.3 +0.4
baz=72
231A **Bronte** 71.89 336 ⇑P P 00 56 21.9 +0.2
baz=72,SNR=7.4
329A **Wagon Wheel Ra** 72.05 334 ⇑P P 00 56 23.3 +0.7
baz=72
133A **Hamilton Ranch** 72.06 337 ⇑P P 00 56 22.8 +0.2
baz=72,SNR=5.8
Z35A **Perchaven, San** 72.22 339 ⇓P P 00 56 24.0 +0.5
baz=73,SNR=5.6
ABTX **Abilene, Hawle** 72.30 337 ⇑P P 00 56 24.2 +0.1
baz=73,SNR=5.6
ABTX **Abilene, Hawle** 72.30 337 eP P 00 56 24.0 -0.1
comp=N,7.3nm,0.6s
229A **Bryant Ranch,** 72.43 335 ⇓P P 00 56 25.2 +0.3
baz=73
TZTN **Tazewell** 72.44 351 eP P 00 56 24.6 -0.2
comp=N,9.6nm,0.7s
Z34A **Collier Ranch,** 72.45 338 ⇑P P 00 56 25.4 +0.4
baz=73
131A **Roby** 72.59 336 ⇑P P 00 56 26.2 +0.4
baz=73
Z33A **Whitaker Ranch** 72.64 338 ⇑P P 00 56 26.7 +0.7
baz=73
WVT **Waverly** 72.68 348 eP P 00 56 26.0 -0.3
comp=N,22nm,0.7s
130A **Snyder** 72.71 336 ⇓P P 00 56 27.0 +0.5
baz=73
228A **UT Block 9, Go** 72.84 334 ⇓P P 00 56 27.8 +0.4
baz=73
Z32A **Haskell** 72.88 337 ⇓P P 00 56 27.9 +0.4
baz=73,SNR=5.2
URVA **University of** 72.93 356 eP P 00 56 28.4 +0.7
Y34A **Reagan Ranch,** 72.95 339 ⇑P P 00 56 28.4 +0.5
baz=73
129A **Stewart Farms,** 73.05 335 ⇑P P 00 56 29.2 +0.5
baz=73
JSRW **J. Sargeant Re** 73.07 356 eP P 00 56 29.1 +0.7
Z31A **Sharp Cattle R** 73.10 337 ⇑P P 00 56 28.9 0.0
baz=74,SNR=6.9
128A **Castleberry Fa** 73.26 334 ⇓P P 00 56 30.1 +0.3
baz=74
Z30A **Sanderson Ranc** 73.40 336 ⇑P P 00 56 30.6 0.0
baz=74,SNR=5.9
MNTX **Cornudas Mount** 73.50 332 eP P 00 56 30.9 -0.3
comp=N,2.9nm,0.8s
Y32A **R-V Farms, Ver** 73.51 337 ⇑P P 00 56 31.5 +0.3
baz=74
Z29A **Hungry Hill Ra** 73.57 335 ⇑P P 00 56 31.8 +0.2
baz=74
X34A **Smith Ranch, M** 73.58 339 ⇓P P 00 56 32.2 +0.6
baz=74,SNR=5.7
X33A **Lawton** 73.72 338 ⇑P P 00 56 32.2 -0.2
baz=74
Y31A **Rekieta Farm,** 73.73 337 ⇑P P 00 56 32.8 +0.3
baz=74
PBMO **Poplar Bluff** 73.81 346 eP P 00 56 32.5 -0.4
comp=N,13nm,0.6s
X32A **Elmer** 73.85 338 ⇓P P 00 56 33.2 +0.1
baz=74
Y30A **Stafford Cattl** 73.86 336 ⇓P P 00 56 33.9 +0.6
baz=74
TUL1 **Leonard** 74.23 341 ⇓P P 00 56 35.5 +0.1
baz=75
TUL1 **Leonard** 74.23 341 eP P 00 56 35.2 -0.1
comp=N,18nm,0.8s
X31A **McDonald Ranch** 74.26 337 ⇓P P 00 56 35.8 +0.2
baz=75
W33A **Caddo, Fort Co** 74.28 339 ⇓P P 00 56 36.4 +0.7
baz=75
W32A **Sentinel** 74.48 338 ⇑P P 00 56 37.3 +0.4
baz=75,SNR=9.6
MSTX **Muleshoe** 74.58 335 eP P 00 56 38.1 +0.5
comp=N,7.0nm,0.8s
V34A **Guthrie** 74.64 340 ⇓P P 00 56 38.0 +0.2
baz=75
W31A **Holland Ranch,** 74.76 337 ⇑P P 00 56 38.8 +0.3
baz=75
319A **Douglas** 74.81 328 ⇑P P 00 56 40.0 +1.0
baz=75
V33A **Lossen Ranch,** 74.84 339 ⇓P P 00 56 39.2 +0.2
baz=75,SNR=6.0
V32A **Arapaho** 74.98 338 ⇓P P 00 56 40.5 +0.8
baz=75
AMTX **Amarillo** 75.04 336 ⇓P P 00 56 41.0 +0.8
baz=75
AMTX **Amarillo** 75.04 336 eP P 00 56 40.8 +0.6
comp=N,21nm,1.2s
121A **Cookes Peak, D** 75.19 330 ⇑P P 00 56 42.2 +0.9
baz=76
121A **Cookes Peak, D** 75.19 330 eP P 00 56 41.6 +0.4
comp=N,3.4nm,0.8s
U34A **Anderson Ranch** 75.20 340 ⇓P P 00 56 41.4 +0.4
baz=76
W29A **Amarillo** 75.25 336 ⇑P P 00 56 42.1 +0.7
baz=76
V31A **Spring Creek L** 75.27 338 ⇓P P 00 56 42.5 +1.0
baz=76
MVL **Millersville** 75.30 357 eP P 00 56 42.6 +1.2
comp=N,17nm,1.4s
X26A **CR and CF Fran** 75.47 334 ⇓P P 00 56 43.5 +0.7
baz=76,SNR=6.0
Y24A **Capitan** 75.50 333 ⇑P P 00 56 43.6 +0.6
baz=76,SNR=6.1
U32A **Winter Ranch,** 75.58 339 ⇑P P 00 56 44.1 +0.9
baz=76
W27A **Bowe Ranch, En** 75.67 335 ⇓P P 00 56 44.8 +0.9
baz=76
Y23A **Lovelace Mesa,** 75.74 332 ⇑P P 00 56 45.6 +1.2
baz=76
X25A **Clemmons Ranch** 75.75 334 ⇑P P 00 56 44.7 +0.3
baz=76
W26A **Owens Ranch, T** 75.94 334 ⇓P P 00 56 46.6 +1.2
baz=76
SSPA **Standing Stone** 76.00 356 eP P 00 56 45.8 +0.3
comp=N,8.8nm,0.9s
T33A **Patterson Ranc** 76.01 339 ⇓P P 00 56 46.8 +1.2
baz=76
V28A **Channing** 76.01 336 ⇓P P 00 56 47.1 +1.3
baz=76
ACSO **Alum Creek Sta** 76.02 352 eP P 00 56 45.2 -0.3
comp=N,42nm,0.6s
X24A **Lazy VL Ranch,** 76.07 333 ⇓P P 00 56 47.5 +1.2
baz=76
LIC **Lamto** 76.09 72 eP P 00 56 46.1 -0.5
comp=N,45nm,1.0s
U30A **WK&E Inc. Balk** 76.22 337 ⇑P P 00 56 48.3 +1.3
baz=77
TUC **Tucson** 76.26 328 eP P 00 56 48.7 +1.5
comp=N,8.0nm,1.4s
T32A **Huddler Ranch,** 76.30 339 ⇑P P 00 56 48.0 +0.7
baz=77
W25A **X Bar L Ranch,** 76.30 334 ⇓P P 00 56 48.0 +0.4
baz=77,SNR=5.2
ODNJ **Ogdensburg** 76.33 359 eP P 00 56 48.1 +0.8
comp=N,28nm,1.6s
U29A **Oasis Ranch, S** 76.34 337 ⇓P P 00 56 48.5 +0.8
baz=77
TIC **Toumodi** 76.36 71 eP P 00 56 47.9 -0.3
comp=N,28nm,1.0s
X23A **Hourglass Bar** 76.37 332 ⇑P P 00 56 48.6 +0.6
baz=77,SNR=5.0
KIC **Kosan Boka** 76.40 72 eP P 00 56 48.3 -0.1
comp=N,46nm,0.9s
DBIC **Dimbokro** 76.50 72 P P 00 56 48.9 0.0
comp=N,14nm,0.7s,baz=209,slow=6.0,SNR=28
DBIC LR LR 01 27 31.1
comp=N,76nm,20.0s,baz=192,slow=33
DBIC **Dimbokro** 76.50 72 eP P 00 56 49.3 +0.3
comp=N,14nm,0.8s
LAZ **Ladron** 76.58 332 eP P 00 56 49.5 +0.4
comp=N,5.9nm,1.5s
W24A **Lazy 6 Ranch,** 76.64 333 ⇑P P 00 56 49.8 +0.4
baz=77,SNR=5.7
S32A **Newby Ranch, P** 76.78 339 ⇑P P 00 56 51.5 +1.4
baz=77
ANMO **Albuquerque** 76.79 332 eP P 00 56 51.6 +1.3
comp=N,6.6nm,1.0s
U27A **Thompson Grove** 76.82 336 ⇓P P 00 56 51.4 +1.0
baz=77
214A **Organ Pipe Nat** 76.86 326 ⇑P P 00 56 52.0 +1.4
baz=77
S31A **Mullinville** 76.87 339 ⇓P P 00 56 51.6 +1.0
baz=77
W23A **Werner Place,** 76.87 333 ⇑P P 00 56 52.3 +1.4
baz=77
V25A **Rancho No Teng** 76.91 334 ⇑P P 00 56 51.2 +0.1
baz=77,SNR=8.6
T29A **Hugoton** 77.00 337 ⇓P P 00 56 52.3 +1.0
baz=77
V24A **Rampart Ranch,** 77.05 334 ⇑P P 00 56 52.4 +0.6
baz=77
R33A **Olander Ranch,** 77.08 340 ⇓P P 00 56 52.0 +0.3
baz=77
U26A **Atchley Ranch,** 77.11 335 ⇓P P 00 56 52.0 -0.1
baz=78,SNR=6.3
T28A **Walsh** 77.22 337 ⇑P P 00 56 52.9 +0.3
baz=78,SNR=9.8
S29A **Ulysses** 77.36 338 ⇓P P 00 56 53.7 +0.3
baz=78,SNR=5.5
T27A **Campo** 77.37 336 ⇑P P 00 56 54.1 +0.6
baz=78
R32A **Long Quarter,** 77.39 340 ⇑P P 00 56 54.2 +0.8
baz=78
R31A **Burdett** 77.50 339 ⇑P P 00 56 54.7 +0.7
baz=78
QUA2 **Belchertown** 77.52 1 eP P 00 56 54.5 +0.5
comp=N,9.3nm,0.8s
S28A **Manter** 77.58 337 ⇑P P 00 56 55.0 +0.4
baz=78,SNR=6.4
Q33A **Connelly Farm,** 77.68 340 ⇓P P 00 56 55.9 +0.9
baz=78
R30A **Dighton** 77.72 338 ⇑P P 00 56 56.3 +1.0
baz=78
T26A **Comanche Natio** 77.76 335 ⇑P P 00 56 56.4 +0.7
baz=78,SNR=5.5
X18A **Snowflake** 77.81 330 ⇑P P 00 56 57.5 +1.4
baz=78
V22A **San Miguel Ran** 77.82 332 ⇑P P 00 56 57.2 +1.0
baz=78,SNR=6.9
Q32A **Meitler Ranch,** 77.88 340 ⇓P P 00 56 56.9 +0.8
baz=78
T25A **Trinidad** 78.01 335 ⇑P P 00 56 58.0 +0.9
baz=78,SNR=8.7
MMNY **Mt. Morris Dam** 78.09 356 eP P 00 56 57.4 +0.3
comp=N,35nm,1.0s
R29A **Marienthal** 78.11 338 ⇑P P 00 56 58.6 +1.1
baz=78
Q31A **Ellis** 78.13 339 ⇓P P 00 56 58.7 +1.2
baz=78
S26A **Kim** 78.13 336 ⇑P P 00 56 58.4 +0.7
baz=78,SNR=13
U22A **Llaves** 78.21 333 ⇑P P 00 56 60.0 +1.7
baz=79
W18A **Petrified Fore** 78.23 330 ⇑P P 00 56 59.9 +1.5
baz=79
R28A **Tribune** 78.24 337 ⇑P P 00 56 58.5 +0.2
baz=79,SNR=7.5
T24B **San Luis** 78.28 334 ⇓P P 00 56 59.5 +0.7
baz=79
Q30A **Quinter** 78.34 339 ⇓P P 00 56 59.4 +0.6
baz=79,SNR=11
X16A **Lo Mia Camp, P** 78.34 328 ⇓P P 00 56 59.7 +0.6
baz=79
S25A **Robets Cordova** 78.49 335 ⇑P P 00 57 00.3 +0.5
baz=79,SNR=6.2
Q29A **Oakley** 78.49 338 ⇑P P 00 56 59.7 +0.1
baz=79,SNR=5.5
R27A **Eads** 78.51 337 ⇓P P 00 56 59.7 -0.1
baz=79,SNR=6.2
P31A **Stockton** 78.60 340 ⇑P P 00 57 00.9 +0.8
baz=79
ACCN **Adirondack Com** 78.62 360 eP P 00 57 00.8 +0.8
comp=N,6.4nm,0.8s
R26A **Arlington** 78.73 336 ⇑P P 00 57 02.3 +1.2
baz=79,SNR=8.5
S24A **Houchin Ranch,** 78.74 334 ⇓P P 00 57 02.4 +1.1
baz=79,SNR=6.4
P30A **Selden** 78.87 339 ⇑P P 00 57 02.4 +0.8
baz=79
P29A **Atwood** 79.13 338 ⇓P P 00 57 04.2 +1.1
baz=80
O31A **Woolen Ranch,** 79.17 340 ⇓P P 00 57 04.4 +1.2
baz=80
R24A **Sanders Place,** 79.23 335 ⇑P P 00 57 05.1 +1.2
baz=80,SNR=9.6
MDV **Middlebury** 79.23 360 eP P 00 57 03.9 +0.5
Q26A **Hugo** 79.32 336 ⇑P P 00 57 05.7 +1.5
baz=80
P28A **Saint Francis** 79.35 338 ⇓P P 00 57 05.4 +1.1
baz=80
O30A **MW Ranch, Wils** 79.41 339 ⇓P P 00 57 06.3 +1.8
baz=80
S22A **4UR Ranch, Cre** 79.41 333 ⇑P P 00 57 06.3 +1.3
baz=80
R23A **Moffat** 79.45 334 ⇓P P 00 57 06.5 +1.4
baz=80
MVCO **Mesa Verde** 79.57 332 ⇑P P 00 57 07.0 +1.2
baz=80
MVCO **Mesa Verde** 79.57 332 eP P 00 57 07.0 +1.2
comp=N,8.2nm,1.3s
JFWS **Jewell Farm** 79.71 347 eP P 00 57 06.0 -0.1
comp=N,15nm,0.9s
P26A **Davis Ranch, A** 79.84 337 ⇓P P 00 57 08.3 +1.2
baz=80
LONY **Lake Ozonia** 79.87 359 eP P 00 57 07.1 +0.2
comp=N,8.4nm,1.0s
O28A **Krutsinger Ran** 79.87 338 ⇑P P 00 57 08.3 +1.2
baz=80
Q24A **Divide** 79.91 335 ⇓P P 00 57 08.9 +1.2
baz=80
W13A **Hualapai Mount** 79.98 327 ⇑P P 00 57 09.1 +1.0
baz=80
P25A **Willow Gulch B** 80.07 336 ⇑P P 00 57 09.4 +1.0
baz=80,SNR=6.1
BOSA **Boshof** 80.08 118 P P 00 57 08.3 -0.5
comp=N,14nm,0.8s,baz=238,slow=3.8,SNR=31
BOSA **Boshof** 80.08 118 eP P 00 57 08.3 -0.5
comp=N,14nm,0.8s
O27A **Beecher Island** 80.14 338 ⇑P P 00 57 09.9 +1.3
baz=80
N29A **Votaw Ranch, W** 80.16 339 ⇓P P 00 57 09.9 +1.2
baz=80
M31A **Lambtecht Ranc** 80.19 341 ⇓P P 00 57 09.8 +1.0
baz=81
U15A **North Rim** 80.42 329 ⇑P P 00 57 12.3 +1.9
baz=81
O26A **Horse Wrangler** 80.45 337 ⇓P P 00 57 12.4 +2.1
baz=81
P23A **Jefferson** 80.51 335 ⇓P P 00 57 12.5 +1.5
baz=81
PV05 **Paradox Valley** 80.56 332 eP P 00 57 12.5 +1.5
O25A **Wiggins** 80.59 336 ⇓P P 00 57 12.8 +1.7
baz=81
SMCO **Snowmass** 80.73 334 eP P 00 57 13.8 +1.6
comp=N,9.3nm,1.0s
PV10 **Paradox Valley** 80.79 332 eP P 00 57 13.2 +0.9
ISCO **Idaho Springs** 80.81 335 ⇑P P 00 57 13.3 +0.8
baz=81,SNR=6.2
ISCO **Idaho Springs** 80.81 335 eP P 00 57 13.5 +1.0
comp=N,3.2nm,0.8s
L31A **Butterfield Fa** 80.92 341 ⇑P P 00 57 14.0 +1.3
baz=81
P22A **Eagle** 81.03 334 ⇓P P 00 57 15.0 +1.4
baz=81
KNB **Kanab** 81.14 329 eP P 00 57 16.0 +1.8
comp=N,11nm,1.2s
O23A **Lake Granby, G** 81.28 335 ⇑P P 00 57 16.1 +1.1
baz=82,SNR=8.3
O22A **Kremmling** 81.46 335 ⇓P P 00 57 16.9 +1.0
baz=82,SNR=6.6
K30A **Basset** 81.60 341 ⇓P P 00 57 17.6 +1.4
baz=82
CCUT **Cedar City** 81.82 329 eP P 00 57 19.9 +2.1
comp=N,100nm,2.7s
ECSD **EROS Data Cent** 81.82 343 ⇓P P 00 57 17.6 +0.2
baz=82,SNR=22
ECSD **EROS Data Cent** 81.82 343 eP P 00 57 17.3 -0.1
comp=N,23nm,0.8s
K29A **Lazy Trails An** 81.87 340 ⇓P P 00 57 18.8 +1.1
baz=82
N23A **Red Feather La** 81.90 335 ⇓P P 00 57 19.3 +1.1
baz=82
N22A **Wattenberg Ran** 82.00 335 ⇑P P 00 57 19.7 +1.0
baz=82,SNR=5.7
O20A **White River Ci** 82.04 334 ⇓P P 00 57 20.1 +1.3
baz=82
M24A **Cheyenne** 82.05 336 ⇑P P 00 57 20.0 +1.1
baz=82
LBTB **Lobatse** 82.40 115 eP P 00 57 20.9 -0.3
comp=N,140nm,2.6s
SPMN **Marine on St.** 82.42 346 ⇓P P 00 57 19.7 -0.7
baz=83,SNR=5.4
SPMN **Marine on St.** 82.42 346 eP P 00 57 19.9 -0.5
comp=N,14nm,0.9s
FURC **Furnace Creek,** 82.46 326 ⇑P P 00 57 20.7 -0.2
baz=83
J29A **Okreek** 82.47 340 ⇑P P 00 57 21.3 +0.5
baz=83,SNR=7.5
K26A **Motz Farm, Whi** 82.65 338 ⇓P P 00 57 20.2 -1.6
baz=83,SNR=5.5
N20A **Spence Gulch,** 82.66 334 ⇑P P 00 57 22.6 +0.5
baz=83
I30A **Oacoma** 82.70 341 ⇓P P 00 57 22.0 0.0
baz=83
J28A **Allard Ranch,** 82.74 340 ⇑P P 00 57 23.1 +0.8
baz=83
J27A **Elkhorn Farm,** 82.80 339 ⇓P P 00 57 23.5 +0.9
baz=83
L23A **Garrett** 82.92 336 ⇓P P 00 57 23.8 +0.4
baz=83
I28A **Midland** 83.25 340 ⇓P P 00 57 25.2 +0.4
baz=84,SNR=5.5
R11A **Troy Canyon, C** 83.44 328 ⇓P P 00 57 27.0 +0.8
baz=84
R11A **Troy Canyon, C** 83.44 328 eP P 00 57 27.9 +1.7
comp=N,8.6nm,1.2s
J25A **Sunshine Ranch** 83.46 338 ⇓P P 00 57 27.2 +1.1
baz=84
K23A **Bowen Ranch, D** 83.46 336 ⇓P P 00 57 27.1 +1.0
baz=84
H29A **Onida** 83.57 341 ⇑P P 00 57 26.5 0.0
baz=84,SNR=6.0
JLU **Jordanelle** 83.65 332 eP P 00 57 28.6 +1.3
comp=N,5.5nm,1.0s
K22A **Casper** 83.67 336 ⇓P P 00 57 28.1 +0.9
baz=84
J24A **Dixon Ranch, L** 83.67 337 ⇑P P 00 57 28.4 +1.2
baz=84
G30A **Faulkton** 83.76 342 ⇓P P 00 57 28.4 +1.0
baz=84
H28A **Mission Ridge** 83.83 340 ⇓P P 00 57 28.2 +0.4
baz=84
DUG **Dugway, Tooele** 83.84 330 ⇓P P 00 57 29.1 +1.0
baz=84
DUG **Dugway, Tooele** 83.84 330 eP P 00 57 29.4 +1.3
comp=N,13nm,1.3s
K21A **Alcova** 83.90 335 ⇓P P 00 57 28.8 +0.4
baz=84,SNR=6.7
TPH **Tonopah** 83.94 326 eP P 00 57 30.2 +1.4
comp=N,7.2nm,0.9s
I25A **Rochford** 84.01 338 ⇓P P 00 57 29.3 +0.4
baz=84,SNR=5.2
H27A **Howes** 84.09 340 ⇑P P 00 57 29.5 +0.3
baz=84
I24A **Kuemmerle Ranc** 84.14 338 ⇓P P 00 57 29.7 +0.2

baz=84
G28A Parade 84.17 341 ⇑P P 00 57 30.3 +0.7
baz=84
RSSD Black Hills 84.20 338 *e*P P 00 57 30.2 +0.3
comp=N,4.4nm,0.9s
J22A Midwest 84.33 336 ⇑P P 00 57 30.8 +0.3
baz=85
HWUT Hardware Ranch 84.56 332 *e*P P 00 57 32.5 +0.7
comp=N,10nm,1.0s
F29A Eureka 84.59 342 ⇓P P 00 57 32.1 +0.5
baz=85
NV01 Mina Array Sit 84.72 326 *e*P P 00 57 33.8 +1.0
NVAR Mina Array Bea 84.72 326 P P 00 57 34.1 +1.4
comp=N,3.0nm,0.9s,baz=147,slow=5.7,SNR=9.5
I22A 9 Mile Ranch, 84.76 336 ⇑P P 00 57 33.0 +0.3
baz=85
J20A Shoshoni 84.82 335 ⇑P P 00 57 33.3 +0.4
baz=85,SNR=8.0
BW06 Boulder Array 84.82 334 *e*P P 00 57 32.7 -0.4
PDAR Pinedale Array 84.82 334 P P 00 57 33.5 +0.4
comp=N,2.0nm,1.0s,baz=151,slow=3.4,SNR=7.1
G26A Maurine 84.84 340 ⇓P P 00 57 33.2 +0.3
baz=85
F28A McLaughlin 84.86 341 ⇓P P 00 57 33.2 +0.2
baz=85
H24A Dirks Ranch, A 84.92 338 ⇑P P 00 57 33.5 +0.1
baz=85
I21A Big Trails, Te 84.96 336 ⇓P P 00 57 33.5 -0.1
baz=85,SNR=6.8
E30A Jud 84.98 342 ⇓P P 00 57 34.2 +0.6
baz=85
G25A Newell 84.99 339 ⇑P P 00 57 34.3 +0.7
baz=85
J19A Crowheart 85.08 334 ⇓P P 00 57 34.3 -0.1
baz=85,SNR=5.8
HVU Hansel Valley 85.17 331 *e*P P 00 57 35.4 +0.5
comp=N,7.1nm,0.9s
F27A Lemmon 85.21 340 ⇑P P 00 57 35.2 +0.4
baz=86
E29A Napoleon 85.23 342 ⇑P P 00 57 35.5 +0.7
baz=86
H22A Clearmont 85.34 337 ⇑P P 00 57 35.9 +0.3
baz=86
I20A Worland 85.36 335 ⇑P P 00 57 35.8 +0.1
baz=86,SNR=7.9
F26A Lodgepole 85.37 340 ⇓P P 00 57 36.4 +0.8
baz=86
D30A Buchanan 85.51 343 ⇑P P 00 57 36.3 +0.1
baz=86
TOA0 Torodi Ar. Sit 85.56 71 *e*P P 00 57 36.6 -0.5
TORD Torodi Ar. Bea 85.56 71 P P 00 57 36.5 -0.7
comp=N,6.1nm,0.9s,baz=254,slow=4.6,SNR=25
G23A Biddle 85.59 338 ⇑P P 00 57 36.4 -0.3
baz=86
H21A Big Horn, Sher 85.60 336 ⇓P P 00 57 37.1 +0.3
baz=86
F25A Bowman 85.67 339 ⇓P P 00 57 37.6 +0.5
baz=86
D29A Pettibone, Tap 85.67 342 ⇑P P 00 57 37.5 +0.5
baz=86
I19A Meeteetse 85.73 335 ⇓P P 00 57 38.3 +0.6
baz=86
H20A Greybull 85.79 336 ⇓P P 00 57 38.3 +0.5
baz=86
E26A Carlson Angus 85.88 340 ⇑P P 00 57 38.4 +0.3
baz=86
F24A Ekalaka 85.88 339 ⇓P P 00 57 38.5 +0.3
baz=86
G22A Birney 85.89 337 ⇑P P 00 57 38.4 +0.2
baz=86
LOHW Long Hollow 85.93 334 *e*P P 00 57 39.2 +0.5
comp=N,38nm,2.3s
TPAW Teton Pass 85.95 333 *e*P P 00 57 39.4 +0.6
comp=N,7.2nm,1.0s
AGMN Agassiz Nation 85.98 345 ⇓P P 00 57 38.3 -0.2
baz=86,SNR=9.6
AGMN Agassiz Nation 85.98 345 *e*P P 00 57 38.2 -0.2
comp=N,9.6nm,0.6s
C30A Mose, Pekin 86.00 343 ⇓P P 00 57 39.0 +0.4
baz=86,SNR=14
D28A Regan 86.04 342 ⇓P P 00 57 39.4 +0.6
baz=86
F23A Volborg 86.06 338 ⇓P P 00 57 38.9 -0.1
baz=86,SNR=5.4
FXWY Fox Creek 86.11 333 *e*P P 00 57 40.0 +0.5
G21A Lodge Grass 86.18 337 ⇓P P 00 57 39.9 +0.2
baz=86
I17A Pilgrim Ck. 86.19 334 ⇑P P 00 57 40.7 +0.8
baz=86
H19A Powell 86.28 335 ⇓P P 00 57 40.5 +0.2
baz=87
IMW Indian Meadow 86.30 334 *e*P P 00 57 41.1 +0.6
comp=N,6.5nm,0.9s
FLWY Flagg Ranch 86.37 334 *e*P P 00 57 41.7 +0.9
comp=N,12nm,1.2s
F22A Rosebud 86.38 337 ⇓P P 00 57 40.8 +0.2
baz=87
D26A Manning 86.39 340 ⇑P P 00 57 41.1 +0.6
baz=87,SNR=9.2
MDND Maddock 86.41 342 ⇑P P 00 57 41.6 +1.0
baz=87
E24A Baker 86.49 339 ⇓P P 00 57 41.7 +0.6
baz=87
G20A Bridger 86.51 336 ⇓P P 00 57 41.1 -0.3
baz=87,SNR=6.8
H18A Shoshone NF, C 86.52 335 ⇓P P 00 57 41.5 0.0
baz=87,SNR=14
B30A Myrvik Farm, E 86.67 343 ⇑P P 00 57 42.1 +0.3
baz=87,SNR=14
F21A Absaloka Mine, 86.69 337 ⇑P P 00 57 42.2 +0.1
baz=87,SNR=5.2
D25A Fairfield 86.74 340 ⇑P P 00 57 42.7 +0.4
baz=87,SNR=6.9
C27A Sayler Ranch, 86.77 341 ⇑P P 00 57 43.1 +0.7
baz=87,SNR=7.1
RLMT Red Lodge 86.78 335 *e*P P 00 57 43.2 +0.4
comp=N,22nm,1.8s
E22A Miles City 86.87 338 ⇑P P 00 57 43.0 0.0
baz=87
B29A Wagenman Farm, 86.92 343 ⇑P P 00 57 43.5 +0.4
baz=87,SNR=6.8
D24A Glendive 87.00 339 ⇓P P 00 57 44.6 +1.0
baz=87
F20A Billings 87.00 336 ⇑P P 00 57 43.8 +0.1
baz=87
C26A Wahner Farm, P 87.03 341 ⇓P P 00 57 44.1 +0.4
baz=87,SNR=10
A30A Hoffart Farm, 87.12 344 ⇓P P 00 57 43.8 -0.3
baz=88,SNR=7.7
B28A Dugan Ranch, T 87.16 342 ⇓P P 00 57 44.7 +0.5
baz=88
D23A Lindsay 87.31 339 ⇑P P 00 57 45.3 +0.2
baz=88,SNR=9.1
F19A Roth Farm, Mol 87.31 336 ⇓P P 00 57 45.4 +0.2
baz=88
E21A Keefer Ranch, 87.31 337 ⇑P P 00 57 45.7 +0.6
baz=88
A29A Manning Farm, 87.32 343 ⇑P P 00 57 45.0 0.0
baz=88,SNR=12
HLID Hailey 87.32 331 ⇓P P 00 57 46.5 +1.0
baz=88
HLID Hailey 87.32 331 *e*P P 00 57 46.7 +1.3
comp=N,68nm,2.8s
B27A Peters Farms, 87.34 342 ⇓P P 00 57 45.7 +0.6
baz=88
C24A Savage 87.40 339 ⇑P P 00 57 45.8 +0.3
baz=88,SNR=10
B26A Jensen Ranch, 87.57 341 ⇓P P 00 57 46.7 +0.4
baz=88
D22A Cohagen 87.58 338 ⇑P P 00 57 47.0 +0.6
baz=88
E20A Meyer Farm, Mu 87.61 337 ⇑P P 00 57 47.0 +0.4
baz=88
B25A Knox Farm, Ray 87.72 340 ⇑P P 00 57 47.4 +0.4
baz=88,SNR=7.4
D21A La Casta Ranch 87.75 338 ⇓P P 00 57 47.5 +0.3
baz=88
E19A Rath Farm, Rou 87.79 336 ⇑P P 00 57 47.3 -0.1
baz=88,SNR=6.3
MCMT McKenzie Canyo 87.80 333 *e*P P 00 49.0 +1.2
ULM Lac du Bonnet 87.83 346 P P 00 46.4 -1.0
comp=N,14nm,0.8s,baz=180,slow=3.2,SNR=26
ULM Lac du Bonnet 87.83 346 *e*P P 00 47.2 -0.3
C23A Lambert 87.87 339 ⇓P P 00 48.0 +0.2
baz=88
A26A Wade Farm, Ken 88.00 341 ⇑P P 00 57 48.3 0.0
baz=88,SNR=6.9
C22A Vida 88.02 339 ⇑P P 00 57 48.9 +0.5
baz=88
D20A Manuel Ranch, 88.14 337 ⇓P P 00 57 49.2 +0.2
baz=88
A25A Svangstu Ranch 88.32 341 ⇓P P 00 57 50.8 +1.0
baz=89
MOD Modoc Plateau 88.43 327 *e*P P 00 57 51.7 +1.0
comp=N,11nm,0.8s
A24A Westby 88.55 340 ⇓P P 00 57 51.7 +0.7
baz=89
C19A Slack Wire Ran 89.00 337 ⇓P P 00 57 53.1 0.0
baz=89
A22A Carney Farms, 89.15 339 ⇑P P 00 57 53.9 +0.1
baz=90
A21A Bergtoll Ranch 89.45 338 ⇓P P 00 57 54.9 -0.3
baz=90
EGMT Eagleton 89.48 336 ⇑P P 00 57 55.3 -0.1
baz=90
A20A Cobblestone Ra 89.65 338 ⇑P P 00 57 55.8 -0.3
baz=90
J05D Fort Rock, OR 89.95 327 ⇓P P 00 57 58.6 +0.8
baz=90
FCC Fort Churchill 95.64 349 *e*P P 00 58 23.3 -0.2
ESDC Sonseca Array 98.30 47 P Pdif 00 58 36.2 +0.1
comp=N,0.2nm,0.4s,baz=242,slow=3.2,SNR=4.9
YKA Yellowknife Ar 103.31 342 Pdiff Pdif 00 58 56.9 -0.8
comp=N,0.5nm,0.8s,baz=147,slow=4.2,SNR=10
ILAR Eielson Array 115.24 333 PKP PKPdf 01 03 38.7 -0.4
comp=N,0.4nm,1.0s,baz=208,slow=8.2,SNR=5.6
ASAR Alice Springs 115.75 208 PKP PKPdf 01 03 39.8 -1.8
comp=N,0.3nm,0.5s,baz=171,slow=1.3,SNR=5.1
WRA Warramunga Arr 118.94 210 PKP PKPdf 01 03 45.7 -2.1
comp=N,1.3nm,0.6s,baz=172,slow=1.4,SNR=6.0
BRTR Keskin Array B 123.35 62 PKP PKPdf 01 03 54.4 -1.3
comp=N,0.9nm,0.7s,baz=239,slow=2.1,SNR=4.0
AKASG Malin Array Be 123.90 48 PKP PKPdf 01 03 55.5 -0.7
comp=N,1.9nm,0.8s,baz=258,slow=3.8,SNR=5.5
H11N3 WAKE ISLAND Hyl 25.34 270 T T 03 22 01.4
baz=122,slow=75,SNR=3.4
H11N1 WAKE ISLAND Hyl 25.35 270 T T 03 22 03.1
baz=122,slow=75,SNR=7.1
H11N2 WAKE ISLAND Hyl 25.35 270 T T 03 22 00.7
baz=122,slow=75,SNR=5.6
BRVK Borovoye 148.96 44 *e*PKPdf PKPdf 01 04 42.0 +0.1
BRVK *e*PKPbc **PKPbc 01 04 45.7 -0.2**
HYB Hyderabad 148.98 118 *i* PKP PKPdf 01 04 45.0 +1.9
YAK Yakutsk 149.94 339 *e*PKPdf PKPbc 01 04 47.2 -0.9
KKAR Karatay Array 151.04 64 *e*PKPdf PKPdf 01 04 45.6 +0.1
KKAR *e*PKPbc **PKPbc 01 04 50.0 -1.3**
AAK Ala-Archa 154.00 64 *e*PKPbc PKPbc 01 04 57.7 -0.5
KSH Kashi 155.22 72 PKPbc PKPdf 01 04 55.2 +3.3
KSH sPKP 01 05 05.8
KSH PKS **PKSdf 01 08 25.3 -0.8**
KSH PP **PP 01 08 51.5 -2.3**
KSH SKS **SKSdf 01 11 56.2 -1.5**
KSH SKKS **SKKSac 01 15 39.6 -2.9**
KSH SS **SS 01 28 34.1 -4.0**
KSH PPMZ
comp=N,110nm,6.9s
KSH LN
comp=N,48nm,4.6s
KSH LE
comp=N,28nm,4.5s
KSH LZ
comp=N,100nm,5.3s
ZALV Zalesovo Beam 156.04 33 PKP PKPdf 01 04 51.2 -1.1
comp=N,1.7nm,0.9s,baz=270,slow=3.0,SNR=7.7
ZALV PKPab **PKPab 01 05 19.9 +0.2**
comp=N,6.0nm,0.6s,baz=302,slow=4.6,SNR=16
MKAR Makanchi Array 158.45 51 PKP PKPdf 01 04 55.5 -0.1
comp=N,0.6nm,0.8s,baz=270,slow=1.2,SNR=7.3
MKAR PKPab **PKPab 01 05 29.9 -0.6**
comp=N,1.9nm,0.8s,baz=288,slow=3.6,SNR=10.0
MDJ Mudanjiang 160.51 304 PKP PKPdf 01 04 59.4 +1.3
CMAR Chiang Mai Arr 161.51 155 PKP PKPdf 01 04 58.5 -1.4
comp=N,0.5nm,0.4s,baz=253,slow=2.7,SNR=4.5
CMAR PKPab **PKPab 01 05 43.4 -0.9**
comp=N,0.5nm,0.4s,baz=207,slow=4.0,SNR=3.1
WMQ Urumqi 163.11 55 *e*PKP PKPdf 01 05 01.0 +0.1
WMQ pPKP **pPKPdf 01 05 12.0 +5.3**
SONM Songino Array 167.78 2 PKPab PKPab 01 06 11.8 +0.5
comp=N,1.9nm,0.8s,baz=337,slow=7.2,SNR=7.5
KMI Kunming 168.94 160 PKP PKPdf 01 05 04.6 -1.7
NJ2 Nanjing 169.46 254 *e*PKP PKPdf 01 05 06.8 +0.7
GYA Guiyang 170.88 179 *e*PKP PKPdf 01 05 06.2 -1.1
GYA pPKP **pPKPdf 01 05 19.8 +6.7**
GYA PKPab **PKPab 01 06 27.0 +1.5**
GYA PKS **PKSdf 01 08 37.4 -2.4**
GYA PP **PP 01 10 18.6 +3.6**
GYA PPMZ
comp=N,110nm,7.8s
GTA Gaotai 173.20 54 *e*PKP PKPdf 01 05 07.1 -0.8
GTA pPKP **pPKPdf 01 05 17.8 +4.0**
GTA sPKP 01 05 21.5
CD2 Chengdu 174.62 150 *e*PKP PKPdf 01 05 08.6 0.0
LZH Lanzhou 177.46 78 *e*PKP PKPdf 01 05 08.5 -0.7
LZH pPKP **pPKPdf 01 05 18.0 +2.9**
LZH sPKP 01 05 23.5

*IDC **11** 00:58:24.6±1.1, 33°.35S×72°.46W, h0km, mb3.9/4, mb1 4.1/7, mb1mx3.9/19, mbtmp3.9/7, ML4.3/3, MS3.3/6, Ms1 3.3/6, ms1mx3.1/26, Error ellipse: s-maj=29.5km s-min=19.7km az=128.0*
*ISCJB **11** 00:58:25.3±0.9, 33°.42S±0°.09×72°.4W±0°.2, h12km, mb3.9/3, MS3.3/3, Error ellipse: s-maj=21.2km s-min=12.1km az=15.8*
ISC 11 00:58:26.5±1.0, 33°.3S±0°.1×72°.5W±0°.2, h12km, n12, σ1§39/10, mb4.2/3, MS3.3/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.97**	**66**	Pn	**Pn**	**00 59 27.0**	**-0.3**
	0.2nm,0.3s,baz=242,slow=11,SNR=16						
CFAA				Lg	Lg	01 00 31.3	
	2.0nm,0.3s,baz=146,slow=9.7,SNR=8.1						
CFAA				LR	LR	01 01 06.4	
	comp=Z,86nm,18.1s,baz=344,slow=41						
PLCA	**Paso Flores**	**7.55**	**169**	Pn	**Pn**	**01 00 16.3**	**-0.2**
	1.4nm,0.3s,baz=337,slow=11,SNR=15						
PLCA				LR	LR	01 02 37.2	
	comp=Z,76nm,21.3s,baz=350,slow=34						
CPUP	**Villa Florida**	**14.87**	**66**	Pn	**Pn**	**01 01 58.0**	**+1.3**
	0.3nm,0.3s,baz=7.3,slow=17,SNR=1.9						
CPUP				LR	LR	01 08 10.8	
	comp=Z,276nm,18.4s,baz=234,slow=39						
LPAZ	**La Paz**	**17.41**	**14**	P	**P**	**01 02 31.0**	**-0.3**
	0.2nm,0.3s,baz=194,slow=8.5,SNR=9.6						
SIV	**San Ignacio**	**20.11**	**34**	P	Pn	01 03 01.9	-0.2
	3.8nm,0.8s,baz=231,slow=13,SNR=11						
SIV				LR	LR	01 12 01.6	
	comp=Z,140nm,18.9s,baz=230,slow=41						
ATAH	**Atahualpa**	**26.63**	**347**	LR	LR	01 13 05.8	
	comp=Z,85nm,18.4s,baz=183,slow=33						
BDFB	**Brasília**	**28.27**	**57**	LR	LR	01 16 32.9	
	comp=Z,89nm,20.9s,baz=220,slow=38						
QSPA	**South Pole Qui**	**56.91**	**180**	P	**P**	**01 08 12.0**	**+0.8**
	1.6nm,0.6s,baz=122,slow=5.2,SNR=4.6						
TXAR	**Lajitas Array**	**68.97**	**331**	P	**P**	**01 09 33.2**	**+1.4**
	0.3nm,0.7s,baz=132,slow=30,SNR=2.1						
TORD	**Torodi Ar. Bea**	**84.33**	**70**	P	**P**	**01 10 58.0**	**-0.8**
	1.8nm,0.8s,baz=246,slow=4.2,SNR=10						
ZALV	**Zalesovo Beam**	**153.85**	**31**	PKPbc	**PKPbc**	**01 18 24.1**	**-1.0**
	0.6nm,0.5s,baz=300,slow=2.9,SNR=5.1						
ZALV				PKPab	**PKPab**	**01 18 35.6**	**-2.6**
	1.5nm,0.9s,baz=289,slow=4.5,SNR=4.3						
MKAR	**Makanchi Array**	**156.59**	**47**	PKPab	**PKPab**	**01 18 49.9**	**-0.4**
	0.5nm,0.8s,baz=276,slow=5.5,SNR=5.4						

*ISCJB **11** 01:06:38.0±0.6, 38°.80N±0°.04×122°.84W±0°.07, h8km, Error ellipse: s-maj=8.2km s-min=4.5km az=149.1*
*NEIC **11** 01:06:37.9, 38°.81N×122°.81W, h2km, ML3.0(NCEDC), After NCEDC.*
NEIC Felt at Healdsburg.
*IDC **11** 01:06:39.0±4.4, 38°.70N×122°.90W, h0km, mb1 3.5/5, mb1mx3.3/31, mbtmp3.1/5, ML3.0/3, Error ellipse: s-maj=57.3km s-min=14.3km az=44.0*
ISC 11 01:06:38.4±0.9, 38°.77N±0°.04×122°.89W±0°.05, h8km, n18, σ1§24/25, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPS	**Hopland Field**	**0.27**	**328**	*e*Pg	**Pg**	**01 06 43.8**	**+0.1**
MCCM	**Marconi Confer**	**0.62**	**179**	*e*Pg	**Pb**	**01 06 51.5**	**0.0**
KCPM	**Cahto Peak**	**1.06**	**330**	*e*Pg	**Pn**	**01 06 59.5**	**-0.3**
KCPM				*e*S	**Sn**	**01 07 16.2**	**+1.4**
KIPM	**Iron Peak**	**1.14**	**337**	*e*Pg	**Pn**	**01 07 00.9**	**+0.1**
SAC	**San Andreas**	**1.24**	**162**	*e*Pg	**Pn**	**01 07 00.9**	**-1.1**
SAC				*e*S	**Sn**	**01 07 19.7**	**+0.8**
WDC	**Whiskeytown Da**	**1.83**	**8**	*e*Pn	**Pn**	**01 07 09.3**	**-0.9**
CMB	**Columbia Colle**	**2.10**	**110**	*e*Pn	**Pn**	**01 07 12.5**	**-1.4**
CMB				*e*S	**Sn**	**01 07 37.4**	**-2.9**
SAO	**San Andreas Ge**	**2.30**	**150**	*e*Pn	**Pn**	**01 07 15.8**	**-0.9**
WAKR	**Walker**	**2.72**	**94**	*e*Pn	**Pn**	**01 07 23.0**	**+0.4**
WAKR				*e*S	**Sn**	**01 07 56.3**	**+0.6**
YBH	**Yreka Blue Hor**	**2.97**	**3**	Pn	**Pb**	**01 07 29.9**	**-1.7**
	1.1nm,0.3s,baz=180,slow=6.1,SNR=11						
YBH	**Yreka Blue Hor**	**2.97**	**3**	*e*Pn	**Pn**	**01 07 26.1**	**+0.3**
YBH				*e*Pg	**Pg**	**01 07 35.7**	**+0.4**
NVAR	**Mina Array Bea**	**3.61**	**94**	Pn	**Pn**	**01 07 35.2**	**+0.3**
	0.7nm,0.3s,baz=270,slow=15,SNR=8.3						
NVAR				Pg	**Pb**	**01 07 42.3**	**-0.4**
	2.2nm,0.3s,baz=266,slow=19,SNR=49						
HUMO	**Hull Mountain**	**3.84**	**359**	Pn	**Pn**	**01 07 37.6**	**-0.1**
HUMO				*e*Pg	**Pg**	**01 07 50.0**	**-2.0**
TPH	**Tonopah**	**4.51**	**97**	*e*Pn	**Pn**	**01 07 48.0**	**+0.9**
ISA	**Isabella, Lake**	**4.69**	**130**	*e*Pn	**Pn**	**01 07 49.3**	**-0.3**
ISA				*e*S	**Sb**	**01 08 57.9**	**+0.2**
ELK	**Elko**	**6.22**	**69**	Pn	**Pn**	**01 08 12.7**	**+2.0**
	0.1nm,0.3s,baz=191,slow=9.7,SNR=6.2						
PDAR	**Pinedale Array**	**10.87**	**64**	Pn	Pn	01 09 20.4	+5.9
	baz=246,slow=14,SNR=4.5						
TXAR	**Lajitas Array**	**18.47**	**115**	P	**Pn**	**01 10 57.2**	**+2.3**
	baz=295,slow=8.7,SNR=3.9						

WEL 11 01:29:19.4±0.3, 38°.34S×176°.00E, h164km±2km, ML3.9/17, 38C-3D, Error ellipse: s-maj=2.1km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRRZ	**Plateau Road**	**0.34**	**117**	PN	Pn	01 29 41.8	0.0
PRRZ				SN	Sn	01 29 58.4	-0.6
ALRZ	**Allen Road**	**0.35**	**130**	PN	Pn	01 29 41.8	0.0
ALRZ				SN	Sn	01 29 59.1	+0.1
TLZ	**Tolley Road**	**0.36**	**272**	⇑PN	Pn	01 29 42.4	+0.4
TLZ				SN	Sn	01 29 59.6	+0.5
RITZ	**Rihia Road**	**0.65**	**190**	PN	Pn	01 29 43.6	+0.5
TOZ	**Tahuroa Road**	**0.73**	**327**	PN	Pn	01 29 43.8	+0.2
TOZ				SN	Sn	01 30 02.4	+0.2
KRVZ	**Karewarewa**	**0.80**	**200**	PN	Pn	01 29 44.1	-0.1
WTVZ	**West Tongariro**	**0.84**	**202**	⇑PN	Pn	01 29 44.4	-0.1
TWVZ	**Taurewa**	**0.85**	**211**	⇑PN	Pn	01 29 44.6	0.0
OTVZ	**Oturere**	**0.86**	**198**	PN	Pn	01 29 44.8	+0.1
URZ	**Urewera**	**0.88**	**85**	⇑PN	Pn	01 29 44.0	-0.6
URZ				SN	Sn	01 30 02.2	-1.7
URZ				AML	AML	01 30 05.5	
NGZ	**Ngauruhoe**	**0.89**	**200**	PN	Pn	01 29 44.8	-0.2
BKZ	**Black Stump Fm**	**0.91**	**155**	⇓PN	Pn	01 29 44.7	-0.2
BKZ				SN	Sn	01 30 03.0	-1.6
BKZ				AML	AML	01 30 05.0	
HIZ	**Hauiti**	**0.92**	**259**	PN	Pn	01 29 45.0	+0.1
COVZ	**Chateau Observ**	**0.93**	**203**	⇑PN	Pn	01 29 45.1	-0.1
WPVZ	**Whakapapa**	**0.93**	**202**	PN	Pn	01 29 45.2	0.0
TUVZ	**Tukino**	**0.96**	**196**	⇑PN	Pn	01 29 45.5	0.0
FWVZ	**Far West T-bar**	**0.98**	**201**	PN	Pn	01 29 45.5	-0.1
NMHZ	**Naumai**	**0.98**	**140**	⇑PN	Pn	01 29 46.3	+0.7
NMHZ				SN	Sn	01 30 06.2	+0.6
WHVZ	**Whangaehu Hut**	**0.99**	**199**	⇑PN	Pn	01 29 45.7	-0.1
TRVZ	**Turoa**	**1.02**	**200**	PN	Pn	01 29 45.8	-0.2
RAHZ	**Arahi**	**1.03**	**124**	⇑PN	Pn	01 29 46.2	+0.4
WNVZ	**Wahianoa**	**1.03**	**198**	PN	Pn	01 29 46.0	-0.1
PKVZ	**Pokaka**	**1.08**	**208**	PN	Pn	01 29 45.7	-0.5
MOVZ	**Moawhango**	**1.08**	**190**	⇑PN	Pn	01 29 45.9	-0.4
MTVZ	**Mangateitei**	**1.12**	**201**	PN	Pn	01 29 46.5	-0.1
RAGZ	**Rawiri**	**1.12**	**98**	⇑PN	Pn	01 29 46.5	-0.1
BHHZ	**Black Hill Sta**	**1.15**	**178**	⇑PN	Pn	01 29 46.5	-0.3
MWZ	**Matawai**	**1.20**	**90**	⇑PN	Pn	01 29 47.0	-0.3
MWZ				AML	AML	01 30 08.1	
MWZ				AML	AML	01 30 08.5	
WHHZ	**Waihua**	**1.21**	**128**	⇑PN	Pn	01 29 47.7	+0.3
MCHZ	**McNeill Hill**	**1.23**	**154**	⇑PN	Pn	01 29 48.1	+0.7
VRZ	**Vera Road**	**1.25**	**231**	PN	Pn	01 29 47.3	-0.4
KRHZ	**Kereru**	**1.33**	**168**	⇑PN	Pn	01 29 48.4	0.0
RIGZ	**Rimuhau**	**1.43**	**105**	⇑PN	Pn	01 29 49.5	+0.1
KNZ	**Kokohu**	**1.47**	**118**	⇑PN	Pn	01 29 49.7	0.0
HAZ	**Te Kaha**	**1.52**	**68**	PN	Pn	01 29 49.4	-0.9
CKHZ	**Cape Kidnapper**	**1.56**	**148**	⇑PN	Pn	01 29 51.0	+0.3
TWGZ	**Tauwhareparae**	**1.57**	**85**	PN	Pn	01 29 51.1	+0.3
PNHZ	**Pukenui**	**1.58**	**174**	⇑PN	Pn	01 29 50.4	-0.5
PRGZ	**Paritu Road**	**1.58**	**112**	PN	Pn	01 29 51.0	0.0
KAHZ	**Kahuranaki**	**1.60**	**155**	⇑PN	Pn	01 29 51.3	+0.2
WAZ	**Wanganui**	**1.62**	**209**	⇑PN	Pn	01 29 50.9	-0.3
MHGZ	**Mahia Peninsul**	**1.70**	**119**	⇑PN	Pn	01 29 52.3	+0.2
TSZ	**Takapari Road**	**1.72**	**181**	⇑PN	Pn	01 29 51.8	-0.6
TSZ				AML	AML	01 30 19.1	
TSZ				AML	AML	01 30 19.5	
CNGZ	**Carnagh Statio**	**1.74**	**95**	PN	Pn	01 29 52.9	+0.4
WPHZ	**Waipukurau**	**1.75**	**169**	⇑PN	Pn	01 29 52.3	-0.4
PUZ	**Puketiti**	**1.80**	**82**	PN	Pn	01 29 52.6	-0.6
PUZ				AML	AML	01 30 17.5	
PUZ				AML	AML	01 30 18.4	
PXZ	**Pawanui**	**1.82**	**159**	⇑PN	Pn	01 29 53.1	-0.3
PXZ				AML	AML	01 30 21.1	
PXZ				AML	AML	01 30 22.3	
KHEZ	**Kahui Hut**	**1.82**	**238**	PN	Pn	01 29 53.8	+0.2
DVHZ	**Dannevirke**	**1.96**	**176**	⇑PN	Pn	01 29 54.0	-0.9
WMGZ	**Waiomatatini S**	**1.98**	**75**	PN	Pn	01 29 54.9	-0.2
MXZ	**Matakaoa Point**	**1.98**	**68**	PN	Pn	01 29 55.0	-0.2
PRHZ	**Porangahau**	**1.98**	**166**	PN	Pn	01 29 54.2	-1.0
POWZ	**Post Office Ro**	**2.06**	**185**	⇑PN	Pn	01 29 55.0	-1.0
ANWZ	**Angora Road**	**2.15**	**170**	⇑PN	Pn	01 29 56.4	-0.6
PRWZ	**Pori Road**	**2.21**	**181**	⇑PN	Pn	01 29 56.9	-0.9
MRZ	**Mangatainoka R**	**2.34**	**188**	⇑PN	Pn	01 29 57.8	-1.5
MRZ				AML	AML	01 30 29.3	
MRZ				AML	AML	01 30 29.3	
BFZ	**Birch Farm**	**2.34**	**175**	PN	Pn	01 29 58.1	-1.3
TIWZ	**Tintock**	**2.43**	**182**	⇑PN	Pn	01 29 59.0	-1.5
TIWZ				AML	AML	01 30 31.0	
TIWZ				AML	AML	01 30 31.4	
OGWZ	**Otaki Gorge**	**2.56**	**194**	⇑PN	Pn	01 30 00.3	-1.6
CPWZ	**Castlepoint**	**2.57**	**177**	PN	Pn	01 30 01.0	-1.0
HOWZ	**Holdsworth Sta**	**2.58**	**188**	⇑PN	Pn	01 30 00.3	-1.9
KIWZ	**Kapiti Island**	**2.66**	**198**	⇑PN	Pn	01 30 01.0	-2.0
KIWZ				AML	AML	01 30 33.9	
KIWZ				AML	AML	01 30 36.8	
TMWZ	**Te Maipa**	**2.76**	**182**	⇑PN	Pn	01 30 02.4	-2.0
MTWZ	**Mount Morrison**	**2.84**	**188**	⇑PN	Pn	01 30 03.1	-2.3
MTWZ				AML	AML	01 30 37.8	
MTWZ				AML	AML	01 30 39.1	
CAWZ	**Cannon Point**	**2.86**	**194**	PN	Pn	01 30 03.4	-2.1
CAWZ				AML	AML	01 30 39.4	
CAWZ				AML	AML	01 30 40.2	
DUWZ	**D'Urville Isla**	**2.94**	**213**	PN	Pn	01 30 04.4	-2.1
TRWZ	**Traveller**	**3.06**	**184**	PN	Pn	01 30 05.9	-2.2
TRWZ				AML	AML	01 30 42.5	
TRWZ				AML	AML	01 30 44.5	
PAWZ	**Paruwai Farm**	**3.07**	**188**	PN	Pn	01 30 05.6	-2.5
PAWZ				AML	AML	01 30 42.1	
PAWZ				AML	AML	01 30 42.5	
MSWZ	**Moikau Station**	**3.12**	**190**	PN	Pn	01 30 06.3	-2.5
MSWZ				AML	AML	01 30 44.3	
MSWZ				AML	AML	01 30 44.5	
TCW	**Tory Channel**	**3.16**	**204**	PN	Pn	01 30 06.9	-2.4
TCW				AML	AML	01 30 45.3	
TCW				AML	AML	01 30 47.6	
BHW	**Baring Head**	**3.19**	**195**	PN	Pn	01 30 06.9	-2.7
BHW				AML	AML	01 30 45.6	
PLWZ	**Palliser**	**3.28**	**190**	⇑PN	Pn	01 30 08.0	-2.8
TUWZ	**Tuamarina**	**3.47**	**207**	PN	Pn	01 30 10.5	-2.7
TUWZ				AML	AML	01 30 52.7	
TUWZ				AML	AML

NEIC ***11*** *01:39:38.8, 33°.25N×116°.68W, h5km, ML3.5(PAS), After PAS.*
NEIC Felt [III] at Julian, Vista and Warner Springs; [II] at Escondido, Hemet, Poway, Ramona, San Diego, San Marcos, Santee and Valley Center. Also felt at Aguanga, Campo, Carlsbad, El Cajon, Fallbrook, Homeland, La Jolla, Laguna Niguel, Lakeside, Oceanside, Pine Valley, Ranchita, Santa Ysabel, Sun City and Temecula.

ISC 11 01:39:38.4±1.1, 33°.27N±0°.02×116°.71W±0°.02, h2km±10km, n35, σ1§59/63, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flats O**	**0.40**	**32**	P	**Pg**	**01 39 46.3**	**+0.1**
	baz=0.4						
PFO				S	**Sg**	**01 39 51.5**	**0.0**
	baz=0.4						
PFO	**Pinyon Flats O**	**0.40**	**32**	*e*Pg	**Pg**	**01 39 46.5**	**+0.2**
PFO				*e*Sg	**Sg**	**01 39 51.8**	**+0.3**
MONP	**Monument Peak,**	**0.45**	**147**	P	**Pg**	**01 39 46.7**	**-0.3**
	baz=0.4						
MONP				S	**Sg**	**01 39 52.1**	**-0.7**
	baz=0.4						
109C	**Camp Elliot, M**	**0.50**	**222**	P	**Pg**	**01 39 47.9**	**-0.1**
	baz=0.5						
109C				S	**Sg**	**01 39 54.7**	**+0.2**
	baz=0.5						
MURC	**Murrieta**	**0.53**	**309**	P	**Pg**	**01 39 49.0**	**+0.4**
	baz=0.5						
MURC				S	**Sg**	**01 39 56.5**	**+1.1**
	baz=0.5						
BAR	**Barrett**	**0.58**	**177**	*e*Pg	**Pg**	**01 39 49.1**	**-0.6**
BAR				*e*Sg	**Sg**	**01 39 57.0**	**-0.2**
SWSC	**Sam W. Stewart**	**0.83**	**113**	P	**Pg**	**01 39 53.7**	**-0.7**
	baz=0.8						
BELC	**Belle Mtn. Jos**	**0.94**	**39**	P	**Pg**	**01 39 56.3**	**-0.3**
	baz=0.9						
BBRC	**Big Bear Solar**	**1.01**	**350**	P	**Pg**	**01 39 57.9**	**+0.1**
	baz=1.0						
BBRC				S	**Sg**	**01 40 11.3**	**+0.3**
	baz=1.0						
BC3	**Big Chuckawall**	**1.12**	**69**	P	**Pg**	**01 39 58.4**	**-1.5**
	baz=1.1						
BFSC	**Mount Baldy Ra**	**1.25**	**321**	Pb	**Pn**	**01 40 01.5**	**-1.7**
	baz=1.3						
BFSC				S	**Sg**	**01 40 17.7**	**-1.0**
	baz=1.3						
CIS	**Catalina Islan**	**1.42**	**276**	P	**Pn**	**01 40 03.5**	**-1.9**
	baz=1.4						
CIS				S	**Sb**	**01 40 23.0**	**-1.4**
	baz=1.4						
MWC	**Mount Wilson**	**1.48**	**311**	*e*Pn	**Pn**	**01 40 05.1**	**-1.1**
MWC				*e*S	**Sn**	**01 40 25.8**	**-0.4**
PASC	**Pasadena Art C**	**1.53**	**307**	*e*Pn	**Pn**	**01 40 05.5**	**-1.2**
PASC				*e*S	**Sn**	**01 40 26.5**	**-0.7**
IRM	**Iron Mountain**	**1.58**	**55**	P	**Pn**	**01 40 05.4**	**-2.1**
	baz=1.6						
IRM				Sb	**Sn**	**01 40 27.9**	**-0.6**
	baz=1.6						
GLA	**Glamis**	**1.59**	**97**	P	**Pn**	**01 40 04.8**	**-2.9**
	baz=1.6						
GLA	**Glamis**	**1.59**	**97**	*e*Pn	**Pn**	**01 40 04.8**	**-2.9**
GLA				*e*S	**Sg**	**01 40 33.7**	**+4.0**
RRX	**Edison Barstow**	**1.63**	**352**	Pg	**Pn**	**01 40 09.0**	**+0.8**
	baz=1.6						
RRX				Sb	**Sn**	**01 40 30.3**	**+0.5**
	baz=1.6						
DECC	**Green Verdugo**	**1.67**	**306**	Sb	**Sn**	**01 40 30.7**	**-0.1**
	baz=1.7						
EDW2	**Edwards Air Fo**	**1.93**	**327**	Sb	**Sb**	**01 40 39.1**	**+0.1**
	baz=2.0						
GSC	**Goldstone, Bar**	**2.03**	**358**	*e*Pn	**Pn**	**01 40 13.4**	**-0.4**
GSC				*e*S	**Sb**	**01 41 8.8**	**-0.1**
OSI	**Osito Audit: C**	**2.15**	**309**	*e*Pn	**Pn**	**01 40 14.9**	**-0.4**
OSI				*e*S	**Sg**	**01 40 48.1**	**+0.6**
LDFC	**Landfair**	**2.24**	**36**	*e*Pn	**Pn**	**01 40 18.0**	**+1.3**
LDFC				*e*S	**Sb**	**01 40 49.3**	**+1.2**
NEE2	**Needles Airpor**	**2.29**	**49**	Sb	**Sb**	**01 40 49.7**	**+0.3**
	baz=2.3						
LRMC	**Laurel Mtn Rad**	**2.35**	**340**	Sb	**Sb**	**01 40 52.2**	**+1.0**
	baz=2.4						
ISA	**Isabella, Lake**	**2.80**	**329**	*e*Pn	**Pn**	**01 40 24.2**	**-0.2**
ISA				*e*S	**Sb**	**01 41 06.2**	**+2.1**
DAC	**Darwin (Calif)**	**3.09**	**347**	*e*Pn	**Pn**	**01 40 29.8**	**+1.4**
DAC				*e*S	**Sg**	**01 41 17.4**	**-0.4**
SHPR	**Sheep Range**	**3.47**	**21**	*e*Pn	**Pn**	**01 40 33.9**	**+0.2**
SHPR				*e*Pg	**Pb**	**01 40 43.2**	**+2.4**
SHPR				*e*S	**Sg**	**01 41 27.6**	**-2.4**
214A	**Organ Pipe Nat**	**3.54**	**111**	*e*Pn	**Pn**	**01 40 33.6**	**-0.9**
WUAZ	**Wupatki**	**4.95**	**62**	*e*Pn	**Pn**	**01 40 55.3**	**+1.3**
CCUT	**Cedar City**	**5.07**	**32**	*e*Pn	**Pn**	**01 40 56.5**	**+0.8**
	5.1nm,0.7s						
CCUT				*e*Pg	**Pg**	**01 41 14.8**	**-0.9**
CCUT				*e*S	**Sg**	**01 42 19.9**	**-1.6**
TUC	**Tucson**	**5.08**	**99**	*e*Pn	**Pn**	**01 40 56.9**	**+1.2**
TUC				*e*S	**Sg**	**01 42 25.4**	**+3.7**
R11A	**Troy Canyon, C**	**5.15**	**10**	*e*Pn	**Pn**	**01 40 57.9**	**+1.1**
	3.2nm,0.6s						
R11A				*e*Pg	**Pg**	**01 41 14.6**	**-2.6**
R11A				*e*S	**Sg**	**01 42 20.3**	**-3.7**
ARUT	**Antelope Range**	**5.24**	**30**	*e*Pn	**Pn**	**01 40 59.1**	**+1.2**
	193nm,0.5s						
ARUT				*e*Pg	**Pg**	**01 41 16.4**	**-2.5**
ARUT				*e*S	Sb	01 42 08.3	-6.0
MVCO	**Mesa Verde**	**7.79**	**57**	*e*Pn	**Pn**	**01 41 32.0**	**-1.0**
	5.2nm,0.5s						
MVCO				*e*S	**Sg**	**01 43 44.3**	**-4.1**

NIED ***11*** *01:50:00, 26°.10N×129°.60E, h5km, Mw3.9 Best double couple: M0 7.78000×10^14 NP1:φs 213.00000°, δ33.00000°, λ-102.00000°. NP2:φs 47.00000°, δ58.00000°, λ-82.00000°.*
IDC ***11*** *01:50:03.9±0.9, 26°.16N×129°.53E, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.9/27, mbtmp3.8/15, ML3.5/1, MS2.8/3, Ms1 2.8/3, ms1mx2.5/30, Error ellipse: s-maj=32.7km s-min=18.9km az=71.0*
JMA ***11*** *01:50:05.8, 26°.15N×129°.58E, h46km, M3.7*
ISCJB ***11*** *01:50:06.2±0.5, 26°.20N±0°.04×129°.54E±0°.04, h30km, mb3.7/14, MS2.9/1, Error ellipse: s-maj=5.4km s-min=4.6km az=178.6*

ISC 11 01:50:07.9±0.7, 26°.15N±0°.05×129°.56E±0°.04, h30km, n29, σ1§76/39, mb3.8/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.33**	**301**	P	**Pn**	**01 50 28.9**	**-1.6**
JOW				*e*S	**Sn**	**01 50 44.6**	**-2.6**
JOW	**Kunigami**	**1.33**	**301**	Sn	**Sn**	**01 50 44.4**	**-2.8**
JNTH	**Nagotoyohara**	**1.42**	**285**	P	**Pn**	**01 50 29.8**	**-1.9**
JNTH				*e*S	**Sn**	**01 50 47.5**	**-1.9**
JOKE	**Okinoerabujima**	**1.49**	**324**	P	**Pn**	**01 50 31.2**	**-1.4**
JOKE				*e*S	**Sn**	**01 50 49.2**	**-1.9**
JMZ	**Minamidaito 2**	**1.54**	**102**	P	**Pn**	**01 50 31.1**	**-2.1**
JMZ				*e*S	**Sn**	**01 50 48.7**	**-3.5**
JJT2	**Tamagusuku 2**	**1.62**	**270**	P	**Pn**	**01 50 33.3**	**-1.1**
JJT2				*e*S	**Sn**	**01 50 53.0**	**-1.3**
JIH	**Iheya**	**1.67**	**302**	P	**Pn**	**01 50 33.8**	**-1.3**
JIH				*e*S	**Sn**	**01 50 53.4**	**-2.1**
JTK	**Tokunoshima**	**1.71**	**342**	P	**Pn**	**01 50 34.5**	**-1.2**
JTK				*e*S	**Sn**	**01 50 53.6**	**-3.0**
JAMN	**Amaminishikomi**	**2.11**	**351**	P	**Pn**	**01 50 39.7**	**-1.4**
JAMN				*e*S	**Sn**	**01 51 04.0**	**-2.3**
JAGN	**Aguni-jima**	**2.12**	**282**	P	**Pn**	**01 50 40.3**	**-1.0**
JAGN				*e*S	**Sn**	**01 51 05.1**	**-1.5**
JZK	**Kikaishima**	**2.19**	**10**	*e*S	**Sn**	**01 51 07.0**	**-1.2**
JAM	**Amami Oshima**	**2.25**	**1**	P	**Pn**	**01 50 41.4**	**-1.7**
JAM				*e*S	**Sn**	**01 51 07.0**	**-2.8**
JKE	**Kume jima 2**	**2.49**	**275**	P	**Pn**	**01 50 44.3**	**-2.1**
JKE				*e*S	**Sn**	**01 51 13.0**	**-2.8**
JNU	**Nakatsue**	**7.04**	**9**	Pn	**Pn**	**01 51 49.2**	**+0.3**
	0.8nm,0.3s,baz=135,slow=23,SNR=2.1						
JNU				LR	LR	01 54 45.8	
	comp=Z,53nm,19.6s,baz=306,slow=40						
KSRS	**Korea Array**	**11.35**	**353**	LR	LR	01 57 03.2	
	comp=Z,37nm,20.0s,baz=137,slow=37						
SONM	**Songino Array**	**28.27**	**326**	P	**P**	**01 55 60.0**	**+1.4**
	0.4nm,0.6s,baz=344,slow=31,SNR=2.6						
SONM				LR	LR	02 07 36.4	
	comp=Z,32nm,18.6s,baz=26,slow=37						
MKAR	**Makanchi Array**	**42.47**	**312**	P	**P**	**01 57 59.9**	**-0.3**
	0.7nm,0.6s,baz=96,slow=9.2,SNR=10						
ZALV	**Zalesovo Beam**	**43.03**	**322**	P	**P**	**01 58 04.0**	**-0.6**
	0.8nm,0.6s,baz=75,slow=9.3,SNR=4.8						
KURBB	**Kurchatov Arra**	**45.73**	**316**	P	**P**	**01 58 26.3**	**+0.1**
	0.7nm,0.5s,baz=102,slow=8.8,SNR=7.2						
WRA	**Warramunga Arr**	**46.05**	**174**	P	**P**	**01 58 29.7**	**+0.6**
	0.9nm,0.8s,baz=354,slow=8.4,SNR=3.6						
ASAR	**Alice Springs**	**49.70**	**175**	P	**P**	**01 58 57.8**	**+0.5**
	0.4nm,0.7s,baz=360,slow=15,SNR=4.5						
GEYT	**Alibeck**	**60.36**	**300**	P	**P**	**02 00 14.5**	**+0.2**
	1.0nm,0.6s,baz=60,slow=3.6,SNR=3.6						
ILAR	**Eielson Array**	**63.94**	**28**	P	**P**	**02 00 37.5**	**-0.3**
	0.5nm,0.8s,baz=243,slow=7.1,SNR=4.3						
KBZ	**Khabaz**	**70.13**	**310**	P	**P**	**02 01 19.1**	**+1.6**
	2.4nm,0.7s,baz=207,slow=4.5,SNR=8.2						
FINES	**FINESS Array B**	**73.51**	**331**	P	**P**	**02 01 38.4**	**+0.9**
	2.6nm,0.8s,baz=76,slow=5.1,SNR=12						
AKASG	**Malin Array Be**	**76.36**	**320**	P	**P**	**02 01 54.3**	**+0.2**
	0.3nm,0.3s,baz=54,slow=5.2,SNR=6.2						
BRTR	**Keskin Array B**	**78.02**	**308**	P	**P**	**02 02 04.7**	**+0.8**
	1.3nm,0.9s,baz=38,slow=5.8,SNR=3.3						
YKA	**Yellowknife Ar**	**78.09**	**25**	P	**P**	**02 02 05.2**	**+1.6**
	0.1nm,0.5s,baz=274,slow=30,SNR=2.4						
NOA	**NORSAR Array B**	**79.90**	**334**	P	**P**	**02 02 14.0**	**+0.4**
	1.7nm,0.9s,baz=53,slow=5.5,SNR=3.6						

IDC ***11*** *02:14:20.9±2.4, 50°.63N×172°.65W, h0km, mb3.4/6, mb1 3.7/7, mb1mx3.5/41, mbtmp3.4/7, ML3.6/1, Error ellipse: s-maj=58.3km s-min=26.6km az=13.0*
ISCJB ***11*** *02:14:23.4±1.1, 50°.7N±0°.1×172°.75W±0°.09, h33km, mb3.4/6, Error ellipse: s-maj=16.8km s-min=7.9km az=178.6*
NEIC ***11*** *02:14:23.9, 50°.63N×173°.09W, h10km, ML3.2(AEIC), After AEIC.*

ISC 11 02:14:25.2±1.3, 50°.7N±0°.1×172°.90W±0°.06, h35km, n16, σ1§39/18, mb3.5/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.74**	**335**	P	**Pn**	**02 14 53.4**	**+0.4**
KOKL	**Mount Kliuchef**	**1.81**	**334**	P	**Pn**	**02 14 54.4**	**+0.4**
KOKV	**Korovin Volcan**	**1.83**	**335**	P	**Pn**	**02 14 53.3**	**-0.9**
KOWE	**Korovin West**	**1.86**	**334**	P	**Pn**	**02 14 55.1**	**+0.5**
ADK	**Adak**	**2.65**	**298**	*e*Pn	**Pn**	**02 15 04.8**	**-0.6**
ADK				*e*S	**Sn**	**02 15 33.4**	**-2.9**
MSOM	**Makushin Julie**	**4.80**	**47**	P	**Pn**	**02 15 34.5**	**-0.4**
MCIR	**Makushin Cirqu**	**4.91**	**46**	P	**Pn**	**02 15 36.8**	**+0.2**
UNV	**Unalaska Valle**	**5.03**	**49**	P	**Pn**	**02 15 37.1**	**-0.9**
UNV				S	**Sn**	**02 16 33.9**	**-1.0**
LSSE	**Little Sitkin**	**5.49**	**286**	P	**Pn**	**02 15 43.0**	**-1.4**
ILAR	**Eielson Array**	**19.57**	**34**	P	**Pn**	**02 18 49.6**	**-1.6**
	0.1nm,0.3s,baz=225,slow=9.5,SNR=7.5						
SEY	**Seymchan**	**22.27**	**317**	P	**P**	**02 19 21.9**	**+3.1**
	0.8nm,0.3s,baz=277,slow=23,SNR=2.4						
INK	**Inuvik**	**25.94**	**33**	P	**P**	**02 19 54.0**	**+0.2**
	0.7nm,0.4s,baz=256,slow=6.6,SNR=2.6						
YKA	**Yellowknife Ar**	**32.99**	**47**	P	**P**	**02 20 56.5**	**+0.1**
	0.1nm,0.6s,baz=265,slow=7.6,SNR=2.2						
PDAR	**Pinedale Array**	**42.92**	**75**	P	**P**	**02 22 20.8**	**+0.1**
	1.0nm,0.7s,baz=309,slow=4.2,SNR=6.2						
TXAR	**Lajitas Array**	**55.04**	**85**	P	**P**	**02 23 52.9**	**-0.4**
	0.2nm,0.6s,baz=316,slow=6.4,SNR=3.1						
MKAR	**Makanchi Array**	**63.31**	**312**	P	**P**	**02 24 51.8**	**+1.5**
	0.2nm,0.7s,baz=30,slow=8.4,SNR=2.1						

JMA 11 02:16:14.2±0.2, 23°.41N×123°.74E, h50km±3km, M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.65**	**5**	P	Pn	02 16 27.3	0.0
HATJ				*e*S	Sn	02 16 36.7	0.0
JKRS	**Kuro-shima**	**0.86**	**17**	P	Pn	02 16 30.4	+0.3
JKRS				S	Sn	02 16 42.5	+0.8
IRIF	**Iriomote-Funau**	**0.92**	**359**	P	Pn	02 16 31.4	+0.5
IRIF				S	Sn	02 16 43.6	+0.5
JIJ	**Ishigaki jima**	**1.02**	**21**	P	Pn	02 16 32.3	+0.1
JIJ				S	Sn	02 16 45.1	-0.3
YOJ	**Yonaguni jima**	**1.24**	**328**	P	Pn	02 16 35.4	+0.2
YOJ				*e*S	Sn	02 16 51.2	+0.4
JYNG	**Yonagunijimaku**	**1.27**	**325**	P	Pn	02 16 36.1	+0.6
JYNG				*e*S	Sn	02 16 51.6	+0.2
JISG	**Ishigakijimahi**	**1.28**	**24**	P	Pn	02 16 35.9	+0.1
JISG				*e*S	Sn	02 16 52.0	+0.2
JTJ	**Tarama**	**1.51**	**35**	P	Pn	02 16 39.7	+0.9
JTJ				*e*S	Sn	02 16 58.2	+0.9
JIRB	**Irabujima**	**1.93**	**43**	P	Pn	02 16 44.8	+0.3
JIRB				*e*S	Sn	02 17 08.2	+0.6
JMJ	**Miyako jima 2**	**1.99**	**45**	*e*S	Sn	02 17 10.4	+1.2
JOGS	**Gusukube**	**2.03**	**48**	*e*S	Sn	02 17 10.7	+0.5
JIKM	**Ikemajima**	**2.04**	**42**	*e*S	Sn	02 17 11.9	+1.5

IDC ***11*** *02:25:30.8±3.9, 13°.80S×170°.97E, h641km±55km, mb3.3/8, mb1 3.5/9, mb1mx3.2/21, mbtmp4.2/9, Error ellipse: s-maj=41.6km s-min=22.4km az=173.0*

ISC 11 02:25:30.6±0.8, 13°.8S±0°.2×171°.0E±0°.2, h635km, n10, σ1§00/10, mb3.9/8, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.32**	**207**	P	**P**	**02 27 44.2**	**+0.6**
	0.9nm,0.3s,baz=319,slow=21,SNR=6.7						
URZ	**Urewera**	**25.00**	**168**	P	**P**	**02 30 05.5**	**-1.5**
	5.6nm,0.7s,baz=338,slow=10,SNR=2.7						
STKA	**Stephens Creek**	**32.37**	**231**	P	**P**	**02 31 11.3**	**+0.8**
	8.5nm,0.4s,baz=61,slow=8.1,SNR=44						
WRA	**Warramunga Arr**	**35.53**	**255**	P	**P**	**02 31 36.4**	**-0.7**
	1.5nm,0.4s,baz=86,slow=8.9,SNR=6.8						
ASAR	**Alice Springs**	**36.36**	**249**	P	**P**	**02 31 43.6**	**-0.2**
	3.0nm,0.3s,baz=74,slow=9.5,SNR=49						
NVAR	**Mina Array Bea**	**83.94**	**48**	P	**P**	**02 36 57.0**	**+0.9**
	0.7nm,0.7s,baz=223,slow=9.1,SNR=4.2						
ILAR	**Eielson Array**	**84.54**	**17**	P	**P**	**02 36 56.7**	**-1.3**
	1.0nm,0.6s,baz=234,slow=5.2,SNR=20						
TXAR	**Lajitas Array**	**92.68**	**61**	P	**P**	**02 37 37.5**	**+0.6**
	0.2nm,0.7s,baz=238,slow=4.3,SNR=2.4						
YKA	**Yellowknife Ar**	**95.06**	**27**	P	**P**	**02 37 47.2**	**+0.4**
	0.4nm,0.5s,baz=254,slow=4.9,SNR=9.5						
ARCES	**ARCESS Array B**	**120.18**	**347**	PKP	**PKPdf**	**02 43 09.9**	**-0.4**
	4.3nm,0.9s,baz=46,slow=2.6,SNR=9.1						

GUC 11 02:41:54.9±0.4, 34°.39S×71°.91W, h40km±3km, ML3.8, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.83**	**138**	⇑*i*P	Pn	02 42 10.2	+0.1
NICH				*i* S	Sn	02 42 21.9	+0.7
NICH				AML	AML	02 42 24.5	
	comp=E,12μm,0.5s						
CHCH	**Chadas Angostu**	**1.13**	**67**	*e*P1	Pn	02 42 15.4	+1.0
RCDM	**Rinconada Maip**	**1.28**	**46**	⇑*i*P	Pn	02 42 16.8	+0.5
RCDM				*e*S	Sn	02 42 34.0	+1.6
RCDM				AML	AML	02 42 38.2	
	comp=E,2μm,0.8s						
ANTU	**Antumapu**	**1.34**	**53**	⇑*i*P	Pn	02 42 18.4	+1.3
ANTU				*i* S	Sn	02 42 36.0	+2.2
ANTU				AML	AML	02 42 41.5	
	comp=E,2μm,0.5s						
IHA	**Instituto Hidr**	**1.38**	**9**	*e*P1	Pn	02 42 18.8	+1.2
IHA				*i* S1	Sn	02 42 36.9	+2.3
LNCH	**Linares**	**1.48**	**170**	⇑*i*P	Pn	02 42 20.2	+1.2
LNCH				*i* S	Sn	02 42 39.7	+2.6
CLCH	**Cerro Calan**	**1.51**	**49**	⇓*i*P	Pn	02 42 21.1	+1.5
CLCH				*i* S	Sn	02 42 41.0	+2.9
CLCH				AML	AML	02 42 49.3	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**1.60**	**40**	AML	AML	02 42 49.0	
	comp=N,4μm,0.4s						

KRSC 11 02:47:56.7±2.2, 48°.07N×156°.46E, h15km±10km, ML4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.63**	**355**	P	Pn	02 48 40.4	+1.9
PAU	**Pauzhetka**	**3.41**	**4**	*e*P	Pn	02 48 51.8	+2.5
PAU				*e*S	Sn	02 49 32.3	+2.9
MIPR	**Malaya Ipel'ka**	**4.22**	**3**	P	Pn	02 49 03.1	+2.7
MTVR	**Mutnovka**	**4.56**	**13**	*e*P	Pn	02 49 08.9	+3.6
MTVR				*e*S	Sn	02 50 02.2	+4.1
RUS	**Russkaya**	**4.57**	**16**	*e*P	Pn	02 49 08.4	+3.2
RUS				S	Sn	02 50 01.6	+3.7
APC	**Apacha**	**4.88**	**5**	P	Pn	02 49 13.3	+3.8
PET	**Petropavlovsk**	**5.16**	**15**	S	Sn	02 50 18.8	+6.4
UGLR	**Uglovaya**	**5.36**	**15**	*e*P	Pn	02 49 20.9	+4.6
UGLR				S	Sn	02 50 22.9	+5.1
AVH	**Avacha**	**5.40**	**15**	P	Pn	02 49 22.9	+6.1
AVH				*e*S	Sn	02 50 26.1	+7.4
KOK	**Koryaka**	**5.41**	**14**	*e*P	Pn	02 49 22.4	+5.5
SMAR	**Somma**	**5.41**	**15**	*e*P	Pn	02 49 22.0	+4.9
SDLR	**Sedlovina**	**5.44**	**16**	*e*P	Pn	02 49 21.3	+3.9
SDLR				S	Sn	02 50 23.4	+3.6
KRER	**Koryakskii**	**5.44**	**15**	*e*P	Pn	02 49 21.9	+4.4
KRER				*e*S	Sn	02 50 24.7	+4.7
KRX	**Arik**	**5.48**	**14**	*e*P	Pn	02 49 22.2	+4.3
KRX				*e*S	Sn	02 50 25.3	+4.6
GNL	**Ganaly**	**5.71**	**9**	*e*P	Pn	02 49 24.4	+3.3
BKI	**Bering**	**9.27**	**36**	*e*S	Sn	02 51 56.9	+3.3

ISCJB ***11*** *02:50:44.9±0.9, 2°.93N±0°.10×124°.7E±0°.1, h10km, mb3.4/5, Error ellipse: s-maj=18.9km s-min=9.9km az=36.1*
IDC ***11*** *02:50:45.3±1.6, 2°.92N×124°.72E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/25, mbtmp3.4/5, Error ellipse: s-maj=193.6km s-min=22.2km az=64.0*
DJA ***11*** *02:50:57.3±1.5, 4°.N±10°×12°.5E±°, h10km, M4.4/4, mb4.8/1, mB4.8/1, MLv4.2/4, Mw(mB)4.0/1*

ISC 11 02:50:46.8±1.2, 2°.9N±0°.1×124°.8E±0°.2, h10km, n6, σ0§90/7, mb3.5/5, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.06**	**45**	P	**Pn**	**02 51 08.6**	**+0.9**
SGSI				S	**Sg**	**02 51 20.2**	**-0.7**
WRA	**Warramunga Arr**	**24.59**	**158**	P	**P**	**02 56 06.9**	**-0.4**
	0.7nm,0.6s,baz=334,slow=11,SNR=2.1						
ASAR	**Alice Springs**	**27.89**	**162**	P	**P**	**02 56 38.2**	**+1.1**
	0.6nm,0.6s,baz=346,slow=7.5,SNR=11						
STKA	**Stephens Creek**	**38.12**	**157**	P	**P**	**02 58 05.6**	**-0.6**
	1.3nm,0.6s,baz=315,slow=10.0,SNR=3.2						
MKAR	**Makanchi Array**	**57.12**	**326**	P	**P**	**03 00 33.6**	**0.0**
	0.1nm,0.3s,baz=116,slow=7.2,SNR=2.7						
KURBB	**Kurchatov Arra**	**61.38**	**328**	P	**P**	**03 01 02.6**	**-0.4**
	0.1nm,0.5s,baz=122,slow=6.6,SNR=2.9						

ISCJB ***11*** *02:55:26.0±0.6, 37°.16S±0°.06×73°.93W±0°.09, h10km, mb4.0/11, MS3.7/3, Error ellipse: s-maj=11.0km s-min=6.9km az=34.4*
IDC ***11*** *02:55:26.8±0.9, 37°.03S×73°.66W, h0km, mb4.0/10, mb1 4.1/11, mb1mx4.0/18, mbtmp4.0/11, ML3.3/2, MS3.4/6, Ms1 3.4/6, ms1mx3.1/19, Error ellipse: s-maj=28.1km s-min=15.7km az=73.0*
GUC ***11*** *02:55:29.1±1.2, 36°.92S×74°.01W, h22km±20km, ML4.1*
NEIC ***11*** *02:55:31.8±0.6, 37°.14S×73°.67W, h35km, mb4.1/4, Error ellipse: s-maj=14.7km s-min=9.5km az=89.0*

ISC 11 02:55:28.2±0.7, 37°.03S±0°.06×73°.85W±0°.08, h10km, n28, σ1§10/33, mb4.0/11, MS3.7/3, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.62**	**73**	⇓*i*P	**Pb**	**02 55 42.3**	**+1.2**
CCSP				*i* S	**Sn**	**02 55 52.7**	**-0.3**
CCSP				AML	AML	02 55 54.5	
	comp=E,27μm,0.4s						
COCH	**Cobquecura**	**1.24**	**44**	⇑*i*P	**Pn**	**02 55 50.9**	**-0.7**
COCH				*e*S	**Sb**	**02 56 07.7**	**0.0**
LNCH	**Linares**	**2.16**	**58**	*i* S	**Sb**	**02 56 35.0**	**+0.7**
PLCA	**Paso Flores**	**4.50**	**146**	Pn	**Pn**	**02 56 34.8**	**-1.8**
	comp=E,0.6nm,0.3s,baz=32,slow=18,SNR=4.7						
PLCA				Pg	**Pb**	**02 56 49.1**	**+1.7**
	comp=E,4.5nm,0.3s,baz=321,slow=15,SNR=13						
PLCA				Lg	Lg	02 57 48.4	
	comp=E,3.1nm,0.3s,baz=72,slow=23,SNR=5.0						
PLCA				LR	LR	02 58 13.7	
	comp=E,263nm,18.6s,baz=304,slow=38						
PLCA	**Paso Flores**	**4.50**	**146**	*e*Pn	Pn	02 56 33.1	-3.4
PLCA				Pg	**Pb**	**02 56 49.1**	**+1.7**
PLCA				Lg	Lg	02 57 48.4	
CFAA	**Coronel Fontan**	**7.13**	**42**	Pn	**Pn**	**02 57 11.9**	**-0.7**
	comp=E,0.2nm,0.3s,baz=224,slow=13,SNR=6.0						
CFAA				LR	LR	03 00 07.7	
	comp=E,55nm,18.5s,baz=223,slow=40						
LCO	**Las Campanas**	**8.42**	**19**	*e*Pn	**Pn**	**02 57 32.5**	**+1.9**
	comp=E,8.8nm,0.6s						
TRQA	**Tornquist**	**9.48**	**100**	*e*Pn	**Pn**	**02 57 45.3**	**+0.4**
LVC	**Limon Verde**	**14.99**	**18**	*e*Pn	**Pn**	**02 59 00.5**	**+0.1**
	comp=E,5.4nm,0.6s						
LVC				*e*S	Sn	03 01 27.1	-20
CPUP	**Villa Florida**	**17.62**	**57**	Pn	**P**	**02 59 35.8**	**+1.0**
	comp=E,0.2nm,0.

CKHZ	Cape Kidnapper	1.83 154	PN	Pn	03 04 23.7	-0.7
MHGZ	Mahia Peninsul	1.85 128	PN	Pn	03 04 24.4	-0.3
MXZ	Matakaoa Point	1.85 76	PN	Pn	03 04 24.7	+0.1
KAHZ	Kahuranaki	1.89 160	PN	Pn	03 04 24.6	-0.6
WMGZ	Waiomatatini S	1.89 85	PN	Pn	03 04 24.6	-0.5
PNHZ	Pukenui	1.90 176	PN	Pn	03 04 24.1	-1.2
DVHZ	Dannevirke	2.28 178	PN	Pn	03 04 27.7	-1.9
PRWZ	Pori Road	2.53 181	⇓PN	Pn	03 04 30.8	-1.9
BFZ	Birch Farm	2.66 177	PN	Pn	03 04 31.8	-2.5
MRZ	Mangatainoka R	2.66 188	⇑PN	Pn	03 04 31.7	-2.5
KIW	Kapiti Island	2.97 197	PN	Pn	03 04 34.9	-3.1
MSWZ	Moikau Station	3.45 190	⇓PN	Pn	03 04 40.3	-3.8

GUC 11 03:10:02.5±0.5, 34°.86S×71°.23W, h41km±4km, ML3.6, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	Talagante	1.22	12	⇑iP	Pn	03 10 23.9	+0.7
ANTU	Antumapu	1.38	21	⇑iP	Pn	03 10 26.7	+1.4
ANTU				eS	Sn	03 10 44.6	+2.2
ANTU				AML	AML	03 10 48.3	
	comp=E,1μm,0.4s						
SJCH	San Jose de Ma	1.41	31	eP	Pn	03 10 26.8	+0.9
SJCH				i S	Sn	03 10 45.9	+2.5
STL	Santa Lucia	1.50	19	eP9	Pn	03 10 27.0	0.0
STL				i S	Sn	03 10 46.9	+1.5
CLCH	Cerro Calan	1.57	22	⇑iP	Pn	03 10 29.7	+1.7
CLCH				i S	Sn	03 10 49.8	+2.7
CLCH				AML	AML	03 10 52.1	
	comp=E,2μm,0.6s						
PEL	Peldehue	1.77	15	⇑iP	Pn	03 10 32.4	+1.7
PEL				i S	Sn	03 10 55.0	+3.0
PEL				AML	AML	03 11 02.4	
	comp=E,850nm,0.6s						
COCH	Cobquecura	1.80 224		eP	Pn	03 10 32.5	+1.5
COCH				i S	Sn	03 10 55.0	+2.4

IDC 11 03:34:23.9±1.1, 37°.37S×73°.48W, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.8/20, mbtmp3.7/8, ML3.4/3, MS2.9/3, Ms1 2.9/3, ms1mx2.7/20, Error ellipse: s-maj=34.1km s-min=16.5km az=72.0

ISCJB 11 03:34:25.6±0.8, 37°.42S±0°.04×73°.64W±0°.09, h23km, mb3.7/5, MS3.5/1, Error ellipse: s-maj=9.8km s-min=5.6km az=175.1

GUC 11 03:34:28.3±0.5, 37°.39S×73°.33W, h59km±5km, ML3.7

ISC 11 03:34:27.6±0.9, 37°.38S±0°.05×73°.4W±0°.1, h23km, n12, σ1§05/15, mb3.6/5, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.59	25	⇑iP	Pn	03 34 40.6	0.0
CCSP				i S	Sn	03 34 50.4	+1.0
CCSP				AML	AML	03 34 52.8	
	comp=N,17μm,0.6s						
AGCH	Angol	0.72	127	⇑iP	Pn	03 34 41.8	-0.6
AGCH				eS	Sn	03 34 52.0	-0.7
COCH	Cobquecura	1.34	22	⇑iP	Pn	03 34 51.2	+0.3
COCH				i S	Sn	03 35 08.1	0.0
COCH				AML	AML	03 35 17.3	
	comp=E,1μm,0.9s						
PLCA	Paso Flores	4.03	147	Pn	Pn	03 35 28.8	+0.8
	comp=E,1.0nm,0.3s,baz=321,slow=11,SNR=25						
PLCA				Sn	Sn	03 36 16.9	+2.5
	comp=E,2.8nm,0.3s,baz=309,slow=18,SNR=5.0						
PLCA				Lg	Lg	03 36 33.5	
	comp=E,7.5nm,0.3s,baz=57,slow=22,SNR=6.2						
PLCA				LR	LR	03 37 16.4	
	comp=E,221nm,21.8s,baz=278,slow=42						
CFAA	Coronel Fontan	7.17	38	Pn	Pn	03 36 11.6	+0.5
	comp=E,0.1nm,0.3s,baz=223,slow=12,SNR=3.9						
CFAA				LR	LR	03 39 03.0	
	comp=E,16nm,18.7s,baz=214,slow=39						
USHA	Ushuaia	17.79	171	P	Pn	03 38 31.9	-1.6
	comp=E,0.1nm,0.3s,baz=345,slow=12,SNR=3.5						
SIV	San Ignacio	23.94	30	P	P	03 39 39.3	-0.8
	comp=E,1.9nm,0.9s,baz=233,slow=11,SNR=2.9						
QSPA	South Pole Qui	52.87	180	P	P	03 43 41.1	-0.2
	comp=E,1.3nm,0.8s,baz=87,slow=0.4,SNR=6.2						
TXAR	Lajitas Array	72.16	332	P	P	03 45 50.8	+0.3
	comp=E,0.4nm,0.6s,baz=158,slow=8.6,SNR=6.5						
BBTS	Babate	74.39	57	LR	LR	04 18 20.5	
	comp=E,25nm,18.8s,baz=352,slow=35						
NVAR	Mina Array Bea	86.03	326	P	P	03 47 06.7	+0.3
	comp=E,0.2nm,0.4s,baz=158,slow=5.8,SNR=4.3						
TORD	Torodi Ar. Bea	86.41	71	P	P	03 47 07.6	-0.8
	comp=E,0.3nm,0.7s,baz=233,slow=5.1,SNR=1.6						

IDC 11 03:38:59.4±1.3, 3°.21N×94°.27E, h0km, mb3.7/10, mb1 4.0/12, mb1mx3.8/31, mbtmp3.8/12, ML4.3/2, MS3.0/6, Ms1 3.1/6, ms1mx2.8/44, Error ellipse: s-maj=40.7km s-min=18.2km az=48.0

DJA 11 03:39:11.7±1.0, 3°N±4°×9°5E±°, h78km±15km, M4.4/5, mB5.7/1, mb4.7/5, MLv4.3/4, Mw(mB)5.2/1

ISC 11 03:39:01.2±0.9, 3°.21N±0°.08×94°.46E±0°.08, h10km, n45, σ1§59/23, mb3.8/12, MS2.9/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	2.03	113	P	Pn	03 39 36.8	+1.3
SNSI				S	Sn	03 39 59.0	-1.9
TPTI		2.72	89	P	Pn	03 39 45.5	+0.6
TPTI				S	Sn	03 40 15.7	-2.2
LHMI	Lhok Sumawe	3.19	51	P	Pb	03 39 56.9	-1.1
LHMI				S	Sn	03 40 30.2	+0.6
KCSI	Kotacane, Aceh	3.32	85	P	Pn	03 39 55.8	+2.5
PSI	Prapat	4.48	95	Pn	Pn	03 40 12.1	+2.8
	5.5nm,0.3s,baz=314,slow=8.4,SNR=22						
PSI				LR	LR	03 42 15.4	
	comp=Z,184nm,19.3s,baz=102,slow=42						
MNSI	Mandailing Nat	5.65	115	P	Pn	03 40 27.7	+2.4
	175nm,0.5s,7μm						
MNSI				S	Sn	03 41 27.5	-2.9
	175nm,0.5s,7μm						
MDSI	Maura Dua	12.36	128	P	Pn	03 41 58.9	+1.5
	19nm,0.8s						
PALK	Pallekele	14.28	287	LR	LR	03 47 12.8	
	comp=Z,166nm,18.6s,baz=107,slow=35						
CMAR	Chiang Mai Arr	15.78	16	Pn	Pn	03 42 43.1	-0.5
	0.7nm,0.3s,baz=210,slow=12,SNR=32						
CMAR				LR	LR	03 48 25.2	
	comp=Z,49nm,18.1s,baz=212,slow=36						
SHL	Shillong	22.37	354	eP	P	03 44 01.0	+1.2
H08S2	Diego Garcia H	24.42	244	T	T	04 09 37.2	
	baz=65,slow=75,SNR=2959						
H08S3	Diego Garcia H	24.43	244	T	T	04 09 30.6	
	baz=65,slow=75,SNR=2848						
H08S1	Diego Garcia H	24.44	244	T	T	04 09 34.3	
	baz=65,slow=75,SNR=259						
ODAN	Odare	24.47	345	eP	P	03 44 29.6	+8.7
	12nm,0.5s						
RAMN	Ramite	24.78	343	eP	P	03 44 33.7	+10
	15nm,0.6s						
TAPN	Taplejung	24.86	346	eP	P	03 44 29.4	+5.0
	11nm,0.7s						
H08N1	Diego Garcia H	25.26	248	T	T	04 11 38.4	
	baz=156,slow=76,SNR=9.2						
H08N2	Diego Garcia H	25.26	248	T	T	04 11 36.5	
	baz=156,slow=76,SNR=12						
H08N3	Diego Garcia H	25.28	248	T	T	04 11 36.5	
	baz=156,slow=76,SNR=12						
JIRN	Jiri	25.56	343	eP	P	03 44 37.3	+6.4
	17nm,0.6s						
PKI	Pulchoki	25.72	341	eP	P	03 44 41.4	+9.1
	14nm,0.8s						
PKIN	Phulchoki	25.73	341	eP	P	03 44 41.2	+8.9
	8.2nm,0.6s						
DMN	Daman	25.86	341	eP	P	03 44 42.9	+9.5
	16nm,0.8s						
GUN	Gumba	25.89	342	eP	P	03 44 39.8	+6.0
	25nm,0.9s						
KKN	Kakani	25.97	341	eP	P	03 44 42.4	+8.0
GKN	Gorkha	26.38	340	eP	P	03 44 45.3	+7.3
	17nm,0.7s						
KOLN	Koldanda	26.53	338	eP	P	03 44 49.4	+10
	12nm,0.7s						
DANN	Dangsing	27.00	339	eP	P	03 44 51.7	+7.9
	14nm,0.6s						
PYUN	Piuthan	27.06	337	eP	P	03 44 54.2	+10
	20nm,0.5s						
H01W3	Cape Leeuwin H	42.16	156	T	T	04 31 40.3	
	baz=330,slow=76,SNR=64						
H01W2	Cape Leeuwin H	42.18	156	T	T	04 31 41.1	
	baz=330,slow=76,SNR=65						
H01W1	Cape Leeuwin H	42.18	156	T	T	04 31 49.3	
	baz=330,slow=76,SNR=71						
MKAR	Makanchi Array	44.68	348	P	P	03 47 14.2	-0.1
	0.4nm,0.3s,baz=167,slow=7.8,SNR=21						
MKAR				LR	LR	04 09 02.3	
	comp=Z,15nm,18.5s,baz=174,slow=40						
WRA	Warramunga Arr	45.42	122	P	P	03 47 21.6	+1.0
	1.3nm,0.5s,baz=302,slow=8.9,SNR=8.1						
SONM	Songino Array	45.63	11	P	P	03 47 21.1	-0.9
	1.0nm,0.8s,baz=190,slow=8.4,SNR=5.5						
KSRS	Korea Array	45.85	38	LR	LR	04 09 07.5	
	comp=Z,13nm,19.8s,baz=230,slow=39						
ASAR	Alice Springs	46.79	127	P	P	03 47 32.2	+0.9
	0.7nm,0.6s,baz=299,slow=8.1,SNR=7.5						
KURBB	Kurchatov Arra	49.12	347	P	P	03 47 49.2	+0.3
	0.2nm,0.4s,baz=176,slow=6.3,SNR=4.2						
ZALV	Zalesovo Beam	51.19	353	P	P	03 48 04.0	-0.5
	0.7nm,0.6s,baz=114,slow=7.2,SNR=3.8						
MJAR	Matsushiro Arr	52.13	45	P	P	03 48 12.6	+0.6
	0.4nm,0.3s,baz=228,slow=13,SNR=3.9						
MJAR				LR	LR	04 12 20.7	
	comp=Z,9.4nm,18.8s,baz=115,slow=38						
BVAR	Borovoye Array	53.49	342	P	P	03 48 22.1	+0.5
	0.5nm,0.5s,baz=228,slow=44,SNR=2.3						
JOF	Joensuu	75.17	335	ep	P	03 50 53.5	+10
	1.3nm,0.5s						
FINES	FINESS Array B	76.97	333	P	P	03 50 53.0	-0.8
	0.8nm,0.8s,baz=169,slow=3.9,SNR=4.9						
KAF	Kangasniemi	77.07	333	ep	P	03 51 04.1	+10
	2.0nm,0.5s						
GERES	GERESS Array B	81.50	319	P	P	03 51 17.6	-1.5
	0.2nm,0.3s,baz=97,slow=8.0,SNR=1.9						

IDC 11 03:44:30.6±9.9, 15°.85S×175°.17W, h0km, Error ellipse: s-maj=442.9km s-min=38.4km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT2	Papeete2	24.57	98	eLR	LR	03 54 43.3	
	64nm,24.5s						
WRA	Warramunga Arr	48.08	257	P	P	03 53 12.7	+0.2
	0.5nm,0.5s,baz=90,slow=7.2,SNR=6.3						
ASAR	Alice Springs	48.35	252	P	P	03 53 14.2	-0.4
	1.1nm,0.5s,baz=87,slow=8.2,SNR=19						
ILAR	Eielson Array	83.22	12	P	P	03 56 58.5	0.0
	0.2nm,0.6s,baz=228,slow=6.1,SNR=4.2						

NIED 11 03:53:00, 25°.90N×128°.70E, h17km, Mw3.6 Best double couple: M0=2.92000×10^14 NP1:φs=87.00000°, δ=81.00000°, λ=5.00000°. NP2:φs=356.00000°, δ=85.00000°, λ=171.00000°.

JMA 11 03:53:48.7±0.2, 25°.89N×128°.74E, h40km, M3.9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.90	314	P	Pn	03 54 04.9	0.0
JNTH				eS	Sn	03 54 16.4	-0.3
JJT2	Tamagusuku 2	0.93	286	P	Pn	03 54 05.7	+0.5
JJT2				eS	Sn	03 54 17.6	+0.3
JOW	Kunigami	1.03	336	P	Pn	03 54 07.2	+0.5
JOW				eS	Sn	03 54 20.6	+0.7
JIH	Iheya	1.33	329	P	Pn	03 54 11.6	+0.8
JIH				eS	Sn	03 54 28.3	+0.9
JOKE	Okinoerabujima	1.47	354	P	Pn	03 54 13.6	+0.8
JOKE				eS	Sn	03 54 31.4	+0.5
JAGN	Aguni-jima	1.52	298	P	Pn	03 54 14.2	+0.9
JAGN				eS	Sn	03 54 32.7	+0.9
JKE	Kume jima 2	1.81	284	P	Pn	03 54 17.6	+0.2
JKE				eS	Sn	03 54 37.6	-1.5
JTK	Tokunoshima	1.90	6	P	Pn	03 54 20.0	+1.4
JTK				eS	Sn	03 54 42.8	+1.5
JMZ	Minamidaito 2	2.24	91	P	Pn	03 54 23.7	+0.5
JMZ				eS	Sn	03 54 48.2	-1.4
JAMN	Amaminishikomi	2.38	9	P	Pn	03 54 26.6	+1.4
JAM	Amami Oshima	2.63	17	P	Pn	03 54 29.9	+1.3
JZK	Kikaishima	2.65	24	P	Pn	03 54 30.9	+1.9

MEX 11 04:08:39.7±0.3, 15°.71N×95°.56W, h16km±17km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.54	276	eP	Pg	04 08 48.8	-1.6
HUIG				eS	Sg	04 08 55.4	-2.2
CMIG	Matias Romero	1.52	25	eP	Pn	04 09 02.8	-3.4
CMIG				eS	Sn	04 09 20.3	-5.3
PNIG	Pinotepa	2.56	286	eP	Pn	04 09 17.9	-2.7
PNIG				eS	Sn	04 09 48.0	-3.5
TLIG	Tlapa	3.42	303	eP	Pn	04 09 29.6	-3.0
TLIG				i S	Sn	04 10 09.5	-3.5

ISCJB 11 04:11:58.8±0.3, 51°.68N±0°.07×177°.48E±0°.03, h43km, mb4.3/54, MS3.0/4, Error ellipse: s-maj=9.9km s-min=3.1km az=0.6

MOS 11 04:11:59.4±0.9, 52°.11N×177°.47E, h33km, mb4.7/33, Error ellipse: s-maj=12.3km s-min=7.3km az=112.4

BJI 11 04:12:01.1, 51°.96N×177°.19E, h56km, mB5.0/13, mb4.7/16, Ms4.7/8, Ms7 4.3/9

IDC 11 04:12:01.1±2.1, 51°.70N×177°.72E, h56km±15km, mb3.9/24, mb1 4.0/27, mb1mx3.9/37, mbtmp4.1/27, MS3.0/4, Ms1 3.0/4, ms1mx2.6/41, Error ellipse: s-maj=21.6km s-min=10.7km az=178.0

NEIC 11 04:12:01.1±0.6, 51°.59N×177°.57E, h57km±5km, mb4.4/12, ML4.0(AEIC), Error ellipse: s-maj=13.3km s-min=5.2km az=181.0

ISC 11 04:11:59.9±0.4, 51°.59N±0°.09×177°.59E±0°.03, h43km, n172, σ1§40/182, mb4.4/54, MS3.0/4, 2C-4D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	Little Sitkin	0.68	58	P	Pn	04 12 14.5	+1.4
LSNW	Little Sitkin	0.69	56	P	Pn	04 12 14.7	+1.4
LSPA	Little Sitkin	0.71	59	P	Pn	04 12 15.1	+1.5
AMKA	Amchitka	1.09	101	P	Pn	04 12 19.1	+0.4
AMKA				S	Sn	04 12 33.0	+0.4
CETU	Semis' Tuman	1.24	72	P	Pn	04 12 22.3	+1.6
CESW	Semis' Southwe	1.26	75	P	Pn	04 12 22.2	+1.1
CEAP	Semis' Anvil P	1.30	71	P	Pn	04 12 23.0	+1.4
CERAA	Semis' Rag'd T	1.34	76	P	Pn	04 12 23.2	+1.0
SMY	Shemya	2.43	299	eP	Pn	04 12 35.5	-1.6
SMY				eS	Sn	04 13 07.9	+2.3
SMY	Shemya	2.43	299	ePn	Pn	04 12 35.5	-1.6
SMY				eS	Sn	04 13 07.9	+2.3
FX1	Attu Island--F	3.01	297	P	Pn	04 12 46.2	+1.1
FX1				S	Sn	04 13 21.8	+1.9
FX1				pmax	pmax		
	comp=Z,59nm,0.3s						
FX1				smax	smax		
	comp=N,61nm,0.3s						
FX1	Attu Island--F	3.01	297	P	Pn	04 12 46.2	+1.1
	comp=N,59nm,0.3s,baz=105,slow=2.5,SNR=122						
FX1				S	Sn	04 13 21.8	+1.9
	comp=N,61nm,0.3s,baz=241,slow=23,SNR=10						
FX1	Attu Island--F	3.01	297	ePn	Pn	04 12 45.6	+0.5
FX1				eS	Sn	04 13 20.8	+0.9
ADK	Adak	3.57	83	P	Pn	04 12 54.2	+1.5
ADK				S	Sn	04 13 35.6	+2.0
ADK	Adak	3.57	83	P	Pn	04 12 54.2	+1.5
ADK				S	Sn	04 13 35.6	+2.0
KOKL	Mount Kliuchef	5.13	79	P	Pn	04 13 16.0	+1.8
KOKV	Korovin Volcan	5.16	78	P	Pn	04 13 16.6	+2.0
NIKH	Nikolski High	8.43	75	P	Pn	04 14 01.8	+2.4
SPIA	Saint Paul Isl	9.03	47	P	Pn	04 14 10.9	+3.4
MSOM	Makushin Julie	9.65	71	P	Pn	04 14 18.7	+2.7
MSOM	Makushin Julie	9.65	71	P	Pn	04 14 18.7	+2.7
MSW	Makushin Switc	9.76	70	P	Pn	04 14 20.3	+2.8
UNV	Unalaska Valle	9.91	71	ePn	Pn	04 14 19.2	-0.5
AKUT	Akutan	10.38	69	ePn	Pn	04 14 29.4	+3.5
PETK	Petropavlovsk-	12.26	285	P	Pn	04 14 53.0	+1.3
PETK				S	Sn	04 17 03.0	-3.8
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK	Petropavlovsk-	12.26	285	P	Pn	04 14 53.0	+1.3
	comp=N,0.3nm,0.3s,baz=75,slow=16,SNR=3.7						
PETK				S	Sn	04 17 03.0	-3.8
	comp=N,0.9nm,0.3s,baz=89,slow=17,SNR=3.5						
SDPT	Sand Point	13.58	65	Pn	Pn	04 15 10.5	+0.9
SEY	Seymchan	17.60	320	P	Pn	04 16 02.9	+1.3
	comp=N,0.4nm,0.3s,baz=131,slow=10,SNR=6.9						
OHAK	Old Harbor	17.77	60	ePn	Pn	04 15 59.8	-4.0
RSO	Redoubt South	18.65	50	eP	Pn	04 16 15.9	+1.2
	comp=N,14nm,0.6s						
SEW	Seward	20.18	52	eP	P	04 16 27.4	-3.1
	comp=N,4.0nm,0.8s						
KTH	Kantishna Hill	20.44	42	eP	P	04 16 35.2	+1.8
	comp=N,2.9nm,0.8s						
ILAR	Eielson Array	22.52	41	P	P	04 16 54.5	-1.2
	comp=N,0.3nm,0.6s,baz=244,slow=7.9,SNR=18						
ILAR				ScP	ScP	04 24 18.9	-2.6
	comp=N,0.6nm,1.1s,baz=201,slow=7.6,SNR=4.1						
PAX	Paxson	22.63	46	eP	P	04 16 56.6	-0.3
PAX				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PAX	Paxson	22.63	46	eP	P	04 16 56.6	-0.3
	comp=Z,5.2nm,1.0s						
ASAJ	Asahikawa	24.46	266	P	P	04 17 16.0	+1.4
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ASAJ	Asahikawa	24.46	266	P	P	04 17 16.0	+1.4
	comp=Z,7.5nm,0.6s,baz=131,slow=13,SNR=5.3						
INK	Inuvik	28.59	36	P	P	04 17 50.8	-0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	28.59	36	P	P	04 17 50.8	-0.7
	comp=Z,0.8nm,0.6s,baz=268,slow=9.7,SNR=8.7						
USRK	Ussuriysk Ar.	31.03	274	P	P	04 18 12.8	-0.5
	comp=Z,2.0nm,0.8s,baz=67,slow=9.5,SNR=4.3						
MDJ	Mudanjiang	32.31	277	P	P	04 18 23.6	-0.9
MDJ				pP	pP	04 18 37.2	+1.1
MDJ				sP	sP	04 18 42.6	+1.3
MDJ				S	S	04 23 33.4	-1.7
MDJ				PcS	PcS	04 24 56.3	-0.1
MDJ				PMZ			
	comp=Z,5.0nm,1.5s						
MDJ				PMZ			
	comp=Z,120nm,5.2s						
MDJ				LN			
	comp=Z,130nm,4.5s						
MDJ				LE			
	comp=Z,190nm,5.3s						
MDJ				LZ			
	comp=Z,280nm,4.9s						
H11N2	WAKE ISLAND Hy	32.89	199	T	T	04 53 59.6	
	baz=11,slow=76,SNR=57						
H11N3	WAKE ISLAND Hy	32.90	199	T	T	04 53 53.2	
	baz=11,slow=76,SNR=74						
H11N1	WAKE ISLAND Hy	32.91	199	T	T	04 53 59.1	
	baz=11,slow=76,SNR=63						
H11S1	WAKE ISLAND Hy	34.12	199	T	T	04 55 27.4	
	baz=11,slow=76,SNR=20						
H11S3	WAKE ISLAND Hy	34.13	199	T	T	04 55 33.0	
	baz=11,slow=76,SNR=17						
H11S2	WAKE ISLAND Hy	34.13	199	T	T	04 55 19.1	
	baz=11,slow=76,SNR=14						
CN2	Changchun	35.29	278	eP	P	04 18 51.5	+1.1
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
BOD	Bodaibo	36.03	305	eP	P	04 18 55.4	-1.2
BOD				pmax	pmax		
	comp=Z,12nm,0.8s						
HIA	Hailar	36.10	290	i P	P	04 18 56.8	-0.6
HIA				pmax	pmax		
	comp=Z,10.0nm,1.6s						
YKA	Yellowknife Ar	36.71	46	P	P	04 19 01.6	-0.7
	comp=Z,0.5nm,0.6s,baz=281,slow=8.2,SNR=8.6						
YKA				ScP	ScP	04 25 02.9	-4.0
	comp=Z,0.3nm,0.7s,baz=287,slow=3.2,SNR=5.1						
KSRS	Korea Array	37.38	268	P	P	04 19 10.5	+2.1
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,7.0nm,18.1s						
KSRS	Korea Array	37.38	268	P	P	04 19 10.5	+2.1
	comp=Z,0.5nm,0.3s,baz=108,slow=25,SNR=2.4						
KSRS				LR	LR	04 36 55.0	
	comp=Z,6.5nm,18.1s,baz=65,slow=40						
KSAR	Wonju Array Be	37.42	268	P	P	04 19 10.5	+1.9
KSAR	Wonju Array Be	37.42	268	P	P	04 19 10.5	+1.9
RES	Resolute Bay	40.48	24	eP	P	04 19 33.2	-0.5
RES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
RES	Resolute Bay	40.48	24	eP	P	04 19 33.2	-0.5
	comp=Z,1.1nm,0.8s						
TLY	Talaya	44.03	301	eP	P	04 20 03.6	+0.6
TLY				e		04 29 59.5	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ULN	Ulaanbaatar	44.13	294	⇓iP	P	04 20 04.5	+0.5
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ULN	Ulaanbaatar	44.13	294	eP	P	04 20 03.7	-0.3
	comp=Z,6.7nm,1.0s						
SONM	Songino Array	44.52	295	P	P	04 20 07.8	+0.7
SONM						04 21 49.6	
SONM				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SONM	Songino Array	44.52	295	P	P	04 20 07.8	+0.7
	comp=Z,6.3nm,0.6s,baz=66,slow=7.6,SNR=63						
SONM				PcP	PcP	04 21 49.6	-0.1
	comp=Z,0.4nm,0.5s,baz=38,slow=3.1,SNR=2.1						
ZAK	Zakamensk	44.90	299	eP	P	04 20 04.2	-5.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
HHC	Hu-ho-hao-te	45.45	283	eP	P	04 20 16.2	+1.6
HHC				pP	pP	04 20 31.3	+4.8
HHC				sP	sP	04 20 39.0	+7.4
HHC				PP	PP	04 22 00.5	-0.7
HHC				S	S	04 26 52.1	-0.9
HHC				PMZ			
	comp=Z,37nm,1.0s						
HHC				PMZ			
	comp=Z,390nm,5.4s						
HHC				LN			
	comp=Z,200nm,15.2s						
HHC				LE			
	comp=Z,340nm,14.2s						
HHC				LZ			
	comp=Z,140nm,15.0s						
NVAR	Mina Array Bea	45.75	81	P	P	04 20 16.5	-0.6
	comp=Z,0.7nm,0.6s,baz=302,slow=7.6,SNR=5.6						
NJ2	Nanjing	46.55	269	eP	P	04 20 22.1	-1.1
NJ2				PMZ			
	comp=Z,20nm,0.5s						
PDAR	Pinedale Array	48.38	70	P	P	04 20 35.2	-2.3
	comp=Z,1.3nm,0.6s,baz=303,slow=2.9,SNR=9.3						
HVS	Khovu-Aksy	49.55	305	P	P	04 20 47.1	+0.9
HVS				pmax	pmax		
	comp=Z,38nm,1.8s						
ZALV	Zalesovo Beam	52.22	312	eP	P	04 21 05.3	-0.8
ZALV				pmax	pmax		
	comp=

KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 57.08 348 *ep* **P 04 21 40.3 -0.7**
comp=Z,0.5nm,0.3s
KURK Kurchatov 57.22 312 *eP* **P 04 21 42.0 -0.3**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 57.22 312 *eP* **P 04 21 42.0 -0.3**
comp=Z,8.9nm,1.0s
WMQ Urumqi 57.31 301 *eP* **P 04 21 45.3 +2.1**
WMQ pP pP 04 22 01.0 +5.5
WMQ PMZ
comp=Z,120nm,4.0s
WMQ LZ
comp=Z,33nm,18.0s
ARCES ARCESS Array B 57.47 349 P **P 04 21 42.7 -1.1**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 57.47 349 P **P 04 21 42.7 -1.1**
comp=Z,1.9nm,0.6s,baz=26,slow=8.5,SNR=18
MK31 Makanchi Array 58.11 306 *i* P **P 04 21 47.5 -1.2**
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 58.11 306 P **P 04 21 47.8 -0.9**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR MLR MLR
comp=Z,21nm,19.9s
MKAR Makanchi Array 58.11 306 P **P 04 21 47.8 -0.9**
comp=Z,2.8nm,0.7s,baz=50,slow=7.0,SNR=36
MKAR LR LR 04 46 43.0
comp=Z,20nm,19.9s,baz=7.0,slow=36
VOSK Vostochnaya 59.21 317 P **P 04 21 55.3 -0.9**
VOSK pmax pmax
comp=Z,4.0nm,0.6s
BVA0 Borovoye Array 59.24 318 *i* P **P 04 21 55.4 -1.1**
BVA0 pmax pmax
comp=Z,7.0nm,0.6s
BVAR Borovoye Array 59.24 318 P **P 04 21 56.2 -0.3**
BVAR pmax pmax
comp=Z,8.0nm,0.6s
BVAR MLR MLR
comp=Z,46nm,18.6s
BVAR Borovoye Array 59.24 318 P **P 04 21 56.2 -0.3**
comp=Z,8.3nm,0.6s,baz=51,slow=6.9,SNR=36
BVAR LR LR 04 49 21.1
comp=Z,46nm,18.6s,baz=11,slow=38
BRVK Borovoye 59.26 318 *d iP* **P 04 21 56.1 -0.5**
BRVK pmax pmax
comp=Z,5.0nm,0.5s
TXAR Lajitas Array 60.84 79 P **P 04 22 07.0 -0.9**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 60.84 79 P **P 04 22 07.0 -0.9**
comp=Z,0.7nm,0.5s,baz=306,slow=5.3,SNR=15
ARU Arti 61.20 326 *d iP* **P 04 22 09.8 0.0**
ARU 04 24 23.4
ARU S **S 04 30 23.9 -2.1**
ARU pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 62.78 343 *eP* P 04 22 17.8 -2.4
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 62.78 343 *ep* P 04 22 17.8 -2.4
comp=Z,1.8nm,0.5s
H06S1 SOCORRO T 64.05 92 T T 05 31 39.9
SNR=34
TKM2 Tokmak 2 64.21 307 *eP* **P 04 22 30.7 +0.4**
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 64.21 307 *eP* **P 04 22 30.6 +0.4**
comp=Z,3.4nm,0.8s
KAF Kangasniemi 64.37 345 *eP* P 04 22 28.4 -2.4
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 64.37 345 *ep* P 04 22 28.4 -2.4
comp=Z,1.7nm,0.5s
ULHL Ulahol 64.38 306 P **P 04 22 31.4 -0.1**
SNR=6.7
ULHL Ulahol 64.38 306 *i* P **P 04 22 31.4 -0.1**
USP Ospenovka 64.50 308 P **P 04 22 32.2 +0.2**
SNR=6.7
USP Ospenovka 64.50 308 *i* P **P 04 22 32.2 +0.2**
AAK Ala-Archa 64.97 308 P **P 04 22 35.6 +0.3**
SNR=5.9
AAK Ala-Archa 64.97 308 *eP* **P 04 22 35.4 +0.2**
AAK pmax pmax
comp=Z,5.0nm,0.6s
AAK Ala-Archa 64.97 308 *eP* **P 04 22 35.4 +0.2**
comp=Z,4.7nm,0.6s
FINES FINESS Array B 65.04 345 P **P 04 22 33.8 -1.3**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 65.04 345 P **P 04 22 33.8 -1.3**
comp=Z,2.4nm,0.6s,baz=9.2,slow=7.5,SNR=15
EKS2 Erkin-Say 65.30 308 P **P 04 22 37.7 +0.4**
SNR=6.5
EKS2 Erkin-Say 65.30 308 *i* P **P 04 22 37.7 +0.4**
EKS2 Erkin-Say 65.30 308 *eP* **P 04 22 37.6 +0.2**
comp=Z,5.1nm,0.6s
AML Almayashu 65.74 308 P **P 04 22 40.7 +0.3**
SNR=7.3
AKTO Aktyubinsk 66.17 323 P **P 04 22 42.6 -0.1**
AKTO pmax pmax
comp=Z,6.0nm,0.8s
AKTO Aktyubinsk 66.17 323 P **P 04 22 42.5 -0.1**
comp=Z,6.0nm,0.8s,baz=47,slow=7.3,SNR=21
AB31 Akbulak array 66.37 321 *eP* **P 04 22 43.7 -0.2**
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 66.37 321 *eP* **P 04 22 43.9 0.0**
KSH Kashi 66.54 304 P P 04 22 48.9 +3.6
KSH sP sP 04 23 13.0 +10
KSH PP PP 04 25 19.0 +7.3
KSH S **S 04 31 33.8 +0.8**
KSH sS sS 04 32 01.8 +8.0
KSH SS **SS 04 35 53.7 +4.0**
KSH PMZ
comp=Z,5.0nm,0.5s
KSH PMZ
comp=Z,83nm,4.4s
KSH LN
comp=Z,77nm,6.1s
KSH LE
comp=Z,69nm,4.7s
KSH LZ
comp=Z,38nm,4.0s
KKAR Karatay Array 66.55 310 *eP* **P 04 22 45.0 -0.2**
KKAR pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 66.55 310 *eP* **P 04 22 45.0 -0.2**
comp=Z,6.9nm,0.7s
NB2 NORSAR Subarra 67.19 353 P **P 04 22 47.8 -1.2**
comp=Z,3.5nm,0.7s,baz=8.7,slow=6.2
NOA NORSAR Array B 67.19 353 P **P 04 22 48.1 -0.9**
NOA pmax pmax
comp=Z,4.0nm,0.6s
NOA NORSAR Array B 67.19 353 P **P 04 22 48.1 -0.9**
comp=Z,4.2nm,0.6s,baz=10,slow=6.4,SNR=23
HFS Hagfors 67.87 351 P **P 04 22 51.9 -1.3**
HFS pmax pmax
comp=Z,3.0nm,0.5s
HFS Hagfors 67.87 351 P **P 04 22 51.9 -1.3**
comp=Z,2.7nm,0.5s,baz=35,slow=5.4,SNR=21
CMAR Chiang Mai Arr 68.75 273 LR LR 04 52 41.1
comp=Z,5.4nm,21.9s,baz=105,slow=36
OBN Obninsk 68.83 337 *eP* **P 04 22 57.9 -1.4**
OBN pmax pmax
comp=Z,4.0nm,1.0s
TAPN Taplejung 69.00 288 *eP* **P 04 23 01.5 +0.3**
ODAN Odare 69.56 288 *eP* **P 04 23 05.0 +0.4**
comp=Z,9.4nm,0.3s
GUN Gumba 69.67 289 *eP* **P 04 23 06.0 +0.6**
comp=Z,23nm,0.5s
JIRN Jiri 69.67 289 *eP* **P 04 23 06.1 +0.7**
comp=Z,18nm,0.6s
RAMN Ramite 69.96 288 *eP* **P 04 23 07.3 +0.2**
comp=Z,17nm,0.6s
PKI Pulchoki 70.20 289 *eP* **P 04 23 08.9 +0.3**
comp=Z,10nm,0.5s
PKIN Phulchoki 70.20 289 *eP* **P 04 23 08.2 -0.4**
comp=Z,7.8nm,0.6s
GKN Gorkha 70.33 290 *eP* **P 04 23 09.5 +0.3**
comp=Z,11nm,0.5s
DMN Daman 70.35 290 *eP* **P 04 23 09.0 -0.5**
DANN Dangsing 70.58 291 *eP* **P 04 23 11.1 +0.2**
comp=Z,10.0nm,0.6s
KOLN Koldanda 71.11 291 *eP* **P 04 23 14.2 +0.2**
comp=Z,9.3nm,0.6s
EKA Eskdalemuir Ar 73.44 0 P **P 04 23 26.3 -0.9**
EKA pmax pmax
comp=Z,1.0nm,0.6s
EKA Eskdalemuir Ar 73.44 0 P **P 04 23 26.3 -0.9**
comp=Z,0.9nm,0.6s,baz=3.3,slow=4.3,SNR=4.8
AKASG Malin Array Be 74.61 340 P **P 04 23 32.7 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 74.61 340 P **P 04 23 32.7 -1.4**
comp=Z,1.3nm,0.3s,baz=15,slow=6.0,SNR=7.2
KIEV Kiev 74.62 340 ⇓ *eP* **P 04 23 33.0 -1.1**
GEYT Alibeck 76.37 315 P **P 04 23 45.1 +0.7**
comp=Z,0.8nm,0.4s,baz=346,slow=25,SNR=2.3
KWP Kalwaria Pacla 76.91 344 *eP* **P 04 23 47.4 +0.1**
KWP pmax pmax
comp=Z,7.0nm,0.4s
KWP Kalwaria Pacla 76.91 344 *eP* **P 04 23 47.4 +0.1**
comp=Z,7.3nm,0.4s
DPC Dobruska-Polom 77.19 348 *eP* **P 04 23 48.6 -0.3**
DPC Dobruska-Polom 77.19 348 *eP* **P 04 23 48.6 -0.3**
KBZ Khabaz 77.27 328 P **P 04 23 49.8 +0.4**
KBZ pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 77.27 328 P **P 04 23 49.8 +0.4**
comp=Z,1.4nm,0.8s,baz=307,slow=3.1,SNR=4.5
STHS Stebnicka Huta 77.37 344 *eP* **P 04 23 49.8 -0.1**
STHS pmax pmax
comp=Z,3.0nm,1.1s
STHS Stebnicka Huta 77.37 344 *eP* **P 04 23 49.8 -0.1**
KRLC Kraliky 77.40 347 *eP* **P 04 23 49.4 -0.7**
KRLC Kraliky 77.40 347 *eP* **P 04 23 49.4 -0.7**
KOLS Kolonicke sedl 77.66 344 *eP* **P 04 23 51.6 +0.1**
KOLS Kolonicke sedl 77.66 344 *eP* **P 04 23 51.6 +0.1**
ZEI Tsey 77.77 327 *eP* **P 04 23 51.5 -1.0**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 78.65 346 *eP* **P 04 23 56.7 -0.3**
VYHS Vyhne 78.65 346 *eP* **P 04 23 56.7 -0.3**
KHC Kasperske Hory 78.73 349 *eP* **P 04 23 57.8 +0.3**
KHC Kasperske Hory 78.73 349 *eP* **P 04 23 57.8 +0.3**
GERES GERESS Array B 79.00 349 *eP* **P 04 23 59.7 +0.7**
GERES GERESS Array B 79.00 349 P **P 04 23 58.0 -1.0**
comp=Z,0.3nm,0.4s,baz=14,slow=6.1,SNR=4.0
WRAB Tennant Creek 80.64 221 P **P 04 24 06.4 -1.6**
WRAB pmax pmax
comp=Z,20nm,1.4s
WRA Warramunga Arr 80.65 221 P **P 04 24 07.5 -0.6**
comp=Z,0.3nm,0.7s,baz=32,slow=5.8,SNR=2.2
KBA Koelnbreinsper 80.78 349 ⇑ *iP* **P 04 24 09.2 +0.5**
comp=Z,11nm,0.6s
FETA Feichten 81.12 351 ⇑ *iP* **P 04 24 10.2 -0.4**
comp=Z,4.2nm,0.8s
BRTR Keskin Array B 83.77 333 P **P 04 24 24.8 +0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 83.77 333 P **P 04 24 24.8 +0.3**
comp=Z,1.3nm,0.6s,baz=43,slow=2.3,SNR=7.2
TORD Torodi Ar. Bea 115.43 356 PKP **PKPdf 04 30 35.2 -1.9**
comp=Z,0.3nm,0.7s,baz=338,slow=2.3,SNR=4.5
DBIC Dimbokro 121.93 3 PKIKP **PKPdf 04 30 47.6 -2.1**
DBIC pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 121.93 3 PKP **PKPdf 04 30 47.6 -2.1**
comp=Z,3.5nm,0.9s,baz=82,slow=4.6,SNR=2.6
BOSA Boshof 149.11 307 PKP2 **PKPbc 04 31 43.0 -0.3**
BOSA pmax pmax
comp=Z,2.0nm,1.0s
BOSA Boshof 149.11 307 PKPbc **PKPbc 04 31 43.0 -0.3**
comp=Z,2.3nm,1.0s,baz=351,slow=8.1,SNR=4.3

GUC 11 04:29:06.3±0.5, 34°.89S×72°.31W, h27km±7km, ML3.9, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.89**	**97**	⇑ *iP*	Pn	04 29 21.9	-1.2
NICH				*i* S	Sb	04 29 33.4	-1.3
LNCH	**Linares**	**1.12**	**149**	⇑ *iP*	Pn	04 29 25.5	-0.7
LNCH				*i* S	Sn	04 29 39.7	-1.0
COCH	**Cobquecura**	**1.30**	**197**	⇑ *iP*	Pn	04 29 28.0	-0.6
COCH				*i* S	Sn	04 29 44.3	-0.8
CLCH	**Cerro Calan**	**2.10**	**45**	⇑ *iP*	Pn	04 29 40.6	+0.8
CLCH				*i* S	Sn	04 30 06.4	+1.4
CLCH				AML	AML	04 30 16.8	
	comp=N,1μm,0.5s						

GUC 11 04:34:53.6±0.3, 35°.11S×72°.64W, h19km±3km, ML3.5, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**1.03**	**187**	⇓ *iP*	Pb	04 35 12.0	-0.8
COCH				*i* S	Sb	04 35 26.1	+0.2
LNCH	**Linares**	**1.13**	**131**	⇑ *iP*	Pn	04 35 13.8	-0.7
LNCH				*i* S	Sb	04 35 28.9	+0.1
CLCH	**Cerro Calan**	**2.44**	**46**	⇑ *iP*	Pn	04 35 34.7	+2.1
CLCH				*i* S	Sb	04 36 05.6	-1.3
CLCH				AML	AML	04 36 16.0	
	comp=E,504nm,0.5s						

IDC 11 04:41:06.2±9.9, 4°.67N×127°.05E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/28, mbtmp4.0/6, Error ellipse: s-maj=303.8km s-min=57.9km az=10.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**56.97**	**325**	P	P	04 50 53.6	0.0
	0.6nm,0.3s,baz=115,slow=7.5,SNR=21						
KURBB	**Kurchatov Arra**	**61.12**	**327**	P	P	04 51 22.1	-0.2
	1.5nm,0.6s,baz=125,slow=6.3,SNR=13						
BVAR	**Borovoye Array**	**66.71**	**327**	P	P	04 51 59.0	-0.1
	0.9nm,0.4s,baz=132,slow=6.7,SNR=5.3						
AKTO	**Aktyubinsk**	**73.12**	**321**	P	P	04 52 39.4	+0.8
	0.7nm,0.6s,baz=93,slow=7.6,SNR=3.6						
ILAR	**Eielson Array**	**84.12**	**25**	P	P	04 53 39.2	+0.3
	0.4nm,0.6s,baz=253,slow=4.9,SNR=7.6						
ARCES	**ARCESS Array B**	**89.68**	**340**	P	P	04 54 04.8	-1.1
	2.6nm,0.9s,baz=69,slow=6.6,SNR=4.3						

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*IDC **11** 04:51:21.1±0.9, 33°.07S×71°.88W, h0km, mb4.2/6, mb1 4.2/9, mb1mx4.0/18, mbtmp4. 1/9, ML4.0/3, MS3.5/8, Ms1 3.4/8, ms1mx3.2/25, Error ellipse: s-maj=35.9km s-min=21.0km az=99.0*
*GUC **11** 04:51:23.2±0.7, 33°.10S×72°.00W, h19km±13km, ML4.5*
*NEIC **11** 04:51:25.9±0.5, 33°.12S×71°.88W, h35km, mb4.5/3, ML4.5(GUC), Error ellipse: s-maj=9.9km s-min=5.5km az=88.0*
NEIC Felt [III] at San Antonio and Valparaiso and [II] at Quillota and Santiago.

ISC 11 04:51:23.1±2.9, 33°.09S±0°.05×71°.91W±0°.10, h15km±17km, n47, σ0°72/51, mb4.3/8, MS3.6/4, 3C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCDM	**Rinconada Maip**	**1.00**	**114**	⇓ *iP*	**Pb**	**04 51 41.8**	**-0.4**
RCDM				*i* S1	**Sg**	**04 51 56.0**	**+0.3**
RCDM				AML	AML	04 51 59.5	
	comp=N,9μm,0.2s						
RCDM	**Rinconada Maip**	**1.00**	**114**	⇓ *iP*	**Pb**	**04 51 41.8**	**-0.4**
RCDM				*i* S	**Sg**	**04 51 56.0**	**+0.3**
ANTU	**Antumapu**	**1.17**	**114**	⇓ *iP*	**Pn**	**04 51 44.7**	**-0.3**
ANTU				*i* S1	**Sg**	**04 52 01.4**	**+0.5**
ANTU				AML	AML	04 52 04.3	
	comp=N,13μm,0.6s						
ANTU	**Antumapu**	**1.17**	**114**	⇓ *iP*	**Pn**	**04 51 44.7**	**-0.3**
ANTU				*i* S	**Sg**	**04 52 01.4**	**+0.5**
CLCH	**Cerro Calan**	**1.19**	**105**	⇓ *iP*	**Pb**	**04 51 45.4**	**+0.1**
CLCH				*i* S1	**Sg**	**04 52 01.6**	**0.0**
CLCH				AML	AML	04 52 14.3	
	comp=E,15μm,0.6s						
LACH	**Col Las Americ**	**1.21**	**108**	⇓ *iP*	**Pn**	**04 51 45.3**	**-0.2**
LACH				*i* S1	**Sg**	**04 52 02.7**	**+0.6**
LACH				AML	AML	04 52 11.3	
	comp=E,7μm,0.5s						
LACH	**Col Las Americ**	**1.21**	**108**	⇓ *iP*	**Pn**	**04 51 45.3**	**-0.2**
LACH				*i* S	**Sg**	**04 52 02.7**	**+0.6**
NICH	**Los Niches**	**1.99**	**164**	*eP*1	**Pn**	**04 51 56.3**	**+0.1**
NICH				*i* S1	**Sb**	**04 52 22.8**	**-0.8**
NICH				AML	AML	04 52 29.3	
	comp=N,10μm,0.6s						
NICH	**Los Niches**	**1.99**	**164**	*eP*	**Pn**	**04 51 56.3**	**+0.1**
NICH				*i* S	**Sb**	**04 52 22.8**	**-0.8**
CMCH	**Combarbala**	**2.06**	**22**	⇑ *iP*	**Pn**	**04 51 58.6**	**+1.3**
CMCH				AML	AML	04 52 36.9	
	comp=N,15μm,0.9s						
CMCH	**Combarbala**	**2.06**	**22**	⇑ *iP*	**Pn**	**04 51 58.6**	**+1.3**
LNCH	**Linares**	**2.76**	**175**	⇓ *iP*	**Pn**	**04 52 07.5**	**+0.7**
LNCH				AML	AML	04 52 52.3	
	comp=E,5μm,0.6s						
LNCH	**Linares**	**2.76**	**175**	⇓ *iP*	**Pn**	**04 52 07.5**	**+0.7**
CFAA	**Coronel Fontan**	**3.44**	**65**	Pn	Pn	04 52 19.7	+3.5
	comp=E,4.9nm,0.3s,baz=238,slow=13,SNR=74						
CFAA				Lg	Lg	04 53 11.6	
	comp=E,6.1nm,0.3s,baz=147,slow=21,SNR=6.7						
CFAA				LR	LR	04 53 53.4	
	comp=E,110nm,19.8s,baz=266,slow=45						
LCO	**Las Campanas**	**4.20**	**15**	*e*Pn	**Pn**	**04 52 27.3**	**+0.5**
LCO				*e*S	**Sn**	**04 53 17.4**	**+1.7**
PLCA	**Paso Flores**	**7.71**	**172**	Pn	**Pn**	**04 53 15.4**	**+0.6**
	comp=E,1.3nm,0.3s,baz=332,slow=11,SNR=41						
PLCA				LR	LR	04 56 29.5	
	comp=E,249nm,18.6s,baz=292,slow=40						
PLCA	**Paso Flores**	**7.71**	**172**	*e*Pn	**Pn**	**04 53 15.3**	**+0.6**
	comp=E,99nm,2.8s						
TRQA	**Tornquist**	**9.48**	**124**	*e*Pn	**Pn**	**04 53 39.9**	**+0.8**
	comp=E,14nm,0.8s						
LVC	**Limon Verde**	**10.77**	**15**	*e*Pn	**Pn**	**04 53 54.2**	**-2.8**
CPUP	**Villa Florida**	**14.34**	**66**	Pn	P	04 54 49.2	-3.4
	comp=E,0.8nm,0.3s,baz=198,slow=9.4,SNR=6.6						
CPUP				LR	LR	05 00 41.5	
	comp=E,306nm,18.3s,baz=229,slow=39						
CPUP	**Villa Florida**	**14.34**	**66**	*e*Pn	**Pn**	**04 54 46.1**	**+0.5**
LPAZ	**La Paz**	**17.08**	**12**	P	**Pn**	**04 55 21.6**	**-0.3**
	comp=E,0.2nm,0.3s,baz=158,slow=13,SNR=2.0						
LPAZ	**La Paz**	**17.08**	**12**	Pn	**Pn**	**04 55 21.4**	**-0.5**
SIV	**San Ignacio**	**19.65**	**33**	P	**P**	**04 55 51.5**	**+0.1**
	comp=E,0.1nm,0.3s,baz=236,slow=11,SNR=8.1						
SIV				LR	LR	05 04 53.3	
	comp=E,225nm,18.9s,baz=236,slow=41						
EFI	**East Falkland**	**21.14**	**156**	*e*P	**P**	**04 56 07.0**	**-0.2**
	comp=E,36nm,1.1s						
SAML	**Samuel**	**25.34**	**20**	*e*P	**P**	**04 56 48.8**	**-0.6**
	comp=E,7.8nm,0.9s						
BDFB	**Brasilia**	**27.74**	**57**	P	**P**	**04 57 11.4**	**+0.1**
	comp=E,4.3nm,0.8s,baz=208,slow=3.9,SNR=7.3						
BDFB				LR	LR	05 08 20.4	
	comp=E,91nm,18.4s,baz=210,slow=37						
APG	**El Apazote**	**51.01**	**337**	LR	LR	05 18 11.3	
	comp=E,56nm,18.7s,slow=32						
QSPA	**South Pole Qui**	**57.14**	**180**	P	**P**	**05 01 09.8**	**+0.9**
	comp=E,3.7nm,0.9s,baz=119,slow=1.7,SNR=10						
QSPA	**South Pole Qui**	**57.14**	**180**	*e*P	**P**	**05 01 08.6**	**-0.4**
	comp=E,4.5nm,0.9s						
TXAR	**Lajitas Array**	**69.00**	**331**	P	**P**	**05 02 27.9**	**0.0**
	comp=E,0.4nm,0.8s,baz=143,slow=5.3,SNR=5.4						
DBIC	**Dimbokro**	**74.79**	**71**	P	**P**	**05 03 03.0**	**0.0**
	comp=E,1.3nm,0.6s,baz=256,slow=3.6,SNR=3.1						
DBIC				LR	LR	05 34 04.6	
	comp=E,26nm,19.8s,baz=139,slow=34						
BOSA	**Boshof**	**80.40**	**118**	P	**P**	**05 03 34.0**	**-0.4**
	comp=E,2.1nm,1.0s,baz=232,slow=2.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**83.80**	**70**	P	**P**	**05 03 52.2**	**+0.1**
	comp=E,3.8nm,0.8s,baz=254,slow=4.7,SNR=20						
TORD				LR	LR	05 38 31.6	
	comp=E,27nm,20.7s,baz=200,slow=34						
H11S2	**WAKE ISLAND Hyl**	**25.89**	**270**	T	T	07 29 08.8	
	baz=118,slow=74,SNR=72						
H11S1	**WAKE ISLAND Hyl**	**25.90**	**270**	T	T	07 29 09.7	
	baz=118,slow=74,SNR=50						
H11S3	**WAKE ISLAND Hyl**	**25.91**	**270**	T	T	07 29 10.0	
	baz=118,slow=74,SNR=33						
H11N3	**WAKE ISLAND Hyl**	**26.28**	**271**	T	T	07 29 36.5	
	baz=128,slow=72,SNR=4.6						
H11N1	**WAKE ISLAND Hyl**	**26.29**	**271**	T	T	07 29 41.1	
	baz=128,slow=72,SNR=8.9						
H11N2	**WAKE ISLAND Hyl**	**26.30**	**271**	T	T	07 29 37.2	
	baz=128,slow=72,SNR=7.5						
BVAR	**Borovoye Array**	**146.54**	**42**	PKPbc	**PKPab**	**05 11 04.3**	**0.0**
	comp=E,1.0nm,0.4s,baz=298,slow=3.2,SNR=6.0						
KURBB	**Kurchatov Arra**	**152.13**	**42**	PKPbc	**PKPbc**	**05 11 17.5**	**+0.1**
	comp=E,1.1nm,0.7s,baz=303,slow=2.9,SNR=10						
KURBB				PKPab	**PKPab**	**05 11 28.2**	**+1.0**
	comp=E,0.9nm,0.7s,baz=301,slow=3.5,SNR=6.3						
KURBB	**Kurchatov Arra**	**152.13**	**42**	⇓ Pn	**PKPbc**	**05 11 16.9**	**-0.6**
	comp=E,1.0nm,0.5s						
KURK	**Kurchatov**	**152.14**	**42**	PKPbc	**PKPbc**	**05 11 17.5**	**0.0**
KURK				PKPab	**PKPab**	**05 11 28.2**	**+1.0**
KURK	**Kurchatov**	**152.14**	**42**	⇑ Pn	**PKPbc**	**05 11 17.1**	**-0.3**
	comp=E,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**153.40**	**31**	PKPbc	**PKPbc**	**05 11 20.3**	**+0.1**
	comp=E,1.1nm,0.6s,baz=289,slow=4.5,SNR=5.4						
ZALV				PKPab	**PKPab**	**05 11 32.6**	**+0.2**
	comp=E,1.1nm,0.6s,baz=331,slow=5.8,SNR=4.6						
MKAR	**Makanchi Array**	**156.08**	**48**	PKPab	**PKPab**	**05 11 44.5**	**+0.4**
	comp=E,0.9nm,0.7s,baz=287,slow=5.9,SNR=4.7						

IDC 11 04:57:10.9±10.0, 19°.96S×178°.24W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.5/3, MS4.2/1, Ms1 4.2/1, ms1mx2.9/21, Error ellipse: s-maj=474.0km s-min=39.8km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**9.25**	**178**	LR	LR	05 01 52.2	
	comp=Z,2μm,22.0s,baz=309,slow=30						
ASAR	**Alice Springs**	**44.42**	**256**	P	P	05 05 23.9	-0.1
	0.3nm,0.5s,baz=92,slow=7.6,SNR=4.5						
WRA	**Warramunga Arr**	**44.45**	**262**	P	P	05 05 24.0	-0.2
	0.2nm,0.4s,baz=99,slow=7.7,SNR=0.8						
ILAR	**Eielson Array**	**87.84**	**13**	P	P	05 10 01.7	-0.1
	0.7nm,1.0s,baz=228,slow=5.5,SNR=6.9						

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*IDC **11** 05:00:15.2±2.5, 39°.18N×134°.46E, h235km±27km, mb2.8/5, mb1 3.0/6, mb1mx2.8/29, mbtmp3.4/6, Error ellipse: s-maj=28.7km s-min=17.5km az=105.0*
*ISCJB **11** 05:00:17.6±0.6, 37°.43N±0°.08×134°.96E±0°.07, h378km, mb3.0/5, Error ellipse: s-maj=10.8km s-min=7.2km az=170.0*
*JMA **11** 05:00:17.5±0.3, 37°.28N×134°.94E, h389km±3km, M3.4*

ISC 11 05:00:18.0±0.9, 37°.35N±0°.09×134°.96E±0°.07, h378km, n24, σ1°48/29, mb2.9/6, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**1.54**	**134**	P	**Pn**	**05 01 09.7**	**+0.6**
JKG				S	**S**	**05 01 49.6**	**-0.7**
JKY	**Yasaka**	**1.72**	**176**	P	**Pn**	**05 01 10.5**	**+0.3**
JSZ	**Suzu**	**1.92**	**86**	P	**Pn**	**05 01 12.5**	**+1.2**
JWT	**Wachi**	**2.09**	**170**	P	**Pn**	**05 01 12.9**	**+0.3**
JNG	**Nsakai**	**2.69**	**109**	P	**Pn**	**05 01 17.9**	**+0.9**
JSD	**Sado**	**2.71**	**74**	P	**Pn**	**05 01 17.9**	**+0.9**
MJAR	**Matsushiro Arr**	**2.73**	**106**	P	**Pn**	**05 01 18.3**	**+1.1**
	1.5nm,0.3s,baz=296,slow=11,SNR=22						
JHS	**Saijyo**	**2.78**	**213**	P	**Pn**	**05 01 17.5**	**-0.2**
JGT	**Gotsu**	**3.14**	**223**	P	**Pn**	**05 01 20.8**	**+0.1**
JHK	**Hiroka**	**3.24**	**91**	P	**Pn**	**05 01 22.2**	**+0.7**
JRY	**Ryogami san**	**3.44**	**112**	P	**Pn**	**05 01 26.2**	**+2.8**
JRY				*e*S	**S**	**05 02 17.8**	**+1.6**
JOD2	**Odawara 2**	**3.93**	**121**	P	**Pn**	**05 01 28.6**	**+0.6**
JFT	**Otama**	**4.28**	**86**	P	**Pn**	**05 01 32.6**	**+1.1**
JFT				*e*S	**S**	**05 02 29.9**	**-1.1**
JMM	**Marumori**	**4.66**	**82**	P	**Pn**	**05 01 35.8**	**+0.5**
JMM				S	**S**	**05 02 35.6**	**-2.4**
JFK	**Kawauchi**	**4.71**	**88**	P	**Pn**	**05 01 35.8**	**-0.1**
JFK				S	**S**	**05 02 36.2**	**-2.9**
JRG	**Rokugo**	**4.91**	**64**	P	**Pn**	**05 01 38.8**	**+1.0**
JMK	**Ichinoseki**	**5.19**	**70**	P	**Pn**	**05 01 41.5**	**+0.7**
JMK				S	**S**	**05 02 44.2**	**-3.9**
BSO1	**Boso 1**	**5.57**	**117**	P	**Pn**	**05 01 44.2**	**-0.3**
BSO1				*e*S	**S**	**05 02 53.2**	**-1.7**
SEY	**Seymchan**	**27.75**	**17**	P	P	05 05 27.6	-5.5
	3.0nm,0.3s,baz=172,slow=1.6,SNR=11						
MKAR	**Makanchi Array**	**39.56**	**301**	P	**P**	**05 07 12.8**	**-1.2**
	0.4nm,0.6s,baz=79,slow=7.5,SNR=4.9						
ILAR	**Eielson Array**	**51.98**	**32**	P	**P**	**05 08 50.2**	**+0.7**
	0.2nm,0.5s,baz=276,slow=6.5,SNR=8.6						
INK	**Inuvik**	**56.43**	**26**	P	**P**	**05 09 21.8**	**+0.6**

0.7nm,1.1s,baz=16,slow=8.8,SNR=4.9
YKA Yellowknife Ar 66.06 28 P **P 05 10 26.4 +1.4**
0.1nm,0.7s,baz=307,slow=7.6,SNR=4.0

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*IDC **11** 05:06:20.6±1.4, 33°.37S×178°.69W, h0km, mb4.1/3, mb1 4.3/4, mb1mx4.0/19, mbtmp4.2/4, ML4.3/1, MS3.9/5, Ms1 3.8/5, ms1mx3.2/26, Error ellipse: s-maj=40.3km s-min=30.8km az=58.0*

ISC 11 05:06:24.7±1.6, 33°.6S±0°.1×178°.5W±0°.3, h41km, n22, σ1§24/22, mb4.0/3, MS3.8/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.77**	**212**	PN	**Pn**	**05 07 32.3**	**-1.8**
MXZ				SN	**Sn**	**05 08 30.0**	**+1.9**
WMGZ	**Waiomatatini S**	**4.94**	**210**	PN	**Pn**	**05 07 35.5**	**-0.8**
WMGZ				SN	**Sn**	**05 08 32.6**	**+0.4**
HAZ	**Te Kaha**	**5.17**	**215**	PN	**Pn**	**05 07 39.5**	**0.0**
HAZ				SN	**Sn**	**05 08 40.1**	**+2.2**
PUZ	**Puketiti**	**5.22**	**210**	PN	**Pn**	**05 07 39.2**	**-1.0**
PUZ				SN	**Sn**	**05 08 39.4**	**+0.3**
TWGZ	**Tauwhareparae**	**5.43**	**211**	PN	**Pn**	**05 07 42.2**	**-0.8**
MWZ	**Matawai**	**5.76**	**213**	PN	**Pn**	**05 07 48.0**	**+0.4**
URZ	**Urewera**	**5.90**	**216**	Pn	**Pn**	**05 07 49.3**	**-0.2**
	7.7nm,0.3s,baz=53,slow=4.2,SNR=33						
URZ				Sn	**Sn**	**05 08 52.9**	**-2.8**
	6.0nm,0.3s,baz=232,slow=5.6,SNR=8.4						
URZ	**Urewera**	**5.90**	**216**	PN	**Pn**	**05 07 48.8**	**-0.6**
RAGZ	**Rawiri**	**5.94**	**213**	PN	**Pn**	**05 07 49.9**	**-0.3**
RIGZ	**Rimuhau**	**5.96**	**210**	PN	**Pn**	**05 07 49.3**	**-1.1**
SNGZ	**Shannon Statio**	**6.21**	**212**	PN	**Pn**	**05 07 53.5**	**-0.3**
WHHZ	**Waihua**	**6.50**	**211**	PN	**Pn**	**05 07 56.4**	**-1.3**
PPT	**Papeete**	**30.41**	**66**	LR	LR	05 25 29.8	
	comp=Z,64nm,18.6s,baz=196,slow=38						
STKA	**Stephens Creek**	**33.49**	**262**	LR	LR	05 25 56.5	
	comp=Z,159nm,18.5s,baz=32,slow=35						
ASAR	**Alice Springs**	**42.63**	**271**	P	**P**	**05 14 17.2**	**0.0**
	1.8nm,0.7s,baz=111,slow=7.3,SNR=11						
ASAR				LR	LR	05 31 02.2	
	comp=Z,87nm,18.5s,baz=152,slow=35						
WRA	**Warramunga Arr**	**43.91**	**276**	P	**P**	**05 14 28.0**	**+0.4**
	1.5nm,0.5s,baz=117,slow=7.9,SNR=15						
QSPA	**South Pole Qui**	**56.55**	**180**	P	P	05 16 06.8	+4.0
	2.5nm,1.1s,baz=51,slow=2.8,SNR=2.2						
PLCA	**Paso Flores**	**80.65**	**133**	LR	LR	05 51 57.2	
	comp=Z,69nm,18.2s,baz=282,slow=34						
ATAH	**Atahualpa**	**94.42**	**101**	LR	LR	05 53 39.1	
	comp=Z,212nm,20.8s,baz=312,slow=30						
MKAR	**Makanchi Array**	**119.47**	**309**	PKP	**PKPdf**	**05 25 09.6**	**+0.2**
	0.5nm,0.9s,baz=115,slow=2.0,SNR=3.7						
FINES	**FINESS Array B**	**147.95**	**338**	PKPbc	**PKPab**	**05 26 06.5**	**-0.9**
	1.8nm,0.4s,baz=49,slow=3.5,SNR=25						
TORD	**Torodi Ar. Bea**	**159.67**	**180**	PKPab	**PKPab**	**05 26 59.5**	**+1.5**
	0.6nm,1.0s,baz=181,slow=4.4,SNR=5.0						

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*IDC **11** 05:14:49.0±1.2, 13°.25N×87°.05W, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.5/24, mbtmp3.4/6, ML2.6/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/27, Error ellipse: s-maj=57.9km s-min=20.0km az=62.0*

*ISCJB **11** 05:14:49.4±0.9, 13°.2N±0°.2×87°.0W±0°.2, h13km, mb3.4/4, MS3.4/2, Error ellipse: s-maj=39.0km s-min=12.6km az=141.9*

ISC 11 05:14:51.0±1.0, 13°.2N±0°.2×87°.1W±0°.2, h13km, n8, σ1§44/6, mb3.4/4, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**3.57**	**144**	Pn	**Pn**	**05 15 46.2**	**0.0**
	0.7nm,0.3s,baz=326,slow=14,SNR=4.8						
APG	**El Apazote**	**3.74**	**299**	Pn	**Pn**	**05 15 48.9**	**+0.2**
	0.4nm,0.3s,baz=116,slow=13,SNR=6.9						
ATAH	**Atahualpa**	**21.98**	**156**	LR	LR	05 27 07.0	
	comp=Z,41nm,19.7s,baz=267,slow=34						
TXAR	**Lajitas Array**	**22.23**	**319**	P	**P**	**05 19 47.4**	**-0.3**
	0.4nm,0.5s,baz=143,slow=13,SNR=7.1						
ULM	**Lac du Bonnet**	**37.62**	**351**	P	**P**	**05 22 07.1**	**+1.7**
	0.8nm,0.6s,baz=175,slow=11,SNR=3.9						
YKA	**Yellowknife Ar**	**52.98**	**344**	P	**P**	**05 24 05.2**	**-1.8**
	0.2nm,0.6s,baz=140,slow=7.0,SNR=7.4						
PLCA	**Paso Flores**	**55.82**	**165**	P	**P**	**05 24 28.3**	**+0.2**
	0.6nm,0.5s,baz=345,slow=7.9,SNR=3.6						
HFS	**Hagfors**	**83.93**	**30**	LR	LR	05 59 01.4	
	comp=Z,58nm,21.9s,baz=62,slow=32						

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*IDC **11** 05:43:01.7±1.0, 12°.64N×60°.17W, h0km, mb3.9/10, mb1 4.2/10, mb1mx3.9/25, mbtmp3.9/10, MS3.0/1, Ms1 3.0/1, ms1mx2.4/35, Error ellipse: s-maj=31.8km s-min=21.7km az=29.0*

*ISCJB **11** 05:43:08.9±0.4, 12°.68N±0°.02×60°.18W±0°.04, h72km±4km, mb3.9/11, Error ellipse: s-maj=6.3km s-min=3.3km az=22.5*

*TRN **11** 05:43:08.5, 12°.70N×60°.19W, h28km, MD3.9, M3.9(FDF)*

*FUNV **11** 05:43:10.6, 12°.51N×60°.03W, h22km, MW3.8*

ISC 11 05:43:09.6±0.9, 12°.68N±0°.04×60°.15W±0°.05, h60km±9km, n68, σ0§83/88, mb4.0/11, 6C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**0.73**	**51**	*eP*	**Pn**	**05 43 24.1**	**-0.2**
BBGH	**Gun Hill**	**0.73**	**51**	*eP*	**Pn**	**05 43 24.3**	**+0.1**
BBGH				*eS*	**Sn**	**05 43 36.1**	**+1.0**
BHS	**Barnard House**	**1.14**	**303**	*eP*	**Pn**	**05 43 29.8**	**+0.4**
BHS				*eS*	**Sn**	**05 43 44.0**	**-0.2**
FCV	**Fort Charlotte**	**1.17**	**294**	*eP*	**Pn**	**05 43 29.6**	**-0.3**
FCV				*eS*	**Sn**	**05 43 45.3**	**+0.3**
SSV	**Crater Summit**	**1.21**	**302**	*eP*	**Pn**	**05 43 30.4**	**0.0**
SSV				*eS*	**Sn**	**05 43 46.0**	**0.0**
SVV	**Soufriere Volc**	**1.22**	**301**	⇑*iP*	**Pn**	**05 43 30.8**	**+0.2**
SVV				*eS*	**Sn**	**05 43 45.8**	**-0.4**
SVB	**Belmont**	**1.23**	**299**	⇑*eP*	**Pn**	**05 43 29.6**	**-1.0**
SVB				*eS*	**Sn**	**05 43 45.6**	**-0.8**
MCLT	**Moule a Chique**	**1.28**	**323**	⇑*eP*	**Pn**	**05 43 30.7**	**-0.7**
MCLT				*eS*	**Sn**	**05 43 46.7**	**-1.0**
SLB	**Belfond**	**1.44**	**323**	*eP*	**Pn**	**05 43 34.2**	**+0.7**
GRSS	**Sisters**	**1.48**	**255**	*eP*	**Pn**	**05 43 34.4**	**+0.4**
GRSS				*eS*	**Sn**	**05 43 53.1**	**+0.7**
GRHS	**Sauteurs**	**1.53**	**253**	*eP*	**Pn**	**05 43 35.0**	**+0.3**
GRHS				*eS*	**Sn**	**05 43 54.2**	**+0.7**
GRW	**Mount Saint Ca**	**1.57**	**251**	*eP*	**Pn**	**05 43 35.9**	**+0.6**
GRW				*eS*	**Sn**	**05 43 54.4**	**-0.3**
GRGR	**Grenville**	**1.57**	**250**	*eP*	**Pn**	**05 43 34.7**	**-0.5**
GRGR	**Grenville**	**1.57**	**250**	*eP*	**Pn**	**05 43 34.8**	**-0.5**
GRGR				*eS*	**Sn**	**05 43 54.9**	**+0.3**
H05S1	**Guadeloupe/Mar**	**1.86**	**339**	Pn	**Pn**	**05 43 38.3**	**-0.9**
H05S1				Sn	**Sn**	**05 44 00.1**	**-1.5**
MVM	**Montagne Vaucl**	**2.00**	**339**	*eP*	**Pn**	**05 43 40.8**	**-0.3**
BIM	**Bigot**	**2.04**	**334**	*eP*	**Pn**	**05 43 41.7**	**+0.1**
BIM				*eS*	**Sn**	**05 44 06.2**	**+0.3**
TRMF	**Trois Ilets**	**2.04**	**335**	*eP*	**Pn**	**05 43 41.7**	**0.0**
LPMF	**Morne Lapointe**	**2.04**	**337**	*eP*	**Pn**	**05 43 41.5**	**-0.2**
ZAM	**Aeronautique**	**2.07**	**336**	*eP*	**Pn**	**05 43 42.0**	**0.0**
BVM	**Bellevue**	**2.23**	**337**	*eP*	**Pn**	**05 43 44.4**	**+0.1**
FDF	**Fort de France**	**2.26**	**335**	⇑*iP*	**Pn**	**05 43 44.4**	**-0.3**
FDF	**Fort de France**	**2.26**	**335**	*eP*	**Pn**	**05 43 44.9**	**+0.2**
FDF				*eS*	**Sn**	**05 44 11.6**	**+0.1**
FDF				*eS*	**Sn**	**05 44 12.0**	**+0.5**
TBH	**Brigand Hill**	**2.36**	**203**	*eP*	**Pn**	**05 43 47.0**	**+1.0**
SVN	**Savane Anatole**	**2.37**	**335**	*eP*	**Pn**	**05 43 46.7**	**+0.5**
TRN	**Trinidad (W)**	**2.37**	**211**	*eP*	**Pn**	**05 43 46.2**	**+0.1**
DLPL	**La Plaine**	**2.84**	**338**	*eP*	**Pn**	**05 43 54.3**	**+1.6**
DLPL				*eS*	**Sn**	**05 44 22.7**	**-3.0**
GUIV	**Guiria**	**2.87**	**225**	*eP*	**Pn**	**05 43 53.4**	**+0.5**
GUIV				*eS*	**Sn**	**05 44 25.4**	**-0.9**
BBL	**Barber's Block**	**3.11**	**336**	*eP*	**Pn**	**05 43 56.8**	**+0.6**
TBG	**Guadaloupe-3**	**3.47**	**335**	*eP*	**Pn**	**05 44 02.0**	**+0.8**
HMG	**Houelmont**	**3.61**	**336**	*eP*	**Pn**	**05 44 04.3**	**+1.2**
PHG	**Guadaloupe-2**	**3.62**	**337**	*eP*	**Pn**	**05 44 04.3**	**+1.0**
CRUV	**Carupano**	**3.62**	**237**	*eP*	**Pn**	**05 44 04.2**	**+1.0**
CRUV				*eS*	**Sn**	**05 44 44.4**	**-0.4**
DOG	**Dongo Capester**	**3.62**	**337**	*eP*	**Pn**	**05 44 04.1**	**+0.8**
SCG	**Saint Claude**	**3.65**	**336**	*eP*	**Pn**	**05 44 04.6**	**+0.9**
ECG	**Echelle**	**3.65**	**337**	*eP*	**Pn**	**05 44 04.7**	**+0.9**
LKG	**Breislack**	**3.65**	**337**	⇑*iP*	**Pn**	**05 44 04.8**	**+0.9**
TAG	**Tarade**	**3.65**	**336**	*eP*	**Pn**	**05 44 04.9**	**+1.1**
CRG	**Carmichael**	**3.66**	**337**	*eP*	**Pn**	**05 44 05.0**	**+1.1**
FNG	**Fond-Bernard**	**3.68**	**336**	*eP*	**Pn**	**05 44 04.9**	**+0.8**
MLG	**Mont-d'or**	**3.69**	**336**	⇑*iP*	**Pn**	**05 44 05.0**	**+0.7**
SSG	**Sans Toucher**	**3.70**	**337**	*eP*	**Pn**	**05 44 05.0**	**+0.5**
GUNV	**Guanoco**	**3.71**	**228**	*eP*	**Pn**	**05 44 05.2**	**+0.7**
GUNV				*eS*	**Sn**	**05 44 45.1**	**-1.9**
H05N1	**Guadeloupe/Mar**	**3.72**	**346**	Pn	**Pn**	**05 44 03.6**	**-1.0**
H05N1				Sn	**Sn**	**05 44 46.3**	**-0.9**
LZG	**Guadaloupe-1**	**3.78**	**336**	*eP*	**Pn**	**05 44 05.4**	**-0.1**
SEG	**Port Louis**	**3.93**	**341**	*eP*	**Pn**	**05 44 07.8**	**+0.4**
ORIV	**Oritupano**	**4.81**	**222**	*eP*	**Pn**	**05 44 20.1**	**+0.5**
RIOV	**Rio Grande**	**4.87**	**200**	*eP*	**Pn**	**05 44 19.8**	**-0.5**
CUPV	**Cepira**	**6.12**	**245**	*eP*	**Pn**	**05 44 38.7**	**+1.2**
CUPV				*eS*	**Sn**	**05 45 44.0**	**-2.2**
BIRV	**Birongo**	**6.39**	**251**	*eP*	**Pn**	**05 44 41.2**	**+0.1**
MERV	**Las Mercedes**	**6.93**	**241**	*eP*	**Pn**	**05 44 49.4**	**+0.7**
TURV	**Turiamo**	**7.86**	**254**	*eP*	**Pn**	**05 45 01.6**	**+0.3**
BAUV	**El Baul**	**8.60**	**245**	*eP*	**Pn**	**05 45 11.4**	**0.0**
MONV	**Montecano**	**9.63**	**267**	*eP*	**Pn**	**05 45 25.8**	**+0.2**
SANV	**Sanarito**	**9.74**	**252**	*eP*	**Pn**	**05 45 27.7**	**+0.5**
CURV	**Curarigua**	**9.98**	**256**	*eP*	**Pn**	**05 45 31.2**	**+0.8**
ROSC	**El Rosal**	**16.02**	**242**	LR	LR	05 54 26.3	
	comp=Z,55nm,20.9s,baz=28,slow=43						
APG	**El Apazote**	**29.52**	**278**	P	P	05 49 04.6	-4.3
	2.3nm,0.6s,baz=144,slow=23,SNR=5.1						
CPUP	**Villa Florida**	**38.87**	**176**	P	**P**	**05 50 28.1**	**-1.1**
	2.3nm,0.9s,baz=329,slow=9.6,SNR=3.2						
TXAR	**Lajitas Array**	**43.59**	**299**	P	**P**	**05 51 07.0**	**-1.3**
	0.3nm,0.5s,baz=113,slow=9.5,SNR=7.4						
TXAR				PcP	**PcP**	**05 52 56.8**	**+1.7**
	0.3nm,0.6s,baz=120,slow=4.2,SNR=5.1						
ULM	**Lac du Bonnet**	**47.48**	**329**	P	**P**	**05 51 38.0**	**-0.5**
	2.9nm,0.5s,baz=134,slow=8.0,SNR=11						
PDAR	**Pinedale Array**	**52.04**	**315**	P	**P**	**05 52 13.8**	**+0.2**
	2.2nm,0.6s,baz=114,slow=9.7,SNR=18						
ESDC	**Sonseca Array**	**56.09**	**51**	P	**P**	**05 52 43.3**	**+0.3**
	0.7nm,0.7s,baz=261,slow=7.3,SNR=4.8						
NVAR	**Mina Array Bea**	**57.36**	**308**	P	**P**	**05 52 52.7**	**+0.5**
	0.5nm,0.7s,baz=104,slow=6.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**60.14**	**82**	P	**P**	**05 53 11.7**	**+0.1**
	0.6nm,0.7s,baz=283,slow=5.4,SNR=5.9						
YKA	**Yellowknife Ar**	**62.83**	**335**	P	**P**	**05 53 28.8**	**-0.1**
	0.8nm,0.6s,baz=108,slow=7.4,SNR=18						
ARCES	**ARCESS Array B**	**76.69**	**21**	P	**P**	**05 54 54.6**	**+0.6**
	3.7nm,0.8s,baz=353,slow=4.0,SNR=3.8						
ILAR	**Eielson Array**	**77.24**	**334**	P	**P**	**05 54 57.7**	**+0.5**
	0.3nm,0.5s,baz=94,slow=4.3,SNR=10						

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*ISCJB **11** 05:58:30.0±0.8, 33°.86S±0°.04×71°.45W±0°.07, h61km±9km, mb3.5/1, Error ellipse: s-maj=10.2km s-min=6.6km az=175.5*

*NEIC **11** 05:58:30.0, 33°.88S×71°.46W, h41km, mb3.5/1, MD3.6(GUC), After GUC.*

NEIC Felt [III] at Rancagua.

*GUC **11** 05:58:30.2±0.8, 33°.88S×71°.46W, h41km±13km, MD3.6, ML3.1*

ISC 11 05:58:30.9±1.3, 33°.86S±0°.04×71°.45W±0°.06, h49km±17km, n25, σ0§75/48, 10C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**0.65**	**56**	⇑*iP*	**Pn**	**05 58 43.7**	**-0.3**
RCDM				*i* S1	**Sn**	**05 58 53.4**	**0.0**
RCDM				AML	AML	05 58 54.5	
	comp=N,5μm,0.1s						
RCDM	**Rinconada Maip**	**0.65**	**56**	⇑*iP*	**Pn**	**05 58 43.7**	**-0.3**
RCDM				*i* S	**Sn**	**05 58 53.4**	**0.0**
CHCH	**Chadas Angostu**	**0.67**	**97**	⇑*iP*	**Pn**	**05 58 43.7**	**-0.5**
CHCH				*i* S4	**Sn**	**05 58 52.9**	**-0.9**
CHCH	**Chadas Angostu**	**0.67**	**97**	⇑*iP*	**Pn**	**05 58 43.7**	**-0.5**
CHCH				S	**Sn**	**05 58 52.9**	**-0.9**
ANTU	**Antumapu**	**0.74**	**67**	⇓*iP*	**Pn**	**05 58 44.8**	**-0.3**
ANTU				*i* S	**Sn**	**05 58 56.0**	**+0.6**
ANTU				AML	AML	05 58 56.4	
	comp=E,3μm,0.2s						
ANTU	**Antumapu**	**0.74**	**67**	⇓*iP*	**Pn**	**05 58 44.8**	**-0.3**
ANTU				*i* S	**Sn**	**05 58 56.0**	**+0.6**
CACH	**El Canelo**	**0.75**	**111**	⇓*iP*	**Pn**	**05 58 45.4**	**0.0**
CACH				*i* S1	**Sn**	**05 58 56.6**	**+0.8**
CACH	**El Canelo**	**0.75**	**111**	⇓*iP*	**Pn**	**05 58 45.4**	**0.0**
CACH				*i* S	**Sn**	**05 58 56.6**	**+0.8**
STL	**Santa Lucia**	**0.79**	**58**	⇓*iP*	**Pn**	**05 58 44.7**	**-1.1**
STL				*i* S1	**Sn**	**05 58 56.7**	**0.0**
STL				AML	AML	05 58 59.6	
	comp=N,246nm,0.1s						
IHA	**Instituto Hidr**	**0.84**	**349**	⇑*iP*	**Pn**	**05 58 46.1**	**-0.4**
IHA				*i* S1	**Sn**	**05 58 58.1**	**+0.3**
IHA	**Instituto Hidr**	**0.84**	**349**	⇑*iP*	**Pn**	**05 58 46.1**	**-0.4**
IHA				*i* S	**Sn**	**05 58 58.1**	**+0.3**
FSR	**Penalolen**	**0.85**	**64**	⇓*iP*	**Pn**	**05 58 47.5**	**+0.9**
FSR				*i* S1	**Sn**	**05 58 59.3**	**+1.1**
FSR	**Penalolen**	**0.85**	**64**	⇓*iP*	**Pn**	**05 58 47.5**	**+0.9**
FSR				*i* S	**Sn**	**05 58 59.3**	**+1.1**
LACH	**Col Las Americ**	**0.86**	**62**	⇑*iP*	**Pn**	**05 58 46.4**	**-0.4**
LACH				⇓*iP*	**Pn**	**05 58 46.4**	**-0.4**
LACH				*i* S	**Sn**	**05 58 58.9**	**+0.4**
LACH				AML	AML	05 58 59.6	
	comp=E,573nm,0.3s						
LACH	**Col Las Americ**	**0.86**	**62**	⇑*iP*	**Pn**	**05 58 46.4**	**-0.4**
LACH				*i* S	**Sn**	**05 58 58.9**	**+0.4**
CLCH	**Cerro Calan**	**0.89**	**59**	⇓*iP*	**Pn**	**05 58 47.2**	**0.0**
CLCH				*i* S1	**Sn**	**05 59 00.2**	**+1.2**
CLCH				AML	AML	05 59 05.7	
	comp=E,1μm,0.5s						
SJCH	**San Jose de Ma**	**0.94**	**77**	⇓*iP*	**Pn**	**05 58 46.7**	**-1.1**
SJCH				*i* S1	**Sn**	**05 58 59.8**	**-0.4**
SJCH				AML	AML	05 58 60.0	
	comp=N,773nm,0.3s						
SJCH	**San Jose de Ma**	**0.94**	**77**	⇓*iP*	**Pn**	**05 58 46.7**	**-1.1**
SJCH				*i* S	**Sn**	**05 58 59.8**	**-0.4**
PEL	**Peldehue**	**0.95**	**42**	⇑*iP*	**Pn**	**05 58 48.3**	**+0.3**
PEL				*i* S	**Sn**	**05 59 01.7**	**+1.1**
PEL				AML	AML	05 59 05.3	
	comp=E,2μm,0.4s						
PEL	**Peldehue**	**0.95**	**42**	⇑*iP*	**Pn**	**05 58 48.3**	**+0.3**
PEL				*i* S	**Sn**	**05 59 01.7**	**+1.1**
NICH	**Los Niches**	**1.16**	**171**	*eP*1	**Pn**	**05 58 50.3**	**-0.4**
NICH				*i* S1	**Sn**	**05 59 06.0**	**+0.6**
NICH				AML	AML	05 59 10.1	
	comp=N,2μm,0.1s						
NICH	**Los Niches**	**1.16**	**171**	*eP*	**Pn**	**05 58 50.3**	**-0.4**
NICH				*i* S	**Sn**	**05 59 06.0**	**+0.6**
LCO	**Las Campanas**	**4.87**	**8**	*e*Pn	**Pn**	**05 59 39.5**	**-2.4**
TRQA	**Tornquist**	**8.74**	**121**	*e*Pn	**Pn**	**06 00 35.5**	**+0.8**
SAML	**Samuel**	**25.93**	**19**	P	**P**	**06 03 58.9**	**+0.2**
	comp=N,0.9nm,0.6s						

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*NEIC **11** 06:20:31.2±0.6, 19°.74N×71°.59W, h10km, mb4.2/1, Error ellipse: s-maj=9.5km s-min=6.0km az=175.0*

NEIC Felt [III] at Santiago and [II] at Santo Domingo. Also felt at Baitoa, Guayubin, Jarabacoa, Licey al Medio, Monte Cristi and Sabaneta.

*IDC **11** 06:20:31.8±1.1, 20°.16N×71°.40W, h0km, mb3.6/9, mb1 4.0/13, mb1mx3.8/28, mbtmp3.7/13, ML3.3/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/38, Error ellipse: s-maj=31.4km s-min=19.9km az=0.0*

*ISCJB **11** 06:20:32.4±0.3, 19°.68N±0°.04×71°.60W±0°.03, h33km, mb3.6/10, Error ellipse: s-maj=5.2km s-min=3.5km az=19.3*

ISC 11 06:20:35.1±0.5, 19°.73N±0°.04×71°.54W±0°.04, h35km, n34, σ1§66/43, mb3.7/10, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.78**	**162**	*e*Pg	Pn	06 20 45.7	-3.9
SDDR				*e*Sg	**Sn**	**06 20 56.1**	**-4.0**
JAKH	**Jacmel**	**1.74**	**212**	*e*Pn	**Pn**	**06 21 02.1**	**-0.7**
GRTK	**Grand Turk**	**1.82**	**12**	*e*Pn	**Pn**	**06 21 02.3**	**-1.6**
GRTK				*e*Sn	**Sn**	**06 21 25.9**	**+0.2**
SMN1	**Samana, DR**	**2.21**	**104**	*e*Pn	**Pn**	**06 21 08.6**	**-0.7**
SMN1				*e*Sn	**Sn**	**06 21 34.8**	**-0.5**
PCDR	**Punta Cana, DR**	**3.22**	**111**	*e*Pn	**Pn**	**06 21 23.0**	**-0.2**
PCDR				*e*Sn	**Sn**	**06 22 00.4**	**0.0**
GTBY	**Guantanamo Bay**	**3.37**	**274**	*e*Pn	**Pn**	**06 21 22.7**	**-2.4**
GTBY				*e*Sn	**Sn**	**06 22 06.2**	**+2.3**
AGPR	**Aguadilla, PR**	**4.37**	**106**	*e*Pn	**Pn**	**06 21 38.3**	**-0.8**
AGPR				*e*Sn	**Sn**	**06 22 32.2**	**+3.4**
LSP	**Las Mesas**	**4.49**	**109**	*e*Pn	**Pn**	**06 21 40.1**	**-0.6**
LSP				*e*Sn	**Sn**	**06 22 33.2**	**+1.4**
CRPR	**Cabo Rojo, PR**	**4.53**	**111**	*e*Pn	**Pn**	**06 21 41.0**	**-0.2**
CRPR				*e*Sn	**Sn**	**06 22 34.2**	**+1.5**
LRS	**Lares**	**4.67**	**107**	*e*Pn	**Pn**	**06 21 42.4**	**-0.7**
AOPR	**Arecibo Observ**	**4.73**	**106**	*e*Pn	**Pn**	**06 21 45.3**	**+1.3**
OBIP	**Obispado Ponce**	**4.96**	**109**	*e*Pn	**Pn**	**06 21 47.0**	**-0.2**
	131nm,0.5s						
OBIP				*e*Sn	**Sn**	**06 22 44.6**	**+1.2**
CELP	**Cerrillos**	**4.98**	**108**	*e*Pn	**Pn**	**06 21 47.2**	**-0.1**
CBYP	**Canovanas**	**5.57**	**104**	*e*Pn	**Pn**	**06 21 53.2**	**-2.4**
	138nm,0.6s						
CBYP				*e*Sn	**Sn**	**06 22 56.9**	**-1.5**
HUMP	**Col San Antoni**	**5.61**	**105**	*e*Pn	**Pn**	**06 21 56.3**	**+0.2**
MTDJ	**Mount Denham**	**5.86**	**256**	*e*Pn	**Pn**	**06 21 57.9**	**-1.7**
MTDJ				*e*Sn	**Sn**	**06 23 03.8**	**-1.8**
SMRT	**St. Maarten**	**8.19**	**100**	*e*Pn	**Pn**	**06 22 28.6**	**-2.9**
SDV	**Santo Domingo**	**10.81**	**175**	*e*Pn	**Pn**	**06 23 06.0**	**-1.6**
SDV				*e*Sn	**Sn**	**06 25 08.9**	**+1.3**
BCIP	**Isla Barro Col**	**13.21**	**219**	*e*Pn	**Pn**	**06 23 39.7**	**-0.6**
ROSC	**El Rosal**	**15.03**	**191**	Pn	**P**	**06 24 12.7**	**+2.4**
	0.6nm,0.3s,baz=277,slow=23,SNR=3.2						
JTS	**JuntasAbangare**	**15.98**	**236**	Pn	**P**	**06 24 23.8**	**+3.2**
	0.2nm,0.3s,baz=55,slow=5.2,SNR=5.6						
JTS	**JuntasAbangare**	**15.98**	**236**	*e*P	**P**	**06 24 23.6**	**+3.1**
	24nm,1.3s						
APG	**El Apazote**	**18.66**	**258**	P	Pn	06 24 55.3	+4.5
	0.2nm,0.3s,baz=76,slow=12,SNR=3.1						
TKL	**Tuckaleechee C**	**19.19**	**328**	P	**P**	**06 24 54.3**	**-1.5**
	0.2nm,0.3s,baz=263,slow=18,SNR=2.5						
TKL				LR	LR	06 31 48.0	
	comp=Z,61nm,19.1s,baz=359,slow=36						
CMIG	**Matias Romero**	**22.30**	**267**	P	P	06 25 35.9	+6.3
	2.8nm,0.8s,baz=54,slow=5.5,SNR=3.9						
TXAR	**Lajitas Array**	**30.67**	**294**	P	**P**	**06 26 46.2**	**-0.4**
	0.9nm,1.0s,baz=114,slow=5.8,SNR=5.6						
PDAR	**Pinedale Array**	**39.33**	**314**	P	**P**	**06 28 00.8**	**-0.4**
	0.3nm,0.5s,baz=135,slow=15,SNR=2.2						
NVAR	**Mina Array Bea**	**44.40**	**305**	P	**P**	**06 28 42.9**	**+0.3**
	1.0nm,0.8s,baz=102,slow=6.4,SNR=6.4						
YKA	**Yellowknife Ar**	**51.92**	**336**	P	**P**	**06 29 39.2**	**-0.9**
	0.5nm,0.8s,baz=82,slow=36,SNR=3.1						
ESDC	**Sonseca Array**	**60.62**	**55**	P	**P**	**06 30 42.2**	**-0.4**
	0.4nm,0.5s,baz=276,slow=6.4,SNR=4.1						
ILAR	**Eielson Array**	**66.09**	**333**	P	**P**	**06 31 19.6**	**+1.3**
	0.5nm,0.8s,baz=85,slow=5.2,SNR=6.8						
TORD	**Torodi Ar. Bea**	**70.09**	**83**	P	**P**	**06 31 44.1**	**-0.2**
	0.2nm,0.6s,baz=26,slow=35,SNR=3.0						
KEST	**Kesra**	**71.55**	**58**	P	**P**	**06 31 53.7**	**+0.8**
	0.7nm,0.5s,baz=276,slow=0.6,SNR=4.3						
FINES	**FINESS Array B**	**76.45**	**29**	P	**P**	**06 32 21.0**	**+0.1**
	1.2nm,0.8s,baz=90,slow=32,SNR=1.9						

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*MOS **11** 06:22:10.5±1.0, 57°.36S×27°.93W, h239km, mb5.5/16, Error ellipse: s-maj=18.5km s-min=9.8km az=93.4*

*BJI **11** 06:22:17.3, 57°.30S×27°.90W, h306km, mB5.3/29*

*ISCJB **11** 06:22:17.4±0.2, 57°.28S±0°.04×27°.93W±0°.06, h303km, mb5.4/75, Error ellipse: s-maj=5.9km s-min=4.5km az=19.3*

*NEIC **11** 06:22:18.5±0.1, 57°.29S×27°.93W, mb5.7/33, MW5.5, Error ellipse: s-maj=5.8km s-min=4.2km az=5.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^{17}Nm; $M_{

ELIM Elim 39.08 75 P P 06 29 16.7 +0.1
comp=N,139nm,2.6s
MAW Mawson 39.41 143 P P 06 29 19.1 +0.3
comp=N,140nm,0.8s,baz=230,slow=7.9,SNR=25
MAW ScP **ScP** 06 34 37.8 -0.4
comp=N,48nm,0.8s,baz=262,slow=7.5,SNR=7.2
AHML Horco Molle 40.36 303 *i* P **P 06 29 24.9 -2.2**
AHML IAML 06 29 25.9
comp=Z,12nm,0.5s
SUR Sutherland 41.36 74 P **P 06 29 36.0 +0.6**
comp=Z,386nm,1.0s,SNR=21
SUR Sutherland 41.36 74 P **P 06 29 36.3 +0.9**
comp=Z,40nm,0.7s,baz=211,slow=8.7,SNR=30
SUR PcP **PcP** 06 31 28.2 +1.2
comp=Z,57nm,0.9s,baz=174,slow=2.2,SNR=7.2
SUR Sutherland 41.36 74 *e*P **P 06 29 35.9 +0.6**
comp=Z,26nm,0.7s
SUR PcP **PcP** 06 31 28.2 +1.2
BUFB Buffelsbos 42.07 80 P **P 06 29 41.1 +0.3**
comp=Z,3.1nm,9.0s
SLA San Lorenzo 42.21 304 *e*P **P 06 29 40.6 -1.7**
SLA IAML 06 30 02.7
comp=Z,11nm,0.7s
ALOL LOMAS DE OLMED 42.33 307 *e*P **P 06 29 42.5 -0.5**
ALOL *e*S **pP** 06 30 43.2 -1.8
ASTB Santa Barbara 42.43 306 *e*P **P 06 29 43.5 -0.5**
ASTB *e*S **pP** 06 30 44.1 -2.0
AZAP Zapla 42.45 305 *e*P **P 06 29 43.5 -0.7**
AZAP IAML 06 29 45.4
comp=Z,47nm,0.8s
AZAP *e*S **pP** 06 30 44.0 -2.3
BDFB Brasilia 44.24 332 P **P 06 29 59.5 +1.1**
BDFB 06 31 37.2
BDFB pmax pmax
comp=Z,143nm,0.9s
BDFB pmax pmax
comp=Z,41nm,0.9s
BDFB Brasilia 44.24 332 P **P 06 29 59.5 +1.1**
comp=Z,143nm,0.9s,baz=153,slow=7.0,SNR=167
BDFB PcP **PcP** 06 31 37.2 +0.3
comp=Z,41nm,0.8s,baz=146,slow=3.6,SNR=5.4
SHEL Horse Pasture 44.51 31 P **P 06 30 01.3 +1.0**
comp=Z,3μm,0.9s,SNR=11
SHEL Horse Pasture 44.51 31 *e*P **P 06 30 01.0 +0.6**
SHEL pmax pmax
comp=Z,586nm,1.0s
SHEL Horse Pasture 44.51 31 *e*P **P 06 30 01.0 +0.6**
comp=Z,586nm,1.0s
UPI Upington 44.79 71 P **P 06 30 02.9 +0.3**
comp=Z,94nm,1.3s
HVD Gariep Dam 45.22 77 P **P 06 30 06.1 +0.1**
HVD pmax pmax
comp=Z,61nm,5.1s
HVD Gariep Dam 45.22 77 P **P 06 30 06.1 +0.1**
comp=Z,61nm,5.1s
VNDA Vanda 45.32 183 P **P 06 30 07.2 +1.3**
VNDA 06 31 40.6
VNDA pmax pmax
comp=Z,78nm,0.6s
VNDA pmax pmax
comp=Z,24nm,0.9s
VNDA pmax pmax
comp=N,28nm,1.0s
VNDA Vanda 45.32 183 P **P 06 30 07.2 +1.3**
comp=N,78nm,0.6s,baz=187,slow=6.6,SNR=343
VNDA PcP **PcP** 06 31 40.5 +1.0
comp=N,24nm,0.9s,baz=208,slow=5.1,SNR=3.4
VNDA ScP **ScP** 06 35 02.9 +1.0
comp=N,28nm,1.0s,baz=195,slow=3.2,SNR=8.3
PB10 IPOC Station P 45.58 300 ⇑*i*P **P 06 30 08.0 -0.6**
LVC Limon Verde 45.58 302 *i* P4 **P 06 30 09.2 +0.2**
PB06 IPOC Station P 45.81 301 ⇑*i*P **P 06 30 10.0 -0.6**
PB04 IPOC Station P 46.15 302 ⇑*i*P **P 06 30 14.7 +1.6**
PB09 IPOC Station P 46.44 302 ⇑*i*P **P 06 30 16.0 +0.5**
BOSA Boshof 46.67 75 *e*P **P 06 30 16.7 -0.5**
BOSA 06 31 46.2
BOSA pmax pmax
comp=Z,301nm,0.8s
BOSA Boshof 46.67 75 P **P 06 30 16.8 -0.4**
comp=Z,59nm,0.7s,baz=214,slow=7.1,SNR=100
BOSA PcP **PcP** 06 31 46.2 +1.0
comp=Z,42nm,1.0s,baz=201,slow=6.2,SNR=3.2
BOSA ScP **ScP** 06 35 08.3 -0.3
comp=Z,32nm,1.0s,baz=209,slow=4.1,SNR=8.3
BOSA Boshof 46.67 75 *e*P **P 06 30 16.7 -0.5**
comp=Z,301nm,0.8s
BOSA *e*pP **pP** 06 31 21.1 +0.6
BOSA *e*PcP **PcP** 06 31 45.9 +0.6
BOSA PcP **PcP** 06 31 46.2 +1.0
BOSA ScP **ScP** 06 35 08.3 -0.3
PB07 IPOC Station P 46.80 301 ⇑*i*P **P 06 30 17.6 -0.7**
PB01 IPOC Station P 47.21 302 ⇑*i*P **P 06 30 21.3 0.0**
WIN Windhoek 47.53 62 P **P 06 30 23.9 0.0**
WIN pmax pmax
comp=Z,14nm,1.1s
WIN Windhoek 47.53 62 P **P 06 30 23.9 0.0**
comp=Z,14nm,1.1s
SWZ Schweizer 47.86 74 P **P 06 30 25.8 -0.6**
comp=Z,174nm,0.8s
HMBC Humberstone 48.05 302 ⇑*i*P **P 06 30 27.2 -0.6**
SIV San Ignacio 48.14 315 P **P 06 30 27.8 -0.6**
comp=Z,51nm,0.6s,baz=171,slow=8.2,SNR=100
SIV PcP **PcP** 06 31 51.3 +0.7
comp=Z,42nm,0.8s,baz=165,slow=5.5,SNR=8.2
SEK Senekal 48.16 77 P **P 06 30 28.6 0.0**
comp=Z,65nm,0.8s
PSGC Pisagua 48.75 303 ⇑*i*P **P 06 30 32.3 -0.8**
MNMC Minimini 48.92 304 ⇑*i*P **P 06 30 34.7 +0.2**
KSR Koster 49.76 75 P **P 06 30 40.4 -0.3**
LBTB Lobatse 49.76 73 P **P 06 30 40.3 -0.4**
LBTB 06 31 57.4
LBTB pmax pmax
comp=Z,119nm,0.7s
LBTB pmax pmax
comp=Z,46nm,0.9s
LBTB Lobatse 49.76 73 P **P 06 30 40.2 -0.4**
comp=Z,119nm,0.7s,baz=226,slow=7.8,SNR=171
LBTB PcP **PcP** 06 31 57.4 +0.9
comp=Z,46nm,0.9s,baz=246,slow=3.9,SNR=4.2
ERPM east rand prop 50.07 76 P **P 06 30 43.2 +0.2**
comp=Z,82nm,1.2s
ASCN Ascension 50.35 18 P **P 06 30 46.3 +1.3**
comp=Z,2μm,1.1s,SNR=11
ASCN Ascension 50.35 18 *e*P **P 06 30 45.6 +0.6**
comp=Z,526nm,1.0s
SLR Silverton 50.58 76 P **P 06 30 45.8 -1.0**
SLR pmax pmax
comp=Z,56nm,1.3s
SLR Silverton 50.58 76 P **P 06 30 45.8 -1.0**
comp=Z,56nm,1.3s
TSUM Tsumeb 50.64 61 P **P 06 30 47.3 0.0**
comp=Z,94nm,0.8s,baz=206,slow=6.5,SNR=123
TSUM Tsumeb 50.64 61 *e*P **P 06 30 47.1 -0.2**
comp=Z,92nm,0.8s
LPAZ La Paz 50.77 307 P **P 06 30 49.1 +0.3**
LPAZ 06 32 01.9
LPAZ S **S** 06 37 40.8 +0.1
LPAZ pmax pmax
comp=Z,99nm,0.4s
LPAZ pmax pmax
comp=Z,47nm,0.5s
LPAZ smax smax
comp=N,19nm,1.3s
LPAZ La Paz 50.77 307 P **P 06 30 49.1 +0.3**
comp=N,99nm,0.4s,baz=113,slow=4.1,SNR=245
LPAZ PcP **PcP** 06 32 01.9 +0.9
comp=N,47nm,0.5s,baz=173,slow=5.5,SNR=7.4
LPAZ S **S** 06 37 40.8 +0.1
comp=N,19nm,1.2s,baz=42,slow=20,SNR=8.9
LPAZ La Paz 50.77 307 *i* P4 **P 06 30 48.9 +0.1**
LPAZ *i* S4 **pP** 06 31 57.5 +4.2
RCBR Riachuelo 51.70 350 P **P 06 30 55.4 +0.4**
comp=N,66nm,0.6s,baz=156,slow=9.7,SNR=50
RCBR PcP **PcP** 06 32 04.5 +0.9
comp=N,52nm,0.9s,baz=157,slow=5.5,SNR=7.7
RCBR ScP **ScP** 06 35 31.2 +1.2
comp=N,16nm,0.9s,baz=175,slow=4.1,SNR=3.7
RUDU RUNDU 52.77 62 P **P 06 31 03.4 +0.5**
comp=N,163nm,1.0s
MSNA Messina 54.26 75 P **P 06 31 13.0 -0.4**
comp=N,52nm,0.9s
NNA Nana 58.50 300 P **P 06 31 43.5 +0.3**
comp=N,463nm,1.1s,SNR=5.0
NNA Nana 58.50 300 P **P 06 31 43.6 +0.3**
NNA pmax pmax
comp=Z,57nm,0.9s
NNA Nana 58.50 300 P **P 06 31 43.6 +0.4**
comp=Z,57nm,0.9s,baz=166,slow=7.1,SNR=20
LSZ Lusaka 59.20 69 *e*P **P 06 31 47.9 -0.3**
LSZ *e* 06 32 34.7
LSZ *e*S **S** 06 39 31.0 -0.2
LSZ pmax pmax
comp=Z,110nm,0.8s
LSZ Lusaka 59.20 69 *e*P **P 06 31 47.9 -0.3**
comp=Z,110nm,0.8s
LSZ *e*PcP **PcP** 06 32 34.6 +1.7
LSZ *e*S **S** 06 39 31.0 -0.2
ATAH Atahualpa 63.47 301 P **P 06 32 18.5 +1.6**
comp=Z,92nm,1.0s,baz=162,slow=4.1,SNR=48
LIC Lamto 65.99 25 ⇑*i*P **P 06 32 33.0 +0.5**
comp=Z,728nm,0.8s,baz=208
LIC Lamto 65.99 25 *e*P **P 06 32 32.9 +0.5**
comp=Z,1μm,0.8s
LIC Lamto 65.99 25 ⇑*i*P **P 06 32 33.0 +0.5**
comp=Z,728nm,0.8s
KIC Kosan Boka 66.19 25 *e*P **P 06 32 34.1 +0.4**
comp=Z,930nm,0.9s
TIC Toumodi 66.40 25 *e*P **P 06 32 35.4 +0.3**
comp=Z,586nm,0.8s
DBIC Dimbokro 66.46 25 P **P 06 32 35.9 +0.5**
DBIC pmax pmax
comp=Z,281nm,0.7s
DBIC Dimbokro 66.46 25 P **P 06 32 35.9 +0.5**
comp=Z,281nm,0.7s,baz=170,slow=5.4,SNR=295
SACV Santiago Islan 72.07 4 P **P 06 33 09.9 +0.3**
comp=Z,756nm,0.9s,SNR=6.2
SACV Santiago Islan 72.07 4 *e*P **P 06 33 09.5 0.0**
comp=Z,77nm,0.8s
ROSC El Rosal 72.39 311 P **P 06 33 12.1 +0.1**
comp=Z,80nm,0.8s,baz=138,slow=2.9,SNR=61
MBAR Mbarara 73.08 63 P **P 06 33 17.3 +1.5**
comp=Z,70nm,1.0s,SNR=5.8
TORD Torodi Ar. Bea 74.33 30 P **P 06 33 23.4 +0.7**
comp=Z,296nm,0.5s,baz=199,slow=6.5,SNR=3801
TORD pP **pP** 06 34 33.7 +0.9
comp=Z,39nm,0.9s,baz=199,slow=5.5,SNR=2.5
TORD PKPPKP P'P'df 07 00 52.2 +10
comp=Z,1.9nm,1.0s,baz=354,slow=4.1,SNR=6.6
GRGR Grenville 74.55 326 *e*P **P 06 33 24.2 +0.2**
KMBO Kilima Mbogo 75.86 69 *i* P P 06 33 35.5 +3.7
KMBO pmax pmax
comp=Z,28nm,1.2s
KMBO Kilima Mbogo 75.86 69 P P 06 33 35.9 +4.0
SNR=13
KMBO Kilima Mbogo 75.86 69 P P 06 33 35.6 +3.7
comp=Z,28nm,1.2s,baz=202,slow=5.6,SNR=29
WHZ Wether Hill Ro 76.34 191 *e*pP pP 06 34 45.5 +1.3
MVM Montagne Vaucl 76.61 327 *e*P **P 06 33 36.7 +1.1**
DCZ Deep Cove 76.83 191 *e*pP pP 06 34 48.6 +1.6
FDF Fort de France 76.86 327 *e*P **P 06 33 37.2 +0.2**
FDF pmax pmax
comp=Z,638nm,1.4s
FDF Fort de France 76.86 327 *e*P **P 06 33 37.7 +0.7**
FDF Fort de France 76.86 327 *e*P **P 06 33 37.7 +0.7**
FDF Fort de France 76.86 327 *e*P **P 06 33 37.2 +0.2**
comp=Z,638nm,1.4s
TBG Guadaloupe-3 78.06 327 *e*P **P 06 33 44.4 +0.9**
HMG Houelmont 78.20 327 *e*P **P 06 33 45.2 +0.9**
PHG Guadaloupe-2 78.22 327 *e*P **P 06 33 45.6 +1.0**
DOG Dongo Capester 78.22 327 *e*P **P 06 33 45.2 +0.7**
SCG Saint Claude 78.24 327 *e*P **P 06 33 45.6 +1.0**
ECG Echelle 78.24 327 *e*P **P 06 33 45.6 +0.8**
CRG Carmichael 78.26 327 *e*P **P 06 33 45.7 +0.9**
FNG Fond-Bernard 78.27 327 *e*P **P 06 33 45.8 +1.0**
SSG Sans Toucher 78.30 327 *e*P **P 06 33 45.8 +0.8**
SEG Port Louis 78.54 327 *e*P **P 06 33 46.7 +0.6**
RKT Rikitea 79.55 244 *e*P **P 06 33 52.8 +1.1**
comp=Z,124nm,1.0s
ACR Cerro Adams 79.59 304 *e*P **P 06 33 52.2 +0.2**
TAU Tasmania Unive 80.10 176 P **P 06 33 54.0 -0.3**
comp=Z,1μm,0.8s,SNR=11
BUS Buena Vista 80.65 304 *e*P **P 06 33 58.2 +0.1**
QCR Quepos 80.72 304 *e*P **P 06 33 56.6 -1.3**
URSC Urasca 80.91 304 *e*P **P 06 33 59.8 +0.7**
CGA2 Cerro Gallo 2 81.38 304 *e*P **P 06 34 01.5 -0.1**
JCR Jicaral 81.53 303 *e*P **P 06 34 02.2 +0.1**
CBYP Canovanas 81.64 324 *e*P **P 06 34 01.6 -1.0**
comp=Z,487nm,1.2s
OBIP Obispado Ponce 81.67 323 *e*P **P 06 34 00.8 -1.9**
comp=Z,125nm,1.0s
CELP Cerrillos 81.69 323 *e*P **P 06 34 01.6 -1.2**
CRPR Cabo Rojo, PR 81.80 323 *e*P **P 06 34 02.6 -0.8**
comp=Z,324nm,1.1s
JTS JuntasAbangare 81.84 303 P **P 06 34 04.0 +0.3**
comp=Z,736nm,1.5s,SNR=38
JTS JuntasAbangare 81.84 303 *c i*P **P 06 34 04.1 +0.3**
JTS pmax pmax
comp=Z,483nm,1.6s
JTS JuntasAbangare 81.84 303 P **P 06 34 04.2 +0.4**
comp=Z,85nm,1.0s,baz=107,slow=1.6,SNR=53
LRS Lares 81.98 323 *e*P **P 06 34 03.1 -1.3**
AGPR Aguadilla, PR 82.23 323 *e*P **P 06 34 04.0 -1.6**
comp=Z,344nm,1.4s
MSEY Mahe Island 82.53 87 *i* P **P 06 34 10.1 +2.6**
SMN1 Samana, DR 83.62 321 *e*P **P 06 34 12.3 -0.5**
TAM Tamanrasset 84.56 31 *e*P **P 06 34 19.6 +2.0**
TAM pmax pmax
comp=Z,85nm,1.2s
TAM Tamanrasset 84.56 31 *e*P **P 06 34 19.6 +2.0**
comp=Z,85nm,1.2s
MTDJ Mount Denham 85.78 313 *e*P **P 06 34 24.7 +1.1**
comp=Z,35nm,0.8s
TBI Tubuai 85.99 232 *e*P **P 06 34 25.7 +1.1**
comp=Z,373nm,1.3s
VSM San Miguel 86.12 302 *i* P P 06 34 20.7 -4.8
CAN Canberra 87.72 177 *e*P **P 06 34 32.8 0.0**
CAN pmax pmax
comp=Z,25nm,0.8s
CAN Canberra 87.72 177 *e*P **P 06 34 32.8 0.0**
comp=Z,26nm,0.8s
CAN *e*pP **pP** 06 35 46.0 +0.8
APG El Apazote 88.51 301 P P 06 34 32.0 -4.8
comp=Z,84nm,1.0s,baz=172,slow=5.1,SNR=64
FORT Forrest 89.97 160 *e*pP pP 06 35 56.7 +0.7
MEH Mehetia 90.20 235 *e*P **P 06 34 45.4 +0.9**
comp=Z,28nm,1.1s
PMPS Porto Santo 90.52 10 *e*P **P 06 34 48.5 +3.1**
comp=Z,235nm,1.0s
STKA Stephens Creek 90.75 171 P **P 06 34 47.1 +0.2**
STKA pmax pmax
comp=Z,17nm,0.7s
STKA pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 90.75 171 P **P 06 34 47.1 +0.2**
comp=Z,17nm,0.7s,baz=152,slow=4.6,SNR=22
STKA PKKPbc **PKKPbc** 06 52 09.6 +1.9
comp=Z,2.3nm,0.6s,baz=45,slow=3.7,SNR=3.6
STKA Stephens Creek 90.75 171 *e*pP **pP** 06 35 58.5 -1.1
STKA PKKPbc **PKKPbc** 06 52 09.6 +1.9
TVO Taravao 90.81 234 *e*P **P 06 34 48.3 +0.9**
comp=Z,81nm,1.1s
TVO *e*pP **pP** 06 35 59.9 -0.3
comp=Z,29nm,1.3s
TIAR Tiarei 91.05 235 *e*P **P 06 34 49.3 +0.8**
comp=Z,28nm,0.9s
PAE Paea 91.06 234 *e*P **P 06 34 49.3 +0.8**
comp=Z,6.5nm,1.0s
PPT2 Papeete2 91.12 234 *e*P **P 06 34 49.6 +0.7**
comp=Z,47nm,1.4s
PPT Papeete 91.14 234 P **P 06 34 50.4 +1.5**
PPT pmax pmax
comp=Z,19nm,0.8s
PPT Papeete 91.14 234 P **P 06 34 50.4 +1.5**
comp=Z,19nm,0.8s,baz=182,slow=11,SNR=3.6
VAH Vaihoa 92.31 237 *e*P **P 06 34 55.1 +0.8**
comp=Z,70nm,1.1s
VAH *e*pP **pP** 06 36 06.8 -0.4
comp=Z,44nm,1.1s
CMIG Matias Romero 92.40 298 P **P 06 34 55.0 +0.5**
comp=Z,29nm,0.9s,baz=131,slow=3.6,SNR=23
PMOR Pomariorio Ree 92.64 237 *e*P **P 06 34 56.6 +0.8**
comp=Z,44nm,1.1s
PMOR *e*pP **pP** 06 36 08.3 -0.4
comp=Z,41nm,1.2s
MORF Marmelete 95.62 15 *e*P **P 06 35 10.5 +1.6**
MORF AMb AMB 06 35 12.9
comp=Z,48nm,1.5s
MORF Marmelete 95.62 15 *e*P **P 06 35 10.9 +2.0**
comp=Z,50nm,1.5s
MORF Marmelete 95.62 15 *e*P **P 06 35 10.4 +1.6**
PVAQ Vaqueiros 95.86 16 *e*P **P 06 35 10.6 +0.8**
comp=Z,58nm,1.4s
MESJ Messejana 96.21 16 *e*P **P 06 35 13.5 +2.1**
MESJ AMb AMB 06 35 15.0
comp=Z,42nm,1.3s
MESJ Messejana 96.21 16 *e*P **P 06 35 13.7 +2.3**
comp=Z,42nm,1.2s
MESJ Messejana 96.21 16 *e*P **P 06 35 13.5 +2.1**
PNCL Nicolau / Gran 96.43 15 *e*P **P 06 35 14.5 +2.1**
comp=Z,35nm,1.3s
PBAR Barrancos 96.72 16 *e*P P 06 35 17.2 +3.5
comp=Z,68nm,1.4s
PESTR Estremoz 97.31 16 *e*P Pdif 06 35 20.1 +3.7
comp=Z,40nm,1.2s
PMTG Montargil 97.42 15 *e*P Pdif 06 35 19.6 +2.8
comp=Z,24nm,1.6s
KEST Kesra 97.85 30 P Pdif 06 35 21.9 +3.0
comp=Z,6.7nm,0.9s,baz=306,slow=6.8,SNR=8.7
PMRV Marv??o 97.89 16 *e*P Pdif 06 35 20.2 +1.2
comp=Z,38nm,1.9s
ASAR Alice Springs 97.93 163 P **P 06 35 18.9 -0.9**
comp=Z,15nm,0.8s,baz=188,slow=3.7,SNR=102
ASAR pP **pP** 06 36 32.1 -0.8
comp=Z,13nm,1.0s,baz=189,slow=4.4,SNR=8.3
ASAR PP **PP** 06 39 20.6 -1.2
comp=Z,6.2nm,0.9s,baz=187,slow=7.7,SNR=8.9
ASAR PKiKP **PKiKP** 06 39 50.6 -0.8
comp=Z,1.0nm,0.3s,baz=192,slow=1.5,SNR=17
ASAR PKKPbc **PKKPdf** 06 51 50.9 +0.6
comp=Z,4.3nm,0.3s,baz=18,slow=2.4,SNR=38
ASAR PKPPKP P'P'df 07 00 01.4 -6.8
comp=Z,1.0nm,0.8s,baz=0.4,slow=1.8,SNR=6.3
ESDC Sonseca Array 98.68 18 P **P 06 35 24.8 +2.2**
comp=Z,2.5nm,0.5s,baz=191,slow=4.3,SNR=10
ESDC PKKPbc **PKKPbc** 06 51 50.0 +1.4
comp=Z,0.7nm,0.6s,baz=54,slow=1.9,SNR=4.3
WRA Warramunga Arr 101.65 163 P **Pdif 06 35 35.8 -0.6**
comp=Z,1.4nm,0.4s,baz=194,slow=4.0,SNR=8.6
WRA pP pP 06 36 50.6 +0.9
comp=Z,2.9nm,0.9s,baz=195,slow=3.8,SNR=4.5
WRA PP PP 06 39 44.5 -5.3
comp=Z,2.9nm,0.9s,baz=192,slow=5.8,SNR=5.1
WRA PKiKP **PKiKP** 06 39 57.0 -1.1
comp=Z,2.9nm,0.9s,baz=223,slow=1.4,SNR=13
WRA PKKPbc **PKKPbc** 06 51 40.8 +2.1
comp=Z,4.3nm,0.4s,baz=358,slow=2.8,SNR=42
WRA PKPPKP P'P'df 06 59 55.4 -5.7
comp=Z,1.2nm,1.0s,baz=6.5,slow=2.1,SNR=4.9
WRAB Tennant Creek 101.66 163 ⇓*e*P **Pdif 06 35 35.7 -0.7**
WRAB pmax pmax
comp=Z,24nm,1.6s
035Z Hargill 101.93 300 ⇑P **Pdif 06 35 37.8 +0.6**
baz=102
035A Encino 102.35 301 ⇓P **Pdif 06 35 39.7 +0.6**
baz=103
ETSF Etsaut 102.42 20 *e*P **Pdif 06 35 42.0 +2.9**
comp=Z,25nm,1.0s
ETSF Etsaut 102.42 20 *e*P **Pdif 06 35 42.0 +2.9**
ETSF pmax pmax
comp=Z,25nm,1.0s
ETSF Etsaut 102.42 20 *e*P **Pdif 06 35 42.0 +2.9**
comp=Z,25nm,1.0s
SJPF Ste Jean 102.51 20 *e*P **Pdif 06 35 42.6 +3.2**
comp=Z,40nm,1.2s
SJPF Ste Jean 102.51 20 *e*P **Pdif 06 35 42.6 +3.2**
SJPF pmax pmax
comp=Z,40nm,1.2s
SJPF Ste Jean 102.51 20 *e*P **Pdif 06 35 42.6 +3.2**
comp=Z,40nm,1.2s
EPF Esparros 102.72 21 *e*P **Pdif 06 35 43.1 +2.7**
comp=Z,17nm,1.0s
EPF Esparros 102.72 21 *e*P **Pdif 06 35 43.1 +2.7**
EPF pmax pmax
comp=Z,17nm,1.0s
EPF Esparros 102.72 21 *e*P **Pdif 06 35 43.1 +2.7**
comp=Z,17nm,1.0s
034A Hebbronville 102.73 300 ⇓P **Pdif 06 35 41.4 +0.6**
baz=103
934A Benavides 103.11 301 ⇑P **Pdif 06 35 43.4 +1.0**
baz=103
835A Beeville 103.37 302 ⇑P **Pdif 06 35 44.6 +1.0**
baz=104
MTLF Montolieu 103.39 22 *e*P **Pdif 06 35 46.3 +3.0**
comp=Z,51nm,1.4s
MTLF Montolieu 103.39 22 *e*P **Pdif 06 35 46.3 +3.0**
MTLF pmax pmax
comp=Z,51nm,1.4s
MTLF Montolieu 103.39 22 *e*P **Pdif 06 35 46.3 +3.0**
comp=Z,51nm,1.4s
933A Laredo 103.47 300 ⇓P **Pdif 06 35 45.0 +1.0**
baz=104
834A Tilden 103.57 301 ⇓P **Pdif 06 35 45.7 +1.2**
baz=104
636A Smothers Creek 104.03 303 ⇓P **Pdif 06 35 47.4 +0.9**
baz=104
537A Green Hill Far 104.20 304 ⇓P **Pdif 06 35 48.2 +0.9**
baz=104
635A Leesville 104.28 302 ⇓P **Pdif 06 35 47.9 +0.3**
baz=104
832A Faith Ranch, C 104.37 300 ⇓P **Pdif 06 35 48.6 +0.6**
baz=105
632A Uvalde 105.31 301 ⇑P **PKiKP 06 40 03.2 -1.2**
baz=106
631A Perdido Creek 105.60 300 ⇑P **PKiKP 06 40 04.3 -0.6**
baz=106,SNR=5.3
433A Art 106.04 302 ⇑P **PKiKP 06 40 04.4 -1.3**
baz=106
531A Rocksprings 106.22 301 ⇓P **PKiKP 06 40 04.7 -1.4**
baz=106
WHTX Lake Whitney, 106.34 304 *e*PKPdf **PKiKP 06 40 06.2 0.0**
LPG La Plagne 106.43 25 *e*P **Pdif 06 36 00.0 +2.9**
comp=Z,21nm,1.0s
LPG La Plagne 106.43 25 *e*P **Pdif 06 36 00.0 +2.9**
LPG pmax pmax
comp=Z,21nm,1.0s
LPG La Plagne 106.43 25 *e*P **Pdif 06 36 00.0 +2.9**
comp=Z,21nm,1.0s
333A Richland Sprin 106.47 302 ⇑P **PKiKP 06 40 05.2 -1.3**
baz=107
530A J-C Ranch, Com 106.58 300 ⇓P **PKiKP 06 40 05.9 -0.8**
baz=107
431A Sonora 106.68 301 ⇑P **PKiKP 06 40 05.5 -1.4**
baz=107
332A Millersview 106.87 302 ⇑P **PKiKP 06 40 06.5 -0.8**
baz=107
SMF Signal de Mont 106.89 22 *e*P **Pdif 06 36 01.5 +2.7**
comp=Z,9.6nm,0.7s
SMF Signal de Mont 106.89 22 *e*P **Pdif 06 36 01.5 +2.7**
SMF pmax pmax
comp=Z,10.0nm,0.7s
SMF Signal de Mont 106.89 22 *e*P **Pdif 06 36 01.5 +2.7**
comp=Z,9.6nm,0.7s
AVF Avril sur Loir 106.93 22 *e*P **Pdif 06 36 02.0 +3.1**
comp=Z,13nm,0.9s
AVF Avril sur Loir 106.93 22 *e*P **Pdif 06 36 02.0 +3.1**
AVF pmax pmax
comp=Z,13nm,0.9s
AVF Avril sur Loir 106.93 22 *e*P **Pdif 06 36 02.0 +3.1**
comp=Z,13nm,0.9s
529A Stev Forest Ra 106.97 299 ⇑P **PKiKP 06 40 06.3 -1.2**
baz=107
TXAR Lajitas Array 107.00 298 PKiKP **PKiKP 06 40 07.7 0.0**
comp=Z,2.2nm,0.8s,baz=114,slow=1.9,SNR=17
TXAR PKKPbc **PKKPbc** 06 51 24.1 +0.6
comp=Z,0.3nm,0.4s,baz=142,slow=0.7,SNR=7.8
TXAR SKKPbc SKKPbc 06 54 37.9 +1.0
comp=Z,2.4nm,1.0s,baz=349,slow=0.4,SNR=7.6
233A Rising Star 107.01 303 ⇑P **PKiKP 06 40 06.6 -0.9**
baz=107
430A Baggett Ranch, 107.06 300 ⇓P **PKiKP 06 40 06.4 -1.2**
baz=107
331A San Angelo 107.12 301 ⇑P **PKiKP 06 40 06.4 -1.3**
baz=107
429A Davenport Ranc 107.23 300 ⇑P **PKiKP 06 40 07.8 -0.2**
baz=108,SNR=6.2
232A Coleman 107.25 302 ⇑P **PKiKP 06 40 07.2 -0.8**
baz=108
133A Hamilton Ranch 107.52 303 ⇓P **PKiKP 06 40 07.7 -0.7**
baz=108
330A Mertzon 107.55 301 ⇑P **PKiKP 06 40 07.5 -1.0**
baz=108
231A Bronte 107.59 302 ⇑P **PKiKP 06 40 08.0 -0.6**
baz=108
SIUC Southern Illin 107.73 313 *e*PKPdf **PKiKP 06 40 07.8 -0.8**
MDV Middlebury 107.78 327 *e*PKPdf **PKiKP 06 40 08.7 +0.3**
MDV *e*PP **PP** 06 40 34.7 -1.2
ABTX Abilene, Hawle 107.86 303 ⇑P **PKiKP 06 40 08.3 -0.7**
baz=108
230A Sterling City 107.92 301 ⇑P **PKiKP 06 40 08.8 -0.4**
baz=108,SNR=11

BLO Bloomington 107.95 316 ePKPdf PKiKP 06 40 06.4 -2.5
Z33A Whitaker Ranch 108.02 304 ⇓P PKiKP 06 40 08.6 -0.7
baz=108
131A Roby 108.25 302 ⇓P PKiKP 06 40 08.9 -0.9
baz=108
130A Snyder 108.45 302 ⇓P PKiKP 06 40 09.2 -0.9
baz=109
Y33A Hilltop Ranch, 108.56 304 ⇓P PKiKP 06 40 09.5 -0.8
baz=109
Z31A Sharp Cattle R 108.67 303 ⇓P PKiKP 06 40 09.8 -0.7
baz=109
FETA Feichten 108.80 27 ⇓iPP PP 06 40 41.6 -1.9
comp=Z,23nm,1.2s
X33A Lawton 108.95 305 ⇑P PKiKP 06 40 10.0 -1.0
baz=109
Z30A Sanderson Ranc 109.10 302 ⇑P PKiKP 06 40 10.1 -1.3
baz=109
SQTA Sankt Quirin 109.10 27 ⇑iPP PP 06 40 43.8 -1.9
128A Castleberry Fa 109.17 301 ⇓P PKiKP 06 40 11.1 -0.5
baz=109,SNR=7.1
MOTA Moosalm 109.19 27 ⇑iPP PP 06 40 44.6 -1.8
comp=Z,26nm,1.1s
X32A Elmer 109.20 304 ⇑P PKiKP 06 40 10.7 -0.8
baz=110
W34A Bridge Creek, 109.21 306 ⇓P PKiKP 06 40 11.3 -0.2
baz=110
SFIN Lafayette 109.22 316 ⇓P PKiKP 06 40 10.3 -1.0
baz=110
SFIN Lafayette 109.22 316 ePKPdf PKiKP 06 40 10.4 -0.9
SFIN ePP PP 06 40 40.8 -5.6
WTTA Wattenberg 109.25 27 ⇓iPP PP 06 40 45.3 -1.4
comp=Z,49nm,1.2s
Y31A Rekieta Farm, 109.26 303 ⇓P PKiKP 06 40 11.7 +0.1
baz=110
WATA Walderalm 109.30 27 ⇑iPP PP 06 40 45.9 -1.2
comp=Z,47nm,1.3s
Z29A Hungry Hill Ra 109.34 302 ⇑P PKiKP 06 40 10.7 -1.1
baz=110
Y30A Stafford Cattl 109.48 302 ⇓P PKiKP 06 40 11.6 -0.5
baz=110
BRTR Keskin Array B 109.58 46 PKiKP PKiKP 06 40 11.9 -0.2
comp=Z,2.7nm,0.8s,baz=188,slow=6.2,SNR=7.5
BRTR PP PP 06 40 47.1 -2.1
comp=Z,4.5nm,1.0s,baz=191,slow=6.0,SNR=4.9
BRTR PKKPab PKKPab 06 51 29.1 +2.6
comp=Z,2.8nm,0.9s,baz=81,slow=3.9,SNR=5.9
Z28A Tucker Farm, M 109.68 301 ⇓P PKiKP 06 40 11.2 -1.3
baz=110
X31A McDonald Ranch 109.69 304 ⇓P PKiKP 06 40 11.4 -1.0
baz=110
W32A Sentinel 109.77 304 ⇑P PKiKP 06 40 12.1 -0.4
baz=110
Y29A Porterfield Fa 109.82 302 ⇓P PKiKP 06 40 12.3 -0.4
baz=110,SNR=5.2
V33A Lossen Ranch, 109.93 305 ⇓P PKiKP 06 40 12.1 -0.7
baz=110
X30A Coker Ranch, T 109.94 303 ⇑P PKiKP 06 40 12.3 -0.7
baz=110
Y28A McKinney Farm, 110.13 301 ⇑P PKiKP 06 40 12.8 -0.6
baz=110
MSTX Muleshoe 110.42 301 ⇑P PKiKP 06 40 13.5 -0.5
baz=111,SNR=5.7
MSTX Muleshoe 110.42 301 ePKPdf PKiKP 06 40 12.8 -1.1
MSTX ePP PP 06 40 56.1 +0.9
MOA Molln 110.47 29 ⇑iPP PP 06 40 53.1 -2.2
comp=Z,34nm,1.4s
Y27A Causey 110.54 301 ⇓P PKiKP 06 40 13.6 -0.6
baz=111,SNR=8.0
AMTX Amarillo 110.68 302 ⇑P PKiKP 06 40 13.8 -0.5
baz=111
AMTX Amarillo 110.68 302 ePKPdf PKiKP 06 40 13.8 -0.5
AMTX ePP PP 06 40 57.9 +0.9
W29A Amarillo 110.86 303 ⇓P PKiKP 06 40 14.4 -0.3
baz=111
CONA Conrad Observa 110.96 30 ⇑iPP PP 06 40 57.8 -1.2
comp=Z,32nm,1.5s
T33A Patterson Ranc 110.97 306 ⇓P PKiKP 06 40 14.2 -0.5
baz=111
X27A F and S Farms, 111.14 301 ⇓P PKiKP 06 40 14.5 -0.8
baz=111
W28A Vega 111.23 302 ⇓P PKiKP 06 40 14.9 -0.5
baz=112
GERES GERESS Array B 111.24 28 iPKIKP PKiKP 06 40 14.6 -0.4
GERES 06 41 00.2
GERES 06 51 11.1
GERES pmax pmax
comp=Z,3.0nm,0.9s
GERES pmax pmax
comp=Z,4.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 111.24 28 PKiKP PKiKP 06 40 14.6 -0.4
comp=Z,3.3nm,0.9s,baz=191,slow=1.4,SNR=10
GERES PP PP 06 41 00.2 -0.7
comp=Z,3.5nm,0.7s,baz=188,slow=8.1,SNR=8.5
GERES PKKPbc PKKPbc 06 51 11.1 +0.3
comp=Z,1.2nm,0.7s,baz=3.8,slow=4.0,SNR=6.4
S33A Kaszmaul Farm, 111.29 307 ⇑P PKiKP 06 40 15.0 -0.3
baz=112
T32A Huddler Ranch, 111.35 306 ⇓P PKiKP 06 40 15.1 -0.3
baz=112
X26A CR and CF Fran 111.39 301 ⇓P PKiKP 06 40 15.5 -0.3
baz=112,SNR=5.7
GRF Grafenberg Arr 111.41 26 ePP PP 06 40 59.9 -2.1
W27A Bowe Ranch, En 111.46 302 ⇑P PKiKP 06 40 15.7 -0.2
baz=112,SNR=11
KHC Kasperske Hory 111.47 28 ePP PP 06 40 56.2 -6.3
KHC ex x 06 41 02.0
U30A WK&E Inc. Balk 111.57 304 ⇓P PKiKP 06 40 15.7 -0.2
baz=112
T31A Randall Ranch, 111.61 305 ⇓P PKiKP 06 40 16.0 0.0
baz=112
121A Cookes Peak, D 111.63 297 ⇓P PKiKP 06 40 16.3 0.0
baz=112
121A Cookes Peak, D 111.63 297 eP PKiKP 06 40 16.6 +0.2
121A eSKPdf SKiKP 06 43 21.7 +0.1
Y24A Capitan 111.64 299 ⇓P PKiKP 06 40 16.2 -0.2
baz=112
V28A Channing 111.64 303 ⇑P PKiKP 06 40 15.5 -0.7
baz=112
S32A Newby Ranch, P 111.78 306 ⇑P PKiKP 06 40 15.8 -0.5
baz=112
W26A Owens Ranch, T 111.81 301 ⇓P PKiKP 06 40 16.0 -0.6
baz=112
Z22A Elephant Butte 111.82 298 ⇓P PKiKP 06 40 16.3 -0.3
baz=112
R33A Olander Ranch, 111.88 307 ⇑P PKiKP 06 40 15.8 -0.6
baz=112
Y23A Lovelace Mesa, 111.94 299 ⇑P PKiKP 06 40 16.7 -0.2
baz=112
KSU1 Kansas State U 111.95 309 ⇓P PKiKP 06 40 15.6 -0.9
baz=112
S31A Mullinville 111.96 306 ⇑P PKiKP 06 40 16.1 -0.5
baz=112
TREC Trest 112.11 29 ePP PP 06 41 04.6 -2.4
U28A Mallet 112.16 303 ⇓P PKiKP 06 40 16.5 -0.7
baz=112
W25A X Bar L Ranch, 112.24 301 ⇑P PKiKP 06 40 17.2 -0.2
baz=112,SNR=8.8
R32A Long Quarter, 112.29 307 ⇑P PKiKP 06 40 16.6 -0.7
baz=112
VYHS Vyhne 112.30 32 eP Pdif 06 36 29.0 +6.2
VYHS Vyhne 112.30 32 PDIF Pdif 06 36 29.0 +6.2
T29A Hugoton 112.38 304 ⇑P PKiKP 06 40 16.9 -0.6
baz=113
Q33A Connelly Farm, 112.39 308 ⇓P PKiKP 06 40 16.8 -0.6
baz=113
V26A Tequesquite Ra 112.40 302 ⇓P PKiKP 06 40 17.3 -0.3
baz=113,SNR=9.3
S30A Montezuma 112.41 305 ⇓P PKiKP 06 40 16.8 -0.7
baz=113
U27A Thompson Grove 112.47 303 ⇑P PKiKP 06 40 17.5 -0.3
baz=113,SNR=7.2
PRU Pruhonice 112.51 28 ePP PP 06 41 06.6 -3.1
R31A Burdett 112.53 306 ⇑P PKiKP 06 40 16.8 -0.9
baz=113
W24A Lazy 6 Ranch, 112.68 300 ⇓P PKiKP 06 40 18.1 -0.2
baz=113,SNR=8.9
S29A Ulysses 112.68 305 ⇑P PKiKP 06 40 17.5 -0.6
baz=113
T28A Walsh 112.72 304 ⇑P PKiKP 06 40 17.2 -1.0
baz=113
V25A Rancho No Teng 112.82 301 ⇓P PKiKP 06 40 17.9 -0.6
baz=113
R30A Dighton 112.86 306 ⇑P PKiKP 06 40 17.8 -0.5
baz=113
U26A Atchley Ranch, 112.87 302 ⇑P PKiKP 06 40 18.0 -0.6
baz=113,SNR=5.5
ANMO Albuquerque 112.96 299 ⇓iPKIKP PKiKP 06 40 18.8 0.0
ANMO pmax pmax
comp=Z,19nm,1.2s
ANMO Albuquerque 112.96 299 PKKPbc PKKPbc 06 51 08.0 +3.3
comp=Z,3.3nm,0.7s,baz=319,slow=3.2,SNR=15
W23A Werner Place, 112.99 299 ⇑P PKiKP 06 40 18.4 -0.5
baz=113
S28A Manter 113.01 304 ⇑P PKiKP 06 40 18.1 -0.6
baz=113
V24A Rampart Ranch, 113.03 300 ⇑P PKiKP 06 40 19.0 0.0
baz=113,SNR=11
BRG Berggiesshubel 113.17 27 ePKP PKiKP 06 40 18.0 -0.4
comp=Z,7.6nm,1.0s
BRG e 06 40 55.4
comp=Z,6.7nm,1.1s
BRG Berggiesshubel 113.17 27 ePKIKP PKiKP 06 40 18.0 -0.4
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG pmax pmax
comp=Z,7.0nm,1.1s
KRLC Kraliky 113.17 30 ePP PP 06 41 08.9 -5.6
KRLC ex x 06 41 13.2
U25A Circle Dot Ran 113.18 301 ⇑P PKiKP 06 40 19.2 0.0
baz=113,SNR=16
P32A Huiting Farm, 113.23 308 ⇑P PKiKP 06 40 18.4 -0.6
baz=114
DPC Dobruska-Polom 113.30 29 ePP PP 06 41 14.7 -0.7
OKC Ostrava-Krasne 113.33 31 ePP PP 06 41 12.1 -3.4
CLL Collm 113.34 27 eP Pdif 06 36 30.0 +2.7
CLL i 06 40 18.7
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL pmax pmax
comp=Z,6.0nm,0.6s
CLL Collm 113.34 27 ePdif Pdif 06 36 30.0 +2.7
CLL e 06 36 49.0
CLL i PKiKP PKiKP 06 40 18.7 0.0
comp=Z,9.0nm,1.1s
CLL e 06 40 46.0
CLL eSKSac SKSac 06 46 36.0 +2.2
CLL eSdif Sdif 06 48 30.0 +4.6
CLL e(SP) 06 50 21.0
CLL ePS PS 06 50 58.0 +3.4
CLL i PKKPbc PKKPbc 06 51 04.7 +1.0
comp=Z,6.0nm,0.6s
CLL ePKKPab PKKPab 06 51 12.0 +3.0
CLL ePPS PPS 06 52 15.0
CLL eSS SS 06 56 39.0 +2.3
CLL e(sSS) 06 58 25.0
CLL eSSS SSS 07 00 53.0
CLL eSSSS 07 04 24.0
UPC Upice 113.36 29 ePP PP 06 41 15.1 -0.7
Q30A Quinter 113.41 306 ⇑P PKiKP 06 40 19.1 -0.3
baz=114
PMG Port Moresby 113.43 175 d iPKIKP PKiKP 06 40 20.0 -0.2
PMG pmax pmax
comp=Z,18nm,1.0s
PMG Port Moresby 113.43 175 ePKPdf PKiKP 06 40 19.6 -0.6
T26A Comanche Natio 113.44 302 ⇓P PKiKP 06 40 19.7 0.0
baz=114,SNR=14
UZH Uzhgorod 113.44 34 ePKIKP PKiKP 06 40 21.8 +2.8
V23A Ortiz Mt. (NFS 113.48 300 ⇓P PKiKP 06 40 19.9 +0.1
baz=114
P31A Stockton 113.49 307 ⇑P PKiKP 06 40 19.0 -0.4
baz=114
R28A Tribune 113.59 304 ⇓P PKiKP 06 40 19.4 -0.4
baz=114
U24A Moreno Valley 113.59 301 ⇓P PKiKP 06 40 20.4 +0.3
baz=114,SNR=10
O32A Brockman Farm, 113.62 308 ⇑P PKiKP 06 40 19.5 -0.2
baz=114
Q29A Oakley 113.67 305 ⇑P PKiKP 06 40 19.2 -0.7
baz=114
S26A Kim 113.75 303 ⇓P PKiKP 06 40 20.0 -0.2
baz=114,SNR=11
T25A Trinidad 113.79 302 ⇓P PKiKP 06 40 20.3 0.0
baz=114,SNR=9.6
P30A Selden 113.88 306 ⇓P PKiKP 06 40 19.6 -0.7
baz=114
IPM Ipoh 113.93 122 ePKPdf PKiKP 06 40 20.1 -1.0
U23A El Rito 113.96 300 ⇑P PKiKP 06 40 20.6 -0.1
baz=114
V22A San Miguel Ran 113.96 299 ⇓P PKiKP 06 40 20.8 0.0
baz=114
O31A Woolen Ranch, 113.98 307 ⇓P PKiKP 06 40 20.4 0.0
baz=114
R27A Eads 113.99 304 ⇓P PKiKP 06 40 20.0 -0.6
baz=114
T24B San Luis 114.17 301 ⇑P PKPdf 06 40 21.3 +0.1
baz=114,SNR=7.3
Q28A Sharon Springs 114.19 305 ⇓P PKPdf 06 40 20.7 -0.2
baz=114
S25A Robets Cordova 114.22 302 ⇑P PKPdf 06 40 21.3 +0.2
baz=114,SNR=34
P29A Atwood 114.23 306 ⇓P PKPdf 06 40 20.3 -0.7
baz=114
R26A Arlington 114.29 303 ⇑P PKPdf 06 40 20.7 -0.4
baz=114
X18A Snowflake 114.30 296 ⇑P PKPdf 06 40 21.2 -0.2
baz=114
U22A Llaves 114.31 300 ⇑P PKPdf 06 40 21.3 -0.1
baz=114
O30A MW Ranch, Wils 114.32 307 ⇑P PKPdf 06 40 20.8 -0.2
baz=115
N31A Bailey Ranch, 114.38 308 ⇑P PKPdf 06 40 20.6 -0.6
baz=115
T23A Casias Ranch, 114.46 301 ⇑P PKPdf 06 40 21.6 -0.1
baz=115,SNR=5.9
KSCO Kaye Shedlock' 114.50 304 ⇓P PKPdf 06 40 20.8 -0.8
baz=115
KSCO Kaye Shedlock' 114.50 304 ePKPdf PKPdf 06 40 20.9 -0.6
KSCO eSKPdf SKPdf 06 43 26.4 -0.5
BGNE Belgrade 114.52 309 ⇓P PKPdf 06 40 20.7 -0.7
baz=115
GNI Garni 114.54 54 ⇑iPKIKP PKPdf 06 40 22.1 +0.5
GNI pmax pmax
comp=Z,21nm,1.7s
R25A Fountain Ranch 114.55 303 ⇑P PKPdf 06 40 21.3 -0.4
baz=115,SNR=7.8
S24A Houchin Ranch, 114.56 302 ⇓P PKPdf 06 40 22.1 +0.2
baz=115,SNR=7.4
P28A Saint Francis 114.57 305 ⇑P PKPdf 06 40 21.5 -0.2
baz=115
O29A 4D Ranch, Culb 114.60 306 ⇓P PKPdf 06 40 21.7 +0.1
baz=115
W18A Petrified Fore 114.67 297 ⇑P PKPdf 06 40 21.8 -0.3
baz=115
113A Mohawk Valley, 114.78 292 ⇑P PKPdf 06 40 21.9 -0.2
baz=115
M31A Lambtecht Ranc 114.82 308 ⇑P PKPdf 06 40 21.8 -0.2
baz=115
Q26A Hugo 114.83 304 ⇑P PKPdf 06 40 22.3 +0.1
baz=115
Z14A Wintersburg 114.84 293 ⇑P PKPdf 06 40 22.2 0.0
baz=115
P27A Ficken Ranch, 114.92 305 ⇓P PKPdf 06 40 22.3 0.0
baz=115
X16A Lo Mia Camp, P 114.94 295 ⇓P PKPdf 06 40 22.6 0.0
baz=115
S23A Nye Farm, Mont 114.98 301 ⇑P PKPdf 06 40 22.6 -0.1
baz=115
R24A Sanders Place, 115.00 302 ⇓P PKPdf 06 40 22.8 +0.1
baz=115,SNR=6.9
O28A Krutsinger Ran 115.03 306 ⇓P PKPdf 06 40 22.0 -0.5
baz=115
Q25A Bedland, Calha 115.16 303 ⇑P PKPdf 06 40 22.8 -0.1
baz=115,SNR=6.9
P26A Davis Ranch, A 115.27 304 ⇑P PKPdf 06 40 22.6 -0.4
baz=116
R23A Moffat 115.29 302 ⇓P PKPdf 06 40 23.5 +0.2
baz=116,SNR=22
Y14A Wickenburg 115.33 294 ⇑P PKPdf 06 40 23.0 -0.2
baz=116
N28A Pribbeno Ranch 115.39 306 ⇓P PKPdf 06 40 22.7 -0.5
baz=116
O27A Beecher Island 115.40 305 ⇑P PKPdf 06 40 22.3 -0.9
baz=116
S22A 4UR Ranch, Cre 115.40 301 ⇓P PKPdf 06 40 23.4 -0.2
baz=116
L31A Butterfield Fa 115.44 309 ⇓P PKPdf 06 40 22.2 -0.9
baz=116
GLA Glamis 115.54 292 ⇓P PKPdf 06 40 23.4 -0.3
baz=116
SPMN Marine on St. 115.54 315 ⇑P PKPdf 06 40 22.3 -0.9
baz=116
SPMN Marine on St. 115.54 315 ePKPdf PKPdf 06 40 22.1 -1.1
P25A Willow Gulch B 115.60 304 ⇓P PKPdf 06 40 23.2 -0.5
baz=116
Q24A Divide 115.61 303 ⇑P PKPdf 06 40 23.1 -0.9
baz=116
L30A Spencer Herefo 115.63 308 ⇓P PKPdf 06 40 22.6 -0.9
baz=116
M29A Burnside Ranch 115.64 307 ⇑P PKPdf 06 40 23.2 -0.4
baz=116
MVCO Mesa Verde 115.76 299 ⇓P PKPdf 06 40 23.7 -0.5
baz=116
MVCO Mesa Verde 115.76 299 ePKPdf PKPdf 06 40 23.8 -0.5
WUAZ Wupatki 115.79 296 ⇑P PKPdf 06 40 24.1 -0.1
baz=116
WUAZ Wupatki 115.79 296 ePKPdf PKPdf 06 40 24.4 +0.2
ECSD EROS Data Cent 115.81 311 ⇓P PKPdf 06 40 23.0 -0.8
baz=116
ECSD EROS Data Cent 115.81 311 ePKPdf PKPdf 06 40 22.4 -1.3
ECSD eSKPdf SKPdf 06 43 28.2 -0.8
O26A Horse Wrangler 115.81 305 ⇓P PKPdf 06 40 23.3 -0.8
baz=116
OGNE Ogallala 115.81 306 ⇑P PKPdf 06 40 23.3 -0.7
baz=116
N27A Anderson Farm, 115.92 306 ⇑P PKPdf 06 40 23.5 -0.7
baz=116
SWSC Sam W. Stewart 115.94 291 ⇑P PKPdf 06 40 24.1 -0.2
baz=116
Y12C Blythe 115.94 292 ⇑P PKPdf 06 40 24.2 -0.2
baz=116
P24A Kohler Place, 115.94 303 ⇑P PKPdf 06 40 24.1 -0.3
baz=116
O25A Wiggins 116.07 304 ⇑P PKPdf 06 40 24.1 -0.4
baz=116
SCHQ Schefferville 116.13 336 PKP PKPdf 06 40 23.3 -0.7
comp=Z,15nm,0.4s,baz=102,slow=0.7,SNR=74
SCHQ PP PP 06 41 32.5 -2.6
comp=Z,19nm,1.0s,baz=162,slow=6.5,SNR=4.5
BAR Barrett 116.18 290 ePKPdf PKPdf 06 40 25.2 +0.3
K30A Basset 116.18 309 ⇓P PKPdf 06 40 23.7 -0.9
baz=116
PDMCI Parker Dam,Lak 116.19 293 ⇑P PKPdf 06 40 24.3 -0.5
baz=116
MONP Monument Peak, 116.22 290 ⇓P PKPdf 06 40 25.4 +0.2
baz=116
P23A Jefferson 116.25 302 ⇓P PKPdf 06 40 25.4 +0.2
baz=116,SNR=12
BC3 Big Chuckawall 116.33 292 ⇓P PKPdf 06 40 25.1 -0.1
baz=116
ISCO Idaho Springs 116.49 303 ePKIKP PKPdf 06 40 25.6 0.0
ISCO Idaho Springs 116.49 303 ⇓P PKPdf 06 40 25.7 0.0
baz=117,SNR=13
ISCO Idaho Springs 116.49 303 ePKPdf PKPdf 06 40 25.6 0.0
ISCO eSKPdf SKPdf 06 43 30.8 -0.1
O24A Longmont 116.51 303 ⇓P PKPdf 06 40 25.3 -0.1
baz=117
PV01 Paradox Valley 116.53 300 ePKPdf PKPdf 06 40 25.3 -0.4
IRM Iron Mountain 116.58 292 ⇑P PKPdf 06 40 25.6 0.0
baz=117
J30A Dallas 116.66 309 ⇑P PKPdf 06 40 24.8 -0.7
baz=117
KBZ Khabaz 116.69 50 PKIKP PKPdf 06 40 25.5 +0.1
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 116.69 50 PKP PKPdf 06 40 25.5 +0.1
comp=Z,10nm,0.8s,baz=170,slow=1.4,SNR=16
W13A Hualapai Mount 116.69 294 ⇑P PKPdf 06 40 26.2 +0.1
baz=117
KIV Kislovodsk 116.78 50 iPKIKP PKPdf 06 40 25.8 +0.1
KIV e 06 41 36.6
KIV ePS PKKPdf 06 51 20.5 +2.3
KIV eSS SS 06 57 25.3 +3.2
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,54nm,20.0s
NEE2 Needles Airpor 116.80 293 ⇑P PKPdf 06 40 25.8 -0.1
baz=117
PFO Pinyon Flats O 116.80 291 ⇓P PKPdf 06 40 26.2 0.0
baz=117
P22A Eagle 116.86 302 ⇑P PKPdf 06 40 26.3 +0.1
baz=117,SNR=12
BELC Belle Mtn. Jos 116.88 291 ⇑P PKPdf 06 40 26.5 +0.2
baz=117
PV04 Paradox Valley 116.90 300 ePKPdf PKPdf 06 40 25.9 -0.3
U15A North Rim 116.96 296 ⇑P PKPdf 06 40 26.1 -0.4
baz=117
O23A Lake Granby, G 116.96 303 ⇓P PKPdf 06 40 26.5 0.0
baz=117,SNR=14
N24A Carr 116.99 304 ⇓P PKPdf 06 40 26.1 -0.3
baz=117
J29A Okreek 117.08 309 ⇑P PKPdf 06 40 25.4 -0.9
baz=117
M25A Palm-Egli Farm 117.11 305 ⇓P PKPdf 06 40 25.6 -1.0
baz=117
I30A Oacoma 117.11 310 ⇓P PKPdf 06 40 25.6 -0.6
baz=117
L26A Underwood Farm 117.16 306 ⇓P PKPdf 06 40 26.2 -0.3
baz=117
MURC Murrieta 117.17 290 ⇑P PKPdf 06 40 26.7 -0.1
baz=117
O22A Kremmling 117.21 302 ⇑P PKPdf 06 40 26.8 -0.2
baz=118,SNR=13
MUD Monsted U'grnd 117.25 22 iPKIKP PKPdf 06 40 26.2 +0.2
MUD Monsted U'grnd 117.25 22 iP PKPdf 06 40 26.2 +0.2
BSD Bornholm Skovb 117.29 26 iPKIKP PKPdf 06 40 25.1 -1.1
BSD pmax pmax
comp=Z,11nm,0.9s
BSD Bornholm Skovb 117.29 26 iP PKPdf 06 40 25.1 -1.1
comp=Z,11nm,0.8s
EYMN Ely 117.33 317 ePKPdf PKPdf 06 40 25.3 -1.3
GMRC Granite Mounta 117.33 292 ⇓P PKPdf 06 40 27.2 +0.1
baz=118
K27A Flueckinger Fa 117.33 307 ⇓P PKPdf 06 40 26.0 -0.8
baz=118
BRSD Miller 117.35 310 ⇓P PKPdf 06 40 25.9 -0.8
baz=118
BRSD Miller 117.35 310 ePKPdf PKPdf 06 40 25.9 -0.8
KIEV Kiev 117.42 37 ⇓iPKIKP PKPdf 06 40 26.0 -0.6
KIEV Kiev 117.42 37 ePKPdf PKPdf 06 40 25.8 -0.8
AKASG Malin Array Be 117.43 37 PKIKP PKPdf 06 40 25.6 -1.0
AKASG 06 41 41.6
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 117.43 37 PKP PKPdf 06 40 25.6 -1.0
comp=Z,3.2nm,0.4s,baz=238,slow=2.0,SNR=24
AKASG PP PP 06 41 41.6 -2.6
comp=Z,5.7nm,0.9s,baz=202,slow=7.1,SNR=5.4
AKASG PKKPab PKKPab 06 50 53.8 +2.4
comp=Z,0.6nm,0.4s,baz=19,slow=3.7,SNR=6.1
M24A Cheyenne 117.48 304 ⇑P PKPdf 06 40 27.1 -0.2
baz=118,SNR=5.8
J28A Allard Ranch, 117.48 308 ⇑P PKPdf 06 40 26.3 -0.7
baz=118
N23A Red Feather La 117.52 303 ⇑P PKPdf 06 40 27.4 -0.1
baz=118,SNR=12
BBRC Big Bear Solar 117.56 291 ⇓P PKPdf 06 40 27.6 -0.1
baz=118
I29A Vivian Onida 117.57 309 ⇓P PKPdf 06 40 25.9 -1.2
baz=118
L25A Engebretsen Ra 117.64 305 ⇑P PKPdf 06 40 27.0 -0.5
baz=118
N22A Wattenberg Ran 117.68 303 ⇑P PKPdf 06 40 27.8 0.0
baz=118,SNR=20
HEC Hector,Ludlow 117.70 292 ⇓P PKPdf 06 40 28.1 +0.3
baz=118
BFSC Mount Baldy Ra 117.91 290 ⇓P PKPdf 06 40 28.3 0.0
baz=118
I28A Midland 117.92 309 ⇑P PKPdf 06 40 27.0 -0.9
baz=118
K25A Mack Ranch, Ha 117.97 306 ⇓P PKPdf 06 40 27.4 -0.7
baz=118
O20A White River Ci 117.97 301 ⇓P PKPdf 06 40 27.8 -0.6
baz=118
O20A White River Ci 117.97 301 ePKPdf PKPdf 06 40 27.7 -0.6
O20A eSKPdf SKPdf 06 43 33.2 -0.4
TUQ Turquoise Moun 117.98 292 ⇑P PKPdf 06 40 28.2 -0.1
baz=118
L24A Wheatland 117.98 305 ⇑P PKPdf 06 40 28.0 -0.2
baz=118,SNR=8.0
G30A Faulkton 117.99 311 ⇑P PKPdf 06 40 27.3 -0.6
baz=118
H29A Onida 118.02 310 ⇑P PKPdf 06 40 27.4 -0.6
baz=118
J26A Sides Ranch, S 118.18 307 ⇓P PKPdf 06 40 27.3 -1.2

baz=118
M22A Cedar Creek Ra 118.22 303 ⇑P PKPdf 06 40 28.1 -0.7
baz=118
SRU San Rafael Swe 118.23 299 ePKIKP PKPdf 06 40 28.2 -0.6
SRU San Rafael Swe 118.23 299 ePKPdf PKPdf 06 40 28.1 -0.6
SRU eSKPdf SKPdf 06 43 33.7 -0.4
GSC Goldstone, Bar 118.32 292 ⇑P PKPdf 06 40 28.7 -0.3
baz=118
I27A Quinn 118.35 308 ⇑P PKPdf 06 40 27.6 -1.1
baz=119
L23A Garrett 118.39 304 ⇑P PKPdf 06 40 27.6 -1.4
baz=119,SNR=6.3
H28A Mission Ridge 118.40 309 ⇓P PKPdf 06 40 28.3 -0.5
baz=119
SHPR Sheep Range 118.44 294 ePKPdf PKPdf 06 40 29.7 +0.4
SHPR eSKPdf SKiKP 06 43 35.3 +0.4
K24A Anderson Ranch 118.48 305 ⇑P PKPdf 06 40 28.2 -0.9
baz=119
SHOC Shoshone, Teco 118.52 293 ⇑P PKPdf 06 40 29.1 -0.2
baz=119
N20A Spence Gulch, 118.54 302 ⇑P PKPdf 06 40 28.8 -0.6
baz=119
J25A Sunshine Ranch 118.56 306 ⇑P PKPdf 06 40 28.4 -0.8
baz=119
MVU Marysvale 118.56 297 ePKPdf PKPdf 06 40 30.3 +0.7
EDW2 Edwards Air Fo 118.58 291 ⇑P PKPdf 06 40 29.2 -0.2
baz=119
SNART Snartemo 118.63 20 eP PKPdf 06 40 28.8 +0.2
L22A Ellis Ranch, M 118.65 304 ⇑P PKPdf 06 40 29.5 -0.1
baz=119,SNR=9.0
I26A New Underwood 118.67 307 ⇑P PKPdf 06 40 28.8 -0.6
baz=119
G28A Parade 118.68 309 ⇓P PKPdf 06 40 29.0 -0.3
baz=119
TMUT Trail Mountain 118.71 299 ePKPdf PKPdf 06 40 29.4 -0.5
H27A Howes 118.81 308 ⇓P PKPdf 06 40 28.5 -1.1
baz=119
F29A Eureka 118.84 311 ⇓P PKPdf 06 40 28.8 -0.8
baz=119
K23A Bowen Ranch, D 118.86 305 ⇓P PKPdf 06 40 29.1 -0.8
baz=119,SNR=5.4
J24A Dixon Ranch, L 118.89 306 ⇓P PKPdf 06 40 28.8 -1.0
baz=119
LRMC Laurel Mtn Rad 118.90 291 ⇓P PKPdf 06 40 30.6 +0.4
baz=119
GEYT Alibeck 118.97 64 PKP PKPdf 06 40 30.1 +0.1
comp=Z,5.1nm,0.4s,baz=248,slow=4.0,SNR=8.4
GEYT PKKPab PKKPab 06 50 47.5 +1.4
comp=Z,2.2nm,0.7s,baz=345,slow=1.7,SNR=5.5
E30A Jud 119.00 312 ⇑P PKPdf 06 40 29.3 -0.6
baz=119
I25A Rochford 119.04 307 ⇑P PKPdf 06 40 29.3 -0.9
baz=119
KMY Karmoy 119.09 19 eP PKPdf 06 40 29.4 -0.1
H26A Fairpoint 119.10 308 ⇓P PKPdf 06 40 29.0 -1.1
baz=119
K22A Casper 119.18 304 ⇑P PKPdf 06 40 29.8 -0.7
baz=119,SNR=18
K22A Casper 119.18 304 ePKPdf PKPdf 06 40 29.4 -1.1
K22A eSKPdf SKPdf 06 43 35.2 -0.6
RSSD Black Hills 119.25 307 ePKIKP PKPdf 06 40 29.6 -1.1
RSSD e 06 41 56.5
RSSD Black Hills 119.25 307 ePKPdf PKPdf 06 40 29.6 -1.1
RSSD epPKPdf pPKPdf 06 41 46.5 -0.8
RSSD ePP PP 06 41 56.5 -0.6
F28A McLaughlin 119.25 310 ⇑P PKPdf 06 40 29.4 -1.0
baz=120
FURC Furnace Creek, 119.26 293 ⇓P PKPdf 06 40 31.1 +0.5
baz=120
AGMN Agassiz Nation 119.26 315 ⇓P PKPdf 06 40 29.0 -1.2
baz=120
AGMN Agassiz Nation 119.26 315 ePKPdf PKPdf 06 40 29.1 -1.2
I24A Kuemmerle Ranc 119.30 306 ⇑P PKPdf 06 40 29.2 -1.4
baz=120,SNR=11
G27A Dupree 119.35 309 ⇓P PKPdf 06 40 29.7 -0.9
baz=120
E29A Napoleon 119.36 311 ⇓P PKPdf 06 40 29.4 -1.1
baz=120
D30A Buchanan 119.43 312 ⇑P PKPdf 06 40 29.7 -0.9
baz=120
ISA Isabella, Lake 119.44 291 ePKIKP PKPdf 06 40 31.6 +0.5
ISA Isabella, Lake 119.44 291 ⇓P PKPdf 06 40 31.4 +0.3
baz=120
ISA Isabella, Lake 119.44 291 ePKPdf PKPdf 06 40 31.6 +0.5
ISA eSKPdf SKiKP 06 43 36.6 -0.1
H25A Fruitdale 119.46 307 ⇑P PKPdf 06 40 29.9 -0.9
baz=120
MPU Maple Canyon 119.47 299 ePKPdf PKPdf 06 40 30.9 -0.3
MPU epPKPdf pPKPdf 06 41 48.2 +0.3
MPU eSKPdf SKiKP 06 43 36.7 -0.1
DAC Darwin (Calif) 119.48 292 ePKIKP PKPdf 06 40 31.5 +0.2
DAC Darwin (Calif) 119.48 292 ePKPdf PKPdf 06 40 31.4 +0.2
K21A Alcova 119.50 304 ⇑P PKPdf 06 40 29.8 -1.4
baz=120,SNR=17
BLS5 Blasjo 119.51 19 eP PKPdf 06 40 30.4 +0.1
G26A Maurine 119.57 308 ⇓P PKPdf 06 40 29.9 -1.1
baz=120
NLU North Lily Min 119.64 298 ePKPdf PKPdf 06 40 31.7 +0.1
NLU eSKPdf SKiKP 06 43 37.0 -0.2
D29A Pettibone, Tap 119.73 312 ⇑P PKPdf 06 40 30.2 -1.0
baz=120
J22A Midwest 119.76 305 ⇓P PKPdf 06 40 29.9 -1.7
baz=120,SNR=22
F27A Lemmon 119.78 309 ⇓P PKPdf 06 40 30.3 -1.1
baz=120
E28A Huff 119.79 311 ⇑P PKPdf 06 40 30.4 -0.9
baz=120
C30A Mose, Pekin 119.80 313 ⇑P PKPdf 06 40 30.4 -0.9
baz=120
G25A Newell 119.83 308 ⇓P PKPdf 06 40 30.6 -0.9
baz=120
JLU Jordanelle 119.84 299 ePKPdf PKPdf 06 40 31.7 -0.3
VES Vestal, Richgr 119.89 290 ⇑P PKPdf 06 40 31.7 -0.2
baz=120
SMMC Simmler 119.95 289 ⇓P PKPdf 06 40 33.3 +1.2
baz=120
H24A Dirks Ranch, A 119.97 307 ⇑P PKPdf 06 40 30.5 -1.4
baz=120,SNR=59
ODD1 Odda 120.00 19 eP PKPdf 06 40 31.5 +0.1
ODD1 IAmb IAmb 06 40 32.2
comp=Z,25nm,0.9s
E27A Carson 120.04 310 ⇑P PKPdf 06 40 31.1 -0.8
baz=120
F26A Lodgepole 120.04 309 ⇑P PKPdf 06 40 31.1 -0.8
baz=120
CTU Camp Tracy 120.06 299 ePKPdf PKPdf 06 40 32.5 +0.3
R11A Troy Canyon, C 120.09 295 ⇑P PKPdf 06 40 32.7 +0.3
baz=120
R11A Troy Canyon, C 120.09 295 ePKPdf PKPdf 06 40 32.5 +0.1
R11A eSKPdf SKiKP 06 43 38.4 +0.3
I22A 9 Mile Ranch, 120.14 305 ⇑P PKPdf 06 40 30.8 -1.4
baz=120,SNR=11
J21A Lysite 120.15 304 ⇓P PKPdf 06 40 31.3 -1.1
baz=120,SNR=32
DUG Dugway, Tooele 120.18 298 ePKIKP PKPdf 06 40 32.4 -0.1
DUG Dugway, Tooele 120.18 298 ⇓P PKPdf 06 40 32.7 +0.2
baz=120
DUG Dugway, Tooele 120.18 298 ePKPdf PKPdf 06 40 32.4 -0.1
DUG eSKPdf SKiKP 06 43 37.9 -0.2
TCUT Toone Canyon 120.23 300 ePKPdf PKPdf 06 40 32.6 0.0
D28A Regan 120.24 311 ⇑P PKPdf 06 40 31.3 -0.8
baz=120
NACGM Naroch 120.28 33 e PKPdf 06 40 29.0 -2.9
RCTC Rector, Farmer 120.33 291 ⇓P PKPdf 06 40 31.6 -1.0
baz=120
B30A Myrvik Farm, E 120.35 313 ⇓P PKPdf 06 40 31.2 -1.2
baz=121
MDND Maddock 120.37 312 ⇓P PKPdf 06 40 31.3 -1.1
baz=121
MDND Maddock 120.37 312 ePKPdf PKPdf 06 40 31.1 -1.3
G24A Alzada 120.37 307 ⇓P PKPdf 06 40 31.3 -1.3
baz=121
F25A Bowman 120.43 308 ⇓P PKPdf 06 40 31.7 -1.0
baz=121
J20A Shoshoni 120.44 304 ⇑P PKPdf 06 40 32.4 -0.5
baz=121
I21A Big Trails, Te 120.44 304 ⇓P PKPdf 06 40 31.2 -1.6
baz=121,SNR=25
E26A Carlson Angus 120.45 309 ⇑P PKPdf 06 40 32.0 -0.7
baz=121
D27A Center 120.56 310 ⇓P PKPdf 06 40 32.2 -0.6
baz=121
C28A Hausauer Farms 120.58 312 ⇓P PKPdf 06 40 32.0 -0.8
baz=121
H22A Clearmont 120.64 306 ⇑P PKPdf 06 40 32.0 -1.2
baz=121,SNR=9.8

BW06 Boulder Array 120.65 302 ePKPdf PKPdf 06 40 32.1 -1.3
PDAR Pinedale Array 120.65 302 PKP PKPdf 06 40 32.1 -1.3
comp=Z,6.8nm,0.5s,baz=133,slow=5.3,SNR=45
PDAR PKKPbc PKKPab 06 50 39.1 +0.4
comp=Z,1.4nm,0.9s,baz=325,slow=1.7,SNR=5.8
PDAR SKKPbc SKKPbc 06 53 55.5 -0.9
comp=Z,0.9nm,0.9s,baz=276,slow=1.3,SNR=4.5
TPH Tonopah 120.69 293 ePKIKP PKPdf 06 40 33.8 +0.2
TPH Tonopah 120.69 293 ePKPdf PKPdf 06 40 33.8 +0.2
G23A Biddle 120.69 307 ⇑P PKPdf 06 40 31.9 -1.3
baz=121,SNR=14
A30A Hoffart Farm, 120.73 314 ⇑P PKPdf 06 40 32.0 -1.1
baz=121
B29A Wagenman Farm, 120.77 313 ⇓P PKPdf 06 40 32.1 -1.1
baz=121
F24A Ekalaka 120.79 308 ⇓P PKPdf 06 40 32.3 -1.1
baz=121,SNR=7.7
J19A Crowheart 120.81 303 ⇓P PKPdf 06 40 32.5 -1.2
baz=121
BGU Big Grassy Mou 120.85 298 ePKPdf PKPdf 06 40 33.8 +0.1
ULM Lac du Bonnet 120.86 316 PKIKP PKPdf 06 40 31.8 -1.4
ULM 06 42 04.3
ULM pmax pmax
comp=Z,30nm,0.7s
ULM pmax pmax
comp=Z,13nm,0.9s
ULM pmax pmax
comp=Z,6.0nm,0.7s
ULM pmax pmax
comp=N,7.0nm,0.9s
ULM Lac du Bonnet 120.86 316 PKP PKPdf 06 40 31.8 -1.4
comp=N,30nm,0.7s,baz=146,slow=0.8,SNR=61
ULM PP PP 06 42 04.3 -3.3
comp=N,13nm,0.9s,baz=123,slow=8.9,SNR=4.2
ULM PKKPbc PKKPbc 06 50 38.2 +1.1
comp=N,5.5nm,0.7s,baz=340,slow=4.8,SNR=9.6
ULM SKKPbc SKKPbc 06 53 55.2 -1.1
comp=N,7.4nm,0.9s,baz=308,slow=4.0,SNR=10
E25A Miller Ranch, 120.86 309 ⇑P PKPdf 06 40 32.8 -0.7
baz=121
SPUT South Promonto 120.87 299 ePKPdf PKPdf 06 40 32.8 -1.0
SPUT eSKPdf SKiKP 06 43 39.5 0.0
D26A Manning 120.88 310 ⇑P PKPdf 06 40 32.8 -0.6
baz=121
I20A Worland 120.93 304 ⇑P PKPdf 06 40 32.7 -1.1
baz=121
H21A Big Horn, Sher 120.97 305 ⇑P PKPdf 06 40 32.3 -1.5
baz=121,SNR=7.4
C27A Sayler Ranch, 121.03 311 ⇓P PKPdf 06 40 33.1 -0.6
baz=121
A29A Manning Farm, 121.08 313 ⇓P PKPdf 06 40 32.4 -1.4
baz=121
HYA Hoyanger 121.10 19 eP PKPdf 06 40 33.6 +0.3
HYA IAmb IAmb 06 40 35.8
comp=Z,41nm,0.8s
G22A Birney 121.10 306 ⇑P PKPdf 06 40 32.8 -1.3
baz=121,SNR=10
F23A Volborg 121.11 307 ⇑P PKPdf 06 40 32.6 -1.4
baz=121,SNR=15
MLAC Mammoth, Mammt 121.15 292 ⇑P PKPdf 06 40 35.6 +1.0
baz=121
B28A Dugan Ranch, T 121.16 312 ⇓P PKPdf 06 40 32.9 -1.0
baz=121
H20A Greybull 121.29 304 ⇓P PKPdf 06 40 33.3 -1.1
baz=122,SNR=12
E24A Baker 121.30 308 ⇓P PKPdf 06 40 33.6 -0.7
baz=122
VSR Storozhevoye 121.33 43 c iPKIKP PKPdf 06 40 33.3 -0.8
D25A Fairfield 121.34 309 ⇓P PKPdf 06 40 34.0 -0.4
baz=122
AHID Auburn Hatcher 121.37 301 ePKPdf PKPdf 06 40 34.4 -0.3
C26A Wahner Farm, P 121.37 311 ⇑P PKPdf 06 40 33.9 -0.5
baz=122
I19A Meeteetse 121.39 303 ⇓P PKPdf 06 40 34.0 -0.7
baz=122
HVU Hansel Valley 121.39 299 ePKIKP PKPdf 06 40 34.5 -0.3
HVU Hansel Valley 121.39 299 ePKPdf PKPdf 06 40 34.5 -0.3
B27A Peters Farms, 121.48 312 ⇑P PKPdf 06 40 33.5 -1.0
baz=122
A28A Rude Farm, Bot 121.48 313 ⇑P PKPdf 06 40 33.6 -1.0
baz=122
NVAR Mina Array Bea 121.50 293 PKP PKPdf 06 40 35.6 +0.5
comp=Z,14nm,0.6s,baz=138,slow=3.0,SNR=96
NVAR PKKPbc PKKPab 06 50 36.6 +1.0
comp=Z,2.4nm,1.0s,baz=303,slow=3.8,SNR=7.0
NVAR SKKPbc SKKPbc 06 53 54.1 +1.0
comp=Z,1.9nm,0.9s,baz=307,slow=4.3,SNR=5.4
G21A Lodge Grass 121.51 305 ⇑P PKPdf 06 40 33.6 -1.2
baz=122
F22A Rosebud 121.53 306 ⇑P PKPdf 06 40 33.7 -1.1
baz=122,SNR=9.9
E23A Ismay 121.68 308 ⇓P PKPdf 06 40 34.0 -1.0
baz=122,SNR=9.4
NC602 NORSAR Array S 121.69 22 eP PKPdf 06 40 34.4 -0.1
D24A Glendive 121.74 309 ⇑P PKPdf 06 40 34.9 -0.2
baz=122
C25A Freed Ranch, W 121.76 310 ⇑P PKPdf 06 40 34.9 -0.2
baz=122
B26A Jensen Ranch, 121.86 311 ⇑P PKPdf 06 40 34.6 -0.7
baz=122
H19A Powell 121.87 304 ⇓P PKPdf 06 40 35.0 -0.6
baz=122
KBL Kabul 121.89 75 ePKIKP PKPdf 06 40 35.6 -0.4
KBL Kabul 121.89 75 ePKPdf PKPdf 06 40 35.6 -0.4
E22A Miles City 121.91 307 ⇓P PKPdf 06 40 34.4 -1.0
baz=122,SNR=17
NB2 NORSAR Subarra 121.91 21 PKPdf PKPdf 06 40 34.5 -0.5
comp=Z,36nm,1.1s,baz=202,slow=1.9
NB2 NORSAR Subarra 121.91 21 PKPdf PKPdf 06 40 34.5 -0.5
baz=202,slow=1.9
NOA NORSAR Array B 121.91 21 PKIKP PKPdf 06 40 34.9 -0.1
NOA pmax pmax
comp=Z,13nm,0.7s
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA NORSAR Array B 121.91 21 PKP PKPdf 06 40 34.9 -0.1
comp=Z,13nm,0.7s,baz=204,slow=1.9,SNR=33
NOA PKKPab PKKPbc 06 50 34.0 +0.4
comp=Z,4.1nm,0.8s,baz=25,slow=2.9,SNR=13
F21A Absaloka Mine, 121.94 306 ⇑P PKPdf 06 40 34.7 -0.8
baz=122,SNR=5.2
G20A Bridger 121.95 305 ⇑P PKPdf 06 40 34.8 -0.9
baz=122
I17A Pilgrim Ck. 122.02 302 ⇓P PKPdf 06 40 36.3 +0.3
baz=122
C24A Savage 122.11 309 ⇑P PKPdf 06 40 35.4 -0.4
baz=122,SNR=27
WAKR Walker 122.13 292 ePKPdf PKPdf 06 40 37.5 +1.2
WAKR eSKPdf SKiKP 06 43 41.9 -0.3
VRHR Novokhopersk 122.15 44 ePKIKP PKPdf 06 40 35.0 -0.6
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,9.0nm,0.9s
VRHR pmax pmax
comp=Z,70nm,0.9s
B25A Knox Farm, Ray 122.16 310 ⇓P PKPdf 06 40 35.7 -0.1
baz=122
D23A Lindsay 122.16 308 ⇑P PKPdf 06 40 35.4 -0.5
baz=122,SNR=11
AKN Aaknes 122.18 19 eP PKPdf 06 40 35.7 +0.3
H18A Shoshone NF, C 122.19 303 ⇑P PKPdf 06 40 35.5 -0.8
baz=122
A26A Wade Farm, Ken 122.19 311 ⇑P PKPdf 06 40 35.2 -0.7
baz=122
LAO LASA Array 122.22 307 ePKPdf PKPdf 06 40 35.6 -0.5
CMB Columbia Colle 122.25 291 ePKIKP PKPdf 06 40 36.5 +0.1
CMB Columbia Colle 122.25 291 ePKPdf PKPdf 06 40 36.5 +0.1
CMB eSKPdf SKPdf 06 43 41.7 0.0
RLMT Red Lodge 122.35 304 ePKPdf PKPdf 06 40 36.0 -0.6
F20A Billings 122.38 305 ⇑P PKPdf 06 40 35.7 -0.8
baz=123
H17A Grant Village 122.38 303 ⇓P PKPdf 06 40 37.9 +1.2
baz=123
H17A Grant Village 122.38 303 ePKPdf PKPdf 06 40 37.9 +1.2
E21A Keefer Ranch, 122.48 307 ⇑P PKPdf 06 40 36.1 -0.4
baz=123
BMN Battle Mountai 122.50 295 ePKIKP PKPdf 06 40 36.8 -0.2
BMN Battle Mountai 122.50 295 ePKPdf PKPdf 06 40 36.8 -0.2
YFT Old Faithful 122.55 303 ePKPdf PKPdf 06 40 38.5 +1.5
D22A Cohagen 122.56 308 ⇓P PKPdf 06 40 36.4 -0.3
baz=123,SNR=27
C23A Lambert 122.64 309 ⇓P PKPdf 06 40 36.4 -0.4
baz=123,SNR=17
A25A Svangstu Ranch 122.66 311 ⇑P PKPdf 06 40 36.4 -0.4
baz=123
YNR Norris Junctio 122.68 303 ePKPdf PKPdf 06 40 37.6 +0.4

YNR eSKPdf SKPdf 06 43 41.0 -1.5
F19A Roth Farm, Mol 122.77 305 ⇓P PKPdf 06 40 36.5 -0.7
baz=123
YMR Madison River 122.77 303 ePKPdf PKPdf 06 40 37.8 +0.4
D21A La Casta Ranch 122.85 307 ⇓P PKPdf 06 40 36.8 -0.4
baz=123,SNR=24
C22A Vida 122.89 308 ⇑P PKPdf 06 40 36.8 -0.5
baz=123,SNR=28
E20A Meyer Farm, Mu 122.91 306 ⇑P PKPdf 06 40 37.0 -0.4
baz=123,SNR=31
A24A Westby 123.02 310 ⇓P PKPdf 06 40 37.1 -0.4
baz=123,SNR=21
B23A Brockton 123.07 309 ⇓P PKPdf 06 40 37.1 -0.5
baz=123,SNR=9.3
QLMT Earthquake Lak 123.11 302 ePKPdf PKPdf 06 40 38.5 +0.5
E19A Rath Farm, Rou 123.17 305 ⇑P PKPdf 06 40 37.4 -0.5
baz=123
VSU Vasula 123.31 31 c iPKIKP PKPdf 06 40 37.4 -0.2
D20A Manuel Ranch, 123.36 306 ⇑P PKPdf 06 40 37.8 -0.4
baz=124,SNR=44
B22A Reddig Ranch S 123.37 309 ⇑P PKPdf 06 40 37.9 -0.3
baz=124,SNR=7.8
A23A Redstone 123.41 310 ⇑P PKPdf 06 40 37.5 -0.7
baz=124
HLID Hailey 123.53 299 ⇑P PKPdf 06 40 39.0 +0.1
baz=124
HLID Hailey 123.53 299 ePKPdf PKPdf 06 40 38.9 +0.1
OBN Obninsk 123.57 38 c iPKIKP PKPdf 06 40 37.0 -1.2
OBN pmax pmax
comp=Z,54nm,0.9s
OBN Obninsk 123.57 38 PKP PKPdf 06 40 38.1 -0.1
comp=Z,34nm,0.3s,baz=317,slow=2.4,SNR=13
D19A Cripps Ranch, 123.75 306 ⇓P PKPdf 06 40 38.4 -0.6
baz=124
MCMT McKenzie Canyo 123.76 302 ePKPdf PKPdf 06 40 39.2 -0.1
C20A Veseth Ranch, 123.78 307 ⇓P PKPdf 06 40 38.6 -0.4
baz=124,SNR=37
A22A Carney Farms, 123.87 309 ⇑P PKPdf 06 40 39.0 -0.2
baz=124,SNR=48
B21A Ellsworth Farm 123.91 308 ⇑P PKPdf 06 40 39.2 0.0
baz=124,SNR=27
MFID Camas Ranch 124.09 298 ePKPdf PKPdf 06 40 39.7 -0.2
C19A Slack Wire Ran 124.26 306 ⇓P PKPdf 06 40 39.9 0.0
baz=124
A21A Bergtoll Ranch 124.30 308 ⇓P PKPdf 06 40 39.8 -0.2
baz=125,SNR=40
LRM Limekiln Ridge 124.33 303 ePKPdf PKPdf 06 40 40.4 0.0
B20A Solberg Farm, 124.34 307 ⇑P PKPdf 06 40 39.8 -0.2
baz=125,SNR=15
PYUN Piuthan 124.39 91 eP PKPdf 06 40 40.0 -1.0
comp=Z,172nm,0.6s
KOLN Koldanda 124.46 91 eP PKPdf 06 40 40.2 -1.0
comp=Z,106nm,0.6s
KOLN Koldanda 124.46 91 eP PKKPbc 06 50 24.7 +1.7
A20A Cobblestone Ra 124.64 308 ⇓P PKPdf 06 40 40.5 -0.2
baz=125,SNR=25
WVOR Wild Horse Val 124.71 296 ePKIKP PKPdf 06 40 41.7 +0.6
WVOR Wild Horse Val 124.71 296 ePKPdf PKPdf 06 40 41.7 +0.6
WVOR epPKPdf pPKPdf 06 41 57.2 -0.6
HRY Holter Researc 124.72 304 ePKPdf PKPdf 06 40 41.0 +0.1
B19A Brinkman Farms 124.76 307 ⇑P PKPdf 06 40 41.0 +0.2
baz=125
EGMT Eagleton 124.78 306 ⇑P PKPdf 06 40 40.8 -0.2
baz=125
EGMT Eagleton 124.78 306 ePKPdf PKPdf 06 40 40.7 -0.2
EGMT epPKPdf pPKPdf 06 41 56.8 -0.9
LBCM Butte Creek Ri 124.86 293 P PKPdf 06 40 42.1 +0.7
CMAR Chiang Mai Arr 125.00 112 PKIKP PKPdf 06 40 42.2 0.0
CMAR 06 53 40.6
CMAR pmax pmax
comp=Z,29nm,0.9s
CMAR pmax pmax
comp=Z,13nm,1.0s
CMAR pmax pmax
comp=N,8.0nm,0.9s
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR pmax pmax
comp=N,1.0nm,0.3s
CMAR Chiang Mai Arr 125.00 112 PKP PKPdf 06 40 42.2 0.0
comp=N,29nm,0.9s,baz=234,slow=3.6,SNR=105
CMAR pPKP pPKPdf 06 41 59.1 +0.2
comp=N,13nm,1.0s,baz=237,slow=3.8,SNR=6.4
CMAR SKP 06 43 47.5
comp=N,7.8nm,0.9s,baz=233,slow=3.9,SNR=7.0
CMAR PKKPbc PKKPab 06 50 24.1 +0.8
comp=N,1.1nm,0.4s,baz=0.9,slow=3.4,SNR=9.1
CMAR SKKPbc SKKPbc 06 53 40.6 +1.7
comp=N,1.2nm,0.3s,baz=5.0,slow=3.3,SNR=5.6
DANN Dangsing 125.00 91 eP PKPdf 06 40 41.6 -0.7
comp=N,176nm,0.8s
DANN Dangsing 125.00 91 eP PKKPbc 06 50 22.5 +1.6
comp=N,33nm,1.0s
A19A Klindworth Far 125.03 307 ⇑P PKPdf 06 40 41.3 -0.1
baz=125
SFJD Kangerlussuaq 125.11 349 ePKIKP PKPdf 06 40 40.5 -0.3
SFJD Kangerlussuaq 125.11 349 i P PKPdf 06 40 40.3 -0.5
comp=N,54nm,0.8s
SFJD Kangerlussuaq 125.11 349 ePKPdf PKPdf 06 40 40.5 -0.3
MOD Modoc Plateau 125.13 294 ePKPdf PKPdf 06 40 42.1 +0.2
DMN Daman 125.15 93 eP PKPdf 06 40 41.7 -0.9
comp=N,139nm,0.9s
DMN Daman 125.15 93 eP PKKPbc 06 50 21.4 +1.1
GKN Gorkha 125.20 92 eP PKPdf 06 40 41.6 -0.9
GKN Gorkha 125.20 92 eP PKKPbc 06 50 21.7 +1.7
NSS Namsos 125.24 20 eP PKPdf 06 40 41.2 +0.1
WDC Whiskeytown Da 125.26 292 ePKIKP PKPdf 06 40 41.9 -0.1
WDC Whiskeytown Da 125.26 292 ePKPdf PKPdf 06 40 41.9 -0.1
PKIN Phulchoki 125.28 93 eP PKPdf 06 40 42.7 -0.1
PKI Pulchoki 125.28 93 eP PKPdf 06 40 41.6 -1.3
comp=N,179nm,1.0s
CHTO Chiang Mai 125.30 112 ePKIKP PKPdf 06 40 42.1 -0.7
CHTO Chiang Mai 125.30 112 ePKPdf PKPdf 06 40 42.1 -0.7
CHTO eSKPdf SKPdf 06 43 48.4 +0.4
KKN Kakani 125.39 93 eP PKPdf 06 40 42.0 -0.9
comp=N,66nm,0.6s
RAMN Ramite 125.44 95 eP PKPdf 06 40 43.0 -0.1
comp=N,130nm,0.5s
RAMN Ramite 125.44 95 eP PKKPbc 06 50 21.0 +1.9
CHMT Chamberlain Mo 125.52 303 ePKPdf PKPdf 06 40 42.3 -0.2
CHMT epPKPdf pPKPdf 06 41 59.6 +0.3
CHMT eSKPdf SKiKP 06 43 48.3 -0.4
N02D Trinity Center 125.64 292 ⇓P PKPdf 06 40 43.1 +0.3
baz=126
FINES FINESS Array B 125.67 29 PKhKP PKPpre 06 40 26.2
comp=N,1.4nm,0.7s,baz=145,slow=7.0,SNR=3.9
FINES PKP PKPdf 06 40 41.6 -0.5
comp=N,45nm,0.6s,baz=144,slow=3.5,SNR=110
FINES PP PP 06 42 39.1 -0.4
comp=N,4.2nm,0.8s,baz=192,slow=5.5,SNR=4.8
MSO Missoula 125.77 302 ⇓P PKPdf 06 40 43.0 +0.1
baz=126
JIRN Jiri 125.78 94 eP PKPdf 06 40 43.3 -0.6
comp=N,236nm,0.6s
ODAN Odare 125.79 95 eP PKPdf 06 40 43.1 -0.7
comp=N,111nm,0.6s
GUN Gumba 125.81 93 eP PKPdf 06 40 43.2 -0.7
comp=N,132nm,0.8s
GUN Gumba 125.81 93 eP PKKPbc 06 50 17.5 -0.3
M04C Macdoel 125.81 293 ⇑P PKPdf 06 40 43.5 +0.3
baz=126
SLMT Seeley Lake 125.87 303 ePKPdf PKPdf 06 40 42.5 -0.7
BMO Blue Mountains 125.87 299 ePKIKP PKPdf 06 40 42.9 -0.3
BMO Blue Mountains 125.87 299 ePKPdf PKPdf 06 40 42.9 -0.3
BMO eSKPdf SKPdf 06 43 48.4 0.0
M02C Callahan 126.03 292 ⇑P PKPdf 06 40 44.0 +0.4
baz=126
HOG Hogback Mounta 126.08 294 P PKPdf 06 40 44.6 +0.8
KHMM Horse Mountain 126.08 291 ePKPdf PKPdf 06 40 45.0 +1.2
KAF Kangasniemi 126.29 28 ePKIKP PKPdf 06 40 41.6 -1.6
KAF pmax pmax
comp=Z,35nm,0.5s
KAF Kangasniemi 126.29 28 epkp PKPdf 06 40 41.6 -1.6
comp=Z,35nm,0.5s
SWMT Swartz Lake 126.30 303 ePKPdf PKPdf 06 40 43.3 -0.7
SWMT epPKPdf pPKPdf 06 42 00.9 +0.2
TAPN Taplejung 126.35 95 eP PKPdf 06 40 44.0 -0.9
comp=Z,98nm,1.1s
K04D Chiloquin, OR 126.39 294 ⇑P PKPdf 06 40 44.5 +0.2
baz=127
YBMT Yellow Bay 126.57 303 ePKPdf PKPdf 06 40 43.8 -0.6
YBMT epPKPdf pPKPdf 06 42 01.0 -0.2
JTMT Jette 126.61 303 ePKPdf PKPdf 06 40 43.8 -0.7
JTMT epPKPdf pPKPdf 06 42 01.0 -0.3
J05D Fort Rock, OR 126.62 295 ⇓P PKPdf 06 40 45.3 +0.5
baz=127

FFC	Flin Flon	126.68	316	ePKIKP	PKPdf	06 40 43.5	-0.8
FFC	Flin Flon	126.68	316	ePKPdf	PKPdf	06 40 43.5	-0.8
FFC				eSKPdf	SKPdf	06 43 49.8	+0.4
PINOR	Pine Mountain	126.83	295	ePKPdf	PKPdf	06 40 46.1	+1.2
BSMT	Bassoo Peak	126.91	303	ePKPdf	PKPdf	06 40 44.7	-0.5
L02D	Cave Junction, OR	126.97	292	⇑P	PKPdf	06 40 45.9	+0.7
	baz=127						
HUMO	Hull Mountain	126.98	293	ePKPdf	PKPdf	06 40 45.9	+0.6
J04D	Umpqua Nationa	127.02	294	⇑P	PKPdf	06 40 45.8	+0.3
	baz=127						
FCC	Fort Churchill	127.03	323	ePKIKP	PKPdf	06 40 43.3	-1.4
FCC	Fort Churchill	127.03	323	ePKPdf	PKPdf	06 40 43.3	-1.4
FCC				epPKPdf	pPKPdf	06 41 60.0	-1.5
KONS	Konsvik	127.23	19	eP	PKPdf	06 40 44.9	0.0
ILULI	Ilulissat	127.31	350⇑	iPKIKP	PKPdf	06 40 44.5	-0.5
ILULI				pmax	pmax		
	comp=Z,58nm,0.8s						
ILULI	Ilulissat	127.31	350⇑	iP	PKPdf	06 40 44.5	-0.5
	comp=Z,58nm,0.7s						
I05D	Terrebonne, OR	127.44	296	⇑P	PKPdf	06 40 46.6	+0.5
	baz=128						
I04A	Tendick Farm,	127.57	294	⇓P	PKPdf	06 40 46.2	-0.2
	baz=128						
I03D	Drain, OR	127.97	294	⇑P	PKPdf	06 40 47.4	+0.4
	baz=128						
HAWA	Hanford	128.06	299	ePKPdf	PKPdf	06 40 46.9	-0.3
G05D	Wamic, OR	128.09	296	⇓P	PKPdf	06 40 47.6	+0.3
	baz=128						
WRD	Warden	128.18	299	P	PKPdf	06 40 48.3	+0.9
JOF	Joensuu	128.28	30	ePKIKP	PKPdf	06 40 45.3	-1.7
JOF				pmax	pmax		
	comp=Z,69nm,0.6s						
JOF	Joensuu	128.28	30	epkp	PKPdf	06 40 45.3	-1.7
	comp=Z,69nm,0.6s						
NEW	Newport	128.29	302	⇑P	PKPdf	06 40 46.9	-0.7
	baz=128						
AKTO	Aktyubinsk	128.39	54	PKIKP	PKPdf	06 40 47.5	-0.2
AKTO				pmax	pmax		
	comp=Z,86nm,0.9s						
AKTO				pmax	pmax		
	comp=N,12nm,0.7s						
AKTO	Aktyubinsk	128.39	54	PKP	PKPdf	06 40 47.5	-0.2
	comp=N,86nm,0.9s,baz=185,slow=2.8,SNR=167						
AKTO				SKPbc	SKiKP	06 43 36.8	-17
	comp=N,12nm,0.7s,baz=168,slow=4.9,SNR=12						
AB31	Akbulak array	128.40	57	iPKIKP	PKPdf	06 40 46.7	-1.0
AB31				pmax	pmax		
	comp=Z,49nm,0.6s						
ABKAR	Akbulak array	128.40	57	ePKPdf	PKPdf	06 40 46.9	-0.8
TRW	Toppenish Ridg	128.48	298	P	PKPdf	06 40 49.0	+1.0
LOF	Lofoten	128.76	19	eP	PKPdf	06 40 49.0	+1.2
ASR	Mount Adams--S	128.88	297	P	PKPdf	06 40 49.5	+0.6
STEI	Steigen	128.88	19	eP	PKPdf	06 40 48.3	+0.3
STEI				IAmb	IAmb	06 40 48.9	
	comp=Z,101nm,1.0s						
SAW	Saint Andrews	128.94	300	P	PKPdf	06 40 49.0	+0.2
G03D	McMinnville, O	129.02	295	⇑P	PKPdf	06 40 49.9	+0.9
	baz=129						
KK31	Karatay Array	129.06	69	iPKIKP	PKPdf	06 40 48.4	-0.8
KK31				pmax	pmax		
	comp=Z,22nm,0.6s						
KKAR	Karatay Array	129.06	69	ePKIKP	PKPdf	06 40 48.9	-0.3
KKAR	Karatay Array	129.06	69	ePKPdf	PKPdf	06 40 48.9	-0.3
KLMR	Klimovskoe	129.07	36	ePKIKP	PKPdf	06 40 46.6	-2.0
KLMR				e		06 42 59.9	
KLMR				pmax	pmax		
	comp=Z,276nm,1.3s						
KSH	Kashi	129.28	76⇑	iPKP	PKPdf	06 40 49.3	-0.6
KSH				sPKP		06 42 36.5	
KSH				PP	PP	06 43 03.0	-0.7
KSH				PKS	PKSdf	06 44 27.5	+1.1
KSH				SKS	SKSdf	06 47 33.8	+2.4
KSH				SS	SS	06 59 59.7	+0.1
KSH				PPMZ			
	comp=Z,74nm,4.1s						
KSH				LN			
	comp=Z,120nm,4.2s						
KSH				LE			
	comp=Z,100nm,5.8s						
KSH				LZ			
	comp=Z,130nm,5.6s						
ETW	Entiat	129.32	299	P	PKPdf	06 40 49.8	+0.1
LON	Longmire	129.41	297	ePKIKP	PKPdf	06 40 49.3	-0.5
LON	Longmire	129.41	297	ePKPdf	PKPdf	06 40 49.3	-0.5
F04D	Rainier, OR	129.52	296	⇓P	PKPdf	06 40 51.1	+1.1
	baz=130						
NLW	Nelson Butte	129.66	300	P	PKPdf	06 40 50.3	0.0
SUMG	Summit	129.78	356⇑	iPKIKP	PKPdf	06 40 50.4	+0.3
SUMG				pmax	pmax		
	comp=Z,39nm,0.9s						
SUMG	Summit	129.78	356⇑	iP	PKPdf	06 40 50.4	+0.3
	comp=Z,39nm,0.9s						
SUMG				i		06 43 43.2	
SUMG	Summit	129.78	356	ePKPdf	PKPdf	06 40 50.4	+0.3
SLVN	Son La	129.90	115	ePKPdf	PKPdf	06 40 51.1	-0.4
SLVN				epPKPdf	pPKPdf	06 42 09.2	+0.9
AML	Almayashu	129.99	72	P	PKPdf	06 40 51.9	+0.4
	SNR=38						
AML	Almayashu	129.99	72	P	SKPbc	06 43 44.3	-0.2
	SNR=44						
LSA	Lhasa	130.06	97	ePKIKP	PKPdf	06 40 52.0	-0.1
LSA	Lhasa	130.06	97	ePKPdf	PKPdf	06 40 52.0	-0.1
EDM	Edmonton	130.15	308	ePKIKP	PKPdf	06 40 50.2	-0.8
EDM	Edmonton	130.15	308	ePKPdf	PKPdf	06 40 50.2	-0.8
EKS2	Erkin-Say	130.41	72	P	PKPdf	06 40 51.9	0.0
	SNR=26						
EKS2	Erkin-Say	130.41	72	P	SKPbc	06 43 45.9	+0.1
	SNR=28						
EKS2	Erkin-Say	130.41	72	ePKIKP	PKPdf	06 40 51.8	-0.2
EKS2	Erkin-Say	130.41	72	ePKPdf	PKPdf	06 40 51.8	-0.2
UCH	Uchtor	130.48	72	P	PKPdf	06 40 52.6	+0.1
	SNR=18						
UCH	Uchtor	130.48	72	P	SKPbc	06 43 46.7	+0.3
	SNR=31						
QIZ	Qiongzhong	130.74	123	PKP	PKPdf	06 40 53.8	+0.7
QIZ				sPKP		06 42 39.9	
QIZ				PP	PP	06 43 15.9	+3.3
QIZ				SS	SS	07 00 19.4	+2.9
QIZ				PPMZ			
	comp=Z,160nm,5.0s						
KZA	Kyzart	130.75	73	P	PKPdf	06 40 53.0	+0.1
	SNR=18						
KZA	Kyzart	130.75	73	P	SKPbc	06 43 47.8	+0.4
	SNR=19						
AAK	Ala-Archa	130.76	72	P	PKPdf	06 40 53.1	+0.4
	SNR=34						
AAK	Ala-Archa	130.76	72	P	SKPbc	06 43 47.4	+0.3
	SNR=18						
AAK	Ala-Archa	130.76	72	PKHKP	PKPpre	06 40 42.8	
AAK						06 40 52.5	
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK				pmax	pmax		
	comp=Z,32nm,0.5s						
AAK				pmax	pmax		
	comp=N,37nm,1.1s						
AAK	Ala-Archa	130.76	72	P	PKPdf	06 40 52.8	+0.1
	SNR=19						
AAK	Ala-Archa	130.76	72	PKhKP	PKPpre	06 40 42.8	
	comp=N,0.8nm,0.3s,baz=211,slow=10,SNR=4.0						
AAK				PKP	PKPdf	06 40 52.5	-0.1
	comp=N,32nm,0.5s,baz=174,slow=3.2,SNR=73						
AAK				SKPbc	SKPbc	06 43 47.3	+0.3
	comp=N,37nm,1.1s,baz=218,slow=4.2,SNR=24						
AAK	Ala-Archa	130.76	72	ePKPdf	PKPdf	06 40 52.3	-0.3
AAK				PKP	PKPdf	06 40 52.5	-0.1
AAK				SKPbc	SKPbc	06 43 47.3	+0.3
NLWA	Neilton Lookou	130.86	297	ePKPdf	PKPdf	06 40 52.2	-0.3
NLWA				e		06 43 47.3	
FRU	Bishkek	130.97	72	ePKIKP	PKPdf	06 40 52.0	-0.9
FRU				e		06 41 55.0	
FRU				pmax	pmax		
	comp=Z,120nm,2.0s						
KBK	Karagaybulak	131.01	72	P	PKPdf	06 40 53.6	+0.4
	SNR=10						
KBK	Karagaybulak	131.01	72	P	SKPbc	06 43 48.4	+0.4
	SNR=16						
TMCR	Tamitsa	131.14	32	ePKIKP	PKPdf	06 40 52.0	-0.4
TMCR				pmax	pmax		
	comp=Z,252nm,1.5s						
CHMS	Chumysh	131.15	72	P	PKPdf	06 40 52.9	-0.3
	SNR=10						
CHMS	Chumysh	131.15	72	P	SKPbc	06 43 47.5	-0.8
	SNR=14						
USP	Ospenovka	131.21	71	P	PKPdf	06 40 52.9	-0.5
	SNR=13						
USP	Ospenovka	131.21	71	P	SKPbc	06 43 48.5	-0.1
	SNR=9.8						
ULHL	Ulahol	131.39	74	P	PKPdf	06 40 53.6	-0.3
	SNR=15						
ULHL	Ulahol	131.39	74	P	SKPbc	06 43 49.2	-0.3
	SNR=16						
TKM2	Tokmak 2	131.53	73	P	PKPdf	06 40 53.9	-0.2
	SNR=8.2						
TKM2	Tokmak 2	131.53	73	P	SKPbc	06 43 49.4	-0.5
	SNR=6.6						
TKM2	Tokmak 2	131.53	73	ePKIKP	PKPdf	06 40 52.8	-1.4
TKM2	Tokmak 2	131.53	73	ePKPdf	PKPdf	06 40 52.8	-1.4
PRGR	Permogore	131.63	38⇑	iPKIKP	PKPdf	06 40 53.0	-0.4
PRGR				e		06 43 15.1	
PRGR				pmax	pmax		
	comp=Z,649nm,1.5s						
ARCES	ARCESS Array B	132.24	22	PKhKP	PKPpre	06 40 36.0	
	comp=Z,5.6nm,0.8s,baz=209,slow=2.8,SNR=13						
ARCES				PKP	PKPdf	06 40 53.9	-0.5
	comp=Z,16nm,0.4s,baz=224,slow=2.2,SNR=68						
ARCES				PP	PP	06 43 17.8	-4.3
	comp=Z,7.3nm,0.6s,baz=204,slow=5.2,SNR=6.4						
ARCES				SKPbc	SKPbc	06 43 50.5	-0.8
	comp=Z,14nm,0.7s,baz=204,slow=2.7,SNR=9.3						
ARE0	ARCESS Array S	132.24	22	eP	PKPdf	06 40 54.3	-0.1
KMI	Kunming	132.48	111	PKP	PKPdf	06 40 57.6	+1.1
KMI				sPKP		06 42 46.5	
KMI				PP	PP	06 43 28.6	+4.4
KMI				PPMZ			
	comp=Z,96nm,4.7s						
KMI				LZ			
	comp=Z,62nm,23.6s						
APA	Apatity	132.49	27⇑	iPKIKP	PKPdf	06 40 53.6	-1.3
ARU	Arti	132.82	49	iPKIKP	PKPdf	06 40 55.7	-0.1
ARU						06 43 24.5	
ARU	Arti	132.82	49	ePKPdf	PKPdf	06 40 55.9	0.0
KULLO	Kullorsuaq	133.03	350⇑	iPKIKP	PKPdf	06 40 55.4	-0.3
KULLO				pmax	pmax		
	comp=Z,44nm,1.0s						
KULLO	Kullorsuaq	133.03	350⇑	iP	PKPdf	06 40 55.4	-0.3
	comp=Z,44nm,1.0s						
KULLO				i		06 43 53.0	
LVZ	Lovozero	133.05	27	iPKIKP	PKPdf	06 40 56.2	+0.2
LVZ				pmax	pmax		
	comp=Z,66nm,1.7s						
LVZ	Lovozero	133.05	27	ePKPdf	PKPdf	06 40 55.2	-0.8
DAG	Danmarks Havn	133.92	3	iPKIKP	PKPdf	06 40 56.8	-0.5
DAG				pmax	pmax		
	comp=Z,30nm,0.8s						
DAG	Danmarks Havn	133.92	3	iP	PKPdf	06 40 56.8	-0.5
	comp=Z,40nm,0.8s						
SVE	Sverdlovsk	133.94	50	diPKIKP	PKPdf	06 40 58.1	+0.2
SVE				pmax	pmax		
	comp=Z,87nm,1.2s						
SOKR	Solikamsk	134.23	45	ePKIKP	PKPdf	06 40 58.8	+0.5
SOKR				pmax	pmax		
	comp=Z,30nm,0.9s						
GYA	Guiyang	135.56	114	Pdif	Pdif	06 38 07.2	+0.2
GYA				PKP	PKPdf	06 41 00.6	-1.5
GYA				sPKP		06 42 51.0	
GYA				PP	PP	06 43 48.4	+5.0
GYA				PKS	PKSdf	06 44 37.8	-0.8
GYA				SKKS		06 50 06.3	
GYA				SS	SS	07 01 18.2	+3.3
GYA				PPMZ			
	comp=Z,280nm,7.8s						
GYA				LN			
	comp=Z,170nm,23.0s						
GYA				LE			
	comp=Z,140nm,22.3s						
GYA				LZ			
	comp=Z,160nm,22.2s						
BRVK	Borovoye	135.75	59	ciPKIKP	PKPdf	06 41 01.3	-0.1
BRVK				pmax	pmax		
	comp=Z,46nm,0.8s						
BRVK	Borovoye	135.75	59	P	PKPdf	06 41 01.8	+0.4
	SNR=14						
BRVK	Borovoye	135.75	59	ePKPdf	PKPdf	06 41 01.5	+0.1
BVA0	Borovoye Array	135.78	59	iPKIKP	PKPdf	06 41 00.9	-0.6
BVA0				pmax	pmax		
	comp=Z,105nm,1.0s						
BVAR	Borovoye Array	135.78	59	PKHKP	PKPpre	06 40 48.8	
BVAR						06 41 01.5	
BVAR						06 43 46.0	
BVAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BVAR				pmax	pmax		
	comp=Z,66nm,0.8s						
BVAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BVAR				pmax	pmax		
	comp=N,13nm,0.7s						
BVAR	Borovoye Array	135.78	59	PKhKP	PKPpre	06 40 48.8	
	comp=N,10nm,0.9s,baz=238,slow=2.8,SNR=29						
BVAR				PKP	PKPdf	06 41 01.5	0.0
	comp=N,66nm,0.8s,baz=173,slow=2.6,SNR=38						
BVAR				PP	PP	06 43 46.0	+1.2
	comp=N,8.3nm,1.0s,baz=242,slow=6.2,SNR=3.8						
BVAR				SKPbc	SKPbc	06 44 03.5	+0.2
	comp=N,13nm,0.7s,baz=238,slow=3.4,SNR=11						
VOSK	Vostochnaya	135.86	60	PKIKP	PKPdf	06 41 00.7	-1.0
VOSK				pmax	pmax		
	comp=Z,37nm,0.9s						
YKA	Yellowknife Ar	136.81	317	PKhKP	PKPpre	06 40 47.4	
	comp=Z,1.5nm,0.6s,baz=123,slow=4.0,SNR=27						
YKA				PKP	PKPdf	06 41 03.5	+0.5
	comp=Z,61nm,0.8s,baz=131,slow=2.1,SNR=114						
YKA				pPKP	pPKPdf	06 42 21.9	+2.1
	comp=Z,7.9nm,0.8s,baz=127,slow=2.5,SNR=3.6						
YKA				PP	PP	06 43 47.7	-3.3
	comp=Z,8.0nm,0.9s,baz=124,slow=6.3,SNR=8.8						
YKA				SKPbc	SKPbc	06 44 05.3	-0.6
	comp=Z,13nm,0.9s,baz=124,slow=1.9,SNR=8.2						
YKA				PKKP	PKKPdf	06 50 38.9	-1.0
	comp=Z,1.3nm,0.8s,baz=307,slow=2.0,SNR=7.9						
YKA				SKKPbc	SKKPbc	06 52 57.9	-2.4
	comp=Z,2.0nm,0.9s,baz=306,slow=4.1,SNR=5.1						
MK31	Makanchi Array	137.65	73	iPKHKP	PKPpre	06 40 55.9	
MK31				pmax	pmax		
	comp=Z,37nm,0.9s						
MKAR	Makanchi Array	137.65	73	PKhKP	PKPpre	06 40 53.7	
	comp=Z,6.7nm,0.7s,baz=238,slow=4.6,SNR=34						
MKAR				PKP	PKiKP	06 41 06.5	-0.7
	comp=Z,22nm,0.8s,baz=217,slow=1.8,SNR=21						
MKAR				SKPbc	SKPbc	06 44 08.6	-0.5
	comp=Z,14nm,0.9s,baz=241,slow=2.5,SNR=13						
MKAR				PKKP	PKKPdf	06 50 37.8	-0.2
	comp=Z,0.7nm,0.6s,baz=197,slow=0.3,SNR=5.3						
MKAR				SKKPbc	SKKPbc	06 52 59.6	+3.7
	comp=Z,1.0nm,0.9s,baz=46,slow=3.5,SNR=3.8						
HOPEN	Hopen	137.68	16	eP	PKPpre	06 40 53.8	
CD2	Chengdu	137.70	108	PKP	PKPdf	06 41 04.5	-1.4
CD2				PP	PP	06 43 58.4	+1.7
CD2				PKS	PKSdf	06 44 39.1	-3.0
CD2				SKS	SKSdf	06 47 44.1	-2.4
CD2				SKKS	SKKSac	06 50 18.2	-0.8
CD2				SS	SS	07 01 38.2	-2.1
CD2				PPMZ			
	comp=Z,150nm,7.6s						
SPA0	Spitsbergen Ar	137.86	12	eP	PKPpre	06 40 53.4	
SPITS	Spitsbergen Ar	137.86	12	SKPbc	SKPbc	06 44 08.0	-0.7
	comp=Z,21nm,1.0s,baz=152,slow=5.4,SNR=5.8						
KURBB	Kurchatov Arra	138.19	66	PKhKP	PKPpre	06 40 58.5	
	comp=Z,9.2nm,0.7s,baz=231,slow=4.0,SNR=34						
KURBB				PKP	PKPdf	06 41 05.7	-0.3
	comp=Z,26nm,0.8s,baz=238,slow=3.2,SNR=21						
KURBB				SKPbc	SKPbc	06 44 09.8	-0.5
	comp=Z,5.7nm,0.8s,baz=234,slow=3.5,SNR=18						
KURBB				SKKPbc	SKKPbc	06 52 54.1	+0.1
	comp=Z,1.7nm,0.7s,baz=47,slow=2.9,SNR=5.5						
KURK	Kurchatov	138.29	66	PKHKP	PKPpre	06 40 58.6	
KURK						06 41 05.7	
KURK						06 44 09.8	
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KURK				pmax	pmax		
	comp=Z,26nm,0.8s						
KURK				pmax	pmax		
	comp=N,6.0nm,0.8s						
KURK				pmax	pmax		
	comp=N,2.0nm,0.7s						
KURK	Kurchatov	138.29	66	P	PKPdf	06 41 06.5	+0.3
	SNR=7.7						
KURK	Kurchatov	138.29	66	PKPpre	PKPpre	06 40 58.5	
KURK				PKP	PKPdf	06 41 05.7	-0.5
KURK				ePKPdf	PKiKP	06 41 06.7	-1.7
KURK				SKPbc	SKPbc	06 44 09.8	-0.8
KURK				eSKPbc	SKiKP	06 44 10.6	-3.7
KURK				SKKPbc	SKKPbc	06 52 54.1	+0.5
WMQ	Urumqi	138.54	80	ePKP	PKPdf	06 41 07.7	+0.7
WMQ				pPKP	pPKPdf	06 42 56.0	+32
WMQ				PPMZ			
	comp=N,230nm,4.0s						
RES	Resolute Bay	138.85	338	SKPbc	SKPbc	06 44 10.9	-0.6
	comp=N,5.7nm,0.8s,baz=54,slow=3.4,SNR=4.0						
RES				SKKPbc	SKKPbc	06 52 53.1	+0.1
	comp=N,4.4nm,0.9s,baz=294,slow=4.5,SNR=9.2						
ENH	Enshi	140.09	114	ePKPdf	PKPdf	06 41 09.2	-1.0
DLBC	Dease Lake	140.71	306	PKhKP	PKPpre	06 41 04.7	
DLBC				PKP	PKPdf	06 41 08.8	-1.7
	comp=N,30nm,0.9s,baz=271,slow=0.8						
DLBC				SKPbc	SKPbc	06 44 17.1	0.0
	comp=N,23nm,1.0s,baz=72,slow=0.9,SNR=5.3						
LZH	Lanzhou	141.76	103	ePKP	PKPdf	06 41 08.7	-4.5
LZH				PP	PP	06 44 20.7	-1.0
LZH				SKKS		06 50 39.2	
LZH				PPMZ			
	comp=N,220nm,4.2s						
GTA	Gaotai	142.05	95	ePKP	PKPdf	06 41 09.1	-4.5
GTA				pPKP	pPKPdf	06 42 24.9	-5.5
GTA				sPKP		06 42 56.6	
GTA				PP	PP	06 44 21.4	-2.0
GTA				PPMZ			
	comp=N,300nm,4.0s						
WHN	Wuhan	142.68	119	PKP	PKPdf	06 41 11.5	-3.3
XAN	Xi'an	142.83	110	PKP	PKPdf	06 41 12.1	-2.9
NVS	Novosibirsk	142.98	64⇑	iPKIKP	PKPdf	06 41 11.7	-2.8
NVS				e		06 47 52.2	
NVS				pmax	pmax		
	comp=Z,304nm,1.2s						
NVS				pmax	pmax		
	comp=N,96nm,1.4s						
NVS				pmax	pmax		
	comp=E,53nm,1.2s						
ZALV	Zalesovo Beam	143.27	66	PKIKP	PKPbc	06 41 13.3	+0.2
ZALV				pmax	pmax		
	comp=Z,63nm,0.4s						
ZALV				pmax	pmax		
	comp=N,5.0nm,0.7s						
ZALV				pmax	pmax		
	comp=N,4.0nm,0.9s						
ZALV	Zalesovo Beam	143.27	66	PKP	PKPbc	06 41 13.3	+0.1
	comp=N,63nm,0.4s,baz=242,slow=3.2,SNR=290						
ZALV				SKPbc	SKPbc	06 44 22.6	-0.8
	comp=N,4.9nm,0.7s,baz=212,slow=2.9,SNR=5.6						
ZALV				SKKPbc	SKKPab	06 52 34.2	-0.2
	comp=N,3.5nm,0.9s,baz=43,slow=5.0,SNR=5.7						
JOW	Kunigami	145.19	141	ePKPbc	PKPdf	06 41 18.9	-0.4
HYT	Haines Junctio	145.20	306	ePKPbc	PKPab	06 41 19.7	+0.3
HYT				eSKPbc	SKiKP	06 44 28.3	-0.1
NJ2	Nanjing	146.03	124	ePKPbc	PKPdf	06 41 21.1	+0.6
SSE	Sheshan	146.24	128	PKPbc	PKPbc	06 41 22.9	+0.3
HVS	Khovu-Aksy	146.26	75	diPKIKP	PKPdf	06 41 19.4	-1.0
INK	Inuvik	146.49	320	PKPbc	PKPbc	06 41 22.3	+0.2
INK				pPKPbc	pPKPbc	06 42 37.8	-0.1
	comp=N,64nm,0.9s,baz=92,slow=6.2,SNR=4.3						
DAWY	Dawson	147.30	311	ePKPdf	PKPdf	06 41 21.3	-0.4
DAWY				ePKPbc	PKPbc	06 41 24.1	-0.5
DAWY				ePKPab	PKPab	06 41 27.6	+0.2
EGAK	Eagle	148.26	312	ePKPbc	PKPbc	06 41 26.5	-0.5
EGAK				ePKPab	PKPab	06 41 31.1	-0.1
BTO	Baotou	148.37	104	ePKPbc	PKPdf	06 41 24.0	-0.3
BMRM	Bremner River	148.42	304	ePKPbc	PKPbc	06 41 28.3	+0.7
BMRM				ePKPab	PKPab	06 41 31.8	-0.3
TIA	Tai'an	148.64	117	PKPbc	PKPdf	06 41 24.3	-0.4
MENT	Mentasta	148.73	307	ePKPdf	PKPdf	06 41 21.8	-2.3
MENT				ePKPbc	PKPbc	06 41 28.8	+0.5
MENT				ePKPab	PKPab	06 41 31.7	-1.6
DIV	Divide	149.01	304	ePKPbc	PKPbc	06 41 29.6	+0.5
DIV				ePKPab	PKPab	06 41 34.8	+0.3
DIV				epPKPdf	pPKPdf	06 42 45.3	+3.7
CBIJ	Chichi jima	149.02	163	PKPbc	PKPbc	06 41 28.6	-1.4
JCJ	Chichijima	149.02	163	PKPbc	PKPbc	06 41 28.6	-1.4
	comp=N,197nm,0.4s,baz=285,slow=23,SNR=7.7						
DOT	Dot Lake	149.11	309	ePKPbc	PKPbc	06 41 29.7	+0.5
DOT				ePKPab	PKPab	06 41 35.2	+0.4
HHC	Hu-ho-hao-te	149.36	105	ePKPbc	PKPbc	06 41 30.6	0.0
HHC				pPKP	pPKPdf	06 42 42.1	-0.8
HHC				sPKP		06 43 12.5	
HHC				PP	PP	06 45 12.0	+5.7
HHC				SKS	SKSdf	06 48 02.1	-1.8
HHC				PPMZ			
	comp=N,150nm,9.4s						
PAX	Paxson	149.50	307	ePKPbc	PKPbc	06 41 30.4	+0.1
PAX				ePKPab	PKPab	06 41 36.4	-0.2
SEW	Seward	150.34	300	ePKPbc	PKPbc	06 41 32.1	0.0
SEW				ePKPab	PKPab	06 41 40.6	+0.7
MOY	Mondy	150.40	79	ePKIKP	PKPdf	06 41 26.8	-0.4
MOY				pmax	pmax		
	comp=Z,81nm,1.8s						
ILAR	Eielson Array	150.61	310	PKIKP	PKPdf	06 41 24.5	-2.4
ILAR						06 42 49.6	
ILAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,281nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,60nm,1.0s						
ILAR	Eielson Array	150.61	310	PKP	PKPdf	06 41 24.5	-2.4
	comp=Z,8.5nm,0.9s,baz=320,slow=1.5,SNR=66						
ILAR				PKPbc	PKiKP	06 41 33.1	-0.1
	comp=Z,280nm,0.8s,baz=132,slow=1.5,SNR=270						
ILAR				pPKPbc	pPKPbc	06 42 49.5	+0.5
	comp=Z,60nm,1.0s,baz=114,slow=1.6,SNR=5.0						
PMR	Palmer	150.69	303	ePKIKP	PKPdf	06 41 23.0	-4.1
PMR				e		06 41 41.1	
PMR	Palmer	150.69	303	ePKPdf	PKPdf	06 41 23.0	-4.1
PMR				ePKPbc	PKPbc	06 41 33.1	+0.1
PMR				ePKPab	PKPab	06 41 41.1	-0.2
RC01	Rabbit Creek A

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLY	Talaya	151.82	80	PKP	PKPdf	06 41 28.8	-0.4
TLY				PKPbc	PKPbc	06 41 35.7	-0.2
TLY				ePKPbc	PKiKP	06 41 35.9	-0.3
TLY				ePKPab	PKPab	06 41 48.0	+1.6
JNU	Nakatsue	151.84	140	PKPbc	PKPbc	06 41 36.0	-0.5
	comp=Z,56nm,0.8s,baz=30,slow=2.9,SNR=3.8						
JNU	Nakatsue	151.84	140	ePKPdf	PKPdf	06 41 29.2	-0.6
JNU				PKPbc	PKPbc	06 41 36.0	-0.5
JNU				ePKPbc	PKiKP	06 41 36.3	-0.5
RSO	Redoubt South	152.01	300	ePKPbc	PKPbc	06 41 36.0	-0.3
KTH	Kantishna Hill	152.03	307	ePKPbc	PKPbc	06 41 36.0	-0.1
COLD	Coldfoot	152.41	315	ePKPbc	PKPbc	06 41 37.1	+0.3
PPLA	Purkeypile	152.43	305	ePKPbc	PKPbc	06 41 36.7	-0.3
IRK	Irkutsk	152.44	80	ePKIKP	PKPdf	06 41 29.6	-0.5
IRK				pmax	pmax		
	comp=Z,184nm,1.2s						
CHGN	Chignik	153.34	289	ePKPbc	PKPbc	06 41 38.1	-0.9
CHGN				ePKPab	PKPab	06 41 52.9	+0.2
KSAR	Wonju Array Be	154.51	131	PKIKP	PKPdf	06 41 32.9	-0.6
KSAR						06 41 58.6	
KSAR	Wonju Array Be	154.51	131	PKP	PKPdf	06 41 32.9	-0.6
KSAR				PKPbc	PKPbc	06 41 42.0	-0.1
KSAR				PKPab	PKPab	06 41 58.6	+0.5
KSRS	Korea Array	154.53	131	PKIKP	PKPdf	06 41 32.9	-0.6
KSRS						06 41 58.6	
KSRS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KSRS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KSRS				pmax	pmax		
	comp=Z,17nm,0.9s						
KSRS	Korea Array	154.53	131	PKP	PKPdf	06 41 32.9	-0.6
	comp=Z,5.0nm,0.9s,baz=217,slow=2.4,SNR=12						
KSRS				PKPbc	PKPbc	06 41 42.0	-0.1
	comp=Z,10nm,0.8s,baz=214,slow=2.0,SNR=14						
KSRS				PKPab	PKPab	06 41 58.6	+0.4
	comp=Z,17nm,0.9s,baz=216,slow=4.2,SNR=13						
MJAR	Matsushiro Arr	157.28	150	PKIKP	PKPdf	06 41 36.3	-0.9
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	157.28	150	PKP	PKPdf	06 41 36.3	-0.9
	comp=Z,1.5nm,0.4s,baz=182,slow=1.5,SNR=8.7						
MJAR				PKPab	PKPab	06 42 09.7	-0.4
	comp=Z,1.2nm,0.3s,baz=161,slow=5.7,SNR=2.9						
MAJO	Matsushiro	157.28	150	ePKIKP	PKPdf	06 41 36.9	-0.3
CN2	Changchun	158.54	118	ePKP	PKPdf	06 41 38.0	-0.5
CN2				ePP	PP	06 46 00.5	+3.1
CN2				eSS	SS	07 05 30.4	-2.2
CN2				PPMZ			
	comp=Z,200nm,8.0s						
TNA	Tin City	159.49	310	ePKPdf	PKPdf	06 41 34.1	-4.7
TNA				ePKPab	PKPab	06 42 19.7	+0.7
BOD	Bodaibo	159.74	72	ePKIKP	PKPdf	06 41 36.0	-3.4
BOD				e		06 42 20.1	
BOD				pmax	pmax		
	comp=Z,36nm,1.2s						
BOD				pmax	pmax		
	comp=Z,67nm,0.9s						
MDJ	Mudanjiang	161.11	123	PKP	PKPdf	06 41 40.5	-0.8
MDJ	Mudanjiang	161.11	123	ePKPdf	PKPdf	06 41 40.5	-0.8
GAMB	Gambell	161.24	305	ePKPdf	PKPdf	06 41 36.4	-4.4
GAMB				ePKPab	PKPab	06 42 26.1	-0.6
USRK	Ussuriysk Ar.	161.85	128	PKP	PKPdf	06 41 40.9	-1.2
	comp=Z,4.2nm,0.8s,baz=160,slow=1.3,SNR=7.1						
USRK				PKPab	PKPab	06 42 30.0	+0.1
	comp=Z,9.0nm,0.9s,baz=233,slow=3.5,SNR=9.8						
TIXI	Tiksi	162.66	25	d PKIKP	PKPdf	06 41 37.8	-4.2
TIXI	Tiksi	162.66	25	ePKPdf	PKPdf	06 41 36.3	-5.7
TIXI				ePKPab	PKPab	06 42 33.1	+0.4
CLNS	Chul'man	165.25	80	ePKIKP	PKPdf	06 41 44.0	-0.9
CLNS				pmax	pmax		
	comp=Z,17nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.2s						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.2s						
KLR	Kul'dur	165.46	115	ePKIKP	PKPdf	06 41 40.8	-4.4
KLR				e		06 42 41.3	
KLR				pmax	pmax		
	comp=Z,80nm,1.6s						
ASAJ	Asahikawa	165.54	152	PKIKP	PKPdf	06 41 45.2	-0.3
ASAJ				pmax	pmax		
	comp=Z,23nm,1.1s						
ASAJ	Asahikawa	165.54	152	PKP	PKPdf	06 41 45.1	-0.3
	comp=Z,23nm,1.1s,baz=204,slow=2.2,SNR=5.9						
ASAJ	Asahikawa	165.54	152	ePKPdf	PKPdf	06 41 44.5	-1.0
ASAJ				PKP		06 41 45.1	
HABR	Khabarovsk	166.49	124	cePKIKP	PKPdf	06 41 45.9	-0.2
HABR				e		06 46 38.2	
HABR				e		06 48 20.8	
HABR				SS	SS	07 06 53.5	-0.8
HABR				eSSS	SSS	07 13 31.9	
HABR				pmax	pmax		
	comp=N,8.0nm,0.8s						
HABR				pmax	pmax		
	comp=E,42nm,1.5s						
HABR				pmax	pmax		
	comp=Z,58nm,1.5s						
FX1	Attu Island--F	167.16	259	PKPab	PKPab	06 42 52.4	-0.7
	comp=Z,24nm,0.4s,baz=254,slow=3.5,SNR=42						
BILL	Bilibino	167.43	335	ePKIKP	PKPdf	06 41 41.7	-4.5
BILL	Bilibino	167.43	335	ePKPdf	PKPdf	06 41 41.7	-4.5
YAK	Yakutsk	167.75	58	ePKIKP	PKPdf	06 41 42.7	-3.8
YAK				e		06 42 54.9	
YAK				e		06 46 42.1	
YAK				eSS	SS	07 07 05.8	-1.3
YAK				pmax	pmax		
	comp=Z,36nm,1.0s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,185nm,3.8s						
YAK				pmax	pmax		
	comp=N,102nm,3.5s						
YAK				pmax	pmax		
	comp=E,84nm,4.2s						
YSS	Yuzh-Sakhalins	168.19	147⇑	ePKIKP	PKPdf	06 41 46.8	-0.5
YSS				pmax	pmax		
	comp=Z,180nm,1.2s						
YSS	Yuzh-Sakhalins	168.19	147	ePKPdf	PKPdf	06 41 46.9	-0.4
PET	Petropavlovsk	174.30	224	ePKIKP	PKPdf	06 41 48.2	-2.0
PET	Petropavlovsk	174.30	224	ePKPdf	PKPdf	06 41 48.2	-2.0
SEY	Seymchan	174.33	359	PKIKP	PKPdf	06 41 47.4	-2.5
SEY				pmax	pmax		
	comp=Z,22nm,1.0s						
SEY				pmax	pmax		
	comp=Z,25nm,1.1s						
SEY	Seymchan	174.33	359	PKP	PKPdf	06 41 47.4	-2.5
	comp=Z,22nm,1.0s,baz=150,slow=0.8,SNR=40						
SEY				PKPab	PKPab	06 43 25.9	+1.4
	comp=Z,25nm,1.1s,baz=348,slow=2.5,SNR=8.5						
PETK	Petropavlovsk-	174.72	220	PKIKP	PKPdf	06 41 48.9	-1.4
PETK				pmax	pmax		
	comp=Z,27nm,0.9s						
PETK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PETK	Petropavlovsk-	174.72	220	PKP	PKPdf	06 41 48.9	-1.4
	comp=Z,28nm,0.9s,baz=126,slow=3.7,SNR=20						
PETK				PKPab	PKPab	06 43 28.1	+1.5
	comp=Z,4.4nm,0.7s,baz=106,slow=9.4,SNR=3.6						

*CSEM **11** 06:23:44.1±2.0,50°.42N×18°.93E,h1km, Error ellipse: s-maj=38.9km s-min=28.8km az=21.0*

PRU 11 06:23:45.4,50°.34N×18°.93E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.06	141	ePg	Pg	06 23 46.9	+0.3
CHZP				eSg	Sg	06 23 48.0	+0.5
OJC	Ojcow	0.57	102	ePg	Pg	06 23 56.0	-0.4
OJC				eSg	Sg	06 24 03.6	-0.2
MORC	Moravsky Berou	1.06	238	ePg	Pg	06 24 06.0	+0.2
MORC				eSg	Sg	06 24 18.7	-0.8
KRLC	Kraliky	1.41	260	ePG	Pn	06 24 10.9	-1.4
KRLC				eSG	Sg	06 24 30.3	-0.4
KRLC	Kraliky	1.41	260	Pg	Pn	06 24 10.9	-1.4
KRLC				Sg	Sg	06 24 30.3	-0.4
DPC	Dobruska-Polom	1.67	271	eSG	Sb	06 24 38.8	0.0
DPC	Dobruska-Polom	1.67	271	Sg	Sb	06 24 38.8	0.0

*IDC **11** 06:24:34.6±1.8,36°.39S×73°.57W,h0km,mb3.3/2, mb1 3.7/4,mb1mx3.7/17,mbtmp3.4/4,ML3.7/2,Error ellipse: s-maj=48.8km s-min=21.2km az=70.0*
*ISCJB **11** 06:24:37.7±1.0,36°.24S±0°.08×72°.53W±0°.06,h10km, mb3.3/1,Error ellipse: s-maj=11.3km s-min=6.4km az=176.5*
*GUC **11** 06:24:38.5±0.5,35°.99S×72°.82W,h20km,ML3.9*

ISC 11 06:24:37.5±1.0,36°.1S±0°.1×72°.55W±0°.06,h10km,n7, σ1°59/7,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.20	261	⇓iP	Pg	06 24 42.8	+1.2
COCH				i S	Sg	06 24 45.3	+0.9
LNCH	Linares	0.81	72	ePg	Pn	06 24 51.0	-3.9
LNCH				eS	Sg	06 25 04.4	+0.8
LNCH				AML	AML	06 25 18.4	
	comp=N,6μm,0.5s						
NICH	Los Niches	1.54	45	⇑iP	Pb	06 25 06.3	+0.3
NICH				i S	Sg	06 25 28.1	+1.2
PLCA	Paso Flores	4.88	162	Pn	Pn	06 25 51.0	0.0
	comp=N,1.7nm,0.3s,baz=334,slow=11,SNR=31						
PLCA				Lg	Lg	06 27 11.1	
	comp=N,2.9nm,0.3s,baz=0.0,slow=20,SNR=3.4						
CFAA	Coronel Fontan	5.74	40	Pn	Pn	06 26 10.5	+7.7
	comp=N,0.3nm,0.3s,baz=221,slow=14,SNR=6.4						
LPAZ	La Paz	20.12	12	P	Pn	06 29 17.6	+3.4
	comp=N,1.2nm,0.8s,baz=204,slow=12,SNR=2.1						
TXAR	Lajitas Array	71.37	332	P	P	06 35 55.2	-2.4
	comp=N,0.2nm,0.5s,baz=152,slow=8.8,SNR=6.5						

*IDC **11** 06:29:50.0±1.9,35°.36S×73°.28W,h0km,mb4.3/5, mb1 4.3/6,mb1mx4.1/17,mbtmp4.3/6,ML3.9/1,MS4.1/2, Ms1 4.1/2,ms1mx3.1/25,Error ellipse: s-maj=73.7km s-min=26.7km az=90.0*
*ISCJB **11** 06:29:53.6±1.0,35°.5S±0°.1×73°.2W±0°.2,h33km,mb4.6/7, MS4.0/2,Error ellipse: s-maj=25.8km s-min=13.6km az=160.0*
*NEIC **11** 06:29:55.6±0.6,35°.42S×73°.26W,h35km,mb4.5/1,Error ellipse: s-maj=17.2km s-min=9.4km az=68.0*

ISC 11 06:29:55.4±0.9,35°.45±0°.1×73°.3W±0°.2,h35km,n15, σ0°79/17,mb4.4/7,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.72	159	Pn	Pn	06 31 17.7	-0.2
	0.7nm,0.3s,baz=295,slow=16,SNR=1.7						
PLCA	Paso Flores	5.72	159	ePn	Pn	06 31 17.9	0.0
TRQA	Tornquist	9.45	109	Pn	Pn	06 32 09.4	+0.4
	14nm,0.7s						
SIV	San Ignacio	22.22	33	P	P	06 34 49.0	0.0
	8.2nm,1.0s,baz=243,slow=15,SNR=2.7						
SIV				LR	LR	06 42 45.8	
	comp=Z,474nm,20.8s,baz=254,slow=35						
SNAA	Sanae	50.66	157	P	P	06 38 51.1	+0.3
	3.7nm,1.1s,baz=282,slow=10,SNR=6.1						
BRAL	Brewton	67.34	347	eP	P	06 40 46.4	-0.3
	389nm,1.9s						
TXAR	Lajitas Array	70.49	332	LR	LR	07 08 24.3	
	comp=Z,104nm,18.3s,baz=0.0,slow=33						
WMOK	Wichita Mounta	73.75	338	eP	P	06 41 27.0	+1.2
	9.9nm,1.7s						
DBIC	Dimbokro	76.60	72	P	P	06 41 42.8	+0.1
	2.7nm,0.6s,baz=230,slow=7.2,SNR=3.6						
BOSA	Boshof	80.31	118	P	P	06 42 03.5	+0.3
	6.1nm,0.9s,baz=239,slow=3.3,SNR=5.9						
TORD	Torodi Ar. Bea	85.65	71	P	P	06 42 30.2	-0.5
	1.5nm,0.9s,baz=246,slow=4.3,SNR=5.0						
BVAR	Borovoye Array	149.02	44	PKPbc	PKPbc	06 49 39.5	+0.3
	1.5nm,0.7s,baz=290,slow=4.3,SNR=6.2						
KURBB	Kurchatov Arra	154.60	45	PKPbc	PKPbc	06 49 52.5	+0.5
	0.4nm,0.2s,baz=291,slow=2.6,SNR=5.5						
KURBB				PKPab	PKPab	06 50 05.2	-1.6
	0.5nm,0.3s,baz=298,slow=3.1,SNR=6.8						
KURK	Kurchatov	154.62	44	PKPbc	PKPbc	06 49 52.5	+0.5
KURK				PKPab	PKPab	06 50 05.2	-1.7
ZALV	Zalesovo Beam	155.98	33	PKP	PKPdf	06 49 45.0	-0.2
	0.3nm,0.5s,baz=308,slow=2.3,SNR=2.0						
ZALV				PKPbc	PKPbc	06 49 54.2	
	2.3nm,0.9s,baz=311,slow=3.4,SNR=3.8						
ZALV				PKPab	PKPab	06 50 11.8	-0.8
	0.8nm,0.7s,baz=311,slow=5.3,SNR=3.5						

*DDA **11** 06:30:48.5,38°.76N×40°.05E,h7km,ML3.8*
*ISK **11** 06:30:48.9,38°.79N×40°.11E,h2km,ML3.5*
*CSEM **11** 06:30:49.7±0.2,38°.79N×40°.13E,h2km,ML3.5,Error ellipse: s-maj=5.6km s-min=4.7km az=82.0*
*NSSC **11** 06:31:24.4±1.4,36°.09N×37°.99E,h12km±37km,ML2.3*

ISC 11 06:30:48.7±1.1,38°.77N±0°.02×40°.02E±0°.02,h8km±10km, n61,σ1°03/76,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	Bing˜¶l	0.56	66	ePG	Pg	06 30 59.3	-0.3
BNGB				eSG	Sg	06 31 06.4	-0.6
DYBB	Diyarbakir	0.82	173	ePG	Pn	06 31 06.2	-0.4
DIYA	Diyarbakir	0.84	175	i P	Pn	06 31 06.6	-0.4
DIYA	Diyarbakir	0.84	175	i P	Pn	06 31 06.6	-0.4
ERZN	Erzincan	0.85	344	ePG	Pb	06 31 05.7	-0.1
ERZN				eSG	Sb	06 31 18.1	+0.6
DIY	Diyarbakir	0.88	169	ePg	Pb	06 31 06.2	-0.1
BNGL	BINGOL	0.90	78	i P	Pg	06 31 05.5	-0.5
BNGL				i S	Sb	06 31 18.4	-0.7
EUZM	Uzumlu	0.97	345	eP	Pg	06 31 07.3	-0.1
EUZM				eS	Sb	06 31 21.4	+0.4
EUZM	Uzumlu	0.97	345	eP	Pg	06 31 07.3	-0.1
EUZM				eS	Sb	06 31 21.4	+0.4
SVAN	Silvan-Diyarba	1.11	123	ePG	Pn	06 31 10.1	-0.6
SVAN				eSG	Sn	06 31 25.8	-0.3
VRTB	Varto-Mus	1.19	70	ePN	Pb	06 31 11.2	-0.4
VRTB				eSN	Sn	06 31 28.7	+0.5
VRTB	Varto-Mus	1.19	70	ePn	Pb	06 31 11.2	-0.4
VRTB				eSn	Sn	06 31 28.7	+0.5
BTMT	Batman	1.29	116	ePN	Pg	06 31 13.5	+0.1
BTMT	Batman	1.29	116	ePn	Pg	06 31 13.5	+0.1
KEMA	Kemaliye	1.29	293	i P	Pn	06 31 12.8	-0.3
KEMA				i S	Sn	06 31 31.4	+0.7
KEMA	Kemaliye	1.29	293	i P	Pn	06 31 12.8	-0.3
KEMA				i S	Sn	06 31 31.4	+0.7
KOPT	Kop Dagi	1.30	16	i P	Pn	06 31 13.4	-0.1
KOPT				i S	Sn	06 31 32.1	+0.8
KOPT	Kop Dagi	1.30	16	i P	Pn	06 31 13.4	-0.1
KOPT				i S	Sn	06 31 32.1	+0.8
BEST	Besiri	1.32	131	i P	Pg	06 31 13.9	0.0
BEST				i S	Sn	06 31 30.9	-0.4
ILIC	ilic-Erzincan	1.32	302	ePN	Pg	06 31 17.5	+3.5
ILIC	ilic-Erzincan	1.32	302	ePn	Pg	06 31 17.5	+3.5
MALT	Malatya	1.33	251	ePN	Pg	06 31 15.6	+1.5
MALT	Malatya	1.33	251	ePn	Pg	06 31 15.6	+1.5
MAZI	Mazidag	1.35	165	ePN	Pg	06 31 14.5	0.0
MAZI	Mazidag	1.35	165	ePn	Pg	06 31 14.5	0.0
KELT	Kelkit	1.50	337	eP	Pb	06 31 17.2	+0.2
KELT				eS	Sg	06 31 37.6	+0.6
KELT	Kelkit	1.50	337	eP	Pb	06 31 17.2	+0.2
KELT				eS	Sg	06 31 37.6	+0.6
EZM	Erzurum	1.54	42	ePN	Pn	06 31 17.0	+0.2
MARD	Mardin	1.57	157	i P	Pn	06 31 17.3	+0.3
MARD				i S	Sg	06 31 39.0	-0.1
URFA	Urfa	1.62	216	ePN	Pg	06 31 20.5	+0.7
URFA	Urfa	1.62	216	ePn	Pg	06 31 20.5	+0.7
BAYT	Ayd˜–ntepe-Bay	1.63	3	ePN	Pb	06 31 19.1	+0.1
BAYT	Ayd˜–ntepe-Bay	1.63	3	ePn	Pb	06 31 19.2	+0.1
GUMT	Gumushane	1.74	346	ePN	Pg	06 31 21.8	-0.3
GUMT	Gumushane	1.74	346	ePn	Pg	06 31 21.8	-0.3
ATAB	Bozova	1.88	227	eP	Pb	06 31 23.1	-0.2
ATAB				eS	Sg	06 31 51.0	+2.0
ATAB	Bozova	1.88	227	eP	Pb	06 31 23.1	-0.2
ATAB				eS	Sg	06 31 51.0	+2.0
DARE	Darende-Malaty	1.99	265	ePN	Pg	06 31 26.5	-0.4
DARE	Darende-Malaty	1.99	265	ePn	Pg	06 31 26.5	-0.4
KTUT	Trabzon	2.23	355	ePN	Pb	06 31 28.2	-1.0
KTUT	Trabzon	2.23	355	ePn	Pb	06 31 28.2	-1.0
SIRT	Sirnak	2.29	123	ePN	Pb	06 31 28.7	-1.6
SIRT	Sirnak	2.29	123	ePn	Pb	06 31 28.7	-1.6
ESPY	Espiye-Giresun	2.37	336	ePN	Pb	06 31 30.0	-1.6
ESPY	Espiye-Giresun	2.37	336	ePn	Pb	06 31 30.0	-1.6
AGRB	Hanur-Agry	2.45	70	ePN	Pb	06 31 33.8	+0.7
SVSK	Karacayir	2.61	297	ePN	Pb	06 31 34.7	-1.0
SVSK	Karacayir	2.61	297	ePn	Pb	06 31 34.7	-1.0
RSDY	Resadiye-TOKAT	2.64	309	ePN	Pb	06 31 34.9	-1.4
RSDY	Resadiye-TOKAT	2.64	309	ePn	Pb	06 31 34.9	-1.4
VANB	Van	2.64	93	ePN	Pn	06 31 33.4	+1.7
VANB	Van	2.64	93	ePn	Pn	06 31 33.4	+1.7
KMRS	Kahramanmaras	2.76	244	ePN	Pb	06 31 36.5	-1.9
KMRS	Kahramanmaras	2.76	244	ePn	Pb	06 31 36.5	-1.9
KSRV	Kasrt alli	3.01	196	eP	Pg	06 31 45.0	-1.3
KSRV				eS	Pg	06 32 01.9	+16
KSRV				AML	AML	06 32 35.0	
	comp=Z,101nm,0.4s						
BNN	Bunyan	3.26	273	ePN	Pb	06 31 44.7	-2.2
BNN	Bunyan	3.26	273	ePn	Pb	06 31 44.7	-2.2
KOZT	Kozan	3.55	250	ePN	Pb	06 31 48.6	-3.1
KOZT	Kozan	3.55	250	ePn	Pb	06 31 48.6	-3.1
BTCH	Batrach	3.93	227	eP	Pn	06 31 47.2	-2.2
BTCH				eS	Pg	06 32 02.9	-1.1
BTCH				AML	AML	06 32 18.0	
	comp=N,64nm,0.4s						
BTCH				AML	AML	06 32 26.2	
	comp=E,78nm,0.5s						
BIDA	Albida	4.78	219	eP	Pn	06 31 55.0	-6.1
BIDA				eS	Pb	06 32 15.4	+2.7
BIDA				AML	AML	06 32 33.6	
	comp=E,44nm,0.4s						
BIDA				AML	AML	06 32 34.3	
	comp=N,57nm,0.5s						

*BJI **11** 06:57:19.5,12°.20N×86°.80W,h139km,mB5.0/2*
*ISCJB **11** 06:57:20.3±0.2,12°.21N±0°.05×86°.70W±0°.04,h156km±3km, mb4.3/35,Error ellipse: s-maj=10.5km s-min=2.7km az=37.9*
*IDC **11** 06:57:20.6±1.1,12°.42N×86°.45W,h140km±13km,mb3.6/11, mb1 3.9/13,mb1mx3.8/26,mbtmp4.1/13,Error ellipse: s-maj=27.7km s-min=11.9km az=51.0*
*NEIC **11** 06:57:21.6±0.5,12°.17N×86°.78W,h154km±9km,mb4.6/25, Error ellipse: s-maj=12.3km s-min=5.2km az=204.0*
*CASC **11** 06:57:22.4±2.6,11°.76N×87°.08W,h102km±28km,MD4.4, ML4.5,mb4.6(NEIC)*

ISC 11 06:57:20.4±0.7,12°.09N±0°.07×86°.81W±0°.06,h148km±6km, n297,σ1°04/317,mb4.5/35,105C-100D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.23	68	⇓iP	Pn	06 57 39.8	-0.7
CNCH	Conchagua	1.54	320	⇓iP	Pn	06 57 50.3	-0.1
CNCH				eS	Sn	06 58 13.2	-0.1
GBS3	Finca Las Im˜¡	1.86	134	i P	Pn	06 57 54.8	+0.9
GB1A	Borinquen Arri	1.88	132	i P	Pn	06 57 54.9	+0.8
GB1A				i S	Sn	06 58 19.4	-0.6
BUEV	Buena Vista	1.88	133	i P	Pn	06 57 55.1	+0.9
BUEV				i S	Sn	06 58 19.0	-1.0
LAPC	Finca la Perla	1.89	134	i P	Pn	06 57 54.9	+0.8
BLLM	Bellamira	1.93	314	⇓iP	Pn	06 57 55.6	+1.0
BLLM				eS	Sn	06 58 23.8	+2.8
VSM	San Miguel	1.95	313	i P	Pn	06 57 55.7	+0.6
GPS2	Hotel Rinc˜‡n	1.96	133	i P	Pn	06 57 56.0	+1.0
GPS2				i S	Sn	06 58 21.2	-0.3
GUAB	Guayabo de Bag	2.07	131	i P	Pn	06 57 57.3	+1.0
MESS	Mesas	2.08	130	i P	Pn	06 57 57.0	+0.6
MESS				i S	Sn	06 58 23.9	-0.2
COLC	Colonia	2.12	132	i P	Pn	06 57 57.8	+0.9
CAHU	Cacacuatique	2.15	321	i P	Pn	06 57 58.0	+0.6
PTEN	Parque Tenorio	2.25	127	i P	Pn	06 57 59.3	+0.8
PTEN				i S	Sn	06 58 27.3	-0.5
AMAS	Alto Masis	2.31	129	i P	Pn	06 58 00.3	+1.0
SNVI	San Vicente	2.49	308	i P	Pn	06 58 02.3	+0.9
SNVI				eS	Sn	06 58 34.2	+1.2
JTS	JuntasAbangare	2.56	134	P	Pn	06 58 03.1	+0.9
	184nm,0.3s,baz=321,slow=18,SNR=289						
JTS				S	Sn	06 58 34.6	+0.3
	126nm,0.3s,baz=290,slow=20,SNR=13						
JTS	JuntasAbangare	2.56	134	ePn	Pn	06 58 03.2	+0.9
JTS				eSn	Sn	06 58 32.8	-1.6
CEDE	Laguna Cede˜–o	2.61	127	i P	Pn	06 58 03.7	+0.8
LFRS	El Faro	2.67	305	⇓iP	Pn	06 58 04.5	+0.9
LBRS	Las Brisas	2.72	307	eP	Pn	06 58 05.2	+0.9
JCR	Jicaral	2.78	143	⇓eP	Pn	06 58 07.3	+2.2
JCR				eS	Sn	06 58 35.1	-4.4
SNET	Serv Nac Est T	2.84	304	i P	Pn	06 58 06.8	+1.0
SNET				eS	Sn	06 58 40.1	-0.7
SNET				AML	AML	06 58 42.9	
	comp=Z,3μm,0.3s						
BOQS	Boqueron	2.91	304	i P	Pn	06 58 08.4	+1.7
BOQS				eS	Sn	06 58 43.0	+0.4
CGA2	Cerro Gallo 2	3.09	132	⇑eP	Pn	06 58 10.8	+1.8
CGA2				eS	Sn	06 58 47.9	+1.3
SBLS	San Blas	3.24	303	⇓iP	Pn	06 58 12.4	+1.4
SNJE	San Jose	3.25	303	i P	Pn	06 58 12.5	+1.4
RTR	El Retiro	3.29	303	i P	Pn	06 58 13.2	+1.6
RBDL	Robledal	3.45	306	⇓iP	Pn	06 58 14.7	+1.1
SJS	Escuela Geolog	3.45	128	eP	Pn	06 58 15.4	+1.8
QCR	Quepos	3.71	135	⇑eP	Pn	06 58 19.0	+2.1
QCR				eS	Sn	06 58 58.8	-2.0
URSC	Urasca	3.73	127	⇓eP	Pn	06 58 19.1	+1.9
BUS	Buena Vista	3.92	130	⇑eP	Pn	06 58 21.9	+1.8
BUS				eS	Sn	06 59 08.9	+2.7
MRL	Marmol	4.07	317	⇑eP	Pn	06 58 24.0	+2.3
NBG	Las Nubes	4.24	306	⇓eP	Pn	06 58 26.8	+2.8
APG	El Apazote	4.58	310	P	Pn	06 58 25.6	-2.9
	comp=Z,40nm,0.3s,ba

237A	Washetta, Mont	21.48	339	⇑P	P	07 01 58.6 +1.3
	baz=22					
532A	Rocksprings	21.67	328	⇓P	P	07 02 00.4 +0.8
	baz=22					
433A	Art	21.77	330	⇓P	P	07 02 00.5 -0.1
	baz=22,SNR=5.8					
334A	Lometa	21.86	333	⇓P	P	07 02 01.3 -0.1
	baz=22,SNR=5.6					
JCT	Junction City	21.90	329	⇓P	P	07 02 02.2 +0.3
	baz=22					
JCT	Junction City	21.90	329	eP	P	07 02 02.1 +0.2
	comp=Z,4.7nm,0.8s					
531A	Rocksprings	22.04	327	⇑P	P	07 02 03.7 +0.4
	baz=22					
333A	Richland Sprin	22.20	331	⇓P	P	07 02 04.8 0.0
	baz=22,SNR=6.9					
432A	Menard	22.22	329	⇑P	P	07 02 05.4 +0.3
	baz=22					
234A	Clairette	22.39	334	⇑P	P	07 02 07.1 +0.4
	baz=22					
530A	J-C Ranch, Com	22.46	325	⇓P	P	07 02 08.1 +0.7
	baz=22					
431A	Sonora	22.48	328	⇓P	P	07 02 08.0 +0.3
	baz=22					
332A	Millersview	22.61	330	⇓P	P	07 02 09.3 +0.5
	baz=23,SNR=15					
233A	Rising Star	22.74	333	⇑P	P	07 02 10.1 0.0
	baz=23,SNR=6.5					
134A	White-Moore Ra	22.86	335	⇓P	P	07 02 11.3 +0.2
	baz=23,SNR=7.4					
331A	San Angelo	22.89	329	⇑P	P	07 02 11.7 +0.3
	baz=23,SNR=9.5					
430A	Baggett Ranch,	22.90	327	⇓P	P	07 02 12.4 +0.8
	baz=23					
529A	Stev Forest Ra	22.94	324	⇑P	P	07 02 12.1 +0.2
	baz=23					
232A	Coleman	22.98	331	⇓P	P	07 02 12.3 +0.1
	baz=23,SNR=10					
SWET	Sewanee	23.04	2	eP	P	07 02 13.0 +0.3
	comp=Z,12nm,0.5s					
429A	Davenport Ranc	23.13	325	⇑P	P	07 02 13.5 -0.2
	baz=23,SNR=10					
MIAR	Mount Ida	23.18	346	eP	P	07 02 13.8 -0.2
	comp=Z,18nm,1.3s					
Z35A	Perchaven, San	23.20	337	⇑P	P	07 02 14.7 +0.5
	baz=23					
TXAR	Lajitas Array	23.25	320	P	P	07 02 15.8 +1.0
	comp=Z,1.6nm,0.6s,baz=139,slow=9.2,SNR=29					
133A	Hamilton Ranch	23.25	333	⇑P	P	07 02 15.3 +0.6
	baz=23					
231A	Bronte	23.34	330	⇑P	P	07 02 15.8 +0.3
	baz=23					
CPCT	Cooper Cave	23.35	5	eP	P	07 02 18.9 +3.3
330A	Mertzon	23.35	328	⇓P	P	07 02 15.5 -0.1
	baz=23					
KMSC	Kings Mountain	23.48	11	⇑P	P	07 02 17.3 +0.5
	baz=24,SNR=12					
KMSC	Kings Mountain	23.48	11	eP	P	07 02 16.9 +0.2
Z34A	Collier Ranch,	23.49	336	⇑P	P	07 02 16.9 0.0
	baz=24					
ABTX	Abilene, Hawle	23.59	332	⇑P	P	07 02 17.9 +0.1
	baz=24					
ABTX	Abilene, Hawle	23.59	332	eP	P	07 02 17.6 -0.2
	comp=Z,2.0nm,0.4s					
TKL	Tuckaleechee C	23.62	6	P	P	07 02 18.5 +0.5
	comp=Z,10nm,0.4s,baz=173,slow=7.7,SNR=23					
TKL	Tuckaleechee C	23.62	6	eP	P	07 02 18.4 +0.3
230A	Sterling City	23.70	328	⇑P	P	07 02 19.2 +0.4
	baz=24					
Z33A	Whitaker Ranch	23.77	335	⇓P	P	07 02 20.2 +0.8
	baz=24					
329A	Wagon Wheel Ra	23.84	326	⇑P	P	07 02 20.6 +0.5
	baz=24					
Y34A	Reagan Ranch,	23.95	337	⇑P	P	07 02 21.7 +0.6
	baz=24					
131A	Roby	23.98	331	⇑P	P	07 02 21.6 +0.2
	baz=24					
Z32A	Haskell	24.09	333	⇓P	P	07 02 23.0 +0.7
	baz=24,SNR=8.4					
229A	Bryant Ranch,	24.12	327	⇓P	P	07 02 23.1 +0.4
	baz=24					
130A	Snyder	24.19	330	⇓P	P	07 02 23.5 +0.2
	baz=24					
Y33A	Hilltop Ranch,	24.33	336	⇑P	P	07 02 24.5 0.0
	baz=24,SNR=6.4					
Z31A	Sharp Cattle R	24.40	332	⇑P	P	07 02 25.4 +0.3
	baz=24					
TZTN	Tazewell	24.52	6	eP	P	07 02 26.4 +0.2
X34A	Smith Ranch, M	24.55	338	⇓P	P	07 02 27.0 +0.5
	baz=25					
Y32A	R-V Farms, Ver	24.67	334	⇓P	P	07 02 28.0 +0.5
	baz=25					
129A	Stewart Farms,	24.68	328	⇓P	P	07 02 27.9 +0.1
	baz=25					
X33A	Lawton	24.75	336	⇓P	P	07 02 28.3 0.0
	baz=25,SNR=12					
PBMO	Poplar Bluff	24.80	353	eP	P	07 02 27.9 -0.8
	comp=Z,5.6nm,0.9s					
Z30A	Sanderson Ranc	24.83	330	⇑P	P	07 02 29.1 0.0
	baz=25					
X32A	Elmer	24.96	335	⇑P	P	07 02 30.5 +0.2
	baz=25,SNR=6.1					
128A	Castleberry Fa	24.99	327	⇑P	P	07 02 30.6 0.0
	baz=25					
Y31A	Rekieta Farm,	24.99	333	⇑P	P	07 02 30.9 +0.4
	baz=25					
WMOK	Wichita Mounta	25.03	336	eP	P	07 02 30.9 +0.1
	comp=Z,5.6nm,0.9s					
TUL1	Leonard	25.07	343	⇓P	P	07 02 30.9 -0.2
	baz=25					
W34A	Bridge Creek,	25.09	338	⇓P	P	07 02 31.1 -0.3
	baz=25,SNR=6.6					
W34A	Bridge Creek,	25.09	338	eP	P	07 02 31.4 0.0
Z29A	Hungry Hill Ra	25.09	329	⇑P	P	07 02 31.2 -0.3
	baz=25					
Y30A	Stafford Cattl	25.21	332	⇑P	P	07 02 32.8 +0.2
	baz=25					
W33A	Caddo, Fort Co	25.28	337	⇓P	P	07 02 33.5 +0.4
	baz=25					
X31A	McDonald Ranch	25.43	334	⇑P	P	07 02 34.6 +0.1
	baz=26,SNR=5.5					
Z28A	Tucker Farm, M	25.46	328	⇑P	P	07 02 35.0 +0.1
	baz=26					
V34A	Guthrie	25.54	340	⇑P	P	07 02 34.7 -0.8
	baz=26,SNR=5.2					
V34A	Guthrie	25.54	340	eP	P	07 02 34.7 -0.8
W32A	Sentinel	25.55	336	⇓P	P	07 02 35.6 0.0
	baz=26					
Y29A	Porterfield Fa	25.56	330	⇑P	P	07 02 35.3 -0.4
	baz=26					
BLA	Blacksburg	25.66	12	eP	P	07 02 37.1 +0.5
	comp=Z,8.2nm,0.6s					
X30A	Coker Ranch, T	25.67	332	⇓P	P	07 02 36.9 +0.1
	baz=26,SNR=7.0					
V33A	Lossen Ranch,	25.80	338	⇓P	P	07 02 37.3 -0.6
	baz=26					
X29A	Tulia	26.05	331	⇑P	P	07 02 39.2 -1.0
	baz=26,SNR=6.4					
MSTX	Muleshoe	26.20	329	⇓P	P	07 02 41.0 -0.5
	baz=26					
Y27A	Causey	26.33	328	⇓P	P	07 02 42.2 -0.5
	baz=26					
AMTX	Amarillo	26.41	332	⇑P	P	07 02 43.6 +0.2
	baz=26					
U32A	Winter Ranch,	26.56	338	⇓P	P	07 02 44.8 +0.2
	baz=27					
W28A	Vega	26.96	331	⇑P	P	07 02 49.1 +0.8
	baz=27					
W27A	Bowe Ranch, En	27.21	330	⇑P	P	07 02 51.1 +0.5
	baz=27					
Y24A	Capitan	27.59	325	⇑P	P	07 02 54.0 0.0
	baz=28					
X25A	Clemmons Ranch	27.61	327	⇑P	P	07 02 54.3 +0.1
	baz=28					
S31A	Mullinville	27.84	338	⇑P	P	07 02 56.1 +0.1
	baz=28					
Y23A	Lovelace Mesa,	27.94	324	⇑P	P	07 02 57.6 +0.5
	baz=28					
121A	Cookes Peak, D	28.01	320	⇓P	P	07 02 58.2 +0.4
V26A	Tequesquite Ra	28.15	330	⇓P	P	07 02 59.0 0.0
	baz=28					
ACSO	Alum Creek Sta	28.23	6	eP	P	07 02 59.3 -0.1
	comp=Z,15nm,0.5s					
R32A	Long Quarter,	28.29	340	⇓P	P	07 02 59.7 -0.4
	baz=28					
S29A	Ulysses	28.47	336	⇓P	P	07 03 02.0 +0.4
	baz=28					
Q33A	Connelly Farm,	28.53	342	⇑P	P	07 03 01.6 -0.6
	baz=29					
V25A	Rancho No Teng	28.60	329	⇑P	P	07 03 03.2 +0.2
	baz=29					
SDMD	Soldier's Deli	28.61	16	eP	P	07 03 03.1 +0.3
	comp=Z,6.4nm,0.5s					
R30A	Dighton	28.72	338	⇑P	P	07 03 04.2 +0.3
	baz=29					
Q32A	Meitler Ranch,	28.75	341	⇓P	P	07 03 04.5 +0.4
	baz=29					
S28A	Manter	28.76	335	⇓P	P	07 03 04.5 +0.2
	baz=29					
W23A	Werner Place,	28.89	326	⇑P	P	07 03 06.4 +0.7
	baz=29					
ANMO	Albuquerque	28.91	325	P	P	07 03 07.7 +2.0
	comp=Z,0.9nm,0.6s,baz=124,slow=7.6,SNR=5.4					
MVL	Millersville	29.30	17	eP	P	07 03 09.8 +1.0
	comp=Z,28nm,1.5s					
P32A	Huiting Farm,	29.34	341	⇓P	P	07 03 09.1 -0.2
	baz=29,SNR=8.3					
R28A	Tribune	29.37	335	⇑P	P	07 03 10.0 +0.3
	baz=29					
SSPA	Standing Stone	29.50	14	eP	P	07 03 11.1 +0.5
	comp=Z,8.4nm,0.8s					
P31A	Stockton	29.50	340	⇑P	P	07 03 11.3 +0.5
	baz=30					
T25A	Trinidad	29.52	331	⇑P	P	07 03 11.4 +0.2
	baz=30					
U23A	El Rito	29.79	327	⇑P	P	07 03 15.0 +1.4
	baz=30,SNR=5.3					
P30A	Selden	29.82	339	⇑P	P	07 03 14.1 +0.5
	baz=30					
O32A	Brockman Farm,	29.83	342	⇑P	P	07 03 13.7 +0.1
	baz=30					
S25A	Robets Cordova	29.95	331	⇑P	P	07 03 15.7 +0.8
	baz=30					
O31A	Woolen Ranch,	30.05	341	⇓P	P	07 03 16.0 +0.4
	baz=30					
U22A	Llaves	30.18	327	⇓P	P	07 03 18.4 +1.4
	baz=30					
KSCO	Kaye Shedlock'	30.27	335	⇑P	P	07 03 17.5 -0.2
	baz=30					
S24A	Houchin Ranch,	30.31	330	⇓P	P	07 03 18.8 +0.6
	baz=30					
O30A	MW Ranch, Wils	30.32	340	⇓P	P	07 03 18.6 +0.6
	baz=30					
P28A	Saint Francis	30.40	337	⇓P	P	07 03 19.5 +0.7
	baz=30					
ERPA	Erie	30.50	10	eP	P	07 03 19.4 -0.1
	comp=Z,24nm,0.6s					
N31A	Bailey Ranch,	30.55	342	⇓P	P	07 03 20.3 +0.3
	baz=31					
ODNJ	Ogdensburg	30.80	18	eP	P	07 03 22.7 +0.5
	comp=Z,28nm,1.5s					
BGNE	Belgrade	30.85	343	⇑P	P	07 03 22.2 -0.4
	baz=31,SNR=5.0					
KSPA	Keystone Colle	30.91	16	eP	P	07 03 23.8 +0.8
	comp=Z,13nm,0.9s					
M31A	Lambtecht Ranc	31.03	342	⇑P	P	07 03 24.4 +0.2
	baz=31					
R23A	Moffat	31.04	330	⇑P	P	07 03 25.8 +1.1
	baz=31					
S22A	4UR Ranch, Cre	31.20	328	⇑P	P	07 03 26.7 +0.7
	baz=31					
N28A	Pribbeno Ranch	31.30	338	⇑P	P	07 03 27.6 +1.0
	baz=31					
P25A	Willow Gulch B	31.34	334	⇓P	P	07 03 28.0 +0.8
	baz=31					
X16A	Lo Mia Camp, P	31.55	319	⇓P	P	07 03 28.8 -0.3
	baz=32					
L31A	Butterfield Fa	31.75	343	⇑P	P	07 03 30.4 -0.2
	baz=32					
K30A	Basset	32.44	342	⇑P	P	07 03 36.3 -0.2
	baz=32,SNR=7.8					
TRY	Troy	32.59	18	eP	P	07 03 38.7 +0.9
	comp=Z,23nm,0.8s					
ECSD	EROS Data Cent	32.65	347	⇑P	P	07 03 36.8 -1.5
	baz=33,SNR=5.5					
ECSD	EROS Data Cent	32.65	347	eP	P	07 03 37.0 -1.3
	comp=Z,4.7nm,0.8s					
K29A	Lazy Trails An	32.73	341	⇓P	P	07 03 39.1 0.0
	baz=33					
J30A	Dallas	33.00	343	⇑P	P	07 03 40.7 -0.7
	baz=33,SNR=5.3					
J29A	Okreek	33.32	342	⇓P	P	07 03 44.0 -0.2
	baz=33,SNR=11					
SPMN	Marine on St.	33.41	352	⇓P	P	07 03 43.5 -1.4
	baz=34,SNR=7.1					
SPMN	Marine on St.	33.41	352	eP	P	07 03 43.5 -1.4
	comp=Z,9.7nm,0.6s					
I30A	Oacoma	33.52	343	⇑P	P	07 03 45.4 -0.5
	baz=34					
NCB	Newcomb	33.57	17	eP	P	07 03 46.1 -0.2
	comp=Z,13nm,0.9s					
J28A	Allard Ranch,	33.62	341	⇓P	P	07 03 47.3 +0.5
	baz=34					
J27A	Elkhorn Farm,	33.72	340	⇓P	P	07 03 48.3 +0.5
	baz=34					
I29A	Vivian Onida	33.87	342	⇓P	P	07 03 48.9 -0.1
	baz=34					
BRSD	Miller	33.88	344	⇓P	P	07 03 47.8 -1.3
	baz=34,SNR=5.2					
BRSD	Miller	33.88	344	eP	P	07 03 48.0 -1.0
MDV	Middlebury	33.90	18	eP	P	07 03 48.8 -0.2
HNH	Hanover	33.91	19	eP	P	07 03 49.5 +0.4
PTN	Potsdam (NY)	33.92	15	eP	P	07 03 49.1 -0.2
	comp=Z,43nm,0.8s					
LONY	Lake Ozonia	34.07	16	eP	P	07 03 50.3 -0.4
	comp=Z,18nm,0.8s					
I28A	Midland	34.12	341	⇑P	P	07 03 51.1 0.0
	baz=34					
I27A	Quinn	34.46	340	⇓P	P	07 03 54.4 +0.3
	baz=34					
G30A	Faulkton	34.57	345	⇓P	P	07 03 53.7 -1.3
	baz=35,SNR=9.1					
H28A	Mission Ridge	34.68	342	⇑P	P	07 03 55.5 -0.5
	baz=35					
H27A	Howes	34.97	341	⇓P	P	07 03 58.3 -0.1
	baz=35,SNR=11					
G28A	Parade	35.01	342	⇑P	P	07 03 58.8 0.0
	baz=35					
G27A	Dupree	35.59	342	⇓P	P	07 04 03.8 0.0
	baz=36					
F28A	McLaughlin	35.69	343	⇓P	P	07 04 04.7 +0.2
	baz=36					
G26A	Maurine	35.73	341	⇑P	P	07 04 04.6 -0.3
	baz=36					
E30A	Jud	35.80	346	⇑P	P	07 04 04.3 -1.1
	baz=36					
G25A	Newell	35.91	340	⇓P	P	07 04 07.0 +0.6
	baz=36					
H24A	Dirks Ranch, A	35.92	338	⇓P	P	07 04 06.5 -0.1
	baz=36					
E29A	Napoleon	36.04	345	⇑P	P	07 04 06.5 -1.0
	baz=36					
F26A	Lodgepole	36.25	341	⇓P	P	07 04 09.7 +0.4
	baz=36					
E28A	Huff	36.32	344	⇑P	P	07 04 09.0 -0.9
	baz=36					
D30A	Buchanan	36.33	346	⇓P	P	07 04 08.8 -1.1
	baz=36,SNR=7.2					
PDAR	Pinedale Array	36.38	331	P	P	07 04 10.7 -0.1
	comp=Z,0.9nm,0.7s,baz=126,slow=9.3,SNR=7.2					
E27A	Carson	36.43	343	⇓P	P	07 04 10.0 -0.8
	baz=36,SNR=5.1					
F25A	Bowman	36.57	340	⇓P	P	07 04 12.0 0.0
	baz=37					
G23A	Biddle	36.61	338	⇓P	P	07 04 13.1 +0.6
	baz=37					
I20A	Worland	36.67	334	⇑P	P	07 04 12.9 -0.1
	baz=37					
E26A	Carlson Angus	36.74	342	⇑P	P	07 04 13.2 -0.2
	baz=37					
H21A	Big Horn, Sher	36.77	336	⇑P	P	07 04 13.3 -0.6
	baz=37					
C30A	Mose, Pekin	36.82	347	⇑P	P	07 04 13.4 -0.7
	baz=37					
F24A	Ekalaka	36.83	339	⇑P	P	07 04 13.8 -0.5
	baz=37					
D28A	Regan	36.86	344	⇑P	P	07 04 14.0 -0.4
	baz=37					
AGMN	Agassiz Nation	36.88	350	⇑P	P	07 04 13.3 -1.3
	baz=37,SNR=9.0					
AGMN	Agassiz Nation	36.88	350	eP	P	07 04 13.0 -1.5
	comp=Z,7.1nm,0.5s					
E25A	Miller Ranch,	37.06	341	⇓P	P	07 04 15.2 -1.0
	baz=37					
F23A	Volborg	37.06	338	⇑P	P	07 04 15.0 -1.2
	baz=37					
D26A	Manning	37.23	342	⇑P	P	07 04 15.3 -2.3
	baz=37					
E24A	Baker	37.41	340	⇓P	P	07 04 16.1 -3.0
	baz=37					
F22A	Rosebud	37.43	337	⇑P	P	07 04 16.3 -3.0
	baz=38					
REDW	Red Top Meadow	37.45	331	eP	P	07 04 20.5 +0.8
B30A	Myrvik Farm, E	37.50	347	⇓P	P	07 04 18.8 -0.9
	baz=38					
C27A	Sayler Ranch,	37.59	344	⇑P	P	07 04 20.6 +0.1
	baz=38					
G20A	Bridger	37.73	335	⇓P	P	07 04 22.1 +0.1
	baz=38					
B29A	Wagenman Farm,	37.74	346	⇑P	P	07 04 21.2 -0.6
	baz=38,SNR=5.0					
SIV	San Ignacio	37.78	137	P	P	07 04 23.2 +0.7
	comp=Z,1.7nm,0.5s,baz=317,slow=7.1,SNR=7.0					
C26A	Wahner Farm, P	37.85	343	⇑P	P	07 04 22.6 -0.2
	baz=38					
E22A	Miles City	37.87	338	⇑P	P	07 04 23.2 +0.2
	baz=38					
D24A	Glendive	37.90	340	⇑P	P	07 04 23.7 +0.5
	baz=38					
A30A	Hoffart Farm,	37.96	348	⇓P	P	07 04 22.4 -1.2
	baz=38,SNR=5.5					
B28A	Dugan Ranch, T	37.97	345	⇑P	P	07 04 23.0 -0.7
	baz=38					
C25A	Freed Ranch, W	38.09	342	⇓P	P	07 04 24.5 -0.3
	baz=38					
A29A	Manning Farm,	38.14	347	⇑P	P	07 04 24.4 -0.8
	baz=38,SNR=5.7					
B27A	Peters Farms,	38.16	344	⇑P	P	07 04 24.8 -0.5
	baz=38					
D23A	Lindsay	38.24	340	⇑P	P	07 04 26.5 +0.3
	baz=38					
C24A	Savage	38.30	341	⇓P	P	07 04 26.7 +0.1
	baz=38					
NVAR	Mina Array Bea	38.38	319	P	P	07 04 29.7 +2.1
	comp=Z,0.5nm,0.7s,baz=121,slow=8.4,SNR=5.5					
NVAR				PcP	PcP	07 06 40.5 +2.4
	comp=Z,1.1nm,0.8s,baz=146,slow=3.7,SNR=5.6					
F19A	Roth Farm, Mol	38.55	335	⇑P	P	07 04 28.9 +0.2
	baz=39					
D22A	Cohagen	38.56	339	⇓P	P	07 04 29.1 +0.3
	baz=39					
E20A	Meyer Farm, Mu	38.75	336	⇑P	P	07 04 30.4 0.0
	baz=39					
ULM	Lac du Bonnet	38.77	351	P	P	07 04 28.4 -2.0
	comp=Z,4.7nm,0.5s,baz=166,slow=10,SNR=11					
C23A	Lambert	38.78	340	⇓P	P	07 04 30.8 +0.2
	baz=39					
A26A	Wade Farm, Ken	38.81	344	⇓P	P	07 04 30.3 -0.5
	baz=39					
C22A	Vida	38.97	339	⇑P	P	07 04 31.9 -0.3
	baz=39,SNR=5.3					
A25A	Svangstu Ranch	39.15	343	⇑P	P	07 04 33.8 +0.2
	baz=39					
D20A	Manuel Ranch,	39.24	337	⇑P	P	07 04 34.7 +0.3
	baz=39					
HLID	Hailey	39.37	328	⇓P	P	07 04 36.3 +0.5
	baz=39					
A24A	Westby	39.40	342	⇓P	P	07 04 36.2 +0.5
	baz=39					
MCMT	McKenzie Canyo	39.50	331	eP	P	07 04 37.8 +0.9
D19A	Cripps Ranch,	39.59	336	⇓P	P	07 04 37.5 +0.2
	baz=40					
C20A	Veseth Ranch,	39.70	338	⇑P	P	07 04 38.5 +0.3
	baz=40					
A22A	Carney Farms,	40.06	340	⇑P	P	07 04 41.5 +0.3
	baz=40					
C19A	Slack Wire Ran	40.12	337	⇓P	P	07 04 42.1 +0.4
	baz=40					
B20A	Solberg Farm,	40.32	338	⇓P	P	07 04 43.3 0.0
	baz=40					
EGMT	Eagleton	40.63	336	⇑P	P	07 04 46.1 +0.2
	baz=41					
A20A	Cobblestone Ra	40.65	339	⇓P	P	07 04 45.9 -0.2
	baz=41,SNR=5.9					
SCHQ	Schefferville	45.45	16	P	P	07 05 22.8 -1.6
	comp=Z,7.9nm,0.4s,baz=215,slow=6.1,SNR=60					
YKA	Yellowknife Ar	54.12	345	P	P	07 06 28.5 -1.2
	comp=Z,0.7nm,0.5s,baz=139,slow=7.5,SNR=20					
YKA				PcP	PcP	07 07 31.1 -1.4
	comp=Z,0.4nm,0.6s,baz=145,slow=4.2,SNR=7.9					
INK	Inuvik	63.73	342	P	P	07 07 35.5 -0.4
	comp=Z,1.2nm,0.9s,baz=154,slow=4.2,SNR=3.2					
ILAR	Eielson Array	66.60	336	P	P	07 07 53.2 -1.3
	comp=Z,0.4nm,0.5s,baz=142,slow=5.4,SNR=11					
ESDC	Sonseca Array	76.92	52	P	P	07 08 56.1 -0.7
	comp=Z,1.2nm,0.5s,baz=284,slow=5.8,SNR=9.2					
TORD	Torodi Ar. Bea	85.88	78	P	P	07 09 40.3 -4.0
	comp=Z,0.2nm,0.5s,baz=303,slow=3.9,SNR=1.8					
MDJ	Mudanjiang	114.62	332	PKP	PKPdf	07 15 42.6 -0.8
MKAR	Makanchi Array	120.58	9	PKP	PKPdf	07 15 53.0 -1.8
	comp=Z,0.1nm,0.3s,baz=322,slow=3.4,SNR=4.3					
WMQ	Urumqi	124.13	5	ePKP	PKPdf	07 16 02.0 +0.2
KSH	Kashi	126.21	16	ePKP	PKPdf	07 16 06.0 0.0
KSH				sPKP		07 16 55.1
KSH				SKS	SKSdf	07 23 05.8 +1.4
KSH				SS	SS	07 34 53.2 +1.7
KSH				PPMZ		
	comp=Z,62nm,4.6s					
KSH				LN		
	comp=Z,31nm,4.9s					
KSH				LE		
	comp=Z,27nm,4.9s					
KSH				LZ		
	comp=Z,120nm,4.9s					
CTA	Charters Tower	128.57	254	PKP	PKPdf	07 16 13.2 +2.4
	comp=Z,3.1nm,0.5s,baz=142,slow=12,SNR=2.0					
NJ2	Nanjing	129.69	331	ePKP	PKPdf	07 16 11.3 -1.3
STKA	Stephens Creek	131.43	238	PKP	PKPdf	07 16 18.0 +2.1
	comp=Z,6.0nm,0.6s,baz=83,slow=3.1,SNR=24					
ASAR	Alice Springs	139.71	248	PKhKP	PKPpre	07 16 25.6
	comp=Z,2.3nm,0.7s,baz=112,slow=3.6,SNR=11					
ASAR				PKP	PKiKP	07 16 33.4 -0.6
	comp=Z,5.5nm,0.6s,baz=85,slow=1.6,SNR=53					
WRA	Warramunga Arr	139.77	253	PKhKP	PKPpre	07 16 25.8
	comp=Z,1.4nm,0.6s,baz=91,slow=3.0,SNR=13					
WRA				PKP	PKiKP	07 16 33.8 -0.4
	comp=Z,1.1nm,0.6s,baz=89,slow=2.1,SNR=4.6					
CMAR	Chiang Mai Arr	149.12	349	PKPbc	PKPbc	07 16 52.2 -0.1
	comp=Z,0.5nm,0.2s,baz=44,slow=1.6,SNR=5.8					

*IDC **11** 06:59:35.0±0.9, 13°.36N×143°.58E, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.7/26, mbtmp3.6/6, Error ellipse: s-maj=55.1km s-min=21.5km az=107.0*
*ISCJB **11** 06:59:38.3±0.9, 13°.3N±0°.2×143°.4E±0°.3, h33km, mb3.6/6, Error ellipse: s-maj=46.7km s-min=20.3km az=15.6*

ISC 11 06:59:40.3±1.0, 13°.3N±0°.2×143°.6E±0°.3, h35km, n6, σ0s29/6, mb3.6/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.28	196	P	P	P	07 06 23.4	-0.1
	1.0nm,0.7s,baz=18,slow=9.1,SNR=7.7							
ASAR	Alice Springs	37.96	194	P		P	07 06 54.9	0.0
	0.3nm,0.5s,baz=19,slow=13,SNR=14							
MKAR	Makanchi Array	60.79	316	P		P	07 09 48.9	+0.1
	0.1nm,0.5s,baz=350,slow=14,SNR=1.7							
ILAR	Eielson Array	69.35	25	P		P	07 10 43.7	-0.4
	0.1nm,0.4s,baz=246,slow=5.5,SNR=5.8							
YKA	Yellowknife Ar	83.67	27	P		P	07 12 05.4	+0.2
	0.3nm,0.4s,baz=286,slow=5.1,SNR=9.1							
NVAR

PLCA Lg Lg 07 09 33.8
5.4nm,0.3s,baz=23,slow=19,SNR=3.9
PLCA Paso Flores 4.10 144 *e*Pn **Pn 07 08 25.8 +0.3**
PLCA *e*Sn **Sn 07 09 12.9 +0.6**
PLCA Lg Lg 07 09 33.8
CFAA Coronel Fontan 7.36 39 Pn **Pn 07 09 09.3 -0.8**
0.2nm,0.3s,baz=217,slow=8.8,SNR=5.8
CFAA Lg Lg 07 11 21.6
0.1nm,0.3s,baz=121,slow=19,SNR=4.1
CFAA LR LR 07 12 39.3
comp=Z,78nm,18.8s,baz=224,slow=43
LCO Las Campanas 8.77 17 *e*Pn **Pn 07 09 29.6 -0.1**
11nm,0.6s
LCO *e*Sn **Sn 07 11 08.5 +1.1**
TRQA Tornquist 9.30 97 *e*Pn **Pn 07 09 36.1 -0.7**
14nm,0.8s
LVC Limon Verde 15.34 17 *e*Pn **Pn 07 10 57.5 -1.8**
22nm,1.3s
CPUP Villa Florida 17.74 56 P **P 07 11 29.9 0.0**
0.5nm,0.3s,baz=205,slow=11,SNR=6.2
CPUP LR LR 07 18 18.3
comp=Z,156nm,19.8s,baz=216,slow=37
CPUP Villa Florida 17.74 56 *e*Pn **Pn 07 11 28.6 -0.7**
LPAZ La Paz 21.63 15 P **P 07 12 13.8 +0.7**
12nm,1.1s,baz=184,slow=8.6,SNR=11
LPAZ La Paz 21.63 15 *e*P **P 07 12 13.7 +0.7**
9.5nm,0.8s
SIV San Ignacio 24.10 31 P **P 07 12 38.6 +0.9**
2.2nm,0.5s,baz=226,slow=13,SNR=8.7
SIV LR LR 07 24 00.2
comp=Z,419nm,20.2s,baz=225,slow=41
NNA Nana 25.50 353 LR LR 07 21 17.6
comp=Z,96nm,18.5s,baz=180,slow=33
SAML Samuel 29.91 21 *e*P **P 07 13 29.0 -0.8**
8.6nm,1.3s
BDFB Brasilia 31.43 53 P **P 07 13 43.2 -0.1**
5.0nm,0.9s,baz=244,slow=11,SNR=5.5
OTAV Otavalo 37.74 352 *e*P **P 07 14 40.1 +1.8**
12nm,1.6s
SNAA Sanae 48.95 157 P **P 07 16 07.7 +0.2**
1.9nm,0.8s,baz=273,slow=7.6,SNR=8.0
QSPA South Pole Qui 52.81 180 P **P 07 16 36.3 -0.5**
7.0nm,1.0s,baz=142,slow=4.3,SNR=13
QSPA South Pole Qui 52.81 180 *e*P **P 07 16 36.0 -0.8**
18nm,1.2s
MAW Mawson 70.27 164 LR LR 07 50 48.4
comp=Z,162nm,18.4s,baz=236,slow=37
TXAR Lajitas Array 72.11 333 P **P 07 18 46.1 +0.1**
0.8nm,0.8s,baz=146,slow=7.6,SNR=6.3
TXAR LR LR 07 44 45.2
comp=Z,37nm,18.3s,baz=0.0,slow=31
WVT Waverly 74.36 348 *e*P **P 07 18 57.4 -1.6**
2.2nm,0.8s
DBIC Dimbokro 77.55 72 P **P 07 19 19.1 +1.4**
1.4nm,0.6s,baz=199,slow=9.9,SNR=3.3
BOSA Boshof 79.66 118 P **P 07 19 30.6 +1.1**
3.6nm,0.8s,baz=202,slow=6.2,SNR=4.4
BOSA LR LR 07 52 07.1
comp=Z,55nm,18.6s,baz=174,slow=34
LBTB Lobatse 82.07 115 *e*P **P 07 19 42.3 0.0**
3.5nm,0.6s
CCUT Cedar City 83.13 329 P **P 07 19 48.0 +0.6**
ECSD EROS Data Cent 83.42 343 *e*P **P 07 19 48.2 -0.3**
1.4nm,0.6s
NVAR Mina Array Bea 85.96 326 P **P 07 20 01.9 +0.2**
0.3nm,0.7s,baz=209,slow=37,SNR=2.4
TORD Torodi Ar. Bea 86.63 71 P **P 07 20 04.7 -0.6**
2.3nm,0.9s,baz=228,slow=3.4,SNR=11
BRVK Borovoye 150.60 46 *e*PKPdf **PKPdf 07 27 08.2 +1.0**
BRVK *e*PKPbc **PKPbc 07 27 12.0 -0.7**
BRVK *e*PKPab **PKPab 07 27 19.9 +0.3**
BVAR Borovoye Array 150.67 46 PKPbc **PKPbc 07 27 13.0 +0.1**
3.0nm,0.9s,baz=285,slow=2.9,SNR=9.3
BVAR PKPab **PKPab 07 27 19.1 -0.8**
1.4nm,0.6s,baz=247,slow=3.1,SNR=5.9
ZALV Zalesovo Beam 157.83 35 PKP **PKPdf 07 27 16.0 -1.3**
0.5nm,0.5s,baz=264,slow=3.0,SNR=4.6
ZALV PKPab **PKPab 07 27 50.1 -0.1**
1.6nm,0.6s,baz=297,slow=4.8,SNR=7.0

AUST ***11*** *07:11:51.9±21.0, 10.16S×117.79E, h0km, Error ellipse: s-maj=2.6km s-min=0.9km az=227.0*
ISCJB ***11*** *07:11:55.2±0.6, 10.26S±0.06×117.70E±0.04, h34km, Error ellipse: s-maj=9.2km s-min=5.6km az=18.3*
DJA ***11*** *07:11:56.1±0.6, 10.8°S×11.8°E±.°, h10km, M4.4/16, mb4.8/2, mB4.6/1, MLv4.3/16, Mw(mB)3.8/1*
ISC 11 07:11:57.2±0.9, 10.21S±0.09×117.72E±0.05, h34km, n17, σ1§06/18, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.74**	**71**	P	**Pn**	**07 12 24.5**	**-0.6**
WBSI				S	**Sn**	**07 12 47.2**	**+1.0**
WSI	**Waingapu**	**2.60**	**78**	S	Sn	07 12 59.0	-8.3
baz=2.5,SNR=3.6							
IGBI	**Denpasar**	**2.89**	**298**	P	**Pn**	**07 12 39.2**	**-1.6**
DNP	**Denpasar**	**2.90**	**301**	P	**Pn**	**07 12 40.8**	**-0.2**
DNP				S	**Sn**	**07 13 15.4**	**+0.6**
SRBI	**Singaraja**	**3.25**	**310**	P	**Pn**	**07 12 45.5**	**-0.3**
JAGI	**Jajag, Banyuwa**	**3.92**	**296**	P	**Pn**	**07 12 54.1**	**-0.9**
JAGI	**Jajag, Banyuwa**	**3.92**	**296**	P	**Pn**	**07 12 53.9**	**-1.2**
baz=4.0,SNR=9.8							
GMJI	**Gumukmas**	**4.63**	**294**	P	**Pn**	**07 13 05.7**	**+0.8**
MMRI	**Maumere**	**4.72**	**71**	P	**Pn**	**07 13 06.0**	**-0.1**
BLJI	**Banyuglugur**	**4.75**	**301**	P	**Pn**	**07 13 05.3**	**-1.2**
KMMI	**Kalianget**	**4.86**	**310**	P	**Pn**	**07 13 08.4**	**+0.5**
BKSI	**Bulukumba**	**5.41**	**26**	P	**Pn**	**07 13 13.9**	**-1.6**
52nm,0.6s,571nm0.2nm							
FITZ	**Fitzroy Crossi**	**10.98**	**137**	P	**Pn**	**07 14 31.2**	**-0.8**
baz=11,SNR=4.6							
GIRL	**Giralia**	**12.81**	**195**	P	**Pn**	**07 14 56.2**	**-0.8**
baz=13,SNR=4.1							
MEEK	**Meekatharra**	**16.37**	**177**	P	**Pn**	**07 15 44.4**	**-0.2**
baz=16,SNR=7.6							
WRKA	**Warakurna**	**17.85**	**147**	P	**P**	**07 16 05.3**	**+1.8**
baz=18,SNR=5.4							
BTDF	**Bukit Timah Da**	**18.02**	**309**	P	**P**	**07 16 06.2**	**+0.9**
baz=18,SNR=7.1							

IDC ***11*** *07:20:18.0±1.3, 26.00N×128.61E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/26, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=43.8km s-min=15.7km az=76.0*
ISCJB ***11*** *07:20:18.9±1.0, 25.91N±0.04×128.56E±0.05, h29km±7km, mb3.5/3, Error ellipse: s-maj=7.1km s-min=6.6km az=44.5*
JMA ***11*** *07:20:20.6±0.3, 25.99N×128.51E, h33km, M3.3*
ISC 11 07:20:18.2±1.9, 25.88N±0.05×128.52E±0.04, h16km±12km, n18, σ1§59/28, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.74**	**291**	P	**Pn**	**07 20 34.1**	**+0.1**
JJT2				*e*S	**Sn**	**07 20 44.3**	**-0.6**
JNTH	**Nagotoyohara**	**0.78**	**325**	P	**Pg**	**07 20 33.6**	**+0.2**
JNTH				*e*S	**Sb**	**07 20 42.8**	**-0.9**
JOW	**Kunigami**	**0.98**	**347**	P	**Pn**	**07 20 36.9**	**-0.3**
JOW	**Kunigami**	**0.98**	**347**	Pn	**Pn**	**07 20 37.0**	**-0.3**
21nm,0.3s,baz=161,slow=15,SNR=84							
JOW				Sn	**Sn**	**07 20 52.3**	**+1.6**
23nm,0.3s,baz=121,slow=19,SNR=17							
JIH	**Iheya**	**1.25**	**337**	P	**Pg**	**07 20 41.6**	**-0.8**
JIH				*e*S	**Sb**	**07 20 56.1**	**-1.3**
JAGN	**Aguni-jima**	**1.35**	**302**	P	**Pn**	**07 20 42.7**	**+0.4**
JOKE	**Okinoerabujima**	**1.48**	**2**	P	**Pn**	**07 20 44.1**	**-0.1**
JOKE				*e*S	**Sn**	**07 21 00.8**	**-2.4**
JKE	**Kume jima 2**	**1.62**	**286**	P	**Pn**	**07 20 46.2**	**+0.1**
JKE				*e*S	**Sn**	**07 21 04.9**	**-1.8**
JTK	**Tokunoshima**	**1.94**	**11**	P	**Pn**	**07 20 50.6**	**+0.1**
JTK				*e*S	**Sn**	**07 21 12.2**	**-2.3**
JAMN	**Amaminishikomi**	**2.43**	**14**	P	**Pn**	**07 20 57.3**	**+0.1**
JAMN				*e*S	**Sn**	**07 21 25.6**	**-1.0**
JMZ	**Minamidaito 2**	**2.43**	**91**	P	**Pn**	**07 20 57.1**	**-0.2**
JMZ				*e*S	**Sn**	**07 21 23.7**	**-3.0**
JAM	**Amami Oshima**	**2.70**	**21**	P	**Pn**	**07 21 01.3**	**+0.3**
JTJ	**Tarama**	**3.67**	**251**	P	**Pn**	**07 21 15.0**	**+0.7**
JTJ				*e*S	**Sn**	**07 21 54.8**	**-2.4**
JISG	**Ishigakijimahi**	**4.02**	**252**	P	**Pn**	**07 21 19.0**	**-0.1**
JISG				*e*S	**Sn**	**07 22 02.4**	**-3.5**
JNU	**Nakatsue**	**7.51**	**15**	Pn	**Pn**	**07 22 07.3**	**+0.3**
0.6nm,0.3s,baz=197,slow=11,SNR=1.6							
SONM	**Songino Array**	**27.99**	**327**	P	**P**	**07 26 10.9**	**+2.6**
0.5nm,0.6s,baz=144,slow=10,SNR=6.4							
WRA	**Warramunga Arr**	**45.90**	**172**	P	**P**	**07 28 42.1**	**+2.0**
0.7nm,0.6s,baz=353,slow=8.6,SNR=2.9							
ASAR	**Alice Springs**	**49.53**	**174**	P	**P**	**07 29 12.1**	**+3.8**
0.3nm,0.6s,baz=4.0,slow=14,SNR=6.6							

NNC ***11*** *07:24:20.6±5.2, 37.50N×71.92E, h0km, mb5.0, mpv5.0, Error ellipse: s-maj=45.4km s-min=32.7km az=156.0*
ISCJB ***11*** *07:24:24.5±0.2, 37.44N±0.02×72.12E±0.03, h176km, mb4.0/33, Error ellipse: s-maj=3.8km s-min=2.7km az=159.9*
IDC ***11*** *07:24:27.1±1.9, 37.48N×72.28E, h195km±15km, mb3.7/15, mb1 3.9/22, mb1mx3.7/34, mbtmp4.4/22, Error ellipse: s-maj=17.2km s-min=9.9km az=151.0*
MOS ***11*** *07:24:27.2±0.9, 37.56N×72.25E, h204km, mb4.1/16, Error ellipse: s-maj=10.7km s-min=4.9km az=86.1*
BJI ***11*** *07:24:28.6, 38.00N×72.20E, h215km, mB4.5/2, mb4.5/5*
ISC 11 07:24:25.4±0.4, 37.45N±0.04×72.25E±0.05, h176km, n140, σ1§32/157, mb4.1/33, 11C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.57**	**54**	P	**Pn**	**07 25 18.9**	**-2.2**
KSH				S	Sn	07 25 55.4	-9.2
KSH				SMN			
1μm,0.7s							
KSH				SME			
1μm,0.7s							
CEP	**Cherat**	**3.63**	**184**	⇓P	**Pn**	**07 25 23.9**	**+2.0**
CEP				S	**Sn**	**07 26 07.0**	**+1.0**
CHCP	**Chirah Chowk**	**3.88**	**167**	⇓P	**Pn**	**07 25 27.9**	**+3.0**
CHCP				S	**Sn**	**07 26 13.0**	**+1.6**
AML	**Almayashu**	**4.80**	**13**	P	**Pn**	**07 25 38.7**	**+1.7**
SNR=1461							
AML	**Almayashu**	**4.80**	**13**	*i* PN	**Pn**	**07 25 38.7**	**+1.7**
UCH	**Uchtor**	**5.08**	**19**	P	**Pn**	**07 25 42.5**	**+1.8**
SNR=76							
UCH	**Uchtor**	**5.08**	**19**	*i* PN	**Pn**	**07 25 42.4**	**+1.8**
KZA	**Kyzart**	**5.16**	**26**	P	**Pn**	**07 25 43.0**	**+1.3**
SNR=159							
KZA	**Kyzart**	**5.16**	**26**	*i* PN	**Pn**	**07 25 43.0**	**+1.3**
EKS2	**Erkin-Say**	**5.33**	**12**	P	**Pn**	**07 25 45.6**	**+1.9**
SNR=512							
EKS2	**Erkin-Say**	**5.33**	**12**	*i* PN	**Pn**	**07 25 45.5**	**+1.9**
AAK	**Ala-Archa**	**5.45**	**18**	⇑P	**Pn**	**07 25 47.4**	**+2.1**
116nm,0.3s							
AAK				S	**Sn**	**07 26 50.2**	**+2.1**
151nm,0.6s							
AAK	**Ala-Archa**	**5.45**	**18**	P	**Pn**	**07 25 47.4**	**+2.1**
SNR=363							
AAK	**Ala-Archa**	**5.45**	**18**	PN	**Pn**	**07 25 47.4**	**+2.1**
AAK				S	**Sn**	**07 26 48.3**	**+0.2**
AAK				pmax	pmax		
comp=Z,81nm,0.3s							
AAK				smax	smax		
comp=N,27nm,0.3s							
AAK	**Ala-Archa**	**5.45**	**18**	P	**Pn**	**07 25 47.4**	**+2.1**
comp=N,81nm,0.3s,baz=155,slow=5.9,SNR=555							
AAK				S	**Sn**	**07 26 48.3**	**+0.2**
comp=N,27nm,0.3s,baz=331,slow=22,SNR=23							
SARP	**Sargodha**	**5.53**	**176**	P	**Pn**	**07 25 46.7**	**+0.4**
KBK	**Karagaybulak**	**5.59**	**21**	P	**Pn**	**07 25 49.1**	**+2.0**
SNR=64							
KBK	**Karagaybulak**	**5.59**	**21**	*i* PN	**Pn**	**07 25 49.1**	**+2.0**
FRU	**Bishkek**	**5.67**	**18**	⇓*i* PN	**Pn**	**07 25 50.0**	**+2.0**
FRU				*e*S	**Sn**	**07 26 52.5**	**-0.5**
FRU				pmax	pmax		
comp=Z,150nm,1.2s							
FRU				smax	smax		
comp=E,430nm,1.6s							
ULHL	**Ulahol**	**5.69**	**31**	P	**Pn**	**07 25 49.7**	**+1.2**
SNR=94							
ULHL	**Ulahol**	**5.69**	**31**	*i* PN	**Pn**	**07 25 49.6**	**+1.2**
DLH	**Dalhousie**	**5.77**	**147**	*e*P	**Pn**	**07 25 51.0**	**+1.4**
DLH				*e*S	**Sn**	**07 26 55.0**	**-0.8**
KK31	**Karatay Array**	**5.80**	**347**	⇑P	**Pn**	**07 25 50.1**	**+0.4**
comp=E,46nm,0.5s,baz=163,slow=12,SNR=355							
KK31				⇑S	**Sn**	**07 26 53.6**	**-2.4**
comp=E,85nm,0.3s,baz=166,slow=23,SNR=18							
KK31	**Karatay Array**	**5.80**	**347**	*e*PN	**Pn**	**07 25 50.9**	**+1.2**
KK31				pmax	pmax		
comp=Z,46nm,0.5s							
CHMS	**Chumysh**	**5.86**	**18**	P	**Pn**	**07 25 52.3**	**+1.8**
SNR=110							
CHMS	**Chumysh**	**5.86**	**18**	*i* PN	**Pn**	**07 25 52.3**	**+1.8**
TKM2	**Tokmak 2**	**6.03**	**24**	⇑P	**Pn**	**07 25 54.4**	**+1.5**
comp=Z,131nm,0.8s							
TKM2				⇑S	**Sn**	**07 27 04.2**	**+2.5**
comp=Z,33nm,0.7s							
TKM2	**Tokmak 2**	**6.03**	**24**	P	**Pn**	**07 25 54.7**	**+1.7**
SNR=136							
TKM2	**Tokmak 2**	**6.03**	**24**	*i* PN	**Pn**	**07 25 54.6**	**+1.7**
USP	**Ospenovka**	**6.05**	**16**	P	**Pn**	**07 25 54.1**	**+1.1**
SNR=59							
USP	**Ospenovka**	**6.05**	**16**	*i* PN	**Pn**	**07 25 54.1**	**+1.1**
PONG	**Pong**	**6.28**	**150**	*e*P	**Pn**	**07 25 55.0**	**-1.0**
PONG				*e*S	Sn	07 27 00.0	-7.3
KNDC	**Almaty**	**6.79**	**31**	⇑P	**Pn**	**07 26 04.1**	**+1.4**
KNDC				⇓S	**Sn**	**07 27 20.2**	**+0.7**
baz=163,slow=14							
BHK	**Bhakra**	**6.94**	**149**	*e*S	Sn	07 27 15.4	-7.7
SDNR	**Sundarnagar**	**7.10**	**145**	*e*P	**Pn**	**07 26 08.0**	**+1.0**
SDNR				*e*S	**Sn**	**07 27 26.0**	**-1.1**
SMLA	**Simla**	**7.51**	**146**	*i* P	**Pn**	**07 26 12.9**	**+0.7**
SMLA				*i* S	**Sn**	**07 27 32.3**	**-4.3**
SMLA				AML	AML	07 27 35.8	
comp=N,290nm,0.3s							
SMLA				AML	AML	07 27 38.2	
comp=E,222nm,0.3s							
NDI	**New Delhi**	**9.69**	**153**	*ex*	**Pn**	**07 26 40.0**	**-0.9**
NDI				*ex*	x	07 28 19.0	
LGTI	**Lohaghat**	**10.40**	**138**	*ex*	x	07 27 38.4	
LGTI				*e*S	**Sn**	**07 28 41.9**	**-4.0**
AJM	**Ajmer**	**11.13**	**169**	*i* x	**Pn**	**07 26 59.0**	**-0.8**
AJM				*i* S	Sn	07 28 57.0	-6.5
GEYT	**Alibeck**	**11.21**	**277**	P	**Pn**	**07 27 02.5**	**+1.7**
comp=E,1.8nm,0.3s,baz=27,slow=3.6,SNR=4.8							
GEYT				S	**Sn**	**07 29 01.6**	**-3.7**
comp=E,4.5nm,0.3s,baz=96,slow=14,SNR=8.0							
MK31	**Makanchi Array**	**11.93**	**35**	⇓P	**Pn**	**07 27 10.1**	**+0.1**
comp=E,6.2nm,0.5s							
MK31	**Makanchi Array**	**11.93**	**35**	P	**Pn**	**07 27 10.0**	**0.0**
MK31				pmax	pmax		
comp=Z,5.0nm,0.3s							
MKAR	**Makanchi Array**	**11.93**	**35**	P	**Pn**	**07 27 10.6**	**+0.6**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**11.93**	**35**	P	**Pn**	**07 27 10.6**	**+0.6**
comp=Z,1.3nm,0.3s,baz=215,slow=13,SNR=43							
PYUN	**Piuthan**	**12.98**	**133**	*e*P	**Pn**	**07 27 22.8**	**-0.8**
DANN	**Dangsing**	**13.25**	**130**	*e*P	**Pn**	**07 27 26.9**	**-0.3**
WMQ	**Urumqi**	**13.33**	**57**	P	**Pn**	**07 27 28.2**	**+0.3**
WMQ				PMZ			
comp=Z,19nm,1.2s							
WMQ				PMZ			
comp=Z,120nm,4.0s							
KOLN	**Koldanda**	**13.58**	**132**	*e*P	**Pn**	**07 27 31.0**	**-0.3**
comp=Z,15nm,0.3s							
KURBB	**Kurchatov Arra**	**13.91**	**17**	⇓P	**P**	**07 27 38.1**	**+0.5**
comp=Z,46nm,0.7s							
KURBB	**Kurchatov Arra**	**13.91**	**17**	P	**Pn**	**07 27 35.9**	**+1.0**
comp=Z,1.6nm,0.3s,baz=201,slow=11,SNR=44							
KURK	**Kurchatov**	**14.02**	**17**	⇑P	**P**	**07 27 38.0**	**-0.7**
comp=Z,27nm,0.8s							
KURK	**Kurchatov**	**14.02**	**17**	P	**P**	**07 27 38.9**	**+0.2**
KURK				pmax	pmax		
comp=Z,27nm,0.8s							
GKN	**Gorkha**	**14.04**	**129**	*e*P	**Pn**	**07 27 37.8**	**+0.8**
comp=Z,89nm,0.5s							
KKN	**Kakani**	**14.59**	**128**	*e*P	**P**	**07 27 45.1**	**-0.5**
DMN	**Daman**	**14.61**	**128**	*e*P	**P**	**07 27 45.4**	**-0.5**
comp=Z,40nm,0.6s							
AB31	**Akbulak array**	**14.78**	**327**	P	**Pn**	**07 27 45.8**	**-0.1**
comp=Z,4.3nm,0.5s,baz=133,slow=12,SNR=73							
AB31	**Akbulak array**	**14.78**	**327**	*e*P	**Pn**	**07 27 45.7**	**-0.1**
AB31				*e*S	Sn	07 30 18.1	-12
AB31				pmax	pmax		
comp=Z,4.0nm,0.4s							
AB31				smax	smax		
comp=N,9.0nm,0.6s							
PKIN	**Phulchoki**	**14.82**	**128**	*e*P	**Pn**	**07 27 47.5**	**+0.8**
comp=N,13nm,0.3s							
PKI	**Pulchoki**	**14.83**	**128**	*e*P	**P**	**07 27 48.4**	**+0.1**
GUN	**Gumba**	**14.89**	**126**	*e*P	**P**	**07 27 49.1**	**0.0**
comp=N,22nm,0.4s							
JIRN	**Jiri**	**15.26**	**126**	*e*P	**P**	**07 27 54.0**	**+0.8**
comp=N,49nm,0.4s							
VOSK	**Vostochnaya**	**15.29**	**357**	⇓P	**Pn**	**07 27 51.1**	**-1.0**
comp=N,6.3nm,0.6s							
VOSK	**Vostochnaya**	**15.29**	**357**	*i* P	**Pn**	**07 27 51.0**	**-1.0**
VOSK				pmax	pmax		
comp=Z,7.0nm,0.5s							
BVA0	**Borovoye Array**	**15.62**	**356**	⇑P	**Pn**	**07 27 55.6**	**-0.5**
comp=Z,18nm,0.8s,baz=158,slow=11,SNR=68							
BVA0	**Borovoye Array**	**15.62**	**356**	*i* P	**Pn**	**07 27 55.5**	**-0.6**
BVA0				pmax	pmax		
comp=Z,12nm,0.6s							
BVAR	**Borovoye Array**	**15.62**	**356**	P	**Pn**	**07 27 55.5**	**-0.6**
BVAR				pmax	pmax		
comp=Z,4.0nm,0.3s							
BVAR	**Borovoye Array**	**15.62**	**356**	P	**Pn**	**07 27 55.5**	**-0.6**
comp=Z,3.5nm,0.3s,baz=165,slow=13,SNR=38							
BRVK	**Borovoye**	**15.66**	**356**	⇓P	**Pn**	**07 27 55.9**	**-0.7**
comp=Z,27nm,0.7s							
BRVK	**Borovoye**	**15.66**	**356**	*e*P	**Pn**	**07 27 55.9**	**-0.7**
BRVK				pmax	pmax		
comp=Z,24nm,0.8s							
RAMN	**Ramite**	**16.02**	**127**	*e*P	**Pn**	**07 28 01.4**	**0.0**
comp=Z,25nm,0.3s							
TAPN	**Taplejung**	**16.47**	**123**	*e*P	**Pn**	**07 28 07.8**	**+0.9**
comp=Z,9.5nm,0.3s							
AKTO	**Aktyubinsk**	**16.50**	**326**	⇓P	**Pn**	**07 28 07.0**	**+0.3**
comp=Z,8.3nm,0.5s							
AKTO	**Aktyubinsk**	**16.50**	**326**	P	**Pn**	**07 28 07.0**	**+0.3**
AKTO				S	**S**	**07 31 08.4**	**-0.4**
AKTO				pmax	pmax		
comp=Z,2.0nm,0.3s							
AKTO				smax	smax		
comp=N,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**16.50**	**326**	P	**Pn**	**07 28 07.0**	**+0.3**
comp=N,2.4nm,0.3s,baz=122,slow=7.8,SNR=28							
AKTO				S	**S**	**07 31 08.4**	**-0.4**
comp=N,1.0nm,0.3s,baz=37,slow=22,SNR=4.4							
ODAN	**Odare**	**16.59**	**125**	*e*P	**Pn**	**07 28 09.3**	**+1.1**
comp=N,32nm,0.6s							
ZALV	**Zalesovo Beam**	**18.64**	**24**	P	**P**	**07 28 30.0**	**+0.5**
ZALV				S	**S**	**07 31 50.1**	**-2.2**
ZALV				pmax	pmax		
comp=Z,11nm,0.3s							
ZALV	**Zalesovo Beam**	**18.64**	**24**	P	**P**	**07 28 29.9**	**+0.5**
comp=Z,11nm,0.3s,baz=223,slow=9.8,SNR=295							
ZALV				S	**S**	**07 31 50.1**	**-2.2**
comp=Z,0.1nm,0.3s,baz=204,slow=20,SNR=4.0							
NVS	**Novosibirsk**	**18.94**	**20**	⇓*i* P	**P**	**07 28 32.6**	**-0.2**
ARU	**Arti**	**21.08**	**339**	*e*/*i* P	**P**	**07 28 56.2**	**+0.5**
ARU						07 29 29.6	
ARU				S	**S**	**07 32 36.3**	**-3.6**
ARU				pmax	pmax		
comp=Z,11nm,1.2s							
GNI	**Garni**	**21.58**	**286**	*e*P	**P**	**07 29 05.1**	**+3.8**
GNI				pmax	pmax		
comp=Z,18nm,1.1s							
GTA	**Gaotai**	**21.65**	**76**	*e*P	**P**	**07 29 03.6**	**+1.5**
KBZ	**Khabaz**	**23.08**	**295**	P	**P**	**07 29 16.2**	**+0.8**
KBZ				pmax	pmax		
comp=Z,2.0nm,0.8s							
KBZ	**Khabaz**	**23.08**	**295**	P	**P**	**07 29 16.2**	**+0.8**
comp=Z,2.7nm,0.8s,baz=116,slow=7.7,SNR=6.0							
KIV	**Kislovodsk**	**23.26**	**296**	*e*P	**P**	**07 29 18.5**	**+1.4**
KIV				pmax	pmax		
comp=Z,6.0nm,0.8s							
SONM	**Songino Array**	**26.97**	**56**	P	**P**	**07 29 52.0**	**+1.3**
SONM				pmax	pmax		
comp=Z,2.0nm,0.5s							
SONM	**Songino Array**	**26.97**	**56**	P	**P**	**07 29 52.0**	**+1.3**
comp=Z,1.5nm,0.5s,baz=271,slow=8.7,SNR=13							
ULN	**Ulaanbaatar**	**27.41**	**57**	*ce*P	**P**	**07 29 55.8**	**+1.1**
ULN				pmax	pmax		
comp=Z,3.0nm,1.2s							
OBN	**Obninsk**	**29.89**	**318**	*e*P	**P**	**07 30 17.0**	**+0.8**
OBN				*e*		07 31 23.9	
OBN				pmax	pmax		
comp=Z,9.0nm,1.3s							
BRTR	**Keskin Array B**	**30.11**	**286**	*ce*P	**P**	**07 30 19.3**	**+0.7**
BRTR				pmax	pmax		
comp=Z,4.0nm,0.6s							
BRTR	**Keskin Array B**	**30.11**	**286**	P	**P**	**07 30 19.4**	**+0.8**
comp=Z,3.1nm,0.6s,baz=99,slow=6.8,SNR=17							
AKASG	**Malin Array Be**	**33.15**	**307**	*ce*P	**P**	**07 30 45.5**	**+0.7**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.4s							
AKASG	**Malin Array Be**	**33.15**	**307**	P	**P**	**07 30 45.6**	**+0.7**
comp=Z,1.1nm,0.4s,baz=108,slow=8.7,SNR=6.6							
KIEV	**Kiev**	**33.15**	**307**	*e*P	**P**	**07 30 45.2**	**+0.3**
FINES	**FINESS Array B**	**37.26**	**325**	*i* P	**P**	**07 31 19.8**	**0.0**
FINES				pmax	pmax		
comp=Z,2.0nm,0.3s							
FINES	**FINESS Array B**	**37.26**	**325**	P	**P**	**07 31 19.9**	**+0.1**
comp=Z,2.3nm,0.3s,baz=127,slow=10,SNR=10.0							
CN2	**Changchun**	**40.28**	**64**	*e*P	**P**	**07 31 46.8**	**+1.6**
CN2				PMZ			
comp=Z,10.0nm,0.7s							
ARCES	**ARCESS Array B**	**40.65**	**337**	P	**P**	**07 31 48.2**	**+0.3**
ARCES				pmax	pmax		
comp=Z,3.0nm,0.4s							
ARCES	**ARCESS Array B**	**40.65**	**337**	P	**P**	**07 31 48.2**	**+0.3**
comp=Z,2.5nm,0.4s,baz=118,slow=8.9,SNR=50							
DPC	**Dobruska-Polom**	**41.36**	**307**	*e*P	**P**	**07 31 54.6**	**+0.7**
DPC	**Dobruska-Polom**	**41.36**	**307**	*e*P	**P**	**07 31 54.6**	**+0.7**
UPC	**Upice**	**41.55**	**307**	*e*P	**P**	**07 31 56.8**	**+1.4**
UPC	**Upice**	**41.55**	**307**	*e*P	**P**	**07 31 56.8**	**+1.4**
GERES	**GERESS Array B**	**43.20**	**305**	P	**P**	**07 32 08.9**	**0.0**
comp=Z,0.2nm,0.3s,baz=60,slow=7.9,SNR=3.2							
KHC	**Kasperske Hory**	**43.25**	**305**	*e*P	**P**	**07 32 09.8**	**+0.6

comp=Z,0.3nm,0.4s,baz=305,slow=5.1,SNR=8.6
DBIC Dimbokro 75.74 267 P **P 07 35 51.1 -0.9**
DBIC pmax pmax
comp=Z,1.0nm,0.4s
DBIC Dimbokro 75.74 267 P **P 07 35 51.1 -0.9**
comp=Z,1.1nm,0.4s,baz=32,slow=2.8,SNR=3.8
YKA Yellowknife Ar 80.24 3 P **P 07 36 15.5 -0.5**
YKA pmax pmax
comp=Z,2.0nm,0.4s
YKA Yellowknife Ar 80.24 3 P **P 07 36 15.5 -0.5**
comp=Z,1.6nm,0.4s,baz=350,slow=5.5,SNR=78
WRA Warramunga Arr 81.65 123 P **P 07 36 22.6 -1.5**
comp=Z,0.2nm,0.4s,baz=327,slow=4.9,SNR=5.1

DJA 11 07:36:22.9±1.7, 10°S±6°×11°8E±°, h20km±23km, M3.7/5, MLv3.7/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.59**	**87**	P			Pn	07 36 49.8	-0.2
WBSI				S			Sn	07 37 09.6	-0.5
IGBI	**Denpasar**	**2.76**	**289**	P			Pn	07 37 06.5	+0.5
JAGI	**Jajag, Banyuwa**	**3.80**	**289**	P			Pn	07 37 18.6	-1.8

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*IDC **11** 07:37:31.3±1.7, 34°.87S×72°.23W, h0km, mb3.6/3, mb1 3.6/6, mb1mx3.6/18, mbtmp3.5/6, ML3.4/3, Error ellipse: s-maj=43.8km s-min=29.3km az=94.0*
*ISCJB **11** 07:37:34.2±0.9, 34°.93S±0°.04×72°.40W±0°.08, h35km, mb3.5/3, Error ellipse: s-maj=9.9km s-min=5.8km az=8.4*
*GUC **11** 07:37:34.2±0.6, 34°.87S×72°.32W, h22km±3km, ML4.2*
ISC 11 07:37:36.0±1.0, 34°.95S±0°.05×72°.27W±0°.09, h35km, n16, σ1°03/22, mb3.7/3, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.86**	**94**	⇓iP			**Pn**	**07 37 50.8**	**-0.7**
NICH				*i* S			**Sn**	**07 38 02.9**	**0.0**
LNCH	**Linares**	**1.05**	**149**	⇑iP			**Pn**	**07 37 54.1**	**-0.1**
LNCH				*i* S			**Sn**	**07 38 08.9**	**+1.2**
COCH	**Cobquecura**	**1.25**	**199**	*e*P1			**Pn**	**07 37 56.5**	**-0.5**
TACH	**Talagante**	**1.70**	**41**	⇑iP			**Pn**	**07 38 02.9**	**-0.3**
RCDM	**Rinconada Maip**	**1.89**	**40**	*e*P			**Pn**	**07 38 05.3**	**-0.5**
ANTU	**Antumapu**	**1.93**	**45**	*e*P			**Pn**	**07 38 06.3**	**-0.1**
STL	**Santa Lucia**	**2.02**	**42**	*e*P9			**Pn**	**07 38 06.8**	**-0.9**
STL				*i* S			**Sn**	**07 38 31.9**	**+0.2**
LACH	**Col Las Americ**	**2.08**	**45**	*e*P1			**Pn**	**07 38 08.9**	**+0.6**
LACH				*i* S			**Sn**	**07 38 35.0**	**+2.0**
CLCH	**Cerro Calan**	**2.11**	**43**	⇓*i*P			**Pn**	**07 38 08.9**	**0.0**
CLCH				*e*S			**Sn**	**07 38 35.8**	**+1.8**
CLCH				IAML				07 38 45.0	
	comp=N,2μm,0.7s								
PEL	**Peldehue**	**2.23**	**37**	⇑iP			**Pn**	**07 38 10.7**	**+0.2**
PEL				*i* S			**Sn**	**07 38 38.7**	**+1.9**
PEL				IAML				07 38 47.7	
	comp=E,2μm,1.1s								
CFAA	**Coronel Fontan**	**4.75**	**47**	Pn			**Pn**	**07 38 44.8**	**-0.3**
	comp=E,0.3nm,0.3s,baz=219,slow=14,SNR=47								
CFAA				Lg			Lg	07 39 53.8	
	comp=E,0.8nm,0.3s,baz=313,slow=19,SNR=9.3								
PLCA	**Paso Flores**	**5.93**	**167**	Pn			**Pn**	**07 39 02.9**	**+1.5**
	comp=E,0.3nm,0.3s,baz=345,slow=13,SNR=8.0								
LPAZ	**La Paz**	**18.95**	**12**	P			**Pn**	**07 41 55.0**	**-0.6**
	comp=E,0.1nm,0.3s,baz=169,slow=10.0,SNR=4.6								
SIV	**San Ignacio**	**21.38**	**31**	P			**P**	**07 42 19.2**	**-1.4**
	comp=E,3.4nm,0.7s,baz=230,slow=8.0,SNR=11								
TXAR	**Lajitas Array**	**70.47**	**331**	P			**P**	**07 48 47.5**	**+0.5**
	comp=E,0.1nm,0.4s,baz=158,slow=10,SNR=5.0								
TORD	**Torodi Ar. Bea**	**84.71**	**70**	P			**P**	**07 50 06.1**	**-0.5**
	comp=E,0.3nm,0.5s,baz=242,slow=5.3,SNR=5.3								

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*ISCJB **11** 07:39:27.9±1.6, 34°.06S±0°.04×72°.48W±0°.05, h12km±11km, mb4.3/8, MS3.7/4, Error ellipse: s-maj=6.9km s-min=6.2km az=32.2*
*IDC **11** 07:39:28.5±1.0, 34°.04S×72°.21W, h0km, mb4.1/6, mb1 4.3/8, mb1mx4.1/18, mbtmp4.1/8, ML3.7/2, MS3.6/6, Ms1 3.6/6, ms1mx3.3/20, Error ellipse: s-maj=30.0km s-min=20.1km az=139.0*
*GUC **11** 07:39:29.1±0.7, 34°.06S×72°.52W, h40km±9km, ML4.3*
*NEIC **11** 07:39:33.6±0.4, 34°.08S×72°.15W, h35km, mb4.6/5, Error ellipse: s-maj=11.5km s-min=7.9km az=86.0*
ISC 11 07:39:28.1±2.0, 34°.04S±0°.04×72°.38W±0°.06, h1km±11km, n39, σ0°71/53, mb4.4/8, MS3.7/4, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.18**	**32**	⇑iP			**Pb**	**07 39 51.4**	**+0.1**
IHA				*i* S			**Sn**	**07 40 08.4**	**0.0**
TACH	**Talagante**	**1.26**	**73**	⇓iP			**Pg**	**07 39 52.4**	**+0.1**
NICH	**Los Niches**	**1.35**	**136**	⇓iP			**Pn**	**07 39 53.5**	**-0.6**
NICH				*i* S			**Sb**	**07 40 12.0**	**0.0**
RCDM	**Rinconada Maip**	**1.42**	**68**	*e*P			**Pn**	**07 39 54.6**	**-0.4**
RCDM				*i* S			**Sg**	**07 40 15.1**	**+1.4**
ANTU	**Antumapu**	**1.53**	**73**	⇓iP			**Pn**	**07 39 56.4**	**-0.2**
ANTU				*i* S			**Sg**	**07 40 17.4**	**+0.3**
ANTU				IAML				07 40 20.1	
	comp=N,4μm,0.7s								
SAN	**Santiago**	**1.54**	**68**	⇑iP			**Pn**	**07 39 57.0**	**+0.2**
SAN				*e*S			**Sg**	**07 40 18.0**	**+0.3**
STL	**Santa Lucia**	**1.57**	**68**	*e*P9			**Pn**	**07 39 56.5**	**-0.6**
STL				*i* S			**Sn**	**07 40 17.6**	**-0.5**
LACH	**Col Las Americ**	**1.65**	**70**	*e*P1			**Pn**	**07 39 58.5**	**+0.3**
LACH				*e*S4			**Sn**	**07 40 19.3**	**-0.7**
CLCH	**Cerro Calan**	**1.66**	**68**	⇑iP			**Pn**	**07 39 58.7**	**+0.2**
CLCH				*i* S			**Sb**	**07 40 20.8**	**-0.2**
CLCH				IAML				07 40 35.7	
	comp=N,4μm,0.9s								
PEL	**Peldehue**	**1.67**	**58**	⇑iP			**Pn**	**07 39 58.8**	**+0.2**
PEL				*i* S			**Sb**	**07 40 21.1**	**-0.1**
PEL				IAML				07 40 27.0	
	comp=E,8μm,1.0s								
SJCH	**San Jose de Ma**	**1.73**	**77**	*e*P9			**Pn**	**07 39 58.8**	**-0.6**
SJCH				*e*S			**Sn**	**07 40 22.2**	**0.0**
LNCH	**Linares**	**1.92**	**161**	⇑iP			**Pn**	**07 40 01.2**	**-0.7**
LNCH				*i* S4			**Sn**	**07 40 26.9**	**+0.3**
CHNG	**Los Chungos**	**2.27**	**19**	⇓iP			**Pn**	**07 40 06.2**	**-0.5**
CHNG				*i* S			**Sn**	**07 40 33.7**	**-1.6**
CFAA	**Coronel Fontan**	**4.25**	**56**	Pn			**Pn**	**07 40 34.5**	**+0.5**
	comp=E,1.1nm,0.3s,baz=238,slow=11,SNR=2.9								
CFAA				Lg			Lg	07 41 39.3	
	comp=E,1.0nm,0.3s,baz=56,slow=11,SNR=4.7								
CFAA				LR			LR	07 42 36.0	
	comp=E,57nm,21.9s,baz=238,slow=45								
PLCA	**Paso Flores**	**6.84**	**168**	LR			LR	07 43 36.4	
	comp=E,208nm,20.4s,baz=346,slow=36								
PLCA	**Paso Flores**	**6.84**	**168**	Pn			**Pn**	**07 41 09.0**	**-0.6**
TRQA	**Tornquist**	**9.33**	**118**	*e*Pn			**Pn**	**07 41 43.0**	**-0.7**
LVC	**Limon Verde**	**11.78**	**16**	*e*Pn			**Pn**	**07 42 15.1**	**-2.4**
CPUP	**Villa Florida**	**15.10**	**63**	Pn			**P**	**07 43 07.6**	**-0.4**
	comp=E,0.4nm,0.3s,baz=262,slow=13,SNR=3.8								
CPUP				LR			LR	07 48 57.3	
	comp=E,187nm,18.3s,baz=222,slow=38								
LPAZ	**La Paz**	**18.08**	**13**	P			**P**	**07 43 42.0**	**+0.3**
	comp=E,0.3nm,0.3s,baz=198,slow=6.7,SNR=13								
LPAZ	**La Paz**	**18.08**	**13**	*e*P			**P**	**07 43 42.2**	**+0.5**
	comp=E,9.6nm,1.0s								
SIV	**San Ignacio**	**20.65**	**32**	P			**P**	**07 44 09.2**	**-0.1**
	comp=E,6.7nm,0.7s,baz=218,slow=9.6,SNR=18								
SIV				LR			LR	07 53 28.4	
	comp=E,158nm,18.3s,baz=234,slow=41								
USHA	**Ushuaia**	**20.98**	**174**	LR			LR	07 52 46.6	
	comp=E,302nm,18.9s,baz=332,slow=38								
SAML	**Samuel**	**26.36**	**21**	*e*P			**P**	**07 45 06.1**	**+0.3**
	comp=E,6.3nm,0.9s								
BDFB	**Brasilia**	**28.59**	**56**	P			**P**	**07 45 24.6**	**-1.4**
	comp=E,4.4nm,0.8s,baz=213,slow=12,SNR=7.4								
BDFB				LR			LR	07 58 09.3	
	comp=E,151nm,18.2s,baz=222,slow=39								
QSPA	**South Pole Qui**	**56.20**	**180**	P			**P**	**07 49 10.0**	**+0.5**
	comp=E,3.0nm,1.0s,baz=166,slow=5.7,SNR=4.4								
QSPA	**South Pole Qui**	**56.20**	**180**	*e*P			**P**	**07 49 09.8**	**+0.4**
	comp=E,11nm,1.1s								
JCT	**Junction City**	**69.20**	**335**	*e*P			**P**	**07 50 37.0**	**+0.6**
	comp=E,5.1nm,0.3s								
TXAR	**Lajitas Array**	**69.63**	**331**	P			**P**	**07 50 39.9**	**+0.7**
	comp=E,1.3nm,0.8s,baz=154,slow=8.2,SNR=15								
WVT	**Waverly**	**71.28**	**347**	*e*P			**P**	**07 50 48.9**	**-0.1**
	comp=E,12nm,1.0s								
URZ	**Urewera**	**83.42**	**228**	LR			LR	08 21 26.7	
	comp=E,52nm,21.0s,baz=278,slow=30								
NVAR	**Mina Array Bea**	**83.75**	**325**	P			**P**	**07 52 00.1**	**+1.1**
	comp=E,0.4nm,0.7s,baz=152,slow=6.4,SNR=3.9								
TORD	**Torodi Ar. Bea**	**84.49**	**70**	P			**P**	**07 52 03.0**	**0.0**
	comp=E,4.2nm,1.1s,baz=248,slow=3.6,SNR=9.3								
ABKAR	**Akbulak array**	**141.93**	**52**	*e*PKPdf			**PKPdf**	**07 59 01.6**	**+0.3**
EKS2	**Erkin-Say**	**152.24**	**62**	*e*PKPdf			**PKPdf**	**07 59 20.0**	**+1.1**
EKS2				*e*PKPbc			**PKiKP**	**07 59 26.3**	**+0.4**
EKS2				*e*PKPab			**PKPab**	**07 59 35.0**	**-0.4**
KURK	**Kurchatov**	**153.10**	**43**	*e*PKPdf			**PKPdf**	**07 59 19.7**	**+0.1**
KURK				*e*PKPbc			**PKPbc**	**07 59 26.1**	**-0.8**
KURK				*e*PKPab			**PKPab**	**07 59 39.4**	**+0.9**
ZALV	**Zalesovo Beam**	**154.41**	**32**	PKPbc			**PKPbc**	**07 59 30.0**	**+0.3**
	comp=E,1.6nm,0.6s,baz=303,slow=4.3,SNR=6.7								
ZALV				PKPab			**PKPab**	**07 59 43.5**	**-0.5**
	comp=E,1.3nm,0.7s,baz=305,slow=5.1,SNR=3.4								
MKAR	**Makanchi Array**	**157.00**	**49**	PKPab			**PKPab**	**07 59 55.7**	**+0.3**
	comp=E,0.5nm,0.6s,baz=304,slow=4.6,SNR=2.6								
SONM	**Songino Array**	**166.18**	**3**	PKPab			**PKPab**	**08 00 36.4**	**+1.0**
	comp=E,0.2nm,0.5s,baz=68,slow=29,SNR=3.5								

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*ISCJB **11** 08:06:38.1±0.2, 37°.89S±0°.04×72°.99W±0°.06, h33km, mb4.4/25, MS3.8/5, Error ellipse: s-maj=7.2km s-min=4.8km az=157.9*
*NEIC **11** 08:06:38.9±0.5, 38°.01S×73°.15W, h35km, mb4.6/13, Error ellipse: s-maj=14.5km s-min=11.3km az=71.0*
*IDC **11** 08:06:41.9±2.8, 37°.94S×72°.90W, h59km±23km, mb4.0/12, mb1 4.1/14, mb1mx4.0/25, mbtmp4.2/14, ML3.7/2, MS3.8/5, Ms1 3.7/5, ms1mx3.4/14, Error ellipse: s-maj=26.2km s-min=13.9km az=89.0*
ISC 11 08:06:39.1±0.5, 37°.95S±0°.06×73°.12W±0°.09, h33km, n192, σ0°85/198, mb4.5/25, MS3.9/5, 60C-82D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.42**	**145**	P			**Pn**	**08 07 30.6**	**+0.5**
	3.1nm,0.3s,baz=330,slow=12,SNR=41								
PLCA				S			**Sb**	**08 08 21.3**	**+1.2**
	14nm,0.3s,baz=28,slow=22,SNR=5.8								
PLCA	**Paso Flores**	**3.42**	**145**	*e*Pn			**Pn**	**08 07 30.9**	**+0.8**
PLCA				*e*Sn			**Sn**	**08 08 11.5**	**+1.9**
CFAA	**Coronel Fontan**	**7.50**	**34**	P			**Pn**	**08 08 27.7**	**+1.5**
	0.2nm,0.3s,baz=194,slow=13,SNR=13								
CFAA				S			**Sn**	**08 09 49.6**	**-0.5**
	0.3nm,0.3s,baz=78,slow=11,SNR=2.7								
CFAA				LR			LR	08 11 30.1	
	comp=Z,37nm,20.9s,baz=214,slow=39								
TRQA	**Tornquist**	**8.80**	**94**	*e*Pn			**Pn**	**08 08 45.7**	**+1.7**
	31nm,1.0s								
LCO	**Las Campanas**	**9.14**	**13**	*e*Pn			**Pn**	**08 08 47.6**	**-1.4**
	13nm,0.6s								
LCO				*e*Sn			**Sn**	**08 10 32.5**	**+1.6**
LVC	**Limon Verde**	**15.71**	**15**	*e*P			**Pn**	**08 10 17.7**	**-0.6**
CPUP	**Villa Florida**	**17.67**	**54**	P			**P**	**08 10 44.8**	**+1.5**
	0.5nm,0.3s,baz=191,slow=9.3,SNR=4.2								
LPAZ	**La Paz**	**22.03**	**13**	P			**P**	**08 11 33.4**	**+2.0**
	6.6nm,0.8s,baz=192,slow=7.8,SNR=14								
LPAZ	**La Paz**	**22.03**	**13**	P			**P**	**08 11 33.4**	**+2.0**
	4.4nm,0.8s								
SIV	**San Ignacio**	**24.32**	**29**	P			**P**	**08 11 52.9**	**-0.9**
	3.0nm,0.8s,baz=227,slow=12,SNR=9.3								
BDFB	**Brasilia**	**31.38**	**52**	P			**P**	**08 12 55.0**	**-2.1**
	1.9nm,0.6s,baz=214,slow=21,SNR=3.3								
BDFB				LR			LR	08 26 26.3	
	comp=Z,127nm,20.1s,baz=210,slow=38								
OTAV	**Otavalo**	**38.32**	**351**	*e*P			**P**	**08 13 59.9**	**+2.6**
	13nm,1.5s								
VNA3	**Neumayer Olymp**	**46.07**	**156**	P			**P**	**08 14 59.4**	**+0.1**
VNA2	**Neumayer--Watz**	**46.74**	**156**	P			**P**	**08 15 05.1**	**+0.5**
	baz=292,slow=11								
SNAA	**Sanae**	**48.29**	**156**	P			**P**	**08 15 16.7**	**0.0**
SNAA	**Sanae**	**48.29**	**156**	P			**P**	**08 15 16.5**	**-0.2**
	4.7nm,0.9s,baz=272,slow=4.4,SNR=9.1								
QSPA	**South Pole Qui**	**52.29**	**180**	P			**P**	**08 15 47.5**	**+0.3**
	5.2nm,0.9s,baz=154,slow=2.0,SNR=11								
QSPA	**South Pole Qui**	**52.29**	**180**	*e*P			**P**	**08 15 47.0**	**-0.1**
	11nm,1.0s								
PPT	**Papeete**	**68.88**	**264**	LR			LR	08 40 01.2	
	comp=Z,64nm,18.3s,baz=118,slow=29								
832A	**Faith Ranch, C**	**70.53**	**335**	⇑P			**P**	**08 17 50.6**	**+0.1**
	baz=71								
732A	**Laxson Ranch,**	**70.94**	**335**	⇓P			**P**	**08 17 53.7**	**+0.7**
	baz=71								
633A	**Saathoff Ranch**	**71.36**	**336**	⇓P			**P**	**08 17 55.9**	**+0.4**
	baz=72								
632A	**Uvalde**	**71.60**	**336**	⇑P			**P**	**08 17 57.8**	**+0.8**
	baz=72								
631A	**Perdido Creek**	**71.77**	**335**	⇓P			**P**	**08 17 58.3**	**+0.3**
	baz=72								
533A	**Kerrville**	**71.88**	**337**	⇑P			**P**	**08 17 59.3**	**+0.6**
	baz=72								
532A	**Rocksprings**	**72.21**	**336**	⇓P			**P**	**08 18 01.6**	**+0.8**
	baz=73,SNR=5.8								
434A	**Burnet**	**72.33**	**337**	⇑P			**P**	**08 18 01.8**	**+0.4**
	baz=73								
336A	**Riesel**	**72.45**	**339**	⇑P			**P**	**08 18 02.1**	**+0.1**
	baz=73								
531A	**Rocksprings**	**72.45**	**335**	⇓P			**P**	**08 18 03.1**	**+1.0**
	baz=73								
JCT	**Junction City**	**72.50**	**336**	⇑P			**P**	**08 18 03.1**	**+0.7**
	baz=73								
JCT	**Junction City**	**72.50**	**336**	*e*P			**P**	**08 18 03.2**	**+0.7**
	6.4nm,1.0s								
433A	**Art**	**72.53**	**337**	⇑P			**P**	**08 18 02.0**	**-0.6**
	baz=73								
238A	**Jacksonville**	**72.56**	**341**	⇓P			**P**	**08 18 03.1**	**+0.4**
	baz=73								
530A	**J-C Ranch, Com**	**72.70**	**335**	⇑P			**P**	**08 18 04.3**	**+0.7**
	baz=73,SNR=5.6								
TXAR	**Lajitas Array**	**72.78**	**332**	P			**P**	**08 18 04.8**	**+0.6**
	1.3nm,0.7s,baz=150,slow=9.4,SNR=9.6								
TXAR				LR			LR	08 44 24.6	
	comp=Z,74nm,19.7s,baz=0.0,slow=31								
334A	**Lometa**	**72.81**	**338**	⇓P			**P**	**08 18 03.8**	**-0.5**
	baz=73,SNR=6.0								
432A	**Menard**	**72.87**	**336**	⇑P			**P**	**08 18 04.6**	**0.0**
	baz=73								
431A	**Sonora**	**72.95**	**335**	⇓P			**P**	**08 18 05.2**	**+0.1**
	baz=73								
529A	**Stev Forest Ra**	**72.99**	**334**	⇓P			**P**	**08 18 06.1**	**+0.7**
	baz=73								
333A	**Richland Sprin**	**73.03**	**337**	⇑P			**P**	**08 18 05.6**	**0.0**
	baz=73								
KMSC	**Kings Mountain**	**73.13**	**353**	⇓P			**P**	**08 18 06.0**	**0.0**
	baz=74								
430A	**Baggett Ranch,**	**73.26**	**335**	⇑P			**P**	**08 18 07.2**	**+0.2**
	baz=74,SNR=6.2								
137A	**Heron Place, G**	**73.29**	**340**	⇓P			**P**	**08 18 07.3**	**+0.3**
	baz=74								
332A	**Millersview**	**73.32**	**336**	⇑P			**P**	**08 18 07.0**	**-0.3**
	baz=74,SNR=5.2								
429A	**Davenport Ranc**	**73.33**	**334**	⇓P			**P**	**08 18 08.0**	**+0.6**
	baz=74,SNR=5.5								
234A	**Clairette**	**73.41**	**338**	⇑P			**P**	**08 18 07.8**	**+0.1**
	baz=74								
331A	**San Angelo**	**73.47**	**336**	⇑P			**P**	**08 18 08.2**	**0.0**
	baz=74,SNR=6.9								
233A	**Rising Star**	**73.65**	**337**	⇓P			**P**	**08 18 09.4**	**+0.3**
	baz=74								
232A	**Coleman**	**73.76**	**337**	⇓P			**P**	**08 18 10.2**	**+0.3**
	baz=74								
330A	**Mertzon**	**73.81**	**335**	⇑P			**P**	**08 18 10.2**	**+0.1**
	baz=74								
231A	**Bronte**	**74.01**	**336**	⇑P			**P**	**08 18 10.8**	**-0.6**
	baz=74,SNR=5.1								
329A	**Wagon Wheel Ra**	**74.15**	**335**	⇓P			**P**	**08 18 12.8**	**+0.6**
	baz=74								
133A	**Hamilton Ranch**	**74.20**	**338**	⇑P			**P**	**08 18 12.4**	**0.0**
	baz=75								
ABTX	**Abilene, Hawle**	**74.44**	**337**	⇑P			**P**	**08 18 13.7**	**-0.1**
	baz=75								
229A	**Bryant Ranch,**	**74.53**	**335**	⇓P			**P**	**08 18 14.5**	**+0.1**
	baz=75								
131A	**Roby**	**74.72**	**336**	⇑P			**P**	**08 18 15.6**	**+0.2**
	baz=75								
Z33A	**Whitaker Ranch**	**74.79**	**338**	⇓P			**P**	**08 18 16.0**	**+0.2**
	baz=75								
130A	**Snyder**	**74.83**	**336**	⇓P			**P**	**08 18 16.4**	**+0.3**
	baz=75								
228A	**UT Block 9, Go**	**74.93**	**334**	⇓P			**P**	**08 18 17.2**	**+0.4**
	baz=75								
WVT	**Waverly**	**74.96**	**348**	*e*P			**P**	**08 18 16.6**	**-0.1**
	4.1nm,0.9s								
Z32A	**Haskell**	**75.02**	**337**	⇑P			**P**	**08 18 17.0**	**-0.1**
	baz=75								
Z31A	**Sharp Cattle R**	**75.24**	**337**	⇑P			**P**	**08 18 18.2**	**-0.2**
	baz=76								
128A	**Castleberry Fa**	**75.36**	**335**	⇓P			**P**	**08 18 19.4**	**+0.3**
	baz=76								
Z30A	**Sanderson Ranc**	**75.52**	**336**	⇑P			**P**	**08 18 19.3**	**-0.7**
	baz=76								
Y32A	**R-V Farms, Ver**	**75.66**	**338**	⇑P			**P**	**08 18 21.4**	**+0.6**
	baz=76								
Z29A	**Hungry Hill Ra**	**75.68**	**336**	⇓P			**P**	**08 18 21.3**	**+0.3**
	baz=76								
X34A	**Smith Ranch, M**	**75.75**	**339**	⇓P			**P**	**08 18 21.4**	**+0.1**
Y31A	**Rekieta Farm,**	**75.87**	**337**	⇑P			**P**	**08 18 22.2**	**+0.2**
	baz=76								
X33A	**Lawton**	**75.88**	**339**	⇓P			**P**	**08 18 22.2**	**+0.2**
	baz=76								
X32A	**Elmer**	**76.00**	**338**	⇑P			**P**	**08 18 23.6**	**+0.8**
	baz=76								
Y29A	**Porterfield Fa**	**76.22**	**336**	⇓P			**P**	**08 18 24.5**	**+0.4**
	baz=77								
W34A	**Bridge Creek,**	**76.33**	**339**	⇓P			**P**	**08 18 24.7**	**+0.2**
	baz=77								
X31A	**McDonald Ranch**	**76.40**	**337**	⇓P			**P**	**08 18 25.4**	**+0.3**
	baz=77								
TUL1	**Leonard**	**76.44**	**341**	⇑P			**P**	**08 18 24.6**	**-0.5**
	baz=77								
TUL1	**Leonard**	**76.44**	**341**	*e*P			**P**	**08 18 24.7**	**-0.5**
	6.2nm,0.8s								
W33A	**Caddo, Fort Co**	**76.44**	**339**	⇓P			**P**	**08 18 26.5**	**+1.3**
	baz=77								
Y28A	**McKinney Farm,**	**76.45**	**335**	⇓P			**P**	**08 18 25.9**	**+0.4**
	baz=77								
X30A	**Coker Ranch, T**	**76.51**	**337**	⇓P			**P**	**08 18 26.2**	**+0.5**
	baz=77								
W32A	**Sentinel**	**76.64**	**338**	⇓P			**P**	**08 18 26.4**	**0.0**
	baz=77,SNR=6.0								
Y27A	**Causey**	**76.74**	**335**	⇓P			**P**	**08 18 27.4**	**+0.3**
	baz=77								
X29A	**Tulia**	**76.77**	**336**	⇓P			**P**	**08 18 27.1**	**-0.1**
	baz=77								
V34A	**Guthrie**	**76.82**	**340**	⇓P			**P**	**08 18 27.3**	**0.0**
	baz=77								
LIC	**Lamto**	**76.86**	**71**	*e*P			**P**	**08 18 27.1**	**-1.0**
	24nm,0.9s								
V33A	**Lossen Ranch,**	**77.02**	**339**	⇓P			**P**	**08 18 29.0**	**+0.5**
	baz=77								
V32A	**Arapaho**	**77.14**	**339**	⇓P			**P**	**08 18 29.7**	**+0.5**
	baz=78								
TIC	**Toumodi**	**77.14**	**71**	*e*P			**P**	**08 18 29.1**	**-0.6**
	5.4nm,0.2s								
AMTX	**Amarillo**	**77.17**	**336**	⇓P			**P**	**08 18 29.8**	**+0.4**
	baz=78								
KIC	**Kosan Boka**	**77.17**	**71**	*e*P			**P**	**08 18 28.8**	**-1.0**
	29nm,1.3s								
DBIC	**Dimbokro**	**77.28**	**71**	P			**P**	**08 18 30.1**	**-0.3**
	4.5nm,0.7s,baz=199,slow=4.5,SNR=6.0								
DBIC				LR			LR	08 52 44.6	
	comp=Z,20nm,18.1s,baz=142,slow=36								
DBIC	**Dimbokro**	**77.28**	**71**	*e*P			**P**	**08 18 28.4**	**-2.0**
	22nm,1.5s								
W29A	**Amarillo**	**77.38**	**336**	⇓P			**P**	**08 18 31.0**	**+0.4**
	baz=78								
U34A	**Anderson Ranch**	**77.39**	**340**	⇑P			**P**	**08 18 30.5**	**0.0**
	baz=78								
V31A	**Spring Creek L**	**77.42**	**338**	⇓P			**P**	**08 18 31.3**	**+0.5**
	baz=78								
Y24A	**Capitan**	**77.57**	**333**	⇓P			**P**	**08 18 32.3**	**+0.5**
	baz=78								
U32A	**Winter Ranch,**	**77.74**	**339**	⇓P			**P**	**08 18 33.2**	**+0.7**
	baz=78								
W27A	**Bowe Ranch, En**	**77.78**	**335**	⇑P			**P**	**08 18 33.4**	**+0.6**
	baz=78								
Y23A	**Lovelace Mesa,**	**77.80**	**332**	⇑P			**P**	**08 18 34.2**	**+1.2**
	baz=78								
ACSO	**Alum Creek Sta**	**78.33**	**352**	*e*P			**P**	**08 18 35.2**	**-0.5**
	5.4nm,0

	baz=86						
R11A	Troy Canyon, C	85.41 328	⇑P		P	08 19 14.3	+1.1
	baz=86						
I28A	Midland	85.44 340	⇓P		P	08 19 13.9	+0.9
	baz=86						
K22A	Casper	85.79 336	⇓P		P	08 19 15.4	+0.5
	baz=86						
DUG	Dugway, Tooele	85.86 331	⇑P		P	08 19 17.0	+1.7
	baz=86						
DUG	Dugway, Tooele	85.86 331	*e*P		P	08 19 16.4	+1.1
	1.8nm,0.8s						
TPH	Tonopah	85.88 327	*e*P		P	08 19 16.8	+1.2
	3.4nm,1.0s						
G30A	Faulkton	85.97 342	⇓P		P	08 19 16.4	+0.8
	baz=86						
K21A	Alcova	86.01 335	⇑P		P	08 19 16.8	+0.7
	baz=86						
H28A	Mission Ridge	86.03 340	⇓P		P	08 19 16.4	+0.5
	baz=86						
I25A	Rochford	86.18 338	⇓P		P	08 19 17.1	+0.2
	baz=87						
TORD	Torodi Ar. Bea	86.37 70	P		P	08 19 17.0	-1.2
	2.6nm,0.8s,baz=241,slow=4.3,SNR=14						
J22A	Midwest	86.46 336	⇓P		P	08 19 19.4	+1.2
	baz=87						
NVAR	Mina Array Bea	86.65 326	P		P	08 19 20.1	+0.8
	0.8nm,0.9s,baz=145,slow=5.4,SNR=5.5						
PDAR	Pinedale Array	86.91 334	P		P	08 19 20.1	-0.5
	1.1nm,1.0s,baz=184,slow=4.3,SNR=4.9						
G27A	Dupree	86.92 340	⇓P		P	08 19 20.3	+0.1
	baz=87						
G26A	Maurine	87.02 340	⇓P		P	08 19 20.9	+0.1
	baz=87						
F28A	McLaughlin	87.06 341	⇑P		P	08 19 21.4	+0.4
	baz=88						
I21A	Big Trails, Te	87.08 336	⇑P		P	08 19 21.5	+0.2
	baz=88						
G25A	Newell	87.16 339	⇓P		P	08 19 21.8	+0.4
	baz=88						
J19A	Crowheart	87.17 335	⇓P		P	08 19 22.0	+0.3
	baz=88						
AGMN	Agassiz Nation	88.23 345	⇑P		P	08 19 26.4	0.0
	baz=89						
C30A	Mose, Pekin	88.23 343	⇓P		P	08 19 26.7	+0.2
	baz=89						
D28A	Regan	88.25 342	⇑P		P	08 19 26.9	+0.3
	baz=89						
D26A	Manning	88.58 340	⇓P		P	08 19 28.4	+0.3
	baz=89						
H18A	Shoshone NF, C	88.63 335	⇑P		P	08 19 29.2	+0.5
	baz=89						
MDND	Maddock	88.63 343	⇑P		P	08 19 28.7	+0.4
	baz=89						
B30A	Myrvik Farm, E	88.90 344	⇓P		P	08 19 30.1	+0.5
	baz=89						
C27A	Sayler Ranch,	88.97 341	⇑P		P	08 19 30.6	+0.7
	baz=89						
B29A	Wagenman Farm,	89.15 343	⇓P		P	08 19 31.6	+0.8
	baz=90						
A30A	Hoffart Farm,	89.36 344	⇓P		P	08 19 32.0	+0.3
	baz=90						
HLID	Hailey	89.36 331	⇑P		P	08 19 33.6	+1.5
	baz=90						
B28A	Dugan Ranch, T	89.37 342	⇓P		P	08 19 32.1	+0.4
	baz=90						
F19A	Roth Farm, Mol	89.43 336	⇑P		P	08 19 33.6	+1.3
	baz=90						
D23A	Lindsay	89.48 339	⇓P		P	08 19 32.8	+0.4
	baz=90						
A29A	Manning Farm,	89.55 343	⇓P		P	08 19 33.0	+0.3
	baz=90						
C23A	Lambert	90.04 339	⇓P		P	08 19 35.4	+0.4
	baz=90						
ULM	Lac du Bonnet	90.09 346	P		P	08 19 33.3	-1.8
	2.1nm,0.9s,baz=132,slow=4.1,SNR=3.1						
MDT	Midelt	94.96 52	LR		LR	09 02 34.9	
	comp=Z,88nm,18.8s,baz=226,slow=35						
AKTO	Aktyubinsk	143.46 54	PKP		PKPab	08 26 06.3	+0.4
	1.3nm,0.8s,baz=302,slow=6.9,SNR=4.8						
TIXI	Tiksi	144.40 348	*e*PKPdf		PKPab	08 26 07.6	-1.3
ABKAR	Akbulak array	144.72 56	*e*PKPdf		PKPab	08 26 10.3	-0.5
BRVK	Borovoye	150.62 47	*e*PKPbc		PKPbc	08 26 27.1	+0.2
AAK	Ala-Archa	154.95 69	PKPbc		PKPbc	08 26 36.4	-0.7
	1.2nm,0.5s,baz=215,slow=1.7,SNR=4.4						
AAK			PKPab		PKPab	08 26 51.7	-1.0
AAK	Ala-Archa	154.95 69	*e*PKPdf		PKPdf	08 26 27.9	-0.5
AAK			PKPbc		PKPbc	08 26 36.4	-0.7
AAK			*e*PKPbc		PKiKP	08 26 36.6	-0.6
AAK			PKPab		PKPab	08 26 51.7	-1.0
KURK	Kurchatov	156.26 48	*e*PKPdf		PKPdf	08 26 29.2	-0.5
MKAR	Makanchi Array	159.87 56	PKP		PKPdf	08 26 32.7	-1.5
	0.3nm,0.7s,baz=252,slow=7.5,SNR=3.6						
MKAR			PKPab		PKPab	08 27 12.5	-1.1
	1.0nm,0.7s,baz=288,slow=3.8,SNR=12						
SONM	Songino Array	170.12 2	PKPab		PKPab	08 27 56.6	-2.1
	0.3nm,0.4s,baz=26,slow=41,SNR=5.3						

AUST ***11*** *08:37:17.3±7.5, 10°.08S×117°.55E, h0km, Error ellipse: s-maj=1.1km s-min=0.9km az=288.0*
ISCJB ***11*** *08:37:20.9±0.5, 10°.20S±0°.06×117°.69E±0°.04, h34km, Error ellipse: s-maj=8.8km s-min=4.8km az=14.3*
DJA ***11*** *08:37:22.6±2.2, 10°.S±8°×11°.8E±°, h22km±28km, M4.4/14, mb4.7/1, mB4.6/1, MLv4.2/14, Mw(mB)3.9/1*

ISC 11 08:37:21.3±0.8, 10°.02S±0°.09×117°.63E±0°.05, h34km, n17, σ2°.9/17/20, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.78	78	P	Pn	08 37 50.7	+0.9
WBSI				S	Sn	08 38 10.3	-1.0
WSI	Waingapu	2.66	83	P	Pn	08 38 02.6	+0.8
WSI	Waingapu	2.66	83	P	Pn	08 38 02.6	+0.8
	baz=2.7,SNR=4.1						
IGBI	Denpasar	2.72	296	P	Pn	08 38 05.5	+2.8
IGBI				S	Sn	08 38 33.0	-1.4
DNP	Denpasar	2.73	299	P	Pb	08 38 07.1	-2.4
DNP				S	Sb	08 38 39.4	-3.2
SRBI	Singaraja	3.06	309	P	Pn	08 38 11.2	+3.9
JAGI	Jajag, Banyuwa	3.76	294	P	Pn	08 38 19.4	+2.5
JAGI				S	Sn	08 39 04.0	+3.9
JAGI	Jajag, Banyuwa	3.76	294	P	Pn	08 38 18.7	+1.8
	baz=3.7,SNR=24						
GMJI	Gumukmas	4.48	292	P	Pn	08 38 29.0	+2.2
MMRI	Maumere	4.76	74	P	Pn	08 38 33.0	+2.3
BKSI	Bulukumba	5.28	28	P	Pn	08 38 40.1	+2.2
SOEI	Soe	6.55	88	P	Pn	08 38 55.9	+0.4
	baz=6.6,SNR=4.1						
FITZ	Fitzroy Crossi	11.18	137	P	Pn	08 39 57.4	-1.4
	baz=11,SNR=6.3						
GIRL	Giralia	12.96	194	P	Pn	08 40 22.4	-0.8
	baz=13,SNR=5.7						
GIRL				S	Sn	08 42 34.2	-12
	baz=13,SNR=4.2						
MEEK	Meekatharra	16.55	177	P	Pn	08 41 10.5	-0.5
	baz=17,SNR=7.1						
MEEK				S	Sn	08 43 57.4	-16
	baz=17,SNR=8.9						
WRKA	Warakurna	18.05	147	P	P	08 41 31.6	+1.8
	baz=18,SNR=3.8						
MORW	Morawa	19.01	184	P	Pn	08 41 43.3	+2.2
	baz=19,SNR=6.9						
MORW				S	Sn	08 44 55.9	-17
	baz=19,SNR=6.3						

IDC 11 08:41:41.2±5.0, 18°.85N×97°.29E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/47, mbtmp3.5/3, Error ellipse: s-maj=433.8km s-min=26.6km az=59.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	30.48	339	P	P	08 47 55.8	0.0
	0.2nm,0.3s,baz=158,slow=7.0,SNR=9.6						
WRA	Warramunga Arr	52.97	135	P	P	08 51 00.1	+0.2
	0.3nm,0.4s,baz=321,slow=7.6,SNR=2.7						
ASAR	Alice Springs	55.33	138	P	P	08 51 16.7	-0.4
	0.3nm,0.5s,baz=318,slow=6.9,SNR=6.5						

GUC 11 08:41:50.2±0.6, 36°.36S×73°.56W, h24km±8km, ML3.8, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.66	70	*e*P	Pn	08 42 03.7	-0.4
COCH				*i* S	Sn	08 42 13.5	-0.2
COCH				IAML		08 42 14.1	
	comp=N,9μm,0.2s						
LNCH	Linares	1.67	73	⇑*i*P	Pb	08 42 19.3	-0.9
NICH	Los Niches	2.33	55	⇑*i*P	Pb	08 42 29.6	-1.9
NICH				*i* S	Sb	08 42 59.8	-0.1
RCDM	Rinconada Maip	3.65	39	⇑*i*P	Pn	08 42 45.8	+0.6

DJA 11 08:51:39.0±0.5, 6°S±4°×11°3E±°, h10km, M4.0/14, MLv4.0/14, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRJI	Gresik	1.43	206	P	Pn	08 52 02.8	-2.2
KMMI	Kalianget	1.64	149	P	Pn	08 52 04.2	-3.8
KMMI				S	Sn	08 52 28.4	-0.8
TBJI	Tambak Boyo	1.73	227	P	Pn	08 52 08.5	-0.7
BLJI	Banyuglugur	2.15	167	P	Pn	08 52 15.1	+0.1
UWJI	Ujung Watu	2.30	250	P	Pb	08 52 19.1	-1.5
UWJI				S	Sg	08 52 53.5	+0.5
ABJI	Asem Bagus	2.42	153	P	Pb	08 52 22.7	0.0
GMJI	Gumukmas	2.65	173	P	Pn	08 52 21.0	-0.8
BBKI	Banjar Baru	2.75	39	P	Pn	08 52 22.5	-0.8
JAGI	Jajag, Banyuwa	3.00	160	P	Pn	08 52 25.4	-1.3
WOJI	Wonogiri, Jawa	3.09	225	P	Pb	08 52 33.1	-1.0
SRBI	Singaraja	3.20	140	P	Pb	08 52 33.6	-2.4
KPJI	Karang Pucung	4.49	248	P	Pn	08 52 46.0	-1.2

SJA 11 08:58:30.1±11.0, 25°.93S×67°.28W, h120km±862km, ML3.8, MW3.7, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	2.00	54	*e*P9	Pn	08 59 01.3	-2.6
SLA				*e*S	Sn	08 59 24.2	-5.4
AZAP	Zapla	2.62	50	*e*P	Pn	08 59 13.1	+1.2
AZAP				*e*S	Sn	08 59 45.3	+1.4
AZAP				AML	AML	08 59 47.4	
	comp=Z,353nm,0.4s						
ASTB	Santa Barbara	3.21	53	*e*P	Pn	08 59 20.6	+1.2
ALOL	LOMAS DE OLMED	3.67	56	*e*P	Pn	08 59 26.3	+1.0
AGUA	GUANDACOL	3.71	197	*e*P9	Pn	08 59 37.3	+11
AGUA				*e*S	Sn	09 00 32.7	+24

TIR ***11*** *08:59:17.2±1.3, 42°.72N×20°.62E, h7km±999km, ML3.3*
CSEM ***11*** *08:59:19.7±0.1, 42°.74N×20°.60E, h2km, ML2.7, Error ellipse: s-maj=2.0km s-min=1.8km az=167.0*
THE ***11*** *08:59:19.5, 42°.74N×20°.55E, h0km±8km, Error ellipse: s-maj=8.8km s-min=1.6km az=169.0*
PDG ***11*** *08:59:20.4±0.2, 42°.74N×20°.60E, h11km, MD2.8/1, ML2.7/12, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*
SKO ***11*** *08:59:20.3, 42°.80N×20°.49E, h0km, M2.4, ML2.9*
BEO ***11*** *08:59:21.0±0.2, 42°.74N×20°.59E, h9km±5km, ML3.0/1*

ISC 11 08:59:19.9±1.1, 42°.74N±0°.01×20°.59E±0°.01, h0km±10km, n124, σ1°.04/178, 32C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	Plav	0.49	253	⇑*i*Pg	Pg	08 59 29.5	+0.2
PVY				*e*Sg	Sg	08 59 36.6	+1.0
PVY	Plav	0.49	253	⇑*i*Pg	Pg	08 59 29.5	+0.2
PVY				*e*Sg	Sg	08 59 36.6	+1.0
BEY	Berane	0.53	285	P	Pg	08 59 30.4	+0.3
BEY				*e*Sg	Sg	08 59 38.3	+1.3
IVA	Berane	0.53	285	⇑*i*Pg	Pg	08 59 30.4	+0.3
IVA				*e*Sg	Sg	08 59 38.3	+1.3
BCI	Bajram Curri	0.54	226	*i* PG	Pg	08 59 29.9	-0.3
BCI				*i* SG	Sg	08 59 38.0	+0.9
BCI	Bajram Curri	0.54	226	*i* Pg	Pg	08 59 29.9	-0.3
	SNR=91						
BCI				*i* Sg	Sg	08 59 38.0	+0.9
	SNR=91						
PRZK	Prizren	0.54	167	P	Pg	08 59 30.5	+0.2
SELS	Selova	0.62	39	*e*Pg	Pg	08 59 31.8	0.0
SELS	Selova	0.62	39	*e*Pg	Pg	08 59 31.8	0.0
GJIK	Gjilan	0.68	114	P	Pg	08 59 33.4	+0.4
SJES	Sjenica	0.69	319	*e*Pg	Pg	08 59 33.3	+0.1
SJES				*e*Sg	Sg	08 59 43.5	+1.3
PUK	Puka	0.86	217	*i* PG	Pg	08 59 36.6	+0.1
PUK				*i* SG	Sn	08 59 51.8	-1.0
PUK	Puka	0.86	217	*i* Pg	Pg	08 59 36.6	+0.1
	SNR=91						
PUK				*i* Sg	Sn	08 59 51.8	-1.0
	SNR=91						
IVAS	Ivanjica	0.90	339	*e*Pg	Pg	08 59 37.2	0.0
IVAS				*e*Sg	Sg	08 59 49.1	+0.3
IVAS	Ivanjica	0.90	339	*e*Pg	Pg	08 59 37.2	0.0
IVAS				*e*Sg	Sg	08 59 49.1	+0.3
BARS	Barje	0.91	85	*e*Pg	Pg	08 59 37.5	+0.2
BARS				*e*Sg	Sg	08 59 49.6	+0.6
BARS	Barje	0.91	85	*e*Pg	Pg	08 59 37.5	+0.2
BARS				*e*Sg	Sg	08 59 49.6	+0.6
SKO	Skopje	0.99	140	P	Pg	08 59 38.3	-0.6
SKO	Skopje	0.99	140	⇑*i*Pg	Pg	08 59 38.5	-0.4
SKO				*e*Sg	Sb	08 59 53.2	-0.4
SKO	Skopje	0.99	140	*i* Pg	Pg	08 59 39.0	0.0
SKO				*i* Sg	Sb	08 59 53.8	+0.2
SKO				*e*Lg	Lg	08 59 59.1	
	comp=E,127nm,0.5s						
SKO				*e*Lg	Lg	08 59 59.2	
	comp=N,155nm,0.3s						
SKO	Skopje	0.99	140	P	Pg	08 59 38.3	-0.6
SKO	Skopje	0.99	140	*i* Pg	Pg	08 59 38.9	0.0
SKO				*e*Sg	Sb	08 59 53.2	-0.4
SKO				*e*Lg	Lg	08 59 59.0	
	comp=N,127nm,0.5s						
PDG	Podgorica	1.03	253	*e*Pg	Pg	08 59 39.3	-0.4
PDG				*e*Sg	Sg	08 59 54.1	+1.0
PDG	Podgorica	1.03	253	⇓*i*Pg	Pg	08 59 39.4	-0.3
PDG				*e*Sg	Sg	08 59 54.1	+1.0
TTG	Podgorica	1.03	253	⇓*i*Pg	Pg	08 59 39.4	-0.3
TTG				*e*Sg	Sn	08 59 55.7	-1.1
PHP	Peshkopia	1.06	186	*i* PG	Pg	08 59 39.1	-1.1
PHP				*i* SG	Sb	08 59 55.0	-0.6
PHP	Peshkopia	1.06	186	P	Pg	08 59 39.1	-1.1
PHP	Peshkopia	1.06	186	P	Pg	08 59 39.1	-1.1
PHP				*i* Sg	Sb	08 59 55.0	-0.6
	SNR=91						
PLE	Pljevlja	1.06	304	⇑*i*Pg	Pg	08 59 40.0	-0.3
PLE				*e*Sg	Sb	08 59 56.2	+0.5
PLE	Pljevlja	1.06	304	⇑*i*Pg	Pg	08 59 40.0	-0.3
PLE				*e*Sg	Sb	08 59 56.2	+0.5
DRME	Dracevica, Mon	1.18	243	⇑*i*Pg	Pg	08 59 42.1	-0.4
DRME				*e*Sg	Sn	09 00 01.1	+0.7
DRME	Dracevica, Mon	1.18	243	⇑*i*Pg	Pg	08 59 42.1	-0.4
NKY	Niksic	1.18	274	⇑*i*Pg	Pg	08 59 42.0	-0.5
NKY				*e*Sg	Sn	09 00 00.7	+0.1
NKY	Niksic	1.18	274	⇑*i*Pg	Pg	08 59 42.0	-0.5
NKME	Niksic	1.21	272	⇓*i*Pg	Pb	08 59 42.6	-1.1
NKME				*e*Sg	Sn	09 00 01.2	0.0
NKME	Niksic	1.21	272	⇓*i*Pg	Pb	08 59 42.6	-1.1
ULC	Ulcinj	1.26	233	*e*Pg	Pn	08 59 44.1	-0.7
ULC				*e*Sg	Sn	09 00 03.7	+1.2
ULC	Ulcinj	1.26	233	*e*Pg	Pn	08 59 44.1	-0.7
ULC	Ulcinj	1.26	233	P	Pg	08 59 44.9	+0.8
UPM	Unac-Piva	1.32	291	⇑*i*Pg	Pn	08 59 45.2	-0.6
UPM				*e*Sg	Sn	09 00 05.8	+1.6
UPM	Unac-Piva	1.32	291	⇑*i*Pg	Pn	08 59 45.2	-0.6
BUM	Brajici-Budva	1.33	251	⇑*i*Pg	Pn	08 59 45.6	-0.2
BUM				*e*Sg	Sn	09 00 06.2	+2.0
BUM	Brajici-Budva	1.33	251	⇑*i*Pg	Pn	08 59 45.6	-0.2
BBLS	Lazići	1.42	323	*e*Pg	Pn	08 59 47.0	-0.1
BBLS	Lazići	1.42	323	*e*Pg	Pn	08 59 47.0	-0.1
DIVS	Divibare	1.43	342	P	Pn	08 59 45.6	-1.6
DIVS				S	Sb	09 00 05.9	-0.4
DIVS	Divibare	1.43	342	*e*Pg	Pn	08 59 46.3	-0.9
DIVS				*e*Sg	Sb	09 00 05.2	-1.1
DIVS	Divibare	1.43	342	P	Pn	08 59 45.6	-1.6
DIVS	Divibare	1.43	342	*e*Pg	Pn	08 59 46.3	-0.9
DIVS				*e*Sg	Sb	09 00 05.2	-1.1
BOLS	Boljevac	1.48	42	*e*Pg	Pn	08 59 47.5	-0.3
BOLS				*e*Sg	Sg	09 00 07.6	+0.2
BOLS	Boljevac	1.48	42	*e*Pg	Pn	08 59 47.5	-0.3
BOLS				*e*Sg	Sg	09 00 07.6	+0.2
TRUS	Trudelj	1.49	355	*e*Pg	Pb	08 59 48.0	-0.5
TRUS				*e*Sg	Sg	09 00 09.5	+1.6
TRUS	Trudelj	1.49	355	*e*Pg	Pb	08 59 48.0	-0.5
TRUS				*e*Sg	Sg	09 00 09.5	+1.6
BRY	Bratogost	1.52	277	⇑*i*Pg	Pn	08 59 48.3	-0.2
BRY				*e*Sg	Sg	09 00 10.7	+2.0
BRY	Bratogost	1.52	277	⇑*i*Pg	Pn	08 59 48.3	-0.2
BRY				*e*Sg	Sg	09 00 10.7	+2.0
HCY	Herceg Novi	1.57	260	⇑*i*Pn	Pb	08 59 49.4	-0.5
HCY				*e*Sn	Sg	09 00 12.4	+1.9
HCY	Herceg Novi	1.57	260	⇑*i*Pn	Pb	08 59 49.4	-0.5
ZAPS	Zavoj	1.59	70	*e*Pg	Pn	08 59 49.1	-0.3
ZAPS				*e*Sg	Sb	09 00 10.7	-0.2
ZAPS	Zavoj	1.59	70	*e*Pg	Pn	08 59 49.1	-0.3
ZAPS				*e*Sg	Sb	09 00 10.7	-0.2
SVIS	Svilajnac	1.59	16	*e*Pg	Pb	08 59 49.6	-0.7
SVIS				*e*Sg	Sg	09 00 12.4	+1.2
OHR	Ohrid	1.63	174	*i* Pn	Pn	08 59 49.4	-0.6
OHR				*i* Sn	Sb	09 00 11.8	-0.3
OHR				*e*Lg	Lg	09 00 15.0	
	comp=E,359nm,0.8s						
OHR				*e*Lg	Lg	09 00 15.2	
	comp=N,193nm,0.7s						
OHR	Ohrid	1.63	174	*i* Pn	Pn	08 59 49.4	-0.6
OHR				*i* Sn	Sb	09 00 11.7	-0.3
OHR				*e*Lg	Lg	09 00 14.9	
	comp=N,359nm,0.8s						
TREB	Trebinje	1.65	270	*e*Pg	Pb	08 59 51.4	+0.2
TREB	Trebinje	1.65	270	*e*Pg	Pb	08 59 51.4	+0.2
VTS	Vitosha	1.94	93	P	Pn	08 59 53.9	-0.4
VTS	Vitosha	1.94	93	*e*Pg	Pn	08 59 54.5	+0.2
VTS				*e*Sg	Sg	09 00 22.9	+0.7
VTS	Vitosha	1.94	93	⇓*i*P	Pn	08 59 54.2	-0.1
VTS	Vitosha	1.94	93	S	Sb	09 00 19.5	-1.5
VTS	Vitosha	1.94	93	P	Pn	08 59 53.9	-0.4
VTS	Vitosha	1.94	93	*e*Pg	Pn	08 59 54.5	+0.2
VTS				*e*Sg	Sg	09 00 22.9	+0.7
TEKS	Tekeris	1.97	337	*e*Pn	Pn	08 59 54.7	+0.1
TEKS	Tekeris	1.97	337	*e*Pn	Pn	08 59 54.7	+0.1
FNA	Florina	2.04	163	P	Pn	08 59 55.6	0.0
FNA	Florina	2.04	163	*e*P	Pn	08 59 55.5	0.0
FNA	Florina	2.04	163	P	Pn	08 59 55.6	0.0
VAY	Valandovo	2.04	133	*i* Pn	Pn	08 59 55.1	-0.5
VAY				*i* Sn	Sg	09 00 26.6	+1.1
VAY				*e*Lg	Lg	09 00 36.7	
	comp=N,45nm,1.1s						
VAY				*e*Lg	Lg	09 00 39.5	
	comp=E,47nm,1.0s						
VAY	Valandovo	2.04	133	*i* Pn	Pn	08 59 55.1	-0.5
VAY				*e*Lg	Lg	09 00 36.6	
	comp=E,45nm,1.1s						
BEO	Beograd	2.07	358	*e*Sg	Sg	09 00 26.2	-0.3
STON	Ston	2.13	275	Sn	Sg	09 00 29.2	+0.8
STON	Ston	2.13	275	*e*Pg	Pb	08 59 59.2	-0.2
STON				*e*Sg	Sg	09 00 28.7	+0.3
STON	Ston	2.13	275	*e*Pg	Pb	08 59 59.2	-0.2
STON				*e*Sg	Sg	09 00 28.7	+0.3
GRG	Griva	2.24	142	P	Pn	08 59 57.7	-0.5
GRG	Griva	2.24	142	P	Pn	08 59 57.7	-0.5
KNT	Kendrikon	2.33	132	*e*P	Pn	08 59 58.9	-0.7
NEST	Nestorio	2.35	171	*e*P	Pn	08 59 58.9	-0.9
KZN	Kozani	2.58	160	*e*P	Pn	09 00 02.9	-0.2
MMB	Musomiste	2.60	115	⇑*i*P	Pn	09 00 03.7	+0.4
MMB	Musomiste	2.60	115	S	Sn	09 00 36.6	+1.0
MMB	Musomiste	2.60	115	⇑*i*P	Pn	09 00 03.7	+0.4
SRE	Strehaia	2.70	44	⇑*i*P	Pn	09 00 04.3	-0.3
SRE	Strehaia	2.70	44	S	Sb	09 00 39.6	-3.2
SRE	Strehaia	2.70	44	⇑*i*P	Pn	09 00 04.3	-0.3
SRE				S	Sb	09 00 39.6	-3.2
SRS	Serrai	2.76	125	*e*P	Pn	09 00 04.6	-0.9
NVR	Nevrokopi	2.80	119	*e*P	Pn	09 00 05.9	-0.2
SOH	Sokhos	2.82	132	*e*P	Pn	09 00 06.5	+0.2
HORT	Hortiatis	2.85	138	*e*P	Pn	09 00 06.3	-0.4
BZS	Buzias	2.97	14	⇓*i*P	Pn	09 00 07.1	-1.2
BZS	Buzias	2.97	14	S	Sn	09 00 44.9	+0.2
BZS	Buzias	2.97	14	⇓*i*P	Pn	09 00 07.1	-1.2
BZS				S	Sn	09 00 44.9	+0.2
LIT	Litokhoron	3.00	151	*e*P	Pn	09 00 08.6	-0.1
GZR	Gura Zlata	3.09	30	⇑*i*P	Pn	09 00 09.1	-0.9
GZR	Gura Zlata	3.09	30	S	Sb	09 00 50.7	-3.3
GZR	Gura Zlata	3.09	30	⇑*i*P	Pn	09 00 09.1	-0.9
GZR				S	Sb	09 00 50.7	-3.3
PLG	Polygyros	3.19	137	*e*P	Pn	09 00 11.1	-0.3
THL	Klokotos Trika	3.35	161	*e*P	Pn	09 00 13.4	-0.1
KAVA	Kavala	3.41	119	*e*P	Pn	09 00 14.0	-0.3
OUR	Ouranopolis	3.50	132	*e*P	Pn	09 00 14.8	-0.8
LOT	Lotru	3.55	39	⇑*i*P	Pn	09 00 17.4	+1.0
LOT	Lotru	3.55	39	S	Sn	09 01 01.9	+2.8
LOT	Lotru	3.55	39	⇑*i*P	Pn	09 00 17.4	+1.0
LOT				S	Sn	09 01 01.9	+2.8
PKSM	Moragy	3.74	339	⇑*i*P	Pn	09 00 18.0	-0.9
PKSM	Moragy	3.74	339	⇑*i*P	Pn	09 00 18.0	-0.9
MAKR	Makrakomi, Fth	3.90	162	*e*P	Pn	09 00 20.3	-0.8
ARR	Arges	3.93	47	⇑*i*P	Pn	09 00 20.4	-1.1
ARR	Arges	3.93	47	⇑*i*P	Pn	09 00 20.4	-1.1
AGG	Agios Georgios	3.94	160	*e*P	Pn	09 00 20.9	-0.8
VOIR		4.20	48	⇓*i*P	Pn	09 00 25.2	0.0
VOIR		4.20	48	S	Sn	09 01 18.1	+3.1
VOIR		4.20	48	⇓*i*P	Pn	09 00 25.2	0.0
VOIR				S	Sn	09

KOPT	**Kop Dagi**	**1.33**	**14**	*i* P		**Pn**	**09 03 09.1**	**-0.6**
KOPT				*i* S		**Sg**	**09 03 29.5**	**+1.5**
KOPT	**Kop Dagi**	**1.33**	**14**	*i* P		**Pn**	**09 03 09.1**	**-0.6**
KOPT				*i* S		**Sg**	**09 03 29.5**	**+1.5**
KEMA	**Kemaliye**	**1.34**	**294**	*i* P		**Pn**	**09 03 08.1**	**-1.6**
KEMA				*i* S		**Sg**	**09 03 30.6**	**+2.3**
KEMA	**Kemaliye**	**1.34**	**294**	*i* P		**Pn**	**09 03 08.1**	**-1.6**
KEMA				*i* S		**Sg**	**09 03 30.6**	**+2.3**
MALT	**Malatya**	**1.35**	**252**	*e*PN		**Pn**	**09 03 10.0**	**+0.1**
MALT	**Malatya**	**1.35**	**252**	*e*Pn		**Pn**	**09 03 10.0**	**+0.1**
ILIC	**ilic-Erzincan**	**1.37**	**302**	*e*PN		**Pb**	**09 03 11.2**	**+0.4**
ILIC	**ilic-Erzincan**	**1.37**	**302**	*e*Pn		**Pb**	**09 03 11.2**	**+0.4**
MARD	**Mardin**	**1.52**	**158**	*i* P		**Pb**	**09 03 13.2**	**-0.2**
MARD				*i* S		**Sg**	**09 03 34.8**	**+0.5**
EZM	**Erzurum**	**1.54**	**40**	*e*PN		**Pn**	**09 03 12.6**	**-0.1**
ERZM	**Erzurum**	**1.54**	**40**	*i* P		**Pn**	**09 03 12.7**	**0.0**
ERZM	**Erzurum**	**1.54**	**40**	*i* P		**Pn**	**09 03 12.7**	**0.0**
ERZM				*i* S		**Sg**	**09 03 39.3**	**+4.3**
KELT	**Kelkit**	**1.55**	**336**	*i* P		**Pn**	**09 03 12.7**	**0.0**
KELT				*i* S		**Sb**	**09 03 34.4**	**+0.9**
KELT	**Kelkit**	**1.55**	**336**	*i* P		**Pn**	**09 03 12.7**	**0.0**
KELT				*i* S		**Sb**	**09 03 34.4**	**+0.9**
EKAR	**Karacoban**	**1.64**	**71**	*i* P		**Pb**	**09 03 15.8**	**+0.3**
EKAR				*i* S		**Sg**	**09 03 42.6**	**+4.5**
BAYT	**Ayd¯–ntepe-Bay**	**1.66**	**2**	*e*PN		**Pn**	**09 03 14.6**	**+0.4**
BAYT	**Ayd¯–ntepe-Bay**	**1.66**	**2**	*e*Pn		**Pn**	**09 03 14.6**	**+0.4**
AKCD	**Akcadag**	**1.74**	**256**	*i* P		**Pn**	**09 03 16.3**	**+1.1**
AKCD	**Akcadag**	**1.74**	**256**	*i* P		**Pn**	**09 03 16.3**	**+1.1**
AKCD				*i* S		Sg	09 03 48.3	+7.2
KBSD	**Kabsdagh**	**1.77**	**168**	*e*P		**Pn**	**09 03 16.5**	**+0.9**
SNR=61								
KBSD	**Kabsdagh**	**1.77**	**168**	*e*P		**Pn**	**09 03 16.5**	**+0.9**
KBSD				*e*S		**Sn**	**09 03 32.8**	**-5.2**
KBSD				*e*S		**Sb**	**09 03 34.7**	**-4.9**
KBSD				AML		AML	09 03 56.8	
comp=Z,366nm,0.6s								
ATAB	**Bozova**	**1.88**	**228**	*i* P		**Pb**	**09 03 18.9**	**-0.6**
ATAB				*i* S		**Sg**	**09 03 46.6**	**+0.9**
ATAB	**Bozova**	**1.88**	**228**	*i* P		**Pb**	**09 03 18.9**	**-0.6**
ATAB				*i* S		**Sg**	**09 03 46.6**	**+0.9**
DARE	**Darende-Malaty**	**2.03**	**266**	*e*PN		**Pb**	**09 03 21.3**	**-0.7**
DARE	**Darende-Malaty**	**2.03**	**266**	*e*Pn		**Pb**	**09 03 21.3**	**-0.7**
SUSE	**Susehri**	**2.06**	**316**	*i* P		**Pn**	**09 03 21.5**	**+1.8**
SUSE	**Susehri**	**2.06**	**316**	*i* P		**Pn**	**09 03 21.5**	**+1.8**
EATA	**Eleskirt**	**2.19**	**58**	*i* P		**Pb**	**09 03 24.9**	**-0.1**
EATA	**Eleskirt**	**2.19**	**58**	*i* P		**Pb**	**09 03 24.9**	**-0.1**
EATA				*i* S		**Sg**	**09 04 59.0**	**+3.2**
SIRT	**Sirnak**	**2.24**	**123**	*e*PN		**Pb**	**09 03 24.2**	**-1.4**
SIRT	**Sirnak**	**2.24**	**123**	*e*Pn		**Pb**	**09 03 24.2**	**-1.4**
TUTA	**Tutak**	**2.24**	**72**	*i* P		**Pn**	**09 03 21.7**	**-0.5**
KTUT	**Trabzon**	**2.26**	**354**	*e*PN		**Pn**	**09 03 23.5**	**+1.2**
KTUT	**Trabzon**	**2.26**	**354**	*e*Pn		**Pn**	**09 03 23.5**	**+1.2**
SFNV	**Sufian**	**2.31**	**179**	*e*P		**Pn**	**09 03 25.2**	**+2.2**
SNR=47								
SFNV	**Sufian**	**2.31**	**179**	*e*P		**Pn**	**09 03 25.2**	**+2.2**
SFNV				*e*S		**Sn**	**09 03 46.2**	**-5.2**
SFNV				AML		AML	09 04 13.3	
comp=Z,300nm,0.5s								
GEVA	**Gevas**	**2.38**	**99**	*i* P		**Pb**	**09 03 27.3**	**-0.8**
GEVA				*i* S		**Sg**	**09 04 03.5**	**+1.6**
GZT	**Gaziantep**	**2.41**	**236**	*i* P		**Pn**	**09 03 26.1**	**+1.7**
GZT				*i* S		**Sg**	**09 04 05.8**	**+3.3**
ESPY	**Espiye-Giresun**	**2.41**	**335**	*e*PN		**Pn**	**09 03 25.6**	**+1.2**
ESPY	**Espiye-Giresun**	**2.41**	**335**	*e*Pn		**Pn**	**09 03 25.6**	**+1.2**
AGRB	**Hanur-Agry**	**2.42**	**69**	*e*PN		**Pn**	**09 03 25.4**	**+0.7**
AGRB	**Hanur-Agry**	**2.42**	**69**	*e*Pn		**Pn**	**09 03 25.5**	**+0.7**
DDEM	**Demirkent**	**2.52**	**30**	*i* P		**Pn**	**09 03 26.6**	**+0.7**
DDEM	**Demirkent**	**2.52**	**30**	*i* P		**Pn**	**09 03 26.6**	**+0.7**
GRSN	**GIRESUNGRSN**	**2.59**	**328**	*i* P		**Pb**	**09 03 30.4**	**-1.1**
GRSN				*i* S		**Sb**	**09 04 02.4**	**-0.9**
GRSN	**GIRESUNGRSN**	**2.59**	**328**	*i* P		**Pb**	**09 03 30.4**	**-1.1**
GRSN				*i* S		**Sb**	**09 04 02.4**	**-0.9**
DBAD	**Bademkaya**	**2.60**	**28**	*i* P		**Pn**	**09 03 28.0**	**+0.9**
DBAD	**Bademkaya**	**2.60**	**28**	*i* P		**Pn**	**09 03 28.0**	**+0.9**
SVSK	**Karacayir**	**2.66**	**297**	*e*PN		**Pn**	**09 03 29.8**	**+2.1**
SVSK	**Karacayir**	**2.66**	**297**	*e*Pn		**Pn**	**09 03 29.8**	**+2.1**
RSDY	**Resadiye-TOKAT**	**2.69**	**309**	*e*PN		**Pn**	**09 03 29.9**	**+1.6**
RSDY	**Resadiye-TOKAT**	**2.69**	**309**	*e*Pn		**Pn**	**09 03 29.9**	**+1.6**
DAGI	**Agiliar**	**2.74**	**31**	*i* P		**Pn**	**09 03 30.0**	**+1.1**
KMRS	**Kahramanmaras**	**2.78**	**245**	*e*PN		**Pn**	**09 03 32.4**	**+2.9**
KMRS	**Kahramanmaras**	**2.78**	**245**	*e*Pn		**Pn**	**09 03 32.4**	**+2.9**
DBOC	**Borcka**	**2.88**	**25**	*i* P		**Pn**	**09 03 32.0**	**+1.1**
DBOC	**Borcka**	**2.88**	**25**	*i* P		**Pn**	**09 03 32.0**	**+1.1**
MZRK	**Al-Mazaregh**	**2.94**	**171**	*e*P		**Pn**	**09 03 33.8**	**+2.2**
SNR=47								
MZRK	**Al-Mazaregh**	**2.94**	**171**	*e*P		**Pn**	**09 03 33.8**	**+2.2**
MZRK				AML		AML	09 03 46.0	
comp=Z,113nm,0.5s								
MZRK				*e*S		**Sn**	**09 04 01.8**	**-5.0**
CLDR	**Caldiran**	**3.03**	**81**	*e*PN		**Pn**	**09 03 34.9**	**+1.8**
CLDR	**Caldiran**	**3.03**	**81**	*e*Pn		**Pn**	**09 03 34.9**	**+1.8**
CUKT	**Cukurca**	**3.17**	**117**	*e*PN		**Pn**	**09 03 36.8**	**+2.0**
CUKT	**Cukurca**	**3.17**	**117**	*e*Pn		**Pn**	**09 03 36.8**	**+1.9**
BNN	**Bunyan**	**3.30**	**273**	*e*PN		**Pn**	**09 03 39.3**	**+2.6**
BNN	**Bunyan**	**3.30**	**273**	*e*Pn		**Pn**	**09 03 39.3**	**+2.6**
KOZT	**Kozan**	**3.57**	**251**	*e*PN		Pn	09 03 43.7	+3.4
KOZT	**Kozan**	**3.57**	**251**	*e*Pn		Pn	09 03 43.7	+3.4
BIDA	**Albida**	**4.77**	**220**	*e*P		**Pn**	**09 03 58.9**	**+2.0**
SNR=47								
BIDA	**Albida**	**4.77**	**220**	*e*P		**Pn**	**09 03 58.9**	**+2.0**
BIDA				*e*S		Sn	09 04 42.0	-10
BIDA				AML		AML	09 05 23.0	
comp=N,84nm,0.5s								
BIDA				AML		AML	09 05 23.1	
comp=E,71nm,0.6s								

GUC 11 09:04:51.0±0.7, 34°22S×72°04W, h7km±15km, ML3.6, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.03**	**140**	⇑*i*P		Pb	09 05 11.0 -0.1
NICH				*i* S		Sb	09 05 25.3 +0.5
RCDM	**Rinconada Maip**	**1.26**	**55**	*e*P		Pn	09 05 13.9 -1.1
RCDM				*i* S		Sg	09 05 31.6 0.0
ANTU	**Antumapu**	**1.33**	**61**	*e*P		Pn	09 05 16.0 -0.1
ANTU				*i* S		Sn	09 05 34.4 +0.3
STL	**Santa Lucia**	**1.40**	**57**	*e*P9		Pn	09 05 16.0 -1.0
STL				*e*S1		Sn	09 05 35.4 -0.3
CLCH	**Cerro Calan**	**1.49**	**57**	⇓*i*P		Pn	09 05 18.3 0.0
CLCH				*i* S		Sg	09 05 38.9 -0.4
CLCH				IAML			09 05 48.5
comp=N,1μm,0.7s							
SJCH	**San Jose de Ma**	**1.51**	**68**	*e*P9		Pn	09 05 18.0 -0.6
SJCH				*e*S		Sb	09 05 39.4 +0.4
PEL	**Peldehue**	**1.56**	**47**	⇓*i*P		Pn	09 05 19.3 +0.1
PEL				*i* S		Sg	09 05 40.9 -0.3
PEL				IAML			09 05 48.2
comp=N,2μm,0.6s							

KRNET 11 09:22:40.5±0.1, 42°87N×77°02E, h1km, mb3.3
NNC 11 09:22:41.5±1.7, 42°95N×76°99E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=13.6km s-min=5.4km az=138.0
KNET 11 09:22:42.3±0.6, 42°88N×76°96E, h22km±5km, ml2.5, Error ellipse: s-maj=4.0km s-min=2.5km az=68.0

ISC 11 09:22:40.9±1.2, 42°91N±0°04×77°04E±0°03, h2km±11km, n24, σ0°60/40, 30C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.31**	**350**	⇑P		**Pg**	**09 22 46.7** **-0.1**
KNDC				⇑S		**Sg**	**09 22 51.4** **+0.5**
ANVS	**Anan'yevo**	**0.48**	**105**	⇓*i*P		**Pg**	**09 22 50.1** **0.0**
baz=100							
ANVS				⇓*e*S		**Sg**	**09 22 56.9** **+0.5**
baz=100							
ULHL	**Ulahol**	**0.89**	**222**	⇓P		**Pg**	**09 22 58.1** **+0.2**
14nm,0.2s,SNR=24							
ULHL				⇓S		**Sb**	**09 23 10.3** **-1.2**
112nm,0.2s							
ULHL	**Ulahol**	**0.89**	**222**	⇑*i*P		**Pg**	**09 22 58.1** **+0.2**
baz=223							
ULHL				⇑*i*S		**Sb**	**09 23 10.2** **-1.2**
baz=223							
BOOM	**Boomskoye usch**	**0.91**	**243**	*e*P		**Pg**	**09 22 58.0** **-0.3**
baz=244							
BOOM				*e*S		**Sg**	**09 23 10.5** **+0.4**
baz=244							
TKM2	**Tokmak 2**	**1.06**	**271**	⇑P		**Pg**	**09 23 00.5** **-0.5**
11nm,0.5s							
TKM2				⇑S		**Sg**	**09 23 15.2** **+0.4**
69nm,0.6s							
TKM2	**Tokmak 2**	**1.06**	**271**	⇑P		**Pg**	**09 23 00.6** **-0.5**
15nm,0.2s,SNR=22							
TKM2				⇓S		**Sg**	**09 23 15.8** **+0.9**
65nm,0.1s							
TKM2	**Tokmak 2**	**1.06**	**271**	⇑*i*P		**Pg**	**09 23 00.6** **-0.5**
baz=273							
TKM2				⇑*i*S		**Sg**	**09 23 15.2** **+0.4**
baz=273							
KBK	**Karagaybulak**	**1.56**	**261**	⇑P		**Pn**	**09 23 10.0** **+0.2**
27nm,0.2s,SNR=16							
KBK				⇑S		**Sg**	**09 23 31.3** **+0.3**
61nm,0.2s							
KBK	**Karagaybulak**	**1.56**	**261**	⇑*i*P		**Pn**	**09 23 09.8** **+0.1**
baz=263							
KBK				⇑*i*S		**Sg**	**09 23 30.9** **0.0**
baz=263							
KZA	**Kyzart**	**1.56**	**238**	⇓P		**Pb**	**09 23 10.6** **-0.1**
8.4nm,0.2s,SNR=12							
KZA	**Kyzart**	**1.56**	**238**	⇑*i*P		**Pn**	**09 23 10.4** **+0.4**
baz=239							
KZA				⇑*i*S		**Sg**	**09 23 32.2** **+1.2**
baz=239							
CHMS	**Chumysh**	**1.68**	**274**	⇑P		**Pn**	**09 23 11.3** **0.0**
23nm,0.2s,SNR=28							
CHMS				⇓S		**Sb**	**09 23 34.4** **+0.3**
43nm,0.2s							
CHMS	**Chumysh**	**1.68**	**274**	⇑*i*P		**Pn**	**09 23 11.1** **-0.2**
baz=275							
CHMS				⇑*i*S		**Sn**	**09 23 33.6** **+0.2**
baz=275							
AAK	**Ala-Archa**	**1.89**	**262**	⇑Pn		**Pb**	**09 23 15.6** **-0.6**
13nm,0.5s							
AAK				⇓Sn		**Sg**	**09 23 41.8** **+0.1**
17nm,0.4s							
AAK	**Ala-Archa**	**1.89**	**262**	⇑P		**Pb**	**09 23 15.5** **-0.6**
24nm,0.2s,SNR=29							
AAK				⇑S		**Sg**	**09 23 41.0** **-0.6**
31nm,0.3s							
AAK	**Ala-Archa**	**1.89**	**262**	⇑*i*P		**Pn**	**09 23 15.5** **+1.2**
baz=264							
AAK				⇑*i*S		**Sg**	**09 23 41.0** **-0.6**
baz=264							
USP	**Ospenovka**	**1.89**	**282**	⇑P		**Pn**	**09 23 15.0** **+0.8**
39nm,0.2s,SNR=33							
USP				⇑S		**Sb**	**09 23 40.4** **+0.2**
62nm,0.2s							
USP	**Ospenovka**	**1.89**	**282**	⇑*i*P		**Pn**	**09 23 14.9** **+0.7**
baz=283							
USP				⇑*i*S		**Sn**	**09 23 39.4** **+0.8**
baz=283							
UCH	**Uchtor**	**1.98**	**251**	⇓P		**Pb**	**09 23 17.5** **-0.4**
14nm,0.2s,SNR=28							
KK31	**Karatay Array**	**4.79**	**275**	⇑Pg		**Pb**	**09 24 05.7** **+0.2**
0.9nm,0.3s,baz=93,slow=16,SNR=6.3							
KK31				⇓Lg		Lg	09 25 12.4
2.7nm,0.4s,baz=91,slow=28,SNR=8.3							
MK31	**Makanchi Array**	**5.39**	**42**	⇑Pn		**Pn**	**09 24 01.6** **-0.5**
0.3nm,0.3s,baz=225,slow=14,SNR=4.2							
MK31				⇑Lg		Lg	09 25 26.8
2.4nm,0.6s,baz=225,slow=28,SNR=7.3							
KURBB	**Kurchatov Arra**	**7.78**	**7**	⇓Lg		Lg	09 26 46.0
4.9nm,0.6s							
KURK	**Kurchatov**	**7.88**	**7**	⇓Lg		Lg	09 26 47.2
2.9nm,0.8s							

IDC 11 09:23:23.8±18.0, 12°54N×142°72E, h290km±194km, mb2.9/6, mb1 3.0/6, mb1mx2.8/39, mbtmp3.6/6, Error ellipse: s-maj=232.0km s-min=28.0km az=81.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.32**	**194**	P	P	09 29 34.4	-0.6
0.4nm,0.7s,baz=17,slow=9.4,SNR=3.7							
ASAR	**Alice Springs**	**37.00**	**194**	P	P	09 30 06.7	+0.4
0.3nm,0.5s,baz=18,slow=12,SNR=6.3							
SONM	**Songino Array**	**46.41**	**327**	P	P	09 31 21.9	-0.1
0.4nm,0.5s,baz=142,slow=7.4,SNR=4.1							
MKAR	**Makanchi Array**	**60.80**	**317**	P	P	09 33 06.2	+0.5
0.4nm,0.5s,baz=101,slow=6.1,SNR=12							
KURBB	**Kurchatov Arra**	**64.08**	**320**	P	P	09 33 26.2	-0.9
0.4nm,0.5s,baz=106,slow=6.7,SNR=7.7							
BVAR	**Borovoye Array**	**69.46**	**322**	P	P	09 34 01.2	+0.3
0.5nm,0.4s,baz=103,slow=7.3,SNR=4.2							

ISCJB 11 09:25:03.6±1.2, 36°89S±0°09×73°5W±0°2, h14km, mb3.7/3, MS3.5/5, Error ellipse: s-maj=21.4km s-min=11.6km az=19.1
IDC 11 09:25:06.2±6.8, 37°01S×73°51W, h28km±48km, mb3.6/3, mb1 3.8/6, mb1mx3.7/22, mbtmp3.7/6, ML3.5/3, MS3.3/6, Ms1 3.3/6, ms1mx3.1/19, Error ellipse: s-maj=39.4km s-min=25.4km az=91.0

ISC 11 09:25:04.4±1.2, 36°9S±0°1×73°6W±0°2, h14km, n11, σ1°10/9, mb3.8/3, MS3.7/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.47**	**149**	Pn	**Pn**	**09 26 12.1**	**+0.4**
0.3nm,0.3s,baz=335,slow=10,SNR=3.0							
PLCA				Lg	Lg	09 27 23.9	
2.6nm,0.3s,baz=44,slow=13,SNR=4.0							
CFAA	**Coronel Fontan**	**6.89**	**41**	Pn	**Pn**	**09 26 45.0**	**0.0**
0.3nm,0.3s,baz=209,slow=13,SNR=10							
CFAA				Sn	**Sn**	**09 28 02.9**	**-0.3**
0.1nm,0.3s,baz=298,slow=22,SNR=3.1							
CFAA				LR	LR	09 29 43.3	
comp=Z,28nm,19.5s,baz=218,slow=40							
CPUP	**Villa Florida**	**17.36**	**57**	P	**P**	**09 29 07.4**	**-0.2**
0.4nm,0.3s,baz=202,slow=5.5,SNR=3.9							
LPAZ	**La Paz**	**21.11**	**15**	P	**P**	**09 29 51.0**	**+1.8**
3.2nm,0.9s,baz=177,slow=6.9,SNR=8.1							
NNA	**Nana**	**25.00**	**352**	LR	LR	09 38 16.4	
comp=Z,29nm,18.4s,baz=190,slow=32							
BDFB	**Brasilia**	**31.02**	**54**	LR	LR	09 43 55.4	
comp=Z,72nm,20.4s,baz=230,slow=36							
PPT	**Papeete**	**68.65**	**264**	LR	LR	09 59 36.5	
comp=Z,72nm,18.7s,baz=44,slow=30							
TXAR	**Lajitas Array**	**71.72**	**333**	P	**P**	**09 36 26.3**	**+0.3**
0.8nm,0.7s,baz=153,slow=8.8,SNR=11							
TXAR				LR	LR	10 02 16.7	
comp=Z,36nm,18.7s,baz=0.0,slow=31							
TORD	**Torodi Ar. Bea**	**86.35**	**71**	P	**P**	**09 37 46.3**	**-0.1**
0.5nm,0.7s,baz=211,slow=4.1,SNR=2.8							
TORD				LR	LR	10 14 46.1	
comp=Z,26nm,18.1s,baz=325,slow=34							
MKAR	**Makanchi Array**	**159.55**	**54**	PKPab	**PKPab**	**09 45 39.6**	**-0.9**
1.1nm,0.9s,baz=332,slow=1.8,SNR=4.8							
SONM	**Songino Array**	**169.09**	**0**	PKPab	**PKPab**	**09 46 20.7**	**-1.7**
0.7nm,0.9s,baz=48,slow=2.2,SNR=3.7							

ISCJB 11 09:32:57.7±0.5, 36°49N±0°03×70°12E±0°07, h213km, mb3.3/7, Error ellipse: s-maj=8.5km s-min=4.3km az=165.0
IDC 11 09:32:57.6±2.8, 36°36N×70°21E, h213km±24km, mb3.2/8, mb1 3.4/13, mb1mx3.2/47, mbtmp3.9/13, Error ellipse: s-maj=22.3km s-min=16.1km az=167.0
NNC 11 09:33:05.6±4.7, 36°97N×70°47E, h237km±48km, mb3.1, mpv4.3, Error ellipse: s-maj=44.7km s-min=29.4km az=0.0

ISC 11 09:32:58.6±0.6, 36°52N±0°06×70°22E±0°08, h213km, n44, σ1°34/49, mb3.3/7, 6C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.03**	**152**	⇑P		**Pn**	**09 33 50.9** **+1.4**
CEP				S		**S**	**09 34 29.0** **+0.1**
CHCP	**Chirah Chowk**	**3.79**	**138**	P		**Pn**	**09 33 59.9** **+1.4**
SARP	**Sargodha**	**5.02**	**155**	P		**Pn**	**09 34 13.3** **-0.3**
AML	**Almayashu**	**6.21**	**25**	P		**Pn**	**09 34 30.2** **+1.1**
SNR=203							
KK31	**Karatay Array**	**6.58**	**2**	P		**Pn**	**09 34 34.4** **+1.0**
8.0nm,0.4s,baz=177,slow=13,SNR=130							
KK31				⇑S		**S**	**09 35 46.3** **-2.4**
11nm,0.6s,baz=178,slow=22,SNR=4.2							
UCH	**Uchtor**	**6.60**	**29**	P		**Pn**	**09 34 35.2** **+1.1**
SNR=65							
EKS2	**Erkin-Say**	**6.72**	**23**	P		**Pn**	**09 34 36.9** **+1.6**
SNR=47							
KZA	**Kyzart**	**6.78**	**34**	P		**Pn**	**09 34 37.3** **+0.8**
SNR=10							
AAK	**Ala-Archa**	**6.94**	**27**	⇓P		**Pn**	**09 34 39.6** **+1.4**
16nm,0.5s							
AAK				⇑S		**S**	**09 35 57.0** **-0.4**
35nm,0.7s							
AAK	**Ala-Archa**	**6.94**	**27**	P		**Pn**	**09 34 39.7** **+1.4**
SNR=37							
AAK	**Ala-Archa**	**6.94**	**27**	P		**Pn**	**09 34 39.6** **+1.4**
7.0nm,0.3s,baz=177,slow=6.4,SNR=86							
AAK				S		**S**	**09 35 58.4** **+1.0**
3.8nm,0.3s,baz=14,slow=16,SNR=14							
KBK	**Karagaybulak**	**7.13**	**29**	P		**Pn**	**09 34 42.4** **+1.7**
SNR=14							
CHMS	**Chumysh**	**7.35**	**27**	P		**Pn**	**09 34 44.4** **+1.0**
SNR=12							
ULHL	**Ulahol**	**7.38**	**37**	P		**Pn**	**09 34 44.9** **+1.0**
SNR=40							
USP	**Ospenovka**	**7.50**	**25**	P		**Pn**	**09 34 46.5** **+1.2**
SNR=7.0							
TKM2	**Tokmak 2**	**7.62**	**31**	⇓P		**Pn**	**09 34 47.9** **+0.9**
13nm,0.5s							
TKM2				⇑S		**S**	**09 36 07.9** **-5.5**
5.4nm,0.6s							
TKM2	**Tokmak 2**	**7.62**	**31**	P		**Pn**	**09 34 48.1** **+1.1**
SNR=34							
GEYT	**Alibeck**	**9.75**	**282**	P		**Pn**	**09 35 14.4** **-0.1**
0.7nm,0.3s,baz=104,slow=12,SNR=3.7							
MK31	**Makanchi Array**	**13.65**	**38**	P		**Pn**	**09 36 03.7** **+0.1**
4.4nm,0.5s,baz=213,slow=12,SNR=136							
MKAR	**Makanchi Array**	**13.65**	**38**	P		**Pn**	**09 36 04.0** **+0.4**
1.9nm,0.3s,baz=223,slow=16,SNR=36							
DANN	**Dangsing**	**14.03**	**122**	*e*P		**Pn**	**09 36 08.4** **-0.4**
7.1nm,0.4s							
KOLN	**Koldanda**	**14.29**	**124**	*e*P		**Pn**	**09 36 11.3** **-0.6**
AB31	**Akbulak array**	**14.77**	**333**	⇑P		**P**	**09 36 19.4** **+1.5**
1.4nm,0.5s							
GKN	**Gorkha**	**14.85**	**121**	*e*P		**P**	**09 36 19.9** **+0.7**
14nm,0.5s							
KURBB	**Kurchatov Arra**	**15.31**	**20**	⇓P		**P**	**09 36 23.6** **-0.3**
6.0nm,0.8s							
KURBB	**Kurchatov Arra**	**15.31**	**20**	P		**P**	**09 36 23.9** **0.0**
0.2nm,0.3s,baz=211,slow=10,SNR=16							
KURK	**Kurchatov**	**15.42**	**20**	⇓P		**Pn**	**09 36 24.9** **-0.3**
2.2nm,1.1s							
KKN	**Kakani**	**15.43**	**120**	*e*P		**Pn**	**09 36 26.3** **+0.5**
12nm,0.4s							
GUN	**Gumba**	**15.78**	**119**	*e*P		**Pn**	**09 36 31.7** **+1.6**
8.7nm,0.4s							
JIRN	**Jiri**	**16.15**	**119**	*e*P		**Pn**	**09 36 35.6** **+1.1**
9.7nm,0.3s							
AKTO	**Aktyubinsk**	**16.45**	**331**	P		**Pn**	**09 36 38.3** **+0.7**
0.3nm,0.3s,baz=157,slow=9.1,SNR=8.1							
BVA0	**Borovoye Array**	**16.50**	**0**	⇑P		**Pn**	**09 36 39.0** **+0.8**
3.3nm,0.7s,baz=171,slow=9.8,SNR=14							
BVAR	**Borovoye Array**	**16.50**	**0**	P		**Pn**	**09 36 38.7** **+0.6**
0.9nm,0.3s,baz=165,slow=12,SNR=11							
RAMN	**Ramite**	**16.87**	**120**	*e*P		**Pn**	**09 36 42.5** **-0.5**
9.8nm,0.4s							
TAPN	**Taplejung**	**17.42**	**117**	*e*P		**Pn**	**09 36 49.0** **-0.5**
5.1nm,0.3s							
ODAN	**Odare**	**17.48**	**119**	*e*P		**P**	**09 36 49.0** **+0.8**
9.6nm,0.6s							
ZALV	**Zalesovo Beam**	**20.16**	**26**	P		**P**	**09 37 16.9** **+0.3**
14nm,0.5s,baz=220,slow=11,SNR=55							
SONM	**Songino Array**	**28.84**	**56**	P		**P**	**09 38 38.1** **+0.9**
1.1nm,0.7s,baz=246,slow=9.7,SNR=7.3							
ARCES	**ARCESS Array B**	**40.88**	**338**	P		**P**	**09 40 19.2** **-0.3**
2.3nm,0.8s,baz=92,slow=6.2,SNR=6.3							
TORD	**Torodi Ar. Bea**	**65.09**	**268**	P		**P**	**09 43 15.3** **-1.4**
0.2nm,0.4s,baz=49,slow=6.4,SNR=3.6							
ILAR	**Eielson Array**	**74.93**	**16**	P		**P**	**09 44 15.9** **+0.2**
0.5nm,1.0s,baz=316,slow=6.7,SNR=4.0							
YKA	**Yellowknife Ar**	**81.25**	**2**	P		**P**	**09 44 50.0** **-0.4**
0.5nm,0.7s,baz=348,slow=5.2,SNR=11							
WRA	**Warramunga Arr**	**82.54**	**121**	P		**P**	**09 44 55.3** **-2.5**
0.2nm,0.5s,baz=325,slow=4.8,SNR=4.1							
ASAR	**Alice Springs**	**84.78**	**124**	P		**P**	**09 45 08.7** **-0.5**
0.3nm,0.5s,baz=314,slow=4.9,S

mb1 3.5/5, mb1mx3.1/37, mbtmp3.8/5, Error ellipse: s-maj=57.5km s-min=21.5km az=125.0
*ISCJB **11** 09:54:08.4±0.3, 38°.12N±0°.01×23°.27E±0°.02, h10km±2km, mb3.6/4, Error ellipse: s-maj=2.1km s-min=1.9km az=135.3*
*THE **11** 09:54:08.7, 38°.11N×23°.27E, h2km±1km, ML3.8/20, Error ellipse: s-maj=1.6km s-min=0.6km az=16.0*
*ATH **11** 09:54:08.2, 38°.12N×23°.26E, h21km, MD3.5/50, ML3.6*
*CSEM **11** 09:54:09.9±0.1, 38°.11N×23°.25E, h20km, MD3.5, Error ellipse: s-maj=2.8km s-min=2.7km az=54.0*

ISC 11 09:54:08.7±0.9, 38°.12N±0°.01×23°.26E±0°.01, h9km±7km, n221, σ0°85/325, mb3.9/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.25**	**248**	P	**Pg**	**09 54 13.2**	**-0.6**
LTK				S	**Sg**	**09 54 17.3**	**+0.1**
LTK	**Loutraki**	**0.25**	**248**	*e*PB	**Pg**	**09 54 13.2**	**-0.6**
LTK				*e*SB	**Sg**	**09 54 18.1**	**+0.9**
LTK	**Loutraki**	**0.25**	**248**	*e*Pb	**Pg**	**09 54 13.2**	**-0.6**
LTK				S	**Sg**	**09 54 17.3**	**+0.1**
LTK				*e*Sb	Sb	09 54 18.1	-1.9
ATH	**Athens Observa**	**0.39**	**112**	P	**Pg**	**09 54 16.4**	**+0.1**
ATH				S	**Sg**	**09 54 22.4**	**+0.9**
ATH	**Athens Observa**	**0.39**	**112**	*e*PB	**Pg**	**09 54 16.5**	**+0.1**
ATH				*e*SB	**Sg**	**09 54 22.3**	**+0.8**
ATH	**Athens Observa**	**0.39**	**112**	*e*Pb	**Pg**	**09 54 16.5**	**+0.1**
ATH				S	**Sg**	**09 54 22.4**	**+0.9**
NAIG	**Nisos Aigina**	**0.40**	**153**	*e*PB	**Pg**	**09 54 16.4**	**-0.2**
NAIG	**Nisos Aigina**	**0.40**	**153**	*e*Pb	**Pg**	**09 54 16.4**	**-0.2**
ATHU	**Athens Univers**	**0.44**	**110**	P	**Pg**	**09 54 17.2**	**-0.1**
ATHU				S	**Sg**	**09 54 23.6**	**+0.5**
ATHU	**Athens Univers**	**0.44**	**110**	P	**Pg**	**09 54 17.2**	**-0.1**
ATHU				S	**Sg**	**09 54 23.6**	**+0.5**
PTL	**Penteli**	**0.48**	**98**	P	**Pg**	**09 54 17.9**	**-0.2**
PTL				S	**Sg**	**09 54 25.1**	**+0.6**
PTL	**Penteli**	**0.48**	**98**	*e*PB	**Pg**	**09 54 17.9**	**-0.2**
PTL				*e*SB	**Sg**	**09 54 24.8**	**+0.3**
PTL	**Penteli**	**0.48**	**98**	P	**Pg**	**09 54 17.9**	**-0.2**
PTL				*e*Sb	**Sg**	**09 54 24.8**	**+0.3**
PTL				S	**Sg**	**09 54 25.1**	**+0.6**
LKR	**Lokris**	**0.57**	**339**	P	**Pg**	**09 54 19.5**	**-0.3**
LKR				S	**Sb**	**09 54 29.1**	**+0.1**
LKR	**Lokris**	**0.57**	**339**	*e*PN	**Pg**	**09 54 19.5**	**-0.3**
LKR	**Lokris**	**0.57**	**339**	P	**Pg**	**09 54 19.5**	**-0.3**
LKR				S	**Sb**	**09 54 29.1**	**+0.1**
DID	**Didima**	**0.61**	**182**	P	**Pg**	**09 54 19.8**	**-0.8**
DID				S	**Sb**	**09 54 29.4**	**-0.9**
DID	**Didima**	**0.61**	**182**	*e*PB	**Pg**	**09 54 19.9**	**-0.7**
DID				*e*SN	**Sb**	**09 54 29.6**	**-0.7**
DID	**Didima**	**0.61**	**182**	*e*Pb	**Pg**	**09 54 19.9**	**-0.7**
DID				*e*Sn	**Sb**	**09 54 29.6**	**-0.7**
MRKA	**Markates**	**0.64**	**24**	P	**Pg**	**09 54 20.5**	**-0.6**
MRKA				S	**Sb**	**09 54 31.1**	**0.0**
MRKA	**Markates**	**0.64**	**24**	*e*PN	**Pg**	**09 54 20.8**	**-0.3**
MRKA				*e*SN	**Sb**	**09 54 31.1**	**0.0**
MRKA	**Markates**	**0.64**	**24**	P	**Pg**	**09 54 20.5**	**-0.6**
MRKA				S	**Sb**	**09 54 31.1**	**0.0**
DSF	**Desfina**	**0.65**	**297**	P	**Pg**	**09 54 20.8**	**-0.5**
DSF				S	**Sb**	**09 54 31.6**	**+0.2**
DSF	**Desfina**	**0.65**	**297**	*e*PN	**Pg**	**09 54 20.9**	**-0.4**
DSF				*e*SN	**Sb**	**09 54 31.2**	**-0.2**
DSF	**Desfina**	**0.65**	**297**	P	**Pg**	**09 54 20.8**	**-0.5**
DSF				S	**Sb**	**09 54 31.6**	**+0.2**
GUR	**Goura**	**0.75**	**256**	P	**Pg**	**09 54 22.2**	**-1.0**
GUR				S	**Sb**	**09 54 34.0**	**-0.3**
GUR	**Goura**	**0.75**	**256**	*e*PN	**Pg**	**09 54 22.2**	**-1.0**
GUR				*e*SN	**Sb**	**09 54 33.8**	**-0.5**
GUR	**Goura**	**0.75**	**256**	P	**Pg**	**09 54 22.2**	**-1.0**
GUR				S	**Sb**	**09 54 34.0**	**-0.3**
SMIA	**Simia**	**0.76**	**357**	P	**Pg**	**09 54 22.9**	**-0.5**
SMIA				S	**Sb**	**09 54 35.2**	**+0.6**
SMIA	**Simia**	**0.76**	**357**	*e*PN	**Pg**	**09 54 23.0**	**-0.5**
SMIA				*e*SN	**Sg**	**09 54 33.6**	**+0.3**
SMIA	**Simia**	**0.76**	**357**	P	**Pg**	**09 54 22.9**	**-0.5**
SMIA				S	**Sb**	**09 54 35.2**	**+0.6**
AXAR	**Agios Charalam**	**0.80**	**324**	P	**Pg**	**09 54 23.5**	**-0.7**
AXAR				S	**Sn**	**09 54 37.7**	**-0.5**
AXAR	**Agios Charalam**	**0.80**	**324**	*e*PN	**Pg**	**09 54 23.8**	**-0.4**
AXAR				*e*SN	**Sb**	**09 54 35.6**	**-0.1**
AXAR	**Agios Charalam**	**0.80**	**324**	P	**Pg**	**09 54 23.5**	**-0.7**
AXAR				S	**Sn**	**09 54 37.7**	**-0.5**
KLV	**Kalavryta, Ach**	**0.88**	**265**	P	**Pg**	**09 54 24.6**	**-1.1**
KLV				S	**Sb**	**09 54 39.1**	**+1.1**
KLV	**Kalavryta, Ach**	**0.88**	**265**	*e*PN	**Pg**	**09 54 24.8**	**-0.9**
KLV	**Kalavryta, Ach**	**0.88**	**265**	P	**Pg**	**09 54 24.6**	**-1.1**
KLV				S	**Sb**	**09 54 39.1**	**+1.1**
KALE	**Kalithea**	**0.92**	**287**	P	**Pg**	**09 54 25.6**	**-0.9**
KALE				S	**Sn**	**09 54 40.6**	**-0.7**
KALE	**Kalithea**	**0.92**	**287**	*e*PN	**Pg**	**09 54 26.1**	**-0.4**
KALE				*e*SN	**Sg**	**09 54 39.0**	**+0.5**
KALE	**Kalithea**	**0.92**	**287**	P	**Pg**	**09 54 25.6**	**-0.9**
KALE				S	**Sn**	**09 54 40.6**	**-0.7**
LAKA	**Lakka**	**1.02**	**277**	P	**Pg**	**09 54 27.2**	**-1.1**
LAKA	**Lakka**	**1.02**	**277**	*e*PN	**Pg**	**09 54 27.7**	**-0.6**
LAKA	**Lakka**	**1.02**	**277**	P	**Pg**	**09 54 27.2**	**-1.1**
LAKA	**Lakka**	**1.02**	**277**	*e*Pn	**Pg**	**09 54 27.7**	**-0.6**
VLX	**Vlachokerasia**	**1.02**	**223**	P	**Pg**	**09 54 27.5**	**-0.9**
VLX				S	**Sb**	**09 54 42.8**	**+0.6**
VLX	**Vlachokerasia**	**1.02**	**223**	*e*PN	**Pg**	**09 54 27.8**	**-0.6**
VLX				*e*SN	**Sg**	**09 54 40.9**	**-0.8**
VLX	**Vlachokerasia**	**1.02**	**223**	P	**Pg**	**09 54 27.5**	**-0.9**
VLX	**Vlachokerasia**	**1.02**	**223**	*e*Pn	**Pg**	**09 54 27.8**	**-0.6**
VLX				S	**Sb**	**09 54 42.8**	**+0.6**
SKIA	**Skiathos**	**1.06**	**9**	P	**Pg**	**09 54 28.6**	**-0.5**
SKIA				S	**Sn**	**09 54 44.8**	**+0.2**
SKIA	**Skiathos**	**1.06**	**9**	*e*PN	**Pg**	**09 54 28.5**	**-0.5**
SKIA				*e*SN	**Sn**	**09 54 44.7**	**+0.2**
SKIA	**Skiathos**	**1.06**	**9**	P	**Pg**	**09 54 28.6**	**-0.5**
SKIA				*e*Sn	**Sn**	**09 54 44.7**	**+0.2**
EFP	**Efpalio**	**1.11**	**286**	P	**Pb**	**09 54 29.2**	**-0.9**
EFP				S	**Sn**	**09 54 47.7**	**+1.9**
EFP	**Efpalio**	**1.11**	**286**	*e*PN	**Pb**	**09 54 29.4**	**-0.7**
EFP				*e*SN	**Sb**	**09 54 44.5**	**-0.1**
EFP	**Efpalio**	**1.11**	**286**	*e*Pn	**Pb**	**09 54 29.4**	**-0.7**
EFP				*e*Sn	**Sb**	**09 54 44.5**	**-0.1**
EFP				S	**Sn**	**09 54 47.7**	**+1.9**
AOS	**Alonnisos**	**1.16**	**25**	P	**Pb**	**09 54 29.7**	**-1.2**
AOS				S	**Sn**	**09 54 46.7**	**-0.3**
AOS	**Alonnisos**	**1.16**	**25**	*e*PN	**Pb**	**09 54 29.3**	**-1.6**
AOS				*e*SN	**Sn**	**09 54 46.6**	**-0.3**
AOS	**Alonnisos**	**1.16**	**25**	*e*PN	**Pb**	**09 54 29.9**	**-1.0**
AOS				*e*SN	**Sg**	**09 54 46.3**	**+0.3**
AOS	**Alonnisos**	**1.16**	**25**	*e*Pn	**Pb**	**09 54 29.9**	**-1.0**
AOS				*e*Sn	**Sg**	**09 54 46.3**	**+0.3**
AGG	**Agios Georgios**	**1.16**	**321**	P	**Pb**	**09 54 29.9**	**-1.0**
AGG	**Agios Georgios**	**1.16**	**321**	*e*PN	**Pb**	**09 54 29.9**	**-1.0**
AGG				*e*SN	**Sn**	**09 54 47.7**	**+0.6**
AGG	**Agios Georgios**	**1.16**	**321**	P	**Pb**	**09 54 29.9**	**-1.0**
AGG				*e*Sn	**Sn**	**09 54 47.7**	**+0.6**
NEO	**Neokhori**	**1.19**	**359**	P	**Pb**	**09 54 30.6**	**-0.8**
NEO				S	**Sn**	**09 54 48.0**	**+0.2**
NEO	**Neokhori**	**1.19**	**359**	*e*PN	**Pb**	**09 54 30.6**	**-0.8**
NEO				*e*SN	**Sb**	**09 54 47.1**	**+0.2**
NEO	**Neokhori**	**1.19**	**359**	P	**Pb**	**09 54 30.6**	**-0.8**
NEO				*e*Sn	**Sb**	**09 54 47.1**	**+0.2**
NEO				S	**Sn**	**09 54 48.0**	**+0.2**
DRO	**Drossia**	**1.24**	**263**	P	**Pn**	**09 54 31.0**	**-1.2**
DRO				S	**Sn**	**09 54 50.4**	**+1.4**
DRO	**Drossia**	**1.24**	**263**	*e*PN	**Pn**	**09 54 31.4**	**-0.8**
DRO	**Drossia**	**1.24**	**263**	P	**Pn**	**09 54 31.0**	**-1.2**
DRO	**Drossia**	**1.24**	**263**	*e*Pn	**Pn**	**09 54 31.4**	**-0.8**
DRO				S	**Sn**	**09 54 50.4**	**+1.4**
XOR	**Xorichti**	**1.25**	**358**	P	**Pn**	**09 54 31.7**	**-0.6**
XOR				S	**Sn**	**09 54 49.3**	**+0.1**
XOR	**Xorichti**	**1.25**	**358**	*e*PN	**Pn**	**09 54 32.3**	**0.0**
XOR				*e*SN	**Sn**	**09 54 49.3**	**+0.1**
XOR	**Xorichti**	**1.25**	**358**	P	**Pn**	**09 54 31.7**	**-0.6**
XOR	**Xorichti**	**1.25**	**358**	*e*Pn	**Pn**	**09 54 32.3**	**0.0**
XOR				S	**Sn**	**09 54 49.3**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.26**	**316**	*e*PN	**Pg**	**09 54 33.0**	**+0.1**
MAKR				*e*SN	**Sg**	**09 54 50.6**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.26**	**316**	*e*Pn	**Pg**	**09 54 33.0**	**+0.1**
MAKR				*e*Sn	**Sg**	**09 54 50.6**	**+1.4**
AMT	**Artemida-Makis**	**1.36**	**245**	P	**Pb**	**09 54 34.2**	**-0.1**
AMT				S	**Sg**	**09 54 53.6**	**+1.1**
AMT	**Artemida-Makis**	**1.36**	**245**	*e*PN	**Pb**	**09 54 34.3**	**-0.1**
AMT	**Artemida-Makis**	**1.36**	**245**	P	**Pb**	**09 54 34.2**	**-0.1**
AMT				S	**Sg**	**09 54 53.6**	**+1.1**
EVR	**Evrytania**	**1.39**	**305**	P	**Pn**	**09 54 34.6**	**+0.2**
EVR				S	**Sg**	**09 54 53.5**	**0.0**
EVR	**Evrytania**	**1.39**	**305**	*e*PN	**Pn**	**09 54 34.2**	**-0.2**
EVR				*e*SN	**Sg**	**09 54 54.4**	**+0.9**
EVR	**Evrytania**	**1.39**	**305**	*e*Pn	**Pn**	**09 54 34.2**	**-0.2**
EVR	**Evrytania**	**1.39**	**305**	P	**Pn**	**09 54 34.6**	**+0.2**
EVR				S	**Sg**	**09 54 53.5**	**0.0**
EVR				*e*Sn	**Sg**	**09 54 54.4**	**+0.9**
ITM	**Ithomi**	**1.42**	**229**	P	**Pn**	**09 54 34.4**	**-0.2**
ITM				S	**Sg**	**09 54 55.6**	**+1.4**
ITM	**Ithomi**	**1.42**	**229**	*e*PN	**Pb**	**09 54 35.2**	**-0.1**
ITM				*e*SN	**Sg**	**09 54 54.1**	**-0.1**
ITM	**Ithomi**	**1.42**	**229**	P	**Pn**	**09 54 34.4**	**-0.2**
ITM	**Ithomi**	**1.42**	**229**	*e*Pn	**Pb**	**09 54 35.2**	**-0.1**
ITM				*e*Sn	**Sg**	**09 54 54.1**	**-0.1**
ITM				S	**Sg**	**09 54 55.6**	**+1.4**
RLS	**Riolos of Patr**	**1.42**	**268**	*e*PN	**Pn**	**09 54 34.4**	**-0.2**
RLS				*e*SN	**Sg**	**09 54 54.1**	**-0.2**
RLS	**Riolos of Patr**	**1.42**	**268**	*e*Pn	**Pn**	**09 54 34.4**	**-0.2**
RLS				*e*Sn	**Sg**	**09 54 54.1**	**-0.2**
VLI	**Veliai**	**1.42**	**191**	P	**Pn**	**09 54 33.8**	**-0.9**
VLI				S	**Sg**	**09 54 55.3**	**+0.8**
VLI	**Veliai**	**1.42**	**191**	*e*PN	**Pn**	**09 54 34.3**	**-0.4**
VLI				*e*SN	**Sg**	**09 54 54.9**	**+0.4**
VLI	**Veliai**	**1.42**	**191**	P	**Pn**	**09 54 33.8**	**-0.9**
VLI	**Veliai**	**1.42**	**191**	*e*Pn	**Pn**	**09 54 34.3**	**-0.4**
VLI				*e*Sn	**Sg**	**09 54 54.9**	**+0.4**
VLI				S	**Sg**	**09 54 55.3**	**+0.8**
PDO	**Prodromos**	**1.70**	**287**	P	**Pb**	**09 54 39.4**	**-0.8**
PDO	**Prodromos**	**1.70**	**287**	*e*PN	**Pb**	**09 54 39.7**	**-0.5**
PDO				*e*SN	**Sb**	**09 55 01.3**	**-0.4**
PDO	**Prodromos**	**1.70**	**287**	P	**Pb**	**09 54 39.4**	**-0.8**
PDO	**Prodromos**	**1.70**	**287**	*e*Pn	**Pb**	**09 54 39.7**	**-0.5**
PDO				*e*Sn	**Sb**	**09 55 01.3**	**-0.4**
PYL	**PYLOS**	**1.72**	**225**	P	**Pb**	**09 54 39.5**	**-0.9**
PYL	**PYLOS**	**1.72**	**225**	*e*PN	**Pn**	**09 54 39.3**	**+0.5**
PYL				*e*SN	**Sn**	**09 55 01.0**	**+0.2**
PYL	**PYLOS**	**1.72**	**225**	*e*Pn	**Pn**	**09 54 39.3**	**+0.5**
PYL				*e*Sn	**Sn**	**09 55 01.0**	**+0.2**
THL	**Klokotos Trika**	**1.74**	**326**	*e*PN	**Pn**	**09 54 39.5**	**+0.4**
THL				*e*SN	**Sb**	**09 55 02.6**	**-0.2**
THL	**Klokotos Trika**	**1.74**	**326**	*e*Pn	**Pn**	**09 54 39.5**	**+0.4**
THL				*e*Sn	**Sb**	**09 55 02.6**	**-0.2**
PAIG	**Paliouri**	**1.83**	**10**	P	**Pn**	**09 54 39.9**	**-0.5**
PAIG	**Paliouri**	**1.83**	**10**	*e*PB	**Pn**	**09 54 39.9**	**-0.5**
PAIG				*e*SN	**Sn**	**09 55 03.6**	**-0.1**
PAIG	**Paliouri**	**1.83**	**10**	P	**Pn**	**09 54 39.9**	**-0.5**
PAIG				*e*Sn	**Sn**	**09 55 03.6**	**-0.1**
KYTH	**Kithira**	**1.84**	**186**	P	**Pn**	**09 54 40.2**	**-0.3**
KYTH	**Kithira**	**1.84**	**186**	*e*PN	**Pn**	**09 54 40.4**	**-0.1**
KYTH	**Kithira**	**1.84**	**186**	P	**Pn**	**09 54 40.2**	**-0.3**
LIT	**Litokhoron**	**2.07**	**343**	P	**Pn**	**09 54 43.8**	**+0.2**
LIT	**Litokhoron**	**2.07**	**343**	*e*PB	**Pn**	**09 54 43.7**	**+0.2**
LIT				*e*SN	**Sn**	**09 55 09.8**	**+0.3**
LIT	**Litokhoron**	**2.07**	**343**	P	**Pn**	**09 54 43.8**	**+0.2**
LIT				*e*Sn	**Sn**	**09 55 09.8**	**+0.3**
APE	**Apeiranthos**	**2.09**	**119**	P	**Pn**	**09 54 43.5**	**-0.3**
APE	**Apeiranthos**	**2.09**	**119**	*e*PN	**Pn**	**09 54 44.0**	**+0.1**
APE				*e*SN	**Sg**	**09 55 14.9**	**-0.8**
APE	**Apeiranthos**	**2.09**	**119**	*e*PB	**Pn**	**09 54 43.6**	**-0.3**
APE	**Apeiranthos**	**2.09**	**119**	P	**Pn**	**09 54 43.5**	**-0.3**
APE	**Apeiranthos**	**2.09**	**119**	*e*Pn	**Pn**	**09 54 44.0**	**+0.1**
VLS	**Valsamata**	**2.11**	**272**	*e*PN	**Pn**	**09 54 45.3**	**+1.2**
VLS	**Valsamata**	**2.11**	**272**	*e*Pn	**Pn**	**09 54 45.3**	**+1.2**
LKD2	**Lefkada island**	**2.15**	**289**	*e*PN	**Pn**	**09 54 45.3**	**+0.5**
LKD2				*e*SN	**Sn**	**09 55 12.0**	**+0.5**
LKD2	**Lefkada island**	**2.15**	**289**	*e*Pn	**Pn**	**09 54 45.3**	**+0.5**
LKD2				*e*Sn	**Sn**	**09 55 12.0**	**+0.5**
CHOS	**Chios island**	**2.22**	**82**	*e*PN	**Pn**	**09 54 46.7**	**+1.0**
CHOS	**Chios island**	**2.22**	**82**	*e*PN	**Pn**	**09 54 45.7**	**0.0**
CHOS	**Chios island**	**2.22**	**82**	*e*Pn	**Pn**	**09 54 45.7**	**0.0**
ANKY	**Antikythira Is**	**2.25**	**179**	*e*PN	**Pn**	**09 54 46.5**	**+0.4**
ANKY	**Antikythira Is**	**2.25**	**179**	*e*Pn	**Pn**	**09 54 46.5**	**+0.4**
PLG	**Polygyros**	**2.26**	**4**	*e*PN	**Pn**	**09 54 46.1**	**-0.1**
PLG	**Polygyros**	**2.26**	**4**	*e*Pn	**Pn**	**09 54 46.1**	**-0.1**
OUR	**Ouranopolis**	**2.28**	**14**	P	**Pn**	**09 54 46.1**	**-0.4**
OUR	**Ouranopolis**	**2.28**	**14**	*e*PN	**Pn**	**09 54 44.0**	**-2.5**
OUR				*e*SN	**Sn**	**09 55 12.9**	**-1.7**
OUR	**Ouranopolis**	**2.28**	**14**	*e*PN	**Pn**	**09 54 46.2**	**-0.3**
OUR	**Ouranopolis**	**2.28**	**14**	*e*Pn	**Pn**	**09 54 46.2**	**-0.3**
OUR				*e*Sn	**Sn**	**09 55 13.0**	**-1.7**
SIGR	**SIGRI**	**2.31**	**61**	*e*PN	**Pn**	**09 54 47.8**	**+0.9**
SIGR	**SIGRI**	**2.31**	**61**	*e*PN	**Pn**	**09 54 47.1**	**+0.3**
SIGR	**SIGRI**	**2.31**	**61**	*e*Pn	**Pn**	**09 54 47.1**	**+0.3**
LIA	**Limnos Island**	**2.32**	**40**	*e*PB	**Pn**	**09 54 48.3**	**+1.2**
LIA	**Limnos Island**	**2.32**	**40**	*e*Pb	**Pn**	**09 54 48.3**	**+1.2**
THR5	**Thira Island,**	**2.38**	**135**	*e*PN	**Pn**	**09 54 48.1**	**+0.2**
THR5	**Thira Island,**	**2.38**	**135**	*e*Pn	**Pn**	**09 54 48.1**	**+0.2**
JAN	**Janina**	**2.43**	**310**	*e*PN	**Pn**	**09 54 48.9**	**+0.3**
JAN				*e*SN	**Sn**	**09 55 19.5**	**+1.1**
JAN	**Janina**	**2.43**	**310**	*e*Pn	**Pn**	**09 54 48.9**	**+0.3**
JAN				*e*Sn	**Sn**	**09 55 19.5**	**+1.1**
KZN	**Kozani**	**2.47**	**333**	*e*PB	**Pn**	**09 54 50.5**	**+1.3**
KZN	**Kozani**	**2.47**	**333**	*e*Pb	**Pn**	**09 54 50.5**	**+1.3**
HORT	**Hortiatis**	**2.48**	**357**	*e*PN	**Pn**	**09 54 49.1**	**-0.2**
HORT				*e*SN	**Sn**	**09 55 20.2**	**+0.5**
HORT	**Hortiatis**	**2.48**	**357**	*e*Pn	**Pn**	**09 54 49.1**	**-0.2**
HORT				*e*Sn	**Sn**	**09 55 20.2**	**+0.5**
THE	**Thessaloniki**	**2.52**	**355**	*e*PN	**Pn**	**09 54 50.0**	**+0.2**
THE				*e*SN	**Sn**	**09 55 19.8**	**-0.8**
THE	**Thessaloniki**	**2.52**	**355**	*e*Pn	**Pn**	**09 54 50.0**	**+0.2**
THE				*e*Sn	**Sn**	**09 55 19.8**	**-0.8**
ZEY	**¨zmir**	**2.56**	**86**	*i* P	**Pn**	**09 54 50.6**	**+0.3**
ZEY				*i* S	**Sg**	**09 55 29.9**	**-1.0**
PRK	**Paraskevi**	**2.61**	**64**	*e*PN	**Pn**	**09 54 52.0**	**+1.0**
PRK	**Paraskevi**	**2.61**	**64**	*e*Pn	**Pn**	**09 54 52.0**	**+1.0**
IGT	**Igoumenitsa**	**2.69**	**303**	*e*PB	**Pn**	**09 54 53.7**	**+1.6**
IGT	**Igoumenitsa**	**2.69**	**303**	*e*Pb	**Pn**	**09 54 53.7**	**+1.6**
SOH	**Sokhos**	**2.70**	**1**	*e*PN	**Pn**	**09 54 52.8**	**+0.5**
SOH				*e*SN	**Sn**	**09 55 25.2**	**+0.1**
SOH	**Sokhos**	**2.70**	**1**	*e*Pn	**Pn**	**09 54 52.8**	**+0.5**
SOH				*e*Sn	**Sn**	**09 55 25.2**	**+0.1**
BOZC	**Bozcaada**	**2.77**	**51**	*i* P	**Pb**	**09 54 58.7**	**+0.3**
VAM	**Vamos**	**2.81**	**164**	*e*PN	**Pn**	**09 54 54.6**	**+0.8**
VAM	**Vamos**	**2.81**	**164**	*e*Pn	**Pn**	**09 54 54.6**	**+0.8**
SMG	**Samos**	**2.86**	**97**	*e*PN	**Pn**	**09 54 54.7**	**+0.2**
SMG	**Samos**	**2.86**	**97**	*e*Pn	**Pn**	**09 54 54.7**	**+0.2**
NEST	**Nestorio**	**2.86**	**324**	*e*PN	**Pn**	**09 54 55.7**	**+1.1**
NEST	**Nestorio**	**2.86**	**324**	*e*Pn	**Pn**	**09 54 55.7**	**+1.1**
AYVA	**Ayvalik**	**2.93**	**65**	*i* P	**Pg**	**09 55 05.8**	**+0.9**
EZN	**Ezine**	**2.93**	**54**	*e*PN	**Pn**	**09 54 56.8**	**+1.3**
EZN	**Ezine**	**2.93**	**54**	*e*Pn	**Pn**	**09 54 56.8**	**+1.3**
SMTH	**Samothraki Isl**	**2.94**	**36**	*e*PN	**Pn**	**09 54 56.6**	**+1.1**
SMTH	**Samothraki Isl**	**2.94**	**36**	*e*Pn	**Pn**	**09 54 56.6**	**+1.1**
BLCB	**Balcova**	**2.99**	**84**	*e*PN	**Pn**	**09 54 58.2**	**+1.9**
BLCB	**Balcova**	**2.99**	**84**	*e*Pn	**Pn**	**09 54 58.2**	**+1.9**
SRS	**Serrai**	**3.00**	**5**	*e*PN	**Pn**	**09 54 56.8**	**+0.3**
SRS				*e*SN	**Sn**	**09 55 32.0**	**-0.6**
SRS	**Serrai**	**3.00**	**5**	*e*Pn	**Pn**	**09 54 56.8**	**+0.3**
SRS				*e*Sn	**Sn**	**09 55 32.0**	**-0.6**
KAVA	**Kavala**	**3.03**	**18**	*e*PN	**Pn**	**09 54 57.3**	**+0.5**
KAVA	**Kavala**	**3.03**	**18**	*e*Pn	**Pn**	**09 54 57.3**	**+0.5**
FNA	**Florina**	**3.03**	**332**	*e*PN	**Pn**	**09 54 57.8**	**+0.9**
FNA	**Florina**	**3.03**	**332**	*e*Pn	**Pn**	**09 54 57.8**	**+0.9**
KNT	**Kendrikon**	**3.05**	**355**	*e*PN	**Pn**	**09 54 58.0**	**+0.9**
KNT				*e*SN	**Sn**	**09 55 34.0**	**+0.2**
KNT	**Kendrikon**	**3.05**	**355**	*e*Pn	**Pn**	**09 54 58.0**	**+0.9**
KNT				*e*Sn	**Sn**	**09 55 34.0**	**+0.2**
KEK	**Kerkira**	**3.13**	**302**	*e*PN	**Pn**	**09 54 59.0**	**+0.7**
KEK	**Kerkira**	**3.13**	**302**	*e*Pn	**Pn**	**09 54 59.0**	**+0.7**
VAY	**Valandovo**	**3.24**	**351**	*e*Pn	Pn	09 54 50.6	-9.1
NVR	**Nevrokopi**	**3.26**	**8**	*e*PN	**Pn**	**09 55 00.2**	**+0.2**
NVR	**Nevrokopi**	**3.26**	**8**	*e*Pn	**Pn**	**09 55 00.2**	**+0.2**
SIVA	**Sivas**	**3.34**	**158**	*e*PN	**Pn**	**09 55 02.3**	**+1.3**
SIVA	**Sivas**	**3.34**	**158**	*e*Pn	**Pn**	**09 55 02.3**	**+1.3**
GELI	**Tayfur-Gelibol**	**3.38**	**47**	*e*PN	**Pn**	**09 55 02.3**	**+0.7**
GELI	**Tayfur-Gelibol**	**3.38**	**47**	*e*Pn	**Pn**	**09 55 02.3**	**+0.7**
BODT	**Bodrum**	**3.38**	**107**	*e*PN	**Pn**	**09 55 03.5**	**+1.8**
BODT	**Bodrum**	**3.38**	**107**	*e*Pn	**Pn**	**09 55 03.5**	**+1.8**
NPS	**Neapolis**	**3.42**	**146**	*e*PN	**Pn**	**09 55 03.1**	**+0.9**
NPS	**Neapolis**	**3.42**	**146**	*e*Pn	**Pn**	**09 55 03.1**	**+0.9**
ENEZ	**Enez**	**3.44**	**40**	*e*PN	**Pn**	**09 55 02.8**	**+0.3**
ENEZ	**Enez**	**3.44**	**40**	*e*Pn	**Pn**	**09 55 02.8**	**+0.3**
LAST	**Lasithi**	**3.45**	**148**	*e*PN	**Pn**	**09 55 03.7**	**+1.0**
LAST	**Lasithi**	**3.45**	**148**	*e*Pn	**Pn**	**09 55 03.7**	**+1.0**
RDO	**Rodhopi**	**3.50**	**29**	*e*PN	**Pn**	**09 55 02.4**	**-0.8**
RDO	**Rodhopi**	**3.50**	**29**	*e*Pn	**Pn**	**09 55 02.4**	**-0.8**
ALN	**Alexandroupoli**	**3.51**	**37**	*e*PN	**Pn**	**09 55 03.8**	**+0.3**
ALN	**Alexandroupoli**	**3.51**	**37**	*e*PN	**Pn**	**09 55 03.5**	**+0.1**
ALN	**Alexandroupoli**	**3.51**	**37**	*e*Pn	**Pn**	**09 55 03.5**	**+0.1**
OHR	**Ohrid**	**3.54**	**328**	*e*Pn	**Pn**	**09 55 03.8**	**-0.1**
OHR				*e*Sg	**Sn**	**09 55 47.8**	**+1.8**
OHR	**Ohrid**	**3.54**	**328**	*e*Pn	**Pn**	**09 55 03.8**	**-0.1**
OHR				*e*Sg	**Sn**	**09 55 47.7**	**+1.8**
AYDB	**Zeytinkoy-Aydi**	**3.66**	**91**	*e*PN	**Pn**	**09 55 07.9**	**+2.3**
AYDB	**Zeytinkoy-Aydi**	**3.66**	**91**	*e*Pn	**Pn**	**09 55 07.9**	**+2.3**
BALY	**Balya**	**3.77**	**63**	*i* P	Pn	09 55 10.5	+3.5
BALY	**Balya**	**3.77**	**63**	*i* P	Pn	09 55 10.5	+3.5
ZKR	**Zakros**	**3.83**	**141**	*e*PN	**Pn**	**09 55 09.3**	**+1.5**
ZKR	**Zakros**	**3.83**	**141**	*e*Pn	**Pn**	**09 55 09.3**	**+1.5**
KRBG	**Karabiga-Canak**	**3.87**	**53**	*e*PN	**Pn**	**09 55 09.7**	**+1.4**
KRBG	**Karabiga-Canak**	**3.87**	**53**	*e*Pn	**Pn**	**09 55 09.7**	**+1.4**
SART	**Tekirdag**	**3.98**	**49**	*i* P	Pn	09 55 05.3	-4.6
SART	**Tekirdag**	**3.98**	**49**	*i* P	Pn	09 55 05.3	-4.6
SART				*e*S	**Sg**	**09 56 12.6**	**-3.7**
VTS	**Vitosha**	**4.47**

RUS				*e*S		Sn	10 46 54.8 +0.8
MTVR	**Mutnovka**	**1.54**	**360**	*i* P		Pn	10 46 37.9 +2.4
MTVR				*e*S		Sn	10 46 56.6 +1.4
MIPR	**Malaya Ipel'ka**	**1.61**	**327**	P		Pn	10 46 38.0 +1.9
MIPR				S		Sn	10 46 57.1 +0.8
PET	**Petropavlovsk**	**2.11**	**8**	*e*S		Sn	10 47 09.4 +1.4
UGLR	**Uglovaya**	**2.31**	**10**	*i* P		Pn	10 46 48.6 +3.1
UGLR				*e*S		Sn	10 47 14.6 +1.5
AVH	**Avacha**	**2.35**	**8**	*i* P		Pn	10 46 49.7 +3.6
AVH				S		Sn	10 47 16.9 +2.7
SMAR	**Somma**	**2.36**	**9**	*e*P		Pn	10 46 49.2 +2.9
KOK	**Koryaka**	**2.37**	**7**	*i* P		Pn	10 46 50.1 +3.7
KOK				*e*S		Sn	10 47 17.6 +2.9
SDLR	**Sedlovina**	**2.38**	**10**	*i* P		Pn	10 46 49.1 +2.6
SDLR				*e*S		Sn	10 47 15.4 +0.5
KRER	**Koryakskii**	**2.39**	**8**	*i* P		Pn	10 46 50.1 +3.3
KRER				*e*S		Sn	10 47 17.5 +2.1
KRX	**Arik**	**2.44**	**7**	*i* P		Pn	10 46 50.6 +3.3
KRX				*e*S		Sn	10 47 18.3 +1.9
SPN	**Mys Shipunski**	**2.44**	**27**	*e*S		Sn	10 47 18.4 +2.3
GNL	**Ganaly**	**2.76**	**357**	*e*P		Pn	10 46 54.8 +3.2
KII	**Karymskiy**	**3.20**	**14**	P		Pn	10 47 01.2 +3.8
KII				S		Sn	10 47 37.1 +2.6
MKZ	**Mys Kozlova**	**4.21**	**29**	*e*P		Pn	10 47 13.2 +2.1
TUMR	**Tumrok**	**4.51**	**14**	*e*P		Pn	10 47 18.1 +2.8
KBTR	**Krutoberegovo**	**5.96**	**26**	*e*P		Pn	10 47 37.5 +2.7
BKI	**Bering**	**6.34**	**45**	S		Sn	10 48 48.0 -3.0

*IDC **11** 10:49:13.8±3.3, 37°.61S×73°.78W, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.3/22, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=91.9km s-min=32.6km az=81.0*

ISC 11 10:49:20.3±2.8, 37°.6S±0°.1×73°.5W±0°.4, h35km, n7, σ2s 28/7, mb3.7/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.90**	**145**	Pn	**Pn**	**10 50 18.0**	**+0.3**
	0.9nm,0.3s,baz=324,slow=11,SNR=18						
PLCA				Lg	Lg	10 51 24.8	
	2.5nm,0.3s,baz=63,slow=22,SNR=4.7						
CFAA	**Coronel Fontan**	**7.39**	**38**	Pn	**Pn**	**10 51 04.8**	**-0.9**
	0.2nm,0.3s,baz=6.6,slow=5.7,SNR=13						
LPAZ	**La Paz**	**21.75**	**14**	P	**P**	**10 54 09.7**	**+0.3**
	2.1nm,0.7s,baz=177,slow=5.0,SNR=5.7						
SIV	**San Ignacio**	**24.16**	**30**	P	**P**	**10 54 37.5**	**+4.2**
	1.0nm,0.4s,baz=207,slow=3.0,SNR=7.5						
TORD	**Torodi Ar. Bea**	**86.55**	**71**	P	**P**	**11 01 59.2**	**-0.8**
	0.4nm,0.7s,baz=230,slow=5.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**157.87**	**35**	PKPab	**PKPab**	**11 09 45.0**	**-0.6**
	3.2nm,1.1s,baz=297,slow=6.5,SNR=4.7						
MKAR	**Makanchi Array**	**159.92**	**55**	PKPab	**PKPab**	**11 09 53.5**	**-1.2**
	0.3nm,0.8s,baz=274,slow=6.0,SNR=4.0						

*GUC **11** 10:51:34.4±0.4, 34°.33S×71°.93W, h4km±3km, ML4.8*
*ISCJB **11** 10:51:35.1±1.1, 34°.31S±0°.03×71°.92W±0°.06, h19km±8km, mb5.0/104, MS4.1/11, Error ellipse: s-maj=8.4km s-min=4.7km az=179.3*
*MOS **11** 10:51:38.2±1.1, 34°.34S×71°.94W, h38km, mb5.3/29, Error ellipse: s-maj=16.6km s-min=7.8km az=100.5*
*NEIC **11** 10:51:39.0±0.1, 34°.33S×71°.87W, h35km, mb5.1/90, Error ellipse: s-maj=5.9km s-min=4.1km az=72.0*
NEIC Felt [III] at Pichilemu and San Antonio and [II] at Santiago and San Fernando. Also felt at Rancagua.
*IDC **11** 10:51:38.7±3.8, 34°.31S×71°.92W, h33km±28km, mb4.5/15, mb1 4.6/19, mb1mx4.5/23, mbtmp4.6/19, ML4.6/2, MS4.0/11, Ms1 4.0/11, ms1mx3.8/24, Error ellipse: s-maj=17.2km s-min=12.7km az=83.0*
*GCMT **11** 10:51:39.0±0.5, 34°.41S×72°.29W, h17km±1km, MW4.9/69, Moment Tensor Solution. s27,c31; s69,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.85±.19; $M_{\theta\theta}$1.01±.12; $M_{\phi\phi}$1.84±.14; $M_{r\theta}$-0.64±.34; $M_{\theta\phi}$-1.25±.08; $M_{\phi r}$1.43±.39; Best double couple: $M_0$3.20400×10^{16} NP1:ϕ_s150.00000°, δ60.00000°, λ-85.00000°. NP2: ϕ_s319.00000°, δ31.00000°, λ-99.00000°. Principal axes: T 3.1370, Plg14.0000°, Azm236.0000°; N 0.1340, Plg5.0000°, Azm327.0000°; P -3.2710, Plg75.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **11** 10:51:41.3, 34°.20S×71°.70W, h52km, mB4.9/8, Ms5.4/4, Ms7 5.3/3*

ISC 11 10:51:38.7±0.9, 34°.33S±0°.03×71°.81W±0°.06, h34km±3km, n651, σ0s75/663, mb5.1/105, MS4.0/11, 203C-189D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.82**	**145**	*e*P	**Pn**	**10 51 51.0**	**-2.9**
NICH				*i* S	**Sb**	**10 52 04.3**	**-1.2**
NICH				AML	AML	10 52 09.1	
	comp=E,132μm,0.6s						
CACH	**El Canelo**	**1.02**	**78**	*e*P1	**Pn**	**10 51 56.2**	**-0.6**
CHCH	**Chadas Angostu**	**1.03**	**68**	⇓*i*P	**Pn**	**10 51 55.5**	**-1.4**
ANTU	**Antumapu**	**1.23**	**52**	⇑*i*P	**Pn**	**10 51 58.5**	**-1.1**
ANTU				*i* S	**Sb**	**10 52 16.8**	**-0.4**
ANTU				AML	AML	10 52 21.5	
	comp=E,27μm,0.5s						
IHA	**Instituto Hidr**	**1.31**	**6**	⇑*i*P	**Pn**	**10 51 58.4**	**-2.1**
IHA				*i* S1	**Sn**	**10 52 16.4**	**-0.4**
LACH	**Col Las Americ**	**1.37**	**51**	*e*P	**Pn**	**10 52 00.6**	**-1.0**
LACH				*i* S	**Sb**	**10 52 20.6**	**-0.6**
LACH				AML	AML	10 52 26.3	
	comp=E,10μm,0.5s						
LNCH	**Linares**	**1.52**	**174**	⇓*i*P	**Pn**	**10 52 01.9**	**-1.7**
LNCH				*i* S	**Sn**	**10 52 22.7**	**+0.4**
LNCH				AML	AML	10 52 27.2	
	comp=N,49μm,0.5s						
CFAA	**Coronel Fontan**	**4.05**	**49**	Pn	**Pn**	**10 52 41.1**	**+2.8**
	comp=N,1.1nm,0.3s,baz=223,slow=13,SNR=26						
CFAA				Pg	**Pb**	**10 52 50.5**	**+1.1**
	comp=N,6.1nm,0.3s,baz=230,slow=14,SNR=30						
CFAA				Sn	**Sb**	**10 53 32.5**	**-5.3**
	comp=N,3.1nm,0.3s,baz=292,slow=19,SNR=6.0						
CFAA				Lg	Lg	10 53 46.0	
	comp=N,6.0nm,0.3s,baz=334,slow=7.5,SNR=12						
LCO	**Las Campanas**	**5.38**	**10**	*e*Pn	**Pn**	**10 52 54.9**	**-2.1**
PLCA	**Paso Flores**	**6.47**	**172**	Pn	**Pn**	**10 53 11.8**	**+0.1**
	comp=N,4.1nm,0.3s,baz=335,slow=10,SNR=8.0						
PLCA				Lg	Lg	10 54 54.9	
	comp=N,3.3nm,0.3s,baz=63,slow=22,SNR=8.2						
PLCA				LR	LR	10 55 59.1	
	comp=N,964nm,21.4s,baz=354,slow=40						
TRQA	**Tornquist**	**8.77**	**118**	*e*Pn	**Pn**	**10 53 45.4**	**+2.3**
LVC	**Limon Verde**	**11.95**	**13**	*e*Pn	Pn	10 54 39.9	+13
CPUP	**Villa Florida**	**14.81**	**61**	Pn	**Pn**	**10 55 07.4**	**+1.7**
	baz=194,slow=11,SNR=1.7						
LPAZ	**La Paz**	**18.27**	**11**	*e*P	**P**	**10 55 50.2**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,25nm,0.9s						
LPAZ	**La Paz**	**18.27**	**11**	P	**Pn**	**10 55 50.4**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=172,slow=8.3,SNR=27						
LPAZ	**La Paz**	**18.27**	**11**	*e*Pn	**P**	**10 55 50.2**	**+0.1**
	comp=Z,25nm,0.9s						
USHA	**Ushuaia**	**20.64**	**174**	P	**P**	**10 56 14.1**	**-1.0**
	comp=Z,23nm,0.8s,baz=328,slow=12,SNR=6.1						
USHA				LR	LR	11 03 40.2	
	comp=Z,573nm,19.6s,baz=302,slow=35						
SIV	**San Ignacio**	**20.66**	**31**	P	**P**	**10 56 14.8**	**-0.8**
	comp=Z,7.9nm,0.7s,baz=227,slow=12,SNR=20						
NNA	**Nana**	**22.71**	**347**	*e*P	**P**	**10 56 38.7**	**+0.9**
NNA	**Nana**	**22.71**	**347**	P	**P**	**10 56 35.9**	**-1.8**
	comp=Z,16nm,0.9s,baz=195,slow=13,SNR=5.7						
NNA				LR	LR	11 03 30.6	
	comp=Z,362nm,21.7s,baz=180,slow=31						
NNA	**Nana**	**22.71**	**347**	*e*P	**P**	**10 56 38.6**	**+0.9**
SAML	**Samuel**	**26.47**	**19**	*e*P	**P**	**10 57 12.3**	**-0.5**
	comp=Z,10nm,0.8s						
ATAH	**Atahualpa**	**27.74**	**346**	P	**P**	**10 57 25.0**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=174,slow=8.6,SNR=3.7						
ATAH				LR	LR	11 06 16.6	
	comp=Z,233nm,20.7s,baz=167,slow=32						
BDFB	**Brasilia**	**28.36**	**55**	P	**P**	**10 57 30.9**	**+0.9**
	comp=Z,12nm,1.0s,baz=228,slow=9.6,SNR=7.2						
BDFB				LR	LR	11 09 59.6	
	comp=Z,1μm,18.8s,baz=222,slow=39						
PMSA	**Palmer Station**	**30.84**	**174**	LR	LR	11 09 38.6	
	comp=Z,360nm,19.8s,baz=341,slow=35						
OTAV	**Otavalo**	**34.95**	**348**	*e*P	**P**	**10 58 29.9**	**+1.8**
	comp=Z,31nm,1.3s						
SDV	**Santo Domingo**	**42.99**	**2**	*e*P	**P**	**10 59 34.3**	**-0.8**
	comp=Z,17nm,1.1s						
BCIP	**Isla Barro Col**	**43.92**	**349**	*e*P	**P**	**10 59 42.6**	**+0.3**
	comp=Z,28nm,1.1s						
JTS	**JuntasAbangare**	**46.10**	**342**	*e*P	**P**	**11 00 00.2**	**+0.5**
JTS				pmax	pmax		
	comp=Z,19nm,1.1s						
JTS	**JuntasAbangare**	**46.10**	**342**	*e*P	**P**	**10 59 59.8**	**+0.1**
	comp=Z,16nm,1.1s						
VNA3	**Neumayer Olymp**	**48.98**	**158**	P	**P**	**11 00 22.0**	**+0.5**
VNA2	**Neumayer--Watz**	**49.63**	**157**	P	**P**	**11 00 27.1**	**+0.6**
SNAA	**Sanae**	**51.21**	**158**	P	**P**	**11 00 39.1**	**+0.6**
SNAA	**Sanae**	**51.21**	**158**	*e*P	**P**	**11 00 39.1**	**+0.6**
SNAA				pmax	pmax		
	comp=Z,31nm,1.2s						
SNAA	**Sanae**	**51.21**	**158**	P	**P**	**11 00 39.0**	**+0.6**
	comp=Z,6.8nm,0.8s,baz=276,slow=5.9,SNR=18						
SNAA	**Sanae**	**51.21**	**158**	*e*P	**P**	**11 00 38.6**	**+0.2**
	comp=Z,25nm,0.9s						
RKT	**Rikitea**	**55.73**	**264**	*e*LR	LR	11 17 13.7	
	comp=Z,334nm,30.0s						
RKT	**Rikitea**	**55.73**	**264**	*e*T	T	12 00 58.0	
	comp=Z,2.5nm,0.2s						
QSPA	**South Pole Qui**	**55.91**	**180**	*e*P	**P**	**11 01 13.4**	**+0.3**
	comp=Z,28nm,1.0s						
NVL	**N'lazarevskaya**	**55.94**	**157**	*e*P	**P**	**11 01 13.0**	**0.0**
NVL				*e*S	S	11 08 52.9	-5.3
NVL				pmax	pmax		
	comp=Z,23nm,0.7s						
TEIG	**Tepich**	**56.47**	**341**	*e*P	**P**	**11 01 16.8**	**-0.6**
	comp=Z,49nm,1.0s						
SBA	**Scott Base**	**62.80**	**192**	*e*P	**P**	**11 01 59.5**	**-0.7**
SBA	**Scott Base**	**62.80**	**192**	*e*P	**P**	**11 01 59.5**	**-0.7**
VNDA	**Vanda**	**63.82**	**191**	P	**P**	**11 02 07.2**	**+0.2**
	comp=Z,3.3nm,1.1s,baz=127,slow=4.6,SNR=8.3						
VNDA				LR	LR	11 27 01.7	
	comp=Z,115nm,19.1s,baz=137,slow=33						
035Z	**Hargill**	**65.39**	**334**	⇓P	**P**	**11 02 18.0**	**+0.2**
	baz=66						
SYO	**Syowa Base**	**65.49**	**158**	⇓*e*X		11 02 09.0	
035A	**Encino**	**65.83**	**334**	⇑P	**P**	**11 02 21.1**	**+0.5**
	baz=66,SNR=5.8						
034A	**Hebbronville**	**66.16**	**334**	⇓P	**P**	**11 02 23.1**	**+0.3**
	baz=66,SNR=8.7						
TIGA	**Tifton**	**66.35**	**349**	⇑P	**P**	**11 02 23.8**	**-0.1**
	baz=67						
934A	**Benavides**	**66.59**	**334**	⇓P	**P**	**11 02 26.0**	**+0.5**
	baz=67						
933A	**Laredo**	**66.87**	**334**	⇑P	**P**	**11 02 27.1**	**-0.3**
	baz=67,SNR=7.1						
835A	**Beeville**	**66.97**	**335**	⇑P	**P**	**11 02 28.6**	**+0.6**
	baz=67						
834A	**Tilden**	**67.08**	**334**	⇑P	**P**	**11 02 29.1**	**+0.5**
	baz=67,SNR=7.0						
TBI	**Tubuai**	**67.43**	**256**	*e*T	T	12 15 36.5	
	comp=Z,9.2nm,0.3s						
735A	**Kenedy**	**67.48**	**335**	⇓P	**P**	**11 02 31.3**	**+0.1**
	baz=68						
833A	**Chaparral WMA,**	**67.56**	**334**	⇓P	**P**	**11 02 31.7**	**0.0**
	baz=68,SNR=17						
734A	**La Parita Cree**	**67.74**	**335**	⇑P	**P**	**11 02 32.9**	**+0.1**
	baz=68,SNR=5.1						
832A	**Faith Ranch, C**	**67.74**	**333**	⇓P	**P**	**11 02 33.0**	**+0.2**
	baz=68,SNR=13						
636A	**Smothers Creek**	**67.80**	**336**	⇓P	**P**	**11 02 33.6**	**+0.4**
	baz=68,SNR=9.3						
HKT	**Hockley**	**67.84**	**338**	*e*P	**P**	**11 02 33.7**	**+0.3**
HKT				pmax	pmax		
	comp=Z,61nm,1.9s						
HKT	**Hockley**	**67.84**	**338**	*e*P	**P**	**11 02 33.7**	**+0.3**
	comp=Z,61nm,1.9s						
733A	**Divot King Ran**	**67.88**	**334**	⇑P	**P**	**11 02 33.8**	**+0.1**
	baz=68						
635A	**Leesville**	**67.96**	**336**	⇓P	**P**	**11 02 34.1**	**-0.1**
	baz=68						
537A	**Green Hill Far**	**68.11**	**337**	⇑P	**P**	**11 02 35.1**	**-0.1**
	baz=68,SNR=6.4						
732A	**Laxson Ranch,**	**68.14**	**333**	⇑P	**P**	**11 02 35.1**	**-0.3**
	baz=68,SNR=20						
536A	**Bastrop**	**68.36**	**337**	⇑P	**P**	**11 02 36.3**	**-0.3**
	baz=69						
LRAL	**Lakeview Retre**	**68.51**	**346**	*e*P	**P**	**11 02 37.0**	**-0.5**
	comp=Z,19nm,1.1s						
633A	**Saathoff Ranch**	**68.52**	**334**	⇓P	**P**	**11 02 37.5**	**-0.2**
	baz=69,SNR=9.8						
340A	**Bronson**	**68.63**	**340**	⇑P	**P**	**11 02 38.1**	**-0.2**
	baz=69,SNR=7.8						
339A	**Huntington**	**68.74**	**339**	⇑P	**P**	**11 02 39.2**	**+0.2**
	baz=69						
632A	**Uvalde**	**68.78**	**334**	⇑P	**P**	**11 02 39.0**	**-0.3**
	baz=69,SNR=15						
534A	**Blanco**	**68.79**	**335**	⇑P	**P**	**11 02 39.0**	**-0.4**
	baz=69						
631A	**Perdido Creek**	**68.98**	**333**	⇑P	**P**	**11 02 40.4**	**-0.2**
	baz=69,SNR=8.1						
338A	**Crockett**	**68.99**	**339**	⇓P	**P**	**11 02 40.6**	**+0.1**
	baz=69						
MEH	**Mehetia**	**69.00**	**262**	*e*T	T	12 17 32.6	
	comp=Z,55nm,0.2s						
533A	**Kerrville**	**69.02**	**335**	⇑P	**P**	**11 02 40.8**	**-0.1**
	baz=69,SNR=9.1						
337A	**Centerville**	**69.13**	**338**	⇑P	**P**	**11 02 41.5**	**+0.1**
	baz=69						
NATX	**Nacogdoches**	**69.17**	**339**	P	**P**	**11 02 41.2**	**-0.5**
	comp=Z,55nm,1.4s						
435B	**Jarrell**	**69.18**	**336**	⇑P	**P**	**11 02 41.4**	**-0.4**
	baz=70						
239A	**Gary**	**69.36**	**340**	⇑P	**P**	**11 02 42.8**	**0.0**
	baz=70						
532A	**Rocksprings**	**69.38**	**334**	⇓P	**P**	**11 02 43.0**	**-0.1**
	baz=70,SNR=19						
434A	**Burnet**	**69.44**	**336**	⇑P	**P**	**11 02 43.0**	**-0.4**
	baz=70,SNR=14						
336A	**Riesel**	**69.49**	**337**	⇓P	**P**	**11 02 43.5**	**-0.2**
	baz=70,SNR=9.4						
238A	**Jacksonville**	**69.53**	**339**	⇑P	**P**	**11 02 44.1**	**+0.2**
	baz=70						
335A	**Moody**	**69.58**	**337**	⇑P	**P**	**11 02 44.6**	**+0.3**
	baz=70						
531A	**Rocksprings**	**69.65**	**334**	⇓P	**P**	**11 02 44.8**	**0.0**
	baz=70,SNR=14						
433A	**Art**	**69.66**	**335**	⇑P	**P**	**11 02 44.5**	**-0.3**
	baz=70,SNR=21						
JCT	**Junction City**	**69.67**	**334**	*e*P	**P**	**11 02 44.8**	**0.0**
JCT				pmax	pmax		
	comp=Z,30nm,1.0s						
JCT	**Junction City**	**69.67**	**334**	⇓P	**P**	**11 02 44.9**	**0.0**
	baz=70,SNR=16						
JCT	**Junction City**	**69.67**	**334**	*e*P	**P**	**11 02 44.8**	**0.0**
	comp=Z,30nm,1.0s						
KMSC	**Kings Mountain**	**69.68**	**352**	⇑P	**P**	**11 02 44.4**	**-0.4**
	baz=70						
237A	**Washetta, Mont**	**69.74**	**338**	⇓P	**P**	**11 02 45.6**	**+0.4**
	baz=70						
334A	**Lometa**	**69.90**	**336**	⇓P	**P**	**11 02 46.0**	**-0.3**
	baz=70,SNR=7.3						
530A	**J-C Ranch, Com**	**69.93**	**333**	⇑P	**P**	**11 02 46.5**	**0.0**
	baz=70,SNR=23						
VAH	**Vaihoa**	**69.98**	**265**	*e*T	T	12 18 45.8	
	comp=Z,7.3nm,0.3s						
TVO	**Taravao**	**70.02**	**262**	*e*T	T	12 18 43.0	
	comp=Z,2.3nm,0.2s						
432A	**Menard**	**70.02**	**335**	⇓P	**P**	**11 02 46.6**	**-0.4**
	baz=70,SNR=9.4						
TXAR	**Lajitas Array**	**70.11**	**331**	P	**P**	**11 02 47.6**	**-0.1**
	comp=Z,4.5nm,1.0s,baz=148,slow=7.4,SNR=24						
138A	**Matatall Enter**	**70.14**	**339**	⇓P	**P**	**11 02 48.2**	**+0.6**
	baz=70						
431A	**Sonora**	**70.14**	**334**	⇓P	**P**	**11 02 48.3**	**+0.5**
	baz=70,SNR=9.7						
333A	**Richland Sprin**	**70.15**	**335**	⇑P	**P**	**11 02 47.3**	**-0.5**
	baz=70,SNR=11						
TIAR	**Tiarei**	**70.21**	**262**	*e*T	T	12 18 59.0	
	comp=Z,9.6nm,0.2s						
529A	**Stev Forest Ra**	**70.24**	**332**	⇓P	**P**	**11 02 48.3**	**-0.1**
	baz=70,SNR=19						
WHTX	**Lake Whitney,**	**70.25**	**337**	⇑P	**P**	**11 02 48.1**	**-0.2**
	baz=71,SNR=6.9						
WHTX	**Lake Whitney,**	**70.25**	**337**	*e*P	**P**	**11 02 48.2**	**-0.2**
	comp=Z,26nm,1.0s						
137A	**Heron Place, G**	**70.28**	**339**	⇑P	**P**	**11 02 48.5**	**0.0**
	baz=71						
PAE	**Paea**	**70.34**	**262**	*e*T	T	12 19 01.5	
	comp=Z,1.0nm,0.2s						
PPT2	**Papeete2**	**70.38**	**262**	*e*S	**S**	**11 12 02.2**	**+2.0**
	comp=Z,90nm,25.8s						
PPT2	**Papeete2**	**70.38**	**262**	*e*LR	LR	11 24 08.2	
	comp=Z,443nm,27.8s						
PPT	**Papeete**	**70.39**	**262**	P	**P**	**11 02 49.9**	**+0.2**
	comp=Z,37nm,1.0s,baz=95,slow=2.6,SNR=3.5						
PPT				LR	LR	11 27 01.0	
	comp=Z,59nm,18.9s,baz=114,slow=30						
SWET	**Sewanee**	**70.44**	**348**	*e*P	**P**	**11 02 48.8**	**-0.7**
	comp=Z,45nm,1.2s						
OXF	**Oxford**	**70.44**	**345**	*e*P	**P**	**11 02 49.2**	**-0.3**
OXF				pmax	pmax		
	comp=Z,51nm,1.0s						
OXF	**Oxford**	**70.44**	**345**	*e*P	**P**	**11 02 49.2**	**-0.3**
	comp=Z,51nm,1.0s						
332A	**Millersview**	**70.46**	**335**	⇓P	**P**	**11 02 49.2**	**-0.5**
	baz=71,SNR=12						
430A	**Baggett Ranch,**	**70.47**	**333**	⇑P	**P**	**11 02 49.4**	**-0.4**
	baz=71,SNR=13						
234A	**Clairette**	**70.48**	**336**	⇓P	**P**	**11 02 49.8**	**0.0**
	baz=71						
TKL	**Tuckaleechee C**	**70.52**	**350**	*e*P	**P**	**11 02 48.9**	**-1.0**
TKL	**Tuckaleechee C**	**70.52**	**350**	*e*P	**P**	**11 02 48.9**	**-1.0**
429A	**Davenport Ranc**	**70.57**	**333**	⇑P	**P**	**11 02 50.4**	**0.0**
	baz=71,SNR=13						
331A	**San Angelo**	**70.64**	**334**	⇑P	**P**	**11 02 50.3**	**-0.6**
	baz=71,SNR=16						
233A	**Rising Star**	**70.75**	**336**	⇓P	**P**	**11 02 50.9**	**-0.5**
	baz=71,SNR=11						
135A	**Vickery Place,**	**70.76**	**337**	⇓P	**P**	**11 02 51.0**	**-0.5**
	baz=71						
232A	**Coleman**	**70.89**	**335**	⇑P	**P**	**11 02 51.8**	**-0.5**
	baz=71,SNR=12						
134A	**White-Moore Ra**	**70.99**	**337**	⇓P	**P**	**11 02 52.6**	**-0.2**
	baz=71						
330A	**Mertzon**	**71.00**	**334**	⇓P	**P**	**11 02 52.4**	**-0.6**
	baz=71,SNR=7.4						
231A	**Bronte**	**71.17**	**335**	⇑P	**P**	**11 02 53.3**	**-0.7**
	baz=72,SNR=5.3						
133A	**Hamilton Ranch**	**71.30**	**336**	⇓P	**P**	**11 02 54.4**	**-0.4**
	baz=72,SNR=11						
329A	**Wagon Wheel Ra**	**71.37**	**333**	⇓P	**P**	**11 02 54.8**	**-0.5**
	baz=72,SNR=11						
230A	**Sterling City**	**71.41**	**334**	⇑P	**P**	**11 02 55.2**	**-0.3**
	baz=72						
Z35A	**Perchaven, San**	**71.42**	**338**	⇑P	**P**	**11 02 55.3**	**-0.2**
	baz=72						
MIAR	**Mount Ida**	**71.49**	**341**	*e*P	**P**	**11 02 55.3**	**-0.5**
MIAR				pmax	pmax		
	comp=Z,27nm,1.4s						
MIAR	**Mount Ida**	**71.49**	**341**	*e*P	**P**	**11 02 55.2**	**-0.5**
	comp=Z,27nm,1.4s						
ABTX	**Abilene, Hawle**	**71.56**	**335**	⇓P	**P**	**11 02 55.9**	**-0.4**
	baz=72,SNR=16						
ABTX	**Abilene, Hawle**	**71.56**	**335**	*e*P	**P**	**11 02 55.8**	**-0.6**
	comp=Z,28nm,1.0s						
Z34A	**Collier Ranch,**	**71.67**	**337**	⇓P	**P**	**11 02 56.5**	**-0.5**
	baz=72						
WVT	**Waverly**	**71.67**	**346**	*e*P	**P**	**11 02 55.9**	**-1.0**
WVT				pmax	pmax		
	comp=Z,62nm,1.0s						
WVT	**Waverly**	**71.67**	**346**	*e*P	**P**	**11 02 55.9**	**-1.0**
	comp=Z,62nm,1.0s						
229A	**Bryant Ranch,**	**71.74**	**333**	⇑P	**P**	**11 02 56.9**	**-0.6**
	baz=72						
131A	**Roby**	**71.86**	**335**	⇓P	**P**	**11 02 57.6**	**-0.5**
	baz=72,SNR=7.9						
Z33A	**Whitaker Ranch**	**71.87**	**336**	⇑P	**P**	**11 02 57.8**	**-0.3**
	baz=72,SNR=10						
130A	**Snyder**	**72.00**	**334**	⇑P	**P**	**11 02 58.3**	**-0.7**
	baz=72						
Y34A	**Reagan Ranch,**	**72.16**	**338**	⇓P	**P**	**11 02 59.4**	**-0.4**
	baz=72						
228A	**UT Block 9, Go**	**72.17**	**333**	⇑P	**P**	**11 02 59.4**	**-0.6**
	baz=72,SNR=7.5						
129A	**Stewart Farms,**	**72.36**	**334**	⇓P	**P**	**11 03 00.6**	**-0.6**
	baz=73,SNR=6.5						
Z31A	**Sharp Cattle R**	**72.36**	**335**	⇓P	**P**	**11 03 00.9**	**-0.3**
	baz=73,SNR=11						
Y33A	**Hilltop Ranch,**	**72.48**	**337**	⇑P	**P**	**11 03 01.4**	**-0.4**
	baz=73,SNR=5.1						
128A	**Castleberry Fa**	**72.58**	**333**	⇑P	**P**	**11 03 01.9**	**-0.6**
	baz=73,SNR=6.9						
Z30A	**Sanderson Ranc**	**72.68**	**335**	⇓P	**P**	**11 03 02.3**	**-0.8**
	baz=73,SNR=9.6						
Y32A	**R-V Farms, Ver**	**72.75**	**336**	⇓P	**P**	**11 03 02.7**	**-0.7**
	baz=73						
X34A	**Smith Ranch, M**	**72.78**	**338**	⇑P	**P**	**11 03 03.1**	**-0.4**
	baz=73,SNR=7.0						
MAW	**Mawson**	**72.81**	**163**	LR	LR	11 36 44.4	
	comp=Z,151nm,19.0s,baz=236,slow=37						
Z29A	**Hungry Hill Ra**	**72.86**	**334**	⇑P	**P**	**11 03 03.2**	**-1.0**
	baz=73,SNR=13						
MNTX	**Cornudas Mount**	**72.89**	**330**	*e*P	**P**	**11 03 02.9**	**-1.4**
	comp=Z,9.0nm,1.0s						
X33A	**Lawton**	**72.93**	**337**	⇓P	**P**	**11 03 03.3**	**-1.2**
	baz=73

SSPA	Standing Stone	74.81	355	eP	P	11 03 14.7 -0.6
	comp=Z,14nm,1.3s					
Y24A	Capitan	74.86	332	⇑P	P	11 03 16.3 +0.2
	baz=75,SNR=9.4					
Z22A	Elephant Butte	74.90	330	⇓P	P	11 03 16.8 +0.6
	baz=75,SNR=5.2					
TIC	Toumodi	74.96	71	eP	P	11 03 15.9 -0.9
	comp=Z,79nm,0.2s					
W27A	Bowe Ranch, En	74.97	334	⇑P	P	11 03 16.3 -0.3
	baz=75,SNR=9.0					
KIC	Kosan Boka	75.00	71	eP	P	11 03 17.1 0.0
	comp=Z,16nm,0.9s					
X25A	Clemmons Ranch	75.09	332	⇑P	P	11 03 17.1 -0.2
	baz=75					
DBIC	Dimbokro	75.10	71	P	P	11 03 18.3 +0.7
	comp=Z,5.2nm,0.7s,baz=197,slow=6.7,SNR=6.3					
Y23A	Lovelace Mesa,	75.12	331	⇓P	P	11 03 17.7 +0.2
	baz=75,SNR=10.0					
T33A	Patterson Ranc	75.19	338	⇑P	P	11 03 17.6 0.0
	baz=76,SNR=10					
W26A	Owens Ranch, T	75.25	333	⇑P	P	11 03 17.9 -0.3
	baz=76,SNR=10					
V28A	Channing	75.29	335	⇑P	P	11 03 18.6 +0.3
	baz=76					
U30A	WK&E Inc. Balk	75.45	336	⇓P	P	11 03 19.3 +0.1
	baz=76					
T32A	Huddler Ranch,	75.49	338	⇓P	P	11 03 19.3 -0.1
	baz=76					
V27A	Dan Oppiter Fa	75.51	334	⇓P	P	11 03 19.4 -0.2
	baz=76					
S33A	Kaszmaul Farm,	75.59	339	⇓P	P	11 03 20.0 +0.1
	baz=76					
W25A	X Bar L Ranch,	75.63	333	⇑P	P	11 03 19.8 -0.6
	baz=76,SNR=10					
T31A	Randall Ranch,	75.65	337	⇑P	P	11 03 20.0 -0.3
	baz=76					
SFIN	Lafayette	75.67	348	⇓P	P	11 03 19.4 -0.8
	baz=76					
LPM	Los Pinos Moun	75.68	331	eP	P	11 03 21.4 +0.6
X23A	Hourglass Bar	75.74	331	⇑P	P	11 03 21.5 +0.5
	baz=76					
TUC	Tucson	75.75	327	eP	P	11 03 21.5 +0.5
TUC			pmax	pmax		
	comp=Z,18nm,1.3s					
TUC	Tucson	75.75	327	eP	P	11 03 21.5 +0.5
	comp=Z,18nm,1.3s					
V26A	Tequesquite Ra	75.89	334	⇑P	P	11 03 21.4 -0.4
	baz=76,SNR=5.2					
S32A	Newby Ranch, P	75.97	338	⇓P	P	11 03 22.4 +0.3
	baz=76					
W24A	Lazy 6 Ranch,	75.98	332	⇑P	P	11 03 22.6 +0.1
	baz=76,SNR=7.5					
U27A	Thompson Grove	76.10	335	⇓P	P	11 03 23.0 0.0
	baz=76,SNR=7.7					
ANMO	Albuquerque	76.16	331	⇑iP	P	11 03 23.9 +0.4
ANMO			pmax	pmax		
	comp=Z,51nm,1.2s					
ANMO	Albuquerque	76.16	331	LR	LR	11 31 31.8
	comp=Z,59nm,19.3s,baz=146,slow=31					
ANMO	Albuquerque	76.16	331	eP	P	11 03 23.6 +0.2
	comp=Z,18nm,1.2s					
W23A	Werner Place,	76.23	332	⇑P	P	11 03 24.1 +0.2
	baz=76					
V25A	Rancho No Teng	76.24	333	⇓P	P	11 03 23.4 -0.5
	baz=76,SNR=12					
T29A	Hugoton	76.24	336	⇓P	P	11 03 23.6 0.0
	baz=76					
R33A	Olander Ranch,	76.25	339	⇑P	P	11 03 23.7 +0.1
	baz=77					
V24A	Rampart Ranch,	76.39	333	⇓P	P	11 03 24.8 +0.1
	baz=77					
214A	Organ Pipe Nat	76.40	325	⇓P	P	11 03 24.7 +0.1
	baz=77					
S30A	Montezuma	76.40	337	⇑P	P	11 03 24.8 +0.2
	baz=77					
U26A	Atchley Ranch,	76.41	334	⇑P	P	11 03 24.6 -0.2
	baz=77					
T28A	Walsh	76.48	335	⇓P	P	11 03 25.2 0.0
	baz=77,SNR=16					
R32A	Long Quarter,	76.57	339	⇑P	P	11 03 25.3 -0.2
	baz=77,SNR=7.8					
KSU1	Kansas State U	76.59	340	⇑P	P	11 03 25.0 -0.5
	baz=77					
S29A	Ulysses	76.60	336	⇓P	P	11 03 26.1 +0.3
	baz=77,SNR=5.7					
T27A	Campo	76.64	335	⇓P	P	11 03 26.2 +0.1
	baz=77,SNR=8.0					
U25A	Circle Dot Ran	76.66	333	⇑P	P	11 03 26.2 0.0
	baz=77,SNR=9.1					
R31A	Burdett	76.70	338	⇑P	P	11 03 26.1 -0.1
	baz=77,SNR=6.3					
V23A	Ortiz Mt. (NFS	76.75	332	⇓P	P	11 03 26.8 0.0
	baz=77					
S28A	Manter	76.83	336	⇓P	P	11 03 27.1 +0.1
	baz=77,SNR=18					
Q33A	Connelly Farm,	76.84	339	⇓P	P	11 03 26.7 -0.3
	baz=77					
MMNY	Mt. Morris Dam	76.89	355	eP	P	11 03 27.2 0.0
	comp=Z,41nm,1.2s					
R30A	Dighton	76.93	337	⇓P	P	11 03 27.6 0.0
	baz=77					
Q32A	Meitler Ranch,	77.05	339	⇑P	P	11 03 28.4 +0.2
	baz=77					
T26A	Comanche Natio	77.05	334	⇑P	P	11 03 28.8 +0.4
	baz=77,SNR=8.8					
V22A	San Miguel Ran	77.19	331	⇓P	P	11 03 30.0 +0.7
	baz=78,SNR=23					
X18A	Snowflake	77.26	328	⇓P	P	11 03 30.2 +0.6
	baz=78					
U23A	El Rito	77.27	332	⇑P	P	11 03 30.2 +0.5
	baz=78,SNR=9.4					
T25A	Trinidad	77.31	334	⇓P	P	11 03 30.7 +0.7
	baz=78,SNR=22					
Q31A	Ellis	77.31	338	⇓P	P	11 03 30.0 +0.3
	baz=78,SNR=7.2					
R29A	Marienthal	77.33	337	⇓P	P	11 03 30.2 +0.3
	baz=78					
ACCN	Adirondack Com	77.36	359	eP	P	11 03 30.1 +0.3
	comp=Z,16nm,1.3s					
S26A	Kim	77.41	335	⇓P	P	11 03 30.8 +0.5
	baz=78,SNR=18					
R28A	Tribune	77.48	336	⇓P	P	11 03 30.6 -0.1
	baz=78,SNR=10					
Q30A	Quinter	77.55	338	⇑P	P	11 03 31.0 0.0
	baz=78,SNR=10.0					
U22A	Llaves	77.57	332	⇑P	P	11 03 32.1 +0.7
	baz=78,SNR=11					
T24B	San Luis	77.60	333	⇓P	P	11 03 32.2 +0.5
	baz=78,SNR=11					
P32A	Huiting Farm,	77.64	339	⇓P	P	11 03 31.2 -0.3
	baz=78,SNR=5.9					
W18A	Petrified Fore	77.66	329	eP	P	11 03 31.7 -0.2
Q29A	Oakley	77.71	337	⇓P	P	11 03 31.8 -0.1
	baz=78					
R27A	Eads	77.77	336	⇓P	P	11 03 32.2 -0.1
	baz=78,SNR=17					
P31A	Stockton	77.78	339	⇓P	P	11 03 32.6 +0.3
	baz=78,SNR=6.8					
S25A	Robets Cordova	77.78	334	⇑P	P	11 03 32.7 +0.2
	baz=78,SNR=14					
T23A	Casias Ranch,	77.83	333	⇓P	P	11 03 33.3 +0.4
	baz=78,SNR=5.7					
MDV	Middlebury	77.97	359	eP	P	11 03 33.2 +0.1
R26A	Arlington	78.00	335	⇓P	P	11 03 34.1 +0.5
	baz=78,SNR=12					
S24A	Houchin Ranch,	78.05	333	⇑P	P	11 03 34.7 +0.5
	baz=78,SNR=25					
P30A	Selden	78.07	338	⇑P	P	11 03 34.4 +0.5
	baz=78					
Y14A	Wickenburg	78.13	326	⇑P	P	11 03 35.0 +0.7
	baz=78,SNR=6.6					
O32A	Brockman Farm,	78.14	340	⇓P	P	11 03 34.7 +0.4
	baz=78					
Q28A	Sharon Springs	78.14	337	⇑P	P	11 03 34.9 +0.6
	baz=78					
R25A	Fountain Ranch	78.16	334	⇑P	P	11 03 35.3 +0.7
	baz=78					
GLA	Glamis	78.26	324	⇓P	P	11 03 35.7 +0.6
	baz=78					
P29A	Atwood	78.34	337	⇑P	P	11 03 36.0 +0.6
	baz=79					
O31A	Woolen Ranch,	78.35	339	⇑P	P	11 03 35.8 +0.4
	baz=79					
KSCO	Kaye Shedlock'	78.36	336	⇓P	P	11 03 35.9 +0.3
	baz=79					
KSCO	Kaye Shedlock'	78.36	336	eP	P	11 03 36.1 +0.5
	comp=Z,24nm,1.0s					
SCIA	State Center	78.37	344	eP	P	11 03 35.0 -0.4
	comp=Z,28nm,1.1s					
P28A	Saint Francis	78.58	337	⇑P	P	11 03 37.2 +0.4
	baz=79,SNR=6.9					
Q26A	Hugo	78.59	335	⇓P	P	11 03 37.4 +0.5
	baz=79					
O30A	MW Ranch, Wils	78.59	338	⇓P	P	11 03 37.3 +0.5
	baz=79					
N32A	Stulken Farm,	78.61	340	⇑P	P	11 03 37.4 +0.6
	baz=79					
LONY	Lake Ozonia	78.62	358	eP	P	11 03 37.0 +0.2
	comp=Z,12nm,1.0s					
Y12C	Blythe	78.69	325	⇓P	P	11 03 38.2 +0.8
	baz=79,SNR=5.9					
JFWS	Jewell Farm	78.70	346	eP	P	11 03 36.8 -0.4
JFWS			pmax	pmax		
	comp=Z,31nm,1.3s					
JFWS	Jewell Farm	78.70	346	eP	P	11 03 36.8 -0.4
	comp=Z,31nm,1.3s					
WUAZ	Wupatki	78.71	328	⇑P	P	11 03 38.0 +0.3
	baz=79,SNR=6.2					
WUAZ	Wupatki	78.71	328	eP	P	11 03 38.7 +1.0
	comp=Z,21nm,1.1s					
S22A	4UR Ranch, Cre	78.75	332	⇓P	P	11 03 38.4 +0.4
	baz=79,SNR=7.3					
R23A	Moffat	78.76	333	⇑P	P	11 03 38.2 +0.1
	baz=79,SNR=9.7					
O29A	4D Ranch, Culb	78.77	338	⇓P	P	11 03 38.1 +0.4
	baz=79					
Q25A	Bedland, Calha	78.83	335	⇑P	P	11 03 38.8 +0.5
	baz=79					
P27A	Ficken Ranch,	78.83	336	⇓P	P	11 03 39.0 +0.8
	baz=79					
MONP	Monument Peak,	78.92	323	⇑P	P	11 03 39.6 +0.7
	baz=79					
MVCO	Mesa Verde	78.94	331	⇑P	P	11 03 39.2 +0.2
	baz=79,SNR=11					
MVCO	Mesa Verde	78.94	331	eP	P	11 03 39.5 +0.5
	comp=Z,27nm,1.3s					
PDMCI	Parker Dam,Lak	78.96	325	⇑P	P	11 03 39.2 +0.4
	baz=79					
BC3	Big Chuckawall	79.06	324	⇑P	P	11 03 39.7 +0.2
	baz=79,SNR=5.9					
O28A	Krutsinger Ran	79.08	337	⇑P	P	11 03 40.1 +0.6
	baz=79					
P26A	Davis Ranch, A	79.10	336	⇑P	P	11 03 40.1 +0.5
	baz=79					
BGNE	Belgrade	79.17	340	⇑P	P	11 03 39.9 +0.1
	baz=80					
BGNE	Belgrade	79.17	340	eP	P	11 03 39.8 -0.1
	comp=Z,39nm,1.0s					
Q24A	Divide	79.20	334	⇑P	P	11 03 40.8 +0.4
	baz=80					
IRM	Iron Mountain	79.32	325	⇑P	P	11 03 41.4 +0.5
	baz=80,SNR=6.0					
P25A	Willow Gulch B	79.34	335	⇑P	P	11 03 41.8 +0.8
	baz=80,SNR=16					
M31A	Lambtecht Ranc	79.34	340	⇓P	P	11 03 40.7 -0.1
	baz=80					
N29A	Votaw Ranch, W	79.35	338	⇑P	P	11 03 41.3 +0.4
	baz=80					
O27A	Beecher Island	79.37	337	⇑P	P	11 03 41.8 +0.7
	baz=80,SNR=7.0					
W13A	Hualapai Mount	79.50	326	⇑P	P	11 03 43.1 +1.1
	baz=80,SNR=7.3					
PFO	Pinyon Flats O	79.51	323	⇓P	P	11 03 42.7 +0.7
	baz=80,SNR=5.3					
N28A	Pribbeno Ranch	79.52	337	⇓P	P	11 03 42.3 +0.5
	baz=80,SNR=5.4					
P24A	Kohler Place,	79.60	335	⇓P	P	11 03 43.1 +0.6
	baz=80					
BELC	Belle Mtn. Jos	79.60	324	⇑P	P	11 03 43.3 +0.7
	baz=80					
O26A	Horse Wrangler	79.70	336	⇑P	P	11 03 43.8 +0.9
	baz=80					
BOSA	Boshof	79.75	118	eP	P	11 03 44.1 +0.4
BOSA			pmax	pmax		
	comp=Z,26nm,1.0s					
BOSA	Boshof	79.75	118	P	P	11 03 44.3 +0.6
	comp=Z,25nm,0.9s,baz=235,slow=4.4,SNR=30					
BOSA			LR	LR		11 37 05.7
	comp=Z,71nm,18.2s,baz=206,slow=34					
BOSA	Boshof	79.75	118	eP	P	11 03 44.1 +0.4
	comp=Z,26nm,1.0s					
PV01	Paradox Valley	79.77	331	eP	P	11 03 43.6 +0.2
	comp=Z,701nm,1.2s					
P23A	Jefferson	79.81	334	⇑P	P	11 03 44.9 +1.1
	baz=80					
O25A	Wiggins	79.86	335	⇓P	P	11 03 44.6 +0.8
	baz=80					
MURC	Murrieta	79.87	323	⇑P	P	11 03 44.6 +0.7
	baz=80					
U15A	North Rim	79.88	328	⇓P	P	11 03 45.1 +0.9
	baz=80,SNR=14					
M29A	Burnside Ranch	79.94	338	⇓P	P	11 03 45.4 +1.2
	baz=80					
N27A	Anderson Farm,	79.95	337	⇑P	P	11 03 44.8 +0.5
	baz=80					
SMCO	Snowmass	80.06	333	eP	P	11 03 46.0 +0.8
	comp=Z,19nm,1.0s					
GMRC	Granite Mounta	80.07	325	⇓P	P	11 03 45.7 +0.7
	baz=80,SNR=9.2					
L31A	Butterfield Fa	80.07	340	⇓P	P	11 03 45.0 +0.3
	baz=80,SNR=10					
ISCO	Idaho Springs	80.11	334	eP	P	11 03 45.3 -0.1
ISCO			pmax	pmax		
	comp=Z,10.0nm,1.0s					
ISCO	Idaho Springs	80.11	334	⇑P	P	11 03 45.6 +0.2
	baz=80,SNR=9.7					
ISCO	Idaho Springs	80.11	334	eP	P	11 03 45.2 -0.1
	comp=Z,9.6nm,1.0s					
L30A	Spencer Herefo	80.12	339	⇑P	P	11 03 45.8 +0.8
	baz=80					
N26A	Koester Ranch,	80.19	336	⇓P	P	11 03 46.2 +0.6
	baz=80					
P22A	Eagle	80.34	333	⇑P	P	11 03 46.9 +0.3
	baz=81,SNR=7.0					
HEC	Hector,Ludlow	80.43	324	⇑P	P	11 03 48.3 +1.3
	baz=81,SNR=10					
L29A	Maesberg Ranch	80.45	339	⇓P	P	11 03 47.6 +0.7
	baz=81					
M27A	Reverse DX Ran	80.55	337	⇓P	P	11 03 47.7 +0.3
	baz=81					
O23A	Lake Granby, G	80.58	334	⇑P	P	11 03 48.4 +0.5
	baz=81,SNR=13					
BFSC	Mount Baldy Ra	80.61	323	⇑P	P	11 03 48.8 +0.9
	baz=81					
TUQ	Turquoise Moun	80.73	325	⇑P	P	11 03 48.8 +0.3
	baz=81,SNR=9.2					
K30A	Basset	80.75	340	⇓P	P	11 03 48.4 0.0
	baz=81,SNR=14					
N24A	Carr	80.76	335	⇑P	P	11 03 49.3 +0.7
	baz=81					
O22A	Kremmling	80.76	334	⇓P	P	11 03 49.1 +0.2
	baz=81,SNR=15					
ECSD	EROS Data Cent	80.92	342	⇓P	P	11 03 49.1 -0.2
	baz=81,SNR=36					
ECSD	EROS Data Cent	80.92	342	eP	P	11 03 48.4 -0.8
	comp=Z,33nm,0.9s					
M25A	Palm-Egli Farm	81.02	336	⇑P	P	11 03 51.1 +1.1
	baz=81					
K29A	Lazy Trails An	81.04	339	⇑P	P	11 03 50.4 +0.5
	baz=81					
GSC	Goldstone, Bar	81.04	324	eP	P	11 03 51.2 +1.0
GSC			pmax	pmax		
	comp=Z,12nm,1.0s					
GSC	Goldstone, Bar	81.04	324	⇑P	P	11 03 50.6 +0.4
	baz=81,SNR=5.4					
GSC	Goldstone, Bar	81.04	324	eP	P	11 03 51.2 +1.0
	comp=Z,12nm,1.0s					
N23A	Red Feather La	81.19	334	⇑P	P	11 03 51.4 +0.3
	baz=82,SNR=7.8					
SHPR	Sheep Range	81.24	326	eP	P	11 03 51.9 +0.6
CCUT	Cedar City	81.29	328	eP	P	11 03 52.9 +1.3
	comp=Z,21nm,1.1s					
EDW2	Edwards Air Fo	81.29	323	⇓P	P	11 03 51.9 +0.5
	baz=82,SNR=5.8					
N22A	Wattenberg Ran	81.29	334	⇓P	P	11 03 51.9 +0.3
	baz=82,SNR=11					
M24A	Cheyenne	81.31	336	⇑P	P	11 03 52.0 +0.4
	baz=82,SNR=7.2					
K28A	Ten Mile Ranch	81.31	338	⇑P	P	11 03 52.1 +0.7
	baz=82,SNR=6.3					
J30A	Dallas	81.31	340	⇓P	P	11 03 51.4 0.0
	baz=82,SNR=6.9					
O20A	White River Ci	81.37	333	⇑P	P	11 03 52.2 +0.2
	baz=82,SNR=6.2					
O20A	White River Ci	81.37	333	eP	P	11 03 51.7 -0.3
	comp=Z,11nm,1.0s					
PHWY	Pilot Hill	81.38	335	eP	P	11 03 51.8 -0.3
	comp=Z,12nm,0.8s					
SRU	San Rafael Swe	81.39	331	eP	P	11 03 52.3 +0.2
SRU			pmax	pmax		
	comp=Z,12nm,1.0s					
SRU	San Rafael Swe	81.39	331	eP	P	11 03 52.3 +0.2
	comp=Z,12nm,1.0s					
SPMN	Marine on St.	81.44	345	⇓P	P	11 03 51.5 -0.5
	baz=82					
SPMN	Marine on St.	81.44	345	eP	P	11 03 51.0 -1.0
	comp=Z,16nm,1.0s					
ARUT	Antelope Range	81.52	328	eP	P	11 03 53.4 +0.6
ARUT			pmax	pmax		
	comp=Z,465nm,1.4s					
ARUT	Antelope Range	81.52	328	eP	P	11 03 53.4 +0.6
	comp=Z,466nm,1.4s					
K27A	Flueckinger Fa	81.57	338	⇑P	P	11 03 53.4 +0.6
	baz=82,SNR=7.3					
MVU	Marysvale	81.58	329	eP	P	11 03 54.2 +1.0
	comp=Z,11nm,1.1s					
LRMC	Laurel Mtn Rad	81.61	324	⇑P	P	11 03 54.1 +0.9
	baz=82					
M23A	Laramie	81.62	335	⇑P	P	11 03 53.9 +0.6
	baz=82					
L25A	Engebretsen Ra	81.63	336	⇑P	P	11 03 53.8 +0.6
	baz=82					
J29A	Okreek	81.63	339	⇑P	P	11 03 53.3 +0.3
	baz=82,SNR=26					
TMUT	Trail Mountain	81.83	330	eP	P	11 03 55.0 +0.5
	comp=Z,34nm,1.6s					
I30A	Oacoma	81.84	340	⇑P	P	11 03 53.9 -0.2
	baz=82,SNR=10					
L24A	Wheatland	81.85	336	⇓P	P	11 03 54.9 +0.5
	baz=82					
K26A	Motz Farm, Whi	81.86	337	⇑P	P	11 03 55.2 +0.8
	baz=82					
M22A	Cedar Creek Ra	81.87	334	⇑P	P	11 03 55.4 +0.8
	baz=82					
J28A	Allard Ranch,	81.92	339	⇑P	P	11 03 55.2 +0.6
	baz=82,SNR=13					
N20A	Spence Gulch,	81.99	333	⇑P	P	11 03 55.3 0.0
	baz=82					
LBTB	Lobatse	81.99	115	eP	P	11 03 56.5 +0.8
LBTB			pmax	pmax		
	comp=Z,16nm,0.6s					
LBTB	Lobatse	81.99	115	eP	P	11 03 56.5 +0.8
	comp=Z,16nm,0.6s					
J27A	Elkhorn Farm,	81.99	338	⇑P	P	11 03 56.0 +0.9
	baz=82,SNR=9.1					
FURC	Furnace Creek,	82.01	325	⇑P	P	11 03 55.7 +0.6
	baz=82,SNR=5.2					
ISA	Isabella, Lake	82.15	323	eP	P	11 03 57.0 +1.0
ISA			pmax	pmax		
	comp=Z,13nm,1.0s					
ISA	Isabella, Lake	82.15	323	⇓P	P	11 03 56.6 +0.5
	baz=82,SNR=7.3					
ISA	Isabella, Lake	82.15	323	eP	P	11 03 57.0 +1.0
	comp=Z,13nm,1.0s					
L23A	Garrett	82.18	335	⇓P	P	11 03 56.3 +0.1
	baz=82					
I29A	Vivian Onida	82.19	340	⇓P	P	11 03 55.7 -0.2
	baz=82,SNR=5.1					
BRSD	Miller	82.20	341	⇑P	P	11 03 55.5 -0.5
	baz=82,SNR=7.5					
BRSD	Miller	82.20	341	eP	P	11 03 55.5 -0.5
	comp=Z,29nm,0.9s					
DAC	Darwin (Calif)	82.21	324	eP	P	11 03 57.3 +0.8
DAC			pmax	pmax		
	comp=Z,19nm,1.0s					
DAC	Darwin (Calif)	82.21	324	eP	P	11 03 57.2 +0.8
	comp=Z,19nm,1.0s					
L22A	Ellis Ranch, M	82.36	335	⇑P	P	11 03 56.6 -0.5
	baz=83					
J26A	Sides Ranch, S	82.38	338	⇓P	P	11 03 57.2 +0.2
	baz=83,SNR=9.4					
I28A	Midland	82.42	339	⇑P	P	11 03 57.6 +0.4
	baz=83,SNR=26					
VES	Vestal, Richgr	82.59	323	⇑P	P	11 03 58.6 +0.4
	baz=83,SNR=6.6					
MPU	Maple Canyon	82.61	330	eP	P	11 03 58.8 +0.3
	comp=Z,16nm,1.0s					
SMMC	Simmler	82.64	322	⇓P	P	11 03 59.0 +0.4
	baz=83					
GRAC	Grapevine Rang	82.68	325	⇑P	P	11 03 59.3 +0.6
	baz=83					
J25A	Sunshine Ranch	82.68	337	⇑P	P	11 03 59.0 +0.4
	baz=83					
H29A	Onida	82.72	340	⇑P	P	11 03 58.7 0.0
	baz=83,SNR=10					
K23A	Bowen Ranch, D	82.72	336	⇑P	P	11 03 59.2 +0.3
	baz=83					
NLU	North Lily Min	82.74	330	eP	P	11 03 59.9 +0.6
	comp=Z,26nm,1.5s					
I27A	Quinn	82.75	339	⇓P	P	11 03 59.0 +0.1
	baz=83					
G30A	Faulkton	82.88	341	⇓P	P	11 03 59.2 -0.3
	baz=83,SNR=8.6					
J24A	Dixon Ranch, L	82.91	336	⇓P	P	11 04 00.5 +0.6
	baz=83					
R11A	Troy Canyon, C	82.94	327	⇓P	P	11 04 00.9 +0.7
	baz=83,SNR=16					
R11A	Troy Canyon, C	82.94	327	eP	P	11 04 00.8 +0.5
	comp=Z,16nm,1.1s					
K22A	Casper	82.94	335	⇑P	P	11 04 00.1 0.0
	baz=83,SNR=9.5					
K22A	Casper	82.94	335	eP	P	11 04 00.3 +0.2
	comp=Z,28nm,1.1s					
I26A	New Underwood	82.96	338	⇑P	P	11 04 00.2 +0.2
	baz=83					
H28A	Mission Ridge	82.99	339	⇑P	P	11 04 00.3 +0.1
	baz=83,SNR=14					
JLU	Jordanelle	83.03	331	eP	P	11 04 01.1 +0.3
	comp=Z,10nm,1.0s					
RCTC	Rector, Farmer	83.04	323	⇓P	P	11 04 00.8 +0.3
	baz=83					
G29A	Hoven	83.16	340	⇑P	P	11 04 01.1 +0.2
	baz=84					
K21A	Alcova	83.18	334	⇓P	P	11 04 01.2 -0.2
	baz=84,SNR=12					
I25A	Rochford	83.22	337	⇑P	P	11 04 01.6 0.0
	baz=84,SNR=8.5					
DUG	Dugway, Tooele	83.25	330	eP	P	11 04 02.3 +0.6
DUG			pmax	pmax		
	comp=Z,40nm,1.5s					
DUG	Dugway, Tooele	83.25	330	⇑P	P	11 04 01.9 +0.2
	baz=84,SNR=16					
DUG	Dugway, Tooele	83.25	330	eP	P	11 04 02.3 +0.6
	comp=Z,40nm,1.5s					
H27A	Howes	83.27	339	⇓P	P	11 04 01.7 +0.1
	baz=84					
G28A	Parade	83.33	340	⇓P	P	11 04 02.0 +0.1
	baz=84,SNR=8.1					
I24A	Kuemmerle Ranc	83.37	337	⇓P	P	11 04 02.2 0.0
	baz=84					
RSSD	Black Hills	83.41	337	eP	P	11 04 02.3 -0.3
RSSD			pmax	pmax		
	comp=Z,9.0nm,0.9s					
RSSD	Black Hills	83.41	337	eP	P	11 04 02.3 -0.3
	comp=Z,8.8nm,0.9s					
TPH	Tonopah	83.47	326	eP	P	11 04 03.6 +0.6
TPH			pmax	pmax		
	comp=Z,20nm,1.1s					
TPH	Tonopah	83.47	326	eP	P	11 04 03.6 +0.6
	comp=Z,20nm,1.1s					
J22A	Midwest	83.59	335	⇑P	P	11 04 03.1 -0.3
	baz=84,SNR=6.7					
F29A	Eureka	83.72	341	⇑P	P	11 04 04.1 +0.3
	baz=84,SNR=7.5					
H25A	Fruitdale	83.72	338	⇓P	P	11 04 04.2 +0.3
	baz=84,SNR=5.8					
J21A	Lysite	83.88	335	⇑P	P	11 04 05.3 +0.3
	baz=84					
MLAC	Mammoth, Mammo	83.88	324	⇑P	P	11 04 06.0 +0.8
	baz=84,SNR=6.0					
G27A	Dupree

H24A	Dirks Ranch, A	84.14	337	⇓P	P	11 04 05.9	-0.2
	baz=84						
TORD	Torodi Ar. Bea	84.14	70	P	P	11 04 07.1	+0.4
	comp=Z,9.3nm,0.9s,baz=256,slow=4.2,SNR=45						
PDAR	Pinedale Array	84.14	333	P	P	11 04 05.8	-0.5
	comp=Z,3.8nm,0.9s,baz=145,slow=5.4,SNR=21						
G25A	Newell	84.18	338	⇓P	P	11 04 06.2	-0.1
	baz=84,SNR=10						
I21A	Big Trails, Te	84.23	335	⇑P	P	11 04 06.2	-0.5
	baz=84,SNR=9.3						
NVAR	Mina Array Bea	84.26	325	P	P	11 04 06.6	-0.5
	comp=Z,4.1nm,0.8s,baz=157,slow=6.4,SNR=28						
E29A	Napoleon	84.34	341	⇓P	P	11 04 06.7	-0.4
	baz=85,SNR=5.5						
F27A	Lemmon	84.38	339	⇓P	P	11 04 07.3	+0.1
	baz=85,SNR=9.5						
J19A	Crowheart	84.38	334	⇓P	P	11 04 07.2	-0.3
	baz=85,SNR=16						
F26A	Lodgepole	84.55	339	⇑P	P	11 04 08.0	-0.1
	baz=85,SNR=8.5						
HVU	Hansel Valley	84.56	330	eP	P	11 04 08.2	-0.2
HVU				pmax	pmax		
	comp=Z,13nm,0.9s						
HVU	Hansel Valley	84.56	330	eP	P	11 04 08.2	-0.2
	comp=Z,13nm,0.9s						
H22A	Clearmont	84.59	336	⇓P	P	11 04 07.9	-0.5
	baz=85						
D30A	Buchanan	84.61	342	⇑P	P	11 04 08.2	-0.1
	baz=85,SNR=21						
E28A	Huff	84.64	340	⇓P	P	11 04 08.7	+0.3
	baz=85						
I20A	Worland	84.64	335	⇑P	P	11 04 08.6	-0.1
	baz=85						
ELK	Elko	84.74	328	eP	P	11 04 09.6	+0.1
ELK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ELK	Elko	84.74	328	eP	P	11 04 09.6	+0.1
	comp=Z,9.0nm,1.0s						
D29A	Pettibone, Tap	84.79	341	⇓P	P	11 04 09.1	-0.1
	baz=85,SNR=7.3						
G23A	Biddle	84.81	337	⇑P	P	11 04 09.0	-0.5
	baz=85						
F25A	Bowman	84.85	338	⇑P	P	11 04 09.6	-0.1
	baz=85						
H21A	Big Horn, Sher	84.86	336	⇑P	P	11 04 09.3	-0.5
	baz=85						
WAKR	Walker	84.86	324	eP	P	11 04 11.2	+1.2
CMB	Columbia Colle	84.96	324	eP	P	11 04 10.8	+0.5
CMB				pmax	pmax		
	comp=Z,14nm,1.3s						
CMB	Columbia Colle	84.96	324	eP	P	11 04 10.8	+0.5
	comp=Z,14nm,1.3s						
AGMN	Agassiz Nation	85.02	344	⇑P	P	11 04 09.8	-0.5
	baz=85,SNR=8.3						
AGMN	Agassiz Nation	85.02	344	eP	P	11 04 09.8	-0.5
	comp=Z,11nm,0.8s						
I19A	Meeteetse	85.03	334	⇑P	P	11 04 10.2	-0.6
	baz=85,SNR=5.4						
E26A	Carlson Angus	85.05	339	⇓P	P	11 04 10.0	-0.5
	baz=85,SNR=5.5						
H20A	Greybull	85.07	335	⇓P	P	11 04 10.0	-0.8
	baz=85,SNR=16						
F24A	Ekalaka	85.08	338	⇓P	P	11 04 10.5	-0.4
	baz=85						
C30A	Mose, Pekin	85.09	342	⇓P	P	11 04 10.4	-0.3
	baz=85,SNR=27						
G22A	Birney	85.12	336	⇓P	P	11 04 10.0	-1.0
	baz=85						
REDW	Red Top Meadow	85.14	333	eP	P	11 04 11.1	-0.3
	comp=Z,27nm,1.6s						
D28A	Regan	85.17	341	⇓P	P	11 04 11.0	-0.1
	baz=86,SNR=5.4						
LOHW	Long Hollow	85.26	333	eP	P	11 04 11.3	-0.7
	comp=Z,26nm,1.7s						
F23A	Volborg	85.28	337	⇑P	P	11 04 11.3	-0.5
	baz=86,SNR=12						
TPAW	Teton Pass	85.29	333	eP	P	11 04 12.0	-0.1
	comp=Z,10nm,1.0s						
E25A	Miller Ranch,	85.35	339	⇑P	P	11 04 11.9	-0.2
	baz=86,SNR=6.9						
D27A	Center	85.36	340	⇑P	P	11 04 12.2	+0.1
	baz=86						
G21A	Lodge Grass	85.44	336	⇓P	P	11 04 12.0	-0.7
	baz=86						
FXWY	Fox Creek	85.44	333	eP	P	11 04 12.6	-0.3
	comp=Z,4.0nm,0.9s						
I17A	Pilgrim Ck.	85.51	333	⇑P	P	11 04 13.3	+0.1
	baz=86,SNR=8.5						
MDND	Maddock	85.52	342	⇑P	P	11 04 12.7	-0.1
	baz=86						
MDND	Maddock	85.52	342	eP	P	11 04 12.8	-0.1
	comp=Z,10nm,0.8s						
D26A	Manning	85.55	340	⇑P	P	11 04 12.8	-0.3
	baz=86,SNR=6.4						
H19A	Powell	85.58	334	⇑P	P	11 04 13.1	-0.2
	baz=86,SNR=12						
C28A	Hausauer Farms	85.60	341	⇓P	P	11 04 13.3	0.0
	baz=86						
F22A	Rosebud	85.61	337	⇑P	P	11 04 13.2	-0.2
	baz=86,SNR=13						
IMW	Indian Meadow	85.63	333	eP	P	11 04 13.8	-0.1
	comp=Z,16nm,1.1s						
E24A	Baker	85.68	338	⇓P	P	11 04 13.8	0.0
	baz=86						
FLWY	Flagg Ranch	85.70	333	eP	P	11 04 14.3	+0.2
	comp=Z,15nm,0.8s						
B30A	Myrvik Farm, E	85.75	343	⇓P	P	11 04 13.8	-0.2
	baz=86,SNR=14						
G20A	Bridger	85.78	335	⇑P	P	11 04 13.8	-0.6
	baz=86,SNR=17						
H18A	Shoshone NF, C	85.83	334	⇓P	P	11 04 14.7	0.0
	baz=86,SNR=27						
C27A	Sayler Ranch,	85.90	340	⇓P	P	11 04 15.1	+0.4
	baz=86,SNR=7.1						
D25A	Fairfield	85.91	339	⇓P	P	11 04 15.2	+0.3
	baz=86,SNR=9.9						
H17A	Grant Village	85.92	333	⇓P	P	11 04 16.0	+0.7
	baz=86						
H17A	Grant Village	85.92	333	eP	P	11 04 16.4	+1.2
	comp=Z,3.8nm,0.8s						
F21A	Absaloka Mine,	85.93	336	⇓P	P	11 04 15.2	+0.1
	baz=86						
E23A	Ismay	85.94	338	⇓P	P	11 04 14.6	-0.5
	baz=86,SNR=8.6						
B29A	Wagenman Farm,	86.02	342	⇑P	P	11 04 15.1	-0.2
	baz=86						
YFT	Old Faithful	86.06	333	eP	P	11 04 17.2	+1.3
	comp=Z,16nm,1.2s						
E22A	Miles City	86.09	337	⇑P	P	11 04 15.4	-0.3
	baz=86,SNR=6.2						
C26A	Wahner Farm, P	86.17	340	⇑P	P	11 04 16.3	+0.2
	baz=86						
D24A	Glendive	86.18	338	⇓P	P	11 04 16.1	-0.1
	baz=86,SNR=13						
A30A	Hoffart Farm,	86.20	343	⇓P	P	11 04 15.7	-0.5
	baz=86,SNR=8.3						
F20A	Billings	86.26	335	⇓P	P	11 04 16.4	-0.3
	baz=87						
B28A	Dugan Ranch, T	86.27	341	⇑P	P	11 04 16.4	-0.1
	baz=87,SNR=9.1						
YMR	Madison River	86.30	333	eP	P	11 04 17.6	+0.5
	comp=Z,28nm,0.9s						
LAO	LASA Array	86.40	337	eP	P	11 04 16.5	-0.8
	comp=Z,32nm,1.1s						
C25A	Freed Ranch, W	86.40	339	⇑P	P	11 04 17.1	-0.2
	baz=87,SNR=7.1						
A29A	Manning Farm,	86.41	342	⇑P	P	11 04 17.0	-0.2
	baz=87,SNR=9.7						
B27A	Peters Farms,	86.47	341	⇓P	P	11 04 17.8	+0.2
	baz=87						
D23A	Lindsay	86.51	338	⇑P	P	11 04 18.0	+0.1
	baz=87,SNR=21						
E21A	Keefer Ranch,	86.55	336	⇑P	P	11 04 18.0	0.0
	baz=87,SNR=7.1						
C24A	Savage	86.59	339	⇓P	P	11 04 18.2	+0.1
	baz=87,SNR=8.1						
QLMT	Earthquake Lak	86.61	333	eP	P	11 04 19.3	+0.7
A28A	Rude Farm, Bot	86.67	342	⇓P	P	11 04 18.4	-0.2
	baz=87						
B26A	Jensen Ranch,	86.71	340	⇓P	P	11 04 19.2	+0.4
	baz=87						
HLID	Hailey	86.72	330	⇓P	P	11 04 19.3	+0.2
	baz=87,SNR=12						
HLID	Hailey	86.72	330	eP	P	11 04 19.3	+0.2
	comp=Z,12nm,1.0s						
D22A	Cohagen	86.79	337	⇑P	P	11 04 19.1	-0.1
	baz=87,SNR=14						
ULM	Lac du Bonnet	86.86	345	P	P	11 04 18.7	-0.7
ULM				pmax	pmax		
	comp=Z,12nm,1.0s						
ULM	Lac du Bonnet	86.86	345	P	P	11 04 18.6	-0.7
	comp=Z,9.8nm,1.0s,baz=163,slow=4.2,SNR=12						
ULM	Lac du Bonnet	86.86	345	P	P	11 04 18.6	-0.7
	comp=Z,12nm,1.0s						
E20A	Meyer Farm, Mu	86.87	336	⇑P	P	11 04 19.8	+0.2
	baz=87,SNR=25						
A27A	Ledoux Ranch,	86.96	341	⇓P	P	11 04 19.8	-0.1
	baz=87						
D21A	La Casta Ranch	86.98	337	⇓P	P	11 04 19.9	-0.3
	baz=87,SNR=13						
E19A	Rath Farm, Rou	87.06	335	⇑P	P	11 04 20.2	-0.3
	baz=87,SNR=20						
C23A	Lambert	87.06	338	⇓P	P	11 04 20.3	-0.2
	baz=87,SNR=14						
A26A	Wade Farm, Ken	87.13	341	⇓P	P	11 04 20.5	-0.3
	baz=88,SNR=5.6						
MCMT	McKenzie Canyo	87.15	332	eP	P	11 04 21.2	0.0
	comp=Z,11nm,1.1s						
MFID	Camas Ranch	87.18	330	eP	P	11 04 21.1	-0.1
	comp=Z,8.8nm,1.0s						
C22A	Vida	87.23	338	⇓P	P	11 04 20.7	-0.6
	baz=88,SNR=8.2						
D20A	Manuel Ranch,	87.38	336	⇑P	P	11 04 21.6	-0.5
	baz=88,SNR=20						
A25A	Svangstu Ranch	87.47	340	⇓P	P	11 04 22.3	-0.1
	baz=88,SNR=6.1						
DLMT	Dillon	87.50	333	eP	P	11 04 23.1	+0.3
	comp=Z,25nm,1.3s						
B23A	Brockton	87.59	339	⇑P	P	11 04 22.9	-0.1
	baz=88,SNR=6.4						
WVOR	Wild Horse Val	87.61	327	eP	P	11 04 24.3	+0.9
WVOR				pmax	pmax		
	comp=Z,19nm,1.4s						
WVOR	Wild Horse Val	87.61	327	eP	P	11 04 24.3	+0.9
	comp=Z,19nm,1.4s						
D19A	Cripps Ranch,	87.70	336	⇓P	P	11 04 22.9	-0.7
	baz=88,SNR=7.5						
A24A	Westby	87.71	339	⇓P	P	11 04 23.2	-0.3
	baz=88,SNR=5.6						
B22A	Reddig Ranch S	87.75	338	⇑P	P	11 04 23.7	-0.1
	baz=88,SNR=20						
LRM	Limekiln Ridge	87.83	333	eP	P	11 04 24.7	+0.2
C20A	Veseth Ranch,	87.88	336	⇓P	P	11 04 23.8	-0.7
	baz=88,SNR=11						
MOD	Modoc Plateau	87.94	326	eP	P	11 04 25.6	+0.5
	comp=Z,11nm,0.9s						
WDC	Whiskeytown Da	87.98	324	eP	P	11 04 24.3	-0.7
WDC				pmax	pmax		
	comp=Z,22nm,1.4s						
WDC	Whiskeytown Da	87.98	324	eP	P	11 04 24.3	-0.7
	comp=Z,22nm,1.4s						
A23A	Redstone	88.00	339	⇓P	P	11 04 25.0	0.0
	baz=88						
B21A	Ellsworth Farm	88.19	337	⇓P	P	11 04 25.6	-0.3
	baz=88,SNR=14						
C19A	Slack Wire Ran	88.25	336	⇑P	P	11 04 26.0	-0.2
	baz=89						
A22A	Carney Farms,	88.34	338	⇑P	P	11 04 26.3	-0.3
	baz=89,SNR=18						
N02D	Trinity Center	88.37	324	⇓P	P	11 04 26.3	-0.7
	baz=89						
B20A	Solberg Farm,	88.52	337	⇓P	P	11 04 26.9	-0.5
	baz=89,SNR=14						
M04C	Macdoel	88.57	325	⇑P	P	11 04 28.0	0.0
	baz=89						
A21A	Bergtoll Ranch	88.65	338	⇓P	P	11 04 27.4	-0.6
	baz=89,SNR=8.2						
EGMT	Eagleton	88.74	336	⇑P	P	11 04 27.9	-0.6
	baz=89						
EGMT	Eagleton	88.74	336	eP	P	11 04 28.5	0.0
M02C	Callahan	88.76	324	⇑P	P	11 04 28.9	+0.1
	baz=89						
B19A	Brinkman Farms	88.84	336	⇓P	P	11 04 28.7	-0.3
	baz=89						
A20A	Cobblestone Ra	88.87	337	⇓P	P	11 04 28.6	-0.5
	baz=89,SNR=12						
CHMT	Chamberlain Mo	89.05	333	eP	P	11 04 29.8	-0.4
	comp=Z,7.5nm,1.6s						
A19A	Klindworth Far	89.18	337	⇑P	P	11 04 30.0	-0.6
	baz=90						
MSO	Missoula	89.24	333	⇓P	P	11 04 31.3	+0.3
	baz=90						
J05D	Fort Rock, OR	89.45	326	⇓P	P	11 04 32.5	+0.4
	baz=90						
L02D	Cave Junction,	89.70	324	⇓P	P	11 04 33.7	+0.5
	baz=90						
JTMT	Jette	90.13	333	eP	P	11 04 35.0	-0.2
BSMT	Bassoo Peak	90.41	333	eP	P	11 04 36.0	-0.5
NEW	Newport	91.65	332	⇑P	P	11 04 41.6	-0.5
	baz=92						
C09A	Chrisman Ranch	91.74	331	eP	P	11 04 42.5	0.0
	comp=Z,235nm,3.0s						
EDM	Edmonton	94.36	336	eP	P	11 04 53.1	-1.4
EDM	Edmonton	94.36	336	eP	P	11 04 53.0	-1.4
FCC	Fort Churchill	94.59	349	eP	P	11 04 54.9	-0.4
FCC	Fort Churchill	94.59	349	eP	P	11 04 54.9	-0.4
YKA	Yellowknife Ar	102.43	341	P	Pdif	11 05 29.7	-0.7
YKA				PP	PP	11 09 46.1	+2.2
	comp=Z,0.8nm,0.7s,baz=140,slow=4.4,SNR=22						
	comp=Z,0.3nm,1.0s,baz=133,slow=9.0,SNR=5.3						
ILAR	Eielson Array	114.58	333	PKP	PKPdf	11 10 14.0	-0.4
	comp=Z,0.7nm,0.8s,baz=183,slow=1.2,SNR=8.5						
ASAR	Alice Springs	117.36	207	PKKPbc	PKKPbc	11 20 43.6	-0.2
	comp=Z,0.3nm,0.7s,baz=336,slow=2.2,SNR=5.7						
AS31	Alice Springs	117.36	207	ePKPdf	PKPdf	11 10 20.2	-1.0
WRA	Warramunga Arr	120.57	209	PKIKP	PKPdf	11 10 26.0	-1.5
WRA	Warramunga Arr	120.57	209	PKP	PKPdf	11 10 26.0	-1.5
	comp=Z,2.6nm,0.8s,baz=169,slow=1.7,SNR=9.6						
BRTR	Keskin Array B	121.82	61	PKP	PKPdf	11 10 28.3	-1.0
	comp=Z,1.8nm,0.8s,baz=199,slow=4.1,SNR=6.2						
AKASG	Malin Array Be	122.27	48	PKP	PKPdf	11 10 28.1	-1.5
	comp=Z,3.9nm,1.0s,baz=278,slow=2.3,SNR=5.2						
GAMB	Gambell	124.48	328	ePKPdf	PKPdf	11 10 34.1	+0.7
H11S2	WAKE ISLAND Hyl	25.96	269	T	T	13 28 52.1	
	baz=120,slow=76,SNR=84						
H11S1	WAKE ISLAND Hyl	25.97	269	T	T	13 28 52.0	
	baz=120,slow=76,SNR=235						
H11S3	WAKE ISLAND Hyl	25.98	269	T	T	13 28 52.3	
	baz=120,slow=76,SNR=117						
H11N3	WAKE ISLAND Hyl	26.38	270	T	T	13 29 23.5	
	baz=116,slow=78,SNR=28						
H11N1	WAKE ISLAND Hyl	26.39	270	T	T	13 29 26.1	
	baz=116,slow=78,SNR=40						
H11N2	WAKE ISLAND Hyl	26.40	270	T	T	13 29 24.3	
	baz=116,slow=78,SNR=32						
OBN	Obninsk	127.54	43	ePKIKP	PKPdf	11 10 39.9	+0.4
OBN				e		11 12 47.8	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,85nm,19.0s						
KIV	Kislovodsk	129.50	58	i PKIKP	PKPdf	11 10 44.6	+0.8
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
KLMR	Klimovskoe	129.55	36	ePKIKP	PKPdf	11 10 39.9	-3.3
KLMR				pmax	pmax		
	comp=Z,44nm,1.6s						
GNI	Garni	130.09	64c	i PKIKP	PKPdf	11 10 46.2	+1.1
GNI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BILL	Bilibino	133.22	334	ePKIKP	PKPdf	11 10 49.5	-0.4
BILL	Bilibino	133.22	334	ePKPdf	PKPdf	11 10 49.5	-0.4
ARU	Arti	139.87	41	i PKIKP	PKPdf	11 11 02.9	+0.3
ARU						11 13 56.3	
AKTO	Aktyubinsk	140.40	50	PKP	PKPdf	11 11 05.8	+2.0
	comp=Z,1.5nm,0.9s,baz=267,slow=5.6,SNR=3.8						
SEY	Seymchan	140.41	330	ePKIKP	PKPdf	11 11 04.7	+1.3
PETK	Petropavlovsk-	140.52	314	PKP	PKPdf	11 11 04.5	+0.6
	comp=Z,4.1nm,0.9s,baz=46,slow=15,SNR=4.1						
TIXI	Tiksi	141.05	350	⇑i PKIKP	PKPdf	11 11 04.1	-0.2
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ABKAR	Akbulak array	141.73	52	ePKPdf	PKPdf	11 11 00.8	-5.4
BRVK	Borovoye	147.32	43	ePKP2	PKPbc	11 11 19.2	+1.0
BRVK	Borovoye	147.32	43	ePKPab	PKPbc	11 11 19.2	+1.0
BVAR	Borovoye Array	147.39	43	PKPbc	PKPdf	11 11 16.6	+0.7
	comp=Z,6.7nm,0.6s,baz=284,slow=3.6,SNR=21						
PSI	Prapat	147.46	163	PKPbc	PKPbc	11 11 19.2	-0.7
	comp=Z,20nm,0.9s,baz=202,slow=2.7,SNR=8.2						
HYB	Hyderabad	148.62	115	i PKP	PKPbc	11 11 22.0	-0.8
YAK	Yakutsk	149.10	340	ePKHKP	PKPpre	11 11 16.1	
YAK				pmax	pmax		
	comp=Z,28nm,0.9s						
KKAR	Karatay Array	149.53	62	ePKP2	PKPbc	11 11 25.0	+0.7
KKAR	Karatay Array	149.53	62	ePKPab	PKPbc	11 11 25.0	+0.7
YSS	Yuzh-Sakhalins	151.14	306	⇑ePKIKP	PKPbc	11 11 27.3	-0.7
YSS				e		11 11 37.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	Yuzh-Sakhalins	151.14	306	ePKPdf	PKPbc	11 11 27.5	-0.5
ERM	Erimo	151.61	296	i PKIKP	PKPbc	11 11 33.6	+4.4
ERM				pmax	pmax		
	comp=Z,89nm,1.7s						
ASAJ	Asahikawa	151.79	301	PKPbc	PKPbc	11 11 29.2	-0.4
	comp=Z,21nm,0.9s,baz=252,slow=5.0,SNR=9.5						
ASAJ				PKPab	PKPab	11 11 38.0	-0.6
	comp=Z,19nm,1.1s,baz=270,slow=8.0,SNR=4.2						
ASAJ	Asahikawa	151.79	301	ePKPdf	PKPbc	11 11 28.5	-1.1
ASAJ				PKPbc	PKPbc	11 11 29.2	-0.4
ASAJ				PKPab	PKPab	11 11 38.0	-0.6
ASAJ				ePKPab	PKPab	11 11 38.6	-0.1
AML	Almayashu	151.94	64	P	PKPbc	11 11 31.4	+0.8
	SNR=7.0						
EKS2	Erkin-Say	151.96	62	P	PKPbc	11 11 31.2	+1.0
	SNR=8.8						
EKS2	Erkin-Say	151.96	62	ePKIKP	PKPdf	11 11 25.2	+1.5
EKS2	Erkin-Say	151.96	62	ePKPdf	PKPdf	11 11 25.2	+1.5
AAK	Ala-Archa	152.49	62	P	PKPbc	11 11 32.5	+1.0
	SNR=12						
AAK	Ala-Archa	152.49	62	PKIKP	PKPdf	11 11 24.8	+0.3
AAK				e		11 11 25.5	
AAK						11 11 32.4	
AAK						11 11 42.3	
AAK	Ala-Archa	152.49	62	PKP	PKPdf	11 11 24.8	+0.3
	comp=Z,0.6nm,0.4s,baz=269,slow=1.4,SNR=3.8						
AAK				PKPbc	PKPbc	11 11 32.4	+1.0
	comp=Z,11nm,0.9s,baz=202,slow=2.4,SNR=28						
AAK				PKPab	PKPab	11 11 42.3	+0.4
	comp=Z,8.2nm,1.0s,baz=38,slow=4.6,SNR=7.9						
AAK	Ala-Archa	152.49	62	PKP	PKPdf	11 11 24.8	+0.3
AAK				ePKPdf	PKPdf	11 11 25.5	+1.0
AAK				PKPbc	PKPbc	11 11 32.4	+1.0
AAK				PKPab	PKPab	11 11 42.3	+0.4
UCH	Uchtor	152.54	63	P	PKPbc	11 11 33.1	+1.2
	SNR=9.2						
KURBB	Kurchatov Arra	152.97	44	PKP	PKPdf	11 11 24.9	+0.2
	comp=Z,0.9nm,0.7s,baz=304,slow=1.7,SNR=9.2						
KURBB				PKPbc	PKPbc	11 11 32.2	+0.2
	comp=Z,4.6nm,0.7s,baz=297,slow=2.9,SNR=35						
KURBB				PKPab	PKPab	11 11 42.2	-1.2
	comp=Z,0.5nm,0.3s,baz=296,slow=3.0,SNR=5.4						
KURK	Kurchatov	152.98	44	PKIKP	PKPdf	11 11 24.9	+0.2
KURK				e		11 11 32.2	
KURK						11 11 42.2	
KURK	Kurchatov	152.98	44	PKP	PKPdf	11 11 24.9	+0.2
KURK				ePKPdf	PKPbc	11 11 32.2	+0.2
KURK				PKPab	PKPab	11 11 42.2	-1.2
NVS	Novosibirsk	153.11	33	ePKIKP	PKPdf	11 11 23.9	-0.9
NVS				pmax	pmax		
	comp=Z,26nm,1.0s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.2s						
TKM2	Tokmak 2	153.26	62	ePKIKP	PKPdf	11 11 26.2	+0.5
TKM2	Tokmak 2	153.26	62	ePKPdf	PKPdf	11 11 26.2	+0.5
KSH	Kashi	153.81	69	ePKPbc	PKPdf	11 11 28.4	+1.9
KSH				sPKP		11 11 46.1	
KSH				PKS	PKSdf	11 15 00.5	-0.3
KSH				PP	PP	11 15 19.9	-2.6
KSH				SKS	SKSdf	11 18 28.5	-2.4
KSH				SS	SS	11 34 52.9	-4.8
KSH				PPMZ			
	comp=E,68nm,6.7s						
KSH				LN			
	comp=E,57nm,6.0s						
KSH				LE			
	comp=E,65nm,4.8s						
KSH				LZ			
	comp=E,120nm,4.9s						
ULHL	Ulahol	153.82	63	P	PKPbc	11 11 35.4	+1.0
	SNR=5.5						
ZALV	Zalesovo Beam	154.40	33	PKP	PKPdf	11 11 26.6	-0.1
	comp=E,2.0nm,0.8s,baz=260,slow=2.7,SNR=10.0						
ZALV				PKPbc	PKPbc	11 11 34.7	-0.3
	comp=E,9.8nm,0.8s,baz=300,slow=3.3,SNR=30						
ZALV				PKPab	PKPab	11 11 50.0	+0.7
	comp=E,8.8nm,0.8s,baz=305,slow=5.2,SNR=10						
MJAR	Matsushiro Arr	155.49	284	PKPab	PKPab	11 11 54.6	-0.1
	comp=E,1.3nm,0.9s,baz=126,slow=6.5,SNR=4.8						
BOD	Bodaibo	156.18	352	ePKIKP	PKPdf	11 11 29.2	+0.3
BOD				e		11 11 53.6	
BOD				pmax	pmax		
	comp=Z,12nm,1.3s						
MKAR	Makanchi Array	156.83	50	ePKIKP	PKPdf	11 11 30.0	-0.3
MKAR	Makanchi Array	156.83	50	PKP	PKPdf	11 11 29.9	-0.3
	comp=Z,1.1nm,0.9s,baz=282,slow=1.1,SNR=8.6						
MKAR				PKPab	PKPab	11 11 60.0	-0.1
	comp=Z,2.5nm,0.8s,baz=300,slow=5.5,SNR=11						
MKAR	Makanchi Array	156.83	50	ePKPdf	PKPdf	11 11 29.9	-0.3
MKAR				PKPab	PKPab	11 11 60.0	-0.1
MKAR				ePKPab	PKPab	11 12 00.4	+0.3
MDJ	Mudanjiang	160.60	308	PKP	PKPdf	11 11 34.5	-0.2
CMAR	Chiang Mai Arr	162.17	150	PKP	PKPdf	11 11 36.6	-0.5
	comp=Z,0.7nm,0.5s,baz=231,slow=2.1,SNR=7.5						
CMAR				PKPab	PKPab	11 12 24.2	+0.4
	comp=Z,0.6nm,0.4s,baz=217,slow=6.9,SNR=3.8						
ZAK	Zakamensk	163.56	11	ePKP2	PKPab	11 12 27.9	-1.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
KSRS	Korea Array	163.71	287	PKPab	PKPab	11 12 31.0	+0.7
	comp=Z,1.9nm,0.9s,baz=57,slow=4.6,SNR=4.3						
KSAR	Wonju Array Be	163.74	287	PKP2	PKPab	11 12 31.0

SIV	**San Ignacio**	**23.03 31**	P	P	11 03 33.5	+8.8
	comp=N,2.1nm,0.7s,baz=200,slow=12,SNR=4.4					
TORD	**Torodi Ar. Bea**	**85.91 71**	P	P	11 11 09.0	+10
	comp=N,0.3nm,0.7s,baz=251,slow=4.4,SNR=2.5					

IDC ***11*** *11:04:37.7±0.7,2°.47N×128°.46E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.0/41, mbtmp4.1/12, MS3.4/7, Ms1 3.4/7, ms1mx2.9/43, Error ellipse: s-maj=39.4km s-min=14.0km az=79.0*
DJA ***11*** *11:04:40.0±0.7,3°.N±7°.×12°.8E±°, h10km, M4.4/8, mb4.4/5, MLv4.4/8*
ISCJB ***11*** *11:04:41.1±0.4,2°.49N±0°.04×128°.29E±0°.06, h33km, mb4.2/14, MS3.4/7, Error ellipse: s-maj=8.5km s-min=6.2km az=168.5*
NEIC ***11*** *11:04:42.9±0.4,2°.45N×128°.41E, h35km, mb4.2/1, Error ellipse: s-maj=13.3km s-min=6.5km az=91.0*

ISC 11 11:04:43.1±0.6,2°.50N±0°.07×128°.29E±0°.09, h35km, n46, σ1§00/33, mb4.2/14, MS3.1/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.95**	**208**	P	**Pn**	**11 05 14.9**	**+1.1**
TNTI	**Ternate**	**1.95**	**208**	*e*Pn	**Pn**	**11 05 12.8**	**-1.0**
SGSI	**Sangihe**	**3.00**	**293**	P	**Pn**	**11 05 26.1**	**-2.1**
LBMI	**Labuha**	**3.21**	**194**	P	**Pn**	**11 05 30.1**	**-1.1**
SWI	**Sorong**	**4.47**	**138**	P	**Pn**	**11 05 48.0**	**-0.4**
KMSI	**Cibinong**	**4.71**	**246**	P	**Pn**	**11 05 50.7**	**-1.1**
SANI	**Sanana**	**5.07**	**207**	P	Pn	11 05 51.6	-5.1
	22nm,1.0s,0.1nm						
GTOI	**Gorontalo**	**5.59**	**251**	P	**Pn**	**11 06 04.1**	**+0.2**
	43nm,0.7s						
MRSI	**Marisa**	**6.66**	**253**	P	**Pn**	**11 06 17.2**	**-1.3**
	47nm,0.6s						
FAKI	**Fak Fak**	**6.68**	**144**	P	**Pn**	**11 06 19.9**	**+1.1**
KAPI	**Kappang**	**11.34**	**229**	Pn	**Pn**	**11 07 23.6**	**+0.8**
	327nm,1.4s						
WRAB	**Tennant Creek**	**23.07**	**165**	*e*P	**P**	**11 09 44.4**	**-1.4**
	7.6nm,0.8s						
WRA	**Warramunga Arr**	**23.08**	**165**	P	**P**	**11 09 45.9**	**0.0**
	6.2nm,0.7s,baz=343,slow=10,SNR=26						
WB2	**Warramunga Arr**	**23.08**	**165**	*e*P	**P**	**11 09 45.3**	**-0.7**
ASAR	**Alice Springs**	**26.57**	**168**	P	**P**	**11 10 17.5**	**-0.7**
	1.6nm,0.6s,baz=351,slow=7.3,SNR=19						
ASAR				PcP	**PcP**	**11 13 40.9**	**-1.3**
	0.3nm,0.4s,baz=357,slow=1.9,SNR=11						
PSI	**Prapat**	**29.34**	**271**	LR	LR	11 22 22.8	
	comp=Z,17nm,20.4s,baz=26,slow=36						
KSAR	**Wonju Array Be**	**34.78**	**359**	P	**P**	**11 11 30.9**	**+0.5**
KSRS	**Korea Array**	**34.79**	**359**	P	**P**	**11 11 30.9**	**+0.4**
	4.5nm,0.6s,baz=175,slow=9.7,SNR=16						
KSRS				LR	LR	11 25 31.0	
	comp=Z,22nm,18.9s,baz=204,slow=36						
MJAR	**Matsushiro Arr**	**35.09**	**14**	P	**P**	**11 11 31.7**	**-1.4**
	1.6nm,0.6s,baz=184,slow=10,SNR=5.5						
STKA	**Stephens Creek**	**36.45**	**161**	P	**P**	**11 11 43.5**	**-1.3**
	2.4nm,0.6s,baz=344,slow=8.8,SNR=6.3						
LZH	**Lanzhou**	**40.35**	**329**	*e*P	P	11 12 21.7	+3.9
LZH				pP	pP	11 12 30.3	+2.3
LZH				sP	sP	11 12 34.4	+2.2
LZH				pmax	pmax		
	comp=Z,39nm,1.3s						
LZH				pmax	pmax		
	comp=Z,170nm,4.3s						
H11S3	**WAKE ISLAND Hy**	**40.82**	**64**	T	T	11 55 36.3	
	baz=252,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**40.84**	**64**	T	T	11 56 01.0	
	baz=252,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**40.84**	**64**	T	T	11 56 03.1	
	baz=252,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**41.40**	**63**	T	T	11 56 19.3	
	baz=250,slow=75,SNR=30						
H11N2	**WAKE ISLAND Hy**	**41.41**	**63**	T	T	11 56 17.1	
	baz=250,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**41.42**	**63**	T	T	11 56 23.4	
	baz=250,slow=75,SNR=18						
USRK	**Ussuriysk Ar.**	**41.65**	**4**	P	**P**	**11 12 28.0**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=179,slow=9.0,SNR=5.9						
ASAJ	**Asahikawa**	**43.34**	**15**	LR	LR	11 27 28.3	
	comp=Z,24nm,21.6s,baz=132,slow=32						
RAMN	**Ramite**	**46.73**	**305**	*e*P	**P**	**11 13 10.6**	**+1.2**
JIRN	**Jiri**	**47.35**	**306**	*e*P	**P**	**11 13 15.3**	**+0.9**
GUN	**Gumba**	**47.70**	**306**	*e*P	**P**	**11 13 17.9**	**+0.8**
	comp=Z,18nm,0.8s						
SONM	**Songino Array**	**48.96**	**341**	P	**P**	**11 13 26.9**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=152,slow=8.3,SNR=4.8						
KOLN	**Koldanda**	**49.50**	**305**	*e*P	**P**	**11 13 31.5**	**+0.7**
	comp=Z,15nm,0.8s						
DANN	**Dangsing**	**49.59**	**306**	*e*P	**P**	**11 13 32.3**	**+0.7**
TLY	**Talaya**	**53.19**	**341**	LR	LR	11 40 21.4	
	comp=Z,17nm,18.0s,baz=5.5,slow=40						
PETK	**Petropavlovsk-**	**55.99**	**21**	P	**P**	**11 14 18.2**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=216,slow=1.9,SNR=6.4						
MKAR	**Makanchi Array**	**59.45**	**325**	P	**P**	**11 14 43.5**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=114,slow=7.5,SNR=18						
ZALV	**Zalesovo Beam**	**62.39**	**333**	P	**P**	**11 15 03.4**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=116,slow=6.6,SNR=1.8						
KURBB	**Kurchatov Arra**	**63.61**	**327**	P	**P**	**11 15 11.0**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=124,slow=6.1,SNR=15						
KURK	**Kurchatov**	**63.61**	**327**	P	**P**	**11 15 11.0**	**+0.5**
ILAR	**Eielson Array**	**85.54**	**25**	P	**P**	**11 17 16.9**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=247,slow=5.5,SNR=9.3						
MMAI	**Mount Meron Ar**	**91.08**	**303**	LR	LR	12 05 45.9	
	comp=Z,49nm,18.6s,baz=105,slow=40						
BRTR	**Keskin Array B**	**92.00**	**310**	LR	LR	12 06 15.8	
	comp=Z,53nm,19.7s,baz=272,slow=40						
FINES	**FINESS Array B**	**93.65**	**332**	LR	LR	12 02 43.9	
	comp=Z,63nm,18.1s,baz=320,slow=37						
TORD	**Torodi Ar. Bea**	**124.78**	**288**	PKP	**PKPdf**	**11 23 39.4**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=323,slow=0.7,SNR=2.7						

ISCJB ***11*** *11:21:33.5±1.8, 44°.4N±0°.1×129°.0W±0°.2, h10km, mb3.3/3, Error ellipse: s-maj=29.3km s-min=14.6km az=142.4*
IDC ***11*** *11:21:33.5±2.5, 44°.36N×128°.88W, h0km, mb3.4/3, mb1 3.7/7, mb1mx3.3/62, mbtmp3.3/7, ML3.0/3, MS3.1/3, Ms1 3.1/3, ms1mx2.7/21, Error ellipse: s-maj=41.3km s-min=21.1km az=54.0*

ISC 11 11:21:34.1±2.3, 44°.4N±0°.2×129°.1W±0°.2, h10km, n14, σ1§09/7, mb3.3/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEW	**Newport**	**9.17**	**61**	Pn	**Pn**	**11 23 46.6**	**+0.1**
	0.2nm,0.3s,baz=242,slow=7.9,SNR=6.7						
NEW				LR	LR	11 26 15.0	
	comp=Z,115nm,21.3s,baz=290,slow=31						
NVAR	**Mina Array Bea**	**10.07**	**122**	Pn	**Pn**	**11 23 58.5**	**-0.5**
	0.1nm,0.3s,baz=299,slow=14,SNR=8.5						
ELK	**Elko**	**10.88**	**105**	LR	LR	11 28 34.8	
	comp=Z,121nm,21.2s,baz=0.5,slow=39						
PDAR	**Pinedale Array**	**14.29**	**90**	Pn	**Pn**	**11 24 57.5**	**+0.8**
	baz=301,slow=10,SNR=3.3						
PDAR				LR	LR	11 29 49.0	
	comp=Z,72nm,18.3s,baz=291,slow=35						
YKA	**Yellowknife Ar**	**20.01**	**20**	P	**Pn**	**11 26 06.9**	**-1.5**
	0.0nm,0.3s,baz=209,slow=12,SNR=8.2						
ILAR	**Eielson Array**	**22.71**	**340**	P	**P**	**11 26 36.6**	**+0.9**
	0.8nm,1.0s,baz=156,slow=10,SNR=5.3						
ULM	**Lac du Bonnet**	**23.17**	**63**	P	**P**	**11 26 41.2**	**+0.6**
	1.7nm,0.7s,baz=274,slow=9.3,SNR=4.4						
TXAR	**Lajitas Array**	**25.18**	**118**	P	**P**	**11 27 00.3**	**+0.5**
	0.6nm,0.9s,baz=305,slow=9.0,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**57.97**	**267**	T	T	12 33 56.1	
	baz=49,slow=75,SNR=110						
H11N2	**WAKE ISLAND Hy**	**57.97**	**267**	T	T	12 33 56.0	
	baz=49,slow=75,SNR=69						
H11N1	**WAKE ISLAND Hy**	**57.98**	**267**	T	T	12 33 54.6	
	baz=49,slow=75,SNR=514						
H11S1	**WAKE ISLAND Hy**	**58.91**	**266**	T	T	12 35 00.6	
	baz=49,slow=75,SNR=52						
H11S2	**WAKE ISLAND Hy**	**58.91**	**266**	T	T	12 35 04.1	
	baz=49,slow=75,SNR=32						
H11S3	**WAKE ISLAND Hy**	**58.92**	**266**	T	T	12 35 02.0	
	baz=49,slow=75,SNR=39						

IDC ***11*** *11:27:15.0±3.4, 7°.71S×110°.74E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/45, mbtmp4.0/4, Error ellipse: s-maj=133.9km s-min=25.3km az=60.0*
DJA ***11*** *11:27:16.6±0.2, 8°.S±3°.×11°.0E±°, h10km, M4.0/22, mb4.0/1, mB4.7/1, MLv4.1/22, Mw(mB)3.9/1*

ISC 11 11:27:16.4±0.7, 7°.86S±0°.06×110°.43E±0°.03, h12km, n26, σ1§54/40, mb3.9/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.11**	**117**	P	**Pb**	**11 27 20.5**	**+0.1**
UGM				S	**Sg**	**11 27 23.1**	**+1.6**
UGM	**Wanagama**	**0.11**	**117**	S	**Pg**	**11 27 19.7**	**+0.3**
	baz=0.3,SNR=1000						
UGM				P	**Sg**	**11 27 20.3**	**-1.2**
	baz=0.3,SNR=1000						
WOJI	**Wonogiri, Jawa**	**0.49**	**87**	P	**Pb**	**11 27 26.6**	**-0.4**
WOJI				S	**Sb**	**11 27 34.5**	**+0.3**
PWJI	**Pagerwojo**	**1.37**	**97**	P	**Pn**	**11 27 40.4**	**-1.0**
PWJI				S	**Sb**	**11 27 58.6**	**-0.9**
UWJI	**Ujung Watu**	**1.52**	**20**	P	**Pg**	**11 27 46.6**	**+0.9**
KPJI	**Karang Pucung**	**1.57**	**289**	P	**Pn**	**11 27 45.3**	**+1.2**
TBJI	**Tambak Boyo**	**1.75**	**54**	P	**Pg**	**11 27 49.4**	**-0.6**
CMJI	**Cimerak**	**1.96**	**272**	P	**Pn**	**11 27 49.6**	**+0.1**
CMJI				S	**Sn**	**11 28 15.0**	**+1.0**
GRJI	**Gresik**	**2.24**	**65**	P	**Pb**	**11 27 54.8**	**-2.1**
GRJI				S	**Sb**	**11 28 24.9**	**+0.3**
JCJI	**Jatiwangi**	**2.54**	**302**	P	**Pn**	**11 27 57.0**	**-0.4**
JCJI				S	**Sn**	**11 28 28.7**	**+0.4**
CISI	**Cisompet, Garu**	**2.61**	**277**	P	**Pn**	**11 27 58.2**	**-0.3**
CISI				S	**Sn**	**11 28 29.5**	**-0.6**
CISI	**Cisompet, Garu**	**2.61**	**277**	P	**Pn**	**11 27 58.1**	**-0.3**
	baz=2.5,SNR=4.9						
CISI				S	**Sn**	**11 28 30.0**	**-0.1**
	baz=2.5,SNR=5.8						
LEM	**Lembang**	**2.97**	**290**	P	**Pn**	**11 28 05.3**	**+1.8**
LEM				S	**Sn**	**11 28 43.3**	**+4.1**
GMJI	**Gumukmas**	**3.02**	**98**	P	**Pn**	**11 28 05.5**	**+1.5**
GMJI				S	**Sb**	**11 28 43.2**	**-3.6**
CNJI	**Cibinong**	**3.31**	**279**	P	**Pn**	**11 28 08.8**	**+0.7**
CNJI				S	**Sn**	**11 28 49.2**	**+1.7**
JAGI	**Jajag, Banyuwa**	**3.74**	**100**	P	**Pn**	**11 28 16.5**	**+2.6**
JAGI				S	**Sn**	**11 29 00.0**	**+2.1**
JAGI	**Jajag, Banyuwa**	**3.74**	**100**	P	**Pn**	**11 28 16.4**	**+2.4**
	baz=3.8,SNR=35						
JAGI				S	**Sn**	**11 29 00.0**	**+2.1**
	baz=3.8,SNR=7.5						
ABJI	**Asem Bagus**	**3.77**	**89**	P	**Pn**	**11 28 16.4**	**+2.0**
IGBI	**Denpasar**	**4.76**	**102**	P	**Pn**	**11 28 28.6**	**+0.5**
IGBI				S	**Sn**	**11 29 24.1**	**+0.8**
CGJI	**Cibinong**	**4.86**	**285**	P	**Pn**	**11 28 30.5**	**+1.2**
CGJI				S	**Sn**	**11 29 27.4**	**+1.8**
XMI	**Christmas Isla**	**5.34**	**241**	P	Pn	11 28 32.3	-3.7
	baz=5.1,SNR=3.6						
XMI				S	Sn	11 29 32.4	-5.1
	baz=5.1,SNR=5.9						
XMIS	**Christmas Isla**	**5.38**	**241**	P	Pn	11 28 32.7	-3.9
	baz=5.2,SNR=5.1						
XMIS				S	Sn	11 29 28.2	-10
	baz=5.2,SNR=5.1						
WRA	**Warramunga Arr**	**26.09**	**120**	P	**P**	**11 32 48.8**	**-1.4**
	1.8nm,0.7s,baz=294,slow=11,SNR=15						
ASAR	**Alice Springs**	**27.45**	**128**	P	**P**	**11 33 01.5**	**-1.0**
	2.0nm,0.8s,baz=303,slow=8.2,SNR=21						
STKA	**Stephens Creek**	**37.57**	**134**	P	**P**	**11 34 30.6**	**-0.2**
	16nm,0.7s,baz=309,slow=8.5,SNR=28						
SONM	**Songino Array**	**55.57**	**357**	P	**P**	**11 36 51.3**	**-0.5**
	0.2nm,0.6s,baz=182,slow=9.1,SNR=2.6						

IDC 11 11:27:33.5±1.1, 28°.97N×100°.89E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.2/51, mbtmp3.4/6, ML3.1/1, MS2.5/1, Ms1 2.7/1, ms1mx2.3/36, Error ellipse: s-maj=63.7km s-min=18.6km az=57.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.62**	**190**	LR	LR	11 34 44.8	
	comp=Z,29nm,21.7s,baz=175,slow=41						
SONM	**Songino Array**	**19.31**	**11**	P	P	11 32 00.6	+0.3
	0.1nm,0.3s,baz=196,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**22.97**	**326**	P	P	11 32 37.9	-1.7
	0.8nm,0.8s,baz=140,slow=11,SNR=6.4						
AAK	**Ala-Archa**	**25.26**	**310**	P	P	11 33 02.6	+1.1
	0.5nm,0.4s,baz=159,slow=9.4,SNR=3.7						
KURBB	**Kurchatov Arra**	**27.42**	**328**	P	P	11 33 21.1	+0.3
	0.2nm,0.4s,baz=133,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**58.37**	**142**	P	P	11 37 30.5	-0.3
	1.2nm,0.7s,baz=331,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**61.23**	**145**	P	P	11 37 50.6	+0.1
	0.3nm,0.7s,baz=334,slow=6.2,SNR=3.4						

IDC ***11*** *11:30:26.0±3.8, 35°.26S×72°.02W, h34km±29km, mb3.9/7, mb1 4.0/10, mb1mx3.7/27, mbtmp4.0/10, ML3.8/3, Error ellipse: s-maj=30.8km s-min=14.7km az=96.0*
ISCJB ***11*** *11:30:26.2±0.6, 35°.28S±0°.04×72°.07W±0°.08, h56km±6km, mb4.1/8, Error ellipse: s-maj=12.1km s-min=5.7km az=25.6*
GUC ***11*** *11:30:26.3±0.5, 35°.28S×72°.10W, h45km±3km, ML4.5*
NEIC ***11*** *11:30:26.2±0.5, 35°.21S×72°.07W, h35km, mb4.2/2, Error ellipse: s-maj=11.9km s-min=7.5km az=85.0*

ISC 11 11:30:26.8±1.1, 35°.29S±0°.05×72°.11W±0°.07, h44km±11km, n26, σ1§38/32, mb4.2/8, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.70**	**143**	⇓*i*P	**Pn**	**11 30 40.3**	**0.0**
LNCH				*i* S	**Sn**	**11 30 50.5**	**+0.5**
NICH	**Los Niches**	**0.78**	**69**	⇓*i*P	**Pn**	**11 30 41.1**	**-0.3**
NICH				*i* S	**Sn**	**11 30 52.5**	**+0.6**
COCH	**Cobquecura**	**1.01**	**213**	⇓*i*P	**Pn**	**11 30 44.8**	**+0.3**
COCH				*i* S	**Sn**	**11 30 58.6**	**+1.1**
ANTU	**Antumapu**	**2.10**	**36**	*e*P1	**Pn**	**11 30 60.0**	**+0.4**
ANTU				IAML		11 31 30.9	
	comp=N,3μm,0.5s						
CLCH	**Cerro Calan**	**2.29**	**35**	⇑*i*P	**Pn**	**11 31 02.0**	**-0.2**
CLCH				*e*S	**Sn**	**11 31 29.9**	**+0.6**
PEL	**Peldehue**	**2.44**	**29**	⇑*i*P	**Pn**	**11 31 04.3**	**+0.1**
PEL				*i* S	**Sn**	**11 31 33.7**	**+0.8**
PEL				IAML		11 31 44.2	
	comp=E,3μm,0.5s						
CFAA	**Coronel Fontan**	**4.90**	**43**	Pn	**Pn**	**11 31 38.3**	**+0.4**
	comp=E,0.5nm,0.3s,baz=186,slow=4.2,SNR=25						
CFAA				Sn	**Sn**	**11 32 39.0**	**+5.7**
	comp=E,1.0nm,0.3s,baz=150,slow=18,SNR=6.0						
CFAA				Lg	Lg	11 33 00.4	
	comp=E,1.1nm,0.3s,baz=144,slow=21,SNR=5.0						
PLCA	**Paso Flores**	**5.58**	**168**	Pn	**Pn**	**11 31 47.8**	**+0.5**
	comp=E,1.1nm,0.3s,baz=343,slow=12,SNR=18						
PLCA				Lg	Lg	11 33 22.9	
	comp=E,4.0nm,0.3s,baz=93,slow=21,SNR=7.1						
PLCA	**Paso Flores**	**5.58**	**168**	*e*Pn	**Pn**	**11 31 48.5**	**+1.3**
PLCA				Lg	Lg	11 33 22.9	
LCO	**Las Campanas**	**6.37**	**11**	*e*Pn	**Pn**	**11 31 56.2**	**-2.1**
	comp=E,19nm,0.3s						
TRQA	**Tornquist**	**8.60**	**112**	*e*Pn	**Pn**	**11 32 27.9**	**-0.8**
LVC	**Limon Verde**	**12.93**	**13**	Pn	**Pn**	**11 33 26.8**	**-1.5**
CPUP	**Villa Florida**	**15.51**	**59**	Pn	**Pn**	**11 34 01.2**	**-1.3**
LPAZ	**La Paz**	**19.25**	**12**	P	**P**	**11 34 49.0**	**+0.7**
	comp=E,0.2nm,0.3s,baz=148,slow=3.2,SNR=7.9						
LPAZ	**La Paz**	**19.25**	**12**	*e*P	**P**	**11 34 48.7**	**+0.4**
	comp=E,4.0nm,0.8s						
SIV	**San Ignacio**	**21.61**	**30**	P	**P**	**11 35 11.3**	**-1.8**
	comp=E,4.7nm,0.6s,baz=222,slow=9.3,SNR=13						
OTAV	**Otavalo**	**35.83**	**349**	P	**P**	**11 37 21.9**	**-0.8**
RCBR	**Riachuelo**	**44.38**	**57**	P	**P**	**11 38 33.3**	**+0.1**
QSPA	**South Pole Qui**	**54.95**	**180**	P	**P**	**11 39 53.9**	**+0.8**
	comp=E,1.4nm,0.6s,baz=275,slow=1.7,SNR=9.8						
TXAR	**Lajitas Array**	**70.83**	**331**	P	**P**	**11 41 39.2**	**+0.3**
	comp=E,0.2nm,0.5s,baz=155,slow=9.3,SNR=5.7						
WMOK	**Wichita Mounta**	**73.98**	**337**	*e*P	**P**	**11 41 58.6**	**+1.0**
	comp=E,6.2nm,0.9s						
DBIC	**Dimbokro**	**75.65**	**71**	P	**P**	**11 42 07.0**	**-0.6**
	comp=E,4.3nm,0.7s,baz=197,slow=5.6,SNR=6.8						
BOSA	**Boshof**	**79.53**	**118**	P	**P**	**11 42 29.4**	**0.0**
	comp=E,3.0nm,0.6s,baz=249,slow=5.5,SNR=9.3						
TORD	**Torodi Ar. Bea**	**84.71**	**70**	P	**P**	**11 42 56.0**	**-0.4**
	comp=E,1.6nm,0.8s,baz=290,slow=6.1,SNR=12						
PDAR	**Pinedale Array**	**84.88**	**333**	P	**P**	**11 42 57.2**	**+0.2**
	comp=E,0.3nm,0.6s,baz=134,slow=6.4,SNR=3.4						
SONM	**Songino Array**	**167.41**	**5**	PKPab	**PKPab**	**11 51 33.0**	**-0.2**
	comp=E,0.5nm,0.9s,baz=350,slow=6.1,SNR=4.3						

IDC ***11*** *11:31:58.9±1.3, 37°.32S×75°.33W, h0km, mb3.8/4, mb1 4.1/7, mb1mx3.8/26, mbtmp3.8/7, ML4.1/3, MS3.6/6, Ms1 3.6/6, ms1mx3.3/16, Error ellipse: s-maj=37.4km s-min=25.6km az=33.0*

ISCJB ***11*** *11:32:03.2±1.0, 37°.11S±0°.07×75°.1W±0°.1, h33km, mb3.7/4, MS3.8/4, Error ellipse: s-maj=12.5km s-min=10.0km az=161.6*

ISC 11 11:32:04.2±1.0, 37°.21S±0°.10×75°.2W±0°.1, h35km, n14, σ1§58/12, mb3.9/4, MS3.8/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.05**	**136**	Pn	**Pn**	**11 33 15.3**	**-2.2**
	1.3nm,0.3s,baz=290,slow=14,SNR=1.8						
PLCA				Sn	**Sn**	**11 34 17.5**	**+2.8**
	2.9nm,0.3s,baz=172,slow=10.0,SNR=3.6						
PLCA				LR	LR	11 35 12.0	
	comp=Z,182nm,20.1s,baz=318,slow=38						
CFAA	**Coronel Fontan**	**8.02**	**48**	Pn	**Pn**	**11 33 57.2**	**-1.0**
	1.0nm,0.3s,baz=225,slow=13,SNR=2.8						
CFAA				Sn	**Sn**	**11 35 27.8**	**0.0**
	0.7nm,0.3s,baz=303,slow=19,SNR=5.6						
CFAA				LR	LR	11 37 09.0	
	comp=Z,22nm,20.5s,baz=228,slow=38						
CPUP	**Villa Florida**	**18.64**	**60**	P	**Pn**	**11 36 19.0**	**-0.3**
	0.5nm,0.3s,baz=217,slow=9.4,SNR=3.5						
CPUP				LR	LR	11 44 29.0	
	comp=Z,130nm,19.6s,baz=218,slow=40						
SIV	**San Ignacio**	**24.56**	**34**	P	**P**	**11 37 22.7**	**+1.9**
	3.2nm,1.0s,baz=221,slow=11,SNR=3.9						
BDFB	**Brasilia**	**32.27**	**56**	LR	LR	11 51 05.9	
	comp=Z,86nm,18.6s,baz=228,slow=35						
PPT	**Papeete**	**67.31**	**265**	LR	LR	12 03 43.3	
	comp=Z,80nm,19.1s,baz=102,slow=28						
TXAR	**Lajitas Array**	**71.37**	**334**	P	**P**	**11 43 21.3**	**+0.7**
	1.0nm,0.7s,baz=149,slow=8.4,SNR=8.8						
NVAR	**Mina Array Bea**	**85.11**	**327**	P	**P**	**11 44 36.3**	**-0.3**
	0.2nm,0.6s,baz=163,slow=3.7,SNR=2.6						
PDAR	**Pinedale Array**	**85.53**	**335**	P	**P**	**11 44 39.1**	**+0.6**
	0.3nm,0.4s,baz=150,slow=3.8,SNR=5.7						
TORD	**Torodi Ar. Bea**	**87.69**	**72**	LR	LR	12 22 33.4	
	comp=Z,22nm,19.0s,baz=245,slow=35						
SCHQ	**Schefferville**	**91.95**	**5**	LR	LR	12 26 44.0	
	comp=Z,90nm,19.1s,baz=32,slow=36						
SEY	**Seymchan**	**141.42**	**327**	PKP	**PKPdf**	**11 51 28.6**	**-1.8**
	4.3nm,0.3s,baz=59,slow=0.5,SNR=49						
BVAR	**Borovoye Array**	**151.37**	**45**	PKPbc	**PKPbc**	**11 51 54.3**	**+0.8**
	1.3nm,0.6s,baz=292,slow=4.7,SNR=6.8						
ZALV	**Zalesovo Beam**	**158.31**	**33**	PKPab	**PKPab**	**11 52 32.0**	**+0.7**
	0.6nm,0.5s,baz=20,slow=4.7,SNR=3.6						

IDC ***11*** *11:35:08.1±1.0, 51°.70N×75°.57E, h0km, mb1 2.9/3, mb1mx2.7/31, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=32.8km s-min=8.2km az=29.0*
NNC ***11*** *11:35:09.8±1.4, 51°.51N×75°.47E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=63.3km s-min=9.6km az=24.0*
ISCJB ***11*** *11:35:11.0±0.7, 51°.7N±0°.1×75°.6E±0°.1, h33km, Error ellipse: s-maj=18.2km s-min=5.4km az=32.6*

ISC 11 11:35:13.0±1.3, 51°.7N±0°.1×75°.5E±0°.1, h35km, n10, σ1§52/10, 8C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.20**	**118**	Pg	**Pn**	**11 35 46.0**	**-0.9**
	0.6nm,0.3s,baz=304,slow=19,SNR=83						
KURBB				Lg	Lg	11 36 17.9	
	0.9nm,0.3s,baz=301,slow=18,SNR=11						
KURK	**Kurchatov**	**2.20**	**115**	⇓Pn	**Pn**	**11 35 46.1**	**-1.0**
	1.3nm,0.4s						
KURK				⇑Sn	**Sn**	**11 36 14.8**	**+1.8**
	5.4nm,0.5s						
VOSK	**Vostochnaya**	**2.96**	**292**	⇑Pn	Pn	11 36 00.3	+2.9
	4.3nm,0.5s						
VOSK				⇑Lg	Lg	11 36 39.7	
	8.4nm,0.6s						
BVA0	**Borovoye Array**	**3.40**	**295**	⇑Pn	Pn	11 36 07.3	+3.8
	1.8nm,0.5s,baz=119,slow=15,SNR=6.5						
BVA0				⇑Lg	Lg	11 36 53.3	
	8.8nm,0.7s,baz=110,slow=27,SNR=8.8						
BVAR	**Borovoye Array**	**3.40**	**295**	Pn	**Pn**	**11 36 02.7**	**-0.7**
	0.4nm,0.3s,baz=116,slow=16,SNR=6.7						
BVAR				Sn	**Sn**	**11 36 43.5**	**+1.0**
	0.9nm,0.3s,baz=112,slow=19,SNR=5.8						
BVAR				Lg	Lg	11 36 53.0

mb1 4.3/31,mb1mx4.2/54,mbtmp4.2/31,ML4.7/1,MS2.9/2,
Ms1 2.9/2,ms1mx2.6/47,Error ellipse: s-maj=20.2km
s-min=10.5km az=178.0
BJI ***11*** *11:48:00.7,51.°34N×173.°03W,h47km,mB5.1/11,*
mb4.7/18,Ms4.8/8,Ms7 4.4/8
ISCJB ***11*** *11:48:03.5±0.2,51.°55N±0.°04×173.°45W±0.°03,h37km,*
mb4.3/53,MS2.9/1,Error ellipse: s-maj=5.5km
s-min=2.5km az=2.1
MOS ***11*** *11:48:03.3±0.9,51.°70N×173.°44W,h33km,mb4.4/29,*
Error ellipse: s-maj=10.6km s-min=8.7km az=93.8
NEIC ***11*** *11:48:05.5±0.6,51.°54N×173.°48W,h42km±5km,mb4.6/16,*
ML4.0(AEIC),Error ellipse: s-maj=8.8km s-min=3.7km
az=176.0

ISC 11 11:48:05.1±0.5,51.°49N±0.°07×173.°40W±0.°04,h37km,
n331,σ0.94/351,mb4.2/53,97C-91D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.90**	**331**	P	**Pn**	**11 48 20.0**	**-1.2**
KOKL	**Mount Kliuchef**	**0.97**	**330**	P	**Pn**	**11 48 21.0**	**-1.2**
KOWE	**Korovin West**	**1.02**	**329**	P	**Pn**	**11 48 22.0**	**-0.9**
ADK	**Adak**	**2.08**	**282**	P	**Pn**	**11 48 36.2**	**-1.2**
ADK				S	**Sn**	**11 49 02.4**	**+0.4**
ADK	**Adak**	**2.08**	**282**	P	**Pn**	**11 48 36.2**	**-1.2**
ADK				S	**Sn**	**11 49 02.4**	**+0.4**
NIKH	**Nikolski High**	**3.17**	**60**	P	**Pn**	**11 48 51.5**	**-0.7**
NIKH				S	**Sn**	**11 49 26.8**	**-1.9**
OKFG	**Magazine Ridge**	**3.87**	**58**	P	**Pn**	**11 49 01.4**	**-0.4**
OKFG				S	**Sn**	**11 49 46.4**	**+0.4**
CERAA	**Semis' Rag'd T**	**4.32**	**278**	P	**Pn**	**11 49 07.5**	**-0.6**
MSOM	**Makushin Julie**	**4.56**	**57**	P	**Pn**	**11 49 10.8**	**-0.6**
MSOM	**Makushin Julie**	**4.56**	**57**	P	**Pn**	**11 49 10.8**	**-0.6**
AMKA	**Amchitka**	**4.57**	**271**	*e*Pn	**Pn**	**11 49 11.3**	**-0.2**
MREP	**Makushin Rep't**	**4.67**	**58**	P	**Pn**	**11 49 13.2**	**+0.2**
UNV	**Unalaska Valle**	**4.81**	**58**	P	**Pn**	**11 49 15.0**	**+0.2**
UNV				S	**Sn**	**11 50 09.0**	**-0.3**
LSPA	**Little Sitkin**	**5.01**	**278**	P	**Pn**	**11 49 17.9**	**+0.3**
SPIA	**Saint Paul Isl**	**5.99**	**17**	P	**Pn**	**11 49 31.6**	**+0.6**
SPIA				S	**Sn**	**11 50 39.7**	**+1.5**
FALS	**False Pass**	**6.88**	**57**	P	**Pn**	**11 49 43.4**	**+0.2**
FX1	**Attu Island--F**	**8.38**	**285**	Pn	**Pn**	**11 50 05.5**	**+1.8**
	1.8nm,0.3s,baz=167,slow=5.2,SNR=10						
FX1				Sn	**Sn**	**11 51 36.1**	**-0.8**
	1.2nm,0.3s,baz=182,slow=22,SNR=2.3						
CHGN	**Chignik**	**10.06**	**56**	*e*Pn	**Pn**	**11 50 29.1**	**+2.3**
GAMB	**Gambell**	**12.35**	**4**	*e*Pn	Pn	11 51 00.7	+2.6
KDAK	**Kodiak Island**	**13.57**	**54**	*ce*P	**Pn**	**11 51 13.3**	**-1.4**
TNA	**Tin City**	**14.39**	**9**	*e*Pn	P	11 51 28.4	-3.7
KTH	**Kantishna Hill**	**16.95**	**36**	*e*Pn	**P**	**11 52 00.7**	**0.0**
	54nm,1.8s						
PETK	**Petropavlovsk-**	**17.70**	**287**	LR	LR	11 58 14.5	
	comp=Z,35nm,19.8s,baz=71,slow=35						
ILAR	**Eielson Array**	**19.10**	**36**	P	**P**	**11 52 22.9**	**-1.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array**	**19.10**	**36**	P	**P**	**11 52 22.9**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=225,slow=9.2,SNR=67						
BILL	**Bilibino**	**19.32**	**337**	*e*P	**Pn**	**11 52 27.2**	**-0.7**
BILL				pmax	pmax		
	comp=Z,13nm,1.1s						
BILL	**Bilibino**	**19.32**	**337**	*e*Pn	**Pn**	**11 52 27.2**	**-0.7**
	comp=Z,13nm,1.1s						
COLD	**Coldfoot**	**19.51**	**27**	*e*P	**Pn**	**11 52 29.4**	**-0.8**
EGAK	**Eagle**	**21.29**	**39**	*e*P	**P**	**11 52 47.5**	**-0.4**
	comp=Z,17nm,0.6s						
SEY	**Seymchan**	**21.49**	**315**	P	**P**	**11 52 49.9**	**-0.2**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SEY	**Seymchan**	**21.49**	**315**	P	**P**	**11 52 49.9**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=105,slow=9.4,SNR=11						
DAWY	**Dawson**	**21.74**	**42**	*e*P	**P**	**11 52 53.4**	**+0.5**
INK	**Inuvik**	**25.46**	**34**	P	**P**	**11 53 28.1**	**-0.9**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	**Inuvik**	**25.46**	**34**	P	**P**	**11 53 28.1**	**-0.9**
	comp=Z,2.3nm,0.4s,baz=245,slow=6.6,SNR=30						
DLBC	**Dease Lake**	**25.47**	**57**	P	**P**	**11 53 30.4**	**+1.1**
	comp=Z,2.9nm,0.7s,baz=300,slow=6.5,SNR=4.5						
ASAJ	**Asahikawa**	**30.08**	**273**	P	**P**	**11 54 11.1**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ASAJ	**Asahikawa**	**30.08**	**273**	P	**P**	**11 54 11.1**	**+0.5**
	comp=Z,6.9nm,0.7s,baz=341,slow=2.0,SNR=5.1						
TIXI	**Tiksi**	**32.22**	**330**	*e*P	**P**	**11 54 27.6**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	**32.69**	**47**	P	**P**	**11 54 32.7**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=274,slow=9.0,SNR=12						
YKA				ScP	**ScP**	**12 01 04.7**	**+5.8**
	comp=Z,0.1nm,0.4s,baz=281,slow=3.7,SNR=4.8						
HAWA	**Hanford**	**35.07**	**77**	*e*P	**P**	**11 54 55.8**	**+1.6**
	comp=Z,30nm,1.6s						
J05D	**Fort Rock, OR**	**35.59**	**82**	⇓P	**P**	**11 55 00.5**	**+1.7**
	baz=36						
NEW	**Newport**	**35.65**	**72**	P	**P**	**11 55 00.3**	**+1.0**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NEW	**Newport**	**35.65**	**72**	P	**P**	**11 55 00.2**	**+1.0**
	comp=Z,5.4nm,0.8s,baz=308,slow=7.5,SNR=9.8						
NEW	**Newport**	**35.65**	**72**	⇓P	**P**	**11 54 60.0**	**+0.7**
	baz=36						
EDM	**Edmonton**	**35.78**	**63**	*e*P	**P**	**11 55 01.5**	**+1.2**
EDM	**Edmonton**	**35.78**	**63**	*e*P	**P**	**11 55 01.5**	**+1.2**
N02D	**Trinity Center**	**35.94**	**87**	⇑P	**P**	**11 55 03.5**	**+1.7**
	baz=36						
M04C	**Macdoel**	**36.02**	**85**	⇓P	**P**	**11 55 04.1**	**+1.5**
	baz=36						
USRK	**Ussuriysk Ar.**	**36.62**	**281**	P	**P**	**11 55 05.7**	**-1.8**
	comp=Z,2.3nm,0.6s,baz=75,slow=12,SNR=5.3						
MDJ	**Mudanjiang**	**37.87**	**283**	P	**P**	**11 55 17.2**	**-0.9**
MDJ				PMZ			
	comp=Z,97nm,5.4s						
MSO	**Missoula**	**38.23**	**73**	⇓P	**P**	**11 55 21.9**	**+0.7**
	baz=38						
SLMT	**Seeley Lake**	**38.29**	**72**	*e*P	**P**	**11 55 21.4**	**-0.4**
HRY	**Holter Researc**	**39.54**	**72**	*e*P	**P**	**11 55 33.0**	**+0.8**
HLID	**Hailey**	**39.63**	**78**	⇑P	**P**	**11 55 33.9**	**+0.8**
	baz=40						
MCMT	**McKenzie Canyo**	**39.91**	**75**	*e*P	**P**	**11 55 35.6**	**+0.2**
	comp=Z,1.8nm,0.6s						
EGMT	**Eagleton**	**40.11**	**69**	⇓P	**P**	**11 55 37.2**	**+0.3**
	baz=40,SNR=9.4						
EGMT	**Eagleton**	**40.11**	**69**	*e*P	**P**	**11 55 37.5**	**+0.6**
	comp=Z,12nm,0.6s						
NVAR	**Mina Array Bea**	**40.17**	**87**	P	**P**	**11 55 38.9**	**+1.1**
	comp=Z,2.6nm,0.8s,baz=290,slow=8.5,SNR=18						
A19A	**Klindworth Far**	**40.26**	**67**	⇑P	**P**	**11 55 38.3**	**+0.2**
	baz=40						
B19A	**Brinkman Farms**	**40.37**	**68**	⇑P	**P**	**11 55 39.6**	**+0.6**
	baz=40,SNR=6.2						
C19A	**Slack Wire Ran**	**40.67**	**69**	⇓P	**P**	**11 55 42.4**	**+0.9**
	baz=40,SNR=10						
ELK	**Elko**	**40.71**	**82**	P	**P**	**11 55 42.7**	**+0.6**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ELK	**Elko**	**40.71**	**82**	P	**P**	**11 55 42.7**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=9.2,slow=2.9,SNR=10						
A20A	**Cobblestone Ra**	**40.75**	**67**	⇓P	**P**	**11 55 42.8**	**+0.7**
	baz=41						
D19A	**Cripps Ranch,**	**41.05**	**70**	⇑P	**P**	**11 55 45.3**	**+0.6**
	baz=41,SNR=6.0						
A21A	**Bergtoll Ranch**	**41.27**	**66**	⇓P	**P**	**11 55 47.2**	**+0.8**
	baz=41						
C20A	**Veseth Ranch,**	**41.29**	**69**	⇑P	**P**	**11 55 47.5**	**+1.0**
	baz=41,SNR=5.3						
VES	**Vestal, Richgr**	**41.30**	**90**	⇑P	**P**	**11 55 47.3**	**+0.6**
	baz=41						
E19A	**Rath Farm, Rou**	**41.48**	**71**	⇑P	**P**	**11 55 48.8**	**+0.7**
	baz=41						
B21A	**Ellsworth Farm**	**41.50**	**67**	⇑P	**P**	**11 55 48.7**	**+0.5**
	baz=41						
H17A	**Grant Village**	**41.51**	**74**	⇑P	**P**	**11 55 50.1**	**+1.4**
	baz=41						
H17A	**Grant Village**	**41.51**	**74**	*e*P	**P**	**11 55 51.0**	**+2.3**
	comp=Z,6.6nm,1.3s						
D20A	**Manuel Ranch,**	**41.53**	**69**	⇓P	**P**	**11 55 49.4**	**+0.8**
	baz=41						
ISA	**Isabella, Lake**	**41.79**	**90**	⇑P	**P**	**11 55 51.5**	**+0.6**
	baz=42						
E20A	**Meyer Farm, Mu**	**41.84**	**70**	⇓P	**P**	**11 55 51.8**	**+0.7**
	baz=42						
A22A	**Carney Farms,**	**41.84**	**66**	⇓P	**P**	**11 55 51.5**	**+0.4**
	baz=42						
H18A	**Shoshone NF, C**	**41.90**	**73**	⇓P	**P**	**11 55 52.4**	**+0.5**
	baz=42						
R11A	**Troy Canyon, C**	**41.92**	**85**	⇓P	**P**	**11 55 52.8**	**+0.8**
	baz=42						
F20A	**Billings**	**42.20**	**71**	⇑P	**P**	**11 55 54.9**	**+0.8**
	baz=42						
FURC	**Furnace Creek,**	**42.29**	**88**	⇑P	**P**	**11 55 56.1**	**+1.3**
	baz=42						
H19A	**Powell**	**42.31**	**73**	⇑P	**P**	**11 55 56.1**	**+1.0**
	baz=42						
G20A	**Bridger**	**42.47**	**72**	⇑P	**P**	**11 55 56.6**	**+0.2**
	baz=42,SNR=6.7						
C22A	**Vida**	**42.50**	**67**	⇑P	**P**	**11 55 57.1**	**+0.7**
	baz=42						
DUG	**Dugway, Tooele**	**42.53**	**81**	*e*P	**P**	**11 55 58.0**	**+1.1**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.3s						
DUG	**Dugway, Tooele**	**42.53**	**81**	⇓P	**P**	**11 55 57.8**	**+0.9**
	baz=42						
DUG	**Dugway, Tooele**	**42.53**	**81**	*e*P	**P**	**11 55 58.0**	**+1.1**
	comp=Z,7.6nm,1.3s						
D22A	**Cohagen**	**42.64**	**68**	⇑P	**P**	**11 55 58.3**	**+0.7**
	baz=42,SNR=5.6						
B23A	**Brockton**	**42.64**	**66**	⇑P	**P**	**11 55 58.4**	**+0.8**
	baz=42						
F21A	**Absaloka Mine,**	**42.79**	**70**	⇓P	**P**	**11 55 59.2**	**+0.3**
	baz=43,SNR=7.6						
C23A	**Lambert**	**42.87**	**67**	⇑P	**P**	**11 56 00.1**	**+0.6**
	baz=43,SNR=5.9						
A24A	**Westby**	**42.97**	**65**	⇓P	**P**	**11 56 00.7**	**+0.5**
	baz=43						
KSRS	**Korea Array**	**43.01**	**275**	P	**P**	**11 56 01.1**	**+0.5**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KSRS				MLR	MLR		
	comp=Z,18nm,21.9s						
KSRS	**Korea Array**	**43.01**	**275**	P	**P**	**11 56 01.1**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=59,slow=8.0,SNR=6.9						
KSRS				LR	LR	12 13 34.6	
	comp=Z,18nm,21.9s,baz=90,slow=36						
PDAR	**Pinedale Array**	**43.03**	**76**	P	**P**	**11 56 01.4**	**+0.4**
	comp=Z,3.8nm,0.6s,baz=301,slow=4.3,SNR=33						
KSAR	**Wonju Array Be**	**43.04**	**275**	P	**P**	**11 56 01.1**	**+0.2**
KSAR	**Wonju Array Be**	**43.04**	**275**	P	**P**	**11 56 01.1**	**+0.2**
J19A	**Crowheart**	**43.05**	**75**	⇓P	**P**	**11 56 02.0**	**+0.8**
	baz=43						
GSC	**Goldstone, Bar**	**43.07**	**89**	*e*P	**P**	**11 56 02.4**	**+1.2**
GSC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GSC	**Goldstone, Bar**	**43.07**	**89**	⇓P	**P**	**11 56 02.1**	**+0.8**
	baz=43						
GSC	**Goldstone, Bar**	**43.07**	**89**	*e*P	**P**	**11 56 02.4**	**+1.2**
	comp=Z,7.0nm,0.6s						
G21A	**Lodge Grass**	**43.07**	**71**	⇑P	**P**	**11 56 01.4**	**+0.2**
	baz=43						
E22A	**Miles City**	**43.15**	**69**	⇓P	**P**	**11 56 02.7**	**+0.9**
	baz=43						
D23A	**Lindsay**	**43.19**	**68**	⇑P	**P**	**11 56 02.6**	**+0.5**
	baz=43						
BFSC	**Mount Baldy Ra**	**43.22**	**91**	⇑P	**P**	**11 56 03.2**	**+0.7**
	baz=43						
I20A	**Worland**	**43.22**	**73**	⇓P	**P**	**11 56 03.1**	**+0.6**
	baz=43						
F22A	**Rosebud**	**43.33**	**70**	⇑P	**P**	**11 56 03.6**	**+0.4**
	baz=43						
C24A	**Savage**	**43.45**	**67**	⇓P	**P**	**11 56 05.2**	**+1.0**
	baz=43						
A25A	**Svangstu Ranch**	**43.46**	**64**	⇑P	**P**	**11 56 04.8**	**+0.6**
	baz=43						
E23A	**Ismay**	**43.49**	**69**	⇑P	**P**	**11 56 05.2**	**+0.6**
	baz=43						
H21A	**Big Horn, Sher**	**43.49**	**72**	⇓P	**P**	**11 56 05.2**	**+0.6**
	baz=43						
TUQ	**Turquoise Moun**	**43.53**	**88**	⇑P	**P**	**11 56 05.5**	**+0.5**
	baz=44						
J20A	**Shoshoni**	**43.59**	**74**	⇓P	**P**	**11 56 06.5**	**+1.1**
	baz=44						
G22A	**Birney**	**43.61**	**71**	⇑P	**P**	**11 56 05.9**	**+0.4**
	baz=44						
D24A	**Glendive**	**43.73**	**67**	⇑P	**P**	**11 56 07.8**	**+1.4**
	baz=44,SNR=5.1						
I21A	**Big Trails, Te**	**43.80**	**73**	⇓P	**P**	**11 56 07.6**	**+0.4**
	baz=44						
F23A	**Volborg**	**43.86**	**70**	⇑P	**P**	**11 56 07.6**	**+0.1**
	baz=44,SNR=9.1						
J21A	**Lysite**	**43.97**	**74**	⇓P	**P**	**11 56 08.9**	**+0.3**
	baz=44						
E24A	**Baker**	**44.04**	**68**	⇑P	**P**	**11 56 09.6**	**+0.7**
	baz=44						
A26A	**Wade Farm, Ken**	**44.09**	**64**	⇑P	**P**	**11 56 09.7**	**+0.5**
	baz=44						
GMRC	**Granite Mounta**	**44.12**	**89**	⇑P	**P**	**11 56 10.1**	**+0.3**
	baz=44						
G23A	**Biddle**	**44.15**	**70**	⇓P	**P**	**11 56 10.0**	**+0.1**
	baz=44						
I22A	**9 Mile Ranch,**	**44.24**	**72**	⇓P	**P**	**11 56 10.7**	**+0.1**
	baz=44						
F24A	**Ekalaka**	**44.35**	**69**	⇑P	**P**	**11 56 11.5**	**+0.1**
	baz=44						
PFO	**Pinyon Flats O**	**44.39**	**91**	⇓P	**P**	**11 56 12.4**	**+0.5**
	baz=44						
109C	**Camp Elliot, M**	**44.46**	**92**	⇑P	**P**	**11 56 13.2**	**+0.9**
	baz=44						
K21A	**Alcova**	**44.50**	**74**	⇑P	**P**	**11 56 13.0**	**+0.1**
	baz=44						
J22A	**Midwest**	**44.52**	**73**	⇓P	**P**	**11 56 13.2**	**+0.3**
	baz=44						
SRU	**San Rafael Swe**	**44.59**	**80**	*e*P	**P**	**11 56 14.6**	**+1.0**
SRU				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SRU	**San Rafael Swe**	**44.59**	**80**	*e*P	**P**	**11 56 14.6**	**+1.0**
	comp=Z,4.8nm,0.6s						
E25A	**Miller Ranch,**	**44.60**	**68**	⇑P	**P**	**11 56 14.0**	**+0.6**
	baz=44						
H24A	**Dirks Ranch, A**	**44.90**	**70**	⇓P	**P**	**11 56 15.6**	**-0.3**
	baz=45						
K22A	**Casper**	**44.93**	**74**	⇓P	**P**	**11 56 16.6**	**+0.4**
	baz=45						
W13A	**Hualapai Mount**	**45.02**	**87**	⇓P	**P**	**11 56 17.4**	**+0.3**
	baz=45						
A28A	**Rude Farm, Bot**	**45.07**	**63**	⇓P	**P**	**11 56 17.5**	**+0.4**
	baz=45						
E26A	**Carlson Angus**	**45.16**	**67**	⇑P	**P**	**11 56 18.3**	**+0.5**
	baz=45						
U15A	**North Rim**	**45.16**	**85**	⇓P	**P**	**11 56 19.0**	**+0.7**
	baz=45,SNR=5.2						
B28A	**Dugan Ranch, T**	**45.27**	**64**	⇓P	**P**	**11 56 18.8**	**+0.2**
	baz=45						
G25A	**Newell**	**45.31**	**69**	⇑P	**P**	**11 56 19.4**	**+0.3**
	baz=45						
I24A	**Kuemmerle Ranc**	**45.36**	**71**	⇓P	**P**	**11 56 19.6**	**+0.1**
	baz=45						
O20A	**White River Ci**	**45.37**	**78**	⇓P	**P**	**11 56 19.7**	**-0.1**
	baz=45						
PDMCI	**Parker Dam,Lak**	**45.38**	**88**	⇑P	**P**	**11 56 20.2**	**+0.5**
	baz=45						
K23A	**Bowen Ranch, D**	**45.41**	**73**	⇓P	**P**	**11 56 19.9**	**-0.1**
	baz=45						
Y12C	**Blythe**	**45.50**	**89**	⇓P	**P**	**11 56 21.4**	**+0.8**
	baz=45						
H25A	**Fruitdale**	**45.53**	**70**	⇑P	**P**	**11 56 20.9**	**+0.1**
	baz=45						
RSSD	**Black Hills**	**45.56**	**71**	*e*P	**P**	**11 56 21.4**	**+0.2**
RSSD				pmax	pmax		
	comp=Z,27nm,2.2s						
RSSD	**Black Hills**	**45.56**	**71**	*e*P	**P**	**11 56 21.4**	**+0.2**
	comp=Z,27nm,2.2s						
M22A	**Cedar Creek Ra**	**45.62**	**75**	⇑P	**P**	**11 56 21.7**	**0.0**
	baz=46						
A29A	**Manning Farm,**	**45.64**	**63**	⇓P	**P**	**11 56 21.8**	**+0.2**
	baz=46						
J24A	**Dixon Ranch, L**	**45.65**	**72**	⇓P	**P**	**11 56 22.0**	**+0.2**
	baz=46						
L23A	**Garrett**	**45.73**	**74**	⇑P	**P**	**11 56 22.2**	**-0.4**
	baz=46,SNR=5.0						
G26A	**Maurine**	**45.73**	**69**	⇑P	**P**	**11 56 22.5**	**+0.1**
	baz=46,SNR=5.2						
F27A	**Lemmon**	**45.74**	**68**	⇑P	**P**	**11 56 22.4**	**0.0**
	baz=46						
I25A	**Rochford**	**45.80**	**71**	⇑P	**P**	**11 56 23.0**	**0.0**
	baz=46						
D28A	**Regan**	**45.84**	**65**	⇑P	**P**	**11 56 23.0**	**-0.2**
	baz=46						
MDND	**Maddock**	**46.02**	**64**	⇑P	**P**	**11 56 24.2**	**-0.4**
	baz=46						
N22A	**Wattenberg Ran**	**46.06**	**76**	⇑P	**P**	**11 56 25.5**	**+0.2**
	baz=46						
G27A	**Dupree**	**46.08**	**68**	⇑P	**P**	**11 56 25.0**	**0.0**
	baz=46						
WUAZ	**Wupatki**	**46.32**	**85**	⇑P	**P**	**11 56 27.7**	**+0.5**
	baz=46						
Y14A	**Wickenburg**	**46.33**	**88**	⇓P	**P**	**11 56 27.8**	**+0.5**
	baz=46						
PV01	**Paradox Valley**	**46.40**	**80**	*e*P	**P**	**11 56 28.1**	**+0.1**
	comp=Z,372nm,0.6s						
B30A	**Myrvik Farm, E**	**46.40**	**63**	⇑P	**P**	**11 56 28.0**	**+0.4**
	baz=46						
H27A	**Howes**	**46.42**	**69**	⇑P	**P**	**11 56 28.1**	**+0.3**
	baz=46						
F28A	**McLaughlin**	**46.46**	**67**	⇓P	**P**	**11 56 28.3**	**+0.2**
	baz=46						
D29A	**Pettibone, Tap**	**46.47**	**65**	⇓P	**P**	**11 56 28.3**	**+0.2**
	baz=46						
O23A	**Lake Granby, G**	**46.74**	**76**	⇓P	**P**	**11 56 31.3**	**+0.6**
	baz=47						
ULM	**Lac du Bonnet**	**46.76**	**59**	P	**P**	**11 56 30.2**	**-0.1**
ULM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ULM	**Lac du Bonnet**	**46.76**	**59**	P	**P**	**11 56 30.1**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=293,slow=7.2,SNR=5.3						
D30A	**Buchanan**	**46.91**	**64**	⇓P	**P**	**11 56 31.5**	**-0.1**
	baz=47						
H28A	**Mission Ridge**	**47.01**	**68**	⇓P	**P**	**11 56 32.7**	**+0.3**
	baz=47						
ISCO	**Idaho Springs**	**47.18**	**76**	⇑P	**P**	**11 56 34.4**	**+0.3**
	baz=47						
I28A	**Midland**	**47.31**	**69**	⇓P	**P**	**11 56 34.9**	**+0.1**
	baz=47,SNR=5.9						
H29A	**Onida**	**47.51**	**68**	⇓P	**P**	**11 56 36.3**	**+0.1**
	baz=47						
J28A	**Allard Ranch,**	**47.62**	**70**	⇑P	**P**	**11 56 37.7**	**+0.6**
	baz=48						
S22A	**4UR Ranch, Cre**	**47.71**	**79**	⇑P	**P**	**11 56 39.2**	**+0.9**
	baz=48						
214A	**Organ Pipe Nat**	**47.77**	**90**	⇑P	**P**	**11 56 38.8**	**+0.3**
	baz=48						
G30A	**Faulkton**	**47.83**	**67**	⇓P	**P**	**11 56 38.7**	**-0.1**
	baz=48						
X18A	**Snowflake**	**47.85**	**85**	⇓P	**P**	**11 56 39.6**	**+0.4**
	baz=48						
AGMN	**Agassiz Nation**	**47.85**	**62**	⇑P	**P**	**11 56 38.8**	**0.0**
	baz=48						
AGMN	**Agassiz Nation**	**47.85**	**62**	*e*P	**P**	**11 56 39.1**	**+0.3**
	comp=Z,69nm,2.6s						
O25A	**Wiggins**	**47.89**	**75**	⇓P	**P**	**11 56 40.0**	**+0.5**
	baz=48						
K28A	**Ten Mile Ranch**	**47.96**	**71**	⇓P	**P**	**11 56 40.0**	**+0.2**
	baz=48						
J29A	**Okreek**	**48.16**	**69**	⇓P	**P**	**11 56 41.5**	**+0.2**
	baz=48						
P25A	**Willow Gulch B**	**48.23**	**76**	⇓P	**P**	**11 56 42.5**	**+0.4**
	baz=48						
BRSD	**Miller**	**48.34**	**67**	⇓P	**P**	**11 56 42.2**	**-0.4**
	baz=48,SNR=5.4						
BRSD	**Miller**	**48.34**	**67**	*e*P	**P**	**11 56 42.8**	**+0.1**
	comp=Z,12nm,0.6s						
I30A	**Oacoma**	**48.38**	**68**	⇑P	**P**	**11 56 43.0**	**-0.1**
	baz=48						
K29A	**Lazy Trails An**	**48.55**	**70**	⇑P	**P**	**11 56 44.3**	**-0.1**
	baz=48						
U22A	**Llaves**	**48.57**	**81**	⇓P	**P**	**11 56 44.9**	**0.0**
	baz=48						
T23A	**Casias Ranch,**	**48.65**	**80**	⇓P	**P**	**11 56 45.5**	**0.0**
	baz=48						
J30A	**Dallas**	**48.70**	**69**	⇑P	**P**	**11 56 45.8**	**+0.3**
	baz=48						
P26A	**Davis Ranch, A**	**48.70**	**75**	⇓P	**P**	**11 56 46.2**	**+0.5**
	baz=49						
S24A	**Houchin Ranch,**	**48.77**	**78**	⇑P	**P**	**11 56 46.8**	**+0.4**
	baz=49						
TLY	**Talaya**	**48.82**	**305**	*e*P	**P**	**11 56 45.6**	**-0.7**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TLY	**Talaya**	**48.82**	**305**	*e*P	**P**	**11 56 45.2**	**-1.0**
O27A	**Beecher Island**	**48.83**	**74**	⇓P	**P**	**11 56 47.2**	**+0.6**
	baz=49						
V22A	**San Miguel Ran**	**48.84**	**81**	⇓P	**P**	**11 56 47.4**	**+0.5**
	baz=49						
U23A	**El Rito**	**49.01**	**80**	⇓P	**P**	**11 56 48.6**	**+0.4**
	baz=49,SNR=5.7						
R25A	**Fountain Ranch**	**49.02**	**77**	⇓P	**P**	**11 56 48.7**	**+0.6**
	baz=49						
T24B	**San Luis**	**49.04**	**79**	⇑P	**P**	**11 56 49.0**	**+0.5**
	baz=49						
M29A	**Burnside Ranch**	**49.13**	**72**	⇑P	**P**	**11 56 49.3**	**+0.4**
	baz=49						
ULN	**Ulaanbaatar**	**49.20**	**299**	*e*P	**P**	**11 56 49.8**	**+0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
S25A	**Robets Cordova**	**49.24**	**78**	⇑P	**P**	**11 56 50.0**	**+0.1**
	baz=49						
O28A	**Krutsinger Ran**	**49.30**	**74**	⇑P	**P**	**11 56 50.4**	**+0.2**
	baz=49						
V23A	**Ortiz Mt. (NFS**	**49.39**	**81**	⇓P	**P**	**11 56 51.7**	**+0.6**
	baz=49						
R26A	**Arlington**	**49.43

R30A	Dighton	51.36	75	⇑P		P	11 57 05.9	+0.1
	baz=51							
U28A	Mallet	51.41	78	⇑P		P	11 57 06.2	0.0
	baz=51							
Q31A	Ellis	51.43	73	⇓P		P	11 57 06.5	+0.2
	baz=51							
P32A	Huiting Farm,	51.51	72	⇓P		P	11 57 06.9	+0.1
	baz=51							
R31A	Burdett	51.81	74	⇓P		P	11 57 09.0	-0.1
	baz=52							
U29A	Oasis Ranch, S	51.95	77	⇑P		P	11 57 09.9	-0.2
	baz=52							
NJ2	Nanjing	52.18	276	*e*P		P	11 57 10.8	-1.0
NJ2				PMZ				
	comp=Z,10.0nm,1.0s							
R32A	Long Quarter,	52.21	73	⇑P		P	11 57 11.6	-0.5
	baz=52							
U30A	WK&E Inc. Balk	52.27	77	⇓P		P	11 57 12.6	0.0
	baz=52							
Q33A	Connelly Farm,	52.37	72	⇑P		P	11 57 12.9	-0.3
	baz=52							
Y27A	Causey	52.48	81	⇓P		P	11 57 14.4	+0.1
	baz=52							
MSTX	Muleshoe	52.67	80	⇓P		P	11 57 15.6	0.0
	baz=53							
AMTX	Amarillo	52.73	79	⇓P		P	11 57 15.9	-0.1
	baz=53							
Z28A	Tucker Farm, M	53.36	81	⇑P		P	11 57 20.3	-0.4
	baz=53							
Y29A	Porterfield Fa	53.42	80	⇑P		P	11 57 20.7	-0.5
	baz=53							
X30A	Coker Ranch, T	53.52	79	⇓P		P	11 57 22.0	+0.2
	baz=53							
Z29A	Hungry Hill Ra	53.80	80	⇓P		P	11 57 23.7	-0.2
	baz=54							
Y30A	Stafford Cattl	53.88	79	⇑P		P	11 57 24.5	+0.1
	baz=54							
X31A	McDonald Ranch	53.94	78	⇑P		P	11 57 24.9	+0.1
	baz=54							
129A	Stewart Farms,	54.13	81	⇑P		P	11 57 26.3	0.0
	baz=54							
Z30A	Sanderson Ranc	54.14	80	⇑P		P	11 57 25.8	-0.5
	baz=54							
Y32A	R-V Farms, Ver	54.69	78	⇑P		P	11 57 30.6	+0.3
	baz=55							
230A	Sterling City	55.10	81	⇓P		P	11 57 33.7	+0.4
	baz=55							
TXAR	Lajitas Array	55.28	85	P		P	11 57 34.6	-0.2
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
TXAR	Lajitas Array	55.28	85	P		P	11 57 34.5	-0.2
	comp=Z,1.6nm,0.7s,baz=300,slow=4.8,SNR=18							
TUL1	Leonard	55.62	74	⇓P		P	11 57 36.7	-0.2
	baz=56							
529A	Stev Forest Ra	55.63	83	⇑P		P	11 57 36.8	-0.3
	baz=56							
430A	Baggett Ranch,	55.78	82	⇓P		P	11 57 38.1	-0.1
	baz=56							
331A	San Angelo	55.92	81	⇓P		P	11 57 39.0	-0.2
	baz=56							
133A	Hamilton Ranch	55.96	79	⇑P		P	11 57 39.3	-0.1
	baz=56							
232A	Coleman	56.01	80	⇓P		P	11 57 39.7	-0.1
	baz=56							
530A	J-C Ranch, Com	56.16	83	⇑P		P	11 57 40.9	-0.1
	baz=56							
431A	Sonora	56.25	82	⇑P		P	11 57 40.8	-0.7
	baz=56							
333A	Richland Sprin	56.80	80	⇓P		P	11 57 45.2	-0.2
	baz=57							
334A	Lometa	57.26	80	⇓P		P	11 57 48.5	-0.1
	baz=57							
732A	Laxson Ranch,	58.01	83	⇑P		P	11 57 53.6	-0.4
	baz=58							
832A	Faith Ranch, C	58.32	83	⇑P		P	11 57 55.6	-0.5
	baz=58							
ARCES	ARCESS Array B	58.49	352	P		P	11 57 56.2	-0.6
ARCES				pmax	pmax			
	comp=Z,6.0nm,1.0s							
ARCES	ARCESS Array B	58.49	352	P		P	11 57 56.2	-0.6
	comp=Z,6.3nm,1.0s,baz=15,slow=7.9,SNR=4.8							
LZH	Lanzhou	58.56	290	*e*P		P	11 57 58.8	+0.8
LZH				pP		**pP**	11 58 11.5	+2.4
LZH				sP		**sP**	11 58 17.0	+3.6
LZH				PMZ				
	comp=Z,21nm,1.3s							
LZH				PMZ				
	comp=Z,120nm,5.3s							
GTA	Gaotai	58.62	295	*e*P		P	11 57 58.1	-0.2
GTA				pP		**pP**	11 58 10.6	+1.2
GTA				sP		**sP**	11 58 16.0	+2.3
GTA				PMZ				
	comp=Z,5.0nm,1.1s							
KURK	Kurchatov	61.33	316	P		P	11 58 15.9	-0.6
KURK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KURK	Kurchatov	61.33	316	P		P	11 58 15.9	-0.6
KURBB	Kurchatov Arra	61.44	316	P		P	11 58 15.9	-1.3
	comp=Z,1.2nm,0.6s,baz=42,slow=6.7,SNR=11							
WMQ	Urumqi	62.07	306	*e*P		P	11 58 21.6	-0.1
WMQ				pP		**pP**	11 58 34.0	+1.2
WMQ				SS		SS	12 10 45.6	-0.4
WMQ				PMZ				
	comp=Z,4.0nm,1.3s							
WMQ				PMZ				
	comp=Z,150nm,6.0s							
WMQ				LN				
	comp=Z,78nm,22.0s							
WMQ				LE				
	comp=Z,27nm,20.0s							
WMQ				LZ				
	comp=Z,71nm,22.0s							
CD2	Chengdu	62.23	285	*e*P		P	11 58 23.2	+0.3
CD2				PMZ				
	comp=Z,20nm,0.9s							
MKAR	Makanchi Array	62.55	311	P		P	11 58 23.7	-1.1
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	Makanchi Array	62.55	311	P		P	11 58 23.7	-1.1
	comp=Z,0.8nm,0.5s,baz=43,slow=5.8,SNR=24							
BVAR	Borovoye Array	62.92	323	P		P	11 58 26.3	-0.8
BVAR				pmax	pmax			
	comp=Z,5.0nm,0.5s							
BVAR	Borovoye Array	62.92	323	P		P	11 58 26.3	-0.8
	comp=Z,4.5nm,0.5s,baz=54,slow=7.8,SNR=47							
BRVK	Borovoye	62.94	323	*e*P		P	11 58 25.3	-1.9
BRVK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ARU	Arti	64.22	331	*d*iP		P	11 58 34.4	-1.2
ARU							12 00 54.8	
ARU				S		**S**	12 07 09.6	-0.4
ARU				SS		**SS**	12 11 22.1	+3.4
ARU				pmax	pmax			
	comp=Z,3.0nm,0.6s							
FINES	FINESS Array B	66.34	350	*ce*P		P	11 58 52.9	+3.6
FINES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
FINES	FINESS Array B	66.34	350	P		P	11 58 48.0	-1.3
	comp=Z,0.6nm,0.5s,baz=29,slow=13,SNR=3.4							
KMI	Kunming	67.04	282	P		P	11 58 51.8	-2.8
KMI				PMZ				
	comp=Z,6.0nm,0.9s							
NOA	NORSAR Array B	67.76	358	P		P	11 58 57.5	-0.9
NOA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
NOA	NORSAR Array B	67.76	358	P		P	11 58 57.5	-0.9
	comp=Z,1.0nm,0.8s,baz=352,slow=6.8,SNR=3.0							
HFS	Hagfors	68.58	356	P		P	11 59 02.0	-1.4
HFS				pmax	pmax			
	comp=Z,1.0nm,0.4s							
HFS	Hagfors	68.58	356	P		P	11 59 02.0	-1.4
	comp=Z,0.9nm,0.4s,baz=7.4,slow=3.4,SNR=11							
AAK	Ala-Archa	69.33	313	P		P	11 59 08.5	-0.1
AAK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AAK	Ala-Archa	69.33	313	P		P	11 59 08.5	-0.1
	comp=Z,1.5nm,0.6s,baz=83,slow=1.8,SNR=4.4							
AKTO	Aktyubinsk	69.47	328	P		P	11 59 08.5	-0.7
AKTO				pmax	pmax			
	comp=Z,6.0nm,0.5s							
AKTO	Aktyubinsk	69.47	328	P		P	11 59 08.4	-0.7
	comp=Z,6.3nm,0.5s,baz=55,slow=9.2							
ABKAR	Akbulak array	69.82	326	*e*P		P	11 59 10.4	-0.8
	comp=Z,3.1nm,0.5s							
LSA	Lhasa	70.55	293	*e*P		P	11 59 16.7	+0.1
LSA				pmax	pmax			
	comp=Z,7.0nm,0.5s							
LSA	Lhasa	70.55	293	*e*P		P	11 59 16.7	+0.1
	comp=Z,7.3nm,0.5s							
OBN	Obninsk	70.88	342	*e*P		P	11 59 17.8	+0.2
OBN				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KSH	Kashi	71.08	310	*e*P		P	11 59 22.9	+3.6
KSH				sP		sP	11 59 41.8	+6.9
KSH				PP		PP	12 02 03.0	+6.4
KSH				S		**S**	12 08 34.9	+1.9
KSH				sS		**SKiKP**	12 08 56.7	-0.5
KSH				SKS		**SKSac**	12 09 18.1	-1.0
KSH				SS		**SS**	12 13 11.4	+5.6
KSH				PMZ				
	comp=Z,5.0nm,1.0s							
KSH				PMZ				
	comp=Z,45nm,4.4s							
KSH				LN				
	comp=Z,38nm,5.8s							
KSH				LE				
	comp=Z,35nm,4.2s							
KSH				LZ				
	comp=Z,130nm,6.2s							
TAPN	Taplejung	74.29	294	*e*P		P	11 59 39.0	+0.2
	comp=Z,23nm,0.7s							
CMAR	Chiang Mai Arr	74.34	280	P		P	11 59 38.6	-0.3
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CMAR	Chiang Mai Arr	74.34	280	P		P	11 59 38.5	-0.3
	comp=Z,0.9nm,0.6s,baz=22,slow=6.7,SNR=6.8							
ODAN	Odare	74.85	294	*e*P		P	11 59 41.9	-0.1
GUN	Gumba	74.90	296	*e*P		P	11 59 42.6	+0.2
	comp=Z,22nm,0.4s							
JIRN	Jiri	74.92	295	*e*P		P	11 59 42.9	+0.4
	comp=Z,44nm,0.6s							
RAMN	Ramite	75.23	295	*e*P		P	11 59 44.1	-0.1
	comp=Z,40nm,0.6s							
KKN	Kakani	75.33	296	*e*P		P	11 59 45.0	+0.3
PKI	Pulchoki	75.43	296	*e*P		P	11 59 45.3	-0.1
	comp=Z,33nm,1.1s							
PKIN	Phulchoki	75.43	296	*e*P		P	11 59 45.5	+0.2
GKN	Gorkha	75.53	297	*e*P		P	11 59 45.7	-0.1
	comp=Z,17nm,0.6s							
DMN	Daman	75.57	296	*e*P		P	11 59 46.0	-0.1
DANN	Dangsing	75.75	298	*e*P		P	11 59 47.3	+0.1
	comp=Z,38nm,0.6s							
KOLN	Koldanda	76.28	297	*e*P		P	11 59 50.1	0.0
	comp=Z,10nm,0.6s							
AKASG	Malin Array Be	76.39	345	*i* P		P	11 59 47.5	-2.5
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	Malin Array Be	76.39	345	P		P	11 59 48.0	-2.1
	comp=Z,1.3nm,0.4s,baz=13,slow=5.8,SNR=4.2							
DPC	Dobruska-Polom	78.20	354	*e*P		P	12 00 00.1	-0.2
DPC	Dobruska-Polom	78.20	354	*e*P		P	12 00 00.1	-0.2
KRLC	Kraliky	78.44	353	*e*P		P	12 00 01.3	-0.3
KRLC	Kraliky	78.44	353	*e*P		P	12 00 01.3	-0.3
KHC	Kasperske Hory	79.58	355	*e*P		P	12 00 07.2	-0.7
KHC	Kasperske Hory	79.58	355	*e*P		P	12 00 07.2	-0.7
GERES	GERESS Array B	79.86	355	P		P	12 00 08.4	-1.1
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES	GERESS Array B	79.86	355	P		P	12 00 08.3	-1.1
	comp=Z,0.6nm,0.6s,baz=5.7,slow=2.7,SNR=4.9							
GEYT	Alibeck	80.21	321	P		P	12 00 11.4	-0.1
	comp=Z,0.8nm,0.3s,baz=320,slow=3.8,SNR=3.4							
WRA	Warramunga Arr	84.53	228	P		P	12 00 32.9	-1.2
	comp=Z,0.4nm,0.7s,baz=31,slow=5.9,SNR=4.9							
BRTR	Keskin Array B	86.14	339	P		P	12 00 42.9	+0.7
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BRTR	Keskin Array B	86.14	339	P		P	12 00 42.9	+0.7
	comp=Z,1.5nm,0.8s,baz=56,slow=4.1,SNR=3.5							
ASAR	Alice Springs	87.94	227	P		P	12 00 50.9	+0.1
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ASAR	Alice Springs	87.94	227	P		P	12 00 50.9	+0.1
	comp=Z,0.6nm,0.7s,baz=30,slow=5.1,SNR=8.9							
BOSA	Boshof	153.21	321	PKIKP		**PKPbc**	12 07 58.7	0.0
BOSA							12 08 11.0	
BOSA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BOSA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BOSA	Boshof	153.21	321	PKPbc		**PKPbc**	12 07 58.7	0.0
	comp=Z,1.0nm,0.5s,baz=339,slow=2.3,SNR=4.5							
BOSA				PKPab		**PKPab**	12 08 11.0	+0.5
	comp=Z,0.9nm,0.5s,baz=351,slow=1.4,SNR=3.8							

IDC ***11*** *12:00:45.8±2.9, 53°.59N×87°.94E, h0km, mb1 3.1/2, mb1mx3.0/31, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=23.7km s-min=15.3km az=62.0*

ISC 11 12:00:48.7±4.0, 53°.7N±0°.1×88°.0E±0°.2, h35km, n6, σ1§50/9, 5C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.92	280	*i*		12 15 20.0	
	baz=99,slow=339,SNR=0.8						
ZALV	Zalesovo Beam	1.92	280	Pg		**Pn**	12 01 19.1	+0.3
	2.6nm,0.3s,baz=100,slow=15,SNR=37						
ZALV				Lg		Lg	12 01 45.3	
	4.1nm,0.3s,baz=103,slow=24,SNR=24						
KURK	Kurchatov	6.49	247	⇑Pn		**Pn**	12 02 18.5	-3.1
	0.6nm,0.6s							
KURK				⇑Sn		**Sn**	12 03 35.8	+1.5
	0.7nm,0.8s							
KURK				⇑Lg		Lg	12 04 07.3	
	1.3nm,0.7s							
KURBB	Kurchatov Arra	6.59	246	Pn		**Pn**	12 02 23.9	+0.9
	0.1nm,0.3s,baz=62,slow=14,SNR=11							
KURBB				Sn		**Sn**	12 03 36.6	-0.1
	0.0nm,0.3s,baz=48,slow=5.7,SNR=3.4							
KURBB				Lg		Lg	12 04 12.2	
	0.1nm,0.3s,baz=64,slow=34,SNR=4.3							
MK31	Makanchi Array	7.80	210	⇑Pn		**Pn**	12 02 39.8	+0.2
	0.2nm,0.5s,baz=25,slow=12,SNR=4.7							
MK31				Sn		**Sn**	12 04 06.1	-0.6
	0.2nm,0.5s							
MK31				⇑Lg		Lg	12 04 50.0	
	0.7nm,0.6s,baz=29,slow=32,SNR=4.3							
MKAR	Makanchi Array	7.80	210	Pn		**Pn**	12 02 40.0	+0.3
	0.1nm,0.3s,baz=24,slow=14,SNR=5.6							
MKAR				Sn		**Sn**	12 04 07.3	+0.6
	0.1nm,0.3s,baz=36,slow=28,SNR=3.7							
MKAR				Lg		Lg	12 04 50.9	
	0.1nm,0.3s,baz=31,slow=31,SNR=5.2							

WEL 11 12:09:26.1±0.1, 44°.71S×167°.47E, h5km, ML3.5/10, 1C-3D, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.33	84	⇓PG	Pg	12 09 32.8	+0.3
MSZ				SG	Sg	12 09 36.8	-0.1
MSZ				AML	AML	12 09 36.9	
MSZ				AML	AML	12 09 36.9	
MSZ				AML	AML	12 09 37.1	
DCZ	Deep Cove	0.80	196	P*	Pg	12 09 41.2	-0.2
DCZ				S*	Sg	12 09 52.3	+0.4
DCZ				AML	AML	12 09 58.0	
MLZ	Mavora Lakes	0.81	142	⇓P*	Pg	12 09 41.8	0.0
MLZ				S*	Sg	12 09 52.6	+0.3
MLZ				AML	AML	12 09 56.0	
WKZ	Wanaka	1.11	97	⇑P*	Pg	12 09 47.0	-0.5
WKZ				AML	AML	12 10 06.1	
WKZ				AML	AML	12 10 07.0	
JCZ	Jackson Bay	1.12	56	P*	Pg	12 09 47.3	-0.5
JCZ				AML	AML	12 10 04.7	
JCZ				AML	AML	12 10 04.9	
WHZ	Wether Hill Ro	1.23	164	P*	Pg	12 09 49.1	-0.6
WHZ				AML	AML	12 10 08.5	
WHZ				AML	AML	12 10 09.3	
EAZ	Earnscleugh	1.41	112	⇓PN	Pn	12 09 51.9	-0.5
EAZ				AML	AML	12 10 15.0	
EAZ				AML	AML	12 10 15.5	
FOZ	Fox Glacier	1.97	55	PN	Pn	12 09 59.5	-0.5
FOZ				AML	AML	12 10 34.7	
FOZ				AML	AML	12 10 36.0	
LBZ	Lake Benmore	1.97	81	PN	Pn	12 10 00.2	+0.1
LBZ				AML	AML	12 10 32.4	
LBZ				AML	AML	12 10 33.1	
TUZ	Tuapeka	1.97	130	PN	Pn	12 10 00.3	+0.2
APZ	The Paps	2.15	170	PN	Pn	12 10 02.9	+0.1
SYZ	Scrubby Hill	2.17	148	PN	Pn	12 10 03.1	+0.2
ODZ	Otahua Downs	2.28	100	PN	Pn	12 10 04.2	-0.2
RPZ	Rata Peaks	2.76	70	PN	Pn	12 10 10.3	-0.8
RPZ				AML	AML	12 10 56.2	
RPZ				AML	AML	12 11 00.9	
WVZ	Waitaha Valley	2.87	56	PN	Pn	12 10 09.2	-3.3
OXZ	Oxford	3.58	69	PN	Pn	12 10 19.2	-3.0
MQZ	McQueen's Vall	3.86	77	PN	Pn	12 10 24.6	-1.5

WEL 11 12:16:40.0±0.4, 38°.31S×176°.12E, h161km±3km, ML3.6/10, 20C-5D, Error ellipse: s-maj=2.2km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	Tolley Road	0.46	267	⇑PN	Pn	12 17 03.0	+0.6
TLZ				SN	Sn	12 17 19.9	+0.3
HATZ	Hinemaiaia	0.58	182	⇑PN	Pn	12 17 03.0	0.0
URZ	Urewera	0.78	87	⇑PN	Pn	12 17 03.7	-0.4
URZ				SN	Sn	12 17 21.8	-0.9
KRVZ	Karewarewa	0.87	205	PN	Pn	12 17 04.9	-0.1
BKZ	Black Stump Fm	0.91	161	⇓PN	Pn	12 17 05.0	-0.1
BKZ				SN	Sn	12 17 23.6	-1.0
BKZ				AML	AML	12 17 26.6	
WTVZ	West Tongariro	0.91	207	PN	Pn	12 17 05.2	0.0
TWVZ	Taurewa	0.93	215	⇑PN	Pn	12 17 05.4	0.0
NMHZ	Naumai	0.96	146	PN	Pn	12 17 06.2	+0.7
NMHZ				SN	Sn	12 17 24.6	-0.7
NGZ	Ngauruhoe	0.96	205	PN	Pn	12 17 05.6	-0.1
RAHZ	Arahi	0.97	129	PN	Pn	12 17 06.1	+0.5
COVZ	Chateau Observ	1.00	207	⇑PN	Pn	12 17 06.0	0.0
WPVZ	Whakapapa	1.00	206	PN	Pn	12 17 05.1	-0.8
HIZ	Hauiti	1.01	258	⇑PN	Pn	12 17 06.2	+0.3
TUVZ	Tukino	1.03	201	⇑PN	Pn	12 17 06.3	+0.1
FWVZ	Far West T-bar	1.05	205	⇓PN	Pn	12 17 06.2	-0.2
SNGZ	Shannon Statio	1.07	117	⇑PN	Pn	12 17 06.7	+0.3
SNGZ				SN	Sn	12 17 26.7	0.0
TRVZ	Turoa	1.09	204	⇓PN	Pn	12 17 06.7	-0.2
WNVZ	Wahianoa	1.10	202	⇑PN	Pn	12 17 06.8	0.0
MWZ	Matawai	1.11	92	⇑PN	Pn	12 17 06.5	-0.2
MWZ				SN	Sn	12 17 26.4	-0.9
MWZ				AML	AML	12 17 26.7	
MOVZ	Moawhango	1.14	194	PN	Pn	12 17 06.6	-0.4
PKVZ	Pokaka	1.15	211	PN	Pn	12 17 06.6	-0.5
WHHZ	Waihua	1.16	132	PN	Pn	12 17 07.6	+0.4
BHHZ	Black Hill Sta	1.18	182	⇑PN	Pn	12 17 07.1	-0.3
MCHZ	McNeill Hill	1.22	159	⇑PN	Pn	12 17 08.3	+0.7
RIGZ	Rimuhau	1.35	108	PN	Pn	12 17 09.1	+0.2
KRHZ	Kereru	1.35	172	⇑PN	Pn	12 17 08.8	-0.1
KNZ	Kokohu	1.41	121	⇑PN	Pn	12 17 09.4	0.0
HAZ	Te Kaha	1.42	68	PN	Pn	12 17 08.8	-0.8
TWGZ	Tauwhareparae	1.47	86	PN	Pn	12 17 10.5	+0.3
CKHZ	Cape Kidnapper	1.54	151	⇑PN	Pn	12 17 11.1	+0.3
KAHZ	Kahuranaki	1.60	159	PN	Pn	12 17 11.6	+0.1
PNHZ	Pukenui	1.61	178	PN	Pn	12 17 11.0	-0.5
MHGZ	Mahia Peninsul	1.63	122	PN	Pn	12 17 12.0	+0.2
WAZ	Wanganui	1.70	211	PN	Pn	12 17 11.9	-0.5
PUZ	Puketiti	1.70	83	PN	Pn	12 17 11.9	-0.6
TSZ	Takapari Road	1.75	184	⇑PN	Pn	12 17 12.4	-0.7
TSZ				AML	AML	12 17 39.6	
TSZ				AML	AML	12 18 06.2	
WPHZ	Waipukurau	1.77	172	PN	Pn	12 17 12.7	-0.6
PXZ	Pawanui	1.82	162	⇑PN	Pn	12 17 13.3	-0.4
PXZ				AML	AML	12 17 42.4	
WMGZ	Waiomatatini S	1.88	76	PN	Pn	12 17 13.9	-0.5
MXZ	Matakaoa Point	1.88	67	PN	Pn	12 17 14.0	-0.4
MXZ				AML	AML	12 18 10.3	
DVHZ	Dannevirke	1.99	179	⇑PN	Pn	12 17 14.6	-1.1
POWZ	Post Office Ro	2.10	187	PN	Pn	12 17 15.7	-1.2
ANWZ	Angora Road	2.17	173	⇓PN	Pn	12 17 16.9	-0.7
PRWZ	Pori Road	2.25	183	PN	Pn	12 17 17.6	-1.0
MRZ	Mangatainoka R	2.39	190	⇑PN	Pn	12 17 18.6	-1.7
MRZ				AML	AML	12 17 50.8	
MRZ				AML	AML	12 17 51.1	
TIWZ	Tintock	2.47	184	PN	Pn	12 17 19.7	-1.6
TIWZ				AML	AML	12 17 52.7	
TIWZ				AML	AML	12 17 55.6	
OGWZ	Otaki Gorge	2.61	196	PN	Pn	12 17 20.6	-2.3
HOWZ	Holdsworth Sta	2.63	190	⇑PN	Pn	12 17 21.1	-2.1
KIW	Kapiti Island	2.72	200	PN	Pn	12 17 22.0	-2.2
TMWZ	Te Maipa	2.80	184	PN	Pn	12 17 23.4	-1.9
MTW	Mount Morrison	2.89	189	PN	Pn	12 17 23.8	-2.5
CAW	Cannon Point	2.91	196	⇓PN	Pn	12 17 24.3	-2.3
TRWZ	Traveller	3.11	186	PN	Pn	12 17 26.6	-2.4
TRWZ				AML	AML	12 17 51.9	
WEL	Wellington	3.15	199	PN	Pn	12 17 26.9	-2.7
MSWZ	Moikau Station	3.18	192	AML	AML	12 17 18.7	
MSWZ				PN	Pn	12 17 27.1	-2.9
MSWZ				AML	AML	12 17 29.9	
TCW	Tory Channel	3.23	205	PN	Pn	12 17 27.9	-2.7
TCW				AML	AML	12 18 08.0	
PLWZ	Palliser	3.33	191	PN	Pn	12 17 28.6	-3.3
TUWZ	Tuamarina	3.54	208	PN	Pn	12 17 31.4	-3.1
NNZ	Nelson	3.59	215	PN	Pn	12 17 32.0	-3.2
QRZ	Quartz Range	3.75	227	PN	Pn	12 17 33.4	-3.8
THZ	Tophouse	4.24	215	PN	Pn	12 17 40.3	-3.4
KHZ	Kahutara	4.55	205	PN	Pn	12 17 44.2	-3.4

IDC ***11*** *12:31:21.1±0.4, 15°.38S×173°.30W, h0km, mb4.7/22, mb1 4.9/22, mb1mx4.9/26, mbtmp4.7/22, MS4.5/19, Ms1 4.6/19, ms1mx4.3/36, Error ellipse: s-maj=19.7km s-min=12.8km az=138.0*

ISCJB ***11*** *12:31:24.5±0.2, 15°.48S±0°.05×173°.31W±0°.03, h32km, mb5.0/19, MS4.6/31, Error ellipse: s-maj=7.4km s-min=4.4km az=162.2*

SZGRF ***11*** *12:31:25.8, 15°.83S×172°.61W, h33km, mb4.9, Samoa Islands region*

MOS ***11*** *12:31:25.8±1.4, 15°.28S×173°.37W, h33km, mb5.2/35, MS4.7/5, Error ellipse: s-maj=12.4km s-min=9.6km az=69.8*

BJI ***11*** *12:31:25.4, 15°.27S×173°.28W, h32km, mB5.5/20, mb5.1/23, Ms5.3/17, Ms7 4.9/17*

NEIC ***11*** *12:31:26.6±0

OUZ	Omahuta	22.98	209	eP		P	12 36 30.7	+2.5
	comp=Z,304nm,1.1s							
OUZ				LR		LR		
	comp=Z,8µm,20.1s							
TIAR	Tiarei	23.01	99	eT		T	12 59 41.7	
	comp=Z,6.3nm,0.4s							
TVO	Taravao	23.11	99	eP		P	12 36 28.8	-1.0
	comp=Z,16nm,1.1s							
TVO	Taravao	23.11	99	eT		T	12 59 49.1	
	comp=Z,4.2nm,0.4s							
TBI	Tubuai	23.75	113	eP		P	12 36 35.5	-0.4
	comp=Z,223nm,1.1s							
TBI	Tubuai	23.75	113	eT		T	13 00 42.8	
	comp=Z,20nm,0.4s							
MEH	Mehetia	24.24	99	eP		P	12 36 39.7	-0.8
	comp=Z,12nm,0.9s							
MEH	Mehetia	24.24	99	eT		T	13 01 13.9	
	comp=Z,7.5nm,0.3s							
URZ	Urewera	24.29	199	P		P	12 36 39.8	-0.9
	comp=Z,29nm,0.9s,baz=341,slow=11,SNR=5.8							
URZ	Urewera	24.29	199	eP		P	12 36 42.1	+1.4
URZ				LR		LR		
	comp=Z,1µm,19.6s							
PMOR	Pomariorio Ree	24.46	92	eP		P	12 36 40.7	-1.8
	comp=Z,163nm,1.4s							
PMOR	Pomariorio Ree	24.46	92	eT		T	13 01 28.6	
	comp=Z,8.0nm,0.3s							
VAH	Vaihoa	24.70	93	eP		P	12 36 43.7	-1.0
	comp=Z,61nm,1.1s							
VAH	Vaihoa	24.70	93	eT		T	13 01 46.1	
	comp=Z,7.8nm,0.3s							
BKZ	Black Stump Fm	25.31	199	PFAKE			12 37 00.0	+10
BKZ				LR		LR		
	comp=Z,2µm,19.0s							
BFZ	Birch Farm	26.77	198	PFAKE			12 37 20.0	+17
BFZ				LR		LR		
	comp=Z,1µm,21.1s							
SNZO	South Karori	27.82	200	PFAKE			12 37 30.0	+17
SNZO				LR		LR		
	comp=Z,2µm,18.0s							
KHZ	Kahutara	29.20	200	PFAKE			12 37 40.0	+15
KHZ				LR		LR		
	comp=Z,2µm,19.4s							
TAOE	Nuku Hiva Isla	32.98	82	eT		T	13 12 04.6	
	comp=Z,347nm,0.3s							
WHZ	Wether Hill Ro	34.23	204	eP		P	12 38 09.3	+0.3
	comp=Z,51nm,0.8s							
RKT	Rikitea	36.84	108	eP		P	12 38 32.6	+0.8
	comp=Z,100nm,1.3s							
RKT				eLQ		LQ	12 46 52.9	
	comp=Z,494nm,34.8s							
RKT				eLR		LR	12 48 25.7	
	comp=Z,2µm,25.5s,baz=279							
RKT	Rikitea	36.84	108	eT		T	13 17 01.6	
	comp=Z,7.6nm,0.3s							
H11S2	WAKE ISLAND Hy	39.06	329	T		T	13 20 18.7	
	baz=149,slow=76,SNR=42							
H11S3	WAKE ISLAND Hy	39.08	329	T		T	13 20 17.5	
	baz=149,slow=76,SNR=37							
H11S1	WAKE ISLAND Hy	39.08	329	T		T	13 20 09.9	
	baz=149,slow=76,SNR=56							
PMG	Port Moresby	39.09	274	eP		P	12 38 49.2	-1.6
PMG				pmax		pmax		
	comp=Z,18nm,1.0s							
PMG	Port Moresby	39.09	274	LR		LR	12 52 49.0	
	comp=Z,576nm,19.2s,baz=84,slow=33							
PMG	Port Moresby	39.09	274	eP		P	12 38 49.7	-1.1
	comp=Z,23nm,1.2s							
H11N3	WAKE ISLAND Hy	40.01	330	T		T	13 21 26.4	
	baz=150,slow=76,SNR=20							
H11N1	WAKE ISLAND Hy	40.02	330	T		T	13 21 25.9	
	baz=150,slow=76,SNR=24							
H11N2	WAKE ISLAND Hy	40.03	330	T		T	13 21 38.3	
	baz=150,slow=76,SNR=20							
COEN	Coen	42.13	266	eP		P	12 39 15.9	-0.1
	comp=Z,264nm,0.9s							
STKA	Stephens Creek	44.15	240	eP		P	12 39 30.8	-1.4
STKA				pmax		pmax		
	comp=Z,9.0nm,1.1s							
STKA	Stephens Creek	44.15	240	P		P	12 39 30.8	-1.4
	comp=Z,25nm,0.9s,baz=72,slow=7.3,SNR=24							
STKA				LR		LR	12 56 25.8	
	comp=Z,448nm,18.1s,baz=71,slow=34							
STKA	Stephens Creek	44.15	240	eP		P	12 39 30.8	-1.4
	comp=Z,8.7nm,1.1s							
BBOO	Buckleboo	48.93	240	eP		P	12 40 08.2	-1.4
	comp=Z,351nm,1.0s							
WB2	Warramunga Arr	49.97	257	eP		P	12 40 15.5	-2.2
WRAB	Tennant Creek	49.98	257	P		P	12 40 15.5	-2.3
	comp=Z,154nm,0.7s,SNR=21							
WRAB	Tennant Creek	49.98	257	c iP		P	12 40 14.8	-3.0
WRAB				pmax		pmax		
	comp=Z,103nm,1.2s							
WRAB	Tennant Creek	49.98	257	eP		P	12 40 15.8	-1.9
	comp=Z,79nm,1.6s							
WRA	Warramunga Arr	49.98	257	P		P	12 40 15.7	-2.2
	comp=Z,12nm,0.7s,baz=91,slow=6.9,SNR=165							
WRA				PcP		PcP	12 41 37.4	-0.2
	comp=Z,5.3nm,0.7s,baz=88,slow=3.8,SNR=7.3							
WRA				LR		LR	13 00 00.4	
	comp=Z,1µm,20.3s,baz=80,slow=34							
AS31	Alice Springs	50.24	252	eP		P	12 40 17.5	-2.3
ASAR	Alice Springs	50.25	252	P		P	12 40 18.1	-1.7
	comp=Z,23nm,0.6s,baz=86,slow=8.1,SNR=169							
ASAR				PcP		PcP	12 41 37.8	-0.8
	comp=Z,2.7nm,0.7s,baz=87,slow=5.6,SNR=3.2							
ASAR				LR		LR	13 00 09.7	
	comp=Z,2µm,20.5s,baz=92,slow=34							
FORT	Forrest	55.54	243	eP		P	12 40 56.9	-1.8
	comp=Z,37nm,0.8s							
SWI	Sorong	56.62	279	P		P	12 41 07.5	+0.8
	comp=Z,54nm,0.9s,comp=Z,941nm							
FITZ	Fitzroy Crossi	58.35	258	eP		P	12 41 19.1	+0.3
	comp=Z,5.9nm,0.9s							
SOEI	Soe	61.08	267	P		P	12 41 38.4	+0.6
	comp=Z,72nm,1.1s							
SOEI	Soe	61.08	267	eP		P	12 41 37.5	-0.3
	comp=Z,49nm,0.8s							
BATI	Baumata	61.56	267	LR		LR	13 06 27.2	
	comp=Z,736nm,21.1s,slow=34							
SBA	Scott Base	63.23	185	eP		P	12 41 53.6	+2.5
SBA				pmax		pmax		
	comp=Z,15nm,1.0s							
SBA	Scott Base	63.23	185	eP		P	12 41 53.6	+2.5
	comp=Z,15nm,1.0s							
VNDA	Vanda	63.36	186	eP		P	12 41 53.5	+1.5
VNDA	Vanda	63.36	186	P		P	12 41 53.2	+1.3
	comp=Z,5.8nm,0.9s,baz=3.6,slow=6.8,SNR=21							
VNDA	Vanda	63.36	186	eP		P	12 41 53.5	+1.5
NWAO	Narrogin (SRO)	64.74	241	LR		LR	13 10 38.4	
	comp=Z,272nm,18.6s,slow=36							
MPSI	Mapaga	67.82	277	P		P	12 42 22.1	+0.3
	comp=Z,12nm,1.0s							
MJAR	Matsushiro Arr	69.06	320	P		P	12 42 28.4	-0.7
	comp=Z,9.4nm,1.1s,baz=159,slow=6.4,SNR=12							
MJAR				LR		LR	13 07 04.0	
	comp=Z,501nm,21.9s,baz=110,slow=31							
MAT	Matsushiro	69.06	320	P		P	12 42 28.7	-0.4
MAT				S		S	12 51 29.2	-2.8
ASAJ	Asahikawa	71.64	328	eP		P	12 42 45.6	+0.9
	comp=Z,16nm,1.0s							
ARVC	Arvin	72.02	44	⇑P		P	12 42 48.3	+1.1
	baz=72							
VES	Vestal, Richgr	72.26	44	⇑P		P	12 42 49.3	+0.8
	baz=72							
PET	Petropavlovsk	72.35	343	eP		P	12 42 51.8	+3.1
PET				eS		S	12 52 12.0	+2.5
PET				pmax		pmax		
	comp=Z,100nm,10.8s							
PET				MLR		MLR		
	comp=Z,200nm,20.0s							
EDW2	Edwards Air Fo	72.46	45	⇑P		P	12 42 50.4	+0.5
	baz=73							
MONP	Monument Peak,	72.47	48	⇓P		P	12 42 50.7	+0.5
	baz=73							
ISA	Isabella, Lake	72.57	44	eP		P	12 42 51.4	+0.9
ISA				pmax		pmax		
	comp=Z,25nm,1.7s							
ISA	Isabella, Lake	72.57	44	⇓P		P	12 42 51.4	+0.9
	baz=73							
ISA	Isabella, Lake	72.57	44	eP		P	12 42 51.4	+0.9
	comp=Z,25nm,1.7s							
CMB	Columbia Colle	72.69	41	eP		P	12 42 52.6	+1.5
CMB				pmax		pmax		
	comp=Z,10.0nm,1.1s							
CMB	Columbia Colle	72.69	41	eP		P	12 42 52.6	+1.5
	comp=Z,9.7nm,1.1s							
PETK	Petropavlovsk-	72.70	342	P		P	12 42 51.0	+0.2
PETK	Petropavlovsk-	72.70	342	P		P	12 42 51.0	+0.2
	comp=Z,16nm,0.9s,baz=141,slow=9.6,SNR=12							
PETK				LR		LR	13 11 15.8	
	comp=Z,92nm,20.2s,baz=165,slow=33							
SWSC	Sam W. Stewart	72.94	48	⇑P		P	12 42 53.5	+0.8
	baz=73							
LRMC	Laurel Mtn Rad	72.99	45	⇑P		P	12 42 53.8	+0.7
	baz=73							
N02D	Trinity Center	73.06	38	⇑P		P	12 42 54.3	+1.0
	baz=73							
M02C	Callahan	73.23	37	⇓P		P	12 42 55.3	+1.0
	baz=73							
BELC	Belle Mtn. Jos	73.36	47	⇑P		P	12 42 56.0	+0.6
	baz=74							
GSC	Goldstone, Bar	73.50	45	eP		P	12 42 56.5	+0.5
GSC				pmax		pmax		
	comp=Z,15nm,1.3s							
GSC	Goldstone, Bar	73.50	45	⇓P		P	12 42 56.5	+0.5
	baz=74							
GSC	Goldstone, Bar	73.50	45	eP		P	12 42 56.5	+0.5
	comp=Z,15nm,1.3s							
BC3	Big Chuckawall	73.56	47	⇓P		P	12 42 57.3	+0.8
	baz=74							
WAKR	Walker	73.56	41	eP		P	12 42 58.7	+2.2
HEC	Hector,Ludlow	73.57	46	⇓P		P	12 42 57.2	+0.7
	baz=74							
YSS	Yuzh-Sakhalins	73.58	330	⇑iP		P	12 42 57.0	+0.9
YSS				pmax		pmax		
	comp=Z,50nm,1.0s							
YSS	Yuzh-Sakhalins	73.58	330	eP		P	12 42 56.9	+0.7
	comp=Z,48nm,0.9s							
GMRC	Granite Mounta	74.01	46	⇓P		P	12 42 59.2	0.0
	baz=74							
IRM	Iron Mountain	74.04	47	⇓P		P	12 42 59.5	+0.3
	baz=74							
GRAC	Grapevine Rang	74.05	44	⇑P		P	12 42 59.7	+0.5
	baz=74							
M04C	Macdoel	74.07	37	⇑P		P	12 42 60.0	+0.7
	baz=74							
FURC	Furnace Creek,	74.10	44	⇓P		P	12 42 59.9	+0.5
	baz=74							
TUQ	Turquoise Moun	74.18	46	⇑P		P	12 43 00.7	+0.7
	baz=74							
NVAR	Mina Array Bea	74.25	42	P		P	12 43 01.1	+0.6
	comp=Z,4.7nm,1.0s,baz=224,slow=8.7,SNR=18							
Y12C	Blythe	74.27	48	⇑P		P	12 43 01.0	+0.5
	baz=74							
113A	Mohawk Valley,	74.32	49	⇑P		P	12 43 01.3	+0.5
	baz=74							
QSPA	South Pole Qui	74.62	180	eP		P	12 43 03.0	+0.8
	comp=Z,37nm,1.1s							
TPH	Tonopah	74.75	43	eP		P	12 43 03.2	-0.2
TPH				pmax		pmax		
	comp=Z,13nm,1.0s							
TPH	Tonopah	74.75	43	eP		P	12 43 03.2	-0.2
	comp=Z,13nm,1.0s							
J04D	Umpqua Nationa	74.82	36	⇑P		P	12 43 04.7	+1.0
	baz=75							
PDMCI	Parker Dam,Lak	74.83	47	⇓P		P	12 43 04.1	+0.4
	baz=75							
I04A	Tendick Farm,	75.00	36	⇑P		P	12 43 05.4	+0.8
	baz=75							
MOD	Modoc Plateau	75.05	38	eP		P	12 43 05.5	+0.5
	comp=Z,16nm,1.1s							
K05A	Summer Lake	75.20	37	eP		P	12 43 06.8	+0.8
	comp=Z,512nm,3.0s							
Z14A	Wintersburg	75.21	49	⇑P		P	12 43 06.4	+0.5
	baz=75							
SHPR	Sheep Range	75.27	45	eP		P	12 43 05.8	-0.7
J05D	Fort Rock, OR	75.35	37	⇑P		P	12 43 07.5	+0.8
	baz=76							
W13A	Hualapai Mount	75.42	47	⇓P		P	12 43 07.9	+0.5
	baz=76							
Y14A	Wickenburg	75.46	48	⇓P		P	12 43 08.0	+0.5
	baz=76							
I05D	Terrebonne, OR	75.94	36	⇑P		P	12 43 10.9	+0.9
	baz=76							
R11A	Troy Canyon, C	75.98	43	⇑P		P	12 43 10.9	+0.4
	baz=76							
R11A	Troy Canyon, C	75.98	43	eP		P	12 43 09.9	-0.5
	comp=Z,35nm,2.1s							
BMN	Battle Mountai	76.08	41	eP		P	12 43 11.3	+0.4
BMN				pmax		pmax		
	comp=Z,21nm,1.4s							
BMN	Battle Mountai	76.08	41	eP		P	12 43 11.3	+0.4
	comp=Z,20nm,1.4s							
F04D	Rainier, OR	76.14	33	⇓P		P	12 43 11.9	+0.9
	baz=76							
KSRS	Korea Array	76.28	315	P		P	12 43 12.8	+0.9
	comp=Z,1.5nm,0.9s,baz=303,slow=35,SNR=5.0							
KSRS				LR		LR	13 11 12.7	
	comp=Z,166nm,21.4s,baz=112,slow=31							
TUC	Tucson	76.29	51	eP		P	12 43 12.2	-0.1
TUC				pmax		pmax		
	comp=Z,11nm,1.2s							
TUC	Tucson	76.29	51	eP		P	12 43 12.2	-0.1
	comp=Z,11nm,1.2s							
KSAR	Wonju Array Be	76.30	315	P		P	12 43 12.9	+0.8
KSAR	Wonju Array Be	76.30	315	P		P	12 43 12.8	+0.8
WVOR	Wild Horse Val	76.36	38	eP		P	12 43 11.3	-1.2
WVOR				pmax		pmax		
	comp=Z,12nm,1.0s							
WVOR	Wild Horse Val	76.36	38	eP		P	12 43 11.3	-1.2
	comp=Z,12nm,1.0s							
I07A	Izee	76.83	37	eP		P	12 43 15.6	+0.5
	comp=Z,19nm,1.2s							
VLA	Vladivostok	76.92	322	eP		P	12 43 16.8	+1.4
VLA				pmax		pmax		
	comp=Z,8.0nm,0.7s							
CCUT	Cedar City	77.04	45	eP		P	12 43 17.4	+0.8
	comp=Z,13nm,1.2s							
U15A	North Rim	77.21	46	⇓P		P	12 43 17.9	+0.3
	baz=77							
WUAZ	Wupatki	77.41	47	⇑P		P	12 43 19.0	+0.4
	baz=78							
WUAZ	Wupatki	77.41	47	eP		P	12 43 19.6	+1.0
	comp=Z,10nm,0.9s							
USRK	Ussuriysk Ar.	77.50	323	P		P	12 43 17.8	-0.9
	comp=Z,16nm,1.1s,baz=113,slow=5.0,SNR=13							
USRK				LR		LR	13 10 54.6	
	comp=Z,584nm,21.9s,baz=133,slow=31							
ELK	Elko	77.50	41	eP		P	12 43 19.2	+0.1
ELK				pmax		pmax		
	comp=Z,100nm,2.8s							
ELK	Elko	77.50	41	P		P	12 43 19.1	+0.1
	comp=Z,4.9nm,1.0s,baz=271,slow=23,SNR=11							
ELK	Elko	77.50	41	eP		P	12 43 19.2	+0.1
	comp=Z,100nm,2.8s							
G08A	Pilot Rock	77.87	36	eP		P	12 43 20.9	0.0
X18A	Snowflake	77.95	49	⇑P		P	12 43 22.0	+0.3
	baz=78							
E07A	Sunnyside	78.14	34	eP		P	12 43 22.6	+0.3
	comp=Z,24nm,1.0s							
E07A				epP		pP	12 43 33.5	+0.3
HAWA	Hanford	78.21	35	eP		P	12 43 22.9	+0.3
	comp=Z,33nm,1.3s							
MVU	Marysvale	78.31	45	eP		P	12 43 24.6	+1.0
	comp=Z,11nm,1.0s							
W18A	Petrified Fore	78.39	49	⇑P		P	12 43 24.0	0.0
	baz=79							
HABR	Khabarovsk	78.44	328	deP		P	12 43 22.3	-1.5
HABR				e			12 43 30.7	
HABR				e*PP		PcP	12 43 32.2	-0.6
HABR				e*SP		sP	12 43 36.2	-2.6
HABR				e			12 46 18.6	
HABR				PPP		PPP	12 48 06.9	
HABR				S		S	12 53 15.7	-1.5
HABR				eS		SKSac	12 53 28.3	-7.5
HABR				e			12 53 39.4	
HABR				pmax		pmax		
	comp=N,14nm,1.3s							
HABR				pmax		pmax		
	comp=E,28nm,1.2s							
HABR				pmax		pmax		
	comp=Z,86nm,1.5s							
HABR				MLR		MLR		
	comp=Z,178nm,17.0s							
RC01	Rabbit Creek A	78.54	11	eP		P	12 43 24.2	+0.1
	comp=Z,36nm,1.3s							
MFID	Camas Ranch	78.61	39	eP		P	12 43 25.1	+0.1
	comp=Z,14nm,1.0s							
121A	Cookes Peak, D	78.64	52	⇑P		P	12 43 25.4	-0.1
	baz=79							
DUG	Dugway, Tooele	78.78	43	⇓P		P	12 43 26.2	+0.2
	baz=79							
D08A	Wollman Farm,	78.95	34	eP		P	12 43 26.9	+0.3
	comp=Z,34nm,1.2s							
GAMB	Gambell	78.96	1	eP		P	12 43 26.8	+0.5
	comp=Z,22nm,1.3s							
E09A	Wood Farm, Sta	79.05	35	eP		P	12 43 27.1	-0.1
	comp=Z,318nm,3.0s							
PMR	Palmer	79.12	11	eP		P	12 43 26.7	-0.5
PMR				pmax		pmax		
	comp=Z,25nm,1.2s							
PMR	Palmer	79.12	11	eP		P	12 43 26.7	-0.5
	comp=Z,25nm,1.2s							
MDJ	Mudanjiang	79.14	322	P		P	12 43 28.7	+1.0
MDJ				pP		PcP	12 43 36.6	+0.6
MDJ				sP		sP	12 43 41.8	-0.9
MDJ				S		S	12 53 26.2	+1.3
MDJ				sS		sS	12 53 42.9	-0.1
MDJ				ScS		ScS	12 53 48.6	+1.0
MDJ				PMZ				
	comp=Z,13nm,1.4s							
MDJ				PMZ				
	comp=Z,150nm,4.9s							
MDJ				LN				
	comp=Z,170nm,25.0s							
MDJ				LE				
	comp=Z,270nm,26.6s							
MDJ				LZ				
	comp=Z,460nm,24.2s							
F10A	Beach Ranch, E	79.25	36	eP		P	12 43 27.9	-0.6
	comp=Z,20nm,1.0s							
TMUT	Trail Mountain	79.39	44	eP		P	12 43 30.9	+1.3
	comp=Z,33nm,1.1s							
TMUT				epP		PcP	12 43 36.6	-1.0
DIV	Divide	79.39	13	eP		P	12 43 28.6	-0.2
	comp=Z,22nm,1.0s							
MPU	Maple Canyon	79.46	43	eP		P	12 43 30.8	+0.9
	comp=Z,10nm,1.2s							
BMRM	Bremner River	79.51	14	eP		P	12 43 29.3	-0.1
	comp=Z,44nm,1.2s							
BMRM				epP		PcP	12 43 38.5	+1.2
B08A	Colville Reser	79.52	33	eP		P	12 43 29.2	-0.5
	comp=Z,20nm,1.1s							
HLID	Hailey	79.55	39	⇓P		P	12 43 30.4	+0.1
	baz=80,SNR=22							
HLID	Hailey	79.55	39	eP		P	12 43 30.5	+0.2
	comp=Z,18nm,1.0s							
Z22A	Elephant Butte	79.58	51	⇑P		P	12 43 30.9	+0.3
	baz=80							
HVU	Hansel Valley	79.63	41	eP		P	12 43 30.8	+0.1
HVU				pmax		pmax		
	comp=Z,15nm,1.1s							
HVU	Hansel Valley	79.63	41	eP		P	12 43 30.8	+0.1
	comp=Z,15nm,1.1s							
CTU	Camp Tracy	79.73	43	eP		P	12 43 31.9	+0.6
	comp=Z,14nm,1.3s							
CTU				epP		pP	12 43 43.5	+1.3
C09A	Chrisman Ranch	79.75	34	eP		P	12 43 30.9	0.0
	comp=Z,234nm,3.0s							
SRU	San Rafael Swe	79.76	45	eP		P	12 43 31.9	+0.4
SRU				pmax		pmax		
	comp=Z,11nm,1.0s							
SRU	San Rafael Swe	79.76	45	eP		P	12 43 31.9	+0.4
	comp=Z,11nm,1.0s							
JLU	Jordanelle	79.88	43	eP		P	12 43 32.5	+0.3
	comp=Z,12nm,1.2s							
JLU				epP		pP	12 43 44.0	+0.9
LAZ	Ladron	79.96	50	eP		P	12 43 32.9	+0.2
	comp=Z,11nm,1.6s							
MNTX	Cornudas Mount	80.12	53	eP		P	12 43 33.3	-0.1
	comp=Z,10nm,1.3s							
TCUT	Toone Canyon	80.17	43	eP		P	12 43 33.4	-0.4
	comp=Z,115nm,1.6s							
MVCO	Mesa Verde	80.25	47	⇓P		P	12 43 34.3	0.0
	baz=80							
LPM	Los Pinos Moun	80.30	50	eP		P	12 43 30.9	-3.6
NJ2	Nanjing	80.30	307	eP		P	12 43 33.6	-0.7
NJ2				PMZ				
	comp=Z,10.0nm,1.0s							
TXAR	Lajitas Array	80.50	56	P		P	12 43 36.0	+0.4
TXAR	Lajitas Array	80.50	56	P		P	12 43 36.0	+0.4
	comp=Z,6.5nm,1.1s,baz=224,slow=5.2,SNR=30							
Y23A	Lovelace Mesa,	80.56	51	⇑P		P	12 43 35.8	-0.1
	baz=81,SNR=5.7							
KTH	Kantishna Hill	80.61	10	eP		P	12 43 34.2	-1.2
	comp=Z,22nm,1.2s							
KLR	Kul'dur	80.62	327	eP		P	12 43 32.3	-3.4
TRF	Thorofare Moun	80.62	10	eP		P	12 43 34.8	-0.8
	comp=Z,19nm,1.0s							
PV01	Paradox Valley	80.63	46	eP		P	12 43 36.1	-0.2
	comp=Z,1µm,1.0s							
NEW	Newport	80.64	34	P		P	12 43 34.7	-1.2
	comp=Z,4.4nm,0.9s,baz=192,slow=3.9,SNR=7.8							
NEW	Newport	80.64	34	⇓P		P	12 43 35.6	-0.2
	baz=81							
ANMO	Albuquerque	80.70	50	ceP		P	12 43 37.1	+0.4
ANMO				pmax		pmax		
	comp=Z,35nm,1.0s							
ANMO	Albuquerque	80.70	50	P		P	12 43 36.5	-0.2
	comp=Z,6.1nm,0.9s,baz=221,slow=6.6,SNR=22							
ANMO	Albuquerque	80.70	50	eP		P	12 43 37.1	+0.4
X23A	Hourglass Bar	80.74	50	⇓P		P	12 43 37.1	+0.2
	baz=81							
V22A	San Miguel Ran	80.80	49	⇓P		P	12 43 37.2	0.0
	baz=81,SNR=5.6							
TNA	Tin City	80.84	2	eP		P	12 43 37.0	+0.6
	comp=Z,24nm,1.3s							
Y24A	Capitan	81.02	51	⇑P		P	12 43 38.6	+0.2
	baz=81,SNR=18							
W23A	Werner Place,	81.02	50	⇑P		P	12 43 38.4	0.0
	baz=81							
U22A	Llaves	81.05	48	⇑P		P	12 43 38.4	-0.1
	baz=81							
GDL2	Guadalupe Moun	81.12	53	eP		P	12 43 38.0	-0.9
MCK	McKinley	81.12	11	eP		P	12 43 37.3	-0.7
MCK				pmax		pmax		
	comp=Z,35nm,1.1s							
MCK	McKinley	81.12	11	eP		P	12 43 37.3	-0.7
	comp=Z,36nm,1.1s							
MCMT	McKenzie Canyo	81.18	39	eP		P	12 43 39.4	+0.3
	comp=Z,9.2nm,1.0s							
HYT	Haines Junctio	81.19	17	eP		P	12 43 38.5	-0.1
CN2	Changchun	81.20	320	eP		P	12 43 41.1	+2.2
CN2				esP		sP	12 43 54.0	+0.1
CN2				eS		S	12 53 47.9	+1.3
CN2				PMZ				
	comp=Z,10.0nm,0.8s							
CN2				PMZ				
	comp=Z,200nm,4.0s							
CN2				LN				
	comp=Z,300nm,17.0s							
CN2				LE				
	comp=Z,600nm,17.0s							
CN2				LZ				
	comp=Z,700nm,18.0s							
V23A	Ortiz Mt. (NFS	81.25	49	⇑P		P	12 43 40.2	+0.6
	baz=81,SNR=12							
MENT	Mentasta	81.45	13	eP		P	12 43 39.5	-0.3

LOHW	Long Hollow	81.94	41	eP	P	12 43 43.0	-0.1
	comp=Z,27nm,1.4s						
LRM	Limekiln Ridge	81.94	38	eP	P	12 43 43.0	-0.1
SWMT	Swartz Lake	81.95	36	eP	P	12 43 42.1	-0.8
	comp=Z,6.1nm,1.2s						
529A	Stev Forest Ra	81.97	56	⇑P	P	12 43 43.2	-0.2
	baz=82,SNR=13						
QLMT	Earthquake Lak	82.05	39	eP	P	12 43 44.5	+0.9
CHMT	Chamberlain Mo	82.06	37	eP	P	12 43 42.8	-0.8
N20A	Spence Gulch,	82.11	44	⇑P	P	12 43 44.4	+0.3
	baz=82,SNR=8.2						
I17A	Pilgrim Ck.	82.11	40	⇑P	P	12 43 44.6	+0.6
	baz=82,SNR=9.8						
FLWY	Flagg Ranch	82.11	40	eP	P	12 43 44.3	+0.4
	comp=Z,36nm,1.1s						
PDAR	Pinedale Array	82.19	42	P	P	12 43 44.0	-0.4
	comp=Z,9.2nm,1.1s,baz=209,slow=2.7,SNR=31						
PDAR				LR	LR	13 16 11.7	
	comp=Z,399nm,18.9s,baz=234,slow=33						
U24A	Moreno Valley	82.20	49	⇓P	P	12 43 45.5	+0.7
	baz=82						
YFT	Old Faithful	82.22	40	eP	P	12 43 46.8	+2.2
	comp=Z,25nm,1.4s						
SMCO	Snowmass	82.22	46	eP	P	12 43 44.9	0.0
	comp=Z,28nm,1.3s						
S23A	Nye Farm, Mont	82.25	48	⇑P	P	12 43 45.0	+0.1
	baz=82						
YMR	Madison River	82.25	40	eP	P	12 43 45.6	+0.9
	comp=Z,40nm,1.3s						
W25A	X Bar L Ranch,	82.30	50	⇑P	P	12 43 45.0	-0.1
	baz=82,SNR=9.0						
H17A	Grant Village	82.35	40	⇓P	P	12 43 46.0	+0.8
	baz=82,SNR=7.4						
H17A	Grant Village	82.35	40	eP	P	12 43 46.8	+1.5
	comp=Z,13nm,1.1s						
COLA	College	82.36	11	eP	P	12 43 43.8	-0.7
COLA				pmax	pmax		
	comp=Z,28nm,1.0s						
COLA	College	82.36	11	eP	P	12 43 43.8	-0.7
	comp=Z,28nm,1.0s						
T24B	San Luis	82.41	48	⇓P	P	12 43 46.1	+0.3
	baz=83,SNR=15						
429A	Davenport Ranc	82.42	55	⇓P	P	12 43 45.6	-0.2
	baz=83,SNR=19						
ILAR	Eielson Array	82.44	11	P	P	12 43 44.0	-1.0
ILAR	Eielson Array	82.44	11	P	P	12 43 44.0	-1.0
	comp=Z,5.4nm,1.1s,baz=213,slow=5.7,SNR=20						
ILAR				LR	LR	13 12 30.6	
	comp=Z,169nm,20.1s,baz=175,slow=30						
V25A	Rancho No Teng	82.44	50	⇓P	P	12 43 45.7	-0.2
	baz=83,SNR=26						
YNR	Norris Junctio	82.45	40	eP	P	12 43 48.4	+2.6
	comp=Z,48nm,1.6s						
228A	UT Block 9, Go	82.46	54	⇓P	P	12 43 45.8	-0.1
	baz=83						
IM04	Indian Mountai	82.47	8	eP	P	12 43 44.9	-0.1
X26A	CR and CF Fran	82.51	51	⇑P	P	12 43 46.2	0.0
	baz=83						
P22A	Eagle	82.56	46	⇑P	P	12 43 46.4	-0.1
	baz=83,SNR=11						
R23A	Moffat	82.58	47	⇓P	P	12 43 46.7	+0.1
	baz=83,SNR=15						
530A	J-C Ranch, Com	82.68	56	⇑P	P	12 43 46.8	-0.3
	baz=83,SNR=6.1						
329A	Wagon Wheel Ra	82.69	55	⇑P	P	12 43 46.7	-0.4
	baz=83,SNR=9.6						
Y27A	Causey	82.72	52	⇑P	P	12 43 46.8	-0.5
	baz=83,SNR=9.1						
128A	Castleberry Fa	82.74	53	⇓P	P	12 43 47.2	-0.1
	baz=83,SNR=8.9						
J19A	Crowheart	82.75	42	⇑P	P	12 43 47.2	0.0
	baz=83,SNR=15						
W26A	Owens Ranch, T	82.76	51	⇑P	P	12 43 47.5	0.0
	baz=83,SNR=5.1						
HRY	Holter Researc	82.78	38	eP	P	12 43 47.3	+0.1
S24A	Houchin Ranch,	82.78	48	⇑P	P	12 43 47.9	+0.1
	baz=83,SNR=18						
U25A	Circle Dot Ran	82.83	49	⇑P	P	12 43 47.9	0.0
	baz=83,SNR=23						
WALA	Waterton Lakes	82.85	35	eP	P	12 43 47.4	-0.2
Q23A	Hartsel	82.89	47	⇑P	P	12 43 48.4	+0.2
	baz=83						
O22A	Kremmling	82.96	45	⇑P	P	12 43 48.3	-0.3
	baz=83,SNR=23						
229A	Bryant Ranch,	83.01	54	⇑P	P	12 43 48.3	-0.4
	baz=83						
430A	Baggett Ranch,	83.01	56	⇓P	P	12 43 48.1	-0.7
	baz=83						
631A	Perdido Creek	83.02	57	⇑P	P	12 43 48.5	-0.3
	baz=83						
V26A	Tequesquite Ra	83.04	50	⇑P	P	12 43 48.4	-0.5
	baz=83,SNR=7.6						
H18A	Shoshone NF, C	83.06	40	⇓P	P	12 43 48.7	-0.2
	baz=83						
MSTX	Muleshoe	83.06	52	⇓P	P	12 43 48.7	-0.3
	baz=83,SNR=9.0						
QIZ	Qiongzhong	83.06	292	P	P	12 43 49.4	+0.3
QIZ				S	S	12 54 06.6	0.0
QIZ				PMZ			
	comp=Z,160nm,4.5s						
QIZ				LE			
	comp=Z,130nm,22.7s						
QIZ				LZ			
	comp=Z,350nm,24.0s						
Z28A	Tucker Farm, M	83.08	53	⇑P	P	12 43 49.0	-0.1
	baz=83,SNR=6.3						
X27A	F and S Farms,	83.08	51	⇓P	P	12 43 49.3	+0.1
	baz=83,SNR=6.9						
832A	Faith Ranch, C	83.09	58	⇓P	P	12 43 49.1	0.0
	baz=83,SNR=6.7						
P23A	Jefferson	83.10	46	⇓P	P	12 43 49.6	+0.2
	baz=83,SNR=6.9						
T25A	Trinidad	83.14	49	⇑P	P	12 43 49.5	0.0
	baz=83,SNR=11						
I19A	Meeteetse	83.16	41	⇑P	P	12 43 49.4	-0.1
	baz=83,SNR=14						
W27A	Bowe Ranch, En	83.28	51	⇑P	P	12 43 49.6	-0.5
	baz=84,SNR=14						
330A	Mertzon	83.29	55	⇓P	P	12 43 49.8	-0.4
	baz=84						
N22A	Wattenberg Ran	83.31	45	⇓P	P	12 43 50.1	-0.2
	baz=84,SNR=19						
U26A	Atchley Ranch,	83.32	50	⇓P	P	12 43 50.2	-0.2
	baz=84,SNR=7.2						
531A	Rocksprings	83.32	56	⇓P	P	12 43 50.2	-0.2
	baz=84,SNR=16						
S25A	Robets Cordova	83.35	48	⇓P	P	12 43 50.4	-0.1
	baz=84,SNR=19						
Q24A	Divide	83.40	47	⇓P	P	12 43 51.0	+0.1
	baz=84,SNR=11						
DAWY	Dawson	83.41	14	eP	P	12 43 50.3	+0.2
O23A	Lake Granby, G	83.41	45	⇓P	P	12 43 50.9	0.0
	baz=84,SNR=10						
J20A	Shoshoni	83.41	42	⇑P	P	12 43 50.8	+0.1
	baz=84,SNR=28						
933A	Laredo	83.43	59	⇑P	P	12 43 50.7	-0.2
	baz=84						
Y28A	McKinney Farm,	83.43	52	⇑P	P	12 43 50.7	-0.2
	baz=84						
ISCO	Idaho Springs	83.44	46	eP	P	12 43 51.3	+0.2
ISCO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ISCO	Idaho Springs	83.44	46	⇑P	P	12 43 51.1	0.0
	baz=84,SNR=8.5						
ISCO	Idaho Springs	83.44	46	eP	P	12 43 51.3	+0.2
	comp=Z,8.2nm,1.0s						
431A	Sonora	83.47	56	⇑P	P	12 43 50.6	-0.5
	baz=84						
H19A	Powell	83.47	40	⇑P	P	12 43 51.2	+0.3
	baz=84,SNR=26						
M22A	Cedar Creek Ra	83.49	44	⇓P	P	12 43 51.3	0.0
	baz=84,SNR=11						
833A	Chaparral WMA,	83.58	58	⇓P	P	12 43 51.5	-0.2
	baz=84						
Z29A	Hungry Hill Ra	83.59	53	⇑P	P	12 43 51.8	+0.1
	baz=84						
EGAK	Eagle	83.61	13	eP	P	12 43 51.1	+0.2
	comp=Z,184nm,2.8s						
K21A	Alcova	83.62	43	⇓P	P	12 43 51.4	-0.4
	baz=84,SNR=15						
R25A	Fountain Ranch	83.66	48	⇑P	P	12 43 51.6	-0.4
	baz=84,SNR=16						
I20A	Worland	83.67	41	⇑P	P	12 43 51.8	-0.1
	baz=84,SNR=24						
632A	Uvalde	83.69	57	⇓P	P	12 43 52.2	0.0
	baz=84,SNR=6.6						
N23A	Red Feather La	83.70	45	⇑P	P	12 43 52.3	0.0
	baz=84,SNR=14						
X28A	Dimmitt	83.71	52	⇓P	P	12 43 52.0	-0.4
	baz=84,SNR=7.8						
034A	Hebbronville	83.72	60	⇓P	P	12 43 52.5	0.0
	baz=84						
V27A	Dan Oppiter Fa	83.73	50	⇓P	P	12 43 52.2	-0.2
	baz=84						
T26A	Comanche Natio	83.75	49	⇑P	P	12 43 52.5	-0.2
	baz=84						
J21A	Lysite	83.82	42	⇑P	P	12 43 52.5	-0.3
	baz=84,SNR=38						
532A	Rocksprings	83.83	57	⇓P	P	12 43 52.6	-0.3
	baz=84,SNR=6.7						
Y29A	Porterfield Fa	83.85	53	⇓P	P	12 43 52.8	-0.3
	baz=84,SNR=13						
L22A	Ellis Ranch, M	83.88	44	⇑P	P	12 43 52.8	-0.4
	baz=84,SNR=15						
O24A	Longmont	83.96	46	⇓P	P	12 43 53.8	+0.2
	baz=84						
H20A	Greybull	84.00	41	⇓P	P	12 43 53.2	-0.4
	baz=84,SNR=19						
U27A	Thompson Grove	84.01	50	⇓P	P	12 43 53.1	-0.7
	baz=84,SNR=10						
Q25A	Bedland, Calha	84.01	47	⇓P	P	12 43 53.8	-0.1
	baz=84						
S26A	Kim	84.03	49	⇓P	P	12 43 53.2	-0.7
	baz=84,SNR=11						
JCT	Junction City	84.04	56	eP	P	12 43 53.8	-0.2
JCT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
JCT	Junction City	84.04	56	⇑P	P	12 43 53.8	-0.2
	baz=84						
JCT	Junction City	84.04	56	eP	P	12 43 53.8	-0.2
	comp=Z,4.5nm,0.8s						
Z30A	Sanderson Ranc	84.05	53	⇑P	P	12 43 53.2	-0.9
	baz=84,SNR=12						
X29A	Tulia	84.06	52	⇓P	P	12 43 53.6	-0.5
	baz=84,SNR=6.2						
K22A	Casper	84.10	43	⇑P	P	12 43 53.8	-0.5
	baz=84,SNR=9.4						
K22A	Casper	84.10	43	eP	P	12 43 54.0	-0.3
	comp=Z,31nm,1.4s						
M23A	Laramie	84.10	44	⇓P	P	12 43 54.1	-0.2
	baz=84						
I21A	Big Trails, Te	84.14	42	⇑P	P	12 43 54.0	-0.4
	baz=84,SNR=29						
COLD	Coldfoot	84.15	9	eP	P	12 43 54.5	+0.8
	comp=Z,14nm,1.2s						
231A	Bronte	84.17	55	⇓P	P	12 43 53.8	-0.9
	baz=84,SNR=8.2						
633A	Saathoff Ranch	84.17	57	⇑P	P	12 43 54.3	-0.4
	baz=84						
V28A	Channing	84.18	51	⇓P	P	12 43 54.4	-0.4
	baz=84						
432A	Menard	84.19	56	⇑P	P	12 43 54.5	-0.3
	baz=84						
834A	Tilden	84.21	59	⇑P	P	12 43 54.8	-0.1
	baz=84						
PHWY	Pilot Hill	84.21	45	eP	P	12 43 54.7	-0.3
	comp=Z,10nm,1.0s						
G20A	Bridger	84.22	40	⇑P	P	12 43 54.9	+0.2
	baz=84,SNR=5.8						
AMTX	Amarillo	84.25	52	⇓P	P	12 43 55.1	0.0
	baz=84						
AMTX	Amarillo	84.25	52	eP	P	12 43 54.0	-1.0
	comp=Z,27nm,0.9s						
AMTX				epP	pP	12 44 05.6	-0.5
P25A	Willow Gulch B	84.32	47	⇑P	P	12 43 55.5	0.0
	baz=84,SNR=13						
R26A	Arlington	84.33	48	⇓P	P	12 43 55.1	-0.3
	baz=84,SNR=20						
T27A	Campo	84.34	49	⇑P	P	12 43 55.1	-0.5
	baz=84,SNR=6.7						
W29A	Amarillo	84.36	51	⇑P	P	12 43 55.4	-0.2
	baz=84,SNR=7.6						
131A	Roby	84.39	54	⇓P	P	12 43 55.4	-0.4
	baz=85						
N24A	Carr	84.39	45	⇑P	P	12 43 56.0	+0.2
	baz=85,SNR=7.8						
L23A	Garrett	84.41	44	⇓P	P	12 43 55.7	-0.2
	baz=85,SNR=19						
332A	Millersview	84.42	55	⇑P	P	12 43 55.6	-0.3
	baz=85,SNR=11						
U28A	Mallet	84.43	50	⇓P	P	12 43 55.8	-0.2
	baz=85						
Y30A	Stafford Cattl	84.45	53	⇑P	P	12 43 55.6	-0.5
	baz=85,SNR=6.8						
E19A	Rath Farm, Rou	84.47	39	⇓P	P	12 43 55.9	0.0
	baz=85,SNR=15						
J22A	Midwest	84.48	42	⇓P	P	12 43 55.8	-0.3
	baz=85,SNR=19						
533A	Kerrville	84.51	57	⇓P	P	12 43 56.2	-0.2
	baz=85						
Q26A	Hugo	84.53	47	⇓P	P	12 43 56.3	-0.2
	baz=85						
F20A	Billings	84.54	40	⇓P	P	12 43 56.2	0.0
	baz=85,SNR=9.3						
BILL	Bilibino	84.56	352	eP	P	12 43 55.8	+0.1
BILL				pmax	pmax		
	comp=Z,30nm,1.5s						
BILL	Bilibino	84.56	352	eP	P	12 43 55.8	+0.1
	comp=Z,30nm,1.5s						
EGMT	Eagleton	84.66	37	⇑P	P	12 43 56.9	0.0
	baz=85,SNR=8.3						
EGMT	Eagleton	84.66	37	eP	P	12 43 56.6	-0.2
	comp=Z,26nm,1.1s						
H21A	Big Horn, Sher	84.67	41	⇑P	P	12 43 56.8	-0.2
	baz=85,SNR=8.4						
232A	Coleman	84.68	55	⇓P	P	12 43 56.5	-0.8
	baz=85,SNR=7.8						
X30A	Coker Ranch, T	84.69	52	⇑P	P	12 43 56.8	-0.5
	baz=85,SNR=6.5						
I22A	9 Mile Ranch,	84.69	42	⇓P	P	12 43 57.1	0.0
	baz=85,SNR=9.8						
433A	Art	84.71	56	⇑P	P	12 43 56.7	-0.7
	baz=85,SNR=10						
M24A	Cheyenne	84.71	45	⇑P	P	12 43 57.3	0.0
	baz=85,SNR=5.8						
K23A	Bowen Ranch, D	84.74	43	⇑P	P	12 43 57.2	-0.2
	baz=85,SNR=6.8						
D19A	Cripps Ranch,	84.75	38	⇑P	P	12 43 57.8	+0.5
	baz=85,SNR=21						
V29A	Stinnett	84.75	51	⇓P	P	12 43 57.6	0.0
	baz=85						
R27A	Eads	84.78	48	⇓P	P	12 43 57.5	-0.2
	baz=85						
T28A	Walsh	84.81	49	⇑P	P	12 43 57.5	-0.3
	baz=85						
Z31A	Sharp Cattle R	84.82	54	⇑P	P	12 43 57.4	-0.5
	baz=85,SNR=10						
E20A	Meyer Farm, Mu	84.88	39	⇑P	P	12 43 58.1	+0.1
	baz=85,SNR=16						
P26A	Davis Ranch, A	84.92	47	⇓P	P	12 43 58.2	-0.2
	baz=85						
C19A	Slack Wire Ran	84.93	38	⇑P	P	12 43 58.3	+0.2
	baz=85						
534A	Blanco	84.94	57	⇑P	P	12 43 58.1	-0.5
	baz=85,SNR=7.0						
ABTX	Abilene, Hawle	84.95	54	⇑P	P	12 43 58.5	-0.2
	baz=85,SNR=18						
ABTX	Abilene, Hawle	84.95	54	eP	P	12 43 58.4	-0.2
	comp=Z,40nm,1.0s						
Y31A	Rekieta Farm,	84.97	53	⇓P	P	12 43 58.2	-0.5
	baz=85,SNR=10						
333A	Richland Sprin	85.00	56	⇑P	P	12 43 58.3	-0.5
	baz=85,SNR=7.0						
H22A	Clearmont	85.10	41	⇓P	P	12 43 59.6	+0.5
	baz=85						
S28A	Manter	85.15	49	⇑P	P	12 43 59.6	+0.1
	baz=85						
D20A	Manuel Ranch,	85.16	38	⇑P	P	12 43 59.4	0.0
	baz=85,SNR=19						
F21A	Absaloka Mine,	85.18	40	⇑P	P	12 44 00.3	+0.8
	baz=85						
M25A	Palm-Egli Farm	85.22	45	⇑P	P	12 44 00.5	+0.6
	baz=85						
233A	Rising Star	85.32	55	⇑P	P	12 44 00.4	0.0
	baz=86						
V30A	Spur Ranch, Mi	85.33	51	⇓P	P	12 44 00.5	0.0
	baz=86						
B19A	Brinkman Farms	85.34	37	⇓P	P	12 44 00.1	-0.1
	baz=86,SNR=13						
434A	Burnet	85.39	56	⇑P	P	12 44 00.7	-0.1
	baz=86,SNR=7.9						
G22A	Birney	85.42	41	⇓P	P	12 44 01.0	+0.3
	baz=86						
X31A	McDonald Ranch	85.44	52	⇑P	P	12 44 00.7	-0.3
	baz=86,SNR=6.3						
P27A	Ficken Ranch,	85.46	47	⇑P	P	12 44 00.8	-0.3
	baz=86						
R28A	Tribune	85.52	48	⇑P	P	12 44 01.4	+0.1
	baz=86,SNR=8.4						
133A	Hamilton Ranch	85.52	55	⇓P	P	12 44 01.3	-0.1
	baz=86,SNR=6.9						
C20A	Veseth Ranch,	85.54	38	⇑P	P	12 44 01.5	+0.3
	baz=86,SNR=18						
E21A	Keefer Ranch,	85.54	39	⇓P	P	12 44 01.7	+0.5
	baz=86,SNR=5.2						
BJI	Beijing	85.60	313	P	P	12 44 01.8	+0.3
BJI				PP	PP	12 47 20.8	-0.1
BJI				S	S	12 54 30.9	-0.3
BJI				SS	SS	13 00 05.1	-3.0
BJI				PMZ			
	comp=Z,12nm,1.1s						
BJI				LN			
	comp=Z,220nm,14.6s						
BJI				LE			
	comp=Z,180nm,15.6s						
BJI				LZ			
	comp=Z,210nm,25.9s						
334A	Lometa	85.60	56	⇓P	P	12 44 01.4	-0.4
	baz=86,SNR=11						
Y32A	R-V Farms, Ver	85.62	53	⇓P	P	12 44 01.8	-0.1
	baz=86,SNR=11						
J24A	Dixon Ranch, L	85.63	43	⇑P	P	12 44 02.4	+0.6
	baz=86						
U30A	WK&E Inc. Balk	85.66	50	⇓P	P	12 44 02.5	+0.4
	baz=86						
W31A	Holland Ranch,	85.68	52	⇑P	P	12 44 01.8	-0.3
	baz=86,SNR=6.3						
A19A	Klindworth Far	85.69	37	⇓P	P	12 44 01.6	-0.3
	baz=86,SNR=8.2						
F22A	Rosebud	85.70	40	⇓P	P	12 44 02.1	+0.1
	baz=86						
D21A	La Casta Ranch	85.84	39	⇑P	P	12 44 02.8	+0.1
	baz=86,SNR=7.0						
B20A	Solberg Farm,	85.88	37	⇓P	P	12 44 02.6	-0.2
	baz=86,SNR=6.7						
Z33A	Whitaker Ranch	85.88	54	⇑P	P	12 44 02.8	-0.4
	baz=86,SNR=10						
X32A	Elmer	85.90	53	⇑P	P	12 44 02.7	-0.6
	baz=86,SNR=12						
234A	Clairette	85.92	55	⇑P	P	12 44 03.0	-0.4
	baz=86,SNR=6.1						
V31A	Spring Creek L	85.97	51	⇑P	P	12 44 04.7	+1.0
	baz=86						
G23A	Biddle	85.98	41	⇓P	P	12 44 03.1	-0.3
	baz=86,SNR=5.0						
A20A	Cobblestone Ra	86.14	37	⇑P	P	12 44 03.8	-0.3
	baz=86,SNR=17						
134A	White-Moore Ra	86.17	55	⇑P	P	12 44 04.5	-0.1
	baz=86						
W32A	Sentinel	86.19	52	⇑P	P	12 44 04.5	-0.2
	baz=86,SNR=14						
F23A	Volborg	86.20	41	⇓P	P	12 44 04.4	-0.2
	baz=86,SNR=6.8						
335A	Moody	86.23	56	⇑P	P	12 44 04.6	-0.3
	baz=86						
Y33A	Hilltop Ranch,	86.25	53	⇑P	P	12 44 04.5	-0.5
	baz=86,SNR=5.1						
H24A	Dirks Ranch, A	86.31	42	⇑P	P	12 44 04.3	-0.9
	baz=86,SNR=5.8						
Q29A	Oakley	86.33	48	⇑P	P	12 44 05.3	0.0
	baz=86						
K26A	Motz Farm, Whi	86.34	44	⇑P	P	12 44 05.4	0.0
	baz=86						
D22A	Cohagen	86.37	39	⇑P	P	12 44 05.3	0.0
	baz=87,SNR=5.2						
RSSD	Black Hills	86.38	42	eP	P	12 44 04.9	-0.7
RSSD				e*PP	pP	12 44 16.5	-0.2
RSSD				pmax	pmax		
	comp=Z,7.0nm,1.0s						
RSSD	Black Hills	86.38	42	eP	P	12 44 04.9	-0.7
	comp=Z,7.4nm,1.0s						
RSSD				epP	pP	12 44 16.5	-0.2
WHTX	Lake Whitney,	86.45	56	⇑P	P	12 44 06.2	+0.2
	baz=87						
B21A	Ellsworth Farm	86.46	38	⇑P	P	12 44 06.5	+0.8
	baz=87						
I25A	Rochford	86.53	43	⇓P	P	12 44 06.8	+0.5
	baz=87						
V32A	Arapaho	86.56	52	⇓P	P	12 44 07.4	+0.9
	baz=87						
T31A	Randall Ranch,	86.60	50	⇑P	P	12 44 07.0	+0.3
	baz=87						
R30A	Dighton	86.61	49	⇓P	P	12 44 07.0	+0.3
	baz=87						
P29A	Atwood	86.64	48	⇑P	P	12 44 06.7	-0.2
	baz=87						
J26A	Sides Ranch, S	86.67	43	⇓P	P	12 44 07.0	+0.1
	baz=87						
135A	Vickery Place,	86.69	55	⇑P	P	12 44 07.8	+0.6
	baz=87						
537A	Green Hill Far	86.72	58	⇑P	P	12 44 07.6	+0.3
	baz=87						
336A	Riesel	86.73	56	⇑P	P	12 44 07.7	+0.3
	baz=87						
A21A	Bergtoll Ranch	86.78	37	⇓P	P	12 44 06.9	-0.3
	baz=87,SNR=7.5						
C22A	Vida	86.82	39	⇑P	P	12 44 07.5	0.0
	baz=87						
U32A	Winter Ranch,	86.83	51	⇓P	P	12 44 08.0	+0.2
	baz=87						
F24A	Ekalaka	86.86	41	⇓P	P	12 44 08.4	+0.6
	baz=87						
H25A	Fruitdale	86.88	42	⇑P	P	12 44 08.4	+0.5
	baz=87						
Y34A	Reagan Ranch,	86.91	54	⇑P	P	12 44 08.2	0.0
	baz=87						
Q30A	Quinter	86.91	48	⇑P	P	12 44 08.4	+0.2
	baz=87						
D23A	Lindsay	86.97	39	⇓P	P	12 44 08.7	+0.4
	baz=87						
B22A	Reddig Ranch S	87.00	38	⇑P	P	12 44 07.9	-0.5
	baz=87,SNR=8.9						
HKT	Hockley	87.07	58	eP	P	12 44 09.3	+0.4
HKT				pmax	pmax		
	comp=Z,48nm,1.9s						
HKT	Hockley	87.07	58	eP	P	12 44 09.3	+0.4
	comp=Z,48nm,1.9s						
X34A	Smith Ranch, M	87.08	53	⇑P	P	12 44 09.5	+0.5
	baz=87						
Z35A	Perchaven, San	87.08	54	⇑P	P	12 44 09.3	+0.2
	baz=87						
P30A	Selden	87.11	48	⇓P	P	12 44 09.5	+0.3
	baz=87						
437A	Phantom Ranch,	87.11	57	⇓P	P	12 44 09.4	+0.2
	baz=87						
R31A	Burdett	87.15	49	⇑P	P	12 44 09.4	+0.1
	baz=87						
V33A	Lossen Ranch,	87.17	52	⇑P	P	12 44 09.6	+0.2
	baz=87						
C23A	Lambert	87.27	39	⇑P	P	12 44 09.4	-0.3
	baz=87,SNR=5.3						
HIA	Hailar	87.31	323	eP	P	12 44 09.9	+0.1
HIA				pmax	pmax		
	comp=Z,11nm,1.1s						
HIA	Hailar	87.31	323	eP	P	12 44 09.9	+0.1
	comp=Z,11nm,1.1s						
J27A	Elkhorn Farm,	87.35	44	⇓P	P	12 44 10.2	-0.1
	baz=88						
A22A	Carney Farms,	87.37	37	⇑P	P	12 44 10.2	+0.1

GYA S **S** 12 54 55.0 -2.1
GYA sS **sS** 12 55 13.6 -1.9
GYA SS **SS** 13 00 47.4 +0.5
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,6.4s
GYA LN
comp=Z,530nm,20.6s
GYA LE
comp=Z,480nm,19.3s
GYA LZ
comp=Z,560nm,20.2s
I28A Midland 88.21 43 ⇓P **P** 12 44 14.1 -0.2
baz=88
G27A Dupree 88.27 42 ⇓P **P** 12 44 14.1 -0.4
baz=88
R33A Olander Ranch, 88.29 50 ⇑P **P** 12 44 14.6 -0.2
baz=88
K29A Lazy Trails An 88.30 45 ⇑P **P** 12 44 14.6 -0.1
baz=88
238A Jacksonville 88.33 56 ⇓P **P** 12 44 15.4 +0.4
baz=88
A24A Westby 88.47 38 ⇓P **P** 12 44 15.7 +0.3
baz=89
J29A Okreek 88.54 44 ⇑P **P** 12 44 15.4 -0.4
baz=89
D26A Manning 88.62 40 ⇓P **P** 12 44 16.0 -0.1
baz=89
Q33A Connelly Farm, 88.65 49 ⇓P **P** 12 44 16.2 -0.2
baz=89
PSI Prapat 88.65 273 LR LR 13 25 52.7
comp=Z,136nm,19.5s,baz=110,slow=37
B25A Knox Farm, Ray 88.69 39 ⇑P **P** 12 44 17.0 +0.6
baz=89
O32A Brockman Farm, 88.78 48 ⇓P **P** 12 44 17.3 +0.2
baz=89
I29A Vivian Onida 88.79 44 ⇓P **P** 12 44 17.1 +0.1
baz=89
A25A Svangstu Ranch 89.00 38 ⇑P **P** 12 44 18.3 +0.5
baz=89
J30A Dallas 89.07 44 ⇑P **P** 12 44 18.5 +0.2
baz=89
HHC Hu-ho-hao-te 89.16 313 *e*P **P** 12 44 19.6 +0.7
HHC pP **pP** 12 44 30.2 +0.2
HHC sP **sP** 12 44 37.0 +3.0
HHC PP **PP** 12 47 50.7 +1.0
HHC S **S** 12 55 03.2 -2.4
HHC sS **sS** 12 55 25.3 +1.2
HHC SS **SS** 13 01 03.8 +3.4
HHC PMZ
comp=Z,23nm,0.9s
HHC PMZ
comp=Z,310nm,4.9s
HHC LN
comp=Z,330nm,16.2s
HHC LE
comp=Z,2µm,16.2s
HHC LZ
comp=Z,280nm,17.2s
C26A Wahner Farm, P 89.16 40 ⇓P **P** 12 44 18.8 +0.2
baz=89
YAK Yakutsk 89.20 337 *e*P **P** 12 44 15.4 -3.0
YAK pmax pmax
comp=Z,10.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.5s
PLCA Paso Flores 89.38 132 P **P** 12 44 20.9 +0.8
comp=E,6.0nm,1.2s,baz=151,slow=4.0,SNR=3.0
PLCA LR LR 13 15 30.6
comp=E,348nm,20.7s,baz=286,slow=30
A26A Wade Farm, Ken 89.63 39 ⇑P **P** 12 44 20.8 -0.1
baz=90
YKA Yellowknife Ar 90.06 23 P **P** 12 44 21.9 -0.5
comp=E,3.2nm,1.0s,baz=235,slow=4.4,SNR=41
MDND Maddock 90.71 40 ⇓P **P** 12 44 24.8 -1.1
baz=91
D30A Buchanan 90.97 41 ⇑P **P** 12 44 26.1 -1.0
baz=91
JTS JuntasAbangare 91.07 80 *e*P **P** 12 44 29.8 +1.5
JTS pmax pmax
comp=Z,21nm,1.3s
JTS JuntasAbangare 91.07 80 *e*P **P** 12 44 29.8 +1.5
comp=Z,21nm,1.3s
ECSD EROS Data Cent 91.17 45 ⇓P **P** 12 44 27.4 -0.7
baz=91
KMI Kunming 91.17 296 P **P** 12 44 30.0 +1.2
KMI S **S** 12 55 25.6 +0.4
KMI PMZ
comp=Z,10.0nm,0.8s
KMI LN
comp=Z,130nm,12.4s
KMI LE
comp=Z,180nm,19.3s
KMI LZ
comp=Z,280nm,32.6s
A29A Manning Farm, 91.35 39 ⇑P **P** 12 44 28.7 -0.1
baz=92
C30A Mose, Pekin 91.36 41 ⇓P **P** 12 44 28.8 -0.1
baz=92
A30A Hoffart Farm, 91.92 40 ⇑P **P** 12 44 31.1 -0.4
baz=92
CD2 Chengdu 91.95 301 *e*P **P** 12 44 31.7 -0.4
SYO Syowa Base 92.60 191⇑*e*P **P** 12 44 32.5 -1.8
ATAH Atahualpa 92.77 98 LR LR 13 16 22.0
comp=Z,694nm,19.3s,baz=214,slow=29
CMAR Chiang Mai Arr 92.77 288 P **P** 12 44 35.0 -1.0
comp=Z,0.8nm,0.3s,baz=113,slow=2.9,SNR=10.0
CMAR LR LR 13 20 22.9
comp=Z,168nm,21.9s,baz=120,slow=32
SNAA Sanae 92.87 177*ce*P **P** 12 44 35.8 +0.2
SNAA pmax pmax
comp=Z,9.0nm,1.1s
SNAA Sanae 92.87 177 *e*P **P** 12 44 36.3 +0.7
comp=Z,23nm,1.4s
AGMN Agassiz Nation 93.22 41 ⇑P **P** 12 44 37.0 -0.4
baz=93
AGMN Agassiz Nation 93.22 41 *e*pP pP 12 44 48.1 -0.4
LZH Lanzhou 93.36 306 *e*P **P** 12 44 39.3 +0.7
LZH pP **pP** 12 44 49.6 -0.1
LZH sP **sP** 12 44 55.2 +1.5
LZH PMZ
comp=Z,15nm,1.1s
LZH PMZ
comp=Z,81nm,4.5s
LZH LN
comp=Z,150nm,15.1s
LZH LE
comp=Z,390nm,15.8s
LZH LZ
comp=Z,280nm,17.2s
ULN Ulaanbaatar 94.55 318*ce*P **P** 12 44 43.5 -0.3
ULN pmax pmax
comp=Z,4.0nm,1.4s
ULN Ulaanbaatar 94.55 318 *e*P **P** 12 44 45.1 +1.3
comp=Z,10nm,1.4s
SONM Songino Array 94.97 318 P **P** 12 44 46.4 +0.7
comp=Z,1.0nm,0.9s,baz=119,slow=8.9,SNR=4.7
SONM LR LR 13 22 20.9
comp=Z,217nm,21.8s,baz=130,slow=32
TIXI Tiksi 95.07 344⇓*e*P **P** 12 44 45.0 -0.4
TIXI pmax pmax
comp=Z,3.0nm,1.3s
TIXI Tiksi 95.07 344 *e*P **P** 12 44 44.4 -0.9
comp=Z,28nm,2.3s
ZAK Zakamensk 97.64 320 *e*P **P** 12 44 55.9 -1.8
ZAK *e* 12 48 58.7
ZAK pmax pmax
comp=Z,3.0nm,1.4s
LPAZ La Paz 99.66 110 LR LR 13 20 21.1
comp=Z,159nm,18.7s,baz=301,slow=30
KSH Kashi 115.61 307 *e*PKP **PKPdf** 12 50 06.1 +0.5
KSH sPKP 12 50 20.1
KSH PP **PP** 12 51 10.0 +1.6
KSH PKS **PKSdf** 12 53 42.7 +0.3
KSH SKS **SKSdf** 12 57 15.9 +0.6
KSH SS **SS** 13 07 11.3 +5.1
KSH PPMZ
comp=Z,73nm,3.9s
KSH LN
comp=Z,87nm,5.1s
KSH LE
comp=Z,69nm,5.0s
KSH LZ
comp=Z,150nm,5.9s
BVAR Borovoye Array 118.00 322 PKP **PKPdf** 12 50 08.9 -0.7
comp=Z,2.1nm,0.7s,baz=96,slow=1.5,SNR=11
BRVK Borovoye 118.05 322 *i* PKIKP **PKPdf** 12 50 09.4 -0.3
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 118.05 322 *e*PKPdf **PKPdf** 12 50 09.4 -0.3
SOKR Solikamsk 122.87 332 *i* PKIKP **PKPdf** 12 50 14.8 -3.9
SOKR pmax pmax
comp=Z,8.0nm,0.8s
ARU Arti 123.44 328 *i* PKIKP **PKPdf** 12 50 19.4 -0.5
ARU 12 52 00.1
ARU 12 57 17.5
ARU Arti 123.44 328 *e*PKPdf **PKPdf** 12 50 19.4 -0.5
ARCES ARCESS Array B 124.66 352 PKP **PKPdf** 12 50 21.3 -0.6
comp=Z,5.0nm,0.9s,baz=327,slow=2.0,SNR=5.8
ABKAR Akbulak array 125.33 320 *e*PKPdf **PKPdf** 12 50 23.9 +0.1
AKTO Aktyubinsk 126.10 322 PKP **PKPdf** 12 50 24.7 -0.5
comp=Z,2.2nm,0.9s,baz=76,slow=4.0,SNR=6.8
PRGR Permogore 126.22 338 *e*PKIKP **PKPdf** 12 50 23.4 -1.7
KLMR Klimovskoe 128.87 340 *e*PKIKP **PKPdf** 12 50 28.3 -1.9
KLMR pmax pmax
comp=Z,23nm,1.5s
GEYT Alibeck 129.65 307 PKP **PKPdf** 12 50 32.0 -0.5
comp=Z,0.7nm,0.4s,baz=113,slow=12,SNR=3.6
OBN Obninsk 134.20 337 *i* PKIKP **PKPdf** 12 50 40.6 +0.2
OBN pmax pmax
comp=Z,54nm,2.5s
OBN MLR MLR
comp=Z,167nm,24.0s
AKASG Malin Array Be 140.42 338 PKP **PKPdf** 12 50 50.9 -1.1
comp=Z,6.8nm,1.0s,baz=32,slow=1.9,SNR=7.2
CLL Collm 143.86 353 *e*PKIKP PKPbc 12 50 55.7 -0.2
CLL Collm 143.86 353 *e*PKPdf PKPbc 12 50 56.0 +0.1
comp=Z,6.0nm,1.0s
CLL *ep*PKPdf pPKPdf 12 51 06.0 -3.6
CLL *ep*PKiKP pPKiKP 12 51 12.0 -1.1
CLL *e*SS SS 13 12 46.0 -4.8
CLL *e*(SSS) 13 18 54.0
CLL *e*(SSSS) 13 22 54.0
CLL Collm 143.86 353 *e*PKPdf PKPbc 12 50 55.7 -0.2
TSUM Tsumeb 143.98 198 *e*PKPdf PKPbc 12 50 57.7 +0.4
STHS Stebnicka Huta 144.10 344 *e*PKIKP PKPbc 12 50 57.6 +0.9
STHS Stebnicka Huta 144.10 344 *e*PKP PKPbc 12 50 57.5 +0.8
BRG Berggiesshubel 144.17 352 *e*P PKPdf 12 51 12.6 +14
comp=Z,7.9nm,1.1s
UPC Upice 144.22 350 *e*PKIKP PKPbc 12 50 57.3 +0.3
UPC Upice 144.22 350 *e*PKP PKPbc 12 50 57.3 +0.3
UPC *ex* x 12 50 59.7
KOLS Kolonicke sedl 144.25 342 *e*PKIKP PKPbc 12 50 57.0 -0.2
KOLS Kolonicke sedl 144.25 342 *e*PKP PKPbc 12 50 57.0 -0.2
DPC Dobruska-Polom 144.31 349 *e*PKIKP PKPbc 12 50 57.9 +0.5
DPC *e* 12 51 08.8
DPC Dobruska-Polom 144.31 349 *e*PKP PKPbc 12 50 57.9 +0.5
DPC *ex* x 12 51 01.8
DPC *ep*PKP pPKPdf 12 51 08.8 -1.7
DPC Dobruska-Polom 144.31 349 *e*PKPdf PKPbc 12 50 58.0 +0.6
PVCC Panska Ves 144.42 351 *e*PKIKP **PKPdf** 12 50 59.5 +0.3
PVCC Panska Ves 144.42 351 *e*PKP **PKPdf** 12 50 59.5 +0.3
BURAR Bucovina Array 144.45 338 ⇑PKIKP PKPbc 12 50 58.6 +0.6
BURAR Bucovina Array 144.45 338⇑*i*P PKPbc 12 50 58.5 +0.5
OKC Ostrava-Krasne 144.45 347 *e*PKIKP PKPbc 12 50 58.1 +0.3
OKC *e* 12 51 08.3
OKC Ostrava-Krasne 144.45 347 *e*PKP PKPbc 12 50 58.1 +0.3
OKC *ex* x 12 51 02.6
OKC *ep*PKP pPKPdf 12 51 08.3 -2.4
KRLC Kraliky 144.50 349 *e*PKIKP PKPbc 12 50 57.9 -0.1
KRLC *e* 12 51 08.8
KRLC Kraliky 144.50 349 *e*PKP PKPbc 12 50 57.9 -0.1
KRLC *ex* x 12 51 01.9
KRLC *ep*PKP pPKPdf 12 51 08.8 -2.1
UZH Uzhgorod 144.51 342⇓*i*PKIKP **PKPab** 12 50 57.7 0.0
UZH *i* 12 51 08.3
MORC Moravsky Berou 144.63 348 ⇓PKIKP PKPbc 12 50 58.6 +0.2
MORC Moravsky Berou 144.63 348⇓*i*P PKPbc 12 50 58.6 +0.2
MORC Moravsky Berou 144.63 348 *e*PKPdf PKPbc 12 50 58.5 +0.1
MOX Moxa 144.65 355 *e*PKPbc **PKPab** 12 50 57.8 -0.4
MOX *eL* L 13 49 40.5
comp=Z,302nm,21.2s
TANN Tannenbergstha 144.80 354 *e*PKPbc **PKPab** 12 50 58.5 -0.4
TESR Tescani 144.84 336⇓*i*P **PKPab** 12 50 59.0 -0.1
TRPA Tarpa 144.88 342⇓*i*P PKPbc 12 50 59.5 +0.3
PRU Pruhonice 144.95 351 *e*PKIKP PKPbc 12 50 59.6 +0.2
PRU MLR MLR
comp=Z,300nm,19.0s
PRU Pruhonice 144.95 351 *e*PKP PKPbc 12 50 59.6 +0.2
PRU *ex* x 12 51 03.2
PRU AMS AMS 13 54 10.0
comp=Z,300nm,19.0s
BCLA Clavier 145.08 2 PKP **PKPbc** 12 50 59.0 -0.8
VRAC Vranov 145.27 349 PKPbc **PKPab** 12 51 00.5 -0.1
comp=Z,4.5nm,0.6s,baz=353,slow=3.2,SNR=14
TNS Taunus Mts 145.27 358 *e*PKPbc **PKPbc** 12 51 00.3 -0.2
CFR Carcaliu 145.29 333 ⇓PKIKP **PKPdf** 12 51 00.8 0.0
CFR Carcaliu 145.29 333⇓*i*P **PKPdf** 12 51 00.8 0.0
VRI Vrincioaia 145.33 335 ⇓PKIKP **PKPab** 12 51 00.9 0.0
VRI Vrincioaia 145.33 335⇓*i*P **PKPab** 12 51 00.9 0.0
DOU Dourbes 145.38 2 PKP **PKPbc** 12 50 59.4 -1.3
ROTZ Rotzenmuhle 145.47 354 *e*PKPbc **PKPab** 12 51 01.3 0.0
TREC Trest 145.48 350 *e*PKIKP **PKPdf** 12 51 00.7 -0.4
TREC MLR MLR
comp=Z,400nm,17.2s
TREC Trest 145.48 350 *e*PKP **PKPdf** 12 51 00.7 -0.4
TREC *ex* x 12 51 04.7
TREC AMS AMS 13 59 00.0
comp=Z,400nm,17.2s
VYHS Vyhne 145.56 346 *e*PKIKP **PKPbc** 12 51 01.4 0.0
VYHS Vyhne 145.56 346 *e*PKP **PKPbc** 12 51 01.4 0.0
GRF Grafenberg Arr 145.63 355 *e*PKPbc **PKPbc** 12 51 01.7 +0.1
GRF *eL* L 13 48 41.5
comp=Z,241nm,21.4s
GRFO Grafenberg 145.63 355 *e*PKIKP **PKPbc** 12 51 01.6 0.0
GRFO Grafenberg 145.63 355 *e*PKPdf **PKPbc** 12 51 01.6 0.0
KMBO Kilima Mbogo 145.66 244*c* *i*PKP2 **PKPab** 12 51 04.1 +0.7
KMBO pmax pmax
comp=Z,19nm,1.1s
KMBO Kilima Mbogo 145.66 244 PKPbc **PKPbc** 12 51 03.2 +0.2
comp=Z,19nm,1.1s,baz=89,slow=3.3,SNR=13
KMBO Kilima Mbogo 145.66 244 PKPbc **PKPbc** 12 51 03.2 +0.2
KMBO *e*PKPab **PKPab** 12 51 03.5 +0.1
TIRR Tirgusor 145.73 332 ⇑PKP2 **PKPbc** 12 51 02.1 +0.1
TIRR Tirgusor 145.73 332⇑*i*P **PKPbc** 12 51 02.1 +0.1
PSZ Piszkesteto 145.83 344 *e*PKP2 **PKPab** 12 51 02.8 0.0
PSZ Piszkesteto 145.83 344⇓*e*PKPdf **PKPab** 12 51 02.7 0.0
PSZ Piszkesteto 145.83 344 *e*PKPab **PKPab** 12 51 02.8 0.0
WLF Walferdange 145.85 1 PKP **PKPab** 12 51 03.1 +0.4
WLF Walferdange 145.85 1 *e*PKP2 **PKPbc** 12 51 02.2 0.0
WLF Walferdange 145.85 1 *e*PKPbc **PKPab** 12 51 02.6 -0.1
WLF Walferdange 145.85 1 *e*PKPdf **PKPbc** 12 51 02.2 0.0
KHC Kasperske Hory 145.93 352 *e*PKP2 **PKPbc** 12 51 02.4 -0.1
KHC Kasperske Hory 145.93 352 *e*PKP **PKPbc** 12 51 02.4 -0.1
KHC *ex* x 12 51 06.9
KHC *ep*PKP **pPKPdf** 12 51 13.4 +0.1
KHC *ex* x 12 51 21.0
KHC Kasperske Hory 145.93 352 *e*PKPdf **PKPbc** 12 51 02.4 -0.1
MLR Muntele Rosu 145.96 336 ⇓PKP2 **PKPbc** 12 51 03.0 +0.1
MLR Muntele Rosu 145.96 336⇓*i*P **PKPbc** 12 51 03.0 +0.1
MLR Muntele Rosu 145.96 336 PKPbc **PKPab** 12 51 03.2 -0.2
comp=Z,8.4nm,1.1s,baz=12,slow=3.2,SNR=16
WET Wettzell 146.00 353 *e*PKPbc **PKPbc** 12 51 02.6 -0.2
ISR Istrita 146.02 335 ⇑PKP2 **PKPab** 12 51 04.0 +0.5
ISR Istrita 146.02 335⇑*i*P **PKPab** 12 51 04.0 +0.5
GEC2 GERESS Array S 146.19 352 *e*PKPbc **PKPbc** 12 51 03.1 -0.3
GERES GERESS Array B 146.19 352 PKPbc **PKPbc** 12 51 03.5 0.0
comp=Z,5.1nm,0.9s,baz=45,slow=2.1,SNR=25
BRTR Keskin Array B 146.27 321 PKPbc **PKPbc** 12 51 04.2 +0.2
comp=Z,32nm,1.0s,baz=108,slow=2.7,SNR=31
VOIR 146.35 336 ⇓PKP2 **PKPab** 12 51 04.7 -0.1
VOIR 146.35 336⇓*i*P **PKPab** 12 51 04.7 -0.1
LANF Langenberg 146.53 359 PKP **PKPbc** 12 51 04.2 -0.1
ARR Arges 146.57 337⇓*i*P **PKPab** 12 51 05.9 +0.2
ANTO Ankara 146.69 322 *e*PKP2 **PKPbc** 12 51 05.1 -0.1
ANTO Ankara 146.69 322 *e*PKPbc **PKPbc** 12 51 05.1 -0.1
CONA Conrad Observa 146.73 349⇓*i*PKPdf **PKPdf** 12 51 02.2 -1.1
comp=Z,3.2nm,1.1s
CONA *i* PKPab **PKPbc** 12 51 05.4 +0.4
comp=Z,13nm,1.0s,SNR=7.2
MOA Molln 147.08 351⇓*e*PKPab **PKPbc** 12 51 06.3 +0.4
comp=Z,26nm,1.4s
FUR Furstenfeldbru 147.14 354 *e*PKPbc **PKPbc** 12 51 06.4 +0.3
BFO Black Forest 147.16 358*c* *i*PKP2 **PKPbc** 12 51 06.3 +0.1
BFO Black Forest 147.16 358 *e*PKPbc **PKPbc** 12 51 05.8 -0.4
BFO Black Forest 147.16 358 *e*PKPbc **PKPbc** 12 51 05.5 -0.6
THEF They Montfort 147.29 1 PKP **PKPbc** 12 51 06.6 +0.1
ECH Echery 147.30 360 *e*PKP2 **PKPbc** 12 51 06.2 -0.3
ECH Echery 147.30 360 PKP **PKPdf** 12 51 05.3 +1.1
ECH Echery 147.30 360 *e*PKPbc **PKPbc** 12 51 06.2 -0.3
RJOB Jochberg 147.40 352 *e*PKPbc **PKPbc** 12 51 06.8 -0.1
BZS Buzias 147.41 340 ⇓PKP2 **PKPbc** 12 51 06.6 -0.3
BZS Buzias 147.41 340⇓*i*P **PKPbc** 12 51 06.6 -0.3
ARSA Arzberg 147.44 349⇓*e*PKPab **PKPbc** 12 51 06.8 -0.2
comp=Z,14nm,1.2s
MOF Molkenrain 147.67 360 PKP **PKPbc** 12 51 06.7 -1.0
PKSM Moragy 147.73 344 ⇓PKP2 **PKPbc** 12 51 07.1 -0.6
PKSM Moragy 147.73 344⇓*i*P **PKPbc** 12 51 07.1 -0.6
PKSM Moragy 147.73 344⇓*e*PKPdf **PKPbc** 12 51 07.6 -0.1
WATA Walderalm 147.93 354⇓*e*PKPab **PKPbc** 12 51 08.4 -0.1
comp=Z,3.3nm,0.5s
KBA Koelnbreinsper 147.97 351⇑*i*PKPbc **PKPdf** 12 51 05.7 +0.1
comp=Z,2.4nm,0.7s
KBA ⇑*i*sPKPdf **sPKPdf** 12 51 19.4 -1.5
comp=Z,14nm,1.0s
MOTA Moosalm 147.97 354⇑*e*PKPbc **PKPbc** 12 51 07.4 -1.2
comp=Z,13nm,1.1s
WTTA Wattenberg 148.00 354⇑*i*PKiKP **PKPbc** 12 51 08.7 0.0
comp=Z,19nm,1.2s
SOKA Soboth 148.09 349⇓*i*PKPdf **PKPdf** 12 51 03.2 -2.5
comp=Z,9.2nm,1.5s
SOKA ⇑*i*PKiKP **PKPbc** 12 51 09.1 +0.2
comp=Z,13nm,1.1s
DAVA Damuels 148.13 356 *i* PKiKP **PKPbc** 12 51 09.4 +0.4
comp=Z,21nm,1.1s,SNR=5.7
LOMF Lomont 148.17 360 PKP **PKPbc** 12 51 08.7 -0.3
FETA Feichten 148.33 355⇑*i*PKPdf **PKPdf** 12 51 05.8 -0.3
comp=Z,4.6nm,1.1s
FETA ⇑*i*PKiKP **PKPbc** 12 51 09.8 +0.3
comp=Z,10nm,1.0s
ABTA Abfaltersbach 148.41 352⇓*i*PKPbc **PKPbc** 12 51 09.2 -0.4
comp=Z,14nm,1.0s
GOLS Golise 148.62 348 *e*PKPbc **PKPbc** 12 51 09.4 -0.7
DAVOX Davos/Dischmat 148.63 356 PKPbc **PKPbc** 12 51 10.7 +0.4
baz=346,slow=3.5
GCIS Gornji Cirnik 148.75 348 *e*PKPbc **PKPbc** 12 51 10.0 -0.4
TUE Stuetta 148.97 357 *e*PKPab **PKPbc** 12 51 11.6 +0.3
BOJS Bojanci 149.18 348 *e*PKPbc **PKPbc** 12 51 11.3 -0.2
AGO Saint Agoulin 149.32 5 PKP **PKPbc** 12 51 10.3 -1.6
PLDF La Plantade 149.44 4 PKP **PKPdf** 12 51 09.8 +2.0
MMB Musomiste 150.08 334 ⇓PKP2 **PKPbc** 12 51 14.1 +0.1
MMB Musomiste 150.08 334⇓*i*P **PKPbc** 12 51 14.1 +0.1
LBL Lubilhac 150.14 5 PKP **PKPdf** 12 51 10.5 +1.5
BNI Bardonecchia 150.47 0 *e*PKIKP **PKPbc** 12 51 15.8 +0.9
BNI Bardonecchia 150.47 0 *e*PKPdf **PKPbc** 12 51 15.8 +0.9
SKO Skopje 150.67 337 *e*PKP **PKPbc** 12 51 15.1 -0.2
VAY Valandovo 150.79 335 *e*PKP **PKPab** 12 51 23.4 +0.8
OHR Ohrid 151.66 337 *e*PKP **PKPbc** 12 51 15.9 -1.8
ESDC Sonseca Array 154.09 19 PKPbc **PKPbc** 12 51 22.8 -0.4
comp=Z,0.3nm,0.4s,baz=333,slow=2.8,SNR=3.6
ESDC PKPab **PKPab** 12 51 35.8 -0.8
comp=Z,2.1nm,0.8s,baz=320,slow=2.5,SNR=8.8
TORD Torodi Ar. Bea 174.59 114 PKP **PKPdf** 12 51 31.6 -2.1
comp=Z,1.8nm,1.0s,baz=16,slow=0.9,SNR=8.4
TORD PKPab **PKPab** 12 53 06.5 -0.8
comp=Z,1.7nm,1.1s,baz=278,slow=3.7,SNR=3.4

GUC **11** *12:43:35.7±0.4, 37.°17S×74.°29W, h35km±5km, ML4.7*
IDC **11** *12:43:37.1±0.7, 37.°22S×73.°85W, h0km, mb4.4/11,*
mb1 4.6/13, mb1mx4.5/19, mbtmp4.4/13, ML3.8/3, MS4.0/1,
Ms1 4.0/1, ms1mx3.4/12, Error ellipse: s-maj=24.2km
s-min=13.8km az=79.0
ISCJB **11** *12:43:40.5±0.4, 37.°17S±0.°05×73.°75W±0.°09, h33km,*
mb4.7/29, Error ellipse: s-maj=10.7km s-min=6.2km
az=163.3
NEIC **11** *12:43:42.4±0.3, 37.°17S×73.°77W, h35km, mb4.8/17, Error*
ellipse: s-maj=8.5km s-min=5.4km az=77.0

ISC 11 12:43:42.2±0.5, 37.°17S±0.°06×73.°89W±0.°09, h35km, n61,
σ1°00/61, mb4.6/29, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.71**	**63**	*e*P1	**Pn**	**12 43 53.7**	**-1.9**
CCSP				*i* S1	**Sn**	**12 44 07.0**	**+1.6**
CCSP				AML	AML	12 44 13.8	
comp=N,42µm,0.5s							
AGCH	**Angol**	**1.14**	**124**	⇑*i*P	**Pn**	**12 44 00.3**	**-1.4**
AGCH				*i* S1	**Sn**	**12 44 18.6**	**+2.5**
COCH	**Cobquecura**	**1.37**	**41**	⇑*i*P	**Pn**	**12 44 02.7**	**-2.0**
PLCA	**Paso Flores**	**4.41**	**145**	Pn	**Pn**	**12 44 45.0**	**-1.6**
comp=N,2.1nm,0.3s,baz=317,slow=11,SNR=48							
PLCA				LR	LR	12 45 50.9	
comp=N,2µm,21.2s,baz=318,slow=31							
PLCA				Lg	Lg	12 45 56.5	
comp=N,12nm,0.3s,baz=7.2,slow=19,SNR=3.2							
CFAA	**Coronel Fontan**	**7.26**	**42**	Pn	**Pn**	**12 45 24.2**	**-1.6**
comp=N,0.4nm,0.3s,baz=204,slow=14,SNR=25							
CFAA				Lg		12 47 39.3	
comp=N,0.4nm,0.3s,baz=271,slow=12,SNR=5.5							
LCO	**Las Campanas**	**8.57**	**19**	*e*Pn	**Pn**	**12 45 42.2**	**-1.8**
comp=N,98nm,1.1s							
TRQA	**Tornquist**	**9.49**	**99**	*e*Pn	**Pn**	**12 45 56.4**	**0.0**
LVC	**Limon Verde**	**15.14**	**18**	*e*Pn	**Pn**	**12 47 13.1**	**-0.6**
comp=N,180nm,1.7s							
USHA	**Ushuaia**	**18.05**	**170**	P	**Pn**	**12 47 49.9**	**-0.1**
comp=N,0.3nm,0.3s,baz=335,slow=5.2,SNR=4.0							
EFI	**East Falkland**	**18.32**	**147**	P	**P**	**12 47 52.0**	**-1.2**
comp=N,412nm,0.7s,SNR=7.6							
LPAZ	**La Paz**	**21.42**	**15**	P	**P**	**12 48 29.5**	**+1.7**
comp=N,43nm,1.3s,baz=174,slow=8.8,SNR=16							
LPAZ	**La Paz**	**21.42**	**15**	*e*P	**P**	**12 48 28.9**	**+1.1**
comp=N,8.0nm,0.5s							
SIV	**San Ignacio**	**23.96**	**32**	P	**P**	**12 48 54.4**	**+1.0**
comp=N,6.4nm,0.8s,baz=228,slow=10.0,SNR=19							
SAML	**Samuel**	**29.73**	**22**	*e*P	**P**	**12 49 45.1**	**0.0**
comp=N,5.8nm,1.1s							
BDFB	**Brasilia**	**31.40**	**54**	P	**P**	**12 49 59.4**	**-0.7**
comp=N,5.3nm,0.8s,baz=192,slow=10,SNR=4.9							
OTAV	**Otavalo**	**37.46**	**352**	*e*P	**P**	**12 50 54.0**	**+1.2**
comp=N,14nm,1.3s							
SDV	**Santo Domingo**	**45.92**	**4**	*e*P	**P**	**12 52 01.6**	**-0.2**
comp=N,11nm,0.9s							
VNA3	**Neumayer Olymp**	**47.03**	**157**	P	**P**	**12 52 10.0**	**+0.3**
VNA2	**Neumayer--Watz**	**47.71**	**156**	P	**P**	**12 52 14.8**	**-0.2**
SNAA	**Sanae**	**49.25**	**157**	P	**P**	**12 52 27.0**	**+0.2**
SNAA	**Sanae**	**49.25**	**157**	P	**P**	**12 52 26.6**	**-0.3**
comp=N,4.9nm,1.0s,baz=279,slow=8.5,SNR=11							
SNAA	**Sanae**	**49.25**	**157**	*e*P	**P**	**12 52 26.7**	**-0.2**
QSPA	**South Pole Qui**	**53.07**	**180**	P	**P**	**12 52 55.0**	**-0.7**
comp=N,5.3nm,1.0s,baz=275,slow=1.8,SNR=9.1							
QSPA	**South Pole Qui**	**53.07**	**180**	*e*P	**P**	**12 52 55.5**	**-0.2**
APG	**El Apazote**	**54.20**	**340**	P	P	12 53 01.4	-3.2
comp=N,5.9nm,0.9s,baz=324,slow=21,SNR=4.4							
JCT	**Junction City**	**71.54**	**337**	*e*P	**P**	**12 55 00.0**	**+0.5**
comp=N,10nm,1.0s							
TXAR	**Lajitas Array**	**71.81**	**333**	P	**P**	**12 55 02.3**	**+1.1**
comp=N,1.9nm,0.8s,baz=154,slow=8.4,SNR=21							
SWET	**Sewanee**	**72.89**	**350**	*e*P	**P**	**12 55 07.5**	**+0.1**
comp=N,84nm,1.2s							
ABTX	**Abilene, Hawle**	**73.48**	**338**	*e*P	**P**	**12 55 11.1**	**0.0**
comp=N,9.7nm,1.1s							
WVT	**Waverly**	**74.07**	**348**	*e*P	**P**	**12 55 14.0**	**-0.3**
comp=N,4.8nm,0.9s							
MNTX	**Cornudas Mount**	**74.57**	**332**	*e*P	**P**	**12 55 16.9**	**-0.4**
comp=N,3.1nm,1.1s							
PVMO	**Portageville**	**74.67**	**347**	*e*P	**P**	**12 55 17.7**	**-0.1**
USIN	**University of**	**75.84**	**349**	P	**P**	**12 55 24.5**	**+0.1**
LIC	**Lamto**	**77.20**	**72**	*e*PKP1	**P**	**12 55 33.0**	**+0.2**
comp=N,77nm,1.2s							
TIC	**Toumodi**	**77.48**	**72**	*e*PKP1	**P**	**12 55 33.9**	**-0.5**
comp=N,7.5nm,0.2s							
ACSO	**Alum Creek Sta**	**77.48**	**353**	*e*P	**P**	**12 55 33.7**	**0.0**
comp=N,10nm,0.9s							
KIC	**Kosan Boka**	**77.51**	**72**	*e*PKP1	**P**	**12 55 34.2**	**-0.3**
comp=N,84nm,1.1s							
DBIC	**Dimbokro**	**77.62**	**72**	P	**P**	**12 55 35.6**	**+0.5**
comp=N,9.4nm,1.0s,baz=189,slow=4.5,SNR=7.2							
DBIC	**Dimbokro**	**77.62**	**72**	*e*P	**P**	**12 55 34.8**	**-0.3**
comp=N,25nm,1.3s							
ANMO	**Albuquerque**	**77.88**	**333**	*e*P	**P**	**12 55 37.5**	**+1.1**
comp=N,15nm,1.1s							
BOSA	**Boshof**	**79.92**	**118**	P	**P**	**12 55 48.7**	**+0.8**
comp=N,6.9nm,1.0s,baz=265,slow=7.9,SNR=6.0							
BAR	**Barrett**	**80.15**	**324**	*e*P	**P**	**12 55 49.5**	**+0.9**
LBTB	**Lobatse**	**82.33**	**115**	*e*P	**P**	**12 56 01.0**	**+0.3**
comp=N,22nm,0.8s							
SHPR	**Sheep Range**	**82.68**	**328**	*e*P	**P**	**12 56 04.1**	**+2.0**
comp=N,3.5nm,1.1s							
ECSD	**EROS Data Cent**	**83.13**	**344**	*e*P	**P**	**12 56 03.8**	**-0.2**
comp=N,28nm,1.0s							
NVAR	**Mina Array Bea**	**85.66**	**327**	P	**P**	**12 56 17.7**	**+0.4**
comp=N,0.7nm,0.9s,baz=158,slow=5.6,SNR=5.2							

PDAR Pinedale Array 85.94 335 P **P 12 56 19.2 +0.7**
comp=N,2.1nm,1.1s,baz=159,slow=4.6,SNR=6.5
TORD Torodi Ar. Bea 86.69 71 P **P 12 56 22.4 -0.3**
comp=N,2.3nm,0.7s,baz=223,slow=4.0,SNR=13
MDND Maddock 87.70 343 *eP* **P 12 56 27.5 +0.8**
comp=N,4.0nm,1.0s
GEYT Alibeck 142.28 74 PKhKP PKPpre 13 03 07.2
comp=N,1.8nm,0.6s,baz=123,slow=5.3,SNR=3.9
AKTO Aktyubinsk 143.49 53 PKhKP PKPpre 13 03 09.4
comp=N,3.4nm,0.9s,baz=4.1,slow=1.8,SNR=10
ABKAR Akbulak array 144.78 55 *e*PKPdf PKPbc 13 03 13.8 0.0
PSI Prapat 145.16 167 PKPbc **PKPbc 13 03 15.8 -0.5**
comp=N,22nm,0.9s,baz=156,slow=4.5,SNR=18
HYB Hyderabad 148.77 122 *i* PKP **PKPbc 13 03 25.0 -1.3**
BVAR Borovoye Array 150.60 46 PKPbc **PKPbc 13 03 30.7 +1.0**
comp=N,4.3nm,0.8s,baz=279,slow=2.9,SNR=17
BVAR PKPab **PKPab 13 03 38.0 +1.4**
comp=N,2.3nm,0.7s,baz=270,slow=3.0,SNR=6.7
AAK Ala-Archa 155.23 67 PKPbc PKPbc 13 03 42.0
comp=N,2.6nm,0.9s,baz=208,slow=4.7,SNR=8.3
KURBB Kurchatov Arra 156.18 47 PKPab **PKPab 13 04 00.1 -0.1**
comp=N,2.2nm,0.9s,baz=290,slow=3.8,SNR=7.2
KURK Kurchatov 156.19 47 PKPab **PKPab 13 04 00.1 -0.2**
ZALV Zalesovo Beam 157.70 34 PKP **PKPdf 13 03 33.7 -0.5**
comp=N,1.7nm,0.9s,baz=280,slow=0.9,SNR=6.2
ZALV PKPab **PKPab 13 04 05.2 -1.5**
comp=N,2.9nm,0.8s,baz=318,slow=2.0,SNR=11
MKAR Makanchi Array 159.92 54 PKP **PKPdf 13 03 37.5 +0.5**
comp=N,1.3nm,1.0s,baz=277,slow=1.0,SNR=5.8
MKAR PKPab **PKPab 13 04 14.8 -1.9**
comp=N,3.0nm,1.0s,baz=318,slow=1.6,SNR=8.3
SONM Songino Array 169.34 359 PKPab **PKPab 13 04 58.4 +0.3**
comp=N,1.3nm,1.0s,baz=350,slow=2.4,SNR=4.6

IDC ***11*** *12:44:07.1±0.6,37°.25S×73°.69W,h0km,mb4.7/17, mb1 4.8/19,mb1mx4.8/23,mbtmp4.7/19,ML4.3/2,MS4.1/3, Ms1 4.1/3,ms1mx3.9/13,Error ellipse: s-maj=20.9km s-min=12.5km az=78.0*
BJI ***11*** *12:44:07.0,38°.30S×71°.80W,h47km,mB5.2/9,Ms5.3/8, Ms7 5.1/8*
ISCJB ***11*** *12:44:09.5±0.3,37°.11S±0°.06×73°.55W±0°.09,h23km, mb5.0/75,MS4.5/4,Error ellipse: s-maj=10.9km s-min=7.1km az=152.4*
MOS ***11*** *12:44:10.5±1.1,37°.22S×73°.55W,h33km,mb5.3/21,Error ellipse: s-maj=27.2km s-min=8.9km az=105.4*
NEIC ***11*** *12:44:13.0±0.7,37°.26S×73°.51W,h42km±6km,mb5.1/54, Error ellipse: s-maj=11.0km s-min=7.3km az=69.0*
NEIC Felt [II] at Temuco. Also felt at Chiguayante, Concepcion, Valdivia, Victoria and Villarrica. Felt at Cutral-Co, Argentina.
ISC 11 12:44:10.5±0.4,37°.22S±0°.07×73°.61W±0°.10,h23km,n443, σ0°.97/409,mb5.1/75,MS4.8/5,133C-142D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.24**	**147**	Pn	**Pn**	**12 45 11.7**	**-2.1**
	9.4nm,0.3s,baz=342,slow=20,SNR=9.1						
PLCA				Lg	Lg	12 46 23.6	
	16nm,0.3s,baz=242,slow=7.3,SNR=1.9						
CFAA	**Coronel Fontan**	**7.15**	**40**	Pn	**Pn**	**12 45 54.0**	**+0.3**
	1.0nm,0.3s,baz=224,slow=15,SNR=5.9						
CFAA				Lg	Lg	12 48 06.5	
	0.5nm,0.3s,baz=312,slow=17,SNR=3.7						
CFAA				LR	LR	12 49 08.0	
	comp=Z,795nm,18.4s,baz=226,slow=42						
EFI	**East Falkland**	**18.16**	**148**	*eP*	**P**	**12 48 23.6**	**+2.4**
LPAZ	**La Paz**	**21.41**	**15**	P	**P**	**12 48 59.0**	**+1.6**
	43nm,1.1s,baz=167,slow=9.8,SNR=7.6						
SIV	**San Ignacio**	**23.89**	**31**	P	**P**	**12 49 24.5**	**+2.0**
	14nm,1.0s,baz=225,slow=11,SNR=9.0						
NNA	**Nana**	**25.29**	**353**	LR	LR	12 57 34.8	
	comp=Z,394nm,21.2s,baz=175,slow=32						
SAML	**Samuel**	**29.69**	**21**	*eP*	**P**	**12 50 14.1**	**-0.6**
	25nm,1.3s						
ATAH	**Atahualpa**	**30.26**	**351**	P	**P**	**12 50 20.1**	**-0.1**
	0.9nm,0.3s,baz=118,slow=3.9,SNR=4.0						
BDFB	**Brasilia**	**31.24**	**53**	P	**P**	**12 50 29.2**	**+0.6**
	13nm,1.0s,baz=223,slow=9.6,SNR=8.2						
OTAV	**Otavalo**	**37.54**	**352**	*eP*	**P**	**12 51 25.1**	**+1.7**
	83nm,1.6s						
ROSC	**El Rosal**	**41.87**	**359**	P	**P**	**12 51 59.8**	**+0.4**
	7.6nm,0.4s,baz=253,slow=11,SNR=3.9						
SDV	**Santo Domingo**	**45.95**	**4**	*eP*	**P**	**12 52 31.5**	**-0.4**
	22nm,1.0s						
RCBR	**Riachuelo**	**46.44**	**57**	P	**P**	**12 52 37.2**	**+1.4**
	12nm,1.1s,baz=215,slow=10.0,SNR=3.9						
BCIP	**Isla Barro Col**	**46.51**	**352**	P	**P**	**12 52 38.1**	**+2.0**
JTS	**JuntasAbangare**	**48.45**	**345**	*eP*	**P**	**12 52 52.4**	**+1.2**
JTS				pmax	pmax		
	comp=Z,27nm,1.2s						
JTS	**JuntasAbangare**	**48.45**	**345**	P	**P**	**12 52 52.1**	**+0.9**
	comp=Z,5.7nm,0.7s,baz=206,slow=3.5,SNR=3.5						
JTS	**JuntasAbangare**	**48.45**	**345**	*eP*	**P**	**12 52 52.8**	**+1.5**
	comp=Z,33nm,1.2s						
SNAA	**Sanae**	**49.11**	**157**	P	**P**	**12 52 56.6**	**+0.7**
	comp=Z,13nm,1.0s,baz=269,slow=7.9,SNR=9.7						
QSPA	**South Pole Qui**	**52.02**	**180**	P	**P**	**12 53 25.6**	**+0.3**
	comp=Z,13nm,1.0s,baz=152,slow=4.9,SNR=7.8						
NVL	**N'lazarevskaya**	**53.89**	**156**	*eP*	**P**	**12 53 31.7**	**+0.2**
NVL				*eS*	**S**	**13 01 08.2**	**+3.2**
NVL				pmax	pmax		
	comp=Z,23nm,0.9s						
NVL				MLR	MLR		
	comp=Z,881nm,13.0s						
RKT	**Rikitea**	**54.03**	**267**	*eS*	S	13 00 56.3	-12
	comp=Z,428nm,26.5s						
RKT				*e*LR	LR	13 08 50.7	
	comp=Z,2μm,27.0s,baz=124						
RKT	**Rikitea**	**54.03**	**267**	*e*T	T	13 50 43.1	
	comp=Z,1.8nm,0.3s						
APG	**El Apazote**	**54.32**	**340**	P	P	12 53 31.6	-3.8
	comp=Z,14nm,0.9s,baz=167,slow=8.7,SNR=8.4						
VNDA	**Vanda**	**60.70**	**192**	P	**P**	**12 54 20.9**	**+1.5**
	comp=Z,2.2nm,0.9s,baz=170,slow=9.9,SNR=5.1						
VNDA				LR	LR	13 18 32.7	
	comp=Z,243nm,18.3s,baz=133,slow=34						
MEH	**Mehetia**	**67.20**	**264**	*e*T	T	14 07 04.8	
	comp=Z,12nm,0.2s						
035A	**Encino**	**67.85**	**336**	⇓P	**P**	**12 55 08.1**	**+1.4**
	baz=68						
034A	**Hebbronville**	**68.15**	**336**	⇓P	**P**	**12 55 10.0**	**+1.3**
	baz=68						
VAH	**Vaihoa**	**68.32**	**267**	*eP*	**P**	**12 55 08.0**	**-2.1**
	comp=Z,23nm,1.0s						
PPT2	**Papeete2**	**68.56**	**264**	*eP*	P	12 55 09.0	-2.7
	comp=Z,76nm,1.2s						
PPT2				*eS*	S	13 04 01.5	-12
	comp=Z,1μm,27.5s						
PPT2	**Papeete2**	**68.56**	**264**	*e*LR	LR	13 15 36.2	
	comp=Z,2μm,25.8s,baz=118						
934A	**Benavides**	**68.60**	**336**	⇑P	**P**	**12 55 13.1**	**+1.6**
	baz=69						
933A	**Laredo**	**68.85**	**336**	⇓P	**P**	**12 55 14.3**	**+1.3**
	baz=69						
835A	**Beeville**	**69.02**	**337**	⇓P	**P**	**12 55 15.4**	**+1.3**
	baz=69						
834A	**Tilden**	**69.09**	**337**	⇑P	**P**	**12 55 15.9**	**+1.3**
	baz=70						
735A	**Kenedy**	**69.54**	**337**	⇓P	**P**	**12 55 17.8**	**+0.5**
	baz=70						
833A	**Chaparral WMA,**	**69.55**	**336**	⇑P	**P**	**12 55 18.1**	**+0.7**
	baz=70						
832A	**Faith Ranch, C**	**69.70**	**335**	⇓P	**P**	**12 55 18.8**	**+0.4**
	baz=70						
734A	**La Parita Cree**	**69.77**	**337**	⇑P	**P**	**12 55 19.4**	**+0.7**
	baz=70						
733A	**Divot King Ran**	**69.88**	**336**	⇓P	**P**	**12 55 19.9**	**+0.5**
	baz=70						
636A	**Smothers Creek**	**69.90**	**338**	⇑P	**P**	**12 55 20.4**	**+0.8**
	baz=70						
732A	**Laxson Ranch,**	**70.11**	**336**	⇑P	**P**	**12 55 20.9**	**0.0**
	baz=70,SNR=7.8						
536A	**Bastrop**	**70.46**	**339**	⇑P	**P**	**12 55 23.1**	**+0.1**
	baz=71						
633A	**Saathoff Ranch**	**70.53**	**336**	⇑P	**P**	**12 55 23.7**	**+0.2**
	baz=71						
535A	**Dale**	**70.57**	**338**	⇑P	**P**	**12 55 23.6**	**0.0**
	baz=71						
632A	**Uvalde**	**70.77**	**336**	⇑P	**P**	**12 55 25.1**	**+0.2**
	baz=71						
340A	**Bronson**	**70.87**	**342**	⇑P	**P**	**12 55 25.3**	**0.0**
	baz=71						
GOGA	**Godfrey**	**70.87**	**351**	*eP*	**P**	**12 55 24.4**	**-1.0**
GOGA				pmax	pmax		
	comp=Z,13nm,1.1s						
GOGA	**Godfrey**	**70.87**	**351**	*eP*	**P**	**12 55 24.4**	**-1.0**
	comp=Z,13nm,1.1s						
631A	**Perdido Creek**	**70.94**	**335**	⇑P	**P**	**12 55 26.7**	**+0.8**
	baz=71						
LRAL	**Lakeview Retre**	**71.00**	**348**	*eP*	**P**	**12 55 25.8**	**-0.4**
	comp=Z,44nm,1.5s						
533A	**Kerrville**	**71.06**	**337**	⇑P	**P**	**12 55 26.6**	**0.0**
	baz=72						
337A	**Centerville**	**71.30**	**340**	⇑P	**P**	**12 55 28.5**	**+0.6**
	baz=72						
532A	**Rocksprings**	**71.38**	**336**	⇓P	**P**	**12 55 28.6**	**0.0**
	baz=72,SNR=7.6						
434A	**Burnet**	**71.51**	**338**	⇓P	**P**	**12 55 29.1**	**-0.2**
	baz=72						
531A	**Rocksprings**	**71.63**	**336**	⇑P	**P**	**12 55 30.6**	**+0.5**
	baz=72						
336A	**Riesel**	**71.63**	**339**	⇑P	**P**	**12 55 30.4**	**+0.5**
	baz=72						
JCT	**Junction City**	**71.68**	**336**	*eP*	**P**	**12 55 30.8**	**+0.4**
JCT				pmax	pmax		
	comp=Z,30nm,1.0s						
JCT	**Junction City**	**71.68**	**336**	⇑P	**P**	**12 55 30.3**	**-0.1**
	baz=72						
JCT	**Junction City**	**71.68**	**336**	*eP*	**P**	**12 55 30.8**	**+0.4**
	comp=Z,30nm,1.0s						
335A	**Moody**	**71.70**	**339**	⇓P	**P**	**12 55 30.9**	**+0.5**
	baz=72						
433A	**Art**	**71.71**	**337**	⇓P	**P**	**12 55 30.2**	**-0.3**
	baz=72						
238A	**Jacksonville**	**71.74**	**341**	⇓P	**P**	**12 55 30.5**	**-0.2**
	baz=72						
530A	**J-C Ranch, Com**	**71.88**	**335**	⇓P	**P**	**12 55 31.6**	**0.0**
	baz=72,SNR=8.0						
237A	**Washetta, Mont**	**71.92**	**340**	⇓P	**P**	**12 55 32.1**	**+0.3**
	baz=72						
TXAR	**Lajitas Array**	**71.96**	**333**	P	**P**	**12 55 32.2**	**0.0**
	comp=Z,5.9nm,0.8s,baz=154,slow=8.8,SNR=19						
334A	**Lometa**	**71.98**	**338**	⇓P	**P**	**12 55 31.9**	**-0.3**
	baz=72						
432A	**Menard**	**72.04**	**336**	⇓P	**P**	**12 55 32.4**	**-0.1**
	baz=72						
431A	**Sonora**	**72.12**	**336**	⇓P	**P**	**12 55 33.2**	**+0.2**
	baz=72						
529A	**Stev Forest Ra**	**72.16**	**334**	⇓P	**P**	**12 55 33.2**	**-0.1**
	baz=73						
333A	**Richland Sprin**	**72.20**	**337**	⇑P	**P**	**12 55 32.8**	**-0.7**
	baz=73						
KMSC	**Kings Mountain**	**72.35**	**353**	⇑P	**P**	**12 55 32.8**	**-1.5**
	baz=73						
KMSC	**Kings Mountain**	**72.35**	**353**	*eP*	**P**	**12 55 34.4**	**+0.1**
	comp=Z,14nm,0.9s						
WHTX	**Lake Whitney,**	**72.37**	**339**	⇑P	**P**	**12 55 34.0**	**-0.5**
	baz=73						
WHTX	**Lake Whitney,**	**72.37**	**339**	*eP*	**P**	**12 55 33.4**	**-1.0**
	comp=Z,29nm,1.0s						
430A	**Baggett Ranch,**	**72.43**	**335**	⇑P	**P**	**12 55 34.8**	**-0.1**
	baz=73,SNR=7.4						
137A	**Heron Place, G**	**72.47**	**341**	⇓P	**P**	**12 55 34.3**	**-0.7**
	baz=73						
332A	**Millersview**	**72.49**	**337**	⇓P	**P**	**12 55 34.6**	**-0.7**
	baz=73,SNR=6.4						
429A	**Davenport Ranc**	**72.50**	**335**	⇑P	**P**	**12 55 34.9**	**-0.5**
	baz=73,SNR=8.0						
234A	**Clairette**	**72.58**	**338**	⇓P	**P**	**12 55 35.2**	**-0.5**
	baz=73						
331A	**San Angelo**	**72.64**	**336**	⇑P	**P**	**12 55 35.6**	**-0.5**
	baz=73,SNR=6.9						
233A	**Rising Star**	**72.82**	**338**	⇑P	**P**	**12 55 36.3**	**-0.9**
	baz=73						
OXF	**Oxford**	**72.87**	**346**	*eP*	**P**	**12 55 37.0**	**-0.3**
OXF				pmax	pmax		
	comp=Z,32nm,1.0s						
OXF	**Oxford**	**72.87**	**346**	*eP*	**P**	**12 55 37.0**	**-0.3**
	comp=Z,32nm,1.0s						
232A	**Coleman**	**72.93**	**337**	⇓P	**P**	**12 55 37.1**	**-0.7**
	baz=73						
330A	**Mertzon**	**72.98**	**336**	⇑P	**P**	**12 55 37.5**	**-0.7**
	baz=73						
CPCT	**Cooper Cave**	**73.01**	**351**	*eP*	**P**	**12 55 39.8**	**+1.7**
134A	**White-Moore Ra**	**73.10**	**339**	⇑P	**P**	**12 55 38.3**	**-0.4**
	baz=74						
231A	**Brote**	**73.19**	**336**	⇓P	**P**	**12 55 39.0**	**-0.4**
	baz=74						
329A	**Wagon Wheel Ra**	**73.32**	**335**	⇑P	**P**	**12 55 39.7**	**-0.5**
	baz=74,SNR=6.1						
133A	**Hamilton Ranch**	**73.38**	**338**	⇓P	**P**	**12 55 39.9**	**-0.6**
	baz=74						
230A	**Sterling City**	**73.40**	**336**	⇓P	**P**	**12 55 40.3**	**-0.4**
	baz=74						
Z35A	**Perchaven, San**	**73.57**	**340**	⇑P	**P**	**12 55 41.1**	**-0.4**
	baz=74						
ABTX	**Abilene, Hawle**	**73.61**	**337**	⇑P	**P**	**12 55 41.5**	**-0.3**
	baz=74						
ABTX	**Abilene, Hawle**	**73.61**	**337**	*eP*	**P**	**12 55 41.5**	**-0.3**
	comp=Z,27nm,1.0s						
229A	**Bryant Ranch,**	**73.70**	**335**	⇓P	**P**	**12 55 42.2**	**-0.3**
	baz=74						
MIAR	**Mount Ida**	**73.78**	**343**	*eP*	**P**	**12 55 42.8**	**+0.1**
MIAR				pmax	pmax		
	comp=Z,21nm,1.4s						
MIAR	**Mount Ida**	**73.78**	**343**	*eP*	**P**	**12 55 42.8**	**+0.1**
	comp=Z,21nm,1.4s						
Z34A	**Collier Ranch,**	**73.80**	**339**	⇑P	**P**	**12 55 42.4**	**-0.4**
	baz=74						
131A	**Roby**	**73.89**	**337**	⇓P	**P**	**12 55 43.3**	**-0.2**
	baz=74						
Z33A	**Whitaker Ranch**	**73.97**	**338**	⇓P	**P**	**12 55 43.6**	**-0.3**
	baz=74						
TZTN	**Tazewell**	**73.97**	**352**	*eP*	**P**	**12 55 42.9**	**-0.9**
	comp=Z,19nm,1.0s						
130A	**Snyder**	**74.00**	**336**	⇓P	**P**	**12 55 44.1**	**-0.1**
	baz=74						
228A	**UT Block 9, Go**	**74.11**	**335**	⇑P	**P**	**12 55 44.5**	**-0.3**
	baz=74						
WVT	**Waverly**	**74.17**	**348**	*eP*	**P**	**12 55 44.2**	**-0.7**
WVT				pmax	pmax		
	comp=Z,52nm,1.5s						
WVT	**Waverly**	**74.17**	**348**	*eP*	**P**	**12 55 44.2**	**-0.7**
	comp=Z,52nm,1.5s						
HALT	**Halls**	**74.21**	**347**	P	**P**	**12 55 44.9**	**-0.3**
Y34A	**Reagan Ranch,**	**74.30**	**339**	⇓P	**P**	**12 55 45.5**	**-0.3**
	baz=75						
129A	**Stewart Farms,**	**74.33**	**335**	⇓P	**P**	**12 55 46.0**	**-0.1**
	baz=75						
Z31A	**Sharp Cattle R**	**74.41**	**337**	⇑P	**P**	**12 55 46.6**	**+0.1**
	baz=75						
128A	**Castleberry Fa**	**74.53**	**335**	⇑P	**P**	**12 55 47.4**	**+0.1**
	baz=75						
Y33A	**Hilltop Ranch,**	**74.60**	**339**	⇓P	**P**	**12 55 47.1**	**-0.4**
	baz=75						
JSRW	**J. Sargeant Re**	**74.65**	**356**	*eP*	**P**	**12 55 47.1**	**-0.6**
Z30A	**Sanderson Ranc**	**74.69**	**336**	⇑P	**P**	**12 55 47.8**	**-0.3**
	baz=75						
MNTX	**Cornudas Mount**	**74.72**	**332**	*eP*	**P**	**12 55 47.4**	**-1.0**
	comp=Z,7.3nm,1.0s						
GDL2	**Guadalupe Moun**	**74.80**	**333**	*eP*	P	12 55 41.5	-7.4
Y32A	**R-V Farms, Ver**	**74.84**	**338**	⇓P	**P**	**12 55 48.4**	**-0.5**
	baz=75						
Z29A	**Hungry Hill Ra**	**74.86**	**336**	⇑P	**P**	**12 55 48.2**	**-1.0**
	baz=75,SNR=7.4						
X34A	**Smith Ranch, M**	**74.93**	**339**	⇑P	**P**	**12 55 49.0**	**-0.4**
	baz=75						
Y31A	**Rekieta Farm,**	**75.05**	**337**	⇓P	**P**	**12 55 49.5**	**-0.6**
	baz=76						
X33A	**Lawton**	**75.06**	**339**	⇑P	**P**	**12 55 49.5**	**-0.7**
	baz=76						
Z28A	**Tucker Farm, M**	**75.11**	**335**	⇓P	**P**	**12 55 50.0**	**-0.6**
	baz=76						
Y30A	**Stafford Cattl**	**75.17**	**337**	⇑P	**P**	**12 55 50.3**	**-0.5**
	baz=76						
X32A	**Elmer**	**75.18**	**338**	⇑P	**P**	**12 55 50.2**	**-0.7**
	baz=76						
WMOK	**Wichita Mounta**	**75.33**	**339**	*eP*	**P**	**12 55 51.4**	**-0.3**
WMOK				pmax	pmax		
	comp=Z,26nm,1.4s						
WMOK	**Wichita Mounta**	**75.33**	**339**	*eP*	**P**	**12 55 51.4**	**-0.3**
	comp=Z,26nm,1.4s						
Y29A	**Porterfield Fa**	**75.40**	**336**	⇑P	**P**	**12 55 51.4**	**-0.8**
	baz=76						
W34A	**Bridge Creek,**	**75.51**	**340**	⇓P	**P**	**12 55 51.8**	**-1.0**
	baz=76						
X31A	**McDonald Ranch**	**75.58**	**338**	⇓P	**P**	**12 55 52.6**	**-0.6**
	baz=76						
TUL1	**Leonard**	**75.62**	**342**	⇓P	**P**	**12 55 52.3**	**-1.1**
	baz=76						
TUL1	**Leonard**	**75.62**	**342**	*eP*	**P**	**12 55 52.6**	**-0.7**
	comp=Z,37nm,1.2s						
W33A	**Caddo, Fort Co**	**75.62**	**339**	⇑P	**P**	**12 55 53.0**	**-0.4**
	baz=76						
Y28A	**McKinney Farm,**	**75.63**	**336**	⇓P	**P**	**12 55 53.4**	**-0.2**
	baz=76						
X30A	**Coker Ranch, T**	**75.68**	**337**	⇓P	**P**	**12 55 53.8**	**0.0**
	baz=76						
W32A	**Sentinel**	**75.82**	**339**	⇑P	**P**	**12 55 54.6**	**+0.1**
	baz=76						
MSTX	**Muleshoe**	**75.86**	**335**	⇑P	**P**	**12 55 54.6**	**-0.4**
	baz=76						
MSTX	**Muleshoe**	**75.86**	**335**	*eP*	**P**	**12 55 55.1**	**+0.1**
	comp=Z,46nm,1.5s						
Y27A	**Causey**	**75.91**	**335**	⇑P	**P**	**12 55 54.9**	**-0.4**
	baz=76						
X29A	**Tulia**	**75.94**	**336**	⇑P	**P**	**12 55 55.3**	**0.0**
	baz=76						
V34A	**Guthrie**	**76.00**	**340**	⇑P	**P**	**12 55 55.6**	**+0.1**
	baz=76						
W31A	**Holland Ranch,**	**76.08**	**338**	⇑P	**P**	**12 55 56.0**	**-0.1**
	baz=76						
V33A	**Lossen Ranch,**	**76.20**	**340**	⇓P	**P**	**12 55 56.4**	**-0.3**
	baz=77						
V32A	**Arapaho**	**76.32**	**339**	⇑P	**P**	**12 55 57.4**	**0.0**
	baz=77						
AMTX	**Amarillo**	**76.34**	**337**	⇓P	**P**	**12 55 57.5**	**-0.1**
	baz=77						
AMTX	**Amarillo**	**76.34**	**337**	*eP*	**P**	**12 55 57.5**	**-0.1**
121A	**Cookes Peak, D**	**76.38**	**331**	⇑P	**P**	**12 55 58.2**	**+0.2**
	baz=77						
W29A	**Amarillo**	**76.55**	**337**	⇓P	**P**	**12 55 58.7**	**-0.1**
	baz=77						
U34A	**Anderson Ranch**	**76.57**	**340**	⇓P	**P**	**12 55 58.8**	**0.0**
	baz=77						
X27A	**F and S Farms,**	**76.58**	**335**	⇓P	**P**	**12 55 59.3**	**+0.3**
	baz=77						
V31A	**Spring Creek L**	**76.60**	**338**	⇑P	**P**	**12 55 59.2**	**+0.2**
	baz=77						
X26A	**CR and CF Fran**	**76.74**	**335**	⇓P	**P**	**12 56 01.0**	**+1.0**
	baz=77						
Y24A	**Capitan**	**76.74**	**333**	⇓P	**P**	**12 56 00.8**	**+0.8**
	baz=77						
V30A	**Spur Ranch, Mi**	**76.84**	**338**	⇑P	**P**	**12 56 01.2**	**+0.8**
	baz=77						
U32A	**Winter Ranch,**	**76.92**	**339**	⇓P	**P**	**12 56 01.7**	**+0.9**
	baz=77						
W27A	**Bowe Ranch, En**	**76.95**	**336**	⇓P	**P**	**12 56 01.0**	**-0.1**
	baz=77,SNR=6.4						
Y23A	**Lovelace Mesa,**	**76.97**	**333**	⇓P	**P**	**12 56 02.1**	**+0.8**
	baz=77						
X25A	**Clemmons Ranch**	**77.01**	**334**	⇓P	**P**	**12 56 02.0**	**+0.5**
	baz=77						
T33A	**Patterson Ranc**	**77.37**	**340**	⇓P	**P**	**12 56 03.7**	**+0.4**
	baz=78						
TUC	**Tucson**	**77.40**	**328**	*eP*	**P**	**12 56 04.7**	**+1.1**
TUC				pmax	pmax		
	comp=Z,18nm,1.2s						
TUC	**Tucson**	**77.40**	**328**	*eP*	**P**	**12 56 04.7**	**+1.1**
	comp=Z,18nm,1.2s						
DBIC	**Dimbokro**	**77.42**	**72**	P	**P**	**12 56 05.0**	**+0.9**
	comp=Z,24nm,1.0s,baz=203,slow=4.1,SNR=8.1						
V27A	**Dan Oppiter Fa**	**77.51**	**336**	⇑P	**P**	**12 56 04.9**	**+0.6**
	baz=78						
LPM	**Los Pinos Moun**	**77.52**	**332**	*eP*	**P**	**12 56 03.6**	**-0.8**
U30A	**WK&E Inc. Balk**	**77.54**	**338**	⇑P	**P**	**12 56 04.9**	**+0.6**
	baz=78						
ACSO	**Alum Creek Sta**	**77.56**	**353**	*eP*	**P**	**12 56 03.5**	**-0.7**
	comp=Z,37nm,1.1s						
W25A	**X Bar L Ranch,**	**77.56**	**335**	⇓P	**P**	**12 56 05.1**	**+0.5**
	baz=78						
X23A	**Hourglass Bar**	**77.60**	**333**	⇓P	**P**	**12 56 05.7**	**+0.8**
	baz=78						
T32A	**Huddler Ranch,**	**77.65**	**340**	⇑P	**P**	**12 56 05.2**	**+0.4**
	baz=78						
S33A	**Kaszmaul Farm,**	**77.78**	**340**	⇑P	**P**	**12 56 05.9**	**+0.3**
	baz=78						
T31A	**Randall Ranch,**	**77.78**	**339**	⇓P	**P**	**12 56 05.9**	**+0.3**
	baz=78						
LAZ	**Ladron**	**77.79**	**332**	*eP*	**P**	**12 56 07.4**	**+1.5**
	comp=Z,5.7nm,1.1s						
V26A	**Tequesquite Ra**	**77.86**	**335**	⇓P	**P**	**12 56 06.4**	**+0.2**
	baz=78						
U28A	**Mallet**	**77.89**	**337**	⇑P	**P**	**12 56 06.8**	**+0.5**
	baz=78						
W24A	**Lazy 6 Ranch,**	**77.89**	**334**	⇑P	**P**	**12 56 07.0**	**+0.6**
	baz=78						
214A	**Organ Pipe Nat**	**77.96**	**327**	⇑P	**P**	**12 56 07.8**	**+1.0**
	baz=78						
214A	**Organ Pipe Nat**	**77.96**	**327**	*eP*	**P**	**12 56 07.5**	**+0.8**
	comp=Z,18nm,1.0s						
ANMO	**Albuquerque**	**78.03**	**333**	*eP*	**P**	**12 56 08.2**	**+1.0**
ANMO				pmax	pmax		
	comp=Z,56nm,1.2s						
W23A	**Werner Place,**	**78.11**	**333**	⇓P	**P**	**12 56 08.9**	**+1.2**
	baz=78						
U27A	**Thompson Grove**	**78.12**	**336**	⇑P	**P**	**12 56 08.4**	**+0.8**
	baz=78						
S32A	**Newby Ranch, P**	**78.14**	**340**	⇓P	**P**	**12 56 08.0**	**+0.4**
	baz=79						
V25A	**Rancho No Teng**	**78.18**	**335**	⇑P	**P**	**12 56 08.8**	**+0.7**
	baz=79						
S31A	**Mullinville**	**78.22**	**339**	⇑P	**P**	**12 56 08.7**	**+0.7**
	baz=79						
V24A	**Rampart Ranch,**	**78.31**	**334**	⇓P	**P**	**12 56 09.8**	**+1.0**
	baz=79						
T29A	**Hugoton**	**78.32**	**338**	⇑P	**P**	**12 56 09.1**	**+0.5**
	baz=79						
R33A	**Olander Ranch,**	**78.45**	**341**	⇓P	**P**	**12 56 09.3**	**+0.1**
	baz=79						
T28A	**Walsh**	**78

S24A	Houchin Ranch,	80.01 335	⇑P	P	12 56 18.8	+0.6
	baz=80					
R26A	Arlington	80.03 337	⇑P	P	12 56 18.7	+0.6
	baz=80					
R25A	Fountain Ranch	80.17 336	⇑P	P	12 56 19.4	+0.6
	baz=81					
P30A	Selden	80.22 339	⇓P	P	12 56 19.4	+0.5
	baz=81					
Y12C	Blythe	80.24 326	⇓P	P	12 56 20.4	+1.3
	baz=81					
WUAZ	Wupatki	80.42 330	⇓P	P	12 56 21.5	+1.3
	baz=81					
WUAZ	Wupatki	80.42 330	eP	P	12 56 22.2	+2.0
	comp=Z,17nm,1.2s					
KSCO	Kaye Shedlock'	80.43 337	⇓P	P	12 56 20.7	+0.5
	baz=81					
P29A	Atwood	80.47 339	⇑P	P	12 56 20.9	+0.6
	baz=81					
Q26A	Hugo	80.63 337	⇑P	P	12 56 22.1	+0.8
	baz=81					
S22A	4UR Ranch, Cre	80.67 334	⇑P	P	12 56 22.8	+1.2
	baz=81					
O30A	MW Ranch, Wils	80.76 340	⇓P	P	12 56 22.6	+0.8
	baz=81					
MVCO	Mesa Verde	80.79 332	⇓P	P	12 56 23.2	+0.9
	baz=81					
MDV	Middlebury	80.84 0	eP	P	12 56 18.6	-3.4
Q25A	Bedland, Calha	80.85 336	⇑P	P	12 56 23.0	+0.5
	baz=81					
IRM	Iron Mountain	80.86 326	⇑P	P	12 56 24.1	+1.6
	baz=81					
PFO	Pinyon Flats O	80.99 325	⇓P	P	12 56 24.8	+1.5
	baz=81					
W13A	Hualapai Mount	81.11 328	⇓P	P	12 56 25.2	+1.2
	baz=82					
P26A	Davis Ranch, A	81.16 337	⇑P	P	12 56 25.1	+1.0
	baz=82					
JFWS	Jewell Farm	81.19 348	eP	P	12 56 23.3	-0.6
JFWS			pmax	pmax		
	comp=Z,22nm,1.3s					
JFWS	Jewell Farm	81.19 348	eP	P	12 56 23.3	-0.6
	comp=Z,22nm,1.3s					
Q24A	Divide	81.19 336	⇑P	P	12 56 25.2	+0.7
	baz=82					
O28A	Krutsinger Ran	81.20 339	⇑P	P	12 56 25.1	+0.9
	baz=82					
MURC	Murrieta	81.33 324	⇓P	P	12 56 26.9	+1.9
	baz=82					
P25A	Willow Gulch B	81.37 337	⇑P	P	12 56 26.1	+0.8
	baz=82					
PTN	Potsdam (NY)	81.42 359	eP	P	12 56 25.4	+0.3
PTN			pmax	pmax		
	comp=Z,297nm,2.7s					
PTN	Potsdam (NY)	81.42 359	eP	P	12 56 25.4	+0.3
	comp=Z,297nm,2.7s					
LONY	Lake Ozonia	81.47 359	eP	P	12 56 25.6	+0.2
	comp=Z,14nm,1.0s					
O27A	Beecher Island	81.47 338	⇓P	P	12 56 26.7	+1.1
	baz=82					
U15A	North Rim	81.58 329	⇓P	P	12 56 27.8	+1.2
	baz=82					
GMRC	Granite Mounta	81.61 326	⇓P	P	12 56 28.0	+1.4
	baz=82					
LDFC	Landfair	81.62 327	eP	P	12 56 28.2	+1.6
	comp=Z,28nm,1.1s					
LDFC			epP	pP	12 56 46.3	+12
PV01	Paradox Valley	81.63 333	eP	P	12 56 27.4	+0.7
	comp=Z,850nm,1.1s					
P23A	Jefferson	81.79 335	⇓P	P	12 56 28.8	+1.1
	baz=82					
BFSC	Mount Baldy Ra	82.07 324	⇑P	P	12 56 30.4	+1.4
	baz=82					
ISCO	Idaho Springs	82.10 336	eP	P	12 56 30.1	+0.9
ISCO			pmax	pmax		
	comp=Z,43nm,2.3s					
ISCO	Idaho Springs	82.10 336	⇑P	P	12 56 30.1	+0.9
	baz=82					
ISCO	Idaho Springs	82.10 336	eP	P	12 56 30.1	+0.9
	comp=Z,43nm,2.3s					
LBTB	Lobatse	82.10 115	epP	P	12 56 30.2	+0.6
TUQ	Turquoise Moun	82.28 326	⇑P	P	12 56 31.3	+1.3
	baz=83					
P22A	Eagle	82.30 335	⇓P	P	12 56 31.2	+1.0
	baz=83					
L30A	Spencer Herefo	82.32 341	⇑P	P	12 56 30.9	+0.8
	baz=83					
GSC	Goldstone, Bar	82.56 326	⇑P	P	12 56 32.3	+0.8
	baz=83					
O22A	Kremmling	82.73 335	⇑P	P	12 56 32.7	+0.2
	baz=83					
EDW2	Edwards Air Fo	82.75 325	⇓P	P	12 56 33.4	+0.9
	baz=83					
SHPR	Sheep Range	82.84 327	eP	P	12 56 34.4	+1.4
K30A	Basset	82.97 341	⇓P	P	12 56 33.6	+0.2
	baz=83					
CCUT	Cedar City	82.98 329	eP	P	12 56 35.8	+2.0
	comp=Z,18nm,1.2s					
M25A	Palm-Egli Farm	83.09 337	⇓P	P	12 56 35.0	+0.8
	baz=84					
LRMC	Laurel Mtn Rad	83.11 325	⇓P	P	12 56 35.4	+1.0
	baz=84					
N23A	Red Feather La	83.19 336	⇓P	P	12 56 35.1	+0.2
	baz=84					
SRU	San Rafael Swe	83.22 332	eP	P	12 56 35.8	+0.9
SRU			pmax	pmax		
	comp=Z,9.0nm,1.0s					
SRU	San Rafael Swe	83.22 332	eP	P	12 56 35.8	+0.9
	comp=Z,9.1nm,1.0s					
K29A	Lazy Trails An	83.24 341	⇑P	P	12 56 35.0	+0.2
	baz=84					
ECSD	EROS Data Cent	83.24 343	⇑P	P	12 56 34.8	+0.1
	baz=84					
N22A	Wattenberg Ran	83.28 336	⇑P	P	12 56 36.2	+0.8
	baz=84					
O20A	White River Ci	83.29 334	eP	P	12 56 35.8	+0.5
	comp=Z,18nm,1.2s					
MVU	Marysvale	83.34 330	eP	P	12 56 40.2	+4.6
	comp=Z,24nm,1.6s					
M24A	Cheyenne	83.36 337	⇑P	P	12 56 35.8	+0.3
	baz=84					
PHWY	Pilot Hill	83.40 336	eP	P	12 56 36.6	+0.6
	comp=Z,9.2nm,0.9s					
K28A	Ten Mile Ranch	83.48 340	⇑P	P	12 56 36.2	+0.2
	baz=84					
J30A	Dallas	83.55 341	⇓P	P	12 56 36.2	-0.1
	baz=84					
ISA	Isabella, Lake	83.62 325	eP	P	12 56 38.5	+1.6
ISA			pmax	pmax		
	comp=Z,16nm,1.1s					
ISA	Isabella, Lake	83.62 325	⇑P	P	12 56 37.8	+0.9
	baz=84					
ISA	Isabella, Lake	83.62 325	eP	P	12 56 38.5	+1.6
	comp=Z,16nm,1.1s					
K27A	Flueckinger Fa	83.71 339	⇑P	P	12 56 37.6	+0.3
	baz=84					
J29A	Okreek	83.84 341	⇓P	P	12 56 38.4	+0.5
	baz=84					
M22A	Cedar Creek Ra	83.86 336	⇑P	P	12 56 38.6	+0.3
	baz=84					
SPMN	Marine on St.	83.88 346	⇓P	P	12 56 37.4	-0.5
	baz=84					
N20A	Spence Gulch,	83.92 334	⇓P	P	12 56 39.2	+0.6
	baz=84					
VES	Vestal, Richgr	84.05 324	⇓P	P	12 56 40.3	+1.3
	baz=84					
I30A	Oacoma	84.09 342	⇓P	P	12 56 39.2	+0.2
	baz=84					
J28A	Allard Ranch,	84.10 340	⇓P	P	12 56 39.7	+0.5
	baz=84					
K25A	Mack Ranch, Ha	84.11 338	⇑P	P	12 56 40.0	+0.6
	baz=84					
J27A	Elkhorn Farm,	84.16 340	⇓P	P	12 56 40.1	+0.6
	baz=85					
L23A	Garrett	84.22 337	⇑P	P	12 56 40.2	+0.2
	baz=85					
GRAC	Grapevine Rang	84.22 326	⇑P	P	12 56 40.8	+0.8
	baz=85					
I29A	Vivian Onida	84.41 341	⇑P	P	12 56 40.6	-0.1
	baz=85					
MPU	Maple Canyon	84.42 332	eP	P	12 56 42.7	+1.6
	comp=Z,22nm,1.3s					
J26A	Sides Ranch, S	84.52 339	⇓P	P	12 56 41.5	+0.2
	baz=85					
NLU	North Lily Min	84.54 331	eP	P	12 56 46.5	+4.8
	comp=Z,82nm,2.2s					
R11A	Troy Canyon, C	84.58 328	⇓P	P	12 56 42.3	+0.4
	baz=85					
I28A	Midland	84.62 340	⇑P	P	12 56 42.1	+0.3
	baz=85					
K23A	Bowen Ranch, D	84.77 337	⇓P	P	12 56 42.9	+0.2
	baz=85					
J25A	Sunshine Ranch	84.80 338	⇓P	P	12 56 43.0	+0.2
	baz=85					
JLU	Jordanelle	84.86 332	eP	P	12 56 43.8	+0.5
	comp=Z,11nm,1.1s					
H29A	Onida	84.95 341	⇓P	P	12 56 43.7	+0.3
	baz=85					
K22A	Casper	84.96 336	⇓P	P	12 56 44.3	+0.6
	baz=85					
J24A	Dixon Ranch, L	85.00 338	⇑P	P	12 56 44.3	+0.5
	baz=85					
DUG	Dugway, Tooele	85.03 331	eP	P	12 56 48.0	+3.9
DUG			pmax	pmax		
	comp=Z,21nm,1.3s					
DUG	Dugway, Tooele	85.03 331	⇑P	P	12 56 44.6	+0.6
	baz=85					
DUG	Dugway, Tooele	85.03 331	eP	P	12 56 48.0	+3.9
	comp=Z,21nm,1.3s					
TPH	Tonopah	85.05 327	eP	P	12 56 45.6	+1.3
TPH			pmax	pmax		
	comp=Z,15nm,1.1s					
TPH	Tonopah	85.05 327	eP	P	12 56 45.6	+1.3
	comp=Z,15nm,1.1s					
G30A	Faulkton	85.16 342	⇓P	P	12 56 44.5	+0.1
	baz=86					
K21A	Alcova	85.18 336	⇓P	P	12 56 44.9	0.0
	baz=86					
H28A	Mission Ridge	85.21 341	⇑P	P	12 56 44.5	-0.2
	baz=86					
TCUT	Toone Canyon	85.30 332	eP	P	12 56 46.1	+0.6
	comp=Z,14nm,1.0s					
I25A	Rochford	85.35 339	⇑P	P	12 56 45.5	-0.2
	baz=86					
I24A	Kuemmerle Ranc	85.47 338	⇑P	P	12 56 45.8	-0.3
	baz=86					
RSSD	Black Hills	85.53 339	eP	P	12 56 46.1	-0.5
RSSD			pmax	pmax		
	comp=Z,7.0nm,0.9s					
RSSD	Black Hills	85.53 339	eP	P	12 56 46.0	-0.5
	comp=Z,6.8nm,0.9s					
G28A	Parade	85.55 341	⇑P	P	12 56 46.2	-0.3
	baz=86					
J22A	Midwest	85.64 337	⇓P	P	12 56 47.0	-0.1
	baz=86					
BGU	Big Grassy Mou	85.74 331	eP	P	12 56 51.4	+3.7
	comp=Z,12nm,1.6s					
NVAR	Mina Array Bea	85.82 326	P	P	12 56 49.2	+1.1
	comp=Z,2.0nm,0.8s,baz=158,slow=6.5,SNR=12					
H25A	Fruitdale	85.86 339	⇓P	P	12 56 48.4	+0.4
	baz=86					
F29A	Eureka	85.98 342	⇓P	P	12 56 48.9	+0.4
	baz=86					
I22A	9 Mile Ranch,	86.07 337	⇓P	P	12 56 49.1	0.0
	baz=86					
PDAR	Pinedale Array	86.08 334	P	P	12 56 49.0	-0.3
	comp=Z,4.3nm,1.1s,baz=165,slow=6.2,SNR=7.9					
J20A	Shoshoni	86.10 336	⇓P	P	12 56 47.8	-1.6
	baz=86					
G26A	Maurine	86.20 340	⇑P	P	12 56 48.6	-1.1
	baz=87					
F28A	McLaughlin	86.24 341	⇑P	P	12 56 48.8	-1.0
	baz=87					
I21A	Big Trails, Te	86.25 336	⇑P	P	12 56 49.5	-0.5
	baz=87					
H24A	Dirks Ranch, A	86.26 338	⇓P	P	12 56 49.4	-0.6
	baz=87					
G25A	Newell	86.34 339	⇓P	P	12 56 49.9	-0.5
	baz=87					
J19A	Crowheart	86.35 335	⇓P	P	12 56 50.3	-0.3
	baz=87					
HVU	Hansel Valley	86.38 332	eP	P	12 56 50.9	+0.1
HVU			pmax	pmax		
	comp=Z,21nm,1.3s					
HVU	Hansel Valley	86.38 332	eP	P	12 56 50.9	+0.1
	comp=Z,21nm,1.3s					
E30A	Jud	86.39 343	⇓P	P	12 56 50.0	-0.5
	baz=87					
CMB	Columbia Colle	86.44 325	epP	pP	12 57 05.0	+6.5
ELK	Elko	86.46 330	eP	P	12 56 51.5	+0.2
ELK			pmax	pmax		
	comp=Z,8.0nm,1.0s					
ELK	Elko	86.46 330	eP	P	12 56 51.5	+0.2
	comp=Z,8.2nm,1.0s					
TORD	Torodi Ar. Bea	86.50 71	P	P	12 56 51.6	-0.2
	comp=Z,4.6nm,0.7s,baz=225,slow=4.1,SNR=13					
F27A	Lemmon	86.58 341	⇓P	P	12 56 50.9	-0.6
	baz=87					
E29A	Napoleon	86.63 342	⇓P	P	12 56 51.3	-0.4
	baz=87					
I20A	Worland	86.65 336	⇑P	P	12 56 51.7	-0.3
	baz=87					
H22A	Clearmont	86.66 337	⇓P	P	12 56 51.8	-0.2
	baz=87					
F26A	Lodgepole	86.74 340	⇑P	P	12 56 51.8	-0.5
	baz=87					
MSKU	Masuku	86.79 90	P	P	12 56 53.6	+0.2
	comp=Z,21nm,1.1s,baz=258,slow=4.6,SNR=6.9					
E28A	Huff	86.89 342	⇓P	P	12 56 52.3	-0.7
	baz=87					
G23A	Biddle	86.92 338	⇑P	P	12 56 52.7	-0.5
	baz=87					
D30A	Buchanan	86.92 343	⇑P	P	12 56 52.7	-0.4
	baz=87					
I19A	Meeteetse	87.01 335	⇑P	P	12 56 53.4	-0.4
	baz=87					
F25A	Bowman	87.02 340	⇓P	P	12 56 53.4	-0.2
	baz=87					
REDW	Red Top Meadow	87.06 334	eP	P	12 57 00.4	+6.2
	comp=Z,12nm,1.1s					
D29A	Pettibone, Tap	87.08 343	⇑P	P	12 56 53.2	-0.6
	baz=88					
H20A	Greybull	87.08 336	⇑P	P	12 56 54.0	-0.1
	baz=88					
LOHW	Long Hollow	87.19 334	eP	P	12 56 54.6	-0.1
	comp=Z,84nm,2.6s					
TPAW	Teton Pass	87.20 334	eP	P	12 56 55.2	+0.4
	comp=Z,9.5nm,1.1s					
G22A	Birney	87.20 338	⇑P	P	12 56 54.2	-0.4
	baz=88					
F24A	Ekalaka	87.23 339	⇓P	P	12 56 54.7	0.0
	baz=88					
E26A	Carlson Angus	87.25 340	⇑P	P	12 56 54.7	-0.1
	baz=88					
F23A	Volborg	87.39 338	⇑P	P	12 56 55.0	-0.5
	baz=88					
C30A	Mose, Pekin	87.42 343	⇓P	P	12 56 55.3	-0.2
	baz=88,SNR=6.8					
AGMN	Agassiz Nation	87.42 345	⇑P	P	12 56 54.9	-0.6
	baz=88					
D28A	Regan	87.44 342	⇓P	P	12 56 55.1	-0.5
	baz=88					
I17A	Pilgrim Ck.	87.45 334	⇑P	P	12 56 55.8	-0.2
	baz=88					
E25A	Miller Ranch,	87.53 340	⇓P	P	12 56 55.7	-0.4
	baz=88					
IMW	Indian Meadow	87.55 334	eP	P	12 56 56.5	-0.1
	comp=Z,124nm,2.6s					
D27A	Center	87.60 341	⇓P	P	12 56 56.3	-0.1
	baz=88					
FLWY	Flagg Ranch	87.63 334	eP	P	12 56 57.6	+0.7
	comp=Z,20nm,1.1s					
F22A	Rosebud	87.70 338	⇓P	P	12 56 56.5	-0.5
	baz=88					
D26A	Manning	87.76 341	⇓P	P	12 56 57.2	0.0
	baz=88					
H18A	Shoshone NF, C	87.80 335	⇓P	P	12 56 57.5	-0.2
	baz=88					
G20A	Bridger	87.81 336	⇑P	P	12 56 57.2	-0.4
	baz=88					
MDND	Maddock	87.82 343	⇑P	P	12 56 56.5	-0.8
	baz=88					
MDND	Maddock	87.82 343	eP	P	12 56 57.2	-0.2
	comp=Z,13nm,1.1s					
C28A	Hausauer Farms	87.88 342	⇑P	P	12 56 57.0	-0.7
	baz=88					
B30A	Myrvik Farm, E	88.09 344	⇓P	P	12 56 58.4	-0.3
	baz=88,SNR=6.0					
D25A	Fairfield	88.11 340	⇓P	P	12 56 58.8	0.0
	baz=88					
C27A	Sayler Ranch,	88.15 342	⇑P	P	12 56 59.0	-0.1
	baz=89					
YMR	Madison River	88.24 334	eP	P	12 57 00.8	+1.1
	comp=Z,21nm,1.2s					
B29A	Wagenman Farm,	88.34 343	⇓P	P	12 56 59.8	0.0
	baz=89,SNR=5.2					
C26A	Wahner Farm, P	88.41 341	⇓P	P	12 56 59.7	-0.6
	baz=89					
HLID	Hailey	88.53 332	⇓P	P	12 57 01.8	+0.7
	baz=89					
HLID	Hailey	88.53 332	eP	P	12 56 55.0	-6.1
	comp=Z,96nm,2.7s					
A30A	Hoffart Farm,	88.55 344	⇓P	P	12 57 00.5	-0.4
	baz=89					
B28A	Dugan Ranch, T	88.56 343	⇓P	P	12 57 01.0	+0.1
	baz=89					
D23A	Lindsay	88.65 339	⇑P	P	12 57 01.7	+0.3
	baz=89					
A29A	Manning Farm,	88.74 343	⇑P	P	12 57 01.4	-0.3
	baz=89,SNR=6.2					
A28A	Rude Farm, Bot	88.97 343	⇑P	P	12 57 03.0	+0.2
	baz=89					
MCMT	McKenzie Canyo	89.04 333	eP	P	12 57 03.2	-0.3
	comp=Z,5.9nm,1.3s					
E19A	Rath Farm, Rou	89.09 337	⇑P	P	12 57 03.2	-0.4
	baz=90					
WVOR	Wild Horse Val	89.27 328	eP	P	12 57 11.4	+6.9
WVOR			pmax	pmax		
	comp=Z,127nm,2.6s					
WVOR	Wild Horse Val	89.27 328	eP	P	12 57 11.4	+6.9
	comp=Z,127nm,2.6s					
C22A	Vida	89.37 339	⇓P	P	12 57 04.5	-0.2
	baz=90					
YKA	Yellowknife Ar	104.70 342	Pdiff	Pdif	12 58 13.3	-0.5
	comp=Z,0.1nm,0.7s,baz=158,slow=4.5,SNR=3.6					
GERES	GERESS Array B	115.31 47	PKP	PKPdf	13 02 50.2	+0.5
	comp=Z,0.5nm,0.6s,baz=228,slow=3.4,SNR=5.7					
CLL	Collm	116.06 44	eSdif	Sdif	13 11 49.0	+9.0
CLL			eSP	SP	13 13 27.0	-7.4
CLL			ePS	PKKPdf	13 13 48.0	0.0
CLL			ePPS	PPS	13 14 36.0	
CLL			esPPS		13 15 08.0	
CLL			eSS	SS	13 19 55.0	-2.6
CLL			eSSS	SSS	13 24 30.0	
CLL			Lm	MLR	13 50 00.0	
	comp=Z,300nm,21.8s					
VYHS	Vyhne	118.19 49	ePKIKP	PKPdf	13 02 55.4	+0.2
VYHS	Vyhne	118.19 49	ePKP	PKPdf	13 02 55.4	+0.2
KOLS	Kolonicke sedl	120.45 50	ePKIKP	PKPdf	13 02 56.9	-2.6
KOLS	Kolonicke sedl	120.45 50	e	PKPdf	13 02 56.9	-2.6
BRTR	Keskin Array B	124.47 63	PKP	PKPdf	13 03 07.2	-0.5
	comp=Z,1.1nm,0.8s,baz=193,slow=5.1,SNR=3.6					
OBN	Obninsk	130.63 45	ePKIKP	PKPdf	13 03 18.1	-0.6
OBN			pmax	pmax		
	comp=Z,14nm,1.5s					
OBN			MLR	MLR		
	comp=Z,169nm,18.0s					
KLMR	Klimovskoe	132.74 38	ePKIKP	PKPdf	13 03 19.6	-3.0
KLMR			pmax	pmax		
	comp=Z,9.0nm,1.1s					
PRGR	Permogore	135.68 37	PKIKP	PKPdf	13 03 24.8	-3.2
PRGR			pmax	pmax		
	comp=Z,14nm,0.4s					
GEYT	Alibeck	142.08 74	PKhKP	PKPpre	13 03 35.9	
	comp=Z,3.9nm,1.0s,baz=338,slow=3.2,SNR=5.2					
SEY	Seymchan	142.12 328	PKP	PKPdf	13 03 38.0	-1.8
	comp=Z,0.8nm,0.3s,baz=51,slow=7.1,SNR=6.3					
ARU	Arti	142.99 43	ePKHKP	PKPpre	13 03 32.7	
ARU	Arti	142.99 43	ePKPdf	PKPpre	13 03 32.7	
AKTO	Aktyubinsk	143.34 53	PKhKP	PKPpre	13 03 39.3	
	comp=Z,7.9nm,1.0s,baz=300,slow=2.8,SNR=8.7					
TIXI	Tiksi	143.60 348	ePKHKP	PKPpre	13 03 37.7	
PSI	Prapat	145.06 167	PKP	PKPab	13 03 44.2	-1.9
	comp=Z,57nm,1.1s,baz=179,slow=5.0,SNR=12					
HYB	Hyderabad	148.55 121	i PKP	PKPbc	13 03 55.0	-0.9
BVAR	Borovoye Array	150.47 46	PKPbc	PKPbc	13 04 00.6	+1.0
	comp=Z,5.7nm,0.7s,baz=270,slow=3.0,SNR=12					
BVAR			PKPab	PKPab	13 04 06.0	-0.3
	comp=Z,4.2nm,0.6s,baz=298,slow=3.2,SNR=6.2					
YSS	Yuzh-Sakhalins	151.54 302	ePKIKP	PKPbc	13 04 04.0	+1.8
YSS			e		13 04 18.9	
AAK	Ala-Archa	155.04 68	PKPab	PKPab	13 04 26.9	+0.9
	comp=Z,12nm,1.1s,baz=237,slow=6.3,SNR=10					
TKM2	Tokmak 2	155.84 67	ePKIKP	PKPdf	13 03 54.8	-7.8
TKM2	Tokmak 2	155.84 67	ePKPdf	PKPdf	13 03 54.8	-7.8
KURBB	Kurchatov Arra	156.04 47	PKPab	PKPab	13 04 29.4	-0.4
	comp=Z,2.9nm,1.0s,baz=288,slow=5.0,SNR=4.4					
KURK	Kurchatov	156.06 47	PKP2	PKPab	13 04 29.4	-0.5
KURK	Kurchatov	156.06 47	PKPab	PKPab	13 04 29.4	-0.5
KSH	Kashi	156.09 75	PKPbc	PKPdf	13 03 56.4	-6.6
KSH			sPKP		13 04 10.0	
KSH			PKS	PKSdf	13 07 29.0	-8.0
KSH			PP	PP	13 07 57.9	-11
KSH			SKS	SKSdf	13 10 56.4	-11
KSH			SKKS	SKKSac	13 14 42.0	-14
KSH			SS	SS	13 27 34.7	-22
KSH			PPMZ			
	comp=Z,120nm,5.2s					
KSH			LN			
	comp=Z,45nm,4.5s					
KSH			LE			
	comp=Z,49nm,6.4s					
KSH			LZ			
	comp=Z,200nm,6.7s					
NVS	Novosibirsk	156.33 35	ePKIKP	PKPdf	13 04 01.3	-1.2
NVS			e		13 08 17.4	
ZALV	Zalesovo Beam	157.61 35	PKPab	PKPab	13 04 36.1	-0.3
	comp=Z,3.6nm,0.6s,baz=305,slow=4.5,SNR=5.9					
DANN	Dangsing	159.06 108	eP	PKPdf	13 04 14.6	+7.4
	comp=Z,30nm,0.9s					
GKN	Gorkha	159.54 110	eP	PKPdf	13 04 14.8	+7.2
DMN	Daman	159.67 112	eP	PKPdf	13 04 14.9	+7.0
MKAR	Makanchi Array	159.77 54	PKPab	PKPab	13 04 46.4	+0.2
	comp=Z,3.0nm,0.9s,baz=305,slow=4.3,SNR=7.6					
PKI	Pulchoki	159.88 113	eP	PKPdf	13 04 15.9	+7.7
KKN	Kakani	159.90 112	eP	PKPdf	13 04 15.5	+7.4
CMAR	Chiang Mai Arr	160.19 159	PKPab	PKPab	13 04 47.3	-1.2
	comp=Z,1.3nm,0.9s,baz=217,slow=4.3,SNR=6.2					
GUN	Gumba	160.41 112	eP	PKPdf	13 04 18.5	+10
JIRN	Jiri	160.50 113	eP	PKPdf	13 04 18.5	+10
ODAN	Odare	160.90 117	eP	PKPdf	13 04 19.5	+10
MDJ	Mudanjiang	161.01 300	PKP	PKPdf	13 03 59.2	-9.3
TAPN	Taplejung	161.42 117	eP	PKPdf	13 04 22.0	+12
CN2	Changchun	164.10 300	ePKP	PKPdf	13 04 07.0	-4.6
WMQ	Urumqi	164.34 59	ePKP	PKPdf	13 04 01.6	-10
WMQ			pPKP	pPKPdf	13 04 24.0	+4.3
WMQ			PKPab	PKPab	13 04 55.0	-11
WMQ			PKS	PKSdf	13 07 33.6	-11
WMQ			PP	PP	13 08 42.3	-10
WMQ			SKS	SKSdf	13 11 01.0	-14
WMQ			SKKS	SKKSac	13 15 22.4	-16
WMQ			SS	SS	13 29 02.0	-21
WMQ			PPMZ			
	comp=Z,140nm,6.0s					
WMQ			LN			
	comp=Z,190nm,21.0s					
WMQ			LE			
	comp=Z,54nm,20.0s					
WMQ			LZ			
	comp=Z,190nm,23.0s					
TLY	Talaya	165.41 7	ePKP2	PKPab	13 05 12.3	+1.7
TLY			pmax	pmax		
	comp=Z,11nm,1.4s					
KMI	Kunming	167.54 164	PKP	PKPdf	13 04 06.4	-8.9
NJ2	Nanjing	168.51 247	ePKP	PKPdf	13 04 06.7	-8.7
GYA	Guiyang	169.27 181	ePKP	PKPdf	13 04 06.2	-10
GYA			pPKP	pPKPdf	13 04 23.8	-0.2
GYA			PKPab	PKPab	13 05 16.0	-12
GYA			PKS	PKSdf	13 07 37.4	-12
GYA			PP	PP	13 09 06.7	-10
GYA			SKKS		13 15 46.5	
GYA			SS	SS	13 29 48.9	-22
GYA			PPMZ			
	comp=Z,130nm,7.8s					
GYA			LN			
	comp=Z,130nm,22.8s					
GYA			LE			
	comp=Z,120nm,22.0s					
GYA			LZ			
	comp=Z,140nm,23.6s					
SONM	Songino Array	169.39 360	PKPab	PKPab	13 05 28.6	+0.2
	comp=Z,2.7nm,1.0s,baz=336,slow=3.8,SNR=9.5					
CD2	Chengdu	173.34 160	ePKP	PKPdf	13 04 08.2	-10
GTA	Gaotai	174.39 65	ePKP	PKPdf	13 04 18.0	-0.3
GTA			pPKP	pPKPdf	13 04 28.7	+2.6
GTA			sPKP		13 04 32.4

HHC			sPKP		13 04 28.5	
HHC			PP	**PP**	**13 09 46.8**	**+2.7**
HHC			SKS	SKSdf	13 11 11.9	-8.0
HHC			SKKS	**SKKSac**	**13 16 32.0**	**+3.0**
HHC			SS	SS	13 31 12.5	+8.2
HHC			PPMZ			
	comp=Z,180nm,10.2s					
HHC			LN			
	comp=Z,310nm,21.1s					
HHC			LE			
	comp=Z,420nm,20.6s					
HHC			LZ			
	comp=Z,260nm,19.0s					

*IDC **11** 12:46:08.0±0.8, 37°.30S×73°.79W, h0km, mb4.4/10, mb1 4.6/12, mb1mx4.3/32, mbtmp4.4/12, ML3.3/1, MS4.9/1, Ms1 5.0/1, ms1mx3.9/19, Error ellipse: s-maj=27.3km s-min=17.0km az=83.0*
*ISCJB **11** 12:46:10.0±0.6, 37°.31S±0°.06×73°.7W±0°.1, h23km, mb4.4/12, MS4.7/1, Error ellipse: s-maj=11.9km s-min=8.7km az=8.1*
*NEIC **11** 12:46:13.6±0.4, 37°.25S×73°.60W, h35km, mb4.6/2, Error ellipse: s-maj=11.7km s-min=7.8km az=72.0*
ISC 11 12:46:11.6±0.7, 37°.37S±0°.07×73°.7W±0°.1, h23km, n27, σ1§22/29, mb4.5/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.15**	**145**	Pn	**Pn**	**12 47 15.2**	**+1.5**
PLCA	baz=52,slow=15,SNR=1.0			Sn	**Sb**	**12 48 11.0**	**-2.7**
	0.9nm,0.3s,baz=73,slow=21,SNR=1.7						
CFAA	**Coronel Fontan**	**7.29**	**40**	Pn	**Pn**	**12 47 55.4**	**-1.4**
CFAA	0.5nm,0.3s,baz=302,slow=22,SNR=3.1			Sn	**Sn**	**12 49 21.3**	**+2.3**
	baz=359,slow=23,SNR=1.7						
TRQA	**Tornquist**	**9.30**	**98**	*e*Pn	**Pn**	**12 48 24.5**	**+0.3**
LVC	**Limon Verde**	**15.27**	**17**	*e*Pn	**Pn**	**12 49 44.9**	**-1.1**
LPAZ	**La Paz**	**21.56**	**15**	P	**P**	**12 51 01.4**	**+1.2**
	16nm,1.0s,baz=170,slow=9.2,SNR=2.9						
LPAZ				LR	LR	12 59 41.8	
	comp=Z,3μm,18.7s,baz=169,slow=38						
LPAZ	**La Paz**	**21.56**	**15**	*e*Pn	**P**	**12 50 59.5**	**-0.6**
SIV	**San Ignacio**	**24.04**	**31**	P	**P**	**12 51 25.0**	**-0.1**
	6.6nm,0.9s,baz=232,slow=13,SNR=2.6						
NNA	**Nana**	**25.43**	**353**	P	**P**	**12 51 35.8**	**-1.9**
SNAA	**Sanae**	**49.00**	**157**	P	**P**	**12 54 57.1**	**+1.1**
	4.0nm,1.0s,baz=285,slow=9.7,SNR=4.7						
QSPA	**South Pole Qui**	**52.88**	**180**	P	**P**	**12 55 26.0**	**+0.6**
	6.7nm,0.9s,baz=156,slow=9.5,SNR=3.2						
QSPA	**South Pole Qui**	**52.88**	**180**	P	**P**	**12 55 26.0**	**+0.6**
JCT	**Junction City**	**71.79**	**336**	P	**P**	**12 57 32.7**	**+0.6**
	5.1nm,0.8s						
TXAR	**Lajitas Array**	**72.06**	**333**	P	**P**	**12 57 32.0**	**-1.8**
	0.7nm,0.4s,baz=159,slow=8.8,SNR=8.4						
DBIC	**Dimbokro**	**77.52**	**72**	P	**P**	**12 58 06.1**	**+0.4**
	21nm,1.2s,baz=219,slow=5.8,SNR=5.0						
LPM	**Los Pinos Moun**	**77.63**	**333**	*e*P	**P**	**12 58 07.0**	**+0.9**
	6.7nm,1.0s						
ANMO	**Albuquerque**	**78.13**	**333**	*e*P	**P**	**12 58 07.9**	**-0.9**
BOSA	**Boshof**	**79.68**	**118**	P	**P**	**12 58 17.8**	**+0.1**
	6.6nm,1.0s,baz=220,slow=9.0,SNR=4.4						
NVAR	**Mina Array Bea**	**85.91**	**326**	P	**P**	**12 58 50.2**	**+0.5**
	0.6nm,0.8s,baz=153,slow=6.1,SNR=3.5						
PDAR	**Pinedale Array**	**86.19**	**334**	P	**P**	**12 58 50.6**	**-0.4**
	2.1nm,1.0s,baz=148,slow=5.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**86.60**	**71**	P	**P**	**12 58 52.8**	**-0.5**
	3.3nm,1.0s,baz=216,slow=5.4,SNR=4.9						
CHGN	**Chignik**	**117.45**	**321**	*e*PKPdf	**PKPdf**	**13 04 55.5**	**+1.0**
ABKAR	**Akbulak array**	**144.76**	**55**	*e*PKPdf	**PKPab**	**13 05 44.5**	**-0.4**
HYB	**Hyderabad**	**148.52**	**122**	*i* PKP	**PKPbc**	**13 05 55.5**	**-1.4**
BVAR	**Borovoye Array**	**150.61**	**46**	PKPbc	**PKPbc**	**13 06 02.3**	**+1.3**
	1.5nm,0.7s,baz=300,slow=2.9,SNR=3.7						
ZALV	**Zalesovo Beam**	**157.76**	**35**	PKPab	**PKPab**	**13 06 36.9**	**-1.2**
	0.4nm,0.5s,baz=290,slow=4.4,SNR=3.7						
MKAR	**Makanchi Array**	**159.90**	**54**	PKPab	**PKPab**	**13 06 47.8**	**0.0**
	1.2nm,0.9s,baz=286,slow=4.5,SNR=4.0						
SONM	**Songino Array**	**169.54**	**360**	PKPab	**PKPab**	**13 07 30.4**	**+0.3**
	0.6nm,0.7s,baz=359,slow=3.4,SNR=3.7						

*ISCJB **11** 12:48:10.2±0.5, 31°.79S±0°.04×179°.7E±0°.1, h450km, mb4.1/9, Error ellipse: s-maj=12.6km s-min=5.8km az=8.7*
*IDC **11** 12:48:10.4±0.8, 31°.74S×179°.65E, h439km±8km, mb3.8/8, mb1 4.0/11, mb1mx3.5/40, mbtmp4.7/11, Error ellipse: s-maj=23.1km s-min=12.2km az=135.0*
*NEIC **11** 12:48:11.1±0.7, 31°.69S×179°.68E, h447km±8km, mb4.8/3, Error ellipse: s-maj=17.4km s-min=11.9km az=130.0*
ISC 11 12:48:10.4±0.7, 31°.87S±0°.07×179°.9E±0°.1, h450km, n43, σ1§58/47, mb4.1/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.22**	**37**	P	**P**	**12 49 18.8**	**-0.4**
	105nm,0.3s,baz=44,slow=19,SNR=7.0						
RAO				S	**S**	**12 50 13.9**	**-1.1**
	49nm,0.3s,baz=91,slow=23,SNR=4.4						
MXZ	**Matakaoa Point**	**5.83**	**192**	PN	**P**	**12 49 43.1**	**+0.2**
MXZ				SN	**S**	**12 50 56.2**	**-2.2**
KUZ	**Kuaotunu**	**5.96**	**214**	PN	P	12 49 48.2	+4.0
KUZ				SN	**S**	**12 51 03.5**	**+2.6**
WMGZ	**Waiomatatini S**	**6.06**	**191**	PN	**P**	**12 49 46.8**	**+1.6**
HAZ	**Te Kaha**	**6.12**	**196**	PN	**P**	**12 49 48.6**	**+2.8**
HAZ				SN	**S**	**12 51 01.9**	**-2.0**
WCZ	**Waipu Caves**	**6.14**	**227**	PN	P	12 49 49.6	+3.5
OUZ	**Omahuta**	**6.22**	**236**	*e*P	**P**	**12 49 48.9**	**+2.0**
	609nm,0.9s						
PUZ	**Puketiti**	**6.34**	**192**	PN	**P**	**12 49 48.9**	**+0.9**
PUZ				SN	**S**	**12 51 03.4**	**-4.6**
TWGZ	**Tauwhareparae**	**6.49**	**193**	PN	**P**	**12 49 50.9**	**+1.2**
MKAZ	**Moumakai**	**6.52**	**215**	PN	P	12 49 54.2	+4.2
MWZ	**Matawai**	**6.74**	**196**	PN	**P**	**12 49 53.6**	**+1.3**
CNGZ	**Carnagh Statio**	**6.75**	**191**	PN	**P**	**12 49 54.3**	**+2.0**
URZ	**Urewera**	**6.77**	**199**	P	**P**	**12 49 54.0**	**+1.4**
	36nm,0.3s,baz=346,slow=1.9,SNR=156						
URZ				S	**S**	**12 51 15.4**	**-0.9**
	37nm,0.3s,baz=120,slow=24,SNR=20						
URZ	**Urewera**	**6.77**	**199**	PN	**P**	**12 49 53.3**	**+0.7**
RAGZ	**Rawiri**	**6.92**	**196**	PN	**P**	**12 49 56.1**	**+1.9**
SNGZ	**Shannon Statio**	**7.21**	**196**	PN	**P**	**12 50 00.3**	**+3.1**
BKZ	**Black Stump Fm**	**7.79**	**200**	PN	**P**	**12 50 05.1**	**+1.6**
PXZ	**Pawanui**	**8.51**	**196**	PN	**P**	**12 50 13.3**	**+2.1**
SNZO	**South Karori**	**10.30**	**202**	*e*P	**P**	**12 50 31.6**	**+1.0**
DZM	**Mont Dzumac**	**15.44**	**306**	P	**P**	**12 51 25.4**	**-1.0**
	1.0nm,0.3s,baz=172,slow=21,SNR=11						
DZM	**Mont Dzumac**	**15.44**	**306**	*e*P	**P**	**12 51 25.1**	**-1.3**
	15nm,0.8s						
STKA	**Stephens Creek**	**32.40**	**260**	P	**P**	**12 54 02.2**	**+0.6**
	5.8nm,0.7s,baz=104,slow=11,SNR=20						
ASAR	**Alice Springs**	**41.25**	**270**	P	**P**	**12 55 13.7**	**-1.3**
	4.7nm,0.7s,baz=106,slow=7.5,SNR=42						
ASAR				PcP	**PcP**	**12 57 03.3**	**-0.3**
	0.6nm,0.5s,baz=119,slow=3.8,SNR=6.6						
WRAB	**Tennant Creek**	**42.37**	**275**	*e*P	**P**	**12 55 22.3**	**-1.6**
	16nm,1.1s						
WRA	**Warramunga Arr**	**42.37**	**275**	P	**P**	**12 55 22.3**	**-1.6**
	8.3nm,0.5s,baz=112,slow=7.9,SNR=134						
WRA				PcP	**PcP**	**12 57 06.8**	**-0.5**
	1.0nm,0.7s,baz=122,slow=3.0,SNR=4.8						
BATI	**Baumata**	**56.07**	**280**	P	**P**	**12 57 06.5**	**+0.6**
	14nm,0.5s,baz=165,slow=6.6,SNR=3.9						
MJAR	**Matsushiro Arr**	**78.44**	**327**	P	**P**	**12 59 22.1**	**-1.4**
	2.0nm,0.9s,baz=168,slow=5.6,SNR=5.0						
KSRS	**Korea Array**	**84.31**	**321**	P	**P**	**12 59 54.1**	**+0.4**
	2.8nm,0.7s,baz=140,slow=6.0,SNR=9.7						
KSAR	**Wonju Array Be**	**84.32**	**321**	P	**P**	**12 59 54.1**	**+0.3**
PETK	**Petropavlovsk-**	**86.80**	**347**	P	**P**	**13 00 06.2**	**+0.8**
	3.9nm,0.7s,baz=119,slow=9.3,SNR=5.0						
NVAR	**Mina Array Bea**	**90.55**	**44**	P	**P**	**13 00 26.1**	**+2.6**
	1.1nm,0.7s,baz=222,slow=7.9,SNR=8.0						
SCHQ	**Schefferville**	**128.54**	**43**	SKPbc	SKiKP	13 09 03.3	-15
	9.4nm,1.2s,baz=293,slow=2.5,SNR=4.7						
GEYT	**Alibeck**	**132.51**	**294**	SKPbc	**SKPbc**	**13 09 17.7**	**+0.5**
	4.2nm,0.9s,baz=197,slow=1.5,SNR=5.8						
JOF	**Joensuu**	**143.07**	**337**	*e*pkp	PKPbc	13 06 49.3	+0.2
KBZ	**Khabaz**	**144.38**	**302**	PKP	**PKPab**	**13 06 54.1**	**0.0**
	6.1nm,0.9s,baz=194,slow=4.2,SNR=9.3						
KAF	**Kangasniemi**	**145.28**	**338**	*e*pkp	**PKPdf**	**13 06 54.5**	**-0.6**
FINES	**FINESS Array B**	**145.85**	**338**	PKPbc	**PKPbc**	**13 06 58.0**	**+0.4**
	13nm,0.6s,baz=90,slow=4.9,SNR=37						
NB2	**NORSAR Subarra**	**149.88**	**349**	PKP	**PKPbc**	**13 07 08.8**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.88**	**349**	PKPbc	**PKPbc**	**13 07 08.1**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=17,slow=4.2,SNR=6.5						
AKASG	**Malin Array Be**	**151.30**	**320**	PKPbc	**PKPbc**	**13 07 12.1**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=65,slow=2.6,SNR=6.9						
BRTR	**Keskin Array B**	**151.64**	**296**	PKPbc	**PKPbc**	**13 07 13.9**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=132,slow=4.1,SNR=6.8						
BRTR				PKPab	**PKPab**	**13 07 22.6**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=48,slow=3.7,SNR=4.4						
CLL	**Collm**	**158.30**	**337**	*e*PKPab	**PKPab**	**13 07 51.0**	**-0.8**
	comp=Z,5.0nm,0.9s						
GERES	**GERESS Array B**	**160.09**	**332**	PKPab	**PKPab**	**13 07 59.0**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=38,slow=6.8,SNR=5.7						

*ISCJB **11** 12:54:46.5±0.6, 34°.31S±0°.03×72°.05W±0°.05, h10km, mb3.6/3, Error ellipse: s-maj=6.3km s-min=4.2km az=11.8*
*IDC **11** 12:54:46.4±1.1, 34°.44S×71°.97W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/26, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=28.3km s-min=19.6km az=105.0*
*NEIC **11** 12:54:48.0, 34°.31S×72°.00W, h34km, ML4.0(GUC), After GUC.*
NEIC Felt [III] at Pichilemu.
*GUC **11** 12:54:48.0±0.5, 34°.31S×72°.00W, h34km±2km, MD4.0, ML4.0*
ISC 11 12:54:47.4±0.8, 34°.32S±0°.03×71°.93W±0°.05, h10km, n28, σ0§96/46, mb3.7/3, 12C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.89**	**140**	*e*P	**Pn**	**12 55 04.8**	**-1.3**
NICH				*i* S	**Sn**	**12 55 17.6**	**-1.5**
NICH				AML	AML	12 55 22.0	
	comp=E,10μm,0.4s						
NICH	**Los Niches**	**0.89**	**140**	*e*P	**Pn**	**12 55 04.8**	**-1.3**
NICH				*i* S	**Sn**	**12 55 17.6**	**-1.5**
TACH	**Talagante**	**1.06**	**51**	⇑*i*P	**Pn**	**12 55 07.4**	**-1.1**
TACH				*i* S1	**Sn**	**12 55 22.1**	**-1.2**
TACH	**Talagante**	**1.06**	**51**	⇑*i*P	**Pn**	**12 55 07.4**	**-1.1**
TACH				*i* S	**Sn**	**12 55 22.1**	**-1.2**
CACH	**El Canelo**	**1.12**	**80**	⇑*i*P	**Pn**	**12 55 09.4**	**0.0**
CACH				*i* S1	**Sn**	**12 55 25.6**	**+0.7**
CACH	**El Canelo**	**1.12**	**80**	⇑*i*P	**Pn**	**12 55 09.4**	**0.0**
CACH				*i* S	**Sn**	**12 55 25.6**	**+0.7**
CHCH	**Chadas Angostu**	**1.13**	**70**	⇓*i*P	**Pg**	**12 55 08.9**	**-0.2**
CHCH				*i* S	**Sn**	**12 55 24.8**	**-0.2**
CHCH	**Chadas Angostu**	**1.13**	**70**	⇓*i*P	**Pg**	**12 55 08.9**	**-0.2**
CHCH				*i* S	**Sn**	**12 55 24.8**	**-0.2**
ANTU	**Antumapu**	**1.32**	**55**	⇑*i*P	**Pb**	**12 55 11.7**	**-0.6**
ANTU				*i* S	**Sg**	**12 55 29.7**	**-0.1**
ANTU				AML	AML	12 55 34.1	
	comp=E,3μm,0.5s						
ANTU	**Antumapu**	**1.32**	**55**	⇑*i*P	**Pb**	**12 55 11.7**	**-0.6**
ANTU				*i* S	**Sg**	**12 55 29.7**	**-0.1**
IHA	**Instituto Hidr**	**1.32**	**11**	*e*P	**Pn**	**12 55 10.7**	**-1.2**
IHA				*i* S	**Sb**	**12 55 27.9**	**-1.3**
IHA	**Instituto Hidr**	**1.32**	**11**	*e*P	**Pn**	**12 55 10.7**	**-1.2**
IHA				*i* S	**Sb**	**12 55 27.9**	**-1.3**
SAN	**Santiago**	**1.37**	**51**	*e*P	**Pb**	**12 55 12.3**	**-0.8**
SAN				AML	AML	12 55 37.0	
	comp=N,3μm,0.8s						
SAN	**Santiago**	**1.37**	**51**	*e*P	**Pb**	**12 55 12.3**	**-0.8**
LNCH	**Linares**	**1.54**	**170**	⇑*i*P	**Pb**	**12 55 15.1**	**-1.1**
LNCH				*i* S	**Sb**	**12 55 35.5**	**-0.3**
LNCH				AML	AML	12 55 44.3	
	comp=N,3μm,0.4s						
LNCH	**Linares**	**1.54**	**170**	⇑*i*P	**Pb**	**12 55 15.1**	**-1.1**
LNCH				*i* S	**Sb**	**12 55 35.5**	**-0.3**
PEL	**Peldehue**	**1.57**	**42**	⇑*i*P	**Pb**	**12 55 15.3**	**-1.3**
PEL				*i* S	**Sb**	**12 55 36.2**	**-0.4**
PEL				AML	AML	12 55 42.0	
	comp=N,5μm,0.8s						
PEL	**Peldehue**	**1.57**	**42**	⇑*i*P	**Pb**	**12 55 15.3**	**-1.3**
PEL				*i* S	**Sb**	**12 55 36.2**	**-0.4**
FCH	**Farellones**	**1.69**	**54**	⇑*i*P	**Pb**	**12 55 18.0**	**-0.8**
FCH				*i* S	**Sb**	**12 55 40.2**	**-0.1**
FCH	**Farellones**	**1.69**	**54**	⇑*i*P	**Pb**	**12 55 18.0**	**-0.8**
FCH				*i* S	**Sb**	**12 55 40.2**	**-0.1**
CFAA	**Coronel Fontan**	**4.12**	**50**	Pn	Pn	12 55 54.0	+3.5
	comp=N,0.3nm,0.3s,baz=225,slow=13,SNR=8.4						
CFAA				Lg	Lg	12 56 58.7	
	comp=N,1.5nm,0.3s,baz=331,slow=9.7,SNR=12						
LCO	**Las Campanas**	**5.40**	**12**	*e*Pn	**Pn**	**12 56 07.0**	**-1.3**
	comp=N,9.4nm,0.5s						
PLCA	**Paso Flores**	**6.49**	**171**	Pn	**Pn**	**12 56 23.0**	**-0.1**
	comp=N,0.5nm,0.3s,baz=345,slow=9.6,SNR=8.2						
PLCA				Lg	Lg	12 58 07.8	
	comp=N,0.5nm,0.3s,baz=270,slow=16,SNR=4.0						
LPAZ	**La Paz**	**18.28**	**12**	P	**P**	**12 59 04.5**	**+2.4**
	comp=N,0.1nm,0.3s,baz=174,slow=5.0,SNR=4.9						
TXAR	**Lajitas Array**	**70.06**	**331**	P	**P**	**13 06 00.5**	**+0.8**
	comp=N,0.2nm,0.5s,baz=161,slow=8.6,SNR=4.7						
NVAR	**Mina Array Bea**	**84.20**	**325**	P	**P**	**13 07 20.2**	**+1.1**
	comp=N,0.4nm,0.8s,baz=145,slow=5.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**84.24**	**70**	P	**P**	**13 07 20.2**	**+0.6**
	comp=N,0.7nm,0.7s,baz=250,slow=3.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**154.45**	**33**	PKPbc	**PKPbc**	**13 14 48.0**	**+0.4**
	comp=N,0.3nm,0.3s,baz=298,slow=3.2,SNR=3.8						
ZALV				PKPab	**PKPab**	**13 15 02.8**	**+0.8**
	comp=N,0.7nm,0.5s,baz=323,slow=4.5,SNR=3.2						

*IDC **11** 12:57:52.3±1.7, 22°.43S×132°.48E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.4/32, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=20.4km s-min=12.3km az=58.0*
*ISCJB **11** 12:57:53.0±0.6, 22°.40S±0°.04×132°.33E±0°.05, h10km, mb3.2/1, Error ellipse: s-maj=6.7km s-min=5.1km az=25.6*
*AUST **11** 12:57:53.4±0.6, 22°.41S×132°.47E, h0km, Error ellipse: s-maj=6.5km s-min=3.2km az=86.0*
ISC 11 12:57:52.5±0.8, 22°.49S±0°.04×132°.42E±0°.05, h10km, n14, σ1§53/21, 7C-7D, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASPA	**Alice Springs**	**1.80**	**131**	⇑P	**Pg**	**12 58 26.5**	**-0.6**
	baz=1.8						
ASPA				⇓S	**Sg**	**12 58 50.0**	**-0.5**
	baz=1.8						
ASAR	**Alice Springs**	**1.80**	**131**	Pg	**Pb**	**12 58 25.6**	**-0.1**
	4.5nm,0.3s,baz=310,slow=16,SNR=91						
ASAR				Lg	Lg	12 58 49.3	
	14nm,0.3s,baz=318,slow=31,SNR=23						
AS07	**Alice Springs**	**1.85**	**130**	⇑P	**Pg**	**12 58 27.7**	**-0.3**
	baz=1.9						
AS07				⇓S	**Sg**	**12 58 51.4**	**-0.6**
	baz=1.9						
WRA	**Warramunga Arr**	**3.10**	**36**	Pn	**Pn**	**12 58 43.0**	**+1.4**
	2.8nm,0.3s,baz=216,slow=15,SNR=89						
WRA				Pg	**Pg**	**12 58 51.0**	**-1.0**
	4.7nm,0.3s,baz=214,slow=16,SNR=31						
WRA				Sn	**Sn**	**12 59 20.4**	**+1.6**
	7.5nm,0.3s,baz=216,slow=25,SNR=5.2						
WRA				Lg	Lg	12 59 26.0	
	10nm,0.3s,baz=214,slow=30,SNR=10						
WR6	**Warramunga Arr**	**3.16**	**37**	⇓P	**Pn**	**12 58 44.0**	**+1.7**
	baz=3.1						
WR6				⇑S	**Sn**	**12 59 21.6**	**+1.4**
	baz=3.1						
WB6	**Warramunga Arr**	**3.19**	**35**	⇓P	**Pn**	**12 58 44.5**	**+1.7**
	baz=3.1						
WB8	**Warramunga Arr**	**3.23**	**35**	⇓P	**Pn**	**12 58 45.1**	**+1.7**
	baz=3.2						
WB8				⇑S	**Sn**	**12 59 23.4**	**+1.5**
	baz=3.2						
WRKA	**Warakurna**	**4.55**	**235**	⇑P	**Pn**	**12 59 03.8**	**+2.2**
	baz=4.6,SNR=10						
WRKA				S	**Sn**	**12 59 56.7**	**+2.1**
	baz=4.6,SNR=7.0						
QIS	**Mount Isa**	**6.96**	**75**	⇑P	**Pn**	**12 59 35.9**	**+1.2**
	baz=6.9,SNR=3.9						
KNRA	**Kununurra**	**7.61**	**332**	⇑P	**Pn**	**12 59 44.0**	**+0.5**
	baz=7.6,SNR=4.0						
KDU	**Kakadu**	**9.75**	**0**	⇓P	**Pn**	**13 00 10.9**	**-2.0**
	baz=9.7,SNR=3.3						
STKA	**Stephens Creek**	**12.41**	**141**	Pn	**Pn**	**13 00 49.0**	**-0.4**
	0.3nm,0.3s,baz=315,slow=12,SNR=8.1						
MEEK	**Meekatharra**	**13.22**	**249**	⇓P	**Pn**	**13 00 58.1**	**-2.4**
	baz=13						
MKAR	**Makanchi Array**	**82.47**	**328**	P	**P**	**13 10 16.6**	**+1.4**
	0.2nm,0.6s,baz=140,slow=6.3,SNR=3.7						

IDC 11 12:58:32.2±9.2, 14°.84S×174°.58W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.3/38, mbtmp3.6/2, Error ellipse: s-maj=391.1km s-min=67.2km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.86**	**256**	P	P	13 07 20.4	+0.3
	0.6nm,0.6s,baz=91,slow=7.2,SNR=5.1						
ASAR	**Alice Springs**	**49.20**	**251**	P	P	13 07 22.1	-0.5
	0.5nm,0.5s,baz=86,slow=8.2,SNR=8.0						
BRTR	**Keskin Array B**	**145.01**	**321**	PKPbc	PKPbc	13 18 10.6	-0.8
	1.6nm,0.9s,baz=64,slow=3.4,SNR=3.6						

GUC 11 13:03:16.5±0.5, 18°.82S×69°.47W, h101km±3km, ML3.7, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minimini**	**0.34**	**200**	⇑*i*P	Pn	13 03 32.8	+1.0
MNMC				*i* S	Sn	13 03 44.6	+1.5
PSGC	**Pisagua**	**0.99**	**218**	⇑*i*P	Pn	13 03 37.6	+0.6
PSGC				*i* S	Sn	13 03 53.0	+0.6
HMBC	**Humberstone**	**1.51**	**195**	⇑*i*P	Pn	13 03 43.8	+0.7
HMBC				*i* S	Sn	13 04 04.5	+1.3
PATCX	**Punta Patache**	**2.10**	**198**	*e*P	Pn	13 03 51.2	+0.7
PATCX				*e*S4	Sn	13 04 14.6	-1.8
PB01	**IPOC Station P**	**2.22**	**180**	⇓*i*P	Pn	13 03 53.0	+0.9
PB01				*i* S	Sn	13 04 20.4	+1.1
PB01				IAML		13 04 23.8	
	comp=E,375nm,0.3s						
PB07	**IPOC Station P**	**2.92**	**188**	*e*P	Pn	13 04 02.7	+1.2
PB07				IAML		13 04 46.3	
	comp=E,219nm,0.3s						

*ISCJB **11** 13:06:39.0±1.7, 34°.46S±0°.04×71°.84W±0°.08, h2km±11km, mb4.0/3, MS4.2/1, Error ellipse: s-maj=11.8km s-min=5.0km az=24.1*
*GUC **11** 13:06:40.8±0.7, 34°.49S×71°.72W, h28km±6km, ML4.1*
*NEIC **11** 13:06:40.1±1.6, 34°.37S×73°.37W, h35km, mb4.1/2, Error ellipse: s-maj=63.3km s-min=10.9km az=94.0*
*IDC **11** 13:06:42.0±4.3, 34°.49S×71°.38W, h0km, mb3.8/1, mb1 3.8/3, mb1mx3.4/24, mbtmp3.7/3, ML3.9/2, MS4.2/1, Ms1 4.2/1, ms1mx3.4/18, Error ellipse: s-maj=157.9km s-min=23.7km az=92.0*
ISC 11 13:06:41.0±1.0, 34°.50S±0°.04×71°.77W±0°.09, h21km±4km, n17, σ1§32/22, mb4.0/3, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.68**	**139**	⇑*i*P	**Pb**	**13 06 53.8**	**-0.4**
NICH				*i* S	**Sn**	**13 07 03.7**	**-1.5**
ANTU	**Antumapu**	**1.32**	**46**	⇑*i*P	**Pb**	**13 07 04.6**	**-0.5**
ANTU				*i* S	**Sb**	**13 07 21.9**	**+0.2**
LNCH	**Linares**	**1.36**	**174**	*e*P	**Pb**	**13 07 05.6**	**-0.1**
LNCH				*i* S	**Sb**	**13 07 24.0**	**+1.4**
STL	**Santa Lucia**	**1.42**	**42**	*e*P9	**Pn**	**13 07 04.2**	**-1.3**
STL				*i* S	**Sb**	**13 07 23.5**	**-0.8**
LACH	**Col Las Americ**	**1.47**	**45**	*e*P1	**Pn**	**13 07 06.2**	**-0.1**
LACH				*e*S	**Sb**	**13 07 26.1**	**+0.3**
CLCH	**Cerro Calan**	**1.50**	**43**	⇓*i*P	**Pb**	**13 07 07.3**	**-0.9**
CLCH				*i* S	**Sb**	**13 07 27.6**	**+0.7**
CLCH				IAML		13 07 32.4	
	comp=N,5μm,0.7s						
PEL	**Peldehue**	**1.62**	**34**	⇑*i*P	**Pb**	**13 07 09.2**	**-1.2**
PEL				*i* S	**Sb**	**13 07 31.1**	**+0.8**
PEL				IAML		13 07 37.1	
	comp=N,4μm,0.4s						
FCH	**Farellones**	**1.70**	**47**	*i* P9	**Pn**	**13 07 11.0**	**+1.3**
FCH				*i* S	**Sb**	**13 07 33.4**	**+0.7**
COCH	**Cobquecura**	**1.83**	**207**	*e*P	**Pb**	**13 07 12.5**	**-1.2**
LCO	**Las Campanas**	**5.54**	**10**	*e*Pn	**Pn**	**13 08 03.3**	**+0.8**
	comp=N,9.9nm,0.4s						
LCO				*e*Sn	Sn	13 09 13.3	+7.6
PLCA	**Paso Flores**	**6.30**	**172**	Pn	Pn	13 08 17.0	+4.3
	comp=N,0.7nm,0.3s,baz=348,slow=11,SNR=13						
PLCA				Lg	Lg	13 09 59.5	
	comp=N,0.3nm,0.3s,baz=64,slow=21,SNR=4.6						
LPAZ	**La Paz**	**18.43**	**11**	P	**Pn**	**13 10 58.6**	**+2.9**
	comp=N,0.2nm,0.3s,baz=182,slow=7.2,SNR=3.5						
**LPAZ

1μm,0.5s,18μm6.9nm
SANI Sanana 6.24 308 P Pn 13 18 23.0 +1.1
218nm,0.7s,2μm0.9nm
SANI S Sn 13 19 33.3 +1.5
218nm,0.7s,2μm0.9nm
LBMI Labuha 6.27 327 P Pn 13 18 23.9 +1.6
371nm,0.9s,4μm1.3nm
LBMI S Sn 13 19 28.7 -3.9
371nm,0.9s,4μm1.3nm
SRPI Serui, Papua 6.70 53 P Pn 13 18 33.0 +4.9
296nm,0.7s,8μm1.9nm
MTN Manton Dam 6.85 178 P Pn 13 18 33.0 +2.7
baz=6.9,SNR=396
MTN S Sn 13 19 47.8 +1.1
baz=6.9,SNR=20
KDU Kakadu 6.87 167 P Pn 13 18 32.4 +1.9
baz=7.0,SNR=473
KDU S Sn 13 19 46.0 -1.2
baz=7.0,SNR=6.8
TNTI Ternate 7.55 332 P Pn 13 18 41.4 +1.7
140nm,0.8s,0.4nm
TNTI S Sn 13 20 05.4 +1.7
140nm,0.8s,0.4nm
TNTI Ternate 7.55 332 *e*Pn **Pn 13 18 39.3 -0.4**
140nm,1.0s
SOEI Soe 7.57 240 P Pn 13 18 42.5 +2.4
344nm,0.9s,3μm1.2nm
SOEI Soe 7.57 240 P Pn 13 18 42.6 +2.4
baz=7.3,SNR=84
SOEI S Sn 13 20 05.9 +1.4
baz=7.3,SNR=6.1
SOEI Soe 7.57 240 *e*Pn **Pn 13 18 42.0 +1.8**
180nm,0.6s
BATI Baumata 8.31 239 P Pn 13 18 52.3 +2.2
180nm,0.7s,2μm
BATI Baumata 8.31 239 P Pn 13 18 49.8 -0.3
50nm,0.3s,baz=115,slow=1.8,SNR=66
BATI S Sn 13 20 20.1 -2.3
8.2nm,0.3s,baz=176,slow=15,SNR=4.0
SMPI Sarmi 8.73 64 P Pn 13 19 00.1 +4.3
49nm,1.5s,3μm
MMRI Maumere 8.99 252 P Pn 13 19 03.8 +4.5
64nm,0.9s
MMRI Maumere 8.99 252 *e*Pn **Pn 13 19 00.9 +1.6**
30nm,0.4s
MMPI Merauke 9.74 105 S Sn 13 20 54.9 -2.2
baz=10,SNR=14
KNRA Kununurra 9.89 192 P Pn 13 19 11.8 +0.3
baz=9.9,SNR=221
KNRA S Sn 13 20 55.6 -5.1
baz=9.9,SNR=21
GTOI Gorontalo 10.23 309 P Pn 13 19 20.7 +4.5
108nm,0.6s,931nm
APSI Ampana 10.49 298 P Pn 13 19 22.9 +3.1
51nm,0.8s
BKSI Bulukumba 10.74 273 P Pn 13 19 28.7 +5.6
31nm,0.7s
MRSI Marisa 10.98 305 P Pn 13 19 27.8 +1.4
83nm,0.8s,577nm
SPSI Sidrap Palu 11.26 280 P Pn 13 19 34.7 +4.6
47nm,1.0s
MPSI Mapaga 12.63 299 P Pn 13 19 50.7 +2.3
28nm,0.8s,494nm
FITZ Fitzroy Crossi 13.12 203 P Pn 13 19 52.6 -2.2
baz=13,SNR=191
FITZ S Sn 13 22 10.8 -8.5
baz=13,SNR=6.3
FITZ Fitzroy Crossi 13.12 203 *e*Pn **Pn 13 19 52.5 -2.2**
52nm,0.5s
WRAB Tennant Creek 14.30 167 *e*Pn **Pn 13 20 08.1 -2.0**
16nm,0.6s
WRA Warramunga Arr 14.31 167 P Pn 13 20 08.5 -1.8
2.0nm,0.3s,baz=349,slow=13,SNR=59
WRA S Sn 13 22 38.0 -10
3.0nm,0.3s,baz=340,slow=22,SNR=8.9
WB2 Warramunga Arr 14.31 167 *e*Pn Pn 13 20 07.3 -2.9
COEN Coen 14.47 124 P P 13 20 16.5 +0.2
baz=15,SNR=35
COEN S Sn 13 22 40.7 -11
baz=15,SNR=4.7
COEN Coen 14.47 124 *e*Pn **Pn 13 20 11.2 -1.2**
131nm,0.4s
BBKI Banjar Baru 16.19 278 P P 13 20 37.6 +2.3
150nm,0.9s,4μm
PMG Port Moresby 16.48 103 P P 13 20 42.6 +4.0
baz=17,SNR=4.1
PMG S Sn 13 23 38.4 -2.1
baz=17,SNR=3.9
TSM Tawau 16.51 308 ⇑P P 13 20 38.5 -0.4
MYLDM Lahad Datu 16.59 312 ⇓P P 13 20 41.3 +1.5
JAGI Jajag, Banyuwa 16.80 260 P Pn 13 20 40.9 -0.7
baz=16,SNR=8.7
QIS Mount Isa 16.80 151 P P 13 20 43.9 +1.8
baz=17,SNR=21
QIS S Sn 13 23 39.5 -8.8
baz=17,SNR=4.2
KMMI Kalianget 16.85 265 P P 13 20 47.8 +5.1
180nm,0.8s
BLJI Banyuglugur 17.27 263 P Pn 13 20 49.9 +2.6
51nm,0.7s
MTSU Mount Surprise 17.84 134 P Pn 13 20 57.9 +3.6
baz=18,SNR=48
MTSU S Sn 13 24 07.3 -6.0
baz=18,SNR=5.2
AS31 Alice Springs 17.85 171 *e*P **P 13 20 54.6 +1.0**
ASAR Alice Springs 17.85 171 P Pn 13 20 55.1 +0.8
2.9nm,0.3s,baz=349,slow=9.8,SNR=108
ASAR S Sn 13 24 04.2 -9.3
1.8nm,0.3s,baz=353,slow=25,SNR=10
ASAR LR LR 13 28 04.2
comp=Z,109nm,21.4s,baz=352,slow=37
SDKM Sandakan 17.88 310 ⇑P Pn 13 20 55.2 +0.5
KKM Kota Kinabalu 18.89 309 P P 13 21 05.6 +0.5
baz=19,SNR=9.8
KKM Kota Kinabalu 18.89 309 ⇑P P 13 21 05.8 +0.7
KKM Kota Kinabalu 18.89 309 *e*P **P 13 21 00.9 -4.2**
45nm,0.7s
WRKA Warakurna 19.14 187 P Pn 13 21 10.0 +0.3
baz=19,SNR=24
SBUM Sibu 20.43 294 ⇑P P 13 21 22.2 +0.5
KPJI Karang Pucung 21.86 265 P P 13 21 40.1 +3.1
33nm,0.7s,1μm
CMJI Cimerak 22.36 264 P P 13 21 42.1 -0.2
88nm,0.8s
CISI Cisompet, Garu 22.97 265 P P 13 21 49.1 +0.5
87nm,0.9s
CISI Cisompet, Garu 22.97 265 P P 13 21 47.8 -0.8
baz=23,SNR=4.3
CISI Cisompet, Garu 22.97 265 *e*P **P 13 21 46.0 -2.6**
48nm,0.6s
LEM Lembang 23.15 267 P P 13 21 52.8 +2.4
34nm,0.7s
CNJI Cibinong 23.64 265 P P 13 21 55.6 +0.9
150nm,1.1s
MEEK Meekatharra 23.67 208 P P 13 21 55.8 +0.9
baz=24,SNR=8.9
QLP Quilpie 24.14 150 P P 13 22 02.6 +3.5
baz=24,SNR=6.2
CGJI Cibinong 25.06 267 P P 13 22 09.3 +1.7
38nm,0.6s
KMBL Kambalda 26.66 197 P P 13 22 23.1 +1.3
baz=27,SNR=4.5
MORW Morawa 26.94 210 P P 13 22 25.7 +1.3
baz=27,SNR=5.7
STKA Stephens Creek 27.67 160 P P 13 22 31.0 +0.2
1.1nm,0.3s,baz=334,slow=7.8,SNR=7.7
STKA LR LR 13 34 25.2
comp=Z,316nm,21.1s,baz=178,slow=38
STKA Stephens Creek 27.67 160 P P 13 22 32.5 +1.6
baz=28,SNR=6.8
BLDU Ballidu 27.93 207 P P 13 22 35.2 +2.1
baz=28,SNR=7.1
KLBR Kellerberrin 28.32 204 P P 13 22 37.8 +1.1
baz=28,SNR=11
MNSI Mandailing Nat 31.97 281 P P 13 23 09.3 +0.2
31nm,0.9s
PSI Prapat 33.09 284 P P 13 23 16.0 -3.1
4.2nm,0.7s,baz=178,slow=4.8,SNR=5.2
SLVN Son La 37.90 316 *e*P **P 13 23 59.0 -1.1**
2.0nm,0.5s
SUKH Sukhothai 38.67 308 P P 13 24 06.4 -0.1
5.1nm,0.9s,56nm
JNU Nakatsue 38.86 360 P P 13 24 06.6 -1.3
8.5nm,0.9s,baz=69,slow=5.3,SNR=3.6
CMAR Chiang Mai Arr 39.76 308 P P 13 24 15.3 -0.3
6.1nm,0.7s,baz=138,slow=7.3,SNR=46
CMAR ScP **ScP 13 29 58.4 -1.8**
0.5nm,0.3s,baz=158,slow=3.5,SNR=6.4

CMMT Chiang Mai 39.96 309 P P 13 24 16.8 -0.4
26nm,1.1s
CHTO Chiang Mai 39.96 309 P P 13 24 16.8 -0.5
89nm,1.1s
CHTO Chiang Mai 39.96 309 *e*P **P 13 24 14.5 -2.8**
12nm,0.8s
MJAR Matsushiro Arr 42.82 9 P P 13 24 39.1 -1.2
1.9nm,0.8s,baz=185,slow=9.5,SNR=5.7
KSAR Wonju Array Be 43.26 357 P P 13 24 43.7 -0.1
KSAR PcP **PcP 13 26 30.6 -0.6**
KSRS Korea Array 43.27 357 P P 13 24 43.7 -0.2
2.0nm,0.6s,baz=171,slow=8.0,SNR=10
KSRS PcP **PcP 13 26 30.6 -0.6**
1.4nm,0.6s,baz=191,slow=3.1,SNR=4.7
XAN Xi'an 44.88 334 P P 13 24 55.7 -1.2
XAN PMZ
7.0nm,0.8s
XAN PMZ
21nm,6.8s
USRK Ussuriysk Ar. 49.93 1 P P 13 25 35.8 0.0
4.0nm,0.6s,baz=182,slow=6.9,SNR=12
LSA Lhasa 52.07 315 *e*P **P 13 25 51.5 -1.2**
13nm,0.6s
ODAN Odare 53.26 310 *e*P **P 13 26 00.6 -0.6**
65nm,0.7s
TAPN Taplejung 53.27 311 *e*P **P 13 26 00.8 -0.6**
57nm,0.5s
GTA Gaotai 53.50 330 *e*P **P 13 26 02.7 +0.1**
GTA PcP **PcP 13 27 09.3 +0.9**
GTA PMZ
15nm,0.8s
RAMN Ramite 53.91 310 *e*P **P 13 26 05.6 -0.4**
136nm,0.6s
JIRN Jiri 54.58 310 *e*P **P 13 26 10.3 -0.7**
52nm,0.6s
GUN Gumba 54.95 310 *e*P **P 13 26 13.0 -0.6**
104nm,0.6s
PKI Pulchoki 55.13 310 *e*P **P 13 26 13.8 -1.2**
36nm,0.6s
KKN Kakani 55.34 310 *e*P **P 13 26 15.6 -0.7**
50nm,0.7s
DMN Daman 55.38 309 *e*P **P 13 26 16.1 -0.6**
GKN Gorkha 55.94 310 *e*P **P 13 26 19.8 -0.8**
80nm,0.4s
KOLN Koldanda 56.63 309 *e*P **P 13 26 24.9 -0.6**
56nm,0.6s
DANN Dangsing 56.78 309 *e*P **P 13 26 25.8 -0.9**
77nm,0.9s
ULN Ulaanbaatar 57.55 341 *e*P **P 13 26 31.1 -0.5**
12nm,0.8s
SONM Songino Array 57.74 341 P P 13 26 32.3 -0.5
4.7nm,0.7s,baz=152,slow=8.0,SNR=38
WMQ Urumqi 63.01 326 P P 13 27 09.1 +0.3
WMQ PMZ
44nm,1.0s
WMQ PMZ
120nm,4.0s
MKAR Makanchi Array 67.84 326 P P 13 27 39.9 +0.1
28nm,0.5s,baz=112,slow=8.7,SNR=543
KSH Kashi 67.86 317 P P 13 27 40.7 +0.5
KSH PMZ
13nm,0.7s
KZA Kyzart 69.56 319 P P 13 27 51.9 +0.8
SNR=13
TKM2 Tokmak 2 69.75 320 P P 13 27 52.2 +0.2
SNR=26
TKM2 Tokmak 2 69.75 320 *e*P **P 13 27 52.0 0.0**
13nm,0.7s
KBK Karagaybulak 70.04 319 P P 13 27 54.4 +0.7
SNR=7.6
UCH Uchtor 70.12 319 P P 13 27 55.3 +0.8
SNR=27
AAK Ala-Archa 70.32 319 P P 13 27 56.1 +0.7
SNR=6.3
AAK Ala-Archa 70.32 319 *e*P **P 13 27 55.5 +0.1**
9.0nm,0.6s
AML Almayashu 70.61 318 P P 13 27 58.3 +0.8
SNR=8.2
USP Ospenovka 70.62 320 P P 13 27 57.3 +0.2
SNR=7.9
KBL Kabul 70.78 310 *e*P **P 13 27 57.8 -0.6**
19nm,0.9s
EKS2 Erkin-Say 70.80 319 P P 13 27 59.0 +0.7
SNR=14
EKS2 Erkin-Say 70.80 319 *e*P **P 13 27 57.8 -0.5**
16nm,0.9s
ZALV Zalesovo Beam 71.05 333 P P 13 27 58.5 -0.8
9.0nm,0.8s,baz=107,slow=5.0,SNR=32
KURK Kurchatov 72.09 328 *e*P **P 13 28 04.5 -1.1**
5.0nm,0.8s
KKAR Karatay Array 73.15 318 *e*P **P 13 28 11.8 -0.3**
11nm,0.8s
VNDA Vanda 73.38 173 P P 13 28 15.1 +2.3
0.8nm,0.6s,baz=319,slow=7.3,SNR=4.1
GEYT Alibeck 80.22 310 P P 13 28 52.2 +0.1
7.3nm,0.7s,baz=151,slow=3.4,SNR=12
ABKAR Akbulak array 82.25 321 *e*P **P 13 29 01.6 -0.9**
1.7nm,0.6s
AKTO Aktyubinsk 83.79 322 LR LR 14 09 01.1
comp=Z,151nm,21.0s,slow=37
ARU Arti 85.29 328 *e*P **P 13 29 16.0 -1.9**
3.1nm,0.6s
RAYN Ar Rayn 88.14 294 *e*P **P 13 29 31.5 -1.0**
20nm,1.0s
ILAR Eielson Array 92.03 25 P P 13 29 47.9 -1.8
0.8nm,0.6s,baz=268,slow=4.3,SNR=15
KMBO Kilima Mbogo 93.50 269 P P 13 29 57.9 0.0
1.1nm,0.4s,baz=63,slow=6.8,SNR=4.9
TXAR Lajitas Array 123.63 59 PKP **PKPdf 13 35 39.2 +0.2**
0.1nm,0.4s,baz=153,slow=0.2,SNR=2.7
TORD Torodi Ar. Bea 129.47 282 PKP **PKPdf 13 35 50.2 -0.1**
1.4nm,0.6s,baz=84,slow=1.7,SNR=11
DBIC Dimbokro 136.02 273 PKP **PKPdf 13 36 03.6 +0.9**
1.7nm,0.5s,baz=360,slow=24,SNR=11
BBTS Babate 146.84 288 PKPbc **PKPbc 13 36 24.5 +0.5**
18nm,0.6s,baz=7.3,slow=1.4,SNR=4.2
LPAZ La Paz 150.97 140 PKPbc **PKPbc 13 36 36.8 +1.5**
2.5nm,0.4s,baz=26,slow=3.8,SNR=14

SKHL ***11*** *13:19:52.3±0.8, 45°.03N×149°.50E, h59km±6km, mb5.2/2*
JMA ***11*** *13:19:52.2±0.8, 45°.04N×149°.38E, h30km, M4.0*
ISC 11 13:19:53.9±4.4, 44°.2N±0°.1×149°.7E±0°.2, h35km, n25, σ0.95/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.64**	**309**	*e*P	Pn	13 20 11.6	-8.6
KUR	458nm,0.1s			AMB	AMB	13 20 13.1	
KUR				*e*S	Sn	13 20 25.6	-14
KUR	581nm,0.3s			A	A	13 20 28.1	
KUR	381nm,0.3s			A	A	13 20 28.1	
YUK	**Yuzh-Kuril'sk**	**2.75**	**267**	*e*P	**Pn**	**13 20 35.0**	**-0.5**
YUK	113nm,0.2s			AMB	AMB	13 20 40.2	
YUK				*e*S	**Sn**	**13 21 07.7**	**+0.2**
YUK	239nm,0.5s			A	A	13 21 10.9	
YUK	139nm,0.5s			A	A	13 21 10.9	
NEM2	**Nemuro 2**	**2.97**	**255**	P	**Pn**	**13 20 37.5**	**-1.0**
NEM2				*e*S	**Sn**	**13 21 11.5**	**-1.4**
JRA	**Rausu**	**3.29**	**267**	P	**Pn**	**13 20 42.2**	**-0.7**
JNK	**Nakash**	**3.64**	**262**	P	**Pn**	**13 20 47.1**	**-0.6**
JAK	**Akkeshi**	**3.82**	**253**	P	**Pn**	**13 20 49.6**	**-0.5**
JAK				*e*S	**Sn**	**13 21 33.5**	**-0.2**
JTKR	**Abashiri--Toko**	**4.16**	**269**	P	**Pn**	**13 20 54.6**	**-0.2**
JAR	**Ashorobuto**	**4.38**	**260**	P	**Pn**	**13 20 58.5**	**+0.7**
JOB	**Onbets**	**4.44**	**255**	P	**Pn**	**13 20 58.9**	**+0.2**
HRK	**Horoka**	**4.79**	**263**	*e*P	**Pn**	**13 21 05.7**	**+2.1**
JCH	**Churui**	**4.87**	**253**	P	**Pn**	**13 21 04.4**	**-0.2**
JKK2	**Kamakawa 2**	**5.00**	**268**	P	**Pn**	**13 21 06.6**	**+0.1**
MYR	**Moyori**	**5.05**	**250**	*e*P	**Pn**	**13 21 08.6**	**+1.5**
MYR				*e*S	**Sn**	**13 22 05.6**	**+1.5**
JEM	**Erimo**	**5.25**	**247**	P	**Pn**	**13 21 12.2**	**+2.3**
JNBK	**Urakawa-nobuka**	**5.42**	**251**	P	**Pn**	**13 21 12.4**	**+0.3**
JBT2	**Biratori 2**	**5.51**	**257**	P	**Pn**	**13 21 13.9**	**+0.5**
JNB	**Noboribetsu**	**6.54**	**257**	P	**Pn**	**13 21 27.5**	**0.0**
JNB				*e*S	**Sn**	**13 22 42.2**	**+1.5**
JKB	**Kayabe**	**6.75**	**253**	P	**Pn**	**13 21 30.6**	**+0.3**
JYM2	**Yakumo 2**	**7.12**	**256**	P	**Pn**	**13 21 35.6**	**+0.1**
JANG	**Nango**	**7.17**	**240**	P	**Pn**	**13 21 36.0**	**-0.1**
JANG				*e*S	**Sn**	**13 22 55.6**	**-0.7**
JTH	**Tanohata**	**7.21**	**236**	*e*S	**Sn**	**13 22 56.1**	**-1.4**
JTM	**Tenmabayashi**	**7.22**	**245**	*e*S	**Sn**	**13 22 57.3**	**-0.4**
JSR	**Shiriuchi**	**7.31**	**252**	P	**Pn**	**13 21 38.1**	**0.0**
JOSM	**Okushiri--Mats**	**7.76**	**258**	P	**Pn**	**13 21 43.9**	**-0.3**
OFUJ	**Ofunato**	**7.89**	**232**	*e*S	**Sn**	**13 23 14.4**	**+0.3**

SJA 11 13:34:11.7±1.0, 33°.65S×69°.85W, h30km, ML3.3, MW4.0,
Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**1.48**	**15**	*e*P4	Pn	13 34 35.5	-1.2
AUSP				*e*S4	Sn	13 34 52.1	-3.2
RTLS	**Leoncito**	**1.91**	**14**	*e*P4	Pn	13 34 43.4	+0.9
RTLS				*e*S4	Sn	13 35 06.0	+0.3
SJA	**San Juan**	**2.38**	**28**	*e*P4	Pn	13 34 52.0	+3.2
SJA				*e*S4	Sn	13 35 19.4	+2.3
SJA				AML	AML	13 35 25.6	
	comp=Z,537nm,0.6s						
CFAA	**Coronel Fontan**	**2.45**	**34**	*e*P	Pn	13 34 51.3	+1.5
CFAA				*e*S	Sb	13 35 22.2	-2.9
CFAA				AML	AML	13 35 24.0	
	comp=Z,42nm,0.9s						
RTLL	**Cerro Villicun**	**2.59**	**27**	*e*P	Pn	13 34 54.3	+2.6
ACAN	**Cantantal**	**2.62**	**59**	*e*P	Pn	13 34 54.8	+2.7
ACAN				*e*S	Sb	13 35 26.7	-3.3
AMOG	**MOGNA**	**2.94**	**23**	*e*P	Pn	13 34 59.4	+2.9
AMOG				*e*S4	Sn	13 35 38.4	+7.5
AGUA	**GUANDACOL**	**4.31**	**16**	*e*P	Pn	13 35 19.6	+4.1

GUC 11 13:54:23.7±0.7, 34°.95S×71°.71W, h65km±19km, ML3.6,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.47**	**216**	*e*P	Pn	13 54 48.1	+0.1
COCH				*e*S	Sn	13 55 06.8	+0.4
RCDM	**Rinconada Maip**	**1.64**	**28**	*e*P	Pn	13 54 50.8	+0.3
RCDM				*e*S	Sn	13 55 10.8	+0.1
RCDM				IAML		13 55 20.6	
	comp=E,918nm,1.0s						
ANTU	**Antumapu**	**1.64**	**33**	*i* S	Sn	13 55 11.2	+0.4
CLCH	**Cerro Calan**	**1.83**	**32**	*e*P9	Pn	13 54 54.4	+1.3
CLCH				*e*S	Sn	13 55 16.9	+1.5
CLCH				IAML		13 55 28.3	
	comp=N,1μm,0.6s						
FCH	**Farellones**	**2.00**	**36**	*e*P9	Pn	13 54 56.9	+1.2
FCH				*e*S	Sn	13 55 22.4	+2.3
FCH				IAML		13 55 33.0	
	comp=N,582nm,0.9s						

GUC 11 13:59:12.8±0.6, 33°.88S×72°.08W, h12km±8km, ML3.6, 4C,
Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.93**	**23**	⇑*i*P	Pb	13 59 31.1	+0.2
IHA				*i* S	Sn	13 59 44.3	-0.7
RCDM	**Rinconada Maip**	**1.13**	**70**	*e*P	Pb	13 59 34.3	-0.1
RCDM				*i* S	Sn	13 59 50.5	+0.5
RCDM				IAML		13 59 52.9	
	comp=N,2μm,0.4s						
STL	**Santa Lucia**	**1.28**	**70**	*e*P9	Pn	13 59 36.0	-0.6
STL				*i* S	Sg	13 59 55.0	+0.9
NICH	**Los Niches**	**1.32**	**148**	⇑*i*P	Pb	13 59 37.5	-0.1
NICH				*i* S	Sg	13 59 56.2	+0.9
CLCH	**Cerro Calan**	**1.37**	**70**	⇑*i*P	Pb	13 59 38.8	+0.2
CLCH				*i* S	Sg	13 59 58.4	+1.1
CLCH				IAML		14 00 04.2	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**1.38**	**58**	⇑*i*P	Pb	13 59 38.8	+0.2
PEL				*i* S	Sg	13 59 58.2	+0.8
PEL				IAML		14 00 01.9	
	comp=N,3μm,0.6s						
FCH	**Farellones**	**1.59**	**70**	*e*P9	Pn	13 59 44.3	+3.0
FCH				*i* S	Sg	14 00 07.1	+2.3
FCH				IAML		14 00 10.7	
	comp=N,1μm,0.3s						

IDC 11 14:04:10.2±5.0, 15°.04S×173°.65W, h0km, mb4.0/4,
mb1 4.3/4, mb1mx3.8/33, mbtmp4.0/4, Error ellipse:
s-maj=223.7km s-min=33.2km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.01**	**240**	P	P	14 12 19.4	-0.2
	1.8nm,0.7s,baz=72,slow=6.4,SNR=3.4						
WRA	**Warramunga Arr**	**49.69**	**256**	P	P	14 13 04.3	-0.1
	0.9nm,0.5s,baz=91,slow=7.1,SNR=9.0						
ASAR	**Alice Springs**	**49.99**	**252**	P	P	14 13 06.5	-0.1
	3.0nm,0.5s,baz=88,slow=8.4,SNR=49						
ILAR	**Eielson Array**	**82.14**	**11**	P	P	14 16 32.4	0.0
	0.7nm,1.0s,baz=209,slow=7.2,SNR=6.5						

MAN 11 14:13:51, 8°.96N×125°.93E, h135km, mb4.5, ML3.4, MS3.3,
1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.30**	**273**	*e*P	Pn	14 14 10.7	+1.0
BUTP				*e*S	Sn	14 14 21.3	-2.6
SCPH	**Surigao**	**0.93**	**332**	⇓*i*P	Pn	14 14 15.2	+1.4
SCPH				*i* S	Sn	14 14 32.0	+1.0
CGP	**Cagayan de Oro**	**1.31**	**248**	*e*P	Pn	14 14 18.4	+0.9
BUKP	**Musuan**	**1.37**	**219**	*e*P	Pn	14 14 19.4	+1.3
BUKP				*e*S	Sn	14 14 35.3	-3.5
MATI	**Mati**	**2.02**	**171**	*e*P	Pn	14 14 26.3	+0.8
PLP	**Palo**	**2.39**	**337**	⇑*i*P	Pn	14 14 30.4	+0.4
PLP				*i* S	Sn	14 15 02.1	+2.1
CTBH	**Cotabato--PC H**	**2.39**	**224**	⇓*i*P	Pn	14 14 31.5	+1.4
GUIM	**Jordan**	**3.68**	**297**	*e*P	Pn	14 14 47.6	+0.9
GUIM				*e*S	Sn	14 15 08.2	-22

DJA 11 14:15:41.3±1.6, 1°.S±8°.×13°.4E±1°.1, h21km±6km, M3.6/4,
MLv3.6/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.94**	**186**	P	Pb	14 15 57.4	-1.5
RKPI				S	Sn	14 16 11.7	-0.4
SWI	**Sorong**	**3.03**	**264**	P	Pn	14 16 28.4	+0.3
SWI	**Sorong**	**3.03**	**264**	P	Pn	14 16 28.2	+0.1
	baz=3.4,SNR=8.0						
FAKI	**Fak Fak**	**3.09**	**221**	P	Pn	14 16 28.6	-0.3
FAKI	**Fak Fak**	**3.09**	**221**	P	Pn	14 16 29.9	+1.0
	baz=3.6,SNR=9.8						

MAN 11 14:21:25, 7°.71N×124°.80E, h60km, mb3.9, ML2.7, MS2.3,
1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.31**	**58**	*e*P	Pn	14 21 37.5	+2.3
BUKP				*e*S	Sn	14 21 51.1	+8.4
CTBH	**Cotabato--PC H**	**0.73**	**228**	⇓*i*P	Pn	14 21 42.2	+2.6
CTBH				*i* S	Sn	14 21 53.5	+3.1
PAGZ	**Pagadian**	**1.41**	**276**	*e*P	Pn	14 21 49.2	+0.8
PAGZ				*e*S	Sn	14 22 08.2	+2.1

IDC 11 14:22:00.9±3.6, 14°.94S×173°.66W, h0km, mb3.9/4,
mb1 4.1/4, mb1mx3.7/38, mbtmp3.9/4, MS3.4/3, Ms1 3.4/3,
ms1mx3.3/46, Error ellipse: s-maj=185.0km
s-min=33.0km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**14.78**	**195**	LR	LR	14 30 20.3	
	comp=Z,167nm,20.4s,baz=34,slow=34						
PPT	**Papeete**	**23.26**	**100**	LR	LR	14 34 00.5	
	comp=Z,57nm,18.5s,baz=274,slow=31						
HNR	**Honiara**	**26.36**	**279**	LR	LR	14 36 01.2	
	comp=Z,122nm,20.0s,baz=24,slow=32						
STKA	**Stephens Creek**	**44.05**	**239**	P	P	14 30 11.0	+0.2
	1.1nm,0.7s,baz=34,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**49.71**	**256**	P	P	14 30 55.0	-0.3
	1.0nm,0.6s,baz=93,slow=6.9,SNR=7.9						
ASAR	**Alice Springs**	**50.02**	**252**	P	P	14 30 57.0	-0.5
	1.4nm,0.4s,baz=86,slow=8.2,SNR=33						

YKA	**Yellowknife Ar**	**89.78**	**23**	P	P	14 35 00.4	-0.5
	0.3nm,0.9s,baz=246,slow=4.6,SNR=4.4						
BRTR	**Keskin Array B**	**145.65**	**321**	PKPbc	PKPbc	14 41 42.0	-0.1
	3.1nm,1.0s,baz=29,slow=2.8,SNR=6.5						

*ISK **11** 14:24:48.7, 40°70N×25°19E, h11km, MD2.8*
*ATH **11** 14:24:53.6, 40°81N×25°39E, h5km, MD2.9/8*
*THE **11** 14:24:53.3, 40°81N×25°37E, h12km±2km, ML1.6/4, Error ellipse: s-maj=2.7km s-min=0.8km az=33.0*
CSEM 11 14:24:53.1±0.2, 40°80N×25°43E, h15km, ML1.6, Error ellipse: s-maj=4.2km s-min=3.2km az=15.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMTH	**Samothraki Isl**	**0.34**	**167**	P	Pb	14 25 00.9	0.0
SMTH				S	Sb	14 25 05.8	-0.4
SMTH	**Samothraki Isl**	**0.34**	**167**	*e*PB	Pb	14 25 00.6	-0.3
SMTH				*e*SB	Sg	14 25 05.2	+0.2
SMTH	**Samothraki Isl**	**0.34**	**167**	*e*Pb	Pb	14 25 00.6	-0.3
SMTH	**Samothraki Isl**	**0.34**	**167**	P	Pb	14 25 00.9	0.0
SMTH				*e*Sb	Sg	14 25 05.2	+0.2
RDO	**Rodhopi**	**0.35**	**14**	P	Pg	14 25 00.7	+0.4
RDO				S	Sg	14 25 05.4	+0.1
RDO	**Rodhopi**	**0.35**	**14**	*e*PB	Pb	14 25 00.8	-0.3
RDO				*e*SB	Sg	14 25 05.8	+0.5
RDO	**Rodhopi**	**0.35**	**14**	*e*Pb	Pb	14 25 00.8	-0.3
RDO				S	Sg	14 25 05.4	+0.1
ALN	**Alexandroupoli**	**0.48**	**79**	P	Pb	14 25 03.7	+0.5
ALN				S	Sb	14 25 10.5	+0.4
ALN	**Alexandroupoli**	**0.48**	**79**	*e*PB	Pb	14 25 03.7	+0.5
ALN				*e*SB	Sb	14 25 10.3	+0.2
ALN	**Alexandroupoli**	**0.48**	**79**	P	Pb	14 25 03.7	+0.5
ALN				S	Sb	14 25 10.5	+0.4
ENEZ	**Enez**	**0.55**	**97**	*e*PG	Pg	14 25 03.3	-0.8
ENEZ				*e*SG	Sb	14 25 13.8	+1.5
ENEZ	**Enez**	**0.55**	**97**	*e*Pg	Pg	14 25 03.3	-0.7
ENEZ				*e*Sg	Sb	14 25 13.8	+1.5
KAVA	**Kavala**	**0.72**	**286**	P	Pg	14 25 06.6	-0.6
KAVA				S	Sg	14 25 15.7	-1.0
KAVA	**Kavala**	**0.72**	**286**	*e*PB	Pg	14 25 06.8	-0.4
KAVA				*e*SB	Sg	14 25 16.0	-0.7
KAVA	**Kavala**	**0.72**	**286**	P	Pg	14 25 06.6	-0.6
KAVA				S	Sg	14 25 15.7	-1.0
KAVA				*e*Sb	Sb	14 25 16.0	-1.0
GELI	**Tayfur-Gelibol**	**0.89**	**117**	*e*PG	Pb	14 25 08.9	-1.4
GELI				*e*SG	Sn	14 25 23.8	0.0
GELI	**Tayfur-Gelibol**	**0.89**	**117**	*e*Pg	Pb	14 25 08.9	-1.4
GELI				*e*Sg	Sn	14 25 23.8	0.0
LIA	**Limnos Island**	**0.92**	**192**	P	Pb	14 25 10.5	-0.3
LIA				S	Sn	14 25 24.1	-0.4
LIA	**Limnos Island**	**0.92**	**192**	*e*PG	Pb	14 25 10.5	-0.3
LIA				*e*SB	Sn	14 25 24.1	-0.4
LIA	**Limnos Island**	**0.92**	**192**	P	Pb	14 25 10.5	-0.3
LIA				S	Sn	14 25 24.1	-0.4
LPK	**Lapseki**	**1.10**	**113**	*e*PN	Pb	14 25 12.3	-1.5
LPK				*e*SN	Sn	14 25 30.0	+1.0
LPK	**Lapseki**	**1.10**	**113**	*e*Pn	Pb	14 25 12.4	-1.5
LPK				*e*Sn	Sn	14 25 30.0	+1.1
OUR	**Ouranopolis**	**1.20**	**247**	*e*PB	Pb	14 25 15.6	+0.1
OUR				*e*SB	Sg	14 25 32.1	+0.3
OUR	**Ouranopolis**	**1.20**	**247**	*e*Pb	Pb	14 25 15.6	+0.1
OUR				*e*Sb	Sg	14 25 32.1	+0.3
NVR	**Nevrokopi**	**1.30**	**295**	*e*PB	Pb	14 25 17.7	+0.3
NVR				*e*SB	Sn	14 25 34.4	+0.3
NVR	**Nevrokopi**	**1.30**	**295**	*e*Pb	Pb	14 25 17.7	+0.3
NVR				*e*Sb	Sn	14 25 34.4	+0.3
SRS	**Serrai**	**1.43**	**283**	*e*PB	Pb	14 25 19.8	+0.4
SRS				*e*SB	Sg	14 25 38.6	-0.6
SRS	**Serrai**	**1.43**	**283**	*e*Pb	Pb	14 25 19.8	+0.4
SRS				*e*Sb	Sg	14 25 38.6	-0.6
EDRB	**Edirne**	**1.44**	**43**	*e*PN	Pn	14 25 18.4	-0.2
EDRB	**Edirne**	**1.44**	**43**	*e*Pn	Pn	14 25 18.4	-0.2

*IDC **11** 14:25:01.2±0.9, 47°40S×31°63E, h0km, mb4.2/5, mb1 4.3/7, mb1mx3.9/39, mbtmp4.3/7, ML4.1/2, MS3.4/3, Ms1 3.3/3, ms1mx3.2/44, Error ellipse: s-maj=55.8km s-min=18.2km az=66.0*
ISC 11 14:25:04.0±1.1, 46°9S±0°2×32°1E±0°3, h10km, n13, σ0°60/7, mb4.2/7, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**16.90**	**325**	P	**P**	**14 29 02.6**	**-0.2**
	0.9nm,0.3s,baz=127,slow=13,SNR=12						
SUR				LR	LR	14 34 40.1	
	comp=Z,103nm,20.1s,baz=119,slow=34						
BOSA	**Boshof**	**19.05**	**341**	P	**Pn**	**14 29 27.1**	**-0.1**
	0.3nm,0.3s,baz=166,slow=9.7,SNR=8.5						
LBTB	**Lobatse**	**22.48**	**344**	P	**P**	**14 30 02.5**	**-0.9**
	9.7nm,0.9s,baz=172,slow=9.6,SNR=8.1						
LBTB				LR	LR	14 37 05.7	
	comp=Z,111nm,21.2s,baz=81,slow=32						
MAW	**Mawson**	**26.07**	**154**	LR	LR	14 37 55.0	
	comp=Z,84nm,20.8s,baz=258,slow=30						
SNAA	**Sanae**	**29.71**	**201**	P	**P**	**14 31 09.5**	**-0.3**
	1.4nm,0.8s,baz=73,slow=11,SNR=14						
QSPA	**South Pole Qui**	**43.29**	**180**	P	P	14 33 01.0	-4.6
	3.5nm,0.9s,baz=248,slow=2.3,SNR=14						
VNDA	**Vanda**	**52.02**	**168**	P	P	14 34 07.4	-5.5
	2.8nm,0.8s,baz=254,slow=5.8,SNR=9.2						
H10S2	**ASCENSION HYDR**	**54.79**	**298**	T	T	15 34 59.1	
	baz=142,slow=75,SNR=43						
H10S1	**ASCENSION HYDR**	**54.80**	**298**	T	T	15 35 00.4	
	baz=142,slow=75,SNR=60						
H10S3	**ASCENSION HYDR**	**54.80**	**298**	T	T	15 35 00.4	
	baz=142,slow=75,SNR=48						
DBIC	**Dimbokro**	**62.62**	**318**	P	**P**	**14 35 28.9**	**+0.5**
	5.0nm,0.9s,baz=161,slow=7.5,SNR=5.9						
TORD	**Torodi Ar. Bea**	**65.72**	**327**	P	**P**	**14 35 49.1**	**+0.4**
	2.9nm,0.8s,baz=164,slow=7.1,SNR=17						
ASAR	**Alice Springs**	**80.67**	**115**	P	**P**	**14 37 17.4**	**+0.1**
	0.5nm,0.6s,baz=219,slow=5.1,SNR=9.8						

*CSEM **11** 14:26:25.3±0.4, 50°26N×18°95E, h2km, ML2.6/6, Error ellipse: s-maj=10.1km s-min=3.8km az=8.0*
PRU 11 14:26:26.3, 50°27N×18°96E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.03**	**44**	*e*Pg	Pg	14 26 29.0	+2.1
CHZP				*e*Sg	Sg	14 26 30.4	+3.1
OJC	**Ojcow**	**0.54**	**95**	*e*Pg	Pg	14 26 35.6	-1.1
OJC				*e*Sg	Sg	14 26 42.4	-1.4
OJC	**Ojcow**	**0.54**	**95**	*e*Pg	Pg	14 26 35.6	-1.1
OJC				*e*Sg	Sg	14 26 42.4	-1.4
OKC	**Ostrava-Krasne**	**0.68**	**231**	*e*PG	Pg	14 26 38.3	-1.0
OKC				*e*SG	Sg	14 26 47.3	-0.9
	comp=Z,13nm,0.4s						
OKC	**Ostrava-Krasne**	**0.68**	**231**	Pg	Pg	14 26 38.3	-1.0
OKC				Sg	Sg	14 26 47.3	-0.9
	13nm,0.4s						
MORC	**Moravsky Berou**	**1.04**	**242**	*e*Pg	Pg	14 26 46.1	-0.2
MORC				*e*Sg	Sg	14 27 00.5	+0.6
LANS	**Liptovska Anna**	**1.17**	**163**	*e*Pn	Pg	14 26 47.6	-1.2
LANS				*e*Sn	Sg	14 27 02.7	-1.3
NIE	**Niedzica**	**1.22**	**134**	*e*Pg	Pg	14 26 48.6	-1.2
NIE				*e*Sg	Sg	14 27 04.9	-0.8
NIE	**Niedzica**	**1.22**	**134**	*e*Pg	Pg	14 26 48.6	-1.2
NIE				*e*Sg	Sg	14 27 04.9	-0.8
KRLC	**Kraliky**	**1.41**	**263**	*e*PG	Pn	14 26 52.2	-1.2
KRLC				*e*SG	Sb	14 27 12.1	-0.2
KRLC	**Kraliky**	**1.41**	**263**	Pg	Pn	14 26 52.2	-1.2
KRLC				Sg	Sb	14 27 12.1	-0.2
DPC	**Dobruska-Polom**	**1.69**	**274**	*e*PG	Pn	14 26 57.1	-0.1
DPC				*e*SG	Sg	14 27 21.2	+0.3
DPC	**Dobruska-Polom**	**1.69**	**274**	Pg	Pn	14 26 57.1	-0.1
DPC				Sg	Sg	14 27 21.2	+0.3
STHS	**Stebnicka Huta**	**1.71**	**119**	*e*Pn	Pn	14 26 57.3	-0.1
STHS				*e*Sn	Sg	14 27 21.2	-0.1
STHS	**Stebnicka Huta**	**1.71**	**119**	*e*PN	Pn	14 26 57.3	-0.1
STHS				*e*SN	Sg	14 27 21.2	-0.1
STHS				*e*LG	Lg	14 27 25.6	
VYHS	**Vyhne**	**1.78**	**183**	*e*Pn	Pn	14 26 56.5	-1.8
VYHS				*e*Sn	Sn	14 27 20.7	-1.0
VYHS	**Vyhne**	**1.78**	**183**	*e*PN	Pn	14 26 56.5	-1.8
VYHS				*e*SN	Sn	14 27 20.7	-1.0
VYHS				*e*LG	Lg	14 27 22.3	
KSP	**Ksiaz**	**1.79**	**290**	*e*Pg	Pg	14 27 01.4	+0.7
KSP				*e*Sg	Sg	14 27 26.4	+2.4
VRAC	**Vranov**	**1.81**	**239**	*e*Pn	Pn	14 26 58.9	+0.1
VRAC				*e*Sg	Sb	14 27 23.4	-0.2
UPC	**Upice**	**1.90**	**278**	*e*PG	Pb	14 27 01.1	-0.8
UPC				*e*SG	Sg	14 27 28.0	+0.5
	comp=Z,3.9nm,0.4s						
UPC	**Upice**	**1.90**	**278**	Pg	Pb	14 27 01.1	-0.8
UPC				Sg	Sg	14 27 28.0	+0.5
	3.9nm,0.4s						
TREC	**Trest**	**2.45**	**248**	*e*SG	Sb	14 27 43.2	+1.1
	comp=Z,3.6nm,0.3s						
TREC	**Trest**	**2.45**	**248**	Sg	Sb	14 27 43.2	+1.1
	3.6nm,0.3s						
KOLS	**Kolonicke sedl**	**2.54**	**121**	*e*Sn	Sn	14 27 41.5	+1.1
KOLS	**Kolonicke sedl**	**2.54**	**121**	*e*SN	Sn	14 27 41.5	+1.1
PVCC	**Panska Ves**	**2.82**	**277**	*e*SG	Sg	14 27 57.0	0.0
	comp=Z,8.9nm,0.4s						
PVCC	**Panska Ves**	**2.82**	**277**	Sg	Sg	14 27 57.0	0.0
	8.9nm,0.4s						
PRU	**Pruhonice**	**2.86**	**266**	*e*SG	Sg	14 27 56.9	-1.2
	comp=Z,3.3nm,0.4s						
PRU	**Pruhonice**	**2.86**	**266**	Sg	Sg	14 27 56.9	-1.2
	3.3nm,0.4s						
BRG	**Berggiesshubel**	**3.25**	**283**	SG	Sg	14 28 09.2	-1.7
	2.5nm,0.6s						
KHC	**Kasperske Hory**	**3.67**	**254**	*e*PG	Pb	14 27 33.3	+1.1
KHC				*e*SG	Sg	14 28 21.7	-2.8
	comp=Z,3.8nm,0.4s						
KHC	**Kasperske Hory**	**3.67**	**254**	Pg	Pb	14 27 33.3	+1.1
KHC				Sg	Sg	14 28 21.7	-2.8
	3.8nm,0.4s						

WEL 11 14:26:27.8±0.3, 38°47S×175°88E, h164km±2km, ML4.2/20, 43C-9D, Error ellipse: s-maj=1.4km s-min=1.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLZ	**Tolley Road**	**0.30**	**298**	⇑PN	Pn	14 26 50.2	+0.2
TLZ				SN	Sn	14 27 07.4	+0.4
RATZ	**Rangitukua**	**0.41**	**192**	⇑PN	Pn	14 26 50.2	-0.2
RATZ				SN	Sn	14 27 07.6	-0.2
HATZ	**Hinemaiaia**	**0.45**	**158**	⇑PN	Pn	14 26 50.3	-0.3
HATZ				SN	Sn	14 27 06.7	-1.4
RITZ	**Rihia Road**	**0.51**	**182**	⇓PN	Pn	14 26 51.1	+0.3
RRRZ	**Republican Roa**	**0.52**	**76**	⇑PN	Pn	14 26 50.6	-0.2
RRRZ				SN	Sn	14 27 07.8	-0.6
KATZ	**Kakaramea**	**0.53**	**196**	⇑PN	Pn	14 26 50.9	-0.1
KRVZ	**Karewarewa**	**0.65**	**196**	⇑PN	Pn	14 26 51.4	-0.2
WTVZ	**West Tongariro**	**0.68**	**199**	PN	Pn	14 26 51.6	-0.2
TWVZ	**Taurewa**	**0.69**	**210**	PN	Pn	14 26 51.8	-0.1
OTVZ	**Oturere**	**0.71**	**193**	PN	Pn	14 26 51.9	-0.2
NGZ	**Ngauruhoe**	**0.74**	**197**	PN	Pn	14 26 51.8	-0.3
COVZ	**Chateau Observ**	**0.77**	**200**	PN	Pn	14 26 52.0	-0.3
WPVZ	**Whakapapa**	**0.78**	**199**	PN	Pn	14 26 52.1	-0.3
TOZ	**Tahuroa Road**	**0.80**	**338**	PN	Pn	14 26 52.4	0.0
TGRZ	**Tauranga**	**0.80**	**22**	⇑PN	Pn	14 26 52.5	0.0
HIZ	**Hauiti**	**0.80**	**267**	PN	Pn	14 26 52.6	+0.1
HIZ				SN	Sn	14 27 11.6	+0.3
TUVZ	**Tukino**	**0.82**	**192**	⇑PN	Pn	14 26 52.7	0.0
OPRZ	**Ohinepanea**	**0.82**	**41**	⇑PN	Pn	14 26 52.4	-0.2
FWVZ	**Far West T-bar**	**0.82**	**198**	⇑PN	Pn	14 26 52.5	-0.4
DRZ	**Dome Shelter**	**0.84**	**197**	⇓PN	Pn	14 26 53.0	0.0
WHVZ	**Whangaehu Hut**	**0.84**	**195**	⇓PN	Pn	14 26 52.8	-0.2
BKZ	**Black Stump Fm**	**0.85**	**146**	PN	Pn	14 26 52.2	-0.6
BKZ				AML	AML	14 27 10.4	
BKZ				AML	AML	14 27 12.2	
TRVZ	**Turoa**	**0.87**	**197**	PN	Pn	14 26 52.8	-0.4
WNVZ	**Wahianoa**	**0.89**	**194**	⇑PN	Pn	14 26 53.1	-0.1
PKVZ	**Pokaka**	**0.92**	**207**	⇑PN	Pn	14 26 53.2	-0.1
MOVZ	**Moawhango**	**0.94**	**186**	⇑PN	Pn	14 26 53.1	-0.4
NMHZ	**Naumai**	**0.96**	**131**	⇑PN	Pn	14 26 54.3	+0.7
URZ	**Urewera**	**0.99**	**78**	⇓PN	Pn	14 26 53.1	-0.7
URZ				AML	AML	14 27 12.9	
URZ				AML	AML	14 27 13.3	
BHHZ	**Black Hill Sta**	**1.03**	**172**	⇑PN	Pn	14 26 53.8	-0.3
RAHZ	**Arahi**	**1.05**	**116**	⇑PN	Pn	14 26 54.6	+0.4
VRZ	**Vera Road**	**1.09**	**233**	⇓PN	Pn	14 26 54.5	-0.1
MCHZ	**McNeill Hill**	**1.16**	**147**	⇑PN	Pn	14 26 55.9	+0.7
SNGZ	**Shannon Statio**	**1.19**	**106**	⇑PN	Pn	14 26 55.7	+0.2
RAGZ	**Rawiri**	**1.21**	**92**	PN	Pn	14 26 55.6	-0.2
WHHZ	**Waihua**	**1.22**	**120**	PN	Pn	14 26 56.1	+0.3
KRHZ	**Kereru**	**1.23**	**162**	⇑PN	Pn	14 26 55.9	0.0
MWZ	**Matawai**	**1.30**	**85**	⇑PN	Pn	14 26 56.2	-0.4
MWZ				AML	AML	14 27 17.5	
MWZ				AML	AML	14 27 18.2	
MHEZ	**Mangahewa**	**1.36**	**243**	PN	Pn	14 26 57.5	+0.5
WAZ	**Wanganui**	**1.46**	**208**	⇑PN	Pn	14 26 57.8	-0.2
PNHZ	**Pukenui**	**1.47**	**170**	⇑PN	Pn	14 26 57.7	-0.4
MKAZ	**Moumakai**	**1.47**	**337**	PN	Pn	14 26 58.1	0.0
RIGZ	**Rimuhau**	**1.50**	**100**	⇑PN	Pn	14 26 58.5	+0.1
KNZ	**Kokohu**	**1.51**	**112**	PN	Pn	14 26 58.5	0.0
CKHZ	**Cape Kidnapper**	**1.51**	**142**	⇑PN	Pn	14 26 58.8	+0.3
LREZ	**Lake Rotokare**	**1.52**	**229**	PN	Pn	14 26 58.9	+0.3
KAHZ	**Kaharunaki**	**1.54**	**150**	⇑PN	Pn	14 26 59.0	+0.2
TSZ	**Takapari Road**	**1.59**	**178**	⇑PN	Pn	14 26 58.9	-0.4
TSZ				AML	AML	14 27 25.3	
TSZ				AML	AML	14 27 26.5	
PRGZ	**Paritu Road**	**1.63**	**107**	PN	Pn	14 26 59.8	0.0
PKE	**Pukeiti**	**1.64**	**243**	PN	Pn	14 27 00.3	+0.4
WPHZ	**Waipukurau**	**1.65**	**165**	PN	Pn	14 26 59.7	-0.3
HAZ	**Te Kaha**	**1.66**	**65**	⇑PN	Pn	14 26 59.1	-1.0
KHEZ	**Kahui Hut**	**1.67**	**240**	PN	Pn	14 27 00.6	+0.3
TWGZ	**Tauwhareparae**	**1.68**	**81**	PN	Pn	14 27 00.4	0.0
KUZ	**Kuaotunu**	**1.73**	**356**	⇓PN	Pn	14 27 00.8	0.0
MHGZ	**Mahia Peninsul**	**1.73**	**114**	PN	Pn	14 27 01.0	+0.2
PXZ	**Pawanui**	**1.74**	**154**	PN	Pn	14 27 00.6	-0.2
PXZ				AML	AML	14 27 25.5	
PXZ				AML	AML	14 27 28.0	
DVHZ	**Dannevirke**	**1.84**	**173**	⇑PN	Pn	14 27 01.2	-0.8
PRHZ	**Porangahau**	**1.89**	**162**	⇑PN	Pn	14 27 02.1	-0.4
PUZ	**Puketiti**	**1.92**	**79**	⇓PN	Pn	14 27 02.3	-0.6
PUZ				AML	AML	14 27 28.3	
PUZ				AML	AML	14 27 29.0	
POWZ	**Post Office Ro**	**1.92**	**182**	⇑PN	Pn	14 27 02.0	-0.9
ANWZ	**Angora Road**	**2.04**	**167**	⇑PN	Pn	14 27 03.7	-0.5
PRWZ	**Pori Road**	**2.08**	**178**	⇑PN	Pn	14 27 04.0	-0.8
WMGZ	**Waiomatatini S**	**2.10**	**73**	PN	Pn	14 27 04.5	-0.5
MXZ	**Matakaoa Point**	**2.12**	**65**	PN	Pn	14 27 05.0	-0.2
MXZ				AML	AML	14 27 34.8	
MXZ				AML	AML	14 27 36.0	
MRZ	**Mangatainoka R**	**2.20**	**186**	PN	Pn	14 27 04.4	-1.7
MRZ				AML	AML	14 27 34.6	
MRZ				AML	AML	14 27 34.6	
BFZ	**Birch Farm**	**2.23**	**173**	PN	Pn	14 27 05.3	-1.1
TIWZ	**Tintock**	**2.31**	**180**	⇑PN	Pn	14 27 06.0	-1.3
TIWZ				AML	AML	14 27 37.1	
TIWZ				AML	AML	14 27 41.2	
OGWZ	**Otaki Gorge**	**2.41**	**193**	⇑PN	Pn	14 27 07.2	-1.3
HOWZ	**Holdsworth Sta**	**2.44**	**186**	⇑PN	Pn	14 27 07.2	-1.7
CPWZ	**Castlepoint**	**2.45**	**174**	⇑PN	Pn	14 27 08.1	-0.8
KIW	**Kapiti Island**	**2.50**	**197**	⇑PN	Pn	14 27 07.8	-1.8
KIW				AML	AML	14 27 40.4	
KIW				AML	AML	14 27 40.7	
TMWZ	**Te Maipa**	**2.63**	**180**	⇑PN	Pn	14 27 09.5	-1.8
MTW	**Mount Morrison**	**2.70**	**186**	PN	Pn	14 27 09.9	-2.1
MTW				AML	AML	14 27 43.8	
MTW				AML	AML	14 27 44.1	
CAW	**Cannon Point**	**2.71**	**193**	⇑PN	Pn	14 27 10.2	-1.9
CAW				AML	AML	14 27 44.9	
CAW				AML	AML	14 27 46.3	
DUWZ	**D'Urville Isla**	**2.78**	**212**	PN	Pn	14 27 10.9	-2.0
PAWZ	**Paruwai Farm**	**2.93**	**187**	⇑PN	Pn	14 27 12.6	-2.2
PAWZ				AML	AML	14 27 47.1	
PAWZ				AML	AML	14 27 47.9	
TRWZ	**Traveller**	**2.93**	**183**	PN	Pn	14 27 12.8	-2.0
TRWZ				AML	AML	14 27 47.3	
TRWZ				AML	AML	14 27 49.4	
WEL	**Wellington**	**2.94**	**197**	PN	Pn	14 27 12.7	-2.2
MSWZ	**Moikau Station**	**2.98**	**189**	⇑PN	Pn	14 27 13.1	-2.3
MSWZ				AML	AML	14 27 50.3	
MSWZ				AML	AML	14 27 50.8	
TCW	**Tory Channel**	**3.00**	**204**	PN	Pn	14 27 13.5	-2.2
TCW				AML	AML	14 27 50.4	
TCW				AML	AML	14 27 50.8	
BHW	**Baring Head**	**3.04**	**194**	PN	Pn	14 27 13.7	-2.3
BHW				AML	AML	14 27 49.1	
BHW				AML	AML	14 27 49.8	
PLWZ	**Palliser**	**3.13**	**189**	PN	Pn	14 27 14.9	-2.5
TUWZ	**Tuamarina**	**3.31**	**206**	PN	Pn	14 27 17.0	-2.5
TUWZ				AML	AML	14 27 57.0	
TUWZ				AML	AML	14 27 57.2	
NNZ	**Nelson**	**3.35**	**214**	⇑PN	Pn	14 27 17.4	-2.7
QRZ	**Quartz Range**	**3.50**	**227**	PN	Pn	14 27 18.9	-3.0
BSWZ	**Blackbirch Sta**	**3.59**	**205**	PN	Pn	14 27 20.5	-2.5
BSWZ				AML	AML	14 28 04.9	
BSWZ				AML	AML	14 28 05.0	
THZ	**Tophouse**	**4.00**	**214**	⇓PN	Pn	14 27 25.3	-3.2
KHZ	**Kahutara**	**4.33**	**204**	⇑PN	Pn	14 27 29.7	-2.8
KHZ				AML	AML	14 28 19.4	
KHZ				AML	AML	14 28 19.9	
DSZ	**Denniston Nort**	**4.52**	**222**	PN	Pn	14 27 31.4	-3.9
LTZ	**Lake Taylor**	**5.11**	**211**	PN	Pn	14 27 38.2	-4.6
OXZ	**Oxford**	**5.66**	**210**	PN	Pn	14 27 45.2	-4.8
CRLZ	**Canterbury Las**	**5.66**	**205**	PN	Pn	14 27 45.7	-4.4
MOZ	**McQueen's Vall**	**5.77**	**204**	⇓PN	Pn	14 27 46.8	-4.7
RPZ	**Rata Peaks**	**6.38**	**213**	PN	Pn	14 27 55.6	-4.0
LBZ	**Lake Benmore**	**7.29**	**214**	PN	Pn	14 28 07.3	-4.4

*ISCJB **11** 14:31:31.0±0.9, 12°30N±0°04×123°69E±0°05, h12km±6km, mb3.5/3, Error ellipse: s-maj=9.4km s-min=5.1km az=151.6*
*MAN **11** 14:31:30, 12°32N×123°70E, h9km, mb4.9, ML3.8, MS3.9*
MAN INTENSITY III - MASBATE MASBATE.
*IDC **11** 14:31:32.6±4.2, 12°70N×126°80E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/40, mbtmp3.4/3, Error ellipse: s-maj=299.8km s-min=28.3km az=65.0*
ISC 11 14:31:31.3±1.1, 12°34N±0°04×123°76E±0°05, h11km±7km, n15, σ0°88/20, mb3.5/3, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.13**	**279**	⇑*e*P	**Pg**	**14 31 33.9**	**-0.5**
MMPH				*i* S	**Sg**	**14 31 36.6**	**-0.1**
PVCP	**Virac**	**1.31**	**17**	*e*P	**Pn**	**14 31 55.1**	**-0.5**
PVCP				*e*S	**Sg**	**14 32 14.8**	**+1.2**
AUQP	**San Andres**	**1.44**	**313**	*e*P	**Pn**	**14 31 57.7**	**+0.3**
AUQP				*e*S	**Sg**	**14 32 19.5**	**+1.8**
OCLP	**Ormoc**	**1.53**	**147**	*e*P	**Pn**	**14 31 58.7**	**+0.1**
KALP	**Kalibo**	**1.54**	**245**	*e*P	**Pg**	**14 32 02.2**	**+1.4**
PLP	**Palo**	**1.67**	**134**	⇑*i*P	**Pn**	**14 32 00.0**	**-0.5**
PLP				*e*S	**Sb**	**14 32 23.0**	**-0.2**
OTRP	**Odiongan**	**1.70**	**271**	*e*P	**Pn**	**14 31 59.3**	**-1.6**
GQP	**Guinayangan**	**2.02**	**321**	⇓*e*P	**Pn**	**14 32 04.7**	**-0.6**
GQP				*e*S	**Sn**	**14 32 29.8**	**-0.7**
LLP	**Lapu-Lapu**	**2.02**	**174**	⇑*e*P	**Pn**	**14 32 04.7**	**-0.7**
LLP				*e*S	**Sn**	**14 32 31.1**	**+0.4**
GUIM	**Jordan**	**2.05**	**214**	*e*P	**Pn**	**14 32 05.6**	**-0.2**
MSLP	**Maasin**	**2.44**	**154**	*e*P	**Pn**	**14 32 11.0**	**-0.2**
SJMP	**San Jose**	**2.58**	**273**	*e*P	**Pn**	**14 32 13.1**	**0.0**
WRA	**Warramunga Arr**	**33.73**	**162**	P	**P**	**14 38 12.7**	**-0.3**
	0.4nm,0.7s,baz=349,slow=8.9,SNR=3.6						
ASAR	**Alice Springs**	**37.13**	**164**	P	**P**	**14 38 41.7**	**-0.6**
	0.4nm,0.7s,baz=352,slow=7.7,SNR=10.0						
MKAR	**Makanchi Array**	**48.90**	**323**	P	P	14 40 32.0	+15
	0.4nm,0.8s,baz=115,slow=5.4,SNR=4.1						

*IDC **11** 14:31:39.1±0.9, 34°95S×73°99W, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.9/30, mbtmp3.8/8, ML4.0/3, MS3.6/1, Ms1 3.6/1, ms1mx3.6/38, Error ellipse: s-maj=33.3km s-min=18.0km az=87.0*
*ISCJB **11** 14:31:42.2±0.7, 34°95S±0°06×73°9W±0°1, h33km, mb4.0/6,

and [II] at Buenos Aires, Argentina. Felt at Montevideo, Uruguay and [II] at Asuncion, Paraguay. A small tsunami was recorded with wave heights [peak-to-trough] of 29 cm at San Antonio and 16 cm at Valparaiso.

*NEIC **11** 14:39:43.9±0.0, 34°.39S×71°.65W, h13km, Moment Tensor Solution. s61 Moment tensor: Scale 10^19Nm; Mrr=-2.44; Mθθ=0.99; Mφφ=1.45; Mrθ=-0.49; Mrφ=-1.10; Mθφ=0.95; Best double couple: M0=2.60000×10^19 NP1:φs=145.00000°, δ=57.00000°, λ=-85.00000°. NP2:φs=317.00000°, δ=33.00000°, λ=-97.00000°. Principal axes: T 2.5700, Plg11.0000°, Azm231.0000°; N 0.1100, Plg4.0000°, Azm322.0000°; P =-2.6800, Plg77.0000°, Azm71.0000°;*

*GCMT **11** 14:39:44.0±0.1, 34°.54S×72°.11W, h13km, MW=6.9/134, Moment Tensor Solution. s134,c350; s134,c626; Duration: 6s5 Moment tensor: Scale 10^19Nm; Mrr=-2.33±.01; Mθθ=0.86±.01; Mφφ=1.47±.01; Mrθ=-0.47±.02; Mrφ=-0.95±.01; Mθφ=0.64±.03; Best double couple: M0=2.38500×10^19 NP1:φs=144.00000°, δ=55.00000°, λ=-90.00000°. NP2:φs=324.00000°, δ=35.00000°, λ=-90.00000°. Principal axes: T 2.3040, Plg10.0000°, Azm234.0000°; N 0.1610, Plg0.0000°, Azm324.0000°; P =-2.4670, Plg80.0000°, Azm54.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **11** 14:39:46.9±1.3, 34°.23S×72°.26W, h33km, mb6.8/74, MS7.0/61 Error ellipse: s-maj=12.2km s-min=6.2km az=97.7*

*BJI **11** 14:39:46.1, 34°.30S×71°.90W, h20km, mB7.2/58, Ms7.3/79, Ms7 7.4/73*

*NEIC **11** 14:40:06.1±0.0, 34°.15S×71°.37W, h10km, Moment Tensor Solution. s127 Moment tensor: Scale 10^19Nm; Mrr=-2.20; Mθθ=0.84; Mφφ=1.35; Mrθ=-1.08; Mθφ=-1.05; Mrφ=0.17; Best double couple: M0=2.40000×10^19 NP1:φs=126.00000°, δ=57.00000°, λ=-107.00000°. NP2:φs=337.00000°, δ=37.00000°, λ=-63.00000°. Principal axes: T 2.3300, Plg10.0000°, Azm228.0000°; N 0.2200, Plg15.0000°, Azm135.0000°; P -2.5500, Plg71.0000°, Azm352.0000°;*

ISC 11 14:39:45.7±0.4, 34°.35S±0°.02×71°.96W±0°.03, h19km±1km, h19km:pP-P,n2025,σ1°.95/2141, mb6.7/272, MS7.1/204, 294C-294D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.60**	**49**	*e*P1	**Pg**	**14 39 55.0**	**-2.8**
LNV	**Longovilo**	**0.60**	**49**	*e*P1	**Pg**	**14 39 55.0**	**-2.8**
LNV	**Longovilo**	**0.60**	**49**	*e*P	**Pg**	**14 39 55.0**	**-2.8**
NICH	**Los Niches**	**0.88**	**138**	*i* P	**Pb**	**14 39 59.8**	**-2.6**
NICH				*i* S	**Sb**	**14 40 14.2**	**+0.4**
NICH				*e*		14 40 14.5	
NICH	**Los Niches**	**0.88**	**138**	*i* P	**Pb**	**14 39 59.8**	**-2.6**
NICH				*i* S	**Sb**	**14 40 14.2**	**+0.4**
NICH	**Los Niches**	**0.88**	**138**	*i* P	**Pb**	**14 39 59.8**	**-2.6**
NICH				*i* S	**Sb**	**14 40 14.2**	**+0.4**
TACH	**Talagante**	**1.10**	**51**	⇓*i*P	Pn	14 40 02.5	-3.6
TACH	**Talagante**	**1.10**	**51**	⇓*i*P	Pn	14 40 02.5	-3.6
TACH	**Talagante**	**1.10**	**51**	⇓*i*P	Pn	14 40 02.5	-3.6
CACH	**El Canelo**	**1.15**	**79**	⇑*i*P	**Pn**	**14 40 04.4**	**-2.5**
CACH	**El Canelo**	**1.15**	**79**	⇑*i*P	**Pn**	**14 40 04.4**	**-2.5**
CACH	**El Canelo**	**1.15**	**79**	⇑*i*P	**Pn**	**14 40 04.4**	**-2.5**
CHCH	**Chadas Angostu**	**1.16**	**69**	⇓*i*P	**Pn**	**14 40 04.0**	**-2.9**
CHCH	**Chadas Angostu**	**1.16**	**69**	⇓*i*P	**Pn**	**14 40 04.0**	**-2.9**
CHCH	**Chadas Angostu**	**1.16**	**69**	⇓*i*P	**Pn**	**14 40 04.0**	**-2.9**
RCDM	**Rinconada Maip**	**1.29**	**48**	⇑*i*P	Pn	14 40 05.2	-3.5
RCDM				AML	AML	14 40 38.3	
	comp=N,511μm,0.5s						
RCDM	**Rinconada Maip**	**1.29**	**48**	*i* P4	Pn	14 40 05.4	-3.3
RCDM				*i* S4	**Sg**	**14 40 29.9**	**+2.5**
RCDM	**Rinconada Maip**	**1.29**	**48**	⇑*i*P	Pn	14 40 05.2	-3.5
ANTU	**Antumapu**	**1.35**	**55**	*i* P	**Pn**	**14 40 07.0**	**-2.6**
ANTU				AML	AML	14 40 44.8	
	comp=N,938μm,0.6s						
ANTU	**Antumapu**	**1.35**	**55**	⇑*i*P	**Pn**	**14 40 07.1**	**-2.5**
ANTU				*e*S4	**Sg**	**14 40 30.3**	**+0.9**
ANTU	**Antumapu**	**1.35**	**55**	*i* P	**Pn**	**14 40 07.0**	**-2.6**
IHA	**Instituto Hidr**	**1.35**	**11**	*i* P4	Pn	14 40 06.2	-3.3
IHA	**Instituto Hidr**	**1.35**	**11**	*i* P4	Pn	14 40 06.2	-3.3
IHA	**Instituto Hidr**	**1.35**	**11**	P	Pn	14 40 06.2	-3.3
SAN	**Santiago**	**1.40**	**51**	*e*P	**Pn**	**14 40 07.5**	**-2.8**
SAN	**Santiago**	**1.40**	**51**	*e*P	**Pn**	**14 40 07.5**	**-2.8**
SAN	**Santiago**	**1.40**	**51**	*e*P4	**Pn**	**14 40 07.5**	**-2.8**
SAN	**Santiago**	**1.40**	**51**	*e*P	**Pn**	**14 40 07.5**	**-2.8**
PCH	**Pirque**	**1.40**	**59**	*e*P1	**Pn**	**14 40 08.0**	**-2.4**
PCH	**Pirque**	**1.40**	**59**	*e*P4	**Pn**	**14 40 08.1**	**-2.2**
PCH	**Pirque**	**1.40**	**59**	*e*P	**Pn**	**14 40 08.0**	**-2.4**
STL	**Santa Lucia**	**1.43**	**50**	*i* P4	Pn	14 40 07.0	-3.6
STL				*i* S4	**Sg**	**14 40 31.0**	**-0.9**
LACH	**Col Las Americ**	**1.49**	**53**	*e*P	**Pn**	**14 40 09.1**	**-2.4**
LACH				AML	AML	14 40 46.7	
	comp=N,445μm,0.7s						
LACH	**Col Las Americ**	**1.49**	**53**	*i* P4	**Pn**	**14 40 09.1**	**-2.4**
LACH				*i* S4	**Sg**	**14 40 35.8**	**+2.0**
LACH	**Col Las Americ**	**1.49**	**53**	*e*P	**Pn**	**14 40 09.1**	**-2.4**
CLCH	**Cerro Calan**	**1.52**	**51**	⇑*i*P	**Pn**	**14 40 09.6**	**-2.3**
CLCH				AML	AML	14 40 54.4	
	comp=N,1043μm,0.9s						
CLCH	**Cerro Calan**	**1.52**	**51**	⇑*i*P	**Pn**	**14 40 09.6**	**-2.3**
LNCH	**Linares**	**1.52**	**169**	⇑*i*P	**Pn**	**14 40 09.1**	**-2.8**
LNCH	**Linares**	**1.52**	**169**	*i* P4	**Pn**	**14 40 09.1**	**-2.8**
LNCH	**Linares**	**1.52**	**169**	⇑*i*P	**Pn**	**14 40 09.1**	**-2.8**
PEL	**Peldehue**	**1.60**	**42**	⇓*i*P	**Pn**	**14 40 10.6**	**-2.5**
PEL				*e*S	**Sn**	**14 40 31.7**	**-1.6**
PEL	**Peldehue**	**1.60**	**42**	⇓*i*P	**Pn**	**14 40 10.6**	**-2.5**
PEL				*e*S	**Sn**	**14 40 31.7**	**-1.6**
PEL	**Peldehue**	**1.60**	**42**	*e*P4	**Pn**	**14 40 10.7**	**-2.4**
PEL				*i* S4	**Sn**	**14 40 35.8**	**+2.5**
PEL	**Peldehue**	**1.60**	**42**	⇓*i*P	**Pn**	**14 40 10.6**	**-2.5**
PEL				*e*S	**Sn**	**14 40 31.7**	**-1.6**
FCH	**Farellones**	**1.72**	**54**	⇑*i*P	**Pn**	**14 40 14.9**	**-0.1**
FCH				*i* S4	**Sg**	**14 40 45.9**	**+4.5**
FCH	**Farellones**	**1.72**	**54**	⇑*i*P	**Pn**	**14 40 14.9**	**-0.1**
FCH				*i* S4	**Sg**	**14 40 45.9**	**+4.5**
FCH	**Farellones**	**1.72**	**54**	P	**Pn**	**14 40 14.9**	**-0.1**
FCH				S	**Sg**	**14 40 45.9**	**+4.5**
CCSP	**San Pedro de C**	**2.66**	**200**	*i* P4	**Pn**	**14 40 25.9**	**-1.6**
CCSP				*i* S4	**Sn**	**14 40 58.3**	**-0.9**
CFAA	**Coronel Fontan**	**4.16**	**50**	Pn	**Pn**	**14 40 48.5**	**+0.3**
	comp=N,4.1nm,0.3s,baz=227,slow=12,SNR=257						
CFAA				Lg	Lg	14 41 52.0	
	comp=N,198nm,0.3s,baz=55,slow=4.3,SNR=8.1						
LCO	**Las Campanas**	**5.43**	**12**	*e*Pn	**Pn**	**14 41 03.4**	**-2.5**
LCO				*e*Sn	**Sn**	**14 42 04.8**	**-3.2**
PLCA	**Paso Flores**	**6.47**	**170**	*e*P	**Pn**	**14 41 19.4**	**-0.5**
PLCA				*e*		14 42 32.2	
PLCA	**Paso Flores**	**6.47**	**170**	Pn	**Pn**	**14 41 20.0**	**+0.1**
	comp=N,40nm,0.3s,baz=333,slow=12,SNR=313						
PLCA				Lg	Lg	14 43 04.7	
	comp=N,178nm,0.3s,baz=272,slow=24,SNR=9.1						
PLCA				LR	LR	14 44 12.2	
	comp=N,769μm,20.2s,baz=338,slow=42						
PLCA	**Paso Flores**	**6.47**	**170**	*e*Pn	**Pn**	**14 41 19.4**	**-0.5**
PLCA				*e*Sn	**Sn**	**14 42 32.2**	**-1.0**
PLCA				Lg	Lg	14 43 04.7	
TRQA	**Tornquist**	**8.87**	**117**	*e*Pn	**Pn**	**14 41 54.7**	**+1.8**
TRQA				*e*Sn	**Sn**	**14 43 31.5**	**-0.8**
LVC	**Limon Verde**	**12.00**	**14**	*e*Pn	Pn	14 42 28.9	-7.1
I41PY	**VILLA FLORIDA**	**14.94**	**62**	*i*		16 09 20.0	
	baz=241,slow=305,SNR=1.6						
LPAZ	**La Paz**	**18.31**	**12**	P	**Pn**	**14 43 57.6**	**-1.8**
LPAZ				S	**S**	**14 47 28.5**	**0.0**
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ	**La Paz**	**18.31**	**12**	P	**Pn**	**14 43 57.6**	**-1.8**
	comp=Z,1.5nm,0.3s,baz=183,slow=9.1,SNR=80						
LPAZ				S	**S**	**14 47 28.5**	**0.0**
	baz=214,slow=16,SNR=1.1						
LPAZ	**La Paz**	**18.31**	**12**	*e*Pn	**Pn**	**14 43 57.9**	**-1.4**
LPAZ				S	**S**	**14 47 28.5**	**0.0**
EFI	**East Falkland**	**20.01**	**154**	*e*P	**P**	**14 44 15.4**	**-1.7**
EFI				*e*S	**S**	**14 47 55.9**	**-5.3**
EFI				pmax	pmax		
	comp=Z,963nm,0.7s						
EFI				MLR	MLR		
	comp=Z,543μm,20.0s						
EFI	**East Falkland**	**20.01**	**154**	*e*P	**P**	**14 44 15.4**	**-1.7**
	comp=Z,963nm,0.7s						
EFI				*e*S	**S**	**14 47 55.9**	**-5.3**
EFI				*e*ScP	**ScP**	**14 52 01.2**	**-6.5**
EFI				LR	LR		
	comp=Z,543μm,20.0s						
USHA	**Ushuaia**	**20.62**	**174**	P	**P**	**14 44 24.4**	**+0.7**
	comp=Z,243nm,0.9s,baz=336,slow=7.7,SNR=44						
USHA				S	**S**	**14 48 11.6**	**-1.7**
	comp=Z,46nm,0.9s,baz=4.4,slow=17,SNR=1.5						
USHA				LR	LR	14 52 57.9	
	comp=Z,1358μm,18.4s,baz=338,slow=38						
SIV	**San Ignacio**	**20.74**	**31**	P	**P**	**14 44 23.2**	**-2.1**
	comp=Z,214nm,0.9s,baz=227,slow=12,SNR=145						
SIV				S	Sn	14 48 21.9	+0.5
	comp=Z,36nm,0.9s,baz=266,slow=16,SNR=1.4						
SIV				LR	LR	14 53 38.5	
	comp=Z,371μm,19.6s,baz=216,slow=40						
NNA	**Nana**	**22.70**	**348**	*e*P	**P**	**14 44 46.1**	**-0.4**
NNA				pmax	pmax		
	comp=Z,1μm,0.9s						
NNA	**Nana**	**22.70**	**348**	P	**P**	**14 44 46.5**	**0.0**
	comp=Z,134nm,0.8s,baz=193,slow=10,SNR=38						
NNA				LR	LR	14 51 39.4	
	comp=Z,328μm,21.6s,baz=184,slow=32						
NNA	**Nana**	**22.70**	**348**	*e*P	**P**	**14 44 46.0**	**-0.4**
	comp=Z,1μm,0.9s						
SAML	**Samuel**	**26.54**	**20**	*e*P	**P**	**14 45 21.7**	**-0.7**
SAML				LR	LR		
	comp=Z,310μm,20.0s						
ATAH	**Atahualpa**	**27.73**	**346**	P	**P**	**14 45 34.9**	**+1.4**
	comp=Z,89nm,1.0s,baz=168,slow=7.8,SNR=26						
ATAH				LR	LR	14 55 23.1	
	comp=Z,217μm,18.8s,baz=175,slow=34						
BDFB	**Brasilia**	**28.48**	**55**	P	**P**	**14 45 38.7**	**-1.2**
BDFB				S	**S**	**14 50 25.3**	**-1.3**
BDFB				pmax	pmax		
	comp=Z,116nm,0.9s						
BDFB				smax	smax		
	comp=N,50nm,0.9s						
BDFB				MLR	MLR		
	comp=Z,450μm,19.5s						
BDFB	**Brasilia**	**28.48**	**55**	P	**P**	**14 45 38.6**	**-1.2**
	comp=Z,116nm,0.9s,baz=217,slow=7.6,SNR=44						
BDFB				S	**S**	**14 50 25.3**	**-1.3**
	comp=Z,50nm,0.9s,baz=124,slow=16,SNR=2.0						
BDFB				LR	LR	14 57 00.8	
	comp=Z,450μm,19.5s,baz=220,slow=36						
PMSA	**Palmer Station**	**30.83**	**173**	P	**P**	**14 46 01.7**	**+1.6**
	comp=Z,141nm,0.9s,baz=356,slow=8.7,SNR=15						
PMSA				S	**S**	**14 51 02.6**	**+0.1**
	comp=Z,24nm,1.1s,baz=348,slow=21,SNR=1.8						
PMSA				LR	LR	14 58 15.4	
	comp=Z,622μm,19.2s,baz=339,slow=36						
PMSA	**Palmer Station**	**30.83**	**173**	*e*P	**P**	**14 45 58.2**	**-1.9**
	comp=Z,2μm,1.8s						
PMSA				S	**S**	**14 51 02.6**	**+0.1**
HOPE	**Hope Point**	**31.78**	**140**	*e*P	**P**	**14 46 08.3**	**-0.3**
	comp=Z,376nm,0.8s						
HOPE				*e*PcP	**PcP**	**14 48 57.8**	**-1.6**
HOPE				LR	LR		
	comp=Z,215μm,20.0s						
OTAV	**Otavalo**	**34.94**	**349**	*e*P	**P**	**14 46 38.0**	**+1.0**
	comp=Z,2μm,1.9s						
OTAV				*e*PP	**PP**	**14 47 55.9**	**-0.6**
OTAV				*e*PcP	**PcP**	**14 49 08.4**	**-1.1**
OTAV				LR	LR		
	comp=Z,111μm,21.0s						
PAYG	**Puerto Ayora**	**37.64**	**329**	*e*P	**P**	**14 46 58.6**	**-1.0**
	comp=Z,2μm,1.8s						
PAYG				*e*PP	**PP**	**14 48 23.8**	**-2.0**
PAYG				*e*PcP	**PcP**	**14 49 16.5**	**-0.6**
PAYG				LR	LR		
	comp=Z,158μm,20.0s						
ROSC	**El Rosal**	**39.06**	**356**	P	**P**	**14 47 13.9**	**+1.9**
	comp=Z,39nm,0.6s,baz=181,slow=4.1,SNR=16						
ROSC				S	S	14 52 59.0	-12
	comp=Z,8.1nm,0.4s,baz=285,slow=23,SNR=2.4						
SDV	**Santo Domingo**	**43.02**	**2**	*e*P	**P**	**14 47 43.2**	**-1.1**
SDV				LR	LR		
	comp=Z,178μm,19.0s						
RCBR	**Riachuelo**	**43.77**	**58**	S	**S**	**14 54 18.5**	**-1.5**
	comp=Z,14nm,0.9s,baz=172,slow=14,SNR=1.3						
RCBR	**Riachuelo**	**43.77**	**58**	*e*P	**P**	**14 47 49.8**	**-0.5**
RCBR				S	**S**	**14 54 18.5**	**-1.5**
RCBR				LR	LR		
	comp=Z,443μm,22.0s						
BCIP	**Isla Barro Col**	**43.92**	**349**	*e*P	**P**	**14 47 50.1**	**-1.3**
BCIP				LR	LR		
	comp=Z,69μm,19.0s						
ACR	**Cerro Adams**	**44.07**	**344**	*e*P	**P**	**14 47 51.9**	**-0.7**
ACR				*e*S	**PcP**	**14 49 41.8**	**+3.9**
QCR	**Quepos**	**45.05**	**343**	*e*P	**P**	**14 48 00.1**	**-0.3**
BUS	**Buena Vista**	**45.08**	**343**	*e*P	**P**	**14 48 01.2**	**+0.1**
URSC	**Ursaca**	**45.35**	**344**	*e*P	**P**	**14 48 01.2**	**-1.8**
TPP	**Pointe-a-Pierr**	**45.53**	**15**	*e*	**P**	**14 48 06.8**	**+2.7**
CGA2	**Cerro Gallo 2**	**45.69**	**343**	*e*P	**P**	**14 48 06.1**	**+0.5**
JCR	**Jicaral**	**45.70**	**342**	*e*P	**P**	**14 48 04.7**	**-0.9**
TBH	**Brigand Hill**	**45.77**	**15**	*e*	P	14 48 09.8	+3.7
TRN	**Trinidad (W)**	**45.86**	**15**	*e*	P	14 48 12.3	+5.5
JTS	**JuntasAbangare**	**46.08**	**342**	*e*P	**P**	**14 48 08.5**	**-0.1**
JTS				*e*		14 49 44.0	
JTS				*e*		14 49 56.0	
JTS				S	S	14 54 40.6	-13
JTS				pmax	pmax		
	comp=Z,2μm,1.9s						
JTS				MLR	MLR		
	comp=Z,63μm,22.0s						
JTS	**JuntasAbangare**	**46.08**	**342**	P	**P**	**14 48 09.4**	**+0.8**
	comp=Z,92nm,1.0s,baz=169,slow=7.2,SNR=42						
JTS				S	S	14 54 40.6	-13
	comp=Z,4.6nm,0.4s,baz=280,slow=13,SNR=4.1						
JTS	**JuntasAbangare**	**46.08**	**342**	*e*P	**P**	**14 48 08.5**	**-0.1**
	comp=Z,2μm,1.9s						
JTS				*e*PcP	**PcP**	**14 49 44.0**	**-0.8**
JTS				*e*PP	**PP**	**14 49 56.0**	**-1.0**
JTS				S	S	14 54 40.6	-13
JTS				LR	LR		
	comp=Z,63μm,22.0s						
BOT	**Bacolet**	**46.51**	**15**	*e*	**P**	**14 48 13.6**	**+1.7**
TPR	**Prospect**	**46.52**	**15**	*e*	**P**	**14 48 14.1**	**+2.2**
GRGR	**Grenville**	**47.25**	**14**	*e*P	**P**	**14 48 16.6**	**-1.1**
	comp=Z,2μm,1.0s						
GRGR				*e*PcP	**PcP**	**14 49 48.2**	**-0.7**
GRGR				LR	LR		
	comp=Z,160μm,20.0s						
GRW	**Mount Saint Ca**	**47.28**	**14**	*e*	**P**	**14 48 17.7**	**-0.3**
GRHS	**Sauteurs**	**47.34**	**14**	*e*	**P**	**14 48 18.8**	**+0.3**
GRSS	**Sisters**	**47.42**	**14**	*e*	**P**	**14 48 19.2**	**+0.1**
TRIS	**Tristan da Cun**	**47.81**	**111**	PFAKE		14 48 30.0	+8.0
TRIS				LR	LR		
	comp=Z,58μm,19.0s						
FCV	**Fort Charlotte**	**48.33**	**14**	*e*	P	14 48 22.2	-3.9
SVB	**Belmont**	**48.44**	**14**	*e*	**P**	**14 48 24.0**	**-3.0**
SVV	**Soufriere Volc**	**48.49**	**14**	*e*	**P**	**14 48 27.9**	**+0.5**
BBGH	**Gun Hill**	**48.68**	**16**	*e*P	**P**	**14 48 26.5**	**-2.2**
BBGH				LR	LR		
	comp=Z,210μm,20.0s						
MCLT	**Moule a Chique**	**48.93**	**14**	*e*	**P**	**14 48 30.8**	**+0.1**
VNA3	**Neumayer Olymp**	**49.01**	**158**	P	**P**	**14 48 31.1**	**+0.4**
SLB	**Belfond**	**49.02**	**14**	*e*	**P**	**14 48 33.1**	**+1.6**
VNA1	**Neumayer--Stat**	**49.32**	**157**	P	**P**	**14 48 35.7**	**+2.6**
VNA2	**Neumayer--Watz**	**49.66**	**157**	P	**P**	**14 48 35.8**	**+0.1**
FDF	**Fort de France**	**49.88**	**14**	*e*P	**P**	**14 48 37.1**	**-0.9**
FDF				pmax	pmax		
	comp=Z,1μm,1.1s						
FDF				MLR	MLR		
	comp=Z,190μm,22.0s						
FDF	**Fort de France**	**49.88**	**14**	*e*P	**P**	**14 48 37.5**	**-0.6**
FDF	**Fort de France**	**49.88**	**14**	*e*P	**P**	**14 48 37.1**	**-0.9**
	comp=Z,1μm,1.1s						
FDF				LR	LR		
	comp=Z,190μm,22.0s						
DLPL	**La Plaine**	**50.45**	**13**	*e*	**P**	**14 48 41.7**	**-0.5**
PTCN	**Pitcairn Islan**	**50.75**	**264**	*e*P	**P**	**14 48 44.3**	**-0.3**
	comp=Z,1μm,0.8s						
PTCN				LR	LR		
	comp=Z,157μm,19.0s						
SNAA	**Sanae**	**51.23**	**158**	P	**P**	**14 48 48.0**	**+0.3**
SNAA	**Sanae**	**51.23**	**158**	*e*P	**P**	**14 48 46.8**	**-0.9**
SNAA	**Sanae**	**51.23**	**158**	P	**P**	**14 48 46.8**	**-0.9**
SNAA				S	**S**	**14 56 07.1**	**+2.1**
SNAA				pmax	pmax		
	comp=Z,400nm,1.1s						
SNAA				smax	smax		
	comp=N,5.0nm,1.0s						
SNAA	**Sanae**	**51.23**	**158**	P	**P**	**14 48 46.8**	**-0.9**
	comp=N,400nm,1.1s,baz=272,slow=7.7,SNR=83						
SNAA				S	**S**	**14 56 07.1**	**+2.1**
	comp=N,4.9nm,1.0s,baz=28,slow=22,SNR=7.6						
SNAA				LR	LR	15 09 14.6	
	comp=N,41μm,19.9s,baz=288,slow=35						
YHJ	**Yallahs**	**52.13**	**355**	*i* P	**P**	**14 48 54.8**	**-0.1**
APG	**El Apazote**	**52.15**	**337**	P	P	14 48 50.5	-4.8
	comp=N,73nm,0.9s,baz=156,slow=8.1,SNR=59						
APG				S	S	14 56 12.4	-6.5
	comp=N,2.8nm,0.8s,baz=85,slow=8.4,SNR=2.4						
APG				LR	LR	15 06 27.0	
	comp=N,103μm,21.0s,baz=148,slow=31						
CDVI	**St. Croix**	**52.26**	**9**	*e*P	**P**	**14 48 55.6**	**-0.2**
HOJ	**Hope**	**52.27**	**354**	*i* P	**P**	**14 48 57.3**	**+1.5**
CRPR	**Cabo Rojo, PR**	**52.27**	**6**	*e*P	**P**	**14 48 53.1**	**-2.8**
	comp=N,952nm,1.1s						
MCJ	**Malvern**	**52.27**	**353**	*i* P	**P**	**14 48 56.5**	**+0.5**
GWJ	**Greenwich**	**52.33**	**354**	*i* P	**P**	**14 48 55.9**	**-0.6**
STH	**Stony Hill**	**52.34**	**354**	*i* P	**P**	**14 48 56.2**	**-0.2**
OBIP	**Obispado Ponce**	**52.35**	**6**	*e*P	**P**	**14 48 55.8**	**-0.7**
	comp=N,830nm,1.0s						
OBIP				*e*PP	**PP**	**14 50 54.0**	**-1.4**
CELP	**Cerrillos**	**52.39**	**6**	*e*P	**P**	**14 48 55.3**	**-1.4**
CELP				*e*PcP	**PcP**	**14 50 07.3**	**-0.2**
LSP	**Las Mesas**	**52.44**	**6**	*e*P	**P**	**14 48 55.7**	**-1.4**
LSP				*e*PcP	**PcP**	**14 50 04.6**	**-3.2**
MTDJ	**Mount Denham**	**52.55**	**353**	*e*P	**P**	**14 48 57.3**	**-0.8**
	comp=N,1μm,1.5s						
MTDJ				LR	LR		
	comp=Z,32μm,19.0s						
CVJ	**Coleyville**	**52.55**	**353**	*i* P	**P**	**14 48 58.8**	**+0.7**
LRS	**Lares**	**52.58**	**6**	*e*P	**P**	**14 48 56.1**	**-2.0**
LRS				*e*PcP	**PcP**	**14 50 07.8**	**-0.5**
CBYP	**Canovanas**	**52.65**	**7**	*e*P	**P**	**14 48 56.3**	**-2.4**
	comp=Z,946nm,1.3s						
PCDR	**Punta Cana, DR**	**52.68**	**4**	*e*P	**P**	**14 48 58.0**	**-0.9**
PCDR				*e*PcP	**PcP**	**14 50 07.0**	**-1.6**
BBJ	**Bamboo Saint A**	**52.69**	**354**	*i* P	**P**	**14 48 58.9**	**-0.1**
SDDR	**Presa de Saban**	**53.04**	**1**	*e*P	**P**	**14 49 01.0**	**-0.6**
	comp=Z,360nm,1.1s						
SDDR				*e*PcP	**PcP**	**14 50 08.7**	**-1.3**
SDDR				LR	LR		
	comp=Z,121μm,22.0s						
SMN1	**Samana, DR**	**53.30**	**3**	*e*P	**P**	**14 49 01.8**	**-1.8**
SMN1				*e*PcP	**PcP**	**14 50 08.6**	**-2.4**
SMN1				*e*PP	**PP**	**14 51 02.6**	**-1.5**
GTBY	**Guantanamo Bay**	**54.06**	**356**	*e*P	**P**	**14 49 07.8**	**-1.2**
	comp=Z,965nm,1.4s						
GTBY				LR	LR		
	comp=Z,81μm,20.0s						
TGIG		**54.69**	**335**	P	**P**	**14 49 13.2**	**-0.6**
HUIG	**Huatulco**	**54.89**	**331**	P	**P**	**14 49 14.9**	**-0.2**
GRTK	**Grand Turk**	**55.56**	**1**	*e*P	P	14 49 16.4	-3.4
	comp=Z,4μm,1.8s						
GRTK				*e*PcP	**PcP**	**14 50 17.4**	**-2.1**
GRTK				LR	LR		
	comp=Z,82μm,22.0s						
RKT	**Rikitea**	**55.61**	**264**	*e*P	**P**	**14 49 20.7**	**+0.3**
	comp=Z,418nm,1.7s						
RKT				*e*S	**S**	**14 57 00.4**	**-5.0**
	comp=Z,101μm,28.8s						
RKT				*e*SS	**SS**	**15 00 47.0**	**-3.5**
	comp=Z,41μm,31.0s						
RKT				*e*LQ	LQ	15 03 05.4	
	comp=Z,154μm,32.8s						
RKT				*e*LR	LR	15 05 26.0	
	comp=Z,120μm,36.8s,baz=115						
RKT	**Rikitea**	**55.61**	**264**	*e*T	T	15 48 49.7	
	comp=Z,30nm,0.2s						
CMIG	**Matias Romero**	**55.62**	**333**	P	**P**	**14 49 19.9**	**-0.5**
	comp=Z,81nm,1.2s,baz=139,slow=4.5,SNR=4.0						
CMIG				S	**S**	**14 57 09.7**	**+4.3**
	comp=Z,0.9nm,0.3s,baz=13,slow=8.7,SNR=1.9						
CMIG				LR	LR	15 08 49.9	
	comp=Z,54μm,18.1s,baz=154,slow=31						
QSPA	**South Pole Qui**	**55.88**	**180**	P	**P**	**14 49 21.6**	**-0.3**
	comp=Z,745nm,1.1s,baz=144,slow=2.5,SNR=153						
QSPA				S	**S**	**14 57 11.8**	**+3.5**
	comp=Z,13nm,1.0s,baz=83,slow=23,SNR=5.8						
QSPA	**South Pole Qui**	**55.88**	**180**	*e*P	**P**	**14 49 21.6**	**-0.3**
	comp=Z,32nm,1.0s						
QSPA				S	**S**	**14 57 11.8**	**+3.5**
QSPA				LR	LR		
	comp=Z,71μm,21.0s						
NVL	**N'lazarevskaya**	**55.97**	**157**	⇓*i*P	P	14 49 17.9	-4.4
NVL				*e*		14 50 25.5	
NVL				*e*PPP	PPP	14 52 47.5	
NVL				pmax	pmax		
	comp=Z,1μm,1.1s						
SCIG	**Sabancuy**	**56.09**	**338**	P	**P**	**14 49 23.1**	**-0.7**
TUIG	**Tuzandepetl**	**56.32**	**334**	P	**P**	**14 49 25.4**	**+0.1**
TEIG	**Tepich**	**56.45

comp=Z,45μm,20.0s
TIGA Tifton 66.35 349 ⇓P P 14 50 32.0 -1.1
baz=67,SNR=33
TIGA Tifton 66.35 349 eP P 14 50 31.7 -1.3
comp=Z,886nm,1.1s
TIGA ePcP PcP 14 51 01.7 -1.1
934A Benavides 66.56 334 ⇑P P 14 50 34.8 +0.4
baz=67,SNR=59
BRAL Brewton 66.56 346 eP P 14 50 33.8 -0.6
comp=Z,1μm,1.0s
BRAL ePcP PcP 14 51 03.9 +0.3
BRAL LR LR
comp=Z,42μm,19.0s
BBSR BB Station 66.72 7 eP P 14 50 33.0 -2.4
comp=Z,686nm,1.3s
BBSR ePcP PcP 14 51 04.4 +0.2
BBSR LR LR
comp=Z,48μm,22.0s
738A Farr-Stevens R 66.73 337 ⇓P P 14 50 35.7 +0.2
baz=67
933A Laredo 66.84 334 ⇓P P 14 50 36.6 +0.4
baz=67,SNR=121
835A Beeville 66.94 335 ⇑P P 14 50 37.5 +0.7
baz=67,SNR=72
834A Tilden 67.05 335 ⇑P P 14 50 37.7 +0.1
baz=67,SNR=242
TAOE Nuku Hiva Isla 67.07 275 eP P 14 50 38.1 -0.1
comp=Z,1μm,1.3s
SACV Santiago Islan 67.22 52 eP P 14 50 37.9 -1.1
comp=Z,342nm,1.1s
SACV LR LR
comp=Z,97μm,20.0s
TBI Tubuai 67.30 257 eP P 14 50 39.4 -0.1
comp=Z,852nm,1.0s
TBI Tubuai 67.30 257 eT T 16 03 22.9
comp=Z,68nm,0.3s
RGRS Roger Stewart 67.35 352 eP P 14 50 38.3 -1.0
CSU Charleston Sou 67.42 353 eP P 14 50 39.0 -0.7
735A Kenedy 67.45 336 ⇓P P 14 50 41.0 +0.9
baz=68,SNR=43
833A Chaparral WMA, 67.53 334 ⇑P P 14 50 41.0 +0.4
baz=68,SNR=198
NHSC New Hope 67.55 353 eP P 14 50 39.1 -1.5
comp=Z,1μm,1.1s
NHSC LR LR
comp=Z,34μm,19.0s
734A La Parita Cree 67.71 335 ⇓P P 14 50 41.6 -0.1
baz=68
832A Faith Ranch, C 67.71 333 ⇓P P 14 50 42.0 +0.2
baz=68,SNR=198
636A Smothers Creek 67.78 336 ⇑P P 14 50 42.5 +0.3
baz=68,SNR=135
HKT Hockley 67.82 338 eP P 14 50 42.1 -0.2
HKT pmax pmax
comp=Z,2μm,1.6s
HKT Hockley 67.82 338 eP P 14 50 42.1 -0.2
comp=Z,2μm,1.6s
733A Divot King Ran 67.85 334 ⇓P P 14 50 42.8 +0.1
baz=68,SNR=65
635A Leesville 67.93 336 ⇑P P 14 50 43.2 +0.1
baz=68,SNR=57
538A Harpers Horsep 67.96 338 ⇑P P 14 50 43.8 +0.5
baz=68
537A Green Hill Far 68.09 337 ⇓P P 14 50 44.2 +0.1
baz=68,SNR=28
732A Laxson Ranch, 68.11 334 ⇑P P 14 50 44.2 0.0
baz=68,SNR=309
634A China Grove, S 68.12 335 ⇑P P 14 50 44.2 -0.1
baz=68,SNR=5.7
GOGA Godfrey 68.27 350 eP P 14 50 43.6 -1.5
GOGA pmax pmax
comp=Z,2μm,1.7s
GOGA MLR MLR
comp=Z,43μm,19.0s
GOGA Godfrey 68.27 350 eP P 14 50 43.6 -1.5
comp=Z,2μm,1.7s
GOGA LR LR
comp=Z,43μm,19.0s
536A Bastrop 68.33 337 ⇓P P 14 50 45.8 +0.2
baz=69,SNR=59
438A Sam Houston St 68.45 338 ⇑P P 14 50 46.5 +0.1
baz=69,SNR=67
535A Dale 68.45 336 ⇓P P 14 50 46.4 +0.1
baz=69,SNR=36
633A Saathoff Ranch 68.48 335 ⇓P P 14 50 46.6 0.0
baz=69,SNR=111
LRAL Lakeview Retre 68.51 346 eP P 14 50 45.3 -1.3
comp=Z,488nm,1.1s
LPIG La Paz 68.60 322 P P 14 50 48.3 +0.9
comp=Z,86nm,0.3s,baz=273,slow=0.9,SNR=8.2
LPIG S S 14 59 49.5 +0.4
comp=Z,101nm,0.3s,baz=147,slow=0.5,SNR=7.2
340A Bronson 68.61 340 ⇑P P 14 50 47.7 +0.4
baz=69,SNR=35
339A Huntington 68.72 339 ⇓P P 14 50 48.3 +0.3
baz=69,SNR=85
437A Phantom Ranch, 68.73 338 ⇓P P 14 50 48.2 +0.1
baz=69,SNR=11
632A Uvalde 68.74 334 ⇑P P 14 50 48.2 0.0
baz=69,SNR=254
534A Blanco 68.76 335 ⇑P P 14 50 48.1 -0.2
baz=69,SNR=53
MEH Mehetia 68.87 262 eP P 14 50 49.7 +0.3
comp=Z,218nm,1.4s
MEH Mehetia 68.87 262 eT T 16 05 23.0
comp=Z,517nm,0.2s
436A Wall Ranch, Ga 68.88 337 ⇑P P 14 50 49.1 +0.1
baz=69,SNR=34
631A Perdido Creek 68.95 333 ⇑P P 14 50 49.5 0.0
baz=69,SNR=96
338A Crockett 68.97 339 ⇓P P 14 50 50.2 +0.7
baz=69,SNR=22
533A Kerrville 68.99 335 ⇓P P 14 50 49.8 0.0
baz=69,SNR=143
337A Centerville 69.10 338 ⇓P P 14 50 51.3 +0.9
baz=69,SNR=70
435B Jarrell 69.15 337 ⇓P P 14 50 50.9 +0.2
baz=69,SNR=27
NATX Nacogdoches 69.15 339 eP P 14 50 50.4 -0.2
comp=Z,1μm,1.1s
NATX LR LR
comp=Z,24μm,20.0s
239A Gary 69.34 340 ⇑P P 14 50 51.9 +0.1
baz=70,SNR=72
532A Rocksprings 69.35 334 ⇑P P 14 50 51.9 -0.2
baz=70,SNR=334
434A Burnet 69.41 336 ⇓P P 14 50 52.4 0.0
baz=70,SNR=182
CNNC Cliffs of the 69.45 355 eP P 14 50 51.9 -0.6
comp=Z,1μm,1.2s
CNNC LR LR
comp=Z,34μm,20.0s
336A Riesel 69.47 337 ⇑P P 14 50 52.9 +0.3
baz=70,SNR=136
238A Jacksonville 69.51 339 ⇓P P 14 50 53.2 +0.3
baz=70,SNR=35
335A Moody 69.56 337 ⇑P P 14 50 53.5 +0.2
baz=70,SNR=78
531A Rocksprings 69.61 334 ⇓P P 14 50 54.1 +0.4
baz=70,SNR=261
JCT Junction City 69.63 335 eP P 14 50 52.9 -0.8
JCT pmax pmax
comp=Z,1μm,1.1s
JCT MLR MLR
comp=Z,41μm,22.0s
JCT Junction City 69.63 335 ⇑P P 14 50 53.9 +0.1
baz=70,SNR=247
JCT Junction City 69.63 335 eP P 14 50 52.9 -0.8
comp=Z,1μm,1.1s
JCT LR LR
comp=Z,41μm,22.0s
433A Art 69.63 335 ⇑P P 14 50 53.5 -0.2
baz=70,SNR=370
KMSC Kings Mountain 69.69 352 ⇓P P 14 50 53.2 -0.7
baz=70,SNR=71
KMSC Kings Mountain 69.69 352 eP P 14 50 52.6 -1.3
comp=Z,434nm,1.0s
237A Washetta, Mont 69.72 339 ⇑P P 14 50 54.0 -0.2
baz=70,SNR=58
VAH Vaihoa 69.86 265 eP P 14 50 55.8 +0.3
comp=Z,993nm,1.3s
334A Lometa 69.87 336 ⇓P P 14 50 54.9 -0.3
baz=70,SNR=243
TVO Taravao 69.89 262 eP P 14 50 56.2 +0.4
comp=Z,297nm,1.3s
TVO Taravao 69.89 262 eT T 16 06 39.5
comp=Z,21nm,0.2s
530A J-C Ranch, Com 69.89 333 ⇓P P 14 50 55.7 +0.3
baz=70,SNR=331
432A Menard 69.99 335 ⇓P P 14 50 55.8 -0.1
baz=70,SNR=164
TXAR Lajitas Array 70.07 331 P P 14 50 56.2 -0.4
TXAR pmax pmax
comp=Z,102nm,1.1s
TXAR Lajitas Array 70.07 331 P P 14 50 56.2 -0.4
comp=Z,102nm,1.1s,baz=145,slow=8.9,SNR=77
TIAR Tiarei 70.08 262 eP P 14 50 57.2 +0.3
comp=Z,149nm,0.9s
TIAR Tiarei 70.08 262 eT T 16 06 53.7
comp=Z,92nm,0.2s
431A Sonora 70.11 334 ⇑P P 14 50 56.6 0.0
baz=70,SNR=103
333A Richland Sprin 70.12 336 ⇓P P 14 50 56.4 -0.3
baz=70,SNR=222
138A Matatall Enter 70.12 339 ⇑P P 14 50 57.2 +0.6
baz=70,SNR=66
PMOR Pomariorio Ree 70.20 265 eP P 14 50 57.8 +0.2
comp=Z,956nm,1.6s
529A Stev Forest Ra 70.21 332 ⇑P P 14 50 57.4 0.0
baz=70,SNR=291
PAE Paea 70.22 262 eP P 14 50 57.9 +0.2
comp=Z,161nm,1.1s
PAE Paea 70.22 262 eT T 16 07 03.9
comp=Z,12nm,0.2s
WHTX Lake Whitney, 70.22 337 ⇓P P 14 50 57.0 -0.2
baz=70,SNR=121
WHTX Lake Whitney, 70.22 337 eP P 14 50 56.6 -0.7
comp=Z,1μm,1.1s
PPT2 Papeete2 70.25 262 eP P 14 50 58.5 +0.5
comp=Z,1μm,1.1s
PPT2 eS S 15 00 04.0 -5.2
comp=Z,180μm,26.0s
PPT2 Papeete2 70.25 262 eLR LR 15 12 09.1
comp=Z,236μm,27.5s,baz=120
PPT2 Paete2 70.25 262 eT T 16 07 06.0
comp=Z,22nm,0.2s
137A Heron Place, G 70.26 339 ⇑P P 14 50 57.8 +0.3
baz=70,SNR=80
PPT Papeete 70.26 262 P P 14 50 58.9 +0.9
PPT pmax pmax
comp=Z,229nm,0.8s
PPT Papeete 70.26 262 P P 14 50 58.9 +0.9
comp=Z,229nm,0.8s,baz=181,slow=3.3,SNR=23
CPCT Cooper Cave 70.43 349 eP P 14 50 59.7 +1.2
430A Baggett Ranch, 70.43 333 ⇓P P 14 50 58.5 -0.2
baz=71,SNR=225
OXF Oxford 70.43 345 eP P 14 50 56.7 -1.8
OXF e 14 51 19.1
OXF pmax pmax
comp=Z,2μm,1.0s
OXF Oxford 70.43 345 eP P 14 50 56.7 -1.8
comp=Z,2μm,1.0s
OXF ePcP PcP 14 51 19.1 -0.7
332A Millersview 70.43 335 ⇓P P 14 50 58.2 -0.5
baz=71,SNR=196
234A Clairette 70.45 337 ⇓P P 14 50 58.8 +0.1
baz=71,SNR=89
TKL Tuckaleechee C 70.52 350 P P 14 50 57.6 -1.4
comp=Z,173nm,1.0s,baz=170,slow=7.7,SNR=36
TKL S S 15 00 12.5 +1.2
comp=Z,4.9nm,0.7s,baz=234,slow=7.4,SNR=1.8
429A Davenport Ranc 70.53 333 ⇓P P 14 50 58.7 -0.6
baz=71,SNR=317
331A San Angelo 70.61 334 ⇓P P 14 50 59.5 -0.3
baz=71,SNR=244
233A Rising Star 70.72 336 ⇓P P 14 50 59.9 -0.5
baz=71,SNR=180
135A Vickery Place, 70.73 337 ⇓P P 14 51 00.1 -0.2
baz=71,SNR=36
232A Coleman 70.86 335 ⇑P P 14 51 01.0 -0.2
baz=71,SNR=191
134A White-Moore Ra 70.96 337 ⇓P P 14 51 01.5 -0.3
baz=71,SNR=76
330A Mertzon 70.97 334 ⇑P P 14 51 01.8 -0.2
baz=71,SNR=162
231A Bronte 71.14 335 ⇑P P 14 51 02.7 -0.2
baz=71,SNR=251
133A Hamilton Ranch 71.27 336 ⇓P P 14 51 03.4 -0.3
baz=72,SNR=201
329A Wagon Wheel Ra 71.34 333 ⇓P P 14 51 04.1 -0.1
baz=72,SNR=209
UALR University of 71.37 342 eP P 14 51 02.8 -1.4
comp=Z,540nm,1.1s
230A Sterling City 71.38 334 ⇓P P 14 51 03.6 -0.8
baz=72,SNR=11
Z35A Perchaven, San 71.39 338 ⇑P P 14 51 04.4 0.0
baz=72,SNR=133
MIAR Mount Ida 71.47 341 eP P 14 51 03.4 -1.4
MIAR pmax pmax
comp=Z,861nm,0.8s
MIAR MLR MLR
comp=Z,36μm,19.0s
MIAR Mount Ida 71.47 341 eP P 14 51 03.4 -1.4
comp=Z,861nm,0.8s
MIAR LR LR
comp=Z,36μm,19.0s
ABTX Abilene, Hawle 71.53 336 ⇑P P 14 51 05.2 -0.1
baz=72,SNR=187
ABTX Abilene, Hawle 71.53 336 eP P 14 51 03.6 -1.7
comp=Z,1μm,1.1s
BLA Blacksburg 71.63 353 eP P 14 51 05.0 -0.8
BLA pmax pmax
comp=Z,735nm,1.3s
BLA MLR MLR
comp=Z,48μm,20.0s
BLA Blacksburg 71.63 353 eP P 14 51 05.0 -0.8
comp=Z,735nm,1.3s
BLA LR LR
comp=Z,48μm,20.0s
Z34A Collier Ranch, 71.64 337 ⇓P P 14 51 05.7 -0.2
baz=72,SNR=58
WVT Waverly 71.67 347 eP P 14 51 04.8 -1.2
WVT pmax pmax
comp=Z,2μm,0.8s
WVT Waverly 71.67 347 eP P 14 51 04.8 -1.2
comp=Z,2μm,0.8s
229A Bryant Ranch, 71.70 334 ⇓P P 14 51 06.2 -0.2
baz=72,SNR=112
HBAR Harrisburg 71.71 344 eP P 14 51 04.8 -1.4
BBTS Babate 71.75 57 LR LR 15 21 42.2
comp=Z,129μm,18.4s,baz=192,slow=35
HALT Halls 71.76 345 eP P 14 51 05.9 -0.6
HALT ePcP PcP 14 51 24.3 -1.1
131A Roby 71.83 335 ⇓P P 14 51 07.0 -0.1
baz=72,SNR=129
Z33A Whitaker Ranch 71.84 337 ⇓P P 14 51 07.0 -0.1
baz=72,SNR=231
JSRW J. Sargeant Re 71.89 355 eP P 14 51 06.6 -0.7
130A Snyder 71.96 334 ⇓P P 14 51 07.5 -0.4
baz=72,SNR=136
Z32A Haskell 72.09 336 ⇑P P 14 51 08.3 -0.3
baz=72,SNR=224
GLAT Glass 72.10 345 eP P 14 51 07.6 -0.9
GLAT ePcP PcP 14 51 25.9 -0.9
228A UT Block 9, Go 72.13 333 ⇑P P 14 51 09.1 +0.2
baz=72,SNR=202
Y34A Reagan Ranch, 72.13 338 ⇓P P 14 51 08.5 -0.3
baz=72,SNR=135
129A Stewart Farms, 72.32 334 ⇑P P 14 51 09.8 -0.3
baz=73,SNR=33
PVMO Portageville 72.32 345 eP P 14 51 08.6 -1.2
comp=Z,10μm,1.6s
PVMO ePcP PcP 14 51 27.0 -0.8
Z31A Sharp Cattle R 72.33 335 ⇑P P 14 51 09.8 -0.3
baz=73,SNR=235
Y33A Hilltop Ranch, 72.46 337 ⇓P P 14 51 10.4 -0.4
baz=73,SNR=106
128A Castleberry Fa 72.54 333 ⇓P P 14 51 11.3 -0.1
baz=73,SNR=130
PARMO Parma 72.58 345 eP P 14 51 10.6 -0.8
Z30A Sanderson Ranc 72.65 335 ⇑P P 14 51 11.5 -0.5
baz=73,SNR=232
ELIM Elim 72.71 120 eP P 14 51 13.7 +1.1
ELIM AMB AMB 14 51 17.4
comp=Z,857nm,5.5s
ELIM AMS AMS 15 32 48.5
comp=Z,131μm,19.2s
ELIM Elim 72.71 120 P P 14 51 13.7 +1.1
comp=Z,857nm,5.5s
Y32A R-V Farms, Ver 72.72 336 ⇑P P 14 51 12.1 -0.3
baz=73,SNR=76
X34A Smith Ranch, M 72.75 338 ⇑P P 14 51 12.3 -0.2
baz=73,SNR=102
MAW Mawson 72.82 163 P P 14 51 12.7 +0.1
MAW S S 15 00 40.8 +3.6
MAW pmax pmax
comp=Z,201nm,0.9s
MAW smax smax
comp=N,34nm,0.9s
MAW Mawson 72.82 163 P P 14 51 12.7 +0.1
comp=N,242nm,1.0s,baz=237,slow=7.9,SNR=22
MAW S S 15 00 40.8 +3.6
comp=N,34nm,0.9s,baz=254,slow=9.4,SNR=3.2
MAW LR LR 15 24 31.3
comp=N,172μm,19.8s,baz=226,slow=37
Z29A Hungry Hill Ra 72.83 334 ⇓P P 14 51 12.4 -0.7
baz=73,SNR=147
MNTX Cornudas Mount 72.85 331 eP P 14 51 12.1 -1.1
comp=N,536nm,1.2s
MNTX LR LR
comp=Z,127μm,20.0s
X33A Lawton 72.91 337 ⇑P P 14 51 12.2 -1.2
baz=73,SNR=11
Y31A Rekieta Farm, 72.96 336 ⇑P P 14 51 13.5 -0.3
baz=73,SNR=121
HSIG 73.02 325 P P 14 51 13.4 -0.8
X32A Elmer 73.05 337 ⇓P P 14 51 14.2 -0.1
baz=73,SNR=67
Y30A Stafford Cattl 73.10 335 ⇓P P 14 51 14.1 -0.6
baz=73,SNR=40
Z28A Tucker Farm, M 73.10 334 ⇓P P 14 51 14.2 -0.6
baz=73,SNR=51
WMOK Wichita Mounta 73.18 337 eP P 14 51 13.6 -1.5
WMOK pmax pmax
comp=Z,2μm,1.7s
WMOK MLR MLR
comp=Z,25μm,19.0s
WMOK Wichita Mounta 73.18 337 eP P 14 51 13.6 -1.5
comp=Z,2μm,1.7s
WMOK LR LR
comp=Z,25μm,19.0s
W34A Bridge Creek, 73.32 338 ⇑P P 14 51 15.4 -0.5
baz=74,SNR=69
W34A Bridge Creek, 73.32 338 eP P 14 51 14.9 -1.0
comp=Z,2μm,1.5s
Y29A Porterfield Fa 73.36 334 ⇓P P 14 51 15.7 -0.5
baz=74,SNR=58
TUL1 Leonard 73.36 340 ⇑P P 14 51 15.4 -0.7
baz=74,SNR=103
TUL1 Leonard 73.36 340 eP P 14 51 14.9 -1.2
comp=Z,1μm,1.2s
USIN University of 73.42 347 eP P 14 51 14.9 -1.4
comp=Z,1μm,1.1s
WCI Wyandotte Cave 73.43 348 eP P 14 51 14.2 -2.3
WCI pmax pmax
comp=Z,1μm,1.6s
WCI Wyandotte Cave 73.43 348 eP P 14 51 14.2 -2.3
comp=Z,1μm,1.6s
KOMG Komaggas 73.46 115 eP P 14 51 18.5 +1.4
KOMG AMB AMB 14 51 22.2
comp=Z,926nm,5.6s
KOMG AMS AMS 15 35 02.6
comp=Z,122μm,18.5s
KOMG Komaggas 73.46 115 P P 14 51 18.5 +1.4
comp=Z,926nm,5.6s
W33A Caddo, Fort Co 73.46 338 ⇑P P 14 51 16.3 -0.4
baz=74,SNR=158
X31A McDonald Ranch 73.47 336 ⇓P P 14 51 16.5 -0.3
baz=74,SNR=178
SIUC Southern Illin 73.48 346 eP P 14 51 15.7 -1.0
comp=Z,893nm,1.0s
SDMD Soldier's Deli 73.53 356 eP P 14 51 16.2 -0.7
comp=Z,808nm,1.2s
X30A Coker Ranch, T 73.61 335 ⇑P P 14 51 17.2 -0.5
baz=74,SNR=75
Y28A McKinney Farm, 73.61 334 ⇓P P 14 51 17.4 -0.3
baz=74,SNR=78
W32A Sentinel 73.68 337 ⇑P P 14 51 17.8 -0.3
baz=74,SNR=357
V34A Guthrie 73.80 339 ⇑P P 14 51 18.1 -0.6
baz=74,SNR=34
V34A Guthrie 73.80 339 eP P 14 51 17.8 -0.8
comp=Z,1μm,1.1s
MSTX Muleshoe 73.85 334 ⇓P P 14 51 19.0 -0.2
baz=74,SNR=274
MSTX Muleshoe 73.85 334 eP P 14 51 17.9 -1.2
comp=Z,1μm,1.3s
X29A Tulia 73.89 335 ⇓P P 14 51 19.1 -0.3
baz=74,SNR=53
Y27A Causey 73.92 333 ⇓P P 14 51 19.1 -0.5
baz=74,SNR=64
W31A Holland Ranch, 73.97 336 ⇑P P 14 51 19.3 -0.4
baz=74,SNR=86
V33A Lossen Ranch, 74.02 338 ⇑P P 14 51 19.7 -0.2
baz=74,SNR=174
X28A Dimmitt 74.14 334 ⇑P P 14 51 20.6 -0.2
baz=74,SNR=11
V32A Arapaho 74.16 337 ⇓P P 14 51 20.8 0.0
baz=74,SNR=84
W30A Crocket Farms 74.17 336 ⇑P P 14 51 20.9 -0.1
baz=74,SNR=5.7
319A Douglas 74.23 327 P P 14 51 21.0 -0.4
baz=74
OLIL Olney 74.24 347 eP P 14 51 19.1 -2.0
comp=Z,1μm,1.4s
AMTX Amarillo 74.28 335 ⇓P P 14 51 21.7 +0.1
baz=75
AMTX Amarillo 74.28 335 eP P 14 51 20.8 -0.8
comp=Z,5μm,1.8s
AMTX ePcP PcP 14 51 35.5 -0.9
U34A Anderson Ranch 74.36 339 ⇓P P 14 51 21.5 -0.4
baz=75,SNR=137
U34A Anderson Ranch 74.36 339 eP P 14 51 20.9 -1.0
comp=Z,1μm,1.1s
BLO Bloomington 74.39 348 eP P 14 51 20.2 -1.8
BLO pmax pmax
comp=Z,483nm,0.8s
BLO Bloomington 74.39 348 eP P 14 51 20.2 -1.8
comp=Z,483nm,0.8s
V31A Spring Creek L 74.47 337 ⇓P P 14 51 23.1 +0.4
baz=75,SNR=39
W29A Amarillo 74.49 335 ⇓P P 14 51 22.8 0.0
baz=75,SNR=102
121A Cookes Peak, D 74.57 329 ⇑P P 14 51 24.6 +1.1
baz=75,SNR=220
121A Cookes Peak, D 74.57 329 eP P 14 51 23.0 -0.5
comp=Z,3μm,1.5s
121A ePcP PcP 14 51 36.9 -0.9
SLM Saint Louis 74.58 345 eP P 14 51 21.1 -2.0
SLM pmax pmax
comp=Z,2μm,1.1s
SLM Saint Louis 74.58 345 eP P 14 51 21.1 -2.0
comp=Z,2μm,1.1s
X27A F and S Farms, 74.58 334 ⇓P P 14 51 23.3 -0.1
baz=75,SNR=12
SUR Sutherland 74.60 119 P P 14 51 25.7 +1.7
SNR=26
SUR Sutherland 74.60 119 LR LR 15 20 33.7
comp=Z,40μm,19.9s,baz=232,slow=33
SUR Sutherland 74.60 119 eP P 14 51 24.1 +0.1
comp=Z,288nm,0.8s
BRNJ Basking Ridge 74.70 358 eP P 14 51 23.6 -0.2
comp=Z,808nm,1.3s
V30A Spur Ranch, Mi 74.74 336 ⇑P P 14 51 24.9 +0.6
baz=75,SNR=24
U32A Winter Ranch, 74.75 338 ⇑P P 14 51 24.1 -0.1
baz=75,SNR=89
X26A CR and CF Fran 74.76 333 ⇓P P 14 51 24.6 +0.1
baz=75,SNR=260
CPNY Central Park 74.80 358 eP P 14 51 23.5 -0.8
comp=Z,809nm,1.6s
W28A Vega 74.81 335 ⇑P P 14 51 24.9 +0.2
baz=75,SNR=10.0
SSPA Standing Stone 74.82 355 eP P 14 51 23.6 -0.9
comp=Z,505nm,1.3s
SSPA ePcP PcP 14 51 37.6 -0.8
LIC Lamto 74.82 71 ⇑iP P 14 51 23.9 -1.2
comp=Z,2μm,1.3s,baz=238
LIC eR
comp=Z,109μm,20.8s
LIC Lamto 74.82 71 eP P 14 51 23.5 -1.6
comp=Z,2μm,1.3s
LIC Lamto 74.82 71 ⇑iP P 14 51 23.9 -1.2
comp=Z,2μm,1.3s
Y24A Capitan 74.83 332 ⇑P P 14 51 24.9 0.0
baz=75,SNR=298
Z22A Elephant Butte 74.86 330 ⇓P P 14 51 26.1 +1.0
baz=75,SNR=126
ACSO Alum Creek Sta 74.91 351 eP P 14 51 23.3 -1.7
comp=Z,861nm,0.8s
ACSO ePcP PcP 14 51 36.6 -2.2
ACSO LR LR
comp=Z,43μm,22.0s

W27A	**Bowe Ranch, En**	**74.94**	**334**	⇓P	**P**	**14 51 25.4**	**-0.1**
	baz=75,SNR=285						
U31A	**Nine Bar Ranch**	**75.02**	**337**	⇑P	**P**	**14 51 25.9**	**+0.1**
	baz=75,SNR=12						
X25A	**Clemmons Ranch**	**75.06**	**333**	⇑P	**P**	**14 51 25.8**	**-0.4**
	baz=75,SNR=32						
Y23A	**Lovelace Mesa,**	**75.08**	**331**	⇑P	**P**	**14 51 26.6**	**+0.2**
	baz=75,SNR=216						
TIC	**Toumodi**	**75.08**	**71**	*e*P	**P**	**14 51 25.7**	**-1.0**
	comp=Z,767nm,1.2s						
V29A	**Stinnett**	**75.12**	**336**	⇓P	**P**	**14 51 26.2**	**-0.2**
	baz=75,SNR=12						
KIC	**Kosan Boka**	**75.13**	**71**	*e*P	**P**	**14 51 26.1**	**-0.8**
	comp=Z,2μm,1.2s						
T33A	**Patterson Ranc**	**75.17**	**339**	⇑P	**P**	**14 51 26.4**	**-0.2**
	baz=76,SNR=141						
W26A	**Owens Ranch, T**	**75.22**	**333**	⇑P	**P**	**14 51 27.4**	**+0.3**
	baz=76,SNR=256						
DBIC	**Dimbokro**	**75.23**	**71**	*e*P	**P**	**14 51 27.4**	**-0.1**
DBIC	**Dimbokro**	**75.23**	**71**	P	**P**	**14 51 26.7**	**-0.8**
DBIC				S	**S**	**15 01 07.3**	**+1.5**
DBIC				pmax	pmax		
	comp=Z,115nm,0.7s						
DBIC				smax	smax		
	comp=N,6.0nm,0.8s						
DBIC	**Dimbokro**	**75.23**	**71**	P	**P**	**14 51 26.7**	**-0.8**
	comp=N,115nm,0.7s,baz=208,slow=6.6,SNR=46						
DBIC				S	**S**	**15 01 07.3**	**+1.5**
	comp=N,6.0nm,0.8s,baz=85,slow=21,SNR=4.3						
V28A	**Channing**	**75.25**	**335**	⇓P	**P**	**14 51 27.5**	**+0.2**
	baz=76,SNR=102						
X24A	**Lazy VL Ranch,**	**75.39**	**332**	⇑P	**P**	**14 51 28.1**	**-0.1**
	baz=76,SNR=168						
U30A	**WK&E Inc. Balk**	**75.42**	**336**	⇓P	**P**	**14 51 28.2**	**0.0**
	baz=76,SNR=135						
T32A	**Huddler Ranch,**	**75.47**	**338**	⇓P	**P**	**14 51 28.4**	**0.0**
	baz=76,SNR=98						
V27A	**Dan Oppiter Fa**	**75.48**	**334**	⇑P	**P**	**14 51 28.6**	**+0.1**
	baz=76,SNR=73						
Y22D	**IRIS PASSCAL I**	**75.55**	**331**	⇑P	**P**	**14 51 29.6**	**+0.5**
	baz=76						
U29A	**Oasis Ranch, S**	**75.56**	**336**	⇑P	**P**	**14 51 29.0**	**0.0**
	baz=76,SNR=11						
S33A	**Kaszmaul Farm,**	**75.57**	**339**	⇑P	**P**	**14 51 28.6**	**-0.3**
	baz=76,SNR=47						
W25A	**X Bar L Ranch,**	**75.59**	**333**	⇑P	**P**	**14 51 29.1**	**-0.1**
	baz=76,SNR=239						
T31A	**Randall Ranch,**	**75.63**	**337**	⇑P	**P**	**14 51 29.4**	**+0.1**
	baz=76,SNR=80						
LPM	**Los Pinos Moun**	**75.64**	**331**	*e*P	**P**	**14 51 29.4**	**-0.2**
	comp=N,413nm,1.2s						
LENM	**Lemitar**	**75.65**	**331**	*e*P	**P**	**14 51 29.8**	**+0.1**
	comp=N,970nm,1.8s						
SFIN	**Lafayette**	**75.66**	**348**	⇓P	**P**	**14 51 27.9**	**-1.5**
	baz=76,SNR=75						
SFIN	**Lafayette**	**75.66**	**348**	*e*P	**P**	**14 51 27.6**	**-1.7**
	comp=N,2μm,1.7s						
X23A	**Hourglass Bar**	**75.70**	**331**	⇓P	**P**	**14 51 30.7**	**+0.7**
	baz=76,SNR=49						
TUC	**Tucson**	**75.70**	**327**	*e*P	**P**	**14 51 30.3**	**+0.4**
TUC				pmax	pmax		
	comp=Z,2μm,1.7s						
TUC				MLR	MLR		
	comp=Z,56μm,19.0s						
TUC	**Tucson**	**75.70**	**327**	*e*P	**P**	**14 51 30.3**	**+0.4**
	comp=Z,2μm,1.7s						
TUC				LR	LR		
	comp=Z,56μm,19.0s						
U28A	**Mallet**	**75.82**	**335**	⇑P	**P**	**14 51 30.6**	**+0.1**
	baz=76,SNR=160						
V26A	**Tequesquite Ra**	**75.86**	**334**	⇑P	**P**	**14 51 30.6**	**-0.1**
	baz=76,SNR=156						
T30A	**Plains**	**75.86**	**337**	⇑P	**P**	**14 51 31.0**	**+0.3**
	baz=76,SNR=13						
LAZ	**Ladron**	**75.92**	**331**	*e*P	**P**	**14 51 31.6**	**+0.3**
	comp=Z,2μm,1.6s						
W24A	**Lazy 6 Ranch,**	**75.95**	**332**	⇓P	**P**	**14 51 31.5**	**+0.1**
	baz=76,SNR=118						
S32A	**Newby Ranch, P**	**75.95**	**338**	⇓P	**P**	**14 51 31.4**	**+0.3**
	baz=76,SNR=46						
ALLY	**Alegheny Colle**	**76.00**	**354**	*e*P	**P**	**14 51 30.3**	**-1.0**
	comp=Z,2μm,1.8s						
S31A	**Mullinville**	**76.05**	**338**	⇓P	**P**	**14 51 31.9**	**+0.2**
	baz=76,SNR=105						
U27A	**Thompson Grove**	**76.07**	**335**	⇓P	**P**	**14 51 32.1**	**+0.2**
	baz=76,SNR=156						
ANMO	**Albuquerque**	**76.12**	**331**	*e*P	**P**	**14 51 32.3**	**-0.1**
ANMO				S	**S**	**15 01 18.8**	**+3.5**
ANMO				pmax	pmax		
	comp=Z,716nm,1.3s						
ANMO	**Albuquerque**	**76.12**	**331**	P	**P**	**14 51 32.4**	**+0.1**
	comp=Z,236nm,1.0s,baz=165,slow=7.6,SNR=91						
ANMO				S	**S**	**15 01 18.8**	**+3.5**
	comp=Z,2.1nm,0.9s,baz=117,slow=16,SNR=1.5						
ANMO				LR	LR	15 20 33.2	
	comp=Z,96μm,20.0s,baz=160,slow=32						
ANMO	**Albuquerque**	**76.12**	**331**	*e*P	**P**	**14 51 32.3**	**-0.1**
	comp=Z,716nm,1.3s						
ANMO				S	**S**	**15 01 18.8**	**+3.5**
W23A	**Werner Place,**	**76.19**	**332**	⇓P	**P**	**14 51 33.4**	**+0.6**
	baz=76,SNR=236						
V25A	**Rancho No Teng**	**76.20**	**333**	⇓P	**P**	**14 51 32.8**	**0.0**
	baz=76,SNR=286						
T29A	**Hugoton**	**76.21**	**336**	⇑P	**P**	**14 51 32.4**	**-0.2**
	baz=76,SNR=54						
R33A	**Olander Ranch,**	**76.22**	**339**	⇓P	**P**	**14 51 32.3**	**-0.3**
	baz=76,SNR=115						
BINY	**Binghamton**	**76.27**	**357**	*e*P	**P**	**14 51 32.3**	**-0.5**
	comp=Z,647nm,1.2s						
BINY				LR	LR		
	comp=Z,51μm,20.0s						
214A	**Organ Pipe Nat**	**76.34**	**325**	⇑P	**P**	**14 51 34.2**	**+0.8**
	baz=77,SNR=184						
214A	**Organ Pipe Nat**	**76.34**	**325**	*e*P	**P**	**14 51 33.7**	**+0.2**
	comp=Z,871nm,1.2s						
V24A	**Rampart Ranch,**	**76.35**	**333**	⇑P	**P**	**14 51 33.5**	**-0.1**
	baz=77,SNR=194						
DRV	**Dumont d'Urvil**	**76.37**	**193**	P	P	14 51 08.0	-25
DRV				PP	PP	14 54 15.0	-9.1
DRV				S	**SKiKP**	**15 00 57.0**	**+6.7**
DRV				SS	**SS**	**15 06 07.0**	**-3.0**
DRV				L	L	15 11 00.0	
DRV				R		15 15 00.0	
U26A	**Atchley Ranch,**	**76.37**	**334**	⇓P	**P**	**14 51 33.5**	**-0.3**
	baz=77,SNR=52						
S30A	**Montezuma**	**76.38**	**337**	⇓P	**P**	**14 51 33.4**	**-0.2**
	baz=77,SNR=108						
T28A	**Walsh**	**76.45**	**336**	⇓P	**P**	**14 51 33.8**	**-0.3**
	baz=77,SNR=399						
ERPA	**Erie**	**76.46**	**354**	*e*P	**P**	**14 51 31.8**	**-2.0**
	comp=Z,734nm,1.1s						
ERPA				LR	LR		
	comp=Z,38μm,21.0s						
HRV	**Adam Dziewonsk**	**76.49**	**0**	*e*P	**P**	**14 51 34.1**	**+0.1**
HRV				pmax	pmax		
	comp=Z,2μm,1.5s						
HRV	**Adam Dziewonsk**	**76.49**	**0**	*e*P	**P**	**14 51 34.1**	**+0.1**
	comp=Z,2μm,1.5s						
R32A	**Long Quarter,**	**76.55**	**339**	⇓P	**P**	**14 51 34.0**	**-0.5**
	baz=77,SNR=106						
KSU1	**Kansas State U**	**76.57**	**341**	⇑P	**P**	**14 51 33.7**	**-0.9**
	baz=77,SNR=59						
KSU1	**Kansas State U**	**76.57**	**341**	*e*P	**P**	**14 51 33.2**	**-1.3**
	comp=Z,438nm,0.8s						
KSU1				LR	LR		
	comp=Z,33μm,22.0s						
S29A	**Ulysses**	**76.57**	**337**	⇑P	**P**	**14 51 34.7**	**0.0**
	baz=77,SNR=204						
T27A	**Campo**	**76.61**	**335**	⇓P	**P**	**14 51 34.9**	**-0.1**
	baz=77,SNR=189						
RAR	**Rarotonga**	**76.62**	**253**	PFAKE		14 51 50.0	+15
RAR				LR	LR		
	comp=Z,3.0nm,21.0s						
U25A	**Circle Dot Ran**	**76.62**	**334**	⇑P	**P**	**14 51 35.2**	**+0.1**
	baz=77,SNR=209						
R31A	**Burdett**	**76.67**	**338**	⇑P	**P**	**14 51 35.0**	**-0.2**
	baz=77,SNR=149						
V23A	**Ortiz Mt. (NFS**	**76.72**	**332**	⇓P	**P**	**14 51 36.1**	**+0.4**
	baz=77,SNR=75						
S28A	**Manter**	**76.80**	**336**	⇓P	**P**	**14 51 35.9**	**-0.1**
	baz=77,SNR=257						
Q33A	**Connelly Farm,**	**76.82**	**340**	⇑P	**P**	**14 51 35.7**	**-0.3**
	baz=77,SNR=84						
WIN	**Windhoek**	**76.88**	**108**	*e*P	**P**	**14 51 38.1**	**+0.9**
WIN				AMB	AMB	14 51 44.7	
	comp=Z,134nm,1.6s						
WIN				AMS	AMS	15 35 14.1	
	comp=Z,43μm,21.0s						
WIN	**Windhoek**	**76.88**	**108**	P	**P**	**14 51 38.1**	**+0.9**
WIN				pmax	pmax		
	comp=Z,134nm,1.6s						
WIN	**Windhoek**	**76.88**	**108**	*i* P	**P**	**14 51 37.1**	**0.0**
WIN				PKP	**S**	**15 01 24.9**	**+0.5**
WIN				PKP	x	15 07 16.2	
WIN	**Windhoek**	**76.88**	**108**	P	**P**	**14 51 38.1**	**+0.9**
	comp=Z,134nm,1.6s						
SPIG	**San Pedro Mart**	**76.89**	**323**	P	**P**	**14 51 37.1**	**+0.1**
R30A	**Dighton**	**76.90**	**337**	⇓P	**P**	**14 51 36.6**	**+0.1**
	baz=77,SNR=68						
U24A	**Moreno Valley**	**76.95**	**333**	⇑P	**P**	**14 51 37.8**	**+0.7**
	baz=77,SNR=41						
T26A	**Comanche Natio**	**77.02**	**335**	⇓P	**P**	**14 51 37.7**	**+0.3**
	baz=77,SNR=240						
UPI	**Upington**	**77.02**	**115**	*e*P	**P**	**14 51 38.2**	**+0.5**
UPI				AMB	AMB	14 51 42.5	
	comp=Z,923nm,1.8s						
UPI				AMS	AMS	15 40 01.2	
	comp=Z,89μm,18.0s						
UPI	**Upington**	**77.02**	**115**	P	**P**	**14 51 38.2**	**+0.5**
	comp=Z,923nm,1.8s						
Q32A	**Meitler Ranch,**	**77.03**	**339**	⇓P	**P**	**14 51 36.8**	**-0.3**
	baz=77,SNR=110						
AAM	**Ann Arbor**	**77.03**	**351**	*e*P	**P**	**14 51 36.1**	**-1.0**
AAM				pmax	pmax		
	comp=Z,4μm,1.8s						
AAM	**Ann Arbor**	**77.03**	**351**	*e*P	**P**	**14 51 36.1**	**-1.0**
	comp=Z,4μm,1.8s						
V22A	**San Miguel Ran**	**77.15**	**332**	⇓P	**P**	**14 51 39.3**	**+1.1**
	baz=77,SNR=375						
P33A	**Williams Farm,**	**77.19**	**340**	⇓P	**P**	**14 51 37.7**	**-0.3**
	baz=78,SNR=29						
X18A	**Snowflake**	**77.21**	**329**	⇑P	**P**	**14 51 39.2**	**+0.7**
	baz=78,SNR=144						
S27A	**Las Animas**	**77.23**	**335**	⇓P	**P**	**14 51 38.2**	**-0.3**
	baz=78,SNR=8.0						
U23A	**El Rito**	**77.23**	**332**	⇑P	**P**	**14 51 39.1**	**+0.5**
	baz=78,SNR=265						
T25A	**Trinidad**	**77.28**	**334**	⇓P	**P**	**14 51 39.2**	**+0.3**
	baz=78,SNR=434						
Q31A	**Ellis**	**77.29**	**338**	⇑P	**P**	**14 51 38.9**	**+0.3**
	baz=78,SNR=179						
R29A	**Marienthal**	**77.31**	**337**	⇑P	**P**	**14 51 38.8**	**-0.1**
	baz=78,SNR=52						
S26A	**Kim**	**77.37**	**335**	⇓P	**P**	**14 51 39.5**	**+0.2**
	baz=78,SNR=369						
ACCN	**Adirondack Com**	**77.38**	**359**	*e*P	**P**	**14 51 38.4**	**-0.6**
	comp=Z,1μm,1.4s						
R28A	**Tribune**	**77.45**	**336**	⇓P	**P**	**14 51 39.6**	**-0.1**
	baz=78,SNR=211						
113A	**Mohawk Valley,**	**77.47**	**325**	⇓P	**P**	**14 51 39.8**	**+0.1**
	baz=78,SNR=110						
Q30A	**Quinter**	**77.52**	**338**	⇑P	**P**	**14 51 40.1**	**+0.1**
	baz=78,SNR=154						
U22A	**Llaves**	**77.53**	**332**	⇑P	**P**	**14 51 41.5**	**+1.2**
	baz=78,SNR=166						
T24B	**San Luis**	**77.57**	**333**	⇑P	**P**	**14 51 41.4**	**+0.8**
	baz=78,SNR=273						
Z14A	**Wintersburg**	**77.57**	**326**	⇑P	**P**	**14 51 40.5**	**+0.2**
	baz=78,SNR=11						
W18A	**Petrified Fore**	**77.62**	**329**	⇑P	**P**	**14 51 41.2**	**+0.4**
	baz=78,SNR=148						
W18A	**Petrified Fore**	**77.62**	**329**	*e*P	**P**	**14 51 40.7**	**-0.1**
	comp=Z,1μm,1.3s						
P32A	**Huiting Farm,**	**77.62**	**339**	⇓P	**P**	**14 51 40.4**	**-0.1**
	baz=78,SNR=14						
Q29A	**Oakley**	**77.68**	**337**	⇓P	**P**	**14 51 40.1**	**-0.8**
	baz=78,SNR=163						
R27A	**Eads**	**77.74**	**336**	⇓P	**P**	**14 51 41.1**	**-0.1**
	baz=78,SNR=380						
S25A	**Robets Cordova**	**77.75**	**334**	⇓P	**P**	**14 51 42.1**	**+0.6**
	baz=78,SNR=267						
P31A	**Stockton**	**77.76**	**339**	⇓P	**P**	**14 51 41.0**	**-0.2**
	baz=78,SNR=70						
X16A	**Lo Mia Camp, P**	**77.77**	**327**	P	**P**	**14 51 41.2**	**-0.5**
	baz=78						
T23A	**Casias Ranch,**	**77.79**	**333**	⇑P	**P**	**14 51 41.8**	**-0.1**
	baz=78,SNR=84						
R26A	**Arlington**	**77.97**	**335**	⇓P	**P**	**14 51 42.5**	**-0.1**
	baz=78,SNR=272						
NCB	**Newcomb**	**77.98**	**358**	*e*P	**P**	**14 51 41.6**	**-0.8**
	comp=Z,33nm,0.3s						
NCB				*e*PcP	**PcP**	**14 51 50.8**	**-1.3**
NCB				LR	LR		
	comp=Z,35μm,21.0s						
S24A	**Houchin Ranch,**	**78.02**	**334**	⇓P	**P**	**14 51 43.3**	**+0.2**
	baz=78,SNR=394						
P30A	**Selden**	**78.05**	**338**	⇓P	**P**	**14 51 42.9**	**0.0**
	baz=78,SNR=88						
Y14A	**Wickenburg**	**78.08**	**326**	⇓P	**P**	**14 51 44.0**	**+0.8**
	baz=78,SNR=200						
Q28A	**Sharon Springs**	**78.11**	**337**	⇓P	**P**	**14 51 43.5**	**+0.1**
	baz=78,SNR=78						
O32A	**Brockman Farm,**	**78.12**	**340**	⇓P	**P**	**14 51 42.9**	**-0.3**
	baz=78,SNR=57						
R25A	**Fountain Ranch**	**78.13**	**334**	⇓P	**P**	**14 51 43.5**	**0.0**
	baz=78,SNR=173						
GRM	**Grahamstown**	**78.17**	**122**	*e*P	**P**	**14 51 44.2**	**+0.2**
GRM				AMB	AMB	14 51 48.5	
	comp=Z,1μm,5.5s						
GRM				AMS	AMS	15 34 26.2	
	comp=Z,107μm,25.2s						
GRM	**Grahamstown**	**78.17**	**122**	P	**P**	**14 51 44.2**	**+0.2**
GRM	**Grahamstown**	**78.17**	**122**	*i* P	**P**	**14 51 46.2**	**+2.2**
GRM				PKP		15 07 27.7	
GRM	**Grahamstown**	**78.17**	**122**	P	**P**	**14 51 44.2**	**+0.2**
	comp=Z,1μm,5.5s						
GLA	**Glamis**	**78.21**	**324**	*e*P	**P**	**14 51 44.7**	**+0.8**
GLA				pmax	pmax		
	comp=Z,3μm,1.7s						
GLA	**Glamis**	**78.21**	**324**	⇑P	**P**	**14 51 44.8**	**+0.8**
	baz=78,SNR=56						
GLA	**Glamis**	**78.21**	**324**	*e*P	**P**	**14 51 44.7**	**+0.8**
	comp=Z,3μm,1.7s						
LBNH	**Lisbon**	**78.22**	**0**	*e*P	**P**	**14 51 43.8**	**+0.1**
LBNH				pmax	pmax		
	comp=Z,767nm,1.1s						
LBNH				MLR	MLR		
	comp=Z,41μm,21.0s						
LBNH	**Lisbon**	**78.22**	**0**	*e*P	**P**	**14 51 43.8**	**+0.1**
	comp=Z,767nm,1.1s						
LBNH				LR	LR		
	comp=Z,41μm,21.0s						
P29A	**Atwood**	**78.31**	**338**	⇓P	**P**	**14 51 44.7**	**+0.3**
	baz=79,SNR=110						
O31A	**Woolen Ranch,**	**78.32**	**339**	⇓P	**P**	**14 51 44.4**	**0.0**
	baz=79,SNR=54						
KSCO	**Kaye Shedlock'**	**78.33**	**336**	⇓P	**P**	**14 51 45.0**	**+0.5**
	baz=79,SNR=48						
KSCO	**Kaye Shedlock'**	**78.33**	**336**	*e*P	**P**	**14 51 44.0**	**-0.6**
	comp=Z,4μm,1.6s						
SCIA	**State Center**	**78.36**	**344**	*e*P	**P**	**14 51 43.3**	**-1.1**
	comp=Z,7μm,1.9s						
SCIA				*e*PcP	**PcP**	**14 51 52.6**	**-1.1**
SCIA				LR	LR		
	comp=Z,33μm,21.0s						
S23A	**Nye Farm, Mont**	**78.37**	**333**	⇓P	**P**	**14 51 45.6**	**+0.6**
	baz=79,SNR=22						
KUK	**Kukurantumi**	**78.48**	**74**	*i* P	**P**	**14 51 45.9**	**0.0**
KUK				PKP		15 01 40.5	
KUK				PKP		15 06 32.5	
KUK				PKP		15 16 43.8	
R24A	**Sanders Place,**	**78.50**	**334**	P	**P**	**14 51 45.3**	**-0.3**
	baz=79						
P28A	**Saint Francis**	**78.55**	**337**	⇓P	**P**	**14 51 46.1**	**+0.4**
	baz=79,SNR=76						
Q26A	**Hugo**	**78.56**	**335**	⇑P	**P**	**14 51 46.5**	**+0.7**
	baz=79,SNR=11						
O30A	**MW Ranch, Wils**	**78.57**	**338**	⇑P	**P**	**14 51 45.9**	**+0.1**
	baz=79,SNR=96						
N32A	**Stulken Farm,**	**78.59**	**340**	⇑P	**P**	**14 51 45.5**	**-0.3**
	baz=79,SNR=43						
SWSC	**Sam W. Stewart**	**78.59**	**324**	⇑P	**P**	**14 51 46.7**	**+0.8**
	baz=79,SNR=62						
Y12C	**Blythe**	**78.64**	**325**	⇑P	**P**	**14 51 46.9**	**+0.7**
	baz=79,SNR=102						
LONY	**Lake Ozonia**	**78.64**	**358**	*e*P	**P**	**14 51 45.6**	**-0.3**
	comp=Z,1μm,1.4s						
LONY				LR	LR		
	comp=Z,43μm,19.0s						
WUAZ	**Wupatki**	**78.67**	**328**	⇓P	**P**	**14 51 47.5**	**+0.9**
	baz=79,SNR=343						
WUAZ	**Wupatki**	**78.67**	**328**	*e*P	**P**	**14 51 46.6**	**0.0**
	comp=Z,3μm,1.7s						
WUAZ				LR	LR		
	comp=Z,60μm,19.0s						
JFWS	**Jewell Farm**	**78.70**	**346**	*e*P	**P**	**14 51 45.4**	**-0.9**
JFWS				*e*		14 51 54.2	
JFWS				pmax	pmax		
	comp=Z,3μm,1.3s						
JFWS				MLR	MLR		
	comp=Z,50μm,22.0s						
JFWS	**Jewell Farm**	**78.70**	**346**	*e*P	**P**	**14 51 45.4**	**-0.9**
	comp=Z,3μm,1.3s						
JFWS				*e*PcP	**PcP**	**14 51 54.2**	**-1.0**
JFWS				LR	LR		
	comp=Z,50μm,22.0s						
S22A	**4UR Ranch, Cre**	**78.72**	**332**	⇓P	**P**	**14 51 47.7**	**+0.8**
	baz=79,SNR=201						
R23A	**Moffat**	**78.73**	**333**	⇓P	**P**	**14 51 47.3**	**+0.3**
	baz=79,SNR=101						
O29A	**4D Ranch, Culb**	**78.75**	**338**	⇓P	**P**	**14 51 47.0**	**+0.2**
	baz=79,SNR=62						
MIR	**Mirnyy**	**78.76**	**174**	⇑*i* P	**P**	**14 51 48.0**	**+1.5**
MIR				*e*		14 54 52.0	
MIR				*e*PPP	PPP	14 56 32.0	
MIR				*e*S	**S**	**15 01 44.0**	**+1.3**
MIR				*e*		15 02 10.0	
MIR				*e*PS	PnS	15 02 44.0	+19
MIR				pmax	pmax		
	comp=Z,702nm,1.5s						
MIR				pmax	pmax		
	comp=Z,25μm,9.0s						
MIR				MLR	MLR		
	comp=N,130μm,20.0s						
MIR				MLR	MLR		
	comp=E,84μm,20.0s						
MIR				MLR	MLR		
	comp=Z,154μm,20.0s						
Q25A	**Bedland, Calha**	**78.80**	**335**	⇑P	**P**	**14 51 47.5**	**+0.2**
	baz=79,SNR=48						
P27A	**Ficken Ranch,**	**78.81**	**336**	⇑P	**P**	**14 51 47.6**	**+0.5**
	baz=79,SNR=67						
BAR	**Barrett**	**78.82**	**323**	*e*P	**P**	**14 51 47.6**	**+0.4**
	comp=Z,2μm,1.2s						
BAR				*e*PcP	**PcP**	**14 51 54.9**	**-1.1**
N31A	**Bailey Ranch,**	**78.83**	**339**	⇓P	**P**	**14 51 47.2**	**0.0**
	baz=79,SNR=61						
MONP	**Monument Peak,**	**78.86**	**323**	⇑P	**P**	**14 51 48.5**	**+0.7**
	baz=79,SNR=68						
MVCO	**Mesa Verde**	**78.91**	**331**	⇓P	**P**	**14 51 48.4**	**+0.4**
	baz=79,SNR=247						
MVCO	**Mesa Verde**	**78.91**	**331**	*e*P	**P**	**14 51 47.4**	**-0.5**
	comp=Z,1μm,1.4s						
MVCO				LR	LR		
	comp=Z,206μm,19.0s						
PDMCI	**Parker Dam,Lak**	**78.91**	**325**	⇓P	**P**	**14 51 47.7**	**0.0**
	baz=79,SNR=82						
HVD	**Gariep Dam**	**78.93**	**119**	*e*P	**P**	**14 51 49.2**	**+0.9**
HVD				AMB	AMB	14 51 53.2	
	comp=Z,1μm,1.4s						
HVD				AMS	AMS	15 37 55.2	
	comp=Z,146μm,19.8s						
HVD	**Gariep Dam**	**78.93**	**119**	P	**P**	**14 51 49.3**	**+0.9**
HVD				pmax	pmax		
	comp=Z,1μm,1.4s						
HVD	**Gariep Dam**	**78.93**	**119**	P	**P**	**14 51 49.2**	**+0.9**
	comp=Z,1μm,1.4s						
BC3	**Big Chuckawall**	**79.00**	**324**	⇓P	**P**	**14 51 49.1**	**+0.8**
	baz=79,SNR=206						
SADO	**Sadowa**	**79.02**	**355**	P	**P**	**14 51 46.9**	**-1.2**
	comp=Z,108nm,0.8s,baz=230,slow=2.5,SNR=37						
SADO				S	**S**	**15 01 46.9**	**+1.2**
	comp=Z,3.2nm,0.9s,baz=288,slow=18,SNR=3.6						
TSUM	**Tsumeb**	**79.05**	**106**	P	**P**	**14 51 49.7**	**+0.6**
	comp=Z,363nm,1.3s,baz=235,slow=6.5,SNR=49						
TSUM				S	**S**	**15 01 51.3**	**+3.6**
	comp=Z,2.3nm,0.9s,baz=170,slow=19,SNR=3.0						
TSUM				LR	LR	15 21 32.4	
	comp=Z,84μm,20.7s,baz=232,slow=32						
TSUM	**Tsumeb**	**79.05**	**106**	P	**P**	**14 51 49.7**	**+0.6**
	comp=Z,162nm,1.4s						
TSUM				S	**S**	**15 01 51.3**	**+3.6**
O28A	**Krutsinger Ran**	**79.06**	**337**	⇑P	**P**	**14 51 48.3**	**-0.2**
	baz=79,SNR=93						
P26A	**Davis Ranch, A**	**79.07**	**336**	⇓P	**P**	**14 51 48.1**	**-0.6**
	baz=79,SNR=108						
BGNE	**Belgrade**	**79.15**	**340**	⇑P	**P**	**14 51 48.8**	**-0.1**
	baz=80,SNR=93						
BGNE	**Belgrade**	**79.15**	**340**	*e*P	**P**	**14 51 48.4**	**-0.4**
	comp=Z,2μm,1.3s						
N30A	**Hueftle Ranch,**	**79.15**	**339**	⇑P	**P**	**14 51 48.8**	**-0.1**
	baz=80,SNR=12						
Q24A	**Divide**	**79.17**	**334**	⇓P	**P**	**14 51 49.8**	**+0.4**
	baz=80,SNR=350						
109C	**Camp Elliot, M**	**79.20**	**323**	⇓P	**P**	**14 51 49.6**	**+0.2**
	baz=80,SNR=9.6						
IRM	**Iron Mountain**	**79.27**	**325**	⇑P	**P**	**14 51 50.3**	**+0.6**
	baz=80,SNR=212						
PKME	**Peaks-Kenny Pk**	**79.28**	**2**	*e*P	**P**	**14 51 49.1**	**-0.3**
	comp=Z,499nm,1.3s						
PKME				LR	LR		
	comp=Z,32μm,21.0s						
P25A	**Willow Gulch B**	**79.31**	**335**	⇑P	**P**	**14 51 50.0**	**0.0**
	baz=80,SNR=337						
M31A	**Lambtecht Ranc**	**79.32**	**340**	⇑P	**P**	**14 51 50.1**	**+0.3**
	baz=80,SNR=115						
N29A	**Votaw Ranch, W**	**79.33**	**338**	⇑P	**P**	**14 51 50.1**	**+0.2**
	baz=80,SNR=55						
O27A	**Beecher Island**	**79.34**	**337**	⇑P	**P**	**14 51 50.6**	**+0.5**
	baz=80,SNR=141						
Q23A	**Hartsel**	**79.36**	**334**	⇑P	**P**	**14 51 50.9**	**+0.4**
	baz=80,SNR=8.0						
W13A	**Hualapai Mount**	**79.44**	**326**	⇑P	**P**	**14 51 51.6**	**+0.7**
	baz=80,SNR=262						
PFO	**Pinyon Flats O**	**79.45**	**323**	*e*P	**P**	**14 51 51.4**	**+0.5**
PFO				*e*

comp=N,4.1nm,0.8s,baz=132,slow=3.0,SNR=2.2
BOSA PKKPbc **PKKPbc** **15 10 34.5 -3.5**
comp=N,54nm,0.9s,baz=317,slow=5.0,SNR=5.6
BOSA Boshof 79.85 118 *e*P **P** **14 51 52.8 -0.6**
comp=N,2μm,1.5s
BOSA *e*PcP **pP** **14 51 59.6 -0.2**
BOSA S **S** **15 01 57.2 +1.3**
BOSA PKKPbc **PKKPbc** **15 10 34.5 -3.5**
M29A Burnside Ranch 79.92 338 ⇑P **P** **14 51 53.3 +0.2**
baz=80,SNR=47
N27A Anderson Farm, 79.92 337 ⇓P **P** **14 51 53.6 +0.4**
baz=80,SNR=155
LDFC Landfair 80.00 325 *e*P **P** **14 51 54.9 +1.1**
comp=N,2μm,1.5s
LDFC *e*PcP **pP** **14 52 00.1 0.0**
SCI San Clemente I 80.00 322 ⇓P **P** **14 51 54.5 +0.8**
baz=80,SNR=9.6
GMRC Granite Mounta 80.02 325 ⇓P **P** **14 51 54.7 +0.8**
baz=80,SNR=232
L31A Butterfield Fa 80.05 340 ⇑P **P** **14 51 54.1 +0.3**
baz=80,SNR=139
ISCO Idaho Springs 80.07 334 *e*P **P** **14 51 53.3 -1.0**
ISCO *e* 14 52 00.8
ISCO pmax pmax
comp=Z,2μm,1.6s
ISCO MLR MLR
comp=Z,38μm,20.0s
ISCO Idaho Springs 80.07 334 ⇑P **P** **14 51 54.4 0.0**
baz=80,SNR=258
ISCO Idaho Springs 80.07 334 *e*P **P** **14 51 53.3 -1.0**
comp=Z,2μm,1.6s
ISCO *e*PcP **pP** **14 52 00.8 +0.1**
ISCO LR LR
comp=Z,38μm,20.0s
M28A Bar X Bar Ranc 80.08 338 ⇓P **P** **14 51 54.4 +0.3**
baz=80,SNR=40
PV04 Paradox Valley 80.09 331 *e*P **P** **14 51 54.1 -0.1**
L30A Spencer Herefo 80.09 339 ⇑P **P** **14 51 54.5 +0.5**
baz=80,SNR=65
N26A Koester Ranch, 80.17 336 ⇓P **P** **14 51 55.1 +0.6**
baz=80,SNR=47
O24A Longmont 80.17 335 ⇓P **P** **14 51 54.9 +0.3**
baz=80,SNR=12
BBRC Big Bear Solar 80.21 324 ⇓P **P** **14 51 56.4 +1.3**
baz=80,SNR=61
CIS Catalina Islan 80.27 322 ⇑P **P** **14 51 56.2 +1.0**
baz=80,SNR=31
P22A Eagle 80.31 333 ⇓P **P** **14 51 56.1 +0.6**
baz=81,SNR=237
HEC Hector,Ludlow 80.38 324 ⇓P **P** **14 51 56.8 +1.0**
baz=81,SNR=176
L29A Maesberg Ranch 80.42 339 ⇑P **P** **14 51 56.2 +0.3**
baz=81,SNR=61
N25A Grover 80.44 336 ⇑P **P** **14 51 56.7 +0.6**
baz=81,SNR=8.3
FMP Fort Macarthur 80.46 322 ⇑P **P** **14 51 57.0 +0.9**
baz=81,SNR=9.2
M27A Reverse DX Ran 80.52 337 ⇓P **P** **14 51 56.8 +0.4**
baz=81,SNR=78
O23A Lake Granby, G 80.54 334 ⇓P **P** **14 51 57.4 +0.6**
baz=81,SNR=417
BFSC Mount Baldy Ra 80.56 323 ⇓P **P** **14 51 57.5 +0.7**
baz=81,SNR=137
TUQ Turquoise Moun 80.67 325 ⇓P **P** **14 51 58.2 +0.7**
baz=81,SNR=336
L28A Connealy Angus 80.69 338 ⇓P **P** **14 51 57.8 +0.5**
baz=81,SNR=18
SWZ Schweizer 80.69 116 *e*P **P** **14 51 57.4 -0.6**
SWZ AMB AMB 14 52 01.9
comp=Z,1μm,5.0s
SWZ AMS AMS 15 39 44.1
comp=Z,147μm,19.1s
SWZ Schweizer 80.69 116 P **P** **14 51 57.4 -0.6**
comp=Z,1μm,5.0s
M26A McRoberts Ranc 80.71 337 ⇑P **P** **14 51 57.8 +0.3**
baz=81,SNR=43
N24A Carr 80.72 335 ⇑P **P** **14 51 58.1 +0.5**
baz=81,SNR=86
O22A Kremmling 80.73 334 ⇓P **P** **14 51 58.2 +0.4**
baz=81,SNR=309
K30A Basset 80.73 340 ⇓P **P** **14 51 57.7 +0.3**
baz=81,SNR=190
MWC Mount Wilson 80.74 323 *e*P **P** **14 51 57.9 0.0**
MWC *e* 14 52 03.6
MWC pmax pmax
comp=Z,715nm,1.1s
MWC Mount Wilson 80.74 323 *e*P **P** **14 51 57.9 0.0**
comp=Z,715nm,1.1s
MWC *e*PcP **pP** **14 52 03.6 -0.7**
RRX Edison Barstow 80.74 324 ⇓P **P** **14 51 58.9 +1.2**
baz=81,SNR=9.5
PASC Pasadena Art C 80.77 323 *e*P **P** **14 51 58.5 +0.7**
comp=Z,2μm,1.7s
PASC *e*PcP **pP** **14 52 03.7 -0.5**
DECC Green Verdugo 80.90 323 ⇓P **P** **14 51 59.2 +0.7**
baz=81,SNR=33
ECSD EROS Data Cent 80.90 342 ⇓P **P** **14 51 57.7 -0.6**
baz=81,SNR=444
ECSD EROS Data Cent 80.90 342 *e*P **P** **14 51 57.1 -1.2**
comp=Z,78nm,0.4s
ECSD LR LR
comp=Z,38μm,20.0s
M25A Palm-Egli Farm 80.99 336 ⇑P **P** **14 51 59.0 0.0**
baz=81,SNR=81
GSC Goldstone, Bar 80.99 324 *e*P **P** **14 51 59.2 +0.1**
GSC *e* 14 52 04.9
GSC pmax pmax
comp=Z,1μm,1.5s
GSC Goldstone, Bar 80.99 324 ⇑P **P** **14 51 59.8 +0.8**
baz=81,SNR=186
GSC Goldstone, Bar 80.99 324 *e*P **P** **14 51 59.2 +0.1**
comp=Z,1μm,1.5s
GSC *e*PcP **pP** **14 52 04.9 -0.6**
L27A T5 Ranch, Ells 81.00 338 ⇓P **P** **14 51 58.8 -0.2**
baz=81,SNR=58
K29A Lazy Trails An 81.01 339 ⇓P **P** **14 51 59.1 +0.1**
baz=81,SNR=74
N23A Red Feather La 81.16 335 ⇓P **P** **14 52 00.3 +0.2**
baz=82,SNR=222
SHPR Sheep Range 81.19 326 *e*P **P** **14 52 00.5 +0.3**
comp=Z,1μm,1.2s
L26A Underwood Farm 81.21 337 ⇑P **P** **14 52 00.3 +0.2**
baz=82,SNR=49
SHOC Shoshone, Teco 81.22 325 ⇓P **P** **14 52 00.4 +0.2**
baz=82,SNR=13
EDW2 Edwards Air Fo 81.23 323 ⇓P **P** **14 52 00.5 +0.2**
baz=82,SNR=176
CCUT Cedar City 81.24 328 *e*P **P** **14 52 00.7 +0.2**
comp=Z,855nm,1.1s
N22A Wattenberg Ran 81.26 334 ⇑P **P** **14 52 01.4 +0.8**
baz=82,SNR=250
M24A Cheyenne 81.28 336 ⇓P **P** **14 52 01.2 +0.6**
baz=82,SNR=181
K28A Ten Mile Ranch 81.28 339 ⇑P **P** **14 52 00.9 +0.4**
baz=82,SNR=52
J30A Dallas 81.30 340 ⇑P **P** **14 51 59.9 -0.5**
baz=82,SNR=89
O20A White River Ci 81.34 333 ⇑P **P** **14 52 01.1 +0.1**
baz=82,SNR=137
O20A White River Ci 81.34 333 *e*P **P** **14 52 00.1 -0.8**
comp=Z,2μm,1.7s
O20A *e*PcP **PcP** **14 52 06.4 -0.7**
SRU San Rafael Swe 81.35 331 *e*P **P** **14 52 00.2 -0.8**
SRU *e* 14 52 06.4
SRU pmax pmax
comp=Z,136nm,0.4s
SRU San Rafael Swe 81.35 331 *e*P **P** **14 52 00.2 -0.8**
comp=Z,136nm,0.4s
SRU *e*PcP **PcP** **14 52 06.4 -0.7**
BSC Santa Cruz Isl 81.36 322 ⇑P **P** **14 52 01.5 +0.5**
baz=82,SNR=32
SPMN Marine on St. 81.43 345 ⇓P **P** **14 51 59.5 -1.6**
baz=82,SNR=132
SPMN Marine on St. 81.43 345 *e*P **P** **14 51 59.1 -2.0**
comp=Z,1μm,1.2s
SPMN *e*PcP **PcP** **14 52 04.8 -2.2**
RUDU RUNDU 81.45 106 *e*P **P** **14 52 03.5 +1.4**
RUDU AMB AMB 14 52 07.3
comp=Z,1μm,1.5s
RUDU AMS AMS 15 38 54.8
comp=Z,133μm,20.6s
RUDU RUNDU 81.45 106 P **P** **14 52 03.5 +1.4**
comp=Z,1μm,1.5s
ARUT Antelope Range 81.47 328 *e*P **P** **14 52 02.0 +0.3**
ARUT *e* 14 52 07.8
ARUT Antelope Range 81.47 328 *e*P **P** **14 52 02.0 +0.3**
comp=Z,30μm,1.5s

MVU Marysvale 81.54 329 *e*P **P** **14 52 01.8 -0.3**
comp=Z,2μm,1.9s
MVU *e*PcP **PcP** **14 52 07.8 -0.2**
K27A Flueckinger Fa 81.54 338 ⇑P **P** **14 52 01.8 0.0**
baz=82,SNR=105
LRMC Laurel Mtn Rad 81.56 324 ⇓P **P** **14 52 02.7 +0.6**
baz=82,SNR=222
M23A Laramie 81.58 335 ⇓P **P** **14 52 02.5 +0.3**
baz=82,SNR=255
L25A Engebretsen Ra 81.60 337 ⇓P **P** **14 52 02.8 +0.6**
baz=82,SNR=64
J29A Okreek 81.61 340 ⇑P **P** **14 52 02.2 +0.1**
baz=82,SNR=217
SEK Senekal 81.74 119 *e*P **P** **14 52 03.8 +0.2**
SEK AMB AMB 14 52 07.8
comp=Z,1μm,1.5s
SEK AMS AMS 15 38 38.6
comp=Z,86μm,20.0s
SEK Senekal 81.74 119 P **P** **14 52 03.8 +0.2**
comp=Z,1μm,1.5s
SBC Santa Barbara 81.75 322 ⇓P **P** **14 52 03.9 +1.0**
baz=82,SNR=7.0
KSD Kokstad 81.76 121 *e*P **P** **14 52 05.3 +1.7**
KSD AMB AMB 14 52 10.9
comp=Z,369nm,7.3s
KSD AMS AMS 15 37 32.2
comp=Z,44μm,20.7s
KSD Kokstad 81.76 121 P **P** **14 52 05.3 +1.7**
comp=Z,369nm,7.3s
TMUT Trail Mountain 81.79 330 *e*P **P** **14 52 03.4 -0.1**
comp=Z,757nm,1.2s
TMUT *e*PcP **PcP** **14 52 08.8 -0.3**
I30A Oacoma 81.82 340 ⇑P **P** **14 52 02.7 -0.5**
baz=82,SNR=169
L24A Wheatland 81.82 336 ⇓P **P** **14 52 03.3 -0.1**
baz=82,SNR=8.5
K26A Motz Farm, Whi 81.84 337 ⇓P **P** **14 52 03.6 +0.2**
baz=82,SNR=64
M22A Cedar Creek Ra 81.84 334 ⇑P **P** **14 52 03.7 +0.1**
baz=82,SNR=117
ARVC Arvin 81.84 323 ⇑P **P** **14 52 03.9 +0.5**
baz=82,SNR=11
J28A Allard Ranch, 81.89 339 ⇑P **P** **14 52 03.8 +0.2**
baz=82,SNR=198
N20A Spence Gulch, 81.95 333 P **P** **14 52 04.3 +0.1**
baz=82
FURC Furnace Creek, 81.96 325 ⇓P **P** **14 52 04.9 +0.9**
baz=82,SNR=100
J27A Elkhorn Farm, 81.97 338 ⇓P **P** **14 52 04.7 +0.7**
baz=82,SNR=144
K25A Mack Ranch, Ha 81.98 337 ⇓P **P** **14 52 04.4 +0.2**
baz=82,SNR=47
ISA Isabella, Lake 82.09 323 *e*P **P** **14 52 05.2 +0.3**
ISA pmax pmax
comp=Z,609nm,1.1s
ISA Isabella, Lake 82.09 323 ⇓P **P** **14 52 05.9 +1.0**
baz=82,SNR=231
ISA Isabella, Lake 82.09 323 *e*P **P** **14 52 05.2 +0.3**
comp=Z,609nm,1.1s
ISA *e*PcP **PcP** **14 52 09.9 -0.3**
LBTB Lobatse 82.09 115 ⇓/P **P** **14 52 05.6 +0.2**
LBTB AMB AMB 14 52 09.7
comp=Z,1μm,1.7s
LBTB AMS AMS 15 43 30.9
comp=Z,78μm,17.8s
LBTB Lobatse 82.09 115 *e*P **P** **14 52 04.7 -0.7**
LBTB S **S** **15 02 21.0 +1.6**
LBTB pmax pmax
comp=Z,621nm,1.8s
LBTB Lobatse 82.09 115 P **P** **14 52 05.2 -0.2**
comp=Z,227nm,0.6s,baz=253,slow=5.8,SNR=67
LBTB S **S** **15 02 21.0 +1.6**
comp=Z,3.3nm,0.6s,baz=137,slow=22,SNR=17
LBTB LR LR 15 27 10.6
comp=Z,52μm,18.1s,baz=234,slow=35
LBTB Lobatse 82.09 115 *e*P **P** **14 52 04.7 -0.7**
comp=Z,621nm,1.8s
LBTB S **S** **15 02 21.0 +1.6**
L23A Garrett 82.15 335 ⇑P **P** **14 52 04.9 -0.3**
baz=82,SNR=130
DAC Darwin (Calif) 82.15 324 *e*P **P** **14 52 05.4 +0.1**
DAC pmax pmax
comp=Z,814nm,1.2s
DAC Darwin (Calif) 82.15 324 *e*P **P** **14 52 05.4 +0.1**
comp=Z,814nm,1.2s
DAC *e*PcP **PcP** **14 52 10.1 -0.6**
I29A Vivian Onida 82.17 340 ⇓P **P** **14 52 04.5 -0.5**
baz=82,SNR=77
BRSD Miller 82.18 341 ⇑P **P** **14 52 04.6 -0.4**
baz=82,SNR=89
BRSD Miller 82.18 341 *e*P **P** **14 52 04.0 -1.1**
comp=Z,2μm,1.0s
BRSD *e*PcP **PcP** **14 52 09.6 -0.8**
L22A Ellis Ranch, M 82.33 335 ⇓P **P** **14 52 06.4 +0.3**
baz=83,SNR=154
J26A Sides Ranch, S 82.35 338 ⇓P **P** **14 52 06.7 +0.6**
baz=83,SNR=288
K24A Anderson Ranch 82.39 336 ⇓P **P** **14 52 06.9 +0.5**
baz=83,SNR=137
I28A Midland 82.40 339 ⇑P **P** **14 52 06.2 0.0**
baz=83,SNR=299
H07S1 FLORES T-PHASE 82.48 31 *e*P P 14 52 11.1 +4.4
H07S1 FLORES T-PHASE 82.48 31 *e*S **S** **15 02 24.3 +2.1**
VES Vestal, Richgr 82.54 323 ⇑P **P** **14 52 07.7 +0.6**
baz=83,SNR=198
MPU Maple Canyon 82.57 330 *e*P **P** **14 52 07.6 +0.2**
comp=Z,947nm,1.2s
SMMC Simmler 82.58 322 ⇑P **P** **14 52 08.5 +1.1**
baz=83,SNR=37
KSR Koster 82.60 116 *e*P **P** **14 52 09.3 +1.2**
KSR AMB AMB 14 52 12.4
comp=Z,492nm,4.9s
KSR Koster 82.60 116 P **P** **14 52 09.3 +1.2**
comp=Z,492nm,4.9s
GRAC Grapevine Rang 82.62 325 ⇑P **P** **14 52 08.8 +1.2**
baz=83,SNR=40
J25A Sunshine Ranch 82.66 337 ⇑P **P** **14 52 08.0 +0.3**
baz=83,SNR=111
WDLM Western Deep L 82.66 117 *e*P **P** **14 52 08.8 +0.3**
WDLM AMB AMB 14 52 12.6
comp=Z,568nm,4.9s
K23A Bowen Ranch, D 82.69 336 ⇑P **P** **14 52 08.3 +0.4**
baz=83,SNR=208
H29A Onida 82.70 340 ⇑P **P** **14 52 07.4 -0.3**
baz=83,SNR=262
NLU North Lily Min 82.70 330 *e*P **P** **14 52 08.2 0.0**
comp=Z,2μm,1.7s
I27A Quinn 82.72 339 ⇓P **P** **14 52 08.3 +0.3**
baz=83,SNR=102
ODZ Otahua Downs 82.75 219 P* P 14 52 04.7 -3.6
ODZ Otahua Downs 82.75 219 *e*P **P** **14 52 08.6 +0.3**
comp=Z,774nm,1.4s
ODZ *e*PcP **PcP** **14 52 13.0 -0.2**
DAU Daniels Canyon 82.75 331 *e*P **P** **14 52 08.4 -0.1**
DAU pmax pmax
comp=Z,2μm,1.7s
DAU Daniels Canyon 82.75 331 *e*P **P** **14 52 08.4 -0.1**
comp=Z,2μm,1.7s
KLOF Kloof 82.84 117 *e*P **P** **14 52 08.4 -1.0**
KLOF AMB AMB 14 52 13.4
comp=Z,623nm,5.0s
KLOF Kloof 82.84 117 P **P** **14 52 08.4 -1.0**
comp=Z,623nm,5.0s
G30A Faulkton 82.86 341 ⇓P **P** **14 52 07.9 -0.7**
baz=83,SNR=171
J24A Dixon Ranch, L 82.88 337 ⇓P **P** **14 52 09.7 +0.8**
baz=83,SNR=146
R11A Troy Canyon, C 82.89 327 ⇑P **P** **14 52 09.8 +0.7**
baz=83,SNR=392
R11A Troy Canyon, C 82.89 327 *e*P **P** **14 52 08.8 -0.3**
comp=Z,656nm,1.7s
K22A Casper 82.91 335 ⇓P **P** **14 52 09.3 +0.2**
baz=83,SNR=247
K22A Casper 82.91 335 *e*P **P** **14 52 08.3 -0.8**
comp=Z,3μm,1.5s
KHZ Kahutara 82.91 223 *e*P **P** **14 52 08.7 -0.5**
comp=Z,937nm,1.4s
KHZ *e*PcP **PcP** **14 52 13.9 0.0**
I26A New Underwood 82.94 338 ⇑P **P** **14 52 09.0 -0.1**
baz=83,SNR=70
PCED Cedros 82.95 33 *e*P **P** **14 52 10.2 +1.0**
comp=Z,1μm,1.6s
SNZO South Karori 82.97 224 *e*P **P** **14 52 10.0 +0.6**
comp=Z,523nm,1.4s
SNZO *e*PcP **PcP** **14 52 14.2 0.0**
SNZO LR LR
comp=Z,129μm,22.0s

PICO Pico 82.97 33 *e*P **P** **14 52 12.5 +3.1**
H28A Mission Ridge 82.97 340 ⇑P **P** **14 52 08.5 -0.6**
baz=83,SNR=276
RCTC Rector, Farmer 82.98 323 ⇓P **P** **14 52 08.6 -0.8**
baz=83,SNR=9.1
JLU Jordanelle 82.99 331 *e*P **P** **14 52 09.5 -0.2**
comp=Z,428nm,0.9s
TIN Tinemaha, Big 83.08 324 ⇑P **P** **14 52 11.0 +1.0**
baz=83,SNR=23
G29A Hoven 83.14 340 ⇑P **P** **14 52 09.5 -0.5**
baz=83,SNR=42
OXZ Oxford 83.15 221 *e*P* **P** **14 52 09.9 -0.6**
K21A Alcova 83.15 335 ⇑P **P** **14 52 10.5 +0.1**
baz=83,SNR=469
MWZ Matawai 83.17 228 P* **P** **14 52 12.2 +1.5**
CTU Camp Tracy 83.19 331 *e*P **P** **14 52 10.3 -0.3**
comp=Z,297nm,0.9s
CTU *e*PcP **PcP** **14 52 15.1 0.0**
I25A Rochford 83.20 338 ⇑P **P** **14 52 10.9 +0.4**
baz=84,SNR=338
CRWM Crown Mines 83.20 117 *e*P **P** **14 52 11.4 +0.2**
CRWM AMB AMB 14 52 15.3
comp=Z,608nm,1.8s
DUG Dugway, Tooele 83.21 330 *e*P **P** **14 52 10.0 -0.7**
DUG MLR MLR
comp=Z,94μm,20.0s
DUG Dugway, Tooele 83.21 330 ⇑P **P** **14 52 11.3 +0.6**
baz=84,SNR=532
DUG Dugway, Tooele 83.21 330 *e*P **P** **14 52 10.0 -0.7**
comp=Z,6μm,0.8s
DUG LR LR
comp=Z,94μm,20.0s
PMAN Manadas 83.23 33 *e*P **P** **14 52 11.3 +0.7**
comp=Z,167nm,0.7s
ROSA Rosais 83.23 33 *e*P **P** **14 52 11.4 +0.8**
comp=Z,97nm,0.9s
ROSA Rosais 83.23 33 *e*S **S** **15 02 32.7 +2.9**
J23A Dilts Ranch, B 83.24 336 ⇓P **P** **14 52 10.9 +0.1**
baz=84,SNR=28
H27A Howes 83.24 339 ⇑P **P** **14 52 10.4 -0.2**
baz=84,SNR=95
TOPO Topo 83.27 33 *e*P P 14 52 14.5 +3.6
BKZ Black Stump Fm 83.28 227 P* **P** **14 52 10.6 -0.6**
OBSV Observatory 83.28 117 *e*P **P** **14 52 11.1 -0.5**
OBSV AMB AMB 14 52 15.6
comp=Z,686nm,4.7s
PSMA Santa Maria 83.30 36 *e*P **P** **14 52 12.1 +1.1**
comp=Z,45nm,0.6s
G28A Parade 83.31 340 ⇓P **P** **14 52 10.8 -0.1**
baz=84,SNR=54
ERPM east rand prop 83.31 117 *e*P **P** **14 52 12.1 +0.3**
ERPM AMB AMB 14 52 16.3
comp=Z,887nm,4.7s
ERPM east rand prop 83.31 117 P **P** **14 52 12.1 +0.3**
comp=Z,887nm,4.7s
PSMN Pico do Norte, 83.34 36 *e*P **P** **14 52 09.8 -1.4**
comp=Z,993nm,1.6s
I24A Kuemmerle Ranc 83.34 337 ⇓P **P** **14 52 11.4 +0.2**
baz=84,SNR=103
RSSD Black Hills 83.39 337 *e*P **P** **14 52 11.3 -0.3**
RSSD pmax pmax
comp=Z,290nm,0.8s
RSSD Black Hills 83.39 337 *e*P **P** **14 52 11.3 -0.3**
comp=Z,290nm,0.8s
TCUT Toone Canyon 83.41 331 *e*P **P** **14 52 11.5 -0.4**
comp=Z,2μm,1.5s
TCUT *e*PcP **PcP** **14 52 15.7 -0.5**
TPH Tonopah 83.42 326 *e*P **P** **14 52 11.9 0.0**
TPH pmax pmax
comp=Z,790nm,1.1s
TPH Tonopah 83.42 326 *e*P **P** **14 52 11.8 0.0**
comp=Z,790nm,1.1s
TPH *e*PcP **PcP** **14 52 15.7 -0.5**
RPZ Rata Peaks 83.42 221 P* P 14 52 06.9 -5.0
RPZ Rata Peaks 83.42 221 *e*P **P** **14 52 11.6 -0.3**
comp=Z,1μm,1.0s
RPZ *e*PcP **PcP** **14 52 16.6 +0.4**
LBZ Lake Benmore 83.43 220 P* **P** **14 52 09.5 -2.4**
H26A Fairpoint 83.44 338 ⇓P **P** **14 52 11.3 -0.3**
baz=84,SNR=12
URZ Urewera 83.47 228 P **P** **14 52 12.7 +0.5**
comp=Z,135nm,0.8s,baz=134,slow=2.5,SNR=39
URZ S **S** **15 02 34.8 +2.0**
comp=Z,5.7nm,1.0s,baz=189,slow=21,SNR=2.6
URZ Urewera 83.47 228 P* **P** **14 52 13.0 +0.9**
URZ Urewera 83.47 228 *e*P **P** **14 52 11.7 -0.5**
comp=Z,525nm,1.3s
URZ *e*PcP **PcP** **14 52 17.1 +0.6**
URZ S **S** **15 02 34.8 +2.0**
F30A Leola 83.49 341 P **P** **14 52 11.4 -0.4**
baz=84
WHZ Wether Hill Ro 83.55 217 P* **P** **14 52 12.3 -0.2**
WHZ Wether Hill Ro 83.55 217 *e*P **P** **14 52 12.7 +0.3**
comp=Z,921nm,1.4s
J22A Midwest 83.56 335 ⇓P **P** **14 52 11.8 -0.6**
baz=84,SNR=156
PGRA Graciosa 83.60 33 *e*P **P** **14 52 12.3 -0.2**
comp=Z,1μm,1.8s
PGRA Graciosa 83.60 33 *e*S **S** **15 02 38.5 +4.9**
ADH Angra Heroismo 83.64 34 *e*P **P** **14 52 13.6 +0.9**
comp=Z,57nm,0.7s
PDA Ponta Delgada 83.64 35 *e*P P 14 52 16.9 +4.2
comp=Z,900nm,1.6s
PSET Sete Cidades 83.67 35 *e*P **P** **14 52 15.8 +2.8**
comp=Z,866nm,1.7s
PSET Sete Cidades 83.67 35 *e*S **S** **15 02 38.3 +3.9**
SLR Silverton 83.69 117 *e*P **P** **14 52 13.2 -0.5**
SLR AMB AMB 14 52 17.6
comp=Z,741nm,1.8s
SLR AMS AMS 15 41 33.4
comp=Z,118μm,19.1s
SLR Silverton 83.69 117 P **P** **14 52 13.2 -0.5**
SLR pmax pmax
comp=Z,741nm,1.8s
SLR Silverton 83.69 117 P **P** **14 52 13.2 -0.5**
comp=Z,741nm,1.8s
H25A Fruitdale 83.70 338 ⇓P **P** **14 52 12.9 -0.1**
baz=84,SNR=65
THZ Tophouse 83.70 223 P* P 14 52 07.6 -5.8
F29A Eureka 83.70 341 ⇓P **P** **14 52 12.4 -0.5**
baz=84,SNR=104
I23A Meade Ranch, G 83.71 336 ⇑P **P** **14 52 12.4 -0.7**
baz=84,SNR=6.4
GRON Grota Negra 83.72 35 *e*P P 14 52 18.4 +5.2
comp=Z,196nm,1.7s
EYMN Ely 83.78 347 *e*P **P** **14 52 11.5 -1.7**
comp=Z,2μm,1.6s
EYMN LR LR
comp=Z,31μm,19.0s
COVZ Chateau Observ 83.83 226 P* **P** **14 52 14.8 +0.7**
MLAC Mammoth, Mammo 83.83 324 ⇓P **P** **14 52 14.3 +0.3**
baz=84,SNR=131
J21A Lysite 83.84 335 ⇓P **P** **14 52 13.8 -0.1**
baz=84,SNR=63
G27A Dupree 83.88 339 ⇓P **P** **14 52 13.3 -0.5**
baz=84,SNR=272
BGU Big Grassy Mou 83.91 330 *e*P **P** **14 52 13.5 -0.8**
comp=Z,918nm,1.7s
F28A McLaughlin 83.98 340 ⇑P **P** **14 52 14.3 0.0**
baz=84,SNR=135
I22A 9 Mile Ranch, 83.99 336 ⇓P **P** **14 52 13.9 -0.6**
baz=84,SNR=238
SPUT South Promonto 84.00 331 *e*P **P** **14 52 13.8 -0.9**
comp=Z,3μm,1.5s
G26A Maurine 84.00 339 ⇑P **P** **14 52 14.2 -0.3**
baz=84,SNR=256
E30A Jud 84.07 342 ⇑P **P** **14 52 14.6 -0.2**
baz=84,SNR=47
J20A Shoshoni 84.08 334 ⇑P **P** **14 52 15.4 +0.3**
baz=84,SNR=216
BW06 Boulder Array 84.11 333 *e*P **P** **14 52 14.1 -1.2**
comp=Z,535nm,1.3s
BW06 *e*PcP **PcP** **14 52 19.2 0.0**
BW06 LR LR
comp=Z,121μm,19.0s
PDAR Pinedale Array 84.11 333 P **P** **14 52 13.9 -1.4**
comp=Z,33nm,0.9s,baz=146,slow=5.2,SNR=112
H24A Dirks Ranch, A 84.11 337 ⇓P **P** **14 52 14.6 -0.5**
baz=84,SNR=202
NV11 Mina Array Sit 84.14 325 *e*P **P** **14 52 14.7 -0.8**
G25A Newell 84.16 338 ⇓P **P** **14 52 15.3 0.0**
baz=84,SNR=316
I21A Big Trails, Te 84.20 335 ⇓P **P** **14 52 15.2 -0.4**
baz=84,SNR=224
NVAR Mina Array Bea 84.21 325 P **P** **14 52 15.2 -0.8**
comp=Z,31nm,0.7s,baz=152,slow=4.8,SNR=143
H23A Clabaugh Cattl 84.22 337 ⇑P **P** **14 52 15.0 -0.7**

baz=84,SNR=8.0
FOZ **Fox Glacier** 84.25 220 P* P 14 52 13.5 -2.6
TORD **Torodi Ar. Bea** 84.27 70 P P 14 52 15.8 -0.6
comp=Z,199nm,0.8s,baz=252,slow=4.6,SNR=94
PMOZ **Porto Moniz, M** 84.32 44 *i* P P 14 52 20.1 +3.6
comp=Z,709nm,1.5s
PMOZ **Porto Moniz, M** 84.32 44 *e*PP PP 14 55 35.5 +3.7
PMOZ *e*S S 15 02 48.1 +6.8
E29A **Napoleon** 84.33 341 ⇓P P 14 52 15.8 -0.2
baz=85,SNR=88
VRZ **Vera Road** 84.34 226 P* P 14 52 16.7 +0.1
J19A **Crowheart** 84.35 334 ⇑P P 14 52 16.1 -0.4
baz=85,SNR=349
F27A **Lemmon** 84.35 339 ⇑P P 14 52 16.1 -0.2
baz=85,SNR=304
JCZ **Jackson Bay** 84.40 219 P* P 14 52 16.5 -0.4
PMAR **Madeira** 84.41 44 *e*P P 14 52 18.8 +1.8
comp=Z,936nm,1.8s
MSZ **Milford Sound** 84.41 218 P* P 14 52 16.2 -0.6
SAO **San Andreas Ge** 84.44 322 *e*P P 14 52 15.6 -1.3
SAO pmax pmax
comp=Z,307nm,1.2s
SAO **San Andreas Ge** 84.44 322 *e*P P 14 52 15.6 -1.3
comp=Z,307nm,1.2s
SAO *e*PcP PcP 14 52 20.1 -0.4
HVU **Hansel Valley** 84.52 331 *e*P P 14 52 16.7 -0.6
HVU pmax pmax
comp=Z,3μm,1.4s
HVU **Hansel Valley** 84.52 331 *e*P P 14 52 16.7 -0.6
comp=Z,3μm,1.4s
F26A **Lodgepole** 84.52 339 ⇑P P 14 52 16.8 -0.3
baz=85,SNR=162
QRZ **Quartz Range** 84.53 223 P* P 14 52 16.8 -0.7
H22A **Clearmont** 84.56 336 ⇓P P 14 52 16.8 -0.6
baz=85,SNR=103
G24A **Alzada** 84.59 338 ⇑P P 14 52 17.1 -0.4
baz=85,SNR=74
D30A **Buchanan** 84.60 342 ⇓P P 14 52 17.2 -0.2
baz=85,SNR=326
I20A **Worland** 84.61 335 ⇑P P 14 52 17.6 -0.1
baz=85,SNR=304
E28A **Huff** 84.62 341 ⇓P P 14 52 17.3 -0.3
baz=85,SNR=178
AHID **Auburn Hatcher** 84.69 332 *e*P P 14 52 17.5 -0.7
comp=Z,2μm,1.7s
AHID *e*PcP PcP 14 52 21.3 -0.3
AHID LR LR
comp=Z,90μm,20.0s
ELK **Elko** 84.70 328 P P 14 52 18.0 -0.4
ELK pmax pmax
comp=Z,152nm,1.0s
ELK **Elko** 84.70 328 P P 14 52 18.0 -0.4
comp=Z,152nm,1.0s,baz=180,slow=2.8,SNR=106
E27A **Carson** 84.73 340 ⇑P P 14 52 18.0 -0.2
baz=85,SNR=30
D29A **Pettibone, Tap** 84.77 341 ⇓P P 14 52 17.9 -0.4
baz=85,SNR=185
G23A **Biddle** 84.78 337 ⇑P P 14 52 18.0 -0.5
baz=85,SNR=128
WAKR **Walker** 84.81 325 *e*P P 14 52 19.7 +0.7
comp=Z,2μm,1.7s
H21A **Big Horn, Sher** 84.83 336 ⇓P P 14 52 18.5 -0.3
baz=85,SNR=94
F25A **Bowman** 84.83 339 ⇑P P 14 52 18.3 -0.4
baz=85,SNR=104
CMB **Columbia Colle** 84.90 324 *e*P P 14 52 18.8 -0.4
CMB pmax pmax
comp=Z,525nm,1.2s
CMB **Columbia Colle** 84.90 324 *e*P P 14 52 18.8 -0.4
comp=Z,525nm,1.2s
CMB *e*PcP PcP 14 52 22.2 -0.3
PMPS **Porto Santo** 84.99 44 *e*P P 14 52 23.6 +3.9
comp=Z,967nm,1.7s
I19A **Meeteetse** 85.00 334 ⇑P P 14 52 19.6 -0.1
baz=85,SNR=183
CRZF **Crozet Islands** 85.00 145 P P 14 52 03.0 -17
CRZF **Crozet Islands** 85.00 145 S Sx 15 02 16.0
CRZF R 15 18 00.0
CRZF **Crozet Islands** 85.00 145 P P 14 52 03.0 -17
CRZF **Crozet Islands** 85.00 145 S Sx 15 02 16.0
CRZF R 15 18 00.0
AGMN **Agassiz Nation** 85.01 344 ⇑P P 14 52 19.0 -0.4
baz=85,SNR=214
AGMN **Agassiz Nation** 85.01 344 *e*P P 14 52 18.3 -1.1
comp=Z,425nm,0.7s
AGMN *e*PcP PcP 14 52 22.4 -0.3
AGMN LR LR
comp=Z,40μm,20.0s
E26A **Carlson Angus** 85.03 339 ⇓P P 14 52 19.1 -0.6
baz=85,SNR=11
H20A **Greybull** 85.03 335 ⇑P P 14 52 19.3 -0.5
baz=85,SNR=279
F24A **Ekalaka** 85.06 338 ⇓P P 14 52 19.2 -0.7
baz=85,SNR=110
C30A **Mose, Pekin** 85.08 342 ⇑P P 14 52 19.8 0.0
baz=85,SNR=540
G22A **Birney** 85.10 336 ⇓P P 14 52 19.5 -0.6
baz=85,SNR=119
D28A **Regan** 85.15 341 ⇓P P 14 52 20.0 -0.3
baz=86,SNR=208
F23A **Volborg** 85.25 337 ⇓P P 14 52 20.4 -0.4
baz=86,SNR=267
BMN **Battle Mountai** 85.32 327 *e*P P 14 52 20.6 -0.8
BMN pmax pmax
comp=Z,131nm,1.2s
BMN **Battle Mountai** 85.32 327 *e*P P 14 52 20.6 -0.8
comp=Z,131nm,1.2s
E25A **Miller Ranch,** 85.33 339 ⇓P P 14 52 21.1 -0.1
baz=86,SNR=188
D27A **Center** 85.34 340 ⇓P P 14 52 21.0 -0.2
baz=86,SNR=49
G21A **Lodge Grass** 85.41 336 ⇓P P 14 52 21.4 -0.2
baz=86,SNR=196
MSKU **Masuku** 85.41 89 PFAKE 14 52 30.0 +7.6
MSKU LR LR
comp=Z,2.0nm,20.0s
I17A **Pilgrim Ck.** 85.48 333 ⇓P P 14 52 22.1 -0.1
baz=86,SNR=84
MDND **Maddock** 85.50 342 ⇑P P 14 52 21.7 -0.2
baz=86,SNR=193
MDND **Maddock** 85.50 342 *e*P P 14 52 21.3 -0.6
comp=Z,473nm,0.9s
D26A **Manning** 85.53 340 ⇑P P 14 52 21.8 -0.3
baz=86,SNR=179
H19A **Powell** 85.54 334 ⇑P P 14 52 21.9 -0.4
baz=86,SNR=341
SAC **San Andreas** 85.57 322 *e*P P 14 52 21.6 -0.9
SAC pmax pmax
comp=Z,885nm,1.1s
SAC **San Andreas** 85.57 322 *e*P P 14 52 21.6 -0.9
comp=Z,885nm,1.1s
F22A **Rosebud** 85.58 337 ⇑P P 14 52 21.8 -0.7
baz=86,SNR=229
C28A **Hausauer Farms** 85.58 341 ⇑P P 14 52 22.2 -0.1
baz=86,SNR=71
E24A **Baker** 85.66 338 ⇓P P 14 52 22.7 -0.1
baz=86,SNR=185
B30A **Myrvik Farm, E** 85.73 343 ⇑P P 14 52 22.6 -0.5
baz=86,SNR=428
RAO **Raoul Island** 85.74 237 P P 14 52 25.2 +1.4
comp=Z,103nm,0.4s,baz=323,slow=14,SNR=4.7
RAO LR LR 15 22 01.3
comp=Z,18μm,21.8s,baz=119,slow=30
G20A **Bridger** 85.75 335 ⇑P P 14 52 22.6 -0.8
baz=86,SNR=591
H18A **Shoshone NF, C** 85.79 334 ⇑P P 14 52 22.9 -0.8
baz=86,SNR=289
C27A **Sayler Ranch,** 85.88 340 ⇓P P 14 52 24.1 +0.2
baz=86,SNR=180
H17A **Grant Village** 85.88 333 ⇑P P 14 52 24.1 -0.1
baz=86,SNR=115
H17A **Grant Village** 85.88 333 *e*P P 14 52 24.2 -0.1
comp=Z,588nm,1.4s
D25A **Fairfield** 85.89 339 ⇓P P 14 52 23.8 -0.1
baz=86,SNR=82
F21A **Absaloka Mine,** 85.91 336 ⇑P P 14 52 23.9 -0.2
baz=86,SNR=59
E23A **Ismay** 85.91 338 ⇓P P 14 52 23.2 -0.9
baz=86,SNR=57
B29A **Wagenman Farm,** 86.00 342 ⇑P P 14 52 24.1 -0.4
baz=86,SNR=226
YFT **Old Faithful** 86.03 333 P P 14 52 24.6 -0.3
comp=Z,591nm,1.0s
RLMT **Red Lodge** 86.03 335 *e*P P 14 52 23.9 -1.0
E22A **Miles City** 86.06 337 ⇑P P 14 52 24.2 -0.6
baz=86,SNR=97
C26A **Wahner Farm, P** 86.15 340 ⇑P P 14 52 25.6 +0.4
baz=86,SNR=123
D24A **Glendive** 86.16 339 ⇓P P 14 52 25.0 -0.2
baz=86,SNR=256
A30A **Hoffart Farm,** 86.18 343 ⇑P P 14 52 24.7 -0.6
baz=86,SNR=184
YNR **Norris Junctio** 86.20 333 *e*P P 14 52 26.1 +0.3
comp=Z,678nm,1.3s
F20A **Billings,** 86.23 336 ⇑P P 14 52 25.2 -0.5
baz=86,SNR=154
MCCM **Marconi Confer** 86.23 322 *e*P P 14 52 25.9 +0.1
comp=Z,3μm,1.7s
B28A **Dugan Ranch, T** 86.25 341 ⇑P P 14 52 25.7 +0.1
baz=87,SNR=181
YMR **Madison River** 86.26 333 *e*P P 14 52 25.9 -0.2
comp=Z,2μm,1.2s
LAO **LASA Array** 86.37 337 *e*P P 14 52 25.1 -1.2
comp=Z,1μm,1.1s
LAO *e*PcP PcP 14 52 28.9 +0.1
LAO LR LR
comp=Z,53μm,20.0s
C25A **Freed Ranch, W** 86.38 339 ⇓P P 14 52 26.1 -0.2
baz=87,SNR=114
A29A **Manning Farm,** 86.40 342 ⇑P P 14 52 26.0 -0.4
baz=87,SNR=326
B27A **Peters Farms,** 86.45 341 ⇑P P 14 52 26.5 -0.1
baz=87,SNR=15
D23A **Lindsay** 86.48 338 ⇑P P 14 52 26.8 0.0
baz=87,SNR=560
E21A **Keefer Ranch,** 86.52 337 ⇑P P 14 52 26.9 -0.2
baz=87,SNR=113
F19A **Roth Farm, Mol** 86.55 335 P P 14 52 26.8 -0.5
baz=87
C24A **Savage** 86.56 339 ⇑P P 14 52 27.5 +0.3
baz=87,SNR=268
QLMT **Earthquake Lak** 86.57 333 *e*P P 14 52 27.6 0.0
comp=Z,85nm,1.2s
A28A **Rude Farm, Bot** 86.65 342 ⇑P P 14 52 27.3 -0.3
baz=87,SNR=103
HLID **Hailey** 86.68 331 ⇑P P 14 52 27.8 -0.2
baz=87,SNR=570
HLID **Hailey** 86.68 331 *e*P P 14 52 27.3 -0.7
comp=Z,2μm,1.5s
HLID LR LR
comp=Z,41μm,21.0s
B26A **Jensen Ranch,** 86.69 340 ⇑P P 14 52 27.6 -0.2
baz=87,SNR=11
GCMT **Greycliff** 86.75 335 *e*P P 14 52 27.8 -0.6
comp=Z,896nm,1.4s
D22A **Cohagen** 86.77 337 ⇑P P 14 52 28.1 -0.1
baz=87,SNR=445
E20A **Meyer Farm, Mu** 86.84 336 ⇓P P 14 52 28.4 -0.2
baz=87,SNR=418
ULM **Lac du Bonnet** 86.86 345 P P 14 52 27.1 -1.4
ULM pmax pmax
comp=Z,706nm,1.3s
ULM **Lac du Bonnet** 86.86 345 P P 14 52 27.1 -1.4
comp=Z,706nm,1.3s,baz=162,slow=3.6,SNR=86
B25A **Knox Farm, Ray** 86.86 340 ⇑P P 14 52 28.3 -0.3
baz=87,SNR=117
MSNA **Messina** 86.94 115 *e*P P 14 52 31.0 +1.1
MSNA AMB AMB 14 52 33.9
comp=Z,647nm,2.0s
MSNA AMS AMS 15 46 02.4
comp=Z,82μm,17.8s
MSNA **Messina** 86.94 115 P P 14 52 31.0 +1.1
comp=Z,647nm,2.0s
A27A **Ledoux Ranch,** 86.95 341 P P 14 52 29.2 +0.1
baz=87
D21A **La Casta Ranch** 86.95 337 ⇓P P 14 52 29.0 -0.2
baz=87,SNR=243
HOPS **Hopland Field** 86.98 323 P P 14 52 29.4 0.0
comp=Z,2μm,1.8s
E19A **Rath Farm, Rou** 87.03 335 ⇑P P 14 52 29.1 -0.5
baz=87,SNR=385
C23A **Lambert** 87.04 338 ⇑P P 14 52 28.8 -0.7
baz=87,SNR=529
A26A **Wade Farm, Ken** 87.11 341 ⇓P P 14 52 29.7 -0.2
baz=87,SNR=241
MCMT **McKenzie Canyo** 87.11 332 *e*P P 14 52 29.8 -0.5
comp=Z,1μm,1.6s
MFID **Camas Ranch** 87.14 330 *e*P P 14 52 29.7 -0.6
comp=Z,1μm,1.6s
C22A **Vida** 87.20 338 ⇑P P 14 52 29.8 -0.5
baz=88,SNR=104
MOPA **Mopani** 87.28 117 *e*P P 14 52 31.6 +0.1
MOPA AMB AMB 14 52 38.2
comp=Z,735nm,7.4s
MOPA AMS AMS 15 44 43.5
comp=Z,90μm,18.3s
MOPA **Mopani** 87.28 117 P P 14 52 31.6 +0.1
comp=Z,735nm,7.4s
BOZ **Bozeman (W)** 87.34 333 *e*P P 14 52 30.8 -0.4
BOZ pmax pmax
comp=Z,1μm,1.8s
BOZ MLR MLR
comp=Z,81μm,20.0s
BOZ **Bozeman (W)** 87.34 333 *e*P P 14 52 30.8 -0.4
comp=Z,1μm,1.8s
BOZ LR LR
comp=Z,81μm,20.0s
D20A **Manuel Ranch,** 87.35 336 ⇑P P 14 52 30.5 -0.6
baz=88,SNR=334
XMAS **Kiritimati** 87.41 274 PFAKE 14 52 40.0 +7.8
XMAS LR LR
comp=Z,131μm,20.0s
A25A **Svangstu Ranch** 87.45 340 ⇑P P 14 52 31.6 +0.2
baz=88,SNR=145
WVOR **Wild Horse Val** 87.56 327 *e*P P 14 52 31.9 -0.4
WVOR pmax pmax
comp=Z,1μm,1.6s
WVOR MLR MLR
comp=Z,57μm,19.0s
WVOR **Wild Horse Val** 87.56 327 *e*P P 14 52 31.9 -0.4
comp=Z,1μm,1.6s
WVOR LR LR
comp=Z,57μm,19.0s
B23A **Brockton** 87.57 339 ⇑P P 14 52 31.9 -0.1
baz=88,SNR=172
OUZ **Omahuta** 87.58 228 *e*P P 14 52 32.1 -0.5
comp=Z,784nm,1.3s
LCCM **Lewis and Clar** 87.60 333 P P 14 52 32.4 -0.1
ITZ **Itezhi-Tezhi** 87.65 107 *i* P P 14 52 34.0 +0.5
ITZ PKP x 15 04 08.9
ITZ PKP x 15 08 17.1
C21A **Desert Coulee** 87.66 337 P P 14 52 31.9 -0.7
baz=88
D19A **Cripps Ranch,** 87.67 336 ⇓P P 14 52 32.1 -0.5
baz=88,SNR=235
A24A **Westby** 87.69 339 ⇓P P 14 52 32.4 -0.2
baz=88,SNR=202
B22A **Reddig Ranch S** 87.73 338 ⇑P P 14 52 32.6 -0.3
baz=88,SNR=455
KCPM **Cahto Peak** 87.76 323 *e*P P 14 52 33.0 -0.4
comp=Z,2μm,1.7s
LRM **Limekiln Ridge** 87.80 333 *e*P P 14 52 32.8 -0.7
comp=Z,10μm,1.9s
KIPM **Iron Peak** 87.80 323 *e*P P 14 52 33.0 -0.5
comp=Z,2μm,1.6s
C20A **Veseth Ranch,** 87.85 337 ⇓P P 14 52 32.8 -0.7
baz=88,SNR=326
MOD **Modoc Plateau** 87.89 326 *e*P P 14 52 33.7 -0.3
comp=Z,496nm,0.9s
WDC **Whiskeytown Da** 87.93 324 *e*P P 14 52 32.6 -1.4
WDC pmax pmax
comp=Z,406nm,0.8s
WDC **Whiskeytown Da** 87.93 324 *e*P P 14 52 32.6 -1.4
comp=Z,406nm,0.8s
A23A **Redstone** 87.98 339 ⇓P P 14 52 33.8 -0.3
baz=88,SNR=79
B21A **Ellsworth Farm** 88.16 337 ⇓P P 14 52 34.6 -0.3
baz=88,SNR=90
C19A **Slack Wire Ran** 88.22 336 ⇓P P 14 52 34.6 -0.6
baz=88,SNR=168
N02D **Trinity Center** 88.31 324 ⇑P P 14 52 35.8 -0.1
baz=89,SNR=67
A22A **Carney Farms,** 88.32 338 ⇓P P 14 52 35.5 -0.2
baz=89,SNR=455
HRY **Holter Researc** 88.32 334 *e*P P 14 52 35.7 -0.1
comp=Z,2μm,1.6s
B20A **Solberg Farm,** 88.49 337 ⇑P P 14 52 36.0 -0.5
baz=89,SNR=341
M04C **Macdoel** 88.52 325 ⇑P P 14 52 37.1 +0.2
baz=89,SNR=86
A21A **Bergtoll Ranch** 88.63 338 ⇓P P 14 52 36.4 -0.7
baz=89,SNR=54
M02C **Callahan** 88.70 324 ⇑P P 14 52 37.6 -0.1
baz=89,SNR=74
EGMT **Eagleton** 88.71 336 ⇓P P 14 52 37.3 -0.3
baz=89,SNR=131
EGMT **Eagleton** 88.71 336 *e*P P 14 52 36.1 -1.5
comp=Z,160nm,1.3s
EGMT LR LR
comp=Z,36μm,22.0s
KHMM **Horse Mountain** 88.74 323 *e*P P 14 52 37.7 -0.2
comp=Z,2μm,1.6s
B19A **Brinkman Farms** 88.81 336 ⇓P P 14 52 37.5 -0.5
baz=89,SNR=148
HOG **Hogback Mounta** 88.81 325 P P 14 52 38.7 +0.4
A20A **Cobblestone Ra** 88.85 337 ⇑P P 14 52 37.6 -0.6
baz=89,SNR=320
YBH **Yreka Blue Hor** 88.90 325 *e*P P 14 52 37.5 -1.1
YBH pmax pmax
comp=Z,276nm,1.0s
YBH **Yreka Blue Hor** 88.90 325 *e*P P 14 52 37.5 -1.1
comp=Z,276nm,1.0s
BMO **Blue Mountains** 88.93 330 *e*P P 14 52 38.0 -0.7
BMO pmax pmax
comp=Z,892nm,1.6s
BMO MLR MLR
comp=Z,69μm,20.0s
BMO **Blue Mountains** 88.93 330 *e*P P 14 52 38.0 -0.7
comp=Z,892nm,1.6s
BMO LR LR
comp=Z,69μm,20.0s
SCHQ **Schefferville** 88.93 3 P P 14 52 36.9 -1.5
comp=Z,64nm,1.0s,baz=176,slow=4.2,SNR=32
CHMT **Chamberlain Mo** 89.02 333 *e*P P 14 52 39.1 -0.1
comp=Z,102nm,1.0s
BUOR **Burton Butte** 89.09 325 P P 14 52 39.6 -0.1
K04D **Chiloquin, OR** 89.13 326 ⇑P P 14 52 39.8 0.0
baz=89,SNR=48
A19A **Klindworth Far** 89.16 337 ⇑P P 14 52 39.1 -0.5
baz=89,SNR=163
MSO **Missoula** 89.20 333 ⇓P P 14 52 40.2 +0.2
baz=90,SNR=113
SLMT **Seeley Lake** 89.38 333 *e*P P 14 52 40.2 -0.7
comp=Z,618nm,1.5s
J05D **Fort Rock, OR** 89.40 326 ⇑P P 14 52 41.7 +0.6
baz=90,SNR=115
LSZ **Lusaka** 89.63 108 *e*P P 14 52 43.6 +0.7
LSZ pmax pmax
comp=Z,664nm,1.6s
LSZ **Lusaka** 89.63 108 P P 14 52 44.3 +1.5
comp=Z,59nm,1.0s,baz=16,slow=12,SNR=33
LSZ LR LR 15 28 14.4
comp=Z,71μm,21.4s,baz=300,slow=32
LSZ **Lusaka** 89.63 108 *e*P P 14 52 43.5 +0.7
comp=Z,664nm,1.6s
PINOR **Pine Mountain** 89.65 327 *e*P P 14 52 42.6 +0.6
L02D **Cave Junction,** 89.65 324 ⇓P P 14 52 42.7 +0.6
baz=90,SNR=27
HUMO **Hull Mountain** 89.68 325 *e*P P 14 52 41.5 -0.8
comp=Z,266nm,1.4s
BBOR **Butler Butte** 89.77 325 P P 14 52 42.2 -0.6
J04D **Umpqua Nationa** 89.77 326 ⇓P P 14 52 41.8 -1.1
baz=90,SNR=44
SWMT **Swartz Lake** 89.79 333 *e*P P 14 52 41.5 -1.2
comp=Z,594nm,1.6s
KBO **Bosley Butte** 89.99 324 *e*P P 14 52 42.2 -1.5
YBMT **Yellow Bay** 90.09 333 *e*P P 14 52 43.8 -0.4
comp=Z,200nm,1.2s
JTMT **Jette** 90.10 333 *e*P P 14 52 43.4 -0.8
comp=Z,233nm,1.1s
PAF **Port-aux-Franc** 90.14 156 *e*P P 14 52 45.2 +0.8
PAF pmax pmax
comp=Z,849nm,1.4s
PAF MLR MLR
comp=Z,63μm,19.0s
PAF **Port-aux-Franc** 90.14 156 P P 14 52 20.0 -24
PAF **Port-aux-Franc** 90.14 156 S **SKSac** 15 03 14.0 -0.4
PAF SS **SS** 15 09 32.0 -2.1
PAF L L 15 17 00.0
PAF R 15 23 00.0
PAF **Port-aux-Franc** 90.14 156 *e*P P 14 52 45.2 +0.8
comp=Z,849nm,1.4s
PAF LR LR
comp=Z,63μm,19.0s
AFI **Afiamalu** 90.16 253 PFAKE 14 53 00.0 +15
AFI LR LR
comp=Z,269μm,20.0s
I05D **Terrebonne, OR** 90.27 327 ⇑P P 14 52 44.6 -0.4
baz=90,SNR=51
I04A **Tendick Farm,** 90.34 326 ⇓P P 14 52 45.0 -0.2
baz=91,SNR=30
BSMT **Bassoo Peak** 90.37 333 *e*P P 14 52 44.0 -1.6
comp=Z,288nm,1.2s
KEBM **Edson Butte** 90.54 324 *e*P P 14 52 44.6 -1.7
CROR **Criterion Ridg** 90.62 328 P P 14 52 47.3 +0.8
I03D **Drain, OR** 90.70 325 ⇓P P 14 52 47.8 +0.9
baz=91,SNR=7.2
G05D **Wamic, OR** 90.97 328 ⇑P P 14 52 48.2 +0.1
baz=91,SNR=23
WALA **Waterton Lakes** 91.05 334 *e*P P 14 52 47.6 -0.9
comp=Z,2.5nm,2.0s
HAWA **Hanford** 91.09 329 *e*P P 14 52 48.8 +0.2
comp=Z,2μm,1.8s
HAWA LR LR
comp=Z,65μm,21.0s
RTC **Rabat Centre** 91.32 49 PFAKE 14 53 00.0 +10
RTC LR LR
comp=Z,116μm,21.0s
COR **Corvallis** 91.36 326 *e*P P 14 52 47.1 -2.8
COR pmax pmax
comp=Z,747nm,1.3s
COR **Corvallis** 91.36 326 *e*P P 14 52 47.1 -2.8
comp=Z,747nm,1.3s
NEW **Newport** 91.61 332 *e*P P 14 52 49.5 -1.6
NEW pmax pmax
comp=Z,268nm,1.3s
NEW **Newport** 91.61 332 P P 14 52 50.2 -0.9
comp=Z,120nm,1.1s,baz=137,slow=3.8,SNR=22
NEW LR LR 15 31 02.4
comp=Z,34μm,19.0s,baz=142,slow=34
NEW **Newport** 91.61 332 ⇓P P 14 52 50.7 -0.4
baz=92,SNR=70
NEW **Newport** 91.61 332 *e*P P 14 52 49.5 -1.6
comp=Z,268nm,1.3s
G03D **McMinnville, O** 91.82 326 ⇓P P 14 52 51.4 -0.7
baz=92,SNR=7.5
SAW **Saint Andrews** 92.08 330 P P 14 52 53.3 +0.1
PFVI **Vila Bisbo** 92.22 46 *e*P P 14 52 56.5 +2.4
comp=Z,301nm,1.9s
PFVI **Vila Bisbo** 92.22 46 *e*PP PP 14 56 37.4 +2.4
PFVI *e*SKS S 15 04 07.8 +12
WTV **Waterville** 92.30 330 P P 14 52 54.0 -0.4
LON **Longmire** 92.35 328 *e*P P 14 52 53.6 -0.9
LON pmax pmax
comp=Z,160nm,1.0s
LON **Longmire** 92.35 328 *e*P P 14 52 53.6 -0.9
comp=Z,160nm,1.0s
F04D **Rainier, OR** 92.37 327 ⇑P P 14 52 55.2 +0.6
baz=93,SNR=9.3
FFC **Flin Flon** 92.41 343 *e*P P 14 52 53.2 -1.3
FFC pmax pmax
comp=Z,668nm,1.7s
FFC MLR MLR
comp=Z,44μm,21.0s
FFC **Flin Flon** 92.41 343 *e*P P 14 52 53.2 -1.3
comp=Z,668nm,1.7s
FFC LR LR
comp=Z,44μm,21.0s
MORF **Marmelete** 92.44 45 *e*P P 14 52 54.6 -0.6
MORF AMb AMB 14 53 02.3
comp=Z,232nm,2.1s
MORF *e*S **SKSac** 15 03 27.9 +0.3
MORF **Marmelete** 92.44 45 *i* P P 14 52 55.2 0.0
comp=Z,234nm,1.9s
MORF **Marmelete** 92.44 45 *e*PP PP 14 56 38.8 +2.0
MORF *e*SKS S 15 04 08.5 +11
MORF **Marmelete** 92.44 45 *e*P P 14 52 54.6 -0.6
MORF *e*S **SKSac** 15 03 27.8 +0.3
PTEO **Sao Teotonio** 92.56 45 *e*P P 14 52 56.8 +1.2
comp=Z,374nm,1.7s
PTEO **Sao Teotonio** 92.56 45 *e*PP PP 14 56 38.5 +0.9
PBDV **Barranco-do-Ve** 92.83 46 *i* P P 14 52 57.1 +0.2
comp=Z,381nm,2.0s
PBDV **Barranco-do-Ve** 92.83 46 *e*PP PP 14 56 41.8 +2.0
PBDV *e*SKS S 15 04 09.0 +7.7
TAM **Tamanrasset** 92.91 64 *e*P P 14 52 57.3 -0.5
TAM pmax pmax
comp=Z,182nm,1.1s
TAM MLR MLR
comp=Z,104μm,19.0s
TAM **Tamanrasset** 92.91 64 *e*P P 14 52 57.3 -0.5

comp=Z,182nm,1.1s
TAM LR LR
comp=Z,104µm,19.0s
MESJ Messejana 93.05 45 *e*P **P 14 52 57.4 -0.5**
MESJ AMb AMB 14 53 06.1
comp=Z,280nm,1.8s
MESJ *e*S **SKSac 15 03 30.9 +0.1**
MESJ Messejana 93.05 45 *e*P **P 14 52 57.9 0.0**
comp=Z,280nm,1.8s
MESJ Messejana 93.05 45 PP PP 14 56 42.1 +0.6
MESJ Messejana 93.05 45 *e*P **P 14 52 57.4 -0.5**
MESJ *e*S **SKSac 15 03 30.9 +0.1**
PNCL Nicolau / Gran 93.06 45 *e*P **P 14 52 56.7 -1.2**
comp=Z,234nm,1.6s
PNCL Nicolau / Gran 93.06 45 PP PP 14 56 41.8 +0.3
PNCL *e*SKS S 15 03 52.3 -11
PVAQ Vaqueiros 93.06 46 *i* P **P 14 52 58.5 +0.5**
comp=Z,389nm,1.9s
PVAQ Vaqueiros 93.06 46 *e*PP PP 14 56 44.5 +2.9
PVAQ *e*SKS S 15 04 19.3 +16
LIS Lisbon 93.10 44 *e*P **P 14 52 57.6 -0.6**
LIS AMb AMB 14 53 08.6
comp=Z,355nm,2.4s
LIS *e*S **SKSac 15 03 31.1 +0.1**
LIS Lisbon 93.10 44 *e*P **P 14 52 57.6 -0.6**
comp=Z,351nm,2.4s
LIS Lisbon 93.10 44 *e*P P 14 53 02.2 +4.1
comp=Z,351nm,2.4s
LIS A A 14 53 08.6
comp=Z,355nm,2.4s
LIS Lisbon 93.10 44 *e*PP PP 14 56 42.0 +0.1
LIS *e*S **SKSac 15 03 31.1 +0.1**
LIS Lisbon 93.10 44 *e*P **P 14 52 57.5 -0.6**
LIS *e*S **SKSac 15 03 31.1 +0.1**
PMAFR Mafra 93.19 44 *e*P **P 14 52 59.6 +1.1**
comp=Z,249nm,1.8s
PMAFR Mafra 93.19 44 *e*PP PP 14 56 40.5 -2.1
PMAFR *e*SKS S 15 03 57.6 -6.8
EVO Evora 93.64 45 *i* P **P 14 53 00.4 -0.2**
comp=Z,163nm,1.9s
EVO Evora 93.64 45 *e*PP PP 14 56 43.7 -2.4
NLWA Neilton Lookou 93.75 328 *e*P **P 14 53 00.4 -0.5**
comp=Z,465nm,1.5s
PMTG Montargil 93.87 44 *e*P **P 14 53 00.7 -1.0**
comp=Z,313nm,1.6s
PMTG Montargil 93.87 44 PP PP 14 56 49.2 +1.3
PMTG *e*SKS S 15 04 46.8 +36
PBAR Barrancos 93.97 46 *i* P **P 14 53 01.3 -0.9**
comp=Z,415nm,1.7s
PBAR Barrancos 93.97 46 *e*PP PP 14 56 50.9 +2.2
PBAR *e*SKS **SKKSac 15 03 54.6 -1.7**
PESTR Estremoz 94.11 45 *e*P **P 14 53 02.8 0.0**
comp=Z,211nm,2.1s
PESTR Estremoz 94.11 45 *e*PP PP 14 56 52.7 +2.9
PESTR *e*SKS S 15 04 21.4 +8.9
PTOM Tomar 94.13 44 *e*P **P 14 53 02.4 -0.5**
comp=Z,276nm,2.2s
PTOM Tomar 94.13 44 *e*PP PP 14 56 53.3 +3.4
EDM Edmonton 94.34 336 *e*P **P 14 53 01.2 -2.3**
EDM Edmonton 94.34 336 *e*P **P 14 53 01.1 -2.3**
PCAS Casmilo, Conde 94.37 44 *i* P **P 14 53 04.0 0.0**
comp=Z,250nm,1.8s
PCAS Casmilo, Conde 94.37 44 PP PP 14 56 53.1 +1.3
PCAS *e*SKS x 15 05 28.9
PGC Sidney 94.52 329 *e*P **P 14 53 04.3 -0.1**
comp=Z,7.6nm,1.0s
FCC Fort Churchill 94.59 349 *e*P **P 14 53 03.5 -0.9**
FCC Fort Churchill 94.59 349 *e*P **P 14 53 03.5 -0.9**
comp=Z,0.3nm,0.9s
PMRV Marv??o 94.59 45 *e*P **P 14 53 04.0 -1.0**
comp=Z,121nm,1.4s
PMRV Marv??o 94.59 45 *e*PP PP 14 56 56.5 +2.9
PMRV *e*SKS x 15 05 25.2
PCBR Castelo Branco 94.82 44 *e*P **P 14 53 06.0 0.0**
comp=Z,130nm,1.5s
PCBR Castelo Branco 94.82 44 *e*PP PP 14 56 44.2 -11
TAU Tasmania Unive 95.13 208 *e*P **P 14 53 07.1 -0.5**
TAU pmax pmax
comp=Z,314nm,1.6s
TAU MLR MLR
comp=Z,59µm,19.0s
TAU Tasmania Unive 95.13 208 *e*P **P 14 53 07.1 -0.5**
comp=Z,314nm,1.6s
TAU LR LR
comp=Z,59µm,19.0s
MTE Manteigas 95.15 44 *e*P **P 14 53 06.7 -0.9**
comp=Z,176nm,1.6s
MTE Manteigas 95.15 44 *e*PP PP 14 56 52.1 -5.9
MTE *e*SKS **S 15 04 26.3 +4.7**
MTE Manteigas 95.15 44 *e*P **P 14 53 06.7 -0.9**
comp=Z,198nm,1.6s
MTE LR LR
comp=Z,198µm,21.0s
PVIS Viseu 95.16 43 *e*P **P 14 53 07.6 0.0**
comp=Z,94nm,1.4s
PVIS Viseu 95.16 43 *e*PP PP 14 56 56.9 -1.1
PVRL Vila Real 95.63 43 *e*P **P 14 53 09.9 +0.2**
comp=Z,177nm,1.5s
PVRL Vila Real 95.63 43 *e*PP PP 14 57 03.6 +1.9
POLO Lamas de Olo 95.65 43 *e*P **P 14 53 11.5 +1.6**
comp=Z,62nm,1.7s
POLO Lamas de Olo 95.65 43 *e*PP PP 14 57 03.9 +2.0
POLO *e*SKS **S 15 04 30.1 +4.1**
MSVF Nonsavu 95.72 244 P **P 14 53 09.1 -1.8**
MSVF pmax pmax
comp=Z,208nm,1.6s
MSVF Nonsavu 95.72 244 P **P 14 53 09.1 -1.8**
comp=Z,208nm,1.6s
PCAB Cabril 95.74 43 *e*P **P 14 53 13.2 +3.0**
comp=Z,107nm,1.3s
PCAB Cabril 95.74 43 *e*PP PP 14 57 04.1 +1.6
PGAV Gavieira, Arco 95.78 42 *e*P **P 14 53 11.4 +0.9**
comp=Z,164nm,1.9s
PGAV Gavieira, Arco 95.78 42 PP PP 14 57 02.5 -0.4
PGAV *e*SKS **S 15 04 30.5 +3.4**
POHA Pohakuloa 95.83 290 PFAKE 14 53 20.0 +8.6
POHA LR LR
comp=Z,57µm,20.0s
MVO Moncorvo 95.95 43 *i* P **P 14 53 11.0 -0.2**
comp=Z,219nm,1.4s
MVO Moncorvo 95.95 43 PP PP 14 57 03.7 -0.4
MVO *e*SKS **SKKSac 15 04 07.3 -3.6**
PAB San Pablo 96.46 46 *e*P **P 14 53 12.1 -1.5**
PAB pmax pmax
comp=Z,147nm,1.6s
PAB MLR MLR
comp=Z,89µm,20.0s
PAB San Pablo 96.46 46 *e*P **P 14 53 12.1 -1.5**
comp=Z,147nm,1.6s
PAB LR LR
comp=Z,89µm,20.0s
MZM Mzuzu 96.46 108 *i* P P 14 53 21.3 +7.1
MZM PKP x 15 05 58.6
MZM PKP x 15 25 18.3
PBRG Braganca 96.53 43 *e*P **P 14 53 15.8 +2.0**
comp=Z,176nm,1.6s
PBRG Braganca 96.53 43 PP PP 14 57 09.7 +1.1
PBRG *e*SKS x 15 02 13.3
ESDC Sonseca Array 96.77 46 P **P 14 53 16.4 +1.4**
comp=Z,20nm,1.0s,baz=237,slow=4.0,SNR=22
ETRT Tiaret 97.42 52 P Pdif 14 53 20.8 +2.6
EANR 'Ain N'Sour 97.62 52 P Pdif 14 53 19.7 +0.7
FRB Frobisher Bay 97.81 2 P Pdif 14 53 19.5 +0.6
comp=Z,8.7nm,0.8s,baz=196,slow=3.7,SNR=9.8
EBNR Beni Rached 98.11 51 P Pdif 14 53 26.2 +5.1
KIP Kipapa 98.68 290 PFAKE 14 53 30.0 +6.0
KIP LR LR
comp=Z,56µm,19.0s
EMHD Djebel Mahouad 98.98 52 P P 14 53 20.0 -5.1
BBB Bella Bella 99.14 329 LR LR 15 32 38.8
comp=Z,12µm,20.7s,baz=156,slow=32
SJPF Ste Jean 100.52 45 *e*P **Pdif 14 53 33.5 +1.8**
comp=Z,150nm,1.2s
SJPF Ste Jean 100.52 45 *e*P **Pdif 14 53 33.5 +1.8**
SJPF pmax pmax
comp=Z,150nm,1.2s
SJPF Ste Jean 100.52 45 *e*P **Pdif 14 53 33.5 +1.8**
comp=Z,150nm,1.2s
OSSF Osses 100.58 45 *e*P **Pdif 14 53 32.9 +1.0**
ETSF Etsaut 100.78 45 *e*P **Pdif 14 53 36.2 +3.3**
comp=Z,117nm,1.2s
ETSF Etsaut 100.78 45 *e*P **Pdif 14 53 36.2 +3.3**
ETSF pmax pmax
comp=Z,117nm,1.2s
ETSF Etsaut 100.78 45 *e*P **Pdif 14 53 36.2 +3.3**
comp=Z,117nm,1.2s
ATE Arette 100.81 45 *e*P **Pdif 14 53 34.4 +1.5**
ATE Arette 100.81 45 *e*P **Pdif 14 53 34.4 +1.5**
CAN Canberra 100.82 213 PFAKE 14 53 40.0 +6.5
CAN LR LR
comp=Z,57µm,19.0s
DODT Dodoma, Tanzan 100.95 105 *i* P **Pdif 14 53 38.9 +4.4**
DODT PKP x 15 06 39.6
DODT PKP x 15 27 07.6
REYF Montagne du Re 100.98 45 *e*P **Pdif 14 53 34.6 +0.8**
DZM Mont Dzumac 101.09 234 P **Pdif 14 53 39.0 +4.0**
comp=Z,10.0nm,1.0s,baz=93,slow=9.3,SNR=3.7
LABF Labassere 101.24 45 *e*P **Pdif 14 53 36.3 +1.4**
EPF Esparros 101.39 45 *e*P **Pdif 14 53 38.8 +3.2**
comp=Z,275nm,1.8s
EPF Esparros 101.39 45 *e*P **Pdif 14 53 38.8 +3.2**
EPF pmax pmax
comp=Z,275nm,1.8s
EPF Esparros 101.39 45 *e*P **Pdif 14 53 38.8 +3.2**
comp=Z,275nm,1.8s
VAL Valentia 101.44 34 *e*P **Pdif 14 53 35.3 -0.1**
VAL *e*PP **PP 14 57 40.8 -5.0**
VAL *e*PS **PS 15 06 45.9 -3.1**
ABPO Ambohimpanom 101.52 123 PFAKE 14 53 50.0 +13
ABPO LR LR
comp=Z,57µm,20.0s
MELF Melles 101.54 46 *e*P **Pdif 14 53 40.4 +4.1**
VALF Valcebollere 102.02 47 *e*P **Pdif 14 53 38.3 -0.2**
CARF Carcanieres 102.25 46 *e*P **Pdif 14 53 40.9 +1.4**
SFJD Kangerlussuaq 102.33 8 P **Pdif 14 53 43.0 +4.0**
SFJD pmax pmax
comp=Z,12nm,1.0s
SFJD Kangerlussuaq 102.33 8 *i* P **Pdif 14 53 45.1 +6.0**
SFJD Kangerlussuaq 102.33 8 P **Pdif 14 53 43.0 +4.0**
comp=Z,12nm,1.0s,baz=244,slow=5.3,SNR=6.2
QUIF Quistinic 102.37 40 *e*P **Pdif 14 53 42.1 +2.4**
comp=Z,510nm,1.9s
QUIF Quistinic 102.37 40 *e*P **Pdif 14 53 42.1 +2.4**
QUIF pmax pmax
comp=Z,510nm,1.9s
QUIF Quistinic 102.37 40 *e*P **Pdif 14 53 42.1 +2.4**
comp=Z,510nm,1.9s
YKA Yellowknife Ar 102.41 341 P **Pdif 14 53 38.3 -1.2**
YKA pmax pmax
comp=Z,9.0nm,0.6s
YKA Yellowknife Ar 102.41 341 P **Pdif 14 53 38.3 -1.2**
comp=Z,9.4nm,0.6s,baz=141,slow=4.5,SNR=103
ROSF Rostrenen 102.57 40 *e*P **Pdif 14 53 43.1 +2.5**
comp=Z,176nm,1.4s
ROSF Rostrenen 102.57 40 *e*P **Pdif 14 53 43.1 +2.5**
ROSF pmax pmax
comp=Z,176nm,1.4s
ROSF Rostrenen 102.57 40 *e*P **Pdif 14 53 43.1 +2.5**
comp=Z,176nm,1.4s
MTLF Montolieu 102.68 46 *e*P **Pdif 14 53 43.9 +2.7**
comp=Z,196nm,1.6s
MTLF Montolieu 102.68 46 *e*P **Pdif 14 53 43.9 +2.7**
MTLF pmax pmax
comp=Z,196nm,1.5s
MTLF Montolieu 102.68 46 *e*P **Pdif 14 53 43.9 +2.7**
comp=Z,196nm,1.5s
CCA1 Carnmenellis 102.72 37 *e*P **Pdif 14 53 42.1 +0.9**
LFF La Frestale 102.75 44 *e*P **Pdif 14 53 44.4 +2.9**
comp=Z,134nm,1.1s
LFF La Frestale 102.75 44 *e*P **Pdif 14 53 44.4 +2.9**
LFF pmax pmax
comp=Z,134nm,1.1s
LFF La Frestale 102.75 44 *e*P **Pdif 14 53 44.4 +2.9**
comp=Z,134nm,1.1s
AIS Amsterdam Isla 102.83 156 Pdif **Pdif 14 53 36.0 -6.3**
AIS PP PP 14 57 48.0 -7.1
AIS SKKS 15 06 58.0
AIS SS **SS 15 12 28.0 -5.8**
AIS L L 15 23 00.0
AIS R 15 29 00.0
SGMF Saint Gilles 102.90 40 *e*P **Pdif 14 53 44.4 +2.3**
comp=Z,204nm,1.7s
SGMF Saint Gilles 102.90 40 *e*P **Pdif 14 53 44.4 +2.3**
SGMF pmax pmax
comp=Z,204nm,1.7s
SGMF Saint Gilles 102.90 40 *e*P **Pdif 14 53 44.4 +2.3**
comp=Z,204nm,1.7s
LCHF La Chataignera 102.93 42 *e*P **Pdif 14 53 46.4 +4.2**
KEST Kesra 102.99 56 *e*Pdif **Pdif 14 53 43.1 +0.2**
MFF Saint Martin d 103.22 42 *e*P **Pdif 14 53 46.4 +2.8**
comp=Z,148nm,1.3s
MFF Saint Martin d 103.22 42 *e*P **Pdif 14 53 46.4 +2.8**
MFF pmax pmax
comp=Z,148nm,1.3s
MFF Saint Martin d 103.22 42 *e*P **Pdif 14 53 46.4 +2.8**
comp=Z,148nm,1.3s
RJF Les Rejaudoux 103.41 44 *e*P **Pdif 14 53 47.0 +2.6**
comp=Z,207nm,1.5s
RJF *e*R
comp=Z,93µm,21.5s
RJF Les Rejaudoux 103.41 44 *e*P **Pdif 14 53 47.0 +2.6**
RJF pmax pmax
comp=Z,207nm,1.5s
RJF Les Rejaudoux 103.41 44 *e*P **Pdif 14 53 47.0 +2.6**
comp=Z,207nm,1.5s
CAF Calviac 103.50 45 *e*P **Pdif 14 53 47.8 +2.9**
comp=Z,72nm,1.2s
CAF Calviac 103.50 45 *e*P **Pdif 14 53 47.8 +2.9**
CAF pmax pmax
comp=Z,72nm,1.2s
CAF Calviac 103.50 45 *e*P **Pdif 14 53 47.8 +2.9**
comp=Z,72nm,1.2s
DYA Yadsworthy 103.52 38 *e*P **Pdif 14 53 44.3 -0.5**
DYA AMB AMB 14 53 50.1
comp=Z,88nm,2.4s
DYA *e* 14 57 59.4
DYA AMS AMS 15 55 54.6
comp=Z,79µm,18.5s
HTL Hartland 103.59 37 *e*P **Pdif 14 53 45.6 +0.6**
HTL AMB AMB 14 53 50.4
comp=Z,83nm,1.8s
HTL *e* 14 57 58.7
HTL AMS AMS 15 54 14.4
comp=Z,75µm,20.1s
JSA Saint Aubin 103.67 39 *e*P **Pdif 14 53 46.1 +0.6**
MAUS Longido 103.75 103 *i* P **Pdif 14 53 53.8 +6.9**
MAUS PKP **SP 15 07 10.4 -1.8**
MAUS PKP x 15 13 43.9
MAUS PKP x 15 22 49.9
MAUS PKP x 15 28 42.5
WRAK Wrangell Islan 103.88 330 PFAKE 14 54 00.0 +14
WRAK LR LR
comp=Z,43µm,19.0s
GRR Gorron 103.89 41 *e*P **Pdif 14 53 48.6 +2.1**
comp=Z,131nm,1.6s
GRR Gorron 103.89 41 *e*P **Pdif 14 53 48.6 +2.1**
GRR pmax pmax
comp=Z,131nm,1.5s
GRR Gorron 103.89 41 *e*P **Pdif 14 53 48.6 +2.1**
comp=Z,131nm,1.5s
LASF Ste Croix 104.08 46 *e*P **Pdif 14 53 50.6 +3.1**
comp=Z,57nm,1.2s
LASF Ste Croix 104.08 46 *e*P **Pdif 14 53 50.6 +3.1**
comp=Z,57nm,1.3s
FLN La Foliniere 104.31 40 *e*P **Pdif 14 53 50.9 +2.6**
comp=Z,351nm,1.9s,baz=246
FLN *e*R
comp=Z,82µm,21.5s
FLN La Foliniere 104.31 40 *e*P **Pdif 14 53 50.9 +2.6**
FLN pmax pmax
comp=Z,351nm,1.9s
FLN La Foliniere 104.31 40 *e*P **Pdif 14 53 50.9 +2.6**
comp=Z,351nm,1.9s
DLBC Dease Lake 104.33 333 PKKPbc PKKPbc 15 09 36.4 -0.3
comp=Z,11nm,1.0s,baz=272,slow=6.7,SNR=4.7
DLBC PKKPab **PKKPdf 15 09 43.5 -3.3**
comp=Z,3.5nm,0.8s,baz=2.0,slow=8.8,SNR=4.1
LBL Lubilhac 104.37 45 *e*P **Pdif 14 53 49.6 +0.8**
TCF Toulx Ste Croi 104.37 44 *e*P **Pdif 14 53 51.4 +2.7**
comp=Z,84nm,1.3s
TCF Toulx Ste Croi 104.37 44 *e*P **Pdif 14 53 51.4 +2.7**
TCF pmax pmax
comp=Z,85nm,1.3s
TCF Toulx Ste Croi 104.37 44 *e*P **Pdif 14 53 51.4 +2.7**
comp=Z,84nm,1.3s
ILULI Ilulissat 104.40 8 *i* P **Pdif 14 53 57.2 +9.0**
ILULI MLR MLR
comp=Z,55µm,19.0s
ILULI Ilulissat 104.40 8 *i* P **Pdif 14 53 57.2 +9.0**
LDF La Druitiere 104.41 41 *e*P **Pdif 14 53 51.2 +2.4**
comp=Z,275nm,1.7s
LDF La Druitiere 104.41 41 *e*P **Pdif 14 53 51.2 +2.4**
LDF pmax pmax
comp=Z,275nm,1.7s
LDF La Druitiere 104.41 41 *e*P **Pdif 14 53 51.2 +2.4**
comp=Z,275nm,1.7s
LPW Lampeter 104.48 36 *e*P **Pdif 14 53 49.4 +0.4**
LPW AMB AMB 14 53 55.7
comp=Z,69nm,1.9s
PYM Petit Puy Mans 104.52 44 *e*P **Pdif 14 53 52.2 +2.7**
AGO Saint Agoulin 104.76 44 *e*P **Pdif 14 53 50.9 +0.4**
COLF Collangettes 104.79 45 *e*P **Pdif 14 53 54.6 +4.0**
BGF Bois d'Agland 104.88 44 *e*P **Pdif 14 53 53.8 +2.8**
comp=Z,143nm,1.4s
BGF Bois d'Agland 104.88 44 *e*P **Pdif 14 53 53.8 +2.8**
BGF pmax pmax
comp=Z,143nm,1.4s
BGF Bois d'Agland 104.88 44 *e*P **Pdif 14 53 53.8 +2.8**
comp=Z,143nm,1.4s
MCH1 Michaelchurch 104.94 37 *e*P **Pdif 14 53 51.2 +0.2**
MCH1 AMB AMB 14 53 56.1
comp=Z,62nm,2.1s
MCH1 *e* 14 58 12.9
MCH1 AMS AMS 15 55 07.0
comp=Z,80µm,20.8s
BATH Bath 104.94 37 *e*P **Pdif 14 53 51.0 -0.1**
MONM Monmouth 104.94 37 *e*P **Pdif 14 53 51.3 +0.3**
MONM AMB AMB 14 53 56.1
comp=Z,75nm,2.0s
MONM *e* 14 58 12.7
OLDB Oldbury-Upon-S 104.96 37 *e* 14 58 05.9
VIVF Saint-Julien-l 105.00 46 *e*P **Pdif 14 53 54.9 +3.4**
comp=Z,31nm,1.1s
VIVF Saint-Julien-l 105.00 46 *e*P **Pdif 14 53 54.9 +3.4**
VIVF pmax pmax
comp=Z,31nm,1.1s
VIVF Saint-Julien-l 105.00 46 *e*P **Pdif 14 53 54.9 +3.4**
comp=Z,31nm,1.1s
PLDF La Plantade 105.00 44 *e*P **Pdif 14 53 50.9 -0.7**
VSL Villasalto 105.03 52 PFAKE 14 54 00.0 +8.2
VSL LR LR
comp=Z,111µm,22.0s
WLF1 Llynfaes 105.05 35 *e*P **Pdif 14 53 52.0 +0.5**
WLF1 AMB AMB 14 53 58.1
comp=Z,67nm,1.6s
WLF1 *e* 14 58 07.8
SMRF Simiane la Rot 105.05 47 *e*P **Pdif 14 53 55.6 +3.8**
comp=Z,111nm,1.3s
SMRF Simiane la Rot 105.05 47 *e*P **Pdif 14 53 55.6 +3.8**
comp=Z,111nm,1.3s
KMBO Kilima Mbogo 105.14 102 P **Pdif 14 53 55.6 +2.4**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 105.14 102 Pdiff **Pdif 14 53 55.6 +2.4**
comp=Z,0.6nm,0.4s,baz=286,slow=5.3,SNR=3.5
SSB Saint Sauveur 105.15 45 *e*P **Pdif 14 53 52.4 +0.1**
SSB pmax pmax
comp=Z,98nm,1.6s
SSB Saint Sauveur 105.15 45 *e*P **Pdif 14 53 56.7 +4.5**
SSB Saint Sauveur 105.15 45 *e*Pdif **Pdif 14 53 52.4 +0.1**
comp=Z,98nm,1.6s
WME Myndd Eilian 105.16 35 *e*P **Pdif 14 53 52.5 +0.6**
HYF Humbligny 105.17 43 *e*P **Pdif 14 53 55.0 +2.8**
HYF Humbligny 105.17 43 *e*P **Pdif 14 53 55.0 +2.8**
STRD Stroud 105.22 37 *e*P **Pdif 14 53 52.6 +0.3**
STRD AMB AMB 14 53 59.0
comp=Z,78nm,2.2s
SWN1 Swindon 105.25 38 *e*P **Pdif 14 53 52.8 +0.4**
SWN1 *e* 14 58 14.0
SWN1 AMS AMS 15 56 56.9
comp=Z,77µm,19.2s
WPM1 Penmaenmawr 105.26 35 *e*P **Pdif 14 53 52.6 +0.2**
LMR La Mourre 105.27 48 *e*P **Pdif 14 53 56.1 +3.4**
comp=Z,190nm,1.7s
LMR La Mourre 105.27 48 *e*P **Pdif 14 53 56.1 +3.4**
LMR pmax pmax
comp=Z,190nm,1.7s
LMR La Mourre 105.27 48 *e*P **Pdif 14 53 56.1 +3.4**
comp=Z,190nm,1.7s
AVF Avril sur Loir 105.30 44 *e*P **Pdif 14 53 55.6 +2.8**
comp=Z,199nm,1.6s
AVF Avril sur Loir 105.30 44 *e*P **Pdif 14 53 55.6 +2.8**
AVF pmax pmax
comp=Z,199nm,1.6s
AVF Avril sur Loir 105.30 44 *e*P **Pdif 14 53 55.6 +2.8**
comp=Z,199nm,1.6s
HLM1 Long Mynd 105.31 36 *e*P **Pdif 14 53 52.9 +0.2**
HLM1 AMB AMB 14 53 57.7
comp=Z,54nm,1.9s
FOEL Foel Wylfa 105.38 36 *e*P **Pdif 14 53 53.5 +0.5**
FOEL AMB AMB 14 53 58.3
comp=Z,64nm,2.1s
WOL Wolverton 105.42 38 *e*P **Pdif 14 53 53.6 +0.5**
WOL AMB AMB 14 53 57.3
comp=Z,115nm,1.9s
WOL *e* 14 58 10.6
FRF La Foret Royal 105.48 48 *e*P **Pdif 14 53 57.0 +3.3**
comp=Z,232nm,1.7s
FRF La Foret Royal 105.48 48 *e*P **Pdif 14 53 57.0 +3.3**
FRF pmax pmax
comp=Z,232nm,1.7s
FRF La Foret Royal 105.48 48 *e*P **Pdif 14 53 57.0 +3.3**
comp=Z,232nm,1.7s
SMF Signal de Mont 105.50 44 *e*P **Pdif 14 53 56.6 +2.9**
comp=Z,243nm,1.5s
SMF Signal de Mont 105.50 44 *e*P **Pdif 14 53 56.6 +2.9**
SMF pmax pmax
comp=Z,243nm,1.5s
SMF Signal de Mont 105.50 44 *e*P **Pdif 14 53 56.6 +2.9**
comp=Z,243nm,1.5s
SSF Saint Saulge 105.54 43 *e*P **Pdif 14 53 56.3 +2.4**
comp=Z,110nm,1.4s
SSF Saint Saulge 105.54 43 *e*P **Pdif 14 53 56.3 +2.4**
SSF pmax pmax
comp=Z,110nm,1.4s
SSF Saint Saulge 105.54 43 *e*P **Pdif 14 53 56.3 +2.4**
comp=Z,110nm,1.4s
RER Riviere de l'E 105.71 130 PFAKE 14 58 20.0
RER LR LR
comp=Z,38µm,19.0s
ORIF Oris-en-Rattie 105.75 46 *e*P **Pdif 14 53 57.4 +2.4**
comp=Z,84nm,1.2s
ORIF *e*R
comp=Z,133µm,21.8s
ORIF Oris-en-Rattie 105.75 46 *e*P **Pdif 14 53 57.4 +2.4**
ORIF pmax pmax
comp=Z,84nm,1.2s
ORIF Oris-en-Rattie 105.75 46 *e*P **Pdif 14 53 57.4 +2.4**
comp=Z,84nm,1.2s
LOR Lormes 105.86 43 *e*P **Pdif 14 53 57.8 +2.5**
comp=Z,89nm,1.4s,baz=231
LOR *e*R
comp=Z,89µm,21.5s
LOR Lormes 105.86 43 *e*P **Pdif 14 53 57.8 +2.5**
LOR pmax pmax
comp=Z,89nm,1.4s
LOR Lormes 105.86 43 *e*P **Pdif 14 53 57.8 +2.5**
comp=Z,89nm,1.4s
GAL1 Galloway 105.86 34 *e*P **Pdif 14 53 55.1 +0.1**
GAL1 *e* 14 58 18.2
GAL1 AMS AMS 15 58 31.5
comp=Z,87µm,18.7s
HMNX Herstmonceux 105.97 39 *e*P **Pdif 14 53 56.5 +0.9**
HMNX AMS AMS 15 54 47.9
comp=Z,61µm,20.5s
STNC Stoke 105.98 36 *e*P **Pdif 14 53 56.0 +0.4**
STNC AMB AMB 14 54 03.3
comp=Z,109nm,2.7s
SBF Sospel 106.12 48 *e*P **Pdif 14 53 59.7 +3.1**
comp=Z,359nm,1.8s
SBF Sospel 106.12 48 *e*P **Pdif 14 53 59.7 +3.1**
SBF pmax pmax
comp=Z,359nm,1.8s
SBF Sospel 106.12 48 *e*P **Pdif 14 53 59.7 +3.1**
comp=Z,359nm,1.8s
MBDF Montbardon 106.18 47 *e*P **Pdif 14 54 00.6 +3.6**
comp=Z,154nm,1.7s
MBDF Montbardon 106.18 47 *e*P **Pdif 14 54 00.6 +3.6**
MBDF pmax pmax
comp=Z,154nm,1.7s
MBDF Montbardon 106.18 47 *e*P **Pdif 14 54 00.6 +3.6**
comp=Z,154nm,1.7s
BNI Bardonecchia 106.30 46 *e*P **Pdif 14 53 56.3 -1.2**
BNI pmax pmax
comp=Z,99nm,2.2s
BNI Bardonecchia 106.30 46 *e*Pdif **Pdif 14 53 56.3 -1.2**

comp=Z,99nm,2.2s
BORG Borgarnes 106.40 20 PFAKE 14 58 20.0
BORG LR LR
comp=Z,57µm,20.0s
PGF Pioggiola 106.40 50 *e*P **Pdif 14 54 01.2 +3.3**
PGF Pioggiola 106.40 50 *e*P **Pdif 14 54 01.2 +3.3**
PGF Pioggiola 106.40 50 *e*P **Pdif 14 54 01.2 +3.3**
KBI1 Birley Grange 106.41 36 *e*P **Pdif 14 53 57.7 +0.1**
LHO Holmfirth 106.42 36 *e*P **Pdif 14 53 57.6 0.0**
KESW Keswick, Cumbr 106.44 34 *e*P **Pdif 14 53 58.1 +0.4**
KESW AMB AMB 14 54 03.1
comp=Z,70nm,1.6s
KESW *e* 14 58 17.7
KESW AMS AMS 15 59 32.7
comp=Z,96µm,18.1s
ELSH Elham, Standar 106.54 39 *e*P **Pdif 14 53 58.8 +0.6**
ELSH AMS AMS 15 55 05.8
comp=Z,66µm,20.2s
PGBU Glenifferbraes 106.54 33 *e*P **Pdif 14 53 58.7 +0.7**
PGBU *e* 14 58 22.7
PGBU AMS AMS 15 56 39.2
comp=Z,76µm,18.4s
LPL La Plagne 106.58 46 *e*P **Pdif 14 54 02.4 +3.6**
comp=Z,57nm,1.4s
LPL La Plagne 106.58 46 *e*P **Pdif 14 54 02.4 +3.6**
LPL pmax pmax
comp=Z,57nm,1.4s
LPL La Plagne 106.58 46 *e*P **Pdif 14 54 02.4 +3.6**
comp=Z,57nm,1.4s
LPG La Plagne 106.58 46 *e*P **Pdif 14 54 02.6 +3.7**
comp=Z,93nm,1.3s
LPG La Plagne 106.58 46 *e*P **Pdif 14 54 02.6 +3.7**
LPG pmax pmax
comp=Z,93nm,1.3s
LPG La Plagne 106.58 46 *e*P **Pdif 14 54 02.6 +3.7**
comp=Z,93nm,1.3s
RSL Roselend 106.61 46 *e*P **Pdif 14 54 03.3 +4.5**
WDD Wield Dalam 106.64 58 PFAKE 14 58 20.0
WDD LR LR
comp=Z,364µm,20.0s
HPK Haverah Park 106.77 36 *e*P **Pdif 14 54 00.1 +1.0**
HPK AMB AMB 14 54 04.8
comp=Z,76nm,1.6s
HPK *e* 14 58 22.5
HPK AMS AMS 15 58 48.7
comp=Z,58µm,18.2s
CABF La Chapelle 106.78 45 *e*P **Pdif 14 54 02.7 +3.2**
comp=Z,233nm,1.9s
CABF La Chapelle 106.78 45 *e*P **Pdif 14 54 02.7 +3.2**
CABF pmax pmax
comp=Z,233nm,1.9s
CABF La Chapelle 106.78 45 *e*P **Pdif 14 54 02.7 +3.2**
comp=Z,233nm,1.9s
ECK Cauldkaine Hil 106.78 34 *e*P **Pdif 14 53 59.4 +0.2**
ESK Eskdalemuir 106.83 34 *e*P **Pdif 14 54 00.2 +0.9**
ESK AMB AMB 14 54 06.7
comp=Z,211nm,2.9s
ESK AMS AMS 15 59 38.6
comp=Z,73µm,17.9s
STKA Stephens Creek 106.94 209 Pdiff **Pdif 14 54 01.4 +0.7**
comp=Z,5.3nm,1.1s,baz=136,slow=6.5,SNR=6.5
STKA PKiKP **PKiKP 14 58 10.2 -0.2**
comp=Z,3.7nm,1.0s,baz=216,slow=6.8,SNR=3.0
STKA PKKPbc **PKKPbc 15 09 24.9 -2.5**
comp=Z,6.3nm,0.9s,baz=316,slow=6.6,SNR=5.0
STKA PKKPab **PKKPab 15 09 43.2 -2.9**
comp=Z,12nm,0.6s,baz=330,slow=6.0,SNR=5.7
KPL Plockton 106.96 31 AMS AMS 15 52 41.1
comp=Z,63µm,23.7s
SFTF Sexfontaines 107.03 43 *e*P **Pdif 14 54 03.0 +2.5**
comp=Z,180nm,1.6s
SFTF Sexfontaines 107.03 43 *e*P **Pdif 14 54 03.0 +2.5**
comp=Z,180nm,1.6s
LMK Market Rasen 107.11 36 *e* **PP 14 58 24.1 -3.8**
EBL Broad Law 107.17 33 *e*P **Pdif 14 54 01.5 +0.6**
EDI Edinburgh 107.19 33 AMS AMS 15 57 12.6
comp=Z,77µm,18.3s
MEZF Maizieres J'vi 107.20 43 *e*P **Pdif 14 54 04.1 +2.9**
MEZF Maizieres J'vi 107.20 43 *e*P **Pdif 14 54 04.1 +2.9**
BAIF Baives 107.57 41 *e*P **Pdif 14 54 05.5 +2.7**
comp=Z,125nm,1.8s
BAIF Baives 107.57 41 *e*P **Pdif 14 54 05.5 +2.7**
BAIF pmax pmax
comp=Z,125nm,1.8s
BAIF Baives 107.57 41 *e*P **Pdif 14 54 05.5 +2.7**
comp=Z,125nm,1.8s
MDO Dochfour 107.58 32 *e*P **Pdif 14 54 03.6 +1.0**
THEF They Montfort 107.58 43 *e*P **Pdif 14 54 04.0 +1.1**
LOMF Lomont 107.60 44 *e*P **Pdif 14 54 05.5 +2.4**
PAGF Fort de Pagny 107.61 43 *e*P **Pdif 14 54 06.1 +3.1**
comp=Z,28nm,1.4s
PAGF Fort de Pagny 107.61 43 *e*P **Pdif 14 54 06.1 +3.1**
comp=Z,28nm,1.4s
HAU Haudompre 107.67 44 *e*P **Pdif 14 54 06.1 +2.8**
HAU *e*R
comp=Z,93nm,21.0s
HAU Haudompre 107.67 44 *e*P **Pdif 14 54 06.1 +2.8**
HAU Haudompre 107.67 44 *e*P **Pdif 14 54 06.1 +2.8**
DOU Dourbes 107.80 41 E **Pdif 14 54 08.2 +4.3**
DOU E PKiKP 14 58 16.9 +5.7
SNF Seneffe 107.86 41 P **Pdif 14 54 08.5 +4.5**
HINF Hinteralfeld 107.86 44 *e*P **Pdif 14 54 07.0 +2.8**
comp=Z,125nm,1.8s
HINF Hinteralfeld 107.86 44 *e*P **Pdif 14 54 07.0 +2.8**
HINF pmax pmax
comp=Z,125nm,1.8s
HINF Hinteralfeld 107.86 44 *e*P **Pdif 14 54 07.0 +2.8**
comp=Z,125nm,1.8s
GIVF Givet 107.93 41 *e*P **Pdif 14 54 07.4 +3.0**
comp=Z,200nm,1.7s
GIVF Givet 107.93 41 *e*P **Pdif 14 54 07.4 +3.0**
GIVF pmax pmax
comp=Z,200nm,1.7s
GIVF Givet 107.93 41 *e*P **Pdif 14 54 07.4 +3.0**
comp=Z,200nm,1.7s
MOF Molkenrain 108.04 44 *e*P **Pdif 14 54 08.6 +3.5**
VLC Villacollemand 108.10 49 PFAKE 14 58 20.0
VLC LR LR
comp=Z,52µm,21.0s
ECH Echery 108.25 44 *e*P **Pdif 14 54 07.1 +1.2**
BCLA Clavier 108.36 41 E PKiKP 14 58 17.6 +5.4
CDF Champ du Feu 108.41 44 *e*P **Pdif 14 54 09.5 +2.8**
comp=Z,134nm,1.7s
CDF Champ du Feu 108.41 44 *e*P **Pdif 14 54 09.5 +2.8**
CDF pmax pmax
comp=Z,134nm,1.7s
CDF Champ du Feu 108.41 44 *e*P **Pdif 14 54 09.5 +2.8**
comp=Z,134nm,1.7s
WLF Walferdange 108.43 42 E **Pdif 14 54 11.5 +4.8**
WLF Walferdange 108.43 42 PFAKE 14 58 20.0
WLF LR LR
comp=Z,205µm,20.0s
TUE Stuetta 108.63 46 *e*Pdif **Pdif 14 54 06.4 -1.4**
comp=Z,59nm,1.8s
CEL Celeste 108.78 56 PFAKE 14 58 20.0
CEL LR LR
comp=Z,266µm,19.0s
MEM Membach 108.84 41 E **Pdif 14 54 13.3 +4.8**
MEM E **PKiKP 14 58 14.6 +1.5**
BFO Black Forest 108.98 44 *e*Pdiff **Pdif 14 54 12.3 +3.2**
BFO *e*PP **PP 14 58 46.1 +4.3**
BFO Black Forest 108.98 44 PFAKE 14 58 20.0
BFO LR LR
comp=Z,115µm,20.0s
LANF Langenberg 109.01 43 *e*P **Pdif 14 54 10.7 +1.5**
KULLO Kullorsuaq 109.10 4 *i* P **Pdif 14 54 16.7 +7.7**
KULLO MLR MLR
comp=Z,52µm,24.0s
KULLO Kullorsuaq 109.10 4 *i* P **Pdif 14 54 16.7 +7.7**
KULLO Kullorsuaq 109.10 4 ⇓*i*P **PKiKP 14 58 16.8 +3.9**
AQU L'Aquila 109.11 51 PFAKE 14 58 30.0
AQU LR LR
comp=Z,117µm,20.0s
SUMG Summit 109.13 10 *e*P **Pdif 14 54 08.7 -1.0**
SUMG Summit 109.13 10 *i* P **Pdif 14 54 16.7 +7.0**
SUMG Summit 109.13 10 *e*Pdif **Pdif 14 54 08.7 -1.0**
DAVA Damuels 109.36 46 ⇓*i*Pdiff **Pdif 14 54 11.1 +0.1**
comp=Z,22nm,1.4s
DAVA ⇓*i*PKiKP **PKiKP 14 58 14.8 +0.3**
comp=Z,48nm,2.0s
CUC Castrocucco 109.56 55 PFAKE 14 58 30.0
CUC LR LR
comp=Z,115µm,19.0s
STU Stuttgart 109.69 44 *e*Pdiff **Pdif 14 54 16.8 +4.5**
TIP Timpagrande 109.81 56 PFAKE 14 58 30.0
TIP LR LR
comp=Z,176µm,20.0s
RES Resolute Bay 109.82 354 Pdiff **Pdif 14 54 12.4 +0.2**
comp=Z,3.3nm,1.1s,baz=281,slow=6.8,SNR=3.3
RES PKiKP **PKiKP 14 58 14.8 +0.5**
comp=Z,3.4nm,0.7s,baz=214,slow=21,SNR=2.2
RES PKKPbc **PKKPbc 15 09 17.5 -2.1**
comp=Z,10nm,0.8s,baz=315,slow=5.3,SNR=8.8
BUG Bochum--Univer 109.95 41 *e*Pdiff **Pdif 14 54 17.6 +4.3**
BUG *e*PKKPbc **PKKPbc 15 09 22.5 +3.9**
TNS Taunus Mts 109.99 42 *e*Pdiff **Pdif 14 54 18.1 +4.5**
LRW Lerwick 110.49 30 AMS AMS 15 58 10.2
comp=Z,46µm,19.8s
FUR Furstenfeldbru 110.61 45 *e*PKiKP **PKiKP 14 58 21.0 +4.4**
IBBN Ibbenburen 110.65 40 *e*PKKPbc PKKPbc 15 09 20.4 +4.0
UBBA Unterbreizbach 111.15 42 *e*Pdiff **Pdif 14 54 23.2 +4.6**
UBBA *e*PKiKP **PKiKP 14 58 22.2 +4.8**
UBBA *e*PKKPbc **PKKPab 15 09 18.7 -2.7**
KNDS Knezji Dol 111.24 49 *e*Pdiff **Pdif 14 54 24.0 +4.7**
MYKA Terra Mystica 111.30 48 ⇓*i*Pdiff **Pdif 14 54 19.6 0.0**
comp=Z,9.7nm,1.5s
MYKA ⇓*i*PKiKP **PKiKP 14 58 17.6 -0.5**
comp=Z,51nm,1.5s
GRFO Grafenberg 111.30 44 *e*PKiKP **PKiKP 14 58 16.9 -0.9**
GRFO Grafenberg 111.30 44 *e*PKPdf **PKiKP 14 58 16.9 -0.9**
GRF Grafenberg Arr 111.30 44 *e*Pdiff **Pdif 14 54 23.9 +4.5**
GRF *e*PKiKP **PKiKP 14 58 22.7 +4.8**
GRF *e*PP **PP 14 58 53.9 -4.7**
GRF *e*PKKPbc **PKKPab 15 09 18.2 -2.7**
GRF *e*L L 16 00 03.1
comp=Z,97µm,20.9s
RJOB Jochberg 111.31 46 *e*Pdiff **Pdif 14 54 23.7 +4.1**
RJOB *e*PKiKP **PKiKP 14 58 21.9 +3.9**
TARA Tarawa 111.37 256 PFAKE 14 58 30.0
TARA LR LR
comp=Z,86µm,20.0s
LJU Ljubljana 111.57 48 *e*Pdiff **Pdif 14 54 25.1 +4.3**
LJU *e* 14 58 12.1
LJU *e*PP PP 14 58 54.5 -6.1
LJU *e* 15 00 57.1
LJU *e* 15 01 25.7
LJU *e* 15 05 14.9
LJU *e*SP SP 15 08 32.2 +2.3
LJU *e* 15 13 46.5
LJU *e* 15 14 51.6
LJU *e* 15 14 57.0
LJU *e* 15 17 13.2
LJU *e* 15 24 19.4
LJU *e* 15 32 60.0
BOJS Bojanci 111.78 49 *e*Pdiff **Pdif 14 54 26.4 +4.7**
BOJS *e* 14 58 10.1
BOJS *e* 15 01 04.2
BOJS *e* 15 01 27.6
BOJS *e* 15 33 12.9
OBKA Obir 111.80 48 ⇓*i*PKiKP **PKiKP 14 58 20.9 +1.9**
comp=Z,36nm,0.9s
CLZ Clausthal 111.84 41 *e*PKiKP **PKiKP 14 58 23.7 +4.9**
CLZ *e*PKKPbc **PKKPab 15 09 16.8 -1.7**
ROTZ Rotzenmuhle 111.90 44 *e*Pdiff **Pdif 14 54 26.6 +4.5**
MOX Moxa 111.97 43 *e*Pdiff **Pdif 14 54 27.3 +4.9**
MOX *e*PKiKP **PKiKP 14 58 23.5 +4.4**
MOX *e*L L 15 59 04.1
comp=Z,94µm,21.5s
FURI Furi 111.99 94 P **PP 14 59 08.4 +4.2**
NRDL Niedersach Rie 112.00 41 *e*PKKPbc PKKPbc 15 09 16.1 +4.3
WET Wettzell 112.01 45 *e*PKiKP **PKiKP 14 58 23.3 +4.1**
INK Inuvik 112.02 339 Pdiff **Pdif 14 54 22.6 +0.4**
comp=Z,15nm,1.1s,baz=117,slow=3.5,SNR=10
INK PKiKP **PKiKP 14 58 18.8 +0.2**
comp=Z,6.7nm,0.8s,baz=142,slow=5.4,SNR=5.0
INK PKKPab **PKKPbc 15 09 14.4 +2.2**
comp=Z,15nm,1.1s,baz=325,slow=1.3,SNR=6.0
SOKA Soboth 112.17 48 ⇓*i*sPKiKP **PKiKP 14 58 24.4 +4.7**
comp=Z,39nm,1.6s,SNR=6.1
PERS Pernice 112.21 48 *e*Pdiff **Pdif 14 54 28.0 +4.4**
MOA Molln 112.24 47 ⇓*i*PKiKP **PKiKP 14 58 20.8 +1.1**
comp=Z,42nm,1.4s
DIV Divide 112.28 330 *e*PKPdf **PKiKP 14 58 18.4 -1.1**
TANN Tannenbergstha 112.35 44 *e*Pdiff **Pdif 14 54 29.1 +5.0**
TANN *e*PKiKP **PKiKP 14 58 24.5 +4.6**
GEC2 GERESS Array S 112.35 45 *e*Pdiff **Pdif 14 54 28.2 +4.0**
GEC2 *e*PKiKP **PKiKP 14 58 24.0 +4.0**
GERES GERESS Array B 112.35 45 Pdiff **Pdif 14 54 29.6 +5.3**
comp=Z,0.2nm,0.4s,baz=281,slow=11,SNR=4.6
GERES PKiKP **PKiKP 14 58 19.7 -0.3**
comp=Z,6.2nm,0.7s,baz=197,slow=4.2,SNR=11
GERES PKKPab **PKKPab 15 09 15.1 -1.4**
comp=Z,4.7nm,0.8s,baz=48,slow=2.0,SNR=13
KHC Kasperske Hory 112.41 45 *e*P **Pdif 14 54 26.4 +2.0**
KHC *e* 14 58 20.4
KHC *e* 14 59 05.7
KHC *e* 15 08 40.9
KHC *e* 15 09 50.9
KHC MLR MLR
comp=Z,99µm,18.8s
KHC Kasperske Hory 112.41 45 *e*PDIFF **Pdif 14 54 26.4 +2.0**
KHC *e*PKP **PKiKP 14 58 20.4 +0.4**
KHC *e*PP **PP 14 59 05.7 -0.8**
KHC *e*SP SP 15 08 40.9 +3.5
KHC *e*PKKP **PKKPbc 15 09 09.8 -0.7**
KHC *e*x x 15 09 17.7
KHC *e*x x 15 09 50.9
KHC AMS AMS 16 01 50.0
comp=Z,99µm,18.8s
EGAK Eagle 112.44 334 PKPdf **PKiKP 14 58 19.5 0.0**
NWAO Narrogin (SRO) 112.52 188 PKKPbc PKKPbc 15 09 09.9 +0.1
comp=Z,10nm,0.7s,baz=291,slow=4.0,SNR=6.7
NWAO Narrogin (SRO) 112.52 188 PKKPbc PKKPbc 15 09 09.9 +0.1
NWAO LR LR
comp=Z,1.0nm,21.0s
DRO Drossia 112.69 59 P **PP 14 59 05.1 -3.7**
ARSA Arzberg 112.73 48 ⇓*i*pPKiKP pPKiKP 14 58 24.2 -3.1
comp=Z,57nm,1.5s,SNR=7.3
BSEG Bad Segeberg 112.78 39 *e*Pdiff **Pdif 14 54 29.9 +4.1**
BSEG *e*PKiKP **PKiKP 14 58 25.0 +4.6**
KMY Karmoy 112.79 33 *e*PP PP 14 59 07.2 -1.7
KMY *e* 15 08 46.2
KMY *e*SS SS 15 14 51.3 +0.9
ANKY Antikythira Is 112.91 61 P **PP 14 59 05.7 -4.6**
DOT Dot Lake 112.91 333 PKPdf **PKiKP 14 58 20.4 -0.1**
CLL Collm 113.06 43 *e*P **Pdif 14 54 32.0 +4.9**
CLL *i* 14 58 21.8
CLL *i* 14 58 34.0
CLL pmax pmax
comp=Z,58nm,1.3s
CLL MLR MLR
comp=Z,41µm,21.7s
CLL Collm 113.06 43 *e*Pdiff **Pdif 14 54 31.3 +4.2**
CLL *e*PKiKP **PKiKP 14 58 25.5 +4.4**
CLL *e*PKKPbc **PKKPab 15 09 12.2 -0.9**
CLL Collm 113.06 43 *e*(Pdif) **Pdif 14 54 32.0 +4.9**
CLL *e* 14 54 42.0
CLL *i* PKiKP **PKiKP 14 58 21.8 +0.7**
comp=Z,58nm,1.3s
CLL *i* 14 58 34.0
CLL *e* 14 58 52.0
CLL *e*PP **PP 14 59 15.0 +4.0**
CLL *e*PPP PPP 15 01 37.0
CLL *e*SKSac SKSac 15 05 12.0 +7.9
CLL *e* 15 07 18.0
CLL *e*PS **PS 15 08 50.0 +4.0**
CLL *e* 15 09 04.0
CLL *i* pPKKPbc 15 09 11.5
CLL *i* PKKPab **PKKPab 15 09 16.8 +3.7**
CLL *i* 15 09 24.7
CLL *e*PKKPdf **PKKPdf 15 09 30.0 +0.2**
CLL *e* 15 15 25.0
CLL *e*SSS SSS 15 19 01.0
CLL Lm MLR 15 43 00.0
comp=Z,41µm,21.7s
CONA Conrad Observa 113.23 47 ⇑*i*pPKiKP **PKiKP 14 58 23.9 +2.2**
comp=Z,63nm,1.7s
SNART Snartemo 113.28 34 *e*PP PP 14 59 11.3 -1.1
SNART *e* 15 08 57.0
SNART *e*SS SS 15 14 55.9 -0.9
PRA Prague 113.33 44 *e*PKIKP **PKiKP 14 58 25.1 +3.5**
PRA *e* 14 59 11.5
PRA Prague 113.33 44 *e*PKP **PKiKP 14 58 25.1 +3.5**
PRA *e*PP **PP 14 59 11.5 -1.5**
MUD Monsted U'grnd 113.35 37 *i* P **Pdif 14 54 35.3 +7.0**
MUD MLR MLR
comp=Z,61µm,19.0s
MUD Monsted U'grnd 113.35 37 *i* P **Pdif 14 54 35.3 +7.0**
MUD Monsted U'grnd 113.35 37 *i* P **SP 15 08 50.2 +4.7**
PRU Pruhonice 113.35 45 *e*P **Pdif 14 54 31.6 +3.1**
PRU *e* 14 59 10.9
PRU *e* 15 08 49.1
PRU *e* 15 09 56.4
PRU MLR MLR
comp=Z,94µm,20.5s
PRU Pruhonice 113.35 45 *e*PDIFF **Pdif 14 54 31.6 +3.1**
PRU *e*PKP **PKiKP 14 58 24.9 +3.2**
PRU *e*PP **PP 14 59 10.9 -2.3**
PRU *e*SP SP 15 08 49.1 +3.1
PRU *e*PKKP **PKKPbc 15 09 08.2 +0.9**
PRU *e*x x 15 09 16.5
PRU *e*x x 15 09 56.4
PRU AMS AMS 16 01 40.0
comp=Z,94µm,20.5s
SEW Seward 113.35 328 *e*PKPdf **PKiKP 14 58 19.9 -1.5**
ASK Askoy 113.38 32 *e*PP PP 14 59 13.4 +0.4
ASK *e* 15 08 53.6
ASK *e*SS SS 15 14 54.9 -3.2
ASK *e*SS **SS 15 14 56.1 -2.0**
ASK *e*SS SS 15 14 56.8 -1.3
BRG Berggiesshubel 113.39 44 *e*PDIF **Pdif 14 54 33.1 +4.4**
comp=Z,26nm,1.9s
BRG Berggiesshubel 113.39 44 *e*PKP **PKiKP 14 58 20.1 -1.7**
comp=Z,29nm,1.7s
BRG PP **PP 14 59 15.0 +1.5**
BRG SKS **SKSac 15 05 09.0 +3.5**
BRG SDIFF Sdif 15 07 27.0 +33
comp=N,47µm,19.7s
comp=E,55µm,18.2s
comp=Z,82µm,21.4s
BRG Berggiesshubel 113.39 44 *e*PKP **PKKPbc 15 09 10.6 +3.4**
comp=Z,22nm,1.1s
BRG Berggiesshubel 113.39 44 *e*P **Pdif 14 54 33.1 +4.4**
BRG *e* 14 58 20.1
BRG 14 59 15.0
BRG 15 05 09.0
BRG pmax pmax
comp=Z,26nm,1.9s
BRG pmax pmax
comp=Z,29nm,1.7s
BRG MLR MLR
comp=N,47µm,19.7s
BRG MLR MLR
comp=E,55µm,18.2s
BRG MLR MLR
comp=Z,82µm,21.4s
BRG Berggiesshubel 113.39 44 *e*Pdiff **Pdif 14 54 33.0 +4.4**
BRG *e*PKiKP **PKiKP 14 58 26.0 +4.2**
BRG *e*PKKPbc **PKKPab 15 09 11.1 -0.6**
BER Bergen 113.40 32 *e*PP PP 14 59 12.0 -1.2
BER *e* 15 08 51.1
BER *e*SS SS 15 14 56.8 -1.5
BLS5 Blasjo 113.44 33 *e*PP PP 14 59 11.6 -2.0
BLS5 *e* 15 08 58.7
BLS5 *e*SS SS 15 14 60.0 +1.0
SUE Sulen 113.47 31 *e* 15 08 53.8
SUE *e*SS SS 15 14 59.6 +0.4
SOP Sopron 113.55 47 ⇑*e* **PKiKP 14 58 25.8 +3.6**
AGG Agios Georgios 113.60 58 P PP 14 59 03.1 -12
PVCC Panska Ves 113.60 44 *e*P **Pdif 14 54 32.9 +3.3**
PVCC *e* 14 58 23.2
PVCC *e* 15 08 49.7
PVCC *e* 15 10 03.1
PVCC MLR MLR
comp=Z,104µm,19.8s
PVCC Panska Ves 113.60 44 *e*PDIFF **Pdif 14 54 32.9 +3.3**
PVCC *e*PKP **PKiKP 14 58 23.2 +1.0**
PVCC *e*PP **PP 14 59 12.2 -2.7**
PVCC *e*SP SP 15 08 49.7 +1.4
PVCC *e*PKKP **PKKPab 15 09 10.8 0.0**
PVCC *e*x x 15 10 03.1
PVCC AMS AMS 16 02 10.0
comp=Z,104µm,19.8s
TREC Trest 113.61 46 *e*P **Pdif 14 54 31.1 +1.4**
TREC *e* 14 58 23.4
TREC *e* 14 59 13.5
TREC *e* 15 08 51.6
TREC *e* 15 10 03.1
TREC MLR MLR
comp=Z,72µm,20.3s
TREC Trest 113.61 46 *e*PDIFF **Pdif 14 54 31.1 +1.4**
TREC *e*PKP **PKiKP 14 58 23.4 +1.1**
TREC *e*PP **PP 14 59 13.5 -1.5**
TREC *e*SP SP 15 08 51.6 +3.2
TREC *e*PKKP **PKKPab 15 09 10.2 -0.7**
TREC *e*x x 15 09 15.2
TREC *e*x x 15 10 03.1
TREC AMS AMS 16 03 10.0
comp=Z,72µm,20.3s
KDAK Kodiak Island 113.71 325 PFAKE 14 58 30.0
KDAK LR LR
comp=Z,52µm,21.0s
AXAR Agios Charalam 113.72 58 P **PP 14 59 13.0 -3.1**
ODD1 Odda 113.75 33 *e* **PS 15 08 59.6 +7.4**
FOO Floro 113.85 31 *e* **PS 15 08 57.5 +4.6**
HOMB Homborsund 113.85 35 *e* **PS 15 08 57.2 +4.2**
PMR Palmer 113.92 329 *e*PKIKP **PKiKP 14 58 22.4 0.0**
PMR Palmer 113.92 329 *e*PKPdf **PKiKP 14 58 22.4 0.0**
RC01 Rabbit Creek A 113.94 329 *e*PKPdf **PKiKP 14 58 21.5 -1.0**
PKS9 Tamasi 114.15 49 ⇓*e* PKPdf 14 58 29.1 +5.8
JMIC Jan Mayen 114.17 19 *e* **PKKPab 15 09 09.5 +2.2**
ATHU Athens Univers 114.17 60 P **PP 14 59 15.3 -4.0**
PKSM Moragy 114.22 50 ⇓PKIKP PKPdf 14 58 24.6 +1.1
PKSM Moragy 114.22 50 ⇓*i*P PKPdf 14 58 24.6 +1.1
PKSM Moragy 114.22 50 ⇓*i*P **PKKPbc 15 09 06.1 +1.9**
PKSM Moragy 114.22 50 ⇑*e*PKPdf PKPdf 14 58 27.3 +3.8
SKO Skopje 114.25 55 *e*PKP PKPdf 14 58 23.0 -0.7
VRAC Vranov 114.27 46 ⇑PKIKP PKPdf 14 58 24.5 +1.0
VRAC Vranov 114.27 46 ⇑*i*P PKPdf 14 58 24.5 +1.0
VRAC Vranov 114.27 46 ⇑*i*P **PKKPab 15 09 08.9 +0.9**
XOR Xorichti 114.35 58 P PP 14 59 07.5 -13
LLD Lille Linde 114.39 39 *i* P **SP 15 08 53.5 -1.6**
UPC Upice 114.43 44 *e*PKIKP PKPdf 14 58 25.2 +1.4
UPC *e* 14 59 18.3
UPC *e* 15 09 04.3
UPC Upice 114.43 44 *e*PKP PKPdf 14 58 25.2 +1.4
UPC *e*PP **PP 14 59 18.3 -2.5**
UPC *e*PKKP **PKKPbc 15 09 04.3 +0.7**
ILAR Eielson Array 114.54 333 PKIKP PKPdf 14 58 23.2 -0.3
ILAR 15 09 04.5
ILAR pmax pmax
comp=Z,16nm,0.8s
ILAR Eielson Array 114.54 333 PKP PKPdf 14 58 23.2 -0.4
comp=Z,16nm,0.8s,baz=162,slow=1.4,SNR=18
ILAR PKKPbc **PKKPbc 15 09 04.5 +0.8**
comp=Z,1.9nm,0.8s,baz=311,slow=3.4,SNR=5.2
DPC Dobruska-Polom 114.54 45 *e*P **Pdif 14 54 36.7 +2.8**
DPC *e* 14 58 25.2
DPC *e* 15 08 55.3
DPC *e* 15 09 05.2
DPC *e* 15 10 12.6
DPC Dobruska-Polom 114.54 45 *e*PDIFF **Pdif 14 54 36.7 +2.8**
DPC *e*PKP **PKiKP 14 58 25.2 +1.1**
DPC *e*PP **PP 14 59 18.1 -3.6**
DPC *e*SP SP 15 08 55.3 -1.6
DPC *e*PKKP **PKKPab 15 09 05.2 -1.5**
DPC *e*x x 15 09 13.2
DPC *e*x x 15 10 12.6
DPC AMS AMS 16 03 10.0
PKSG 114.55 48 *e*PKPdf PKPdf 14 58 21.5 -2.6
COP Copenhagen 114.65 38 *i* P **Pdif 14 54 39.5 +5.4**
COP MLR MLR
comp=Z,31µm,22.0s
COP Copenhagen 114.65 38 *i* P **Pdif 14 54 39.5 +5.4**
KRLC Kraliky 114.70 45 *e*P **Pdif 14 54 37.5 +2.9**
KRLC *e* 14 58 25.4
KRLC *e* 15 09 07.0
KRLC Kraliky 114.70 45 *e*PDIFF **Pdif 14 54 37.5 +2.9**
KRLC *e*PKP **PKiKP 14 58 25.4 +1.0**
KRLC *e*PKKP **PKKPab 15 09 07.0 +0.9**
KSP Ksiaz 114.73 44 *i* PKIKP PKPdf 14 58 25.7 +1.4
KSP *e*SP SP 15 09 01.7 +3.2
KSP *e*PPS PPS 15 10 22.5
KSP MLR MLR
comp=Z,208µm,22.7s
KSP Ksiaz 114.73 44 *e*Pdiff **Pdif 14 54 39.8 +5.2**
KSP *e*PKiKP **PKiKP 14 58 25.8 +1.5**
KSP *e*PP **PP 14 59 18.6 -4.3**
VAY Valandovo 114.75 56 *e*PKP PKPdf 14 58 22.2 -2.5

CTA	**Charters Tower**	**114.79**	**220**	PKIKP	PKPdf	14 58 26.2	+0.7
CTA						15 09 03.4	
CTA				pmax	pmax		
comp=Z,14nm,1.0s							
CTA	**Charters Tower**	**114.79**	**220**	PKP	PKPdf	14 58 26.2	+0.7
comp=Z,14nm,1.0s,baz=188,slow=8.5,SNR=6.0							
CTA				PKKPbc	**PKKPbc**	**15 09 03.4**	**+1.6**
comp=Z,21nm,1.0s,baz=279,slow=6.5,SNR=5.9							
CTAO	**Charters Tower**	**114.79**	**220**	PFAKE		14 58 40.0	+14
CTAO				LR	LR		
comp=Z,69μm,19.0s							
HORT	**Hortiatis**	**114.81**	**57**	P	PP	14 59 12.4	-11
MCK	**McKinley**	**114.84**	**331**	*e*PKIKP	PKPdf	14 58 23.9	-0.3
MCK	**McKinley**	**114.84**	**331**	*e*PKPdf	PKPdf	14 58 23.9	-0.3
KNT	**Kendrikon**	**114.91**	**56**	P	PP	14 59 18.0	-6.4
AKN	**Aaknes**	**114.94**	**31**	*e*	**PKKPab**	**15 09 07.5**	**+3.1**
COLA	**College**	**114.95**	**333**	*e*PKIKP	PKPdf	14 58 23.5	-0.8
COLA	**College**	**114.95**	**333**	*e*PKPdf	PKPdf	14 58 23.4	-0.8
COLA				LR	LR		
comp=Z,49μm,19.0s							
KONO	**Kongsberg**	**114.97**	**34**	*e*PP	**PP**	**14 59 22.7**	**-1.7**
KONO				*e*		15 09 07.4	
KONO	**Kongsberg**	**114.97**	**34**	*e*PKIKP	PKPdf	14 58 24.7	+0.2
KONO	**Kongsberg**	**114.97**	**34**	*e*PKPdf	PKPdf	14 58 24.7	+0.2
RSO	**Redoubt South**	**114.98**	**327**	*e*PKPdf	PKPdf	14 58 24.7	-0.1
MORC	**Moravsky Berou**	**115.02**	**46**	⇑PKIKP	**PKPdf**	**14 58 24.9**	**-0.1**
MORC	**Moravsky Berou**	**115.02**	**46**	⇑*i*P	**PKPdf**	**14 58 24.9**	**-0.1**
MORC	**Moravsky Berou**	**115.02**	**46**	⇓*i*P	**PKKPbc**	**15 09 02.9**	**+1.3**
MORC	**Moravsky Berou**	**115.02**	**46**	*e*PKPdf	**PKPdf**	**14 58 23.6**	**-1.4**
APE	**Apeiranthos**	**115.05**	**61**	*e*P	PKPdf	14 58 32.5	+7.0
APE	**Apeiranthos**	**115.05**	**61**	⇓PKIKP	**PKPdf**	**14 58 28.9**	**+3.4**
APE	**Apeiranthos**	**115.05**	**61**	⇓*i*P	**PKPdf**	**14 58 28.9**	**+3.4**
TRF	**Thorofare Moun**	**115.25**	**331**	*e*PKPdf	**PKPdf**	**14 58 24.1**	**-1.0**
VYHS	**Vyhne**	**115.28**	**47**	*e*PKIKP	**PKPdf**	**14 58 25.4**	**-0.1**
VYHS				*e*		14 59 25.2	
VYHS				*e*		15 09 05.9	
VYHS				*e*SS	SS	15 15 43.7	+20
VYHS	**Vyhne**	**115.28**	**47**	*e*PKP	**PKPdf**	**14 58 25.3**	**-0.2**
VYHS				*e*PP	**PP**	**14 59 25.2**	**-1.7**
VYHS				*e*PS	**PS**	**15 09 05.9**	**-0.6**
VYHS				*e*SS	SS	15 15 43.7	+20
KKB	**Krupnik**	**115.33**	**55**	*e*P	**PP**	**14 59 32.0**	**+4.6**
MOL	**Molde**	**115.34**	**30**	*e*	PKKPdf	15 09 15.6	-10
OKC	**Ostrava-Krasne**	**115.41**	**46**	*e*P	**Pdif**	**14 54 43.4**	**+5.8**
OKC				*e*		14 58 26.7	
OKC				*e*		15 09 01.6	
OKC				*e*		15 09 04.1	
OKC				MLR	MLR		
comp=Z,78μm,18.2s							
OKC	**Ostrava-Krasne**	**115.41**	**46**	*e*PDIFF	**Pdif**	**14 54 43.4**	**+5.8**
OKC				*e*PKP	**PKiKP**	**14 58 26.7**	**+1.0**
OKC				*e*PP	**PP**	**14 59 22.8**	**-4.9**
OKC				*e*SP	SP	15 09 01.6	-3.1
OKC				*e*PKKP	**PKKPab**	**15 09 04.1**	**+1.2**
OKC				AMS	AMS	16 07 30.0	
comp=Z,78μm,18.2s							
RAC	**Raciborz**	**115.53**	**46**	*e*P	**Pdif**	**14 54 40.3**	**+2.1**
KTH	**Kantishna Hill**	**115.55**	**331**	*e*PKPdf	**PKPdf**	**14 58 24.5**	**-1.1**
OSL	**Oslo**	**115.61**	**34**	*e*	**PS**	**15 09 14.9**	**+5.9**
DAG	**Danmarks Havn**	**115.64**	**12**	*i* PKIKP	**PKPdf**	**14 58 24.7**	**-0.7**
DAG	**Danmarks Havn**	**115.64**	**12**	*i* P	**PKPdf**	**14 58 24.7**	**-0.7**
DAG	**Danmarks Havn**	**115.64**	**12**	*i* P	**PKKPbc**	**15 08 57.6**	**-2.4**
NVR	**Nevrokopi**	**115.65**	**56**	P	PP	14 59 22.4	-7.3
MMB	**Musomiste**	**115.65**	**56**	⇑PKIKP	**PKPdf**	**14 58 29.7**	**+3.2**
MMB	**Musomiste**	**115.65**	**56**	⇑*i*P	**PKPdf**	**14 58 29.7**	**+3.2**
MMB	**Musomiste**	**115.65**	**56**	⇑*i*P	**PKKPab**	**15 09 02.7**	**+0.3**
MMB	**Musomiste**	**115.65**	**56**	*e*P	**PP**	**14 59 34.0**	**+4.3**
PSZ	**Piszkesteto**	**115.70**	**48**	⇑PKIKP	**PKPdf**	**14 58 29.5**	**+3.1**
PSZ	**Piszkesteto**	**115.70**	**48**	⇑*i*P	**PKPdf**	**14 58 29.5**	**+3.1**
PSZ	**Piszkesteto**	**115.70**	**48**	⇓*e*PKPdf	**PKPdf**	**14 58 28.9**	**+2.5**
PSZ	**Piszkesteto**	**115.70**	**48**	*e*PKPdf	**PKPdf**	**14 58 25.6**	**-0.8**
PSZ				LR	LR		
comp=Z,92μm,21.0s							
VTS	**Vitosha**	**115.70**	**55**	⇓PKIKP	**PKPdf**	**14 58 25.8**	**-0.9**
VTS	**Vitosha**	**115.70**	**55**	⇓*i*P	**PKPdf**	**14 58 25.8**	**-0.9**
VTS	**Vitosha**	**115.70**	**55**	⇑*i*P	**PKKPab**	**15 09 03.8**	**+1.5**
VTS	**Vitosha**	**115.70**	**55**	*e*P	**PP**	**14 59 34.5**	**+4.3**
BSD	**Bornholm Skovb**	**115.71**	**40**	*i* PKIKP	**PKPdf**	**14 58 30.5**	**+4.5**
BSD	**Bornholm Skovb**	**115.71**	**40**	*i* P	**Pdif**	**14 54 46.5**	**+7.7**
BSD	**Bornholm Skovb**	**115.71**	**40**	*i* P	**PKPdf**	**14 58 30.5**	**+4.5**
BSD	**Bornholm Skovb**	**115.71**	**40**	*i* P	**PKKPbc**	**15 08 58.1**	**-1.2**
BZS	**Buzias**	**115.87**	**51**	⇑*i*P	**PKKPbc**	**15 08 55.8**	**-2.7**
GKP	**Gorka Klasztor**	**116.24**	**42**	*e*Pdiff	**Pdif**	**14 54 44.0**	**+2.8**
GKP				*e*PKiKP	**PKiKP**	**14 58 28.1**	**+1.0**
GKP				*e*PP	**PP**	**14 59 29.8**	**-3.6**
NB2	**NORSAR Subarra**	**116.28**	**33**	PKPdf	**PKPdf**	**14 58 26.4**	**-0.7**
baz=248,slow=1.9							
NOA	**NORSAR Array B**	**116.28**	**33**	PKP	**PKPdf**	**14 58 26.6**	**-0.5**
comp=Z,6.8nm,0.8s,baz=163,slow=20,SNR=8.0							
NOA				PKKPbc	**PKKPab**	**15 08 58.8**	**+0.3**
comp=Z,5.2nm,0.8s,baz=206,slow=20,SNR=10.0							
NC602	**NORSAR Array S**	**116.31**	**33**	*e*PKPdf	**PKPdf**	**14 58 27.3**	**+0.3**
NC602				*e*PP	**PP**	**14 59 33.8**	**0.0**
NC602				*e*		15 09 19.1	
NC602				*e*SS	SS	15 15 33.9	-2.7
BODT	**Bodrum**	**116.34**	**62**	*e*P	**PKPdf**	**14 58 27.4**	**-0.5**
PGB	**Panagyurishte**	**116.34**	**55**	*e*P	**PP**	**14 59 38.9**	**+4.4**
MPEP	**Malo Peshtene**	**116.37**	**54**	*e*P	**PP**	**14 59 34.9**	**+0.2**
RZN	**Rozhen**	**116.37**	**56**	*e*P	**PP**	**14 59 39.0**	**+4.1**
PLD	**Plovdiv**	**116.53**	**56**	*e*P	**PP**	**14 59 37.4**	**+1.6**
GZR	**Gura Zlata**	**116.53**	**52**	⇑PKIKP	**PKPdf**	**14 58 28.9**	**+0.8**
GZR	**Gura Zlata**	**116.53**	**52**	⇑*i*P	**PKPdf**	**14 58 28.9**	**+0.8**
GZR	**Gura Zlata**	**116.53**	**52**	⇓*i*P	PKKPab	15 09 04.2	+5.8
OJC	**Ojcow**	**116.53**	**46**	*e*Pdiff	**Pdif**	**14 54 50.7**	**+8.0**
OJC				*e*PKiKP	**PKiKP**	**14 58 28.8**	**+1.0**
OJC				*e*PP	**PP**	**14 59 30.6**	**-5.0**
OJC				*e*PS	**PKKPdf**	**15 09 25.1**	**+2.0**
OJC				*e*SS	SS	15 16 06.6	+26
OJC				L	L	15 43 34.0	
comp=Z,50μm,21.4s							
NIE	**Niedzica**	**116.54**	**47**	*i* PKIKP	**PKPdf**	**14 58 29.1**	**+1.2**
NIE				MLR	MLR		
comp=Z,53μm,21.5s							
NIE	**Niedzica**	**116.54**	**47**	*e*Pdiff	**Pdif**	**14 54 50.9**	**+8.2**
NIE				*e*PKiKP	**PKPdf**	**14 58 29.1**	**+1.2**
NIE				*e*PP	**PP**	**14 59 31.7**	**-4.0**
NIE				*e*PS	**PKKPdf**	**15 09 27.4**	**+4.3**
NIE				*e*SS	SS	15 16 07.1	+27
NIE				L	L	15 49 58.0	
comp=Z,53μm,21.5s							
RDO	**Rodhopi**	**116.72**	**57**	P	**PP**	**14 59 37.6**	**+0.5**
EZN	**Ezine**	**116.75**	**59**	*e*P	**PKPdf**	**14 58 32.4**	**+3.8**
KDZ	**Kurdzhali**	**116.84**	**56**	⇑PKIKP	**PKPdf**	**14 58 27.9**	**-0.8**
KDZ	**Kurdzhali**	**116.84**	**56**	⇑*i*P	**PKPdf**	**14 58 27.9**	**-0.8**
KDZ	**Kurdzhali**	**116.84**	**56**	*e*P	**PP**	**14 59 41.5**	**+3.5**
COLD	**Coldfoot**	**116.86**	**335**	*e*PKPdf	**PKPdf**	**14 58 27.4**	**-0.5**
ALN	**Alexandroupoli**	**116.98**	**57**	P	PP	14 59 26.5	-12
ENEZ	**Enez**	**116.99**	**58**	*e*P	**PKPdf**	**14 58 29.3**	**+0.3**
HFS	**Hagfors**	**117.06**	**34**	PKP	**PKPdf**	**14 58 28.2**	**-0.3**
comp=Z,14nm,0.7s,baz=196,slow=2.8,SNR=13							
HFS				PKKPbc	**PKKPab**	**15 08 56.0**	**+0.9**
comp=Z,43nm,0.8s,baz=105,slow=3.4,SNR=16							
GELI	**Tayfur-Gelibol**	**117.08**	**58**	*e*P	**PKPdf**	**14 58 30.4**	**+1.3**
STHS	**Stebnicka Huta**	**117.10**	**47**	*e*PKIKP	**PKPdf**	**14 58 29.3**	**+0.3**
STHS				*e*		14 59 39.9	
STHS	**Stebnicka Huta**	**117.10**	**47**	*e*PKP	**PKPdf**	**14 58 29.3**	**+0.3**
STHS				*e*PP	**PP**	**14 59 39.9**	**+0.3**
STHS				*e*		15 08 59.2	
AYDB	**Zeytinkoy-Aydi**	**117.12**	**61**	*e*P	**PKPdf**	**14 58 32.4**	**+2.8**
LOT	**Lotru**	**117.20**	**52**	⇑*i*P	**PKPdf**	**14 58 27.5**	**-1.9**
LOT	**Lotru**	**117.20**	**52**	⇑*i*P	**PKKPab**	**15 08 57.4**	**+1.8**
DALY	**Dalyan (Mu¨la**	**117.22**	**62**	*e*P	**PKPdf**	**14 58 30.4**	**+0.9**
LPK	**Lapseki**	**117.27**	**58**	*e*P	**PKPdf**	**14 58 32.4**	**+2.8**
ASAR	**Alice Springs**	**117.28**	**207**	PKIKP	**PKPdf**	**14 58 29.0**	**-1.3**
ASAR				pmax	pmax		
comp=Z,17nm,0.8s							
ASAR	**Alice Springs**	**117.28**	**207**	PKP	**PKPdf**	**14 58 29.0**	**-1.3**
comp=Z,17nm,0.8s,baz=144,slow=2.1,SNR=28							
AS31	**Alice Springs**	**117.29**	**207**	*e*PKPdf	**PKPdf**	**14 58 28.7**	**-1.6**
PVL	**Pavlikeni**	**117.39**	**55**	*e*P	**PP**	**14 59 42.2**	**+0.5**
TRPA	**Tarpa**	**117.42**	**49**	⇑*i*P	**PKPdf**	**14 58 33.8**	**+4.2**
TRPA	**Tarpa**	**117.42**	**49**	⇑*i*P	**PKKPab**	**15 08 57.3**	**+3.1**
TRPA	**Tarpa**	**117.42**	**49**	⇑*e*	**PKPdf**	**14 58 33.5**	**+3.9**
UZH	**Uzhgorod**	**117.45**	**48**	*i* PKIKP	**PKPdf**	**14 58 28.1**	**-1.5**
UZH				*e*		15 02 14.5	
UZH				*e*		15 05 36.1	
UZH				MLR	MLR		
comp=Z,28μm,20.0s							
FETY	**Fethiye**	**117.46**	**63**	*e*P	**PKPdf**	**14 58 30.4**	**+0.3**
KOLS	**Kolonicke sedl**	**117.55**	**48**	*e*PKIKP	**PKPdf**	**14 58 30.6**	**+0.8**
KOLS				*e*		14 59 42.6	
KOLS				*e*		15 09 26.5	
KOLS				*e*SS	SS	15 16 19.7	+26
KOLS	**Kolonicke sedl**	**117.55**	**48**	*e*PKP	**PKPdf**	**14 58 30.6**	**+0.8**
KOLS				*e*PP	**PP**	**14 59 42.6**	**-0.1**
KOLS				*e*		15 08 57.5	
KOLS				*e*PS	**PS**	**15 09 26.5**	**-0.7**
KOLS				*e*SS	SS	15 16 19.7	+26
HUMR	**Humele**	**117.65**	**53**	⇑*i*P	**PKPdf**	**14 58 34.2**	**+4.1**
KRBG	**Karabiga-Canak**	**117.66**	**58**	*e*P	**PKPdf**	**14 58 33.0**	**+2.7**
RKY	**Sarkoy-Tekirda**	**117.69**	**58**	*e*P	**PKPdf**	**14 58 30.4**	**0.0**
BEL	**Belsk**	**117.72**	**44**	*e*PKIKP	**PKPdf**	**14 58 31.3**	**+1.2**
BEL				*e*		14 59 43.1	
BEL	**Belsk**	**117.72**	**44**	*e*Pdiff	**Pdif**	**14 54 49.7**	**+1.8**
BEL				*e*PKPdf	**PKPdf**	**14 58 31.2**	**+1.2**
BEL				*e*PP	**PP**	**14 59 43.1**	**-0.7**
ARR	**Arges**	**117.73**	**52**	⇑*i*P	**PKPdf**	**14 58 30.0**	**-0.4**
BALB	**Balikesir**	**117.78**	**59**	*e*P	**PKPdf**	**14 58 31.1**	**+0.5**
SZH	**Strazhica**	**117.81**	**55**	*e*P	**PP**	**14 59 45.5**	**+0.8**
EDRB	**Edirne**	**117.83**	**57**	*e*P	PKPdf	14 58 40.1	+10
BMR	**Baia Mare**	**117.85**	**50**	⇑PKIKP	**PKPdf**	**14 58 35.1**	**+4.7**
BMR	**Baia Mare**	**117.85**	**50**	⇑*i*P	**PKPdf**	**14 58 35.1**	**+4.7**
KULA	**Kula-Manisa**	**117.90**	**61**	*e*P	**PKPdf**	**14 58 33.0**	**+2.1**
NSS	**Namsos**	**117.94**	**29**	*e*PP	PP	14 59 45.6	+0.6
NSS				*e*		15 09 35.1	
JMB	**Yambol**	**117.95**	**56**	⇓PKIKP	**PKPdf**	**14 58 29.2**	**-1.6**
JMB	**Yambol**	**117.95**	**56**	⇓*i*P	**PKPdf**	**14 58 29.2**	**-1.6**
JMB	**Yambol**	**117.95**	**56**	*e*P	**PP**	**14 59 45.2**	**-0.5**
MTUR	**Matau**	**117.96**	**53**	⇑PKIKP	**PKPdf**	**14 58 35.6**	**+4.7**
MTUR	**Matau**	**117.96**	**53**	⇑*i*P	**PKPdf**	**14 58 35.6**	**+4.7**
VOIR		**118.03**	**52**	⇓PKIKP	**PKPdf**	**14 58 31.9**	**+0.9**
VOIR		**118.03**	**52**	⇓*i*P	**PKPdf**	**14 58 31.9**	**+0.9**
VOIR		**118.03**	**52**	⇑*i*P	PKKPbc	15 08 58.1	+7.2
EDC	**Edincik**	**118.04**	**59**	*e*P	**PKPdf**	**14 58 31.7**	**+0.7**
KWP	**Kalwaria Pacla**	**118.06**	**47**	*e*PKIKP	**PKPdf**	**14 58 31.1**	**+0.2**
KWP				*e*		14 59 45.0	
KWP	**Kalwaria Pacla**	**118.06**	**47**	*e*Pdiff	**Pdif**	**14 54 54.1**	**+4.6**
KWP				*e*PKPdf	**PKPdf**	**14 58 31.0**	**+0.2**
KWP				*e*PP	**PP**	**14 59 45.0**	**-1.3**
KWP	**Kalwaria Pacla**	**118.06**	**47**	⇑*i*P	**PKKPab**	**15 08 55.5**	**+4.1**
KWP	**Kalwaria Pacla**	**118.06**	**47**	*e*PKPdf	**PKPdf**	**14 58 29.8**	**-1.0**
KCTX	**Karacabey (Bur**	**118.36**	**59**	*e*P	**PKPdf**	**14 58 32.4**	**+0.7**
DOPR	**Dopca**	**118.44**	**52**	⇑*i*P	**PKPdf**	**14 58 32.5**	**+0.8**
SECR		**118.55**	**53**	⇓*i*P	**PKPdf**	**14 58 33.0**	**+1.1**
MLR	**Muntele Rosu**	**118.64**	**53**	⇑PKIKP	**PKPdf**	**14 58 32.4**	**+0.2**
MLR	**Muntele Rosu**	**118.64**	**53**	⇑*i*P	**PKPdf**	**14 58 32.4**	**+0.2**
MLR	**Muntele Rosu**	**118.64**	**53**	⇑*i*P	PKKPab	15 08 56.3	+7.0
MDNY	**Mudanya-Bursa**	**118.77**	**59**	P	**PKPdf**	**14 58 33.7**	**+1.2**
PRD	**Provadia**	**118.78**	**55**	⇓PKIKP	**PKPdf**	**14 58 35.4**	**+3.1**
PRD	**Provadia**	**118.78**	**55**	*e*P	**PP**	**14 59 51.1**	**-0.3**
ARMT	**Armutlu**	**118.83**	**59**	*e*P	**PKPdf**	**14 58 31.1**	**-1.5**
TVSB	**Tavsanli**	**118.83**	**60**	*e*P	**PKPdf**	**14 58 32.4**	**-0.4**
BURAR	**Bucovina Array**	**118.92**	**50**	⇑PKIKP	**PKPdf**	**14 58 33.6**	**+1.0**
BURAR	**Bucovina Array**	**118.92**	**50**	⇑*i*P	**PKPdf**	**14 58 33.6**	**+1.0**
LVV	**L'vov**	**118.94**	**47**	*i* PKIKP	**PKPdf**	**14 58 32.8**	**+0.3**
LVV				*e*		14 59 50.8	
LVV				*e*PPP	PPP	15 02 23.6	
LVV				*e*		15 05 28.8	
LVV				*e*		15 09 41.2	
ISP	**Isparta**	**118.98**	**62**	*e*P	**PKPdf**	**14 58 32.6**	**-0.5**
ISP	**Isparta**	**118.98**	**62**	PFAKE		14 58 40.0	+6.9
ISP				LR	LR		
comp=Z,72μm,20.0s							
GEMT	**Gemlik**	**119.01**	**59**	*e*P	**PKPdf**	**14 58 29.8**	**-3.1**
ALT	**Altintas**	**119.15**	**61**	*e*P	**PKPdf**	**14 58 36.2**	**+2.9**
PLOR	**Plostina**	**119.22**	**52**	⇑PKIKP	**PKPdf**	**14 58 33.2**	**0.0**
PLOR	**Plostina**	**119.22**	**52**	⇑*i*P	**PKPdf**	**14 58 33.2**	**0.0**
SHUT	**Suhut-Afyon**	**119.28**	**61**	*e*P	**PKPdf**	**14 58 33.7**	**0.0**
VRI	**Vrincioaia**	**119.28**	**52**	⇑PKIKP	**PKPdf**	**14 58 33.3**	**0.0**
VRI	**Vrincioaia**	**119.28**	**52**	⇑*i*P	**PKPdf**	**14 58 33.3**	**0.0**
VRI	**Vrincioaia**	**119.28**	**52**	⇑*i*P	**PKKPab**	**15 08 51.5**	**+5.2**
CAVI	**Cavuskoy**	**119.39**	**59**	*e*P	**PKPdf**	**14 58 35.0**	**+1.3**
ADVT	**Abdulvahap**	**119.40**	**59**	*e*P	**PKPdf**	**14 58 36.2**	**+2.6**
TESR	**Tescani**	**119.45**	**52**	⇑*i*P	**PKPdf**	**14 58 37.1**	**+3.5**
PSN	**Preselentsi**	**119.49**	**55**	⇓PKIKP	**PKPdf**	**14 58 37.7**	**+4.0**
PSN	**Preselentsi**	**119.49**	**55**	⇓*i*P	**PKPdf**	**14 58 37.7**	**+4.0**
PSN	**Preselentsi**	**119.49**	**55**	*e*P	**PP**	**14 59 58.7**	**+2.4**
HRT	**Hereke**	**119.49**	**59**	*e*P	**PKPdf**	**14 58 33.7**	**-0.2**
LEF	**Lefka**	**119.70**	**66**	*e*P	**PKPdf**	**14 58 36.9**	**+2.5**
SUW	**Suwalki**	**119.81**	**43**	*e*PKIKP	**PKPdf**	**14 58 33.2**	**-0.8**
SUW				*e*		14 59 56.6	
SUW	**Suwalki**	**119.81**	**43**	*e*Pdiff	**Pdif**	**14 54 59.4**	**+2.3**
SUW				*e*PKPdf	**PKPdf**	**14 58 33.1**	**-0.9**
SUW				*e*PP	**PP**	**14 59 56.6**	**-1.6**
SUW	**Suwalki**	**119.81**	**43**	*e*PKPdf	**PKPdf**	**14 58 33.5**	**-0.5**
TIRR	**Tirgusor**	**119.91**	**54**	*e*PKIKP	**PKPdf**	**14 58 37.8**	**+3.3**
TIRR	**Tirgusor**	**119.91**	**54**	⇑*i*P	**PKPdf**	**14 58 38.1**	**+3.6**
TIRR	**Tirgusor**	**119.91**	**54**	*e*PKPdf	**PKPdf**	**14 58 37.8**	**+3.3**
GULT	**Gulveren**	**119.95**	**59**	*e*P	**PKPdf**	**14 58 35.6**	**+0.8**
CSS	**Prodhromos**	**119.97**	**66**	P	PP	14 59 44.0	-16
CSS	**Prodhromos**	**119.97**	**66**	*e*P	**PKPdf**	**14 58 35.3**	**+0.3**
CSS	**Prodhromos**	**119.97**	**66**	*e*PKPdf	**PKPdf**	**14 58 34.5**	**-0.5**
CSS				LR	LR		
comp=Z,12μm,22.0s							
CFR	**Carcaliu**	**119.97**	**54**	⇑PKIKP	**PKPdf**	**14 58 33.5**	**-1.1**
CFR	**Carcaliu**	**119.97**	**54**	⇑*i*P	**PKPdf**	**14 58 33.5**	**-1.1**
LFK	**Lefkose**	**120.25**	**66**	*e*P	PKPdf	14 58 25.9	-10
SVRH	**Sivrihisar-ESK**	**120.32**	**61**	*e*P	**PKPdf**	**14 58 36.2**	**+0.7**
KONT	**Konya--Tatoy**	**120.38**	**63**	*e*P	**PKPdf**	**14 58 36.9**	**+1.2**
MDUR	**Mudurnu**	**120.45**	**63**	*e*P	**PKPdf**	**14 58 35.6**	**-0.2**
LADK	**Ladik-KONYA**	**120.47**	**62**	*e*P	**PKPdf**	**14 58 35.0**	**-1.0**
LEOM	**Leova**	**120.48**	**52**	⇓PKIKP	**PKPdf**	**14 58 36.6**	**+1.1**
LEOM	**Leova**	**120.48**	**52**	⇓*i*P	**PKPdf**	**14 58 36.6**	**+1.1**
WB2	**Warramunga Arr**	**120.48**	**209**	*e*PKPdf	**PKPdf**	**14 58 35.0**	**-1.5**
WRA	**Warramunga Arr**	**120.49**	**209**	PKP	**PKPdf**	**14 58 34.9**	**-1.7**
comp=Z,49nm,0.7s,baz=158,slow=1.7,SNR=52							
WRA				PKKPbc	**PKKPbc**	**15 08 42.2**	**+0.6**
comp=Z,9.3nm,0.7s,baz=342,slow=4.4,SNR=16							
WRAB	**Tennant Creek**	**120.49**	**209**	*e*PKIKP	**PKPdf**	**14 58 34.8**	**-1.7**
WRAB	**Tennant Creek**	**120.49**	**209**	*e*PKPdf	**PKPdf**	**14 58 34.9**	**-1.7**
WRAB				LR	LR		
comp=Z,70μm,19.0s							
EREN	**Erenkoy**	**120.82**	**66**	*e*P	**PKPdf**	**14 58 34.3**	**-2.2**
KDZE	**Karadeniz Ereo**	**120.92**	**59**	*e*P	**PKPdf**	**14 58 36.9**	**+0.3**
KIS	**Kishinev**	**121.02**	**52**	*c i*P	**Pdif**	**14 55 10.0**	**+7.3**
KIS				*i*		14 58 36.0	
KIS				*i* PS	**PKiKP**	**14 58 41.0**	**+4.3**
KIS				*i*		15 00 05.0	
KIS				*i* PPP	PPP	15 02 48.0	
KIS				*e*		15 05 50.0	
KIS				*i* PS	**PS**	**15 10 06.0**	**+7.6**
KIS				pmax	pmax		
comp=N,1μm,12.0s							
KIS				pmax	pmax		
comp=Z,1μm,12.0s							
KIS				pmax	pmax		
comp=E,3μm,8.0s							
KIS				pmax	pmax		
comp=Z,7μm,8.0s							
KIS				pmax	pmax		
comp=Z,7μm,20.0s							
KIS	**Kishinev**	**121.02**	**52**	⇑*i*P	**Pdif**	**14 55 10.0**	**+7.3**
comp=Z,1μm,12.0s							
KIS	**Kishinev**	**121.02**	**52**	*i* PKP	**PKPdf**	**14 58 36.0**	**-0.5**
KIS	**Kishinev**	**121.02**	**52**	*i* PsP	**PKiKP**	**14 58 41.0**	**+4.3**
KIS	**Kishinev**	**121.02**	**52**	*i* PP	PP	15 00 05.0	-1.7
comp=Z,7μm,8.0s							
KIS	**Kishinev**	**121.02**	**52**	*e*PKS	PKSdf	15 02 20.0	+7.0
KIS	**Kishinev**	**121.02**	**52**	*i* PPP	PPP	15 02 48.0	
KIS				*e*SKS	**SKSdf**	**15 05 50.0**	**+2.7**
KIS				*i* SKKS	**SKKSac**	**15 07 05.0**	**+0.5**
SULT	**Sultanhani-AKS**	**121.32**	**63**	*e*P	**PKPdf**	**14 58 38.8**	**+1.3**
LOD	**Lodumlu**	**121.37**	**61**	*e*P	**PKPdf**	**14 58 37.9**	**+0.3**
ANTO	**Ankara**	**121.38**	**61**	*e*P	**PKPdf**	**14 58 36.7**	**-0.9**
ANTO	**Ankara**	**121.38**	**61**	⇓PKIKP	**PKPdf**	**14 58 37.6**	**0.0**
ANTO	**Ankara**	**121.38**	**61**	⇓*i*P	**PKPdf**	**14 58 37.6**	**0.0**
ANTO	**Ankara**	**121.38**	**61**	P	**PKPdf**	**14 58 37.9**	**+0.3**
SNR=19							
ANTO	**Ankara**	**121.38**	**61**	PFAKE		14 58 50.0	+12
ANTO				LR	LR		
comp=Z,103μm,21.0s							
AFSR	**Af¨ar-Bala (A**	**121.44**	**61**	*e*P	**PKPdf**	**14 58 39.5**	**+1.7**
COEN	**Coen**	**121.49**	**221**	*e*PKPdf	**PKPdf**	**14 58 37.9**	**-0.6**
MERS	**Mersin**	**121.58**	**65**	*e*P	**PKPdf**	**14 58 36.9**	**-1.2**
BRTR	**Keskin Array B**	**121.94**	**61**	PKIKP	**PKPdf**	**14 58 38.2**	**-0.6**
BRTR						15 00 17.1	
BRTR				pmax	pmax		
comp=Z,42nm,0.7s							
BRTR				pmax	pmax		
comp=Z,22nm,1.1s							
BRTR	**Keskin Array B**	**121.94**	**61**	PKP	**PKPdf**	**14 58 38.2**	**-0.6**
comp=Z,35nm,0.9s,baz=222,slow=1.7,SNR=23							
BRTR				PP	**PP**	**15 00 17.1**	**+3.7**
comp=Z,22nm,1.1s,baz=224,slow=3.4,SNR=3.7							
MARH	**Ras Al Marh**	**122.02**	**68**	*e*P	**PKPdf**	**14 58 40.3**	**+1.0**
TRO	**Tromso**	**122.05**	**24**	*e*P	**PKPdf**	**14 58 38.0**	**+0.2**
TRO				IAmb	IAmb	14 58 44.0	
comp=Z,535nm,1.7s							
TRO				*e*PP	**PP**	**15 00 11.9**	**-1.1**
TRO				*e*		15 10 31.7	
NACGM	**Naroch**	**122.08**	**42**	*e*P	**Pdif**	**14 55 14.0**	**+6.8**
NACGM	**Naroch**	**122.08**	**42**	*e*	**PKKPbc**	**15 08 36.0**	**+0.1**
KARA	**Karaisali**	**122.12**	**64**	*e*P	**PKPdf**	**14 58 35.6**	**-3.4**
CANT	**Cankiri**	**122.23**	**60**	*e*P	**PKPdf**	**14 58 37.5**	**-1.7**
ZALF	**Zalf**	**122.26**	**70**	*e*P	**PKPdf**	**14 58 40.6**	**+1.1**
BIDA	**Albida**	**122.26**	**67**	*e*P	**PKPdf**	**14 58 42.6**	**+3.2**
KBS	**Kingsbay**	**122.28**	**13**	*e*P	**PKPdf**	**14 58 39.9**	**+1.8**
KBS				*e*		15

ANN				pmax	pmax		
	comp=E,214nm,2.9s						
ANN				pmax	pmax		
	comp=N,420nm,2.0s						
ANN				pmax	pmax		
	comp=Z,4μm,5.9s						
ANN				pmax	pmax		
	comp=E,68nm,2.0s						
ANN				pmax	pmax		
	comp=Z,463nm,1.9s						
ANN				pmax	pmax		
	comp=N,179nm,2.0s						
ANN				MLR	MLR		
	comp=N,18μm,23.0s						
ANN				MLR	MLR		
	comp=E,16μm,23.0s						
ANN				MLR	MLR		
	comp=Z,24μm,23.0s						
DYBB	**Diyarbakir**	**126.16**	**65**	*e*P	**PKPdf**	**14 58 46.9**	**0.0**
KBSD	**Kabsdagh**	**126.16**	**66**	*e*P	PKPdf	14 58 41.4	-5.4
MAZI	**Mazidag**	**126.23**	**66**	P	**PKPdf**	**14 58 47.9**	**+0.8**
H11N3	**WAKE ISLAND Hyl**	**126.25**	**270**	T	T	17 17 41.2	
	baz=118,slow=78						
WAKE	**Wake Island**	**126.26**	**270**	PFAKE		14 59 00.0	+13
WAKE				LR	LR		
	comp=Z,56μm,22.0s						
H11N1	**WAKE ISLAND Hyl**	**126.27**	**270**	T	T	17 17 42.3	
	baz=118,slow=78						
H11N2	**WAKE ISLAND Hyl**	**126.27**	**270**	T	T	17 17 42.6	
	baz=118,slow=78						
ERZN	**Erzincan**	**126.35**	**63**	*e*P	**PKPdf**	**14 58 46.6**	**-0.6**
DGAR	**Diego Garcia**	**126.53**	**134**	*e*PKIKP	**PKPdf**	**14 58 48.2**	**0.0**
DGAR	**Diego Garcia**	**126.53**	**134**	*e*PKPdf	**PKPdf**	**14 58 48.2**	**0.0**
KTUT	**Trabzon**	**126.78**	**61**	*e*P	**PKPdf**	**14 58 46.6**	**-1.2**
BNGB	**Bing¨¶l**	**126.88**	**64**	*e*P	**PKPdf**	**14 58 47.2**	**-1.0**
BAYT	**Ayd¨–ntepe-Bay**	**126.89**	**62**	*e*P	**PKPdf**	**14 58 46.6**	**-1.7**
SVAN	**Sílvan-Diyarba**	**127.01**	**65**	*e*P	**PKPdf**	**14 58 49.2**	**+0.7**
APA	**Apatity**	**127.07**	**28⇑**	*i*PKIKP	**PKPdf**	**14 58 47.0**	**-0.5**
APA				*i*		15 00 51.0	
APA				*i* PPS	PPS	15 12 18.0	
APA				pmax	pmax		
	comp=Z,72nm,1.2s						
AMKA	**Amchitka**	**127.18**	**312**	*e*PKPdf	**PKPdf**	**14 58 48.7**	**+0.5**
SOC	**Sochi**	**127.44**	**58**	*de*P	**Pdif**	**14 55 29.2**	**-2.1**
SOC				*i*		14 58 48.9	
SOC				*e*PS	**PS**	**15 10 50.7**	**-4.5**
SOC				pmax	pmax		
	comp=Z,180nm,1.2s						
SOC				MLR	MLR		
	comp=E,16μm,22.0s						
SOC				MLR	MLR		
	comp=Z,26μm,22.0s						
SOC				MLR	MLR		
	comp=N,20μm,22.0s						
VRTB	**Varto-Mus**	**127.51**	**64**	*e*P	**PKPdf**	**14 58 47.2**	**-2.2**
LVZ	**Lovozero**	**127.55**	**27⇓**	*i*PKIKP	**PKPdf**	**14 58 49.0**	**+0.5**
LVZ	**Lovozero**	**127.55**	**27**	*e*PKPdf	**PKPdf**	**14 58 48.3**	**-0.2**
LVZ				LR	LR		
	comp=Z,60μm,22.0s						
OBN	**Obninsk**	**127.64**	**43**	*d i*PKIKP	**PKPdf**	**14 58 48.2**	**-0.7**
OBN				*i*		15 00 50.8	
OBN				pmax	pmax		
	comp=Z,138nm,1.0s						
OBN				MLR	MLR		
	comp=Z,56μm,23.0s						
OBN	**Obninsk**	**127.64**	**43**	*e*PKPdf	**PKPdf**	**14 58 48.5**	**-0.4**
OBN				LR	LR		
	comp=Z,106μm,20.0s						
SIRT	**Sirnak**	**127.75**	**66**	*e*P	**PKPdf**	**14 58 47.9**	**-2.1**
BCA	**Borcka**	**128.26**	**61**	*e*P	**PKPdf**	**14 58 48.5**	**-2.1**
MOS	**Moscow**	**128.32**	**43**	*c i*PKIKP	**PKPdf**	**14 58 51.6**	**+1.4**
MOS				*i*		15 00 53.8	
MOS				*e*		15 06 00.3	
MOS				*i* PS	**PS**	**15 10 56.8**	**-5.7**
MOS				*e*		15 12 36.7	
MOS				pmax	pmax		
	comp=Z,1μm,2.0s						
MOS				pmax	pmax		
	comp=Z,687nm,1.8s						
ABTO	**Aybut**	**128.50**	**95**	P	**PKPdf**	**14 58 53.6**	**+1.8**
	SNR=39						
CUKT	**Cukurca**	**128.56**	**67**	*e*P	**PKPdf**	**14 58 49.8**	**-1.7**
VSR	**Storozhevoye**	**128.62**	**49**	*e*PKIKP	**PKPdf**	**14 58 50.7**	**-0.3**
VSR				*e*		15 00 56.0	
VSR				*e*		15 05 59.8	
VSR				*e*SSS	SSS	15 23 01.6	
VSR				pmax	pmax		
	comp=N,70nm,2.0s						
VSR				pmax	pmax		
	comp=E,160nm,2.0s						
VSR				pmax	pmax		
	comp=Z,930nm,2.0s						
VSR				pmax	pmax		
	comp=Z,3μm,4.2s						
VSR				pmax	pmax		
	comp=N,330nm,3.8s						
VSR				pmax	pmax		
	comp=E,180nm,2.2s						
VSR				MLR	MLR		
	comp=N,7μm,24.0s						
VSR				MLR	MLR		
	comp=E,28μm,24.0s						
VSR				MLR	MLR		
	comp=Z,58μm,24.0s						
VORD	**Divnogorie**	**128.66**	**49**	*e*PKIKP	**PKPdf**	**14 58 51.7**	**+0.7**
VORD				*e*		15 05 59.3	
VORD				*e*SSS	SSS	15 23 10.0	
VORD				pmax	pmax		
	comp=Z,620nm,2.1s						
VORD				pmax	pmax		
	comp=N,80nm,1.9s						
VORD				pmax	pmax		
	comp=E,140nm,1.7s						
VORD				pmax	pmax		
	comp=N,480nm,4.0s						
VORD				pmax	pmax		
	comp=Z,2μm,4.0s						
VORD				pmax	pmax		
	comp=E,550nm,3.3s						
VORD				MLR	MLR		
	comp=N,15μm,22.0s						
VORD				MLR	MLR		
	comp=E,25μm,22.0s						
VORD				MLR	MLR		
	comp=Z,33μm,22.0s						
VOR	**Voronezh**	**128.72**	**48**	*e*PKIKP	**PKPdf**	**14 58 48.5**	**-2.6**
VOR				pmax	pmax		
	comp=Z,600nm,2.0s						
AGRB	**Hanur-Agry**	**128.76**	**64**	*e*P	**PKPdf**	**14 58 54.1**	**+2.2**
VANB	**Van**	**128.79**	**65**	*e*P	**PKPdf**	**14 58 47.9**	**-4.0**
TMCR	**Tamitsa**	**128.96**	**32**	*e*PKIKP	**PKPdf**	**14 58 49.9**	**-1.3**
TMCR				*e*		15 01 02.9	
TMCR				pmax	pmax		
	comp=Z,149nm,1.4s						
KARS	**Kars**	**129.11**	**63**	*e*P	**PKPdf**	**14 58 52.4**	**-0.1**
RBK	**Rabkut**	**129.33**	**95**	P	**PKPdf**	**14 58 53.5**	**+0.1**
	SNR=19						
CLDR	**Caldiran**	**129.34**	**65**	*e*P	**PKPdf**	**14 58 49.2**	**-3.9**
AKH	**Akhalkalaki**	**129.61**	**62**	P	**PKPdf**	**14 58 56.8**	**+3.4**
KIV	**Kislovodsk**	**129.62**	**58**	*i* P	**Pdif**	**14 55 40.6**	**-0.5**
KIV				*i*		14 58 52.9	
KIV				*e*		15 01 01.5	
KIV				*e*PPP	PPP	15 03 50.2	
KIV				*e*PS	**PS**	**15 11 09.2**	**-5.3**
KIV				*e*SS	SS	15 18 23.2	-3.5
KIV				pmax	pmax		
	comp=Z,191nm,1.0s						
KIV	**Kislovodsk**	**129.62**	**58**	P	**PKPdf**	**14 58 53.1**	**-0.1**
	SNR=35						
KIV	**Kislovodsk**	**129.62**	**58⇑**	*i*PKPdf	**PKPdf**	**14 58 52.9**	**-0.3**
	SNR=24						
KIV	**Kislovodsk**	**129.62**	**58**	*e*PKPdf	**PKPdf**	**14 58 53.2**	**-0.1**
KIV				LR	LR		
	comp=Z,33μm,21.0s						
KLMR	**Klimovskoe**	**129.65**	**36**	*e*PKIKP	**PKPdf**	**14 58 52.4**	**-0.2**
KLMR				pmax	pmax		
	comp=Z,1μm,1.4s						
KBZ	**Khabaz**	**129.72**	**59**	PKhKP	PKPpre	14 58 44.9	
	comp=Z,3.1nm,0.8s,baz=201,slow=4.5,SNR=5.0						
KBZ				PKP	**PKiKP**	**14 58 54.5**	**+0.5**
	comp=Z,32nm,1.0s,baz=263,slow=2.2,SNR=20						
ONI	**Oni**	**129.86**	**60**	P	**PKPdf**	**14 58 53.4**	**-0.3**
IDHR	**Dehrash**	**129.94**	**71**	*e*P	**PKPdf**	**14 58 54.9**	**+0.6**
IGHG	**Ghaleghazi**	**129.96**	**72**	*e*P	**PKPdf**	**14 58 54.8**	**+0.4**
VRHR	**Novokhopersk**	**130.14**	**49**	*e*PKIKP	**PKPdf**	**14 58 55.4**	**+1.6**
VRHR				*e*		15 01 08.1	
VRHR				pmax	pmax		
	comp=N,120nm,1.6s						
VRHR				pmax	pmax		
	comp=E,110nm,1.6s						
VRHR				pmax	pmax		
	comp=Z,630nm,1.6s						
VRHR				pmax	pmax		
	comp=N,490nm,3.2s						
VRHR				pmax	pmax		
	comp=E,640nm,3.2s						
VRHR				pmax	pmax		
	comp=Z,1μm,3.2s						
GNI	**Garni**	**130.22**	**64**	*e*P	**PKPdf**	**14 58 53.8**	**-0.8**
GNI	**Garni**	**130.22**	**64**	*d i*PKIKP	**PKPdf**	**14 58 54.6**	**0.0**
GNI	**Garni**	**130.22**	**64**	P	**PKPdf**	**14 58 57.2**	**+2.6**
	SNR=30						
GNI	**Garni**	**130.22**	**64⇑**	*i*PKiKP	**PKPdf**	**14 58 54.7**	**+0.1**
	SNR=25						
GNI	**Garni**	**130.22**	**64**	*e*P	**PKPdf**	**14 58 56.4**	**+1.8**
GNI				LR	LR		
	comp=Z,49μm,20.0s						
ZEI	**Tsey**	**130.22**	**60**	*i* PKIKP	**PKPdf**	**14 58 54.7**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,258nm,1.9s						
IAZR	**Azarshahr**	**130.50**	**67**	*e*P	**PKPdf**	**14 58 54.7**	**-0.6**
SMY	**Shemya**	**130.55**	**313**	*e*PKIKP	**PKPdf**	**14 58 54.2**	**-0.3**
SMY	**Shemya**	**130.55**	**313**	*e*PKPdf	**PKPdf**	**14 58 54.2**	**-0.3**
IMRD	**Marand**	**130.57**	**66**	*e*P	**PKPdf**	**14 58 54.4**	**-1.0**
GUDG	**Gudauri**	**130.57**	**61**	P	**PKPdf**	**14 58 55.2**	**-0.1**
TBLG	**Delisi**	**130.59**	**62**	P	**PKPdf**	**14 58 54.2**	**-0.9**
DUS	**Dusheti**	**130.65**	**61**	P	**PKPdf**	**14 58 56.3**	**+1.0**
SEAG	**Tbilisi Sea**	**130.65**	**62**	P	**PKPdf**	**14 58 55.9**	**+0.6**
IKOM	**Komasi**	**130.65**	**72**	*e*P	**PKPdf**	**14 58 55.4**	**-0.3**
ITBZ	**Tabriz**	**130.78**	**67**	*e*P	**PKPdf**	**14 58 55.9**	**+0.2**
DGRG	**David-gareji**	**130.99**	**62**	P	**PKPdf**	**14 58 56.2**	**+0.4**
FX1	**Attu Island--F**	**131.13**	**313**	*e*PKIKP	**PKPdf**	**14 58 55.1**	**-0.6**
FX1	**Attu Island--F**	**131.13**	**313**	*e*PKPdf	**PKPdf**	**14 58 55.1**	**-0.6**
IHRS	**Heris**	**131.48**	**67**	*e*P	**PKPdf**	**14 58 54.0**	**-3.1**
ISRB	**Sarab**	**131.82**	**67**	*e*P	**PKPdf**	**14 58 57.1**	**-0.7**
GENI	**Genyem**	**132.43**	**226**	PKP	**PKPdf**	**14 59 02.8**	**+3.4**
COCO	**West Island**	**132.50**	**165**	PFAKE		14 59 10.0	+10
COCO				LR	LR		
	comp=Z,53μm,22.0s						
PRGR	**Permogore**	**132.57**	**35**	*e*PKHKP	PKPpre	14 58 44.2	
PRGR				pmax	pmax		
	comp=Z,458nm,1.8s						
IKAZ	**Kazeroun**	**132.66**	**79**	*e*P	**PKPdf**	**14 59 01.2**	**+1.5**
MAK	**Makhachkala**	**132.85**	**61**	*e*P	**Pdif**	**14 55 53.3**	**-2.1**
MAK				*e*		14 58 59.1	
MAK				*i*		15 01 26.3	
MAK				*e*		15 06 09.4	
MAK				*e*PS	**PS**	**15 11 42.2**	**0.0**
MAK				*e*SSS	SSS	15 23 56.8	
MAK				pmax	pmax		
	comp=Z,724nm,2.4s						
MAK				pmax	pmax		
	comp=N,659nm,2.0s						
MAK				pmax	pmax		
	comp=E,620nm,2.0s						
IRAZ	**Razeghan**	**132.92**	**71**	*e*P	PKPdf	14 58 54.5	-5.4
BILL	**Bilibino**	**133.18**	**334**	PFAKE		14 59 10.0	+11
BILL				LR	LR		
	comp=Z,50μm,20.0s						
BATI	**Baumata**	**133.27**	**201**	PKP	**PKPdf**	**14 59 00.3**	**-0.7**
BATI	**Baumata**	**133.27**	**201**	PKhKP	PKPpre	14 58 56.0	
	comp=Z,32nm,0.8s,baz=167,slow=8.1,SNR=4.0						
IGZV	**Ghazvin**	**133.41**	**70**	*e*P	**PKPdf**	**14 59 01.1**	**+0.3**
SOEI	**Soe**	**133.51**	**202**	PKP	**PKPdf**	**14 59 03.4**	**+1.8**
SOEI	**Soe**	**133.51**	**202**	*e*PKPdf	**PKPdf**	**14 59 01.1**	**-0.5**
ASUD	**Al Ashush, Dub**	**133.54**	**87⇑**	*i*PKiKP	**PKiKP**	**14 59 01.8**	**-0.6**
	SNR=28						
ISRV	**Sarvestan**	**133.56**	**80**	*e*P	**PKPdf**	**14 59 01.4**	**0.0**
IPAR	**Pars**	**133.66**	**80**	*e*P	PKPpre	14 58 54.0	
SMPI	**Sarmi**	**133.78**	**225**	PKP	**PKPdf**	**14 59 04.4**	**+2.4**
IR3	**Iran Long-Peri**	**133.80**	**72**	*e*P	**PKPdf**	**14 59 02.4**	**+1.0**
FAQ	**Al Faqa, Dubai**	**133.81**	**87⇓**	*i*PKiKP	**PKPdf**	**14 59 01.7**	**+0.1**
	SNR=36						
NAZ	**Nazwa, Dubai**	**133.97**	**87**	*i* PKPdf	**PKPdf**	**14 59 00.3**	**-1.6**
	SNR=8.1						
ARQ	**Araqi**	**133.98**	**90**	P	PKPpre	14 58 55.3	
	SNR=24						
BASI	**Baing, Sumba**	**134.10**	**197**	PKP	**PKPdf**	**14 59 05.4**	**+2.8**
ASHO	**Ashiyiah**	**134.17**	**88**	P	PKPpre	14 58 55.0	
	SNR=32						
ASHO	**Ashiyiah**	**134.17**	**88⇑**	*i*PKPdf	**PKPdf**	**14 59 01.4**	**-1.0**
	SNR=8.5						
IVRN	**Varamin**	**134.22**	**72**	*e*P	**PKPdf**	**14 59 03.7**	**+1.4**
HATD	**Hatta, Dubai**	**134.29**	**88**	P	PKPpre	14 58 57.0	
	SNR=26						
HATD	**Hatta, Dubai**	**134.29**	**88⇓**	*i*PKPdf	**PKPdf**	**14 59 01.5**	**-1.1**
	SNR=8.7						
HOQ	**Hoqain**	**134.74**	**90**	P	PKPpre	14 58 56.2	
	SNR=24						
JMDO	**Jabal Madar**	**134.86**	**92**	P	**PKPdf**	**14 59 03.7**	**0.0**
	SNR=15						
ISAD	**Sadrabad**	**134.87**	**77**	*e*P	PKPpre	14 58 54.6	
BANOM	**Banah**	**134.87**	**86⇓**	*i*PKPdf	**PKPdf**	**14 59 02.8**	**-0.9**
	SNR=14						
IPRN	**Peran**	**135.03**	**71**	*e*P	PKPpre	14 58 54.5	
SMDO	**Samad**	**135.12**	**91**	P	PKPpre	14 58 58.3	
	SNR=47						
MMRI	**Maumere**	**135.18**	**200**	PKP	**PKPdf**	**14 59 04.4**	**-0.2**
MMRI	**Maumere**	**135.18**	**200**	*e*PKPdf	**PKPdf**	**14 59 03.8**	**-0.8**
IFIR	**Firoozkooh**	**135.20**	**72**	*e*P	**PKPdf**	**14 59 06.5**	**+2.2**
ILAS	**Lasjerd**	**135.29**	**72**	*e*P	**PKPdf**	**14 59 04.3**	**-0.1**
XMIS	**Christmas Isla**	**135.36**	**177**	*e*PKPdf	**PKPdf**	**14 59 04.3**	**-0.6**
IALA	**Alasht**	**135.36**	**71**	*e*P	**PKPdf**	**14 59 05.3**	**+0.7**
IMEH	**Mehriz**	**135.45**	**78**	*e*P	PKPpre	14 58 59.0	
ICHK	**Chekchek**	**135.55**	**77**	*e*P	PKPpre	14 58 56.3	
IBND	**Bandar-abas**	**135.66**	**84**	*e*P	**PKPdf**	**14 59 06.3**	**+1.3**
WBK	**Wadi Bani Khal**	**135.69**	**92**	P	PKPpre	14 58 58.0	
	SNR=51						
IANJ	**Anjilo**	**136.07**	**72**	*e*P	PKPpre	14 58 56.9	
IGLO	**Ghaloghah**	**136.26**	**71**	*e*P	**PKPdf**	**14 59 07.2**	**+1.0**
IBAF	**Bafgh**	**136.29**	**78**	*e*P	**PKPdf**	**14 59 04.5**	**-1.8**
FAKI	**Fak Fak**	**136.49**	**216**	*e*PKPdf	**PKPdf**	**14 59 06.8**	**-0.2**
JAGI	**Jajag, Banyuwa**	**137.02**	**189**	*e*PKPdf	**PKPdf**	**14 59 07.5**	**-0.5**
CISI	**Cisompet, Garu**	**138.32**	**180**	*e*PKPdf	**PKPdf**	**14 59 10.5**	**0.0**
SOKR	**Solikamsk**	**138.33**	**37**	*d i*PKIKP	**PKPdf**	**14 59 06.7**	**-2.2**
SOKR				PPP	PPP	15 05 03.8	
SOKR						15 06 19.2	
SOKR				pmax	pmax		
	comp=Z,100nm,1.4s						
KAPI	**Kappang**	**139.31**	**198**	P	PKPpre	14 59 04.9	
	SNR=39						
KAPI	**Kappang**	**139.31**	**198**	*e*PKPdf	**PKPdf**	**14 59 11.1**	**-1.2**
PET	**Petropavlovsk**	**139.89**	**314**	*e*P	**Pdif**	**14 56 33.1**	**+6.7**
PET				*e*		14 58 59.2	
PET				*e*		15 02 12.1	
PET				*e*SS	SS	15 20 28.4	-0.8
PET				*e*SSS	SSS	15 25 39.1	
PET				pmax	pmax		
	comp=Z,700nm,7.1s						
PET				pmax	pmax		
	comp=Z,500nm,7.4s						
PET				pmax	pmax		
	comp=Z,7μm,13.1s						
PET				pmax	pmax		
	comp=Z,12μm,7.3s						
PET				pmax	pmax		
	comp=Z,141nm,1.7s						
PET				pmax	pmax		
	comp=Z,11μm,19.4s						
PET				pmax	pmax		
	comp=Z,66nm,4.4s						
PET				pmax	pmax		
	comp=Z,9μm,18.9s						
PET	**Petropavlovsk**	**139.89**	**314**	*e*PKPdf	**PKPdf**	**14 59 12.0**	**0.0**
GEYT	**Alibeck**	**139.91**	**70**	PKhKP	PKPpre	14 59 05.1	
	comp=Z,7.6nm,0.5s,baz=247,slow=3.1,SNR=14						
ARU	**Arti**	**139.97**	**41**	*i* PKIKP	PKPpre	14 59 07.2	
ARU				MLR	MLR		
	comp=Z,51μm,21.0s						
ARU	**Arti**	**139.97**	**41**	*e*PKPdf	**PKPdf**	**14 59 12.1**	**0.0**
IKRD	**Kardeh**	**139.99**	**72**	*e*P	**PKPdf**	**14 59 11.3**	**-1.8**
IAKL	**Akhelmad**	**140.15**	**72**	*e*P	PKPpre	14 59 06.5	
IPAY	**Payeh**	**140.31**	**72**	*e*P	PKPpre	14 59 09.1	
SEY	**Seymchan**	**140.37**	**330**	PKhKP	PKPpre	14 59 04.2	
	comp=Z,14nm,0.8s,baz=95,slow=4.1,SNR=16						
PETK	**Petropavlovsk-**	**140.45**	**314**	PKhKP	PKPpre	14 59 01.8	
	comp=Z,4.8nm,0.9s,baz=332,slow=11,SNR=6.7						
IMOG	**Moghan**	**140.51**	**73**	*e*P	PKPpre	14 59 09.6	
AKTO	**Aktyubinsk**	**140.51**	**50**	PKHKP	PKPpre	14 59 07.2	
AKTO				pmax	pmax		
	comp=Z,398nm,1.8s						
AKTO	**Aktyubinsk**	**140.51**	**50**	PKhKP	PKPpre	14 59 04.5	
	comp=Z,11nm,0.9s,baz=246,slow=2.5,SNR=16						
ISRO	**Mashad**	**140.65**	**73**	*e*P	PKPpre	14 59 08.5	
GUMO	**Guam**	**140.81**	**247**	*e*PKIKP	**PKPdf**	**14 59 15.0**	**+0.2**
GUMO				MLR	MLR		
	comp=Z,43μm,21.0s						
GUMO	**Guam**	**140.81**	**247**	*e*PKPdf	**PKPdf**	**14 59 15.0**	**+0.2**
GUMO				LR	LR		
	comp=Z,43μm,21.0s						
SVE	**Sverdlovsk**	**140.99**	**40**	*i* PKHKP	PKPpre	14 59 08.0	
SVE				*e*		15 02 16.3	
SVE				pmax	pmax		
	comp=Z,284nm,1.9s						
TIXI	**Tiksi**	**141.05**	**350**	*ce*PKHKP	PKPpre	14 59 04.3	
TIXI				*i*		14 59 14.6	
TIXI				MLR	MLR		
	comp=Z,25μm,22.0s						
IMYA	**Miami**	**141.16**	**73**	*e*P	PKPpre	14 59 09.2	
TRD	**Trivandrum**	**141.57**	**125**	*e*P	**PKPdf**	**14 59 13.9**	**-2.3**
TRD				AMS	AMS	16 03 07.1	
	comp=Z,20μm,18.3s						
SKR	**Severo-Kuril's**	**141.73**	**310⇑**	*i*PKHKP	PKPpre	14 59 10.0	
SKR				*e*		15 02 20.0	
SKR				*e*PPP	PPP	15 05 32.0	
SKR				*e*SSS	SSS	15 26 06.0	
SKR				pmax	pmax		
	comp=E,640nm,1.5s						
SKR				pmax	pmax		
	comp=Z,2μm,1.5s						
SKR				pmax	pmax		
	comp=N,5μm,6.0s						
SKR				pmax	pmax		
	comp=E,6μm,6.0s						
SKR				pmax	pmax		
	comp=Z,13μm,6.0s						
SKR				pmax	pmax		
	comp=E,6μm,6.0s						
SKR				pmax	pmax		
	comp=Z,13μm,6.0s						
AB31	**Akbulak array**	**141.84**	**52**	PKHKP	PKPpre	14 59 08.9	
AB31				pmax	pmax		
	comp=Z,535nm,1.3s						
ABKAR	**Akbulak array**	**141.84**	**52**	*e*PKPdf	**PKPdf**	**14 59 14.4**	**-1.3**
TNTI	**Ternate**	**142.02**	**213**	*e*PKPdf	**PKPdf**	**14 59 17.8**	**+0.7**
LUWI	**Luwuk**	**142.18**	**204**	*e*PKPdf	**PKPdf**	**14 59 17.1**	**-0.3**
PALK	**Pallekele**	**143.10**	**131**	P	PKPbc	14 59 16.4	+0.5
	SNR=20						
PALK	**Pallekele**	**143.10**	**131⇑**	*i*PKPdf	PKPab	14 59 14.7	+0.3
	SNR=20						
GOA	**Goa**	**143.97**	**113**	*e*P	**PKPdf**	**14 59 19.7**	**-0.7**
BHJ	**Bhuj**	**144.78**	**98**	*e*P	**PKPab**	**14 59 19.5**	**-1.0**
TOLI	**Toli-Toli**	**144.86**	**203**	*e*PKPdf	**PKPdf**	**14 59 21.6**	**-0.5**
BKNI	**Bangkinang**	**145.52**	**168**	*e*PKPdf	**PKPdf**	**14 59 21.9**	**-1.4**
GSI	**Gunungsitoli**	**145.70**	**161**	*e*PKPdf	**PKPbc**	**14 59 23.8**	**0.0**
POO	**Poona**	**145.76**	**109**	*i* PKPP		14 59 23.0	
POO				*e*P	**PKPdf**	**14 59 23.2**	**-0.3**
POO				*i* PKS	**PKSdf**	**15 02 57.0**	**-2.2**
POO				AMS	AMS	16 06 13.7	
	comp=Z,15μm,25.1s						
MDRS	**Chennai**	**147.07**	**123**	*e*P	**PKPdf**	**14 59 22.9**	**-2.9**
KSM	**Kuching**	**147.22**	**184**	*e*P	**PKPdf**	**14 59 26.0**	**-0.1**
KSM				LR	LR		
	comp=Z,42μm,21.0s						
BRVK	**Borovoye**	**147.42**	**43**	PKIKP	**PKPdf**	**14 59 26.2**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,2μm,1.9s						
BRVK	**Borovoye**	**147.42**	**43**	P	**PKPdf**	**14 59 25.5**	**+0.3**
	SNR=236						
BRVK	**Borovoye**	**147.42**	**43**	*e*PKPbc	**PKPbc**	**14 59 26.9**	**-0.8**
BRVK				*e*PKPab	**PKPab**	**14 59 29.7**	**0.0**
BVA0	**Borovoye Array**	**147.49**	**43**	PKP2	**PKPab**	**14 59 30.4**	**+0.4**
BVA0				pmax	pmax		
	comp=Z,40μm,7.0s						
KUR	**Kuril'sk**	**147.83**	**302**	*i* PKIKP	**PKPdf**	**14 59 26.8**	**+0.7**
KUR				*i*		15 02 57.4	
KUR				*i* PPP	PPP	15 06 15.3	
VOSK	**Vostochnaya**	**147.93**	**44**	PKIKP	**PKPdf**	**14 59 26.0**	**-0.1**
VOSK				pmax	pmax		
	comp=Z,2μm,1.4s						
MATI	**Mati**	**147.96**	**216**	*e*P	**PKPbc**	**14 59 30.1**	**-0.3**
KBL	**Kabul**	**147.97**	**78**	*e*PKIKP	**PKPdf**	**14 59 27.0**	**0.0**
KBL	**Kabul**	**147.97**	**78**	*e*PKPdf	**PKPdf**	**14 59 27.0**	**0.0**
DAV	**Davao City (W)**	**148.39**	**215**	P	PKPpre	14 59 14.7	
	SNR=9.7						
HYB	**Hyderabad**	**148.72**	**115**	*i* PKP	**PKPdf**	**14 59 27.0**	**-1.5**
HYB				*e*PP	**PP**	**15 03 06.0**	**+3.8**
HYB				LR	LR	16 12 40.0	
	comp=Z,70nm,20.0s						
HYB	**Hyderabad**	**148.72**	**115**	*e*P	**PKPdf**	**14 59 27.2**	**-1.3**
HYB				AMS	AMS	16 03 45.3	
	comp=Z,22μm,24.1s						
YAK	**Yakutsk**	**149.08**	**340**	*c i*PKIKP	**PKPdf**	**14 59 27.9**	**+0.3**
YAK				*e*		15 02 58.0	
YAK				pmax	pmax		
	comp=Z,1μm,1.4s						
YAK				pmax	pmax		
	comp=N,232nm,1.5s						
YAK				pmax	pmax		
	comp=E,249nm,1.5s						
YAK				pmax	pmax		
	comp=Z,15μm,6.4s						
YAK				pmax	pmax		
	comp=N,5μm,6.3s						
YAK				pmax	pmax		
	comp=E,5μm,7.3s						
YAK	**Yakutsk**	**149.08**	**340**	*e*P	**PKPdf**	**14 59 27.3**	**-0.3**
YAK				LR	LR		
	comp=Z,38μm,21.0s						
CTBH	**Cotabato--PC H**	**149.14**	**213⇑**	*e*P	**PKPdf**	**14 59 29.5**	**+0.3**
LHMI	**Lhok Sumawe**	**149.25**	**158**	*e*PKPbc	**PKPbc**	**14 59 32.7**	**-1.0**
BUKP	**Musuan**	**149.34**	**215**	*e*P	**PKPdf**	**14 59 31.2**	**+1.6**
YUK	**Yuzh-Kuril'sk**	**149.37**	**300**	*d i*PKHKP	PKPpre	14 59 24.8	
YUK			

LLP	Lapu-Lapu	151.99	215	eP	PKPdf	14 59 34.3	+0.7
AML	Almayashu	152.07	64	P	PKPdf	14 59 33.4	-0.1
	SNR=31						
EKS2	Erkin-Say	152.08	62	P	PKPdf	14 59 33.6	+0.5
	SNR=37						
EKS2	Erkin-Say	152.08	62	ePKIKP	PKPdf	14 59 33.6	+0.5
EKS2				e		14 59 48.5	
EKS2				MLR	MLR		
	comp=Z,61μm,21.0s						
EKS2	Erkin-Say	152.08	62	ePKPdf	PKPdf	14 59 33.6	+0.5
EKS2				ePKPab	PKPab	14 59 48.5	-0.8
EKS2				LR	LR		
	comp=Z,61μm,21.0s						
PLP	Palo	152.22	218⇑	eP	PKPdf	14 59 33.1	-0.8
OCLP	Ormoc	152.31	217	eP	PKPdf	14 59 36.8	+2.7
VIS	Vishakhapatnam	152.41	121	eP	PKPdf	14 59 32.3	-1.8
USP	Ospenovka	152.54	61	P	PKPdf	14 59 33.9	+0.2
	SNR=37						
AAK	Ala-Archa	152.61	62	P	PKPdf	14 59 34.1	+0.1
	SNR=26						
AAK	Ala-Archa	152.61	62	ePKIKP	PKPdf	14 59 34.2	+0.3
AAK				MLR	MLR		
	comp=Z,54μm,22.0s						
AAK	Ala-Archa	152.61	62	P	PKPdf	14 59 34.7	+0.7
	SNR=336						
AAK	Ala-Archa	152.61	62	ePKPdf	PKPdf	14 59 34.2	+0.3
AAK				LR	LR		
	comp=Z,54μm,22.0s						
UCH	Uchtor	152.66	63	P	PKPdf	14 59 35.1	+0.7
	SNR=52						
FRU	Bishkek	152.68	62	i PKIKP	PKPdf	14 59 34.0	+0.1
FRU				i		15 03 22.0	
FRU				pmax	pmax		
	comp=Z,15μm,6.0s						
FRU				pmax	pmax		
	comp=Z,2μm,2.0s						
FRU				MLR	MLR		
	comp=Z,58μm,19.0s						
CHMS	Chumysh	152.75	62	P	PKPdf	14 59 33.8	-0.2
	SNR=24						
GUIM	Jordan	152.90	213	eP	PKPdf	14 59 37.1	+2.1
KBK	Karagaybulak	152.94	62	P	PKPdf	14 59 34.8	+0.3
	SNR=23						
KURK	Kurchatov	153.09	44	PKIKP	PKPdf	14 59 33.7	-0.4
KURK				pmax	pmax		
	comp=Z,413nm,2.1s						
KURK	Kurchatov	153.09	44	P	PKPdf	14 59 33.4	-0.7
	SNR=195						
KURK	Kurchatov	153.09	44	ePKPdf	PKPdf	14 59 33.8	-0.4
KURK				LR	LR		
	comp=Z,33μm,20.0s						
NDI	New Delhi	153.18	94	ePKP	PKPdf	14 59 35.0	0.0
NDI				ePP	PP	15 03 28.0	-0.1
NVS	Novosibirsk	153.20	33⇑	i PKIKP	PKPdf	14 59 34.0	-0.1
NVS				pmax	pmax		
	comp=Z,14nm,1.7s						
NVS				pmax	pmax		
	comp=N,238nm,1.8s						
NVS				pmax	pmax		
	comp=E,335nm,1.5s						
KZA	Kyzart	153.22	64	P	PKPdf	14 59 34.0	-1.2
	SNR=26						
DLH	Dalhousie	153.23	85	ex	PKPbc	14 59 39.0	-3.7
BHK	Bhakra	153.33	87	ex	PKPbc	14 59 41.8	-0.9
BHK				ex	x	15 00 19.0	
TKM2	Tokmak 2	153.38	62	P	PKPdf	14 59 35.0	-0.1
	SNR=32						
TKM2	Tokmak 2	153.38	62	ePKIKP	PKPdf	14 59 35.0	-0.1
TKM2				e		14 59 42.3	
TKM2				MLR	MLR		
	comp=Z,45μm,22.0s						
TKM2	Tokmak 2	153.38	62	ePKPdf	PKPdf	14 59 35.0	-0.1
TKM2				ePKPbc	PKPbc	14 59 42.3	-0.4
TKM2				LR	LR		
	comp=Z,45μm,22.0s						
DHRM	DHARAMSHALA	153.44	86	eP	PKPdf	14 59 36.0	+0.4
DHRM				AMS	AMS	16 05 13.4	
	comp=Z,22μm,21.4s						
RCP	Roxas	153.65	214⇓	eP	PKPab	14 59 53.0	-3.3
PPR	Puerto Princes	153.65	204	eP	PKPbc	14 59 47.8	+4.0
SDNR	Sundarnagar	153.81	88	ex	PKPbc	14 59 40.0	-3.8
SMLA	Simla	153.88	88	i P	PKPdf	14 59 36.7	+0.8
KSH	Kashi	153.93	69⇓	i PKPbc	PKPdf	14 59 36.2	+0.3
KSH				sPKP		14 59 40.2	
KSH				PKS	PKSdf	15 03 08.9	-1.4
KSH				PP	PP	15 03 30.5	-1.8
KSH				SKS	SKSdf	15 06 41.1	-0.7
KSH				SKKS	SKKSac	15 10 21.9	+0.8
KSH				SS	SS	15 23 07.8	-1.8
KSH				PPMZ			
	comp=Z,17μm,7.6s						
KSH				LN			
	comp=Z,12μm,18.4s						
KSH				LE			
	comp=Z,17μm,18.9s						
KSH				LZ			
	comp=Z,23μm,23.5s						
ULHL	Ulahol	153.94	63	P	PKPdf	14 59 38.4	+2.5
	SNR=19						
AAA	Alma-Ata	154.30	60	i PKIKP	PKPdf	14 59 35.3	-0.9
AAA				pmax	pmax		
	comp=Z,18μm,8.4s						
ZALV	Zalesovo Beam	154.49	33	PKIKP	PKPdf	14 59 35.0	-1.0
ZALV						14 59 43.9	
ZALV						14 59 59.8	
ZALV				pmax	pmax		
	comp=Z,23nm,0.7s						
ZALV				pmax	pmax		
	comp=Z,164nm,0.8s						
ZALV				pmax	pmax		
	comp=Z,260nm,1.0s						
ZALV	Zalesovo Beam	154.49	33	PKP	PKPdf	14 59 35.0	-1.0
	comp=Z,23nm,0.7s,baz=280,slow=2.7,SNR=47						
ZALV				PKPbc	PKPbc	14 59 43.9	-0.5
	comp=Z,164nm,0.8s,baz=290,slow=2.9,SNR=25						
ZALV				PKPab	PKPab	14 59 59.8	+0.9
	comp=Z,260nm,1.0s,baz=302,slow=3.8,SNR=7.0						
OTRP	Odiongan	154.68	213	eP	PKPbc	14 59 42.8	-3.2
PVCP	Virac	154.70	219	eP	PKPdf	14 59 40.7	+3.2
ENPP	El Nido	154.72	207	eP	PKPdf	14 59 41.4	+3.9
CLNS	Chul'man	154.75	338	ePKIKP	PKPdf	14 59 36.1	-0.3
CLNS				pmax	pmax		
	comp=E,15nm,1.3s						
CLNS				pmax	pmax		
	comp=Z,38nm,1.0s						
CLNS				pmax	pmax		
	comp=N,20nm,1.1s						
DGPR	DIGLIPUR	154.85	143	eP	PKPdf	14 59 37.2	-0.5
BUSP	Coron	155.15	209	eP	PKPdf	14 59 40.4	+2.3
SJMP	San Jose	155.17	212	eP	PKPdf	14 59 50.1	+12
MJAR	Matsushiro Arr	155.37	284	PKP	PKPdf	14 59 36.3	-1.6
	comp=N,12nm,1.2s,baz=211,slow=0.7,SNR=15						
MJAR				PKPab	PKPab	15 00 04.2	+0.8
	comp=N,15nm,0.7s,baz=52,slow=43,SNR=7.0						
MAJO	Matsushiro	155.38	284	ePKIKP	PKPdf	14 59 37.4	-0.4
MAJO				MLR	MLR		
	comp=Z,45μm,22.0s						
MAJO	Matsushiro	155.38	284	ePKPdf	PKPdf	14 59 37.4	-0.4
MAJO				LR	LR		
	comp=Z,45μm,22.0s						
MAT	Matsushiro	155.38	284	PKP	PKPdf	14 59 35.3	-2.5
HABR	Khabarovsk	155.48	313	d i PKIKP	PKPdf	14 59 36.4	-1.1
HABR				e		14 59 48.0	
HABR				e		15 00 03.4	
HABR				e		15 03 40.2	
HABR				e		15 06 40.3	
HABR				ePPP	PPP	15 07 12.5	
HABR				eSS	SS	15 23 25.5	+0.6
HABR				eSSS	SSS	15 29 22.6	
LGTI	Lohaghat	155.94	94	ex	PKPdf	14 59 43.1	+4.3
BOD	Bodaibo	156.19	352	ePKIKP	PKPdf	14 59 35.6	-2.6
BOD				e		15 00 05.9	
BOD				pmax	pmax		
	comp=Z,141nm,1.8s						
BOD				pmax	pmax		
	comp=Z,531nm,1.7s						
LUBP	Lubang	156.69	211	eP	PKPdf	14 59 49.4	+9.3
MKAR	Makanchi Array	156.94	50	PKP	PKPdf	14 59 38.1	-1.5
	comp=Z,18nm,1.1s,baz=318,slow=1.6,SNR=57						
MKAR				PKPab	PKPab	15 00 11.1	+1.3
	comp=Z,103nm,0.9s,baz=299,slow=5.0,SNR=9.9						
MKAR				PP	PP	15 03 53.5	+5.0
	comp=Z,26nm,1.0s,baz=285,slow=4.8,SNR=4.2						
KLR	Kul'dur	157.04	318	ePKIKP	PKPdf	14 59 33.0	-6.6
KLR				e		15 17 06.0	
KLR				pmax	pmax		
	comp=Z,490nm,2.0s						
DLV	T Lat	157.69	181	ePKPdf	PKPdf	14 59 41.6	-0.1
BOK	Bokaro	158.01	113	eP	PKPdf	14 59 41.5	-0.1
KOLN	Koldanda	158.09	101	eP	PKPdf	14 59 40.7	-1.2
DANN	Dangsing	158.44	99	eP	PKPdf	14 59 41.4	-1.0
GKN	Gorkha	159.02	101	eP	PKPdf	14 59 41.6	-1.3
USRK	Ussuriysk Ar.	159.08	305	PKP	PKPdf	14 59 41.5	-0.8
	comp=Z,8.2nm,1.0s,baz=81,slow=2.5,SNR=15						
USRK				PKPab	PKPab	15 00 19.5	+0.4
	comp=Z,68nm,0.9s,baz=84,slow=2.8,SNR=10						
USRK				PP	PP	15 04 03.5	+3.2
	comp=Z,8.7nm,0.9s,baz=66,slow=6.7,SNR=6.2						
DMN	Daman	159.24	103	eP	PKPdf	14 59 42.1	-1.2
KKN	Kakani	159.45	102	eP	PKPdf	14 59 42.2	-1.3
PKIN	Phulchoki	159.46	103	eP	PKPdf	14 59 42.3	-1.3
PKI	Pulchoki	159.47	103	eP	PKPdf	14 59 42.2	-1.5
GUN	Gumba	159.99	103	eP	PKPdf	14 59 43.1	-1.2
	comp=Z,2μm,1.7s						
JIRN	Jiri	160.13	104	eP	PKPdf	14 59 43.0	-1.5
	comp=Z,799nm,1.5s						
RAMN	Ramite	160.15	106	eP	PKPdf	14 59 43.5	-0.9
	comp=Z,2μm,1.6s						
MDJ	Mudanjiang	160.52	308	PKP	PKPdf	14 59 41.3	-2.6
MDJ				PP	PP	15 04 06.7	-1.3
MDJ				PPMZ			
	comp=Z,10μm,11.7s						
MDJ				LN			
	comp=Z,24μm,23.7s						
MDJ				LE			
	comp=Z,27μm,20.5s						
MDJ				LZ			
	comp=Z,50μm,23.7s						
MDJ	Mudanjiang	160.52	308	eP	PKPdf	14 59 40.2	-3.7
MDJ				LR	LR		
	comp=Z,52μm,20.0s						
ODAN	Odare	160.74	107	eP	PKPdf	14 59 43.9	-1.1
	comp=Z,1μm,1.6s						
JNU	Nakatsue	160.97	273	ePKPdf	PKPdf	14 59 45.1	+0.3
JOW	Kunigami	161.06	252	ePKPdf	PKPdf	14 59 45.9	+0.9
TAPN	Taplejung	161.21	106	eP	PKPdf	14 59 44.3	-1.3
	comp=Z,529nm,1.5s						
WMQ	Urumqi	161.63	53	PKP	PKPdf	14 59 45.3	+0.1
WMQ				PKPab	PKPab	15 00 32.4	+2.1
WMQ				PKS	PKSdf	15 03 17.3	-1.1
WMQ				PP	PP	15 04 17.1	+3.0
WMQ				SKS	SKSdf	15 06 45.0	-4.1
WMQ				SKKS	SKKSac	15 11 00.0	-1.2
WMQ				SS	SS	15 24 29.0	-1.9
WMQ				LN			
	comp=Z,67μm,24.0s						
WMQ				LE			
	comp=Z,38μm,24.0s						
WMQ				LZ			
	comp=Z,52μm,23.0s						
CIT	Chita	161.90	349	ePKIKP	PKPdf	14 59 43.5	-1.7
CIT				e		15 00 31.7	
CIT				e		15 07 59.8	
CIT				pmax	pmax		
	comp=Z,2μm,1.8s						
IRK	Irkutsk	161.91	7	ePKIKP	PKPdf	14 59 44.2	-0.9
IRK				e		15 04 16.1	
IRK				pmax	pmax		
	comp=Z,440nm,1.7s						
MOY	Mondy	161.96	14	ePKIKP	PKPdf	14 59 45.0	-0.3
MOY				pmax	pmax		
	comp=Z,590nm,3.6s						
CMAR	Chiang Mai Arr	162.21	151	PKP	PKPdf	14 59 45.4	-1.1
	comp=Z,28nm,1.1s,baz=248,slow=2.5,SNR=48						
CMAR				PKPab	PKPab	15 00 33.5	+0.3
	comp=Z,32nm,1.1s,baz=214,slow=3.5,SNR=6.3						
CMAR				PP	PP	15 04 22.1	+5.8
	comp=Z,17nm,1.1s,baz=233,slow=5.0,SNR=4.9						
TLY	Talaya	162.39	9	ePKP2	PKPab	15 00 34.3	+1.2
TLY				e		15 04 21.3	
TLY				ePPP	PPP	15 08 06.2	
TLY				pmax	pmax		
	comp=Z,595nm,2.0s						
TLY	Talaya	162.39	9	P	PKPdf	14 59 45.6	-0.1
	SNR=124						
TLY	Talaya	162.39	9	ePKPdf	PKPdf	14 59 44.9	-0.7
TLY				LR	LR		
	comp=Z,76μm,19.0s						
CHTO	Chiang Mai	162.53	150	ePKIKP	PKPdf	14 59 45.3	-1.4
CHTO				MLR	MLR		
	comp=Z,41μm,20.0s						
CHTO	Chiang Mai	162.53	150	P	PKPdf	14 59 46.5	-0.3
	SNR=55						
CHTO	Chiang Mai	162.53	150	eP	PKPdf	14 59 45.3	-1.4
CHTO				LR	LR		
	comp=Z,41μm,20.0s						
HIA	Hailar	162.77	333	ePKIKP	PKPdf	14 59 45.6	-0.5
HIA				MLR	MLR		
	comp=Z,59μm,20.0s						
HIA	Hailar	162.77	333	ePKPdf	PKPdf	14 59 45.5	-0.5
HIA				LR	LR		
	comp=Z,59μm,20.0s						
KSTBA	Taebaek	162.80	285	P	PKPdf	14 59 48.4	+1.8
	SNR=6.4						
KSJMJ	Jumunjin	162.90	288	P	PKPdf	14 59 47.4	+0.9
	SNR=8.3						
KSSKC	Sokcho	163.04	289	P	PKPdf	14 59 46.9	+0.3
	SNR=6.6						
KSYOW	Yeongwol	163.20	286	P	PKPdf	14 59 48.0	+1.1
	SNR=9.0						
SEHB	SEOHWA	163.25	289	P	PKPdf	14 59 51.2	+4.2
	SNR=7.1						
KSIJA	INJE	163.40	288	P	PKPdf	14 59 47.5	+0.5
	SNR=16						
SHL	Shillong	163.50	118	eP	PKPdf	14 59 46.5	-1.2
SHL				AMS	AMS	16 04 54.1	
	comp=Z,19μm,29.0s						
KSWJU	Wonju	163.50	286	P	PKPdf	14 59 48.1	+0.9
	SNR=16						
CN2	Changchun	163.55	310	ePKP	PKPdf	14 59 45.5	-1.5
CN2				epPKP	pPKPdf	14 59 56.0	+2.4
CN2				ePP	PP	15 04 26.4	+2.3
CN2				eSS	SS	15 24 50.0	-0.4
CN2				LN			
	comp=Z,41μm,21.0s						
CN2				LE			
	comp=Z,40μm,21.0s						
CN2				LZ			
	comp=Z,53μm,22.0s						
KSCHJ	Chungju	163.60	285	P	PKPdf	14 59 51.1	+3.8
	SNR=8.6						
KSRS	Korea Array	163.60	287	PKP	PKPdf	14 59 47.7	+0.5
	comp=Z,26nm,0.9s,baz=115,slow=0.7,SNR=18						
KSRS				PKPab	PKPab	15 00 38.8	-0.2
	comp=Z,67nm,0.8s,baz=95,slow=3.8,SNR=16						
ZAK	Zakamensk	163.60	11⇓	i PKIKP	PKPdf	14 59 46.0	-1.0
ZAK				pmax	pmax		
	comp=Z,40nm,1.5s						
KSCPR	CHUPUNGNYEONG	163.62	282	P	PKPdf	14 59 48.1	+0.8
	SNR=9.0						
KSAR	Wonju Array Be	163.63	287	PKP2	PKPab	15 00 38.8	-0.4
KSAR	Wonju Array Be	163.63	287	PKP	PKPdf	14 59 47.7	+0.5
KSAR				PKPab	PKPab	15 00 38.8	-0.4
KSCHC	Chuncheon	163.65	288	P	PKPdf	14 59 50.5	+3.2
	SNR=5.3						
TWG	Pinlang	163.80	228	ePKPdf	PKPdf	14 59 47.5	-0.3
KSCWO	Cheorwon	163.85	289	P	PKPdf	14 59 50.7	+3.3
	SNR=6.8						
YULB	Yu-li	164.08	230	ePKPdf	PKPdf	14 59 47.3	-0.9
KSCEA	Cheonan	164.18	284	P	PKPdf	14 59 51.0	+3.3
	SNR=5.9						
KSSWO	Suwon	164.37	286	P	PKPdf	14 59 51.0	+3.1
	SNR=6.4						
TPUB	Ta-pu	164.43	228	eP	PKPdf	14 59 49.2	+0.7
SSLB	Suanglung	164.58	230	eP	PKPdf	14 59 49.0	+0.5
INCN	Inchon	164.62	287	P	PKPdf	14 59 51.3	+3.1
	SNR=8.3						
INCN	Inchon	164.62	287	ePKPdf	PKPdf	14 59 47.3	-0.8
INCN				LR	LR		
	comp=Z,76μm,22.0s						
QIZ	Qiongzhong	164.65	186	PKP	PKPdf	14 59 47.5	-1.2
QIZ				sPKP		14 59 52.1	
QIZ				PP	PP	15 04 29.8	+1.0
QIZ				SS	SS	15 24 59.3	-0.6
QIZ				LN			
	comp=Z,16μm,22.6s						
QIZ				LZ			
	comp=Z,31μm,20.4s						
QIZ	Qiongzhong	164.65	186	eP	PKPdf	14 59 47.5	-1.2
QIZ				LR	LR		
	comp=Z,41μm,20.0s						
YHNB	Yeheng	164.92	234	ePKPdf	PKPdf	14 59 49.2	+0.3
YHNB				LR	LR		
	comp=Z,53μm,19.0s						
LSA	Lhasa	164.94	103	PKP	PKPdf	14 59 49.3	0.0
LSA				pPKP	pPKPdf	14 59 58.6	+2.6
LSA				PPMZ			
	comp=Z,32μm,9.8s						
LSA				LN			
	comp=Z,17μm,21.0s						
LSA				LE			
	comp=Z,27μm,22.0s						
LSA				LZ			
	comp=Z,42μm,22.0s						
LSA	Lhasa	164.94	103	ePKIKP	PKPdf	14 59 48.8	-0.5
LSA				MLR	MLR		
	comp=Z,88μm,22.0s						
LSA	Lhasa	164.94	103	eP	PKPdf	14 59 48.8	-0.5
LSA				LR	LR		
	comp=Z,88μm,22.0s						
TATO	Taipei	165.05	235	PFAKE		15 00 00.0	+11
TATO				LR	LR		
	comp=Z,48μm,20.0s						
SNY	Shenyang	165.68	306	⇓PKP	PKPdf	14 59 47.6	-1.3
SNY				PKPab	PKPab	15 00 54.5	+6.5
SNY				PPMZ			
	comp=Z,14μm,12.0s						
SNY				LN			
	comp=Z,19μm,22.0s						
SNY				LE			
	comp=Z,51μm,22.0s						
SNY				LZ			
	comp=Z,67μm,21.6s						
SONM	Songino Array	166.47	5	PKP	PKPdf	14 59 47.8	-1.7
	comp=Z,6.7nm,1.0s,baz=229,slow=0.3,SNR=29						
SONM				PKPab	PKPab	15 00 51.4	0.0
	comp=Z,67nm,1.0s,baz=335,slow=1.8,SNR=5.6						
ULN	Ulaanbaatar	166.48	3	ePKIKP	PKPdf	14 59 47.6	-2.0
ULN				MLR	MLR		
	comp=Z,85μm,22.0s						
ULN	Ulaanbaatar	166.48	3	P	PKPdf	14 59 48.3	-1.2
	SNR=69						
ULN	Ulaanbaatar	166.48	3	eP	PKPdf	14 59 47.6	-2.0
ULN				LR	LR		
	comp=Z,85μm,22.0s						
SLVN	Son La	166.53	163	ePKPdf	PKPdf	14 59 49.4	-0.8
HKC	Hong Kong Obse	166.84	206	PKPdf	PKPdf	14 59 51.0	+0.6
QZH	Quanzhou	166.89	227	i PKP	PKPdf	14 59 50.2	-0.2
QZH				PKPab	PKPab	15 00 55.6	+1.9
QZH				SKKS		15 11 27.6	
QZH				SS	SS	15 25 25.3	+0.9
QZH				PPMZ			
	comp=Z,22μm,10.5s						
QZH				LN			
	comp=Z,61μm,18.2s						
QZH				LE			
	comp=Z,18μm,18.2s						
QZH				LZ			
	comp=Z,95μm,19.6s						
GZH	Guangzhou	167.85	204	PKP	PKPdf	14 59 50.6	-0.5
GZH				PP	PP	15 04 50.8	+5.2
GZH				LN			
	comp=Z,44μm,21.1s						
GZH				LE			
	comp=Z,45μm,22.3s						
DL2	Dalian	168.18	297	⇓PKP	PKPdf	14 59 50.6	-0.2
DL2				PP	PP	15 04 52.3	+3.8
DL2				PPMZ			
	comp=Z,12μm,8.6s						
DL2				LE			
	comp=Z,17μm,19.1s						
DL2				LZ			
	comp=Z,32μm,19.1s						
SSE	Sheshan	168.47	257	PKP	PKPdf	14 59 50.5	-0.8
KMI	Kunming	169.72	152	PKP	PKPdf	14 59 52.0	-0.6
NJ2	Nanjing	170.66	259	ePKP	PKPdf	14 59 52.7	+0.1
NJ2				pPKP	pPKPdf	14 59 55.0	-4.2
NJ2				sPKP		14 59 56.4	
NJ2				PKPab	PKPab	15 01 09.9	-0.5
NJ2				PP	PP	15 05 08.0	+6.7
NJ2				SKKS		15 11 47.0	
NJ2				PPMZ			
	comp=Z,19μm,6.2s						
NJ2				LN			
	comp=Z,65μm,20.0s						
NJ2				LE			
	comp=Z,59μm,20.2s						
NJ2				LZ			
	comp=Z,59μm,20.2s						
BJI	Beijing	171.38	314	PKP	PKPdf	14 59 53.1	+0.4
BJI				PP	PP	15 05 05.5	+1.4
BJI				SS	SS	15 26 10.6	+1.5
BJI				LN			
	comp=Z,38μm,25.5s						
BJI				LE			
	comp=Z,42μm,23.7s						
BJI				LZ			
	comp=Z,22μm,36.4s						
BJT	Baijiatuau	171.40	313	PFAKE		15 00 00.0	+7.3
BJT				LR	LR		
	comp=Z,60μm,19.0s						
GTA	Gaotai	171.70	50⇑	PKP	PKPdf	14 59 52.6	-0.5
GTA				pPKP	pPKPdf	15 00 03.5	+3.7
GTA				sPKP		15 00 07.1	
GTA				PKPab	PKPab	15 01 19.6	+4.7
GTA				PP	PP	15 05 09.7	+3.7
GTA				SKS	SKSdf	15 06 50.6	-4.9
GTA				SKKS	SKKSac	15 11 51.8	+0.1
GTA				SS	SS	15 26 12.6	-0.2
GTA				PPMZ			
	comp=Z,30μm,9.7s						
GTA				LN			
	comp=Z,24μm,23.8s						
GTA				LE			
	comp=Z,33μm,22.3s						
GTA				LZ			
	comp=Z,69μm,21.8s						
GYA	Guiyang	172.04	171	i PKP	PKPdf	14 59 52.8	-0.8
GYA				PKS	PKSdf	15 03 23.0	-3.1
GYA				PP	PP	15 05 06.2	-0.4
GYA				SKKS		15 11 54.0	
GYA				SS	SS	15 26 16.8	+2.6
GYA				LN			
	comp=Z,18μm,23.7s						
GYA				LE			
	comp=Z,22μm,28.9s						
GYA				LZ			
	comp=Z,28μm,22.8s						
TIA	Tai'an	172.35	287	PKP	PKPdf	14 59 52.0	-1.3
TIA				PP	PP	15 05 10.6	+1.0
TIA				PPMZ			
	comp=Z,29μm,7.4s						
TIA				LN			
	comp=Z,16μm,20.8s						
TIA				LE			
	comp=Z,47μm,19.6s						
TIA				LZ			
	comp=Z,79μm,19.6s						
HHC	Hu-ho-hao-te	172.94	338	ePKP	PKPdf	14 59 53.5	-0.1
HHC				pPKP	pPKPdf	15 00 00.5	+0.3
HHC				PP	PP	15 05 15.2	+4.0
HHC				SKS	SKSdf	15 06 53.8	-2.0
HHC				SKKS	SKKSac	15 12 01.4	+4.1
HHC				PPMZ			
	comp=Z,34μm,8.2s						
HHC				LN			
	comp=Z,33μm,21.1s						
HHC				LE			
	comp=Z,51μm,19.1s						
HHC				LZ			
	comp=Z,86μm,20.8s						
WHN	Wuhan	173.46	236⇓	i PKP	PKPdf	14 59 53.5	-0.4
WHN				PKPab	PKPab	15 01 26.0	+3.3
WHN				PP	PP	15 05 18.4	+3.8
WHN				LN			
	comp=Z,52μm,19.0s						
WHN				LE			
	comp=Z,60μm,19.1s						
WHN				LZ			
	comp=Z,143μm,21.7s						
BTO	Baotou	173.56	346	ePKP	PKPdf	14 59 53.1	-0.7
CD2	Chengdu	175.01	132	PKP	PKPdf	14 59 54.0	-0.5
CD2				PKPab	PKPab	15 01 31.5	+1.8
CD2				PP	PP	15 05 22.0	0.0
CD2				SKS	SKSdf	15 06 51.2	-5.5

CD2				SKKS	**SKKSac**	**15 12 05.2 -2.5**
CD2				SS	**SS**	**15 26 39.8 -4.8**
CD2				PPMZ		
	comp=Z,17μm,8.5s					
CD2				LN		
	comp=Z,38μm,19.0s					
CD2				LE		
	comp=Z,46μm,21.8s					
CD2				LZ		
	comp=Z,56μm,28.5s					
TIY	**Taiyuan**	**175.11 315**	*e*PKP	**PKPdf**	**14 59 52.5 -1.9**	
TIY			PKPab	**PKPab**	**15 01 31.8 +1.8**	
TIY			PP	**PP**	**15 05 26.0 +3.6**	
TIY			SKKS		15 12 07.0	
TIY			SS	**SS**	**15 26 40.4 -5.1**	
TIY			PPMZ			
	comp=Z,14μm,10.7s					
TIY			LN			
	comp=Z,37μm,18.5s					
TIY			LE			
	comp=Z,34μm,17.4s					
TIY			LZ			
	comp=Z,42μm,23.5s					
ENH	**Enshi**	**175.75 197**	*e*PKPdf	**PKPdf**	**14 59 53.9 -0.8**	
ENH			LR	LR		
	comp=Z,36μm,22.0s					
LZH	**Lanzhou**	**176.15 62**	*e*PKP	**PKPdf**	**14 59 54.7 -0.1**	
LZH			pPKP	**pPKPdf**	**15 00 05.0 +3.5**	
LZH			sPKP		15 00 08.7	
LZH			PP	**PP**	**15 05 30.4 +2.4**	
LZH			SKKS		15 12 15.1	
LZH			PPMZ			
	comp=Z,22μm,8.2s					
LZH			LN			
	comp=Z,16μm,17.8s					
LZH			LE			
	comp=Z,37μm,19.4s					
LZH			LZ			
	comp=Z,86μm,20.8s					
XAN	**Xi'an**	**179.21 247**	PKP	**PKPdf**	**14 59 54.1 -1.0**	
XAN			PP	**PP**	**15 05 44.5 +2.1**	
XAN			SKS	**SKSdf**	**15 06 55.4 -1.7**	
XAN			SKKS	**SKKSac**	**15 12 26.3 -1.0**	
XAN			SS	**SS**	**15 27 25.5 +0.1**	
XAN			LN			
	comp=Z,24μm,22.9s					
XAN			LE			
	comp=Z,5μm,28.7s					
XAN			LZ			
	comp=Z,18μm,19.8s					

*ISK **11** 14:46:38.3, 38.71N×39.98E, h5km, MD3.3*
*CSEM **11** 14:46:39.7±0.2, 38.69N×39.94E, h2km, MD3.3, Error ellipse: s-maj=5.4km s-min=4.4km az=62.0*
*DDA **11** 14:46:39.8, 38.73N×39.97E, h11km, MD3.4*
*NSSC **11** 14:46:50.2±1.6, 36.38N×41.97E, h0km±20km, ML2.8*

ISC 11 14:46:39.6±1.2, 38.70N±0.02×39.96E±0.02, h3km±11km, n66, σ0.67/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.45**	**66**	*e*Pg	**Pb**	**14 46 50.9**	**+0.6**
BNGB	**Bing¶ll**	**0.63**	**62**	*e*PG	**Pg**	**14 46 50.9**	**-0.9**
BNGB				*e*SG	**Sb**	**14 47 01.1**	**-1.7**
DYBB	**Diyarbakir**	**0.76**	**169**	*e*PG	**Pg**	**14 46 54.4**	**+0.3**
DYBB				*e*SG	**Sb**	**14 47 06.1**	**-0.1**
DIYA	**Diyarbakir**	**0.78**	**171**	*i* P	**Pb**	**14 46 56.2**	**+0.3**
DIYA	**Diyarbakir**	**0.78**	**171**	*i* P	**Pb**	**14 46 56.2**	**+0.3**
DIY	**Diyarbakir**	**0.83**	**165**	*e*Pg	**Pg**	**14 46 54.4**	**-1.0**
DIY				*e*Sg	**Sg**	**14 47 06.1**	**0.0**
ERZN	**Erzincan**	**0.91**	**348**	*e*PG	**Pg**	**14 46 56.0**	**-1.1**
BNGL	**BINGOL**	**0.96**	**74**	*i* P	**Pg**	**14 46 57.8**	**-0.3**
EUZM	**Uzumlu**	**1.03**	**349**	*i* P	**Pg**	**14 46 58.6**	**-0.8**
EUZM				*i* S	**Sb**	**14 47 14.4**	**+0.2**
EUZM	**Uzumlu**	**1.03**	**349**	*i* P	**Pg**	**14 46 58.6**	**-0.8**
EUZM				*i* S	**Sb**	**14 47 14.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.11**	**119**	*e*PN	**Pg**	**14 47 00.8**	**-0.2**
SVAN				*e*SN	**Sn**	**14 47 17.2**	**-0.9**
VRTB	**Varto-Mus**	**1.26**	**68**	*e*PN	**Pg**	**14 47 03.1**	**-0.6**
VRTB	**Varto-Mus**	**1.26**	**68**	*e*Pn	**Pg**	**14 47 03.1**	**-0.6**
MALT	**Malatya**	**1.26**	**253**	*e*PN	**Pn**	**14 47 03.7**	**-0.5**
MALT	**Malatya**	**1.26**	**253**	*e*Pn	**Pn**	**14 47 03.7**	**-0.5**
KEMA	**Kemaliye**	**1.28**	**297**	*i* P	**Pn**	**14 47 02.7**	**-1.8**
KEMA				*i* S	**Sb**	**14 47 21.8**	**+0.6**
KEMA	**Kemaliye**	**1.28**	**297**	*i* P	**Pn**	**14 47 02.7**	**-1.8**
KEMA				*i* S	**Sb**	**14 47 21.8**	**+0.6**
MAZI	**Mazidag**	**1.29**	**163**	*e*PN	**Pn**	**14 47 04.2**	**-0.4**
MAZI	**Mazidag**	**1.29**	**163**	*e*Pn	**Pn**	**14 47 04.3**	**-0.4**
BTMT	**Batman**	**1.30**	**112**	*e*PN	**Pn**	**14 47 03.9**	**-0.9**
BTMT	**Batman**	**1.30**	**112**	*e*Pn	**Pn**	**14 47 03.9**	**-0.9**
BEST	**Besiri**	**1.31**	**128**	*i* P	**Pn**	**14 47 04.7**	**-0.2**
BEST				*i* S	**Sn**	**14 47 23.7**	**+0.8**
ILIC	**ilic-Erzincan**	**1.32**	**305**	*e*PN	**Pn**	**14 47 04.9**	**-0.2**
ILIC	**ilic-Erzincan**	**1.32**	**305**	*e*Pn	**Pn**	**14 47 04.9**	**-0.2**
KOPT	**Kop Dagi**	**1.38**	**17**	*i* P	**Pn**	**14 47 05.8**	**-0.3**
KOPT	**Kop Dagi**	**1.38**	**17**	*i* P	**Pn**	**14 47 05.8**	**-0.3**
MARD	**Mardin**	**1.52**	**155**	*i* P	**Pn**	**14 47 07.7**	**-0.2**
MARD				*i* S	**Sn**	**14 47 28.6**	**+0.3**
URFA	**Urfa**	**1.54**	**216**	*e*PN	**Pn**	**14 47 08.6**	**+0.5**
URFA	**Urfa**	**1.54**	**216**	*e*Pn	**Pn**	**14 47 08.6**	**+0.5**
KELT	**Kelkit**	**1.55**	**340**	*i* P	**Pn**	**14 47 08.2**	**-0.1**
KELT				*i* S	**Sg**	**14 47 29.9**	**+0.5**
KELT	**Kelkit**	**1.55**	**340**	*i* P	**Pn**	**14 47 08.2**	**-0.1**
KELT				*i* S	**Sg**	**14 47 29.9**	**+0.5**
EZM	**Erzurum**	**1.63**	**42**	*e*PN	**Pn**	**14 47 09.1**	**-0.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.70**	**5**	*e*PN	**Pn**	**14 47 10.6**	**+0.2**
BAYT	**Ayd¨–ntepe-Bay**	**1.70**	**5**	*e*Pn	**Pn**	**14 47 10.6**	**+0.2**
EKAR	**Karacoban**	**1.73**	**71**	*i* P	**Pg**	**14 47 13.3**	**+0.5**
EKAR	**Karacoban**	**1.73**	**71**	*i* P	**Pg**	**14 47 13.3**	**+0.5**
KBSD	**Kabsdagh**	**1.75**	**165**	*e*P	**Pg**	**14 47 13.6**	**+0.4**
KBSD				*e*S	**Sn**	**14 47 33.4**	**-0.5**
KBSD				AML	AML	14 47 47.1	
	comp=Z,247nm,0.5s						
GUMT	**Gumushane**	**1.80**	**348**	*e*PN	**Pn**	**14 47 11.8**	**+0.1**
GUMT	**Gumushane**	**1.80**	**348**	*e*Pn	**Pn**	**14 47 11.8**	**+0.1**
DARE	**Darende-Malaty**	**1.94**	**267**	*e*PN	**Pn**	**14 47 14.0**	**+0.3**
DARE	**Darende-Malaty**	**1.94**	**267**	*e*Pn	**Pn**	**14 47 14.0**	**+0.3**
SUSE	**Susehri**	**2.03**	**319**	*i* P	**Pb**	**14 47 17.5**	**+0.2**
SUSE				*i* S	**Sg**	**14 47 45.4**	**+0.5**
SUSE	**Susehri**	**2.03**	**319**	*i* P	**Pb**	**14 47 17.5**	**+0.2**
SUSE				*i* S	**Sg**	**14 47 45.4**	**+0.5**
SFNV	**Sufian**	**2.28**	**177**	*e*P	**Pn**	**14 47 18.6**	**+0.5**
SFNV				*e*S	Sn	14 47 37.8	-9.0
SFNV				AML	AML	14 48 01.5	
	comp=Z,220nm,0.3s						
EATA	**Eleskirt**	**2.28**	**59**	*i* P	**Pb**	**14 47 22.1**	**+0.4**
EATA	**Eleskirt**	**2.28**	**59**	*i* P	**Pb**	**14 47 22.1**	**+0.4**
SIRT	**Sirnak**	**2.29**	**121**	*e*PN	**Pn**	**14 47 18.6**	**+0.2**
SIRT	**Sirnak**	**2.29**	**121**	*e*Pn	**Pn**	**14 47 18.6**	**+0.2**
KTUT	**Trabzon**	**2.29**	**356**	*e*PN	**Pn**	**14 47 18.7**	**+0.3**
KTUT	**Trabzon**	**2.29**	**356**	*e*Pn	**Pn**	**14 47 18.7**	**+0.3**
ESPY	**Espiye-Giresun**	**2.41**	**337**	*e*PN	**Pn**	**14 47 20.1**	**+0.1**
ESPY	**Espiye-Giresun**	**2.41**	**337**	*e*Pn	**Pn**	**14 47 20.1**	**+0.1**
AGRB	**Hanur-Agry**	**2.52**	**69**	*e*PN	**Pn**	**14 47 21.8**	**+0.2**
AGRB	**Hanur-Agry**	**2.52**	**69**	*e*Pn	**Pn**	**14 47 21.8**	**+0.2**
DDEM	**Demirkent**	**2.59**	**32**	*i* P	**Pn**	**14 47 23.0**	**+0.5**
DDEM	**Demirkent**	**2.59**	**32**	*i* P	**Pn**	**14 47 23.0**	**+0.5**
SVSK	**Karacayir**	**2.60**	**299**	*e*PN	**Pn**	**14 47 22.8**	**+0.2**
SVSK	**Karacayir**	**2.60**	**299**	*e*Pn	**Pn**	**14 47 22.8**	**+0.2**
KMRS	**Kahramanmaras**	**2.69**	**245**	*e*PN	**Pn**	**14 47 24.7**	**+0.9**
KMRS	**Kahramanmaras**	**2.69**	**245**	*e*Pn	**Pn**	**14 47 24.7**	**+0.9**
DAGI	**Agillar**	**2.81**	**32**	*i* P	**Pn**	**14 47 24.3**	**-1.4**
KSRV	**Kasrt alli**	**2.93**	**195**	*e*P	**Pg**	**14 47 35.0**	**-0.7**
KSRV				*e*S	**Sb**	**14 48 06.5**	**-2.1**
KSRV				AML	AML	14 48 15.7	
	comp=Z,59nm,0.5s						
BCA	**Borcka**	**3.03**	**24**	*e*PN	**Pn**	**14 47 28.9**	**+0.4**
BCA	**Borcka**	**3.03**	**24**	*e*Pn	**Pn**	**14 47 28.9**	**+0.4**
CUKT	**Cukurca**	**3.23**	**116**	*e*PN	**Pn**	**14 47 32.2**	**+1.0**
CUKT	**Cukurca**	**3.23**	**116**	*e*Pn	**Pn**	**14 47 32.3**	**+1.0**

*IDC **11** 14:48:26.4±0.5, 34.25S×71.75W, h0km, mb5.0/21, mb1 5.2/23, mb1mx4.9/42, mbtmp5.1/23, ML5.2/2, Error ellipse: s-maj=19.5km s-min=13.5km az=68.0*
*ISCJB **11** 14:48:27.3±0.3, 34.21S±0.06×71.6W±0.1, h16km, mb5.1/33, Error ellipse: s-maj=13.1km s-min=7.7km az=161.5*
*NEIC **11** 14:48:31.3±0.3, 34.26S×71.67W, h35km, mb5.2/17, Error ellipse: s-maj=13.2km s-min=7.4km az=80.0*

ISC 11 14:48:28.8±0.5, 34.29S±0.08×71.8W±0.1, h16km, n326, σ0.78/326, mb5.2/33, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.01**	**49**	Pn	Pn	14 49 35.5	+5.8
	8.1nm,0.3s,baz=214,slow=10,SNR=4.5						
CFAA				Lg	Lg	14 50 39.2	
	21nm,0.3s,baz=312,slow=23,SNR=7.8						
PLCA	**Paso Flores**	**6.50**	**172**	Pn	**Pn**	**14 50 04.7**	**+0.9**
	12nm,0.3s,baz=344,slow=8.8,SNR=5.0						
PLCA				Lg	Lg	14 51 44.1	
	7.6nm,0.3s,baz=248,slow=22,SNR=3.4						
LPAZ	**La Paz**	**18.23**	**11**	P	**Pn**	**14 52 42.8**	**+1.0**
	2.6nm,0.3s,baz=194,slow=7.8,SNR=10						
SIV	**San Ignacio**	**20.62**	**31**	P	**P**	**14 53 08.5**	**+1.0**
	74nm,0.9s,baz=169,slow=7.9,SNR=11						
USHA	**Ushuaia**	**20.67**	**175**	P	Pn	14 53 09.6	-0.5
	34nm,0.8s,baz=348,slow=9.7,SNR=4.9						
NNA	**Nana**	**22.68**	**347**	P	**P**	**14 53 32.1**	**+2.4**
	57nm,0.8s,baz=193,slow=12,SNR=12						
RCBR	**Riachuelo**	**43.62**	**58**	P	**P**	**14 56 32.6**	**-0.1**
	14nm,0.8s,baz=235,slow=11,SNR=4.1						
SNAA	**Sanae**	**51.23**	**158**	P	**P**	**14 57 31.0**	**-0.3**
	5.7nm,0.9s,baz=280,slow=10,SNR=3.4						
SNAA	**Sanae**	**51.23**	**158**	*e*P	**P**	**14 57 30.2**	**-1.1**
	19nm,1.0s						
APG	**El Apazote**	**52.15**	**337**	P	P	14 57 35.4	-3.5
	10nm,0.7s,baz=140,slow=5.9,SNR=7.4						
CRPR	**Cabo Rojo, PR**	**52.20**	**6**	*e*P	**P**	**14 57 36.5**	**-2.3**
OBIP	**Obispado Ponce**	**52.28**	**6**	*e*P	**P**	**14 57 37.4**	**-2.1**
CBYP	**Canovanas**	**52.58**	**7**	*e*P	**P**	**14 57 39.5**	**-2.3**
	52nm,1.2s						
QSPA	**South Pole Qui**	**55.94**	**180**	P	**P**	**14 58 05.6**	**-0.4**
	27nm,1.0s,baz=221,slow=1.0,SNR=4.3						
QSPA	**South Pole Qui**	**55.94**	**180**	*e*P	**P**	**14 58 05.3**	**-0.6**
	19nm,0.9s						
834A	**Tilden**	**67.05**	**334**	P	**P**	**14 59 22.0**	**+0.8**
	baz=67						
833A	**Chaparral WMA,**	**67.54**	**334**	P	**P**	**14 59 24.6**	**+0.3**
	baz=68						
734A	**La Parita Cree**	**67.71**	**335**	P	**P**	**14 59 25.5**	**+0.2**
	baz=68						
832A	**Faith Ranch, C**	**67.72**	**333**	P	**P**	**14 59 25.4**	**0.0**
	baz=68						
636A	**Smothers Creek**	**67.78**	**336**	P	**P**	**14 59 26.4**	**+0.6**
	baz=68						
732A	**Laxson Ranch,**	**68.12**	**333**	P	**P**	**14 59 28.3**	**+0.4**
	baz=68						
536A	**Bastrop**	**68.33**	**337**	P	**P**	**14 59 29.7**	**+0.5**
	baz=69						
438A	**Sam Houston St**	**68.45**	**338**	P	**P**	**14 59 30.3**	**+0.4**
	baz=69						
LRAL	**Lakeview Retre**	**68.48**	**346**	*e*P	**P**	**14 59 29.7**	**-0.4**
340A	**Bronson**	**68.60**	**340**	P	**P**	**14 59 31.1**	**+0.3**
	baz=69						
632A	**Uvalde**	**68.75**	**334**	P	**P**	**14 59 31.9**	**0.0**
	baz=69						
533A	**Kerrville**	**69.00**	**335**	P	**P**	**14 59 33.6**	**+0.2**
	baz=69						
532A	**Rocksprings**	**69.36**	**334**	P	**P**	**14 59 36.1**	**+0.4**
	baz=70						
CNNC	**Cliffs of the**	**69.41**	**355**	*e*P	**P**	**14 59 35.8**	**+0.1**
434A	**Burnet**	**69.41**	**336**	P	**P**	**14 59 36.0**	**+0.1**
	baz=70						
336A	**Riesel**	**69.47**	**337**	P	**P**	**14 59 36.6**	**+0.3**
	baz=70						
531A	**Rocksprings**	**69.63**	**334**	P	**P**	**14 59 38.0**	**+0.6**
	baz=70						
433A	**Art**	**69.64**	**335**	P	**P**	**14 59 37.6**	**+0.2**
	baz=70						
JCT	**Junction City**	**69.64**	**334**	P	**P**	**14 59 37.8**	**+0.3**
	baz=70						
KMSC	**Kings Mountain**	**69.65**	**352**	P	**P**	**14 59 36.2**	**-1.1**
	baz=70						
334A	**Lometa**	**69.88**	**336**	P	**P**	**14 59 38.5**	**-0.3**
	baz=70						
530A	**J-C Ranch, Com**	**69.91**	**333**	P	**P**	**14 59 39.6**	**+0.5**
	baz=70						
TXAR	**Lajitas Array**	**70.09**	**331**	P	**P**	**14 59 40.6**	**+0.3**
	4.9nm,0.7s,baz=159,slow=7.9,SNR=11						
431A	**Sonora**	**70.12**	**334**	P	**P**	**14 59 40.5**	**+0.1**
	baz=70						
333A	**Richland Sprin**	**70.12**	**335**	P	**P**	**14 59 40.5**	**+0.1**
	baz=70						
529A	**Stev Forest Ra**	**70.22**	**332**	P	**P**	**14 59 41.4**	**+0.4**
	baz=70						
WHTX	**Lake Whitney,**	**70.22**	**337**	P	**P**	**14 59 41.1**	**+0.2**
	baz=70						
SWET	**Sewanee**	**70.41**	**348**	*e*P	**P**	**14 59 41.0**	**-1.0**
	44nm,0.7s						
OXF	**Oxford**	**70.41**	**345**	*e*P	**P**	**14 59 40.3**	**-1.7**
PPT	**Papeete**	**70.41**	**262**	P	**P**	**14 59 44.6**	**+2.1**
	36nm,0.9s,baz=178,slow=5.2,SNR=4.3						
430A	**Baggett Ranch,**	**70.44**	**333**	P	**P**	**14 59 42.3**	**-0.1**
	baz=71						
234A	**Clairette**	**70.46**	**336**	P	**P**	**14 59 42.2**	**-0.2**
	baz=71						
TKL	**Tuckaleechee C**	**70.49**	**350**	P	**P**	**14 59 41.6**	**-0.8**
	15nm,0.7s,baz=170,slow=9.3,SNR=7.7						
429A	**Davenport Ranc**	**70.54**	**333**	P	**P**	**14 59 42.5**	**-0.5**
	baz=71						
331A	**San Angelo**	**70.62**	**334**	P	**P**	**14 59 43.0**	**-0.4**
	baz=71						
233A	**Rising Star**	**70.73**	**336**	P	**P**	**14 59 43.6**	**-0.5**
	baz=71						
232A	**Coleman**	**70.87**	**335**	P	**P**	**14 59 44.5**	**-0.4**
	baz=71						
330A	**Mertzon**	**70.98**	**334**	P	**P**	**14 59 44.3**	**-1.3**
	baz=71						
231A	**Bronte**	**71.14**	**335**	P	**P**	**14 59 46.0**	**-0.5**
	baz=72						
133A	**Hamilton Ranch**	**71.27**	**336**	P	**P**	**14 59 46.4**	**-0.9**
	baz=72						
329A	**Wagon Wheel Ra**	**71.35**	**333**	P	**P**	**14 59 48.0**	**+0.2**
	baz=72						
Z35A	**Perchaven, San**	**71.40**	**338**	P	**P**	**14 59 48.0**	**0.0**
	baz=72						
ABTX	**Abilene, Hawle**	**71.53**	**335**	P	**P**	**14 59 49.0**	**+0.1**
	baz=72						
Z34A	**Collier Ranch,**	**71.64**	**337**	P	**P**	**14 59 49.7**	**+0.2**
	baz=72						
229A	**Bryant Ranch,**	**71.72**	**333**	P	**P**	**14 59 49.8**	**-0.3**
	baz=72						
131A	**Roby**	**71.84**	**335**	P	**P**	**14 59 50.2**	**-0.5**
	baz=72						
Z33A	**Whitaker Ranch**	**71.84**	**336**	P	**P**	**14 59 50.4**	**-0.3**
	baz=72						
130A	**Snyder**	**71.97**	**334**	P	**P**	**14 59 51.3**	**-0.3**
	baz=72						
Z32A	**Haskell**	**72.10**	**336**	P	**P**	**14 59 52.3**	**0.0**
	baz=72						
Y34A	**Reagan Ranch,**	**72.13**	**338**	P	**P**	**14 59 52.1**	**-0.4**
	baz=72						
228A	**UT Block 9, Go**	**72.14**	**333**	P	**P**	**14 59 52.3**	**-0.3**
	baz=72						
Z31A	**Sharp Cattle R**	**72.34**	**335**	P	**P**	**14 59 53.7**	**0.0**
	baz=73						
Y33A	**Hilltop Ranch,**	**72.46**	**337**	P	**P**	**14 59 54.3**	**-0.1**
	baz=73						
128A	**Castleberry Fa**	**72.55**	**333**	P	**P**	**14 59 54.9**	**-0.2**
	baz=73						
Z30A	**Sanderson Ranc**	**72.66**	**335**	P	**P**	**14 59 55.2**	**-0.4**
	baz=73						
Y32A	**R-V Farms, Ver**	**72.72**	**336**	P	**P**	**14 59 55.9**	**-0.1**
	baz=73						
X34A	**Smith Ranch, M**	**72.75**	**338**	P	**P**	**14 59 55.7**	**-0.4**
	baz=73						
Z29A	**Hungry Hill Ra**	**72.84**	**334**	P	**P**	**14 59 55.9**	**-0.9**
	baz=73						
Y31A	**Rekieta Farm,**	**72.96**	**336**	P	**P**	**14 59 57.0**	**-0.4**
	baz=73						
Z28A	**Tucker Farm, M**	**73.11**	**334**	P	**P**	**14 59 57.9**	**-0.5**
	baz=73						
TUL1	**Leonard**	**73.36**	**340**	P	**P**	**14 59 59.0**	**-0.7**
	baz=74						
Y29A	**Porterfield Fa**	**73.37**	**334**	P	**P**	**14 59 59.4**	**-0.5**
	baz=74						
W33A	**Caddo, Fort Co**	**73.46**	**337**	P	**P**	**15 00 00.3**	**0.0**
	baz=74						
X31A	**McDonald Ranch**	**73.48**	**336**	P	**P**	**15 00 00.1**	**-0.4**
	baz=74						
W32A	**Sentinel**	**73.68**	**337**	P	**P**	**15 00 01.5**	**-0.2**
	baz=74						
MSTX	**Muleshoe**	**73.86**	**334**	P	**P**	**15 00 01.4**	**-1.4**
	baz=74						
W31A	**Holland Ranch,**	**73.97**	**336**	P	**P**	**15 00 02.8**	**-0.6**
	baz=74						
V33A	**Lossen Ranch,**	**74.02**	**338**	P	**P**	**15 00 03.2**	**-0.3**
	baz=74						
V32A	**Arapaho**	**74.16**	**337**	P	**P**	**15 00 04.1**	**-0.4**
	baz=74						
319A	**Douglas**	**74.26**	**327**	P	**P**	**15 00 05.9**	**+0.7**
	baz=75						
AMTX	**Amarillo**	**74.29**	**335**	P	**P**	**15 00 05.2**	**-0.1**
	baz=75						
AMTX	**Amarillo**	**74.29**	**335**	*e*P	**P**	**15 00 04.4**	**-0.9**
	30nm,1.0s						
U34A	**Anderson Ranch**	**74.36**	**339**	P	**P**	**15 00 04.7**	**-0.8**
	baz=75						
W29A	**Amarillo**	**74.49**	**335**	P	**P**	**15 00 06.5**	**0.0**
	baz=75						
121A	**Cookes Peak, D**	**74.60**	**329**	P	**P**	**15 00 08.5**	**+1.3**
	baz=75						
121A	**Cookes Peak, D**	**74.60**	**329**	*e*P	**P**	**15 00 07.3**	**+0.1**
U32A	**Winter Ranch,**	**74.76**	**338**	P	**P**	**15 00 07.9**	**0.0**
	baz=75						
X26A	**CR and CF Fran**	**74.77**	**333**	P	**P**	**15 00 08.4**	**+0.3**
	baz=75						
ACSO	**Alum Creek Sta**	**74.88**	**351**	*e*P	**P**	**15 00 07.1**	**-1.3**
W27A	**Bowe Ranch, En**	**74.95**	**334**	P	**P**	**15 00 08.9**	**-0.3**
	baz=75						
X25A	**Clemmons Ranch**	**75.07**	**332**	P	**P**	**15 00 09.8**	**-0.1**
	baz=75						
DBIC	**Dimbokro**	**75.07**	**71**	P	**P**	**15 00 10.4**	**+0.2**
	17nm,0.8s,baz=225,slow=4.6,SNR=6.7						
DBIC				PP	**PP**	**15 03 02.4**	**+3.9**
	6.4nm,0.7s,baz=207,slow=5.4,SNR=4.2						
DBIC	**Dimbokro**	**75.07**	**71**	*e*P	**P**	**15 00 08.7**	**-1.5**
	19nm,0.7s						
DBIC				PP	**PP**	**15 03 02.4**	**+3.9**
Y23A	**Lovelace Mesa,**	**75.09**	**331**	P	**P**	**15 00 11.3**	**+1.2**
	baz=75						
T33A	**Patterson Ranc**	**75.17**	**338**	P	**P**	**15 00 10.5**	**+0.3**
	baz=76						
V28A	**Channing**	**75.26**	**335**	P	**P**	**15 00 11.6**	**+0.7**
	baz=76						
T32A	**Huddler Ranch,**	**75.47**	**338**	P	**P**	**15 00 12.0**	**+0.1**
	baz=76						
S33A	**Kaszmaul Farm,**	**75.57**	**339**	P	**P**	**15 00 13.0**	**+0.5**
	baz=76						
T31A	**Randall Ranch,**	**75.63**	**337**	P	**P**	**15 00 12.7**	**-0.2**
	baz=76						
S32A	**Newby Ranch, P**	**75.95**	**338**	P	**P**	**15 00 14.5**	**-0.2**
	baz=76						
S31A	**Mullinville**	**76.05**	**338**	P	**P**	**15 00 14.9**	**-0.4**
	baz=76						
ANMO	**Albuquerque**	**76.14**	**331**	P	**P**	**15 00 16.5**	**+0.4**
	15nm,1.0s,baz=167,slow=6.5,SNR=9.5						
ANMO	**Albuquerque**	**76.14**	**331**	*e*P	**P**	**15 00 15.1**	**-1.0**
	17nm,0.9s						
W23A	**Werner Place,**	**76.21**	**332**	P	**P**	**15 00 16.9**	**+0.5**
	baz=76						
T29A	**Hugoton**	**76.21**	**336**	P	**P**	**15 00 16.4**	**+0.1**
	baz=76						
V25A	**Rancho No Teng**	**76.21**	**333**	P	**P**	**15 00 16.5**	**0.0**
	baz=76						
R33A	**Olander Ranch,**	**76.22**	**339**	P	**P**	**15 00 15.8**	**-0.4**
	baz=77						
S30A	**Montezuma**	**76.38**	**337**	P	**P**	**15 00 16.9**	**-0.3**
	baz=77						
214A	**Organ Pipe Nat**	**76.38**	**325**	P	**P**	**15 00 18.0**	**+0.7**
	baz=77						
214A	**Organ Pipe Nat**	**76.38**	**325**	*e*P	**P**	**15 00 16.3**	**-1.0**
	29nm,1.2s						
HRV	**Adam Dziewonsk**	**76.43**	**0**	*e*P	**P**	**15 00 15.6**	**-1.7**
	25nm,0.9s						
T28A	**Walsh**	**76.46**	**335**	P	**P**	**15 00 18.0**	**+0.3**
	baz=77						
R32A	**Long Quarter,**	**76.55**	**339**	P	**P**	**15 00 18.1**	**0.0**
	baz=77						
S29A	**Ulysses**	**76.57**	**336**	P	**P**	**15 00 18.8**	**+0.5**
	baz=77						
T27A	**Campo**	**76.62**	**335**	P	**P**	**15 00 18.7**	**+0.1**
	baz=77						
U25A	**Circle Dot Ran**	**76.63**	**333**	P	**P**	**15 00 18.8**	**0.0**
	baz=77						
R31A	**Burdett**	**76.67**	**338**	P	**P**	**15 00 18.6**	**-0.2**
	baz=77						
S28A	**Manter**	**76.81**	**336**	P	**P**	**15 00 20.2**	**+0.5**
	baz=77						
R30A	**Dighton**	**76.91**	**337**	P	**P**	**15 00 20.1**	**0.0**
	baz=77						
Q32A	**Meitler Ranch,**	**77.02**	**339**	P	**P**	**15 00 21.0**	**+0.2**
	baz=77						
T26A	**Comanche Natio**	**77.03**	**334**	P	**P**	**15 00 21.6**	**+0.5**
	baz=77						
V22A	**San Miguel Ran**	**77.17**	**331**	P	**P**	**15 00 22.6**	**+0.7**
	baz=78						
S27A	**Las Animas**	**77.24**	**335**	P	**P**	**15 00 22.6**	**+0.5**
	baz=78						
X18A	**Snowflake**	**77.24**	**328**	P	**P**	**15 00 22.9**	**+0.6**
	baz=78						
Q31A	**Ellis**	**77.29**	**338**	P	**P**	**15 00 22.8**	**+0.6**
	baz=78						
T25A	**Trinidad**	**77.29**	**334**	P	**P**	**15 00 23.6**	**+1.0**
	baz=78						
S26A	**Kim**	**77.38**	**335**	P	**P**	**15 00 23.4**	**+0.4**
	baz=78						
R28A	**Tribune**	**77.46**	**336**	P	**P**	**15 00 23.7**	**+0.4**
	baz=78						
Q30A	**Quinter**	**77.52**	**338**	P	**P**	**15 00 23.8**	**+0.2**
	baz=78

	baz=80				
W13A	Hualapai Mount	79.48 326	P	P	15 00 35.6 +0.9
	baz=80				
PFO	Pinyon Flats O	79.49 323	P	P	15 00 35.6 +0.9
	19nm,1.0s,baz=119,slow=4.6,SNR=10				
PFO	Pinyon Flats O	79.49 323	P	P	15 00 36.5 +1.8
	baz=80				
O26A	Horse Wrangler	79.67 336	P	P	15 00 36.4 +0.9
	baz=80				
BOSA	Boshof	79.75 118	P	P	15 00 38.5 +2.0
	19nm,0.7s,baz=237,slow=4.1,SNR=12				
BOSA	Boshof	79.75 118	eP	P	15 00 35.5 -1.0
	23nm,0.8s				
O25A	Wiggins	79.83 335	P	P	15 00 37.0 +0.6
	baz=80				
MURC	Murrieta	79.86 323	P	P	15 00 36.6 +0.1
	baz=80				
U15A	North Rim	79.86 328	P	P	15 00 37.3 +0.5
	baz=80				
L31A	Butterfield Fa	80.04 340	P	P	15 00 38.0 +0.7
	baz=80				
GMRC	Granite Mounta	80.05 325	P	P	15 00 38.7 +1.0
	baz=80				
ISCO	Idaho Springs	80.08 334	P	P	15 00 38.5 +0.6
	baz=80				
N26A	Koester Ranch,	80.17 336	P	P	15 00 39.2 +1.1
	baz=80				
P22A	Eagle	80.32 333	P	P	15 00 40.3 +1.1
	baz=81				
HEC	Hector,Ludlow	80.42 324	P	P	15 00 41.2 +1.6
	baz=81				
O23A	Lake Granby, G	80.55 334	P	P	15 00 41.4 +0.9
	baz=81				
BFSC	Mount Baldy Ra	80.59 323	P	P	15 00 41.3 +0.6
	baz=81				
TUQ	Turquoise Moun	80.71 325	P	P	15 00 42.5 +1.3
	baz=81				
K30A	Basset	80.72 340	P	P	15 00 41.7 +0.7
	baz=81				
N24A	Carr	80.73 335	P	P	15 00 42.4 +1.1
	baz=81				
O22A	Kremmling	80.74 334	P	P	15 00 42.0 +0.5
	baz=81				
ECSD	EROS Data Cent	80.89 342	P	P	15 00 41.6 -0.2
	baz=81				
M25A	Palm-Egli Farm	80.99 336	P	P	15 00 42.9 +0.3
	baz=81				
L27A	T5 Ranch, Ells	81.00 337	P	P	15 00 43.1 +0.4
	baz=81				
K29A	Lazy Trails An	81.01 339	P	P	15 00 43.4 +0.8
	baz=81				
GSC	Goldstone, Bar	81.03 324	P	P	15 00 44.0 +1.2
	baz=81				
EDW2	Edwards Air Fo	81.27 323	P	P	15 00 44.5 +0.4
	baz=82				
K28A	Ten Mile Ranch	81.28 338	P	P	15 00 45.3 +1.3
	baz=82				
J30A	Dallas	81.29 340	P	P	15 00 44.2 +0.3
	baz=82				
O20A	White River Ci	81.35 333	P	P	15 00 45.3 +0.7
	baz=82				
SPMN	Marine on St.	81.41 345	P	P	15 00 44.0 -0.5
	baz=82				
LRMC	Laurel Mtn Rad	81.60 324	P	P	15 00 46.7 +0.7
	baz=82				
J29A	Okreek	81.60 339	P	P	15 00 46.1 +0.4
	baz=82				
L25A	Engebretsen Ra	81.60 336	P	P	15 00 46.3 +0.5
	baz=82				
I30A	Oacoma	81.81 340	P	P	15 00 46.5 -0.3
	baz=82				
J28A	Allard Ranch,	81.89 339	P	P	15 00 47.6 +0.4
	baz=82				
J27A	Elkhorn Farm,	81.97 338	P	P	15 00 48.3 +0.6
	baz=82				
LBTB	Lobatse	81.99 115	P	P	15 00 47.8 -0.6
	16nm,0.7s,baz=254,slow=6.0,SNR=10				
ISA	Isabella, Lake	82.13 323	P	P	15 00 50.0 +1.3
	baz=82				
L23A	Garrett	82.16 335	P	P	15 00 48.8 -0.1
	baz=82				
BRSD	Miller	82.17 341	P	P	15 00 47.9 -0.7
	baz=82				
J26A	Sides Ranch, S	82.36 338	P	P	15 00 50.8 +1.1
	baz=83				
I28A	Midland	82.39 339	P	P	15 00 50.1 +0.3
	baz=83				
K24A	Anderson Ranch	82.39 336	P	P	15 00 50.6 +0.6
	baz=83				
VES	Vestal, Richgr	82.58 323	P	P	15 00 52.0 +1.1
	baz=83				
J25A	Sunshine Ranch	82.66 337	P	P	15 00 51.5 +0.2
	baz=83				
H29A	Onida	82.69 340	P	P	15 00 51.3 0.0
	baz=83				
K23A	Bowen Ranch, D	82.70 336	P	P	15 00 51.3 -0.3
	baz=83				
G30A	Faulkton	82.86 341	P	P	15 00 52.4 +0.3
	baz=83				
J24A	Dixon Ranch, L	82.88 336	P	P	15 00 53.3 +0.9
	baz=83				
R11A	Troy Canyon, C	82.92 327	P	P	15 00 53.7 +0.8
	baz=83				
H28A	Mission Ridge	82.97 339	P	P	15 00 52.7 -0.1
	baz=83				
K21A	Alcova	83.16 334	P	P	15 00 54.3 +0.3
	baz=84				
I25A	Rochford	83.20 337	P	P	15 00 54.4 +0.2
	baz=84				
DUG	Dugway, Tooele	83.23 330	P	P	15 00 54.6 +0.2
	baz=84				
H27A	Howes	83.24 339	P	P	15 00 54.3 +0.1
	baz=84				
I24A	Kuemmerle Ranc	83.34 337	P	P	15 00 54.6 -0.3
	baz=84				
J22A	Midwest	83.57 335	P	P	15 00 55.8 -0.3
	baz=84				
F29A	Eureka	83.69 341	P	P	15 00 56.2 -0.3
	baz=84				
H25A	Fruitdale	83.70 338	P	P	15 00 57.2 +0.6
	baz=84				
G27A	Dupree	83.88 339	P	P	15 00 57.2 -0.3
	baz=84				
F28A	McLaughlin	83.98 340	P	P	15 00 58.1 +0.2
	baz=84				
G26A	Maurine	84.00 339	P	P	15 00 58.3 +0.2
	baz=84				
I22A	9 Mile Ranch,	84.00 336	P	P	15 00 58.1 -0.1
	baz=84				
SPUT	South Promonto	84.02 330	eP	P	15 00 56.5 -2.0
	20nm,0.9s				
E30A	Jud	84.06 342	P	P	15 00 58.3 -0.1
	baz=84				
J20A	Shoshoni	84.09 334	P	P	15 00 59.4 +0.7
	baz=84				
TORD	Torodi Ar. Bea	84.11 70	P	P	15 00 59.0 -0.3
	26nm,0.8s,baz=294,slow=5.2,SNR=15				
H24A	Dirks Ranch, A	84.11 337	P	P	15 00 57.5 -1.2
	baz=84				
PDAR	Pinedale Array	84.12 333	P	P	15 00 58.8 -0.2
	4.9nm,0.8s,baz=163,slow=4.8,SNR=7.2				
G25A	Newell	84.16 338	P	P	15 00 58.9 0.0
	baz=84				
NVAR	Mina Array Bea	84.25 325	P	P	15 01 00.7 +0.9
	5.4nm,0.8s,baz=160,slow=6.3,SNR=10				
E29A	Napoleon	84.32 341	P	P	15 00 59.3 -0.4
	baz=85				
F27A	Lemmon	84.35 339	P	P	15 00 59.7 -0.2
	baz=85				
J19A	Crowheart	84.36 334	P	P	15 01 00.1 -0.1
	baz=85				
F26A	Lodgepole	84.52 339	P	P	15 01 00.5 -0.2
	baz=85				
H22A	Clearmont	84.57 336	P	P	15 01 00.4 -0.7
	baz=85				
D30A	Buchanan	84.58 342	P	P	15 01 00.8 -0.2
	baz=85				
E28A	Huff	84.61 340	P	P	15 01 01.1 0.0
	baz=85				
I20A	Worland	84.62 335	P	P	15 01 01.5 +0.2
	baz=85				
ELK	Elko	84.72 328	P	P	15 01 02.4 +0.2
	9.3nm,0.8s,baz=202,slow=2.2,SNR=12				
D29A	Pettibone, Tap	84.76 341	P	P	15 01 01.6 -0.3
	baz=85				
F25A	Bowman	84.83 338	P	P	15 01 01.7 -0.6
	baz=85				
H21A	Big Horn, Sher	84.83 336	P	P	15 01 01.7 -0.7
	baz=85				
WAKR	Walker	84.85 324	eP	P	15 01 02.3 -0.5
	47nm,1.6s				
AGMN	Agassiz Nation	85.00 344	P	P	15 01 02.4 -0.6
	baz=85				
H20A	Greybull	85.04 335	P	P	15 01 03.0 -0.5
	baz=85				
F24A	Ekalaka	85.06 338	P	P	15 01 03.1 -0.4
	baz=85				
C30A	Mose, Pekin	85.06 342	P	P	15 01 03.4 +0.1
	baz=85				
G22A	Birney	85.10 336	P	P	15 01 03.0 -0.7
	baz=85				
D28A	Regan	85.14 341	P	P	15 01 03.8 0.0
	baz=86				
F23A	Volborg	85.25 337	P	P	15 01 04.3 -0.2
	baz=86				
G21A	Lodge Grass	85.41 336	P	P	15 01 05.1 -0.2
	baz=86				
MDND	Maddock	85.49 342	P	P	15 01 05.5 0.0
	baz=86				
MDND	Maddock	85.49 342	eP	P	15 01 05.2 -0.3
	17nm,0.7s				
D26A	Manning	85.52 340	P	P	15 01 05.5 -0.2
	baz=86				
H19A	Powell	85.55 334	P	P	15 01 05.9 -0.2
	baz=86				
F22A	Rosebud	85.58 337	P	P	15 01 06.0 -0.1
	baz=86				
E24A	Baker	85.66 338	P	P	15 01 06.4 0.0
	baz=86				
B30A	Myrvik Farm, E	85.72 343	P	P	15 01 06.4 -0.2
	baz=86				
G20A	Bridger	85.76 335	P	P	15 01 06.5 -0.5
	baz=86				
H18A	Shoshone NF, C	85.80 334	P	P	15 01 07.1 -0.3
	baz=86				
C27A	Sayler Ranch,	85.88 340	P	P	15 01 07.7 +0.3
	baz=86				
D25A	Fairfield	85.89 339	P	P	15 01 07.8 +0.3
	baz=86				
E23A	Ismay	85.91 338	P	P	15 01 07.4 -0.2
	baz=86				
B29A	Wagenman Farm,	85.99 342	P	P	15 01 08.0 0.0
	baz=86				
E22A	Miles City	86.06 337	P	P	15 01 07.7 -0.7
	baz=86				
D24A	Glendive	86.16 338	P	P	15 01 08.9 0.0
	baz=86				
A30A	Hoffart Farm,	86.17 343	P	P	15 01 08.5 -0.3
	baz=86				
F20A	Billings	86.24 335	P	P	15 01 08.8 -0.5
	baz=87				
B28A	Dugan Ranch, T	86.24 341	P	P	15 01 08.9 -0.3
	baz=87				
A29A	Manning Farm,	86.39 342	P	P	15 01 09.3 -0.6
	baz=87				
D23A	Lindsay	86.48 338	P	P	15 01 10.7 +0.3
	baz=87				
E21A	Keefer Ranch,	86.52 336	P	P	15 01 10.8 +0.1
	baz=87				
C24A	Savage	86.56 339	P	P	15 01 11.2 +0.4
	baz=87				
F19A	Roth Farm, Mol	86.56 335	P	P	15 01 10.9 0.0
	baz=87				
B26A	Jensen Ranch,	86.68 340	P	P	15 01 11.7 +0.3
	baz=87				
HLID	Hailey	86.69 330	P	P	15 01 12.1 +0.4
	baz=87				
D22A	Cohagen	86.77 337	P	P	15 01 11.7 -0.2
	baz=87				
ULM	Lac du Bonnet	86.84 345	P	P	15 01 11.1 -0.9
	37nm,1.2s,baz=175,slow=4.5,SNR=8.1				
E20A	Meyer Farm, Mu	86.84 336	P	P	15 01 12.2 -0.1
	baz=87				
B25A	Knox Farm, Ray	86.85 340	P	P	15 01 12.7 +0.5
	baz=87				
A27A	Ledoux Ranch,	86.94 341	P	P	15 01 12.9 +0.3
	baz=87				
D21A	La Casta Ranch	86.96 337	P	P	15 01 13.0 +0.2
	baz=87				
E19A	Rath Farm, Rou	87.03 335	P	P	15 01 13.1 -0.2
	baz=87				
C23A	Lambert	87.03 338	P	P	15 01 13.0 -0.1
	baz=87				
A26A	Wade Farm, Ken	87.10 341	P	P	15 01 13.4 -0.1
	baz=87				
C22A	Vida	87.20 338	P	P	15 01 14.0 0.0
	baz=88				
D20A	Manuel Ranch,	87.36 336	P	P	15 01 14.6 -0.1
	baz=88				
A25A	Svangstu Ranch	87.44 340	P	P	15 01 15.4 +0.3
	baz=88				
B23A	Brockton	87.57 339	P	P	15 01 15.8 +0.1
	baz=88				
C21A	Desert Coulee	87.66 337	P	P	15 01 15.9 -0.2
	baz=88				
D19A	Cripps Ranch,	87.67 336	P	P	15 01 15.9 -0.4
	baz=88				
A24A	Westby	87.68 339	P	P	15 01 16.4 +0.2
	baz=88				
B22A	Reddig Ranch S	87.73 338	P	P	15 01 16.5 0.0
	baz=88				
C20A	Veseth Ranch,	87.86 336	P	P	15 01 16.7 -0.5
	baz=88				
MOD	Modoc Plateau	87.93 326	eP	P	15 01 17.2 -0.6
	7.0nm,0.6s				
A23A	Redstone	87.97 339	P	P	15 01 17.2 -0.4
	baz=88				
B21A	Ellsworth Farm	88.16 337	P	P	15 01 18.6 +0.1
	baz=88				
C19A	Slack Wire Ran	88.22 336	P	P	15 01 18.6 -0.3
	baz=89				
A22A	Carney Farms,	88.32 338	P	P	15 01 19.4 +0.1
	baz=89				
B20A	Solberg Farm,	88.50 337	P	P	15 01 19.7 -0.4
	baz=89				
A21A	Bergtoll Ranch	88.63 338	P	P	15 01 20.2 -0.5
	baz=89				
A20A	Cobblestone Ra	88.85 337	P	P	15 01 21.4 -0.4
	baz=89				
SCHQ	Schefferville	88.87 3	P	P	15 01 20.4 -1.3
	9.5nm,1.0s,baz=176,slow=9.5,SNR=3.3				
YBH	Yreka Blue Hor	88.93 324	P	P	15 01 22.0 -0.4
	7.7nm,0.9s,baz=88,slow=5.2,SNR=7.6				
YKA	Yellowknife Ar	102.40 341	P	Pdif	15 02 22.1 -1.0
	1.3nm,0.6s,baz=144,slow=4.6,SNR=6.0				
WRA	Warramunga Arr	120.61 209	PKP	PKPdf	15 07 18.7 -1.7
	2.5nm,0.8s,baz=159,slow=1.5,SNR=6.4				
BRTR	Keskin Array B	121.79 61	PKP	PKPdf	15 07 21.5 -0.6
	2.5nm,0.7s,baz=187,slow=1.6,SNR=5.2				
SEY	Seymchan	140.39 330	PKP	PKPdf	15 07 54.9 -1.3
	6.9nm,0.9s,baz=147,slow=4.5,SNR=4.9				
BVAR	Borovoye Array	147.35 43	PKPbc	PKPbc	15 08 11.6 +0.4
	15nm,0.7s,baz=275,slow=3.5,SNR=14				
KKAR	Karatay Array	149.50 62	ePKPbc	PKPbc	15 08 16.6 -0.5
ASAJ	Asahikawa	151.79 301	PKPbc	PKPbc	15 08 21.3 -1.1
	17nm,1.0s,baz=167,slow=5.5,SNR=3.9				
AAK	Ala-Archa	152.46 62	PKPbc	PKPbc	15 08 24.7 +0.4
	16nm,0.8s,baz=194,slow=3.0,SNR=11				
KURBB	Kurchatov Arra	152.94 44	PKPbc	PKPbc	15 08 24.7 -0.1
	9.2nm,0.6s,baz=298,slow=2.9,SNR=14				
KURK	Kurchatov	152.95 44	PKPbc	PKPbc	15 08 24.7 -0.1
ZALV	Zalesovo Beam	154.36 33	PKPbc	PKPbc	15 08 27.5 -0.3
	12nm,0.8s,baz=303,slow=3.6,SNR=5.6				
ZALV			PKPab	PKPab	15 08 42.1 +0.2
	16nm,0.8s,baz=296,slow=3.9,SNR=7.5				
KSRS	Korea Array	163.72 287	PKPab	PKPab	15 09 25.5 +2.3
	3.1nm,0.8s,baz=89,slow=3.2,SNR=4.3				
KSAR	Wonju Array Be	163.75 287	PKPab	PKPab	15 09 25.5 +2.1
SONM	Songino Array	166.40 5	PKPab	PKPab	15 09 35.3 +0.7
	12nm,1.2s,baz=343,slow=1.9,SNR=3.7				

ISCJB ***11*** *14:55:24.8±1.5, 34°.30S±0°.02×71°.81W±0°.03, h10km±9km, mb6.3/299, MS7.1/27, Error ellipse: s-maj=5.2km s-min=3.6km az=147.9*

GUC ***11*** *14:55:24.1±0.4, 34°.45S×72°.21W, h31km±3km, ML6.4*

IDC ***11*** *14:55:25.0±0.2, 34°.33S×71°.78W, h0km, mb5.9/35, mb1 6.0/37, mb1mx6.0/37, mbtmp5.9/37, ML5.6/3, MS7.1/19, Ms1 7.0/19, ms1mx6.3/39, Error ellipse: s-maj=9.3km s-min=6.1km az=78.0*

GCMT ***11*** *14:55:27.5±0.1, 34°.53S×72°.13W, h16km, MW7.0/126, Moment Tensor Solution. s103,c177; s126,c499; Duration: 7s4 Moment tensor: Scale 10^19^Nm; M_{rr}-0.59±.01; $M_{\theta\theta}$0.02±.01; $M_{\phi\phi}$0.56±.01; $M_{r\theta}$-1.27±.05; $M_{\theta\phi}$0.03±.01; $M_{\phi r}$3.20±.08; Best double couple: $M_0$3.49000×10^19^ NP1:ϕ_s159.00000°, δ86.00000°, λ-93.00000°. NP2:ϕ_s16.00000°, δ6.00000°, λ-53.00000°. Principal axes: T 3.4330, Plg41.0000°, Azm252.0000°; N 0.1140, Plg3.0000°, Azm159.0000°; P -3.5470, Plg49.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***11*** *14:55:27.4±0.9, 34°.39S×71°.72W, h33km, mb6.6/79, MS7.1/9 Error ellipse: s-maj=15.3km s-min=6.4km az=102.1*

NEIC ***11*** *14:55:27.5±0.1, 34°.33S×71°.80W, h18km, mb6.5/233, MW6.7, ML6.4(GUC), Error ellipse: s-maj=4.5km s-min=3.2km az=68.0, Depth from synthetics of broadband displacement seismograms.*

NEIC Felt [V] at Talca; [IV] at San Fernando, Santiago and Vina del Mar; [III] at Rancagua; [II] at Quillota, San Antonio and Valparaiso. Also felt at Buin, Chillan, Concepcion, Constitution, Curico, Machali, Puente Alto, Quilpue, San Bernardo, San Felipe and Talagante. Felt [III] at Mendoza, Argentina. Also felt at Bariloche, Cordoba, San Juan and San Rafael. Felt at Asuncion, Paraguay.

BJI ***11*** *14:55:28.9, 34°.30S×71°.80W, h18km, mB7.0/48, Ms7.3/49, Ms7 7.2/55*

NEIC ***11*** *14:55:30.0±0.0, 34°.29S×71°.66W, h44km Best double couple: NP1:ϕ_s168.00000°, δ71.00000°, λ-109.00000°. NP2:ϕ_s36.00000°, δ27.00000°, λ-43.00000°. Principal axes: T 1.1000, Plg23.0000°, Azm273.0000°; N 0.2800, Plg18.0000°, Azm174.0000°; P -1.3800, Plg58.0000°, Azm50.0000°;*

ISC 11 14:55:29.2±0.5, 34°.29S±0°.03×71°.80W±0°.04, h24km±3km, h24km:pP-P, n1495, σ1945/1542, mb6.4/301, MS7.2/28, 271C-240D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.85**	**146**	*e*P1	Pb	14 55 41.5	-3.8
NICH				AML	AML	14 56 00.6	
	comp=N,5317μm,0.4s						
NICH	**Los Niches**	**0.85**	**146**	*e*P	Pb	14 55 41.5	-3.8
ANTU	**Antumapu**	**1.21**	**54**	*e*P1	**Pb**	**14 55 50.9**	**-0.6**
ANTU				*e*S1	**Sb**	**14 56 11.8**	**+5.1**
ANTU				AML	AML	14 56 18.0	
	comp=E,909μm,0.6s						
ANTU	**Antumapu**	**1.21**	**54**	*e*P	**Pb**	**14 55 50.9**	**-0.6**
ANTU				*e*S	**Sb**	**14 56 11.8**	**+5.1**
FSR	**Penalolen**	**1.34**	**53**	*e*P1	**Pb**	**14 55 53.3**	**-0.3**
FSR				*i* S1	**Sb**	**14 56 15.0**	**+4.7**
FSR	**Penalolen**	**1.34**	**53**	*e*P	**Pb**	**14 55 53.3**	**-0.3**
FSR				*i* S	**Sb**	**14 56 15.0**	**+4.7**
LACH	**Col Las Americ**	**1.35**	**52**	*e*P1	**Pb**	**14 55 53.4**	**-0.5**
LACH				*i* S1	**Sb**	**14 56 15.1**	**+4.4**
LACH	**Col Las Americ**	**1.35**	**52**	*e*P	**Pb**	**14 55 53.4**	**-0.5**
LACH				*i* S	**Sb**	**14 56 15.1**	**+4.4**
CLCH	**Cerro Calan**	**1.38**	**50**	*e*P9	**Pn**	**14 55 52.9**	**-0.1**
CLCH				*e*S1	**Sb**	**14 56 15.5**	**+3.9**
CLCH				AML	AML	14 56 28.2	
	comp=N,487μm,1.9s						
PEL	**Peldehue**	**1.48**	**39**	*e*P	**Pn**	**14 55 53.3**	**-1.0**
PEL				*e*S	**Sb**	**14 56 16.9**	**+2.6**
PEL	**Peldehue**	**1.48**	**39**	*e*P9	**Pn**	**14 55 53.3**	**-1.0**
PEL				*e*S1	**Sb**	**14 56 16.9**	**+2.6**
PEL				AML	AML	14 56 29.3	
	comp=N,686μm,0.6s						
PEL	**Peldehue**	**1.48**	**39**	*e*P	**Pn**	**14 55 53.3**	**-1.0**
PEL				*e*S	**Sb**	**14 56 16.9**	**+2.6**
LNCH	**Linares**	**1.56**	**174**	AML	AML	14 56 42.7	
	comp=E,556μm,0.7s						
FCH	**Farellones**	**1.58**	**53**	*e*P1	**Pb**	**14 55 57.1**	**-0.9**
FCH				*i* S4	**Sb**	**14 56 21.6**	**+3.9**
FCH				AML	AML	14 56 29.1	
	comp=N,410μm,0.4s						
FCH	**Farellones**	**1.58**	**53**	*e*P	**Pb**	**14 55 57.1**	**-0.9**
FCH				*i* S	**Sb**	**14 56 21.6**	**+3.9**
CFAA	**Coronel Fontan**	**4.02**	**49**	Pn	**Pn**	**14 56 30.3**	**+1.0**
	comp=N,53nm,0.3s,baz=223,slow=12,SNR=33						
CFAA				Lg	Lg	14 57 30.8	
	comp=N,114nm,0.3s,baz=8.9,slow=11,SNR=5.7						
CFAA				LR	LR	14 58 28.6	
	comp=N,578μm,19.6s,baz=218,slow=46						
PLCA	**Paso Flores**	**6.50**	**172**	Pn	**Pn**	**14 57 02.0**	**-1.4**
	comp=N,65nm,0.3s,baz=347,slow=11,SNR=26						
PLCA				Lg	Lg	14 58 48.1	
	comp=N,50nm,0.3s,baz=258,slow=23,SNR=4.0						
PLCA				LR	LR	14 59 35.3	
	comp=N,850μm,18.2s,baz=348,slow=39						
TRQA	**Tornquist**	**8.78**	**118**	*e*Pn	**Pn**	**14 57 36.0**	**+1.3**
TRQA				*e*Sn	**Sn**	**14 59 12.4**	**-0.4**
LVC	**Limon Verde**	**11.91**	**13**	*e*Pn	Pn	14 58 14.0	-3.8
LPAZ	**La Paz**	**18.23**	**11**	P	**P**	**14 59 42.5**	**+1.1**
	comp=N,9.5nm,0.3s,baz=191,slow=7.6,SNR=57						
LPAZ	**La Paz**	**18.23**	**11**	*e*Pn	**P**	**14 59 42.4**	**+1.1**
	comp=N,9μm,1.9s						
EFI	**East Falkland**	**20.01**	**154**	*e*P	**P**	**14 59 57.2**	**-2.7**
EFI	**East Falkland**	**20.01**	**154**	*e*P	**P**	**14 59 57.2**	**-2.7**
	comp=N,849nm,0.8s						
SIV	**San Ignacio**	**20.62**	**31**	P	**P**	**15 00 06.7**	**-0.2**
	comp=N,510nm,0.9s,baz=206,slow=7.9,SNR=40						
SIV				S	Sn	15 04 03.7	+2.3
	comp=N,33nm,0.8s,baz=356,slow=17,SNR=1.5						
SIV				LR	LR	15 09 39.3	
	comp=N,1162μm,19.1s,baz=232,slow=41						
USHA	**Ushuaia**	**20.67**	**174**	P	**P**	**15 00 07.0**	**-0.1**
	comp=N,483nm,0.8s,baz=343,slow=6.7,SNR=24						
USHA				S	Sn	15 04 01.7	-0.1
	comp=N,32nm,0.8s,baz=285,slow=21,SNR=2.4						
USHA				LR	LR	15 08 46.9	
	comp=N,950μm,19.0s,baz=326,slow=39						
NNA	**Nana**	**22.68**	**347**	*e*P	**P**	**15 00 28.1**	**-0.8**
NNA				pmax	pmax		
	comp=Z,1μm,1.0s						
NNA	**Nana**	**22.68**	**347**	P	**P**	**15 00 29.2**	**+0.3**
	comp=Z,493nm,0.9s,baz=193,slow=11,SNR=39						
NNA	**Nana**	**22.68**	**347**	*e*P	**P**	**15 00 28.1**	**-0.8**
	comp=Z,1μm,1.0s						
SAML	**Samuel**	**26.44**	**19**	*e*P	**P**	**15 01 03.9**	**-0.4**
	comp=Z,446nm,0.9s						
ATAH	**Atahualpa**	**27.70**	**346**	P	**P**	**15 01 17.3**	**+1.3**
	comp=Z,97nm,1.0s,baz=172,slow=6.5,SNR=13						
BDFB	**Brasilia**	**28.34**	**55**	P	**P**	**15 01 20.9**	**-0.5**
BDFB				pmax	pmax		
	comp=Z,218nm,1.0s						
BDFB				MLR	MLR		
	comp=Z,723μm,20.6s						
BDFB	**Brasilia**	**28.34**	**55**	P	**P**	**15 01 20.9**	**-0.5**
	comp=Z,218nm,1.0s,baz=250,slow=4.7,SNR=12						
BDFB				LR	LR	15 13 44.1	
	comp=Z,723μm,20.6s,baz=208,slow=39						
PMSA	**Palmer Station**	**30.88**	**174**	P	**P**	**15 01 43.8**	**+0.6**
	comp=Z,51nm,0.9s,baz=350,slow=8.8,SNR=8.7						
PMSA				S	**S**	**15 06 50.9**	**+5.5**
	comp=Z,14nm,0.8s,baz=4.3,slow=16,SNR=5.8						
PMSA				LR	LR	15 13 27.3	
	comp=Z,473μm,21.3s,baz=335,slow=35						
PMSA	**Palmer Station**	**30.88**	**174**	*e*P	**P**	**15 01 41.9**	**-1.3**
	comp=Z,387nm,1.4s						
PMSA				S	**S**	**15 06 50.9**	**+5.5**
HOPE	**Hope Point**	**31.74**	**140**	*e*P	**P**	**15 01 49.1**	**-1.9**
	comp=Z,185nm,0.7s						
OTAV	**Otavalo**	**34.91**	**348**	*e*P	**P**	**15 02 19.4**	**-0.1**
	comp=Z,953nm,1.3s						
PAYG	**Puerto Ayora**	**37.66**	**329**	P	**P**	**15 02 41.9**	**-0.6**
	comp=Z,686nm,1.0s						
ROSC	**El Rosal**	**39.01**	**356**	P	**P**	**15 02 57.3**	**+3.0**
	comp=Z,28nm,0.7s,baz=264,slow=4.1,SNR=12						
ROSC	**El Rosal**	**39.01**	**356**	*e*P	P	15 02 57.5	+3.2
SDV	**Santo Domingo**	**42.96**	**2**	*e*P	**P**	**15 03 25.5**	**-1.1**
	comp=Z,3μm,2.1s						
RCBR	**Riachuelo**	**43.63**	**58**	P	**P**	**15 03 32.3**	**+0.4**
	comp=Z,232nm,1.1s,baz=224,slow=13,SNR=14						
RCBR				LR	LR	15 22 56.0	
	comp=Z,766μm,20.6s,baz=208,slow=38						
RCBR	**Riachuelo**	**43.63**	**58**	*e*P	**P**	**15 03 31.5**	**-0.5**
	comp=Z,16μm,3.0s						
BCIP	**Isla Barro Col**	**43.89**	**349**	*e*P	**P**	**15 03 34.1**	**+0.3**
	comp=Z,4μm,2.3s						
ACR	**Cerro Adams**	**44.05**	**344**	*e*P	**P**	**15 03 36.6**	**+1.4**
QCR	**Quepos**	**45.03**	**343**	*e*P	**P**	**15 03 42.9**	**-0.1**
BUS	**Buena Vista**	**45.06**	**343**	*e*P	**P**	**15 03 44.2**	**+0.5**
URSC	**Urasca**	**45.33**	**343**	*e*P	**P**	**15 03 47.3**	**+1.7**
TPP	**Pointe-a-Pierr**	**45.44**	**14**	*e*	**P**	**15 03 45.8**	**-0.4**
CGA2	**Cerro Gallo 2**	**45.68**	**342**	*e*P	**P**	**15 03 48.4**	**

JCR **Jicaral** 45.68 342 *e*P P 15 03 50.2 +2.0
TBH **Brigand Hill** 45.68 15 *e* P 15 03 49.8 +1.6
TRN **Trinidad (W)** 45.77 14 *e* P 15 03 50.1 +1.3
JTS **JuntasAbangare** 46.06 342 *d*P P 15 03 51.1 -0.1
JTS pmax pmax
comp=Z,717nm,1.3s
JTS MLR MLR
comp=Z,367µm,21.0s
JTS **JuntasAbangare** 46.06 342 P P 15 03 52.4 +1.2
comp=Z,202nm,1.1s,baz=151,slow=3.8,SNR=25
JTS **JuntasAbangare** 46.06 342 *e*P P 15 03 51.7 +0.5
comp=Z,4µm,2.7s
BOT **Bacolet** 46.42 15 *e* P 15 03 54.0 +0.1
TPR **Prospect** 46.43 15 *e* P 15 03 55.0 +1.1
GRGR **Grenville** 47.17 14 *e*P P 15 03 59.0 -0.7
comp=Z,3µm,1.4s
GRSS **Sisters** 47.34 14 *e* P 15 04 02.2 +1.1
TRIS **Tristan da Cun** 47.71 111 *e*P P 15 04 03.9 0.0
comp=Z,1µm,1.2s
SVB **Belmont** 48.35 14 *e* P 15 04 09.6 +0.6
MCLT **Moule a Chique** 48.84 14 *e* P 15 04 14.9 +2.1
VNA3 **Neumayer Olymp** 49.01 158 P P 15 04 13.5 0.0
VNA1 **Neumayer--Stat** 49.33 157 P P 15 04 16.2 +0.4
BIM **Bigot** 49.60 14 *e*P P 15 04 18.9 +0.3
VNA2 **Neumayer--Watz** 49.67 157 P P 15 04 20.2 +1.7
FDF **Fort de France** 49.80 14 *e*P P 15 04 17.9 -2.2
FDF pmax pmax
comp=Z,2µm,1.5s
FDF **Fort de France** 49.80 14 *e*P P 15 04 19.0 -1.0
FDF **Fort de France** 49.80 14 *e*P P 15 04 17.9 -2.2
comp=Z,2µm,1.5s
DLPL **La Plaine** 50.36 13 *e* P 15 04 23.2 -1.1
PTCN **Pitcairn Islan** 50.88 264 *e*P P 15 04 26.9 -1.4
comp=Z,1µm,1.1s
SNAA **Sanae** 51.24 158 P P 15 04 29.3 -1.1
SNAA **Sanae** 51.24 158 *e*P P 15 04 28.8 -1.6
SNAA **Sanae** 51.24 158 *c i*P P 15 04 29.3 -1.1
SNAA pmax pmax
comp=Z,715nm,1.2s
SNAA MLR MLR
comp=Z,127µm,18.0s
SNAA **Sanae** 51.24 158 P P 15 04 30.5 +0.1
comp=Z,259nm,1.1s,baz=266,slow=4.1,SNR=49
SNAA S S 15 11 47.4 +0.1
comp=Z,3.5nm,1.1s,baz=43,slow=21,SNR=5.7
SNAA LR LR 15 27 02.5
comp=Z,36µm,18.2s,baz=291,slow=37
SNAA **Sanae** 51.24 158 P P 15 04 30.5 +0.1
comp=Z,54nm,1.7s
SNAA S S 15 11 47.4 +0.1
APG **El Apazote** 52.14 337 P P 15 04 33.1 -4.9
comp=Z,344nm,1.1s,baz=174,slow=6.0,SNR=30
APG S S 15 12 01.5 +0.4
comp=Z,3.1nm,0.8s,baz=279,slow=22,SNR=3.3
CDVI **St. Croix** 52.19 8 *e*P P 15 04 35.5 -2.5
comp=Z,794nm,1.2s
CRPR **Cabo Rojo, PR** 52.20 6 *e*P P 15 04 36.2 -1.8
comp=Z,179nm,0.7s
HOJ **Hope** 52.22 354 *i* P P 15 04 40.5 +2.3
MCJ **Malvern** 52.23 353 *i* P P 15 04 37.6 -0.7
JAKH **Jacmel** 52.24 359 *e*P P 15 04 40.8 +2.5
SABA **Saba** 52.26 10 *e*P P 15 04 37.6 -0.9
comp=Z,7µm,1.9s
OBIP **Obispado Ponce** 52.28 6 *e*P P 15 04 36.9 -1.7
comp=Z,421nm,0.9s
GWJ **Greenwich** 52.29 354 *i* P P 15 04 40.9 +2.1
STH **Stony Hill** 52.30 354 *i* P P 15 04 37.8 -1.0
CELP **Cerrillos** 52.31 6 *e*P P 15 04 37.5 -1.4
LSP **Las Mesas** 52.37 6 *e*P P 15 04 39.2 -0.1
HUMP **Col San Antoni** 52.45 7 *e*P P 15 04 41.0 +1.1
LRS **Lares** 52.51 6 *e*P P 15 04 38.4 -1.9
CVJ **Coleyville** 52.51 353 *i* P P 15 04 42.2 +1.7
MTDJ **Mount Denham** 52.51 353 *e*P P 15 04 39.7 -0.7
comp=Z,2µm,1.8s
ANWB **Willy Bob** 52.55 12 *e*P P 15 04 38.4 -2.2
comp=Z,629nm,0.7s
AOPR **Arecibo Observ** 52.57 6 *e*P P 15 04 41.2 +0.4
comp=Z,855nm,1.5s
PCDR **Punta Cana, DR** 52.61 4 *e*P P 15 04 41.2 +0.1
SMRT **St. Maarten** 52.71 10 *e*P P 15 04 41.2 -0.7
comp=Z,868nm,1.6s
SDDR **Presa de Saban** 52.98 1 *e*P P 15 04 45.0 +1.1
comp=Z,1µm,2.1s
GTBY **Guantanamo Bay** 54.01 356 *e*P P 15 04 50.5 -0.8
GRTK **Grand Turk** 55.50 1 *e*P P 15 05 00.7 -1.4
comp=Z,4µm,2.1s
CMIG **Matias Romero** 55.62 333 P P 15 05 04.6 +1.5
comp=Z,118nm,1.1s,baz=164,slow=5.7,SNR=29
CMIG S S 15 12 51.1 +3.4
comp=Z,2.0nm,0.8s,baz=64,slow=23,SNR=3.5
RKT **Rikitea** 55.74 264 *e*P P 15 05 03.5 -0.5
comp=Z,204nm,1.3s
RKT *e*S S 15 12 41.1 -8.3
comp=Z,99µm,26.8s
RKT *e*SS SS 15 16 25.0 -10
comp=Z,27µm,28.2s
RKT *e*LR LR 15 21 03.7
comp=Z,286µm,26.5s,baz=118
RKT **Rikitea** 55.74 264 *e*T T 16 04 05.1
comp=Z,15nm,0.2s
QSPA **South Pole Qui** 55.94 180 P P 15 05 02.9 -2.2
comp=Z,248nm,0.9s,baz=137,slow=3.5,SNR=62
QSPA S S 15 12 54.5 +3.2
comp=Z,18nm,1.2s,baz=346,slow=22,SNR=6.3
QSPA LR LR 15 29 06.4
comp=Z,76µm,18.4s,baz=163,slow=36
QSPA **South Pole Qui** 55.94 180 *e*P P 15 05 03.2 -1.9
comp=Z,752nm,1.0s
QSPA S S 15 12 54.5 +3.2
NVL **N'lazarevskaya** 55.97 157 *e*P P 15 05 02.1 -2.9
NVL pmax pmax
comp=Z,369nm,1.1s
TEIG **Tepich** 56.44 341 *e*P P 15 05 07.6 -1.2
comp=Z,907nm,1.1s
H10S3 **ASCENSION HYDR** 57.96 78 P P 15 05 19.3 -0.3
baz=252,slow=11,SNR=28
H10S2 **ASCENSION HYDR** 57.97 78 P P 15 05 19.3 -0.3
baz=252,slow=11,SNR=29
H10S1 **ASCENSION HYDR** 57.98 78 P P 15 05 19.8 0.0
baz=252,slow=11,SNR=49
ASCN **Ascension** 58.79 77 *e*P P 15 05 25.4 -0.3
comp=Z,2µm,1.7s
SHEL **Horse Pasture** 61.55 90 *e*P P 15 05 43.7 -0.9
SHEL pmax pmax
comp=Z,475nm,1.0s
SHEL **Horse Pasture** 61.55 90 *e*P P 15 05 43.6 -0.9
comp=Z,475nm,1.0s
SBA **Scott Base** 62.83 192 *e*P P 15 05 51.1 -1.2
SBA pmax pmax
comp=Z,4µm,2.6s
SBA **Scott Base** 62.83 192 *e*P P 15 05 51.0 -1.2
comp=Z,4µm,2.6s
VNDA **Vanda** 63.85 191 P P 15 05 57.9 -1.1
comp=Z,34nm,0.9s,baz=149,slow=5.4,SNR=27
VNDA S S 15 14 35.2 +2.7
comp=Z,1.4nm,0.8s,baz=106,slow=15,SNR=1.8
VNDA LR LR 15 30 45.6
comp=Z,89µm,18.8s,baz=134,slow=33
VNDA PKPPKP P'P'df 15 34 48.8 -10
comp=Z,2.3nm,1.0s,baz=277,slow=5.4,SNR=4.4
VNDA **Vanda** 63.85 191 *e*P P 15 05 58.0 -1.1
comp=Z,3µm,2.8s
VNDA S S 15 14 35.2 +2.7
VNDA P'P' 15 34 48.8
035Z **Hargill** 65.36 334 ⇓P P 15 06 09.7 +0.3
baz=66,SNR=18
035Z ⇑S S 15 14 54.3 +2.3
baz=66
SYO **Syowa Base** 65.52 158 ⇓*i*P P 15 06 09.6 -0.4
SYO **Syowa Base** 65.52 158 *e*SH SKSac 15 16 02.4 -1.0
035A **Encino** 65.80 334 ⇓P P 15 06 13.1 +0.8
baz=66,SNR=87
936A **North Padre Is** 65.97 335 P P 15 06 14.2 +0.9
baz=66
034A **Hebbronville** 66.13 334 ⇓P P 15 06 15.1 +0.7
baz=66,SNR=110
KVTX **Kingsville** 66.28 335 *e*P P 15 06 14.2 -1.2
comp=Z,2µm,1.8s
TIGA **Tifton** 66.32 349 ⇑P P 15 06 15.1 -0.4
baz=67,SNR=12
TIGA **Tifton** 66.32 349 *e*P P 15 06 14.3 -1.2
comp=Z,571nm,1.1s
BRAL **Brewton** 66.53 346 *e*P P 15 06 16.4 -0.4
comp=Z,457nm,0.9s
934A **Benavides** 66.56 334 ⇑P P 15 06 17.8 +0.6
baz=67,SNR=63

BBSR **BB Station** 66.65 7 *e*P P 15 06 16.9 -0.7
comp=Z,349nm,1.4s
738A **Farr-Stevens R** 66.72 337 ⇓P P 15 06 19.1 +1.0
baz=67
933A **Laredo** 66.84 334 ⇑P P 15 06 19.3 +0.4
baz=67,SNR=115
835A **Beeville** 66.94 335 ⇓P P 15 06 20.8 +1.3
baz=67,SNR=34
834A **Tilden** 67.05 334 ⇓P P 15 06 20.9 +0.7
baz=67,SNR=87
SACV **Santiago Islan** 67.08 51 *e*P P 15 06 19.2 -1.5
comp=Z,251nm,1.2s
TAOE **Nuku Hiva Isla** 67.19 275 *e*P P 15 06 22.2 +0.5
comp=Z,1µm,1.5s
TAOE *e*S S 15 15 07.2 -8.0
comp=Z,212µm,25.6s
TAOE **Nuku Hiva Isla** 67.19 275 *e*LR LR 15 26 19.0
comp=Z,213µm,22.0s
TAOE **Nuku Hiva Isla** 67.19 275 *e*P P 15 06 19.9 -1.8
comp=Z,873nm,1.4s
RGRS **Roger Stewart** 67.31 352 *e*P P 15 06 20.9 -0.9
CSU **Charleston Sou** 67.38 352 *e*P P 15 06 21.7 -0.4
TBI **Tubuai** 67.44 256 *e*P P 15 06 22.5 -0.5
comp=Z,1µm,1.2s
TBI **Tubuai** 67.44 256 *e*T T 16 18 39.4
comp=Z,36nm,0.3s
735A **Kenedy** 67.45 335 ⇓P P 15 06 23.7 +0.9
baz=68,SNR=56
NHSC **New Hope** 67.51 352 *e*P P 15 06 22.2 -0.8
comp=Z,1µm,1.2s
833A **Chaparral WMA,** 67.53 334 ⇑P P 15 06 23.4 +0.1
baz=68,SNR=152
734A **La Parita Cree** 67.71 335 ⇓P P 15 06 24.6 +0.2
baz=68,SNR=7.0
832A **Faith Ranch, C** 67.71 333 ⇓P P 15 06 24.2 -0.3
baz=68,SNR=201
636A **Smothers Creek** 67.77 336 ⇓P P 15 06 25.4 +0.6
baz=68,SNR=91
HKT **Hockley** 67.81 338 *e*P P 15 06 24.3 -0.6
HKT pmax pmax
comp=Z,3µm,2.4s
HKT **Hockley** 67.81 338 *e*P P 15 06 24.3 -0.6
comp=Z,3µm,2.4s
733A **Divot King Ran** 67.85 334 ⇓P P 15 06 25.5 +0.2
baz=68,SNR=33
635A **Leesville** 67.93 336 ⇓P P 15 06 25.5 -0.3
baz=68,SNR=18
538A **Harpers Horsep** 67.95 338 ⇑P P 15 06 26.7 +0.8
baz=68
537A **Green Hill Far** 68.08 337 ⇑P P 15 06 27.4 +0.6
baz=68
732A **Laxson Ranch,** 68.11 333 ⇑P P 15 06 26.5 -0.5
baz=68,SNR=298
634A **China Grove, S** 68.12 335 ⇓P P 15 06 26.8 -0.2
baz=68
GOGA **Godfrey** 68.23 350 *e*P P 15 06 26.0 -1.6
GOGA pmax pmax
comp=Z,305nm,1.1s
GOGA **Godfrey** 68.23 350 *e*P P 15 06 26.0 -1.6
comp=Z,305nm,1.1s
536A **Bastrop** 68.32 337 ⇓P P 15 06 28.2 0.0
baz=69,SNR=34
438A **Sam Houston St** 68.44 338 ⇓P P 15 06 29.2 +0.3
baz=69,SNR=27
535A **Dale** 68.45 336 ⇓P P 15 06 28.9 -0.2
baz=69,SNR=28
VBMS **Vicksburg** 68.47 343 *e*P P 15 06 29.0 -0.1
comp=Z,602nm,1.0s
LRAL **Lakeview Retre** 68.48 346 *e*P P 15 06 27.8 -1.4
comp=Z,306nm,1.1s
633A **Saathoff Ranch** 68.48 334 ⇑P P 15 06 29.6 +0.3
baz=69,SNR=67
340A **Bronson** 68.59 340 ⇑P P 15 06 29.7 -0.2
baz=69,SNR=21
LPIG **La Paz** 68.64 322 P P 15 06 31.7 +1.4
comp=Z,268nm,1.0s,baz=207,slow=3.4,SNR=19
LPIG LR LR 15 29 48.1
comp=Z,25µm,21.2s,baz=138,slow=30
339A **Huntington** 68.71 339 ⇓P P 15 06 31.1 +0.4
baz=69,SNR=22
437A **Phantom Ranch,** 68.72 338 ⇓P P 15 06 31.0 +0.3
baz=69,SNR=16
632A **Uvalde** 68.75 334 ⇓P P 15 06 31.3 +0.4
baz=69,SNR=112
534A **Blanco** 68.76 335 ⇓P P 15 06 30.9 -0.1
baz=69,SNR=29
436A **Wall Ranch, Ga** 68.88 337 ⇓P P 15 06 32.2 +0.5
baz=69,SNR=6.3
631A **Perdido Creek** 68.95 333 ⇓P P 15 06 32.3 +0.1
baz=69,SNR=14
338A **Crockett** 68.96 339 ⇑P P 15 06 32.8 +0.7
baz=69,SNR=23
533A **Kerrville** 68.99 335 ⇑P P 15 06 32.0 -0.5
baz=69,SNR=76
MEH **Mehetia** 69.00 262 *e*P P 15 06 32.5 -0.4
comp=Z,145nm,1.4s
MEH **Mehetia** 69.00 262 *e*T T 16 20 38.8
comp=Z,405nm,0.2s
337A **Centerville** 69.09 338 ⇑P P 15 06 33.6 +0.5
baz=70,SNR=34
NATX **Nacogdoches** 69.14 339 *e*P P 15 06 31.8 -1.5
comp=Z,511nm,1.0s
435B **Jarrell** 69.15 336 ⇑P P 15 06 33.9 +0.5
baz=70,SNR=20
239A **Gary** 69.33 340 ⇓P P 15 06 34.4 0.0
baz=70,SNR=25
532A **Rocksprings** 69.35 334 ⇓P P 15 06 34.5 -0.3
baz=70,SNR=214
434A **Burnet** 69.41 336 ⇑P P 15 06 35.2 +0.2
baz=70,SNR=92
336A **Riesel** 69.46 337 ⇑P P 15 06 35.0 -0.4
baz=70,SNR=52
238A **Jacksonville** 69.50 339 ⇓P P 15 06 35.7 +0.2
baz=70,SNR=13
335A **Moody** 69.55 337 ⇓P P 15 06 35.6 -0.3
baz=70,SNR=21
531A **Rocksprings** 69.62 334 ⇑P P 15 06 36.5 +0.1
baz=70,SNR=136
433A **Art** 69.63 335 ⇑P P 15 06 36.0 -0.5
baz=70,SNR=189
JCT **Junction City** 69.63 334 *e*P P 15 06 35.5 -1.0
JCT pmax pmax
comp=Z,660nm,1.1s
JCT **Junction City** 69.63 334 ⇓P P 15 06 36.5 0.0
baz=70,SNR=96
JCT **Junction City** 69.63 334 *e*P P 15 06 35.5 -1.0
comp=Z,660nm,1.1s
KMSC **Kings Mountain** 69.65 352 ⇑P P 15 06 35.3 -1.1
baz=70,SNR=28
KMSC **Kings Mountain** 69.65 352 *e*P P 15 06 35.3 -1.1
comp=Z,305nm,1.1s
237A **Washetta, Mont** 69.71 338 ⇓P P 15 06 36.7 -0.1
baz=70,SNR=53
334A **Lometa** 69.87 336 ⇑P P 15 06 37.3 -0.5
baz=70,SNR=85
530A **J-C Ranch, Com** 69.90 333 ⇓P P 15 06 38.2 +0.1
baz=70,SNR=188
VAH **Vaihoa** 69.99 265 *e*P P 15 06 38.7 -0.3
comp=Z,612nm,1.2s
432A **Menard** 69.99 335 ⇑P P 15 06 37.8 -0.9
baz=70,SNR=80
TVO **Taravao** 70.02 262 *e*P P 15 06 39.2 -0.1
comp=Z,184nm,1.3s
TVO **Taravao** 70.02 262 *e*T T 16 21 55.0
comp=Z,18nm,0.2s
TXAR **Lajitas Array** 70.09 331 P P 15 06 38.5 -0.8
comp=Z,43nm,0.9s,baz=152,slow=8.6,SNR=50
TXAR PKPPKP P'P'df 15 34 44.4 +7.1
comp=Z,1.7nm,0.9s,baz=267,slow=2.5,SNR=4.6
138A **Matatall Enter** 70.11 339 ⇑P P 15 06 39.1 -0.2
baz=70,SNR=12
431A **Sonora** 70.11 334 ⇓P P 15 06 38.6 -0.8
baz=70,SNR=73
333A **Richland Sprin** 70.12 335 ⇑P P 15 06 39.1 -0.3
baz=70,SNR=108
TIAR **Tiarei** 70.21 262 *e*P P 15 06 40.1 -0.3
comp=Z,102nm,1.0s
TIAR **Tiarei** 70.21 262 *e*T T 16 22 09.3
comp=Z,64nm,0.3s
529A **Stev Forest Ra** 70.22 332 ⇓P P 15 06 39.2 -0.8
baz=71,SNR=183
WHTX **Lake Whitney,** 70.22 337 ⇑P P 15 06 39.6 -0.4
baz=71,SNR=53
WHTX **Lake Whitney,** 70.22 337 *e*P P 15 06 39.1 -0.9
comp=Z,666nm,1.3s
137A **Heron Place, G** 70.25 339 ⇓P P 15 06 39.9 -0.2
baz=71,SNR=21
PMOR **Pomariorio Ree** 70.33 265 *e*P P 15 06 40.7 -0.4

comp=Z,229nm,1.1s
PAE **Paea** 70.35 262 *e*P P 15 06 40.9 -0.3
comp=Z,136nm,1.2s
PAE **Paea** 70.35 262 *e*T T 16 22 19.5
comp=Z,6.9nm,0.3s
PPT2 **Papeete2** 70.39 262 *e*P P 15 06 41.4 -0.1
comp=Z,864nm,1.3s
PPT2 *e*S S 15 15 44.7 -8.3
comp=Z,175µm,24.2s
PPT2 **Papeete2** 70.39 262 *e*LR LR 15 27 50.2
PPT2 **Papeete2** 70.39 262 *e*T T 16 22 21.2
comp=Z,16nm,0.3s
CPCT **Cooper Cave** 70.39 349 *e*P P 15 06 42.0 +1.0
PPT **Papeete** 70.40 262 P P 15 06 41.0 -0.5
PPT pmax pmax
comp=Z,545nm,1.0s
PPT **Papeete** 70.40 262 P P 15 06 41.0 -0.5
comp=Z,545nm,1.0s,baz=164,slow=2.7,SNR=26
PPT LR LR 15 30 09.6
comp=Z,177µm,18.1s,baz=143,slow=30
SWET **Sewanee** 70.40 348 *e*P P 15 06 39.8 -1.3
comp=Z,77nm,0.4s
OXF **Oxford** 70.41 345 *e*P P 15 06 39.8 -1.3
OXF pmax pmax
comp=Z,1µm,1.0s
OXF **Oxford** 70.41 345 *e*P P 15 06 39.8 -1.3
comp=Z,1µm,1.0s
332A **Millersview** 70.43 335 ⇑P P 15 06 40.6 -0.7
baz=71,SNR=109
430A **Baggett Ranch,** 70.44 333 ⇑P P 15 06 41.0 -0.4
baz=71,SNR=129
234A **Clairette** 70.45 336 ⇓P P 15 06 40.6 -0.8
baz=71,SNR=77
TKL **Tuckaleechee C** 70.48 350 *e*P P 15 06 39.8 -1.7
TKL **Tuckaleechee C** 70.48 350 *e*P P 15 06 39.8 -1.7
429A **Davenport Ranc** 70.54 333 ⇑P P 15 06 41.8 -0.2
baz=71,SNR=120
331A **San Angelo** 70.61 334 ⇑P P 15 06 41.6 -0.9
baz=71,SNR=90
233A **Rising Star** 70.72 336 ⇑P P 15 06 42.1 -0.9
baz=71,SNR=74
135A **Vickery Place,** 70.72 337 ⇓P P 15 06 41.9 -1.1
baz=71,SNR=14
232A **Coleman** 70.86 335 ⇓P P 15 06 43.1 -0.8
baz=71,SNR=95
134A **White-Moore Ra** 70.96 337 ⇓P P 15 06 43.7 -0.7
baz=71,SNR=34
330A **Mertzon** 70.97 334 ⇓P P 15 06 43.7 -0.9
baz=71,SNR=57
231A **Bronte** 71.14 335 ⇑P P 15 06 44.6 -1.0
baz=72,SNR=81
133A **Hamilton Ranch** 71.27 336 ⇑P P 15 06 45.6 -0.8
baz=72,SNR=76
TZTN **Tazewell** 71.32 350 *e*P P 15 06 44.8 -1.8
comp=Z,518nm,1.4s
329A **Wagon Wheel Ra** 71.34 333 ⇓P P 15 06 46.3 -0.6
baz=72,SNR=88
UALR **University of** 71.35 342 *e*P P 15 06 45.6 -1.1
comp=Z,180nm,0.9s
230A **Sterling City** 71.38 334 ⇓P P 15 06 46.2 -0.9
baz=72,SNR=40
Z35A **Perchaven, San** 71.39 338 ⇑P P 15 06 46.2 -0.8
baz=72,SNR=74
MIAR **Mount Ida** 71.45 341 *e*P P 15 06 45.9 -1.5
MIAR pmax pmax
comp=Z,383nm,1.4s
MIAR **Mount Ida** 71.45 341 *e*P P 15 06 45.9 -1.5
comp=Z,383nm,1.4s
ABTX **Abilene, Hawle** 71.53 335 ⇓P P 15 06 47.0 -1.0
baz=72,SNR=87
ABTX **Abilene, Hawle** 71.53 335 *e*P P 15 06 46.9 -1.0
comp=Z,6µm,2.6s
BLA **Blacksburg** 71.59 353 *e*P P 15 06 47.1 -1.1
BLA pmax pmax
comp=Z,378nm,1.4s
BLA **Blacksburg** 71.59 353 *e*P P 15 06 47.1 -1.1
comp=Z,378nm,1.4s
BBTS **Babate** 71.61 57 P P 15 06 49.7 +1.0
comp=Z,392nm,1.1s,baz=240,slow=0.9,SNR=23
Z34A **Collier Ranch,** 71.64 337 ⇑P P 15 06 47.7 -0.9
baz=72,SNR=21
WVT **Waverly** 71.64 346 *e*P P 15 06 46.9 -1.6
WVT pmax pmax
comp=Z,1µm,1.1s
WVT **Waverly** 71.64 346 *e*P P 15 06 46.9 -1.6
comp=Z,1µm,1.1s
HBAR **Harrisburg** 71.69 344 *e*P P 15 06 49.4 +0.6
229A **Bryant Ranch,** 71.71 333 ⇓P P 15 06 48.2 -0.9
baz=72,SNR=68
HALT **Halls** 71.74 345 *e*P P 15 06 46.4 -2.6
131A **Roby** 71.83 335 ⇑P P 15 06 48.8 -1.0
baz=72,SNR=82
Z33A **Whitaker Ranch** 71.84 336 ⇓P P 15 06 48.9 -0.9
baz=72,SNR=86
JSRW **J. Sargeant Re** 71.84 355 *e*P P 15 06 49.1 -0.5
130A **Snyder** 71.97 334 ⇑P P 15 06 49.9 -0.7
baz=72,SNR=25
GLAT **Glass** 72.07 345 *e*P P 15 06 50.3 -0.8
Z32A **Haskell** 72.09 336 ⇓P P 15 06 50.5 -0.8
baz=72,SNR=88
Y34A **Reagan Ranch,** 72.13 338 ⇓P P 15 06 50.9 -0.6
baz=72,SNR=80
228A **UT Block 9, Go** 72.14 333 ⇓P P 15 06 50.6 -1.1
baz=72,SNR=105
129A **Stewart Farms,** 72.33 334 ⇓P P 15 06 52.0 -0.8
baz=73,SNR=11
Z31A **Sharp Cattle R** 72.33 335 ⇓P P 15 06 52.0 -0.8
baz=73,SNR=96
Y33A **Hilltop Ranch,** 72.45 337 ⇑P P 15 06 52.9 -0.5
baz=73,SNR=43
128A **Castleberry Fa** 72.55 333 ⇓P P 15 06 53.4 -0.7
baz=73,SNR=135
PARMO **Parma** 72.55 345 *e*P P 15 06 53.0 -0.9
ELIM **Elim** 72.63 120 *e*P P 15 06 55.1 +0.3
ELIM AMB AMB 15 07 07.3
comp=Z,550nm,4.1s
ELIM **Elim** 72.63 120 P P 15 06 55.1 +0.3
comp=Z,550nm,4.1s
Z30A **Sanderson Ranc** 72.65 335 ⇑P P 15 06 53.9 -0.7
baz=73,SNR=63
Y32A **R-V Farms, Ver** 72.72 336 ⇓P P 15 06 54.3 -0.8
baz=73,SNR=59
X34A **Smith Ranch, M** 72.74 338 ⇑P P 15 06 54.7 -0.5
baz=73,SNR=81
PBMO **Poplar Bluff** 72.81 344 *e*P P 15 06 53.9 -1.5
comp=Z,595nm,1.3s
Z29A **Hungry Hill Ra** 72.83 334 ⇓P P 15 06 54.8 -1.0
baz=73,SNR=85
MAW **Mawson** 72.84 163 P P 15 06 56.5 +1.1
comp=Z,98nm,0.9s,baz=218,slow=8.9,SNR=12
MAW LR LR 15 38 53.2
comp=Z,204µm,21.5s,baz=226,slow=36
MNTX **Cornudas Mount** 72.86 330 *e*P P 15 06 54.2 -1.7
comp=Z,178nm,1.6s
X33A **Lawton** 72.90 337 ⇓P P 15 06 54.7 -1.3
baz=73,SNR=19
Y31A **Rekieta Farm,** 72.96 336 ⇑P P 15 06 55.3 -1.2
baz=73,SNR=92
X32A **Elmer** 73.05 336 ⇑P P 15 06 56.1 -0.9
baz=73,SNR=51
Y30A **Stafford Cattl** 73.10 335 ⇑P P 15 06 56.3 -1.1
baz=74,SNR=34
Z28A **Tucker Farm, M** 73.11 334 ⇑P P 15 06 56.6 -0.8
baz=74,SNR=34
WMOK **Wichita Mounta** 73.17 337 *e*P P 15 06 55.5 -2.2
WMOK pmax pmax
comp=Z,2µm,2.5s
WMOK **Wichita Mounta** 73.17 337 *e*P P 15 06 55.5 -2.2
comp=Z,2µm,2.5s
W34A **Bridge Creek,** 73.31 338 ⇑P P 15 06 57.7 -0.8
baz=74,SNR=23
W34A **Bridge Creek,** 73.31 338 *e*P P 15 06 57.5 -1.0
comp=Z,7µm,3.0s
TUL1 **Leonard** 73.35 340 ⇑P P 15 06 57.4 -1.3
baz=74,SNR=54
TUL1 **Leonard** 73.35 340 *e*P P 15 06 57.4 -1.3
comp=Z,462nm,1.0s
Y29A **Porterfield Fa** 73.36 334 ⇓P P 15 06 58.0 -0.9
baz=74,SNR=39
KOMG **Komaggas** 73.36 115 *e*P P 15 06 59.4 +0.1
KOMG AMB AMB 15 07 06.5
comp=Z,616nm,1.6s
KOMG **Komaggas** 73.36 115 P P 15 06 59.4 +0.1
comp=Z,616nm,1.6s
USIN **University of** 73.39 347 *e*P P 15 06 56.9 -2.0
comp=Z,633nm,1.0s
WCI **Wyandotte Cave** 73.40 348 *e*P P 15 06 56.6 -2.4

WCI pmax pmax
comp=Z,488nm,1.5s
WCI Wyandotte Cave 73.40 348 eP **P 15 06 56.6 -2.4**
comp=Z,488nm,1.5s
SIUC Southern Illin 73.45 346 eP **P 15 06 57.6 -1.6**
comp=Z,407nm,1.0s
W33A Caddo, Fort Co 73.45 337 ⇓P **P 15 06 58.6 -0.7**
baz=74,SNR=101
X31A McDonald Ranch 73.47 336 ⇑P **P 15 06 58.6 -0.9**
baz=74,SNR=66
SDMD Soldier's Deli 73.48 356 eP **P 15 06 59.0 -0.4**
comp=Z,238nm,1.0s
X30A Coker Ranch, T 73.61 335 ⇓P **P 15 06 59.4 -1.0**
baz=74,SNR=32
Y28A McKinney Farm, 73.61 334 ⇓P **P 15 06 59.5 -0.9**
baz=74,SNR=31
W32A Sentinel 73.68 337 ⇑P **P 15 06 59.8 -0.9**
baz=74,SNR=114
V34A Guthrie 73.79 338 ⇑P **P 15 07 00.3 -0.9**
baz=74,SNR=58
V34A Guthrie 73.79 338 eP **P 15 06 59.9 -1.4**
comp=Z,400nm,1.0s
MSTX Muleshoe 73.86 334 ⇑P **P 15 07 00.8 -1.1**
baz=74,SNR=104
MSTX Muleshoe 73.86 334 eP **P 15 07 00.8 -1.1**
comp=Z,320nm,0.9s
X29A Tulia 73.90 335 ⇑P **P 15 07 01.0 -1.0**
baz=74,SNR=39
Y27A Causey 73.93 333 ⇑P **P 15 07 01.2 -1.1**
baz=74,SNR=37
W31A Holland Ranch, 73.96 336 ⇓P **P 15 07 01.2 -1.2**
baz=74,SNR=55
V33A Lossen Ranch, 74.01 338 ⇓P **P 15 07 01.8 -0.8**
baz=74,SNR=58
MVL Millersville 74.04 356 eP **P 15 07 02.5 -0.2**
comp=Z,567nm,1.5s
X28A Dimmitt 74.14 334 ⇓P **P 15 07 03.0 -0.6**
baz=74,SNR=24
V32A Arapaho 74.16 337 ⇓P **P 15 07 03.0 -0.5**
baz=74,SNR=47
W30A Crocket Farms 74.17 336 ⇑P **P 15 07 02.7 -1.0**
baz=74
OLIL Olney 74.22 347 eP **P 15 07 01.6 -2.1**
comp=Z,382nm,1.1s
319A Douglas 74.25 327 P **P 15 07 04.2 -0.1**
baz=75
AMTX Amarillo 74.28 335 ⇓P **P 15 07 03.4 -0.9**
baz=75
AMTX Amarillo 74.28 335 eP **P 15 07 03.1 -1.2**
comp=Z,7μm,2.8s
U34A Anderson Ranch 74.35 339 ⇓P **P 15 07 03.7 -0.8**
baz=75,SNR=48
U34A Anderson Ranch 74.35 339 eP **P 15 07 03.5 -1.0**
comp=Z,447nm,1.0s
BLO Bloomington 74.36 348 eP **P 15 07 02.8 -1.7**
BLO pmax pmax
comp=Z,354nm,1.1s
BLO Bloomington 74.36 348 eP **P 15 07 02.8 -1.7**
comp=Z,354nm,1.1s
V31A Spring Creek L 74.47 337 ⇓P **P 15 07 05.4 +0.1**
baz=75,SNR=21
W29A Amarillo 74.49 335 ⇓P **P 15 07 04.6 -0.9**
baz=75,SNR=67
SUR Sutherland 74.52 119 P **P 15 07 04.9 -1.2**
comp=Z,352nm,1.0s,baz=248,slow=4.8,SNR=34
SUR Sutherland 74.52 119 eP **P 15 07 05.6 -0.6**
SLM Saint Louis 74.55 345 eP **P 15 07 04.5 -1.1**
SLM pmax pmax
comp=Z,762nm,1.2s
SLM Saint Louis 74.55 345 eP **P 15 07 04.5 -1.1**
comp=Z,762nm,1.2s
X27A F and S Farms, 74.58 334 ⇓P **P 15 07 05.0 -1.1**
baz=75,SNR=12
121A Cookes Peak, D 74.59 329 ⇓P **P 15 07 06.3 0.0**
baz=75,SNR=178
121A Cookes Peak, D 74.59 329 eP **P 15 07 06.3 0.0**
comp=Z,708nm,1.1s
BRNJ Basking Ridge 74.65 358 eP **P 15 07 06.0 -0.1**
comp=Z,214nm,1.0s
LIC Lamto 74.68 71 eP **P 15 07 05.8 -1.2**
comp=Z,474nm,0.9s,baz=242
LIC Lamto 74.68 71 eP **P 15 07 05.3 -1.7**
comp=Z,983nm,1.2s
LIC Lamto 74.68 71 eP **P 15 07 05.8 -1.2**
comp=Z,474nm,0.9s
V30A Spur Ranch, Mi 74.74 336 ⇑P **P 15 07 06.8 -0.1**
baz=75,SNR=20
CPNY Central Park 74.74 358 eP **P 15 07 08.9 +2.3**
comp=Z,2μm,2.7s
U32A Winter Ranch, 74.75 338 ⇓P **P 15 07 06.3 -0.6**
baz=75,SNR=41
X26A CR and CF Fran 74.76 333 ⇑P **P 15 07 06.8 -0.4**
baz=75,SNR=105
SSPA Standing Stone 74.77 355 eP **P 15 07 05.9 -0.9**
comp=Z,698nm,1.8s
W28A Vega 74.81 335 ⇑P **P 15 07 06.8 -0.5**
baz=75,SNR=9.8
Y24A Capitan 74.84 331 ⇑P **P 15 07 07.8 +0.1**
baz=75,SNR=102
Z22A Elephant Butte 74.87 330 ⇑P **P 15 07 08.1 +0.3**
baz=75,SNR=94
ACSO Alum Creek Sta 74.87 351 eP **P 15 07 05.5 -2.0**
W27A Bowe Ranch, En 74.94 334 ⇓P **P 15 07 07.5 -0.7**
baz=75,SNR=122
TIC Toumodi 74.94 71 eP **P 15 07 06.3 -2.3**
comp=Z,426nm,0.9s
PAL Palisades 74.95 358 eP **P 15 07 09.9 +2.0**
PAL pmax pmax
comp=Z,119nm,1.1s
PAL Palisades 74.95 358 eP **P 15 07 09.9 +2.0**
comp=Z,119nm,1.1s
KIC Kosan Boka 74.99 71 eP **P 15 07 07.3 -1.5**
comp=Z,1μm,1.1s
U31A Nine Bar Ranch 75.01 337 ⇑P **P 15 07 07.7 -0.8**
baz=75,SNR=18
ODNJ Ogdensburg 75.05 358 eP **P 15 07 08.2 -0.3**
comp=Z,2μm,2.4s
X25A Clemmons Ranch 75.06 332 ⇓P **P 15 07 07.8 -1.2**
baz=75,SNR=7.9
Y23A Lovelace Mesa, 75.09 331 ⇑P **P 15 07 09.6 +0.5**
baz=75,SNR=128
DBIC Dimbokro 75.09 71 eP **P 15 07 07.9 -1.4**
DBIC Dimbokro 75.09 71 eP **P 15 07 08.0 -1.4**
DBIC S **S 15 16 49.0 +2.5**
DBIC pmax pmax
comp=Z,2μm,1.9s
DBIC Dimbokro 75.09 71 P **P 15 07 08.3 -1.1**
comp=Z,94nm,0.6s,baz=210,slow=6.9,SNR=53
DBIC S **S 15 16 49.0 +2.5**
comp=Z,4.5nm,0.9s,baz=106,slow=24,SNR=5.8
DBIC LR LR 15 38 14.1
comp=Z,153μm,19.6s,baz=222,slow=34
DBIC Dimbokro 75.09 71 eP **P 15 07 08.0 -1.3**
comp=Z,2μm,1.9s
DBIC S **S 15 16 49.0 +2.5**
V29A Stinnett 75.12 335 ⇑P **P 15 07 08.8 -0.4**
baz=76,SNR=15
T33A Patterson Ranc 75.16 338 ⇓P **P 15 07 08.7 -0.6**
baz=76,SNR=92
W26A Owens Ranch, T 75.22 333 ⇑P **P 15 07 09.1 -0.7**
baz=76,SNR=91
YLE Yale 75.25 359 eP **P 15 07 09.9 +0.4**
comp=Z,495nm,0.9s
V28A Channing 75.26 335 ⇓P **P 15 07 08.7 -1.3**
baz=76,SNR=46
X24A Lazy VL Ranch, 75.40 332 ⇑P **P 15 07 10.9 0.0**
baz=76,SNR=62
U30A WK&E Inc. Balk 75.42 336 ⇑P **P 15 07 10.4 -0.4**
baz=76,SNR=59
T32A Huddler Ranch, 75.46 338 ⇑P **P 15 07 10.4 -0.6**
baz=76,SNR=52
V27A Dan Oppiter Fa 75.48 334 ⇑P **P 15 07 10.6 -0.7**
baz=76,SNR=41
U29A Oasis Ranch, S 75.56 336 ⇑P **P 15 07 11.2 -0.5**
baz=76
S33A Kaszmaul Farm, 75.56 339 ⇑P **P 15 07 11.0 -0.6**
baz=76,SNR=23
Y22D IRIS PASSCAL I 75.56 330 ⇑P **P 15 07 12.2 +0.4**
baz=76
KSPA Keystone Colle 75.57 357 eP **P 15 07 10.9 -0.5**
comp=Z,417nm,1.6s
W25A X Bar L Ranch, 75.60 333 ⇓P **P 15 07 11.5 -0.5**
baz=76,SNR=130
T31A Randall Ranch, 75.62 337 ⇓P **P 15 07 11.3 -0.6**
baz=76,SNR=48
SFIN Lafayette 75.63 348 ⇓P **P 15 07 10.5 -1.3**
baz=76,SNR=42
SFIN Lafayette 75.63 348 eP **P 15 07 09.4 -2.4**
comp=Z,3μm,2.8s
LPM Los Pinos Moun 75.65 331 eP **P 15 07 11.8 -0.5**
LENM Lemitar 75.66 330 eP **P 15 07 14.2 +1.8**
X23A Hourglass Bar 75.71 331 ⇑P **P 15 07 12.3 -0.4**
baz=76,SNR=32
TUC Tucson 75.72 327 eP **P 15 07 12.4 -0.3**
TUC pmax pmax
comp=Z,548nm,1.4s
TUC Tucson 75.72 327 eP **P 15 07 12.4 -0.3**
comp=Z,548nm,1.4s
U28A Mallet 75.82 335 ⇑P **P 15 07 12.7 -0.5**
baz=76,SNR=66
T30A Plains 75.86 337 ⇓P **P 15 07 12.5 -0.8**
baz=76,SNR=8.6
V26A Tequesquite Ra 75.86 334 ⇑P **P 15 07 12.9 -0.6**
baz=76
LAZ Ladron 75.94 330 eP **P 15 07 13.8 -0.2**
comp=Z,96nm,1.2s
S32A Newby Ranch, P 75.94 338 ⇓P **P 15 07 13.0 -0.7**
baz=76,SNR=36
W24A Lazy 6 Ranch, 75.95 332 ⇑P **P 15 07 14.0 -0.1**
baz=76,SNR=79
S31A Mullinville 76.04 338 ⇓P **P 15 07 13.9 -0.4**
baz=76,SNR=28
U27A Thompson Grove 76.07 335 ⇑P **P 15 07 14.6 -0.1**
baz=76,SNR=67
ANMO Albuquerque 76.13 331 *d iP* **P 15 07 14.0 -1.1**
ANMO pmax pmax
comp=Z,1μm,1.1s
ANMO MLR MLR
comp=Z,181μm,12.0s
ANMO Albuquerque 76.13 331 P **P 15 07 14.5 -0.7**
comp=Z,48nm,0.9s,baz=155,slow=7.9,SNR=41
ANMO S **S 15 17 00.3 +2.8**
comp=Z,0.7nm,0.5s,baz=246,slow=23,SNR=6.5
ANMO Albuquerque 76.13 331 eP **P 15 07 14.4 -0.7**
comp=Z,335nm,1.1s
ANMO S **S 15 17 00.3 +2.8**
W23A Werner Place, 76.20 332 ⇑P **P 15 07 15.7 +0.2**
baz=76,SNR=112
T29A Hugoton 76.21 336 ⇑P **P 15 07 14.6 -0.7**
baz=77,SNR=46
V25A Rancho No Teng 76.21 333 ⇓P **P 15 07 14.8 -0.7**
baz=77,SNR=118
R33A Olander Ranch, 76.22 339 ⇓P **P 15 07 14.6 -0.7**
baz=77,SNR=36
BINY Binghamton 76.22 357 eP **P 15 07 13.6 -1.6**
comp=Z,11nm,0.4s
V24A Rampart Ranch, 76.36 332 ⇓P **P 15 07 15.8 -0.6**
baz=77,SNR=60
214A Organ Pipe Nat 76.37 325 ⇓P **P 15 07 16.4 +0.1**
baz=77,SNR=137
214A Organ Pipe Nat 76.37 325 eP **P 15 07 16.0 -0.3**
comp=Z,3μm,1.2s
S30A Montezuma 76.37 337 ⇓P **P 15 07 15.7 -0.5**
baz=77,SNR=38
U26A Atchley Ranch, 76.38 334 ⇓P **P 15 07 15.5 -0.9**
baz=77,SNR=34
ERPA Erie 76.41 354 eP **P 15 07 15.1 -1.2**
comp=Z,391nm,1.3s
HRV Adam Dziewonsk 76.43 0 eP **P 15 07 16.0 -0.3**
HRV pmax pmax
comp=Z,242nm,0.9s
HRV Adam Dziewonsk 76.43 0 eP **P 15 07 16.0 -0.3**
comp=Z,242nm,0.9s
T28A Walsh 76.45 335 ⇓P **P 15 07 15.9 -0.9**
baz=77,SNR=141
R32A Long Quarter, 76.54 339 ⇑P **P 15 07 16.3 -0.8**
baz=77,SNR=50
KSU1 Kansas State U 76.56 340 ⇓P **P 15 07 15.9 -1.3**
baz=77,SNR=38
KSU1 Kansas State U 76.56 340 eP **P 15 07 15.8 -1.4**
comp=Z,274nm,1.0s
S29A Ulysses 76.57 336 ⇓P **P 15 07 16.4 -0.9**
baz=77,SNR=66
T27A Campo 76.61 335 ⇑P **P 15 07 17.0 -0.7**
baz=77,SNR=56
U25A Circle Dot Ran 76.63 333 ⇑P **P 15 07 17.2 -0.7**
baz=77,SNR=112
R31A Burdett 76.67 338 ⇓P **P 15 07 17.4 -0.5**
baz=77,SNR=37
TRY Troy 76.67 359 eP **P 15 07 17.3 -0.3**
comp=Z,583nm,1.3s
V23A Ortiz Mt. (NFS 76.72 332 ⇓P **P 15 07 18.6 +0.1**
baz=77,SNR=23
WIN Windhoek 76.78 108 eP **P 15 07 17.9 -1.4**
WIN AMB AMB 15 07 32.2
comp=Z,132nm,3.3s
WIN Windhoek 76.78 108 P **P 15 07 17.9 -1.4**
WIN Windhoek 76.78 108 P **P 15 07 17.9 -1.4**
comp=Z,132nm,3.3s
S28A Manter 76.80 336 ⇑P **P 15 07 17.8 -0.9**
baz=77,SNR=116
Q33A Connelly Farm, 76.81 339 ⇑P **P 15 07 17.9 -0.7**
baz=77,SNR=38
MMNY Mt. Morris Dam 76.86 355 eP **P 15 07 18.0 -0.8**
comp=Z,1μm,1.3s
R30A Dighton 76.90 337 ⇑P **P 15 07 18.8 -0.4**
baz=77,SNR=44
UPI Upington 76.93 115 eP **P 15 07 18.2 -1.6**
UPI AMB AMB 15 07 32.6
comp=Z,626nm,3.7s
UPI Upington 76.93 115 P **P 15 07 18.2 -1.6**
comp=Z,626nm,3.7s
U24A Moreno Valley 76.96 333 ⇓P **P 15 07 19.4 -0.4**
baz=77,SNR=22
AAM Ann Arbor 77.00 351 eP **P 15 07 19.1 -0.4**
AAM pmax pmax
comp=Z,1μm,1.8s
AAM Ann Arbor 77.00 351 eP **P 15 07 19.1 -0.4**
comp=Z,1μm,1.8s
Q32A Meitler Ranch, 77.02 339 ⇓P **P 15 07 18.8 -0.9**
baz=77,SNR=57
T26A Comanche Natio 77.02 334 ⇓P **P 15 07 19.8 -0.3**
baz=77,SNR=83
V22A San Miguel Ran 77.16 331 ⇓P **P 15 07 21.3 +0.3**
baz=78,SNR=263
P33A Williams Farm, 77.18 340 ⇓P **P 15 07 19.9 -0.8**
baz=78,SNR=15
X18A Snowflake 77.23 328 ⇓P **P 15 07 21.6 +0.3**
baz=78,SNR=136
S27A Las Animas 77.23 335 ⇑P **P 15 07 20.4 -0.8**
baz=78,SNR=50
U23A El Rito 77.24 332 ⇑P **P 15 07 21.6 +0.2**
baz=78,SNR=107
T25A Trinidad 77.28 334 ⇑P **P 15 07 21.5 -0.1**
baz=78,SNR=140
Q31A Ellis 77.28 338 ⇑P **P 15 07 20.6 -0.7**
baz=78,SNR=44
R29A Marienthal 77.30 337 ⇑P **P 15 07 20.8 -0.7**
baz=78,SNR=23
ACCN Adirondack Com 77.33 359 eP **P 15 07 20.8 -0.6**
comp=Z,2μm,2.1s
S26A Kim 77.37 335 ⇑P **P 15 07 21.3 -0.7**
baz=78,SNR=182
R28A Tribune 77.45 336 ⇓P **P 15 07 21.6 -0.7**
baz=78,SNR=96
113A Mohawk Valley, 77.49 325 ⇑P **P 15 07 22.4 -0.2**
baz=78,SNR=38
Q30A Quinter 77.51 338 ⇑P **P 15 07 22.1 -0.5**
baz=78,SNR=76
U22A Llaves 77.54 332 ⇑P **P 15 07 23.1 +0.1**
baz=78,SNR=103
T24B San Luis 77.57 333 ⇑P **P 15 07 23.1 -0.2**
baz=78,SNR=135
Z14A Wintersburg 77.60 326 ⇓P **P 15 07 23.2 +0.1**
baz=78,SNR=14
P32A Huiting Farm, 77.61 339 ⇑P **P 15 07 21.8 -1.3**
baz=78,SNR=20
HNH Hanover 77.63 360 eP **P 15 07 23.1 +0.1**
comp=Z,962nm,1.8s
W18A Petrified Fore 77.64 329 ⇑P **P 15 07 23.1 -0.4**
baz=78,SNR=98
W18A Petrified Fore 77.64 329 eP **P 15 07 23.5 -0.1**
comp=Z,699nm,1.3s
Q29A Oakley 77.68 337 ⇓P **P 15 07 22.5 -1.0**
baz=78,SNR=44
R27A Eads 77.73 335 ⇓P **P 15 07 23.2 -0.8**
baz=78,SNR=136
P31A Stockton 77.75 339 ⇑P **P 15 07 23.1 -0.9**
baz=78,SNR=69
S25A Robets Cordova 77.75 334 ⇑P **P 15 07 24.0 -0.2**
baz=78,SNR=135
X16A Lo Mia Camp, P 77.79 327 P **P 15 07 24.3 -0.1**
baz=78
T23A Casias Ranch, 77.80 333 ⇑P **P 15 07 24.1 -0.4**
baz=78,SNR=73
NCB Newcomb 77.92 358 eP **P 15 07 23.7 -1.0**
comp=Z,132nm,0.9s
MDV Middlebury 77.93 359 eP **P 15 07 23.9 -0.8**
R26A Arlington 77.97 335 ⇓P **P 15 07 24.4 -0.9**
baz=78,SNR=112
S24A Houchin Ranch, 78.02 333 ⇓P **P 15 07 25.1 -0.7**
baz=78,SNR=247
P30A Selden 78.04 338 ⇓P **P 15 07 25.5 0.0**
baz=78,SNR=42
GRM Grahamstown 78.09 122 eP **P 15 07 24.2 -2.0**
GRM AMB AMB 15 07 38.5
GRM Grahamstown 78.09 122 P **P 15 07 24.2 -2.0**
GRM pmax pmax
comp=Z,687nm,2.9s
GRM Grahamstown 78.09 122 P **P 15 07 24.2 -2.0**
comp=Z,687nm,2.9s
Y14A Wickenburg 78.10 326 ⇓P **P 15 07 26.0 0.0**
baz=78,SNR=124
O32A Brockman Farm, 78.11 340 ⇑P **P 15 07 25.2 -0.7**
baz=78,SNR=46
Q28A Sharon Springs 78.11 337 ⇓P **P 15 07 25.4 -0.6**
baz=78,SNR=53
R25A Fountain Ranch 78.13 334 ⇑P **P 15 07 26.2 0.0**
baz=78,SNR=66
LBNH Lisbon 78.16 360 eP **P 15 07 25.7 -0.3**
LBNH pmax pmax
comp=Z,212nm,0.9s
LBNH Lisbon 78.16 360 eP **P 15 07 25.7 -0.3**
comp=Z,212nm,0.9s
GLA Glamis 78.24 324 eP **P 15 07 26.8 0.0**
GLA pmax pmax
comp=Z,2μm,1.9s
GLA Glamis 78.24 324 ⇑P **P 15 07 27.2 +0.5**
baz=79,SNR=35
GLA Glamis 78.24 324 eP **P 15 07 26.8 0.0**
comp=Z,2μm,1.9s
P29A Atwood 78.31 337 ⇓P **P 15 07 26.7 -0.3**
baz=79,SNR=89
O31A Woolen Ranch, 78.32 339 ⇑P **P 15 07 26.2 -0.8**
baz=79,SNR=24
KSCO Kaye Shedlock' 78.33 336 ⇓P **P 15 07 26.8 -0.4**
baz=79,SNR=20
KSCO Kaye Shedlock' 78.33 336 eP **P 15 07 27.1 -0.1**
comp=Z,3μm,2.2s
SCIA State Center 78.34 344 eP **P 15 07 25.6 -1.5**
comp=Z,5μm,2.5s
S23A Nye Farm, Mont 78.37 333 ⇑P **P 15 07 27.7 0.0**
baz=79,SNR=17
R24A Sanders Place, 78.50 334 P **P 15 07 28.1 -0.2**
baz=79
WVL Waterville 78.51 2 eP **P 15 07 28.2 +0.3**
comp=Z,662nm,1.4s
PTN Potsdam (NY) 78.55 358 eP **P 15 07 27.2 -0.9**
PTN pmax pmax
comp=Z,1μm,1.6s
PTN Potsdam (NY) 78.55 358 eP **P 15 07 27.2 -0.9**
comp=Z,1μm,1.6s
P28A Saint Francis 78.55 337 ⇑P **P 15 07 28.2 -0.2**
baz=79,SNR=43
Q26A Hugo 78.56 335 ⇓P **P 15 07 28.2 -0.3**
baz=79,SNR=20
O30A MW Ranch, Wils 78.56 338 ⇑P **P 15 07 27.7 -0.8**
baz=79,SNR=32
N32A Stulken Farm, 78.58 340 ⇑P **P 15 07 27.5 -0.9**
baz=79,SNR=16
LONY Lake Ozonia 78.58 358 eP **P 15 07 27.5 -0.8**
SWSC Sam W. Stewart 78.62 323 ⇑P **P 15 07 28.2 -0.6**
baz=79,SNR=45
Y12C Blythe 78.66 325 ⇓P **P 15 07 28.6 -0.4**
baz=79,SNR=106
JFWS Jewell Farm 78.67 346 eP **P 15 07 27.3 -1.6**
JFWS pmax pmax
comp=Z,873nm,1.4s
JFWS Jewell Farm 78.67 346 eP **P 15 07 27.3 -1.6**
comp=Z,874nm,1.4s
WUAZ Wupatki 78.68 328 ⇓P **P 15 07 30.0 +0.7**
baz=79,SNR=254
WUAZ Wupatki 78.68 328 eP **P 15 07 29.5 +0.2**
comp=Z,380nm,1.0s
S22A 4UR Ranch, Cre 78.72 332 ⇓P **P 15 07 30.1 +0.4**
baz=79,SNR=130
R23A Moffat 78.73 333 ⇑P **P 15 07 29.6 -0.1**
baz=79,SNR=49
O29A 4D Ranch, Culb 78.74 338 ⇑P **P 15 07 28.8 -0.7**
baz=79,SNR=21
Q25A Bedland, Calha 78.80 335 ⇓P **P 15 07 29.4 -0.6**
baz=79,SNR=18
P27A Ficken Ranch, 78.80 336 ⇑P **P 15 07 29.6 -0.3**
baz=79,SNR=23
N31A Bailey Ranch, 78.82 339 ⇓P **P 15 07 29.1 -0.7**
baz=79,SNR=27
BAR Barrett 78.85 323 eP **P 15 07 30.0 -0.1**
comp=Z,295nm,1.2s
HVD Gariep Dam 78.85 119 eP **P 15 07 29.5 -1.1**
HVD AMB AMB 15 07 34.3
comp=Z,1μm,1.1s
HVD Gariep Dam 78.85 119 P **P 15 07 29.5 -1.1**
HVD pmax pmax
comp=Z,1μm,1.1s
HVD Gariep Dam 78.85 119 P **P 15 07 29.5 -1.1**
comp=Z,1μm,1.1s
MONP Monument Peak, 78.89 323 ⇓P **P 15 07 30.4 -0.2**
baz=79,SNR=46
MVCO Mesa Verde 78.92 331 ⇓P **P 15 07 31.0 +0.3**
baz=79,SNR=107
MVCO Mesa Verde 78.92 331 eP **P 15 07 30.1 -0.6**
comp=Z,386nm,1.0s
PDMCI Parker Dam,Lak 78.93 325 ⇓P **P 15 07 30.7 +0.2**
baz=79,SNR=39
TSUM Tsumeb 78.94 106 P **P 15 07 30.7 -0.6**
comp=Z,200nm,1.1s,baz=230,slow=6.2,SNR=72
TSUM Tsumeb 78.94 106 eP **P 15 07 29.9 -1.3**
comp=Z,498nm,1.3s
BC3 Big Chuckawall 79.03 324 ⇑P **P 15 07 31.8 +0.6**
baz=79,SNR=127
O28A Krutsinger Ran 79.05 337 ⇑P **P 15 07 30.8 -0.3**
baz=79,SNR=59
P26A Davis Ranch, A 79.07 336 ⇑P **P 15 07 31.1 -0.2**
baz=79,SNR=59
BGNE Belgrade 79.13 340 ⇓P **P 15 07 30.8 -0.7**
baz=80,SNR=26
BGNE Belgrade 79.13 340 eP **P 15 07 30.6 -0.8**
comp=Z,1μm,1.3s
N30A Hueftle Ranch, 79.14 339 ⇑P **P 15 07 31.3 -0.3**
baz=80
Q24A Divide 79.17 334 ⇑P **P 15 07 32.0 -0.1**
baz=80,SNR=213
PKME Peaks-Kenny Pk 79.22 2 eP **P 15 07 31.5 -0.2**
comp=Z,98nm,0.8s
109C Camp Elliot, M 79.23 322 ⇑P **P 15 07 32.5 +0.4**
baz=80,SNR=6.7
IRM Iron Mountain 79.29 325 ⇓P **P 15 07 32.9 +0.3**
baz=80,SNR=136
P25A Willow Gulch B 79.31 335 ⇓P **P 15 07 33.0 +0.4**
baz=80,SNR=130
M31A Lambtecht Ranc 79.31 340 ⇑P **P 15 07 31.9 -0.6**
baz=80,SNR=56
N29A Votaw Ranch, W 79.32 338 ⇑P **P 15 07 32.2 -0.4**
baz=80,SNR=28
O27A Beecher Island 79.34 337 ⇑P **P 15 07 32.8 0.0**
baz=80,SNR=48
Q23A Hartsel 79.36 334 ⇓P **P 15 07 32.8 -0.4**
baz=80
W13A Hualapai Mount 79.47 326 ⇑P **P 15 07 33.2 -0.5**
baz=80
PFO Pinyon Flats O 79.48 323 P **P 15 07 33.7 0.0**
PFO S **S 15 17 37.4 +3.7**
PFO pmax pmax
comp=Z,219nm,0.9s
PFO smax smax
comp=N,1.0nm,0.6s
PFO Pinyon Flats O 79.48 323 P **P 15 07 33.7 0.0**
comp=N,219nm,0.9s,baz=132,slow=4.8,SNR=37
PFO S **S 15 17 37.4 +3.7**
comp=N,1.3nm,0.6s,baz=267,slow=21,SNR=7.5
PFO Pinyon Flats O 79.48 323 ⇓P **P 15 07 34.1 +0.3**
baz=80,SNR=118
PFO Pinyon Flats O 79.48 323 P **P 15 07 33.7 0.0**
comp=N,122nm,1.0s
PFO S **S 15 17 37.4 +3.7**
N28A Pribbeno Ranch 79.49 337 ⇓P **P 15 07 33.1 -0.5**
baz=80,SNR=28
NEE2 Needles Airpor 79.54 325 ⇑P **P 15 07 33.6 -0.2**
baz=80,SNR=24
P24A Kohler Place, 79.57 335 ⇓P **P 15 07 34.1 0.0**
baz=80,SNR=5.9
BELC Belle Mtn. Jos 79.58 324 ⇑P **P 15 07 34.2 -0.1**
baz=80,SNR=35

O26A Horse Wrangler 79.67 336 ⇊P P 15 07 34.3 -0.3
baz=80,SNR=54
CASY Casey 79.73 181 eP P 15 07 33.7 -0.9
comp=N,1µm,1.7s
PV01 Paradox Valley 79.74 331 eP P 15 07 34.8 -0.3
comp=N,7.1nm,0.5s
M30A Dale-Ortello V 79.75 339 ⇑P P 15 07 34.7 -0.1
baz=80,SNR=16
BOSA Boshof 79.76 118 eP P 15 07 34.1 -1.4
BOSA AMB AMB 15 07 38.8
comp=Z,819nm,1.1s
BOSA Boshof 79.76 118 P P 15 07 34.0 -1.6
BOSA S S 15 17 38.2 +1.0
BOSA pmax pmax
comp=Z,450nm,0.8s
BOSA smax smax
comp=N,3.0nm,0.9s
BOSA Boshof 79.76 118 P P 15 07 34.0 -1.6
comp=N,450nm,0.8s,baz=242,slow=4.4,SNR=64
BOSA S S 15 17 38.2 +1.0
comp=N,3.0nm,0.9s,baz=106,slow=19,SNR=3.6
BOSA LR LR 15 41 07.6
comp=N,70µm,18.6s,baz=237,slow=34
P23A Jefferson 79.78 334 ⇊P P 15 07 35.2 -0.3
baz=80,SNR=29
O25A Wiggins 79.83 335 ⇑P P 15 07 35.0 -0.5
baz=80,SNR=50
MURC Murrieta 79.85 323 ⇑P P 15 07 35.4 -0.2
baz=80,SNR=94
U15A North Rim 79.85 328 P P 15 07 35.7 -0.2
baz=80
M29A Burnside Ranch 79.91 338 ⇑P P 15 07 35.1 -0.7
baz=80,SNR=23
N27A Anderson Farm, 79.92 337 ⇑P P 15 07 35.6 -0.3
baz=80,SNR=63
LDFC Landfair 80.02 325 eP P 15 07 39.5 +2.9
comp=N,537nm,1.2s
SMCO Snowmass 80.03 333 eP P 15 07 36.7 -0.2
comp=N,523nm,1.2s
SCI San Clemente I 80.04 322 ⇑P P 15 07 36.9 +0.3
baz=80,SNR=9.7
L31A Butterfield Fa 80.04 340 ⇑P P 15 07 36.2 -0.2
baz=80,SNR=68
GMRC Granite Mounta 80.04 325 ⇑P P 15 07 37.2 +0.5
baz=80,SNR=167
ISCO Idaho Springs 80.07 334 eP P 15 07 35.5 -1.5
ISCO pmax pmax
comp=Z,308nm,1.3s
ISCO Idaho Springs 80.07 334 ⇑P P 15 07 36.4 -0.6
baz=80,SNR=108
ISCO Idaho Springs 80.07 334 eP P 15 07 35.5 -1.5
comp=Z,308nm,1.3s
M28A Bar X Bar Ranc 80.08 338 ⇊P P 15 07 36.1 -0.6
baz=80,SNR=16
L30A Spencer Herefo 80.08 339 ⇊P P 15 07 36.7 0.0
baz=80,SNR=25
PV04 Paradox Valley 80.10 331 eP P 15 07 36.6 -0.4
N26A Koester Ranch, 80.16 336 ⇊P P 15 07 36.9 -0.3
baz=80,SNR=21
O24A Longmont 80.17 335 ⇑P P 15 07 37.4 +0.1
baz=80
BBRC Big Bear Solar 80.24 323 ⇊P P 15 07 38.5 +0.6
baz=81,SNR=25
CIS Catalina Islan 80.30 322 ⇊P P 15 07 38.2 +0.2
baz=81,SNR=17
P22A Eagle 80.31 333 ⇊P P 15 07 38.4 +0.2
baz=81,SNR=56
HEC Hector,Ludlow 80.41 324 ⇊P P 15 07 39.0 +0.4
baz=81,SNR=82
L29A Maesberg Ranch 80.42 339 ⇊P P 15 07 38.2 -0.3
baz=81,SNR=29
N25A Grover 80.44 336 ⇑P P 15 07 39.0 +0.2
baz=81
FMP Fort Macarthur 80.49 322 ⇑P P 15 07 39.0 +0.1
baz=81,SNR=5.7
M27A Reverse DX Ran 80.52 337 ⇑P P 15 07 39.2 +0.1
baz=81,SNR=18
O23A Lake Granby, G 80.55 334 ⇑P P 15 07 39.2 -0.3
baz=81,SNR=162
BFSC Mount Baldy Ra 80.58 323 ⇑P P 15 07 39.7 0.0
baz=81,SNR=112
SWZ Schweizer 80.60 116 eP P 15 07 38.5 -1.6
SWZ AMB AMB 15 07 53.9
comp=Z,701nm,3.7s
SWZ Schweizer 80.60 116 P P 15 07 38.5 -1.6
comp=Z,701nm,3.7s
L28A Connealy Angus 80.68 338 ⇊P P 15 07 39.8 -0.1
baz=81,SNR=8.0
TUQ Turquoise Moun 80.70 325 ⇊P P 15 07 40.5 +0.2
baz=81,SNR=185
M26A McRoberts Ranc 80.71 337 ⇑P P 15 07 39.6 -0.5
baz=81,SNR=9.7
K30A Basset 80.72 340 ⇊P P 15 07 39.9 -0.1
baz=81,SNR=84
N24A Carr 80.72 335 ⇑P P 15 07 40.4 +0.1
baz=81,SNR=31
O22A Kremmling 80.73 334 ⇑P P 15 07 40.3 -0.2
baz=81,SNR=143
RRX Edison Barstow 80.77 324 ⇑P P 15 07 41.8 +1.3
baz=81,SNR=18
MWC Mount Wilson 80.77 323 eP P 15 07 40.7 0.0
MWC pmax pmax
comp=Z,2µm,2.3s
MWC Mount Wilson 80.77 323 eP P 15 07 40.7 0.0
comp=Z,2µm,2.3s
PASC Pasadena Art C 80.80 323 eP P 15 07 40.1 -0.5
comp=Z,120nm,1.2s
ECSD EROS Data Cent 80.89 342 ⇊P P 15 07 39.5 -1.4
baz=81,SNR=254
ECSD EROS Data Cent 80.89 342 eP P 15 07 39.6 -1.3
comp=Z,596nm,0.9s
DECC Green Verdugo 80.93 323 ⇑P P 15 07 42.6 +1.3
baz=81,SNR=15
M25A Palm-Egli Farm 80.98 336 ⇊P P 15 07 41.5 -0.1
baz=81,SNR=21
L27A T5 Ranch, Ells 81.00 338 ⇊P P 15 07 40.8 -0.8
baz=81,SNR=24
K29A Lazy Trails An 81.00 339 ⇊P P 15 07 40.0 -1.6
baz=81,SNR=49
GSC Goldstone, Bar 81.02 324 eP P 15 07 41.6 -0.3
GSC pmax pmax
comp=Z,269nm,1.1s
GSC Goldstone, Bar 81.02 324 ⇊P P 15 07 41.5 -0.4
baz=81,SNR=105
GSC Goldstone, Bar 81.02 324 eP P 15 07 41.6 -0.3
comp=Z,270nm,1.1s
N23A Red Feather La 81.16 334 ⇊P P 15 07 43.2 +0.5
baz=82,SNR=72
L26A Underwood Farm 81.20 337 ⇊P P 15 07 41.9 -0.9
baz=82,SNR=22
SHPR Sheep Range 81.21 326 eP P 15 07 42.6 -0.4
SHOC Shoshone, Teco 81.25 325 ⇑P P 15 07 43.5 +0.5
baz=82,SNR=10
CCUT Cedar City 81.26 328 eP P 15 07 43.4 +0.1
comp=Z,364nm,1.1s
EDW2 Edwards Air Fo 81.26 323 ⇑P P 15 07 43.6 +0.4
baz=82,SNR=97
N22A Wattenberg Ran 81.26 334 ⇑P P 15 07 43.8 +0.5
baz=82,SNR=101
M24A Cheyenne 81.28 336 ⇊P P 15 07 42.2 -1.0
baz=82,SNR=81
K28A Ten Mile Ranch 81.28 338 ⇑P P 15 07 43.2 +0.1
baz=82
J30A Dallas 81.28 340 ⇊P P 15 07 42.1 -0.9
baz=82
O20A White River Ci 81.34 333 ⇑P P 15 07 43.2 -0.5
baz=82
O20A White River Ci 81.34 333 eP P 15 07 43.1 -0.5
comp=Z,677nm,1.5s
RUDU RUNDU 81.35 106 eP P 15 07 42.6 -1.6
RUDU AMB AMB 15 07 58.3
comp=Z,932nm,5.8s
RUDU RUNDU 81.35 106 P P 15 07 42.6 -1.6
comp=Z,932nm,5.8s
PHWY Pilot Hill 81.35 335 eP P 15 07 43.0 -0.8
comp=Z,454nm,1.3s
SRU San Rafael Swe 81.36 331 eP P 15 07 43.1 -0.7
SRU pmax pmax
comp=Z,419nm,1.3s
SRU San Rafael Swe 81.36 331 eP P 15 07 43.1 -0.7
comp=Z,419nm,1.3s
BSC Santa Cruz Isl 81.39 321 ⇑P P 15 07 43.7 -0.1
baz=82,SNR=23
SPMN Marine on St. 81.41 345 ⇊P P 15 07 42.8 -0.8
baz=82,SNR=38
SPMN Marine on St. 81.41 345 eP P 15 07 41.5 -2.0
comp=Z,240nm,0.8s
ARUT Antelope Range 81.49 328 eP P 15 07 44.6 +0.2
ARUT pmax pmax
comp=Z,84nm,0.7s
ARUT Antelope Range 81.49 328 eP P 15 07 44.6 +0.2
comp=Z,84nm,0.7s
K27A Flueckinger Fa 81.53 338 ⇊P P 15 07 44.2 -0.2
baz=82,SNR=30
MVU Marysvale 81.55 329 eP P 15 07 44.8 -0.1
comp=Z,252nm,1.1s
M23A Laramie 81.59 335 ⇑P P 15 07 44.7 -0.2
baz=82
LRMC Laurel Mtn Rad 81.59 324 ⇊P P 15 07 44.9 0.0
baz=82
J29A Okreek 81.60 339 ⇊P P 15 07 44.0 -0.7
baz=82,SNR=139
L25A Engebretsen Ra 81.60 336 ⇊P P 15 07 44.7 -0.1
baz=82,SNR=18
SEK Senekal 81.65 118 eP P 15 07 44.8 -1.0
SEK AMB AMB 15 07 48.9
comp=Z,809nm,1.4s
SEK Senekal 81.65 118 P P 15 07 44.8 -1.0
comp=Z,809nm,1.4s
KSD Kokstad 81.69 121 eP P 15 07 46.0 +0.1
KSD AMB AMB 15 07 58.8
comp=Z,263nm,3.9s
KSD Kokstad 81.69 121 P P 15 07 46.0 +0.1
comp=Z,263nm,3.9s
SBC Santa Barbara 81.78 322 ⇑P P 15 07 45.8 0.0
baz=82,SNR=5.9
TMUT Trail Mountain 81.80 330 eP P 15 07 45.8 -0.4
comp=Z,624nm,1.5s
I30A Oacoma 81.81 340 ⇑P P 15 07 44.5 -1.3
baz=82,SNR=65
L24A Wheatland 81.82 336 ⇑P P 15 07 45.6 -0.4
baz=82,SNR=28
K26A Motz Farm, Whi 81.83 337 ⇊P P 15 07 45.6 -0.4
baz=82,SNR=35
M22A Cedar Creek Ra 81.84 334 ⇑P P 15 07 45.6 -0.7
baz=82,SNR=45
ARVC Arvin 81.88 323 ⇑P P 15 07 46.7 +0.3
baz=82,SNR=12
J28A Allard Ranch, 81.88 339 ⇊P P 15 07 45.9 -0.3
baz=82,SNR=100
N20A Spence Gulch, 81.96 333 ⇑P P 15 07 46.8 -0.1
baz=82
J27A Elkhorn Farm, 81.96 338 ⇑P P 15 07 46.7 0.0
baz=82,SNR=81
K25A Mack Ranch, Ha 81.98 337 ⇑P P 15 07 48.0 +1.2
baz=82,SNR=29
FURC Furnace Creek, 81.98 325 ⇊P P 15 07 46.2 -0.6
baz=82,SNR=77
LBTB Lobatse 82.00 115 eP P 15 07 45.6 -2.0
LBTB AMB AMB 15 08 00.5
comp=Z,633nm,6.2s
LBTB Lobatse 82.00 115 eP P 15 07 45.5 -2.0
LBTB S S 15 18 02.1 +1.4
LBTB pmax pmax
comp=Z,2µm,1.7s
LBTB Lobatse 82.00 115 P P 15 07 46.0 -1.6
comp=Z,301nm,0.8s,baz=256,slow=5.8,SNR=52
LBTB S S 15 18 02.1 +1.4
comp=Z,3.9nm,0.9s,baz=304,slow=20,SNR=16
LBTB Lobatse 82.00 115 eP P 15 07 45.5 -2.0
comp=Z,2µm,1.7s
LBTB S S 15 18 02.1 +1.4
ISA Isabella, Lake 82.12 323 eP P 15 07 47.9 +0.2
ISA pmax pmax
comp=Z,276nm,1.0s
ISA Isabella, Lake 82.12 323 ⇑P P 15 07 48.6 +0.9
baz=82,SNR=123
ISA Isabella, Lake 82.12 323 eP P 15 07 47.9 +0.2
comp=Z,276nm,1.0s
L23A Garrett 82.15 335 ⇑P P 15 07 48.1 +0.2
baz=82
I29A Vivian Onida 82.16 340 ⇊P P 15 07 46.9 -0.7
baz=82,SNR=69
BRSD Miller 82.17 341 ⇊P P 15 07 46.6 -1.1
baz=82,SNR=58
BRSD Miller 82.17 341 eP P 15 07 46.4 -1.2
comp=Z,509nm,0.8s
DAC Darwin (Calif) 82.18 324 eP P 15 07 48.1 0.0
DAC pmax pmax
comp=Z,363nm,1.1s
DAC Darwin (Calif) 82.18 324 eP P 15 07 48.1 0.0
comp=Z,363nm,1.1s
L22A Ellis Ranch, M 82.33 335 ⇊P P 15 07 47.4 -1.5
baz=83,SNR=33
J26A Sides Ranch, S 82.35 338 ⇑P P 15 07 47.9 -0.8
baz=83,SNR=97
H07S1 FLORES T-PHASE 82.37 31 eP P 15 07 47.2 -1.6
I28A Midland 82.39 339 ⇊P P 15 07 47.7 -1.1
baz=83,SNR=103
K24A Anderson Ranch 82.39 336 ⇊P P 15 07 48.1 -1.0
baz=83,SNR=81
KSR Koster 82.51 116 eP P 15 07 48.2 -2.1
KSR AMB AMB 15 07 53.4
comp=Z,300nm,1.9s
KSR Koster 82.51 116 P P 15 07 48.2 -2.1
comp=Z,300nm,1.9s
VES Vestal, Richgr 82.57 323 ⇊P P 15 07 50.4 +0.5
baz=83
WDLM Western Deep L 82.58 117 eP P 15 07 48.8 -1.9
WDLM AMB AMB 15 07 53.6
comp=Z,381nm,2.1s
MPU Maple Canyon 82.58 330 eP P 15 07 49.7 -0.5
comp=Z,749nm,1.4s
BFZ Birch Farm 82.60 225 eP P 15 07 51.7 +1.4
comp=Z,456nm,1.4s
SMMC Simmler 82.61 322 ⇑P P 15 07 49.4 -0.8
baz=83
GRAC Grapevine Rang 82.65 325 ⇊P P 15 07 51.3 +0.9
baz=83
J25A Sunshine Ranch 82.65 337 ⇑P P 15 07 50.3 -0.1
baz=83,SNR=86
H29A Onida 82.68 340 ⇑P P 15 07 49.7 -0.7
baz=83,SNR=97
K23A Bowen Ranch, D 82.69 336 ⇊P P 15 07 50.0 -0.6
baz=83,SNR=86
NLU North Lily Min 82.72 330 eP P 15 07 50.4 -0.5
comp=Z,949nm,1.9s
I27A Quinn 82.72 339 ⇊P P 15 07 49.4 -1.2
baz=83,SNR=62
KLOF Kloof 82.75 117 eP P 15 07 50.0 -1.6
KLOF AMB AMB 15 07 54.5
comp=Z,389nm,2.2s
KLOF Kloof 82.75 117 P P 15 07 50.0 -1.6
comp=Z,389nm,2.2s
DAU Daniels Canyon 82.77 331 eP P 15 07 50.9 -0.4
DAU Daniels Canyon 82.77 331 eP P 15 07 50.9 -0.4
PCAN Candelaria 82.79 33 eP P 15 07 51.4 +0.3
comp=Z,606nm,1.6s
PCED Cedros 82.83 33 eP P 15 07 50.7 -0.5
comp=Z,531nm,1.2s
PICO Pico 82.85 33 eP P 15 07 49.9 -1.5
G30A Faulkton 82.85 341 ⇑P P 15 07 50.1 -1.1
baz=83,SNR=58
ODZ Otahua Downs 82.87 219 eP P 15 07 50.5 -1.1
comp=Z,301nm,1.2s
J24A Dixon Ranch, L 82.88 336 ⇑P P 15 07 51.0 -0.5
baz=83
K22A Casper 82.91 335 ⇑P P 15 07 50.8 -1.0
baz=83,SNR=134
K22A Casper 82.91 335 eP P 15 07 51.0 -0.8
comp=Z,767nm,1.3s
R11A Troy Canyon, C 82.91 327 ⇊P P 15 07 51.8 0.0
baz=83,SNR=258
R11A Troy Canyon, C 82.91 327 eP P 15 07 51.4 -0.5
comp=Z,257nm,1.0s
I26A New Underwood 82.93 338 ⇊P P 15 07 51.3 -0.4
baz=83,SNR=22
H28A Mission Ridge 82.96 339 ⇑P P 15 07 50.7 -1.1
baz=83,SNR=115
JLU Jordanelle 83.00 331 eP P 15 07 51.9 -0.6
comp=Z,444nm,1.5s
RCTC Rector, Farmer 83.01 323 ⇊P P 15 07 51.5 -0.7
baz=83
KHZ Kahutara 83.04 223 eP P 15 07 51.8 -0.7
comp=Z,308nm,1.3s
TIN Tinemaha, Big 83.11 324 ⇊P P 15 07 52.8 0.0
baz=83
PMAN Manadas 83.11 33 eP P 15 07 51.7 -1.0
comp=Z,1µm,1.6s
ROSA Rosais 83.11 33 eP P 15 07 51.4 -1.3
comp=Z,301nm,1.9s
CRWM Crown Mines 83.12 117 eP P 15 07 51.5 -2.0
CRWM AMB AMB 15 08 05.3
comp=Z,404nm,2.1s
G29A Hoven 83.12 340 ⇊P P 15 07 51.9 -0.7
baz=84,SNR=13
K21A Alcova 83.15 334 ⇊P P 15 07 52.8 -0.3
baz=84,SNR=152
TOPO Topo 83.15 33 eP P 15 07 52.0 -1.0
PSMA Santa Maria 83.18 36 eP P 15 07 51.9 -1.1
comp=Z,183nm,1.2s
OBSV Observatory 83.19 117 eP P 15 07 52.1 -1.8
OBSV AMB AMB 15 08 05.6
comp=Z,372nm,2.0s
I25A Rochford 83.19 337 ⇊P P 15 07 51.8 -1.4
baz=84,SNR=105
CTU Camp Tracy 83.20 331 eP P 15 07 52.5 -0.9
comp=Z,111nm,1.0s
PSMN Pico do Norte, 83.22 36 eP P 15 07 52.1 -1.2
comp=Z,878nm,2.1s
DUG Dugway, Tooele 83.22 330 eP P 15 07 52.7 -0.7
DUG pmax pmax
comp=Z,773nm,1.4s
DUG Dugway, Tooele 83.22 330 ⇊P P 15 07 53.5 +0.1
baz=84
DUG Dugway, Tooele 83.22 330 eP P 15 07 52.7 -0.7
comp=Z,773nm,1.4s
ERPM east rand prop 83.22 117 eP P 15 07 52.6 -1.4
ERPM AMB AMB 15 07 57.3
comp=Z,543nm,2.1s
ERPM east rand prop 83.22 117 P P 15 07 52.6 -1.4
comp=Z,543nm,2.1s
H27A Howes 83.23 339 ⇊P P 15 07 52.1 -1.2
baz=84,SNR=97
J23A Dilts Ranch, B 83.24 336 ⇊P P 15 07 52.9 -0.6
baz=84,SNR=10
G28A Parade 83.30 340 ⇊P P 15 07 52.4 -1.1
baz=84,SNR=12
MWZ Matawai 83.30 228 PN P 15 07 53.0 -1.0
I24A Kuemmerle Ranc 83.34 337 ⇑P P 15 07 53.0 -0.9
baz=84,SNR=63
RSSD Black Hills 83.38 337 eP P 15 07 53.0 -1.2
RSSD pmax pmax
comp=Z,174nm,0.9s
RSSD Black Hills 83.38 337 eP P 15 07 53.0 -1.2
comp=Z,174nm,0.9s
BKZ Black Stump Fm 83.41 227 eP P 15 07 54.7 +0.1
comp=Z,941nm,1.7s
TCUT Toone Canyon 83.42 331 eP P 15 07 53.7 -0.8
comp=Z,0.9nm,1.4s
H26A Fairpoint 83.43 338 ⇑P P 15 07 53.5 -0.8
baz=84
TPH Tonopah 83.44 326 eP P 15 07 54.6 -0.1
TPH pmax pmax
comp=Z,433nm,1.1s
TPH Tonopah 83.44 326 eP P 15 07 54.5 -0.1
comp=Z,433nm,1.1s
F30A Leola 83.47 341 ⇊P P 15 07 53.8 -0.6
baz=84
PGRA Graciosa 83.48 33 eP P 15 07 53.7 -0.9
comp=Z,428nm,1.4s
PGRA Graciosa 83.48 33 eS S 15 18 14.9 +0.4
MTUM Tungsten Hills 83.51 324 eP P 15 07 54.9 -0.1
ADH Angra Heroismo 83.52 34 eP P 15 07 53.5 -1.2
comp=Z,462nm,0.7s
RPZ Rata Peaks 83.55 220 ePN P 15 07 48.6 -6.5
RPZ Rata Peaks 83.55 220 eP P 15 07 53.7 -1.5
comp=Z,540nm,1.1s
PSET Sete Cidades 83.55 35 eP P 15 07 54.2 -0.8
comp=Z,573nm,1.6s
PSET Sete Cidades 83.55 35 eS S 15 18 14.7 -0.7
J22A Midwest 83.56 335 ⇑P P 15 07 54.5 -0.6
baz=84,SNR=81
GRON Grota Negra 83.60 35 eP P 15 07 54.5 -0.8
comp=Z,137nm,1.2s
SLR Silverton 83.60 117 eP P 15 07 53.0 -2.9
SLR AMB AMB 15 08 07.5
comp=Z,447nm,4.5s
SLR Silverton 83.60 117 P P 15 07 53.0 -2.9
SLR pmax pmax
comp=Z,447nm,4.5s
SLR Silverton 83.60 117 P P 15 07 53.0 -2.9
comp=Z,447nm,4.5s
URZ Urewera 83.61 228 P P 15 07 54.2 -1.4
comp=Z,95nm,1.0s,baz=95,slow=2.1,SNR=15
URZ LR LR 15 37 03.1
comp=Z,188µm,19.4s,baz=148,slow=30
URZ Urewera 83.61 228 eP P 15 07 55.0 -0.5
WHZ Wether Hill Ro 83.68 217 eP P 15 07 55.4 -0.4
comp=Z,474nm,1.4s
F29A Eureka 83.69 341 ⇑P P 15 07 53.6 -1.9
baz=84,SNR=70
H25A Fruitdale 83.69 338 ⇑P P 15 07 54.8 -0.8
baz=84,SNR=41
I23A Meade Ranch, G 83.70 336 ⇑P P 15 07 55.2 -0.5
baz=84
EYMN Ely 83.75 347 eP P 15 07 54.1 -1.6
comp=Z,400nm,1.3s
THZ Tophouse 83.83 223 PN P 15 07 55.3 -1.4
J21A Lysite 83.84 335 ⇑P P 15 07 55.9 -0.7
baz=84,SNR=47
MLAC Mammoth, Mammo 83.86 324 ⇑P P 15 07 56.6 -0.2
baz=84
G27A Dupree 83.87 339 ⇊P P 15 07 54.5 -2.0
baz=84,SNR=100
NNZ Nelson 83.92 224 PN P 15 07 55.6 -1.4
BGU Big Grassy Mou 83.92 330 eP P 15 07 56.1 -1.0
comp=Z,299nm,1.5s
F28A McLaughlin 83.97 340 ⇑P P 15 07 55.8 -1.1
baz=84,SNR=64
I22A 9 Mile Ranch, 83.99 336 ⇑P P 15 07 56.3 -1.0
baz=84,SNR=82
G26A Maurine 83.99 339 ⇊P P 15 07 56.3 -0.8
baz=84,SNR=102
SPUT South Promonto 84.01 330 eP P 15 07 56.7 -0.8
comp=Z,2.4nm,0.4s
E30A Jud 84.06 342 ⇊P P 15 07 57.9 +0.5
baz=84,SNR=63
J20A Shoshoni 84.08 334 ⇊P P 15 07 57.1 -0.6
baz=84,SNR=192
H24A Dirks Ranch, A 84.11 337 ⇑P P 15 07 56.9 -0.9
baz=84,SNR=79
PDAR Pinedale Array 84.11 333 P P 15 07 56.8 -1.3
comp=Z,35nm,0.9s,baz=155,slow=4.9,SNR=45
PDAR PKKPbc **PKKPbc** 15 26 13.7 +0.3
comp=Z,2.1nm,0.6s,baz=83,slow=0.4,SNR=9.7
BW06 Boulder Array 84.11 333 eP P 15 07 56.0 -2.0
comp=Z,409nm,1.5s
TORD Torodi Ar. Bea 84.13 70 P P 15 07 57.2 -1.3
comp=Z,62nm,0.7s,baz=250,slow=4.3,SNR=80
TORD PKPPKP **P'P'df** 15 34 21.0 +3.9
comp=Z,3.2nm,1.1s,baz=112,slow=0.6,SNR=3.8
TORD LR LR 15 44 34.8
comp=Z,201µm,18.4s,baz=230,slow=35
DRLN Deer Lake 84.15 9 eP P 15 07 57.1 -0.6
comp=Z,335nm,0.9s
G25A Newell 84.15 338 ⇑P P 15 07 57.1 -0.8
baz=84,SNR=97
PMOZ Porto Moniz, M 84.19 44 i P P 15 08 00.1 +1.6
comp=Z,305nm,1.9s
I21A Big Trails, Te 84.20 335 ⇊P P 15 07 57.7 -0.6
baz=85,SNR=123
H23A Clabaugh Cattl 84.22 337 ⇊P P 15 07 57.8 -0.5
baz=85
NVAR Mina Array Bea 84.24 325 P P 15 07 58.1 -0.6
comp=Z,82nm,0.9s,baz=151,slow=5.6,SNR=41
FUL Funchal 84.24 44 eP P 15 08 02.5 +3.9
comp=Z,628nm,1.7s
PMAR Madeira 84.28 44 eP P 15 08 03.2 +4.1
comp=Z,608nm,1.7s
E29A Napoleon 84.31 341 ⇊P P 15 07 57.6 -1.1
baz=85,SNR=26
F27A Lemmon 84.34 339 ⇑P P 15 07 57.3 -1.6
baz=85,SNR=114
J19A Crowheart 84.35 334 ⇊P P 15 07 58.1 -1.1
baz=85
DCZ Deep Cove 84.37 217 eP P 15 08 00.6 +1.3
comp=Z,195nm,1.2s
DSZ Denniston Nort 84.45 222 PN P 15 07 56.9 -3.0
SAO San Andreas Ge 84.48 322 eP P 15 08 00.4 +0.7
SAO pmax pmax
comp=Z,140nm,1.1s
SAO San Andreas Ge 84.48 322 eP P 15 08 00.4 +0.7
comp=Z,140nm,1.1s
F26A Lodgepole 84.52 339 ⇑P P 15 07 58.1 -1.6
baz=85,SNR=71
HVU Hansel Valley 84.53 330 eP P 15 07 59.1 -1.0
HVU pmax pmax
comp=Z,398nm,1.1s
HVU Hansel Valley 84.53 330 eP P 15 07 59.1 -1.0
comp=Z,398nm,1.1s
H22A Clearmont 84.56 336 ⇑P P 15 07 59.2 -0.9
baz=85

D30A **Buchanan** 84.58 342 ⇑P P 15 07 58.5 -1.5
baz=85,SNR=96
G24A **Alzada** 84.58 338 ⇓P P 15 07 59.7 -0.5
baz=85
E28A **Huff** 84.61 340 ⇓P P 15 07 58.2 -1.9
baz=85,SNR=77
I20A **Worland** 84.61 335 ⇑P P 15 07 59.0 -1.4
baz=85,SNR=102
QRZ **Quartz Range** 84.66 223 PN P 15 07 58.1 -2.7
AHID **Auburn Hatcher** 84.70 332 eP P 15 07 59.6 -1.3
comp=Z,745nm,1.5s
ELK **Elko** 84.72 328 eP P 15 08 00.0 -1.1
ELK S S 15 18 24.3 -3.1
ELK pmax pmax
comp=Z,208nm,1.1s
ELK **Elko** 84.72 328 P P 15 08 00.1 -1.1
comp=Z,129nm,0.9s,baz=186,slow=4.2,SNR=38
ELK S S 15 18 24.3 -3.1
comp=Z,1.8nm,1.0s,baz=0.5,slow=18,SNR=13
ELK **Elko** 84.72 328 eP P 15 08 00.0 -1.1
comp=Z,208nm,1.1s
ELK S S 15 18 24.3 -3.1
E27A **Carson** 84.72 340 ⇑P P 15 07 59.6 -1.2
baz=85,SNR=8.5
D29A **Pettibone, Tap** 84.75 341 ⇓P P 15 08 00.2 -0.7
baz=85,SNR=65
G23A **Biddle** 84.78 337 ⇑P P 15 08 00.3 -0.9
baz=85
F25A **Bowman** 84.82 338 ⇑P P 15 08 00.5 -0.8
baz=85,SNR=61
H21A **Big Horn, Sher** 84.83 336 ⇓P P 15 07 59.7 -1.8
baz=85,SNR=56
WAKR **Walker** 84.84 324 eP P 15 08 02.0 +0.3
PMPS **Porto Santo** 84.86 44 eP P 15 08 06.2 +4.5
comp=Z,687nm,2.1s
CMB **Columbia Colle** 84.93 324 eP P 15 08 01.6 -0.5
CMB pmax pmax
comp=Z,185nm,1.1s
CMB **Columbia Colle** 84.93 324 eP P 15 08 01.6 -0.5
comp=Z,185nm,1.1s
AGMN **Agassiz Nation** 84.99 344 ⇑P P 15 08 00.6 -1.5
baz=85
AGMN **Agassiz Nation** 84.99 344 eP P 15 08 00.5 -1.5
comp=Z,602nm,1.5s
I19A **Meeteetse** 85.00 334 ⇓P P 15 08 00.9 -1.5
baz=85
E26A **Carlson Angus** 85.02 339 ⇓P P 15 08 01.9 -0.4
baz=85,SNR=45
H20A **Greybull** 85.03 335 ⇑P P 15 08 01.9 -0.6
baz=85
F24A **Ekalaka** 85.05 338 ⇑P P 15 08 02.0 -0.5
baz=85
C30A **Mose, Pekin** 85.06 342 ⇑P P 15 08 01.3 -1.1
baz=85,SNR=144
G22A **Birney** 85.09 336 ⇑P P 15 08 01.4 -1.3
baz=86,SNR=29
REDW **Red Top Meadow** 85.11 333 eP P 15 08 01.8 -1.3
comp=Z,1μm,2.0s
D28A **Regan** 85.14 341 ⇓P P 15 08 01.3 -1.5
baz=86,SNR=66
LOHW **Long Hollow** 85.23 333 eP P 15 08 02.6 -1.0
comp=Z,92nm,0.8s
F23A **Volborg** 85.25 337 ⇑P P 15 08 01.8 -1.7
baz=86
TPAW **Teton Pass** 85.26 333 eP P 15 08 02.4 -1.5
comp=Z,322nm,1.4s
MSKU **Masuku** 85.28 89 P P 15 08 04.0 -0.4
comp=Z,215nm,1.1s,baz=242,slow=6.5,SNR=37
E25A **Miller Ranch,** 85.32 339 ⇓P P 15 08 02.6 -1.2
baz=86,SNR=56
D27A **Center** 85.33 340 ⇑P P 15 08 01.8 -2.0
baz=86
BMN **Battle Mountai** 85.34 327 eP P 15 08 04.6 +0.4
BMN pmax pmax
comp=Z,213nm,1.6s
BMN **Battle Mountai** 85.34 327 eP P 15 08 04.6 +0.4
comp=Z,213nm,1.6s
G21A **Lodge Grass** 85.41 336 ⇓P P 15 08 02.6 -1.8
baz=86,SNR=72
FXWY **Fox Creek** 85.41 333 eP P 15 08 03.2 -1.4
comp=Z,209nm,1.3s
I17A **Pilgrim Ck.** 85.48 333 ⇑P P 15 08 04.5 -0.4
baz=86
MDND **Maddock** 85.48 342 ⇓P P 15 08 03.0 -1.5
baz=86,SNR=104
MDND **Maddock** 85.48 342 eP P 15 08 03.3 -1.2
comp=Z,392nm,1.4s
D26A **Manning** 85.51 340 ⇑P P 15 08 03.1 -1.6
baz=86,SNR=55
H19A **Powell** 85.54 334 ⇑P P 15 08 04.4 -0.6
baz=86
C28A **Hausauer Farms** 85.57 341 ⇓P P 15 08 03.8 -1.1
baz=86
F22A **Rosebud** 85.58 337 ⇑P P 15 08 04.2 -0.9
baz=86
SAC **San Andreas** 85.60 322 eP P 15 08 05.4 +0.1
SAC pmax pmax
comp=Z,331nm,1.1s
SAC **San Andreas** 85.60 322 eP P 15 08 05.4 +0.1
comp=Z,331nm,1.1s
IMW **Indian Meadow** 85.60 333 eP P 15 08 04.2 -1.3
comp=Z,2μm,2.3s
E24A **Baker** 85.65 338 ⇓P P 15 08 05.0 -0.4
baz=86
FLWY **Flagg Ranch** 85.67 333 eP P 15 08 05.1 -0.7
comp=Z,529nm,1.1s
B30A **Myrvik Farm, E** 85.72 343 ⇓P P 15 08 04.2 -1.5
baz=86,SNR=152
G20A **Bridger** 85.75 335 ⇓P P 15 08 05.5 -0.6
baz=86
H18A **Shoshone NF, C** 85.80 334 ⇑P P 15 08 05.7 -0.8
baz=86
C27A **Sayler Ranch,** 85.87 340 ⇓P P 15 08 06.1 -0.3
baz=86,SNR=71
D25A **Fairfield** 85.88 339 ⇑P P 15 08 07.0 +0.4
baz=86
H17A **Grant Village** 85.89 333 ⇑P P 15 08 07.3 +0.4
baz=86
H17A **Grant Village** 85.89 333 eP P 15 08 06.2 -0.7
comp=Z,142nm,1.0s
F21A **Absaloka Mine,** 85.90 336 ⇓P P 15 08 05.8 -0.9
baz=86
E23A **Ismay** 85.91 338 ⇓P P 15 08 05.8 -0.8
baz=86
B29A **Wagenman Farm,** 85.99 342 ⇓P P 15 08 05.9 -1.1
baz=86
YFT **Old Faithful** 86.03 333 eP P 15 08 08.1 +0.5
comp=Z,321nm,1.1s
RLMT **Red Lodge** 86.03 334 eP P 15 08 06.4 -1.2
comp=Z,235nm,0.7s
E22A **Miles City** 86.06 337 ⇓P P 15 08 06.6 -0.9
baz=86
C26A **Wahner Farm, P** 86.14 340 ⇓P P 15 08 07.8 0.0
baz=86
D24A **Glendive** 86.15 338 ⇑P P 15 08 07.5 -0.4
baz=86
A30A **Hoffart Farm,** 86.17 343 ⇓P P 15 08 06.8 -1.1
baz=86
YNR **Norris Junctio** 86.20 333 eP P 15 08 09.9 +1.5
comp=Z,2μm,2.8s
F20A **Billings** 86.23 335 ⇑P P 15 08 07.8 -0.6
baz=87
B28A **Dugan Ranch, T** 86.24 341 ⇓P P 15 08 07.5 -0.7
baz=87
MCCM **Marconi Confer** 86.27 322 eP P 15 08 07.7 -0.9
comp=Z,973nm,1.6s
YMR **Madison River** 86.27 333 eP P 15 08 08.6 -0.2
comp=Z,619nm,1.0s
LAO **LASA Array** 86.37 337 eP P 15 08 07.5 -1.4
comp=Z,558nm,1.1s
C25A **Freed Ranch, W** 86.37 339 ⇑P P 15 08 09.4 +0.4
baz=87
A29A **Manning Farm,** 86.38 342 ⇓P P 15 08 08.2 -0.7
baz=87
B27A **Peters Farms,** 86.44 341 ⇑P P 15 08 08.9 -0.3
baz=87
D23A **Lindsay** 86.48 338 ⇓P P 15 08 09.4 -0.1
baz=87
OHCM **Honcut** 86.48 324 eP P 15 08 09.3 -0.3
E21A **Keefer Ranch,** 86.52 336 ⇑P P 15 08 08.8 -0.9
baz=87
C24A **Savage** 86.55 339 ⇑P P 15 08 09.8 0.0
baz=87
F19A **Roth Farm, Mol** 86.55 335 P P 15 08 08.0 -1.9
baz=87
QLMT **Earthquake Lak** 86.58 333 eP P 15 08 10.0 -0.2
A28A **Rude Farm, Bot** 86.63 342 ⇑P P 15 08 09.0 -1.2
baz=87

B26A **Jensen Ranch,** 86.68 340 ⇑P P 15 08 09.6 -0.8
baz=87
HLID **Hailey** 86.69 330 ⇑P P 15 08 10.8 0.0
baz=87
HLID **Hailey** 86.69 330 eP P 15 08 10.1 -0.7
comp=Z,933nm,1.8s
GCMT **Greycliff** 86.75 335 eP P 15 08 10.3 -0.7
comp=Z,512nm,1.3s
D22A **Cohagen** 86.76 337 ⇑P P 15 08 10.0 -0.9
baz=87
ULM **Lac du Bonnet** 86.83 345 P P 15 08 09.4 -1.6
ULM pmax pmax
comp=Z,83nm,0.8s
ULM **Lac du Bonnet** 86.83 345 P P 15 08 09.4 -1.6
comp=Z,172nm,0.9s,baz=164,slow=4.1,SNR=32
ULM PKKPbc PKKPbc 15 26 06.8 0.0
comp=Z,3.2nm,0.8s,baz=134,slow=2.9,SNR=3.1
ULM **Lac du Bonnet** 86.83 345 eP P 15 08 09.4 -1.6
comp=Z,330nm,1.3s
ULM PKKPbc PKKPbc 15 26 06.8 0.0
E20A **Meyer Farm, Mu** 86.84 336 ⇓P P 15 08 10.4 -0.9
baz=87
B25A **Knox Farm, Ray** 86.85 340 ⇓P P 15 08 10.5 -0.8
baz=87
MSNA **Messina** 86.85 115 eP P 15 08 10.7 -1.5
MSNA AMB AMB 15 08 25.1
comp=Z,596nm,3.7s
MSNA **Messina** 86.85 115 P P 15 08 10.7 -1.5
comp=Z,596nm,3.7s
A27A **Ledoux Ranch,** 86.93 341 ⇓P P 15 08 11.3 -0.3
baz=87
D21A **La Casta Ranch** 86.95 337 ⇑P P 15 08 10.9 -0.9
baz=87
HOPS **Hopland Field** 87.01 323 eP P 15 08 13.1 +0.9
comp=Z,1μm,2.0s
E19A **Rath Farm, Rou** 87.03 335 ⇓P P 15 08 11.7 -0.6
baz=87
C23A **Lambert** 87.03 338 ⇑P P 15 08 11.7 -0.4
baz=87
A26A **Wade Farm, Ken** 87.10 341 ⇑P P 15 08 11.7 -0.8
baz=88
MCMT **McKenzie Canyo** 87.12 332 P P 15 08 12.6 -0.3
MFID **Camas Ranch** 87.15 330 eP P 15 08 11.9 -1.0
comp=Z,131nm,0.8s
MOPA **Mopani** 87.19 117 eP P 15 08 14.8 +1.0
MOPA AMB AMB 15 08 26.9
comp=Z,484nm,4.1s
MOPA **Mopani** 87.19 117 P P 15 08 14.8 +1.0
comp=Z,484nm,4.1s
C22A **Vida** 87.20 338 ⇑P P 15 08 12.5 -0.5
baz=88
BOZ **Bozeman (W)** 87.35 333 eP P 15 08 12.5 -1.4
BOZ pmax pmax
comp=Z,469nm,2.1s
BOZ **Bozeman (W)** 87.35 333 eP P 15 08 12.5 -1.4
comp=Z,469nm,2.1s
D20A **Manuel Ranch,** 87.35 336 ⇑P P 15 08 12.8 -0.9
baz=88
A25A **Svangstu Ranch** 87.44 340 ⇑P P 15 08 13.3 -0.8
baz=88
DLMT **Dillon** 87.47 333 eP P 15 08 13.9 -0.6
comp=Z,606nm,1.5s
XMAS **Kiritimati** 87.54 274 eP P 15 08 17.1 +1.7
comp=Z,5μm,3.0s
B23A **Brockton** 87.56 339 ⇑P P 15 08 13.8 -0.9
baz=88
WVOR **Wild Horse Val** 87.58 327 eP P 15 08 14.4 -0.7
WVOR pmax pmax
comp=Z,3μm,2.8s
WVOR **Wild Horse Val** 87.58 327 eP P 15 08 14.4 -0.7
comp=Z,3μm,2.8s
LBCM **Butte Creek Ri** 87.58 325 P P 15 08 14.2 -1.0
C21A **Desert Coulee** 87.65 337 P P 15 08 13.3 -1.9
baz=88
D19A **Cripps Ranch,** 87.67 336 ⇓P P 15 08 15.1 -0.2
baz=88
A24A **Westby** 87.68 339 ⇓P P 15 08 15.0 -0.3
baz=88
OUZ **Omahuta** 87.72 228 eP P 15 08 17.1 +1.1
comp=Z,658nm,1.4s
B22A **Reddig Ranch S** 87.72 338 ⇓P P 15 08 14.8 -0.7
baz=88
LRM **Limekiln Ridge** 87.80 333 eP P 15 08 15.6 -0.6
KIPM **Iron Peak** 87.83 323 eP P 15 08 15.9 -0.5
comp=Z,3μm,1.3s
C20A **Veseth Ranch,** 87.85 336 ⇓P P 15 08 15.2 -1.0
baz=88
MOD **Modoc Plateau** 87.92 326 eP P 15 08 16.4 -0.4
comp=Z,504nm,1.4s
WDC **Whiskeytown Da** 87.96 324 eP P 15 08 15.1 -1.7
WDC pmax pmax
comp=Z,279nm,1.1s
WDC **Whiskeytown Da** 87.96 324 eP P 15 08 15.1 -1.7
comp=Z,279nm,1.1s
A23A **Redstone** 87.97 339 ⇑P P 15 08 16.1 -0.5
baz=88
B21A **Ellsworth Farm** 88.16 337 ⇑P P 15 08 16.7 -0.8
baz=88
C19A **Slack Wire Ran** 88.22 336 ⇑P P 15 08 17.1 -0.8
baz=89
KMRM **Mail Ridge** 88.26 323 eP P 15 08 19.2 +0.9
comp=Z,438nm,1.2s
A22A **Carney Farms,** 88.31 338 ⇑P P 15 08 17.3 -1.0
baz=89
HRY **Holter Researc** 88.32 334 eP P 15 08 17.8 -0.7
N02D **Trinity Center** 88.34 324 ⇑P P 15 08 18.2 -0.5
baz=89
B20A **Solberg Farm,** 88.49 337 ⇓P P 15 08 18.5 -0.6
baz=89
M04C **Macdoel** 88.55 325 ⇑P P 15 08 18.9 -0.8
baz=89
A21A **Bergtoll Ranch** 88.62 338 ⇓P P 15 08 18.8 -1.0
baz=89
EGMT **Eagleton** 88.71 336 ⇑P P 15 08 19.4 -0.8
baz=89
EGMT **Eagleton** 88.71 336 eP P 15 08 18.6 -1.6
comp=Z,487nm,1.5s
M02C **Callahan** 88.73 324 ⇑P P 15 08 20.4 -0.1
baz=89
KHMM **Horse Mountain** 88.77 323 eP P 15 08 20.1 -0.7
B19A **Brinkman Farms** 88.81 336 ⇑P P 15 08 20.0 -0.6
baz=89
K05A **Summer Lake** 88.83 326 eP P 15 08 21.1 0.0
comp=Z,1μm,1.6s
A20A **Cobblestone Ra** 88.84 337 ⇓P P 15 08 20.4 -0.4
baz=89
SCHQ **Schefferville** 88.87 3 P P 15 08 19.2 -1.5
comp=Z,22nm,0.9s,baz=198,slow=5.6,SNR=22
SCHQ LR LR 15 51 11.5
comp=Z,45μm,19.2s,baz=175,slow=38
SCHQ **Schefferville** 88.87 3 eP P 15 08 18.7 -2.0
comp=Z,1μm,2.0s
YBH **Yreka Blue Hor** 88.92 324 P P 15 08 19.6 -1.8
YBH pmax pmax
comp=Z,90nm,0.9s
YBH **Yreka Blue Hor** 88.92 324 P P 15 08 19.6 -1.8
comp=Z,90nm,0.9s,baz=151,slow=5.2,SNR=17
BMO **Blue Mountains** 88.94 330 eP P 15 08 20.3 -1.1
BMO pmax pmax
comp=Z,360nm,0.3s
BMO **Blue Mountains** 88.94 330 eP P 15 08 20.3 -1.1
comp=Z,360nm,0.3s
CHMT **Chamberlain Mo** 89.02 333 eP P 15 08 21.0 -0.9
BUOR **Burton Butte** 89.12 325 P P 15 08 23.9 +1.4
A19A **Klindworth Far** 89.15 337 ⇑P P 15 08 21.6 -0.7
baz=90
K04D **Chiloquin, OR** 89.16 326 ⇓P P 15 08 22.5 0.0
baz=90
MSO **Missoula** 89.21 333 ⇑P P 15 08 22.7 +0.1
baz=90
MSO **Missoula** 89.21 333 eP P 15 08 22.8 +0.1
comp=Z,1μm,2.6s
I07A **Izee** 89.27 328 eP P 15 08 22.9 -0.2
comp=Z,993nm,2.1s
SLMT **Seeley Lake** 89.39 333 eP P 15 08 22.6 -0.9
J05D **Fort Rock, OR** 89.43 326 ⇓P P 15 08 23.6 -0.2
baz=90
LSZ **Lusaka** 89.53 108 eP P 15 08 24.7 -0.4
LSZ **Lusaka** 89.53 108 P P 15 08 25.4 +0.3
comp=Z,42nm,0.8s,baz=17,slow=7.3,SNR=32
LSZ **Lusaka** 89.53 108 eP P 15 08 24.7 -0.4
PINOR **Pine Mountain** 89.67 327 eP P 15 08 24.4 -0.3
comp=Z,294nm,1.2s
L02D **Cave Junction,** 89.68 324 ⇑P P 15 08 24.8 -0.1
baz=90
HUMO **Hull Mountain** 89.71 325 eP P 15 08 25.3 +0.3
comp=Z,279nm,1.7s

J04D **Umpqua Nationa** 89.80 326 ⇑P P 15 08 25.2 -0.4
baz=90
SWMT **Swartz Lake** 89.80 333 eP P 15 08 24.4 -1.0
F10A **Beach Ranch, E** 89.81 330 eP P 15 08 24.1 -1.3
comp=Z,179nm,0.9s
G08A **Pilot Rock** 89.99 329 eP P 15 08 25.7 -0.7
comp=Z,893nm,2.3s
YBMT **Yellow Bay** 90.10 333 eP P 15 08 27.8 +1.0
JTMT **Jette** 90.10 333 eP P 15 08 25.9 -1.0
I05D **Terrebonne, OR** 90.29 327 ⇑P P 15 08 28.2 +0.5
baz=91
I04A **Tendick Farm,** 90.36 326 ⇑P P 15 08 27.8 -0.3
baz=91
BSMT **Bassoo Peak** 90.38 333 eP P 15 08 27.2 -1.0
VTHM **Trough** 90.60 328 P P 15 08 31.0 +1.9
E09A **Wood Farm, Sta** 90.62 330 eP P 15 08 29.2 +0.1
comp=Z,194nm,1.5s
CROR **Criterion Ridg** 90.64 328 P P 15 08 31.2 +1.8
G06A **Carlson Farm,** 90.68 328 eP P 15 08 30.9 +1.5
comp=Z,1μm,2.0s
I03D **Drain, OR** 90.73 325 ⇓P P 15 08 28.2 -1.4
baz=91
H04A **Detroit Lake** 90.94 327 eP P 15 08 31.4 +0.7
comp=Z,219nm,1.3s
G05D **Wamic, OR** 90.98 327 ⇑P P 15 08 31.1 +0.3
baz=91
REDWA **Red Mountain** 91.00 329 P P 15 08 33.2 +2.4
WALA **Waterton Lakes** 91.06 334 eP P 15 08 29.9 -1.3
HAWA **Hanford** 91.11 329 eP P 15 08 31.1 -0.3
comp=Z,173nm,1.0s
OT3 **Othello 3** 91.20 330 P P 15 08 34.0 +2.2
E07A **Sunnyside** 91.38 329 eP P 15 08 31.9 -0.8
comp=Z,136nm,1.2s
D08A **Wollman Farm,** 91.38 330 eP P 15 08 31.7 -1.0
comp=Z,157nm,1.1s
COR **Corvallis** 91.38 326 eP P 15 08 34.3 +1.6
COR pmax pmax
comp=Z,335nm,1.2s
COR **Corvallis** 91.38 326 eP P 15 08 34.2 +1.6
comp=Z,335nm,1.2s
TRW **Toppenish Ridg** 91.46 329 P P 15 08 34.4 +1.3
OD2 **Odessa Site #2** 91.56 330 P P 15 08 32.6 -0.8
NEW **Newport** 91.62 332 P P 15 08 32.1 -1.7
NEW pmax pmax
comp=Z,21nm,0.9s
NEW **Newport** 91.62 332 P P 15 08 32.1 -1.7
comp=Z,21nm,0.9s,baz=139,slow=6.1,SNR=14
NEW **Newport** 91.62 332 ⇑P P 15 08 33.4 -0.4
baz=92
NEW **Newport** 91.62 332 eP P 15 08 33.0 -0.8
C09A **Chrisman Ranch** 91.71 331 eP P 15 08 33.3 -0.9
comp=Z,183nm,1.0s
G03D **McMinnville, O** 91.84 326 ⇓P P 15 08 34.6 -0.2
baz=92
F04A **Amboy** 92.01 327 eP P 15 08 34.9 -0.6
comp=Z,100nm,0.8s
PFVI **Vila Bisbo** 92.09 45 i P P 15 08 37.1 +0.9
comp=Z,130nm,1.9s
PFVI **Vila Bisbo** 92.09 45 ePP PP 15 12 17.0 +0.3
LTY **Liberty** 92.27 329 eP P 15 08 37.6 +0.8
comp=Z,785nm,2.4s
MORF **Marmelete** 92.31 45 eP P 15 08 37.4 +0.1
MORF AMb AMB 15 08 50.6
comp=Z,132nm,1.2s
MORF eS SKSac 15 19 10.3 +1.4
MORF **Marmelete** 92.31 45 i P P 15 08 39.2 +1.9
comp=Z,136nm,1.9s
MORF **Marmelete** 92.31 45 PP PP 15 12 18.3 -0.2
MORF **Marmelete** 92.31 45 eP P 15 08 37.4 +0.1
MORF eS SKSac 15 19 10.3 +1.4
LON **Longmire** 92.37 328 eP P 15 08 36.3 -1.0
LON pmax pmax
comp=Z,57nm,0.9s
LON **Longmire** 92.37 328 eP P 15 08 36.3 -1.0
comp=Z,57nm,0.9s
FFC **Flin Flon** 92.39 343 eP P 15 08 35.1 -2.0
FFC pmax pmax
comp=Z,602nm,2.4s
FFC **Flin Flon** 92.39 343 eP P 15 08 35.1 -2.0
comp=Z,602nm,2.4s
F04D **Rainier, OR** 92.39 327 ⇓P P 15 08 38.0 +0.7
baz=93
PTEO **Sao Teotonio** 92.43 45 i P P 15 08 38.3 +0.6
comp=Z,193nm,1.6s
PTEO **Sao Teotonio** 92.43 45 ePP PP 15 12 21.1 +1.8
B08A **Colville Reser** 92.58 330 eP P 15 08 37.3 -0.9
comp=Z,164nm,1.4s
PBDV **Barranco-do-Ve** 92.69 46 i P P 15 08 40.8 +1.8
comp=Z,204nm,2.1s
PBDV **Barranco-do-Ve** 92.69 46 ePP PP 15 12 21.8 +0.3
TAM **Tamanrasset** 92.77 64 eP P 15 08 39.3 -0.6
TAM **Tamanrasset** 92.77 64 eP P 15 08 39.3 -0.6
NLW **Nelson Butte** 92.78 330 P P 15 08 39.9 +0.7
D05A **Enumclaw** 92.79 328 eP P 15 08 39.7 +0.6
comp=Z,176nm,0.9s
MESJ **Messejana** 92.92 45 eP P 15 08 40.0 0.0
MESJ AMb AMB 15 08 54.3
comp=Z,126nm,2.4s
MESJ eS SKSac 15 19 13.7 +1.5
MESJ **Messejana** 92.92 45 i P P 15 08 41.4 +1.4
comp=Z,128nm,2.2s
MESJ **Messejana** 92.92 45 ePP PP 15 12 31.8 +8.6
MESJ **Messejana** 92.92 45 eP P 15 08 40.0 0.0
MESJ eS SKSac 15 19 13.7 +1.5
PNCL **Nicolau / Gran** 92.92 45 i P P 15 08 41.5 +1.5
comp=Z,90nm,1.9s
PNCL **Nicolau / Gran** 92.92 45 ePP PP 15 12 33.0 +10
PVAQ **Vaqueiros** 92.93 46 i P P 15 08 41.8 +1.8
comp=Z,244nm,1.9s
PVAQ **Vaqueiros** 92.93 46 PP PP 15 12 20.1 -3.2
LIS **Lisbon** 92.97 44 eP P 15 08 40.1 -0.1
LIS AMb AMB 15 08 54.6
comp=Z,196nm,2.2s
LIS eS SKSac 15 19 13.8 +1.4
LIS **Lisbon** 92.97 44 eP P 15 08 40.1 -0.1
comp=Z,196nm,2.2s
LIS **Lisbon** 92.97 44 eP P 15 08 40.0 -0.1
LIS eS SKSac 15 19 13.7 +1.4
E03A **Lebam** 92.99 327 eP P 15 08 42.3 +2.2
comp=Z,276nm,1.0s
PMAFR **Mafra** 93.06 44 i P P 15 08 42.6 +2.0
comp=Z,156nm,1.8s
PMAFR **Mafra** 93.06 44 ePP PP 15 12 27.8 +3.5
EVO **Evora** 93.51 45 eP P 15 08 44.1 +1.4
comp=Z,98nm,1.9s
EVO **Evora** 93.51 45 ePP PP 15 12 28.3 +0.5
B06A **Marblemount** 93.60 329 eP P 15 08 43.4 +0.6
comp=Z,913nm,2.7s
PMTG **Montargil** 93.74 44 i P P 15 08 44.3 +0.6
comp=Z,168nm,1.9s
PMTG **Montargil** 93.74 44 ePP PP 15 12 31.1 +1.5
PBAR **Barrancos** 93.84 46 i P P 15 08 45.9 +1.7
comp=Z,206nm,1.9s
PBAR **Barrancos** 93.84 46 ePP PP 15 12 30.4 0.0
PESTR **Estremoz** 93.98 45 i P P 15 08 46.1 +1.2
comp=Z,94nm,1.9s
PESTR **Estremoz** 93.98 45 PP PP 15 12 29.9 -1.6
PTOM **Tomar** 94.00 44 eP P 15 08 47.6 +2.7
comp=Z,125nm,1.9s
PTOM **Tomar** 94.00 44 ePP PP 15 12 34.7 +3.0
A05A **Maple Falls** 94.22 329 eP P 15 08 46.7 +1.0
PCAS **Casmilo, Conde** 94.24 43 eP P 15 08 46.6 +0.6
comp=Z,119nm,2.0s
PCAS **Casmilo, Conde** 94.24 43 PP PP 15 12 32.0 -1.6
EDM **Edmonton** 94.33 336 eP P 15 08 43.5 -2.7
EDM **Edmonton** 94.33 336 eP P 15 08 43.5 -2.7
PMRV **Marv??o** 94.46 44 i P P 15 08 48.2 +1.1
comp=Z,54nm,1.8s
PMRV **Marv??o** 94.46 44 PP PP 15 12 33.6 -1.7
FCC **Fort Churchill** 94.56 349 eP P 15 08 45.4 -1.5
FCC **Fort Churchill** 94.56 349 eP P 15 08 45.4 -1.5
PCBR **Castelo Branco** 94.69 44 eP P 15 08 50.3 +2.2
comp=Z,72nm,1.8s
PCBR **Castelo Branco** 94.69 44 PP PP 15 12 35.0 -2.0
MTE **Manteigas** 95.02 44 eP P 15 08 50.4 +0.7
comp=Z,102nm,2.0s
MTE **Manteigas** 95.02 44 ePP PP 15 12 40.7 +1.0
PVIS **Viseu** 95.03 43 eP P 15 08 51.9 +2.2
comp=Z,86nm,1.9s
PVIS **Viseu** 95.03 43 ePP PP 15 12 39.8 +0.1
TAU **Tasmania Unive** 95.25 208 eP P 15 08 50.9 +0.1
TAU pmax pmax
comp=Z,190nm,1.6s
TAU **Tasmania Unive** 95.25 208 eP P 15 08 50.9 +0.1
comp=Z,190nm,1.6s

PVRL	Vila Real	95.50	43	eP	P	15 08 54.0	+2.2
	comp=Z,126nm,1.7s						
PVRL	Vila Real	95.50	43	PP	PP	15 12 46.1	+2.7
POLO	Lamas de Olo	95.52	43	i P	P	15 08 52.7	+0.7
	comp=Z,43nm,2.0s						
POLO	Lamas de Olo	95.52	43	PP	PP	15 12 39.8	-3.8
PCAB	Cabril	95.61	42	eP	P	15 08 53.7	+1.4
	comp=Z,92nm,1.4s						
PCAB	Cabril	95.61	42	ePP	PP	15 12 43.7	-0.5
PGAV	Gaveira, Arco	95.65	42	eP	P	15 08 53.0	+0.4
	comp=Z,105nm,1.8s						
PGAV	Gaveira, Arco	95.65	42	PP	PP	15 12 43.1	-1.5
MVO	Moncorvo	95.82	43	eP	P	15 08 52.6	-0.7
	comp=Z,117nm,1.9s						
MVO	Moncorvo	95.82	43	ePP	PP	15 12 45.8	-0.1
MSVF	Nonsavu	95.85	244	eP	P	15 08 57.0	+2.8
MSVF	Nonsavu	95.85	244	eP	P	15 08 57.0	+2.8
	comp=Z,164nm,1.6s						
PAB	San Pablo	96.33	46	eP	P	15 08 59.3	+3.6
PAB	San Pablo	96.33	46	eP	P	15 08 59.3	+3.6
	comp=Z,43nm,1.2s						
PBRG	Braganca	96.40	43	eP	P	15 08 56.4	+0.5
	comp=Z,87nm,1.7s						
PBRG	Braganca	96.40	43	PP	PP	15 12 47.3	-3.0
ESDC	Sonseca Array	96.64	46	P	P	15 08 55.6	-1.5
	comp=Z,6.5nm,0.8s,baz=238,slow=3.9,SNR=12						
ESDC				LR	LR	15 50 47.6	
	comp=Z,69μm,20.8s,baz=230,slow=34						
ETRT	Tiaret	97.28	52	P	Pdif	15 09 01.5	+1.2
EANR	'Ain N'Sour	97.49	51	P	Pdif	15 09 03.7	+2.6
SJPF	Ste Jean	100.39	45	eP	Pdif	15 09 12.8	-0.9
	comp=Z,264nm,1.7s						
SJPF	Ste Jean	100.39	45	eP	Pdif	15 09 12.8	-0.9
SJPF				pmax	pmax		
	comp=Z,264nm,1.7s						
SJPF	Ste Jean	100.39	45	eP	Pdif	15 09 12.8	-0.9
	comp=Z,264nm,1.7s						
ETSF	Etsaut	100.65	45	eP	Pdif	15 09 14.0	-1.0
	comp=Z,242nm,1.8s						
ETSF	Etsaut	100.65	45	eP	Pdif	15 09 14.0	-1.0
ETSF				pmax	pmax		
	comp=Z,242nm,1.8s						
ETSF	Etsaut	100.65	45	eP	Pdif	15 09 14.0	-1.0
	comp=Z,242nm,1.8s						
EPF	Esparros	101.25	45	eP	Pdif	15 09 16.4	-1.2
	comp=Z,99nm,1.4s						
EPF	Esparros	101.25	45	eP	Pdif	15 09 16.4	-1.2
EPF				pmax	pmax		
	comp=Z,99nm,1.4s						
EPF	Esparros	101.25	45	eP	Pdif	15 09 16.4	-1.2
	comp=Z,99nm,1.4s						
QUIF	Quistinic	102.25	40	eP	Pdif	15 09 20.0	-1.8
	comp=Z,266nm,1.8s						
QUIF	Quistinic	102.25	40	eP	Pdif	15 09 20.0	-1.8
QUIF				pmax	pmax		
	comp=Z,266nm,1.8s						
QUIF	Quistinic	102.25	40	eP	Pdif	15 09 20.0	-1.8
	comp=Z,266nm,1.8s						
SFJD	Kangerlussuaq	102.26	8	i P	PKiKP	15 13 42.8	-0.3
YKA	Yellowknife Ar	102.40	341	PP	PP	15 13 37.2	+1.8
	comp=Z,14nm,1.0s,baz=139,slow=7.5,SNR=5.6						
YKA				PKKPbc	PKKPbc	15 25 25.5	+0.4
	comp=Z,0.8nm,0.6s,baz=328,slow=3.2,SNR=9.0						
MTLF	Montolieu	102.55	46	eP	Pdif	15 09 21.7	-1.6
	comp=Z,120nm,1.6s						
MTLF	Montolieu	102.55	46	eP	Pdif	15 09 21.7	-1.6
MTLF				pmax	pmax		
	comp=Z,120nm,1.6s						
MTLF	Montolieu	102.55	46	eP	Pdif	15 09 21.7	-1.6
	comp=Z,120nm,1.6s						
MFF	Saint Martin d	103.09	42	eP	Pdif	15 09 24.2	-1.4
	comp=Z,206nm,1.7s						
MFF	Saint Martin d	103.09	42	eP	Pdif	15 09 24.2	-1.4
MFF				pmax	pmax		
	comp=Z,206nm,1.7s						
MFF	Saint Martin d	103.09	42	eP	Pdif	15 09 24.2	-1.4
	comp=Z,206nm,1.7s						
RJF	Les Rejaudoux	103.28	44	eP	Pdif	15 09 24.9	-1.6
	comp=Z,176nm,1.8s						
RJF	Les Rejaudoux	103.28	44	eP	Pdif	15 09 24.9	-1.6
RJF				pmax	pmax		
	comp=Z,176nm,1.8s						
RJF	Les Rejaudoux	103.28	44	eP	Pdif	15 09 24.9	-1.6
	comp=Z,176nm,1.8s						
CAF	Calviac	103.37	45	eP	Pdif	15 09 25.7	-1.3
CAF	Calviac	103.37	45	eP	Pdif	15 09 25.7	-1.3
CAF	Calviac	103.37	45	eP	Pdif	15 09 25.7	-1.3
GRR	Gorron	103.76	40	eP	Pdif	15 09 26.8	-1.8
GRR	Gorron	103.76	40	eP	Pdif	15 09 26.8	-1.8
GRR	Gorron	103.76	40	eP	Pdif	15 09 26.8	-1.8
FLN	La Foliniere	104.19	40	eP	Pdif	15 09 28.9	-1.5
FLN	La Foliniere	104.19	40	eP	Pdif	15 09 28.9	-1.5
FLN	La Foliniere	104.19	40	eP	Pdif	15 09 28.9	-1.5
LBL	Lubilhac	104.24	45	eP	Pdif	15 09 33.1	+2.2
ILULI	Ilulissat	104.32	7	i P	PP	15 13 55.8	+6.1
DLBC	Dease Lake	104.34	333	PP	PP	15 13 50.9	+0.7
	comp=Z,19nm,1.1s,baz=159,slow=8.6,SNR=4.0						
PYM	Petit Puy Mans	104.39	44	eP	Pdif	15 09 34.0	+2.5
AGO	Saint Agoulin	104.63	44	eP	Pdif	15 09 34.3	+1.8
BGF	Bois d'Agland	104.75	43	eP	Pdif	15 09 31.7	-1.3
	comp=Z,55nm,1.1s						
BGF	Bois d'Agland	104.75	43	eP	Pdif	15 09 31.7	-1.3
BGF				pmax	pmax		
	comp=Z,55nm,1.1s						
BGF	Bois d'Agland	104.75	43	eP	Pdif	15 09 31.7	-1.3
	comp=Z,55nm,1.1s						
PLDF	La Plantade	104.87	44	eP	Pdif	15 09 35.9	+2.2
AVF	Avril sur Loir	105.17	43	eP	Pdif	15 09 33.5	-1.4
	comp=Z,81nm,1.2s						
AVF	Avril sur Loir	105.17	43	eP	Pdif	15 09 33.5	-1.4
AVF				pmax	pmax		
	comp=Z,81nm,1.2s						
AVF	Avril sur Loir	105.17	43	eP	Pdif	15 09 33.5	-1.4
	comp=Z,81nm,1.2s						
SMF	Signal de Mont	105.37	44	eP	Pdif	15 09 34.6	-1.2
	comp=Z,39nm,0.8s						
SMF	Signal de Mont	105.37	44	eP	Pdif	15 09 34.6	-1.2
SMF				pmax	pmax		
	comp=Z,39nm,0.8s						
SMF	Signal de Mont	105.37	44	eP	Pdif	15 09 34.6	-1.2
	comp=Z,39nm,0.8s						
CABF	La Chapelle	106.65	45	eP	Pdif	15 09 40.1	-1.5
	comp=Z,248nm,1.9s						
CABF	La Chapelle	106.65	45	eP	Pdif	15 09 40.1	-1.5
CABF				pmax	pmax		
	comp=Z,248nm,1.9s						
CABF	La Chapelle	106.65	45	eP	Pdif	15 09 40.1	-1.5
	comp=Z,248nm,1.9s						
EKA	Eskdalemuir Ar	106.74	34	PKiKP	PKiKP	15 13 52.4	+0.7
	comp=Z,0.8nm,0.5s,baz=245,slow=1.5,SNR=4.1						
STKA	Stephens Creek	107.06	209	PKKPbc	PKKPbc	15 25 09.9	+0.2
	comp=Z,3.3nm,0.9s,baz=346,slow=5.9,SNR=5.0						
GIVF	Givet	107.80	41	eP	Pdif	15 09 45.1	-1.4
GIVF	Givet	107.80	41	eP	Pdif	15 09 45.1	-1.4
GIVF	Givet	107.80	41	eP	Pdif	15 09 45.1	-1.4
DAVA	Damuels	109.22	46	⇓i PKiKP	PKiKP	15 13 54.4	-2.5
	comp=Z,54nm,1.6s						
GRF	Grafenberg Arr	111.17	44	ePP	PP	15 14 37.0	-3.3
GRF				ePS	PS	15 24 21.9	+10
GRF				ePKKPbc	PKKPab	15 25 06.3	+2.1
INK	Inuvik	112.01	339	i PKIKP	PKiKP	15 14 02.5	+1.3
INK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
INK	Inuvik	112.01	339	PKiKP	PKiKP	15 14 02.5	+1.3
	comp=Z,5.0nm,0.7s,baz=109,slow=3.0,SNR=6.1						
SOKA	Soboth	112.04	48	⇑i PKiKP	PKiKP	15 14 03.8	+1.7
	comp=Z,18nm,1.2s						
GERES	GERESS Array B	112.22	45	i PKIKP	PKiKP	15 14 03.4	+1.0
GERES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GERES	GERESS Array B	112.22	45	PKiKP	PKiKP	15 14 03.4	+1.0
	comp=Z,2.3nm,0.5s,baz=178,slow=1.3,SNR=12						
KHC	Kasperske Hory	112.28	45	ePKIKP	PKiKP	15 14 00.3	-2.1
KHC				e		15 14 08.1	
KHC				e		15 14 45.1	
KHC	Kasperske Hory	112.28	45	ePKP	PKiKP	15 14 00.3	-2.1
KHC				epPKP	pPKiKP	15 14 08.1	-2.5
KHC				ePP	PP	15 14 45.1	-3.2
CLL	Collm	112.93	43	eP	Pdif	15 10 09.0	-0.2
CLL				i		15 14 49.9	
CLL				e		15 20 47.0	
CLL				MLR	MLR		
	comp=Z,86μm,20.9s						
CLL	Collm	112.93	43	ePdif	Pdif	15 10 09.0	-0.2
CLL				e		15 10 25.0	
CLL				esPKiKP	sPKiKP	15 14 12.0	-2.5
CLL				i PP	PP	15 14 49.9	-2.9
CLL				e		15 15 09.0	
CLL				e		15 17 30.0	
CLL				eSKSac	SKSac	15 20 47.0	+1.3
CLL				e		15 21 02.0	
CLL				ePS	PS	15 24 33.0	+5.4
CLL				i PKKPab	PKKPab	15 24 58.4	+2.1
	comp=Z,65nm,1.8s						
CLL				i pPKKPab		15 25 05.5	
CLL				e		15 25 24.0	
CLL				ePPS	PPS	15 25 40.0	
CLL				eSS	SS	15 30 35.0	+0.2
CLL				LmV		16 00 00.0	
	comp=Z,86μm,20.9s						
CLL				LmH		16 01 00.0	
	comp=N,55μm,21.8s						
CLL				LmH		16 01 00.0	
	comp=E,54μm,20.6s						
PRU	Pruhonice	113.22	45	ePKIKP	PKiKP	15 14 02.2	-1.9
PRU	Pruhonice	113.22	45	ePKP	PKiKP	15 14 02.2	-1.9
PRU				ePP	PP	15 14 45.2	-10
MUD	Monsted U'grnd	113.23	37	i P	PP	15 14 51.6	-3.2
BRG	Berggiesshubel	113.27	43	ePKP	PKiKP	15 14 05.7	+1.5
	comp=E,49nm,1.7s						
BRG	Berggiesshubel	113.27	43	ePKIKP	PKiKP	15 14 05.7	+1.5
BRG				pmax	pmax		
	comp=Z,49nm,1.7s						
BRG	Berggiesshubel	113.27	43	PP	Pdif	15 10 16.0	+5.2
PVCC	Panska Ves	113.47	44	ePKIKP	PKiKP	15 14 07.1	+2.5
PVCC				e		15 14 17.3	
PVCC				e		15 14 57.9	
PVCC	Panska Ves	113.47	44	ePKP	PKiKP	15 14 07.1	+2.5
PVCC				ex	x	15 14 17.3	
PVCC				ePP	PP	15 14 57.9	+1.2
TREC	Trest	113.47	45	ePKIKP	PKiKP	15 14 06.9	+2.2
TREC				e		15 14 56.7	
TREC	Trest	113.47	45	ePKP	PKiKP	15 14 06.9	+2.2
TREC				ePP	PP	15 14 56.7	-0.1
KDAK	Kodiak Island	113.74	325	i PKIKP	PKiKP	15 14 06.8	+2.0
VRAC	Vranov	114.13	46	⇑i P	PKPdf	15 14 14.6	+8.7
UPC	Upice	114.30	44	ePKIKP	PKPdf	15 14 07.5	+1.3
UPC				e		15 14 21.0	
UPC				e		15 15 02.2	
UPC	Upice	114.30	44	ePKP	PKPdf	15 14 07.5	+1.3
UPC				ex	x	15 14 21.0	
UPC				ePP	PP	15 15 02.2	-0.4
DPC	Dobruska-Polom	114.41	45	ePKIKP	PKPdf	15 14 04.4	-2.0
DPC				e		15 14 16.8	
DPC	Dobruska-Polom	114.41	45	ePKP	PKPdf	15 14 04.4	-2.0
DPC				ex	x	15 14 16.8	
DPC				ePP	PP	15 14 57.9	-5.6
COP	Copenhagen	114.53	38	i P	PP	15 15 00.4	-3.6
ILAR	Eielson Array	114.55	333	PKIKP	PKPdf	15 14 04.5	-1.7
ILAR						15 24 39.3	
ILAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ILAR	Eielson Array	114.55	333	PKP	PKPdf	15 14 04.5	-1.7
	comp=Z,8.4nm,0.8s,baz=183,slow=0.6,SNR=18						
ILAR				PKKPbc	PKKPbc	15 24 39.2	-7.0
	comp=Z,1.2nm,0.6s,baz=190,slow=1.2,SNR=9.3						
KRLC	Kraliky	114.57	45	ePKIKP	PKPdf	15 14 06.4	-0.4
KRLC				e		15 15 02.7	
KRLC	Kraliky	114.57	45	ePKP	PKPdf	15 14 06.4	-0.4
KRLC				ePP	PP	15 15 02.7	-1.9
KSP	Ksiaz	114.60	44	ePP	PP	15 15 02.8	-1.9
MCK	McKinley	114.85	331	ePKIKP	PKPdf	15 14 07.9	+1.0
MCK	McKinley	114.85	331	ePKPdf	PKPdf	15 14 07.9	+1.0
APE	Apeiranthos	114.91	61	ePKIKP	PKPdf	15 14 06.5	-1.3
COLA	College	114.96	333	ePKIKP	PKPdf	15 14 05.4	-1.5
COLA	College	114.96	333	ePKPdf	PKPdf	15 14 05.4	-1.6
VYHS	Vyhne	115.14	47	ePKIKP	PKPdf	15 14 09.1	+1.2
VYHS				e		15 15 06.1	
VYHS	Vyhne	115.14	47	ePKP	PKPdf	15 14 09.1	+1.2
VYHS				ePP	PP	15 15 06.1	-2.5
TRF	Thorofare Moun	115.26	331	ePKPdf	PKPdf	15 14 06.2	-1.7
OKC	Ostrava-Krasne	115.27	46	ePKIKP	PKPdf	15 14 07.3	-0.7
OKC				e		15 14 19.8	
OKC	Ostrava-Krasne	115.27	46	ePKP	PKPdf	15 14 07.3	-0.7
OKC				ex	x	15 14 19.8	
OKC				ePP	PP	15 15 03.0	-6.5
DAG	Danmarks Havn	115.56	12	i P	PP	15 15 02.3	-8.5
VTS	Vitosha	115.57	55	⇑PKIKP	PKPdf	15 14 11.9	+2.8
VTS	Vitosha	115.57	55	⇑i P	PKPdf	15 14 11.9	+2.8
BSD	Bornholm Skovb	115.58	39	i P	PP	15 15 07.4	-4.1
BZS	Buzias	115.73	51	⇑PKIKP	PKPdf	15 14 12.4	+3.3
BZS	Buzias	115.73	51	⇑i P	PKPdf	15 14 12.4	+3.3
PPLA	Purkeypile	115.80	330	ePKPdf	PKPdf	15 14 08.0	-0.9
GKP	Gorka Klasztor	116.11	42	ePP	PP	15 15 13.5	-1.7
NB2	NORSAR Subarra	116.17	33	PKPdf	PKPdf	15 14 11.1	+1.6
	comp=Z,159nm,2.5s,baz=248,slow=1.9						
NB2	NORSAR Subarra	116.17	33	PKPdf	PKPdf	15 14 11.1	+1.6
	baz=248,slow=1.9						
NOA	NORSAR Array B	116.17	33	PKP	PKPdf	15 14 07.5	-2.0
	comp=Z,1.2nm,0.7s,baz=310,slow=17,SNR=3.5						
NOA				PKKPab	PKKPbc	15 24 41.1	+0.5
	comp=Z,8.7nm,0.8s,baz=68,slow=4.5,SNR=20						
GZR	Gura Zlata	116.39	52	⇑i P	PKPdf	15 14 23.6	+13
KDZ	Kurdzhali	116.70	56	⇑PKIKP	PKPdf	15 14 11.4	+0.3
KDZ	Kurdzhali	116.70	56	⇑i P	PKPdf	15 14 11.4	+0.3
COLD	Coldfoot	116.86	335	ePKPdf	PKPdf	15 14 10.1	-0.5
HFS	Hagfors	116.94	34	PKP	PKPdf	15 14 12.7	+1.8
	comp=Z,6.0nm,0.7s,baz=191,slow=3.0,SNR=10						
STHS	Stebnicka Huta	116.97	47	ePKIKP	PKPdf	15 14 14.3	+2.9
STHS				e		15 15 22.4	
STHS	Stebnicka Huta	116.97	47	ePKP	PKPdf	15 14 14.3	+2.9
STHS				ePP	PP	15 15 22.4	+1.0
TRPA	Tarpa	117.28	49	⇓i P	PKPdf	15 14 11.0	-0.9
UZH	Uzhgorod	117.31	48	i PKIKP	PKPpre	15 14 02.5	
UZH				e		15 14 15.5	
UZH				MLR	MLR		
	comp=N,28μm,19.0s						
UZH				MLR	MLR		
	comp=E,53μm,19.0s						
UZH				MLR	MLR		
	comp=Z,32μm,19.0s						
ASAR	Alice Springs	117.39	207	PKP	PKPdf	15 14 10.8	-2.4
	comp=Z,8.4nm,0.7s,baz=136,slow=1.7,SNR=18						
ASAR				PKKPbc	PKKPbc	15 24 37.0	+1.4
	comp=Z,4.8nm,0.6s,baz=340,slow=2.9,SNR=15						
AS31	Alice Springs	117.39	207	ePKPdf	PKPdf	15 14 12.8	-0.4
KOLS	Kolonicke sedl	117.41	48	ePKIKP	PKPdf	15 14 16.5	+4.3
KOLS				e		15 15 24.0	
KOLS	Kolonicke sedl	117.41	48	e	PKPdf	15 14 16.5	+4.3
KOLS				ePP	PP	15 15 24.0	-0.5
BEL	Belsk	117.59	44	ePP	PP	15 15 22.1	-3.5
BEL				eSKSac	SKSac	15 20 58.7	-4.7
ARR	Arges	117.59	52	⇑i P	PKPdf	15 14 15.2	+2.4
JMB	Yambol	117.81	56	⇑PKIKP	PKPdf	15 14 12.1	-1.1
JMB	Yambol	117.81	56	⇑i P	PKPdf	15 14 12.1	-1.1
VOIR		117.89	52	⇑PKIKP	PKPdf	15 14 13.2	-0.2
VOIR		117.89	52	⇑i P	PKPdf	15 14 13.2	-0.2
KWP	Kalwaria Pacla	117.93	47	ePKIKP	PKPdf	15 14 14.0	+0.8
KWP				e		15 15 25.5	
KWP				e		15 21 06.7	
KWP	Kalwaria Pacla	117.93	47	ePKPdf	PKPdf	15 14 14.0	+0.8
KWP				ePP	PP	15 15 25.4	-2.7
KWP				eSKSac	SKSac	15 21 06.7	+1.9
KWP	Kalwaria Pacla	117.93	47	⇑i P	PKPdf	15 14 17.8	+4.6
KWP	Kalwaria Pacla	117.93	47	ePKPdf	PKPdf	15 14 13.5	+0.3
MLR	Muntele Rosu	118.50	52	⇑PKIKP	PKPdf	15 14 12.3	-2.3
MLR	Muntele Rosu	118.50	52	⇑i P	PKPdf	15 14 12.3	-2.3
MLR	Muntele Rosu	118.50	52	PKP	PKPdf	15 14 15.3	+0.7
	comp=Z,1.3nm,0.6s,baz=303,slow=3.2,SNR=7.4						
PRD	Provadia	118.64	55	⇑PKIKP	PKPdf	15 14 21.3	+6.6
BURAR	Bucovina Array	118.78	50	⇑PKIKP	PKPdf	15 14 17.0	+2.0
BURAR	Bucovina Array	118.78	50	⇑i P	PKPdf	15 14 17.0	+2.0
LVV	L'vov	118.80	47	i PKIKP	PKPpre	15 14 09.6	
LVV				i		15 15 32.6	
LVV				ePPP	PPP	15 18 05.2	
LVV				e		15 21 08.6	
LVV				e		15 25 16.6	
EIL	Elat	118.94	72	i PKP	PKPdf	15 14 16.3	+0.6
	comp=Z,4.9nm,0.6s,baz=337,slow=4.1,SNR=6.6						
EIL				PKKPbc	PKKPbc	15 24 30.5	+0.8
	comp=Z,6.8nm,1.1s,baz=6.2,slow=2.1,SNR=4.3						
PLOR	Plostina	119.09	52	⇓PKIKP	PKPdf	15 14 17.9	+2.3
PLOR	Plostina	119.09	52	⇓i P	PKPdf	15 14 17.9	+2.3
VRI	Vrincioaia	119.14	52	⇑PKIKP	PKPdf	15 14 18.2	+2.5
VRI	Vrincioaia	119.14	52	⇑i P	PKPdf	15 14 18.2	+2.5
TESR	Tescani	119.32	52	⇑i P	PKPdf	15 14 11.5	-4.5
SUW	Suwalki	119.68	43	ePKIKP	PKPdf	15 14 15.3	-1.1
SUW	Suwalki	119.68	43	ePKPdf	PKPdf	15 14 16.9	+0.5
SUW				ePP	PP	15 15 37.0	-3.0
SUW	Suwalki	119.68	43	ePKPdf	PKPdf	15 14 15.3	-1.1
CFR	Carcaliu	119.84	53	⇑PKIKP	PKPdf	15 14 19.5	+2.5
CFR	Carcaliu	119.84	53	⇑i P	PKPdf	15 14 19.5	+2.5
WB2	Warramunga Arr	120.59	209	ePKPdf	PKPdf	15 14 18.8	-0.6
WRA	Warramunga Arr	120.60	209	PKP	PKPdf	15 14 18.4	-1.0
	comp=Z,16nm,0.5s,baz=158,slow=1.6,SNR=31						
WRA				PKKPab	PKKPab	15 24 27.2	-1.1
	comp=Z,2.0nm,0.6s,baz=342,slow=4.4,SNR=9.8						
WRA				PKKP	PKKPdf	15 24 49.6	-6.4
	comp=Z,6.5nm,0.8s,baz=158,slow=1.7,SNR=15						
WRAB	Tennant Creek	120.60	209c	i PKIKP	PKPdf	15 14 17.9	-1.5
WRAB	Tennant Creek	120.60	209	ePKPdf	PKPdf	15 14 18.6	-0.8
MMAI	Mount Meron Ar	120.66	69	PKP	PKPdf	15 14 20.8	+1.7
	comp=Z,7.2nm,0.6s,baz=245,slow=1.6,SNR=7.6						
MMAI				PKKPbc	PKKPab	15 24 25.9	+1.8
	comp=Z,0.7nm,0.3s,baz=26,slow=3.7,SNR=6.0						
KIS	Kishinev	120.89	52	ePKIKP	PKPdf	15 14 21.0	+2.1
KIS				i		15 15 45.0	
KIS				pmax	pmax		
	comp=Z,11μm,18.0s						
KIS	Kishinev	120.89	52	i PPS	PPS	15 11 50.0	
KIS				LRM	MLR	16 09 30.0	
	comp=Z,81μm,20.0s						
KIS	Kishinev	120.89	52	ePKP	PKPdf	15 14 21.0	+2.1
KIS	Kishinev	120.89	52	i PP	PP	15 15 45.0	-3.5
	comp=Z,11μm,18.0s						
ANTO	Ankara	121.24	61	ePKIKP	PKPdf	15 14 18.4	-1.6
ANTO	Ankara	121.24	61	ePKPdf	PKPdf	15 14 18.4	-1.6
ASF	Jabal al Asfar	121.49	70	PKP	PKPdf	15 14 21.6	+0.9
	comp=Z,3.4nm,0.6s,baz=188,slow=1.4,SNR=5.5						
COEN	Coen	121.61	221	ePKPdf	PKPdf	15 14 21.5	+0.1
BRTR	Keskin Array B	121.80	61	PKP	PKPdf	15 14 19.3	-1.9
	comp=Z,9.3nm,0.7s,baz=182,slow=3.3,SNR=8.1						
NACGM	Naroch	121.95	42	eP	PKPdf	15 14 16.0	-4.7
NACGM	Naroch	121.95	42	e	PKKPdf	15 24 48.0	-7.4
KBS	Kingsbay	122.20	13	eP	PKPdf	15 14 23.1	+2.5
KIEV	Kiev	122.23	48	ePKIKP	PKPdf	15 14 19.1	-2.3
KIEV	Kiev	122.23	48	ePKPdf	PKPdf	15 14 19.1	-2.3
AKASG	Malin Array Be	122.25	48	PKIKP	PKPdf	15 14 19.3	-2.1
AKASG						15 15 57.1	
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AKASG				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AKASG	Malin Array Be	122.25	48	PKP	PKPdf	15 14 19.2	-2.1
	comp=Z,7.5nm,0.7s,baz=260,slow=2.8,SNR=9.4						
AKASG				PP	PP	15 15 57.1	-0.5
	comp=Z,10nm,1.0s,baz=256,slow=6.8,SNR=6.3						
AKASG				PKKPbc	PKKPbc	15 24 21.9	+4.1
	comp=Z,1.6nm,0.5s,baz=59,slow=3.9,SNR=4.1						
MNK	Minsk	122.44	43	ePKIKP	PKPdf	15 14 19.0	-2.7
MNK				MLR	MLR		
	comp=N,71μm,20.0s						
MICGM	Minsk	122.47	43	eP	PKPdf	15 14 19.0	-2.7
HSPB	Hornsund (broa	122.52	16	eP	PKPdf	15 14 21.6	+0.4
VSU	Vasula	122.80	38	ePKIKP	PKPdf	15 14 23.5	+1.3
SPA0	Spitsbergen Ar	122.91	14	eP	PKPdf	15 14 23.8	+1.8
SPA0				eP	PKiKP	15 14 26.9	+4.7
SPA0				eP	PKiKP	15 14 26.9	+4.7
SPITS	Spitsbergen Ar	122.91	14	PKP	PKPdf	15 14 22.9	+0.8
	comp=N,16nm,0.6s,baz=168,slow=4.3,SNR=24						
SPITS				PKKPbc	PKKPbc	15 24 15.9	+0.1
	comp=N,5.3nm,0.8s,baz=104,slow=6.1,SNR=7.3						
PMG	Port Moresby	122.97	228	ePKIKP	PKPdf	15 14 22.2	-1.8
FINES	FINESS Array B	123.12	35	PKP	PKPdf	15 14 24.2	+1.5
	comp=N,8.1nm,0.7s,baz=219,slow=1.7,SNR=14						
FINES				PKKPbc	PKKPbc	15 24 14.5	-0.2
	comp=N,6.4nm,0.7s,baz=84,slow=5.9,SNR=9.3						
TNA	Tin City	123.14	330	ePKPdf	PKPdf	15 14 21.4	-1.3
KTK1	Kautokeino	123.33	25	eP	PKPdf	15 14 24.6	+1.6
KAF	Kangasniemi	123.36	34	ePKIKP	PKPdf	15 14 20.3	-2.9
KAF				pmax	pmax		
	comp=Z,14nm,0.5s						
KAF	Kangasniemi	123.36	34	ep	PKPdf	15 14 20.3	-2.9
	comp=Z,14nm,0.5s						
MBW

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VSR                                    pmax    pmax
     comp=E,120nm,2.3s
VSR                                    pmax    pmax
     comp=Z,410nm,2.3s
VSR                                    pmax    pmax
     comp=N,490nm,4.8s
VSR                                    pmax    pmax
     comp=E,1µm,4.8s
VSR                                    pmax    pmax
     comp=Z,4µm,4.8s
VORD Divnogorie        128.53  49 ePKIKP  PKPdf  15 14 33.2 -0.2
VORD                                   pmax    pmax
     comp=E,120nm,1.9s
VORD                                   pmax    pmax
     comp=Z,250nm,1.9s
VORD                                   pmax    pmax
     comp=N,110nm,1.7s
VOR  Voronezh          128.59  48 ePKIKP  PKPdf  15 14 32.0 -1.5
VOR                                    pmax    pmax
     comp=Z,270nm,2.0s
TMCR Tamitsa           128.85  32 ePKIKP  PKPdf  15 14 35.0 +1.4
TMCR                                   e       15 16 36.8
TMCR                                   pmax    pmax
     comp=Z,96nm,1.2s
RBK  Rabkut            129.21  95 P       PKPdf  15 14 37.0 +1.2
     SNR=6.8
KIV  Kislovodsk        129.48  58 i P     Pdif   15 11 22.1 -1.1
KIV                                    i       15 14 34.1
KIV                                    e       15 16 42.2
KIV                                    ePS     PS     15 26 52.6 -3.4
KIV                                    eSS     SS     15 34 07.2  0.0
KIV                                    pmax    pmax
     comp=Z,61nm,1.1s
KIV  Kislovodsk        129.48  58 P       PKPdf  15 14 38.2 +2.6
     SNR=13
KIV  Kislovodsk        129.48  58⇓i PKiKP PKiKP  15 14 37.0 +0.6
     SNR=5.9
KIV  Kislovodsk        129.48  58 ePKPdf  PKPdf  15 14 34.2 -1.5
KLMR Klimovskoe        129.53  36 ePKIKP  PKPdf  15 14 36.5 +1.5
KLMR                                   pmax    pmax
     comp=Z,444nm,1.5s
KBZ  Khabaz            129.58  59 PKP     PKPdf  15 14 35.8 +0.2
     comp=Z,6.7nm,0.9s,baz=220,slow=7.1,SNR=13
IDHR Dehrash           129.80  71 eP      PKPdf  15 14 35.2 -1.5
IGHG Ghaleghazi        129.82  71 eP      PKPdf  15 14 42.9 +6.1
VRHR Novokhopersk      130.00  49 ePKIKP  PKPdf  15 14 37.4 +1.2
VRHR                                   e       15 16 52.0
VRHR                                   pmax    pmax
     comp=N,80nm,2.2s
VRHR                                   pmax    pmax
     comp=Z,500nm,2.2s
VRHR                                   pmax    pmax
     comp=E,20nm,2.0s
VRHR                                   pmax    pmax
     comp=E,360nm,3.2s
VRHR                                   pmax    pmax
     comp=Z,1µm,3.2s
VRHR                                   pmax    pmax
     comp=N,430nm,2.8s
VRHR                                   MLR     MLR
     comp=N,24µm,23.0s
VRHR                                   MLR     MLR
     comp=E,40µm,23.0s
VRHR                                   MLR     MLR
     comp=Z,76µm,23.0s
GNI  Garni             130.07  64 ePKIKP  PKPdf  15 14 36.1 -0.9
GNI  Garni             130.07  64 P       PKPdf  15 14 40.1 +3.1
     SNR=10
GNI  Garni             130.07  64 PKP     PKPdf  15 14 39.1 +2.1
     comp=Z,6.3nm,0.5s,baz=260,slow=4.3,SNR=4.8
GNI  Garni             130.07  64⇓i PKiKP PKiKP  15 14 39.2 +1.4
     SNR=7.2
GNI  Garni             130.07  64 ePKPdf  PKPdf  15 14 36.5 -0.5
GNI                                    PKP     PKPdf  15 14 39.1 +2.1
ZEI  Tsey              130.09  60 i PKIKP PKPdf  15 14 39.2 +2.2
ZEI                                    pmax    pmax
     comp=Z,101nm,1.9s
IMRD Marand            130.43  66 eP      PKPdf  15 14 35.5 -2.2
IKOM Komasi            130.51  72 eP      PKPdf  15 14 39.1 +1.1
ITBZ Tabriz            130.63  66 eP      PKPdf  15 14 37.0 -1.1
FX1  Attu Island--F    131.18 313 ePKIKP  PKPdf  15 14 38.0 -0.4
FX1  Attu Island--F    131.18 313 PKP     PKPdf  15 14 40.1 +1.7
     comp=Z,8.8nm,0.4s,baz=119,slow=6.4,SNR=11
FX1  Attu Island--F    131.18 313 ePKPdf  PKPdf  15 14 38.0 -0.4
FX1                                    PKP     PKPdf  15 14 40.1 +1.7
IHRS Heris             131.34  67 eP      PKPdf  15 14 39.9 +0.4
PRGR Permogore         132.45  35⇑i PKIKP PKPdf  15 14 40.1 -0.4
PRGR                                   i       15 17 02.3
PRGR                                   pmax    pmax
     comp=Z,337nm,1.9s
IKAZ Kazeroun          132.52  79 eP      PKPdf  15 14 41.9 -0.3
COCO West Island       132.53 165 i PKIKP PKPpre 15 14 36.8
MAK  Makhachkala       132.71  61 eP      Pdif   15 11 36.0 -1.4
MAK                                    e       15 14 36.9
MAK                                    e       15 17 06.3
MAK                                    e       15 21 48.3
MAK                                    pmax    pmax
     comp=Z,545nm,2.0s
IPIR Pirpir            132.73  75 eP      PKPdf  15 14 40.9 -1.5
IRAZ Razeghan          132.78  71 eP      PKPdf  15 14 39.0 -3.3
BILL Bilibino          133.19 334 ePKIKP  PKPdf  15 14 41.7 -0.1
BILL Bilibino          133.19 334 ePKPdf  PKPdf  15 14 41.7 -0.1
IGZV Ghazvin           133.27  70 eP      PKPdf  15 14 43.5 +0.2
ISRV Sarvestan         133.42  80 eP      PKPdf  15 14 41.9 -1.9
IKLH Kolahrood         133.47  74 eP      PKPdf  15 14 45.1 +1.4
IPAR Pars              133.53  80 eP      PKPdf  15 14 44.9 +0.8
FAQ  Al Faqa, Dubai    133.68  87⇑i PKiKP PKiKP  15 14 45.3  0.0
     SNR=6.7
NAZ  Nazwa, Dubai      133.84  87 i PKiKP PKiKP  15 14 46.5 +0.8
     SNR=6.5
IZEF Zefreh            133.95  75 eP      PKPpre 15 14 39.6
ASHO Ashiyiah          134.04  88 ⇓P      PKPdf  15 14 45.4 +0.6
     SNR=10
ASHO Ashiyiah          134.04  88⇑i PKiKP PKPdf  15 14 45.4 +0.6
     SNR=8.5
IVRN Varamin           134.08  72 eP      PKPdf  15 14 46.0 +1.4
HATD Hatta, Dubai      134.16  87 P       PKPdf  15 14 47.0 +2.1
     SNR=8.1
ISAD Sadrabad          134.73  77 eP      PKPdf  15 14 45.5 -0.6
JMDO Jabal Madar       134.74  92 ⇑P      PKPdf  15 14 43.2 -3.0
     SNR=7.4
IPRN Peran             134.89  71 eP      PKPdf  15 14 45.0 -1.2
SMDO Samad             135.00  91 ⇑P      PKPpre 15 14 41.3
     SNR=17
IFIR Firoozkooh        135.06  72 eP      PKPdf  15 14 47.0 +0.3
ILAS Lasjerd           135.16  72 eP      PKPdf  15 14 44.7 -2.2
IALA Alasht            135.22  71 eP      PKPdf  15 14 48.6 +1.6
ICHK Chekchek          135.42  77 eP      PKPdf  15 14 48.4 +1.0
WBK  Wadi Bani Khal    135.56  92 ⇓P      PKPdf  15 14 45.2 -2.5
     SNR=13
IANJ Anjilo            135.93  72 eP      PKPdf  15 14 49.3 +1.0
IGLO Ghaloghah         136.12  71 eP      PKPdf  15 14 48.3 -0.3
IBAF Bafgh             136.15  78 eP      PKPdf  15 14 49.8 +1.1
JAGI Jajag, Banyuwa    137.10 189 ePKPdf  PKPdf  15 14 49.8 -1.1
SOKR Solikamsk         138.21  37 ePKIKP  PKPdf  15 14 52.8 +1.5
SOKR                                   pmax    pmax
     comp=Z,50nm,1.1s
CISI Cisompet, Garu    138.38 179 ePKPdf  PKPdf  15 14 53.2  0.0
KAPI Kappang           139.41 198 PKPdf   PKPpre 15 14 50.6
GEYT Alibeck           139.77  70 PKhKP   PKPpre 15 14 49.9
     comp=Z,5.8nm,0.7s,baz=298,slow=3.2,SNR=8.3
ARU  Arti              139.84  41 i PKIKP PKPdf  15 14 55.0 +0.6
ARU                                    MLR     MLR 15 17 45.9
ARU                                    MLR     MLR
     comp=Z,85µm,21.0s
IKRD Kardeh            139.85  72 eP      PKPdf  15 14 55.5  0.0
PET  Petropavlovsk     139.94 314 ePKIKP  PKPpre 15 14 48.6
PET                                    pmax    pmax
     comp=Z,6µm,13.0s
PET                                    pmax    pmax
     comp=Z,6µm,5.7s
PET                                    MLR     MLR
     comp=Z,25µm,18.0s
PET                                    MLR     MLR
     comp=Z,21µm,18.0s
PET  Petropavlovsk     139.94 314 ePKPdf  PKPdf  15 14 53.5 -1.2
IAKL Akhelmad          140.01  72 eP      PKPdf  15 14 58.1 +2.3
IPAY Payeh             140.17  72 eP      PKPpre 15 14 48.9
IMOG Moghan            140.37  73 eP      PKPpre 15 14 51.8
AKTO Aktyubinsk        140.37  50 PKIKP   PKPpre 15 14 49.3
AKTO                                   pmax    pmax
     comp=Z,171nm,1.9s
AKTO Aktyubinsk        140.37  50 PKhKP   PKPpre 15 14 46.0
     comp=Z,7.3nm,0.8s,baz=264,slow=3.3,SNR=9.8
SEY  Seymchan          140.38 330 PKHKP   PKPpre 15 14 47.9
SEY                                    pmax    pmax
     comp=Z,10.0nm,0.5s
SEY  Seymchan          140.38 330 PKhKP   PKPpre 15 14 47.9
     comp=Z,10nm,0.5s,baz=134,slow=3.1,SNR=10.0
PETK Petropavlovsk-    140.50 314 PKHKP   PKPpre 15 14 46.1
PETK                                   pmax    pmax
     comp=Z,8.0nm,0.6s
PETK Petropavlovsk-    140.50 314 PKhKP   PKPpre 15 14 46.1
     comp=Z,8.2nm,0.6s,baz=103,slow=7.7,SNR=24
ISRO Mashad            140.51  73 eP      PKPpre 15 14 51.6
SVE  Sverdlovsk        140.86  40 i PKIKP PKPdf  15 14 55.1 -1.2
SVE                                    pmax    pmax
     comp=Z,142nm,2.0s
GUMO Guam              140.96 247 ePKIKP  PKPdf  15 14 57.4 -0.3
GUMO Guam              140.96 247 ePKPdf  PKPdf  15 14 57.4 -0.3
TIXI Tiksi             141.02 350 dePKHKP PKPpre 15 14 48.5
TIXI                                   i       15 14 56.7
TIXI                                   MLR     MLR
     comp=Z,26µm,19.0s
TIXI Tiksi             141.02 350 ePKPdf  PKPdf  15 14 56.6 +0.4
IMYA Miami             141.02  73 eP      PKPpre 15 14 52.0
TRD  Trivandrum        141.50 125 eP      PKPdf  15 14 58.7  0.0
AB31 Akbulak array     141.71  52 i PKHKP PKPpre 15 14 50.1
AB31                                   pmax    pmax
     comp=Z,83nm,0.8s
ABKAR Akbulak array    141.71  52 ePKPdf  PKPdf  15 14 56.0 -2.1
SKR  Severo-Kuril's    141.79 310 ePKHKP  PKPpre 15 14 50.0
SKR                                    e       15 18 04.0
SKR                                    pmax    pmax
     comp=Z,220nm,1.0s
SKR                                    pmax    pmax
     comp=E,5µm,8.0s
SKR                                    pmax    pmax
     comp=Z,8µm,8.0s
LUWI Luwuk             142.28 204 ePKPdf  PKPdf  15 14 57.6 -2.6
MNGI Mangalore         143.02 117 ex      PKPab  15 14 51.1 -5.5
PALK Pallekele         143.04 130 PKIKP   PKPbc  15 14 59.7 +1.3
PALK                                   pmax    pmax
     comp=Z,61nm,0.8s
PALK Pallekele         143.04 130 P       PKPdf  15 15 00.4 -1.2
     SNR=10
PALK Pallekele         143.04 130 PKP     PKPbc  15 14 59.7 +1.3
     comp=Z,61nm,0.8s,baz=224,slow=5.0,SNR=11
PALK Pallekele         143.04 130 PKP     PKPbc  15 14 59.7 +1.3
PALK                                   ePKPdf  PKPdf  15 15 01.5 -0.1
GOA  Goa               143.87 113 eP      PKPdf  15 15 03.1 +0.2
BHJ  Bhuj              144.66  98 eP      PKPdf  15 15 04.6 +0.6
TOLI Toli-Toli         144.96 202 ePKPdf  PKPab  15 15 03.5 -0.6
POO  Poona             145.66 108 eP      PKPdf  15 15 04.6 -1.4
GSI  Gunungsitoli      145.71 161 ePKPdf  PKPdf  15 15 05.7 -0.5
MDRS Chennai           147.00 123 eP      PKPdf  15 15 07.8 -0.4
BRVK Borovoye          147.29  43 ePKP2   PKPdf  15 15 06.8 -0.8
BRVK Borovoye          147.29  43 ePKPdf  PKPdf  15 15 06.8 -0.8
KSM  Kuching           147.29 184 ⇓P      PKPdf  15 15 09.8 +1.0
KSM  Kuching           147.29 184 ePKPdf  PKPdf  15 15 08.3 -0.6
KSM                                    ePKPab  PKPbc  15 15 11.9 +0.8
BVA0 Borovoye Array    147.36  43 PKP2    PKPdf  15 15 08.9 +1.1
BVA0                                   pmax    pmax
     comp=Z,17µm,5.0s
BVAR Borovoye Array    147.36  43 PKP2    PKPbc  15 15 09.4 -0.8
BVAR                                   pmax    pmax
     comp=Z,47nm,0.8s
BVAR Borovoye Array    147.36  43 PKPbc   PKPbc  15 15 09.4 -0.8
     comp=Z,47nm,0.8s,baz=276,slow=3.6,SNR=51
MYKOM Kota Tinggi      147.41 172 ⇑P      PKPdf  15 15 09.8 +0.7
PSI  Prapat            147.50 163 PKP2    PKPdf  15 15 09.6 +0.2
PSI                                    pmax    pmax
     comp=Z,152nm,0.9s
PSI  Prapat            147.50 163 PKPbc   PKPdf  15 15 09.6 +0.2
     comp=Z,152nm,0.8s,baz=195,slow=4.5,SNR=22
KGM  Kluang            147.57 171 ⇑P      PKPdf  15 15 10.0 +0.6
LATR Latur             147.71 111 ex      PKPdf  15 15 04.0 -5.3
LATR                                   ex      x      15 25 42.0
KBL  Kabul             147.84  78 ePKP2   PKPdf  15 15 09.2 -0.2
KBL  Kabul             147.84  78 ePKPdf  PKPdf  15 15 09.2 -0.2
KBL                                    ePKPab  PKPab  15 15 15.8 +0.9
KUR  Kuril'sk          147.91 302 i PKP2  PKPab  15 15 14.0 -0.5
KUR                                    i       15 18 38.2
KUR                                    i PPP   PPP    15 21 59.3
KUR                                    i SS    SS     15 37 41.4 -2.8
KUR                                    i SSS   SSS    15 43 17.2
SBUM Sibu              148.10 188 ⇓P      PKPdf  15 15 09.8 -0.4
HYB  Hyderabad         148.63 115 i PKP   PKPdf  15 15 11.0  0.0
HYB  Hyderabad         148.63 115 eP      PKPdf  15 15 12.8 +1.8
YAK  Yakutsk           149.07 340 d iPKHKP PKPpre 15 15 10.4
YAK                                    e       15 18 41.0
YAK                                    pmax    pmax
     comp=Z,339nm,1.1s
YAK                                    pmax    pmax
     comp=N,42nm,1.2s
YAK                                    pmax    pmax
     comp=E,28nm,1.3s
YAK                                    pmax    pmax
     comp=Z,4µm,4.6s
YAK                                    pmax    pmax
     comp=N,921nm,4.6s
YAK                                    pmax    pmax
     comp=E,615nm,4.3s
YAK  Yakutsk           149.07 340 ePKPdf  PKPdf  15 15 09.7 -0.5
YAK                                    ePKPbc  PKPbc  15 15 14.6 +0.2
CTBH Cotabato--PC H    149.26 212⇓eP      PKPdf  15 15 14.1 +2.1
YUK  Yuzh-Kuril'sk     149.45 300c i PKP2 PKPbc  15 15 15.6 -0.3
YUK                                    MLR     MLR
     comp=N,12µm,19.0s
YUK                                    MLR     MLR
     comp=E,28µm,19.0s
YUK                                    MLR     MLR
     comp=Z,43µm,19.0s
BUKP Musuan            149.46 214 eP      PKPdf  15 15 14.4 +1.9
KK31 Karatay Array     149.51  62 PKHKP   PKPdf  15 15 12.3 +0.7
IPM  Ipoh              149.59 166 ePKPdf  PKPdf  15 15 11.6 -1.0
IPM                                    ePKPbc  PKPbc  15 15 17.3  0.0
CMBY CAMPBELL BAY      149.82 151 eP      PKPdf  15 15 12.8 -0.2
CBIJ Chichi jima       150.01 265 ePKPbc  PKPbc  15 15 18.8 +0.9
JCJ  Chichijima        150.01 265 PKPbc   PKPbc  15 15 18.8 +1.0
     comp=Z,175nm,0.6s,baz=266,slow=3.1,SNR=5.8
CGP  Cagayan de Oro    150.14 214 eP      PKPdf  15 15 15.9 +2.5
BUTP Butuan            150.14 216 eP      PKPbc  15 15 18.8 +0.3
PAGZ Pagadian          150.19 211 eP      PKPbc  15 15 19.8 +1.1
KULM Kulim             150.30 165 ePKPbc  PKPbc  15 15 17.9 -1.0
KULM                                   ePKPab  PKPab  15 15 24.6 -0.4
SCPH Surigao           150.91 217 eP      PKPdf  15 15 12.4 -2.2
KKM  Kota Kinabalu     150.93 197 ePKPbc  PKPbc  15 15 20.1 -0.4
KKM                                    ePKPab  PKPab  15 15 26.9 -0.8
BHPL Bhopal            150.97 104 eP      PKPdf  15 15 14.3 -0.2
YSS  Yuzh-Sakhalins    151.12 306 i PKIKP PKPdf  15 15 08.0 -5.9
YSS                                    e       15 15 13.5
YSS                                    e       15 15 19.6
YSS                                    e       15 15 27.7
YSS                                    pmax    pmax
     comp=Z,50nm,1.5s
YSS  Yuzh-Sakhalins    151.12 306 ePKPdf  PKPdf  15 15 13.9 -0.1
NGP  Nagpur            151.18 109 eP      PKPdf  15 15 14.3 -0.6
NGP                                    AMS     AMS    16 11 06.9
     comp=Z,13µm,21.9s
MSLP Maasin            151.52 216 eP      PKPbc  15 15 19.9 -1.8
SNPH Sibulan           151.59 213⇓eP      PKPdf  15 15 07.3 -8.5
ERM  Erimo             151.60 296 ePKIKP  PKPdf  15 15 14.2 -0.6
ERM                                    e       15 15 29.2
ERM  Erimo             151.60 296 ePKPdf  PKPdf  15 15 14.2 -0.6
ERM                                    ePKPab  PKPab  15 15 29.2 -0.6
ASAJ Asahikawa         151.78 301 PKIKP   PKPdf  15 15 15.7 +0.7
ASAJ                                   pmax    pmax 15 15 21.9
ASAJ                                   pmax    pmax
     comp=Z,20nm,1.0s
ASAJ                                   pmax    pmax
     comp=Z,106nm,0.8s
ASAJ Asahikawa         151.78 301 PKP     PKPdf  15 15 15.7 +0.7
     comp=Z,20nm,1.0s,baz=261,slow=10,SNR=5.5
ASAJ                                   PKPbc   PKiKP  15 15 21.9 +0.1
     comp=Z,106nm,0.8s,baz=191,slow=3.8,SNR=27
ASAJ Asahikawa         151.78 301 ePKPdf  PKPdf  15 15 13.9 -1.1
ASAJ                                   PKP     PKPdf  15 15 15.7 +0.7
ASAJ                                   PKPbc   PKiKP  15 15 21.9 +0.1
VIS  Vishakhapatnam    152.33 120 eP      PKPbc  15 15 24.4 +1.0
OCLP Ormoc             152.43 217 eP      PKPbc  15 15 23.8  0.0
AAK  Ala-Archa         152.47  62 PKIKP   PKPdf  15 15 18.3 +1.9
AAK                                    pmax    pmax
     comp=Z,462nm,1.2s
AAK  Ala-Archa         152.47  62 PKPbc   PKPbc  15 15 21.1 -2.2
     comp=Z,49nm,0.8s,baz=354,slow=5.8,SNR=5.7
FRU  Bishkek           152.54  62 i PKIKP PKPdf  15 15 13.0 -3.3
FRU                                    i       15 15 22.0
FRU                                    i       15 19 08.0
FRU                                    pmax    pmax
     comp=Z,840nm,2.0s
KURBB Kurchatov Arra   152.95  44 PKP     PKPdf  15 15 15.1 -1.5
     comp=Z,3.1nm,0.7s,baz=303,slow=1.9,SNR=7.9
KURBB                                  PKPbc   PKiKP  15 15 25.2 +1.2
     comp=Z,25nm,0.5s,baz=303,slow=2.9,SNR=34
KURK Kurchatov         152.96  44 PKIKP   PKPdf  15 15 15.1 -1.5
KURK                                   15 15 25.2
KURK                                   pmax    pmax
     comp=Z,3.0nm,0.7s
KURK Kurchatov         152.96  44 PKP     PKPdf  15 15 15.1 -1.5
KURK                                   PKPbc   PKiKP  15 15 25.2 +1.2
GUIM Jordan            153.01 213 eP      PKPbc  15 15 24.1 -1.0
NVS  Novosibirsk       153.08  33 ePKIKP  PKPdf  15 15 16.7 +0.1
NVS                                    e       15 19 08.6
NVS                                    pmax    pmax
     comp=N,220nm,2.0s
NVS                                    pmax    pmax
     comp=Z,1µm,2.0s
NVS                                    pmax    pmax
     comp=E,226nm,1.7s
BHK  Bhakra            153.20  87 ex      PKPbc  15 15 21.8 -3.3
DHRM DHARAMSHALA       153.31  85 eP      PKPdf  15 15 18.6 +0.6
PBA  Port Blair        153.42 144 eP      PKPdf  15 15 18.2 -0.1
SDNR Sundarnagar       153.68  87 eP      PKPdf  15 15 20.0 +1.7
SMLA Simla             153.75  88 i P     PKPdf  15 15 16.3 -2.0
RCP  Roxas             153.77 214⇓eP      PKPab  15 15 42.8 +3.3
KSH  Kashi             153.79  69⇓i PKPbc PKPdf  15 15 20.0 +1.6
KSH                                    sPKP    15 15 23.6
KSH                                    PKS     PKSdf  15 18 52.9 +0.2
KSH                                    PP      PP     15 19 13.9 -0.3
KSH                                    SKS     SKSdf  15 22 25.5 +1.8
KSH                                    SS      SS     15 38 50.3  0.0
KSH                                    PPMZ
     comp=E,20µm,6.4s
KSH                                    LN
     comp=E,21µm,19.5s
KSH                                    LE
     comp=E,10µm,16.5s
KSH                                    LZ
     comp=E,42µm,21.6s
ZALV Zalesovo Beam     154.37  33 PKIKP   PKPdf  15 15 16.1 -2.4
ZALV                                   15 15 26.0
ZALV                                   pmax    pmax
     comp=Z,8.0nm,0.7s
ZALV Zalesovo Beam     154.37  33 PKP     PKPdf  15 15 16.1 -2.4
     comp=Z,15nm,0.8s,baz=281,slow=2.4,SNR=14
ZALV                                   PKPbc   PKPbc  15 15 26.0 -0.8
     comp=Z,48nm,0.7s,baz=290,slow=2.1,SNR=25
CLNS Chul'man          154.74 338 ePKIKP  PKPdf  15 15 18.7 -0.3
CLNS                                   pmax    pmax
     comp=Z,51nm,1.1s
CLNS                                   pmax    pmax
     comp=N,11nm,1.0s
CLNS                                   pmax    pmax
     comp=E,12nm,1.0s
DGPR DIGLIPUR          154.82 143 eP      PKPdf  15 15 20.6 +0.3
MJAR Matsushiro Arr    155.48 284 PKIKP   PKPdf  15 15 20.3 -0.3
MJAR                                   15 15 29.2
MJAR                                   15 15 46.1
MJAR                                   pmax    pmax
     comp=Z,9.0nm,1.1s
MJAR                                   pmax    pmax
     comp=Z,32nm,1.2s
MJAR                                   pmax    pmax
     comp=Z,64nm,1.2s
MJAR Matsushiro Arr    155.48 284 PKP     PKPdf  15 15 20.3 -0.3
     comp=Z,8.2nm,1.0s,baz=218,slow=1.1,SNR=12
MJAR                                   PKPbc   PKPbc  15 15 29.2
     comp=Z,32nm,1.2s,baz=285,slow=1.2,SNR=15
MJAR                                   PKPab   PKPab  15 15 46.1 -0.4
     comp=Z,64nm,1.2s,baz=147,slow=1.9,SNR=13
MAJO Matsushiro        155.49 284 ePKIKP  PKPdf  15 15 19.9 -0.7
MAJO Matsushiro        155.49 284 ePKPdf  PKPdf  15 15 19.9 -0.7
MAT  Matsushiro        155.49 284 PKP     PKPdf  15 15 18.6 -2.0
HABR Khabarovsk        155.53 313 ePKIKP  PKPdf  15 15 18.3 -1.9
HABR                                   e       15 15 29.1
HABR                                   e       15 15 44.9
HABR                                   e       15 19 21.9
HABR                                   e       15 22 22.2
HABR                                   ePPP    PPP    15 22 53.9
HABR                                   eSS     SS     15 39 07.0 -0.7
HABR                                   eSSS    SSS    15 45 03.7
HABR                                   pmax    pmax
     comp=N,32nm,1.8s
HABR                                   pmax    pmax
     comp=E,43nm,1.8s
HABR                                   pmax    pmax
     comp=Z,245nm,1.8s
LGTI Lohaghat          155.81  94 ex      x      15 15 28.4
BOD  Bodaibo           156.15 352 ePKIKP  PKPdf  15 15 19.1 -1.7
BOD                                    e       15 15 48.8
BOD                                    pmax    pmax
     comp=Z,55nm,1.9s
BOD                                    pmax    pmax
     comp=Z,239nm,1.4s
MKAR Makanchi Array    156.81  50 PKP     PKPdf  15 15 22.9 +0.8
     comp=Z,5.4nm,0.8s,baz=321,slow=1.6,SNR=14
MKAR                                   PKPab   PKPab  15 15 54.5 +2.7
     comp=Z,56nm,1.0s,baz=261,slow=3.0,SNR=8.5
KLR  Kul'dur           157.08 318 ePKIKP  PKPdf  15 15 16.0 -6.3
BOK  Bokaro            157.91 112 eP      PKPdf  15 15 24.2  0.0
KOLN Koldanda          157.97 100 eP      PKPdf  15 15 22.3 -2.1
DANN Dangsing          158.32  99 eP      PKPdf  15 15 22.9 -2.0
GKN  Gorkha            158.91 101 eP      PKPdf  15 15 22.9 -2.5
DMN  Daman             159.13 102 eP      PKPdf  15 15 23.6 -2.2
USRK Ussuriysk Ar.     159.15 305 PKP     PKPdf  15 15 22.3 -2.7
     comp=Z,1.7nm,0.7s,baz=144,slow=40,SNR=3.5
USRK                                   PKPab   PKPab  15 16 02.7 +0.7
     comp=Z,53nm,1.0s,baz=60,slow=4.6,SNR=12
KKN  Kakani            159.34 102 eP      PKPdf  15 15 24.4 -1.6
PKIN Phulchoki         159.35 103 eP      PKPdf  15 15 24.4 -1.7
PKI  Pulchoki          159.36 103 eP      PKPdf  15 15 23.6 -2.6
GUN  Gumba             159.88 102 eP      PKPdf  15 15 24.5 -2.3
JIRN Jiri              160.02 103 eP      PKPdf  15 15 24.5 -2.5
RAMN Ramite            160.04 106 eP      PKPdf  15 15 24.7 -2.2
MDJ  Mudanjiang        160.58 308 PKP     PKPdf  15 15 25.7 -0.9
MDJ                                    PP      PP     15 19 55.9 +4.9
MDJ                                    SS      SS     15 40 02.8 +1.0
MDJ                                    PPMZ
     comp=Z,8µm,10.6s
MDJ                                    LN
     comp=Z,22µm,20.8s
MDJ                                    LE
     comp=Z,21µm,20.2s
MDJ                                    LZ
     comp=Z,33µm,19.6s
MDJ  Mudanjiang        160.58 308 ePKPdf  PKPdf  15 15 25.0 -1.6
ODAN Odare             160.63 107 eP      PKPdf  15 15 25.5 -2.0
TAPN Taplejung         161.11 106 eP      PKPdf  15 15 24.8 -3.3
JOW  Kunigami          161.20 252 ePKPdf  PKPdf  15 15 26.8 -1.0
WMQ  Urumqi            161.49  53 ePKP    PKPdf  15 15 25.3 -2.4
WMQ                                    PKPab   PKPab  15 16 14.8 +2.5
WMQ                                    PKS     PKSdf  15 18 57.3 -3.6
WMQ                                    PP      PP     15 19 57.0 +0.9
WMQ                                    SKS     SKSdf  15 22 24.5 -6.6
WMQ                                    SKKS    SKKSac 15 26 39.8 -2.9
WMQ                                    SS      SS     15 40 07.9 -3.7
WMQ                                    PPMZ
     comp=Z,11µm,11.0s
WMQ                                    LZ
     comp=Z,32µm,20.0s
IRK  Irkutsk           161.84   8 ePKIKP  PKPdf  15 15 27.5 -0.2
IRK                                    e       15 16 14.8
IRK                                    e       15 19 56.7
IRK                                    pmax    pmax
     comp=Z,260nm,2.0s
CIT  Chita             161.87 349 ePKIKP  PKPdf  15 15 28.0 +0.2
CIT                                    e       15 16 14.9
CIT                                    e       15 19 54.7
CIT                                    e       15 23 51.7
CIT                                    pmax    pmax
     comp=Z,739nm,2.5s
MOY  Mondy             161.87  15 ePKIKP  PKPdf  15 15 29.0 +1.1
MOY                                    pmax    pmax
     comp=Z,477nm,3.3s
CMAR Chiang Mai Arr    162.20 150 PKIKP   PKPdf  15 15 27.3 -1.8
CMAR                                   15 16 16.9
CMAR                                   pmax    pmax
     comp=Z,10.0nm,0.9s
CMAR                                   pmax    pmax
     comp=Z,32nm,1.1s
CMAR Chiang Mai Arr    162.20 150 PKP     PKPdf  15 15 27.3 -1.8
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comp=Z,8.8nm,0.9s,baz=239,slow=2.5,SNR=17
CMAR PKPab **PKPab 15 16 16.9 +1.1**
comp=Z,32nm,1.1s,baz=228,slow=3.9,SNR=9.4
TLY Talaya 162.31 9 *e*PKIKP **PKPdf 15 15 26.8 -1.4**
TLY pmax pmax
comp=Z,54nm,1.5s
CHTO Chiang Mai 162.52 150 *e*PKIKP **PKPdf 15 15 28.7 -0.7**
CHTO Chiang Mai 162.52 150 P **PKPdf 15 15 29.9 +0.5**
SNR=12
CHTO Chiang Mai 162.52 150 *e*PKPdf **PKPdf 15 15 28.7 -0.7**
SHL Shillong 163.41 117 *e*P **PKPdf 15 15 31.3 +1.0**
SHL *ex* x 15 20 10.0
ZAK Zakamensk 163.52 11 *e*PKIKP **PKPdf 15 15 29.6 +0.1**
ZAK *e* 15 16 20.7
ZAK pmax pmax
comp=Z,29nm,1.7s
CN2 Changchun 163.60 310 *e*PKP **PKPdf 15 15 28.2 -1.5**
CN2 *e*pPKP **pPKPdf 15 15 39.2 +1.3**
CN2 *e*PP **PP 15 20 09.2 +2.1**
CN2 *e*SS SS 15 40 31.0 -2.2
CN2 LN
comp=Z,26μm,21.0s
CN2 LE
comp=Z,25μm,21.0s
CN2 LZ
comp=Z,33μm,22.0s
KSRS Korea Array 163.70 287 PKIKP **PKPdf 15 15 29.7 -0.2**
KSRS 15 16 22.8
KSRS pmax pmax
comp=Z,11nm,0.9s
KSRS pmax pmax
comp=Z,44nm,1.0s
KSRS Korea Array 163.70 287 PKP **PKPdf 15 15 29.7 -0.2**
comp=Z,11nm,0.9s,baz=148,slow=0.9,SNR=20
KSRS PKPab **PKPab 15 16 22.8 +0.6**
comp=Z,44nm,1.0s,baz=103,slow=3.6,SNR=12
KSRS SKP 15 19 07.2
comp=Z,7.4nm,0.8s,baz=84,slow=4.1,SNR=4.7
KSAR Wonju Array Be 163.74 287 PKIKP **PKPdf 15 15 29.7 -0.3**
KSAR 15 16 22.8
KSAR Wonju Array Be 163.74 287 PKP **PKPdf 15 15 29.7 -0.3**
KSAR PKPab **PKPab 15 16 22.8 +0.4**
KSAR SKP 15 19 07.2
YULB Yu-li 164.22 230 *e*PKPdf **PKPdf 15 15 30.5 -0.4**
TPUB Ta-pu 164.56 228 *e*PKPdf **PKPdf 15 15 31.1 -0.1**
SSLB Suanglung 164.72 230 *e*PKPdf **PKPdf 15 15 31.3 0.0**
QIZ Qiongzhong 164.73 186 PKP **PKPdf 15 15 31.3 -0.1**
QIZ PP **PP 15 20 13.2 +1.3**
QIZ SS SS 15 40 47.0 +4.2
QIZ LN
comp=Z,16μm,19.0s
QIZ LZ
comp=Z,28μm,21.2s
QIZ Qiongzhong 164.73 186 *e*PKPdf **PKPdf 15 15 29.7 -1.7**
LSA Lhasa 164.83 103 PKP **PKPdf 15 15 29.1 -2.7**
LSA pPKP **pPKPdf 15 15 40.5 +0.4**
LSA PP **PP 15 20 19.5 +4.7**
LSA PPMZ
comp=Z,29μm,10.0s
LSA LN
comp=Z,25μm,21.0s
LSA LE
comp=Z,43μm,21.0s
LSA LZ
comp=Z,94μm,21.0s
LSA Lhasa 164.83 103 *e*PKIKP **PKPdf 15 15 30.7 -1.1**
LSA Lhasa 164.83 103 *e*PKPdf **PKPdf 15 15 30.7 -1.1**
SNY Shenyang 165.75 306 ⇓PKP **PKPdf 15 15 31.2 -0.4**
SNY SS SS 15 40 52.0 -3.4
SNY PPMZ
comp=Z,14μm,12.0s
SNY LN
comp=Z,24μm,20.3s
SNY LE
comp=Z,11μm,19.8s
SNY LZ
comp=Z,49μm,20.4s
SONM Songino Array 166.40 5 PKIKP **PKPdf 15 15 32.6 +0.5**
SONM 15 16 34.2
SONM pmax pmax
comp=Z,8.0nm,0.9s
SONM pmax pmax
comp=Z,14nm,0.9s
SONM Songino Array 166.40 5 PKP **PKPdf 15 15 32.6 +0.5**
comp=Z,7.7nm,0.9s,baz=228,slow=0.9,SNR=18
SONM PKPab **PKPab 15 16 34.2 +0.5**
comp=Z,14nm,0.9s,baz=344,slow=3.2,SNR=4.7
ULN Ulaanbaatar 166.41 3 *e*PKIKP **PKPdf 15 15 32.1 -0.1**
ULN Ulaanbaatar 166.41 3 P **PKPdf 15 15 33.1 +1.0**
SNR=7.9
ULN Ulaanbaatar 166.41 3 *e*PKPdf **PKPdf 15 15 32.1 -0.1**
SLVN Son La 166.54 163 *e*PKPdf **PKPdf 15 15 31.8 -1.2**
QZH Quanzhou 167.03 227 PKP **PKPdf 15 15 31.8 -1.3**
QZH PKPab **PKPab 15 16 37.6 +0.6**
QZH PP **PP 15 20 25.9 +1.2**
QZH PPMZ
comp=Z,27μm,10.2s
QZH LN
comp=Z,36μm,17.5s
QZH LE
comp=Z,23μm,16.7s
QZH LZ
comp=Z,60μm,18.4s
DL2 Dalian 168.27 297 *e*PKP **PKPdf 15 15 35.9 +2.4**
DL2 PP **PP 15 20 34.8 +3.2**
DL2 SS SS 15 41 25.2 +3.9
DL2 PPMZ
comp=Z,12μm,8.2s
DL2 LN
comp=Z,12μm,18.1s
DL2 LZ
comp=Z,25μm,19.6s
SSE Sheshan 168.60 257 PKP **PKPdf 15 15 34.6 +0.6**
KMI Kunming 169.71 151 PKP **PKPdf 15 15 34.6 -0.6**
NJ2 Nanjing 170.79 259 *e*PKP **PKPdf 15 15 34.8 -0.5**
NJ2 pPKP **pPKPdf 15 15 42.1 -1.4**
NJ2 sPKP 15 15 43.9
NJ2 PP **PP 15 20 44.0 -0.6**
NJ2 PPMZ
comp=Z,54μm,8.8s
NJ2 LN
comp=Z,45μm,20.1s
NJ2 LE
comp=Z,38μm,21.2s
NJ2 LZ
comp=Z,29μm,20.2s
BJI Beijing 171.43 314 PKP **PKPdf 15 15 35.6 +0.3**
BJI PP **PP 15 20 47.4 +0.4**
BJI SS SS 15 41 49.5 -2.3
BJI PPMZ
comp=Z,8μm,6.1s
BJI LN
comp=Z,37μm,22.4s
BJI LE
comp=Z,32μm,25.0s
BJI LZ
comp=Z,50μm,26.5s
GTA Gaotai 171.56 50 ⇑PKP **PKPdf 15 15 34.4 -1.3**
GTA pPKP **pPKPdf 15 15 45.2 +1.3**
GTA sPKP 15 15 49.0
GTA PKPab **PKPab 15 17 00.0 +3.0**
GTA PP **PP 15 20 49.6 +1.6**
GTA SKS **SKSdf 15 22 32.4 -5.1**
GTA SKKS **SKKSac 15 27 31.7 -1.5**
GTA SS **SS 15 41 50.4 -3.3**
GTA PPMZ
comp=Z,16μm,9.0s
GTA LN
comp=Z,37μm,21.4s
GTA LE
comp=Z,40μm,20.2s
GTA LZ
comp=Z,73μm,20.4s
GYA Guiyang 172.08 170 *i* PKP **PKPdf 15 15 36.0 -0.3**
GYA PKPab **PKPab 15 16 59.9 +0.6**
GYA PKS **PKSdf 15 19 06.4 -2.4**
GYA PP **PP 15 20 50.5 +1.0**
GYA SKKS 15 27 36.0
GYA SS **SS 15 41 57.2 +0.4**
GYA PPMZ
comp=Z,7μm,10.9s
GYA LN
comp=Z,23μm,23.2s
GYA LE
comp=Z,33μm,20.9s
GYA LZ
comp=Z,47μm,18.2s
TIA Tai'an 172.45 287 PKP PKPdf 15 15 44.9 +8.9
TIA PP **PP 15 20 52.9 +0.1**
HHC Hu-ho-hao-te 172.93 339 *e*PKP **PKPdf 15 15 37.8 +1.6**
HHC pPKP **pPKPdf 15 15 45.8 +1.4**
HHC PP **PP 15 20 52.5 -1.3**
HHC SKS **SKSdf 15 22 31.8 -6.1**
HHC SKKS **SKKSac 15 27 44.6 +5.3**
HHC SS **SS 15 42 03.7 -1.7**
HHC PPMZ
comp=Z,16μm,9.1s
WHN Wuhan 173.59 236 PKP **PKPdf 15 15 36.7 +0.1**
WHN PKPab **PKPab 15 17 06.9 +0.9**
WHN PP **PP 15 21 02.2 +4.3**
CD2 Chengdu 174.96 131 PKP **PKPdf 15 15 36.3 -0.8**
CD2 PKPab **PKPab 15 17 09.4 -2.7**
CD2 PKS **PKSdf 15 19 07.9 -1.5**
CD2 SS SS 15 42 21.1 -5.3
CD2 LN
comp=Z,40μm,18.0s
CD2 LE
comp=Z,35μm,19.0s
CD2 LZ
comp=Z,37μm,20.9s
TIY Taiyuan 175.16 316 *e*PKP **PKPdf 15 15 37.1 +0.1**
TIY PKPab **PKPab 15 17 14.4 +1.5**
TIY PP **PP 15 21 08.5 +3.2**
TIY SKKS 15 27 52.7
TIY PPMZ
comp=Z,8μm,11.9s
TIY LN
comp=Z,39μm,18.7s
TIY LE
comp=Z,39μm,19.7s
TIY LZ
comp=Z,27μm,18.2s
ENH Enshi 175.84 196 *e*PKPdf **PKPdf 15 15 35.0 -2.3**
LZH Lanzhou 176.01 62 *e*PKP **PKPdf 15 15 35.9 -1.5**
LZH pPKP **pPKPdf 15 15 41.8 -3.8**
LZH sPKP 15 15 44.1
LZH PP **PP 15 21 12.7 +2.7**
LZH SKKS 15 27 53.0
LZH SS **SS 15 42 35.1 -2.3**
LZH PPMZ
comp=Z,12μm,7.1s
LZH LN
comp=Z,18μm,17.7s
LZH LE
comp=Z,53μm,18.6s
LZH LZ
comp=Z,68μm,20.0s
XAN Xi'an 179.35 247 PKP **PKPdf 15 15 38.1 +0.3**
XAN PP **PP 15 21 27.5 +1.8**
XAN SKS **SKSdf 15 22 37.5 -1.7**
XAN SKKS **SKKSac 15 28 11.6 +1.5**
XAN SS **SS 15 43 05.6 -3.3**
XAN LN
comp=Z,24μm,20.9s
XAN LE
comp=Z,6μm,18.5s
XAN LZ
comp=Z,13μm,18.5s

*ISCJB **11** 14:56:28.3±0.5, 40.26N±0.03×21.95E±0.04, h6km±6km,*
Error ellipse: s-maj=6.5km s-min=4.1km az=136.4
*THE **11** 14:56:28.8, 40.26N×21.94E, h1km±2km, ML1.9/5, Error*
ellipse: s-maj=2.7km s-min=0.6km az=184.0
*CSEM **11** 14:56:28.5±0.2, 40.27N×21.94E, h8km, MD2.8, Error*
ellipse: s-maj=3.9km s-min=3.0km az=31.0
*ATH **11** 14:56:28.6, 40.25N×21.91E, h5km±4km, MD2.8/7*
ISC 11 14:56:28.6±1.0, 40.27N±0.02×21.94E±0.02, h5km±12km,
n24, σ0.56/39, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.13**	**287**	P	**Pg**	**14 56 30.9**	**-0.5**
KZN				S	**Sg**	**14 56 33.4**	**+0.2**
KZN	**Kozani**	**0.13**	**287**	*e*PG	**Pg**	**14 56 30.8**	**-0.6**
KZN				*e*SG	**Sg**	**14 56 33.5**	**+0.2**
KZN	**Kozani**	**0.13**	**287**	*e*Pg	**Pg**	**14 56 30.8**	**-0.6**
KZN				S	**Sg**	**14 56 33.4**	**+0.2**
LIT	**Litokhoron**	**0.45**	**111**	P	**Pg**	**14 56 36.7**	**-0.7**
LIT				S	**Sg**	**14 56 44.1**	**+0.8**
LIT	**Litokhoron**	**0.45**	**111**	*e*PB	**Pg**	**14 56 37.2**	**-0.2**
LIT				*e*SB	**Sb**	**14 56 44.9**	**-1.3**
LIT	**Litokhoron**	**0.45**	**111**	P	**Pg**	**14 56 36.7**	**-0.7**
LIT	**Litokhoron**	**0.45**	**111**	*e*Pb	**Pg**	**14 56 37.2**	**-0.2**
LIT				S	**Sg**	**14 56 44.1**	**+0.8**
FNA	**Florina**	**0.67**	**320**	P	**Pg**	**14 56 41.6**	**+0.1**
FNA				S	**Sg**	**14 56 51.1**	**+0.9**
FNA	**Florina**	**0.67**	**320**	*e*PB	**Pg**	**14 56 41.8**	**+0.3**
FNA	**Florina**	**0.67**	**320**	P	**Pg**	**14 56 41.6**	**+0.1**
FNA				S	**Sg**	**14 56 51.1**	**+0.9**
NEST	**Nestorio**	**0.70**	**282**	P	**Pg**	**14 56 41.6**	**-0.4**
NEST				S	**Sb**	**14 56 52.6**	**-0.7**
NEST	**Nestorio**	**0.70**	**282**	*e*PB	**Pg**	**14 56 41.6**	**-0.4**
NEST	**Nestorio**	**0.70**	**282**	P	**Pg**	**14 56 41.6**	**-0.4**
NEST				S	**Sb**	**14 56 52.6**	**-0.7**
THL	**Klokotos Trika**	**0.70**	**175**	P	**Pg**	**14 56 42.1**	**-0.1**
THL				S	**Sg**	**14 56 51.8**	**+0.5**
THL	**Klokotos Trika**	**0.70**	**175**	*e*PB	**Pg**	**14 56 42.0**	**-0.1**
THL				*e*SB	**Sg**	**14 56 51.8**	**+0.5**
THL	**Klokotos Trika**	**0.70**	**175**	P	**Pg**	**14 56 42.1**	**-0.1**
THL				S	**Sg**	**14 56 51.8**	**+0.5**
MEV	**Metsovon**	**0.73**	**229**	P	**Pg**	**14 56 43.3**	**+0.7**
MEV	**Metsovon**	**0.73**	**229**	P	**Pg**	**14 56 43.3**	**+0.7**
GRG	**Griva**	**0.77**	**27**	P	**Pg**	**14 56 43.7**	**+0.2**
GRG				S	**Sb**	**14 56 54.9**	**-0.6**
GRG	**Griva**	**0.77**	**27**	P	**Pg**	**14 56 43.7**	**+0.2**
GRG				S	**Sb**	**14 56 54.9**	**-0.6**
HORT	**Hortiatis**	**0.95**	**69**	*e*PN	**Pb**	**14 56 47.8**	**+0.2**
HORT	**Hortiatis**	**0.95**	**69**	*e*Pn	**Pb**	**14 56 47.8**	**+0.2**
AGG	**Agios Georgios**	**1.28**	**166**	*e*PB	**Pb**	**14 56 53.3**	**+0.1**
AGG	**Agios Georgios**	**1.28**	**166**	*e*Pb	**Pb**	**14 56 53.3**	**+0.1**

*ISCJB **11** 14:58:10.8±0.4, 34.55S±0.09×71.9W±0.1, h16km,*
mb5.4/21, MS7.4/1, Error ellipse: s-maj=18.5km
s-min=11.6km az=157.7
*IDC **11** 14:58:10.0±0.8, 34.64S×72.01W, h0km, mb5.3/10,*
mb1 5.5/10, mb1mx5.0/39, mbtmp5.4/10, MS7.4/1,
Ms1 7.4/1, ms1mx4.9/29, Error ellipse: s-maj=32.9km
s-min=27.9km az=48.0
*NEIC **11** 14:58:15.1±0.4, 34.61S×71.99W, h35km, mb5.6/11, Error*
ellipse: s-maj=17.6km s-min=10.8km az=73.0
ISC 11 14:58:12.3±0.5, 34.6S±0.1×72.0W±0.2, h16km, n209,
σ0.68/207, mb5.4/21, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**18.59**	**12**	P	**Pn**	**15 02 29.7**	**0.0**
	135nm,0.9s						
NNA	**Nana**	**22.97**	**348**	P	**P**	**15 03 17.1**	**+0.8**
	68nm,0.8s,baz=218,slow=13,SNR=3.8						
PTGA	**Pitinga**	**35.54**	**21**	LR	LR	15 20 28.1	
	comp=Z,591μm,18.2s,baz=194,slow=38						
SNAA	**Sanae**	**50.98**	**158**	*e*P	**P**	**15 07 12.0**	**-0.9**
	33nm,0.8s						
APG	**El Apazote**	**52.40**	**337**	P	P	15 07 19.6	-4.7
	24nm,0.5s,baz=151,slow=5.7,SNR=9.0						
MTDJ	**Mount Denham**	**52.83**	**353**	*e*P	**P**	**15 07 25.7**	**-1.5**
	36nm,0.7s						
QSPA	**South Pole Qui**	**55.61**	**180**	P	**P**	**15 07 47.2**	**+0.1**
	58nm,0.8s						
239A	**Gary**	**69.59**	**340**	P	**P**	**15 09 21.3**	**+0.8**
	baz=70						
532A	**Rocksprings**	**69.59**	**334**	P	**P**	**15 09 20.9**	**+0.2**
	baz=70						
334A	**Lometa**	**70.12**	**336**	P	**P**	**15 09 23.9**	**+0.1**
	baz=70						
PPT	**Papeete**	**70.21**	**262**	P	**P**	**15 09 26.6**	**+1.8**
	133nm,0.8s,baz=330,slow=1.8,SNR=5.7						
TXAR	**Lajitas Array**	**70.31**	**331**	P	**P**	**15 09 25.2**	**+0.1**
	8.7nm,0.4s,baz=144,slow=7.0,SNR=13						
529A	**Stev Forest Ra**	**70.44**	**332**	P	**P**	**15 09 26.0**	**+0.1**
	baz=71						
WHTX	**Lake Whitney,**	**70.47**	**337**	P	**P**	**15 09 25.9**	**0.0**
	baz=71						
430A	**Baggett Ranch,**	**70.67**	**334**	P	**P**	**15 09 26.9**	**-0.4**
	baz=71						
331A	**San Angelo**	**70.85**	**334**	P	**P**	**15 09 27.8**	**-0.6**
	baz=71						
233A	**Rising Star**	**70.97**	**336**	P	**P**	**15 09 27.7**	**-1.3**
	baz=71						
232A	**Coleman**	**71.10**	**335**	P	**P**	**15 09 29.3**	**-0.6**
	baz=71						
330A	**Mertzon**	**71.21**	**334**	P	**P**	**15 09 29.8**	**-0.7**
	baz=72						
231A	**Bronte**	**71.38**	**335**	P	**P**	**15 09 30.9**	**-0.6**
	baz=72						
329A	**Wagon Wheel Ra**	**71.58**	**333**	P	**P**	**15 09 32.0**	**-0.8**
	baz=72						
230A	**Sterling City**	**71.62**	**334**	P	**P**	**15 09 32.2**	**-0.8**
	baz=72						
Z35A	**Perchaven, San**	**71.64**	**338**	P	**P**	**15 09 32.1**	**-0.9**
	baz=72						
WVT	**Waverly**	**71.93**	**347**	*e*P	**P**	**15 09 33.6**	**-1.1**
	122nm,0.7s						
229A	**Bryant Ranch,**	**71.94**	**334**	P	**P**	**15 09 34.6**	**-0.4**
	baz=72						
Z33A	**Whitaker Ranch**	**72.09**	**337**	P	**P**	**15 09 34.7**	**-1.0**
	baz=72						
130A	**Snyder**	**72.21**	**335**	P	**P**	**15 09 35.8**	**-0.7**
	baz=72						
Z32A	**Haskell**	**72.34**	**336**	P	**P**	**15 09 37.1**	**-0.2**
	baz=73						
228A	**UT Block 9, Go**	**72.37**	**333**	P	**P**	**15 09 37.3**	**-0.2**
	baz=73						
129A	**Stewart Farms,**	**72.56**	**334**	P	**P**	**15 09 38.4**	**-0.2**
	baz=73						
Z31A	**Sharp Cattle R**	**72.58**	**336**	P	**P**	**15 09 37.8**	**-0.8**
	baz=73						
Y33A	**Hilltop Ranch,**	**72.70**	**337**	P	**P**	**15 09 38.3**	**-1.1**
	baz=73						
128A	**Castleberry Fa**	**72.78**	**333**	P	**P**	**15 09 39.6**	**-0.3**
	baz=73						
MNTX	**Cornudas Mount**	**73.08**	**331**	*e*P	**P**	**15 09 40.0**	**-1.6**
	17nm,0.7s						
X33A	**Lawton**	**73.15**	**337**	P	**P**	**15 09 40.4**	**-1.6**
	baz=74						
Z28A	**Tucker Farm, M**	**73.34**	**334**	P	**P**	**15 09 42.8**	**-0.5**
	baz=74						
W34A	**Bridge Creek,**	**73.57**	**338**	P	**P**	**15 09 44.1**	**-0.4**
	baz=74						
W33A	**Caddo, Fort Co**	**73.71**	**338**	P	**P**	**15 09 44.2**	**-1.1**
	baz=74						
W32A	**Sentinel**	**73.93**	**337**	P	**P**	**15 09 46.5**	**-0.1**
	baz=74						
V32A	**Arapaho**	**74.41**	**337**	P	**P**	**15 09 49.2**	**-0.2**
	baz=75						
AMTX	**Amarillo**	**74.53**	**335**	P	**P**	**15 09 49.8**	**-0.4**
	43nm,0.8s						
U34A	**Anderson Ranch**	**74.61**	**339**	P	**P**	**15 09 49.4**	**-1.1**
	baz=75						
V31A	**Spring Creek L**	**74.72**	**337**	P	**P**	**15 09 50.1**	**-1.1**
	baz=75						
W29A	**Amarillo**	**74.73**	**335**	P	**P**	**15 09 49.6**	**-1.8**
	baz=75						
X26A	**CR and CF Fran**	**75.00**	**333**	P	**P**	**15 09 53.1**	**+0.2**
	baz=75						
U32A	**Winter Ranch,**	**75.00**	**338**	P	**P**	**15 09 52.6**	**-0.3**
	baz=75						
W27A	**Bowe Ranch, En**	**75.18**	**334**	P	**P**	**15 09 53.8**	**-0.2**
	baz=76						
X25A	**Clemmons Ranch**	**75.30**	**333**	P	**P**	**15 09 54.3**	**-0.4**
	baz=76						
DBIC	**Dimbokro**	**75.33**	**71**	*e*P	**P**	**15 09 56.1**	**+0.9**
	38nm,0.6s						
DBIC	**Dimbokro**	**75.33**	**71**	PP	**P**	**15 09 56.5**	**+1.3**
DBIC	**Dimbokro**	**75.33**	**71**	PP	**P**	**15 09 56.5**	**+1.3**
	35nm,0.6s,baz=218,slow=4.9,SNR=7.7						
DBIC	**Dimbokro**	**75.33**	**71**		**P**	**15 09 56.5**	**+1.3**
T33A	**Patterson Ranc**	**75.42**	**339**	P	**P**	**15 09 55.3**	**+0.1**
	baz=76						
V28A	**Channing**	**75.50**	**335**	P	**P**	**15 09 55.9**	**+0.1**
	baz=76						
X24A	**Lazy VL Ranch,**	**75.62**	**332**	P	**P**	**15 09 57.4**	**+0.7**
	baz=76						
V25A	**Rancho No Teng**	**76.44**	**333**	P	**P**	**15 10 01.5**	**+0.2**
	baz=77						
S30A	**Montezuma**	**76.62**	**337**	P	**P**	**15 10 01.8**	**-0.3**
	baz=77						
T28A	**Walsh**	**76.70**	**336**	P	**P**	**15 10 02.2**	**-0.4**
	baz=77						
R32A	**Long Quarter,**	**76.80**	**339**	P	**P**	**15 10 03.1**	**+0.1**
	baz=77						
S29A	**Ulysses**	**76.82**	**337**	P	**P**	**15 10 02.9**	**-0.3**
	baz=77						
T27A	**Campo**	**76.85**	**335**	P	**P**	**15 10 03.3**	**-0.2**
	baz=77						
R31A	**Burdett**	**76.92**	**338**	P	**P**	**15 10 03.5**	**-0.3**
	baz=77						
S28A	**Manter**	**77.05**	**336**	P	**P**	**15 10 04.4**	**-0.2**
	baz=77						
Q32A	**Meitler Ranch,**	**77.28**	**339**	P	**P**	**15 10 05.1**	**-0.6**
	baz=78						
V22A	**San Miguel Ran**	**77.38**	**332**	P	**P**	**15 10 07.0**	**+0.3**
	baz=78						
Q31A	**Ellis**	**77.54**	**338**	P	**P**	**15 10 06.9**	**-0.3**
	baz=78						
R29A	**Marienthal**	**77.56**	**337**	P	**P**	**15 10 07.1**	**-0.3**
	baz=78						
S26A	**Kim**	**77.62**	**335**	P	**P**	**15 10 07.8**	**0.0**
	baz=78						
Q30A	**Quinter**	**77.77**	**338**	P	**P**	**15 10 08.6**	**+0.1**
	baz=78						
W18A	**Petrified Fore**	**77.85**	**329**	P	**P**	**15 10 09.6**	**+0.4**
	baz=78						
Q29A	**Oakley**	**77.93**	**337**	P	**P**	**15 10 09.3**	**-0.1**
	baz=78						
R27A	**Eads**	**77.98**	**336**	P	**P**	**15 10 09.8**	**0.0**
	baz=78						
X16A	**Lo Mia Camp, P**	**77.99**	**328**	P	**P**	**15 10 10.4**	**+0.4**
	baz=78						
R26A	**Arlington**	**78.22**	**335**	P	**P**	**15 10 11.3**	**+0.2**
	baz=78						
S24A	**Houchin Ranch,**	**78.26**	**334**	P	**P**	**15 10 12.1**	**+0.5**
	baz=79						
Y14A	**Wickenburg**	**78.30**	**326**	P	**P**	**15 10 12.3**	**+0.8**
	baz=79						
O32A	**Brockman Farm,**	**78.37**	**340**	P	**P**	**15 10 11.5**	**-0.3**
	baz=79						
R25A	**Fountain Ranch**	**78.37**	**335**	P	**P**	**15 10 13.1**	**+1.1**
	baz=79						
P29A	**Atwood**	**78.56**	**338**	P	**P**	**15 10 12.1**	**-0.8**
	baz=79						
Y12C	**Blythe**	**78.85**	**325**	P	**P**	**15 10 15.1**	**+0.6**
	baz=79						
MONP	**Monument Peak,**	**79.07**	**323**	P	**P**	**15 10 16.7**	**+0.7**
	baz=79						
BC3	**Big Chuckawall**	**79.22**	**324**	P	**P**	**15 10 16.8**	**+0.1**
	baz=80						
IRM	**Iron Mountain**	**79.48**	**325**	P	**P**	**15 10 18.3**	**+0.3**
	baz=80						
P25A	**Willow Gulch B**	**79.55**	**335**	P	**P**	**15 10 18.3**	**-0.2**
	baz=80						
O27A	**Beecher Island**	**79.59**	**337**	P	**P**	**15 10 18.7**	**+0.1**
	baz=80						
W13A	**Hualapai Mount**	**79.67**	**326**	P	**P**	**15 10 19.9**	**+0.6**
	baz=80						
PFO	**Pinyon Flats O**	**79.67**	**324**	P	**P**	**15 10 19.9**	**+0.7**
	32nm,0.8s,baz=116,slow=3.3,SNR=4.1						
PFO	**Pinyon Flats O**	**79.67**	**324**	P	**P**	**15 10 20.2**	**+1.0**
	baz=80						
BOSA	**Boshof**	**79.73**	**118**	*e*P	**P**	**15 10 18.9**	**-1.0**
	112nm,1.1s						
NEE2	**Needles Airpor**	**79.73**	**325**	P	**P**	**15 10 19.9**	**+0.6**
	baz=80						
MURC	**Murrieta**	**80.03**	**323**	P	**P**	**15 10 22.1**	**+1.1**
	baz=80						
N27A	**Anderson Farm,**	**80.17**	**337**	P	**P**	**15 10 22.4**	**+0.7**
	baz=80						
GMRC	**Granite Mounta**	**80.23**	**325**	P	**P**	**15 10 23.1**	**+0.8**
	baz=80						
BFSC	**Mount Baldy Ra**	**80.77**	**323**	P	**P**	**15 10 26.0**	**+0.9**
	baz=81						
TUQ	**Turquoise Moun**	**80.89**	**325**	P	**P**	**15 10 26.5**	**+0.7**
	baz=81						
ECSD	**EROS Data Cent**	**81.16**	**342**	P	**P**	**15 10 26.7**	**-0.1**
	baz=82						
ECSD	**EROS Data Cent**	**81.16**	**342**	*e*P	**P**	**15 10 26.0**	**-0.8**
	88nm,0.7s						
GSC	**Goldstone, Bar**	**81.20**	**324**	P	**P**	**15 10 28.4**	**+1.0**
	baz=82						
L27A	**T5 Ranch, Ells**	**81.25**	**338**	P	**P**	**15 10 27.0**	**-0.5**
	baz=82						
EDW2	**Edwards Air Fo**	**81.44**	**323**	P	**P**	**15 10 29.3**	**+0.7**
	baz=82						

M24A	Cheyenne baz=82	81.52 336	P	P	15 10 29.7 +0.7
K28A	Ten Mile Ranch baz=82	81.53 339	P	P	15 10 29.3 +0.4
BSC	Santa Cruz Isl baz=82	81.57 322	P	P	15 10 30.1 +0.8
O20A	White River Ci baz=82	81.57 333	P	P	15 10 29.9 +0.6
SPMN	Marine on St. baz=82	81.69 345	P	P	15 10 28.7 -0.8
LRMC	Laurel Mtn Rad baz=82	81.77 324	P	P	15 10 31.1 +0.7
J29A	Okreek baz=82	81.86 340	P	P	15 10 31.0 +0.4
I30A	Oacoma baz=82	82.07 340	P	P	15 10 30.9 -0.8
J27A	Elkhorn Farm, baz=82	82.22 338	P	P	15 10 33.3 +0.8
ISA	Isabella, Lake baz=83	82.31 323	P	P	15 10 33.6 +0.5
I29A	Vivian Onida baz=83	82.42 340	P	P	15 10 33.3 -0.1
BRSD	Miller baz=83	82.44 341	P	P	15 10 33.0 -0.5
BRSD	Miller 94nm,0.7s	82.44 341	eP	P	15 10 32.3 -1.2
K24A	Anderson Ranch baz=83	82.64 336	P	P	15 10 35.7 +0.9
I28A	Midland baz=83	82.65 339	P	P	15 10 35.2 +0.5
VES	Vestal, Richgr baz=83	82.75 323	P	P	15 10 35.8 +0.5
J25A	Sunshine Ranch baz=83	82.90 337	P	P	15 10 35.8 -0.3
K23A	Bowen Ranch, D baz=83	82.94 336	P	P	15 10 36.4 +0.1
H29A	Onida baz=83	82.95 340	P	P	15 10 35.9 -0.3
I27A	Quinn baz=83	82.97 339	P	P	15 10 36.7 +0.3
R11A	Troy Canyon, C baz=83	83.11 327	P	P	15 10 38.2 +0.8
J24A	Dixon Ranch, L baz=83	83.13 337	P	P	15 10 37.7 +0.5
TIN	Tinemaha, Big baz=84	83.30 324	P	P	15 10 38.6 +0.3
K21A	Alcova baz=84	83.39 335	P	P	15 10 38.3 -0.5
H27A	Howes baz=84	83.50 339	P	P	15 10 38.8 -0.2
G28A	Parade baz=84	83.56 340	P	P	15 10 39.8 +0.5
F29A	Eureka baz=84	83.95 341	P	P	15 10 41.0 -0.4
G27A	Dupree baz=84	84.13 339	P	P	15 10 41.9 -0.4
I22A	9 Mile Ranch, baz=84	84.23 336	P	P	15 10 42.3 -0.7
F28A	McLaughlin baz=85	84.24 340	P	P	15 10 42.7 -0.1
J20A	Shoshoni baz=85	84.32 334	P	P	15 10 44.3 +0.9
PDAR	Pinedale Array 10nm,0.8s,baz=160,slow=4.4,SNR=4.5	84.35 333	P	P	15 10 44.4 +0.7
H24A	Dirks Ranch, A baz=85	84.36 337	P	P	15 10 43.0 -0.6
TORD	Torodi Ar. Bea 36nm,1.2s,baz=266,slow=5.6,SNR=4.4	84.37 70	P	P	15 10 44.7 +0.6
G25A	Newell baz=85	84.41 338	P	P	15 10 43.8 +0.1
NVAR	Mina Array Bea 14nm,0.7s,baz=150,slow=5.8,SNR=5.3	84.43 325	P	P	15 10 44.7 +0.5
J19A	Crowheart baz=85	84.59 334	P	P	15 10 44.4 -0.5
F27A	Lemmon baz=85	84.61 339	P	P	15 10 44.6 -0.1
D30A	Buchanan baz=85	84.85 342	P	P	15 10 45.8 0.0
I20A	Worland baz=85	84.85 335	P	P	15 10 45.1 -1.0
E28A	Huff baz=85	84.87 341	P	P	15 10 45.6 -0.4
ELK	Elko 15nm,0.8s,baz=175,slow=6.2,SNR=6.0	84.92 328	P	P	15 10 47.0 +0.4
E27A	Carson baz=85	84.98 340	P	P	15 10 46.3 -0.3
H21A	Big Horn, Sher baz=85	85.07 336	P	P	15 10 46.2 -0.9
I19A	Meeteetse baz=86	85.24 334	P	P	15 10 48.1 0.0
AGMN	Agassiz Nation baz=86	85.27 344	P	P	15 10 46.7 -1.2
E26A	Carlson Angus baz=86	85.28 339	P	P	15 10 47.0 -1.0
H20A	Greybull baz=86	85.28 335	P	P	15 10 47.5 -0.7
C30A	Mose, Pekin baz=86	85.33 342	P	P	15 10 48.3 0.0
D28A	Regan baz=86	85.41 341	P	P	15 10 48.0 -0.7
D27A	Center baz=86	85.59 340	P	P	15 10 49.5 0.0
G21A	Lodge Grass baz=86	85.65 336	P	P	15 10 49.1 -0.9
I17A	Pilgrim Ck. baz=86	85.72 333	P	P	15 10 50.5 0.0
MDND	Maddock baz=86	85.75 342	P	P	15 10 49.9 -0.5
H19A	Powell baz=86	85.78 334	P	P	15 10 50.3 -0.4
F22A	Rosebud baz=86	85.83 337	P	P	15 10 50.8 0.0
E24A	Baker baz=86	85.91 338	P	P	15 10 50.2 -1.0
G20A	Bridger baz=86	85.99 335	P	P	15 10 51.4 -0.4
B30A	Myrvik Farm, E baz=86	85.99 343	P	P	15 10 51.2 -0.3
H18A	Shoshone NF, C baz=86	86.03 334	P	P	15 10 51.6 -0.5
C27A	Sayler Ranch, baz=86	86.14 341	P	P	15 10 52.3 +0.1
F21A	Absaloka Mine, baz=86	86.15 336	P	P	15 10 52.0 -0.5
E23A	Ismay baz=86	86.16 338	P	P	15 10 52.1 -0.3
B29A	Wagenman Farm, baz=87	86.26 342	P	P	15 10 52.9 +0.1
C26A	Wahner Farm, P baz=87	86.41 340	P	P	15 10 53.8 +0.3
D24A	Glendive baz=87	86.41 339	P	P	15 10 54.1 +0.5
A30A	Hoffart Farm, baz=87	86.44 343	P	P	15 10 53.2 -0.5
F20A	Billings baz=87	86.48 336	P	P	15 10 53.3 -0.7
B28A	Dugan Ranch, T baz=87	86.51 342	P	P	15 10 53.3 -0.7
A29A	Manning Farm, baz=87	86.66 342	P	P	15 10 54.1 -0.6
D23A	Lindsay baz=87	86.73 338	P	P	15 10 54.8 -0.5
E21A	Keefer Ranch, baz=87	86.77 337	P	P	15 10 55.1 -0.3
C24A	Savage baz=87	86.81 339	P	P	15 10 55.6 +0.1
HLID	Hailey baz=87	86.91 331	P	P	15 10 56.6 +0.3
E20A	Meyer Farm, Mu baz=87	87.08 336	P	P	15 10 56.6 -0.4
B25A	Knox Farm, Ray baz=87	87.11 340	P	P	15 10 57.2 +0.2
ULM	Lac du Bonnet 30nm,0.8s,baz=217,slow=2.0,SNR=4.4	87.12 345	P	P	15 10 55.5 -1.5
A27A	Ledoux Ranch, baz=88	87.20 341	P	P	15 10 57.5 +0.1
D21A	La Casta Ranch baz=88	87.20 337	P	P	15 10 57.2 -0.3
E19A	Rath Farm, Rou baz=88	87.27 336	P	P	15 10 57.4 -0.5
C23A	Lambert baz=88	87.29 338	P	P	15 10 57.7 -0.2
A26A	Wade Farm, Ken baz=88	87.36 341	P	P	15 10 58.1 -0.1
C22A	Vida baz=88	87.45 338	P	P	15 10 58.5 -0.2
D20A	Manuel Ranch, baz=88	87.60 336	P	P	15 10 59.4 0.0
C21A	Desert Coulee baz=88	87.91 337	P	P	15 10 59.4 -1.5
D19A	Cripps Ranch, baz=88	87.91 336	P	P	15 11 00.1 -0.9
A24A	Westby baz=88	87.94 340	P	P	15 11 00.9 -0.1
B22A	Reddig Ranch S baz=88	87.98 338	P	P	15 11 01.0 -0.2
C20A	Veseth Ranch, baz=88	88.10 337	P	P	15 11 00.9 -0.9
C19A	Slack Wire Ran baz=89	88.47 336	P	P	15 11 02.5 -1.1
N02D	Trinity Center baz=89	88.53 324	P	P	15 11 03.9 -0.1
A22A	Carney Farms, baz=89	88.57 338	P	P	15 11 03.8 -0.2
M04C	Macdoel baz=89	88.74 325	P	P	15 11 04.8 -0.3
A20A	Cobblestone Ra baz=89	89.10 337	P	P	15 11 06.3 -0.1
YBH	Yreka Blue Hor 16nm,0.8s,baz=166,slow=10,SNR=7.0	89.11 325	P	P	15 11 06.7 -0.1
J05D	Fort Rock, OR baz=90	89.62 326	P	P	15 11 09.9 +0.7
J04D	Umpqua Nationa baz=90	89.99 326	P	P	15 11 11.1 +0.1
YKA	Yellowknife Ar 2.6nm,0.7s,baz=143,slow=4.4,SNR=6.5	102.67 341	P	Pdif	15 12 06.8 -1.0
ASAR	Alice Springs 2.7nm,0.7s,baz=176,slow=4.4,SNR=3.4	117.03 207	PKP	PKPdf	15 16 55.8 -1.2
WRA	Warramunga Arr 6.0nm,0.7s,baz=159,slow=2.4,SNR=5.6	120.24 209	PKP	PKPdf	15 17 02.8 -0.5
BRTR	Keskin Array B 2.4nm,0.7s,baz=262,slow=2.9,SNR=4.0	122.09 61	PKP	PKPdf	15 17 07.0 +0.8
SPITS	Spitsbergen Ar 3.7nm,0.7s,baz=147,slow=6.2,SNR=5.6	123.27 14	PKP	PKPdf	15 17 07.6 +0.4
IMEH	Mehriz	135.52 79	eP	Pdif	15 14 36.7 +1.7
GEYT	Alibeck 4.1nm,0.6s,baz=22,slow=1.6,SNR=2.4	140.01 70	PKP	PKPdf	15 17 40.8 +0.8
BVAR	Borovoye Array 8.6nm,0.6s,baz=279,slow=2.8,SNR=6.0	147.70 44	PKPbc	PKPab	15 17 57.3 -0.7
ASAJ	Asahikawa 29nm,0.8s,baz=47,slow=3.9,SNR=7.0	151.82 300	PKPbc	PKPbc	15 18 06.0 -0.1
KURBB	Kurchatov Arra 8.2nm,0.7s,baz=303,slow=3.1,SNR=4.3	153.28 44	PKPbc	PKPbc	15 18 09.5 +0.5
KURK	Kurchatov	153.29 44	PKPbc	PKPbc	15 18 09.5 +0.4
MJAR	Matsushiro Arr 4.6nm,0.8s,baz=127,slow=3.2,SNR=4.8	155.43 283	PKPab	PKPab	15 18 29.8 -0.9

*IDC **11** 15:05:57.8±0.3,34°.42S×71°.98W,h0km,mb5.5/33, mb1 5.6/35,mb1mx5.6/35,mbtmp5.5/35,ML5.5/2,MS6.5/1, Ms1 6.5/1,ms1mx4.9/27,Error ellipse: s-maj=12.3km s-min=9.3km az=77.0*

*GUC **11** 15:06:00.9±0.5,34°.44S×72°.10W,h29km±6km,ML5.9*

*MOS **11** 15:06:00.7±1.6,34°.55S×72°.09W,h33km,mb6.1/65,Error ellipse: s-maj=27.0km s-min=12.2km az=80.9*

*ISCJB **11** 15:06:01.2±0.1,34°.44S±0°.02×72°.02W±0°.03,h33km, mb5.9/229,Error ellipse: s-maj=4.0km s-min=3.2km az=143.6*

*BJI **11** 15:06:02.9,34°.40S×71°.90W,h29km,mB6.6/15,Ms6.8/12, Ms7 6.6/14*

*NEIC **11** 15:06:02.1±0.7,34°.47S×72°.00W,h32km±5km,mb6.0/198, ML6.0(GUC),Error ellipse: s-maj=4.9km s-min=3.5km az=74.0*

NEIC Felt [V] at Talca and [IV] at Santiago. Also felt at Calera, Chiguayante, Graneros, Lampa, Los Angeles, Parral, Penaflor, Quilpue, San Antonio, San Bernardo, Temuco, Valparaiso and Vina del Mar.

ISC 11 15:06:02.6±0.7,34°.47S±0°.03×72°.04W±0°.04,h33km±3km, n1087,σ1°.95/1106,mb6.0/230,247C-215D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
NICH	Los Niches	0.85	129	eP	Pn	15 06 17.2		-1.1
NICH				eS	Sb	15 06 29.9		-0.2
NICH	Los Niches	0.85	129	eP	Pn	15 06 17.3		-1.1
NICH				i S	Sb	15 06 30.4		+0.3
TACH	Talagante	1.22	48	⇓iP	Pn	15 06 22.4		-1.0
RCDM	Rinconada Maip	1.42	47	eP	Pn	15 06 25.8		-0.3
RCDM				eS	Sn	15 06 44.6		+1.0
RCDM	Rinconada Maip	1.42	47	eP	Pn	15 06 26.2		+0.1
ANTU	Antumapu	1.47	53	eP	Pn	15 06 27.1		+0.2
ANTU				eS	Sb	15 06 46.4		-1.4
ANTU				AML	AML	15 06 52.2		
	comp=N,216μm,0.4s							
ANTU	Antumapu	1.47	53	eP	Pn	15 06 27.6		+0.8
ANTU				i S	Sb	15 06 49.0		+1.2
PCH	Pirque	1.52	57	⇑iP	Pn	15 06 28.2		+0.5
SAN	Santiago	1.53	49	eP	Pn	15 06 28.3		+0.6
SAN	Santiago	1.53	49	eP	Pn	15 06 27.6		0.0
SAN	Santiago	1.53	49	eP	Pn	15 06 28.3		+0.6
FSR	Penalolen	1.60	52	eP4	Pn	15 06 31.2		+2.5
FSR	Penalolen	1.60	52	P	Pb	15 06 30.5		-1.1
LACH	Col Las Americ	1.61	51	eP	Pn	15 06 29.0		+0.2
LACH				eS	Sb	15 06 50.3		-1.5
LACH	Col Las Americ	1.61	51	eP	Pn	15 06 29.5		+0.7
LACH				i S	Sb	15 06 52.8		+0.9
SJCH	San Jose de Ma	1.62	60	eP4	Pn	15 06 20.6		-8.4
SJCH				eS4	Sn	15 06 35.0		-14
CLCH	Cerro Calan	1.64	50	eP	Pn	15 06 29.4		+0.1
CLCH				eS	Sb	15 06 51.4		-1.3
CLCH				AML	AML	15 06 57.2		
	comp=N,156μm,0.7s							
PEL	Peldehue	1.74	41	⇑iP	Pn	15 06 31.2		+0.6
PEL	Peldehue	1.74	41	eP	Pn	15 06 31.1		+0.6
PEL				eS	Sb	15 06 53.7		-1.7
PEL				AML	AML	15 07 04.8		
	comp=E,222μm,0.5s							
PEL	Peldehue	1.74	41	⇑iP	Pn	15 06 31.1		+0.6
FCH	Farellones	1.84	52	eP	Pn	15 06 33.2		+0.9
FCH				eS	Sb	15 06 58.0		-0.8
FCH	Farellones	1.84	52	⇑iP	Pn	15 06 33.2		+0.9
FCH				i S	Sb	15 06 59.0		+0.2
CCSP	San Pedro de C	2.52	200	eP4	Pn	15 06 38.1		-3.1
CCSP				AML	AML	15 07 24.7		
	comp=E,93μm,0.5s							
CCSP	San Pedro de C	2.52	200	eP	Pn	15 06 38.2		-3.1
CFAA	Coronel Fontan	4.28	49	Pn	Pn	15 07 04.5		-1.1
	comp=E,13nm,0.3s,baz=237,slow=15,SNR=12							
CFAA				Lg	Lg	15 08 10.8		
	comp=E,55nm,0.3s,baz=336,slow=16,SNR=3.6							
LCO	Las Campanas	5.56	12	ePn	Pn	15 07 21.7		-1.7
	comp=E,1μm,0.6s							
PLCA	Paso Flores	6.36	170	Pn	Pn	15 07 34.6		+0.5
	comp=E,28nm,0.3s,baz=338,slow=13,SNR=32							
PLCA				Lg	Lg	15 09 13.5		
	comp=E,29nm,0.3s,baz=206,slow=2.1,SNR=3.1							
TRQA	Tornquist	8.87	117	ePn	Pn	15 08 11.5		+2.9
	comp=E,717nm,1.0s							
LVC	Limon Verde	12.13	14	ePn	Pn	15 08 47.2		-6.2
	comp=E,193nm,0.8s							
LPAZ	La Paz	18.44	12	eP	Pn	15 10 17.2		+0.9
LPAZ	La Paz	18.44	12	P	P	15 10 16.1		-0.1
	comp=E,5.8nm,0.3s,baz=182,slow=5.8,SNR=54							
LPAZ	La Paz	18.44	12	P	P	15 10 16.1		-0.1
LPAZ				ePn	Pn	15 10 16.5		+0.1
EFI	East Falkland	19.94	154	P	P	15 10 30.6		-1.0
	comp=E,1μm,0.7s,SNR=27							
EFI	East Falkland	19.94	154	P	P	15 10 30.5		-1.0
	comp=E,1μm,0.7s,SNR=27							
EFI	East Falkland	19.94	154	eP	P	15 10 30.1		-1.4
EFI				pmax	pmax			
	comp=Z,2μm,2.0s							
EFI	East Falkland	19.94	154	eP	P	15 10 30.1		-1.4
	comp=Z,2μm,2.0s							
USHA	Ushuia	20.51	174	P	P	15 10 38.0		+0.3
	comp=Z,344nm,0.9s,baz=327,slow=7.9,SNR=40							
SIV	San Ignacio	20.87	31	P	P	15 10 41.3		-0.7
	comp=Z,336nm,1.1s,baz=221,slow=9.3,SNR=22							
NNA	Nana	22.81	348	P	P	15 11 02.8		+0.1
	comp=Z,2μm,0.9s,SNR=23							
NNA	Nana	22.81	348	P	P	15 11 03.8		+1.1
	comp=Z,2μm,0.9s,SNR=23							
NNA	Nana	22.81	348	eP	P	15 11 03.1		+0.4
NNA	Nana	22.81	348	P	P	15 11 01.8		-0.9
	comp=Z,335nm,1.0s,baz=184,slow=11,SNR=48							
SAML	Samuel	26.67	20	ePn	P	15 11 38.3		-0.3
	comp=Z,129nm,1.0s							
ATAH	Atahualpa	27.83	346	P	P	15 11 50.1		+0.6
	comp=Z,114nm,1.3s,baz=176,slow=7.6,SNR=7.9							
BDFB	Brasilia	28.60	55	P	P	15 11 55.0		-1.0
BDFB				pmax	pmax			
	comp=Z,115nm,1.0s							
BDFB	Brasilia	28.60	55	P	P	15 11 55.0		-1.0
	comp=Z,115nm,1.0s,baz=196,slow=9.3,SNR=4.9							
PMSA	Palmer Station	30.72	173	P	P	15 12 13.9		-0.3
	comp=Z,71nm,1.1s,baz=339,slow=11,SNR=5.2							
HOPE	Hope Point	31.73	140	P	P	15 12 23.9		+0.7
	comp=Z,844nm,1.2s,SNR=8.0							
HOPE	Hope Point	31.73	140	P	P	15 12 23.2		0.0
	comp=Z,844nm,1.2s,SNR=8.0							
HOPE	Hope Point	31.73	140	eP	P	15 12 23.1		-0.2
	comp=Z,88nm,1.0s							
OTAV	Otavalo	35.05	349	eP	P	15 12 53.9		+0.9
	comp=Z,285nm,1.2s							
PAYG	Puerto Ayora	37.71	329	eP	P	15 13 16.3		+1.1
	comp=Z,178nm,1.1s							
ROSC	El Rosal	39.17	356	P	P	15 13 28.5		+0.6
	comp=Z,32nm,0.7s,baz=139,slow=4.1,SNR=7.3							
SDV	Santo Domingo	43.14	2	eP	P	15 13 59.2		-1.1
	comp=Z,228nm,1.2s							
RCBR	Riachuelo	43.89	58	P	P	15 14 05.2		-1.1
	comp=Z,30nm,0.7s,baz=214,slow=9.5,SNR=16							
RCBR	Riachuelo	43.89	58	eP	P	15 14 05.2		-1.1
	comp=Z,446nm,1.6s							
BCIP	Isla Barro Col	44.02	349	eP	P	15 14 07.3		+0.1
	comp=Z,528nm,1.5s							
JTS	JuntasAbangare	46.17	342	P	P	15 14 25.0		+0.7
	comp=Z,570nm,1.4s,SNR=8.4							
JTS	JuntasAbangare	46.17	342	P	P	15 14 25.6		+1.3
	comp=Z,570nm,1.4s,SNR=8.4							
JTS	JuntasAbangare	46.17	342	c iP	P	15 14 25.2		+0.9
JTS				pmax	pmax			
	comp=Z,395nm,1.7s							
JTS	JuntasAbangare	46.17	342	P	P	15 14 25.6		+1.3
	comp=Z,57nm,1.1s,baz=172,slow=4.4,SNR=17							
JTS	JuntasAbangare	46.17	342	eP	P	15 14 23.4		-0.9
	comp=Z,288nm,1.5s							
GRGR	Grenville	47.38	14	eP	P	15 14 32.4		-1.4
	comp=Z,610nm,1.0s							
VNA3	Neumayer Olymp	48.92	158	P	P	15 14 45.6		+0.5
VNA1	Neumayer--Stat	49.24	157	P	P	15 14 48.5		+1.1
VNA2	Neumayer--Watz	49.58	157	P	P	15 14 50.6		+0.5
FDF	Fort de France	50.01	14	eP	P	15 14 52.1		-1.9
FDF				pmax	pmax			
	comp=Z,334nm,1.1s							
FDF	Fort de France	50.01	14	eP	P	15 14 52.1		-1.9
	comp=Z,334nm,1.1s							
SNAA	Sanae	51.15	158	P	P	15 15 02.4		+0.4
SNAA	Sanae	51.15	158	eP	P	15 15 02.0		0.0
SNAA	Sanae	51.15	158	ceP	P	15 15 02.7		+0.7
SNAA				pmax	pmax			
	comp=Z,202nm,1.0s							
SNAA	Sanae	51.15	158	P	P	15 15 02.3		+0.2
	comp=Z,52nm,1.0s,baz=285,slow=6.3,SNR=42							
SNAA	Sanae	51.15	158	eP	P	15 15 02.2		+0.1
	comp=Z,158nm,1.0s							
APG	El Apazote	52.23	337	P	P	15 15 06.6		-4.2
	comp=Z,75nm,1.0s,baz=182,slow=7.4,SNR=26							
APG				LR	LR	15 32 37.2		
	comp=Z,48μm,18.9s,baz=135,slow=31							
CRPR	Cabo Rojo, PR	52.40	6	eP	P	15 15 09.9		-1.9
	comp=Z,230nm,1.1s							
SABA	Saba	52.47	11	eP	P	15 15 11.8		-0.6
	comp=Z,697nm,1.3s							
OBIP	Obispado Ponce	52.48	7	eP	P	15 15 10.8		-1.6
	comp=Z,292nm,1.2s							
CELP	Cerrillos	52.51	7	eP	P	15 15 11.4		-1.2
LSP	Las Mesas	52.56	6	eP	P	15 15 12.2		-0.9
MTDJ	Mount Denham	52.66	353	eP	P	15 15 13.2		-0.7
	comp=Z,348nm,1.4s							
LRS	Lares	52.70	6	eP	P	15 15 12.2		-1.9
ANWB	Willy Bob	52.76	12	eP	P	15 15 12.6		-1.8
	comp=Z,319nm,0.6s							
AOPR	Arecibo Observ	52.76	6	eP	P	15 15 12.9		-1.6
	comp=Z,252nm,1.4s							
CBYP	Canovanas	52.78	7	eP	P	15 15 12.6		-2.1
	comp=Z,272nm,1.3s							
SMRT	St. Maarten	52.92	11	eP	P	15 15 14.4		-1.2
	comp=Z,91nm,0.9s							
SDDR	Presa de Saban	53.16	1	eP	P	15 15 16.2		-1.3
	comp=Z,441nm,2.3s							
GTBY	Guantanamo Bay	54.17	356	eP	P	15 15 24.1		-0.7
	comp=Z,152nm,1.0s							
RKT	Rikitea	55.53	264	eT	T	16 15 09.7		
	comp=Z,4.6nm,0.2s							
CMIG	Matias Romero	55.70	333	P	P	15 15 34.0		-1.9
	comp=Z,24nm,1.1s,baz=158,slow=5.6,SNR=10.0							
QSPA	South Pole Qui	55.77	180	P	P	15 15 36.8		+0.7
	comp=Z,488nm,0.9s,baz=150,slow=2.0,SNR=144							
QSPA	South Pole Qui	55.77	180	eP	P	15 15 36.4		+0.3
	comp=Z,550nm,1.0s							
NVL	N'lazarevskaya	55.89	157	i P	P	15 15 36.4		-0.2
NVL				pmax	pmax			
	comp=Z,100nm,0.9s							
TEIG	Tepich	56.55	342	eP	P	15 15 41.2		-0.7
	comp=Z,340nm,1.2s							
SHEL	Horse Pasture	61.74	91	eP	P	15 16 18.6		+0.4
SHEL				pmax	pmax			
	comp=Z,117nm,0.9s							
SHEL	Horse Pasture	61.74	91	eP	P	15 16 18.6		+0.4
	comp=Z,117nm,0.9s							
SBA	Scott Base	62.62	192	eP	P	15 16 24.1		+1.0
SBA				pmax	pmax			
	comp=Z,171nm,1.4s							
SBA	Scott Base	62.62	192	eP	P	15 16 24.1		+1.0
	comp=Z,171nm,1.4s							
VNDA	Vanda	63.64	191	eP	P	15 16 30.6		+0.7
VNDA				pmax	pmax			
	comp=Z,117nm,1.4s							
VNDA	Vanda	63.64	191	P	P	15 16 31.3		+1.4
	comp=Z,26nm,1.0s,baz=140,slow=4.3,SNR=20							
VNDA	Vanda	63.64	191	eP	P	15 16 30.6		+0.7
	comp=Z,117nm,1.4s							
SYO	Syowa Base	65.43	158	⇓iP	P	15 16 40.0		-1.6
035Z	Hargill baz=66	65.43	334	⇑P	P	15 16 43.0		+0.8
035A	Encino baz=66,SNR=6.8	65.88	335	⇑P	P	15 16 45.6		+0.6
034A	Hebbronville baz=66,SNR=11	66.20	334	⇓P	P	15 16 47.9		+0.8
TIGA	Tifton baz=67,SNR=6.8	66.46	349	⇑P	P	15 16 48.1		-0.5
TIGA	Tifton	66.46	349	eP	P	15 16 47.8		-0.9
	comp=Z,237nm,1.1s							
934A	Benavides baz=67,SNR=11	66.63	334	⇓P	P	15 16 51.0		+1.1
BRAL	Brewton	66.66	346	eP	P	15 16 49.8		-0.1
	comp=Z,363nm,1.3s							
BBSR	BB Station	66.85	7	eP	P	15 16 50.5		-0.5
	comp=Z,182nm,1.3s							
933A	Laredo baz=67,SNR=17	66.92	334	⇓P	P	15 16 52.5		+0.9
835A	Beeville baz=67,SNR=9.4	67.02	335	⇑P	P	15 16 53.5		+1.3
834A	Tilden baz=67,SNR=23	67.12	335	⇑P	P	15 16 53.9		+1.0
TBI	Tubuai	67.21	257	eP	P	15 16 54.6		+0.8
	comp=Z,276nm,1.1s							
TBI	Tubuai	67.21	257	eT	T	16 29 44.0		
	comp=Z,19nm,0.3s							
CSU	Charleston Sou	67.53	353	eP	P	15 16 55.4		0.0
735A	Kenedy baz=68,SNR=9.3	67.53	336	⇓P	P	15 16 56.4		+0.9
833A	Chaparral WMA, baz=68,SNR=27	67.61	334	⇑P	P	15 16 56.6		+0.6
NHSC	New Hope	67.66	353	eP	P	15 16 55.9		-0.3
	comp=Z,459nm,1.3s							
832A	Faith Ranch, C baz=68,SNR=24	67.78	333	⇑P	P	15 16 57.5		+0.4
734A	La Parita Cree baz=68	67.78	335	⇓P	P	15 16 57.4		+0.3
636A	Smothers Creek baz=68,SNR=15	67.86	337	⇓P	P	15 16 58.2		+0.7
HKT	Hockley	67.90	338	eP	P	15 16 58.3		+0.6
HKT				pmax	pmax			
	comp=Z,411nm,1.9s							
HKT	Hockley	67.90	338	eP	P	15 16 58.3		+0.6
	comp=Z,410nm,1.9s							
733A	Divot King Ran baz=68,SNR=9.6	67.93	334	⇓P	P	15 16 58.3		+0.3
635A	Leesville baz=68,SNR=7.4	68.01	336	⇓P	P	15 16 58.8		+0.3
537A	Green Hill Far baz=68,SNR=6.7	68.17	337	⇓P	P	15 16 60.0		+0.4
732A	Laxson Ranch, baz=68,SNR=40	68.18	334	⇓P	P	15 16 59.8		+0.2
GOGA	Godfrey	68.37	350	eP	P	15 16 59.3		-1.4

GOGA pmax pmax
comp=Z,249nm,1.4s
GOGA Godfrey 68.37 350 eP P 15 16 59.3 -1.4
comp=Z,249nm,1.4s
536A Bastrop 68.41 337 ⇑P P 15 17 01.2 +0.2
baz=69,SNR=8.5
535A Dale 68.53 336 ⇑P P 15 17 01.7 -0.1
baz=69,SNR=6.4
438A Sam Houston St 68.53 338 ⇓P P 15 17 02.2 +0.5
baz=69,SNR=11
633A Saathoff Ranch 68.56 335 ⇑P P 15 17 01.9 -0.1
baz=69,SNR=15
VBMS Vicksburg 68.58 343 eP P 15 17 03.1 +1.2
comp=Z,749nm,1.6s
LRAL Lakeview Retre 68.61 347 eP P 15 17 01.4 -0.8
comp=Z,108nm,1.1s
340A Bronson 68.69 340 ⇑P P 15 17 02.8 +0.1
baz=69,SNR=11
MEH Mehetia 68.79 262 eP P 15 17 04.7 +0.9
comp=Z,34nm,1.2s
MEH Mehetia 68.79 262 eT T 16 31 43.6
comp=Z,145nm,0.2s
339A Huntington 68.81 339 ⇓P P 15 17 03.4 0.0
baz=69,SNR=9.2
437A Phantom Ranch, 68.81 338 ⇓P P 15 17 03.7 +0.2
baz=69
632A Uvalde 68.82 334 ⇓P P 15 17 03.5 -0.1
baz=69,SNR=22
534A Blanco 68.84 336 ⇑P P 15 17 03.6 -0.1
baz=69,SNR=6.2
631A Perdido Creek 69.02 333 ⇑P P 15 17 04.8 -0.1
baz=69,SNR=9.1
338A Crockett 69.05 339 ⇑P P 15 17 05.3 +0.3
baz=69,SNR=11
533A Kerrville 69.07 335 ⇑P P 15 17 05.2 0.0
baz=69,SNR=20
337A Centerville 69.19 338 ⇓P P 15 17 06.3 +0.5
baz=70,SNR=9.8
435B Jarrell 69.23 337 ⇓P P 15 17 06.2 +0.1
baz=70,SNR=5.9
NATX Nacogdoches 69.24 339 eP P 15 17 06.7 +0.5
comp=Z,370nm,1.4s
239A Gary 69.42 340 ⇑P P 15 17 07.4 +0.1
baz=70,SNR=10.0
532A Rocksprings 69.43 334 ⇓P P 15 17 07.7 +0.2
baz=70,SNR=25
434A Burnet 69.49 336 ⇑P P 15 17 07.8 0.0
baz=70,SNR=23
336A Riesel 69.55 337 ⇑P P 15 17 08.2 +0.1
baz=70,SNR=26
CNNC Cliffs of the 69.56 355 eP P 15 17 07.6 -0.4
comp=Z,202nm,1.1s
238A Jacksonville 69.60 339 ⇓P P 15 17 08.2 -0.1
baz=70
335A Moody 69.64 337 ⇓P P 15 17 08.8 +0.2
baz=70,SNR=7.3
531A Rocksprings 69.69 334 ⇓P P 15 17 09.3 +0.2
baz=70,SNR=20
JCT Junction City 69.71 335 eP P 15 17 09.3 +0.1
JCT pmax pmax
comp=Z,315nm,1.4s
JCT Junction City 69.71 335 ⇑P P 15 17 09.0 -0.1
baz=70,SNR=24
JCT Junction City 69.71 335 eP P 15 17 09.3 +0.1
comp=Z,315nm,1.4s
433A Art 69.71 335 ⇑P P 15 17 08.8 -0.3
baz=70,SNR=28
VAH Vaihoa 69.78 265 eP P 15 17 10.7 +0.7
comp=Z,196nm,1.1s
KMSC Kings Mountain 69.80 352 ⇑P P 15 17 08.8 -0.7
baz=70,SNR=18
KMSC Kings Mountain 69.80 352 eP P 15 17 08.4 -1.1
comp=Z,124nm,1.1s
237A Washetta, Mont 69.80 339 ⇑P P 15 17 10.1 +0.5
baz=70,SNR=12
TVO Taravao 69.81 262 eP P 15 17 10.9 +0.7
comp=Z,35nm,1.2s
TVO Taravao 69.81 262 eT T 16 32 59.9
comp=Z,7.1nm,0.2s
334A Lometa 69.95 336 ⇓P P 15 17 10.2 -0.4
baz=70,SNR=18
530A J-C Ranch, Com 69.97 333 ⇓P P 15 17 11.0 +0.2
baz=70,SNR=26
TIAR Tiarei 70.00 262 eP P 15 17 12.1 +0.8
comp=Z,40nm,1.0s
432A Menard 70.07 335 ⇓P P 15 17 11.2 -0.1
baz=70,SNR=14
PMOR Pomariorio Ree 70.12 265 eP P 15 17 12.8 +0.7
comp=Z,88nm,1.2s
PAE Paea 70.14 262 eP P 15 17 12.8 +0.7
comp=Z,44nm,1.0s
PAE Paea 70.14 262 eT T 16 33 23.5
comp=Z,2.6nm,0.2s
TXAR Lajitas Array 70.15 331 P P 15 17 12.3 +0.4
TXAR pmax pmax
comp=Z,16nm,0.9s
TXAR Lajitas Array 70.15 331 P P 15 17 12.3 +0.4
comp=Z,16nm,0.8s,baz=148,slow=7.4,SNR=32
PPT2 Papeete2 70.17 262 eP P 15 17 13.2 +0.8
comp=Z,242nm,1.1s
PPT2 Papeete2 70.17 262 eT T 16 33 25.8
comp=Z,8.0nm,0.3s
PPT Papeete 70.18 262 P P 15 17 13.6 +1.2
PPT pmax pmax
comp=Z,221nm,1.0s
PPT Papeete 70.18 262 P P 15 17 13.6 +1.2
comp=Z,221nm,1.0s,baz=40,slow=1.3,SNR=16
431A Sonora 70.18 334 ⇓P P 15 17 11.9 -0.1
baz=70,SNR=13
333A Richland Sprin 70.20 336 ⇑P P 15 17 12.0 -0.1
baz=70,SNR=16
138A Matatall Enter 70.20 339 ⇓P P 15 17 12.6 +0.5
baz=70,SNR=11
529A Stev Forest Ra 70.28 332 ⇑P P 15 17 12.9 +0.2
baz=71,SNR=26
WHTX Lake Whitney, 70.31 337 ⇑P P 15 17 13.2 +0.5
baz=71,SNR=16
WHTX Lake Whitney, 70.31 337 eP P 15 17 12.5 -0.2
comp=Z,185nm,1.1s
137A Heron Place, G 70.34 339 ⇑P P 15 17 13.7 +0.7
baz=71,SNR=13
430A Baggett Ranch, 70.51 334 ⇑P P 15 17 14.2 +0.1
baz=71,SNR=21
332A Millersview 70.51 335 ⇑P P 15 17 14.1 0.0
baz=71,SNR=18
OXF Oxford 70.53 345 eP P 15 17 12.9 -1.1
OXF pmax pmax
comp=Z,409nm,1.0s
OXF Oxford 70.53 345 eP P 15 17 12.9 -1.1
comp=Z,409nm,1.0s
SWET Sewanee 70.53 348 eP P 15 17 13.1 -1.0
comp=Z,493nm,1.3s
234A Clairette 70.54 337 ⇑P P 15 17 14.2 +0.1
baz=71,SNR=20
429A Davenport Ranc 70.61 333 ⇑P P 15 17 14.8 +0.1
baz=71,SNR=21
TKL Tuckaleechee C 70.62 350 eP P 15 17 13.3 -1.3
TKL Tuckaleechee C 70.62 350 eP P 15 17 13.3 -1.3
331A San Angelo 70.69 334 ⇑P P 15 17 14.8 -0.3
baz=71,SNR=23
233A Rising Star 70.80 336 ⇑P P 15 17 15.6 -0.2
baz=71,SNR=16
135A Vickery Place, 70.81 337 ⇑P P 15 17 15.5 -0.3
baz=71
232A Coleman 70.94 335 ⇑P P 15 17 16.6 -0.1
baz=71,SNR=22
330A Mertzon 71.04 334 ⇑P P 15 17 16.9 -0.4
baz=71,SNR=10
231A Bronte 71.21 335 ⇑P P 15 17 18.0 -0.3
baz=72,SNR=19
133A Hamilton Ranch 71.35 336 ⇑P P 15 17 19.0 0.0
baz=72,SNR=20
329A Wagon Wheel Ra 71.41 333 ⇓P P 15 17 19.5 0.0
baz=72,SNR=22
230A Sterling City 71.45 334 ⇑P P 15 17 19.6 -0.2
baz=72,SNR=7.5
UALR University of 71.46 342 eP P 15 17 19.4 -0.2
comp=Z,142nm,1.4s
TZTN Tazewell 71.46 350 eP P 15 17 18.8 -0.9
comp=Z,369nm,1.6s
Z35A Perchaven, San 71.48 338 ⇑P P 15 17 19.7 -0.1
baz=72,SNR=20
MIAR Mount Ida 71.56 341 eP P 15 17 20.2 -0.1
MIAR pmax pmax
comp=Z,209nm,1.5s
MIAR Mount Ida 71.56 341 eP P 15 17 20.2 -0.1
comp=Z,209nm,1.5s
ABTX Abilene, Hawle 71.61 336 ⇑P P 15 17 20.4 -0.3
baz=72,SNR=26
ABTX Abilene, Hawle 71.61 336 eP P 15 17 20.1 -0.6
comp=Z,274nm,1.4s
Z34A Collier Ranch, 71.72 337 ⇓P P 15 17 21.2 -0.1
baz=72,SNR=8.3
BLA Blacksburg 71.74 353 eP P 15 17 20.9 -0.5
BLA pmax pmax
comp=Z,150nm,1.4s
BLA Blacksburg 71.74 353 eP P 15 17 20.9 -0.5
comp=Z,150nm,1.4s
WVT Waverly 71.77 347 eP P 15 17 20.5 -1.0
WVT pmax pmax
comp=Z,909nm,1.4s
WVT Waverly 71.77 347 eP P 15 17 20.5 -1.0
comp=Z,909nm,1.4s
229A Bryant Ranch, 71.78 334 ⇑P P 15 17 21.8 0.0
baz=72,SNR=13
HBAR Harrisburg 71.81 344 eP P 15 17 22.7 +1.0
131A Roby 71.91 335 ⇓P P 15 17 22.4 -0.1
baz=72,SNR=18
Z33A Whitaker Ranch 71.92 337 ⇓P P 15 17 22.4 -0.1
baz=72,SNR=22
JSRW J. Sargeant Re 72.00 355 eP P 15 17 22.7 -0.1
130A Snyder 72.04 335 ⇓P P 15 17 23.1 -0.2
baz=72,SNR=16
Z32A Haskell 72.18 336 ⇓P P 15 17 23.9 -0.1
baz=72,SNR=22
GLAT Glass 72.19 345 eP P 15 17 23.7 -0.3
228A UT Block 9, Go 72.20 333 ⇓P P 15 17 24.3 0.0
baz=72,SNR=22
Y34A Reagan Ranch, 72.22 338 ⇓P P 15 17 24.3 0.0
baz=73,SNR=17
129A Stewart Farms, 72.40 334 ⇓P P 15 17 25.5 0.0
baz=73,SNR=9.0
Z31A Sharp Cattle R 72.41 336 ⇑P P 15 17 25.3 -0.2
baz=73,SNR=20
Y33A Hilltop Ranch, 72.54 337 ⇓P P 15 17 26.1 -0.1
baz=73,SNR=14
128A Castleberry Fa 72.62 333 ⇓P P 15 17 26.8 0.0
baz=73,SNR=25
ELIM Elim 72.71 120 eP P 15 17 24.4 -3.1
ELIM AMB AMB 15 17 26.5
comp=Z,228nm,5.6s
ELIM Elim 72.71 120 P P 15 17 24.4 -3.1
comp=Z,228nm,5.6s
Z30A Sanderson Ranc 72.72 335 ⇑P P 15 17 27.3 -0.1
baz=73,SNR=22
MAW Mawson 72.73 163 P P 15 17 28.1 +1.2
MAW pmax pmax
comp=Z,30nm,0.8s
MAW Mawson 72.73 163 P P 15 17 28.1 +1.2
comp=Z,30nm,0.8s,baz=229,slow=11,SNR=4.6
Y32A R-V Farms, Ver 72.80 336 ⇓P P 15 17 27.6 -0.1
baz=73,SNR=19
X34A Smith Ranch, M 72.83 338 ⇓P P 15 17 28.1 +0.1
baz=73,SNR=9.2
Z29A Hungry Hill Ra 72.91 334 ⇓P P 15 17 28.1 -0.3
baz=73,SNR=24
MNTX Cornudas Mount 72.92 331 eP P 15 17 27.2 -1.3
comp=Z,55nm,1.1s
PBMO Poplar Bluff 72.93 345 eP P 15 17 27.4 -1.0
comp=Z,346nm,1.5s
GDL2 Guadalupe Moun 72.96 332 eP P 15 17 28.0 -0.8
X33A Lawton 72.99 337 ⇓P P 15 17 28.4 -0.5
baz=73,SNR=6.7
Y31A Rekieta Farm, 73.04 336 ⇑P P 15 17 29.1 0.0
baz=73,SNR=11
X32A Elmer 73.13 337 ⇓P P 15 17 29.6 -0.1
baz=74,SNR=11
Z28A Tucker Farm, M 73.18 334 ⇑P P 15 17 29.9 -0.2
baz=74,SNR=12
Y30A Stafford Cattl 73.18 335 ⇓P P 15 17 30.0 -0.1
baz=74,SNR=6.9
WMOK Wichita Mounta 73.26 337 eP P 15 17 29.8 -0.6
WMOK pmax pmax
comp=Z,139nm,1.4s
WMOK Wichita Mounta 73.26 337 eP P 15 17 29.8 -0.6
comp=Z,139nm,1.4s
W34A Bridge Creek, 73.40 338 ⇓P P 15 17 31.3 0.0
baz=74,SNR=7.6
W34A Bridge Creek, 73.40 338 eP P 15 17 30.8 -0.5
comp=Z,246nm,1.4s
Y29A Porterfield Fa 73.44 335 ⇓P P 15 17 31.4 -0.2
baz=74,SNR=9.8
TUL1 Leonard 73.45 340 ⇑P P 15 17 31.4 -0.1
baz=74,SNR=11
TUL1 Leonard 73.45 340 eP P 15 17 30.6 -0.9
comp=Z,106nm,0.9s
KOMG Komaggas 73.47 115 eP P 15 17 32.4 +0.4
KOMG AMB AMB 15 17 34.3
comp=Z,168nm,4.4s
KOMG Komaggas 73.47 115 P P 15 17 32.4 +0.4
comp=Z,168nm,4.4s
USIN University of 73.52 347 eP P 15 17 30.2 -1.6
comp=Z,462nm,1.3s
WCI Wyandotte Cave 73.53 348 eP P 15 17 30.1 -1.9
WCI pmax pmax
comp=Z,136nm,1.4s
WCI Wyandotte Cave 73.53 348 eP P 15 17 30.1 -1.9
comp=Z,136nm,1.4s
W33A Caddo, Fort Co 73.54 338 ⇑P P 15 17 32.2 +0.2
baz=74,SNR=12
X31A McDonald Ranch 73.55 336 ⇑P P 15 17 31.9 -0.2
baz=74,SNR=15
SIUC Southern Illin 73.58 346 eP P 15 17 31.2 -1.0
comp=Z,151nm,1.1s
SDMD Soldier's Deli 73.65 356 eP P 15 17 31.8 -0.8
comp=Z,353nm,1.7s
Y28A McKinney Farm, 73.69 334 ⇓P P 15 17 32.8 -0.2
baz=74
X30A Coker Ranch, T 73.69 335 ⇑P P 15 17 32.8 -0.2
baz=74
W32A Sentinel 73.76 337 ⇑P P 15 17 33.5 +0.1
baz=74,SNR=34
V34A Guthrie 73.88 339 ⇓P P 15 17 33.8 -0.2
baz=74,SNR=11
V34A Guthrie 73.88 339 eP P 15 17 33.1 -0.9
comp=Z,332nm,1.4s
MSTX Muleshoe 73.93 334 ⇑P P 15 17 34.4 -0.1
baz=74,SNR=18
MSTX Muleshoe 73.93 334 eP P 15 17 34.2 -0.3
comp=Z,133nm,1.1s
X29A Tulia 73.97 335 ⇓P P 15 17 34.7 -0.1
baz=74,SNR=5.3
Y27A Causey 74.00 333 ⇓P P 15 17 34.5 -0.4
baz=74,SNR=7.4
W31A Holland Ranch, 74.05 337 ⇓P P 15 17 34.8 -0.3
baz=74,SNR=12
V33A Lossen Ranch, 74.10 338 ⇓P P 15 17 35.5 +0.2
baz=74,SNR=16
MVL Millersville 74.21 357 eP P 15 17 36.1 +0.3
comp=Z,250nm,1.5s
X28A Dimmitt 74.22 334 ⇓P P 15 17 36.1 -0.1
baz=74,SNR=6.0
V32A Arapaho 74.25 337 P P 15 17 36.6 +0.4
baz=75
W30A Crocket Farms 74.25 336 ⇓P P 15 17 36.3 0.0
baz=75
319A Douglas 74.30 327 P P 15 17 37.8 +1.1
baz=75
OLIL Olney 74.34 347 eP P 15 17 35.8 -0.8
comp=Z,312nm,1.5s
AMTX Amarillo 74.36 335 ⇑P P 15 17 36.9 -0.1
baz=75
AMTX Amarillo 74.36 335 eP P 15 17 36.1 -0.8
comp=Z,289nm,1.4s
U34A Anderson Ranch 74.44 339 ⇑P P 15 17 37.4 +0.1
baz=75,SNR=15
U34A Anderson Ranch 74.44 339 eP P 15 17 37.1 -0.3
comp=Z,209nm,1.3s
BLO Bloomington 74.49 348 eP P 15 17 36.1 -1.4
BLO pmax pmax
comp=Z,370nm,1.6s
BLO Bloomington 74.49 348 eP P 15 17 36.1 -1.4
comp=Z,370nm,1.6s
V31A Spring Creek L 74.55 337 ⇓P P 15 17 38.6 +0.6
baz=75,SNR=7.7
W29A Amarillo 74.57 335 ⇑P P 15 17 38.3 +0.2
baz=75,SNR=19
SUR Sutherland 74.60 119 P P 15 17 40.9 +2.1
comp=Z,838nm,0.9s,SNR=17
SUR Sutherland 74.60 119 P P 15 17 40.9 +2.1
comp=Z,838nm,0.9s,SNR=17
SUR Sutherland 74.60 119 P P 15 17 40.2 +1.3
comp=Z,88nm,0.8s,baz=240,slow=4.9,SNR=38
SUR Sutherland 74.60 119 eP P 15 17 39.6 +0.8
comp=Z,105nm,0.8s
121A Cookes Peak, D 74.64 329 ⇓P P 15 17 39.5 +0.8
baz=75,SNR=30
121A Cookes Peak, D 74.64 329 eP P 15 17 39.5 +0.8
comp=Z,211nm,1.3s
X27A F and S Farms, 74.66 334 ⇓P P 15 17 38.7 0.0
baz=75,SNR=6.8
SLM Saint Louis 74.67 345 eP P 15 17 38.5 0.0
SLM pmax pmax
comp=Z,388nm,1.3s
SLM Saint Louis 74.67 345 eP P 15 17 38.5 0.0
comp=Z,388nm,1.3s
V30A Spur Ranch, Mi 74.82 336 ⇑P P 15 17 40.7 +1.1
baz=75,SNR=7.7
X26A CR and CF Fran 74.83 333 ⇓P P 15 17 40.3 +0.5
baz=75,SNR=20
U32A Winter Ranch, 74.84 338 ⇑P P 15 17 39.8 +0.2
baz=75,SNR=10
W28A Vega 74.88 335 ⇓P P 15 17 40.4 +0.4
baz=75
Y24A Capitan 74.90 332 ⇑P P 15 17 40.7 +0.4
baz=75,SNR=15
LIC Lamto 74.92 71 ⇓iP P 15 17 40.1 -0.5
comp=Z,149nm,0.6s,baz=241
LIC Lamto 74.92 71 eP P 15 17 39.5 -1.1
comp=Z,252nm,0.6s
LIC Lamto 74.92 71 ⇓iP P 15 17 40.1 -0.5
comp=Z,149nm,0.6s
Z22A Elephant Butte 74.93 330 ⇑P P 15 17 41.2 +0.8
baz=75,SNR=16
SSPA Standing Stone 74.93 355 eP P 15 17 39.3 -0.7
comp=Z,240nm,1.6s
W27A Bowe Ranch, En 75.02 334 ⇓P P 15 17 40.8 0.0
baz=75,SNR=20
ACSO Alum Creek Sta 75.02 351 eP P 15 17 39.4 -1.1
comp=Z,188nm,0.8s
U31A Nine Bar Ranch 75.10 337 ⇓P P 15 17 41.6 +0.4
baz=75
X25A Clemmons Ranch 75.13 333 ⇑P P 15 17 41.7 +0.2
baz=76,SNR=14
Y23A Lovelace Mesa, 75.15 331 ⇓P P 15 17 42.5 +0.8
baz=76,SNR=12
TIC Toumodi 75.18 71 eP P 15 17 42.5 +0.3
comp=Z,67nm,0.2s
V29A Stinnett 75.20 336 ⇓P P 15 17 42.4 +0.6
baz=76
ODNJ Ogdensburg 75.22 358 eP P 15 17 41.9 +0.3
comp=Z,330nm,1.6s
KIC Kosan Boka 75.23 71 eP P 15 17 41.4 -1.0
comp=Z,633nm,1.0s
T33A Patterson Ranc 75.25 339 ⇓P P 15 17 42.2 +0.2
baz=76,SNR=38
W26A Owens Ranch, T 75.30 334 ⇓P P 15 17 42.9 +0.5
baz=76,SNR=20
DBIC Dimbokro 75.33 71 eP P 15 17 42.8 -0.1
DBIC Dimbokro 75.33 71 eP P 15 17 42.6 -0.3
DBIC pmax pmax
comp=Z,121nm,0.7s
DBIC Dimbokro 75.33 71 P P 15 17 42.8 -0.1
comp=Z,86nm,0.6s,baz=209,slow=5.4,SNR=120
DBIC Dimbokro 75.33 71 eP P 15 17 42.6 -0.3
comp=Z,121nm,0.7s
V28A Channing 75.33 335 ⇑P P 15 17 43.2 +0.5
baz=76,SNR=17
YLE Yale 75.42 359 eP P 15 17 43.6 +0.9
comp=Z,259nm,1.1s
X24A Lazy VL Ranch, 75.46 332 ⇓P P 15 17 43.5 0.0
baz=76,SNR=19
U30A WK&E Inc. Balk 75.51 337 ⇑P P 15 17 43.7 +0.1
baz=76,SNR=9.4
T32A Huddler Ranch, 75.55 338 ⇑P P 15 17 43.8 0.0
baz=76,SNR=12
V27A Dan Oppiter Fa 75.56 335 ⇓P P 15 17 43.9 0.0
baz=76,SNR=10.0
U29A Oasis Ranch, S 75.64 336 ⇓P P 15 17 44.4 +0.1
baz=76
S33A Kaszmaul Farm, 75.66 339 ⇑P P 15 17 44.2 -0.1
baz=76,SNR=8.2
W25A X Bar L Ranch, 75.67 333 ⇓P P 15 17 44.6 0.0
baz=76,SNR=22
LPM Los Pinos Moun 75.71 331 eP P 15 17 45.9 +1.0
T31A Randall Ranch, 75.71 337 ⇑P P 15 17 44.9 +0.3
baz=76,SNR=14
LENM Lemitar 75.72 331 eP P 15 17 41.0 -3.9
KSPA Keystone Colle 75.73 357 eP P 15 17 45.0 +0.4
comp=Z,161nm,1.6s
TUC Tucson 75.76 327 eP P 15 17 45.5 +0.4
TUC pmax pmax
comp=Z,109nm,1.3s
TUC Tucson 75.76 327 eP P 15 17 45.5 +0.4
comp=Z,109nm,1.3s
SFIN Lafayette 75.77 348 ⇓P P 15 17 43.3 -1.5
baz=76,SNR=9.8
SFIN Lafayette 75.77 348 eP P 15 17 42.8 -2.0
comp=Z,255nm,1.5s
X23A Hourglass Bar 75.77 331 ⇓P P 15 17 45.7 +0.4
baz=76
U28A Mallet 75.90 335 ⇓P P 15 17 45.8 -0.1
baz=76,SNR=17
V26A Tequesquite Ra 75.93 334 ⇓P P 15 17 45.8 -0.2
baz=76,SNR=15
T30A Plains 75.94 337 ⇑P P 15 17 46.3 +0.3
baz=76
W24A Lazy 6 Ranch, 76.02 332 ⇓P P 15 17 47.0 +0.3
baz=76,SNR=9.2
S32A Newby Ranch, P 76.03 338 ⇓P P 15 17 47.0 +0.6
baz=76,SNR=5.9
S31A Mullinville 76.13 338 ⇓P P 15 17 47.1 0.0
baz=76,SNR=12
U27A Thompson Grove 76.15 335 ⇓P P 15 17 47.7 +0.4
baz=76,SNR=11
ANMO Albuquerque 76.20 331 ceP P 15 17 48.5 +0.8
ANMO pmax pmax
comp=Z,397nm,1.2s
ANMO Albuquerque 76.20 331 P P 15 17 47.8 +0.1
comp=Z,60nm,1.1s,baz=153,slow=8.1,SNR=31
W23A Werner Place, 76.26 332 ⇑P P 15 17 48.5 +0.4
baz=77,SNR=22
V25A Rancho No Teng 76.28 333 ⇓P P 15 17 48.3 +0.2
baz=77,SNR=20
T29A Hugoton 76.29 336 ⇑P P 15 17 48.1 +0.1
baz=77,SNR=13
R33A Olander Ranch, 76.31 339 ⇑P P 15 17 47.9 -0.2
baz=77,SNR=5.9
BINY Binghamton 76.39 357 eP P 15 17 47.7 -0.7
comp=Z,208nm,1.5s
214A Organ Pipe Nat 76.40 325 ⇓P P 15 17 49.1 +0.4
baz=77,SNR=19
V24A Rampart Ranch, 76.42 333 ⇑P P 15 17 48.9 -0.1
baz=77,SNR=9.9
U26A Atchley Ranch, 76.45 334 ⇓P P 15 17 48.8 -0.3
baz=77,SNR=12
S30A Montezuma 76.46 337 ⇑P P 15 17 49.2 +0.3
baz=77,SNR=13
T28A Walsh 76.53 336 ⇓P P 15 17 49.4 0.0
baz=77,SNR=38
ERPA Erie 76.57 354 eP P 15 17 48.5 -0.8
comp=Z,183nm,1.2s
HRV Adam Dziewonsk 76.61 0 eP P 15 17 50.0 +0.4
HRV pmax pmax
comp=Z,178nm,1.2s
HRV Adam Dziewonsk 76.61 0 eP P 15 17 50.0 +0.4
comp=Z,178nm,1.2s
R32A Long Quarter, 76.63 339 ⇓P P 15 17 49.9 +0.1
baz=77,SNR=9.8
S29A Ulysses 76.65 337 ⇓P P 15 17 50.0 0.0
baz=77,SNR=24
KSU1 Kansas State U 76.66 341 ⇓P P 15 17 49.6 -0.4
baz=77,SNR=7.2
KSU1 Kansas State U 76.66 341 eP P 15 17 49.1 -0.9
comp=Z,74nm,1.0s
T27A Campo 76.69 335 ⇑P P 15 17 50.6 +0.3
baz=77,SNR=22
U25A Circle Dot Ran 76.70 334 ⇓P P 15 17 50.8 +0.3
baz=77,SNR=13
R31A Burdett 76.76 338 ⇓P P 15 17 50.4 -0.2
baz=77,SNR=16
V23A Ortiz Mt. (NFS 76.79 332 ⇓P P 15 17 50.9 -0.1
baz=77
TRY Troy 76.84 359 eP P 15 17 51.2 +0.4
comp=Z,180nm,1.0s
S28A Manter 76.88 336 ⇑P P 15 17 51.6 +0.2
baz=77,SNR=21
Q33A Connelly Farm, 76.91 340 ⇓P P 15 17 51.2 -0.1
baz=77,SNR=9.4
WIN Windhoek 76.91 108 eP P 15 17 51.6 -0.6
WIN AMB AMB 15 17 54.2
comp=Z,39nm,1.3s
WIN Windhoek 76.91 108 P P 15 17 51.6 -0.6
WIN pmax pmax

comp=Z,39nm,1.3s
WIN Windhoek 76.91 108 P P 15 17 51.6 -0.6
comp=Z,39nm,1.3s
R30A Dighton 76.99 338 ⇓P P 15 17 51.8 -0.1
baz=77,SNR=7.6
MMNY Mt. Morris Dam 77.02 356 eP P 15 17 51.6 -0.2
comp=Z,707nm,1.4s
UPI Upington 77.03 115 eP P 15 17 52.4 -0.2
UPI AMB AMB 15 17 54.5
comp=Z,152nm,1.8s
UPI Upington 77.03 115 P P 15 17 52.4 -0.2
comp=Z,152nm,1.8s
T26A Comanche Natio 77.09 335 ⇑P P 15 17 52.9 +0.2
baz=77,SNR=17
Q32A Meitler Ranch, 77.11 339 ⇑P P 15 17 52.5 0.0
baz=78,SNR=17
AAM Ann Arbor 77.14 351 eP P 15 17 51.4 -1.1
AAM pmax pmax
comp=Z,328nm,1.5s
AAM Ann Arbor 77.14 351 eP P 15 17 51.4 -1.1
comp=Z,328nm,1.5s
V22A San Miguel Ran 77.22 332 ⇑P P 15 17 54.4 +0.9
baz=78,SNR=30
P33A Williams Farm, 77.28 340 ⇑P P 15 17 53.5 +0.1
baz=78
X18A Snowflake 77.28 329 ⇑P P 15 17 54.4 +0.7
baz=78,SNR=20
U23A El Rito 77.31 332 ⇑P P 15 17 54.7 +0.8
baz=78,SNR=11
S27A Las Animas 77.31 335 ⇑P P 15 17 54.1 +0.3
baz=78,SNR=9.9
T25A Trinidad 77.36 334 ⇓P P 15 17 55.0 +0.8
baz=78,SNR=44
Q31A Ellis 77.38 338 ⇑P P 15 17 54.5 +0.4
baz=78,SNR=24
R29A Marienthal 77.39 337 ⇑P P 15 17 54.6 +0.4
baz=78,SNR=9.5
S26A Kim 77.45 335 ⇓P P 15 17 55.2 +0.5
baz=78,SNR=39
ACCN Adirondack Com 77.50 359 eP P 15 17 54.5 -0.1
comp=Z,359nm,1.5s
113A Mohawk Valley, 77.53 325 ⇑P P 15 17 55.8 +0.9
baz=78,SNR=8.3
R28A Tribune 77.54 336 ⇑P P 15 17 54.9 -0.1
baz=78,SNR=25
U22A Llaves 77.60 332 ⇑P P 15 17 56.6 +1.0
baz=78,SNR=16
Q30A Quinter 77.60 338 ⇓P P 15 17 55.5 +0.2
baz=78,SNR=21
Z14A Wintersburg 77.63 326 ⇑P P 15 17 56.8 +1.2
baz=78,SNR=7.1
T24B San Luis 77.64 333 ⇑P P 15 17 56.7 +0.8
baz=78,SNR=18
W18A Petrified Fore 77.69 329 ⇓P P 15 17 56.5 +0.4
baz=78,SNR=29
W18A Petrified Fore 77.69 329 eP P 15 17 56.5 +0.4
comp=Z,197nm,1.2s
P32A Huiting Farm, 77.71 339 ⇑P P 15 17 55.7 -0.1
baz=78,SNR=8.6
Q29A Oakley 77.76 337 ⇓P P 15 17 56.1 -0.1
baz=78,SNR=9.2
HNH Hanover 77.81 360 eP P 15 17 57.0 +0.8
comp=Z,119nm,1.0s
R27A Eads 77.82 336 ⇓P P 15 17 56.7 +0.1
baz=78,SNR=29
S25A Robets Cordova 77.83 334 ⇓P P 15 17 57.4 +0.6
baz=78,SNR=30
X16A Lo Mia Camp, P 77.83 328 P P 15 17 58.0 +1.1
baz=78
P31A Stockton 77.84 339 ⇓P P 15 17 57.0 +0.3
baz=78,SNR=12
T23A Casias Ranch, 77.87 333 ⇓P P 15 17 57.6 +0.5
baz=78,SNR=10.0
R26A Arlington 78.05 335 ⇓P P 15 17 58.2 +0.3
baz=78,SNR=29
S24A Houchin Ranch, 78.09 334 ⇑P P 15 17 59.2 +0.8
baz=78,SNR=25
NCB Newcomb 78.09 358 eP P 15 17 58.2 +0.4
comp=Z,89nm,1.1s
MDV Middlebury 78.11 359 eP P 15 17 57.6 -0.3
P30A Selden 78.13 338 ⇑P P 15 17 58.7 +0.4
baz=78,SNR=6.6
Y14A Wickenburg 78.14 326 ⇓P P 15 17 59.1 +0.7
baz=78,SNR=22
GRM Grahamstown 78.16 122 eP P 15 17 59.4 +0.6
GRM AMB AMB 15 18 14.5
comp=Z,146nm,5.0s
GRM Grahamstown 78.16 122 P P 15 17 59.4 +0.6
GRM pmax pmax
comp=Z,146nm,5.0s
GRM Grahamstown 78.16 122 P P 15 17 59.4 +0.6
comp=Z,146nm,5.0s
Q28A Sharon Springs 78.19 337 ⇓P P 15 17 59.2 +0.5
baz=78,SNR=12
O32A Brockman Farm, 78.21 340 ⇑P P 15 17 58.8 +0.2
baz=79,SNR=8.1
R25A Fountain Ranch 78.21 335 ⇑P P 15 17 59.0 +0.2
baz=78,SNR=9.7
GLA Glamis 78.27 324 eP P 15 17 59.9 +0.7
GLA pmax pmax
comp=Z,191nm,1.5s
GLA Glamis 78.27 324 ⇑P P 15 18 00.2 +1.1
baz=79,SNR=10
GLA Glamis 78.27 324 eP P 15 17 59.9 +0.7
comp=Z,192nm,1.5s
LBNH Lisbon 78.34 0 eP P 15 17 59.5 +0.3
LBNH pmax pmax
comp=Z,170nm,1.2s
LBNH Lisbon 78.34 0 eP P 15 17 59.5 +0.3
comp=Z,170nm,1.2s
P29A Atwood 78.40 338 ⇑P P 15 18 00.1 +0.4
baz=79,SNR=20
O31A Woolen Ranch, 78.41 339 ⇑P P 15 18 00.1 +0.3
baz=79,SNR=9.2
KSCO Kaye Shedlock' 78.41 336 ⇑P P 15 18 00.5 +0.6
baz=79,SNR=9.9
KSCO Kaye Shedlock' 78.41 336 eP P 15 18 00.3 +0.4
comp=Z,330nm,1.4s
S23A Nye Farm, Mont 78.44 333 ⇑P P 15 18 01.2 +0.9
baz=79
SCIA State Center 78.45 344 eP P 15 17 59.2 -0.7
comp=Z,441nm,1.4s
R24A Sanders Place, 78.58 334 P P 15 18 02.0 +1.0
baz=79
P28A Saint Francis 78.63 337 ⇓P P 15 18 01.8 +0.7
baz=79,SNR=9.8
Q26A Hugo 78.64 335 ⇓P P 15 18 02.0 +0.8
baz=79
SWSC Sam W. Stewart 78.65 324 ⇓P P 15 18 03.4 +2.2
baz=79,SNR=8.5
O30A MW Ranch, Wils 78.66 338 ⇓P P 15 18 01.4 +0.3
baz=79,SNR=11
N32A Stulken Farm, 78.68 340 ⇑P P 15 18 01.6 +0.4
baz=79
WVL Waterville 78.69 2 eP P 15 18 01.5 +0.4
comp=Z,241nm,1.2s
Y12C Blythe 78.69 325 ⇑P P 15 18 02.2 +0.8
baz=79,SNR=18
PTN Potsdam (NY) 78.71 358 eP P 15 18 01.0 -0.3
PTN pmax pmax
comp=Z,304nm,1.3s
PTN Potsdam (NY) 78.71 358 eP P 15 18 01.0 -0.3
comp=Z,304nm,1.3s
WUAZ Wupatki 78.73 328 ⇑P P 15 18 02.7 +0.9
baz=79,SNR=26
WUAZ Wupatki 78.73 328 eP P 15 18 02.4 +0.6
comp=Z,199nm,1.4s
LONY Lake Ozonia 78.75 358 eP P 15 18 01.1 -0.3
comp=Z,192nm,1.3s
S22A 4UR Ranch, Cre 78.79 333 ⇑P P 15 18 02.6 +0.3
baz=79,SNR=14
JFWS Jewell Farm 78.80 346 eP P 15 18 00.9 -0.9
JFWS pmax pmax
comp=Z,477nm,1.5s
JFWS Jewell Farm 78.80 346 eP P 15 18 00.9 -0.9
comp=Z,477nm,1.5s
R23A Moffat 78.81 333 ⇓P P 15 18 02.8 +0.5
baz=79,SNR=17
O29A 4D Ranch, Culb 78.83 338 ⇓P P 15 18 02.9 +0.8
baz=79,SNR=9.2
BAR Barrett 78.87 323 eP P 15 18 03.4 +0.9
comp=Z,52nm,1.0s
Q25A Bedland, Calha 78.88 335 ⇓P P 15 18 02.9 +0.3
baz=79,SNR=6.6
P27A Ficken Ranch, 78.89 336 ⇓P P 15 18 02.6 +0.1
baz=79,SNR=7.7
MONP Monument Peak, 78.91 323 ⇑P P 15 18 04.4 +1.5
baz=79,SNR=8.9
N31A Bailey Ranch, 78.92 340 ⇓P P 15 18 02.6 +0.1
baz=79,SNR=5.9
HVD Gariep Dam 78.93 119 eP P 15 18 02.9 -0.3
HVD AMB AMB 15 18 04.4
comp=Z,213nm,1.2s
HVD Gariep Dam 78.93 119 P P 15 18 02.9 -0.3
HVD pmax pmax
comp=Z,213nm,1.2s
HVD Gariep Dam 78.93 119 P P 15 18 02.9 -0.3
comp=Z,213nm,1.2s
PDMCI Parker Dam,Lak 78.97 326 ⇓P P 15 18 03.8 +0.9
baz=79,SNR=7.0
MVCO Mesa Verde 78.98 331 ⇑P P 15 18 03.8 +0.6
baz=79,SNR=20
MVCO Mesa Verde 78.98 331 eP P 15 18 03.6 +0.4
comp=Z,170nm,1.3s
BC3 Big Chuckawall 79.06 324 ⇑P P 15 18 04.4 +0.8
baz=79,SNR=19
TSUM Tsumeb 79.08 106 P P 15 18 05.4 +1.2
comp=Z,50nm,1.0s,baz=232,slow=5.7,SNR=28
TSUM Tsumeb 79.08 106 eP P 15 18 04.4 +0.1
comp=Z,154nm,1.3s
O28A Krutsinger Ran 79.14 337 ⇓P P 15 18 04.2 +0.4
baz=80,SNR=13
P26A Davis Ranch, A 79.15 336 ⇑P P 15 18 04.3 +0.3
baz=80,SNR=9.7
BGNE Belgrade 79.23 340 ⇑P P 15 18 04.3 +0.1
baz=80,SNR=9.1
BGNE Belgrade 79.23 340 eP P 15 18 04.1 -0.2
comp=Z,349nm,1.3s
Q24A Divide 79.24 334 ⇓P P 15 18 05.2 +0.5
baz=80,SNR=38
109C Camp Elliot, M 79.25 323 ⇓P P 15 18 05.4 +0.9
baz=80
IRM Iron Mountain 79.33 325 ⇓P P 15 18 05.5 +0.6
baz=80,SNR=16
P25A Willow Gulch B 79.39 335 ⇑P P 15 18 06.1 +0.8
baz=80,SNR=13
PKME Peaks-Kenny Pk 79.40 2 eP P 15 18 05.3 +0.3
comp=Z,77nm,1.1s
M31A Lambtecht Ranc 79.41 340 ⇑P P 15 18 05.9 +0.7
baz=80,SNR=14
N29A Votaw Ranch, W 79.41 338 ⇑P P 15 18 06.0 +0.7
baz=80,SNR=8.3
O27A Beecher Island 79.43 337 ⇓P P 15 18 06.2 +0.7
baz=80,SNR=11
W13A Hualapai Mount 79.51 326 ⇑P P 15 18 07.0 +0.9
baz=80,SNR=18
PFO Pinyon Flats O 79.51 324 P P 15 18 07.1 +1.0
comp=Z,509nm,1.0s,SNR=9.4
PFO Pinyon Flats O 79.51 324 P P 15 18 07.4 +1.4
comp=Z,510nm,1.1s,SNR=9.4
PFO Pinyon Flats O 79.51 324 eP P 15 18 07.4 +1.4
PFO pmax pmax
comp=Z,122nm,1.1s
PFO Pinyon Flats O 79.51 324 P P 15 18 07.7 +1.7
comp=Z,77nm,1.2s,baz=125,slow=5.5,SNR=19
PFO Pinyon Flats O 79.51 324 ⇓P P 15 18 07.8 +1.7
baz=80,SNR=19
PFO Pinyon Flats O 79.51 324 eP P 15 18 07.4 +1.4
comp=Z,122nm,1.1s
CASY Casey 79.55 181 eP P 15 18 05.7 0.0
comp=Z,148nm,1.1s
NEE2 Needles Airpor 79.57 325 ⇓P P 15 18 07.3 +1.1
baz=80
N28A Pribbeno Ranch 79.58 338 ⇓P P 15 18 07.0 +0.8
baz=80,SNR=8.6
BELC Belle Mtn. Jos 79.61 324 ⇑P P 15 18 07.4 +0.8
baz=80,SNR=8.9
P24A Kohler Place, 79.65 335 ⇓P P 15 18 08.0 +1.2
baz=80
O26A Horse Wrangler 79.75 336 ⇑P P 15 18 08.3 +1.1
baz=80,SNR=13
M30A Dale-Ortello V 79.85 339 ⇓P P 15 18 08.7 +1.1
baz=80
BOSA Boshof 79.85 118 eP P 15 18 08.2 0.0
BOSA AMB AMB 15 18 08.9
comp=Z,182nm,1.2s
BOSA Boshof 79.85 118 eP P 15 18 08.2 0.0
BOSA pmax pmax
comp=Z,176nm,1.0s
BOSA Boshof 79.85 118 P P 15 18 08.3 0.0
comp=Z,128nm,0.9s,baz=233,slow=5.8,SNR=65
BOSA Boshof 79.85 118 eP P 15 18 08.2 0.0
comp=Z,176nm,1.0s
P23A Jefferson 79.85 334 ⇓P P 15 18 09.2 +1.2
baz=80
MURC Murrieta 79.87 323 ⇑P P 15 18 09.3 +1.4
baz=80,SNR=16
O25A Wiggins 79.91 336 ⇑P P 15 18 08.8 +0.7
baz=80,SNR=11
N27A Anderson Farm, 80.00 337 ⇓P P 15 18 09.3 +0.7
baz=80,SNR=13
M29A Burnside Ranch 80.00 339 ⇑P P 15 18 09.5 +1.0
baz=80
SCI San Clemente I 80.06 322 ⇓P P 15 18 10.0 +1.1
baz=80
LDFC Landfair 80.06 325 eP P 15 18 10.3 +1.3
GMRC Granite Mounta 80.08 325 ⇑P P 15 18 09.8 +0.7
baz=80,SNR=25
SMCO Snowmass 80.10 333 eP P 15 18 10.0 +0.5
comp=Z,162nm,1.3s
L31A Butterfield Fa 80.14 340 ⇓P P 15 18 09.7 +0.6
baz=80,SNR=29
ISCO Idaho Springs 80.15 334 eP P 15 18 09.6 0.0
ISCO pmax pmax
comp=Z,153nm,1.5s
ISCO Idaho Springs 80.15 334 ⇑P P 15 18 09.9 +0.3
baz=80,SNR=16
ISCO Idaho Springs 80.15 334 eP P 15 18 09.6 0.0
comp=Z,153nm,1.5s
PV04 Paradox Valley 80.16 331 eP P 15 18 10.5 +0.9
M28A Bar X Bar Ranc 80.17 338 ⇓P P 15 18 09.8 +0.4
baz=80,SNR=5.9
L30A Spencer Herefo 80.18 339 ⇑P P 15 18 10.1 +0.7
baz=80,SNR=10
O24A Longmont 80.25 335 ⇑P P 15 18 11.1 +1.2
baz=81
N26A Koester Ranch, 80.25 337 ⇑P P 15 18 10.6 +0.7
baz=81,SNR=5.1
BBRC Big Bear Solar 80.27 324 ⇑P P 15 18 11.4 +1.2
baz=81
CIS Catalina Islan 80.32 322 ⇑P P 15 18 11.8 +1.4
baz=81
P22A Eagle 80.39 333 ⇑P P 15 18 11.5 +0.7
baz=81,SNR=14
HEC Hector,Ludlow 80.44 324 ⇓P P 15 18 12.3 +1.3
baz=81,SNR=19
L29A Maesberg Ranch 80.51 339 ⇑P P 15 18 12.0 +0.8
baz=81,SNR=14
M27A Reverse DX Ran 80.61 337 ⇑P P 15 18 13.1 +1.4
baz=81
BFSC Mount Baldy Ra 80.61 323 ⇑P P 15 18 13.2 +1.2
baz=81,SNR=19
O23A Lake Granby, G 80.62 334 ⇓P P 15 18 13.0 +0.9
baz=81,SNR=17
SWZ Schweizer 80.70 116 eP P 15 18 11.5 -1.4
SWZ AMB AMB 15 18 46.4
comp=Z,223nm,4.7s
SWZ Schweizer 80.70 116 P P 15 18 11.5 -1.4
comp=Z,223nm,4.7s
TUQ Turquoise Moun 80.73 325 ⇑P P 15 18 13.5 +0.8
baz=81,SNR=28
L28A Connealy Angus 80.77 338 ⇑P P 15 18 13.5 +0.9
baz=81
M26A McRoberts Ranc 80.80 337 ⇓P P 15 18 13.9 +1.1
baz=81
MWC Mount Wilson 80.80 323 eP P 15 18 13.6 +0.5
MWC pmax pmax
comp=Z,82nm,1.1s
MWC Mount Wilson 80.80 323 eP P 15 18 13.6 +0.5
comp=Z,82nm,1.1s
RRX Edison Barstow 80.80 324 ⇑P P 15 18 14.5 +1.7
baz=81
N24A Carr 80.81 335 ⇑P P 15 18 13.6 +0.6
baz=81,SNR=9.2
O22A Kremmling 80.81 334 ⇓P P 15 18 13.9 +0.8
baz=81,SNR=16
K30A Basset 80.82 340 ⇓P P 15 18 13.2 +0.5
baz=81,SNR=23
PASC Pasadena Art C 80.82 323 eP P 15 18 13.5 +0.5
comp=Z,116nm,1.3s
DECC Green Verdugo 80.95 323 ⇑P P 15 18 15.2 +1.5
baz=81
ECSD EROS Data Cent 81.00 342 ⇓P P 15 18 13.7 0.0
baz=81,SNR=36
ECSD EROS Data Cent 81.00 342 eP P 15 18 12.7 -1.0
comp=Z,222nm,1.0s
GSC Goldstone, Bar 81.05 324 eP P 15 18 15.1 +0.8
GSC pmax pmax
comp=Z,160nm,1.5s
GSC Goldstone, Bar 81.05 324 ⇓P P 15 18 15.0 +0.8
baz=81,SNR=15
GSC Goldstone, Bar 81.05 324 eP P 15 18 15.1 +0.8
comp=Z,160nm,1.5s
M25A Palm-Egli Farm 81.07 336 ⇓P P 15 18 14.8 +0.5
baz=81,SNR=10
L27A T5 Ranch, Ells 81.09 338 ⇑P P 15 18 15.1 +0.7
baz=81,SNR=14
K29A Lazy Trails An 81.10 339 ⇑P P 15 18 14.9 +0.6
baz=82,SNR=8.4
N23A Red Feather La 81.23 335 ⇑P P 15 18 15.9 +0.5
baz=82,SNR=10
SHPR Sheep Range 81.25 326 eP P 15 18 08.4 -7.0
EDW2 Edwards Air Fo 81.29 323 ⇓P P 15 18 16.0 +0.5
baz=82,SNR=16
L26A Underwood Farm 81.29 337 ⇓P P 15 18 16.0 +0.6
baz=82
N22A Wattenberg Ran 81.34 334 ⇓P P 15 18 16.6 +0.8
baz=82,SNR=12
M24A Cheyenne 81.36 336 ⇓P P 15 18 16.4 +0.5
baz=82,SNR=18
K28A Ten Mile Ranch 81.37 339 ⇑P P 15 18 16.5 +0.8
baz=82,SNR=15
J30A Dallas 81.38 340 ⇑P P 15 18 15.7 0.0
baz=82,SNR=13
O20A White River Ci 81.41 333 ⇓P P 15 18 16.5 +0.3
baz=82,SNR=11
O20A White River Ci 81.41 333 eP P 15 18 15.8 -0.4
comp=Z,206nm,1.6s
BSC Santa Cruz Isl 81.41 322 ⇑P P 15 18 17.4 +1.3
baz=82
SRU San Rafael Swe 81.42 331 eP P 15 18 16.4 +0.1
SRU pmax pmax
comp=Z,101nm,1.3s
SRU San Rafael Swe 81.42 331 eP P 15 18 16.4 +0.1
comp=Z,101nm,1.3s
PHWY Pilot Hill 81.42 335 eP P 15 18 16.2 -0.2
comp=Z,197nm,1.5s
RUDU RUNDU 81.48 106 eP P 15 18 16.5 -0.7
RUDU AMB AMB 15 18 28.4
comp=Z,214nm,1.3s
RUDU RUNDU 81.48 106 P P 15 18 16.5 -0.7
comp=Z,214nm,1.3s
SPMN Marine on St. 81.53 345 ⇓P P 15 18 15.5 -0.9
baz=82,SNR=14
SPMN Marine on St. 81.53 345 eP P 15 18 15.1 -1.3
comp=Z,101nm,1.0s
MVU Marysvale 81.61 329 eP P 15 18 18.1 +0.8
comp=Z,110nm,1.3s
LRMC Laurel Mtn Rad 81.62 324 ⇑P P 15 18 18.1 +0.8
baz=82,SNR=14
K27A Flueckinger Fa 81.63 338 ⇑P P 15 18 17.4 +0.3
baz=82,SNR=12
M23A Laramie 81.67 335 ⇑P P 15 18 17.9 +0.3
baz=82,SNR=16
L25A Engebretsen Ra 81.68 337 ⇓P P 15 18 18.0 +0.5
baz=82,SNR=8.1
J29A Okreek 81.70 340 ⇓P P 15 18 17.5 +0.1
baz=82,SNR=46
SEK Senekal 81.74 119 eP P 15 18 17.1 -1.3
SEK AMB AMB 15 18 19.1
comp=Z,176nm,0.8s
SEK Senekal 81.74 119 P P 15 18 17.1 -1.3
comp=Z,176nm,0.8s
KSD Kokstad 81.76 121 eP P 15 18 17.1 -1.4
KSD AMB AMB 15 18 43.6
comp=Z,53nm,6.0s
KSD Kokstad 81.76 121 P P 15 18 17.1 -1.4
comp=Z,53nm,6.0s
TMUT Trail Mountain 81.86 330 eP P 15 18 19.6 +0.9
comp=Z,150nm,1.5s
L24A Wheatland 81.91 336 ⇑P P 15 18 19.0 +0.3
baz=82,SNR=6.0
I30A Oacoma 81.91 340 ⇓P P 15 18 18.3 -0.2
baz=82,SNR=15
M22A Cedar Creek Ra 81.92 334 ⇑P P 15 18 19.6 +0.7
baz=82
K26A Motz Farm, Whi 81.92 337 ⇓P P 15 18 18.8 +0.1
baz=82,SNR=9.3
J28A Allard Ranch, 81.98 339 ⇑P P 15 18 19.5 +0.6
baz=82,SNR=23
FURC Furnace Creek, 82.02 325 ⇓P P 15 18 20.2 +1.1
baz=82,SNR=9.9
N20A Spence Gulch, 82.03 333 ⇓P P 15 18 19.9 +0.4
baz=82
J27A Elkhorn Farm, 82.05 338 ⇓P P 15 18 20.0 +0.7
baz=82,SNR=30
K25A Mack Ranch, Ha 82.06 337 ⇓P P 15 18 20.1 +0.6
baz=82,SNR=7.5
LBTB Lobatse 82.11 115 eP P 15 18 19.4 -0.9
LBTB AMB AMB 15 18 30.5
comp=Z,159nm,1.8s
LBTB Lobatse 82.11 115 eP P 15 18 20.0 -0.3
LBTB pmax pmax
comp=Z,112nm,0.8s
LBTB Lobatse 82.11 115 P P 15 18 20.2 -0.1
comp=Z,86nm,0.8s,baz=254,slow=6.0,SNR=72
LBTB Lobatse 82.11 115 eP P 15 18 20.0 -0.3
comp=Z,112nm,0.8s
ISA Isabella, Lake 82.15 323 eP P 15 18 20.7 +0.7
ISA pmax pmax
comp=Z,94nm,1.1s
ISA Isabella, Lake 82.15 323 ⇑P P 15 18 21.2 +1.1
baz=82,SNR=14
ISA Isabella, Lake 82.15 323 eP P 15 18 20.7 +0.7
comp=Z,94nm,1.1s
DAC Darwin (Calif) 82.21 324 eP P 15 18 21.3 +0.8
DAC pmax pmax
comp=Z,100nm,1.1s
DAC Darwin (Calif) 82.21 324 eP P 15 18 21.3 +0.8
comp=Z,100nm,1.1s
L23A Garrett 82.23 335 ⇑P P 15 18 20.7 +0.2
baz=83,SNR=10
I29A Vivian Onida 82.25 340 ⇓P P 15 18 20.2 -0.1
baz=83,SNR=11
BRSD Miller 82.27 341 ⇓P P 15 18 20.0 -0.4
baz=83,SNR=11
BRSD Miller 82.27 341 eP P 15 18 19.6 -0.8
comp=Z,167nm,0.9s
BFZ Birch Farm 82.34 225 eP P 15 18 22.9 +1.8
comp=Z,953nm,2.5s
L22A Ellis Ranch, M 82.41 335 ⇑P P 15 18 22.0 +0.6
baz=83
J26A Sides Ranch, S 82.44 338 ⇑P P 15 18 21.9 +0.5
baz=83,SNR=20
K24A Anderson Ranch 82.47 336 ⇑P P 15 18 22.1 +0.4
baz=83,SNR=11
I28A Midland 82.48 339 ⇑P P 15 18 21.6 +0.1
baz=83,SNR=24
VES Vestal, Richgr 82.59 323 ⇑P P 15 18 23.0 +0.8
baz=83,SNR=15
KSR Koster 82.60 116 eP P 15 18 19.6 -3.4
KSR AMB AMB 15 18 25.2
comp=Z,83nm,8.1s
KSR Koster 82.60 116 P P 15 18 19.6 -3.4
comp=Z,83nm,8.1s
ODZ Otahua Downs 82.61 219 eP P 15 18 23.6 +1.1
comp=Z,112nm,1.3s
H07S1 FLORES T-PHASE 82.62 31 eP P 15 18 21.5 -0.8
SMMC Simmler 82.63 322 ⇑P P 15 18 23.9 +1.4
baz=83
MPU Maple Canyon 82.64 330 eP P 15 18 23.2 +0.5
comp=Z,149nm,1.4s
WDLM Western Deep L 82.67 117 eP P 15 18 18.9 -4.5
WDLM AMB AMB 15 18 19.9
comp=Z,326nm,5.0s
GRAC Grapevine Rang 82.68 325 ⇓P P 15 18 23.7 +0.9
baz=83
J25A Sunshine Ranch 82.74 337 ⇓P P 15 18 23.1 +0.1
baz=83,SNR=12
K23A Bowen Ranch, D 82.77 336 ⇓P P 15 18 23.5 +0.3
baz=83,SNR=12
NLU North Lily Min 82.77 330 eP P 15 18 24.0 +0.7
comp=Z,184nm,1.6s
H29A Onida 82.78 340 ⇑P P 15 18 22.9 -0.1
baz=83,SNR=22
I27A Quinn 82.81 339 ⇑P P 15 18 23.4 +0.2
baz=83,SNR=14
DAU Daniels Canyon 82.83 331 eP P 15 18 21.6 -2.2
DAU Daniels Canyon 82.83 331 eP P 15 18 21.6 -2.2
R11A Troy Canyon, C 82.95 327 ⇓P P 15 18 25.3 +1.0
baz=83,SNR=27
R11A Troy Canyon, C 82.95 327 eP P 15 18 25.0 +0.7
comp=Z,80nm,1.1s
G30A Faulkton 82.95 341 ⇑P P 15 18 23.7 -0.2

baz=83,SNR=12
J24A Dixon Ranch, L 82.96 337 ⇑P P 15 18 24.4 +0.2
baz=83,SNR=13
K22A Casper 82.99 335 ⇑P P 15 18 24.5 +0.2
baz=83,SNR=12
K22A Casper 82.99 335 eP P 15 18 25.0 +0.7
comp=Z,376nm,1.5s
I26A New Underwood 83.02 338 ⇓P P 15 18 24.3 -0.1
baz=83,SNR=8.8
RCTC Rector, Farmer 83.04 323 ⇑P P 15 18 24.4 -0.1
baz=83
H28A Mission Ridge 83.06 340 ⇓P P 15 18 24.2 -0.3
baz=83,SNR=18
JLU Jordanelle 83.06 331 eP P 15 18 25.0 +0.1
comp=Z,130nm,1.5s
PCED Cedros 83.08 33 eP P 15 18 24.9 +0.2
comp=Z,275nm,1.1s
TIN Tinemaha, Big 83.14 324 ⇓P P 15 18 26.2 +1.0
baz=83,SNR=5.4
BKZ Black Stump Fm 83.15 227 eP P 15 18 26.9 +1.5
comp=Z,121nm,1.3s
CRWM Crown Mines 83.21 117 eP P 15 18 26.3 +0.2
CRWM AMB AMB 15 18 26.5
comp=Z,128nm,1.5s
G29A Hoven 83.22 341 ⇑P P 15 18 25.7 +0.4
baz=84
K21A Alcova 83.23 335 ⇑P P 15 18 26.2 +0.6
baz=84,SNR=14
CTU Camp Tracy 83.26 331 eP P 15 18 26.8 +0.9
comp=Z,31nm,1.0s
DUG Dugway, Tooele 83.28 330 eP P 15 18 26.5 +0.6
DUG pmax pmax
comp=Z,168nm,1.3s
DUG Dugway, Tooele 83.28 330 ⇓P P 15 18 26.3 +0.4
baz=84,SNR=34
DUG Dugway, Tooele 83.28 330 eP P 15 18 26.5 +0.6
comp=Z,168nm,1.3s
I25A Rochford 83.28 338 P P 15 18 26.0 +0.1
baz=84
OBSV Observatory 83.28 117 eP P 15 18 25.3 -1.2
OBSV AMB AMB 15 18 27.6
comp=Z,88nm,1.4s
RPZ Rata Peaks 83.29 221 eP P 15 18 26.3 +0.3
comp=Z,204nm,1.1s
ERPM east rand prop 83.32 117 eP P 15 18 23.6 -3.0
ERPM AMB AMB 15 18 30.6
comp=Z,156nm,10.9s
ERPM east rand prop 83.32 117 P P 15 18 23.6 -3.0
H27A Howes 83.33 339 ⇓P P 15 18 25.9 0.0
baz=84,SNR=17
URZ Urewera 83.34 228 P P 15 18 25.9 -0.5
comp=Z,41nm,1.0s,baz=78,slow=1.2,SNR=8.3
URZ Urewera 83.34 228 eP P 15 18 24.9 -1.5
comp=Z,115nm,1.4s
ROSA Rosais 83.36 33 eP P 15 18 26.7 +0.5
comp=Z,313nm,1.9s
G28A Parade 83.39 340 ⇓P P 15 18 26.5 +0.2
baz=84
TOPO Topo 83.41 33 eP P 15 18 25.5 -1.0
WHZ Wether Hill Ro 83.42 217 eP P 15 18 27.2 +0.6
comp=Z,167nm,1.5s
I24A Kuemmerle Ranc 83.42 337 ⇓P P 15 18 26.1 -0.4
baz=84,SNR=11
RSSD Black Hills 83.47 337 eP P 15 18 26.5 -0.4
RSSD pmax pmax
comp=Z,52nm,1.1s
RSSD Black Hills 83.47 337 eP P 15 18 26.5 -0.4
comp=Z,52nm,1.1s
PSMN Pico do Norte, 83.47 36 eP P 15 18 25.8 -1.0
comp=Z,431nm,1.1s
TPH Tonopah 83.48 326 eP P 15 18 27.8 +0.7
TPH pmax pmax
comp=Z,101nm,1.0s
TPH Tonopah 83.48 326 eP P 15 18 27.8 +0.7
comp=Z,101nm,1.0s
MTUM Tungsten Hills 83.54 324 eP P 15 18 24.5 -2.9
F30A Leola 83.58 341 ⇑P P 15 18 27.1 0.0
baz=84
J22A Midwest 83.64 335 ⇑P P 15 18 27.3 -0.5
baz=84,SNR=7.2
SLR Silverton 83.69 117 eP P 15 18 26.2 -2.4
SLR AMB AMB 15 18 29.3
comp=Z,176nm,2.1s
SLR Silverton 83.69 117 P P 15 18 26.2 -2.4
SLR pmax pmax
comp=Z,176nm,2.1s
SLR Silverton 83.69 117 P P 15 18 26.2 -2.4
comp=Z,176nm,2.1s
PGRA Graciosa 83.73 33 eP P 15 18 27.2 -0.9
comp=Z,168nm,1.1s
H25A Fruitdale 83.78 338 ⇓P P 15 18 28.3 0.0
baz=84,SNR=9.2
F29A Eureka 83.79 341 ⇓P P 15 18 28.3 +0.1
baz=84,SNR=14
PSET Sete Cidades 83.81 35 eP P 15 18 26.9 -1.6
comp=Z,803nm,1.5s
GRON Grota Negra 83.85 35 eP P 15 18 28.9 +0.1
comp=Z,49nm,1.0s
EYMN Ely 83.88 347 eP P 15 18 28.3 -0.3
comp=Z,153nm,1.3s
J21A Lysite 83.92 335 ⇓P P 15 18 29.0 -0.1
baz=84,SNR=5.7
G27A Dupree 83.97 339 ⇑P P 15 18 28.9 -0.3
baz=84,SNR=6.4
BGU Big Grassy Mou 83.98 330 eP P 15 18 29.0 -0.5
comp=Z,62nm,1.5s
I22A 9 Mile Ranch, 84.07 336 ⇑P P 15 18 29.5 -0.3
baz=84,SNR=15
F28A McLaughlin 84.07 340 ⇑P P 15 18 29.4 -0.3
baz=84,SNR=12
G26A Maurine 84.08 339 ⇑P P 15 18 29.6 -0.2
baz=84,SNR=15
J20A Shoshoni 84.15 334 ⇓P P 15 18 30.7 +0.4
baz=84,SNR=20
E30A Jud 84.17 342 ⇑P P 15 18 29.9 -0.2
baz=84,SNR=19
BW06 Boulder Array 84.18 333 eP P 15 18 30.1 -0.5
comp=Z,127nm,1.6s
PDAR Pinedale Array 84.18 333 P P 15 18 30.4 -0.2
comp=Z,12nm,0.8s,baz=147,slow=4.5,SNR=21
PDAR PKKP PKKPbc 15 36 43.4 -2.0
comp=Z,0.9nm,0.9s,baz=113,slow=1.4,SNR=4.4
H24A Dirks Ranch, A 84.19 337 ⇓P P 15 18 30.0 -0.4
baz=84,SNR=11
G25A Newell 84.24 338 ⇑P P 15 18 30.5 -0.1
baz=85,SNR=16
NVAR Mina Array Bea 84.27 325 P P 15 18 31.6 +0.5
comp=Z,16nm,1.0s,baz=150,slow=5.6,SNR=27
NVAR P4KPbc 15 54 34.5
comp=Z,0.4nm,0.9s,baz=188,slow=6.2,SNR=3.7
I21A Big Trails, Te 84.28 335 ⇑P P 15 18 30.3 -0.6
baz=85,SNR=18
DRLN Deer Lake 84.36 10 eP P 15 18 30.6 -0.3
comp=Z,212nm,1.1s
TORD Torodi Ar. Bea 84.37 70 P P 15 18 31.4 -0.5
comp=Z,60nm,0.9s,baz=281,slow=6.1,SNR=125
E29A Napoleon 84.42 341 ⇑P P 15 18 30.9 -0.5
baz=85,SNR=10
J19A Crowheart 84.43 334 ⇑P P 15 18 31.4 -0.4
baz=85,SNR=15
F27A Lemmon 84.44 339 ⇓P P 15 18 31.3 -0.3
baz=85,SNR=15
SAO San Andreas Ge 84.50 322 eP P 15 18 31.6 -0.4
SAO pmax pmax
comp=Z,200nm,2.1s
SAO San Andreas Ge 84.50 322 eP P 15 18 31.6 -0.4
comp=Z,200nm,2.1s
HVU Hansel Valley 84.59 331 eP P 15 18 31.1 -1.5
HVU pmax pmax
comp=Z,293nm,1.6s
HVU Hansel Valley 84.59 331 eP P 15 18 31.1 -1.5
comp=Z,293nm,1.6s
F26A Lodgepole 84.61 339 ⇓P P 15 18 32.0 -0.4
baz=85,SNR=12
H22A Clearmont 84.65 336 ⇑P P 15 18 32.2 -0.5
baz=85,SNR=10.0
G24A Alzada 84.67 338 ⇓P P 15 18 32.2 -0.6
baz=85,SNR=8.7
D30A Buchanan 84.69 342 ⇓P P 15 18 32.4 -0.4
baz=85,SNR=18
I20A Worland 84.69 335 ⇓P P 15 18 32.7 -0.3
baz=85,SNR=21
E28A Huff 84.71 341 ⇑P P 15 18 32.4 -0.5
baz=85,SNR=12
ELK Elko 84.76 329 P P 15 18 32.9 -0.7
ELK pmax pmax
comp=Z,30nm,1.1s
ELK Elko 84.76 329 P P 15 18 32.9 -0.7
comp=Z,30nm,1.1s,baz=172,slow=1.8,SNR=24
ELK Elko 84.76 329 eP P 15 18 26.4 -7.1
comp=Z,68nm,1.1s
AHID Auburn Hatcher 84.77 332 eP P 15 18 32.0 -1.4
comp=Z,287nm,1.8s
E27A Carson 84.82 340 ⇓P P 15 18 32.3 -1.2
baz=85
D29A Pettibone, Tap 84.86 341 ⇓P P 15 18 33.2 -0.4
baz=85,SNR=17
G23A Biddle 84.87 337 ⇓P P 15 18 33.1 -0.7
baz=85,SNR=12
WAKR Walker 84.87 325 eP P 15 18 30.2 -3.9
H21A Big Horn, Sher 84.91 336 ⇓P P 15 18 33.3 -0.8
baz=85,SNR=8.2
F25A Bowman 84.91 339 ⇑P P 15 18 33.0 -0.9
baz=85,SNR=7.7
CMB Columbia Colle 84.96 324 eP P 15 18 35.2 +0.8
CMB pmax pmax
comp=Z,49nm,1.1s
CMB Columbia Colle 84.96 324 eP P 15 18 35.2 +0.8
comp=Z,49nm,1.1s
I19A Meeteetse 85.07 334 ⇑P P 15 18 34.6 -0.4
baz=85,SNR=8.8
AGMN Agassiz Nation 85.11 344 ⇑P P 15 18 34.0 -0.8
baz=86,SNR=18
AGMN Agassiz Nation 85.11 344 eP P 15 18 33.9 -0.8
comp=Z,337nm,1.8s
E26A Carlson Angus 85.11 339 ⇑P P 15 18 34.0 -0.9
baz=86
H20A Greybull 85.11 335 ⇑P P 15 18 34.0 -1.0
baz=86,SNR=24
F24A Ekalaka 85.14 338 ⇑P P 15 18 34.5 -0.6
baz=86,SNR=9.9
C30A Mose, Pekin 85.17 342 ⇑P P 15 18 35.0 -0.1
baz=86,SNR=44
G22A Birney 85.18 336 ⇓P P 15 18 34.7 -0.6
baz=86,SNR=11
REDW Red Top Meadow 85.18 333 eP P 15 18 35.9 +0.3
comp=Z,170nm,1.5s
D28A Regan 85.24 341 ⇑P P 15 18 35.1 -0.4
baz=86,SNR=20
LOHW Long Hollow 85.30 333 eP P 15 18 33.7 -2.4
comp=Z,148nm,1.6s
TPAW Teton Pass 85.33 333 eP P 15 18 36.2 -0.2
comp=Z,72nm,1.1s
F23A Volborg 85.34 337 ⇓P P 15 18 35.4 -0.7
baz=86,SNR=24
BMN Battle Mountai 85.38 327 eP P 15 18 36.4 -0.2
BMN pmax pmax
comp=Z,33nm,1.3s
BMN Battle Mountai 85.38 327 eP P 15 18 36.4 -0.2
comp=Z,33nm,1.3s
E25A Miller Ranch, 85.42 339 ⇓P P 15 18 36.0 -0.4
baz=86,SNR=9.3
D27A Center 85.43 340 ⇓P P 15 18 35.9 -0.5
baz=86
FXWY Fox Creek 85.48 333 eP P 15 18 36.9 -0.2
comp=Z,83nm,1.7s
G21A Lodge Grass 85.49 336 ⇑P P 15 18 36.6 -0.3
baz=86,SNR=15
I17A Pilgrim Ck. 85.55 333 ⇑P P 15 18 37.5 +0.1
baz=86,SNR=17
MDND Maddock 85.59 342 ⇓P P 15 18 37.0 -0.2
baz=86,SNR=28
MDND Maddock 85.59 342 eP P 15 18 36.8 -0.4
comp=Z,290nm,1.6s
D26A Manning 85.61 340 ⇓P P 15 18 37.0 -0.4
baz=86,SNR=18
H19A Powell 85.62 335 ⇑P P 15 18 37.1 -0.6
baz=86,SNR=12
F22A Rosebud 85.66 337 ⇓P P 15 18 37.4 -0.3
baz=86,SNR=21
IMW Indian Meadow 85.67 333 eP P 15 18 38.1 0.0
comp=Z,182nm,1.5s
C28A Hausauer Farms 85.67 341 ⇓P P 15 18 37.2 -0.5
baz=86,SNR=9.8
FLWY Flagg Ranch 85.74 333 eP P 15 18 36.6 -1.7
comp=Z,277nm,1.6s
E24A Baker 85.74 338 ⇑P P 15 18 38.0 -0.1
baz=86,SNR=23
G20A Bridger 85.83 335 ⇑P P 15 18 38.3 -0.3
baz=86,SNR=24
B30A Myrvik Farm, E 85.83 343 ⇑P P 15 18 38.2 -0.2
baz=86,SNR=29
H18A Shoshone NF, C 85.87 334 ⇑P P 15 18 39.2 +0.2
baz=86,SNR=40
H17A Grant Village 85.96 333 ⇑P P 15 18 39.6 +0.1
baz=86
H17A Grant Village 85.96 333 eP P 15 18 39.3 -0.1
comp=Z,26nm,1.0s
C27A Sayler Ranch, 85.97 341 ⇓P P 15 18 39.5 +0.4
baz=86,SNR=19
D25A Fairfield 85.98 339 ⇑P P 15 18 39.8 +0.6
baz=86,SNR=8.5
F21A Absaloka Mine, 85.99 336 ⇑P P 15 18 39.2 -0.1
baz=86,SNR=8.0
E23A Ismay 86.00 338 ⇑P P 15 18 39.1 -0.2
baz=86
B29A Wagenman Farm, 86.10 342 ⇓P P 15 18 40.0 +0.3
baz=86,SNR=18
YFT Old Faithful 86.10 333 eP P 15 18 40.3 +0.1
comp=Z,46nm,0.9s
RLMT Red Lodge 86.11 335 eP P 15 18 39.8 -0.3
comp=Z,190nm,1.3s
E22A Miles City 86.15 337 ⇓P P 15 18 39.9 -0.2
baz=86,SNR=8.1
C26A Wahner Farm, P 86.24 340 ⇑P P 15 18 40.6 +0.1
baz=87,SNR=11
D24A Glendive 86.25 339 ⇑P P 15 18 41.1 +0.6
baz=87,SNR=21
YNR Norris Junctio 86.27 334 eP P 15 18 41.6 +0.7
comp=Z,87nm,1.6s
A30A Hoffart Farm, 86.28 343 ⇓P P 15 18 40.1 -0.5
baz=87,SNR=8.7
F20A Billings 86.31 336 P P 15 18 40.1 -0.9
baz=87
YMR Madison River 86.34 333 eP P 15 18 41.1 -0.2
comp=Z,181nm,1.1s
B28A Dugan Ranch, T 86.34 342 ⇑P P 15 18 40.8 -0.1
baz=87,SNR=20
LAO LASA Array 86.46 337 eP P 15 18 40.2 -1.4
C25A Freed Ranch, W 86.47 339 ⇓P P 15 18 41.8 +0.2
baz=87,SNR=7.8
A29A Manning Farm, 86.49 342 ⇓P P 15 18 41.5 -0.1
baz=87,SNR=16
OHCM Honcut 86.51 324 eP P 15 18 38.7 -3.2
B27A Peters Farms, 86.54 341 ⇓P P 15 18 41.8 -0.1
baz=87,SNR=9.9
D23A Lindsay 86.57 338 ⇓P P 15 18 42.3 +0.2
baz=87,SNR=33
E21A Keefer Ranch, 86.60 337 ⇑P P 15 18 42.4 0.0
baz=87,SNR=15
F19A Roth Farm, Mol 86.63 335 P P 15 18 42.4 -0.1
baz=87
C24A Savage 86.65 339 ⇓P P 15 18 42.7 +0.2
baz=87,SNR=27
QLMT Earthquake Lak 86.65 333 eP P 15 18 43.0 +0.2
comp=Z,9.5nm,1.3s
A28A Rude Farm, Bot 86.74 342 ⇑P P 15 18 42.9 0.0
baz=87,SNR=11
HLID Hailey 86.75 331 ⇓P P 15 18 44.0 +0.7
baz=87,SNR=17
HLID Hailey 86.75 331 eP P 15 18 43.4 +0.1
comp=Z,137nm,1.5s
B26A Jensen Ranch, 86.78 340 ⇓P P 15 18 43.1 0.0
baz=87,SNR=10.0
D22A Cohagen 86.85 337 ⇑P P 15 18 43.3 -0.2
baz=87,SNR=11
E20A Meyer Farm, Mu 86.92 336 ⇑P P 15 18 43.5 -0.4
baz=87,SNR=20
B25A Knox Farm, Ray 86.95 340 ⇑P P 15 18 43.9 0.0
baz=87,SNR=7.5
MSNA Messina 86.95 115 eP P 15 18 44.8 0.0
MSNA AMB AMB 15 18 46.8
comp=Z,103nm,13.5s
MSNA Messina 86.95 115 P P 15 18 44.8 0.0
ULM Lac du Bonnet 86.95 345 eP P 15 18 37.2 -6.7
ULM pmax pmax
comp=Z,153nm,1.3s
ULM Lac du Bonnet 86.95 345 P P 15 18 43.4 -0.4
comp=Z,78nm,1.1s,baz=165,slow=4.4,SNR=22
ULM Lac du Bonnet 86.95 345 eP P 15 18 37.1 -6.7
comp=Z,153nm,1.3s
A27A Ledoux Ranch, 87.04 341 ⇓P P 15 18 44.3 0.0
baz=87
D21A La Casta Ranch 87.04 337 ⇓P P 15 18 44.2 -0.2
baz=87,SNR=15
E19A Rath Farm, Rou 87.11 336 ⇑P P 15 18 44.4 -0.4
baz=87,SNR=24
C23A Lambert 87.12 338 ⇑P P 15 18 44.5 -0.3
baz=88,SNR=26
A26A Wade Farm, Ken 87.20 341 ⇑P P 15 18 44.7 -0.4
baz=88,SNR=11
MFID Camas Ranch 87.21 330 eP P 15 18 45.3 -0.1
comp=Z,875nm,2.9s
MOPA Mopani 87.28 117 eP P 15 18 46.6 +0.2
MOPA AMB AMB 15 18 57.0
comp=Z,123nm,3.7s
MOPA Mopani 87.28 117 P P 15 18 46.6 +0.2
comp=Z,123nm,3.7s
C22A Vida 87.29 338 ⇓P P 15 18 45.0 -0.6
baz=88,SNR=15
D20A Manuel Ranch, 87.44 336 ⇑P P 15 18 46.3 -0.1
baz=88,SNR=14
A25A Svangstu Ranch 87.54 340 ⇑P P 15 18 46.7 0.0
baz=88,SNR=25
DLMT Dillon 87.54 333 eP P 15 18 47.5 +0.5
comp=Z,168nm,1.4s
WVOR Wild Horse Val 87.62 327 eP P 15 18 47.3 -0.2
WVOR pmax pmax
comp=Z,76nm,1.3s
WVOR Wild Horse Val 87.62 327 eP P 15 18 47.2 -0.2
comp=Z,76nm,1.3s
B23A Brockton 87.65 339 ⇓P P 15 18 47.3 -0.1
baz=88,SNR=12
C21A Desert Coulee 87.74 337 P P 15 18 47.5 -0.3
baz=88
D19A Cripps Ranch, 87.75 336 ⇑P P 15 18 47.5 -0.4
baz=88,SNR=12
A24A Westby 87.78 340 ⇓P P 15 18 47.9 -0.1
baz=88,SNR=12
B22A Reddig Ranch S 87.81 338 ⇑P P 15 18 48.2 0.0
baz=88,SNR=30
KIPM Iron Peak 87.86 323 eP P 15 18 49.8 +1.2
comp=Z,153nm,1.5s
LRM Limekiln Ridge 87.87 333 eP P 15 18 48.5 -0.2
C20A Veseth Ranch, 87.94 337 ⇑P P 15 18 48.6 -0.1
baz=88,SNR=16
MOD Modoc Plateau 87.96 326 eP P 15 18 49.0 -0.1
comp=Z,77nm,1.0s
WDC Whiskeytown Da 87.99 324 eP P 15 18 47.6 -1.5
WDC pmax pmax
comp=Z,78nm,0.9s
WDC Whiskeytown Da 87.99 324 eP P 15 18 47.6 -1.5
comp=Z,78nm,0.9s
A23A Redstone 88.06 339 ⇑P P 15 18 49.0 -0.3
baz=88,SNR=6.9
B21A Ellsworth Farm 88.25 338 ⇓P P 15 18 50.1 -0.1
baz=89,SNR=17
KMRM Mail Ridge 88.29 323 eP P 15 18 53.0 +2.4
comp=Z,128nm,1.3s
C19A Slack Wire Ran 88.30 336 ⇑P P 15 18 50.4 -0.1
baz=89,SNR=7.0
N02D Trinity Center 88.37 324 ⇑P P 15 18 51.1 +0.1
baz=89,SNR=6.1
HRY Holter Researc 88.40 334 eP P 15 18 50.5 -0.5
comp=Z,102nm,1.7s
A22A Carney Farms, 88.40 338 ⇑P P 15 18 51.1 +0.2
baz=89,SNR=24
B20A Solberg Farm, 88.58 337 ⇑P P 15 18 51.6 -0.1
baz=89,SNR=11
M04C Macdoel 88.58 325 ⇓P P 15 18 52.3 +0.3
baz=89,SNR=12
A21A Bergtoll Ranch 88.71 338 ⇑P P 15 18 52.3 -0.1
baz=89,SNR=7.4
M02C Callahan 88.76 324 ⇑P P 15 18 52.7 -0.1
baz=89,SNR=6.5
EGMT Eagleton 88.79 336 ⇓P P 15 18 52.5 -0.3
baz=89
KHMM Horse Mountain 88.79 323 eP P 15 18 55.2 +2.1
comp=Z,76nm,1.1s
HOG Hogback Mounta 88.87 326 P P 15 18 54.5 +1.0
K05A Summer Lake 88.87 326 eP P 15 18 54.5 +1.0
comp=Z,118nm,1.1s
B19A Brinkman Farms 88.89 336 ⇑P P 15 18 53.1 -0.1
baz=89,SNR=21
A20A Cobblestone Ra 88.93 337 ⇓P P 15 18 53.4 0.0
baz=89,SNR=21
YBH Yreka Blue Hor 88.95 325 eP P 15 18 53.0 -0.7
YBH pmax pmax
comp=Z,133nm,1.8s
YBH Yreka Blue Hor 88.95 325 eP P 15 18 53.0 -0.7
comp=Z,133nm,1.8s
BMO Blue Mountains 88.99 330 eP P 15 18 53.6 -0.3
BMO pmax pmax
comp=Z,81nm,1.6s
BMO Blue Mountains 88.99 330 eP P 15 18 53.6 -0.3
comp=Z,81nm,1.6s
SCHQ Schefferville 89.06 3 P P 15 18 53.2 -0.5
comp=Z,30nm,1.1s,baz=139,slow=1.9,SNR=13
SCHQ Schefferville 89.06 3 eP P 15 18 53.3 -0.5
comp=Z,184nm,1.5s
CHMT Chamberlain Mo 89.09 333 eP P 15 18 53.8 -0.6
comp=Z,40nm,1.6s
K04D Chiloquin, OR 89.19 326 ⇑P P 15 18 55.1 +0.2
baz=90,SNR=5.1
A19A Klindworth Far 89.24 337 ⇑P P 15 18 54.7 -0.1
baz=90,SNR=12
MSO Missoula 89.28 333 ⇑P P 15 18 55.5 +0.3
baz=90,SNR=5.8
MSO Missoula 89.28 333 eP P 15 18 55.7 +0.6
comp=Z,70nm,1.6s
I07A Izee 89.32 328 eP P 15 18 56.1 +0.7
comp=Z,137nm,1.6s
SLMT Seeley Lake 89.46 333 eP P 15 18 55.8 -0.3
J05D Fort Rock, OR 89.47 326 ⇑P P 15 18 56.8 +0.7
baz=90,SNR=7.9
LSZ Lusaka 89.66 108 eP P 15 18 59.2 +1.4
LSZ pmax pmax
comp=Z,73nm,1.2s
LSZ Lusaka 89.66 108 P P 15 18 59.7 +1.9
comp=Z,19nm,1.1s,baz=55,slow=4.8,SNR=8.4
LSZ Lusaka 89.66 108 eP P 15 18 59.2 +1.4
comp=Z,73nm,1.2s
L02D Cave Junction, 89.71 324 ⇑P P 15 18 58.4 +1.2
baz=90
J04D Umpqua Nationa 89.83 326 ⇓P P 15 18 58.8 +0.8
baz=90
SWMT Swartz Lake 89.87 333 eP P 15 18 58.4 +0.5
F10A Beach Ranch, E 89.87 330 eP P 15 18 57.9 0.0
comp=Z,47nm,1.1s
G08A Pilot Rock 90.04 329 eP P 15 18 59.5 +0.7
comp=Z,65nm,1.5s
YBMT Yellow Bay 90.17 333 eP P 15 18 58.7 -0.6
YBMT e 15 19 08.0
JTMT Jette 90.17 333 eP P 15 18 58.8 -0.6
I05D Terrebonne, OR 90.33 327 ⇓P P 15 19 00.6 +0.5
baz=91,SNR=5.6
BSMT Bassoo Peak 90.45 333 eP P 15 19 01.0 +0.3
G06A Carlson Farm, 90.72 328 eP P 15 19 02.6 +0.8
comp=Z,150nm,1.8s
H04A Detroit Lake 90.98 327 eP P 15 19 03.8 +0.7
comp=Z,50nm,1.3s
H2OWA Water 91.12 329 P P 15 19 05.0 +1.4
WALA Waterton Lakes 91.13 334 eP P 15 19 03.9 +0.1
HAWA Hanford 91.16 329 eP P 15 19 04.6 +0.8
comp=Z,87nm,1.3s
E07A Sunnyside 91.43 329 eP P 15 19 05.8 +0.7
comp=Z,286nm,2.5s
D08A Wollman Farm, 91.44 330 eP P 15 19 05.3 +0.3
comp=Z,43nm,1.1s
OD2 Odessa Site #2 91.62 330 P P 15 19 06.1 +0.2
NEW Newport 91.69 332 P P 15 19 05.6 -0.7
NEW pmax pmax
comp=Z,15nm,1.1s
NEW Newport 91.69 332 P P 15 19 05.6 -0.7
comp=Z,15nm,1.1s,baz=183,slow=8.0,SNR=5.6
NEW Newport 91.69 332 ⇓P P 15 19 05.7 -0.5
baz=92
C09A Chrisman Ranch 91.77 331 eP P 15 19 06.7 +0.1
comp=Z,103nm,1.4s
DPW Davenport 91.80 331 P P 15 19 07.4 +0.6
DPW Davenport 91.80 331 P P 15 19 07.4 +0.6
ASR Mount Adams--S 91.86 328 P P 15 19 08.2 +1.0
SAW Saint Andrews 92.15 330 P P 15 19 09.1 +0.7
WTV Waterville 92.37 330 P P 15 19 10.3 +0.8
FFC Flin Flon 92.50 343 eP P 15 19 09.1 -0.7
FFC pmax pmax
comp=Z,266nm,2.6s
FFC Flin Flon 92.50 343 eP P 15 19 09.1 -0.7
comp=Z,266nm,2.6s
B08A Colville Reser 92.64 331 eP P 15 19 10.8 +0.2
comp=Z,43nm,1.4s
D05A Enumclaw 92.83 328 epP pP 15 19 20.4 -1.7
TAM Tamanrasset 93.02 64 eP P 15 19 13.4 +0.2

TAM pmax pmax
comp=Z,93nm,1.5s
TAM Tamanrasset 93.02 64 *e*P **P 15 19 13.4 +0.2**
comp=Z,92nm,1.5s
EDM Edmonton 94.42 337 *e*P **P 15 19 16.6 -2.1**
EDM Edmonton 94.42 337 *e*P **P 15 19 16.6 -2.1**
PAB San Pablo 96.59 46 *e*P **P 15 19 28.8 -0.2**
PAB pmax pmax
comp=Z,20nm,1.4s
PAB San Pablo 96.59 46 *e*P **P 15 19 28.8 -0.2**
comp=Z,20nm,1.4s
ESDC Sonseca Array 96.90 46 P **P 15 19 30.3 -0.1**
comp=Z,1.0nm,0.5s,baz=236,slow=3.3,SNR=5.7
SJPF Ste Jean 100.65 45 *e*P **Pdif 15 19 47.9 +0.8**
comp=Z,38nm,1.2s
SJPF Ste Jean 100.65 45 *e*P **Pdif 15 19 47.9 +0.8**
SJPF pmax pmax
comp=Z,38nm,1.2s
SJPF Ste Jean 100.65 45 *e*P **Pdif 15 19 47.9 +0.8**
comp=Z,38nm,1.2s
ETSF Etsaut 100.91 45 *e*P **Pdif 15 19 49.2 +0.9**
comp=Z,42nm,1.3s
ETSF Etsaut 100.91 45 *e*P **Pdif 15 19 49.2 +0.9**
ETSF pmax pmax
comp=Z,42nm,1.3s
ETSF Etsaut 100.91 45 *e*P **Pdif 15 19 49.2 +0.9**
comp=Z,42nm,1.3s
EPF Esparros 101.52 45 *e*P **Pdif 15 19 50.3 -0.7**
EPF Esparros 101.52 45 *e*P **Pdif 15 19 50.3 -0.7**
EPF Esparros 101.52 45 *e*P **Pdif 15 19 50.3 -0.7**
YKA Yellowknife Ar 102.50 341 P **Pdif 15 19 53.6 -1.2**
YKA 15 24 09.7
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=Z,7.0nm,1.2s
YKA Yellowknife Ar 102.50 341 P **Pdif 15 19 53.6 -1.2**
comp=Z,2.3nm,0.7s,baz=143,slow=4.4,SNR=11
YKA PP **PP 15 24 09.7 +1.2**
comp=Z,7.0nm,1.2s,baz=136,slow=7.5,SNR=7.5
YKA PKPPKP P'P'df 15 44 21.3 +11
comp=Z,0.2nm,0.8s,baz=138,slow=7.9,SNR=6.0
LFF La Frestale 102.88 44 *e*P **Pdif 15 19 57.2 +0.3**
comp=Z,13nm,0.5s
LFF La Frestale 102.88 44 *e*P **Pdif 15 19 57.2 +0.3**
LFF pmax pmax
comp=Z,13nm,0.5s
LFF La Frestale 102.88 44 *e*P **Pdif 15 19 57.2 +0.3**
comp=Z,13nm,0.5s
AVF Avril sur Loir 105.43 44 *e*P **Pdif 15 20 08.1 -0.1**
AVF Avril sur Loir 105.43 44 *e*P **Pdif 15 20 08.1 -0.1**
AVF Avril sur Loir 105.43 44 *e*P **Pdif 15 20 08.1 -0.1**
SMF Signal de Mont 105.63 44 *e*P **Pdif 15 20 09.1 0.0**
SMF Signal de Mont 105.63 44 *e*P **Pdif 15 20 09.1 0.0**
SMF Signal de Mont 105.63 44 *e*P **Pdif 15 20 09.1 0.0**
LOR Lormes 105.99 43 *e*P **Pdif 15 20 08.7 -2.0**
LOR Lormes 105.99 43 *e*P **Pdif 15 20 08.7 -2.0**
LOR Lormes 105.99 43 *e*P **Pdif 15 20 08.7 -2.0**
SUMG Summit 109.26 10 *i* P PP 15 24 48.3 -10
GERES GERESS Array B 112.48 45 PKiKP **PKiKP 15 24 35.0 0.0**
comp=Z,0.9nm,0.5s,baz=211,slow=1.1,SNR=5.9
GERES PKKPbc **PKKPbc 15 35 27.0 +1.8**
comp=Z,0.3nm,0.6s,baz=140,slow=1.0,SNR=3.4
KHC Kasperske Hory 112.54 45 *e*PKIKP **PKiKP 15 24 35.3 +0.3**
KHC Kasperske Hory 112.54 45 *e*PKP **PKiKP 15 24 35.3 +0.3**
KHC *ex* x 15 24 52.8
CLL Collm 113.19 43 *e*PKIKP **PKiKP 15 24 34.0 -2.1**
CLL Collm 113.19 43 *e*PKiKP **PKiKP 15 24 36.0 -0.1**
CLL *ep*PKKPab 15 35 40.0
CONA Conrad Observa 113.36 47⇓ *i*PKiKP **PKiKP 15 24 36.5 -0.2**
comp=Z,11nm,1.3s
PRU Pruhonice 113.48 45 *e*PKIKP **PKiKP 15 24 41.2 +4.5**
PRU Pruhonice 113.48 45 *e*PKP **PKiKP 15 24 41.2 +4.5**
PRU *ex* x 15 24 58.4
BRG Berggiesshubel 113.53 44 *e*PKP **PKiKP 15 24 41.1 +4.3**
comp=Z,71nm,2.0s
BRG Berggiesshubel 113.53 44 *e*PKIKP **PKiKP 15 24 41.1 +4.3**
BRG pmax pmax
comp=Z,71nm,2.0s
PVCC Panska Ves 113.73 44 *e*PKIKP **PKiKP 15 24 41.9 +4.7**
PVCC *e* 15 24 58.3
PVCC Panska Ves 113.73 44 *e*PKP **PKiKP 15 24 41.9 +4.7**
PVCC *ex* x 15 24 58.3
UPC Upice 114.56 45 *e*PKIKP PKPdf 15 24 42.9 +4.1
UPC Upice 114.56 45 *e*PKP PKPdf 15 24 42.9 +4.1
ILAR Eielson Array 114.61 333 PKKPab PKKPab 15 35 27.9 +7.4
comp=Z,0.5nm,0.9s,baz=277,slow=2.8,SNR=4.4
DPC Dobruska-Polom 114.67 45 *e*PKIKP PKPdf 15 24 40.7 +1.6
DPC *e* 15 24 48.3
DPC Dobruska-Polom 114.67 45 *e*PKP PKPdf 15 24 40.7 +1.6
DPC *ep*PKP PKiKP 15 24 48.3 +9.2
KRLC Kraliky 114.83 45 *e*PKIKP PKPdf 15 24 40.9 +1.5
KRLC *e* 15 24 56.0
KRLC Kraliky 114.83 45 *e*PKP PKPdf 15 24 40.9 +1.5
KRLC *ex* x 15 24 56.0
MORC Moravsky Berou 115.15 46⇑PKIKP **PKPdf 15 24 38.8 -1.2**
MORC Moravsky Berou 115.15 46⇑ *i*P **PKPdf 15 24 38.8 -1.2**
VYHS Vyhne 115.41 47 *e*PKIKP **PKPdf 15 24 40.3 -0.2**
VYHS Vyhne 115.41 47 *e*PKP **PKPdf 15 24 40.3 -0.2**
OKC Ostrava-Krasne 115.53 46 *e*PKIKP **PKPdf 15 24 43.4 +2.7**
OKC *e* 15 24 48.9
OKC Ostrava-Krasne 115.53 46 *e*PKP **PKPdf 15 24 43.4 +2.7**
OKC *ep*PKP PKiKP 15 24 48.9 +8.2
DAG Danmarks Havn 115.77 12 *i*PKIKP **PKPdf 15 24 40.0 -0.4**
DAG Danmarks Havn 115.77 12 *i* P **PKPdf 15 24 40.0 -0.4**
MMB Musomiste 115.77 56⇑PKIKP **PKPdf 15 24 41.5 0.0**
MMB Musomiste 115.77 56⇑ *i*P **PKPdf 15 24 41.5 0.0**
PSZ Piszkesteto 115.82 48⇓PKIKP PKPdf 15 24 55.2 +14
PSZ Piszkesteto 115.82 48⇓ *i*P PKPdf 15 24 55.2 +14
VTS Vitosha 115.83 55⇓PKIKP **PKPdf 15 24 36.5 -5.2**
VTS Vitosha 115.83 55⇓ *i*P **PKPdf 15 24 36.5 -5.2**
BSD Bornholm Skovb 115.84 40 *e*PKIKP PKPdf 15 24 47.9 +6.8
BSD Bornholm Skovb 115.84 40 *i* P PKPdf 15 24 47.9 +6.8
BZS Buzias 115.99 51⇑PKIKP **PKPdf 15 24 41.2 -0.5**
BZS Buzias 115.99 51⇑ *i*P **PKPdf 15 24 41.2 -0.5**
NB2 NORSAR Subarra 116.42 33 PKKP **PKKPab 15 35 13.6 +0.8**
comp=Z,9.2nm,1.0s,baz=66,slow=4.4
NB2 NORSAR Subarra 116.42 33 PKKP **PKKPab 15 35 13.6 +0.8**
baz=66,slow=4.4
NOA NORSAR Array B 116.42 33 PKKPbc **PKKPab 15 35 14.0 +1.2**
comp=Z,6.1nm,0.9s,baz=68,slow=4.5,SNR=11
COLD Coldfoot 116.94 335 *e*PKPdf **PKPdf 15 24 43.9 +1.1**
ASAR Alice Springs 117.15 207 PKKPbc PKKPbc 15 35 08.3 -0.3
comp=Z,1.9nm,0.6s,baz=338,slow=3.1,SNR=31
AS31 Alice Springs 117.15 207 *e*PKPpre PKPpre 15 24 36.7
STHS Stebnicka Huta 117.23 47 *e*PKIKP **PKPdf 15 24 44.2 +0.2**
STHS Stebnicka Huta 117.23 47 *e*PKP **PKPdf 15 24 44.2 +0.2**
TRPA Tarpa 117.54 49⇓ *i*P **PKPdf 15 24 42.4 -2.2**
UZH Uzhgorod 117.58 48 *e*PKIKP PKPpre 15 24 34.3
UZH *i* 15 24 42.1
KOLS Kolonicke sedl 117.68 48 *e*PKIKP **PKPdf 15 24 42.3 -2.6**
KOLS Kolonicke sedl 117.68 48 *e*PKP **PKPdf 15 24 42.3 -2.6**
ARR Arges 117.86 52⇑ *i*P PKPpre 15 24 39.8
KWP Kalwaria Pacla 118.19 47⇑PKIKP PKPpre 15 24 36.6
KWP Kalwaria Pacla 118.19 47⇑ *i*P PKPpre 15 24 36.6
MLR Muntele Rosu 118.76 53⇑PKIKP PKPpre 15 24 37.2
MLR Muntele Rosu 118.76 53⇑ *i*P PKPpre 15 24 37.2
VRI Vrincioaia 119.41 52⇑PKIKP **PKPdf 15 24 45.2 -3.1**
VRI Vrincioaia 119.41 52⇑ *i*P **PKPdf 15 24 45.2 -3.1**
CFR Carcaliu 120.10 54⇑PKIKP **PKPdf 15 24 49.0 -0.6**
CFR Carcaliu 120.10 54⇑ *i*P **PKPdf 15 24 49.0 -0.6**
WRA Warramunga Arr 120.35 209 PKIKP **PKPdf 15 24 49.1 -1.9**
WRA pmax pmax
comp=Z,6.0nm,0.8s
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA pmax pmax
comp=N,1.0nm,0.9s
WRA Warramunga Arr 120.35 209 PKP **PKPdf 15 24 49.1 -1.9**
comp=N,3.7nm,0.9s,baz=159,slow=1.7,SNR=4.8
WRA PKKPbc **PKKPbc 15 34 57.5 +0.6**
comp=N,0.8nm,0.6s,baz=340,slow=4.3,SNR=4.7
WRA SKKPbc SKKPbc 15 38 47.4 +7.8
comp=N,0.7nm,0.9s,baz=323,slow=4.1,SNR=4.7
WRA PKPPKP **P'P'df 15 43 42.6 -2.4**
comp=N,0.3nm,0.5s,baz=164,slow=1.6,SNR=5.1
WRAB Tennant Creek 120.36 209*c* *i*PKIKP **PKPdf 15 24 51.1 +0.1**
WRAB pmax pmax
comp=Z,41nm,1.2s
WRAB Tennant Creek 120.36 209 PKPdf **PKPdf 15 24 49.0 -2.1**
MMAI Mount Meron Ar 120.90 69 PKP **PKPdf 15 24 52.0 +0.3**
comp=Z,4.0nm,0.5s,baz=90,slow=0.8,SNR=5.9
KIS Kishinev 121.15 52 *e*PKIKP **PKPdf 15 24 51.0 -0.6**
KIS Kishinev 121.15 52 *e*PKP **PKPdf 15 24 51.0 -0.6**
ANTO Ankara 121.50 61 *e*PKIKP **PKPdf 15 24 52.9 +0.3**
ANTO Ankara 121.50 61⇑ *i*P PKPdf 15 25 00.6 +8.0
ANTO Ankara 121.50 61 *e*PKPdf **PKPdf 15 24 52.9 +0.3**
ASF Jabal al Asfar 121.73 71 PKIKP **PKPdf 15 24 52.8 -0.5**
ASF pmax pmax
comp=Z,2.0nm,0.7s
ASF Jabal al Asfar 121.73 71 PKP **PKPdf 15 24 52.8 -0.5**
comp=Z,1.6nm,0.4s,baz=315,slow=1.4,SNR=4.4
BRTR Keskin Array B 122.06 61 PKP **PKPdf 15 24 53.2 -0.5**
comp=Z,4.1nm,0.6s,baz=201,slow=3.3,SNR=10
KIEV Kiev 122.50 48 *e*PKIKP **PKPdf 15 24 52.1 -1.9**
KIEV Kiev 122.50 48 *e*PKPdf **PKPdf 15 24 52.1 -1.9**
AKASG Malin Array Be 122.51 48 PKIKP **PKPdf 15 24 52.7 -1.3**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 122.51 48 PKP **PKPdf 15 24 52.7 -1.3**
comp=Z,4.6nm,0.7s,baz=274,slow=2.4,SNR=7.4
SPITS Spitsbergen Ar 123.13 14 PKIKP **PKPdf 15 24 53.6 -1.0**
SPITS pmax pmax
comp=Z,11nm,0.9s
SPITS Spitsbergen Ar 123.13 14 PKP **PKPdf 15 24 53.6 -1.0**
comp=Z,11nm,0.9s,baz=141,slow=4.8,SNR=7.1
FINES FINESS Array B 123.38 35 PKKPbc PKKPbc 15 34 44.5 -1.4
comp=Z,1.8nm,0.6s,baz=64,slow=4.4,SNR=6.2
GAMB Gambell 124.50 328 *e*PKPdf **PKPdf 15 24 57.0 -0.4**
RAYN Ar Rayn 125.04 84 *e*PKPdf **PKPdf 15 24 56.3 -3.6**
FITZ Fitzroy Crossi 125.08 201 *e*PKPdf **PKPdf 15 24 58.9 -1.2**
H11S2 WAKE ISLAND Hyl 25.77 269 T T 17 43 14.8
baz=119,slow=75,SNR=15
H11S1 WAKE ISLAND Hyl 25.78 269 T T 17 43 15.4
baz=119,slow=75,SNR=20
H11S3 WAKE ISLAND Hyl 25.78 269 T T 17 43 20.3
baz=119,slow=75,SNR=22
H11N3 WAKE ISLAND Hyl 26.19 270 T T 17 43 46.1
baz=115,slow=78,SNR=38
H11N1 WAKE ISLAND Hyl 26.20 270 T T 17 43 48.0
baz=115,slow=78,SNR=81
H11N2 WAKE ISLAND Hyl 26.21 270 T T 17 43 50.9
baz=115,slow=78,SNR=41
APA Apatity 127.20 28⇑ *i*PKIKP PKPdf 15 25 10.2 +7.6
APA MLR MLR
comp=Z,28µm,17.0s
LVZ Lovozero 127.68 27 *i*PKIKP **PKPdf 15 25 04.9 +1.4**
LVZ pmax pmax
comp=Z,61nm,1.2s
OBN Obninsk 127.78 44 *i*PKIKP **PKPdf 15 25 04.7 +0.7**
OBN *e* 15 27 05.3
OBN pmax pmax
comp=Z,108nm,1.7s
MOS Moscow 128.45 43 *e*PKIKP **PKPdf 15 25 04.4 -0.9**
MOS *e* 15 27 08.0
MOS pmax pmax
comp=Z,66nm,1.1s
VSR Storozhevoye 128.75 49 *e*PKIKP **PKPdf 15 25 04.1 -1.9**
VSR pmax pmax
comp=Z,30nm,1.4s
VSR pmax pmax
comp=N,9.0nm,1.2s
VSR pmax pmax
comp=E,9.0nm,1.0s
VORD Divnogorie 128.79 49 *e*PKIKP **PKPdf 15 25 04.9 -1.2**
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,50nm,0.9s
VORD pmax pmax
comp=E,30nm,0.9s
TMCR Tamitsa 129.10 32 *e*PKIKP **PKPdf 15 25 05.7 -0.5**
TMCR *e* 15 27 17.7
TMCR pmax pmax
comp=Z,100nm,1.5s
KIV Kislovodsk 129.73 59 *e*PKIKP **PKPdf 15 25 08.8 +0.5**
KIV pmax pmax
comp=Z,44nm,1.1s
KIV Kislovodsk 129.73 59 *e*PKPdf **PKPdf 15 25 07.8 -0.5**
KLMR Klimovskoe 129.78 36 *e*PKIKP **PKPdf 15 25 06.2 -1.4**
KLMR pmax pmax
comp=Z,176nm,1.5s
KBZ Khabaz 129.83 59 PKIKP **PKPdf 15 25 08.7 +0.4**
KBZ pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 129.83 59 PKP **PKPdf 15 25 08.7 +0.4**
comp=Z,8.3nm,1.1s,baz=292,slow=2.6,SNR=6.2
VRHR Novokhopersk 130.27 49 *e*PKIKP **PKPdf 15 25 07.5 -1.4**
VRHR pmax pmax
comp=Z,30nm,1.3s
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=E,20nm,1.3s
GNI Garni 130.33 64 *i*PKIKP **PKPdf 15 25 10.4 +0.8**
GNI pmax pmax
comp=Z,39nm,1.7s
GNI Garni 130.33 64 PKP **PKPdf 15 25 11.0 +1.4**
comp=Z,6.6nm,0.7s,baz=30,slow=8.1,SNR=3.3
GNI Garni 130.33 64 *e*PKPdf **PKPdf 15 25 07.8 -1.8**
GNI PKP **PKPdf 15 25 11.1 +1.4**
ZEI Tsey 130.34 60 *i*PKIKP **PKPdf 15 25 08.6 -1.0**
ZEI pmax pmax
comp=Z,29nm,1.3s
PRGR Permogore 132.70 35 *e*PKIKP **PKPdf 15 25 11.9 -1.2**
PRGR pmax pmax
comp=Z,78nm,1.5s
BATI Baumata 133.14 201 PKP **PKPdf 15 25 17.9 +2.3**
comp=Z,18nm,0.8s,baz=239,slow=5.9,SNR=4.7
BILL Bilibino 133.26 334 *e*PKIKP **PKPdf 15 25 14.3 +0.2**
BILL Bilibino 133.26 334 *e*PKPdf **PKPdf 15 25 14.2 +0.2**
SOKR Solikamsk 138.46 37 *e*PKIKP **PKPdf 15 25 24.9 +1.0**
SOKR pmax pmax
comp=Z,30nm,1.4s
GEYT Alibeck 140.01 70 PKP **PKPdf 15 25 27.2 -0.4**
comp=Z,6.8nm,0.6s,baz=266,slow=3.7,SNR=7.1
ARU Arti 140.10 41 *i*PKIKP **PKPdf 15 25 27.3 +0.3**
ARU SS SS 15 46 50.0 +4.9
PETK Petropavlovsk- 140.48 314 PKIKP **PKPdf 15 25 27.1 -0.8**
PETK pmax pmax
comp=Z,6.0nm,0.7s
PETK Petropavlovsk- 140.48 314 PKP **PKPdf 15 25 27.1 -0.8**
comp=Z,9.5nm,0.8s,baz=117,slow=6.8,SNR=7.7
SVE Sverdlovsk 141.12 40 *e*PKIKP **PKPdf 15 25 28.3 -0.6**
TIXI Tiksi 141.16 350 *i*PKIKP **PKPdf 15 25 28.0 -0.5**
TIXI pmax pmax
comp=Z,29nm,1.7s
TIXI Tiksi 141.16 350 *e*PKPdf PKPpre 15 25 19.9
ABKAR Akbulak array 141.97 52 *e*PKPdf PKPpre 15 25 24.3
LUWI Luwuk 142.04 205 *e*PKPpre PKPpre 15 25 24.9
PALK Pallekele 143.08 131 *i*PKIKP PKPdf 15 25 40.6 +6.8
TOLI Toli-Toli 144.72 203 *e*PKPdf **PKPab 15 25 34.2 -1.1**
GSI Gunungsitoli 145.60 161 *e*PKPdf **PKPab 15 25 38.6 0.0**
KSM Kuching 147.10 184 *e*PKPdf **PKPdf 15 25 41.4 +0.7**
PSI Prapat 147.38 163 PKP2 **PKPbc 15 25 42.7 -1.0**
PSI pmax pmax
comp=Z,77nm,1.1s
PSI Prapat 147.38 163 PKPbc **PKPbc 15 25 42.7 -1.0**
comp=Z,77nm,1.1s,baz=171,slow=3.4,SNR=19
BRVK Borovoye 147.55 43 *e*PKIKP **PKPdf 15 25 40.5 +0.3**
BRVK Borovoye 147.55 43 *e*PKPdf **PKPdf 15 25 40.5 +0.3**
BVAR Borovoye Array 147.62 43 PKP2 **PKPbc 15 25 43.2 +0.1**
BVAR pmax pmax
comp=Z,15nm,0.5s
BVAR Borovoye Array 147.62 43 PKPbc **PKPbc 15 25 43.2 +0.1**
comp=Z,15nm,0.5s,baz=293,slow=2.7,SNR=34
KBL Kabul 148.06 79 *e*PKIKP **PKPdf 15 25 41.9 0.0**
KBL Kabul 148.06 79 *e*PKPdf **PKPdf 15 25 41.9 0.0**
HYB Hyderabad 148.73 115 *i*PKP **PKPdf 15 25 45.0 +1.7**
CTBH Cotabato--PC H 149.00 213⇓ *i*P **PKPbc 15 25 47.5 -0.4**
YAK Yakutsk 149.17 340 *e*PKHKP PKPpre 15 25 41.0
YAK *e* 15 29 18.0
YAK *e*PPP PPP 15 32 36.1
YAK pmax pmax
comp=Z,193nm,1.3s
YAK pmax pmax
comp=N,27nm,1.3s
YAK pmax pmax
comp=E,31nm,2.0s
YAK pmax pmax
comp=Z,1µm,5.7s
YAK pmax pmax
comp=N,2µm,9.8s
YAK pmax pmax
comp=E,2µm,10.3s
YAK Yakutsk 149.17 340 *e*PKPdf **PKPdf 15 25 40.9 -1.7**
YAK *e*PKPbc **PKPbc 15 25 46.0 -0.8**
IPM Ipoh 149.47 166 *e*PKPbc **PKPbc 15 25 47.9 -1.2**
KULM Kulim 150.18 165 *e*PKPbc **PKPbc 15 25 49.6 -1.1**
AJM Ajmer 150.30 96 *i* x **PKPbc 15 25 50.0 -0.7**
KKM Kota Kinabalu 150.70 197 *e*PKPbc **PKPbc 15 25 51.0 -1.1**
YSS Yuzh-Sakhalins 151.07 306⇑ *e*PKIKP **PKPbc 15 25 51.5 -0.3**
YSS *e* 15 25 58.1
YSS pmax pmax
comp=Z,60nm,1.0s
YSS Yuzh-Sakhalins 151.07 306 *e*PKPdf **PKPdf 15 25 46.0 0.0**
YSS *e*PKPbc **PKiKP 15 25 52.3 0.0**
ERM Erimo 151.50 296*c* *i*PKIKP **PKPbc 15 25 55.5 +2.5**
ERM pmax pmax
comp=Z,67nm,1.7s
ASAJ Asahikawa 151.70 300 PKIKP **PKPbc 15 25 53.5 +0.1**
ASAJ 15 26 02.9
ASAJ pmax pmax
comp=Z,76nm,1.2s
ASAJ pmax pmax
comp=Z,106nm,1.0s
ASAJ Asahikawa 151.70 300 PKPbc **PKPbc 15 25 53.5 +0.1**
comp=Z,76nm,1.2s,baz=252,slow=8.7,SNR=10
ASAJ PKPab **PKPab 15 26 02.9 +0.6**
comp=Z,106nm,1.0s,baz=261,slow=4.2,SNR=18
ASAJ Asahikawa 151.70 300 *e*PKPbc **PKPbc 15 25 52.8 -0.6**
ASAJ *e*PKPab **PKPab 15 26 01.2 -1.1**
ASAJ PKPab **PKPab 15 26 02.9 +0.6**
AML Almayashu 152.18 64 P **PKPbc 15 25 55.7 +0.6**
SNR=8.1
EKS2 Erkin-Say 152.19 63 P **PKPbc 15 25 55.0 +0.3**
SNR=6.2
EKS2 Erkin-Say 152.19 63 *e*PKIKP **PKPdf 15 25 48.9 +0.8**
EKS2 *e* 15 25 55.0
EKS2 Erkin-Say 152.19 63 *e*PKPdf **PKPdf 15 25 48.9 +0.8**
EKS2 *e*PKPbc **PKPbc 15 25 55.0 +0.3**
USP Ospenovka 152.65 61 P **PKPbc 15 25 55.7 +0.1**
SNR=6.0
AAK Ala-Archa 152.72 63 P **PKPbc 15 25 57.3 +1.3**
SNR=5.4
AAK Ala-Archa 152.72 63 *e*PKIKP **PKPdf 15 25 48.5 -0.4**
AAK *e* 15 25 56.4
AAK 15 25 57.0
AAK Ala-Archa 152.72 63 PKPbc **PKPbc 15 25 57.0 +1.0**
comp=Z,22nm,0.6s,baz=177,slow=2.0,SNR=35
AAK Ala-Archa 152.72 63 *e*PKPdf **PKPdf 15 25 48.5 -0.4**
AAK *e*PKPbc **PKiKP 15 25 56.4 +0.2**
AAK PKPbc **PKPbc 15 25 57.0 +1.0**
UCH Uchtor 152.78 64 P **PKPbc 15 25 57.8 +1.3**
SNR=5.3
FRU Bishkek 152.79 62 *i*PKIKP **PKPdf 15 25 52.0 +3.2**
FRU pmax pmax
comp=Z,350nm,2.0s
KBK Karagaybulak 153.05 62 P **PKPbc 15 25 57.7 +1.0**
SNR=5.1
KURBB Kurchatov Arra 153.21 44 PKP **PKPdf 15 25 49.2 +0.1**
comp=Z,7.5nm,1.1s,baz=306,slow=1.6,SNR=5.4
KURBB PKPbc **PKiKP 15 25 56.9 +0.2**
comp=Z,14nm,0.6s,baz=303,slow=2.8,SNR=64
KURK Kurchatov 153.22 44 PKIKP **PKPdf 15 25 49.2 +0.1**
KURK 15 25 56.9
KURK pmax pmax
comp=Z,8.0nm,1.1s
KURK pmax pmax
comp=Z,14nm,0.6s
KURK Kurchatov 153.22 44 PKP **PKPdf 15 25 49.2 +0.1**
KURK PKPbc **PKiKP 15 25 56.9 +0.2**
NVS Novosibirsk 153.34 33⇑ *i*PKIKP **PKPdf 15 25 48.7 -0.4**
NVS *e* 15 29 48.0
NVS pmax pmax
comp=Z,165nm,1.5s
TKM2 Tokmak 2 153.49 62 *e*PKIKP **PKPdf 15 25 49.0 -1.0**
TKM2 *e* 15 25 57.7
TKM2 Tokmak 2 153.49 62 *e*PKPdf **PKPdf 15 25 49.0 -1.0**
TKM2 *e*PKPbc **PKPbc 15 25 57.7 -0.1**
KSH Kashi 154.04 69 PKPbc **PKPdf 15 25 54.7 +3.9**
KSH sPKP 15 26 04.7
KSH PKS **PKSdf 15 29 25.6 +0.5**
KSH PP **PP 15 29 45.3 -2.5**
KSH SKS **SKSdf 15 32 56.1 +0.9**
KSH SKKS **SKKSac 15 36 36.0 +1.0**
KSH SS **SS 15 49 21.0 -3.3**
KSH LN
comp=Z,2µm,14.5s
KSH LE
comp=Z,7µm,15.7s
KSH LZ
comp=Z,13µm,19.9s
ZALV Zalesovo Beam 154.62 33 PKIKP **PKPdf 15 25 51.0 0.0**
ZALV 15 25 59.7
ZALV 15 26 14.9
ZALV pmax pmax
comp=Z,9.0nm,1.0s
ZALV pmax pmax
comp=Z,51nm,1.0s
ZALV pmax pmax
comp=Z,29nm,0.5s
ZALV Zalesovo Beam 154.62 33 PKP **PKPdf 15 25 51.0 0.0**
comp=Z,8.6nm,0.9s,baz=261,slow=3.9,SNR=5.7
ZALV PKPbc **PKiKP 15 25 59.7 +0.2**
comp=Z,51nm,1.0s,baz=295,slow=2.4,SNR=14
ZALV PKPab **PKPab 15 26 14.9 +0.6**
comp=Z,29nm,0.5s,baz=304,slow=4.3,SNR=18
MJAR Matsushiro Arr 155.34 284 PKIKP **PKPdf 15 25 52.7 +0.1**
MJAR 15 26 02.7
MJAR 15 26 18.1
MJAR pmax pmax
comp=Z,6.0nm,1.1s
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR pmax pmax
comp=Z,7.0nm,0.8s
MJAR Matsushiro Arr 155.34 284 PKP **PKPdf 15 25 52.7 +0.1**
comp=Z,5.7nm,1.1s,baz=135,slow=0.3,SNR=4.3
MJAR PKPbc PKPbc 15 26 02.7
comp=Z,3.4nm,0.9s,baz=132,slow=2.5,SNR=3.5
MJAR PKPab **PKPab 15 26 18.1 +0.1**
comp=Z,7.1nm,0.8s,baz=101,slow=2.3,SNR=5.7
MAT Matsushiro 155.34 284 PKP **PKPdf 15 25 50.2 -2.4**
HABR Khabarovsk 155.51 313 *e*PKIKP **PKPdf 15 25 52.5 +0.2**
HABR *e* 15 26 03.3
HABR *e* 15 26 18.4
HABR 15 29 56.9
HABR *e* 15 32 56.4
HABR *e*PPP PPP 15 33 27.7
HABR *e*SS SS 15 49 41.3 +2.4
HABR *e*SSS SSS 15 55 36.8
HABR pmax pmax
comp=Z,45nm,1.5s
MKAR Makanchi Array 157.07 50 PKIKP **PKPdf 15 25 54.6 +0.1**
MKAR 15 26 04.6
MKAR 15 30 04.9
MKAR pmax pmax
comp=Z,8.0nm,1.0s
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR pmax pmax
comp=Z,12nm,0.6s
MKAR pmax pmax
comp=Z,7.0nm,1.1s
MKAR Makanchi Array 157.07 50 PKP **PKPdf 15 25 54.6 +0.1**
comp=Z,7.6nm,1.0s,baz=324,slow=1.7,SNR=3.7
MKAR PKPbc PKPbc 15 26 04.5
comp=Z,5.9nm,0.6s,baz=274,slow=3.0,SNR=11
MKAR PKPab **PKPab 15 26 24.2 -0.9**
comp=Z,12nm,0.6s,baz=277,slow=3.3,SNR=17
MKAR PP **PP 15 30 04.8 +0.8**
comp=Z,6.9nm,1.1s,baz=284,slow=4.9,SNR=4.4
USRK Ussuriysk Ar. 159.10 305 PKPab **PKPab 15 26 35.2 +1.3**
comp=Z,6.8nm,1.0s,baz=46,slow=8.3,SNR=3.8
MDJ Mudanjiang 160.54 308 PKP **PKPdf 15 25 59.5 +0.8**
WMQ Urumqi 161.75 53 *e*PKP **PKPdf 15 25 59.2 -0.9**
WMQ pPKP **pPKPdf 15 26 10.5 -0.5**
WMQ PKPab **PKPab 15 26 45.8 +0.1**
WMQ PKS **PKSdf 15 29 31.2 -2.1**
WMQ PP **PP 15 30 30.8 +1.2**
WMQ SKS **SKSdf 15 32 59.1 -3.4**
WMQ SKKS **SKKSac 15 37 13.7 -1.5**
WMQ SS **SS 15 50 42.8 -2.9**
WMQ PPMZ
comp=Z,5µm,7.5s
CMAR Chiang Mai Arr 162.14 151 PKIKP **PKPdf 15 25 59.1 -2.0**
CMAR 15 26 48.3
CMAR 15 30 33.5
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR pmax pmax

	comp=Z,4.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**162.14**	**151**	PKP	**PKPdf**	**15 25 59.1**	**-2.0**
	comp=Z,1.2nm,0.3s,baz=276,slow=2.4,SNR=3.2						
CMAR				PKPab	**PKPab**	**15 26 48.3**	**+0.6**
	comp=Z,3.7nm,0.8s,baz=226,slow=4.1,SNR=2.5						
CMAR				PP	**PP**	**15 30 33.5**	**+2.6**
	comp=Z,3.3nm,1.1s,baz=222,slow=6.0,SNR=4.1						
TLY	**Talaya**	**162.52**	**9**	PKPab	**PKPab**	**15 26 49.6**	**+1.1**
	comp=Z,7.8nm,0.7s,baz=322,slow=1.7,SNR=7.2						
KSRS	**Korea Array**	**163.57**	**286**	PKIKP	**PKPdf**	**15 26 01.1**	**-0.9**
KSRS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KSRS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KSRS	**Korea Array**	**163.57**	**286**	PKP	**PKPdf**	**15 26 01.1**	**-0.9**
	comp=Z,5.1nm,1.0s,baz=124,slow=2.0,SNR=4.8						
KSRS				PKPab	**PKPab**	**15 26 55.1**	**+1.4**
	comp=Z,9.3nm,0.9s,baz=108,slow=4.5,SNR=9.1						
CN2	**Changchun**	**163.57**	**310**	*e*PKP	**PKPdf**	**15 26 03.0**	**+1.2**
CN2				*e*pPKP	**pPKPdf**	**15 26 14.0**	**+1.4**
CN2				*e*PP	**PP**	**15 30 43.0**	**+3.9**
CN2				*e*SS	SS	15 51 03.0	-1.2
CN2				LN			
	comp=Z,7μm,20.0s						
CN2				LE			
	comp=Z,7μm,20.0s						
CN2				LZ			
	comp=Z,8μm,21.0s						
KSAR	**Wonju Array Be**	**163.60**	**286**	PKIKP	**PKPdf**	**15 26 01.1**	**-0.9**
KSAR	**Wonju Array Be**	**163.60**	**286**	PKP	**PKPdf**	**15 26 01.1**	**-0.9**
KSAR				PKPab	**PKPab**	**15 26 55.1**	**+1.3**
QIZ	**Qiongzhong**	**164.53**	**187**	PKP	**PKPdf**	**15 26 05.1**	**+1.7**
QIZ				PP	**PP**	**15 30 45.7**	**+2.6**
QIZ				SS	SS	15 51 13.0	+0.8
SONM	**Songino Array**	**166.60**	**5**	PKIKP	**PKPdf**	**15 26 04.5**	**+0.1**
SONM						15 27 07.5	
SONM						15 30 53.2	
SONM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,11nm,1.0s						
SONM				pmax	pmax		
	comp=Z,11nm,1.2s						
SONM	**Songino Array**	**166.60**	**5**	PKP	**PKPdf**	**15 26 04.5**	**+0.1**
	comp=Z,3.6nm,0.9s,baz=307,slow=0.7,SNR=2.3						
SONM				PKPab	**PKPab**	**15 27 07.5**	**+0.8**
	comp=Z,11nm,1.0s,baz=338,slow=3.6,SNR=7.9						
SONM				PP	**PP**	**15 30 53.2**	**-0.7**
	comp=Z,11nm,1.2s,baz=319,slow=2.1,SNR=9.9						
KMI	**Kunming**	**169.64**	**153**	PKP	**PKPdf**	**15 26 09.6**	**+2.3**
NJ2	**Nanjing**	**170.57**	**258**	*e*PKP	**PKPdf**	**15 26 08.8**	**+1.5**
NJ2				PP	**PP**	**15 31 19.7**	**+4.0**
NJ2				LN			
	comp=Z,9μm,23.4s						
NJ2				LE			
	comp=Z,7μm,30.0s						
NJ2				LZ			
	comp=Z,7μm,31.2s						
GTA	**Gaotai**	**171.82**	**51**	*e*PKP	**PKPdf**	**15 26 07.7**	**-0.2**
GTA				pPKP	**pPKPdf**	**15 26 18.0**	**-0.8**
GTA				sPKP		15 26 22.3	
GTA				PKPab	**PKPab**	**15 27 30.7**	**+0.4**
GTA				PP	**PP**	**15 31 22.7**	**+1.2**
GYA	**Guiyang**	**171.94**	**172**	PKP	**PKPdf**	**15 26 09.4**	**+1.1**
GYA				pPKP	**pPKPdf**	**15 26 20.0**	**+0.8**
GYA				PKPab	**PKPab**	**15 27 34.8**	**+4.0**
GYA				PKS	**PKSdf**	**15 29 40.6**	**-0.3**
GYA				PP	PP	15 31 26.2	+5.3
GYA				SKKS		15 38 08.0	
GYA				SS	**SS**	**15 52 30.7**	**+4.0**
GYA				PPMZ			
	comp=Z,2μm,8.9s						
GYA				LN			
	comp=Z,8μm,23.0s						
GYA				LE			
	comp=Z,3μm,20.6s						
GYA				LZ			
	comp=Z,6μm,22.3s						
HHC	**Hu-ho-hao-te**	**173.02**	**337**	*e*PKP	**PKPdf**	**15 26 08.4**	**0.0**
HHC				sPKP		15 26 25.1	
HHC				PP	**PP**	**15 31 25.4**	**-1.1**
HHC				SKS	**SKSdf**	**15 33 05.8**	**-3.3**
HHC				SKKS	**SKKSac**	**15 38 11.8**	**+0.8**
HHC				SS	**SS**	**15 52 37.8**	**+0.1**
HHC				PPMZ			
	comp=Z,10μm,9.6s						
HHC				LN			
	comp=Z,16μm,18.6s						
HHC				LE			
	comp=Z,4μm,23.5s						
CD2	**Chengdu**	**174.98**	**134**	*e*PKP	**PKPdf**	**15 26 11.1**	**+1.8**
CD2				sPKP		15 26 23.7	
CD2				PP	**PP**	**15 31 40.0**	**+3.3**
CD2				SKS	**SKSdf**	**15 33 08.2**	**-1.8**
CD2				SS	**SS**	**15 52 52.6**	**-5.2**
CD2				PPMZ			
	comp=Z,14μm,12.0s						
LZH	**Lanzhou**	**176.26**	**63**	*e*PKP	**PKPdf**	**15 26 10.0**	**+0.4**
LZH				pPKP	**pPKPdf**	**15 26 17.5**	**-3.0**
LZH				sPKP		15 26 21.7	
LZH				PP	**PP**	**15 31 44.9**	**+1.4**
LZH				SKKS		15 38 27.5	
LZH				SS	**SS**	**15 53 11.0**	**-0.2**
LZH				PPMZ			
	comp=Z,4μm,5.4s						

JMA 11 15:09:14.6, 41°.41N×140°.09E, h7km±1km, M1.2, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSR	**Shiriuchi**	**0.27**	**64**	P	Pg	15 09 20.1	+0.1
JSR				*e*S	Sg	15 09 24.0	+0.3
JSI2	**Shiura 2**	**0.43**	**145**	P	Pg	15 09 22.9	0.0
JSI2				*e*S	Sg	15 09 28.6	+0.1
JOT	**Ohata**	**0.72**	**92**	*e*S	Sg	15 09 37.6	-0.3
JYM2	**Yakumo 2**	**0.74**	**16**	*e*S	Sg	15 09 38.5	+0.1
JOSM	**Okushiri–Mats**	**0.81**	**326**	P	Pg	15 09 30.3	0.0
JOSM				*e*S	Sg	15 09 41.0	+0.1
JIW	**Iwasaki**	**0.82**	**184**	*e*S	Sg	15 09 41.6	+0.6

*KRNET **11** 15:12:47.7±0.1, 40°.80N×75°.86E, h27km, mb3.8*
*NNC **11** 15:12:50.5±2.6, 40°.77N×75°.41E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=19.3km s-min=13.6km az=9.0*
ISC 11 15:12:47.7±1.6, 40°.74N±0°.06×75°.77E±0°.04, h13km±13km, n28, σ1§16/42, 13C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**1.39**	**344**	P	Pn	15 13 10.3	-2.9
	SNR=15						
KZA	**Kyzart**	**1.39**	**344**	⇑*i*P	**Pn**	**15 13 12.0**	**-1.1**
	baz=341						
KZA				⇑*i*S	**Sn**	**15 13 29.7**	**-1.9**
	baz=341						
ULHL	**Ulahol**	**1.54**	**13**	P	**Pn**	**15 13 14.5**	**-0.6**
	SNR=8.8						
ULHL	**Ulahol**	**1.54**	**13**	⇓*i*P	**Pn**	**15 13 14.2**	**-0.9**
	baz=11						
ULHL				⇓*i*S	**Sn**	**15 13 32.3**	**-2.7**
	baz=11						
ARLS	**Aral**	**1.56**	**316**	⇓*i*P	**Pb**	**15 13 16.5**	**0.0**
	baz=313						
ARLS				⇓*e*S	**Sn**	**15 13 34.3**	**-1.2**
	baz=313						
BOOM	**Boomskoye usch**	**1.75**	**4**	⇓*i*P	**Pn**	**15 13 18.0**	**+0.1**
	baz=2.0						
BOOM				⇓*e*S	**Sn**	**15 13 39.0**	**-1.1**
	baz=2.0						
UCH	**Uchtor**	**1.76**	**328**	P	**Pn**	**15 13 19.3**	**+1.1**
	SNR=8.2						
UCH	**Uchtor**	**1.76**	**328**	⇑*i*P	**Pn**	**15 13 19.2**	**+0.9**
	baz=325						
UCH				⇑*i*S	**Sn**	**15 13 41.2**	**+0.5**
	baz=325						
SFK	**Sufi-Kurgan**	**1.88**	**248**	*e*P	**Pb**	**15 13 22.1**	**+0.1**
	baz=247						
SFK				*e*S	**Sg**	**15 13 47.0**	**-1.2**
	baz=247						
KBK	**Karagaybulak**	**2.01**	**342**	P	**Pb**	**15 13 23.6**	**-0.6**
	SNR=27						
KBK	**Karagaybulak**	**2.01**	**342**	⇑*i*P	**Pb**	**15 13 23.6**	**-0.6**
	baz=340						
KBK				⇑*i*S	**Sn**	**15 13 47.7**	**+1.2**
	baz=340						
AML	**Almayashu**	**2.09**	**312**	P	**Pb**	**15 13 26.4**	**+0.8**
	SNR=33						
AML	**Almayashu**	**2.09**	**312**	⇑*i*P	**Pb**	**15 13 25.4**	**-0.3**
	baz=310						
AML				⇑*i*S	**Sb**	**15 13 51.8**	**+0.1**
	baz=310						
AAK	**Ala-Archa**	**2.12**	**334**	⇑Pn	**Pb**	**15 13 26.0**	**0.0**
	58nm,0.5s						
AAK				⇓Sn	**Sb**	**15 13 52.5**	**+0.3**
	74nm,0.6s						
AAK	**Ala-Archa**	**2.12**	**334**	P	**Pb**	**15 13 25.6**	**-0.4**
	SNR=62						
AAK	**Ala-Archa**	**2.12**	**334**	⇓P	**Pb**	**15 13 25.9**	**-0.1**
	SNR=30						
AAK	**Ala-Archa**	**2.12**	**334**	⇑*i*P	**Pb**	**15 13 25.6**	**-0.4**
	baz=331						
AAK				⇑*i*S	**Sb**	**15 13 51.5**	**-0.7**
	baz=331						
TKM2	**Tokmak 2**	**2.18**	**357**	⇓Pn	**Pb**	**15 13 26.8**	**-0.3**
	26nm,0.4s						
TKM2				⇓Sn	**Sb**	**15 13 56.0**	**+1.9**
	100nm,0.5s						
TKM2	**Tokmak 2**	**2.18**	**357**	P	**Pb**	**15 13 26.4**	**-0.7**
	SNR=33						
ARSB	**Arslanbob**	**2.19**	**286**	*e*P	**Pg**	**15 13 29.8**	**+0.1**
	baz=285						
ARSB				*e*S	**Sg**	**15 13 58.5**	**+0.4**
	baz=285						
CHMS	**Chumysh**	**2.38**	**342**	P	**Pb**	**15 13 30.5**	**+0.1**
	SNR=31						
EKS2	**Erkin-Say**	**2.43**	**323**	P	**Pb**	**15 13 31.1**	**-0.2**
	SNR=9.2						
ANVS	**Anan'yevo**	**2.48**	**34**	⇓*i*P	**Pb**	**15 13 32.0**	**-0.2**
	baz=34						
ANVS				⇓*e*S	**Sb**	**15 14 04.5**	**+1.7**
	baz=34						
KNDC	**Almaty**	**2.63**	**19**	⇓Pn	**Pb**	**15 13 35.3**	**+0.7**
KNDC				⇓Sn	**Sb**	**15 14 08.3**	**+1.4**
USP	**Ospenovka**	**2.69**	**340**	P	**Pb**	**15 13 35.6**	**-0.2**
	SNR=22						
TRKS	**Terek-Say**	**3.59**	**284**	*i* P	**Pb**	**15 13 50.0**	**-1.0**
	baz=282						
TRKS				*e*S	**Sb**	**15 14 37.0**	**+2.5**
	baz=282						
PDGK	**Podgornoye**	**3.78**	**46**	⇓Pn	**Pb**	**15 13 53.3**	**-0.9**
PDGK				⇓Sn	**Sb**	**15 14 43.0**	**+3.1**
KK31	**Karatay Array**	**4.58**	**303**	⇑Pg	Pb	15 14 10.7	+2.9
	1.5nm,0.5s,baz=125,slow=16,SNR=9.2						
KK31				⇑Lg	Lg	15 15 06.0	
	3.1nm,0.5s,baz=124,slow=32,SNR=113						

*IDC **11** 15:18:59.2±0.7, 36°.74S×74°.38W, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.3/17, mbtmp4.3/9, ML4.3/1, Error ellipse: s-maj=40.4km s-min=19.5km az=63.0*
*ISCJB **11** 15:19:01.9±0.7, 37°.19S±0°.10×74°.8W±0°.2, h35km, mb4.6/16, Error ellipse: s-maj=23.9km s-min=12.0km az=158.5*
*NEIC **11** 15:19:03.9±0.7, 37°.18S×74°.59W, h35km, mb4.8/5, Error ellipse: s-maj=28.8km s-min=13.7km az=70.0*
ISC 11 15:19:04.1±0.7, 37°.2S±0°.1×74°.6W±0°.2, h35km, n30, σ1§49/25, mb4.5/16, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.76**	**140**	Pn	**Pn**	**15 20 14.3**	**+0.9**
	2.6nm,0.3s,baz=309,slow=17,SNR=6.1						
PLCA				Lg	Lg	15 21 25.0	
	14nm,0.3s,baz=19,slow=14,SNR=7.2						
PLCA	**Paso Flores**	**4.76**	**140**	*e*Pn	**Pn**	**15 20 10.3**	**-3.2**
PLCA				*e*S	Sn	15 21 22.9	+15
PLCA				Lg	Lg	15 21 25.0	
TRQA	**Tornquist**	**10.05**	**99**	*e*Pn	Pn	15 21 16.1	-10
TRQA				*e*Sn	Sn	15 23 08.4	-9.0
EFI	**East Falkland**	**18.64**	**146**	*e*P	**Pn**	**15 23 18.8**	**-0.4**
	71nm,1.0s						
LPAZ	**La Paz**	**21.56**	**17**	*e*P	**P**	**15 23 53.1**	**+1.9**
	13nm,0.8s						
SIV	**San Ignacio**	**24.25**	**33**	P	**P**	**15 24 17.3**	**-0.6**
	8.3nm,0.9s,baz=226,slow=6.1,SNR=4.6						
SNAA	**Sanae**	**49.48**	**157**	P	**P**	**15 27 52.2**	**+1.6**
	3.7nm,0.9s,baz=296,slow=6.2,SNR=7.4						
QSPA	**South Pole Qui**	**53.08**	**180**	P	P	15 28 22.2	+4.4
	4.5nm,1.1s,baz=173,slow=6.3,SNR=3.7						
QSPA	**South Pole Qui**	**53.08**	**180**	*e*P	**P**	**15 28 16.6**	**-1.2**
	8.1nm,0.9s						
TXAR	**Lajitas Array**	**71.55**	**333**	P	**P**	**15 30 19.6**	**-2.0**
	0.9nm,0.6s,baz=153,slow=9.6,SNR=4.8						
DRV	**Dumont d'Urvil**	**73.16**	**194**	R		15 31 00.0	
SUR	**Sutherland**	**75.11**	**119**	P	**P**	**15 30 42.7**	**-0.3**
	9.9nm,0.9s						
ANMO	**Albuquerque**	**77.62**	**334**	P	**P**	**15 30 55.0**	**-1.9**
	2.3nm,1.0s,baz=155,slow=7.8,SNR=4.3						
LIC	**Lamto**	**77.73**	**72**	*e*P	**P**	**15 30 58.4**	**+0.7**
	34nm,1.1s						
TIC	**Toumodi**	**78.00**	**72**	*e*P	**P**	**15 30 59.9**	**+0.6**
	51nm,0.2s						
KIC	**Kosan Boka**	**78.03**	**73**	*e*P	**P**	**15 31 00.1**	**+0.7**
	20nm,0.8s						
DBIC	**Dimbokro**	**78.14**	**72**	P	**P**	**15 30 59.2**	**-0.8**
	6.5nm,0.8s,baz=201,slow=6.6,SNR=6.8						
DBIC	**Dimbokro**	**78.14**	**72**	*e*P	**P**	**15 30 59.0**	**-1.1**
	11nm,0.9s						
BOSA	**Boshof**	**80.42**	**119**	P	**P**	**15 31 12.9**	**+0.4**
	6.7nm,1.0s,baz=244,slow=2.5,SNR=5.5						
NVAR	**Mina Array Bea**	**85.34**	**327**	P	**P**	**15 31 38.1**	**+0.4**
	1.0nm,0.7s,baz=156,slow=5.9,SNR=5.8						
PDAR	**Pinedale Array**	**85.69**	**335**	P	**P**	**15 31 37.6**	**-1.7**
	1.0nm,0.8s,baz=138,slow=7.2,SNR=5.8						
TORD	**Torodi Ar. Bea**	**87.22**	**71**	P	P	15 31 42.2	-4.9
	1.9nm,0.7s,baz=243,slow=4.3,SNR=5.2						
ULM	**Lac du Bonnet**	**89.04**	**347**	P	P	15 31 49.2	-5.7
	2.0nm,0.7s,baz=166,slow=5.0,SNR=3.3						
GERES	**GERESS Array B**	**115.84**	**47**	PKP	**PKPdf**	**15 37 42.1**	**-0.5**
	0.2nm,0.4s,baz=186,slow=2.0,SNR=2.6						
WRA	**Warramunga Arr**	**116.99**	**211**	PKP	**PKPdf**	**15 37 47.4**	**+1.7**
	0.4nm,0.5s,baz=180,slow=1.5,SNR=5.9						
GEYT	**Alibeck**	**142.81**	**74**	PKP	**PKPdf**	**15 38 32.2**	**-1.5**
	0.9nm,0.5s,baz=298,slow=6.1,SNR=2.7						
HYB	**Hyderabad**	**149.25**	**122**	*i* PKP	**PKPbc**	**15 38 51.0**	**+1.5**
ZALV	**Zalesovo Beam**	**158.00**	**34**	PKP	**PKPdf**	**15 38 58.2**	**+1.7**
	2.1nm,0.8s,baz=320,slow=4.4,SNR=3.6						
ZALV				PKPbc	PKPbc	15 39 06.1	
	2.1nm,0.8s,baz=270,slow=1.5,SNR=5.5						
MKAR	**Makanchi Array**	**160.36**	**53**	PKPab	**PKPab**	**15 39 40.3**	**-0.3**
	1.3nm,0.8s,baz=309,slow=3.9,SNR=7.0						
CMAR	**Chiang Mai Arr**	**160.52**	**161**	PKPab	**PKPab**	**15 39 44.2**	**+2.5**
	0.2nm,0.3s,baz=276,slow=2.5,SNR=4.1						

*ISCJB **11** 15:19:33.1±0.6, 31°.86N±0°.02×115°.76W±0°.03, h8km±5km, Error ellipse: s-maj=4.7km s-min=3.6km az=137.5*
*NEIC **11** 15:19:34.6, 31°.84N×115°.80W, h3km, ML3.4(ECX), ML3.6(PAS), After ECX.*
*ECX **11** 15:19:34.9±0.6, 31°.84N×115°.80W, h4km±2km, MD3.4, ML3.4, Fault plane solution: NP1:φ=26.60000°, δ=75.50000°, λ=-26.60000°.*
ISC 11 15:19:33.0±1.1, 31°.83N±0°.03×115°.78W±0°.03, h15km±8km, n26, σ0§77/39, 7C-4D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDX	**Rancho Dawling**	**0.17**	**306**	⇑*e*P	**Pb**	**15 19 37.8**	**-0.3**
RDX				*e*S	**Sg**	**15 19 40.4**	**+0.1**
ZAX	**El Zacaton**	**0.52**	**234**	⇑*e*P	**Pb**	**15 19 44.1**	**0.0**
ZAX				*e*S	**Sb**	**15 19 51.2**	**-0.3**
ECBX	**El Chinero**	**0.71**	**119**	⇑*e*P	**Pb**	**15 19 47.9**	**+0.7**
ECBX				*e*S	**Sb**	**15 19 57.9**	**+1.1**
ECBX				⇓*e*		15 19 59.9	
	comp=E,1μm,0.5s						
CPBX	**Cerro Prieto**	**0.71**	**34**	*e*P	**Pn**	**15 19 48.4**	**-0.3**
ECNX	**Esteban Cantu**	**0.72**	**257**	⇑*e*P	**Pb**	**15 19 47.4**	**0.0**
ECNX				*e*S	**Sb**	**15 19 57.4**	**+0.3**
PBX	**Punta Banda**	**0.81**	**264**	⇑*e*P	**Pb**	**15 19 49.1**	**+0.2**
PBX				*e*S	**Sb**	**15 19 59.8**	**+0.1**
RMX	**La Rumorosa**	**0.82**	**342**	⇓*e*P	**Pg**	**15 19 48.9**	**0.0**
RMX				*e*S	**Sg**	**15 19 59.7**	**0.0**
SPIG	**San Pedro Mart**	**0.82**	**161**	⇓*e*P	**Pn**	**15 19 50.1**	**-0.3**
SPX	**San Pedro Mart**	**0.82**	**161**	⇓*e*P	**Pn**	**15 19 50.1**	**-0.4**
SPX				*e*S	**Sn**	**15 20 01.4**	**-1.2**
CBX	**Cerro Bola**	**0.90**	**303**	⇑*e*P	**Pb**	**15 19 50.5**	**+0.1**
CBX				*e*S	**Sb**	**15 20 02.4**	**+0.1**
CBX				⇑*e*		15 20 03.5	
	comp=N,2μm,0.6s						
SWSC	**Sam W. Stewart**	**1.11**	**359**	P	**Pb**	**15 19 54.2**	**+0.2**
	baz=1.1						
BAR	**Barrett**	**1.14**	**319**	*e*Pg	**Pb**	**15 19 54.0**	**-0.6**
BAR				*e*Sg	**Sb**	**15 20 08.1**	**-1.1**
MONP	**Monument Peak,**	**1.19**	**333**	P	**Pb**	**15 19 55.7**	**+0.2**
	baz=1.2						
MONP				S	**Sb**	**15 20 10.8**	**-0.1**
	baz=1.2						
GLA	**Glamis**	**1.46**	**33**	P	**Pn**	**15 19 59.0**	**0.0**
	baz=1.5						
GLA	**Glamis**	**1.46**	**33**	*e*Pn	**Pn**	**15 19 59.0**	**0.0**
109C	**Camp Elliot, M**	**1.54**	**314**	P	**Pb**	**15 20 01.1**	**-0.3**
	baz=1.5						
109C				S	**Sn**	**15 20 20.1**	**+0.2**
	baz=1.5						
PFO	**Pinyon Flats O**	**1.87**	**342**	P	**Pn**	**15 20 05.1**	**+0.4**
	baz=1.9						
PFO	**Pinyon Flats O**	**1.87**	**342**	*e*Pn	**Pn**	**15 20 05.0**	**+0.3**
PFO				*e*Sn	**Sb**	**15 20 30.7**	**+0.4**
113A	**Mohawk Valley,**	**1.94**	**61**	S	**Sn**	**15 20 29.4**	**-0.4**
	baz=1.9						
MURC	**Murrieta**	**2.14**	**326**	Sb	**Sb**	**15 20 38.3**	**+0.4**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.53**	**86**	P	**Pn**	**15 20 14.3**	**+0.6**
	baz=2.5						
SCI	**San Clemente I**	**2.61**	**297**	P	**Pn**	**15 20 16.5**	**+1.8**
	baz=2.6						
GSC	**Goldstone, Bar**	**3.57**	**346**	*e*Pn	**Pn**	**15 20 29.6**	**+1.5**
GSC				*e*Sg	**Sg**	**15 21 25.4**	**-2.4**
TUC	**Tucson**	**4.27**	**82**	Pn	**Pn**	**15 20 37.4**	**-0.2**
ISA	**Isabella, Lake**	**4.44**	**330**	Pn	**Pn**	**15 20 41.1**	**+1.1**
WUAZ	**Wupatki**	**5.20**	**44**	Pn	**Pn**	**15 20 51.6**	**+1.2**

*IDC **11** 15:24:48.5±0.9, 34°.49S×71°.65W, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.4/19, mbtmp4.4/11, ML4.2/1, Error ellipse: s-maj=30.5km s-min=20.8km az=74.0*
*ISCJB **11** 15:24:51.7±0.6, 34°.50S±0°.06×71°.4W±0°.2, h35km, mb4.4/11, Error ellipse: s-maj=23.6km s-min=8.7km az=174.9*
*NEIC **11** 15:24:52.9±0.7, 34°.60S×71°.70W, h35km, mb4.3/2, Error ellipse: s-maj=23.5km s-min=10.9km az=86.0*
ISC 11 15:24:53.2±0.7, 34°.56S±0°.07×71°.5W±0°.2, h35km, n27, σ1§12/23, mb4.6/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.04**	**44**	Pn	Pn	15 25 57.2	+4.7
	4.3nm,0.3s,baz=219,slow=12,SNR=6.6						
CFAA				Lg	Lg	15 26 58.4	
	3.1nm,0.3s,baz=107,slow=20,SNR=3.6						
LCO	**Las Campanas**	**5.57**	**7**	*e*Pn	**Pn**	**15 26 13.4**	**-0.4**
PLCA	**Paso Flores**	**6.21**	**173**	Pn	Pn	15 26 25.2	+2.8
	1.3nm,0.3s,baz=326,slow=13,SNR=4.6						
PLCA	**Paso Flores**	**6.21**	**173**	*e*Pn	**Pn**	**15 26 21.4**	**-1.0**
TRQA	**Tornquist**	**8.46**	**117**	*e*Pn	Pn	15 26 46.2	-7.0
LVC	**Limon Verde**	**12.12**	**12**	Pn	**Pn**	**15 27 42.2**	**-1.4**
LPAZ	**La Paz**	**18.45**	**10**	P	**P**	**15 29 06.4**	**-0.1**
	0.3nm,0.3s,baz=194,slow=12,SNR=5.1						
LPAZ	**La Paz**	**18.45**	**10**	*e*Pn	P	15 28 59.3	-7.2
	8.2nm,0.7s						
EFI	**East Falkland**	**19.67**	**154**	Pn	**Pn**	**15 29 20.3**	**-0.3**
SIV	**San Ignacio**	**20.74**	**30**	P	**P**	**15 29 30.6**	**-0.2**
	4.3nm,0.5s,baz=197,slow=7.3,SNR=10						
NNA	**Nana**	**22.98**	**347**	P	**P**	**15 29 54.6**	**-0.3**
	8.7nm,0.7s,baz=196,slow=11,SNR=4.3						
PTGA	**Pitinga**	**35.34**	**20**	P	**P**	**15 31 44.4**	**-0.9**
	4.9nm,0.5s,baz=213,slow=9.3,SNR=5.2						
JTS	**JuntasAbangare**	**46.38**	**342**	*e*P	**P**	**15 33 16.3**	**0.0**
	10nm,1.1s						
SNAA	**Sanae**	**50.91**	**158**	P	**P**	**15 33 48.5**	**-2.0**
	1.1nm,0.8s,baz=295,slow=19,SNR=2.9						
QSPA	**South Pole Qui**	**55.68**	**180**	P	**P**	**15 34 26.4**	**+0.7**
	5.3nm,0.9s,baz=159,slow=5.4,SNR=5.3						
TXAR	**Lajitas Array**	**70.43**	**330**	P	**P**	**15 36 03.6**	**-0.2**
	1.4nm,0.5s,baz=158,slow=9.1,SNR=7.0						
DBIC	**Dimbokro**	**74.96**	**71**	P	**P**	**15 36 32.8**	**+1.7**
	4.7nm,0.7s,baz=190,slow=6.2,SNR=6.2						
DBIC	**Dimbokro**	**74.96**	**71**	P	**P**	**15 36 29.5**	**-1.6**
BOSA	**Boshof**	**79.44**	**117**	P	**P**	**15 36 57.8**	**+1.5**
	5.8nm,0.9s,baz=247,slow=3.3,SNR=7.5						
TORD	**Torodi Ar. Bea**	**84.00**	**70**	P	**P**	**15 37 22.0**	**+1.7**
	3.4nm,0.7s,baz=290,slow=5.9,SNR=15						
PDAR	**Pinedale Array**	**84.45**	**333**	P	**P**	**15 37 22.1**	**0.0**
	1.3nm,0.8s,baz=138,slow=4.5,SNR=4.7						
NVAR	**Mina Array Bea**	**84.58**	**325**	P	**P**	**15 37 24.2**	**+1.3**
	1.3nm,0.7s,baz=160,slow=6.8,SNR=6.5						
YKA	**Yellowknife Ar**	**102.72**	**341**	P	**Pdif**	**15 38 44.8**	**-1.1**
	0.3nm,0.6s,baz=148,slow=4.4,SNR=3.6						
H11N1	**WAKE ISLAND Hyl**	**26.62**	**270**	T	T	18 02 38.7	
	baz=272,slow=74,SNR=10						
H11N2	**WAKE ISLAND Hyl**	**26.63**	**270**	T	T	18 02 39.1	
	baz=122,slow=74,SNR=7.3						
ZALV	**Zalesovo Beam**	**154.46**	**33**	PKP	**PKPdf**	**15 44 42.3**	**+1.3**
	0.6nm,0.6s,baz=328,slow=5.1,SNR=2.8						
ZALV				PKPbc	**PKiKP**	**15 44 50.4**	**+1.0**
	1.1nm,0.6s,baz=305,slow=5.1,SNR=3.9						
ZALV				PKPab	**PKPab**	**15 45 03.5**	**-0.4**
	1.5nm,0.5s,baz=298,slow=4.9,SNR=4.3						
MKAR	**Mak

SIV	San Ignacio	20.61	31	P	P	15 30 53.3	-0.3
	comp=E,11nm,0.7s,baz=223,slow=11,SNR=7.5						
USHA	Ushuaia	20.75	174	P	P	15 30 53.5	-1.3
	comp=E,11nm,0.8s,baz=10,slow=12,SNR=3.2						
NNA	Nana	22.59	347	P	P	15 31 15.0	+0.1
NNA	Nana	22.59	347	P	P	15 31 15.4	+0.5
	comp=E,14nm,0.6s,baz=182,slow=11,SNR=6.9						
NNA	Nana	22.59	347	P	P	15 31 15.0	+0.1
SAML	Samuel	26.40	20	eP	P	15 31 50.5	-0.3
	comp=E,13nm,0.7s						
BDFB	Brasilia	28.37	55	P	P	15 32 10.1	+1.5
	comp=E,16nm,0.9s,baz=234,slow=7.4,SNR=6.8						
OTAV	Otavalo	34.82	348	eP	P	15 33 07.0	+1.5
	comp=E,34nm,1.5s						
PTGA	Pitinga	35.14	21	P	P	15 33 06.7	-1.1
	comp=E,18nm,0.7s,baz=199,slow=9.6,SNR=13						
PAYG	Puerto Ayora	37.55	329	P	P	15 33 27.4	-1.0
SDV	Santo Domingo	42.89	2	eP	P	15 34 12.3	-0.5
	comp=E,25nm,0.8s						
BCIP	Isla Barro Col	43.80	349	eP	P	15 34 20.6	+0.7
	comp=E,22nm,0.8s						
JTS	JuntasAbangare	45.97	342	eP	P	15 34 33.8	-3.4
JTS	JuntasAbangare	45.97	342	P	P	15 34 35.4	-1.8
	comp=E,2.1nm,0.2s,baz=108,slow=4.9,SNR=5.1						
JTS	JuntasAbangare	45.97	342	eP	P	15 34 33.8	-3.4
SNAA	Sanae	51.34	158	⇑/P	P	15 35 17.4	-0.6
SNAA				pmax	pmax		
	comp=Z,44nm,1.7s						
SNAA	Sanae	51.34	158	P	P	15 35 17.0	-1.0
	comp=Z,6.9nm,0.8s,baz=273,slow=7.1,SNR=11						
APG	El Apazote	52.04	337	P	P	15 35 19.9	-4.1
	comp=Z,9.0nm,0.7s,baz=130,slow=5.8,SNR=9.5						
SDDR	Presa de Saban	52.91	1	eP	P	15 35 26.7	-3.5
035A	Encino	65.70	334	⇓P	P	15 37 00.2	+1.8
	baz=66						
034A	Hebbronville	66.03	334	⇑P	P	15 37 02.4	+1.9
	baz=66						
BBSR	BB Station	66.59	7	P	P	15 37 03.9	0.0
933A	Laredo	66.74	334	⇑P	P	15 37 06.7	+1.6
	baz=67						
834A	Tilden	66.94	335	⇑P	P	15 37 08.4	+2.1
	baz=67						
735A	Kenedy	67.35	335	⇓P	P	15 37 10.8	+2.0
	baz=68						
833A	Chaparral WMA,	67.43	334	⇓P	P	15 37 10.7	+1.3
	baz=68						
832A	Faith Ranch, C	67.61	333	⇓P	P	15 37 11.9	+1.4
	baz=68						
636A	Smothers Creek	67.67	336	⇓P	P	15 37 12.6	+1.8
	baz=68						
732A	Laxson Ranch,	68.01	334	⇑P	P	15 37 14.1	+1.0
	baz=68,SNR=6.6						
633A	Saathoff Ranch	68.38	335	⇓P	P	15 37 16.6	+1.2
	baz=69						
632A	Uvalde	68.64	334	⇓P	P	15 37 18.2	+1.2
	baz=69,SNR=5.7						
533A	Kerrville	68.89	335	⇓P	P	15 37 19.7	+1.2
	baz=69						
337A	Centerville	68.99	338	⇓P	P	15 37 20.7	+1.6
	baz=69						
239A	Gary	69.23	340	⇓P	P	15 37 22.0	+1.5
	baz=70						
532A	Rocksprings	69.25	334	⇑P	P	15 37 21.7	+0.9
	baz=70,SNR=9.9						
434A	Burnet	69.30	336	⇑P	P	15 37 21.4	+0.3
	baz=70						
336A	Riesel	69.36	337	⇓P	P	15 37 22.5	+1.0
	baz=70						
335A	Moody	69.45	337	⇓P	P	15 37 23.0	+1.0
	baz=70						
531A	Rocksprings	69.52	334	⇓P	P	15 37 24.0	+1.5
	baz=70						
433A	Art	69.53	335	⇓P	P	15 37 23.2	+0.7
	baz=70,SNR=9.3						
JCT	Junction City	69.53	334	eP	P	15 37 23.1	+0.6
JCT				pmax	pmax		
	comp=Z,83nm,1.7s						
JCT	Junction City	69.53	334	⇑P	P	15 37 23.6	+1.0
	baz=70,SNR=5.4						
JCT	Junction City	69.53	334	eP	P	15 37 23.1	+0.6
	comp=Z,83nm,1.7s						
KMSC	Kings Mountain	69.56	352	⇓P	P	15 37 23.1	+0.5
	baz=70						
334A	Lometa	69.77	336	⇓P	P	15 37 24.7	+0.7
	baz=70,SNR=5.2						
530A	J-C Ranch, Com	69.80	333	⇑P	P	15 37 25.4	+1.2
	baz=70						
432A	Menard	69.89	335	⇓P	P	15 37 25.3	+0.5
	baz=70						
TXAR	Lajitas Array	69.98	331	P	P	15 37 26.1	+0.7
	comp=Z,2.8nm,0.6s,baz=154,slow=8.2,SNR=8.0						
431A	Sonora	70.00	334	⇑P	P	15 37 26.2	+0.7
	baz=70						
333A	Richland Sprin	70.01	336	⇓P	P	15 37 25.9	+0.5
	baz=70,SNR=5.7						
529A	Stev Forest Ra	70.11	332	⇑P	P	15 37 26.7	+0.6
	baz=70,SNR=7.1						
WHTX	Lake Whitney,	70.12	337	⇑P	P	15 37 26.7	+0.7
	baz=70						
137A	Heron Place, G	70.15	339	⇑P	P	15 37 27.2	+1.0
	baz=70						
OXF	Oxford	70.31	345	eP	P	15 37 25.7	-1.5
OXF				pmax	pmax		
	comp=Z,40nm,0.8s						
OXF	Oxford	70.31	345	eP	P	15 37 25.7	-1.5
	comp=Z,40nm,0.8s						
332A	Millersview	70.33	335	⇓P	P	15 37 28.2	+0.8
	baz=71						
430A	Baggett Ranch,	70.33	333	⇓P	P	15 37 28.3	+0.8
	baz=71						
429A	Davenport Ranc	70.43	333	⇑P	P	15 37 28.8	+0.7
	baz=71						
331A	San Angelo	70.50	334	⇓P	P	15 37 29.3	+0.8
	baz=71						
233A	Rising Star	70.62	336	⇓P	P	15 37 29.9	+0.7
	baz=71						
232A	Coleman	70.75	335	⇑P	P	15 37 30.6	+0.6
	baz=71						
330A	Mertzon	70.86	334	⇑P	P	15 37 31.1	+0.4
	baz=71						
231A	Bronte	71.03	335	⇑P	P	15 37 32.3	+0.5
	baz=71,SNR=6.3						
133A	Hamilton Ranch	71.16	336	⇑P	P	15 37 32.9	+0.5
	baz=72						
TZTN	Tazewell	71.23	350	eP	P	15 37 36.7	+3.9
	comp=Z,46nm,1.4s						
329A	Wagon Wheel Ra	71.24	333	⇑P	P	15 37 33.6	+0.6
	baz=72,SNR=5.1						
230A	Sterling City	71.28	334	⇑P	P	15 37 33.8	+0.6
	baz=72						
Z35A	Perchaven, San	71.29	338	⇓P	P	15 37 34.0	+0.8
	baz=72						
ABTX	Abilene, Hawle	71.42	336	⇑P	P	15 37 34.5	+0.5
	baz=72,SNR=5.3						
ABTX	Abilene, Hawle	71.42	336	eP	P	15 37 34.3	+0.2
	comp=Z,19nm,0.8s						
WVT	Waverly	71.55	346	eP	P	15 37 34.5	-0.2
WVT				pmax	pmax		
	comp=Z,56nm,0.8s						
WVT	Waverly	71.55	346	eP	P	15 37 34.5	-0.2
	comp=Z,56nm,0.8s						
229A	Bryant Ranch,	71.60	333	⇑P	P	15 37 35.9	+0.7
	baz=72						
131A	Roby	71.73	335	⇑P	P	15 37 36.6	+0.7
	baz=72						
Z33A	Whitaker Ranch	71.73	337	⇓P	P	15 37 36.4	+0.5
	baz=72,SNR=5.7						
JSRW	J. Sargeant Re	71.77	355	eP	P	15 37 35.7	-0.2
130A	Snyder	71.86	334	⇑P	P	15 37 36.8	0.0
	baz=72						
Z32A	Haskell	71.99	336	⇓P	P	15 37 37.8	+0.4
	baz=72,SNR=7.2						
Y34A	Reagan Ranch,	72.03	338	⇓P	P	15 37 37.9	+0.3
	baz=72						
228A	UT Block 9, Go	72.03	333	⇑P	P	15 37 38.1	+0.3
	baz=72,SNR=5.5						
Z31A	Sharp Cattle R	72.23	335	⇓P	P	15 37 39.3	+0.5
	baz=73,SNR=6.2						
Y33A	Hilltop Ranch,	72.35	337	⇑P	P	15 37 40.0	+0.4
	baz=73						
128A	Castleberry Fa	72.44	333	⇓P	P	15 37 40.4	+0.2
	baz=73						
Z30A	Sanderson Ranc	72.54	335	⇑P	P	15 37 41.1	+0.3
	baz=73,SNR=5.6						
Y32A	R-V Farms, Ver	72.61	336	⇓P	P	15 37 41.3	+0.1
	baz=73						
X34A	Smith Ranch, M	72.64	338	⇑P	P	15 37 41.6	+0.3
	baz=73						
Z29A	Hungry Hill Ra	72.73	334	⇑P	P	15 37 42.0	+0.1
	baz=73						
MNTX	Cornudas Mount	72.75	331	eP	P	15 37 41.0	-1.1
	comp=Z,20nm,1.6s						
Y31A	Rekieta Farm,	72.85	336	⇓P	P	15 37 43.0	+0.5
	baz=73						
WMOK	Wichita Mounta	73.07	337	eP	P	15 37 43.4	-0.4
WMOK				pmax	pmax		
	comp=Z,12nm,1.3s						
WMOK	Wichita Mounta	73.07	337	eP	P	15 37 43.4	-0.4
	comp=Z,12nm,1.3s						
TUL1	Leonard	73.25	340	⇑P	P	15 37 45.2	+0.4
	baz=74						
Y29A	Porterfield Fa	73.25	334	⇓P	P	15 37 45.6	+0.6
	baz=74						
W33A	Caddo, Fort Co	73.35	338	⇓P	P	15 37 46.4	+0.9
	baz=74						
X31A	McDonald Ranch	73.37	336	⇓P	P	15 37 46.0	+0.4
	baz=74						
W32A	Sentinel	73.58	337	⇑P	P	15 37 47.4	+0.6
	baz=74,SNR=9.5						
V34A	Guthrie	73.69	339	⇓P	P	15 37 47.6	+0.2
	baz=74						
MSTX	Muleshoe	73.75	334	⇑P	P	15 37 48.3	+0.3
	baz=74						
X29A	Tulia	73.79	335	⇑P	P	15 37 48.6	+0.4
	baz=74						
Y27A	Causey	73.82	333	⇓P	P	15 37 48.2	-0.2
	baz=74						
W31A	Holland Ranch,	73.86	336	⇓P	P	15 37 48.9	+0.3
	baz=74						
V33A	Lossen Ranch,	73.91	338	⇑P	P	15 37 49.4	+0.7
	baz=74						
AMTX	Amarillo	74.18	335	⇑P	P	15 37 50.9	+0.5
	baz=74						
AMTX	Amarillo	74.18	335	eP	P	15 37 50.8	+0.4
	comp=Z,16nm,0.9s						
U34A	Anderson Ranch	74.25	339	⇓P	P	15 37 51.0	+0.3
	baz=75						
W29A	Amarillo	74.38	335	⇓P	P	15 37 52.0	+0.4
	baz=75						
121A	Cookes Peak, D	74.48	329	⇓P	P	15 37 54.1	+1.7
	baz=75,SNR=6.6						
SUR	Sutherland	74.63	119	eP	P	15 37 54.0	+0.5
U32A	Winter Ranch,	74.65	338	⇑P	P	15 37 53.7	+0.6
	baz=75						
X26A	CR and CF Fran	74.66	333	⇑P	P	15 37 54.0	+0.8
	baz=75,SNR=6.8						
Y24A	Capitan	74.73	332	⇓P	P	15 37 54.8	+1.0
	baz=75						
Z22A	Elephant Butte	74.76	330	⇓P	P	15 37 55.5	+1.5
	baz=75						
ACSO	Alum Creek Sta	74.79	351	eP	P	15 37 53.2	-0.6
	comp=Z,24nm,0.8s						
W27A	Bowe Ranch, En	74.84	334	⇑P	P	15 37 55.1	+0.8
	baz=75,SNR=6.2						
Y23A	Lovelace Mesa,	74.98	331	⇑P	P	15 37 56.5	+1.3
	baz=75						
T33A	Patterson Ranc	75.06	338	⇓P	P	15 37 56.2	+0.8
	baz=75,SNR=8.2						
W26A	Owens Ranch, T	75.12	333	⇑P	P	15 37 57.0	+1.0
	baz=76						
DBIC	Dimbokro	75.15	71	P	P	15 37 55.5	-0.9
	comp=Z,6.5nm,0.8s,baz=211,slow=5.7,SNR=6.5						
U30A	WK&E Inc. Balk	75.32	336	⇓P	P	15 37 58.5	+1.6
	baz=76						
T32A	Huddler Ranch,	75.36	338	⇑P	P	15 37 58.2	+1.0
	baz=76						
V27A	Dan Oppiter Fa	75.38	334	⇓P	P	15 37 58.3	+1.0
	baz=76						
W25A	X Bar L Ranch,	75.49	333	⇑P	P	15 37 58.8	+0.8
	baz=76						
T31A	Randall Ranch,	75.52	337	⇑P	P	15 37 58.8	+0.8
	baz=76						
U28A	Mallet	75.72	335	⇑P	P	15 38 00.2	+0.9
	baz=76						
V26A	Tequesquite Ra	75.75	334	⇑P	P	15 38 00.1	+0.5
	baz=76						
LAZ	Ladron	75.83	331	eP	P	15 38 01.4	+1.3
	comp=Z,16nm,1.6s						
W24A	Lazy 6 Ranch,	75.85	332	⇓P	P	15 38 01.0	+0.8
	baz=76,SNR=6.1						
S31A	Mullinville	75.94	338	⇓P	P	15 38 01.3	+0.9
	baz=76						
U27A	Thompson Grove	75.97	335	⇓P	P	15 38 01.8	+1.1
	baz=76						
ANMO	Albuquerque	76.03	331	ceP	P	15 38 02.5	+1.3
ANMO				pmax	pmax		
	comp=Z,81nm,1.4s						
W23A	Werner Place,	76.09	332	⇑P	P	15 38 02.9	+1.2
	baz=76						
V25A	Rancho No Teng	76.10	333	⇑P	P	15 38 02.3	+0.7
	baz=76,SNR=8.2						
T29A	Hugoton	76.10	336	⇑P	P	15 38 02.4	+0.9
	baz=76						
R33A	Olander Ranch,	76.12	339	⇑P	P	15 38 01.9	+0.4
	baz=76						
V24A	Rampart Ranch,	76.25	333	⇑P	P	15 38 03.4	+0.9
	baz=77						
214A	Organ Pipe Nat	76.26	325	⇑P	P	15 38 03.6	+1.2
	baz=77						
S30A	Montezuma	76.27	337	⇑P	P	15 38 03.1	+0.7
	baz=77						
T28A	Walsh	76.35	336	⇓P	P	15 38 03.6	+0.7
	baz=77,SNR=7.6						
R32A	Long Quarter,	76.44	339	⇓P	P	15 38 04.1	+0.8
	baz=77						
KSU1	Kansas State U	76.46	340	⇓P	P	15 38 03.3	0.0
	baz=77						
KSU1	Kansas State U	76.46	340	eP	P	15 38 03.0	-0.3
	comp=Z,16nm,0.7s						
S29A	Ulysses	76.47	337	⇑P	P	15 38 04.4	+0.9
	baz=77						
T27A	Campo	76.50	335	⇑P	P	15 38 04.5	+0.7
	baz=77,SNR=5.7						
U25A	Circle Dot Ran	76.52	334	⇑P	P	15 38 05.2	+1.2
	baz=77,SNR=5.6						
R31A	Burdett	76.56	338	⇑P	P	15 38 04.6	+0.6
	baz=77						
S28A	Manter	76.70	336	⇓P	P	15 38 05.6	+0.8
	baz=77,SNR=6.2						
R30A	Dighton	76.80	337	⇑P	P	15 38 05.2	-0.1
	baz=77						
T26A	Comanche Natio	76.92	334	⇓P	P	15 38 07.4	+1.2
	baz=77						
Q32A	Meitler Ranch,	76.92	339	⇑P	P	15 38 06.6	+0.7
	baz=77						
V22A	San Miguel Ran	77.05	331	⇓P	P	15 38 08.6	+1.6
	baz=77,SNR=11						
X18A	Snowflake	77.12	329	⇑P	P	15 38 09.0	+1.6
	baz=78						
S27A	Las Animas	77.13	335	⇑P	P	15 38 08.5	+1.2
	baz=78						
T25A	Trinidad	77.18	334	⇓P	P	15 38 09.1	+1.4
	baz=78,SNR=10						
Q31A	Ellis	77.18	338	⇑P	P	15 38 08.3	+0.9
	baz=78						
S26A	Kim	77.27	335	⇓P	P	15 38 09.4	+1.3
	baz=78,SNR=11						
R28A	Tribune	77.35	336	⇓P	P	15 38 09.4	+0.9
	baz=78						
Q30A	Quinter	77.41	338	⇓P	P	15 38 09.6	+0.9
	baz=78,SNR=5.5						
U22A	Llaves	77.43	332	⇑P	P	15 38 11.1	+2.0
	baz=78						
T24B	San Luis	77.47	333	⇑P	P	15 38 10.9	+1.4
	baz=78,SNR=8.3						
W18A	Petrified Fore	77.53	329	⇓P	P	15 38 11.7	+2.1
	baz=78						
R27A	Eads	77.63	336	⇑P	P	15 38 10.7	+0.6
	baz=78,SNR=7.4						
S25A	Robets Cordova	77.65	334	⇑P	P	15 38 11.9	+1.6
	baz=78						
T23A	Casias Ranch,	77.69	333	⇑P	P	15 38 12.1	+1.4
	baz=78						
S24A	Houchin Ranch,	77.92	334	⇑P	P	15 38 13.5	+1.6
	baz=78,SNR=9.2						
P30A	Selden	77.94	338	⇑P	P	15 38 13.0	+1.4
	baz=78						
Y14A	Wickenburg	77.99	326	⇑P	P	15 38 13.6	+1.5
	baz=78						
Q28A	Sharon Springs	78.01	337	⇑P	P	15 38 13.4	+1.3
	baz=78						
O32A	Brockman Farm,	78.01	340	⇑P	P	15 38 12.7	+0.7
	baz=78						
R25A	Fountain Ranch	78.03	334	⇑P	P	15 38 13.4	+1.0
	baz=78						
P29A	Atwood	78.21	337	⇓P	P	15 38 14.4	+1.2
	baz=79						
SCIA	State Center	78.24	344	eP	P	15 38 12.8	-0.5
	comp=Z,157nm,2.0s						
P28A	Saint Francis	78.44	337	⇑P	P	15 38 15.7	+1.1
	baz=79						
LONY	Lake Ozonia	78.51	358	eP	P	15 38 15.4	+0.8
	comp=Z,146nm,2.1s						
Y12C	Blythe	78.55	325	⇑P	P	15 38 16.6	+1.4
	baz=79						
WUAZ	Wupatki	78.57	328	⇓P	P	15 38 16.9	+1.4
	baz=79,SNR=6.3						
WUAZ	Wupatki	78.57	328	eP	P	15 38 16.5	+1.1
	comp=Z,129nm,2.3s						
S22A	4UR Ranch, Cre	78.62	332	⇑P	P	15 38 17.0	+1.2
	baz=79						
R23A	Moffat	78.63	333	⇑P	P	15 38 17.0	+1.2
	baz=79						
N31A	Bailey Ranch,	78.72	339	⇓P	P	15 38 17.3	+1.3
	baz=79						
MVCO	Mesa Verde	78.81	331	⇑P	P	15 38 17.9	+1.1
	baz=79						
MVCO	Mesa Verde	78.81	331	P	P	15 38 16.8	0.0
	comp=Z,33nm,1.4s						
PDMCI	Parker Dam,Lak	78.82	325	⇑P	P	15 38 17.9	+1.4
	baz=79						
BC3	Big Chuckawall	78.92	324	⇓P	P	15 38 18.7	+1.4
	baz=79,SNR=5.9						
P26A	Davis Ranch, A	78.96	336	⇑P	P	15 38 18.5	+1.0
	baz=79						
TSUM	Tsumeb	79.05	106	eP	P	15 38 18.6	0.0
Q24A	Divide	79.06	334	⇓P	P	15 38 19.5	+1.3
	baz=79,SNR=11						
IRM	Iron Mountain	79.18	325	⇑P	P	15 38 20.0	+1.3
	baz=80						
P25A	Willow Gulch B	79.20	335	⇑P	P	15 38 20.3	+1.5
	baz=80,SNR=7.0						
M31A	Lambtecht Ranc	79.21	340	⇑P	P	15 38 19.9	+1.3
	baz=80						
O27A	Beecher Island	79.24	337	⇓P	P	15 38 20.4	+1.5
	baz=80						
W13A	Hualapai Mount	79.36	326	⇓P	P	15 38 21.6	+1.8
	baz=80						
PFO	Pinyon Flats O	79.37	323	⇓P	P	15 38 21.7	+1.9
	baz=80						
BELC	Belle Mtn. Jos	79.46	324	⇓P	P	15 38 21.5	+1.2
	baz=80						
O26A	Horse Wrangler	79.56	336	⇑P	P	15 38 22.4	+1.7
	baz=80						
PV01	Paradox Valley	79.63	331	eP	P	15 38 21.9	+0.6
	comp=Z,2μm,1.6s						
MURC	Murrieta	79.73	323	⇓P	P	15 38 22.8	+1.2
	baz=80						
N27A	Anderson Farm,	79.81	337	⇑P	P	15 38 23.4	+1.4
	baz=80						
BOSA	Boshof	79.87	118	eP	P	15 38 22.4	-0.5
BOSA				pmax	pmax		
	comp=Z,21nm,0.9s						
BOSA	Boshof	79.87	118	P	P	15 38 22.6	-0.3
	comp=Z,16nm,0.8s,baz=262,slow=5.1,SNR=14						
BOSA	Boshof	79.87	118	eP	P	15 38 22.4	-0.5
	comp=Z,21nm,0.9s						
SMCO	Snowmass	79.92	333	eP	P	15 38 24.7	+1.7
	comp=Z,16nm,0.9s						
GMRC	Granite Mounta	79.93	325	⇑P	P	15 38 24.3	+1.5
	baz=80,SNR=6.9						
L31A	Butterfield Fa	79.94	340	⇓P	P	15 38 24.0	+1.4
	baz=80						
ISCO	Idaho Springs	79.97	334	eP	P	15 38 24.0	+0.9
ISCO				pmax	pmax		
	comp=Z,197nm,2.8s						
ISCO	Idaho Springs	79.97	334	⇓P	P	15 38 24.4	+1.3
	baz=80						
ISCO	Idaho Springs	79.97	334	eP	P	15 38 24.0	+0.9
	comp=Z,197nm,2.8s						
N26A	Koester Ranch,	80.06	336	⇑P	P	15 38 25.2	+1.8
	baz=80						
P22A	Eagle	80.21	333	⇑P	P	15 38 25.7	+1.4
	baz=81						
HEC	Hector,Ludlow	80.29	324	⇓P	P	15 38 26.5	+1.8
	baz=81,SNR=5.0						
M27A	Reverse DX Ran	80.42	337	⇑P	P	15 38 26.8	+1.5
	baz=81						
O23A	Lake Granby, G	80.44	334	⇓P	P	15 38 27.2	+1.6
	baz=81,SNR=9.2						
BFSC	Mount Baldy Ra	80.47	323	⇑P	P	15 38 26.3	+0.6
	baz=81						
TUQ	Turquoise Moun	80.59	325	⇓P	P	15 38 27.9	+1.5
	baz=81,SNR=9.0						
K30A	Basset	80.62	340	⇓P	P	15 38 27.7	+1.5
	baz=81						
O22A	Kremmling	80.63	334	⇑P	P	15 38 28.1	+1.4
	baz=81,SNR=6.6						
ECSD	EROS Data Cent	80.79	342	⇓P	P	15 38 27.2	+0.1
	baz=81,SNR=11						
ECSD	EROS Data Cent	80.79	342	eP	P	15 38 27.1	0.0
	comp=Z,29nm,0.8s						
M25A	Palm-Egli Farm	80.88	336	⇓P	P	15 38 29.0	+1.1
	baz=81						
L27A	T5 Ranch, Ells	80.90	338	⇓P	P	15 38 29.2	+1.4
	baz=81						
GSC	Goldstone, Bar	80.91	324	⇓P	P	15 38 29.4	+1.4
	baz=81						
K29A	Lazy Trails An	80.91	339	⇑P	P	15 38 28.9	+1.1
	baz=81						
N23A	Red Feather La	81.06	335	⇑P	P	15 38 30.1	+1.2
	baz=81						
EDW2	Edwards Air Fo	81.15	323	⇓P	P	15 38 30.3	+1.0
	baz=82						
N22A	Wattenberg Ran	81.16	334	⇓P	P	15 38 30.5	+1.1
	baz=82						
M24A	Cheyenne	81.17	336	⇑P	P	15 38 30.6	+1.2
	baz=82						
K28A	Ten Mile Ranch	81.17	338	⇓P	P	15 38 30.7	+1.4
	baz=82						
O20A	White River Ci	81.24	333	⇓P	P	15 38 30.8	+1.0
	baz=82						
SRU	San Rafael Swe	81.26	331	eP	P	15 38 30.9	+1.0
SRU				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SRU	San Rafael Swe	81.26	331	eP	P	15 38 30.9	+1.0
	comp=Z,8.0nm,0.7s						
K27A	Flueckinger Fa	81.43	338	⇑P	P	15 38 32.3	+1.6
	baz=82						
LRMC	Laurel Mtn Rad	81.48	324	⇓P	P	15 38 32.4	+1.3
	baz=82						
M23A	Laramie	81.48	335	⇑P	P	15 38 32.4	+1.3
	baz=82						
L25A	Engebretsen Ra	81.50	336	⇑P	P	15 38 32.3	+1.3
	baz=82						
J29A	Okreek	81.50	339	⇓P	P	15 38 31.8	+0.9
	baz=82,SNR=6.2						
I30A	Oacoma	81.71	340	⇑P	P	15 38 32.4	+0.4
	baz=82,SNR=6.0						
M22A	Cedar Creek Ra	81.73	334	⇑P	P	15 38 33.9	+1.5
	baz=82						
J28A	Allard Ranch,	81.78	339	⇓P	P	15 38 33.9	+1.4
	baz=82						
N20A	Spence Gulch,	81.85	333	⇓P	P	15 38 34.1	+1.1
	baz=82						
J27A	Elkhorn Farm,	81.86	338	⇑P	P	15 38 34.6	+1.8
	baz=82						
K25A	Mack Ranch, Ha	81.87	337	⇓P	P	15

I28A **Midland** 82.29 339 ⇓P P 15 38 35.9 +0.8
baz=83,SNR=7.3
VES **Vestal, Richgr** 82.45 323 ⇑P P 15 38 37.2 +1.2
baz=83
J25A **Sunshine Ranch** 82.55 337 ⇑P P 15 38 37.5 +1.0
baz=83,SNR=6.1
H29A **Onida** 82.58 340 ⇓P P 15 38 36.9 +0.4
baz=83,SNR=6.4
K23A **Bowen Ranch, D** 82.59 336 ⇓P P 15 38 37.6 +0.9
baz=83
I27A **Quinn** 82.61 339 ⇓P P 15 38 37.4 +0.7
baz=83
G30A **Faulkton** 82.75 341 ⇓P P 15 38 38.2 +0.8
baz=83
J24A **Dixon Ranch, L** 82.78 337 ⇑P P 15 38 39.0 +1.3
baz=83
R11A **Troy Canyon, C** 82.80 327 ⇓P P 15 38 39.6 +1.6
baz=83,SNR=6.3
K22A **Casper** 82.81 335 ⇑P P 15 38 39.0 +1.1
baz=83
K22A **Casper** 82.81 335 *e*P P 15 38 39.0 +1.1
comp=Z,88nm,1.7s
H28A **Mission Ridge** 82.86 340 ⇑P P 15 38 38.6 +0.6
baz=83
JLU **Jordanelle** 82.90 331 *e*P P 15 38 39.6 +1.1
comp=Z,57nm,1.9s
K21A **Alcova** 83.05 335 ⇑P P 15 38 39.7 +0.5
baz=83,SNR=12
I25A **Rochford** 83.09 337 ⇑P P 15 38 40.1 +0.7
baz=84,SNR=6.9
CTU **Camp Tracy** 83.10 331 *e*P P 15 38 40.3 +0.8
comp=Z,128nm,2.5s
DUG **Dugway, Tooele** 83.12 330 *e*P P 15 38 40.4 +0.8
DUG pmax pmax
comp=Z,131nm,2.5s
DUG **Dugway, Tooele** 83.12 330 ⇓P P 15 38 40.6 +1.1
baz=84,SNR=5.1
DUG **Dugway, Tooele** 83.12 330 *e*P P 15 38 40.4 +0.8
comp=Z,131nm,2.5s
H27A **Howes** 83.14 339 ⇑P P 15 38 39.9 +0.4
baz=84
G28A **Parade** 83.20 340 ⇓P P 15 38 40.3 +0.6
baz=84,SNR=5.5
I24A **Kuemmerle Ranc** 83.24 337 ⇑P P 15 38 40.7 +0.7
baz=84
RSSD **Black Hills** 83.28 337 *e*P P 15 38 40.7 +0.3
RSSD pmax pmax
comp=Z,7.0nm,0.8s
RSSD **Black Hills** 83.28 337 *e*P P 15 38 40.7 +0.3
comp=Z,6.8nm,0.8s
J22A **Midwest** 83.46 335 ⇑P P 15 38 41.7 +0.5
baz=84
F29A **Eureka** 83.59 341 ⇓P P 15 38 42.2 +0.5
baz=84
J21A **Lysite** 83.74 335 ⇑P P 15 38 44.5 +1.8
baz=84
G27A **Dupree** 83.77 339 ⇓P P 15 38 43.2 +0.6
baz=84
F28A **McLaughlin** 83.87 340 ⇑P P 15 38 43.9 +0.7
baz=84
I22A **9 Mile Ranch,** 83.89 336 ⇑P P 15 38 43.9 +0.5
baz=84
G26A **Maurine** 83.89 339 ⇑P P 15 38 43.7 +0.4
baz=84
E30A **Jud** 83.96 342 ⇑P P 15 38 44.3 +0.8
baz=84
J20A **Shoshoni** 83.97 334 ⇓P P 15 38 45.2 +1.3
baz=84,SNR=8.5
H24A **Dirks Ranch, A** 84.00 337 ⇑P P 15 38 44.1 +0.2
baz=84,SNR=5.4
BW06 **Boulder Array** 84.01 333 *e*P P 15 38 44.2 0.0
comp=Z,2.8nm,0.7s
PDAR **Pinedale Array** 84.01 333 P P 15 38 44.4 +0.2
comp=Z,3.7nm,0.7s,baz=159,slow=4.5,SNR=15
G25A **Newell** 84.05 338 ⇓P P 15 38 44.4 +0.3
baz=84,SNR=7.4
I21A **Big Trails, Te** 84.09 335 ⇑P P 15 38 44.8 +0.3
baz=84
NVAR **Mina Array Bea** 84.12 325 P P 15 38 46.2 +1.4
comp=Z,4.6nm,0.7s,baz=158,slow=6.2,SNR=16
TORD **Torodi Ar. Bea** 84.19 70 P P 15 38 45.5 0.0
comp=Z,7.7nm,0.7s,baz=254,slow=3.9,SNR=13
E29A **Napoleon** 84.22 341 ⇑P P 15 38 45.2 +0.4
baz=85
F27A **Lemmon** 84.24 339 ⇑P P 15 38 45.5 +0.4
baz=85,SNR=8.9
J19A **Crowheart** 84.25 334 ⇓P P 15 38 46.1 +0.7
baz=85,SNR=8.0
F26A **Lodgepole** 84.42 339 ⇓P P 15 38 46.1 +0.1
baz=85
HVU **Hansel Valley** 84.43 331 *e*P P 15 38 46.6 +0.4
HVU pmax pmax
comp=Z,17nm,0.7s
HVU **Hansel Valley** 84.43 331 *e*P P 15 38 46.6 +0.4
comp=Z,17nm,0.7s
H22A **Clearmont** 84.46 336 ⇑P P 15 38 46.2 -0.1
baz=85
D30A **Buchanan** 84.48 342 ⇓P P 15 38 46.6 +0.4
baz=85,SNR=6.9
E28A **Huff** 84.51 341 ⇑P P 15 38 46.8 +0.5
baz=85
I20A **Worland** 84.51 335 ⇑P P 15 38 46.9 +0.3
baz=85,SNR=5.6
ELK **Elko** 84.61 328 *e*P P 15 38 48.3 +1.0
ELK pmax pmax
comp=Z,170nm,2.5s
ELK **Elko** 84.61 328 *e*P P 15 38 48.3 +1.0
comp=Z,170nm,2.5s
D29A **Pettibone, Tap** 84.66 341 ⇓P P 15 38 47.5 +0.4
baz=85
G23A **Biddle** 84.68 337 ⇑P P 15 38 47.5 +0.2
baz=85
F25A **Bowman** 84.72 338 ⇑P P 15 38 47.9 +0.4
baz=85
H21A **Big Horn, Sher** 84.72 336 ⇑P P 15 38 47.6 0.0
baz=85
WAKR **Walker** 84.73 324 *e*P P 15 38 49.7 +1.8
comp=Z,15nm,1.7s
I19A **Meeteetse** 84.89 334 ⇓P P 15 38 48.8 +0.2
baz=85
AGMN **Agassiz Nation** 84.90 344 ⇑P P 15 38 48.4 +0.2
baz=85,SNR=6.6
AGMN **Agassiz Nation** 84.90 344 *e*P P 15 38 48.1 -0.2
comp=Z,176nm,2.1s
H20A **Greybull** 84.93 335 ⇓P P 15 38 49.0 +0.4
baz=85,SNR=7.4
F24A **Ekalaka** 84.95 338 ⇑P P 15 38 48.8 +0.1
baz=85
C30A **Mose, Pekin** 84.96 342 ⇓P P 15 38 49.1 +0.5
baz=85,SNR=16
G22A **Birney** 84.99 336 ⇑P P 15 38 49.1 +0.1
baz=85
D28A **Regan** 85.04 341 ⇓P P 15 38 49.6 +0.6
baz=85
LOHW **Long Hollow** 85.13 333 *e*P P 15 38 49.1 -0.7
comp=Z,89nm,2.1s
F23A **Volborg** 85.15 337 ⇓P P 15 38 50.2 +0.6
baz=86
TPAW **Teton Pass** 85.15 333 *e*P P 15 38 50.7 +0.7
comp=Z,13nm,0.9s
E25A **Miller Ranch,** 85.22 339 ⇓P P 15 38 50.7 +0.7
baz=86
G21A **Lodge Grass** 85.30 336 ⇓P P 15 38 50.8 +0.2
baz=86
FXWY **Fox Creek** 85.31 333 *e*P P 15 38 51.3 +0.5
comp=Z,52nm,1.9s
I17A **Pilgrim Ck.** 85.38 333 ⇓P P 15 38 52.0 +0.9
baz=86,SNR=9.5
MDND **Maddock** 85.39 342 ⇓P P 15 38 51.1 +0.4
baz=86,SNR=6.9
MDND **Maddock** 85.39 342 *e*P P 15 38 51.1 +0.4
comp=Z,12nm,0.7s
D26A **Manning** 85.42 340 ⇓P P 15 38 51.3 +0.4
baz=86,SNR=6.1
H19A **Powell** 85.44 334 ⇑P P 15 38 51.5 +0.3
baz=86,SNR=5.2
C28A **Hausauer Farms** 85.47 341 ⇑P P 15 38 52.1 +1.0
baz=86
F22A **Rosebud** 85.47 337 ⇓P P 15 38 51.7 +0.4
baz=86
IMW **Indian Meadow** 85.50 333 *e*P P 15 38 52.5 +0.8
comp=Z,163nm,2.5s
E24A **Baker** 85.55 338 ⇓P P 15 38 52.1 +0.5
baz=86
FLWY **Flagg Ranch** 85.56 333 *e*P P 15 38 52.6 +0.6
B30A **Myrvik Farm, E** 85.62 343 ⇓P P 15 38 52.1 +0.2
baz=86,SNR=17
G20A **Bridger** 85.64 335 ⇑P P 15 38 52.3 +0.1
baz=86,SNR=11
H18A **Shoshone NF, C** 85.69 334 ⇑P P 15 38 53.0 +0.4
baz=86,SNR=15
C27A **Sayler Ranch,** 85.77 340 ⇑P P 15 38 53.2 +0.6
baz=86,SNR=7.2
D25A **Fairfield** 85.78 339 ⇑P P 15 38 53.5 +0.7
baz=86
H17A **Grant Village** 85.78 333 ⇑P P 15 38 54.0 +0.8
baz=86
B29A **Wagenman Farm,** 85.89 342 ⇓P P 15 38 53.7 +0.5
baz=86,SNR=5.1
YFT **Old Faithful** 85.93 333 P P 15 38 53.6 -0.2
comp=Z,100nm,1.7s
E22A **Miles City** 85.96 337 ⇑P P 15 38 53.9 +0.2
baz=86
C26A **Wahner Farm, P** 86.04 340 ⇓P P 15 38 54.5 +0.5
baz=86
D24A **Glendive** 86.05 338 ⇑P P 15 38 54.6 +0.5
baz=86
A30A **Hoffart Farm,** 86.07 343 ⇓P P 15 38 54.2 +0.1
baz=86,SNR=10
F20A **Billings** 86.13 336 ⇓P P 15 38 54.4 -0.1
baz=86
B28A **Dugan Ranch, T** 86.14 341 ⇓P P 15 38 54.9 +0.5
baz=86
YMR **Madison River** 86.16 333 *e*P P 15 38 55.9 +1.0
comp=Z,27nm,0.8s
A29A **Manning Farm,** 86.28 342 ⇓P P 15 38 55.1 0.0
baz=87,SNR=6.4
OHCM **Honcut** 86.37 324 *e*P P 15 38 57.2 +1.4
D23A **Lindsay** 86.38 338 ⇑P P 15 38 56.5 +0.8
baz=87,SNR=12
E21A **Keefer Ranch,** 86.42 337 ⇑P P 15 38 56.3 +0.4
baz=87
C24A **Savage** 86.45 339 ⇑P P 15 38 57.0 +1.0
baz=87,SNR=7.0
QLMT **Earthquake Lak** 86.47 333 *e*P P 15 38 57.5 +1.0
A28A **Rude Farm, Bot** 86.54 342 ⇓P P 15 38 56.9 +0.4
baz=87
B26A **Jensen Ranch,** 86.58 340 ⇓P P 15 38 57.4 +0.8
baz=87
HLID **Hailey** 86.58 331 ⇑P P 15 38 58.1 +1.1
baz=87
HLID **Hailey** 86.58 331 *e*P P 15 38 57.9 +0.9
comp=Z,13nm,1.0s
D22A **Cohagen** 86.66 337 ⇑P P 15 38 57.9 +0.8
baz=87,SNR=5.4
E20A **Meyer Farm, Mu** 86.73 336 ⇑P P 15 38 58.3 +0.8
baz=87,SNR=16
ULM **Lac du Bonnet** 86.74 345 P P 15 38 56.5 -0.8
comp=Z,7.5nm,0.7s,baz=222,slow=3.6,SNR=3.6
B25A **Knox Farm, Ray** 86.75 340 ⇓P P 15 38 58.4 +0.9
baz=87
A27A **Ledoux Ranch,** 86.83 341 ⇑P P 15 38 58.4 +0.6
baz=87
D21A **La Casta Ranch** 86.85 337 ⇓P P 15 38 58.2 +0.2
baz=87,SNR=6.2
E19A **Rath Farm, Rou** 86.92 335 ⇑P P 15 38 58.5 +0.1
baz=87,SNR=9.7
C23A **Lambert** 86.93 338 ⇓P P 15 38 58.7 +0.3
baz=87,SNR=10
A26A **Wade Farm, Ken** 87.00 341 ⇑P P 15 38 58.8 +0.2
baz=87
MFID **Camas Ranch** 87.04 330 *e*P P 15 39 00.1 +0.9
comp=Z,55nm,1.8s
C22A **Vida** 87.09 338 ⇑P P 15 38 59.5 +0.3
baz=88
D20A **Manuel Ranch,** 87.25 336 ⇓P P 15 39 00.2 +0.3
baz=88,SNR=7.7
A25A **Svangstu Ranch** 87.34 340 ⇑P P 15 39 00.9 +0.6
baz=88
DLMT **Dillon** 87.36 333 *e*P P 15 39 01.6 +0.9
comp=Z,97nm,1.8s
B23A **Brekton** 87.46 339 ⇑P P 15 39 01.1 +0.2
baz=88
WVOR **Wild Horse Val** 87.47 327 *e*P P 15 39 01.9 +0.6
WVOR pmax pmax
comp=Z,292nm,3.0s
WVOR **Wild Horse Val** 87.47 327 *e*P P 15 39 01.9 +0.6
comp=Z,292nm,3.0s
D19A **Cripps Ranch,** 87.56 336 ⇑P P 15 39 01.7 +0.2
baz=88
A24A **Westby** 87.58 339 ⇑P P 15 39 01.8 +0.3
baz=88
B22A **Reddig Ranch S** 87.62 338 ⇓P P 15 39 02.1 +0.4
baz=88,SNR=7.2
LRM **Limekiln Ridge** 87.70 333 *e*P P 15 39 02.8 +0.4
comp=Z,103nm,0.8s
C20A **Veseth Ranch,** 87.75 337 ⇓P P 15 39 02.5 +0.1
baz=88
WDC **Whiskeytown Da** 87.85 324 *e*P P 15 39 03.2 +0.3
WDC pmax pmax
comp=Z,11nm,0.6s
WDC **Whiskeytown Da** 87.85 324 *e*P P 15 39 03.2 +0.3
comp=Z,11nm,0.6s
A23A **Redstone** 87.87 339 ⇓P P 15 39 03.2 +0.3
baz=88
B21A **Ellsworth Farm** 88.05 337 ⇓P P 15 39 04.2 +0.4
baz=88
C19A **Slack Wire Ran** 88.11 336 ⇑P P 15 39 04.7 +0.6
baz=88
A22A **Carney Farms,** 88.21 338 ⇑P P 15 39 05.2 +0.6
baz=89,SNR=8.8
HRY **Holter Researc** 88.22 334 P P 15 39 03.8 -0.9
N02D **Trinity Center** 88.23 324 ⇓P P 15 39 05.2 +0.4
baz=89
M04C **Macdoel** 88.43 325 ⇑P P 15 39 06.6 +0.7
baz=89
A21A **Bergtoll Ranch** 88.52 338 ⇓P P 15 39 06.0 0.0
baz=89
EGMT **Eagleton** 88.61 336 ⇓P P 15 39 06.4 -0.1
baz=89
EGMT **Eagleton** 88.61 336 *e*P P 15 39 05.8 -0.6
comp=Z,290nm,2.8s
M02C **Callahan** 88.62 324 ⇓P P 15 39 07.4 +0.7
baz=89
B19A **Brinkman Farms** 88.70 336 ⇓P P 15 39 07.1 +0.2
baz=89
K05A **Summer Lake** 88.72 326 *e*P P 15 39 08.2 +0.9
comp=Z,278nm,2.2s
A20A **Cobblestone Ra** 88.74 337 ⇓P P 15 39 07.4 +0.4
baz=89
SCHQ **Schefferville** 88.80 3 P P 15 39 06.4 -0.7
comp=Z,4.4nm,0.9s,baz=156,slow=1.4,SNR=4.2
BMO **Blue Mountains** 88.83 330 *e*P P 15 39 07.9 +0.3
comp=Z,2.9nm,0.8s
CHMT **Chamberlain Mo** 88.92 333 *e*P P 15 39 10.0 +1.9
A19A **Klindworth Far** 89.05 337 ⇓P P 15 39 08.5 0.0
baz=89
J05D **Fort Rock, OR** 89.31 326 ⇑P P 15 39 11.3 +1.3
baz=90
LSZ **Lusaka** 89.64 108 P P 15 39 13.2 +1.0
LSZ **Lusaka** 89.64 108 P P 15 39 13.2 +1.0
G08A **Pilot Rock** 89.88 329 *e*P P 15 39 12.7 +0.1
JTMT **Jette** 90.00 333 *e*P P 15 39 13.3 +0.3
NEW **Newport** 91.52 332 ⇓P P 15 39 20.7 +0.7
baz=92
FFC **Flin Flon** 92.29 343 P P 15 39 22.5 -0.8
FFC pmax pmax
comp=Z,7.0nm,0.9s
FFC **Flin Flon** 92.29 343 P P 15 39 22.5 -0.8
comp=Z,6.7nm,0.9s
YKA **Yellowknife Ar** 102.30 341 P Pdif 15 40 08.0 -0.4
YKA **Yellowknife Ar** 102.30 341 P Pdif 15 40 07.9 -0.4
comp=Z,1.2nm,0.6s,baz=142,slow=4.5,SNR=17
ILAR **Eielson Array** 114.44 333 PKP PKPdf 15 44 51.9 -0.8
comp=Z,0.6nm,0.7s,baz=152,slow=1.9,SNR=7.7
VYHS **Vyhne** 115.16 47 *e*PKIKP PKPdf 15 44 54.5 -0.1
VYHS **Vyhne** 115.16 47 *e*PKP PKPdf 15 44 54.5 -0.1
MSEY **Mahe Island** 117.14 117 *i* PKIKP PKPdf 15 44 54.2 -5.3
ASAR **Alice Springs** 117.42 207 PKP PKPdf 15 44 58.2 -1.7
comp=Z,0.7nm,0.7s,baz=135,slow=2.0,SNR=7.9
KOLS **Kolonicke sedl** 117.43 48 *e*PKIKP PKPdf 15 45 02.1 +3.2
KOLS **Kolonicke sedl** 117.43 48 *e*PKP PKPdf 15 45 02.1 +3.2
KOLS *e* 15 56 28.0
WRA **Warramunga Arr** 120.62 209 PKP PKPdf 15 45 04.8 -1.3
comp=Z,1.0nm,0.7s,baz=165,slow=1.5,SNR=16
WRAB **Tennant Creek** 120.62 209*c* *i* PKIKP PKPdf 15 45 05.0 -1.1
WRAB pmax pmax
comp=Z,28nm,2.5s
BRTR **Keskin Array B** 121.85 61 PKP PKPdf 15 45 07.5 -0.4
comp=Z,1.8nm,0.8s,baz=183,slow=1.8,SNR=6.7
AKASG **Malin Array Be** 122.26 48 PKP PKPdf 15 45 06.6 -1.5
comp=Z,0.8nm,0.6s,baz=279,slow=1.8,SNR=3.6
FINES **FINESS Array B** 123.11 35 PKP PKPdf 15 45 08.2 -1.1
comp=Z,2.0nm,0.9s,baz=34,slow=0.5,SNR=3.4
ARCES **ARCESS Array B** 124.17 25 PKP PKPdf 15 45 11.4 +0.2
comp=Z,3.1nm,0.8s,baz=247,slow=1.9,SNR=3.7
H11N1 **WAKE ISLAND Hyl** 26.31 270 T T 18 05 38.7
baz=122,slow=74,SNR=12
H11N2 **WAKE ISLAND Hyl** 26.31 270 T T 18 05 38.4
baz=272,slow=74,SNR=8.2
OBN **Obninsk** 127.52 43 *e*PKIKP PKPdf 15 45 18.2 +0.2
OBN pmax pmax
comp=Z,7.0nm,1.2s
KIV **Kislovodsk** 129.52 58 *e*PKIKP PKPdf 15 45 23.1 +0.7
KIV pmax pmax
comp=Z,7.0nm,0.8s
KBZ **Khabaz** 129.62 59 PKP PKPdf 15 45 23.4 +1.0
comp=Z,2.7nm,1.0s,baz=208,slow=6.0,SNR=3.8
PRGR **Permogore** 132.44 35 *e*PKIKP PKPdf 15 45 25.8 -1.4
PRGR pmax pmax
comp=Z,6.0nm,0.8s
GEYT **Alibeck** 139.83 70 PKP PKPdf 15 45 42.5 +0.7
comp=Z,2.9nm,0.7s,baz=273,slow=2.7,SNR=6.4
ARU **Arti** 139.84 41 *i* PKIKP PKPdf 15 45 42.0 +0.9
ARU 15 48 34.3
SEY **Seymchan** 140.28 330 PKIKP PKPdf 15 45 41.0 -0.7
SEY **Seymchan** 140.28 330 PKP PKPdf 15 45 41.0 -0.7
comp=Z,6.6nm,0.7s,baz=124,slow=4.7,SNR=18
PETK **Petropavlovsk-** 140.38 314 PKhKP PKPpre 15 45 32.8
comp=Z,3.3nm,0.9s,baz=103,slow=9.3,SNR=5.8
PETK PKP PKPdf 15 45 41.5 -0.7
comp=Z,2.3nm,0.8s,baz=95,slow=3.8,SNR=4.8
TIXI **Tiksi** 140.93 350 *e*PKIKP PKPdf 15 45 43.1 +0.5
TIXI **Tiksi** 140.93 350 *e*PKPpre PKPpre 15 45 33.9
BRVK **Borovoye** 147.30 43*c* *i* PKIKP PKPdf 15 45 55.2 +0.9
BRVK pmax pmax
comp=Z,15nm,0.8s
HYB **Hyderabad** 148.74 115 *i* PKP PKPbc 15 46 00.0 -1.6
YAK **Yakutsk** 148.97 340 *e*PKIKP PKPbc 15 45 59.4 -1.4
YAK pmax pmax
comp=Z,30nm,0.9s
YAK **Yakutsk** 148.97 340 *e*PKPdf PKPdf 15 45 56.1 -0.6
YAK *e*PKPbc PKPbc 15 46 00.5 -0.2
YAK *e*PKPab PKPab 15 46 05.0 +0.1
KKAR **Karatay Array** 149.56 62 *e*PKP2 PKPbc 15 46 02.4 -0.5
KKAR **Karatay Array** 149.56 62 *e*PKPbc PKPbc 15 46 02.4 -0.5
YSS **Yuzh-Sakhalins** 151.01 306 ‖ *i*PKIKP PKPbc 15 46 05.9 -0.3
YSS pmax pmax
comp=Z,30nm,0.9s
YSS **Yuzh-Sakhalins** 151.01 306 *e*PKPbc PKPbc 15 46 05.7 -0.5
ASAJ **Asahikawa** 151.66 301 PKPbc PKPbc 15 46 06.3 -1.5
comp=Z,18nm,0.9s,baz=171,slow=18,SNR=6.7
AML **Almayashu** 151.98 63 P PKPbc 15 46 09.8 +0.6
SNR=8.3
EKS2 **Erkin-Say** 151.99 62 P PKPbc 15 46 09.0 +0.2
SNR=11
USP **Ospenovka** 152.44 61 P PKPbc 15 46 10.3 +0.6
SNR=6.2
AAK **Ala-Archa** 152.52 62 P PKPbc 15 46 10.7 +0.7
SNR=8.8
AAK **Ala-Archa** 152.52 62 *e*PKIKP PKPbc 15 46 10.4 +0.3
AAK **Ala-Archa** 152.52 62 *e*PKPbc PKPbc 15 46 10.4 +0.3
UCH **Uchtor** 152.57 63 P PKPbc 15 46 11.1 +0.6
SNR=9.3
KURK **Kurchatov** 152.97 43 *e*PKIKP PKPdf 15 46 03.1 -0.1
KURK *e* 15 46 10.7
KURK **Kurchatov** 152.97 43 *e*PKPdf PKPdf 15 46 03.1 -0.1
KURK *e*PKPbc PKPbc 15 46 10.7 +0.1
NVS **Novosibirsk** 153.07 32 *e*PKIKP PKPbc 15 46 09.7 -0.9
KSH **Kashi** 153.85 69 PKPbc PKPdf 15 46 08.3 +3.2
KSH sPKP 15 46 18.6
KSH PKS PKSdf 15 49 39.9 +0.5
KSH PP PP 15 50 01.6 +0.3
KSH SKS SKSdf 15 53 08.5 -1.1
KSH SKKS SKKSac 15 56 46.4 -2.2
KSH SS SS 16 09 30.9 -5.9
ZALV **Zalesovo Beam** 154.36 33 PKP PKPdf 15 46 04.4 -0.7
comp=Z,2.6nm,0.8s,baz=329,slow=2.6,SNR=4.2
ZALV PKPbc PKPbc 15 46 13.5 0.0
comp=Z,13nm,0.8s,baz=298,slow=3.2,SNR=19
ZALV PKPab PKPab 15 46 27.4 -0.3
comp=Z,7.2nm,0.8s,baz=307,slow=5.4,SNR=6.6
MKAR **Makanchi Array** 156.83 49 PKP PKPdf 15 46 08.4 -0.4
comp=Z,1.1nm,0.9s,baz=270,slow=1.9,SNR=4.3
MKAR PKPab PKPab 15 46 38.2 -0.4
comp=Z,2.5nm,0.8s,baz=291,slow=3.8,SNR=8.0
MDJ **Mudanjiang** 160.47 308 PKP PKPdf 15 46 15.1 +2.0
WMQ **Urumqi** 161.52 53 *e*PKP PKPdf 15 46 13.9 -0.5
WMQ pPKP pPKPdf 15 46 24.7 -0.5
WMQ PKPab PKPab 15 47 01.5 +2.3
WMQ PKS PKSdf 15 49 45.9 -1.7
WMQ PP PP 15 50 45.5 +2.6
WMQ SKS SKSdf 15 53 13.8 -3.0
WMQ SKKS SKKSac 15 57 28.4 -0.2
WMQ SS SS 16 10 56.3 -1.5
WMQ PPMZ
comp=Z,2μm,10.4s
CMAR **Chiang Mai Arr** 162.31 150 PKP PKPdf 15 46 14.1 -1.7
comp=Z,1.0nm,0.8s,baz=250,slow=2.5,SNR=4.5
CMAR PKPab PKPab 15 47 01.9 -1.1
comp=Z,0.6nm,0.6s,baz=210,slow=5.2,SNR=3.4
CN2 **Changchun** 163.49 311 *e*PKP PKPdf 15 46 17.0 +0.8
CN2 *e*pPKP pPKPdf 15 46 28.0 +0.9
CN2 *e*PP PP 15 50 57.6 +4.5
CN2 *e*SS SS 16 11 19.6 +1.7
CN2 PPMZ
comp=Z,200nm,8.0s
CN2 LN
comp=Z,1μm,20.0s
CN2 LE
comp=Z,1μm,20.0s
CN2 LZ
comp=Z,1μm,22.0s
KSRS **Korea Array** 163.60 287 PKPab PKPab 15 47 07.4 -1.0
comp=Z,2.2nm,0.8s,baz=104,slow=5.5,SNR=5.1
KSAR **Wonju Array Be** 163.63 287 PKP2 PKPab 15 47 07.4 -1.1
KSAR **Wonju Array Be** 163.63 287 PKPab PKPab 15 47 07.4 -1.1
SONM **Songino Array** 166.34 5 PKP PKPdf 15 46 18.5 -0.2
comp=Z,1.1nm,1.0s,baz=126,slow=2.1,SNR=4.0
SONM PKPab PKPab 15 47 20.9 +0.8
comp=Z,1.1nm,0.7s,baz=346,slow=3.3,SNR=7.4
SONM PP PP 15 51 09.5 +2.3
comp=Z,0.3nm,0.8s,baz=328,slow=2.6,SNR=4.0
KMI **Kunming** 169.81 151 PKP PKPdf 15 46 19.4 -2.5
NJ2 **Nanjing** 170.72 260 *e*PKP PKPdf 15 46 17.0 -4.9
GTA **Gaotai** 171.59 50 *e*PKP PKPdf 15 46 22.1 -0.2
GTA pPKP pPKPdf 15 46 33.0 -0.2
GTA sPKP 15 46 36.6
GTA PKPab PKPab 15 47 44.2 +0.5
GYA **Guiyang** 172.17 171 PKP PKPdf 15 46 22.0 -1.0
GYA pPKP pPKPdf 15 46 33.2 -0.6
GYA PKPab PKPab 15 47 47.8 +1.4
GYA PKS PKSdf 15 49 52.5 -3.0
GYA PP PP 15 51 40.2 +3.6
GYA SKKS 15 58 21.4
GYA SS SS 16 12 43.0 -0.5
GYA PPMZ
comp=Z,420nm,8.4s
GYA LN
comp=Z,870nm,22.0s
GYA LE
comp=Z,650nm,21.6s
GYA LZ
comp=Z,830nm,22.3s
HHC **Hu-ho-hao-te** 172.83 338 *e*PKP PKPdf 15 46 29.0 +6.2
HHC PP PP 15 51 48.0 +7.9
HHC SKKS 15 58 30.3
HHC LN
comp=Z,2μm,19.1s
HHC LE
comp=Z,2μm,21.6s
HHC LZ
comp=Z,3μm,19.1s
CD2 **Chengdu** 175.07 131 *e*PKP PKPdf 15 46 26.0 +2.2
LZH **Lanzhou** 176.06 61 *e*PKP PKPdf 15 46 24.6 +0.5
LZH pPKP pPKPdf 15 46 34.1 -0.8

IDC 11 15:27:43.0±1.2,38.57S×73.55W,h0km,mb4.4/4,
mb1 4.6/4,mb1mx4.3/14,mbtmp4.4/4,Error ellipse:
s-maj=49.2km s-min=31.1km az=78.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**26.83**	**171**	P	P	P	15 33 24.6	0.0
	132nm,0.4s,baz=6.6,slow=10,SNR=57							
DBIC	**Dimbokro**	**77.80**	**71**	P	P	P	15 39 41.8	-0.6
	4.5nm,0.7s,baz=181,slow=4.0,SNR=5.0							

TORD	Torodi Ar. Bea	86.89	71	P	P	15 40 30.9	+1.0
	3.3nm,0.8s,baz=230,slow=5.0,SNR=4.5						
NVAR	Mina Array Bea	86.97	326	P	P	15 40 31.4	+1.3
	1.1nm,0.7s,baz=158,slow=5.9,SNR=4.0						
PDAR	Pinedale Array	87.32	334	P	P	15 40 30.1	-1.6
	1.5nm,0.8s,baz=129,slow=7.1,SNR=3.8						
SEY	Seymchan	143.28	327	PKP	PKPdf	15 47 17.5	-0.7
	7.0nm,0.3s,baz=99,slow=0.7,SNR=35						

IDC ***11*** *15:34:45.8±0.5, 34°.35S×71°.76W, h0km, mb4.7/16, mb1 4.9/18, mb1mx4.8/22, mbtmp4.8/18, ML4.6/2, Error ellipse: s-maj=22.7km s-min=12.6km az=84.0*
GUC ***11*** *15:34:47.7±0.5, 34°.47S×71°.88W, h15km±5km, ML4.8*
MOS ***11*** *15:34:49.5±1.3, 34°.34S×71°.74W, h33km, mb5.3/19, Error ellipse: s-maj=22.2km s-min=8.0km az=100.4*
BJI ***11*** *15:34:49.6, 34°.40S×71°.70W, h24km, mB5.6/5, Ms5.3/2, Ms7 5.1/2*
ISCJB ***11*** *15:34:49.6±0.2, 34°.37S±0°.04×71°.65W±0°.07, h35km, mb4.9/58, Error ellipse: s-maj=9.3km s-min=4.9km az=157.1*
NEIC ***11*** *15:34:50.0±2.0, 34°.34S×71°.73W, h28km±14km, mb5.0/47, Error ellipse: s-maj=10.2km s-min=4.6km az=76.0*
NEIC Felt at Santiago.
ISC 11 15:34:50.8±0.3, 34°.44S±0°.04×71°.79W±0°.07, h35km, n485, n0996/502, mb4.9/58, 153C-167D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.73**	**141**	*i* S1	**Sn**	**15 35 12.0**	**-2.5**
NICH				AML	AML	15 35 13.4	
	comp=E,75μm,0.2s						
RCDM	**Rinconada Maip**	**1.25**	**41**	*i* S1	**Sn**	**15 35 27.3**	**-0.2**
RCDM				AML	AML	15 35 32.1	
	comp=N,15μm,0.5s						
ANTU	**Antumapu**	**1.29**	**48**	*i* S1	**Sn**	**15 35 28.8**	**+0.2**
ANTU				AML	AML	15 35 33.6	
	comp=N,36μm,0.6s						
STL	**Santa Lucia**	**1.38**	**44**	*i* S1	**Sn**	**15 35 31.5**	**+0.7**
LNCH	**Linares**	**1.41**	**174**	*i* S1	**Sn**	**15 35 29.6**	**-1.8**
LNCH				AML	AML	15 35 34.7	
	comp=E,22μm,0.7s						
IHA	**Instituto Hidr**	**1.42**	**5**	*e*P1	**Pn**	**15 35 12.5**	**-1.6**
IHA				*i* S1	**Sn**	**15 35 31.1**	**-0.4**
LACH	**Col Las Americ**	**1.44**	**47**	*i* S	**Sn**	**15 35 33.2**	**+1.1**
LACH				AML	AML	15 35 42.8	
	comp=N,20μm,0.7s						
CLCH	**Cerro Calan**	**1.47**	**45**	*e*P1	**Pn**	**15 35 14.1**	**-0.9**
CLCH				*i* S	**Sn**	**15 35 34.4**	**+1.4**
CLCH				AML	AML	15 35 38.7	
	comp=N,53μm,0.6s						
PEL	**Peldehue**	**1.59**	**36**	*e*P1	**Pn**	**15 35 16.1**	**-0.4**
PEL				*i* S4	**Sn**	**15 35 38.2**	**+2.4**
PEL				AML	AML	15 35 43.1	
	comp=N,65μm,0.5s						
FCH	**Farellones**	**1.67**	**49**	AML	AML	15 35 47.0	
	comp=N,13μm,0.3s						
CFAA	**Coronel Fontan**	**4.11**	**48**	Pn	Pn	15 35 54.0	+2.8
	comp=N,2.9nm,0.3s,baz=215,slow=13,SNR=7.9						
CFAA				Lg	Lg	15 36 59.8	
	comp=N,8.0nm,0.3s,baz=127,slow=22,SNR=11						
LCO	**Las Campanas**	**5.49**	**10**	*e*Pn	**Pn**	**15 36 08.8**	**-1.6**
	comp=N,180nm,0.8s						
PLCA	**Paso Flores**	**6.36**	**171**	Pn	**Pn**	**15 36 22.2**	**+0.1**
	comp=N,4.0nm,0.3s,baz=336,slow=14,SNR=14						
PLCA				Lg	Lg	15 38 06.6	
	comp=N,2.9nm,0.3s,baz=273,slow=19,SNR=3.9						
TRQA	**Tornquist**	**8.71**	**117**	*e*Pn	**Pn**	**15 36 55.6**	**+1.3**
	comp=N,119nm,1.1s						
LVC	**Limon Verde**	**12.05**	**13**	*e*Pn	**Pn**	**15 37 37.3**	**-3.0**
	comp=N,91nm,1.4s						
LPAZ	**La Paz**	**18.37**	**11**	P	**Pn**	**15 39 02.5**	**-0.9**
	comp=N,0.7nm,0.3s,baz=198,slow=6.9,SNR=14						
LPAZ	**La Paz**	**18.37**	**11**	P	**Pn**	**15 39 02.5**	**-0.9**
LPAZ				*e*Pn	**P**	**15 39 03.3**	**+0.1**
EFI	**East Falkland**	**19.87**	**154**	*e*P	**P**	**15 39 19.6**	**+0.8**
EFI				pmax	pmax		
	comp=Z,29nm,0.8s						
EFI	**East Falkland**	**19.87**	**154**	*e*P	**P**	**15 39 19.6**	**+0.8**
	comp=Z,29nm,0.8s						
USHA	**Ushuaia**	**20.52**	**174**	P	Pn	15 39 27.5	-0.6
	comp=Z,10nm,0.7s,baz=38,slow=3.1,SNR=3.9						
SIV	**San Ignacio**	**20.75**	**30**	P	Pn	15 39 27.9	-3.3
	comp=Z,14nm,0.9s,baz=207,slow=13,SNR=13						
NNA	**Nana**	**22.82**	**347**	*e*P	**P**	**15 39 49.5**	**-1.3**
NNA	**Nana**	**22.82**	**347**	P	**P**	**15 39 51.4**	**+0.6**
	comp=Z,44nm,0.8s,baz=193,slow=10,SNR=18						
NNA	**Nana**	**22.82**	**347**	*e*P	**P**	**15 39 49.5**	**-1.3**
	comp=Z,48nm,0.8s						
SAML	**Samuel**	**26.57**	**19**	*e*P	**P**	**15 40 25.1**	**-0.5**
	comp=Z,14nm,0.8s						
BDFB	**Brasilia**	**28.41**	**55**	P	**P**	**15 40 42.8**	**+0.5**
	comp=Z,16nm,0.8s,baz=232,slow=8.2,SNR=8.9						
OTAV	**Otavalo**	**35.06**	**348**	*e*P	**P**	**15 41 42.3**	**+1.3**
	comp=Z,2μm,3.8s						
PTGA	**Pitinga**	**35.31**	**21**	P	**P**	**15 41 41.6**	**-1.1**
	comp=Z,18nm,0.8s,baz=198,slow=10,SNR=21						
SDV	**Santo Domingo**	**43.10**	**2**	*e*P	**P**	**15 42 47.2**	**-0.8**
	comp=Z,29nm,0.9s						
BCIP	**Isla Barro Col**	**44.03**	**349**	*e*P	**P**	**15 42 55.1**	**0.0**
	comp=Z,50nm,1.4s						
JTS	**JuntasAbangare**	**46.21**	**342**	*e*P	**P**	**15 43 13.4**	**+0.9**
JTS				pmax	pmax		
	comp=Z,33nm,1.4s						
JTS	**JuntasAbangare**	**46.21**	**342**	*e*P	**P**	**15 43 13.4**	**+0.9**
	comp=Z,33nm,1.4s						
VNA3	**Neumayer Olymp**	**48.87**	**158**	P	**P**	**15 43 34.6**	**+1.9**
VNA2	**Neumayer--Watz**	**49.53**	**157**	P	**P**	**15 43 39.4**	**+1.8**
FDF	**Fort de France**	**49.94**	**13**	P	**P**	**15 43 39.7**	**-1.6**
FDF	**Fort de France**	**49.94**	**13**	P	**P**	**15 43 39.7**	**-1.6**
SNAA	**Sanae**	**51.10**	**158**	P	**P**	**15 43 50.0**	**+0.5**
SNAA	**Sanae**	**51.10**	**158**	*c*eP	**P**	**15 43 50.7**	**+1.1**
SNAA				pmax	pmax		
	comp=Z,42nm,2.5s						
SNAA	**Sanae**	**51.10**	**158**	P	**P**	**15 43 50.4**	**+0.8**
	comp=Z,4.2nm,1.0s,baz=312,slow=10,SNR=13						
SNAA	**Sanae**	**51.10**	**158**	*e*P	**P**	**15 43 49.5**	**-0.1**
	comp=Z,24nm,1.2s						
APG	**El Apazote**	**52.28**	**337**	P	P	15 43 53.5	-5.6
	comp=Z,6.9nm,0.8s,baz=150,slow=7.8,SNR=7.9						
MTDJ	**Mount Denham**	**52.66**	**353**	P	**P**	**15 43 59.6**	**-2.1**
	comp=Z,41nm,0.9s						
QSPA	**South Pole Qui**	**55.80**	**180**	*e*P	**P**	**15 44 24.5**	**+0.3**
	comp=Z,40nm,1.2s						
SBA	**Scott Base**	**62.69**	**192**	*e*P	**P**	**15 45 12.1**	**+0.6**
SBA				pmax	pmax		
	comp=Z,98nm,1.8s						
SBA	**Scott Base**	**62.69**	**192**	*e*P	**P**	**15 45 12.1**	**+0.6**
	comp=Z,98nm,1.8s						
VNDA	**Vanda**	**63.71**	**191**	P	**P**	**15 45 19.0**	**+0.8**
VNDA	**Vanda**	**63.71**	**191**	P	**P**	**15 45 19.0**	**+0.8**
	comp=Z,4.0nm,0.9s,baz=157,slow=4.0,SNR=9.3						
SYO	**Syowa Base**	**65.38**	**158**	⇓*e*P	**P**	**15 45 27.6**	**-1.6**
035A	**Encino**	**65.94**	**334**	⇑P	**P**	**15 45 34.3**	**+1.0**
	baz=66						
034A	**Hebbronville**	**66.27**	**334**	⇑P	**P**	**15 45 36.5**	**+1.2**
	baz=66,SNR=6.4						
934A	**Benavides**	**66.69**	**334**	⇑P	**P**	**15 45 40.0**	**+1.9**
	baz=67						
933A	**Laredo**	**66.98**	**334**	⇓P	**P**	**15 45 41.4**	**+1.4**
	baz=67						
834A	**Tilden**	**67.18**	**334**	⇑P	**P**	**15 45 42.8**	**+1.6**
	baz=67,SNR=6.7						
833A	**Chaparral WMA,**	**67.67**	**334**	⇓P	**P**	**15 45 45.0**	**+0.7**
	baz=68,SNR=6.5						
832A	**Faith Ranch, C**	**67.85**	**333**	⇓P	**P**	**15 45 46.3**	**+0.9**
	baz=68						
636A	**Smothers Creek**	**67.91**	**336**	⇓P	**P**	**15 45 47.0**	**+1.2**
	baz=68						
HKT	**Hockley**	**67.95**	**338**	*e*P	**P**	**15 45 46.5**	**+0.6**
HKT	**Hockley**	**67.95**	**338**	*e*P	**P**	**15 45 46.5**	**+0.6**
733A	**Divot King Ran**	**67.99**	**334**	⇑P	**P**	**15 45 47.5**	**+1.2**
	baz=68						
537A	**Green Hill Far**	**68.22**	**337**	⇓P	**P**	**15 45 49.1**	**+1.3**
	baz=68						
732A	**Laxson Ranch,**	**68.25**	**333**	⇑P	**P**	**15 45 48.4**	**+0.4**
	baz=68,SNR=6.3						
536A	**Bastrop**	**68.46**	**337**	⇓P	**P**	**15 45 50.4**	**+1.2**
	baz=69						
438A	**Sam Houston St**	**68.58**	**338**	⇑P	**P**	**15 45 51.3**	**+1.4**
	baz=69						
633A	**Saathoff Ranch**	**68.62**	**334**	⇓P	**P**	**15 45 51.2**	**+0.9**
	baz=69						
LRAL	**Lakeview Retre**	**68.62**	**346**	P	**P**	**15 45 49.1**	**-1.1**
	comp=Z,10.0nm,1.0s						
632A	**Uvalde**	**68.88**	**334**	⇑P	**P**	**15 45 52.5**	**+0.5**
	baz=69,SNR=6.8						
631A	**Perdido Creek**	**69.09**	**333**	⇑P	**P**	**15 45 53.5**	**+0.3**
	baz=69						
533A	**Kerrville**	**69.13**	**335**	⇑P	**P**	**15 45 54.1**	**+0.7**
	baz=69						
239A	**Gary**	**69.47**	**340**	⇑P	**P**	**15 45 56.0**	**+0.6**
	baz=70						
532A	**Rocksprings**	**69.49**	**334**	⇑P	**P**	**15 45 56.1**	**+0.4**
	baz=70,SNR=13						
434A	**Burnet**	**69.54**	**336**	⇑P	**P**	**15 45 56.3**	**+0.3**
	baz=70,SNR=6.1						
336A	**Riesel**	**69.60**	**337**	⇓P	**P**	**15 45 57.1**	**+0.9**
	baz=70						
335A	**Moody**	**69.69**	**337**	⇓P	**P**	**15 45 57.7**	**+0.9**
	baz=70						
531A	**Rocksprings**	**69.75**	**334**	⇑P	**P**	**15 45 58.0**	**+0.6**
	baz=70,SNR=6.3						
433A	**Art**	**69.77**	**335**	⇓P	**P**	**15 45 57.4**	**+0.1**
	baz=70,SNR=15						
JCT	**Junction City**	**69.77**	**334**	*e*P	**P**	**15 45 57.8**	**+0.4**
JCT				pmax	pmax		
	comp=Z,39nm,1.3s						
JCT	**Junction City**	**69.77**	**334**	⇓P	**P**	**15 45 57.6**	**+0.2**
	baz=70,SNR=7.3						
JCT	**Junction City**	**69.77**	**334**	*e*P	**P**	**15 45 57.8**	**+0.4**
	comp=Z,39nm,1.3s						
KMSC	**Kings Mountain**	**69.80**	**352**	⇑P	**P**	**15 45 57.2**	**-0.2**
	baz=70						
334A	**Lometa**	**70.01**	**336**	⇑P	**P**	**15 45 59.0**	**+0.2**
	baz=70,SNR=6.8						
530A	**J-C Ranch, Com**	**70.03**	**333**	⇑P	**P**	**15 45 59.8**	**+0.8**
	baz=70,SNR=10						
432A	**Menard**	**70.13**	**335**	⇓P	**P**	**15 45 59.5**	**-0.1**
	baz=70						
TXAR	**Lajitas Array**	**70.22**	**331**	P	**P**	**15 46 00.8**	**+0.6**
	comp=Z,4.0nm,0.6s,baz=155,slow=8.2,SNR=19						
431A	**Sonora**	**70.25**	**334**	⇓P	**P**	**15 46 00.6**	**+0.3**
	baz=70,SNR=6.3						
333A	**Richland Sprin**	**70.25**	**335**	⇓P	**P**	**15 46 00.0**	**-0.3**
	baz=70,SNR=7.5						
529A	**Stev Forest Ra**	**70.35**	**332**	⇑P	**P**	**15 46 00.9**	**-0.1**
	baz=71,SNR=12						
WHTX	**Lake Whitney,**	**70.36**	**337**	⇓P	**P**	**15 46 01.0**	**+0.1**
	baz=71						
137A	**Heron Place, G**	**70.39**	**339**	⇓P	**P**	**15 46 01.3**	**+0.3**
	baz=71						
OXF	**Oxford**	**70.55**	**345**	*e*P	**P**	**15 46 00.0**	**-2.0**
OXF				pmax	pmax		
	comp=Z,54nm,1.0s						
OXF	**Oxford**	**70.55**	**345**	*e*P	**P**	**15 46 00.0**	**-2.0**
	comp=Z,54nm,1.0s						
332A	**Millersview**	**70.57**	**335**	⇑P	**P**	**15 46 02.1**	**-0.2**
	baz=71,SNR=7.0						
430A	**Baggett Ranch,**	**70.57**	**333**	⇑P	**P**	**15 46 02.4**	**0.0**
	baz=71,SNR=5.6						
234A	**Clairette**	**70.59**	**336**	⇓P	**P**	**15 46 02.8**	**+0.5**
	baz=71						
TKL	**Tuckaleechee C**	**70.63**	**350**	P	**P**	**15 46 01.5**	**-1.0**
	comp=Z,7.9nm,0.7s,baz=181,slow=7.9,SNR=7.3						
429A	**Davenport Ranc**	**70.67**	**333**	⇑P	**P**	**15 46 03.2**	**+0.3**
	baz=71,SNR=9.0						
331A	**San Angelo**	**70.75**	**334**	⇑P	**P**	**15 46 03.0**	**-0.3**
	baz=71,SNR=6.2						
233A	**Rising Star**	**70.86**	**336**	⇑P	**P**	**15 46 04.1**	**+0.1**
	baz=71						
232A	**Coleman**	**71.00**	**335**	⇓P	**P**	**15 46 05.1**	**+0.2**
	baz=71,SNR=5.0						
134A	**White-Moore Ra**	**71.09**	**337**	⇑P	**P**	**15 46 05.5**	**+0.1**
	baz=71						
330A	**Mertzon**	**71.11**	**334**	⇓P	**P**	**15 46 05.6**	**0.0**
	baz=71						
231A	**Bronte**	**71.27**	**335**	⇑P	**P**	**15 46 06.4**	**-0.2**
	baz=72,SNR=7.1						
133A	**Hamilton Ranch**	**71.40**	**336**	⇓P	**P**	**15 46 07.5**	**+0.2**
	baz=72						
329A	**Wagon Wheel Ra**	**71.48**	**333**	⇓P	**P**	**15 46 08.1**	**+0.3**
	baz=72						
Z35A	**Perchaven, San**	**71.53**	**338**	⇑P	**P**	**15 46 08.4**	**+0.4**
	baz=72						
MIAR	**Mount Ida**	**71.60**	**341**	*e*P	**P**	**15 46 06.7**	**-1.7**
MIAR				pmax	pmax		
	comp=Z,12nm,1.2s						
MIAR	**Mount Ida**	**71.60**	**341**	*e*P	**P**	**15 46 06.7**	**-1.7**
	comp=Z,12nm,1.2s						
ABTX	**Abilene, Hawle**	**71.67**	**335**	⇑P	**P**	**15 46 08.6**	**-0.3**
	baz=72,SNR=5.6						
WVT	**Waverly**	**71.79**	**346**	*e*P	**P**	**15 46 08.8**	**-0.7**
WVT				pmax	pmax		
	comp=Z,50nm,0.8s						
WVT	**Waverly**	**71.79**	**346**	*e*P	**P**	**15 46 08.8**	**-0.7**
	comp=Z,50nm,0.8s						
229A	**Bryant Ranch,**	**71.84**	**333**	⇓P	**P**	**15 46 10.0**	**0.0**
	baz=72						
131A	**Roby**	**71.97**	**335**	⇓P	**P**	**15 46 10.8**	**+0.1**
	baz=72,SNR=5.7						
Z33A	**Whitaker Ranch**	**71.97**	**336**	⇓P	**P**	**15 46 10.8**	**+0.1**
	baz=72,SNR=6.7						
JSRW	**J. Sargeant Re**	**71.99**	**355**	*e*P	**P**	**15 46 11.0**	**+0.4**
130A	**Snyder**	**72.10**	**334**	⇑P	**P**	**15 46 11.3**	**-0.2**
	baz=72,SNR=5.6						
Z32A	**Haskell**	**72.23**	**336**	⇑P	**P**	**15 46 12.0**	**-0.3**
	baz=72,SNR=10						
Y34A	**Reagan Ranch,**	**72.27**	**338**	⇑P	**P**	**15 46 12.6**	**+0.1**
	baz=72						
228A	**UT Block 9, Go**	**72.27**	**333**	⇑P	**P**	**15 46 12.7**	**+0.1**
	baz=72,SNR=6.2						
Z31A	**Sharp Cattle R**	**72.47**	**335**	⇑P	**P**	**15 46 13.9**	**+0.2**
	baz=73,SNR=6.3						
Y33A	**Hilltop Ranch,**	**72.59**	**337**	⇓P	**P**	**15 46 14.6**	**+0.3**
	baz=73						
128A	**Castleberry Fa**	**72.68**	**333**	⇑P	**P**	**15 46 15.3**	**+0.3**
	baz=73						
MAW	**Mawson**	**72.70**	**163**	P	**P**	**15 46 17.3**	**+2.7**
	comp=Z,19nm,0.8s,baz=192,slow=9.3,SNR=4.6						
Z30A	**Sanderson Ranc**	**72.78**	**335**	⇓P	**P**	**15 46 15.4**	**-0.2**
	baz=73,SNR=9.5						
Y32A	**R-V Farms, Ver**	**72.86**	**336**	⇑P	**P**	**15 46 16.1**	**+0.1**
	baz=73						
X34A	**Smith Ranch, M**	**72.88**	**338**	⇑P	**P**	**15 46 16.2**	**+0.1**
	baz=73						
MNTX	**Cornudas Mount**	**73.00**	**330**	*e*P	**P**	**15 46 15.0**	**-1.8**
	comp=Z,9.6nm,0.8s						
Y31A	**Rekieta Farm,**	**73.09**	**336**	⇓P	**P**	**15 46 17.4**	**0.0**
	baz=73						
X32A	**Elmer**	**73.19**	**337**	⇓P	**P**	**15 46 18.0**	**+0.1**
	baz=73						
Z28A	**Tucker Farm, M**	**73.24**	**334**	⇑P	**P**	**15 46 18.0**	**-0.4**
	baz=74						
WMOK	**Wichita Mounta**	**73.31**	**337**	*e*P	**P**	**15 46 17.3**	**-1.3**
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WMOK	**Wichita Mounta**	**73.31**	**337**	*e*P	**P**	**15 46 17.3**	**-1.3**
	comp=Z,4.2nm,0.9s						
W34A	**Bridge Creek,**	**73.45**	**338**	⇑P	**P**	**15 46 19.3**	**-0.1**
	baz=74						
TUL1	**Leonard**	**73.49**	**340**	⇓P	**P**	**15 46 19.4**	**-0.2**
	baz=74						
Y29A	**Porterfield Fa**	**73.50**	**334**	⇑P	**P**	**15 46 19.7**	**-0.1**
	baz=74						
W33A	**Caddo, Fort Co**	**73.59**	**337**	⇓P	**P**	**15 46 20.3**	**0.0**
	baz=74,SNR=5.8						
X31A	**McDonald Ranch**	**73.61**	**336**	⇓P	**P**	**15 46 20.1**	**-0.3**
	baz=74,SNR=6.7						
X30A	**Coker Ranch, T**	**73.75**	**335**	⇓P	**P**	**15 46 21.2**	**0.0**
	baz=74						
Y28A	**McKinney Farm,**	**73.75**	**334**	⇓P	**P**	**15 46 21.1**	**-0.2**
	baz=74						
W32A	**Sentinel**	**73.81**	**337**	⇑P	**P**	**15 46 21.6**	**0.0**
	baz=74,SNR=13						
V34A	**Guthrie**	**73.93**	**338**	⇑P	**P**	**15 46 22.1**	**-0.1**
	baz=74						
MSTX	**Muleshoe**	**73.99**	**334**	⇑P	**P**	**15 46 22.8**	**0.0**
	baz=74,SNR=7.1						
X29A	**Tulia**	**74.03**	**335**	⇑P	**P**	**15 46 22.6**	**-0.4**
	baz=74						
Y27A	**Causey**	**74.06**	**333**	⇓P	**P**	**15 46 22.7**	**-0.5**
	baz=74						
W31A	**Holland Ranch,**	**74.10**	**336**	⇓P	**P**	**15 46 22.9**	**-0.4**
	baz=74						
V33A	**Lossen Ranch,**	**74.15**	**338**	⇓P	**P**	**15 46 23.4**	**-0.1**
	baz=74,SNR=5.5						
AMTX	**Amarillo**	**74.42**	**335**	⇑P	**P**	**15 46 25.5**	**+0.3**
	baz=75						
AMTX	**Amarillo**	**74.42**	**335**	*e*P	**P**	**15 46 25.2**	**0.0**
	comp=Z,21nm,1.0s						
SUR	**Sutherland**	**74.44**	**119**	*e*P	**P**	**15 46 25.9**	**+0.1**
	comp=Z,24nm,1.2s						
U34A	**Anderson Ranch**	**74.49**	**339**	⇓P	**P**	**15 46 25.4**	**-0.1**
	baz=75						
W29A	**Amarillo**	**74.62**	**335**	⇓P	**P**	**15 46 26.4**	**0.0**
	baz=75,SNR=6.4						
X27A	**F and S Farms,**	**74.72**	**334**	⇓P	**P**	**15 46 27.6**	**+0.6**
	baz=75						
121A	**Cookes Peak, D**	**74.72**	**329**	⇓P	**P**	**15 46 28.4**	**+1.2**
	baz=75,SNR=12						
V30A	**Spur Ranch, Mi**	**74.88**	**336**	⇑P	**P**	**15 46 28.9**	**+1.0**
	baz=75						
U32A	**Winter Ranch,**	**74.89**	**338**	⇓P	**P**	**15 46 27.9**	**+0.1**
	baz=75						
X26A	**CR and CF Fran**	**74.90**	**333**	⇓P	**P**	**15 46 28.3**	**+0.2**
	baz=75,SNR=14						
Y24A	**Capitan**	**74.97**	**332**	⇓P	**P**	**15 46 28.9**	**+0.4**
	baz=75,SNR=8.6						
Z22A	**Elephant Butte**	**75.00**	**330**	⇓P	**P**	**15 46 29.7**	**+1.0**
	baz=75,SNR=5.3						
ACSO	**Alum Creek Sta**	**75.02**	**351**	*e*P	**P**	**15 46 27.7**	**-0.8**
	comp=Z,20nm,0.8s						
W27A	**Bowe Ranch, En**	**75.08**	**334**	⇑P	**P**	**15 46 29.4**	**+0.4**
	baz=75,SNR=11						
DBIC	**Dimbokro**	**75.13**	**71**	P	**P**	**15 46 28.0**	**-1.7**
DBIC	**Dimbokro**	**75.13**	**71**	P	**P**	**15 46 27.9**	**-1.7**
	comp=Z,5.8nm,0.9s,baz=200,slow=9.3,SNR=4.7						
Y23A	**Lovelace Mesa,**	**75.22**	**331**	⇓P	**P**	**15 46 30.6**	**+0.6**
	baz=76,SNR=6.6						
T33A	**Patterson Ranc**	**75.30**	**338**	⇑P	**P**	**15 46 30.7**	**+0.5**
	baz=76,SNR=11						
W26A	**Owens Ranch, T**	**75.36**	**333**	⇓P	**P**	**15 46 31.0**	**+0.4**
	baz=76,SNR=7.4						
V28A	**Channing**	**75.39**	**335**	⇓P	**P**	**15 46 31.2**	**+0.4**
	baz=76						
X24A	**Lazy VL Ranch,**	**75.53**	**332**	⇑P	**P**	**15 46 32.2**	**+0.4**
	baz=76						
U30A	**WK&E Inc. Balk**	**75.56**	**336**	⇑P	**P**	**15 46 32.1**	**+0.3**
	baz=76						
T32A	**Huddler Ranch,**	**75.60**	**338**	⇓P	**P**	**15 46 32.4**	**+0.5**
	baz=76						
V27A	**Dan Oppiter Fa**	**75.62**	**334**	⇑P	**P**	**15 46 32.5**	**+0.4**
	baz=76						
S33A	**Kaszmaul Farm,**	**75.70**	**339**	⇓P	**P**	**15 46 32.8**	**+0.4**
	baz=76						
W25A	**X Bar L Ranch,**	**75.73**	**333**	⇓P	**P**	**15 46 32.9**	**+0.1**
	baz=76,SNR=9.7						
T31A	**Randall Ranch,**	**75.76**	**337**	⇓P	**P**	**15 46 32.8**	**0.0**
	baz=76						
SFIN	**Lafayette**	**75.78**	**348**	⇑P	**P**	**15 46 31.7**	**-1.1**
	baz=76						
X23A	**Hourglass Bar**	**75.84**	**331**	⇓P	**P**	**15 46 34.1**	**+0.5**
	baz=76						
TUC	**Tucson**	**75.85**	**327**	*e*P	**P**	**15 46 34.4**	**+0.9**
TUC				pmax	pmax		
	comp=Z,15nm,1.3s						
TUC	**Tucson**	**75.85**	**327**	*e*P	**P**	**15 46 34.4**	**+0.9**
	comp=Z,15nm,1.3s						
U28A	**Mallet**	**75.96**	**335**	⇓P	**P**	**15 46 34.6**	**+0.5**
	baz=76						
T30A	**Plains**	**76.00**	**337**	⇓P	**P**	**15 46 34.8**	**+0.6**
	baz=76						
V26A	**Tequesquite Ra**	**76.00**	**334**	⇑P	**P**	**15 46 34.7**	**+0.4**
	baz=76						
LAZ	**Ladron**	**76.07**	**330**	*e*P	**P**	**15 46 36.0**	**+1.1**
	comp=Z,10nm,1.3s						
W24A	**Lazy 6 Ranch,**	**76.09**	**332**	⇓P	**P**	**15 46 35.2**	**+0.3**
	baz=76,SNR=8.5						
U27A	**Thompson Grove**	**76.21**	**335**	⇑P	**P**	**15 46 35.6**	**+0.1**
	baz=76						
ANMO	**Albuquerque**	**76.27**	**331**	*e*P	**P**	**15 46 37.0**	**+1.0**
ANMO				pmax	pmax		
	comp=Z,48nm,1.0s						
ANMO	**Albuquerque**	**76.27**	**331**	*e*P	**P**	**15 46 36.1**	**+0.2**
	comp=Z,12nm,1.0s						
W23A	**Werner Place,**	**76.33**	**332**	⇑P	**P**	**15 46 36.7**	**+0.4**
	baz=77,SNR=7.2						
V25A	**Rancho No Teng**	**76.34**	**333**	⇓P	**P**	**15 46 36.9**	**+0.5**
	baz=77,SNR=11						
T29A	**Hugoton**	**76.34**	**336**	⇑P	**P**	**15 46 37.3**	**+1.1**
	baz=77						
V24A	**Rampart Ranch,**	**76.49**	**333**	⇑P	**P**	**15 46 37.6**	**+0.3**
	baz=77						
214A	**Organ Pipe Nat**	**76.50**	**325**	⇓P	**P**	**15 46 37.8**	**+0.7**
	baz=77						
214A	**Organ Pipe Nat**	**76.50**	**325**	*e*P	**P**	**15 46 38.3**	**+1.1**
	comp=Z,8.3nm,0.8s						
S30A	**Montezuma**	**76.51**	**337**	⇓P	**P**	**15 46 37.3**	**+0.2**
	baz=77						
U26A	**Atchley Ranch,**	**76.51**	**334**	⇓P	**P**	**15 46 36.5**	**-0.8**
	baz=77						
T28A	**Walsh**	**76.59**	**335**	⇓P	**P**	**15 46 38.1**	**+0.5**
	baz=77,SNR=8.6						
R32A

baz=79
WUAZ Wupatki 78.81 328 ⇓P P 15 46 51.4 +1.3
baz=79,SNR=8.3
WUAZ Wupatki 78.81 328 eP P 15 46 50.9 +0.7
comp=Z,16nm,1.1s
JFWS Jewell Farm 78.81 346 eP P 15 46 49.3 -0.5
JFWS pmax pmax
comp=Z,11nm,0.8s
JFWS Jewell Farm 78.81 346 eP P 15 46 49.3 -0.5
comp=Z,11nm,0.8s
S22A 4UR Ranch, Cre 78.86 332 ⇓P P 15 46 51.4 +0.9
baz=79,SNR=8.3
R23A Moffat 78.87 333 ⇑P P 15 46 51.3 +0.8
baz=79,SNR=7.1
TSUM Tsumeb 78.89 106 P P 15 46 51.8 +0.7
MVCO Mesa Verde 79.05 331 ⇑P P 15 46 52.7 +1.2
baz=79
MVCO Mesa Verde 79.05 331 eP P 15 46 52.0 +0.5
comp=Z,15nm,1.1s
PDMCI Parker Dam,Lak 79.06 325 ⇑P P 15 46 52.7 +1.5
baz=79
BC3 Big Chuckawall 79.16 324 ⇓P P 15 46 53.3 +1.3
baz=79
O28A Krutsinger Ran 79.19 337 ⇓P P 15 46 53.2 +1.2
baz=80
P26A Davis Ranch, A 79.20 336 ⇑P P 15 46 53.0 +0.8
baz=80
BGNE Belgrade 79.28 340 ⇓P P 15 46 53.2 +0.9
baz=80
Q24A Divide 79.31 334 ⇑P P 15 46 53.8 +0.9
baz=80,SNR=12
IRM Iron Mountain 79.42 325 ⇓P P 15 46 54.4 +1.1
baz=80
P25A Willow Gulch B 79.44 335 ⇓P P 15 46 54.8 +1.3
baz=80,SNR=11
M31A Lambtecht Ranc 79.45 340 ⇑P P 15 46 54.3 +1.0
baz=80
N29A Votaw Ranch, W 79.46 338 ⇓P P 15 46 54.4 +1.0
baz=80
O27A Beecher Island 79.48 337 ⇑P P 15 46 54.6 +1.0
baz=80
CASY Casey 79.59 181 P P 15 46 53.4 -0.4
W13A Hualapai Mount 79.59 326 ⇑P P 15 46 55.5 +1.0
baz=80,SNR=6.3
PFO Pinyon Flats O 79.61 323 eP P 15 46 55.5 +1.0
PFO pmax pmax
comp=Z,2µm,3.8s
PFO Pinyon Flats O 79.61 323 ⇓P P 15 46 56.0 +1.5
baz=80
PFO Pinyon Flats O 79.61 323 eP P 15 46 55.5 +1.0
comp=Z,2µm,3.8s
BOSA Boshof 79.68 118 eP P 15 46 55.4 +0.1
BOSA pmax pmax
comp=Z,17nm,1.0s
BOSA Boshof 79.68 118 P P 15 46 55.6 +0.4
comp=Z,13nm,0.9s,baz=236,slow=4.4,SNR=16
BOSA Boshof 79.68 118 eP P 15 46 55.4 +0.1
comp=Z,17nm,1.0s
P23A Jefferson 79.92 334 ⇑P P 15 46 57.7 +1.4
baz=80
MURC Murrieta 79.97 323 ⇓P P 15 46 57.7 +1.3
baz=80
N27A Anderson Farm, 80.06 337 ⇓P P 15 46 58.0 +1.3
baz=80
GMRC Granite Mounta 80.17 325 ⇓P P 15 46 58.8 +1.3
baz=80
L31A Butterfield Fa 80.18 340 ⇑P P 15 46 58.2 +1.0
baz=80
ISCO Idaho Springs 80.21 334 eP P 15 46 57.2 -0.6
ISCO pmax pmax
comp=Z,20nm,1.5s
ISCO Idaho Springs 80.21 334 ⇓P P 15 46 58.4 +0.6
baz=80,SNR=7.2
ISCO Idaho Springs 80.21 334 eP P 15 46 57.2 -0.6
comp=Z,20nm,1.5s
P22A Eagle 80.45 333 ⇓P P 15 46 60.0 +1.0
baz=81
HEC Hector,Ludlow 80.53 324 ⇑P P 15 47 00.6 +1.2
baz=81
L29A Maesberg Ranch 80.56 339 ⇓P P 15 47 00.4 +1.1
baz=81
M27A Reverse DX Ran 80.66 337 ⇓P P 15 47 00.9 +1.0
baz=81
O23A Lake Granby, G 80.68 334 ⇓P P 15 47 01.3 +1.0
baz=81,SNR=14
BFSC Mount Baldy Ra 80.71 323 ⇓P P 15 47 01.6 +1.2
baz=81
TUQ Turquoise Moun 80.83 325 ⇓P P 15 47 02.1 +1.1
baz=81
M26A McRoberts Ranc 80.85 337 ⇑P P 15 47 02.2 +1.2
baz=81
K30A Basset 80.86 340 ⇑P P 15 47 02.1 +1.2
baz=81,SNR=7.7
O22A Kremmling 80.87 334 ⇓P P 15 47 02.3 +1.0
baz=81,SNR=12
ECSD EROS Data Cent 81.03 342 ⇑P P 15 47 01.8 0.0
baz=81,SNR=22
ECSD EROS Data Cent 81.03 342 eP P 15 47 01.3 -0.4
comp=Z,40nm,1.0s
M25A Palm-Egli Farm 81.12 336 ⇑P P 15 47 03.4 +0.9
baz=81
L27A T5 Ranch, Ells 81.14 338 ⇓P P 15 47 03.5 +1.0
baz=81
GSC Goldstone, Bar 81.14 324 eP P 15 47 03.7 +1.0
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone, Bar 81.14 324 ⇑P P 15 47 03.6 +0.9
baz=81
GSC Goldstone, Bar 81.14 324 eP P 15 47 03.7 +1.0
comp=Z,8.5nm,1.1s
K29A Lazy Trails An 81.14 339 ⇑P P 15 47 03.4 +1.0
baz=81
N23A Red Feather La 81.30 334 ⇓P P 15 47 04.3 +0.8
baz=82,SNR=6.3
EDW2 Edwards Air Fo 81.38 323 ⇓P P 15 47 04.6 +0.7
baz=82
N22A Wattenberg Ran 81.40 334 ⇓P P 15 47 05.1 +1.0
baz=82,SNR=9.8
M24A Cheyenne 81.41 336 ⇓P P 15 47 05.3 +1.3
baz=82
J30A Dallas 81.42 340 ⇓P P 15 47 04.4 +0.5
baz=82
O20A White River Ci 81.48 333 ⇑P P 15 47 04.8 +0.4
baz=82
LRMC Laurel Mtn Rad 81.71 324 ⇑P P 15 47 06.7 +1.0
baz=82
M23A Laramie 81.72 335 ⇑P P 15 47 06.2 +0.5
baz=82,SNR=6.7
J29A Okreek 81.74 339 ⇓P P 15 47 06.1 +0.6
baz=82,SNR=5.5
LBTB Lobatse 81.93 115 eP P 15 47 07.3 0.0
LBTB pmax pmax
comp=Z,11nm,0.9s
LBTB Lobatse 81.93 115 eP P 15 47 07.3 0.0
comp=Z,11nm,0.9s
I30A Oacoma 81.95 340 ⇓P P 15 47 06.5 -0.1
baz=82,SNR=5.5
M22A Cedar Creek Ra 81.98 334 ⇑P P 15 47 07.8 +0.7
baz=82
J28A Allard Ranch, 82.02 339 ⇓P P 15 47 08.0 +1.0
baz=82,SNR=6.4
N20A Spence Gulch, 82.09 333 ⇑P P 15 47 08.3 +0.6
baz=82
J27A Elkhorn Farm, 82.10 338 ⇓P P 15 47 07.9 +0.4
baz=82,SNR=5.2
FURC Furnace Creek, 82.11 325 ⇑P P 15 47 08.5 +1.0
baz=82
ISA Isabella, Lake 82.25 323 ⇓P P 15 47 09.1 +0.7
baz=82
L23A Garrett 82.29 335 ⇓P P 15 47 08.7 0.0
baz=83
I29A Vivian Onida 82.30 340 ⇓P P 15 47 08.8 +0.4
baz=83
BRSD Miller 82.31 341 ⇓P P 15 47 08.6 +0.1
baz=83
L22A Ellis Ranch, M 82.47 335 ⇓P P 15 47 10.1 +0.5
baz=83
K24A Anderson Ranch 82.53 336 ⇑P P 15 47 10.8 +0.9
baz=83
I28A Midland 82.53 339 ⇑P P 15 47 10.1 +0.5
baz=83,SNR=7.6
VES Vestal, Richgr 82.69 323 ⇑P P 15 47 11.4 +0.8
baz=83
J25A Sunshine Ranch 82.79 337 ⇑P P 15 47 11.6 +0.5
baz=83,SNR=6.6
H29A Onida 82.83 340 ⇑P P 15 47 11.3 +0.1
baz=83,SNR=5.9
K23A Bowen Ranch, D 82.83 336 ⇓P P 15 47 12.1 +0.7
baz=83,SNR=7.2
I27A Quinn 82.86 339 ⇓P P 15 47 12.2 +0.8
baz=83
G30A Faulkton 82.99 341 ⇓P P 15 47 12.1 +0.1
baz=83
J24A Dixon Ranch, L 83.02 336 ⇓P P 15 47 12.9 +0.6
baz=83,SNR=6.5
R11A Troy Canyon, C 83.04 327 ⇓P P 15 47 13.4 +0.8
baz=83
K22A Casper 83.05 335 ⇑P P 15 47 13.1 +0.5
baz=83,SNR=5.8
H28A Mission Ridge 83.10 339 ⇑P P 15 47 13.2 +0.6
baz=83,SNR=7.4
G29A Hoven 83.27 340 ⇓P P 15 47 13.7 +0.2
baz=84
K21A Alcova 83.29 334 ⇑P P 15 47 14.2 +0.4
baz=84,SNR=11
I25A Rochford 83.33 337 ⇓P P 15 47 14.3 +0.3
baz=84,SNR=9.5
DUG Dugway, Tooele 83.36 330 eP P 15 47 15.0 +0.8
DUG pmax pmax
comp=Z,30nm,1.4s
DUG Dugway, Tooele 83.36 330 ⇑P P 15 47 14.4 +0.3
baz=84,SNR=8.9
DUG Dugway, Tooele 83.36 330 eP P 15 47 15.0 +0.8
comp=Z,30nm,1.4s
H27A Howes 83.38 339 ⇓P P 15 47 14.1 +0.1
baz=84
G28A Parade 83.44 340 ⇑P P 15 47 14.2 -0.2
baz=84,SNR=6.2
I24A Kuemmerle Ranc 83.48 337 ⇑P P 15 47 14.9 +0.2
baz=84
RSSD Black Hills 83.52 337 eP P 15 47 15.0 0.0
RSSD pmax pmax
comp=Z,9.0nm,0.9s
RSSD Black Hills 83.52 337 eP P 15 47 15.0 0.0
comp=Z,9.0nm,0.9s
J22A Midwest 83.70 335 ⇑P P 15 47 15.7 -0.2
baz=84
F29A Eureka 83.83 341 ⇑P P 15 47 16.5 +0.2
baz=84
J21A Lysite 83.98 335 ⇓P P 15 47 17.6 +0.2
baz=84
G27A Dupree 84.01 339 ⇓P P 15 47 17.2 -0.1
baz=84
BGU Big Grassy Mou 84.06 330 eP P 15 47 17.8 0.0
comp=Z,13nm,1.7s
F28A McLaughlin 84.11 340 ⇑P P 15 47 18.0 +0.2
baz=84,SNR=5.2
I22A 9 Mile Ranch, 84.13 336 ⇓P P 15 47 18.0 -0.1
baz=84,SNR=6.1
G26A Maurine 84.13 339 ⇓P P 15 47 17.7 -0.2
baz=84,SNR=7.0
TORD Torodi Ar. Bea 84.17 70 P P 15 47 19.0 +0.3
comp=Z,10nm,0.9s,baz=292,slow=6.4,SNR=17
E30A Jud 84.20 342 ⇑P P 15 47 18.5 +0.4
baz=84
J20A Shoshoni 84.22 334 ⇑P P 15 47 19.2 +0.7
baz=84,SNR=13
H24A Dirks Ranch, A 84.25 337 ⇓P P 15 47 18.4 -0.1
baz=84,SNR=7.4
BW06 Boulder Array 84.25 333 eP P 15 47 18.1 -0.7
comp=Z,6.0nm,1.0s
PDAR Pinedale Array 84.25 333 P P 15 47 17.9 -0.9
comp=Z,3.9nm,0.8s,baz=152,slow=5.1,SNR=22
PDAR PKiKP PKiKP 15 52 38.3 +5.0
comp=Z,0.5nm,0.8s,baz=191,slow=1.5,SNR=3.7
G25A Newell 84.29 338 ⇓P P 15 47 19.0 +0.3
baz=85,SNR=5.2
I21A Big Trails, Te 84.33 335 ⇓P P 15 47 19.1 0.0
baz=85,SNR=8.5
NVAR Mina Array Bea 84.36 325 P P 15 47 20.6 +1.1
comp=Z,4.3nm,0.8s,baz=161,slow=6.3,SNR=24
F27A Lemmon 84.48 339 ⇓P P 15 47 20.0 +0.3
baz=85,SNR=11
J19A Crowheart 84.49 334 ⇓P P 15 47 19.9 0.0
baz=85,SNR=13
F26A Lodgepole 84.66 339 ⇓P P 15 47 20.8 +0.3
baz=85
H22A Clearmont 84.70 336 ⇓P P 15 47 20.5 -0.4
baz=85
D30A Buchanan 84.72 342 ⇑P P 15 47 20.9 +0.1
baz=85,SNR=7.0
E28A Huff 84.75 340 ⇓P P 15 47 21.5 +0.6
baz=85
I20A Worland 84.75 335 ⇓P P 15 47 21.2 +0.1
baz=85,SNR=12
D29A Pettibone, Tap 84.90 341 ⇓P P 15 47 21.5 -0.1
baz=85,SNR=5.4
G23A Biddle 84.92 337 ⇓P P 15 47 21.7 -0.2
baz=85
F25A Bowman 84.96 338 ⇑P P 15 47 22.0 -0.1
baz=85
H21A Big Horn, Sher 84.96 336 ⇑P P 15 47 22.2 -0.1
baz=85
AGMN Agassiz Nation 85.13 344 ⇑P P 15 47 22.4 -0.4
baz=85,SNR=7.0
AGMN Agassiz Nation 85.13 344 eP P 15 47 22.2 -0.6
comp=Z,7.2nm,0.7s
I19A Meeteetse 85.14 334 ⇓P P 15 47 23.1 -0.1
baz=85
E26A Carlson Angus 85.16 339 ⇓P P 15 47 23.2 +0.2
baz=85
H20A Greybull 85.17 335 ⇓P P 15 47 22.9 -0.3
baz=85,SNR=8.7
F24A Ekalaka 85.19 338 ⇑P P 15 47 23.2 -0.1
baz=86
C30A Mose, Pekin 85.20 342 ⇓P P 15 47 23.2 0.0
baz=86,SNR=12
G22A Birney 85.23 336 ⇓P P 15 47 23.2 -0.3
baz=86
D28A Regan 85.28 341 ⇑P P 15 47 23.6 0.0
baz=86,SNR=5.6
F23A Volborg 85.39 337 ⇑P P 15 47 24.1 -0.1
baz=86,SNR=6.7
E25A Miller Ranch, 85.46 339 ⇓P P 15 47 24.7 +0.2
baz=86
D27A Center 85.47 340 ⇓P P 15 47 24.5 -0.1
baz=86
G21A Lodge Grass 85.54 336 ⇑P P 15 47 24.9 -0.2
baz=86
I17A Pilgrim Ck. 85.62 333 ⇓P P 15 47 25.9 +0.3
baz=86,SNR=10
MDND Maddock 85.62 342 ⇓P P 15 47 25.4 +0.1
baz=86,SNR=6.9
D26A Manning 85.66 340 ⇑P P 15 47 25.7 +0.2
baz=86,SNR=6.6
H19A Powell 85.68 334 ⇑P P 15 47 25.8 0.0
baz=86,SNR=7.2
F22A Rosebud 85.72 337 ⇓P P 15 47 25.9 0.0
baz=86,SNR=6.2
E24A Baker 85.79 338 ⇓P P 15 47 26.4 +0.1
baz=86,SNR=5.0
B30A Myrvik Farm, E 85.86 343 ⇓P P 15 47 26.5 +0.1
baz=86,SNR=18
G20A Bridger 85.89 335 ⇓P P 15 47 26.7 -0.1
baz=86,SNR=18
H18A Shoshone NF, C 85.93 334 ⇑P P 15 47 27.0 -0.2
baz=86,SNR=18
C27A Sayler Ranch, 86.01 340 ⇑P P 15 47 27.4 +0.2
baz=86
D25A Fairfield 86.02 339 ⇑P P 15 47 27.9 +0.5
baz=86,SNR=5.2
H17A Grant Village 86.02 333 ⇓P P 15 47 28.2 +0.5
baz=86
H17A Grant Village 86.02 333 eP P 15 47 28.4 +0.7
comp=Z,8.1nm,1.2s
B29A Wagenman Farm, 86.13 342 ⇓P P 15 47 28.0 +0.2
baz=86
YFT Old Faithful 86.17 333 eP P 15 47 30.0 +1.6
comp=Z,10nm,0.8s
RLMT Red Lodge 86.17 334 eP P 15 47 28.4 +0.1
comp=Z,8.9nm,0.7s
C26A Wahner Farm, P 86.28 340 ⇓P P 15 47 29.1 +0.6
baz=86
D24A Glendive 86.29 338 ⇓P P 15 47 29.1 +0.4
baz=87,SNR=5.4
A30A Hoffart Farm, 86.31 343 ⇑P P 15 47 28.2 -0.4
baz=87
F20A Billings 86.37 335 ⇓P P 15 47 29.0 -0.2
baz=87
B28A Dugan Ranch, T 86.38 341 ⇓P P 15 47 29.3 +0.3
baz=87,SNR=5.1
YMR Madison River 86.40 333 eP P 15 47 30.4 +0.9
comp=Z,34nm,1.0s
A29A Manning Farm, 86.52 342 ⇓P P 15 47 29.2 -0.5
baz=87,SNR=10
D23A Lindsay 86.61 338 ⇓P P 15 47 30.6 +0.4
baz=87,SNR=16
E21A Keefer Ranch, 86.66 336 ⇑P P 15 47 30.8 +0.4
baz=87
C24A Savage 86.69 339 ⇓P P 15 47 31.0 +0.4
baz=87,SNR=8.5
A28A Rude Farm, Bot 86.78 342 ⇑P P 15 47 31.0 +0.1
baz=87
HLID Hailey 86.82 330 ⇓P P 15 47 31.9 +0.4
baz=87,SNR=12
HLID Hailey 86.82 330 eP P 15 47 32.2 +0.7
comp=Z,18nm,1.3s
D22A Cohagen 86.90 337 ⇓P P 15 47 32.2 +0.5
baz=87,SNR=16
E20A Meyer Farm, Mu 86.97 336 ⇓P P 15 47 32.0 0.0
baz=87,SNR=19
ULM Lac du Bonnet 86.98 345 P P 15 47 30.1 -1.7
comp=Z,9.7nm,0.9s,baz=168,slow=4.3,SNR=14
B25A Knox Farm, Ray 86.99 340 ⇑P P 15 47 32.6 +0.5
baz=87,SNR=5.4
A27A Ledoux Ranch, 87.07 341 ⇓P P 15 47 32.7 +0.3
baz=87
D21A La Casta Ranch 87.09 337 ⇓P P 15 47 32.8 +0.2
baz=87,SNR=6.1
E19A Rath Farm, Rou 87.16 335 ⇑P P 15 47 33.1 +0.1
baz=87,SNR=14
C23A Lambert 87.17 338 ⇑P P 15 47 33.3 +0.4
baz=87,SNR=15
A26A Wade Farm, Ken 87.24 341 ⇓P P 15 47 33.1 -0.1
baz=88,SNR=6.7
MCMT McKenzie Canyo 87.25 332 eP P 15 47 34.4 +0.8
comp=Z,11nm,1.1s
MFID Camas Ranch 87.28 330 eP P 15 47 34.1 +0.5
comp=Z,9.5nm,1.1s
C22A Vida 87.33 338 ⇑P P 15 47 33.5 -0.2
baz=88,SNR=5.3
D20A Manuel Ranch, 87.49 336 ⇑P P 15 47 34.2 -0.3
baz=88,SNR=16
A25A Svangstu Ranch 87.58 340 ⇑P P 15 47 34.9 0.0
baz=88,SNR=5.3
B23A Brockton 87.70 339 ⇑P P 15 47 35.3 -0.1
baz=88
WVOR Wild Horse Val 87.71 327 eP P 15 47 36.3 +0.5
WVOR pmax pmax
comp=Z,8.0nm,1.1s
WVOR Wild Horse Val 87.71 327 eP P 15 47 36.3 +0.5
comp=Z,7.8nm,1.1s
D19A Cripps Ranch, 87.81 336 ⇑P P 15 47 36.1 +0.1
baz=88
A24A Westby 87.82 339 ⇓P P 15 47 36.3 +0.3
baz=88
B22A Reddig Ranch S 87.86 338 ⇑P P 15 47 36.0 -0.3
baz=88,SNR=8.9
C20A Veseth Ranch, 87.99 336 ⇑P P 15 47 36.6 -0.3
baz=88,SNR=8.4
A23A Redstone 88.11 339 ⇑P P 15 47 37.3 -0.1
baz=88
B21A Ellsworth Farm 88.30 337 ⇑P P 15 47 38.5 +0.2
baz=89,SNR=6.6
C19A Slack Wire Ran 88.36 336 ⇓P P 15 47 38.6 -0.1
baz=89,SNR=6.7
A22A Carney Farms, 88.45 338 ⇓P P 15 47 38.7 -0.3
baz=89,SNR=10
B20A Solberg Farm, 88.63 337 ⇑P P 15 47 40.2 +0.3
baz=89
M04C Macdoel 88.67 325 ⇑P P 15 47 40.5 +0.1
baz=89
EGMT Eagleton 88.85 336 ⇑P P 15 47 41.1 +0.2
baz=89
B19A Brinkman Farms 88.94 336 ⇑P P 15 47 41.0 -0.4
baz=89,SNR=6.8
A20A Cobblestone Ra 88.98 337 ⇑P P 15 47 41.2 -0.3
baz=89,SNR=7.1
BMO Blue Mountains 89.07 330 eP P 15 47 41.9 -0.2
comp=Z,5.4nm,1.0s
A19A Klindworth Far 89.29 337 ⇓P P 15 47 43.2 +0.2
baz=90
LSZ Lusaka 89.47 108 P P 15 47 46.1 +1.3
LSZ Lusaka 89.47 108 P P 15 47 46.1 +1.3
J05D Fort Rock, OR 89.55 326 ⇑P P 15 47 45.7 +1.2
baz=90
YKA Yellowknife Ar 102.54 341 P Pdif 15 48 42.1 -0.7
comp=Z,0.6nm,0.7s,baz=144,slow=4.7,SNR=13
VYHS Vyhne 115.24 47 ePKIKP PKPdf 15 53 31.3 +3.2
VYHS Vyhne 115.24 47 ePKP PKPdf 15 53 31.3 +3.2
STHS Stebnicka Huta 117.06 47 ePKIKP PKPdf 15 53 32.6 +1.1
STHS Stebnicka Huta 117.06 47 ePKP PKPdf 15 53 32.6 +1.1
ASAR Alice Springs 117.27 207 PKP PKPdf 15 53 31.7 -1.2
comp=Z,0.4nm,0.7s,baz=134,slow=1.6,SNR=5.5
ASAR PKKPbc PKKPbc 16 03 56.1 +0.1
comp=Z,0.7nm,1.0s,baz=333,slow=3.2,SNR=5.7
WRA Warramunga Arr 120.48 209 PKP PKPdf 15 53 41.0 +1.9
comp=Z,0.9nm,0.5s,baz=169,slow=1.6,SNR=14
WRAB Tennant Creek 120.48 209 ePKIKP PKPdf 15 53 40.2 +1.0
WRAB Tennant Creek 120.48 209 ePKPdf PKPdf 15 53 40.2 +1.0
BRTR Keskin Array B 121.87 61 PKP PKPdf 15 53 41.0 -0.3
comp=Z,1.3nm,0.8s,baz=325,slow=1.5,SNR=4.1
H11S2 WAKE ISLAND Hyl 25.97 269 T T 18 12 11.4
baz=119,slow=75,SNR=10
H11S1 WAKE ISLAND Hyl 25.98 269 T T 18 12 07.5
baz=119,slow=75,SNR=23
H11S3 WAKE ISLAND Hyl 25.99 269 T T 18 12 07.5
baz=119,slow=75,SNR=14
H11N3 WAKE ISLAND Hyl 26.39 270 T T 18 12 39.0
baz=115,slow=78,SNR=23
H11N1 WAKE ISLAND Hyl 26.41 270 T T 18 12 40.7
baz=115,slow=78,SNR=48
H11N2 WAKE ISLAND Hyl 26.41 270 T T 18 12 40.6
baz=115,slow=78,SNR=27
OBN Obninsk 127.61 44 ePKIKP PKPdf 15 53 54.1 +2.6
OBN pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 129.54 58 ePKIKP PKPdf 15 53 55.7 -0.1
KIV pmax pmax
comp=Z,7.0nm,1.1s
KLMR Klimovskoe 129.64 36 ePKIKP PKPdf 15 53 54.6 -0.6
KLMR pmax pmax
comp=Z,29nm,1.9s
BILL Bilibino 133.32 334 PKIKP PKPdf 15 54 02.0 -0.1
BILL Bilibino 133.32 334 PKPdf PKPdf 15 54 01.9 -0.1
GEYT Alibeck 139.81 70 PKP PKPdf 15 54 15.6 +0.5
comp=Z,1.7nm,0.8s,baz=258,slow=7.0,SNR=3.7
ARU Arti 139.94 41 PKIKP PKPdf 15 54 18.4 +3.8
SEY Seymchan 140.51 330 PKP PKPdf 15 54 14.6 -0.8
comp=Z,3.0nm,0.9s,baz=131,slow=4.9,SNR=9.5
TIXI Tiksi 141.16 350 ePKIKP PKPdf 15 54 17.1 +0.7
TIXI Tiksi 141.16 350 ePKPpre PKPpre 15 54 08.3
ABKAR Abkulak array 141.79 52 ePKPpre PKPpre 15 54 12.5
BRVK Borovoye 147.39 44 *c i* PKP2 PKPbc 15 54 28.6 -1.7
BRVK pmax pmax
comp=Z,13nm,1.0s
HYB Hyderabad 148.56 115 *i* PKP PKPbc 15 54 33.0 -1.5
YAK Yakutsk 149.21 340 ePKP2 PKPbc 15 54 33.6 -1.1
YAK pmax pmax
comp=Z,39nm,1.0s
YAK Yakutsk 149.21 340 ePKPbc PKPbc 15 54 34.3 -0.5
KKAR Karatay Array 149.57 62 ePKP2 PKPbc 15 54 35.9 -0.4
KKAR Karatay Array 149.57 62 ePKPdf PKPbc 15 54 35.9 -0.4
YSS Yuzh-Sakhalins 151.22 306 *i* PKIKP PKPbc 15 54 39.3 -0.7
YSS Yuzh-Sakhalins 151.22 306 ePKPbc PKPbc 15 54 39.5 -0.6
AAK Ala-Archa 152.53 63 *c i* PKIKP PKPbc 15 54 40.3 -3.1
AAK pmax pmax
comp=Z,34nm,1.2s
AAK Ala-Archa 152.53 63 ePKPbc PKPbc 15 54 44.0 +0.6
NVS Novosibirsk 153.20 33 ePKIKP PKPbc 15 54 43.4 -0.8
KSH Kashi 153.84 69 PKPbc PKPbc 15 54 42.2 -4.2
KSH PKS PKSdf 15 58 13.0 +0.2
KSH PP PP 15 58 32.6 -2.0
KSH SKS SKSdf 16 01 42.1 -0.6
KSH SS SS 16 18 05.7 -4.1
ZALV Zalesovo Beam 154.48 33 PKP PKPdf 15 54 39.3 +0.7
comp=Z,0.9nm,0.5s,baz=298,slow=3.2,SNR=4.8
ZALV PKPbc PKiKP 15 54 47.1 0.0
comp=Z,5.3nm,0.8s,baz=305,slow=3.3,SNR=15
ZALV PKPab PKPab 15 55 01.9 +0.3
comp=Z,3.3nm,0.7s,baz=297,slow=4.6,SNR=5.9
MKAR Makanchi Array 156.89 50 PKP PKPdf 15 54 41.9 -0.3
comp=Z,0.6nm,0.8s,baz=323,slow=0.6,SNR=3.9
MKAR PKPab PKPab 15 55 12.4 +0.2
comp=Z,2.1nm,0.9s,baz=288,slow=5.0,SNR=8.0
WMQ Urumqi 161.57 53 ePKP PKPdf 15 54 46.6 -1.2
WMQ pPKP pPKPdf 15 55 00.0 +0.7
WMQ PKPab PKPab 15 55 33.1 +0.4
WMQ PKS PKSdf 15 58 18.6 -2.4
WMQ PP PP 15 59 17.4 +0.8
WMQ SKS SKSdf 16 01 46.6 -3.4
WMQ SKKS SKKSac 16 06 00.0 -2.0

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WMQ                                  PPMZ
      comp=Z,560nm,10.0s
CMAR Chiang Mai Arr   162.07 150  PKP    PKPdf   15 54 49.4 +0.5
      comp=Z,0.7nm,0.8s,baz=244,slow=2.1,SNR=6.1
CMAR                                 PKPab   PKPab   15 55 35.0 -0.2
      comp=Z,1.2nm,0.9s,baz=228,slow=5.4,SNR=6.0
CN2  Changchun        163.71 310 ePKP    PKPdf   15 54 52.0 +2.2
SONM Songino Array    166.55   5  PKP    PKPdf   15 54 51.9 -0.3
      comp=Z,0.7nm,0.9s,baz=228,slow=0.9,SNR=3.8
SONM                                 PKPab   PKPab   15 55 55.2 +0.8
      comp=Z,1.3nm,0.9s,baz=331,slow=5.3,SNR=7.9
KMI  Kunming          169.57 151  PKP    PKPdf   15 54 54.4 -0.7
NJ2  Nanjing          170.77 258  ePKP   PKPdf   15 54 55.6 +0.3
GTA  Gaotai           171.65  51  ePKP   PKPdf   15 54 56.3 +0.6
GTA                               pPKP   pPKPdf  15 55 07.1 -0.1
GTA                               sPKP           15 55 10.8
GTA                               PKPab   PKPab   15 56 17.9 +0.5
GYA  Guiyang          171.93 170  ePKP   PKPdf   15 54 55.8 -0.4
GYA                               PKPab   PKPab   15 56 21.2 +2.5
GYA                               PKS    PKSdf   15 58 27.4 -1.3
GYA                               PP     PP      16 00 13.8 +5.0
GYA                               SKKS           16 06 54.5
GYA                               SS     SS      16 21 16.0 +1.6
GYA                               PPMZ
      comp=Z,110nm,8.2s
GYA                               LN
      comp=Z,120nm,21.3s
GYA                               LE
      comp=Z,110nm,22.0s
GYA                               LZ
      comp=Z,120nm,21.4s
HHC  Hu-ho-hao-te     173.07 338  ePKP   PKPdf   15 54 57.5 +1.3
HHC                               sPKP           15 55 10.6
HHC                               PP     PP      16 00 17.1 +2.5
HHC                               SKS    SKSdf   16 01 53.8 -3.0
HHC                               SKKS   SKKSac  16 06 57.5 -1.4
HHC                               SS     SS      16 21 28.2 +2.4
LZH  Lanzhou          176.07  64  ePKP   PKPdf   15 54 59.1 +1.7
LZH                               pPKP   pPKPdf  15 55 10.9 +2.0
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*IDC **11** 15:46:20.4±0.6,34°.46S×71°.81W,h0km,mb4.2/13, mb1 4.4/15,mb1mx4.3/21,mbtmp4.2/15,ML4.2/2,Error ellipse: s-maj=21.0km s-min=13.5km az=90.0*
*ISCJB **11** 15:46:21.4±0.4,34°.44S±0°.05×71°.8W±0°.1,h16km, mb4.3/21,Error ellipse: s-maj=13.3km s-min=7.6km az=169.0*
*NEIC **11** 15:46:24.5±2.7,34°.40S×71°.83W,h26km±18km,mb4.5/10, Error ellipse: s-maj=14.8km s-min=7.1km az=79.0*

ISC 11 15:46:23.0±0.5,34°.39S±0°.06×71°.9W±0°.1,h16km,n44, σ1°.26/46,mb4.4/21,1C,Near coast of central Chile

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Code Station Name      Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
CFAA Coronel Fontan    4.13  49  Pn    Pn          15 47 26.4 +0.9
      0.2nm,0.3s,baz=242,slow=14,SNR=3.7
CFAA                              Lg    Lg          15 48 32.1
      1.4nm,0.3s,baz=303,slow=21,SNR=11
LCO  Las Campanas      5.45  11  ePn   Pn          15 47 43.4 -0.5
      23nm,0.6s
PLCA Paso Flores       6.42 171  Pn    Pn          15 47 56.8 -0.2
      2.0nm,0.3s,baz=345,slow=11,SNR=12
PLCA                              Lg    Lg          15 49 39.9
      1.8nm,0.3s,baz=82,slow=20,SNR=3.0
PLCA Paso Flores       6.42 171  Pn    Pn          15 47 56.8 -0.2
PLCA                              eSg   Sb          15 49 34.3 +3.3
PLCA                              Lg    Lg          15 49 39.9
TRQA Tornquist         8.80 117  ePn   Pn          15 48 30.7 +1.1
      30nm,1.1s
LPAZ La Paz           18.34  12  P     P           15 50 39.1 +1.7
      0.2nm,0.3s,baz=200,slow=7.9,SNR=11
LPAZ La Paz           18.34  12  ePn   P           15 50 37.3 -0.1
      7.5nm,0.9s
SIV  San Ignacio      20.74  31  P     P           15 51 02.8 -0.2
      2.2nm,0.7s,baz=198,slow=9.5,SNR=4.1
NNA  Nana             22.75 347  P     P           15 51 25.0 +0.3
      5.4nm,0.4s,baz=166,slow=5.4,SNR=5.0
SAML Samuel           26.55  20  P     P           15 51 56.7 -3.6
      5.3nm,1.1s
ATAH Atahualpa        27.78 346  P     P           15 52 11.9 +0.2
      5.3nm,0.7s,baz=329,slow=8.6,SNR=3.0
PTGA Pitinga          35.29  21  P     P           15 53 16.7 -0.6
      2.9nm,0.7s,baz=192,slow=13,SNR=4.8
SDV  Santo Domingo    43.05   2  P     P           15 54 21.7 -0.7
SNAA Sanae            51.18 158  P     P           15 55 23.1 -2.0
      1.8nm,0.9s,baz=303,slow=7.5,SNR=4.5
MTDJ Mount Denham     52.60 353  P     P           15 55 38.5 +2.3
      31nm,0.9s
SDDR Presa de Saban   53.08   1  P     P           15 55 41.6 +2.0
QSPA South Pole Qui   55.85 180  eP    P           15 55 59.4 -0.1
      6.9nm,1.0s
SBA  Scott Base       62.73 192  P     P           15 56 40.1 -6.5
VNDA Vanda            63.75 191  P     P           15 56 54.6 +1.1
      1.0nm,0.8s,baz=156,slow=3.1,SNR=4.0
SYO  Syowa Base       65.46 158⇑eP     P           15 57 02.4 -2.3
JCT  Junction City    69.69 334  eP    P           15 57 32.3 +0.3
      4.0nm,0.7s
TXAR Lajitas Array    70.14 331  P     P           15 57 36.0 +1.2
      1.3nm,0.6s,baz=160,slow=7.9,SNR=9.9
MNTX Cornudas Mount   72.91 331  eP    P           15 57 51.0 -0.3
      1.5nm,0.7s
ACSO Alum Creek Sta   74.95 351  P     P           15 58 02.9 -0.2
DBIC Dimbokro         75.18  71  P     P           15 58 04.9 -0.1
      2.4nm,0.9s,baz=319,slow=1.9,SNR=3.2
DBIC Dimbokro         75.18  71  P     P           15 58 04.2 -0.8
ANMO Albuquerque      76.18 331  eP    P           15 58 11.4 +0.9
      2.2nm,0.8s
BOSA Boshof           79.78 118  P     P           15 58 31.0 +0.2
      3.3nm,0.7s,baz=248,slow=4.5,SNR=7.0
ECSD EROS Data Cent   80.95 342  eP    P           15 58 36.2 -0.2
      15nm,1.1s
LBTB Lobatse          82.02 115  eP    P           15 58 42.6 -0.3
      3.4nm,0.6s
R11A Troy Canyon, C   82.95 327  eP    P           15 58 48.9 +1.6
      6.7nm,1.5s
PDAR Pinedale Array   84.17 333  P     P           15 58 53.8 +0.3
      1.3nm,0.8s,baz=159,slow=4.7,SNR=8.9
TORD Torodi Ar. Bea   84.22  70  P     P           15 58 54.3 +0.2
      2.1nm,0.8s,baz=263,slow=3.7,SNR=7.7
NVAR Mina Array Bea   84.28 325  P     P           15 58 55.6 +1.5
      1.7nm,0.8s,baz=154,slow=6.3,SNR=11
ULM  Lac du Bonnet    86.91 345  P     P           15 59 05.7 -0.9
      3.2nm,0.9s,baz=96,slow=5.1,SNR=4.4
YKA  Yellowknife Ar   102.47 341  P     Pdif        16 00 16.9 -0.7
      0.2nm,0.6s,baz=141,slow=4.2,SNR=6.3
WRA  Warramunga Arr   120.49 209  PKP   PKPdf       16 05 12.4 -2.0
      0.4nm,0.6s,baz=164,slow=1.6,SNR=7.0
SEY  Seymchan         140.43 330  PKP   PKPdf       16 05 49.9 -0.7
      1.3nm,0.9s,baz=119,slow=5.5,SNR=6.9
BVAR Borovoye Array   147.47  43  PKPbc PKPdf       16 06 04.1 +1.0
      2.0nm,0.7s,baz=284,slow=3.6,SNR=15
AAK  Ala-Archa        152.57  63  PKPbc PKPbc       16 06 19.5 +0.8
      1.9nm,0.7s,baz=190,slow=1.7,SNR=9.5
AAK                               PKPab PKPab       16 06 28.0 -1.3
      2.0nm,0.9s,baz=199,slow=5.4,SNR=5.4
KURBB Kurchatov Arra  153.06  44  PKPbc PKPbc       16 06 18.9 -0.4
      1.0nm,0.6s,baz=299,slow=3.0,SNR=13
KURK Kurchatov        153.07  44  PKPbc PKPbc       16 06 18.9 -0.4
ZALV Zalesovo Beam    154.48  33  PKP   PKPdf       16 06 13.3 -0.6
      0.7nm,0.8s,baz=321,slow=2.0,SNR=2.8
ZALV                              PKPbc PKiKP       16 06 22.2 -0.1
      1.6nm,0.8s,baz=298,slow=3.2,SNR=7.5
SONM Songino Array    166.50   5  PKPab PKPab       16 07 29.9 +0.6
      0.4nm,0.8s,baz=345,slow=2.3,SNR=3.8
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*IDC **11** 15:49:13.3±0.7,34°.23S×71°.85W,h0km,mb4.0/7, mb1 4.3/9,mb1mx3.9/30,mbtmp4.1/9,ML4.4/2,Error ellipse: s-maj=26.6km s-min=16.0km az=106.0*
*ISCJB **11** 15:49:16.3±0.6,34°.29S±0°.07×71°.6W±0°.2,h35km,mb4.1/5, Error ellipse: s-maj=22.8km s-min=9.0km az=8.4*
*NEIC **11** 15:49:18.2±0.5,34°.27S×71°.69W,h35km,mb4.4/2,Error ellipse: s-maj=23.4km s-min=9.2km az=99.0*

ISC 11 15:49:18.2±0.7,34°.28S±0°.08×71°.7W±0°.2,h35km,n23, σ1°.21/22,mb4.0/5,Near coast of central Chile

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Code Station Name      Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
CFAA Coronel Fontan    3.92  48  Pn    Pn          15 50 14.8 -1.2
      0.2nm,0.3s,baz=230,slow=16,SNR=1.9
CFAA                              Lg    Lg          15 51 20.6
      2.0nm,0.3s,baz=90,slow=20,SNR=3.3
LCO  Las Campanas      5.31   9  ePn   Pn          15 50 29.0 -6.3
PLCA Paso Flores       6.50 173  Pn    Pn          15 50 51.0 -0.5
      2.1nm,0.3s,baz=339,slow=14,SNR=4.2
PLCA                              Lg    Lg          15 52 33.9
      1.1nm,0.3s,baz=260,slow=19,SNR=2.9
LVC  Limon Verde      11.87  12  ePn   Pn          15 52 05.1 -0.1
      38nm,0.9s
LPAZ La Paz           18.19  11  P     P           15 53 29.3 +0.6
      0.4nm,0.3s,baz=194,slow=6.1,SNR=8.4
LPAZ La Paz           18.19  11  ePn   P           15 53 29.2 +0.6
      12nm,0.9s
SIV  San Ignacio      20.55  30  P     P           15 53 54.5 +0.7
      2.5nm,0.7s,baz=221,slow=8.8,SNR=6.7
USHA Ushuaia          20.68 175  P     P           15 53 56.0 +1.1
      11nm,0.9s,baz=353,slow=8.1,SNR=4.5
SAML Samuel           26.38  19  P     P           15 54 49.7 -1.7
JTS  JuntasAbangare   46.09 342  P     P           15 57 38.8 -0.1
      2.6nm,0.3s,baz=346,slow=1.0,SNR=10.0
QSPA South Pole Qui   55.96 180  P     P           15 58 54.3 +1.5
      4.8nm,1.0s,baz=174,slow=5.4
QSPA South Pole Qui   55.96 180  eP    P           15 58 53.9 +1.2
      8.0nm,1.1s
VNDA Vanda            63.89 191  P     P           15 59 44.8 -2.0
TORD Torodi Ar. Bea   84.01  70  P     P           16 01 46.3 +1.0
      0.7nm,0.6s,baz=225,slow=1.8,SNR=4.1
PDAR Pinedale Array   84.15 333  P     P           16 01 45.0 -0.7
      0.4nm,0.7s,baz=108,slow=2.9,SNR=3.1
NVAR Mina Array Bea   84.29 325  P     P           16 01 46.8 +0.3
      0.5nm,0.7s,baz=213,slow=6.3,SNR=3.6
YKA  Yellowknife Ar   102.42 341  P     Pdif        16 03 09.6  0.0
      0.2nm,0.6s,baz=144,slow=4.6,SNR=5.5
WRA  Warramunga Arr   120.67 209  PKP   PKPdf       16 08 05.4 -1.6
      0.4nm,0.7s,baz=169,slow=1.5,SNR=5.0
BVAR Borovoye Array   147.26  43  PKPbc PKPbc       16 08 58.2 +0.8
      0.8nm,0.4s,baz=298,slow=2.0,SNR=9.1
AAK  Ala-Archa        152.35  62  PKPbc PKPbc       16 09 12.4 +2.0
      1.0nm,0.7s,baz=244,slow=5.4,SNR=4.8
KURBB Kurchatov Arra  152.85  44  PKPbc PKPbc       16 09 12.4 +1.4
      0.7nm,0.6s,baz=303,slow=3.0,SNR=5.1
KURK Kurchatov        152.86  44  PKPbc PKPbc       16 09 12.4 +1.4
ZALV Zalesovo Beam    154.29  33  PKPbc PKPbc       16 09 13.1 -0.9
      1.1nm,0.7s,baz=343,slow=4.6,SNR=4.2
```

*ISCJB **11** 15:53:31.8±0.5,34°.44S±0°.05×71°.9W±0°.1,h16km, mb4.4/15,Error ellipse: s-maj=14.4km s-min=7.3km az=176.5*
*IDC **11** 15:53:31.2±0.6,34°.39S×71°.98W,h0km,mb4.3/11, mb1 4.4/13,mb1mx4.3/29,mbtmp4.3/13,ML4.2/2,Error ellipse: s-maj=25.0km s-min=15.6km az=92.0*
*NEIC **11** 15:53:34.4±2.4,34°.40S×71°.98W,h23km±16km,mb4.6/7, Error ellipse: s-maj=13.9km s-min=5.9km az=88.0*

ISC 11 15:53:33.4±0.5,34°.40S±0°.07×72°.0W±0°.1,h16km,n44, σ0°.83/42,mb4.3/15,Near coast of central Chile

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Code Station Name      Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
CFAA Coronel Fontan    4.22  50  Pn    Pn          15 54 37.6 +0.4
      0.2nm,0.3s,baz=222,slow=13,SNR=3.5
LCO  Las Campanas      5.49  12  ePn   Pn          15 54 53.6 -1.2
PLCA Paso Flores       6.43 170  Pn    Pn          15 55 07.8 +0.3
      1.7nm,0.3s,baz=331,slow=10,SNR=9.0
TRQA Tornquist         8.89 117  ePn   Pn          15 55 41.4 +0.1
      26nm,1.1s
LPAZ La Paz           18.37  12  P     Pn          15 57 48.5 +0.4
      0.2nm,0.3s,baz=196,slow=6.6,SNR=7.4
EFI  East Falkland    19.99 154  P     P           15 58 03.8 -1.3
USHA Ushuaia          20.58 174  P     P           15 58 11.9 +0.5
      13nm,0.8s,baz=90,slow=2.3,SNR=3.6
SIV  San Ignacio      20.80  31  P     P           15 58 14.8 +0.6
      4.3nm,0.6s,baz=211,slow=10.0,SNR=8.8
SAML Samuel           26.59  20  eP    P           15 59 09.6 -1.4
      4.3nm,1.0s
BDFB Brasilia         28.54  55  P     P           15 59 29.9 +1.3
      3.1nm,0.7s,baz=222,slow=8.0,SNR=3.9
PMSA Palmer Station   30.79 173  eP    P           15 59 48.0 +0.1
      10nm,0.5s
OTAV Otavalo          34.98 349  P     P           16 00 27.2 +1.6
      2.9nm,0.6s
SDV  Santo Domingo    43.07   2  P     P           16 01 32.5 -0.4
      4.0nm,0.7s
SNAA Sanae            51.21 158  P     P           16 02 35.4 -0.3
      2.5nm,0.8s,baz=251,slow=5.2,SNR=4.1
QSPA South Pole Qui   55.84 180  P     P           16 03 11.1 +1.2
      8.5nm,0.9s,baz=223,slow=0.4,SNR=14
QSPA South Pole Qui   55.84 180  eP    P           16 03 10.3 +0.4
      11nm,1.0s
TXAR Lajitas Array    70.09 331  P     P           16 04 45.0  0.0
      0.4nm,0.4s,baz=158,slow=8.0,SNR=4.6
DBIC Dimbokro         75.28  71  P     P           16 05 15.6 -0.5
      3.6nm,0.7s,baz=202,slow=3.7,SNR=6.2
BOSA Boshof           79.86 118  P     P           16 05 41.9 +0.2
      6.3nm,0.8s,baz=219,slow=6.3,SNR=7.9
ECSD EROS Data Cent   80.93 342  eP    P           16 05 46.1 -0.6
      9.4nm,1.0s
PDAR Pinedale Array   84.13 333  P     P           16 06 04.5 +0.8
      1.2nm,0.8s,baz=163,slow=4.7,SNR=8.8
NVAR Mina Array Bea   84.22 325  P     P           16 06 05.6 +1.4
      1.3nm,0.7s,baz=156,slow=5.8,SNR=11
TORD Torodi Ar. Bea   84.32  70  P     P           16 06 04.5 -0.5
      3.9nm,0.7s,baz=262,slow=4.2,SNR=21
AGMN Agassiz Nation   85.04 344  eP    P           16 06 07.1 -0.8
      3.5nm,0.6s
YKA  Yellowknife Ar   102.44 341  P     Pdif        16 07 27.2 -0.7
      0.2nm,0.5s,baz=144,slow=4.5,SNR=7.0
WRA  Warramunga Arr   120.43 209  PKP   PKPdf       16 12 24.2 -0.5
      0.6nm,0.5s,baz=172,slow=1.7,SNR=5.0
H11S2 WAKE ISLAND Hyl 25.79 269  T     T           18 32 03.8
      baz=119,slow=75,SNR=4.7
H11S1 WAKE ISLAND Hyl 25.80 269  T     T           18 31 56.0
      baz=119,slow=75,SNR=18
H11S3 WAKE ISLAND Hyl 25.81 269  T     T           18 32 00.0
      baz=119,slow=75,SNR=6.3
H11N3 WAKE ISLAND Hyl 26.21 270  T     T           18 32 29.0
      baz=115,slow=78,SNR=18
H11N1 WAKE ISLAND Hyl 26.22 270  T     T           18 32 27.1
      baz=115,slow=78,SNR=50
H11N2 WAKE ISLAND Hyl 26.23 270  T     T           18 32 26.2
      baz=115,slow=78,SNR=20
SEY  Seymchan         140.39 330  PKP   PKPdf       16 13 01.7 +0.9
      1.8nm,0.7s,baz=152,slow=6.0,SNR=12
ABKAR Akbulak array   141.91  52  ePKPpre PKPpre    16 12 58.1
PSI  Prapat           147.45 163  PKPbc PKPbc       16 13 16.4 -1.0
      3.2nm,0.4s,baz=231,slow=4.8,SNR=3.9
BVAR Borovoye Array   147.55  43  PKPbc PKPbc       16 13 17.1 +0.8
      3.1nm,0.6s,baz=288,slow=3.0,SNR=23
AAK  Ala-Archa        152.67  63  PKPbc PKPbc       16 13 30.2 +0.9
      4.3nm,0.7s,baz=174,slow=2.8,SNR=23
AAK  Ala-Archa        152.67  63  ePKPbc PKPbc      16 13 28.7 -0.7
KURBB Kurchatov Arra  153.14  44  PKP   PKPdf       16 13 21.8 -0.7
      0.3nm,0.7s,baz=308,slow=2.1,SNR=4.3
KURBB                             PKPbc PKiKP       16 13 30.1 +0.1
      1.8nm,0.7s,baz=300,slow=2.9,SNR=14
KURK Kurchatov        153.15  44  PKP   PKPdf       16 13 21.8 -0.7
KURK                              PKPbc PKiKP       16 13 30.1 +0.1
KSH  Kashi            153.99  69  ePKPbc PKPbc      16 13 32.4 +0.1
ZALV Zalesovo Beam    154.55  33  PKP   PKPdf       16 13 24.0 -0.4
      0.7nm,0.7s,baz=333,slow=0.3,SNR=4.3
ZALV                              PKPbc PKiKP       16 13 32.9  0.0
      3.0nm,0.7s,baz=299,slow=3.1,SNR=14
ZALV                              PKPab PKPab       16 13 47.6 +0.2
      2.2nm,0.8s,baz=310,slow=6.9,SNR=5.2
MKAR Makanchi Array   157.00  50  PKP   PKPdf       16 13 27.7 -0.2
      0.5nm,0.8s,baz=63,slow=0.5,SNR=4.5
MKAR                              PKPab PKPab       16 13 57.0 -1.2
      1.1nm,0.8s,baz=286,slow=4.5,SNR=6.6
SONM Songino Array    166.52   5  PKPab PKPab       16 14 37.9 -1.9
      0.8nm,0.8s,baz=7.0,slow=0.8,SNR=5.9
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*IDC **11** 15:54:32.8±0.4,34°.44S×72°.11W,h0km,mb4.7/14, mb1 4.8/17,mb1mx4.8/21,mbtmp4.7/17,ML4.6/3,Error ellipse: s-maj=18.3km s-min=13.6km az=90.0*
*NEIC **11** 15:54:35.6,34°.51S×72°.12W,h13km,mb5.0/40, ML5.1(GUC),After GUC.*
NEIC Felt [V] at Talca; [IV] at San Fernando and Santiago; [III] at Rancagua; [II] at Quillota, San Antonio and Valparaiso. Also felt at Graneros.
*GUC **11** 15:54:35.6±0.6,34°.51S×72°.12W,h13km±4km,ML5.1*
*MOS **11** 15:54:36.7±0.9,34°.50S×72°.12W,h33km,mb5.2/21,Error ellipse: s-maj=19.0km s-min=8.4km az=95.6*
*ISCJB **11** 15:54:38.2±0.8,34°.46S±0°.03×72°.03W±0°.06,h45km±7km, mb5.0/53,Error ellipse: s-maj=8.9km s-min=5.4km az=173.6*
*BJI **11** 15:54:38.0,34°.30S×71°.90W,h23km,mB5.0/3,Ms4.9/1, Ms7 4.9/2*

ISC 11 15:54:37.9±0.8,34°.42S±0°.03×72°.03W±0°.05,h33km±3km, n488,σ0°.94/513,mb4.9/53,179C-149D,Near coast of central Chile

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Code Station Name      Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
IHA  Instituto Hidr    1.43  13⇑iP               15 55 01.8 +0.3
IHA                               i S1   Sb          15 55 21.9 +0.1
IHA  Instituto Hidr    1.43  13⇑iP               15 55 01.8 +0.3
IHA                               i S    Sb          15 55 21.9 +0.1
ANTU Antumapu          1.44  54  eP    Pn          15 55 02.3 +0.7
ANTU                              eS     Sb          15 55 23.1 +1.0
ANTU                              AML    AML         15 55 27.4
      comp=N,48μm,0.5s
ANTU Antumapu          1.44  54  eP    Pn          15 55 02.3 +0.7
ANTU                              eS     Sb          15 55 23.1 +1.0
LNCH Linares           1.46 166⇑iP    Pb          15 55 04.1 -0.5
LNCH                              i S    Sb          15 55 22.5 -0.3
LNCH Linares           1.46 166⇑iP    Pb          15 55 04.1 -0.5
LNCH                              i S    Sb          15 55 22.5 -0.3
LACH Col Las Americ    1.57  52  eP1   Pn          15 55 04.2 +0.6
LACH                              eS     Sb          15 55 26.6 +0.6
LACH                              AML    AML         15 55 34.6
      comp=N,21μm,0.3s
LACH Col Las Americ    1.57  52  eP    Pn          15 55 04.2 +0.6
LACH                              eS     Sb          15 55 26.6 +0.6
CLCH Cerro Calan       1.61  51  eP    Pn          15 55 05.0 +1.0
CLCH                              eS     Sb          15 55 27.6 +0.6
CLCH                              AML    AML         15 55 38.7
      comp=N,57μm,0.5s
PEL  Peldehue          1.69  42⇑iP    Pb          15 55 07.0 -1.5
PEL                               i S    Sb          15 55 30.2 +0.7
PEL  Peldehue          1.69  42⇑iP    Pb          15 55 07.0 -1.5
PEL                               i S    Sb          15 55 30.1 +0.7
PEL                               AML    AML         15 55 45.6
      comp=N,49μm,0.4s
PEL  Peldehue          1.69  42⇑iP    Pb          15 55 07.0 -1.5
PEL                               i S    Sb          15 55 30.1 +0.7
FCH  Farellones        1.81  53  eP9   Pn          15 55 05.7 -1.4
FCH                               i S    Sn          15 55 30.7 +1.7
FCH                               AML    AML         15 55 34.3
      comp=N,21μm,0.4s
FCH  Farellones        1.81  53  eP    Pn          15 55 05.7 -1.4
FCH                               i S    Sn          15 55 30.7 +1.7
CFAA Coronel Fontan    4.25  50  Pn    Pn          15 55 41.4 +1.1
      comp=N,6.3nm,0.3s,baz=264,slow=19,SNR=13
CFAA                              Lg     Lg          15 56 43.3
      comp=N,9.8nm,0.3s,baz=66,slow=18,SNR=3.2
LCO  Las Campanas      5.51  12  ePn   Pn          15 55 56.6 -1.3
PLCA Paso Flores       6.41 170  eP    Pn          15 56 08.5 -1.5
PLCA Paso Flores       6.41 170  Pn    Pn          15 56 09.9 -0.1
      comp=N,5.4nm,0.3s,baz=348,slow=11,SNR=9.0
PLCA                              Lg     Lg          15 57 49.9
      comp=N,6.9nm,0.3s,baz=263,slow=23,SNR=3.8
TRQA Tornquist         8.89 117  eP    Pn          15 56 43.7 -0.3
      comp=N,251nm,1.4s
LVC  Limon Verde       12.08  14  ePn   Pn          15 57 23.6 -4.4
      comp=N,95nm,1.3s
LPAZ La Paz            18.39  12  eP    Pn          15 58 51.4 +0.4
LPAZ                              pmax   pmax
      comp=Z,33nm,1.0s
LPAZ La Paz            18.39  12  P     Pn          15 58 51.3 +0.4
      comp=Z,0.8nm,0.3s,baz=184,slow=7.8,SNR=17
LPAZ La Paz            18.39  12  ePn   Pn          15 58 51.4 +0.4
      comp=Z,33nm,1.0s
EFI  East Falkland     19.98 154  Pn    Pn          15 59 09.0 -0.1
      comp=Z,253nm,0.7s,SNR=5.3
EFI  East Falkland     19.98 154  eP    P           15 59 06.6 -0.6
EFI                               pmax   pmax
      comp=Z,48nm,0.8s
EFI  East Falkland     19.98 154  eP    P           15 59 06.6 -0.6
      comp=Z,48nm,0.8s
SIV  San Ignacio       20.83  31  P     P           15 59 16.5 -0.3
      comp=Z,26nm,0.8s,baz=0.0,slow=0.0
NNA  Nana              22.76 348  eP    P           15 59 37.6 +0.1
NNA                               pmax   pmax
      comp=Z,88nm,1.4s
NNA  Nana              22.76 348  P     P           15 59 38.2 +0.6
      comp=Z,20nm,0.8s,baz=180,slow=0.0
NNA  Nana              22.76 348  eP    P           15 59 37.6 +0.1
      comp=Z,88nm,1.4s
SAML Samuel            26.62  20  eP    P           16 00 12.5 -0.9
      comp=Z,12nm,0.8s
BDFB Brasilia          28.56  55  P     P           16 00 32.0 +1.0
BDFB Brasilia          28.56  55  P     P           16 00 32.0 +1.0
      comp=Z,16nm,0.9s,baz=204,slow=11,SNR=11
OTAV Otavalo           35.00 349  eP    P           16 01 29.3 +1.4
      comp=Z,22nm,1.1s
PTGA Pitinga           35.37  21  eP    P           16 01 29.9 -0.6
      comp=Z,18nm,1.0s
SDV  Santo Domingo     43.09   2  eP    P           16 02 34.0 -1.2
      comp=Z,8.2nm,0.8s
RCBR Riachuelo         43.86  58  P     P           16 02 40.7 -0.6
      comp=Z,8.3nm,1.0s,baz=229,slow=11,SNR=3.0
RCBR Riachuelo         43.86  58  P     P           16 02 38.8 -2.5
      comp=Z,29nm,1.5s
BCIP Isla Barro Col    43.98 349  P     P           16 02 37.5 -4.6
      comp=Z,12nm,0.6s
JTS  JuntasAbangare    46.13 342  eP    P           16 03 00.0 +0.7
JTS                               pmax   pmax
      comp=Z,17nm,1.3s
JTS  JuntasAbangare    46.13 342  eP    P           16 02 60.0 +0.7
      comp=Z,17nm,1.3s
BBGH Gun Hill          48.77  16  P     P           16 03 17.1 -2.6
VNA3 Neumayer Olymp    48.96 158  P     P           16 03 21.1 +0.5
VNA2 Neumayer-Watz     49.62 157  P     P           16 03 26.2 +0.6
SNAA Sanae             51.19 158  P     P           16 03 38.0 +0.4
SNAA Sanae             51.19 158  eP    P           16 03 37.9 +0.3
SNAA                              pmax   pmax
      comp=Z,30nm,1.3s
SNAA Sanae             51.19 158  P     P           16 03 38.0 +0.4
      comp=Z,5.3nm,0.8s,baz=294,slow=6.0,SNR=9.5
SNAA Sanae             51.19 158  eP    P           16 03 37.9 +0.3
      comp=Z,30nm,1.3s
APG  El Apazote        52.19 337  P     P           16 03 42.1 -3.7
      comp=Z,8.2nm,0.6s,baz=139,slow=3.9,SNR=14
QSPA South Pole Qui    55.81 180  P     P           16 04 12.4 +0.7
      comp=Z,40nm,0.9s,baz=153,slow=3.0,SNR=35
QSPA South Pole Qui    55.81 180  eP    P           16 04 12.3 +0.6
      comp=Z,43nm,0.9s
NVL  N'lazarevskaya    55.93 157  eP    P           16 04 11.7 -0.5
NVL                               pmax   pmax
      comp=Z,21nm,1.0s
SBA  Scott Base        62.67 192  eP    P           16 04 59.9 +1.2
SBA                               pmax   pmax
      comp=Z,20nm,1.8s
SBA  Scott Base        62.67 192  eP    P           16 04 59.9 +1.2
      comp=Z,20nm,1.8s
VNDA Vanda             63.69 191  P     P           16 05 05.7 +0.2
      comp=Z,3.4nm,1.1s,baz=150,slow=3.1,SNR=4.7
SYO  Syowa Base        65.47 158⇑eP     P           16 05 14.8 -2.4
035A Encino            65.84 335 ⇑P     P           16 05 21.6 +1.6
      baz=66
034A Hebbronville      66.16 334 ⇓P     P           16 05 23.8 +1.7
      baz=66
933A Laredo            66.88 334 ⇓P     P           16 05 28.5 +1.8
      baz=67
834A Tilden            67.08 335 ⇑P     P           16 05 28.8 +0.8
      baz=67,SNR=5.0
735A Kenedy            67.49 336 ⇑P     P           16 05 32.3 +1.7
      baz=68
833A Chaparral WMA,    67.57 334 ⇑P     P           16 05 31.8 +0.8
      baz=68,SNR=5.6
832A Faith Ranch, C    67.74 333 ⇑P     P           16 05 32.7 +0.6
      baz=68,SNR=7.2
636A Smothers Creek    67.82 337 ⇓P     P           16 05 33.8 +1.2
      baz=68,SNR=5.2
HKT  Hockley           67.86 338  eP    P           16 05 33.0 +0.2
HKT                               pmax   pmax
      comp=Z,9.0nm,1.4s
HKT  Hockley           67.86 338  eP    P           16 05 33.0 +0.2
      comp=Z,9.0nm,1.4s
732A Laxson Ranch,     68.14 334 ⇑P     P           16 05 35.4 +0.7
      baz=68,SNR=11
633A Saathoff Ranch    68.52 335 ⇑P     P           16 05 38.5 +1.4
      baz=69
339A Huntington        68.77 339 ⇑P     P           16 05 39.8 +1.3
      baz=69
632A Uvalde            68.78 334 ⇓P     P           16 05 39.5 +0.8
      baz=69,SNR=8.3
631A Perdido Creek     68.98 333 ⇑P     P           16 05 40.5 +0.6
      baz=69
533A Kerrville         69.03 335 ⇓P     P           16 05 41.4 +1.2
      baz=69
337A Centerville       69.15 338 ⇓P     P           16 05 42.7 +1.9
      baz=70
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532A	Rocksprings baz=70,SNR=11	69.39 334	⇑P	P	16 05 43.1 +0.7
434A	Burnet baz=70,SNR=6.9	69.45 336	⇓P	P	16 05 43.2 +0.5
336A	Riesel baz=70,SNR=5.1	69.51 337	⇓P	P	16 05 43.8 +0.7
335A	Moody baz=70	69.60 337	⇓P	P	16 05 44.8 +1.1
531A	Rocksprings baz=70,SNR=10	69.65 334	⇓P	P	16 05 45.0 +0.9
JCT	Junction City	69.67 335	eP	P	16 05 44.6 +0.4
JCT			pmax	pmax	
	comp=Z,47nm,1.3s				
JCT	Junction City baz=70,SNR=5.9	69.67 335	⇓P	P	16 05 44.6 +0.4
JCT	Junction City comp=Z,47nm,1.3s	69.67 335	eP	P	16 05 44.6 +0.4
433A	Art baz=70,SNR=14	69.67 335	⇓P	P	16 05 44.4 +0.2
KMSC	Kings Mountain baz=70	69.75 352	⇑P	P	16 05 44.7 +0.2
334A	Lometa baz=70,SNR=8.2	69.91 336	⇓P	P	16 05 46.2 +0.6
530A	J-C Ranch, Com baz=70,SNR=12	69.93 333	⇑P	P	16 05 46.5 +0.7
432A	Menard baz=70,SNR=5.6	70.03 335	⇓P	P	16 05 46.6 +0.2
TXAR	Lajitas Array comp=Z,2.7nm,0.5s,baz=155,slow=7.8,SNR=20	70.11 331 P		P	16 05 47.6 +0.7
431A	Sonora baz=70,SNR=5.5	70.14 334	⇑P	P	16 05 47.3 +0.2
333A	Richland Sprin baz=70,SNR=6.1	70.16 336	⇑P	P	16 05 47.2 +0.1
529A	Stev Forest Ra baz=71,SNR=16	70.24 332	⇓P	P	16 05 48.2 +0.5
WHTX	Lake Whitney, baz=71	70.26 337	⇑P	P	16 05 48.5 +0.8
WHTX	Lake Whitney, comp=Z,11nm,0.8s	70.26 337	eP	P	16 05 48.0 +0.3
137A	Heron Place, G baz=71	70.30 339	⇓P	P	16 05 48.6 +0.7
430A	Baggett Ranch, baz=71	70.47 334	⇓P	P	16 05 49.9 +0.8
332A	Millersview baz=71,SNR=7.4	70.47 335	⇓P	P	16 05 49.1 +0.1
OXF	Oxford	70.48 345	eP	P	16 05 48.3 -0.7
OXF			e		16 05 56.7
OXF			pmax	pmax	
	comp=Z,52nm,1.2s				
OXF	Oxford comp=Z,52nm,1.2s	70.48 345	eP	P	16 05 48.3 -0.7
OXF			e		16 05 56.7
CPCT	Cooper Cave	70.49 349	eP	P	16 05 51.1 +2.1
234A	Clairette baz=71,SNR=5.8	70.50 337	⇑P	P	16 05 49.7 +0.5
429A	Davenport Ranc baz=71,SNR=11	70.57 333	⇓P	P	16 05 50.3 +0.6
331A	San Angelo baz=71,SNR=7.2	70.65 334	⇓P	P	16 05 50.2 +0.1
233A	Rising Star baz=71	70.76 336	⇓P	P	16 05 51.4 +0.6
232A	Coleman baz=71	70.90 335	⇑P	P	16 05 51.6 0.0
330A	Mertzon baz=71	71.00 334	⇓P	P	16 05 52.9 +0.5
231A	Bronte baz=72,SNR=7.1	71.17 335	⇓P	P	16 05 53.4 +0.1
133A	Hamilton Ranch baz=72,SNR=5.1	71.31 336	⇑P	P	16 05 54.2 +0.1
329A	Wagon Wheel Ra baz=72	71.37 333	⇑P	P	16 05 55.5 +0.9
Z35A	Perchaven, San baz=72,SNR=5.1	71.44 338	⇑P	P	16 05 55.1 +0.3
ABTX	Abilene, Hawle baz=72,SNR=8.6	71.57 336	⇑P	P	16 05 56.0 +0.4
Z34A	Collier Ranch, baz=72	71.69 337	⇑P	P	16 05 57.0 +0.7
229A	Bryant Ranch, baz=72	71.74 334	⇓P	P	16 05 57.3 +0.5
131A	Roby baz=72	71.87 335	⇓P	P	16 05 58.1 +0.6
Z33A	Whitaker Ranch baz=72,SNR=8.6	71.88 337	⇓P	P	16 05 57.8 +0.3
130A	Snyder baz=72	72.00 335	⇓P	P	16 05 58.5 +0.2
Z32A	Haskell baz=72,SNR=8.2	72.14 336	⇓P	P	16 05 59.3 +0.3
228A	UT Block 9, Go baz=72,SNR=6.0	72.17 333	⇑P	P	16 05 59.5 +0.1
Y34A	Reagan Ranch, baz=72	72.18 338	⇑P	P	16 05 59.4 +0.2
Z31A	Sharp Cattle R baz=73,SNR=9.4	72.37 336	⇑P	P	16 06 00.7 +0.2
128A	Castleberry Fa baz=73,SNR=9.2	72.58 333	⇑P	P	16 06 02.2 +0.4
Z30A	Sanderson Ranc baz=73,SNR=8.2	72.69 335	⇑P	P	16 06 02.5 +0.1
Y32A	R-V Farms, Ver baz=73,SNR=5.2	72.76 336	⇓P	P	16 06 02.9 +0.2
X34A	Smith Ranch, M baz=73,SNR=5.1	72.79 338	⇓P	P	16 06 03.1 +0.2
Z29A	Hungry Hill Ra baz=73,SNR=6.6	72.87 334	⇑P	P	16 06 03.4 -0.1
MNTX	Cornudas Mount comp=Z,14nm,1.1s	72.88 331	eP	P	16 06 02.7 -0.8
Y31A	Rekieta Farm, baz=73	73.00 336	⇑P	P	16 06 04.7 +0.5
X32A	Elmer baz=73	73.09 337	⇓P	P	16 06 05.3 +0.5
Y30A	Stafford Cattl baz=74	73.14 335	⇑P	P	16 06 05.5 +0.4
WMOK	Wichita Mounta	73.22 337	eP	P	16 06 04.8 -0.7
WMOK			pmax	pmax	
	comp=Z,6.0nm,1.0s				
WMOK	Wichita Mounta comp=Z,5.8nm,1.0s	73.22 337	eP	P	16 06 04.8 -0.7
W34A	Bridge Creek, baz=74	73.36 338	⇑P	P	16 06 07.0 +0.7
TUL1	Leonard baz=74	73.41 340	⇓P	P	16 06 06.5 0.0
W33A	Caddo, Fort Co baz=74,SNR=8.4	73.50 338	⇓P	P	16 06 07.4 +0.3
X31A	McDonald Ranch baz=74,SNR=5.4	73.51 336	⇑P	P	16 06 07.2 0.0
Y28A	McKinney Farm, baz=74	73.65 334	⇓P	P	16 06 08.5 +0.4
W32A	Sentinel baz=74,SNR=11	73.72 337	⇑P	P	16 06 08.6 +0.2
MSTX	Muleshoe baz=74,SNR=8.1	73.89 334	⇓P	P	16 06 09.7 +0.1
X29A	Tulia baz=74	73.93 335	⇓P	P	16 06 10.1 +0.3
Y27A	Causey baz=74	73.96 333	⇑P	P	16 06 10.1 +0.1
W31A	Holland Ranch, baz=74	74.01 336	⇑P	P	16 06 10.4 +0.3
V33A	Lossen Ranch, baz=74,SNR=7.0	74.06 338	⇓P	P	16 06 10.7 +0.3
AMTX	Amarillo baz=75	74.32 335	⇓P	P	16 06 12.5 +0.4
AMTX	Amarillo comp=Z,28nm,1.0s	74.32 335	eP	P	16 06 12.1 +0.1
U34A	Anderson Ranch baz=75	74.40 339	⇓P	P	16 06 12.8 +0.5
W29A	Amarillo baz=75,SNR=5.6	74.53 335	⇓P	P	16 06 13.6 +0.4
121A	Cookes Peak, D baz=75,SNR=12	74.61 329	⇑P	P	16 06 15.2 +1.3
SUR	Sutherland comp=Z,18nm,1.0s	74.62 119	eP	P	16 06 15.4 +1.2
X27A	F and S Farms, baz=75	74.62 334	⇑P	P	16 06 15.1 +1.4
X26A	CR and CF Fran baz=75,SNR=12	74.79 333	⇑P	P	16 06 15.7 +0.8
U32A	Winter Ranch, baz=75	74.80 338	⇓P	P	16 06 15.6 +0.9
Y24A	Capitan baz=75,SNR=6.6	74.86 332	⇑P	P	16 06 15.9 +0.6
Z22A	Elephant Butte baz=75,SNR=5.4	74.89 330	⇓P	P	16 06 16.6 +1.1
LIC	Lamto comp=Z,36nm,1.1s	74.90 71	eP	P	16 06 16.8 +1.0
ACSO	Alum Creek Sta comp=Z,22nm,0.6s	74.97 351	eP	P	16 06 14.9 -0.6
W27A	Bowe Ranch, En baz=75,SNR=7.9	74.98 334	⇑P	P	16 06 16.5 +0.6
Y23A	Lovelace Mesa, baz=75,SNR=9.9	75.11 331	⇑P	P	16 06 17.9 +1.1
TIC	Toumodi comp=Z,26nm,0.2s	75.16 71	eP	P	16 06 19.1 +1.8
KIC	Kosan Boka comp=Z,87nm,1.4s	75.20 71	eP	P	16 06 18.1 +0.6
T33A	Patterson Ranc baz=76,SNR=14	75.21 339	⇓P	P	16 06 17.5 +0.5
W26A	Owens Ranch, T baz=76	75.26 334	⇑P	P	16 06 18.5 +1.0
V28A	Channing baz=76	75.30 335	⇓P	P	16 06 18.6 +0.9
DBIC	Dimbokro	75.30 71	eP	P	16 06 18.6 +0.5
DBIC			pmax	pmax	
	comp=Z,10.0nm,0.8s				
DBIC	Dimbokro comp=Z,8.2nm,0.7s,baz=206,slow=7.7,SNR=11	75.30 71 P		P	16 06 19.2 +1.1
DBIC	Dimbokro comp=Z,10nm,0.8s	75.30 71	eP	P	16 06 18.6 +0.5
U30A	WK&E Inc. Balk baz=76	75.47 337	⇓P	P	16 06 19.7 +1.1
T32A	Huddler Ranch, baz=76	75.51 338	⇑P	P	16 06 19.7 +0.9
V27A	Dan Oppiter Fa baz=76	75.52 335	⇓P	P	16 06 19.7 +0.8
S33A	Kaszmaul Farm, baz=76	75.61 339	⇓P	P	16 06 19.8 +0.4
W25A	X Bar L Ranch, baz=76,SNR=9.0	75.63 333	⇑P	P	16 06 20.1 +0.5
T31A	Randall Ranch, baz=76	75.67 337	⇑P	P	16 06 20.8 +1.2
LPM	Los Pinos Moun comp=Z,10nm,1.0s	75.67 331	eP	P	16 06 20.1 +0.2
TUC	Tucson	75.73 327	eP	P	16 06 21.3 +1.1
TUC			pmax	pmax	
	comp=Z,46nm,1.8s				
TUC	Tucson comp=Z,46nm,1.8s	75.73 327	eP	P	16 06 21.3 +1.1
X23A	Hourglass Bar baz=76,SNR=5.8	75.73 331	⇓P	P	16 06 21.4 +1.1
U28A	Mallet baz=76	75.86 335	⇓P	P	16 06 21.8 +0.9
V26A	Tequesquite Ra baz=76	75.89 334	⇑P	P	16 06 22.1 +1.0
W24A	Lazy 6 Ranch, baz=76,SNR=9.2	75.98 332	⇑P	P	16 06 22.2 +0.5
S32A	Newby Ranch, P baz=76	75.99 338	⇓P	P	16 06 22.4 +0.9
U27A	Thompson Grove baz=76	76.11 335	⇑P	P	16 06 23.2 +0.9
ANMO	Albuquerque	76.16 331	eP	P	16 06 23.2 +0.5
ANMO			pmax	pmax	
	comp=Z,16nm,1.1s				
ANMO	Albuquerque comp=Z,16nm,1.1s	76.16 331	eP	P	16 06 23.2 +0.5
W23A	Werner Place, baz=77	76.22 332	⇓P	P	16 06 24.2 +1.1
V25A	Rancho No Teng baz=77,SNR=11	76.24 333	⇓P	P	16 06 23.8 +0.6
T29A	Hugoton baz=77	76.25 336	⇓P	P	16 06 24.3 +1.2
R33A	Olander Ranch, baz=77	76.27 339	⇓P	P	16 06 23.5 +0.5
214A	Organ Pipe Nat baz=77	76.37 325	⇑P	P	16 06 24.9 +1.1
V24A	Rampart Ranch, baz=77	76.38 333	⇑P	P	16 06 25.0 +1.0
S30A	Montezuma baz=77	76.42 337	⇓P	P	16 06 24.7 +0.7
T28A	Walsh baz=77,SNR=7.5	76.49 336	⇓P	P	16 06 25.1 +0.7
R32A	Long Quarter, baz=77	76.59 339	⇑P	P	16 06 25.9 +1.1
S29A	Ulysses baz=77,SNR=6.1	76.61 337	⇓P	P	16 06 25.9 +0.8
KSU1	Kansas State U baz=77	76.62 341	⇓P	P	16 06 25.0 0.0
KSU1	Kansas State U comp=Z,6.6nm,0.6s	76.62 341	eP	P	16 06 24.3 -0.7
T27A	Campo baz=77,SNR=6.5	76.65 335	⇑P	P	16 06 26.0 +0.6
U25A	Circle Dot Ran baz=77,SNR=7.9	76.66 334	⇓P	P	16 06 26.2 +0.7
R31A	Burdett baz=77,SNR=6.5	76.72 338	⇓P	P	16 06 26.0 +0.4
S28A	Manter baz=77,SNR=7.6	76.84 336	⇑P	P	16 06 27.0 +0.6
Q33A	Connelly Farm, baz=77	76.87 340	⇓P	P	16 06 26.8 +0.3
T26A	Comanche Natio baz=77	77.06 335	⇓P	P	16 06 28.9 +1.2
Q32A	Meitler Ranch, baz=77,SNR=5.6	77.07 339	⇓P	P	16 06 28.4 +0.8
V22A	San Miguel Ran baz=78,SNR=20	77.18 332	⇓P	P	16 06 30.4 +1.8
X18A	Snowflake baz=78,SNR=6.1	77.24 329	⇑P	P	16 06 30.2 +1.3
T25A	Trinidad baz=78,SNR=14	77.32 334	⇑P	P	16 06 30.6 +1.4
Q31A	Ellis baz=78,SNR=7.5	77.33 338	⇓P	P	16 06 29.9 +0.8
R29A	Marienthal baz=78	77.35 337	⇓P	P	16 06 30.2 +1.0
S26A	Kim baz=78,SNR=20	77.41 335	⇑P	P	16 06 30.7 +1.0
113A	Mohawk Valley, baz=78	77.49 325	⇓P	P	16 06 30.9 +0.9
R28A	Tribune baz=78,SNR=5.9	77.50 336	⇑P	P	16 06 30.6 +0.6
Q30A	Quinter baz=78,SNR=7.9	77.56 338	⇓P	P	16 06 31.0 +0.6
T24B	San Luis baz=78,SNR=13	77.61 333	⇓P	P	16 06 32.4 +1.4
W18A	Petrified Fore baz=78,SNR=5.7	77.65 329	⇓P	P	16 06 32.1 +1.0
P32A	Huiting Farm, baz=78	77.67 339	⇑P	P	16 06 31.6 +0.7
Q29A	Oakley baz=78	77.72 337	⇑P	P	16 06 32.2 +0.9
R27A	Eads baz=78,SNR=12	77.78 336	⇑P	P	16 06 32.4 +0.8
S25A	Robets Cordova baz=78	77.79 334	⇑P	P	16 06 33.0 +1.2
P31A	Stockton baz=78	77.80 339	⇓P	P	16 06 32.9 +1.2
T23A	Casias Ranch, baz=78	77.83 333	⇑P	P	16 06 33.1 +0.9
R26A	Arlington baz=78	78.01 335	⇑P	P	16 06 34.1 +1.1
S24A	Houchin Ranch, baz=78,SNR=15	78.06 334	⇓P	P	16 06 34.8 +1.4
MDV	Middlebury	78.06 359 P		P	16 06 32.0 -0.9
P30A	Selden baz=78	78.09 338	⇑P	P	16 06 34.4 +1.1
Y14A	Wickenburg baz=78,SNR=5.3	78.11 326	⇓P	P	16 06 34.6 +1.1
Q28A	Sharon Springs baz=78	78.16 337	⇓P	P	16 06 34.8 +1.1
O32A	Brockman Farm, baz=78	78.16 340	⇓P	P	16 06 34.7 +1.1
P29A	Atwood baz=79,SNR=6.6	78.36 338	⇓P	P	16 06 35.8 +1.0
O30A	MW Ranch, Wils baz=79	78.61 338	⇓P	P	16 06 37.2 +1.0
SWSC	Sam W. Stewart baz=79	78.61 324	⇓P	P	16 06 38.0 +1.7
Y12C	Blythe baz=79,SNR=5.2	78.66 325	⇑P	P	16 06 38.1 +1.6
WUAZ	Wupatki baz=79,SNR=12	78.69 328	⇑P	P	16 06 38.2 +1.3
WUAZ	Wupatki comp=Z,26nm,1.3s	78.69 328	eP	P	16 06 37.7 +0.8
JFWS	Jewell Farm	78.75 346	eP	P	16 06 34.9 -1.9
JFWS			pmax	pmax	
	comp=Z,14nm,0.6s				
JFWS	Jewell Farm comp=Z,14nm,0.6s	78.75 346	eP	P	16 06 34.9 -1.9
S22A	4UR Ranch, Cre baz=79,SNR=7.9	78.75 333	⇑P	P	16 06 38.3 +1.0
R23A	Moffat baz=79,SNR=6.8	78.77 333	⇑P	P	16 06 38.5 +1.2
Q25A	Bedland, Calha baz=79	78.84 335	⇓P	P	16 06 39.0 +1.4
PDMCI	Parker Dam,Lak baz=79	78.93 326	⇑P	P	16 06 39.5 +1.5
MVCO	Mesa Verde baz=79	78.94 331	⇓P	P	16 06 39.6 +1.3
MVCO	Mesa Verde comp=Z,19nm,1.2s	78.94 331	eP	P	16 06 38.7 +0.4
BC3	Big Chuckawall baz=79,SNR=6.6	79.03 324	⇑P	P	16 06 40.0 +1.3
TSUM	Tsumeb	79.09 106	eP	P	16 06 39.7 +0.2
O28A	Krutsinger Ran baz=79	79.10 337	⇑P	P	16 06 40.0 +1.1
P26A	Davis Ranch, A baz=80	79.11 336	⇓P	P	16 06 40.0 +1.0
BGNE	Belgrade baz=80	79.19 340	⇓P	P	16 06 39.7 +0.5
Q24A	Divide baz=80,SNR=14	79.20 334	⇓P	P	16 06 40.8 +1.0
IRM	Iron Mountain baz=80,SNR=10	79.29 325	⇑P	P	16 06 41.4 +1.4
P25A	Willow Gulch B baz=80,SNR=7.8	79.35 335	⇑P	P	16 06 41.8 +1.4
M31A	Lambtecht Ranc baz=80,SNR=5.2	79.37 340	⇑P	P	16 06 41.3 +1.0
W13A	Hualapai Mount baz=80,SNR=7.4	79.47 326	⇑P	P	16 06 42.7 +1.5
PFO	Pinyon Flats O baz=80,SNR=5.4	79.48 324	⇑P	P	16 06 43.0 +1.8
BELC	Belle Mtn. Jos baz=80	79.57 324	⇑P	P	16 06 43.5 +1.8
O26A	Horse Wrangler baz=80	79.71 336	⇓P	P	16 06 44.1 +1.9
PV01	Paradox Valley	79.77 332 P		P	16 06 43.5 +0.8
P23A	Jefferson baz=80	79.81 334	⇓P	P	16 06 44.8 +1.7
MURC	Murrieta baz=80	79.84 323	⇑P	P	16 06 44.9 +1.9
BOSA	Boshof comp=Z,10nm,0.8s,baz=224,slow=4.5,SNR=13	79.86 118 P		P	16 06 44.2 +0.6
N27A	Anderson Farm, baz=80,SNR=5.2	79.96 337	⇓P	P	16 06 44.9 +1.3
GMRC	Granite Mounta baz=80,SNR=9.5	80.04 325	⇓P	P	16 06 45.6 +1.4
L31A	Butterfield Fa baz=80	80.10 340	⇑P	P	16 06 45.5 +1.3
ISCO	Idaho Springs	80.11 334	eP	P	16 06 45.2 +0.5
ISCO			pmax	pmax	
	comp=Z,17nm,1.3s				
ISCO	Idaho Springs baz=80,SNR=8.7	80.11 334	⇓P	P	16 06 45.8 +1.1
ISCO	Idaho Springs comp=Z,17nm,1.3s	80.11 334	eP	P	16 06 45.2 +0.5
L30A	Spencer Herefo baz=80	80.14 339	⇑P	P	16 06 45.7 +1.3
P22A	Eagle baz=81,SNR=6.5	80.35 333	⇓P	P	16 06 47.1 +1.2
HEC	Hector,Ludlow baz=81,SNR=6.1	80.40 324	⇓P	P	16 06 47.8 +1.7
M27A	Reverse DX Ran baz=81	80.57 337	⇑P	P	16 06 48.1 +1.3
BFSC	Mount Baldy Ra baz=81	80.58 323	⇑P	P	16 06 48.5 +1.4
O23A	Lake Granby, G baz=81,SNR=15	80.58 334	⇑P	P	16 06 48.3 +1.1
TUQ	Turquoise Moun baz=81,SNR=12	80.70 325	⇓P	P	16 06 49.1 +1.4
O22A	Kremmling baz=81,SNR=11	80.77 334	⇓P	P	16 06 49.1 +0.9
K30A	Basset baz=81,SNR=5.8	80.78 340	⇓P	P	16 06 48.9 +1.0
ECSD	EROS Data Cent baz=81,SNR=27	80.95 342	⇓P	P	16 06 49.1 +0.3
ECSD	EROS Data Cent comp=Z,34nm,0.8s	80.95 342	eP	P	16 06 48.5 -0.2
GSC	Goldstone, Bar baz=81,SNR=6.1	81.01 324	⇓P	P	16 06 50.8 +1.5
M25A	Palm-Egli Farm baz=81	81.03 336	⇑P	P	16 06 50.7 +1.3
L27A	T5 Ranch, Ells baz=81	81.05 338	⇓P	P	16 06 50.8 +1.4
K29A	Lazy Trails An baz=81	81.06 339	⇑P	P	16 06 50.6 +1.3
N23A	Red Feather La baz=82,SNR=5.7	81.20 335	⇑P	P	16 06 51.2 +0.8
SHPR	Sheep Range comp=Z,18nm,1.0s	81.22 326	eP	P	16 06 51.4 +0.9
EDW2	Edwards Air Fo baz=82,SNR=6.1	81.25 323	⇓P	P	16 06 51.5 +0.9
N22A	Wattenberg Ran baz=82,SNR=5.4	81.30 334	⇑P	P	16 06 51.9 +0.9
M24A	Cheyenne baz=82	81.32 336	⇑P	P	16 06 52.1 +1.2
K28A	Ten Mile Ranch baz=82	81.33 339	⇑P	P	16 06 52.3 +1.5
J30A	Dallas baz=82	81.34 340	⇓P	P	16 06 51.4 +0.6
O20A	White River Ci baz=82	81.37 333	⇓P	P	16 06 52.4 +1.1
SPMN	Marine on St. baz=82	81.48 345	⇑P	P	16 06 51.1 -0.4
ARUT	Antelope Range	81.50 328	eP	P	16 06 53.1 +1.1
ARUT			pmax	pmax	
	comp=Z,216nm,1.3s				
ARUT	Antelope Range comp=Z,216nm,1.3s	81.50 328	eP	P	16 06 53.1 +1.1
LRMC	Laurel Mtn Rad baz=82,SNR=8.1	81.58 324	⇑P	P	16 06 53.5 +1.1
K27A	Flueckinger Fa baz=82	81.58 338	⇓P	P	16 06 54.0 +1.8
M23A	Laramie baz=82	81.62 335	⇓P	P	16 06 54.0 +1.3
L25A	Engebretsen Ra baz=82	81.64 337	⇓P	P	16 06 54.1 +1.5
J29A	Okreek baz=82,SNR=7.3	81.65 340	⇑P	P	16 06 53.0 +0.5
I30A	Oacoma baz=82,SNR=7.2	81.87 340	⇑P	P	16 06 53.9 +0.3
M22A	Cedar Creek Ra baz=82	81.88 334	⇑P	P	16 06 54.9 +0.9
J28A	Allard Ranch, baz=82,SNR=5.3	81.94 339	⇑P	P	16 06 54.9 +0.9
N20A	Spence Gulch, baz=82	81.99 333	⇑P	P	16 06 55.6 +1.1
J27A	Elkhorn Farm, baz=82,SNR=5.8	82.01 338	⇓P	P	16 06 55.9 +1.4
K25A	Mack Ranch, Ha baz=82	82.02 337	⇑P	P	16 06 55.8 +1.2
ISA	Isabella, Lake baz=82,SNR=7.8	82.11 323	⇑P	P	16 06 56.7 +1.6
LBTB	Lobatse	82.12 115	eP	P	16 06 55.5 -0.1
LBTB			pmax	pmax	
	comp=Z,25nm,1.0s				
LBTB	Lobatse comp=Z,25nm,1.0s	82.12 115	eP	P	16 06 55.5 -0.1
L23A	Garrett baz=82	82.19 335	⇑P	P	16 06 56.4 +0.9
I29A	Vivian Onida baz=83	82.21 340	⇑P	P	16 06 55.9 +0.5
BRSD	Miller baz=83	82.23 341	⇑P	P	16 06 56.1 +0.7
L22A	Ellis Ranch, M baz=83	82.37 335	⇑P	P	16 06 57.7 +1.2
K24A	Anderson Ranch baz=83	82.43 336	⇓P	P	16 06 58.1 +1.3
I28A	Midland baz=83,SNR=8.1	82.44 339	⇑P	P	16 06 57.2 +0.7
VES	Vestal, Richgr baz=83,SNR=5.1	82.56 323	⇑P	P	16 06 58.8 +1.4
J25A	Sunshine Ranch baz=83,SNR=8.7	82.70 337	⇓P	P	16 06 59.2 +1.2
K23A	Bowen Ranch, D baz=83,SNR=5.3	82.73 336	⇓P	P	16 06 59.1 +0.8
H29A	Onida baz=83,SNR=7.7	82.74 340	⇑P	P	16 06 58.5 +0.4
I27A	Quinn baz=83	82.77 339	⇓P	P	16 06 59.2 +0.9
G30A	Faulkton baz=83	82.91 341	⇓P	P	16 06 59.4 +0.4
R11A	Troy Canyon, C baz=83,SNR=20	82.92 327	⇑P	P	16 07 00.6 +1.3
J24A	Dixon Ranch, L baz=83,SNR=7.2	82.92 337	⇓P	P	16 06 60.0 +0.8
K22A	Casper baz=83,SNR=5.2	82.95 335	⇓P	P	16 07 00.1 +0.7
H28A	Mission Ridge baz=83	83.02 340	⇓P	P	16 07 00.2 +0.7
K21A	Alcova baz=84,SNR=17	83.19 335	⇑P	P	16 07 01.3 +0.6
I25A	Rochford baz=84,SNR=11	83.24 338	⇓P	P	16 07 01.5 +0.5
DUG	Dugway, Tooele	83.24 330	eP	P	16 07 01.2 +0.2
DUG			pmax	pmax	
	comp=Z,30nm,1.3s				
DUG	Dugway, Tooele baz=84,SNR=6.7	83.24 330	⇓P	P	16 07 02.0 +1.0
DUG	Dugway, Tooele	83.24 330	eP	P	16 07 01.2 +0.2

comp=Z,30nm,1.3s
H27A Howes 83.29 339 ⇓P P 16 07 01.8 +0.9
baz=84
G28A Parade 83.35 340 ⇓P P 16 07 02.2 +0.9
baz=84
I24A Kuemmerle Ranc 83.38 337 ⇓P P 16 07 02.1 +0.5
baz=84,SNR=6.0
RSSD Black Hills 83.43 337 *e*P P **16 07 02.0 +0.1**
RSSD pmax pmax
comp=Z,6.0nm,0.9s
RSSD Black Hills 83.43 337 *e*P P **16 07 02.0 +0.1**
comp=Z,5.9nm,0.9s
TPH Tonopah 83.44 326 *e*P P **16 07 02.9 +0.8**
TPH pmax pmax
comp=Z,28nm,1.3s
TPH Tonopah 83.44 326 *e*P P **16 07 02.9 +0.8**
comp=Z,28nm,1.3s
J22A Midwest 83.61 335 ⇓P P 16 07 03.0 +0.2
baz=84,SNR=6.4
F29A Eureka 83.75 341 ⇑P P 16 07 03.9 +0.7
baz=84
MLAC Mammoth, Mammo 83.85 324 ⇓P P 16 07 05.4 +1.1
baz=84
J21A Lysite 83.88 335 ⇓P P 16 07 04.6 +0.4
baz=84
G27A Dupree 83.92 339 ⇑P P 16 07 04.3 +0.1
baz=84,SNR=5.1
F28A McLaughlin 84.03 340 ⇓P P 16 07 05.2 +0.5
baz=84,SNR=5.3
I22A 9 Mile Ranch, 84.03 336 ⇓P P 16 07 05.1 +0.2
baz=84,SNR=7.6
G26A Maurine 84.04 339 ⇑P P 16 07 05.2 +0.3
baz=84,SNR=6.6
J20A Shoshoni 84.11 334 ⇑P P 16 07 06.4 +1.0
baz=84,SNR=14
E30A Jud 84.12 342 ⇑P P 16 07 05.6 +0.4
baz=84
PDAR Pinedale Array 84.14 333 P **P 16 07 05.5 -0.2**
comp=Z,4.2nm,0.7s,baz=157,slow=4.9,SNR=26
H24A Dirks Ranch, A 84.15 337 ⇑P P 16 07 05.9 +0.4
baz=84,SNR=8.4
G25A Newell 84.20 338 ⇑P P 16 07 06.1 +0.5
baz=84,SNR=9.7
I21A Big Trails, Te 84.24 335 ⇓P P 16 07 06.2 +0.2
baz=85,SNR=9.4
NVAR Mina Array Bea 84.24 325 P **P 16 07 07.3 +1.1**
comp=Z,6.0nm,0.8s,baz=157,slow=6.2,SNR=38
TORD Torodi Ar. Bea 84.34 70 P **P 16 07 07.4 +0.4**
comp=Z,6.7nm,0.9s,baz=244,slow=3.9,SNR=15
E29A Napoleon 84.38 341 ⇓P P 16 07 06.9 +0.4
baz=85
J19A Crowheart 84.39 334 ⇓P P 16 07 07.2 +0.4
baz=85,SNR=14
F27A Lemmon 84.40 339 ⇑P P 16 07 07.1 +0.5
baz=85,SNR=10
F26A Lodgepole 84.57 339 ⇑P P 16 07 08.2 +0.7
baz=85
H22A Clearmont 84.61 336 ⇓P P 16 07 08.1 +0.4
baz=85
G24A Alzada 84.63 338 ⇑P P 16 07 08.5 +0.6
baz=85
D30A Buchanan 84.64 342 ⇑P P 16 07 08.3 +0.6
baz=85,SNR=9.7
I20A Worland 84.65 335 ⇑P P 16 07 08.5 +0.4
baz=85,SNR=6.9
E28A Huff 84.67 341 ⇓P P 16 07 08.8 +0.9
baz=85
D29A Pettibone, Tap 84.82 341 ⇑P P 16 07 08.8 +0.2
baz=85,SNR=5.6
G23A Biddle 84.83 337 ⇑P P 16 07 09.3 +0.4
baz=85
H21A Big Horn, Sher 84.87 336 ⇑P P 16 07 09.1 -0.1
baz=85,SNR=5.1
F25A Bowman 84.87 339 ⇓P P 16 07 09.9 +0.8
baz=85
I19A Meeteetse 85.03 334 ⇓P P 16 07 10.5 +0.4
baz=85,SNR=6.3
AGMN Agassiz Nation 85.06 344 ⇓P P 16 07 09.8 0.0
baz=85,SNR=11
AGMN Agassiz Nation 85.06 344 *e*P **P 16 07 09.2 -0.7**
comp=Z,15nm,0.6s
H20A Greybull 85.07 335 ⇑P P 16 07 10.2 +0.1
baz=85,SNR=14
F24A Ekalaka 85.10 338 ⇑P P 16 07 10.1 -0.1
baz=86
C30A Mose, Pekin 85.13 342 ⇑P P 16 07 10.7 +0.5
baz=86,SNR=16
G22A Birney 85.14 336 ⇑P P 16 07 10.6 +0.1
baz=86
D28A Regan 85.20 341 ⇓P P 16 07 10.9 +0.3
baz=86,SNR=7.3
F23A Volborg 85.30 337 ⇑P P 16 07 11.2 0.0
baz=86,SNR=7.0
E25A Miller Ranch, 85.37 339 ⇓P P 16 07 11.5 -0.1
baz=86
D27A Center 85.38 340 ⇑P P 16 07 11.4 -0.1
baz=86
G21A Lodge Grass 85.45 336 ⇑P P 16 07 12.1 +0.1
baz=86,SNR=6.1
I17A Pilgrim Ck. 85.51 333 ⇓P P 16 07 13.3 +0.8
baz=86,SNR=13
MDND Maddock 85.55 342 ⇑P P 16 07 12.7 +0.4
baz=86,SNR=10
D26A Manning 85.57 340 ⇓P P 16 07 12.8 +0.4
baz=86,SNR=6.1
H19A Powell 85.58 335 ⇓P P 16 07 13.2 +0.5
baz=86,SNR=5.7
F22A Rosebud 85.62 337 ⇑P P 16 07 13.1 +0.3
baz=86,SNR=7.7
E24A Baker 85.70 338 ⇓P P 16 07 14.1 +0.9
baz=86
B30A Myrvik Farm, E 85.78 343 ⇑P P 16 07 13.6 +0.2
baz=86,SNR=14
G20A Bridger 85.79 335 ⇓P P 16 07 13.9 +0.2
baz=86,SNR=21
H18A Shoshone NF, C 85.83 334 ⇑P P 16 07 14.3 +0.3
baz=86,SNR=24
H17A Grant Village 85.92 333 ⇑P P 16 07 15.3 +0.7
baz=86
C27A Sayler Ranch, 85.93 341 ⇓P P 16 07 15.2 +1.0
baz=86
F21A Absaloka Mine, 85.95 336 ⇑P P 16 07 14.8 +0.4
baz=86
B29A Wagenman Farm, 86.05 342 ⇑P P 16 07 15.2 +0.4
baz=86,SNR=8.1
E22A Miles City 86.11 337 ⇑P P 16 07 15.3 +0.2
baz=86
C26A Wahner Farm, P 86.20 340 ⇑P P 16 07 16.4 +0.9
baz=86
D24A Glendive 86.20 339 ⇓P P 16 07 16.3 +0.7
baz=87,SNR=5.4
A30A Hoffart Farm, 86.23 343 ⇓P P 16 07 15.7 0.0
baz=87,SNR=7.3
F20A Billings 86.27 336 ⇑P P 16 07 16.0 0.0
baz=87,SNR=6.0
B28A Dugan Ranch, T 86.30 342 ⇓P P 16 07 16.5 +0.5
baz=87,SNR=6.2
A29A Manning Farm, 86.45 342 ⇑P P 16 07 16.9 +0.2
baz=87,SNR=9.1
D23A Lindsay 86.53 338 ⇑P P 16 07 17.9 +0.7
baz=87,SNR=21
E21A Keefer Ranch, 86.56 337 ⇑P P 16 07 17.9 +0.5
baz=87,SNR=5.6
C24A Savage 86.61 339 ⇑P P 16 07 18.3 +0.7
baz=87,SNR=7.9
QLMT Earthquake Lak 86.61 333 *e*P **P 16 07 19.0 +1.1**
comp=Z,1.7nm,1.0s
A28A Rude Farm, Bot 86.70 342 ⇓P P 16 07 18.7 +0.7
baz=87
HLID Hailey 86.71 331 ⇑P P 16 07 19.3 +0.9
baz=87,SNR=12
B26A Jensen Ranch, 86.74 340 ⇑P P 16 07 19.4 +1.2
baz=87
D22A Cohagen 86.81 337 ⇓P P 16 07 19.3 +0.7
baz=87,SNR=12
E20A Meyer Farm, Mu 86.88 336 ⇓P P 16 07 19.3 +0.4
baz=87,SNR=24
B25A Knox Farm, Ray 86.90 340 ⇑P P 16 07 20.0 +1.0
baz=87,SNR=10
A27A Ledoux Ranch, 86.99 341 ⇑P P 16 07 20.3 +0.9
baz=87
D21A La Casta Ranch 87.00 337 ⇑P P 16 07 20.0 +0.5
baz=87,SNR=8.2
E19A Rath Farm, Rou 87.06 336 ⇑P P 16 07 20.0 +0.1
baz=87,SNR=17
C23A Lambert 87.08 338 ⇑P P 16 07 20.1 +0.2
baz=87,SNR=19
MCMT McKenzie Canyo 87.15 332 *e*P **P 16 07 20.9 +0.3**
comp=Z,9.8nm,1.0s
A26A Wade Farm, Ken 87.16 341 ⇑P P 16 07 20.7 +0.5
baz=88,SNR=7.7
C22A Vida 87.25 338 ⇑P P 16 07 21.1 +0.4
baz=88
D20A Manuel Ranch, 87.39 336 ⇑P P 16 07 21.7 +0.2
baz=88,SNR=11
A25A Svangstu Ranch 87.49 340 ⇑P P 16 07 22.6 +0.8
baz=88
B23A Brockton 87.61 339 ⇑P P 16 07 22.6 +0.2
baz=88,SNR=8.0
D19A Cripps Ranch, 87.71 336 ⇑P P 16 07 23.4 +0.4
baz=88
A24A Westby 87.73 340 ⇓P P 16 07 23.3 +0.3
baz=88,SNR=6.1
B22A Reddig Ranch S 87.77 338 ⇑P P 16 07 23.7 +0.5
baz=88,SNR=8.6
LRM Limekiln Ridge 87.83 333 *e*P **P 16 07 24.1 +0.3**
comp=Z,167nm,1.4s
C20A Veseth Ranch, 87.89 337 ⇑P P 16 07 23.7 -0.1
baz=88,SNR=8.9
A23A Redstone 88.02 339 ⇓P P 16 07 25.1 +0.8
baz=88
B21A Ellsworth Farm 88.20 338 ⇓P P 16 07 25.6 +0.4
baz=88,SNR=6.8
C19A Slack Wire Ran 88.26 336 ⇑P P 16 07 26.3 +0.7
baz=89
N02D Trinity Center 88.33 324 ⇑P P 16 07 26.8 +0.7
baz=89
A22A Carney Farms, 88.36 338 ⇑P P 16 07 26.5 +0.5
baz=89,SNR=11
B20A Solberg Farm, 88.53 337 ⇓P P 16 07 27.1 +0.2
baz=89,SNR=6.6
M04C Macdoel 88.55 325 ⇑P P 16 07 27.6 +0.4
baz=89
A21A Bergtoll Ranch 88.67 338 ⇑P P 16 07 27.5 0.0
baz=89,SNR=8.5
EGMT Eagleton 88.75 336 ⇑P P 16 07 27.7 -0.2
baz=89
B19A Brinkman Farms 88.85 336 ⇑P P 16 07 28.9 +0.6
baz=89
A20A Cobblestone Ra 88.89 337 ⇑P P 16 07 28.6 +0.1
baz=89,SNR=7.6
SCHQ Schefferville 89.01 3 P **P 16 07 28.2 -0.6**
comp=Z,3.0nm,0.9s,baz=194,slow=6.7,SNR=3.8
A19A Klindworth Far 89.20 337 ⇑P P 16 07 30.3 +0.3
baz=90
MSO Missoula 89.24 333 ⇓P P 16 07 31.5 +1.2
baz=90
J05D Fort Rock, OR 89.43 326 ⇑P P 16 07 32.2 +0.9
baz=90
NEW Newport 91.65 332 ⇓P P 16 07 41.3 -0.1
baz=92
YKA Yellowknife Ar 102.46 341 P **Pdif 16 08 29.3 -0.6**
comp=Z,0.8nm,0.6s,baz=142,slow=4.4,SNR=16
ILAR Eielson Array 114.58 333 PKP PKPdf 16 13 13.1 -0.6
comp=Z,0.6nm,0.7s,baz=157,slow=2.0,SNR=9.9
ASAR Alice Springs 117.20 207 PKP **PKPdf 16 13 18.8 -1.5**
comp=Z,0.9nm,0.8s,baz=129,slow=1.9,SNR=12
KOLS Kolonicke sedl 117.64 48 *e*PKIKP **PKPdf 16 13 19.8 -0.3**
KOLS Kolonicke sedl 117.64 48 *e*PKP **PKPdf 16 13 19.8 -0.3**
WRA Warramunga Arr 120.40 209 PKP **PKPdf 16 13 25.3 -1.1**
comp=Z,2.4nm,0.7s,baz=160,slow=1.5,SNR=18
WRAB Tennant Creek 120.40 209 *e*PKIKP **PKPdf 16 13 25.0 -1.4**
WRAB Tennant Creek 120.40 209 *e*PKPdf **PKPdf 16 13 25.0 -1.4**
BRTR Keskin Array B 122.03 61 *c i*PKIKP **PKPdf 16 13 29.0 0.0**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 122.03 61 PKP **PKPdf 16 13 28.9 0.0**
comp=Z,1.6nm,0.7s,baz=190,slow=2.5,SNR=6.5
AKASG Malin Array Be 122.47 48 PKhKP PKPpre 16 13 23.7
ARCES ARCESS Array B 124.39 25 PKP **PKPdf 16 13 31.9 -0.6**
comp=Z,2.9nm,0.9s,baz=246,slow=3.9,SNR=6.2
OBN Obninsk 127.73 44 *e*PKIKP **PKPdf 16 13 38.1 -1.1**
OBN pmax pmax
comp=Z,7.0nm,1.5s
KLMR Klimovskoe 129.74 36 *e*PKIKP **PKPdf 16 13 42.9 +0.1**
KLMR pmax pmax
comp=Z,28nm,1.5s
PRGR Permogore 132.66 35 PKIKP **PKPdf 16 13 49.0 +0.7**
PRGR pmax pmax
comp=Z,9.0nm,1.0s
BILL Bilibino 133.22 334 *e*PKIKP **PKPdf 16 13 48.9 -0.4**
GEYT Alibeck 139.98 70 PKP **PKPdf 16 14 02.2 -0.6**
comp=Z,1.3nm,0.5s,baz=274,slow=7.1,SNR=3.6
SEY Seymchan 140.40 330 PKP **PKPdf 16 14 02.8 +0.1**
comp=Z,5.6nm,0.7s,baz=108,slow=5.0,SNR=6.0
PETK Petropavlovsk- 140.46 314 PKhKP PKPpre 16 13 55.3
comp=Z,3.0nm,0.8s,baz=109,slow=4.6,SNR=6.0
PETK PKP **PKPdf 16 14 02.0 -1.1**
comp=Z,2.3nm,0.8s,baz=78,slow=2.1,SNR=4.1
TIXI Tiksi 141.11 350 *e*PKIKP **PKPdf 16 14 01.9 -1.8**
ABKAR Abkulak array 141.93 52 *e*PKPpre PKPpre 16 13 59.8
PSI Prapat 147.43 163 PKP2 **PKPdf 16 14 18.0 +1.3**
PSI Prapat 147.43 163 PKPbc **PKPdf 16 14 17.9 +1.3**
comp=Z,18nm,0.9s,baz=191,slow=5.8,SNR=9.9
BRVK Borovoye 147.51 43 *i* PKIKP **PKPdf 16 14 14.9 -0.5**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
BVAR Borovoye Array 147.58 43 PKPbc **PKPdf 16 14 16.6 +1.1**
comp=Z,5.9nm,0.7s,baz=287,slow=3.0,SNR=17
HYB Hyderabad 148.74 115 *i* PKP **PKPbc 16 14 21.5 -0.9**
YAK Yakutsk 149.13 340 *e*PKHKP **PKPdf 16 14 20.6 +2.9**
YAK pmax pmax
comp=Z,38nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK Yakutsk 149.13 340 *e*PKPbc **PKPbc 16 14 21.4 -0.6**
YSS Yuzh-Sakhalins 151.05 306⇑ *e*PKIKP **PKPbc 16 14 26.4 -0.7**
YSS pmax pmax
comp=Z,20nm,0.9s
ASAJ Asahikawa 151.68 300 PKPbc **PKPbc 16 14 28.2 -0.4**
comp=Z,14nm,0.8s,baz=259,slow=4.9,SNR=6.5
AAK Ala-Archa 152.69 63 *c i*PKIKP **PKPbc 16 14 31.9 +0.7**
AAK pmax pmax
comp=Z,25nm,0.8s
AAK Ala-Archa 152.69 63 PKPbc **PKPbc 16 14 32.1 +0.9**
comp=Z,8.0nm,0.7s,baz=187,slow=2.6,SNR=20
AAK Ala-Archa 152.69 63 *e*PKPbc **PKPbc 16 14 31.7 +0.5**
KURBB Kurchatov Arra 153.17 44 PKP **PKPdf 16 14 24.7 +0.4**
comp=Z,0.7nm,0.7s,baz=305,slow=2.1,SNR=4.0
KURBB PKPbc **PKiKP 16 14 32.2 +0.4**
comp=Z,4.8nm,0.6s,baz=305,slow=3.0,SNR=20
KURK Kurchatov 153.18 44 PKIKP **PKPdf 16 14 24.7 +0.4**
KURK 16 14 32.2
KURK Kurchatov 153.18 44 PKP **PKPdf 16 14 24.7 +0.4**
KURK PKPbc **PKiKP 16 14 32.2 +0.3**
NVS Novosibirsk 153.29 33 *e*PKIKP **PKPbc 16 14 30.2 -1.6**
KSH Kashi 154.01 69 PKPbc **PKPdf 16 14 26.7 +0.6**
KSH sPKP 16 14 40.2
KSH PKS **PKSdf 16 18 00.3 -0.1**
KSH PP **PP 16 18 22.8 -0.1**
KSH SKS **SKSdf 16 21 29.1 -1.4**
KSH SKKS **SKKSac 16 25 08.0 -2.2**
KSH SS **SS 16 37 56.5 -2.8**
ZALV Zalesovo Beam 154.57 33 PKP **PKPdf 16 14 26.0 -0.2**
comp=Z,1.5nm,0.7s,baz=259,slow=1.5,SNR=4.8
ZALV PKPbc **PKiKP 16 14 34.9 +0.2**
comp=Z,6.6nm,0.8s,baz=300,slow=3.3,SNR=15
ZALV PKPab **PKPab 16 14 49.2 -0.2**
comp=Z,6.1nm,0.7s,baz=305,slow=4.3,SNR=8.5
MJAR Matsushiro Arr 155.34 284 PKPab **PKPab 16 14 53.6 +0.3**
comp=Z,2.1nm,1.0s,baz=81,slow=2.8,SNR=4.1
BOD Bodaibo 156.25 352 *e*PKP2 **PKPab 16 14 52.7 -3.7**
BOD pmax pmax
comp=Z,10.0nm,1.0s
MKAR Makanchi Array 157.03 50 PKP **PKPdf 16 14 29.4 -0.3**
comp=Z,0.7nm,0.8s,baz=342,slow=1.9,SNR=5.1
MKAR PKPab **PKPab 16 15 00.2 0.0**
comp=Z,1.7nm,0.7s,baz=336,slow=2.7,SNR=8.0
USRK Usquysk Ar. 159.08 305 PKPab **PKPab 16 15 08.0 -1.1**
comp=Z,2.9nm,0.9s,baz=40,slow=4.8,SNR=4.6
MDJ Mudanjiang 160.52 308 PKP **PKPdf 16 14 34.8 +0.9**
WMQ Urumqi 161.72 53 *e*PKP **PKPdf 16 14 35.0 -0.3**
WMQ pPKP **pPKPdf 16 14 46.0 -0.2**
CMAR Chiang Mai Arr 162.18 151 PKP **PKPdf 16 14 36.0 -0.5**
comp=Z,0.5nm,0.3s,baz=256,slow=2.9,SNR=5.9
CMAR PKPab **PKPab 16 15 23.0 -0.1**
comp=Z,0.7nm,0.9s,baz=226,slow=4.9,SNR=3.5
CN2 Changchun 163.55 310 *e*PKP **PKPdf 16 14 39.0 +2.0**
KSRS Korea Array 163.56 286 PKPab **PKPab 16 15 29.9 +0.9**
comp=Z,3.4nm,0.9s,baz=109,slow=4.5,SNR=5.1
KSAR Wonju Array Be 163.60 286 PKP2 **PKPab 16 15 29.9 +0.7**
KSAR Wonju Array Be 163.60 286 PKPab **PKPab 16 15 29.9 +0.7**
SONM Songino Array 166.55 5 PKPab **PKPab 16 15 40.7 -1.1**
comp=Z,1.1nm,0.8s,baz=335,slow=4.1,SNR=6.3
KMI Kunming 169.68 153 PKP **PKPdf 16 14 41.8 -0.8**
NJ2 Nanjing 170.59 258 *e*PKP **PKPdf 16 14 43.4 +0.8**
GTA Gaotai 171.79 50 *e*PKP **PKPdf 16 14 43.8 +0.6**
GTA pPKP **pPKPdf 16 14 54.5 +0.4**
GTA sPKP 16 14 58.2
GTA PKPab **PKPab 16 16 07.6 +2.2**
GYA Guiyang 171.98 172 *e*PKP **PKPdf 16 14 42.8 -0.8**
GYA pPKP **pPKPdf 16 14 55.0 +0.5**
GYA PKPab **PKPab 16 16 08.4 +2.1**
GYA PKS **PKSdf 16 18 14.6 -1.6**
GYA PP **PP 16 20 00.3 +3.9**
GYA SKKS 16 26 41.2
GYA PPMZ
comp=Z,120nm,8.4s
GYA LN
comp=Z,120nm,21.8s
GYA LE
comp=Z,110nm,22.2s
GYA LZ
comp=Z,120nm,21.6s
HHC Hu-ho-hao-te 172.98 337 *e*PKP PKPdf 16 14 49.8 +6.2
HHC PP PP 16 20 08.4 +6.8
CD2 Chengdu 175.01 133 *e*PKP **PKPdf 16 14 44.8 +0.2**
LZH Lanzhou 176.23 63 *e*PKP **PKPdf 16 14 45.7 +0.8**
LZH pPKP pPKPdf 16 14 58.1 +2.3

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*IDC **11** 16:10:52.6±1.3,34°.37S×72°.01W,h0km,mb4.3/6,*
mb1 4.3/8,mb1mx3.9/40,mbtmp4.2/8,ML4.2/2,Error
ellipse: s-maj=59.1km s-min=18.4km az=98.0
*GUC **11** 16:10:54.2±0.7,34°.35S×71°.96W,h35km±5km,ML4.2*
*NEIC **11** 16:10:54.5±5.3,34°.30S×71°.76W,h13km±32km,mb4.5/7,*
Error ellipse: s-maj=26.9km s-min=10.4km az=89.0
ISC 11 16:10:53.7±3.4,34°.35S±0°.04×71°.93W±0°.08,h9km±21km,
n36,σ0=98/34,mb4.5/9,2C-2D,Near coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.87**	**139**	⇓*i*P		**Pb**		**16 11 10.5**	**-0.5**
NICH				*i* S		**Sb**		**16 11 22.6**	**-0.2**
TACH	**Talagante**	**1.08**	**50**	⇓*i*P		**Pb**		**16 11 13.9**	**-0.6**
TACH				*i* S1		**Sn**		**16 11 28.6**	**-1.4**
ANTU	**Antumapu**	**1.33**	**55**	*e*P1		**Pn**		**16 11 17.9**	**-0.5**
ANTU				*i* S		**Sn**		**16 11 35.3**	**-1.0**
ANTU				IAML				16 11 41.4	
comp=E,7μm,1.3s									
LNCH	**Linares**	**1.52**	**170**	⇑*i*P		**Pn**		**16 11 20.7**	**-0.3**
LNCH				*i* S		**Sn**		**16 11 40.2**	**-0.7**
COCH	**Cobquecura**	**1.91**	**201**	⇑*i*P		**Pn**		**16 11 25.2**	**-1.2**
COCH				*i* S		**Sn**		**16 11 49.1**	**-1.4**
COCH				IAML				16 11 56.2	
comp=E,3μm,0.8s									
CFAA	**Coronel Fontan**	**4.14**	**50**	Pn		Pn		16 11 51.8	-5.3
comp=E,0.4nm,0.3s,baz=310,slow=24,SNR=3.2									
CFAA				Lg		Lg		16 13 01.6	
comp=E,0.7nm,0.3s,baz=308,slow=23,SNR=3.2									
LCO	**Las Campanas**	**5.42**	**12**	*e*Pn		**Pn**		**16 12 14.1**	**-0.8**
PLCA	**Paso Flores**	**6.47**	**171**	Pn		**Pn**		**16 12 30.2**	**+1.2**
comp=E,1.6nm,0.3s,baz=342,slow=15,SNR=14									
PLCA				Lg		Lg		16 14 10.4	
comp=E,1.3nm,0.3s,baz=256,slow=17,SNR=6.2									
PLCA	**Paso Flores**	**6.47**	**171**	Pn		**Pn**		**16 12 30.2**	**+1.2**
PLCA				*e*Sn		Sn		16 13 52.8	+10
PLCA				*e*Sg		Sb		16 14 09.9	+6.1
PLCA				Lg		Lg		16 14 10.4	
TRQA	**Tornquist**	**8.86**	**118**	*e*Pn		**Pn**		**16 13 02.7**	**+0.9**
comp=E,40nm,1.2s									
TRQA				*e*Sg		Sn		16 15 29.7	+48
LPAZ	**La Paz**	**18.31**	**12**	P		**P**		**16 15 10.5**	**+1.8**
comp=E,0.2nm,0.3s,baz=195,slow=5.3,SNR=7.5									
LPAZ	**La Paz**	**18.31**	**12**	*e*Pn		**P**		**16 15 10.3**	**+1.7**
comp=E,26nm,1.4s									
EFI	**East Falkland**	**20.01**	**154**	P		**P**		**16 15 26.5**	**+0.1**
SIV	**San Ignacio**	**20.73**	**31**	P		Pn		16 15 37.2	+0.3
comp=E,2.7nm,0.7s,baz=235,slow=16,SNR=5.2									
SAML	**Samuel**	**26.53**	**20**	*e*P		**P**		**16 16 31.2**	**-0.4**
comp=E,15nm,1.5s									
PTGA	**Pitinga**	**35.27**	**21**	P		**P**		**16 17 49.1**	**+0.3**
comp=E,3.1nm,0.7s,baz=180,slow=11,SNR=4.5									
SNAA	**Sanae**	**51.23**	**158**	P		**P**		**16 19 57.7**	**+0.5**
comp=E,1.4nm,0.8s,baz=250,slow=7.1,SNR=5.7									
SNAA	**Sanae**	**51.23**	**158**	*e*P		**P**		**16 19 57.5**	**+0.4**
comp=E,11nm,1.1s									
QSPA	**South Pole Qui**	**55.89**	**180**	P		**P**		**16 20 32.6**	**+1.1**
comp=E,7.5nm,1.1s,baz=141,slow=5.6,SNR=7.9									
QSPA	**South Pole Qui**	**55.89**	**180**	*e*P		**P**		**16 20 31.7**	**+0.2**
comp=E,8.8nm,1.1s									
VNDA	**Vanda**	**63.78**	**191**	P		**P**		**16 21 24.5**	**-0.9**
comp=E,5.1nm,1.2s									
BOSA	**Boshof**	**79.83**	**118**	P		**P**		**16 23 03.0**	**+0.1**
comp=E,4.3nm,0.9s,baz=274,slow=4.0,SNR=5.3									
ECSD	**EROS Data Cent**	**80.91**	**342**	*e*P		**P**		**16 23 07.5**	**-0.3**
comp=E,3.0nm,1.0s									
LBTB	**Lobatse**	**82.08**	**115**	*e*P		**P**		**16 23 13.0**	**-1.9**
comp=E,6.0nm,0.9s									
TORD	**Torodi Ar. Bea**	**84.25**	**70**	P		**P**		**16 23 26.4**	**+0.4**
comp=E,2.2nm,0.8s,baz=255,slow=4.0,SNR=14									
WRA	**Warramunga Arr**	**120.50**	**209**	PKP		**PKPdf**		**16 29 45.5**	**-0.7**
comp=E,0.2nm,0.4s,baz=164,slow=2.0,SNR=4.6									
H11S2	**WAKE ISLAND Hyl**	**25.85**	**269**	T		T		18 48 13.4	
baz=125									
H11S1	**WAKE ISLAND Hyl**	**25.86**	**269**	T		T		18 48 14.7	
baz=125									
H11S3	**WAKE ISLAND Hyl**	**25.87**	**269**	T		T		18 48 16.5	
baz=125									
H11N3	**WAKE ISLAND Hyl**	**26.27**	**270**	T		T		18 48 42.0	
baz=121,slow=76,SNR=35									
H11N1	**WAKE ISLAND Hyl**	**26.29**	**270**	T		T		18 48 43.0	
baz=121,slow=76,SNR=56									
H11N2	**WAKE ISLAND Hyl**	**26.29**	**270**	T		T		18 48 44.1	
baz=121,slow=76,SNR=36									
BRVK	**Borovoye**	**147.40**	**43**	*e*PKPbc		**PKPbc**		**16 30 38.0**	**+0.8**
AAK	**Ala-Archa**	**152.59**	**62**	*e*PKPbc		**PKPbc**		**16 30 51.5**	**+1.0**
ZALV	**Zalesovo Beam**	**154.47**	**33**	PKPbc		**PKPbc**		**16 30 54.5**	**+0.5**
comp=E,1.5nm,0.7s,baz=308,slow=3.4,SNR=7.7									
ZALV				PKPab		**PKPab**		**16 31 09.4**	**+1.0**
comp=E,0.7nm,0.5s,baz=297,slow=6.5,SNR=3.9									
MKAR	**Makanchi Array**	**156.92**	**50**	PKPab		**PKPab**		**16 31 18.6**	**-0.6**
comp=E,0.4nm,0.7s,baz=312,slow=2.6,SNR=3.9									

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*ISCJB **11** 16:13:10.0±0.8,34°.31S±0°.09×72°.5W±0°.2,h10km,mb4.3/8,*
Error ellipse: s-maj=25.0km s-min=12.2km az=8.2
*IDC **11** 16:13:10.5±2.0,34°.42S×72°.30W,h0km,mb4.3/5,*
mb1 4.3/7,mb1mx3.8/38,mbtmp4.3/7,ML3.6/2,Error
ellipse: s-maj=62.6km s-min=32.7km az=92.0
*NEIC **11** 16:13:15.9±0.8,34°.19S×72°.41W,h35km,mb4.3/6,Error*
ellipse: s-maj=26.1km s-min=10.5km az=96.0
ISC 11 16:13:11.5±0.9,34°.3S±0°.1×72°.6W±0°.2,h10km,n20,
σ1=06/20,mb4.4/8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.54**	**55**	Pn		**Pn**		**16 14 21.1**	**+0.8**
0.7nm,0.3s,baz=212,slow=16,SNR=2.2									
CFAA				Lg		Lg		16 15 24.7	
2.2nm,0.3s,baz=144,slow=22,SNR=6.2									
PLCA	**Paso Flores**	**6.61**	**167**	Pn		Pn		16 14 54.4	+5.6
0.2nm,0.3s,baz=335,slow=17,SNR=2.0									
LVC	**Limon Verde**	**12.09**	**16**	*e*Pn		**Pn**		**16 16 02.1**	**-2.0**
LPAZ	**La Paz**	**18.39**	**14**	P		**Pn**		**16 17 28.3**	**+1.1**
0.2nm,0.3s,baz=198,slow=7.3,SNR=6.2									
LPAZ	**La Paz**	**18.39**	**14**	*e*Pn		**Pn**		**16 17 27.6**	**+0.3**
7.1nm,0.8s									
SIV	**San Ignacio**	**20.97**	**32**	P		**P**		**16 17 53.8**	**-1.1**
4.0nm,0.8s,baz=217,slow=12,SNR=5.9									
SAML	**Samuel**	**26.68**	**21**	*e*P		**P**		**16 18 49.8**	**-1.0**
2.3nm,0.7s									
PTGA	**Pitinga**	**35.43**	**22**	P		**P**		**16 20 08.4**	**+0.4**
6.9nm,1.0s,baz=213,slow=11,SNR=5.1									
SDV	**Santo Domingo**	**43.00**	**3**	P		**P**		**16 21 12.5**	**+1.1**
5.5nm,1.0s									
QSPA	**South Pole Qui**	**55.92**	**180**	P		**P**		**16 22 50.7**	**+1.2**
5.1nm,1.0s									
DBIC	**Dimbokro**	**75.70**	**72**	P		**P**		**16 24 56.7**	**-0.8**
3.6nm,0.6s,baz=191,slow=5.2,SNR=5.5									
DBIC	**Dimbokro**	**75.70**	**72**	*e*P		**P**		**16 24 56.4**	**-1.0**
5.9nm,0.8s									
TSUM	**Tsumeb**	**79.56**	**106**	P		**P**		**16 25 18.8**	**-0.4**
3.6nm,0.9s									
CASY	**Casey**	**79.70**	**181**	P		**P**		**16 25 18.0**	**-1.0**
BOSA	**Boshof**	**80.32**	**118**	P		**P**		**16 25 22.6**	**-0.7**

2.7nm,0.7s,baz=257,slow=7.9,SNR=4.3
ECSD EROS Data Cent 80.71 343 P **P 16 25 25.5 +1.0**
LBTB Lobatse 82.58 115 *eP* **P 16 25 33.9 -1.3**
TORD Torodi Ar. Bea 84.73 70 P **P 16 25 45.6 -0.5**
2.8nm,0.8s,baz=255,slow=4.8,SNR=11
ZALV Zalesovo Beam 154.73 32 PKPbc **PKPbc 16 33 13.6 +1.3**
0.3nm,0.3s,baz=330,slow=5.2,SNR=3.0
ZALV PKPab **PKPab 16 33 27.7 +0.5**
1.5nm,0.7s,baz=309,slow=5.4,SNR=5.0
MKAR Makanchi Array 157.30 49 PKPab **PKPab 16 33 38.5 -0.1**
0.4nm,0.7s,baz=327,slow=2.0,SNR=4.1

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*ISCJB **11** 16:23:48.8±1.7,34°.46S±0°.03×71°.84W±0°.05,h15km±11km, mb5.1/60,Error ellipse: s-maj=6.8km s-min=4.8km az=6.9*
*GUC **11** 16:23:49.1±0.7,34°.40S×72°.02W,h31km±5km,ML5.3*
*MOS **11** 16:23:51.5±1.1,34°.44S×71°.85W,h33km,mb5.2/18,Error ellipse: s-maj=16.6km s-min=8.0km az=90.0*
*BJI **11** 16:23:52.6,34°.40S×71°.80W,h31km,mB5.4/1,Ms5.7/7, Ms7 5.5/9*
*NEIC **11** 16:23:52.5±1.7,34°.38S×71°.80W,h32km±11km,mb4.9/42, ML5.3(GUC),Error ellipse: s-maj=8.2km s-min=4.2km az=80.0*
NEIC Felt [IV] at El Tabo, Pichilemu and San Antonio; [III] at Casablanca, San Fernando, Santiago and Talca; [II] at Rancagua and Valparaiso.
*IDC **11** 16:23:53.7±2.5,34°.42S×71°.81W,h40km±20km,mb4.6/19, mb1 4.7/22,mb1mx4.7/26,mbtmp4.8/22,ML4.5/3,Error ellipse: s-maj=17.3km s-min=10.5km az=89.0*
ISC 11 16:23:52.4±0.9,34°.40S±0°.04×71°.82W±0°.06,h30km±5km, n555,σ1°.01/577,mb5.0/60,191C-169D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANTU	**Antumapu**	**1.29**	**50**	⇑	*i*	P	**Pn**	**16 24 13.8**	**-0.6**
ANTU					*i*	S1	**Sb**	**16 24 31.8**	**-0.5**
ANTU						AML	AML	16 24 36.0	
	comp=E,82μm,0.5s								
ANTU	**Antumapu**	**1.29**	**50**	⇑	*i*	P	**Pn**	**16 24 13.8**	**-0.6**
ANTU					*i*	S	**Sb**	**16 24 31.8**	**-0.5**
PCH	**Pirque**	**1.34**	**55**	⇑	*i*	P	**Pn**	**16 24 14.6**	**-0.5**
PCH					*i*	S4	**Sb**	**16 24 32.1**	**-1.5**
PCH	**Pirque**	**1.34**	**55**	⇑	*i*	P	**Pn**	**16 24 14.6**	**-0.5**
PCH						S	**Sb**	**16 24 32.1**	**-1.5**
SAN	**Santiago**	**1.35**	**46**		*e*	P	**Pn**	**16 24 14.1**	**-1.2**
SAN					*i*	S	**Sb**	**16 24 34.1**	**+0.1**
SAN	**Santiago**	**1.35**	**46**		*e*	P1	**Pn**	**16 24 14.1**	**-1.2**
SAN					*i*	S1	**Sb**	**16 24 34.1**	**+0.1**
SAN	**Santiago**	**1.35**	**46**		*e*	P	**Pn**	**16 24 14.1**	**-1.2**
SAN					*i*	S	**Sb**	**16 24 34.1**	**+0.1**
IHA	**Instituto Hidr**	**1.38**	**6**		*e*	P1	**Pn**	**16 24 13.3**	**-2.3**
IHA					*i*	S1	**Sn**	**16 24 31.7**	**-1.2**
IHA	**Instituto Hidr**	**1.38**	**6**		*e*	P	**Pn**	**16 24 13.3**	**-2.3**
IHA					*i*	S	**Sn**	**16 24 31.7**	**-1.2**
CLCH	**Cerro Calan**	**1.47**	**47**	⇑	*i*	P	**Pn**	**16 24 16.6**	**-0.3**
CLCH					*i*	S1	**Sg**	**16 24 37.3**	**+2.2**
CLCH						AML	AML	16 24 41.0	
	comp=N,65μm,0.6s								
PEL	**Peldehue**	**1.57**	**37**	⇓	*i*	P	**Pn**	**16 24 18.0**	**-0.3**
PEL						S	**Sb**	**16 24 40.9**	**+0.5**
PEL	**Peldehue**	**1.57**	**37**	⇓	*i*	P	**Pn**	**16 24 18.0**	**-0.3**
PEL					*i*	S4	**Sb**	**16 24 40.9**	**+0.5**
PEL						AML	AML	16 24 46.7	
	comp=N,136μm,0.5s								
PEL	**Peldehue**	**1.57**	**37**	⇓	*i*	P	**Pn**	**16 24 18.0**	**-0.3**
PEL						S	**Sb**	**16 24 40.9**	**+0.5**
FCH	**Farellones**	**1.67**	**50**	⇑	*i*	P	**Pn**	**16 24 20.0**	**+0.1**
FCH					*i*	S1	**Sb**	**16 24 43.7**	**+0.4**
FCH						AML	AML	16 24 49.2	
	comp=N,27μm,0.5s								
FCH	**Farellones**	**1.67**	**50**	⇑	*i*	P	**Pn**	**16 24 20.0**	**+0.1**
FCH					*i*	S	**Sb**	**16 24 43.7**	**+0.4**
CFAA	**Coronel Fontan**	**4.11**	**48**			Pn	**Pn**	**16 24 55.1**	**+2.0**
	comp=N,5.0nm,0.3s,baz=235,slow=11,SNR=30								
CFAA						Sn	**Sn**	**16 25 41.3**	**+1.1**
	comp=N,7.4nm,0.3s,baz=206,slow=12,SNR=3.9								
LCO	**Las Campanas**	**5.46**	**10**		*e*	Pn	**Pn**	**16 25 11.2**	**-0.8**
	comp=N,176nm,0.4s								
LCO					*e*	Sn	**Sn**	**16 26 14.2**	**+0.2**
PLCA	**Paso Flores**	**6.40**	**171**		*e*	P	**Pn**	**16 25 24.5**	**-0.2**
PLCA						pmax	pmax		
	comp=Z,3.0nm,0.3s								
PLCA	**Paso Flores**	**6.40**	**171**			Pn	**Pn**	**16 25 24.9**	**+0.2**
	comp=Z,4.2nm,0.3s,baz=336,slow=14,SNR=14								
PLCA						Sn	Sb	16 26 48.6	-10
	comp=Z,1.0nm,0.3s,baz=29,slow=22,SNR=1.3								
PLCA	**Paso Flores**	**6.40**	**171**		*e*	Pn	**Pn**	**16 25 24.5**	**-0.2**
	comp=Z,2.6nm,0.3s								
PLCA						Sn	Sb	16 26 48.6	-10
TRQA	**Tornquist**	**8.75**	**117**		*e*	Pn	**Pn**	**16 25 57.3**	**+0.4**
	comp=Z,152nm,1.1s								
LVC	**Limon Verde**	**12.02**	**13**		*e*	Pn		16 26 37.0	-4.9
	comp=Z,22nm,0.7s								
LPAZ	**La Paz**	**18.34**	**11**		*e*	P	**Pn**	**16 28 05.8**	**+0.6**
LPAZ	**La Paz**	**18.34**	**11**			P	**Pn**	**16 28 05.6**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=190,slow=7.0,SNR=30								
LPAZ	**La Paz**	**18.34**	**11**		*e*	P	**P**	**16 28 05.0**	**-0.2**
	comp=Z,30nm,0.8s								
EFI	**East Falkland**	**19.92**	**154**			Pn	**Pn**	**16 28 23.9**	**+0.6**
	comp=Z,323nm,0.8s,SNR=5.3								
EFI	**East Falkland**	**19.92**	**154**		*e*	P	**P**	**16 28 20.6**	**-0.9**
EFI						pmax	pmax		
	comp=Z,34nm,0.7s								
EFI	**East Falkland**	**19.92**	**154**		*e*	P	**P**	**16 28 20.6**	**-0.9**
	comp=Z,34nm,0.7s								
USHA	**Ushuaia**	**20.56**	**174**			P	**P**	**16 28 28.7**	**+0.2**
	comp=Z,33nm,0.8s,baz=1.4,slow=7.7,SNR=10								
SIV	**San Ignacio**	**20.73**	**30**			P	**P**	**16 28 29.6**	**-0.9**
	comp=Z,13nm,0.7s,baz=190,slow=8.3,SNR=19								
NNA	**Nana**	**22.78**	**347**		*e*	P	**P**	**16 28 53.2**	**+0.6**
NNA	**Nana**	**22.78**	**347**			P	**P**	**16 28 52.5**	**-0.1**
	comp=Z,69nm,0.8s,baz=187,slow=11,SNR=28								
SAML	**Samuel**	**26.55**	**19**		*e*	P	**P**	**16 29 27.4**	**-0.3**
	comp=Z,14nm,0.8s								
ATAH	**Atahualpa**	**27.80**	**346**			P	**P**	**16 29 41.6**	**+2.2**
	comp=Z,11nm,0.9s,baz=123,slow=5.8,SNR=4.6								
BDFB	**Brasilia**	**28.41**	**55**			P	**P**	**16 29 45.1**	**+0.5**
	comp=Z,27nm,0.9s,baz=213,slow=9.5,SNR=11								
PMSA	**Palmer Station**	**30.77**	**173**			P	**P**	**16 30 04.4**	**-0.4**
	comp=Z,8.5nm,0.5s,baz=9.8,slow=20,SNR=4.9								
OTAV	**Otavalo**	**35.02**	**348**		*e*	P	**P**	**16 30 43.8**	**+0.9**
	comp=Z,13nm,0.9s								
PTGA	**Pitinga**	**35.29**	**21**			P	**P**	**16 30 44.4**	**-0.4**
	comp=Z,22nm,0.6s,baz=203,slow=9.8,SNR=30								
PTGA	**Pitinga**	**35.29**	**21**		*e*	P	**P**	**16 30 43.9**	**-0.9**
	comp=Z,21nm,1.0s								
PAYG	**Puerto Ayora**	**37.74**	**329**		*e*	P	**P**	**16 31 06.3**	**+0.7**
SDV	**Santo Domingo**	**43.06**	**2**		*e*	P	**P**	**16 31 48.8**	**-1.1**
	comp=Z,22nm,0.9s								
RCBR	**Riachuelo**	**43.70**	**58**			P	**P**	**16 31 55.2**	**+0.2**
	comp=Z,4.3nm,0.5s,baz=216,slow=12,SNR=6.5								
RCBR	**Riachuelo**	**43.70**	**58**		*e*	P	P	16 31 49.3	-5.7
	comp=Z,18nm,1.2s								
BCIP	**Isla Barro Col**	**43.99**	**349**		*e*	P	**P**	**16 31 55.1**	**-2.0**
	comp=Z,9.8nm,0.5s								
JTS	**JuntasAbangare**	**46.16**	**342**		*e*	P	**P**	**16 32 14.1**	**-0.3**
JTS						pmax	pmax		
	comp=Z,42nm,1.6s								
JTS	**JuntasAbangare**	**46.16**	**342**			P	**P**	**16 32 13.8**	**-0.6**
	comp=Z,2.7nm,0.4s,baz=276,slow=12,SNR=6.8								
VNA3	**Neumayer Olymp**	**48.92**	**158**			P	**P**	**16 32 33.8**	**-1.5**
VNA2	**Neumayer--Watz**	**49.57**	**157**			P	**P**	**16 32 41.0**	**+0.7**
SNAA	**Sanae**	**51.15**	**158**			P	**P**	**16 32 51.9**	**-0.3**
SNAA	**Sanae**	**51.15**	**158**			P	**P**	**16 32 51.8**	**-0.5**
	comp=Z,5.0nm,0.9s,baz=306,slow=5.7,SNR=7.9								
CRPR	**Cabo Rojo, PR**	**52.31**	**6**		*e*	P	**P**	**16 32 59.0**	**-2.3**
AGPR	**Aguadilla, PR**	**52.77**	**6**			P	**P**	**16 33 02.5**	**-2.2**
SDDR	**Presa de Saban**	**53.09**	**1**		*e*	P	**P**	**16 33 07.3**	**+0.1**
	comp=Z,8.5nm,0.6s								
GTBY	**Guantanamo Bay**	**54.12**	**356**			P	**P**	**16 33 13.3**	**-1.3**
QSPA	**South Pole Qui**	**55.84**	**180**			P	**P**	**16 33 26.7**	**-0.1**
	comp=Z,34nm,1.1s,baz=196,slow=1.5,SNR=39								
QSPA	**South Pole Qui**	**55.84**	**180**		*e*	P	**P**	**16 33 26.4**	**-0.4**
	comp=Z,33nm,1.0s								
NVL	**N'lazarevskaya**	**55.88**	**157**		*i*	P	**P**	**16 33 25.8**	**-1.0**
NVL						pmax	pmax		
	comp=Z,17nm,0.8s								
SBA	**Scott Base**	**62.72**	**192**		*e*	P	**P**	**16 34 14.8**	**+0.8**
SBA						pmax	pmax		
	comp=Z,6.0nm,1.0s								
SBA	**Scott Base**	**62.72**	**192**		*e*	P	**P**	**16 34 14.8**	**+0.8**
	comp=Z,5.6nm,1.0s								
DWPF	**Disney Wildern**	**62.84**	**350**			P	P	16 34 08.6	-6.6
VNDA	**Vanda**	**63.74**	**191**		*e*	P	**P**	**16 34 21.0**	**+0.2**
VNDA						pmax	pmax		
	comp=Z,10.0nm,1.2s								
VNDA	**Vanda**	**63.74**	**191**			P	**P**	**16 34 21.4**	**+0.6**
	comp=Z,6.1nm,0.9s,baz=137,slow=5.1,SNR=14								
VNDA	**Vanda**	**63.74**	**191**		*e*	P	**P**	**16 34 21.0**	**+0.2**
	comp=Z,10nm,1.2s								
SYO	**Syowa Base**	**65.43**	**158**	⇓	*i*	P	**P**	**16 34 30.0**	**-1.8**
SYO	**Syowa Base**	**65.43**	**158**	⇓	*i*	pP	pP	16 34 37.4	-3.7
035A	**Encino**	**65.89**	**334**	⇑		P	**P**	**16 34 37.1**	**+1.7**
	baz=66								
034A	**Hebbronville**	**66.22**	**334**	⇓		P	**P**	**16 34 38.8**	**+1.3**
	baz=66								
934A	**Benavides**	**66.65**	**334**	⇑		P	**P**	**16 34 41.9**	**+1.7**
	baz=67								
834A	**Tilden**	**67.14**	**334**	⇓		P	**P**	**16 34 44.9**	**+1.6**
	baz=67,SNR=7.5								
735A	**Kenedy**	**67.54**	**335**	⇓		P	**P**	**16 34 47.1**	**+1.3**
	baz=68								
833A	**Chaparral WMA,**	**67.62**	**334**	⇓		P	**P**	**16 34 47.7**	**+1.4**
	baz=68								
734A	**La Parita Cree**	**67.80**	**335**	⇑		P	**P**	**16 34 48.8**	**+1.4**
	baz=68								
832A	**Faith Ranch, C**	**67.80**	**333**	⇓		P	**P**	**16 34 48.2**	**+0.7**
	baz=68,SNR=6.0								
636A	**Smothers Creek**	**67.87**	**336**	⇓		P	**P**	**16 34 49.4**	**+1.6**
	baz=68								
HKT	**Hockley**	**67.90**	**338**		*e*	P	**P**	**16 34 47.3**	**-0.7**
HKT						pmax	pmax		
	comp=Z,8.0nm,1.0s								
HKT	**Hockley**	**67.90**	**338**		*e*	P	**P**	**16 34 47.3**	**-0.7**
	comp=Z,7.8nm,1.0s								
732A	**Laxson Ranch,**	**68.20**	**333**	⇓		P	**P**	**16 34 51.2**	**+1.2**
	baz=68								
536A	**Bastrop**	**68.42**	**337**	⇓		P	**P**	**16 34 52.6**	**+1.3**
	baz=69								
438A	**Sam Houston St**	**68.54**	**338**	⇑		P	**P**	**16 34 53.6**	**+1.6**
	baz=69								
535A	**Dale**	**68.54**	**336**	⇓		P	**P**	**16 34 53.1**	**+1.1**
	baz=69								
633A	**Saathoff Ranch**	**68.58**	**335**	⇑		P	**P**	**16 34 53.4**	**+1.1**
	baz=69								
340A	**Bronson**	**68.69**	**340**	⇑		P	**P**	**16 34 54.5**	**+1.5**
	baz=69								
339A	**Huntington**	**68.81**	**339**	⇓		P	**P**	**16 34 55.5**	**+1.8**
	baz=69								
632A	**Uvalde**	**68.84**	**334**	⇑		P	**P**	**16 34 55.7**	**+1.7**
	baz=69								
631A	**Perdido Creek**	**69.04**	**333**	⇑		P	**P**	**16 34 56.1**	**+0.8**
	baz=69								
533A	**Kerrville**	**69.08**	**335**	⇓		P	**P**	**16 34 56.0**	**+0.5**
	baz=69,SNR=5.7								
337A	**Centerville**	**69.19**	**338**	⇓		P	**P**	**16 34 57.4**	**+1.4**
	baz=70								
239A	**Gary**	**69.42**	**340**	⇑		P	**P**	**16 34 59.4**	**+1.9**
	baz=70								
532A	**Rocksprings**	**69.44**	**334**	⇑		P	**P**	**16 34 58.4**	**+0.7**
	baz=70,SNR=10								
434A	**Burnet**	**69.50**	**336**	⇑		P	**P**	**16 34 58.9**	**+0.9**
	baz=70								
336A	**Riesel**	**69.56**	**337**	⇑		P	**P**	**16 34 59.0**	**+0.6**
	baz=70,SNR=6.7								
531A	**Rocksprings**	**69.71**	**334**	⇓		P	**P**	**16 35 00.5**	**+1.1**
	baz=70								
433A	**Art**	**69.72**	**335**	⇑		P	**P**	**16 35 00.1**	**+0.6**
	baz=70,SNR=5.8								
JCT	**Junction City**	**69.72**	**334**	⇑		P	**P**	**16 34 59.9**	**+0.5**
	baz=70,SNR=5.9								
KMSC	**Kings Mountain**	**69.75**	**352**	⇓		P	**P**	**16 34 59.6**	**+0.1**
	baz=70								
237A	**Washetta, Mont**	**69.80**	**338**	⇑		P	**P**	**16 35 00.5**	**+0.6**
	baz=70								
334A	**Lometa**	**69.96**	**336**	⇓		P	**P**	**16 35 01.2**	**+0.3**
	baz=70,SNR=14								
530A	**J-C Ranch, Com**	**69.99**	**333**	⇓		P	**P**	**16 35 01.9**	**+0.8**
	baz=70,SNR=6.4								
432A	**Menard**	**70.08**	**335**	⇑		P	**P**	**16 35 02.3**	**+0.6**
	baz=70								
TXAR	**Lajitas Array**	**70.17**	**331**			P	**P**	**16 35 02.5**	**+0.2**
	comp=Z,7.1nm,0.5s,baz=157,slow=8.9,SNR=22								
431A	**Sonora**	**70.20**	**334**	⇓		P	**P**	**16 35 03.0**	**+0.6**
	baz=70								
138A	**Matatall Enter**	**70.20**	**339**	⇓		P	**P**	**16 35 03.7**	**+1.4**
	baz=70								
333A	**Richland Sprin**	**70.21**	**335**	⇑		P	**P**	**16 35 02.8**	**+0.4**
	baz=70								
529A	**Stev Forest Ra**	**70.30**	**332**	⇑		P	**P**	**16 35 03.8**	**+0.8**
	baz=71,SNR=10								
WHTX	**Lake Whitney,**	**70.31**	**337**	⇑		P	**P**	**16 35 03.3**	**+0.4**
	baz=71,SNR=7.6								
137A	**Heron Place, G**	**70.34**	**339**	⇓		P	**P**	**16 35 04.1**	**+0.9**
	baz=71								
SWET	**Sewee**	**70.50**	**348**		*e*	P	**P**	**16 35 03.8**	**-0.3**
	comp=Z,43nm,0.7s								
OXF	**Oxford**	**70.51**	**345**		*e*	P	**P**	**16 35 03.1**	**-1.0**
OXF						pmax	pmax		
	comp=Z,72nm,1.0s								
OXF	**Oxford**	**70.51**	**345**		*e*	P	**P**	**16 35 03.1**	**-1.0**
	comp=Z,72nm,1.0s								
332A	**Millersview**	**70.52**	**335**	⇑		P	**P**	**16 35 05.0**	**+0.6**
	baz=71								
430A	**Baggett Ranch,**	**70.52**	**333**	⇓		P	**P**	**16 35 04.9**	**+0.5**
	baz=71,SNR=6.3								
234A	**Clairette**	**70.55**	**336**	⇑		P	**P**	**16 35 04.9**	**+0.4**
	baz=71,SNR=9.2								
429A	**Davenport Ranc**	**70.62**	**333**	⇓		P	**P**	**16 35 05.8**	**+0.8**
	baz=71								
331A	**San Angelo**	**70.70**	**334**	⇑		P	**P**	**16 35 06.0**	**+0.6**
	baz=71,SNR=6.2								
233A	**Rising Star**	**70.81**	**336**	⇑		P	**P**	**16 35 06.5**	**+0.4**
	baz=71,SNR=9.4								
135A	**Vickery Place,**	**70.82**	**337**	⇓		P	**P**	**16 35 06.3**	**+0.2**
	baz=71								
232A	**Coleman**	**70.95**	**335**	⇑		P	**P**	**16 35 07.1**	**+0.1**
	baz=71,SNR=5.3								
134A	**White-Moore Ra**	**71.05**	**337**	⇑		P	**P**	**16 35 07.8**	**+0.3**
	baz=71								
330A	**Mertzon**	**71.06**	**334**	⇑		P	**P**	**16 35 07.7**	**+0.1**
	baz=71								
231A	**Bronte**	**71.23**	**335**	⇓		P	**P**	**16 35 08.6**	**0.0**
	baz=72,SNR=7.4								
133A	**Hamilton Ranch**	**71.36**	**336**	⇑		P	**P**	**16 35 09.4**	**+0.1**
	baz=72,SNR=8.7								
329A	**Wagon Wheel Ra**	**71.43**	**333**	⇑		P	**P**	**16 35 10.6**	**+0.7**
	baz=72,SNR=8.2								
Z35A	**Perchaven, San**	**71.48**	**338**	⇓		P	**P**	**16 35 10.7**	**+0.6**
	baz=72								
ABTX	**Abilene, Hawle**	**71.62**	**335**	⇓		P	**P**	**16 35 11.4**	**+0.4**
	baz=72,SNR=12								
Z34A	**Collier Ranch,**	**71.73**	**337**	⇓		P	**P**	**16 35 12.1**	**+0.5**
	baz=72								
WVT	**Waverly**	**71.74**	**346**		*e*	P	**P**	**16 35 11.0**	**-0.6**
WVT						pmax	pmax		
	comp=Z,82nm,0.8s								
WVT	**Waverly**	**71.74**	**346**		*e*	P	**P**	**16 35 11.0**	**-0.6**
	comp=Z,82nm,0.8s								
229A	**Bryant Ranch,**	**71.80**	**333**	⇓		P	**P**	**16 35 12.4**	**+0.3**
	baz=72,SNR=5.1								
131A	**Roby**	**71.92**	**335**	⇓		P	**P**	**16 35 13.2**	**+0.4**
	baz=72,SNR=6.4								
Z33A	**Whitaker Ranch**	**71.93**	**336**	⇑		P	**P**	**16 35 13.1**	**+0.3**
	baz=72,SNR=13								
JSRW	**J. Sargeant Re**	**71.95**	**355**		*e*	P	**P**	**16 35 13.3**	**+0.5**
130A	**Snyder**	**72.06**	**334**	⇓		P	**P**	**16 35 13.7**	**+0.1**
	baz=72,SNR=5.4								
Y34A	**Reagan Ranch,**	**72.22**	**338**	⇑		P	**P**	**16 35 14.4**	**-0.1**
	baz=72,SNR=7.3								
228A	**UT Block 9, Go**	**72.22**	**333**	⇑		P	**P**	**16 35 15.1**	**+0.4**
	baz=72,SNR=13								
Z31A	**Sharp Cattle R**	**72.42**	**335**	⇑		P	**P**	**16 35 16.3**	**+0.5**
	baz=73,SNR=20								
Y33A	**Hilltop Ranch,**	**72.55**	**337**	⇓		P	**P**	**16 35 16.4**	**0.0**
	baz=73,SNR=6.0								
128A	**Castleberry Fa**	**72.63**	**333**	⇑		P	**P**	**16 35 17.5**	**+0.4**
	baz=73,SNR=13								
Z30A	**Sanderson Ranc**	**72.74**	**335**	⇓		P	**P**	**16 35 17.4**	**-0.3**
	baz=73,SNR=14								
Y32A	**R-V Farms, Ver**	**72.81**	**336**	⇓		P	**P**	**16 35 18.2**	**+0.2**
	baz=73,SNR=10.0								
X34A	**Smith Ranch, M**	**72.84**	**338**	⇑		P	**P**	**16 35 18.3**	**+0.1**
	baz=73,SNR=6.9								
Z29A	**Hungry Hill Ra**	**72.92**	**334**	⇑		P	**P**	**16 35 18.5**	**-0.3**
	baz=73,SNR=12								
MNTX	**Cornudas Mount**	**72.95**	**330**		*e*	P	**P**	**16 35 17.9**	**-1.0**
	comp=Z,14nm,0.9s								
Y31A	**Rekieta Farm,**	**73.05**	**336**	⇓		P	**P**	**16 35 20.0**	**+0.6**
	baz=73								
X32A	**Elmer**	**73.14**	**337**	⇓		P	**P**	**16 35 20.3**	**+0.3**
	baz=74								
Y30A	**Stafford Cattl**	**73.19**	**335**	⇓		P	**P**	**16 35 20.0**	**-0.4**
	baz=74,SNR=6.2								
Z28A	**Tucker Farm, M**	**73.19**	**334**	⇑		P	**P**	**16 35 20.5**	**0.0**
	baz=74								
WMOK	**Wichita Mounta**	**73.27**	**337**		*e*	P	**P**	**16 35 19.6**	**-1.1**
WMOK						pmax	pmax		
	comp=Z,12nm,1.0s								
WMOK	**Wichita Mounta**	**73.27**	**337**		*e*	P	**P**	**16 35 19.6**	**-1.1**
	comp=Z,12nm,1.0s								
W34A	**Bridge Creek,**	**73.41**	**338**	⇑		P	**P**	**16 35 21.5**	**0.0**
	baz=74								
TUL1	**Leonard**	**73.44**	**340**	⇓		P	**P**	**16 35 21.4**	**-0.3**
	baz=74,SNR=6.3								
Y29A	**Porterfield Fa**	**73.45**	**334**	⇑		P	**P**	**16 35 22.1**	**+0.2**
	baz=74,SNR=12								
W33A	**Caddo, Fort Co**	**73.55**	**337**	⇑		P	**P**	**16 35 23.0**	**+0.6**
	baz=74,SNR=8.8								
X31A	**McDonald Ranch**	**73.56**	**336**	⇑		P	**P**	**16 35 22.4**	**-0.1**
	baz=74,SNR=9.0								
X30A	**Coker Ranch, T**	**73.70**	**335**	⇑		P	**P**	**16 35 23.8**	**+0.5**
	baz=74								
Y28A	**McKinney Farm,**	**73.70**	**334**	⇓		P	**P**	**16 35 23.4**	**0.0**
	baz=74,SNR=7.0								
W32A	**Sentinel**	**73.77**	**337**	⇑		P	**P**	**16 35 24.0**	**+0.3**
	baz=74,SNR=22								
V34A	**Guthrie**	**73.88**	**338**	⇑		P	**P**	**16 35 24.1**	**-0.2**
	baz=74,SNR=5.1								
MSTX	**Muleshoe**	**73.95**	**334**	⇓		P	**P**	**16 35 25.1**	**+0.3**
	baz=74,SNR=11								
X29A	**Tulia**	**73.99**	**335**	⇑		P	**P**	**16 35 25.0**	**-0.1**
	baz=74,SNR=8.2								
Y27A	**Causey**	**74.02**	**333**	⇓		P	**P**	**16 35 24.8**	**-0.5**
	baz=74								
W31A	**Holland Ranch,**	**74.06**	**336**	⇓		P	**P**	**16 35 25.2**	**-0.2**
	baz=74,SNR=5.6								
V33A	**Lossen Ranch,**	**74.11**	**338**	⇓		P	**P**	**16 35 25.9**	**+0.3**
	baz=74,SNR=9.0								
AMTX	**Amarillo**	**74.38**	**335**	⇓		P	**P**	**16 35 27.6**	**+0.3**
	baz=75								
AMTX	**Amarillo**	**74.38**	**335**		*e*	P	**P**	**16 35 27.1**	**-0.2**
	comp=Z,41nm,0.9s								
U34A	**Anderson Ranch**	**74.44**	**339**	⇓		P	**P**	**16 35 27.5**	**-0.1**
	baz=75,SNR=5.4								
BLO	**Bloomington**	**74.46**	**348**		*e*	P	P	16 35 24.4	-3.2
BLO						pmax	pmax		
	comp=Z,23nm,0.6s								
BLO	**Bloomington**	**74.46**	**348**		*e*	P	P	16 35 24.4	-3.2
	comp=Z,23nm,0.6s								
SUR	**Sutherland**	**74.48**	**119**			P	**P**	**16 35 29.3**	**+0.9**
	comp=Z,94nm,1.0s,SNR=5.8								
SUR	**Sutherland**	**74.48**	**119**		*e*	P	**P**	**16 35 28.4**	**0.0**
W29A	**Amarillo**	**74.58**	**335**	⇓		P	**P**	**16 35 28.6**	**+0.1**
	baz=75,SNR=14								
X27A	**F and S Farms,**	**74.67**	**334**	⇑		P	**P**	**16 35 29.2**	**+0.1**
	baz=75								
121A	**Cookes Peak, D**	**74.67**	**329**	⇑		P	**P**	**16 35 30.3**	**+1.1**
	baz=75,SNR=20								
LIC	**Lamto**	**74.73**	**71**		*e*	P	**P**	**16 35 29.5**	**-0.3**
	comp=Z,42nm,1.3s								
U32A	**Winter Ranch,**	**74.84**	**338**	⇑		P	**P**	**16 35 30.5**	**+0.6**
	baz=75,SNR=7.6								
X26A	**CR and CF Fran**	**74.85**	**333**	⇓		P	**P**	**16 35 30.6**	**+0.5**
	baz=75,SNR=11		

S28A	Manter	76.89	336	⇓P	P	16 35 42.5 +0.9
	baz=77,SNR=12					
Q33A	Connelly Farm,	76.91	339	⇓P	P	16 35 41.9 +0.3
	baz=77					
T26A	Comanche Natio	77.11	334	⇓P	P	16 35 44.2 +1.2
	baz=77,SNR=7.6					
Q32A	Meitler Ranch,	77.11	339	⇓P	P	16 35 43.3 +0.5
	baz=77,SNR=5.7					
V22A	San Miguel Ran	77.24	331	⇑P	P	16 35 45.2 +1.3
	baz=78,SNR=24					
X18A	Snowflake	77.31	328	⇓P	P	16 35 45.2 +1.0
	baz=78,SNR=6.2					
S27A	Las Animas	77.32	335	⇓P	P	16 35 45.0 +0.9
	baz=78					
T25A	Trinidad	77.37	334	⇓P	P	16 35 45.8 +1.3
	baz=78,SNR=24					
Q31A	Ellis	77.38	338	⇑P	P	16 35 44.8 +0.5
	baz=78,SNR=8.1					
R29A	Marienthal	77.40	337	⇑P	P	16 35 45.4 +0.9
	baz=78					
S26A	Kim	77.47	335	⇑P	P	16 35 46.1 +1.2
	baz=78,SNR=37					
R28A	Tribune	77.54	336	⇑P	P	16 35 46.2 +0.9
	baz=78,SNR=15					
113A	Mohawk Valley,	77.57	325	⇓P	P	16 35 46.6 +1.2
	baz=78					
Q30A	Quinter	77.61	338	⇑P	P	16 35 46.3 +0.7
	baz=78,SNR=8.7					
U22A	Llaves	77.63	332	⇓P	P	16 35 47.4 +1.4
	baz=78,SNR=7.8					
T24B	San Luis	77.66	333	⇑P	P	16 35 47.7 +1.4
	baz=78,SNR=20					
Z14A	Wintersburg	77.68	326	⇑P	P	16 35 47.7 +1.7
	baz=78					
P32A	Huiting Farm,	77.71	339	⇑P	P	16 35 46.5 +0.4
	baz=78					
W18A	Petrified Fore	77.72	329	⇓P	P	16 35 47.5 +1.0
	baz=78,SNR=7.1					
Q29A	Oakley	77.77	337	⇓P	P	16 35 46.8 +0.3
	baz=78					
R27A	Eads	77.83	336	⇑P	P	16 35 47.6 +0.7
	baz=78,SNR=13					
S25A	Robets Cordova	77.84	334	⇓P	P	16 35 48.2 +1.1
	baz=78,SNR=17					
P31A	Stockton	77.85	339	⇑P	P	16 35 47.4 +0.5
	baz=78,SNR=6.1					
T23A	Casias Ranch,	77.89	333	⇑P	P	16 35 48.3 +0.8
	baz=78					
NCB	Newcomb	78.03	358	eP	P	16 35 40.2 -7.6
	comp=Z,16nm,1.0s					
MDV	Middlebury	78.04	359	eP	P	16 35 48.0 +0.2
	comp=Z,30µm,0.5s					
R26A	Arlington	78.06	335	⇓P	P	16 35 49.2 +0.9
	baz=78					
S24A	Houchin Ranch,	78.11	333	⇑P	P	16 35 50.4 +1.7
	baz=78,SNR=25					
P30A	Selden	78.13	338	⇓P	P	16 35 49.3 +0.8
	baz=78					
Y14A	Wickenburg	78.18	326	⇑P	P	16 35 50.5 +1.6
	baz=78					
Q28A	Sharon Springs	78.20	337	⇓P	P	16 35 50.2 +1.2
	baz=78					
O32A	Brockman Farm,	78.20	340	⇑P	P	16 35 49.6 +0.8
	baz=78					
R25A	Fountain Ranch	78.22	334	⇓P	P	16 35 50.5 +1.4
	baz=78					
GLA	Glamis	78.31	324	⇓P	P	16 35 51.1 +1.4
	baz=79					
P29A	Atwood	78.40	337	⇑P	P	16 35 51.3 +1.3
	baz=79					
O31A	Woolen Ranch,	78.41	339	⇑P	P	16 35 50.9 +0.9
	baz=79					
KSCO	Kaye Shedlock'	78.42	336	⇑P	P	16 35 52.0 +1.8
	baz=79					
P28A	Saint Francis	78.64	337	⇓P	P	16 35 52.7 +1.4
	baz=79,SNR=6.1					
O30A	MW Ranch, Wils	78.66	338	⇓P	P	16 35 52.3 +1.0
	baz=79					
Y12C	Blythe	78.74	325	⇑P	P	16 35 53.6 +1.7
	baz=79,SNR=7.0					
WUAZ	Wupatki	78.77	328	⇑P	P	16 35 53.8 +1.5
	baz=79,SNR=12					
JFWS	Jewell Farm	78.77	346	eP	P	16 35 50.6 -1.3
JFWS				pmax	pmax	
	comp=Z,18nm,0.5s					
JFWS	Jewell Farm	78.77	346	eP	P	16 35 50.6 -1.3
	comp=Z,18nm,0.5s					
S22A	4UR Ranch, Cre	78.81	332	⇓P	P	16 35 53.6 +1.0
	baz=79,SNR=14					
R23A	Moffat	78.82	333	⇓P	P	16 35 53.8 +1.2
	baz=79,SNR=18					
N31A	Bailey Ranch,	78.92	339	⇓P	P	16 35 53.9 +1.1
	baz=79					
MONP	Monument Peak,	78.97	323	⇑P	P	16 35 54.9 +1.4
	baz=79					
MVCO	Mesa Verde	79.00	331	⇑P	P	16 35 54.7 +1.2
	baz=79,SNR=6.6					
PDMCI	Parker Dam,Lak	79.01	325	⇑P	P	16 35 54.4 +1.1
	baz=79					
BC3	Big Chuckawall	79.11	324	⇓P	P	16 35 55.7 +1.6
	baz=79,SNR=7.6					
O28A	Krutsinger Ran	79.15	337	⇓P	P	16 35 55.6 +1.5
	baz=80					
P26A	Davis Ranch, A	79.16	336	⇑P	P	16 35 55.7 +1.4
	baz=80					
BGNE	Belgrade	79.23	340	⇑P	P	16 35 55.0 +0.5
	baz=80					
N30A	Hueftle Ranch,	79.23	339	⇑P	P	16 35 55.6 +1.1
	baz=80					
Q24A	Divide	79.26	334	⇓P	P	16 35 56.2 +1.2
	baz=80,SNR=21					
IRM	Iron Mountain	79.37	325	⇑P	P	16 35 56.9 +1.4
	baz=80,SNR=8.6					
P25A	Willow Gulch B	79.40	335	⇓P	P	16 35 57.2 +1.6
	baz=80,SNR=8.3					
M31A	Lambtecht Ranc	79.41	340	⇑P	P	16 35 56.3 +0.9
	baz=80,SNR=6.0					
O27A	Beecher Island	79.44	337	⇑P	P	16 35 57.3 +1.6
	baz=80					
PFO	Pinyon Flats O	79.56	323	⇑P	P	16 35 58.5 +1.9
	baz=80,SNR=5.7					
CASY	Casey	79.62	181	eP	P	16 35 55.6 -0.8
BELC	Belle Mtn. Jos	79.65	324	⇓P	P	16 35 58.3 +1.2
	baz=80					
BOSA	Boshof	79.72	118	P	P	16 35 57.5 -0.4
	comp=Z,19nm,0.8s,baz=248,slow=4.0,SNR=33					
O26A	Horse Wrangler	79.76	336	⇑P	P	16 35 58.6 +1.1
	baz=80,SNR=6.1					
PV01	Paradox Valley	79.83	331	eP	P	16 35 57.6 -0.4
	comp=Z,1µm,1.0s					
O25A	Wiggins	79.92	335	⇓P	P	16 36 00.1 +1.8
	baz=80					
MURC	Murrieta	79.92	323	⇓P	P	16 36 00.1 +1.6
	baz=80					
N27A	Anderson Farm,	80.01	337	⇑P	P	16 36 00.2 +1.3
	baz=80,SNR=8.7					
GMRC	Granite Mounta	80.12	325	⇑P	P	16 36 01.1 +1.5
	baz=80,SNR=17					
L31A	Butterfield Fa	80.14	340	⇓P	P	16 36 00.6 +1.3
	baz=80					
ISCO	Idaho Springs	80.17	334	eP	P	16 36 00.3 +0.4
ISCO				pmax	pmax	
	comp=Z,18nm,1.3s					
ISCO	Idaho Springs	80.17	334	⇑P	P	16 36 00.8 +0.9
	baz=80,SNR=10					
ISCO	Idaho Springs	80.17	334	eP	P	16 36 00.3 +0.4
	comp=Z,18nm,1.3s					
L30A	Spencer Herefo	80.18	339	⇓P	P	16 36 00.9 +1.2
	baz=80					
N26A	Koester Ranch,	80.25	336	⇓P	P	16 36 01.8 +1.7
	baz=81					
P22A	Eagle	80.40	333	⇓P	P	16 36 02.2 +1.1
	baz=81,SNR=12					
HEC	Hector,Ludlow	80.48	324	⇓P	P	16 36 03.1 +1.6
	baz=81,SNR=12					
L29A	Maesberg Ranch	80.51	339	⇓P	P	16 36 02.4 +0.9
	baz=81					
M27A	Reverse DX Ran	80.61	337	⇓P	P	16 36 03.0 +1.0
	baz=81,SNR=5.7					
O23A	Lake Granby, G	80.64	334	⇓P	P	16 36 03.7 +1.3
	baz=81,SNR=19					
BFSC	Mount Baldy Ra	80.66	323	⇑P	P	16 36 03.8 +1.3
	baz=81,SNR=6.8					
TUQ	Turquoise Moun	80.78	325	⇓P	P	16 36 04.5 +1.3
	baz=81,SNR=12					
K30A	Basset	80.81	340	⇓P	P	16 36 04.5 +1.5
	baz=81					
O22A	Kremmling	80.82	334	⇓P	P	16 36 04.0 +0.5
	baz=81,SNR=18					
ECSD	EROS Data Cent	80.98	342	⇓P	P	16 36 04.1 +0.2
	baz=81,SNR=36					
ECSD	EROS Data Cent	80.98	342	eP	P	16 36 03.5 -0.3
	comp=Z,41nm,0.8s					
M25A	Palm-Egli Farm	81.08	336	⇓P	P	16 36 06.1 +1.5
	baz=81					
GSC	Goldstone, Bar	81.09	324	⇓P	P	16 36 06.1 +1.4
	baz=81,SNR=7.6					
N23A	Red Feather La	81.25	335	⇓P	P	16 36 06.5 +0.8
	baz=82,SNR=9.3					
SHPR	Sheep Range	81.29	326	eP	P	16 36 06.7 +0.9
	comp=Z,20nm,1.1s					
EDW2	Edwards Air Fo	81.34	323	⇓P	P	16 36 07.0 +1.0
	baz=82,SNR=7.7					
N22A	Wattenberg Ran	81.35	334	⇓P	P	16 36 07.8 +1.6
	baz=82,SNR=11					
M24A	Cheyenne	81.37	336	⇓P	P	16 36 07.2 +1.1
	baz=82					
K28A	Ten Mile Ranch	81.37	338	⇑P	P	16 36 07.3 +1.3
	baz=82,SNR=6.6					
J30A	Dallas	81.38	340	⇑P	P	16 36 06.6 +0.6
	baz=82					
O20A	White River Ci	81.43	333	⇑P	P	16 36 07.4 +0.9
	baz=82,SNR=6.2					
SPMN	Marine on St.	81.51	345	⇓P	P	16 36 06.5 -0.1
	baz=82					
K27A	Flueckinger Fa	81.63	338	⇑P	P	16 36 08.4 +1.0
	baz=82					
LRMC	Laurel Mtn Rad	81.67	324	⇑P	P	16 36 08.9 +1.0
	baz=82,SNR=8.8					
M23A	Laramie	81.68	335	⇑P	P	16 36 08.7 +0.9
	baz=82,SNR=9.3					
L25A	Engebretsen Ra	81.69	336	⇑P	P	16 36 08.8 +1.0
	baz=82					
J29A	Okreek	81.69	339	⇑P	P	16 36 08.3 +0.6
	baz=82,SNR=10					
I30A	Oacoma	81.90	340	⇓P	P	16 36 09.0 +0.3
	baz=82,SNR=11					
L24A	Wheatland	81.92	336	⇑P	P	16 36 10.4 +1.4
	baz=82					
K26A	Motz Farm, Whi	81.92	337	⇑P	P	16 36 10.4 +1.5
	baz=82					
M22A	Cedar Creek Ra	81.93	334	⇑P	P	16 36 10.4 +1.2
	baz=82					
LBTB	Lobatse	81.97	115	eP	P	16 36 09.5 -0.4
LBTB				pmax	pmax	
	comp=Z,11nm,0.6s					
LBTB	Lobatse	81.97	115	eP	P	16 36 09.5 -0.4
	comp=Z,12nm,0.6s					
J28A	Allard Ranch,	81.98	339	⇑P	P	16 36 10.1 +0.9
	baz=82,SNR=6.9					
N20A	Spence Gulch,	82.05	333	⇑P	P	16 36 10.5 +0.7
	baz=82,SNR=5.5					
J27A	Elkhorn Farm,	82.06	338	⇓P	P	16 36 11.3 +1.6
	baz=82,SNR=8.2					
K25A	Mack Ranch, Ha	82.07	337	⇓P	P	16 36 10.8 +1.0
	baz=82					
ISA	Isabella, Lake	82.20	323	⇑P	P	16 36 12.1 +1.6
	baz=82,SNR=9.4					
L23A	Garrett	82.24	335	⇑P	P	16 36 11.1 +0.3
	baz=83					
I29A	Vivian Onida	82.25	340	⇓P	P	16 36 11.3 +0.8
	baz=83					
BRSD	Miller	82.26	341	⇑P	P	16 36 10.9 +0.3
	baz=83					
L22A	Ellis Ranch, M	82.42	335	⇑P	P	16 36 13.1 +1.4
	baz=83,SNR=5.1					
J26A	Sides Ranch, S	82.44	338	⇑P	P	16 36 13.3 +1.6
	baz=83,SNR=10					
K24A	Anderson Ranch	82.48	336	⇑P	P	16 36 12.9 +1.0
	baz=83					
I28A	Midland	82.48	339	⇓P	P	16 36 13.0 +1.2
	baz=83,SNR=5.5					
VES	Vestal, Richgr	82.64	323	⇑P	P	16 36 14.1 +1.3
	baz=83,SNR=5.3					
GRAC	Grapevine Rang	82.73	325	⇓P	P	16 36 14.4 +1.2
	baz=83					
J25A	Sunshine Ranch	82.74	337	⇓P	P	16 36 14.3 +1.1
	baz=83,SNR=8.9					
H29A	Onida	82.78	340	⇑P	P	16 36 13.4 +0.1
	baz=83,SNR=8.9					
K23A	Bowen Ranch, D	82.78	336	⇓P	P	16 36 14.3 +0.7
	baz=83,SNR=8.5					
I27A	Quinn	82.81	339	⇑P	P	16 36 14.3 +0.8
	baz=83,SNR=5.1					
G30A	Faulkton	82.95	341	⇓P	P	16 36 14.8 +0.7
	baz=83					
J24A	Dixon Ranch, L	82.97	337	⇑P	P	16 36 15.4 +0.9
	baz=83,SNR=11					
R11A	Troy Canyon, C	82.99	327	⇓P	P	16 36 15.8 +1.1
	baz=83,SNR=23					
K22A	Casper	83.00	335	⇓P	P	16 36 15.5 +0.8
	baz=83,SNR=5.0					
I26A	New Underwood	83.02	338	⇑P	P	16 36 15.4 +0.8
	baz=83					
H28A	Mission Ridge	83.06	339	⇓P	P	16 36 15.7 +1.0
	baz=83					
G29A	Hoven	83.22	340	⇑P	P	16 36 15.9 +0.4
	baz=84					
K21A	Alcova	83.24	334	⇓P	P	16 36 16.6 +0.6
	baz=84,SNR=26					
I25A	Rochford	83.29	337	⇓P	P	16 36 16.9 +0.7
	baz=84,SNR=14					
DUG	Dugway, Tooele	83.31	330	eP	P	16 36 16.9 +0.6
DUG				pmax	pmax	
	comp=Z,36nm,1.4s					
DUG	Dugway, Tooele	83.31	330	⇑P	P	16 36 17.0 +0.6
	baz=84,SNR=15					
DUG	Dugway, Tooele	83.31	330	eP	P	16 36 16.9 +0.6
	comp=Z,36nm,1.4s					
H27A	Howes	83.33	339	⇑P	P	16 36 16.7 +0.6
	baz=84,SNR=7.5					
G28A	Parade	83.39	340	⇓P	P	16 36 17.2 +0.7
	baz=84,SNR=5.2					
I24A	Kuemmerle Ranc	83.43	337	⇑P	P	16 36 17.5 +0.7
	baz=84,SNR=5.1					
RSSD	Black Hills	83.47	337	eP	P	16 36 16.8 -0.4
RSSD				pmax	pmax	
	comp=Z,15nm,0.9s					
RSSD	Black Hills	83.47	337	eP	P	16 36 16.8 -0.4
	comp=Z,16nm,0.9s					
J22A	Midwest	83.66	335	⇑P	P	16 36 18.1 +0.1
	baz=84,SNR=8.7					
F29A	Eureka	83.78	341	⇑P	P	16 36 18.7 +0.3
	baz=84,SNR=6.3					
J21A	Lysite	83.94	335	⇓P	P	16 36 20.0 +0.5
	baz=84,SNR=5.1					
G27A	Dupree	83.96	339	⇑P	P	16 36 20.0 +0.6
	baz=84					
F28A	McLaughlin	84.07	340	⇑P	P	16 36 20.7 +0.8
	baz=84,SNR=5.9					
I22A	9 Mile Ranch,	84.08	336	⇑P	P	16 36 20.1 0.0
	baz=84,SNR=13					
G26A	Maurine	84.08	339	⇑P	P	16 36 20.1 0.0
	baz=84,SNR=9.3					
E30A	Jud	84.16	342	⇑P	P	16 36 20.7 +0.4
	baz=84,SNR=5.6					
J20A	Shoshoni	84.17	334	⇓P	P	16 36 21.7 +1.1
	baz=84,SNR=20					
TORD	Torodi Ar. Bea	84.18	70	P	P	16 36 20.8 -0.4
	comp=Z,7.4nm,0.7s,baz=267,slow=4.1,SNR=42					
H24A	Dirks Ranch, A	84.20	337	⇑P	P	16 36 20.6 -0.1
	baz=84,SNR=8.0					
PDAR	Pinedale Array	84.20	333	P	P	16 36 19.9 -1.0
	comp=Z,5.8nm,0.8s,baz=157,slow=4.8,SNR=40					
G25A	Newell	84.24	338	⇑P	P	16 36 21.0 +0.1
	baz=85,SNR=13					
I21A	Big Trails, Te	84.29	335	⇑P	P	16 36 21.3 +0.1
	baz=85,SNR=13					
NVAR	Mina Array Bea	84.32	325	P	P	16 36 21.9 +0.3
	comp=Z,7.3nm,0.8s,baz=155,slow=6.1,SNR=46					
E29A	Napoleon	84.41	341	⇑P	P	16 36 21.9 +0.2
	baz=85,SNR=5.6					
F27A	Lemmon	84.44	339	⇑P	P	16 36 22.0 +0.2
	baz=85,SNR=14					
J19A	Crowheart	84.44	334	⇓P	P	16 36 22.2 +0.1
	baz=85,SNR=13					
F26A	Lodgepole	84.61	339	⇑P	P	16 36 23.1 +0.4
	baz=85					
H22A	Clearmont	84.66	336	⇓P	P	16 36 22.8 -0.2
	baz=85,SNR=6.4					
D30A	Buchanan	84.68	342	⇑P	P	16 36 23.3 +0.4
	baz=85,SNR=12					
E28A	Huff	84.70	340	⇓P	P	16 36 23.6 +0.5
	baz=85					
I20A	Worland	84.70	335	⇑P	P	16 36 23.9 +0.6
	baz=85,SNR=15					
D29A	Pettibone, Tap	84.85	341	⇑P	P	16 36 23.9 +0.1
	baz=85,SNR=7.0					
G23A	Biddle	84.87	337	⇑P	P	16 36 23.9 -0.2
	baz=85,SNR=5.4					
F25A	Bowman	84.92	338	⇓P	P	16 36 24.6 +0.4
	baz=85					
WAKR	Walker	84.92	324	eP	P	16 36 25.4 +0.8
	comp=Z,10nm,1.1s					
H21A	Big Horn, Sher	84.92	336	⇑P	P	16 36 24.6 +0.2
	baz=85					
I19A	Meeteetse	85.09	334	⇑P	P	16 36 25.9 +0.6
	baz=85,SNR=6.9					
AGMN	Agassiz Nation	85.09	344	⇑P	P	16 36 24.9 0.0
	baz=85,SNR=5.1					
E26A	Carlson Angus	85.11	339	⇑P	P	16 36 25.5 +0.3
	baz=85					
H20A	Greybull	85.13	335	⇑P	P	16 36 25.6 +0.2
	baz=85,SNR=19					
F24A	Ekalaka	85.15	338	⇑P	P	16 36 25.4 0.0
	baz=86					
C30A	Mose, Pekin	85.16	342	⇑P	P	16 36 25.8 +0.5
	baz=86,SNR=29					
G22A	Birney	85.19	336	⇓P	P	16 36 26.1 +0.4
	baz=86					
D28A	Regan	85.23	341	⇓P	P	16 36 26.1 +0.3
	baz=86,SNR=5.5					
F23A	Volborg	85.34	337	⇓P	P	16 36 26.8 +0.5
	baz=86,SNR=6.8					
E25A	Miller Ranch,	85.42	339	⇓P	P	16 36 27.1 +0.4
	baz=86,SNR=5.2					
G21A	Lodge Grass	85.50	336	⇑P	P	16 36 27.3 +0.1
	baz=86,SNR=7.4					
I17A	Pilgrim Ck.	85.57	333	⇓P	P	16 36 28.2 +0.4
	baz=86,SNR=14					
MDND	Maddock	85.58	342	⇑P	P	16 36 27.8 +0.4
	baz=86,SNR=9.1					
MDND	Maddock	85.58	342	eP	P	16 36 27.5 +0.1
	comp=Z,9.5nm,0.6s					
D26A	Manning	85.61	340	⇓P	P	16 36 27.7 +0.1
	baz=86,SNR=6.7					
H19A	Powell	85.64	334	⇓P	P	16 36 28.6 +0.7
	baz=86,SNR=15					
C28A	Hausauer Farms	85.67	341	⇓P	P	16 36 28.5 +0.6
	baz=86					
F22A	Rosebud	85.67	337	⇓P	P	16 36 28.4 +0.5
	baz=86,SNR=9.7					
E24A	Baker	85.75	338	⇑P	P	16 36 28.7 +0.4
	baz=86,SNR=6.2					
B30A	Myrvik Farm, E	85.82	343	⇑P	P	16 36 28.9 +0.3
	baz=86,SNR=13					
G20A	Bridger	85.84	335	⇑P	P	16 36 28.9 0.0
	baz=86,SNR=28					
H18A	Shoshone NF, C	85.89	334	⇑P	P	16 36 29.6 +0.3
	baz=86,SNR=32					
C27A	Sayler Ranch,	85.97	340	⇓P	P	16 36 29.8 +0.5
	baz=86,SNR=7.1					
D25A	Fairfield	85.98	339	⇑P	P	16 36 30.1 +0.6
	baz=86,SNR=8.4					
H17A	Grant Village	85.98	333	⇑P	P	16 36 30.4 +0.6
	baz=86					
F21A	Absaloka Mine,	86.00	336	⇓P	P	16 36 30.2 +0.5
	baz=86					
E23A	Ismay	86.00	338	⇓P	P	16 36 30.2 +0.6
	baz=86					
B29A	Wagenman Farm,	86.09	342	⇑P	P	16 36 30.3 +0.4
	baz=86,SNR=7.9					
E22A	Miles City	86.15	337	⇓P	P	16 36 30.8 +0.5
	baz=86					
D24A	Glendive	86.25	338	⇑P	P	16 36 30.9 +0.1
	baz=87,SNR=5.7					
A30A	Hoffart Farm,	86.26	343	⇓P	P	16 36 30.7 -0.1
	baz=87,SNR=7.6					
F20A	Billings	86.32	335	⇓P	P	16 36 31.1 -0.1
	baz=87,SNR=6.5					
B28A	Dugan Ranch, T	86.33	341	⇑P	P	16 36 31.6 +0.5
	baz=87,SNR=5.5					
A29A	Manning Farm,	86.48	342	⇑P	P	16 36 32.0 +0.1
	baz=87,SNR=13					
D23A	Lindsay	86.57	338	⇓P	P	16 36 33.1 +0.7
	baz=87,SNR=22					
E21A	Keefer Ranch,	86.61	336	⇑P	P	16 36 33.3 +0.7
	baz=87,SNR=9.0					
C24A	Savage	86.65	339	⇑P	P	16 36 33.6 +0.9
	baz=87,SNR=9.0					
QLMT	Earthquake Lak	86.67	333	eP	P	16 36 34.4 +1.2
	comp=Z,1.4nm,0.9s					
A28A	Rude Farm, Bot	86.73	342	⇑P	P	16 36 33.7 +0.6
	baz=87					
HLID	Hailey	86.77	330	⇑P	P	16 36 34.6 +1.0
	baz=87,SNR=17					
D22A	Cohagen	86.86	337	⇓P	P	16 36 34.7 +1.0
	baz=87,SNR=15					
E20A	Meyer Farm, Mu	86.93	336	⇑P	P	16 36 34.8 +0.6
	baz=87,SNR=32					
B25A	Knox Farm, Ray	86.94	340	⇑P	P	16 36 34.9 +0.8
	baz=87,SNR=5.2					
A27A	Ledoux Ranch,	87.03	341	⇓P	P	16 36 35.1 +0.6
	baz=87,SNR=7.2					
D21A	La Casta Ranch	87.04	337	⇓P	P	16 36 35.3 +0.5
	baz=87					
E19A	Rath Farm, Rou	87.12	335	⇓P	P	16 36 35.4 +0.2
	baz=87,SNR=26					
C23A	Lambert	87.12	338	⇓P	P	16 36 35.4 +0.4
	baz=87,SNR=14					
A26A	Wade Farm, Ken	87.19	341	⇓P	P	16 36 35.7 +0.3
	baz=88,SNR=10.0					
MCMT	McKenzie Canyo	87.21	332	eP	P	16 36 36.6 +0.8
	comp=Z,13nm,1.0s					
C22A	Vida	87.29	338	⇑P	P	16 36 36.1 +0.2
	baz=88,SNR=5.1					
D20A	Manuel Ranch,	87.44	336	⇑P	P	16 36 36.9 +0.3
	baz=88,SNR=22					
A25A	Svangstu Ranch	87.53	340	⇓P	P	16 36 37.6 +0.7
	baz=88,SNR=7.5					
B23A	Brockton	87.66	339	⇓P	P	16 36 37.7 +0.1
	baz=88,SNR=7.5					
D19A	Cripps Ranch,	87.76	336	⇓P	P	16 36 38.3 +0.1
	baz=88,SNR=8.4					
A24A	Westby	87.77	339	⇓P	P	16 36 38.4 +0.2
	baz=88					
B22A	Reddig Ranch S	87.82	338	⇓P	P	16 36 38.7 +0.3
	baz=88,SNR=6.5					
LRM	Limekiln Ridge	87.89	333	eP	P	16 36 39.2 +0.1
	comp=Z,109nm,1.1s					
C20A	Veseth Ranch,	87.94	336	⇓P	P	16 36 38.9 -0.1
	baz=88,SNR=7.0					
A23A	Redstone	88.06	339	⇑P	P	16 36 39.8 +0.2
	baz=88					
B21A	Ellsworth Farm	88.25	337	⇑P	P	16 36 40.7 +0.3
	baz=89,SNR=8.4					
C19A	Slack Wire Ran	88.31	336	⇑P	P	16 36 41.1 +0.4
	baz=89,SNR=7.4					
A22A	Carney Farms,	88.41	338	⇑P	P	16 36 41.7 +0.5
	baz=89,SNR=16					
N02D	Trinity Center	88.42	324	⇓P	P	16 36 42.0 +0.5
	baz=89					
M04C	Macdoel	88.62	325	⇓P	P	16 36 43.1 +0.6
	baz=89					
A21A	Bergtoll Ranch	88.72	338	⇑P	P	16 36 42.8 +0.2
	baz=89					
EGMT	Eagleton	88.80	336	⇓P	P	16 36 43.3 +0.2
	baz=89,SNR=5.8					
M02C	Callahan	88.81	324	⇓P	P	16 36 44.2 +0.9
	baz=89					
B19A	Brinkman Farms	88.90	336	⇑P	P	16 36 44.0 +0.5
	baz=89,SNR=6.2					
A20A	Cobblestone Ra	88.94	337	⇓P	P	16 36 43.8 +0.1
	baz=89,SNR=11					
SCHQ	Schefferville	88.98	3	P

comp=Z,0.6nm,0.8s,baz=120,slow=3.7,SNR=4.9
VYHS Vyhne 115.23 47 *e*PKIKP **PKPdf 16 42 30.2 -0.2**
VYHS Vyhne 115.23 47 *e*PKP **PKPdf 16 42 30.2 -0.2**
CHGN Chignik 116.08 322 *e*PKPdf PKPdf 16 42 26.7 -5.0
STHS Stebnicka Huta 117.05 47 *e*PKIKP **PKPdf 16 42 38.0 +4.1**
STHS Stebnicka Huta 117.05 47 *e* **PKPdf 16 42 38.0 +4.1**
ASAR Alice Springs 117.29 207 PKP **PKPdf 16 42 33.8 -1.6**
comp=Z,0.7nm,0.7s,baz=127,slow=1.6,SNR=8.2
ASAR PKKPbc **PKKPbc 16 52 58.5 +0.2**
comp=Z,0.5nm,0.5s,baz=336,slow=3.1,SNR=10
WRA Warramunga Arr 120.50 209 PKP **PKPdf 16 42 40.1 -1.4**
comp=Z,1.5nm,0.6s,baz=164,slow=1.6,SNR=21
WRAB Tennant Creek 120.50 209 *e*PKIKP **PKPdf 16 42 40.0 -1.6**
WRAB Tennant Creek 120.50 209 *e*PKPdf **PKPdf 16 42 40.0 -1.6**
MMAI Mount Meron Ar 120.71 69 PKP **PKPdf 16 42 44.6 +3.1**
comp=Z,0.4nm,0.4s,baz=333,slow=1.6,SNR=4.2
BRTR Keskin Array B 121.87 61 PKP **PKPdf 16 42 43.4 -0.3**
comp=Z,1.8nm,0.9s,baz=188,slow=3.0,SNR=5.4
AKASG Malin Array Be 122.33 48 PKP **PKPdf 16 42 43.4 -0.6**
comp=Z,0.9nm,0.5s,baz=261,slow=2.3,SNR=4.6
SPITS Spitsbergen Ar 123.02 14 PKP **PKPdf 16 42 43.9 -0.7**
comp=Z,10nm,1.1s,baz=172,slow=1.0,SNR=5.1
FINES FINESS Array B 123.22 35 PKP **PKPdf 16 42 45.1 -0.3**
comp=Z,0.9nm,0.9s,baz=107,slow=1.5,SNR=3.7
ARCES ARCESS Array B 124.30 25 PKP **PKPdf 16 42 46.3 -1.0**
comp=Z,4.6nm,1.0s,baz=306,slow=4.3,SNR=6.1
H11S2 WAKE ISLAND Hyt25.94 269 T T 19 01 12.2
baz=119,slow=75,SNR=14
H11S1 WAKE ISLAND Hyt25.95 269 T T 19 01 08.7
baz=119,slow=75,SNR=20
H11S3 WAKE ISLAND Hyt25.96 269 T T 19 01 09.4
baz=119,slow=75,SNR=9.8
H11N3 WAKE ISLAND Hyt26.37 270 T T 19 01 43.3
baz=115,slow=78,SNR=10
H11N1 WAKE ISLAND Hyt26.38 270 T T 19 01 39.7
baz=115,slow=78,SNR=35
H11N2 WAKE ISLAND Hyt26.38 270 T T 19 01 42.8
baz=115,slow=78,SNR=24
OBN Obninsk 127.61 43 *e*PKIKP **PKPdf 16 42 54.8 +0.9**
OBN pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 129.55 58 *e*PKIKP **PKPdf 16 42 59.2 +1.0**
KIV pmax pmax
comp=Z,5.0nm,0.8s
KLMR Klimovskoe 129.62 36 *e*PKIKP **PKPdf 16 42 56.8 -0.8**
KLMR pmax pmax
comp=Z,17nm,1.4s
PRGR Permogore 132.54 35 PKIKP **PKPdf 16 43 02.1 -1.0**
PRGR pmax pmax
comp=Z,7.0nm,0.8s
BILL Bilibino 133.28 334 *e*PKIKP **PKPdf 16 43 04.1 -0.3**
BILL Bilibino 133.28 334 *e*PKPdf **PKPdf 16 43 04.0 -0.3**
GEYT Alibeck 139.82 70 PKP **PKPdf 16 43 15.7 -1.8**
comp=Z,1.3nm,0.7s,baz=132,slow=2.1,SNR=4.2
AKTO Aktyubinsk 140.46 50 PKhKP PKPpre 16 43 13.7
comp=Z,1.3nm,0.7s,baz=296,slow=5.4,SNR=6.7
SEY Seymchan 140.47 330 *e*PKIKP **PKPdf 16 43 18.9 +1.1**
TIXI Tiksi 141.12 350 *e*PKIKP **PKPdf 16 43 17.4 -1.3**
ABKAR Abkulak array 141.79 52 *e*PKPdf PKPdf 16 43 14.3 -6.3
BRVK Borovoye 147.38 43 *e*PKIKP **PKPdf 16 43 29.4 -0.8**
BVAR Borovoye Array 147.45 43 PKP **PKPdf 16 43 30.9 +0.6**
comp=Z,7.5nm,0.6s,baz=276,slow=2.8,SNR=49
BVAR PKPbc **PKPbc 16 43 33.5 +0.6**
comp=Z,7.5nm,0.6s,baz=288,slow=3.2,SNR=49
HYB Hyderabad 148.60 115 *i* PKP **PKPbc 16 43 35.5 -1.5**
YAK Yakutsk 149.17 340 *e*PKHKP **PKPdf 16 43 35.0 +2.2**
YAK pmax pmax
comp=Z,48nm,1.1s
YAK pmax pmax
comp=E,11nm,1.3s
YAK Yakutsk 149.17 340 *e*PKPbc **PKPbc 16 43 36.4 -0.7**
KKAR Karatay Array 149.58 62 *e*PKP2 **PKPbc 16 43 38.3 -0.4**
KKAR Karatay Array 149.58 62 *e*PKPbc **PKPbc 16 43 38.3 -0.4**
YSS Yuzh-Sakhalins 151.18 306 ⇓ *e*PKIKP **PKPbc 16 43 41.5 -0.8**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS Yuzh-Sakhalins 151.18 306 *e*PKPbc **PKPbc 16 43 41.9 -0.4**
AML Almayashu 151.99 64 P **PKPbc 16 43 45.7 +0.7**
SNR=9.4
EKS2 Erkin-Say 152.00 63 P **PKPbc 16 43 45.2 +0.6**
SNR=12
USP Ospenovka 152.46 61 P **PKPbc 16 43 46.1 +0.6**
SNR=7.2
AAK Ala-Archa 152.53 63 P **PKPbc 16 43 46.6 +0.7**
SNR=12
AAK Ala-Archa 152.53 63 *e*PKIKP **PKPbc 16 43 46.3 +0.4**
AAK Ala-Archa 152.53 63 PKPbc **PKPbc 16 43 46.4 +0.6**
comp=Z,10nm,0.8s,baz=195,slow=1.9,SNR=30
AAK Ala-Archa 152.53 63 *e*PKPbc **PKPbc 16 43 46.3 +0.4**
UCH Uchtor 152.59 63 P **PKPbc 16 43 46.9 +0.6**
SNR=11
KURBB Kurchatov Arra 153.04 44 PKP **PKPdf 16 43 38.9 -0.2**
comp=Z,1.2nm,0.7s,baz=303,slow=1.9,SNR=10
KURBB PKPbc **PKPbc 16 43 46.4 -0.1**
comp=Z,5.0nm,0.7s,baz=299,slow=2.8,SNR=18
KURK Kurchatov 153.05 44 PKIKP **PKPdf 16 43 38.9 -0.2**
KURK *e* 16 43 46.1
KURK 16 43 46.4
KURK Kurchatov 153.05 44 PKP **PKPdf 16 43 38.9 -0.2**
KURK *e*PKPbc **PKPbc 16 43 46.1 -0.3**
KURK PKPbc **PKiKP 16 43 46.4 -0.2**
NVS Novosibirsk 153.18 33 *e*PKIKP **PKPbc 16 43 44.9 -1.7**
KSH Kashi 153.85 69 PKPbc **PKPdf 16 43 42.5 +1.7**
KSH sPKP 16 43 51.1
KSH PKS **PKSdf 16 47 16.2 +1.0**
KSH PP **PP 16 47 35.1 -1.9**
KSH SS SS 17 07 13.3 +0.4
KSH LN
comp=Z,190nm,7.3s
KSH LE
comp=Z,230nm,7.7s
KSH LZ
comp=Z,1μm,17.5s
ZALV Zalesovo Beam 154.47 33 PKP **PKPdf 16 43 40.7 -0.3**
comp=Z,2.5nm,0.8s,baz=282,slow=2.9,SNR=8.5
ZALV PKPbc **PKPbc 16 43 49.2 -0.2**
comp=Z,8.4nm,0.8s,baz=298,slow=3.2,SNR=17
MJAR Matsushiro Arr 155.49 284 PKPab **PKPab 16 44 09.1 +0.2**
comp=Z,1.2nm,0.7s,baz=87,slow=22,SNR=4.1
BOD Bodaibo 156.25 352 *e*PKIKP PKPab 16 43 58.7 -13
BOD pmax pmax
comp=Z,8.0nm,0.9s
MKAR Makanchi Array 156.89 50 PKP **PKPdf 16 43 43.6 -0.9**
comp=Z,1.0nm,0.9s,baz=354,slow=1.2,SNR=7.7
MKAR PKPab **PKPab 16 44 14.9 +0.3**
comp=Z,2.6nm,0.9s,baz=292,slow=3.3,SNR=6.5
KOLN Koldanda 157.97 101 *e*P **PKPdf 16 43 45.9 -0.9**
DANN Dangsing 158.32 99 *e*P **PKPdf 16 43 47.1 -0.2**
GKN Gorkha 158.90 101 *e*P **PKPdf 16 43 47.3 -0.5**
DMN Daman 159.12 103 *e*P **PKPdf 16 43 47.1 -1.1**
USRK Ussuriysk Ar. 159.20 305 PKPab **PKPab 16 44 24.6 0.0**
comp=Z,4.2nm,1.0s,baz=160,slow=6.1,SNR=4.5
RAMN Ramite 160.03 106 *e*P **PKPdf 16 43 48.7 -0.6**
MDJ Mudanjiang 160.63 308 PKP **PKPdf 16 43 51.6 +2.6**
TAPN Taplejung 161.09 106 *e*P **PKPdf 16 43 50.0 -0.5**
WMQ Urumqi 161.57 53 *e*PKP **PKPdf 16 43 45.2 -5.0**
WMQ LZ
comp=Z,860nm,20.0s
CIT Chita 161.97 349 *e*PKP2 PKPab 16 44 29.1 -7.3
CIT *e* 16 52 15.0
CMAR Chiang Mai Arr 162.11 150 PKP **PKPdf 16 43 51.1 -0.2**
comp=Z,1.1nm,1.0s,baz=241,slow=2.0,SNR=6.2
CMAR PKPab **PKPab 16 44 36.8 -1.1**
comp=Z,1.3nm,0.9s,baz=222,slow=6.1,SNR=4.7
ZAK Zakamensk 163.63 11 *e*PKP2 **PKPab 16 44 39.3 -4.5**
ZAK pmax pmax
comp=Z,2.0nm,2.1s
CN2 Changchun 163.66 310 *e*PKP **PKPdf 16 43 52.0 -0.1**
KSRS Korea Array 163.72 286 PKPab **PKPab 16 44 45.4 +0.8**
comp=Z,2.5nm,0.9s,baz=90,slow=4.1,SNR=5.8
KSAR Wonju Array Be 163.75 286 PKP2 **PKPab 16 44 45.4 +0.6**
KSAR Wonju Array Be 163.75 286 PKPab **PKPab 16 44 45.4 +0.6**
SONM Songino Array 166.51 5 PKP **PKPdf 16 43 53.4 -1.2**
comp=Z,0.8nm,1.0s,baz=119,slow=1.9,SNR=4.6
SONM PKPab **PKPab 16 44 56.5 -0.2**
comp=Z,1.9nm,0.9s,baz=342,slow=3.4,SNR=10
SONM PP **PP 16 48 43.6 -0.2**
comp=Z,0.9nm,0.9s,baz=358,slow=5.1,SNR=4.5
KMI Kunming 169.62 152 PKP **PKPdf 16 43 59.2 +1.6**
NJ2 Nanjing 170.75 258 *e*PKP **PKPdf 16 43 58.7 +1.0**
GTA Gaotai 171.64 51 *e*PKP **PKPdf 16 43 58.5 +0.4**
GTA pPKP **pPKPdf 16 44 09.2 +1.3**
GTA sPKP 16 44 12.9
GTA PKPab **PKPab 16 45 20.8 +1.0**
GYA Guiyang 171.97 170 *e*PKP **PKPdf 16 43 58.0 -0.6**
GYA pPKP **pPKPdf 16 44 08.2 -0.3**
GYA PKPab **PKPab 16 45 23.9 +2.6**
GYA PKS **PKSdf 16 47 29.4 -1.8**
GYA PP **PP 16 49 15.6 +4.2**
GYA SKKS 16 55 57.7
GYA SS **SS 17 10 18.0 +0.3**
GYA LN
comp=Z,120nm,21.6s
GYA LE
comp=Z,110nm,22.5s
GYA LZ
comp=Z,120nm,21.8s
HHC Hu-ho-hao-te 173.03 338 *e*PKP **PKPdf 16 43 57.6 -1.0**
HHC sPKP 16 44 11.2
HHC PP **PP 16 49 18.3 +1.5**
HHC SKS SKSdf 16 50 53.4 -6.4
HHC SKKS **SKKSac 16 56 00.6 -1.1**
HHC SS **SS 17 10 31.5 +3.2**
HHC LN
comp=Z,230nm,23.0s
HHC LE
comp=Z,560nm,22.1s
HHC LZ
comp=Z,750nm,18.4s
LZH Lanzhou 176.07 63 PKP **PKPdf 16 44 00.2 +0.4**
LZH pPKP **pPKPdf 16 44 10.3 +0.6**
LZH sPKP 16 44 16.1

NEIC ***11*** *16:25:07.0, 32.°62S×152.°25E, h0km, mb3.1/1, ML3.3(AUST), After AUST.*
NEIC Felt [III] at Nelson Bay. Also felt at Forster-Tuncurry and Medowie.
AUST 11 16:25:07.9±0.0, 32.°62S×152.°25E, h0km, 10C-7D, Error ellipse: s-maj=0.4km s-min=0.1km az=287.0, Near southeast coast of Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MGCD	**Mangrove Creek**	**1.13**	**238**	⇑P			Pn	16 25 30.7	-0.3
	baz=1.1,SNR=214								
MGCD				⇑S			Sb	16 25 46.3	+0.7
	baz=1.1,SNR=6.8								
RIV	**Riverview**	**1.52**	**217**	⇑P			Pn	16 25 36.1	-0.2
	baz=1.5								
ARMA	**Armidale**	**2.26**	**346**	⇑P			Pn	16 25 47.5	+0.8
	baz=2.3,SNR=20								
ARMA				⇑S			Sn	16 26 15.8	+0.4
	baz=2.3,SNR=5.8								
ARMA	**Armidale**	**2.26**	**346**	*e*Pn			Pn	16 25 46.1	-0.6
ARMA				*e*Sg			Sg	16 26 20.4	-0.5
CNB	**Canberra Magne**	**3.60**	**221**	⇑P			Pn	16 26 05.8	+0.6
	baz=3.6,SNR=6.7								
CNB				⇑S			Sn	16 26 47.2	-1.3
	baz=3.6								
YNG	**Young**	**3.63**	**242**	⇑P			Pn	16 26 07.1	+1.6
	baz=3.6,SNR=8.2								
CAN	**Canberra**	**3.82**	**224**	⇑P			Pn	16 26 08.5	+0.4
	baz=3.8								
CAN				⇓S			Sn	16 26 55.0	+1.3
	baz=3.8								
CAN	**Canberra**	**3.82**	**224**	*e*Pn			Pn	16 26 07.7	-0.4
CAN				*e*Sg			Sb	16 27 05.4	+2.3
MILA	**Mila**	**5.10**	**209**	⇓P			Pn	16 26 27.0	+1.2
	baz=5.1,SNR=23								
MILA				⇓S			Sn	16 27 25.0	-0.6
	baz=5.1								
CMSA	**Cobar Meteorol**	**5.67**	**279**	⇓P			Pn	16 26 35.4	+1.9
	baz=5.7,SNR=9.6								
RMQ	**Roma**	**6.83**	**333**	⇓P			Pn	16 26 50.2	+0.7
	baz=6.8								
EIDS	**Eidsvold**	**7.30**	**352**	⇓P			Pn	16 26 57.3	+1.5
	baz=7.3								
EIDS	**Eidsvold**	**7.30**	**352**	Pn			Pn	16 26 51.9	-4.0
EIDS				*e*Sg			Sg	16 29 00.9	-1.5
STKA	**Stephens Creek**	**9.06**	**272**	⇑P			Pn	16 27 20.9	+0.9
	baz=9.0								
STKA	**Stephens Creek**	**9.06**	**272**	*e*Pn			Pn	16 27 19.0	-1.0
QLP	**Quilpie**	**9.21**	**309**	⇓P			Pn	16 27 22.9	+0.8
	baz=9.2,SNR=4.0								
WRAB	**Tennant Creek**	**20.39**	**304**	*e*P			P	16 29 45.4	-1.1
	0.4nm,0.5s								

ISCJB ***11*** *16:30:49.4±1.8, 34.°51S±0.°03×72.°02W±0.°05, h10km±12km, mb4.1/12, Error ellipse: s-maj=7.5km s-min=4.9km az=17.3*
IDC ***11*** *16:30:50.3±0.8, 34.°42S×71.°83W, h0km, mb4.0/8, mb1 4.2/11, mb1mx4.1/25, mbtmp4.0/11, ML4.3/2, Error ellipse: s-maj=31.0km s-min=18.7km az=87.0*
GUC ***11*** *16:30:51.0±0.8, 34.°53S×71.°97W, h24km±18km, ML4.5*
NEIC ***11*** *16:30:55.4±1.2, 34.°41S×71.°80W, h40km±10km, mb4.3/7, Error ellipse: s-maj=17.2km s-min=7.4km az=82.0*
ISC 11 16:30:49.6±1.7, 34.°51S±0.°03×71.°92W±0.°07, h3km±10km, n49, σ0s91/51, mb4.2/12, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.75**	**131**	⇑*i*P			**Pb**	**16 31 05.6**	**+0.3**
NICH				*i*S			**Sb**	**16 31 15.8**	**0.0**
TACH	**Talagante**	**1.19**	**44**	⇑*i*P			**Pg**	**16 31 12.5**	**+0.2**
LNCH	**Linares**	**1.36**	**169**	⇑*i*P			**Pn**	**16 31 15.1**	**-0.3**
LNCH				*i*S			**Sg**	**16 31 32.3**	**-0.9**
RCDM	**Rinconada Maip**	**1.38**	**42**	*e*P			**Pn**	**16 31 15.4**	**-0.3**
RCDM				*i*S			**Sg**	**16 31 33.9**	**-0.1**
ANTU	**Antumapu**	**1.43**	**49**	*e*P			**Pn**	**16 31 16.6**	**+0.2**
ANTU				*i*S			**Sb**	**16 31 35.6**	**+0.2**
ANTU				IAML				16 31 43.6	
	comp=N,10μm,0.3s								
PCH	**Pirque**	**1.47**	**53**	*e*P1			**Pg**	**16 31 17.6**	**-0.2**
SAN	**Santiago**	**1.49**	**45**	⇑*i*P			**Pb**	**16 31 17.7**	**-0.1**
SAN				*i*S			**Sn**	**16 31 37.3**	**+0.1**
IHA	**Instituto Hidr**	**1.50**	**9**	*e*P1			**Pn**	**16 31 16.8**	**-0.5**
IHA				*i*S1			**Sn**	**16 31 37.1**	**-0.3**
STL	**Santa Lucia**	**1.51**	**45**	*e*P			**Pn**	**16 31 17.6**	**0.0**
STL				*e*S4			**Sn**	**16 31 37.1**	**-0.7**
FSR	**Penalolen**	**1.55**	**49**	*e*P9			**Pg**	**16 31 19.4**	**+0.1**
FSR				*i*S			**Sg**	**16 31 39.8**	**+0.3**
LACH	**Col Las Americ**	**1.57**	**48**	*e*P1			**Pn**	**16 31 18.3**	**-0.1**
LACH				*i*S			**Sn**	**16 31 39.5**	**+0.3**
CLCH	**Cerro Calan**	**1.60**	**46**	*e*P1			**Pn**	**16 31 19.0**	**+0.2**
CLCH				*e*S			**Sg**	**16 31 41.1**	**0.0**
CLCH				IAML				16 31 46.5	
	comp=N,7μm,0.7s								
PEL	**Peldehue**	**1.71**	**37**	⇑*i*P			**Pn**	**16 31 20.7**	**+0.4**
PEL				*e*S1			**Sn**	**16 31 43.4**	**+0.7**
PEL				IAML				16 31 48.6	
	comp=N,15μm,0.6s								
CFAA	**Coronel Fontan**	**4.24**	**48**	Pn			**Pn**	**16 31 56.6**	**+1.5**
	comp=N,0.4nm,0.3s,baz=23,slow=3.0,SNR=4.0								
CFAA				Sn			**Sb**	**16 32 52.7**	**-3.7**
	comp=N,1.8nm,0.3s,baz=81,slow=4.1,SNR=2.5								
LCO	**Las Campanas**	**5.58**	**11**	*e*Pn			**Pn**	**16 32 13.9**	**+0.1**
PLCA	**Paso Flores**	**6.30**	**170**	Pn			Pn	16 32 27.8	+4.3
	comp=N,2.7nm,0.3s,baz=353,slow=11,SNR=12								
PLCA	**Paso Flores**	**6.30**	**170**	*e*Pn			Pn	16 32 27.0	+3.5
TRQA	**Tornquist**	**8.77**	**117**	*e*Pn			**Pn**	**16 32 58.6**	**+1.4**
LVC	**Limon Verde**	**12.15**	**13**	*e*Pn			Pn	16 33 39.9	-3.9
LPAZ	**La Paz**	**18.47**	**12**	P			**Pn**	**16 35 08.2**	**+1.0**
	comp=N,0.2nm,0.3s,baz=168,slow=5.8,SNR=5.4								
LPAZ	**La Paz**	**18.47**	**12**	*e*Pn			**Pn**	**16 35 08.2**	**+1.0**
	comp=N,9.3nm,1.1s								
EFI	**East Falkland**	**19.86**	**154**	P			**Pn**	**16 35 22.9**	**-0.1**
SIV	**San Ignacio**	**20.86**	**31**	P			**P**	**16 35 33.1**	**+0.3**
	comp=N,2.4nm,0.5s,baz=207,slow=8.3,SNR=6.6								
NNA	**Nana**	**22.87**	**348**	P			**P**	**16 35 56.2**	**+1.9**
	comp=N,3.3nm,0.4s,baz=156,slow=6.0,SNR=4.5								
NNA	**Nana**	**22.87**	**348**	P			**P**	**16 35 54.8**	**+0.5**
	comp=N,19nm,0.9s								
SAML	**Samuel**	**26.68**	**20**	*e*P			**P**	**16 36 28.8**	**-1.1**
	comp=N,1.9nm,0.6s								
OTAV	**Otavalo**	**35.11**	**349**	*e*P			**P**	**16 37 43.1**	**-1.6**
	comp=N,2.7nm,0.8s								
SDV	**Santo Domingo**	**43.18**	**2**	P			**P**	**16 38 50.9**	**-1.1**
	comp=N,7.3nm,0.9s								
QSPA	**South Pole Qui**	**55.72**	**180**	P			P	16 40 31.0	+3.8
	comp=N,1.2nm,0.7s,baz=231,slow=0.7,SNR=8.3								
TXAR	**Lajitas Array**	**70.23**	**331**	P			**P**	**16 42 05.3**	**+1.4**
	comp=N,0.9nm,0.6s,baz=152,slow=8.8,SNR=4.2								
BOSA	**Boshof**	**79.75**	**118**	P			**P**	**16 42 59.4**	**+0.1**
	comp=N,1.8nm,0.6s,baz=277,slow=4.2,SNR=4.1								
ECSD	**EROS Data Cent**	**81.07**	**342**	*e*P			**P**	**16 43 05.6**	**0.0**
	comp=N,4.4nm,1.1s								
LBTB	**Lobatse**	**82.00**	**115**	*e*P			**P**	**16 43 10.0**	**-1.4**
	comp=N,2.5nm,0.6s								
PDAR	**Pinedale Array**	**84.26**	**333**	P			**P**	**16 43 22.5**	**-0.1**
	comp=N,0.6nm,0.8s,baz=131,slow=8.6,SNR=3.7								
TORD	**Torodi Ar. Bea**	**84.29**	**70**	P			**P**	**16 43 23.3**	**+0.2**
	comp=N,1.4nm,0.7s,baz=279,slow=5.9,SNR=15								
NVAR	**Mina Array Bea**	**84.36**	**325**	P			**P**	**16 43 24.2**	**+1.1**
	comp=N,0.4nm,0.6s,baz=145,slow=5.4,SNR=3.9								
WRA	**Warramunga Arr**	**120.36**	**209**	PKP			**PKPdf**	**16 49 42.3**	**-0.6**
	comp=N,0.4nm,0.5s,baz=154,slow=1.6,SNR=7.9								
WRAB	**Tennant Creek**	**120.36**	**209**	*e*PKPdf			**PKPdf**	**16 49 42.2**	**-0.6**
H11S2	**WAKE ISLAND Hyt25.86**	**269**		T			T	19 08 19.0	
	baz=119,slow=75,SNR=16								
H11S1	**WAKE ISLAND Hyt25.87**	**269**		T			T	19 08 14.1	
	baz=119,slow=75,SNR=17								
H11S3	**WAKE ISLAND Hyt25.88**	**269**		T			T	19 08 13.5	
	baz=119,slow=75,SNR=21								
H11N3	**WAKE ISLAND Hyt26.28**	**270**		T			T	19 08 46.4	
	baz=122,slow=76,SNR=18								
H11N1	**WAKE ISLAND Hyt26.30**	**270**		T			T	19 08 45.7	
	baz=122,slow=76,SNR=44								
H11N2	**WAKE ISLAND Hyt26.30**	**270**		T			T	19 08 44.4	
	baz=122,slow=76,SNR=20								
BVAR	**Borovoye Array**	**147.59**	**44**	PKPbc			**PKPbc**	**16 50 35.5**	**+0.7**
	comp=N,1.4nm,0.6s,baz=266,slow=3.0,SNR=8.9								
AAK	**Ala-Archa**	**152.66**	**63**	PKPbc			**PKPbc**	**16 50 48.2**	**+0.6**
	comp=N,1.5nm,0.9s,baz=228,slow=9.1,SNR=3.5								
AAK	**Ala-Archa**	**152.66**	**63**	*e*PKPbc			**PKPbc**	**16 50 47.9**	**+0.3**
KURBB	**Kurchatov Arra**	**153.17**	**44**	PKPbc			**PKPbc**	**16 50 48.5**	**+0.2**
	comp=N,0.7nm,0.5s,baz=304,slow=2.8,SNR=7.7								
KURK	**Kurchatov**	**153.18**	**44**	PKPbc			**PKPbc**	**16 50 48.5**	**+0.2**

IDC 11 16:35:28.4±2.6, 6.°63S×153.°83E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/29, mbtmp3.7/3, ML2.8/1, Error ellipse: s-maj=96.2km s-min=40.0km az=143.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.16**	**247**	Pn			Pn	16 37 16.6	+2.1
	1.1nm,0.3s,baz=38,slow=7.1,SNR=8.4								
PMG					Sn		Sn	16 38 38.1	+1.5
	0.7nm,0.3s,baz=102,slow=11,SNR=3.9								
WRA	**Warramunga Arr**	**23.09**	**233**	P			P	16 40 35.0	-1.1
	0.9nm,0.7s,baz=56,slow=9.3,SNR=4.0								
ASAR	**Alice Springs**	**25.57**	**226**	P			P	16 40 58.8	-0.6
	0.8nm,0.6s,baz=58,slow=9.4,SNR=26								
TORD	**Torodi Ar. Bea**	**151.82**	**285**	PKPbc			PKPbc	16 55 26.9	+0.6
	0.8nm,0.8s,baz=68,slow=2.2,SNR=4.3								

GUC ***11*** *16:48:29.0±0.7, 36.°43S×72.°45W, h20km±21km, ML3.9*
IDC ***11*** *16:48:34.4±1.3, 33.°90S×72.°71W, h0km, mb4.0/5, mb1 4.0/8, mb1mx3.9/29, mbtmp3.9/8, ML3.8/3, Error ellipse: s-maj=40.2km s-min=18.1km az=117.0*
NEIC ***11*** *16:48:34.0±5.2, 33.°79S×73.°00W, h5km±31km, mb4.2/4, Error ellipse: s-maj=34.2km s-min=10.8km az=96.0*
ISC 11 16:48:35.0±1.0, 33.°79S±0.°09×72.°9W±0.°2, h10km, n18, σ1s62/17, mb4.2/5, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.83**	**132**	⇑*i*P			Pn	16 49 01.8	-4.8
NICH				*i*S			Sn	16 49 21.5	-8.3
CFAA	**Coronel Fontan**	**4.50**	**62**	Pn			**Pn**	**16 49 44.1**	**+1.0**
	0.7nm,0.3s,baz=228,slow=14,SNR=3.3								
CFAA					Lg		Lg	16 50 54.4	
	0.9nm,0.3s,baz=145,slow=19,SNR=6.5								
LCO	**Las Campanas**	**5.12**	**22**	*e*Pn			**Pn**	**16 49 53.0**	**+0.9**
PLCA	**Paso Flores**	**7.17**	**166**	Pn			**Pn**	**16 50 20.3**	**+0.3**
	0.7nm,0.3s,baz=338,slow=9.2,SNR=2.8								
PLCA					Lg		Lg	16 52 14.4	
	baz=298,slow=22,SNR=3.6								
LVC	**Limon Verde**	**11.68**	**19**	Pn			**Pn**	**16 51 22.8**	**+0.9**
LPAZ	**La Paz**	**17.95**	**15**	P			**P**	**16 52 48.3**	**+2.3**
	0.2nm,0.3s,baz=204,slow=8.6,SNR=7.8								
LPAZ	**La Paz**	**17.95**	**15**	*e*Pn			**Pn**	**16 52 42.7**	**-2.7**
	5.8nm,1.0s								
SIV	**San Ignacio**	**20.69**	**34**	P			**P**	**16 53 15.9**	**+0.6**
	3.5nm,0.6s,baz=220,slow=13,SNR=8.4								
SAML	**Samuel**	**26.30**	**22**	P			**P**	**16 54 06.7**	**-4.1**
	2.3nm,0.7s								
SNAA	**Sanae**	**52.05**	**158**	P			**P**	**16 57 43.9**	**-0.5**
	0.9nm,0.9s,baz=288,slow=9.6,SNR=6.6								
SNAA	**Sanae**	**52.05**	**158**	P			**P**	**16 57 43.4**	**-1.1**
	4.4nm,0.8s								
QSPA	**South Pole Qui**	**56.44**	**180**	P			**P**	**16 58 17.0**	**+0.4**
	2.2nm,1.1s,baz=239,slow=0.8,SNR=6.4								
QSPA	**South Pole Qui**	**56.44**	**180**	*e*P			**P**	**16 58 17.0**	**+0.4**
	5.8nm,1.1s								
DBIC	**Dimbokro**	**75.79**	**72**	P			**P**	**17 00 21.8**	**+0.3**
	3.0nm,0.8s,baz=123,slow=16,SNR=3.1								
TORD	**Torodi Ar. Bea**	**84.81**	**71**	P			**P**	**17 01 09.5**	**-0.6**
	0.9nm,0.6s,baz=269,slow=4.4,SNR=8.8								
AAK	**Ala-Archa**	**153.04**	**61**	*e*PKPbc			**PKPbc**	**17 08 33.3**	**+0.5**
ZALV	**Zalesovo Beam**	**154.43**	**31**	PKPbc			**PKPbc**	**17 08 36.5**	**+1.4**
	1.3nm,0.6s,baz=310,slow=2.3,SNR=8.0								
MKAR	**Makanchi Array**	**157.16**	**48**	PKPab			**PKPab**	**17 09 02.0**	**+0.5**
	0.7nm,0.6s,baz=306,slow=4.2,SNR=8.3								

IDC ***11*** *16:55:41.5±0.9, 34.°39S×71.°89W, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.7/33, mbtmp3.9/7, ML3.9/2, Error ellipse: s-maj=41.8km s-min=21.8km az=92.0*
NEIC ***11*** *16:55:46.1±0.6, 34.°43S×72.°18W, h35km, mb4.2/4, Error ellipse: s-maj=19.6km s-min=10.4km az=93.0*
ISC 11 16:55:43.6±0.7, 34.°39S±0.°10×72.°0W±0.°2, h16km, n17, σ0s87/16, mb4.3/7, Near coast of central Chile

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

mb1 5.1/24,mb1mx4.9/31,mbtmp5.0/24,ML4.9/2,Error ellipse: s-maj=16.6km s-min=11.7km az=81.0
GUC ***11*** *16:56:30.2±0.6,34°.46S×72°.05W,h30km±41km,ML5.4*
ISCJB ***11*** *16:56:31.7±0.2,34°.45S±0°.03×71°.91W±0°.04,h33km, mb5.2/65,Error ellipse: s-maj=4.8km s-min=4.0km az=143.2*
MOS ***11*** *16:56:32.2±1.2,34°.38S×71°.83W,h33km,mb5.5/22,Error ellipse: s-maj=17.8km s-min=8.5km az=92.1*
NEIC ***11*** *16:56:33.8±0.7,34°.39S×71°.80W,h40km±6km,mb5.3/41, Error ellipse: s-maj=9.0km s-min=4.8km az=76.0*
NEIC Felt [IV] at Pichilemu and Talca; [III] at Rancagua, San Fernando and Santiago; [II] at El Quisco and Valparaiso. Also felt at Graneros, Puente Alto, San Bernardo and Vina del Mar.
BJI ***11*** *16:56:33.9,34°.40S×71°.90W,h36km,mB5.7/10,Ms5.6/16, Ms7 5.4/17*

ISC 11 16:56:32.1±0.9,34°.44S±0°.03×71°.98W±0°.05,h27km±5km, n610,σ0°.99/618,mb5.2/65,201C-169D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.67**	**44**	⇑*iP*	**Pb**	**16 56 43.9**	**-1.4**
LNV	**Longovilo**	**0.67**	**44**	⇑*iP*	**Pb**	**16 56 43.9**	**-1.4**
NICH	**Los Niches**	**0.83**	**133**	⇓*iP*	**Pb**	**16 56 46.5**	**-1.5**
NICH				*i* S1	**Sg**	**16 56 57.7**	**-1.2**
TACH	**Talagante**	**1.17**	**48**	⇓*iP*	**Pn**	**16 56 51.5**	**-1.2**
TACH	**Talagante**	**1.17**	**48**	⇓*iP*	**Pn**	**16 56 51.5**	**-1.2**
CACH	**El Canelo**	**1.18**	**75**	⇑*iP*	**Pn**	**16 56 52.6**	**-0.5**
CACH	**El Canelo**	**1.18**	**75**	⇑*iP*	**Pn**	**16 56 52.6**	**-0.5**
RCDM	**Rinconada Maip**	**1.36**	**46**	*e*P1	**Pn**	**16 56 54.4**	**-0.9**
ANTU	**Antumapu**	**1.41**	**52**	⇓*iP*	**Pn**	**16 56 55.8**	**-0.3**
ANTU				*e*S1	**Sg**	**16 57 15.1**	**+1.2**
ANTU				AML	AML	16 57 19.8	
	comp=E,95μm,0.6s						
ANTU	**Antumapu**	**1.41**	**52**	⇑*iP*	**Pn**	**16 56 55.8**	**-0.3**
ANTU				*i* S	**Sb**	**16 57 15.2**	**-0.3**
IHA	**Instituto Hidr**	**1.44**	**11**	*e*P1	**Pn**	**16 56 55.6**	**-0.8**
IHA	**Instituto Hidr**	**1.44**	**11**	⇑*iP*	**Pn**	**16 56 55.6**	**-0.8**
IHA				*e*S	**Sb**	**16 57 15.7**	**-0.4**
PCH	**Pirque**	**1.46**	**56**	*e*P1	**Pb**	**16 56 56.7**	**-2.1**
PCH	**Pirque**	**1.46**	**56**	*e*P	**Pb**	**16 56 56.7**	**-2.1**
STL	**Santa Lucia**	**1.50**	**48**	*e*P9	**Pn**	**16 56 56.0**	**-1.3**
STL				*i* S1	**Sg**	**16 57 15.8**	**0.0**
LACH	**Col Las Americ**	**1.55**	**51**	⇑*iP*	**Pn**	**16 56 57.7**	**-0.3**
LACH				*i* S1	**Sg**	**16 57 18.8**	**+1.5**
LACH				AML	AML	16 57 27.3	
	comp=N,39μm,0.8s						
CLCH	**Cerro Calan**	**1.59**	**49**	⇓*iP*	Pb	16 57 08.1	+7.2
CLCH				*i* S	Sb	16 57 30.0	+10
CLCH				AML	AML	16 57 31.4	
	comp=E,103μm,0.7s						
CLCH				AML	AML	16 57 43.0	
	comp=E,86μm,0.6s						
PEL	**Peldehue**	**1.68**	**40**	⇓*iP*	**Pn**	**16 56 59.9**	**+0.1**
PEL				*i* S	**Sb**	**16 57 22.9**	**-0.3**
PEL	**Peldehue**	**1.68**	**40**	⇓*iP*	**Pn**	**16 56 59.8**	**0.0**
PEL				*i* S1	**Sb**	**16 57 22.9**	**-0.3**
PEL				AML	AML	16 57 29.8	
	comp=N,91μm,0.7s						
PEL	**Peldehue**	**1.68**	**40**	⇓*iP*	**Pn**	**16 56 59.9**	**+0.1**
PEL				*i* S	**Sb**	**16 57 22.9**	**-0.3**
FCH	**Farellones**	**1.79**	**52**	⇑*iP*	**Pb**	**16 57 05.8**	**+1.4**
FCH				*i* S	**Sb**	**16 57 30.4**	**+3.8**
FCH				AML	AML	16 57 36.0	
	comp=N,37μm,0.9s						
COCH	**Cobquecura**	**1.81**	**201**	*e*P1	**Pn**	**16 56 60.0**	**-1.6**
COCH				*i* S1	**Sn**	**16 57 22.7**	**-0.9**
CCSP	**San Pedro de C**	**2.57**	**201**	AML	AML	16 57 52.7	
	comp=N,13μm,0.9s						
CFAA	**Coronel Fontan**	**4.23**	**49**	Pn	Pn	16 57 37.3	+2.6
	comp=N,5.0nm,0.3s,baz=223,slow=12,SNR=23						
CFAA				Lg	Lg	16 58 33.2	
	comp=N,11nm,0.3s,baz=131,slow=23,SNR=6.9						
LCO	**Las Campanas**	**5.52**	**12**	*e*Pn	**Pn**	**16 57 52.1**	**-0.7**
LCO				*e*Sn	Sn	16 58 49.4	-6.1
PLCA	**Paso Flores**	**6.38**	**170**	*e*P	**Pn**	**16 58 04.1**	**-0.3**
PLCA				pmax	pmax		
	comp=Z,174nm,1.0s						
PLCA	**Paso Flores**	**6.38**	**170**	Pn	**Pn**	**16 58 05.4**	**+1.0**
	comp=Z,8.0nm,0.3s,baz=336,slow=12,SNR=27						
PLCA				Lg	Lg	16 59 46.5	
	comp=Z,8.8nm,0.3s,baz=266,slow=22,SNR=5.3						
PLCA	**Paso Flores**	**6.38**	**170**	*e*Pn	**Pn**	**16 58 04.0**	**-0.3**
	comp=Z,174nm,1.0s						
PLCA				Lg	Lg	16 59 46.5	
TRQA	**Tornquist**	**8.84**	**117**	*e*Pn	**Pn**	**16 58 39.4**	**+1.2**
TRQA				*e*Sn	**Sn**	**17 00 20.0**	**+3.2**
LVC	**Limon Verde**	**12.09**	**14**	*e*Pn	Pn	16 59 17.0	-5.8
	comp=Z,110nm,1.2s						
LPAZ	**La Paz**	**18.40**	**12**	P	**P**	**17 00 45.8**	**0.0**
	comp=Z,1.2nm,0.3s,baz=184,slow=8.2,SNR=38						
EFI	**East Falkland**	**19.94**	**154**	P	**P**	**17 01 00.6**	**-1.1**
	comp=Z,382nm,0.6s,SNR=13						
EFI	**East Falkland**	**19.94**	**154**	*e*P	**P**	**17 00 59.9**	**-1.9**
EFI				pmax	pmax		
	comp=Z,45nm,0.6s						
EFI	**East Falkland**	**19.94**	**154**	*e*P	**P**	**17 00 59.9**	**-1.9**
	comp=Z,46nm,0.6s						
USHA	**Ushuaia**	**20.54**	**174**	P	**P**	**17 01 09.4**	**+1.2**
	comp=Z,31nm,0.9s,baz=355,slow=5.8,SNR=8.9						
SIV	**San Ignacio**	**20.82**	**31**	P	**P**	**17 01 10.8**	**-0.9**
	comp=Z,35nm,0.6s,baz=194,slow=7.4,SNR=48						
NNA	**Nana**	**22.79**	**348**	P	**P**	**17 01 33.1**	**+0.4**
	comp=Z,380nm,0.7s,SNR=6.3						
NNA	**Nana**	**22.79**	**348**	*e*P	**P**	**17 01 32.8**	**+0.1**
NNA				pmax	pmax		
	comp=Z,44nm,0.8s						
NNA	**Nana**	**22.79**	**348**	P	**P**	**17 01 33.8**	**+1.1**
	comp=Z,53nm,0.8s,baz=181,slow=9.5,SNR=15						
NNA	**Nana**	**22.79**	**348**	*e*P	**P**	**17 01 32.8**	**+0.1**
	comp=Z,44nm,0.8s						
SAML	**Samuel**	**26.63**	**20**	*e*P	**P**	**17 02 07.6**	**-0.9**
	comp=Z,120nm,1.3s						
ATAH	**Atahualpa**	**27.81**	**346**	P	**P**	**17 02 20.4**	**+0.8**
	comp=Z,5.1nm,0.7s,baz=168,slow=9.8,SNR=4.1						
BDFB	**Brasilia**	**28.54**	**55**	P	**P**	**17 02 24.0**	**-1.8**
	comp=Z,23nm,0.9s,baz=248,slow=7.6,SNR=8.8						
OTAV	**Otavalo**	**35.03**	**349**	*e*P	**P**	**17 03 24.1**	**+1.0**
	comp=Z,75nm,1.6s						
PTGA	**Pitinga**	**35.37**	**21**	P	**P**	**17 03 24.8**	**-0.7**
	comp=Z,67nm,0.7s,baz=208,slow=9.8,SNR=125						
PTGA	**Pitinga**	**35.37**	**21**	*e*P	**P**	**17 03 24.4**	**-1.1**
	comp=Z,62nm,0.7s						
ROSC	**El Rosal**	**39.15**	**356**	P	**P**	**17 03 59.6**	**+1.6**
	comp=Z,4.4nm,0.3s,baz=254,slow=3.9,SNR=4.0						
SDV	**Santo Domingo**	**43.11**	**2**	*e*P	**P**	**17 04 29.9**	**-0.4**
	comp=Z,29nm,0.8s						
RCBR	**Riachuelo**	**43.83**	**58**	P	**P**	**17 04 35.6**	**-0.5**
	comp=Z,14nm,0.6s,baz=219,slow=11,SNR=19						
RCBR	**Riachuelo**	**43.83**	**58**	*e*P	**P**	**17 04 35.6**	**-0.5**
	comp=Z,14nm,0.6s						
BCIP	**Isla Barro Col**	**44.00**	**349**	*e*P	**P**	**17 04 37.5**	**+0.2**
JTS	**JuntasAbangare**	**46.16**	**342**	P	**P**	**17 04 54.4**	**0.0**
	comp=Z,5.7nm,0.8s,baz=314,slow=1.7,SNR=4.8						
VNA3	**Neumayer Olymp**	**48.93**	**158**	P	**P**	**17 05 15.7**	**+0.3**
VNA2	**Neumayer--Watz**	**49.59**	**157**	P	**P**	**17 05 20.8**	**+0.4**
SNAA	**Sanae**	**51.16**	**158**	P	**P**	**17 05 32.6**	**+0.3**
SNAA	**Sanae**	**51.16**	**158**	*e*P	**P**	**17 05 32.1**	**-0.3**
SNAA				pmax	pmax		
	comp=Z,84nm,1.5s						
SNAA	**Sanae**	**51.16**	**158**	P	**P**	**17 05 32.4**	**0.0**
	comp=Z,8.0nm,0.9s,baz=281,slow=8.5,SNR=22						
SNAA	**Sanae**	**51.16**	**158**	*e*P	**P**	**17 05 32.1**	**-0.3**
	comp=Z,84nm,1.5s						
APG	**El Apazote**	**52.22**	**337**	P	P	17 05 37.3	-3.8
	comp=Z,6.9nm,0.7s,baz=18,slow=23,SNR=8.0						
CRPR	**Cabo Rojo, PR**	**52.36**	**6**	*e*P	**P**	**17 05 40.6**	**-1.1**
	comp=Z,23nm,0.8s						
OBIP	**Obispado Ponce**	**52.44**	**6**	*e*P	**P**	**17 05 41.4**	**-0.9**
	comp=Z,35nm,0.8s						
CELP	**Cerrillos**	**52.48**	**6**	*e*P	**P**	**17 05 41.5**	**-1.2**
MTDJ	**Mount Denham**	**52.64**	**353**	P	**P**	**17 05 42.6**	**-1.4**
SDDR	**Presa de Saban**	**53.13**	**1**	P	**P**	**17 05 47.1**	**-0.4**
RKT	**Rikitea**	**55.58**	**264**	*e*T	T	18 05 50.6	
	comp=Z,3.4nm,0.2s						
CMIG	**Matias Romero**	**55.69**	**333**	P	**P**	**17 06 06.0**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=86,slow=5.7,SNR=4.1						
QSPA	**South Pole Qui**	**55.80**	**180**	P	**P**	**17 06 07.3**	**+0.7**
	comp=Z,12nm,0.8s,baz=254,slow=0.5,SNR=22						
QSPA	**South Pole Qui**	**55.80**	**180**	*e*P	**P**	**17 06 06.7**	**+0.1**
	comp=Z,86nm,1.2s						
NVL	**N'lazarevskaya**	**55.90**	**157**	*i* P	**P**	**17 06 05.9**	**-1.1**
NVL				pmax	pmax		
	comp=Z,22nm,0.6s						
SBA	**Scott Base**	**62.66**	**192**	P	P	17 06 58.1	+4.5
SBA				pmax	pmax		
	comp=Z,142nm,2.0s						
SBA	**Scott Base**	**62.66**	**192**	P	P	17 06 58.1	+4.5
	comp=Z,142nm,2.0s						
VNDA	**Vanda**	**63.68**	**191**	*e*P	**P**	**17 07 02.8**	**+2.4**
VNDA				pmax	pmax		
	comp=Z,35nm,1.4s						
VNDA	**Vanda**	**63.68**	**191**	P	P	17 07 07.6	+7.2
	comp=Z,15nm,1.1s,baz=144,slow=4.4,SNR=14						
VNDA	**Vanda**	**63.68**	**191**	*e*P	**P**	**17 07 02.8**	**+2.4**
	comp=Z,35nm,1.4s						
SYO	**Syowa Base**	**65.44**	**158**	⇑*e*P	P	17 07 09.0	-3.0
035A	**Encino**	**65.87**	**334**	⇓P	**P**	**17 07 17.2**	**+1.9**
	baz=66						
034A	**Hebbronville**	**66.20**	**334**	⇑P	**P**	**17 07 18.9**	**+1.6**
	baz=66						
934A	**Benavides**	**66.63**	**334**	⇑P	**P**	**17 07 21.9**	**+1.8**
	baz=67						
BBSR	**BB Station**	**66.81**	**7**	*e*P	P	17 07 18.5	-2.7
933A	**Laredo**	**66.91**	**334**	⇑P	**P**	**17 07 23.5**	**+1.6**
	baz=67						
834A	**Tilden**	**67.12**	**335**	⇑P	**P**	**17 07 24.8**	**+1.6**
	baz=67,SNR=11						
TBI	**Tubuai**	**67.27**	**257**	*e*T	T	18 20 24.8	
	comp=Z,7.4nm,0.2s						
735A	**Kenedy**	**67.53**	**336**	⇑P	**P**	**17 07 27.5**	**+1.7**
	baz=68						
833A	**Chaparral WMA,**	**67.60**	**334**	⇑P	**P**	**17 07 27.3**	**+1.1**
	baz=68,SNR=6.8						
832A	**Faith Ranch, C**	**67.78**	**333**	⇓P	**P**	**17 07 27.8**	**+0.4**
	baz=68,SNR=8.1						
HKT	**Hockley**	**67.89**	**338**	*e*P	**P**	**17 07 27.1**	**-0.9**
HKT				pmax	pmax		
	comp=Z,28nm,1.5s						
HKT	**Hockley**	**67.89**	**338**	*e*P	**P**	**17 07 27.1**	**-0.9**
	comp=Z,28nm,1.5s						
733A	**Divot King Ran**	**67.92**	**334**	⇓P	**P**	**17 07 29.5**	**+1.2**
	baz=68						
732A	**Laxson Ranch,**	**68.18**	**334**	⇑P	**P**	**17 07 30.7**	**+0.8**
	baz=68,SNR=17						
536A	**Bastrop**	**68.40**	**337**	⇑P	**P**	**17 07 32.5**	**+1.2**
	baz=69						
438A	**Sam Houston St**	**68.52**	**338**	⇑P	**P**	**17 07 33.4**	**+1.4**
	baz=69						
535A	**Dale**	**68.53**	**336**	⇓P	**P**	**17 07 32.8**	**+0.7**
	baz=69						
633A	**Saathoff Ranch**	**68.56**	**335**	⇓P	**P**	**17 07 33.3**	**+1.1**
	baz=69						
340A	**Bronson**	**68.68**	**340**	⇑P	**P**	**17 07 34.1**	**+1.2**
	baz=69						
339A	**Huntington**	**68.80**	**339**	⇓P	**P**	**17 07 35.1**	**+1.4**
	baz=69						
437A	**Phantom Ranch,**	**68.80**	**338**	⇑P	**P**	**17 07 35.0**	**+1.3**
	baz=69						
632A	**Uvalde**	**68.82**	**334**	⇑P	**P**	**17 07 34.4**	**+0.6**
	baz=69,SNR=11						
MEH	**Mehetia**	**68.84**	**262**	*e*P	P	17 07 38.2	+3.8
	comp=Z,16nm,1.2s						
MEH	**Mehetia**	**68.84**	**262**	*e*T	T	18 22 26.8	
	comp=Z,68nm,0.2s						
631A	**Perdido Creek**	**69.02**	**333**	⇓P	**P**	**17 07 35.5**	**+0.3**
	baz=69,SNR=6.6						
533A	**Kerrville**	**69.06**	**335**	⇑P	**P**	**17 07 35.7**	**+0.3**
	baz=69,SNR=5.1						
337A	**Centerville**	**69.18**	**338**	⇑P	**P**	**17 07 37.2**	**+1.1**
	baz=70						
435B	**Jarrell**	**69.22**	**337**	⇓P	**P**	**17 07 37.4**	**+1.0**
	baz=70						
532A	**Rocksprings**	**69.42**	**334**	⇑P	**P**	**17 07 38.3**	**+0.6**
	baz=70,SNR=26						
434A	**Burnet**	**69.48**	**336**	⇑P	**P**	**17 07 38.3**	**+0.3**
	baz=70,SNR=9.8						
336A	**Riesel**	**69.54**	**337**	⇓P	**P**	**17 07 39.3**	**+1.0**
	baz=70						
238A	**Jacksonville**	**69.59**	**339**	⇑P	**P**	**17 07 39.5**	**+0.9**
	baz=70						
335A	**Moody**	**69.63**	**337**	⇓P	**P**	**17 07 39.4**	**+0.5**
	baz=70						
531A	**Rocksprings**	**69.69**	**334**	⇓P	**P**	**17 07 40.0**	**+0.6**
	baz=70,SNR=20						
JCT	**Junction City**	**69.70**	**335**	⇑P	**P**	**17 07 39.7**	**+0.3**
	baz=70,SNR=6.6						
433A	**Art**	**69.71**	**335**	⇑P	**P**	**17 07 39.7**	**+0.3**
	baz=70,SNR=18						
KMSC	**Kings Mountain**	**69.77**	**352**	⇑P	**P**	**17 07 39.4**	**-0.2**
	baz=70,SNR=5.3						
237A	**Washetta, Mont**	**69.79**	**339**	⇑P	**P**	**17 07 40.4**	**+0.5**
	baz=70						
VAH	**Vaihoa**	**69.83**	**265**	*e*P	P	17 07 44.2	+3.6
	comp=Z,49nm,1.2s						
TVO	**Taravao**	**69.86**	**262**	*e*P	P	17 07 44.8	+4.0
	comp=Z,22nm,1.3s						
TVO	**Taravao**	**69.86**	**262**	*e*T	T	18 23 38.1	
	comp=Z,5.3nm,0.2s						
334A	**Lometa**	**69.94**	**336**	⇓P	**P**	**17 07 41.2**	**+0.3**
	baz=70,SNR=15						
530A	**J-C Ranch, Com**	**69.97**	**333**	⇑P	**P**	**17 07 41.8**	**+0.8**
	baz=70,SNR=16						
TIAR	**Tiarei**	**70.05**	**262**	*e*P	P	17 07 45.8	+3.9
	comp=Z,11nm,0.9s						
TIAR	**Tiarei**	**70.05**	**262**	*e*T	T	18 23 55.5	
	comp=Z,16nm,0.2s						
432A	**Menard**	**70.06**	**335**	⇓P	**P**	**17 07 41.9**	**+0.3**
	baz=70						
TXAR	**Lajitas Array**	**70.14**	**331**	P	**P**	**17 07 43.1**	**+0.9**
	comp=Z,4.7nm,0.6s,baz=153,slow=8.4,SNR=14						
431A	**Sonora**	**70.18**	**334**	⇓P	**P**	**17 07 42.0**	**-0.4**
	baz=70,SNR=7.3						
333A	**Richland Sprin**	**70.19**	**336**	⇑P	**P**	**17 07 42.4**	**+0.1**
	baz=70,SNR=9.4						
PPT2	**Papeete2**	**70.22**	**262**	*e*P	P	17 07 47.2	+4.2
	comp=Z,83nm,1.4s						
PPT	**Papeete**	**70.23**	**262**	P	P	17 07 46.4	+3.3
	comp=Z,28nm,0.8s,baz=329,slow=4.5,SNR=3.5						
529A	**Stev Forest Ra**	**70.28**	**332**	⇑P	**P**	**17 07 43.6**	**+0.6**
	baz=71,SNR=18						
WHTX	**Lake Whitney,**	**70.30**	**337**	⇓P	**P**	**17 07 43.2**	**+0.3**
	baz=71,SNR=7.9						
137A	**Heron Place, G**	**70.33**	**339**	⇓P	**P**	**17 07 43.9**	**+0.8**
	baz=71						
430A	**Baggett Ranch,**	**70.50**	**333**	⇑P	**P**	**17 07 44.8**	**+0.5**
	baz=71,SNR=8.6						
332A	**Millersview**	**70.50**	**335**	⇓P	**P**	**17 07 44.5**	**+0.2**
	baz=71,SNR=7.9						
OXF	**Oxford**	**70.51**	**345**	*e*P	P	17 07 41.5	-2.7
OXF				pmax	pmax		
	comp=Z,60nm,1.1s						
OXF	**Oxford**	**70.51**	**345**	*e*P	P	17 07 41.5	-2.7
	comp=Z,60nm,1.1s						
CPCT	**Cooper Cave**	**70.51**	**349**	*e*P	**P**	**17 07 46.6**	**+2.4**
SWET	**Sewanee**	**70.52**	**348**	*e*P	**P**	**17 07 43.6**	**-0.6**
	comp=Z,27nm,0.6s						
234A	**Clairette**	**70.53**	**337**	⇑P	**P**	**17 07 45.1**	**+0.7**
	baz=71,SNR=6.8						
429A	**Davenport Ranc**	**70.60**	**333**	⇓P	**P**	**17 07 45.3**	**+0.4**
	baz=71,SNR=9.5						
331A	**San Angelo**	**70.68**	**334**	⇑P	**P**	**17 07 45.9**	**+0.5**
	baz=71,SNR=7.5						
233A	**Rising Star**	**70.80**	**336**	⇓P	**P**	**17 07 46.4**	**+0.3**
	baz=71,SNR=6.8						
135A	**Vickery Place,**	**70.80**	**337**	⇓P	**P**	**17 07 46.2**	**+0.1**
	baz=71						
232A	**Coleman**	**70.93**	**335**	⇑P	**P**	**17 07 47.2**	**+0.3**
	baz=71,SNR=10.0						
134A	**White-Moore Ra**	**71.03**	**337**	⇑P	**P**	**17 07 47.6**	**+0.1**
	baz=71						
330A	**Mertzon**	**71.04**	**334**	⇑P	**P**	**17 07 47.6**	**0.0**
	baz=71,SNR=7.4						
231A	**Bronte**	**71.21**	**335**	⇓P	**P**	**17 07 48.6**	**+0.1**
	baz=72,SNR=13						
133A	**Hamilton Ranch**	**71.34**	**336**	⇓P	**P**	**17 07 49.7**	**+0.3**
	baz=72,SNR=6.5						
329A	**Wagon Wheel Ra**	**71.41**	**333**	⇓P	**P**	**17 07 50.6**	**+0.7**
	baz=72,SNR=5.3						
230A	**Sterling City**	**71.45**	**334**	⇑P	**P**	**17 07 50.1**	**0.0**
	baz=72						
Z35A	**Perchaven, San**	**71.47**	**338**	⇓P	**P**	**17 07 50.3**	**+0.3**
	baz=72,SNR=5.9						
MIAR	**Mount Ida**	**71.55**	**341**	*e*P	**P**	**17 07 50.1**	**-0.4**
MIAR				pmax	pmax		
	comp=Z,29nm,1.4s						
MIAR	**Mount Ida**	**71.55**	**341**	*e*P	**P**	**17 07 50.0**	**-0.4**
	comp=Z,29nm,1.4s						
ABTX	**Abilene, Hawle**	**71.60**	**336**	⇑P	**P**	**17 07 51.1**	**+0.2**
	baz=72,SNR=9.7						
Z34A	**Collier Ranch,**	**71.72**	**337**	⇑P	**P**	**17 07 52.0**	**+0.5**
	baz=72						
BLA	**Blacksburg**	**71.72**	**353**	*e*P	**P**	**17 07 50.6**	**-0.9**
BLA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BLA	**Blacksburg**	**71.72**	**353**	*e*P	**P**	**17 07 50.6**	**-0.9**
	comp=Z,5.6nm,0.6s						
WVT	**Waverly**	**71.75**	**347**	*e*P	**P**	**17 07 51.1**	**-0.6**
WVT				pmax	pmax		
	comp=Z,65nm,0.7s						
WVT	**Waverly**	**71.75**	**347**	*e*P	**P**	**17 07 51.1**	**-0.6**
	comp=Z,65nm,0.7s						
229A	**Bryant Ranch,**	**71.78**	**334**	⇑P	**P**	**17 07 52.4**	**+0.4**
	baz=72						
131A	**Roby**	**71.90**	**335**	⇓P	**P**	**17 07 52.9**	**+0.2**
	baz=72,SNR=6.0						
Z33A	**Whitaker Ranch**	**71.91**	**337**	⇑P	**P**	**17 07 53.0**	**+0.2**
	baz=72,SNR=8.0						
JSRW	**J. Sargeant Re**	**71.98**	**355**	*e*P	**P**	**17 07 52.9**	**0.0**
130A	**Snyder**	**72.04**	**335**	⇑P	**P**	**17 07 53.3**	**-0.2**
	baz=72,SNR=6.8						
Z32A	**Haskell**	**72.17**	**336**	⇓P	**P**	**17 07 54.6**	**+0.3**
	baz=72,SNR=7.5						
228A	**UT Block 9, Go**	**72.20**	**333**	⇑P	**P**	**17 07 54.8**	**+0.2**
	baz=72,SNR=9.0						
Y34A	**Reagan Ranch,**	**72.21**	**338**	⇑P	**P**	**17 07 54.5**	**0.0**
	baz=72,SNR=5.9						
129A	**Stewart Farms,**	**72.39**	**334**	⇓P	**P**	**17 07 55.3**	**-0.4**
	baz=73						
Z31A	**Sharp Cattle R**	**72.41**	**336**	⇓P	**P**	**17 07 55.7**	**0.0**
	baz=73,SNR=16						
Y33A	**Hilltop Ranch,**	**72.53**	**337**	⇑P	**P**	**17 07 56.3**	**-0.1**
	baz=73						
128A	**Castleberry Fa**	**72.61**	**333**	⇑P	**P**	**17 07 57.1**	**+0.1**
	baz=73,SNR=11						
Z30A	**Sanderson Ranc**	**72.72**	**335**	⇑P	**P**	**17 07 57.5**	**-0.1**
	baz=73,SNR=8.7						
Y32A	**R-V Farms, Ver**	**72.79**	**336**	⇑P	**P**	**17 07 58.0**	**0.0**
	baz=73						
X34A	**Smith Ranch, M**	**72.83**	**338**	⇓P	**P**	**17 07 58.2**	**0.0**
	baz=73						
Z29A	**Hungry Hill Ra**	**72.90**	**334**	⇑P	**P**	**17 07 58.7**	**0.0**
	baz=73,SNR=8.1						
X33A	**Lawton**	**72.98**	**337**	⇓P	**P**	**17 07 58.8**	**-0.2**
	baz=73						
Y31A	**Rekieta Farm,**	**73.03**	**336**	⇓P	**P**	**17 07 59.6**	**+0.2**
	baz=73						
X32A	**Elmer**	**73.12**	**337**	⇑P	**P**	**17 08 00.2**	**+0.2**
	baz=74						
Y30A	**Stafford Cattl**	**73.17**	**335**	⇓P	**P**	**17 08 00.5**	**+0.2**
	baz=74						
Z28A	**Tucker Farm, M**	**73.17**	**334**	⇑P	**P**	**17 08 00.2**	**-0.1**
	baz=74						
W34A	**Bridge Creek,**	**73.39**	**338**	⇓P	**P**	**17 08 01.3**	**-0.2**
	baz=74						
Y29A	**Porterfield Fa**	**73.43**	**335**	⇓P	**P**	**17 08 02.1**	**+0.2**
	baz=74,SNR=14						
TUL1	**Leonard**	**73.44**	**340**	⇑P	**P**	**17 08 01.5**	**-0.2**
	baz=74,SNR=5.7						
W33A	**Caddo, Fort Co**	**73.53**	**338**	⇓P	**P**	**17 08 02.9**	**+0.6**
	baz=74,SNR=7.9						
X31A	**McDonald Ranch**	**73.55**	**336**	⇓P	**P**	**17 08 02.5**	**+0.1**
	baz=74,SNR=7.4						
Y28A	**McKinney Farm,**	**73.68**	**334**	⇑P	**P**	**17 08 03.7**	**+0.3**
	baz=74						
X30A	**Coker Ranch, T**	**73.68**	**335**	⇓P	**P**	**17 08 03.1**	**-0.2**
	baz=74						
W32A	**Sentinel**	**73.75**	**337**	⇑P	**P**	**17 08 04.0**	**+0.3**
	baz=74,SNR=18						
V34A	**Guthrie**	**73.87**	**339**	⇓P	**P**	**17 08 04.4**	**+0.1**
	baz=74						
MSTX	**Muleshoe**	**73.92**	**334**	⇓P	**P**	**17 08 04.9**	**+0.1**
	baz=74,SNR=11						
X29A	**Tulia**	**73.97**	**335**	⇑P	**P**	**17 08 05.1**	**+0.1**
	baz=74,SNR=7.0						
Y27A	**Causey**	**73.99**	**333**	⇓P	**P**	**17 08 05.4**	**+0.2**
	baz=74						
W31A	**Holland Ranch,**	**74.04**	**336**	⇑P	**P**	**17 08 05.0**	**-0.3**
	baz=74						
V33A	**Lossen Ranch,**	**74.09**	**338**	⇑P	**P**	**17 08 05.8**	**+0.2**
	baz=74,SNR=9.3						
X28A	**Dimmitt**	**74.21**	**334**	⇑P	**P**	**17 08 06.4**	**0.0**
	baz=75						
319A	**Douglas**	**74.30**	**327**	⇓P	**P**	**17 08 07.9**	**+0.8**
	baz=75						
AMTX	**Amarillo**	**74.36**	**335**

S32A	Newby Ranch, P baz=76	76.03 338	⇑P	P	17 08 17.3 +0.6
S31A	Mullinville baz=76	76.12 338	⇑P	P	17 08 17.6 +0.3
U27A	Thompson Grove baz=76,SNR=8.1	76.14 335	⇓P	P	17 08 18.2 +0.7
ANMO ANMO	Albuquerque comp=Z,57nm,1.0s	76.19 331	*ce*P pmax	P pmax	17 08 18.7 +0.7
W23A	Werner Place, baz=77,SNR=6.6	76.26 332	⇑P	P	17 08 19.5 +1.2
V25A	Rancho No Teng baz=77,SNR=11	76.27 333	⇑P	P	17 08 19.1 +0.7
T29A	Hugoton baz=77	76.28 336	⇓P	P	17 08 18.9 +0.6
R33A	Olander Ranch, baz=77,SNR=6.4	76.30 339	⇑P	P	17 08 18.4 +0.1
BINY	Binghamton comp=Z,6.6nm,0.9s	76.36 357	*e*P	P	17 08 18.5 0.0
214A	Organ Pipe Nat baz=77,SNR=7.2	76.41 325	⇑P	P	17 08 20.6 +1.5
V24A	Rampart Ranch, baz=77,SNR=7.2	76.42 333	⇓P	P	17 08 19.7 +0.4
S30A	Montezuma baz=77	76.45 337	⇑P	P	17 08 20.0 +0.8
T28A	Walsh baz=77	76.53 336	⇓P	P	17 08 20.3 +0.6
R32A	Long Quarter, baz=77,SNR=6.4	76.62 339	⇓P	P	17 08 20.7 +0.6
S29A	Ulysses baz=77,SNR=5.7	76.64 337	⇑P	P	17 08 21.3 +1.0
KSU1	Kansas State U baz=77	76.65 341	⇑P	P	17 08 20.1 -0.1
T27A	Campo baz=77	76.68 335	⇑P	P	17 08 21.0 +0.4
U25A	Circle Dot Ran baz=77	76.69 334	⇓P	P	17 08 21.3 +0.6
R31A	Burdett baz=77,SNR=7.5	76.75 338	⇓P	P	17 08 21.3 +0.5
V23A	Ortiz Mt. (NFS baz=77	76.79 332	⇓P	P	17 08 22.5 +1.2
S28A	Manter baz=77	76.88 336	⇓P	P	17 08 22.3 +0.6
Q33A	Connelly Farm, baz=77	76.90 340	⇓P	P	17 08 21.6 0.0
T26A	Comanche Natio baz=77	77.09 335	⇑P	P	17 08 23.4 +0.5
Q32A	Meitler Ranch, baz=78,SNR=5.7	77.10 339	⇑P	P	17 08 23.3 +0.5
V22A	San Miguel Ran baz=78,SNR=22	77.22 332	⇑P	P	17 08 25.1 +1.4
X18A	Snowflake baz=78,SNR=7.3	77.28 329	⇓P	P	17 08 25.0 +0.9
S27A	Las Animas baz=78,SNR=5.4	77.30 335	⇓P	P	17 08 24.8 +0.7
T25A	Trinidad baz=78,SNR=24	77.35 334	⇑P	P	17 08 25.8 +1.3
Q31A	Ellis baz=78,SNR=6.5	77.37 338	⇑P	P	17 08 25.1 +0.8
R29A	Marienthal baz=78	77.38 337	⇓P	P	17 08 25.5 +1.0
S26A	Kim baz=78,SNR=14	77.45 335	⇑P	P	17 08 25.8 +0.9
R28A	Tribune baz=78,SNR=10	77.53 336	⇑P	P	17 08 26.1 +0.9
113A	Mohawk Valley, baz=78	77.53 325	⇓P	P	17 08 26.1 +0.8
Q30A	Quinter baz=78,SNR=7.1	77.59 338	⇓P	P	17 08 26.4 +0.8
U22A	Llaves baz=78,SNR=9.4	77.60 332	⇑P	P	17 08 27.3 +1.4
T24B	San Luis baz=78,SNR=18	77.64 333	⇑P	P	17 08 27.3 +1.1
W18A	Petrified Fore baz=78	77.69 329	⇓P	P	17 08 27.9 +1.5
P32A	Huiting Farm, baz=78,SNR=5.0	77.70 339	⇑P	P	17 08 26.5 +0.4
Q29A	Oakley baz=78	77.75 337	⇓P	P	17 08 26.8 +0.3
R27A	Eads baz=78,SNR=18	77.81 336	⇑P	P	17 08 27.6 +0.7
S25A	Robets Cordova baz=78,SNR=14	77.82 334	⇓P	P	17 08 28.1 +1.1
P31A	Stockton baz=78	77.83 339	⇓P	P	17 08 28.0 +1.1
T23A	Casias Ranch, baz=78	77.86 333	⇓P	P	17 08 28.4 +1.0
MDV	Middlebury	78.08 359	*e*P	P	17 08 28.0 0.0
S24A	Houchin Ranch, baz=78,SNR=24	78.09 334	⇑P	P	17 08 30.2 +1.6
Y14A	Wickenburg baz=78,SNR=6.8	78.14 326	⇓P	P	17 08 30.0 +1.3
O32A	Brockman Farm, baz=78	78.19 340	⇑P	P	17 08 29.6 +0.7
R25A	Fountain Ranch baz=78	78.20 335	⇑P	P	17 08 30.0 +0.9
P29A	Atwood baz=79,SNR=9.3	78.39 338	⇑P	P	17 08 31.3 +1.3
O31A	Woolen Ranch, baz=79	78.40 339	⇓P	P	17 08 30.6 +0.6
P28A	Saint Francis baz=79	78.62 337	⇑P	P	17 08 32.4 +1.1
O30A	MW Ranch, Wils baz=79	78.64 338	⇑P	P	17 08 32.4 +1.1
Y12C	Blythe baz=79,SNR=6.7	78.70 325	⇑P	P	17 08 33.4 +1.7
WUAZ	Wupatki baz=79,SNR=17	78.73 328	⇑P	P	17 08 33.6 +1.5
JFWS JFWS	Jewell Farm comp=Z,28nm,0.7s	78.78 346	*e*P pmax	P pmax	17 08 30.4 -1.5
JFWS	Jewell Farm comp=Z,28nm,0.7s	78.78 346	*e*P	P	17 08 30.4 -1.5
S22A	4UR Ranch, Cre baz=79,SNR=7.2	78.79 332	⇓P	P	17 08 33.7 +1.2
R23A	Moffat baz=79,SNR=15	78.80 333	⇑P	P	17 08 33.9 +1.3
Q25A	Bedland, Calha baz=79	78.87 335	⇓P	P	17 08 34.2 +1.3
N31A	Bailey Ranch, baz=79	78.91 339	⇑P	P	17 08 34.1 +1.3
MONP	Monument Peak, baz=79	78.92 323	⇓P	P	17 08 34.5 +1.2
MVCO	Mesa Verde baz=79,SNR=6.8	78.97 331	⇑P	P	17 08 34.7 +1.2
TSUM	Tsumeb comp=Z,14nm,0.8s	79.04 106	*e*P	P	17 08 34.6 +0.3
BC3	Big Chuckawall baz=79,SNR=7.4	79.06 324	⇑P	P	17 08 35.4 +1.5
O28A	Krutsinger Ran baz=80	79.13 337	⇑P	P	17 08 35.6 +1.5
P26A	Davis Ranch, A baz=80	79.14 336	⇑P	P	17 08 35.3 +1.0
BGNE	Belgrade baz=80	79.22 340	⇓P	P	17 08 35.6 +1.1
Q24A	Divide baz=80,SNR=20	79.24 334	⇓P	P	17 08 36.2 +1.2
IRM	Iron Mountain baz=80,SNR=6.3	79.33 325	⇓P	P	17 08 36.6 +1.3
P25A	Willow Gulch B baz=80,SNR=9.0	79.38 335	⇓P	P	17 08 37.0 +1.5
M31A	Lambtecht Ranc baz=80,SNR=5.6	79.40 340	⇑P	P	17 08 36.1 +0.7
O27A	Beecher Island baz=80,SNR=5.4	79.42 337	⇓P	P	17 08 37.0 +1.3
W13A	Hualapai Mount baz=80	79.51 326	⇓P	P	17 08 37.8 +1.4
PFO	Pinyon Flats O comp=Z,13nm,0.8s,baz=121,slow=4.4,SNR=11	79.52 324	P	P	17 08 37.9 +1.5
PFO	Pinyon Flats O baz=80,SNR=6.0	79.52 324	⇓P	P	17 08 37.9 +1.5
CASY	Casey comp=Z,63nm,1.2s	79.58 181	*e*P	P	17 08 36.2 -0.1
BELC	Belle Mtn. Jos baz=80	79.61 324	⇑P	P	17 08 38.6 +1.7
PV01	Paradox Valley	79.80 331	*e*P	P	17 08 38.9 +0.9
BOSA BOSA	Boshof comp=Z,63nm,0.9s	79.82 118	*e*P pmax	P pmax	17 08 37.8 -0.6
BOSA	Boshof comp=Z,67nm,0.8s,baz=236,slow=5.0,SNR=60	79.82 118	P	P	17 08 38.2 -0.2
BOSA	Boshof comp=Z,63nm,0.9s	79.82 118	*e*P	P	17 08 37.8 -0.6
P23A	Jefferson baz=80	79.85 334	⇓P	P	17 08 40.2 +1.9
MURC	Murrieta baz=80	79.88 323	⇑P	P	17 08 39.7 +1.4
U15A	North Rim baz=80	79.90 328	⇑P	P	17 08 39.7 +1.1
O25A	Wiggins baz=80	79.90 336	⇓P	P	17 08 39.9 +1.5
N27A	Anderson Farm, baz=80,SNR=5.7	80.00 337	⇑P	P	17 08 40.1 +1.3
GMRC	Granite Mounta baz=80,SNR=14	80.08 325	⇓P	P	17 08 40.8 +1.4
L31A	Butterfield Fa baz=80	80.13 340	⇑P	P	17 08 40.0 +0.6
ISCO	Idaho Springs baz=80,SNR=8.6	80.14 334	⇓P	P	17 08 40.9 +1.0
PV04	Paradox Valley	80.16 331	*e*P	P	17 08 40.7 +0.8
L30A	Spencer Herefo baz=80	80.17 339	⇑P	P	17 08 40.4 +0.8
N26A	Koester Ranch, baz=81	80.24 336	⇓P	P	17 08 40.9 +0.8
P22A	Eagle baz=81,SNR=7.5	80.38 333	⇑P	P	17 08 42.2 +1.1
HEC	Hector,Ludlow baz=81,SNR=15	80.44 324	⇓P	P	17 08 43.0 +1.7
M27A	Reverse DX Ran baz=81	80.60 337	⇑P	P	17 08 43.2 +1.2
BFSC	Mount Baldy Ra baz=81	80.62 323	⇓P	P	17 08 43.3 +0.9
O23A	Lake Granby, G baz=81,SNR=16	80.62 334	⇓P	P	17 08 43.4 +1.0
TUQ	Turquoise Moun baz=81,SNR=11	80.74 325	⇑P	P	17 08 44.3 +1.3
N24A	Carr baz=81	80.80 335	⇑P	P	17 08 43.8 +0.6
O22A	Kremmling baz=81,SNR=13	80.80 334	⇑P	P	17 08 44.2 +0.8
K30A	Basset baz=81	80.81 340	⇓P	P	17 08 43.8 +0.8
ECSD	EROS Data Cent baz=81,SNR=35	80.98 342	⇑P	P	17 08 44.0 +0.1
ECSD	EROS Data Cent comp=Z,42nm,0.8s	80.98 342	*e*P	P	17 08 43.6 -0.3
GSC	Goldstone, Bar baz=81	81.05 324	⇑P	P	17 08 45.7 +1.1
M25A	Palm-Egli Farm baz=81	81.06 336	⇓P	P	17 08 45.4 +0.9
L27A	T5 Ranch, Ells baz=81	81.08 338	⇓P	P	17 08 45.8 +1.2
K29A	Lazy Trails An baz=81	81.09 339	⇑P	P	17 08 45.5 +0.9
N23A	Red Feather La baz=82,SNR=9.2	81.23 335	⇑P	P	17 08 46.6 +0.9
SHPR	Sheep Range comp=Z,34nm,1.2s	81.25 326	*e*P	P	17 08 46.9 +1.2
EDW2	Edwards Air Fo baz=82	81.29 323	⇑P	P	17 08 47.0 +1.2
N22A	Wattenberg Ran baz=82,SNR=5.5	81.33 334	⇑P	P	17 08 47.0 +0.8
M24A	Cheyenne baz=82	81.35 336	⇓P	P	17 08 46.8 +0.7
K28A	Ten Mile Ranch baz=82,SNR=5.5	81.36 339	⇓P	P	17 08 47.1 +1.1
J30A	Dallas baz=82	81.37 340	⇓P	P	17 08 46.3 +0.3
O20A	White River Ci baz=82,SNR=6.6	81.41 333	⇑P	P	17 08 46.9 +0.4
BSC	Santa Cruz Isl baz=82	81.42 322	⇓P	P	17 08 47.4 +0.9
SPMN	Marine on St. baz=82,SNR=5.7	81.51 345	⇓P	P	17 08 45.9 -0.7
ARUT ARUT	Antelope Range comp=Z,376nm,1.1s	81.54 328	*e*P pmax	P pmax	17 08 48.5 +1.3
ARUT	Antelope Range comp=Z,376nm,1.1s	81.54 328	*e*P	P	17 08 48.5 +1.3
K27A	Flueckinger Fa baz=82	81.62 338	⇑P	P	17 08 48.4 +0.9
LRMC	Laurel Mtn Rad baz=82	81.62 324	⇑P	P	17 08 48.6 +0.9
M23A	Laramie baz=82	81.66 335	⇓P	P	17 08 48.7 +0.9
L25A	Engebretsen Ra baz=82	81.67 337	⇑P	P	17 08 48.5 +0.8
J29A	Okreek baz=82,SNR=9.9	81.69 340	⇑P	P	17 08 48.2 +0.5
I30A	Oacoma baz=82,SNR=10	81.90 340	⇑P	P	17 08 49.1 +0.3
M22A	Cedar Creek Ra baz=82	81.91 334	⇓P	P	17 08 50.0 +0.8
N20A	Spence Gulch, baz=82	82.02 333	⇓P	P	17 08 50.6 +0.8
J27A	Elkhorn Farm, baz=82,SNR=7.0	82.04 338	⇑P	P	17 08 51.1 +1.5
K25A	Mack Ranch, Ha baz=82	82.05 337	⇑P	P	17 08 50.9 +1.1
LBTB LBTB	Lobatse comp=Z,53nm,0.6s	82.07 115	*e*P pmax	P pmax	17 08 50.1 -0.4
LBTB	Lobatse comp=Z,53nm,0.6s	82.07 115	*e*P	P	17 08 50.1 -0.4
ISA	Isabella, Lake baz=82,SNR=15	82.15 323	⇓P	P	17 08 51.7 +1.4
L23A	Garrett baz=83,SNR=5.2	82.22 335	⇑P	P	17 08 51.3 +0.5
I29A	Vivian Onida baz=83	82.24 340	⇑P	P	17 08 50.6 +0.1
BRSD	Miller baz=83	82.26 341	⇑P	P	17 08 50.6 -0.1
L22A	Ellis Ranch, M baz=83,SNR=5.9	82.41 335	⇓P	P	17 08 52.3 +0.6
J26A	Sides Ranch, S baz=83,SNR=8.9	82.43 338	⇑P	P	17 08 52.8 +1.2
K24A	Anderson Ranch baz=83	82.46 336	⇓P	P	17 08 52.5 +0.6
I28A	Midland baz=83,SNR=5.3	82.47 339	⇑P	P	17 08 52.2 +0.4
VES	Vestal, Richgr baz=83,SNR=7.7	82.60 323	⇓P	P	17 08 53.7 +1.1
J25A	Sunshine Ranch baz=83	82.73 337	⇑P	P	17 08 53.9 +0.7
K23A	Bowen Ranch, D baz=83,SNR=6.6	82.77 336	⇓P	P	17 08 54.2 +0.7
H29A	Onida baz=83,SNR=8.2	82.77 340	⇓P	P	17 08 53.6 +0.3
I27A	Quinn baz=83	82.80 339	⇓P	P	17 08 53.9 +0.4
G30A	Faulkton baz=83	82.94 341	⇓P	P	17 08 54.6 +0.4
R11A	Troy Canyon, C baz=83,SNR=15	82.95 327	⇓P	P	17 08 55.9 +1.3
J24A	Dixon Ranch, L baz=83,SNR=8.9	82.95 337	⇑P	P	17 08 55.7 +1.3
K22A	Casper baz=83	82.98 335	⇓P	P	17 08 55.4 +0.8
H28A	Mission Ridge baz=83,SNR=5.4	83.05 340	⇓P	P	17 08 55.3 +0.5
G29A	Hoven baz=84	83.21 341	⇓P	P	17 08 55.6 0.0
K21A	Alcova baz=84,SNR=19	83.22 335	⇓P	P	17 08 56.5 +0.6
I25A	Rochford baz=84,SNR=12	83.27 338	⇓P	P	17 08 57.2 +1.0
DUG DUG	Dugway, Tooele comp=Z,35nm,1.2s	83.28 330	*e*P pmax	P pmax	17 08 56.6 +0.4
DUG	Dugway, Tooele baz=84,SNR=12	83.28 330	⇑P	P	17 08 57.3 +1.1
DUG	Dugway, Tooele comp=Z,36nm,1.2s	83.28 330	*e*P	P	17 08 56.5 +0.4
H27A	Howes baz=84,SNR=7.9	83.32 339	⇑P	P	17 08 56.5 +0.4
G28A	Parade baz=84	83.38 340	⇑P	P	17 08 57.1 +0.6
I24A	Kuemmerle Ranc baz=84,SNR=6.3	83.42 337	⇓P	P	17 08 57.0 +0.2
RSSD RSSD	Black Hills comp=Z,16nm,0.9s	83.46 337	*e*P pmax	P pmax	17 08 57.0 -0.2
RSSD	Black Hills comp=Z,16nm,0.9s	83.46 337	*e*P	P	17 08 57.0 -0.2
J22A	Midwest baz=84,SNR=11	83.64 335	⇑P	P	17 08 58.0 +0.1
H25A	Fruitdale baz=84	83.77 338	⇑P	P	17 08 58.8 +0.3
F29A	Eureka baz=84,SNR=6.6	83.78 341	⇑P	P	17 08 58.9 +0.4
J21A	Lysite baz=84	83.92 335	⇓P	P	17 08 59.7 +0.2
G27A	Dupree baz=84	83.95 339	⇑P	P	17 08 59.8 +0.4
F28A	McLaughlin baz=84	84.06 340	⇓P	P	17 09 00.3 +0.4
I22A	9 Mile Ranch, baz=84,SNR=12	84.06 336	⇓P	P	17 09 00.4 +0.3
G26A	Maurine baz=84,SNR=7.4	84.07 339	⇓P	P	17 09 00.1 +0.1
J20A	Shoshoni baz=84,SNR=19	84.15 334	⇑P	P	17 09 01.5 +0.9
E30A	Jud baz=84	84.15 342	⇑P	P	17 09 00.5 +0.2
PDAR	Pinedale Array comp=Z,4.0nm,0.7s,baz=155,slow=4.9,SNR=16	84.18 333	P	P	17 09 01.0 +0.1
H24A	Dirks Ranch, A baz=84,SNR=9.1	84.19 337	⇑P	P	17 09 00.6 -0.1
G25A	Newell baz=85,SNR=7.1	84.23 338	⇑P	P	17 09 01.2 +0.3
I21A	Big Trails, Te baz=85,SNR=12	84.27 335	⇑P	P	17 09 01.2 0.0
NVAR	Mina Array Bea comp=Z,5.5nm,0.7s,baz=155,slow=6.3,SNR=34	84.27 325	P	P	17 09 02.8 +1.4
TORD	Torodi Ar. Bea comp=Z,32nm,0.7s,baz=262,slow=4.0,SNR=141	84.31 70	P	P	17 09 01.4 -0.4
E29A	Napoleon baz=85	84.41 341	⇑P	P	17 09 01.8 +0.1
J19A	Crowheart baz=85,SNR=12	84.42 334	⇑P	P	17 09 02.3 +0.2
F27A	Lemmon baz=85,SNR=9.6	84.43 339	⇑P	P	17 09 02.2 +0.3
F26A	Lodgepole baz=85	84.60 339	⇓P	P	17 09 02.9 +0.2
H22A	Clearmont baz=85,SNR=5.8	84.64 336	⇓P	P	17 09 03.1 +0.1
G24A	Alzada baz=85	84.66 338	⇓P	P	17 09 02.8 -0.2
D30A	Buchanan baz=85,SNR=11	84.67 342	⇑P	P	17 09 03.2 +0.3
I20A	Worland baz=85,SNR=12	84.68 335	⇑P	P	17 09 03.9 +0.7
E28A	Huff baz=85,SNR=5.7	84.70 341	⇑P	P	17 09 03.4 +0.3
D29A	Pettibone, Tap baz=85	84.85 341	⇓P	P	17 09 03.5 -0.4
G23A	Biddle baz=85	84.86 337	⇑P	P	17 09 03.7 -0.4
WAKR	Walker comp=Z,24nm,1.2s	84.87 325	*e*P	P	17 09 05.4 +1.0
H21A	Big Horn, Sher baz=85	84.90 336	⇓P	P	17 09 04.3 -0.1
F25A	Bowman baz=85	84.90 339	⇑P	P	17 09 04.3 +0.1
I19A	Meeteetse baz=85	85.07 334	⇓P	P	17 09 05.2 -0.1
AGMN	Agassiz Nation baz=85,SNR=15	85.09 344	⇑P	P	17 09 04.8 -0.2
E26A	Carlson Angus baz=85	85.10 339	⇓P	P	17 09 05.3 +0.1
H20A	Greybull baz=86,SNR=13	85.11 335	⇑P	P	17 09 05.2 -0.2
C30A	Mose, Pekin baz=86,SNR=22	85.16 342	⇑P	P	17 09 05.8 +0.4
G22A	Birney baz=86	85.17 336	⇑P	P	17 09 05.5 -0.1
D28A	Regan baz=86,SNR=6.7	85.23 341	⇓P	P	17 09 06.0 +0.2
F23A	Volborg baz=86	85.33 337	⇑P	P	17 09 06.4 0.0
E25A	Miller Ranch, baz=86	85.41 339	⇓P	P	17 09 06.8 0.0
G21A	Lodge Grass baz=86,SNR=9.9	85.48 336	⇑P	P	17 09 07.2 0.0
I17A	Pilgrim Ck. baz=86,SNR=19	85.55 333	⇓P	P	17 09 08.6 +0.9
MDND	Maddock baz=86,SNR=9.9	85.58 342	⇓P	P	17 09 08.0 +0.5
MDND	Maddock comp=Z,9.8nm,0.6s	85.58 342	*e*P	P	17 09 07.2 -0.3
D26A	Manning baz=86	85.60 340	⇓P	P	17 09 08.2 +0.6
H19A	Powell baz=86,SNR=9.0	85.61 334	⇓P	P	17 09 08.3 +0.4
F22A	Rosebud baz=86,SNR=8.2	85.65 337	⇑P	P	17 09 08.1 +0.1
E24A	Baker baz=86	85.73 338	⇑P	P	17 09 08.8 +0.4
B30A	Myrvik Farm, E baz=86,SNR=9.9	85.81 343	⇓P	P	17 09 08.9 +0.3
G20A	Bridger baz=86,SNR=30	85.82 335	⇓P	P	17 09 08.7 -0.2
H18A	Shoshone NF, C baz=86,SNR=37	85.86 334	⇓P	P	17 09 09.5 +0.3
H17A	Grant Village baz=86	85.95 333	⇓P	P	17 09 09.9 +0.1
C27A	Sayler Ranch, baz=86	85.96 341	⇑P	P	17 09 10.3 +0.8
D25A	Fairfield baz=86,SNR=7.4	85.97 339	⇑P	P	17 09 10.4 +0.9
F21A	Absaloka Mine, baz=86	85.98 336	⇑P	P	17 09 10.0 +0.4
E23A	Ismay baz=86	85.99 338	⇓P	P	17 09 09.9 +0.3
B29A	Wagenman Farm, baz=86,SNR=8.2	86.08 342	⇓P	P	17 09 10.2 +0.3
E22A	Miles City baz=86,SNR=6.7	86.14 337	⇑P	P	17 09 10.0 -0.3
C26A	Wahner Farm, P baz=87	86.23 340	⇓P	P	17 09 10.9 +0.2
D24A	Glendive baz=87,SNR=7.2	86.24 339	⇓P	P	17 09 11.2 +0.4
A30A	Hoffart Farm, baz=87,SNR=7.2	86.26 343	⇑P	P	17 09 10.6 -0.2
F20A	Billings baz=87,SNR=6.5	86.31 336	⇓P	P	17 09 11.0 -0.3
B28A	Dugan Ranch, T baz=87,SNR=5.9	86.33 342	⇓P	P	17 09 11.3 +0.1
A29A	Manning Farm, baz=87,SNR=11	86.48 342	⇑P	P	17 09 11.8 -0.1
B27A	Peters Farms, baz=87	86.53 341	⇑P	P	17 09 12.6 +0.5
D23A	Lindsay baz=87,SNR=14	86.56 338	⇑P	P	17 09 13.2 +0.8
E21A	Keefer Ranch, baz=87	86.59 337	⇓P	P	17 09 13.2 +0.6
C24A	Savage baz=87,SNR=9.6	86.64 339	⇑P	P	17 09 13.4 +0.7
QLMT	Earthquake Lak comp=Z,3.1nm,1.0s	86.64 333	*e*P	P	17 09 13.9 +0.8
A28A	Rude Farm, Bot baz=87	86.73 342	⇓P	P	17 09 13.5 +0.3
HLID	Hailey baz=87,SNR=7.9	86.74 331	⇓P	P	17 09 14.6 +1.0
HLID	Hailey comp=Z,22nm,1.1s	86.74 331	*e*P	P	17 09 14.2 +0.6
D22A	Cohagen baz=87,SNR=14	86.84 337	⇓P	P	17 09 14.4 +0.6
E20A	Meyer Farm, Mu baz=87,SNR=16	86.91 336	⇓P	P	17 09 14.6 +0.5
B25A	Knox Farm, Ray baz=87,SNR=6.0	86.93 340	⇓P	P	17 09 14.9 +0.7
D21A	La Casta Ranch baz=87	87.03 337	⇓P	P	17 09 15.6 +0.8
E19A	Rath Farm, Rou baz=87,SNR=22	87.10 335	⇓P	P	17 09 15.2 +0.1
C23A	Lambert baz=88,SNR=20	87.11 338	⇓P	P	17 09 15.3 +0.3
MCMT	McKenzie Canyo comp=Z,19nm,1.2s	87.18 332	*e*P	P	17 09 16.6 +0.9
A26A	Wade Farm, Ken baz=88,SNR=10.0	87.19 341	⇑P	P	17 09 15.4 +0.1
C22A	Vida baz=88	87.28 338	⇑P	P	17 09 16.3 +0.4
D20A	Manuel Ranch, baz=88,SNR=10	87.43 336	⇓P	P	17 09 17.0 +0.3
A25A	Svangstu Ranch baz=88	87.52 340	⇑P	P	17 09 17.3 +0.3
B23A	Brockton baz=88,SNR=7.3	87.64 339	⇑P	P	17 09 17.9 +0.2
D19A	Cripps Ranch, baz=88,SNR=7.2	87.74 336	⇑P	P	17 09 18.2 0.0
A24A	Westby baz=88,SNR=7.0	87.77 340	⇓P	P	17 09 18.3 +0.1
B22A	Reddig Ranch S baz=88,SNR=6.9	87.81 338	⇓P	P	17 09 18.6 +0.2
LRM	Limekiln Ridge comp=Z,121nm,1.0s	87.87 333	*e*P	P	17 09 19.3 +0.3
C20A	Veseth Ranch, baz=88	87.93 337	⇑P	P	17 09 19.2 +0.2
A23A	Redstone baz=88	88.05 339	⇓P	P	17 09 19.8 +0.2
B21A	Ellsworth Farm baz=89,SNR=7.2	88.24 338	⇓P	P	17 09 20.7 +0.2

C19A	Slack Wire Ran	88.29	336	⇑P		P	17 09 20.8	0.0
	baz=89							
N02D	Trinity Center	88.37	324	⇓P		P	17 09 21.9	+0.6
	baz=89							
A22A	Carney Farms,	88.39	338	⇑P		P	17 09 21.5	+0.3
	baz=89,SNR=13							
B20A	Solberg Farm,	88.57	337	⇑P		P	17 09 21.7	-0.3
	baz=89,SNR=7.9							
M04C	Macdoel	88.58	325	⇓P		P	17 09 22.5	+0.2
	baz=89							
A21A	Bergtoll Ranch	88.70	338	⇑P		P	17 09 22.4	-0.3
	baz=89,SNR=9.2							
EGMT	Eagleton	88.78	336	⇑P		P	17 09 23.3	+0.3
	baz=89							
B19A	Brinkman Farms	88.88	336	⇓P		P	17 09 23.1	-0.4
	baz=89,SNR=7.2							
A20A	Cobblestone Ra	88.92	337	⇑P		P	17 09 23.3	-0.4
	baz=89,SNR=8.8							
SCHQ	Schefferville	89.02	3	P		P	17 09 22.8	-1.2
	comp=Z,2.8nm,0.7s,baz=192,slow=7.9,SNR=7.4							
A19A	Klindworth Far	89.23	337	⇓P		P	17 09 24.9	-0.2
	baz=90,SNR=7.0							
J05D	Fort Rock, OR	89.47	326	⇑P		P	17 09 26.7	+0.2
	baz=90							
LSZ	Lusaka	89.62	108	*e*P		P	17 09 28.8	+0.9
LSZ				pmax		pmax		
	comp=Z,7.0nm,0.8s							
LSZ	Lusaka	89.62	108	*e*P		P	17 09 28.8	+0.9
	comp=Z,6.6nm,0.8s							
SWMT	Swartz Lake	89.86	333	*e*P		P	17 09 28.4	+0.2
	comp=Z,6.7nm,1.0s							
ESDC	Sonseca Array	96.84	46	P		P	17 10 00.1	-0.4
	comp=Z,1.3nm,0.7s,baz=250,slow=4.4,SNR=4.6							
YKA	Yellowknife Ar	102.49	341	P		Pdif	17 10 24.4	-0.6
	comp=Z,1.0nm,0.7s,baz=143,slow=4.5,SNR=7.4							
GERES	GERESS Array B	112.43	45	PKKPbc	PKKPbc		17 26 01.2	+5.6
	comp=Z,0.1nm,0.2s,baz=132,slow=2.0,SNR=4.1							
ILAR	Eielson Array	114.61	333	PKP	PKPdf		17 15 08.3	-0.5
	comp=Z,0.8nm,0.7s,baz=176,slow=1.2,SNR=10							
VYHS	Vyhne	115.35	47	*e*PKIKP	PKPdf		17 15 10.6	-0.2
VYHS	Vyhne	115.35	47	*e*PKP	PKPdf		17 15 10.6	-0.2
NOA	NORSAR Array B	116.37	33	PKP	PKPdf		17 15 12.1	-0.3
	comp=Z,0.6nm,0.7s,baz=250,slow=2.3,SNR=3.8							
NOA				PKKPab	PKKPab		17 25 49.2	+5.8
	comp=Z,1.8nm,0.9s,baz=68,slow=4.5,SNR=4.3							
STHS	Stebnicka Huta	117.17	47	*e*PKIKP	PKPdf		17 15 14.7	+0.5
STHS	Stebnicka Huta	117.17	47	*e*PKP	PKPdf		17 15 14.7	+0.5
ASAR	Alice Springs	117.20	207	PKP	PKPdf		17 15 13.8	-1.4
	comp=Z,0.8nm,0.6s,baz=134,slow=1.8,SNR=17							
ASAR				PKKPbc	PKKPbc		17 25 38.8	0.0
	comp=Z,1.2nm,0.6s,baz=337,slow=3.0,SNR=20							
KWP	Kalwaria Pacla	118.14	47	*e*PKIKP	PKPdf		17 15 16.3	+0.2
KWP	Kalwaria Pacla	118.14	47	*e*PKP	PKPdf		17 15 16.2	+0.2
SUW	Suwalki	119.89	43	*e*PKIKP	PKPdf		17 15 18.8	-0.5
SUW	Suwalki	119.89	43	*e*PKP	PKPdf		17 15 18.7	-0.5
WRA	Warramunga Arr	120.40	209	PKP	PKPdf		17 15 20.4	-1.1
	comp=Z,2.2nm,0.6s,baz=172,slow=1.6,SNR=39							
WRAB	Tennant Creek	120.41	209	*e*PKIKP	PKPdf		17 15 19.9	-1.6
WRAB	Tennant Creek	120.41	209	*e*PKPdf	PKPdf		17 15 19.9	-1.6
MMAI	Mount Meron Ar	120.84	69	PKP	PKPdf		17 15 21.2	-0.7
	comp=Z,1.1nm,0.5s,baz=48,slow=2.1,SNR=4.2							
BRTR	Keskin Array B	122.00	61	*c i*PKIKP	PKPdf		17 15 23.7	-0.3
BRTR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BRTR	Keskin Array B	122.00	61	PKP	PKPdf		17 15 23.6	-0.3
	comp=Z,3.8nm,0.7s,baz=205,slow=3.0,SNR=18							
AKASG	Malin Array Be	122.45	48	PKP	PKPdf		17 15 23.1	-1.2
	comp=Z,1.9nm,0.6s,baz=260,slow=2.8,SNR=10.0							
SPITS	Spitsbergen Ar	123.09	14	PKP	PKPdf		17 15 24.2	-0.7
	comp=Z,2.1nm,0.6s,baz=193,slow=2.6,SNR=4.6							
FINES	FINESS Array B	123.32	35	PKP	PKPdf		17 15 25.0	-0.6
	comp=Z,3.6nm,0.9s,baz=107,slow=2.6,SNR=6.9							
ARCES	ARCESS Array B	124.39	25	PKP	PKPdf		17 15 28.5	+1.0
	comp=Z,2.0nm,0.7s,baz=264,slow=2.4,SNR=6.5							
H11S2	WAKE ISLAND Hyl	25.81	269	T	T		19 33 50.0	
	baz=119,slow=75,SNR=29							
H11S1	WAKE ISLAND Hyl	25.83	269	T	T		19 33 50.8	
	baz=119,slow=75,SNR=42							
H11S3	WAKE ISLAND Hyl	25.83	269	T	T		19 33 54.1	
	baz=119,slow=75,SNR=32							
H11N3	WAKE ISLAND Hyl	26.24	270	T	T		19 34 19.9	
	baz=119							
H11N1	WAKE ISLAND Hyl	26.25	270	T	T		19 34 22.8	
	baz=119							
H11N2	WAKE ISLAND Hyl	26.26	270	T	T		19 34 26.1	
	baz=119							
OBN	Obninsk	127.72	44	*i*PKIKP	PKPdf		17 15 32.0	-2.2
OBN				pmax	pmax			
	comp=Z,21nm,1.7s							
KIV	Kislovodsk	129.68	59	*e*PKIKP	PKPdf		17 15 38.8	+0.3
KIV				pmax	pmax			
	comp=Z,12nm,1.1s							
KLMR	Klimovskoe	129.73	36	*e*PKIKP	PKPdf		17 15 35.9	-2.0
KLMR				pmax	pmax			
	comp=Z,32nm,1.4s							
KBZ	Khabaz	129.78	59	PKP	PKPdf		17 15 39.3	+0.8
	comp=Z,3.7nm,0.9s,baz=159,slow=4.4,SNR=5.6							
PRGR	Permogore	132.65	35	*e*PKIKP	PKPdf		17 15 42.0	-1.4
PRGR				pmax	pmax			
	comp=Z,9.0nm,0.6s							
BILL	Bilibino	133.25	334	*e*PKIKP	PKPdf		17 15 44.1	-0.3
BILL	Bilibino	133.25	334	*e*PKPdf	PKPdf		17 15 44.1	-0.3
GEYT	Alibeck	139.95	70	PKhKP	PKPpre		17 15 50.1	
GEYT				PKP	PKiKP		17 16 00.0	-0.2
	comp=Z,4.5nm,0.5s,baz=251,slow=3.5,SNR=11							
ARU	Arti	140.04	41	*i*PKIKP	PKPdf		17 15 55.6	-1.7
ARU	Arti	140.04	41	*e*PKPpre	PKPpre		17 15 47.8	
SEY	Seymchan	140.44	330	PKhKP	PKPpre		17 15 51.0	
	comp=Z,9.3nm,0.3s,baz=97,slow=3.1,SNR=12							
SEY				PKP	PKPdf		17 15 59.0	+1.2
	comp=Z,6.5nm,0.7s,baz=74,slow=0.4,SNR=16							
PETK	Petropavlovsk-	140.50	314	PKhKP	PKPpre		17 15 50.8	
	comp=Z,1.8nm,0.8s,baz=15,slow=6.0,SNR=3.2							
AKTO	Aktyubinsk	140.58	50	PKhKP	PKPpre		17 15 51.0	
	comp=Z,2.7nm,0.6s,baz=260,slow=1.6,SNR=13							
AKTO				PKP	PKPdf		17 15 58.0	-0.5
	comp=Z,2.0nm,0.6s,baz=103,slow=5.5,SNR=6.7							
TIXI	Tiksi	141.14	350	*i*PKIKP	PKPdf		17 15 59.6	+0.8
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.7s							
TIXI	Tiksi	141.14	350	*e*PKPpre	PKPpre		17 15 50.3	
AB31	Akbulak array	141.91	52	*i*PKHKP	PKPpre		17 15 54.5	
AB31				pmax	pmax			
	comp=Z,6.0nm,0.6s							
ABKAR	Akbulak array	141.91	52	*e*PKPdf	PKPpre		17 15 53.9	
KSM	Kuching	147.13	184	*e*PKPdf	PKPdf		17 16 11.3	+0.2
PSI	Prapat	147.40	163	PKPbc	PKPdf		17 16 13.1	+1.4
	comp=Z,12nm,0.6s,baz=190,slow=6.8,SNR=10							
BRVK	Borovoye	147.49	43	*i*PKIKP	PKPdf		17 16 09.3	-1.1
BRVK				pmax	pmax			
	comp=Z,27nm,0.7s							
BRVK	Borovoye	147.49	43	*e*PKPdf	PKPdf		17 16 10.2	-0.3
BRVK				*e*PKPbc	PKPbc		17 16 13.4	+0.4
BVA0	Borovoye Array	147.56	43	PKIKP	PKPdf		17 16 10.2	-0.4
BVA0				pmax	pmax			
	comp=Z,24nm,0.8s							
VOSK	Vostochnaya	148.00	44	PKIKP	PKPdf		17 16 11.3	0.0
VOSK				pmax	pmax			
	comp=Z,33nm,0.8s							
HYB	Hyderabad	148.70	115	*i*PKP	PKPdf		17 16 15.5	+1.9
YAK	Yakutsk	149.16	340	*e*PKIKP	PKPdf		17 16 15.1	+2.2
YAK				pmax	pmax			
	comp=Z,64nm,1.1s							
YAK				pmax	pmax			
	comp=E,12nm,1.3s							
YAK	Yakutsk	149.16	340	*e*PKPbc	PKPbc		17 16 16.2	-0.8
KKAR	Karatay Array	149.71	62	*e*PKPdf	PKPdf		17 16 14.2	-0.2
KKAR				*e*PKPbc	PKPbc		17 16 18.6	-0.5
KULM	Kulim	150.20	165	*e*PKPbc	PKPbc		17 16 20.2	-0.9
KULM				*e*PKPab	PKPab		17 16 27.0	-0.1
YSS	Yuzh-Sakhalins	151.09	306	*e*PKIKP	PKPbc		17 16 21.0	-1.2
YSS				*e*			17 16 27.5	
YSS				pmax	pmax			
	comp=Z,30nm,0.8s							
YSS	Yuzh-Sakhalins	151.09	306	*e*PKPbc	PKPbc		17 16 20.5	-1.7
ASAJ	Asahikawa	151.73	300	PKPbc	PKPbc		17 16 22.7	-1.1
	comp=Z,15nm,0.8s,baz=284,slow=8.1,SNR=6.8							
ASAJ				PKPab	PKPab		17 16 30.4	-2.4
	comp=Z,29nm,0.9s,baz=277,slow=10,SNR=8.1							
AML	Almayashu	152.12	64	P	PKPbc		17 16 25.9	+0.6
	SNR=11							
EKS2	Erkin-Say	152.14	63	P	PKPbc		17 16 25.4	+0.4
	SNR=17							
USP	Ospenovka	152.59	61	P	PKPbc		17 16 25.9	+0.1
	SNR=11							
AAK	Ala-Archa	152.66	63	P	PKPbc		17 16 27.1	+0.9
	SNR=20							
AAK	Ala-Archa	152.66	63	*e*PKIKP	PKPdf		17 16 18.9	-0.3
AAK				*e*			17 16 26.7	
AAK	Ala-Archa	152.66	63	*e*PKPdf	PKPdf		17 16 18.9	-0.3
AAK				*e*PKPbc	PKiKP		17 16 26.7	+0.3
UCH	Uchtor	152.72	63	P	PKPbc		17 16 27.1	+0.4
	SNR=15							
CHMS	Chumysh	152.81	62	P	PKPbc		17 16 26.6	+0.3
	SNR=7.4							
KBK	Karagaybulak	153.00	62	P	PKPbc		17 16 27.7	+0.7
	SNR=6.0							
KURK	Kurchatov	153.16	44	*e*PKIKP	PKPdf		17 16 18.8	-0.5
KURK				*e*			17 16 26.7	
KURK	Kurchatov	153.16	44	*e*PKPdf	PKPdf		17 16 18.8	-0.5
KURK				*e*PKPbc	PKPbc		17 16 26.7	-0.1
NVS	Novosibirsk	153.28	33	*e*PKIKP	PKPdf		17 16 22.6	+3.2
NVS				*e*			17 23 43.3	
NVS				pmax	pmax			
	comp=Z,25nm,0.8s							
KSH	Kashi	153.98	69	PKPbc	PKPdf		17 16 21.1	0.0
KSH				sPKP			17 16 35.2	
KSH				PKS	PKSdf		17 19 55.5	+0.1
KSH				PP	PP		17 20 15.5	-2.3
KSH				SKS	SKSdf		17 23 23.1	-3.0
KSH				SKKS	SKKSac		17 27 03.1	-2.6
KSH				SS	SS		17 39 49.2	-5.3
KSH				LN				
	comp=Z,71nm,4.2s							
KSH				LE				
	comp=Z,89nm,4.9s							
KSH				LZ				
	comp=Z,430nm,18.1s							
ZALV	Zalesovo Beam	154.57	33	PKP	PKPdf		17 16 20.8	-0.5
	comp=Z,3.3nm,0.8s,baz=267,slow=2.1,SNR=13							
ZALV				PKPbc	PKPbc		17 16 29.5	-0.2
	comp=Z,12nm,0.8s,baz=280,slow=2.7,SNR=24							
ZALV				PKPab	PKPab		17 16 43.7	-0.7
	comp=Z,9.5nm,0.6s,baz=300,slow=5.0,SNR=13							
MJAR	Matsushiro Arr	155.38	284	PKP	PKPdf		17 16 25.1	+2.1
	comp=Z,1.7nm,0.8s,baz=93,slow=2.5,SNR=4.4							
MJAR				PKPab	PKPab		17 16 49.4	+0.9
	comp=Z,1.9nm,0.7s,baz=97,slow=4.1,SNR=4.7							
BOD	Bodaibo	156.27	352	*e*PKIKP	PKPdf		17 16 30.1	+6.7
BOD				pmax	pmax			
	comp=Z,15nm,1.0s							
MKAR	Makanchi Array	157.01	50	PKP	PKPdf		17 16 24.4	-0.4
	comp=Z,1.6nm,0.8s,baz=297,slow=0.3,SNR=14							
MKAR				PKPab	PKPab		17 16 53.9	-1.3
	comp=Z,4.9nm,0.7s,baz=300,slow=4.9,SNR=13							
KOLN	Koldanda	158.09	101	*e*P	PKPdf		17 16 26.3	-0.7
DANN	Dangsing	158.44	100	*e*P	PKPdf		17 16 27.2	-0.3
GKN	Gorkha	159.02	101	*e*P	PKPdf		17 16 26.9	-1.1
USRK	Ussuriysk Ar.	159.12	305	PKPab	PKPab		17 17 07.9	+3.6
	comp=Z,5.7nm,1.0s,baz=129,slow=6.1,SNR=4.5							
DMN	Daman	159.24	103	*e*P	PKPdf		17 16 27.7	-0.7
KKN	Kakani	159.45	103	*e*P	PKPdf		17 16 27.8	-0.8
PKI	Pulchoki	159.46	103	*e*P	PKPdf		17 16 27.8	-1.0
GUN	Gumba	159.99	103	*e*P	PKPdf		17 16 28.5	-0.9
JIRN	Jiri	160.13	104	*e*P	PKPdf		17 16 28.7	-0.9
RAMN	Ramite	160.14	106	*e*P	PKPdf		17 16 29.0	-0.5
MDJ	Mudanjiang	160.56	308	PKP	PKPdf		17 16 30.5	+1.5
ODAN	Odare	160.73	107	*e*P	PKPdf		17 16 29.6	-0.5
TAPN	Taplejung	161.21	107	*e*P	PKPdf		17 16 30.1	-0.6
WMQ	Urumqi	161.70	53	*e*PKP	PKPdf		17 16 28.7	-1.7
WMQ				pPKP	pPKPdf		17 16 40.0	+0.5
WMQ				PKPab	PKPab		17 17 16.1	+0.4
WMQ				PKS	PKSdf		17 20 00.7	-2.9
WMQ				PP	PP		17 21 00.3	+0.6
WMQ				SKS	SKSdf		17 23 28.6	-4.8
WMQ				SKKS	SKKSac		17 27 43.2	-2.7
WMQ				SS	SS		17 41 11.3	-4.7
WMQ				PPMZ				
	comp=Z,1μm,8.0s							
WMQ				LN				
	comp=Z,260nm,20.0s							
WMQ				LE				
	comp=Z,850nm,22.0s							
WMQ				LZ				
	comp=Z,680nm,24.0s							
CMAR	Chiang Mai Arr	162.14	151	PKP	PKPdf		17 16 31.4	-0.1
	comp=Z,1.2nm,0.8s,baz=250,slow=2.6,SNR=11							
CMAR				PKPab	PKPab		17 17 19.2	+1.2
	comp=Z,1.4nm,0.9s,baz=251,slow=4.9,SNR=4.5							
CHTO	Chiang Mai	162.46	150	*e*PKIKP	PKPdf		17 16 31.2	-0.6
CHTO	Chiang Mai	162.46	150	*e*PKPdf	PKPdf		17 16 31.2	-0.6
CN2	Changchun	163.59	310	*e*PKP	PKPdf		17 16 33.0	+0.9
CN2				*ep*PKP	pPKPdf		17 16 44.0	+2.7
CN2				*e*PP	PP		17 21 13.6	+4.1
CN2				*e*SS	SS		17 41 35.6	+0.3
CN2				PPMZ				
	comp=Z,200nm,8.0s							
CN2				LN				
	comp=Z,900nm,20.0s							
CN2				LE				
	comp=Z,1μm,20.0s							
CN2				LZ				
	comp=Z,1μm,20.0s							
KSRS	Korea Array	163.61	286	PKPab	PKPab		17 17 27.7	+3.5
	comp=Z,2.4nm,0.8s,baz=73,slow=4.3,SNR=4.2							
KSAR	Wonju Array Be	163.64	286	PKP2	PKPab		17 17 27.7	+3.3
KSAR	Wonju Array Be	163.64	286	PKPab	PKPab		17 17 27.7	+3.3
ZAK	Zakamensk	163.69	11	*e*PKIKP	PKPdf		17 16 31.0	-1.2
ZAK				*e*			17 17 23.4	
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.6s							
LSA	Lhasa	164.94	104	*e*PKIKP	PKPdf		17 16 34.8	+0.4
LSA				*e*			17 17 30.8	
LSA	Lhasa	164.94	104	*e*PKPdf	PKPdf		17 16 34.8	+0.4
LSA				*e*PKPab	PKPab		17 17 30.8	-0.1
SONM	Songino Array	166.56	5	PKP	PKPdf		17 16 34.0	-0.8
	comp=Z,1.1nm,0.8s,baz=222,slow=1.1,SNR=8.9							
SONM				PKPab	PKPab		17 17 37.3	+0.4
	comp=Z,2.9nm,0.9s,baz=336,slow=4.4,SNR=13							
SONM				PP	PP		17 21 24.7	+0.5
	comp=Z,2.3nm,1.2s,baz=8.5,slow=2.5,SNR=5.7							
ULN	Ulaanbaatar	166.57	3	*e*PKIKP	PKPdf		17 16 33.9	-0.9
ULN				*e*			17 17 37.3	
ULN	Ulaanbaatar	166.57	3	*e*PKPdf	PKPdf		17 16 33.9	-0.9
ULN				*e*PKPab	PKPab		17 17 37.3	+0.4
KMI	Kunming	169.65	152	PKP	PKPdf		17 16 36.9	-0.8
NJ2	Nanjing	170.62	258	*e*PKP	PKPdf		17 16 38.3	+0.6
GTA	Gaotai	171.77	51	*e*PKP	PKPdf		17 16 38.7	+0.5
GTA				pPKP	pPKPdf		17 16 49.8	+2.4
GTA				sPKP			17 16 54.0	
GTA				PKPab	PKPab		17 18 00.8	+0.4
GTA				PP	PP		17 21 55.3	+3.8
GYA	Guiyang	171.96	171	PKP	PKPdf		17 16 38.0	-0.7
GYA				pPKP	pPKPdf		17 16 50.8	+2.9
GYA				PKPab	PKPab		17 18 03.5	+2.2
GYA				PKS	PKSdf		17 20 09.2	-2.0
GYA				PP	PP		17 21 55.0	+3.7
GYA				SKKS			17 28 37.4	
GYA				SS	SS		17 42 58.7	+0.9
GYA				PPMZ				
	comp=Z,140nm,8.6s							
GYA				LN				
	comp=Z,140nm,21.8s							
GYA				LE				
	comp=Z,130nm,22.0s							
GYA				LZ				
	comp=Z,150nm,21.4s							
HHC	Hu-ho-hao-te	173.01	337	*e*PKP	PKPdf		17 16 38.6	-0.1
HHC				pPKP	pPKPdf		17 16 50.2	+2.3
HHC				SKS	SKSdf		17 23 38.5	-1.6
HHC				SKKS	SKKSac		17 28 45.0	+3.1
HHC				SS	SS		17 43 05.3	-3.2
HHC				PPMZ				
	comp=Z,3μm,9.8s							
HHC				LN				
	comp=Z,530nm,20.6s							
HHC				LE				
	comp=Z,370nm,21.1s							
HHC				LZ				
	comp=Z,230nm,20.1s							
CD2	Chengdu	174.97	133	*e*PKP	PKPdf		17 16 39.5	-0.1

*IDC **11** 16:59:37.0±0.7,34°.67S×71°.89W,h0km,mb4.6/11,*
mb1 4.8/13,mb1mx4.4/33,mbtmp4.6/13,ML4.4/1,Error
ellipse: s-maj=28.3km s-min=17.3km az=81.0
*ISCJB **11** 16:59:37.8±0.3,34°.65S±0°.04×72°.02W±0°.09,h16km,*
mb4.7/25,Error ellipse: s-maj=10.6km s-min=6.1km
az=169.0
*GUC **11** 16:59:39.1±0.5,34°.69S×72°.02W,h13km±5km,ML4.5*
*NEIC **11** 16:59:42.2±0.3,34°.62S×71°.93W,h35km,mb4.8/17,Error*
ellipse: s-maj=11.2km s-min=6.4km az=81.0

ISC 11 16:59:39.0±0.4,34°.68S±0°.04×72°.01W±0°.06,h16km,n58,
σ1°06/61,mb4.8/25,4C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.71	117	⇑*i*P	Pg	16 59 52.5	-0.4
NICH				*i* S1	Sg	17 00 02.7	+0.2
LNCH	Linares	1.21	164	⇑*i*P	Pn	17 00 00.3	-0.9
LNCH				*i* S1	Sn	17 00 16.7	-0.6
RCDM	Rinconada Maip	1.55	40	*e*P1	Pn	17 00 05.9	-0.1
COCH	Cobquecura	1.58	204	⇓*i*P	Pn	17 00 06.1	-0.3
COCH				*i* S1	Sn	17 00 25.9	-0.5
FSR	Penalolen	1.72	46	⇑*i*P	Pb	17 00 09.8	-0.4
FSR				*i* S1	Sb	17 00 32.4	+0.8
CCSP	San Pedro de C	2.34	202	AML	AML	17 00 54.8	
	comp=N,5μm,0.6s						
CFAA	Coronel Fontan	4.41	47	Pn	Pn	17 00 47.2	+1.9
	comp=N,0.3nm,0.3s,baz=83,slow=4.3,SNR=2.2						
CFAA				Lg	Lg	17 01 46.8	
	comp=N,1.5nm,0.3s,baz=39,slow=15,SNR=2.3						
PLCA	Paso Flores	6.15	170	Pn	Pn	17 01 11.2	+2.0
	baz=330,slow=12,SNR=1.5						
PLCA				Lg	Lg	17 02 47.7	
	comp=N,3.1nm,0.3s,baz=59,slow=21,SNR=3.0						
LPAZ	La Paz	18.64	12	P	Pn	17 03 57.4	+0.3
	comp=N,0.5nm,0.3s,baz=175,slow=8.1,SNR=4.9						
LPAZ	La Paz	18.64	12	*e*Pn	Pn	17 03 57.2	+0.1
EFI	East Falkland	19.73	154	P	Pn	17 04 10.0	+0.6
SIV	San Ignacio	21.04	31	P	P	17 04 21.8	-0.6
	comp=N,16nm,0.9s,baz=248,slow=17,SNR=4.4						
NNA	Nana	23.02	348	P	P	17 04 44.8	+1.4
	comp=N,30nm,0.9s,baz=189,slow=11,SNR=6.3						
NNA	Nana	23.02	348	*e*P	P	17 04 40.1	-3.4
	comp=N,24nm,1.0s						
PTGA	Pitinga	35.60	21	P	P	17 06 35.5	-0.4
	comp=N,12nm,0.6s,baz=224,slow=10,SNR=5.5						
PTGA	Pitinga	35.60	21	*e*P	P	17 06 34.9	-1.0
SDV	Santo Domingo	43.35	2	*e*P	P	17 07 39.5	-1.2
SNAA	Sanae	50.95	158	P	P	17 08 39.0	-0.3
	comp=N,10nm,1.0s						
SDDR	Presa de Saban	53.37	1	P	P	17 08 56.9	-0.9
	comp=N,10nm,0.9s						
QSPA	South Pole Qui	55.55	180	P	P	17 09 14.7	+1.3
	comp=N,7.8nm,0.9s,baz=153,slow=6.9,SNR=4.1						
QSPA	South Pole Qui	55.55	180	*e*P	P	17 09 14.3	+0.9
	comp=N,13nm,1.0s						
SBA	Scott Base	62.41	192	P	P	17 10 07.2	+6.7
SYO	Syowa Base	65.22	158	⇑*e*P	P	17 10 17.8	-1.4
BBSR	BB Station	67.05	7	P	P	17 10 31.0	-0.2
TXAR	Lajitas Array	70.34	331	P	P	17 10 52.2	+0.2
	comp=N,3.0nm,0.7s,baz=150,slow=8.1,SNR=6.3						
OXF	Oxford	70.74	345	*e*P	P	17 10 53.7	-0.4
	comp=N,36nm,1.2s						
SWET	Sewanee	70.75	348	*e*P	P	17 10 53.2	-1.1
	comp=N,16nm,0.9s						
ACSO	Alum Creek Sta	75.23	351	*e*P	P	17 11 20.4	-0.3
	comp=N,13nm,0.7s						
DBIC	Dimbokro	75.37	71	P	P	17 11 22.1	0.0
	comp=N,2.9nm,0.6s,baz=228,slow=4.5,SNR=3.8						
DBIC	Dimbokro	75.37	71	*e*P	P	17 11 21.4	-0.7
	comp=N,14nm,1.3s						
LPM	Los Pinos Moun	75.91	331	*e*P	P	17 11 25.6	+0.7
	comp=N,4.1nm,0.9s						
TUC	Tucson	75.95	327	*e*P	P	17 11 26.1	+0.9
	comp=N,4.6nm,1.0s						
JFWS	Jewell Farm	79.01	346	*e*P	P	17 11 40.7	-1.1
	comp=N,12nm,0.6s						
CASY	Casey	79.34	181	P	P	17 11 44.6	+1.1
PFO	Pinyon Flats O	79.69	324	P	P	17 11 47.9	+1.9
	comp=N,6.1nm,0.8s,baz=112,slow=5.1,SNR=4.9						
BOSA	Boshof	79.73	118	P	P	17 11 47.0	+0.4
	comp=N,9.4nm,0.8s,baz=206,slow=3.7,SNR=6.2						
BOSA	Boshof	79.73	118	*e*P	P	17 11 45.9	-0.7
ECSD	EROS Data Cent	81.20	342	*e*P	P	17 11 53.3	-0.4
SHPR	Sheep Range	81.44	326	*e*P	P	17 11 56.8	+1.5
	comp=N,13nm,1.3s						
LBTB

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.55**	**53**	Pn	**Pn**	**17 09 59.4**	**0.0**
	0.7nm,0.3s,baz=231,slow=14,SNR=4.3						
CFAA				Sn	**Sn**	**17 10 52.5**	**+0.1**
	0.8nm,0.3s,baz=312,slow=14,SNR=1.8						
PLCA	**Paso Flores**	**6.45**	**167**	Pn	Pn	17 10 29.0	+3.4
	1.0nm,0.3s,baz=347,slow=11,SNR=3.4						
LPAZ	**La Paz**	**18.50**	**13**	P	**Pn**	**17 13 07.9**	**+0.3**
	0.1nm,0.3s,baz=199,slow=9.1,SNR=4.5						
SIV	**San Ignacio**	**21.05**	**32**	P	**P**	**17 13 34.2**	**-0.5**
	3.0nm,0.8s,baz=222,slow=9.1,SNR=4.2						
BOSA	**Boshof**	**80.18**	**118**	P	**P**	**17 21 01.5**	**+0.1**
	2.1nm,0.7s,baz=306,slow=5.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**84.70**	**70**	P	**P**	**17 21 24.8**	**-0.2**
	1.7nm,0.8s,baz=252,slow=3.8,SNR=7.9						
MKAR	**Makanchi Array**	**157.33**	**49**	PKPab	**PKPab**	**17 29 17.9**	**+0.2**
	0.1nm,0.6s,baz=297,slow=6.3,SNR=3.5						

GUC ***11*** *17:18:45.6±0.4, 34.°36S×72.°20W, h8km±6km, ML4.9*
IDC ***11*** *17:18:46.7±0.4, 34.°34S×71.°95W, h0km, mb4.8/19, mb1 4.9/21, mb1mx4.9/24, mbtmp4.8/21, ML4.9/2, MS3.8/1, Ms1 3.8/1, ms1mx3.5/32, Error ellipse: s-maj=17.5km s-min=10.6km az=82.0*
NEIC ***11*** *17:18:49.7±1.3, 34.°29S×71.°91W, h18km±8km, mb5.2/29, ML4.9(GUC), Error ellipse: s-maj=7.1km s-min=4.4km az=85.0*
NEIC Felt [III] at Santiago and Santo Domingo and [II] at Pichilemu, Quisto, San Antonio and Valparaiso. Also felt at Machali and Penaflor.
BJI ***11*** *17:18:50.7, 34.°30S×71.°80W, h23km, mB5.4/8, Ms5.6/10, Ms7 5.3/10*
ISCJB ***11*** *17:18:50.4±0.2, 34.°33S±0.°03×71.°94W±0.°03, h33km, mb5.2/51, Error ellipse: s-maj=4.0km s-min=4.0km az=159.1*
MOS ***11*** *17:18:50.4±1.1, 34.°33S×71.°93W, h33km, mb5.6/16, Error ellipse: s-maj=16.1km s-min=8.3km az=89.7*
ISC 11 17:18:50.8±0.8,**34.°30S**±0.°04×**71.°97W**±0.°06,**h27**km±5km,
n581,σ0**93**/606,**mb5.2**/51,**197C-192D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.58**	**54**	⇑*iP*	**Pb**	**17 19 00.4**	**-1.9**
LNV	**Longovilo**	**0.58**	**54**	⇑*iP*	**Pb**	**17 19 00.4**	**-1.9**
TACH	**Talagante**	**1.07**	**53**	⇓*iP*	**Pn**	**17 19 08.1**	**-2.0**
TACH	**Talagante**	**1.07**	**53**	⇓*iP*	**Pn**	**17 19 08.1**	**-2.0**
CACH	**El Canelo**	**1.15**	**81**	⇑*iP*	**Pn**	**17 19 10.3**	**-0.9**
CACH	**El Canelo**	**1.15**	**81**	⇑*iP*	**Pn**	**17 19 10.3**	**-0.9**
CHCH	**Chadas Angostu**	**1.15**	**72**	*eP*1	**Pn**	**17 19 09.7**	**-1.5**
CHCH	**Chadas Angostu**	**1.15**	**72**	*eP*	**Pn**	**17 19 09.7**	**-1.5**
RCDM	**Rinconada Maip**	**1.26**	**50**	*eP*1	**Pn**	**17 19 10.9**	**-1.7**
RCDM				AML	AML	17 19 35.0	
	comp=E,19μm,0.7s						
RCDM	**Rinconada Maip**	**1.26**	**50**	*eP*	**Pn**	**17 19 10.9**	**-1.7**
ANTU	**Antumapu**	**1.33**	**57**	⇑*iP*	**Pn**	**17 19 12.5**	**-1.1**
ANTU				*i* S	**Sb**	**17 19 32.6**	**+0.9**
ANTU	**Antumapu**	**1.33**	**57**	⇑*iP*	**Pn**	**17 19 12.5**	**-1.1**
ANTU				*i* S	**Sb**	**17 19 32.6**	**+0.9**
SAN	**Santiago**	**1.38**	**53**	⇑*iP*	**Pn**	**17 19 13.4**	**-0.9**
SAN				*i* S	**Sb**	**17 19 34.1**	**+1.0**
SAN	**Santiago**	**1.38**	**53**	⇑*iP*	**Pn**	**17 19 13.4**	**-0.9**
SAN				*i* S	**Sb**	**17 19 34.1**	**+1.0**
SAN	**Santiago**	**1.38**	**53**	⇑*iP*	**Pn**	**17 19 13.4**	**-0.9**
SAN				*i* S	**Sb**	**17 19 34.1**	**+1.0**
PCH	**Pirque**	**1.39**	**61**	*eP*1	**Pn**	**17 19 13.7**	**-0.8**
PCH	**Pirque**	**1.39**	**61**	*eP*	**Pn**	**17 19 13.7**	**-0.8**
LACH	**Col Las Americ**	**1.47**	**55**	*eP*1	**Pn**	**17 19 14.7**	**-0.8**
LACH				*i* S	**Sb**	**17 19 36.7**	**+1.0**
LACH	**Col Las Americ**	**1.47**	**55**	*eP*	**Pn**	**17 19 14.7**	**-0.8**
LACH				*i* S	**Sb**	**17 19 36.7**	**+1.0**
CLCH	**Cerro Calan**	**1.50**	**53**	⇑*iP*	**Pn**	**17 19 15.1**	**-0.8**
CLCH				*i* S	**Sb**	**17 19 37.9**	**+1.4**
CLCH				AML	AML	17 19 44.5	
	comp=N,35μm,0.6s						
LNCH	**Linares**	**1.57**	**169**	*eP*9		17 19 15.8	
LNCH				*i* S	**Sn**	**17 19 36.7**	**+0.2**
LNCH	**Linares**	**1.57**	**169**	*eP*	**Pn**	**17 19 15.8**	**-1.2**
LNCH				*i* S	**Sn**	**17 19 36.7**	**+0.2**
PEL	**Peldehue**	**1.57**	**43**	⇑*iP*	**Pn**	**17 19 15.9**	**-1.1**
PEL				*eS*	**Sb**	**17 19 39.2**	**+0.5**
PEL	**Peldehue**	**1.57**	**43**	⇑*iP*	**Pn**	**17 19 15.9**	**-1.1**
PEL				*eS*	**Sb**	**17 19 39.2**	**+0.5**
PEL				AML	AML	17 19 43.2	
	comp=E,41μm,0.6s						
PEL	**Peldehue**	**1.57**	**43**	⇑*iP*	**Pn**	**17 19 15.9**	**-1.1**
PEL				*eS*	**Sb**	**17 19 39.2**	**+0.5**
FCH	**Farellones**	**1.70**	**56**	*eP*1	**Pn**	**17 19 19.1**	**+0.1**
FCH				*eS*	**Sb**	**17 19 44.4**	**+1.7**
FCH				AML	AML	17 19 47.6	
	comp=E,12μm,0.3s						
FCH	**Farellones**	**1.70**	**56**	*eP*	**Pn**	**17 19 19.1**	**+0.1**
FCH				*eS*	**Sb**	**17 19 44.4**	**+1.7**
CFAA	**Coronel Fontan**	**4.13**	**50**	Pn	**Pn**	**17 19 53.4**	**+1.2**
	comp=E,2.1nm,0.3s,baz=228,slow=12,SNR=25						
CFAA				Sn	**Sn**	**17 20 43.1**	**+3.5**
	comp=E,3.5nm,0.3s,baz=229,slow=13,SNR=2.2						
CFAA				LR	LR	17 21 38.6	
	comp=E,1μm,20.8s,baz=184,slow=42						
LCO	**Las Campanas**	**5.38**	**12**	*e*Pn	**Pn**	**17 20 07.9**	**-1.7**
	comp=E,212nm,0.8s						
PLCA	**Paso Flores**	**6.52**	**170**	*eP*	**Pn**	**17 20 25.4**	**+0.4**
PLCA						17 21 46.2	
PLCA				pmax	pmax		
	comp=Z,88nm,0.7s						
PLCA	**Paso Flores**	**6.52**	**170**	Pn	**Pn**	**17 20 25.4**	**+0.4**
	comp=Z,5.7nm,0.3s,baz=344,slow=10,SNR=26						
PLCA				Sn	Sn	17 21 46.2	+7.7
	comp=Z,3.5nm,0.3s,baz=313,slow=15,SNR=1.7						
PLCA				Lg	Lg	17 22 11.2	
	comp=Z,4.4nm,0.3s,baz=258,slow=19,SNR=8.0						
PLCA	**Paso Flores**	**6.52**	**170**	*e*Pn	**Pn**	**17 20 25.4**	**+0.4**
	comp=Z,88nm,0.7s						
PLCA				Sn	Sn	17 21 46.2	+7.7
PLCA				Lg	Lg	17 22 11.2	
TRQA	**Tornquist**	**8.90**	**118**	*e*Pn	**Pn**	**17 20 58.9**	**+1.2**
	comp=Z,204nm,1.4s						
LVC	**Limon Verde**	**11.95**	**14**	*eP*	Pn	17 21 35.7	-4.0
	comp=Z,20nm,0.6s						
LPAZ	**La Paz**	**18.27**	**12**	*eP*	**Pn**	**17 23 02.6**	**-0.4**
LPAZ				pmax	pmax		
	comp=Z,45nm,0.9s						
LPAZ	**La Paz**	**18.27**	**12**	P	**Pn**	**17 23 02.9**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=186,slow=8.4,SNR=35						
LPAZ	**La Paz**	**18.27**	**12**	*eP*	**Pn**	**17 23 02.6**	**-0.4**
	comp=Z,45nm,0.9s						
EFI	**East Falkland**	**20.07**	**154**	P	**P**	**17 23 21.0**	**-0.8**
	comp=Z,278nm,1.2s,SNR=6.9						
EFI	**East Falkland**	**20.07**	**154**	*eP*	**P**	**17 23 20.6**	**-1.2**
EFI	**East Falkland**	**20.07**	**154**	*eP*	**P**	**17 23 20.7**	**-1.2**
USHA	**Ushuaia**	**20.68**	**174**	P	**P**	**17 23 28.2**	**-0.2**
	comp=Z,33nm,0.8s,baz=350,slow=8.7,SNR=10.0						
SIV	**San Ignacio**	**20.70**	**31**	P	**P**	**17 23 28.5**	**-0.5**
	comp=Z,14nm,0.9s,baz=222,slow=11,SNR=20						
NNA	**Nana**	**22.65**	**348**	*eP*	**P**	**17 23 50.6**	**+0.6**
NNA	**Nana**	**22.65**	**348**	P	**P**	**17 23 51.2**	**+1.1**
	comp=Z,27nm,0.8s,baz=194,slow=11,SNR=9.7						
NNA	**Nana**	**22.65**	**348**	*eP*	**P**	**17 23 50.6**	**+0.6**
	comp=Z,25nm,0.8s						
SAML	**Samuel**	**26.49**	**20**	*eP*	**P**	**17 24 27.0**	**+1.1**
	comp=Z,13nm,0.7s						
ATAH	**Atahualpa**	**27.68**	**346**	P	**P**	**17 24 37.6**	**+0.5**
	comp=Z,5.5nm,0.7s,baz=183,slow=7.8,SNR=5.0						
BDFB	**Brasilia**	**28.46**	**55**	P	**P**	**17 24 44.1**	**+0.3**
	comp=Z,7.1nm,0.8s,baz=222,slow=10.0,SNR=6.0						
OTAV	**Otavalo**	**34.89**	**349**	*eP*	**P**	**17 25 42.0**	**+1.3**
	comp=Z,41nm,1.3s						
PTGA	**Pitinga**	**35.23**	**21**	*eP*	**P**	**17 25 42.3**	**-0.7**
	comp=Z,15nm,0.9s						
ROSC	**El Rosal**	**39.01**	**356**	P	**P**	**17 26 16.7**	**+1.1**
	comp=Z,6.6nm,0.3s,baz=183,slow=3.1,SNR=5.6						
SDV	**Santo Domingo**	**42.97**	**2**	*eP*	**P**	**17 26 47.5**	**-0.4**
	comp=Z,30nm,1.1s						
BCIP	**Isla Barro Col**	**43.87**	**349**	*eP*	**P**	**17 26 54.2**	**-0.8**
	comp=Z,35nm,1.0s						
JTS	**JuntasAbangare**	**46.03**	**342**	*d iP*	**P**	**17 27 12.9**	**+0.7**
JTS				pmax	pmax		
	comp=Z,53nm,1.7s						
JTS	**JuntasAbangare**	**46.03**	**342**	P	**P**	**17 27 13.3**	**+1.1**
	comp=Z,10nm,0.9s,baz=201,slow=3.5,SNR=10						
JTS	**JuntasAbangare**	**46.03**	**342**	*eP*	**P**	**17 27 12.6**	**+0.4**
	comp=Z,16nm,1.0s						
VNA3	**Neumayer Olymp**	**49.06**	**158**	P	**P**	**17 27 36.2**	**+1.0**
VNA2	**Neumayer--Watz**	**49.71**	**157**	P	**P**	**17 27 40.9**	**+0.7**
SNAA	**Sanae**	**51.29**	**158**	P	**P**	**17 27 52.6**	**+0.6**
SNAA	**Sanae**	**51.29**	**158**	*eP*	**P**	**17 27 52.0**	**0.0**
SNAA				pmax	pmax		
	comp=Z,76nm,1.4s						
SNAA	**Sanae**	**51.29**	**158**	P	**P**	**17 27 52.4**	**+0.3**
	comp=Z,11nm,0.8s,baz=280,slow=7.2,SNR=40						
SNAA	**Sanae**	**51.29**	**158**	*eP*	**P**	**17 27 52.0**	**0.0**
	comp=Z,76nm,1.4s						
APG	**El Apazote**	**52.09**	**337**	P	P	17 27 55.0	-3.9
	comp=Z,14nm,0.6s,baz=169,slow=3.4,SNR=16						
CELP	**Cerrillos**	**52.34**	**6**	*eP*	**P**	**17 27 58.9**	**-1.5**
LRS	**Lares**	**52.53**	**6**	P	**P**	**17 28 01.5**	**-0.2**
RKT	**Rikitea**	**55.60**	**264**	*e*T	T	18 28 07.5	
	comp=Z,2.4nm,0.2s						
QSPA	**South Pole Qui**	**55.94**	**180**	P	**P**	**17 28 26.2**	**-0.1**
	comp=Z,39nm,0.8s,baz=150,slow=2.1,SNR=128						
NVL	**N'lazarevskaya**	**56.02**	**157**	*eP*	**P**	**17 28 25.4**	**-1.2**
NVL				pmax	pmax		
	comp=Z,41nm,1.2s						
SBA	**Scott Base**	**62.79**	**192**	*eP*	**P**	**17 29 13.9**	**+0.6**
SBA	**Scott Base**	**62.79**	**192**	*eP*	**P**	**17 29 13.9**	**+0.6**
VNDA	**Vanda**	**63.82**	**191**	P	**P**	**17 29 21.3**	**+1.2**
	comp=Z,2.9nm,0.7s,baz=140,slow=4.5,SNR=11						
035Z	**Hargill**	**65.30**	**334**	⇓P	**P**	**17 29 31.5**	**+1.2**
	baz=66						
SYO	**Syowa Base**	**65.57**	**158**	⇓*eP*	**P**	**17 29 30.2**	**-1.4**
SYO	**Syowa Base**	**65.57**	**158**	⇓*e*pP	pP	17 29 38.4	-1.6
035A	**Encino**	**65.75**	**334**	⇑P	**P**	**17 29 34.3**	**+1.1**
	baz=66,SNR=5.2						
034A	**Hebbronville**	**66.07**	**334**	⇑P	**P**	**17 29 36.4**	**+1.1**
	baz=66,SNR=10.0						
934A	**Benavides**	**66.50**	**334**	⇑P	**P**	**17 29 39.4**	**+1.3**
	baz=67						
933A	**Laredo**	**66.79**	**334**	⇓P	**P**	**17 29 40.8**	**+0.9**
	baz=67,SNR=6.3						
835A	**Beeville**	**66.89**	**335**	⇓P	**P**	**17 29 41.8**	**+1.4**
	baz=67						
834A	**Tilden**	**66.99**	**335**	⇑P	**P**	**17 29 42.8**	**+1.6**
	baz=67,SNR=9.5						
TBI	**Tubuai**	**67.30**	**257**	*e*T	T	18 42 44.7	
	comp=Z,8.4nm,0.3s						
735A	**Kenedy**	**67.40**	**336**	⇑P	**P**	**17 29 44.6**	**+0.9**
	baz=68						
833A	**Chaparral WMA,**	**67.48**	**334**	⇑P	**P**	**17 29 44.8**	**+0.6**
	baz=68,SNR=10						
832A	**Faith Ranch, C**	**67.65**	**333**	⇑P	**P**	**17 29 46.1**	**+0.7**
	baz=68,SNR=10						
HKT	**Hockley**	**67.76**	**338**	*eP*	**P**	**17 29 46.3**	**+0.4**
HKT				pmax	pmax		
	comp=Z,44nm,1.5s						
HKT	**Hockley**	**67.76**	**338**	*eP*	**P**	**17 29 46.3**	**+0.4**
	comp=Z,44nm,1.5s						
733A	**Divot King Ran**	**67.80**	**334**	⇓P	**P**	**17 29 47.5**	**+1.2**
	baz=68						
537A	**Green Hill Far**	**68.04**	**337**	⇓P	**P**	**17 29 48.5**	**+0.8**
	baz=68						
732A	**Laxson Ranch,**	**68.06**	**334**	⇑P	**P**	**17 29 48.5**	**+0.6**
	baz=68,SNR=9.6						
536A	**Bastrop**	**68.28**	**337**	⇑P	**P**	**17 29 50.1**	**+0.9**
	baz=69						
438A	**Sam Houston St**	**68.40**	**338**	⇑P	**P**	**17 29 50.5**	**+0.6**
	baz=69						
633A	**Saathoff Ranch**	**68.43**	**335**	⇑P	**P**	**17 29 50.9**	**+0.7**
	baz=69						
340A	**Bronson**	**68.55**	**340**	⇑P	**P**	**17 29 52.0**	**+1.1**
	baz=69						
339A	**Huntington**	**68.67**	**339**	⇑P	**P**	**17 29 52.8**	**+1.2**
	baz=69						
632A	**Uvalde**	**68.69**	**334**	⇓P	**P**	**17 29 52.3**	**+0.5**
	baz=69,SNR=14						
534A	**Blanco**	**68.70**	**335**	⇓P	**P**	**17 29 52.2**	**+0.2**
	baz=69						
436A	**Wall Ranch, Ga**	**68.83**	**337**	⇑P	**P**	**17 29 53.3**	**+0.7**
	baz=69						
MEH	**Mehetia**	**68.86**	**262**	*e*T	T	18 44 42.0	
	comp=Z,60nm,0.2s						
631A	**Perdido Creek**	**68.90**	**333**	⇑P	**P**	**17 29 53.7**	**+0.6**
	baz=69,SNR=6.6						
338A	**Crockett**	**68.91**	**339**	⇑P	**P**	**17 29 54.1**	**+1.0**
	baz=69						
533A	**Kerrville**	**68.94**	**335**	⇓P	**P**	**17 29 53.7**	**+0.3**
	baz=69,SNR=8.7						
337A	**Centerville**	**69.05**	**338**	⇑P	**P**	**17 29 54.8**	**+0.8**
	baz=69						
435B	**Jarrell**	**69.10**	**337**	⇑P	**P**	**17 29 54.9**	**+0.5**
	baz=69						
NATX	**Nacogdoches**	**69.10**	**339**	*eP*	**P**	**17 29 55.4**	**+1.1**
	comp=Z,59nm,1.2s						
239A	**Gary**	**69.28**	**340**	⇓P	**P**	**17 29 56.3**	**+0.9**
	baz=70						
532A	**Rocksprings**	**69.30**	**334**	⇑P	**P**	**17 29 56.1**	**+0.4**
	baz=70,SNR=23						
434A	**Burnet**	**69.36**	**336**	⇑P	**P**	**17 29 56.0**	**0.0**
	baz=70,SNR=10						
336A	**Riesel**	**69.42**	**337**	⇑P	**P**	**17 29 56.7**	**+0.4**
	baz=70,SNR=8.3						
238A	**Jacksonville**	**69.46**	**339**	⇓P	**P**	**17 29 57.5**	**+1.0**
	baz=70						
335A	**Moody**	**69.51**	**337**	⇑P	**P**	**17 29 57.0**	**+0.2**
	baz=70						
531A	**Rocksprings**	**69.56**	**334**	⇓P	**P**	**17 29 57.7**	**+0.4**
	baz=70,SNR=14						
433A	**Art**	**69.58**	**335**	⇓P	**P**	**17 29 57.6**	**+0.2**
	baz=70,SNR=24						
JCT	**Junction City**	**69.58**	**335**	*eP*	**P**	**17 29 57.7**	**+0.3**
JCT				pmax	pmax		
	comp=Z,74nm,1.3s						
JCT	**Junction City**	**69.58**	**335**	⇑P	**P**	**17 29 57.6**	**+0.2**
	baz=70,SNR=9.1						
JCT	**Junction City**	**69.58**	**335**	*eP*	**P**	**17 29 57.7**	**+0.3**
	comp=Z,74nm,1.3s						
KMSC	**Kings Mountain**	**69.64**	**352**	⇓P	**P**	**17 29 57.6**	**0.0**
	baz=70						
334A	**Lometa**	**69.82**	**336**	⇓P	**P**	**17 29 59.1**	**+0.3**
	baz=70,SNR=8.9						
530A	**J-C Ranch, Com**	**69.84**	**333**	⇑P	**P**	**17 29 59.4**	**+0.4**
	baz=70,SNR=23						
VAH	**Vaihoa**	**69.85**	**265**	*eP*	**P**	**17 29 59.8**	**+0.4**
	comp=Z,48nm,1.1s						
TVO	**Taravao**	**69.88**	**262**	*e*T	T	18 45 57.6	
	comp=Z,2.8nm,0.3s						
432A	**Menard**	**69.94**	**335**	⇓P	**P**	**17 29 59.8**	**+0.2**
	baz=70,SNR=6.6						
TXAR	**Lajitas Array**	**70.02**	**331**	P	**P**	**17 30 00.7**	**+0.5**
	comp=Z,3.5nm,0.5s,baz=157,slow=8.5,SNR=15						
431A	**Sonora**	**70.05**	**334**	⇑P	**P**	**17 30 00.6**	**+0.3**
	baz=70,SNR=10						
333A	**Richland Sprin**	**70.06**	**336**	⇑P	**P**	**17 30 00.2**	**-0.1**
	baz=70,SNR=13						
TIAR	**Tiarei**	**70.08**	**262**	*e*T	T	18 46 12.6	
	comp=Z,13nm,0.2s						
529A	**Stev Forest Ra**	**70.16**	**332**	⇓P	**P**	**17 30 01.1**	**+0.1**
	baz=70,SNR=19						
WHTX	**Lake Whitney,**	**70.17**	**337**	⇓P	**P**	**17 30 01.1**	**+0.2**
	baz=70,SNR=7.4						
PMOR	**Pomariorio Ree**	**70.19**	**265**	*eP*	**P**	**17 30 01.9**	**+0.4**
	comp=Z,31nm,1.2s						
137A	**Heron Place, G**	**70.20**	**339**	⇓P	**P**	**17 30 01.6**	**+0.5**
	baz=70						
PPT2	**Papeete2**	**70.25**	**262**	*eP*	**P**	**17 30 02.6**	**+0.7**
	comp=Z,67nm,1.4s						
OXF	**Oxford**	**70.38**	**345**	*eP*	**P**	**17 30 01.8**	**-0.3**
OXF				pmax	pmax		
	comp=Z,72nm,1.1s						
OXF	**Oxford**	**70.38**	**345**	*eP*	**P**	**17 30 01.8**	**-0.3**
	comp=Z,72nm,1.1s						
430A	**Baggett Ranch,**	**70.38**	**333**	⇓P	**P**	**17 30 02.6**	**+0.3**
	baz=71,SNR=9.2						
332A	**Millersview**	**70.38**	**335**	⇓P	**P**	**17 30 02.1**	**-0.1**
	baz=71,SNR=7.8						
234A	**Clairette**	**70.40**	**337**	⇓P	**P**	**17 30 03.0**	**+0.7**
	baz=71,SNR=5.3						
429A	**Davenport Ranc**	**70.48**	**333**	⇓P	**P**	**17 30 03.1**	**+0.1**
	baz=71,SNR=16						
331A	**San Angelo**	**70.56**	**334**	⇑P	**P**	**17 30 03.1**	**-0.3**
	baz=71,SNR=8.9						
233A	**Rising Star**	**70.67**	**336**	⇑P	**P**	**17 30 03.9**	**-0.1**
	baz=71,SNR=8.5						
135A	**Vickery Place,**	**70.68**	**337**	⇓P	**P**	**17 30 04.1**	**+0.1**
	baz=71						
232A	**Coleman**	**70.81**	**335**	⇑P	**P**	**17 30 04.6**	**-0.3**
	baz=71,SNR=8.8						
134A	**White-Moore Ra**	**70.91**	**337**	⇓P	**P**	**17 30 05.1**	**-0.3**
	baz=71						
330A	**Mertzon**	**70.91**	**334**	⇓P	**P**	**17 30 05.0**	**-0.6**
	baz=71,SNR=5.5						
231A	**Bronte**	**71.08**	**335**	⇑P	**P**	**17 30 06.2**	**-0.4**
	baz=71,SNR=7.3						
133A	**Hamilton Ranch**	**71.22**	**336**	⇓P	**P**	**17 30 07.3**	**0.0**
	baz=72,SNR=7.0						
329A	**Wagon Wheel Ra**	**71.28**	**333**	⇑P	**P**	**17 30 07.9**	**0.0**
	baz=72,SNR=7.1						
Z35A	**Perchaven, San**	**71.34**	**338**	⇓P	**P**	**17 30 08.1**	**+0.1**
	baz=72						
ABTX	**Abilene, Hawle**	**71.48**	**336**	⇑P	**P**	**17 30 09.0**	**+0.1**
	baz=72,SNR=7.5						
Z34A	**Collier Ranch,**	**71.59**	**337**	⇓P	**P**	**17 30 09.7**	**+0.2**
	baz=72						
WVT	**Waverly**	**71.62**	**347**	*eP*	**P**	**17 30 09.0**	**-0.6**
WVT				pmax	pmax		
	comp=Z,74nm,0.8s						
WVT	**Waverly**	**71.62**	**347**	*eP*	**P**	**17 30 09.0**	**-0.6**
	comp=Z,74nm,0.8s						
229A	**Bryant Ranch,**	**71.65**	**334**	⇑P	**P**	**17 30 10.1**	**0.0**
	baz=72,SNR=5.4						
131A	**Roby**	**71.78**	**335**	⇓P	**P**	**17 30 10.5**	**-0.3**
	baz=72,SNR=5.4						
Z33A	**Whitaker Ranch**	**71.79**	**337**	⇑P	**P**	**17 30 10.7**	**-0.1**
	baz=72,SNR=6.1						
JSRW	**J. Sargeant Re**	**71.84**	**355**	*eP*	**P**	**17 30 11.4**	**+0.5**
130A	**Snyder**	**71.91**	**335**	⇓P	**P**	**17 30 11.3**	**-0.3**
	baz=72						
Z32A	**Haskell**	**72.04**	**336**	⇓P	**P**	**17 30 12.1**	**-0.2**
	baz=72,SNR=6.5						
228A	**UT Block 9, Go**	**72.08**	**333**	⇓P	**P**	**17 30 12.9**	**+0.3**
	baz=72,SNR=10						
Y34A	**Reagan Ranch,**	**72.08**	**338**	⇑P	**P**	**17 30 13.0**	**+0.6**
	baz=72						
Z31A	**Sharp Cattle R**	**72.28**	**335**	⇓P	**P**	**17 30 14.0**	**+0.3**
	baz=73,SNR=10						
Y33A	**Hilltop Ranch,**	**72.40**	**337**	⇑P	**P**	**17 30 14.0**	**-0.4**
	baz=73,SNR=5.1						
128A	**Castleberry Fa**	**72.49**	**333**	⇑P	**P**	**17 30 15.4**	**+0.4**
	baz=73,SNR=7.4						
Z30A	**Sanderson Ranc**	**72.59**	**335**	⇓P	**P**	**17 30 15.5**	**-0.2**
	baz=73,SNR=7.3						
Y32A	**R-V Farms, Ver**	**72.67**	**336**	⇑P	**P**	**17 30 16.0**	**+0.1**
	baz=73						
X34A	**Smith Ranch, M**	**72.70**	**338**	⇓P	**P**	**17 30 16.5**	**+0.3**
	baz=73,SNR=6.3						
Z29A	**Hungry Hill Ra**	**72.78**	**334**	⇓P	**P**	**17 30 16.3**	**-0.4**
	baz=73,SNR=7.1						
X33A	**Lawton**	**72.85**	**337**	⇑P	**P**	**17 30 17.3**	**+0.2**
	baz=73						
Y31A	**Rekieta Farm,**	**72.91**	**336**	⇑P	**P**	**17 30 17.9**	**+0.5**
	baz=73,SNR=6.1						
X32A	**Elmer**	**73.00**	**337**	⇓P	**P**	**17 30 18.4**	**+0.4**
	baz=73						
Y30A	**Stafford Cattl**	**73.05**	**335**	⇓P	**P**	**17 30 18.9**	**+0.6**
	baz=73						
W34A	**Bridge Creek,**	**73.27**	**338**	⇓P	**P**	**17 30 20.0**	**+0.5**
	baz=74						
Y29A	**Porterfield Fa**	**73.31**	**335**	⇑P	**P**	**17 30 20.0**	**+0.2**
	baz=74,SNR=9.7						
TUL1	**Leonard**	**73.31**	**340**	⇑P	**P**	**17 30 19.7**	**0.0**
	baz=74						
W33A	**Caddo, Fort Co**	**73.41**	**338**	⇑P	**P**	**17 30 20.7**	**+0.3**
	baz=74,SNR=6.8						
X31A	**McDonald Ranch**	**73.42**	**336**	⇑P	**P**	**17 30 20.4**	**-0.1**
	baz=74,SNR=5.7						
X30A	**Coker Ranch, T**	**73.56**	**335**	⇓P	**P**	**17 30 21.3**	**0.0**
	baz=74						
Y28A	**McKinney Farm,**	**73.56**	**334**	⇑P	**P**	**17 30 21.5**	**+0.2**
	baz=74						
W32A	**Sentinel**	**73.63**	**337**	⇓P	**P**	**17 30 22.0**	**+0.3**
	baz=74,SNR=18						
V34A	**Guthrie**	**73.74**	**339**	⇑P	**P**	**17 30 22.3**	**0.0**
	baz=74						
MSTX	**Muleshoe**	**73.80**	**334**	⇓P	**P**	**17 30 22.9**	**+0.1**
	baz=74,SNR=5.9						
X29A	**Tulia**	**73.84**	**335**	⇑P	**P**	**17 30 23.0**	**-0.1**
	baz=74						
Y27A	**Causey**	**73.87**	**333**	⇓P	**P**	**17 30 23.1**	**-0.1**
	baz=74						
W31A	**Holland Ranch,**	**73.91**	**336**	⇓P	**P**	**17 30 23.5**	**+0.1**
	baz=74						
V33A	**Lossen Ranch,**	**73.97**	**338**	⇓P	**P

baz=76,SNR=9.4
T29A Hugoton 76.16 336 ⇑P P 17 30 36.9 +0.6
baz=76
R33A Olander Ranch, 76.17 339 ⇓P P 17 30 36.8 +0.5
baz=76
214A Organ Pipe Nat 76.30 325 ⇓P P 17 30 38.1 +0.9
baz=77,SNR=7.8
V24A Rampart Ranch, 76.30 333 ⇓P P 17 30 37.8 +0.5
baz=77,SNR=6.6
U26A Atchley Ranch, 76.32 334 ⇑P P 17 30 38.1 +0.7
baz=77
S30A Montezuma 76.32 337 ⇑P P 17 30 37.7 +0.5
baz=77
T28A Walsh 76.40 336 ⇓P P 17 30 37.9 +0.2
baz=77,SNR=12
R32A Long Quarter, 76.49 339 ⇑P P 17 30 39.0 +0.8
baz=77
KSU1 Kansas State U 76.52 341 ⇓P P 17 30 38.0 -0.2
baz=77
S29A Ulysses 76.52 337 ⇓P P 17 30 38.7 +0.4
baz=77,SNR=6.9
T27A Campo 76.56 335 ⇑P P 17 30 39.0 +0.4
baz=77,SNR=6.5
U25A Circle Dot Ran 76.57 334 ⇑P P 17 30 39.5 +0.7
baz=77
R31A Burdett 76.62 338 ⇓P P 17 30 38.9 +0.1
baz=77,SNR=6.1
S28A Manter 76.75 336 ⇓P P 17 30 40.0 +0.3
baz=77,SNR=11
Q33A Connelly Farm, 76.77 340 ⇓P P 17 30 39.9 +0.3
baz=77
R30A Dighton 76.85 337 ⇓P P 17 30 41.0 +0.8
baz=77
T26A Comanche Natio 76.97 335 ⇓P P 17 30 42.1 +1.1
baz=77,SNR=5.1
Q32A Meitler Ranch, 76.97 339 ⇓P P 17 30 41.4 +0.6
baz=77
V22A San Miguel Ran 77.10 332 ⇓P P 17 30 42.9 +1.1
baz=77,SNR=24
X18A Snowflake 77.16 329 ⇓P P 17 30 43.0 +0.8
baz=78,SNR=9.1
S27A Las Animas 77.18 335 ⇓P P 17 30 42.8 +0.6
baz=78
U23A El Rito 77.18 332 ⇓P P 17 30 43.6 +1.3
baz=78,SNR=6.9
T25A Trinidad 77.23 334 ⇓P P 17 30 43.8 +1.3
baz=78,SNR=25
Q31A Ellis 77.24 338 ⇑P P 17 30 43.1 +0.8
baz=78,SNR=6.8
R29A Marienthal 77.26 337 ⇑P P 17 30 43.1 +0.6
baz=78
S26A Kim 77.32 335 ⇑P P 17 30 43.9 +1.0
baz=78,SNR=19
R28A Tribune 77.40 336 ⇑P P 17 30 44.0 +0.7
baz=78
113A Mohawk Valley, 77.42 325 ⇑P P 17 30 44.3 +0.9
baz=78
Q30A Quinter 77.47 338 ⇓P P 17 30 44.3 +0.7
baz=78,SNR=8.5
U22A Llaves 77.48 332 ⇑P P 17 30 45.4 +1.4
baz=78,SNR=11
T24B San Luis 77.52 333 ⇑P P 17 30 45.4 +1.1
baz=78,SNR=12
Z14A Wintersburg 77.52 326 ⇓P P 17 30 44.7 +0.7
baz=78
P32A Huiting Farm, 77.57 339 ⇓P P 17 30 44.0 -0.1
baz=78
W18A Petrified Fore 77.57 329 ⇑P P 17 30 45.4 +1.0
baz=78,SNR=5.8
Q29A Oakley 77.63 337 ⇓P P 17 30 44.7 +0.1
baz=78
R27A Eads 77.68 336 ⇓P P 17 30 45.5 +0.6
baz=78,SNR=13
S25A Robets Cordova 77.70 334 ⇑P P 17 30 46.0 +0.9
baz=78,SNR=14
P31A Stockton 77.71 339 ⇑P P 17 30 45.5 +0.6
baz=78,SNR=6.7
T23A Casias Ranch, 77.74 333 ⇑P P 17 30 46.4 +0.9
baz=78
MDV Middlebury 77.94 359 eP P 17 30 46.4 +0.4
comp=Z,46µm,0.7s
S24A Houchin Ranch, 77.97 334 ⇑P P 17 30 47.9 +1.1
baz=78,SNR=22
P30A Selden 77.99 338 ⇓P P 17 30 47.6 +1.0
baz=78
Y14A Wickenburg 78.03 326 ⇑P P 17 30 47.8 +0.9
baz=78,SNR=7.8
Q28A Sharon Springs 78.06 337 ⇓P P 17 30 47.8 +0.8
baz=78
O32A Brockman Farm, 78.07 340 ⇓P P 17 30 47.7 +0.8
baz=78
R25A Fountain Ranch 78.08 334 ⇓P P 17 30 47.9 +0.7
baz=78
GLA Glamis 78.16 324 ⇓P P 17 30 48.5 +0.9
baz=78
P29A Atwood 78.26 338 ⇓P P 17 30 48.9 +0.9
baz=79
O31A Woolen Ranch, 78.27 339 ⇑P P 17 30 48.6 +0.6
baz=79
P28A Saint Francis 78.50 337 ⇓P P 17 30 50.5 +1.1
baz=79
O30A MW Ranch, Wils 78.52 338 ⇓P P 17 30 50.3 +0.9
baz=79
SWSC Sam W. Stewart 78.54 324 ⇓P P 17 30 50.5 +0.8
baz=79
Y12C Blythe 78.59 325 ⇑P P 17 30 51.1 +1.2
baz=79,SNR=5.4
WUAZ Wupatki 78.61 328 ⇓P P 17 30 51.7 +1.4
baz=79,SNR=14
S22A 4UR Ranch, Cre 78.67 332 ⇑P P 17 30 51.5 +0.9
baz=79,SNR=10
R23A Moffat 78.68 333 ⇑P P 17 30 51.8 +1.2
baz=79,SNR=12
O29A 4D Ranch, Culb 78.70 338 ⇑P P 17 30 51.4 +1.0
baz=79
Q25A Bedland, Calha 78.75 335 ⇑P P 17 30 51.8 +0.9
baz=79
P27A Ficken Ranch, 78.75 336 ⇓P P 17 30 51.9 +1.1
baz=79
N31A Bailey Ranch, 78.78 339 ⇑P P 17 30 52.0 +1.2
baz=79
MONP Monument Peak, 78.81 323 ⇑P P 17 30 52.7 +1.3
baz=79
MVCO Mesa Verde 78.85 331 ⇑P P 17 30 52.6 +1.0
baz=79,SNR=10
PDMCI Parker Dam,Lak 78.86 325 ⇓P P 17 30 53.0 +1.6
baz=79
BC3 Big Chuckawall 78.95 324 ⇑P P 17 30 53.1 +1.0
baz=79,SNR=8.7
O28A Krutsinger Ran 79.01 337 ⇓P P 17 30 53.0 +0.9
baz=79
P26A Davis Ranch, A 79.02 336 ⇑P P 17 30 53.2 +0.9
baz=79
BGNE Belgrade 79.09 340 ⇓P P 17 30 53.2 +0.7
baz=79
Q24A Divide 79.11 334 ⇓P P 17 30 53.8 +0.8
baz=80,SNR=15
IRM Iron Mountain 79.22 325 ⇑P P 17 30 54.7 +1.3
baz=80,SNR=9.0
P25A Willow Gulch B 79.25 335 ⇑P P 17 30 54.7 +1.1
baz=80,SNR=12
M31A Lambtecht Ranc 79.27 340 ⇑P P 17 30 54.4 +0.9
baz=80
O27A Beecher Island 79.29 337 ⇑P P 17 30 54.7 +0.9
baz=80
W13A Hualapai Mount 79.39 326 ⇓P P 17 30 55.9 +1.3
baz=80
PFO Pinyon Flats O 79.41 323 P P 17 30 56.9 +2.3
comp=Z,147nm,1.1s,SNR=5.0
PFO Pinyon Flats O 79.41 323 eP P 17 30 56.1 +1.5
PFO pmax pmax
comp=Z,39nm,1.3s
PFO Pinyon Flats O 79.41 323 ⇑P P 17 30 56.1 +1.5
baz=80,SNR=6.7
PFO Pinyon Flats O 79.41 323 eP P 17 30 56.1 +1.5
comp=Z,39nm,1.3s
BELC Belle Mtn. Jos 79.50 324 ⇑P P 17 30 55.6 +0.5
baz=80
O26A Horse Wrangler 79.62 336 ⇑P P 17 30 56.6 +1.0
baz=80
PV01 Paradox Valley 79.68 331 eP P 17 30 56.8 +0.7
comp=Z,2µm,1.5s
P23A Jefferson 79.73 334 ⇓P P 17 30 57.6 +1.2
baz=80
MURC Murrieta 79.77 323 ⇑P P 17 30 57.7 +1.3
baz=80,SNR=5.2
O25A Wiggins 79.77 336 ⇑P P 17 30 57.8 +1.4
baz=80

U15A North Rim 79.78 328 ⇓P P 17 30 58.0 +1.3
baz=80
OGNE Ogallala 79.83 337 ⇑P P 17 30 57.7 +1.1
baz=80
N27A Anderson Farm, 79.87 337 ⇓P P 17 30 57.9 +1.1
baz=80
BOSA Boshof 79.88 118 eP P 17 30 57.6 +0.1
BOSA pmax pmax
comp=Z,25nm,0.9s
BOSA Boshof 79.88 118 P P 17 30 57.1 -0.3
comp=Z,21nm,0.8s,baz=89,slow=7.0,SNR=13
BOSA Boshof 79.88 118 eP P 17 30 57.6 +0.1
comp=Z,25nm,0.9s
GMRC Granite Mounta 79.97 325 ⇑P P 17 30 59.1 +1.5
baz=80,SNR=16
L31A Butterfield Fa 80.00 340 ⇑P P 17 30 58.4 +1.0
baz=80
ISCO Idaho Springs 80.02 334 ⇑P P 17 30 58.7 +0.8
baz=80,SNR=9.8
M28A Bar X Bar Ranc 80.03 338 ⇓P P 17 30 58.8 +1.1
baz=80
L30A Spencer Herefo 80.04 339 ⇑P P 17 30 59.0 +1.3
baz=80
CIS Catalina Islan 80.22 322 ⇓P P 17 31 00.1 +1.2
baz=80
P22A Eagle 80.26 333 ⇑P P 17 31 00.5 +1.3
baz=81,SNR=6.9
HEC Hector,Ludlow 80.33 324 ⇓P P 17 31 00.8 +1.3
baz=81,SNR=15
FMP Fort Macarthur 80.41 322 ⇑P P 17 31 00.9 +1.2
baz=81
M27A Reverse DX Ran 80.47 337 ⇓P P 17 31 01.2 +1.1
baz=81
O23A Lake Granby, G 80.49 334 ⇑P P 17 31 01.5 +1.0
baz=81,SNR=13
BFSC Mount Baldy Ra 80.51 323 ⇓P P 17 31 01.6 +1.1
baz=81,SNR=8.9
TUQ Turquoise Moun 80.63 325 ⇓P P 17 31 02.4 +1.3
baz=81,SNR=11
N24A Carr 80.67 335 ⇑P P 17 31 02.9 +1.6
baz=81
K30A Basset 80.68 340 ⇓P P 17 31 02.0 +0.9
baz=81,SNR=6.3
O22A Kremmling 80.68 334 ⇓P P 17 31 02.4 +0.9
baz=81,SNR=21
ECSD EROS Data Cent 80.85 342 ⇓P P 17 31 02.1 +0.1
baz=81,SNR=42
M25A Palm-Egli Farm 80.93 336 ⇑P P 17 31 03.5 +0.8
baz=81
GSC Goldstone, Bar 80.94 324 ⇓P P 17 31 03.9 +1.2
baz=81,SNR=7.3
L27A T5 Ranch, Ells 80.95 338 ⇓P P 17 31 04.0 +1.3
baz=81,SNR=5.1
N23A Red Feather La 81.11 335 ⇓P P 17 31 04.6 +0.9
baz=82,SNR=9.6
SHPR Sheep Range 81.14 326 eP P 17 31 04.8 +1.0
comp=Z,38nm,1.3s
EDW2 Edwards Air Fo 81.18 323 ⇑P P 17 31 05.0 +1.0
baz=82,SNR=7.0
N22A Wattenberg Ran 81.21 334 ⇓P P 17 31 05.4 +1.2
baz=82,SNR=15
M24A Cheyenne 81.22 336 ⇓P P 17 31 05.5 +1.3
baz=82,SNR=7.2
K28A Ten Mile Ranch 81.23 339 ⇓P P 17 31 05.4 +1.4
baz=82
J30A Dallas 81.24 340 ⇑P P 17 31 04.6 +0.6
baz=82
O20A White River Ci 81.28 333 ⇑P P 17 31 05.2 +0.6
baz=82,SNR=6.5
BSC Santa Cruz Isl 81.31 322 ⇓P P 17 31 06.0 +1.3
baz=82
ARUT Antelope Range 81.42 328 eP P 17 31 06.9 +1.6
ARUT pmax pmax
comp=Z,743nm,1.5s
ARUT Antelope Range 81.42 328 eP P 17 31 06.9 +1.6
comp=Z,743nm,1.5s
K27A Flueckinger Fa 81.49 338 ⇑P P 17 31 06.9 +1.5
baz=82
LRMC Laurel Mtn Rad 81.51 324 ⇑P P 17 31 06.8 +1.0
baz=82,SNR=11
M23A Laramie 81.53 335 ⇑P P 17 31 07.3 +1.4
baz=82
L25A Engebretsen Ra 81.55 337 ⇑P P 17 31 07.2 +1.4
baz=82
J29A Okreek 81.56 340 ⇓P P 17 31 06.5 +0.8
baz=82,SNR=12
I30A Oacoma 81.77 340 ⇓P P 17 31 07.3 +0.5
baz=82,SNR=7.7
L24A Wheatland 81.77 336 ⇓P P 17 31 08.3 +1.2
baz=82
K26A Motz Farm, Whi 81.78 337 ⇓P P 17 31 08.2 +1.2
baz=82
M22A Cedar Creek Ra 81.79 334 ⇑P P 17 31 08.1 +0.8
baz=82,SNR=5.6
J28A Allard Ranch, 81.84 339 ⇓P P 17 31 08.4 +1.1
baz=82
N20A Spence Gulch, 81.90 333 ⇑P P 17 31 08.8 +0.9
baz=82
FURC Furnace Creek, 81.91 325 ⇓P P 17 31 08.8 +1.1
baz=82
J27A Elkhorn Farm, 81.92 338 ⇓P P 17 31 08.8 +1.1
baz=82,SNR=6.4
K25A Mack Ranch, Ha 81.93 337 ⇓P P 17 31 09.3 +1.5
baz=82
ISA Isabella, Lake 82.04 323 ⇑P P 17 31 10.2 +1.7
baz=82,SNR=13
L23A Garrett 82.10 335 ⇓P P 17 31 09.2 +0.4
baz=82,SNR=5.4
I29A Vivian Onida 82.11 340 ⇓P P 17 31 09.2 +0.6
baz=82
BRSD Miller 82.13 341 ⇑P P 17 31 08.8 +0.1
baz=82
LBTB Lobatse 82.13 115 eP P 17 31 09.8 +0.3
LBTB pmax pmax
comp=Z,22nm,0.9s
LBTB Lobatse 82.13 115 P P 17 31 09.1 -0.4
comp=Z,12nm,0.6s,baz=261,slow=6.0,SNR=26
LBTB Lobatse 82.13 115 eP P 17 31 09.8 +0.3
comp=Z,22nm,0.9s
L22A Ellis Ranch, M 82.28 335 ⇓P P 17 31 10.7 +0.9
baz=83
J26A Sides Ranch, S 82.30 338 ⇑P P 17 31 11.3 +1.6
baz=83,SNR=10
K24A Anderson Ranch 82.34 336 ⇑P P 17 31 11.1 +1.1
baz=83
I28A Midland 82.34 339 ⇑P P 17 31 10.4 +0.5
baz=83,SNR=9.9
VES Vestal, Richgr 82.49 323 ⇓P P 17 31 11.8 +1.0
baz=83,SNR=5.8
J25A Sunshine Ranch 82.60 337 ⇓P P 17 31 12.1 +0.8
baz=83
K23A Bowen Ranch, D 82.64 336 ⇑P P 17 31 12.2 +0.6
baz=83,SNR=7.5
H29A Onida 82.64 340 ⇑P P 17 31 11.5 +0.1
baz=83,SNR=8.3
I27A Quinn 82.67 339 ⇓P P 17 31 12.1 +0.5
baz=83
G30A Faulkton 82.81 341 ⇑P P 17 31 12.8 +0.6
baz=83
J24A Dixon Ranch, L 82.83 337 ⇑P P 17 31 13.5 +1.0
baz=83,SNR=6.8
R11A Troy Canyon, C 82.84 327 ⇓P P 17 31 14.0 +1.2
baz=83,SNR=31
K22A Casper 82.86 335 ⇓P P 17 31 13.4 +0.7
baz=83,SNR=9.8
H28A Mission Ridge 82.92 340 ⇓P P 17 31 13.1 +0.3
baz=83,SNR=5.4
G29A Hoven 83.08 340 ⇓P P 17 31 14.0 +0.3
baz=83
K21A Alcova 83.10 335 ⇓P P 17 31 14.5 +0.5
baz=83,SNR=10
I25A Rochford 83.15 338 ⇓P P 17 31 15.0 +0.8
baz=84,SNR=12
DUG Dugway, Tooele 83.16 330 ⇓P P 17 31 15.4 +1.1
baz=84,SNR=18
H27A Howes 83.19 339 ⇑P P 17 31 14.9 +0.6
baz=84
G28A Parade 83.25 340 ⇓P P 17 31 15.0 +0.4
baz=84,SNR=6.4
I24A Kuemmerle Ranc 83.29 337 ⇓P P 17 31 15.4 +0.5
baz=84
J22A Midwest 83.51 335 ⇓P P 17 31 15.9 -0.2
baz=84,SNR=8.0
H25A Fruitdale 83.64 338 ⇓P P 17 31 17.3 +0.7
baz=84
F29A Eureka 83.65 341 ⇓P P 17 31 16.9 +0.3
baz=84,SNR=5.8
MLAC Mammoth, Mammo 83.78 324 ⇓P P 17 31 19.2 +1.5

baz=84
J21A Lysite 83.79 335 ⇑P P 17 31 17.8 +0.2
baz=84
G27A Dupree 83.83 339 ⇓P P 17 31 18.0 +0.5
baz=84
F28A McLaughlin 83.93 340 ⇑P P 17 31 18.3 +0.3
baz=84,SNR=5.2
I22A 9 Mile Ranch, 83.94 336 ⇓P P 17 31 18.3 +0.1
baz=84,SNR=11
G26A Maurine 83.95 339 ⇑P P 17 31 18.2 +0.1
baz=84
E30A Jud 84.02 342 ⇓P P 17 31 18.9 +0.4
baz=84
J20A Shoshoni 84.02 334 ⇑P P 17 31 19.4 +0.7
baz=84,SNR=21
PDAR Pinedale Array 84.06 333 P P 17 31 18.6 -0.3
comp=Z,6.8nm,1.0s,baz=159,slow=4.8,SNR=28
PDAR PKKPbc PKKPbc 17 49 32.7 -2.1
comp=Z,0.5nm,0.6s,baz=217,slow=1.5,SNR=4.2
H24A Dirks Ranch, A 84.06 337 ⇓P P 17 31 18.6 -0.2
baz=84,SNR=7.1
G25A Newell 84.10 338 ⇓P P 17 31 19.7 +0.7
baz=84
I21A Big Trails, Te 84.15 335 ⇑P P 17 31 19.0 -0.3
baz=84,SNR=9.4
NVAR Mina Array Bea 84.16 325 P P 17 31 20.6 +1.0
comp=Z,6.9nm,0.8s,baz=158,slow=6.2,SNR=42
TORD Torodi Ar. Bea 84.26 70 P P 17 31 20.2 -0.2
comp=Z,6.9nm,0.8s,baz=266,slow=4.3,SNR=39
E29A Napoleon 84.28 341 ⇑P P 17 31 20.2 +0.4
baz=85
J19A Crowheart 84.30 334 ⇑P P 17 31 20.6 +0.5
baz=85,SNR=12
F27A Lemmon 84.30 339 ⇓P P 17 31 20.0 +0.1
baz=85,SNR=6.9
F26A Lodgepole 84.47 339 ⇓P P 17 31 21.0 +0.2
baz=85
H22A Clearmont 84.51 336 ⇑P P 17 31 21.2 +0.1
baz=85
D30A Buchanan 84.54 342 ⇓P P 17 31 21.4 +0.3
baz=85,SNR=11
I20A Worland 84.56 335 ⇓P P 17 31 21.4 +0.1
baz=85,SNR=14
E28A Huff 84.57 341 ⇓P P 17 31 21.5 +0.3
baz=85,SNR=6.2
E27A Carson 84.68 340 ⇓P P 17 31 22.2 +0.4
baz=85
D29A Pettibone, Tap 84.72 341 ⇑P P 17 31 22.1 +0.2
baz=85,SNR=7.6
G23A Biddle 84.73 337 ⇑P P 17 31 22.0 -0.2
baz=85
WAKR Walker 84.76 325 eP P 17 31 23.9 +1.2
comp=Z,73nm,1.9s
F25A Bowman 84.78 339 ⇑P P 17 31 22.7 +0.3
baz=85
H21A Big Horn, Sher 84.78 336 ⇑P P 17 31 22.3 -0.2
baz=85
I19A Meeteetse 84.94 334 ⇓P P 17 31 23.5 +0.1
baz=85
AGMN Agassiz Nation 84.96 344 ⇑P P 17 31 23.0 -0.1
baz=85,SNR=7.8
E26A Carlson Angus 84.97 339 ⇓P P 17 31 23.7 +0.4
baz=85
H20A Greybull 84.98 335 ⇑P P 17 31 23.6 +0.1
baz=85,SNR=9.2
F24A Ekalaka 85.01 338 ⇑P P 17 31 23.8 +0.3
baz=85
C30A Mose, Pekin 85.02 342 ⇑P P 17 31 23.9 +0.4
baz=85,SNR=21
G22A Birney 85.04 336 ⇓P P 17 31 23.9 +0.1
baz=85
D28A Regan 85.10 341 ⇑P P 17 31 24.4 +0.5
baz=86,SNR=6.0
F23A Volborg 85.20 337 ⇑P P 17 31 24.4 -0.1
baz=86,SNR=8.1
E25A Miller Ranch, 85.28 339 ⇑P P 17 31 25.4 +0.6
baz=86
D27A Center 85.28 340 ⇓P P 17 31 25.5 +0.6
baz=86
G21A Lodge Grass 85.36 336 ⇓P P 17 31 25.2 -0.1
baz=86,SNR=6.5
I17A Pilgrim Ck. 85.43 333 ⇑P P 17 31 26.7 +0.9
baz=86,SNR=16
MDND Maddock 85.45 342 ⇑P P 17 31 25.9 +0.4
baz=86,SNR=7.8
MDND Maddock 85.45 342 eP P 17 31 26.0 +0.4
comp=Z,5.7nm,0.6s
D26A Manning 85.47 340 ⇑P P 17 31 26.1 +0.4
baz=86,SNR=8.1
H19A Powell 85.49 334 ⇑P P 17 31 26.1 0.0
baz=86
F22A Rosebud 85.53 337 ⇓P P 17 31 26.1 0.0
baz=86,SNR=8.5
C28A Hausauer Farms 85.53 341 ⇓P P 17 31 26.5 +0.5
baz=86
E24A Baker 85.61 338 ⇑P P 17 31 27.0 +0.6
baz=86
B30A Myrvik Farm, E 85.68 343 ⇑P P 17 31 26.9 +0.2
baz=86,SNR=11
G20A Bridger 85.70 335 ⇑P P 17 31 27.0 -0.1
baz=86,SNR=29
H18A Shoshone NF, C 85.74 334 ⇓P P 17 31 27.7 +0.3
baz=86,SNR=35
C27A Sayler Ranch, 85.83 341 ⇑P P 17 31 28.0 +0.5
baz=86,SNR=9.2
H17A Grant Village 85.83 333 ⇓P P 17 31 28.4 +0.5
baz=86
F21A Absaloka Mine, 85.85 336 ⇑P P 17 31 28.2 +0.5
baz=86
B29A Wagenman Farm, 85.95 342 ⇑P P 17 31 28.4 +0.3
baz=86,SNR=7.4
E22A Miles City 86.01 337 ⇑P P 17 31 28.5 +0.1
baz=86
D24A Glendive 86.11 339 ⇑P P 17 31 29.5 +0.6
baz=86,SNR=9.1
A30A Hoffart Farm, 86.13 343 ⇓P P 17 31 28.6 -0.3
baz=86,SNR=8.1
F20A Billings 86.18 336 ⇓P P 17 31 29.2 -0.2
baz=86,SNR=5.2
B28A Dugan Ranch, T 86.20 342 ⇓P P 17 31 29.6 +0.3
baz=87,SNR=5.9
C25A Freed Ranch, W 86.33 339 ⇑P P 17 31 31.0 +1.0
baz=87
A29A Manning Farm, 86.34 342 ⇑P P 17 31 29.7 -0.3
baz=87,SNR=11
D23A Lindsay 86.43 338 ⇓P P 17 31 31.1 +0.5
baz=87,SNR=19
E21A Keefer Ranch, 86.47 337 ⇑P P 17 31 31.1 +0.4
baz=87
C24A Savage 86.51 339 ⇑P P 17 31 31.5 +0.6
baz=87,SNR=9.3
QLMT Earthquake Lak 86.52 333 eP P 17 31 32.3 +1.0
comp=Z,3.5nm,1.3s
A28A Rude Farm, Bot 86.60 342 ⇑P P 17 31 31.4 +0.1
baz=87
HLID Hailey 86.62 331 ⇓P P 17 31 32.6 +0.9
baz=87,SNR=21
B26A Jensen Ranch, 86.64 340 ⇓P P 17 31 32.0 +0.5
baz=87
D22A Cohagen 86.72 337 ⇓P P 17 31 32.5 +0.5
baz=87,SNR=15
E20A Meyer Farm, Mu 86.79 336 ⇓P P 17 31 32.7 +0.4
baz=87,SNR=21
ULM Lac du Bonnet 86.80 345 P P 17 31 31.4 -0.8
comp=Z,14nm,1.0s,baz=168,slow=4.6,SNR=20
D21A La Casta Ranch 86.90 337 ⇓P P 17 31 33.2 +0.4
baz=87,SNR=8.5
E19A Rath Farm, Rou 86.97 335 ⇓P P 17 31 33.6 +0.3
baz=87,SNR=26
C23A Lambert 86.98 338 ⇓P P 17 31 33.6 +0.4
baz=87,SNR=22
A26A Wade Farm, Ken 87.06 341 ⇑P P 17 31 33.7 +0.2
baz=87,SNR=9.0
MCMT McKenzie Canyo 87.06 332 eP P 17 31 34.7 +0.8
comp=Z,19nm,1.3s
C22A Vida 87.15 338 ⇓P P 17 31 34.3 +0.3
baz=88,SNR=6.2
D20A Manuel Ranch, 87.30 336 ⇓P P 17 31 35.2 +0.4
baz=88,SNR=11
A25A Svangstu Ranch 87.39 340 ⇑P P 17 31 35.9 +0.7
baz=88,SNR=5.3
B23A Brockton 87.52 339 ⇑P P 17 31 35.6 -0.2
baz=88,SNR=11
D19A Cripps Ranch, 87.62 336 ⇓P P 17 31 36.4 +0.1
baz=88,SNR=8.8
A24A Westby 87.64 340 ⇓P P 17 31 36.9 +0.6
baz=88
B22A Reddig Ranch S 87.68 338 ⇓P P 17 31 36.8 +0.3
baz=88,SNR=10

LRM	Limekiln Ridge	87.75	333	*e*P		P	17 31 37.4	+0.2
	comp=Z,182nm,1.3s							
C20A	Veseth Ranch,	87.80	337	⇑P		P	17 31 37.3	+0.1
	baz=88,SNR=9.1							
A23A	Redstone	87.92	339	⇑P		P	17 31 38.2	+0.5
	baz=88							
B21A	Ellsworth Farm	88.11	338	⇓P		P	17 31 38.7	+0.1
	baz=88,SNR=5.5							
C19A	Slack Wire Ran	88.17	336	⇑P		P	17 31 39.1	+0.2
	baz=88,SNR=7.2							
N02D	Trinity Center	88.26	324	⇑P		P	17 31 39.7	+0.2
	baz=89							
A22A	Carney Farms,	88.27	338	⇑P		P	17 31 39.7	+0.4
	baz=89,SNR=15							
B20A	Solberg Farm,	88.44	337	⇓P		P	17 31 40.3	+0.1
	baz=89,SNR=10							
M04C	Macdoel	88.47	325	⇓P		P	17 31 40.7	+0.1
	baz=89							
A21A	Bergtoll Ranch	88.58	338	⇑P		P	17 31 40.4	-0.4
	baz=89,SNR=10							
M02C	Callahan	88.66	324	⇑P		P	17 31 41.3	-0.1
	baz=89							
EGMT	Eagleton	88.66	336	⇓P		P	17 31 41.3	0.0
	baz=89							
B19A	Brinkman Farms	88.76	336	⇓P		P	17 31 41.3	-0.4
	baz=89,SNR=11							
A20A	Cobblestone Ra	88.80	337	⇑P		P	17 31 41.7	-0.1
	baz=89,SNR=17							
SCHQ	Schefferville	88.88	3	P		P	17 31 41.6	-0.4
	comp=Z,4.1nm,1.0s,baz=208,slow=7.8,SNR=4.7							
A19A	Klindworth Far	89.10	337	⇑P		P	17 31 43.1	-0.2
	baz=89,SNR=8.6							
MSO	Missoula	89.15	333	⇓P		P	17 31 44.5	+0.8
	baz=90							
J05D	Fort Rock, OR	89.35	326	⇓P		P	17 31 45.7	+1.0
	baz=90							
LSZ	Lusaka	89.66	108	*e*P		P	17 31 48.7	+1.8
LSZ				pmax	pmax			
	comp=Z,4.0nm,1.1s							
LSZ	Lusaka	89.66	108	*e*P		P	17 31 48.7	+1.8
	comp=Z,4.0nm,1.1s							
BSMT	Bassoo Peak	90.32	333	*e*P		P	17 31 49.5	+0.3
	comp=Z,18nm,1.6s							
NEW	Newport	91.56	332	⇓P		P	17 31 54.4	-0.4
	baz=92							
YKA	Yellowknife Ar	102.36	341	P		Pdif	17 32 42.4	-0.8
	comp=Z,1.1nm,0.6s,baz=142,slow=4.5,SNR=28							
YKA				PP		PP	17 36 54.0	-2.5
	comp=Z,1.1nm,1.1s,baz=132,slow=7.1,SNR=4.4							
ILAR	Eielson Array	114.49	333	PKP		PKPdf	17 37 27.0	-0.3
	comp=Z,0.9nm,0.7s,baz=153,slow=2.0,SNR=11							
VYHS	Vyhne	115.25	47	*e*PKIKP		PKPdf	17 37 29.6	+0.3
VYHS	Vyhne	115.25	47	*e*PKP		PKPdf	17 37 29.6	+0.3
NB2	NORSAR Subarra	116.25	33	PKKP		PKKPbc	17 48 03.6	+2.0
	comp=Z,4.0nm,0.9s,baz=66,slow=4.4							
ASAR	Alice Springs	117.33	207	PKP		PKPdf	17 37 33.0	-1.2
	comp=Z,1.3nm,0.7s,baz=140,slow=2.1,SNR=19							
ASAR				PKKPbc		PKKPbc	17 47 57.1	+0.1
	comp=Z,0.5nm,0.6s,baz=338,slow=3.4,SNR=12							
WRA	Warramunga Arr	120.53	209	PKP		PKPdf	17 37 39.4	-1.1
	comp=Z,3.5nm,0.7s,baz=163,slow=1.6,SNR=53							
BRTR	Keskin Array B	121.93	61	PKP		PKPdf	17 37 42.5	-0.1
	comp=Z,1.5nm,0.7s,baz=189,slow=4.4,SNR=6.6							
KIEV	Kiev	122.34	48	*e*PKIKP		PKPdf	17 37 41.6	-1.2
AKASG	Malin Array Be	122.35	48	PKP		PKPdf	17 37 43.0	+0.2
	comp=Z,0.4nm,0.4s,baz=259,slow=3.6,SNR=4.0							
FINES	FINESS Array B	123.20	35	PKP		PKPdf	17 37 43.8	-0.4
	comp=Z,0.9nm,0.6s,baz=190,slow=31,SNR=4.1							
ARCES	ARCESS Array B	124.26	25	PKP		PKPdf	17 37 46.0	0.0
	comp=Z,2.2nm,0.7s,baz=135,slow=0.3,SNR=7.7							
H11S2	WAKE ISLAND Hyl	25.82	269	T		T	19 56 03.7	
	baz=119,slow=75,SNR=40							
H11S1	WAKE ISLAND Hyl	25.84	269	T		T	19 56 06.7	
	baz=119,slow=75,SNR=70							
H11S3	WAKE ISLAND Hyl	25.84	269	T		T	19 56 05.1	
	baz=119,slow=75,SNR=64							
H11N3	WAKE ISLAND Hyl	26.24	270	T		T	19 56 29.7	
H11N1	WAKE ISLAND Hyl	26.26	270	T		T	19 56 33.9	
H11N2	WAKE ISLAND Hyl	26.26	270	T		T	19 56 28.3	
KIV	Kislovodsk	129.60	58	*e*PKIKP		PKPdf	17 37 57.0	-0.1
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KLMR	Klimovskoe	129.61	36	*e*PKIKP		PKPdf	17 37 54.1	-2.3
KLMR				pmax	pmax			
	comp=Z,29nm,1.3s							
PRGR	Permogore	132.53	35	*e*PKIKP		PKPdf	17 37 59.2	-2.7
PRGR				pmax	pmax			
	comp=Z,12nm,1.1s							
ARU	Arti	139.93	41	*i* PKIKP		PKPdf	17 38 14.9	-0.9
SEY	Seymchan	140.32	330	PKP		PKPdf	17 38 14.7	-1.6
	comp=Z,8.3nm,0.7s,baz=120,slow=3.6,SNR=22							
PETK	Petropavlovsk-	140.40	314	PKhKP		PKPpre	17 38 08.6	
	comp=Z,4.4nm,1.0s,baz=106,slow=6.9,SNR=4.4							
TIXI	Tiksi	141.00	350	*i* PKIKP		PKPdf	17 38 15.2	-2.1
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.2s							
TIXI	Tiksi	141.00	350	*e*PKPpre		PKPpre	17 38 08.6	
ABKAR	Akbulak array	141.82	52	*e*PKPpre		PKPpre	17 38 13.4	
KSM	Kuching	147.27	184	*e*PKPdf		PKPbc	17 38 32.1	-0.2
BRVK	Borovoye	147.39	43	*e*PKIKP		PKPdf	17 38 29.7	+0.7
BRVK				*e*			17 38 32.5	
BRVK	Borovoye	147.39	43	*e*PKPdf		PKPdf	17 38 29.7	+0.7
BRVK				*e*PKPbc		PKPbc	17 38 32.5	+0.9
HYB	Hyderabad	148.75	115	*i* PKP		PKPbc	17 38 35.5	-0.7
YAK	Yakutsk	149.03	340	*e*PKIKP		PKPbc	17 38 33.5	-2.0
YAK				pmax	pmax			
	comp=Z,36nm,0.9s							
YAK				pmax	pmax			
	comp=E,6.0nm,1.4s							
YAK	Yakutsk	149.03	340	*e*PKPbc		PKPbc	17 38 35.1	-0.4
IPM	Ipoh	149.62	166	*e*PKPbc		PKPbc	17 38 37.8	-0.7
KKAR	Karatay Array	149.64	62	*e*PKP2		PKPbc	17 38 37.7	0.0
KKAR	Karatay Array	149.64	62	*e*PKPbc		PKPbc	17 38 37.7	0.0
YSS	Yuzh-Sakhalins	151.02	306	⇓*e*PKIKP		PKPbc	17 38 40.0	-0.8
YSS				pmax	pmax			
	comp=Z,30nm,0.9s							
YSS	Yuzh-Sakhalins	151.02	306	*e*PKPbc		PKPbc	17 38 40.6	-0.2
ASAJ	Asahikawa	151.66	301	PKPbc		PKPbc	17 38 42.4	0.0
	comp=Z,28nm,0.9s,baz=260,slow=4.5,SNR=8.8							
ASAJ	Asahikawa	151.66	301	*e*PKPdf		PKPdf	17 38 38.7	+2.6
ASAJ				PKPbc		PKPbc	17 38 42.4	0.0
AML	Almayashu	152.06	64	P		PKPbc	17 38 44.7	+0.8
	SNR=8.8							
EKS2	Erkin-Say	152.07	62	P		PKPbc	17 38 44.4	+0.8
	SNR=13							
USP	Ospenovka	152.52	61	P		PKPbc	17 38 45.0	+0.5
	SNR=5.5							
AAK	Ala-Archa	152.59	62	P		PKPbc	17 38 45.6	+0.8
	SNR=12							
AAK	Ala-Archa	152.59	62	*c i* PKIKP		PKPdf	17 38 39.2	+1.4
AAK				pmax	pmax			
	comp=Z,8.0nm,1.2s							
AAK	Ala-Archa	152.59	62	*e*PKPdf		PKPdf	17 38 38.6	+0.8
AAK				*e*PKPbc		PKiKP	17 38 45.2	+0.2
UCH	Uchtor	152.65	63	P		PKPbc	17 38 46.1	+0.8
	SNR=11							
KURK	Kurchatov	153.06	44	*e*PKIKP		PKPbc	17 38 45.3	0.0
KURK	Kurchatov	153.06	44	*e*PKPbc		PKPbc	17 38 45.3	0.0
NVS	Novosibirsk	153.16	33	*e*PKIKP		PKPbc	17 38 44.8	-0.6
NVS				pmax	pmax			
	comp=Z,25nm,1.0s							
NVS				pmax	pmax			
	comp=E,7.0nm,1.2s							
TKM2	Tokmak 2	153.36	61	P		PKPbc	17 38 47.1	+0.5
	SNR=5.2							
KSH	Kashi	153.93	69	PKPbc		PKPdf	17 38 40.0	+0.2
KSH				sPKP			17 38 49.7	
KSH				PKS		PKSdf	17 42 14.1	0.0
KSH				PP		PP	17 42 34.1	-2.1
KSH				SS		SS	18 02 10.2	-2.6
KSH				PPMZ				
	comp=E,190nm,8.5s							
KSH				LN				
	comp=E,120nm,5.1s							
KSH				LE				
	comp=E,67nm,4.5s							
KSH				LZ				
	comp=E,460nm,22.0s							
ZALV	Zalesovo Beam	154.45	33	PKP		PKPdf	17 38 39.5	-0.3
	comp=E,2.5nm,0.8s,baz=282,slow=2.1,SNR=13							
ZALV				PKPbc		PKiKP	17 38 48.4	+0.2
	comp=E,12nm,0.7s,baz=301,slow=3.1,SNR=40							
ZALV				PKPab		PKPab	17 39 02.7	0.0
	comp=E,11nm,0.7s,baz=300,slow=5.0,SNR=9.9							
MJAR	Matsushiro Arr	155.35	284	PKPbc		PKPbc	17 38 53.9	
	comp=E,1.4nm,0.9s,baz=115,slow=1.7,SNR=4.6							
MJAR				PKPab		PKPab	17 39 07.2	+0.1
	comp=E,2.1nm,0.7s,baz=147,slow=3.6,SNR=4.1							
BOD	Bodaibo	156.13	352	*e*PKIKP		PKPdf	17 38 52.6	+11
BOD				pmax	pmax			
	comp=Z,15nm,1.2s							
MKAR	Makanchi Array	156.92	50	PKP		PKPdf	17 38 43.3	-0.1
	comp=Z,1.4nm,0.9s,baz=283,slow=2.1,SNR=11							
MKAR				PKPab		PKPab	17 39 13.6	+0.1
	comp=Z,2.3nm,0.6s,baz=297,slow=3.2,SNR=11							
KOLN	Koldanda	158.10	101	*e*Pn		PKPdf	17 38 45.2	-0.6
DANN	Dangsing	158.46	99	*e*Pn		PKPdf	17 38 46.2	-0.1
GKN	Gorkha	159.04	101	*e*Pn		PKPdf	17 38 46.1	-0.7
USRK	Ussuriysk Ar.	159.04	305	PKPab		PKPab	17 39 22.8	0.0
	comp=Z,2.8nm,0.7s,baz=122,slow=2.5,SNR=4.6							
DMN	Daman	159.26	103	*e*Pn		PKPdf	17 38 46.8	-0.4
KKN	Kakani	159.48	102	*e*Pn		PKPdf	17 38 46.9	-0.5
PKI	Pulchoki	159.49	103	*e*Pn		PKPdf	17 38 46.9	-0.7
GUN	Gumba	160.01	103	*e*Pn		PKPdf	17 38 47.7	-0.5
JIRN	Jiri	160.16	104	*e*Pn		PKPdf	17 38 47.8	-0.6
RAMN	Ramite	160.18	106	*e*Pn		PKPdf	17 38 48.2	-0.1
ODAN	Odare	160.76	107	*e*Pn		PKPdf	17 38 48.7	-0.2
TAPN	Taplejung	161.24	106	*e*Pn		PKPdf	17 38 49.2	-0.3
WMQ	Urumqi	161.61	53	*e*PKP		PKPdf	17 38 48.1	-0.9
WMQ				PKPab		PKPab	17 39 34.8	+0.7
WMQ				PKS		PKSdf	17 42 20.0	-2.2
WMQ				PP		PP	17 43 20.1	+2.2
WMQ				SKS		SKSdf	17 45 48.0	-4.1
WMQ				SKKS		SKKSac	17 50 03.0	-1.2
WMQ				SS		SS	18 03 30.7	-3.1
WMQ				PPMZ				
	comp=Z,770nm,8.5s							
WMQ				LN				
	comp=Z,400nm,19.0s							
WMQ				LE				
	comp=Z,390nm,20.0s							
WMQ				LZ				
	comp=Z,440nm,23.0s							
CMAR	Chiang Mai Arr	162.26	151	PKP		PKPdf	17 38 50.4	0.0
	comp=Z,1.5nm,0.9s,baz=241,slow=2.5,SNR=11							
CMAR				PKPab		PKPab	17 39 37.0	-0.4
	comp=Z,1.4nm,1.1s,baz=216,slow=4.5,SNR=3.0							
TLY	Talaya	162.34	9	*e*PKP2		PKPab	17 39 38.2	+1.4
TLY				pmax	pmax			
	comp=Z,4.0nm,0.7s							
TLY	Talaya	162.34	9	PKPab		PKPab	17 39 38.2	+1.4
	comp=Z,2.0nm,0.6s,baz=308,slow=3.3,SNR=5.9							
CN2	Changchun	163.50	310	*e*PKP		PKPdf	17 38 50.0	-0.8
KSRS	Korea Array	163.57	287	PKPab		PKPab	17 39 43.6	+0.8
	comp=Z,2.6nm,0.7s,baz=97,slow=4.7,SNR=7.0							
KSAR	Wonju Array Be	163.60	287	PKP2		PKPab	17 39 43.6	+0.6
KSAR	Wonju Array Be	163.60	287	PKPab		PKPab	17 39 43.6	+0.6
SONM	Songino Array	166.42	5	PKP		PKPdf	17 38 52.3	-1.1
	comp=Z,0.9nm,0.9s,baz=200,slow=1.2,SNR=5.4							
SONM				PKPab		PKPab	17 39 55.4	+0.4
	comp=Z,2.4nm,0.9s,baz=340,slow=4.2,SNR=13							
SONM				PP		PP	17 43 44.1	+1.9
	comp=Z,1.1nm,1.1s,baz=343,slow=7.9,SNR=4.0							
ULN	Ulaanbaatar	166.43	3	*e*PKIKP		PKPdf	17 38 51.9	-1.5
ULN	Ulaanbaatar	166.43	3	*e*PKPdf		PKPdf	17 38 51.9	-1.5
KMI	Kunming	169.77	152	PKP		PKPdf	17 38 56.6	+0.1
NJ2	Nanjing	170.66	259	*e*PKP		PKPdf	17 38 56.7	+0.2
GTA	Gaotai	171.67	50	*e*PKP		PKPdf	17 38 57.1	+0.2
GTA				pPKP		pPKPdf	17 39 07.9	+2.0
GTA				sPKP			17 39 11.3	
GTA				PKPab		PKPab	17 40 19.6	+0.9
GYA	Guiyang	172.10	171	*e*PKP		PKPdf	17 38 57.4	-0.1
GYA				pPKP		pPKPdf	17 39 05.5	-1.0
GYA				PKPab		PKPab	17 40 22.0	+1.4
GYA				PKS		PKSdf	17 42 28.9	-1.1
GYA				PP		PP	17 44 14.8	+4.0
GYA				SKKS			17 50 57.7	
GYA				SS		SS	18 05 19.0	+1.1
GYA				PPMZ				
	comp=Z,120nm,8.6s							
GYA				LN				
	comp=Z,120nm,22.8s							
GYA				LE				
	comp=Z,110nm,22.4s							
GYA				LZ				
	comp=Z,120nm,23.6s							
HHC	Hu-ho-hao-te	172.89	338	*e*PKP		PKPdf	17 39 00.9	+3.5
HHC				PP		PP	17 44 20.7	+5.8
HHC				SKKS			17 51 05.4	
HHC				SS		SS	18 05 31.4	+5.4
HHC				PPMZ				
	comp=Z,1μm,10.4s							
HHC				LN				
	comp=Z,230nm,20.1s							
HHC				LE				
	comp=Z,370nm,21.6s							
HHC				LZ				
	comp=Z,310nm,21.1s							
LZH	Lanzhou	176.14	61	*e*PKP		PKPdf	17 38 59.5	+0.8
LZH				pPKP		pPKPdf	17 39 07.9	+0.2
LZH				sPKP			17 39 12.8	

GUC 11 17:27:01.2±0.5, 33°.78S×72°.05W, h15km±18km, ML3.8, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RCDM	Rinconada Maip	1.08	75	*e*P		Pb	17 27 21.7	0.0
RCDM				*i* S		Sn	17 27 37.4	+0.8
ANTU	Antumapu	1.20	80	*e*P		Pb	17 27 24.1	+0.3
ANTU				*e*S		Sg	17 27 41.2	+1.0
ANTU				IAML			17 27 45.8	
	comp=N,2μm,0.5s							
PEL	Peldehue	1.31	61	⇓*i* P		Pb	17 27 25.6	+0.1
PEL				*i* S		Sg	17 27 44.3	+0.7
PEL				IAML			17 27 53.1	
	comp=N,5μm,0.5s							
CLCH	Cerro Calan	1.32	74	*e*P		Pb	17 27 25.8	-0.1
CLCH				*i* S		Sg	17 27 44.5	+0.4
CLCH				IAML			17 27 51.9	
	comp=E,4μm,0.9s							

GUC 11 17:34:31.7±0.5, 34°.40S×71°.94W, h25km±18km, ML3.7, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.62	45	⇑*i* P		Pb	17 34 43.5	-0.4
LNV				*i* S1		Sn	17 34 52.3	-1.8
NICH	Los Niches	0.84	136	⇓*i* P		Pb	17 34 46.8	-0.8
NICH				*i* S		Sb	17 34 58.5	0.0
CACH	El Canelo	1.14	76	*e*P1		Pn	17 34 52.8	+0.5
CHCH	Chadas Angostu	1.16	67	*e*P1		Pn	17 34 52.0	-0.5
RCDM	Rinconada Maip	1.31	46	*e*P		Pn	17 34 54.2	-0.3
RCDM				*e*S		Sn	17 35 10.9	-0.2
ANTU	Antumapu	1.36	53	*e*P		Pn	17 34 55.3	0.0
ANTU				*i* S		Sb	17 35 13.3	-0.3
STL	Santa Lucia	1.44	49	*e*P9		Pn	17 34 55.6	-0.7
STL				*i* S		Sn	17 35 14.9	+0.4
LNCH	Linares	1.47	169	⇓*i* P		Pn	17 34 57.1	+0.4
LNCH				*i* S		Sb	17 35 16.0	-0.8
CLCH	Cerro Calan	1.54	50	*e*P1		Pn	17 34 58.0	+0.4
CLCH				*e*S		Sb	17 35 17.8	-0.9
CLCH				IAML			17 35 26.5	
	comp=N,2μm,0.7s							
PEL	Peldehue	1.63	40	*e*P		Pn	17 34 59.6	+0.7
PEL				*i* S		Sb	17 35 20.9	-0.4
PEL				IAML			17 35 29.0	
	comp=E,2μm,0.7s							
FCH	Farellones	1.74	53	*e*P9		Pb	17 35 03.6	+0.2
FCH				*e*S		Sb	17 35 26.3	+1.2
FCH				IAML			17 35 31.4	
	comp=N,949nm,0.1s							

*IDC **11** 17:36:30.0±0.8, 34°.34S×71°.90W, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/24, mbtmp4.1/8, ML3.6/1, Error ellipse: s-maj=38.3km s-min=21.5km az=90.0*
*ISCJB **11** 17:36:31.4±1.8, 34°.34S±0°.04×72°.0W±0°.1, h19km±12km, mb4.2/7, Error ellipse: s-maj=18.0km s-min=6.5km az=1.9*
*GUC **11** 17:36:31.3±0.7, 34°.35S×72°.05W, h33km±5km, ML4.1*
*NEIC **11** 17:36:35.2±0.6, 34°.25S×72°.15W, h35km, mb4.3/1, Error ellipse: s-maj=22.4km s-min=11.5km az=95.0*
ISC 11 17:36:31.3±1.7, 34°.37S±0°.04×71°.97W±0°.06, h12km±10km, n28, σ0s92/35, mb4.2/7, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.62	49	⇑*i* P		Pg	17 36 43.6	+0.2
NICH	Los Niches	0.88	136	⇓*i* P		Pb	17 36 48.0	-0.5
NICH				*i* S		Sn	17 37 00.8	-1.4
CACH	El Canelo	1.17	78	⇓*i* P		Pn	17 36 53.5	-0.1
CACH				*i* S1		Sg	17 37 10.4	+1.5
CHCH	Chadas Angostu	1.18	69	*e*P1		Pn	17 36 52.8	-0.9
RCDM	Rinconada Maip	1.31	48	⇑*i* P		Pn	17 36 54.2	-1.3
RCDM				*e*S1		Sn	17 37 11.6	-1.2
IHA	Instituto Hidr	1.37	12	⇑*i* P		Pn	17 36 56.3	0.0
IHA				*i* S1		Sn	17 37 13.5	-0.8
ANTU	Antumapu	1.37	55	*e*P1		Pn	17 36 55.8	-0.5
ANTU				*i* S1		Sn	17 37 14.6	+0.2
ANTU				AML	AML		17 37 19.1	
	comp=E,5μm,0.5s							
STL	Santa Lucia	1.45	50	*e*P9		Pn	17 36 56.2	-1.1
STL				*i* S1		Sn	17 37 15.5	-0.8
LNCH	Linares	1.50	168	⇓*i* P		Pn	17 36 58.1	0.0
LNCH				*i* S		Sb	17 37 18.0	-0.2
CLCH	Cerro Calan	1.54	51	⇓*i* P		Pn	17 36 58.5	-0.2
CLCH				*i* S1		Sg	17 37 19.5	-1.4
CLCH				AML	AML		17 37 27.4	
	comp=E,4μm,0.5s							
CLCH				AML	AML		17 37 30.0	
	comp=E,4μm,0.5s							
PEL	Peldehue	1.63	42	*e*P1		Pn	17 36 59.9	+0.1
PEL				*i* S1		Sn	17 37 20.9	+0.1
PEL				AML	AML		17 37 26.4	
	comp=N,6μm,0.5s							
FCH	Farellones	1.74	54	AML	AML		17 37 28.6	
	comp=E,2μm,0.3s							
COCH	Cobquecura	1.88	201	⇓*i* P		Pn	17 37 02.5	-0.8
COCH				*i* S1		Sn	17 37 25.6	-1.3
CFAA	Coronel Fontan	4.18	50	Pn	Pn		17 37 38.5	+3.6
	comp=E,0.6nm,0.3s,baz=243,slow=14,SNR=3.6							
CFAA				Lg	Lg		17 38 43.4	
	comp=E,1.3nm,0.3s,baz=135,slow=22,SNR=17							
PLCA	Paso Flores	6.45	170	Pn	Pn		17 38 11.4	+5.3
	comp=E,0.7nm,0.3s,baz=324,slow=11,SNR=2.4							
PLCA				Lg	Lg		17 39 49.6	
	comp=E,0.3nm,0.3s,baz=59,slow=23,SNR=3.2							
TRQA	Tornquist	8.87	117	*e*P		Pn	17 38 35.3	-4.0
LPAZ	La Paz	18.33	12	P		P	17 40 47.3	+1.1
	comp=E,0.1nm,0.3s,baz=188,slow=6.2,SNR=8.1							
SIV	San Ignacio	20.76	31	P		P	17 41 11.6	-0.5
	comp=E,2.6nm,0.6s,baz=220,slow=6.7,SNR=7.1							
OTAV	Otavalo	34.96	349	*e*P		P	17 43 21.8	-2.0
	comp=E,2.4nm,0.6s							
SNAA	Sanae	51.22	158	P		P	17 45 34.9	+0.6
	comp=E,1.3nm,0.9s,baz=277,slow=8.1,SNR=3.7							
QSPA	South Pole Qui	55.87	180	P		P	17 46 09.9	+1.4
	comp=E,4.9nm,1.0s,baz=161,slow=6.0,SNR=7.8							
BOSA	Boshof	79.85	118	P		P	17 48 40.8	+0.6
	comp=E,3.3nm,0.8s,baz=229,slow=5.4,SNR=4.7							
PDAR	Pinedale Array	84.12	333	P		P	17 49 02.6	+0.4
	comp=E,0.9nm,1.0s,baz=190,slow=4.5,SNR=5.1							
NVAR	Mina Array Bea	84.22	325	P		P	17 49 04.0	+1.3
	comp=E,0.8nm,0.8s,baz=164,slow=6.1,SNR=5.3							
TORD	Torodi Ar. Bea	84.28	70	P		P	17 49 03.7	+0.3
	comp=E,2.1nm,0.8s,baz=244,slow=4.1,SNR=9.5							
WRA	Warramunga Arr	120.47	209	PKP		PKPdf	17 55 22.9	-0.4
	comp=E,0.3nm,0.6s,baz=161,slow=1.5,SNR=6.2							
ZALV	Zalesovo Beam	154.51	33	PKPbc		PKPbc	17 56 31.2	-0.1
	comp=E,1.7nm,0.8s,baz=311,slow=3.4,SNR=8.6							
ZALV				PKPab		PKPab	17 56 46.4	+0.6
	comp=E,1.6nm,0.6s,baz=320,slow=4.4,SNR=6.2							
MKAR	Makanchi Array	156.96	50	PKPab		PKPab	17 56 56.2	-0.4
	comp=E,0.6nm,0.7s,baz=297,slow=5.3,SNR=7.1							

IDC 11 17:40:26.7±2.0, 0°.11N×126°.14E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/35, mbtmp3.1/3, Error ellipse: s-maj=166.6km s-min=27.3km az=65.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.49	159	P		P	17 45 18.0	+0.7
	0.2nm,0.4s,baz=337,slow=11,SNR=4.7							
ASAR	Alice Springs	24.81	163	P		P	17 45 50.2	-0.5
	0.4nm,0.8s,baz=342,slow=7.7,SNR=5.5							
MKAR	Makanchi Array	60.21	327	P		P	17 50 36.7	0.0
	0.2nm,0.5s,baz=124,slow=5.8,SNR=5.0							

GUC 11 17:41:12.2±0.5, 34°.54S×71°.98W, h59km±11km, ML4.1, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.77	127	⇑*i* P		Pn	17 41 28.1	+0.8
NICH				*i* S		Sn	17 41 40.0	+1.7
LNCH	Linares	1.34	167	⇑*i* P		Pn	17 41 35.8	+1

LNCH	**Linares**	**1.57**	**166**	⇓*i*P		**Pb**	**17 46 27.1**	**-0.3**
LNCH				*i* S		**Sb**	**17 46 47.2**	**+0.3**
PEL	**Peldehue**	**1.64**	**45**	⇓*i*P		**Pn**	**17 46 27.2**	**+0.4**
PEL				*i* S1		**Sn**	**17 46 47.9**	**+0.6**
PEL				AML		AML	17 46 55.9	
	comp=N,8μm,0.3s							
PEL	**Peldehue**	**1.64**	**45**	⇓*i*P		**Pn**	**17 46 27.2**	**+0.4**
PEL				*i* S		**Sn**	**17 46 47.9**	**+0.6**
FCH	**Farellones**	**1.78**	**57**	AML		AML	17 47 03.3	
	comp=N,3μm,0.4s							
CFAA	**Coronel Fontan**	**4.20**	**51**	Pn		**Pn**	**17 47 02.9**	**+0.9**
	comp=N,0.5nm,0.3s,baz=214,slow=12,SNR=7.3							
CFAA				Lg		Lg	17 48 07.6	
	comp=N,1.4nm,0.3s,baz=17,slow=5.8,SNR=6.5							
LCO	**Las Campanas**	**5.42**	**13**	*e*Pn		**Pn**	**17 47 18.2**	**-0.7**
	comp=N,31nm,0.6s							
PLCA	**Paso Flores**	**6.51**	**170**	Pn		**Pn**	**17 47 32.8**	**-1.0**
	comp=N,0.9nm,0.3s,baz=341,slow=9.2,SNR=8.8							
PLCA				Lg		Lg	17 49 19.6	
	comp=N,0.5nm,0.3s,baz=75,slow=22,SNR=3.1							
PLCA	**Paso Flores**	**6.51**	**170**	*e*P		**Pn**	**17 47 34.5**	**+0.7**
PLCA				Lg		Lg	17 49 19.6	
LPAZ	**La Paz**	**18.30**	**12**	P		**P**	**17 50 13.7**	**+1.3**
	comp=N,0.3nm,0.3s,baz=197,slow=7.4,SNR=12							
LPAZ	**La Paz**	**18.30**	**12**	*e*P		**P**	**17 50 13.3**	**+0.9**
	comp=N,9.0nm,1.0s							
EFI	**East Falkland**	**20.08**	**154**	P		Pn	17 50 32.2	-0.7
SIV	**San Ignacio**	**20.76**	**31**	P		**P**	**17 50 38.8**	**+0.2**
	comp=N,3.0nm,0.8s,baz=224,slow=13,SNR=5.2							
BDFB	**Brasilia**	**28.53**	**55**	P		**P**	**17 51 52.8**	**-0.7**
	comp=N,2.5nm,0.5s,baz=231,slow=12,SNR=3.9							
SNAA	**Sanae**	**51.30**	**158**	*e*P		**P**	**17 55 01.6**	**+0.3**
QSPA	**South Pole Qui**	**55.92**	**180**	P		**P**	**17 55 36.3**	**+1.0**
	comp=N,3.1nm,1.0s,baz=158,slow=4.4,SNR=4.5							
BOSA	**Boshof**	**79.94**	**118**	P		**P**	**17 58 05.9**	**-1.1**
	comp=N,2.3nm,0.8s,baz=233,slow=5.8,SNR=4.2							
TORD	**Torodi Ar. Bea**	**84.34**	**70**	P		**P**	**17 58 29.9**	**0.0**
	comp=N,1.5nm,0.9s,baz=273,slow=4.9,SNR=7.6							
BVAR	**Borovoye Array**	**147.53**	**43**	PKPbc		**PKPbc**	**18 05 41.7**	**+0.6**
	comp=N,0.9nm,0.6s,baz=286,slow=4.1,SNR=9.6							
ZALV	**Zalesovo Beam**	**154.50**	**33**	PKPbc		**PKPbc**	**18 05 57.0**	**-0.5**
	comp=N,1.0nm,0.6s,baz=291,slow=4.1,SNR=5.3							
ZALV				PKPab		**PKPab**	**18 06 12.2**	**+0.1**
	comp=N,1.2nm,0.8s,baz=303,slow=3.8,SNR=4.7							
MKAR	**Makanchi Array**	**156.99**	**50**	PKPab		**PKPab**	**18 06 22.8**	**-0.2**
	comp=N,0.9nm,0.9s,baz=297,slow=5.3,SNR=6.3							

GUC 11 17:49:54.1±0.7, 34.70S×71.48W, h85km±25km, ML4.0,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.36**	**146**	*e*P1	Pn	17 50 07.8	+0.4
NICH				*e*S	Sn	17 50 18.3	+1.1
NICH				IAML		17 50 20.8	
	comp=E,17μm,0.5s						
LNCH	**Linares**	**1.15**	**185**	*e*P9	Pn	17 50 18.4	+3.1
LNCH				*e*S	Sn	17 50 35.1	+3.9
CLCH	**Cerro Calan**	**1.52**	**31**	*e*P	Pn	17 50 20.6	+0.6
CLCH				*e*S	Sn	17 50 41.6	+2.1
CLCH				IAML		17 50 48.8	
	comp=E,2μm,0.4s						

*ISCJB **11** 17:51:35.0±0.3,59.86N±0.03×153.50W±0.08, h146km, mb3.5/1, Error ellipse: s-maj=6.6km s-min=3.7km az=31.9*
*NEIC **11** 17:51:36.5,59.82N×153.55W, h146km, MG3.3(AEIC), After AEIC.*
*IDC **11** 17:51:39.5±6.7,60.28N×153.54W, h148km±63km, mb3.3/1, mb1 3.6/5, mb1mx2.9/68, mbtmp3.9/5, Error ellipse: s-maj=58.4km s-min=28.5km az=30.0*
ISC 11 17:51:35.4±0.9, 59.85N±0.05×153.48W±0.05, h146km, n72, σ0°89/75, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.24**	**148**	P	**Pn**	**17 51 55.9**	**+0.6**
ILW	**Iliamna West**	**0.27**	**39**	P	**Pn**	**17 51 55.9**	**+0.3**
INE	**Iliamna NE**	**0.30**	**45**	P	**Pn**	**17 51 56.0**	**+0.4**
AUW	**Augustine West**	**0.48**	**180**	P	**Pn**	**17 51 56.6**	**+0.5**
AUI	**Augustine Isla**	**0.52**	**177**	P	**Pn**	**17 51 56.7**	**+0.4**
AUI				S	**Sn**	**17 52 12.2**	**-0.1**
RSO	**Redoubt South**	**0.71**	**30**	*e*P	**Pn**	**17 51 58.1**	**+0.4**
RDWB	**Redoubt West**	**0.71**	**26**	P	**Pn**	**17 51 58.1**	**+0.5**
RDN	**Redoubt North**	**0.75**	**28**	P	**Pn**	**17 51 58.7**	**+0.8**
NCT	**North Crescent**	**0.76**	**21**	P	**Pn**	**17 51 58.6**	**+0.7**
MCNL	**McNeil River**	**0.80**	**214**	P	**Pn**	**17 51 58.1**	**-0.1**
DFR	**Drift River**	**0.84**	**28**	P	**Pn**	**17 51 59.2**	**+0.6**
HOM	**Homer**	**0.95**	**101**	P	**Pn**	**17 52 00.2**	**+0.9**
HOM				S	**Sn**	**17 52 18.2**	**+0.8**
BRLK	**Bradley Lake**	**1.31**	**93**	P	**Pn**	**17 52 03.3**	**+0.6**
SPBG	**Spurr Blockage**	**1.51**	**21**	P	**Pn**	**17 52 06.1**	**+1.3**
SVW2	**Sparrevohn**	**1.63**	**321**	P	**Pn**	**17 52 06.1**	**+0.2**
CGLM	**Capps Glacier**	**1.63**	**26**	P	**Pn**	**17 52 07.2**	**+1.1**
KVTA	**Katmai Vly 10**	**1.75**	**213**	P	**Pn**	**17 52 07.3**	**0.0**
SLKM	**Skilak Lake**	**1.75**	**67**	P	**Pn**	**17 52 08.1**	**+0.6**
KAKN	**Katmai Knife C**	**1.76**	**208**	P	**Pn**	**17 52 07.4**	**-0.2**
KAKN				S	**Sn**	**17 52 31.1**	**-1.1**
KELA	**Mount Kelaz**	**1.83**	**220**	P	**Pn**	**17 52 08.1**	**-0.3**
KCE	**Katmai Mt Cerb**	**1.84**	**209**	P	**Pn**	**17 52 08.7**	**+0.3**
STLK	**Strandline Lak**	**1.84**	**25**	P	**Pn**	**17 52 09.5**	**+1.1**
KABR	**Katmai Barrier**	**1.89**	**205**	P	**Pn**	**17 52 08.8**	**-0.3**
SEW	**Seward**	**2.04**	**81**	*e*P	**Pn**	**17 52 10.8**	**+0.2**
FIB	**Fire Island**	**2.10**	**50**	P	**Pn**	**17 52 13.5**	**+2.2**
SUA	**Susitna One**	**2.10**	**39**	P	**Pn**	**17 52 12.4**	**+0.9**
RC01	**Rabbit Creek A**	**2.23**	**55**	*e*P	**Pn**	**17 52 13.2**	**+0.3**
SKT	**Skwentna**	**2.34**	**23**	P	**Pn**	**17 52 15.4**	**+1.2**
PLK1	**Peulik 1**	**2.62**	**220**	P	**Pn**	**17 52 18.2**	**+0.4**
OHAK	**Old Harbor**	**2.64**	**178**	P	**Pn**	**17 52 16.5**	**-1.5**
PWL	**Port Wells**	**2.75**	**66**	P	**Pn**	**17 52 19.1**	**-0.3**
PMR	**Palmer**	**2.76**	**49**	P	**Pn**	**17 52 20.5**	**+1.2**
PPLA	**Purkeypile**	**3.12**	**11**	P	**Pn**	**17 52 25.8**	**+1.6**
TT01	**Tatalina**	**3.30**	**339**	P	**Pn**	**17 52 26.5**	**+0.2**
GLI	**Glacier Island**	**3.33**	**69**	P	**Pn**	**17 52 27.7**	**+1.0**
HIN	**Hinchinbrook I**	**3.53**	**78**	P	**Pn**	**17 52 30.0**	**+0.6**
SCM	**Sheep Creek Mo**	**3.61**	**54**	P	**Pn**	**17 52 30.4**	**0.0**
JPK	**Jack Peak**	**3.62**	**68**	P	**Pn**	**17 52 31.4**	**+1.0**
KTH	**Kantishna Hill**	**3.91**	**17**	*e*P	**Pn**	**17 52 34.4**	**+0.2**
TRF	**Thorofare Moun**	**3.92**	**21**	P	**Pn**	**17 52 34.8**	**+0.3**
DIV	**Divide**	**4.02**	**68**	P	**Pn**	**17 52 36.7**	**+0.9**
KLU	**Klutina**	**4.07**	**63**	P	**Pn**	**17 52 36.4**	**0.0**
SGAM	**Sherman Glacie**	**4.18**	**77**	P	**Pn**	**17 52 38.3**	**+0.5**
RND	**Reindeer**	**4.19**	**30**	P	**Pn**	**17 52 38.1**	**+0.1**
DHY	**Denali Highway**	**4.36**	**40**	P	**Pn**	**17 52 40.4**	**+0.1**
GOAT	**Goat Mountain**	**4.43**	**77**	P	**Pn**	**17 52 41.9**	**+0.8**
MCK	**McKinley**	**4.45**	**27**	P	**Pn**	**17 52 41.8**	**+0.4**
PS11	**TAPS Pump St11**	**4.50**	**57**	P	**Pn**	**17 52 42.7**	**+0.8**
BMRM	**Bremner River**	**4.54**	**72**	P	**Pn**	**17 52 43.1**	**+0.6**
HARP	**HAARP**	**4.78**	**54**	P	**Pn**	**17 52 46.2**	**+0.5**
PAX	**Paxson**	**4.96**	**47**	P	**Pn**	**17 52 48.3**	**+0.2**
WRH	**Wood River Hil**	**5.28**	**26**	P	**Pn**	**17 52 51.9**	**-0.4**
DDM	**Donnelly Dome**	**5.35**	**39**	P	**Pn**	**17 52 54.1**	**+0.8**
MLY	**Manley**	**5.35**	**13**	P	**Pn**	**17 52 53.0**	**-0.2**
CCB	**Clear Creek Bu**	**5.49**	**26**	P	**Pn**	**17 52 54.5**	**-0.6**
HDA	**Harding Lake**	**5.50**	**31**	P	**Pn**	**17 52 54.9**	**-0.2**
MENT	**Mentasta**	**5.62**	**52**	*e*P	Pn	17 52 51.8	-5.0
PS08	**TAPS Pump Stn8**	**5.64**	**31**	P	**Pn**	**17 52 56.7**	**-0.4**
MDM	**Murphy Dome**	**5.67**	**23**	P	**Pn**	**17 52 57.2**	**-0.3**
COLA	**College**	**5.68**	**25**	P	**Pn**	**17 52 57.4**	**-0.1**
IL1	**Eielson Array**	**5.81**	**29**	P	**Pn**	**17 52 59.1**	**-0.3**
ILAR	**Eielson Array**	**5.81**	**29**	P	**Pn**	**17 52 58.9**	**-0.5**
	2.2nm,0.3s,baz=217,slow=14,SNR=229						
ILAR				S	**Sn**	**17 54 00.6**	**-4.4**
	4.1nm,0.3s,baz=209,slow=19,SNR=16						
ILB	**Eielson Array**	**5.81**	**29**	P	**Pn**	**17 52 58.9**	**-0.5**
SCRK	**Sand Creek**	**6.10**	**43**	P	**Pn**	**17 53 03.0**	**-0.3**
IM3	**Indian Mountai**	**6.16**	**359**	P	**Pn**	**17 53 04.8**	**+0.9**
PS06	**TAPS Pump Stn6**	**6.26**	**14**	P	**Pn**	**17 53 05.6**	**+0.3**
BCA3	**Beaver Creek A**	**6.46**	**55**	P	**Pn**	**17 53 08.9**	**+0.8**
BM3	**Burnt Mountain**	**8.55**	**24**	P	**Pn**	**17 53 35.2**	**-0.7**
INK	**Inuvik**	**12.10**	**37**	P	**Pn**	**17 54 23.5**	**+0.7**
	0.3nm,0.3s,baz=230,slow=14,SNR=12						
DLBC	**Dease Lake**	**12.11**	**87**	P	**P**	**17 54 29.1**	**-0.4**
	0.6nm,0.3s,baz=270,slow=19,SNR=6.4						
YKA	**Yellowknife Ar**	**18.73**	**65**	P	**Pn**	**17 55 44.1**	**-0.5**
	0.4nm,0.3s,baz=276,slow=10,SNR=36						
SONM	**Songino Array**	**54.68**	**306**	P	**P**	**18 00 50.7**	**+1.7**
	0.6nm,0.6s,baz=48,slow=6.8,SNR=6.7						

*IDC **11** 18:00:35.6±0.9,34.43S×71.77W, h0km, mb4.0/6, mb1 4.0/8, mb1mx3.9/29, mbtmp3.9/8, ML3.8/2, Error ellipse: s-maj=44.1km s-min=19.7km az=95.0*
*ISCJB **11** 18:00:36.3±0.8,34.40S±0.08×72.1W±0.2, h16km, mb4.2/7, Error ellipse: s-maj=18.6km s-min=11.5km az=171.7*
*NEIC **11** 18:00:38.1±4.8,34.48S×72.18W, h22km±33km, mb4.2/3, Error ellipse: s-maj=27.8km s-min=12.6km az=90.0*
ISC 11 18:00:38.1±0.7, 34.40S±0.09×72.0W±0.1, h16km, n25, σ1°17/19, mb4.3/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.19**	**49**	Pn	**Pn**	**18 01 43.7**	**+2.3**
	0.6nm,0.3s,baz=241,slow=12,SNR=4.9						
CFAA				Sn	**Sb**	**18 02 40.6**	**-1.2**
	0.8nm,0.3s,baz=82,slow=21,SNR=3.4						
PLCA	**Paso Flores**	**6.42**	**170**	Pn	**Pn**	**18 02 12.9**	**+0.9**
	0.5nm,0.3s,baz=340,slow=8.2,SNR=5.1						
PLCA	**Paso Flores**	**6.42**	**170**	*e*Pn	Pn	18 02 08.6	-3.4
TRQA	**Tornquist**	**8.85**	**117**	*e*P	Pn	18 02 48.9	+3.6
	21nm,1.1s						
LPAZ	**La Paz**	**18.36**	**12**	P	**Pn**	**18 04 53.5**	**+0.8**
	0.1nm,0.3s,baz=171,slow=7.6,SNR=4.3						
LPAZ	**La Paz**	**18.36**	**12**	*e*Pn	**Pn**	**18 04 53.2**	**+0.5**
	1.9nm,0.8s						
SIV	**San Ignacio**	**20.78**	**31**	P	**P**	**18 05 18.4**	**-0.2**
	1.9nm,0.8s,baz=227,slow=11,SNR=3.3						
OTAV	**Otavalo**	**34.99**	**349**	P	**P**	**18 07 30.1**	**-0.2**
	4.8nm,1.1s						
PTGA	**Pitinga**	**35.32**	**21**	P	**P**	**18 07 32.2**	**-0.5**
	3.8nm,0.8s,baz=188,slow=11,SNR=4.9						
QSPA	**South Pole Qui**	**55.84**	**180**	P	**P**	**18 10 15.5**	**+1.0**
	2.1nm,1.0s,baz=31,slow=2.6,SNR=3.7						
WVT	**Waverly**	**71.71**	**347**	*e*P	**P**	**18 11 58.9**	**-0.2**
	4.9nm,0.8s						
BOSA	**Boshof**	**79.83**	**118**	P	**P**	**18 12 44.7**	**-1.4**
	1.7nm,0.7s,baz=271,slow=6.3,SNR=4.7						
PDAR	**Pinedale Array**	**84.15**	**333**	P	**P**	**18 13 09.2**	**+0.8**
	0.3nm,0.6s,baz=208,slow=2.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**84.28**	**70**	P	**P**	**18 13 08.7**	**-0.8**
	1.5nm,0.8s,baz=258,slow=4.1,SNR=8.0						
WRA	**Warramunga Arr**	**120.45**	**209**	PKP	**PKPdf**	**18 19 27.0**	**-2.3**
	0.2nm,0.6s,baz=164,slow=1.9,SNR=5.0						
H11S2	**WAKE ISLAND Hyt**	**25.83**	**269**	T	T	20 37 54.1	
	baz=119,slow=76,SNR=6.8						
H11S1	**WAKE ISLAND Hyt**	**25.84**	**269**	T	T	20 37 55.2	
	baz=119,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hyt**	**25.85**	**269**	T	T	20 37 59.6	
	baz=119,slow=76,SNR=9.3						
H11N3	**WAKE ISLAND Hyt**	**26.25**	**270**	T	T	20 38 29.7	
	baz=121,slow=76,SNR=8.0						
H11N1	**WAKE ISLAND Hyt**	**26.27**	**270**	T	T	20 38 27.2	
	baz=121,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hyt**	**26.27**	**270**	T	T	20 38 31.3	
	baz=121,slow=76,SNR=6.7						
BVAR	**Borovoye Array**	**147.53**	**43**	PKPbc	**PKPbc**	**18 20 20.4**	**-0.5**
	0.6nm,0.5s,baz=292,slow=2.3,SNR=6.5						
ZALV	**Zalesovo Beam**	**154.53**	**33**	PKPbc	**PKPbc**	**18 20 36.3**	**-1.1**
	1.4nm,0.9s,baz=325,slow=2.3,SNR=5.3						
ZALV				PKPab	**PKPab**	**18 20 52.2**	**+0.3**
	0.8nm,0.6s,baz=336,slow=7.0,SNR=3.6						
MKAR	**Makanchi Array**	**156.97**	**50**	PKPab	**PKPab**	**18 21 02.1**	**-0.7**
	0.5nm,0.8s,baz=292,slow=6.4,SNR=4.1						
SONM	**Songino Array**	**166.52**	**5**	PKPab	**PKPab**	**18 21 45.6**	**+1.1**
	0.4nm,0.9s,baz=103,slow=6.4,SNR=3.2						

*ISCJB **11** 18:00:41.5±0.4,23.42N±0.02×121.97E±0.02, h17km±3km, Error ellipse: s-maj=2.9km s-min=2.0km az=139.7*
*JMA **11** 18:00:42.1±0.1,23.44N×121.91E, h35km±4km, M3.0*
*TAP **11** 18:00:43.3,23.45N×121.89E, h23km, ML3.6, C*
ISC 11 18:00:42.3±1.1, 23.42N±0.02×121.91E±0.02, h25km±11km, n74, σ0°82/135, 7C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.45**	**310**	*e*P	**Pb**	**18 00 51.9**	**+0.3**
	baz=309						
TEGC				*e*S	**Sb**	**18 00 58.4**	**+0.4**
	baz=309						
EHY	**Hungye**	**0.55**	**279**	⇑*i*P	**Pb**	**18 00 53.5**	**+0.1**
	baz=268						
EHY				S	**Sb**	**18 01 01.1**	**+0.2**
	baz=268						
TWF1	**Yuli**	**0.57**	**263**	⇑*i*P	**Pb**	**18 00 53.8**	**+0.1**
	baz=252						
TWF1				*e*S	**Sb**	**18 01 01.9**	**+0.4**
	baz=252						
ESF	**Shoufeng Towns**	**0.58**	**320**	*e*P	**Pb**	**18 00 53.9**	**0.0**
	baz=320						
ESF				*e*S	**Sb**	**18 01 01.9**	**+0.1**
	baz=320						
ESL	**Shilin**	**0.59**	**312**	P	**Pb**	**18 00 53.6**	**-0.5**
	baz=311						
ESL				*e*S	**Sb**	**18 01 00.7**	**-1.3**
	baz=311						
CHKT	**Chengkung**	**0.60**	**238**	P	**Pb**	**18 00 53.9**	**-0.2**
	baz=224						
CHKT				S	**Sb**	**18 01 01.3**	**-0.9**
	baz=224						
HWA	**Hwalien**	**0.62**	**333**	P	**Pb**	**18 00 54.2**	**-0.4**
	baz=334						
TWD	**Chiawan**	**0.72**	**336**	*i* P	**Pb**	**18 00 55.7**	**-0.5**
	baz=337						
TWD				S	**Sb**	**18 01 04.6**	**-1.0**
	baz=337						
ELDTW	**Lidau**	**0.86**	**254**	P	**Pn**	**18 00 58.0**	**-0.9**
	baz=240						
ELDTW				*e*S	**Sb**	**18 01 08.5**	**-1.2**
	baz=240						
YUS	**Yu-Shan**	**0.89**	**275**	⇑*i*P	**Pb**	**18 00 59.5**	**+0.2**
	baz=272						
YUS				*e*S	**Sn**	**18 01 11.6**	**-0.3**
	baz=272						
WHF	**Hehuan Shan**	**0.93**	**321**	⇓*i*P	**Pn**	**18 00 59.5**	**-0.7**
	baz=320						
WHF				*e*S	**Sb**	**18 01 10.9**	**-1.4**
	baz=320						
TTN	**Taitung**	**0.97**	**227**	*e*P	**Pn**	**18 01 00.5**	**+0.2**
	baz=224						
TTN				*e*S	**Sn**	**18 01 11.4**	**-1.8**
	baz=224						
TWG	**Pinlang**	**0.98**	**232**	⇓P	**Pn**	**18 00 59.8**	**-0.6**
	baz=241						
TWG				*e*S	**Sn**	**18 01 11.3**	**-2.2**
	baz=241						
ENA	**Nanau**	**1.01**	**351**	⇓*i*P	**Pn**	**18 01 00.7**	**-0.2**
	baz=352						
ENA				*e*S	**Sn**	**18 01 13.3**	**-1.1**
	baz=352						
ALS	**Alishan**	**1.02**	**275**	⇑*i*P	**Pb**	**18 01 01.9**	**+0.4**
	baz=273						
ALS				*e*S	**Sb**	**18 01 14.7**	**+0.1**
	baz=273						
SMLT	**Sun Moon Lake**	**1.04**	**296**	⇑*i*P	**Pb**	**18 01 01.5**	**-0.1**
	baz=304						
SMLT				S	**Sn**	**18 01 14.4**	**-0.7**
	baz=304						
TWT	**Tachien**	**1.07**	**321**	*e*P	**Pb**	**18 01 02.1**	**-0.2**
	baz=320						
TWT				S	**Sn**	**18 01 15.0**	**-0.9**
	baz=320						
TYC	**Yuchr**	**1.08**	**297**	P	**Pb**	**18 01 02.1**	**-0.2**
	baz=295						
TYC				S	**Sb**	**18 01 16.7**	**+0.7**
	baz=295						
STYT	**Tauyuan**	**1.09**	**257**	*e*P	**Pn**	**18 01 02.1**	**+0.1**
	baz=246						
STYT				*e*S	**Sn**	**18 01 15.7**	**-0.7**
	baz=246						
NNS	**Nan Shan**	**1.13**	**334**	P	**Pn**	**18 01 02.6**	**0.0**
	baz=334						
NNS				*e*S	**Sn**	**18 01 16.2**	**-1.1**
	baz=334						
CHN5	**Tsauling**	**1.15**	**279**	⇑*i*P	**Pb**	**18 01 04.1**	**+0.6**
	baz=277						
CHN5				S	**Sb**	**18 01 19.4**	**+1.4**
	baz=277						
TWC	**Suao**	**1.18**	**357**	*i* P	**Pb**	**18 01 03.9**	**-0.2**
	baz=358						
TWC				*i* S	**Sn**	**18 01 18.6**	**+0.1**
	baz=358						
ECL	**Taimali**	**1.21**	**227**	*e*P	**Pn**	**18 01 02.9**	**-0.7**
	baz=220						
ECL				*e*S	**Sn**	**18 01 16.9**	**-2.3**
	baz=220						
CHN4	**Tsaushan**	**1.22**	**267**	⇑*i*P	**Pb**	**18 01 05.2**	**+0.6**
	baz=265						
CHN4				*e*S	**Sb**	**18 01 21.1**	**+1.2**
	baz=265						
WNT	**Mingjian**	**1.22**	**292**	*e*P	**Pb**	**18 01 05.4**	**+0.8**
	baz=290						
WNT				*e*S	**Sb**	**18 01 21.4**	**+1.5**
	baz=290						
ENTT	**Nioudou**	**1.25**	**345**	P	**Pn**	**18 01 04.7**	**+0.4**
	baz=346						
ENTT				*e*S	**Sn**	**18 01 20.1**	**-0.2**
	baz=346						
WGK	**Gukeng**	**1.27**	**282**	*e*P	**Pb**	**18 01 05.5**	**0.0**
	baz=280						
WGK				*e*S	**Sb**	**18 01 22.6**	**+1.1**
	baz=280						
SGST	**Jiashian**	**1.27**	**255**	P	**Pb**	**18 01 05.8**	**+0.2**
	baz=244						
SGST				S	**Sb**	**18 01 22.3**	**+0.8**
	baz=244						
CHN1	**Nanshi**	**1.30**	**260**	P	**Pb**	**18 01 06.3**	**+0.3**
	baz=258						
CHN1				*e*S	**Sb**	**18 01 23.5**	**+1.3**
	baz=258						
TWE	**Neicheng**	**1.31**	**350**	⇓*i*P	**Pn**	**18 01 05.5**	**+0.5**
	baz=351						
TWE				S	**Sn**	**18 01 21.9**	**+0.2**
	baz=351						
TWK	**Hsinying**	**1.32**	**264**	P	**Pb**	**18 01 06.8**	**+0.4**
	baz=261						
TWK				S	**Sb**	**18 01 24.1**	**+1.2**
	baz=261						
CHN2	**Minshiung**	**1.33**	**275**	*e*P	**Pb**	**18 01 06.1**	**-0.4**
	baz=273						
CHN2				*e*S	**Sb**	**18 01 24.4**	**+1.3**
	baz=273						
TCU	**Taichung**	**1.34**	**303**	*e*P	**Pb**	**18 01 07.5**	**+0.6**
	baz=302						
NSK	**Sanguang**	**1.35**	**338**	⇓*i*P	**Pn**	**18 01 06.1**	**+0.5**
	baz=338						
NSK				S	**Sn**	**18 01 22.5**	**-0.2**
	baz=338						
SSD	**Sandimen**	**1.36**	**241**	*e*P	**Pn**	**18 01 06.1**	**+0.5**
	baz=231						
CHY	**Chiayi**	**1.37**	**273**	*e*P	**Pb**	**18 01 07.2**	**-0.1**
	baz=271						
CHY				*e*S	**Sb**	**18 01 24.7**	**+0.3**
	baz=271						
JYNG	**Yonagunijimaku**	**1.39**	**42**	P	**Pn**	**18 01 06.0**	**-0.1**
JYNG				*e*S	**Sn**	**18 01 23.2**	**-0.5**
TWQ1	**Liyutan**	**1.39**	**312**	P	**Pb**	**18 01 07.9**	**+0.2**
	baz=311						
TWQ1				*e*S	**Sb**	**18 01 25.9**	**+0.9**
	baz=311						
TAW	**Tawu**	**1.42**	**222**	*e*P	**Pn**	**18 01 07.1**	**+0.7**
	baz=220						
LAY	**Lan-yu**	**1.42**	**194**	*e*P	**Pn**	**18 01 05.0**	**-1.5**
	baz=192						
EAST	**Anshuo**	**1.43**	**224**	*e*P	**Pn**	**18 01 05.7**	**-0.9**
	baz=222						
YOJ	**Yonaguni jima**	**1.44**	**44**	P	**Pn**	**18 01 06.7**	**-0.1**
YOJ				*e*S	**Sn**	**18 01 24.6**	**-0.3**
NSY	**Sanyi**	**1.45**	**313**	*e*P	**Pb**	**18 01 08.0**	**-0.5**
	baz=312						
NSY				*e*S	**Sb**	**18 01 26.7**	**+0.2**
	baz=312						
NSTT	**Nanjuang**	**1.47**	**325**	P	**Pb**	**18 01 08.6**	**-0.3**
	baz=325						
NSTT				S	**Sb**	**18 01 26.1**	**-1.0**
	baz=325						
CHN3	**Shinhua**	**1.47**	**257**	*e*P	**Pb**	**18 01 09.7**	**+0.8**
	baz=255						
CHN3				*e*S	**Sb**	**18 01 29.7**	**+2.6**
	baz=255						
SGLT	**Jiouru**	**1.48**	**242**	*e*P	**Pb**	**18 01 08.7**	**-0.4**
	baz=237						
TWM1	**Shoushan**	**1.50**	**247**	*e*P	**Pb**	**18 01 09.8**	**+0.4**
	baz=245						
TWM1				*e*S	**Sb**	**18 01 28.7**	**+0.7**
	baz=245						
WTCT	**Ta-ch'eng**	**1.56**	**287**	*e*P	**Pb**	**18 01 09.9**	**-0.6**
	baz=285						
WTCT				*e*S	**Sb**	**18 01 29.7**	**-0.1**
	baz=285						
CHN8	**Yiju**	**1.57**	**268**	*e*P	**Pb**	**18 01 09.9**	**-0.7**
	baz=266						
CHN8				*e*S	**Sb**	**18 01 30.9**	**+0.9**
	baz=266						
WSF	**Szhu**	**1.57**	**278**	*e*P	**Pb**	**18 01 10.3**	**-0.3**
	baz=276						
WSF				*e*S	**Sb**	**18 01 29.4**	**-0.6**
	baz=276						
TWA	**Mucha**	**1.58**	**349**	*e*P	**Pn**	**18 01 09.6**	**+0.9**
	baz=337						
TWA				*e*S	**Sn**	**18 01 28.1**	**-0.3**
	baz=337						
**

IDC 11 18:02:20.3±3.5, 34°.41S×71°.98W, h38km±28km, mb4.2/12, mb1 4.3/15, mb1mx4.2/21, mbtmp4.4/15, ML4.3/2, MS4.9/1, Ms1 4.9/1, ms1mx4.0/29, Error ellipse: s-maj=24.9km s-min=14.8km az=90.0

ISC 11 18:02:15.4±1.5, 34°.42S±0°.03×72°.01W±0°.05, h5km±9km, n70, σ1°.09/78, mb4.8/18, 6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.87**	**132**	*e*P1	**Pb**	**18 02 32.8**	**-0.1**
NICH				*i* S1	**Sb**	**18 02 45.4**	**+0.5**
NICH				AML	AML	18 02 49.9	
	comp=E,33μm,0.7s						
NICH	**Los Niches**	**0.87**	**132**	*e*P	**Pb**	**18 02 32.8**	**-0.1**
NICH				*i* S	**Sb**	**18 02 45.4**	**+0.5**
TACH	**Talagante**	**1.18**	**50**	⇓*i*P	**Pg**	**18 02 37.2**	**-0.8**
TACH	**Talagante**	**1.18**	**50**	⇓*i*P	**Pg**	**18 02 37.2**	**-0.8**
RCDM	**Rinconada Maip**	**1.37**	**48**	*e*P9	**Pn**	**18 02 38.8**	**-2.3**
RCDM				*i* S1	**Sb**	**18 02 57.5**	**-1.7**
RCDM				AML	AML	18 03 04.2	
	comp=N,20μm,0.3s						
RCDM	**Rinconada Maip**	**1.37**	**48**	*e*P	**Pn**	**18 02 38.8**	**-2.3**
RCDM				*i* S	**Sb**	**18 02 57.5**	**-1.7**
IHA	**Instituto Hidr**	**1.42**	**13**	⇓*i*P	**Pn**	**18 02 41.8**	**-0.1**
IHA				*i* S1	**Sg**	**18 03 01.8**	**+0.6**
IHA	**Instituto Hidr**	**1.42**	**13**	⇓*i*P	**Pn**	**18 02 41.8**	**-0.1**
IHA				*i* S	**Sg**	**18 03 01.8**	**+0.6**
ANTU	**Antumapu**	**1.43**	**54**	*e*P1	**Pn**	**18 02 41.5**	**-0.4**
ANTU				*i* S1	**Sn**	**18 03 01.0**	**-0.1**
ANTU				AML	AML	18 03 09.1	
	comp=N,18μm,0.6s						
ANTU	**Antumapu**	**1.43**	**54**	*e*P	**Pn**	**18 02 41.5**	**-0.4**
ANTU				*i* S	**Sn**	**18 03 01.0**	**-0.1**
LNCH	**Linares**	**1.47**	**167**	*e*P1	**Pn**	**18 02 41.9**	**-0.6**
LNCH				*i* S1	**Sn**	**18 03 01.2**	**-0.8**
LNCH				AML	AML	18 03 06.7	
	comp=N,21μm,0.6s						
LNCH	**Linares**	**1.47**	**167**	*e*P	**Pn**	**18 02 41.9**	**-0.6**
LNCH				*i* S	**Sn**	**18 03 01.2**	**-0.8**
SAN	**Santiago**	**1.48**	**50**	⇓*i*P	**Pn**	**18 02 42.9**	**+0.2**
SAN				*i* S1	**Sb**	**18 03 02.5**	**0.0**
SAN	**Santiago**	**1.48**	**50**	⇓*i*P	**Pn**	**18 02 42.9**	**+0.2**
SAN				*i* S	**Sb**	**18 03 02.5**	**0.0**
LACH	**Col Las Americ**	**1.56**	**52**	*e*P1	**Pn**	**18 02 44.4**	**+0.5**
LACH				*i* S4	**Sn**	**18 03 04.5**	**-0.1**
LACH	**Col Las Americ**	**1.56**	**52**	*e*P	**Pn**	**18 02 44.4**	**+0.5**
LACH				S	**Sn**	**18 03 04.5**	**-0.1**
FCH	**Farellones**	**1.80**	**53**	AML	AML	18 03 23.2	
	comp=E,12μm,0.5s						
COCH	**Cobquecura**	**1.82**	**200**	*e*P9	**Pn**	**18 02 45.8**	**-1.5**
COCH				*i* S1	**Sn**	**18 03 09.8**	**-1.0**
COCH	**Cobquecura**	**1.82**	**200**	*e*P	**Pn**	**18 02 45.8**	**-1.5**
COCH				*i* S	**Sn**	**18 03 09.8**	**-1.0**
CFAA	**Coronel Fontan**	**4.24**	**50**	Pn	**Pn**	**18 03 22.9**	**+2.3**
	comp=E,0.7nm,0.3s,baz=274,slow=4.9,SNR=2.8						
CFAA				Sn	**Sb**	**18 04 20.9**	**-0.9**
	comp=E,4.6nm,0.3s,baz=79,slow=9.2,SNR=4.3						
PLCA	**Paso Flores**	**6.41**	**170**	Pn	**Pn**	**18 03 51.6**	**+1.1**
	comp=E,2.0nm,0.3s,baz=339,slow=12,SNR=8.1						
PLCA				Lg	Lg	18 05 31.3	
	comp=E,1.4nm,0.3s,baz=226,slow=19,SNR=4.7						
PLCA	**Paso Flores**	**6.41**	**170**	*e*P	**Pn**	**18 03 50.9**	**+0.4**
	comp=E,16nm,0.6s						
PLCA				Lg	Lg	18 05 31.3	
TRQA	**Tornquist**	**8.88**	**117**	*e*P	**Pn**	**18 04 26.5**	**+2.1**
	comp=E,79nm,1.3s						
LPAZ	**La Paz**	**18.39**	**12**	P	**P**	**18 06 32.8**	**+0.9**
	comp=E,0.3nm,0.3s,baz=197,slow=7.8,SNR=9.2						
LPAZ	**La Paz**	**18.39**	**12**	*e*P	**P**	**18 06 32.1**	**+0.2**
	comp=E,17nm,1.0s						
SIV	**San Ignacio**	**20.82**	**31**	P	**P**	**18 06 57.8**	**-0.1**
	comp=E,3.1nm,0.6s,baz=229,slow=13,SNR=8.6						
NNA	**Nana**	**22.76**	**348**	P	**P**	**18 07 21.9**	**+3.3**
	comp=E,9.3nm,0.7s,baz=213,slow=11,SNR=3.9						
BDFB	**Brasilia**	**28.55**	**55**	P	**P**	**18 08 12.1**	**-0.3**
	comp=E,2.0nm,0.5s,baz=227,slow=6.1,SNR=2.8						
OTAV	**Otavalo**	**35.00**	**349**	*e*P	**P**	**18 09 11.0**	**+1.6**
PTGA	**Pitinga**	**35.36**	**21**	P	**P**	**18 09 11.0**	**-0.9**
	comp=E,5.9nm,0.7s,baz=193,slow=10,SNR=9.0						
RCBR	**Riachuelo**	**43.85**	**58**	LR	LR	18 29 05.8	
	comp=E,1μm,20.4s,baz=192,slow=37						
VNA3	**Neumayer Olymp**	**48.97**	**158**	P	**P**	**18 11 02.6**	**+0.3**
VNA2	**Neumayer--Watz**	**49.62**	**157**	P	**P**	**18 11 07.8**	**+0.6**
SNAA	**Sanae**	**51.19**	**158**	P	**P**	**18 11 19.6**	**+0.3**
SNAA	**Sanae**	**51.19**	**158**	P	**P**	**18 11 19.0**	**-0.2**
	comp=E,3.6nm,0.8s,baz=306,slow=5.8,SNR=10.0						
QSPA	**South Pole Qui**	**55.82**	**180**	P	**P**	**18 11 54.3**	**+0.9**
	comp=E,8.6nm,0.8s,baz=208,slow=1.4,SNR=18						
QSPA	**South Pole Qui**	**55.82**	**180**	*e*P	**P**	**18 11 53.5**	**+0.1**
	comp=E,9.5nm,0.9s						
VNDA	**Vanda**	**63.70**	**191**	P	**P**	**18 12 50.0**	**+2.7**
JCT	**Junction City**	**69.67**	**335**	*e*P	**P**	**18 13 28.3**	**+2.4**
	comp=E,17nm,0.8s						
TXAR	**Lajitas Array**	**70.11**	**331**	P	**P**	**18 13 29.0**	**+0.3**
	comp=E,0.8nm,0.6s,baz=157,slow=8.7,SNR=4.1						
WVT	**Waverly**	**71.72**	**347**	*e*P	**P**	**18 13 37.9**	**-0.3**
	comp=E,9.6nm,0.8s						
LIC	**Lamto**	**74.89**	**71**	*e*P	**P**	**18 13 56.8**	**-0.7**
	comp=E,32nm,1.4s						
TIC	**Toumodi**	**75.15**	**71**	*e*P	**P**	**18 13 58.6**	**-0.4**
	comp=E,6.6nm,0.2s						
KIC	**Kosan Boka**	**75.19**	**71**	*e*P	**P**	**18 13 59.0**	**-0.3**
	comp=E,16nm,0.6s						
DBIC	**Dimbokro**	**75.29**	**71**	P	**P**	**18 13 59.9**	**+0.1**
	comp=E,6.2nm,0.6s,baz=208,slow=5.5,SNR=14						
BOSA	**Boshof**	**79.86**	**118**	P	**P**	**18 14 25.2**	**-0.2**
	comp=E,14nm,0.9s,baz=249,slow=3.9,SNR=19						
LBTB	**Lobatse**	**82.11**	**115**	*e*P	**P**	**18 14 37.5**	**+0.1**
	comp=E,6.6nm,0.6s						
PDAR	**Pinedale Array**	**84.14**	**333**	P	**P**	**18 14 47.5**	**0.0**
	comp=E,0.7nm,0.6s,baz=147,slow=5.4,SNR=5.9						
NVAR	**Mina Array Bea**	**84.24**	**325**	P	**P**	**18 14 49.1**	**+1.0**
	comp=E,0.8nm,0.7s,baz=146,slow=5.5,SNR=6.6						
TORD	**Torodi Ar. Bea**	**84.33**	**70**	P	**P**	**18 14 48.4**	**-0.4**
	comp=E,6.9nm,0.8s,baz=256,slow=4.2,SNR=29						
ULM	**Lac du Bonnet**	**86.91**	**345**	P	**P**	**18 14 59.9**	**-0.8**
	comp=E,1.7nm,0.7s,baz=129,slow=2.6,SNR=3.6						
YKA	**Yellowknife Ar**	**102.46**	**341**	P	**Pdif**	**18 16 11.0**	**-0.7**
	comp=E,0.3nm,0.5s,baz=141,slow=4.2,SNR=8.8						
ILAR	**Eielson Array**	**114.58**	**333**	PKP	PKPdf	18 20 54.2	-1.5
	comp=E,0.4nm,0.7s,baz=182,slow=1.3,SNR=5.0						
ASAR	**Alice Springs**	**117.20**	**207**	PKP	**PKPdf**	**18 20 59.5**	**-2.7**
	comp=E,0.3nm,0.6s,baz=142,slow=1.8,SNR=6.2						
WRA	**Warramunga Arr**	**120.41**	**209**	PKP	**PKPdf**	**18 21 07.2**	**-1.2**
	comp=E,0.8nm,0.5s,baz=159,slow=1.8,SNR=17						
BRTR	**Keskin Array B**	**122.02**	**61**	PKP	**PKPdf**	**18 21 10.1**	**-0.9**
	comp=E,0.8nm,0.7s,baz=197,slow=3.8,SNR=4.0						
H11S2	**WAKE ISLAND Hyl**	**25.78**	**269**	T	T	20 39 28.8	
	baz=119,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hyl**	**25.80**	**269**	T	T	20 39 30.2	
	baz=119,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hyl**	**25.80**	**269**	T	T	20 39 30.2	
	baz=119,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hyl**	**26.21**	**270**	T	T	20 40 00.2	
	baz=121,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hyl**	**26.22**	**270**	T	T	20 40 03.5	
	baz=121,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hyl**	**26.22**	**270**	T	T	20 40 02.0	
	baz=121,slow=75,SNR=15						
GEYT	**Alibeck**	**139.97**	**70**	PKP	**PKPdf**	**18 21 43.5**	**-1.3**
	comp=E,0.8nm,0.7s,baz=270,slow=4.3,SNR=2.8						
ABKAR	**Akbulak array**	**141.92**	**52**	*e*PKPpre	PKPpre	18 21 41.7	
BVAR	**Borovoye Array**	**147.57**	**43**	PKPbc	**PKPbc**	**18 22 00.7**	**+0.5**
	comp=E,2.4nm,0.5s,baz=298,slow=2.4,SNR=19						
YAK	**Yakutsk**	**149.13**	**340**	*e*PKPbc	**PKPbc**	**18 22 02.7**	**-1.2**
EKS2	**Erkin-Say**	**152.15**	**63**	*e*PKPbc	**PKPbc**	**18 22 11.7**	**-0.2**
ZALV	**Zalesovo Beam**	**154.57**	**33**	PKPbc	**PKPbc**	**18 22 16.4**	**-0.3**
	comp=E,2.8nm,0.7s,baz=300,slow=3.3,SNR=11						
ZALV				PKPab	**PKPab**	**18 22 31.3**	**+0.1**
	comp=E,2.7nm,0.6s,baz=297,slow=5.6,SNR=7.0						
MKAR	**Makanchi Array**	**157.02**	**50**	PKPbc	PKPbc	18 22 27.6	
	comp=E,0.8nm,0.7s,baz=318,slow=1.6,SNR=7.0						
MKAR				PKPab	**PKPab**	**18 22 41.5**	**-0.6**
	comp=E,1.2nm,0.8s,baz=308,slow=4.0,SNR=9.0						
SONM	**Songino Array**	**166.54**	**5**	PKPab	**PKPab**	**18 23 23.0**	**-0.7**
	comp=E,0.7nm,0.9s,baz=326,slow=3.1,SNR=5.1						

ISCJB 11 18:02:20.0±0.4, 67°.08N×0°.02×20°.89E±0°.10, h0km, Error ellipse: s-maj=5.5km s-min=3.3km az=179.1
UPP 11 18:02:21.1, 67°.06N×20°.92E, h0km, ML2.0, Mining explosion.
CSEM 11 18:02:21.1±0.1, 67°.08N×20°.93E, h2km, ML2.1, Error ellipse: s-maj=3.9km s-min=2.7km az=91.0, Mining explosion.
HEL 11 18:02:21.9±0.1, 67°.06N×20°.93E, h0km, ML2.1, ML2.0(UPP), Explosion
IDC 11 18:02:21.3±0.9, 67°.21N×21°.41E, h0km, mb1 3.0/3, mb1mx2.8/46, mbtmp3.0/3, ML2.3/3, Error ellipse: s-maj=16.5km s-min=6.8km az=110.0
NAO 11 18:02:22.1±0.9, 67°.07N×21°.23E, ML2.5
BER 11 18:02:23.3±2.9, 67°.16N×20°.64E, h0km, ML1.8, ML2.5(NAO), Suspected explosion

ISC 11 18:02:21.2±0.7, 67°.07N±0°.02×20°.90E±0°.03, h0km, n65, σ0°.91/82, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.58**	**47**	*i* P	**Pg**	**18 02 32.2**	**0.0**
MASU	**Masugnsbyn**	**0.58**	**47**	P	**Pg**	**18 02 32.2**	**0.0**
MASU	**Masugnsbyn**	**0.58**	**47**	P	**Pg**	**18 02 32.2**	**0.0**
ERTU	**Ertsjaerv**	**0.73**	**135**	*e*P	**Pg**	**18 02 34.5**	**-0.5**
ERTU				*e*S	**Sg**	**18 02 45.4**	**+0.9**
ERTU	**Ertsjaerv**	**0.73**	**135**	P	**Pg**	**18 02 34.6**	**-0.5**
ERTU				S	**Sg**	**18 02 45.4**	**+0.9**
ERTU	**Ertsjaerv**	**0.73**	**135**	P	**Pg**	**18 02 34.6**	**-0.5**
PAJU	**Pajala**	**0.87**	**92**	*i* P	**Pg**	**18 02 37.1**	**-0.7**
PAJU	**Pajala**	**0.87**	**92**	P	**Pg**	**18 02 37.1**	**-0.7**
PAJU	**Pajala**	**0.87**	**92**	P	**Pg**	**18 02 37.1**	**-0.7**
HARU	**Harads**	**0.91**	**178**	*e*P	**Pg**	**18 02 38.1**	**-0.5**
HARU	**Harads**	**0.91**	**178**	P	**Pg**	**18 02 38.1**	**-0.5**
HARU	**Harads**	**0.91**	**178**	P	**Pg**	**18 02 38.1**	**-0.5**
KUA	**Kurravaara**	**0.91**	**347**	*e*P	**Pg**	**18 02 38.2**	**-0.4**
KUA	**Kurravaara**	**0.91**	**347**	P	**Pg**	**18 02 38.2**	**-0.4**
KUA	**Kurravaara**	**0.91**	**347**	P	**Pg**	**18 02 38.2**	**-0.4**
SALU	**Saltoluokta**	**0.98**	**290**	*e*P	**Pg**	**18 02 39.9**	**-0.1**
SALU	**Saltoluokta**	**0.98**	**290**	P	**Pg**	**18 02 39.8**	**-0.1**
SALU	**Saltoluokta**	**0.98**	**290**	P	**Pg**	**18 02 39.9**	**-0.1**
LANU	**Lannavaara**	**1.07**	**23**	*e*P	**Pg**	**18 02 40.8**	**-0.8**
LANU				*e*S	**Sg**	**18 02 55.5**	**0.0**
LANU	**Lannavaara**	**1.07**	**23**	P	**Pg**	**18 02 40.8**	**-0.8**
LANU				S	**Sg**	**18 02 55.4**	**0.0**
LANU	**Lannavaara**	**1.07**	**23**	P	**Pg**	**18 02 40.8**	**-0.8**
NIKU	**Nikkaluokta**	**1.08**	**319**	*e*P	**Pg**	**18 02 41.4**	**-0.3**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**18 02 41.4**	**-0.3**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**18 02 41.4**	**-0.3**
KALU	**Kalix**	**1.57**	**140**	*e*P	**Pn**	**18 02 49.6**	**-0.5**
KALU	**Kalix**	**1.57**	**140**	P	**Pn**	**18 02 49.6**	**-0.5**
KALU	**Kalix**	**1.57**	**140**	P	**Pn**	**18 02 49.6**	**-0.5**
SJUU	**Sjulsmark**	**1.59**	**169**	*e*P	**Pn**	**18 02 50.2**	**-0.3**
SJUU	**Sjulsmark**	**1.59**	**169**	P	**Pn**	**18 02 50.2**	**-0.3**
SJUU	**Sjulsmark**	**1.59**	**169**	P	**Pn**	**18 02 50.2**	**-0.3**
HEF	**Hetta**	**1.71**	**37**	*e*P	**Pn**	**18 02 51.8**	**-0.3**
HEF				*e*S	**Sn**	**18 03 13.3**	**-1.4**
HEF	**Hetta**	**1.71**	**37**	P	**Pn**	**18 02 51.8**	**-0.3**
HEF				S	**Sn**	**18 03 13.2**	**-1.4**
LILU	**Lilltraesk**	**1.84**	**194**	*e*P	**Pn**	**18 02 54.4**	**+0.4**
LILU	**Lilltraesk**	**1.84**	**194**	P	**Pn**	**18 02 54.3**	**+0.4**
LILU	**Lilltraesk**	**1.84**	**194**	P	**Pn**	**18 02 54.4**	**+0.4**
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*P	**Pb**	**18 02 57.0**	**-0.3**
KIF				*e*SG	**Sg**	**18 03 24.0**	**+0.4**
KIF	**Kilpisjarvi**	**1.94**	**359**	P	**Pb**	**18 02 57.0**	**-0.3**
KIF				Sg	**Sg**	**18 03 23.9**	**+0.4**
KTK1	**Kautokeino**	**2.14**	**23**	*e*Sg	**Sb**	**18 03 27.6**	**-0.1**
KTK1				IAML		18 03 33.0	
	comp=N,11nm,0.2s						
KTK1	**Kautokeino**	**2.14**	**23**	*e*Sg	**Sb**	**18 03 27.6**	**-0.1**
	SNR=90						
SGF	**Sodankyl**	**2.22**	**78**	*e*P	**Pn**	**18 03 00.2**	**+1.0**
SGF				*e*SG	**Sb**	**18 03 30.2**	**+0.1**
SGF	**Sodankyl**	**2.22**	**78**	P	**Pn**	**18 03 00.1**	**+1.0**
SGF				Sg	**Sb**	**18 03 30.1**	**+0.1**
MOR8	**Moi Rana**	**2.73**	**254**	*e*Sg	**Sn**	**18 03 41.0**	**+1.2**
MOR8				IAML		18 03 46.6	
	comp=Z,10nm,0.2s						
ARA0	**ARCESS Array S**	**3.01**	**33**	Pn	**Pn**	**18 03 10.0**	**0.0**
	baz=207,slow=14						
ARA0				Sn	**Sn**	**18 03 46.4**	**-0.3**
	baz=210,slow=28						
ARA0	**ARCESS Array S**	**3.01**	**33**	Pn	**Pn**	**18 03 10.0**	**0.0**
	baz=207,slow=14						
ARA0				Sn	**Sn**	**18 03 46.4**	**-0.3**
	baz=210,slow=28						
ARA0	**ARCESS Array S**	**3.01**	**33**	Pn	**Pn**	**18 03 10.0**	**0.0**
	baz=207,slow=13,SNR=50						
ARA0				Sn	**Sn**	**18 03 46.4**	**-0.3**
	baz=210,slow=24,SNR=50						
ARCES	**ARCESS Array B**	**3.01**	**33**	Pg	**Pn**	**18 03 10.6**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=210,slow=14,SNR=48						
ARCES				Lg	Lg	18 03 48.3	
	comp=Z,0.8nm,0.3s,baz=212,slow=24,SNR=11						
VRF	**Varrio**	**3.43**	**75**	MSG		18 04 09.8	
	comp=Z,5.3nm,0.2s						
KEV	**Kevo**	**3.52**	**37**	MSG		18 04 18.8	
	comp=Z,3.6nm,0.1s						
KJN	**Kajaani**	**4.12**	**133**	MSG		18 04 29.7	
	comp=Z,2.4nm,0.2s						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**18 03 53.2**	**+1.0**
	baz=346,slow=14						
FIA0				Sn	**Sn**	**18 05 02.6**	**+0.3**
	baz=348,slow=22						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**18 03 53.2**	**+1.0**
	baz=346,slow=14						
FIA0				Sn	**Sn**	**18 05 02.6**	**+0.3**
	baz=348,slow=22						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**18 03 53.2**	**+1.0**
	baz=346,slow=14,SNR=50						
FIA0				Sn	**Sn**	**18 05 02.6**	**+0.3**
	baz=348,slow=20,SNR=50						
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**18 03 53.0**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=349,slow=12,SNR=14						
FINES				Sn	**Sn**	**18 05 05.2**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=353,slow=24,SNR=5.7						
FINES				Lg	Lg	18 05 34.4	
	comp=Z,0.1nm,0.3s,baz=346,slow=32,SNR=3.1						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**18 04 11.4**	**+1.3**
	baz=25,slow=16						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**18 04 11.4**	**+1.3**
	baz=25,slow=16						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**18 04 11.4**	**+1.3**
	baz=25,slow=14,SNR=50						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**18 04 12.8**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=33,slow=11,SNR=3.2						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 04 13.3**	**-0.6**
	baz=23,slow=14						
HFS				Sn	**Sn**	**18 05 38.7**	**-2.5**
	baz=19,slow=28						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 04 13.3**	**-0.6**
	baz=23,slow=14						
HFS				Sn	**Sn**	**18 05 38.7**	**-2.5**
	baz=19,slow=28						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 04 13.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=31,slow=14,SNR=6.6						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 04 13.3**	**-0.6**
	baz=23,slow=13,SNR=50						
HFS				Sn	**Sn**	**18 05 38.7**	**-2.5**
	baz=19,slow=27,SNR=50						
SPA0	**Spitsbergen Ar**	**11.24**	**355**	Pn	**Pn**	**18 05 02.1**	**-0.7**
SPA0	**Spitsbergen Ar**	**11.24**	**355**	Pn	**Pn**	**18 05 02.1**	**-0.7**
SPA0	**Spitsbergen Ar**	**11.24**	**355**	Pn	**Pn**	**18 05 02.1**	**-0.7**
	SNR=50						
SPITS	**Spitsbergen Ar**	**11.24**	**355**	Pn	**Pn**	**18 05 04.2**	**+1.4**
	baz=289,slow=5.2,SNR=2.2						

MAN 11 18:05:53, 15°.49N×121°.85E, h3km, mb4.5, ML3.4, MS3.3, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.36**	**313**	*e*P	Pb	18 06 01.6	-0.5
BALP				*e*S	Sg	18 06 05.1	+0.3
PCPH	**Palayan**	**0.73**	**276**	⇑*e*P	Pg	18 06 06.7	-0.4
PCPH				*e*S	Sg	18 06 16.4	-0.2
BCPH	**Baguio City Da**	**1.51**	**306**	⇑*i*P	Pn	18 06 20.9	-0.3
BCPH				*i* S	Sn	18 06 41.5	-0.1
TGY	**Tagaytay City**	**1.64**	**213**	⇑*i*P	Pn	18 06 23.1	+0.2
TGY				*i* S	Sb	18 06 45.3	+0.1
GQP	**Guinayangan**	**1.68**	**160**	⇓*e*P	Pn	18 06 22.5	-0.7
GQP				*e*S	Sb	18 06 46.1	-0.1
BOLP	**Bolinao**	**2.06**	**296**	*e*P	Pn	18 06 28.5	-0.1
BOLP				*e*S	Sn	18 06 52.2	-2.7
LUBP	**Lubang**	**2.34**	**222**	*e*P	Pn	18 06 33.0	+0.6
SJMP	**San Jose**	**3.10**	**193**	*e*P	Pb	18 06 46.3	-2.5

IDC 11 18:05:59.4±4.0, 6°.66N×125°.59E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.1/41, mbtmp3.4/3, Error ellipse: s-maj=220.4km s-min=32.6km az=89.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.80**	**162**	P	P	18 11 50.2	-0.3
	0.6nm,1.0s,baz=343,slow=9.5,SNR=3.0						
ASAR	**Alice Springs**	**31.21**	**165**	P	P	18 12 20.9	+0.2
	0.2nm,0.4s,baz=343,slow=7.3,SNR=16						
ILAR	**Eielson Array**	**82.96**	**26**	P	P	18 18 26.2	0.0
	0.2nm,0.6s,baz=253,slow=6.3,SNR=4.4						

SKO 11 18:07:19.7, 41°.33N×22°.80E, h15km, M0.1, ML0.4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.17**	**267**	*i* Pg	Pg	18 07 24.1	+0.1
VAY				*i* Sg	Sg	18 07 26.7	-0.1
VAY				*e*Lg	Lg	18 07 26.7	
	comp=N,22nm,0.4s						
VAY				*e*Lg	Lg	18 07 26.8	
	comp=E,11nm,0.3s						

ISK 11 18:08:17.7, 39°.93N×27°.00E, h5km, MD2.7
ISCJB 11 18:08:18.3±0.4, 39°.94N±0°.03×26°.99E±0°.03, h5km±5km, Error ellipse: s-maj=4.9km s-min=3.5km az=143.1
DDA 11 18:08:18.6, 39°.94N×27°.01E, h7km, MD2.5
CSEM 11 18:08:18.6±0.1, 39°.94N×27°.00E, h8km, MD2.7, Error ellipse: s-maj=3.1km s-min=2.7km az=141.0
ATH 11 18:08:19.9, 39°.94N×26°.90E, h26km±5km, MD2.9/5

ISC 11 18:08:18.6±1.1, 39°.93N±0°.02×26°.99E±0°.02, h7km±11km, n49, σ0°.44/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.48**	**338**	*e*PG	**Pg**	**18 08 27.6**	**-0.2**
LPK	**Lapseki**	**0.48**	**338**	*e*Pg	**Pg**	**18 08 27.7**	**-0.2**
KRBG	**Karabiga-Canak**	**0.52**	**27**	*e*PG	**Pg**	**18 08 27.6**	**-1.0**
KRBG				*e*SG	**Sg**	**18 08 35.8**	**+0.4**
KRBG	**Karabiga-Canak**	**0.52**	**27**	*e*Pg	**Pg**	**18 08 27.7**	**-0.9**
KRBG				*e*Sg	**Sg**	**18 08 35.8**	**+0.4**
BALY	**Balya**	**0.52**	**111**	*i* P	**Pg**	**18 08 28.6**	**0.0**
BALY	**Balya**	**0.52**	**111**	*i* P	**Pg**	**18 08 28.6**	**0.0**
EZN	**Ezine**	**0.53**	**259**	*e*PG	**Pg**	**18 08 28.0**	**-0.7**
EZN				*e*SG	**Sg**	**18 08 36.2**	**+0.6**
EZN	**Ezine**	**0.53**	**259**	*e*Pg	**Pg**	**18 08 28.0**	**-0.7**
EZN				*e*Sg	**Sg**	**18 08 36.2**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.61**	**320**	*e*PG	**Pg**	**18 08 30.4**	**0.0**
GELI	**Tayfur-Gelibol**	**0.61**	**320**	*e*Pg	**Pg**	**18 08 30.4**	**0.0**
AYVA	**Ayvalik**	**0.67**	**201**	*i* P	**Pb**	**18 08 33.1**	**+0.6**
AYVA				*i* S	**Sb**	**18 08 41.4**	**-0.5**
AYVA	**Ayvalik**	**0.67**	**201**	*i* P	**Pb**	**18 08 33.1**	**+0.6**
AYVA				*i* S	**Sb**	**18 08 41.4**	**-0.5**
BOZC	**Bozcaada**	**0.73**	**263**	*i* P	**Pg**	**18 08 32.5**	**-0.2**
BOZC				*i* S	**Sb**	**18 08 43.2**	**-0.6**
BALB	**Balikesir**	**0.74**	**113**	*e*PG	**Pg**	**18 08 32.5**	**-0.4**
BALB	**Balikesir**	**0.74**	**113**	*e*Pg	**Pg**	**18 08 32.5**	**-0.4**
RKY	**Sarkoy-Tekirda**	**0.77**	**10**	*e*PG	**Pg**	**18 08 33.5**	**+0.1**
RKY	**Sarkoy-Tekirda**	**0.77**	**10**	*e*Pg	**Pg**	**18 08 33.5**	**+0.1**
SART	**Tekirdag**

STL	Santa Lucia	1.50	48	⇓	iP		Pb	18 20 48.0 +0.2
STL					i S4		Sg	18 21 08.3 -0.3
LACH	Col Las Americ	1.56	50	⇓	iP		Pb	18 20 49.3 +0.5
LACH					i S1		Sg	18 21 10.6 +0.1
LACH					AML		AML	18 21 17.6
	comp=E,11µm,0.4s							
CLCH	Cerro Calan	1.59	49	⇑	iP		Pb	18 20 50.0 +0.6
CLCH					i S		Sg	18 21 12.1 +0.6
CLCH					AML		AML	18 21 15.5
	comp=N,39µm,0.6s							
CLCH					AML		AML	18 21 16.3
	comp=E,45µm,0.8s							
PEL	Peldehue	1.69	40	⇓	iP		Pb	18 20 51.4 +0.3
PEL					i S		Sg	18 21 14.0 -0.7
PEL					AML		AML	18 21 16.8
	comp=N,49µm,0.4s							
FCH	Farellones	1.79	52	⇑	iP		Pb	18 20 53.5 +0.5
FCH					i S1		Sg	18 21 18.8 +0.9
FCH					AML		AML	18 21 23.2
	comp=N,18µm,0.3s							
CFAA	Coronel Fontan	4.23	49		Pn		Pn	18 21 27.2 +3.0
	comp=N,1.3nm,0.3s,baz=225,slow=11,SNR=27							
CFAA					Sn		Sb	18 22 23.1 -2.3
	comp=N,4.5nm,0.3s,baz=133,slow=11,SNR=3.4							
CFAA					LR		LR	18 23 19.5
	comp=N,679nm,20.1s,baz=302,slow=43							
LCO	Las Campanas	5.54	12	e	Pn		Pn	18 21 42.8 +0.4
PLCA	Paso Flores	6.36	170		Pn		Pn	18 21 55.2 +1.6
	comp=N,3.4nm,0.3s,baz=333,slow=13,SNR=14							
TRQA	Tornquist	8.83	117	e	Pn		Pn	18 22 29.6 +2.2
	comp=N,220nm,1.3s							
LVC	Limon Verde	12.10	14	e	Pn		Pn	18 23 06.6 -5.8
	comp=N,22nm,0.8s							
LPAZ	La Paz	18.42	12		P		Pn	18 24 37.2 +1.4
	comp=N,1.2nm,0.3s,baz=186,slow=8.7,SNR=94							
LPAZ	La Paz	18.42	12	e	P		Pn	18 24 36.4 +0.7
	comp=N,40nm,0.8s							
EFI	East Falkland	19.92	154	e	P		P	18 24 49.0 -2.3
USHA	Ushuaia	20.52	174		P		Pn	18 24 59.6 -0.4
	comp=N,12nm,0.9s,baz=27,slow=7.2,SNR=2.9							
SIV	San Ignacio	20.84	31		P		P	18 25 01.3 -0.2
	comp=N,27nm,0.9s,baz=229,slow=12,SNR=51							
NNA	Nana	22.80	348		P		P	18 25 24.4 +1.7
	comp=N,24nm,0.8s,baz=168,slow=9.2,SNR=11							
SAML	Samuel	26.64	20	e	P		P	18 25 57.8 -0.7
	comp=N,17nm,0.8s							
BDFB	Brasilia	28.55	55		P		P	18 26 14.6 -1.1
	comp=N,9.0nm,0.8s,baz=228,slow=12,SNR=8.1							
OTAV	Otavalo	35.05	349	e	P		P	18 27 14.9 +1.8
	comp=N,21nm,1.4s							
PTGA	Pitinga	35.38	21	e	P		P	18 27 14.1 -1.4
	comp=N,27nm,0.8s							
SDV	Santo Domingo	43.12	2	e	P		P	18 28 20.1 -0.4
	comp=N,14nm,0.8s							
RCBR	Riachuelo	43.84	58		P		P	18 28 26.3 +0.2
	comp=N,6.5nm,0.8s,baz=225,slow=13,SNR=4.0							
VNA3	Neumayer Olymp	48.91	158		P		P	18 29 05.7 +0.5
VNA2	Neumayer--Watz	49.57	157		P		P	18 29 09.6 -0.7
SNAA	Sanae	51.14	158		P		P	18 29 22.3 +0.1
SNAA	Sanae	51.14	158		P		P	18 29 22.4 +0.1
	comp=N,6.5nm,0.9s,baz=274,slow=7.6,SNR=16							
SNAA	Sanae	51.14	158	e	P		P	18 29 21.7 -0.5
	comp=N,39nm,1.2s							
QSPA	South Pole Qui	55.78	180		P		P	18 29 56.6 +0.1
	comp=N,13nm,0.9s,baz=147,slow=1.6,SNR=24							
933A	Laredo	66.93	334	⇑	P		P	18 31 13.3 +1.2
	baz=67							
833A	Chaparral WMA,	67.62	334	⇑	P		P	18 31 17.3 +0.9
	baz=68							
832A	Faith Ranch, C	67.80	333	⇓	P		P	18 31 18.4 +0.8
	baz=68							
732A	Laxson Ranch,	68.20	334	⇓	P		P	18 31 20.2 +0.2
	baz=68							
339A	Huntington	68.81	339	⇑	P		P	18 31 23.8 -0.1
	baz=69							
632A	Uvalde	68.83	334	⇓	P		P	18 31 25.0 +0.9
	baz=69							
533A	Kerrville	69.08	335	⇑	P		P	18 31 26.0 +0.4
	baz=69							
532A	Rocksprings	69.44	334	⇑	P		P	18 31 28.5 +0.6
	baz=70							
434A	Burnet	69.50	336	⇑	P		P	18 31 28.5 +0.3
	baz=70							
531A	Rocksprings	69.71	334	⇓	P		P	18 31 30.0 +0.5
	baz=70							
JCT	Junction City	69.72	335	⇑	P		P	18 31 30.1 +0.5
	baz=70							
433A	Art	69.72	335	⇓	P		P	18 31 29.8 +0.3
	baz=70,SNR=7.0							
KMSC	Kings Mountain	69.79	352	⇑	P		P	18 31 29.2 -0.7
	baz=70							
334A	Lometa	69.96	336	⇑	P		P	18 31 31.2 +0.2
	baz=70,SNR=5.6							
530A	J-C Ranch, Com	69.98	333	⇓	P		P	18 31 32.2 +1.0
	baz=70							
TXAR	Lajitas Array	70.16	331		P		P	18 31 33.0 +0.6
	comp=N,1.2nm,0.7s,baz=158,slow=8.1,SNR=5.4							
431A	Sonora	70.20	334	⇓	P		P	18 31 33.5 +1.0
	baz=70							
333A	Richland Sprin	70.21	336	⇑	P		P	18 31 32.6 0.0
	baz=70							
529A	Stev Forest Ra	70.30	332	⇓	P		P	18 31 33.9 +0.7
	baz=71							
WHTX	Lake Whitney,	70.31	337	⇑	P		P	18 31 32.9 -0.2
	baz=71							
430A	Baggett Ranch,	70.52	333	⇑	P		P	18 31 34.8 +0.3
	baz=71							
CPCT	Cooper Cave	70.53	349	e	P		P	18 31 36.4 +2.1
SWET	Sewanee	70.53	348	e	P		P	18 31 33.9 -0.6
	comp=N,22nm,0.8s							
429A	Davenport Ranc	70.62	333	⇓	P		P	18 31 35.7 +0.6
	baz=71							
331A	San Angelo	70.70	334	⇓	P		P	18 31 35.4 -0.1
	baz=71							
233A	Rising Star	70.81	336	⇓	P		P	18 31 36.1 -0.1
	baz=71							
232A	Coleman	70.95	335	⇓	P		P	18 31 36.9 -0.2
	baz=71							
330A	Mertzon	71.06	334	⇑	P		P	18 31 37.7 -0.1
	baz=71							
231A	Bronte	71.23	335	⇑	P		P	18 31 38.7 -0.1
	baz=72							
133A	Hamilton Ranch	71.36	336	⇑	P		P	18 31 40.0 +0.5
	baz=72							
230A	Sterling City	71.47	334	⇓	P		P	18 31 40.2 0.0
	baz=72							
ABTX	Abilene, Hawle	71.62	336	⇑	P		P	18 31 40.9 -0.2
	baz=72							
WVT	Waverly	71.77	347	e	P		P	18 31 41.2 -0.6
	comp=N,44nm,0.8s							
131A	Roby	71.92	335	⇓	P		P	18 31 43.1 +0.2
	baz=72							
Z33A	Whitaker Ranch	71.93	337	⇑	P		P	18 31 43.1 +0.1
	baz=72							
JSRW	J. Sargeant Re	72.00	355	e	P		P	18 31 43.2 +0.1
Z32A	Haskell	72.19	336	⇑	P		P	18 31 44.7 +0.2
	baz=72							
228A	UT Block 9, Go	72.22	333	⇑	P		P	18 31 44.8 0.0
	baz=72							
Y34A	Reagan Ranch,	72.23	338	⇓	P		P	18 31 44.5 -0.1
	baz=73							
Z31A	Sharp Cattle R	72.42	335	⇓	P		P	18 31 45.1 -0.8
	baz=73,SNR=5.3							
Y33A	Hilltop Ranch,	72.55	337	⇓	P		P	18 31 46.9 +0.3
	baz=73							
128A	Castleberry Fa	72.63	333	⇓	P		P	18 31 47.6 +0.4
	baz=73							
Z30A	Sanderson Ranc	72.74	335	⇓	P		P	18 31 47.1 -0.7
	baz=73,SNR=5.7							
Y32A	R-V Farms, Ver	72.81	336	⇓	P		P	18 31 48.2 0.0
	baz=73							
X34A	Smith Ranch, M	72.84	338	⇑	P		P	18 31 48.3 -0.1
	baz=73							
Z29A	Hungry Hill Ra	72.92	334	⇓	P		P	18 31 48.8 -0.1
	baz=73							
Y29A	Porterfield Fa	73.45	335	⇑	P		P	18 31 51.9 -0.1
	baz=74,SNR=5.0							
TUL1	Leonard	73.46	340	⇓	P		P	18 31 51.5 -0.4
	baz=74							
W33A	Caddo, Fort Co	73.55	338	⇓	P		P	18 31 53.1 +0.5
	baz=74							
X31A	McDonald Ranch	73.56	336	⇓	P		P	18 31 52.7 +0.1
	baz=74							
W32A	Sentinel	73.77	337	⇓	P		P	18 31 53.8 -0.1
	baz=74							
V34A	Guthrie	73.89	339	⇑	P		P	18 31 54.2 -0.2
	baz=74							
MSTX	Muleshoe	73.94	334	⇑	P		P	18 31 54.8 -0.2
	baz=74							
V33A	Lossen Ranch,	74.11	338	⇑	P		P	18 31 55.7 0.0
	baz=74							
319A	Douglas	74.32	327	⇑	P		P	18 31 58.6 +1.4
	baz=75							
AMTX	Amarillo	74.38	335	⇑	P		P	18 31 57.6 +0.2
	baz=75							
U34A	Anderson Ranch	74.45	339	⇓	P		P	18 31 57.5 -0.3
	baz=75							
SUR	Sutherland	74.56	119	e	P		P	18 31 59.1 +0.1
W29A	Amarillo	74.58	335	⇓	P		P	18 31 59.0 +0.4
	baz=75							
121A	Cookes Peak, D	74.66	329	⇑	P		P	18 32 00.1 +0.8
	baz=75							
121A	Cookes Peak, D	74.66	329	e	P		P	18 31 59.8 +0.5
	comp=N,11nm,1.0s							
X26A	CR and CF Fran	74.84	333	⇓	P		P	18 32 00.3 +0.1
	baz=75							
U32A	Winter Ranch,	74.85	338	⇓	P		P	18 32 00.0 -0.1
	baz=75							
LIC	Lamto	74.86	71	e	P		P	18 31 59.9 -0.8
	comp=N,55nm,1.1s							
Y24A	Capitan	74.92	332	⇑	P		P	18 32 01.0 +0.3
	baz=75							
Z22A	Elephant Butte	74.94	330	⇓	P		P	18 32 02.2 +1.3
	baz=75							
ACSO	Alum Creek Sta	75.01	351	e	P		P	18 32 00.0 -0.9
	comp=N,21nm,0.8s							
W27A	Bowe Ranch, En	75.03	334	⇓	P		P	18 32 01.5 +0.2
	baz=75							
TIC	Toumodi	75.13	71	e	P		P	18 32 01.6 -0.6
	comp=N,6.6nm,0.3s							
Y23A	Lovelace Mesa,	75.16	331	⇓	P		P	18 32 03.6 +1.4
	baz=76							
KIC	Kosan Boka	75.17	71	e	P		P	18 32 02.1 -0.4
	comp=N,59nm,1.0s							
T33A	Patterson Ranc	75.26	339	⇓	P		P	18 32 02.8 +0.3
	baz=76							
DBIC	Dimbokro	75.27	71		P		P	18 32 02.8 -0.3
	comp=N,15nm,0.7s,baz=207,slow=5.3,SNR=25							
DBIC	Dimbokro	75.27	71	e	P		P	18 32 02.6 -0.4
	comp=N,12nm,0.8s							
W26A	Owens Ranch, T	75.31	333	⇑	P		P	18 32 03.3 +0.4
	baz=76							
V28A	Channing	75.35	335	⇑	P		P	18 32 03.4 +0.3
	baz=76							
W25A	X Bar L Ranch,	75.68	333	⇓	P		P	18 32 05.6 +0.6
	baz=76							
W24A	Lazy 6 Ranch,	76.03	332	⇑	P		P	18 32 07.7 +0.6
	baz=76							
W23A	Werner Place,	76.28	332	⇑	P		P	18 32 09.3 +0.8
	baz=77							
V25A	Rancho No Teng	76.29	333	⇓	P		P	18 32 08.9 +0.3
	baz=77							
T29A	Hugoton	76.30	336	⇑	P		P	18 32 08.7 +0.3
	baz=77							
R33A	Olander Ranch,	76.32	339	⇑	P		P	18 32 07.8 -0.7
	baz=77							
V24A	Rampart Ranch,	76.44	333	⇑	P		P	18 32 09.7 +0.2
	baz=77							
U26A	Atchley Ranch,	76.46	334	⇓	P		P	18 32 08.4 -1.2
	baz=77							
T28A	Walsh	76.54	336	⇓	P		P	18 32 10.2 +0.3
	baz=77							
S29A	Ulysses	76.66	337	⇑	P		P	18 32 10.7 +0.2
	baz=77							
R31A	Burdett	76.77	338	⇓	P		P	18 32 11.3 +0.3
	baz=77							
S28A	Manter	76.89	336	⇓	P		P	18 32 12.2 +0.4
	baz=77							
Q32A	Meitler Ranch,	77.12	339	⇓	P		P	18 32 13.2 +0.2
	baz=78							
V22A	San Miguel Ran	77.23	332	⇑	P		P	18 32 14.8 +0.8
	baz=78							
X18A	Snowflake	77.30	329	⇑	P		P	18 32 15.5 +1.2
	baz=78							
T25A	Trinidad	77.37	334	⇑	P		P	18 32 15.5 +0.8
	baz=78,SNR=8.6							
S26A	Kim	77.46	335	⇓	P		P	18 32 15.4 +0.4
	baz=78,SNR=5.9							
R28A	Tribune	77.55	336	⇓	P		P	18 32 15.9 +0.4
	baz=78							
Q30A	Quinter	77.61	338	⇓	P		P	18 32 15.8 0.0
	baz=78							
U22A	Llaves	77.62	332	⇓	P		P	18 32 17.4 +1.3
	baz=78							
T24B	San Luis	77.66	333	⇑	P		P	18 32 17.1 +0.7
	baz=78							
W18A	Petrified Fore	77.71	329	⇓	P		P	18 32 17.7 +1.1
	baz=78							
P32A	Hulting Farm,	77.72	339	⇑	P		P	18 32 16.4 +0.1
	baz=78							
R27A	Eads	77.83	336	⇑	P		P	18 32 17.4 +0.4
	baz=78							
S25A	Robets Cordova	77.84	334	⇓	P		P	18 32 18.1 +0.8
	baz=78							
P31A	Stockton	77.85	339	⇓	P		P	18 32 17.3 +0.2
	baz=78							
MDV	Middlebury	78.09	359	e	P		P	18 32 18.4 +0.1
	comp=N,21µm,0.6s							
S24A	Houchin Ranch,	78.11	334	⇓	P		P	18 32 19.9 +1.1
	baz=78,SNR=5.6							
Y14A	Wickenburg	78.16	326	⇑	P		P	18 32 21.7 +2.8
	baz=78							
O32A	Brockman Farm,	78.21	340	⇑	P		P	18 32 19.2 +0.2
	baz=79							
P29A	Atwood	78.41	338	⇑	P		P	18 32 20.7 +0.5
	baz=79							
LONY	Lake Ozonia	78.74	358	e	P		P	18 32 21.9 +0.1
	comp=N,7.8nm,0.9s							
WUAZ	Wupatki	78.75	328	⇓	P		P	18 32 23.3 +1.0
	baz=79							
R23A	Moffat	78.82	333	⇓	P		P	18 32 23.6 +0.8
	baz=79							
MVCO	Mesa Verde	78.99	331	⇑	P		P	18 32 24.5 +0.8
	baz=79							
TSUM	Tsumeb	79.03	106	e	P		P	18 32 24.2 -0.1
	comp=N,24nm,1.3s							
Q24A	Divide	79.26	334	⇑	P		P	18 32 24.9 -0.2
	baz=80,SNR=5.7							
IRM	Iron Mountain	79.35	325	⇑	P		P	18 32 26.5 +1.1
	baz=80							
P25A	Willow Gulch B	79.40	335	⇓	P		P	18 32 26.3 +0.5
	baz=80							
M31A	Lambtecht Ranc	79.42	340	⇑	P		P	18 32 25.7 0.0
	baz=80							
W13A	Hualapai Mount	79.53	326	⇑	P		P	18 32 27.7 +1.1
	baz=80							
BOSA	Boshof	79.81	118		P		P	18 32 28.2 -0.2
	comp=N,30nm,0.8s,baz=239,slow=4.3,SNR=39							
BOSA	Boshof	79.81	118	e	P		P	18 32 27.9 -0.5
	comp=N,37nm,0.9s							
U15A	North Rim	79.92	328	⇓	P		P	18 32 30.0 +1.2
	baz=80							
GMRC	Granite Mounta	80.10	325	⇑	P		P	18 32 31.2 +1.5
	baz=80							
ISCO	Idaho Springs	80.16	334	⇑	P		P	18 32 30.2 +0.1
	baz=80							
P22A	Eagle	80.40	333	⇑	P		P	18 32 31.8 +0.5
	baz=81							
HEC	Hector,Ludlow	80.46	324	⇓	P		P	18 32 33.4 +1.9
	baz=81							
O23A	Lake Granby, G	80.64	334	⇓	P		P	18 32 32.6 0.0
	baz=81,SNR=6.0							
N24A	Carr	80.82	335	⇓	P		P	18 32 33.5 +0.1
	baz=81							
O22A	Kremmling	80.82	334	⇓	P		P	18 32 33.5 -0.1
	baz=81,SNR=6.3							
ECSD	EROS Data Cent	81.00	342	⇓	P		P	18 32 33.3 -0.8
	baz=81							
ECSD	EROS Data Cent	81.00	342	e	P		P	18 32 33.4 -0.7
	comp=N,20nm,1.0s							
N23A	Red Feather La	81.25	335	⇓	P		P	18 32 36.0 +0.2
	baz=82							
N22A	Wattenberg Ran	81.35	334	⇑	P		P	18 32 36.9 +0.6
	baz=82							
K28A	Ten Mile Ranch	81.38	339	⇑	P		P	18 32 36.9 +0.6
	baz=82							
J29A	Okreek	81.70	340	⇑	P		P	18 32 36.9 -0.9
	baz=82							
I30A	Oacoma	81.92	340	⇑	P		P	18 32 38.3 -0.6
	baz=82							
J28A	Allard Ranch,	81.99	339	⇓	P		P	18 32 39.4 0.0
	baz=82							
J26A	Sides Ranch, S	82.45	338	⇓	P		P	18 32 41.8 0.0
	baz=83							
I28A	Midland	82.49	339	⇓	P		P	18 32 41.8 -0.2
	baz=83							
J25A	Sunshine Ranch	82.75	337	⇑	P		P	18 32 43.4 0.0
	baz=83							
K23A	Bowen Ranch, D	82.78	336	⇑	P		P	18 32 43.8 +0.1
	baz=83							
H29A	Onida	82.79	340	⇑	P		P	18 32 43.3 -0.3
	baz=83							
R11A	Troy Canyon, C	82.97	327	⇑	P		P	18 32 46.0 +1.2
	baz=83							
K22A	Casper	83.00	335	⇓	P		P	18 32 44.9 0.0
	baz=83							
H28A	Mission Ridge	83.07	340	⇑	P		P	18 32 44.7 -0.2
	baz=83							
K21A	Alcova	83.24	335	⇑	P		P	18 32 46.3 +0.2
	baz=84							
I25A	Rochford	83.29	338	⇑	P		P	18 32 46.3 -0.1
	baz=84							
DUG	Dugway, Tooele	83.30	330	⇑	P		P	18 32 47.3 +0.9
	baz=84							
G28A	Parade	83.40	340	⇑	P		P	18 32 46.6 -0.1
	baz=84							
I24A	Kuemmerle Ranc	83.43	337	⇓	P		P	18 32 46.6 -0.4
	baz=84							
J22A	Midwest	83.66	335	⇑	P		P	18 32 47.8 -0.4
	baz=84							
F29A	Eureka	83.80	341	⇑	P		P	18 32 48.6 -0.1
	baz=84							
F28A	McLaughlin	84.08	340	⇓	P		P	18 32 49.6 -0.6
	baz=84							
I22A	9 Mile Ranch,	84.08	336	⇓	P		P	18 32 49.8 -0.5
	baz=84							
J20A	Shoshoni	84.17	334	⇑	P		P	18 32 50.8 0.0
	baz=84,SNR=5.9							
PDAR	Pinedale Array	84.20	333		P		P	18 32 50.0 -1.1
	comp=N,1.1nm,0.7s,baz=160,slow=4.7,SNR=8.5							
H24A	Dirks Ranch, A	84.20	337	⇓	P		P	18 32 50.2 -0.7
	baz=84							
I21A	Big Trails, Te	84.29	335	⇓	P		P	18 32 51.2 -0.3
	baz=85							
NVAR	Mina Array Bea	84.29	325		P		P	18 32 52.1 +0.5
	comp=N,1.4nm,0.8s,baz=147,slow=6.9,SNR=6.8							
TORD	Torodi Ar. Bea	84.31	70		P		P	18 32 51.5 -0.5
	comp=N,13nm,0.8s,baz=252,slow=4.2,SNR=64							
E29A	Napoleon	84.42	341	⇓	P		P	18 32 51.3 -0.6
	baz=85							
J19A	Crowheart	84.44	334	⇓	P		P	18 32 52.1 -0.1
	baz=85,SNR=5.7							
H22A	Clearmont	84.66	336	⇑	P		P	18 32 53.0 -0.2
	baz=85							
D30A	Buchanan	84.69	342	⇓	P		P	18 32 52.8 -0.4
	baz=85							
I20A	Worland	84.70	335	⇓	P		P	18 32 53.3 -0.2
	baz=85							
D29A	Pettibone, Tap	84.87	341	⇓	P		P	18 32 53.5 -0.6
	baz=85							
G23A	Biddle	84.88	337	⇓	P		P	18 32 54.0 -0.3
	baz=85							
H21A	Big Horn, Sher	84.92	336	⇓	P		P	18 32 54.7 +0.2
	baz=85							
F25A	Bowman	84.92	339	⇓	P		P	18 32 54.4 -0.1
	baz=85							
I19A	Meeteetse	85.09	334	⇑	P		P	18 32 55.7 +0.2
	baz=85							
AGMN	Agassiz Nation	85.11	344	⇓	P		P	18 32 54.7 -0.6
	baz=86							
AGMN	Agassiz Nation	85.11	344	e	P		P	18 32 54.7 -0.6
H20A	Greybull	85.12	335	⇑	P		P	18 32 55.6 0.0
	baz=86							
C30A	Mose, Pekin	85.17	342	⇓	P		P	18 32 55.4 -0.2
	baz=86							
D28A	Regan	85.25	341	⇑	P		P	18 32 56.0 0.0
	baz=86							
F23A	Volborg	85.35	337	⇓	P		P	18 32 56.4 -0.2
	baz=86							
G21A	Lodge Grass	85.50	336	⇓	P		P	18 32 57.0 -0.4
	baz=86							
I17A	Pilgrim Ck.	85.57	333	⇑	P		P	18 32 58.3 +0.4
	baz=86							
MDND	Maddock	85.59	342	⇓	P		P	18 32 57.2 -0.5
	baz=86							
D26A	Manning	85.62	340	⇑	P		P	18 32 57.5 -0.4
	baz=86							
H19A	Powell	85.63	334	⇓	P		P	18 32 58.1 -0.1
	baz=86							
F22A	Rosebud	85.67	337	⇓	P		P	18 32 58.0 -0.2
	baz=86							
B30A	Myrvik Farm, E	85.83	343	⇓	P		P	18 32 58.0 -0.8
	baz=86							
G20A	Bridger	85.84	335	⇓	P		P	18 32 57.7 -1.4
	baz=86,SNR=7.9							
H18A	Shoshone NF, C	85.88	334	⇑	P		P	18 32 58.8 -0.7
	baz=86,SNR=6.6							
D24A	Glendive	86.25	339	⇑	P		P	18 33 00.8 -0.2
	baz=87							
A30A	Hoffart Farm,	86.28	343	⇓	P		P	18 33 00.6 -0.5
	baz=87							
A29A	Manning Farm,	86.50	342	⇑	P		P	18 33 01.4 -0.7
	baz=87							
D23A	Lindsay	86.58	338	⇑	P		P	18 33 02.7 +0.1
	baz=87							
C24A	Savage	86.66	339	⇓	P		P	18 33 02.7 -0.3
	baz=87							
A28A	Rude Farm, Bot	86.75	342	⇓	P		P	18 33 02.3 -1.0
	baz=87							
HLID	Hailey	86.76	331	⇑	P		P	18 33 04.4 +0.6
	baz=87							
B26A	Jensen Ranch,	86.79	340	⇑	P		P	18 33 02.3 -1.3
	baz=87							
D22A	Cohagen	86.86	337	⇓	P		P	18 33 03.7 -0.3
	baz=87							
E20A	Meyer Farm, Mu	86.93	336	⇓	P		P	18 33 04.4 +0.1
	baz=87							
B25A	Knox Farm, Ray	86.95	340	⇑	P		P	18 33 03.8 -0.6
	baz=87							
ULM	Lac du Bonnet	86.95	345		P		P	18 33 03.3 -1.0
	comp=N,5.1nm,0.8s,baz=172,slow=4.4,SNR=5.9							
D21A	La Casta Ranch	87.05	337	⇑	P		P	18 33 04.9 -0.1
	baz=87							
E19A	Rath Farm, Rou	87.12	335	⇑	P		P	18 33 05.4 +0.1
	baz=88							
C23A	Lambert	87.13	338	⇑	P		P	18 33 04.7 -0.6
	baz=88							
MCMT	McKenzie Canyo	87.20	332	e	P		P	18 33 06.7 +0.7
	comp=N,4.4nm,1.1s							
A26A	Wade Farm, Ken	87.21	341	⇑	P		P	18 33 05.1 -0.5

AKASG	**Malin Array Be**	122.46	48	PKP	**PKPdf**	18 39 12.5	-2.0
	comp=N,0.9nm,0.5s,baz=262,slow=2.8,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	25.82	269	T	T	20 57 45.9	
	baz=119,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy**	25.83	269	T	T	20 57 44.8	
	baz=119,slow=75,SNR=38						
H11S3	**WAKE ISLAND Hy**	25.84	269	T	T	20 57 41.9	
	baz=119,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	26.25	270	T	T	20 58 15.1	
	baz=115,slow=79,SNR=26						
H11N1	**WAKE ISLAND Hy**	26.26	270	T	T	20 58 15.2	
	baz=115,slow=79,SNR=65						
H11N2	**WAKE ISLAND Hy**	26.26	270	T	T	20 58 15.8	
	baz=115,slow=79,SNR=40						
GEYT	**Alibeck**	139.95	70	PKP	**PKPdf**	18 39 47.2	-0.8
	comp=N,0.6nm,0.5s,baz=127,slow=46,SNR=2.9						
ABKAR	**Akbulak array**	141.92	52	*e*PKPpre	PKPpre	18 39 44.5	
BRVK	**Borovoye**	147.50	43	*e*PKPbc	**PKPbc**	18 40 02.9	-0.3
HYB	**Hyderabad**	148.68	115	*i* PKP	**PKPdf**	18 40 05.5	+1.8
YAK	**Yakutsk**	149.18	340	*e*PKPbc	**PKPbc**	18 40 05.9	-1.4
KKAR	**Karatay Array**	149.71	62	*e*PKPbc	**PKPbc**	18 40 08.5	-0.8
AML	**Almayashu**	152.12	64	P	**PKPbc**	18 40 15.7	+0.2
	SNR=9.7						
EKS2	**Erkin-Say**	152.14	63	P	**PKPbc**	18 40 15.2	0.0
	SNR=12						
EKS2	**Erkin-Say**	152.14	63	*e*PKPdf	**PKPdf**	18 40 08.5	0.0
EKS2				*e*PKPbc	**PKPbc**	18 40 15.1	-0.1
USP	**Ospenovka**	152.60	61	P	**PKPbc**	18 40 16.2	+0.2
	SNR=6.0						
AAK	**Ala-Archa**	152.67	63	P	**PKPbc**	18 40 16.5	+0.1
	SNR=9.5						
AAK	**Ala-Archa**	152.67	63	*e*PKPbc	**PKPbc**	18 40 16.3	-0.1
UCH	**Uchtor**	152.72	63	P	**PKPbc**	18 40 17.2	+0.3
	SNR=9.1						
KURK	**Kurchatov**	153.17	44	*e*PKPbc	**PKPbc**	18 40 15.8	-1.2
TKM2	**Tokmak 2**	153.44	62	P	**PKPbc**	18 40 17.8	-0.4
	SNR=5.0						
KSH	**Kashi**	153.98	69	PKPbc	**PKPbc**	18 40 18.2	-1.1
KSH				PKS	**PKSdf**	18 43 50.1	+4.5
KSH				PP	**PP**	18 44 05.9	-2.0
KSH				SKS	**SKSdf**	18 47 23.7	+5.9
ZALV	**Zalesovo Beam**	154.58	33	PKP	**PKPdf**	18 40 10.3	-1.1
	comp=N,1.6nm,0.8s,baz=294,slow=1.5,SNR=8.1						
ZALV				PKPbc	**PKPbc**	18 40 18.5	-1.4
	comp=N,4.9nm,0.8s,baz=114,slow=1.8,SNR=3.7						
ZALV				PKPab	**PKPab**	18 40 34.4	-0.1
	comp=N,8.7nm,0.8s,baz=303,slow=4.6,SNR=12						
MKAR	**Makanchi Array**	157.02	50	PKP	**PKPdf**	18 40 14.3	-0.7
	comp=N,0.8nm,0.8s,baz=75,slow=1.4,SNR=6.0						
MKAR				PKPbc	PKPbc	18 40 30.6	
	comp=N,1.1nm,0.7s,baz=323,slow=1.8,SNR=7.1						
MKAR				PKPab	**PKPab**	18 40 44.8	-0.6
	comp=N,3.0nm,0.8s,baz=310,slow=4.0,SNR=11						
CMAR	**Chiang Mai Arr**	162.12	151	PKP	**PKPdf**	18 40 20.9	-0.8
	comp=N,0.5nm,0.8s,baz=234,slow=3.7,SNR=5.4						
CMAR				PKPab	**PKPab**	18 41 07.5	-0.7
	comp=N,0.3nm,0.7s,baz=241,slow=3.8,SNR=4.5						
SONM	**Songino Array**	166.58	5	PKP	**PKPdf**	18 40 24.2	-0.7
	comp=N,0.5nm,0.8s,baz=221,slow=1.6,SNR=3.8						
SONM				PKPab	**PKPab**	18 41 27.4	+0.3
	comp=N,1.8nm,0.9s,baz=333,slow=4.2,SNR=10						
GTA	**Gaotai**	171.77	51	*e*PKP	**PKPdf**	18 40 28.4	0.0
GTA				PKPab	**PKPab**	18 41 51.0	+0.5

CRAAG ***11*** *18:25:31.4,34.°90N×3.°28E,Ml4.0*
MDD ***11*** *18:25:33.9±1.6,34.°80N×3.°34E,h0km,mb4.1/10,Error ellipse: s-maj=18.7km s-min=8.8km az=178.0,PRXIMO*
ISCJB ***11*** *18:25:36.9±1.0,35.°09N±0.°07×3.°28E±0.°05,h21km,Error ellipse: s-maj=9.6km s-min=6.0km az=5.9*
CSEM ***11*** *18:25:36.6±0.6,35.°06N×3.°36E,h10km,ML4.0,Error ellipse: s-maj=13.7km s-min=7.1km az=179.0*
ISC 11 18:25:36.0±1.7,34.°97N±0.°09×3.°33E±0.°04,h21km,n52, σ0s89/68,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	1.27	346	P	**Pb**	18 25 59.6	+0.4
EMHD	**Djebel Mahouad**	1.27	346	P	**Pb**	18 25 59.6	+0.4
EMHD	**Djebel Mahouad**	1.27	346	P	**Pb**	18 25 59.6	+0.4
ETRT	**Tiaret**	1.72	285	P	**Pn**	18 26 03.0	-1.8
ETRT	**Tiaret**	1.72	285	P	**Pn**	18 26 03.0	-1.8
ETRT	**Tiaret**	1.72	285	P	**Pn**	18 26 03.0	-1.8
ABMS	**Boumerdes**	1.78	4	P	**Pb**	18 26 07.5	-0.4
ABMS	**Boumerdes**	1.78	4	P	**Pb**	18 26 07.5	-0.4
ABMS	**Boumerdes**	1.78	4	P	**Pb**	18 26 07.5	-0.4
ABA	**Alger-Bouzarea**	1.84	353	P	**Pb**	18 26 08.4	-0.6
ABA	**Alger-Bouzarea**	1.84	353	P	**Pb**	18 26 08.4	-0.6
ABA	**Alger-Bouzarea**	1.84	353	P	**Pb**	18 26 08.4	-0.6
EBNR	**Beni Rached**	1.97	312	P	**Pb**	18 26 10.5	-0.7
EBNR	**Beni Rached**	1.97	312	P	**Pb**	18 26 10.5	-0.7
ECHA	**Ech Chlef**	1.99	307	P	**Pb**	18 26 12.0	+0.6
ECHA	**Ech Chlef**	1.99	307	P	**Pb**	18 26 12.0	+0.6
ECHF	**Ech Chlef**	2.01	307	P	**Pb**	18 26 12.0	+0.2
ECHF	**Ech Chlef**	2.01	307	P	**Pb**	18 26 12.0	+0.2
CKHR	**Kef el Ahmar**	2.06	59	P	**Pn**	18 26 10.0	+0.5
CKHR	**Kef el Ahmar**	2.06	59	P	**Pn**	18 26 10.0	+0.5
CKHR	**Kef el Ahmar**	2.06	59	P	**Pn**	18 26 10.0	+0.5
EANR	**'Ain N'Sour**	2.07	299	P	**Pn**	18 26 09.9	+0.4
EANR	**'Ain N'Sour**	2.07	299	P	**Pn**	18 26 09.9	+0.4
EANR	**'Ain N'Sour**	2.07	299	P	**Pn**	18 26 09.9	+0.4
SET	**Setif**	2.08	53	P	**Pn**	18 26 10.0	+0.2
SET	**Setif**	2.08	53	P	**Pn**	18 26 10.0	+0.2
SET	**Setif**	2.08	53	P	**Pn**	18 26 10.0	+0.2
OJGS	**Djebel Guires**	2.18	285	P	**Sn**	18 26 40.0	+2.5
OKGL	**Djebel Kef Gue**	2.44	297	P	**Pn**	18 26 15.4	+0.8
	18nm,0.2s,SNR=7.9						
OKGL				S	**Sb**	18 26 46.9	-1.9
	7.6nm,0.1s,SNR=7.9						
OKGL	**Djebel Kef Gue**	2.44	297	P	**Pn**	18 26 15.4	+0.8
	18nm,0.2s,SNR=7.9						
OKGL				S	**Sb**	18 26 46.9	-1.9
	7.6nm,0.1s,SNR=7.9						
CASM	**Ain Smara**	2.88	63	P	Pn	18 26 14.0	-6.7
ODJA	**Bouhanifia**	2.88	278	P	Pb	18 26 30.0	+3.4
EIBI	**Ibiza**	4.35	339	P	**Pn**	18 26 41.7	+0.8
	3.0nm,0.2s,SNR=7.7						
EIBI				S	**Sn**	18 27 31.3	+0.4
	53nm,1.2s						
EIBI	**Ibiza**	4.35	339	P	**Pn**	18 26 41.7	+0.8
	3.0nm,0.2s,SNR=7.7						
EIBI				S	**Sn**	18 27 31.3	+0.4
	53nm,1.2s						
EMUR	**La Murta**	4.67	309	P	**Pn**	18 26 45.9	+0.6
	3.7nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	18 27 39.3	+0.4
	0.8nm,0.2s,SNR=7.9						
EMUR	**La Murta**	4.67	309	P	**Pn**	18 26 45.9	+0.6
	3.7nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	18 27 39.3	+0.4
	0.8nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	4.69	324	P	**Pn**	18 26 46.4	+0.8
	1.5nm,0.4s,SNR=7.9						
EBEN				S	**Sn**	18 27 39.2	-0.2
	0.0nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	4.69	324	P	**Pn**	18 26 46.4	+0.8
	1.5nm,0.4s,SNR=7.9						
EBEN				S	**Sn**	18 27 39.2	-0.2
	SNR=7.9						
ETOS	**Mallorca**	4.81	355	P	**Pn**	18 26 47.6	+0.5
	1.9nm,0.3s,SNR=6.5						
ETOS				S	**Sn**	18 27 42.1	-0.1
	72nm,1.4s						
ETOS	**Mallorca**	4.81	355	P	**Pn**	18 26 47.6	+0.5
	1.9nm,0.3s,SNR=6.5						
ETOS				S	**Sn**	18 27 42.1	-0.1
	72nm,1.4s						
ETOB	**Tobarra**	5.36	315	P	**Pn**	18 26 56.0	+1.2
	1.2nm,0.3s,SNR=6.1						
ETOB				S	**Sn**	18 27 56.7	+0.7
	5.9nm,0.4s,SNR=5.1						
ETOB	**Tobarra**	5.36	315	P	**Pn**	18 26 56.0	+1.2
	1.2nm,0.3s,SNR=6.1						
ETOB				S	**Sn**	18 27 56.7	+0.7
	5.9nm,0.4s,SNR=5.1						
SESP	**Santiago Espad**	5.68	305	P	**Pn**	18 27 00.7	+1.4
	1.7nm,0.2s,SNR=7.9						
SESP				S	**Sn**	18 28 04.4	+0.5
	9.1nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	5.68	305	P	**Pn**	18 27 00.7	+1.4
	1.7nm,0.2s,SNR=7.9						
SESP				S	**Sn**	18 28 04.4	+0.5
	9.1nm,0.4s,SNR=7.9						
EQES	**Quesada**	5.89	301	P	**Pn**	18 27 02.8	+0.7
	1.3nm,0.3s,SNR=5.1						
EQES				S	**Sn**	18 28 10.4	+1.4
	5.8nm,0.5s,SNR=5.0						
EQES	**Quesada**	5.89	301	P	**Pn**	18 27 02.8	+0.7
	1.3nm,0.3s,SNR=5.1						
EQES				S	**Sn**	18 28 10.4	+1.4
	5.8nm,0.5s,SNR=5.0						
EVIA	**Vianos**	5.94	310	S	**Sn**	18 28 10.9	+0.6
	13nm,0.3s,SNR=6.5						
EVIA	**Vianos**	5.94	310	S	**Sn**	18 28 10.9	+0.6
	13nm,0.3s,SNR=6.5						
EMOS	**Mosqueruela**	6.17	332	P	**Pn**	18 27 07.4	+1.4
	3.8nm,0.5s,SNR=8.6						
EMOS				S	**Sn**	18 28 15.6	-0.5
	16nm,1.1s						
EMOS	**Mosqueruela**	6.17	332	P	**Pn**	18 27 07.4	+1.4
	3.8nm,0.5s,SNR=8.6						
EMOS				S	**Sn**	18 28 15.6	-0.5
	16nm,1.1s						
EMIR	**Miracle**	7.08	349	P	**Pn**	18 27 18.6	+0.3
	4.6nm,0.3s,SNR=6.7						
EMIR	**Miracle**	7.08	349	P	**Pn**	18 27 18.6	+0.3
	4.6nm,0.3s,SNR=6.7						

BJI ***11*** *18:27:16.9,30.°58N×141.°85E,h24km,mB4.9/10,mb4.4/22, Ms4.7/2,Ms7 4.3/2*
IDC ***11*** *18:27:17.7±0.6,30.°65N×141.°71E,h0km,mb4.2/23, mb1 4.3/27,mb1mx4.2/43,mbtmp4.2/27,ML3.9/3,MS3.0/1, Ms1 3.0/1,ms1mx2.8/43,Error ellipse: s-maj=17.3km s-min=13.8km az=94.0*
ISCJB ***11*** *18:27:19.9±0.3,30.°65N±0.°03×141.°62E±0.°06,h28km, mb4.3/44,MS4.8/1,Error ellipse: s-maj=7.8km s-min=3.5km az=168.7*
NEIC ***11*** *18:27:19.6±3.7,30.°67N×141.°66E,h13km±23km,mb4.6/12, Error ellipse: s-maj=10.0km s-min=6.6km az=78.0*
JMA ***11*** *18:27:20.8±0.1,30.°82N×141.°87E,h46km,M4.3*
MOS ***11*** *18:27:21.7±1.2,30.°72N×141.°65E,h41km,mb4.6/31,Error ellipse: s-maj=14.6km s-min=6.4km az=110.2*
ISC 11 18:27:21.4±0.4,30.°68N±0.°04×141.°71E±0.°08,h28km,n133, σ1s27/143,mb4.4/44,2C,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	2.88	326	P	**Pn**	18 28 05.3	-0.2
JHCJ				*e*S	**Sn**	18 28 38.0	-1.2
JHJ2	**Mitsune**	2.91	327	P	**Pn**	18 28 05.7	-0.1
CBIJ	**Chichi jima**	3.60	173	Pn	**Pn**	18 28 15.4	+0.1
CBIJ				Sn	**Sn**	18 28 55.1	-1.7
JCJ	**Chichijima**	3.60	173	Pn	**Pn**	18 28 15.4	+0.1
	16nm,0.3s,baz=269,slow=20,SNR=2.7						
JCJ				Sn	**Sn**	18 28 55.1	-1.7
	56nm,0.3s,baz=42,slow=23,SNR=5.3						
BSO1	**Boso 1**	4.01	351	P	**Pn**	18 28 20.5	+0.1
JKO	**Kozu shima**	4.12	329	P	**Pn**	18 28 22.6	+0.2
JKO				*e*S	**Sn**	18 29 09.3	-0.3
BSO3	**Boso 3**	4.23	347	P	**Pn**	18 28 25.5	+1.8
BSO4	**Boso 4**	4.45	345	P	**Pn**	18 28 27.8	+0.9
JOD2	**Odawara 2**	5.07	335	P	**Pn**	18 28 37.5	+2.0
JHU	**Hanno**	5.54	339	P	**Pn**	18 28 42.7	+0.7
JRY	**Ryogami san**	5.82	337	P	**Pn**	18 28 46.4	+0.6
JHO	**Hitachi**	5.99	351	P	**Pn**	18 28 46.8	-1.3
JAG	**Ashikaga**	6.03	342	P	**Pn**	18 28 48.5	-0.2
JAG				S	**Sn**	18 29 53.9	-2.9
MJAR	**Matsushiro Arr**	6.53	334	P	**Pn**	18 28 56.7	+1.1
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MJAR	**Matsushiro Arr**	6.53	334	Pn	**Pn**	18 28 56.7	+1.1
	comp=Z,5.5nm,0.3s,baz=160,slow=11,SNR=18						
JMK	**Ichinoseki**	8.26	357	P	**Pn**	18 29 18.6	-0.7
JMK				*e*S	Sn	18 30 43.8	-7.9
ERM	**Erimo**	11.37	5	*e*P	**Pn**	18 29 59.3	-2.6
JOW	**Kunigami**	12.39	255	LR	LR	18 33 49.4	
	comp=Z,76nm,19.9s,baz=138,slow=32						
KSRS	**Korea Array**	13.27	304	P	**Pn**	18 30 26.0	-1.8
KSRS	**Korea Array**	13.27	304	Pn	**Pn**	18 30 26.0	-1.8
	comp=Z,0.1nm,0.3s,baz=122,slow=39,SNR=4.2						
KSAR	**Wonju Array Be**	13.29	304	P	**Pn**	18 30 26.0	-2.1
KSAR	**Wonju Array Be**	13.29	304	Pn	**Pn**	18 30 26.0	-2.1
ASAJ	**Asahikawa**	13.43	3	P	**Pn**	18 30 27.6	-2.4
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	13.43	3	Pn	**Pn**	18 30 27.6	-2.4
	comp=Z,1.1nm,0.3s,baz=183,slow=6.6,SNR=12						
USRK	**Ussuriysk Ar.**	15.53	333	Pn	**Pn**	18 30 56.8	-1.5
	comp=Z,0.1nm,0.3s,baz=125,slow=10,SNR=3.1						
YSS	**Yuzh-Sakhalins**	16.27	3	*e*P	**Pn**	18 31 05.0	-2.8
UGL	**Uglegorsk**	18.38	1	P	**Pn**	18 31 34.7	+0.7
UGL				*e*S	**Sn**	18 34 57.7	-0.6
HABR	**Khabarovsk**	18.48	346	*e*P	**P**	18 31 34.6	-0.4
HABR				*e*S	**Sn**	18 35 00.2	-0.7
HABR				pmax	pmax		
	comp=N,53nm,2.0s						
HABR				pmax	pmax		
	comp=E,33nm,2.0s						
HABR				pmax	pmax		
	comp=Z,25nm,1.0s						
HABR				MLR	MLR		
	comp=Z,363nm,16.0s						
SSLB	**Suanglung**	19.67	255	*e*P	**Pn**	18 31 50.1	+0.3
	comp=Z,39nm,1.1s						
KLR	**Kul'dur**	20.00	341	*e*P	**P**	18 31 47.2	-4.5
HIA	**Hailar**	24.91	324	*e*P	**P**	18 32 41.7	-0.1
HIA				pmax	pmax		
	comp=Z,22nm,1.0s						
HIA	**Hailar**	24.91	324	*e*P	**P**	18 32 41.7	-0.1
	comp=Z,22nm,1.0s						
H11S3	**WAKE ISLAND Hy**	25.69	112	T	T	18 59 56.1	
	SNR=8.0						
ULN	**Ulaanbaatar**	31.51	313	*e*P	**P**	18 33 39.1	-1.9
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ULN	**Ulaanbaatar**	31.51	313	*e*P	**P**	18 33 39.1	-1.9
	comp=Z,6.9nm,1.0s						
SONM	**Songino Array**	31.91	313	P	**P**	18 33 45.8	+1.3
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	31.91	313	P	**P**	18 33 45.8	+1.3
	comp=Z,2.4nm,0.8s,baz=120,slow=8.6,SNR=20						
YAK	**Yakutsk**	32.33	349	*e*P	**P**	18 33 47.2	-0.6
SEY	**Seymchan**	32.99	9	P	**P**	18 33 54.8	+1.2
SEY				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SEY	**Seymchan**	32.99	9	P	**P**	18 33 54.8	+1.2
	comp=Z,0.8nm,0.6s,baz=196,slow=6.9,SNR=4.9						
BOD	**Bodaibo**	33.16	333	*e*P	**P**	18 33 54.9	-0.3
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZAK	**Zakamensk**	34.70	316	*e*P	**P**	18 34 08.8	0.0
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TLY	**Talaya**	34.95	318	*e*P	**P**	18 34 12.0	+1.2
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TLY	**Talaya**	34.95	318	*e*P	**P**	18 34 12.0	+1.2
	comp=Z,9.8nm,1.1s						
GTA	**Gaotai**	35.13	296	*e*P	**P**	18 34 12.2	-0.4
GTA				pP	**pP**	18 34 17.4	-3.5
GTA				sP	**sP**	18 34 21.2	-3.1
GTA				PMZ			
	comp=Z,7.0nm,0.9s						
MOY	**Mondy**	36.49	317	*e*P	**P**	18 34 25.3	+1.2
BILL	**Bilibino**	40.08	14	*e*P	**P**	18 34 51.8	-2.1
CMAR	**Chiang Mai Arr**	40.52	263	P	**P**	18 34 58.9	+0.7
CMAR						18 37 02.9	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	40.52	263	P	**P**	18 34 58.9	+0.7
	comp=Z,0.9nm,0.7s,baz=59,slow=6.5,SNR=10						
CMAR				PcP	**PcP**	18 37 02.9	+2.4
	comp=Z,0.8nm,0.9s,baz=58,slow=1.8,SNR=5.4						
TIXI	**Tiksi**	41.62	354	*e*P	**P**	18 35 05.6	-0.9
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TIXI	**Tiksi**	41.62	354	*e*P	**P**	18 35 05.4	-1.1
BATI	**Baumata**	44.19	206	P	**P**	18 35 27.9	-0.1
	comp=Z,9.3nm,0.6s,baz=239,slow=3.1,SNR=4.1						
ZALV	**Zalesovo Beam**	46.55	317	P	**P**	18 35 46.2	-0.2
ZALV						18 37 20.2	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	46.55	317	P	**P**	18 35 46.1	-0.2
	comp=Z,1.2nm,0.7s,baz=111,slow=8.1,SNR=5.6						
ZALV				PcP	**PcP**	18 37 20.2	0.0
	comp=Z,1.3nm,0.6s,baz=87,slow=3.3,SNR=5.4						
TAPN	**Taplejung**	46.96	280	*e*P	**P**	18 35 50.4	+0.1
ODAN	**Odare**	47.38	280	*e*P	**P**	18 35 53.5	0.0
	comp=Z,8.0nm,0.6s						
MKAR	**Makanchi Array**	47.93	307	P	**P**	18 35 57.7	+0.5
MKAR						18 37 23.3	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	47.93	307	P	**P**	18 35 57.7	+0.5
	comp=Z,2.6nm,0.6s,baz=92,slow=10,SNR=31						
MKAR				PcP	**PcP**	18 37 23.3	-2.0
	comp=Z,0.5nm,0.6s,baz=83,slow=10,SNR=2.7						
RAMN	**Ramite**	48.02	280	*e*P	**P**	18 35 57.8	-0.7
	comp=Z,14nm,0.9s						
JIRN	**Jiri**	48.16	281	*e*P	**P**	18 35 59.2	-0.5
	comp=Z,19nm,0.8s						
GUN	**Gumba**	48.34	281	*e*P	**P**	18 36 00.7	-0.4
	comp=Z,13nm,0.7s						
KKN	**Kakani**	48.88	282	*e*P	**P**	18 36 04.4	-0.7
	comp=Z,15nm,1.0s						
DMN	**Daman**	49.09	281	*e*P	**P**	18 36 06.7	0.0
GKN	**Gorkha**	49.36	282	*e*P	**P**	18 36 08.9	+0.2
DANN	**Dangsing**	50.00	283	*e*P	**P**	18 36 13.4	-0.3
KURK	**Kurchatov**	50.22	312	*e*P	**P**	18 36 14.4	-0.3
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KURK	**Kurchatov**	50.22	312	*e*P	**P**	18 36 14.3	-0.3
	comp=Z,8.1nm,1.0s						
KOLN	**Koldanda**	50.31	282	*e*P	**P**	18 36 15.3	-0.6
WRAB	**Tennant Creek**	50.82	189	*e*P	**P**	18 36 19.6	+0.2
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRAB	**Tennant Creek**	50.82	189	*e*P	**P**	18 36 19.6	+0.2
	comp=Z,4.0nm,0.6s						
WB2	**Warramunga Arr**	50.83	189	*e*P	**P**	18 36 19.2	-0.3
WRA	**Warramunga Arr**	50.83	189	P	**P**	18 36 19.8	+0.3
WRA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRA	**Warramunga Arr**	50.83	189	P	**P**	18 36 19.8	+0.3
	comp=Z,7.1nm,0.7s,baz=7.6,slow=7.8,SNR=87						
AAK	**Ala-Archa**	53.92	303	*e*P	**P**	18 36 43.1	+0.5
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AS31	**Alice Springs**	54.55	189	*e*P	**P**	18 36 47.3	+0.2
ASAR	**Alice Springs**	54.55	189	P	**P**	18 36 47.4	+0.3
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	54.55	189	P	**P**	18 36 47.4	+0.3
	comp=Z,1.7nm,0.5s,baz=6.7,slow=6.5,SNR=74						
ILAR	**Eielson Array**	54.80	30	P	**P**	18 36 48.8	+0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	54.80	30	P	**P**	18 36 48.8	+0.4
	comp=Z,1.0nm,0.7s,baz=265,slow=6.2,SNR=11						
BRVK	**Borovoye**	55.22	316	*e*P	**P**	18 36 52.7	+1.1
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BRVK	**Borovoye**	55.22	316	*e*P	**P**	18 36 51.4	-0.2
	comp=Z,5.9nm,1.2s						
KKAR	**Karatay Array**	56.70	304	*e*P	**P**	18 37 03.1	+0.7
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	56.70	304	*e*P	**P**	18 37 03.1	+0.7
	comp=Z,1.8nm,0.6s						
INK	**Inuvik**	59.97	25	P	**P**	18 37 27.2	+2.4
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
INK	**Inuvik**	59.97	25	P	**P**	18 37 27.2	+2.4
	comp=Z,2.0nm,1.0s,baz=283,slow=11,SNR=4.9						
KBL	**Kabul**	60.10	295	*e*P	**P**	18 37 26.5	0.0
KBL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KBL	**Kabul**	60.10	295	*e*P	**P**	18 37 26.5	0.0
	comp=Z,9.3nm,0.9s						
SVE	**Sverdlovsk**	60.16	321⇑	*i*P	**P**	18 37 27.4	+1.2
SVE				pmax	pmax		
	comp=Z,11nm,0.9s						
ARU	**Arti**	61.36	321	*c i*P	**P**	18 37 34.7	+0.2
ARU						18 39 47.8	
ARU				S	**S**	18 45 55.3	+2.2
ARU				SS	**SS**	18 49 51.7	-1.7
ARU				pmax	pmax		
	comp=Z,16nm,1.0s						
ARU	**Arti**	61.36	321	*e

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STHS	**Stebnicka Huta**	**84.30**	**326**	*e*P	P	18 39 56.7	+6.1
STHS	**Stebnicka Huta**	**84.30**	**326**	*es*P	P	18 39 56.7	+6.1
ASF	**Jabal al Asfar**	**85.28**	**305**	P	**P**	**18 39 57.8**	**+1.8**
ASF	comp=Z,3.0nm,0.7s			pmax	pmax		
ASF	**Jabal al Asfar**	**85.28**	**305**	P	**P**	**18 39 57.8**	**+1.8**
	comp=Z,2.5nm,0.7s,baz=346,slow=4.3,SNR=3.7						
MMAI	**Mount Meron Ar**	**85.86**	**306**	P	**P**	**18 40 00.6**	**+1.7**
	comp=Z,1.0nm,0.6s,baz=46,slow=6.0,SNR=4.0						
VYHS	**Vyhne**	**86.10**	**326**	*e*P	**P**	**18 40 01.1**	**+1.5**
VYHS	**Vyhne**	**86.10**	**326**	*e*P	**P**	**18 40 01.1**	**+1.5**
CLL	**Collm**	**86.73**	**331**	*e*P	**P**	**18 40 03.0**	**+0.4**
CLL	**Collm**	**86.73**	**331**	*e*P	**P**	**18 40 03.0**	**+0.4**
TXAR	**Lajitas Array**	**93.79**	**53**	P	**P**	**18 40 35.3**	**-1.0**
TXAR	comp=Z,1.0nm,0.6s			pmax	pmax		
TXAR	**Lajitas Array**	**93.79**	**53**	P	**P**	**18 40 35.3**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=306,slow=49,SNR=2.7						
TORD	**Torodi Ar. Bea**	**121.89**	**313**	PKP	**PKPdf**	**18 46 13.5**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=121,slow=36,SNR=3.6						

*ISCJB **11** 18:31:05.8±0.8, 30°.88N±0°.07×50°.0E±0°.1, h30km, mb3.5/4, Error ellipse: s-maj=15.4km s-min=9.0km az=160.4*
*IDC **11** 18:31:13.0±4.6, 31°.65N×48°.60E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.2/38, mbtmp3.5/4, Error ellipse: s-maj=112.1km s-min=39.8km az=119.0*
*CSEM **11** 18:31:46.9±1.4, 27°.97N×51°.43E, h10km, ML4.1, Error ellipse: s-maj=48.6km s-min=21.9km az=9.0*
*OMAN **11** 18:32:11.9±99.0, 27°.97N×54°.20E, h32km±999km, Error ellipse: s-maj=606.5km s-min=8.7km az=324.0*

ISC 11 18:31:08.2±1.1, 30°.91N±0°.08×50°.0E±0°.1, h30km, n21, σ1§34/19, mb3.6/4, 4D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFJS		**3.25**	**214**	P	**Sn**	**18 32 35.0**	**+0.2**
KFJS		**3.25**	**214**	P	**Sn**	**18 32 34.9**	**+0.2**
BOQSS		**5.05**	**186**	P	Pb	18 32 34.0	-1.8
BOQSS				S	**Sn**	**18 33 18.0**	**-1.2**
BOQSS		**5.05**	**186**	S	**Sn**	**18 33 17.7**	**-1.4**
BOQSS		**5.05**	**186**	P	Pb	18 32 33.6	-2.2
SLWS		**6.11**	**174**	P	**Pn**	**18 32 37.0**	**+0.6**
SLWS		**6.11**	**174**	P	**Pn**	**18 32 37.1**	**+0.6**
BTHS		**6.88**	**173**	P	**Pn**	**18 32 46.0**	**-1.0**
BTHS		**6.88**	**173**	P	**Pn**	**18 32 46.5**	**-0.5**
BANOM	**Banah**	**7.45**	**130**	⇓P	**Pn**	**18 32 53.1**	**-1.7**
BANOM	**Banah**	**7.45**	**130**	P	**Pn**	**18 32 53.1**	**-1.7**
HATD	**Hatta, Dubai**	**8.13**	**137**	⇓P	**Pn**	**18 33 05.8**	**+1.5**
HATD	**Hatta, Dubai**	**8.13**	**137**	P	**Pn**	**18 33 05.8**	**+1.5**
ASHO	**Ashiyiah**	**8.20**	**138**	⇓P	**Pn**	**18 33 05.4**	**+0.2**
ASHO	**Ashiyiah**	**8.20**	**138**	P	**Pn**	**18 33 05.4**	**+0.2**
SMDO	**Samad**	**10.61**	**136**	⇓P	**Pn**	**18 33 40.5**	**+2.2**
SMDO	**Samad**	**10.61**	**136**	P	**Pn**	**18 33 40.5**	**+2.2**
FINES	**FINESS Array B**	**34.33**	**340**	P	**P**	**18 37 51.2**	**-0.6**
	0.7nm,0.7s,baz=146,slow=11,SNR=4.6						
HFS	**Hagfors**	**37.89**	**331**	P	**P**	**18 38 21.2**	**-1.1**
	1.2nm,0.8s,baz=116,slow=10,SNR=6.1						
TORD	**Torodi Ar. Bea**	**47.74**	**259**	P	**P**	**18 39 43.8**	**+1.2**
	0.2nm,0.4s,baz=44,slow=8.5,SNR=3.1						
YKA	**Yellowknife Ar**	**86.11**	**353**	P	P	18 43 51.1	+5.2
	0.1nm,0.5s,baz=10,slow=5.6,SNR=4.2						

IDC 11 18:40:35.0±1.9, 1°.37N×126°.15E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/33, mbtmp3.4/3, Error ellipse: s-maj=163.2km s-min=24.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.65**	**160**	P	P	18 45 38.0	-0.1
	1.2nm,0.3s,baz=337,slow=10,SNR=23						
ASAR	**Alice Springs**	**26.00**	**164**	P	P	18 46 09.8	-0.1
	0.3nm,0.5s,baz=348,slow=7.8,SNR=16						
MKAR	**Makanchi Array**	**59.17**	**326**	P	P	18 50 37.9	0.0
	0.1nm,0.4s,baz=117,slow=7.2,SNR=3.0						

DJA 11 18:43:57.8±0.4, 3°.S±6°.×12°.7E±°, h10km, M3.6/8, mb4.1/2, MLv3.3/8, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.57**	**136**	P	Pg	18 44 06.8	-2.1
SANI	**Sanana**	**1.05**	**317**	P	Pg	18 44 15.6	-2.5
MSAI	**Masohi**	**2.28**	**103**	P	Pb	18 44 38.1	-1.1
LBMI	**Labuha**	**2.32**	**20**	P	Pn	18 44 36.6	+0.5
TNTI	**Ternate**	**3.64**	**11**	P	Sn	18 45 39.5	+2.2
LUWI	**Luwuk**	**4.31**	**294**	P	Pn	18 45 02.7	-0.8
SWI	**Sorong**	**4.96**	**67**	P	Pn	18 45 10.0	-2.4
APSI	**Ampana**	**5.40**	**291**	P	Pn	18 45 19.0	+0.6
	29nm,1.0s						
MRSI	**Marisa**	**5.78**	**305**	P	Pn	18 45 24.2	+0.5

*IDC **11** 18:53:46.7±0.6, 34°.43S×72°.13W, h0km, mb4.4/11, mb1 4.5/13, mb1mx4.3/31, mbtmp4.4/13, ML3.7/2, Error ellipse: s-maj=24.1km s-min=16.2km az=91.0*
*ISCJB **11** 18:53:49.7±1.8, 34°.42S±0°.05×72°.0W±0°.1, h27km±12km, mb4.4/13, Error ellipse: s-maj=16.0km s-min=7.7km az=10.2*
*GUC **11** 18:53:50.7±0.7, 34°.50S×72°.00W, h47km±7km, ML4.7*
*NEIC **11** 18:53:52.2±1.4, 34°.40S×72°.05W, h35km±12km, mb4.5/6, Error ellipse: s-maj=18.8km s-min=8.8km az=88.0*

ISC 11 18:53:48.4±1.9, 34°.39S±0°.04×72°.05W±0°.07, h11km±11km, n53, σ1§27/57, mb4.4/13, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.91**	**133**	⇓*i*P	**Pb**	**18 54 06.1**	**-0.2**
NICH				*i* S	**Sb**	**18 54 18.1**	**-0.4**
ANTU	**Antumapu**	**1.43**	**56**	⇓*i*P	**Pb**	**18 54 15.7**	**+0.5**
ANTU				*i* S1	**Sn**	**18 54 33.4**	**+0.1**
ANTU				AML	AML	18 54 37.6	
	comp=N,16μm,0.3s						
LNCH	**Linares**	**1.50**	**166**	⇑*i*P	**Pn**	**18 54 15.2**	**-0.1**
LNCH				*i* S1	**Sn**	**18 54 33.3**	**-1.7**
STL	**Santa Lucia**	**1.51**	**51**	⇑*i*P	**Pn**	**18 54 15.2**	**-0.3**
STL				*i* S1	**Sn**	**18 54 34.5**	**-0.7**
CLCH	**Cerro Calan**	**1.60**	**52**	*e*P9	**Pn**	**18 54 15.5**	**-1.3**
CLCH				*i* S1	**Sn**	**18 54 36.1**	**-1.4**
CLCH				AML	AML	18 54 43.9	
	comp=N,15μm,0.7s						
PEL	**Peldehue**	**1.68**	**43**	*e*P9	**Pn**	**18 54 16.9**	**-1.0**
PEL				*i* S1	**Sn**	**18 54 38.1**	**-1.4**
PEL				AML	AML	18 54 46.9	
	comp=N,21μm,0.7s						
FCH	**Farellones**	**1.81**	**55**	*i* P9	**Pg**	**18 54 22.7**	**-0.4**
FCH				*i* S1	**Sg**	**18 54 46.3**	**-0.2**
FCH				AML	AML	18 54 53.4	
	comp=E,9μm,0.3s						
COCH	**Cobquecura**	**1.84**	**199**	⇓*i*P	**Pn**	**18 54 19.2**	**-0.8**
COCH				*i* S1	**Sn**	**18 54 40.5**	**-2.8**
CFAA	**Coronel Fontan**	**4.24**	**50**	Pn	**Pn**	**18 54 55.8**	**+2.8**
	comp=E,0.9nm,0.3s,baz=222,slow=11,SNR=16						
CFAA				Sn	**Sb**	**18 55 50.9**	**-3.3**
	comp=E,3.2nm,0.3s,baz=99,slow=21,SNR=3.6						
LCO	**Las Campanas**	**5.48**	**12**	*e*Pn	**Pn**	**18 55 09.7**	**-0.6**
	comp=E,39nm,0.5s						
PLCA	**Paso Flores**	**6.45**	**170**	Pn	**Pn**	**18 55 24.8**	**+1.4**
PLCA				Lg	Lg	18 57 06.0	
	comp=E,1.6nm,0.3s,baz=97,slow=24,SNR=3.8						
PLCA	**Paso Flores**	**6.45**	**170**	*e*Pn	**Pn**	**18 55 24.7**	**+1.4**
	comp=E,9.5nm,0.5s						
PLCA				Lg	Lg	18 57 06.0	
TRQA	**Tornquist**	**8.92**	**117**	*e*Pn	**Pn**	**18 55 59.3**	**+2.0**
	comp=E,33nm,1.0s						
LPAZ	**La Paz**	**18.36**	**12**	P	**Pn**	**18 58 05.9**	**+2.1**
	comp=E,0.2nm,0.3s,baz=166,slow=7.5,SNR=7.7						
LPAZ	**La Paz**	**18.36**	**12**	*e*P	**Pn**	**18 58 05.0**	**+1.2**
	comp=E,8.4nm,0.9s						
EFI	**East Falkland**	**20.02**	**154**	*e*P	**P**	**18 58 18.9**	**-2.2**
SIV	**San Ignacio**	**20.81**	**31**	P	**P**	**18 58 30.6**	**+0.6**
	comp=E,4.5nm,0.7s,baz=221,slow=10,SNR=7.1						
SAML	**Samuel**	**26.60**	**20**	*e*P	**P**	**18 59 26.3**	**-0.6**
	comp=E,5.1nm,0.7s						
BDFB	**Brasilia**	**28.56**	**55**	P	**P**	**18 59 46.8**	**+2.2**
	comp=E,2.2nm,0.3s,baz=198,slow=7.1,SNR=4.2						
VNA3	**Neumayer Olymp**	**49.01**	**158**	P	**P**	**19 02 34.8**	**0.0**
VNA2	**Neumayer--Watz**	**49.66**	**157**	P	**P**	**19 02 40.0**	**+0.3**
SNAA	**Sanae**	**51.23**	**158**	P	**P**	**19 02 51.9**	**+0.2**
SNAA	**Sanae**	**51.23**	**158**	P	**P**	**19 02 51.8**	**+0.2**
	comp=E,3.3nm,0.8s,baz=242,slow=4.3,SNR=16						
SNAA	**Sanae**	**51.23**	**158**	*e*P	**P**	**19 02 51.3**	**-0.4**
	comp=E,15nm,1.0s						
QSPA	**South Pole Qui**	**55.85**	**180**	P	**P**	**19 03 26.5**	**+0.7**
	comp=E,10nm,1.0s,baz=163,slow=2.8,SNR=16						
QSPA	**South Pole Qui**	**55.85**	**180**	*e*P	**P**	**19 03 26.0**	**+0.3**
	comp=E,10nm,1.0s						
VNDA	**Vanda**	**63.72**	**191**	P	**P**	**19 04 21.8**	**+2.3**
	comp=E,1.4nm,1.0s,baz=231,slow=6.3,SNR=2.1						
TXAR	**Lajitas Array**	**70.07**	**331**	P	**P**	**19 05 01.2**	**+0.5**
	comp=E,0.7nm,0.5s,baz=131,slow=6.8,SNR=3.4						
DBIC	**Dimbokro**	**75.31**	**71**	P	**P**	**19 05 32.0**	**-0.1**
	comp=E,5.1nm,0.6s,baz=218,slow=5.7,SNR=14						
BOSA	**Boshof**	**79.90**	**118**	P	**P**	**19 05 57.7**	**-0.1**
	comp=E,12nm,0.8s,baz=238,slow=3.5,SNR=21						
BOSA	**Boshof**	**79.90**	**118**	*e*P	**P**	**19 05 57.7**	**-0.1**
	comp=E,14nm,1.0s						
PDAR	**Pinedale Array**	**84.10**	**333**	P	**P**	**19 06 20.3**	**+0.9**
	comp=E,0.7nm,0.5s,baz=174,slow=4.0,SNR=4.0						
NVAR	**Mina Array Bea**	**84.20**	**325**	P	**P**	**19 06 21.8**	**+1.8**
	comp=E,1.0nm,0.8s,baz=149,slow=7.1,SNR=7.3						
TORD	**Torodi Ar. Bea**	**84.35**	**70**	P	**P**	**19 06 20.7**	**-0.3**
	comp=E,5.5nm,0.8s,baz=257,slow=4.0,SNR=28						
HVU	**Hansel Valley**	**84.52**	**331**	*e*P	**P**	**19 06 22.1**	**+0.7**
ULM	**Lac du Bonnet**	**86.87**	**345**	P	**P**	**19 06 31.8**	**-0.9**
	comp=E,2.1nm,0.7s,baz=158,slow=4.5,SNR=4.0						
MCMT	**McKenzie Canyo**	**87.11**	**332**	*e*P	**P**	**19 06 35.9**	**+1.6**
	comp=E,1.1nm,0.8s						
YKA	**Yellowknife Ar**	**102.42**	**341**	P	**Pdif**	**19 07 43.1**	**-0.6**
	comp=E,0.2nm,0.5s,baz=140,slow=4.4,SNR=5.8						
ASAR	**Alice Springs**	**117.22**	**207**	PKP	**PKPdf**	**19 12 32.9**	**-1.5**
	comp=E,0.3nm,0.8s,baz=119,slow=2.2,SNR=3.3						
WRA	**Warramunga Arr**	**120.42**	**209**	PKP	**PKPdf**	**19 12 39.3**	**-1.3**
	comp=E,0.8nm,0.6s,baz=162,slow=1.6,SNR=15						
BRTR	**Keskin Array B**	**122.03**	**61**	PKP	**PKPdf**	**19 12 43.1**	**0.0**
	comp=E,0.9nm,0.8s,baz=256,slow=2.5,SNR=2.9						
H11S2	**WAKE ISLAND Hyt**	**25.75**	**269**	T	T	21 31 08.5	
	baz=119,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hyt**	**25.77**	**269**	T	T	21 31 07.5	
	baz=119,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hyt**	**25.77**	**269**	T	T	21 31 09.0	
	baz=119,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hyt**	**26.18**	**270**	T	T	21 31 44.3	
	baz=118						
H11N1	**WAKE ISLAND Hyt**	**26.19**	**270**	T	T	21 31 45.1	
	baz=118						
H11N2	**WAKE ISLAND Hyt**	**26.19**	**270**	T	T	21 31 43.6	
	baz=118						
ABKAR	**Akbulak array**	**141.93**	**52**	*e*PKPpre	PKPpre	19 13 13.9	
YAK	**Yakutsk**	**149.09**	**340**	*e*PKPbc	**PKPbc**	**19 13 35.9**	**-0.1**
AAK	**Ala-Archa**	**152.69**	**62**	*e*PKPbc	**PKPbc**	**19 13 45.2**	**-0.1**
ZALV	**Zalesovo Beam**	**154.56**	**33**	PKP	**PKPdf**	**19 13 39.9**	**-0.3**
	comp=E,0.3nm,0.4s,baz=297,slow=4.8,SNR=3.0						
ZALV				PKPbc	**PKPbc**	**19 13 48.3**	**-0.4**
	comp=E,1.7nm,0.7s,baz=276,slow=2.7,SNR=4.1						
ZALV				PKPab	**PKPab**	**19 14 03.5**	**+0.2**
	comp=E,2.1nm,0.6s,baz=311,slow=4.0,SNR=6.3						
MKAR	**Makanchi Array**	**157.02**	**50**	PKP	**PKPdf**	**19 13 43.8**	**-0.1**
	comp=E,0.3nm,0.7s,baz=306,slow=2.9,SNR=3.6						
MKAR				PKPbc	PKPab	19 13 59.9	-14
	comp=E,0.4nm,0.7s,baz=288,slow=1.2,SNR=3.5						
MKAR				PKPab	PKPab	19 14 14.0	-0.2
	comp=E,0.9nm,0.9s,baz=289,slow=3.7,SNR=5.4						
SONM	**Songino Array**	**166.51**		4 PKPab	**PKPab**	**19 14 53.3**	**-2.3**
	comp=E,0.2nm,0.2s,baz=45,slow=25,SNR=6.6						

*IDC **11** 19:00:39.3±1.2, 34°.41S×72°.22W, h0km, mb4.2/7, mb1 4.3/10, mb1mx4.1/30, mbtmp4.2/10, ML4.5/2, Error ellipse: s-maj=45.4km s-min=16.7km az=106.0*
*ISCJB **11** 19:00:40.5±1.9, 34°.44S±0°.04×72°.3W±0°.1, h20km±13km, mb4.2/5, Error ellipse: s-maj=15.9km s-min=6.4km az=14.0*
*GUC **11** 19:00:42.7±0.7, 34°.47S×72°.01W, h43km±4km, ML4.5*
*NEIC **11** 19:00:44.6±1.3, 34°.40S×72°.27W, h38km±10km, mb4.0/1, Error ellipse: s-maj=21.0km s-min=7.6km az=95.0*

ISC 11 19:00:41.6±2.0, 34°.45S±0°.04×72°.13W±0°.09, h13km±11km, n34, σ1§03/36, mb4.2/5, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.77**	**51**	*e*P1	**Pg**	**19 00 56.6**	**0.0**
NICH	**Los Niches**	**0.93**	**127**	⇓*i*P	**Pb**	**19 00 59.2**	**-0.3**
NICH				*i* S1	**Sg**	**19 01 11.2**	**-0.4**
CACH	**El Canelo**	**1.31**	**76**	*e*P1	**Pn**	**19 01 05.3**	**-0.4**
CACH				*i* S1	**Sn**	**19 01 23.2**	**+0.1**
CHCH	**Chadas Angostu**	**1.33**	**68**	⇑*i*P	**Pn**	**19 01 05.4**	**-0.5**
RCDM	**Rinconada Maip**	**1.46**	**49**	*e*P9	**Pn**	**19 01 06.7**	**-1.0**
RCDM				*i* S1	**Sn**	**19 01 25.2**	**-1.4**
LNCH	**Linares**	**1.46**	**163**	⇓*i*P	**Pn**	**19 01 07.8**	**+0.1**
LNCH				*i* S	**Sn**	**19 01 26.4**	**-0.4**
ANTU	**Antumapu**	**1.52**	**55**	*e*P1	**Pn**	**19 01 08.3**	**-0.2**
ANTU				*e*S1	**Sn**	**19 01 27.4**	**-0.8**
ANTU				AML	AML	19 01 33.9	
	comp=E,12μm,0.3s						
FSR	**Penalolen**	**1.65**	**54**	*e*P1	**Pn**	**19 01 09.9**	**-0.3**
CLCH	**Cerro Calan**	**1.69**	**52**	⇓*i*P	**Pn**	**19 01 11.2**	**+0.3**
CLCH				*i* S1	**Sn**	**19 01 32.5**	**+0.1**
CLCH				AML	AML	19 01 41.1	
	comp=E,8μm,0.6s						
CLCH				AML	AML	19 01 46.2	
	comp=E,13μm,0.6s						
PEL	**Peldehue**	**1.77**	**43**	⇑*i*P	**Pn**	**19 01 12.5**	**+0.5**
PEL				*i* S	**Sn**	**19 01 35.0**	**+0.6**
PEL				AML	AML	19 01 40.5	
	comp=N,9μm,0.4s						
CFAA	**Coronel Fontan**	**4.33**	**50**	Pn	**Pn**	**19 01 48.8**	**+1.6**
	comp=N,0.8nm,0.3s,baz=229,slow=8.3,SNR=10						
CFAA				Sn	**Sn**	**19 02 41.1**	**+3.6**
	comp=N,1.5nm,0.3s,baz=230,slow=14,SNR=2.9						
LCO	**Las Campanas**	**5.55**	**13**	*e*Pn	**Pn**	**19 02 04.0**	**-0.2**
PLCA	**Paso Flores**	**6.40**	**169**	Pn	**Pn**	**19 02 17.0**	**+1.4**
	comp=N,3.2nm,0.3s,baz=338,slow=11,SNR=20						
PLCA				Lg	Lg	19 03 57.0	
	comp=N,0.8nm,0.3s,baz=65,slow=22,SNR=4.0						
PLCA	**Paso Flores**	**6.40**	**169**	*e*Pn	**Pn**	**19 02 17.0**	**+1.4**
	comp=N,17nm,0.6s						
PLCA				Lg	Lg	19 03 57.0	
TRQA	**Tornquist**	**8.95**	**117**	*e*P	Pn	19 02 54.0	+3.4
LPAZ	**La Paz**	**18.44**	**12**	P	**Pn**	**19 04 58.5**	**+1.0**
	comp=N,0.5nm,0.3s,baz=182,slow=8.7,SNR=19						
LPAZ	**La Paz**	**18.44**	**12**	*e*P	**Pn**	**19 04 58.9**	**+1.3**
	comp=N,7.8nm,0.8s						
USHA	**Ushuaia**	**20.55**	**174**	P	**P**	**19 05 20.5**	**+0.9**
	comp=N,24nm,1.1s,baz=308,slow=9.4,SNR=3.1						
SIV	**San Ignacio**	**20.89**	**31**	P	**P**	**19 05 23.4**	**-0.4**
	comp=N,5.7nm,0.9s,baz=235,slow=13,SNR=8.0						
SNAA	**Sanae**	**51.20**	**158**	P	**P**	**19 09 43.7**	**-0.6**
	comp=N,1.6nm,0.8s,baz=280,slow=3.0,SNR=5.6						
QSPA	**South Pole Qui**	**55.79**	**180**	P	**P**	**19 10 19.2**	**+1.1**
	comp=N,6.8nm,0.9s,baz=147,slow=1.9,SNR=15						
QSPA	**South Pole Qui**	**55.79**	**180**	*e*P	**P**	**19 10 18.7**	**+0.6**
DBIC	**Dimbokro**	**75.39**	**71**	P	**P**	**19 12 25.2**	**-0.1**
	comp=N,2.1nm,0.8s,baz=182,slow=4.9,SNR=3.1						
BOSA	**Boshof**	**79.93**	**118**	P	**P**	**19 12 50.0**	**-0.7**
	comp=N,2.1nm,0.7s,baz=274,slow=5.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**84.43**	**70**	P	**P**	**19 13 14.3**	**+0.1**
	comp=N,0.6nm,0.8s,baz=283,slow=6.5,SNR=4.4						
WRA	**Warramunga Arr**	**120.33**	**209**	PKP	**PKPdf**	**19 19 32.1**	**-1.0**
	comp=N,0.2nm,0.6s,baz=178,slow=1.8,SNR=5.6						
H11S2	**WAKE ISLAND Hyt**	**25.69**	**269**	T	T	21 38 07.6	
	baz=119,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hyt**	**25.70**	**269**	T	T	21 38 06.9	
	baz=119,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hyt**	**25.70**	**269**	T	T	21 38 07.4	
	baz=119,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hyt**	**26.11**	**270**	T	T	21 38 35.9	
	baz=116,slow=78,SNR=14						
H11N1	**WAKE ISLAND Hyt**	**26.12**	**270**	T	T	21 38 36.9	
	baz=116,slow=78,SNR=23						
H11N2	**WAKE ISLAND Hyt**	**26.13**	**270**	T	T	21 38 38.8	
	baz=116,slow=78,SNR=10						
ZALV	**Zalesovo Beam**	**154.64**	**33**	PKPbc	**PKPbc**	**19 20 41.8**	**+0.1**
	comp=N,0.2nm,0.4s,baz=354,slow=3.0,SNR=2.8						
ZALV				PKPab	**PKPab**	**19 20 55.9**	**-0.6**
	comp=N,0.6nm,0.5s,baz=336,slow=2.6,SNR=3.5						
MKAR	**Makanchi Array**	**157.11**	**50**	PKPab	**PKPab**	**19 21 06.1**	**-1.3**
	comp=N,0.2nm,0.6s,baz=252,slow=2.4,SNR=2.7						

*ISCJB **11** 19:09:15.6±1.3, 34°.36S±0°.02×72°.02W±0°.04, h6km±8km, mb4.6/28, MS4.4/1, Error ellipse: s-maj=5.2km s-min=3.9km az=21.3*
*IDC **11** 19:09:15.7±0.5, 34°.36S×71°.99W, h0km, mb4.4/15, mb1 4.5/17, mb1mx4.4/28, mbtmp4.4/17, ML4.5/2, MS2.4/1, Ms1 2.4/1, ms1mx2.4/27, Error ellipse: s-maj=21.7km s-min=12.7km az=93.0*
*GUC **11** 19:09:16.6±0.6, 34°.38S×72°.01W, h10km±3km, ML4.7*
*NEIC **11** 19:09:17.7±1.4, 34°.36S×71°.89W, h13km±8km, mb4.8/18, ML4.7(GUC), Error ellipse: s-maj=9.3km s-min=5.3km az=97.0*
NEIC Felt [III] at Pichilemu and [II] at San Fernando.

ISC 11 19:09:16.2±1.3, 34°.35S±0°.03×71°.98W±0°.05, h3km±8km, n262, σ0§77/279, mb4.7/28, 97C-90D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.61**	**50**	⇑*i*P	**Pb**	**19 09 29.3**	**-0.3**
LNV	**Longovilo**	**0.61**	**50**	⇑*i*P	**Pb**	**19 09 29.3**	**-0.3**
NICH	**Los Niches**	**0.90**	**137**	⇓*i*P	**Pg**	**19 09 33.4**	**0.0**
NICH				*i* S	**Sb**	**19 09 45.7**	**-1.0**
NICH				AML	AML	19 09 48.0	
	comp=E,90μm,0.5s						
NICH	**Los Niches**	**0.90**	**137**	⇓*i*P	**Pg**	**19 09 33.4**	**0.0**
NICH				*i* S	**Sb**	**19 09 45.7**	**-1.0**
TACH	**Talagante**	**1.11**	**51**	⇓*i*P	**Pg**	**19 09 36.9**	**-0.6**
TACH	**Talagante**	**1.11**	**51**	⇓*i*P	**Pg**	**19 09 36.9**	**-0.6**
CACH	**El Canelo**	**1.17**	**79**	⇑*i*P	**Pg**	**19 09 38.5**	**-0.1**
CACH	**El Canelo**	**1.17**	**79**	⇑*i*P	**Pg**	**19 09 38.5**	**-0.1**
CHCH	**Chadas Angostu**	**1.18**	**70**	⇓*i*P	**Pg**	**19 09 38.3**	**-0.5**
CHCH	**Chadas Angostu**	**1.18**	**70**	⇓*i*P	**Pg**	**19 09 38.3**	**-0.5**
IHA	**Instituto Hidr**	**1.35**	**12**	*e*P1	**Pn**	**19 09 40.9**	**-1.0**
IHA				*e*S1	**Sg**	**19 09 59.3**	**-0.3**
IHA	**Instituto Hidr**	**1.35**	**12**	*e*P	**Pn**	**19 09 40.9**	**-1.0**
IHA				*e*S	**Sg**	**19 09 59.3**	**-0.3**
ANTU	**Antumapu**	**1.36**	**55**	*e*P	**Pn**	**19 09 41.5**	**-0.6**
ANTU				*i* S	**Sg**	**19 09 59.8**	**-0.2**
ANTU				AML	AML	19 10 01.2	
	comp=E,16μm,0.4s						
ANTU	**Antumapu**	**1.36**	**55**	*e*P	**Pn**	**19 09 41.5**	**-0.6**
ANTU				*i* S	**Sg**	**19 09 59.8**	**-0.2**
SAN	**Santiago**	**1.42**	**51**	⇓*i*P	**Pn**	**19 09 42.0**	**-0.9**
SAN				*i* S	**Sg**	**19 10 01.8**	**+0.1**
SAN	**Santiago**	**1.42**	**51**	⇓*i*P	**Pn**	**19 09 42.0**	**-0.9**
SAN				*i* S	**Sg**	**19 10 01.8**	**+0.1**
PCH	**Pirque**	**1.42**	**60**	*e*P	**Pn**	**19 09 42.6**	**-0.3**
PCH	**Pirque**	**1.42**	**60**	*e*P	**Pn**	**19 09 42.6**	**-0.3**
LACH	**Col Las Americ**	**1.50**	**54**	⇑*i*P	**Pn**	**19 09 43.4**	**-0.6**
LACH				*i* S	**Sn**	**19 10 03.6**	**-0.5**
LACH	**Col Las Americ**	**1.50**	**54**	⇑*i*P	**Pn**	**19 09 43.4**	**-0.6**
LACH				*i* S	**Sn**	**19 10 03.6**	**-0.5**
LNCH	**Linares**	**1.52**	**168**	⇑*i*P	**Pg**	**19 09 45.4**	**+0.1**
LNCH				*i* S	**Sg**	**19 10 05.8**	**+0.6**
LNCH	**Linares**	**1.52**	**168**	⇑*i*P	**Pg**	**19 09 45.4**	**+0.1**
LNCH				*i* S	**Sg**	**19 10 05.8**	**+0.6**
CLCH	**Cerro Calan**	**1.53**	**52**	⇑*i*P	**Pn**	**19 09 44.0**	**-0.5**
CLCH				*i* S	**Sn**	**19 10 04.4**	**-0.5**
CLCH				AML	AML	19 10 12.2	
	comp=E,13μm,0.4s						
COCH	**Cobquecura**	**1.90**	**200**	⇑*i*P	**Pn**	**19 09 48.4**	**-0.9**
COCH				*i* S	**Sn**	**19 10 12.7**	**-1.0**
COCH	**Cobquecura**	**1.90**	**200**	⇑*i*P	**Pn**	**19 09 48.4**	**-0.9**
COCH				*i* S	**Sn**	**19 10 12.7**	**-1.0

Z33A	Whitaker Ranch	71.83	337	⇑P	P	19 20 40.9	+0.9
	baz=72						
Z32A	Haskell	72.09	336	⇓P	P	19 20 42.6	+1.0
	baz=72						
228A	UT Block 9, Go	72.12	333	⇓P	P	19 20 42.1	+0.2
	baz=72						
Y34A	Reagan Ranch,	72.12	338	⇑P	P	19 20 41.9	+0.1
	baz=72						
X34A	Smith Ranch, M	72.74	338	⇑P	P	19 20 46.4	+0.9
	baz=73						
Y31A	Rekieta Farm,	72.95	336	⇓P	P	19 20 47.6	+0.9
	baz=73						
X32A	Elmer	73.04	337	⇓P	P	19 20 47.8	+0.5
	baz=73						
W33A	Caddo, Fort Co	73.45	338	⇓P	P	19 20 50.7	+1.1
	baz=74						
W32A	Sentinel	73.67	337	⇑P	P	19 20 51.5	+0.6
	baz=74						
V34A	Guthrie	73.79	339	⇑P	P	19 20 51.9	+0.3
	baz=74						
V33A	Lossen Ranch,	74.01	338	⇓P	P	19 20 53.3	+0.4
	baz=74						
319A	Douglas	74.22	327	⇓P	P	19 20 56.1	+1.7
	baz=75						
AMTX	Amarillo	74.27	335	⇓P	P	19 20 55.2	+0.6
	baz=75						
AMTX	Amarillo	74.27	335	eP	P	19 20 54.9	+0.3
	comp=E,7.9nm,1.0s						
U34A	Anderson Ranch	74.35	339	⇓P	P	19 20 55.3	+0.4
	baz=75						
121A	Cookes Peak, D	74.56	329	⇑P	P	19 20 57.9	+1.4
	baz=75						
121A	Cookes Peak, D	74.56	329	eP	P	19 20 57.5	+1.1
	comp=E,8.4nm,1.0s						
X26A	CR and CF Fran	74.75	333	⇑P	P	19 20 58.2	+0.7
	baz=75						
Y24A	Capitan	74.82	332	⇓P	P	19 20 58.4	+0.4
	baz=75						
Z22A	Elephant Butte	74.85	330	⇑P	P	19 20 59.0	+0.9
	baz=75						
W27A	Bowe Ranch, En	74.93	334	⇑P	P	19 20 59.3	+0.9
	baz=75						
Y23A	Lovelace Mesa,	75.07	331	⇑P	P	19 21 00.4	+1.0
	baz=75						
W26A	Owens Ranch, T	75.21	333	⇓P	P	19 21 00.8	+0.7
	baz=76						
DBIC	Dimbokro	75.25	71	P	P	19 20 59.4	-1.2
	comp=E,2.1nm,0.7s,baz=90,slow=19,SNR=3.1						
X24A	Lazy VL Ranch,	75.38	332	⇑P	P	19 21 01.7	+0.6
	baz=76						
W25A	X Bar L Ranch,	75.58	333	⇑P	P	19 21 02.5	+0.3
	baz=76						
TUC	Tucson	75.69	327	eP	P	19 21 03.7	+0.9
	comp=E,9.4nm,1.5s						
LAZ	Ladron	75.91	331	eP	P	19 21 05.6	+1.4
	comp=E,10.0nm,1.3s						
W24A	Lazy 6 Ranch,	75.94	332	⇓P	P	19 21 04.9	+0.6
	baz=76						
U27A	Thompson Grove	76.06	335	⇑P	P	19 21 05.3	+0.4
	baz=76						
V25A	Rancho No Teng	76.19	333	⇑P	P	19 21 06.5	+0.7
	baz=76						
R33A	Olander Ranch,	76.22	339	⇑P	P	19 21 06.2	+0.6
	baz=77						
V24A	Rampart Ranch,	76.34	333	⇓P	P	19 21 07.0	+0.4
	baz=77						
T28A	Walsh	76.44	336	⇑P	P	19 21 07.5	+0.5
	baz=77						
R31A	Burdett	76.67	338	⇑P	P	19 21 08.8	+0.6
	baz=77						
V22A	San Miguel Ran	77.14	332	⇓P	P	19 21 12.7	+1.6
	baz=78						
Q30A	Quinter	77.51	338	⇓P	P	19 21 13.6	+0.7
	baz=78						
Q29A	Oakley	77.67	337	⇑P	P	19 21 14.0	+0.1
	baz=78						
S24A	Houchin Ranch,	78.01	334	⇑P	P	19 21 16.9	+0.8
	baz=78,SNR=5.9						
P29A	Atwood	78.31	338	⇓P	P	19 21 18.3	+0.9
	baz=79						
WUAZ	Wupatki	78.65	328	⇓P	P	19 21 21.0	+1.5
	baz=79						
MVCO	Mesa Verde	78.89	331	⇑P	P	19 21 22.1	+1.2
	baz=79						
BC3	Big Chuckawall	78.99	324	⇑P	P	19 21 22.8	+1.4
	baz=79						
O28A	Krutsinger Ran	79.05	337	⇑P	P	19 21 21.7	+0.2
	baz=79						
Q24A	Divide	79.16	334	⇓P	P	19 21 22.5	+0.1
	baz=80,SNR=6.3						
IRM	Iron Mountain	79.26	325	⇓P	P	19 21 24.0	+1.3
	baz=80						
P25A	Willow Gulch B	79.30	335	⇓P	P	19 21 23.7	+0.7
	baz=80						
M31A	Lambtecht Ranc	79.31	340	⇓P	P	19 21 23.7	+0.9
	baz=80						
PFO	Pinyon Flats O	79.44	324	⇑P	P	19 21 25.2	+1.4
	baz=80						
MURC	Murrieta	79.80	323	⇑P	P	19 21 27.2	+1.5
	baz=80						
U15A	North Rim	79.82	328	⇑P	P	19 21 26.9	+0.8
	baz=80						
BOSA	Boshof	79.86	118	P	P	19 21 26.4	-0.1
	comp=E,11nm,0.9s,baz=250,slow=6.0,SNR=12						
GMRC	Granite Mounta	80.00	325	⇓P	P	19 21 28.5	+1.6
	baz=80						
ISCO	Idaho Springs	80.06	334	⇓P	P	19 21 27.9	+0.6
	baz=80						
P22A	Eagle	80.30	333	⇑P	P	19 21 29.6	+1.1
	baz=81						
HEC	Hector,Ludlow	80.37	324	⇓P	P	19 21 30.1	+1.3
	baz=81						
O23A	Lake Granby, G	80.53	334	⇓P	P	19 21 30.9	+1.0
	baz=81,SNR=7.6						
BFSC	Mount Baldy Ra	80.54	323	⇓P	P	19 21 31.2	+1.4
	baz=81						
TUQ	Turquoise Moun	80.66	325	⇑P	P	19 21 31.4	+0.9
	baz=81						
O22A	Kremmling	80.72	334	⇓P	P	19 21 31.7	+0.9
	baz=81,SNR=5.3						
K30A	Basset	80.72	340	⇓P	P	19 21 31.0	+0.5
	baz=81						
ECSD	EROS Data Cent	80.90	342	eP	P	19 21 30.9	-0.4
	comp=E,18nm,1.0s						
GSC	Goldstone, Bar	80.98	324	⇑P	P	19 21 33.3	+1.2
	baz=81						
M25A	Palm-Egli Farm	80.98	336	⇓P	P	19 21 32.2	+0.2
	baz=81						
N23A	Red Feather La	81.15	335	⇑P	P	19 21 33.6	+0.6
	baz=82						
SHPR	Sheep Range	81.18	326	eP	P	19 21 34.1	+0.9
	comp=E,4.1nm,1.0s						
EDW2	Edwards Air Fo	81.22	323	⇓P	P	19 21 34.2	+0.9
	baz=82						
N22A	Wattenberg Ran	81.25	334	⇑P	P	19 21 33.8	+0.2
	baz=82						
O20A	White River Ci	81.33	333	⇑P	P	19 21 34.4	+0.5
	baz=82						
LRMC	Laurel Mtn Rad	81.55	324	⇓P	P	19 21 36.3	+1.2
	baz=82						
M23A	Laramie	81.58	335	⇑P	P	19 21 36.0	+0.7
	baz=82						
J28A	Allard Ranch,	81.88	339	⇓P	P	19 21 37.3	+0.6
	baz=82						
J27A	Elkhorn Farm,	81.96	338	⇑P	P	19 21 37.7	+0.6
	baz=82						
ISA	Isabella, Lake	82.08	323	⇑P	P	19 21 38.7	+0.8
	baz=82						
LBTB	Lobatse	82.11	115	eP	P	19 21 38.3	-0.2
	comp=E,10nm,1.0s						
J26A	Sides Ranch, S	82.35	338	⇑P	P	19 21 39.8	+0.7
	baz=83						
I28A	Midland	82.39	339	⇓P	P	19 21 40.1	+0.9
	baz=83						
K23A	Bowen Ranch, D	82.68	336	⇓P	P	19 21 41.5	+0.6
	baz=83						
H29A	Onida	82.69	340	⇓P	P	19 21 41.1	+0.4
	baz=83						
I27A	Quinn	82.72	339	⇑P	P	19 21 41.5	+0.6
	baz=83						
G30A	Faulkton	82.86	341	⇓P	P	19 21 42.2	+0.6
	baz=83						
J24A	Dixon Ranch, L	82.87	337	⇓P	P	19 21 42.5	+0.6
	baz=83						
R11A	Troy Canyon, C	82.88	327	⇑P	P	19 21 43.5	+1.4
	baz=83						
K22A	Casper	82.90	335	⇓P	P	19 21 42.8	+0.7
	baz=83						
K21A	Alcova	83.14	335	⇑P	P	19 21 42.7	-0.7
	baz=84,SNR=5.6						
I25A	Rochford	83.19	338	⇑P	P	19 21 43.9	+0.3
	baz=84						
DUG	Dugway, Tooele	83.20	330	⇑P	P	19 21 44.3	+0.7
	baz=84						
DUG	Dugway, Tooele	83.20	330	eP	P	19 21 44.4	+0.7
	comp=E,1.8nm,0.4s						
G28A	Parade	83.30	340	⇓P	P	19 21 44.4	+0.4
	baz=84						
I24A	Kuemmerle Ranc	83.33	337	⇓P	P	19 21 44.7	+0.5
	baz=84						
J22A	Midwest	83.56	335	⇓P	P	19 21 45.1	-0.3
	baz=84						
F29A	Eureka	83.69	341	⇑P	P	19 21 46.0	0.0
	baz=84						
F28A	McLaughlin	83.97	340	⇑P	P	19 21 47.5	+0.1
	baz=84						
I22A	9 Mile Ranch,	83.98	336	⇓P	P	19 21 47.4	-0.2
	baz=84						
G26A	Maurine	83.99	339	⇑P	P	19 21 47.1	-0.4
	baz=84						
J20A	Shoshoni	84.07	334	⇑P	P	19 21 49.0	+1.0
	baz=84,SNR=6.5						
PDAR	Pinedale Array	84.10	333	P	P	19 21 48.2	-0.1
	comp=E,2.3nm,1.0s,baz=158,slow=4.8,SNR=11						
H24A	Dirks Ranch, A	84.10	337	⇑P	P	19 21 47.7	-0.5
	baz=84						
I21A	Big Trails, Te	84.19	335	⇑P	P	19 21 48.4	-0.3
	baz=85						
NVAR	Mina Array Bea	84.20	325	P	P	19 21 50.0	+1.1
	comp=E,2.3nm,0.9s,baz=152,slow=5.6,SNR=13						
TORD	Torodi Ar. Bea	84.28	70	P	P	19 21 49.0	-0.7
	comp=E,6.0nm,0.8s,baz=250,slow=4.2,SNR=27						
J19A	Crowheart	84.34	334	⇑P	P	19 21 49.4	-0.1
	baz=85,SNR=5.8						
F27A	Lemmon	84.34	339	⇑P	P	19 21 49.9	+0.6
	baz=85						
HVU	Hansel Valley	84.51	331	eP	P	19 21 50.6	+0.2
	comp=E,6.9nm,0.8s						
H22A	Clearmont	84.56	336	⇓P	P	19 21 50.5	0.0
	baz=85						
D30A	Buchanan	84.59	342	⇓P	P	19 21 50.8	+0.4
	baz=85						
I20A	Worland	84.60	335	⇓P	P	19 21 51.0	+0.2
	baz=85						
D29A	Pettibone, Tap	84.76	341	⇓P	P	19 21 51.3	0.0
	baz=85						
G23A	Biddle	84.78	337	⇑P	P	19 21 51.4	-0.1
	baz=85						
F25A	Bowman	84.82	339	⇓P	P	19 21 52.1	+0.4
	baz=85						
I19A	Meeteetse	84.99	334	⇓P	P	19 21 52.9	+0.1
	baz=85						
AGMN	Agassiz Nation	85.01	344	⇓P	P	19 21 52.9	+0.4
	baz=85						
C30A	Mose, Pekin	85.07	342	⇑P	P	19 21 52.9	+0.1
	baz=85						
F23A	Volborg	85.24	337	⇑P	P	19 21 53.8	0.0
	baz=86						
D27A	Center	85.33	340	⇓P	P	19 21 54.2	0.0
	baz=86						
G21A	Lodge Grass	85.40	336	⇑P	P	19 21 54.6	-0.1
	baz=86						
I17A	Pilgrim Ck.	85.47	333	⇑P	P	19 21 55.8	+0.6
	baz=86						
MDND	Maddock	85.49	342	⇑P	P	19 21 55.2	+0.3
	baz=86						
MDND	Maddock	85.49	342	eP	P	19 21 55.1	+0.2
	comp=E,19nm,1.5s						
D26A	Manning	85.52	340	⇑P	P	19 21 55.6	+0.5
	baz=86						
H19A	Powell	85.53	334	⇑P	P	19 21 55.9	+0.5
	baz=86						
F22A	Rosebud	85.57	337	⇓P	P	19 21 55.0	-0.5
	baz=86						
E24A	Baker	85.65	338	⇑P	P	19 21 56.1	+0.2
	baz=86						
B30A	Myrvik Farm, E	85.73	343	⇓P	P	19 21 56.3	+0.2
	baz=86						
G20A	Bridger	85.74	335	⇑P	P	19 21 55.6	-0.8
	baz=86,SNR=9.9						
H18A	Shoshone NF, C	85.78	334	⇑P	P	19 21 56.3	-0.5
	baz=86,SNR=10						
H17A	Grant Village	85.87	333	⇑P	P	19 21 57.9	+0.6
	baz=86						
C27A	Sayler Ranch,	85.88	341	⇑P	P	19 21 57.0	+0.1
	baz=86						
B29A	Wagenman Farm,	86.00	342	⇓P	P	19 21 57.8	+0.4
	baz=86						
E22A	Miles City	86.06	337	⇓P	P	19 21 57.8	0.0
	baz=86						
D24A	Glendive	86.15	339	⇑P	P	19 21 58.5	+0.2
	baz=86						
A30A	Hoffart Farm,	86.18	343	⇑P	P	19 21 58.2	-0.1
	baz=87						
B28A	Dugan Ranch, T	86.24	342	⇑P	P	19 21 58.9	+0.3
	baz=87						
A29A	Manning Farm,	86.39	342	⇓P	P	19 21 59.9	+0.5
	baz=87						
D23A	Lindsay	86.47	338	⇑P	P	19 22 00.3	+0.4
	baz=87						
E21A	Keefer Ranch,	86.51	337	⇑P	P	19 22 00.4	+0.3
	baz=87						
C24A	Savage	86.55	339	⇓P	P	19 22 00.6	+0.4
	baz=87						
A28A	Rude Farm, Bot	86.64	342	⇑P	P	19 22 01.1	+0.4
	baz=87						
HLID	Hailey	86.67	331	⇓P	P	19 22 01.5	+0.4
	baz=87						
D22A	Cohagen	86.76	337	⇑P	P	19 22 01.7	+0.4
	baz=87						
E20A	Meyer Farm, Mu	86.83	336	⇑P	P	19 22 01.5	-0.2
	baz=87,SNR=9.3						
ULM	Lac du Bonnet	86.85	345	P	P	19 22 00.8	-0.7
	comp=E,3.2nm,0.7s,baz=137,slow=3.8,SNR=6.4						
B25A	Knox Farm, Ray	86.85	340	⇑P	P	19 22 01.9	+0.3
	baz=87						
D21A	La Casta Ranch	86.95	337	⇑P	P	19 22 01.9	-0.3
	baz=87						
E19A	Rath Farm, Rou	87.02	335	⇑P	P	19 22 02.1	-0.5
	baz=87,SNR=10.0						
C23A	Lambert	87.03	338	⇓P	P	19 22 02.7	+0.1
	baz=87						
MCMT	McKenzie Canyo	87.10	332	eP	P	19 22 04.1	+0.8
	comp=E,6.0nm,1.1s						
A26A	Wade Farm, Ken	87.10	341	⇑P	P	19 22 02.9	0.0
	baz=88						
C22A	Vida	87.19	338	⇑P	P	19 22 02.8	-0.5
	baz=88						
D20A	Manuel Ranch,	87.34	336	⇓P	P	19 22 03.6	-0.5
	baz=88,SNR=5.8						
A25A	Svangstu Ranch	87.44	340	⇑P	P	19 22 05.1	+0.6
	baz=88						
B23A	Brockton	87.56	339	⇑P	P	19 22 05.7	+0.6
	baz=88						
D19A	Cripps Ranch,	87.66	336	⇓P	P	19 22 05.3	-0.4
	baz=88						
B22A	Reddig Ranch S	87.72	338	⇑P	P	19 22 05.8	-0.1
	baz=88						
C20A	Veseth Ranch,	87.84	337	⇓P	P	19 22 06.7	+0.2
	baz=88						
A22A	Carney Farms,	88.31	338	⇓P	P	19 22 09.0	+0.3
	baz=89						
M04C	Macdoel	88.51	325	⇑P	P	19 22 10.3	+0.4
	baz=89						
A21A	Bergtoll Ranch	88.62	338	⇓P	P	19 22 10.2	0.0
	baz=89						
A20A	Cobblestone Ra	88.84	337	⇓P	P	19 22 11.2	0.0
	baz=89						
A19A	Klindworth Far	89.15	337	⇓P	P	19 22 13.1	+0.5
	baz=90						
J05D	Fort Rock, OR	89.39	326	⇑P	P	19 22 14.0	-0.1
	baz=90						
YKA	Yellowknife Ar	102.41	341	P	Pdif	19 23 11.8	-0.8
	comp=E,0.3nm,0.6s,baz=138,slow=4.2,SNR=9.0						
ASAR	Alice Springs	117.28	207	PKP	PKPdf	19 28 01.4	-2.0
	comp=E,0.2nm,0.6s,baz=150,slow=2.0,SNR=6.0						
WRA	Warramunga Arr	120.48	209	PKP	PKPdf	19 28 08.3	-1.3
	comp=E,1.0nm,0.7s,baz=169,slow=1.6,SNR=8.8						
BRTR	Keskin Array B	121.96	61	PKP	PKPdf	19 28 12.1	+0.1
	comp=E,1.3nm,0.8s,baz=204,slow=2.7,SNR=5.0						
H11S2	WAKE ISLAND Hyl	25.81	269	T	T	21 46 35.3	
	baz=119,slow=76,SNR=35						
H11S1	WAKE ISLAND Hyl	25.83	269	T	T	21 46 36.6	
	baz=119,slow=76,SNR=20						
H11S3	WAKE ISLAND Hyl	25.83	269	T	T	21 46 36.7	
	baz=119,slow=76,SNR=17						
H11N3	WAKE ISLAND Hyl	26.23	270	T	T	21 47 07.4	
	baz=114						
H11N1	WAKE ISLAND Hyl	26.25	270	T	T	21 47 09.1	
	baz=114						
H11N2	WAKE ISLAND Hyl	26.25	270	T	T	21 47 09.1	
	baz=114						
GEYT	Alibeck	139.93	70	PKP	PKPdf	19 28 46.1	+0.3
	comp=E,1.4nm,0.8s,baz=101,slow=3.0,SNR=3.6						
SEY	Seymchan	140.36	330	PKP	PKPdf	19 28 45.2	-0.5
	comp=E,2.0nm,0.3s,baz=125,slow=2.3,SNR=8.6						
ABKAR	Akbulak array	141.86	52	ePKPpre	PKPpre	19 28 42.8	
BRVK	Borovoye	147.43	43	ePKPdf	PKPdf	19 28 58.4	0.0
BVAR	Borovoye Array	147.50	43	PKPbc	PKPbc	19 29 01.5	+0.5
	comp=E,2.6nm,0.5s,baz=289,slow=4.5,SNR=22						
HYB	Hyderabad	148.74	115	i PKP	PKPbc	19 29 04.0	-1.4
YAK	Yakutsk	149.08	340	ePKPbc	PKPbc	19 29 04.3	-0.6
KKAR	Karatay Array	149.67	62	ePKPbc	PKPbc	19 29 06.6	-0.4
EKS2	Erkin-Say	152.10	62	ePKPbc	PKPbc	19 29 12.7	-0.2
AAK	Ala-Archa	152.63	62	ePKPbc	PKPbc	19 29 14.5	+0.3
KURBB	Kurchatov Arra	153.09	44	PKP	PKPdf	19 29 07.5	+0.3
	comp=E,1.1nm,1.1s,baz=297,slow=1.5,SNR=6.0						
KURBB				PKPbc	PKPbc	19 29 14.4	-0.2
	comp=E,1.5nm,0.5s,baz=299,slow=2.7,SNR=20						
KURBB				PKPab	PKPab	19 29 26.7	+0.5
	comp=E,0.3nm,0.6s,baz=296,slow=3.3,SNR=4.4						
KURK	Kurchatov	153.10	44	PKP	PKPdf	19 29 07.5	+0.2
KURK				PKPbc	PKPbc	19 29 14.4	-0.3
KURK				PKPab	PKPab	19 29 26.7	+0.5
TKM2	Tokmak 2	153.40	62	ePKPbc	PKPbc	19 29 15.6	-0.3
ZALV	Zalesovo Beam	154.50	33	PKP	PKPdf	19 29 08.3	-0.8
	comp=E,0.9nm,0.8s,baz=238,slow=1.4,SNR=4.9						
ZALV				PKPbc	PKPbc	19 29 17.3	-0.3
	comp=E,6.0nm,0.8s,baz=298,slow=3.2,SNR=21						
ZALV				PKPab	PKPab	19 29 32.0	0.0
	comp=E,3.4nm,0.8s,baz=310,slow=5.6,SNR=7.6						
MKAR	Makanchi Array	156.96	50	PKP	PKPdf	19 29 12.8	0.0
	comp=E,0.6nm,0.9s,baz=338,slow=1.3,SNR=4.8						
MKAR				PKPbc	PKPbc	19 29 23.1	
	comp=E,0.7nm,0.9s,baz=305,slow=4.3,SNR=4.6						
MKAR				PKPab	PKPab	19 29 42.4	-0.5
	comp=E,1.2nm,0.8s,baz=316,slow=3.3,SNR=8.2						
CMAR	Chiang Mai Arr	162.22	151	PKP	PKPdf	19 29 18.8	-0.8
	comp=E,0.6nm,0.9s,baz=239,slow=2.8,SNR=5.4						
CMAR				PKPab	PKPab	19 30 05.9	-0.4
	comp=E,0.2nm,0.4s,baz=124,slow=36,SNR=3.5						
SONM	Songino Array	166.47	5	PKP	PKPdf	19 29 21.7	-1.0
	comp=E,0.3nm,0.8s,baz=90,slow=1.5,SNR=3.1						
SONM				PKPab	PKPab	19 30 24.4	0.0
	comp=E,0.9nm,0.9s,baz=357,slow=2.9,SNR=6.1						

NNC 11 19:18:06.0±6.6, 37°.12N×71°.44E, h0km, mb3.6, mpv3.2, 6C-2D, Error ellipse: s-maj=58.4km s-min=25.9km az=164.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.66	310	⇑P	Pn	19 18 50.5	+0.1
DZET				⇑S	Sn	19 19 25.6	+2.2
AAK	Ala-Archa	5.99	22	⇓P	Pn	19 19 34.7	-1.4
	0.4nm,0.3s						
AAK				⇑S	Sn	19 20 45.2	-0.4
	2.8nm,0.8s						
KK31	Karatay Array	6.02	354	⇓P	Pn	19 19 35.2	-1.2
	1.2nm,0.3s,baz=170,slow=10,SNR=55						
KK31				⇑S	Sn	19 20 43.9	-2.1
	3.8nm,0.7s,baz=175,slow=22,SNR=14						
TKM2	Tokmak 2	6.62	28	⇑P	Pn	19 19 43.7	-1.2
	1.2nm,0.5s						
TKM2				⇑S	Sn	19 21 08.0	+6.8
	0.5nm,0.6s						

*IDC **11** 19:28:03.5±0.4, 34°.36S×71°.82W, h0km, mb5.1/17, mb1 5.2/19, mb1mx5.2/20, mbtmp5.1/19, ML5.3/2, MS4.7/16, Ms1 4.7/16, ms1mx4.6/29, Error ellipse: s-maj=17.4km s-min=13.4km az=88.0*

*GUC **11** 19:28:06.4±0.6, 34°.35S×71°.98W, h33km±11km, ML5.3*

*NEIC **11** 19:28:06.4, 34°.35S×71°.98W, h33km, mb5.4/141, MS4.9/98, ML5.3(GUC), After GUC.*

NEIC Felt [V] at Pichilemu and San Fernando; [IV] at Casablanca, Rancagua, San Antonio and Santiago; [III] at Talca, Valparaiso and Vina del Mar; [II] at Quillota. Also felt at Buin, Colina, Graneros, Lampa and Puente Alto.

*BJI **11** 19:28:07.6, 34°.30S×71°.80W, h24km, mB5.2/20, Ms5.5/19, Ms7 5.2/19*

*ISCJB **11** 19:28:07.8±0.6, 34°.35S±0°.03×71°.90W±0°.05, h39km±5km, mb5.4/155, MS4.9/116, Error ellipse: s-maj=6.6km s-min=4.3km az=171.7*

*MOS **11** 19:28:07.4±1.1, 34°.32S×71°.87W, h33km, mb5.6/42, MS4.9/18, Error ellipse: s-maj=13.4km s-min=6.8km az=97.2*

ISC 11 19:28:07.8±0.5, 34°.35S±0°.03×71°.85W±0°.05, h29km±3km, h29km:pP-P, n935, e0°85/899, mb5.4/156, MS5.0/116, 222C-218D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.53	43	⇓iP	Pb	19 28 18.2	-0.6
LNV	Longovilo	0.53	43	⇓iP	Pb	19 28 18.2	-0.6
TACH	Talagante	1.03	48	⇑iP	Pn	19 28 25.7	-0.7
TACH	Talagante	1.03	48	⇑iP	Pn	19 28 25.7	-0.7
CACH	El Canelo	1.06	78	⇓iP	Pb	19 28 27.4	-0.3
CACH	El Canelo	1.06	78	⇓iP	Pb	19 28 27.4	-0.3
CHCH	Chadas Angostu	1.08	68	⇑iP	Pn	19 28 27.1	0.0
CHCH	Chadas Angostu	1.08	68	⇑iP	Pn	19 28 27.1	0.0
RCDM	Rinconada Maip	1.22	46	⇑iP	Pn	19 28 28.5	-0.4
RCDM				i S1	Sb	19 28 45.9	+0.2
RCDM				AML	AML	19 28 49.4	
	comp=N,87μm,0.4s						
RCDM	Rinconada Maip	1.22	46	⇑iP	Pn	19 28 28.5	-0.4
RCDM				i S	Sb	19 28 45.9	+0.2
ANTU	Antumapu	1.27	53	⇑iP	Pn	19 28 30.1	+0.3
ANTU				i S1	Sb	19 28 47.8	+0.5
ANTU				AML	AML	19 28 50.1	
	comp=N,101μm,0.3s						
ANTU				AML	AML	19 28 54.8	
	comp=E,66μm,0.5s						
ANTU	Antumapu	1.27	53	⇑iP	Pn	19 28 30.1	+0.3
ANTU				i S	Sb	19 28 47.8	+0.5
PCH	Pirque	1.33	57	i P1	Pb	19 28 31.2	-1.0
PCH				i S1	Sb	19 28 49.7	+0.9
PCH	Pirque	1.33	57	i P	Pb	19 28 31.2	-1.0
PCH				i S	Sb	19 28 49.7	+0.9
IHA	Instituto Hidr	1.33	8	⇓iP	Pn	19 28 29.4	-1.0
IHA				i S1	Sn	19 28 47.4	+0.2
IHA	Instituto Hidr	1.33	8	⇓iP	Pn	19 28 29.4	-1.0
IHA				i S	Sn	19 28 47.4	+0.2
SAN	Santiago	1.33	48

CFAA Sn **Sb** **19 30 03.8 -4.3**
comp=N,12nm,0.3s,baz=356,slow=24,SNR=2.4
CFAA LR LR 19 31 01.1
comp=N,2µm,19.5s,baz=242,slow=44
LCO Las Campanas 5.41 11 *e*Pn **Pn** **19 29 25.5 -1.3**
PLCA Paso Flores 6.46 171 P **Pn** **19 29 41.1 +0.1**
PLCA pmax pmax
comp=Z,14nm,0.3s
PLCA MLR MLR
comp=Z,17nm,28.6s
PLCA Paso Flores 6.46 171 Pn **Pn** **19 29 41.1 +0.1**
comp=Z,14nm,0.3s,baz=337,slow=12,SNR=172
PLCA Lg Lg 19 31 22.8
comp=Z,7.2nm,0.3s,baz=84,slow=13,SNR=4.1
PLCA LR LR 19 32 30.7
comp=Z,8µm,21.2s,baz=346,slow=42
TRQA Tornquist 8.79 118 *e*Pn **Pn** **19 30 14.9 +1.8**
LVC Limon Verde 11.97 13 *e*Pn Pn 19 30 51.3 -5.5
LPAZ La Paz 18.29 11 *e*P **P** **19 32 20.0 -0.1**
LPAZ pmax pmax
comp=Z,524nm,1.7s
LPAZ La Paz 18.29 11 P **P** **19 32 20.1 0.0**
comp=Z,3.9nm,0.3s,baz=186,slow=9.1,SNR=99
LPAZ La Paz 18.29 11 *e*P **P** **19 32 20.0 -0.1**
comp=Z,524nm,1.7s
EFI East Falkland 19.98 154 P **P** **19 32 37.0 -0.7**
comp=Z,611nm,1.0s,SNR=6.4
EFI East Falkland 19.98 154 *e*P **P** **19 32 36.1 -1.6**
EFI East Falkland 19.98 154 *e*P **P** **19 32 36.1 -1.6**
comp=Z,88nm,0.9s
EFI LR LR
comp=Z,6µm,20.0s
USHA Ushuaia 20.62 174 P Pn 19 32 45.8 -1.2
comp=Z,112nm,0.9s,baz=321,slow=7.8,SNR=26
USHA LR LR 19 41 22.2
comp=Z,6µm,18.4s,baz=306,slow=39
SIV San Ignacio 20.69 31 P **P** **19 32 45.7 -0.1**
comp=Z,42nm,0.9s,baz=224,slow=14,SNR=78
SIV LR LR 19 42 12.8
comp=Z,5µm,18.7s,baz=191,slow=41
NNA Nana 22.72 347 P **P** **19 33 08.5 +1.0**
comp=Z,912nm,0.8s,SNR=11
NNA Nana 22.72 347 *e*P **P** **19 33 08.1 +0.6**
NNA Nana 22.72 347 P **P** **19 33 08.3 +0.8**
comp=Z,101nm,0.8s,baz=190,slow=11,SNR=32
NNA Nana 22.72 347 *e*P **P** **19 33 08.2 +0.6**
NNA LR LR
comp=Z,2µm,20.0s
SAML Samuel 26.50 19 *e*P **P** **19 33 42.0 -0.8**
comp=Z,51nm,0.8s
SAML LR LR
comp=Z,4µm,19.0s
ATAH Atahualpa 27.75 346 P **P** **19 33 55.8 +1.3**
comp=Z,24nm,0.9s,baz=173,slow=8.6,SNR=13
ATAH LR LR 19 43 31.1
comp=Z,1µm,20.2s,baz=186,slow=33
BDFB Brasilia 28.40 55 P **P** **19 33 59.4 -0.7**
BDFB pmax pmax
comp=Z,22nm,0.7s
BDFB MLR MLR
comp=Z,5µm,18.7s
BDFB Brasilia 28.40 55 P **P** **19 33 59.4 -0.7**
comp=Z,22nm,0.7s,baz=218,slow=8.4,SNR=20
BDFB LR LR 19 46 35.9
comp=Z,5µm,18.7s,baz=224,slow=39
PMSA Palmer Station 30.83 173 PFAKE 19 34 30.0 +9.1
PMSA LR LR
comp=Z,4µm,21.0s
HOPE Hope Point 31.73 140 PFAKE 19 34 40.0 +11
HOPE LR LR
comp=Z,800nm,20.0s
OTAV Otavalo 34.96 348 *e*P **P** **19 34 59.8 +1.8**
comp=Z,53nm,1.0s
OTAV LR LR
comp=Z,842nm,22.0s
PTGA Pitinga 35.24 21 *e*P **P** **19 34 59.2 -0.7**
comp=Z,98nm,0.9s
PTGA LR LR
comp=Z,521nm,22.0s
PAYG Puerto Ayora 37.68 329 PFAKE 19 35 30.0 +9.2
PAYG LR LR
comp=Z,904nm,19.0s
ROSC El Rosal 39.06 356 P P 19 35 36.3 +3.6
comp=Z,19nm,0.6s,baz=186,slow=2.6,SNR=8.9
ROSC LR LR 19 51 59.9
comp=Z,602nm,19.8s,baz=192,slow=37
ROSC El Rosal 39.06 356 *e*P P 19 35 36.7 +3.9
SDV Santo Domingo 43.01 2 *e*P **P** **19 36 03.9 -1.1**
SDV LR LR
comp=Z,1µm,20.0s
RCBR Riachuelo 43.69 58 P **P** **19 36 10.8 +0.3**
comp=Z,9.8nm,0.6s,baz=214,slow=9.4,SNR=12
RCBR Riachuelo 43.69 58 *e*P **P** **19 36 10.8 +0.3**
comp=Z,29nm,1.1s
RCBR LR LR
comp=Z,3µm,19.0s
BCIP Isla Barro Col 43.93 349 *e*P **P** **19 36 13.4 +1.1**
comp=Z,179nm,1.6s
BCIP LR LR
comp=Z,457nm,19.0s
JTS JuntasAbangare 46.10 342 P **P** **19 36 30.9 +1.4**
comp=Z,152nm,1.0s,SNR=5.0
JTS JuntasAbangare 46.10 342 *d i*P **P** **19 36 30.3 +0.8**
JTS pmax pmax
comp=Z,107nm,1.7s
JTS JuntasAbangare 46.10 342 *e*P **P** **19 36 30.9 +1.4**
comp=Z,126nm,1.8s
JTS LR LR
comp=Z,394nm,21.0s
GRGR Grenville 47.23 14 *e*P **P** **19 36 37.6 -0.7**
GRGR LR LR
comp=Z,1µm,20.0s
BBGH Gun Hill 48.65 16 PFAKE 19 37 00.0 +11
BBGH LR LR
comp=Z,2µm,20.0s
VNA3 Neumayer Olymp 48.98 158 P **P** **19 36 51.9 +0.6**
VNA2 Neumayer--Watz 49.63 157 P **P** **19 36 57.1 +0.8**
FDF Fort de France 49.86 14 PFAKE 19 37 10.0 +11
FDF LR LR
comp=Z,1µm,20.0s
SNAA Sanae 51.21 158 P **P** **19 37 08.5 +0.3**
SNAA Sanae 51.21 158 *e*P **P** **19 37 08.0 -0.3**
SNAA Sanae 51.21 158 *e*P **P** **19 37 07.9 -0.3**
SNAA *e**PP **pP** **19 37 17.4 +0.4**
SNAA pmax pmax
comp=Z,178nm,1.3s
SNAA Sanae 51.21 158 LR LR 19 57 20.5
comp=Z,322nm,20.3s,baz=268,slow=34
SNAA Sanae 51.21 158 *e*P **P** **19 37 07.9 -0.3**
comp=Z,178nm,1.3s
SNAA *ep*P **pP** **19 37 17.4 +0.4**
SABA Saba 52.32 10 *e*P **P** **19 37 16.9 -0.1**
comp=Z,251nm,1.0s
OBIP Obispado Ponce 52.34 6 *e*P **P** **19 37 16.4 -0.7**
comp=Z,80nm,0.9s
CELP Cerrillos 52.37 6 *e*P **P** **19 37 16.5 -0.9**
MTDJ Mount Denham 52.56 353 PFAKE 19 37 30.0 +11
MTDJ LR LR
comp=Z,598nm,22.0s
LRS Lares 52.56 6 *e*P **P** **19 37 17.5 -1.3**
SDDR Presa de Saban 53.03 1 PFAKE 19 37 30.0 +7.7
SDDR LR LR
comp=Z,637nm,20.0s
GTBY Guantanamo Bay 54.06 356 *e*P **P** **19 37 29.7 -0.1**
comp=Z,60nm,1.0s
GTBY LR LR
comp=Z,523nm,19.0s
GRTK Grand Turk 55.55 1 PFAKE 19 37 50.0 +9.5
GRTK LR LR
comp=Z,500nm,19.0s
RKT Rikitea 55.69 264 *e*LR LR 19 53 54.3
comp=Z,419nm,24.5s,baz=115
RKT Rikitea 55.69 264 *e*T T 20 37 29.6
comp=Z,2.6nm,0.3s
QSPA South Pole Qui 55.89 180 LR LR 20 02 17.0
comp=Z,403nm,18.1s,baz=163,slow=37
QSPA South Pole Qui 55.89 180 *e*P **P** **19 37 42.1 -0.6**
comp=Z,98nm,1.1s
NVL N'lazarevskaya 55.94 157 ⇓*i*P **P** **19 37 42.8 0.0**
NVL *e*S S 19 45 19.4 -9.1
NVL pmax pmax
comp=Z,60nm,0.9s
TEIG Tepich 56.48 341 *e*P **P** **19 37 46.4 -0.8**
comp=Z,80nm,0.8s
SBA Scott Base 62.77 192 PFAKE 19 38 40.0 +10
SBA LR LR
comp=Z,864nm,19.0s
VNDA Vanda 63.79 191 *e*P **P** **19 38 38.3 +1.6**
VNDA pmax pmax
comp=Z,26nm,1.2s
VNDA Vanda 63.79 191 P **P** **19 38 38.6 +1.9**
comp=Z,5.7nm,0.9s,baz=129,slow=6.2,SNR=16
VNDA LR LR 20 03 21.9
comp=Z,391nm,18.8s,baz=132,slow=33
VNDA Vanda 63.79 191 *e*P **P** **19 38 38.3 +1.6**
comp=Z,26nm,1.2s
035Z Hargill 65.39 334 ⇑P **P** **19 38 48.7 +1.1**
baz=66
SYO Syowa Base 65.49 158 ⇓*e*P **P** **19 38 45.8 -2.0**
035A Encino 65.83 334 ⇑P **P** **19 38 51.7 +1.2**
baz=66,SNR=5.7
034A Hebbronville 66.16 334 ⇓P **P** **19 38 53.6 +1.0**
baz=66
KVTX Kingsville 66.31 335 PFAKE 19 39 00.0 +6.4
KVTX LR LR
comp=Z,2µm,19.0s
TIGA Tifton 66.36 349 ⇓P **P** **19 38 54.9 +1.1**
baz=67
TIGA Tifton 66.36 349 *e*P **P** **19 38 53.2 -0.6**
comp=Z,76nm,1.2s
934A Benavides 66.59 334 ⇓P **P** **19 38 56.7 +1.4**
baz=67
BBSR BB Station 66.70 7 PFAKE 19 39 10.0 +14
BBSR LR LR
comp=Z,421nm,20.0s
738A Farr-Stevens R 66.75 337 ⇑P **P** **19 38 58.1 +1.7**
baz=67
933A Laredo 66.87 334 ⇑P **P** **19 38 57.9 +0.7**
baz=67,SNR=11
835A Beeville 66.97 335 ⇓P **P** **19 38 59.4 +1.7**
baz=67
834A Tilden 67.08 334 ⇑P **P** **19 38 59.6 +1.1**
baz=67,SNR=13
SACV Santiago Islan 67.14 51 PFAKE 19 39 10.0 +11
SACV LR LR
comp=Z,1µm,21.0s
TBI Tubuai 67.39 257 *e*T T 20 52 03.1
comp=Z,7.5nm,0.3s
735A Kenedy 67.48 335 ⇑P **P** **19 39 02.2 +1.2**
baz=68,SNR=5.9
833A Chaparral WMA, 67.56 334 ⇓P **P** **19 39 01.8 +0.3**
baz=68,SNR=15
734A La Parita Cree 67.74 335 ⇑P **P** **19 39 03.0 +0.4**
baz=68
832A Faith Ranch, C 67.74 333 ⇓P **P** **19 39 02.8 +0.1**
baz=68,SNR=13
636A Smothers Creek 67.81 336 ⇓P **P** **19 39 04.0 +1.0**
baz=68,SNR=11
HKT Hockley 67.84 338 *e*P **P** **19 39 04.1 +0.9**
HKT pmax pmax
comp=Z,50nm,1.4s
HKT Hockley 67.84 338 *e*P **P** **19 39 04.1 +0.9**
comp=Z,50nm,1.4s
733A Divot King Ran 67.88 334 ⇓P **P** **19 39 03.8 +0.3**
baz=68
635A Leesville 67.96 336 ⇑P **P** **19 39 04.1 +0.1**
baz=68
538A Harpers Horsep 67.99 338 ⇑P **P** **19 39 05.0 +0.8**
baz=68
537A Green Hill Far 68.12 337 ⇑P **P** **19 39 06.0 +1.0**
baz=68
732A Laxson Ranch, 68.14 334 ⇑P **P** **19 39 05.3 +0.1**
baz=68,SNR=12
634A China Grove, S 68.15 335 ⇓P **P** **19 39 05.3 +0.1**
baz=68
GOGA Godfrey 68.28 350 *e*P **P** **19 39 05.6 -0.3**
GOGA pmax pmax
comp=Z,65nm,1.3s
GOGA MLR MLR
comp=Z,584nm,19.0s
GOGA Godfrey 68.28 350 *e*P **P** **19 39 05.6 -0.3**
comp=Z,65nm,1.3s
GOGA LR LR
comp=Z,584nm,19.0s
536A Bastrop 68.36 337 ⇑P **P** **19 39 06.7 +0.3**
baz=69
438A Sam Houston St 68.48 338 ⇑P **P** **19 39 08.4 +1.2**
baz=69,SNR=5.8
535A Dale 68.48 336 ⇓P **P** **19 39 07.5 +0.2**
baz=69
VBMS Vicksburg 68.50 343 *e*P **P** **19 39 08.3 +1.0**
comp=Z,81nm,0.8s
633A Saathoff Ranch 68.51 335 ⇑P **P** **19 39 07.8 +0.3**
baz=69
LRAL Lakeview Retre 68.52 346 *e*P **P** **19 39 07.1 -0.3**
comp=Z,31nm,1.0s
340A Bronson 68.63 340 ⇓P **P** **19 39 08.4 +0.3**
baz=69
339A Huntington 68.75 339 ⇑P **P** **19 39 09.4 +0.5**
baz=69,SNR=8.0
437A Phantom Ranch, 68.75 338 ⇓P **P** **19 39 09.6 +0.7**
baz=69
632A Uvalde 68.78 334 ⇓P **P** **19 39 09.4 +0.3**
baz=69,SNR=19
534A Blanco 68.79 335 ⇓P **P** **19 39 09.3 +0.1**
baz=69
436A Wall Ranch, Ga 68.91 337 ⇓P **P** **19 39 10.1 +0.2**
baz=69
MEH Metia 68.96 262 *e*T T 20 54 02.9
comp=Z,38nm,0.2s
631A Perdido Creek 68.98 333 ⇓P **P** **19 39 10.7 +0.3**
baz=69,SNR=8.3
338A Crockett 68.99 339 ⇓P **P** **19 39 11.1 +0.7**
baz=69
533A Kerrville 69.02 335 ⇑P **P** **19 39 10.9 +0.2**
baz=69,SNR=10
337A Centerville 69.13 338 ⇓P **P** **19 39 12.1 +0.8**
baz=69,SNR=6.0
435B Jarrell 69.18 336 ⇓P **P** **19 39 11.4 -0.2**
baz=70
239A Gary 69.36 340 ⇑P **P** **19 39 13.1 +0.4**
baz=70
532A Rocksprings 69.38 334 ⇓P **P** **19 39 13.4 +0.5**
baz=70,SNR=42
434A Burnet 69.44 336 ⇓P **P** **19 39 13.2 0.0**
baz=70,SNR=12
CNNC Cliffs of the 69.46 355 PFAKE 19 39 20.0 +6.8
CNNC LR LR
comp=Z,266nm,21.0s
336A Riesel 69.50 337 ⇑P **P** **19 39 13.7 +0.2**
baz=70,SNR=11
238A Jacksonville 69.54 339 ⇓P **P** **19 39 14.4 +0.6**
baz=70
335A Moody 69.59 337 ⇑P **P** **19 39 14.2 0.0**
baz=70,SNR=6.0
531A Rocksprings 69.65 334 ⇓P **P** **19 39 15.0 +0.4**
baz=70,SNR=20
433A Art 69.66 335 ⇑P **P** **19 39 14.7 +0.1**
baz=70,SNR=25
JCT Junction City 69.66 334 ⇓P **P** **19 39 14.9 +0.3**
baz=70,SNR=18
JCT Junction City 69.66 334 PFAKE 19 39 20.0 +5.3
JCT LR LR
comp=Z,235nm,19.0s
KMSC Kings Mountain 69.70 352 ⇑P **P** **19 39 14.3 -0.4**
baz=70,SNR=7.6
KMSC Kings Mountain 69.70 352 *e*P **P** **19 39 14.6 -0.1**
comp=Z,26nm,0.8s
237A Washetta, Mont 69.74 338 ⇓P **P** **19 39 15.5 +0.5**
baz=70
334A Lometa 69.90 336 ⇑P **P** **19 39 16.0 -0.1**
baz=70,SNR=16
530A J-C Ranch, Com 69.93 333 ⇓P **P** **19 39 16.7 +0.3**
baz=70,SNR=35
TVO Taravao 69.97 262 *e*T T 20 55 19.4
432A Menard 70.02 335 ⇑P **P** **19 39 16.9 0.0**
baz=70
TXAR Lajitas Array 70.11 331 P **P** **19 39 17.8 +0.3**
TXAR pmax pmax
comp=Z,7.0nm,0.8s
TXAR Lajitas Array 70.11 331 P **P** **19 39 17.8 +0.3**
comp=Z,6.8nm,0.8s,baz=152,slow=9.3,SNR=29
431A Sonora 70.14 334 ⇓P **P** **19 39 17.2 -0.4**
baz=70,SNR=13
138A Matatall Enter 70.14 339 ⇓P **P** **19 39 18.3 +0.8**
baz=70
333A Richland Sprin 70.15 335 ⇑P **P** **19 39 17.3 -0.3**
baz=70,SNR=19
TIAR Tiarei 70.17 262 *e*T T 20 55 33.8
comp=Z,10nm,0.3s
529A Stev Forest Ra 70.24 332 ⇓P **P** **19 39 18.4 +0.2**
baz=70,SNR=20
WHTX Lake Whitney, 70.25 337 ⇑P **P** **19 39 18.0 -0.2**
baz=70,SNR=9.2
137A Heron Place, G 70.28 339 ⇑P **P** **19 39 19.1 +0.8**
baz=71
PPT2 Papeete2 70.34 262 *e*LR LR 20 00 37.9
comp=Z,978nm,26.2s,baz=123
PPT Papeete 70.35 262 P **P** **19 39 19.8 +0.5**
PPT pmax pmax
comp=Z,15nm,0.5s
PPT Papeete 70.35 262 P **P** **19 39 19.8 +0.5**
comp=Z,15nm,0.5s,baz=188,slow=8.7,SNR=3.7
CPCT Cooper Cave 70.44 349 *e*P **P** **19 39 21.6 +2.3**
SWET Sewanee 70.44 348 *e*P **P** **19 39 19.2 -0.2**
comp=Z,183nm,1.3s
332A Millersview 70.46 335 ⇓P **P** **19 39 19.5 -0.1**
baz=71,SNR=6.5
430A Baggett Ranch, 70.46 333 ⇓P **P** **19 39 19.7 +0.1**
baz=71,SNR=15
234A Clairette 70.48 336 ⇓P **P** **19 39 19.5 -0.1**
baz=71,SNR=11
TKL Tuckaleechee C 70.53 350 *e*P **P** **19 39 19.0 -0.8**
TKL Tuckaleechee C 70.53 350 *e*P **P** **19 39 19.0 -0.8**
429A Davenport Ranc 70.56 333 ⇓P **P** **19 39 20.6 +0.3**
baz=71,SNR=20
331A San Angelo 70.64 334 ⇓P **P** **19 39 20.3 -0.3**
baz=71,SNR=8.8
233A Rising Star 70.75 336 ⇑P **P** **19 39 21.4 +0.1**
baz=71,SNR=6.6
135A Vickery Place, 70.76 337 ⇓P **P** **19 39 21.0 -0.3**
baz=71
232A Coleman 70.89 335 ⇑P **P** **19 39 21.7 -0.4**
baz=71,SNR=16
134A White-Moore Ra 70.99 337 ⇓P **P** **19 39 22.6 -0.1**
baz=71
330A Mertzon 71.00 334 ⇓P **P** **19 39 22.5 -0.4**
baz=71,SNR=7.8
231A Bronte 71.17 335 ⇓P **P** **19 39 23.4 -0.4**
baz=71,SNR=13
133A Hamilton Ranch 71.30 336 ⇑P **P** **19 39 24.2 -0.3**
baz=72,SNR=12
TZTN Tazewell 71.37 350 *e*P **P** **19 39 24.5 -0.4**
comp=Z,95nm,1.5s
329A Wagon Wheel Ra 71.37 333 ⇓P **P** **19 39 25.2 +0.1**
baz=72,SNR=13
UALR University of 71.39 342 *e*P **P** **19 39 24.9 -0.1**
comp=Z,30nm,1.0s
230A Sterling City 71.41 334 ⇑P **P** **19 39 25.0 -0.3**
baz=72
Z35A Perchaven, San 71.42 338 ⇓P **P** **19 39 25.3 0.0**
baz=72,SNR=8.9
MIAR Mount Ida 71.49 341 *e*P **P** **19 39 25.4 -0.2**
MIAR pmax pmax
comp=Z,36nm,1.3s
MIAR MLR MLR
comp=Z,253nm,20.0s
MIAR Mount Ida 71.49 341 *e*P **P** **19 39 25.4 -0.2**
comp=Z,36nm,1.3s
MIAR LR LR
comp=Z,253nm,20.0s
ABTX Abilene, Hawle 71.56 335 ⇓P **P** **19 39 26.3 +0.1**
baz=72,SNR=10
ABTX Abilene, Hawle 71.56 335 *e*P **P** **19 39 26.3 +0.1**
comp=Z,48nm,0.9s
BLA Blacksburg 71.64 353 PFAKE 19 39 40.0 +13
BLA LR LR
comp=Z,284nm,19.0s
Z34A Collier Ranch, 71.67 337 ⇓P **P** **19 39 26.7 0.0**
baz=72,SNR=5.2
BBTS Babate 71.67 57 LR LR 20 10 25.7
comp=Z,1µm,18.5s,baz=218,slow=36
WVT Waverly 71.68 346 *e*P **P** **19 39 26.3 -0.5**
WVT pmax pmax
comp=Z,149nm,0.8s
WVT Waverly 71.68 346 *e*P **P** **19 39 26.3 -0.5**
comp=Z,149nm,0.8s
229A Bryant Ranch, 71.74 333 ⇑P **P** **19 39 26.9 -0.4**
baz=72,SNR=6.9
131A Roby 71.86 335 ⇓P **P** **19 39 27.8 -0.2**
baz=72,SNR=6.4
Z33A Whitaker Ranch 71.87 336 ⇓P **P** **19 39 27.8 -0.2**
baz=72,SNR=20
JSRW J. Sargeant Re 71.89 355 *e*P **P** **19 39 28.2 +0.3**
130A Snyder 72.00 334 ⇓P **P** **19 39 28.4 -0.4**
baz=72,SNR=6.6
Z32A Haskell 72.12 336 ⇓P **P** **19 39 29.3 -0.2**
baz=72,SNR=20
Y34A Reagan Ranch, 72.16 338 ⇑P **P** **19 39 29.4 -0.3**
baz=72,SNR=11
228A UT Block 9, Go 72.16 333 ⇑P **P** **19 39 29.6 -0.3**
baz=72,SNR=12
129A Stewart Farms, 72.35 334 ⇓P **P** **19 39 31.0 0.0**
baz=73
Z31A Sharp Cattle R 72.36 335 ⇓P **P** **19 39 30.7 -0.2**
baz=73,SNR=19
Y33A Hilltop Ranch, 72.48 337 ⇓P **P** **19 39 31.4 -0.3**
baz=73,SNR=7.9
128A Castleberry Fa 72.57 333 ⇓P **P** **19 39 32.2 -0.1**
baz=73,SNR=9.5
Z30A Sanderson Ranc 72.68 335 ⇑P **P** **19 39 32.3 -0.5**
baz=73,SNR=21
Y32A R-V Farms, Ver 72.75 336 ⇑P **P** **19 39 33.2 -0.1**
baz=73,SNR=7.8
X34A Smith Ranch, M 72.78 338 ⇑P **P** **19 39 33.4 0.0**
baz=73,SNR=8.4
MAW Mawson 72.80 163 LR LR 20 10 57.5
comp=Z,1µm,20.6s,baz=232,slow=35
PBMO Poplar Bluff 72.85 344 *e*P **P** **19 39 33.6 -0.1**
comp=Z,46nm,0.9s
Z29A Hungry Hill Ra 72.86 334 ⇑P **P** **19 39 33.4 -0.6**
baz=73,SNR=15
GDL2 Guadalupe Moun 72.92 332 *e*P **P** **19 39 35.7 +1.3**
X33A Lawton 72.93 337 ⇑P **P** **19 39 33.8 -0.5**
baz=73
Y31A Rekieta Farm, 72.99 336 ⇓P **P** **19 39 34.6 -0.1**
baz=73,SNR=8.3
X32A Elmer 73.08 337 ⇑P **P** **19 39 34.9 -0.3**
baz=73
Y30A Stafford Cattl 73.13 335 ⇑P **P** **19 39 35.0 -0.5**
baz=73,SNR=5.7
Z28A Tucker Farm, M 73.14 334 ⇑P **P** **19 39 34.9 -0.7**
baz=73,SNR=7.0
WMOK Wichita Mounta 73.20 337 *e*P **P** **19 39 35.3 -0.7**
WMOK pmax pmax
comp=Z,35nm,1.3s
WMOK MLR MLR
comp=Z,306nm,22.0s
WMOK Wichita Mounta 73.20 337 *e*P **P** **19 39 35.2 -0.7**
comp=Z,35nm,1.3s
WMOK LR LR
comp=Z,306nm,22.0s
W34A Bridge Creek, 73.34 338 ⇑P **P** **19 39 36.4 -0.4**
baz=74
W34A Bridge Creek, 73.34 338 *e*P **P** **19 39 36.9 +0.1**
comp=Z,112nm,1.5s
TUL1 Leonard 73.39 340 ⇓P **P** **19 39 36.4 -0.5**
baz=74,SNR=6.9
TUL1 Leonard 73.39 340 *e*P **P** **19 39 36.9 -0.1**
comp=Z,60nm,0.6s
Y29A Porterfield Fa 73.39 334 ⇓P **P** **19 39 36.7 -0.5**
baz=74,SNR=9.3
USIN University of 73.43 347 *e*P **P** **19 39 36.1 -1.0**
comp=Z,80nm,0.9s
WCI Wyandotte Cave 73.44 348 *e*P **P** **19 39 36.5 -0.8**
WCI pmax pmax
comp=Z,16nm,0.8s
WCI Wyandotte Cave 73.44 348 *e*P **P** **19 39 36.5 -0.8**
comp=Z,16nm,0.8s
W33A Caddo, Fort Co 73.49 337 ⇓P **P** **19 39 37.8 +0.2**
baz=74,SNR=11
SIUC Southern Illin 73.49 346 *e*P **P** **19 39 37.3 -0.2**
comp=Z,40nm,0.8s
X31A McDonald Ranch 73.50 336 ⇑P **P** **19 39 37.2 -0.4**
baz=74,SNR=7.8
X30A Coker Ranch, T 73.64 335 ⇓P **P** **19 39 38.3 -0.2**
baz=74
Y28A McKinney Farm, 73.64 334 ⇑P **P** **19 39 38.4 -0.2**
baz=74
W32A Sentinel 73.71 337 ⇓P **P** **19 39 38.6 -0.3**
baz=74,SNR=26
V34A Guthrie 73.82 339 ⇑P **P** **19 39 39.2 -0.3**
baz=74,SNR=6.4
V34A Guthrie 73.82 339 *e*P **P** **19 39 39.1 -0.3**
comp=Z,67nm,1.1s
MSTX Muleshoe 73.89 334 ⇓P **P** **19 39 39.8 -0.2**
baz=74,SNR=18
MSTX Muleshoe 73.89 334 *e*P **P** **19 39 39.9 -0.2**
comp=Z,44nm,0.9s
X29A Tulia 73.93 335 ⇑P **P** **19 39 40.1 -0.2**
baz=74,SNR=6.2

Y27A	Causey	73.95	333	⇑P	P	19 39 40.0 -0.5
	baz=74					
W31A	Holland Ranch,	74.00	336	⇑P	P	19 39 40.0 -0.6
	baz=74,SNR=6.0					
V33A	Lossen Ranch,	74.05	338	⇑P	P	19 39 40.7 -0.1
	baz=74,SNR=16					
MVL	Millersville	74.09	356	eP	P	19 39 41.8 +0.8
	comp=Z,72nm,1.5s					
X28A	Dimmitt	74.17	334	⇑P	P	19 39 41.4 -0.3
	baz=74					
W30A	Crocket Farms	74.20	336	⇓P	P	19 39 41.7 -0.1
	baz=74					
OLIL	Olney	74.26	347	eP	P	19 39 41.2 -0.7
	comp=Z,43nm,1.1s					
319A	Douglas	74.28	327	⇓P	P	19 39 43.2 +0.8
	baz=74					
AMTX	Amarillo	74.31	335	⇓P	P	19 39 42.5 0.0
	baz=75					
AMTX	Amarillo	74.31	335	eP	P	19 39 42.6 +0.1
	comp=Z,88nm,1.3s					
U34A	Anderson Ranch	74.38	339	⇑P	P	19 39 42.2 -0.6
	baz=75,SNR=7.7					
U34A	Anderson Ranch	74.38	339	eP	P	19 39 42.6 -0.2
	comp=Z,52nm,0.9s					
BLO	Bloomington	74.40	348	eP	P	19 39 42.1 -0.7
BLO				pmax	pmax	
	comp=Z,188nm,1.9s					
BLO	Bloomington	74.40	348	eP	P	19 39 42.1 -0.7
	comp=Z,188nm,1.9s					
V31A	Spring Creek L	74.50	337	⇑P	P	19 39 44.2 +0.7
	baz=75					
W29A	Amarillo	74.52	335	⇑P	P	19 39 43.7 0.0
	baz=75,SNR=14					
SLM	Saint Louis	74.59	345	eP	P	19 39 43.9 0.0
SLM				pmax	pmax	
	comp=Z,66nm,0.7s					
SLM	Saint Louis	74.59	345	eP	P	19 39 43.9 0.0
	comp=Z,66nm,0.7s					
X27A	F and S Farms,	74.61	334	⇑P	P	19 39 44.3 0.0
	baz=75					
121A	Cookes Peak, D	74.61	329	⇑P	P	19 39 45.3 +0.9
	baz=75,SNR=26					
121A	Cookes Peak, D	74.61	329	eP	P	19 39 45.4 +0.9
	comp=Z,62nm,1.2s					
LIC	Lamto	74.74	71	eP	P	19 39 45.4 0.0
	comp=Z,125nm,1.0s					
V30A	Spur Ranch, Mi	74.77	336	⇓P	P	19 39 45.4 +0.3
	baz=75					
U32A	Winter Ranch,	74.78	338	⇓P	P	19 39 45.0 -0.1
	baz=75,SNR=6.6					
X26A	CR and CF Fran	74.79	333	⇑P	P	19 39 45.2 -0.2
	baz=75,SNR=13					
SSPA	Standing Stone	74.82	355	eP	P	19 39 45.2 0.0
	comp=Z,46nm,1.5s					
W28A	Vega	74.84	335	⇓P	P	19 39 45.8 +0.2
	baz=75					
Y24A	Capitan	74.86	332	⇑P	P	19 39 46.1 +0.2
	baz=75,SNR=25					
Z22A	Elephant Butte	74.89	330	⇑P	P	19 39 47.0 +1.0
	baz=75,SNR=12					
ACSO	Alum Creek Sta	74.92	351	eP	P	19 39 45.2 -0.5
	comp=Z,70nm,0.7s					
W27A	Bowe Ranch, En	74.97	334	⇓P	P	19 39 46.3 -0.1
	baz=75,SNR=19					
TIC	Toumodi	75.00	71	eP	P	19 39 46.4 -0.5
	comp=Z,16nm,0.5s					
KIC	Kosan Boka	75.05	71	eP	P	19 39 47.3 +0.1
	comp=Z,61nm,0.7s					
U31A	Nine Bar Ranch	75.05	337	⇓P	P	19 39 47.0 +0.3
	baz=75					
X25A	Clemmons Ranch	75.09	332	⇑P	P	19 39 47.0 -0.1
	baz=75					
ODNJ	Ogdensburg	75.10	358	eP	P	19 39 47.5 +0.7
	comp=Z,79nm,1.6s					
Y23A	Lovelace Mesa,	75.11	331	⇑P	P	19 39 48.1 +0.8
	baz=75,SNR=23					
DBIC	Dimbokro	75.14	71	eP	P	19 39 47.8 +0.1
DBIC	Dimbokro	75.14	71	eP	P	19 39 48.0 +0.3
DBIC				pmax	pmax	
	comp=Z,37nm,0.8s					
DBIC	Dimbokro	75.14	71	P	P	19 39 48.1 +0.4
	comp=Z,28nm,0.7s,baz=211,slow=5.6,SNR=49					
DBIC				LR	LR	20 10 56.6
	comp=Z,487nm,19.7s,baz=208,slow=34					
DBIC	Dimbokro	75.14	71	eP	P	19 39 48.0 +0.3
	comp=Z,36nm,0.8s					
V29A	Stinnett	75.15	335	⇑P	P	19 39 47.5 +0.1
	baz=75					
T33A	Patterson Ranc	75.19	338	⇑P	P	19 39 47.4 -0.1
	baz=76,SNR=11					
W26A	Owens Ranch, T	75.25	333	⇑P	P	19 39 48.1 +0.1
	baz=76,SNR=8.1					
V28A	Channing	75.29	335	⇑P	P	19 39 48.6 +0.4
	baz=76,SNR=8.2					
YLE	Yale	75.30	359	eP	P	19 39 48.7 +0.8
	comp=Z,77nm,1.0s					
X24A	Lazy VL Ranch,	75.42	332	⇑P	P	19 39 49.4 +0.3
	baz=76,SNR=16					
U30A	WK&E Inc. Balk	75.45	336	⇑P	P	19 39 49.4 +0.3
	baz=76,SNR=9.4					
T32A	Huddler Ranch,	75.49	338	⇓P	P	19 39 49.4 +0.1
	baz=76,SNR=7.2					
V27A	Dan Oppiter Fa	75.51	334	⇓P	P	19 39 49.7 +0.3
	baz=76,SNR=8.0					
Y22D	IRIS PASSCAL I	75.59	330	⇑P	P	19 39 50.6 +0.6
	baz=76					
U29A	Oasis Ranch, S	75.59	336	⇑P	P	19 39 49.9 0.0
	baz=76					
S33A	Kaszmaul Farm,	75.59	339	⇓P	P	19 39 49.7 -0.1
	baz=76					
KSPA	Keystone Colle	75.62	357	eP	P	19 39 50.3 +0.6
	comp=Z,54nm,1.6s					
W25A	X Bar L Ranch,	75.63	333	⇑P	P	19 39 50.4 +0.2
	baz=76,SNR=20					
T31A	Randall Ranch,	75.66	337	⇑P	P	19 39 50.4 +0.3
	baz=76,SNR=5.3					
SFIN	Lafayette	75.68	348	⇑P	P	19 39 50.4 +0.3
	baz=76,SNR=6.7					
SFIN	Lafayette	75.68	348	eP	P	19 39 49.1 -1.0
	comp=Z,21nm,0.8s					
LPM	Los Pinos Moun	75.68	331	eP	P	19 39 51.3 +0.8
LENM	Lemitar	75.69	331	eP	P	19 39 52.0 +1.4
X23A	Hourglass Bar	75.73	331	⇓P	P	19 39 51.8 +0.9
	baz=76					
TUC	Tucson	75.74	327	eP	P	19 39 51.5 +0.7
TUC				pmax	pmax	
	comp=Z,40nm,1.4s					
TUC				MLR	MLR	
	comp=Z,461nm,21.0s					
TUC	Tucson	75.74	327	eP	P	19 39 51.5 +0.7
	comp=Z,40nm,1.4s					
TUC				LR	LR	
	comp=Z,461nm,21.0s					
U28A	Mallet	75.85	335	⇓P	P	19 39 51.6 +0.2
	baz=76,SNR=6.1					
T30A	Plains	75.89	337	⇑P	P	19 39 51.7 +0.2
	baz=76					
V26A	Tequesquite Ra	75.89	334	⇓P	P	19 39 51.4 -0.2
	baz=76					
LAZ	Ladron	75.96	331	eP	P	19 39 52.9 +0.7
	comp=Z,20nm,1.3s					
S32A	Newby Ranch, P	75.98	338	⇓P	P	19 39 52.0 0.0
	baz=76					
W24A	Lazy 6 Ranch,	75.98	332	⇓P	P	19 39 52.3 0.0
	baz=76,SNR=15					
S31A	Mullinville	76.07	338	⇓P	P	19 39 52.4 -0.1
	baz=76,SNR=6.2					
U27A	Thompson Grove	76.10	335	⇑P	P	19 39 52.9 +0.1
	baz=76,SNR=14					
ANMO	Albuquerque	76.16	331	ceP	P	19 39 53.7 +0.4
ANMO				pmax	pmax	
	comp=Z,132nm,1.1s					
ANMO	Albuquerque	76.16	331	eP	P	19 39 53.2 -0.1
	comp=Z,32nm,1.1s					
ANMO				LR	LR	
	comp=Z,484nm,21.0s					
W23A	Werner Place,	76.23	332	⇓P	P	19 39 54.4 +0.7
	baz=76,SNR=13					
V25A	Rancho No Teng	76.23	333	⇑P	P	19 39 53.7 0.0
	baz=76,SNR=27					
T29A	Hugoton	76.24	336	⇑P	P	19 39 53.7 +0.2
	baz=76					
R33A	Olander Ranch,	76.25	339	⇓P	P	19 39 53.3 -0.2
	baz=77,SNR=6.1					
BINY	Binghamton	76.27	357	eP	P	19 39 53.7 +0.2
	comp=Z,25nm,1.1s					
BINY				LR	LR	
	comp=Z,338nm,19.0s					
V24A	Rampart Ranch,	76.38	333	⇑P	P	19 39 54.8 +0.2
	baz=77,SNR=12					
214A	Organ Pipe Nat	76.39	325	⇓P	P	19 39 55.8 +1.3
	baz=77,SNR=15					
214A	Organ Pipe Nat	76.39	325	eP	P	19 39 55.2 +0.8
	comp=Z,42nm,1.3s					
S30A	Montezuma	76.40	337	⇓P	P	19 39 54.6 +0.2
	baz=77,SNR=6.4					
U26A	Atchley Ranch,	76.41	334	⇑P	P	19 39 54.7 +0.1
	baz=77,SNR=6.1					
ERPA	Erie	76.46	354	eP	P	19 39 54.5 0.0
	comp=Z,39nm,0.9s					
T28A	Walsh	76.48	336	⇑P	P	19 39 54.7 -0.3
	baz=77,SNR=18					
HRV	Adam Dziewonsk	76.48	0	eP	P	19 39 55.9 +1.2
HRV				pmax	pmax	
	comp=Z,36nm,0.9s					
HRV	Adam Dziewonsk	76.48	0	eP	P	19 39 55.9 +1.2
	comp=Z,36nm,0.9s					
R32A	Long Quarter,	76.57	339	⇑P	P	19 39 55.3 -0.1
	baz=77,SNR=5.0					
KSU1	Kansas State U	76.59	340	⇑P	P	19 39 54.7 -0.7
	baz=77					
KSU1	Kansas State U	76.59	340	eP	P	19 39 55.2 -0.2
	comp=Z,27nm,0.8s					
S29A	Ulysses	76.60	336	⇑P	P	19 39 55.5 -0.1
	baz=77,SNR=8.8					
T27A	Campo	76.64	335	⇓P	P	19 39 56.2 +0.3
	baz=77,SNR=6.3					
U25A	Circle Dot Ran	76.66	333	⇑P	P	19 39 56.6 +0.6
	baz=77,SNR=6.7					
R31A	Burdett	76.70	338	⇑P	P	19 39 55.7 -0.3
	baz=77,SNR=7.5					
TRY	Troy	76.72	359	eP	P	19 39 57.1 +1.1
	comp=Z,50nm,0.9s					
V23A	Ortiz Mt. (NFS	76.75	332	⇓P	P	19 39 57.2 +0.6
	baz=77					
WIN	Windhoek	76.80	108	eP	P	19 39 58.1 +0.7
WIN				AMB	AMB	19 40 01.5
	comp=Z,8.2nm,1.8s					
WIN	Windhoek	76.80	108	P	P	19 39 58.1 +0.7
WIN				pmax	pmax	
	comp=Z,8.0nm,1.8s					
WIN	Windhoek	76.80	108	P	P	19 39 58.1 +0.7
	comp=Z,8.2nm,1.8s					
S28A	Manter	76.83	336	⇓P	P	19 39 56.9 0.0
	baz=77,SNR=25					
Q33A	Connelly Farm,	76.84	339	⇑P	P	19 39 56.7 -0.1
	baz=77,SNR=5.9					
MMNY	Mt. Morris Dam	76.91	355	eP	P	19 39 57.3 +0.3
	comp=Z,266nm,1.6s					
R30A	Dighton	76.93	337	⇓P	P	19 39 57.4 0.0
	baz=77					
UPI	Upington	76.94	115	eP	P	19 39 57.9 -0.1
UPI				AMB	AMB	19 40 03.6
	comp=Z,38nm,3.4s					
UPI	Upington	76.94	115	P	P	19 39 57.9 -0.1
	comp=Z,38nm,3.4s					
AAM	Ann Arbor	77.04	351	eP	P	19 39 57.1 -0.7
AAM				MLR	MLR	
	comp=Z,627nm,21.0s					
AAM	Ann Arbor	77.04	351	eP	P	19 39 57.0 -0.7
AAM				LR	LR	
	comp=Z,627nm,21.0s					
T26A	Comanche Natio	77.05	334	⇑P	P	19 39 58.4 +0.1
	baz=77,SNR=7.0					
Q32A	Meitler Ranch,	77.05	339	⇓P	P	19 39 57.8 -0.2
	baz=77,SNR=6.0					
V22A	San Miguel Ran	77.18	331	⇓P	P	19 40 00.3 +1.2
	baz=78,SNR=39					
P33A	Williams Farm,	77.21	340	⇓P	P	19 39 59.0 +0.1
	baz=78					
X18A	Snowflake	77.25	329	⇓P	P	19 40 00.3 +0.9
	baz=78,SNR=8.1					
S27A	Las Animas	77.26	335	⇓P	P	19 39 59.7 +0.3
	baz=78,SNR=6.0					
T25A	Trinidad	77.31	334	⇓P	P	19 40 00.3 +0.6
	baz=78,SNR=68					
Q31A	Ellis	77.32	338	⇑P	P	19 39 59.7 +0.2
	baz=78,SNR=11					
R29A	Marienthal	77.34	337	⇓P	P	19 40 00.1 +0.5
	baz=78,SNR=5.1					
ACCN	Adirondack Com	77.38	359	eP	P	19 40 00.5 +0.8
	comp=Z,48nm,1.3s					
S26A	Kim	77.41	335	⇑P	P	19 40 00.6 +0.4
	baz=78,SNR=18					
R28A	Tribune	77.48	336	⇓P	P	19 40 00.6 0.0
	baz=78,SNR=15					
113A	Mohawk Valley,	77.51	325	⇓P	P	19 40 01.5 +0.8
	baz=78,SNR=7.5					
Q30A	Quinter	77.55	338	⇑P	P	19 40 01.1 +0.3
	baz=78,SNR=14					
U22A	Llaves	77.57	332	⇓P	P	19 40 02.7 +1.5
	baz=78,SNR=7.5					
T24B	San Luis	77.60	333	⇓P	P	19 40 02.3 +0.8
	baz=78,SNR=5.9					
Z14A	Wintersburg	77.62	326	⇑P	P	19 40 02.1 +0.8
	baz=78					
P32A	Huiting Farm,	77.65	339	⇑P	P	19 40 01.1 -0.3
	baz=78,SNR=5.6					
W18A	Petrified Fore	77.66	329	⇓P	P	19 40 02.4 +0.7
	baz=78,SNR=9.0					
W18A	Petrified Fore	77.66	329	eP	P	19 40 03.0 +1.3
	comp=Z,71nm,1.3s					
HNH	Hanover	77.68	360	eP	P	19 40 02.8 +1.4
	comp=Z,26nm,0.8s					
Q29A	Oakley	77.71	337	⇑P	P	19 40 01.9 +0.1
	baz=78,SNR=7.1					
R27A	Eads	77.77	336	⇑P	P	19 40 02.1 0.0
	baz=78,SNR=14					
S25A	Robets Cordova	77.78	334	⇑P	P	19 40 03.0 +0.6
	baz=78,SNR=29					
P31A	Stockton	77.79	339	⇓P	P	19 40 02.2 +0.1
	baz=78,SNR=6.9					
T23A	Casias Ranch,	77.83	333	⇓P	P	19 40 03.4 +0.7
	baz=78,SNR=8.3					
NCB	Newcomb	77.98	358	eP	P	19 40 03.4 +0.3
	comp=Z,20nm,0.8s					
NCB				LR	LR	
	comp=Z,893nm,20.0s					
MDV	Middlebury	77.98	359	eP	P	19 40 03.6 +0.6
R26A	Arlington	78.00	335	⇑P	P	19 40 03.6 +0.1
	baz=78					
S24A	Houchin Ranch,	78.05	333	⇓P	P	19 40 04.7 +0.7
	baz=78,SNR=51					
P30A	Selden	78.07	338	⇓P	P	19 40 04.1 +0.4
	baz=78,SNR=7.0					
GRM	Grahamstown	78.10	122	eP	P	19 40 04.9 +0.6
GRM				AMB	AMB	19 40 19.5
	comp=Z,74nm,2.7s					
GRM	Grahamstown	78.10	122	P	P	19 40 04.9 +0.6
GRM				pmax	pmax	
	comp=Z,75nm,2.7s					
GRM	Grahamstown	78.10	122	P	P	19 40 04.9 +0.6
	comp=Z,74nm,2.7s					
Y14A	Wickenburg	78.12	326	⇑P	P	19 40 05.0 +0.9
	baz=78,SNR=9.3					
Q28A	Sharon Springs	78.14	337	⇓P	P	19 40 04.4 +0.2
	baz=78					
O32A	Brockman Farm,	78.14	340	⇓P	P	19 40 04.1 0.0
	baz=78,SNR=5.9					
R25A	Fountain Ranch	78.16	334	⇓P	P	19 40 04.2 -0.2
	baz=78					
LBNH	Lisbon	78.22	360	eP	P	19 40 05.2 +0.9
LBNH				e*PP	pP	19 40 13.0 -0.5
LBNH				pmax	pmax	
	comp=Z,41nm,0.9s					
LBNH	Lisbon	78.22	360	eP	P	19 40 05.2 +0.9
	comp=Z,41nm,0.9s					
LBNH				epP	pP	19 40 13.0 -0.5
GLA	Glamis	78.26	324	eP	P	19 40 06.4 +1.5
GLA				pmax	pmax	
	comp=Z,48nm,1.4s					
GLA	Glamis	78.26	324	⇓P	P	19 40 05.7 +0.8
	baz=78,SNR=5.5					
GLA	Glamis	78.26	324	eP	P	19 40 06.4 +1.5
	comp=Z,48nm,1.4s					
P29A	Atwood	78.34	337	⇓P	P	19 40 05.6 +0.4
	baz=79,SNR=11					
O31A	Woolen Ranch,	78.35	339	⇑P	P	19 40 05.3 +0.1
	baz=79					
KSCO	Kaye Shedlock'	78.36	336	⇑P	P	19 40 05.4 0.0
	baz=79					
SCIA	State Center	78.38	344	eP	P	19 40 05.0 -0.3
	comp=Z,100nm,1.3s					
S23A	Nye Farm, Mont	78.40	333	⇑P	P	19 40 06.8 +1.0
	baz=79					
WVL	Waterville	78.56	2	eP	P	19 40 07.5 +1.3
	comp=Z,50nm,1.0s					
P28A	Saint Francis	78.58	337	⇓P	P	19 40 07.0 +0.4
	baz=79,SNR=5.2					
O30A	MW Ranch, Wils	78.60	338	⇑P	P	19 40 07.4 +0.8
	baz=79					
PTN	Potsdam (NY)	78.60	358	eP	P	19 40 06.6 +0.2
PTN				pmax	pmax	
	comp=Z,46nm,1.0s					
PTN	Potsdam (NY)	78.60	358	eP	P	19 40 06.6 +0.2
	comp=Z,46nm,1.0s					
LONY	Lake Ozonia	78.63	358	eP	P	19 40 06.8 +0.2
	comp=Z,33nm,0.9s					
LONY				LR	LR	
	comp=Z,399nm,19.0s					
SWSC	Sam W. Stewart	78.64	323	⇑P	P	19 40 07.2 +0.2
	baz=79					
Y12C	Blythe	78.68	325	⇑P	P	19 40 08.6 +1.4
	baz=79,SNR=6.0					
WUAZ	Wupatki	78.71	328	⇓P	P	19 40 08.4 +0.9
	baz=79,SNR=18					
WUAZ	Wupatki	78.71	328	eP	P	19 40 08.6 +1.1
	comp=Z,47nm,1.1s					
JFWS	Jewell Farm	78.71	346	eP	P	19 40 07.0 -0.1
JFWS				pmax	pmax	
	comp=Z,49nm,0.9s					
JFWS	Jewell Farm	78.71	346	eP	P	19 40 07.0 -0.1
	comp=Z,49nm,0.9s					
S22A	4UR Ranch, Cre	78.75	332	⇓P	P	19 40 08.5 +0.7
	baz=79,SNR=15					
R23A	Moffat	78.76	333	⇑P	P	19 40 08.3 +0.5
	baz=79,SNR=20					
O29A	4D Ranch, Culb	78.78	338	⇑P	P	19 40 08.0 +0.4
	baz=79					
Q25A	Bedland, Calha	78.83	335	⇓P	P	19 40 08.3 +0.1
	baz=79					
HVD	Gariep Dam	78.86	119	eP	P	19 40 09.5 +0.8
HVD				AMB	AMB	19 40 16.5
	comp=Z,65nm,3.0s					
HVD	Gariep Dam	78.86	119	P	P	19 40 09.5 +0.8
HVD				pmax	pmax	
	comp=Z,65nm,3.0s					
HVD	Gariep Dam	78.86	119	P	P	19 40 09.5 +0.8
	comp=Z,65nm,3.0s					
N31A	Bailey Ranch,	78.86	339	⇑P	P	19 40 08.5 +0.5
	baz=79					
BAR	Barrett	78.86	323	eP	P	19 40 09.0 +0.7
	comp=Z,89nm,1.1s					
MONP	Monument Peak,	78.91	323	⇑P	P	19 40 09.1 +0.4
	baz=79					
MVCO	Mesa Verde	78.94	331	⇓P	P	19 40 09.4 +0.6
	baz=79,SNR=13					
MVCO	Mesa Verde	78.94	331	PFAKE		19 40 20.0 +11
MVCO				LR	LR	
	comp=Z,675nm,21.0s					
PDMCI	Parker Dam,Lak	78.95	325	⇑P	P	19 40 09.2 +0.6
	baz=79					
TSUM	Tsumeb	78.97	106	eP	P	19 40 10.2 +0.8
	comp=Z,18nm,1.1s					
TSUM				LR	LR	
	comp=Z,284nm,19.0s					
BC3	Big Chuckawall	79.05	324	⇑P	P	19 40 10.1 +0.7
	baz=79,SNR=16					
P26A	Davis Ranch, A	79.10	336	⇓P	P	19 40 10.1 +0.6
	baz=79,SNR=5.4					
BGNE	Belgrade	79.17	340	⇓P	P	19 40 09.6 -0.1
	baz=80,SNR=5.2					
BGNE	Belgrade	79.17	340	eP	P	19 40 10.1 +0.4
	comp=Z,95nm,1.0s					
Q24A	Divide	79.20	334	⇓P	P	19 40 10.6 +0.3
	baz=80,SNR=37					
109C	Camp Elliot, M	79.25	323	⇓P	P	19 40 11.1 +0.8
	baz=80					
PKME	Peaks-Kenny Pk	79.27	2	eP	P	19 40 11.1 +1.0
	comp=Z,20nm,0.8s					
PKME				LR	LR	
	comp=Z,447nm,19.0s					
IRM	Iron Mountain	79.31	325	⇑P	P	19 40 11.7 +1.1
	baz=80,SNR=14					
P25A	Willow Gulch B	79.34	335	⇑P	P	19 40 12.0 +1.2
	baz=80,SNR=11					
M31A	Lambtecht Ranc	79.35	340	⇓P	P	19 40 11.2 +0.5
	baz=80,SNR=9.0					
N29A	Votaw Ranch, W	79.36	338	⇑P	P	19 40 11.1 +0.3
	baz=80					
O27A	Beecher Island	79.37	337	⇑P	P	19 40 11.7 +0.8
	baz=80,SNR=7.6					
W13A	Hualapai Mount	79.49	326	⇑P	P	19 40 12.8 +0.9
	baz=80					
PFO	Pinyon Flats O	79.50	323	P	P	19 40 13.5 +1.7
	comp=Z,178nm,0.9s,SNR=6.4					
PFO	Pinyon Flats O	79.50	323	eP	P	19 40 13.2 +1.3
PFO				pmax	pmax	
	comp=Z,32nm,1.0s					
PFO	Pinyon Flats O	79.50	323	⇓P	P	19 40 13.0 +1.2
	baz=80,SNR=10					
PFO	Pinyon Flats O	79.50	323	eP	P	19 40 13.2 +1.3
	comp=Z,32nm,1.0s					
N28A	Pribbeno Ranch	79.52	337	⇓P	P	19 40 12.4 +0.7
	baz=80					
BELC	Belle Mtn. Jos	79.59	324	⇑P	P	19 40 13.3 +0.9
	baz=80					
P24A	Kohler Place,	79.60	335	⇓P	P	19 40 13.4 +1.1
	baz=80					
CASY	Casey	79.68	181	PFAKE		19 40 20.0 +7.7
CASY				LR	LR	
	comp=Z,809nm,21.0s					
O26A	Horse Wrangler	79.70	336	⇑P	P	19 40 13.5 +0.7
	baz=80,SNR=6.0					
PV01	Paradox Valley	79.77	331	eP	P	19 40 13.8 +0.5
	comp=Z,4μm,1.5s					
BOSA	Boshof	79.77	118	eP	P	19 40 13.4 -0.3
BOSA				AMB	AMB	19 40 23.7
	comp=Z,38nm,0.9s					
BOSA	Boshof	79.77	118	eP	P	19 40 13.4 -0.3
BOSA				pmax	pmax	
	comp=Z,42nm,0.9s					
BOSA	Boshof	79.77	118	P	P	19 40 14.5 +0.8
	comp=Z,17nm,0.7s,baz=244,slow=3.3,SNR=35					
BOSA	Boshof	79.77	118	eP	P	19 40 13.4 -0.3
	comp=Z,42nm,0.9s					
P23A	Jefferson	79.81	334	⇓P	P	19 40 14.3 +0.7
	baz=80					
O25A	Wiggins	79.86	335	⇑P	P	19 40 14.1 +0.5
	baz=80					
MURC	Murrieta	79.86	323	⇑P	P	19 40 14.7 +1.0
	baz=80,SNR=5.2					
U15A	North Rim	79.87	328	⇑P	P	19 40 15.1 +1.1
	baz=80,SNR=19					
OGNE	Ogallala	79.91	337	⇑P	P	19 40 14.3 +0.5
	baz=80					
OGNE	Ogallala	79.91	337	eP	P	19 40 14.5 +0.7
	comp=Z,60nm,1.1s					
OGNE				LR	LR	
	comp=Z,457nm,19.0s					
M29A	Burnside Ranch	79.95	338	⇓P	P	19 40 14.5 +0.5
	baz=80					
N27A	Anderson Farm,	79.95	337	⇓P	P	19 40 14.5 +0.4
	baz=80,SNR=5.5					
SMCO	Snowmass	80.06	333	eP	P	19 40 16.0 +0.9
	comp=Z,46nm,1.0s					
GMRC	Granite Mounta	80.06	325	⇑P	P	19 40 16.1 +1.2
	baz=80,SNR=23					
L31A	Butterfield Fa	80.07	340	⇓P	P	19 40 15.1 +0.5
	baz=80,SNR=9.4					
ISCO	Idaho Springs	80.10	334	eP	P	19 40 15.8 +0.6
ISCO				pmax	pmax	
	comp=Z,21nm,1.0s					
ISCO				MLR	MLR	
	comp=Z,434nm,22.0s					
ISCO	Idaho Springs	80.10	334	⇓P	P	19 40 15.6 +0.5
	baz=80,SNR=15					
ISCO	Idaho Springs	80.10	334	eP	P	19 40 15.8 +0.6
	comp=Z,21nm,1.0s					
ISCO				LR	LR	
	comp=Z,434nm,22.0s					
L30A	Spencer Herefo	80.12	339	⇑P	P	19 40 15.7 +0.8
	baz=80					
PV04	Paradox Valley	80.12	331	eP	P	19 40 14.9 -0.2
N26A	Koester Ranch,	80.19	336	⇑P	P	19 40 15.9 +0.5
	baz=80					
P22A	Eagle	80.34	333	⇓P	P	19 40 17.2 +0.8
	baz=81,SNR=9.1					
HEC	Hector,Ludlow	80.42	324

O23A Lake Granby, G 80.58 334 ⇑P P 19 40 18.4 +0.7
baz=81,SNR=26
BFSC Mount Baldy Ra 80.60 323 ⇓P P 19 40 18.8 +1.0
baz=81,SNR=8.3
SWZ Schweizer 80.62 116 eP P 19 40 16.9 -1.3
SWZ AMB AMB 19 40 17.6
comp=Z,48nm,3.4s
SWZ Schweizer 80.62 116 P P 19 40 16.9 -1.3
comp=Z,48nm,3.4s
TUQ Turquoise Moun 80.72 325 ⇑P P 19 40 19.6 +1.2
baz=81,SNR=15
M26A McRoberts Ranc 80.74 337 ⇓P P 19 40 19.0 +0.7
baz=81
K30A Basset 80.75 340 ⇑P P 19 40 18.5 +0.2
baz=81,SNR=8.8
O22A Kremmling 80.76 334 ⇓P P 19 40 19.2 +0.5
baz=81,SNR=30
MWC Mount Wilson 80.79 323 eP P 19 40 20.2 +1.4
MWC pmax pmax
comp=Z,38nm,1.1s
MWC Mount Wilson 80.79 323 eP P 19 40 20.2 +1.4
comp=Z,38nm,1.1s
ECSD EROS Data Cent 80.92 342 ⇑P P 19 40 18.8 -0.3
baz=81,SNR=82
M25A Palm-Egli Farm 81.02 336 ⇑P P 19 40 20.7 +0.8
baz=81
GSC Goldstone, Bar 81.03 324 eP P 19 40 21.2 +1.2
GSC pmax pmax
comp=Z,18nm,0.9s
GSC Goldstone, Bar 81.03 324 ⇓P P 19 40 21.0 +1.0
baz=81,SNR=9.4
GSC Goldstone, Bar 81.03 324 eP P 19 40 21.2 +1.2
comp=Z,18nm,0.9s
K29A Lazy Trails An 81.04 339 ⇓P P 19 40 20.6 +0.8
baz=81
N23A Red Feather La 81.19 335 ⇑P P 19 40 21.4 +0.5
baz=82,SNR=14
SHPR Sheep Range 81.23 326 eP P 19 40 22.2 +1.1
L26A Underwood Farm 81.23 337 ⇑P P 19 40 21.9 +0.9
baz=82
EDW2 Edwards Air Fo 81.28 323 ⇓P P 19 40 21.8 +0.5
baz=82,SNR=8.8
CCUT Cedar City 81.28 328 eP P 19 40 22.9 +1.5
comp=Z,39nm,1.1s
N22A Wattenberg Ran 81.29 334 ⇑P P 19 40 22.1 +0.6
baz=82,SNR=18
M24A Cheyenne 81.31 336 ⇓P P 19 40 22.1 +0.7
baz=82,SNR=6.5
K28A Ten Mile Ranch 81.31 338 ⇓P P 19 40 22.0 +0.8
baz=82
J30A Dallas 81.32 340 ⇑P P 19 40 20.9 -0.4
baz=82,SNR=6.9
O20A White River Ci 81.37 333 ⇓P P 19 40 21.9 +0.1
baz=82,SNR=7.8
O20A White River Ci 81.37 333 eP P 19 40 22.1 +0.3
RUDU RUNDU 81.37 106 eP P 19 40 23.2 +0.9
RUDU AMB AMB 19 40 32.1
comp=Z,44nm,1.1s
RUDU RUNDU 81.37 106 P P 19 40 23.2 +0.9
comp=Z,44nm,1.1s
PHWY Pilot Hill 81.38 335 eP P 19 40 22.7 +0.8
comp=Z,36nm,1.1s
SRU San Rafael Swe 81.39 331 eP P 19 40 22.2 +0.3
SRU pmax pmax
comp=Z,24nm,0.9s
SRU San Rafael Swe 81.39 331 eP P 19 40 22.2 +0.3
comp=Z,24nm,0.9s
BSC Santa Cruz Isl 81.41 322 ⇓P P 19 40 22.7 +0.8
baz=82
SPMN Marine on St. 81.45 345 ⇓P P 19 40 21.1 -0.7
baz=82,SNR=5.7
SPMN Marine on St. 81.45 345 eP P 19 40 21.3 -0.5
comp=Z,38nm,0.8s
ARUT Antelope Range 81.51 328 eP P 19 40 23.9 +1.3
ARUT pmax pmax
comp=Z,928nm,1.4s
ARUT Antelope Range 81.51 328 eP P 19 40 23.9 +1.3
comp=Z,928nm,1.4s
K27A Flueckinger Fa 81.57 338 ⇓P P 19 40 23.3 +0.6
baz=82,SNR=5.3
MVU Marysvale 81.58 329 eP P 19 40 23.8 +0.8
comp=Z,25nm,1.1s
LRMC Laurel Mtn Rad 81.61 324 ⇓P P 19 40 23.9 +0.8
baz=82,SNR=11
M23A Laramie 81.62 335 ⇓P P 19 40 23.5 +0.3
baz=82,SNR=13
L25A Engebretsen Ra 81.63 336 ⇓P P 19 40 23.6 +0.5
baz=82
J29A Okreek 81.63 339 ⇓P P 19 40 23.1 +0.2
baz=82,SNR=18
SEK Senekal 81.66 118 eP P 19 40 24.2 +0.3
SEK AMB AMB 19 40 34.8
comp=Z,38nm,1.2s
SEK Senekal 81.66 118 P P 19 40 24.2 +0.3
comp=Z,38nm,1.2s
TMUT Trail Mountain 81.83 330 eP P 19 40 25.3 +0.9
comp=Z,29nm,1.3s
I30A Oacoma 81.84 340 ⇓P P 19 40 23.6 -0.3
baz=82,SNR=11
L24A Wheatland 81.86 336 ⇓P P 19 40 24.7 +0.5
baz=82
M22A Cedar Creek Ra 81.87 334 ⇑P P 19 40 24.8 +0.3
baz=82,SNR=6.1
J28A Allard Ranch, 81.92 339 ⇑P P 19 40 24.7 +0.3
baz=82,SNR=18
N20A Spence Gulch, 81.98 333 ⇑P P 19 40 25.2 +0.1
baz=82,SNR=8.4
J27A Elkhorn Farm, 82.00 338 ⇓P P 19 40 25.8 +0.9
baz=82,SNR=14
FURC Furnace Creek, 82.00 325 ⇓P P 19 40 25.6 +0.7
baz=82
LBTB Lobatse 82.02 115 eP P 19 40 26.1 +0.5
LBTB AMB AMB 19 40 30.4
comp=Z,29nm,4.0s
LBTB Lobatse 82.02 115 eP P 19 40 26.0 +0.3
LBTB pmax pmax
comp=Z,82nm,1.6s
LBTB Lobatse 82.02 115 eP P 19 40 26.0 +0.3
comp=Z,82nm,1.6s
ISA Isabella, Lake 82.14 323 eP P 19 40 27.0 +1.2
ISA pmax pmax
comp=Z,21nm,0.9s
ISA Isabella, Lake 82.14 323 ⇓P P 19 40 26.9 +1.2
baz=82,SNR=15
ISA Isabella, Lake 82.14 323 eP P 19 40 27.0 +1.2
comp=Z,21nm,0.9s
L23A Garrett 82.18 335 ⇓P P 19 40 25.9 -0.1
baz=82,SNR=5.8
I29A Vivian Onida 82.19 340 ⇓P P 19 40 26.2 +0.4
baz=82
L22A Ellis Ranch, M 82.36 335 ⇑P P 19 40 27.7 +0.7
baz=83
J26A Sides Ranch, S 82.38 338 ⇓P P 19 40 27.5 +0.6
baz=83,SNR=20
I28A Midland 82.42 339 ⇓P P 19 40 27.3 +0.2
baz=83,SNR=21
VES Vestal, Richgr 82.58 323 ⇑P P 19 40 28.9 +0.9
baz=83,SNR=9.1
MPU Maple Canyon 82.61 330 eP P 19 40 29.2 +0.8
comp=Z,36nm,1.0s
SMMC Simmler 82.63 322 ⇑P P 19 40 29.3 +1.0
baz=83
GRAC Grapevine Rang 82.67 325 ⇑P P 19 40 29.6 +1.1
baz=83
J25A Sunshine Ranch 82.68 337 ⇑P P 19 40 28.8 +0.3
baz=83,SNR=6.4
H29A Onida 82.72 340 ⇑P P 19 40 28.2 -0.4
baz=83,SNR=12
K23A Bowen Ranch, D 82.72 336 ⇑P P 19 40 28.9 +0.1
baz=83,SNR=13
NLU North Lily Min 82.74 330 eP P 19 40 29.8 +0.8
comp=Z,50nm,1.5s
I27A Quinn 82.75 339 ⇓P P 19 40 28.9 +0.2
baz=83,SNR=7.6
DAU Daniels Canyon 82.79 331 eP P 19 40 30.0 +0.6
DAU Daniels Canyon 82.79 331 eP P 19 40 30.0 +0.6
G30A Faulkton 82.89 341 ⇓P P 19 40 29.1 -0.3
baz=83,SNR=12
J24A Dixon Ranch, L 82.91 337 ⇑P P 19 40 30.4 +0.7
baz=83,SNR=14
R11A Troy Canyon, C 82.93 327 ⇓P P 19 40 31.3 +1.2
baz=83,SNR=31
R11A Troy Canyon, C 82.93 327 eP P 19 40 30.8 +0.7
K22A Casper 82.94 335 ⇑P P 19 40 30.2 +0.3
baz=83,SNR=14
K22A Casper 82.94 335 eP P 19 40 30.3 +0.3
comp=Z,46nm,1.0s
I26A New Underwood 82.96 338 ⇓P P 19 40 30.5 +0.6
baz=83
H28A Mission Ridge 83.00 339 ⇓P P 19 40 30.0 0.0
baz=83,SNR=9.2
JLU Jordanelle 83.03 331 eP P 19 40 31.0 +0.4
comp=Z,19nm,0.9s
CRWM Crown Mines 83.13 117 eP P 19 40 31.7 +0.1
CRWM AMB AMB 19 40 32.7
comp=Z,19nm,1.1s
G29A Howen 83.16 340 ⇑P P 19 40 31.2 +0.4
baz=84
K21A Alcova 83.18 334 ⇑P P 19 40 31.2 0.0
baz=84,SNR=30
I25A Rochford 83.23 337 ⇓P P 19 40 31.8 +0.3
baz=84,SNR=26
CTU Camp Tracy 83.23 331 eP P 19 40 31.9 +0.4
comp=Z,9.8nm,0.8s
ERPM east rand prop 83.24 117 eP P 19 40 33.3 +1.2
ERPM AMB AMB 19 41 01.7
comp=Z,28nm,5.7s
ERPM east rand prop 83.24 117 P P 19 40 33.3 +1.2
comp=Z,28nm,5.7s
DUG Dugway, Tooele 83.25 330 eP P 19 40 32.1 +0.5
DUG pmax pmax
comp=Z,59nm,1.4s
DUG Dugway, Tooele 83.25 330 ⇑P P 19 40 32.2 +0.6
baz=84,SNR=24
DUG Dugway, Tooele 83.25 330 eP P 19 40 32.1 +0.5
comp=Z,59nm,1.4s
H27A Howes 83.27 339 ⇑P P 19 40 31.4 0.0
baz=84,SNR=6.1
G28A Parade 83.33 340 ⇓P P 19 40 31.7 0.0
baz=84,SNR=15
I24A Kuemmerle Ranc 83.37 337 ⇑P P 19 40 32.4 +0.3
baz=84,SNR=6.2
RSSD Black Hills 83.41 337 eP P 19 40 31.7 -0.7
RSSD pmax pmax
comp=Z,24nm,0.9s
RSSD Black Hills 83.41 337 eP P 19 40 31.6 -0.7
comp=Z,24nm,0.9s
TCUT Toone Canyon 83.45 331 eP P 19 40 33.4 +0.7
comp=Z,58nm,1.3s
TPH Tonopah 83.46 326 eP P 19 40 33.7 +0.9
TPH pmax pmax
comp=Z,30nm,1.0s
TPH Tonopah 83.46 326 eP P 19 40 33.6 +0.9
comp=Z,30nm,1.0s
RPZ Rata Peaks 83.48 221 eP P 19 40 33.9 +1.1
comp=Z,54nm,1.1s
MTUM Tungsten Hills 83.53 324 eP P 19 40 34.4 +1.3
J22A Midwest 83.60 335 ⇑P P 19 40 33.0 -0.3
baz=84,SNR=14
SLR Silverton 83.61 117 eP P 19 40 33.0 -1.0
SLR AMB AMB 19 40 43.0
comp=Z,39nm,4.7s
SLR Silverton 83.61 117 P P 19 40 33.0 -1.0
SLR pmax pmax
comp=Z,39nm,4.7s
SLR Silverton 83.61 117 P P 19 40 33.0 -1.0
comp=Z,39nm,4.7s
F29A Eureka 83.72 341 ⇓P P 19 40 33.2 -0.5
baz=84,SNR=14
EYMN Ely 83.79 347 eP P 19 40 33.6 -0.4
comp=Z,31nm,0.9s
J21A Lysite 83.88 335 ⇑P P 19 40 34.8 0.0
baz=84,SNR=7.3
MLAC Mammoth, Mammo 83.88 324 ⇑P P 19 40 35.8 +0.8
baz=84
G27A Dupree 83.90 339 ⇓P P 19 40 34.7 +0.1
baz=84
HWUT Hardware Ranch 83.93 331 eP P 19 40 35.1 +0.1
comp=Z,39nm,1.0s
BGU Big Grassy Mou 83.95 330 eP P 19 40 35.3 +0.1
comp=Z,31nm,1.8s
F28A McLaughlin 84.01 340 ⇓P P 19 40 34.9 -0.2
baz=84,SNR=12
I22A 9 Mile Ranch, 84.02 336 ⇓P P 19 40 35.0 -0.4
baz=84,SNR=15
G26A Maurine 84.03 339 ⇓P P 19 40 35.1 -0.2
baz=84,SNR=9.3
SPUT South Promonto 84.03 330 eP P 19 40 35.5 -0.1
comp=Z,55nm,1.3s
E30A Jud 84.09 342 ⇑P P 19 40 35.3 -0.3
baz=84,SNR=15
J20A Shoshoni 84.11 334 ⇑P P 19 40 36.4 +0.6
baz=84,SNR=31
H24A Dirks Ranch, A 84.14 337 ⇓P P 19 40 35.5 -0.4
baz=84,SNR=13
BW06 Boulder Array 84.14 333 eP P 19 40 36.0 -0.1
comp=Z,21nm,1.1s
BW06 LR LR
comp=Z,660nm,19.0s
PDAR Pinedale Array 84.14 333 P P 19 40 36.1 0.0
comp=Z,8.9nm,0.8s,baz=153,slow=5.0,SNR=46
PDAR LR LR 20 14 22.5
comp=Z,338nm,21.6s,baz=110,slow=33
TORD Torodi Ar. Bea 84.18 70 P P 19 40 37.0 +0.3
comp=Z,31nm,0.8s,baz=253,slow=4.2,SNR=132
TORD LR LR 20 17 08.2
comp=Z,674nm,18.6s,baz=275,slow=35
G25A Newell 84.18 338 ⇑P P 19 40 36.3 +0.2
baz=84,SNR=5.2
DRLN Deer Lake 84.21 9 eP P 19 40 36.6 +0.6
comp=Z,59nm,0.9s
I21A Big Trails, Te 84.23 335 ⇑P P 19 40 36.1 -0.4
baz=84,SNR=16
NVAR Mina Array Bea 84.26 325 P P 19 40 37.6 +0.7
comp=Z,9.1nm,0.8s,baz=153,slow=6.0,SNR=50
E29A Napoleon 84.35 341 ⇑P P 19 40 36.8 -0.1
baz=85,SNR=7.4
F27A Lemmon 84.38 339 ⇑P P 19 40 37.0 0.0
baz=85,SNR=17
J19A Crowheart 84.38 334 ⇑P P 19 40 37.2 -0.1
baz=85,SNR=24
F26A Lodgepole 84.55 339 ⇓P P 19 40 37.8 -0.2
baz=85,SNR=7.2
HVU Hansel Valley 84.56 331 eP P 19 40 38.2 -0.1
HVU pmax pmax
comp=Z,32nm,0.8s
HVU Hansel Valley 84.56 331 eP P 19 40 38.2 -0.1
comp=Z,32nm,0.8s
H22A Clearmont 84.59 336 ⇓P P 19 40 37.8 -0.5
baz=85,SNR=7.8
G24A Alzada 84.61 338 ⇑P P 19 40 38.2 -0.2
baz=85
D30A Buchanan 84.62 342 ⇑P P 19 40 38.3 +0.1
baz=85,SNR=19
E28A Huff 84.64 340 ⇑P P 19 40 38.2 -0.1
baz=85,SNR=9.2
I20A Worland 84.64 335 ⇑P P 19 40 38.5 0.0
baz=85,SNR=14
AHID Auburn Hatcher 84.73 332 eP P 19 40 38.8 -0.3
comp=Z,82nm,1.7s
ELK Elko 84.74 328 eP P 19 40 39.7 +0.4
ELK Elko 84.74 328 eP P 19 40 39.7 +0.4
E27A Carson 84.75 340 ⇑P P 19 40 38.8 -0.1
baz=85,SNR=7.7
D29A Pettibone, Tap 84.79 341 ⇑P P 19 40 38.6 -0.5
baz=85,SNR=15
G23A Biddle 84.81 337 ⇑P P 19 40 38.9 -0.4
baz=85,SNR=7.9
F25A Bowman 84.85 338 ⇓P P 19 40 39.5 0.0
baz=85,SNR=7.1
WAKR Walker 84.86 324 eP P 19 40 41.2 +1.3
H21A Big Horn, Sher 84.86 336 ⇑P P 19 40 39.0 -0.6
baz=85,SNR=7.0
CMB Columbia Colle 84.95 324 eP P 19 40 41.2 +1.0
CMB pmax pmax
comp=Z,12nm,1.0s
CMB Columbia Colle 84.95 324 eP P 19 40 41.1 +1.0
comp=Z,12nm,1.0s
I19A Meeteetse 85.03 334 ⇑P P 19 40 40.4 -0.2
baz=85,SNR=12
AGMN Agassiz Nation 85.03 344 ⇑P P 19 40 39.6 -0.6
baz=85,SNR=17
AGMN Agassiz Nation 85.03 344 eP P 19 40 39.8 -0.5
comp=Z,29nm,0.8s
AGMN LR LR
comp=Z,380nm,19.0s
E26A Carlson Angus 85.05 339 ⇓P P 19 40 40.4 -0.1
baz=85,SNR=6.9
H20A Greybull 85.07 335 ⇓P P 19 40 40.1 -0.5
baz=85,SNR=14
F24A Ekalaka 85.09 338 ⇓P P 19 40 40.5 -0.1
baz=85
C30A Mose, Pekin 85.10 342 ⇓P P 19 40 40.7 +0.1
baz=85,SNR=46
G22A Birney 85.12 336 ⇓P P 19 40 40.5 -0.5
baz=85
REDW Red Top Meadow 85.14 333 eP P 19 40 41.2 0.0
D28A Regan 85.17 341 ⇓P P 19 40 40.9 -0.1
baz=86,SNR=10
LOHW Long Hollow 85.26 333 eP P 19 40 41.6 -0.2
comp=Z,11nm,0.8s
F23A Volborg 85.28 337 ⇓P P 19 40 41.1 -0.5
baz=86,SNR=16
TPAW Teton Pass 85.29 333 eP P 19 40 42.1 +0.1
D27A Center 85.36 340 ⇓P P 19 40 42.0 0.0
baz=86
G21A Lodge Grass 85.44 336 ⇓P P 19 40 42.3 -0.2
baz=86,SNR=12
FXWY Fox Creek 85.44 333 eP P 19 40 42.7 -0.1
comp=Z,8.5nm,0.9s
I17A Pilgrim Ck. 85.51 333 ⇑P P 19 40 43.2 +0.2
baz=86,SNR=19
MDND Maddock 85.52 342 ⇓P P 19 40 42.6 0.0
baz=86,SNR=28
MDND Maddock 85.52 342 eP P 19 40 42.7 0.0
comp=Z,27nm,0.8s
D26A Manning 85.55 340 ⇓P P 19 40 43.3 +0.3
baz=86,SNR=12
H19A Powell 85.57 334 ⇑P P 19 40 43.2 -0.1
baz=86,SNR=19
C28A Hausauer Farms 85.61 341 ⇑P P 19 40 43.1 -0.1
baz=86
F22A Rosebud 85.61 337 ⇑P P 19 40 43.1 -0.1
baz=86,SNR=20
IMW Indian Meadow 85.63 333 eP P 19 40 43.9 +0.2
comp=Z,33nm,1.1s
E24A Baker 85.68 338 ⇑P P 19 40 43.6 0.0
baz=86,SNR=12
FLWY Flagg Ranch 85.70 333 eP P 19 40 44.4 +0.5
B30A Myrvik Farm, E 85.76 343 ⇑P P 19 40 43.6 -0.3
baz=86,SNR=64
G20A Bridger 85.78 335 ⇑P P 19 40 43.7 -0.5
baz=86,SNR=40
RAO Raoul Island 85.82 237 PFAKE 19 40 50.0 +5.1
RAO LR LR
comp=Z,885nm,20.0s
H18A Shoshone NF, C 85.82 334 ⇑P P 19 40 44.3 -0.3
baz=86,SNR=46
C27A Sayler Ranch, 85.91 340 ⇓P P 19 40 44.7 0.0
baz=86,SNR=10
D25A Fairfield 85.92 339 ⇑P P 19 40 45.1 +0.3
baz=86,SNR=9.2
F21A Absaloka Mine, 85.93 336 ⇓P P 19 40 44.6 -0.3
baz=86
E23A Ismay 85.94 338 ⇓P P 19 40 44.6 -0.2
baz=86
B29A Wagenman Farm, 86.03 342 ⇑P P 19 40 45.0 -0.2
baz=86,SNR=15
YFT Old Faithful 86.06 333 eP P 19 40 47.2 +1.4
comp=Z,19nm,0.9s
RLMT Red Lodge 86.07 334 eP P 19 40 45.3 -0.4
comp=Z,30nm,0.9s
E22A Miles City 86.09 337 ⇓P P 19 40 45.0 -0.6
baz=86,SNR=11
C26A Wahner Farm, P 86.17 340 ⇓P P 19 40 46.2 +0.2
baz=86,SNR=5.4
D24A Glendive 86.19 338 ⇓P P 19 40 46.2 +0.2
baz=86,SNR=17
A30A Hoffart Farm, 86.20 343 ⇓P P 19 40 45.7 -0.4
baz=86,SNR=25
F20A Billings 86.26 335 ⇓P P 19 40 46.2 -0.4
baz=86,SNR=6.3
B28A Dugan Ranch, T 86.27 341 ⇑P P 19 40 46.5 +0.1
baz=87,SNR=5.6
LAO LASA Array 86.40 337 eP P 19 40 46.9 -0.3
comp=Z,72nm,1.1s
C25A Freed Ranch, W 86.41 339 ⇓P P 19 40 47.3 +0.2
baz=87,SNR=5.2
A29A Manning Farm, 86.42 342 ⇑P P 19 40 46.8 -0.3
baz=87,SNR=20
B27A Peters Farms, 86.47 341 ⇓P P 19 40 47.6 +0.2
baz=87
OHCM Honcut 86.50 324 eP P 19 40 48.9 +1.1
D23A Lindsay 86.51 338 ⇓P P 19 40 47.9 +0.3
baz=87,SNR=37
E21A Keefer Ranch, 86.55 336 ⇑P P 19 40 47.6 -0.3
baz=87,SNR=14
C24A Savage 86.59 339 ⇓P P 19 40 48.5 +0.4
baz=87,SNR=21
QLMT Earthquake Lak 86.61 333 eP P 19 40 49.6 +1.2
A28A Rude Farm, Bot 86.67 342 ⇑P P 19 40 48.2 -0.2
baz=87,SNR=8.0
HLID Hailey 86.71 330 ⇓P P 19 40 49.7 +0.7
baz=87,SNR=31
HLID Hailey 86.71 330 eP P 19 40 49.5 +0.6
B26A Jensen Ranch, 86.71 340 ⇓P P 19 40 48.4 -0.3
baz=87
D22A Cohagen 86.80 337 ⇑P P 19 40 49.2 +0.1
baz=87,SNR=22
MSNA Messina 86.87 115 eP P 19 40 50.9 +0.7
MSNA AMB AMB 19 40 59.6
comp=Z,31nm,3.2s
MSNA Messina 86.87 115 P P 19 40 50.9 +0.7
comp=Z,31nm,3.2s
E20A Meyer Farm, Mu 86.87 336 ⇑P P 19 40 49.3 -0.2
baz=87,SNR=50
ULM Lac du Bonnet 86.87 345 eP P 19 40 48.6 -0.7
ULM pmax pmax
comp=Z,33nm,1.0s
ULM Lac du Bonnet 86.87 345 P P 19 40 48.9 -0.4
comp=Z,27nm,0.9s,baz=148,slow=3.9,SNR=28
ULM Lac du Bonnet 86.87 345 eP P 19 40 48.6 -0.7
comp=Z,33nm,1.0s
B25A Knox Farm, Ray 86.88 340 ⇑P P 19 40 49.9 +0.5
baz=87
A27A Ledoux Ranch, 86.97 341 ⇓P P 19 40 50.1 +0.3
baz=87,SNR=6.8
D21A La Casta Ranch 86.98 337 ⇓P P 19 40 49.9 -0.2
baz=87,SNR=18
E19A Rath Farm, Rou 87.06 335 ⇑P P 19 40 50.1 -0.3
baz=87,SNR=44
C23A Lambert 87.06 338 ⇑P P 19 40 50.8 +0.4
baz=87,SNR=42
A26A Wade Farm, Ken 87.13 341 ⇓P P 19 40 50.5 -0.1
baz=87,SNR=15
MCMT McKenzie Canyo 87.15 332 eP P 19 40 51.6 +0.5
comp=Z,25nm,1.1s
MFID Camas Ranch 87.18 330 eP P 19 40 51.4 +0.3
comp=Z,21nm,1.1s
C22A Vida 87.23 338 ⇓P P 19 40 51.1 -0.1
baz=88,SNR=14
D20A Manuel Ranch, 87.38 336 ⇑P P 19 40 51.4 -0.6
baz=88,SNR=35
A25A Svangstu Ranch 87.47 340 ⇓P P 19 40 52.5 +0.2
baz=88,SNR=7.9
DLMT Dillon 87.50 333 eP P 19 40 52.9 +0.3
comp=Z,51nm,1.4s
B23A Brockton 87.59 339 ⇑P P 19 40 52.2 -0.7
baz=88,SNR=18
WVOR Wild Horse Val 87.60 327 eP P 19 40 53.7 +0.5
WVOR pmax pmax
comp=Z,18nm,1.1s
WVOR Wild Horse Val 87.60 327 eP P 19 40 53.6 +0.5
comp=Z,18nm,1.1s
D19A Cripps Ranch, 87.70 336 ⇑P P 19 40 52.6 -0.8
baz=88,SNR=15
A24A Westby 87.71 339 ⇑P P 19 40 53.5 +0.1
baz=88,SNR=11
B22A Reddig Ranch S 87.76 338 ⇑P P 19 40 53.7 0.0
baz=88,SNR=22
LRM Limekiln Ridge 87.83 333 eP P 19 40 54.7 +0.3
C20A Veseth Ranch, 87.88 337 ⇓P P 19 40 53.8 -0.5
baz=88,SNR=12
MOD Modoc Plateau 87.94 326 eP P 19 40 55.6 +0.7
WDC Whiskeytown Da 87.98 324 eP P 19 40 54.4 -0.4
WDC pmax pmax
comp=Z,20nm,0.8s
WDC Whiskeytown Da 87.98 324 eP P 19 40 54.4 -0.4
comp=Z,20nm,0.8s
A23A Redstone 88.00 339 ⇑P P 19 40 54.6 -0.2
baz=88,SNR=5.3
B21A Ellsworth Farm 88.19 337 ⇓P P 19 40 55.2 -0.5
baz=88,SNR=8.7
C19A Slack Wire Ran 88.25 336 ⇓P P 19 40 55.9 -0.2
baz=88,SNR=12
A22A Carney Farms, 88.34 338 ⇓P P 19 40 56.0 -0.5
baz=89,SNR=28
HRY Holter Researc 88.35 334 eP P 19 40 57.4 +0.8
N02D Trinity Center 88.36 324 ⇓P P 19 40 56.7 -0.1
baz=89
B20A Solberg Farm, 88.52 337 ⇓P P 19 40 57.0 -0.3
baz=89,SNR=26
M04C Macdoel 88.56 325 ⇑P P 19 40 58.4 +0.6
baz=89,SNR=7.2

A21A	**Bergtoll Ranch**	88.66	338	⇓P		**P**	19 40 57.4	-0.5
	baz=89,SNR=16							
EGMT	**Eagleton**	88.74	336	⇑P		**P**	19 40 57.8	-0.6
	baz=89,SNR=9.1							
EGMT	**Eagleton**	88.74	336	*e*P		**P**	19 40 58.1	-0.3
	comp=Z,28nm,1.1s							
M02C	**Callahan**	88.75	324	⇓P		**P**	19 40 58.4	-0.2
	baz=89							
K05A	**Summer Lake**	88.86	326	*e*P		**P**	19 41 00.6	+1.4
	comp=Z,51nm,1.0s							
A20A	**Cobblestone Ra**	88.88	337	⇑P		**P**	19 40 58.6	-0.4
	baz=89,SNR=24							
SCHQ	**Schefferville**	88.92	3	P		**P**	19 40 58.5	-0.4
	comp=Z,9.4nm,1.0s,baz=128,slow=2.5,SNR=7.8							
SCHQ				LR	LR		20 24 43.9	
	comp=Z,166nm,18.9s,baz=178,slow=38							
CHMT	**Chamberlain Mo**	89.05	333	*e*P		**P**	19 41 00.5	+0.5
A19A	**Klindworth Far**	89.18	337	⇓P		**P**	19 41 00.1	-0.3
	baz=90,SNR=13							
MSO	**Missoula**	89.24	333	⇓P		**P**	19 41 00.7	-0.1
	baz=90							
MSO	**Missoula**	89.24	333	*e*P		**P**	19 41 01.5	+0.7
	comp=Z,85nm,2.3s							
I07A	**Izee**	89.29	328	*e*P		**P**	19 41 02.2	+1.1
	comp=Z,24nm,1.4s							
SLMT	**Seeley Lake**	89.41	333	*e*P		**P**	19 41 02.2	+0.5
J05D	**Fort Rock, OR**	89.45	326	⇑P		**P**	19 41 02.7	+0.7
	baz=90,SNR=5.1							
LSZ	**Lusaka**	89.55	108	PFAKE			19 41 10.0	+6.8
LSZ				LR	LR			
	comp=Z,255nm,19.0s							
SWMT	**Swartz Lake**	89.83	333	*e*P		**P**	19 41 03.8	+0.2
	comp=Z,4.5nm,1.0s							
F10A	**Beach Ranch, E**	89.84	330	*e*P		**P**	19 41 03.8	+0.2
	comp=Z,255nm,2.8s							
G08A	**Pilot Rock**	90.02	329	*e*P		**P**	19 41 05.3	+0.9
	comp=Z,13nm,1.1s							
JTMT	**Jette**	90.13	333	*e*P		**P**	19 41 05.4	+0.4
BSMT	**Bassoo Peak**	90.41	333	*e*P		**P**	19 41 06.5	+0.1
RTC	**Rabat Centre**	91.25	49	PFAKE			19 41 20.0	+10
RTC				LR	LR			
	comp=Z,451nm,20.0s							
D08A	**Wollman Farm,**	91.41	330	*e*P		**P**	19 41 11.4	+0.6
	comp=Z,15nm,1.0s							
NEW	**Newport**	91.65	332	*e*P		**P**	19 41 11.4	-0.5
NEW				pmax	pmax			
	comp=Z,20nm,1.4s							
NEW	**Newport**	91.65	332	⇑P		**P**	19 41 11.3	-0.5
	baz=92							
NEW	**Newport**	91.65	332	*e*P		**P**	19 41 11.4	-0.5
	comp=Z,20nm,1.4s							
C09A	**Chrisman Ranch**	91.73	331	*e*P		**P**	19 41 12.7	+0.4
	comp=Z,24nm,1.0s							
G03D	**McMinnville, O**	91.86	326	⇓P		**P**	19 41 11.3	-1.6
	baz=92							
TAM	**Tamanrasset**	92.83	64	*e*P		**P**	19 41 18.8	+0.6
TAM				pmax	pmax			
	comp=Z,17nm,1.4s							
TAM				MLR	MLR			
	comp=Z,573nm,19.0s							
TAM	**Tamanrasset**	92.83	64	*e*P		**P**	19 41 18.8	+0.6
	comp=Z,17nm,1.4s							
TAM				LR	LR			
	comp=Z,573nm,19.0s							
EDM	**Edmonton**	94.37	336	*e*P		**P**	19 41 22.5	-1.8
EDM	**Edmonton**	94.37	336	*e*P		**P**	19 41 22.5	-1.8
MTE	**Manteigas**	95.08	44	PFAKE			19 41 40.0	+12
MTE				LR	LR			
	comp=Z,885nm,21.0s							
PAB	**San Pablo**	96.39	46	PFAKE			19 41 40.0	+6.0
PAB				LR	LR			
	comp=Z,419nm,20.0s							
ESDC	**Sonseca Array**	96.70	46	P		**P**	19 41 35.6	+0.2
	comp=Z,1.4nm,0.7s,baz=244,slow=4.6,SNR=7.5							
ABPO	**Ambohimpanom**	101.45	122	PFAKE			19 42 10.0	+13
ABPO				LR	LR			
	comp=Z,274nm,19.0s							
YKA	**Yellowknife Ar**	102.44	341	P		**Pdif**	19 41 59.6	-0.7
YKA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
YKA	**Yellowknife Ar**	102.44	341	P		**Pdif**	19 41 59.6	-0.7
	comp=Z,1.7nm,0.7s,baz=141,slow=4.4,SNR=43							
VSL	**Villasalto**	104.96	52	PFAKE			19 46 40.0	
VSL				LR	LR			
	comp=Z,452nm,20.0s							
KMBO	**Kilima Mbogo**	105.06	102	PFAKE			19 46 40.0	
KMBO				LR	LR			
	comp=Z,269nm,19.0s							
SSB	**Saint Sauveur**	105.09	45	PFAKE			19 46 40.0	
SSB				LR	LR			
	comp=Z,582nm,20.0s							
BNI	**Bardonecchia**	106.23	46	PFAKE			19 46 40.0	
BNI				LR	LR			
	comp=Z,1µm,20.0s							
WDD	**Wield Dalam**	106.56	58	PFAKE			19 46 40.0	
WDD				LR	LR			
	comp=Z,2µm,19.0s							
VLC	**Villacollemand**	108.03	49	PFAKE			19 46 40.0	
VLC				LR	LR			
	comp=Z,319nm,21.0s							
ECH	**Echery**	108.18	44	PFAKE			19 46 40.0	
ECH				LR	LR			
	comp=Z,554nm,22.0s							
WLF	**Walferdange**	108.37	42	PFAKE			19 46 40.0	
WLF				LR	LR			
	comp=Z,791nm,20.0s							
TUE	**Stuetta**	108.57	46	PFAKE			19 46 40.0	
TUE				LR	LR			
	comp=Z,444nm,22.0s							
CEL	**Celeste**	108.70	56	PFAKE			19 46 40.0	
CEL				LR	LR			
	comp=Z,1µm,20.0s							
BFO	**Black Forest**	108.91	44	PFAKE			19 46 40.0	
BFO				LR	LR			
	comp=Z,511nm,22.0s							
AQU	**L'Aquila**	109.04	51	PFAKE			19 46 40.0	
AQU				LR	LR			
	comp=Z,475nm,20.0s							
CUC	**Castrocucco**	109.49	55	PFAKE			19 46 50.0	
CUC				LR	LR			
	comp=Z,510nm,20.0s							
TIP	**Timpagrande**	109.74	56	PFAKE			19 46 50.0	
TIP				LR	LR			
	comp=Z,597nm,20.0s							
TARA	**Tarawa**	111.45	256	PFAKE			19 46 50.0	
TARA				LR	LR			
	comp=Z,3µm,20.0s							
KHC	**Kasperske Hory**	112.34	45	AMS	AMS		20 38 10.0	
	comp=Z,400nm,18.5s							
CLL	**Collm**	112.99	43	*e*PKIKP		**PKiKP**	19 46 42.0	+0.4
CLL				*e*			19 47 35.0	
CLL				MLR	MLR			
	comp=Z,300nm,21.6s							
CLL	**Collm**	112.99	43	*e*Pdif		**Pdif**	19 42 45.0	-2.5
CLL				*e*PKiKP		**PKiKP**	19 46 42.0	+0.4
CLL				*e*PP		**PP**	19 47 35.0	+3.7
CLL				LmV			20 32 00.0	
	comp=Z,300nm,21.6s							
PRU	**Pruhonice**	113.29	45	AMS	AMS		20 34 10.0	
	comp=Z,400nm,16.0s							
PVCC	**Panska Ves**	113.54	44	AMS	AMS		20 35 00.0	
	comp=Z,400nm,17.2s							
HNR	**Honiara**	114.42	238	PFAKE			19 46 50.0	+4.5
HNR				LR	LR			
	comp=Z,73nm,19.0s							
ILAR	**Eielson Array**	114.57	333	PKIKP	PKPdf		19 46 43.7	-0.5
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ILAR	**Eielson Array**	114.57	333	PKP	PKPdf		19 46 43.7	-0.5
	comp=Z,0.8nm,0.9s,baz=192,slow=1.5,SNR=7.4							
SANT	**Santorini**	114.62	62	PFAKE			19 47 00.0	+15
SANT				LR	LR			
	comp=Z,373nm,19.0s							
CTAO	**Charters Tower**	114.85	220	PFAKE			19 47 00.0	+14
CTAO				LR	LR			
	comp=Z,447nm,22.0s							
KONO	**Kongsberg**	114.92	34	PFAKE			19 46 50.0	+5.0
KONO				LR	LR			
	comp=Z,584nm,22.0s							
VYHS	**Vyhne**	115.21	47	*e*PKIKP		**PKPdf**	19 46 46.1	+0.1
VYHS	**Vyhne**	115.21	47	*e*PKP		**PKPdf**	19 46 46.1	+0.1
PSZ	**Piszkesteto**	115.63	48	PFAKE			19 47 00.0	+13
PSZ				LR	LR			
	comp=Z,420nm,21.0s							
NB2	**NORSAR Subarra**	116.23	33	PKKP		**PKKPbc**	19 57 20.1	+1.7
	comp=Z,2.6nm,0.9s,baz=66,slow=4.4							
NOA	**NORSAR Array B**	116.23	33	PKKPbc	PKKPbc		19 57 20.1	+1.7
	comp=Z,1.4nm,0.8s,baz=67,slow=4.4,SNR=4.1							
STHS	**Stebnicka Huta**	117.03	47	*e*PKIKP		**PKPdf**	19 46 49.5	0.0
STHS	**Stebnicka Huta**	117.03	47	*e*PKP		**PKPdf**	19 46 49.5	0.0
MSEY	**Mahe Island**	117.04	117	PFAKE			19 47 00.0	+9.3
MSEY				LR	LR			
	comp=Z,249nm,20.0s							
ASAR	**Alice Springs**	117.33	207	PKIKP		**PKPdf**	19 46 49.6	-1.4
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	117.33	207	PKP		**PKPdf**	19 46 49.6	-1.4
	comp=Z,1.0nm,0.9s,baz=342,slow=32,SNR=4.1							
ASAR				PKKPbc		**PKKPbc**	19 57 14.0	+0.2
	comp=Z,0.9nm,0.7s,baz=339,slow=3.0,SNR=12							
KWP	**Kalwaria Pacla**	118.00	47	PFAKE			19 47 00.0	+8.7
KWP				LR	LR			
	comp=Z,664nm,19.0s							
ISP	**Isparta**	118.90	62	PFAKE			19 47 00.0	+6.4
ISP				LR	LR			
	comp=Z,338nm,19.0s							
SUW	**Suwalki**	119.75	43	*e*PKIKP		**PKPdf**	19 46 54.2	-0.3
SUW	**Suwalki**	119.75	43	*e*PKP		**PKPdf**	19 46 54.1	-0.4
CSS	**Prodhromos**	119.89	66	PFAKE			19 47 10.0	+15
CSS				LR	LR			
	comp=Z,68nm,22.0s							
WB2	**Warramunga Arr**	120.53	209	*e*P		**Pdif**	19 43 22.9	+0.9
WRA	**Warramunga Arr**	120.53	209	PKIKP		**PKPdf**	19 46 55.8	-1.5
WRA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
WRA	**Warramunga Arr**	120.53	209	PKP		**PKPdf**	19 46 55.8	-1.5
	comp=Z,1.6nm,0.6s,baz=162,slow=1.6,SNR=8.7							
WRAB	**Tennant Creek**	120.54	209	*e*P		**Pdif**	19 43 24.1	+2.0
WRAB				MLR	MLR			
	comp=Z,384nm,19.0s							
WRAB	**Tennant Creek**	120.54	209	*e*P		**Pdif**	19 43 24.1	+2.0
WRAB				LR	LR			
	comp=Z,384nm,19.0s							
ANTO	**Ankara**	121.30	61	PFAKE			19 47 10.0	+12
ANTO				LR	LR			
	comp=Z,316nm,20.0s							
BRTR	**Keskin Array B**	121.86	61	PKIKP		**PKPdf**	19 46 59.5	+0.2
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
BRTR	**Keskin Array B**	121.86	61	PKP		**PKPdf**	19 46 59.5	+0.2
	comp=Z,2.0nm,0.8s,baz=169,slow=3.4,SNR=8.0							
KBS	**Kingsbay**	122.26	13	PFAKE			19 47 10.0	+11
KBS				LR	LR			
	comp=Z,312nm,22.0s							
KIEV	**Kiev**	122.30	48	*e*PKIKP		**PKPdf**	19 46 57.6	-1.9
KIEV	**Kiev**	122.30	48	PFAKE			19 47 10.0	+11
KIEV				LR	LR			
	comp=Z,349nm,22.0s							
AKASG	**Malin Array Be**	122.31	48	PKIKP		**PKPdf**	19 46 58.4	-1.1
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	122.31	48	PKP		**PKPdf**	19 46 58.4	-1.1
	comp=Z,0.9nm,0.5s,baz=270,slow=2.4,SNR=6.5							
VSU	**Vasula**	122.87	38	*e*PKIKP		**PKPdf**	19 46 59.0	-1.3
PMG	**Port Moresby**	122.90	228	PFAKE			19 47 10.0	+8.1
PMG				LR	LR			
	comp=Z,461nm,21.0s							
FINES	**FINESS Array B**	123.19	35	PKIKP		**PKPdf**	19 47 01.8	+0.9
FINES				pmax	pmax			
	comp=Z,3.0nm,1.0s							
FINES	**FINESS Array B**	123.19	35	PKP		**PKPdf**	19 47 01.8	+0.9
	comp=Z,2.7nm,1.0s,baz=264,slow=11,SNR=3.5							
MBWA	**Marble Bar**	123.71	193	PFAKE			19 47 10.0	+6.7
MBWA				LR	LR			
	comp=Z,433nm,20.0s							
ARCES	**ARCESS Array B**	124.26	25	PKIKP		**PKPdf**	19 47 02.9	+0.1
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ARCES	**ARCESS Array B**	124.26	25	PKP		**PKPdf**	19 47 02.9	+0.1
	comp=Z,2.5nm,0.9s,baz=263,slow=1.8,SNR=4.6							
FITZ	**Fitzroy Crossi**	125.25	200	*e*PKPdf		**PKPdf**	19 47 05.6	-0.7
H11S2	**WAKE ISLAND Hyl**	125.92	269	T		T	22 05 57.5	
	baz=118,slow=75,SNR=68							
H11S1	**WAKE ISLAND Hyl**	125.93	269	T		T	22 06 22.4	
	baz=118,slow=75,SNR=67							
H11S3	**WAKE ISLAND Hyl**	125.94	269	T		T	22 06 17.3	
	baz=118,slow=75,SNR=55							
H11N3	**WAKE ISLAND Hyl**	126.34	270	T		T	22 05 57.8	
	baz=116,slow=78,SNR=42							
H11N1	**WAKE ISLAND Hyl**	126.36	270	T		T	22 05 57.5	
	baz=116,slow=78,SNR=82							
H11N2	**WAKE ISLAND Hyl**	126.36	270	T		T	22 05 56.1	
	baz=116,slow=78,SNR=32							
APA	**Apatity**	127.03	28	⇑*i*PKIKP		PKPdf	19 47 14.0	+5.9
APA				MLR	MLR			
	comp=Z,600nm,16.0s							
LVZ	**Lovozero**	127.50	27	PFAKE			19 47 20.0	+11
LVZ				LR	LR			
	comp=Z,420nm,20.0s							
OBN	**Obninsk**	127.58	43	*i*PKIKP		**PKPdf**	19 47 07.6	-1.8
OBN				*e*			19 49 08.3	
OBN				pmax	pmax			
	comp=Z,23nm,1.7s							
OBN				MLR	MLR			
	comp=Z,474nm,21.0s							
OBN	**Obninsk**	127.58	43	PFAKE			19 47 20.0	+11
OBN				LR	LR			
	comp=Z,536nm,19.0s							
KIV	**Kislovodsk**	129.54	58	*i*PKIKP		**PKPdf**	19 47 13.9	+0.2
KIV				pmax	pmax			
	comp=Z,13nm,1.0s							
KIV				MLR	MLR			
	comp=Z,165nm,20.0s							
KIV	**Kislovodsk**	129.54	58	PFAKE			19 47 20.0	+6.3
KIV				LR	LR			
	comp=Z,176nm,19.0s							
KLMR	**Klimovskoe**	129.59	36	*e*PKIKP		**PKPdf**	19 47 10.1	-3.0
KLMR				pmax	pmax			
	comp=Z,36nm,1.5s							
KBZ	**Khabaz**	129.64	59	PKIKP		**PKPdf**	19 47 14.8	+1.1
KBZ				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KBZ	**Khabaz**	129.64	59	PKP		**PKPdf**	19 47 14.8	+1.1
	comp=Z,2.6nm,0.9s,baz=119,slow=8.3,SNR=3.6							
GNI	**Garni**	130.13	64	PFAKE			19 47 20.0	+4.9
GNI				LR	LR			
	comp=Z,296nm,21.0s							
PRGR	**Permogore**	132.51	35	PKIKP		**PKPdf**	19 47 15.5	-3.1
BILL	**Bilibino**	133.21	334	PFAKE			19 47 30.0	+10
BILL				LR	LR			
	comp=Z,233nm,19.0s							
KAPI	**Kappang**	139.35	198	PFAKE			19 47 40.0	+7.1
KAPI				LR	LR			
	comp=Z,391nm,20.0s							
GEYT	**Alibeck**	139.82	70	PKhKP	PKPpre		19 47 27.3	
	comp=Z,1.5nm,0.8s,baz=142,slow=51,SNR=3.9							
GEYT				PKP		**PKPdf**	19 47 33.1	0.0
	comp=Z,1.2nm,0.6s,baz=275,slow=7.3,SNR=4.5							
ARU	**Arti**	139.90	41	*i*PKIKP		**PKPdf**	19 47 30.7	-1.8
ARU	**Arti**	139.90	41	PFAKE			19 47 40.0	+7.5
ARU				LR	LR			
	comp=Z,483nm,21.0s							
TIXI	**Tiksi**	141.06	350	*e*PKHKP	PKPpre		19 47 24.8	
TIXI				*i*			19 47 33.1	
TIXI	**Tiksi**	141.06	350	*e*PKPdf	PKPpre		19 47 25.7	
TIXI				LR	LR			
	comp=Z,204nm,21.0s							
ABKAR	**Akbulak array**	141.77	52	*e*PKPpre	PKPpre		19 47 29.9	
POO	**Poona**	145.68	108	⇑*i*P		**PKPdf**	19 47 40.0	-4.0
	comp=Z,5.0nm,1.2s							
KSM	**Kuching**	147.23	184	*e*PKPbc		**PKPbc**	19 47 48.2	-0.8
KSM				LR	LR			
	comp=Z,361nm,21.0s							
BRVK	**Borovoye**	147.35	43	*e*PKIKP		**PKPdf**	19 47 45.5	-0.2
BRVK	**Borovoye**	147.35	43	*e*PKPdf		**PKPdf**	19 47 46.3	+0.6
BRVK				*e*PKPbc		**PKPab**	19 47 49.2	-0.9
BRVK				LR	LR			
	comp=Z,329nm,21.0s							
PSI	**Prapat**	147.46	163	PKIKP		**PKPdf**	19 47 47.4	+0.1
PSI				pmax	pmax			
	comp=Z,13nm,0.7s							
PSI	**Prapat**	147.46	163	PKPbc		**PKPdf**	19 47 47.4	+0.1
	comp=Z,13nm,0.7s,baz=186,slow=6.1,SNR=9.3							
KBL	**Kabul**	147.88	78	*e*PKIKP		**PKPdf**	19 47 47.8	+0.3
KBL	**Kabul**	147.88	78	*e*PKPdf		**PKPdf**	19 47 47.8	+0.3
HYB	**Hyderabad**	148.64	115	*i*PKP		**PKPdf**	19 47 50.5	+1.5
YAK	**Yakutsk**	149.11	340	*e*PKIKP		**PKPdf**	19 47 50.2	+1.9
YAK				pmax	pmax			
	comp=Z,63nm,1.0s							
YAK				pmax	pmax			
	comp=E,12nm,1.1s							
YAK	**Yakutsk**	149.11	340	*e*PKPdf		**PKPdf**	19 47 47.5	-0.8
YAK				*e*PKPbc		**PKPbc**	19 47 52.0	-0.4
YAK				LR	LR			
	comp=Z,236nm,20.0s							
IPM	**Ipoh**	149.55	166	*e*PKPbc		**PKPbc**	19 47 53.7	-1.4
KKAR	**Karatay Array**	149.57	62	*e*PKP2		**PKPbc**	19 47 54.3	0.0
KKAR	**Karatay Array**	149.57	62	*e*PKPbc		**PKPbc**	19 47 54.3	0.0
KKM	**Kota Kinabalu**	150.86	197	PFAKE			19 48 00.0	+1.6
KKM				LR	LR			
	comp=Z,367nm,22.0s							
YSS	**Yuzh-Sakhalins**	151.12	306	⇓*e*PKIKP		**PKPbc**	19 47 56.8	-1.0
YSS				*e*			19 48 04.2	
YSS				pmax	pmax			
	comp=Z,30nm,0.9s							
YSS	**Yuzh-Sakhalins**	151.12	306	*e*PKPbc		**PKPbc**	19 47 57.3	-0.5
ERM	**Erimo**	151.59	296	PFAKE			19 48 00.0	+1.0
ERM				LR	LR			
	comp=Z,881nm,19.0s							
ASAJ	**Asahikawa**	151.77	301	PKIKP		**PKPbc**	19 47 59.3	-0.1
ASAJ				pmax	pmax			
	comp=Z,17nm,0.9s							
ASAJ	**Asahikawa**	151.77	301	PKPbc		**PKPbc**	19 47 59.3	-0.1
	comp=Z,17nm,0.9s,baz=270,slow=15,SNR=5.3							
AML	**Almayashu**	151.99	64	P		**PKPbc**	19 48 00.9	+0.4
	SNR=14							
EKS2	**Erkin-Say**	152.00	63	P		**PKPbc**	19 48 00.7	+0.6
	SNR=14							
EKS2	**Erkin-Say**	152.00	63	*e*PKIKP		**PKPbc**	19 48 00.8	+0.6
EKS2				MLR	MLR			
	comp=Z,249nm,19.0s							
EKS2	**Erkin-Say**	152.00	63	*e*PKPbc		**PKPbc**	19 48 00.8	+0.6
EKS2				LR	LR			
	comp=Z,249nm,19.0s							
USP	**Ospenovka**	152.46	61	P		**PKPbc**	19 48 01.6	+0.5
	SNR=9.6							
AAK	**Ala-Archa**	152.53	62	P		**PKPbc**	19 48 02.2	+0.7
	SNR=14							
AAK	**Ala-Archa**	152.53	62	*c i*PKIKP		**PKPdf**	19 47 55.9	+1.4
AAK				pmax	pmax			
	comp=Z,10.0nm,1.7s							
AAK	**Ala-Archa**	152.53	62	*e*PKPbc		**PKPbc**	19 48 01.6	+0.1
AAK				LR	LR			
	comp=Z,253nm,20.0s							
UCH	**Uchtor**	152.59	63	P		**PKPbc**	19 48 02.7	+0.8
	SNR=15							
FRU	**Bishkek**	152.60	62	*e*PKIKP		**PKPbc**	19 47 58.0	-3.4
FRU				pmax	pmax			
	comp=Z,80nm,2.0s							
CHMS	**Chumysh**	152.68	62	P		**PKPbc**	19 48 02.4	+0.8
	SNR=6.2							
KURK	**Kurchatov**	153.02	44	*e*PKIKP		**PKPbc**	19 48 02.3	+0.3
KURK				MLR	MLR			
	comp=Z,149nm,21.0s							
KURK	**Kurchatov**	153.02	44	*e*PKPbc		**PKPbc**	19 48 02.3	+0.3
KURK				LR	LR			
	comp=Z,149nm,21.0s							
KZA	**Kyzart**	153.15	64	P		**PKPbc**	19 48 03.9	+0.8
	SNR=5.8							
NVS	**Novosibirsk**	153.15	33	*e*PKIKP		**PKPdf**	19 47 54.5	-0.2
NVS				pmax	pmax			
	comp=Z,42nm,1.0s							
NVS				pmax	pmax			
	comp=E,8.0nm,1.2s							
TKM2	**Tokmak 2**	153.30	62	P		**PKPbc**	19 48 03.7	+0.5
	SNR=6.0							
TKM2	**Tokmak 2**	153.30	62	*e*PKIKP		**PKPdf**	19 47 55.9	+0.3
TKM2				*e*			19 48 03.4	
TKM2				MLR	MLR			
	comp=Z,290nm,20.0s							
TKM2	**Tokmak 2**	153.30	62	*e*PKPdf		**PKPdf**	19 47 55.9	+0.3
TKM2				*e*PKPbc		**PKiKP**	19 48 03.4	+0.1
TKM2				LR	LR			
	comp=Z,290nm,20.0s							
KSH	**Kashi**	153.85	69	PKPbc		**PKPdf**	19 47 56.7	+0.3
KSH				sPKP			19 48 06.5	
KSH				PKS		**PKSdf**	19 51 31.4	+0.6
KSH				PP		**PP**	19 51 51.4	-1.2
KSH				SKS		**SKSdf**	19 55 02.0	+0.7
KSH				SKKS		**SKKSac**	19 58 41.6	+1.3
KSH				SS		**SS**	20 11 26.4	-2.1
KSH				PPMZ				
	comp=Z,120nm,3.4s							
KSH				LN				
	comp=Z,90nm,7.2s							
KSH				LE				
	comp=Z,74nm,4.5s							
KSH				LZ				
	comp=Z,100nm,4.7s							
ULHL	**Ulahol**	153.86	63	P		**PKPbc**	19 48 05.0	+0.6
	SNR=7.0							
ZALV	**Zalesovo Beam**	154.43	33	PKIKP		**PKPdf**	19 47 55.8	-0.8
ZALV							19 48 04.2	
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ZALV				pmax	pmax			
	comp=Z,17nm,0.9s							
ZALV				pmax	pmax			
	comp=Z,20nm,0.8s							
ZALV	**Zalesovo Beam**	154.43	33	PKP		**PKPdf**	19 47 55.8	-0.8
	comp=Z,2.2nm,0.8s,baz=283,slow=2.6,SNR=12							
ZALV				PKPbc		**PKPbc**	19 48 04.2	-0.7
	comp=Z,17nm,0.9s,baz=318,slow=2.0,SNR=36							
ZALV				PKPab		**PKPab**	19 48 19.9	+0.5
	comp=Z,20nm,0.8s,baz=305,slow=5.2,SNR=16							
MAJO	**Matsushiro**	155.46	284	PFAKE			19 48 10.0	+11
MAJO				LR	LR			
	comp=Z,611nm,20.0s							
BOD	**Bodaibo**	156.19	352	*e*PKIKP		PKPdf	19 48 09.2	+10
BOD				pmax	pmax			
	comp=Z,28nm,1.2s							
MKAR	**Makanchi Array**	156.87	50	PKIKP		**PKPdf**	19 48 00.0	-0.2
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
MKA

comp=Z,12nm,1.1s
TLY Talaya 162.37 9 PFAKE 19 48 10.0 +3.8
TLY LR LR
comp=Z,311nm,21.0s
CHTO Chiang Mai 162.49 150 PFAKE 19 48 20.0 +13
CHTO LR LR
comp=Z,281nm,21.0s
HIA Hailar 162.80 334 PFAKE 19 48 20.0 +13
HIA LR LR
comp=Z,308nm,20.0s
ZAK Zakamensk 163.58 11⇑ *i*PKP2 **PKPab 19 48 59.9 +0.7**
ZAK *e* 19 52 40.5
ZAK pmax pmax
comp=Z,7.0nm,1.8s
CN2 Changchun 163.61 310 *e*PKP **PKPdf 19 48 07.0 -0.6**
CN2 *e*pPKP **pPKPdf 19 48 17.0 -0.3**
CN2 *e*PP **PP 19 52 47.6 +2.5**
CN2 *e*SS SS 20 13 09.6 -1.2
CN2 PPMZ
comp=Z,200nm,8.0s
CN2 LN
comp=Z,2μm,20.0s
CN2 LE
comp=Z,2μm,20.0s
CN2 LZ
comp=Z,3μm,22.0s
KSRS Korea Array 163.68 287 PKIKP **PKPdf 19 48 09.4 +1.5**
KSRS pmax pmax
comp=Z,3.0nm,1.0s
KSRS pmax pmax
comp=Z,3.0nm,1.0s
KSRS Korea Array 163.68 287 PKP **PKPdf 19 48 09.4 +1.5**
comp=Z,1.9nm,0.9s,baz=237,slow=27,SNR=3.6
KSRS PKPab **PKPab 19 49 01.4 +1.3**
comp=Z,2.7nm,1.0s,baz=114,slow=5.6,SNR=4.1
KSAR Wonju Array Be 163.71 287 PKIKP **PKPdf 19 48 09.4 +1.5**
KSAR Wonju Array Be 163.71 287 PKP **PKPdf 19 48 09.4 +1.5**
KSAR PKPab **PKPab 19 49 01.4 +1.1**
QIZ Qiongzhong 164.67 186 PFAKE 19 48 20.0 +11
QIZ LR LR
comp=Z,180nm,19.0s
INCN Inchon 164.70 287 PFAKE 19 48 20.0 +11
INCN LR LR
comp=Z,711nm,21.0s
LSA Lhasa 164.86 103 *e*PKIKP **PKPdf 19 48 10.4 +0.6**
LSA MLR MLR
comp=Z,462nm,21.0s
LSA Lhasa 164.86 103 *e*PKPdf **PKPdf 19 48 10.4 +0.6**
LSA LR LR
comp=Z,462nm,21.0s
YHNB Yeheng 164.99 234 PFAKE 19 48 20.0 +10
YHNB LR LR
comp=Z,420nm,19.0s
TATO Taipei 165.12 235 PFAKE 19 48 20.0 +10
TATO LR LR
comp=Z,505nm,22.0s
SONM Songino Array 166.46 5 PKIKP **PKPdf 19 48 09.6 -0.6**
SONM 19 49 12.4
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM Songino Array 166.46 5 PKP **PKPdf 19 48 09.6 -0.6**
comp=Z,0.5nm,0.8s,baz=47,slow=1.0,SNR=5.2
SONM PKPab **PKPab 19 49 12.4 +0.5**
comp=Z,4.6nm,0.9s,baz=342,slow=3.9,SNR=20
ULN Ulaanbaatar 166.47 3 PFAKE 19 48 20.0 +10
ULN LR LR
comp=Z,385nm,21.0s
KMI Kunming 169.68 152 PKP **PKPdf 19 48 13.5 +0.3**
NJ2 Nanjing 170.74 259 *e*PKP **PKPdf 19 48 12.4 -0.8**
BJT Baijiatuau 171.46 314 PFAKE 19 48 20.0 +6.6
BJT LR LR
comp=Z,354nm,20.0s
GTA Gaotai 171.63 50 *e*PKP **PKPdf 19 48 13.8 +0.1**
GTA pPKP **pPKPdf 19 48 24.5 +1.2**
GTA sPKP 19 48 28.3
GTA PKPab **PKPab 19 49 36.0 +0.7**
GTA PP **PP 19 53 29.1 +2.8**
GTA SKS **SKSdf 19 55 12.0 -3.0**
GTA SKKS **SKKSac 20 00 10.8 -0.2**
GTA SS **SS 20 14 29.9 -2.0**
GTA PPMZ
comp=Z,220nm,6.5s
GTA LN
comp=Z,260nm,21.4s
GTA LE
comp=Z,280nm,16.6s
GTA LZ
comp=Z,350nm,19.5s
GYA Guiyang 172.03 170 PKP **PKPdf 19 48 14.2 0.0**
GYA pPKP **pPKPdf 19 48 22.0 -1.9**
GYA PKPab **PKPab 19 49 38.6 +1.5**
GYA PKS **PKSdf 19 51 45.4 -1.4**
GYA PP **PP 19 53 31.8 +4.6**
GYA SKKS 20 00 14.5
GYA SS **SS 20 14 35.2 +1.3**
GYA PPMZ
comp=Z,160nm,8.8s
GYA LN
comp=Z,160nm,24.9s
GYA LE
comp=Z,140nm,23.4s
GYA LZ
comp=Z,170nm,24.6s
HHC Hu-ho-hao-te 172.97 338 *e*PKP **PKPdf 19 48 12.6 -1.6**
HHC pPKP **pPKPdf 19 48 21.4 -2.4**
HHC PP **PP 19 53 31.8 -0.2**
HHC SKS **SKSdf 19 55 10.4 -5.0**
HHC SKKS **SKKSac 20 00 18.6 +1.6**
HHC SS **SS 20 14 44.8 +1.4**
HHC PPMZ
comp=Z,260nm,9.7s
HHC LN
comp=Z,590nm,19.6s
HHC LE
comp=Z,480nm,20.1s
HHC LZ
comp=Z,500nm,19.4s
CD2 Chengdu 174.95 132 *e*PKP **PKPdf 19 48 15.6 +0.5**
ENH Enshi 175.78 196 PFAKE 19 48 20.0 +4.7
ENH LR LR
comp=Z,317nm,22.0s
LZH Lanzhou 176.07 63 *e*PKP **PKPdf 19 48 16.1 +0.7**
LZH pPKP **pPKPdf 19 48 23.0 -2.0**
LZH sPKP 19 48 26.7
LZH PP **PP 19 53 49.0 +0.7**
LZH SKKS 20 00 29.4
LZH SS **SS 20 15 14.0 -1.6**
LZH PPMZ
comp=Z,140nm,6.0s
LZH LN
comp=Z,240nm,16.5s
LZH LE
comp=Z,250nm,14.9s
LZH LZ
comp=Z,450nm,17.8s

GEN ***11*** *19:30:58.6, 46°.20N×12°.62E, h2km, ML3.0*
VIE ***11*** *19:30:58.5±0.2, 46°.20N×12°.53E, h10km±2km, mb2.6/14, ML3.5/16, Error ellipse: s-maj=1.8km s-min=0.8km az=3.0 22 km SE of Ospitale*
ROM ***11*** *19:30:59.4±0.1, 46°.24N×12°.53E, h4km±1km, Md3.3/23, Ml3.2/18, Error ellipse: s-maj=1.3km s-min=1.2km az=179.0*
CSEM ***11*** *19:30:59.7±0.1, 46°.21N×12°.51E, h8km, ML3.3/30, Error ellipse: s-maj=2.0km s-min=1.4km az=171.0*
LDG ***11*** *19:31:00.1±0.1, 46°.21N×12°.57E, h2km, Ml3.1/29, Error ellipse: s-maj=1.7km s-min=1.1km az=4.0*
ISCJB ***11*** *19:31:00.1±0.2, 46°.20N±0°.01×12°.52E±0°.01, h18km±2km, Error ellipse: s-maj=2.3km s-min=1.7km az=165.3*
PRU ***11*** *19:31:01.9, 46°.27N×12°.55E, h6km*
STR ***11*** *19:31:03.0±0.3, 46°.16N×12°.43E, h5km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
BGR ***11*** *19:31:03.0±0.3, 46°.29N×12°.54E, h10km, ML3.3/23, Error ellipse: s-maj=5.6km s-min=3.3km az=173.0*
BNS ***11*** *19:31:04.1±0.3, 46°.42N×12°.66E, h2km, ML3.1*
ISC 11 19:30:59.4±0.7,**46°.22N**±0°.01×**12°.523E**±0°.010,**h13**km±4km, **n294**,σ1$**20**/500,**40C-25D**,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLNI	**Malnisio**	**0.09**	**137⇓**	*e*Pg	**Pg**	**19 31 02.4**	**+0.1**
MLNI				*e*Sg	**Sg**	**19 31 04.5**	**+0.1**
MLNI	**Malnisio**	**0.09**	**137⇓**	*e*Pg	**Pg**	**19 31 02.4**	**+0.1**
MLNI				*e*Sg	**Sg**	**19 31 04.4**	**+0.1**
CIMO	**Cimolais**	**0.11**	**329⇓**	*i*Pg	**Pg**	**19 31 02.3**	**-0.3**
CIMO				*i* Sg	**Sg**	**19 31 04.3**	**-0.5**
CIMO	**Cimolais**	**0.11**	**329⇓**	*i*Pg	**Pg**	**19 31 02.3**	**-0.3**
CIMO				*i* Sg	**Sg**	**19 31 04.3**	**-0.5**
CSO	**Casso**	**0.15**	**293⇓**	*e*Pg	**Pg**	**19 31 02.8**	**-0.3**
CSO				*e*Sg	**Sg**	**19 31 05.2**	**-0.6**
CSO	**Casso**	**0.15**	**293⇓**	*e*Pg	**Pg**	**19 31 02.8**	**-0.3**
CSO				*e*Sg	**Sg**	**19 31 05.2**	**-0.6**
POLC	**Polcenigo**	**0.19**	**185**	Pg	**Pb**	**19 31 04.3**	**-0.5**
POLC				Sg	**Sb**	**19 31 07.9**	**-0.5**
POLC	**Polcenigo**	**0.19**	**185⇓**	*e*Pg	**Pg**	**19 31 04.1**	**+0.4**
POLC				*e*Sg	**Sb**	**19 31 08.2**	**-0.2**
CAE	**Caneva**	**0.22**	**196⇓**	*e*Pg	**Pg**	**19 31 04.2**	**0.0**
CAE				*e*Sg	**Sg**	**19 31 08.2**	**+0.8**
CAE	**Caneva**	**0.22**	**196⇓**	*e*Pg	**Pg**	**19 31 04.2**	**0.0**
CAE				*e*Sg	**Sg**	**19 31 08.2**	**+0.8**
CSMI	**Casera Mimoias**	**0.31**	**17⇑**	*e*Pg	**Pg**	**19 31 05.8**	**-0.1**
CSMI				*e*Sg	**Sg**	**19 31 10.8**	**+0.6**
CSMI	**Casera Mimoias**	**0.31**	**17⇑**	*e*Pg	**Pg**	**19 31 05.8**	**-0.1**
CSMI				*e*Sg	**Sg**	**19 31 10.8**	**+0.6**
MPRI	**Monte Prat**	**0.32**	**85⇓**	*e*Pg	**Pg**	**19 31 06.2**	**+0.2**
MPRI				*e*Sg	**Sb**	**19 31 12.1**	**-0.2**
MPRI	**Monte Prat**	**0.32**	**85⇓**	*e*Pg	**Pg**	**19 31 06.2**	**+0.2**
MPRI				*e*Sg	**Sb**	**19 31 12.1**	**-0.2**
AGOR	**Agordo**	**0.34**	**282**	*e*Pg	**Pg**	**19 31 05.8**	**-0.5**
AGOR	**Agordo**	**0.34**	**282**	Pg	**Pg**	**19 31 05.8**	**-0.5**
	829nm,0.2s						
AGOR	**Agordo**	**0.34**	**282**	Pg	**Pg**	**19 31 05.8**	**-0.5**
	829nm,0.2s						
VARN	**Col Varnada, M**	**0.37**	**233⇑**	*e*Pg	**Pg**	**19 31 06.0**	**-0.8**
VARN	**Col Varnada, M**	**0.37**	**233⇑**	*e*Pg	**Pg**	**19 31 06.0**	**-0.8**
FAU	**Forcella Aurin**	**0.38**	**272⇑**	*e*Pg	Pg	19 31 02.0	-5.1
FAU	**Forcella Aurin**	**0.38**	**272**	*e*Pg	Pg	19 31 02.0	-5.1
FUSE	**Fusea**	**0.39**	**59⇑**	*e*Pg	**Pg**	**19 31 07.3**	**+0.1**
FUSE				*e*Sg	**Sb**	**19 31 13.8**	**-0.3**
FUSE	**Fusea**	**0.39**	**59⇑**	*e*Pg	**Pg**	**19 31 07.3**	**+0.1**
FUSE				*e*Sg	**Sb**	**19 31 13.8**	**-0.3**
AFL	**Alpe Faloria**	**0.40**	**323⇑**	*e*Pg	**Pg**	**19 31 07.7**	**+0.3**
AFL	**Alpe Faloria**	**0.40**	**323⇑**	*e*Pg	**Pg**	**19 31 07.7**	**+0.3**
BOO	**Bordano**	**0.41**	**75**	*e*Pg	**Pg**	**19 31 07.6**	**-0.1**
BOO	**Bordano**	**0.41**	**75**	*e*Pg	**Pg**	**19 31 07.6**	**-0.1**
BUA	**Buia**	**0.42**	**89**	*e*Pg	**Pb**	**19 31 08.4**	**-0.3**
BUA				*e*Sg	**Sb**	**19 31 15.7**	**+0.8**
BUA	**Buia**	**0.42**	**89**	*e*Pg	**Pb**	**19 31 08.4**	**-0.3**
BUA				*e*Sg	**Sb**	**19 31 15.7**	**+0.8**
FVI	**Forni Avoltri**	**0.42**	**25**	Pg	**Pg**	**19 31 08.3**	**+0.4**
FVI				Sg	**Sb**	**19 31 14.4**	**-0.8**
	603nm,0.3s						
FVI	**Forni Avoltri**	**0.42**	**25**	Pg	**Pg**	**19 31 08.3**	**+0.4**
FVI				Sg	**Sb**	**19 31 14.4**	**-0.8**
	603nm,0.3s						
ZOU	**Zoufplan**	**0.46**	**42⇑**	*e*Pg	**Pg**	**19 31 08.7**	**+0.1**
ZOU				*e*Sg	**Sg**	**19 31 15.7**	**+0.8**
TLI	**Talmassons**	**0.50**	**126⇑**	*e*Pg	**Pg**	**19 31 09.6**	**+0.4**
TLI	**Talmassons**	**0.50**	**126⇑**	*e*Pg	**Pg**	**19 31 09.6**	**+0.4**
MTLO	**Montello**	**0.50**	**217⇑**	*e*Pg	**Pg**	**19 31 09.4**	**+0.2**
MTLO	**Montello**	**0.50**	**217⇑**	*e*Pg	**Pg**	**19 31 09.4**	**+0.2**
BAD	**Bernadia**	**0.50**	**87**	*e*Pg	**Pg**	**19 31 09.3**	**0.0**
BAD				*e*Sg	**Sb**	**19 31 17.5**	**+0.1**
BAD	**Bernadia**	**0.50**	**87**	*e*Pg	**Pg**	**19 31 09.3**	**0.0**
BAD				*e*Sg	**Sb**	**19 31 17.5**	**+0.1**
VINO	**Villanova**	**0.53**	**85⇑**	*e*Pg	**Pg**	**19 31 09.7**	**-0.1**
VINO				*e*Sg	**Sb**	**19 31 18.9**	**+0.7**
VINO	**Villanova**	**0.53**	**85**	Pg	**Pg**	**19 31 10.0**	**+0.2**
VINO				Sg	**Sb**	**19 31 18.6**	**+0.4**
	617nm,0.3s						
VINO	**Villanova**	**0.53**	**85**	Pg	**Pg**	**19 31 10.0**	**+0.2**
VINO				*e*Sg	**Sb**	**19 31 18.9**	**+0.7**
ABTA	**Abfaltersbach**	**0.53**	**359**	*e*Pg	**Pg**	**19 31 10.2**	**+0.2**
	SNR=106						
ABTA				⇓*i*Sg	**Sg**	**19 31 17.0**	**0.0**
	292nm,0.2s						
ABTA	**Abfaltersbach**	**0.53**	**359**	Pg	**Pg**	**19 31 10.2**	**+0.2**
	SNR=106						
ABTA				Sg	**Sg**	**19 31 17.0**	**0.0**
	292nm,0.2s						
PLRO	**Paularo**	**0.55**	**52⇑**	*e*Pg	**Pg**	**19 31 10.2**	**0.0**
PLRO				*e*Sg	**Sb**	**19 31 19.9**	**+1.0**
PLRO	**Paularo**	**0.55**	**52⇑**	*e*Pg	**Pg**	**19 31 10.2**	**0.0**
PLRO				*e*Sg	**Sb**	**19 31 19.9**	**+1.0**
COLI	**Coloredo**	**0.60**	**98**	*e*Pg	**Pg**	**19 31 11.4**	**+0.2**
COLI				*e*Sg	**Sb**	**19 31 21.2**	**+1.0**
COLI	**Coloredo**	**0.60**	**98**	*e*Pg	**Pg**	**19 31 11.4**	**+0.2**
COLI				*e*Sg	**Sb**	**19 31 21.2**	**+1.0**
CGRP	**Cima Grappa**	**0.60**	**237**	*e*Pg	**Pg**	**19 31 10.2**	**-1.1**
CGRP	**Cima Grappa**	**0.60**	**237**	Pg	**Pb**	**19 31 11.8**	**-0.2**
CGRP				Sg	**Sb**	**19 31 21.1**	**+0.6**
	588nm,0.6s						
CGRP	**Cima Grappa**	**0.60**	**237**	Pg	**Pb**	**19 31 11.8**	**-0.2**
CGRP				Sg	**Sb**	**19 31 21.1**	**+0.6**
	588nm,0.6s						
PTCC	**Patocco-Chiusa**	**0.61**	**71**	Pg	**Pg**	**19 31 10.8**	**-0.5**
	194nm,0.4s						
PTCC	**Patocco-Chiusa**	**0.61**	**71**	Pg	**Pg**	**19 31 10.8**	**-0.5**
	194nm,0.4s						
ROBS	**Robic**	**0.69**	**87**	*i* Pg	**Pg**	**19 31 12.6**	**-0.2**
ROBS	**Robic**	**0.69**	**87**	*i* Pg	**Pg**	**19 31 12.6**	**-0.2**
LSR	**Lussari**	**0.74**	**69⇓**	*e*Pg	**Pg**	**19 31 13.6**	**-0.3**
LSR				*e*Sg	**Sb**	**19 31 25.8**	**+1.2**
LSR	**Lussari**	**0.74**	**69⇓**	*e*Pg	**Pg**	**19 31 13.6**	**-0.3**
LSR				*e*Sg	**Sb**	**19 31 25.8**	**+1.2**
ACOM	**Acomizza, Ital**	**0.76**	**64**	*e*Pg	**Pg**	**19 31 14.0**	**-0.3**
ACOM	**Acomizza, Ital**	**0.76**	**64**	Pg	**Pg**	**19 31 14.3**	**0.0**
	479nm,0.4s						
ACOM	**Acomizza, Ital**	**0.76**	**64**	Pg	**Pg**	**19 31 14.3**	**0.0**
	479nm,0.4s						
DRE	**Drenchia**	**0.78**	**93⇑**	*e*Pg	**Pg**	**19 31 14.3**	**-0.2**
DRE				*e*Sg	**Sn**	**19 31 27.6**	**-0.2**
DRE	**Drenchia**	**0.78**	**93⇑**	*e*Pg	**Pg**	**19 31 14.3**	**-0.2**
DRE				*e*Sg	**Sn**	**19 31 27.6**	**-0.2**
SABO	**M.te Sabotino**	**0.79**	**107**	*e*Pg	**Pn**	**19 31 16.0**	**-0.3**
SABO	**M.te Sabotino**	**0.79**	**107**	*e*Pg	**Pn**	**19 31 16.0**	**-0.3**
RISI	**Rein**	**0.80**	**337**	Pg	**Pb**	**19 31 15.4**	**+0.1**
RISI				Sg	**Sg**	**19 31 25.7**	**+0.4**
RISI	**Rein**	**0.80**	**337⇓**	*e*Pg	**Pb**	**19 31 15.4**	**+0.1**
RISI				*e*Sg	**Sb**	**19 31 26.8**	**+0.7**
KOSI	**Kohlern**	**0.83**	**288**	Pg	**Pb**	**19 31 15.7**	**-0.2**
KOSI				Sg	**Sb**	**19 31 27.2**	**+0.2**
	686nm,0.5s						
KOSI	**Kohlern**	**0.83**	**288**	*e*Pg	**Pb**	**19 31 15.7**	**-0.2**
KOSI				*e*Sg	**Sb**	**19 31 27.3**	**+0.2**
CADS	**Cadrg**	**0.84**	**89**	*e*Pg	**Pg**	**19 31 15.4**	**-0.4**
CADS	**Cadrg**	**0.84**	**89**	*e*Pg	**Pg**	**19 31 15.4**	**-0.4**
PANI	**Panarotta**	**0.86**	**259⇑**	*e*Pg	**Pg**	**19 31 16.1**	**0.0**
PANI				*e*Sg	**Sb**	**19 31 28.6**	**+0.7**
PANI	**Panarotta**	**0.86**	**259⇑**	*e*Pg	**Pg**	**19 31 16.1**	**0.0**
PANI				*e*Sg	**Sb**	**19 31 28.6**	**+0.7**
MYKA	**Terra Mystica**	**0.88**	**61⇑**	*e*Pg	**Pg**	**19 31 16.1**	**-0.3**
	SNR=25						
MYKA				⇑*i*Sg	**Sg**	**19 31 28.0**	**+0.1**
	65nm,0.3s						
MYKA	**Terra Mystica**	**0.88**	**61**	Pg	**Pg**	**19 31 16.1**	**-0.3**
	SNR=25						
MYKA				Sg	**Sg**	**19 31 28.0**	**+0.1**
	65nm,0.3s						
APPI	**Appiano**	**0.94**	**287**	Pg	**Pg**	**19 31 17.6**	**+0.1**
APPI				Sg	**Sn**	**19 31 31.0**	**-0.8**
APPI	**Appiano**	**0.94**	**287**	Pg	**Pg**	**19 31 17.6**	**+0.1**
APPI				Sg	**Sn**	**19 31 31.0**	**-0.8**
ABSI	**Aberstueckl**	**0.98**	**302**	Pg	**Pg**	**19 31 18.5**	**+0.2**
ABSI				Sg	**Sg**	**19 31 31.9**	**+0.8**
	626nm,0.4s						
ABSI	**Aberstueckl**	**0.98**	**302⇑**	*e*Pg	**Pg**	**19 31 18.5**	**+0.2**
ABSI				Sg	**Sg**	**19 31 31.9**	**+0.8**
	626nm,0.4s						
DDS	**Dosso del Somm**	**0.99**	**251**	*e*Pg	**Pg**	**19 31 18.6**	**+0.1**
DDS				*e*Sg	**Sg**	**19 31 32.2**	**+0.8**
DDS	**Dosso del Somm**	**0.99**	**251**	*e*Pg	**Pg**	**19 31 18.6**	**+0.1**
DDS				*e*Sg	**Sg**	**19 31 32.2**	**+0.8**
TRI	**Trieste**	**1.00**	**120**	*e*Pg	**Pn**	**19 31 19.5**	**+0.2**
TRI				*e*Sg	**Sn**	**19 31 33.9**	**+0.7**
TRI	**Trieste**	**1.00**	**120**	Pg	**Pn**	**19 31 19.5**	**+0.2**
TRI				Sg	**Sn**	**19 31 33.5**	**+0.2**
	461nm,0.3s						
TRI	**Trieste**	**1.00**	**120**	*e*Pg	**Pn**	**19 31 19.5**	**+0.2**
TRI				Sg	**Sn**	**19 31 33.5**	**+0.2**
	461nm,0.3s						
GORS	**Gorjuse**	**1.03**	**84**	*i* Pg	**Pb**	**19 31 18.8**	**-0.4**
GORS	**Gorjuse**	**1.03**	**84**	*i* Pg	**Pb**	**19 31 18.8**	**-0.4**
KBA	**Koelnbreinsper**	**1.03**	**33**	*e*Pg	**Pn**	**19 31 20.1**	**+0.3**
KBA				*e*Sg	**Sn**	**19 31 33.8**	**-0.5**
KBA	**Koelnbreinsper**	**1.03**	**33⇑**	*e*Pg	**Pb**	**19 31 19.1**	**-0.2**
	SNR=26						
KBA				⇑*i*Sg	**Sn**	**19 31 33.7**	**-0.6**
	60nm,0.3s						
KBA	**Koelnbreinsper**	**1.03**	**33**	Pg	**Pn**	**19 31 20.1**	**+0.3**
KBA				Sg	**Sn**	**19 31 33.7**	**-0.6**
	60nm,0.3s						
TEOL	**Teolo**	**1.04**	**215⇑**	*e*Pg	**Pn**	**19 31 20.3**	**+0.5**
TEOL				*e*Sg	**Sn**	**19 31 35.7**	**+1.4**
TEOL	**Teolo**	**1.04**	**215**	Pg	**Pn**	**19 31 20.3**	**+0.5**
TEOL				Sg	**Sn**	**19 31 35.6**	**+1.4**
	2μm,0.7s						
TEOL	**Teolo**	**1.04**	**215⇑**	*e*Pg	**Pn**	**19 31 20.3**	**+0.5**
TEOL				Sg	**Sn**	**19 31 35.6**	**+1.4**
	2μm,0.7s						
ROSI	**Rosskopf**	**1.05**	**313**	Pg	**Pn**	**19 31 20.1**	**0.0**
	435nm,0.6s						
ROSI	**Rosskopf**	**1.05**	**313⇓**	*e*Pg	**Pn**	**19 31 20.0**	**0.0**
ROSI				*e*Sg	**Sn**	**19 31 37.2**	**+2.5**
MARN	**Marana (Italy)**	**1.08**	**238⇑**	*e*Pg	**Pg**	**19 31 20.9**	**+0.6**
MARN				*e*Sg	**Sn**	**19 31 36.4**	**+1.1**
MARN	**Marana (Italy)**	**1.08**	**238⇑**	*e*Pg	**Pg**	**19 31 20.9**	**+0.6**
MARN				*e*Sg	**Sn**	**19 31 36.4**	**+1.1**
ROVR	**Rover~¤ Verone**	**1.16**	**241**	Pg	**Pg**	**19 31 21.9**	**+0.1**
ROVR				Sg	**Sn**	**19 31 38.0**	**+0.6**
	657nm,0.3s						
ROVR	**Rover~¤ Verone**	**1.16**	**241**	Pg	**Pg**	**19 31 21.9**	**+0.1**
ROVR				Sg	**Sn**	**19 31 38.0**	**+0.6**
	657nm,0.3s						
WTTA	**Wattenberg**	**1.21**	**330**	*e*Pg	**Pg**	**19 31 23.5**	**+0.6**
WTTA				*e*Sg	**Sg**	**19 31 40.0**	**+1.4**
WTTA	**Wattenberg**	**1.21**	**330⇓**	*e*Pg	**Pb**	**19 31 22.6**	**+0.2**
	SNR=107						
WTTA				⇑*i*Sg	**Sg**	**19 31 39.6**	**+0.9**
	386nm,0.5s						
WTTA	**Wattenberg**	**1.21**	**330**	Pg	**Pg**	**19 31 23.2**	**+0.4**
WTTA				Sg	**Sg**	**19 31 39.5**	**+0.9**
	350nm,0.5s						
WTTA	**Wattenberg**	**1.21**	**330**	Pg	**Pb**	**19 31 22.6**	**+0.2**
	SNR=107						
WTTA				Sg	**Sg**	**19 31 39.5**	**+0.9**
	350nm,0.5s						
WATA	**Walderalm**	**1.30**	**330⇑**	*e*Pg	**Pg**	**19 31 24.2**	**-0.2**
	SNR=68						
WATA	**Walderalm**	**1.30**	**330**	Pg	**Pg**	**19 31 24.2**	**-0.2**
	SNR=68						
BALD	**Monte Baldo**	**1.30**	**247**	*e*Pg	**Pg**	**19 31 24.6**	**+0.1**
BALD	**Monte Baldo**	**1.30**	**247**	*e*Pg	**Pg**	**19 31 24.6**	**+0.1**
RNI	**Roncone**	**1.33**	**261⇓**	*e*Pg	**Pg**	**19 31 25.6**	**+0.6**
RNI				*e*Sg	**Sg**	**19 31 44.6**	**+2.3**
RNI	**Roncone**	**1.33**	**261⇓**	*e*Pg	**Pg**	**19 31 25.6**	**+0.6**
RNI				*e*Sg	**Sg**	**19 31 44.6**	**+2.3**
MAGA	**Magasa**	**1.39**	**252**	Pg	**Pg**	**19 31 26.0**	**-0.2**
MAGA				Sg	**Sg**	**19 31 45.4**	**+1.1**
	2μm,0.4s						
MAGA	**Magasa**	**1.39**	**252**	Pg	**Pg**	**19 31 26.0**	**-0.2**
MAGA				Sg	**Sg**	**19 31 45.4**	**+1.1**
	2μm,0.4s						
LJU	**Ljubljana**	**1.40**	**96⇓**	*e*Pg	**Pg**	**19 31 26.5**	**+0.1**
LJU				*e*Sg	**Sg**	**19 31 46.5**	**+1.8**
MABI	**Malga Bissina**	**1.41**	**264**	Pg	**Pg**	**19 31 26.5**	**0.0**
	212nm,0.4s						
MABI	**Malga Bissina**	**1.41**	**264**	Pg	**Pg**	**19 31 26.5**	**0.0**
	212nm,0.4s						
MOSI	**Grossmontoni**	**1.42**	**287**	Pg	**Pg**	**19 31 26.6**	**-0.2**
	2μm,0.5s						
MOSI	**Grossmontoni**	**1.42**	**287**	Pg	**Pg**	**19 31 26.6**	**-0.2**
	2μm,0.5s						
OBKA	**Obir**	**1.43**	**77**	*e*Pg	**Pg**	**19 31 27.2**	**+0.2**
OBKA				*e*Sg	**Sg**	**19 31 47.1**	**+1.5**
OBKA	**Obir**	**1.43**	**77⇑**	*e*Pg	**Pn**	**19 31 25.6**	**+0.3**
	SNR=33						
OBKA				⇑*i*Sg	**Sg**	**19 31 46.3**	**+0.7**
	101nm,0.3s						
OBKA	**Obir**	**1.43**	**77**	Pg	**Pg**	**19 31 27.2**	**+0.2**
OBKA				Sg	**Sg**	**19 31 46.3**	**+0.7**
	101nm,0.3s						
FETA	**Feichten**	**1.48**	**304⇓**	*e*Pg	**Pg**	**19 31 27.6**	**-0.2**
	SNR=130						
FETA				⇓*i*Sg	**Sg**	**19 31 47.4**	**+0.4**
	73nm,0.4s						
FETA	**Feichten**	**1.48**	**304**	Pg	**Pg**	**19 31 27.6**	**-0.2**
	SNR=130						
FETA				Sg	**Sg**	**19 31 47.4**	**+0.4**
	73nm,0.4s						
MOTA	**Moosalm**	**1.49**	**320⇓**	*e*Pg	**Pg**	**19 31 28.0**	**-0.1**
	SNR=90						
MOTA				⇑*i*Sg	**Sg**	**19 31 48.6**	**+1.1**
	195nm,0.5s						
MOTA	**Moosalm**	**1.49**	**320**	Pg	**Pg**	**19 31 28.0**	**-0.1**
	SNR=90						
MOTA				Sg	**Sg**	**19 31 48.6**	**+1.1**
	195nm,0.5s						
SALO	**Salr**	**1.52**	**248**	Pg	**Pg**	**19 31 28.5**	**-0.1**
	250nm,0.5s						
SALO	**Salr**	**1.52**	**248**	Pg	**Pg**	**19 31 28.5**	**-0.1**
	250nm,0.5s						
FUORN	**Ofenpass-Fuorn**	**1.61**	**285**	Pg	**Pb**	**19 31 29.5**	**+0.2**
FUORN				Sg	**Sg**	**19 31 51.4**	**0.0**
FUORN	**Ofenpass-Fuorn**	**1.61**	**285**	Pg	**Pb**	**19 31 29.5**	**+0.2**
FUORN				Sg	**Sg**	**19 31 51.4**	**0.0**
BERNI	**Berninapass**	**1.75**	**277**	Pg	**Pb**	**19 31 32.0**	**+0.5**
BERNI	**Berninapass**	**1.75**	**277**	Pg	**Pb**	**19 31 32.0**	**+0.5**
SOKA	**Soboth**	**1.80**	**74⇑**	*e*Pg	**Pb**	**19 31 32.5**	**+0.2**
	SNR=22						
SOKA				⇑*i*Sg	**Sg**	**19 31 57.4**	**+0.2**
	23nm,0.3s						
SOKA	**Soboth**	**1.80**	**74**	Pg	**Pb**	**19 31 32.5**	**+0.2**
	SNR=22						
SOKA				Sg	**Sg**	**19 31 57.4**	**+0.2**
	23nm,0.3s						
DAVOX	**Davos/Dischmat**	**1.91**	**288**	Pg	**Pb**	**19 31 35.0**	**+0.7**
DAVOX	**Davos/Dischmat**	**1.91**	**288**	Pg	**Pb**	**19 31 35.0**	**+0.7**
MDI	**Monti di Nese**	**2.01**	**258**	Pg	**Pb**	**19 31 34.8**	**-1.1**
MDI	**Monti di Nese**	**2.01**	**258**	Pg	**Pb**	**19 31 34.8**	**-1.1**
MOA	**Molln**	**2.02**	**35**	*e*Pn	**Pb**	**19 31 36.3**	**+0.2**
MOA				*e*Sg	**Sg**	**19 32 04.6**	**+0.1**
MOA	**Molln**	**2.02**	**35⇑**	*e*Pg	**Pb**	**19 31 36.0**	**-0.1**
	SNR=30						
MOA				⇓*i*Sn	**Sn**	**19 31 59.5**	**+0.9**

UDBI Udbina 2.84 125 *e*Pn **Pn 19 31 46.3 +1.7**
UDBI Sn **Sn 19 32 20.6 +1.8**
UDBI Udbina 2.84 125 *e*Pn **Pn 19 31 46.3 +1.7**
UDBI Sn **Sn 19 32 20.5 +1.8**
WET Wettzell 2.94 5 *e*Pn **Pn 19 31 47.9 +2.0**
WET *e*Sn **Sn 19 32 23.5 +2.4**
WET Wettzell 2.94 5 Pn **Pn 19 31 47.9 +2.0**
WET Sn **Sn 19 32 23.5 +2.4**
KHC Kasperske Hory 3.00 13 *e*PN **Pn 19 31 48.6 +1.8**
KHC *e*PG **Pg 19 31 56.4 -0.6**
KHC *e*SN **Sn 19 32 24.8 +2.1**
KHC *e*SG **Sg 19 32 35.4 -0.5**
comp=Z,41nm,0.8s
KHC Kasperske Hory 3.00 13 Pn **Pn 19 31 48.6 +1.8**
KHC Kasperske Hory 3.00 13 Pg **Pg 19 31 56.4 -0.6**
KHC Sn **Sn 19 32 24.8 +2.1**
KHC Sg **Sg 19 32 35.4 -0.5**
41nm,0.8s
SLE Schleitheim 3.16 301 *e*Pn **Pn 19 31 51.6 +2.6**
SLE *e*Pg **Pg 19 32 00.1 +0.1**
SLE *e*Sg **Sg 19 32 42.3 +1.3**
SLE Schleitheim 3.16 301 Pn **Pn 19 31 51.6 +2.6**
SPAK Spaichingen-Ko 3.17 308 Pn **Pn 19 31 51.4 +2.2**
PCP Piancastagn 3.27 241 P **Pn 19 31 50.4 0.0**
SULZ Cheisacher 3.30 295 *e*Pg **Pg 19 32 02.9 +0.3**
SULZ *e*Sg **Sg 19 32 45.8 +0.4**
SULZ Cheisacher 3.30 295 Pg **Pg 19 32 02.9 +0.3**
SULZ Sg **Sg 19 32 45.8 +0.4**
STU Stuttgart 3.41 320 *e*Pg **Pg 19 32 07.0 +2.2**
STU *e*Sn **Sn 19 32 32.2 -0.5**
STU *e*Sg **Sg 19 32 50.4 +1.5**
STU Stuttgart 3.41 320 Pg **Pg 19 32 07.0 +2.2**
STU Sn **Sn 19 32 32.2 -0.5**
STU Sg **Sg 19 32 50.4 +1.5**
BALST Balsthal 3.50 290 *e*Pn Pn 19 31 57.0 +3.3
BALST *e*Pg **Pg 19 32 06.5 0.0**
BALST *e*Sn **Sn 19 32 36.3 +1.2**
BALST *e*Sg **Sg 19 32 55.6 +3.7**
BALST Balsthal 3.50 290 Pn Pn 19 31 57.0 +3.3
FELD Feldberg im Sc 3.51 300 Pn **Pn 19 31 56.3 +2.5**
BFO Black Forest 3.55 308 *e*Pn **Pn 19 31 57.2 +2.9**
BFO *e*Pg **Pg 19 32 07.7 +0.2**
BFO *e*Sn **Sn 19 32 39.3 +3.1**
BFO Black Forest 3.55 308 Pn **Pn 19 31 57.2 +2.9**
ROTZ Rotzenmuhle 3.56 357 *e*Pn **Pn 19 31 56.9 +2.4**
ROTZ *e*Sn **Sn 19 32 37.2 +0.8**
ROTZ *e*Sg **Sg 19 32 53.8 +0.1**
ROTZ Rotzenmuhle 3.56 357 Pn **Pn 19 31 56.8 +2.4**
ROTZ Sn **Sn 19 32 37.2 +0.8**
ROTZ Sg **Sg 19 32 53.8 +0.1**
GRA1 Grafenberg Arr 3.59 346 Pg **Pg 19 32 08.3 +0.2**
GRF Grafenberg Arr 3.59 346 *e*Pg **Pg 19 32 08.3 +0.2**
BBS Basel-Blauen 3.66 292 Pn **Pn 19 31 58.2 +2.4**
BBS Sg **Sg 19 33 01.6 +4.6**
TREC Trest 3.67 32 *e*SN **Sn 19 32 40.9 +1.7**
TREC *e*SG **Sg 19 32 56.3 -1.1**
comp=Z,12nm,0.4s
TREC Trest 3.67 32 Sn **Sn 19 32 40.9 +1.7**
TREC Sg **Sg 19 32 56.3 -1.1**
12nm,0.4s
PRU Pruhonice 4.01 19 *e*PN **Pn 19 32 02.5 +1.9**
PRU *e*PG **Pg 19 32 13.5 -2.7**
PRU *e*SN **Sn 19 32 47.7 +0.2**
PRU *e*x x 19 33 02.1
PRU *e*SG **Sg 19 33 05.7 -2.5**
comp=Z,13nm,0.5s
PRU Pruhonice 4.01 19 Pn **Pn 19 32 02.5 +1.9**
PRU Pruhonice 4.01 19 Pg **Pg 19 32 13.5 -2.7**
PRU Sn **Sn 19 32 47.7 +0.2**
PRU Sg **Sg 19 33 05.7 -2.5**
13nm,0.5s
MOF Molkenrain 4.03 296 Pn **Pn 19 32 02.6 +1.6**
MOF Molkenrain 4.03 296 Pn **Pn 19 32 02.6 +1.6**
PRA Prague 4.06 18 *e*SG **Sg 19 33 08.2 -1.7**
PRA Prague 4.06 18 Sg **Sg 19 33 08.2 -1.7**
LOMF Lomont 4.07 288 Pn **Pn 19 32 04.1 +2.5**
LOMF Lomont 4.07 288 Pn **Pn 19 32 04.1 +2.5**
WERN Wernitzgruen 4.08 359 *e*Pn **Pn 19 32 03.8 +2.2**
WERN *e*Sn **Sn 19 32 50.0 +0.9**
WERN Wernitzgruen 4.08 359 Pn **Pn 19 32 03.8 +2.2**
WERN Sn **Sn 19 32 50.0 +0.9**
LPG La Plagne 4.10 262 *e*Pn **Pn 19 32 02.8 +0.7**
SNR=1.0
LPG *e*Sn **Sn 19 32 48.9 -1.1**
16nm,0.7s,SNR=1.0
LPG La Plagne 4.10 262 *e*Pn **Pn 19 32 02.8 +0.7**
SNR=1.0
LPG *e*Sn **Sn 19 32 48.9 -1.1**
8.2nm,0.7s,SNR=1.0
LPL La Plagne 4.11 262 *e*Pn **Pn 19 32 02.7 +0.6**
SNR=1.0
LPL *e*Sn **Sn 19 32 48.9 -1.2**
13nm,0.7s
LPL La Plagne 4.11 262 *e*Pn **Pn 19 32 02.7 +0.6**
SNR=1.0
LPL *e*Sn **Sn 19 32 48.9 -1.2**
6.6nm,0.7s
ECH Echery 4.17 301 Pn **Pn 19 32 04.5 +1.7**
ECH Echery 4.17 301 Pn **Pn 19 32 04.5 +1.7**
CDF Champ du Feu 4.19 304 *e*Pn **Pn 19 32 03.7 +0.5**
SNR=1.0
CDF Champ du Feu 4.19 304 *e*Pg **Pg 19 32 18.5 -1.2**
CDF *e*Sn **Sn 19 32 50.9 -1.2**
SNR=1.0
CDF *e*Sg **Sg 19 33 13.0 -1.0**
5.6nm,0.3s
CDF Champ du Feu 4.19 304 *e*Pn **Pn 19 32 03.7 +0.5**
SNR=1.0
CDF Champ du Feu 4.19 304 *e*Pg **Pg 19 32 18.5 -1.2**
CDF *e*Sn **Sn 19 32 50.9 -1.2**
SNR=1.0
CDF *e*Sg **Sg 19 33 13.0 -1.0**
2.8nm,0.3s
HINF Hinteralfeld 4.20 294 *e*Pn **Pn 19 32 03.7 +0.5**
SNR=1.0
HINF *e*Sn **Sn 19 32 51.6 -0.5**
SNR=1.0
HINF *e*Sg **Sg 19 33 13.2 -0.9**
10nm,0.5s
HINF Hinteralfeld 4.20 294 *e*Pn **Pn 19 32 03.7 +0.5**
SNR=1.0
HINF *e*Sn **Sn 19 32 51.6 -0.5**
SNR=1.0
HINF *e*Sg **Sg 19 33 13.2 -0.9**
5.2nm,0.5s
TANN Tannenbergstha 4.20 359 *e*Pn **Pn 19 32 05.9 +2.6**
TANN *e*Sn **Sn 19 32 52.9 +0.6**
TANN Tannenbergstha 4.20 359 Pn **Pn 19 32 05.9 +2.6**
TANN Sn **Sn 19 32 52.9 +0.6**
LANF Langenberg 4.22 313 Pn Pn 19 32 06.6 +3.0
LANF Langenberg 4.22 313 Pn Pn 19 32 06.6 +3.0
SBF Sospel 4.30 239 *e*Pn **Pn 19 32 05.0 +0.3**
SNR=1.0
SBF *e*Sn **Sn 19 32 53.4 -1.4**
9.5nm,0.5s
SBF Sospel 4.30 239 *e*Pn **Pn 19 32 05.0 +0.3**
SNR=1.0
SBF *e*Sn **Sn 19 32 53.4 -1.4**
4.8nm,0.5s
MBDF Montbardon 4.31 252 *e*Pn **Pn 19 32 05.4 +0.5**
SNR=1.0
MBDF *e*Sn **Sn 19 32 53.6 -1.5**
7.3nm,0.6s
MBDF Montbardon 4.31 252 *e*Pn **Pn 19 32 05.4 +0.5**
SNR=1.0
MBDF *e*Sn **Sn 19 32 53.6 -1.5**
3.7nm,0.6s
TOUF Mont Tournerai 4.33 241 Pn **Pn 19 32 06.9 +1.7**
TOUF Mont Tournerai 4.33 241 Pn **Pn 19 32 06.9 +1.7**
REVF Revere 4.42 238 Pn **Pn 19 32 07.2 +1.0**
REVF Revere 4.42 238 Pn **Pn 19 32 07.2 +1.0**
PGF Pioggiola 4.45 216 *e*Pn **Pn 19 32 06.9 +0.1**
PGF *e*Sn **Sn 19 32 56.6 -1.9**
5.1nm,0.4s,SNR=1.0
PGF Pioggiola 4.45 216 *e*Pn **Pn 19 32 06.9 +0.1**
PGF *e*Sn **Sn 19 32 56.6 -1.9**
2.5nm,0.4s,SNR=1.0
MVIF Mont Vial 4.46 241 Pn **Pn 19 32 08.6 +1.7**
MVIF Mont Vial 4.46 241 Pn **Pn 19 32 08.6 +1.7**
CABF La Chapelle 4.47 277 *e*Pn **Pn 19 32 07.6 +0.6**
SNR=1.0
CABF La Chapelle 4.47 277 *e*Pg **Pg 19 32 23.2 -1.8**
CABF *e*Sn **Sn 19 32 57.4 -1.5**
SNR=1.0
CABF *e*Sg **Sg 19 33 21.6 -1.3**
4.3nm,0.4s
CABF La Chapelle 4.47 277 *e*Pn **Pn 19 32 07.6 +0.6**
SNR=1.0
CABF La Chapelle 4.47 277 *e*Pg **Pg 19 32 23.2 -1.8**
CABF *e*Sn **Sn 19 32 57.4 -1.5**
SNR=1.0
CABF *e*Sg **Sg 19 33 21.6 -1.3**
2.2nm,0.4s
MOX Moxa 4.47 353 *e*Pn **Pn 19 32 09.3 +2.3**
MOX *e*Sn **Sn 19 32 59.2 +0.3**
MOX Moxa 4.47 353 Pn **Pn 19 32 09.3 +2.3**
MOX Sn **Sn 19 32 59.2 +0.3**
PVCC Panska Ves 4.53 17 *e*SN **Sn 19 33 00.5 +0.3**
PVCC *e*SG **Sg 19 33 23.0 -1.7**
comp=Z,36nm,0.7s
PVCC Panska Ves 4.53 17 Sn **Sn 19 33 00.5 +0.3**
PVCC Sg **Sg 19 33 23.0 -1.7**
36nm,0.7s
HAU Haudompre 4.58 295 *e*Pn **Pn 19 32 09.3 +0.8**
SNR=1.0
HAU *e*Sn **Sn 19 33 00.1 -1.5**
HAU *e*Sg **Sg 19 33 25.1 -1.3**
25nm,0.6s
HAU Haudompre 4.58 295 *e*Pn **Pn 19 32 09.3 +0.8**
SNR=1.0
HAU *e*Sn **Sn 19 33 00.1 -1.5**
HAU *e*Sg **Sg 19 33 25.1 -1.3**
13nm,0.6s
BRG Berggiesshubel 4.76 11 PG **Pg 19 32 30.3 -0.2**
BRG SN **Sn 19 33 05.5 -0.3**
BRG SG **Sg 19 33 29.5 -2.6**
16nm,0.8s
KRLC Kraliky 4.80 35 *e*SN **Sn 19 33 07.7 +0.7**
KRLC *e*SG **Sg 19 33 32.4 -1.1**
KRLC Kraliky 4.80 35 Sn **Sn 19 33 07.7 +0.7**
KRLC Sg **Sg 19 33 32.4 -1.1**
ORIF Oris-en-Rattie 4.84 257 *e*Pn **Pn 19 32 12.9 +0.8**
SNR=1.0
ORIF *e*Sn **Sn 19 33 06.3 -1.8**
4.9nm,0.5s
ORIF Oris-en-Rattie 4.84 257 *e*Pn **Pn 19 32 12.9 +0.8**
SNR=1.0
ORIF *e*Sn **Sn 19 33 06.3 -1.8**
2.5nm,0.5s
TNS Taunus Mts 4.85 327 *e*Pn **Pn 19 32 14.6 +2.4**
TNS *e*Sn **Sn 19 33 07.5 -0.7**
TNS Taunus Mts 4.85 327 Pn **Pn 19 32 14.6 +2.4**
TNS Sn **Sn 19 33 07.5 -0.7**
DPC Dobruska-Polom 4.85 30 *e*PG Pg 19 32 28.9 -3.4
DPC *e*SN **Sn 19 33 07.9 -0.4**
DPC *e*x x 19 33 21.5
DPC *e*SG **Sg 19 33 34.0 -1.2**
DPC Dobruska-Polom 4.85 30 Pg Pg 19 32 28.9 -3.4
DPC Sn **Sn 19 33 07.9 -0.4**
DPC Sg **Sg 19 33 34.0 -1.2**
VYHS Vyhne 4.86 60 *e*Pn **Pn 19 32 13.5 +1.2**
VYHS *e*Sn **Sn 19 33 07.1 -1.3**
VYHS Vyhne 4.86 60 *e*PN **Pn 19 32 13.5 +1.2**
VYHS *e*SN **Sn 19 33 07.1 -1.3**
UPC Upice 4.88 27 *e*SN **Sn 19 33 09.1 +0.1**
UPC *e*SG **Sg 19 33 34.6 -1.6**
comp=Z,10nm,0.7s
UPC Upice 4.88 27 Sn **Sn 19 33 09.1 +0.1**
UPC Sg **Sg 19 33 34.6 -1.6**
10nm,0.7s
THEF They Montfort 4.89 297 Pn **Pn 19 32 15.1 +2.4**
THEF They Montfort 4.89 297 Pn **Pn 19 32 15.1 +2.4**
FRF La Foret Royal 4.95 240 *e*Pn **Pn 19 32 13.6 +0.1**
SNR=1.0
FRF *e*Sn **Sn 19 33 08.5 -2.1**
2.0nm,0.3s
FRF La Foret Royal 4.95 240 *e*Pn **Pn 19 32 13.6 +0.1**
SNR=1.0
FRF *e*Sn **Sn 19 33 08.5 -2.1**
1.0nm,0.3s
STON Ston 4.99 130 *e*Pn **Pn 19 32 14.8 +0.8**
STON Sn **Sn 19 33 10.9 -0.6**
STON Ston 4.99 130 *e*Pn **Pn 19 32 14.8 +0.8**
STON Sn **Sn 19 33 10.9 -0.6**
RUP Ruppelstein 5.06 316 Pn **Pn 19 32 17.9 +2.8**
CLL Collm 5.11 3 *e*Pn **Pn 19 32 17.5 +1.9**
CLL Collm 5.11 3 *e*Pn **Pn 19 32 18.0 +2.4**
CLL *e*Sn **Sn 19 33 14.0 -0.4**
CLL *e*Sg **Sg 19 33 44.0 +0.7**
comp=Z,24nm,1.0s
CLL Collm 5.11 3 Pn **Pn 19 32 17.5 +1.9**
LMR La Mourre 5.16 238 *e*Pn **Pn 19 32 16.4 0.0**
SNR=1.0
LMR *e*Sn **Sn 19 33 13.6 -2.2**
comp=Z,4.0nm,0.4s
LMR La Mourre 5.16 238 *e*Pn **Pn 19 32 16.4 0.0**
SNR=1.0
LMR *e*Sn **Sn 19 33 13.6 -2.2**
comp=Z,2.0nm,0.4s
PAGF Fort de Pagny 5.18 299 *e*Pn **Pn 19 32 17.1 +0.5**
baz=118
PAGF Fort de Pagny 5.18 299 *e*Pg **Pg 19 32 36.7 -1.8**
PAGF *e*Sn **Sn 19 33 14.1 -2.1**
PAGF *e*Sg **Sg 19 33 43.7 -1.8**
comp=Z,7.8nm,0.8s
PAGF Fort de Pagny 5.18 299 *e*Pn **Pn 19 32 17.1 +0.5**
PAGF Fort de Pagny 5.18 299 *e*Pg **Pg 19 32 36.7 -1.8**
PAGF *e*Sn **Sn 19 33 14.1 -2.1**
PAGF *e*Sg **Sg 19 33 43.7 -1.8**
comp=Z,3.9nm,0.8s
BGG Burgeitz 5.29 321 *e*Pn Pn 19 32 21.4 +3.3
BGG *e*Sn **Sn 19 33 20.1 +1.2**
comp=Z,10nm,1.2s
BGG Burgeitz 5.29 321 Pn Pn 19 32 21.4 +3.3
BGG Sn **Sn 19 33 20.1 +1.2**
comp=Z,10nm,1.2s
KOE Koeppel 5.29 325 *e*Pn Pn 19 32 21.2 +3.0
KOE Koeppel 5.29 325 Pn Pn 19 32 21.2 +3.0
SMRF Simiane la Rot 5.40 248 *e*Pn **Pn 19 32 20.0 +0.2**
SMRF *e*Sn **Sn 19 33 19.6 -2.3**
comp=Z,26nm,0.9s
SMRF Simiane la Rot 5.40 248 *e*Pn **Pn 19 32 20.0 +0.2**
SMRF *e*Sn **Sn 19 33 19.6 -2.3**
comp=Z,13nm,0.9s
SFTF Sexfontaines 5.47 294 *e*Pn **Pn 19 32 21.3 +0.6**
baz=117
SFTF *e*Sn **Sn 19 33 21.3 -2.3**
SFTF *e*Sg **Sg 19 33 53.0 -2.1**
comp=Z,5.0nm,0.4s
SFTF Sexfontaines 5.47 294 *e*Pn **Pn 19 32 21.3 +0.6**
SFTF *e*Sg **Sg 19 33 53.0 -2.1**
comp=Z,2.5nm,0.4s
MEZF Maizieres J'vi 5.57 297 *e*Pn **Pn 19 32 22.3 +0.3**
baz=115
MEZF *e*Sn **Sn 19 33 23.6 -2.2**
MEZF *e*Sg **Sg 19 33 55.7 -2.4**
comp=Z,11nm,0.6s
MEZF Maizieres J'vi 5.57 297 *e*Pn **Pn 19 32 22.3 +0.3**
MEZF *e*Sg **Sg 19 33 55.7 -2.4**
comp=Z,5.3nm,0.6s
VIVF Saint-Julien-l 5.68 259 *e*Pn **Pn 19 32 23.9 +0.3**
SNR=1.0
VIVF Saint-Julien-l 5.68 259 *e*Pn **Pn 19 32 23.9 +0.3**
SNR=1.0
HOBG Hohbusch 5.88 326 *e*Pn Pn 19 32 29.5 +3.2
SMF Signal de Mont 6.02 277 *e*Pn **Pn 19 32 28.3 +0.1**
SNR=1.0
SMF *e*Sn **Sn 19 33 34.4 -2.5**
comp=Z,4.0nm,0.4s
SMF Signal de Mont 6.02 277 *e*Pn **Pn 19 32 28.3 +0.1**
SNR=1.0
LOR Lormes 6.05 283 *e*Pn **Pn 19 32 28.7 +0.1**
baz=104,SNR=1.0
LOR *e*Sn **Sn 19 33 35.2 -2.5**
comp=Z,6.5nm,0.3s,SNR=1.0
LOR Lormes 6.05 283 *e*Pn **Pn 19 32 28.7 +0.1**
SNR=1.0
SSF Saint Saulge 6.27 281 *e*Pn **Pn 19 32 31.8 +0.2**
SSF *e*Sn **Sn 19 33 40.2 -2.9**
comp=Z,1.8nm,0.3s,SNR=1.0
SSF Saint Saulge 6.27 281 *e*Pn **Pn 19 32 31.8 +0.2**
AVF Avril sur Loir 6.36 279 *e*Pn **Pn 19 32 33.1 +0.3**
SNR=1.0
AVF Avril sur Loir 6.36 279 *e*Pn **Pn 19 32 33.1 +0.3**
SNR=1.0
GIVF Givet 6.45 310 *e*Pn **Pn 19 32 34.4 +0.3**
GIVF *e*Sn **Sn 19 33 44.6 -3.0**
comp=Z,5.5nm,0.3s
GIVF Givet 6.45 310 *e*Pn **Pn 19 32 34.4 +0.3**
LASF Ste Croix 6.49 254 *e*Pn **Pn 19 32 34.9 +0.2**
LASF Ste Croix 6.49 254 *e*Pn **Pn 19 32 34.9 +0.2**
STHS Stebnicka Huta 6.69 58 *e*Pn **Pn 19 32 37.4 0.0**
STHS Stebnicka Huta 6.69 58 *e*PN **Pn 19 32 37.3 -0.1**
BGF Bois d'Agland 6.70 276 *e*Pn **Pn 19 32 37.9 +0.3**
SNR=1.0
BGF *e*Sn **Sn 19 33 50.7 -3.1**
comp=Z,11nm,0.4s
BGF Bois d'Agland 6.70 276 *e*Pn **Pn 19 32 37.9 +0.3**
SNR=1.0
BAIF Baives 6.76 308 *e*Pn **Pn 19 32 38.6 +0.2**
SNR=1.0
BAIF *e*Sn **Sn 19 33 52.2 -3.0**
comp=Z,6.1nm,0.8s
BAIF Baives 6.76 308 *e*Pn **Pn 19 32 38.6 +0.2**
SNR=1.0
HYF Humbligny 6.87 282 *e*Pn **Pn 19 32 39.9 0.0**
HYF *e*Sn **Sn 19 33 55.0 -3.0**
HYF Humbligny 6.87 282 *e*Pn **Pn 19 32 39.9 0.0**
TCF Toulx Ste Croi 7.15 274 *e*Pn **Pn 19 32 43.9 +0.1**
SNR=1.0
TCF *e*Sn **Sn 19 34 01.7 -3.2**
comp=Z,2.9nm,0.4s
TCF Toulx Ste Croi 7.15 274 *e*Pn **Pn 19 32 43.9 +0.1**
SNR=1.0
CAF Calviac 7.45 264 *e*Pn **Pn 19 32 48.0 +0.1**
CAF Calviac 7.45 264 *e*Pn **Pn 19 32 48.0 +0.1**
MTLF Montolieu 7.88 252 *e*Pn **Pn 19 32 53.7 0.0**

ISCJB ***11*** *19:34:44.9±0.6, 35°.27S±0°.09×71°.9W±0°.2, h35km, mb4.3/6, Error ellipse: s-maj=21.2km s-min=5.7km az=34.3*
NEIC ***11*** *19:34:44.8±0.9, 35°.34S×72°.24W, h35km, mb4.2/2, Error ellipse: s-maj=31.6km s-min=11.3km az=98.0*
GUC ***11*** *19:34:47.6±0.4, 35°.32S×72°.10W, h30km±2km, ML3.7*
IDC ***11*** *19:34:49.1±3.1, 35°.24S×71°.95W, h65km±24km, mb4.0/6, mb1 4.0/9, mb1mx3.7/31, mbtmp4.2/9, Error ellipse: s-maj=42.7km s-min=16.1km az=107.0*
ISC 11 19:34:45.9±0.8, 35°.25S±0°.09×72°.1W±0°.1, h35km, n15, σ1°67/18, mb4.4/6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.04**	**212**	⇑*i*P	**Pn**	**19 35 05.1**	**+1.2**
COCH				*i* S	**Sn**	**19 35 18.2**	**+1.0**
CCSP	**San Pedro de C**	**1.78**	**206**	*e*P4	**Pn**	**19 35 14.4**	**+0.2**
CCSP				*e*S	**Sn**	**19 35 39.0**	**+3.4**
CFAA	**Coronel Fontan**	**4.87**	**43**	P	**Pn**	**19 35 58.6**	**+1.8**
0.7nm,0.3s,baz=200,slow=12,SNR=9.7							
CFAA				S	**Sn**	**19 36 53.3**	**+1.4**
0.2nm,0.3s,baz=231,slow=17,SNR=2.8							
PLCA	**Paso Flores**	**5.61**	**168**	P	**Pn**	**19 36 09.0**	**+2.1**
1.3nm,0.3s,baz=345,slow=12,SNR=8.5							
PLCA	**Paso Flores**	**5.61**	**168**	*e*P	**Pn**	**19 36 05.5**	**-1.4**
LPAZ	**La Paz**	**19.22**	**12**	P	**P**	**19 39 09.6**	**+2.0**
0.1nm,0.3s,baz=6.0,slow=20,SNR=5.9							
LPAZ	**La Paz**	**19.22**	**12**	*e*P	**P**	**19 39 09.1**	**+1.5**
6.6nm,0.9s							
SIV	**San Ignacio**	**21.58**	**30**	P	**P**	**19 39 31.1**	**-1.5**
8.8nm,1.0s,baz=246,slow=15,SNR=5.3							
QSPA	**South Pole Qui**	**54.99**	**180**	P	**P**	**19 44 14.1**	**+0.6**
2.5nm,1.0s,baz=294,slow=2.8,SNR=5.9							
QSPA	**South Pole Qui**	**54.99**	**180**	P	**P**	**19 44 12.0**	**-1.5**
5.4nm,1.0s							
DBIC	**Dimbokro**	**75.64**	**71**	P	**P**	**19 46 26.8**	**-0.9**
4.4nm,0.8s,baz=226,slow=8.1,SNR=4.8							
BOSA	**Boshof**	**79.55**	**118**	P	**P**	**19 46 48.5**	**-1.1**
2.6nm,0.8s,baz=210,slow=4.3,SNR=4.9							
TORD	**Torodi Ar. Bea**	**84.70**	**70**	P	**P**	**19 47 15.8**	**-0.6**
1.7nm,0.7s,baz=261,slow=4.3,SNR=8.5							
ULM	**Lac du Bonnet**	**87.68**	**345**	P	**P**	**19 47 29.4**	**-0.9**
1.2nm,0.4s,baz=158,slow=3.6,SNR=3.3							
MKAR	**Makanchi Array**	**157.61**	**51**	PKPab	**PKPab**	**19 55 09.1**	**-1.3**
0.5nm,0.7s,baz=279,slow=3.0,SNR=4.1							

IDC 11 19:42:14.7±5.3, 24°.26S×176°.39W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/40, mbtmp4.1/4, Error ellipse: s-maj=221.5km s-min=53.8km az=152.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.77**	**269**	P	P	19 49 08.1	+0.9
4.6nm,0.7s,baz=94,slow=10,SNR=9.1							
ASAR	**Alice Springs**	**45.23**	**260**	P	P	19 50 33.3	-0.8
1.6nm,0.8s,baz=94,slow=7.1,SNR=17							
WRA	**Warramunga Arr**	**45.67**	**265**	P	P	19 50 36.4	-1.2
0.8nm,0.4s,baz=103,slow=8.3,SNR=5.5							
CMAR	**Chiang Mai Arr**	**92.75**	**289**	P	P	19 55 31.1	+1.6
0.6nm,0.7s,baz=132,slow=2.8,SNR=6.3							
AKASG	**Malin Array Be**	**147.01**	**330**	PKPbc	PKPdf	20 01 57.5	+0.3
0.4nm,0.3s,baz=36,slow=3.5,SNR=4.1							

GUC 11 19:43:19.8±0.6, 34°.56S×71°.48W, h39km±9km, ML3.7, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.49**	**155**	⇑*i*P	Pn	19 43 31.0	+0.7
NICH				*e*S	Sn	19 43 39.1	+1.3
ANTU	**Antumapu**	**1.21**	**36**	*e*P	Pn	19 43 42.3	+2.0
ANTU				*e*S	Sn	19 43 58.5	+3.0
LNCH	**Linares**	**1.29**	**184**	⇓*i*P	Pn	19 43 41.1	-0.2
LNCH				*e*S	Sn	19 43 58.7	+1.4
STL	**Santa Lucia**	**1.32**	**32**	*e*P9	Pn	19 43 42.4	+0.7
STL				*e*S	Sn	19 44 01.0	+2.9
FSR	**Penalolen**	**1.34**	**37**	*e*P9	Pn	19 43 46.1	+4.1
FSR				*e*S	Sn	19 44 04.6	+6.0
CLCH	**Cerro Calan**	**1.40**	**34**	*e*P	Pn	19 43 44.8	+1.8
CLCH				*e*S	Sn	19 44 04.2	+4.0
CLCH				AML	AML	19 44 10.4	
comp=N,2μm,0.7s							
PEL	**Peldehue**	**1.56**	**25**	*e*P	Pn	19 43 47.4	+2.3
PEL				*e*S	Sn	19 44 07.8	+3.7

ISCJB ***11*** *19:47:13.9±1.2, 34°.25S±0°.07×72°.3W±0°.1, h35km, mb4.1/4, Error ellipse: s-maj=17.5km s-min=5.7km az=32.9*
GUC ***11*** *19:47:16.0±0.5, 34°.44S×71°.76W, h60km, ML3.5*
IDC ***11*** *19:47:27.0±3.0, 34°.92S×70°.91W, h88km±22km, mb3.7/4, mb1 3.7/6, mb1mx3.5/30, mbtmp3.9/6, Error ellipse: s-maj=59.0km s-min=16.1km az=109.0*
ISC 11 19:47:15.0±1.4, 34°.26S±0°.09×72°.3W±0°.1, h35km, n14, σ1°96/17, mb4.1/4, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.48**	**59**	⇑*i*P	**Pn**	**19 47 38.6**	**-0.5**
RCDM				*e*S	**Sn**	**19 47 55.6**	**-1.6**
RCDM				AML	AML	19 48 02.4	
comp=E,3μm,0.4s							
ANTU	**Antumapu**	**1.56**	**65**	*e*P9	**Pn**	**19 47 39.6**	**-0.7**
ANTU				*e*S	**Sn**	**19 47 57.0**	**-2.4**
STL	**Santa Lucia**	**1.62**	**60**	*e*P	**Pn**	**19 47 40.2**	**-1.0**
STL				*e*S	**Sn**	**19 47 59.2**	**-1.7**
STL				AML	AML	19 48 03.5	
comp=E,332nm,0.6s							
FSR	**Penalolen**	**1.68**	**63**	*i* S4	**Sn**	**19 48 03.2**	**+0.8**
LNCH	**Linares**	**1.70**	**160**	⇑*i*P	**Pn**	**19 47 43.5**	**+1.3**
LNCH				*e*S	**Sn**	**19 48 02.3**	**-0.3**
COCH	**Cobquecura**	**1.91**	**191**	⇓*i*P	**Pn**	**19 47 44.7**	**-0.4**
COCH				*i* S4	**Sn**	**19 48 05.9**	**-2.0**
FCH	**Farellones**	**1.93**	**62**	⇑*i*P	Pn	19 47 35.8	-10
FCH				*i* S4	Sn	19 48 01.5	-7.3
FCH				AML	AML	19 48 10.1	
comp=E,2μm,0.4s							
CFAA	**Coronel Fontan**	**4.33**	**54**	P	Pn	19 48 24.4	+6.0
comp=E,0.5nm,0.3s,baz=226,slow=12,SNR=3.7							
CFAA				S	**Sn**	**19 49 12.8**	**+5.0**
comp=E,0.4nm,0.3s,baz=240,slow=18,SNR=2.5							
PLCA	**Paso Flores**	**6.62**	**168**	P	**Pn**	**19 48 49.8**	**0.0**
comp=E,0.5nm,0.3s,baz=351,slow=8.6,SNR=6.4							
LPAZ	**La Paz**	**18.29**	**13**	P	Pn	19 51 40.3	+14
comp=E,0.1nm,0.3s,baz=177,slow=11,SNR=5.0							
SNAA	**Sanae**	**51.44**	**158**	P	**P**	**19 56 16.3**	**0.0**
comp=E,1.1nm,0.8s,baz=298,slow=6.2,SNR=3.8							
QSPA	**South Pole Qui**	**55.98**	**180**	P	**P**	**19 56 51.5**	**+1.8**
comp=E,3.1nm,1.0s,baz=196,slow=0.9,SNR=4.9							
BOSA	**Boshof**	**80.16**	**118**	P	**P**	**19 59 19.8**	**-2.2**
comp=E,4.4nm,1.0s,baz=180,slow=3.6,SNR=3.6							
TORD	**Torodi Ar. Bea**	**84.52**	**70**	P	**P**	**19 59 45.7**	**+1.0**

comp=E,0.8nm,0.9s,baz=251,slow=3.8,SNR=3.3

*NEIC **11** 19:49:27.2±0.9,33°.72S×73°.76W,h35km,mb4.4/5,Error ellipse: s-maj=26.5km s-min=11.5km az=95.0*
*ISCJB **11** 19:49:36.6±0.9,34°.29S±0°.08×72°.0W±0°.2,h10km, mb4.3/12,Error ellipse: s-maj=19.6km s-min=11.9km az=4.9*
*IDC **11** 19:49:36.6±0.7,34°.32S×71°.93W,h0km,mb4.3/10, mb1 4.4/12,mb1mx4.2/29,mbtmp4.3/12,ML4.1/2,MS3.6/1, Ms1 3.5/1,ms1mx3.0/31,Error ellipse: s-maj=26.9km s-min=17.7km az=97.0*

ISC 11 19:49:38.3±0.6,34°.29S±0°.07×71°.8W±0°.1,h10km,n36, σ0.93/31,mb4.3/9,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.04**	**49**	Pn	**Pn**	**19 50 41.0**	**+0.8**
	0.5nm,0.3s,baz=230,slow=16,SNR=2.2						
CFAA				Sn	**Sb**	**19 51 37.3**	**-1.2**
	2.4nm,0.3s,baz=190,slow=5.5,SNR=5.4						
PLCA	**Paso Flores**	**6.51**	**171**	**Pn**	**Pn**	**19 51 15.0**	**+0.8**
	1.0nm,0.3s,baz=343,slow=9.9,SNR=4.4						
PLCA				Lg	Lg	19 52 56.5	
	0.7nm,0.3s,baz=69,slow=22,SNR=2.4						
PLCA				LR	LR	19 53 47.8	
	comp=Z,409nm,18.1s,baz=278,slow=39						
PLCA	**Paso Flores**	**6.51**	**171**	*eP*	**Pn**	**19 51 13.8**	**-0.4**
	13nm,0.5s						
PLCA				Lg	Lg	19 52 56.5	
TRQA	**Tornquist**	**8.81**	**118**	P	Pn	19 51 50.4	+4.7
	15nm,0.8s						
LPAZ	**La Paz**	**18.23**	**11**	P	**P**	**19 53 53.9**	**+1.5**
	0.3nm,0.3s,baz=183,slow=6.0,SNR=17						
LPAZ	**La Paz**	**18.23**	**11**	*eP*	x	19 53 37.8	
	25nm,1.1s						
LPAZ				*e*	**Pn**	**19 53 53.2**	**+1.1**
SIV	**San Ignacio**	**20.64**	**31**	P	Pn	19 54 19.0	-1.4
	4.6nm,0.7s,baz=218,slow=13,SNR=8.6						
SAML	**Samuel**	**26.45**	**19**	*eP*	x	19 55 01.2	
	4.3nm,0.8s						
SAML				*e*	**P**	**19 55 15.5**	**0.0**
BDFB	**Brasilia**	**28.36**	**55**	P	**P**	**19 55 33.0**	**+0.2**
	4.0nm,0.7s,baz=219,slow=12,SNR=5.0						
PTGA	**Pitinga**	**35.19**	**21**	*eP*	x	19 56 17.3	
	9.4nm,0.9s						
PTGA				*e*	**P**	**19 56 31.0**	**-1.6**
SDV	**Santo Domingo**	**42.95**	**2**	*eP*	x	19 57 20.1	
	6.4nm,0.8s						
SDV				*e*	**P**	**19 57 36.7**	**-1.2**
SNAA	**Sanae**	**51.25**	**158**	P	**P**	**19 58 41.4**	**-0.4**
	1.6nm,0.8s,baz=278,slow=9.3,SNR=5.0						
SNAA	**Sanae**	**51.25**	**158**	P	P	19 58 37.5	-4.3
QSPA	**South Pole Qui**	**55.95**	**180**	P	**P**	**19 59 16.9**	**+0.5**
	8.4nm,0.9s,baz=127,slow=3.9,SNR=4.7						
QSPA	**South Pole Qui**	**55.95**	**180**	*eP*	x	19 59 04.2	
	9.0nm,0.9s						
QSPA				*e*	**P**	**19 59 16.4**	**-0.1**
DBIC	**Dimbokro**	**75.11**	**71**	P	**P**	**20 01 20.8**	**-0.1**
	4.5nm,0.7s,baz=216,slow=7.2,SNR=6.8						
DBIC	**Dimbokro**	**75.11**	**71**	P	x	20 01 12.9	
DBIC				*e*	**P**	**20 01 21.3**	**+0.4**
BOSA	**Boshof**	**79.78**	**118**	P	**P**	**20 01 47.9**	**+0.7**
	5.9nm,0.8s,baz=239,slow=6.2,SNR=9.3						
BOSA	**Boshof**	**79.78**	**118**	P	x	20 01 42.1	
BOSA				*e*	**P**	**20 01 48.1**	**+1.0**
PDAR	**Pinedale Array**	**84.10**	**333**	P	**P**	**20 02 08.9**	**-0.5**
	0.6nm,0.7s,baz=151,slow=3.4,SNR=4.9						
TORD	**Torodi Ar. Bea**	**84.15**	**70**	P	**P**	**20 02 10.5**	**+0.5**
	3.5nm,0.8s,baz=263,slow=4.5,SNR=17						
NVAR	**Mina Array Bea**	**84.22**	**325**	P	**P**	**20 02 11.2**	**+1.1**
	0.5nm,0.6s,baz=161,slow=6.3,SNR=3.8						
ULM	**Lac du Bonnet**	**86.82**	**345**	P	**P**	**20 02 23.2**	**+0.7**
	1.0nm,0.6s,baz=127,slow=2.5,SNR=3.0						
YKA	**Yellowknife Ar**	**102.39**	**341**	P	**Pdif**	**20 03 32.2**	**-1.4**
	0.1nm,0.6s,baz=135,slow=4.4,SNR=4.2						
ASAR	**Alice Springs**	**117.39**	**207**	PKP	**PKPdf**	**20 08 24.0**	**-0.7**
	0.8nm,1.1s,baz=207,slow=30,SNR=2.8						
WRA	**Warramunga Arr**	**120.59**	**209**	PKP	**PKPdf**	**20 08 29.5**	**-1.4**
	0.4nm,0.9s,baz=140,slow=22,SNR=2.7						
H11S2	**WAKE ISLAND Hyl**	**25.94**	**269**	T	T	22 26 29.1	
	baz=119,slow=76,SNR=6.8						
H11S1	**WAKE ISLAND Hyl**	**25.95**	**269**	T	T	22 26 58.6	
	baz=119,slow=76,SNR=4.8						
H11S3	**WAKE ISLAND Hyl**	**25.95**	**269**	T	T	22 26 56.6	
	baz=119,slow=76,SNR=9.1						
SEY	**Seymchan**	**140.37**	**330**	PKP	**PKPdf**	**20 09 07.1**	**+0.4**
	0.7nm,0.7s,baz=132,slow=4.0,SNR=6.3						
ABKAR	**Akbulak array**	**141.73**	**52**	PKPdf	PKPpre	20 08 55.8	
ABKAR				*e*	PKPdf	20 09 03.4	-6.2
BRVK	**Borovoye**	**147.30**	**43**	PKPdf	PKPpre	20 08 59.4	
BRVK				*e*	**PKPbc**	**20 09 22.3**	**+0.7**
AAK	**Ala-Archa**	**152.49**	**62**	*e*PKPdf	PKPpre	20 09 14.2	
AAK				*e*	**PKPbc**	**20 09 34.5**	**-0.3**
ZALV	**Zalesovo Beam**	**154.38**	**33**	PKPbc	**PKPbc**	**20 09 36.2**	**-2.1**
	2.2nm,0.7s,baz=308,slow=3.4,SNR=10						
ZALV				PKPab	**PKPab**	**20 09 53.2**	**+0.6**
	4.0nm,0.8s,baz=306,slow=5.3,SNR=9.5						
MKAR	**Makanchi Array**	**156.82**	**50**	PKPbc	PKPbc	20 09 46.6	
	0.8nm,0.8s,baz=323,slow=1.8,SNR=7.4						
MKAR				PKPab	**PKPab**	**20 10 03.4**	**+0.1**
	1.3nm,0.7s,baz=310,slow=4.0,SNR=11						
SONM	**Songino Array**	**166.40**	**5**	PKPab	**PKPab**	**20 10 44.6**	**-0.6**
	0.6nm,0.8s,baz=349,slow=3.8,SNR=6.4						

IDC 11 20:04:07.8±28.0,22°.76S×172°.54W,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.8/36,mbtmp4.0/4,Error ellipse: s-maj=519.0km s-min=161.9km az=77.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.37**	**266**	P	P	20 11 31.1	0.0
	3.3nm,0.4s,baz=114,slow=7.0,SNR=7.6						
STKA	**Stephens Creek**	**41.50**	**247**	P	P	20 11 56.5	-0.4
	0.8nm,0.5s,baz=88,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**48.98**	**258**	P	P	20 12 56.5	-0.1
	0.4nm,0.5s,baz=90,slow=7.1,SNR=11						
WRA	**Warramunga Arr**	**49.34**	**263**	P	P	20 12 59.2	-0.1
	1.6nm,0.5s,baz=104,slow=8.1,SNR=10						

*ISCJB **11** 20:07:18.5±2.3,34°.34S±0°.04×72°.01W±0°.08,h2km±14km, mb4.1/3,Error ellipse: s-maj=12.5km s-min=5.4km az=22.7*
*IDC **11** 20:07:19.0±1.3,34°.22S×72°.15W,h0km,mb4.0/4, mb1 4.0/6,mb1mx3.8/29,mbtmp3.9/6,ML3.7/3,Error ellipse: s-maj=43.5km s-min=18.8km az=120.0*
*GUC **11** 20:07:20.5±0.5,34°.35S×71°.90W,h22km±4km,ML3.9*
*NEIC **11** 20:07:24.4±0.8,34°.33S×71°.96W,h35km,mb4.0/2,Error ellipse: s-maj=20.8km s-min=10.9km az=98.0*

ISC 11 20:07:20.1±3.0,34°.33S±0°.04×71°.9W±0°.1,h4km±17km,n22, σ0.94/29,mb4.2/3,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.88**	**140**	⇑*iP*	**Pb**	**20 07 37.1**	**-0.8**
NICH				*i* S	**Sb**	**20 07 49.4**	**-0.6**
TACH	**Talagante**	**1.06**	**51**	⇑*iP*	**Pb**	**20 07 40.0**	**-1.0**
TACH				*i* S4	**Sg**	**20 07 54.1**	**+0.1**
RCDM	**Rinconada Maip**	**1.25**	**48**	*e*P1	**Pn**	**20 07 43.4**	**-0.9**
RCDM				IAML		20 07 59.1	
	comp=N,2μm,0.6s						
ANTU	**Antumapu**	**1.31**	**55**	*eP*	**Pn**	**20 07 44.8**	**-0.4**
ANTU				*i* S	**Sg**	**20 08 02.8**	**+0.7**
ANTU				IAML		20 08 03.3	
	comp=E,4μm,0.2s						
SAN	**Santiago**	**1.36**	**50**	*eP*	**Pn**	**20 07 45.4**	**-0.5**
SJCH	**San Jose de Ma**	**1.47**	**63**	*e*P9	**Pn**	**20 07 46.4**	**-1.0**
SJCH				*e*S	**Sb**	**20 08 06.8**	**-0.3**
CLCH	**Cerro Calan**	**1.48**	**51**	*eP*	**Pn**	**20 07 47.6**	**0.0**
CLCH				*e*S	**Sb**	**20 08 07.8**	**+0.5**
CLCH				IAML		20 08 16.2	
	comp=E,3μm,0.7s						
LNCH	**Linares**	**1.54**	**170**	⇑*iP*	**Pn**	**20 07 47.7**	**-0.5**
LNCH				*i* S	**Sn**	**20 08 08.2**	**-0.5**
PEL	**Peldehue**	**1.57**	**41**	*e*P4	**Pn**	**20 07 49.7**	**+1.0**
PEL				*e*S	**Sg**	**20 08 10.6**	**+0.2**
PEL				IAML		20 08 13.3	
	comp=N,6μm,0.7s						
CFAA	**Coronel Fontan**	**4.12**	**50**	Pn	**Pn**	**20 08 26.0**	**+2.2**
	comp=N,0.5nm,0.3s,baz=173,slow=1.4,SNR=8.9						
CFAA				Lg	Lg	20 09 31.2	
	comp=N,1.2nm,0.3s,baz=308,slow=22,SNR=16						
PLCA	**Paso Flores**	**6.48**	**171**	Pn	**Pn**	**20 08 57.9**	**+1.6**
	comp=N,0.5nm,0.3s,baz=342,slow=8.1,SNR=4.9						
PLCA				Lg	Lg	20 10 41.9	
	comp=N,0.1nm,0.3s,baz=270,slow=21,SNR=3.6						
PLCA	**Paso Flores**	**6.48**	**171**	*eP*	**Pn**	**20 08 56.8**	**+0.4**
PLCA				Lg	Lg	20 10 41.9	
TRQA	**Tornquist**	**8.85**	**118**	P	**Pn**	**20 09 29.7**	**+1.0**
LPAZ	**La Paz**	**18.29**	**12**	P	**P**	**20 11 35.7**	**+0.1**
	comp=N,0.2nm,0.3s,baz=170,slow=8.4,SNR=8.9						
LPAZ	**La Paz**	**18.29**	**12**	*eP*	**P**	**20 11 36.1**	**+0.5**
	comp=N,6.2nm,1.1s						
SIV	**San Ignacio**	**20.70**	**31**	P	**P**	**20 12 00.6**	**-0.8**
	comp=N,2.0nm,0.6s,baz=250,slow=9.4,SNR=3.7						
QSPA	**South Pole Qui**	**55.91**	**180**	P	**P**	**20 16 59.9**	**+1.0**
	comp=N,1.8nm,0.9s,baz=189,slow=6.3,SNR=3.7						
QSPA	**South Pole Qui**	**55.91**	**180**	*eP*	**P**	**20 16 59.6**	**+0.7**
	comp=N,3.5nm,1.1s						
BOSA	**Boshof**	**79.83**	**118**	P	**P**	**20 19 31.5**	**+1.4**
	comp=N,2.2nm,0.8s,baz=248,slow=5.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**84.23**	**70**	P	**P**	**20 19 52.5**	**-0.7**
	comp=N,0.9nm,0.9s,baz=261,slow=4.8,SNR=4.6						
WRA	**Warramunga Arr**	**120.52**	**209**	PKP	**PKPdf**	**20 26 12.2**	**-1.3**
	comp=N,0.2nm,0.6s,baz=164,slow=1.9,SNR=3.1						
ZALV	**Zalesovo Beam**	**154.45**	**33**	PKPbc	**PKPbc**	**20 27 20.7**	**-0.5**
	comp=N,0.4nm,0.4s,baz=278,slow=4.3,SNR=3.8						

*BJI **11** 20:11:19.1,34°.30S×71°.70W,h2km,mB5.7/41,Ms5.5/43, Ms7 5.5/45*
*IDC **11** 20:11:19.2±0.3,34°.37S×71°.86W,h0km,mb5.2/28, mb1 5.3/30,mb1mx5.3/37,mbtmp5.2/30,ML5.1/2,MS5.2/19, Ms1 5.2/19,ms1mx5.0/25,Error ellipse: s-maj=15.2km s-min=10.6km az=79.0*
*GCMT **11** 20:11:20.4±0.2,34°.62S×72°.08W,h19km,MW5.6/95, Moment Tensor Solution. s49,c61; s95,c164; Duration: 1ϑ6 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.27±.12; $M_{\theta\theta}$0.15±.06; $M_{\phi\phi}$3.12±.08; $M_{r\theta}$-1.41±.18; $M_{\theta\phi}$-0.86±.04; $M_{\phi r}$0.07±.14; Best double couple: $M_0$3.58400×10^{17} NP1:ϕ_s146.00000°,δ52.00000°,λ-115.00000°. NP2: ϕ_s3.00000°,δ44.00000°,λ-61.00000°. Principal axes: T 3.3840, Plg4.0000°, Azm253.0000°; N 0.3980, Plg20.0000°, Azm162.0000°; P -3.7840, Plg70.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 20:11:20.4,34°.38S×71°.98W,h8km,mb5.7/152, MS5.3/101,ML5.8(GUC),After GUC.*
NEIC Felt [V] at Pichilemu; [IV] at Curico, Maipo, Rancagua, San Antonio and Talagante; [III] at Colbun, Linares, Longavi, Melipilla, Parral, Puchuncavi, Quillota, San Fernando, Santiago and Talca. Also felt at Chillan, Lampa, Penaflor, Puente Alto, San Bernardo, Valparaiso and Vina del Mar.
*GUC **11** 20:11:20.4±0.6,34°.38S×71°.98W,h8km±4km,ML5.8*
*ISCJB **11** 20:11:21.6±1.0,34°.37S±0°.03×71°.90W±0°.04,h24km±6km, mb5.6/184,MS5.2/138,Error ellipse: s-maj=6.2km s-min=4.0km az=163.6*
*MOS **11** 20:11:23.9±1.0,34°.22S×71°.92W,h33km,mb5.8/64, MS5.2/39,Error ellipse: s-maj=12.0km s-min=6.7km az=94.7*

ISC 11 20:11:21.6±0.9,34°.38S±0°.03×71°.91W±0°.05,h16km±4km, n1094,σ0.95/1081,mb5.7/184,MS5.3/138,243C-242D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.59**	**45**	⇑*iP*	**Pg**	**20 11 32.9**	**-0.4**
LNV	**Longovilo**	**0.59**	**45**	⇑*iP*	**Pg**	**20 11 32.9**	**-0.4**
CACH	**El Canelo**	**1.12**	**77**	⇑*iP*	**Pb**	**20 11 42.0**	**-0.6**
CACH	**El Canelo**	**1.12**	**77**	⇑*iP*	**Pb**	**20 11 42.0**	**-0.6**
ANTU	**Antumapu**	**1.33**	**53**	⇑*iP*	**Pn**	**20 11 45.4**	**-0.1**
ANTU				*i* S	**Sg**	**20 12 03.7**	**-1.0**
ANTU				AML	AML	20 12 05.5	
	comp=E,229μm,0.4s						
ANTU	**Antumapu**	**1.33**	**53**	⇑*iP*	**Pn**	**20 11 45.4**	**-0.1**
ANTU				*i* S	**Sg**	**20 12 03.7**	**-1.0**
IHA	**Instituto Hidr**	**1.37**	**10**	*e*P1	**Pn**	**20 11 44.8**	**-1.2**
IHA				*e*S1	**Sn**	**20 12 03.7**	**-0.1**
IHA	**Instituto Hidr**	**1.37**	**10**	*eP*	**Pn**	**20 11 44.8**	**-1.2**
IHA				*e*S	**Sn**	**20 12 03.7**	**-0.1**
PCH	**Pirque**	**1.39**	**57**	*e*P1	**Pb**	**20 11 46.4**	**-0.8**
PCH	**Pirque**	**1.39**	**57**	*eP*	**Pb**	**20 11 46.4**	**-0.8**
SAN	**Santiago**	**1.39**	**49**	*eP*	**Pn**	**20 11 46.1**	**-0.2**
SAN	**Santiago**	**1.39**	**49**	*eP*	**Pn**	**20 11 46.1**	**-0.2**
SAN	**Santiago**	**1.39**	**49**	*eP*	**Pn**	**20 11 46.1**	**-0.2**
LNCH	**Linares**	**1.49**	**170**	⇑*iP*	**Pn**	**20 11 46.6**	**-1.1**
LNCH				*i* S	**Sn**	**20 12 06.8**	**0.0**
LNCH				AML	AML	20 12 11.8	
	comp=E,180μm,0.7s						
LNCH	**Linares**	**1.49**	**170**	⇑*iP*	**Pn**	**20 11 46.6**	**-1.1**
LNCH				*i* S	**Sn**	**20 12 06.8**	**0.0**
CLCH	**Cerro Calan**	**1.51**	**50**	⇑*iP*	**Pn**	**20 11 47.6**	**-0.3**
CLCH				*i* S	**Sb**	**20 12 08.8**	**+0.7**
CLCH				AML	AML	20 12 23.2	
	comp=N,241μm,0.7s						
PEL	**Peldehue**	**1.60**	**40**	⇓*iP*	**Pn**	**20 11 48.9**	**-0.3**
PEL				*i* S	**Sb**	**20 12 10.5**	**-0.3**
PEL	**Peldehue**	**1.60**	**40**	⇓*iP*	**Pn**	**20 11 48.9**	**-0.3**
PEL				*i* S	**Sb**	**20 12 10.5**	**-0.3**
PEL				AML	AML	20 12 20.4	
	comp=N,260μm,0.6s						
PEL	**Peldehue**	**1.60**	**40**	⇓*iP*	**Pn**	**20 11 48.9**	**-0.3**
PEL				*i* S	**Sb**	**20 12 10.5**	**-0.3**
FCH	**Farellones**	**1.71**	**53**	⇑*iP*	**Pn**	**20 11 51.7**	**+0.7**
FCH				*i* S	**Sb**	**20 12 15.3**	**+1.2**
FCH	**Farellones**	**1.71**	**53**	⇑*iP*	**Pn**	**20 11 51.7**	**+0.7**
FCH				*i* S	**Sb**	**20 12 15.3**	**+1.2**
CFAA	**Coronel Fontan**	**4.14**	**49**	Pn	**Pn**	**20 12 24.4**	**+0.2**
	comp=N,3.4nm,0.3s,baz=226,slow=12,SNR=49						
CFAA				Lg	Lg	20 13 23.2	
	comp=N,29nm,0.3s,baz=76,slow=14,SNR=6.4						
CFAA				LR	LR	20 14 11.5	
	comp=N,4μm,18.6s,baz=222,slow=42						
LCO	**Las Campanas**	**5.45**	**11**	*eP*	**Pn**	**20 12 41.6**	**-0.8**
	comp=N,787nm,0.7s						
PLCA	**Paso Flores**	**6.43**	**171**	*eP*	**Pn**	**20 12 56.2**	**+0.5**
PLCA	**Paso Flores**	**6.43**	**171**	Pn	**Pn**	**20 12 56.8**	**+1.1**
	comp=N,11nm,0.3s,baz=340,slow=10,SNR=70						
PLCA				Lg	Lg	20 14 37.6	
	comp=N,5.9nm,0.3s,baz=58,slow=21,SNR=3.1						
PLCA	**Paso Flores**	**6.43**	**171**	*eP*	**Pn**	**20 12 56.2**	**+0.5**
	comp=N,0.2nm,0.3s						
PLCA				Lg	Lg	20 14 37.6	
TRQA	**Tornquist**	**8.82**	**117**	*eP*	**Pn**	**20 13 31.2**	**+2.7**
	comp=N,755nm,1.4s						
LVC	**Limon Verde**	**12.02**	**13**	*eP*	Pn	20 14 07.2	-5.2
	comp=N,106nm,0.8s						
LPAZ	**La Paz**	**18.33**	**12**	*eP*	**P**	**20 15 36.0**	**+0.1**
LPAZ	**La Paz**	**18.33**	**12**	P	**P**	**20 15 36.3**	**+0.4**
	comp=N,2.4nm,0.3s,baz=182,slow=9.1,SNR=108						
LPAZ	**La Paz**	**18.33**	**12**	*eP*	**P**	**20 15 36.0**	**+0.1**
	comp=N,25nm,0.4s						
EFI	**East Falkland**	**19.97**	**154**	P	**P**	**20 15 52.8**	**-0.1**
	comp=N,821nm,0.7s,SNR=12						
EFI	**East Falkland**	**19.97**	**154**	*eP*	**P**	**20 15 51.9**	**-1.0**
EFI	**East Falkland**	**19.97**	**154**	*eP*	**P**	**20 15 51.9**	**-1.0**
	comp=N,282nm,1.3s						
USHA	**Ushuaia**	**20.59**	**174**	P	**P**	**20 16 00.6**	**+0.9**
	comp=N,63nm,0.9s,baz=330,slow=5.6,SNR=12						
USHA				LR	LR	20 24 42.1	
	comp=N,12μm,19.1s,baz=333,slow=39						
SIV	**San Ignacio**	**20.74**	**31**	P	**P**	**20 16 01.5**	**-0.1**
	comp=N,70nm,0.8s,baz=224,slow=10,SNR=138						
SIV				LR	LR	20 25 02.4	
	comp=N,7μm,18.1s,baz=221,slow=40						
NNA	**Nana**	**22.74**	**347**	P	**P**	**20 16 24.7**	**+1.6**
	comp=N,624nm,1.2s,SNR=7.8						
NNA	**Nana**	**22.74**	**347**	*eP*	**P**	**20 16 23.3**	**+0.2**
NNA	**Nana**	**22.74**	**347**	P	**P**	**20 16 24.3**	**+1.2**
	comp=N,57nm,0.8s,baz=191,slow=11,SNR=15						
NNA				LR	LR	20 23 19.0	
	comp=N,3μm,21.3s,baz=170,slow=32						
NNA	**Nana**	**22.74**	**347**	*eP*	**P**	**20 16 23.3**	**+0.2**
	comp=N,389nm,1.5s						
SAML	**Samuel**	**26.55**	**20**	*eP*	**P**	**20 16 58.8**	**0.0**
	comp=N,71nm,0.9s						
ATAH	**Atahualpa**	**27.76**	**346**	P	**P**	**20 17 11.2**	**+1.1**
	comp=N,13nm,0.9s,baz=168,slow=7.5,SNR=17						
ATAH				LR	LR	20 27 02.6	
	comp=N,2μm,19.0s,baz=170,slow=34						
BDFB	**Brasilia**	**28.46**	**55**	P	**P**	**20 17 15.7**	**-0.4**
BDFB				pmax	pmax		
	comp=Z,20nm,0.7s						
BDFB				MLR	MLR		
	comp=Z,17nm,28.6s						
BDFB	**Brasilia**	**28.46**	**55**	P	**P**	**20 17 15.7**	**-0.4**
	comp=Z,20nm,0.7s,baz=226,slow=8.9,SNR=14						
BDFB				LR	LR	20 30 09.0	
	comp=Z,12μm,19.8s,baz=224,slow=40						
PMSA	**Palmer Station**	**30.80**	**173**	LR	LR	20 29 58.4	
	comp=Z,6μm,19.5s,baz=336,slow=36						
HOPE	**Hope Point**	**31.73**	**140**	PFAKE		20 18 00.0	+16
HOPE				LR	LR		
	comp=Z,2μm,21.0s						
RPN	**Rapa Nui**	**32.83**	**272**	LR	LR	20 27 45.4	
	comp=Z,7μm,20.4s,baz=104,slow=30						
OTAV	**Otavalo**	**34.98**	**349**	*eP*	**P**	**20 18 14.6**	**+1.0**
	comp=Z,95nm,1.1s						
PTGA	**Pitinga**	**35.29**	**21**	*eP*	**P**	**20 18 15.0**	**-0.8**
	comp=Z,96nm,0.9s						
PAYG	**Puerto Ayora**	**37.68**	**329**	*eP*	**P**	**20 18 37.3**	**+1.1**
	comp=Z,269nm,1.5s						
ROSC	**El Rosal**	**39.09**	**356**	P	**P**	**20 18 50.2**	**+1.7**
	comp=Z,16nm,0.7s,baz=183,slow=3.7,SNR=18						
ROSC				LR	LR	20 35 11.9	
	comp=Z,3μm,21.2s,baz=192,slow=37						
SDV	**Santo Domingo**	**43.04**	**2**	*eP*	**P**	**20 19 19.9**	**-0.9**
	comp=Z,93nm,0.9s						
RCBR	**Riachuelo**	**43.75**	**58**	*eP*	**P**	**20 19 26.8**	**+0.3**
	comp=Z,146nm,1.5s						
BCIP	**Isla Barro Col**	**43.95**	**349**	*eP*	**P**	**20 19 29.0**	**+1.1**
	comp=Z,125nm,1.3s						
BCIP				LR	LR		
	comp=Z,875nm,20.0s						
ACR	**Cerro Adams**	**44.11**	**344**	*eP*	**P**	**20 19 31.7**	**+2.5**
QCR	**Quepos**	**45.09**	**343**	*eP*	**P**	**20 19 37.8**	**+0.9**
BUS	**Buena Vista**	**45.12**	**343**	*eP*	**P**	**20 19 38.5**	**+0.8**
JTS	**JuntasAbangare**	**46.12**	**342**	P	**P**	**20 19 46.2**	**+1.1**
	comp=Z,235nm,1.1s,SNR=11						
JTS	**JuntasAbangare**	**46.12**	**342**	*d iP*	**P**	**20 19 46.3**	**+1.1**
JTS				pmax	pmax		
	comp=Z,271nm,2.5s						
JTS	**JuntasAbangare**	**46.12**	**342**	P	**P**	**20 19 45.7**	**+0.5**
	comp=Z,14nm,0.7s,baz=152,slow=6.7,SNR=20						
JTS	**JuntasAbangare**	**46.12**	**342**	*eP*	**P**	**20 19 46.8**	**+1.6**
	comp=Z,151nm,1.6s						
JTS				LR	LR		
	comp=Z,1μm,21.0s						
GRGR	**Grenville**	**47.27**	**14**	*eP*	**P**	**20 19 54.0**	**-0.1**
	comp=Z,138nm,0.7s						
GRGR				LR	LR		
	comp=Z,3μm,20.0s						
BBGH	**Gun Hill**	**48.70**	**16**	PFAKE		20 20 20.0	+15
BBGH				LR	LR		
	comp=Z,5μm,21.0s						
VNA3	**Neumayer Olymp**	**48.97**	**158**	P	**P**	**20 20 07.8**	**+1.0**
VNA1	**Neumayer--Stat**	**49.28**	**157**	P	**P**	**20 20 11.0**	**+1.9**
VNA2	**Neumayer--Watz**	**49.62**	**157**	P	**P**	**20 20 12.6**	**+0.8**
FDF	**Fort de France**	**49.90**	**14**	*eP*	**P**	**20 20 13.6**	**-0.9**
FDF				pmax	pmax		
	comp=Z,80nm,0.9s						
FDF				MLR	MLR		
	comp=Z,4μm,20.0s						
FDF	**Fort de France**	**49.90**	**14**	*eP*	**P**	**20 20 13.6**	**-0.9**
	comp=Z,80nm,0.9s						
FDF				LR	LR		
	comp=Z,4μm,20.0s						
SNAA	**Sanae**	**51.20**	**158**	P	**P**	**20 20 24.4**	**+0.7**
SNAA	**Sanae**	**51.20**	**158**	⇓*iP*	**P**	**20 20 23.6**	**-0.1**
SNAA	**Sanae**	**51.20**	**158**	*d iP*	**P**	**20 20 23.6**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,301nm,1.7s						
SNAA	**Sanae**	**51.20**	**158**	P	**P**	**20 20 23.9**	**+0.2**
	comp=Z,37nm,1.0s,baz=287,slow=6.3,SNR=54						
SNAA	**Sanae**	**51.20**	**158**	*eP*	**P**	**20 20 23.7**	**-0.1**
	comp=Z,252nm,1.3s						
CRPR	**Cabo Rojo, PR**	**52.29**	**6**	*eP*	**P**	**20 20 31.6**	**-0.7**
	comp=Z,48nm,0.8s						
OBIP	**Obispado Ponce**	**52.37**	**6**	*eP*	**P**	**20 20 32.3**	**-0.6**
	comp=Z,79nm,0.9s						
CELP	**Cerrillos**	**52.41**	**6**	*eP*	**P**	**20 20 32.5**	**-0.6**
LSP	**Las Mesas**	**52.46**	**6**	*eP*	**P**	**20 20 33.2**	**-0.5**
MTDJ	**Mount Denham**	**52.59**	**353**	PFAKE		20 20 50.0	+15
MTDJ				LR	LR		
	comp=Z,1μm,20.0s						
LRS	**Lares**	**52.60**	**6**	*eP*	**P**	**20 20 33.7**	**-1.0**
CBYP	**Canovanas**	**52.67**	**7**	*eP*	**P**	**20 20 33.8**	**-1.4**
	comp=Z,156nm,1.6s						
SDDR	**Presa de Saban**	**53.07**	**1**	*eP*	**P**	**20 20 37.7**	**-0.4**
	comp=Z,34nm,1.0s	

baz=68
833A Chaparral WMA, 67.57 334 ⇓P P 20 22 17.6 +0.4
baz=68,SNR=23
NHSC New Hope 67.58 352 PFAKE 20 22 30.0 +13
NHSC LR LR
comp=Z,1µm,20.0s
734A La Parita Cree 67.75 335 ⇑P P 20 22 19.1 +0.8
baz=68
832A Faith Ranch, C 67.75 333 ⇑P P 20 22 18.7 +0.4
baz=68,SNR=29
636A Smothers Creek 67.81 336 ⇑P P 20 22 20.0 +1.3
baz=68,SNR=15
HKT Hockley 67.85 338 *e*P P 20 22 20.0 +1.2
HKT pmax pmax
comp=Z,169nm,1.7s
HKT Hockley 67.85 338 *e*P P 20 22 20.0 +1.2
comp=Z,169nm,1.7s
733A Divot King Ran 67.89 334 ⇓P P 20 22 19.6 +0.4
baz=68,SNR=13
635A Leesville 67.97 336 ⇓P P 20 22 20.1 +0.4
baz=68
538A Harpers Horsep 68.00 338 ⇑P P 20 22 21.4 +1.6
baz=68
537A Green Hill Far 68.13 337 ⇑P P 20 22 21.7 +1.1
baz=68,SNR=6.2
732A Laxson Ranch, 68.15 334 ⇓P P 20 22 21.5 +0.7
baz=68,SNR=7.7
732A ⇑S S 20 31 24.1 +3.9
baz=68
634A China Grove, S 68.16 335 ⇑P P 20 22 21.4 +0.5
baz=68
GOGA Godfrey 68.30 350 *e*P P 20 22 21.2 -0.5
GOGA pmax pmax
comp=Z,109nm,1.4s
GOGA MLR MLR
comp=Z,498nm,20.0s
GOGA Godfrey 68.30 350 *e*P P 20 22 21.1 -0.5
comp=Z,109nm,1.4s
GOGA LR LR
comp=Z,498nm,20.0s
536A Bastrop 68.37 337 ⇓P P 20 22 23.2 +1.1
baz=69
438A Sam Houston St 68.49 338 ⇑P P 20 22 24.1 +1.2
baz=69,SNR=7.1
535A Dale 68.49 336 ⇑P P 20 22 23.6 +0.7
baz=69
633A Saathoff Ranch 68.52 335 ⇓P P 20 22 23.8 +0.7
baz=69,SNR=13
LRAL Lakeview Retre 68.54 346 *e*P P 20 22 23.2 0.0
340A Bronson 68.64 340 ⇓P P 20 22 24.2 +0.4
baz=69
339A Huntington 68.76 339 ⇑P P 20 22 25.2 +0.6
baz=69
437A Phantom Ranch, 68.77 338 ⇑P P 20 22 25.7 +1.1
baz=69
632A Uvalde 68.78 334 ⇓P P 20 22 25.3 +0.5
baz=69,SNR=35
534A Blanco 68.80 335 ⇑P P 20 22 25.2 +0.3
baz=69,SNR=6.3
MEH Mehetia 68.90 262 *e*T T 21 37 10.0
comp=Z,175nm,0.2s
436A Wall Ranch, Ga 68.92 337 ⇓P P 20 22 26.3 +0.7
baz=69
631A Perdido Creek 68.99 333 ⇓P P 20 22 26.3 +0.3
baz=69,SNR=14
338A Crockett 69.00 339 ⇑P P 20 22 27.1 +1.0
baz=69,SNR=6.9
533A Kerrville 69.03 335 ⇑P P 20 22 26.9 +0.5
baz=69,SNR=8.7
337A Centerville 69.14 338 ⇑P P 20 22 27.9 +1.0
baz=69,SNR=6.0
NATX Nacogdoches 69.19 339 *e*P P 20 22 28.5 +1.3
comp=Z,213nm,1.3s
435B Jarrell 69.19 336 ⇑P P 20 22 27.6 +0.3
baz=70
239A Gary 69.37 340 ⇓P P 20 22 29.0 +0.6
baz=70
532A Rocksprings 69.39 334 ⇑P P 20 22 29.6 +1.0
baz=70,SNR=50
434A Burnet 69.45 336 ⇑P P 20 22 29.3 +0.4
baz=70,SNR=25
CNNC Cliffs of the 69.48 355 PFAKE 20 22 40.0 +11
CNNC LR LR
comp=Z,908nm,19.0s
336A Riesel 69.51 337 ⇓P P 20 22 29.7 +0.5
baz=70,SNR=16
238A Jacksonville 69.55 339 ⇑P P 20 22 30.6 +1.1
baz=70
335A Moody 69.60 337 ⇑P P 20 22 30.4 +0.6
baz=70,SNR=9.1
531A Rocksprings 69.66 334 ⇓P P 20 22 30.9 +0.6
baz=70,SNR=34
433A Art 69.67 335 ⇑P P 20 22 30.5 +0.2
baz=70,SNR=54
JCT Junction City 69.67 334 *e*P P 20 22 31.1 +0.8
JCT pmax pmax
comp=Z,251nm,1.5s
JCT MLR MLR
comp=Z,413nm,19.0s
JCT Junction City 69.67 334 ⇑P P 20 22 31.0 +0.6
baz=70,SNR=22
JCT Junction City 69.67 334 *e*P P 20 22 31.1 +0.8
comp=Z,251nm,1.5s
JCT LR LR
comp=Z,413nm,19.0s
KMSC Kings Mountain 69.72 352 ⇑P P 20 22 30.2 -0.3
baz=70,SNR=6.8
KMSC Kings Mountain 69.72 352 *e*P P 20 22 30.6 +0.1
comp=Z,37nm,1.0s
237A Washetta, Mont 69.75 338 ⇑P P 20 22 31.3 +0.6
baz=70,SNR=6.5
VAH Vaihoa 69.89 265 *e*P P 20 22 32.0 -0.1
comp=Z,90nm,1.5s
334A Lometa 69.91 336 ⇓P P 20 22 32.2 +0.4
baz=70,SNR=19
TVO Taravao 69.92 262 *e*P P 20 22 32.8 +0.5
comp=Z,8.2nm,0.9s
TVO Taravao 69.92 262 *e*T T 21 38 26.4
comp=Z,9.5nm,0.2s
530A J-C Ranch, Com 69.94 333 ⇑P P 20 22 32.6 +0.6
baz=70,SNR=45
432A Menard 70.03 335 ⇓P P 20 22 32.4 -0.1
baz=70,SNR=10.0
TIAR Tiarei 70.11 262 *e*T T 21 38 40.7
comp=Z,34nm,0.2s
TXAR Lajitas Array 70.11 331 P P 20 22 33.6 +0.4
TXAR pmax pmax
comp=Z,8.0nm,0.7s
TXAR Lajitas Array 70.11 331 P P 20 22 33.6 +0.4
comp=Z,7.7nm,0.7s,baz=152,slow=8.3,SNR=28
431A Sonora 70.15 334 ⇑P P 20 22 33.5 +0.2
baz=70,SNR=16
138A Matatall Enter 70.16 339 ⇑P P 20 22 33.8 +0.6
baz=70,SNR=5.8
333A Richland Sprin 70.16 336 ⇑P P 20 22 33.3 0.0
baz=70,SNR=17
PMOR Pomariorio Ree 70.23 265 *e*P P 20 22 34.5 +0.3
comp=Z,50nm,1.4s
529A Stev Forest Ra 70.25 332 ⇑P P 20 22 34.4 +0.5
baz=70,SNR=18
PAE Paea 70.25 262 *e*P P 20 22 34.4 +0.2
comp=Z,20nm,1.3s
PAE Paea 70.25 262 *e*T T 21 38 51.1
comp=Z,4.5nm,0.2s
WHTX Lake Whitney, 70.26 337 ⇑P P 20 22 33.8 0.0
baz=71,SNR=12
WHTX Lake Whitney, 70.26 337 *e*P P 20 22 34.4 +0.6
comp=Z,230nm,1.5s
PPT2 Papeete2 70.28 262 *e*P P 20 22 35.1 +0.5
comp=Z,91nm,1.4s
PPT2 *e*S S 20 31 42.3 -4.0
comp=Z,1µm,23.5s
PPT2 Papeete2 70.28 262 *e*LR LR 20 43 55.9
comp=Z,7µm,27.0s,baz=119
137A Heron Place, G 70.29 339 ⇑P P 20 22 34.9 +0.9
baz=71,SNR=8.6
PPT Papeete 70.30 262 P P 20 22 35.0 +0.4
PPT pmax pmax
comp=Z,35nm,0.8s
PPT MLR MLR
comp=Z,1µm,19.1s
PPT Papeete 70.30 262 P P 20 22 35.0 +0.4
comp=Z,35nm,0.8s,baz=2.7,slow=2.4,SNR=4.6
PPT LR LR 20 45 34.2
comp=Z,1µm,19.1s,baz=130,slow=29
CPCT Cooper Cave 70.46 349 *e*P P 20 22 37.7 +2.7
OXF Oxford 70.47 345 *e*P P 20 22 34.8 -0.2
OXF pmax pmax
comp=Z,175nm,1.0s
OXF Oxford 70.47 345 *e*P P 20 22 34.8 -0.2
comp=Z,175nm,1.0s
430A Baggett Ranch, 70.47 333 ⇓P P 20 22 35.9 +0.6
baz=71,SNR=28
332A Millersview 70.47 335 ⇓P P 20 22 35.5 +0.3
baz=71,SNR=16
234A Clairette 70.49 337 ⇑P P 20 22 35.3 -0.1
baz=71,SNR=15
TKL Tuckaleechee C 70.55 350 P P 20 22 35.2 -0.4
TKL pmax pmax
comp=Z,23nm,0.7s
TKL Tuckaleechee C 70.55 350 P P 20 22 35.2 -0.4
comp=Z,23nm,0.7s,baz=166,slow=3.9,SNR=8.1
429A Davenport Ranc 70.57 333 ⇑P P 20 22 36.3 +0.5
baz=71,SNR=38
331A San Angelo 70.65 334 ⇑P P 20 22 36.4 +0.1
baz=71,SNR=12
233A Rising Star 70.76 336 ⇓P P 20 22 37.1 +0.2
baz=71,SNR=12
135A Vickery Place, 70.77 337 ⇓P P 20 22 37.0 +0.1
baz=71
232A Coleman 70.90 335 ⇓P P 20 22 37.7 -0.1
baz=71,SNR=28
134A White-Moore Ra 71.00 337 ⇓P P 20 22 38.3 0.0
baz=71,SNR=8.8
330A Mertzon 71.01 334 ⇑P P 20 22 38.0 -0.5
baz=71,SNR=12
231A Bronte 71.17 335 ⇓P P 20 22 39.8 +0.3
baz=72,SNR=14
133A Hamilton Ranch 71.31 336 ⇓P P 20 22 39.9 -0.3
baz=72,SNR=22
329A Wagon Wheel Ra 71.38 333 ⇓P P 20 22 40.9 +0.1
baz=72,SNR=13
UALR University of 71.41 342 *e*P P 20 22 41.0 +0.3
comp=Z,46nm,1.2s
230A Sterling City 71.42 334 ⇓P P 20 22 40.7 -0.3
baz=72
Z35A Perchaven, San 71.43 338 ⇑P P 20 22 41.0 0.0
baz=72,SNR=13
MIAR Mount Ida 71.50 341 *e*P P 20 22 41.2 -0.2
MIAR pmax pmax
comp=Z,93nm,1.5s
MIAR MLR MLR
comp=Z,413nm,19.0s
MIAR Mount Ida 71.50 341 *e*P P 20 22 41.2 -0.2
comp=Z,93nm,1.5s
MIAR LR LR
comp=Z,413nm,19.0s
ABTX Abilene, Hawle 71.57 336 ⇓P P 20 22 42.0 +0.2
baz=72,SNR=18
ABTX Abilene, Hawle 71.57 336 *e*P P 20 22 41.9 0.0
comp=Z,232nm,1.4s
BLA Blacksburg 71.67 353 *e*P P 20 22 42.8 +0.5
BLA pmax pmax
comp=Z,60nm,1.3s
BLA MLR MLR
comp=Z,1µm,21.0s
BLA Blacksburg 71.67 353 *e*P P 20 22 42.8 +0.5
comp=Z,60nm,1.3s
BLA LR LR
comp=Z,1µm,21.0s
Z34A Collier Ranch, 71.68 337 ⇑P P 20 22 42.7 +0.2
baz=72,SNR=5.6
WVT Waverly 71.70 346 *e*P P 20 22 42.1 -0.4
WVT Waverly 71.70 346 *e*P P 20 22 42.0 -0.4
BBTS Babate 71.73 57 P P 20 22 43.4 +0.2
comp=Z,46nm,1.0s,baz=321,slow=1.0,SNR=5.8
229A Bryant Ranch, 71.74 334 ⇓P P 20 22 42.7 -0.3
baz=72,SNR=7.0
HALT Halls 71.80 345 *e*P P 20 22 43.6 +0.5
131A Roby 71.87 335 ⇑P P 20 22 43.7 0.0
baz=72,SNR=14
Z33A Whitaker Ranch 71.88 337 ⇑P P 20 22 44.0 +0.3
baz=72,SNR=16
JSRW J. Sargeant Re 71.92 355 *e*P P 20 22 44.6 +0.8
130A Snyder 72.00 334 ⇑P P 20 22 44.3 -0.2
baz=72,SNR=6.6
Z32A Haskell 72.13 336 ⇑P P 20 22 45.0 -0.2
baz=72,SNR=33
228A UT Block 9, Go 72.17 333 ⇑P P 20 22 45.6 +0.1
baz=72,SNR=12
Y34A Reagan Ranch, 72.17 338 ⇑P P 20 22 45.3 -0.1
baz=72,SNR=14
129A Stewart Farms, 72.36 334 ⇓P P 20 22 46.4 -0.3
baz=73,SNR=5.3
Z31A Sharp Cattle R 72.37 335 ⇑P P 20 22 46.8 +0.2
baz=73,SNR=21
Y33A Hilltop Ranch, 72.50 337 ⇑P P 20 22 47.3 0.0
baz=73,SNR=12
128A Castleberry Fa 72.58 333 ⇓P P 20 22 48.2 +0.2
baz=73,SNR=22
Z30A Sanderson Ranc 72.69 335 ⇓P P 20 22 48.1 -0.5
baz=73,SNR=22
Y32A R-V Farms, Ver 72.76 336 ⇓P P 20 22 49.1 +0.2
baz=73,SNR=7.3
MAW Mawson 72.79 163 LR LR 20 56 03.1
comp=Z,2µm,18.4s,baz=224,slow=37
X34A Smith Ranch, M 72.79 338 ⇓P P 20 22 49.3 +0.2
baz=73,SNR=9.1
Z29A Hungry Hill Ra 72.87 334 ⇑P P 20 22 49.5 -0.1
baz=73,SNR=18
X33A Lawton 72.94 337 ⇑P P 20 22 49.6 -0.4
baz=73
Y31A Rekieta Farm, 73.00 336 ⇑P P 20 22 50.7 +0.3
baz=73
X32A Elmer 73.09 337 ⇓P P 20 22 50.8 0.0
baz=73,SNR=6.5
Y30A Stafford Cattl 73.14 335 ⇓P P 20 22 51.1 -0.1
baz=73,SNR=8.3
Z28A Tucker Farm, M 73.14 334 ⇓P P 20 22 50.6 -0.7
baz=73
WMOK Wichita Mounta 73.22 337 *e*P P 20 22 51.2 -0.4
WMOK pmax pmax
comp=Z,82nm,1.5s
WMOK Wichita Mounta 73.22 337 *e*P P 20 22 51.2 -0.4
comp=Z,82nm,1.5s
W34A Bridge Creek, 73.36 338 ⇓P P 20 22 52.4 0.0
baz=74,SNR=5.7
W34A Bridge Creek, 73.36 338 *e*P P 20 22 52.7 +0.2
comp=Z,34nm,0.9s
Y29A Porterfield Fa 73.40 334 ⇑P P 20 22 52.5 -0.3
baz=74,SNR=17
TUL1 Leonard 73.40 340 ⇓P P 20 22 52.3 -0.4
baz=74,SNR=11
TUL1 Leonard 73.40 340 *e*P P 20 22 52.9 +0.2
comp=Z,114nm,1.2s
USIN University of 73.45 347 *e*P P 20 22 52.4 -0.5
comp=Z,176nm,1.4s
WCI Wyandotte Cave 73.47 348 *e*P P 20 22 51.8 -1.2
WCI pmax pmax
comp=Z,18nm,0.8s
WCI Wyandotte Cave 73.47 348 *e*P P 20 22 51.8 -1.2
comp=Z,18nm,0.8s
W33A Caddo, Fort Co 73.50 338 ⇓P P 20 22 53.6 +0.3
baz=74,SNR=17
X31A McDonald Ranch 73.51 336 ⇑P P 20 22 53.3 -0.1
baz=74,SNR=13
SIUC Southern Illin 73.51 346 *e*P P 20 22 53.1 -0.1
comp=Z,46nm,0.9s
SDMD Soldier's Deli 73.56 356 *e*P P 20 22 54.1 +0.6
comp=Z,118nm,1.6s
X30A Coker Ranch, T 73.65 335 ⇓P P 20 22 54.1 -0.1
baz=74
Y28A McKinney Farm, 73.65 334 ⇓P P 20 22 54.0 -0.3
baz=74,SNR=8.6
W32A Sentinel 73.72 337 ⇑P P 20 22 54.5 0.0
baz=74,SNR=22
V34A Guthrie 73.83 339 ⇓P P 20 22 54.8 -0.4
baz=74,SNR=8.4
V34A Guthrie 73.83 339 *e*P P 20 22 55.5 +0.3
comp=Z,245nm,1.5s
MSTX Muleshoe 73.89 334 ⇓P P 20 22 55.4 -0.3
baz=74,SNR=19
MSTX Muleshoe 73.89 334 *e*P P 20 22 56.1 +0.4
comp=Z,117nm,1.3s
X29A Tulia 73.93 335 ⇓P P 20 22 56.2 +0.2
baz=74,SNR=11
Y27A Causey 73.96 333 ⇑P P 20 22 56.1 -0.1
baz=74,SNR=11
W31A Holland Ranch, 74.00 336 ⇑P P 20 22 56.1 -0.2
baz=74,SNR=9.3
V33A Lossen Ranch, 74.06 338 ⇓P P 20 22 56.8 +0.2
baz=74,SNR=20
X28A Dimmitt 74.18 334 ⇑P P 20 22 57.5 +0.1
baz=74
W30A Crocket Farms 74.21 336 ⇑P P 20 22 57.5 0.0
baz=74
319A Douglas 74.28 327 ⇑P P 20 22 59.3 +1.2
baz=74,SNR=23
OLIL Olney 74.28 347 *e*P P 20 22 56.9 -0.8
comp=Z,18nm,0.6s
AMTX Amarillo 74.32 335 ⇓P P 20 22 58.6 +0.4
baz=75
AMTX Amarillo 74.32 335 *e*P P 20 22 58.8 +0.6
comp=Z,259nm,1.5s
U34A Anderson Ranch 74.40 339 ⇑P P 20 22 58.2 -0.2
baz=75,SNR=13
U34A Anderson Ranch 74.40 339 *e*P P 20 22 58.5 0.0
comp=Z,147nm,1.3s
BLO Bloomington 74.42 348 *e*P P 20 22 57.9 -0.7
BLO pmax pmax
comp=Z,35nm,0.8s
BLO Bloomington 74.42 348 *e*P P 20 22 57.9 -0.7
comp=Z,35nm,0.8s
V31A Spring Creek L 74.51 337 ⇓P P 20 22 59.9 +0.7
baz=75,SNR=7.4
W29A Amarillo 74.53 335 ⇑P P 20 22 59.6 +0.2
baz=75,SNR=15
SUR Sutherland 74.56 119 P P 20 23 02.7 +2.7
comp=Z,269nm,1.3s,SNR=7.7
SUR Sutherland 74.56 119 *e*P P 20 23 01.5 +1.4
comp=Z,132nm,1.5s
SUR LR LR
comp=Z,2µm,19.0s
SLM Saint Louis 74.61 345 *e*P P 20 22 59.9 +0.3
SLM pmax pmax
comp=Z,42nm,0.6s
SLM Saint Louis 74.61 345 *e*P P 20 22 59.9 +0.3
comp=Z,42nm,0.6s
121A Cookes Peak, D 74.61 329 ⇑P P 20 23 01.5 +1.4
baz=75,SNR=26
121A Cookes Peak, D 74.61 329 *e*P P 20 23 01.7 +1.7
comp=Z,203nm,1.5s
X27A F and S Farms, 74.62 334 ⇑P P 20 22 59.9 -0.1
baz=75,SNR=5.9
V30A Spur Ranch, Mi 74.78 336 ⇓P P 20 23 01.7 +0.9
baz=75,SNR=6.1
U32A Winter Ranch, 74.79 338 ⇓P P 20 23 01.2 +0.3
baz=75,SNR=15
LIC Lamto 74.80 71 *e*P P 20 23 01.2 -0.1
comp=Z,227nm,1.6s
X26A CR and CF Fran 74.80 333 ⇑P P 20 23 01.2 +0.2
baz=75,SNR=16
W28A Vega 74.84 335 ⇑P P 20 23 01.7 +0.5
baz=75
SSPA Standing Stone 74.85 355 *e*P P 20 23 00.7 -0.3
comp=Z,93nm,1.6s
Y24A Capitan 74.87 332 ⇑P P 20 23 01.7 +0.2
baz=75,SNR=31
Z22A Elephant Butte 74.90 330 ⇑P P 20 23 02.8 +1.1
baz=75,SNR=25
ACSO Alum Creek Sta 74.94 351 *e*P P 20 23 00.9 -0.7
ACSO pmax pmax
comp=Z,57nm,0.8s
ACSO LR LR
comp=Z,850nm,21.0s
W27A Bowe Ranch, En 74.98 334 ⇓P P 20 23 02.1 +0.1
baz=75,SNR=19
U31A Nine Bar Ranch 75.06 337 ⇑P P 20 23 03.0 +0.7
baz=75
TIC Toumodi 75.06 71 *e*P P 20 23 02.2 -0.7
comp=Z,215nm,1.6s
X25A Clemmons Ranch 75.10 332 ⇑P P 20 23 02.8 0.0
baz=75,SNR=14
KIC Kosan Boka 75.10 71 *e*P P 20 23 02.8 -0.3
comp=Z,188nm,1.0s
Y23A Lovelace Mesa, 75.12 331 ⇑P P 20 23 04.1 +1.2
baz=75,SNR=31
V29A Stinnett 75.16 335 ⇓P P 20 23 03.4 +0.4
baz=76
DBIC Dimbokro 75.20 71 *e*P P 20 23 04.1 +0.5
DBIC Dimbokro 75.20 71 *e*P P 20 23 04.4 +0.7
DBIC pmax pmax
comp=Z,175nm,1.4s
DBIC Dimbokro 75.20 71 P P 20 23 03.0 -0.6
comp=Z,47nm,0.9s,baz=205,slow=6.3,SNR=42
DBIC LR LR 20 53 58.3
comp=Z,2µm,19.4s,baz=214,slow=34
DBIC Dimbokro 75.20 71 *e*P P 20 23 04.4 +0.7
comp=Z,175nm,1.4s
T33A Patterson Ranc 75.21 338 ⇑P P 20 23 03.7 +0.5
baz=76
W26A Owens Ranch, T 75.26 333 ⇓P P 20 23 04.2 +0.5
baz=76,SNR=16
V28A Channing 75.30 335 ⇓P P 20 23 04.7 +0.8
baz=76,SNR=6.1
X24A Lazy VL Ranch, 75.43 332 ⇑P P 20 23 05.7 +0.9
baz=76
U30A WK&E Inc. Balk 75.46 336 ⇓P P 20 23 05.0 +0.3
baz=76,SNR=10
T32A Huddlet Ranch, 75.50 338 ⇑P P 20 23 05.3 +0.3
baz=76,SNR=8.5
V27A Dan Oppiter Fa 75.52 334 ⇓P P 20 23 05.9 +0.8
baz=76
Y22D IRIS PASSCAL I 75.59 331 ⇑P P 20 23 06.6 +1.0
baz=76
U29A Oasis Ranch, S 75.60 336 ⇑P P 20 23 06.2 +0.6
baz=76
S33A Kaszmaul Farm, 75.61 339 ⇓P P 20 23 06.0 +0.5
baz=76
W25A X Bar L Ranch, 75.63 333 ⇑P P 20 23 06.1 +0.3
baz=76,SNR=42
T31A Randall Ranch, 75.67 337 ⇓P P 20 23 06.7 +0.8
baz=76,SNR=8.9
LPM Los Pinos Moun 75.68 331 *e*P P 20 23 07.3 +1.2
comp=Z,52nm,1.3s
LENM Lemitar 75.69 331 *e*P P 20 23 07.7 +1.5
comp=Z,44nm,1.5s
SFIN Lafayette 75.70 348 ⇑P P 20 23 04.5 -1.3
baz=76,SNR=5.2
SFIN Lafayette 75.70 348 *e*P P 20 23 05.0 -0.8
comp=Z,35nm,1.0s
X23A Hourglass Bar 75.74 331 ⇓P P 20 23 07.6 +1.0
baz=76
TUC Tucson 75.74 327 *e*P P 20 23 07.7 +1.3
TUC pmax pmax
comp=Z,116nm,1.5s
TUC Tucson 75.74 327 *e*P P 20 23 07.7 +1.3
comp=Z,116nm,1.5s
U28A Mallet 75.86 335 ⇓P P 20 23 07.0 0.0
baz=76
V26A Tequesquite Ra 75.90 334 ⇑P P 20 23 07.4 +0.1
baz=76
T30A Plains 75.90 337 ⇑P P 20 23 07.4 +0.2
baz=76
LAZ Ladron 75.97 331 *e*P P 20 23 09.4 +1.6
comp=Z,61nm,1.5s
W24A Lazy 6 Ranch, 75.99 332 ⇑P P 20 23 08.4 +0.4
baz=76,SNR=38
S32A Newby Ranch, P 75.99 338 ⇓P P 20 23 08.3 +0.6
baz=76
ALLY Alegheny Colle 76.03 354 *e*P P 20 23 08.1 +0.3
comp=Z,19nm,0.5s
S31A Mullinville 76.08 338 ⇓P P 20 23 08.2 -0.1
baz=76
U27A Thompson Grove 76.11 335 ⇑P P 20 23 08.9 +0.4
baz=76,SNR=17
ANMO Albuquerque 76.17 331 *ce*P P 20 23 10.1 +1.2
ANMO pmax pmax
comp=Z,394nm,2.0s
ANMO Albuquerque 76.17 331 P P 20 23 09.2 +0.3
comp=Z,23nm,1.0s,baz=155,slow=8.0,SNR=51
ANMO Albuquerque 76.17 331 *e*P P 20 23 09.9 +0.9
comp=Z,68nm,1.3s
ANMO LR LR
comp=Z,489nm,20.0s
W23A Werner Place, 76.23 332 ⇑P P 20 23 10.0 +0.7
baz=76,SNR=20
V25A Rancho No Teng 76.24 333 ⇑P P 20 23 09.6 +0.2
baz=76,SNR=32
T29A Hugoton 76.25 336 ⇓P P 20 23 09.4 +0.1
baz=77
R33A Olander Ranch, 76.26 339 ⇓P P 20 23 09.3 +0.1
baz=77,SNR=6.7
BINY Binghamton 76.30 357 *e*P P 20 23 10.0 +0.7
comp=Z,97nm,1.6s
BINY LR LR
comp=Z,1µm,19.0s
214A Organ Pipe Nat 76.39 325 ⇓P P 20 23 10.9 +0.8
baz=77,SNR=22
214A Organ Pipe Nat 76.39 325 *e*P P 20 23 11.7 +1.6
comp=Z,201nm,1.7s
V24A Rampart Ranch, 76.39 333 ⇑P P 20 23 10.5 +0.3
baz=77,SNR=15
S30A Montezuma 76.41 337 ⇓P P 20 23 10.5 +0.4
baz=77,SNR=6.5

U26A	Atchley Ranch,	76.41	334	⇓P	P	20 23 10.3 0.0
	baz=77,SNR=10.0					
ERPA	Erie	76.49	354	eP	P	20 23 10.3 -0.1
	comp=Z,106nm,1.4s					
ERPA				LR	LR	
	comp=Z,769nm,19.0s					
T28A	Walsh	76.49	336	⇑P	P	20 23 10.5 -0.1
	baz=77,SNR=27					
HRV	Adam Dziewonsk	76.52	0	eP	P	20 23 11.6 +1.2
HRV				pmax	pmax	
	comp=Z,136nm,1.6s					
HRV	Adam Dziewonsk	76.52	0	eP	P	20 23 11.6 +1.2
	comp=Z,136nm,1.6s					
R32A	Long Quarter,	76.58	339	⇓P	P	20 23 11.0 0.0
	baz=77,SNR=10					
KSU1	Kansas State U	76.61	340	⇓P	P	20 23 10.9 -0.2
	baz=77,SNR=5.5					
KSU1	Kansas State U	76.61	340	eP	P	20 23 10.7 -0.4
	comp=Z,24nm,0.7s					
KSU1				LR	LR	
	comp=Z,775nm,20.0s					
S29A	Ulysses	76.61	337	⇑P	P	20 23 11.9 +0.7
	baz=77,SNR=16					
T27A	Campo	76.65	335	⇓P	P	20 23 12.1 +0.6
	baz=77,SNR=18					
U25A	Circle Dot Ran	76.66	334	⇓P	P	20 23 12.3 +0.6
	baz=77,SNR=20					
R31A	Burdett	76.71	338	⇑P	P	20 23 12.0 +0.2
	baz=77,SNR=13					
V23A	Ortiz Mt. (NFS	76.76	332	⇑P	P	20 23 13.5 +1.2
	baz=77,SNR=5.5					
WIN	Windhoek	76.84	108	eP	P	20 23 13.3 0.0
WIN				AMB	AMB	20 23 18.6
	comp=Z,22nm,1.6s					
WIN				AMS	AMS	20 50 54.9
	comp=Z,492nm,21.7s					
WIN	Windhoek	76.84	108	P	P	20 23 13.3 0.0
WIN				pmax	pmax	
	comp=Z,22nm,1.6s					
WIN	Windhoek	76.84	108	P	P	20 23 13.3 0.0
	comp=Z,22nm,1.6s					
S28A	Manter	76.84	336	⇓P	P	20 23 12.7 +0.1
	baz=77,SNR=29					
Q33A	Connelly Farm,	76.86	340	⇑P	P	20 23 12.9 +0.4
	baz=77,SNR=6.4					
R30A	Dighton	76.94	337	⇑P	P	20 23 13.6 +0.6
	baz=77,SNR=8.9					
UPI	Upington	76.97	115	eP	P	20 23 14.6 +0.8
UPI				AMB	AMB	20 23 15.4
	comp=Z,114nm,1.6s					
UPI	Upington	76.97	115	P	P	20 23 14.6 +0.8
	comp=Z,114nm,1.6s					
U24A	Moreno Valley	76.99	333	⇓P	P	20 23 14.9 +1.2
	baz=77					
T26A	Comanche Natio	77.06	335	⇓P	P	20 23 14.7 +0.7
	baz=77,SNR=13					
Q32A	Meitler Ranch,	77.06	339	⇑P	P	20 23 14.0 +0.2
	baz=77,SNR=9.8					
AAM	Ann Arbor	77.07	351	eP	P	20 23 13.3 -0.3
AAM				pmax	pmax	
	comp=Z,17nm,0.4s					
AAM				MLR	MLR	
	comp=Z,1μm,20.0s					
AAM	Ann Arbor	77.07	351	eP	P	20 23 13.3 -0.3
	comp=Z,16nm,0.4s					
AAM				LR	LR	
	comp=Z,1μm,20.0s					
V22A	San Miguel Ran	77.19	331	⇑P	P	20 23 16.0 +1.3
	baz=78,SNR=38					
P33A	Williams Farm,	77.22	340	⇓P	P	20 23 15.0 +0.4
	baz=78					
X18A	Snowflake	77.25	329	⇑P	P	20 23 16.0 +0.9
	baz=78,SNR=24					
S27A	Las Animas	77.27	335	⇓P	P	20 23 15.6 +0.6
	baz=78					
U23A	El Rito	77.27	332	⇓P	P	20 23 16.6 +1.4
	baz=78,SNR=28					
T25A	Trinidad	77.32	334	⇓P	P	20 23 16.5 +1.1
	baz=78,SNR=89					
Q31A	Ellis	77.33	338	⇑P	P	20 23 15.8 +0.6
	baz=78,SNR=11					
R29A	Marienthal	77.35	337	⇓P	P	20 23 16.0 +0.7
	baz=78,SNR=6.3					
ACCN	Adirondack Com	77.41	359	eP	P	20 23 16.4 +1.0
	comp=Z,118nm,1.5s					
S26A	Kim	77.41	335	⇓P	P	20 23 17.0 +1.2
	baz=78,SNR=40					
R28A	Tribune	77.49	336	⇓P	P	20 23 16.7 +0.5
	baz=78,SNR=12					
113A	Mohawk Valley,	77.51	325	⇑P	P	20 23 17.4 +1.1
	baz=78,SNR=12					
Q30A	Quinter	77.56	338	⇓P	P	20 23 17.5 +0.9
	baz=78,SNR=17					
U22A	Llaves	77.57	332	⇓P	P	20 23 18.5 +1.6
	baz=78,SNR=33					
T24B	San Luis	77.61	333	⇓P	P	20 23 18.7 +1.6
	baz=78,SNR=21					
Z14A	Wintersburg	77.62	326	⇑P	P	20 23 17.6 +0.7
	baz=78					
P32A	Huiting Farm,	77.66	339	⇓P	P	20 23 17.0 0.0
	baz=78,SNR=11					
W18A	Petrified Fore	77.66	329	⇓P	P	20 23 18.5 +1.2
	baz=78,SNR=5.1					
W18A	Petrified Fore	77.66	329	eP	P	20 23 18.6 +1.2
	comp=Z,91nm,1.3s					
Q29A	Oakley	77.72	337	⇓P	P	20 23 17.9 +0.4
	baz=78					
R27A	Eads	77.78	336	⇓P	P	20 23 18.3 +0.5
	baz=78,SNR=17					
S25A	Robets Cordova	77.79	334	⇓P	P	20 23 18.8 +0.7
	baz=78,SNR=54					
P31A	Stockton	77.80	339	⇓P	P	20 23 18.5 +0.7
	baz=78,SNR=10.0					
X16A	Lo Mia Camp, P	77.81	327	⇑P	P	20 23 19.6 +1.4
	baz=78					
T23A	Casias Ranch,	77.83	333	⇓P	P	20 23 19.6 +1.2
	baz=78,SNR=7.7					
NCB	Newcomb	78.01	358	eP	P	20 23 19.3 +0.5
	comp=Z,61nm,0.6s					
NCB				LR	LR	
	comp=Z,2μm,20.0s					
R26A	Arlington	78.01	335	⇑P	P	20 23 19.7 +0.6
	baz=78					
MDV	Middlebury	78.02	359	eP	P	20 23 19.5 +0.6
S24A	Houchin Ranch,	78.06	334	⇓P	P	20 23 21.1 +1.4
	baz=78,SNR=58					
P30A	Selden	78.08	338	⇑P	P	20 23 19.9 +0.4
	baz=78					
Y14A	Wickenburg	78.12	326	⇑P	P	20 23 20.4 +0.7
	baz=78,SNR=9.4					
GRM	Grahamstown	78.12	122	eP	P	20 23 20.2 +0.2
GRM				AMB	AMB	20 23 22.1
	comp=Z,126nm,4.4s					
GRM	Grahamstown	78.12	122	P	P	20 23 20.3 +0.2
GRM				pmax	pmax	
	comp=Z,126nm,4.4s					
GRM	Grahamstown	78.12	122	P	P	20 23 20.2 +0.2
	comp=Z,126nm,4.4s					
Q28A	Sharon Springs	78.15	337	⇓P	P	20 23 20.4 +0.5
	baz=78,SNR=7.2					
O32A	Brockman Farm,	78.16	340	⇓P	P	20 23 20.0 +0.2
	baz=78					
R25A	Fountain Ranch	78.17	334	⇓P	P	20 23 20.6 +0.5
	baz=78,SNR=6.0					
LBNH	Lisbon	78.25	360	eP	P	20 23 21.4 +1.2
LBNH				pmax	pmax	
	comp=Z,65nm,1.1s					
LBNH				MLR	MLR	
	comp=Z,1μm,21.0s					
LBNH	Lisbon	78.25	360	eP	P	20 23 21.4 +1.2
	comp=Z,65nm,1.1s					
LBNH				LR	LR	
	comp=Z,1μm,21.0s					
GLA	Glamis	78.25	324	eP	P	20 23 22.1 +1.6
GLA				pmax	pmax	
	comp=Z,179nm,1.6s					
GLA	Glamis	78.25	324	⇓P	P	20 23 21.5 +1.0
	baz=78					
GLA	Glamis	78.25	324	eP	P	20 23 22.1 +1.6
	comp=Z,179nm,1.6s					
P29A	Atwood	78.35	338	⇑P	P	20 23 21.4 +0.4
	baz=79,SNR=9.5					
O31A	Woolen Ranch,	78.36	339	⇑P	P	20 23 21.2 +0.2
	baz=79,SNR=5.3					
KSCO	Kaye Shedlock'	78.37	336	⇑P	P	20 23 21.7 +0.6
	baz=79					
KSCO	Kaye Shedlock'	78.37	336	eP	P	20 23 22.4 +1.3
	comp=Z,224nm,1.4s					
SCIA	State Center	78.39	344	eP	P	20 23 21.1 0.0
	comp=Z,159nm,1.3s					
S23A	Nye Farm, Mont	78.41	333	⇓P	P	20 23 22.3 +0.8
	baz=79					
R24A	Sanders Place,	78.54	334	P	P	20 23 23.3 +1.1
	baz=79					
P28A	Saint Francis	78.59	337	⇓P	P	20 23 22.9 +0.6
	baz=79,SNR=6.9					
Q26A	Hugo	78.59	335	⇓P	P	20 23 23.3 +0.9
	baz=79,SNR=6.8					
O30A	MW Ranch, Wils	78.61	338	⇑P	P	20 23 22.9 +0.6
	baz=79,SNR=6.5					
N32A	Stulken Farm,	78.63	340	⇑P	P	20 23 22.6 +0.2
	baz=79					
SWSC	Sam W. Stewart	78.63	324	⇑P	P	20 23 24.0 +1.4
	baz=79,SNR=7.6					
LONY	Lake Ozonia	78.67	358	eP	P	20 23 23.1 +0.6
	comp=Z,137nm,1.5s					
LONY				LR	LR	
	comp=Z,706nm,19.0s					
Y12C	Blythe	78.68	325	⇑P	P	20 23 24.1 +1.3
	baz=79,SNR=11					
WUAZ	Wupatki	78.71	328	⇓P	P	20 23 24.5 +1.4
	baz=79,SNR=22					
WUAZ	Wupatki	78.71	328	eP	P	20 23 24.7 +1.6
	comp=Z,150nm,1.5s					
JFWS	Jewell Farm	78.73	346	eP	P	20 23 22.9 +0.1
JFWS				pmax	pmax	
	comp=Z,210nm,1.4s					
JFWS				MLR	MLR	
	comp=Z,1μm,19.0s					
JFWS	Jewell Farm	78.73	346	eP	P	20 23 22.9 +0.1
	comp=Z,210nm,1.4s					
JFWS				LR	LR	
	comp=Z,1μm,19.0s					
S22A	4UR Ranch, Cre	78.76	332	⇓P	P	20 23 24.6 +1.1
	baz=79,SNR=27					
R23A	Moffat	78.77	333	⇓P	P	20 23 24.5 +1.0
	baz=79,SNR=35					
O29A	4D Ranch, Culb	78.79	338	⇑P	P	20 23 23.9 +0.6
	baz=79					
Q25A	Bedland, Calha	78.84	335	⇓P	P	20 23 24.4 +0.6
	baz=79					
P27A	Ficken Ranch,	78.84	336	⇓P	P	20 23 24.7 +1.0
	baz=79					
BAR	Barrett	78.86	323	eP	P	20 23 25.3 +1.5
	comp=Z,426nm,1.5s					
N31A	Bailey Ranch,	78.87	339	⇓P	P	20 23 24.0 +0.2
	baz=79					
HVD	Gariep Dam	78.88	119	eP	P	20 23 25.7 +1.2
HVD				AMB	AMB	20 23 26.9
	comp=Z,157nm,1.2s					
HVD	Gariep Dam	78.88	119	P	P	20 23 25.7 +1.2
HVD				pmax	pmax	
	comp=Z,157nm,1.2s					
HVD	Gariep Dam	78.88	119	P	P	20 23 25.7 +1.2
	comp=Z,157nm,1.2s					
MONP	Monument Peak,	78.90	323	⇓P	P	20 23 25.6 +1.3
	baz=79,SNR=7.3					
MVCO	Mesa Verde	78.95	331	⇓P	P	20 23 25.4 +0.9
	baz=79,SNR=23					
MVCO	Mesa Verde	78.95	331	eP	P	20 23 25.3 +0.9
	comp=Z,106nm,1.4s					
MVCO				LR	LR	
	comp=Z,596nm,19.0s					
PDMCI	Parker Dam,Lak	78.95	325	⇓P	P	20 23 25.2 +1.0
	baz=79					
TSUM	Tsumeb	79.01	106	eP	P	20 23 26.1 +0.8
	comp=Z,91nm,1.3s					
BC3	Big Chuckawall	79.05	324	⇓P	P	20 23 26.1 +1.2
	baz=79,SNR=33					
SADO	Sadowa	79.05	355	P	P	20 23 23.9 -0.6
	comp=Z,19nm,0.8s,baz=223,slow=2.3,SNR=19					
O28A	Krsinger Ran	79.10	337	⇓P	P	20 23 25.8 +0.8
	baz=79					
P26A	Davis Ranch, A	79.11	336	⇓P	P	20 23 26.0 +0.8
	baz=79,SNR=7.1					
BGNE	Belgrade	79.18	340	⇑P	P	20 23 25.5 +0.1
	baz=80,SNR=5.4					
BGNE	Belgrade	79.18	340	eP	P	20 23 26.1 +0.7
	comp=Z,112nm,1.0s					
N30A	Hueftle Ranch,	79.19	339	⇓P	P	20 23 25.8 +0.3
	baz=80					
Q24A	Divide	79.20	334	⇓P	P	20 23 26.9 +0.9
	baz=80,SNR=46					
109C	Camp Elliot, M	79.24	323	⇑P	P	20 23 27.1 +1.2
	baz=80					
PKME	Peaks-Kenny Pk	79.31	2	eP	P	20 23 27.1 +1.2
	comp=Z,61nm,1.4s					
IRM	Iron Mountain	79.31	325	⇓P	P	20 23 27.8 +1.5
	baz=80,SNR=19					
P25A	Willow Gulch B	79.35	335	⇓P	P	20 23 27.8 +1.2
	baz=80,SNR=31					
M31A	Lambtecht Ranc	79.36	340	⇑P	P	20 23 27.1 +0.7
	baz=80,SNR=12					
N29A	Votaw Ranch, W	79.37	338	⇑P	P	20 23 26.8 +0.3
	baz=80					
O27A	Beecher Island	79.38	337	⇓P	P	20 23 27.7 +1.1
	baz=80,SNR=9.5					
Q23A	Hartsel	79.40	334	⇑P	P	20 23 27.7 +0.7
	baz=80					
W13A	Hualapai Mount	79.49	326	⇓P	P	20 23 28.7 +1.2
	baz=80					
PFO	Pinyon Flats O	79.50	323	P	P	20 23 29.8 +2.3
	comp=Z,291nm,1.0s,SNR=9.8					
PFO	Pinyon Flats O	79.50	323	eP	P	20 23 29.4 +1.9
PFO				pmax	pmax	
	comp=Z,206nm,1.6s					
PFO				MLR	MLR	
	comp=Z,475nm,21.0s					
PFO	Pinyon Flats O	79.50	323	P	P	20 23 28.5 +1.0
	comp=Z,27nm,0.8s,baz=129,slow=5.8,SNR=6.5					
PFO	Pinyon Flats O	79.50	323	⇑P	P	20 23 29.1 +1.6
	baz=80,SNR=18					
PFO	Pinyon Flats O	79.50	323	eP	P	20 23 29.4 +1.9
	comp=Z,206nm,1.6s					
PFO				LR	LR	
	comp=Z,475nm,21.0s					
N28A	Pribbeno Ranch	79.53	338	⇑P	P	20 23 28.0 +0.6
	baz=80					
NEE2	Needles Airpor	79.56	325	⇑P	P	20 23 28.3 +0.7
	baz=80					
BELC	Belle Mtn. Jos	79.59	324	⇑P	P	20 23 29.5 +1.5
	baz=80,SNR=6.4					
P24A	Kohler Place,	79.61	335	⇑P	P	20 23 29.0 +1.0
	baz=80					
CASY	Casey	79.64	181	PFAKE		20 23 40.0 +12
CASY				LR	LR	
	comp=Z,2μm,19.0s					
O26A	Horse Wrangler	79.71	336	⇑P	P	20 23 29.2 +0.8
	baz=80,SNR=10					
PV01	Paradox Valley	79.77	331	eP	P	20 23 30.2 +1.3
	comp=Z,13μm,1.7s					
M30A	Dale-Ortello V	79.80	339	⇓P	P	20 23 29.6 +0.8
	baz=80					
BOSA	Boshof	79.80	118	⇓P	P	20 23 29.7 +0.2
BOSA				AMB	AMB	20 23 30.7
	comp=Z,126nm,1.4s					
BOSA				AMS	AMS	21 03 12.3
	comp=Z,1μm,16.0s					
BOSA	Boshof	79.80	118	P	P	20 23 30.1 +0.6
BOSA				pmax	pmax	
	comp=Z,90nm,1.0s					
BOSA				MLR	MLR	
	comp=Z,17nm,28.6s					
BOSA	Boshof	79.80	118	P	P	20 23 30.1 +0.6
	comp=Z,90nm,1.0s,baz=237,slow=5.6,SNR=70					
BOSA				LR	LR	20 57 19.5
	comp=Z,916nm,18.2s,baz=240,slow=35					
BOSA	Boshof	79.80	118	eP	P	20 23 30.1 +0.6
	comp=Z,173nm,1.2s					
P23A	Jefferson	79.82	334	⇓P	P	20 23 30.6 +1.3
	baz=80,SNR=9.0					
MURC	Murrieta	79.86	323	⇓P	P	20 23 30.7 +1.3
	baz=80,SNR=12					
O25A	Wiggins	79.86	335	⇓P	P	20 23 30.7 +1.4
	baz=80,SNR=6.7					
U15A	North Rim	79.87	328	⇑P	P	20 23 31.1 +1.5
	baz=80,SNR=45					
OGNE	Ogallala	79.92	337	⇑P	P	20 23 30.2 +0.6
	baz=80					
OGNE	Ogallala	79.92	337	eP	P	20 23 31.4 +1.9
	comp=Z,46nm,0.8s					
M29A	Burnside Ranch	79.96	338	⇓P	P	20 23 30.3 +0.6
	baz=80					
N27A	Anderson Farm,	79.96	337	⇑P	P	20 23 30.9 +1.1
	baz=80,SNR=7.6					
SCI	San Clemente I	80.05	322	⇓P	P	20 23 31.2 +0.9
	baz=80					
GMRC	Granite Mounta	80.06	325	⇑P	P	20 23 31.6 +1.2
	baz=80,SNR=33					
L31A	Butterfield Fa	80.09	340	⇓P	P	20 23 31.2 +0.8
	baz=80,SNR=11					
ISCO	Idaho Springs	80.11	334	eP	P	20 23 31.8 +0.9
ISCO				pmax	pmax	
	comp=Z,100nm,1.5s					
ISCO				MLR	MLR	
	comp=Z,592nm,20.0s					
ISCO	Idaho Springs	80.11	334	⇓P	P	20 23 31.8 +0.9
	baz=80,SNR=26					
ISCO	Idaho Springs	80.11	334	eP	P	20 23 31.8 +0.9
	comp=Z,100nm,1.5s					
ISCO				LR	LR	
	comp=Z,592nm,20.0s					
M28A	Bar X Bar Ranc	80.12	338	⇓P	P	20 23 31.6 +1.0
	baz=80					
PV04	Paradox Valley	80.13	331	eP	P	20 23 31.9 +1.1
L30A	Spencer Herefo	80.13	339	⇑P	P	20 23 31.4 +0.8
	baz=80					
N26A	Koester Ranch,	80.20	336	⇑P	P	20 23 31.9 +0.8
	baz=80					
O24A	Longmont	80.20	335	⇑P	P	20 23 31.9 +0.8
	baz=80					
BBRC	Big Bear Solar	80.25	324	⇓P	P	20 23 33.4 +1.7
	baz=80					
CIS	Catalina Islan	80.31	322	⇓P	P	20 23 32.9 +1.1
	baz=81					
P22A	Eagle	80.35	333	⇓P	P	20 23 33.2 +1.1
	baz=81,SNR=20					
HEC	Hector,Ludlow	80.42	324	⇑P	P	20 23 34.2 +1.8
	baz=81,SNR=26					
L29A	Maesberg Ranch	80.46	339	⇓P	P	20 23 33.3 +0.9
	baz=81					
N25A	Grover	80.48	336	⇑P	P	20 23 33.5 +0.9
	baz=81					
FMP	Fort Macarthur	80.50	322	⇑P	P	20 23 33.3 +0.7
	baz=81					
M27A	Reverse DX Ran	80.56	337	⇓P	P	20 23 33.6 +0.6
	baz=81					
O23A	Lake Granby, G	80.58	334	⇓P	P	20 23 34.3 +0.9
	baz=81,SNR=55					
BFSC	Mount Baldy Ra	80.60	323	⇑P	P	20 23 34.5 +1.1
	baz=81,SNR=14					
SWZ	Schweizer	80.65	116	eP	P	20 23 34.3 +0.2
SWZ				AMB	AMB	20 23 35.4
	comp=Z,115nm,4.6s					
SWZ	Schweizer	80.65	116	P	P	20 23 34.3 +0.2
	comp=Z,115nm,4.6s					
TUQ	Turquoise Moun	80.72	325	⇓P	P	20 23 35.1 +1.1
	baz=81,SNR=22					
L28A	Connealy Angus	80.72	338	⇑P	P	20 23 34.5 +0.6
	baz=81					
M26A	McRoberts Ranc	80.75	337	⇑P	P	20 23 34.5 +0.4
	baz=81					
N24A	Carr	80.76	335	⇓P	P	20 23 35.0 +0.9
	baz=81					
K30A	Basset	80.77	340	⇓P	P	20 23 34.3 +0.3
	baz=81,SNR=7.7					
O22A	Kremmling	80.77	334	⇓P	P	20 23 35.2 +0.8
	baz=81,SNR=47					
MWC	Mount Wilson	80.79	323	eP	P	20 23 36.0 +1.5
MWC				pmax	pmax	
	comp=Z,166nm,1.6s					
MWC	Mount Wilson	80.79	323	eP	P	20 23 36.0 +1.5
	comp=Z,166nm,1.6s					
RRX	Edison Barstow	80.79	324	⇑P	P	20 23 35.7 +1.5
	baz=81					
PASC	Pasadena Art C	80.81	323	eP	P	20 23 35.9 +1.6
	comp=Z,103nm,1.4s					
ECSD	EROS Data Cent	80.94	342	⇑P	P	20 23 35.1 +0.2
	baz=81,SNR=89					
ECSD	EROS Data Cent	80.94	342	eP	P	20 23 34.6 -0.2
	comp=Z,212nm,1.3s					
ECSD				LR	LR	
	comp=Z,515nm,20.0s					
DECC	Green Verdugo	80.94	323	⇑P	P	20 23 36.0 +0.9
	baz=81					
M25A	Palm-Egli Farm	81.03	336	⇓P	P	20 23 36.0 +0.5
	baz=81,SNR=5.5					
GSC	Goldstone, Bar	81.03	324	eP	P	20 23 37.2 +1.6
GSC				pmax	pmax	
	comp=Z,146nm,1.6s					
GSC	Goldstone, Bar	81.03	324	⇑P	P	20 23 36.9 +1.3
	baz=81,SNR=18					
GSC	Goldstone, Bar	81.03	324	eP	P	20 23 37.2 +1.6
	comp=Z,146nm,1.6s					
L27A	T5 Ranch, Ells	81.04	338	⇓P	P	20 23 36.3 +0.7
	baz=81					
K29A	Lazy Trails An	81.05	339	⇑P	P	20 23 35.8 +0.3
	baz=81,SNR=6.5					
N23A	Red Feather La	81.20	335	⇓P	P	20 23 37.2 +0.6
	baz=82,SNR=20					
SHPR	Sheep Range	81.23	326	eP	P	20 23 37.7 +1.0
	comp=Z,217nm,1.6s					
L26A	Underwood Farm	81.24	337	⇓P	P	20 23 37.3 +0.7
	baz=82					
SHOC	Shoshone, Teco	81.26	325	⇓P	P	20 23 38.1 +1.4
	baz=82					
EDW2	Edwards Air Fo	81.27	323	⇓P	P	20 23 38.0 +1.1
	baz=82,SNR=15					
CCUT	Cedar City	81.28	328	eP	P	20 23 38.9 +1.8
	comp=Z,192nm,1.6s					
N22A	Wattenberg Ran	81.30	334	⇑P	P	20 23 38.4 +1.2
	baz=82,SNR=32					
M24A	Cheyenne	81.31	336	⇑P	P	20 23 38.4 +1.3
	baz=82,SNR=5.9					
K28A	Ten Mile Ranch	81.32	338	⇑P	P	20 23 37.7 +0.8
	baz=82,SNR=14					
J30A	Dallas	81.33	340	⇑P	P	20 23 36.9 0.0
	baz=82,SNR=8.2					
O20A	White River Ci	81.38	333	⇑P	P	20 23 38.4 +0.9
	baz=82					
O20A	White River Ci	81.38	333	eP	P	20 23 38.6 +1.1
	comp=Z,75nm,1.2s					
SRU	San Rafael Swe	81.39	331	eP	P	20 23 38.5 +0.9
SRU				pmax	pmax	
	comp=Z,83nm,1.2s					
SRU	San Rafael Swe	81.39	331	eP	P	20 23 38.5 +0.9
	comp=Z,83nm,1.2s					
BSC	Santa Cruz Isl	81.40	322	⇑P	P	20 23 38.4 +0.8
	baz=82					
RUDU	RUNDU	81.41	106	eP	P	20 23 38.8 +0.6
RUDU				AMB	AMB	20 23 43.8
	comp=Z,197nm,1.3s					
RUDU				AMS	AMS	20 55 20.5
	comp=Z,2μm,20.6s					
RUDU	RUNDU	81.41	106	P	P	20 23 38.8 +0.6
	comp=Z,197nm,1.3s					
SPMN	Marine on St.	81.47	345	⇑P	P	20 23 37.0 -0.6
	baz=82,SNR=13					
SPMN	Marine on St.	81.47	345	eP	P	20 23 37.2 -0.4
	comp=Z,59nm,0.9s					
ARUT	Antelope Range	81.51	328	eP	P	20 23 39.6 +1.4
ARUT				pmax	pmax	
	comp=Z,4μm,1.8s					
ARUT	Antelope Range	81.51	328	eP	P	20 23 39.6 +1.4
	comp=Z,4μm,1.8s					
K27A	Flueckinger Fa	81.58	338	⇑P	P	20 23 39.3 +1.0
	baz=82,SNR=7.2					
MVU	Marysvale	81.58	329	eP	P	20 23 40.1 +1.5
	comp=Z,104nm,1.6s					
LRMC	Laurel Mtn Rad	81.60	324	⇓P	P	20 23 39.7 +1.0
	baz=82,SNR=18					
COWI	Conover	81.61	348	eP	P	20 23 38.4 +0.1
	comp=Z,112nm,1.6s					
COWI				LR	LR	
	comp=Z,494nm,21.0s					
M23A	Laramie	81.62	335	⇑P	P	20 23 39.2 +0.4
	baz=82,SNR=15					
L25A	Engebretsen Ra	81.64	336	⇑P	P	20 23 39.4 +0.7
	baz=82					
J29A	Okreek	81.65	339	⇓P	P	20 23 38.9 +0.3
	baz=82,SNR=19					
SEK	Senekal	81.69	119	eP	P	20 23 39.5 -0.1
SEK				AMB	AMB	20 23 41.5
	comp=Z,148nm,1.3s					
SEK	Senekal	81.69	119	P	P	20 23 39.5 -0.1
	comp=Z,148nm,1.3s					
KSD	Kokstad	81.72	121	eP	P	20 23 41.6 +1.9
KSD				AMB	AMB	20 23 42.5
	comp=Z,41nm,4.4s					
KSD	Kokstad	81.72	121	P	P	20 23 41.6 +1.9
	comp=Z,41nm,4.4s					
SBC	Santa Barbara	81.80	322	⇓P	P	20 23 40.7 +1.1
	baz=82					
TMUT	Trail Mountain	81.83	330	eP	P	20 23 40.8 +0.8

comp=Z,25nm,0.7s
I30A **Oacoma** 81.86 340 ⇑P P 20 23 39.5 -0.2
baz=82,SNR=16
L24A **Wheatland** 81.86 336 ⇑P P 20 23 40.7 +0.8
baz=82
K26A **Motz Farm, Whi** 81.88 337 ⇑P P 20 23 40.4 +0.5
baz=82,SNR=8.8
M22A **Cedar Creek Ra** 81.88 334 ⇑P P 20 23 40.7 +0.5
baz=82,SNR=13
ARVC **Arvin** 81.89 323 ⇑P P 20 23 41.4 +1.4
baz=82
J28A **Allard Ranch,** 81.93 339 ⇓P P 20 23 40.8 +0.7
baz=82,SNR=20
N20A **Spence Gulch,** 81.99 333 ⇓P P 20 23 41.3 +0.5
baz=82,SNR=20
FURC **Furnace Creek,** 82.00 325 ⇓P P 20 23 41.9 +1.3
baz=82,SNR=8.3
J27A **Elkhorn Farm,** 82.01 338 ⇓P P 20 23 41.5 +0.9
baz=82,SNR=20
K25A **Mack Ranch, Ha** 82.02 337 ⇑P P 20 23 41.9 +1.2
baz=82,SNR=8.7
LBTB **Lobatse** 82.05 115 ⇓iP P 20 23 41.7 +0.2
LBTB AMB AMB 20 23 42.6
comp=Z,124nm,1.5s
LBTB AMS AMS 20 55 12.6
comp=Z,770nm,18.9s
LBTB **Lobatse** 82.05 115 eP P 20 23 42.2 +0.7
LBTB pmax pmax
comp=Z,254nm,1.4s
LBTB **Lobatse** 82.05 115 eP P 20 23 42.2 +0.7
comp=Z,254nm,1.4s
ISA **Isabella, Lake** 82.14 323 eP P 20 23 43.3 +1.9
ISA pmax pmax
comp=Z,193nm,1.8s
ISA **Isabella, Lake** 82.14 323 ⇓P P 20 23 42.9 +1.4
baz=82,SNR=27
ISA **Isabella, Lake** 82.14 323 eP P 20 23 43.3 +1.9
comp=Z,193nm,1.8s
L23A **Garrett** 82.19 335 ⇑P P 20 23 42.4 +0.6
baz=82,SNR=12
DAC **Darwin (Calif)** 82.19 324 eP P 20 23 43.5 +1.6
DAC pmax pmax
comp=Z,142nm,1.5s
DAC **Darwin (Calif)** 82.19 324 eP P 20 23 43.5 +1.6
comp=Z,142nm,1.5s
I29A **Vivian Onida** 82.20 340 ⇓P P 20 23 41.5 0.0
baz=82
BRSD **Miller** 82.22 341 ⇑P P 20 23 41.2 -0.4
baz=82,SNR=6.9
BRSD **Miller** 82.22 341 eP P 20 23 41.8 +0.2
comp=Z,85nm,0.8s
L22A **Ellis Ranch, M** 82.37 335 ⇓P P 20 23 43.5 +0.8
baz=83,SNR=7.1
J26A **Sides Ranch, S** 82.39 338 ⇑P P 20 23 43.6 +1.0
baz=83,SNR=32
K24A **Anderson Ranch** 82.43 336 ⇑P P 20 23 43.9 +1.0
baz=83,SNR=12
I28A **Midland** 82.44 339 ⇑P P 20 23 43.4 +0.7
baz=83,SNR=22
VES **Vestal, Richgr** 82.58 323 ⇓P P 20 23 45.0 +1.4
baz=83,SNR=19
MPU **Maple Canyon** 82.61 330 eP P 20 23 45.0 +1.0
comp=Z,112nm,1.4s
SMMC **Simmler** 82.62 322 ⇑P P 20 23 45.8 +1.8
baz=83
GRAC **Grapevine Rang** 82.67 325 ⇓P P 20 23 45.5 +1.3
baz=83,SNR=5.9
J25A **Sunshine Ranch** 82.69 337 ⇑P P 20 23 45.1 +0.9
baz=83,SNR=8.0
K23A **Bowen Ranch, D** 82.73 336 ⇑P P 20 23 45.1 +0.6
baz=83,SNR=21
H29A **Onida** 82.73 340 ⇑P P 20 23 44.2 0.0
baz=83,SNR=14
NLU **North Lily Min** 82.74 330 eP P 20 23 46.0 +1.3
comp=Z,138nm,1.7s
I27A **Quinn** 82.76 339 ⇓P P 20 23 44.6 +0.1
baz=83,SNR=13
DAU **Daniels Canyon** 82.80 331 eP P 20 23 46.3 +1.2
DAU pmax pmax
comp=Z,156nm,1.7s
DAU **Daniels Canyon** 82.80 331 eP P 20 23 46.3 +1.2
comp=Z,156nm,1.7s
G30A **Faulkton** 82.90 341 ⇓P P 20 23 45.0 -0.2
baz=83,SNR=12
J24A **Dixon Ranch, L** 82.92 337 ⇑P P 20 23 46.7 +1.3
baz=83
R11A **Troy Canyon, C** 82.93 327 ⇓P P 20 23 47.1 +1.5
baz=83,SNR=68
R11A **Troy Canyon, C** 82.93 327 eP P 20 23 46.5 +0.9
comp=Z,149nm,1.6s
K22A **Casper** 82.95 335 ⇓P P 20 23 46.1 +0.5
baz=83,SNR=23
K22A **Casper** 82.95 335 eP P 20 23 46.5 +0.9
comp=Z,284nm,1.6s
I26A **New Underwood** 82.97 338 ⇑P P 20 23 46.2 +0.6
baz=83,SNR=8.0
H28A **Mission Ridge** 83.01 340 ⇑P P 20 23 46.1 +0.4
baz=83,SNR=15
RCTC **Rector, Farmer** 83.03 323 ⇓P P 20 23 46.6 +0.6
baz=83
JLU **Jordanelle** 83.03 331 eP P 20 23 47.0 +0.8
comp=Z,61nm,1.2s
TIN **Tinemaha, Big** 83.12 324 ⇑P P 20 23 47.8 +1.2
baz=83,SNR=5.8
CRWM **Crown Mines** 83.16 117 eP P 20 23 46.9 -0.5
CRWM AMB AMB 20 23 48.0
comp=Z,66nm,1.5s
G29A **Hoven** 83.17 340 ⇓P P 20 23 45.6 -0.9
baz=84
K21A **Alcova** 83.19 335 ⇓P P 20 23 47.2 +0.3
baz=84,SNR=56
CTU **Camp Tracy** 83.23 331 eP P 20 23 47.9 +0.7
comp=Z,18nm,0.8s
OBSV **Observatory** 83.23 117 eP P 20 23 47.2 -0.6
OBSV AMB AMB 20 23 51.1
comp=Z,59nm,2.0s
I25A **Rochford** 83.24 337 ⇓P P 20 23 47.9 +0.8
baz=84,SNR=30
DUG **Dugway, Tooele** 83.25 330 eP P 20 23 48.1 +0.9
DUG pmax pmax
comp=Z,170nm,1.5s
DUG MLR MLR
comp=Z,668nm,19.0s
DUG **Dugway, Tooele** 83.25 330 ⇑P P 20 23 48.2 +0.9
baz=84,SNR=46
DUG **Dugway, Tooele** 83.25 330 eP P 20 23 48.1 +0.9
comp=Z,170nm,1.5s
DUG LR LR
comp=Z,668nm,19.0s
ERPM **east rand prop** 83.27 117 eP P 20 23 47.9 -0.1
ERPM AMB AMB 20 23 48.9
comp=Z,83nm,1.8s
ERPM **east rand prop** 83.27 117 P P 20 23 47.9 -0.1
comp=Z,83nm,1.8s
H27A **Howes** 83.28 339 ⇑P P 20 23 47.3 +0.2
baz=84,SNR=15
J23A **Dilts Ranch, B** 83.28 336 ⇑P P 20 23 47.7 +0.4
baz=84
G28A **Parade** 83.34 340 ⇓P P 20 23 47.4 -0.1
baz=84,SNR=29
I24A **Kuemmerle Ranc** 83.38 337 ⇓P P 20 23 48.4 +0.7
baz=84,SNR=11
RSSD **Black Hills** 83.42 337 eP P 20 23 48.8 +0.7
RSSD pmax pmax
comp=Z,27nm,0.8s
RSSD **Black Hills** 83.42 337 eP P 20 23 48.8 +0.7
comp=Z,27nm,0.8s
TCUT **Toone Canyon** 83.45 331 eP P 20 23 49.3 +0.9
comp=Z,183nm,1.5s
TPH **Tonopah** 83.46 326 eP P 20 23 50.0 +1.5
TPH pmax pmax
comp=Z,141nm,1.4s
TPH **Tonopah** 83.46 326 eP P 20 23 50.0 +1.5
comp=Z,141nm,1.4s
H26A **Fairpoint** 83.48 338 ⇓P P 20 23 48.0 -0.1
baz=84
URZ **Urewera** 83.48 228 LR LR 20 52 00.7
comp=Z,3μm,21.8s,baz=185,slow=29
F30A **Leola** 83.52 341 ⇑P P 20 23 48.6 +0.3
baz=84
J22A **Midwest** 83.60 335 ⇑P P 20 23 48.7 -0.3
baz=84,SNR=26
SLR **Silverton** 83.64 117 eP P 20 23 48.8 -1.0
SLR AMB AMB 20 23 50.4
comp=Z,99nm,1.5s
SLR AMS AMS 21 02 39.1
comp=Z,1μm,15.4s
SLR **Silverton** 83.64 117 P P 20 23 48.8 -1.0
SLR pmax pmax
comp=Z,99nm,1.5s
SLR **Silverton** 83.64 117 P P 20 23 48.8 -1.0
comp=Z,99nm,1.5s
H25A **Fruitdale** 83.73 338 ⇓P P 20 23 49.9 +0.4
baz=84,SNR=10.0
F29A **Eureka** 83.74 341 ⇑P P 20 23 49.4 -0.1
baz=84,SNR=12
I23A **Meade Ranch, G** 83.75 336 ⇑P P 20 23 50.5 +0.9
baz=84
EYMN **Ely** 83.81 347 eP P 20 23 48.9 -0.8
comp=Z,100nm,1.4s
EYMN LR LR
comp=Z,884nm,19.0s
MLAC **Mammoth, Mammo** 83.87 324 ⇑P P 20 23 52.0 +1.4
baz=84
J21A **Lysite** 83.88 335 ⇑P P 20 23 50.6 +0.2
baz=84,SNR=16
G27A **Dupree** 83.92 339 ⇓P P 20 23 50.2 -0.2
baz=84,SNR=11
HWUT **Hardware Ranch** 83.93 331 PFAKE 20 24 00.0 +9.2
HWUT LR LR
comp=Z,645nm,19.0s
BGU **Big Grassy Mou** 83.95 330 eP P 20 23 51.4 +0.6
comp=Z,48nm,1.5s
F28A **McLaughlin** 84.02 340 ⇑P P 20 23 50.9 0.0
baz=84,SNR=11
I22A **9 Mile Ranch,** 84.03 336 ⇑P P 20 23 50.9 -0.3
baz=84,SNR=28
G26A **Maurine** 84.04 339 ⇑P P 20 23 51.0 0.0
baz=84,SNR=25
SPUT **South Promonto** 84.04 331 eP P 20 23 52.0 +0.7
comp=Z,54nm,0.9s
E30A **Jud** 84.11 342 ⇑P P 20 23 51.4 +0.1
baz=84
J20A **Shoshoni** 84.12 334 ⇓P P 20 23 52.3 +0.7
baz=84,SNR=53
BW06 **Boulder Array** 84.15 333 eP P 20 23 52.1 +0.2
comp=Z,47nm,1.3s
BW06 LR LR
comp=Z,699nm,20.0s
PDAR **Pinedale Array** 84.15 333 P P 20 23 52.1 +0.2
comp=Z,9.4nm,0.7s,baz=129,slow=4.7,SNR=49
H24A **Dirks Ranch, A** 84.15 337 ⇓P P 20 23 51.2 -0.4
baz=84,SNR=23
G25A **Newell** 84.19 338 ⇓P P 20 23 51.9 +0.1
baz=84
I21A **Big Trails, Te** 84.24 335 ⇑P P 20 23 51.9 -0.3
baz=84,SNR=36
TORD **Torodi Ar. Bea** 84.24 70 P P 20 23 52.7 0.0
comp=Z,62nm,1.0s,baz=246,slow=3.8,SNR=172
TORD LR LR 21 00 02.1
comp=Z,2μm,18.4s,baz=230,slow=35
NVAR **Mina Array Bea** 84.25 325 P P 20 23 53.7 +1.2
comp=Z,10.0nm,0.7s,baz=152,slow=5.7,SNR=68
H23A **Clabaugh Cattl** 84.26 337 ⇓P P 20 23 52.0 -0.2
baz=85
E29A **Napoleon** 84.36 341 ⇓P P 20 23 52.9 +0.3
baz=85
J19A **Crowheart** 84.39 334 ⇑P P 20 23 53.1 0.0
baz=85
F27A **Lemmon** 84.39 339 ⇓P P 20 23 53.3 +0.5
baz=85
F26A **Lodgepole** 84.56 339 ⇑P P 20 23 53.9 +0.2
baz=85
H22A **Clearmont** 84.60 336 ⇑P P 20 23 54.1 +0.1
baz=85
G24A **Alzada** 84.63 338 ⇑P P 20 23 54.1 +0.1
baz=85
D30A **Buchanan** 84.63 342 ⇑P P 20 23 54.4 +0.4
baz=85
I20A **Worland** 84.65 335 ⇓P P 20 23 54.7 +0.5
baz=85
E28A **Huff** 84.66 341 ⇑P P 20 23 54.1 0.0
baz=85
AHID **Auburn Hatcher** 84.73 332 eP P 20 23 55.5 +0.7
comp=Z,59nm,1.2s
AHID LR LR
comp=Z,658nm,19.0s
ELK **Elko** 84.74 328 P P 20 23 55.5 +0.5
ELK pmax pmax
comp=Z,15nm,0.8s
ELK **Elko** 84.74 328 P P 20 23 55.5 +0.5
comp=Z,15nm,0.8s,baz=177,slow=3.3,SNR=52
E27A **Carson** 84.77 340 ⇑P P 20 23 54.8 +0.1
baz=85
D29A **Pettibone, Tap** 84.81 341 ⇓P P 20 23 54.7 -0.1
baz=85
G23A **Biddle** 84.82 337 ⇓P P 20 23 54.9 -0.2
baz=85
WAKR **Walker** 84.85 324 eP P 20 23 56.5 +1.0
comp=Z,125nm,1.7s
F25A **Bowman** 84.87 338 ⇓P P 20 23 55.3 +0.1
baz=85
H21A **Big Horn, Sher** 84.87 336 ⇑P P 20 23 55.2 -0.1
baz=85
CMB **Columbia Colle** 84.95 324 eP P 20 23 57.0 +1.2
CMB pmax pmax
comp=Z,28nm,1.1s
CMB **Columbia Colle** 84.95 324 eP P 20 23 57.0 +1.2
comp=Z,28nm,1.1s
I19A **Meeteetse** 85.04 334 ⇑P P 20 23 56.0 -0.3
baz=85
AGMN **Agassiz Nation** 85.05 344 ⇓P P 20 23 55.9 0.0
baz=85
AGMN **Agassiz Nation** 85.05 344 eP P 20 23 56.0 0.0
comp=Z,47nm,0.9s
AGMN LR LR
comp=Z,632nm,21.0s
E26A **Carlson Angus** 85.06 339 ⇓P P 20 23 56.3 +0.1
baz=85
H20A **Greybull** 85.07 335 ⇑P P 20 23 56.2 -0.1
baz=85
F24A **Ekalaka** 85.10 338 ⇓P P 20 23 56.5 +0.1
baz=85
C30A **Mose, Pekin** 85.11 342 ⇑P P 20 23 56.5 +0.2
baz=85
G22A **Birney** 85.14 336 ⇑P P 20 23 56.3 -0.3
baz=85
D28A **Regan** 85.19 341 ⇓P P 20 23 56.9 +0.2
baz=86
F23A **Volborg** 85.29 337 ⇑P P 20 23 57.2 -0.2
baz=86
E25A **Miller Ranch,** 85.37 339 ⇑P P 20 23 57.8 +0.1
baz=86
D27A **Center** 85.38 340 ⇑P P 20 23 58.2 +0.5
baz=86
G21A **Lodge Grass** 85.45 336 ⇓P P 20 23 58.3 +0.1
baz=86
I17A **Pilgrim Ck.** 85.52 333 ⇑P P 20 23 59.3 +0.6
baz=86
MDND **Maddock** 85.53 342 ⇑P P 20 23 59.0 +0.5
baz=86
MDND **Maddock** 85.53 342 eP P 20 23 58.9 +0.4
comp=Z,56nm,0.9s
D26A **Manning** 85.56 340 ⇓P P 20 23 58.8 +0.1
baz=86
H19A **Powell** 85.58 334 ⇑P P 20 23 59.6 +0.7
baz=86
F22A **Rosebud** 85.62 337 ⇑P P 20 23 59.3 +0.3
baz=86
C28A **Hausauer Farms** 85.62 341 ⇓P P 20 23 59.3 +0.4
baz=86
E24A **Baker** 85.70 338 ⇓P P 20 23 59.9 +0.6
baz=86
RAO **Raoul Island** 85.76 237 LR LR 20 52 54.2
comp=Z,729nm,21.9s,baz=140,slow=29
B30A **Myrvik Farm, E** 85.77 343 ⇓P P 20 23 59.8 +0.2
baz=86
G20A **Bridger** 85.79 335 ⇑P P 20 23 59.8 -0.2
baz=86
H18A **Shoshone NF, C** 85.83 334 ⇑P P 20 24 00.4 +0.1
baz=86
C27A **Sayler Ranch,** 85.92 340 ⇓P P 20 24 00.8 +0.4
baz=86
H17A **Grant Village** 85.92 333 ⇑P P 20 24 01.2 +0.4
baz=86
H17A **Grant Village** 85.92 333 eP P 20 24 02.0 +1.2
comp=Z,11nm,0.7s
D25A **Fairfield** 85.93 339 ⇓P P 20 24 01.1 +0.6
baz=86
F21A **Absaloka Mine,** 85.94 336 ⇑P P 20 24 00.7 0.0
baz=86
E23A **Ismay** 85.95 338 ⇓P P 20 24 00.4 -0.1
baz=86
B29A **Wagenman Farm,** 86.04 342 ⇑P P 20 24 01.0 0.0
baz=86
YFT **Old Faithful** 86.07 333 eP P 20 24 03.1 +1.6
comp=Z,66nm,1.1s
RLMT **Red Lodge** 86.07 334 eP P 20 24 01.6 +0.1
comp=Z,95nm,1.0s
RLMT LR LR
comp=Z,861nm,20.0s
E22A **Miles City** 86.10 337 ⇑P P 20 24 01.2 -0.2
baz=86
C26A **Wahner Farm, P** 86.19 340 ⇓P P 20 24 02.2 +0.5
baz=86
D24A **Glendive** 86.20 338 ⇓P P 20 24 02.3 +0.5
baz=86
A30A **Hoffart Farm,** 86.22 343 ⇓P P 20 24 01.5 -0.3
baz=87
F20A **Billings** 86.27 336 ⇓P P 20 24 02.4 +0.1
baz=87
B28A **Dugan Ranch, T** 86.29 341 ⇑P P 20 24 02.4 +0.3
baz=87
YMR **Madison River** 86.30 333 eP P 20 24 03.9 +1.3
comp=Z,220nm,1.3s
LAO **LASA Array** 86.41 337 eP P 20 24 03.3 +0.5
comp=Z,160nm,1.3s
C25A **Freed Ranch, W** 86.42 339 ⇓P P 20 24 03.1 +0.2
baz=87
A29A **Manning Farm,** 86.43 342 ⇓P P 20 24 02.8 -0.1
baz=87
B27A **Peters Farms,** 86.49 341 ⇓P P 20 24 03.5 +0.4
baz=87
D23A **Lindsay** 86.52 338 ⇓P P 20 24 04.1 +0.7
baz=87
E21A **Keefer Ranch,** 86.56 337 ⇓P P 20 24 03.9 +0.3
baz=87
F19A **Roth Farm, Mol** 86.59 335 P P 20 24 03.7 -0.2
baz=87
C24A **Savage** 86.60 339 ⇓P P 20 24 04.2 +0.5
baz=87
QLMT **Earthquake Lak** 86.61 333 eP P 20 24 05.2 +1.0
comp=Z,11nm,1.4s
A28A **Rude Farm, Bot** 86.69 342 ⇑P P 20 24 04.4 +0.2
baz=87
HLID **Hailey** 86.72 331 ⇓P P 20 24 05.7 +1.1
baz=87
HLID **Hailey** 86.72 331 eP P 20 24 05.5 +0.9
comp=Z,164nm,1.6s
B26A **Jensen Ranch,** 86.73 340 ⇑P P 20 24 04.7 +0.4
baz=87
D22A **Cohagen** 86.81 337 ⇑P P 20 24 05.2 +0.4
baz=87
E20A **Meyer Farm, Mu** 86.88 336 ⇓P P 20 24 05.6 +0.4
baz=87
ULM **Lac du Bonnet** 86.89 345 P P 20 24 04.6 -0.4
ULM pmax pmax
comp=Z,30nm,0.7s
ULM **Lac du Bonnet** 86.89 345 P P 20 24 04.6 -0.4
comp=Z,30nm,0.7s,baz=161,slow=4.3,SNR=38
B25A **Knox Farm, Ray** 86.89 340 ⇓P P 20 24 05.5 +0.3
baz=87
MSNA **Messina** 86.90 115 eP P 20 24 05.6 -0.4
MSNA AMB AMB 20 24 07.2
comp=Z,67nm,1.4s
MSNA **Messina** 86.90 115 P P 20 24 05.6 -0.4
comp=Z,67nm,1.4s
A27A **Ledoux Ranch,** 86.98 341 ⇑P P 20 24 05.9 +0.4
baz=87
D21A **La Casta Ranch** 86.99 337 ⇓P P 20 24 06.0 +0.3
baz=87
HOPS **Hopland Field** 87.02 323 eP P 20 24 07.6 +1.6
comp=Z,61nm,1.4s
E19A **Rath Farm, Rou** 87.06 335 ⇑P P 20 24 06.4 +0.2
baz=87
C23A **Lambert** 87.07 338 ⇓P P 20 24 06.5 +0.5
baz=87
A26A **Wade Farm, Ken** 87.15 341 ⇑P P 20 24 06.6 +0.2
baz=88
MCMT **McKenzie Canyo** 87.15 332 eP P 20 24 08.0 +1.2
comp=Z,21nm,0.8s
MFID **Camas Ranch** 87.18 330 eP P 20 24 07.3 +0.5
comp=Z,79nm,1.4s
C22A **Vida** 87.24 338 ⇑P P 20 24 06.8 -0.1
baz=88
BOZ **Bozeman (W)** 87.38 333 eP P 20 24 07.9 +0.1
BOZ pmax pmax
comp=Z,17nm,0.8s
BOZ MLR MLR
comp=Z,1μm,19.0s
BOZ **Bozeman (W)** 87.38 333 eP P 20 24 07.9 +0.1
comp=Z,17nm,0.8s
BOZ LR LR
comp=Z,1μm,19.0s
D20A **Manuel Ranch,** 87.39 336 ⇓P P 20 24 07.5 -0.1
baz=88
A25A **Svangstu Ranch** 87.48 340 ⇑P P 20 24 08.6 +0.6
baz=88
WVOR **Wild Horse Val** 87.60 327 eP P 20 24 09.9 +1.0
WVOR pmax pmax
comp=Z,37nm,1.2s
WVOR **Wild Horse Val** 87.60 327 eP P 20 24 09.9 +1.0
comp=Z,37nm,1.2s
B23A **Brockton** 87.61 339 ⇓P P 20 24 09.0 +0.4
baz=88
C21A **Desert Coulee** 87.70 337 P P 20 24 08.9 -0.1
baz=88
D19A **Cripps Ranch,** 87.71 336 ⇑P P 20 24 08.8 -0.4
baz=88
A24A **Westby** 87.73 339 ⇑P P 20 24 09.4 +0.2
baz=88
B22A **Reddig Ranch S** 87.77 338 ⇓P P 20 24 09.7 +0.3
baz=88
LRM **Limekiln Ridge** 87.84 333 eP P 20 24 10.9 +0.8
comp=Z,749nm,1.4s
C20A **Veseth Ranch,** 87.89 337 ⇓P P 20 24 09.9 -0.1
baz=88
MOD **Modoc Plateau** 87.94 326 eP P 20 24 11.6 +1.1
comp=Z,226nm,1.7s
WDC **Whiskeytown Da** 87.97 324 eP P 20 24 10.2 -0.3
WDC pmax pmax
comp=Z,37nm,0.8s
WDC **Whiskeytown Da** 87.97 324 eP P 20 24 10.2 -0.3
comp=Z,37nm,0.8s
A23A **Redstone** 88.02 339 ⇓P P 20 24 10.7 +0.2
baz=88
B21A **Ellsworth Farm** 88.20 337 ⇑P P 20 24 11.7 +0.3
baz=88
C19A **Slack Wire Ran** 88.26 336 ⇓P P 20 24 11.9 +0.1
baz=89
N02D **Trinity Center** 88.36 324 ⇓P P 20 24 12.5 0.0
baz=89,SNR=9.3
A22A **Carney Farms,** 88.36 338 ⇓P P 20 24 12.6 +0.4
baz=89
HRY **Holter Researc** 88.36 334 eP P 20 24 13.2 +0.9
comp=Z,57nm,1.5s
B20A **Solberg Farm,** 88.53 337 ⇑P P 20 24 13.0 0.0
baz=89
M04C **Macdoel** 88.56 325 ⇓P P 20 24 13.9 +0.5
baz=89
A21A **Bergtoll Ranch** 88.67 338 ⇓P P 20 24 13.3 -0.3
baz=89
M02C **Callahan** 88.75 324 ⇓P P 20 24 14.3 0.0
baz=89
EGMT **Eagleton** 88.75 336 ⇓P P 20 24 13.7 -0.4
baz=89
B19A **Brinkman Farms** 88.85 336 ⇓P P 20 24 14.3 -0.2
baz=89
A20A **Cobblestone Ra** 88.89 337 ⇓P P 20 24 14.3 -0.4
baz=89,SNR=49
YBH **Yreka Blue Hor** 88.94 325 P P 20 24 14.4 -0.8
YBH pmax pmax
comp=Z,14nm,0.8s
YBH **Yreka Blue Hor** 88.94 325 P P 20 24 14.4 -0.8
comp=Z,14nm,0.8s,baz=173,slow=4.7,SNR=20
SCHQ **Schefferville** 88.96 3 P P 20 24 14.2 -0.6
comp=Z,11nm,1.0s,baz=171,slow=3.3,SNR=12
SCHQ LR LR 21 05 29.6
comp=Z,851nm,21.1s,baz=169,slow=36
BMO **Blue Mountains** 88.97 330 eP P 20 24 15.9 +0.6
BMO pmax pmax
comp=Z,56nm,1.5s
BMO MLR MLR
comp=Z,663nm,20.0s
BMO **Blue Mountains** 88.97 330 eP P 20 24 15.9 +0.6
comp=Z,56nm,1.5s
BMO LR LR
comp=Z,663nm,20.0s
CHMT **Chamberlain Mo** 89.06 333 eP P 20 24 16.4 +0.7
comp=Z,36nm,1.5s
K04D **Chiloquin, OR** 89.17 326 ⇓P P 20 24 16.8 +0.5
baz=89
A19A **Klindworth Far** 89.19 337 ⇓P P 20 24 16.0 -0.1
baz=90

MSO	Missoula	89.24	333	⇓P		P		20 24 17.1 +0.6
	baz=90,SNR=8.5							
SLMT	Seeley Lake	89.42	333	*e*P		P		20 24 17.8 +0.4
	comp=Z,81nm,1.6s							
J05D	Fort Rock, OR	89.45	326	⇓P		P		20 24 17.7 +0.1
	baz=90							
LSZ	Lusaka	89.59	108		PFAKE			20 24 30.0 +11
LSZ					LR	LR		
	comp=Z,2μm,20.0s							
L02D	Cave Junction,	89.69	324	⇑P		P		20 24 18.7 +0.1
	baz=90							
SWMT	Swartz Lake	89.83	333	*e*P		P		20 24 19.7 +0.5
	comp=Z,11nm,0.8s							
YBMT	Yellow Bay	90.13	333	*e*P		P		20 24 21.1 +0.5
	comp=Z,31nm,1.4s							
JTMT	Jette	90.14	333	*e*P		P		20 24 21.4 +0.7
	comp=Z,9.6nm,0.8s							
AFI	Afiamalu	90.19	253		PFAKE			20 24 30.0 +8.3
AFI					LR	LR		
	comp=Z,3μm,20.0s							
I04A	Tendick Farm,	90.38	326	⇑P		P		20 24 22.3 +0.5
	baz=91							
BSMT	Bassoo Peak	90.41	333	*e*P		P		20 24 22.4 +0.4
	comp=Z,14nm,1.0s							
HAWA	Hanford	91.14	329	*e*P		P		20 24 26.4 +1.2
	comp=Z,82nm,1.4s							
RTC	Rabat Centre	91.31	49		PFAKE			20 24 40.0 +14
RTC					LR	LR		
	comp=Z,2μm,22.0s							
NEW	Newport	91.65	332	P		P		20 24 26.2 -1.4
NEW					pmax	pmax		
	comp=Z,8.0nm,1.0s							
NEW	Newport	91.65	332	P		P		20 24 26.2 -1.4
	comp=Z,8.4nm,1.0s,baz=116,slow=4.8,SNR=7.2							
NEW	Newport	91.65	332	⇑P		P		20 24 27.2 -0.4
	baz=92,SNR=8.8							
FFC	Flin Flon	92.44	343	*e*P		P		20 24 29.7 -1.3
FFC					pmax	pmax		
	comp=Z,9.0nm,0.8s							
FFC					MLR	MLR		
	comp=Z,780nm,20.0s							
FFC	Flin Flon	92.44	343	*e*P		P		20 24 29.7 -1.3
	comp=Z,9.2nm,0.8s							
FFC					LR	LR		
	comp=Z,780nm,20.0s							
TAM	Tamanrasset	92.89	64	*e*P		P		20 24 35.1 +1.0
TAM					pmax	pmax		
	comp=Z,29nm,1.3s							
TAM					MLR	MLR		
	comp=Z,2μm,20.0s							
TAM	Tamanrasset	92.89	64	*e*P		P		20 24 35.1 +1.0
	comp=Z,29nm,1.3s							
TAM					LR	LR		
	comp=Z,2μm,20.0s							
FCC	Fort Churchill	94.62	349	*e*P		P		20 24 41.1 +0.2
FCC					pmax	pmax		
	comp=Z,1.0nm,0.8s							
FCC	Fort Churchill	94.62	349	*e*P		P		20 24 41.1 +0.2
	comp=Z,0.8nm,0.8s							
TAU	Tasmania Unive	95.13	208		PFAKE			20 25 00.0 +16
TAU					LR	LR		
	comp=Z,1μm,21.0s							
MTE	Manteigas	95.14	44		PFAKE			20 25 00.0 +16
MTE					LR	LR		
	comp=Z,2μm,22.0s							
MSVF	Nonsavu	95.74	244		PFAKE			20 25 00.0 +13
MSVF					LR	LR		
	comp=Z,2μm,20.0s							
ESDC	Sonseca Array	96.76	46	P		P		20 24 49.4 -1.9
	comp=Z,1.6nm,0.8s,baz=249,slow=4.8,SNR=6.9							
ESDC					LR	LR		21 09 48.4
	comp=Z,716nm,18.1s,baz=235,slow=36							
CAN	Canberra	100.81	213		PFAKE			20 25 20.0 +10
CAN					LR	LR		
	comp=Z,1μm,20.0s							
ABPO	Ambohimpanom	101.48	123		PFAKE			20 25 20.0 +6.8
ABPO					LR	LR		
	comp=Z,1μm,20.0s							
YKA	Yellowknife Ar	102.45	341	P		Pdif		20 25 14.5 -1.5
YKA					pmax	pmax		
	comp=Z,2.0nm,0.6s							
YKA	Yellowknife Ar	102.45	341	P		Pdif		20 25 14.5 -1.5
	comp=Z,2.3nm,0.6s,baz=143,slow=4.4,SNR=58							
KMBO	Kilima Mbogo	105.10	102		PFAKE			20 30 00.0
KMBO					LR	LR		
	comp=Z,1μm,19.0s							
SSB	Saint Sauveur	105.14	45		PFAKE			20 29 50.0
SSB					LR	LR		
	comp=Z,1μm,20.0s							
BNI	Bardonecchia	106.29	46		PFAKE			20 30 00.0
BNI					LR	LR		
	comp=Z,2μm,21.0s							
ESK	Eskdalemuir	106.83	34		PFAKE			20 30 00.0
ESK					LR	LR		
	comp=Z,1μm,20.0s							
ECH	Echery	108.24	44		PFAKE			20 30 00.0
ECH					LR	LR		
	comp=Z,1μm,21.0s							
CEL	Celeste	108.77	56		PFAKE			20 30 00.0
CEL					LR	LR		
	comp=Z,3μm,20.0s							
BFO	Black Forest	108.97	44		PFAKE			20 30 00.0
BFO					LR	LR		
	comp=Z,939nm,20.0s							
AQU	L'Aquila	109.10	51		PFAKE			20 30 00.0
AQU					LR	LR		
	comp=Z,1μm,19.0s							
CUC	Castrocucco	109.55	55		PFAKE			20 30 00.0
CUC					LR	LR		
	comp=Z,1μm,20.0s							
INK	Inuvik	112.06	339	*i* PKIKP		PKiKP		20 29 55.0 0.0
INK					pmax	pmax		
	comp=Z,1.0nm,0.7s							
INK	Inuvik	112.06	339	PKiKP		PKiKP		20 29 55.0 0.0
	comp=Z,0.7nm,0.7s,baz=161,slow=2.4,SNR=3.3							
GERES	GERESS Array B	112.34	45	*i* PKIKP		PKiKP		20 29 55.9 -0.5
GERES					pmax	pmax		
	comp=Z,1.0nm,0.7s							
GERES	GERESS Array B	112.34	45	PKiKP		PKiKP		20 29 55.9 -0.5
	comp=Z,1.2nm,0.7s,baz=204,slow=2.9,SNR=6.6							
KHC	Kasperske Hory	112.40	45	*e*PKIKP		PKiKP		20 29 56.4 0.0
KHC					MLR	MLR		
	comp=Z,800nm,22.8s							
KHC	Kasperske Hory	112.40	45	*e*PKP		PKiKP		20 29 56.4 0.0
KHC					AMS	AMS		21 17 50.0
	comp=Z,800nm,22.8s							
EGAK	Eagle	112.48	334	PFAKE				20 30 10.0
EGAK					LR	LR		
	comp=Z,483nm,21.0s							
CLL	Collm	113.05	43	*i* PKiKP		PKiKP		20 29 57.8 +0.4
CLL				*e*				20 30 48.0
CLL					pmax	pmax		
	comp=Z,7.0nm,1.2s							
CLL					MLR	MLR		
	comp=Z,1μm,20.8s							
CLL	Collm	113.05	43	*i* PKiKP		PKiKP		20 29 57.8 +0.4
	comp=Z,7.0nm,1.2s							
CLL				*e*PP		PP		20 30 48.0 +0.7
CLL				*e*PS		PS		20 40 23.0 +0.8
CLL				*e*PPS		PPS		20 41 29.0
CLL				*e*(SS)				20 46 00.0
CLL				*e*				20 47 12.0
CLL				*e*SSS		SSS		20 50 36.0
CLL				*e*SSSS				20 54 06.0
CLL				LmV				21 15 00.0
	comp=Z,1μm,20.8s							
PRU	Pruhonice	113.35	45	*e*PKIKP		PKiKP		20 29 58.5 +0.4
PRU				*e*				20 30 49.4
PRU					MLR	MLR		
	comp=Z,900nm,21.0s							
PRU	Pruhonice	113.35	45	*e*PKP		PKiKP		20 29 58.5 +0.4
PRU				*e*PP		PP		20 30 43.2 -6.3
PRU				*e*x		x		20 30 49.4
PRU					AMS	AMS		21 18 40.0
	comp=Z,900nm,21.0s							
BRG	Berggiesshubel	113.39	44	*e*PKP		PKiKP		20 29 58.8 +0.7
	comp=Z,6.9nm,1.3s							
BRG				*e*				20 30 50.8
	comp=Z,29nm,2.0s							
BRG	Berggiesshubel	113.39	44	*e*PKIKP		PKiKP		20 29 58.8 +0.7
BRG				*e*				20 30 50.8
BRG					pmax	pmax		
	comp=Z,7.0nm,1.3s							
BRG					pmax	pmax		
	comp=Z,29nm,2.0s							
PVCC	Panska Ves	113.60	44	*e*PKIKP		PKiKP		20 29 58.9 +0.4
PVCC					MLR	MLR		
	comp=Z,1μm,18.2s							
PVCC	Panska Ves	113.60	44	*e*PKP		PKiKP		20 29 58.9 +0.4
PVCC				*e*PP		PP		20 30 47.4 -3.8
PVCC					AMS	AMS		21 18 20.0
	comp=Z,1μm,18.2s							
TREC	Trest	113.60	46	*e*PKIKP		PKiKP		20 29 58.1 -0.5
TREC					MLR	MLR		
	comp=Z,800nm,17.7s							
TREC	Trest	113.60	46	*e*PKP		PKiKP		20 29 58.1 -0.5
TREC				*e*PP		PP		20 30 47.8 -3.5
TREC					AMS	AMS		21 25 20.0
	comp=Z,800nm,17.7s							
HNR	Honiara	114.36	238	PFAKE				20 30 10.0 +8.8
HNR					LR	LR		
	comp=Z,246nm,22.0s							
UPC	Upice	114.42	44	*e*PKIKP		PKPdf		20 30 01.2 +1.1
UPC	Upice	114.42	44	*e*PKP		PKPdf		20 30 01.2 +1.1
DPC	Dobruska-Polom	114.54	45	*e*PKIKP		PKPdf		20 30 01.0 +0.6
DPC	Dobruska-Polom	114.54	45	*e*PKP		PKPdf		20 30 01.0 +0.6
DPC				*e*PP		PP		20 30 54.7 -3.3
DPC					AMS	AMS		21 19 10.0
ILAR	Eielson Array	114.58	333	PKIKP		PKPdf		20 29 58.6 -1.4
ILAR					pmax	pmax		
	comp=Z,2.0nm,0.7s							
ILAR	Eielson Array	114.58	333	PKP		PKPdf		20 29 58.6 -1.4
	comp=Z,1.5nm,0.7s,baz=158,slow=1.4,SNR=16							
SANT	Santorini	114.68	62	PFAKE				20 30 10.0 +8.9
SANT					LR	LR		
	comp=Z,690nm,22.0s							
KRLC	Kraliky	114.69	45	*e*PKIKP		PKPdf		20 30 01.4 +0.7
KRLC	Kraliky	114.69	45	*e*PKP		PKPdf		20 30 01.4 +0.7
KRLC				*e*PP		PP		20 30 51.3 -7.8
CTAO	Charters Tower	114.79	220	PFAKE				20 30 10.0 +8.1
CTAO					LR	LR		
	comp=Z,885nm,20.0s							
KONO	Kongsberg	114.97	34	PFAKE				20 30 10.0 +9.1
KONO					LR	LR		
	comp=Z,946nm,20.0s							
COLA	College	114.99	333	PFAKE				20 30 10.0 +9.3
COLA					LR	LR		
	comp=Z,653nm,21.0s							
VYHS	Vyhne	115.27	47	*e*PKIKP		PKPdf		20 30 02.3 +0.5
VYHS	Vyhne	115.27	47	*e*PKP		PKPdf		20 30 02.3 +0.5
TRF	Thorofare Moun	115.29	331	*e*P		PKPdf		20 30 01.1 -0.5
OKC	Ostrava-Krasne	115.40	46	*e*PKIKP		PKPdf		20 30 03.4 +1.4
OKC					MLR	MLR		
	comp=Z,700nm,17.0s							
OKC	Ostrava-Krasne	115.40	46	*e*PKP		PKPdf		20 30 03.4 +1.4
OKC					AMS	AMS		21 24 20.0
	comp=Z,700nm,17.0s							
PSZ	Piszkesteto	115.69	48	PFAKE				20 30 10.0 +7.3
PSZ					LR	LR		
	comp=Z,1μm,21.0s							
GKP	Gorka Klasztor	116.23	42	*e*PKIKP		PKPdf		20 30 04.7 +1.2
GKP	Gorka Klasztor	116.23	42	*e*PKP		PKPdf		20 30 04.7 +1.2
NB2	NORSAR Subarra	116.28	33	PKKP		PKKPbc		20 40 33.7 -0.1
	comp=Z,24nm,2.0s,baz=66,slow=4.4							
NB2	NORSAR Subarra	116.28	33	PKKP		PKKPbc		20 40 33.7 -0.1
	baz=66,slow=4.4							
NOA	NORSAR Array B	116.28	33	PKIKP		PKPdf		20 30 03.7 +0.3
NOA								20 40 37.7
NOA					pmax	pmax		
	comp=Z,1.0nm,0.7s							
NOA					pmax	pmax		
	comp=Z,2.0nm,0.9s							
NOA	NORSAR Array B	116.28	33	PKP		PKPdf		20 30 03.7 +0.3
	comp=Z,2.5nm,1.1s,baz=232,slow=1.7,SNR=3.5							
NOA				PKKPbc		PKKPab		20 40 37.6 +2.8
	comp=Z,1.9nm,0.9s,baz=69,slow=4.6,SNR=4.3							
MSEY	Mahe Island	117.07	117	PFAKE				20 30 20.0 +14
MSEY					LR	LR		
	comp=Z,852nm,20.0s							
ASAR	Alice Springs	117.28	207	PKIKP		PKPdf		20 30 05.6 -1.1
ASAR					pmax	pmax		
	comp=Z,2.0nm,0.7s							
ASAR					pmax	pmax		
	comp=Z,2.0nm,0.7s							
ASAR	Alice Springs	117.28	207	PKP		PKPdf		20 30 05.6 -1.1
	comp=Z,1.7nm,0.7s,baz=146,slow=1.9,SNR=24							
ASAR				PKKPbc		PKKPbc		20 40 30.7 +1.0
	comp=Z,1.6nm,0.7s,baz=318,slow=2.9,SNR=8.6							
UZH	Uzhgorod	117.44	48	*e*PKIKP		PKPdf		20 30 04.9 -1.1
UZH				*e*				20 30 18.3
KOLS	Kolonicke sedl	117.54	48	*e*PP		PP		20 31 18.9 -0.1
BEL	Belsk	117.71	44	*e*PKIKP		PKPdf		20 30 07.9 +1.5
BEL	Belsk	117.71	44	*e*PKP		PKPdf		20 30 07.9 +1.5
KWP	Kalwaria Pacla	118.06	47	*e*PKIKP		PKPdf		20 30 07.5 +0.3
KWP					MLR	MLR		
	comp=Z,1μm,20.0s							
KWP	Kalwaria Pacla	118.06	47	*e*PKP		PKPdf		20 30 07.8 +0.6
KWP	Kalwaria Pacla	118.06	47	*e*P		PKPdf		20 30 07.5 +0.3
KWP					LR	LR		
	comp=Z,1μm,20.0s							
ISP	Isparta	118.96	62	PFAKE				20 30 20.0 +11
ISP					LR	LR		
	comp=Z,1μm,21.0s							
SUW	Suwalki	119.81	43	*e*PKIKP		PKPdf		20 30 09.8 -0.5
SUW	Suwalki	119.81	43	*e*PKP		PKPdf		20 30 10.0 -0.3
SUW	Suwalki	119.81	43	*e*P		PKPdf		20 30 09.8 -0.5
CSS	Prodhromos	119.95	66	PFAKE				20 30 20.0 +8.7
CSS					LR	LR		
	comp=Z,189nm,21.0s							
WB2	Warramunga Arr	120.48	209	*e*P		PKPdf		20 30 11.6 -1.2
WRA	Warramunga Arr	120.48	209	PKIKP		PKPdf		20 30 12.4 -0.5
WRA				pmax	pmax			
	comp=Z,5.0nm,0.6s							
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
WRA	Warramunga Arr	120.48	209	PKP		PKPdf		20 30 12.4 -0.5
	comp=Z,4.7nm,0.6s,baz=162,slow=1.5,SNR=42							
WRA				PKKPbc		PKKPbc		20 40 19.4 +1.5
	comp=Z,1.3nm,0.8s,baz=346,slow=4.0,SNR=5.2							
WRAB	Tennant Creek	120.49	209	*e*PKIKP		PKPdf		20 30 12.1 -0.8
WRAB	Tennant Creek	120.49	209	*e*P		PKPdf		20 30 12.1 -0.8
KIS	Kishinev	121.01	52	*e*PKIKP		PKPdf		20 30 13.0 +0.1
KIS					MLR	MLR		
	comp=Z,700nm,20.0s							
KIS					MLR	MLR		
	comp=Z,700nm,22.0s							
KIS	Kishinev	121.01	52	*e*PKP		PKPdf		20 30 13.0 +0.1
KIS					LRM	MLR		21 20 28.0
	comp=Z,700nm,22.0s							
ANTO	Ankara	121.36	61	PFAKE				20 30 30.0 +16
ANTO					LR	LR		
	comp=Z,1μm,20.0s							
BRTR	Keskin Array B	121.92	61	PKIKP		PKPdf		20 30 15.3 +0.2
BRTR					pmax	pmax		
	comp=Z,5.0nm,0.8s							
BRTR					pmax	pmax		
	comp=Z,3.0nm,1.1s							
BRTR	Keskin Array B	121.92	61	PKP		PKPdf		20 30 15.2 +0.2
	comp=Z,4.5nm,0.8s,baz=195,slow=3.1,SNR=20							
BRTR				PP		PP		20 31 45.2 -4.4
	comp=Z,2.6nm,1.1s,baz=240,slow=12,SNR=3.4							
NACGM	Naroch	122.08	42	*e*		PKPdf		20 30 13.0 -1.7
KBS	Kingsbay	122.30	13	PFAKE				20 30 30.0 +15
KBS					LR	LR		
	comp=Z,496nm,21.0s							
KIEV	Kiev	122.36	48	*e*PKIKP		PKPdf		20 30 14.9 -0.4
KIEV	Kiev	122.36	48	PFAKE				20 30 30.0 +15
KIEV					LR	LR		
	comp=Z,804nm,21.0s							
AKASG	Malin Array Be	122.37	48	PKIKP		PKPdf		20 30 14.8 -0.6
AKASG					pmax	pmax		
	comp=Z,3.0nm,0.6s							
AKASG					pmax	pmax		
	comp=Z,2.0nm,0.8s							
AKASG	Malin Array Be	122.37	48	PKP		PKPdf		20 30 14.8 -0.6
	comp=Z,4.0nm,0.7s,baz=263,slow=3.1,SNR=16							
AKASG				PP		PP		20 31 48.1 -3.9
	comp=Z,1.5nm,0.8s,baz=258,slow=6.4,SNR=4.5							
PMG	Port Moresby	122.84	228	*i* PKIKP		PKPdf		20 30 19.2 +1.7
PMG					pmax	pmax		
	comp=Z,17nm,1.7s							
VSU	Vasula	122.92	38	*e*PKIKP		PKPdf		20 30 16.5 +0.3
FINES	FINESS Array B	123.24	35	PKIKP		PKPdf		20 30 17.3 +0.6
FINES					pmax	pmax		
	comp=Z,6.0nm,1.0s							
FINES					pmax	pmax		
	comp=Z,2.0nm,0.9s							
FINES	FINESS Array B	123.24	35	PKP		PKPdf		20 30 17.2 +0.6
	comp=Z,6.2nm,0.9s,baz=200,slow=5.1,SNR=9.5							
FINES				PKKPbc		PKKPbc		20 40 06.5 -1.4
	comp=Z,1.9nm,0.8s,baz=72,slow=6.2,SNR=4.7							
KAF	Kangasniemi	123.48	34	*e*PKIKP		PKPdf		20 30 16.9 -0.3
KAF	Kangasniemi	123.48	34	*e*p		PKPdf		20 30 16.9 -0.3
MBWA	Marble Bar	123.67	193	PFAKE				20 30 30.0 +11
MBWA					LR	LR		
	comp=Z,586nm,20.0s							
ARCES	ARCESS Array B	124.31	25	PKIKP		PKPdf		20 30 19.3 +0.7
ARCES					pmax	pmax		
	comp=Z,2.0nm,0.7s							
ARCES	ARCESS Array B	124.31	25	PKP		PKPdf		20 30 19.3 +0.7
	comp=Z,2.2nm,0.7s,baz=244,slow=3.6,SNR=8.0							
GAMB	Gambell	124.47	328	*e*P		PKPdf		20 30 18.9 -0.1
KEV	Kevo	124.86	25	PFAKE				20 30 30.0 +10
KEV					LR	LR		
	comp=Z,851nm,20.0s							
RAYN	Ar Rayn	124.93	84	*e*P		PKPdf		20 30 21.6 +0.3
FITZ	Fitzroy Crossi	125.20	201	*e*P		PKPdf		20 30 21.5 -0.5
H11S2	WAKE ISLAND Hyl	25.87	269	T		T		22 48 41.2
	baz=119,slow=75,SNR=90							
H11S1	WAKE ISLAND Hyl	25.88	269	T		T		22 48 39.1
	baz=119,slow=75,SNR=127							
H11S3	WAKE ISLAND Hyl	25.89	269	T		T		22 48 42.4
	baz=119,slow=75,SNR=154							
JOF	Joensuu	125.90	33	*e*PKIKP		PKPdf		20 30 22.0 +0.2
JOF					pmax	pmax		
	comp=Z,6.0nm,0.8s							
JOF	Joensuu	125.90	33	*e*p		PKPdf		20 30 22.0 +0.2
	comp=Z,5.7nm,0.8s							
ANN	Anapa	126.14	56	*i* PKIKP		PKPdf		20 30 22.3 -0.5
ANN				*e*				20 37 31.1
ANN				*e*SP		SP		20 42 20.4 +2.7
ANN					pmax	pmax		
	comp=Z,105nm,1.7s							
ANN					MLR	MLR		
	comp=Z,579nm,20.0s							
H11N3	WAKE ISLAND Hyl	26.29	270	T		T		22 49 11.4
	baz=115,slow=78,SNR=71							
H11N1	WAKE ISLAND Hyl	26.31	270	T		T		22 49 14.1
	baz=115,slow=78,SNR=157							
H11N2	WAKE ISLAND Hyl	26.31	270	T		T		22 49 13.7
	baz=115,slow=78,SNR=73							
DGAR	Diego Garcia	126.49	134	PFAKE				20 30 40.0 +16
DGAR					LR	LR		
	comp=Z,542nm,20.0s							
APA	Apatity	127.08	28	⇓*i* PKIKP		PKPdf		20 30 25.0 +1.1
APA					MLR	MLR		
	comp=Z,1μm,21.0s							
LVZ	Lovozero	127.55	27	PFAKE				20 30 40.0 +15
LVZ					LR	LR		
	comp=Z,734nm,20.0s							
OBN	Obninsk	127.64	43*c*	*i* PKIKP		PKPdf		20 30 25.4 +0.1
OBN				*e*				20 32 24.4
OBN					pmax	pmax		
	comp=Z,89nm,1.7s							
OBN					MLR	MLR		
	comp=Z,1μm,22.0s							
OBN	Obninsk	127.64	43	*e*P		PKPdf		20 30 25.7 +0.4
OBN					LR	LR		
	comp=Z,1μm,22.0s							
MOS	Moscow	128.31	43	*e*PKIKP		PKPdf		20 30 25.8 -0.8
MOS				*e*				20 32 29.9
MOS					pmax	pmax		
	comp=Z,75nm,1.5s							
VSR	Storozhevoye	128.61	49	*e*PKIKP		PKPdf		20 30 26.2 -1.1
VSR					pmax	pmax		
	comp=Z,40nm,1.5s							
VSR					pmax	pmax		
	comp=N,3.0nm,1.3s							
VSR					pmax	pmax		
	comp=E,3.0nm,0.7s							
VSR					MLR	MLR		
	comp=N,480nm,22.0s							
VSR					MLR	MLR		
	comp=E,620nm,22.0s							
VSR					MLR	MLR		
	comp=Z,960nm,22.0s							
VORD	Divnogorie	128.65	49	*e*PKIKP		PKPdf		20 30 26.4 -1.0
VORD					pmax	pmax		
	comp=Z,20nm,1.4s							
VORD					pmax	pmax		
	comp=N,10.0nm,1.2s							
VORD					pmax	pmax		
	comp=E,10.0nm,1.4s							
VORD					MLR	MLR		
	comp=N,240nm,20.0s							
VORD					MLR	MLR		
	comp=E,520nm,20.0s							
VORD					MLR	MLR		
	comp=Z,760nm,20.0s							
TMCR	Tamitsa	128.97	32	*e*PKIKP		PKPdf		20 30 27.6 0.0
TMCR				*e*				20 32 35.3
TMCR					pmax	pmax		
	comp=Z,78nm,1.4s							
KIV	Kislovodsk	129.60	58	*i* PKIKP		PKPdf		20 30 30.2 +0.6
KIV				*e*				20 32 39.8
KIV					pmax	pmax		
	comp=Z,37nm,1.1s							
KIV	Kislovodsk	129.60	58	P		PKPdf		20 30 30.8 +1.2
	SNR=5.1							
KIV	Kislovodsk	129.60	58⇑	*i* PKPdf		PKPdf		20 30 30.0 +0.4
	SNR=8.0							
KIV	Kislovodsk	129.60	58	*e*PKPdf		PKPdf		20 30 29.9 +0.4
KIV					LR	LR		
	comp=Z,446nm,20.0s							
KLMR	Klimovskoe	129.65	36	*e*PKIKP		PKPdf		20 30 27.0 -2.0
KLMR					pmax	pmax		
	comp=Z,117nm,1.3s							
KLMR					MLR	MLR		
	comp=Z,1μm,19.0s							
KBZ	Khabaz	129.70	59	PKIKP		PKPdf		20 30 30.4 +0.8
KBZ					pmax	pmax		
	comp=Z,9.0nm,1.0s							
KBZ	Khabaz	129.70	59	PKP		PKPdf		20 30 30.4 +0.8
	comp=Z,8.5nm,1.0s,baz=229,slow=4.7,SNR=10							
VRHR	Novokhopersk	130.13	49	*e*PKIKP		PKPdf		20 30 28.9 -1.3
VRHR					pmax	pmax		
	comp=Z,20nm,1.3s							
VRHR					pmax	pmax		
	comp=N,7.0nm,1.2s							
VRHR					pmax	pmax		
	comp=E,10.0nm,1.2s							
VRHR					MLR	MLR		
	comp=N,50nm,19.0s							
VRHR					MLR	MLR		
	comp=E,580nm,19.0s							
VRHR					MLR	MLR		
	comp=Z,740nm,19.0s							
GNI	Garni	130.19	64*c*	*i* PKIKP		PKPdf		20 30 32.2 +1.3
GNI					pmax	pmax		
	comp=Z,54nm,1.7s							
GNI	Garni	130.19	64	P		PKPdf		20 30 32.7 +1.8
	SNR=7.1							
GNI	Garni	130.19	64	*e*PKPdf		PKPdf		20 30 31.9 +1.0
GNI					LR	LR		
	comp=Z,797nm,22.0s							
ZEI	Tsey	130.21	60	*i* PKIKP		PKPdf		20 30 31.2 +0.3
ZEI					pmax	pmax		
	comp=Z,29nm,1.5s							
COCO	West Island	132.47	165	PFAKE				20 30 50.0 +14
COCO					LR	LR		
	comp=Z,813nm,20.0s							
PRGR	Permogore	132.57	35	*e*PKIKP		PKPdf	

ARU	**Arti**	**139.96**	**41**	*i* PKIKP	**PKPdf**	**20 30 49.1**	**+0.7**
ARU						20 33 43.3	
ARU				MLR	MLR		
comp=Z,979nm,20.0s							
ARU	**Arti**	**139.96**	**41**	*e*PKPpre	PKPpre	20 30 41.4	
ARU				LR	LR		
comp=Z,1μm,22.0s							
IKRD	**Kardeh**	**139.97**	**72**	*e*P	**PKPdf**	**20 30 47.2**	**-2.2**
PETK	**Petropavlovsk-**	**140.49**	**314**	PKIKP	**PKPdf**	**20 30 48.6**	**-0.9**
PETK				pmax	pmax		
comp=Z,4.0nm,0.7s							
PETK	**Petropavlovsk-**	**140.49**	**314**	PKP	**PKPdf**	**20 30 48.6**	**-0.9**
comp=Z,3.9nm,0.7s,baz=123,slow=7.3,SNR=4.5							
SVE	**Sverdlovsk**	**140.99**	**40**	⇓*i* PKIKP	**PKPdf**	**20 30 46.0**	**-4.2**
SVE				pmax	pmax		
comp=Z,21nm,1.6s							
SVE				MLR	MLR		
comp=Z,1μm,23.0s							
TIXI	**Tiksi**	**141.09**	**350**	*d i* PKHKP	PKPpre	20 30 42.8	
TIXI				*i*		20 30 49.7	
TIXI				MLR	MLR		
comp=Z,331nm,19.0s							
TIXI	**Tiksi**	**141.09**	**350**	*e*PKPpre	PKPpre	20 30 42.4	
IMYA	**Miami**	**141.13**	**73**	*e*P	PKPdf	20 30 44.5	-6.9
ABKAR	**Akbulak array**	**141.83**	**52**	*e*PKPpre	PKPpre	20 30 46.3	
LUWI	**Luwuk**	**142.17**	**204**	*e*PKPpre	PKPpre	20 30 49.1	
PALK	**Pallekele**	**143.06**	**131**	*i* PKIKP	PKPbc	20 30 53.2	+1.1
BKNI	**Bangkinang**	**145.49**	**167**	*e*PKPdf	**PKPbc**	**20 30 58.9**	**-0.6**
GSI	**Gunungsitoli**	**145.66**	**161**	*e*PKPdf	**PKPab**	**20 31 00.5**	**+0.1**
KSM	**Kuching**	**147.20**	**184**	*e*PKPdf	**PKPbc**	**20 31 04.6**	**0.0**
KSM				LR	LR		
comp=Z,582nm,20.0s							
MYKOM	**Kota Tinggi**	**147.34**	**172**	⇓P	**PKPbc**	**20 31 05.6**	**+0.6**
BRVK	**Borovoye**	**147.41**	**43**	*d i* PKIKP	**PKPdf**	**20 31 02.0**	**+0.5**
BRVK	**Borovoye**	**147.41**	**43**	P	**PKPdf**	**20 31 02.7**	**+1.2**
SNR=48							
BRVK	**Borovoye**	**147.41**	**43**	*e*PKPdf	**PKPdf**	**20 31 02.4**	**+0.9**
BRVK				LR	LR		
comp=Z,1μm,22.0s							
KUR	**Kuril'sk**	**147.87**	**302**	*i* PKP2	**PKPbc**	**20 31 05.7**	**+0.2**
KUR				*i* SS	SS	20 53 32.5	-5.8
KBL	**Kabul**	**147.94**	**78**	*e*PKIKP	**PKPdf**	**20 31 04.0**	**+0.7**
KBL	**Kabul**	**147.94**	**78**	*e*PKPdf	**PKPdf**	**20 31 04.0**	**+0.7**
DAV	**Davao City (W)**	**148.39**	**215**	PFAKE		20 31 20.0	+9.0
DAV				LR	LR		
comp=Z,1μm,20.0s							
HYB	**Hyderabad**	**148.68**	**115**	*i* PKP	**PKPdf**	**20 31 04.0**	**-0.8**
YAK	**Yakutsk**	**149.12**	**340**	*i* PKIKP	**PKPdf**	**20 31 04.1**	**+0.1**
YAK				*e*SSS	SSS	20 59 21.6	
YAK				pmax	pmax		
comp=Z,139nm,1.1s							
YAK				pmax	pmax		
comp=N,24nm,1.6s							
YAK				pmax	pmax		
comp=E,16nm,1.3s							
YAK				pmax	pmax		
comp=Z,194nm,3.2s							
YAK				pmax	pmax		
comp=N,124nm,3.3s							
YAK				pmax	pmax		
comp=E,43nm,2.7s							
YAK	**Yakutsk**	**149.12**	**340**	*e*PKPdf	**PKPdf**	**20 31 03.5**	**-0.5**
YAK				*e*PKPbc	**PKPbc**	**20 31 08.1**	**-0.1**
LHMI	**Lhok Sumawe**	**149.21**	**158**	*e*PKPdf	**PKPdf**	**20 31 07.0**	**+1.3**
LHMI				*e*PKPbc	**PKPbc**	**20 31 10.0**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**149.41**	**300**	*i* PKP2	**PKPab**	**20 31 13.4**	**-1.0**
IPM	**Ipoh**	**149.53**	**166**	*e*PKPdf	**PKPdf**	**20 31 04.6**	**-1.7**
IPM				*e*PKPbc	**PKPbc**	**20 31 10.3**	**-0.5**
KKAR	**Karatay Array**	**149.63**	**62**	*e*PKPdf	**PKPdf**	**20 31 06.1**	**+0.6**
AJM	**Ajmer**	**150.21**	**96**	*i x*	**PKPdf**	**20 31 07.0**	**0.0**
KULM	**Kulim**	**150.25**	**165**	*e*PKPbc	**PKPbc**	**20 31 12.2**	**-0.3**
KULM				LR	LR		
comp=Z,691nm,21.0s							
KKM	**Kota Kinabalu**	**150.82**	**197**	*e*PKPbc	**PKPbc**	**20 31 13.7**	**-0.3**
KKM				LR	LR		
comp=Z,500nm,19.0s							
YSS	**Yuzh-Sakhalins**	**151.10**	**306**	⇑*i* PKIKP	**PKPbc**	**20 31 13.5**	**+0.1**
YSS				pmax	pmax		
comp=Z,70nm,0.8s							
YSS	**Yuzh-Sakhalins**	**151.10**	**306**	*e*PKPbc	**PKPbc**	**20 31 13.6**	**+0.1**
ERM	**Erimo**	**151.56**	**296**	*c i* PKIKP	**PKPbc**	**20 31 17.0**	**+2.3**
ERM				pmax	pmax		
comp=Z,100nm,1.7s							
ERM	**Erimo**	**151.56**	**296**	PFAKE		20 31 20.0	-3.3
ERM				LR	LR		
comp=Z,1μm,20.0s							
ASAJ	**Asahikawa**	**151.74**	**300**	PKIKP	**PKPbc**	**20 31 15.4**	**+0.3**
ASAJ						20 31 25.2	
ASAJ				pmax	pmax		
comp=Z,42nm,1.0s							
ASAJ				pmax	pmax		
comp=Z,40nm,0.9s							
ASAJ	**Asahikawa**	**151.74**	**300**	PKPbc	**PKPbc**	**20 31 15.3**	**+0.3**
comp=Z,42nm,1.0s,baz=90,slow=7.9,SNR=14							
ASAJ				PKPab	**PKPab**	**20 31 25.2**	**+1.2**
comp=Z,40nm,0.8s,baz=77,slow=5.4,SNR=7.7							
ASAJ	**Asahikawa**	**151.74**	**300**	*e*PKPbc	**PKPbc**	**20 31 14.5**	**-0.6**
ASAJ				PKPab	**PKPab**	**20 31 25.2**	**+1.2**
AML	**Almayashu**	**152.05**	**64**	P	**PKPdf**	**20 31 11.1**	**+1.3**
SNR=9.7							
EKS2	**Erkin-Say**	**152.06**	**63**	P	**PKPdf**	**20 31 10.9**	**+1.4**
SNR=17							
EKS2	**Erkin-Say**	**152.06**	**63**	*e*PKIKP	**PKPdf**	**20 31 10.6**	**+1.2**
EKS2				*e*		20 31 17.1	
EKS2				MLR	MLR		
comp=Z,577nm,20.0s							
EKS2	**Erkin-Say**	**152.06**	**63**	*e*PKPdf	**PKPdf**	**20 31 10.6**	**+1.2**
EKS2				*e*PKPbc	**PKiKP**	**20 31 17.1**	**+0.7**
EKS2				LR	LR		
comp=Z,577nm,20.0s							
USP	**Ospenovka**	**152.52**	**61**	P	**PKPbc**	**20 31 18.1**	**+1.1**
SNR=7.4							
USP	**Ospenovka**	**152.52**	**61**	*i* PKIKP	**PKPbc**	**20 31 18.0**	**+1.1**
AAK	**Ala-Archa**	**152.59**	**62**	P	**PKPdf**	**20 31 11.7**	**+1.4**
SNR=12							
AAK	**Ala-Archa**	**152.59**	**62**	*e*PKIKP	**PKPdf**	**20 31 10.9**	**+0.6**
AAK				*e*		20 31 18.0	
AAK				MLR	MLR		
comp=Z,673nm,22.0s							
AAK	**Ala-Archa**	**152.59**	**62**	P	**PKPdf**	**20 31 12.0**	**+1.7**
SNR=34							
AAK	**Ala-Archa**	**152.59**	**62**	*e*PKPdf	**PKPdf**	**20 31 10.9**	**+0.6**
AAK				*e*PKPbc	**PKiKP**	**20 31 18.0**	**+0.5**
AAK				LR	LR		
comp=Z,673nm,22.0s							
UCH	**Uchtor**	**152.65**	**63**	P	**PKPdf**	**20 31 12.3**	**+1.6**
SNR=18							
FRU	**Bishkek**	**152.66**	**62**	*e*PKIKP	**PKPdf**	**20 31 10.0**	**-0.2**
FRU				pmax	pmax		
comp=Z,220nm,1.8s							
CHMS	**Chumysh**	**152.73**	**62**	P	**PKPbc**	**20 31 18.6**	**+1.1**
SNR=8.7							
CHMS	**Chumysh**	**152.73**	**62**	*i* PKIKP	**PKPbc**	**20 31 18.5**	**+1.1**
KBK	**Karagaybulak**	**152.92**	**62**	P	**PKPbc**	**20 31 19.0**	**+0.9**
SNR=6.5							
KURK	**Kurchatov**	**153.08**	**44**	*e*PKIKP	**PKPdf**	**20 31 10.8**	**+0.3**
KURK				MLR	MLR		
comp=Z,428nm,22.0s							
KURK	**Kurchatov**	**153.08**	**44**	P	**PKPdf**	**20 31 11.5**	**+1.0**
SNR=20							
KURK	**Kurchatov**	**153.08**	**44**	*e*PKPdf	**PKPdf**	**20 31 10.8**	**+0.3**
KURK				LR	LR		
comp=Z,428nm,22.0s							
NDI	**New Delhi**	**153.14**	**94**	*ex*	**PKPbc**	**20 31 17.0**	**-1.7**
NVS	**Novosibirsk**	**153.20**	**33**	⇑*i* PKIKP	**PKPdf**	**20 31 10.8**	**+0.3**
NVS				pmax	pmax		
comp=Z,156nm,1.5s							
NVS				pmax	pmax		
comp=E,41nm,1.4s							
KZA	**Kyzart**	**153.20**	**64**	P	**PKPdf**	**20 31 13.1**	**+1.6**
SNR=7.6							
TKM2	**Tokmak 2**	**153.36**	**62**	P	**PKPdf**	**20 31 12.2**	**+0.8**
SNR=7.9							
TKM2	**Tokmak 2**	**153.36**	**62**	*e*PKIKP	**PKPdf**	**20 31 12.1**	**+0.6**
TKM2				*e*		20 31 19.7	
TKM2	**Tokmak 2**	**153.36**	**62**	*e*PKPdf	**PKPdf**	**20 31 12.1**	**+0.6**
TKM2				*e*PKPbc	**PKiKP**	**20 31 19.7**	**+0.5**
KSH	**Kashi**	**153.91**	**69**	PKPbc	**PKPdf**	**20 31 12.1**	**-0.1**
KSH				PKS	**PKSdf**	**20 34 45.3**	**-1.3**
KSH				PP	**PP**	**20 35 07.5**	**-1.0**
KSH				SKS	**SKSdf**	**20 38 19.5**	**+1.0**
KSH				SKKS	**SKKSac**	**20 41 58.3**	**+0.6**
KSH				SS	**SS**	**20 54 44.2**	**-1.8**
KSH				PPMZ			
comp=E,400nm,4.3s							
KSH				LN			
comp=E,92nm,4.9s							
KSH				LE			
comp=E,150nm,4.5s							
KSH				LZ			
comp=E,1μm,38.1s							
ULHL	**Ulahol**	**153.92**	**63**	P	**PKPdf**	**20 31 13.7**	**+1.4**
SNR=6.4							
ZALV	**Zalesovo Beam**	**154.49**	**33**	PKIKP	**PKPdf**	**20 31 12.3**	**-0.1**
ZALV						20 31 21.7	
ZALV						20 31 35.8	
ZALV				pmax	pmax		
comp=Z,5.0nm,0.8s							
ZALV				pmax	pmax		
comp=Z,30nm,0.8s							
ZALV				pmax	pmax		
comp=Z,28nm,0.8s							
ZALV	**Zalesovo Beam**	**154.49**	**33**	PKP	**PKPdf**	**20 31 12.3**	**-0.1**
comp=Z,4.9nm,0.8s,baz=282,slow=2.9,SNR=36							
ZALV				PKPbc	**PKiKP**	**20 31 21.7**	**+0.9**
comp=Z,30nm,0.8s,baz=299,slow=2.9,SNR=43							
ZALV				PKPab	**PKPab**	**20 31 35.8**	**+0.6**
comp=Z,28nm,0.8s,baz=304,slow=4.3,SNR=11							
MJAR	**Matsushiro Arr**	**155.42**	**284**	PKIKP	**PKPdf**	**20 31 13.6**	**-0.7**
MJAR						20 31 40.7	
MJAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
MJAR				pmax	pmax		
comp=Z,4.0nm,0.7s							
MJAR	**Matsushiro Arr**	**155.42**	**284**	PKP	**PKPdf**	**20 31 13.6**	**-0.7**
comp=Z,4.4nm,1.2s,baz=101,slow=2.1,SNR=6.0							
MJAR				PKPab	**PKPab**	**20 31 40.7**	**+0.8**
comp=Z,3.8nm,0.7s,baz=151,slow=3.2,SNR=7.8							
MAJO	**Matsushiro**	**155.42**	**284**	PFAKE		20 31 30.0	-10
MAJO				LR	LR		
comp=Z,659nm,19.0s							
MAT	**Matsushiro**	**155.42**	**284**	PKP	**PKPdf**	**20 31 13.1**	**-1.2**
HABR	**Khabarovsk**	**155.52**	**313**	*e*PKIKP	**PKPdf**	**20 31 12.5**	**-1.4**
HABR				*e*		20 31 23.4	
HABR				*e*		20 31 39.0	
HABR				*e*		20 35 16.3	
HABR				*e*		20 38 16.4	
HABR				*e*PPP	PPP	20 38 48.6	
HABR				SS	SS	20 55 02.2	+0.1
HABR				*e*SSS	SSS	21 00 58.4	
HABR				pmax	pmax		
comp=N,45nm,2.8s							
HABR				pmax	pmax		
comp=E,61nm,2.8s							
HABR				pmax	pmax		
comp=Z,54nm,2.8s							
BOD	**Bodaibo**	**156.22**	**352**	*e*PKIKP	**PKPdf**	**20 31 13.2**	**-1.4**
BOD				*e*		20 31 42.1	
BOD				*e*		20 35 15.8	
BOD				pmax	pmax		
comp=Z,11nm,1.6s							
MKAR	**Makanchi Array**	**156.93**	**50**	PKIKP	**PKPdf**	**20 31 16.1**	**+0.1**
MKAR						20 35 26.7	
MKAR				pmax	pmax		
comp=Z,3.0nm,0.9s							
MKAR				pmax	pmax		
comp=Z,10.0nm,1.0s							
MKAR				pmax	pmax		
comp=Z,2.0nm,0.9s							
MKAR	**Makanchi Array**	**156.93**	**50**	PKP	**PKPdf**	**20 31 16.1**	**+0.1**
comp=Z,2.7nm,0.9s,baz=333,slow=1.4,SNR=23							
MKAR				PKPab	**PKPab**	**20 31 46.7**	**+0.7**
comp=Z,10nm,1.0s,baz=256,slow=0.5,SNR=11							
MKAR				PP	**PP**	**20 35 26.6**	**+1.9**
comp=Z,2.3nm,0.9s,baz=354,slow=2.4,SNR=3.6							
KLR	**Kul'dur**	**157.08**	**317**	*e*PKIKP	PKPdf	20 31 10.2	-5.8
KLR				pmax	pmax		
comp=Z,230nm,3.0s							
PHET	**Kaeng Krachan**	**157.29**	**158**	P	**PKPab**	**20 31 49.4**	**+1.2**
comp=Z,61nm,1.4s							
KOLN	**Koldanda**	**158.04**	**101**	*e*P	**PKPdf**	**20 31 17.8**	**-0.4**
comp=Z,49nm,1.4s							
DANN	**Dangsing**	**158.40**	**99**	*e*P	**PKPdf**	**20 31 18.5**	**-0.2**
comp=Z,89nm,1.0s							
SRDT	**SRDT**	**158.47**	**156**	P	**PKPab**	**20 31 53.9**	**+0.6**
comp=Z,51nm,1.4s							
KHLT	**Khaolaem Dam**	**158.70**	**154**	P	**PKPab**	**20 31 54.8**	**+0.5**
comp=Z,9.0nm,1.6s							
GKN	**Gorkha**	**158.98**	**101**	*e*P	**PKPdf**	**20 31 18.7**	**-0.5**
comp=Z,97nm,1.4s							
USRK	**Ussuriysk Ar.**	**159.13**	**305**	PKP	**PKPdf**	**20 31 18.1**	**-0.6**
comp=Z,1.1nm,0.7s,baz=46,slow=8.5,SNR=4.4							
USRK				PKPab	**PKPab**	**20 31 54.3**	**-1.3**
comp=Z,9.6nm,1.0s,baz=64,slow=4.4,SNR=6.9							
DMN	**Daman**	**159.20**	**103**	*e*P	**PKPdf**	**20 31 19.5**	**-0.1**
KKN	**Kakani**	**159.41**	**102**	*e*P	**PKPdf**	**20 31 19.3**	**-0.5**
PKIN	**Phulchoki**	**159.42**	**103**	*e*P	**PKPdf**	**20 31 19.3**	**-0.6**
PKI	**Pulchoki**	**159.43**	**103**	*e*P	**PKPdf**	**20 31 19.1**	**-0.9**
comp=Z,85nm,1.5s							
GUN	**Gumba**	**159.95**	**103**	*e*P	**PKPdf**	**20 31 20.0**	**-0.6**
comp=Z,202nm,1.9s							
JIRN	**Jiri**	**160.09**	**104**	*e*P	**PKPdf**	**20 31 20.2**	**-0.6**
comp=Z,76nm,1.5s							
RAMN	**Ramite**	**160.11**	**106**	*e*P	**PKPdf**	**20 31 20.4**	**-0.3**
comp=Z,267nm,1.7s							
MDJ	**Mudanjiang**	**160.56**	**308**	PKP	**PKPdf**	**20 31 18.7**	**-1.6**
MDJ				LN			
comp=Z,180nm,28.4s							
MDJ				LE			
comp=Z,370nm,27.4s							
MDJ				LZ			
comp=Z,550nm,28.4s							
MDJ	**Mudanjiang**	**160.56**	**308**	PFAKE		20 31 30.0	+10
MDJ				LR	LR		
comp=Z,711nm,22.0s							
ODAN	**Odare**	**160.69**	**107**	*e*P	**PKPdf**	**20 31 21.0**	**-0.3**
comp=Z,76nm,1.3s							
TAPN	**Taplejung**	**161.17**	**106**	*e*P	**PKPdf**	**20 31 21.5**	**-0.4**
comp=Z,61nm,1.3s							
SUKH	**Sukhothai**	**161.55**	**154**	P	**PKPab**	**20 32 07.5**	**+0.9**
comp=Z,4.6nm,1.2s							
WMQ	**Urumqi**	**161.62**	**53**	PKP	**PKPdf**	**20 31 22.0**	**+0.5**
WMQ				PKPab	**PKPab**	**20 32 07.4**	**+0.8**
WMQ				PKS	**PKSdf**	**20 34 54.0**	**-0.7**
WMQ				PP	**PP**	**20 35 52.8**	**+2.4**
WMQ				SKS	**SKSdf**	**20 38 25.7**	**-0.1**
WMQ				SKKS	**SKKSac**	**20 42 39.8**	**+1.9**
WMQ				SS	**SS**	**20 56 07.2**	**-0.2**
WMQ				PPMZ			
comp=Z,340nm,4.5s							
WMQ				LN			
comp=Z,360nm,23.0s							
WMQ				LE			
comp=Z,760nm,24.0s							
WMQ				LZ			
comp=Z,720nm,22.0s							
CIT	**Chita**	**161.93**	**349**	*e*PKIKP	**PKPdf**	**20 31 17.6**	**-4.0**
CIT				*e*		20 32 07.7	
CIT				pmax	pmax		
comp=Z,153nm,2.9s							
IRK	**Irkutsk**	**161.93**	**8**	*e*PKIKP	**PKPdf**	**20 31 20.1**	**-1.4**
IRK				*e*		20 32 07.1	
IRK				*e*		20 35 52.6	
IRK				pmax	pmax		
comp=Z,45nm,1.7s							
MOY	**Mondy**	**161.97**	**14**	*e*PKIKP	**PKPdf**	**20 31 22.1**	**+0.4**
MOY				pmax	pmax		
comp=Z,66nm,3.1s							
CMAR	**Chiang Mai Arr**	**162.17**	**150**	PKIKP	**PKPdf**	**20 31 23.1**	**+0.3**
CMAR						20 32 08.6	
CMAR						20 35 50.7	
CMAR				pmax	pmax		
comp=Z,10.0nm,1.2s							
CMAR				pmax	pmax		
comp=Z,5.0nm,1.1s							
CMAR				pmax	pmax		
comp=Z,1.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**162.17**	**150**	PKP	**PKPdf**	**20 31 23.1**	**+0.3**
comp=Z,9.9nm,1.2s,baz=237,slow=2.1,SNR=29							
CMAR				PKPab	**PKPab**	**20 32 08.6**	**-0.8**
comp=Z,4.7nm,1.1s,baz=231,slow=4.7,SNR=7.3							
CMAR				PP	**PP**	**20 35 50.7**	**-1.8**
comp=Z,1.1nm,1.0s,baz=224,slow=4.6,SNR=5.0							
TLY	**Talaya**	**162.41**	**9**	*i* PKIKP	**PKPdf**	**20 31 19.7**	**-2.3**
TLY				*e*		20 32 10.5	
TLY				*e*		20 35 55.6	
TLY				pmax	pmax		
comp=Z,17nm,0.9s							
TLY				MLR	MLR		
comp=Z,352nm,21.0s							
TLY	**Talaya**	**162.41**	**9**	P	**PKPdf**	**20 31 22.8**	**+0.8**
SNR=12							
TLY	**Talaya**	**162.41**	**9**	*e*PKPdf	**PKPdf**	**20 31 22.1**	**+0.1**
CHTO	**Chiang Mai**	**162.49**	**150**	*e*PKIKP	**PKPdf**	**20 31 22.9**	**-0.2**
CHTO				MLR	MLR		
comp=Z,531nm,22.0s							
CHTO	**Chiang Mai**	**162.49**	**150**	P	**PKPab**	**20 32 11.2**	**+0.4**
CHTO	**Chiang Mai**	**162.49**	**150**	*e*PKPdf	**PKPdf**	**20 31 22.9**	**-0.2**
CHTO				LR	LR		
comp=Z,531nm,22.0s							
HIA	**Hailar**	**162.81**	**333**	PFAKE		20 31 30.0	+7.5
HIA				LR	LR		
comp=Z,609nm,21.0s							
SHL	**Shillong**	**163.46**	**118**	*e*P	**PKPdf**	**20 31 25.0**	**+0.9**
SHL				*e*S	**PP**	**20 36 02.0**	**+1.5**
CN2	**Changchun**	**163.59**	**310**	*e*PKP	**PKPdf**	**20 31 19.0**	**-4.4**
CN2				*e*pPKP	**pPKPdf**	**20 31 29.0**	**+0.1**
CN2				*e*PP	**PP**	**20 35 59.6**	**-1.1**
CN2				PPMZ			
comp=Z,500nm,9.0s							
CN2				LN			
comp=Z,2μm,20.0s							
CN2				LE			
comp=Z,2μm,20.0s							
CN2				LZ			
comp=Z,3μm,22.0s							
ZAK	**Zakamensk**	**163.62**	**11**	*e*PKIKP	**PKPdf**	**20 31 22.5**	**-0.8**
ZAK				*e*		20 32 15.8	
ZAK				pmax	pmax		
comp=Z,7.0nm,2.0s							
KSRS	**Korea Array**	**163.64**	**287**	PKIKP	**PKPdf**	**20 31 23.2**	**-0.4**
KSRS						20 32 16.8	
KSRS				pmax	pmax		
comp=Z,4.0nm,1.0s							
KSRS				pmax	pmax		
comp=Z,4.0nm,0.7s							
KSRS	**Korea Array**	**163.64**	**287**	PKP	**PKPdf**	**20 31 23.2**	**-0.4**
comp=Z,4.3nm,1.0s,baz=30,slow=1.9,SNR=11							
KSRS				PKPab	**PKPab**	**20 32 16.8**	**+1.2**
comp=Z,3.7nm,0.7s,baz=87,slow=4.2,SNR=11							
KSAR	**Wonju Array Be**	**163.67**	**286**	PKIKP	**PKPdf**	**20 31 23.2**	**-0.4**
KSAR						20 32 16.8	
KSAR	**Wonju Array Be**	**163.67**	**286**	PKP	**PKPdf**	**20 31 23.2**	**-0.4**
KSAR				PKPab	**PKPab**	**20 32 16.8**	**+1.0**
QIZ	**Qiongzhong**	**164.63**	**186**	PKP	**PKPdf**	**20 31 24.5**	**-0.6**
QIZ				PP	**PP**	**20 36 05.5**	**+0.4**
QIZ				SS	SS	20 56 42.5	+6.1
QIZ				LN			
comp=Z,320nm,22.7s							
QIZ				LZ			
comp=Z,390nm,18.4s							
INCN	**Inchon**	**164.66**	**287**	PFAKE		20 31 40.0	+15
INCN				LR	LR		
comp=Z,754nm,21.0s							
LSA	**Lhasa**	**164.90**	**103**	*e*PKIKP	**PKPdf**	**20 31 26.4**	**+0.8**
LSA				MLR	MLR		
comp=Z,727nm,21.0s							
LSA	**Lhasa**	**164.90**	**103**	*e*PKPdf	**PKPdf**	**20 31 26.4**	**+0.8**
LSA				LR	LR		
comp=Z,727nm,21.0s							
SLVN	**Son La**	**166.49**	**163**	*e*PKPdf	**PKPdf**	**20 31 27.4**	**+0.7**
SONM	**Songino Array**	**166.50**	**5**	PKIKP	**PKPdf**	**20 31 25.6**	**-0.3**
SONM						20 32 28.6	
SONM						20 36 14.8	
SONM				pmax	pmax		
comp=Z,2.0nm,1.0s							
SONM				pmax	pmax		
comp=Z,7.0nm,1.0s							
SONM				pmax	pmax		
comp=Z,7.0nm,1.2s							
SONM	**Songino Array**	**166.50**	**5**	PKP	**PKPdf**	**20 31 25.6**	**-0.3**
comp=Z,2.4nm,1.0s,baz=162,slow=1.1,SNR=18							
SONM				PKPab	**PKPab**	**20 32 28.6**	**+0.8**
comp=Z,6.6nm,1.0s,baz=336,slow=3.2,SNR=14							
SONM				PP	**PP**	**20 36 14.8**	**-0.2**
comp=Z,6.5nm,1.2s,baz=339,slow=4.5,SNR=8.7							
ULN	**Ulaanbaatar**	**166.50**	**3**	*e*PKIKP	**PKPdf**	**20 31 25.5**	**-0.4**
ULN	**Ulaanbaatar**	**166.50**	**3**	P	**PKPdf**	**20 31 26.1**	**+0.2**
SNR=7.2							
ULN	**Ulaanbaatar**	**166.50**	**3**	*e*PKPdf	**PKPdf**	**20 31 25.5**	**-0.4**
KMI	**Kunming**	**169.67**	**152**	PKP	**PKPdf**	**20 31 28.7**	**-0.2**
NJ2	**Nanjing**	**170.69**	**259**	*e*PKP	**PKPdf**	**20 31 29.0**	**0.0**
BJI	**Beijing**	**171.43**	**314**	PKP	**PKPdf**	**20 31 28.6**	**-0.5**
BJI				PP	**PP**	**20 36 39.5**	**-1.1**
BJI				PPMZ			
comp=Z,310nm,4.3s							
BJI				LN			
comp=Z,680nm,23.7s							
BJI				LE			
comp=Z,540nm,22.0s							
BJI				LZ			
comp=Z,610nm,23.2s							
BJT	**Baijiatuau**	**171.44**	**313**	PFAKE		20 31 40.0	+11
BJT				LR	LR		
comp=Z,889nm,21.0s							
GTA	**Gaotai**	**171.69**	**50**	⇓PKP	**PKPdf**	**20 31 29.6**	**+0.2**
GTA				PKPab	**PKPab**	**20 32 52.2**	**+1.0**
GTA				PP	**PP**	**20 36 44.8**	**+2.5**
GTA				SKS	**SKSdf**	**20 38 31.9**	**-0.3**
GTA				SKKS	**SKKSac**	**20 43 31.0**	**+2.6**
GTA				SS	**SS**	**20 57 49.8**	**+0.4**
GTA				PPMZ			
comp=Z,310nm,7.6s							
GTA				LN			
comp=Z,520nm,21.4s							
GTA				LE			
comp=Z,580nm,20.7s							
GTA				LZ			
comp=Z,970nm,21.4s							
GYA	**Guiyang**	**172.01**	**171**	*i* PKP	**PKPdf**	**20 31 29.3**	**-0.7**
GYA				PKPab	**PKPab**	**20 32 52.5**	**-0.2**
GYA				PKS	**PKSdf**	**20 35 00.8**	**-1.7**
GYA				PP	**PP**	**20 36 41.3**	**-1.5**
GYA				SKKS		20 43 32.0	
GYA				SS	**SS**	**20 57 52.1**	**+1.5**
GYA				PPMZ			
comp=Z,520nm,8.2s							
GYA				LN			
comp=Z,380nm,23.4s							
GYA				LE			
comp=Z,260nm,22.0s							
GYA				LZ			
comp=Z,340nm,23.5s							
TIA	**Tai'an**	**172.39**	**286**	PKP	**PKPdf**	**20 31 29.2**	**-

LZH				LE			
	comp=Z,590nm,17.0s						
LZH				LZ			
	comp=Z,940nm,19.2s						
XAN	**Xi'an**	**179.23**	**244**	PKP	**PKPdf**	**20 31 31.4**	**-0.1**
XAN				PP	**PP**	**20 37 18.8**	**0.0**
XAN				PPMZ			
	comp=Z,140nm,8.9s						

*IDC **11** 20:20:45.5±0.8, 34.°62S×71.°89W, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.0/37, mbtmp4.1/8, ML3.3/2, Error ellipse: s-maj=32.8km s-min=24.0km az=75.0*
*ISCJB **11** 20:20:46.2±1.8, 34.°46S±0.°03×71.°92W±0.°05, h10km±12km, mb4.2/8, Error ellipse: s-maj=7.5km s-min=4.0km az=30.1*
*GUC **11** 20:20:47.0±0.5, 34.°47S×71.°93W, h15km±924km, ML4.2*
*NEIC **11** 20:20:51.2±0.4, 34.°51S×71.°89W, h35km, mb4.3/1, Error ellipse: s-maj=15.9km s-min=9.5km az=92.0*

ISC 11 20:20:47.0±1.6, 34.°47S±0.°04×71.°84W±0.°07, h9km±10km, n34, σ0°98/40, mb4.2/8, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.62**	**35**	⇑*i*P	**Pg**	**20 20 59.2**	**+0.2**
NICH	**Los Niches**	**0.73**	**137**	⇓*i*P	**Pb**	**20 21 01.4**	**-0.6**
NICH				*i* S	**Sb**	**20 21 12.4**	**+0.2**
CACH	**El Canelo**	**1.08**	**72**	⇑*i*P	**Pb**	**20 21 07.7**	**-0.4**
CACH				*i* S	**Sn**	**20 21 23.4**	**-0.4**
TACH	**Talagante**	**1.10**	**43**	⇑*i*P	**Pb**	**20 21 07.1**	**-1.2**
TACH				*i* S	**Sg**	**20 21 22.5**	**-0.1**
CHCH	**Chadas Angostu**	**1.12**	**62**	*i* P	**Pb**	**20 21 07.7**	**-0.9**
ANTU	**Antumapu**	**1.34**	**49**	⇑*i*P	**Pn**	**20 21 11.2**	**-0.8**
ANTU				*e*S	**Sb**	**20 21 29.4**	**-0.3**
LNCH	**Linares**	**1.39**	**172**	*e*P9	**Pn**	**20 21 12.2**	**-0.4**
LNCH				*i* S	**Sb**	**20 21 30.4**	**-0.7**
SAN	**Santiago**	**1.41**	**44**	*e*P	**Pn**	**20 21 12.2**	**-0.7**
SAN				*i* S	**Sn**	**20 21 30.9**	**-0.7**
SJCH	**San Jose de Ma**	**1.48**	**57**	*i* P9	**Pn**	**20 21 13.0**	**-1.1**
SJCH				*i* S	**Sn**	**20 21 33.1**	**-0.5**
SJCH				IAML		20 21 38.7	
	comp=N,4μm,0.5s						
LACH	**Col Las Americ**	**1.49**	**47**	*i* P	**Pn**	**20 21 13.4**	**-0.6**
LACH				*e*S	**Sn**	**20 21 33.5**	**-0.1**
CLCH	**Cerro Calan**	**1.52**	**46**	*e*P	**Pn**	**20 21 14.1**	**-0.4**
CLCH				*i* S	**Sn**	**20 21 34.5**	**0.0**
CLCH				IAML		20 21 41.2	
	comp=N,8μm,0.9s						
PEL	**Peldehue**	**1.63**	**36**	⇑*i*P	**Pn**	**20 21 15.8**	**-0.2**
PEL				*i* S	**Sn**	**20 21 37.5**	**+0.3**
FCH	**Farellones**	**1.72**	**49**	IAML		20 21 43.1	
	comp=E,3μm,0.8s						
COCH	**Cobquecura**	**1.83**	**205**	⇑*i*P	**Pn**	**20 21 17.4**	**-1.3**
COCH				*i* S	**Sn**	**20 21 40.2**	**-1.9**
CFAA	**Coronel Fontan**	**4.16**	**48**	Pn	Pn	20 21 54.2	+3.5
	comp=E,0.4nm,0.3s,baz=215,slow=13,SNR=8.3						
CFAA				Lg	Lg	20 22 58.6	
	comp=E,1.4nm,0.3s,baz=318,slow=15,SNR=6.7						
PLCA	**Paso Flores**	**6.34**	**171**	Pn	**Pn**	**20 22 22.2**	**+1.5**
	comp=E,1.3nm,0.3s,baz=346,slow=12,SNR=11						
PLCA				Lg	Lg	20 24 01.3	
	comp=E,0.5nm,0.3s,baz=257,slow=20,SNR=2.5						
PLCA	**Paso Flores**	**6.34**	**171**	*e*P	**Pn**	**20 22 22.5**	**+1.8**
PLCA				Lg	Lg	20 24 01.3	
LPAZ	**La Paz**	**18.41**	**11**	P	**Pn**	**20 25 06.2**	**+3.0**
	comp=E,0.1nm,0.3s,baz=196,slow=9.5,SNR=4.9						
LPAZ	**La Paz**	**18.41**	**11**	*e*P	**Pn**	**20 25 04.1**	**+1.0**
SAML	**Samuel**	**26.61**	**19**	*e*P	**P**	**20 26 26.7**	**+0.8**
QSPA	**South Pole Qui**	**55.77**	**180**	P	**P**	**20 30 24.6**	**+0.5**
	comp=E,4.3nm,0.9s,baz=132,slow=3.3,SNR=5.6						
TXAR	**Lajitas Array**	**70.22**	**331**	P	**P**	**20 32 00.9**	**+0.5**
	comp=E,0.7nm,0.5s,baz=156,slow=7.1,SNR=4.1						
ANMO	**Albuquerque**	**76.27**	**331**	P	**P**	**20 32 37.1**	**+0.9**
	comp=E,1.9nm,0.8s,baz=178,slow=6.4,SNR=4.4						
BOSA	**Boshof**	**79.71**	**118**	P	**P**	**20 32 54.9**	**-0.8**
	comp=E,2.3nm,0.8s,baz=214,slow=4.2,SNR=4.9						
ECSD	**EROS Data Cent**	**81.04**	**342**	*e*P	**P**	**20 33 01.6**	**-0.4**
R11A	**Troy Canyon, C**	**83.04**	**327**	*e*P	**P**	**20 33 13.8**	**+0.9**
	comp=E,3.6nm,1.2s						
TORD	**Torodi Ar. Bea**	**84.22**	**70**	P	**P**	**20 33 18.9**	**-0.3**
	comp=E,1.7nm,0.8s,baz=286,slow=6.9,SNR=7.3						
NVAR	**Mina Array Bea**	**84.36**	**325**	P	**P**	**20 33 20.4**	**+0.7**
	comp=E,0.8nm,0.6s,baz=150,slow=5.1,SNR=6.9						
ELK	**Elko**	**84.85**	**328**	P	**P**	**20 33 22.6**	**+0.4**
	comp=E,1.1nm,0.7s,baz=335,slow=14,SNR=4.6						
WRA	**Warramunga Arr**	**120.43**	**209**	PKP	**PKPdf**	**20 39 37.9**	**-1.6**
	comp=E,0.2nm,0.5s,baz=163,slow=1.5,SNR=6.0						
H11S2	**WAKE ISLAND Hyl**	**25.93**	**269**	T	T	22 58 06.3	
	baz=119,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hyl**	**25.94**	**269**	T	T	22 58 06.9	
	baz=119,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hyl**	**25.94**	**269**	T	T	22 58 08.7	
	baz=119,slow=75,SNR=27						
ZALV	**Zalesovo Beam**	**154.53**	**33**	PKPbc	**PKPbc**	**20 40 47.7**	**+0.1**
	comp=E,0.6nm,0.5s,baz=316,slow=4.0,SNR=3.5						

*IDC **11** 20:22:32.3±1.2, 34.°35S×72.°01W, h0km, mb4.0/4, mb1 4.2/7, mb1mx3.8/39, mbtmp3.9/7, ML4.2/2, Error ellipse: s-maj=28.7km s-min=23.3km az=123.0*
*ISCJB **11** 20:22:33.3±0.9, 34.°40S±0.°09×72.°1W±0.°2, h16km, mb3.9/4, Error ellipse: s-maj=24.2km s-min=13.6km az=3.5*

ISC 11 20:22:34.9±1.0, 34.°4S±0.°1×72.°1W±0.°2, h16km, n13, σ0°94/7, mb4.1/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.25**	**51**	Pn	**Pn**	**20 23 39.6**	**+0.6**
	0.2nm,0.3s,baz=312,slow=10,SNR=1.3						
CFAA				Lg	Lg	20 24 44.6	
	1.6nm,0.3s,baz=131,slow=19,SNR=6.5						
PLCA	**Paso Flores**	**6.47**	**170**	Pn	**Pn**	**20 24 10.1**	**+0.5**
	1.5nm,0.3s,baz=323,slow=12,SNR=5.1						
PLCA				Lg	Lg	20 25 50.5	
	0.5nm,0.3s,baz=89,slow=21,SNR=3.3						
LPAZ	**La Paz**	**18.35**	**12**	P	**P**	**20 26 49.9**	**+0.4**
	0.2nm,0.3s,baz=170,slow=6.1,SNR=4.0						
TXAR	**Lajitas Array**	**70.03**	**331**	P	**P**	**20 33 46.3**	**+0.3**
	1.0nm,0.6s,baz=134,slow=8.9,SNR=3.6						
BOSA	**Boshof**	**79.94**	**118**	P	**P**	**20 34 43.6**	**0.0**
	2.3nm,0.7s,baz=317,slow=2.2,SNR=5.3						
NVAR	**Mina Array Bea**	**84.16**	**325**	P	**P**	**20 35 05.3**	**-0.1**
	0.4nm,0.6s,baz=161,slow=8.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**84.37**	**70**	P	**P**	**20 35 05.1**	**-1.6**
	0.6nm,0.6s,baz=281,slow=3.8,SNR=5.5						
H11S2	**WAKE ISLAND Hyl**	**25.72**	**269**	T	T	22 59 56.0	
	baz=119,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hyl**	**25.73**	**269**	T	T	22 59 52.2	
	baz=119,slow=74,SNR=17						
H11S3	**WAKE ISLAND Hyl**	**25.74**	**269**	T	T	22 59 54.2	
	baz=119,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hyl**	**26.14**	**270**	T	T	23 00 26.3	
H11N1	**WAKE ISLAND Hyl**	**26.16**	**270**	T	T	23 00 26.4	
	baz=122,slow=74,SNR=10						
H11N2	**WAKE ISLAND Hyl**	**26.16**	**270**	T	T	23 00 25.6	
	baz=272,slow=74,SNR=8.8						

IDC 11 20:23:58.1±4.2, 17.°12S×177.°11W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/37, mbtmp4.2/3, Error ellipse: s-maj=193.3km s-min=45.8km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.09**	**241**	P	P	20 31 36.0	+0.5
	1.8nm,0.8s,baz=91,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**45.99**	**259**	P	P	20 32 23.3	-0.3
	0.7nm,0.6s,baz=96,slow=7.3,SNR=5.5						
ASAR	**Alice Springs**	**46.19**	**253**	P	P	20 32 24.8	-0.4
	9.1nm,0.5s,baz=89,slow=7.8,SNR=155						
GERES	**GERESS Array B**	**147.16**	**347**	PKPbc	PKPbc	20 43 42.6	-0.8
	0.5nm,0.5s,baz=16,slow=2.9,SNR=7.5						

LJU 11 20:28:11.8, 46.°39N×15.°07E, h0km Rockburst, Northwestern Balkan Peninsula

GUC 11 20:32:06.8±0.6, 34.°59S×71.°82W, h43km±6km, ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.64**	**131**	*i* P	Pn	20 32 19.7	+0.2
NICH				*i* S	Sn	20 32 28.7	+0.1
NICH				AML	AML	20 32 32.2	
	comp=N,26μm,0.4s						
RCDM	**Rinconada Maip**	**1.38**	**38**	*i* P	Pn	20 32 30.4	+0.8
RCDM				*i* S	Sn	20 32 48.8	+2.0
RCDM				AML	AML	20 32 54.5	
	comp=N,3μm,0.1s						
STL	**Santa Lucia**	**1.51**	**41**	*i* P	Pn	20 32 32.8	+1.3
STL				*i* S	Sn	20 32 52.3	+2.3
SJCH	**San Jose de Ma**	**1.54**	**53**	*i* P	Pn	20 32 33.0	+1.1
SJCH				*i* S	Sn	20 32 53.5	+2.7
SJCH				AML	AML	20 32 57.5	
	comp=E,2μm,0.4s						
COCH	**Cobquecura**	**1.73**	**207**	*i* P	Pn	20 32 35.3	+0.9
COCH				*e*S4	Sn	20 32 56.5	+1.2
COCH				AML	AML	20 33 06.8	
	comp=E,1μm,0.9s						

*IDC **11** 20:48:38.9±0.5, 34.°38S×71.°81W, h0km, mb4.6/16, mb1 4.8/18, mb1mx4.7/24, mbtmp4.7/18, ML4.5/2, MS3.1/2, Ms1 3.1/2, ms1mx3.1/24, Error ellipse: s-maj=22.1km s-min=13.5km az=79.0*
*ISCJB **11** 20:48:41.6±1.2, 34.°47S±0.°03×71.°99W±0.°05, h26km±9km, mb4.7/26, Error ellipse: s-maj=7.9km s-min=5.1km az=26.1*
*NEIC **11** 20:48:41.1, 34.°44S×71.°96W, h6km, mb4.8/11, ML4.8(GUC), After GUC.*
NEIC Felt [IV] at Pichilemu and [II] at Rancagua and San Fernando.
*GUC **11** 20:48:41.1±0.6, 34.°44S×71.°96W, h6km±3km, ML4.8*

ISC 11 20:48:42.4±1.7, 34.°43S±0.°03×71.°94W±0.°08, h23km±11km, n243, σ0°82/251, mb4.7/26, 88C-86D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.81**	**134**	⇑*i*P	**Pb**	**20 48 57.0**	**-0.9**
NICH				*i* S	**Sb**	**20 49 08.7**	**+0.2**
NICH				AML	AML	20 49 09.8	
	comp=E,152μm,0.6s						
NICH	**Los Niches**	**0.81**	**134**	⇑*i*P	**Pb**	**20 48 57.0**	**-0.9**
NICH				*i* S	**Sb**	**20 49 08.7**	**+0.2**
TACH	**Talagante**	**1.14**	**47**	⇑*i*P	**Pn**	**20 49 02.0**	**-1.0**
TACH	**Talagante**	**1.14**	**47**	⇑*i*P	**Pn**	**20 49 02.0**	**-1.0**
ANTU	**Antumapu**	**1.39**	**52**	⇑*i*P	**Pn**	**20 49 06.5**	**+0.1**
ANTU				*i* S	**Sb**	**20 49 25.5**	**+0.6**
ANTU				AML	AML	20 49 30.8	
	comp=E,17μm,0.9s						
ANTU	**Antumapu**	**1.39**	**52**	⇑*i*P	**Pn**	**20 49 06.5**	**+0.1**
ANTU				*i* S	**Sb**	**20 49 25.5**	**+0.6**
IHA	**Instituto Hidr**	**1.43**	**10**	⇑*i*P	**Pn**	**20 49 06.2**	**-0.7**
IHA				*i* S1	**Sb**	**20 49 25.8**	**-0.2**
IHA	**Instituto Hidr**	**1.43**	**10**	⇑*i*P	**Pn**	**20 49 06.2**	**-0.7**
IHA				*i* S	**Sb**	**20 49 25.8**	**-0.2**
SAN	**Santiago**	**1.44**	**48**	⇑*i*P	**Pn**	**20 49 07.2**	**0.0**
SAN				*i* S	**Sb**	**20 49 27.0**	**+0.4**
SAN	**Santiago**	**1.44**	**48**	⇑*i*P	**Pn**	**20 49 07.2**	**0.0**
SAN				*i* S	**Sb**	**20 49 27.0**	**+0.4**
CLCH	**Cerro Calan**	**1.56**	**49**	⇓*i*P	**Pn**	**20 49 09.2**	**+0.4**
CLCH				*i* S	**Sb**	**20 49 30.2**	**+0.3**
CLCH				AML	AML	20 49 47.3	
	comp=E,17μm,0.5s						
PEL	**Peldehue**	**1.66**	**39**	⇑*i*P	**Pn**	**20 49 10.4**	**+0.3**
PEL				*i* S	**Sb**	**20 49 33.1**	**+0.4**
PEL				AML	AML	20 49 38.4	
	comp=N,19μm,0.6s						
PEL	**Peldehue**	**1.66**	**39**	⇑*i*P	**Pn**	**20 49 10.4**	**+0.3**
PEL				*i* S	**Sb**	**20 49 33.1**	**+0.4**
FCH	**Farellones**	**1.76**	**52**	⇑*i*P	**Pb**	**20 49 14.0**	**-0.2**
FCH				*i* S	**Sb**	**20 49 37.9**	**+1.9**
FCH				AML	AML	20 49 43.5	
	comp=E,9μm,0.4s						
FCH	**Farellones**	**1.76**	**52**	⇑*i*P	**Pb**	**20 49 14.0**	**-0.2**
FCH				*i* S	**Sb**	**20 49 37.9**	**+1.9**
CFAA	**Coronel Fontan**	**4.20**	**49**	Pn	**Pn**	**20 49 46.3**	**+1.2**
	comp=E,4.0nm,0.3s,baz=224,slow=12,SNR=44						
CFAA				Lg	Lg	20 50 40.6	
	comp=E,3.3nm,0.3s,baz=286,slow=23,SNR=3.8						
CFAA				LR	LR	20 51 00.8	
	comp=E,33nm,19.8s,baz=261,slow=35						
LCO	**Las Campanas**	**5.51**	**11**	*e*P	**Pn**	**20 50 02.6**	**-0.7**
	comp=E,88nm,0.5s						
PLCA	**Paso Flores**	**6.38**	**170**	Pn	**Pn**	**20 50 16.2**	**+1.2**
	comp=E,2.5nm,0.3s,baz=340,slow=11,SNR=56						
PLCA				Lg	Lg	20 51 54.9	
	comp=E,4.8nm,0.3s,baz=252,slow=22,SNR=6.0						
PLCA				LR	LR	20 52 55.0	
	comp=E,1μm,20.0s,baz=330,slow=40						
PLCA	**Paso Flores**	**6.38**	**170**	*e*P	**Pn**	**20 50 16.0**	**+1.0**
	comp=E,4.1nm,0.4s						
PLCA				Lg	Lg	20 51 54.9	
TRQA	**Tornquist**	**8.82**	**117**	*e*P	**Pn**	**20 50 50.2**	**+1.8**
	comp=E,53nm,0.9s						
LVC	**Limon Verde**	**12.07**	**13**	*e*P	Pn	20 51 26.6	-6.6
	comp=E,14nm,0.8s						
LPAZ	**La Paz**	**18.39**	**12**	P	**P**	**20 52 56.7**	**+0.3**
	comp=E,0.8nm,0.3s,baz=188,slow=8.5,SNR=35						
LPAZ	**La Paz**	**18.39**	**12**	*e*P	**Pn**	**20 52 56.9**	**+0.4**
USHA	**Ushuaia**	**20.54**	**174**	P	Pn	20 53 20.8	-0.5
	comp=E,16nm,0.8s,baz=35,slow=4.8,SNR=5.3						
SIV	**San Ignacio**	**20.80**	**31**	P	**P**	**20 53 21.5**	**-0.7**
	comp=E,14nm,0.7s,baz=224,slow=11,SNR=36						
NNA	**Nana**	**22.79**	**348**	P	**P**	**20 53 43.9**	**+0.4**
	comp=E,22nm,0.8s,baz=192,slow=9.3,SNR=8.8						
NNA	**Nana**	**22.79**	**348**	*e*P	**P**	**20 53 44.1**	**+0.6**
SAML	**Samuel**	**26.61**	**20**	*e*P	**P**	**20 54 18.3**	**-0.8**
	comp=E,5.6nm,0.6s						
BDFB	**Brasilia**	**28.51**	**55**	P	**P**	**20 54 33.8**	**-2.5**
	comp=E,5.0nm,0.6s,baz=221,slow=8.6,SNR=9.3						
OTAV	**Otavalo**	**35.03**	**349**	*e*P	**P**	**20 55 35.2**	**+1.3**
	comp=E,4.9nm,0.9s						
PTGA	**Pitinga**	**35.35**	**21**	*e*P	**P**	**20 55 35.3**	**-0.9**
	comp=E,28nm,0.8s						
SDV	**Santo Domingo**	**43.10**	**2**	*e*P	**P**	**20 56 40.7**	**-0.4**
	comp=E,15nm,0.9s						
SNAA	**Sanae**	**51.15**	**158**	P	**P**	**20 57 43.5**	**+0.4**
	comp=E,3.2nm,0.8s,baz=287,slow=6.2,SNR=10						
SNAA	**Sanae**	**51.15**	**158**	*e*P	**P**	**20 57 42.6**	**-0.5**
	comp=E,6.2nm,0.8s						
CELP	**Cerrillos**	**52.47**	**6**	*e*P	**P**	**20 57 52.8**	**-0.6**
QSPA	**South Pole Qui**	**55.80**	**180**	P	**P**	**20 58 18.1**	**+0.7**
	comp=E,12nm,0.9s,baz=153,slow=3.0,SNR=18						
QSPA	**South Pole Qui**	**55.80**	**180**	*e*P	**P**	**20 58 17.5**	**0.0**
	comp=E,24nm,1.2s						
VNDA	**Vanda**	**63.69**	**191**	*e*P	**P**	**20 59 12.6**	**+1.2**
532A	**Rocksprings**	**69.43**	**334**	⇑P	**P**	**20 59 49.2**	**+0.6**
	baz=70						
434A	**Burnet**	**69.49**	**336**	⇓P	**P**	**20 59 49.2**	**+0.3**
	baz=70						
336A	**Riesel**	**69.55**	**337**	⇑P	**P**	**20 59 49.8**	**+0.6**
	baz=70						
334A	**Lometa**	**69.95**	**336**	⇓P	**P**	**20 59 51.8**	**0.0**
	baz=70						
TXAR	**Lajitas Array**	**70.15**	**331**	P	**P**	**20 59 53.7**	**+0.6**
	comp=E,1.8nm,0.6s,baz=158,slow=8.2,SNR=5.5						
333A	**Richland Sprin**	**70.20**	**336**	⇓P	**P**	**20 59 53.6**	**+0.3**
	baz=70						
430A	**Baggett Ranch,**	**70.51**	**333**	⇑P	**P**	**20 59 55.9**	**+0.6**
	baz=71						
332A	**Millersview**	**70.51**	**335**	⇓P	**P**	**20 59 55.7**	**+0.5**
	baz=71						
331A	**San Angelo**	**70.69**	**334**	⇑P	**P**	**20 59 56.6**	**+0.3**
	baz=71						
232A	**Coleman**	**70.94**	**335**	⇑P	**P**	**20 59 58.0**	**+0.2**
	baz=71						
231A	**Bronte**	**71.22**	**335**	⇓P	**P**	**20 59 59.7**	**+0.2**
	baz=72						
133A	**Hamilton Ranch**	**71.35**	**336**	⇑P	**P**	**21 00 00.7**	**+0.5**
	baz=72						
Z35A	**Perchaven, San**	**71.48**	**338**	⇑P	**P**	**21 00 01.4**	**+0.4**
	baz=72						
ABTX	**Abilene, Hawle**	**71.61**	**336**	⇑P	**P**	**21 00 02.5**	**+0.6**
	baz=72						
WVT	**Waverly**	**71.75**	**347**	*e*P	**P**	**21 00 02.3**	**-0.2**
	comp=E,27nm,0.8s						
229A	**Bryant Ranch,**	**71.78**	**334**	⇓P	**P**	**21 00 03.7**	**+0.8**
	baz=72						
131A	**Roby**	**71.91**	**335**	⇓P	**P**	**21 00 04.6**	**+0.9**
	baz=72						
Z33A	**Whitaker Ranch**	**71.92**	**337**	⇑P	**P**	**21 00 04.2**	**+0.5**
	baz=72						
130A	**Snyder**	**72.04**	**334**	⇓P	**P**	**21 00 04.8**	**+0.3**
	baz=72						
Z32A	**Haskell**	**72.17**	**336**	⇑P	**P**	**21 00 05.7**	**+0.5**
	baz=72						
228A	**UT Block 9, Go**	**72.21**	**333**	⇓P	**P**	**21 00 06.1**	**+0.6**
	baz=72						
128A	**Castleberry Fa**	**72.62**	**333**	⇑P	**P**	**21 00 08.7**	**+0.8**
	baz=73						
Z30A	**Sanderson Ranc**	**72.73**	**335**	⇑P	**P**	**21 00 08.8**	**+0.3**
	baz=73						
Y32A	**R-V Farms, Ver**	**72.80**	**336**	⇓P	**P**	**21 00 09.1**	**+0.2**
	baz=73						
X34A	**Smith Ranch, M**	**72.83**	**338**	⇓P	**P**	**21 00 09.3**	**+0.2**
	baz=73						
Z29A	**Hungry Hill Ra**	**72.91**	**334**	⇓P	**P**	**21 00 09.7**	**0.0**
	baz=73						
X32A	**Elmer**	**73.13**	**337**	⇓P	**P**	**21 00 11.2**	**+0.4**
	baz=74						
Y30A	**Stafford Cattl**	**73.18**	**335**	⇑P	**P**	**21 00 11.7**	**+0.5**
	baz=74						
X31A	**McDonald Ranch**	**73.55**	**336**	⇓P	**P**	**21 00 13.7**	**+0.4**
	baz=74						
W32A	**Sentinel**	**73.76**	**337**	⇓P	**P**	**21 00 15.3**	**+0.8**
	baz=74						
MSTX	**Muleshoe**	**73.93**	**334**	⇑P	**P**	**21 00 16.1**	**+0.4**
	baz=74						
MSTX	**Muleshoe**	**73.93**	**334**	*e*P	**P**	**21 00 15.8**	**+0.1**
	comp=E,11nm,0.7s						
X29A	**Tulia**	**73.97**	**335**	⇓P	**P**	**21 00 16.0**	**0.0**
	baz=74						
Y27A	**Causey**	**74.00**	**333**	⇓P	**P**	**21 00 16.6**	**+0.5**
	baz=74						
V33A	**Lossen Ranch,**	**74.10**	**338**	⇓P	**P**	**21 00 16.7**	**+0.2**
	baz=74						
319A	**Douglas**	**74.31**	**327**	⇓P	**P**	**21 00 19.7**	**+1.7**
	baz=75						
AMTX	**Amarillo**	**74.36**	**335**	⇑P	**P**	**21 00 18.8**	**+0.6**
	baz=75						
U34A	**Anderson Ranch**	**74.44**	**339**	⇓P	**P**	**21 00 18.9**	**+0.5**
	baz=75						
121A	**Cookes Peak, D**	**74.65**	**329**	⇓P	**P**	**21 00 21.4**	**+1.4**
	baz=75						
LIC	**Lamto**	**74.83**	**71**	*e*P	**P**	**21 00 21.0**	**-0.3**
	comp=E,30nm,0.7s						
X26A	**CR and CF Fran**	**74.83**	**333**	⇑P	**P**	**21 00 21.4**	**+0.4**
	baz=75						
Y24A	**Capitan**	**74.91**	**332**	⇓P	**P**	**21 00 22.2**	**+0.7**
	baz=75						
Z22A	**Elephant Butte**	**74.93**	**330**	⇓P	**P**	**21 00 23.1**	**+1.5**
	baz=75						
W27A	**Bowe Ranch, En**	**75.02**	**334**	⇑P	**P**	**21 00 22.8**	**+0.8**
	baz=75						
TIC	**Toumodi**	**75.10**	**71**	*e*P	**P**	**21 00 22.6**	**-0.2**
	comp=E,6.8nm,0.2s						
KIC	**Kosan Boka**	**75.14**	**71**	*e*P	**P**	**21 00 22.9**	**-0.2**
	comp=E,24nm,0.7s						
Y23A	**Lovelace Mesa,**	**75.16**	**331**	⇑P	**P**	**21 00 24.5**	**+1.6**
	baz=76						
DBIC	**Dimbokro**	**75.24**	**71**	P	**P**	**21 00 23.4**	**-0.2**
	comp=E,9.2nm,0.6s,baz=205,slow=5.5,SNR=18						
T33A	**Patterson Ranc**	**75.25**	**339**	⇓P	**P**	**21 00 23.7**	**+0.6**
	baz=76						
X24A	**Lazy VL Ranch,**	**75.47**	**332**	⇓P	**P**	**21 00 26.0**	**+1.2**
	baz=76						
U30A	**WK&E Inc. Balk**	**75.51**	**336**	⇑P	**P**	**21 00 25.5**	**+0.8**
	baz=76						
T32A	**Huddler Ranch,**	**75.55**	**338**	⇓P	**P**	**21 00 25.5**	**+0.6**
	baz=76						
V27A	**Dan Oppiter Fa**	**75.56**	**334**	⇓P	**P**	**21 00 26.2**	**+1.1**
	baz=76						
W25A	**X Bar L Ranch,**	**75.67**	**333**	⇓P	**P**	**21 00 26.5**	**+0.7**
	baz=76						
V26A	**Tequesquite Ra**	**75.94**	**334**	⇑P	**P**	**21 00 28.0**	**+0.8**
	baz=76						
W24A	**Lazy 6 Ranch,**	**76.03**	**332**	⇑P	**P**	**21 00 28.4**	**+0.6**
	baz=76						
U27A	**Thompson Grove**	**76.15**	**335**	⇑P	**P**	**21 00 29.0**	**+0.5**
	baz=76						
W23A	**Werner Place,**	**76.27**	**332**	⇓P	**P**	**21 00 30.3**	**+1.0**
	baz=77						
V25A	**Rancho No Teng**	**76.28**	**333**	⇑P	**P**	**21 00 29.6**	**+0.3**
	baz=77						
R33A	**Olander Ranch,**	**76.31**	**339**	⇑P	**P**	**21 00 29.6**	**+0.4**
	baz=77						
V24A	**Rampart Ranch,**	**76.43**	**333**	⇓P	**P**	**21 00 31.0**	**+0.8**
	baz=77						
S30A	**Montezuma**	**76.46**	**337**	⇑P	**P**	**21 00 31.0**	**+0.9**
	baz=77						
T28A	**Walsh**	**76.53**	**336**	⇓P	**P**	**21 00 31.3**	**+0.7**
	baz=77						
S29A	**Ulysses**	**76.65**	**337**	⇓P	**P**	**21 00 31.7**	**+0.5**
	baz=77						
U25A	**Circle Dot Ran**	**76.70**	**334**	⇓P	**P**	**21 00 32.6**	**+0.9**
	baz=77						
R31A	**Burdett**	**76.75**	**338**	⇑P	**P**	**21 00 32.4**	**+0.6**
	baz=77						
S28A	**Manter**	**76.88**	**336**	⇓P	**P**	**21 00 33.5**	**+0.9**
	baz=77						
T26A	**Comanche Natio**	**77.10**	**335**	⇑P	**P**	**21 00 34.6**	**+0.7**
	baz=77						
Q32A	**

HEC	Hector,Ludlow	80.45	324	⇓P		P	21 00 54.3 +2.0
	baz=81						
O23A	Lake Granby, G	80.62	334	⇓P		P	21 00 54.9 +1.5
	baz=81						
BFSC	Mount Baldy Ra	80.63	323	⇑P		P	21 00 54.7 +1.4
	baz=81						
TUQ	Turquoise Moun	80.75	325	⇓P		P	21 00 55.8 +1.9
	baz=81						
O22A	Kremmling	80.81	334	⇓P		P	21 00 54.8 +0.5
	baz=81						
K30A	Basset	80.81	340	⇓P		P	21 00 54.6 +0.6
	baz=81						
ECSD	EROS Data Cent	80.99	342	⇑P		P	21 00 54.4 -0.4
	baz=81						
N23A	Red Feather La	81.24	335	⇓P		P	21 00 57.6 +1.1
	baz=82						
SHPR	Sheep Range	81.26	326	eP		P	21 00 58.1 +1.4
	comp=E,3.8nm,0.8s						
EDW2	Edwards Air Fo	81.31	323	⇓P		P	21 00 58.0 +1.2
	baz=82						
SPMN	Marine on St.	81.51	345	⇑P		P	21 00 57.1 -0.4
	baz=82						
M23A	Laramie	81.67	335	⇓P		P	21 00 59.2 +0.4
	baz=82						
J29A	Okreek	81.69	340	⇓P		P	21 00 58.8 +0.3
	baz=82						
I30A	Oacoma	81.90	340	⇓P		P	21 00 60.0 +0.3
	baz=82						
J28A	Allard Ranch,	81.97	339	⇓P		P	21 01 00.5 +0.4
	baz=82						
LBTB	Lobatse	82.05	115	P		P	21 01 00.8 -0.4
	comp=E,12nm,0.6s,baz=255,slow=5.9,SNR=58						
LBTB	Lobatse	82.05	115	eP		P	21 01 01.1 -0.1
J27A	Elkhorn Farm,	82.05	338	⇑P		P	21 01 01.6 +1.0
	baz=82						
ISA	Isabella, Lake	82.17	323	⇓P		P	21 01 02.9 +1.6
	baz=82						
I28A	Midland	82.48	339	⇑P		P	21 01 03.2 +0.5
	baz=83						
H29A	Onida	82.78	340	⇑P		P	21 01 04.1 -0.1
	baz=83						
J24A	Dixon Ranch, L	82.96	337	⇑P		P	21 01 06.1 +0.7
	baz=83						
R11A	Troy Canyon, C	82.97	327	⇓P		P	21 01 06.9 +1.3
	baz=83,SNR=7.0						
H28A	Mission Ridge	83.05	340	⇑P		P	21 01 05.7 +0.1
	baz=83						
DUG	Dugway, Tooele	83.29	330	⇑P		P	21 01 08.3 +1.2
	baz=84						
G26A	Maurine	84.08	339	⇓P		P	21 01 11.1 +0.2
	baz=84						
J20A	Shoshoni	84.16	334	⇑P		P	21 01 12.5 +1.0
	baz=84						
PDAR	Pinedale Array	84.19	333	P		P	21 01 11.5 -0.3
	comp=E,1.3nm,0.7s,baz=172,slow=4.6,SNR=9.8						
G25A	Newell	84.24	338	⇓P		P	21 01 12.0 +0.2
	baz=85						
TORD	Torodi Ar. Bea	84.28	70	P		P	21 01 12.3 -0.3
	comp=E,10nm,0.7s,baz=278,slow=6.2,SNR=87						
NVAR	Mina Array Bea	84.29	325	P		P	21 01 13.6 +1.2
	comp=E,1.5nm,0.5s,baz=158,slow=6.4,SNR=12						
J19A	Crowheart	84.43	334	⇑P		P	21 01 13.8 +0.8
	baz=85						
F27A	Lemmon	84.44	339	⇑P		P	21 01 13.2 +0.5
	baz=85						
D30A	Buchanan	84.68	342	⇓P		P	21 01 14.0 +0.1
	baz=85						
I20A	Worland	84.69	335	⇑P		P	21 01 15.0 +0.8
	baz=85						
AGMN	Agassiz Nation	85.09	344	⇓P		P	21 01 15.7 -0.2
	baz=85						
H20A	Greybull	85.11	335	⇑P		P	21 01 16.5 +0.3
	baz=85						
C30A	Mose, Pekin	85.16	342	⇓P		P	21 01 16.3 0.0
	baz=86,SNR=5.9						
D28A	Regan	85.23	341	⇓P		P	21 01 16.8 +0.1
	baz=86						
I17A	Pilgrim Ck.	85.56	333	⇓P		P	21 01 19.6 +1.0
	baz=86						
D26A	Manning	85.61	340	⇑P		P	21 01 18.7 +0.2
	baz=86						
H19A	Powell	85.62	334	⇓P		P	21 01 19.2 +0.4
	baz=86						
B30A	Myrvik Farm, E	85.82	343	⇓P		P	21 01 19.6 +0.1
	baz=86,SNR=17						
G20A	Bridger	85.83	335	⇓P		P	21 01 19.6 -0.2
	baz=86,SNR=5.7						
H18A	Shoshone NF, C	85.87	334	⇓P		P	21 01 20.2 -0.1
	baz=86,SNR=14						
B29A	Wagenman Farm,	86.09	342	⇑P		P	21 01 20.4 -0.4
	baz=86						
E22A	Miles City	86.14	337	⇓P		P	21 01 21.5 +0.2
	baz=86						
YMR	Madison River	86.34	333	eP		P	21 01 23.4 +0.9
	comp=E,9.3nm,0.8s						
A29A	Manning Farm,	86.48	342	⇑P		P	21 01 22.7 -0.1
	baz=87						
D23A	Lindsay	86.56	338	⇓P		P	21 01 23.7 +0.4
	baz=87,SNR=6.6						
E21A	Keefer Ranch,	86.60	337	⇓P		P	21 01 23.9 +0.3
	baz=87						
C24A	Savage	86.64	339	⇑P		P	21 01 23.9 +0.2
	baz=87						
HLID	Hailey	86.75	331	⇓P		P	21 01 25.7 +1.2
	baz=87,SNR=5.1						
D22A	Cohagen	86.85	337	⇑P		P	21 01 25.1 +0.4
	baz=87						
E20A	Meyer Farm, Mu	86.92	336	⇑P		P	21 01 25.2 +0.1
	baz=87,SNR=8.5						
ULM	Lac du Bonnet	86.94	345	P		P	21 01 24.5 -0.5
	comp=E,4.8nm,0.9s,baz=154,slow=4.6,SNR=7.3						
D21A	La Casta Ranch	87.04	337	⇑P		P	21 01 25.8 +0.1
	baz=87						
E19A	Rath Farm, Rou	87.11	335	⇓P		P	21 01 26.0 0.0
	baz=87,SNR=7.1						
C23A	Lambert	87.12	338	⇑P		P	21 01 26.2 +0.2
	baz=88,SNR=7.5						
MCMT	McKenzie Canyo	87.19	332	eP		P	21 01 27.7 +1.0
	comp=E,2.7nm,0.9s						
D20A	Manuel Ranch,	87.43	336	⇓P		P	21 01 27.9 +0.3
	baz=88						
A25A	Svangstu Ranch	87.53	340	⇓P		P	21 01 27.7 -0.3
	baz=88						
B23A	Brockton	87.65	339	⇑P		P	21 01 28.6 +0.1
	baz=88						
D19A	Cripps Ranch,	87.75	336	⇓P		P	21 01 29.6 +0.5
	baz=88						
A24A	Westby	87.77	339	⇑P		P	21 01 29.3 +0.3
	baz=88						
B22A	Reddig Ranch S	87.81	338	⇑P		P	21 01 29.9 +0.6
	baz=88						
C20A	Veseth Ranch,	87.93	337	⇓P		P	21 01 30.0 +0.1
	baz=88						
A23A	Redstone	88.06	339	⇑P		P	21 01 30.5 0.0
	baz=88						
N02D	Trinity Center	88.39	324	⇑P		P	21 01 33.7 +1.4
	baz=89						
A22A	Carney Farms,	88.40	338	⇑P		P	21 01 32.4 +0.3
	baz=89						
M04C	Macdoel	88.59	325	⇓P		P	21 01 34.3 +1.0
	baz=89						
A21A	Bergtoll Ranch	88.71	338	⇑P		P	21 01 33.7 +0.1
	baz=89						
EGMT	Eagleton	88.79	336	⇑P		P	21 01 34.1 +0.1
	baz=89						
A20A	Cobblestone Ra	88.93	337	⇓P		P	21 01 34.5 -0.1
	baz=89						
A19A	Klindworth Far	89.23	337	⇓P		P	21 01 35.9 -0.2
	baz=90						
LSZ	Lusaka	89.59	108	P		P	21 01 40.1 +1.4
	comp=E,2.7nm,0.9s,baz=179,slow=8.2,SNR=4.2						
YKA	Yellowknife Ar	102.50	341	P		Pdif	21 02 35.4 -0.5
	comp=E,0.5nm,0.8s,baz=140,slow=4.1,SNR=11						
ASAR	Alice Springs	117.22	207	PKP		PKPdf	21 07 24.9 -1.3
	comp=E,0.5nm,0.6s,baz=160,slow=2.3,SNR=5.2						
WRA	Warramunga Arr	120.42	209	PKP		PKPdf	21 07 31.1 -1.3
	comp=E,1.5nm,0.7s,baz=158,slow=1.8,SNR=22						
BRTR	Keskin Array B	121.97	61	PKP		PKPdf	21 07 33.9 -1.0
	comp=E,1.5nm,0.9s,baz=205,slow=3.5,SNR=3.6						
H11S2	WAKE ISLAND Hyl	25.85	269	T		T	23 26 03.3
	baz=118,slow=74,SNR=31						
H11S1	WAKE ISLAND Hyl	25.86	269	T		T	23 26 03.4
	baz=118,slow=74,SNR=41						
H11S3	WAKE ISLAND Hyl	25.86	269	T		T	23 26 00.5
	baz=118,slow=74,SNR=32						
H11N3	WAKE ISLAND Hyl	26.27	270	T		T	23 26 31.1
	baz=116,slow=78,SNR=18						
H11N1	WAKE ISLAND Hyl	26.28	270	T		T	23 26 33.0
	baz=116,slow=78,SNR=42						
H11N2	WAKE ISLAND Hyl	26.29	270	T		T	23 26 33.8
	baz=116,slow=78,SNR=25						
GEYT	Alibeck	139.92	70	PKP		PKPdf	21 08 09.9 +1.2
	comp=E,1.6nm,0.5s,baz=284,slow=6.0,SNR=5.3						
SEY	Seymchan	140.45	330	PKP		PKPdf	21 08 09.4 +0.6
	comp=E,2.7nm,0.8s,baz=169,slow=5.7,SNR=14						
TIXI	Tiksi	141.13	350	ePKPpre		PKPpre	21 08 01.3
ABKAR	Abkulak array	141.88	52	ePKPpre		PKPpre	21 08 05.8
BRVK	Borovoye	147.47	43	ePKPbc		PKPbc	21 08 24.0 +0.2
KBL	Kabul	147.97	79	ePKPbc		PKPbc	21 08 26.9 +0.7
HYB	Hyderabad	148.67	115	i PKP		PKPbc	21 08 26.5 -1.7
YAK	Yakutsk	149.17	340	ePKPbc		PKPbc	21 08 27.6 -0.4
KKAR	Karatay Array	149.68	62	ePKPbc		PKPbc	21 08 29.8 -0.2
EKS2	Erkin-Say	152.10	63	ePKPbc		PKPbc	21 08 36.3 +0.5
AAK	Ala-Archa	152.63	63	ePKPbc		PKPbc	21 08 37.5 +0.4
KURK	Kurchatov	153.14	44	ePKPbc		PKPbc	21 08 37.3 -0.4
ZALV	Zalesovo Beam	154.55	33	PKP		PKPdf	21 08 31.5 -0.6
	comp=E,1.3nm,0.8s,baz=260,slow=2.7,SNR=6.3						
ZALV				PKPbc		PKPbc	21 08 40.5 -0.1
	comp=E,2.4nm,0.5s,baz=299,slow=3.1,SNR=16						
ZALV				PKPab		PKPab	21 08 55.5 +0.3
	comp=E,4.9nm,0.7s,baz=306,slow=5.3,SNR=9.0						
MKAR	Makanchi Array	156.98	50	PKP		PKPdf	21 08 35.3 -0.4
	comp=E,0.6nm,0.8s,baz=259,slow=0.7,SNR=7.2						
MKAR				PKPab		PKPab	21 09 05.1 -0.9
	comp=E,1.8nm,0.8s,baz=291,slow=4.8,SNR=10						
CMAR	Chiang Mai Arr	162.13	151	PKP		PKPdf	21 08 42.0 -0.4
	comp=E,0.6nm,0.8s,baz=251,slow=3.9,SNR=4.8						
CMAR				PKPab		PKPab	21 09 28.8 -0.1
	comp=E,0.9nm,1.1s,baz=217,slow=5.5,SNR=3.6						
SONM	Songino Array	166.55	5	PKP		PKPdf	21 08 45.2 -0.5
	comp=E,0.5nm,0.9s,baz=174,slow=0.8,SNR=4.7						
SONM				PKPab		PKPab	21 09 48.1 +0.4
	comp=E,0.9nm,0.8s,baz=330,slow=3.2,SNR=7.4						

GUC 11 20:53:03.1±0.6, 34°.53S×71°.89W, h44km±3km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.69	35	i P		Pn	20 53 16.3 -0.3
NICH	Los Niches	0.72	131	i P		Pn	20 53 17.1 +0.1
NICH				i S		Sn	20 53 27.5 +0.6
NICH				AML		AML	20 53 28.2
	comp=N,18μm,0.3s						
SJCH	San Jose de Ma	1.55	56	i P		Pn	20 53 29.8 +1.4
SJCH				i S		Sn	20 53 49.9 +2.5
SJCH				AML		AML	20 53 57.0
	comp=N,1μm,0.7s						
PEL	Peldehue	1.71	36	i P		Pn	20 53 32.3 +1.8
PEL				i S		Sn	20 53 53.5 +2.3
PEL				AML		AML	20 54 01.9
	comp=N,3μm,0.7s						
COCH	Cobquecura	1.76	204	i P		Pn	20 53 32.3 +1.2
COCH				i S		Sn	20 53 54.4 +2.1
COCH				AML		AML	20 54 01.2
	comp=E,712nm,0.5s						
FCH	Farellones	1.79	48	eP9		Pn	20 53 29.5 -2.4
FCH				eS4		Sn	20 53 54.1 +0.3

*ISCJB **11** 20:55:45.8±1.5, 16°.1S±0°.3×14°.4W±0°.9, h10km, mb4.0/6, MS4.3/14, Error ellipse: s-maj=128.7km s-min=27.2km az=15.9*

*IDC **11** 20:55:45.3±1.9, 16°.12S×14°.66W, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.7/54, mbtmp4.1/6, MS4.3/14, Ms1 4.3/14, ms1mx4.0/36, Error ellipse: s-maj=151.3km s-min=35.6km az=106.0*

ISC 11 20:55:47.1±1.8, 16°.2S±0°.3×14°.5W±1°.0, h10km, n22, σ1°.14/6, mb4.2/6, MS4.3/14, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	7.15	359	T	T	21 05 33.1	
	baz=177,slow=74,SNR=94						
H10S3	ASCENSION HYDR	7.16	359	T	T	21 05 33.7	
	baz=177,slow=74,SNR=90						
H10S1	ASCENSION HYDR	7.17	359	T	T	21 05 34.5	
	baz=177,slow=74,SNR=76						
RCBR	Riachuelo	23.34	294	LR	LR	21 08 21.4	
	comp=Z,449nm,19.2s,baz=84,slow=33						
DBIC	Dimbokro	24.61	24	LR	LR	21 08 27.7	
	comp=Z,373nm,19.7s,baz=208,slow=31						
TSUM	Tsumeb	30.71	100	LR	LR	21 12 30.1	
	comp=Z,446nm,19.2s,baz=264,slow=33						
BDFB	Brasilia	32.20	266	LR	LR	21 12 35.7	
	comp=Z,748nm,21.7s,baz=128,slow=32						
TORD	Torodi Ar. Bea	33.24	30	P	P	21 02 24.7	0.0
	5.5nm,1.0s,baz=213,slow=8.7,SNR=13						
TORD				LR	LR	21 13 58.7	
	comp=Z,537nm,18.3s,baz=200,slow=33						
SUR	Sutherland	35.83	123	LR	LR	21 13 23.9	
	comp=Z,503nm,20.4s,baz=303,slow=29						
LBTB	Lobatse	38.46	110	LR	LR	21 16 01.0	
	comp=Z,464nm,20.5s,baz=270,slow=32						
BOSA	Boshof	38.64	116	LR	LR	21 15 46.8	
	comp=Z,340nm,19.3s,baz=314,slow=31						
LPAZ	La Paz	51.35	262	LR	LR	21 25 43.4	
	comp=Z,308nm,19.2s,baz=116,slow=35						
USHA	Ushuaia	56.43	214	LR	LR	21 28 45.6	
	comp=Z,395nm,18.6s,baz=327,slow=35						
ROSC	El Rosal	62.72	284	LR	LR	21 32 19.6	
	comp=Z,183nm,19.5s,baz=145,slow=35						
GERES	GERESS Array B	69.40	19	P	P	21 06 54.5	-0.8
	0.4nm,0.7s,baz=212,slow=4.7,SNR=4.5						
MAW	Mawson	70.38	157	LR	LR	21 32 52.0	
	comp=Z,145nm,19.1s,baz=236,slow=32						
BRTR	Keskin Array B	71.43	37	P	P	21 07 08.9	+0.9
	1.8nm,0.9s,baz=217,slow=5.9,SNR=7.8						
JTS	JuntasAbangare	74.47	286	LR	LR	21 39 05.1	
	comp=Z,336nm,21.7s,baz=75,slow=35						
AKASG	Malin Array Be	76.81	27	P	P	21 07 37.8	-1.1
	0.8nm,0.5s,baz=223,slow=4.6,SNR=5.0						
NOA	NORSAR Array B	79.64	12	P	P	21 07 55.6	+1.1
	1.5nm,0.9s,baz=204,slow=6.0,SNR=3.4						
VNDA	Vanda	86.49	179	P	P	21 08 29.7	-0.1
	2.6nm,1.1s,baz=185,slow=2.3,SNR=3.6						
ULM	Lac du Bonnet	96.85	320	LR	LR	21 46 06.8	
	comp=Z,160nm,19.4s,baz=160,slow=31						

GUC 11 21:06:35.4±0.7, 34°.80S×70°.21W, h41km±6km, ML3.5, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.86	256	i P		Pn	21 06 51.8 +0.6
NICH				i S		Sn	21 07 02.9 +0.4
NICH				AML		AML	21 07 05.1
	comp=E,4μm,0.2s						
SAN	Santiago	1.40	344	i P		Pn	21 06 59.8 +1.3
SAN				i S		Sn	21 07 18.5 +2.7
SAN				AML		AML	21 07 27.7
	comp=E,3μm,0.3s						
CLCH	Cerro Calan	1.43	349	eP4		Pn	21 06 59.2 +0.2
CLCH				eS4		Sn	21 07 19.6 +2.9
CLCH				AML		AML	21 07 38.1
	comp=E,550nm,0.5s						
FCH	Farellones	1.47	357	i P		Pn	21 07 01.3 +1.4
FCH				i S		Sn	21 07 21.5 +3.2
FCH				AML		AML	21 07 33.1
	comp=N,497nm,0.3s						
PEL	Peldehue	1.70	346	i P		Pn	21 07 04.2 +1.5
PEL				i S		Sn	21 07 26.3 +3.0
PEL				AML		AML	21 07 32.1
	comp=N,1μm,0.6s						

*MOS **11** 21:09:06.2±1.0, 7°.33S×128°.19E, h162km, mb5.1/25, Error ellipse: s-maj=15.9km s-min=7.4km az=119.8*

*BJI **11** 21:09:08.0, 7°.50S×128°.20E, h184km, mB4.9/36, mb4.7/55*

*ISCJB **11** 21:09:08.2±0.3, 7°.60S±0°.02×128°.27E±0°.02, h191km±2km, mb5.0/91, Error ellipse: s-maj=3.5km s-min=3.2km az=2.0*

*NEIC **11** 21:09:09.1±2.8, 7°.44S×128°.15E, h178km±4km, mb5.1/52, Error ellipse: s-maj=12.5km s-min=10.8km az=225.0*

*IDC **11** 21:09:09.2±0.8, 7°.45S×128°.13E, h175km±7km, mb4.4/26, mb1 4.4/27, mb1mx4.3/37, mbtmp4.8/27, Error ellipse: s-maj=12.7km s-min=7.5km az=76.0*

*KLM **11** 21:09:10.3, 7°.74S×128°.20E, h180km, mb5.1, MS6.1*

*DJA **11** 21:09:10.0±0.2, 8°.S±2°×12°.8E±°, h175km±2km, M4.9/87, mB5.4/44, mb5.0/87, MLv5.5/14, Mw(mB)4.8/44*

ISC 11 21:09:08.5±0.3, 7°.59S±0°.03×128°.24E±0°.03, h177km±2km, h177km:pP-P, n523, σ1°.48/602, mb5.0/91, 33C-9D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	3.06	98	P		Pn	21 09 58.0 +0.2
SAUI				S		Sn	21 10 36.2 +0.1
SAUI	Saumlaki	3.06	98	ePn		Pn	21 09 58.0 +0.2
SAUI				eSn		Sn	21 10 35.0 -1.1
BNDI	Bandanaira	3.46	29	P		Pn	21 10 03.3 +0.5
BNDI				S		Sn	21 10 47.6 +2.4
MSAI	Masohi	4.27	9	P		Pn	21 10 14.5 +1.5
NLAI	Namlea	4.46	345	P		Pn	21 10 17.2 +1.7
SOEI	Soe	4.48	241	P		Pn	21 10 15.9 +0.1
SOEI				S		Sn	21 11 10.1 +1.7
SOEI	Soe	4.48	241	P		Pn	21 10 16.0 +0.3
	baz=4.5,SNR=364						
SOEI				S		Sn	21 11 08.2 -0.2
	baz=4.5,SNR=12						
SOEI	Soe	4.48	241	ePn		Pn	21 10 16.1 +0.4
SOEI				eSn		Sn	21 11 09.0 +0.5
BATI	Baumata	5.22	240	P		Pn	21 10 25.8 +0.6
	909nm,0.8s,18μm8.3nm						
BATI				S		Sn	21 11 25.8 +0.3
	909nm,0.8s,18μm8.3nm						
BATI	Baumata	5.22	240	P		Pn	21 10 25.2 -0.1
	520nm,0.3s,baz=117,slow=2.5,SNR=512						
BATI				S		Sn	21 11 20.2 -5.3
	268nm,0.3s,baz=25,slow=12,SNR=3.5						
SANI	Sanana	5.94	338	P		Pn	21 10 36.4 +1.7
	303nm,1.0s,3μm1.1nm						
MTN	Manton Dam	5.95	152	P		Pn	21 10 34.4 -0.4
	baz=6.0,SNR=87						
MTN				S		Sn	21 11 39.8 -3.1
	baz=6.0,SNR=6.9						
MMRI	Maumere	6.03	260	P		Pn	21 10 35.9 0.0
	195nm,0.7s,3μm2.1nm						
MMRI	Maumere	6.03	260	ePn		Pn	21 10 35.8 0.0
MMRI				eSn		Sn	21 11 44.1 -0.5
FAKI	Fak Fak	6.12	41	P		Pn	21 10 35.0 -2.1
	261nm,0.5s,8μm1.9nm						
FAKI				S		Sn	21 11 41.9 -4.9
	261nm,0.5s,8μm1.9nm						
FAKI	Fak Fak	6.12	41	P		Pn	21 10 34.8 -2.3
	baz=6.2,SNR=115						
FAKI				S		Sn	21 11 41.3 -5.5
	baz=6.2,SNR=20						
FAKI	Fak Fak	6.12	41	ePn		Pn	21 10 34.8 -2.3
FAKI				eSn		Sn	21 11 42.3 -4.5
KDU	Kakadu	6.56	141	P		Pn	21 10 42.5 -0.4
	baz=6.6,SNR=1000						
KDU				S		Sn	21 11 44.0 -13
	baz=6.6,SNR=12						
LBMI	Labuha	6.94	354	P		Pn	21 10 50.0 +2.1
	548nm,0.9s,5μm1.9nm						
SWI	Sorong	7.33	24	P		Pn	21 10 52.1 -0.9
	509nm,0.7s,6μm2.1nm						
SWI				S		Sn	21 12 18.0 +2.5
	509nm,0.7s,6μm2.1nm						
SWI	Sorong	7.33	24	P		Pn	21 10 52.0 -0.9
	baz=7.4,SNR=83						
SWI				S		Sn	21 12 12.9 -2.6
	baz=7.4,SNR=7.7						
BASI	Baing, Sumba	8.01	250	P		Pn	21 11 02.2 +0.3
	325nm,0.8s,8μm						
KNRA	Kununurra	8.06	176	P		Pn	21 11 01.5 -1.1
	baz=8.1,SNR=1000						
KNRA				S		Sn	21 12 26.0 -7.0
	baz=8.1,SNR=8.4						
WSI	Waingapu	8.12	255	P		Pn	21 11 02.5 -0.9
WSI				S		Sn	21 12 30.2 -4.2
WSI	Waingapu	8.12	255	S		Sn	21 12 27.6 -6.8
	baz=8.1,SNR=12						
TNTI	Ternate	8.35	354	P		Pn	21 11 07.9 +1.5
	405nm,1.0s,4μm						
TNTI	Ternate	8.35	354	ePn		Pn	21 11 06.5 +0.1
TNTI				eSn		Sn	21 12 39.2 -0.7
BKSI	Bulukumba	8.37	285	P		Pn	21 11 09.0 +2.3
	31nm,0.9s,403nm						
RKPI	Ransiki, Papua	8.45	45	P		Pn	21 11 06.4 -1.4
	2μm,0.6s,18μm						
RKPI				S		Sn	21 12 43.4 +1.0
	2μm,0.6s,18μm						
LUWI	Luwuk	8.48	320	P		Pn	21 11 11.9 +3.7
	294nm,1.3s,3μm						
LUWI	Luwuk	8.48	320	P		Pn	21 11 10.5 +2.3
	baz=8.5,SNR=7.3						
LUWI	Luwuk	8.48	320	ePn		Pn	21 11 10.1 +1.9
BNSI	Bone	8.68	291	P		Pn	21 11 14.4 +3.6
	42nm,0.7s						
KAPI	Kappang	8.81	286	ePn		Pn	21 11 14.0 +1.4
WBSI	Waikabubak, Su	8.98	256	P		Pn	21 11 14.4 -0.4
	138nm,0.7s,10μm						
KMSI	Cibinong	9.15	332	P		Pn	21 11 19.2 +2.2
	285nm,1.1s,3μm						
SPSI	Sidrap Palu	9.16	293	P		Pn	21 11 18.5 +1.4
	41nm,0.8s						
APSI	Ampana	9.33	315	P		Pn	21 11 22.6 +3.2
	87nm,1.0s,732nm						
MRSI	Marisa	10.18	322	P		Pn	21 11 33.6 +3.1
	52nm,0.9s						
FITZ	Fitzroy Crossi	10.76	193	P		Pn	21 11 35.2 -2.8
	baz=11,SNR=512						
FITZ	Fitzroy Crossi	10.76	193	ePn		Pn	21 11 34.6 -3.3
FITZ				eSn		Sn	21 13 28.8 -8.7
MPSI	Mapaga	11.45	313	P		P	21 11 51.8 -1.7
	32nm,0.7s						
SMPI	Sarmi	11.82	62	P		Pn	21 11 53.5 +1.7
	53nm,1.4s						
SGKI	Sangatta, Kali	12.71	303	P		P	21 12 18.8 +11
BKB	Balikpapan	12.93	299	P		P	21 12 15.6 +5.6
DNP	Denpasar	12.94	264	P		P	21 12 09.2 -0.9
	184nm,0.3s						
WRAB	Tennant Creek	13.63	155	Pn		Pn	21 12 12.4 -2.4
	2μm,0.9s						
WRAB	Tennant Creek	13.63	155	c iP		Pn	21 12 12.1 -2.7
WRAB				pmax		pmax	
	comp=Z,680nm,1.0s						
WRAB	Tennant Creek	13.63	155	ePn		Pn	21 12 11.8 -3.0
WRAB				eSn		Sn	21 14 35.3 -11
WRA	Warramunga Arr	13.63	155	P		Pn	21 12 13.5 -1.3
	comp=Z,11nm,0.3s,baz=327,slow=14,SNR=158						
WRA				S		Sn	21 14 38.3 -8.2
	comp=Z,23nm,0.3s,baz=326,slow=24,SNR=17						
ABJI	Asem Bagus	13.88	268	P		P	21 12 20.9 +0.4
	comp=Z,46nm,1.1s						
BBKI	Banjar Baru	13.95

AS01	**Alice Springs**	16.90	162	*e*P	**P**	21 12 53.6 -0.3
QIS	**Mount Isa**	16.95	141	P	**Pn**	21 12 56.1 +0.6
	baz=17,SNR=35					
SDKM	**Sandakan**	17.14	320	⇑P	**Pn**	21 12 60.0 +2.1
PBKI	**Pangkalan Bun**	17.19	286	P	**Pn**	21 12 59.7 +1.3
	comp=Z,370nm,0.9s,comp=Z,3μm					
WRKA	**Warakurna**	17.36	180	P	**P**	21 12 59.8 +0.9
	baz=18,SNR=346					
UGM	**Wanagama**	17.56	268	P	**P**	21 13 00.6 -0.6
	baz=18,SNR=3.1					
KKM	**Kota Kinabalu**	18.09	318	P	**Pn**	21 13 08.8 -0.2
	baz=18,SNR=7.5					
KKM	**Kota Kinabalu**	18.09	318	*e*P	**P**	21 13 05.9 -1.1
	comp=Z,152nm,1.3s					
KDM	**Kudat**	18.35	321	⇓P	**Pn**	21 13 12.6 +0.6
STKI	**Sintang**	18.36	294	P	**Pn**	21 13 11.7 -0.4
	comp=Z,261nm,0.8s					
PMG	**Port Moresby**	18.80	97	*e*P	**Pn**	21 13 16.9 -0.4
PMG				pmax	pmax	
	comp=Z,25nm,0.6s					
PMG	**Port Moresby**	18.80	97	*e*P	**Pn**	21 13 16.9 -0.4
	comp=Z,25nm,0.6s					
SBUM	**Sibu**	18.84	301	⇑P	**Pn**	21 13 18.1 +0.4
SBUM	**Sibu**	18.84	301	*e*P	**P**	21 13 16.1 +1.1
	comp=Z,158nm,1.1s					
MTSU	**Mount Surprise**	18.84	125	P	**Pn**	21 13 20.6 +2.8
	baz=19,SNR=5.4					
KPJI	**Karang Pucung**	19.14	269	P	**P**	21 13 17.9 -0.5
	comp=Z,61nm,0.7s					
CMJI	**Cimerak**	19.61	268	P	**Pn**	21 13 25.5 -1.4
	comp=Z,61nm,0.8s					
KSM	**Kuching**	20.02	296	P	**P**	21 13 29.0 +1.1
	baz=20,SNR=7.7					
KSM	**Kuching**	20.02	296	⇑P	**P**	21 13 29.8 +1.9
KSM	**Kuching**	20.02	296	*e*P	**P**	21 13 27.8 -0.1
	comp=Z,207nm,0.8s					
GIRL	**Giralia**	20.14	220	P	Pn	21 13 31.7 -1.5
	baz=20,SNR=10					
CISI	**Cisompet, Garu**	20.24	269	P	**P**	21 13 29.5 -0.8
	comp=Z,85nm,0.7s,comp=Z,2μm					
CISI	**Cisompet, Garu**	20.24	269	S	**S**	21 17 01.0 -6.9
	baz=20,SNR=5.8					
CISI	**Cisompet, Garu**	20.24	269	*e*P	**P**	21 13 27.8 -2.5
	comp=Z,62nm,0.7s					
CISI				*e*S	**S**	21 17 04.7 -3.3
LEM	**Lembang**	20.47	271	P	**P**	21 13 32.2 -0.6
	comp=Z,58nm,0.8s					
CNJI	**Cibinong**	20.93	269	P	**P**	21 13 35.9 -1.7
	comp=Z,119nm,1.0s,comp=Z,2μm					
MEEK	**Meekatharra**	21.04	205	P	**P**	21 13 39.2 +0.6
	baz=21,SNR=45					
MEEK				S	Sn	21 17 35.6 -6.9
	baz=21,SNR=5.0					
TPI	**Tanjungpandan**	21.05	282	P	**P**	21 13 39.0 +0.2
	comp=Z,70nm,0.8s					
CTA	**Charters Tower**	21.43	127	P	**P**	21 13 44.0 +1.2
	comp=Z,5.4nm,0.2s,baz=292,slow=11,SNR=4.9					
CGJI	**Cibinong**	22.39	271	P	**P**	21 13 50.1 -2.4
	comp=Z,90nm,0.8s,comp=Z,790nm					
XMIS	**Christmas Isla**	22.49	261	*e*P	**P**	21 13 52.3 -1.1
	comp=Z,1μm,1.9s					
TGY	**Tagaytay City**	22.73	341	P	**P**	21 13 56.2 +0.7
	comp=Z,152nm,0.4s,baz=219,slow=1.7,SNR=8.0					
FORT	**Forrest**	23.08	180	P	**P**	21 14 00.8 +2.2
	baz=23,SNR=8.4					
FORT	**Forrest**	23.08	180	*e*P	**P**	21 14 00.2 +1.7
	comp=Z,128nm,0.8s					
KASI	**Kota Agung**	23.67	274	P	**P**	21 14 07.4 +3.3
	comp=Z,23nm,0.9s					
PMBI	**Palembang**	23.81	280	P	**P**	21 14 08.9 +3.5
	comp=Z,291nm,1.2s					
PMBI	**Palembang**	23.81	280	*e*P	**P**	21 14 07.7 +2.2
	comp=Z,314nm,1.1s					
MDSI	**Maura Dua**	24.12	276	P	**P**	21 14 09.6 +1.4
	comp=Z,11nm,0.7s,comp=Z,886nm					
QLP	**Quilpie**	24.25	143	P	**P**	21 14 11.6 +2.3
	baz=24,SNR=12					
MORW	**Morawa**	24.26	207	P	**P**	21 14 11.8 +2.5
	baz=24,SNR=6.0					
KMBL	**Kambalda**	24.39	193	P	**P**	21 14 12.0 +1.5
	baz=24,SNR=4.5					
LHSI	**Lahat**	24.87	277	P	P	21 14 19.8 +4.8
	comp=Z,33nm,1.0s					
TPRI	**Tanjung Pinang**	25.11	289	P	**P**	21 14 18.4 +1.2
	comp=Z,86nm,1.0s					
JMBI	**JAMBI**	25.21	282	P	**P**	21 14 22.5 +4.4
	comp=Z,229nm,0.9s					
BLDU	**Ballidu**	25.33	204	P	**P**	21 14 20.5 +1.5
	baz=25,SNR=15					
KLBR	**Kellerberrin**	25.81	201	P	**P**	21 14 24.9 +1.5
	baz=26,SNR=5.9					
MYKOM	**Kota Tinggi**	26.05	290	⇓P	**P**	21 14 27.7 +2.0
MYKOM	**Kota Tinggi**	26.05	290	*e*P	**P**	21 14 27.0 +1.3
	comp=Z,24nm,1.0s					
BBOO	**Buckleboo**	26.13	165	P	**P**	21 14 27.9 +1.8
	baz=26,SNR=7.5					
BBOO	**Buckleboo**	26.13	165	*e*P	**P**	21 14 27.5 +1.3
	comp=Z,370nm,1.1s					
KGM	**Kluang**	26.63	290	⇑P	**P**	21 14 32.2 +1.3
STKA	**Stephens Creek**	27.19	155	*e*P	**P**	21 14 37.4 +1.8
STKA				pmax	pmax	
	comp=Z,13nm,1.1s					
STKA	**Stephens Creek**	27.19	155	P	**P**	21 14 37.5 +1.8
	comp=Z,4.2nm,0.5s,baz=328,slow=9.6,SNR=26					
STKA	**Stephens Creek**	27.19	155	P	**P**	21 14 37.4 +1.8
	baz=27,SNR=19					
STKA	**Stephens Creek**	27.19	155	*e*P	**P**	21 14 37.4 +1.8
	comp=Z,12nm,1.1s					
NWAO	**Narrogin (SRO)**	27.20	201	P	**P**	21 14 37.0 +1.2
	comp=Z,3.9nm,0.5s,baz=16,slow=7.4,SNR=8.0					
NWAO				pP	**pP**	21 15 12.8 +0.6
	comp=Z,17nm,0.5s,baz=40,slow=9.7,SNR=5.8					
HTT	**Hallett**	27.56	160	P	**P**	21 14 41.4 +2.4
	baz=28,SNR=6.9					
KTGM	**Kuala Trenggan**	28.14	296	⇑P	**P**	21 14 46.2 +1.9
BKNI	**Bangkinang**	28.24	285	*e*P	**P**	21 14 44.5 -0.7
	comp=Z,68nm,0.3s					
CMSA	**Cobar Meteorol**	28.86	148	P	**P**	21 14 52.9 +2.4
	baz=29,SNR=30					
IPM	**Ipoh**	29.68	293	⇓P	**P**	21 14 57.8 -0.2
IPM	**Ipoh**	29.68	293	*e*P	**P**	21 14 58.0 0.0
	comp=Z,18nm,0.7s					
KULM	**Kulim**	30.35	294	⇓P	**P**	21 15 04.1 +0.3
KULM	**Kulim**	30.35	294	*e*P	**P**	21 15 03.6 -0.3
	comp=Z,16nm,0.7s					
PSI	**Prapat**	31.01	288	*e*P	**P**	21 15 09.0 -0.9
PSI	**Prapat**	31.01	288	P	**P**	21 15 09.0 -0.9
	comp=Z,54nm,0.8s,baz=121,slow=5.1,SNR=50					
PSI	**Prapat**	31.01	288	P	**P**	21 15 09.0 -0.9
	baz=31,SNR=34					
TPUB	**Ta-pu**	31.59	347	*e*P	**P**	21 15 13.0 -1.5
	comp=Z,180nm,2.3s					
GSI	**Gunungsitoli**	31.83	285	*e*P	**P**	21 15 16.7 -0.2
	comp=Z,41nm,1.0s					
SSLB	**Suanglung**	31.98	347	*e*P	**P**	21 15 15.5 -2.6
	comp=Z,114nm,2.5s					
QIZ	**Qiongzhong**	32.07	326	P	**P**	21 15 20.0 +1.2
QIZ				sP	**sP**	21 16 14.9 -1.2
QIZ				S	**S**	21 20 20.8 +2.9
QIZ				sS	**sS**	21 21 24.8 +1.6
QIZ				PMZ		
	comp=Z,170nm,5.1s					
QIZ				LN		
	comp=Z,320nm,18.6s					
QIZ				LE		
	comp=Z,250nm,17.9s					
QIZ				LZ		
	comp=Z,580nm,20.9s					
QIZ	**Qiongzhong**	32.07	326	*e*P	**P**	21 15 18.1 -0.8
	comp=Z,97nm,2.0s					
YOJ	**Yonaguni jima**	32.26	351	*e*P	**P**	21 15 18.7 -1.7
YOJ				pmax	pmax	
	comp=Z,75nm,1.1s					
YOJ	**Yonaguni jima**	32.26	351	*e*P	**P**	21 15 18.7 -1.7
	comp=Z,74nm,1.1s					
YNG	**Young**	32.44	148	P	P	21 15 25.1 +3.2
	baz=32,SNR=4.8					
YHNB	**Yeheng**	32.75	348	*e*P	**P**	21 15 23.7 -1.1
	comp=Z,116nm,1.8s					
TPTI		32.81	288	P	**P**	21 15 25.9 +0.5
	comp=Z,116nm,0.8s,comp=Z,8μm					
JOW	**Kunigami**	34.21	0	P	**P**	21 15 37.0 -0.3
	comp=Z,1.8nm,0.7s					
JOW	**Kunigami**	34.21	0	*e*P	**P**	21 15 37.0 -0.3
	comp=Z,38nm,0.4s					
CHAI	**Chaiyaphum**	34.93	312	P	**P**	21 15 43.8 +0.1
	comp=Z,5.6nm,0.6s,comp=Z,66nm					
PHET	**Kaeng Krachan**	34.96	305	P	**P**	21 15 46.7 +2.8
	comp=Z,64nm,0.9s					
SRDT	**SRDT**	36.18	307	P	**P**	21 15 55.9 +1.6
	comp=Z,58nm,1.0s,comp=Z,5μm					
KHLT	**Khaolaem Dam**	36.86	307	P	**P**	21 16 03.0 +2.9
	comp=Z,8.9nm,1.6s					
SLVN	**Son La**	37.37	321	*e*P	**P**	21 16 03.8 -0.5
	comp=Z,43nm,1.7s					
SUKH	**Sukhothai**	37.67	312	P	**P**	21 16 08.3 +1.4
	comp=Z,8.2nm,0.9s,comp=Z,76nm					
PAYA	**Payao**	38.70	314	P	**P**	21 16 16.7 +1.2
	comp=Z,5.8nm,0.7s,comp=Z,686nm					
CM01	**Chiang Mai Arr**	38.76	312	*e*P	**P**	21 16 15.3 -0.7
CM31	**Chiang Mai Arr**	38.79	312	*e*P	**P**	21 16 16.4 +0.1
CM31				*e*PcP	**PcP**	21 18 25.1 +1.0
CM31				*e*ScP	**ScP**	21 21 56.7 +1.0
CMAR	**Chiang Mai Arr**	38.79	312	P	**P**	21 16 16.4 +0.1
	comp=Z,8.8nm,0.8s,baz=142,slow=6.9,SNR=69					
CMAR				PcP	**PcP**	21 18 25.1 +1.0
	comp=Z,4.0nm,0.9s,baz=167,slow=2.7,SNR=7.1					
CMAR				ScP	**ScP**	21 21 56.7 +1.0
	comp=Z,0.5nm,0.7s,baz=151,slow=2.7,SNR=4.2					
CMMT	**Chiang Mai**	39.02	313	P	**P**	21 16 18.7 +0.6
	comp=Z,29nm,1.1s					
CHTO	**Chiang Mai**	39.02	313	*e*P	**P**	21 16 17.7 -0.5
CHTO				pmax	pmax	
	comp=Z,20nm,1.0s					
CHTO	**Chiang Mai**	39.02	313	P	**P**	21 16 19.1 +0.9
	SNR=9.0					
CHTO	**Chiang Mai**	39.02	313	P	**P**	21 16 18.8 +0.7
	comp=Z,100nm,1.1s					
CHTO	**Chiang Mai**	39.02	313	*e*P	**P**	21 16 17.6 -0.5
	comp=Z,20nm,1.0s					
GYA	**Guiyang**	39.80	329	*e*P	**P**	21 16 27.2 +2.6
GYA				pP	**pP**	21 17 04.8 +2.2
GYA				sP	**sP**	21 17 25.0 +2.3
GYA				PP	**PnPn**	21 18 05.6 +0.6
GYA				ScP	**ScP**	21 22 01.0 +1.5
GYA				S	**S**	21 22 18.7 +3.0
GYA				sS	**sS**	21 23 24.4 +1.9
GYA				PMZ		
	comp=Z,20nm,0.8s					
GYA				PMZ		
	comp=Z,120nm,5.2s					
NJ2	**Nanjing**	40.42	348	*e*P	**P**	21 16 29.3 -0.1
NJ2				PMZ		
	comp=Z,30nm,0.8s					
KMI	**Kunming**	40.91	323	P	**P**	21 16 34.8 +0.9
KMI				pP	**pP**	21 17 13.9 +1.8
KMI				sP	**sP**	21 17 34.4 +2.3
KMI				PP	**PnPn**	21 18 17.0 -1.0
KMI				S	**S**	21 22 35.3 +2.9
KMI				PMZ		
	comp=Z,14nm,1.4s					
KMI				LN		
	comp=Z,250nm,20.1s					
KMI				LE		
	comp=Z,280nm,20.1s					
KMI				LZ		
	comp=Z,320nm,28.7s					
KS15	**Wonju Array Si**	44.79	360	*e*P	**P**	21 17 05.0 +0.4
KS15				*e*PcP	**PcP**	21 18 43.7 +0.2
KSRS	**Korea Array**	44.80	360	P	**P**	21 17 05.0 +0.3
	comp=Z,2.8nm,0.5s,baz=179,slow=9.3,SNR=15					
KSRS				PcP	**PcP**	21 18 43.7 +0.2
	comp=Z,3.3nm,0.9s,baz=187,slow=3.7,SNR=4.7					
KS01	**Wonju Array Si**	44.83	360	*e*P	**P**	21 17 05.1 +0.2
MAJO	**Matsushiro**	44.88	11	*e*P	**P**	21 17 03.9 -1.4
MAJO				pmax	pmax	
	comp=Z,56nm,1.8s					
MAJO	**Matsushiro**	44.88	11	*e*P	**P**	21 17 03.9 -1.4
	comp=Z,56nm,1.8s					
MAJO				*e*pP	**pP**	21 17 45.4 +1.2
MAT	**Matsushiro**	44.88	11	P	**P**	21 17 03.2 -2.1
MAT				*e*S	S	21 23 20.0 -10
MJAR	**Matsushiro Arr**	44.88	11	P	**P**	21 17 03.7 -1.7
	comp=Z,5.7nm,0.8s,baz=188,slow=9.2,SNR=15					
MJAR				pP	**pP**	21 17 45.4 +1.2
	comp=Z,2.7nm,0.8s,baz=186,slow=9.0,SNR=2.6					
CD2	**Chengdu**	44.89	330	*e*P	**P**	21 17 05.1 -0.5
CD2				PP	**PP**	21 18 55.9 +1.6
CD2				S	**S**	21 23 30.2 +0.1
CD2				PMZ		
	comp=Z,20nm,0.8s					
CD2				PMZ		
	comp=Z,130nm,6.6s					
XAN	**Xi'an**	45.27	337	P	**P**	21 17 07.3 -1.2
XAN				pP	**pP**	21 17 45.2 -2.2
XAN				sP	**sP**	21 18 05.3 -1.9
XAN				PMZ		
	comp=Z,8.0nm,0.8s					
XAN				PMZ		
	comp=Z,43nm,13.4s					
BJT	**Baijiatuau**	48.66	348	*e*P	**P**	21 17 33.7 -0.9
BJT				pmax	pmax	
	comp=Z,26nm,0.9s					
BJT	**Baijiatuau**	48.66	348	*e*P	**P**	21 17 33.7 -0.9
	comp=Z,26nm,0.9s					
BJI	**Beijing**	48.68	348	P	**P**	21 17 34.1 -0.6
BJI				PMZ		
	comp=Z,31nm,1.0s					
BJI				LN		
	comp=Z,270nm,20.7s					
BJI				LE		
	comp=Z,240nm,24.3s					
BJI				LZ		
	comp=Z,390nm,27.2s					
LZH	**Lanzhou**	49.12	334	*e*P	**P**	21 17 38.8 +0.4
LZH				PMZ		
	comp=Z,21nm,1.0s					
LZH				PMZ		
	comp=Z,87nm,4.3s					
PALK	**Pallekele**	49.65	286	*i* P	**P**	21 17 42.9 +0.3
PALK	**Pallekele**	49.65	286	P	**P**	21 17 42.5 -0.1
	comp=Z,16nm,0.9s,baz=94,slow=2.6,SNR=4.0					
PALK	**Pallekele**	49.65	286	*e*P	**P**	21 17 41.1 -1.5
	comp=Z,72nm,1.7s					
HHC	**Hu-ho-hao-te**	50.58	344	*e*P	**P**	21 17 51.7 +2.5
HHC				pP	**pP**	21 18 29.7 +0.7
HHC				sP	**sP**	21 18 51.0 +2.4
HHC				PP	**PP**	21 19 45.6 -1.4
HHC				S	**S**	21 24 51.9 +1.8
HHC				sS	**sS**	21 26 02.3 +2.9
HHC				SS	**SS**	21 28 26.0 -0.8
HHC				PMZ		
	comp=Z,20nm,1.1s					
HHC				PMZ		
	comp=Z,220nm,6.0s					
CN2	**Changchun**	51.21	357	⇓P	P	21 17 58.2 +4.5
CN2				*e*pP	pP	21 18 37.2 +3.7
CN2				*e*S	**S**	21 25 03.7 +5.4
CN2				PMZ		
	comp=Z,20nm,0.7s					
CN2				PMZ		
	comp=Z,200nm,4.0s					
LSA	**Lhasa**	51.43	318	*e*P	**P**	21 17 56.4 +0.2
LSA				*e*		21 19 07.9
LSA				pmax	pmax	
	comp=Z,24nm,0.6s					
LSA	**Lhasa**	51.43	318	*e*P	**P**	21 17 56.4 +0.2
	comp=Z,24nm,0.6s					
LSA				*e*PcP	**PcP**	21 19 07.9 -0.3
USRK	**Ussuriysk Ar.**	51.65	3	P	**P**	21 17 56.8 -0.2
	comp=Z,3.9nm,0.6s,baz=195,slow=8.4,SNR=10.0					
RPZ	**Rata Peaks**	51.86	141	*e*P	**P**	21 18 01.2 +2.5
	comp=Z,173nm,1.9s					
MDJ	**Mudanjiang**	51.97	1	P	**P**	21 17 59.9 +0.5
MDJ				pP	**pP**	21 18 38.2 -1.1
MDJ				sP	**sP**	21 18 57.0 -1.9
MDJ				ScP	**ScP**	21 22 50.1 +0.6
MDJ				PcS	**PcS**	21 23 09.1 +1.5
MDJ				S	**S**	21 25 09.9 +1.1
MDJ				PMZ		
	comp=Z,9.0nm,1.2s					
MDJ				PMZ		
	comp=Z,93nm,4.7s					
MDJ				LN		
	comp=Z,240nm,24.4s					
MDJ				LE		
	comp=Z,73nm,28.2s					
MDJ				LZ		
	comp=Z,390nm,26.1s					
ODAN	**Odare**	52.34	312	*e*P	**P**	21 18 02.4 -0.3
	comp=Z,58nm,0.6s					
TAPN	**Taplejung**	52.39	313	*e*P	**P**	21 18 02.8 -0.3
	comp=Z,27nm,0.4s					
KHZ	**Kahutara**	52.81	139	*e*P	**P**	21 18 07.6 +2.0
	comp=Z,500nm,2.7s					
RAMN	**Ramite**	52.97	312	*e*P	**P**	21 18 07.4 +0.1
	comp=Z,148nm,0.7s					
ASAJ	**Asahikawa**	53.08	13	P	**P**	21 18 07.2 -0.2
	comp=Z,7.3nm,0.9s,baz=204,slow=10.0,SNR=4.8					
ASAJ	**Asahikawa**	53.08	13	*e*P	**P**	21 18 06.4 -1.1
	comp=Z,693nm,3.0s					
GTA	**Gaotai**	53.66	333	⇑P	**P**	21 18 12.3 +0.3
GTA				pP	**pP**	21 18 52.2 0.0
GTA				sP	**sP**	21 19 11.7 -0.1
GTA				PcP	**PcP**	21 19 16.8 +0.8
GTA				ScP	**ScP**	21 22 56.5 -0.7
GTA				S	**S**	21 25 31.6 -0.6
GTA				sS	**sS**	21 26 41.3 -0.9
GTA				SS	**SS**	21 29 14.9 -0.7
GTA				PMZ		
	comp=Z,16nm,0.8s					
GTA				PMZ		
	comp=Z,160nm,4.6s					
GTA				LN		
	comp=Z,440nm,20.9s					
GTA				LE		
	comp=Z,710nm,24.7s					
GTA				LZ		
	comp=Z,710nm,24.2s					
JIRN	**Jiri**	53.67	312	*e*P	**P**	21 18 12.2 -0.4
	comp=Z,54nm,0.7s					
GUN	**Gumba**	54.04	313	*e*P	**P**	21 18 14.8 -0.4
	comp=Z,106nm,0.7s					
PKI	**Pulchoki**	54.19	312	*e*P	**P**	21 18 15.6 -0.7
	comp=Z,38nm,0.6s					
PKIN	**Phulchoki**	54.21	312	*e*P	**P**	21 18 16.0 -0.4
	comp=Z,12nm,0.5s					
KKN	**Kakani**	54.41	312	*e*P	**P**	21 18 17.4 -0.4
	comp=Z,34nm,0.6s					
DMN	**Daman**	54.44	312	*e*P	**P**	21 18 17.7 -0.3
GKN	**Gorkha**	55.00	312	*e*P	**P**	21 18 21.6 -0.4
	comp=Z,62nm,0.5s					
HYB	**Hyderabad**	55.02	297	⇓ *i* P	**P**	21 18 21.0 -1.1
	comp=Z,70nm,1.0s					
KOLN	**Koldanda**	55.65	311	*e*P	**P**	21 18 26.3 -0.3
	comp=Z,74nm,0.7s					
DANN	**Dangsing**	55.84	312	*e*P	**P**	21 18 27.5 -0.6
	comp=Z,50nm,0.8s					
HIA	**Hailar**	57.10	353	*e*P	**P**	21 18 35.7 -0.5
HIA				pmax	pmax	
	comp=Z,44nm,2.2s					
HIA	**Hailar**	57.10	353	*e*P	**P**	21 18 35.7 -0.5
	comp=Z,44nm,2.2s					
ULN	**Ulaanbaatar**	58.30	343	*ce*P	**P**	21 18 45.1 +0.3
ULN				pmax	pmax	
	comp=Z,29nm,1.2s					
ULN	**Ulaanbaatar**	58.30	343	P	**P**	21 18 46.1 +1.3
	SNR=13					
ULN	**Ulaanbaatar**	58.30	343	*e*P	**P**	21 18 44.2 -0.6
	comp=Z,20nm,1.0s					
SONA0	**Songino Array**	58.46	343	*e*P	**P**	21 18 46.2 +0.3
SONA0				*e*PcP	**PcP**	21 19 32.9 -1.6
SONM	**Songino Array**	58.46	343	P	**P**	21 18 46.2 +0.3
	comp=Z,10nm,0.9s,baz=159,slow=7.3,SNR=69					
SONM				PcP	**PcP**	21 19 32.9 -1.6
	comp=Z,3.0nm,0.7s,baz=148,slow=4.7,SNR=4.1					
SONA1	**Songino Array**	58.47	343	*e*P	**P**	21 18 46.0 0.0
SONA1				*e*PcP	**PcP**	21 19 33.4 -1.1
ZAK	**Zakamensk**	61.66	342	*e*P	**P**	21 19 07.4 -0.2
ZAK				pmax	pmax	
	comp=Z,6.0nm,1.2s					
TLY	**Talaya**	62.70	343	P	**P**	21 19 14.1 -0.3
	comp=Z,4.6nm,0.7s,baz=183,slow=5.0,SNR=16					
WMQ	**Urumqi**	62.95	328	P	**P**	21 19 16.3 +0.1
WMQ				PcP	**PcP**	21 19 53.2 +0.6
WMQ				pP	**pP**	21 19 56.5 -1.2
WMQ				PP	**PP**	21 21 38.3 +1.2
WMQ				S	**S**	21 27 30.0 -2.1
WMQ				sS	**sS**	21 28 40.0 -4.1
WMQ				ScS	**SKSac**	21 28 47.5 -4.2
WMQ				SS	**SS**	21 31 41.0 -0.1
WMQ				PMZ		
	comp=Z,28nm,1.0s					
WMQ				PMZ		
	comp=Z,220nm,5.2s					
WMQ				LN		
	comp=Z,630nm,23.0s					
WMQ				LE		
	comp=Z,760nm,24.0s					
WMQ				LZ		
	comp=Z,650nm,23.0s					
IRK	**Irkutsk**	63.02	344	*e*P	**P**	21 19 15.5 -1.0
IRK				pmax	pmax	
	comp=Z,34nm,1.1s					
MOY	**Mondy**	63.49	341	*e*P	**P**	21 19 20.6 +0.9
MOY				pmax	pmax	
	comp=Z,34nm,1.4s					
PEA0	**Petropavlovsk-**	65.43	19	*e*P	**P**	21 19 32.0 -0.1
PETK	**Petropavlovsk-**	65.43	19	P	**P**	21 19 32.6 +0.5
	comp=Z,7.1nm,0.6s,baz=184,slow=6.0,SNR=12					
PEA2	**Petropavlovsk-**	65.43	19	*e*P	**P**	21 19 32.6 +0.5
BOD	**Bodaibo**	66.20	352	*e*P	**P**	21 19 35.8 -1.1
BOD				pmax	pmax	
	comp=Z,13nm,0.9s					
KSH	**Kashi**	67.28	318	P	**P**	21 19 45.0 +0.7
KSH				sP	**sP**	21 20 46.0 +0.6
KSH				PP	**PP**	21 22 18.1 +3.0
KSH				S	**S**	21 28 19.5 -5.8
KSH				SS	**SS**	21 32 45.3 -3.5
KSH				PMZ		
	comp=Z,14nm,0.7s					
KSH				PMZ		
	comp=Z,79nm,3.6s					
KSH				LN		
	comp=Z,200nm,8.3s					
KSH				LE		
	comp=Z,150nm,6.9s					
KSH				LZ		
	comp=Z,370nm,16.5s					
MK01	**Makanchi Array**	67.75	328	*e*P	**P**	21 19 46.7 -0.3
MK32	**Makanchi Array**	67.77	328	*e*P	**P**	21 19 47.1 0.0
MKAR	**Makanchi Array**	67.77	328	*ce*P	**P**	21 19 47.0 -0.1
MKAR				pmax	pmax	
	comp=Z,6.0nm,0.5s					
MKAR	**Makanchi Array**	67.77	328	P	**P**	21 19 47.1 -0.1
	comp=Z,5.9nm,0.5s,baz=118,slow=6.8,SNR=53					
ULHL	**Ulahol**	68.57	321	P	**P**	21 19 53.1 +0.6
	SNR=5.1					
ULHL	**Ulahol**	68.57	321	*i* P	**P**	21 19 53.0 +0.6
YAK	**Yakutsk**	69.42	1	*e*P	**P**	21 19 55.9 -0.9
YAK				*e*		21 20 18.6
YAK				*e**PP	**pP**	21 20 35.5 -3.6
YAK				*e*		21 22 31.8
YAK				*e*PPP	PPP	21 24 15.2
YAK				*e*S	**S**	21 28 47.6 -1.7
YAK				*e*		21 29 37.4
YAK				*e*SS	**SS**	21 33 21.6 +1.1
YAK				pmax	pmax	
	comp=Z,40nm,0.8s					
YAK				pmax	pmax	
	comp=N,9.0nm,1.0s					
YAK				pmax	pmax	
	comp=Z,93nm,4.7s					
YAK				pmax	pmax	
	comp=N,99nm,5.1s					
YAK				pmax	pmax	
	comp=E,118nm,4.3s					
YAK				smax	smax	
	comp=N,51nm,3.5s					
YAK				smax	smax	
	comp=E

AAK pmax pmax
comp=Z,58nm,1.7s
AAK Ala-Archa 69.87 321 P P 21 20 00.9 +0.5
SNR=7.1
AAK Ala-Archa 69.87 321 *e*P **P 21 20 00.8 +0.5**
AML Almayashu 70.11 320 P **P 21 20 02.7 +0.6**
SNR=24
AML Almayashu 70.11 320 *i* P **P 21 20 02.7 +0.6**
USP Ospenovka 70.20 321 P **P 21 20 02.0 -0.2**
SNR=7.6
USP Ospenovka 70.20 321 *i* P **P 21 20 02.0 -0.2**
EKS2 Erkin-Say 70.33 320 P **P 21 20 03.9 +0.7**
SNR=17
EKS2 Erkin-Say 70.33 320 *i* P **P 21 20 03.8 +0.7**
EKS2 Erkin-Say 70.33 320 *e*P **P 21 20 03.4 +0.3**
comp=Z,60nm,1.8s
ZAA0 Zalesovo Array 71.34 335 *e*P **P 21 20 07.8 -1.0**
ZALV Zalesovo Beam 71.34 335 *i* P **P 21 20 08.1 -0.7**
ZALV pmax pmax
comp=Z,42nm,0.8s
ZALV Zalesovo Beam 71.34 335 P **P 21 20 08.1 -0.7**
comp=Z,42nm,0.8s,baz=108,slow=4.8,SNR=181
ZAA1 Zalesovo Array 71.35 335 *e*P **P 21 20 08.1 -0.7**
VNDA Vanda 72.09 173 P **P 21 20 14.4 +1.6**
comp=Z,2.3nm,0.7s,baz=317,slow=6.5,SNR=10
KURBB Kurchatov Arra 72.10 329 P **P 21 20 13.1 -0.3**
comp=Z,40nm,0.8s,baz=131,slow=5.0,SNR=19
KURK Kurchatov 72.11 329 P **P 21 20 13.3 -0.1**
comp=Z,250nm,0.7s,SNR=55
KURK Kurchatov 72.11 329 *e*P **P 21 20 13.5 0.0**
KURK Kurchatov 72.11 329 P **P 21 20 13.9 +0.4**
SNR=21
KURK Kurchatov 72.11 329 *e*P **P 21 20 13.5 0.0**
NVS Novosibirsk 72.63 335 *e*P **P 21 20 14.9 -1.5**
NVS *e* 21 20 58.0
NVS *e*S **S 21 29 23.3 -3.4**
NVS pmax pmax
comp=Z,47nm,1.0s
NVS pmax pmax
comp=N,22nm,1.2s
NVS pmax pmax
comp=E,27nm,1.2s
NVS smax smax
comp=N,12nm,1.7s
NVS smax smax
comp=E,19nm,1.5s
KKAR Karatay Array 72.64 320 *e*P **P 21 20 15.8 -1.0**
KKAR Karatay Array 72.64 320 *e*P **P 21 20 15.8 -1.0**
SEY Seymchan 72.71 11 P **P 21 20 16.6 -0.1**
comp=E,18nm,0.7s,baz=208,slow=4.5,SNR=96
SMDO Samad 75.02 296 P **P 21 20 31.4 +0.2**
SNR=5.8
HOQ Hoqain 75.81 297 P **P 21 20 36.1 +0.6**
SNR=5.2
VOSK Vostochnaya 77.17 328 *e*P **P 21 20 42.1 -0.4**
VOSK pmax pmax
comp=Z,32nm,0.6s
VOSK Vostochnaya 77.17 328 *e*P **P 21 20 42.1 -0.4**
comp=Z,32nm,0.6s
BVAR Borovoye Array 77.63 328 P **P 21 20 45.0 -0.1**
comp=Z,18nm,0.7s,baz=128,slow=7.1,SNR=121
BRVK Borovoye 77.70 328 P **P 21 20 45.2 -0.3**
comp=Z,215nm,0.9s,SNR=19
BRVK Borovoye 77.70 328*ce*P **P 21 20 45.5 0.0**
BRVK pmax pmax
comp=Z,41nm,1.0s
BRVK Borovoye 77.70 328 P **P 21 20 45.9 +0.4**
SNR=8.9
BRVK Borovoye 77.70 328 *e*P **P 21 20 45.1 -0.4**
comp=Z,39nm,1.0s
TIXI Tiksi 79.07 0*ce*P **P 21 20 51.9 -0.6**
TIXI pmax pmax
comp=Z,15nm,0.6s
TIXI Tiksi 79.07 0 *e*P **P 21 20 51.0 -1.5**
comp=Z,17nm,0.7s
GEYT Alibeck 79.26 311 P **P 21 20 54.9 +0.4**
comp=Z,7.4nm,1.0s,baz=116,slow=3.4,SNR=10
BILL Bilibino 80.08 14 *i* P **P 21 20 58.2 +0.1**
ABKAR Akbulak array 81.88 322 *e*P **P 21 21 07.1 -0.9**
QSPA South Pole Qui 82.40 180 P **P 21 21 11.7 +1.2**
comp=Z,8.0nm,0.7s,baz=289,slow=1.3,SNR=31
QSPA South Pole Qui 82.40 180 *e*P **P 21 21 10.9 +0.4**
comp=Z,208nm,3.0s
SYO Syowa Base 82.49 201⇓*e*P **P 21 21 10.8 0.0**
AKTO Aktyubinsk 83.47 323 P **P 21 21 16.2 0.0**
comp=Z,13nm,0.9s,baz=108,slow=6.6,SNR=36
GAMB Gambell 84.13 23 *e*P **P 21 21 19.4 +0.2**
comp=Z,23nm,1.4s
SVE Sverdlovsk 84.37 329⇑*i*P **P 21 21 21.0 +0.4**
SVE pmax pmax
comp=Z,61nm,1.2s
ARU Arti 85.28 328 P **P 21 21 24.5 -0.6**
comp=Z,233nm,0.6s,SNR=16
ARU Arti 85.28 328*c i*P **P 21 21 24.7 -0.4**
ARU 21 24 38.2
ARU S **S 21 31 37.4 -3.0**
ARU SS **SS 21 37 15.4 -3.8**
ARU pmax pmax
comp=Z,39nm,1.0s
ARU Arti 85.28 328 *e*P **P 21 21 23.5 -1.6**
comp=Z,29nm,0.8s
RAYN Ar Rayn 86.39 294 P **P 21 21 31.3 -0.1**
comp=Z,53nm,0.6s,SNR=8.8
RAYN Ar Rayn 86.39 294 *e*P **P 21 21 30.1 -1.3**
comp=Z,6.0nm,0.7s
PPLA Purkeypile 91.97 27 *e*P **P 21 21 55.6 -1.3**
comp=Z,117nm,2.5s
IM04 Indian Mountai 92.01 24 *e*P **P 21 21 56.5 -0.4**
KTH Kantishna Hill 92.67 26 *e*P **P 21 21 59.3 -0.7**
comp=Z,111nm,2.5s
MCK McKinley 93.58 26 *e*P **P 21 22 02.5 -1.6**
MCK pmax pmax
comp=Z,48nm,1.8s
MCK McKinley 93.58 26 *e*P **P 21 22 02.5 -1.6**
comp=Z,48nm,1.8s
VRHR Novokhopersk 93.72 321 *e*P **P 21 22 02.8 -2.2**
VRHR pmax pmax
comp=N,3.0nm,0.7s
VRHR pmax pmax
comp=E,7.0nm,0.7s
VRHR pmax pmax
comp=Z,9.0nm,0.7s
ILAR Eielson Array 94.62 25 P **P 21 22 07.3 -1.5**
comp=Z,1.5nm,1.0s,baz=242,slow=5.2,SNR=10
ILAR pP **pP 21 22 54.0 +0.8**
comp=Z,0.6nm,0.7s,baz=237,slow=5.4,SNR=2.8
ILB Eielson Array 94.62 25 *e*P **P 21 22 06.8 -2.0**
IL1 Eielson Array 94.62 25 *e*P **P 21 22 06.4 -2.5**
SNAA Sanae 94.69 194⇓*e*P **P 21 22 11.4 +2.2**
SNAA pmax pmax
comp=Z,13nm,1.0s
SNAA Sanae 94.69 194 *e*P **P 21 22 11.0 +1.8**
comp=Z,12nm,1.0s
VORD Divnogorie 95.17 321 *e*P **P 21 22 09.4 -2.2**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,9.0nm,0.9s
VSR Storozhevoye 95.27 321 *e*P **P 21 22 09.7 -2.4**
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,6.0nm,0.9s
VSR pmax pmax
comp=Z,9.0nm,0.9s
OBN Obninsk 97.12 325 *e*P **P 21 22 19.2 -1.1**
OBN pmax pmax
comp=Z,8.0nm,0.7s
OBN Obninsk 97.12 325 P **P 21 22 18.4 -1.9**
comp=Z,9.0nm,0.4s,baz=14,slow=15,SNR=3.0
BOSA Boshof 97.66 240 P **P 21 22 23.9 +0.2**
comp=Z,2.7nm,0.8s,baz=61,slow=5.8,SNR=4.2
BR101 Keskin Array S 98.32 309 *e*P **P 21 22 25.9 -0.5**
BRTR Keskin Array B 98.32 309*ce*P Pdif 21 22 27.6 +1.2
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 98.32 309 P **P 21 22 25.9 -0.5**
comp=Z,0.9nm,0.8s,baz=88,slow=7.4,SNR=3.7
INK Inuvik 100.05 22 P **Pdif 21 22 32.8 -0.4**
comp=Z,1.5nm,1.0s,baz=0.0,slow=0.0,SNR=3.2
ARA0 ARCESS Array S 101.51 340 *e*Pdif **Pdif 21 22 38.0 -1.8**
ARCES ARCESS Array B 101.51 340 P **Pdif 21 22 38.0 -1.8**
comp=Z,2.2nm,0.6s,baz=79,slow=6.3,SNR=5.8
FIA0 FINESS Array S 102.44 331 *e*PP PP 21 27 05.0 +6.2
FINES FINESS Array B 102.44 331 PKiKP **PKiKP 21 27 05.0 +0.5**
comp=Z,1.6nm,0.8s,baz=147,slow=3.9,SNR=5.3
STHS Stebnicka Huta 106.77 319 *e*P **Pdif 21 23 06.8 +3.2**
STHS Stebnicka Huta 106.77 319 PDIF **Pdif 21 23 06.8 +3.2**
HFS Hagfors 108.64 331 Pdiff **Pdif 21 23 09.8 -1.8**
comp=Z,3.2nm,0.8s,baz=347,slow=4.6,SNR=4.2
YKA Yellowknife Ar 109.04 26 Pdiff **Pdif 21 23 13.7 +0.4**
comp=Z,0.3nm,0.9s,baz=294,slow=5.5,SNR=3.8
YKA PKIKP **PKiKP 21 27 16.7 0.0**
comp=Z,1.4nm,0.6s,baz=297,slow=1.6,SNR=31
NB200 NORSAR Array S 109.50 333 *e*PKiKP **PKiKP 21 27 17.6 -0.1**
NOA NORSAR Array B 109.50 333 PKiKP **PKiKP 21 27 17.6 -0.1**
comp=Z,0.7nm,0.7s,baz=148,slow=2.1,SNR=3.5
GEC2 GERESS Array S 111.74 320 *e*PKiKP **PKiKP 21 27 22.0 -0.3**
GEC2 GERESS Array S 111.74 320 *e*PKiKP **PKiKP 21 27 22.0 -0.3**
GERES GERESS Array B 111.74 320 PKiKP **PKiKP 21 27 22.0 -0.3**
comp=Z,2.0nm,0.6s,baz=59,slow=1.8,SNR=23
GEB3 GERESS Array S 111.75 320 *e*PKiKP **PKiKP 21 27 21.8 -0.5**
ABTA Abfaltersbach 113.02 318⇑*i*PKiKP **PKiKP 21 27 24.8 -0.1**
comp=Z,2.1nm,0.7s
NV01 Mina Array Sit 113.03 52 *e*PKiKP **PKiKP 21 27 26.2 +1.0**
NVAR Mina Array Bea 113.03 52 PKiKP **PKiKP 21 27 26.6 +1.3**
comp=Z,1.0nm,0.8s,baz=263,slow=2.0,SNR=8.3
WTTA Wattenberg 113.47 318 PKiKP 21 27 25.5 -0.3
BSMT Bassoo Peak 113.57 41 *e*PKiKP **PKiKP 21 27 26.6 +0.7**
EDW2 Edwards Air Fo 113.78 55 P **PKiKP 21 27 28.0 +1.4**
baz=114
MOTA Moosalm 113.80 319⇑*i*PKiKP **PKiKP 21 27 26.1 -0.3**
comp=Z,3.4nm,0.5s
FETA Feichten 114.14 318⇑*i*PKiKP PKPdf 21 27 27.1 +0.1
comp=Z,1.7nm,0.6s
DAVA Damuels 114.62 319⇑*i*PKiKP PKPdf 21 27 28.1 +0.1
comp=Z,4.8nm,0.5s
DAVOX Davos/Dischmat 114.76 318 PKP PKPdf 21 27 28.4 +0.1
comp=Z,3.8nm,0.7s,baz=258,slow=4.5,SNR=7.8
HLID Hailey 114.91 45 P PKPdf 21 27 30.3 +1.7
baz=115
HEC Hector,Ludlow 115.14 55 P **PKPdf 21 27 30.9 +1.6**
baz=115
PFO Pinyon Flats O 115.21 56 P **PKPdf 21 27 30.9 +1.4**
baz=115
LRM Limekiln Ridge 115.67 43 *e*PKPdf **PKPdf 21 27 30.8 +0.6**
MCMT McKenzie Canyo 115.67 44 *e*PKPdf **PKPdf 21 27 31.2 +1.1**
IRM Iron Mountain 116.20 56 P **PKPdf 21 27 33.0 +1.8**
baz=116
HINF Hinteralfeld 116.41 320⇑*i*PKIKP **PKPdf 21 27 30.8 -0.5**
comp=Z,13nm,0.7s
PGF Pioggiola 116.50 314 *e*PKIKP **PKPdf 21 27 31.5 -0.2**
HAU Haudompre 116.67 320⇑*i*PKIKP **PKPdf 21 27 31.6 -0.1**
comp=Z,5.2nm,0.7s
PAGF Fort de Pagny 116.87 321 *e*PKIKP **PKPdf 21 27 32.0 -0.1**
comp=Z,1.1nm,0.6s
A19A Klindworth Far 117.06 38 P **PKPdf 21 27 33.1 +0.6**
baz=117
LPG La Plagne 117.22 318 *e*PKIKP **PKPdf 21 27 33.3 +0.1**
comp=Z,4.3nm,0.5s
LPL La Plagne 117.22 318⇑*i*PKIKP **PKPdf 21 27 33.2 +0.1**
comp=Z,6.4nm,0.6s
SBF Sospel 117.24 316 *e*PKIKP **PKPdf 21 27 32.8 -0.2**
comp=Z,20nm,0.7s
BAIF Baives 117.25 323 *e*PKIKP **PKPdf 21 27 33.1 +0.4**
comp=Z,5.2nm,0.7s
C19A Slack Wire Ran 117.28 40 P **PKPdf 21 27 33.9 +1.0**
baz=117
CABF La Chapelle 117.30 319⇑*i*PKIKP **PKPdf 21 27 33.4 +0.3**
comp=Z,14nm,0.6s
SFTF Sexfontaines 117.42 321 *e*PKIKP **PKPdf 21 27 33.3 +0.2**
MBDF Montbardon 117.44 317⇑*i*PKIKP **PKPdf 21 27 33.7 +0.2**
REDW Red Top Meadow 117.46 45 *e*PKPdf **PKPdf 21 27 34.1 +0.4**
SNOW Snow King Moun 117.50 45 *e*PKPdf **PKPdf 21 27 34.3 +0.5**
LOHW Long Hollow 117.56 45 *e*PKPdf **PKPdf 21 27 34.7 +0.9**
B20A Solberg Farm, 117.68 39 P **PKPdf 21 27 34.6 +0.9**
baz=118
KEST Kesra 117.77 306 PKP **PKPdf 21 27 35.4 +1.1**
comp=Z,1.5nm,0.8s,baz=53,slow=1.2,SNR=8.1
KEST Kesra 117.77 306 *e*PKPdf **PKPdf 21 27 34.3 0.0**
C20A Veseth Ranch, 117.95 39 P **PKPdf 21 27 34.4 +0.1**
baz=118
ORIF Oris-en-Rattie 117.98 317 *e*PKIKP **PKPdf 21 27 34.4 0.0**
comp=Z,10.0nm,0.7s
LMR La Mourre 118.04 315 *e*PKIKP **PKPdf 21 27 35.2 +0.8**
A21A Bergstl Ranch 118.14 38 P **PKPdf 21 27 35.0 +0.4**
baz=118
SMRF Simiane la Rot 118.49 316 *e*PKIKP **PKPdf 21 27 35.9 +0.5**
LOR Lormes 118.50 320⇑*i*PKIKP **PKPdf 21 27 35.3 0.0**
comp=Z,4.3nm,0.6s
PD31 Pinedale Array 118.54 45 *e*PKPdf **PKPdf 21 27 36.1 +0.4**
PDAR Pinedale Array 118.54 45 PKP **PKPdf 21 27 36.4 +0.6**
comp=Z,2.4nm,0.7s,baz=198,slow=1.3,SNR=10
PDAR PKKPbc **PKKPbc 21 37 54.4 0.0**
comp=Z,1.4nm,0.8s,baz=110,slow=6.3,SNR=9.2
G20A Bridger 118.69 42 P **PKPdf 21 27 37.0 +1.1**
baz=119
J19A Crowheart 118.74 45 P **PKPdf 21 27 37.3 +1.2**
baz=119
A22A Carney Farms, 118.76 38 P **PKPdf 21 27 36.7 +0.9**
baz=119
SSF Saint Saulge 118.81 320⇑*i*PKIKP **PKPdf 21 27 36.0 +0.2**
comp=Z,12nm,0.7s
VIVF Saint-Julien-l 118.82 317⇑*i*PKIKP **PKPdf 21 27 36.0 0.0**
comp=Z,7.0nm,0.7s
D21A La Casta Ranch 118.83 40 P **PKPdf 21 27 37.0 +1.0**
baz=119
EKA Eskdalemuir Ar 118.83 331 PKP **PKPdf 21 27 35.5 -0.1**
comp=Z,1.1nm,0.5s,baz=31,slow=2.8,SNR=7.9
SRU San Rafael Swe 118.84 49 *e*PKIKP **PKPdf 21 27 37.3 +0.9**
SRU San Rafael Swe 118.84 49 *e*PKPdf **PKPdf 21 27 37.2 +0.9**
B22A Reddig Ranch S 118.98 38 P **PKPdf 21 27 37.1 +0.9**
baz=119
AVF Avril sur Loir 119.00 320⇑*i*PKIKP **PKPdf 21 27 36.0 -0.2**
comp=Z,5.3nm,0.5s
I20A Worland 119.16 44 P **PKPdf 21 27 37.9 +1.1**
baz=119
X16A Lo Mia Camp, P 119.18 55 P **PKPdf 21 27 38.0 +0.8**
baz=119
C22A Vida 119.27 39 P **PKPdf 21 27 38.1 +1.3**
baz=119
D22A Cohagen 119.31 40 P **PKPdf 21 27 38.1 +1.2**
baz=119
J20A Shoshoni 119.39 44 P **PKPdf 21 27 38.4 +1.1**
baz=119
BGF Bois d'Agland 119.41 320⇑*i*PKIKP **PKPdf 21 27 37.4 +0.4**
comp=Z,20nm,0.6s
B23A Brockton 119.53 38 P **PKPdf 21 27 38.4 +1.2**
baz=119
H21A Big Horn, Sher 119.67 42 P **PKPdf 21 27 38.1 +0.4**
baz=120
C23A Lambert 119.68 39 P **PKPdf 21 27 38.6 +1.1**
baz=120
I21A Big Trails, Te 119.78 43 P **PKPdf 21 27 38.6 +0.6**
baz=120
D23A Lindsay 119.92 39 P **PKPdf 21 27 39.3 +1.3**
baz=120
TCF Toulx Ste Croi 119.92 320⇑*i*PKIKP **PKPdf 21 27 38.3 +0.3**
comp=Z,8.1nm,0.7s
A24A Westby 119.93 37 P **PKPdf 21 27 39.0 +1.0**
baz=120
N20A Spence Gulch, 120.04 47 P **PKPdf 21 27 40.2 +1.5**
baz=120
H22A Clearmont 120.14 42 P **PKPdf 21 27 39.0 +0.4**
baz=120
PV10 Paradox Valley 120.15 50 *e*PKPdf **PKPdf 21 27 40.0 +1.0**
PV05 Paradox Valley 120.19 50 *e*PKPdf **PKPdf 21 27 39.7 +0.6**
K21A Alcova 120.20 45 P **PKPdf 21 27 39.5 +0.6**
baz=120
C24A Savage 120.26 39 P **PKPdf 21 27 39.8 +1.1**
baz=120
O20A White River Ci 120.26 48 P **PKPdf 21 27 40.6 +1.5**
baz=120
I22A 9 Mile Ranch, 120.30 43 P **PKPdf 21 27 39.6 +0.6**
baz=120
A25A Svangstu Ranch 120.45 37 P **PKPdf 21 27 40.0 +1.0**
baz=120
J22A Midwest 120.47 44 P **PKPdf 21 27 39.5 +0.1**
baz=120
CAF Calviac 120.53 318 *e*PKIKP **PKPdf 21 27 39.8 +0.6**
comp=Z,12nm,0.8s
PV01 Paradox Valley 120.57 50 *e*PKPdf **PKPdf 21 27 41.2 +1.4**
K22A Casper 120.70 44 P **PKPdf 21 27 40.3 +0.5**
baz=121
K22A Casper 120.70 44 *e*PKPdf **PKPdf 21 27 40.1 +0.2**
E24A Baker 120.72 40 P **PKPdf 21 27 40.9 +1.3**
baz=121
RJF Les Rejaudoux 120.75 319 *e*PKIKP **PKPdf 21 27 40.0 +0.4**
MVCO Mesa Verde 120.87 51 P **PKPdf 21 27 41.8 +1.3**
baz=121
GRR Gorron 120.96 323 *e*PKIKP **PKPdf 21 27 40.6 +0.7**
MTLF Montolieu 121.00 316 *e*PKIKP **PKPdf 21 27 40.2 0.0**
comp=Z,21nm,1.0s
M22A Cedar Creek Ra 121.06 46 P **PKPdf 21 27 41.6 +1.0**
baz=121
A26A Wade Farm, Ken 121.11 36 P **PKPdf 21 27 41.0 +0.8**
baz=121
H24A Dirks Ranch, A 121.28 42 P **PKPdf 21 27 41.3 +0.6**
baz=121
MFF Saint Martin d 121.29 321 *e*PKIKP **PKPdf 21 27 40.7 +0.1**
comp=Z,20nm,0.8s
N22A Wattenberg Ran 121.36 47 P **PKPdf 21 27 42.4 +1.1**
baz=121
LFF La Frestale 121.39 319 *e*PKIKP **PKPdf 21 27 41.5 +0.7**
comp=Z,15nm,0.7s
F25A Bowman 121.52 40 P **PKPdf 21 27 42.0 +0.8**
baz=121
C26A Wahner Farm, P 121.56 37 P **PKPdf 21 27 41.7 +0.6**
baz=121
I24A Kuemmerle Ranc 121.57 43 P **PKPdf 21 27 41.5 +0.1**
baz=122
K24A Anderson Ranch 121.86 44 P **PKPdf 21 27 42.4 +0.4**
baz=122
RSSD Black Hills 121.86 42 *e*PKIKP **PKPdf 21 27 42.2 +0.1**
RSSD Black Hills 121.86 42 *e*PKPdf **PKPdf 21 27 42.2 +0.1**
O23A Lake Granby, G 121.93 47 P **PKPdf 21 27 43.9 +1.5**
baz=122
S22A 4UR Ranch, Cre 122.00 50 P **PKPdf 21 27 44.6 +2.0**
baz=122
SGMF Saint Gilles 122.03 323 *e*PKIKP **PKPdf 21 27 42.6 +0.6**
I25A Rochford 122.10 42 P **PKPdf 21 27 42.9 +0.3**
baz=122
A28A Rude Farm, Bot 122.13 36 P **PKPdf 21 27 42.6 +0.4**
baz=122
J25A Sunshine Ranch 122.30 43 P **PKPdf 21 27 43.2 +0.4**
baz=122
U22A Llaves 122.36 52 P **PKPdf 21 27 45.4 +2.1**
baz=122
EPF Esparros 122.39 317⇑*i*PKIKP **PKPdf 21 27 43.7 +0.8**
comp=Z,5.1nm,0.5s
ROSF Rostrenen 122.42 324 *e*PKIKP **PKPdf 21 27 42.6 -0.1**
comp=Z,4.9nm,0.6s
QUIF Quistinic 122.55 323 *e*PKIKP **PKPdf 21 27 43.0 0.0**
121A Cookes Peak, D 122.56 56 P **PKPdf 21 27 44.7 +1.0**
baz=122
R23A Moffat 122.63 49 P **PKPdf 21 27 45.3 +1.5**
baz=123
A29A Manning Farm, 122.72 35 P **PKPdf 21 27 43.6 +0.3**
baz=123
G27A Dupree 122.72 40 P **PKPdf 21 27 43.9 +0.4**
baz=123
E28A Huff 122.97 38 P **PKPdf 21 27 44.2 +0.3**
baz=123
ETSF Etsaut 123.05 317 *e*PKIKP **PKPdf 21 27 45.2 +1.0**
comp=Z,5.5nm,0.6s
ANMO Albuquerque 123.06 53*c i*PKIKP **PKPdf 21 27 45.9 +1.3**
ANMO pmax pmax
comp=Z,27nm,1.2s
ANMO Albuquerque 123.06 53 *e*PKPdf **PKPdf 21 27 45.0 +0.4**
Z22A Elephant Butte 123.07 55 P **PKPdf 21 27 45.0 +0.3**
baz=123
BNM Barren Site 123.12 54 *e*PKPdf **PKPdf 21 27 46.0 +1.1**
I27A Quinn 123.19 42 P **PKPdf 21 27 45.0 +0.5**
baz=123
A30A Hoffart Farm, 123.25 35 P **PKPdf 21 27 45.0 +0.6**
baz=123
S24A Houchin Ranch, 123.26 50 P **PKPdf 21 27 45.4 +0.3**
baz=123
SJPF Ste Jean 123.42 317 *e*PKIKP **PKPdf 21 27 45.7 +0.9**
comp=Z,9.5nm,0.8s
G28A Parade 123.50 40 P **PKPdf 21 27 45.9 +0.9**
baz=123
H28A Mission Ridge 123.61 40 P **PKPdf 21 27 45.6 +0.4**
baz=124
C30A Mose, Pekin 123.77 36 P **PKPdf 21 27 45.6 +0.3**
baz=124
V24A Rampart Ranch, 123.78 52 P **PKPdf 21 27 48.1 +2.1**
baz=124
W24A Lazy 6 Ranch, 123.81 53 P **PKPdf 21 27 46.8 +0.7**
baz=124
S25A Robets Cordova 123.84 49 P **PKPdf 21 27 47.0 +0.9**
baz=124
ULM Lac du Bonnet 123.88 33 PKP **PKPdf 21 27 45.4 0.0**
comp=Z,5.0nm,0.7s,baz=265,slow=2.0,SNR=6.1
D30A Buchanan 123.89 37 P **PKPdf 21 27 46.0 +0.4**
baz=124
J28A Allard Ranch, 124.00 42 P **PKPdf 21 27 46.5 +0.5**
baz=124
E30A Jud 124.09 38 P **PKPdf 21 27 46.9 +0.8**
baz=124
Y24A Capitan 124.14 54 P **PKPdf 21 27 48.3 +1.6**
baz=124
V25A Rancho No Teng 124.25 52 P **PKPdf 21 27 48.5 +1.6**
baz=124
G30A Faulkton 124.60 39 P **PKPdf 21 27 47.6 +0.6**
baz=124
T26A Comanche Natio 124.63 50 P **PKPdf 21 27 48.9 +1.3**
baz=125
S28A Manter 125.76 49 P **PKPdf 21 27 50.2 +0.5**
baz=126
Y27A Causey 125.97 53 P **PKPdf 21 27 51.3 +1.1**
baz=126
MSTX Muleshoe 126.25 53 P **PKPdf 21 27 51.2 +0.5**
baz=126
ESDC Sonseca Array 126.68 315 PKP **PKPdf 21 27 51.8 +0.6**
comp=Z,2.0nm,1.0s,baz=25,slow=3.5,SNR=6.6
R30A Dighton 126.71 47 P **PKPdf 21 27 52.0 +0.7**
baz=127
TX31 Lajitas Ar. Si 126.73 59 *e*PKPdf **PKPdf 21 27 51.3 -0.4**
LTX Lajitas 126.73 59 *e*PKIKP **PKPdf 21 27 53.5 +1.8**
LTX Lajitas 126.73 59 *e*PKPdf **PKPdf 21 27 53.5 +1.8**
TXAR Lajitas Array 126.73 59 PKP **PKPdf 21 27 53.5 +1.8**
comp=Z,1.7nm,0.8s,baz=339,slow=3.1,SNR=6.2
ECSD EROS Data Cent 126.86 40 P **PKPdf 21 27 52.0 +0.6**
baz=127
TOA0 Torodi Ar. Sit 127.20 281 *e*PKPdf **PKPdf 21 27 53.5 +0.7**
TORD Torodi Ar. Bea 127.20 281 PKP **PKPdf 21 27 53.5 +0.7**
comp=Z,5.4nm,0.7s,baz=50,slow=2.1,SNR=46
R31A Burdett 127.25 47 P **PKPdf 21 27 53.4 +1.0**
baz=127
P32A Huiting Farm, 127.38 45 P **PKPdf 21 27 53.2 +0.6**
baz=127
329A Wagon Wheel Ra 127.60 56 P **PKPdf 21 27 54.0 +0.8**
baz=128
X30A Coker Ranch, T 127.60 52 P **PKPdf 21 27 54.5 +1.4**
baz=128
529A Stev Forest Ra 127.76 58 P **PKPdf 21 27 54.4 +0.8**
baz=128
Z30A Sanderson Ranc 127.76 54 P **PKPdf 21 27 54.5 +1.0**
baz=128
429A Davenport Ranc 127.90 57 P **PKPdf 21 27 54.8 +1.0**
baz=128
W31A Holland Ranch, 128.07 51 P **PKPdf 21 27 55.1 +1.0**
baz=128
T32A Huddler Ranch, 128.12 48 P **PKPdf 21 27 55.2 +1.1**
baz=128
R33A Olander Ranch, 128.36 46 P **PKPdf 21 27 55.3 +0.9**
baz=128
530A J-C Ranch, Com 128.49 57 P **PKPdf 21 27 55.5 +0.5**
baz=128
T33A Patterson Ranc 128.66 48 P **PKPdf 21 27 56.2 +1.1**
baz=129
231A Bronte 128.83 55 P **PKPdf 21 27 56.7 +1.1**
baz=129
PLCA Paso Flores 128.90 162 PKP **PKPdf 21 27 56.4 +0.9**
comp=Z,2.9nm,0.7s,baz=288,slow=2.4,SNR=5.0
331A San Angelo 128.92 56 P **PKPdf 21 27 56.9 +1.2**
baz=129
431A Sonora 128.95 57 P **PKPdf 21 27 56.9 +1.1**
baz=129
531A Rocksprings 129.15 57 P **PKPdf 21 27 57.6 +1.4**
baz=129
631A Perdido Creek 129.32 58 P **PKPdf 21 27 57.5 +1.0**
baz=129
X33A Lawton 129.41 51 P **PKPdf 21 27 57.5 +1.0**
baz=129
U34A Anderson Ranch 129.43 48 P **PKPdf 21 27 57.7 +1.2**
baz=129
JCT Junction City 129.67 57 *e*PKIKP **PKPdf 21 27 54.5 -2.7**
JCT Junction City 129.67 57 P **PKPdf 21 27 58.5 +1.3**
baz=130
JCT Junction City 129.67 57 *e*PKPdf **PKPdf 21 27 54.5 -2.7**
JCT Junction City 129.67 57 *e*PKPdf **PKPdf 21 27 58.8 +1.6**
V34A Guthrie 129.68 49 *e*PKPdf **PKPdf 21 27 56.5 -0.5**
532A Rocksprings 129.69 57 P **PKPdf 21 27 58.4 +1.1**
baz=130
333A Richland Sprin 130.09 55 P **PKPdf 21 27 59.1 +1.2**
baz=130
832A Faith Ranch, C 130.12 59 P **PKPdf 21 27 58.9 +0.8**

	baz=130							
433A	Art	130.18	56	P		PKPdf	21 27 59.2	+1.1
	baz=130							
434A	Burnet	130.84	56	P		PKPdf	21 27 59.4	0.0
	baz=131							
SCHQ	Schefferville	131.36	12	PKP		PKPdf	21 28 00.9	+1.3
	comp=Z,3.7nm,0.7s,baz=284,slow=3.4,SNR=8.2							
SCHQ				SKPbc		SKPbc	21 31 07.8	-0.4
	comp=Z,6.5nm,0.8s,baz=9.6,slow=5.1,SNR=10.0							
SCHQ	Schefferville	131.36	12	ePKPdf		PKPdf	21 28 00.5	+0.9
SCHQ				eSKPbc		SKPbc	21 31 07.7	-0.5
DBIC	Dimbokro	133.46	272	ePKIKP		PKPdf	21 28 04.8	+0.1
DBIC	Dimbokro	133.46	272	PKP		PKPdf	21 28 05.5	+0.8
	comp=Z,4.5nm,0.5s,baz=97,slow=1.2,SNR=10.0							
DBIC	Dimbokro	133.46	272	ePKPdf		PKPdf	21 28 04.8	+0.1
LIC	Lamto	133.60	271	ePKIKP		PKPdf	21 28 05.4	+0.4
	comp=Z,6.1nm,0.6s							
CFAA	Coronel Fontan	137.97	159	PKP		PKPdf	21 28 15.3	+2.5
	comp=Z,1.5nm,0.8s,baz=296,slow=0.9,SNR=4.7							
LVC	Limon Verde	145.61	151	ePKPdf		PKPdf	21 28 27.1	+0.2
JTS	JuntasAbangare	147.11	83	ePKP2		PKPbc	21 28 32.1	+0.4
JTS	JuntasAbangare	147.11	83	PKPbc		PKPab	21 28 33.3	-0.4
	comp=Z,24nm,0.7s,baz=322,slow=1.4,SNR=19							
JTS	JuntasAbangare	147.11	83	ePKPbc		PKPbc	21 28 32.1	+0.4
NNA	Nana	148.38	128	ePKP2		PKPbc	21 28 35.7	+0.6
NNA	Nana	148.38	128	PKPbc		PKPbc	21 28 37.1	+2.0
	comp=Z,34nm,0.8s,baz=258,slow=5.0,SNR=11							
NNA	Nana	148.38	128	ePKPbc		PKPbc	21 28 35.7	+0.6
LPAZ	La Paz	151.28	146	PKP		PKPdf	21 28 39.0	+2.3
	comp=Z,1.5nm,0.8s,baz=360,slow=0.7,SNR=6.8							
LPAZ				PKPbc		PKiKP	21 28 44.5	+1.3
	comp=Z,10.0nm,0.4s,baz=334,slow=0.3,SNR=43							
LPAZ				PKPab		PKPab	21 28 54.1	+2.9
	comp=Z,17nm,0.8s,baz=258,slow=3.1,SNR=14							
OTAV	Otavalo	152.41	104	ePKPbc		PKPbc	21 28 46.1	+0.8
SIV	San Ignacio	154.83	159	PKP		PKPdf	21 28 42.7	+1.6
	comp=Z,2.4nm,0.7s,baz=120,slow=1.0,SNR=4.2							
SIV				PKPbc		PKiKP	21 28 50.2	+0.3
	comp=Z,3.8nm,0.8s,baz=292,slow=1.1,SNR=5.6							
SIV				PKPab		PKPab	21 29 07.1	+1.7
	comp=Z,1.7nm,0.7s,baz=222,slow=5.9,SNR=5.4							
BDFB	Brasilia	156.63	189	ePKIKP		PKPdf	21 28 42.7	-0.9
BDFB	Brasilia	156.63	189	PKP		PKPdf	21 28 44.9	+1.3
	comp=Z,1.8nm,0.6s,baz=165,slow=4.2,SNR=3.7							
BDFB				PKPab		PKPab	21 29 14.5	+1.3
	comp=Z,4.0nm,0.9s,baz=24,slow=1.2,SNR=3.7							
BDFB	Brasilia	156.63	189	ePKPdf		PKPdf	21 28 42.7	-0.9
BDFB				ePKPab		PKPab	21 29 13.8	+0.6
ROSC	El Rosal	157.41	96	PKPab		PKPab	21 29 19.5	+2.1
	comp=Z,5.2nm,0.5s,baz=278,slow=8.5,SNR=4.3							
SAML	Samuel	160.02	145	ePKPdf		PKPdf	21 28 45.9	-1.7
SDV	Santo Domingo	161.28	85	ePKPdf		PKPdf	21 28 47.1	-2.1

*ISCJB **11** 21:09:24.9±0.3, 32°.73N±0°.02×116°.01W±0°.02, h11km±2km, Error ellipse: s-maj=3.1km s-min=2.8km az=148.3*
*NEIC **11** 21:09:25.8, 32°.69N×116°.07W, h3km, ML3.4(PAS), After PAS.*
NEIC Felt [III] at Campo. Also felt at Bonita, Boulevard, Calexico, Jamul, Lakeside, Ocotillo, Santee and Spring Valley. Felt at Yuma, Arizona.
*ECX **11** 21:09:26.3±0.8, 32°.71N×116°.05W, h4km±2km, MD3.3, ML3.5*
ISC 11 21:09:25.2±0.8, 32°.71N±0°.02×116°.02W±0°.02, h13km±6km, n38, σ1°.03/56, 8C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	Yuha Desert	0.10	128	⇓eP	Pg	21 09 28.4	+0.3
RMX	La Rumorosa	0.12	204	⇑iP	Pg	21 09 28.5	0.0
RMX				eS	Sg	21 09 30.4	-0.5
RMX				⇑e		21 09 31.1	
	comp=E,13μm,0.2s						
CRR	Carrizo Plain	0.18	14	⇓eP	Pg	21 09 29.8	+0.5
SGL	Mount Signal	0.26	104	⇓eP	Pb	21 09 31.4	-0.2
COK	Cook Ranch	0.28	61	⇑eP	Pb	21 09 32.2	+0.1
SWSC	Sam W. Stewart	0.30	39	P	Pg	21 09 31.8	+0.4
	baz=0.3						
MONP	Monument Peak,	0.38	298	⇑eP	Pg	21 09 33.0	+0.1
MONP	Monument Peak,	0.38	298	P	Pg	21 09 32.7	-0.2
	baz=0.4						
MONP				S	Sg	21 09 37.8	-0.3
	baz=0.4						
BAR	Barrett	0.55	267	⇑eP	Pg	21 09 35.8	-0.1
BAR	Barrett	0.55	267	ePg	Pg	21 09 35.6	-0.4
BAR				eSg	Sg	21 09 42.5	-0.8
CBX	Cerro Bola	0.67	234	eP	Pg	21 09 38.2	-0.1
CBX				eS	Sg	21 09 46.7	-0.5
CBX				⇓e		21 09 51.6	
	comp=N,3μm,0.4s						
RDX	Rancho Dawling	0.78	175	⇓eP	Pg	21 09 40.0	-0.4
RDX				eS	Sg	21 09 50.3	-0.4
RDX				⇑e		21 09 54.8	
	comp=N,2μm,0.4s						
109C	Camp Elliot, M	0.93	281	P	Pg	21 09 42.2	-0.9
	baz=0.9						
109C				S	Sg	21 09 53.9	-1.4
	baz=0.9						
PFO	Pinyon Flats O	0.97	338	P	Pg	21 09 43.2	-0.7
	baz=1.0						
PFO	Pinyon Flats O	0.97	338	ePg	Pg	21 09 43.1	-0.8
PFO				eSg	Sg	21 09 56.3	-0.2
BC3	Big Chuckawall	1.05	27	P	Pg	21 09 44.3	-1.2
	baz=1.1						
GLA	Glamis	1.06	71	P	Pg	21 09 44.6	-1.0
	baz=1.1						
GLA				S	Sg	21 09 57.8	-1.7
	baz=1.1						
GLA	Glamis	1.06	71	ePg	Pg	21 09 44.2	-1.4
GLA				eSg	Sg	21 09 59.5	+0.1
PBX	Punta Banda	1.14	212	eP	Pg	21 09 46.2	-0.9
PBX				eS	Sg	21 10 01.0	-0.9
PBX				⇑e		21 10 01.8	
	comp=E,1μm,0.4s						
ECNX	Esteban Cantu	1.16	205	eP	Pg	21 09 46.6	-0.9
ECNX				eS	Sg	21 10 01.9	-0.8
ECNX				⇓e		21 10 04.4	
	comp=E,1μm,0.3s						
ZAX	El Zacaton	1.21	190	eP	Pg	21 09 47.7	-0.8
ZAX				eS	Sg	21 10 03.4	-0.9
BELC	Belle Mtn. Jos	1.29	1	Pb	Pn	21 09 47.9	-1.1
	baz=1.3						
MURC	Murrieta	1.33	312	Sb	Sg	21 10 06.3	-1.7
	baz=1.3						
ECBX	El Chinero	1.48	146	eP	Pn	21 09 52.0	+0.4
ECBX				eS	Sn	21 10 12.0	+1.2
ECBX				⇓e		21 10 12.8	
	comp=E,530nm,0.3s						
Y12C	Blythe	1.63	50	P	Pn	21 09 52.9	-0.7
	baz=1.7						
SPX	San Pedro Mart	1.73	164	eP	Pn	21 09 56.6	+1.4
SPX				eS	Sb	21 10 19.7	+1.0
113A	Mohawk Valley,	1.90	88	P	Pn	21 09 56.6	-0.6
	baz=1.9						
BFSC	Mount Baldy Ra	2.05	318	Sb	Sb	21 10 27.7	-0.1
	baz=2.0						
CIS	Catalina Islan	2.12	290	Pb	Pb	21 10 02.4	-1.0
	baz=2.1						
MWC	Mount Wilson	2.27	312	ePn	Pn	21 10 04.9	+2.2
MWC				eSb	Sb	21 10 34.8	+0.4
PASC	Pasadena Art C	2.32	309	ePn	Pn	21 10 04.4	+1.2
PASC				eSn	Sn	21 10 31.9	+0.3
LDFC	Landfair	2.48	18	ePg	Pg	21 10 14.6	+1.9
GSC	Goldstone, Bar	2.67	346	ePn	Pn	21 10 09.2	+1.3
214A	Organ Pipe Nat	2.82	105	ePn	Pn	21 10 08.6	-1.4
ISA	Isabella, Lake	3.58	326	ePn	Pn	21 10 22.0	+1.5
ISA				eSn	Sn	21 11 04.8	+2.1
DAC	Darwin (Calif)	3.79	340	ePg	Pg	21 10 35.5	-2.2
DAC				eSg	Sg	21 11 26.6	-0.2
TUC	Tucson	4.44	94	ePg	Pg	21 10 50.8	+0.5
121A	Cookes Peak, D	6.95	89	ePn	Pn	21 11 07.4	+0.5

GUC 11 21:12:09.3±0.4, 34°.47S×71°.80W, h25km±22km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.61	32	iP	Pb	21 12 20.8	-0.6
NICH	Los Niches	0.71	139	iP	Pb	21 12 22.2	-0.8
NICH				iS	Sb	21 12 32.5	+0.1
NICH				AML	AML	21 12 39.8	
	comp=E,2μm,0.3s						
CHCH	Chadas Angostu	1.09	61	iP	Pn	21 12 28.7	-0.4
CHCH				eS4	Sn	21 12 43.7	+0.2
SJCH	San Jose de Ma	1.46	56	iP	Pn	21 12 34.6	+0.4
SJCH				iS	Sb	21 12 53.9	-0.3
SJCH				AML	AML	21 12 58.1	
	comp=E,961nm,0.7s						
CLCH	Cerro Calan	1.50	45	iP	Pn	21 12 35.5	+0.8
CLCH				iS	Sb	21 12 55.0	-0.4
CLCH				AML	AML	21 13 04.2	
	comp=N,962nm,0.3s						
PEL	Peldehue	1.62	35	iP	Pn	21 12 37.1	+0.8
PEL				iS	Sb	21 12 58.0	-0.6
PEL				AML	AML	21 13 05.2	
	comp=N,2μm,0.4s						
FCH	Farellones	1.70	48	eP9	Pn	21 12 32.8	-4.9
FCH				eS4	Sn	21 12 51.4	-7.6
FCH				AML	AML	21 12 57.0	
	comp=N,935nm,0.3s						

*IDC **11** 21:16:28.2±0.9, 37°.85S×73°.27W, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.2/18, mbtmp4.1/10, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx3.2/23, Error ellipse: s-maj=32.1km s-min=22.9km az=88.0*
*ISCJB **11** 21:16:29.9±0.6, 37°.76S±0°.06×73°.4W±0°.1, h22km, mb4.2/13, MS3.4/1, Error ellipse: s-maj=15.5km s-min=9.0km az=171.0*
*NEIC **11** 21:16:32.9±1.7, 37°.74S×73°.50W, h37km±13km, mb4.4/8, Error ellipse: s-maj=23.4km s-min=8.5km az=80.0*
*GUC **11** 21:18:08.3±0.4, 34°.49S×72°.23W, h30km±3km, ML3.7*
ISC 11 21:16:31.4±0.6, 37°.78S±0°.05×73°.43W±0°.09, h22km, n38, σ1°.53/39, mb4.2/13, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.70	144	Pn	Pn	21 17 30.3	+3.0
	3.8nm,0.3s,baz=319,slow=9.2,SNR=52						
PLCA				Lg	Lg	21 18 28.6	
	15nm,0.3s,baz=231,slow=24,SNR=5.0						
PLCA	Paso Flores	3.70	144	ePn	Pn	21 17 29.9	+2.6
PLCA				Lg	Lg	21 18 28.6	
PLCA				eSg	Sb	21 18 31.6	+11
ANTU	Antumapu	4.78	29	iP	Sn	21 18 36.0	-0.9
ANTU				iS	Sb	21 18 57.1	+5.5
ANTU				AML	AML	21 19 02.1	
	comp=N,1μm,0.5s						
SJCH	San Jose de Ma	4.83	32	iP	Sn	21 18 38.5	+0.3
SJCH				eS4	Sb	21 18 59.8	+6.7
SJCH				AML	AML	21 19 01.8	
	comp=E,837nm,0.2s						
STL	Santa Lucia	4.89	28	eS4	Sb	21 18 56.5	+1.5
CLCH	Cerro Calan	4.97	29	eS4	Sb	21 19 00.9	+3.8
CLCH				AML	AML	21 19 22.0	
	comp=E,2μm,0.7s						
FCH	Farellones	5.13	31	iP	Sn	21 18 42.8	-3.1
FCH				iS	Sb	21 19 08.4	+6.5
FCH				AML	AML	21 19 13.8	
	comp=E,777nm,0.2s						
CFAA	Coronel Fontan	7.50	36	Pn	Pn	21 18 19.6	+0.1
	comp=E,0.5nm,0.3s,baz=8.2,slow=8.5,SNR=8.8						
CFAA				Lg	Lg	21 20 37.7	
	comp=E,0.2nm,0.3s,baz=311,slow=22,SNR=4.9						
LCO	Las Campanas	9.04	15	ePn	Pn	21 18 38.4	-2.5
	comp=E,53nm,0.4s						
LCO				eSn	Sn	21 20 20.7	-1.4
TRQA	Tornquist	9.05	95	ePn	Pn	21 18 43.5	+2.7
	comp=E,31nm,1.2s						
TRQA				eSn	Sn	21 20 19.3	-2.7
LVC	Limon Verde	15.61	16	ePn	Pn	21 20 10.5	+0.1
	comp=E,6.2nm,0.3s						
EFI	East Falkland	17.61	147	ePn	Pn	21 20 33.7	-1.5
	comp=E,28nm,0.6s						
LPAZ	La Paz	21.92	14	P	P	21 21 24.4	+0.5
	comp=E,5.3nm,0.7s,baz=177,slow=10,SNR=16						
LPAZ	La Paz	21.92	14	eP	P	21 21 24.4	+0.5
	comp=E,8.2nm,0.8s						
SIV	San Ignacio	24.30	30	P	P	21 21 46.9	-0.4
	comp=E,4.2nm,0.9s,baz=232,slow=13,SNR=9.1						
SIV				LR	LR	21 32 23.0	
	comp=E,121nm,20.5s,baz=206,slow=39						
SAML	Samuel	30.16	20	eP	P	21 22 39.0	-0.9
	comp=E,2.9nm,1.2s						
OTAV	Otavalo	38.12	352	eP	P	21 23 49.2	-0.2
	comp=E,13nm,1.2s						
SNAA	Sanae	48.54	157	eP	P	21 25 12.4	-0.1
	comp=E,14nm,1.2s						
QSPA	South Pole Qui	52.46	180	P	P	21 25 42.7	+0.4
	comp=E,1.4nm,0.5s,baz=167,slow=0.4,SNR=4.2						
TXAR	Lajitas Array	72.52	333	P	P	21 27 59.2	+2.7
	comp=E,1.4nm,0.5s,baz=153,slow=8.4,SNR=6.5						
DBIC	Dimbokro	77.46	71	P	P	21 28 26.1	+0.8
	comp=E,4.2nm,0.8s,baz=148,slow=4.0,SNR=4.1						
DBIC	Dimbokro	77.46	71	eP	P	21 28 25.0	-0.3
BOSA	Boshof	79.31	118	P	P	21 28 34.7	-0.9
	comp=E,2.5nm,0.9s,baz=183,slow=6.1,SNR=4.2						
BOSA	Boshof	79.31	118	eP	P	21 28 34.1	-1.5
	comp=E,5.4nm,1.1s						
SRU	San Rafael Swe	83.78	332	eP	P	21 28 57.9	-1.0
	comp=E,1.8nm,0.6s						
NVAR	Mina Array Bea	86.37	326	P	P	21 29 11.9	0.0
	comp=E,0.6nm,0.6s,baz=153,slow=6.0,SNR=5.1						
TORD	Torodi Ar. Bea	86.55	71	P	P	21 29 12.7	-0.4
	comp=E,1.1nm,0.8s,baz=240,slow=4.0,SNR=4.7						
PDAR	Pinedale Array	86.65	334	P	P	21 29 12.8	-0.3
	comp=E,0.8nm,0.8s,baz=167,slow=6.1,SNR=3.3						
GERES	GERESS Array B	115.58	47	PKP	PKPdf	21 35 10.8	-0.5
	comp=E,0.2nm,0.3s,baz=194,slow=4.8,SNR=4.0						
BRTR	Keskin Array B	124.59	64	PKP	PKPdf	21 35 28.7	-0.3
	comp=E,0.6nm,0.6s,baz=212,slow=5.7,SNR=3.5						
AKTO	Aktyubinsk	143.55	54	PKhKP	PKPpre	21 36 00.5	
	comp=E,1.1nm,0.7s,baz=36,slow=1.4,SNR=4.9						
ABKAR	Akbulak array	144.83	56	ePKPdf	PKPab	21 36 04.8	-0.3
BRVK	Borovoye	150.68	47	ePKPbc	PKPbc	21 36 20.7	-0.4
KURBB	Kurchatov Arra	156.31	48	PKPbc	PKPdf	21 36 33.0	+9.3
	comp=E,0.2nm,0.5s,baz=301,slow=2.4,SNR=5.8						
KURBB				PKPab	PKPab	21 36 51.6	-0.4
	comp=E,0.3nm,0.6s,baz=297,slow=4.7,SNR=5.0						
KURK	Kurchatov	156.33	48	PKPbc	PKPdf	21 36 33.0	+9.3
KURK				PKPab	PKPab	21 36 51.6	-0.5
ZALV	Zalesovo Beam	157.99	36	PKPab	PKPab	21 36 59.1	0.0
	comp=E,0.6nm,0.3s,baz=321,slow=3.7,SNR=4.5						
MKAR	Makanchi Array	159.97	56	PKPab	PKPab	21 37 07.9	-0.1
	comp=E,0.9nm,0.8s,baz=297,slow=3.8,SNR=7.5						
SONM	Songino Array	169.95	1	PKPab	PKPab	21 37 52.0	+0.1
	comp=E,0.8nm,1.1s,baz=329,slow=6.0,SNR=4.4						

*CSEM **11** 21:18:17.7±0.9, 39°.48N×25°.50E, h5km, MD2.7, Error ellipse: s-maj=21.1km s-min=8.7km az=76.0*
ISK 11 21:18:20.4, 39°.61N×25°.62E, h16km, MD2.7, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GELI	Tayfur-Gelibol	1.03	40	ePG	Pg	21 18 40.4	+0.1
GELI				eSG	Sn	21 18 55.4	+1.2
GELI	Tayfur-Gelibol	1.03	40	ePg	Pg	21 18 40.4	+0.1
GELI				eSg	Sn	21 18 55.4	+1.2
LPK	Lapseki	1.16	49	ePN	Pb	21 18 42.4	+0.3
LPK	Lapseki	1.16	49	ePn	Pb	21 18 42.4	+0.3
ENEZ	Enez	1.20	20	ePN	Pb	21 18 43.1	+0.4
ENEZ	Enez	1.20	20	ePn	Pb	21 18 43.1	+0.4
KRBG	Karabiga-Canak	1.51	58	ePN	Pn	21 18 46.9	+0.1
KRBG	Karabiga-Canak	1.51	58	ePn	Pn	21 18 46.9	+0.1
MRMT	Marmara Adasi	1.81	56	ePN	Pb	21 18 52.7	-0.6
MRMT	Marmara Adasi	1.81	56	ePn	Pb	21 18 52.7	-0.6

*ISCJB **11** 21:31:04.1±2.2, 34°.49S±0°.05×71°.84W±0°.07, h10km±15km, mb4.2/9, Error ellipse: s-maj=10.9km s-min=5.9km az=32.5*
*IDC **11** 21:31:04.1±0.9, 34°.47S×71°.82W, h0km, mb4.3/8, mb1 4.4/10, mb1mx4.2/26, mbtmp4.2/10, ML3.9/3, Error ellipse: s-maj=24.6km s-min=17.2km az=109.0*
*NEIC **11** 21:31:06.0, 34°.48S×71°.82W, h15km, mb4.2/4, ML4.5(GUC), After GUC.*
NEIC Felt [II] at Santiago and Valparaiso.
*GUC **11** 21:31:06.0±0.8, 34°.48S×71°.82W, h15km±999km, ML4.5*
ISC 11 21:31:04.8±2.1, 34°.44S±0°.06×71°.80W±0°.09, h4km±12km, n33, σ0°.66/44, mb4.3/9, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	Talagante	1.06	43	eP	Pg	21 31 25.0	-0.1
TACH	Talagante	1.06	43	eP	Pg	21 31 25.0	-0.1
ANTU	Antumapu	1.30	49	eP	Pn	21 31 29.2	-0.5
ANTU				eS	Sg	21 31 46.2	-0.4
ANTU	Antumapu	1.30	49	eP	Pn	21 31 29.2	-0.5
ANTU				eS	Sg	21 31 46.2	-0.4
SAN	Santiago	1.36	44	eP	Pn	21 31 30.6	0.0
SAN				iS	Sg	21 31 48.8	+0.1
SAN	Santiago	1.36	44	eP	Pn	21 31 30.6	0.0
SAN				iS	Sg	21 31 48.8	+0.1
IHA	Instituto Hidr	1.41	5	eP	Pn	21 31 31.0	-0.2
IHA				iS1	Sb	21 31 49.6	-0.4
IHA	Instituto Hidr	1.41	5	eP	Pn	21 31 31.0	-0.2
IHA				iS	Sb	21 31 49.6	-0.4
LACH	Col Las Americ	1.44	47	⇓iP	Pn	21 31 31.2	-0.5
LACH				iS	Sn	21 31 51.0	-0.1
LACH	Col Las Americ	1.44	47	⇓iP	Pn	21 31 31.2	-0.5
LACH				iS	Sn	21 31 51.0	-0.1
CLCH	Cerro Calan	1.48	46	eP	Pn	21 31 31.9	-0.4
CLCH				iS	Sg	21 31 52.2	0.0
CLCH				AML	AML	21 31 58.4	
	comp=N,10μm,0.6s						
CLCH				AML	AML	21 31 58.8	
	comp=N,12μm,0.8s						
PEL	Peldehue	1.59	36	⇑iP	Pn	21 31 33.9	+0.2
PEL				iS	Sn	21 31 54.8	+0.1
PEL				AML	AML	21 31 59.7	
	comp=N,10μm,0.6s						
PEL	Peldehue	1.59	36	⇑iP	Pn	21 31 33.9	+0.2
PEL				iS	Sn	21 31 54.8	+0.1
CFAA	Coronel Fontan	4.12	48	Pn	Pn	21 32 10.7	+2.2
	comp=N,1.0nm,0.3s,baz=216,slow=11,SNR=21						
CFAA				Lg	Lg	21 33 15.3	
	comp=N,1.6nm,0.3s,baz=131,slow=20,SNR=14						
LCO	Las Campanas	5.49	10	ePn	Pn	21 32 27.4	-0.2
	comp=N,20nm,0.5s						
PLCA	Paso Flores	6.36	171	Pn	Pn	21 32 40.6	+1.2
	comp=N,2.5nm,0.3s,baz=336,slow=11,SNR=26						
PLCA				Lg	Lg	21 34 17.7	
	comp=N,0.5nm,0.3s,baz=256,slow=18,SNR=3.0						
PLCA	Paso Flores	6.36	171	ePn	Pn	21 32 39.3	-0.1
PLCA				Lg	Lg	21 34 17.7	
TRQA	Tornquist	8.72	117	ePn	Pn	21 33 12.6	+0.9
LPAZ	La Paz	18.37	11	P	P	21 35 21.5	+0.3
	comp=N,0.1nm,0.3s,baz=180,slow=7.9,SNR=9.6						
LPAZ	La Paz	18.37	11	eP	Pn	21 35 20.8	-0.3
	comp=N,3.4nm,0.7s						
SIV	San Ignacio	20.75	30	P	P	21 35 46.1	-0.5
	comp=N,5.0nm,0.8s,baz=224,slow=11,SNR=10.0						
NNA	Nana	22.81	347	P	P	21 36 10.4	+1.6
	comp=N,15nm,0.9s,baz=197,slow=9.0,SNR=4.1						
BDFB	Brasilia	28.42	55	P	P	21 37 02.2	+1.4
	comp=N,6.0nm,0.8s,baz=226,slow=5.7,SNR=7.7						
QSPA	South Pole Qui	55.80	180	P	P	21 40 42.7	-0.1
	comp=N,2.4nm,0.8s,baz=172,slow=3.1,SNR=5.3						
TXAR	Lajitas Array	70.21	331	P	P	21 42 18.9	0.0
	comp=N,1.8nm,0.6s,baz=153,slow=8.4,SNR=5.9						
ANMO	Albuquerque	76.26	331	eP	P	21 42 55.0	+0.3
	comp=N,1.0nm,0.6s						
BOSA	Boshof	79.69	118	P	P	21 43 14.2	+0.1
	comp=N,3.3nm,0.9s,baz=222,slow=5.2,SNR=4.8						
BOSA	Boshof	79.69	118	eP	P	21 43 13.1	-1.0
	comp=N,2.9nm,0.8s						
TORD	Torodi Ar. Bea	84.17	70	P	P	21 43 36.8	-0.7
	comp=N,2.2nm,0.7s,baz=288,slow=5.7,SNR=18						
NVAR	Mina Array Bea	84.35	325	P	P	21 43 38.5	+0.3
	comp=N,0.9nm,0.7s,baz=165,slow=5.8,SNR=7.0						
MCMT	McKenzie Canyo	87.24	332	eP	P	21 43 52.2	-0.2
	comp=N,1.5nm,0.9s						
ZALV	Zalesovo Beam	154.49	33	PKPbc	PKPbc	21 51 05.4	-0.6
	comp=N,1.3nm,0.7s,baz=300,slow=3.3,SNR=6.0						
MKAR	Makanchi Array	156.90	50	PKPab	PKPab	21 51 30.2	-0.9
	comp=N,0.6nm,0.9s,baz=318,slow=3.4,SNR=4.2						

GUC 11 21:34:41.6±0.6, 34°.53S×71°.85W, h74km±27km, ML4.1, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.70	133	iP	Pn	21 34 56.5	-0.3
NICH				iS	Sn	21 35 08.1	+0.1
NICH				AML	AML	21 35 10.5	
	comp=E,14μm,0.5s						
ANTU	Antumapu	1.39	47	iP	Pn	21 35 05.6	+0.3
ANTU				iS	Sn	21 35 23.3	+0.1
ANTU				AML	AML	21 35 29.6	
	comp=N,5μm,0.4s						
SJCH	San Jose de Ma	1.52	55	iP	Pn	21 35 07.4	+0.2
SJCH				iS	Sn	21 35 26.9	+0.4
SJCH				AML	AML	21 35 34.0	
	comp=N,3μm,0.5s						
CLCH	Cerro Calan	1.57	44	iP	Pn	21 35 08.2	+0.5
CLCH				iP	Pn	21 35 08.4	+0.6
CLCH				iS	Sn	21 35 28.1	+0.6
CLCH				AML	AML	21 35 36.5	
	comp=E,3μm,0.3s						
COCH	Cobquecura	1.77	205	iP	Pn	21 35 10.7	+0.4
COCH				iS	Sn	21 35 32.1	0.0

IDC 11 21:37:46.0±2.5, 2°.91N×129°.21E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/37, mbtmp3.3/3, Error ellipse: s-maj=175.0km s-min=25.1km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.27	168	P	P	21 42 54.8	-0.6
	0.5nm,0.5s,baz=345,slow=9.9,SNR=3.5						
ASA

comp=E,111µm,0.6s
NICH Los Niches 0.82 138⇓iP Pb 21 50 19.6 -1.2
NICH iS Sg 21 50 31.7 +0.1
RCDM Rinconada Maip 1.27 45⇑iP Pn 21 50 26.8 -1.3
RCDM iS1 Sb 21 50 44.4 -0.3
RCDM AML AML 21 50 49.5
comp=N,22µm,0.7s
RCDM Rinconada Maip 1.27 45⇑iP Pn 21 50 26.8 -1.3
RCDM iS Sb 21 50 44.4 -0.3
ANTU Antumapu 1.33 52 eP1 Pn 21 50 28.6 -0.3
ANTU iS1 Sn 21 50 47.1 +0.9
ANTU AML AML 21 50 53.1
comp=E,27µm,0.5s
ANTU Antumapu 1.33 52 eP Pn 21 50 28.6 -0.3
ANTU iS Sn 21 50 47.1 +0.9
IHA Instituto Hidr 1.38 9⇓iP Pn 21 50 28.3 -1.2
IHA iS1 Sn 21 50 47.4 0.0
IHA Instituto Hidr 1.38 9⇓iP Pn 21 50 28.3 -1.2
IHA iS Sn 21 50 47.4 0.0
LACH Col Las Americ 1.47 51⇓iP Pn 21 50 30.6 -0.2
LACH iS1 Sn 21 50 51.5 +1.7
LACH AML AML 21 50 56.8
comp=E,12µm,0.5s
LACH Col Las Americ 1.47 51⇓iP Pn 21 50 30.6 -0.2
LACH iS Sn 21 50 51.5 +1.7
CLCH Cerro Calan 1.50 49⇑iP Pn 21 50 31.2 -0.1
CLCH iS1 Sg 21 50 52.5 -1.0
CLCH AML AML 21 51 03.5
comp=E,21µm,0.9s
PEL Peldehue 1.60 39⇓iP Pn 21 50 32.5 -0.1
PEL iS Sn 21 50 55.1 +2.1
PEL Peldehue 1.60 39⇓iP Pn 21 50 32.5 -0.1
PEL iS1 Sn 21 50 55.1 +2.1
PEL AML AML 21 51 01.5
comp=N,35µm,0.5s
PEL Peldehue 1.60 39⇓iP Pn 21 50 32.5 -0.1
PEL iS Sn 21 50 55.1 +2.1
FCH Farellones 1.70 52 AML AML 21 50 54.6
comp=E,18µm,0.3s
CMCH Combarbala 3.30 13⇓iP Pn 21 50 56.2 +0.2
CMCH iS1 Sn 21 51 37.5 +2.6
CMCH Combarbala 3.30 13⇓iP Pn 21 50 56.2 +0.2
CMCH iS Sn 21 51 37.5 +2.6
CFAA Coronel Fontan 4.14 49 Pn Pn 21 51 09.1 +1.5
comp=E,1.4nm,0.3s,baz=221,slow=12,SNR=20
CFAA Lg Lg 21 52 14.2
comp=E,7.6nm,0.3s,baz=47,slow=12,SNR=5.6
CFAA LR LR 21 52 54.4
comp=E,268nm,19.2s,baz=213,slow=41
LCO Las Campanas 5.46 11 ePn Pn 21 51 25.0 -0.9
LCO eSn Sn 21 52 25.8 -2.7
PLCA Paso Flores 6.42 171 eP Pn 21 51 39.3 +0.5
PLCA Paso Flores 6.42 171 Pn Pn 21 51 39.6 +0.8
comp=E,2.1nm,0.3s,baz=347,slow=9.1,SNR=30
PLCA Lg Lg 21 53 19.9
comp=E,2.0nm,0.3s,baz=256,slow=21,SNR=5.9
PLCA LR LR 21 54 25.3
comp=E,495nm,20.2s,baz=354,slow=41
PLCA Paso Flores 6.42 171 ePn Pn 21 51 39.3 +0.5
PLCA Lg Lg 21 53 19.9
TRQA Tornquist 8.80 117 ePn Pn 21 52 13.5 +2.0
LVC Limon Verde 12.02 13 ePn Pn 21 52 55.3 -0.7
LPAZ La Paz 18.34 12 eP P 21 54 19.4 0.0
LPAZ pmax pmax
comp=Z,22nm,0.8s
LPAZ La Paz 18.34 12 P P 21 54 20.1 +0.8
comp=Z,0.6nm,0.3s,baz=192,slow=7.2,SNR=22
LPAZ La Paz 18.34 12 ePn P 21 54 19.4 0.0
comp=Z,22nm,0.8s
EFI East Falkland 19.95 154 eP P 21 54 34.4 -1.7
EFI pmax pmax
comp=Z,70nm,1.2s
EFI East Falkland 19.95 154 eP P 21 54 34.4 -1.7
comp=Z,70nm,1.2s
USHA Ushuaia 20.58 174 P P 21 54 43.0 0.0
comp=Z,17nm,0.9s,baz=343,slow=7.6,SNR=4.5
SIV San Ignacio 20.75 31 P P 21 54 44.7 -0.3
comp=Z,14nm,0.9s,baz=218,slow=10,SNR=25
NNA Nana 22.76 347 eP P 21 55 07.6 +1.0
NNA pmax pmax
comp=Z,42nm,0.9s
NNA Nana 22.76 347 P P 21 55 07.0 +0.4
comp=Z,35nm,0.9s,baz=195,slow=12,SNR=11
NNA Nana 22.76 347 eP P 21 55 07.6 +1.0
comp=Z,42nm,0.9s
SAML Samuel 26.56 20 eP P 21 55 40.3 -1.9
comp=Z,13nm,0.8s
ATAH Atahualpa 27.78 346 P P 21 55 54.8 +1.1
comp=Z,3.9nm,0.5s,baz=190,slow=9.6,SNR=4.1
BDFB Brasilia 28.46 55 eP P 21 55 59.1 -0.3
BDFB Brasilia 28.46 55 P P 21 56 00.3 +0.9
comp=Z,7.0nm,0.7s,baz=233,slow=4.7,SNR=12
BDFB LR LR 22 08 30.0
comp=Z,816nm,18.5s,baz=216,slow=39
BDFB Brasilia 28.46 55 eP P 21 55 59.1 -0.3
HOPE Hope Point 31.71 140 eP P 21 56 28.5 +0.8
comp=Z,248nm,1.5s
OTAV Otavalo 34.99 349 eP P 21 56 58.2 +1.0
comp=Z,55nm,1.6s
OTAV ePcP PcP 21 59 29.0 -0.5
PTGA Pitinga 35.30 21 eP P 21 56 58.0 -1.3
comp=Z,19nm,0.8s
ROSC El Rosal 39.10 356 P P 21 57 32.1 +0.1
comp=Z,5.7nm,0.4s,baz=111,slow=18,SNR=2.5
ROSC LR LR 22 14 02.8
comp=Z,129nm,19.0s,baz=190,slow=37
ROSC El Rosal 39.10 356 eP P 21 57 32.0 -0.1
SDV Santo Domingo 43.06 2 eP P 21 58 02.9 -1.4
comp=Z,12nm,0.8s
JTS JuntasAbangare 46.13 342 eP P 21 58 29.7 +1.0
JTS pmax pmax
comp=Z,28nm,1.5s
JTS JuntasAbangare 46.13 342 eP P 21 58 29.7 +1.0
comp=Z,28nm,1.5s
VNA3 Neumayer Olymp 48.95 158 P P 21 58 50.3 +0.3
VNA2 Neumayer--Watz 49.60 157 P P 21 58 55.2 +0.2
SNAA Sanae 51.18 158 P P 21 59 07.1 +0.1
SNAA Sanae 51.18 158ceP P 21 59 07.3 +0.3
SNAA pmax pmax
comp=Z,31nm,1.2s
SNAA Sanae 51.18 158 P P 21 59 07.3 +0.3
comp=Z,9.1nm,0.9s,baz=293,slow=6.2,SNR=25
SNAA Sanae 51.18 158 eP P 21 59 07.0 +0.1
comp=Z,25nm,0.9s
CDVI St. Croix 52.30 9 eP P 21 59 14.4 -1.3
comp=Z,56nm,0.8s
CELP Cerrillos 52.42 6 eP P 21 59 16.1 -0.6
LRS Lares 52.61 6 eP P 21 59 16.6 -1.5
ANWB Willy Bob 52.66 12 eP P 21 59 16.4 -2.0
comp=Z,441nm,1.8s
GTBY Guantanamo Bay 54.10 356 eP P 21 59 28.9 -0.1
comp=Z,35nm,0.9s
RKT Rikitea 55.66 264 eT T 22 59 26.3
comp=Z,2.6nm,0.3s
QSPA South Pole Qui 55.84 180 eP P 21 59 42.0 +0.6
comp=Z,38nm,1.0s
VNDA Vanda 63.74 191 eP P 22 00 36.3 +0.9
VNDA pmax pmax
comp=Z,70nm,2.5s
VNDA Vanda 63.74 191 P P 22 00 36.0 +0.7
comp=Z,3.6nm,0.9s,baz=133,slow=6.5,SNR=9.3
VNDA Vanda 63.74 191 eP P 22 00 36.2 +0.9
comp=Z,70nm,2.5s
SYO Syowa Base 65.46 158⇓eP P 22 00 45.0 -1.6
035A Encino 65.86 334⇓P P 22 00 51.0 +1.3
baz=66
034A Hebbronville 66.19 334⇓P P 22 00 52.8 +1.0
baz=66
934A Benavides 66.61 334⇓P P 22 00 55.9 +1.4
baz=67
738A Farr-Stevens R 66.78 337⇑P P 22 00 56.5 +1.0
baz=67
933A Laredo 66.90 334⇓P P 22 00 57.6 +1.3
baz=67
835A Beeville 67.00 335⇓P P 22 00 58.1 +1.2
baz=67
834A Tilden 67.10 335⇑P P 22 00 58.9 +1.3
baz=67,SNR=6.7
TBI Tubuai 67.34 257 eT T 23 13 58.8
comp=Z,8.1nm,0.3s
735A Kenedy 67.51 335⇓P P 22 01 01.0 +0.8
baz=68
833A Chaparral WMA, 67.59 334⇑P P 22 01 00.7 0.0
baz=68,SNR=5.6
832A Faith Ranch, C 67.77 333⇓P P 22 01 02.0 +0.1
baz=68,SNR=8.0
636A Smothers Creek 67.83 336⇑P P 22 01 03.0 +0.8
baz=68,SNR=6.0
HKT Hockley 67.87 338 eP P 22 01 02.5 +0.1
HKT pmax pmax
comp=Z,12nm,1.2s
HKT Hockley 67.87 338 eP P 22 01 02.5 +0.1
comp=Z,12nm,1.2s
733A Divot King Ran 67.91 334⇓P P 22 01 03.3 +0.5
baz=68
732A Laxson Ranch, 68.17 334⇓P P 22 01 04.7 +0.4
baz=68,SNR=6.5
GOGA Godfrey 68.32 350 eP P 22 01 04.5 -0.7
GOGA pmax pmax
comp=Z,35nm,1.3s
GOGA Godfrey 68.32 350 eP P 22 01 04.5 -0.7
comp=Z,35nm,1.3s
438A Sam Houston St 68.51 338⇑P P 22 01 07.1 +0.7
baz=69
535A Dale 68.51 336⇑P P 22 01 07.0 +0.6
baz=69
VBMS Vicksburg 68.54 343 eP P 22 01 06.5 -0.1
comp=Z,48nm,1.0s
633A Saathoff Ranch 68.54 335⇑P P 22 01 07.3 +0.6
baz=69
LRAL Lakeview Retre 68.56 346 eP P 22 01 05.8 -0.8
comp=Z,11nm,0.9s
340A Brenson 68.66 340⇓P P 22 01 08.1 +0.7
baz=69
339A Huntington 68.78 339⇑P P 22 01 09.1 +1.0
baz=69
632A Uvalde 68.80 334⇑P P 22 01 08.5 +0.1
baz=69,SNR=11
534A Blanco 68.82 335⇓P P 22 01 08.8 +0.4
baz=69
MEH Mehetia 68.92 262 eT T 23 16 00.6
comp=Z,78nm,0.2s
631A Perdido Creek 69.01 333⇑P P 22 01 10.2 +0.6
baz=69
533A Kerrville 69.05 335⇓P P 22 01 10.0 +0.1
baz=69,SNR=6.3
337A Centerville 69.16 338⇓P P 22 01 11.4 +1.0
baz=70
NATX Nacogdoches 69.21 339 eP P 22 01 09.9 -0.8
comp=Z,29nm,0.6s
435B Jarell 69.21 336⇑P P 22 01 11.6 +0.8
baz=70
532A Rocksprings 69.41 334⇓P P 22 01 12.4 +0.2
baz=70,SNR=16
434A Burnet 69.47 336⇑P P 22 01 12.2 -0.2
baz=70,SNR=6.3
CNNC Cliffs of the 69.50 355 eP P 22 01 11.7 -0.7
comp=Z,44nm,0.4s
336A Riesel 69.53 337⇑P P 22 01 13.6 +0.8
baz=70
335A Moody 69.62 337⇑P P 22 01 14.1 +0.8
baz=70
531A Rocksprings 69.67 334⇓P P 22 01 14.0 +0.2
baz=70,SNR=8.9
433A Art 69.69 335⇑P P 22 01 13.9 0.0
baz=70,SNR=5.6
JCT Junction City 69.69 334 eP P 22 01 13.2 -0.7
JCT pmax pmax
comp=Z,25nm,0.9s
JCT Junction City 69.69 334⇓P P 22 01 14.0 +0.1
baz=70,SNR=7.9
JCT Junction City 69.69 334 eP P 22 01 13.2 -0.7
comp=Z,25nm,0.9s
KMSC Kings Mountain 69.74 352 eP P 22 01 12.9 -1.0
comp=Z,160nm,2.3s
334A Lometa 69.93 336⇓P P 22 01 15.1 -0.2
baz=70,SNR=7.4
TVO Taravao 69.94 262 eT T 23 17 14.8
comp=Z,3.1nm,0.3s
530A J-C Ranch, Com 69.95 333⇓P P 22 01 16.1 +0.6
baz=70,SNR=12
432A Menard 70.05 335⇑P P 22 01 16.3 +0.2
baz=70
TIAR Tiarei 70.13 262 eT T 23 17 30.5
comp=Z,8.2nm,0.2s
LTX Lajitas 70.14 331 eP P 22 01 17.2 +0.5
LTX Lajitas 70.14 331 eP P 22 01 17.2 +0.5
TX31 Lajitas Ar. Si 70.14 331 eP P 22 01 15.7 -1.0
TXAR Lajitas Array 70.14 331 P P 22 01 17.2 +0.5
comp=Z,4.2nm,0.8s,baz=153,slow=8.4,SNR=14
431A Sonora 70.17 334⇑P P 22 01 16.9 +0.1
baz=70,SNR=6.6
333A Richland Sprin 70.18 336⇓P P 22 01 16.5 -0.3
baz=70,SNR=7.9
529A Stev Forest Ra 70.27 332⇑P P 22 01 17.3 -0.2
baz=71,SNR=18
WHTX Lake Whitney, 70.28 337⇓P P 22 01 17.7 +0.3
baz=71
WHTX Lake Whitney, 70.28 337 eP P 22 01 17.1 -0.2
comp=Z,23nm,0.8s
PPT2 Papeete2 70.30 262 eLR LR 22 22 36.8
comp=Z,274nm,27.0s
137A Heron Place, G 70.31 339⇓P P 22 01 18.2 +0.6
baz=71
OXF Oxford 70.48 345 eP P 22 01 17.5 -1.1
OXF pmax pmax
comp=Z,62nm,1.0s
OXF Oxford 70.48 345 eP P 22 01 17.4 -1.1
comp=Z,62nm,1.0s
430A Baggett Ranch, 70.49 333⇓P P 22 01 19.1 +0.3
baz=71,SNR=8.0
332A Millersview 70.49 335⇓P P 22 01 19.3 +0.5
baz=71
234A Clairette 70.51 337⇑P P 22 01 18.5 -0.3
baz=71,SNR=6.4
TKL Tuckaleechee C 70.57 350 eP P 22 01 18.5 -0.6
TKL Tuckaleechee C 70.57 350 eP P 22 01 18.5 -0.6
429A Davenport Ranc 70.59 333⇓P P 22 01 19.6 +0.2
baz=71,SNR=13
331A San Angelo 70.67 334⇓P P 22 01 19.6 -0.3
baz=71,SNR=5.5
233A Rising Star 70.78 336⇓P P 22 01 20.1 -0.3
baz=71,SNR=5.9
232A Coleman 70.92 335⇑P P 22 01 21.0 -0.4
baz=71,SNR=7.4
134A White-Moore Ra 71.02 337⇑P P 22 01 22.0 +0.1
baz=71
330A Mertzon 71.03 334⇓P P 22 01 21.9 -0.2
baz=71
231A Bronte 71.19 335⇓P P 22 01 22.7 -0.4
baz=72,SNR=7.4
133A Hamilton Ranch 71.33 336⇑P P 22 01 23.7 -0.1
baz=72,SNR=6.5
329A Wagon Wheel Ra 71.40 333⇑P P 22 01 24.2 -0.1
baz=72,SNR=6.8
UALR University of 71.42 342 eP P 22 01 23.7 -0.5
comp=Z,18nm,0.9s
230A Sterling City 71.44 334⇑P P 22 01 24.2 -0.3
baz=72
Z35A Perchaven, San 71.45 338⇓P P 22 01 24.3 -0.1
baz=72,SNR=5.4
MIAR Mount Ida 71.52 341 eP P 22 01 23.5 -1.4
MIAR Mount Ida 71.52 341 eP P 22 01 23.5 -1.4
ABTX Abilene, Hawle 71.59 336⇑P P 22 01 25.4 0.0
baz=72,SNR=8.2
ABTX Abilene, Hawle 71.59 336 eP P 22 01 25.0 -0.3
comp=Z,25nm,0.9s
Z34A Collier Ranch, 71.70 337⇓P P 22 01 26.0 0.0
baz=72
WVT Waverly 71.72 346 eP P 22 01 25.6 -0.4
WVT pmax pmax
comp=Z,77nm,0.9s
WVT Waverly 71.72 346 eP P 22 01 25.6 -0.4
comp=Z,77nm,0.9s
HBAR Harrisburg 71.76 344 eP P 22 01 25.5 -0.8
229A Bryant Ranch, 71.76 333⇑P P 22 01 26.3 -0.2
baz=72
URVA University of 71.79 355 eP P 22 01 26.4 0.0
131A Roby 71.89 335⇓P P 22 01 27.2 0.0
baz=72
Z33A Whitaker Ranch 71.90 337⇓P P 22 01 27.0 -0.2
baz=72,SNR=8.0
JSRW J. Sargeant Re 71.94 355 eP P 22 01 27.3 0.0
130A Snyder 72.02 334⇑P P 22 01 28.1 +0.1
baz=72
Z32A Haskell 72.15 336⇓P P 22 01 28.5 -0.2
baz=72,SNR=5.4
228A UT Block 9, Go 72.19 333⇑P P 22 01 28.6 -0.4
baz=72,SNR=8.2
Y34A Reagan Ranch, 72.19 338⇑P P 22 01 28.6 -0.3
baz=72
Z31A Sharp Cattle R 72.39 335⇑P P 22 01 29.8 -0.3
baz=73,SNR=9.0
Y33A Hilltop Ranch, 72.51 337⇑P P 22 01 30.8 0.0
baz=73
128A Castleberry Fa 72.60 333⇑P P 22 01 30.8 -0.7
baz=73,SNR=6.8
Z30A Sanderson Ranc 72.70 335⇑P P 22 01 31.3 -0.8
baz=73,SNR=12
MAW Mawson 72.77 163 LR LR 22 36 12.5
comp=Z,111nm,18.1s,baz=240,slow=38
Y32A R-V Farms, Ver 72.78 336⇓P P 22 01 32.6 +0.2
baz=73
X34A Smith Ranch, M 72.81 338⇓P P 22 01 32.9 +0.3
baz=73
Z29A Hungry Hill Ra 72.89 334⇑P P 22 01 33.3 +0.1
baz=73
Y31A Rekieta Farm, 73.02 336⇓P P 22 01 34.0 +0.2
baz=73
X32A Elmer 73.11 337⇓P P 22 01 34.5 +0.1
baz=73
WMOK Wichita Mounta 73.23 337 eP P 22 01 34.2 -0.9
WMOK pmax pmax
comp=Z,14nm,1.3s
WMOK Wichita Mounta 73.23 337 eP P 22 01 34.2 -0.9
comp=Z,14nm,1.3s
W34A Bridge Creek, 73.38 338⇑P P 22 01 35.9 0.0
baz=74
W34A Bridge Creek, 73.38 338 eP P 22 01 35.1 -0.8
comp=Z,51nm,1.5s
Y29A Porterfield Fa 73.42 334⇑P P 22 01 36.4 +0.1
baz=74
TUL1 Leonard 73.42 340⇓P P 22 01 36.0 -0.1
baz=74
TUL1 Leonard 73.42 340 eP P 22 01 34.6 -1.6
comp=Z,24nm,1.0s
USIN University of 73.47 347 eP P 22 01 35.1 -1.3
comp=Z,57nm,1.3s
W33A Caddo, Fort Co 73.52 338⇓P P 22 01 36.9 +0.1
baz=74,SNR=6.9
SIUC Southern Illin 73.53 346 eP P 22 01 36.0 -0.8
comp=Z,19nm,0.7s
X31A McDonald Ranch 73.53 336⇑P P 22 01 36.3 -0.6
baz=74,SNR=5.1
Y28A McKinney Farm, 73.67 334⇓P P 22 01 37.5 -0.3
baz=74
W32A Sentinel 73.74 337⇓P P 22 01 37.4 -0.7
baz=74,SNR=16
V34A Guthrie 73.85 339⇓P P 22 01 38.6 -0.1
baz=74
V34A Guthrie 73.85 339 eP P 22 01 37.5 -1.2
comp=Z,37nm,1.2s
MSTX Muleshoe 73.91 334⇓P P 22 01 38.7 -0.6
baz=74,SNR=9.5
MSTX Muleshoe 73.91 334 eP P 22 01 38.6 -0.6
comp=Z,22nm,0.9s
X29A Tulia 73.95 335⇑P P 22 01 39.3 -0.2
baz=74
Y27A Causey 73.98 333⇑P P 22 01 39.1 -0.6
baz=74
W31A Holland Ranch, 74.03 336⇓P P 22 01 39.5 -0.3
baz=74
V33A Lossen Ranch, 74.08 338⇓P P 22 01 39.8 -0.3
baz=74,SNR=5.9
MVL Millersville 74.14 356 eP P 22 01 39.9 -0.3
comp=Z,11nm,0.7s
X28A Dimmitt 74.20 334⇑P P 22 01 40.8 -0.1
baz=74
OLIL Olney 74.30 347 eP P 22 01 40.0 -1.2
comp=Z,58nm,1.5s
319A Douglas 74.30 327⇓P P 22 01 42.1 +0.5
baz=75,SNR=9.0
AMTX Amarillo 74.34 335⇑P P 22 01 42.1 +0.3
baz=75
AMTX Amarillo 74.34 335 eP P 22 01 40.8 -0.9
comp=Z,40nm,1.2s
U34A Anderson Ranch 74.42 339⇑P P 22 01 42.1 +0.1
baz=75
U34A Anderson Ranch 74.42 339 eP P 22 01 41.5 -0.5
comp=Z,28nm,1.0s
BLO Bloomington 74.44 348 eP P 22 01 40.7 -1.4
BLO pmax pmax
comp=Z,64nm,1.8s
BLO Bloomington 74.44 348 eP P 22 01 40.7 -1.4
comp=Z,64nm,1.8s
V31A Spring Creek L 74.53 337⇓P P 22 01 43.3 +0.5
baz=75
W29A Amarillo 74.55 335⇓P P 22 01 43.4 +0.4
baz=75
SLM Saint Louis 74.63 345 eP P 22 01 42.2 -1.0
SLM pmax pmax
comp=Z,29nm,0.6s
SLM Saint Louis 74.63 345 eP P 22 01 42.2 -1.0
comp=Z,29nm,0.6s
121A Cookes Peak, D 74.64 329⇓P P 22 01 44.6 +1.0
baz=75,SNR=12
LIC Lamto 74.78 71 eP P 22 01 44.6 -0.1
comp=Z,47nm,1.2s
V30A Spur Ranch, Mi 74.80 336⇓P P 22 01 44.8 +0.5
baz=75,SNR=5.7
U32A Winter Ranch, 74.81 338⇓P P 22 01 44.4 +0.1
baz=75
X26A CR and CF Fran 74.82 333⇑P P 22 01 44.5 0.0
baz=75,SNR=16
SSPA Standing Stone 74.86 355 eP P 22 01 43.9 -0.5
comp=Z,50nm,1.6s
Y24A Capitan 74.89 332⇑P P 22 01 45.3 +0.3
baz=75,SNR=14
Z22A Elephant Butte 74.92 330⇓P P 22 01 46.1 +0.9
baz=75,SNR=7.1
ACSO Alum Creek Sta 74.96 351 eP P 22 01 44.0 -1.1
comp=Z,32nm,0.6s
W27A Bowe Ranch, En 75.00 334⇑P P 22 01 45.5 -0.1
baz=75,SNR=12
TIC Toumodi 75.05 71 eP P 22 01 45.8 -0.4
comp=Z,6.2nm,0.2s
KIC Kosan Boka 75.09 71 eP P 22 01 46.3 -0.2
comp=Z,102nm,1.3s
X25A Clemmons Ranch 75.12 332⇑P P 22 01 46.5 +0.2
baz=75
Y23A Lovelace Mesa, 75.14 331⇓P P 22 01 47.1 +0.6
baz=75,SNR=9.6
DBIC Dimbokro 75.19 71 eP P 22 01 46.6 -0.4
DBIC pmax pmax
comp=Z,14nm,0.8s
DBIC Dimbokro 75.19 71 P P 22 01 47.4 +0.4
comp=Z,11nm,0.7s,baz=198,slow=5.3,SNR=16
DBIC LR LR 22 32 50.2
comp=Z,135nm,19.3s,baz=249,slow=34
DBIC Dimbokro 75.19 71 eP P 22 01 46.5 -0.4
comp=Z,14nm,0.8s
T33A Patterson Ranc 75.23 338⇑P P 22 01 46.5 -0.1
baz=76,SNR=11
W26A Owens Ranch, T 75.28 333⇑P P 22 01 47.2 0.0
baz=76,SNR=6.7
V28A Channing 75.31 335⇓P P 22 01 48.0 +0.7
baz=76
X24A Lazy VL Ranch, 75.45 332⇓P P 22 01 48.8 +0.5
baz=76
U30A WK&E Inc. Balk 75.48 336⇑P P 22 01 48.9 +0.6
baz=76
T32A Huddler Ranch, 75.52 338⇑P P 22 01 48.9 +0.4
baz=76
BNM Barren Site 75.56 331 eP P 22 01 49.3 +0.3
S33A Kaszmaul Farm, 75.62 339⇓P P 22 01 49.4 +0.5
baz=76
W25A X Bar L Ranch, 75.65 333⇑P P 22 01 49.1 -0.3
baz=76,SNR=9.2
KSPA Keystone Colle 75.66 357 eP P 22 01 48.8 -0.3
comp=Z,39nm,1.6s
T31A Randall Ranch, 75.69 337⇓P P 22 01 49.7 +0.3
baz=76
LPM Los Pinos Moun 75.70 331 eP P 22 01 49.8 +0.1
LENM Lemitar 75.71 331 eP P 22 01 49.4 -0.4
SFIN Lafayette 75.71 348 eP P 22 01 47.9 -1.4
comp=Z,47nm,1.6s
X23A Hourglass Bar 75.76 331⇓P P 22 01 50.6 +0.5
baz=76
TUC Tucson 75.76 327 eP P 22 01 49.8 -0.2
TUC pmax pmax
comp=Z,16nm,1.2s
TUC Tucson 75.76 327 eP P 22 01 49.8 -0.2
comp=Z,16nm,1.2s
U28A Mallet 75.88 335⇑P P 22 01 51.1 +0.6
baz=76
V26A Tequesquite Ra 75.92 334⇑P P 22 01 51.2 +0.4
baz=76
LAZ Ladron 75.98 331 eP P 22 01 49.9 -1.4
W24A Lazy 6 Ranch, 76.01 332⇓P P 22 01 52.0 +0.5
baz=76,SNR=7.4
S32A Newby Ranch, P 76.01 338⇓P P 22 01 51.5 +0.3

	baz=76					
ALLY	Alegheny Colle	76.05	354	eP	P	22 01 50.5 -0.8
	comp=Z,21nm,0.8s					
S31A	Mullinville	76.10	338	⇓P	P	22 01 52.3 +0.5
	baz=76					
U27A	Thompson Grove	76.13	335	⇑P	P	22 01 52.4 +0.4
	baz=76					
ANMO	Albuquerque	76.19	331	ceP	P	22 01 52.8 +0.3
ANMO				pmax	pmax	
	comp=Z,75nm,1.2s					
ANMO	Albuquerque	76.19	331	eP	P	22 01 52.7 +0.2
	comp=Z,14nm,1.0s					
W23A	Werner Place,	76.25	332	⇓P	P	22 01 53.7 +0.9
	baz=76,SNR=6.6					
V25A	Rancho No Teng	76.26	333	⇑P	P	22 01 53.0 +0.2
	baz=77,SNR=14					
T29A	Hugoton	76.27	336	⇓P	P	22 01 53.1 +0.4
	baz=77					
R33A	Olander Ranch,	76.28	339	⇑P	P	22 01 52.9 +0.2
	baz=77					
214A	Organ Pipe Nat	76.41	325	⇓P	P	22 01 54.5 +0.9
	baz=77,SNR=9.1					
V24A	Rampart Ranch,	76.41	333	⇓P	P	22 01 54.1 +0.4
	baz=77,SNR=5.7					
S30A	Montezuma	76.43	337	⇑P	P	22 01 53.9 +0.3
	baz=77					
U26A	Atchley Ranch,	76.43	334	⇓P	P	22 01 54.0 +0.2
	baz=77,SNR=5.4					
T28A	Walsh	76.51	336	⇓P	P	22 01 54.1 -0.1
	baz=77,SNR=12					
R32A	Long Quarter,	76.60	339	⇓P	P	22 01 55.0 +0.5
	baz=77					
KSU1	Kansas State U	76.63	340	⇓P	P	22 01 54.5 -0.1
	baz=77					
KSU1	Kansas State U	76.63	340	eP	P	22 01 53.3 -1.3
	comp=Z,16nm,0.8s					
S29A	Ulysses	76.63	337	⇓P	P	22 01 55.3 +0.5
	baz=77					
T27A	Campo	76.67	335	⇓P	P	22 01 55.5 +0.4
	baz=77					
U25A	Circle Dot Ran	76.68	334	⇑P	P	22 01 55.7 +0.4
	baz=77,SNR=8.3					
R31A	Burdett	76.73	338	⇓P	P	22 01 55.8 +0.6
	baz=77					
TRY	Troy	76.77	359	eP	P	22 01 55.3 0.0
	comp=Z,18nm,0.9s					
V23A	Ortiz Mt. (NFS	76.78	332	⇓P	P	22 01 56.2 +0.4
	baz=77					
S28A	Manter	76.86	336	⇑P	P	22 01 56.2 +0.1
	baz=77,SNR=14					
Q33A	Connelly Farm,	76.88	340	⇑P	P	22 01 56.3 +0.2
	baz=77					
MMNY	Mt. Morris Dam	76.95	355	eP	P	22 01 55.4 -0.9
	comp=Z,120nm,1.5s					
R30A	Dighton	76.96	337	⇑P	P	22 01 56.9 +0.3
	baz=77					
T26A	Comanche Natio	77.08	334	⇓P	P	22 01 58.0 +0.6
	baz=77,SNR=7.1					
AAM	Ann Arbor	77.08	351	eP	P	22 01 56.1 -1.0
AAM				pmax	pmax	
	comp=Z,55nm,1.5s					
AAM	Ann Arbor	77.08	351	eP	P	22 01 56.1 -1.0
	comp=Z,55nm,1.5s					
Q32A	Meitler Ranch,	77.08	339	⇓P	P	22 01 57.7 +0.5
	baz=77					
V22A	San Miguel Ran	77.21	331	⇓P	P	22 01 59.4 +1.1
	baz=78,SNR=7.1					
X18A	Snowflake	77.27	329	⇓P	P	22 01 59.1 +0.5
	baz=78					
U23A	El Rito	77.29	332	⇑P	P	22 01 59.8 +1.1
	baz=78					
T25A	Trinidad	77.34	334	⇓P	P	22 01 59.6 +0.6
	baz=78,SNR=21					
Q31A	Ellis	77.35	338	⇓P	P	22 01 59.0 +0.3
	baz=78,SNR=6.5					
R29A	Marienthal	77.37	337	⇑P	P	22 01 59.6 +0.7
	baz=78					
ACCN	Adirondack Com	77.42	359	eP	P	22 01 58.2 -0.8
	comp=Z,9.5nm,0.9s					
S26A	Kim	77.43	335	⇑P	P	22 01 59.9 +0.5
	baz=78,SNR=15					
FFD	Franklin Falls	77.49	0	eP	P	22 02 00.5 +1.1
	comp=Z,18nm,0.6s					
R28A	Tribune	77.51	336	⇑P	P	22 01 60.0 +0.2
	baz=78,SNR=7.8					
113A	Mohawk Valley,	77.53	325	⇑P	P	22 02 00.6 +0.8
	baz=78,SNR=5.2					
Q30A	Quinter	77.58	338	⇑P	P	22 02 00.1 0.0
	baz=78,SNR=6.6					
U22A	Llaves	77.59	332	⇓P	P	22 02 01.7 +1.3
	baz=78,SNR=5.9					
T24B	San Luis	77.63	333	⇓P	P	22 02 01.8 +1.2
	baz=78,SNR=8.4					
Z14A	Wintersburg	77.64	326	⇓P	P	22 02 01.6 +1.2
	baz=78					
P32A	Huiting Farm,	77.68	339	⇑P	P	22 02 00.8 +0.2
	baz=78					
W18A	Petrified Fore	77.68	329	⇑P	P	22 02 01.9 +1.0
	baz=78					
W18A	Petrified Fore	77.68	329	eP	P	22 02 01.2 +0.3
	comp=Z,34nm,1.2s					
HNH	Hanover	77.73	360	eP	P	22 02 01.3 +0.7
	comp=Z,136nm,2.6s					
Q29A	Oakley	77.74	337	⇑P	P	22 02 01.2 +0.3
	baz=78					
R27A	Eads	77.79	336	⇑P	P	22 02 01.4 +0.1
	baz=78,SNR=9.8					
S25A	Robets Cordova	77.81	334	⇑P	P	22 02 02.1 +0.6
	baz=78,SNR=8.7					
P31A	Stockton	77.82	339	⇑P	P	22 02 01.9 +0.6
	baz=78					
X16A	Lo Mia Camp, P	77.83	327	⇓P	P	22 02 02.8 +1.1
	baz=78,SNR=15					
T23A	Casias Ranch,	77.85	333	⇓P	P	22 02 02.8 +0.9
	baz=78					
MDV	Middlebury	78.03	359	eP	P	22 02 02.9 +0.6
S24A	Houchin Ranch,	78.08	334	⇓P	P	22 02 04.1 +0.9
	baz=78,SNR=20					
O32A	Brockman Farm,	78.17	340	⇑P	P	22 02 03.6 +0.3
	baz=78					
R25A	Fountain Ranch	78.19	334	⇑P	P	22 02 04.3 +0.7
	baz=78					
LBNH	Lisbon	78.26	360	eP	P	22 02 04.3 +0.7
LBNH				pmax	pmax	
	comp=Z,18nm,0.8s					
LBNH	Lisbon	78.26	360	eP	P	22 02 04.3 +0.7
	comp=Z,18nm,0.8s					
GLA	Glamis	78.27	324	eP	P	22 02 03.8 -0.2
GLA				pmax	pmax	
	comp=Z,40nm,1.5s					
GLA	Glamis	78.27	324	eP	P	22 02 03.8 -0.2
	comp=Z,40nm,1.5s					
P29A	Atwood	78.37	337	⇑P	P	22 02 05.1 +0.6
	baz=79					
O31A	Woolen Ranch,	78.38	339	⇑P	P	22 02 05.3 +0.8
	baz=79					
KSCO	Kaye Shedlock'	78.39	336	eP	P	22 02 04.9 +0.3
	comp=Z,55nm,1.2s					
SCIA	State Center	78.41	344	eP	P	22 02 04.2 -0.3
	comp=Z,23nm,0.8s					
R24A	Sanders Place,	78.56	334	⇑P	P	22 02 06.9 +1.1
	baz=79					
P28A	Saint Francis	78.61	337	⇓P	P	22 02 06.5 +0.7
	baz=79					
WVL	Waterville	78.61	2	eP	P	22 02 06.2 +0.7
	comp=Z,398nm,3.0s					
Q26A	Hugo	78.61	335	⇑P	P	22 02 06.7 +0.7
	baz=79					
O30A	MW Ranch, Wils	78.63	338	⇑P	P	22 02 06.7 +0.9
	baz=79					
PTN	Potsdam (NY)	78.64	358	eP	P	22 02 05.6 -0.1
PTN				pmax	pmax	
	comp=Z,25nm,1.0s					
PTN	Potsdam (NY)	78.64	358	eP	P	22 02 05.5 -0.1
	comp=Z,25nm,1.0s					
SWSC	Sam W. Stewart	78.66	324	⇑P	P	22 02 07.3 +1.2
	baz=79					
LONY	Lake Ozonia	78.68	358	eP	P	22 02 05.6 -0.4
	comp=Z,15nm,1.0s					
Y12C	Blythe	78.70	325	⇓P	P	22 02 07.4 +1.1
	baz=79,SNR=5.1					
WUAZ	Wupatki	78.73	328	⇑P	P	22 02 07.4 +0.7
	baz=79,SNR=9.8					
WUAZ	Wupatki	78.73	328	eP	P	22 02 06.8 +0.1
	comp=Z,29nm,1.1s					
JFWS	Jewell Farm	78.75	346	eP	P	22 02 06.0 -0.4
JFWS				pmax	pmax	
	comp=Z,18nm,0.8s					
JFWS	Jewell Farm	78.75	346	eP	P	22 02 06.0 -0.4
	comp=Z,18nm,0.8s					
S22A	4UR Ranch, Cre	78.78	332	⇑P	P	22 02 07.4 +0.4
	baz=79,SNR=5.3					
R23A	Moffat	78.79	333	⇓P	P	22 02 08.0 +0.9
	baz=79,SNR=10					
O29A	4D Ranch, Culb	78.81	338	⇑P	P	22 02 07.6 +0.8
	baz=79					
EMMW	East Machias	78.83	3	eP	P	22 02 07.2 +0.4
	comp=Z,23nm,0.9s					
Q25A	Bedland, Calha	78.86	335	⇓P	P	22 02 08.0 +0.7
	baz=79					
N31A	Bailey Ranch,	78.89	339	⇓P	P	22 02 07.9 +0.7
	baz=79					
MONP	Monument Peak,	78.92	323	⇓P	P	22 02 08.5 +0.7
	baz=79					
MVCO	Mesa Verde	78.97	331	⇓P	P	22 02 09.1 +1.1
	baz=79					
MVCO	Mesa Verde	78.97	331	eP	P	22 02 06.5 -1.5
	comp=Z,18nm,1.1s					
PDMCI	Parker Dam,Lak	78.97	325	⇓P	P	22 02 08.9 +1.2
	baz=79					
TSUM	Tsumeb	78.99	106	eP	P	22 02 08.4 -0.1
	comp=Z,11nm,1.1s					
BC3	Big Chuckawall	79.07	324	⇓P	P	22 02 09.3 +0.8
	baz=79,SNR=12					
O28A	Krutsinger Ran	79.12	337	⇓P	P	22 02 09.7 +1.1
	baz=79					
P26A	Davis Ranch, A	79.13	336	⇓P	P	22 02 09.6 +0.9
	baz=79					
BGNE	Belgrade	79.20	340	⇓P	P	22 02 09.6 +0.7
	baz=80					
BGNE	Belgrade	79.20	340	eP	P	22 02 08.0 -0.9
	comp=Z,43nm,1.0s					
Q24A	Divide	79.22	334	⇑P	P	22 02 10.2 +0.8
	baz=80,SNR=16					
PKME	Peaks-Kenny Pk	79.32	2	eP	P	22 02 09.6 +0.2
	comp=Z,8.7nm,0.8s					
IRM	Iron Mountain	79.33	325	⇓P	P	22 02 10.9 +1.0
	baz=80,SNR=9.4					
P25A	Willow Gulch B	79.37	335	⇓P	P	22 02 11.1 +1.1
	baz=80,SNR=6.6					
M31A	Lambtecht Ranc	79.38	340	⇑P	P	22 02 10.3 +0.4
	baz=80					
N29A	Votaw Ranch, W	79.39	338	⇑P	P	22 02 10.5 +0.5
	baz=80					
O27A	Beecher Island	79.40	337	⇑P	P	22 02 11.0 +0.8
	baz=80					
W13A	Hualapai Mount	79.51	326	⇓P	P	22 02 12.1 +1.1
	baz=80,SNR=15					
PFO	Pinyon Flats O	79.52	323	eP	P	22 02 11.2 +0.2
PFO				pmax	pmax	
	comp=Z,20nm,0.9s					
PFO	Pinyon Flats O	79.52	323	⇓P	P	22 02 12.2 +1.2
	baz=80,SNR=9.3					
PFO	Pinyon Flats O	79.52	323	eP	P	22 02 11.2 +0.2
	comp=Z,20nm,0.9s					
CASY	Casey	79.63	181	eP	P	22 02 11.2 +0.2
	comp=Z,137nm,1.4s					
O26A	Horse Wrangler	79.73	336	⇑P	P	22 02 13.1 +1.1
	baz=80					
BOSA	Boshof	79.78	118	eP	P	22 02 12.4 -0.3
BOSA				pmax	pmax	
	comp=Z,25nm,1.0s					
BOSA	Boshof	79.78	118	P	P	22 02 13.2 +0.4
	comp=Z,19nm,0.9s,baz=236,slow=5.6,SNR=27					
BOSA	Boshof	79.78	118	eP	P	22 02 12.4 -0.3
	comp=Z,25nm,1.0s					
PV01	Paradox Valley	79.79	331	eP	P	22 02 12.8 +0.3
MURC	Murrieta	79.88	323	⇓P	P	22 02 14.2 +1.4
	baz=80					
U15A	North Rim	79.89	328	⇑P	P	22 02 14.2 +1.1
	baz=80,SNR=14					
PV05	Paradox Valley	79.95	331	eP	P	22 02 12.5 -0.8
N27A	Anderson Farm,	79.98	337	⇓P	P	22 02 14.3 +1.0
	baz=80					
LDFC	Landfair	80.06	325	eP	P	22 02 14.7 +0.8
	comp=Z,25nm,0.3s					
GMRC	Granite Mounta	80.08	325	⇑P	P	22 02 15.1 +1.1
	baz=80,SNR=8.8					
SMCO	Snowmass	80.08	333	eP	P	22 02 15.0 +0.8
	comp=Z,19nm,0.9s					
L31A	Butterfield Fa	80.11	340	⇑P	P	22 02 14.8 +0.9
	baz=80					
ISCO	Idaho Springs	80.13	334	eP	P	22 02 13.4 -1.0
ISCO				pmax	pmax	
	comp=Z,10.0nm,1.0s					
ISCO	Idaho Springs	80.13	334	⇑P	P	22 02 15.4 +1.0
	baz=80					
ISCO	Idaho Springs	80.13	334	eP	P	22 02 13.4 -1.0
	comp=Z,9.5nm,1.0s					
PV04	Paradox Valley	80.15	331	eP	P	22 02 14.4 +0.1
PV10	Paradox Valley	80.19	331	eP	P	22 02 14.6 0.0
PV09	Paradox Valley	80.33	331	eP	P	22 02 15.8 +0.3
P22A	Eagle	80.37	333	⇓P	P	22 02 16.3 +0.7
	baz=81					
HEC	Hector,Ludlow	80.44	324	⇑P	P	22 02 17.0 +1.1
	baz=81,SNR=8.5					
L29A	Maesberg Ranch	80.48	339	⇓P	P	22 02 17.1 +1.2
	baz=81					
O23A	Lake Granby, G	80.60	334	⇓P	P	22 02 17.9 +1.0
	baz=81,SNR=5.5					
BFSC	Mount Baldy Ra	80.62	323	⇓P	P	22 02 17.6 +0.6
	baz=81,SNR=5.4					
KNB	Kanab	80.62	328	eP	P	22 02 17.8 +0.9
KNB				pmax	pmax	
	comp=Z,33nm,1.1s					
KNB	Kanab	80.62	328	eP	P	22 02 17.8 +0.9
	comp=Z,33nm,1.1s					
TUQ	Turquoise Moun	80.74	325	⇑P	P	22 02 18.6 +1.1
	baz=81,SNR=9.5					
K30A	Basset	80.79	340	⇑P	P	22 02 18.4 +0.9
	baz=81,SNR=5.8					
O22A	Kremmling	80.79	334	⇑P	P	22 02 18.3 +0.4
	baz=81,SNR=6.2					
MWC	Mount Wilson	80.81	323	eP	P	22 02 16.9 -1.1
MWC				pmax	pmax	
	comp=Z,13nm,0.9s					
MWC	Mount Wilson	80.81	323	eP	P	22 02 16.9 -1.1
	comp=Z,13nm,0.9s					
PASC	Pasadena Art C	80.83	323	eP	P	22 02 17.1 -0.7
	comp=Z,38nm,1.4s					
ECSD	EROS Data Cent	80.96	342	⇓P	P	22 02 18.4 +0.1
	baz=81,SNR=41					
ECSD	EROS Data Cent	80.96	342	eP	P	22 02 17.3 -1.1
	comp=Z,41nm,0.9s					
M25A	Palm-Egli Farm	81.04	336	⇑P	P	22 02 19.6 +0.6
	baz=81					
GSC	Goldstone, Bar	81.05	324	eP	P	22 02 19.5 +0.3
GSC				pmax	pmax	
	comp=Z,14nm,1.0s					
GSC	Goldstone, Bar	81.05	324	⇑P	P	22 02 20.4 +1.2
	baz=81,SNR=7.1					
GSC	Goldstone, Bar	81.05	324	eP	P	22 02 19.5 +0.3
	comp=Z,14nm,1.0s					
L27A	T5 Ranch, Ells	81.06	338	⇓P	P	22 02 20.0 +0.9
	baz=81					
K29A	Lazy Trails An	81.07	339	⇑P	P	22 02 20.1 +1.1
	baz=81					
N23A	Red Feather La	81.22	335	⇓P	P	22 02 21.0 +0.9
	baz=82					
SHPR	Sheep Range	81.25	326	eP	P	22 02 20.9 +0.6
EDW2	Edwards Air Fo	81.30	323	⇑P	P	22 02 21.0 +0.6
	baz=82,SNR=6.4					
CCUT	Cedar City	81.30	328	eP	P	22 02 21.4 +0.8
	comp=Z,20nm,1.1s					
N22A	Wattenberg Ran	81.32	334	⇓P	P	22 02 21.3 +0.7
	baz=82,SNR=6.9					
M24A	Cheyenne	81.33	336	⇑P	P	22 02 21.7 +1.0
	baz=82					
K28A	Ten Mile Ranch	81.34	338	⇓P	P	22 02 21.7 +1.2
	baz=82					
O20A	White River Ci	81.40	333	eP	P	22 02 20.8 -0.2
	comp=Z,60nm,1.8s					
PHWY	Pilot Hill	81.41	335	eP	P	22 02 20.4 -0.7
	comp=Z,19nm,0.9s					
SRU	San Rafael Swe	81.41	331	eP	P	22 02 19.8 -1.3
SRU				pmax	pmax	
	comp=Z,11nm,0.8s					
SRU	San Rafael Swe	81.41	331	eP	P	22 02 19.8 -1.3
	comp=Z,11nm,0.8s					
SPMN	Marine on St.	81.48	345	⇑P	P	22 02 20.4 -0.6
	baz=82,SNR=6.2					
SPMN	Marine on St.	81.48	345	eP	P	22 02 19.9 -1.2
	comp=Z,17nm,0.8s					
ARUT	Antelope Range	81.53	328	eP	P	22 02 23.0 +1.3
ARUT	Antelope Range	81.53	328	eP	P	22 02 23.0 +1.3
K27A	Fluecking Fa	81.60	338	⇓P	P	22 02 22.9 +1.0
	baz=82					
MVU	Marysvale	81.60	329	eP	P	22 02 21.1 -1.1
	comp=Z,12nm,1.1s					
LRMC	Laurel Mtn Rad	81.62	324	⇑P	P	22 02 23.0 +0.8
	baz=82					
M23A	Laramie	81.64	335	⇑P	P	22 02 23.2 +0.8
	baz=82					
L25A	Engebretsen Ra	81.66	336	⇑P	P	22 02 23.2 +1.0
	baz=82					
J29A	Okreek	81.66	339	⇓P	P	22 02 22.6 +0.5
	baz=82,SNR=7.7					
TMUT	Trail Mountain	81.85	330	eP	P	22 02 22.3 -1.3
	comp=Z,39nm,1.4s					
I30A	Oacoma	81.88	340	⇓P	P	22 02 23.3 0.0
	baz=82					
J28A	Allard Ranch,	81.95	339	⇑P	P	22 02 24.5 +0.9
	baz=82					
N20A	Spence Gulch,	82.01	333	⇓P	P	22 02 25.1 +0.8
	baz=82					
FURC	Furnace Creek,	82.02	325	⇓P	P	22 02 25.2 +1.1
	baz=82					
J27A	Elkhorn Farm,	82.03	338	⇑P	P	22 02 25.4 +1.3
	baz=82					
LBTB	Lobatse	82.03	115	eP	P	22 02 24.3 -0.5
LBTB				pmax	pmax	
	comp=Z,16nm,0.7s					
LBTB	Lobatse	82.03	115	eP	P	22 02 24.3 -0.5
	comp=Z,16nm,0.7s					
K25A	Mack Ranch, Ha	82.04	337	⇑P	P	22 02 25.6 +1.4
	baz=82					
ISA	Isabella, Lake	82.16	323	eP	P	22 02 24.4 -0.6
ISA				pmax	pmax	
	comp=Z,13nm,0.9s					
ISA	Isabella, Lake	82.16	323	⇑P	P	22 02 26.3 +1.3
	baz=82,SNR=14					
ISA	Isabella, Lake	82.16	323	eP	P	22 02 24.4 -0.6
	comp=Z,13nm,0.9s					
DAC	Darwin (Calif)	82.22	324	eP	P	22 02 24.9 -0.5
DAC				pmax	pmax	
	comp=Z,28nm,0.4s					
DAC	Darwin (Calif)	82.22	324	eP	P	22 02 24.9 -0.5
	comp=Z,28nm,0.4s					
I29A	Vivian Onida	82.22	340	⇓P	P	22 02 25.2 +0.2
	baz=83					
BRSD	Miller	82.23	341	eP	P	22 02 24.2 -0.9
	comp=Z,56nm,0.5s					
J26A	Sides Ranch, S	82.41	338	⇑P	P	22 02 26.4 +0.3
	baz=83					
K24A	Anderson Ranch	82.45	336	⇓P	P	22 02 27.2 +0.8
	baz=83					
I28A	Midland	82.45	339	⇓P	P	22 02 26.8 +0.5
	baz=83					
VES	Vestal, Richgr	82.60	323	⇓P	P	22 02 27.8 +0.7
	baz=83,SNR=7.2					
MPU	Maple Canyon	82.63	330	eP	P	22 02 26.2 -1.3
	comp=Z,22nm,1.3s					
J25A	Sunshine Ranch	82.71	337	⇑P	P	22 02 28.6 +0.9
	baz=83					
K23A	Bowen Ranch, D	82.75	336	⇓P	P	22 02 28.4 +0.4
	baz=83					
H29A	Onida	82.75	340	⇑P	P	22 02 27.3 -0.5
	baz=83,SNR=6.9					
NLU	North Lily Min	82.76	330	eP	P	22 02 28.4 +0.1
	comp=Z,11nm,0.4s					
I27A	Quinn	82.78	339	⇑P	P	22 02 28.4 +0.5
	baz=83					
DAU	Daniels Canyon	82.82	331	eP	P	22 02 27.3 -1.3
DAU	Daniels Canyon	82.82	331	eP	P	22 02 27.3 -1.3
G30A	Faulkton	82.92	341	⇓P	P	22 02 28.9 +0.3
	baz=83					
J24A	Dixon Ranch, L	82.94	337	⇑P	P	22 02 29.5 +0.6
	baz=83					
R11A	Troy Canyon, C	82.95	327	⇓P	P	22 02 29.9 +0.7
	baz=83,SNR=21					
R11A	Troy Canyon, C	82.95	327	eP	P	22 02 29.7 +0.5
	comp=Z,17nm,1.1s					
K22A	Casper	82.97	335	⇓P	P	22 02 29.3 +0.2
	baz=83,SNR=5.4					
K22A	Casper	82.97	335	eP	P	22 02 29.3 +0.2
	comp=Z,45nm,0.4s					
I26A	New Underwood	82.99	338	⇑P	P	22 02 29.7 +0.6
	baz=83					
H28A	Mission Ridge	83.03	340	⇑P	P	22 02 29.8 +0.6
	baz=83					
JLU	Jordanelle	83.06	331	eP	P	22 02 28.9 -0.9
	comp=Z,10nm,0.8s					
G29A	Hoven	83.19	340	⇓P	P	22 02 30.6 +0.5
	baz=84					
K21A	Alcova	83.21	335	⇑P	P	22 02 30.4 0.0
	baz=84,SNR=11					
CTU	Camp Tracy	83.25	331	eP	P	22 02 30.0 -0.6
	comp=Z,7.8nm,1.1s					
I25A	Rochford	83.26	337	⇓P	P	22 02 31.3 +0.6
	baz=84,SNR=8.2					
DUG	Dugway, Tooele	83.27	330	eP	P	22 02 30.5 -0.2
DUG				pmax	pmax	
	comp=Z,26nm,1.3s					
DUG	Dugway, Tooele	83.27	330	⇓P	P	22 02 31.2 +0.5
	baz=84,SNR=17					
DUG	Dugway, Tooele	83.27	330	eP	P	22 02 30.5 -0.2
	comp=Z,26nm,1.3s					
H27A	Howes	83.30	339	⇑P	P	22 02 31.0 +0.3
	baz=84					
J23A	Dilts Ranch, B	83.30	336	⇑P	P	22 02 31.2 +0.4
	baz=84					
G28A	Parade	83.36	340	⇑P	P	22 02 31.6 +0.6
	baz=84					
I24A	Kuemmerle Ranc	83.40	337	⇑P	P	22 02 31.7 +0.5
	baz=84					
RSSD	Black Hills	83.44	337	eP	P	22 02 31.5 -0.1
RSSD				pmax	pmax	
	comp=Z,143nm,1.8s					
RSSD	Black Hills	83.44	337	eP	P	22 02 31.5 -0.1
	comp=Z,143nm,1.8s					
TCUT	Toone Canyon	83.47	331	eP	P	22 02 31.2 -0.7
	comp=Z,44nm,1.6s					
TPH	Tonopah	83.48	326	eP	P	22 02 32.6 +0.6
TPH				pmax	pmax	
	comp=Z,17nm,1.0s					
TPH	Tonopah	83.48	326	eP	P	22 02 32.6 +0.6
	comp=Z,17nm,1.0s					
URZ	Urewera	83.49	228	LR	LR	22 30 30.2
	comp=Z,141nm,22.0s,baz=332,slow=29					
J22A	Midwest	83.62	335	⇓P	P	22 02 32.3 -0.2
	baz=84					
H25A	Fruitdale	83.75	338	⇓P	P	22 02 33.6 +0.5
	baz=84					
F29A	Eureka	83.75	341	⇑P	P	22 02 33.2 +0.3
	baz=84					
J21A	Lysite	83.90	335	⇑P	P	22 02 34.2 +0.2
	baz=84					
G27A	Dupree	83.94	339	⇓P	P	22 02 34.1 +0.2
	baz=84,SNR=5.6					
HWUT	Hardware Ranch	83.95	331	eP	P	22 02 33.2 -1.0
	comp=Z,31nm,1.3s					
BGU	Big Grassy Mou	83.97	330	eP	P	22 02 33.4 -1.0
	comp=Z,5.2nm,1.2s					
F28A	McLaughlin	84.04	340	⇓P	P	22 02 34.7 +0.4
	baz=84					
I22A	9 Mile Ranch,	84.05	336	⇑P	P	22 02 34.7 +0.1
	baz=84					
G26A	Maurine	84.06	339	⇑P	P	22 02 34.5 -0.1
	baz=84,SNR=6.7					
SPUT	South Promonto	84.06	330	eP	P	22 02 34.1 -0.7
	comp=Z,16nm,0.9s					
E30A	Jud	84.13	342	⇑P	P	22 02 35.3 +0.5
	baz=84					
J20A	Shoshoni	84.14	334	⇑P	P	22 02 36.0 +0.9
	baz=84,SNR=11					
BW06	Boulder Array	84.17	333	eP	P	22 02 34.2 -1.2
PD31	Pinedale Array	84.17	333	eP	P	22 02 34.6 -0.8
PDAR	Pinedale Array	84.17	333	P	P	22 02 35.0 -0.4
	comp=Z,4.3nm,0.8s,baz=160,slow=4.7,SNR=16					
H24A	Dirks Ranch, A	84.17	337	⇓P	P	22 02 35.4 +0.2
	baz=84					
G25A	Newell	84.21	338	⇑P	P	22 02 35.8 +0.4
	baz=84					
T

baz=85
F27A Lemmon 84.41 339 ⇑P P 22 02 36.2 0.0
baz=85,SNR=8.3
J19A Crowheart 84.41 334 ⇑P P 22 02 36.4 -0.2
baz=85,SNR=6.9
F26A Lodgepole 84.58 339 ⇑P P 22 02 37.7 +0.6
baz=85
HVU Hansel Valley 84.58 331 eP P 22 02 37.2 -0.2
HVU pmax pmax
comp=Z,17nm,0.8s
HVU Hansel Valley 84.58 331 eP P 22 02 37.2 -0.2
comp=Z,17nm,0.8s
G24A Alzada 84.64 338 ⇑P P 22 02 37.7 +0.1
baz=85
D30A Buchanan 84.65 342 ⇑P P 22 02 37.4 0.0
baz=85,SNR=13
I20A Worland 84.67 335 ⇑P P 22 02 37.9 +0.2
baz=85
E28A Huff 84.67 340 ⇓P P 22 02 38.1 +0.5
baz=85
AHID Auburn Hatcher 84.75 332 eP P 22 02 37.9 -0.4
comp=Z,12nm,0.6s
ELK Elko 84.76 328 eP P 22 02 37.9 -0.6
ELK pmax pmax
comp=Z,9.0nm,0.9s
ELK Elko 84.76 328 eP P 22 02 37.9 -0.6
comp=Z,9.1nm,0.9s
E27A Carson 84.78 340 ⇓P P 22 02 38.5 +0.3
baz=85
D29A Pettibone, Tap 84.83 341 ⇓P P 22 02 38.4 +0.1
baz=85
G23A Biddle 84.84 337 ⇑P P 22 02 38.5 0.0
baz=85
WAKR Walker 84.88 324 eP P 22 02 40.4 +1.3
F25A Bowman 84.89 338 ⇓P P 22 02 38.9 +0.2
baz=85
H21A Big Horn, Sher 84.89 336 ⇓P P 22 02 39.0 +0.2
baz=85
CMB Columbia Colle 84.97 324 eP P 22 02 39.1 -0.2
CMB pmax pmax
comp=Z,22nm,1.6s
CMB Columbia Colle 84.97 324 eP P 22 02 39.1 -0.2
comp=Z,22nm,1.6s
I19A Meeteetse 85.06 334 ⇑P P 22 02 39.3 -0.5
baz=85
AGMN Agassiz Nation 85.07 344 ⇓P P 22 02 39.0 -0.5
baz=85,SNR=8.0
AGMN Agassiz Nation 85.07 344 eP P 22 02 38.5 -1.0
comp=Z,14nm,0.6s
E26A Carlson Angus 85.08 339 ⇓P P 22 02 39.7 +0.1
baz=85
H20A Greybull 85.09 335 ⇓P P 22 02 39.4 -0.4
baz=85,SNR=9.0
F24A Ekalaka 85.12 338 ⇓P P 22 02 40.1 +0.2
baz=85
C30A Mose, Pekin 85.13 342 ⇑P P 22 02 40.1 +0.3
baz=86,SNR=19
REDW Red Top Meadow 85.17 333 eP P 22 02 39.0 -1.5
comp=Z,40nm,1.8s
D28A Regan 85.21 341 ⇓P P 22 02 40.3 +0.1
baz=86,SNR=5.8
SNOW Snow King Moun 85.21 333 eP P 22 02 39.6 -1.1
comp=Z,8.2nm,0.8s
LOHW Long Hollow 85.28 333 eP P 22 02 40.2 -0.8
comp=Z,31nm,1.7s
F23A Volborg 85.31 337 ⇑P P 22 02 40.2 -0.6
baz=86,SNR=8.7
TPAW Teton Pass 85.31 333 eP P 22 02 40.8 -0.4
comp=Z,11nm,0.9s
MSKU Masuku 85.36 89 eP P 22 02 41.6 -0.2
comp=Z,12nm,0.9s
BMN Battle Mountai 85.38 327 eP P 22 02 40.1 -1.4
BMN pmax pmax
comp=Z,39nm,2.0s
BMN Battle Mountai 85.38 327 eP P 22 02 40.0 -1.4
comp=Z,39nm,2.0s
E25A Miller Ranch, 85.39 339 ⇑P P 22 02 41.6 +0.4
baz=86
D27A Center 85.39 340 ⇑P P 22 02 41.8 +0.6
baz=86
G21A Lodge Grass 85.47 336 ⇓P P 22 02 41.8 +0.1
baz=86
FXWY Fox Creek 85.47 333 eP P 22 02 41.2 -0.7
comp=Z,31nm,1.9s
I17A Pilgrim Ck. 85.54 333 ⇓P P 22 02 42.2 0.0
baz=86,SNR=9.3
MDND Maddock 85.55 342 ⇑P P 22 02 42.8 +0.9
baz=86
MDND Maddock 85.55 342 eP P 22 02 42.1 +0.2
comp=Z,17nm,0.8s
D26A Manning 85.58 340 ⇑P P 22 02 42.4 +0.3
baz=86,SNR=6.4
H19A Powell 85.60 334 ⇓P P 22 02 42.4 0.0
baz=86,SNR=7.1
C28A Hausauer Farms 85.64 341 ⇑P P 22 02 42.5 +0.1
baz=86
F22A Rosebud 85.64 337 ⇓P P 22 02 42.4 -0.1
baz=86,SNR=7.5
IMW Indian Meadow 85.66 333 eP P 22 02 42.5 -0.4
comp=Z,18nm,1.2s
E24A Baker 85.72 338 ⇓P P 22 02 43.0 +0.1
baz=86,SNR=5.5
FLWY Flagg Ranch 85.72 333 eP P 22 02 43.1 -0.1
comp=Z,19nm,0.7s
RAO Raoul Island 85.77 237 LR LR 22 32 41.8
comp=Z,45nm,21.7s,baz=42,slow=30
B30A Myrvik Farm, E 85.79 343 ⇑P P 22 02 43.0 -0.1
baz=86,SNR=21
G20A Bridger 85.81 335 ⇓P P 22 02 42.9 -0.5
baz=86,SNR=15
H18A Shoshone NF, C 85.85 334 ⇓P P 22 02 43.7 -0.1
baz=86,SNR=22
C27A Sayler Ranch, 85.94 340 ⇑P P 22 02 44.5 +0.6
baz=86
H17A Grant Village 85.94 333 ⇑P P 22 02 44.7 +0.4
baz=86
H17A Grant Village 85.94 333 eP P 22 02 43.9 -0.4
comp=Z,94nm,2.8s
D25A Fairfield 85.95 339 ⇑P P 22 02 44.1 +0.2
baz=86,SNR=5.9
F21A Absaloka Mine, 85.96 336 ⇓P P 22 02 44.3 +0.2
baz=86
E23A Ismay 85.97 338 ⇓P P 22 02 44.4 +0.3
baz=86
B29A Wagenman Farm, 86.06 342 ⇑P P 22 02 44.5 +0.1
baz=86,SNR=7.9
YFT Old Faithful 86.09 333 eP P 22 02 45.9 +0.9
comp=Z,13nm,1.0s
RLMT Red Lodge 86.09 334 eP P 22 02 43.9 -1.0
comp=Z,15nm,0.7s
E22A Miles City 86.12 337 ⇑P P 22 02 44.6 -0.2
baz=86,SNR=5.5
C26A Wahner Farm, P 86.21 340 ⇓P P 22 02 45.5 +0.3
baz=86
D24A Glendive 86.22 338 ⇑P P 22 02 45.7 +0.4
baz=86,SNR=5.5
A30A Hoffart Farm, 86.24 343 ⇑P P 22 02 45.5 +0.2
baz=87
YNR Norris Junctio 86.26 333 eP P 22 02 44.2 -1.6
comp=Z,24nm,1.8s
F20A Billings 86.29 336 ⇑P P 22 02 45.8 +0.1
baz=87
B28A Dugan Ranch, T 86.31 341 ⇓P P 22 02 45.9 +0.2
baz=87,SNR=8.0
YMR Madison River 86.32 333 eP P 22 02 46.2 +0.1
comp=Z,33nm,0.8s
LAO LASA Array 86.43 337 eP P 22 02 46.0 -0.4
comp=Z,31nm,0.9s
A29A Manning Farm, 86.45 342 ⇑P P 22 02 46.2 -0.1
baz=87,SNR=12
B27A Peters Farms, 86.50 341 ⇓P P 22 02 47.3 +0.7
baz=87
D23A Lindsay 86.54 338 ⇓P P 22 02 47.4 +0.5
baz=87,SNR=18
E21A Keefer Ranch, 86.58 337 ⇓P P 22 02 47.2 +0.1
baz=87,SNR=7.9
F19A Roth Farm, Mol 86.61 335 ⇓P P 22 02 47.1 -0.2
baz=87
C24A Savage 86.62 339 ⇓P P 22 02 47.7 +0.4
baz=87,SNR=5.2
QLMT Earthquake Lak 86.63 333 eP P 22 02 47.6 -0.1
A28A Rude Farm, Bot 86.70 342 ⇑P P 22 02 47.6 -0.1
baz=87
HLID Hailey 86.74 331 ⇑P P 22 02 48.8 +0.7
baz=87,SNR=16
HLID Hailey 86.74 331 eP P 22 02 48.0 -0.1
comp=Z,15nm,1.0s
B26A Jensen Ranch, 86.75 340 ⇓P P 22 02 48.3 +0.4
baz=87
D22A Cohagen 86.83 337 ⇑P P 22 02 48.4 +0.1
baz=87,SNR=12
E20A Meyer Farm, Mu 86.90 336 ⇓P P 22 02 48.9 +0.2
baz=87,SNR=18
ULM Lac du Bonnet 86.91 345 eP P 22 02 47.2 -1.3
ULM Lac du Bonnet 86.91 345 P P 22 02 47.4 -1.2
comp=Z,10nm,0.7s,baz=174,slow=3.8,SNR=21
ULM Lac du Bonnet 86.91 345 eP P 22 02 47.2 -1.3
ULM ePcP PcP 22 02 47.6 -3.2
B25A Knox Farm, Ray 86.91 340 ⇑P P 22 02 49.3 +0.7
baz=87,SNR=7.6
A27A Ledoux Ranch, 87.00 341 ⇑P P 22 02 49.6 +0.6
baz=87
D21A La Casta Ranch 87.01 337 ⇑P P 22 02 49.3 +0.1
baz=87,SNR=9.0
E19A Rath Farm, Rou 87.08 335 ⇓P P 22 02 49.8 +0.2
baz=87,SNR=22
C23A Lambert 87.09 338 ⇓P P 22 02 49.8 +0.3
baz=87,SNR=17
A26A Wade Farm, Ken 87.17 341 ⇑P P 22 02 49.8 -0.1
baz=88
MCMT McKenzie Canyo 87.17 332 eP P 22 02 50.6 +0.3
MFID Camas Ranch 87.20 330 eP P 22 02 48.8 -1.4
comp=Z,8.0nm,0.9s
C22A Vida 87.26 338 ⇑P P 22 02 50.2 -0.1
baz=88
D20A Manuel Ranch, 87.41 336 ⇓P P 22 02 51.1 -0.1
baz=88,SNR=15
DLMT Dillon 87.53 333 eP P 22 02 51.6 -0.3
comp=Z,18nm,1.1s
WVOR Wild Horse Val 87.62 327 eP P 22 02 52.0 -0.4
WVOR pmax pmax
comp=Z,10.0nm,1.1s
WVOR Wild Horse Val 87.62 327 eP P 22 02 52.0 -0.4
comp=Z,10nm,1.1s
B23A Brockton 87.62 339 ⇓P P 22 02 52.5 +0.4
baz=88
D19A Cripps Ranch, 87.73 336 ⇑P P 22 02 53.0 +0.3
baz=88
A24A Westby 87.75 339 ⇓P P 22 02 53.0 +0.4
baz=88,SNR=5.0
B22A Reddig Ranch S 87.79 338 ⇑P P 22 02 52.6 -0.3
baz=88,SNR=8.8
LRM Limekiln Ridge 87.86 333 eP P 22 02 53.1 -0.4
C20A Veseth Ranch, 87.91 337 ⇑P P 22 02 53.0 -0.6
baz=88,SNR=5.9
MOD Modoc Plateau 87.96 326 eP P 22 02 54.4 +0.3
comp=Z,12nm,0.8s
WDC Whiskeytown Da 87.99 324 eP P 22 02 53.5 -0.5
WDC pmax pmax
comp=Z,12nm,0.6s
WDC Whiskeytown Da 87.99 324 eP P 22 02 53.5 -0.5
comp=Z,12nm,0.6s
A23A Redstone 88.03 339 ⇓P P 22 02 54.6 +0.6
baz=88
B21A Ellsworth Farm 88.22 337 ⇓P P 22 02 55.3 +0.3
baz=88
C19A Slack Wire Ran 88.28 336 ⇓P P 22 02 55.3 0.0
baz=89
A22A Carney Farms, 88.38 338 ⇑P P 22 02 55.9 +0.2
baz=89,SNR=9.8
N02D Trinity Center 88.38 324 ⇓P P 22 02 56.5 +0.6
baz=89
HRY Holter Researc 88.38 334 eP P 22 02 55.0 -0.9
B20A Solberg Farm, 88.55 337 ⇑P P 22 02 56.8 +0.3
baz=89
M04C Macdoel 88.58 325 ⇑P P 22 02 57.5 +0.5
baz=89
A21A Bergtoll Ranch 88.69 338 ⇓P P 22 02 56.7 -0.4
baz=89,SNR=5.7
EGMT Eagleton 88.77 336 ⇓P P 22 02 57.7 +0.1
baz=89
M02C Callahan 88.77 324 ⇑P P 22 02 58.1 +0.3
baz=89
B19A Brinkman Farms 88.87 336 ⇑P P 22 02 57.9 -0.1
baz=89
K05A Summer Lake 88.88 326 eP P 22 02 57.8 -0.6
comp=Z,485nm,2.8s
A20A Cobblestone Ra 88.91 337 ⇑P P 22 02 57.9 -0.3
baz=89,SNR=8.8
YBH Yreka Blue Hor 88.96 325 eP P 22 02 58.7 0.0
YBH pmax pmax
comp=Z,132nm,2.5s
YBH Yreka Blue Hor 88.96 325 P P 22 02 58.4 -0.3
comp=Z,8.2nm,0.9s,baz=135,slow=4.5,SNR=8.4
YBH Yreka Blue Hor 88.96 325 eP P 22 02 58.7 0.0
comp=Z,132nm,2.5s
SCHQ Schefferville 88.97 3 P P 22 02 57.5 -0.7
comp=Z,4.5nm,1.1s,baz=202,slow=9.3,SNR=5.2
SCHQ Schefferville 88.97 3 eP P 22 02 57.1 -1.2
comp=Z,108nm,2.6s
BMO Blue Mountains 88.99 330 eP P 22 02 58.0 -0.7
comp=Z,105nm,2.8s
CHMT Chamberlain Mo 89.08 333 eP P 22 02 57.8 -1.4
A19A Klindworth Far 89.21 337 ⇑P P 22 02 59.6 -0.1
baz=90,SNR=6.0
SLMT Seeley Lake 89.44 333 eP P 22 03 00.1 -0.8
J05D Fort Rock, OR 89.47 326 ⇑P P 22 03 02.1 +1.0
baz=90
SWMT Swartz Lake 89.85 333 eP P 22 03 00.9 -1.8
F10A Beach Ranch, E 89.86 330 eP P 22 03 02.0 -0.8
comp=Z,86nm,2.6s
JTMT Jette 90.16 333 eP P 22 03 03.8 -0.4
BSMT Bassoo Peak 90.43 333 eP P 22 03 04.5 -1.1
WALA Waterton Lakes 91.11 334 eP P 22 03 07.8 -0.8
comp=Z,327nm,2.9s
NEW Newport 91.67 332 ⇑P P 22 03 11.4 +0.3
baz=92
C09A Chrisman Ranch 91.76 331 eP P 22 03 11.1 -0.3
comp=Z,9.5nm,0.8s
LON Longmire 92.42 328 eP P 22 03 12.7 -1.9
LON pmax pmax
comp=Z,63nm,1.9s
LON Longmire 92.42 328 eP P 22 03 12.7 -1.9
comp=Z,63nm,1.9s
EDM Edmonton 94.39 336 eP P 22 03 21.2 -2.3
EDM pmax pmax
comp=Z,144nm,2.5s
EDM Edmonton 94.39 336 eP P 22 03 21.2 -2.3
comp=Z,144nm,2.5s
FCC Fort Churchill 94.64 349 eP P 22 03 23.9 -0.5
FCC pmax pmax
comp=Z,9.0nm,0.8s
FCC Fort Churchill 94.64 349 eP P 22 03 23.9 -0.5
comp=Z,9.2nm,0.8s
YKA Yellowknife Ar 102.47 341 P Pdif 22 03 58.8 -0.7
comp=Z,1.0nm,0.7s,baz=142,slow=4.4,SNR=28
YKB5 Yellowknife Ar 102.47 341 ePdif Pdif 22 03 58.8 -0.7
CLL Collm 113.05 43 ePKIKP PKiKP 22 08 42.0 +1.2
CLL Collm 113.05 43 ePKiKP PKiKP 22 08 42.0 +1.2
IL1 Eielson Array 114.60 333 ePKiKP PKPdf 22 08 42.9 -0.5
ILAR Eielson Array 114.60 333 PKP PKPdf 22 08 42.8 -0.7
comp=Z,0.8nm,0.8s,baz=184,slow=2.9,SNR=10.0
ILB Eielson Array 114.60 333 ePKiKP PKPdf 22 08 42.3 -1.1
VYHS Vyhne 115.27 47 ePKIKP PKPdf 22 08 45.1 -0.1
VYHS Vyhne 115.27 47 ePKP PKPdf 22 08 45.1 -0.1
TRF Thorofare Moun 115.31 331 ePKPdf PKPdf 22 08 44.4 -0.6
PPLA Purkeypile 115.85 330 ePKPdf PKPdf 22 08 44.9 -1.2
AS01 Alice Springs 117.26 207 ePKPdf PKPdf 22 08 47.6 -2.4
KOLS Kolonicke sedl 117.53 48 ePKIKP PKPdf 22 08 51.1 +1.5
KOLS Kolonicke sedl 117.53 48 ePKP PKPdf 22 08 51.1 +1.5
IM04 Indian Mountai 117.73 333 ePKPdf PKPdf 22 08 48.9 -0.5
BUR04 Bucovina Ar. S 118.90 50 ePKPdf PKPdf 22 08 51.8 -0.6
WRA Warramunga Arr 120.48 209 PKP PKPdf 22 08 54.5 -1.8
comp=Z,2.8nm,0.7s,baz=161,slow=1.5,SNR=14
WRA PKKPbc PKKPbc 22 19 01.3 -0.1
comp=Z,0.9nm,0.9s,baz=353,slow=4.9,SNR=4.7
WRAB Tennant Creek 120.48 209 i PKIKP PKPdf 22 08 54.7 -1.6
WRAB pmax pmax
comp=Z,18nm,2.5s
BR231 Keskin MP Arra 121.33 61 ePKPdf PKPdf 22 08 56.8 -0.6
BR101 Keskin Array S 121.92 61 ePKPdf PKPdf 22 08 58.1 -0.3
BRTR Keskin Array B 121.92 61 PKP PKPdf 22 08 58.1 -0.3
comp=Z,2.2nm,0.8s,baz=192,slow=4.2,SNR=12
AK11 Malin Array Si 122.33 48 ePKPdf PKPdf 22 08 56.4 -2.3
KIEV Kiev 122.35 48 ePKIKP PKPdf 22 08 57.4 -1.3
KIEV Kiev 122.35 48 ePKPdf PKPdf 22 08 57.4 -1.3
AKASG Malin Array Be 122.37 48c i PKIKP PKPdf 22 08 57.2 -1.6
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 122.37 48 PKP PKPdf 22 08 57.2 -1.6
comp=Z,1.9nm,0.6s,baz=275,slow=2.6,SNR=4.4
AKBB Malin Array Si 122.37 48 ePKIKP PKPdf 22 08 57.2 -1.6
AKBB Malin Array Si 122.37 48 ePKPdf PKPdf 22 08 57.2 -1.6
GAMB Gambell 124.50 328 ePKPdf PKPdf 22 09 02.4 0.0
RAYN Ar Rayn 124.92 84 ePKPdf PKPdf 22 09 04.0 -0.6
FITZ Fitzroy Crossi 125.19 201 ePKPdf PKPdf 22 09 04.4 -0.9
OBN Obninsk 127.64 43 ePKIKP PKPdf 22 09 08.7 0.0
OBN e 22 11 10.3
OBN pmax pmax
comp=Z,10.0nm,1.4s
KIV Kislovodsk 129.59 58 ePKIKP PKPdf 22 09 13.4 +0.4
KLMR Klimovskoe 129.65 36 ePKIKP PKPdf 22 09 09.6 -2.8
KLMR pmax pmax
comp=Z,30nm,1.2s
PRGR Permogore 132.57 35 ePKIKP PKPdf 22 09 15.0 -2.9
PRGR pmax pmax
comp=Z,15nm,1.3s
BILL Bilibino 133.24 334 ePKIKP PKPdf 22 09 18.9 -0.1
BILL Bilibino 133.24 334 ePKPdf PKPdf 22 09 18.9 -0.1
MMRI Maumere 135.16 200 ePKPpre PKPpre 22 09 14.3
GEYT Alibeck 139.87 70 PKP PKPdf 22 09 32.5 +0.2
comp=Z,2.4nm,0.8s,baz=256,slow=6.0,SNR=6.3
ARU Arti 139.96 41 i PKIKP PKPdf 22 09 32.2 +0.4
SEY Seymchan 140.43 330 PKP PKPdf 22 09 33.1 +0.6
comp=Z,6.5nm,0.8s,baz=84,slow=2.1,SNR=26
TIXI Tiksi 141.10 350 ePKIKP PKPdf 22 09 32.8 -0.6
TIXI Tiksi 141.10 350 ePKPpre PKPpre 22 09 25.7
ABKAR Akbulak array 141.83 52 ePKPpre PKPpre 22 09 29.0
LUWI Luwuk 142.16 204 ePKPpre PKPpre 22 09 29.5
BKNI Bangkinang 145.47 167 ePKPdf PKPbc 22 09 41.6 -1.3
KSM Kuching 147.19 184 ePKPdf PKPdf 22 09 45.0 -0.8
BRVK Borovoye 147.41 43c i PKP2 PKPdf 22 09 46.1 +1.2
BRVK pmax pmax
comp=Z,26nm,1.2s
BRVK Borovoye 147.41 43 ePKPdf PKPdf 22 09 45.2 +0.3
VOSK Vostochnaya 147.92 44 ePKIKP PKPdf 22 09 45.8 0.0
VOSK Vostochnaya 147.92 44 ePKPdf PKPdf 22 09 45.8 0.0
KBL Kabul 147.93 78 ePKIKP PKPdf 22 09 46.9 +0.2
KBL Kabul 147.93 78 ePKPdf PKPdf 22 09 46.9 +0.2
HYB Hyderabad 148.66 115 i PKP PKPdf 22 09 50.5 +2.4
YAK Yakutsk 149.14 340 ePKIKP PKPdf 22 09 49.5 +2.0
YAK pmax pmax
comp=Z,36nm,1.0s
YAK pmax pmax
comp=E,14nm,1.4s
YAK Yakutsk 149.14 340 ePKPbc PKPdf 22 09 50.4 +3.0
KKAR Karatay Array 149.62 62 ePKP2 PKPdf 22 09 53.1 +4.2
KKAR Karatay Array 149.62 62 ePKPbc PKPdf 22 09 53.1 +4.2
KULM Kulim 150.23 165 ePKPbc PKPdf 22 09 54.9 +4.1
YSS Yuzh-Sakhalins 151.12 306 ePKIKP PKPbc 22 09 56.5 -0.4
YSS pmax pmax
comp=Z,30nm,0.9s
ASAJ Asahikawa 151.76 300 PKPbc PKPbc 22 09 58.3 -0.2
comp=Z,16nm,0.8s,baz=267,slow=11,SNR=6.6
ASAJ PKPab PKPab 22 10 08.0 +0.5
comp=Z,12nm,0.8s,baz=233,slow=17,SNR=3.9
ASAJ Asahikawa 151.76 300 ePKPbc PKPdf 22 09 57.3 +5.1
ASAJ PKPab PKPab 22 10 08.0 +0.5
AML Almayashu 152.04 64 P PKPbc 22 10 00.4 +0.6
SNR=8.3
EKS2 Erkin-Say 152.05 63 P PKPbc 22 09 59.8 +0.3
SNR=12
EKS2 Erkin-Say 152.05 63 ePKIKP PKPdf 22 09 53.1 +0.2
EKS2 e 22 09 59.8
EKS2 Erkin-Say 152.05 63 ePKPdf PKPdf 22 09 53.1 +0.2
EKS2 ePKPbc PKPbc 22 09 59.8 +0.3
USP Ospenovka 152.51 61 P PKPbc 22 10 00.7 +0.4
SNR=6.4
AAK Ala-Archa 152.58 63 P PKPbc 22 10 01.6 +0.9
SNR=14
AAK Ala-Archa 152.58 63 ePKIKP PKPdf 22 09 53.3 -0.4
AAK e 22 09 54.7
AAK e 22 10 01.2
AAK Ala-Archa 152.58 63 ePKPdf PKPdf 22 09 53.3 -0.4
AAK ePKPdf PKPbc 22 09 54.7 -6.0
AAK ePKPbc PKiKP 22 10 01.2 +0.3
UCH Uchtor 152.63 63 P PKPbc 22 10 02.2 +1.0
SNR=6.7
KURK Kurchatov 153.08 44 ePKIKP PKPdf 22 09 53.6 -0.3
KURK e 22 10 01.0
KURK Kurchatov 153.08 44 ePKPdf PKPdf 22 09 53.6 -0.3
KURK ePKPbc PKPbc 22 10 01.0 -0.2
NVS Novosibirsk 153.21 33 ePKIKP PKPdf 22 09 52.4 -1.5
NVS e 22 10 13.3
NVS pmax pmax
comp=Z,25nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.1s
TKM2 Tokmak 2 153.35 62 ePKIKP PKPdf 22 09 53.5 -1.4
TKM2 e 22 10 02.4
TKM2 Tokmak 2 153.35 62 ePKPdf PKPdf 22 09 53.5 -1.4
TKM2 ePKPbc PKPbc 22 10 02.4 -0.1
KSH Kashi 153.90 69 PKPbc PKPdf 22 09 55.7 +0.1
KSH sPKP 22 10 09.0
KSH PKS PKSdf 22 13 28.7 -1.3
KSH PP PP 22 13 50.2 -1.7
KSH SKS SKSdf 22 17 00.2 -1.7
KSH SS SS 22 33 23.1 -6.2
KSH PPMZ
comp=E,190nm,5.3s
KSH LN
comp=E,26nm,4.0s
KSH LE
comp=E,26nm,5.8s
KSH LZ
comp=E,120nm,7.4s
ULHL Ulahol 153.91 63 P PKPbc 22 10 04.5 +0.9
SNR=6.4
ZAA1 Zalesovo Array 154.49 33 ePKPdf PKPdf 22 09 54.8 -1.0
ZAA1 ePKPbc PKPbc 22 10 04.0 -0.2
ZAA1 ePKPab PKPab 22 10 18.3 -0.3
ZAA0 Zalesovo Array 154.49 33 ePKPdf PKPdf 22 09 54.7 -1.1
ZAA0 ePKPbc PKPbc 22 10 03.3 -0.9
ZAA0 ePKPab PKPab 22 10 17.9 -0.7
ZALV Zalesovo Beam 154.49 33 PKP PKPdf 22 09 54.8 -1.0
comp=E,2.9nm,0.8s,baz=277,slow=2.4,SNR=15
ZALV PKPbc PKPbc 22 10 04.0 -0.2
comp=E,10nm,0.8s,baz=298,slow=3.2,SNR=30
ZALV PKPab PKPab 22 10 18.3 -0.3
comp=E,10nm,0.8s,baz=311,slow=5.5,SNR=10
BOD Bodaibo 156.23 352 ePKIKP PKPab 22 10 14.3 -12
BOD pmax pmax
comp=Z,14nm,0.9s
MK32 Makanchi Array 156.93 50 ePKPdf PKPdf 22 09 59.0 -0.3
MK32 ePKPab PKPab 22 10 29.1 -0.4
MK32 ePP PP 22 14 07.7 -0.4
MKAR Makanchi Array 156.93 50 ePKIKP PKPdf 22 09 57.8 -1.6
MKAR 22 14 07.7
MKAR Makanchi Array 156.93 50 PKP PKPdf 22 09 59.0 -0.3
comp=Z,1.4nm,0.9s,baz=333,slow=0.3,SNR=13
MKAR PKPab PKPab 22 10 29.1 -0.4
comp=Z,3.8nm,0.9s,baz=296,slow=3.9,SNR=14
MKAR PP PP 22 14 07.7 -0.4
comp=Z,1.0nm,1.0s,baz=262,slow=3.7,SNR=5.2
MKAR Makanchi Array 156.93 50 ePKPdf PKPdf 22 09 57.8 -1.6
MKAR ePKPab PKPab 22 10 28.9 -0.6
MKAR PP PP 22 14 07.7 -0.4
MK01 Makanchi Array 156.94 50 ePKPdf PKPdf 22 09 58.0 -1.4
MK01 ePKPab PKPab 22 10 28.6 -0.9
KOLN Koldanda 158.02 101 eP PKPdf 22 10 00.8 -0.8
DANN Dangsing 158.38 100 eP PKPdf 22 10 01.6 -0.5
comp=Z,22nm,0.9s
GKN Gorkha 158.96 101 eP PKPdf 22 10 01.6 -1.0
comp=Z,23nm,1.3s
USRK Ussuriysk Ar. 159.15 305 PKPab PKPab 22 10 38.4 -0.7
comp=Z,2.5nm,0.8s,baz=64,slow=4.4,SNR=5.5
DMN Daman 159.18 103 eP PKPdf 22 10 02.4 -0.6
KKN Kakani 159.39 102 eP PKPdf 22 10 02.3 -0.9
PKI Pulchoki 159.41 103 eP PKPdf 22 10 02.2 -1.2
GUN Gumba 159.93 103 eP PKPdf 22 10 03.3 -0.7
JIRN Jiri 160.07 104 eP PKPdf 22 10 03.3 -0.9
comp=Z,11nm,1.1s
RAMN Ramite 160.09 106 eP PKPdf 22 10 03.5 -0.6
ODAN Odare 160.67 107 eP PKPdf 22 10 04.2 -0.5
TAPN Taplejung 161.15 106 eP PKPdf 22 10 04.8 -0.5
comp=Z,11nm,1.2s
WMQ Urumqi 161.61 53 ePKP PKPdf 22 10 04.2 -0.7
WMQ pPKP pPKPdf 22 10 15.8 +5.4
CM01 Chiang Mai Arr 162.12 151 ePKPdf PKPdf 22 10 04.8 -1.3
CM01 ePKPab PKPab 22 10 50.6 -1.9
CM31 Chiang Mai Arr 162.15 150 ePKPdf PKPdf 22 10 06.0 -0.1
CM31 ePKPab PKPab 22 10 51.7 -1.0
CMAR Chiang Mai Arr 162.15 150 PKP PKPdf 22 10 06.0 -0.2
comp=Z,1.5nm,0.4s,baz=249,slow=2.5,SNR=9.9
CMAR PKPab PKPab 22 10 51.7 -1.0
comp=Z,0.4nm,0.3s,baz=225,slow=5.8,SNR=4.8
TLY Talaya 162.42 9 ePKIKP PKPdf 22 10 05.2 -0.2

TLY				*e*			22 10 53.3	
TLY					pmax	pmax		
	comp=Z,5.0nm,1.4s							
ZAK	**Zakamensk**	**163.63**	**11**	*e*PKP2		**PKPab**	**22 10 58.2**	**-0.3**
ZAK					pmax	pmax		
	comp=Z,3.0nm,1.3s							
KSRS	**Korea Array**	**163.66**	**286**	PKPab		**PKPab**	**22 10 59.3**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=96,slow=3.7,SNR=5.0							
KS01	**Wonju Array Si**	**163.68**	**287**	*e*PKPdf		**PKPdf**	**22 10 04.6**	**-2.5**
KS01				*e*PKPab		**PKPab**	**22 10 58.9**	**-0.3**
KS15	**Wonju Array Si**	**163.69**	**286**	*e*PKPab		**PKPab**	**22 10 59.3**	**+0.1**
KSAR	**Wonju Array Be**	**163.69**	**286**	PKP2		**PKPab**	**22 10 59.3**	**+0.1**
KSAR	**Wonju Array Be**	**163.69**	**286**	PKPab		**PKPab**	**22 10 59.3**	**+0.1**
LSA	**Lhasa**	**164.88**	**103**	*e*PKIKP		**PKPdf**	**22 10 07.1**	**-1.9**
LSA				*e*			22 11 05.7	
LSA	**Lhasa**	**164.88**	**103**	*e*PKPdf		**PKPdf**	**22 10 07.1**	**-1.9**
LSA				*e*PKPab		**PKPab**	**22 11 05.7**	**+0.5**
SONA1	**Songino Array**	**166.50**	**5**	*e*PKPdf		**PKPdf**	**22 10 07.5**	**-1.8**
SONA1				*e*PKPab		**PKPab**	**22 11 10.7**	**-0.5**
SONA0	**Songino Array**	**166.51**	**5**	*e*PKPdf		**PKPdf**	**22 10 08.1**	**-1.2**
SONA0				*e*PKPab		**PKPab**	**22 11 11.6**	**+0.3**
SONA0				*e*PP		**PP**	**22 14 57.8**	**-0.7**
SONM	**Songino Array**	**166.51**	**5**	PKP		**PKPdf**	**22 10 08.1**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=219,slow=1.0,SNR=6.8							
SONM				PKPab		**PKPab**	**22 11 11.6**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=346,slow=5.0,SNR=13							
SONM				PP		**PP**	**22 14 57.8**	**-0.7**
	comp=Z,1.5nm,1.1s,baz=355,slow=2.1,SNR=6.5							
ULN	**Ulaanbaatar**	**166.52**	**3**	*e*PKIKP		**PKPdf**	**22 10 07.2**	**-2.2**
ULN				*e*			22 11 11.6	
ULN	**Ulaanbaatar**	**166.52**	**3**	*e*PKPdf		**PKPdf**	**22 10 07.2**	**-2.2**
ULN				*e*PKPab		**PKPab**	**22 11 11.6**	**+0.3**
KMI	**Kunming**	**169.65**	**152**	PKP		**PKPdf**	**22 10 12.3**	**0.0**
NJ2	**Nanjing**	**170.70**	**258**	*e*PKP		**PKPdf**	**22 10 12.3**	**-0.1**
GTA	**Gaotai**	**171.68**	**51**	⇑PKP		**PKPdf**	**22 10 13.2**	**+0.4**
GTA				pPKP		**pPKPdf**	**22 10 23.9**	**+5.5**
GTA				sPKP			22 10 27.5	
GTA				PKPab		**PKPab**	**22 11 35.2**	**+0.6**
GTA				PP		**PP**	**22 15 28.6**	**+2.9**
GTA				SKS		**SKSdf**	**22 17 11.6**	**-4.0**
GTA				SKKS		**SKKSac**	**22 22 10.4**	**-1.4**
GTA				SS		**SS**	**22 36 29.2**	**-3.6**
GTA				PPMZ				
	comp=Z,94nm,5.1s							
GTA				LN				
	comp=Z,210nm,13.3s							
GTA				LE				
	comp=Z,210nm,16.6s							
GTA				LZ				
	comp=Z,160nm,17.1s							
HHC	**Hu-ho-hao-te**	**173.00**	**338**	*e*PKP		**PKPdf**	**22 10 12.6**	**-0.7**
HHC				pPKP		**pPKPdf**	**22 10 23.8**	**+4.9**
HHC				PP		**PP**	**22 15 32.4**	**+1.1**
HHC				SKS		**SKSdf**	**22 17 12.5**	**-3.4**
HHC				SKKS		**SKKSac**	**22 22 14.9**	**-2.8**
HHC				SS		**SS**	**22 36 43.1**	**-0.9**
HHC				PPMZ				
	comp=Z,230nm,9.6s							
HHC				LN				
	comp=Z,150nm,21.1s							
HHC				LE				
	comp=Z,280nm,18.6s							
HHC				LZ				
	comp=Z,160nm,21.6s							
CD2	**Chengdu**	**174.95**	**132**	*e*PKP		**PKPdf**	**22 10 13.5**	**-0.8**
LZH	**Lanzhou**	**176.12**	**63**	*e*PKP		**PKPdf**	**22 10 15.0**	**+0.4**
LZH				pPKP		pPKPdf	22 10 28.0	+7.9
LZH				sPKP			22 10 33.9	
XAN	**Xi'an**	**179.24**	**243**	PKP		**PKPdf**	**22 10 14.5**	**-0.4**
XAN				pPKP		**pPKPdf**	**22 10 26.2**	**+5.8**

IDC 11 21:58:31.3±48.0, 15°.86S×174°.79W, h0km, mb4.5/3, mb1 4.7/3, mb1mx3.9/34, mbtmp4.5/3, Error ellipse: s-maj=920.7km s-min=164.4km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMSA	**Cobar Meteorol**	**39.17**	**239**	P	P	22 06 01.2	+0.1
	baz=37,SNR=7.6						
QLP	**Quilpie**	**39.51**	**247**	P	P	22 06 03.8	-0.2
	baz=37,SNR=3.6						
MANU	**Manus Island**	**39.72**	**286**	P	P	22 06 05.2	-0.6
	baz=37,SNR=5.6						
STKA	**Stephens Creek**	**42.65**	**240**	P	P	22 06 30.0	+0.2
	3.2nm,0.5s,baz=92,slow=10,SNR=13						
STKA	**Stephens Creek**	**42.65**	**240**	P	P	22 06 30.0	+0.2
	baz=40,SNR=9.2						
HTT	**Hallett**	**45.16**	**238**	P	P	22 06 50.1	0.0
	baz=43,SNR=5.3						
BBOO	**Buckleboo**	**47.42**	**240**	P	P	22 07 07.2	-0.6
	baz=45,SNR=10						
WRA	**Warramunga Arr**	**48.43**	**257**	P	P	22 07 15.4	-0.5
	1.4nm,0.5s,baz=93,slow=8.0,SNR=10						
ASAR	**Alice Springs**	**48.69**	**252**	P	P	22 07 17.7	-0.1
	13nm,0.6s,baz=88,slow=8.4,SNR=131						
WRKA	**Warakurna**	**53.78**	**250**	P	P	22 07 55.5	-0.5
	baz=51,SNR=24						

GUC 11 22:05:33.1±0.3, 34°.73S×72°.03W, h94km±10km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.71**	**113**	*e*P4	Pn	22 05 49.0	-1.1
NICH				*i* S	Sn	22 06 02.5	-0.3
NICH				AML	AML	22 06 04.8	
	comp=N,5μm,0.3s						
CACH	**El Canelo**	**1.33**	**63**	*e*P9	Pn	22 05 56.1	-1.0
CACH				*e*S4	Sn	22 06 13.4	-1.8
CLCH	**Cerro Calan**	**1.81**	**43**	*i* P	Pn	22 06 02.9	-0.3
CLCH				*i* S	Sn	22 06 25.6	-0.4
CLCH				AML	AML	22 06 37.5	
	comp=N,588nm,0.4s						
PEL	**Peldehue**	**1.93**	**36**	*i* P	Pn	22 06 04.6	-0.1
PEL				*i* S	Sn	22 06 28.3	-0.4
PEL				AML	AML	22 06 34.5	
	comp=E,696nm,0.4s						
FCH	**Farellones**	**2.01**	**46**	*i* P	Pn	22 06 06.0	0.0
FCH				*i* S	Sn	22 06 31.2	+0.1
FCH				AML	AML	22 06 39.0	
	comp=N,506nm,0.5s						

GUC 11 22:15:19.4±0.6, 35°.61S×72°.54W, h36km±6km, ML4.2, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.56**	**201**	*i* P	Pn	22 15 30.6	-0.3
COCH				*i* S	Sn	22 15 38.4	-0.5
NICH	**Los Niches**	**1.23**	**61**	*i* P	Pn	22 15 41.0	+1.0
NICH				*i* S	Sn	22 15 57.3	+1.9
NICH				AML	AML	22 16 03.4	
	comp=E,5μm,0.7s						
CCSP	**San Pedro de C**	**1.32**	**200**	*i* P	Pn	22 15 42.5	+1.3
CCSP				*i* S	Sn	22 15 59.7	+2.2
CCSP				AML	AML	22 16 26.1	
	comp=N,13μm,0.7s						

*IDC **11** 22:15:25.9±1.2, 38°.41S×72°.89W, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.1/26, mbtmp4.3/8, MS3.5/4, Ms1 3.4/4, ms1mx3.1/31, Error ellipse: s-maj=41.9km s-min=24.2km az=85.0*

*ISCJB **11** 22:15:27.1±0.7, 38°.39S±0°.06×73°.1W±0°.1, h25km, mb4.5/15, MS3.9/2, Error ellipse: s-maj=16.1km s-min=8.0km az=4.3*

*NEIC **11** 22:15:30.1±1.7, 38°.44S×73°.21W, h36km±12km, mb4.6/8, Error ellipse: s-maj=23.2km s-min=8.4km az=81.0*

ISC 11 22:15:28.9±0.7, 38°.45S±0°.07×73°.2W±0°.1, h25km, n40, σ1§17/37, mb4.5/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.06**	**139**	Pn	Pb	22 16 18.3	-4.3
	1.4nm,0.3s,baz=302,slow=9.8,SNR=24						
PLCA				Lg	Lg	22 17 04.0	
	15nm,0.3s,baz=236,slow=18,SNR=3.4						
PLCA				LR	LR	22 17 41.3	
	comp=Z,488nm,19.2s,baz=324,slow=46						
PLCA	**Paso Flores**	**3.06**	**139**	*e*Pn	**Pn**	**22 16 17.9**	**+2.3**
PLCA				Lg	Lg	22 17 04.0	
CFAA	**Coronel Fontan**	**7.94**	**32**	Pn	**Pn**	**22 17 23.6**	**+0.9**
	0.5nm,0.3s,baz=219,slow=9.9,SNR=5.4						
CFAA				Sn	**Sn**	**22 18 51.7**	**-0.1**
	0.4nm,0.3s,baz=66,slow=14,SNR=3.7						
CFAA				Lg	Lg	22 19 42.9	
	0.1nm,0.3s,baz=317,slow=20,SNR=3.1						
CFAA				LR	LR	22 21 01.7	
	comp=Z,45nm,19.7s,baz=214,slow=43						
TRQA	**Tornquist**	**8.82**	**91**	*e*Pn	**Pn**	**22 17 36.2**	**+1.4**
LCO	**Las Campanas**	**9.64**	**13**	*e*Pn	**Pn**	**22 17 44.7**	**-1.5**
LVC	**Limon Verde**	**16.20**	**14**	*e*Pn	**Pn**	**22 19 14.9**	**-0.2**
EFI	**East Falkland**	**16.95**	**146**	*e*Pn	**Pn**	**22 19 22.0**	**-2.2**
	88nm,1.3s						
LPAZ	**La Paz**	**22.52**	**13**	P	**P**	**22 20 31.4**	**+3.9**
	7.4nm,0.8s,baz=172,slow=5.6,SNR=24						
LPAZ	**La Paz**	**22.52**	**13**	*e*P	**P**	**22 20 28.9**	**+1.5**
	13nm,0.9s						
SIV	**San Ignacio**	**24.78**	**29**	P	**P**	**22 20 48.6**	**-0.2**
	4.3nm,0.8s,baz=232,slow=8.2,SNR=6.3						
PMSA	**Palmer Station**	**26.91**	**171**	LR	LR	22 31 21.4	
	comp=Z,314nm,18.6s,baz=293,slow=36						
SAML	**Samuel**	**30.72**	**20**	*e*P	**P**	**22 21 41.2**	**-0.7**
	4.2nm,1.1s						
BDFB	**Brasilia**	**31.73**	**51**	P	**P**	**22 21 50.2**	**-0.7**
	3.8nm,1.0s,baz=225,slow=11,SNR=4.0						
PTGA	**Pitinga**	**39.45**	**21**	P	**P**	**22 22 56.7**	**-0.4**
	7.7nm,0.6s,baz=206,slow=10,SNR=18						
PTGA	**Pitinga**	**39.45**	**21**	*e*P	**P**	**22 22 56.7**	**-0.4**
	6.7nm,0.6s						
SDV	**Santo Domingo**	**47.15**	**3**	*e*P	**P**	**22 23 58.3**	**-1.2**
	5.8nm,0.8s						
SNAA	**Sanae**	**47.85**	**156**	P	**P**	**22 24 05.3**	**+1.1**
	2.4nm,0.9s,baz=296,slow=6.5,SNR=7.0						
SNAA	**Sanae**	**47.85**	**156**	*e*P	**P**	**22 24 04.4**	**+0.2**
	7.4nm,0.9s						
QSPA	**South Pole Qui**	**51.80**	**180**	*e*P	P	22 24 46.0	+12
TXAR	**Lajitas Array**	**73.20**	**332**	P	**P**	**22 26 59.1**	**+1.5**
	1.2nm,0.7s,baz=145,slow=6.9,SNR=4.1						
CASY	**Casey**	**75.56**	**182**	*e*P	**P**	**22 27 10.8**	**0.0**
	34nm,0.7s						
LIC	**Lamto**	**77.07**	**71**	*e*P	**P**	**22 27 20.1**	**-0.1**
	26nm,1.2s						
TIC	**Toumodi**	**77.35**	**71**	*e*P	**P**	**22 27 20.0**	**-1.8**
	4.3nm,0.2s						
KIC	**Kosan Boka**	**77.37**	**71**	*e*P	**P**	**22 27 21.8**	**-0.1**
	32nm,1.1s						
DBIC	**Dimbokro**	**77.49**	**71**	P	**P**	**22 27 22.9**	**+0.4**
	4.1nm,0.7s,baz=205,slow=6.4,SNR=8.2						
DBIC	**Dimbokro**	**77.49**	**71**	*e*P	**P**	**22 27 21.6**	**-0.9**
BOSA	**Boshof**	**78.83**	**118**	P	**P**	**22 27 29.4**	**-0.6**
	2.8nm,0.9s,baz=239,slow=2.1,SNR=5.1						
BOSA	**Boshof**	**78.83**	**118**	*e*P	**P**	**22 27 29.2**	**-0.8**
	4.2nm,0.9s						
ANMO	**Albuquerque**	**79.27**	**333**	LR	LR	22 58 46.6	
	comp=Z,65nm,19.4s,baz=340,slow=33						
TORD	**Torodi Ar. Bea**	**86.58**	**70**	P	**P**	**22 28 09.3**	**-1.0**
	1.9nm,0.8s,baz=231,slow=4.2,SNR=12						
GERES	**GERESS Array B**	**115.89**	**47**	PKP	**PKPdf**	**22 34 08.8**	**-0.1**
	0.5nm,0.7s,baz=186,slow=2.7,SNR=6.3						
BRTR	**Keskin Array B**	**124.71**	**64**	PKP	**PKPdf**	**22 34 26.6**	**+0.4**
	1.0nm,0.8s,baz=194,slow=4.0,SNR=4.0						
SEY	**Seymchan**	**143.34**	**327**	PKhKP	PKPpre	22 34 57.7	
	0.7nm,0.6s,baz=83,slow=9.8,SNR=3.8						
TIXI	**Tiksi**	**144.87**	**348**	*e*PKPdf	**PKPab**	**22 35 01.2**	**-0.4**
ABKAR	**Akbulak array**	**145.03**	**57**	*e*PKPdf	PKPbc	22 35 02.5	-0.3
BVAR	**Borovoye Array**	**151.06**	**48**	PKP	**PKPdf**	**22 35 13.5**	**+0.3**
	2.9nm,0.7s,baz=294,slow=1.5,SNR=4.8						
BVAR				PKPbc	**PKiKP**	**22 35 20.0**	**+0.5**
	2.9nm,0.7s,baz=285,slow=4.1,SNR=20						
BVAR				PKPab	**PKPab**	**22 35 25.7**	**-1.0**
	1.2nm,0.7s,baz=343,slow=4.6,SNR=4.2						
KURBB	**Kurchatov Arra**	**156.61**	**49**	PKPab	**PKPab**	**22 35 50.8**	**+0.5**
	1.6nm,0.8s,baz=291,slow=4.9,SNR=12						
KURK	**Kurchatov**	**156.63**	**49**	PKPab	**PKPab**	**22 35 50.8**	**+0.4**
ZALV	**Zalesovo Beam**	**158.41**	**37**	PKPab	**PKPab**	**22 35 58.3**	**+0.4**
	0.8nm,0.6s,baz=306,slow=5.3,SNR=4.3						
MKAR	**Makanchi Array**	**160.18**	**57**	PKPab	**PKPab**	**22 36 05.8**	**-0.1**
	1.4nm,0.7s,baz=292,slow=3.5,SNR=14						

MAN 11 22:17:46, 12°.43N×123°.57E, h5km, mb4.3, ML3.1, MS2.9, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.09**	**142**⇑	*e*P	Pg	22 17 49.3	+1.3
MMPH				*i* S	Sg	22 17 51.8	+2.5
RCP	**Roxas**	**1.18**	**223**⇓	*e*P	Pg	22 18 08.7	0.0
RCP				*e*S	Sn	22 18 26.0	+0.3
PVCP	**Virac**	**1.29**	**26**	*e*P	Pn	22 18 10.2	-0.5
PVCP				*e*S	Sg	22 18 25.7	-1.8
GUIM	**Jordan**	**2.03**	**208**	*e*P	Pn	22 18 22.1	+1.1
GUIM				*e*S	Sn	22 18 44.4	-2.4

*IDC **11** 22:28:19.9±1.1, 34°.48S×72°.17W, h0km, mb4.0/6, mb1 4.1/9, mb1mx3.9/34, mbtmp3.9/9, ML3.7/3, MS4.4/1, Ms1 4.4/1, ms1mx3.0/25, Error ellipse: s-maj=37.6km s-min=20.7km az=103.0*

*ISCJB **11** 22:28:20.9±0.9, 34°.50S±0°.09×72°.3W±0°.2, h16km, mb4.0/6, MS4.3/1, Error ellipse: s-maj=20.3km s-min=9.4km az=27.7*

ISC 11 22:28:22.3±1.0, 34°.5S±0°.1×72°.3W±0°.2, h16km, n18, σ1§38/11, mb4.0/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.47**	**52**	Pn	**Pn**	**22 29 29.7**	**+0.2**
	1.1nm,0.3s,baz=220,slow=14,SNR=8.4						
CFAA				Sn	**Sn**	**22 30 22.7**	**+1.5**
	1.0nm,0.3s,baz=198,slow=16,SNR=3.1						
PLCA	**Paso Flores**	**6.42**	**168**	Pn	**Pn**	**22 29 57.3**	**+1.0**
	0.6nm,0.3s,baz=343,slow=11,SNR=6.9						
PLCA				Lg	Lg	22 31 36.6	
	0.4nm,0.3s,baz=290,slow=18,SNR=2.4						
LPAZ	**La Paz**	**18.49**	**13**	P	**Pn**	**22 32 38.7**	**+0.2**
	0.2nm,0.3s,baz=198,slow=8.1,SNR=7.6						
SIV	**San Ignacio**	**21.00**	**32**	P	Pn	22 33 05.4	-2.3
	1.8nm,0.5s,baz=206,slow=5.4,SNR=6.0						
BDFB	**Brasilia**	**28.80**	**55**	P	**P**	**22 34 19.5**	**-0.3**
	1.2nm,0.4s,baz=201,slow=10,SNR=3.4						
PMSA	**Palmer Station**	**30.76**	**173**	LR	LR	22 45 38.7	
	comp=Z,626nm,18.8s,baz=133,slow=34						
QSPA	**South Pole Qui**	**55.78**	**180**	P	**P**	**22 37 59.0**	**+0.7**
	2.3nm,1.1s,baz=59,slow=0.8,SNR=4.3						
BOSA	**Boshof**	**80.08**	**118**	P	**P**	**22 40 30.6**	**-1.1**
	1.7nm,0.9s,baz=261,slow=7.6,SNR=3.5						
NVAR	**Mina Array Bea**	**84.12**	**325**	P	**P**	**22 40 54.1**	**+1.6**
	0.6nm,0.8s,baz=165,slow=6.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**84.60**	**70**	P	**P**	**22 40 53.5**	**-1.8**
	1.3nm,0.7s,baz=290,slow=6.9,SNR=10.0						
YKA	**Yellowknife Ar**	**102.41**	**341**	P	**Pdif**	**22 42 16.6**	**0.0**
	0.1nm,0.5s,baz=91,slow=27,SNR=4.0						
H11S2	**WAKE ISLAND Hyd**	**25.51**	**269**	T	T	01 05 38.6	
	baz=120,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hyd**	**25.53**	**269**	T	T	01 05 39.4	
	baz=120,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hyd**	**25.53**	**269**	T	T	01 05 39.9	
	baz=120,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hyd**	**25.94**	**270**	T	T	01 06 10.7	
	baz=121,slow=76,SNR=6.8						
H11N1	**WAKE ISLAND Hyd**	**25.95**	**270**	T	T	01 06 12.0	
	baz=121,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hyd**	**25.95**	**270**	T	T	01 06 11.5	
	baz=121,slow=76,SNR=7.7						
ZALV	**Zalesovo Beam**	**154.75**	**33**	PKPbc	**PKPbc**	**22 48 20.0**	**-2.1**
	0.3nm,0.3s,baz=328,slow=2.3,SNR=4.8						

*ISCJB **11** 22:31:48.1±0.3, 61°.02N±0°.02×147°.07W±0°.04, h23km±4km, mb3.6/2, MS3.5/1, Error ellipse: s-maj=4.1km s-min=3.4km az=172.2*

*NEIC **11** 22:31:49.2, 61°.03N×147°.03W, h10km, ML3.3(AEIC), After AEIC.*

*IDC **11** 22:31:54.6±4.4, 61°.24N×146°.08W, h49km±36km, mb3.3/2, mb1 3.4/6, mb1mx3.0/49, mbtmp3.3/6, ML3.0/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/28, Error ellipse: s-maj=58.1km s-min=32.1km az=35.0*

ISC 11 22:31:47.3±1.2, 61°.04N±0°.03×147°.09W±0°.02, h17km±10km, n79, σ1§39/83, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLI	**Glacier Island**	**0.16**	**181**	P	**Pb**	**22 31 52.9**	**+1.1**
JPK	**Jack Peak**	**0.24**	**86**	P	**Pb**	**22 31 54.1**	**+0.9**
VMT	**TAPS Tl Valdez**	**0.35**	**82**	P	**Pb**	**22 31 55.5**	**+0.4**
VMT				S	**Sb**	**22 32 01.1**	**+0.6**
VLZ	**Valdez**	**0.38**	**75**	P	**Pb**	**22 31 55.9**	**+0.3**
DIV	**Divide**	**0.65**	**81**	P	**Pg**	**22 31 59.7**	**-0.3**
HIN	**Hinchinbrook I**	**0.70**	**156**	P	**Pb**	**22 32 01.8**	**+0.7**
KLU	**Klutina**	**0.73**	**51**	P	**Pb**	**22 32 01.6**	**0.0**
SCM	**Sheep Creek Mo**	**0.81**	**352**	P	**Pb**	**22 32 03.3**	**+0.3**
SCM				S	**Sb**	**22 32 15.0**	**+1.4**
EYAK	**Cordova Ski Ar**	**0.82**	**126**	P	**Pb**	**22 32 03.5**	**+0.4**
PTE	**Portage**	**0.96**	**260**	P	**Pb**	**22 32 05.7**	**+0.3**
PS12	**TAPS Pump St12**	**1.04**	**64**	P	**Pb**	**22 32 06.3**	**-0.5**
LTI	**Latouche**	**1.07**	**201**	P	**Pb**	**22 32 07.5**	**+0.2**
SGAM	**Sherman Glacie**	**1.07**	**119**	P	**Pb**	**22 32 07.3**	**0.0**
PMR	**Palmer**	**1.13**	**300**	P	**Pb**	**22 32 08.6**	**+0.2**
PMR				S	**Sg**	**22 32 24.3**	**+0.4**
BMRM	**Bremner River**	**1.21**	**92**	P	**Pn**	**22 32 09.1**	**-0.4**
GOAT	**Goat Mountain**	**1.25**	**111**	P	**Pb**	**22 32 10.5**	**+0.1**
GOAT				S	**Sg**	**22 32 28.5**	**+1.0**
RC01	**Rabbit Creek A**	**1.29**	**273**	P	**Pn**	**22 32 11.0**	**+0.5**
PS11	**TAPS Pump St11**	**1.30**	**36**	P	**Pg**	**22 32 11.9**	**-0.4**
RAGM	**Ragged Mountai**	**1.35**	**118**	P	**Pb**	**22 32 12.3**	**+0.1**
SEW	**Seward**	**1.50**	**232**	P	**Pn**	**22 32 14.0**	**+0.7**
SEW				S	**Sn**	**22 32 33.1**	**+0.6**
FIB	**Fire Island**	**1.50**	**276**	P	**Pb**	**22 32 15.2**	**+0.5**
SLKM	**Skilak Lake**	**1.63**	**252**	P	**Pn**	**22 32 16.3**	**+1.1**
GLB	**Gilahina Butte**	**1.64**	**74**	P	**Pn**	**22 32 16.2**	**+0.8**
HARP	**HAARP**	**1.66**	**33**	P	**Pb**	**22 32 17.0**	**-0.3**
MID	**Middleton Isla**	**1.66**	**167**	P	**Pb**	**22 32 17.0**	**-0.3**
WASW	**Wrangell South**	**1.66**	**56**	P	**Pb**	**22 32 16.9**	**-0.7**
SUA	**Susitna One**	**1.82**	**285**	P	**Pn**	**22 32 19.5**	**+1.6**
CUT	**Chulitna**	**2.04**	**314**	P	**Pb**	**22 32 23.2**	**-0.7**
DHY	**Denali Highway**	**2.05**	**356**	P	**Pb**	**22 32 23.3**	**-0.9**
PAX	**Paxson**	**2.09**	**21**	P	**Pb**	**22 32 23.8**	**-0.9**
BRLK	**Bradley Lake**	**2.28**	**238**	P	**Pn**	**22 32 25.2**	**+1.1**
SKT	**Skwentna**	**2.33**	**296**	P	**Pn**	**22 32 26.4**	**+1.5**
STLK	**Strandline Lak**	**2.34**	**283**	P	**Pn**	**22 32 26.9**	**+1.8**
CGLM	**Capps Glacier**	**2.40**	**279**	P	**Pn**	**22 32 27.6**	**+1.8**
SPCG	**Spurr Capps Gl**	**2.40**	**278**	P	**Pn**	**22 32 27.5**	**+1.6**
RND	**Reindeer**	**2.52**	**342**	P	**Pn**	**22 32 29.8**	**+2.3**
CKL	**Chakachamna La**	**2.55**	**276**	P	**Pn**	**22 32 29.2**	**+1.2**
SPBG	**Spurr Blockage**	**2.57**	**277**	P	**Pn**	**22 32 29.6**	**+1.4**
BGL	**Barrier Glacie**	**2.58**	**277**	P	**Pn**	**22 32 29.7**	**+1.3**
DFR	**Drift River**	**2.78**	**263**	P	**Pn**	**22 32 33.1**	**+2.1**
DDM	**Donnelly Dome**	**2.82**	**11**	P	**Pn**	**22 32 34.6**	**+3.0**
MCK	**McKinley**	**2.84**	**343**	P	**Pn**	**22 32 34.5**	**+2.7**
TRF	**Thorofare Moun**	**2.85**	**330**	P	**Pn**	**22 32 34.3**	**+2.2**
RDWB	**Redoubt West**	**2.88**	**261**	P	**Pn**	**22 32 33.4**	**+0.9**
NCT	**North Crescent**	**2.90**	**263**	P	**Pn**	**22 32 34.0**	**+1.2**
DOT	**Dot Lake**	**2.98**	**27**	P	**Pn**	**22 32 36.4**	**+2.7**
PPLA	**Purkeypile**	**3.04**	**310**	P	**Pn**	**22 32 36.7**	**+1.9**
KTH	**Kantishna Hill**	**3.09**	**326**	P	**Pn**	**22 32 37.6**	**+2.2**
CHX	**Chaix Hills**	**3.11**	**106**	P	**Pn**	**22 32 36.8**	**+1.2**
ILW	**Iliamna West**	**3.14**	**254**	P	**Pn**	**22 32 36.9**	**+0.7**
BCA3	**Beaver Creek A**	**3.22**	**49**	P	**Pn**	**22 32 39.5**	**+2.3**
SCRK	**Sand Creek**	**3.28**	**25**	P	**Pn**	**22 32 40.0**	**+1.9**
CAST	**Castle Rocks**	**3.34**	**318**	P	**Pn**	**22 32 40.1**	**+1.3**
HDA	**Harding Lake**	**3.38**	**1**	P	**Pn**	**22 32 41.5**	**+2.2**
WRH	**Wood River Hil**	**3.48**	**353**	P	**Pn**	**22 32 42.6**	**+2.0**
PS08	**TAPS Pump Stn8**	**3.52**	**2**	P	**Pn**	**22 32 43.0**	**+1.9**
CCB	**Clear Creek Bu**	**3.64**	**355**	P	**Pn**	**22 32 44.5**	**+1.8**
CHUM	**Lake Minchumin**	**3.75**	**322**	P	**Pn**	**22 32 46.2**	**+1.9**
IL1	**Eielson Array**	**3.75**	**1**	P	**Pn**	**22 32 45.9**	**+1.6**
ILAR	**Eielson Array**	**3.75**	**1**	P	**Pn**	**22 32 45.7**	**+1.3**
	5.8nm,0.3s,baz=187,slow=13,SNR=102						
ILAR				S	**Sb**	**22 33 34.5**	**-3.6**
	3.0nm,0.3s,baz=175,slow=16,SNR=6.7						
ILB	**Eielson Array**	**3.75**	**1**	P	**Pn**	**22 32 45.6**	**+1.3**
COLA	**College**	**3.87**	**355**	P	**Pn**	**22 32 47.5**	**+1.6**
MDM	**Murphy Dome**	**3.97**	**353**	P	**Pn**	**22 32 49.3**	**+1.9**
SVW2	**Sparrevohn**	**4.13**	**275**	P	**Pn**	**22 32 49.5**	**0.0**
KDAK	**Kodiak Island**	**4.30**	**223**	P	**Pn**	**22 32 52.3**	**+0.4**
MLY	**Manley**	**4.34**	**339**	P	**Pn**	**22 32 54.4**	**+1.9**
TT01	**Tatalina**	**4.61**	**298**	P	**Pn**	**22 32 56.8**	**+0.6**

ENA			S		Sn	22 34 18.7 +0.3
	baz=295					
TWC	**Suao**	**0.66 308**	P		**Pn**	**22 34 08.3 -0.7**
TWC	baz=308		S		**Sn**	**22 34 17.7 -0.7**
	baz=308					
TWD	**Chiawan**	**0.77 261**	⇑ *i* P		**Pn**	**22 34 09.7 -0.7**
TWD	baz=251		*e* S		**Sn**	**22 34 20.2 -0.6**
	baz=251					
HWA	**Hwalien**	**0.78 254**	⇑ *i* P		**Pn**	**22 34 10.3 -0.3**
HWA	baz=250		*e* S		**Sn**	**22 34 21.5 +0.3**
	baz=250					
TWE	**Neicheng**	**0.86 307**	P		**Pn**	**22 34 11.4 -0.3**
TWE	baz=314		S		**Sn**	**22 34 23.0 -0.1**
	baz=314					
ENTT	**Nioudou**	**0.90 299**	⇓ *i* P		**Pn**	**22 34 12.1 -0.1**
ENTT	baz=299		S		**Sn**	**22 34 24.0 0.0**
	baz=299					
ESF	**Shoufeng Towns**	**0.90 249**	*e* P		**Pn**	**22 34 12.3 +0.1**
TEGC	baz=229		*e* S		**Sn**	**22 34 26.5 +1.4**
	baz=229					
ESL	**Shilin**	**0.98 247**	*e* P		**Pn**	**22 34 12.3 -1.0**
ESL	baz=244		S		**Sn**	**22 34 25.4 -0.7**
	baz=244					
NNS	**Nan Shan**	**0.99 284**	*e* P		**Pn**	**22 34 12.9 -0.6**
NNS	baz=283		*e* S		**Sn**	**22 34 26.1 -0.3**
	baz=283					
NWF	**Wu-fen Shan**	**1.04 326**	*i* P		**Pn**	**22 34 13.3 -0.9**
NWF	baz=327		S		**Sn**	**22 34 26.1 -1.6**
	baz=327					
WHF	**Hehuan Shan**	**1.06 267**	P		**Pn**	**22 34 13.9 -0.8**
WHF	baz=256		S		**Sn**	**22 34 27.6 -1.0**
	baz=256					
NSK	**Sanguang**	**1.08 296**	P		**Pn**	**22 34 14.3 -0.4**
NSK	baz=288		*e* S		**Sn**	**22 34 27.8 -0.8**
	baz=288					
TWA	**Mucha**	**1.09 316**	*e* P		**Pn**	**22 34 14.1 -0.7**
TWA	baz=326		*e* S		**Sn**	**22 34 28.6 -0.1**
	baz=326					
TWT	**Tachien**	**1.14 273**	P		**Pn**	**22 34 15.7 0.0**
TWT	baz=271		S		**Sn**	**22 34 30.2 0.0**
	baz=271					
IRIF	**Iriomote-Funau**	**1.20 83**	P		**Pn**	**22 34 16.0 -0.2**
IRIF			S		**Sn**	**22 34 31.6 +0.2**
EHY	**Hungye**	**1.22 236**	*e* P		**Pn**	**22 34 15.9 -0.7**
EHY	baz=233		*e* S		**Sn**	**22 34 30.8 -1.2**
	baz=233					
HATJ	**Hateruma jima**	**1.27 96**	P		**Pn**	**22 34 17.8 +0.6**
HATJ			S		**Sn**	**22 34 34.8 +1.7**
TWS1	**Kuangyinshan**	**1.28 315**	P		**Pn**	**22 34 16.6 -0.8**
TWS1	baz=325		*e* S		**Sn**	**22 34 33.5 +0.2**
	baz=325					
TWY	**Chenhua**	**1.31 325**	*e* P		**Pn**	**22 34 16.6 -1.1**
TWY	baz=326		*e* S		**Sn**	**22 34 32.7 -1.2**
	baz=326					
TWF1	**Yuli**	**1.33 231**	⇑ *i* P		**Pn**	**22 34 17.4 -0.7**
TWF1	baz=239		*e* S		**Sn**	**22 34 33.5 -1.3**
	baz=239					
NSTT	**Nanjuang**	**1.37 289**	*e* P		**Pn**	**22 34 18.5 0.0**
NSTT	baz=288		*e* S		**Sn**	**22 34 35.7 +0.2**
	baz=288					
SMLT	**Sun Moon Lake**	**1.43 257**	P		**Pn**	**22 34 19.3 -0.2**
SMLT	baz=249		*e* S		**Sn**	**22 34 36.7 -0.5**
	baz=249					
JKRS	**Kuro-shima**	**1.45 88**	P		**Pn**	**22 34 19.9 +0.3**
JKRS			S		**Sn**	**22 34 38.3 +0.9**
TYC	**Yuchr**	**1.46 259**	P		**Pn**	**22 34 19.9 0.0**
TYC	baz=251		*e* S		**Sn**	**22 34 38.1 +0.3**
	baz=251					
CHKT	**Chengkung**	**1.47 222**	P		**Pn**	**22 34 18.5 -1.4**
CHKT	baz=214		*e* S		**Sn**	**22 34 35.4 -2.5**
	baz=214					
TWQ1	**Liyutan**	**1.51 276**	*e* P		**Pn**	**22 34 20.6 0.0**
TWQ1	baz=275		*e* S		**Sn**	**22 34 40.1 +1.0**
	baz=275					
YUS	**Yu-Shan**	**1.52 243**	P		**Pn**	**22 34 21.1 -0.1**
YUS	baz=232		*e* S		**Sn**	**22 34 39.3 -0.7**
	baz=232					
NSY	**Sanyi**	**1.53 278**	*e* P		**Pn**	**22 34 21.7 +0.9**
NSY	baz=278		*e* S		**Sn**	**22 34 40.4 +0.8**
	baz=278					
JIJ	**Ishigaki jima**	**1.58 84**	P		**Pn**	**22 34 20.9 -0.5**
JIJ			S		**Sn**	**22 34 39.9 -0.7**
TCU	**Taichung**	**1.60 268**	*e* P		**Pn**	**22 34 22.1 +0.4**
TCU	baz=280		*e* S		**Sn**	**22 34 42.7 +1.5**
	baz=280					
ALS	**Alishan**	**1.63 245**	*e* P		**Pn**	**22 34 22.8 +0.3**
ALS	baz=236		*e* S		**Sn**	**22 34 43.7 +1.3**
	baz=236					
ELDTW	**Lidau**	**1.64 232**	*e* P		**Pn**	**22 34 21.6 -0.7**
CHN5	**Tsauling**	**1.71 250**	P		**Pn**	**22 34 23.8 +0.4**
CHN5	baz=239		*e* S		**Sn**	**22 34 45.3 +1.3**
	baz=239					
JISG	**Ishigakijimahi**	**1.76 77**	P		**Pn**	**22 34 23.3 -0.7**
JISG			S		**Sn**	**22 34 44.3 -0.9**
WGK	**Gukeng**	**1.78 254**	*e* P		**Pn**	**22 34 25.0 +0.8**
WGK	baz=242		*e* S		**Sn**	**22 34 47.3 +1.7**
	baz=242					
STYT	**Tauyuan**	**1.84 236**	⇑ *i* P		**Pn**	**22 34 25.6 +0.4**
STYT	baz=228		*e* S		**Sn**	**22 34 47.7 +0.3**
	baz=228					
TWG	**Pinlang**	**1.85 222**	*e* P		**Pn**	**22 34 24.1 -1.1**
TWG	baz=227		*e* S		**Sn**	**22 34 45.8 -1.7**
	baz=227					
TTN	**Taitung**	**1.86 219**	*e* P		**Pn**	**22 34 25.1 -0.2**
TTN	baz=211		*e* S		**Sn**	**22 34 48.0 +0.4**
	baz=211					
CHN4	**Tsaushan**	**1.88 244**	P		**Pn**	**22 34 26.6 +1.0**
CHN4	baz=236		S		**Sn**	**22 34 49.9 +1.8**
	baz=236					
CHN2	**Minshiung**	**1.91 250**	*e* P		**Pn**	**22 34 26.7 +0.8**
CHN2	baz=248		*e* S		**Sn**	**22 34 51.0 +2.3**
	baz=248					
CHY	**Chiayi**	**1.96 249**	*e* P		**Pn**	**22 34 26.3 -0.4**
CHY	baz=248		*e* S		**Sn**	**22 34 51.9 +1.9**
	baz=248					
WTCT	**Ta-ch'eng**	**1.99 261**	*e* P		**Pn**	**22 34 28.1 +1.1**
WTCT	baz=260		*e* S		**Sn**	**22 34 52.3 +1.5**
	baz=260					
TWK	**Hsinying**	**2.00 243**	*e* P		**Pn**	**22 34 28.1 +0.8**
TWK	baz=240		*e* S		**Sn**	**22 34 52.3 +1.1**
	baz=240					
CHN1	**Nanshi**	**2.01 240**	*e* P		**Pn**	**22 34 28.3 +0.9**
CHN1	baz=238		*e* S		**Sn**	**22 34 53.1 +1.7**
	baz=238					
SGST	**Jiashian**	**2.02 237**	*e* P		**Pn**	**22 34 28.6 +1.0**
SGST	baz=235		*e* S		**Sn**	**22 34 53.8 +2.1**
	baz=235					
WSF	**Szhu**	**2.09 255**	*e* P		**Pn**	**22 34 28.8 +0.3**
WSF	baz=266		*e* S		**Sn**	**22 34 55.0 +1.7**
	baz=266					
JTJ	**Tarama**	**2.12 78**	P		**Pn**	**22 34 29.0 +0.1**
JTJ			S		**Sn**	**22 34 53.7 -0.3**
SSD	**Sandimen**	**2.19 229**	*e* P		**Pn**	**22 34 30.8 +0.9**
SSD	baz=226		*e* S		**Sn**	**22 34 57.2 +1.4**
	baz=226					
LAY	**Lan-yu**	**2.30 201**	*e* P		**Pn**	**22 34 29.8 -1.5**
LAY	baz=198		*e* S		**Sn**	**22 34 54.9 -3.5**
	baz=198					
EAST	**Anshuo**	**2.32 219**	*e* P		**Pn**	**22 34 30.8 -0.9**
EAST	baz=216		*e* S		**Sn**	**22 34 58.5 -0.4**
	baz=216					
SCZT	**Fangliau**	**2.46 223**	*e* P		**Pn**	**22 34 35.2 +1.6**
SCZT	baz=217		*e* S		**Sn**	**22 35 03.8 +1.3**
	baz=217					
JIRB	**Irabujima**	**2.58 75**	S		**Sn**	**22 35 04.6 -0.7**
JIKM	**Ikemajima**	**2.67 74**	S		**Sn**	**22 35 07.5 0.0**
TSEB	**Hengchuen, Pin**	**2.69 212**	*e* P		**Pn**	**22 34 36.5 -0.1**
	baz=210					
TWK1	**Hengchun**	**2.70 214**	*e* P		**Pn**	**22 34 35.3 -1.5**
	baz=211					
JOGS	**Gusukube**	**2.77 78**	S		**Sn**	**22 35 10.7 +0.6**

IDC ***11*** *22:34:00.6±0.4, 37°.73S×73°.75W, h0km, mb4.9/24, mb1 4.9/27, mb1mx4.9/30, mbtmp4.9/27, ML4.5/3, MS4.8/12, Ms1 4.8/12, ms1mx4.6/20, Error ellipse: s-maj=15.1km s-min=10.6km az=77.0*

GUC ***11*** *22:34:02.5±0.3, 37°.72S×73°.92W, h43km±4km, ML5.6*

ISCJB ***11*** *22:34:03.4±1.8, 37°.61S±0°.03×73°.40W±0°.05, h23km±12km, mb5.3/203, MS5.1/90, Error ellipse: s-maj=7.6km s-min=4.7km az=155.2*

NEIC ***11*** *22:34:03.9±2.0, 37°.71S×73°.65W, h24km±1km, mb5.5/188, MS5.2/85, Error ellipse: s-maj=16.6km s-min=10.8km az=80.0*

NEIC Felt [III] at Concepcion and [II] at Temuco. Also felt at Angol, Cabrero, Chiguayante, Lebu, Los Angeles, Talcahuano, Tome and Valdivia.

GCMT ***11*** *22:34:03.9±0.3, 37°.85S×74°.11W, h22km±1km, MW5.3/81, Moment Tensor Solution. s42,c56; s81,c115; Duration: 1±1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.80±.04; $M_{\theta\theta}$-0.09±.02; $M_{\phi\phi}$-0.70±.03; $M_{r\theta}$-0.02±.03; $M_{\theta\phi}$0.06±.01; $M_{r\phi}$-0.89±.05; Best double couple: $M_0$1.16800×10^{17} NP1:ϕ_s180.00000°, δ70.00000°, λ93.00000°. NP2: ϕ_s351.00000°, δ20.00000°, λ82.00000°. Principal axes: T 1.2100, Plg65.0000°, Azm95.0000°; N -0.0860, Plg3.0000°, Azm359.0000°; P -1.1250, Plg25.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***11*** *22:34:04.5±1.0, 37°.64S×73°.75W, h33km, mb5.6/62, MS5.1/16 Error ellipse: s-maj=17.5km s-min=6.5km az=103.0*

BJI ***11*** *22:34:06.8, 37°.60S×73°.40W, h36km, mB5.3/22, Ms5.4/21, Ms7 5.2/21*

ISC 11 22:34:04.9±0.6, 37°.71S±0°.04×73°.66W±0°.05, h31km±3km, h31km:pP-P, n1015, σ1°47/1016, mb5.4/205, MS5.2/90, 230C-210D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.77**	**98**	⇑ *i* P	**Pb**	**22 34 20.2**	**+0.4**
AGCH				*i* S	**Sn**	**22 34 33.8**	**+3.7**
CCSP	**San Pedro de C**	**0.97**	**27**	*e* P1	**Pn**	**22 34 22.1**	**-0.2**
CCSP				*e* S1	**Sn**	**22 34 36.8**	**+1.8**
CCSP				AML	AML	22 34 43.8	
	comp=E,283μm,0.5s						
VLCH	**Valdivia**	**2.12**	**171**	⇓ *i* P	**Pn**	**22 34 36.4**	**-1.7**
OSCH	**Osorno**	**2.89**	**172**	*e* P1	**Pn**	**22 34 47.3**	**-1.5**
PLCA	**Paso Flores**	**3.86**	**142**	Pn	**Pn**	**22 35 03.0**	**+0.7**
	comp=E,15nm,0.3s,baz=318,slow=9.0,SNR=126						
PLCA				Lg	Lg	22 36 03.0	
	comp=E,45nm,0.3s,baz=230,slow=23,SNR=6.4						
PLCA	**Paso Flores**	**3.86**	**142**	*e* Pn	**Pn**	**22 35 03.2**	**+1.0**
PLCA				*e* Sn	**Sn**	**22 35 42.3**	**-4.2**
ANTU	**Antumapu**	**4.81**	**32**	*e* P1	**Pn**	**22 35 14.9**	**-0.4**
CFAA	**Coronel Fontan**	**7.55**	**38**	Pn	**Pn**	**22 35 53.2**	**+0.3**
	comp=E,4.5nm,0.3s,baz=147,slow=17,SNR=14						
CFAA				Sn	**Sn**	**22 37 18.5**	**+1.0**
	comp=E,1.4nm,0.3s,baz=195,slow=14,SNR=3.9						
CFAA				Lg	Lg	22 38 07.6	
	comp=E,1.3nm,0.3s,baz=121,slow=23,SNR=3.3						
CFAA				LR	LR	22 38 29.9	
	comp=E,323nm,21.0s,baz=224,slow=35						
LCO	**Las Campanas**	**9.02**	**17**	*e* Pn	**Pn**	**22 36 11.8**	**-1.4**
LCO				*e* Sn	**Sn**	**22 37 51.2**	**-2.7**
TRQA	**Tornquist**	**9.24**	**96**	*e* Pn	**Pn**	**22 36 17.2**	**+1.2**
LVC	**Limon Verde**	**15.59**	**17**	*e* Pn	**Pn**	**22 37 43.3**	**+0.6**
	comp=E,55nm,0.8s						
USHA	**Ushuaia**	**17.49**	**170**	P	**P**	**22 38 07.3**	**+0.1**
	comp=E,0.7nm,0.3s,baz=331,slow=7.4,SNR=15						
USHA				LR	LR	22 46 01.9	
	comp=E,5μm,19.7s,baz=324,slow=41						
EFI	**East Falkland**	**17.77**	**147**	Pn	**P**	**22 38 10.7**	**+0.4**
	comp=E,2μm,1.0s,SNR=14						
EFI	**East Falkland**	**17.77**	**147**	*e* P	**Pn**	**22 38 09.7**	**0.0**
EFI	**East Falkland**	**17.77**	**147**	*e* Pn	**Pn**	**22 38 09.7**	**0.0**
	comp=E,212nm,0.9s						
LPAZ	**La Paz**	**21.89**	**14**	P	**P**	**22 38 57.5**	**+1.5**
	comp=E,47nm,1.0s,baz=182,slow=9.1,SNR=21						
SIV	**San Ignacio**	**24.33**	**31**	P	**P**	**22 39 20.6**	**+0.7**
	comp=E,42nm,1.1s,baz=225,slow=12,SNR=29						
NNA	**Nana**	**25.77**	**353**	*e* P	**P**	**22 39 32.1**	**-1.0**
NNA	**Nana**	**25.77**	**353**	P	**P**	**22 39 33.3**	**+0.2**
	comp=E,8.1nm,0.6s,baz=204,slow=10,SNR=3.1						
NNA	**Nana**	**25.77**	**353**	*e* P	**P**	**22 39 32.1**	**-1.0**
	comp=E,47nm,0.9s						
NNA				LR	LR		
	comp=Z,1μm,18.0s						
SAML	**Samuel**	**30.16**	**21**	*e* P	**P**	**22 40 11.7**	**-0.5**
	comp=Z,45nm,1.4s						
SAML				LR	LR		
	comp=Z,900nm,18.0s						
HOPE	**Hope Point**	**30.23**	**135**	*e* P	**P**	**22 40 13.5**	**+1.0**
	comp=Z,110nm,1.0s						
ATAH	**Atahualpa**	**30.74**	**351**	P	P	22 40 22.7	+4.9
	comp=Z,11nm,1.0s,baz=170,slow=6.5,SNR=7.7						
BDFB	**Brasilia**	**31.57**	**53**	*e* P	**P**	**22 40 24.1**	**-0.7**
BDFB	**Brasilia**	**31.57**	**53**	P	**P**	**22 40 24.4**	**-0.4**
	comp=Z,16nm,0.9s,baz=215,slow=7.6,SNR=17						
BDFB				LR	LR	22 54 27.7	
	comp=Z,4μm,19.4s,baz=220,slow=39						
BDFB	**Brasilia**	**31.57**	**53**	*e* P	**P**	**22 40 24.1**	**-0.7**
OTAV	**Otavalo**	**38.02**	**352**	*e* P	**P**	**22 41 22.1**	**+1.2**
	comp=Z,106nm,1.3s						
OTAV				LR	LR		
	comp=Z,600nm,19.0s						
PTGA	**Pitinga**	**38.90**	**22**	P	**P**	**22 41 27.4**	**-0.3**
	comp=Z,16nm,1.0s,baz=186,slow=10,SNR=12						
PTGA				LR	LR	22 59 08.8	
	comp=Z,391nm,21.1s,baz=183,slow=39						
PTGA	**Pitinga**	**38.90**	**22**	*e* P	**P**	**22 41 26.9**	**-0.8**
	comp=Z,58nm,1.4s						
PTGA				LR	LR		
	comp=Z,3μm,18.0s						
PAYG	**Puerto Ayora**	**39.92**	**334**	PFAKE		22 41 50.0	+14
PAYG				LR	LR		
	comp=Z,2μm,18.0s						
ROSC	**El Rosal**	**42.35**	**359**	P	P	22 41 59.9	+3.2
	comp=Z,4.1nm,0.4s,baz=259,slow=6.4,SNR=3.9						
ROSC	**El Rosal**	**42.35**	**359**	*e* P	**P**	**22 41 57.1**	**+0.5**
SDV	**Santo Domingo**	**46.44**	**4**	*e* P	**P**	**22 42 28.1**	**-0.9**
	comp=Z,37nm,0.9s						
SDV				LR	LR		
	comp=Z,1μm,19.0s						
VNA3	**Neumayer Olymp**	**46.46**	**156**	P	**P**	**22 42 29.7**	**+1.2**
RCBR	**Riachuelo**	**46.74**	**57**	P	**P**	**22 42 33.4**	**+2.0**
	comp=Z,41nm,1.1s,baz=208,slow=9.5,SNR=12						
RCBR				LR	LR	23 01 52.8	
	comp=Z,2μm,21.7s,baz=198,slow=36						
RCBR	**Riachuelo**	**46.74**	**57**	*e* P	**P**	**22 42 30.5**	**-0.9**
	comp=Z,97nm,1.3s						
RCBR				LR	LR		
	comp=Z,2μm,18.0s						
BCIP	**Isla Barro Col**	**46.99**	**352**	*e* P	**P**	**22 42 34.3**	**+1.1**
	comp=Z,111nm,1.4s						
BCIP				LR	LR		
	comp=Z,500nm,21.0s						
VNA2	**Neumayer--Watz**	**47.14**	**156**	P	**P**	**22 42 35.1**	**+1.3**
SNAA	**Sanae**	**48.68**	**157**	P	**P**	**22 42 46.7**	**+0.9**
SNAA	**Sanae**	**48.68**	**157**	⇑ *i* P	**P**	**22 42 46.4**	**+0.6**
SNAA				AMB	AMB	22 42 55.8	
	comp=Z,88nm,1.2s						
SNAA	**Sanae**	**48.68**	**157**	*c i* P	**P**	**22 42 46.2**	**+0.4**
SNAA				pmax	pmax		
	comp=Z,87nm,1.2s						
SNAA	**Sanae**	**48.68**	**157**	P	**P**	**22 42 46.4**	**+0.6**
	comp=Z,14nm,0.8s,baz=276,slow=6.3,SNR=37						
SNAA	**Sanae**	**48.68**	**157**	*e* P	**P**	**22 42 46.2**	**+0.4**
	comp=Z,129nm,1.2s						
SNAA				LR	LR		
	comp=Z,700nm,20.0s						
JTS	**JuntasAbangare**	**48.91**	**345**	P	P	22 42 56.0	+8.0
	comp=Z,243nm,1.2s,SNR=6.1						
JTS	**JuntasAbangare**	**48.91**	**345**	*e* P	**P**	**22 42 49.3**	**+1.2**
JTS				pmax	pmax		
	comp=Z,49nm,1.0s						
JTS	**JuntasAbangare**	**48.91**	**345**	P	**P**	**22 42 49.9**	**+1.9**
	comp=Z,9.5nm,0.9s,baz=173,slow=4.1,SNR=4.4						
JTS				LR	LR	22 59 30.4	
	comp=Z,329nm,19.2s,baz=148,slow=31						
JTS	**JuntasAbangare**	**48.91**	**345**	*e* P	**P**	**22 42 49.3**	**+1.2**
	comp=Z,49nm,1.0s						
GRGR	**Grenville**	**50.84**	**15**	*e* P	**P**	**22 43 03.1**	**+0.4**
	comp=Z,327nm,0.9s						
GRGR				LR	LR		
	comp=Z,1μm,20.0s						
QSPA	**South Pole Qui**	**52.53**	**180**	P	**P**	**22 43 16.1**	**+1.1**
	comp=Z,27nm,0.9s,baz=150,slow=3.7,SNR=40						
QSPA	**South Pole Qui**	**52.53**	**180**	*e* P	**P**	**22 43 15.3**	**+0.3**
	comp=Z,40nm,1.0s						
NVL	**N'lazarevskaya**	**53.46**	**156**	⇑ *i* P	P	22 43 28.2	+6.7
NVL				*e* S	**S**	**22 50 55.0**	**+3.4**
NVL				pmax	pmax		
	comp=Z,64nm,0.9s						
RKT	**Rikitea**	**53.97**	**267**	*e* S	**S**	**22 50 59.1**	**-0.6**
	comp=Z,517nm,26.5s						
RKT				*e* LR	LR	22 59 00.5	
	comp=Z,2μm,25.2s,baz=123						
RKT	**Rikitea**	**53.97**	**267**	*e* T	T	23 41 11.4	
	comp=Z,2.5nm,0.2s						
APG	**El Apazote**	**54.77**	**340**	P	P	22 43 35.3	+3.4
	comp=Z,65nm,1.0s,baz=186,slow=7.9,SNR=32						
CRPR	**Cabo Rojo, PR**	**55.76**	**8**	*e* P	**P**	**22 43 37.9**	**-0.8**
	comp=Z,29nm,0.8s						
CRPR				LR	LR		
	comp=Z,100nm,18.9s						
SEUS	**St. Eustatius**	**55.82**	**12**	PFAKE		22 43 50.0	+11
SEUS				LR	LR		
	comp=Z,700nm,18.1s						
OBIP	**Obispado Ponce**	**55.85**	**8**	*e* P	**P**	**22 43 38.9**	**-0.5**
	comp=Z,89nm,1.3s						
CELP	**Cerrillos**	**55.89**	**8**	*e* P	**P**	**22 43 38.6**	**-1.1**
SABA	**Saba**	**55.90**	**12**	PFAKE		22 43 50.0	+10
SABA				LR	LR		
	comp=Z,1μm,20.1s						
PAPH	**Port-au-Prince**	**55.95**	**2**	PFAKE		22 43 50.0	+10
PAPH				LR	LR		
	comp=Z,400nm,20.4s						
HUMP	**Col San Antoni**	**56.04**	**9**	PFAKE		22 43 50.0	+9.2
HUMP				LR	LR		
	comp=Z,900nm,19.3s						
LRS	**Lares**	**56.07**	**8**	*e* P	**P**	**22 43 39.6**	**-1.5**
CBYP	**Canovanas**	**56.17**	**9**	*e* P	**P**	**22 43 40.4**	**-1.3**
	comp=Z,66nm,1.4s						
CBYP				LR	LR		
	comp=Z,1μm,18.3s						
ANWB	**Willy Bob**	**56.21**	**14**	*e* P	**P**	**22 43 40.5**	**-1.4**
	comp=Z,127nm,1.0s						
SDDR	**Presa de Saban**	**56.43**	**3**	PFAKE		22 44 00.0	+16
SDDR				LR	LR		
	comp=Z,800nm,19.0s						
GTBY	**Guantanamo Bay**	**57.35**	**358**	*e* P	**P**	**22 43 50.2**	**+0.2**
	comp=Z,50nm,0.9s						
SBA	**Scott Base**	**59.18**	**192**	*e* P	**P**	**22 44 04.1**	**+1.9**
SBA				pmax	pmax		
	comp=Z,120nm,2.1s						
SBA	**Scott Base**	**59.18**	**192**	*e* P	**P**	**22 44 04.1**	**+1.9**
	comp=Z,120nm,2.1s						
VNDA	**Vanda**	**60.21**	**192**	*e* P	**P**	**22 44 10.3**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,26nm,1.4s						
VNDA				MLR	MLR		
	comp=Z,500nm,19.1s						
VNDA	**Vanda**	**60.21**	**192**	P	**P**	**22 44 10.6**	**+1.3**
	comp=Z,4.7nm,0.9s,baz=136,slow=4.3,SNR=12						
VNDA				LR	LR	23 06 52.3	
	comp=Z,379nm,19.4s,baz=126,slow=33						
VNDA	**Vanda**	**60.21**	**192**	*e* P	**P**	**22 44 10.2**	**+1.0**
	comp=Z,26nm,1.4s						
VNDA				LR	LR		
	comp=Z,500nm,19.1s						
ASCN	**Ascension**	**61.01**	**77**	*e* P	**P**	**22 44 15.2**	**-0.5**
	comp=Z,71nm,0.8s						
SYO	**Syowa Base**	**62.91**	**158**	‖ *e* P	**P**	**22 44 26.0**	**-1.6**
SHEL	**Horse Pasture**	**63.04**	**90**	*e* P	**P**	**22 44 27.1**	**-2.3**
SHEL				pmax	pmax		
	comp=Z,476nm,2.1s						
SHEL	**Horse Pasture**	**63.04**	**90**	*e* P	**P**	**22 44 27.1**	**-2.3**
	comp=Z,476nm,2.1s						
MEH	**Mehetia**	**67.12**	**265**	*e* T	T	23 57 36.9	
	comp=Z,24nm,0.2s						
TVO	**Taravao**	**68.11**	**264**	*e* T	T	23 58 51.5	
	comp=Z,2.3nm,0.2s						
VAH	**Vaihoa**	**68.25**	**267**	*e* P	P	22 45 07.7	+4.8
	comp=Z,38nm,1.0s						
035A	**Encino**	**68.28**	**337**	⇑ P	**P**	**22 45 04.7**	**+2.0**
	baz=69						
TIAR	**Tiarei**	**68.31**	**264**	*e* T	T	23 59 05.9	
	comp=Z,7.2nm,0.2s						
PPT2	**Papeete2**	**68.47**	**264**	*e* P	P	22 45 09.3	+4.9
	comp=Z,68nm,1.2s						
PPT2				*e* S	**S**	**22 54 03.9**	**-0.5**
	comp=Z,569nm,23.0s						
PPT2	**Papeete2**	**68.47**	**264**	*e* LR	LR	23 05 44.3	
	comp=Z,1μm,25.0s,baz=114						
034A	**Hebbronville**	**68.58**	**336**	⇑ P	**P**	**22 45 06.6**	**+2.0**
	baz=69						
PMOR	**Pomariorio Ree**	**68.60**	**267**	*e* P	P	22 45 09.6	+4.5
	comp=Z,32nm,1.2s						
934A	**Benavides**	**69.03**	**336**	⇑ P	**P**	**22 45 09.5**	**+2.1**
	baz=69						
933A	**Laredo**	**69.28**	**336**	⇑ P	**P**	**22 45 10.7**	**+1.7**
	baz=70,SNR=9.1						
738A	**Farr-Stevens R**	**69.34**	**339**	⇓ P	**P**	**22 45 11.7**	**+2.4**
	baz=70						
TIGA	**Tifton**	**69.42**	**351**	⇓ P	**P**	**22 45 12.4**	**+2.7**
	baz=70						
835A	**Beeville**	**69.46**	**337**	⇓ P	**P**	**22 45 12.6**	**+2.6**
	baz=70						
834A	**Tilden**	**69.53**	**337**	⇓ P	**P**	**22 45 12.2**	**+1.7**
	baz=70,SNR=8.0						
735A	**Kenedy**	**69.98**	**338**	⇓ P	**P**	**22 45 15.1**	**+1.9**
	baz=70,SNR=6.6						
833A	**Chaparral WMA,**	**69.98**	**336**	⇓ P	**P**	**22 45 14.6**	**+1.4**
	baz=70,SNR=8.8						
MAW	**Mawson**	**70.00**	**164**	LR	LR	23 17 33.7	
	comp=Z,949nm,18.7s,baz=232,slow=37						
832A	**Faith Ranch, C**	**70.14**	**335**	⇑ P	**P**	**22 45 15.7**	**+1.5**
	baz=70,SNR=8.6						
734A	**La Parita Cree**	**70.20**	**337**	⇑ P	**P**	**22 45 16.7**	**+2.1**
	baz=70						
636A	**Smothers Creek**	**70.34**	**338**	⇓ P	**P**	**22 45 17.3**	**+1.9**
	baz=71,SNR=7.0						
HKT	**Hockley**	**70.44**	**340**	*e* P	**P**	**22 45 15.4**	**-0.5**
HKT				pmax	pmax		
	comp=Z,77nm,2.0s						
HKT	**Hockley**	**70.44**	**340**	*e* P	**P**	**22 45 15.4**	**-0.5**
	comp=Z,76nm,2.0s						
635A	**Leesville**	**70.47**	**338**	⇑ P	**P**	**22 45 18.1**	**+1.9**
	baz=71						
732A	**Laxson Ranch,**	**70.55**	**336**	⇑ P	**P**	**22 45 18.2**	**+1.5**
	baz=71,SNR=

438A Sam Houston St 71.10 340 ⇑P P 22 45 22.3 +2.3
baz=71
632A Uvalde 71.20 336 ⇑P P 22 45 21.8 +1.1
baz=72,SNR=11
534A Blanco 71.28 337 ⇑P P 22 45 22.8 +1.6
baz=72
340A Bronson 71.32 342 ⇑P P 22 45 24.4 +3.1
baz=72
VBMS Vicksburg 71.33 345 eP P 22 45 21.5 +0.1
comp=Z,66nm,0.9s
GOGA Godfrey 71.35 351 eP P 22 45 20.9 -0.6
GOGA pmax pmax
comp=Z,42nm,1.1s
GOGA Godfrey 71.35 351 eP P 22 45 20.9 -0.6
comp=Z,42nm,1.1s
437A Phantom Ranch, 71.35 340 ⇓P P 22 45 24.6 +3.0
baz=72
631A Perdido Creek 71.38 335 ⇑P P 22 45 24.7 +3.0
baz=72
339A Huntington 71.41 341 ⇑P P 22 45 23.4 +1.6
baz=72
LRAL Lakeview Retre 71.47 348 eP P 22 45 23.0 +0.8
comp=Z,46nm,1.0s
436A Wall Ranch, Ga 71.48 339 ⇓P P 22 45 24.2 +1.9
baz=72
533A Kerrville 71.49 337 ⇑P P 22 45 23.5 +1.1
baz=72,SNR=10
338A Crockett 71.63 341 ⇓P P 22 45 25.3 +2.1
baz=72
435B Jarrell 71.72 338 ⇓P P 22 45 25.4 +1.6
baz=72
337A Centerville 71.74 340 ⇓P P 22 45 25.6 +1.7
baz=72
532A Rocksprings 71.82 336 ⇓P P 22 45 25.6 +1.2
baz=72,SNR=7.8
NATX Nacogdoches 71.84 341 eP P 22 45 25.9 +1.4
comp=Z,60nm,0.9s
434A Burnet 71.95 338 ⇓P P 22 45 26.1 +0.9
baz=72,SNR=11
239A Gary 72.04 341 ⇓P P 22 45 28.0 +2.3
baz=72
531A Rocksprings 72.06 336 ⇑P P 22 45 27.6 +1.7
baz=72,SNR=12
336A Riesel 72.08 339 ⇑P P 22 45 27.3 +1.4
baz=72,SNR=9.1
JCT Junction City 72.11 336 eP P 22 45 27.2 +1.0
JCT pmax pmax
comp=Z,92nm,1.3s
JCT Junction City 72.11 336 ⇓P P 22 45 27.6 +1.4
baz=72,SNR=12
JCT Junction City 72.11 336 eP P 22 45 27.2 +1.0
comp=Z,92nm,1.3s
335A Moody 72.14 339 ⇓P P 22 45 27.7 +1.4
baz=72
433A Art 72.14 337 ⇑P P 22 45 27.3 +1.0
baz=72,SNR=13
238A Jacksonville 72.19 341 ⇓P P 22 45 28.8 +2.2
baz=72
530A J-C Ranch, Com 72.31 335 ⇑P P 22 45 28.8 +1.4
baz=73,SNR=9.2
237A Washetta, Mont 72.37 340 ⇑P P 22 45 29.3 +1.7
baz=73
LTX Lajitas 72.38 333 eP P 22 45 29.1 +1.2
LTX Lajitas 72.38 333 eP P 22 45 29.1 +1.2
TXAR Lajitas Array 72.38 333 P P 22 45 29.1 +1.2
comp=Z,1.3nm,0.7s,baz=141,slow=8.1,SNR=6.2
TXAR LR LR 23 12 12.0
comp=Z,586nm,19.2s,baz=0.0,slow=32
TX31 Lajitas Ar. Si 72.38 333 eP P 22 45 28.6 +0.8
334A Lometa 72.43 338 ⇑P P 22 45 29.4 +1.4
baz=73,SNR=12
432A Menard 72.48 337 ⇓P P 22 45 29.2 +0.8
baz=73,SNR=7.9
431A Sonora 72.56 336 ⇓P P 22 45 29.8 +0.9
baz=73,SNR=11
529A Stev Forest Ra 72.58 334 ⇓P P 22 45 30.3 +1.3
baz=73,SNR=12
333A Richland Sprin 72.64 337 ⇓P P 22 45 30.3 +1.0
baz=73,SNR=11
CNNC Cliffs of the 72.69 356 eP P 22 45 28.4 -1.0
comp=Z,46nm,1.0s
138A Matatall Enter 72.81 341 ⇑P P 22 45 32.3 +2.1
baz=73
WHTX Lake Whitney, 72.82 339 ⇓P P 22 45 32.3 +2.0
baz=73
WHTX Lake Whitney, 72.82 339 eP P 22 45 30.1 -0.2
comp=Z,51nm,0.8s
KMSC Kings Mountain 72.84 353 ⇑P P 22 45 30.9 +0.6
baz=73,SNR=7.3
KMSC Kings Mountain 72.84 353 eP P 22 45 30.3 0.0
comp=Z,33nm,0.9s
430A Baggett Ranch, 72.86 335 ⇑P P 22 45 32.0 +1.3
baz=73,SNR=14
137A Heron Place, G 72.92 341 ⇓P P 22 45 32.5 +1.6
baz=73
332A Millersview 72.93 337 ⇓P P 22 45 32.3 +1.2
baz=73,SNR=9.7
429A Davenport Ranc 72.93 335 ⇓P P 22 45 32.9 +1.8
baz=73,SNR=14
234A Clairette 73.03 338 ⇑P P 22 45 32.9 +1.4
baz=73,SNR=9.8
331A San Angelo 73.08 336 ⇑P P 22 45 32.8 +0.8
baz=73,SNR=10
233A Rising Star 73.26 338 ⇑P P 22 45 34.1 +1.1
baz=74,SNR=9.3
KOMG Komaggas 73.30 115 eP P 22 45 34.4 +0.9
KOMG AMB AMB 22 45 42.4
comp=Z,65nm,3.5s
135A Vickery Place, 73.33 339 ⇑P P 22 45 35.3 +1.9
baz=74
OXF Oxford 73.34 346 eP P 22 45 32.7 -0.6
OXF pmax pmax
comp=Z,78nm,1.1s
OXF Oxford 73.34 346 eP P 22 45 32.7 -0.6
comp=Z,78nm,1.1s
232A Coleman 73.37 337 ⇓P P 22 45 34.7 +1.1
baz=74,SNR=9.5
330A Mertzon 73.41 336 ⇑P P 22 45 34.3 +0.4
baz=74,SNR=8.6
134A White-Moore Ra 73.54 339 ⇓P P 22 45 35.4 +0.8
baz=74
TKL Tuckaleechee C 73.60 351 eP P 22 45 34.5 -0.4
TKL Tuckaleechee C 73.60 351 P P 22 45 34.4 -0.5
comp=Z,9.9nm,1.0s,baz=128,slow=7.9,SNR=5.7
TKL Tuckaleechee C 73.60 351 eP P 22 45 34.5 -0.4
231A Bronte 73.62 337 ⇓P P 22 45 36.3 +1.2
baz=74,SNR=13
329A Wagon Wheel Ra 73.75 335 ⇓P P 22 45 36.3 +0.4
baz=74,SNR=11
133A Hamilton Ranch 73.82 338 ⇑P P 22 45 37.4 +1.1
baz=74,SNR=10
230A Sterling City 73.83 336 ⇓P P 22 45 37.6 +1.2
baz=74
Z35A Perchaven, San 74.02 340 ⇑P P 22 45 38.7 +1.3
baz=74,SNR=7.8
ABTX Abilene, Hawle 74.05 337 ⇓P P 22 45 38.5 +0.9
baz=74,SNR=10
ABTX Abilene, Hawle 74.05 337 eP P 22 45 38.3 +0.7
comp=Z,54nm,0.9s
229A Bryant Ranch, 74.14 335 ⇓P P 22 45 39.1 +0.9
baz=74,SNR=9.3
UALR University of 74.18 344 eP P 22 45 38.8 +0.6
comp=Z,67nm,1.8s
SUR Sutherland 74.19 119 P P 22 45 41.0 +2.0
comp=Z,25nm,1.0s,baz=236,slow=3.0,SNR=9.6
SUR Sutherland 74.19 119 eP P 22 45 39.1 +0.2
comp=Z,58nm,1.1s
MIAR Mount Ida 74.24 343 eP P 22 45 38.5 -0.1
MIAR pmax pmax
comp=Z,31nm,1.4s
MIAR Mount Ida 74.24 343 eP P 22 45 38.5 -0.1
comp=Z,31nm,1.4s
Z34A Collier Ranch, 74.24 339 ⇓P P 22 45 39.8 +1.2
baz=75
131A Roby 74.33 337 ⇓P P 22 45 40.5 +1.2
baz=75,SNR=9.0
Z33A Whitaker Ranch 74.41 338 ⇓P P 22 45 40.8 +1.2
baz=75,SNR=9.9
130A Snyder 74.44 336 ⇑P P 22 45 40.9 +1.0
baz=75,SNR=5.7
TZTN Tazewell 74.45 352 eP P 22 45 39.8 0.0
comp=Z,86nm,1.4s
228A UT Block 9, Go 74.53 335 ⇑P P 22 45 41.9 +1.4
baz=75,SNR=11
WVT Waverly 74.64 348 eP P 22 45 40.5 -0.4
WVT pmax pmax
comp=Z,70nm,1.1s
WVT Waverly 74.64 348 eP P 22 45 40.5 -0.4
comp=Z,70nm,1.1s
Z32A Haskell 74.64 338 ⇓P P 22 45 42.3 +1.3
baz=75,SNR=12
BBTS Babate 74.72 57 P P 22 45 43.6 +1.8
comp=Z,38nm,1.1s,baz=247,slow=5.1,SNR=3.6
Y34A Reagan Ranch, 74.75 339 ⇓P P 22 45 42.3 +0.7
baz=75,SNR=6.0
129A Stewart Farms, 74.76 336 ⇑P P 22 45 42.8 +1.0
baz=75
BLA Blacksburg 74.81 354 eP P 22 45 41.8 -0.1
BLA pmax pmax
comp=Z,18nm,0.7s
BLA Blacksburg 74.81 354 eP P 22 45 41.8 -0.1
comp=Z,18nm,0.7s
Z31A Sharp Cattle R 74.85 337 ⇑P P 22 45 43.2 +1.0
baz=75,SNR=11
128A Castleberry Fa 74.96 335 ⇑P P 22 45 44.2 +1.3
baz=75,SNR=12
URVA University of 75.00 357 eP P 22 45 43.3 +0.4
Y33A Hilltop Ranch, 75.04 339 ⇑P P 22 45 44.7 +1.4
baz=75
Z30A Sanderson Ranc 75.13 336 ⇓P P 22 45 45.5 +1.6
baz=76,SNR=18
JSRW J. Sargeant Re 75.14 357 eP P 22 45 44.2 +0.5
Y32A R-V Farms, Ver 75.28 338 ⇑P P 22 45 45.8 +1.2
baz=76,SNR=7.7
Z29A Hungry Hill Ra 75.29 336 ⇓P P 22 45 45.5 +0.7
baz=76,SNR=9.8
X34A Smith Ranch, M 75.37 340 ⇓P P 22 45 46.6 +1.4
baz=76,SNR=8.3
Y31A Rekieta Farm, 75.48 337 ⇓P P 22 45 47.0 +1.1
baz=76,SNR=7.5
X33A Lawton 75.50 339 ⇑P P 22 45 47.2 +1.3
baz=76
Z28A Tucker Farm, M 75.54 335 ⇑P P 22 45 47.3 +1.0
baz=76
Y30A Stafford Cattl 75.60 337 ⇓P P 22 45 47.7 +1.1
baz=76
X32A Elmer 75.62 338 ⇓P P 22 45 47.8 +1.2
baz=76
PBMO Poplar Bluff 75.73 346 eP P 22 45 47.4 +0.3
comp=Z,287nm,2.1s
WMOK Wichita Mounta 75.77 339 eP P 22 45 47.4 -0.1
WMOK pmax pmax
comp=Z,28nm,1.1s
WMOK Wichita Mounta 75.77 339 eP P 22 45 47.4 -0.1
comp=Z,28nm,1.1s
Y29A Porterfield Fa 75.83 336 ⇑P P 22 45 49.1 +1.2
baz=76
W34A Bridge Creek, 75.95 340 ⇑P P 22 45 50.1 +1.6
baz=76
W34A Bridge Creek, 75.95 340 eP P 22 45 48.9 +0.4
comp=Z,48nm,1.0s
X31A McDonald Ranch 76.02 338 ⇓P P 22 45 49.9 +1.0
baz=76,SNR=8.9
Y28A McKinney Farm, 76.06 336 ⇓P P 22 45 50.7 +1.4
baz=76,SNR=6.5
W33A Caddo, Fort Co 76.07 339 ⇓P P 22 45 50.7 +1.5
baz=76,SNR=8.1
TUL1 Leonard 76.07 342 ⇓P P 22 45 50.7 +1.6
baz=76,SNR=11
TUL1 Leonard 76.07 342 eP P 22 45 49.2 0.0
comp=Z,67nm,0.9s
X30A Coker Ranch, T 76.12 337 ⇓P P 22 45 50.6 +1.1
baz=76,SNR=8.7
W32A Sentinel 76.26 339 ⇑P P 22 45 51.7 +1.4
baz=77,SNR=11
CASY Casey 76.29 182 eP P 22 45 51.6 +1.5
comp=Z,250nm,1.9s
MSTX Muleshoe 76.29 335 ⇓P P 22 45 51.9 +1.4
baz=77,SNR=10
MSTX Muleshoe 76.29 335 eP P 22 45 50.3 -0.2
comp=Z,56nm,1.2s
Y27A Causey 76.34 335 ⇑P P 22 45 52.1 +1.2
baz=77,SNR=7.4
319A Douglas 76.36 329 ⇓P P 22 45 52.6 +1.5
baz=77,SNR=9.3
X29A Tulia 76.38 336 ⇑P P 22 45 52.2 +1.2
baz=77,SNR=7.1
USIN University of 76.41 349 eP P 22 45 50.6 -0.4
comp=Z,69nm,0.9s
SIUC Southern Illin 76.42 347 eP P 22 45 50.6 -0.4
comp=Z,43nm,0.9s
V34A Guthrie 76.45 340 ⇓P P 22 45 52.7 +1.5
baz=77,SNR=7.0
V34A Guthrie 76.45 340 eP P 22 45 51.7 +0.5
comp=Z,60nm,1.0s
WCI Wyandotte Cave 76.46 350 eP P 22 45 51.9 +0.6
WCI pmax pmax
comp=Z,15nm,1.1s
WCI Wyandotte Cave 76.46 350 eP P 22 45 51.9 +0.6
comp=Z,15nm,1.1s
W31A Holland Ranch, 76.53 338 ⇑P P 22 45 53.0 +1.3
baz=77,SNR=7.6
X28A Dimmitt 76.61 336 ⇑P P 22 45 53.9 +1.5
baz=77
V33A Lossen Ranch, 76.64 340 ⇑P P 22 45 53.4 +0.9
baz=77,SNR=12
W30A Crocket Farms 76.71 338 ⇓P P 22 45 54.1 +1.2
baz=77
AMTX Amarillo 76.78 337 ⇓P P 22 45 54.5 +1.2
baz=77
AMTX Amarillo 76.78 337 eP P 22 45 53.2 0.0
comp=Z,67nm,0.9s
121A Cookes Peak, D 76.79 331 ⇑P P 22 45 55.7 +2.2
baz=77,SNR=7.5
UPI Upington 76.82 116 eP P 22 45 55.1 +1.2
UPI AMB AMB 22 46 00.2
comp=Z,58nm,3.0s
W29A Amarillo 76.98 337 ⇑P P 22 45 56.2 +1.8
baz=77,SNR=9.3
X27A F and S Farms, 77.02 335 ⇑P P 22 45 56.2 +1.5
baz=77
U34A Anderson Ranch 77.02 340 ⇓P P 22 45 55.8 +1.3
baz=77,SNR=9.3
U34A Anderson Ranch 77.02 340 eP P 22 45 54.0 -0.5
comp=Z,94nm,1.4s
V31A Spring Creek L 77.04 338 ⇑P P 22 45 56.2 +1.5
baz=77,SNR=7.3
Z22A Elephant Butte 77.12 332 ⇑P P 22 45 57.6 +2.3
baz=77
WIN Windhoek 77.13 109 eP P 22 45 56.1 +0.2
WIN AMB AMB 22 46 03.9
comp=Z,14nm,1.3s
Y24A Capitan 77.16 333 ⇓P P 22 45 56.9 +1.2
baz=78,SNR=13
X26A CR and CF Fran 77.17 335 ⇑P P 22 45 56.8 +1.2
baz=78,SNR=6.4
LIC Lamto 77.19 72 eP P 22 45 56.9 +0.9
comp=Z,241nm,1.3s
OLIL Olney 77.23 348 eP P 22 45 56.5 +1.0
comp=Z,53nm,1.4s
V30A Spur Ranch, Mi 77.28 338 ⇑P P 22 45 57.8 +1.7
baz=78,SNR=5.4
W28A Vega 77.29 336 ⇓P P 22 45 57.6 +1.4
baz=78
U32A Winter Ranch, 77.37 339 ⇑P P 22 45 57.5 +1.0
baz=78
MVL Millersville 77.38 358 eP P 22 45 56.3 -0.1
comp=Z,52nm,1.5s
W27A Bowe Ranch, En 77.39 336 ⇑P P 22 45 58.4 +1.6
baz=78,SNR=10
Y23A Lovelace Mesa, 77.39 333 ⇑P P 22 45 58.6 +1.7
baz=78,SNR=13
BLO Bloomington 77.42 350 eP P 22 45 56.2 -0.4
BLO pmax pmax
comp=Z,36nm,0.8s
BLO Bloomington 77.42 350 eP P 22 45 56.2 -0.4
comp=Z,36nm,0.8s
X25A Clemmons Ranch 77.44 334 ⇓P P 22 45 59.0 +1.9
baz=78
TIC Toumodi 77.47 71 eP P 22 45 58.5 +0.9
comp=Z,78nm,0.9s
KIC Kosan Boka 77.49 72 eP P 22 45 58.7 +1.0
comp=Z,143nm,1.0s
SLM Saint Louis 77.50 347 eP P 22 45 57.4 +0.3
SLM pmax pmax
comp=Z,61nm,0.8s
SLM Saint Louis 77.50 347 eP P 22 45 57.4 +0.3
comp=Z,61nm,0.8s
U31A Nine Bar Ranch 77.60 339 ⇓P P 22 46 00.1 +2.2
baz=78
DBIC Dimbokro 77.61 71 eP P 22 45 59.2 +0.8
DBIC Dimbokro 77.61 71 eP P 22 45 58.7 +0.4
DBIC pmax pmax
comp=Z,88nm,1.1s
DBIC MLR MLR
comp=Z,800nm,19.2s
DBIC Dimbokro 77.61 71 P P 22 45 59.5 +1.1
comp=Z,40nm,0.9s,baz=198,slow=6.9,SNR=31
DBIC LR LR 23 17 45.6
comp=Z,678nm,18.6s,baz=220,slow=34
DBIC Dimbokro 77.61 71 eP P 22 45 58.7 +0.4
comp=Z,88nm,1.1s
DBIC LR LR
comp=Z,800nm,19.2s
V29A Stinnett 77.64 337 ⇓P P 22 46 00.0 +1.9
baz=78
W26A Owens Ranch, T 77.64 335 ⇑P P 22 45 59.8 +1.6
baz=78,SNR=9.1
X24A Lazy VL Ranch, 77.74 334 ⇑P P 22 46 00.6 +1.7
baz=78,SNR=8.8
V28A Channing 77.75 337 ⇓P P 22 46 00.9 +2.1
baz=78
BNM Barren Site 77.80 332 eP P 22 46 00.2 +1.0
TUC Tucson 77.80 328 eP P 22 46 00.3 +1.2
TUC pmax pmax
comp=Z,26nm,1.1s
TUC Tucson 77.80 328 eP P 22 46 00.3 +1.2
comp=Z,26nm,1.1s
T33A Patterson Ranc 77.82 340 ⇓P P 22 46 00.9 +1.9
baz=78,SNR=8.8
Y22D IRIS PASSCAL I 77.83 332 ⇑P P 22 46 01.2 +1.9
baz=78
LENM Lemitar 77.94 332 eP P 22 45 59.4 -0.5
LPM Los Pinos Moun 77.94 333 eP P 22 45 59.6 -0.3
V27A Dan Oppiter Fa 77.95 336 ⇑P P 22 46 01.7 +1.9
baz=78
LUPA Lehigh Univers 77.95 359 eP P 22 45 59.6 0.0
comp=Z,2.7nm,1.0s
U30A WK&E Inc. Balk 77.98 338 ⇑P P 22 46 01.9 +2.0
baz=78,SNR=6.8
W25A X Bar L Ranch, 77.99 335 ⇓P P 22 46 02.1 +1.9
baz=78,SNR=11
X23A Hourglass Bar 78.02 333 ⇓P P 22 46 02.7 +2.3
baz=78,SNR=12
ACSO Alum Creek Sta 78.04 353 eP P 22 45 59.7 -0.4
comp=Z,54nm,0.8s
SSPA Standing Stone 78.07 357 eP P 22 46 00.6 +0.4
comp=Z,47nm,1.5s
T32A Huddler Ranch, 78.10 340 ⇑P P 22 46 01.9 +1.4
baz=78,SNR=6.9
U29A Oasis Ranch, S 78.10 338 ⇑P P 22 46 01.8 +1.2
baz=78
LAZ Ladron 78.21 332 eP P 22 46 00.3 -1.1
T31A Randall Ranch, 78.23 339 ⇓P P 22 46 03.2 +1.9
baz=79
S33A Kaszmaul Farm, 78.23 340 ⇓P P 22 46 02.6 +1.3
baz=79
V26A Tequesquite Ra 78.29 335 ⇑P P 22 46 02.9 +1.1
baz=79,SNR=8.9
W24A Lazy 6 Ranch, 78.31 334 ⇑P P 22 46 03.1 +1.1
baz=79,SNR=11
U28A Mallet 78.32 337 ⇑P P 22 46 02.9 +1.0
baz=79,SNR=5.8
PAL Palisades 78.34 360 eP P 22 46 01.8 +0.1
PAL pmax pmax
comp=Z,84nm,2.0s
PAL Palisades 78.34 360 eP P 22 46 01.8 +0.1
comp=Z,84nm,2.0s
214A Organ Pipe Nat 78.35 327 ⇑P P 22 46 04.0 +1.9
baz=79,SNR=12
ODNJ Ogdensburg 78.42 359 eP P 22 46 02.2 0.0
comp=Z,48nm,1.5s
T30A Plains 78.43 338 ⇑P P 22 46 03.8 +1.4
baz=79
ANMO Albuquerque 78.45 333 eP P 22 46 02.7 0.0
ANMO pmax pmax
comp=Z,52nm,1.1s
ANMO Albuquerque 78.45 333 P P 22 46 04.4 +1.7
comp=Z,5.5nm,1.0s,baz=160,slow=6.6,SNR=10.0
ANMO Albuquerque 78.45 333 eP P 22 46 02.7 0.0
comp=Z,52nm,1.1s
HVD Garlep Dam 78.47 120 eP P 22 46 03.8 +0.6
HVD AMB AMB 22 46 12.7
comp=Z,79nm,1.3s
W23A Werner Place, 78.53 333 ⇑P P 22 46 04.9 +1.7
baz=79,SNR=9.2
U27A Thompson Grove 78.55 336 ⇑P P 22 46 04.8 +1.6
baz=79,SNR=7.8
S32A Newby Ranch, P 78.59 340 ⇑P P 22 46 04.5 +1.3
baz=79
V25A Rancho No Teng 78.61 335 ⇑P P 22 46 04.9 +1.3
baz=79,SNR=7.9
YLE Yale 78.65 1 eP P 22 46 04.4 +1.0
comp=Z,232nm,1.6s
S31A Mullinville 78.66 339 ⇓P P 22 46 04.6 +0.9
baz=79,SNR=7.3
SFIN Lafayette 78.69 350 ⇓P P 22 46 05.8 +2.1
baz=79
SFIN Lafayette 78.69 350 eP P 22 46 05.0 +1.4
comp=Z,35nm,1.4s
V24A Rampart Ranch, 78.73 334 ⇓P P 22 46 05.7 +1.3
baz=79,SNR=10
T29A Hugoton 78.76 338 ⇓P P 22 46 05.8 +1.6
baz=79
U26A Atchley Ranch, 78.82 336 ⇑P P 22 46 06.2 +1.4
baz=79,SNR=7.4
R33A Olander Ranch, 78.90 341 ⇑P P 22 46 06.2 +1.3
baz=79,SNR=9.2
KSPA Keystone Colle 78.92 358 eP P 22 46 05.7 +0.8
comp=Z,46nm,1.7s
S30A Montezuma 78.96 339 ⇑P P 22 46 07.1 +1.7
baz=79,SNR=6.0
T28A Walsh 78.97 337 ⇓P P 22 46 06.5 +1.0
baz=79,SNR=7.1
U25A Circle Dot Ran 79.05 335 ⇑P P 22 46 07.5 +1.5
baz=79,SNR=18
V23A Ortiz Mt. (NFS 79.07 334 ⇑P P 22 46 07.7 +1.6
baz=79,SNR=5.9
T27A Campo 79.11 337 ⇑P P 22 46 07.7 +1.5
baz=79,SNR=7.8
S29A Ulysses 79.13 338 ⇓P P 22 46 07.9 +1.6
baz=80,SNR=6.8
R32A Long Quarter, 79.20 340 ⇓P P 22 46 08.3 +1.7
baz=80,SNR=8.2
ALLY Alegheny Colle 79.21 355 eP P 22 46 05.7 -0.8
comp=Z,142nm,1.8s
BRYW Bryant College 79.28 2 eP P 22 46 07.3 +0.4
comp=Z,80nm,1.4s
BRYW LR LR
comp=Z,800nm,21.4s
R31A Burdett 79.30 340 ⇑P P 22 46 08.4 +1.3
baz=80,SNR=5.6
KSU1 Kansas State U 79.30 342 ⇓P P 22 46 08.8 +1.7
baz=80
KSU1 Kansas State U 79.30 342 eP P 22 46 08.0 +1.0
comp=Z,32nm,1.0s
S28A Manter 79.34 338 ⇓P P 22 46 09.0 +1.6
baz=80,SNR=8.8
U24A Moreno Valley 79.35 335 ⇑P P 22 46 09.8 +2.0
baz=80
X18A Snowflake 79.39 330 ⇓P P 22 46 09.3 +1.3
baz=80,SNR=5.2
TSUM Tsumeb 79.46 106 eP P 22 46 09.2 +0.4
comp=Z,76nm,1.6s
TSUM LR LR
comp=Z,1μm,20.0s
113A Mohawk Valley, 79.46 326 ⇑P P 22 46 10.0 +1.9
baz=80,SNR=8.7
V22A San Miguel Ran 79.48 333 ⇑P P 22 46 10.3 +1.9
baz=80,SNR=12
T26A Comanche Natio 79.49 336 ⇑P P 22 46 10.0 +1.7
baz=80,SNR=7.3
BOSA Boshof 79.50 118 eP P 22 46 09.1 +0.2
BOSA AMB AMB 22 46 16.8
comp=Z,67nm,3.4s
BOSA Boshof 79.50 118 eP P 22 46 08.9 0.0
BOSA pmax pmax
comp=Z,67nm,1.0s
BOSA MLR MLR
comp=Z,1μm,18.7s
BOSA Boshof 79.50 118 P P 22 46 09.4 +0.5
comp=Z,18nm,0.9s,baz=216,slow=5.4,SNR=23
BOSA LR LR 23 21 35.1
comp=Z,440nm,18.2s,baz=230,slow=36
BOSA Boshof 79.50 118 eP P 22 46 08.9 0.0
comp=Z,67nm,1.0s
BOSA LR LR
comp=Z,1μm,18.7s
R30A Dighton 79.51 339 ⇓P P 22 46 11.0 +2.7
baz=80
Q33A Connelly Farm, 79.51 341 ⇓P P 22 46 10.1 +1.8
baz=80,SNR=6.6
BINY Binghamton 79.56 358 eP P 22 46 08.9 +0.5
comp=Z,26nm,1.3s

U23A **El Rito** 79.59 334 ⇓P P 22 46 11.0 +1.9
baz=80
Z14A **Wintersburg** 79.61 327 ⇓P P 22 46 11.0 +2.1
baz=80
QUA2 **Belchertown** 79.62 1 eP P 22 46 08.8 +0.1
comp=Z,54nm,1.2s
ERPA **Erie** 79.66 355 eP P 22 46 08.3 -0.6
comp=Z,49nm,1.1s
Q32A **Meitler Ranch,** 79.69 341 ⇓P P 22 46 11.4 +2.2
baz=80,SNR=6.0
T25A **Trinidad** 79.72 335 ⇓P P 22 46 11.8 +2.1
baz=80,SNR=8.6
S27A **Las Animas** 79.73 337 ⇓P P 22 46 11.7 +2.1
baz=80
WES **Weston** 79.75 2 eP P 22 46 10.5 +1.1
WES pmax pmax
comp=Z,75nm,1.4s
WES MLR MLR
comp=Z,2µm,18.2s
WES **Weston** 79.75 2 eP P 22 46 10.5 +1.1
comp=Z,75nm,1.4s
WES LR LR
comp=Z,2µm,18.2s
W18A **Petrified Fore** 79.83 331 ⇓P P 22 46 12.3 +2.1
baz=80,SNR=5.3
W18A **Petrified Fore** 79.83 331 eP P 22 46 11.1 +0.9
comp=Z,76nm,1.3s
S26A **Kim** 79.86 336 ⇓P P 22 46 12.0 +1.7
baz=80,SNR=8.6
HRV **Adam Dziewonsk** 79.86 2 eP P 22 46 10.9 +0.9
HRV pmax pmax
comp=Z,43nm,1.1s
HRV **Adam Dziewonsk** 79.86 2 eP P 22 46 10.9 +0.9
comp=Z,43nm,1.1s
U22A **Llaves** 79.87 333 ⇑P P 22 46 12.6 +2.1
baz=80,SNR=11
R29A **Marienthal** 79.88 338 ⇓P P 22 46 12.2 +1.8
baz=80,SNR=5.2
P33A **Williams Farm,** 79.89 341 ⇑P P 22 46 12.2 +1.9
baz=80
X16A **Lo Mia Camp, P** 79.90 329 ⇑P P 22 46 12.7 +2.0
baz=80,SNR=13
Q31A **Ellis** 79.93 340 ⇑P P 22 46 11.7 +1.1
baz=80,SNR=9.0
T24B **San Luis** 79.98 335 ⇓P P 22 46 12.4 +1.2
baz=80,SNR=8.9
BKZ **Black Stump Fm** 79.99 228 PFAKE 22 46 20.0 +8.8
BKZ LR LR
comp=Z,900nm,20.0s
R28A **Tribune** 80.01 338 ⇑P P 22 46 12.4 +1.3
baz=80,SNR=8.6
TRY **Troy** 80.07 360 eP P 22 46 12.3 +1.2
comp=Z,73nm,1.1s
Y14A **Wickenburg** 80.13 328 ⇑P P 22 46 13.7 +1.9
baz=80,SNR=6.1
Q30A **Quinter** 80.14 339 ⇑P P 22 46 13.4 +1.7
baz=80
AAM **Ann Arbor** 80.16 352 eP P 22 46 11.4 -0.2
AAM pmax pmax
comp=Z,35nm,0.9s
AAM **Ann Arbor** 80.16 352 eP P 22 46 11.4 -0.2
comp=Z,35nm,0.9s
MMNY **Mt. Morris Dam** 80.16 357 eP P 22 46 11.8 +0.2
comp=Z,186nm,1.3s
GLA **Glamis** 80.17 326 eP P 22 46 12.6 +0.6
GLA pmax pmax
comp=Z,40nm,1.3s
GLA **Glamis** 80.17 326 ⇑P P 22 46 13.5 +1.5
baz=80
GLA **Glamis** 80.17 326 eP P 22 46 12.6 +0.6
comp=Z,40nm,1.3s
T23A **Casias Ranch,** 80.18 334 ⇓P P 22 46 13.7 +1.5
baz=80,SNR=6.6
S25A **Robets Cordova** 80.20 336 ⇑P P 22 46 13.9 +1.6
baz=80,SNR=6.2
R27A **Eads** 80.25 337 ⇑P P 22 46 13.9 +1.5
baz=81,SNR=8.3
Q29A **Oakley** 80.27 339 ⇓P P 22 46 13.3 +0.8
baz=81
P32A **Huiting Farm,** 80.30 341 ⇓P P 22 46 14.3 +1.8
baz=81,SNR=7.0
P31A **Stockton** 80.41 340 ⇓P P 22 46 15.0 +1.9
baz=81,SNR=6.3
SWZ **Schweizer** 80.42 117 eP P 22 46 13.2 -0.6
SWZ AMB AMB 22 46 21.3
comp=Z,70nm,3.6s
S24A **Houchin Ranch,** 80.44 335 ⇓P P 22 46 15.7 +2.0
baz=81,SNR=12
R26A **Arlington** 80.47 337 ⇑P P 22 46 15.9 +2.4
baz=81,SNR=13
SWSC **Sam W. Stewart** 80.51 325 ⇑P P 22 46 16.0 +2.2
baz=81
R25A **Fountain Ranch** 80.60 336 ⇑P P 22 46 16.2 +2.0
baz=81
Y12C **Blythe** 80.63 326 ⇑P P 22 46 17.0 +2.6
baz=81,SNR=8.6
P30A **Selden** 80.67 339 ⇓P P 22 46 16.4 +1.9
baz=81,SNR=6.0
Q28A **Sharon Springs** 80.68 338 ⇑P P 22 46 16.4 +1.8
baz=81
BAR **Barrett** 80.69 324 eP P 22 46 15.4 +0.6
comp=Z,29nm,1.2s
ACCN **Adirondack Com** 80.72 360 eP P 22 46 13.9 -0.7
comp=Z,64nm,1.2s
MONP **Monument Peak,** 80.75 325 ⇓P P 22 46 17.6 +2.3
baz=81,SNR=5.7
O32A **Brockman Farm,** 80.82 341 ⇓P P 22 46 17.8 +2.5
baz=81
WUAZ **Wupatki** 80.82 330 ⇑P P 22 46 17.7 +2.1
baz=81,SNR=11
WUAZ **Wupatki** 80.82 330 eP P 22 46 16.9 +1.3
comp=Z,36nm,1.1s
FFD **Franklin Falls** 80.83 1 eP P 22 46 15.8 +0.7
comp=Z,34nm,0.9s
KSCO **Kaye Shedlock'** 80.87 338 ⇓P P 22 46 18.0 +2.2
baz=81
KSCO **Kaye Shedlock'** 80.87 338 eP P 22 46 14.9 -0.8
comp=Z,57nm,1.0s
P29A **Atwood** 80.92 339 ⇑P P 22 46 18.2 +2.3
baz=81
PDMCI **Parker Dam,Lak** 80.93 327 ⇑P P 22 46 18.3 +2.4
baz=81
R24A **Sanders Place,** 80.94 335 ⇓P P 22 46 18.3 +2.1
baz=81,SNR=10
BC3 **Big Chuckawall** 80.96 326 ⇑P P 22 46 18.2 +1.9
baz=81,SNR=9.8
O31A **Woolen Ranch,** 80.99 340 ⇓P P 22 46 18.3 +2.1
baz=81
HNH **Hanover** 81.05 1 eP P 22 46 17.2 +0.9
comp=Z,41nm,1.2s
Q26A **Hugo** 81.06 337 ⇓P P 22 46 19.3 +2.6
baz=81,SNR=7.2
109C **Camp Elliot, M** 81.07 324 ⇓P P 22 46 19.4 +2.7
baz=81
S22A **4UR Ranch, Cre** 81.09 334 ⇑P P 22 46 18.9 +1.7
baz=81,SNR=17
P28A **Saint Francis** 81.13 338 ⇑P P 22 46 19.2 +2.2
baz=82
R23A **Moffat** 81.14 335 ⇓P P 22 46 19.2 +1.8
baz=82,SNR=9.8
KSD **Kokstad** 81.19 122 eP P 22 46 20.3 +2.4
KSD AMB AMB 22 46 27.8
comp=Z,33nm,5.4s
MVCO **Mesa Verde** 81.21 333 ⇓P P 22 46 19.7 +2.0
baz=82,SNR=11
MVCO **Mesa Verde** 81.21 333 eP P 22 46 18.1 +0.4
comp=Z,42nm,1.1s
O30A **MW Ranch, Wils** 81.21 340 ⇑P P 22 46 19.0 +1.6
baz=82
SCIA **State Center** 81.23 345 eP P 22 46 17.4 0.0
comp=Z,51nm,1.1s
IRM **Iron Mountain** 81.25 326 ⇑P P 22 46 20.3 +2.5
baz=82,SNR=7.0
Q25A **Bedland, Calha** 81.28 336 ⇑P P 22 46 19.8 +1.7
baz=82,SNR=9.9
N32A **Stulken Farm,** 81.29 341 ⇑P P 22 46 19.8 +2.0
baz=82
SEK **Senekal** 81.33 119 eP P 22 46 19.0 +0.2
SEK AMB AMB 22 46 25.9
comp=Z,63nm,1.4s
MDV **Middlebury** 81.33 0 eP P 22 46 18.5 +0.7
P27A **Ficken Ranch,** 81.36 338 ⇓P P 22 46 20.3 +2.0
baz=82
O29A **4D Ranch, Culb** 81.37 339 ⇑P P 22 46 21.2 +3.0
baz=82
PFO **Pinyon Flats O** 81.37 325 P P 22 46 27.1 +8.6
comp=Z,179nm,1.1s,SNR=6.4
PFO **Pinyon Flats O** 81.37 325 eP P 22 46 18.6 +0.1
PFO **Pinyon Flats O** 81.37 325 P P 22 46 21.8 +3.3
comp=Z,4.8nm,0.8s,baz=98,slow=4.5,SNR=4.5
PFO **Pinyon Flats O** 81.37 325 eP P 22 46 21.4 +2.9
baz=82,SNR=11
PFO **Pinyon Flats O** 81.37 325 eP P 22 46 18.6 +0.1
PFO ePcP P 22 46 21.8 +3.3
BELC **Belle Mtn. Jos** 81.49 326 ⇓P P 22 46 21.4 +2.3
baz=82
W13A **Hualapai Mount** 81.50 328 ⇓P P 22 46 21.5 +2.2
baz=82,SNR=12
LBNH **Lisbon** 81.59 1 eP P 22 46 19.9 +0.7
LBNH pmax pmax
comp=Z,34nm,1.0s
LBNH **Lisbon** 81.59 1 eP P 22 46 19.9 +0.7
comp=Z,34nm,1.0s
P26A **Davis Ranch, A** 81.59 337 ⇑P P 22 46 22.5 +2.9
baz=82
Q24A **Divide** 81.62 336 ⇓P P 22 46 22.2 +2.2
baz=82,SNR=10
O28A **Krutsinger Ran** 81.64 339 ⇑P P 22 46 21.8 +2.0
baz=82,SNR=5.3
JFWS **Jewell Farm** 81.66 348 eP P 22 46 19.9 +0.3
JFWS pmax pmax
comp=Z,50nm,1.2s
JFWS **Jewell Farm** 81.66 348 eP P 22 46 19.9 +0.3
comp=Z,50nm,1.2s
MURC **Murrieta** 81.70 324 ⇑P P 22 46 22.5 +2.4
baz=82,SNR=6.4
P25A **Willow Gulch B** 81.81 337 ⇓P P 22 46 23.0 +2.3
baz=82,SNR=7.1
RUDU **RUNDU** 81.85 106 eP P 22 46 23.1 +1.6
RUDU AMB AMB 22 46 30.0
comp=Z,55nm,1.3s
BGNE **Belgrade** 81.86 342 ⇑P P 22 46 23.8 +3.0
baz=82
BGNE **Belgrade** 81.86 342 eP P 22 46 20.6 -0.2
comp=Z,80nm,1.1s
O27A **Beecher Island** 81.91 338 ⇑P P 22 46 24.1 +2.9
baz=82
PTN **Potsdam (NY)** 81.91 359 eP P 22 46 21.5 +0.6
PTN pmax pmax
comp=Z,89nm,1.1s
PTN **Potsdam (NY)** 81.91 359 eP P 22 46 21.5 +0.6
comp=Z,89nm,1.1s
LBTB **Lobatse** 81.93 115 eP P 22 46 22.4 +0.5
LBTB AMB AMB 22 46 29.6
comp=Z,68nm,3.6s
LBTB **Lobatse** 81.93 115 eP P 22 46 21.3 -0.6
LBTB pmax pmax
comp=Z,76nm,1.2s
LBTB **Lobatse** 81.93 115 eP P 22 46 21.3 -0.6
comp=Z,76nm,1.2s
LONY **Lake Ozonia** 81.96 359 eP P 22 46 21.8 +0.6
comp=Z,63nm,1.1s
N29A **Votaw Ranch, W** 81.96 340 ⇑P P 22 46 24.3 +3.0
baz=82
WVL **Waterville** 81.98 3 eP P 22 46 22.0 +0.8
comp=Z,47nm,1.3s
U15A **North Rim** 81.98 329 ⇓P P 22 46 24.1 +2.3
baz=82,SNR=22
GMRC **Granite Mounta** 82.00 326 ⇑P P 22 46 24.3 +2.6
baz=82,SNR=7.6
LDFC **Landfair** 82.01 327 eP P 22 46 23.7 +1.9
comp=Z,45nm,1.1s
M31A **Lambtecht Ranc** 82.01 341 ⇓P P 22 46 24.7 +3.1
baz=82
PV01 **Paradox Valley** 82.05 333 eP P 22 46 23.2 +1.1
N28A **Pribbeno Ranch** 82.10 339 ⇑P P 22 46 25.2 +3.0
baz=82
PV05 **Paradox Valley** 82.20 332 eP P 22 46 24.1 +1.2
O26A **Horse Wrangler** 82.21 338 ⇑P P 22 46 25.0 +2.2
baz=82,SNR=6.8
P23A **Jefferson** 82.22 335 ⇑P P 22 46 25.4 +2.3
baz=83,SNR=7.2
EMMW **East Machias** 82.23 4 eP P 22 46 22.4 -0.1
comp=Z,59nm,1.3s
SADO **Sadowa** 82.25 356 P P 22 46 23.1 +0.4
comp=Z,16nm,0.9s,baz=224,slow=4.5,SNR=15
HEC **Hector,Ludlow** 82.34 326 ⇓P P 22 46 26.3 +2.8
baz=83
KSR **Koster** 82.34 117 eP P 22 46 25.2 +1.1
KSR AMB AMB 22 46 31.4
comp=Z,28nm,1.4s
WDLM **Western Deep L** 82.36 117 eP P 22 46 23.2 -1.0
WDLM AMB AMB 22 46 25.0
comp=Z,30nm,2.5s
PV04 **Paradox Valley** 82.40 333 eP P 22 46 22.9 -1.0
SMCO **Snowmass** 82.42 334 eP P 22 46 24.2 0.0
comp=Z,99nm,1.2s
PV10 **Paradox Valley** 82.44 333 eP P 22 46 24.0 -0.2
BFSC **Mount Baldy Ra** 82.45 325 ⇑P P 22 46 26.2 +2.0
baz=83,SNR=8.6
OGNE **Ogallala** 82.48 339 ⇓P P 22 46 26.5 +2.4
baz=83
N27A **Anderson Farm,** 82.50 338 ⇑P P 22 46 26.2 +2.0
baz=83,SNR=7.2
ISCO **Idaho Springs** 82.53 336 eP P 22 46 24.3 -0.4
ISCO pmax pmax
comp=Z,20nm,1.1s
ISCO **Idaho Springs** 82.53 336 ⇓P P 22 46 26.3 +1.6
baz=83,SNR=9.3
ISCO **Idaho Springs** 82.53 336 eP P 22 46 24.3 -0.4
comp=Z,20nm,1.1s
M29A **Burnside Ranch** 82.56 340 ⇓P P 22 46 26.8 +2.3
baz=83
PV09 **Paradox Valley** 82.58 333 eP P 22 46 25.0 0.0
MWC **Mount Wilson** 82.62 324 eP P 22 46 24.8 -0.3
MWC pmax pmax
comp=Z,36nm,1.1s
MWC **Mount Wilson** 82.62 324 eP P 22 46 24.8 -0.3
comp=Z,36nm,1.1s
PASC **Pasadena Art C** 82.63 324 eP P 22 46 24.4 -0.6
comp=Z,32nm,1.2s
TUQ **Turquoise Moun** 82.67 326 ⇑P P 22 46 27.7 +2.4
baz=83,SNR=10
PKME **Peaks-Kenny Pk** 82.69 3 eP P 22 46 24.6 -0.3
comp=Z,18nm,1.0s
KNB **Kanab** 82.70 329 eP P 22 46 27.1 +1.6
KNB pmax pmax
comp=Z,62nm,1.1s
KNB **Kanab** 82.70 329 eP P 22 46 27.1 +1.6
comp=Z,62nm,1.1s
M28A **Bar X Bar Ranc** 82.71 339 ⇓P P 22 46 28.4 +3.2
baz=83
N26A **Koester Ranch,** 82.72 338 ⇑P P 22 46 28.0 +2.6
baz=83
P22A **Eagle** 82.72 335 ⇓P P 22 46 27.7 +2.0
baz=83,SNR=8.4
L31A **Butterfield Fa** 82.76 341 ⇓P P 22 46 27.6 +2.1
baz=83,SNR=7.2
DECC **Green Verdugo** 82.77 324 ⇑P P 22 46 28.6 +2.9
baz=83
L30A **Spencer Herefo** 82.77 341 ⇑P P 22 46 28.3 +2.7
baz=83
CRWM **Crown Mines** 82.89 118 eP P 22 46 27.4 +0.4
CRWM AMB AMB 22 46 34.4
comp=Z,34nm,3.5s
GSC **Goldstone, Bar** 82.94 326 eP P 22 46 26.8 +0.1
GSC pmax pmax
comp=Z,18nm,1.0s
GSC **Goldstone, Bar** 82.94 326 ⇑P P 22 46 28.7 +2.1
baz=83,SNR=6.1
GSC **Goldstone, Bar** 82.94 326 eP P 22 46 26.8 +0.1
comp=Z,18nm,1.0s
OBSV **Observatory** 82.97 118 eP P 22 46 27.5 +0.1
OBSV AMB AMB 22 46 35.0
comp=Z,45nm,3.7s
ERPM **east rand prop** 82.99 118 eP P 22 46 27.9 +0.4
ERPM AMB AMB 22 46 28.7
comp=Z,50nm,2.2s
O23A **Lake Granby, G** 83.00 336 ⇑P P 22 46 29.1 +2.0
baz=83,SNR=8.6
CRZF **Crozet Islands** 83.04 145 S S 22 56 40.0 -4.2
CRZF L L 23 08 00.0
CRZF R 23 12 00.0
L29A **Maesberg Ranch** 83.08 340 ⇓P P 22 46 28.6 +1.5
baz=83
EDW2 **Edwards Air Fo** 83.13 325 ⇓P P 22 46 29.1 +1.5
baz=83,SNR=7.8
O22A **Kremmling** 83.16 335 ⇑P P 22 46 29.7 +1.7
baz=84,SNR=11
SHOC **Shoshone, Teco** 83.21 326 ⇑P P 22 46 29.9 +1.9
baz=84
N24A **Carr** 83.23 337 ⇑P P 22 46 30.4 +2.3
baz=84
SHPR **Sheep Range** 83.24 327 eP P 22 46 28.9 +0.6
M26A **McRoberts Ranc** 83.28 338 ⇑P P 22 46 30.8 +2.5
baz=84
CCUT **Cedar City** 83.38 329 eP P 22 46 30.2 +1.2
comp=Z,41nm,1.1s
SLR **Silverton** 83.39 117 eP P 22 46 28.8 -0.7
SLR AMB AMB 22 46 33.5
comp=Z,68nm,5.9s
K30A **Basset** 83.42 341 ⇓P P 22 46 31.0 +2.1
baz=84,SNR=7.7
LRMC **Laurel Mtn Rad** 83.49 325 ⇑P P 22 46 31.4 +1.9
baz=84
M25A **Palm-Egli Farm** 83.53 337 ⇓P P 22 46 32.0 +2.4
baz=84,SNR=5.2
L27A **T5 Ranch, Ells** 83.61 339 ⇑P P 22 46 32.1 +2.1
baz=84
ARUT **Antelope Range** 83.62 329 eP P 22 46 30.8 +0.6
ARUT **Antelope Range** 83.62 329 eP P 22 46 30.8 +0.6
N23A **Red Feather La** 83.63 336 ⇓P P 22 46 32.0 +1.8
baz=84,SNR=8.7
SRU **San Rafael Swe** 83.63 332 eP P 22 46 29.7 -0.5
SRU pmax pmax
comp=Z,28nm,1.0s
SRU **San Rafael Swe** 83.63 332 eP P 22 46 29.7 -0.5
comp=Z,28nm,1.0s
K29A **Lazy Trails An** 83.69 341 ⇓P P 22 46 32.5 +2.2
baz=84
ECSD **EROS Data Cent** 83.70 343 ⇑P P 22 46 31.9 +1.7
baz=84
ECSD **EROS Data Cent** 83.70 343 eP P 22 46 30.2 0.0
comp=Z,96nm,0.9s
N22A **Wattenberg Ran** 83.71 336 ⇓P P 22 46 32.7 +2.0
baz=84,SNR=9.7
O20A **White River Ci** 83.72 334 ⇓P P 22 46 32.7 +2.1
baz=84,SNR=5.9
O20A **White River Ci** 83.72 334 eP P 22 46 30.6 -0.1
comp=Z,24nm,1.0s
ARVC **Arvin** 83.72 324 ⇑P P 22 46 32.6 +2.0
baz=84
MVU **Marysvale** 83.75 331 eP P 22 46 30.0 -0.9
comp=Z,34nm,1.3s
M24A **Cheyenne** 83.79 337 ⇑P P 22 46 32.6 +1.6
baz=84,SNR=6.8
PHWY **Pilot Hill** 83.84 336 eP P 22 46 31.6 +0.2
comp=Z,25nm,0.9s
FURC **Furnace Creek,** 83.94 326 ⇑P P 22 46 33.0 +1.4
baz=84
ISA **Isabella, Lake** 84.00 325 eP P 22 46 32.8 +0.7
ISA pmax pmax
comp=Z,21nm,0.9s
ISA **Isabella, Lake** 84.00 325 ⇓P P 22 46 34.4 +2.3
baz=84,SNR=11
ISA **Isabella, Lake** 84.00 325 eP P 22 46 32.8 +0.7
comp=Z,21nm,0.9s
J30A **Dallas** 84.00 341 ⇑P P 22 46 33.6 +1.7
baz=84
TMUT **Trail Mountain** 84.05 332 eP P 22 46 32.4 -0.2
comp=Z,26nm,0.8s
TMUT LR LR
comp=Z,1µm,20.2s
M23A **Laramie** 84.07 336 ⇑P P 22 46 34.3 +1.8
baz=84,SNR=6.9
DAC **Darwin (Calif)** 84.11 326 eP P 22 46 33.0 +0.2
DAC pmax pmax
comp=Z,29nm,1.0s
DAC MLR MLR
comp=Z,900nm,20.8s
DAC **Darwin (Calif)** 84.11 326 eP P 22 46 33.0 +0.2
comp=Z,28nm,1.0s
DAC LR LR
comp=Z,900nm,20.8s
L25A **Engebretsen Ra** 84.16 338 ⇓P P 22 46 34.6 +1.8
baz=84
K27A **Flueckinger Fa** 84.16 339 ⇑P P 22 46 34.7 +2.0
baz=84,SNR=6.4
J29A **Okreek** 84.29 341 ⇓P P 22 46 35.4 +2.1
baz=85,SNR=6.2
M22A **Cedar Creek Ra** 84.30 336 ⇑P P 22 46 35.1 +1.4
baz=85
N20A **Spence Gulch,** 84.34 334 ⇑P P 22 46 36.0 +2.1
baz=85,SNR=9.7
SPMN **Marine on St.** 84.35 347 ⇑P P 22 46 35.8 +2.3
baz=85,SNR=5.4
SPMN **Marine on St.** 84.35 347 eP P 22 46 32.9 -0.6
comp=Z,25nm,0.8s
L24A **Wheatland** 84.35 337 ⇑P P 22 46 35.6 +1.8
baz=85
SMMC **Simmler** 84.42 324 ⇑P P 22 46 36.8 +2.7
baz=85,SNR=6.9
VES **Vestal, Richgr** 84.43 324 ⇓P P 22 46 36.6 +2.5
baz=85,SNR=7.7
I30A **Oacoma** 84.54 342 ⇓P P 22 46 36.3 +1.7
baz=85
K25A **Mack Ranch, Ha** 84.55 338 ⇓P P 22 46 36.3 +1.6
baz=85
J28A **Allard Ranch,** 84.55 340 ⇓P P 22 46 36.7 +2.1
baz=85,SNR=5.9
COWI **Conover** 84.59 349 eP P 22 46 32.7 -2.0
comp=Z,23nm,1.0s
J27A **Elkhorn Farm,** 84.60 340 ⇑P P 22 46 37.2 +2.3
baz=85,SNR=8.0
GRAC **Grapevine Rang** 84.61 326 ⇑P P 22 46 37.1 +2.0
baz=85
L23A **Garrett** 84.65 337 ⇓P P 22 46 37.1 +1.7
baz=85,SNR=5.9
L22A **Ellis Ranch, M** 84.81 336 ⇓P P 22 46 38.0 +1.8
baz=85
MPU **Maple Canyon** 84.84 332 eP P 22 46 36.5 +0.2
comp=Z,39nm,1.0s
I29A **Vivian Onida** 84.86 341 ⇓P P 22 46 38.3 +2.1
baz=85
BRSD **Miller** 84.92 342 ⇓P P 22 46 39.2 +2.7
baz=85
BRSD **Miller** 84.92 342 eP P 22 46 36.9 +0.4
comp=Z,50nm,0.8s
K24A **Anderson Ranch** 84.93 337 ⇓P P 22 46 39.0 +2.3
baz=85
NLU **North Lily Min** 84.95 331 eP P 22 46 36.7 -0.2
comp=Z,47nm,1.4s
J26A **Sides Ranch, S** 84.96 339 ⇓P P 22 46 38.2 +1.5
baz=85,SNR=9.0
R11A **Troy Canyon, C** 84.98 328 ⇑P P 22 46 39.2 +2.1
baz=85,SNR=8.9
R11A **Troy Canyon, C** 84.98 328 eP P 22 46 37.2 +0.1
comp=Z,21nm,0.9s
TIN **Tinemaha, Big** 85.04 326 ⇓P P 22 46 40.2 +2.9
baz=85
DAU **Daniels Canyon** 85.04 332 eP P 22 46 36.6 -0.9
DAU **Daniels Canyon** 85.04 332 eP P 22 46 36.6 -0.9
I28A **Midland** 85.07 340 ⇓P P 22 46 38.7 +1.5
baz=85,SNR=10
K23A **Bowen Ranch, D** 85.21 337 ⇑P P 22 46 39.9 +1.8
baz=86,SNR=5.8
J25A **Sunshine Ranch** 85.24 338 ⇓P P 22 46 40.3 +2.1
baz=86
JLU **Jordanelle** 85.28 332 eP P 22 46 39.0 +0.4
comp=Z,18nm,0.9s
I27A **Quinn** 85.37 340 ⇓P P 22 46 39.1 +0.3
baz=86,SNR=6.0
K22A **Casper** 85.40 336 ⇓P P 22 46 40.4 +1.4
baz=86,SNR=7.2
K22A **Casper** 85.40 336 eP P 22 46 39.2 +0.1
comp=Z,48nm,1.0s
H29A **Onida** 85.41 341 ⇑P P 22 46 40.1 +1.2
baz=86,SNR=6.6
J24A **Dixon Ranch, L** 85.44 338 ⇑P P 22 46 40.9 +1.7
baz=86,SNR=5.1
DUG **Dugway, Tooele** 85.44 331 eP P 22 46 39.6 +0.3
DUG pmax pmax
comp=Z,58nm,1.2s
DUG **Dugway, Tooele** 85.44 331 ⇑P P 22 46 41.0 +1.7
baz=86,SNR=11
DUG **Dugway, Tooele** 85.44 331 eP P 22 46 39.6 +0.3
comp=Z,58nm,1.2s
TPH **Tonopah** 85.44 327 eP P 22 46 39.3 -0.1
TPH pmax pmax
comp=Z,53nm,1.1s
TPH **Tonopah** 85.44 327 eP P 22 46 39.3 -0.1
comp=Z,53nm,1.1s
CTU **Camp Tracy** 85.47 332 eP P 22 46 39.0 -0.5
comp=Z,13nm,1.2s
I26A **New Underwood** 85.56 339 ⇓P P 22 46 41.5 +1.8
baz=86
G30A **Faulkton** 85.61 342 ⇑P P 22 46 41.7 +1.9
baz=86
K21A **Alcova** 85.62 336 ⇓P P 22 46 41.5 +1.3
baz=86,SNR=8.6
H28A **Mission Ridge** 85.66 341 ⇓P P 22 46 40.8 +0.7
baz=86,SNR=7.4
TCUT **Toone Canyon** 85.71 332 eP P 22 46 39.8 -1.0

comp=Z,42nm,1.0s
J23A Dilts Ranch, B 85.78 337 ⇑P P 22 46 42.8 +1.9
baz=86
MLAC Mammoth, Mammo 85.78 326 ⇓P P 22 46 43.2 +2.0
baz=86
I25A Rochford 85.80 339 ⇑P P 22 46 42.0 +1.0
baz=86,SNR=8.4
H27A Howes 85.90 340 ⇑P P 22 46 42.5 +1.2
baz=86,SNR=8.8
I24A Kuemmerle Ranc 85.91 338 ⇓P P 22 46 42.8 +1.3
baz=86
RSSD Black Hills 85.98 339 *e*P P 22 46 41.7 -0.3
RSSD pmax pmax
comp=Z,29nm,0.9s
RSSD Black Hills 85.98 339 *e*P P 22 46 41.7 -0.3
comp=Z,28nm,0.9s
G28A Parade 86.00 341 ⇓P P 22 46 42.9 +1.1
baz=86,SNR=8.0
J22A Midwest 86.07 337 ⇓P P 22 46 43.1 +0.8
baz=86,SNR=6.6
H26A Fairpoint 86.08 340 ⇑P P 22 46 43.9 +1.7
baz=86
BGU Big Grassy Mou 86.16 331 *e*P P 22 46 42.4 -0.5
comp=Z,8.4nm,1.2s
HWUT Hardware Ranch 86.20 332 *e*P P 22 46 43.2 +0.1
comp=Z,62nm,1.1s
NV01 Mina Array Sit 86.21 326 *e*P P 22 46 43.0 -0.2
NVAR Mina Array Bea 86.21 326 P P 22 46 45.1 +1.9
comp=Z,2.8nm,0.9s,baz=159,slow=5.8,SNR=11
F30A Leola 86.25 343 ⇓P P 22 46 45.2 +2.2
baz=87
SPUT South Promonto 86.27 332 *e*P P 22 46 43.1 -0.3
comp=Z,54nm,1.2s
H25A Fruitdale 86.31 339 ⇓P P 22 46 44.7 +1.3
baz=87,SNR=8.5
J21A Lysite 86.32 336 ⇓P P 22 46 45.2 +1.6
baz=87,SNR=8.1
F29A Eureka 86.44 342 ⇓P P 22 46 45.0 +1.1
baz=87,SNR=6.7
BW06 Boulder Array 86.50 334 *e*P P 22 46 44.0 -0.7
comp=Z,40nm,1.1s
I22A 9 Mile Ranch, 86.50 337 ⇑P P 22 46 45.2 +0.8
baz=87,SNR=8.9
PD31 Pinedale Array 86.50 334 *e*P P 22 46 44.5 -0.2
PDAR Pinedale Array 86.50 334 P P 22 46 45.0 +0.4
comp=Z,4.7nm,1.0s,baz=145,slow=5.4,SNR=21
PDAR LR LR 23 21 09.1
comp=Z,477nm,18.8s,baz=158,slow=33
J20A Shoshoni 86.53 336 ⇑P P 22 46 46.5 +1.9
baz=87,SNR=9.1
G27A Dupree 86.55 340 ⇓P P 22 46 45.5 +0.9
baz=87,SNR=5.8
G26A Maurine 86.65 340 ⇓P P 22 46 46.1 +1.0
baz=87,SNR=9.2
I21A Big Trails, Te 86.69 336 ⇑P P 22 46 46.4 +1.0
baz=87,SNR=13
TOA0 Torodi Ar. Sit 86.69 71 *e*P P 22 46 46.1 +0.2
TOA0 *e*PKKPbc **PKKPbc** 23 04 41.0 +1.3
TORD Torodi Ar. Bea 86.69 71 P P 22 46 46.1 +0.2
comp=Z,11nm,0.9s,baz=236,slow=3.9,SNR=34
TORD PKKPbc **PKKPbc** 23 04 41.0 +1.3
comp=Z,0.4nm,0.8s,baz=29,slow=3.0,SNR=5.2
TORD LR LR 23 23 31.4
comp=Z,394nm,18.5s,baz=195,slow=34
F28A McLaughlin 86.69 341 ⇓P P 22 46 46.2 +1.0
baz=87,SNR=5.7
H24A Dirks Ranch, A 86.70 338 ⇓P P 22 46 46.2 +0.8
baz=87,SNR=7.9
EYMN Ely 86.75 348 *e*P P 22 46 44.8 -0.6
comp=Z,33nm,1.3s
MSNA Messina 86.75 116 *e*P P 22 46 47.2 +0.9
MSNA AMB AMB 22 46 54.3
comp=Z,45nm,1.2s
WAKR Walker 86.77 326 *e*P P 22 46 46.6 +0.6
J19A Crowheart 86.78 335 ⇓P P 22 46 46.9 +1.1
baz=87,SNR=7.7
HVU Hansel Valley 86.80 332 *e*P P 22 46 45.4 -0.6
HVU pmax pmax
comp=Z,49nm,1.2s
HVU MLR MLR
comp=Z,2μm,21.9s
HVU Hansel Valley 86.80 332 *e*P P 22 46 45.4 -0.6
comp=Z,49nm,1.2s
HVU LR LR
comp=Z,2μm,21.9s
CMB Columbia Colle 86.82 325 *e*P P 22 46 45.4 -0.6
CMB pmax pmax
comp=Z,27nm,1.3s
CMB Columbia Colle 86.82 325 *e*P P 22 46 45.4 -0.6
comp=Z,27nm,1.3s
MSKU Masuku 86.83 90 *e*P P 22 46 46.9 +0.1
comp=Z,60nm,1.2s
MSKU LR LR
comp=Z,800nm,21.0s
E30A Jud 86.85 343 ⇑P P 22 46 46.5 +0.6
baz=87,SNR=7.5
ELK Elko 86.86 330 *e*P P 22 46 46.5 0.0
ELK pmax pmax
comp=Z,38nm,1.3s
ELK Elko 86.86 330 P P 22 46 47.8 +1.4
comp=Z,6.5nm,0.9s,baz=197,slow=2.3,SNR=20
ELK Elko 86.86 330 *e*P P 22 46 46.5 0.0
comp=Z,38nm,1.3s
F27A Lemmon 87.03 341 ⇓P P 22 46 48.0 +1.2
baz=87,SNR=6.9
AHID Auburn Hatcher 87.04 333 *e*P P 22 46 46.0 -1.2
comp=Z,26nm,0.9s
I20A Worland 87.08 336 ⇓P P 22 46 48.5 +1.3
baz=87,SNR=7.9
E29A Napoleon 87.08 342 ⇑P P 22 46 48.3 +1.2
baz=87,SNR=6.1
H22A Clearmont 87.10 337 ⇓P P 22 46 48.4 +1.0
baz=87
F26A Lodgepole 87.19 340 ⇑P P 22 46 48.4 +0.8
baz=88,SNR=5.9
G24A Alzada 87.19 339 ⇑P P 22 46 48.9 +1.2
baz=88
H21A Big Horn, Sher 87.34 337 ⇓P P 22 46 50.3 +1.7
baz=88
E28A Huff 87.34 342 ⇑P P 22 46 49.7 +1.3
baz=88
G23A Biddle 87.36 338 ⇑P P 22 46 49.4 +0.8
baz=88
D30A Buchanan 87.38 343 ⇑P P 22 46 49.7 +1.2
baz=88,SNR=12
BMN Battle Mountai 87.41 328 *e*P P 22 46 48.5 -0.5
BMN pmax pmax
comp=Z,8.0nm,0.9s
BMN Battle Mountai 87.41 328 *e*P P 22 46 48.5 -0.5
comp=Z,8.2nm,0.9s
E27A Carson 87.43 341 ⇑P P 22 46 49.7 +0.9
baz=88
F25A Bowman 87.47 340 ⇑P P 22 46 50.4 +1.4
baz=88
REDW Red Top Meadow 87.48 334 *e*P P 22 46 49.3 -0.1
comp=Z,17nm,0.8s
H20A Greybull 87.52 336 ⇓P P 22 46 50.1 +0.8
baz=88,SNR=5.7
SNOW Snow King Moun 87.53 334 *e*P P 22 46 50.2 +0.6
comp=Z,18nm,0.9s
D29A Pettibone, Tap 87.53 343 ⇓P P 22 46 50.3 +1.1
baz=88,SNR=7.3
LOHW Long Hollow 87.61 334 *e*P P 22 46 49.2 -0.7
comp=Z,14nm,0.9s
TPAW Teton Pass 87.62 334 *e*P P 22 46 49.8 -0.3
comp=Z,25nm,0.9s
G22A Birney 87.64 338 ⇑P P 22 46 51.1 +1.2
baz=88
F24A Ekalaka 87.67 339 ⇑P P 22 46 51.1 +1.1
baz=88
E26A Carlson Angus 87.70 341 ⇓P P 22 46 51.1 +1.0
baz=88,SNR=6.7
DRLN Deer Lake 87.77 11 *e*P P 22 46 49.8 -0.5
comp=Z,20nm,0.9s
FXWY Fox Creek 87.78 334 *e*P P 22 46 50.3 -0.5
comp=Z,29nm,1.4s
F23A Volborg 87.83 338 ⇑P P 22 46 51.6 +0.8
baz=88,SNR=5.2
I17A Pilgrim Ck. 87.87 334 ⇑P P 22 46 52.8 +1.6
baz=88,SNR=15
C30A Mose, Pekin 87.88 344 ⇑P P 22 46 51.9 +1.1
baz=88
AGMN Agassiz Nation 87.89 345 ⇓P P 22 46 51.8 +1.0
baz=88
AGMN Agassiz Nation 87.89 345 *e*P P 22 46 51.2 +0.3
comp=Z,66nm,1.1s
D28A Regan 87.89 342 ⇑P P 22 46 52.5 +1.5
baz=88,SNR=9.7

G21A Lodge Grass 87.93 337 ⇓P P 22 46 53.3 +2.0
baz=88
IMW Indian Meadow 87.98 334 *e*P P 22 46 52.0 +0.2
comp=Z,23nm,0.9s
E25A Miller Ranch, 87.98 340 ⇑P P 22 46 53.0 +1.6
baz=88
H19A Powell 88.00 336 ⇑P P 22 46 53.3 +1.6
baz=88,SNR=5.6
D27A Center 88.05 341 ⇓P P 22 46 53.1 +1.4
baz=88
FLWY Flagg Ranch 88.06 334 *e*P P 22 46 51.8 -0.3
comp=Z,30nm,0.9s
F22A Rosebud 88.14 338 ⇓P P 22 46 53.4 +1.2
baz=88
D26A Manning 88.21 341 ⇓P P 22 46 53.3 +0.8
baz=89
H18A Shoshone NF, C 88.23 335 ⇓P P 22 46 53.3 +0.4
baz=89,SNR=7.4
G20A Bridger 88.24 336 ⇓P P 22 46 53.4 +0.6
baz=89
MDND Maddock 88.27 343 ⇑P P 22 46 53.9 +1.2
baz=89,SNR=11
MDND Maddock 88.27 343 *e*P P 22 46 53.0 +0.3
comp=Z,32nm,0.9s
E24A Baker 88.29 339 ⇑P P 22 46 54.2 +1.3
baz=89
H17A Grant Village 88.29 334 ⇓P P 22 46 54.7 +1.5
baz=89
H17A Grant Village 88.29 334 *e*P P 22 46 52.4 -0.8
comp=Z,34nm,1.9s
C28A Hausauer Farms 88.34 342 ⇑P P 22 46 54.7 +1.7
baz=89
LKWY Lake 88.38 335 *e*P P 22 46 54.7 +1.0
LKWY pmax pmax
comp=Z,24nm,0.9s
LKWY Lake 88.38 335 *e*P P 22 46 54.7 +1.0
comp=Z,24nm,0.9s
YFT Old Faithful 88.43 334 *e*P P 22 46 53.6 -0.2
comp=Z,30nm,1.2s
F21A Absaloka Mine, 88.44 337 ⇓P P 22 46 54.7 +1.0
baz=89
RLMT Red Lodge 88.49 336 *e*P P 22 46 54.2 +0.1
comp=Z,29nm,1.3s
B30A Myrvik Farm, E 88.55 344 ⇓P P 22 46 55.6 +1.6
baz=89
D25A Fairfield 88.56 340 ⇑P P 22 46 56.3 +2.1
baz=89
YNR Norris Junctio 88.61 335 *e*P P 22 46 53.4 -1.3
comp=Z,11nm,1.2s
C27A Sayler Ranch, 88.61 342 ⇓P P 22 46 55.7 +1.4
baz=89,SNR=7.6
YMR Madison River 88.66 334 *e*P P 22 46 54.1 -0.8
comp=Z,35nm,0.9s
F20A Billings 88.74 337 ⇑P P 22 46 56.6 +1.5
baz=89
B29A Wagenman Farm, 88.80 343 ⇓P P 22 46 56.2 +1.1
baz=89,SNR=11
D24A Glendive 88.80 340 ⇓P P 22 46 56.9 +1.6
baz=89
C26A Wahner Farm, P 88.86 341 ⇓P P 22 46 57.2 +1.6
baz=89,SNR=5.3
HLID Hailey 88.95 332 ⇑P P 22 46 58.3 +2.1
baz=89,SNR=13
HLID Hailey 88.95 332 *e*P P 22 46 56.7 +0.5
comp=Z,39nm,1.3s
LAO LASA Array 88.95 338 *e*P P 22 46 56.2 +0.2
comp=Z,79nm,2.3s
QLMT Earthquake Lak 88.97 334 *e*P P 22 46 56.9 +0.6
A30A Hoffart Farm, 89.01 344 ⇑P P 22 46 57.0 +0.8
baz=89,SNR=6.0
B28A Dugan Ranch, T 89.02 343 ⇑P P 22 46 57.8 +1.6
baz=89,SNR=8.4
F19A Roth Farm, Mol 89.04 336 ⇑P P 22 46 58.6 +2.1
baz=89
E21A Keefer Ranch, 89.07 338 ⇑P P 22 46 57.7 +1.1
baz=89
D23A Lindsay 89.10 339 ⇓P P 22 46 57.3 +0.6
baz=89
B27A Peters Farms, 89.19 342 ⇑P P 22 46 58.7 +1.7
baz=90
A29A Manning Farm, 89.20 343 ⇓P P 22 46 58.0 +1.0
baz=90
C24A Savage 89.21 340 ⇑P P 22 46 58.2 +1.0
baz=90
D22A Cohagen 89.36 338 ⇓P P 22 46 59.6 +1.7
baz=90
MFID Camas Ranch 89.36 331 *e*P P 22 46 57.2 -0.9
comp=Z,19nm,1.1s
E20A Meyer Farm, Mu 89.36 337 ⇑P P 22 46 59.5 +1.6
baz=90,SNR=5.1
B26A Jensen Ranch, 89.41 341 ⇓P P 22 46 59.8 +1.8
baz=90
A28A Rude Farm, Bot 89.42 343 ⇓P P 22 46 59.2 +1.0
baz=90,SNR=7.2
MCMT McKenzie Canyo 89.46 333 *e*P P 22 46 57.7 -1.0
D21A La Casta Ranch 89.52 338 ⇑P P 22 47 01.2 +2.6
baz=90
E19A Rath Farm, Rou 89.53 337 ⇑P P 22 46 59.5 +0.8
baz=90,SNR=6.0
B25A Knox Farm, Ray 89.55 341 ⇑P P 22 47 00.4 +1.6
baz=90
C23A Lambert 89.67 339 ⇓P P 22 47 00.6 +1.2
baz=90
WVOR Wild Horse Val 89.67 328 *e*P P 22 46 59.6 0.0
WVOR pmax pmax
comp=Z,28nm,1.3s
WVOR Wild Horse Val 89.67 328 *e*P P 22 46 59.6 0.0
comp=Z,28nm,1.3s
A27A Ledoux Ranch, 89.70 342 ⇓P P 22 47 01.2 +1.8
baz=90
BOZ Bozeman (W) 89.75 334 *e*P P 22 46 58.6 -1.3
BOZ pmax pmax
comp=Z,67nm,2.5s
BOZ Bozeman (W) 89.75 334 *e*P P 22 46 58.6 -1.3
comp=Z,67nm,2.5s
ULM Lac du Bonnet 89.75 346 *e*P P 22 46 57.7 -1.9
ULM Lac du Bonnet 89.75 346 P P 22 46 60.0 +0.4
comp=Z,4.9nm,1.0s,baz=167,slow=4.7,SNR=5.8
ULM Lac du Bonnet 89.75 346 *e*P P 22 46 57.7 -1.9
ULM *e*PcP **PcP** 22 46 58.0 -2.8
C22A Vida 89.81 339 ⇓P P 22 47 01.4 +1.4
baz=90
DLMT Dillon 89.83 334 *e*P P 22 46 58.7 -1.6
comp=Z,26nm,1.3s
A26A Wade Farm, Ken 89.84 342 ⇑P P 22 47 01.6 +1.5
baz=90
D20A Manuel Ranch, 89.89 337 ⇓P P 22 47 02.3 +1.9
baz=90
MOD Modoc Plateau 89.94 327 *e*P P 22 47 00.2 -0.7
comp=Z,13nm,1.0s
A25A Svangstu Ranch 90.15 341 ⇑P P 22 47 03.5 +2.0
baz=90
LRM Limekiln Ridge 90.18 334 *e*P P 22 47 01.6 -0.5
D19A Cripps Ranch, 90.18 337 ⇓P P 22 47 04.1 +2.3
baz=90
B22A Reddig Ranch S 90.35 339 ⇑P P 22 47 04.2 +1.7
baz=91
C20A Veseth Ranch, 90.41 338 ⇑P P 22 47 04.7 +1.9
baz=91
M04C Macdoel 90.51 326 ⇓P P 22 47 06.5 +3.0
baz=91
M02C O'Hahan 90.65 325 ⇓P P 22 47 06.7 +2.6
baz=91
C19A Slack Wire Ran 90.74 337 ⇓P P 22 47 05.3 +0.9
baz=91
B21A Ellsworth Farm 90.75 339 ⇓P P 22 47 05.5 +1.1
baz=91
A22A Carney Farms, 90.95 339 ⇓P P 22 47 06.9 +1.6
baz=91
B20A Solberg Farm, 91.06 338 ⇓P P 22 47 07.3 +1.5
baz=91
BMO Blue Mountains 91.14 331 *e*P P 22 47 05.6 -0.8
BMO pmax pmax
comp=Z,12nm,1.3s
BMO Blue Mountains 91.14 331 *e*P P 22 47 05.5 -0.8
comp=Z,12nm,1.3s
CHMT Chamberlain Mo 91.41 334 *e*P P 22 47 07.1 -0.6
A20A Cobblestone Ra 91.43 338 ⇑P P 22 47 10.8 +3.3
baz=92
MSO Missoula 91.57 334 ⇑P P 22 47 11.0 +2.7
baz=92
MSO Missoula 91.57 334 *e*P P 22 47 07.8 -0.6
comp=Z,28nm,1.4s
A19A Klindworth Far 91.71 338 ⇓P P 22 47 11.6 +2.8
baz=92
SLMT Seeley Lake 91.77 334 *e*P P 22 47 08.2 -1.1
F10A Beach Ranch, E 92.05 331 *e*P P 22 47 09.5 -1.1
comp=Z,16nm,1.1s

G08A Pilot Rock 92.16 330 *e*P P 22 47 10.6 -0.5
comp=Z,18nm,1.3s
SWMT Swartz Lake 92.18 334 *e*P P 22 47 10.5 -0.6
SCHQ Schefferville 92.36 4 *e*P P 22 47 10.2 -1.4
comp=Z,124nm,2.8s
JTMT Jette 92.48 334 *e*P P 22 47 11.7 -0.8
YBMT Yellow Bay 92.48 334 *e*P P 22 47 11.1 -1.4
BSMT Bassoo Peak 92.75 334 *e*P P 22 47 12.8 -1.0
G06A Carlson Farm, 92.79 329 PFAKE 22 47 30.0 +16
G06A LR LR
comp=Z,2μm,19.8s
MSVF Nonsavu 93.03 245 PFAKE 22 47 30.0 +14
MSVF LR LR
comp=Z,4μm,20.0s
HAWA Hanford 93.30 330 *e*P P 22 47 15.5 -0.6
comp=Z,51nm,1.5s
WALA Waterton Lakes 93.48 335 *e*P P 22 47 16.1 -1.0
comp=Z,17nm,1.0s
D08A Wollman Farm, 93.60 331 *e*P P 22 47 17.0 -0.5
comp=Z,39nm,1.5s
NEW Newport 93.93 333 *e*P P 22 47 18.9 -0.2
NEW pmax pmax
comp=Z,51nm,1.9s
NEW Newport 93.93 333 P P 22 47 19.6 +0.5
comp=Z,1.6nm,0.6s,baz=121,slow=7.2,SNR=3.2
NEW Newport 93.93 333 ⇓P P 22 47 21.3 +2.3
baz=94
NEW Newport 93.93 333 *e*P P 22 47 18.9 -0.2
comp=Z,50nm,1.9s
C09A Chrisman Ranch 93.97 332 *e*P P 22 47 18.4 -0.8
comp=Z,58nm,1.8s
RTC Rabat Centre 94.55 50 PFAKE 22 47 30.0 +7.8
RTC LR LR
comp=Z,2μm,18.0s
FFC Flin Flon 95.23 344 *e*P P 22 47 24.8 0.0
FFC pmax pmax
comp=Z,9.0nm,1.2s
FFC Flin Flon 95.23 344 *e*P P 22 47 24.8 0.0
comp=Z,9.1nm,1.2s
EDM Edmonton 96.88 337 *e*P P 22 47 33.9 +1.5
EDM pmax pmax
comp=Z,355nm,3.0s
EDM Edmonton 96.88 337 *e*P P 22 47 33.9 +1.5
comp=Z,355nm,3.0s
FCC Fort Churchill 97.62 349 *e*P P 22 47 34.8 -0.7
FCC pmax pmax
comp=Z,6.0nm,0.9s
FCC Fort Churchill 97.62 349 *e*P P 22 47 34.8 -0.7
comp=Z,5.9nm,0.9s
MTE Manteigas 98.51 45 PFAKE 22 47 50.0 +10
MTE LR LR
comp=Z,1μm,20.0s
PAB San Pablo 99.77 47 PFAKE 22 48 00.0 +14
PAB LR LR
comp=Z,700nm,20.0s
STKA Stephens Creek 103.35 210 PFAKE 22 48 10.0 +8.0
STKA LR LR
comp=Z,200nm,19.1s
EIDS Eidsvold 104.48 221 PFAKE 22 48 20.0 +13
EIDS LR LR
comp=Z,1μm,18.3s
YKA Yellowknife Ar 105.15 342 Pdiff **Pdif** 22 48 15.2 +6.2
comp=Z,0.2nm,0.6s,baz=142,slow=4.5,SNR=8.1
KMBO Kilima Mbogo 105.73 104 PFAKE 22 52 40.0
KMBO LR LR
comp=Z,700nm,22.0s
VSL Villasalto 108.15 54 PFAKE 22 52 40.0
VSL LR LR
comp=Z,900nm,19.0s
WDD Wield Dalam 109.56 59 PFAKE 22 52 40.0
WDD LR LR
comp=Z,2μm,19.0s
BNI Bardonecchia 109.59 48 PFAKE 22 52 40.0
BNI LR LR
comp=Z,600nm,19.0s
VLC Villacollemand 111.32 50 PFAKE 22 52 50.0
VLC LR LR
comp=Z,600nm,20.0s
CTAO Charters Tower 111.33 220 PFAKE 22 52 50.0
CTAO LR LR
comp=Z,600nm,18.0s
CEL Celeste 111.76 58 PFAKE 22 52 50.0
CEL LR LR
comp=Z,700nm,21.0s
WLF Walferdange 111.83 44 PFAKE 22 52 50.0
WLF LR LR
comp=Z,1μm,18.0s
TUE Stuetta 111.93 48 PFAKE 22 52 50.0
TUE LR LR
comp=Z,900nm,18.0s
AQU L'Aquila 112.25 53 PFAKE 22 52 50.0
AQU LR LR
comp=Z,1μm,20.0s
BFO Black Forest 112.33 46 PFAKE 22 52 50.0
BFO LR LR
comp=Z,700nm,20.0s
FUORN Ofenpass-Fuorn 112.55 48 PFAKE 22 52 50.0
FUORN LR LR
comp=Z,1μm,20.1s
CUC Castrocucco 112.60 56 PFAKE 22 52 50.0
CUC LR LR
comp=Z,800nm,19.9s
TIP Timpagrande 112.81 57 PFAKE 22 52 50.0
TIP LR LR
comp=Z,1μm,21.0s
FETA Feichten 113.03 48⇑ *i*PKiKP **PKiKP** 22 52 39.8 +1.2
comp=Z,4.5nm,1.0s
FURI Furi 113.04 97 PFAKE 22 52 50.0
FURI LR LR
comp=Z,600nm,18.0s
STU Stuttgart 113.05 46 PFAKE 22 52 50.0
STU LR LR
comp=Z,500nm,20.0s
AS12 Alice Springs 113.67 208 *e*PKiKP **PKiKP** 22 52 39.7 -0.9
AS12 *e*PKiKPbc **PKKPbc** 23 03 23.5 +0.7
AS12 *e*PKKPab **PKKPab** 23 03 30.6 -3.0
ASAR Alice Springs 113.67 208 PKiKP **PKiKP** 22 52 39.7 -0.9
comp=Z,1.3nm,1.1s,baz=198,slow=24,SNR=3.2
ASAR PKKPbc **PKKPbc** 23 03 23.5 +0.7
comp=Z,0.6nm,0.7s,baz=346,slow=2.0,SNR=4.4
ASAR PKKPab **PKKPab** 23 03 30.6 -3.0
comp=Z,2.4nm,0.9s,baz=344,slow=4.1,SNR=12
TRI Trieste 114.18 50 PFAKE 22 52 50.0 +9.4
TRI LR LR
comp=Z,500nm,18.9s
GRFO Grafenberg 114.66 45 PFAKE 22 52 50.0 +8.5
GRFO LR LR
comp=Z,600nm,18.0s
MENT Mentasta 114.71 332 *e*PKiKP PKPdf 22 52 39.1 -2.0
PAX Paxson 115.39 331 PFAKE 22 52 50.0 +7.4
PAX LR LR
comp=Z,598nm,21.4s
GEB3 GERESS Array S 115.66 47 *e*PKPdf **PKPdf** 22 52 43.3 -0.2
GEC2 GERESS Array S 115.67 47 *e*PKiKP **PKPdf** 22 52 43.8 +0.2
GEC2 GERESS Array S 115.67 47 *e*PKPdf **PKPdf** 22 52 43.8 +0.2
GERES GERESS Array B 115.67 47 PKP **PKPdf** 22 52 43.8 +0.2
comp=Z,3.2nm,0.9s,baz=222,slow=1.8,SNR=18
KHC Kasperske Hory 115.73 47 *e*PKiKP **PKPdf** 22 52 44.3 +0.7
KHC *e* 22 52 51.0
KHC MLR MLR
comp=Z,600nm,23.0s
KHC Kasperske Hory 115.73 47 *e*PKP **PKPdf** 22 52 44.3 +0.7
KHC *e*pPKP PKiKP 22 52 51.0 +7.4
KHC AMS AMS 23 41 30.0
comp=Z,600nm,23.0s
KHC Kasperske Hory 115.73 47 *e*PKPdf **PKPdf** 22 52 43.5 -0.1
KHC LR LR
comp=Z,500nm,20.4s
CLL Collm 116.43 44 *e*PKiKP **PKPdf** 22 52 44.0 -0.8
CLL *e* 22 52 52.0
CLL pmax pmax
comp=Z,6.0nm,1.3s
CLL MLR MLR
comp=Z,700nm,20.4s
CLL Collm 116.43 44 *e*PKiKP **PKPdf** 22 52 44.0 -0.8
comp=Z,6.0nm,1.3s
CLL *e*pPKiKP **pPKiKP** 22 52 52.0 -3.2
CLL *e*SKSac **SKSac** 22 59 30.0 -3.0
CLL *e*Sdif **Sdif** 23 01 42.0 +6.5
CLL *e*PS **PKKPdf** 23 03 38.0 -2.3
CLL *e*PSKS 23 03 50.0
CLL *e*PPS PPS 23 04 53.0
CLL *e*SS **SS** 23 09 51.0 -4.0
CLL LmV 23 40 00.0
comp=Z,700nm,20.4s

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CLL                                   LmH                    23 40 00.0
     comp=N,200nm,21.4s
CLL                                   LmH                    23 40 00.0
     comp=E,500nm,20.5s
CLL  Collm          116.43  44        PFAKE                  22 53 00.0 +15
CLL                                   LR      LR
     comp=Z,800nm,20.0s
CONA Conrad Observa 116.51  49⇑ iPKPdf        PKPdf          22 52 45.6 +0.4
     comp=Z,5.7nm,1.2s
PRU  Pruhonice      116.69  46        AMS     AMS            23 43 40.0
     comp=Z,600nm,17.0s
MSEY Mahe Island    116.72 120        PFAKE                  22 53 00.0 +13
MSEY                                  LR      LR
     comp=Z,600nm,19.0s
BRG  Berggiesshubel 116.76  45        ePKP    PKPdf          22 52 46.1 +0.6
     comp=Z,4.0nm,1.1s
BRG  Berggiesshubel 116.76  45        ePKIKP  PKPdf          22 52 46.1 +0.6
BRG                                   pmax    pmax
     comp=Z,4.0nm,1.1s
WRA  Warramunga Arr 116.89 210        PKP     PKPdf          22 52 46.1 -0.7
     comp=Z,1.0nm,0.9s,baz=196,slow=11,SNR=3.9
ILAR Eielson Array  116.89 333        PKP     PKPdf          22 52 45.1 -0.2
     comp=Z,0.6nm,1.0s,baz=239,slow=1.8,SNR=4.3
ILAR                                  PKKPbc  PKKPbc         23 03 11.9 -0.5
     comp=Z,0.4nm,0.8s,baz=318,slow=3.9,SNR=4.5
WRAB Tennant Creek  116.89 210        PFAKE                  22 53 00.0 +13
WRAB                                  LR      LR
     comp=Z,800nm,19.0s
TREC Trest          116.92  47        AMS     AMS            23 45 30.0
     comp=Z,500nm,16.6s
PVCC Panska Ves     116.95  46        ePKIKP  PKPdf          22 52 46.0 +0.2
PVCC                                  e                      22 52 52.9
PVCC                                  MLR     MLR
     comp=Z,500nm,18.4s
PVCC Panska Ves     116.95  46        ePKP    PKPdf          22 52 46.0 +0.2
PVCC                                  epPKP   pPKPdf         22 52 52.9 -3.3
PVCC                                  AMS     AMS            23 43 00.0
     comp=Z,500nm,18.4s
PKSM Moragy         117.41  51 ⇓PKIKP       PKPdf          22 52 47.5 +0.7
PKSM Moragy         117.41  51 ⇓iP          PKPdf          22 52 47.5 +0.7
VRAC Vranov         117.57  48 ⇓PKIKP       PKPdf          22 52 47.9 +0.8
VRAC Vranov         117.57  48 ⇓iP          PKPdf          22 52 47.9 +0.8
DPC  Dobruska-Polom 117.87  46        ePKIKP  PKPdf          22 52 48.7 +1.0
DPC                                   e                      22 52 53.6
DPC  Dobruska-Polom 117.87  46        ePKP    PKPdf          22 52 48.7 +1.0
DPC                                   epPKP   pPKPdf         22 52 53.6 -4.4
DPC                                   AMS     AMS            23 42 20.0
KRLC Kraliky        118.02  47        ePKIKP  PKPdf          22 52 48.2 +0.2
KRLC                                  e                      22 52 54.9
KRLC Kraliky        118.02  47        ePKP    PKPdf          22 52 48.2 +0.2
KRLC                                  epPKP   pPKPdf         22 52 54.9 -3.4
COEN Coen           118.05 221        PFAKE                  22 53 00.0 +11
COEN                                  LR      LR
     comp=Z,6µm,19.3s
CAST Castle Rocks   118.19 330        PFAKE                  22 53 00.0 +12
CAST                                  LR      LR
     comp=Z,600nm,21.2s
MORC Moravsky Berou 118.33  47        ePKIKP  PKPdf          22 52 48.2 -0.4
MORC Moravsky Berou 118.33  47⇑ iP            PKPdf          22 52 49.6 +1.0
MORC Moravsky Berou 118.33  47        ePKPdf  PKPdf          22 52 48.2 -0.4
VYHS Vyhne          118.54  49        ePKIKP  PKPdf          22 52 49.6 +0.6
VYHS Vyhne          118.54  49        ePKP    PKPdf          22 52 49.6 +0.6
OKC  Ostrava-Krasne 118.71  48        ePKIKP  PKPdf          22 52 47.6 -1.6
OKC                                   e                      22 52 54.6
OKC                                   MLR     MLR
     comp=Z,400nm,16.6s
OKC  Ostrava-Krasne 118.71  48        ePKP    PKPdf          22 52 47.6 -1.6
OKC                                   epPKP   pPKPdf         22 52 54.6 -5.0
OKC                                   AMS     AMS            23 45 00.0
     comp=Z,400nm,16.6s
VTS  Vitosha        118.73  57 ⇑PKIKP       PKPdf          22 52 50.7 +1.0
VTS  Vitosha        118.73  57⇑ iP          PKPdf          22 52 50.7 +1.0
PSZ  Piszkesteto    118.93  50        PFAKE                  22 53 00.0 +10
PSZ                                   LR      LR
     comp=Z,500nm,21.0s
BZS  Buzias         119.02  53 ⇓PKIKP       PKPdf          22 52 50.9 +0.9
BZS  Buzias         119.02  53 ⇓iP          PKPdf          22 52 50.9 +0.9
PMG  Port Moresby   119.56 228        PFAKE                  22 53 00.0 +8.0
PMG                                   LR      LR
     comp=Z,1µm,18.0s
GKP  Gorka Klasztor 119.63  44        ePKIKP  PKPdf          22 52 52.2 +1.3
GKP  Gorka Klasztor 119.63  44        ePKP    PKPdf          22 52 52.1 +1.2
NB200 NORSAR Array S 119.84 34        ePKPdf  PKPdf          22 52 50.7 -0.4
NOA  NORSAR Array B 119.84  34        PKP     PKPdf          22 52 50.7 -0.4
     comp=Z,1.0nm,0.8s,baz=316,slow=24,SNR=2.8
IM04 Indian Mountai 120.00 332        ePKPdf  PKPdf          22 52 51.7 +0.4
DRGR                120.20  52 ⇓PKIKP       PKPdf          22 52 52.7 +0.4
DRGR                120.20  52 ⇓iP          PKPdf          22 52 52.7 +0.4
STHS Stebnicka Huta 120.37  49        ePKIKP  PKPdf          22 52 52.3 -0.2
STHS Stebnicka Huta 120.37  49        ePKP    PKPdf          22 52 52.3 -0.2
TRPA Tarpa          120.64  51⇑ iP          PKPdf          22 52 53.0 0.0
UZH  Uzhgorod       120.69  50⇑ iPKIKP      PKPdf          22 52 52.9 -0.2
UZH                                   e                      22 52 59.5
KOLS Kolonicke sedl 120.79  50        ePKIKP  PKPdf          22 52 54.0 +0.7
KOLS Kolonicke sedl 120.79  50        ePKP    PKPdf          22 52 54.0 +0.7
ARR  Arges          120.84  54⇑ iP          PKPdf          22 52 54.3 +0.7
VOIR                121.14  54 ⇑PKIKP       PKPdf          22 52 54.5 +0.3
VOIR                121.14  54⇑ iP          PKPdf          22 52 54.5 +0.3
KWP  Kalwaria Pacla 121.33  49        ePKIKP  PKPdf          22 52 54.1 -0.2
KWP  Kalwaria Pacla 121.33  49        ePKP    PKPdf          22 52 55.2 +0.9
KWP  Kalwaria Pacla 121.33  49        ePKPdf  PKPdf          22 52 54.1 -0.2
ISP  Isparta        121.72  65        PFAKE                  22 53 10.0 +14
ISP                                   LR      LR
     comp=Z,400nm,20.0s
BUR04 Bucovina Ar. S 122.09 52        ePKPdf  PKPdf          22 52 55.5 -0.5
BURAR Bucovina Array 122.09 52 ⇑PKIKP         PKPdf          22 52 57.3 +1.3
BURAR Bucovina Array 122.09 52⇑ iP            PKPdf          22 52 57.3 +1.3
VRI  Vrincioaia     122.39  54 ⇑PKIKP       PKPdf          22 52 56.6 +0.1
VRI  Vrincioaia     122.39  54⇑ iP          PKPdf          22 52 56.6 +0.1
CSS  Prodhromos     122.53  69        PFAKE                  22 53 10.0 +13
CSS                                   LR      LR
     comp=Z,100nm,22.0s
TESR Tescani        122.58  54⇑ iP          PKPdf          22 52 56.5 -0.3
CFR  Carcaliu       123.04  56 ⇑PKIKP       PKPdf          22 52 58.4 +0.7
CFR  Carcaliu       123.04  56⇑ iP          PKPdf          22 52 58.4 +0.7
SUW  Suwalki        123.19  44        ePKIKP  PKPdf          22 52 57.3 -0.4
SUW  Suwalki        123.19  44        ePKP    PKPdf          22 52 57.5 -0.2
SUW  Suwalki        123.19  44        ePKPdf  PKPdf          22 52 57.3 -0.4
BR231 Keskin MP Arra 124.16 63        ePKPdf  PKPdf          22 53 00.9 +0.7
ANTO Ankara         124.18  63 ⇑PKIKP       PKPdf          22 53 08.0 +7.8
ANTO Ankara         124.18  63⇑ iP          PKPdf          22 53 08.0 +7.8
ANTO Ankara         124.18  63        PFAKE                  22 53 10.0 +10
ANTO                                  LR      LR
     comp=Z,500nm,19.0s
H11S2 WAKE ISLAND Hyl 24.35 268       T       T              01 11 04.3
     baz=129
H11S1 WAKE ISLAND Hyl 24.36 268       T       T              01 11 03.5
     baz=129
H11S3 WAKE ISLAND Hyl 24.36 268       T       T              01 11 05.2
     baz=129
BR101 Keskin Array S 124.72 64        ePKPdf  PKPdf          22 53 01.8 +0.5
BRTR Keskin Array B 124.72  64        PKP     PKPdf          22 53 01.8 +0.5
     comp=Z,4.7nm,0.9s,baz=192,slow=4.3,SNR=17
H11N1 WAKE ISLAND Hyl 24.86 269       T       T              01 11 31.8
     baz=279,slow=74,SNR=9.0
H11N2 WAKE ISLAND Hyl 24.87 269       T       T              01 11 32.3
     baz=115,slow=74,SNR=5.6
TNA  Tin City       125.34 329        ePKPdf  PKPdf          22 53 01.5  0.0
AK11 Malin Array Si 125.59  50        ePKPdf  PKPdf          22 53 01.8 -0.6
KIEV Kiev           125.62  50        ePKIKP  PKPdf          22 53 01.6 -0.8
KIEV Kiev           125.62  50        ePKPdf  PKPdf          22 53 01.6 -0.8
AKASG Malin Array Be 125.63 50        PKP     PKPdf          22 53 02.2 -0.2
     comp=Z,4.9nm,0.8s,baz=266,slow=2.6,SNR=10.0
AKASG                                 PP      PP             22 54 52.0 -3.1
     comp=Z,0.2nm,0.3s,baz=252,slow=7.8,SNR=5.2
AKBB Malin Array Si 125.63  50        ePKIKP  PKPdf          22 53 02.2 -0.3
AKBB                                  e                      22 54 52.0
AKBB Malin Array Si 125.63  50        ePKPdf  PKPdf          22 53 02.2 -0.3
AKBB                                  ePP     PP             22 54 52.0 -3.1
VSU  Vasula         126.40  40        ePKIKP  PKPdf          22 53 04.4 +0.7
GAMB Gambell        126.51 327        ePKPdf  PKPdf          22 53 04.4 +0.7
RAYN Ar Rayn        126.61  87        ePKPdf  PKPdf          22 53 05.8 +0.5
RAYN                                  LR      LR
     comp=Z,700nm,19.0s
FIA0 FINESS Array S 126.77  36        ePKIKP  PKPdf          22 53 05.0 +0.6
FIA0 FINESS Array S 126.77  36        ePKPdf  PKPdf          22 53 05.0 +0.6
FINES FINESS Array B 126.77 36        PKP     PKPdf          22 53 05.0 +0.6
     comp=Z,2.2nm,0.9s,baz=282,slow=1.8,SNR=6.7
MALT Malatya        127.64  67 ⇑PKIKP       PKPdf          22 53 08.1 +1.2
MALT Malatya        127.64  67⇑ iP          PKPdf          22 53 08.1 +1.2
SOEI Soe            129.89 203        PFAKE                  22 53 20.0 +8.0
SOEI                                  LR      LR
     comp=Z,600nm,21.4s
OBN  Obninsk        131.00  46        ePKIKP  PKPdf          22 53 14.2 +1.7
OBN                                   e                      22 53 20.5
OBN                                   pmax    pmax
     comp=Z,6.0nm,0.9s
VSR  Storozhevoye   131.84  51        ePKIKP  PKPdf          22 53 15.8 +1.5
VSR                                   pmax    pmax
     comp=N,2.0nm,1.0s
VSR                                   pmax    pmax
     comp=E,4.0nm,1.0s
VSR                                   pmax    pmax
     comp=Z,6.0nm,1.0s
VORD Divnogorie     131.87  51        ePKIKP  PKPdf          22 53 15.7 +1.4
VORD                                  pmax    pmax
     comp=N,7.0nm,0.9s
VORD                                  pmax    pmax
     comp=E,5.0nm,0.9s
VORD                                  pmax    pmax
     comp=Z,4.0nm,0.9s
TMCR Tamitsa        132.53  34        ePKIKP  PKPdf          22 53 22.3 +7.1
TMCR                                  pmax    pmax
     comp=Z,20nm,1.2s
KBZ  Khabaz         132.58  62        PKP     PKPdf          22 53 16.9 +0.9
     comp=Z,4.7nm,0.9s,baz=203,slow=5.7,SNR=5.3
GNI  Garni          132.87  67        PFAKE                  22 53 30.0 +13
GNI                                   LR      LR
     comp=Z,400nm,19.0s
FAKI Fak Fak        132.97 217        PFAKE                  22 53 30.0 +12
FAKI                                  LR      LR
     comp=Z,600nm,20.0s
ZEI  Tsey           133.03  63 i PKIKP      PKPdf          22 53 15.3 -1.8
ZEI                                   pmax    pmax
     comp=Z,11nm,1.1s
KLMR Klimovskoe     133.15  38        ePKIKP  PKPdf          22 53 16.7 +0.2
KLMR                                  pmax    pmax
     comp=Z,17nm,1.1s
VRHR Novokhopersk   133.34  52        ePKIKP  PKPdf          22 53 17.9 +0.8
VRHR                                  pmax    pmax
     comp=N,7.0nm,1.0s
VRHR                                  pmax    pmax
     comp=Z,10.0nm,1.0s
VRHR                                  pmax    pmax
     comp=E,5.0nm,0.9s
BILL Bilibino       135.55 332        ePKIKP  PKPdf          22 53 20.8  0.0
BILL Bilibino       135.55 332        ePKPdf  PKPdf          22 53 20.8  0.0
KAPI Kappang        135.70 199        PFAKE                  22 53 30.0 +7.2
KAPI                                  LR      LR
     comp=Z,300nm,19.9s
PRGR Permogore      136.09  37        ePKIKP  PKPdf          22 53 20.9 -1.0
PRGR                                  pmax    pmax
     comp=Z,12nm,0.4s
PEA2 Petropavlovsk- 141.68 311        ePKPdf  PKPdf          22 53 33.7 +1.2
PEA0 Petropavlovsk- 141.68 311        ePKPdf  PKPdf          22 53 33.0 +0.5
PETK Petropavlovsk- 141.68 311        PKP     PKPdf          22 53 33.7 +1.2
     comp=Z,10nm,1.1s,baz=104,slow=9.3,SNR=5.1
PALK Pallekele      141.80 136        PFAKE                  22 53 50.0 +16
PALK                                  LR      LR
     comp=Z,400nm,20.0s
SOKR Solikamsk      141.83  39 i PKIKP      PKPdf          22 53 41.8 +9.4
SOKR                                  pmax    pmax
     comp=Z,20nm,1.3s
GEYT Alibeck        142.25  74        PKhKP   PKPpre         22 53 30.1
     comp=Z,6.4nm,0.8s,baz=258,slow=4.4,SNR=16
ARU  Arti           143.37  44 i PKIKP      PKPbc          22 53 32.6  0.0
ARU  Arti           143.37  44        ePKPpre PKPbc          22 53 31.9 -0.7
AKTO Aktyubinsk     143.66  54        PKhKP   PKPpre         22 53 33.8
     comp=Z,14nm,1.0s,baz=265,slow=3.3,SNR=29
KSM  Kuching        143.75 187        ePKPpre PKPpre         22 53 34.8
KSM                                   LR      LR
     comp=Z,100nm,22.0s
TIXI Tiksi          144.08 348c i PKIKP     PKPab          22 53 33.1 -0.6
TIXI                                  pmax    pmax
     comp=Z,23nm,1.0s
TIXI Tiksi          144.08 348        ePKPdf  PKPab          22 53 33.4 -0.4
MYKOM Kota Tinggi   144.18 176        ePKPdf  PKPab          22 53 34.9 -0.9
SVE  Sverdlovsk     144.42  43⇑ iPKIKP      PKPdf          22 53 36.6 -0.6
SVE                                   pmax    pmax
     comp=Z,39nm,1.2s
SVE                                   MLR     MLR
     comp=Z,607nm,20.0s
SBUM Sibu           144.49 190        ePKPdf  PKPbc          22 53 37.1 -0.1
SBUM                                  LR      LR
     comp=Z,300nm,22.0s
ABKAR Akbulak array 144.94  56        ePKPdf  PKPbc          22 53 37.8 +0.2
MYLDM Lahad Datu    145.77 202        ePKPdf  PKPdf          22 53 40.2 -0.6
LHMI Lhok Sumawe    146.55 163        ePKPdf  PKPdf          22 53 41.4 -0.7
IPM  Ipoh           146.57 170        ePKPdf  PKPdf          22 53 42.6 +0.3
KKM  Kota Kinabalu  147.22 198        PFAKE                  22 53 50.0 +2.6
KKM                                   LR      LR
     comp=Z,300nm,18.0s
KULM Kulim          147.31 169        ePKPbc  PKPbc          22 53 45.1 -0.7
HYB  Hyderabad      148.33 122 i PKP        PKPbc          22 53 47.5 -1.0
KBL  Kabul          149.83  85        ePKIKP  PKPdf          22 53 46.2 -1.0
KBL                                   e                      22 53 51.9
KBL  Kabul          149.83  85        ePKPdf  PKPdf          22 53 46.2 -1.0
KBL                                   ePKPbc  PKPbc          22 53 51.9 -0.1
BRVK Borovoye       150.76  47        ePKIKP  PKPdf          22 53 48.1 +0.3
BRVK                                  e                      22 53 54.8
BRVK                                  MLR     MLR
     comp=Z,500nm,20.0s
BRVK Borovoye       150.76  47        ePKPdf  PKPdf          22 53 48.1 +0.3
BRVK                                  ePKPbc  PKiKP          22 53 54.8 +0.7
BRVK                                  LR      LR
     comp=Z,500nm,20.0s
BVAR Borovoye Array 150.84  47        PKPbc   PKPbc          22 53 54.8 +1.2
     comp=Z,22nm,0.9s,baz=235,slow=1.3,SNR=19
AJM  Ajmer          151.03 103 i P          PKPbc          22 53 55.0 +0.1
VOSK Vostochnaya    151.27  47        ePKIKP  PKPdf          22 53 49.1 +0.5
VOSK                                  e                      22 53 55.1
VOSK                                  MLR     MLR
     comp=Z,400nm,19.5s
VOSK Vostochnaya    151.27  47        ePKPdf  PKPdf          22 53 49.1 +0.5
VOSK                                  ePKPbc  PKiKP          22 53 55.1  0.0
VOSK                                  LR      LR
     comp=Z,400nm,19.5s
ERM  Erimo          151.56 290        ePKIKP  PKPdf          22 53 49.3 -0.1
ERM  Erimo          151.56 290        ePKPdf  PKPdf          22 53 49.3 -0.1
YAK  Yakutsk        151.70 337        ePKIKP  PKPbc          22 53 53.4 -1.8
YAK                                   pmax    pmax
     comp=Z,75nm,1.1s
YAK                                   pmax    pmax
     comp=N,10.0nm,1.5s
YAK                                   pmax    pmax
     comp=E,9.0nm,1.1s
YAK  Yakutsk        151.70 337        ePKPdf  PKPdf          22 53 48.7 -0.2
ASAJ Asahikawa      152.03 295        PKPbc   PKPbc          22 53 57.0 +0.4
     comp=E,14nm,0.8s,baz=232,slow=12,SNR=4.7
ASAJ                                  PKPab   PKPab          22 54 04.5 -1.7
     comp=E,48nm,1.1s,baz=272,slow=7.7,SNR=6.7
KKAR Karatay Array  152.33  67        ePKIKP  PKPdf          22 53 51.1 +0.6
KKAR                                  e                      22 53 57.5
KKAR Karatay Array  152.33  67        ePKPdf  PKPdf          22 53 51.1 +0.6
KKAR                                  ePKPbc  PKPbc          22 53 57.5 +0.1
MJAR Matsushiro Arr 154.63 277        PKPbc   PKPbc          22 54 00.9 -1.6
     comp=E,2.7nm,0.9s,baz=205,slow=0.8,SNR=8.4
MAJO Matsushiro     154.63 277        ePKIKP  PKPbc          22 54 00.9 -1.6
MAJO Matsushiro     154.63 277        epPKPdf PKPbc          22 54 00.9 -1.6
EKS2 Erkin-Say      154.73  68        ePKIKP  PKPdf          22 53 54.1  0.0
EKS2                                  MLR     MLR
     comp=Z,300nm,21.0s
EKS2 Erkin-Say      154.73  68        ePKPdf  PKPdf          22 53 54.1  0.0
EKS2                                  LR      LR
     comp=Z,300nm,21.0s
AAK  Ala-Archa      155.26  69        ePKIKP  PKPdf          22 53 54.8 -0.1
AAK                                   e                      22 54 02.9
AAK                                   MLR     MLR
     comp=Z,300nm,20.0s
AAK  Ala-Archa      155.26  69        PKP     PKPdf          22 53 56.3 +1.4
     comp=Z,3.0nm,0.9s,baz=206,slow=1.3,SNR=8.9
AAK                                   PKPbc   PKPbc          22 54 02.9
     comp=Z,10nm,1.0s,baz=156,slow=4.2,SNR=14
AAK  Ala-Archa      155.26  69        ePKPdf  PKPdf          22 53 54.8 -0.1
AAK                                   ePKPbc  PKPbc          22 54 02.9
AAK                                   LR      LR
     comp=Z,300nm,20.0s
FRU  Bishkek        155.34  68        ePKIKP  PKPdf          22 53 55.0 +0.1
TKM2 Tokmak 2       156.06  68        ePKIKP  PKPdf          22 53 54.8 -1.2
TKM2                                  MLR     MLR
     comp=Z,300nm,21.0s
TKM2 Tokmak 2       156.06  68        ePKPdf  PKPdf          22 53 54.8 -1.2
TKM2                                  LR      LR
     comp=Z,300nm,21.0s
KSH  Kashi          156.25  76        ePKP    PKPdf          22 53 56.2 -0.1
KSH                                   sPKP                   22 54 09.8
KSH                                   PKS     PKSdf          22 57 30.2 -0.1
KSH                                   PP      PP             22 58 00.0 -2.7
KSH                                   SKS     SKSdf          23 01 00.0 -0.2
KSH                                   SKKS    SKKSac         23 04 47.1 -2.4
KSH                                   SS      SS             23 17 47.6 -3.4
KSH                                   PPMZ
     comp=Z,180nm,4.4s
KSH                                   LN
     comp=Z,94nm,7.3s
KSH                                   LE
     comp=Z,96nm,5.0s
KSH                                   LZ
     comp=Z,96nm,5.9s
KURBB Kurchatov Arra 156.40  48       PKP     PKPdf          22 53 56.8 +0.8
     comp=Z,2.2nm,1.0s,baz=302,slow=2.2,SNR=9.7
KURK Kurchatov      156.42  48        ePKIKP  PKPdf          22 53 54.5 -1.4
KURK Kurchatov      156.42  48        ePKPdf  PKPdf          22 53 54.5 -1.4
NVS  Novosibirsk    156.75  35        ePKIKP  PKPdf          22 53 55.7 -0.5
NVS                                   pmax    pmax
     comp=Z,26nm,1.1s
NVS                                   pmax    pmax
     comp=E,9.0nm,1.3s
ZAA1 Zalesovo Array 158.03  35        ePKPdf  PKPdf          22 53 57.5 -0.3
ZAA1                                  ePKPab  PKPab          22 54 32.7 +1.3
ZAA0 Zalesovo Array 158.03  35        ePKPdf  PKPdf          22 53 57.0 -0.9
ZALV Zalesovo Beam  158.03  35        PKP     PKPdf          22 53 57.5 -0.3
     comp=E,4.2nm,1.0s,baz=302,slow=2.8,SNR=13
ZALV                                  PKPab   PKPab          22 54 32.7 +1.2
     comp=E,13nm,1.0s,baz=297,slow=6.5,SNR=7.7
KLR  Kul'dur        158.37 310        ePKP2   PKPab          22 54 37.3 +4.2
DANN Dangsing       158.93 110        eP      PKPdf          22 53 58.8 -1.4
     comp=E,45nm,1.1s
DMN  Daman          159.52 113        eP      PKPdf          22 53 59.7 -1.1
USRK Ussuriysk Ar.  159.62 297        PKPab   PKPab          22 54 37.7 -1.0
     comp=E,0.7nm,0.5s,baz=62,slow=3.9,SNR=4.7
PKI  Pulchoki       159.72 114        eP      PKPdf          22 54 01.0 -0.2
CM01 Chiang Mai Arr 159.72 159        ePKPdf  PKPdf          22 53 59.3 -1.7
CM01                                  ePKPab  PKPab          22 54 38.0 -1.6
KKN  Kakani         159.75 113        eP      PKPdf          22 53 59.8 -1.3
CM31 Chiang Mai Arr 159.75 159        ePKPdf  PKPdf          22 54 01.6 +0.6
CM31                                  ePKPab  PKPab          22 54 38.9 -0.8
CMAR Chiang Mai Arr 159.75 159        PKP     PKPdf          22 54 01.6 +0.6
     comp=E,0.6nm,0.3s,baz=267,slow=1.9,SNR=6.2
CMAR                                  PKPab   PKPab          22 54 38.9 -0.8
     comp=E,2.9nm,0.8s,baz=229,slow=4.3,SNR=6.4
MK32 Makanchi Array 160.08  55        ePKPdf  PKPdf          22 54 00.9 +0.4
MK32                                  ePKPab  PKPab          22 54 40.0 -0.6
MK32                                  ePP     PP             22 58 23.3 +0.2
MKAR Makanchi Array 160.08  55        ePKIKP  PKPdf          22 54 00.2 -0.4
MKAR Makanchi Array 160.08  55        PKP     PKPdf          22 54 00.9 +0.4
     comp=E,3.4nm,1.0s,baz=318,slow=1.6,SNR=18
MKAR                                  PKPab   PKPab          22 54 40.0 -0.6
     comp=E,9.5nm,0.9s,baz=286,slow=4.8,SNR=12
MKAR                                  PP      PP             22 58 23.3 +0.2
     comp=E,2.8nm,1.0s,baz=286,slow=5.9,SNR=4.3
MKAR Makanchi Array 160.08  55        ePKPdf  PKPdf          22 54 00.2 -0.4
MKAR                                  ePKPab  PKPab          22 54 41.0 +0.3
CHTO Chiang Mai     160.09 159        ePKIKP  PKPdf          22 54 01.3 -0.1
CHTO                                  e                      22 54 40.1
CHTO Chiang Mai     160.09 159        ePKPdf  PKPdf          22 54 01.2 -0.1
CHTO                                  ePKPab  PKPab          22 54 40.1 -1.1
RAMN Ramite         160.20 117        eP      PKPdf          22 54 01.7 +0.1
     comp=E,47nm,1.4s
GUN  Gumba          160.25 114        eP      PKPdf          22 54 01.5 -0.3
JIRN Jiri           160.33 115        eP      PKPdf          22 54 01.6 -0.3
ODAN Odare          160.70 119        eP      PKPdf          22 54 02.4 +0.2
QIZ  Qiongzhong     161.13 190        PKP     PKPdf          22 54 02.1 -0.4
QIZ                                   PP      PP             22 58 29.5 +1.8
QIZ                                   SS      SS             23 18 44.1 +4.3
QIZ                                   LE
     comp=E,110nm,17.4s
QIZ                                   LZ
     comp=E,250nm,17.4s
MDJ  Mudanjiang     161.22 299        PKP     PKPdf          22 54 00.7 -1.1
TAPN Taplejung      161.23 118        eP      PKPdf          22 54 02.7 -0.1
     comp=E,22nm,1.2s
SHL  Shillong       162.76 130        ex      PKPdf          22 54 05.0 +0.8
KSRS Korea Array    162.89 276        PKP     PKPdf          22 54 04.3 +0.5
     comp=E,4.2nm,1.1s,baz=283,slow=34,SNR=4.9
KSRS                                  PKPab   PKPab          22 54 52.4 -0.8
     comp=E,0.4nm,0.3s,baz=93,slow=4.0,SNR=2.8
KS01 Wonju Array Si 162.92 276        ePKPdf  PKPdf          22 54 02.4 -1.3
KS15 Wonju Array Si 162.92 276        ePKPdf  PKPdf          22 54 04.3 +0.5
KS15                                  ePKPab  PKPab          22 54 52.4 -1.0
SLVN Son La         163.54 172        ePKPdf  PKPdf          22 54 04.8 -0.1
CN2  Changchun      164.31 299        ePKP    PKPdf          22 54 05.0 +0.1
CN2                                   ePP     PP             22 58 45.6 -0.1
CN2                                   PPMZ
     comp=E,200nm,3.0s
CN2                                   LN
     comp=E,2µm,20.0s
CN2                                   LE
     comp=E,1µm,20.0s
CN2                                   LZ
     comp=E,400nm,19.0s
WMQ  Urumqi         164.62  61        ePKP    PKPdf          22 54 04.5 -0.8
WMQ                                   pPKP    pPKPdf         22 54 15.3 -0.4
WMQ                                   PKPab   PKPab          22 55 01.7 +1.0
WMQ                                   PKS     PKSdf          22 57 36.1 -2.0
WMQ                                   PP      PP             22 58 49.1 +1.6
WMQ                                   SKS     SKSdf          23 01 03.5 -3.7
WMQ                                   SKKS    SKKSac         23 05 31.0 -1.5
WMQ                                   SS      SS             23 19 15.6 -2.7
WMQ                                   PPMZ
     comp=E,320nm,8.0s
WMQ                                   LN
     comp=E,350nm,20.0s
WMQ                                   LE
     comp=E,68nm,20.0s
WMQ                                   LZ
     comp=E,330nm,21.0s
LSA  Lhasa          165.05 118        ePKIKP  PKPdf          22 54 07.2 +0.6
LSA                                   e                      22 55 03.9
LSA  Lhasa          165.05 118        ePKPdf  PKPdf          22 54 07.2 +0.6
LSA                                   ePKPab  PKPab          22 55 03.9 +0.4
TLY  Talaya         165.90   7        ePKIKP  PKPdf          22 54 05.4 -0.6
TLY                                   e                      22 55 06.7
TLY  Talaya         165.90   7        PKPab   PKPab          22 55 06.7 +0.8
     comp=E,0.5nm,0.3s,baz=340,slow=4.2,SNR=3.2
TLY  Talaya         165.90   7        ePKPdf  PKPdf          22 54 05.4 -0.6
TLY                                   ePKPab  PKPab          22 55 06.7 +0.8
TLY                                   ePKPab  PKPab          22 55 06.8 +0.9
KMI  Kunming        167.08 165        PKP     PKPdf          22 54 06.9 -1.1
ZAK  Zakamensk      167.15   9        ePKIKP  PKPdf          22 54 06.4 -0.7
ZAK                                   e                      22 55 11.9
ZAK                                   pmax    pmax
     comp=Z,2.0nm,1.9s
NJ2  Nanjing        168.28 245        ePKP    PKPdf          22 54 08.6 +0.2
GYA  Guiyang        168.78 181 i PKP        PKPdf          22 54 08.2 -0.8
GYA                                   pPKP    pPKPdf         22 54 20.8 +1.4
GYA                                   PKPab   PKPab          22 55 21.0 +1.7
GYA                                   PKS     PKSdf          22 57 39.4 -2.4
GYA                                   PP      PP             22 59 11.6 +4.0
GYA                                   SKKS                   23 05 53.2
GYA                                   SS      SS             23 19 59.5 +1.4
GYA                                   PPMZ
     comp=Z,270nm,8.6s
GYA                                   LN
     comp=Z,230nm,23.8s
GYA                                   LE
     comp=Z,160nm,22.4s
GYA                                   LZ
     comp=Z,240nm,23.0s
ULN  Ulaanbaatar    169.84 357        ePKIKP  PKPdf          22 54 07.5 -1.5
ULN                                   e                      22 55 23.1
ULN  Ulaanbaatar    169.84 357        ePKPdf  PKPdf          22 54 07.5 -1.5
ULN                                   ePKPab  PKPab          22 55 23.1 -0.4
SONA1 Songino Array 169.87 360        ePKPdf  PKPdf          22 54 07.5 -1.6
SONA1                                 ePKPab  PKPab          22 55 24.1 +0.4
SONA0 Songino Array 169.88 360        ePKPdf  PKPdf          22 54 08.2 -0.8
SONA0                                 ePKPab  PKPab          22 55 24.8 +1.0
SONA0                                 ePP     PP             22 59 16.0 +2.8
SONM Songino Array  169.88 360        PKP     PKPdf          22 54 08.2 -0.8
     comp=Z,1.0nm,1.1s,baz=221,slow=1.4,SNR=4.5
SONM                                  PKPab   PKPab          22 55 24.8 +1.0
     comp=Z,2.9nm,0.9s,baz=342,slow=3.7,SNR=11
SONM                                  PP      PP             22 59 16.0 +2.8
     comp=Z,1.5nm,1.0s,baz=324,slow=4.3,SNR=4.4
CD2  Chengdu        172.89 162        ePKP    PKPdf          22 54 11.0  0.0
CD2                                   pPKP    pPKPdf         22 54 20.4 -1.0
CD2                                   sPKP                   22 54 28.9
CD2                                   PKS     PKSdf          22 57 40.7 -2.6
CD2                                   PP      PP             22 59 31.0 +2.8
CD2                                   SKKS                   23 06 13.1
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CD2				SS	SS	23 20 38.1	-0.6
CD2				PPMZ			
	comp=Z,200nm,10.4s						
CD2				LN			
	comp=Z,250nm,17.8s						
CD2				LE			
	comp=Z,240nm,19.0s						
CD2				LZ			
	comp=Z,410nm,15.4s						
GTA	**Gaotai**	**174.61**	**70**	*e*PKP	**PKPdf**	**22 54 12.3**	**+0.9**
GTA				pPKP	**pPKPdf**	**22 54 23.1**	**+1.3**
GTA				sPKP		22 54 26.8	
GTA				PKPab	**PKPab**	**22 55 46.4**	**+1.2**
GTA				PP	**PP**	**22 59 40.9**	**+2.8**
GTA				SKS	**SKSdf**	**23 01 10.3**	**-1.9**
GTA				SKKS	**SKKSac**	**23 06 21.9**	**+0.1**
GTA				PPMZ			
	comp=Z,230nm,6.8s						
GTA				LN			
	comp=Z,170nm,19.7s						
GTA				LE			
	comp=Z,320nm,20.7s						
GTA				LZ			
	comp=Z,390nm,19.7s						
HHC	**Hu-ho-hao-te**	**174.88**	**309**	*e*PKP	**PKPdf**	**22 54 11.2**	**-0.2**
HHC				pPKP	**pPKPdf**	**22 54 19.9**	**-1.9**
HHC				sPKP		22 54 26.8	
HHC				PP	**PP**	**22 59 39.1**	**+0.2**
HHC				SKS	**SKSdf**	**23 01 09.7**	**-2.5**
HHC				SKKS	**SKKSac**	**23 06 21.5**	**-1.3**
HHC				SS	**SS**	**23 21 01.1**	**+1.4**
HHC				PPMZ			
	comp=Z,150nm,8.6s						
HHC				LN			
	comp=Z,330nm,19.6s						
HHC				LE			
	comp=Z,350nm,18.6s						
HHC				LZ			
	comp=Z,220nm,22.6s						
XAN	**Xi'an**	**175.78**	**210**	PKP	PKPdf	22 54 18.3	+6.5
XAN				pPKP	pPKPdf	22 54 27.9	+5.7
LZH	**Lanzhou**	**177.42**	**128**	*e*PKP	**PKPdf**	**22 54 17.2**	**+5.0**
LZH				pPKP	**pPKPdf**	**22 54 28.7**	**+6.1**
LZH				PP	**PP**	**22 59 54.2**	**+3.2**
LZH				SKKS		23 06 37.6	
LZH				PPMZ			
	comp=Z,310nm,4.5s						
LZH				LN			
	comp=Z,1μm,18.1s						
LZH				LE			
	comp=Z,1μm,19.6s						
LZH				LZ			
	comp=Z,1μm,20.2s						

GUC 11 22:39:59.8±0.7, 34°.23S×72°.07W, h45km±40km, ML4.2, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.04**	**138**	*i* P	Pn	22 40 18.4	+0.4
NICH				*i* S	Sn	22 40 32.5	+1.2
NICH				AML	AML	22 40 34.7	
	comp=E,18μm,0.4s						
IHA	**Instituto Hidr**	**1.25**	**17**	*i* P	Pn	22 40 21.7	+0.8
IHA				*i* S	Sn	22 40 37.8	+1.3
ANTU	**Antumapu**	**1.36**	**62**	*i* P	Pn	22 40 23.7	+1.3
ANTU				*i* S	Sn	22 40 41.8	+2.4
ANTU				AML	AML	22 40 48.1	
	comp=E,6μm,0.3s						
SJCH	**San Jose de Ma**	**1.54**	**68**	*i* P	Pn	22 40 26.1	+1.2
SJCH				*i* S	Sn	22 40 46.0	+2.1
SJCH				AML	AML	22 40 51.9	
	comp=E,3μm,0.6s						
PEL	**Peldehue**	**1.58**	**47**	*i* P	Pn	22 40 27.1	+1.6
PEL				*i* S	Sn	22 40 47.1	+2.3
PEL				AML	AML	22 40 53.7	
	comp=N,9μm,0.6s						

GUC 11 22:49:37.5±0.4, 34°.57S×71°.65W, h72km±9km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.55**	**141**	*i* P	Pn	22 49 51.6	+0.6
NICH				*i* S	Sn	22 50 02.2	+1.3
NICH				AML	AML	22 50 02.6	
	comp=N,5μm,0.2s						
ANTU	**Antumapu**	**1.31**	**41**	*i* P	Pn	22 50 01.3	+1.2
ANTU				*i* S	Sn	22 50 19.1	+2.1
ANTU				AML	AML	22 50 25.0	
	comp=N,1μm,0.3s						
SJCH	**San Jose de Ma**	**1.42**	**50**	*i* P	Pn	22 50 02.7	+1.1
SJCH				*i* S	Sn	22 50 21.8	+2.0
PEL	**Peldehue**	**1.64**	**30**	*i* P	Pn	22 50 05.3	+0.9
PEL				*i* S	Sn	22 50 26.8	+2.1
PEL				AML	AML	22 50 35.1	
	comp=N,1μm,0.7s						

*IDC **11** 23:10:24.5±1.6, 24°.22S×66°.83W, h155km±16km, mb3.5/3, mb1 3.5/7, mb1mx3.3/31, mbtmp4.0/7, MS3.8/1, Ms1 3.8/1, ms1mx2.9/22, Error ellipse: s-maj=31.0km s-min=11.5km az=104.0*
*ISCJB **11** 23:10:26.5±0.4, 24°.25S±0°.04×67°.18W±0°.04, h169km, mb3.8/3, Error ellipse: s-maj=6.7km s-min=4.3km az=138.4*
*SJA **11** 23:10:26.1±1.2, 24°.15S×66°.96W, h200km±18km, ML4.6, MW5.5*
*GUC **11** 23:10:26.9±0.4, 24°.29S×67°.70W, h229km±18km, ML4.6*
ISC 11 23:10:26.1±0.7, 24°.26S±0°.05×67°.16W±0°.05, h169km, n25, σ1°91/31, mb3.7/3, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**1.91**	**89**	*e*P	**Pn**	**23 11 03.1**	**+1.5**
AZAP				*e*S	**Sn**	**23 11 30.1**	**+0.9**
LVC	**Limon Verde**	**2.30**	**315**	*e*P	Pn	23 11 09.5	+3.5
LVC				*e*S	**Sn**	**23 11 41.5**	**+4.5**
LVC				AML	AML	23 11 44.5	
	comp=Z,2μm,0.7s						
ASTB	**Santa Barbara**	**2.46**	**83**	*e*P	**Pn**	**23 11 09.0**	**+1.2**
PB06	**IPOC Station P**	**2.70**	**304**	*i* P	**Pn**	**23 11 12.9**	**+2.2**
PB06				*i* S	**Sn**	**23 11 47.6**	**+2.2**
PB06				AML	AML	23 11 50.7	
	comp=E,1μm,0.5s						
CEN1	**Los Morros**	**2.92**	**287**	*i* P	**Pn**	**23 11 14.4**	**+1.1**
CEN1				*i* S	**Sn**	**23 11 51.3**	**+1.3**
CEN1				AML	AML	23 11 56.1	
	comp=N,754nm,0.5s						
PB04	**IPOC Station P**	**2.92**	**312**	*i* P	Pn	23 11 20.3	+7.1
PB04				*i* S	Sn	23 12 00.6	+11
PB04				AML	AML	23 12 02.9	
	comp=N,793nm,0.5s						
AHML	**Horco Molle**	**3.01**	**147**	*e*P	**Pn**	**23 11 15.4**	**+1.0**
ANCH	**Antofagasta**	**3.03**	**280**	*e*P4	**Pn**	**23 11 13.7**	**-0.9**
ANCH				*i* S	**Sn**	**23 11 50.9**	**-1.3**
ANCH				AML	AML	23 11 53.9	
	comp=N,982nm,0.5s						
PB10	**IPOC Station P**	**3.20**	**283**	*i* P	**Pn**	**23 11 16.8**	**+0.1**
PB10				*i* S	**Sn**	**23 11 54.8**	**-1.2**
PB10				AML	AML	23 12 03.5	
	comp=E,2μm,0.3s						
PB07	**IPOC Station P**	**3.56**	**315**	*i* P	**Pn**	**23 11 23.3**	**+1.9**
PB07				*e*S4	**Sn**	**23 12 04.7**	**+0.2**
PB07				AML	AML	23 12 08.7	
	comp=N,722nm,0.4s						
CYA	**Choya**	**4.34**	**164**	*e*P	**Pn**	**23 11 33.8**	**+2.6**
CYA				*e*S	**Sn**	**23 12 24.4**	**+2.1**
ACLC	**CERRO LA CRUZ**	**5.15**	**178**	*e*P4		23 11 43.5	
ACLC				*e*S	**Sn**	**23 12 42.5**	**+1.1**
AGUA	**GUANDACOL**	**5.34**	**193**	*e*P	**Pn**	**23 11 47.4**	**+3.0**
CFAA	**Coronel Fontan**	**7.38**	**187**	P	**Pn**	**23 12 11.5**	**+0.3**
	comp=N,0.1nm,0.3s,baz=29,slow=11,SNR=7.2						
CFAA				S	**Sn**	**23 13 31.1**	**-3.1**
	comp=N,0.6nm,0.3s,baz=201,slow=14,SNR=11						
CFAA	**Coronel Fontan**	**7.38**	**187**	*e*P9		23 12 11.1	
CFAA				*e*S	**Sn**	**23 13 31.3**	**-2.8**
LPAZ	**La Paz**	**7.98**	**353**	P	**Pn**	**23 12 20.1**	**+0.2**
	comp=N,1.0nm,0.3s,baz=149,slow=4.7,SNR=22						
LPAZ				S	**Sn**	**23 13 47.3**	**-2.2**
	comp=N,0.4nm,0.3s,baz=289,slow=18,SNR=4.6						
SIV	**San Ignacio**	**10.01**	**36**	P	Pn	23 12 42.9	-3.2
	comp=N,1.9nm,0.3s,baz=226,slow=17,SNR=17						
SIV				S	Sn	23 14 28.1	-9.3
	comp=N,0.2nm,0.3s,baz=242,slow=8.5,SNR=2.0						
PLCA	**Paso Flores**	**16.67**	**189**	P	**Pn**	**23 14 10.1**	**+0.1**
	comp=N,0.2nm,0.3s,baz=15,slow=13,SNR=3.6						
BDFB	**Brasilia**	**19.92**	**68**	P	**P**	**23 14 42.6**	**-2.4**
	comp=N,0.5nm,0.3s,baz=221,slow=13,SNR=5.6						
ATAH	**Atahualpa**	**20.15**	**326**	LR	LR	23 22 59.4	
	comp=N,248nm,18.6s,baz=61,slow=37						
SNAA	**Sanae**	**59.16**	**161**	P	**P**	**23 20 08.8**	**+0.1**
	comp=N,0.9nm,0.8s,baz=300,slow=8.1,SNR=6.9						
QSPA	**South Pole Qui**	**65.95**	**180**	P	**P**	**23 20 54.3**	**+0.5**
	comp=N,2.5nm,0.4s,baz=344,slow=1.4,SNR=40						
TORD	**Torodi Ar. Bea**	**76.80**	**69**	P	**P**	**23 21 57.4**	**-2.1**
	comp=N,0.3nm,0.3s,baz=255,slow=5.1,SNR=13						
PETK	**Petropavlovsk-**	**135.73**	**322**	PKP	**PKPdf**	**23 29 27.2**	**+1.1**
	comp=N,2.3nm,0.8s,baz=148,slow=8.7,SNR=3.7						
MKAR	**Makanchi Array**	**146.81**	**40**	PKPbc	**PKPdf**	**23 29 45.6**	**-0.6**
	comp=N,0.7nm,0.5s,baz=330,slow=2.7,SNR=16						

*IDC **11** 23:14:34.0±1.6, 34°.93S×72°.41W, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.8/29, mbtmp3.9/6, ML3.3/2, Error ellipse: s-maj=50.3km s-min=38.6km az=8.0*
*ISCJB **11** 23:14:34.6±0.8, 34°.98S±0°.09×72°.2W±0°.1, h18km, mb4.1/6, Error ellipse: s-maj=19.2km s-min=10.4km az=32.4*
*NEIC **11** 23:14:38.7±0.6, 34°.99S×72°.34W, h35km, mb4.1/3, Error ellipse: s-maj=22.0km s-min=11.4km az=93.0*
ISC 11 23:14:36.2±0.8, 34°.95S±0°.09×72°.3W±0°.1, h18km, n22, σ0°93/15, mb4.2/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.78**	**47**	Pn	**Pn**	**23 15 47.9**	**+0.6**
	0.2nm,0.3s,baz=182,slow=8.4,SNR=4.2						
CFAA				Sn	**Sn**	**23 16 40.9**	**-1.4**
	0.6nm,0.3s,baz=48,slow=2.2,SNR=4.0						
PLCA	**Paso Flores**	**5.94**	**167**	Pn	Pn	23 15 55.8	-7.4
	0.4nm,0.3s,baz=312,slow=12,SNR=5.7						
PLCA				Lg	Lg	23 17 53.4	
	0.2nm,0.3s,baz=286,slow=17,SNR=3.0						
PLCA	**Paso Flores**	**5.94**	**167**	*e*Pn	**Pn**	**23 16 03.3**	**+0.1**
PLCA				Lg	Lg	23 17 53.4	
LCO	**Las Campanas**	**6.08**	**13**	*e*Pn	Pn	23 15 59.1	-6.4
LPAZ	**La Paz**	**18.96**	**12**	P	**Pn**	**23 18 58.1**	**+0.2**
	0.2nm,0.3s,baz=172,slow=7.8,SNR=7.5						
LPAZ	**La Paz**	**18.96**	**12**	*e*P	**Pn**	**23 18 57.7**	**-0.2**
	3.3nm,0.8s						
OTAV	**Otavalo**	**35.48**	**349**	*e*P	**P**	**23 21 32.0**	**-0.3**
	1.7nm,0.4s						
QSPA	**South Pole Qui**	**55.28**	**180**	*e*P	**P**	**23 24 07.0**	**-1.3**
	1.9nm,0.8s						
DBIC	**Dimbokro**	**75.70**	**71**	P	**P**	**23 26 21.4**	**+0.6**
	1.9nm,0.9s,baz=191,slow=5.7,SNR=3.5						
NVAR	**Mina Array Bea**	**84.54**	**325**	P	**P**	**23 27 08.5**	**+0.2**
	0.4nm,0.8s,baz=148,slow=5.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**84.75**	**70**	P	**P**	**23 27 10.6**	**+1.0**
	0.8nm,0.7s,baz=227,slow=3.2,SNR=6.3						
ULM	**Lac du Bonnet**	**87.36**	**345**	P	**P**	**23 27 21.1**	**-0.5**
	1.5nm,0.6s,baz=137,slow=5.7,SNR=3.1						
H11S2	**WAKE ISLAND Hyl**	**25.53**	**269**	T	T	01 52 00.9	
	baz=117						
H11S1	**WAKE ISLAND Hyl**	**25.54**	**269**	T	T	01 52 02.0	
	baz=117						
H11S3	**WAKE ISLAND Hyl**	**25.54**	**269**	T	T	01 52 01.4	
	baz=117						
H11N3	**WAKE ISLAND Hyl**	**25.96**	**270**	T	T	01 52 32.7	
	baz=99						
H11N1	**WAKE ISLAND Hyl**	**25.97**	**270**	T	T	01 52 30.7	
	baz=99						
H11N2	**WAKE ISLAND Hyl**	**25.98**	**270**	T	T	01 52 33.3	
	baz=99						
BVAR	**Borovoye Array**	**148.13**	**44**	PKPbc	**PKPab**	**23 34 22.1**	**-1.2**
	0.8nm,0.6s,baz=280,slow=3.2,SNR=9.3						
KURBB	**Kurchatov Arra**	**153.71**	**44**	PKPbc	**PKPbc**	**23 34 34.9**	**+1.3**
	0.5nm,0.6s,baz=308,slow=2.9,SNR=5.6						
KURK	**Kurchatov**	**153.72**	**44**	PKPbc	**PKPbc**	**23 34 34.9**	**+1.3**
MKAR	**Makanchi Array**	**157.55**	**51**	PKPab	**PKPab**	**23 35 02.9**	**-0.2**
	0.3nm,0.7s,baz=316,slow=3.3,SNR=3.9						

*IDC **11** 23:18:05.6±0.7, 37°.63S×73°.35W, h0km, mb4.2/11, mb1 4.3/14, mb1mx4.2/29, mbtmp4.2/14, ML4.0/3, MS3.7/4, Ms1 3.7/4, ms1mx3.5/16, Error ellipse: s-maj=25.2km s-min=14.1km az=78.0*
*GUC **11** 23:18:06.6±0.6, 37°.73S×73°.97W, h36km±4km, ML4.7*
*ISCJB **11** 23:18:07.5±0.3, 37°.71S±0°.04×73°.49W±0°.08, h23km, mb4.8/45, MS3.9/3, Error ellipse: s-maj=9.3km s-min=5.4km az=155.0*
*NEIC **11** 23:18:11.2±1.9, 37°.71S×73°.37W, h43km±4km, mb4.9/38, Error ellipse: s-maj=20.5km s-min=12.5km az=78.0*
NEIC Felt at Angol and Concepcion.
*BJI **11** 23:18:11.2, 37°.60S×73°.50W, h35km, mB5.2/8, Ms5.2/5, Ms7 4.8/4*
ISC 11 23:18:08.6±0.4, 37°.72S±0°.04×73°.41W±0°.09, h23km, n107, σ1°49/126, mb4.9/45, MS4.0/3, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.57**	**99**	⇓*i*P	Pn	23 18 24.6	+3.3
AGCH				*i* S1	Sn	23 18 38.3	+8.3
CCSP	**San Pedro de C**	**0.91**	**15**	⇑*i*P	**Pn**	**23 18 26.3**	**+0.4**
CCSP				*i* S1	**Sn**	**23 18 41.2**	**+3.0**
CCSP				AML	AML	23 18 47.6	
	comp=N,31μm,0.5s						
PSCH	**Puerto Saavedr**	**1.08**	**179**	*e*P1	**Pn**	**23 18 27.6**	**-0.7**
PSCH				*i* S1	**Sn**	**23 18 42.4**	**-0.2**
COCH	**Cobquecura**	**1.66**	**18**	⇓*i*P	**Pn**	**23 18 36.7**	**+0.5**
VLCH	**Valdivia**	**2.09**	**177**	*e*P1	**Pn**	**23 18 41.1**	**-1.1**
PLCA	**Paso Flores**	**3.74**	**144**	Pn	**Pn**	**23 19 07.5**	**+2.5**
	comp=N,6.0nm,0.3s,baz=315,slow=9.6,SNR=22						
PLCA				Lg	Lg	23 20 04.7	
	comp=N,9.8nm,0.3s,baz=216,slow=23,SNR=3.0						
PLCA				LR	LR	23 20 21.9	
	comp=N,320nm,20.4s,baz=260,slow=36						
PLCA	**Paso Flores**	**3.74**	**144**	*e*Pn	**Pn**	**23 19 07.6**	**+2.6**
PLCA				*e*Sn	**Sn**	**23 19 49.0**	**+0.7**
CFAA	**Coronel Fontan**	**7.44**	**36**	Pn	**Pn**	**23 19 54.9**	**-0.9**
	comp=N,0.7nm,0.3s,baz=196,slow=11,SNR=7.2						
CFAA				Lg	Lg	23 21 45.7	
	comp=N,0.2nm,0.3s,baz=113,slow=21,SNR=6.0						
LCO	**Las Campanas**	**8.97**	**15**	*e*Pn	**Pn**	**23 20 16.1**	**-1.0**
TRQA	**Tornquist**	**9.04**	**96**	*e*Pn	Pn	23 20 22.4	+4.7
LVC	**Limon Verde**	**15.55**	**16**	*e*Pn	**P**	**23 21 48.9**	**-1.9**
	comp=N,23nm,1.4s						
USHA	**Ushuaia**	**17.45**	**170**	P	**P**	**23 22 12.9**	**+1.5**
	comp=N,0.3nm,0.3s,baz=261,slow=5.1,SNR=3.6						
EFI	**East Falkland**	**17.66**	**147**	*e*Pn	**P**	**23 22 14.3**	**+0.6**
	comp=N,322nm,1.9s						
LPAZ	**La Paz**	**21.85**	**14**	P	**P**	**23 23 02.0**	**+1.8**
	comp=N,9.8nm,0.9s,baz=172,slow=10.0,SNR=14						
SIV	**San Ignacio**	**24.23**	**30**	P	**P**	**23 23 22.3**	**-1.5**
	comp=N,3.7nm,0.8s,baz=81,slow=2.7,SNR=4.3						
SAML	**Samuel**	**30.10**	**20**	*e*P	**P**	**23 24 16.7**	**+0.3**
	comp=N,2.5nm,0.7s						
BDFB	**Brasilia**	**31.41**	**52**	P	**P**	**23 24 27.4**	**-0.8**
	comp=N,2.4nm,0.8s,baz=204,slow=12,SNR=3.9						
BDFB				LR	LR	23 38 06.4	
	comp=N,348nm,19.1s,baz=216,slow=38						
BDFB	**Brasilia**	**31.41**	**52**	*e*P	**P**	**23 24 26.9**	**-1.3**
RPN	**Rapa Nui**	**31.94**	**279**	LR	LR	23 33 42.9	
	comp=N,274nm,19.3s,baz=123,slow=29						
OTAV	**Otavalo**	**38.05**	**352**	*e*P	**P**	**23 25 25.7**	**-0.2**
	comp=N,12nm,1.1s						
PTGA	**Pitinga**	**38.84**	**22**	P	**P**	**23 25 32.0**	**0.0**
	comp=N,3.6nm,0.9s,baz=214,slow=11,SNR=4.5						
PTGA	**Pitinga**	**38.84**	**22**	*e*P	**P**	**23 25 32.0**	**0.0**
	comp=N,3.6nm,0.7s						
SDV	**Santo Domingo**	**46.43**	**4**	*e*P	**P**	**23 26 33.5**	**-0.4**
	comp=N,5.9nm,0.8s						
SNAA	**Sanae**	**48.60**	**157**	P	**P**	**23 26 51.0**	**+1.0**
	comp=N,2.2nm,0.8s,baz=278,slow=7.0,SNR=18						
SNAA	**Sanae**	**48.60**	**157**	*e*P	**P**	**23 26 50.5**	**+0.6**
	comp=N,18nm,1.3s						
JTS	**JuntasAbangare**	**48.97**	**345**	*e*P	**P**	**23 26 54.5**	**+1.1**
	comp=N,21nm,1.2s						
QSPA	**South Pole Qui**	**52.52**	**180**	P	**P**	**23 27 19.6**	**-0.1**
	comp=N,4.2nm,0.9s,baz=290,slow=0.6,SNR=10.0						
PPT	**Papeete**	**68.68**	**264**	LR	LR	23 50 55.3	
	comp=N,41nm,19.2s,baz=198,slow=29						
JCT	**Junction City**	**72.19**	**336**	*e*P	**P**	**23 29 32.6**	**+1.1**
	comp=N,9.8nm,1.0s						
LTX	**Lajitas**	**72.47**	**333**	*e*P	**P**	**23 29 33.0**	**-0.4**
TX31	**Lajitas Ar. Si**	**72.47**	**333**	*e*P	**P**	**23 29 33.5**	**+0.1**
TXAR	**Lajitas Array**	**72.47**	**333**	P	**P**	**23 29 33.0**	**-0.4**
	comp=N,1.3nm,0.7s,baz=148,slow=7.4,SNR=5.0						
WHTX	**Lake Whitney,**	**72.89**	**339**	*e*P	**P**	**23 29 37.0**	**+1.4**
	comp=N,19nm,0.9s						
ABTX	**Abilene, Hawle**	**74.13**	**337**	*e*P	**P**	**23 29 43.3**	**+0.3**
	comp=N,7.6nm,0.7s						
TUL1	**Leonard**	**76.14**	**341**	*e*P	**P**	**23 29 55.1**	**+0.7**
	comp=N,12nm,1.0s						
AMTX	**Amarillo**	**76.86**	**336**	*e*P	**P**	**23 29 58.5**	**-0.1**
LIC	**Lamto**	**77.01**	**72**	*e*P	**P**	**23 30 01.4**	**+1.5**
	comp=N,34nm,1.1s						
TIC	**Toumodi**	**77.28**	**71**	*e*P	**P**	**23 30 02.9**	**+1.4**
	comp=N,4.6nm,0.2s						
KIC	**Kosan Boka**	**77.31**	**72**	*e*P	**P**	**23 30 02.8**	**+1.2**
	comp=N,61nm,1.4s						
DBIC	**Dimbokro**	**77.42**	**71**	P	**P**	**23 30 03.9**	**+1.7**
	comp=N,5.9nm,0.8s,baz=202,slow=7.2,SNR=6.0						
DBIC	**Dimbokro**	**77.42**	**71**	*e*P	**P**	**23 30 00.7**	**-1.5**
	comp=N,25nm,1.4s						
ACSO	**Alum Creek Sta**	**78.07**	**353**	*e*P	**P**	**23 30 04.8**	**-0.3**
	comp=N,10nm,0.8s						
ANMO	**Albuquerque**	**78.54**	**333**	*e*P	**P**	**23 30 08.1**	**0.0**
	comp=N,9.9nm,1.3s						
BOSA	**Boshof**	**79.33**	**118**	P	**P**	**23 30 13.9**	**+1.2**
	comp=N,2.6nm,0.8s,baz=227,slow=6.8,SNR=5.1						
BOSA	**Boshof**	**79.33**	**118**	*e*P	**P**	**23 30 12.4**	**-0.3**
	comp=N,10nm,0.9s						
MDV	**Middlebury**	**81.34**	**0**	*e*P	**P**	**23 30 22.3**	**-0.5**
PFO	**Pinyon Flats O**	**81.49**	**325**	*e*P	**P**	**23 30 24.6**	**+0.5**
	comp=N,9.0nm,1.1s						
LBTB	**Lobatse**	**81.75**	**115**	*e*P	**P**	**23 30 24.3**	**-1.5**
	comp=N,159nm,2.8s						
LONY	**Lake Ozonia**	**81.97**	**359**	*e*P	**P**	**23 30 26.6**	**+0.5**
	comp=N,26nm,1.6s						
PV01	**Paradox Valley**	**82.15**	**333**	*e*P	**P**	**23 30 27.2**	**-0.3**
PV05	**Paradox Valley**	**82.29**	**332**	*e*P	**P**	**23 30 27.6**	**-0.7**
SMCO	**Snowmass**	**82.51**	**334**	*e*P	**P**	**23 30 28.9**	**-0.7**
	comp=N,17nm,1.3s						
PV10	**Paradox Valley**	**82.53**	**332**	*e*P	**P**	**23 30 29.2**	**-0.4**
PV09	**Paradox Valley**	**82.67**	**332**	*e*P	**P**	**23 30 29.8**	**-0.6**
KNB	**Kanab**	**82.81**	**329**	*e*P	**P**	**23 30 30.7**	**-0.2**
	comp=N,138nm,2.3s						
SHPR	**Sheep Range**	**83.35**	**327**	*e*P	**P**	**23 30 33.4**	**-0.3**
CCUT	**Cedar City**	**83.49**	**329**	*e*P	**P**	**23 30 34.6**	**+0.1**
	comp=N,8.0nm,0.9s						
ARUT	**Antelope Range**	**83.72**	**329**	*e*P	**P**	**23 30 36.5**	**+0.8**
SRU	**San Rafael Swe**	**83.73**	**332**	*e*P	**P**	**23 30 35.8**	**+0.2**
	comp=N,7.6nm,0.8s						
ECSD	**EROS Data Cent**	**83.76**	**343**	*e*P	**P**	**23 30 34.9**	**-0.6**
	comp=N,20nm,1.1s						
ISA	**Isabella, Lake**	**84.12**	**325**	*e*P	**P**	**23 30 37.8**	**+0.2**
	comp=N,11nm,1.0s						
TMUT	**Trail Mountain**	**84.15**	**331**	*e*P	**P**	**23 30 37.9**	**-0.1**
	comp=N,12nm,0.7s						
DAC	**Darwin (Calif)**	**84.22**	**326**	*e*P	**P**	**23 30 39.1**	**+0.8**
	comp=N,9.2nm,1.5s						
R11A	**Troy Canyon, C**	**85.09**	**328**	*e*P	**P**	**23 30 43.5**	**+1.0**
	comp=N,9.2nm,1.5s						
DUG	**Dugway, Tooele**	**85.54**	**331**	*e*P	**P**	**23 30 44.7**	**0.0**
	comp=N,8.7nm,1.1s						
TPH	**Tonopah**	**85.56**	**327**	*e*P	**P**	**23 30 45.0**	**0.0**
	comp=N,42nm,1.9s						
HWUT	**Hardware Ranch**	**86.30**	**332**	*e*P	**P**	**23 30 48.4**	**0.0**
	comp=N,11nm,1.2s						
NV01	**Mina Array Sit**	**86.32**	**326**	*e*P	**P**	**23 30 48.8**	**0.0**
NVAR	**Mina Array Bea**	**86.32**	**326**	P	**P**	**23 30 49.5**	**+0.8**
	comp=N,0.9nm,0.8s,baz=157,slow=6.0,SNR=6.8						
TOA0	**Torodi Ar. Sit**	**86.51**	**71**	*e*P	**P**	**23 30 50.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**86.51**	**71**	P	**P**	**23 30 50.4**	**+0.5**
	comp=N,1.7nm,0.9s,baz=234,slow=3.9,SNR=14						
TORD				PKKP	**PKKPdf**	**23 48 39.5**	**+0.6**
	comp=N,0.6nm,1.0s,baz=282,slow=2.9,SNR=6.4						
TORD				PKKPbc	**PKKPbc**	**23 48 45.9**	**+0.8**
	comp=N,1.3nm,0.8s,baz=272,slow=5.1,SNR=7.3						
PD31	**Pinedale Array**	**86.59**	**334**	*e*P	**P**	**23 30 50.8**	**+0.8**
PDAR	**Pinedale Array**	**86.59**	**334**	P	**P**	**23 30 50.8**	**+0.8**
	comp=N,1.2nm,1.0s,baz=133,slow=8.7,SNR=2.6						
BW06	**Boulder Array**	**86.60**	**334**	*e*P	**P**	**23 30 50.0**	**0.0**
HVU	**Hansel Valley**	**86.89**	**332**	*e*P	**P**	**23 30 51.4**	**+0.1**
	comp=N,27nm,1.9s						
AGMN	**Agassiz Nation**	**87.94**	**345**	*e*P	**P**	**23 30 56.1**	**0.0**
	comp=N,16nm,1.4s						
AFI	**Afiamalu**	**88.08**	**254**	*e*P	**P**	**23 30 56.4**	**-1.3**
	comp=N,1μm,1.3s						
HLID	**Hailey**	**89.04**	**332**	*e*P	**P**	**23 31 01.9**	**+0.3**
	comp=N,9.4nm,1.4s						
MCMT	**McKenzie Canyo**	**89.55**	**333**	*e*P	**P**	**23 31 05.4**	**+1.4**
ULM	**Lac du Bonnet**	**89.81**	**346**	*e*P	**P**	**23 31 06.3**	**+1.5**
	comp=N,46nm,2.5s						
GEC2	**GERESS Array S**	**115.53**	**47**	*e*PKPdf	**PKPdf**	**23 36 50.4**	**+2.1**
GERES	**GERESS Array B**	**115.53**	**47**	PKP	**PKPdf**	**23 36 50.4**	**+2.1**
	comp=N,0.5nm,0.7s,baz=197,slow=4.2,SNR=4.3						
VYHS	**Vyhne**	**118.39**	**49**	*e*PKP	**PKPdf**	**23 36 54.2**	**+0.5**
ASF	**J

SONM	**Songino Array**	**169.89**	**1**	PKPab	**PKPab**	**23 39 29.0**	**+0.4**
	comp=N,0.4nm,0.9s,baz=207,slow=0.7,SNR=3.2						
CD2	**Chengdu**	**172.82**	**160**	*e*PKP	**PKPdf**	**23 38 16.8**	**+0.9**
HHC	**Hu-ho-hao-te**	**175.03**	**311**	*e*PKP	**PKPdf**	**23 38 17.0**	**+0.5**
HHC				pPKP	**pPKPdf**	**23 38 28.2**	**+3.9**
HHC				PP	**PP**	**23 43 47.5**	**+3.0**
HHC				SKS	**SKSdf**	**23 45 14.3**	**-3.8**
HHC				SKKS	**SKKSac**	**23 50 23.8**	**-5.5**
HHC				SS	**SS**	**00 05 06.5**	**-0.4**
HHC				PPMZ			
	comp=N,120nm,9.6s						
HHC				LN			
	comp=N,140nm,19.8s						
HHC				LE			
	comp=N,210nm,21.8s						
HHC				LZ			
	comp=N,110nm,21.8s						

IDC ***11*** *23:20:14.5±0.4, 23°.58S×175°.89W, h0km, mb4.8/19, mb1 5.0/21, mb1mx5.0/27, mbtmp4.8/21, ML4.9/2, MS4.4/13, Ms1 4.4/13, ms1mx4.2/28, Error ellipse: s-maj=18.0km s-min=14.3km az=110.0*

NEIC ***11*** *23:20:15.9±2.4, 23°.71S×175°.80W, h15km±3km, mb5.3/64, Error ellipse: s-maj=19.5km s-min=12.6km az=107.0*

ISCJB ***11*** *23:20:17.6±0.1, 23°.83S±0°.04×175°.83W±0°.04, h33km, mb5.2/84, MS4.5/14, Error ellipse: s-maj=6.6km s-min=3.7km az=146.3*

SZGRF ***11*** *23:20:18.3, 24°.08S×174°.61W, h38km, South of Tonga Islands*

MOS ***11*** *23:20:18.0±1.4, 23°.71S×175°.82W, h33km, mb5.4/23, Error ellipse: s-maj=12.5km s-min=10.4km az=80.8*

BJI ***11*** *23:20:24.3, 23°.06S×175°.86W, h66km, mb5.5/24, mb5.3/35, Ms5.2/17, Ms7 4.9/18*

ISC 11 23:20:18.9±0.3, 23°.74S±0°.05×175°.84W±0°.07, h33km, n499, σ1§26/504, mb5.3/83, MS4.5/14, 78C-57D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.80**	**198**	*e*P	**Pn**	**23 21 44.5**	**+1.9**
RAO				*e*		23 22 46.5	
RAO	**Raoul Island**	**5.80**	**198**	Pn	**Pn**	**23 21 44.5**	**+1.9**
	71nm,0.3s,baz=177,slow=22,SNR=3.7						
RAO				Sn	**Sn**	**23 22 45.2**	**-2.7**
	82nm,0.3s,baz=99,slow=23,SNR=8.1						
RAO	**Raoul Island**	**5.80**	**198**	*e*Pn	**Pn**	**23 21 44.5**	**+1.9**
RAO				*e*Sn	**Sn**	**23 22 46.5**	**-1.4**
NIUE	**Niue**	**7.20**	**51**	⇓P	Pn	23 21 53.7	-8.2
	baz=6.5,SNR=16						
MSVF	**Nonsavu**	**8.27**	**315**	Pn	Pn	23 22 23.0	+6.4
	1μm,0.8s,SNR=25						
MSVF	**Nonsavu**	**8.27**	**315**	*e*P	Pn	23 22 22.0	+5.4
MSVF	**Nonsavu**	**8.27**	**315**	*e*Pn	Pn	23 22 22.0	+5.4
AFI	**Afiamalu**	**10.51**	**22**	*e*P	Pn	23 22 41.1	-6.2
AFI	**Afiamalu**	**10.51**	**22**	*e*Pn	Pn	23 22 41.1	-6.2
AFI				*e*Sn	Sn	23 24 33.3	-11
RAR	**Rarotonga**	**15.07**	**84**	*e*P	Pn	23 23 38.6	-11
RAR				pmax	pmax		
	comp=Z,931nm,1.0s						
RAR	**Rarotonga**	**15.07**	**84**	*e*Pn	Pn	23 23 38.6	-11
	comp=Z,931nm,1.0s						
URZ	**Urewera**	**15.68**	**201**	Pn	**P**	**23 24 00.1**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=299,slow=13,SNR=7.4						
URZ				Sn	Sn	23 26 37.2	-13
	comp=Z,2.1nm,0.3s,baz=157,slow=23,SNR=6.4						
URZ	**Urewera**	**15.68**	**201**	*e*Pn	**Pn**	**23 23 54.8**	**-2.4**
	comp=Z,49nm,1.3s						
URZ				*e*Sn	Sn	23 26 37.1	-13
DZM	**Mont Dzumac**	**16.41**	**272**	Pn	**P**	**23 24 13.0**	**+3.7**
	comp=Z,2.1nm,0.3s,baz=56,slow=18,SNR=13						
DZM				LR	LR	23 28 11.4	
	comp=Z,495nm,18.0s,baz=86,slow=29						
BKZ	**Black Stump Fm**	**16.70**	**201**	*e*Pn	**P**	**23 24 13.1**	**+0.7**
	comp=Z,34nm,1.2s						
BKZ				*e*Sn	Sn	23 27 00.8	-14
BFZ	**Birch Farm**	**18.16**	**200**	*e*Pn	**Pn**	**23 24 24.9**	**-3.4**
	comp=Z,58nm,1.0s						
BFZ				*e*Sn	Sn	23 27 34.3	-16
KHZ	**Kahutara**	**20.61**	**203**	*e*P	**P**	**23 24 52.0**	**-3.3**
	comp=Z,400nm,2.3s						
KHZ				*e*S	S	23 28 34.3	-10
RPZ	**Rata Peaks**	**22.66**	**205**	*e*P	**P**	**23 25 14.3**	**-3.0**
	comp=Z,88nm,1.4s						
TBI	**Tubuai**	**24.18**	**94**	*e*T	T	23 50 05.1	
	comp=Z,16nm,0.4s						
PAE	**Paea**	**25.28**	**81**	*e*T	T	23 51 23.0	
	comp=Z,7.9nm,0.4s						
PPT2	**Papeete2**	**25.30**	**81**	*e*P	**P**	**23 25 40.3**	**-2.4**
	comp=Z,65nm,1.3s						
PPT2				*e*LQ	LQ	23 30 28.0	
	comp=Z,649nm,23.0s						
PPT2				*e*LR	LR	23 31 43.2	
	comp=Z,1μm,22.5s,baz=252						
PPT2	**Papeete2**	**25.30**	**81**	*e*T	T	23 51 25.6	
	comp=Z,26nm,0.3s						
PPT	**Papeete**	**25.31**	**81**	LR	LR	23 34 42.7	
	comp=Z,818nm,18.7s,baz=231,slow=34						
TVO	**Taravao**	**25.54**	**82**	*e*P	**P**	**23 25 42.4**	**-2.4**
	comp=Z,22nm,1.1s						
MEH	**Mehetia**	**26.59**	**83**	*e*T	T	23 53 01.7	
	comp=Z,21nm,0.3s						
HNR	**Honiara**	**27.15**	**298**	LR	LR	23 35 26.4	
	comp=Z,555nm,19.5s,baz=139,slow=34						
ARMA	**Armidale**	**29.65**	**250**	P	P	23 26 24.2	+2.6
	baz=30,SNR=4.6						
ARMA	**Armidale**	**29.65**	**250**	*e*P	**P**	**23 26 21.1**	**-0.5**
	comp=Z,203nm,2.1s						
EIDS	**Eidsvold**	**30.09**	**260**	P	**P**	**23 26 26.2**	**+0.8**
	baz=31,SNR=5.4						
EIDS	**Eidsvold**	**30.09**	**260**	*e*P	**P**	**23 26 25.9**	**+0.6**
	comp=Z,564nm,3.0s						
RMQ	**Roma**	**32.11**	**258**	⇓P	**P**	**23 26 45.5**	**+2.3**
	baz=33,SNR=9.8						
YNG	**Young**	**32.84**	**243**	P	**P**	**23 26 51.8**	**+2.1**
	baz=34,SNR=6.7						
CMSA	**Cobar Meteorol**	**34.81**	**248**	P	**P**	**23 27 07.1**	**+0.3**
	baz=36,SNR=7.0						
CTAO	**Charters Tower**	**35.28**	**268**	*e*P	**P**	**23 27 11.3**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,35nm,0.5s						
CTAO	**Charters Tower**	**35.28**	**268**	*e*P	**P**	**23 27 11.3**	**+0.4**
	comp=Z,35nm,0.5s						
QLP	**Quilpie**	**36.15**	**257**	P	**P**	**23 27 18.0**	**-0.2**
	baz=37,SNR=13						
RKT	**Rikitea**	**37.42**	**97**	*e*LR	LR	23 37 02.0	
	comp=Z,676nm,33.2s						
RKT	**Rikitea**	**37.42**	**97**	*e*T	T	00 06 38.3	
	comp=Z,2.6nm,0.3s						
MTSU	**Mount Surprise**	**37.54**	**271**	P	**P**	**23 27 30.9**	**+0.7**
	baz=38,SNR=15						
PMG	**Port Moresby**	**38.08**	**286**	*c i*P	**P**	**23 27 33.4**	**-1.3**
PMG				pmax	pmax		
	comp=Z,53nm,1.2s						
PMG	**Port Moresby**	**38.08**	**286**	P	**P**	**23 27 34.4**	**-0.3**
	comp=Z,51nm,1.1s,baz=251,slow=10,SNR=9.8						
PMG				LR	LR	23 40 54.2	
	comp=Z,428nm,19.7s,baz=149,slow=33						
PMG	**Port Moresby**	**38.08**	**286**	P	**P**	**23 27 33.5**	**-1.2**
	baz=39,SNR=5.1						
STKA	**Stephens Creek**	**38.31**	**248**	*e*P	**P**	**23 27 36.8**	**+0.2**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
STKA	**Stephens Creek**	**38.31**	**248**	P	**P**	**23 27 37.2**	**+0.6**
	comp=Z,7.1nm,0.5s,baz=96,slow=11,SNR=16						
STKA				PcP	**PcP**	**23 29 51.7**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=123,slow=9.5,SNR=3.2						
STKA				LR	LR	23 42 27.0	
	comp=Z,1μm,18.9s,baz=78,slow=35						
STKA	**Stephens Creek**	**38.31**	**248**	P	**P**	**23 27 36.5**	**-0.1**
	baz=39,SNR=13						
STKA	**Stephens Creek**	**38.31**	**248**	*e*P	**P**	**23 27 36.8**	**+0.2**
	comp=Z,4.1nm,1.1s						
COEN	**Coen**	**39.86**	**277**	P	**P**	**23 27 50.5**	**+0.8**
	baz=40,SNR=7.2						
COEN	**Coen**	**39.86**	**277**	*e*P	**P**	**23 27 49.9**	**+0.2**
	comp=Z,111nm,0.9s						
HTT	**Hallett**	**40.61**	**246**	P	**P**	**23 27 56.0**	**+0.2**
	baz=41,SNR=15						
QIS	**Mount Isa**	**41.26**	**265**	P	**P**	**23 28 01.3**	**0.0**
	baz=42,SNR=7.9						
BBOO	**Buckleboo**	**43.01**	**247**	⇓P	**P**	**23 28 14.3**	**-1.0**
	baz=44,SNR=6.1						
BBOO	**Buckleboo**	**43.01**	**247**	*e*P	**P**	**23 28 14.4**	**-1.0**
	comp=Z,178nm,1.0s						
AS01	**Alice Springs**	**45.77**	**259**	*e*P	**P**	**23 28 36.7**	**-0.9**
AS01				*e*PcP	**PcP**	**23 30 14.8**	**-0.2**
AS12	**Alice Springs**	**45.81**	**259**	*e*P	**P**	**23 28 37.4**	**-0.6**
AS12				*e*PcP	**PcP**	**23 30 16.0**	**+0.9**
ASAR	**Alice Springs**	**45.81**	**259**	P	**P**	**23 28 37.4**	**-0.6**
	comp=Z,21nm,0.9s,baz=92,slow=8.7,SNR=93						
ASAR				PcP	**PcP**	**23 30 16.0**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=96,slow=5.0,SNR=4.4						
ASAR				LR	LR	23 47 30.0	
	comp=Z,849nm,18.8s,baz=104,slow=36						
ASPA	**Alice Springs**	**45.81**	**259**	⇑P	**P**	**23 28 38.8**	**+0.9**
	baz=46						
WRAB	**Tennant Creek**	**46.20**	**265**	P	**P**	**23 28 40.0**	**-1.0**
	comp=Z,249nm,0.8s,SNR=12						
WRAB	**Tennant Creek**	**46.20**	**265**	*d i*P	**P**	**23 28 40.0**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,123nm,1.1s						
WRAB	**Tennant Creek**	**46.20**	**265**	*e*P	**P**	**23 28 40.1**	**-1.0**
	comp=Z,66nm,1.0s						
WRA	**Warramunga Arr**	**46.21**	**265**	P	**P**	**23 28 40.1**	**-1.0**
	comp=Z,34nm,0.8s,baz=101,slow=8.2,SNR=78						
WRA				LR	LR	23 47 20.4	
	comp=Z,724nm,19.2s,baz=105,slow=35						
FORT	**Forrest**	**49.93**	**249**	P	**P**	**23 29 08.9**	**-0.8**
	baz=51,SNR=12						
FORT	**Forrest**	**49.93**	**249**	*e*P	**P**	**23 29 08.8**	**-0.9**
	comp=Z,49nm,0.8s						
KDU	**Kakadu**	**50.07**	**273**	P	**P**	**23 29 09.8**	**-1.1**
	baz=51,SNR=8.4						
WRKA	**Warakurna**	**50.58**	**256**	P	**P**	**23 29 13.6**	**-1.1**
	baz=51,SNR=18						
MTN	**Manton Dam**	**51.24**	**272**	P	**P**	**23 29 18.5**	**-1.3**
	baz=52,SNR=7.0						
KNRA	**Kununurra**	**52.49**	**268**	P	**P**	**23 29 28.4**	**-0.7**
	baz=53,SNR=11						
FITZ	**Fitzroy Crossi**	**54.63**	**264**	P	**P**	**23 29 44.5**	**-0.2**
	baz=55,SNR=19						
FITZ	**Fitzroy Crossi**	**54.63**	**264**	*e*P	**P**	**23 29 44.2**	**-0.5**
	comp=Z,19nm,0.8s						
SBA	**Scott Base**	**54.80**	**184**	*e*P	**P**	**23 29 46.1**	**+1.1**
SBA				pmax	pmax		
	comp=Z,297nm,2.8s						
SBA	**Scott Base**	**54.80**	**184**	*e*P	**P**	**23 29 46.1**	**+1.1**
	comp=Z,297nm,2.8s						
VNDA	**Vanda**	**54.89**	**186**	*e*P	**P**	**23 29 47.4**	**+1.7**
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VNDA	**Vanda**	**54.89**	**186**	P	**P**	**23 29 48.2**	**+2.5**
	comp=Z,3.4nm,0.9s,baz=4.6,slow=6.8,SNR=7.6						
VNDA	**Vanda**	**54.89**	**186**	*e*P	**P**	**23 29 47.4**	**+1.7**
	comp=Z,5.9nm,0.9s						
SWI	**Sorong**	**56.03**	**286**	P	**P**	**23 29 54.8**	**-0.1**
	baz=57,SNR=4.9						
KLBR	**Kellerberrin**	**58.55**	**246**	⇓P	**P**	**23 30 12.0**	**-0.4**
	baz=59,SNR=10						
SOEI	**Soe**	**58.63**	**273**	⇑P	**P**	**23 30 14.4**	**+1.0**
	baz=59,SNR=5.3						
SOEI	**Soe**	**58.63**	**273**	*e*P	**P**	**23 30 14.1**	**+0.7**
	comp=Z,66nm,0.7s						
MEEK	**Meekatharra**	**58.80**	**252**	P	**P**	**23 30 13.2**	**-1.1**
	baz=60,SNR=7.3						
MBWA	**Marble Bar**	**59.14**	**259**	*e*P	**P**	**23 30 15.6**	**-1.1**
	comp=Z,49nm,1.7s						
BLDU	**Ballidu**	**59.61**	**247**	⇓P	**P**	**23 30 19.4**	**-0.5**
	baz=60,SNR=28						
MORW	**Morawa**	**60.49**	**249**	⇑P	**P**	**23 30 26.1**	**+0.1**
	baz=61,SNR=4.0						
CASY	**Casey**	**61.92**	**206**	*e*P	**P**	**23 30 35.8**	**+0.8**
	comp=Z,786nm,2.8s						
QSPA	**South Pole Qui**	**66.35**	**180**	P	**P**	**23 31 05.3**	**+1.2**
	comp=Z,5.9nm,0.8s,baz=33,slow=1.0,SNR=15						
MJAR	**Matsushiro Arr**	**73.99**	**323**	P	**P**	**23 31 50.9**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=155,slow=6.0,SNR=4.9						
MAJO	**Matsushiro**	**73.99**	**323**	*e*P	**P**	**23 31 50.9**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,163nm,2.5s						
MAJO	**Matsushiro**	**73.99**	**323**	*e*P	**P**	**23 31 50.9**	**-0.2**
	comp=Z,163nm,2.5s						
ERM	**Erimo**	**75.61**	**330**	*e*P	**P**	**23 32 01.8**	**+1.5**
ERM				pmax	pmax		
	comp=Z,28nm,1.2s						
ASAJ	**Asahikawa**	**77.51**	**331**	*e*P	**P**	**23 32 12.2**	**+1.1**
	comp=Z,144nm,1.8s						
MAW	**Mawson**	**79.20**	**199**	*e*P	**P**	**23 32 22.1**	**+1.9**
MAW				pmax	pmax		
	comp=Z,172nm,1.8s						
MAW	**Mawson**	**79.20**	**199**	P	**P**	**23 32 21.9**	**+1.8**
	comp=Z,28nm,0.8s,baz=167,slow=2.8,SNR=2.6						
MAW	**Mawson**	**79.20**	**199**	*e*P	**P**	**23 32 22.1**	**+1.9**
	comp=Z,172nm,1.8s						
YSS	**Yuzh-Sakhalins**	**79.67**	**333**	*e*P	**P**	**23 32 24.1**	**+1.2**
YSS				pmax	pmax		
	comp=Z,74nm,1.0s						
YSS	**Yuzh-Sakhalins**	**79.67**	**333**	*e*P	**P**	**23 32 24.1**	**+1.2**
	comp=Z,74nm,1.0s						
BFSC	**Mount Baldy Ra**	**79.86**	**46**	⇓P	**P**	**23 32 24.9**	**+0.4**
	baz=80						
MONP	**Monument Peak,**	**79.87**	**47**	⇓P	**P**	**23 32 25.0**	**+0.3**
	baz=80						
PEA2	**Petropavlovsk-**	**79.91**	**344**	*e*P	**P**	**23 32 25.2**	**+1.2**
PEA0	**Petropavlovsk-**	**79.91**	**344**	*e*P	**P**	**23 32 24.9**	**+0.8**
PETK	**Petropavlovsk-**	**79.91**	**344**	P	**P**	**23 32 25.2**	**+1.2**
	comp=Z,17nm,0.8s,baz=134,slow=6.4,SNR=16						
PETK				LR	LR	00 02 52.9	
	comp=Z,142nm,19.5s,baz=121,slow=32						
VES	**Vestal, Richgr**	**79.93**	**44**	⇑P	**P**	**23 32 25.3**	**+0.7**
	baz=80						
KMRM	**Mail Ridge**	**80.03**	**38**	*e*P	**P**	**23 32 24.8**	**-0.3**
	comp=Z,120nm,1.7s						
EDW2	**Edwards Air Fo**	**80.04**	**45**	⇑P	**P**	**23 32 25.4**	**+0.1**
	baz=80,SNR=8.1						
ISA	**Isabella, Lake**	**80.21**	**44**	*e*P	**P**	**23 32 25.4**	**-0.8**
ISA				pmax	pmax		
	comp=Z,11nm,1.0s						
ISA	**Isabella, Lake**	**80.21**	**44**	⇑P	**P**	**23 32 27.0**	**+0.8**
	baz=80						
ISA	**Isabella, Lake**	**80.21**	**44**	*e*P	**P**	**23 32 25.4**	**-0.8**
	comp=Z,11nm,1.0s						
PFO	**Pinyon Flats O**	**80.28**	**47**	⇑P	**P**	**23 32 27.2**	**+0.6**
	baz=80						
CMB	**Columbia Colle**	**80.52**	**41**	*e*P	**P**	**23 32 27.8**	**0.0**
CMB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CMB	**Columbia Colle**	**80.52**	**41**	*e*P	**P**	**23 32 27.8**	**0.0**
	comp=Z,7.4nm,0.9s						
LRMC	**Laurel Mtn Rad**	**80.60**	**45**	⇑P	**P**	**23 32 28.5**	**+0.2**
	baz=81						
KSRS	**Korea Array**	**80.62**	**318**	P	**P**	**23 32 29.3**	**+1.1**
	comp=Z,4.8nm,0.8s,baz=146,slow=6.6,SNR=8						
KS15	**Wonju Array Si**	**80.64**	**318**	*e*P	**P**	**23 32 29.4**	**+1.0**
KS01	**Wonju Array Si**	**80.65**	**318**	*e*P	**P**	**23 32 27.4**	**-1.1**
BC3	**Big Chuckawall**	**80.98**	**47**	⇑P	**P**	**23 32 31.0**	**+0.5**
	baz=81						
GLA	**Glamis**	**81.05**	**48**	⇓P	**P**	**23 32 31.1**	**+0.4**
	baz=81						
GSC	**Goldstone, Bar**	**81.06**	**45**	*e*P	**P**	**23 32 30.7**	**-0.1**
GSC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GSC	**Goldstone, Bar**	**81.06**	**45**	⇓P	**P**	**23 32 30.9**	**+0.1**
	baz=81						
GSC	**Goldstone, Bar**	**81.06**	**45**	*e*P	**P**	**23 32 30.7**	**-0.1**
	comp=Z,8.2nm,1.1s						
HEC	**Hector,Ludlow**	**81.09**	**46**	⇓P	**P**	**23 32 31.1**	**+0.1**
	baz=81,SNR=7.6						
N02D	**Trinity Center**	**81.10**	**38**	⇓P	**P**	**23 32 31.6**	**+0.8**
	baz=81						
WAKR	**Walker**	**81.39**	**41**	*e*P	**P**	**23 32 31.4**	**-1.2**
IRM	**Iron Mountain**	**81.48**	**47**	⇓P	**P**	**23 32 33.6**	**+0.7**
	baz=82						
GMRC	**Granite Mounta**	**81.50**	**46**	⇑P	**P**	**23 32 33.4**	**+0.2**
	baz=82						
113A	**Mohawk Valley,**	**81.61**	**49**	⇓P	**P**	**23 32 34.1**	**+0.4**
	baz=82						
Y12C	**Blythe**	**81.66**	**48**	⇓P	**P**	**23 32 34.6**	**+0.8**
	baz=82						
TUQ	**Turquoise Moun**	**81.72**	**46**	⇓P	**P**	**23 32 34.9**	**+0.6**
	baz=82						
GRAC	**Grapevine Rang**	**81.74**	**44**	⇑P	**P**	**23 32 35.1**	**+0.8**
	baz=82						
NV01	**Mina Array Sit**	**82.04**	**42**	*e*P	**P**	**23 32 35.4**	**-0.6**
NVAR	**Mina Array Bea**	**82.04**	**42**	P	**P**	**23 32 36.6**	**+0.5**
	comp=Z,4.9nm,0.8s,baz=224,slow=9.6,SNR=29						
PDMCI	**Parker Dam,Lak**	**82.24**	**47**	⇑P	**P**	**23 32 37.7**	**+0.8**
	baz=82						
Z14A	**Wintersburg**	**82.51**	**49**	⇓P	**P**	**23 32 39.0**	**+0.6**
	baz=83						
USRK	**Ussuriysk Ar.**	**82.75**	**325**	P	**P**	**23 32 41.1**	**+1.8**
	comp=Z,17nm,0.8s,baz=122,slow=3.3,SNR=30						
Y14A	**Wickenburg**	**82.80**	**48**	⇑P	**P**	**23 32 40.5**	**+0.6**
	baz=83						
SHPR	**Sheep Range**	**82.85**	**45**	*e*P	**P**	**23 32 40.0**	**-0.3**
W13A	**Hualapai Mount**	**82.87**	**47**	⇑P	**P**	**23 32 41.1**	**+0.6**
	baz=83,SNR=6.2						
K05A	**Summer Lake**	**83.27**	**37**	*e*P	**P**	**23 32 42.0**	**-0.4**
	comp=Z,338nm,2.5s						
TUC	**Tucson**	**83.44**	**51**	*e*P	**P**	**23 32 43.1**	**-0.2**
TUC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TUC	**Tucson**	**83.44**	**51**	*e*P	**P**	**23 32 43.1**	**-0.2**
	comp=Z,6.9nm,1.0s						
J05D	**Fort Rock, OR**	**83.45**	**37**	⇑P	**P**	**23 32 44.1**	**+0.9**
	baz=84						
NJ2	**Nanjing**	**83.47**	**309**	*e*P	**P**	**23 32 44.5**	**+1.2**
NJ2				PMZ			
	comp=Z,30nm,1.0s						
R11A	**Troy Canyon, C**	**83.68**	**43**	⇓P	**P**	**23 32 44.8**	**+0.3**
	baz=84						
R11A	**Troy Canyon, C**	**83.68**	**43**	*e*P	**P**	**23 32 44.3**	**-0.2**
	comp=Z,39nm,2.5s						
BMN	**Battle Mountai**	**83.94**	**41**	*e*P	**P**	**23 32 44.7**	**-1.1**
BMN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BMN	**Battle Mountai**	**83.94**	**41**	*e*P	**P**	**23 32 44.7**	**-1.1**
	comp=Z,8.1nm,0.9s						
QIZ	**Qiongzhong**	**83.99**	**294**	P	**P**	**23 32 47.6**	**+1.3**
QIZ				S	**S**	**23 43 09.2**	**+0.7**
QIZ				LZ			
	comp=Z,340nm,20.1s						
SYO	**Syowa Base**	**84.01**	**192**	⇑*e*P	**P**	**23 32 44.5**	**-1.0**
319A	**Douglas**	**84.01**	**52**	⇑P	**P**	**23 32 46.5**	**+0.2**
	baz=84						
X16A	**Lo Mia Camp, P**	**84.14**	**49**	⇑P	**P**	**23 32 48.0**	**+1.0**
	baz=84,SNR=6.2						
HABR	**Khabarovsk**	**84.23**	**330**	*e*P	**P**	**23 32 49.2**	**+2.4**
HABR				*e*		23 38 00.5	
HABR				*e*S	**S**	**23 43 05.6**	**-4.1**
HABR				*e*SS	**SS**	**23 48 39.6**	**-0.6**
HABR				*e*SSS	SSS	23 52 10.1	
HABR				pmax	pmax		
	comp=Z,48nm,1.1s						
HABR				MLR	MLR		
	comp=Z,153nm,17.0s						
MDJ	**Mudanjiang**	**84.30**	**324**	P	**P**	**23 32 49.0**	**+1.7**
MDJ				pP	pP	23 33 08.0	+10
MDJ				sP	sP	23 33 16.0	+14
MDJ				S	**S**	**23 43 10.1**	**-0.5**
MDJ				PMZ			
	comp=Z,23nm,1.2s						
MDJ				PMZ			
	comp=Z,81nm,4.9s						
MDJ				LN			
	comp=Z,84nm,26.3s						
MDJ				LE			
	comp=Z,160nm,23.9s						
MDJ				LZ			
	comp=Z,200nm,22.6s						
MDJ	**Mudanjiang**	**84.30**	**324**	*e*P	**P**	**23 32 47.5**	**+0.2**
	comp=Z,28nm,0.9s						
CCUT	**Cedar City**	**84.63**	**45**	*e*P	**P**	**23 32 50.3**	**+0.8**
	comp=Z,8.0nm,0.9s						
KNB	**Kanab**	**84.68**	**46**	*e*P	**P**	**23 32 50.2**	**+0.6**
KNB				pmax	pmax		
	comp=Z,138nm,2.3s						
KNB	**Kanab**	**84.68**	**46**	*e*P	**P**	**23 32 50.2**	**+0.6**
	comp=Z,138nm,2.3s						
U15A	**North Rim**	**84.69**	**46**	⇓P	**P**	**23 32 50.8**	**+1.0**
	baz=85						
SNAA	**Sanae**	**84.72**	**178**	P	**P**	**23 32 49.4**	**+0.2**
SNAA	**Sanae**	**84.72**	**178**	*c i*P	**P**	**23 32 49.0**	**-0.2**
SNAA				pmax	pmax		
	comp=Z,32nm,2.5s						
SNAA	**Sanae**	**84.72**	**178**	*e*P	**P**	**23 32 49.0**	**-0.2**
	comp=Z,12nm,0.9s						
VNA3	**Neumayer Olymp**	**84.78**	**176**	P	**P**	**23 32 49.6**	**+0.1**
WUAZ	**Wupatki**	**84.80**	**48**	⇓P	**P**	**23 32 51.0**	**+0.8**
	baz=85,SNR=5.2						
WUAZ	**Wupatki**	**84.80**	**48**	*e*P	**P**	**23 32 50.9**	**+0.6**
	comp=Z,8.2nm,1.0s						
X18A	**Snowflake**	**85.23**	**49**	⇑P	**P**	**23 32 53.4**	**+1.0**
	baz=85,SNR=7.4						
VNA2	**Neumayer--Watz**	**85.25**	**176**	P	**P**	**23 32 52.0**	**+0.2**
	baz=193,slow=3.5						
ELK	**Elko**	**85.33**	**42**	*e*P	**P**	**23 32 51.9**	**-1.0**
ELK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ELK	**Elko**	**85.33**	**42**	*e*P	**P**	**23 32 51.9**	**-1.0**
	comp=Z,6.8nm,1.3s						
PLCA	**Paso Flores**	**85.61**	**133**	P	P	23 32 57.6	+3.3
	comp=Z,4.5nm,1.0s,baz=243,slow=7.6,SNR=2.8						
PLCA				LR	LR	00 03 52.3	
	comp=Z,144nm,19.5s,baz=230,slow=30						
121A	**Cookes Peak, D**	**85.70**	**52**	⇓P	**P**	**23 32 55.6**	**+0.7**
	baz=86						
CN2	**Changchun**	**86.07**	**322**	*e*P	**P**	**23 32 56.5**	**+0.3**
CN2				*e*pP	pP	23 33 13.5	+6.8
CN2				*e*S	**S**	**23 43 26.0**	**-2.1**
CN2				PMZ			
	comp=Z,10.0nm,0.9s						
CN2				PMZ			
	comp=Z,200nm,4.0s						
KLR	**Kul'dur**	**86.32**	**329**	*e*P	**

comp=Z,12nm,1.0s
BJI Beijing 89.58 315 P P 23 33 14.6 +1.5
BJI PMZ
comp=Z,17nm,0.7s
V25A Rancho No Teng 89.64 50 ⇑P P 23 33 13.6 -0.1
baz=90,SNR=6.4
MCK McKinley 89.71 12 *eP* **P 23 33 12.8 -0.3**
MCK pmax pmax
comp=Z,15nm,1.1s
MCK McKinley 89.71 12 *eP* **P 23 33 12.8 -0.3**
comp=Z,15nm,1.1s
T24B San Luis 89.72 49 ⇓P P 23 33 14.3 +0.1
baz=90
N20A Spence Gulch, 89.75 45 ⇓P P 23 33 14.5 +0.3
baz=90
BSMT Bassoo Peak 89.84 36 *eP* **P 23 33 12.6 -1.8**
BW06 Boulder Array 89.97 42 *eP* **P 23 33 14.3 -0.8**
PD31 Pinedale Array 89.97 42 *eP* **P 23 33 14.2 -1.0**
PDAR Pinedale Array 89.97 42 P P 23 33 15.4 +0.3
comp=Z,1.2nm,0.8s,baz=219,slow=1.9,SNR=5.9
QLMT Earthquake Lak 89.98 40 *eP* **P 23 33 13.8 -1.3**
R23A Moffat 89.98 48 ⇑P P 23 33 15.5 +0.1
baz=90
SLVN Son La 90.01 293 *eP* **P 23 33 15.5 -0.1**
comp=Z,8.9nm,1.3s
MSTX Muleshoe 90.05 53 ⇓P P 23 33 15.8 +0.2
baz=90
MSTX Muleshoe 90.05 53 *eP* **P 23 33 14.8 -0.8**
comp=Z,6.9nm,0.8s
U25A Circle Dot Ran 90.06 50 ⇓P P 23 33 16.2 +0.5
baz=90
S24A Houchin Ranch, 90.12 48 ⇓P P 23 33 16.4 +0.3
baz=90
X27A F and S Farms, 90.14 52 ⇑P P 23 33 16.6 +0.6
baz=90
PHET Kaeng Krachan 90.21 284 P P 23 33 19.6 +3.0
comp=Z,140nm,0.8s
V26A Tequesquite Ra 90.21 51 ⇓P P 23 33 16.9 +0.6
baz=90
733A Divot King Ran 90.24 59 ⇓P P 23 33 16.7 +0.2
baz=90
W27A Bowe Ranch, En 90.37 52 ⇑P P 23 33 16.9 -0.1
baz=90
532A Rocksprings 90.40 57 ⇑P P 23 33 17.7 +0.5
baz=90
T25A Trinidad 90.43 49 ⇓P P 23 33 17.5 +0.1
baz=91
R24A Sanders Place, 90.49 48 ⇑P P 23 33 18.0 +0.4
baz=91
O22A Kremmling 90.51 46 ⇑P P 23 33 18.0 +0.2
baz=91
PBKT Sadao Pong 90.53 288 P P **23 33 20.3 +2.3**
comp=Z,22nm,1.1s
U26A Atchley Ranch, 90.53 50 ⇓P P 23 33 18.0 +0.1
baz=91
DOT Dot Lake 90.61 14 *eP* **P 23 33 17.0 -0.3**
comp=Z,17nm,1.0s
JCT Junction City 90.64 57 *eP* **P 23 33 16.5 -1.9**
JCT pmax pmax
comp=Z,37nm,1.9s
JCT Junction City 90.64 57 *eP* **P 23 33 16.4 -1.9**
comp=Z,36nm,1.9s
S25A Robets Cordova 90.67 49 ⇑P P 23 33 18.7 +0.2
baz=91
HRY Holter Researc 90.81 38 *eP* **P 23 33 17.9 -0.9**
N22A Wattenberg Ran 90.90 45 ⇓P P 23 33 20.4 +0.8
baz=91
Z30A Sanderson Ranc 90.94 54 ⇑P P 23 33 20.0 +0.4
baz=91
COLA College 90.94 12 *eP* **P 23 33 18.5 -0.3**
COLA pmax pmax
comp=Z,13nm,0.9s
COLA College 90.94 12 *eP* **P 23 33 18.5 -0.3**
comp=Z,13nm,0.9s
O23A Lake Granby, G 90.95 46 ⇓P P 23 33 20.7 +0.9
baz=91
IM04 Indian Mountai 91.00 9 *eP* **P 23 33 18.8 -0.3**
R25A Fountain Ranch 91.01 48 ⇓P P 23 33 20.3 +0.2
baz=91
IL1 Eielson Array 91.03 12 *eP* **P 23 33 18.5 -0.8**
ILAR Eielson Array 91.03 12 P P 23 33 19.1 -0.2
comp=Z,3.3nm,0.9s,baz=217,slow=6.1,SNR=22
ILB Eielson Array 91.03 12 *eP* **P 23 33 18.1 -1.1**
X29A Tulia 91.06 53 ⇑P P 23 33 20.5 +0.3
baz=91
J20A Shoshoni 91.19 42 ⇓P P 23 33 21.0 +0.3
baz=91
SRDT SRDT 91.24 285 P P 23 33 24.8 +3.4
comp=Z,36nm,1.1s
AMTX Amarillo 91.28 52 ⇑P P 23 33 21.1 -0.1
baz=91
AMTX Amarillo 91.28 52 *eP* **P 23 33 20.1 -1.2**
comp=Z,7.9nm,1.0s
433A Art 91.31 57 ⇑P P 23 33 21.1 -0.3
baz=91
S26A Kim 91.32 49 ⇓P P 23 33 22.0 +0.6
baz=92
K21A Alcova 91.33 43 ⇓P P 23 33 22.0 +0.6
baz=92
232A Coleman 91.40 56 ⇓P P 23 33 21.8 -0.1
baz=92
J21A Lysite 91.58 43 ⇓P P 23 33 23.2 +0.6
baz=92
XAN Xi'an 91.67 307 P P 23 33 24.5 +1.5
XAN PMZ
comp=Z,7.0nm,1.0s
XAN PMZ
comp=Z,29nm,7.3s
PHWY Pilot Hill 91.80 45 *eP* **P 23 33 23.4 -0.4**
comp=Z,17nm,1.0s
F19A Roth Farm, Mol 92.01 40 ⇑P P 23 33 24.9 +0.6
baz=92
DAWY Dawson 92.03 15 *eP* **P 23 33 24.4 +0.4**
comp=Z,10nm,1.0s
L23A Garrett 92.05 44 ⇑P P 23 33 25.4 +0.6
baz=92
SUKH Sukhothai 92.07 288 P P 23 33 27.7 +2.6
comp=Z,11nm,0.8s
J22A Midwest 92.22 43 ⇑P P 23 33 25.8 +0.3
baz=92
EGAK Eagle 92.22 14 *eP* **P 23 33 25.0 +0.3**
comp=Z,33nm,1.5s
334A Lometa 92.23 57 ⇑P P 23 33 25.8 +0.2
baz=92
BILL Bilibino 92.46 353 *eP* **P 23 33 26.0 +0.2**
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL Bilibino 92.46 353 *eP* **P 23 33 26.0 +0.2**
comp=Z,7.7nm,1.0s
HIA Hailar 92.48 324 *eP* **P 23 33 26.2 -0.2**
HIA pmax pmax
comp=Z,11nm,1.0s
HIA Hailar 92.48 324 *eP* **P 23 33 26.2 -0.2**
comp=Z,11nm,1.0s
KMI Kunming 92.58 296 P P 23 33 29.9 +2.2
KMI S **S 23 44 27.1 -3.2**
KMI PMZ
comp=Z,17nm,1.1s
KMI LZ
comp=Z,59nm,19.2s
PAYA Payao 92.62 290 P P 23 33 29.9 +2.2
comp=Z,13nm,0.9s
W31A Holland Ranch, 92.68 53 ⇓P P 23 33 27.7 +0.1
baz=93
Z33A Whitaker Ranch 92.70 55 ⇑P P 23 33 27.8 0.0
baz=93
C19A Slack Wire Ran 92.96 38 ⇑P P 23 33 29.2 +0.6
baz=93
HHC Hu-ho-hao-te 93.03 314 *eP* **P 23 33 30.8 +1.6**
HHC pP pP 23 33 49.1 +9.3
HHC sP sP 23 33 56.3 +13
HHC PP **PP 23 37 15.8 +3.0**
HHC SKS **SKSac 23 43 58.3 -2.6**
HHC S **S 23 44 29.8 -3.5**
HHC PMZ
comp=Z,56nm,1.0s
HHC PMZ
comp=Z,210nm,6.0s
HHC LN
comp=Z,390nm,16.7s
HHC LE
comp=Z,560nm,16.2s
HHC LZ
comp=Z,370nm,17.3s
CM01 Chiang Mai Arr 93.03 289 *eP* **P 23 33 31.7 +2.1**
CM31 Chiang Mai Arr 93.06 289 *eP* **P 23 33 31.5 +1.7**
CMAR Chiang Mai Arr 93.06 289 P P 23 33 31.5 +1.7
comp=Z,19nm,0.9s,baz=136,slow=3.3,SNR=86
CMAR LR LR 00 16 01.5
comp=Z,34nm,18.1s,baz=205,slow=36
D20A Manuel Ranch, 93.14 39 ⇓P P 23 33 30.0 +0.4
baz=93
W32A Sentinel 93.16 53 ⇓P P 23 33 29.8 -0.1
baz=93
CMMT Chiang Mai 93.20 289 P P 23 33 32.4 +2.0
comp=Z,44nm,1.2s
CHTO Chiang Mai 93.20 289 *eP* **P 23 33 32.1 +1.7**
CHTO pmax pmax
comp=Z,27nm,0.8s
CHTO Chiang Mai 93.20 289 P P 23 33 32.4 +2.0
comp=Z,152nm,1.2s
CHTO Chiang Mai 93.20 289 *eP* **P 23 33 32.1 +1.7**
comp=Z,27nm,0.8s
U32A Winter Ranch, 93.90 52 ⇑P P 23 33 33.5 +0.3
baz=94
ATAH Atahualpa 93.93 99 LR LR 00 08 04.6
comp=Z,291nm,18.6s,baz=228,slow=30
X34A Smith Ranch, M 93.97 54 ⇑P P 23 33 34.0 +0.4
baz=94
F23A Volborg 94.06 41 ⇓P P 23 33 34.0 +0.2
baz=94
H24A Dirks Ranch, A 94.09 43 ⇑P P 23 33 33.7 -0.3
baz=94
RSSD Black Hills 94.11 43 *eP* **P 23 33 33.3 -1.0**
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD Black Hills 94.11 43 *eP* **P 23 33 33.3 -1.0**
comp=Z,4.7nm,0.8s
CD2 Chengdu 94.20 302 *eP* **P 23 33 36.1 +1.3**
CD2 pP pP 23 33 52.4 +7.1
CD2 PP **PP 23 37 19.4 -2.7**
CD2 SKS **SKSac 23 44 03.2 -4.4**
CD2 S S 23 44 36.5 -7.4
CD2 sS sS 23 45 08.6 +7.1
CD2 PMZ
comp=Z,10.0nm,0.7s
CD2 LN
comp=Z,310nm,17.8s
CD2 LE
comp=Z,250nm,17.8s
CD2 LZ
comp=Z,420nm,16.6s
I25A Rochford 94.25 44 ⇑P P 23 33 34.9 0.0
baz=94
LZH Lanzhou 96.31 307 *eP* **P 23 33 46.6 +2.2**
LZH pP pP 23 34 10.0 +15
LZH sP sP 23 34 17.5 +19
LZH PMZ
comp=Z,20nm,1.0s
LZH PMZ
comp=Z,92nm,4.7s
YKA Yellowknife Ar 98.62 24 P Pdif 23 33 53.7 -0.3
comp=Z,0.7nm,0.8s,baz=230,slow=6.0,SNR=4.0
LPAZ La Paz 98.99 112 LR LR 00 11 19.8
comp=Z,171nm,18.7s,baz=185,slow=31
ULN Ulaanbaatar 99.10 318 *eP* **Pdif 23 33 57.0 +0.2**
ULN pmax pmax
comp=Z,41nm,2.6s
ULN Ulaanbaatar 99.10 318 *eP* **Pdif 23 33 57.0 +0.2**
comp=Z,41nm,2.6s
SONA0 Songino Array 99.49 318 *eP* **Pdif 23 33 58.8 +0.4**
SONM Songino Array 99.49 318 P **Pdif 23 33 58.8 +0.4**
comp=Z,1.0nm,0.8s,baz=107,slow=2.9,SNR=8.3
GTA Gaotai 100.55 308 *eP* **Pdif 23 34 06.1 +2.7**
GTA pP pP 23 34 23.1 +9.1
GTA sP sP 23 34 30.0 +12
WMQ Urumqi 110.54 310 *eP*KP **PKiKP 23 38 46.8 -1.2**
WMQ PP **PP 23 39 28.3 +3.7**
WMQ PKS **PKSdf 23 42 22.3 -2.3**
WMQ SKS **SKSdf 23 45 54.2 -3.5**
WMQ PPMZ
comp=Z,140nm,6.0s
WMQ LN
comp=Z,110nm,18.0s
WMQ LE
comp=Z,120nm,20.0s
WMQ LZ
comp=Z,110nm,20.0s
MK32 Makanchi Array 114.85 312 *eP*dif **Pdif 23 35 02.9 -3.8**
MK32 *eP*KiKP PKPdf 23 38 54.5 -1.6
MKAR Makanchi Array 114.85 312 *eP*KIKP PKPdf 23 38 54.2 -1.9
MKAR Makanchi Array 114.85 312 PKP PKPdf 23 38 54.5 -1.6
comp=Z,1.3nm,0.8s,baz=129,slow=1.8,SNR=7.7
MKAR Makanchi Array 114.85 312 *eP*KIKP PKPdf 23 38 54.2 -1.8
KURK Kurchatov 117.71 316 *eP*KIKP **PKPdf 23 39 00.1 -1.3**
KURK Kurchatov 117.71 316 *eP*KPdf **PKPdf 23 39 00.1 -1.3**
KURBB Kurchatov Arra 117.76 316 PKP **PKPdf 23 39 00.1 -1.3**
comp=Z,0.5nm,0.4s,baz=192,slow=33,SNR=4.2
KSH Kashi 118.35 303 *eP*KP **PKPdf 23 39 04.3 +1.1**
KSH PKS **PKSdf 23 42 41.9 +2.0**
KSH SKS **SKSdf 23 46 10.0 -3.0**
KSH PPMZ
comp=Z,81nm,4.1s
KSH LN
comp=Z,58nm,4.9s
KSH LE
comp=Z,53nm,4.8s
KSH LZ
comp=Z,110nm,8.6s
FRB Frobisher Bay 118.67 29 PKP **PKPdf 23 39 01.2 -1.6**
comp=Z,1.3nm,0.6s,baz=288,slow=2.7,SNR=6.1
VOSK Vostochnaya 122.49 318 *eP*KIKP **PKPdf 23 39 09.8 -0.7**
VOSK Vostochnaya 122.49 318 *eP*KPdf **PKPdf 23 39 09.8 -0.7**
BVAR Borovoye Array 122.83 319 PKP **PKPdf 23 39 11.1 -0.1**
comp=Z,1.7nm,0.6s,baz=142,slow=1.2,SNR=8.0
BRVK Borovoye 122.89 319 *eP*KIKP **PKPdf 23 39 11.2 -0.1**
BRVK Borovoye 122.89 319 *eP*KPdf **PKPdf 23 39 11.2 -0.1**
KBL Kabul 123.16 297 *eP*KIKP **PKPdf 23 39 12.0 -0.7**
KBL Kabul 123.16 297 *eP*KPdf **PKPdf 23 39 12.0 -0.7**
BOSA Boshof 124.12 202 PKP **PKPdf 23 39 16.5 +1.8**
comp=Z,2.0nm,0.7s,baz=236,slow=2.6,SNR=4.4
SUMG Summit 125.80 15 *i* PKIKP PKPdf 23 39 28.4 +12
SUMG pmax pmax
comp=Z,5.0nm,1.1s
SUMG Summit 125.80 15 *i* P PKPdf 23 39 28.4 +12
comp=Z,4.6nm,1.1s
ARU Arti 128.99 324 *i* PKIKP **PKPdf 23 39 23.3 +0.5**
ARU 23 41 30.9
ARU 23 46 27.6
ARU SS SS 23 58 51.9 +4.3
ARU Arti 128.99 324 *eP*KPdf **PKPdf 23 39 22.0 -0.8**
AKTO Aktyubinsk 130.79 317 PKP **PKPdf 23 39 26.3 -0.1**
comp=Z,1.3nm,0.8s,baz=27,slow=3.9,SNR=3.7
GEYT Alibeck 132.17 300 PKP **PKPdf 23 39 30.6 +1.1**
comp=Z,3.5nm,0.9s,baz=276,slow=4.3,SNR=8.1
ARA0 ARCESS Array S 132.45 350 *eP*KPdf **PKPdf 23 39 30.0 +0.9**
ARCES ARCESS Array B 132.45 350 PKP **PKPdf 23 39 30.0 +0.9**
comp=Z,2.3nm,0.6s,baz=19,slow=1.2,SNR=12
JOF Joensuu 136.81 342 *eP*KIKP **PKPdf 23 39 38.2 +0.8**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 136.81 342 *ep*kp **PKPdf 23 39 38.2 +0.8**
comp=Z,1.8nm,0.6s
KAF Kangasniemi 138.79 344 *eP*KHKP PKPpre 23 39 33.0
KAF pmax pmax
comp=Z,2.0nm,0.8s
KAF Kangasniemi 138.79 344 *ep*kp PKPpre 23 39 33.0
comp=Z,2.3nm,0.8s
FIA0 FINESS Array S 139.42 344 *eP*KIKP **PKPdf 23 39 43.0 +0.8**
FIA0 FINESS Array S 139.42 344 *eP*KPdf **PKPdf 23 39 43.0 +0.8**
FINES FINESS Array B 139.42 344 PKP **PKPdf 23 39 42.9 +0.8**
comp=Z,2.0nm,0.6s,baz=36,slow=2.1,SNR=9.6
OBN Obninsk 140.54 331 *eP*KIKP **PKPdf 23 39 43.5 -0.9**
OBN pmax pmax
comp=Z,6.0nm,0.9s
RAYN Ar Rayn 142.22 278 *eP*KPdf **PKPdf 23 39 47.6 -0.9**
NB2 NORSAR Subarra 142.40 354 PKP PKPpre 23 39 42.7
comp=Z,11nm,1.7s,baz=17,slow=2.6
NB200 NORSAR Array S 142.40 354 *eP*KPpre PKPpre 23 39 44.0
NOA NORSAR Array B 142.40 354 PKhKP PKPpre 23 39 44.0
comp=Z,1.4nm,0.7s,baz=18,slow=4.3,SNR=5.9
HFS Hagfors 143.02 352 PKhKP PKPpre 23 39 45.6
comp=Z,1.6nm,0.6s,baz=66,slow=5.0,SNR=14
CLDR Caldiran 143.08 304 *eP* PKPbc 23 39 46.1 -0.7
AGRB Hanur-Agry 143.68 305 *eP* PKPab 23 39 42.0 -5.5
CUKT Cukurca 143.70 301 *eP* PKPbc 23 39 47.7 -0.7
SIRT Sirnak 144.56 302 *eP* **PKPab 23 39 49.7 -1.1**
NACGM Naroch 144.62 337 *e* **PKPab 23 39 48.0 -2.3**
EZM Erzurum 144.81 306 *eP* **PKPdf 23 39 52.9 +0.1**
SVAN Silvan-Diyarba 145.38 303 *eP* **PKPab 23 39 53.3 -0.4**
BAYT Ayd¨–ntepe-Bay 145.56 307 *eP* **PKPab 23 39 54.1 -0.4**
BNGB Bing¨¶l 145.56 305 *eP* **PKPdf 23 39 53.3 -0.7**
GUMT Gumushane 146.02 308 *eP* **PKPdf 23 39 54.5 -0.2**
ERZN Erzincan 146.11 306 *eP* **PKPbc 23 39 55.4 -0.5**
MAZI Mazidag 146.12 302 *eP* **PKPdf 23 39 54.5 -0.5**
SUW Suwalki 146.56 340 *e*PKP2 **PKPbc 23 39 56.5 -0.1**
SUW Suwalki 146.56 340 *e*PKP **PKPab 23 39 56.7 -0.9**
SUW Suwalki 146.56 340 *e*PKPdf **PKPbc 23 39 56.5 -0.1**
AKASG Malin Array Be 146.80 331 PKPbc **PKPbc 23 39 57.0 -0.3**
comp=Z,24nm,0.7s,baz=40,slow=3.7,SNR=46
AKBB Malin Array Si 146.80 331 *e*PKP2 **PKPbc 23 39 57.1 -0.3**
AKBB Malin Array Si 146.80 331 *e*PKPdf **PKPbc 23 39 57.0 -0.3**
KIEV Kiev 146.81 331 ⇑*i*PKP2 **PKPbc 23 39 56.9 -0.5**
KIEV Kiev 146.81 331 *e*PKPdf **PKPbc 23 39 56.5 -0.8**
AK11 Malin Array Si 146.84 331 *e*PKPdf **PKPbc 23 39 56.7 -0.7**
ILIC ilic-Erzincan 147.00 307 *eP* **PKPab 23 40 01.0 +1.0**
MUD Monsted U'grnd 147.11 355 *i* PKP2 **PKPbc 23 39 58.2 +0.2**
MUD pmax pmax
comp=Z,16nm,0.8s
MUD Monsted U'grnd 147.11 355 *i* P **PKPbc 23 39 58.2 +0.2**
comp=Z,16nm,0.7s
MALT Malatya 147.44 305 *eP* **PKPbc 23 39 59.8 +0.1**
MALT Malatya 147.44 305 ⇑PKP2 **PKPab 23 40 01.1 -0.7**
MALT Malatya 147.44 305 ⇑*i*P **PKPab 23 40 01.1 -0.7**
BSD Bornholm Skovb 147.66 348 *i* PKP2 **PKPbc 23 39 59.5 -0.1**
BSD pmax pmax
comp=Z,20nm,1.0s
BSD Bornholm Skovb 147.66 348 *i* P **PKPbc 23 39 59.5 -0.1**
comp=Z,20nm,0.9s
SIM Simferopol' 147.74 318 ⇓*e*PKP2 **PKPab 23 40 00.9 -1.6**
SIM pmax pmax
comp=Z,32nm,0.7s
LLD Lille Linde 147.88 351 *i* PKP2 **PKPbc 23 40 00.8 +0.7**
LLD Lille Linde 147.88 351 *i* P **PKPbc 23 40 00.8 +0.7**
EKA Eskdalemuir Ar 147.98 8 PKPbc **PKPbc 23 40 00.1 -0.4**
comp=Z,5.5nm,0.7s,baz=343,slow=2.5,SNR=15
SVSK Karacayir 147.99 308 *eP* **PKPbc 23 39 59.0 -2.0**
DARE Darende-Malaty 148.07 305 *eP* **PKPbc 23 40 00.2 -1.2**
KMRS Kahramanmaras 148.83 304 *eP* **PKPbc 23 40 01.4 -1.9**
GKP Gorka Klasztor 148.89 345 *e*PKP2 **PKPbc 23 40 03.3 +0.4**
GKP Gorka Klasztor 148.89 345 *e*PKP **PKPbc 23 40 03.3 +0.4**
BEL Belsk 149.17 340 *e*PKP2 **PKPbc 23 40 04.6 +0.9**
BEL Belsk 149.17 340 *e*PKP **PKPbc 23 40 04.5 +0.9**
BNN Bunyan 149.20 307 *eP* **PKPbc 23 40 05.8 +1.5**
BSEG Bad Segeberg 149.49 353 *e*PKPbc **PKPbc 23 40 05.0 +0.7**
BSEG *ep*PKPbc **pPKPbc 23 40 16.6 +1.5**
KIS Kishinev 149.53 326 LRM MLR 23 48 20.0
comp=Z,400nm,24.0s
CORM Corum 149.58 310 *eP* **PKPbc 23 40 05.4 +0.2**
KOZT Kozan 149.65 304 *eP* **PKPbc 23 40 05.8 +0.5**
LVV L'vov 149.68 334 *e*PKP2 **PKPbc 23 40 05.3 +0.3**
LVV MLR MLR
comp=Z,300nm,19.0s
LVV MLR MLR
comp=N,100nm,18.0s
LVV MLR MLR
comp=E,300nm,19.0s
ASF Jabal al Asfar 149.97 294 PKPbc **PKPbc 23 40 07.4 +1.0**
comp=E,9.1nm,0.9s,baz=40,slow=1.8,SNR=21
CANT Cankiri 150.11 311 *eP* **PKPbc 23 40 04.6 -1.8**
LEOM Leova 150.17 325 ⇑PKIKP **PKPbc 23 40 07.3 +1.1**
LEOM Leova 150.17 325 ⇑*i*P **PKPbc 23 40 07.3 +1.1**
KARA Karaisali 150.31 304 *eP* **PKPab 23 40 09.9 -3.4**
KWP Kalwaria Pacla 150.34 335 *e*PKIKP **PKPbc 23 40 07.1 +0.5**
KWP Kalwaria Pacla 150.34 335 *e*PKP **PKPbc 23 40 07.2 +0.5**
KWP Kalwaria Pacla 150.34 335 *e*PKPbc **PKPbc 23 40 07.1 +0.5**
RUE Ruedersdorf 150.38 348 *e*PKPbc **PKPbc 23 40 06.9 +0.4**
BR101 Keskin Array S 150.46 310 *e*PKPbc **PKPbc 23 40 07.5 +0.1**
BRTR Keskin Array B 150.46 310 PKPbc **PKPbc 23 40 07.5 +0.1**
comp=E,9.9nm,0.8s,baz=132,slow=3.6,SNR=52
SAFT Safranbolu 150.46 313 *eP* **PKPbc 23 40 06.2 -0.9**
MERS Mersin 150.83 304 *eP* **PKPbc 23 40 05.8 -2.4**
BUR04 Bucovina Ar. S 150.85 330 *e*PKPbc **PKPbc 23 40 08.5 +0.5**
BURAR Bucovina Array 150.85 330 ⇓PKIKP **PKPbc 23 40 09.0 +1.0**
BURAR Bucovina Array 150.85 330 ⇓*i*P **PKPbc 23 40 09.0 +1.0**
OJC Ojcow 150.88 339 *e*PKIKP **PKPbc 23 40 07.8 0.0**
OJC Ojcow 150.88 339 *e*PKP **PKPbc 23 40 08.4 +0.5**
OJC Ojcow 150.88 339 *e*PKPbc **PKPbc 23 40 07.8 0.0**
NRDL Niedersach Rie 150.93 353 *e*PKPbc **PKPbc 23 40 08.3 +0.5**
NRDL *ep*PKPbc **pPKPbc 23 40 19.9 +1.3**
TESR Tescani 150.95 327 ⇑*i*P **PKPbc 23 40 08.6 +0.4**
AFSR Af¨ar-Bala (A 150.98 309 *eP* **PKPbc 23 40 09.1 +0.5**
ANTO Ankara 151.00 310 *eP* **PKPbc 23 40 08.8 +0.3**
ANTO Ankara 151.00 310 ⇑PKIKP **PKPbc 23 40 09.6 +1.0**
ANTO Ankara 151.00 310 ⇑*i*P **PKPbc 23 40 09.6 +1.0**
ANTO Ankara 151.00 310 *e*PKPbc **PKPbc 23 40 08.2 -0.3**
LOD Lodumlu 151.01 311 *eP* **PKPbc 23 40 07.1 -1.5**
BR231 Keskin MP Arra 151.02 310 *e*PKPbc **PKPbc 23 40 08.3 -0.3**
CFR Carcaliu 151.07 324 ⇑PKIKP **PKPbc 23 40 09.4 +1.0**
CFR Carcaliu 151.07 324 ⇑*i*P **PKPbc 23 40 09.4 +1.0**
STHS Stebnicka Huta 151.07 337 *e*PKIKP **PKPbc 23 40 09.5 +1.2**
STHS *e* 23 40 17.7
STHS Stebnicka Huta 151.07 337 *e*PKP **PKPbc 23 40 09.5 +1.2**
STHS *e* 23 40 17.7
KOLS Kolonicke sedl 151.08 335 *e*PKIKP **PKPbc 23 40 09.3 +0.9**
KOLS Kolonicke sedl 151.08 335 *e*PKP **PKPbc 23 40 09.2 +0.9**
MMAI Mount Meron Ar 151.08 296 PKPbc **PKPbc 23 40 09.9 +1.0**
comp=E,25nm,0.8s,baz=55,slow=4.4,SNR=50
SULT Sultanhani-AKS 151.14 307 *eP* **PKPdf 23 40 04.2 +1.1**
UZH Uzhgorod 151.31 335 *e*PKIKP **PKPbc 23 40 07.7 -1.2**
UZH *e* 23 40 15.3
UZH *i* 23 40 22.9
IBBN Ibbenburen 151.34 355 *e*PKPbc **PKPbc 23 40 09.4 +0.6**
KSP Ksiaz 151.35 344 *e*PKIKP **PKPbc 23 40 09.6 +0.7**
KSP *e* 23 40 21.2
KSP Ksiaz 151.35 344 *e*PKP **PKPbc 23 40 09.7 +0.8**
VRI Vrincioaia 151.36 326 ⇑*i*P **PKPbc 23 40 08.9 -0.2**
NIE Niedzica 151.40 338 *e*PKP **PKPbc 23 40 10.1 +1.0**
PLOR Plostina 151.41 326 ⇑*i*P **PKPbc 23 40 09.7 +0.4**
EREN Erenkoy 151.50 301 *eP* **PKPbc 23 40 09.5 -0.3**
CLZ Clausthal 151.54 352 *e*PKPbc **PKPbc 23 40 10.1 +0.7**
TRPA Tarpa 151.61 334 ⇑*i*P **PKPbc 23 40 10.4 +0.8**
CLL Collm 151.64 348 *e*PKPbc **PKPbc 23 40 10.2 +0.7**
CLL *ep*PKPbc **pPKPbc 23 40 21.8 +1.4**
CLL Collm 151.64 348 ⇑*i*PKPbc **PKPbc 23 40 10.0 +0.5**
comp=Z,32nm,1.0s
CLL *i* pPKPbc **PKiKP 23 40 12.9 +2.9**
CLL *i* pPKPab **PKPab 23 40 21.3 +3.1**
comp=Z,20nm,0.9s
CLL *i* 23 40 31.5
CLL Collm 151.64 348 *e*PKPbc **PKPbc 23 40 09.8 +0.2**
UPC Upice 151.73 344 *e*PKIKP **PKPbc 23 40 10.5 +0.7**
UPC *e* 23 40 16.2
UPC *e* 23 40 21.9
UPC Upice 151.73 344 ⇑*e*PKP **PKPbc 23 40 10.5 +0.7**
UPC *e*PKPAB **PKPab 23 40 16.2 -2.5**
UPC *ep*PKP pPKPdf 23 40 21.9 +7.6
OKC Ostrava-Krasne 151.74 341 ⇑*e*PKP **PKPbc 23 40 10.5 +0.7**
OKC *ex* x 23 40 22.3
DPC Dobruska-Polom 151.79 343 *e*PKPDF **PKPdf 23 40 05.2 +1.6**
DPC ⇑*e*PKP **PKiKP 23 40 10.9 +0.5**
DPC *e*PKPAB **PKPab 23 40 20.3 +1.3**
MDUB Mudurnu 151.82 313 *eP* **PKPbc 23 40 09.1 -1.4**
BRG Berggiesshubel 151.87 347 *i* PKP **PKPbc 23 40 10.6 +0.5**
comp=Z,26nm,0.9s
BRG Berggiesshubel 151.87 347 *e*PKPbc **PKPbc 23 40 10.8 +0.7**
KRLC Kraliky 151.92 343 ⇑*e*PKP **PKPbc 23 40 11.0 +0.7**
KRLC *e*PKPAB **PKPab 23 40 21.2 +1.7**
MORC Moravsky Berou 151.97 341 ⇑*i*P **PKPbc 23 40 12.1 +1.7**
MORC Moravsky Berou 151.97 341 *e*PKPbc **PKPbc 23 40 10.7 +0.3**
LADK Ladik-KONYA 151.98 308 *eP* **PKPbc 23 40 08.3 -2.7**
MLR Muntele Rosu 152.01 326 ⇑*i*P **PKPbc 23 40 12.4 +1.6**
MLR Muntele Rosu 152.01 326 PKPbc **PKPbc 23 40 11.6 +0.8**
comp=Z,2.4nm,1.0s,baz=92,slow=15,SNR=7.3
MLR PKPab **PKPab 23 40 19.7 -0.5**
comp=Z,1.7nm,1.0s,baz=16,slow=7.9,SNR=5.9
KIZT Kizilcal 152.05 309 *eP* **PKPbc 23 40 09.5 -1.6**
PVCC Panska Ves 152.06 346 ⇑*e*PKP **PKPbc 23 40 11.2 +0.7**
PVCC *ep*PKP **PKPab 23 40 15.4 -4.6**
PVCC *e*PKPAB PKiKP 23 40 22.9 +12
PVCC *ex* x 23 40 28.0
LFK Lefkose 152.07 301 *eP* **PKPbc 23 40 09.1 -2.1**
BUG Bochum--Univer 152.24 356 *e*PKPbc **PKPbc 23 40 11.1 +0.2**
GULT Gulveren 152.30 313 *eP* **PKPbc 23 40 08.7 -2.9**
CSS Prodhromos 152.31 300 *eP* **PKPbc 23 40 11.2 -0.4**
CSS Prodhromos 152.31 300 *ep*PKPdf **PKPbc 23 40 08.5 -3.2**
CSS *e*PKPab **PKPab 23 40 22.1 +0.3**
VOIR 152.50 327 ⇓*i*P **PKPbc 23 40 13.1 +1.3**
PRA Prague 152.51 346 ⇑*e*PKP **PKPbc 23 40 11.5 -0.1**
PRA *e*PKPAB **PKPab 23 40 21.4 -0.5**
MOX Moxa 152.52 350 *e*PKPbc **PKPbc 23 40 12.0 +0.4**
PRU Pruhonice 152.57 345 ⇑*e*PKP **PKPbc 23 40 11.8 +0.1**
PRU *e*PKPAB **PKPab 23 40 19.8 -2.4**

PRU				*e*PKP	pPKPdf	23 40 28.3	+13
UBBA	**Unterbreizbach**	**152.59 352**		*e*PKPbc	**PKPbc**	**23 40 11.8**	**+0.2**
DRGR		**152.59 332**	⇑	*i*P	**PKPbc**	**23 40 12.7**	**+0.7**
TANN	**Tannenbergstha**	**152.59 348**		*e*PKPbc	**PKPbc**	**23 40 12.3**	**+0.5**
LEF	**Lefka**	**152.62 301**		*e*P	**PKPbc**	**23 40 10.7**	**-1.6**
VRAC	**Vranov**	**152.67 342**	⇓	PKP2	**PKPab**	**23 40 23.8**	**+1.2**
VRAC	**Vranov**	**152.67 342**	⇓	*i*P	**PKPab**	**23 40 23.8**	**+1.2**
VRAC	**Vranov**	**152.67 342**		PKPbc	**PKPbc**	**23 40 12.4**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=295,slow=6.1,SNR=4.0						
VRAC				PKPab	**PKPab**	**23 40 23.0**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=3.5,slow=3.2,SNR=7.6						
VYHS	**Vyhne**	**152.69 338**		*e*PKP	**PKPbc**	**23 40 12.3**	**+0.2**
VYHS				*e*		23 40 23.6	
ARR	**Arges**	**152.76 327**	⇑	*i*P	**PKPdf**	**23 40 06.2**	**+0.9**
PSZ	**Piszkesteto**	**152.81 336**		*e*PKIKP	**PKPdf**	**23 40 04.9**	**-0.3**
PSZ				*e*		23 40 24.4	
PSZ	**Piszkesteto**	**152.81 336**	⇑	*i*P	**PKPab**	**23 40 25.7**	**+2.3**
PSZ	**Piszkesteto**	**152.81 336**		*e*PKPdf	**PKPdf**	**23 40 04.9**	**-0.3**
PSZ				*e*PKPab	**PKPab**	**23 40 24.4**	**+1.0**
TREC	**Trest**	**152.98 344**	⇑	*e*PKPbc	**PKPbc**	**23 40 12.9**	**+0.2**
TREC				*e*PKPAB	**PKPab**	**23 40 25.4**	**+1.4**
SHUT	**Suhut-Afyon**	**153.13 310**		*e*P	**PKPbc**	**23 40 12.3**	**-1.2**
MSKU	**Masuku**	**153.13 201**		*e*PKPdf	**PKPdf**	**23 40 04.2**	**-2.5**
MSKU				*e*PKPab	**PKPab**	**23 40 25.4**	**-0.2**
ROTZ	**Rotzenmuhle**	**153.26 348**		*e*PKPbc	**PKPbc**	**23 40 13.6**	**+0.3**
ARMT	**Armutlu**	**153.32 315**		*e*P	**PKPab**	**23 40 22.0**	**-3.8**
TNS	**Taunus Mts**	**153.35 354**		*e*PKPbc	**PKPbc**	**23 40 14.0**	**+0.5**
TNS				*e*pPKPbc	**PKPab**	**23 40 25.4**	**-0.1**
TVSB	**Tavsanli**	**153.48 312**		*e*P	**PKPbc**	**23 40 11.9**	**-2.3**
KHC	**Kasperske Hory**	**153.59 346**	⇑	*e*PKP	**PKPbc**	**23 40 13.7**	**-0.3**
KHC				*e*PKPAB	**PKPab**	**23 40 27.0**	**+0.4**
KHC	**Kasperske Hory**	**153.59 346**		*e*PKPdf	**PKPdf**	**23 40 09.2**	**+2.8**
GEC2	**GERESS Array S**	**153.83 346**		*e*PKPbc	**PKPbc**	**23 40 14.8**	**+0.1**
GEC2	**GERESS Array S**	**153.83 346**		*e*PKPbc	**PKPbc**	**23 40 15.0**	**+0.3**
GEC2				*e*PKPab	**PKPab**	**23 40 25.6**	**-2.0**
GERES	**GERESS Array B**	**153.83 346**		PKPbc	**PKPbc**	**23 40 15.0**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=48,slow=2.0,SNR=10						
GERES				PKPab	**PKPab**	**23 40 25.6**	**-2.0**
	comp=Z,1.6nm,0.7s,baz=48,slow=2.0,SNR=6.4						
EDRB	**Edirne**	**153.92 319**		*e*P	**PKPab**	**23 40 26.0**	**-2.2**
BZS	**Buzias**	**153.98 331**	⇓	*i*P	**PKPab**	**23 40 16.1**	**+1.2**
WLF	**Walferdange**	**154.07 357**		*e*PKPbc	**PKPbc**	**23 40 15.7**	**+0.7**
CONA	**Conrad Observa**	**154.12 342**	⇓	*is*PKPdf	**PKPbc**	**23 40 14.0**	**-1.3**
	comp=Z,4.2nm,0.8s						
ELL	**Elmali**	**154.34 306**		*e*P	**PKPbc**	**23 40 12.7**	**-3.5**
KRBG	**Karabiga-Canak**	**154.42 316**		*e*P	**PKPbc**	**23 40 17.5**	**+1.5**
STU	**Stuttgart**	**154.70 352**		*e*PKPbc	**PKPbc**	**23 40 16.6**	**+0.2**
PKSM	**Moragy**	**154.71 336**	⇑	*i*P	**PKPdf**	**23 40 08.1**	**+0.2**
DALY	**Dalyan (Mu¨la**	**155.23 307**		*e*P	PKPab	23 40 24.0	-10
BFO	**Black Forest**	**155.24 353**		*e*PKPab	**PKPab**	**23 40 31.9**	**-1.6**
AYDB	**Zeytinkoy-Aydi**	**155.27 310**		*e*P	**PKPab**	**23 40 29.6**	**-4.6**
VTS	**Vitosha**	**155.44 325**		*e*P	PKPdf	23 40 15.2	+5.9
VTS	**Vitosha**	**155.44 325**	⇑	*i*P	PKPdf	23 40 15.2	+5.9
ABTA	**Abfaltersbach**	**156.08 346**	⇑	*i*PKPdf	**PKPdf**	**23 40 09.5**	**-0.4**
	comp=Z,4.7nm,1.0s						
ES19	**SONSECA Array**	**162.69 21**		*e*PKPdf	**PKPdf**	**23 40 17.6**	**-0.1**
ESDC	**Sonseca Array**	**162.69 21**		PKP	**PKPdf**	**23 40 18.5**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=348,slow=3.5,SNR=5.1						
ESDC				PKPab	**PKPab**	**23 41 06.2**	**0.0**
	comp=Z,0.8nm,0.9s,baz=335,slow=2.9,SNR=4.4						
KEST	**Kesra**	**167.23 341**		PKPab	**PKPab**	**23 41 27.0**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=348,slow=8.9,SNR=4.3						
KEST	**Kesra**	**167.23 341**		*e*PKPab	**PKPab**	**23 41 24.5**	**-1.8**
TOA0	**Torodi Ar. Sit**	**169.21 167**		*e*PKPdf	**PKPdf**	**23 40 23.0**	**-0.5**
TOA0				*e*PKPab	**PKPab**	**23 41 36.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**169.21 167**		PKP	**PKPdf**	**23 40 23.0**	**-0.5**
	comp=Z,1.5nm,1.1s,baz=32,slow=0.9,SNR=5.6						
TORD				PKPab	**PKPab**	**23 41 36.5**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=186,slow=4.0,SNR=10						

GUC 11 23:29:05.7±0.5, 34°.93S×71°.22W, h101km±3km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.08**	**187**	*i* P	Pn	23 29 18.9	-0.8
NICH				*i* S	Sn	23 29 29.4	-0.9
NICH				AML	AML	23 29 33.0	
	comp=N,6μm,0.2s						
ANTU	**Antumapu**	**1.44**	**20**	*i* P	Pn	23 29 31.2	-0.1
ANTU				*i* S	Sn	23 29 50.8	0.0
SJCH	**San Jose de Ma**	**1.47**	**29**	*i* P	Pn	23 29 31.9	+0.2
SJCH				*i* S	Sn	23 29 51.5	0.0
CLCH	**Cerro Calan**	**1.63**	**21**	*i* P	Pn	23 29 33.8	0.0
CLCH				*i* S1	Sn	23 29 54.6	-0.4
CLCH				AML	AML	23 30 02.3	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**1.83**	**14**	*i* P	Pn	23 29 36.2	0.0
PEL				*i* S	Sn	23 29 59.5	-0.1
PEL				AML	AML	23 30 03.3	
	comp=E,2μm,0.6s						

IDC 11 23:34:23.9±2.8, 4°.29S×135°.59E, h0km, mb3.3/1, mb1 3.8/3, mb1mx3.4/35, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=115.1km s-min=30.6km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.61**	**184**	Pn	Pn	23 38 03.3	-2.2
	0.2nm,0.3s,baz=6.1,slow=13,SNR=2.6						
WRA				Sn	Sn	23 40 45.8	-14
	0.2nm,0.3s,baz=6.1,slow=22,SNR=5.4						
ASAR	**Alice Springs**	**19.34**	**185**	P	Pn	23 38 52.0	-0.1
	0.5nm,0.3s,baz=6.5,slow=11,SNR=44						
MKAR	**Makanchi Array**	**69.18**	**324**	P	P	23 45 32.4	0.0
	0.1nm,0.4s,baz=123,slow=8.6,SNR=4.0						

GUC 11 23:36:08.6±0.6, 34°.57S×71°.73W, h69km±25km, ML4.1, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.60**	**137**	*i* P	Pn	23 36 22.1	-0.2
NICH				*i* S	Sn	23 36 32.4	0.0
NICH				AML	AML	23 36 34.9	
	comp=E,18μm,0.7s						
RCDM	**Rinconada Maip**	**1.32**	**36**	*i* P	Pn	23 36 31.5	+0.3
RCDM				*i* S	Sn	23 36 48.3	+0.1
RCDM				AML	AML	23 36 54.9	
	comp=E,5μm,0.2s						
ANTU	**Antumapu**	**1.35**	**43**	*i* P	Pn	23 36 32.0	+0.4
ANTU				*i* S	Sn	23 36 49.7	+0.8
ANTU				AML	AML	23 36 57.2	
	comp=E,5μm,0.7s						
STL	**Santa Lucia**	**1.45**	**39**	*i* P	Pn	23 36 32.9	0.0
STL				*i* S	Sn	23 36 51.7	+0.5
CLCH	**Cerro Calan**	**1.53**	**41**	*i* P	Pn	23 36 34.4	+0.3
CLCH				*e*S4	Sn	23 36 55.0	+1.7
CLCH				AML	AML	23 37 05.2	
	comp=E,4μm,0.5s						

*ISCJB **11** 23:38:06.0±1.3, 6°.1S±0°.1×128°.3E±0°.1, h350km, mb3.5/1, Error ellipse: s-maj=20.4km s-min=11.1km az=150.4*
*IDC **11** 23:38:07.6±7.2, 6°.32S×128°.16E, h378km±80km, mb3.4/1, mb1 3.8/4, mb1mx3.0/34, mbtmp4.6/4, Error ellipse: s-maj=98.8km s-min=79.7km az=160.0*

ISC 11 23:38:05.6±1.4, **6°.1S**±0°.1×**128°.19E**±0°.10, **h350**km, **n9**, σ1.9**84**/10, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**5.14**	**52**	P	**Pn**	**23 39 27.2**	**+0.4**
	baz=4.9,SNR=8.9						
FAKI				S	S	23 40 23.4	-9.1
	baz=4.9,SNR=12						
SOEI	**Soe**	**5.31**	**227**	P	**Pn**	**23 39 30.2**	**+1.3**
	baz=5.7,SNR=6.2						
BATI	**Baumata**	**6.05**	**227**	P	**Pn**	**23 39 38.8**	**+1.6**
	16nm,0.3s,baz=114,slow=4.0,SNR=12						
BATI				S	**S**	**23 40 52.0**	**+0.7**
	3.3nm,0.3s,baz=111,slow=21,SNR=2.9						
MTN	**Manton Dam**	**7.29**	**157**	P	**Pn**	**23 39 54.2**	**+2.7**
	baz=8.0,SNR=3.9						
KDU	**Kakadu**	**7.78**	**147**	P	**Pn**	**23 39 59.4**	**+2.1**
	baz=8.4,SNR=8.1						
KNRA	**Kununurra**	**9.53**	**177**	P	**P**	**23 40 19.3**	**-0.6**
	baz=10,SNR=4.0						
WRA	**Warramunga Arr**	**14.99**	**157**	P	**P**	**23 41 19.4**	**-0.9**
	2.5nm,0.3s,baz=336,slow=11,SNR=26						
ASAR	**Alice Springs**	**18.30**	**163**	P	**P**	**23 41 54.6**	**-1.3**
	1.7nm,0.3s,baz=341,slow=12,SNR=56						
STKA	**Stephens Creek**	**28.54**	**156**	P	**P**	**23 43 28.3**	**-2.0**
	1.5nm,0.5s,baz=343,slow=13,SNR=5.0						

GUC 11 23:39:36.8±0.4, 34°.55S×71°.87W, h53km±25km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.70**	**131**	*i* P	Pn	23 39 51.6	+0.9
NICH				*i* S	Sn	23 40 02.5	+1.7
NICH				AML	AML	23 40 03.1	
	comp=N,4μm,0.2s						
ANTU	**Antumapu**	**1.42**	**47**	*i* P	Pn	23 40 01.8	+1.5
ANTU				*i* S	Sn	23 40 20.9	+2.9
ANTU				AML	AML	23 40 24.7	
	comp=E,1μm,0.5s						
STL	**Santa Lucia**	**1.51**	**43**	*e*S4	Sn	23 40 21.4	+1.3
SJCH	**San Jose de Ma**	**1.55**	**55**	*i* P	Pn	23 40 03.6	+1.4
SJCH				*i* S	Sn	23 40 24.4	+3.1
SJCH				AML	AML	23 40 26.9	
	comp=N,868nm,0.4s						
CLCH	**Cerro Calan**	**1.60**	**44**	*i* P	Pn	23 40 04.5	+1.6
CLCH				*i* S	Sn	23 40 25.4	+3.0
CLCH				AML	AML	23 40 35.9	
	comp=E,1μm,0.5s						

GUC 11 23:54:39.0±0.5, 34°.33S×71°.93W, h45km±2km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.57**	**49**	*i* P	Pn	23 54 50.4	-0.5
LNV				*i* S	Sn	23 54 59.6	+0.4
NICH	**Los Niches**	**0.89**	**140**	*i* P	Pn	23 54 55.2	+0.1
NICH				*i* S	Sn	23 55 07.8	+1.0
NICH				AML	AML	23 55 10.0	
	comp=N,4μm,0.3s						
CACH	**El Canelo**	**1.12**	**79**	*i* P	Pn	23 54 59.6	+1.1
CACH				*i* S	Sn	23 55 15.6	+2.7
ANTU	**Antumapu**	**1.32**	**55**	*i* P	Pn	23 55 02.1	+1.1
ANTU				*e*S4	Sn	23 55 17.9	+0.4
ANTU				AML	AML	23 55 25.0	
	comp=N,2μm,0.6s						
STL	**Santa Lucia**	**1.39**	**51**	*i* P	Pn	23 55 03.0	+0.9
STL				*i* S	Sn	23 55 21.0	+1.7
SJCH	**San Jose de Ma**	**1.48**	**63**	*i* S	Sn	23 55 23.7	+2.2
SJCH				AML	AML	23 55 30.6	
	comp=E,512nm,0.4s						
CLCH	**Cerro Calan**	**1.48**	**52**	*i* P	Pn	23 55 04.7	+1.3
CLCH				*i* S	Sn	23 55 24.1	+2.4
CLCH				AML	AML	23 55 32.8	
	comp=N,936nm,0.5s						
PEL	**Peldehue**	**1.57**	**42**	*i* P	Pn	23 55 05.9	+1.4
PEL				*i* S	Sn	23 55 26.3	+2.6
PEL				AML	AML	23 55 33.1	
	comp=E,1μm,0.5s						

*IDC **11** 23:59:08.0±1.4, 34°.30S×71°.88W, h0km, mb4.1/8, mb1 4.1/10, mb1mx3.9/31, mbtmp4.1/10, ML4.0/2, MS2.3/1, Ms1 2.3/1, ms1mx2.3/20, Error ellipse: s-maj=52.6km s-min=18.2km az=96.0*
*NEIC **11** 23:59:11.0, 34°.33S×71°.97W, h37km, mb4.3/4, After GUC. NEIC Felt [III] at San Fernando and [II] at Rancagua.*
*GUC **11** 23:59:11.0±0.6, 34°.33S×71°.97W, h37km±2km, ML4.5*

ISC 11 23:59:09.8±3.4, **34°.33S**±0°.05×**72°.03W**±0°.08, **h17**km±21km, **n44**, σ0.**89**/56, **mb4.3**/7, **4C-2D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.94**	**136**	⇑ *i*P	**Pb**	**23 59 27.6**	**0.0**
NICH				*i* S	**Sb**	**23 59 40.2**	**+0.4**
NICH	**Los Niches**	**0.94**	**136**	⇑ *i*P	**Pb**	**23 59 27.6**	**0.0**
NICH				*i* S	**Sb**	**23 59 40.2**	**+0.4**
RCDM	**Rinconada Maip**	**1.32**	**51**	*e*P	**Pn**	**23 59 33.0**	**-0.5**
RCDM				*e*S	**Sn**	**23 59 50.1**	**-0.6**
RCDM	**Rinconada Maip**	**1.32**	**51**	*e*P	**Pn**	**23 59 33.0**	**-0.5**
RCDM				*e*S	**Sn**	**23 59 50.1**	**-0.6**
IHA	**Instituto Hidr**	**1.34**	**14**	⇑ *i*P	**Pn**	**23 59 34.0**	**+0.2**
IHA				*i* S1	**Sn**	**23 59 51.7**	**+0.5**
IHA	**Instituto Hidr**	**1.34**	**14**	⇑ *i*P	**Pn**	**23 59 34.0**	**+0.2**
IHA				*i* S	**Sn**	**23 59 51.7**	**+0.5**
ANTU	**Antumapu**	**1.39**	**57**	*e*P	**Pn**	**23 59 34.7**	**+0.2**
ANTU				*i* S	**Sn**	**23 59 52.6**	**+0.2**
ANTU				AML	AML	23 59 57.1	
	comp=E,16μm,0.3s						
ANTU	**Antumapu**	**1.39**	**57**	*e*P	**Pn**	**23 59 34.7**	**+0.2**
ANTU				*i* S	**Sn**	**23 59 52.6**	**+0.2**
STL	**Santa Lucia**	**1.46**	**53**	*e*P9	**Pn**	**23 59 35.0**	**-0.4**
STL				*i* S	**Sn**	**23 59 53.7**	**-0.5**
LACH	**Col Las Americ**	**1.52**	**55**	*e*P	**Pn**	**23 59 36.5**	**+0.1**
LACH				*e*S	**Sn**	**23 59 56.5**	**+0.6**
LACH	**Col Las Americ**	**1.52**	**55**	*e*P	**Pn**	**23 59 36.5**	**+0.1**
LACH				*e*S	**Sn**	**23 59 56.5**	**+0.6**
CLCH	**Cerro Calan**	**1.55**	**53**	*e*P	**Pn**	**23 59 37.3**	**+0.5**
CLCH				*e*S	**Sn**	**23 59 56.8**	**+0.2**
CLCH				AML	AML	00 00 04.7	
	comp=E,8μm,0.3s						
SJCH	**San Jose de Ma**	**1.55**	**64**	*e*P	**Pn**	**23 59 37.0**	**+0.2**
SJCH				*i* S	**Sn**	**23 59 56.5**	**-0.2**
SJCH				AML	AML	00 00 01.0	
	comp=E,8μm,0.3s						
SJCH	**San Jose de Ma**	**1.55**	**64**	*e*P	**Pn**	**23 59 37.0**	**+0.2**
SJCH				*i* S	**Sn**	**23 59 56.5**	**-0.2**
PEL	**Peldehue**	**1.63**	**44**	⇓ *i*P	**Pn**	**23 59 38.7**	**+0.9**
PEL				*e*S	**Sn**	**23 59 58.9**	**+0.4**
PEL				AML	AML	00 00 04.1	
	comp=N,11μm,0.5s						
PEL	**Peldehue**	**1.63**	**44**	⇓ *i*P	**Pn**	**23 59 38.7**	**+0.9**
PEL				*e*S	**Sn**	**23 59 58.9**	**+0.4**
CFAA	**Coronel Fontan**	**4.19**	**51**	Pn	**Pn**	**00 00 15.8**	**+2.8**
	comp=N,1.2nm,0.3s,baz=224,slow=13,SNR=24						
CFAA				Sn	Sn	00 01 07.7	+6.1
	comp=N,1.2nm,0.3s,baz=97,slow=10,SNR=3.1						
CFAA				LR	LR	00 02 05.8	
	comp=N,38nm,21.7s,baz=230,slow=44						
LCO	**Las Campanas**	**5.43**	**12**	*e*Pn	**Pn**	**00 00 29.6**	**-0.6**
PLCA	**Paso Flores**	**6.50**	**170**	Pn	**Pn**	**00 00 46.6**	**+1.9**
	comp=N,0.8nm,0.3s,baz=340,slow=10,SNR=13						
PLCA				Lg	Lg	00 02 28.8	
	comp=N,0.4nm,0.3s,baz=257,slow=23,SNR=2.2						
PLCA	**Paso Flores**	**6.50**	**170**	*e*Pn	**Pn**	**00 00 44.6**	**-0.1**
PLCA				Lg	Lg	00 02 28.8	
TRQA	**Tornquist**	**8.93**	**117**	*e*Pn	**Pn**	**00 01 17.4**	**-0.7**
LPAZ	**La Paz**	**18.31**	**12**	P	**P**	**00 03 24.6**	**+0.9**
	comp=N,0.2nm,0.3s,baz=196,slow=7.4,SNR=8.1						
LPAZ	**La Paz**	**18.31**	**12**	*e*P	**Pn**	**00 03 22.6**	**-1.1**
	comp=N,9.0nm,1.3s						
EFI	**East Falkland**	**20.06**	**154**	*e*P	**P**	**00 03 41.0**	**-1.0**
SIV	**San Ignacio**	**20.75**	**31**	P	**P**	**00 03 49.5**	**-0.4**
	comp=N,1.8nm,0.5s,baz=227,slow=13,SNR=7.0						
BDFB	**Brasilia**	**28.52**	**55**	P	**P**	**00 05 05.8**	**+1.1**
	comp=N,1.2nm,0.5s,baz=209,slow=12,SNR=3.2						
PTGA	**Pitinga**	**35.28**	**21**	P	**P**	**00 06 03.6**	**-0.3**
	comp=N,1.7nm,0.4s,baz=219,slow=12,SNR=6.6						
PTGA	**Pitinga**	**35.28**	**21**	*e*P	**P**	**00 06 01.3**	**-2.6**
	comp=N,2.6nm,0.6s						
SNAA	**Sanae**	**51.27**	**158**	P	**P**	**00 08 13.2**	**+0.8**
	comp=N,0.5nm,0.5s,baz=337,slow=12,SNR=7.5						
SNAA	**Sanae**	**51.27**	**158**	*e*P	**P**	**00 08 12.8**	**+0.4**
QSPA	**South Pole Qui**	**55.90**	**180**	P	**P**	**00 08 47.8**	**+1.2**
	comp=N,2.3nm,0.9s,baz=53,slow=0.8,SNR=3.7						
QSPA	**South Pole Qui**	**55.90**	**180**	*e*P	**P**	**00 08 44.8**	**-1.7**
	comp=N,2.7nm,0.8s						
DBIC	**Dimbokro**	**75.28**	**71**	P	**P**	**00 10 52.2**	**0.0**
	comp=N,2.0nm,0.6s,baz=183,slow=4.7,SNR=4.3						
DBIC	**Dimbokro**	**75.28**	**71**	*e*P	**P**	**00 10 50.5**	**-1.7**
	comp=N,2.3nm,0.6s						
BOSA	**Boshof**	**79.91**	**118**	P	**P**	**00 11 18.7**	**+0.5**
	comp=N,2.6nm,0.8s,baz=243,slow=5.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**84.32**	**70**	P	**P**	**00 11 41.2**	**0.0**
	comp=N,1.8nm,0.8s,baz=261,slow=4.0,SNR=12						
H11S2	**WAKE ISLAND Hyl**	**25.77**	**269**	T	T	02 36 34.2	
	baz=120,slow=76,SNR=9.7						
H11S1	**WAKE ISLAND Hyl**	**25.79**	**269**	T	T	02 36 34.7	
	baz=120,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hyl**	**25.79**	**269**	T	T	02 36 36.0	
	baz=120,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hyl**	**26.21**	**270**	T	T	02 37 07.2	
	baz=272,slow=74,SNR=9.4						
H11N2	**WAKE ISLAND Hyl**	**26.21**	**270**	T	T	02 37 07.7	
	baz=122,slow=74,SNR=5.4						
ZALV	**Zalesovo Beam**	**154.50**	**33**	PKPbc	**PKPbc**	**00 19 09.0**	**+0.1**
	comp=N,0.5nm,0.6s,baz=304,slow=2.9,SNR=3.6						
ZALV				PKPab	**PKPab**	**00 19 23.8**	**+0.4**
	comp=N,1.3nm,0.6s,baz=319,slow=5.0,SNR=5.0						
MKAR	**Makanchi Array**	**156.97**	**50**	PKPab	**PKPab**	**00 19 33.5**	**-0.9**
	comp=N,0.4nm,0.7s,baz=297,slow=4.0,SNR=5.0						
SONM	**Songino Array**	**166.46**	**5**	PKPab	**PKPab**	**00 20 17.1**	**+1.4**
	comp=N,0.3nm,0.7s,baz=202,slow=1.6,SNR=2.5						

*ISCJB **12** 00:22:11.3±1.0, 52°.1N±0°.2×30°.8W±0°.2, h10km, mb3.3/6, MS3.5/1, Error ellipse: s-maj=30.3km s-min=15.5km az=23.2*
*IDC **12** 00:22:11.6±1.1, 52°.23N×30°.57W, h0km, mb3.3/6, mb1 3.6/6, mb1mx3.3/33, mbtmp3.3/6, MS3.5/1, Ms1 3.5/1, ms1mx2.7/28, Error ellipse: s-maj=46.5km s-min=20.2km az=36.0*

ISC 12 00:22:13.1±1.1, **52°.2N**±0°.2×**30°.6W**±0°.2, **h10**km, **n8**, σ0.**82**/7, **mb3.3**/6, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**16.47**	**68**	Pn	**P**	**00 26 06.6**	**-0.1**
	baz=270,slow=9.9,SNR=6.4						
ESDC	**Sonseca Array**	**22.22**	**114**	P	**P**	**00 27 10.9**	**+1.3**
	0.4nm,0.4s,baz=316,slow=9.2,SNR=9.0						
YKA	**Yellowknife Ar**	**43.28**	**318**	P	**P**	**00 30 14.1**	**-0.1**
	0.4nm,1.0s,baz=67,slow=8.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**46.78**	**134**	P	**P**	**00 30 41.9**	**-0.8**
	1.0nm,0.6s,baz=334,slow=7.5,SNR=17						
PDAR	**Pinedale Array**	**51.67**	**293**	P	**P**	**00 31 20.4**	**+0.2**
	0.2nm,0.5s,baz=49,slow=6.1,SNR=22.0						
ILAR	**Eielson Array**	**53.45**	**331**	P	**P**	**00 31 33.0**	**+0.3**
	0.3nm,0.7s,baz=54,slow=4.6,SNR=4.1						
RCBR	**Riachuelo**	**58.00**	**186**	LR	LR	00 49 06.6	
	comp=Z,43nm,20.8s,baz=66,slow=28						
MKAR	**Makanchi Array**	**65.89**	**44**	P	**P**	**00 32 58.3**	**-0.5**
	0.1nm,0.4s,baz=332,slow=4.7,SNR=3.5						

GUC 12 00:26:17.5±0.5, 34°.38S×71°.97W, h25km±14km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.87**	**136**	*i* P	Pb	00 26 33.5	-0.5
NICH				*i* S	Sb	00 26 45.1	-0.1
RCDM	**Rinconada Maip**	**1.31**	**48**	*i* P	Pn	00 26 40.3	0.0
RCDM				*i* S	Sn	00 26 57.0	0.0
RCDM				AML	AML	00 27 00.4	
	comp=E,1μm,0.2s						
SJCH	**San Jose de Ma**	**1.53**	**62**	*i* P	Pn	00 26 44.0	+0.7
SJCH				*i* S	Sb	00 27 04.2	-0.1
SJCH				AML	AML	00 27 08.2	
	comp=E,986nm,0.3s						
COCH	**Cobquecura**	**1.87**	**201**	*i* P	Pn	00 26 49.2	+1.3
COCH				*i* S	Sb	00 27 13.2	-0.8

GUC 12 00:40:39.8±0.3, 34°.49S×71°.82W, h88km±28km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTU	**Antumapu**	**1.35**	**47**	*i* P	Pn	00 41 03.9	+0.3
ANTU				*i* S	Sn	00 41 22.2	+0.6
ANTU				AML	AML	00 41 22.9	
	comp=N,2μm,0.3s						
CLCH	**Cerro Calan**	**1.53**	**45**	*i* P	Pn	00 41 06.2	+0.3
CLCH				*i* P		00 41 06.3	
CLCH				*i* S	Sn	00 41 26.3	+0.6
CLCH				*i* S		00 41 26.3	
CLCH				AML	AML	00 41 36.5	
	comp=E,1μm,0.8s						
CLCH				AML	AML	00 41 37.0	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**1.64**	**35**	*i* P	Pn	00 41 07.6	+0.2
PEL				*i* S	Sn	00 41 28.9	+0.6
PEL				AML	AML	00 41 34.7	
	comp=N,2μm,0.5s						

*ISCJB **12** 00:46:17.0±0.7, 34°.50S±0°.04×72°.08W±0°.06, h10km, mb4.0/7, MS3.5/1, Error ellipse: s-maj=7.1km s-min=5.5km az=8.7*
*IDC **12** 00:46:17.

ellipse: s-maj=31.6km s-min=18.5km az=89.0
*ISCJB **12** 00:51:28.5±1.4, 34°.35S×0°.04×72°.14W±0°.07, h18km±10km, mb3.9/8, Error ellipse: s-maj=10.8km s-min=6.1km az=18.7*
*NEIC **12** 00:51:30.0, 34°.35S×72°.04W, h28km, mb4.2/3, ML4.3(GUC), After GUC.*
NEIC Felt [IV] at Pichilemu, [III] at San Fernando and [II] at Rancagua and San Antonio.
*GUC **12** 00:51:30.0±0.6, 34°.36S×72°.03W, h30km±8km, ML4.3*
ISC 12 00:51:28.5±1.9, 34°.35S±0°.05×72°.07W±0°.07, h9km±11km, n40, σ0°98/47, mb3.9/8, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.67**	**55**	*i* P	**Pb**	**00 51 42.4**	**0.0**
LNV	**Longovilo**	**0.67**	**55**	⇑*i* P	**Pb**	**00 51 42.5**	**+0.1**
NICH	**Los Niches**	**0.95**	**134**	*i* P	**Pg**	**00 51 46.8**	**0.0**
NICH				*i* S	**Sg**	**00 51 59.0**	**-0.2**
NICH				AML	AML	00 52 03.7	
	comp=E,19μm,0.8s						
NICH	**Los Niches**	**0.95**	**134**	⇓*i* P	**Pg**	**00 51 46.9**	**0.0**
NICH				*i* S	**Sg**	**00 51 59.1**	**-0.1**
CACH	**El Canelo**	**1.24**	**80**	*i* P	**Pn**	**00 51 51.8**	**-0.4**
CACH				*i* S	**Sn**	**00 52 08.6**	**-0.5**
CACH	**El Canelo**	**1.24**	**80**	⇑*i* P	**Pn**	**00 51 51.8**	**-0.4**
CACH				*i* S	**Sg**	**00 52 09.0**	**+0.5**
CHCH	**Chadas Angostu**	**1.25**	**71**	*i* P	**Pn**	**00 51 51.4**	**-0.8**
CHCH	**Chadas Angostu**	**1.25**	**71**	⇓*i* P	**Pn**	**00 51 51.5**	**-0.6**
RCDM	**Rinconada Maip**	**1.35**	**51**	⇓*i* P	**Pn**	**00 51 52.9**	**-0.8**
RCDM				*i* S	**Sb**	**00 52 10.4**	**-1.1**
RCDM				AML	AML	00 52 16.0	
	comp=E,6μm,0.4s						
RCDM	**Rinconada Maip**	**1.35**	**51**	⇓*i* P	**Pn**	**00 51 52.9**	**-0.8**
RCDM				*e*S	**Sb**	**00 52 10.4**	**-1.1**
LACH	**Col Las Americ**	**1.56**	**56**	*i* P	**Pn**	**00 51 56.4**	**-0.1**
LACH				*i* S	**Sn**	**00 52 16.0**	**-0.8**
LACH	**Col Las Americ**	**1.56**	**56**	*i* P	**Pn**	**00 51 56.4**	**-0.1**
LACH				*e*S	**Sn**	**00 52 16.0**	**-0.8**
CLCH	**Cerro Calan**	**1.59**	**54**	*i* P	**Pn**	**00 51 57.0**	**+0.1**
CLCH				*i* S	**Sn**	**00 52 17.5**	**-0.1**
CLCH				AML	AML	00 52 23.9	
	comp=N,6μm,0.4s						
PEL	**Peldehue**	**1.67**	**44**	*i* P	**Pn**	**00 51 58.0**	**+0.1**
PEL				*i* S	**Sb**	**00 52 20.0**	**-0.5**
PEL				AML	AML	00 52 25.0	
	comp=N,7μm,0.6s						
PEL	**Peldehue**	**1.67**	**44**	⇓*i* P	**Pn**	**00 51 58.1**	**+0.1**
PEL				S	**Sb**	**00 52 21.2**	**+0.7**
CMCH	**Combarbala**	**3.29**	**16**	*i* P	**Pn**	**00 52 21.1**	**+0.7**
CMCH	**Combarbala**	**3.29**	**16**	*e*P	**Pn**	**00 52 21.1**	**+0.7**
CFAA	**Coronel Fontan**	**4.22**	**51**	Pn	**Pn**	**00 52 36.1**	**+2.9**
	comp=N,0.9nm,0.3s,baz=226,slow=11,SNR=14						
CFAA				Lg	Lg	00 53 37.7	
	comp=N,1.5nm,0.3s,baz=290,slow=22,SNR=5.6						
LCO	**Las Campanas**	**5.45**	**13**	*e*Pn	**Pn**	**00 52 50.0**	**-0.1**
LCO				*e*Sn	**Sn**	**00 53 53.7**	**+0.7**
PLCA	**Paso Flores**	**6.49**	**170**	Pn	**Pn**	**00 53 06.3**	**+2.1**
	comp=N,0.8nm,0.3s,baz=333,slow=9.1,SNR=10.0						
PLCA				Lg	Lg	00 54 48.7	
	comp=N,0.8nm,0.3s,baz=66,slow=22,SNR=6.8						
LPAZ	**La Paz**	**18.33**	**12**	P	**P**	**00 55 45.1**	**+1.4**
	comp=N,0.2nm,0.3s,baz=198,slow=5.6,SNR=9.7						
SIV	**San Ignacio**	**20.78**	**31**	P	**P**	**00 56 09.8**	**-0.2**
	comp=N,2.3nm,0.7s,baz=233,slow=8.1,SNR=6.8						
SAML	**Samuel**	**26.56**	**20**	*e*P	**P**	**00 57 03.8**	**-3.1**
	comp=N,1.5nm,0.6s						
SNAA	**Sanae**	**51.27**	**158**	P	**P**	**01 00 33.6**	**+1.2**
	comp=N,1.4nm,0.9s,baz=276,slow=9.2,SNR=5.8						
SNAA	**Sanae**	**51.27**	**158**	*e*P	**P**	**01 00 31.0**	**-1.4**
	comp=N,9.8nm,1.2s						
QSPA	**South Pole Qui**	**55.89**	**180**	P	**P**	**01 01 07.5**	**+1.1**
	comp=N,2.5nm,0.9s,baz=143,slow=2.8,SNR=6.0						
QSPA	**South Pole Qui**	**55.89**	**180**	*e*P	**P**	**01 01 05.6**	**-0.8**
	comp=N,1.8nm,0.7s						
TXAR	**Lajitas Array**	**70.02**	**331**	P	**P**	**01 02 39.9**	**-0.8**
	comp=N,0.2nm,0.5s,baz=155,slow=8.7,SNR=2.5						
BOSA	**Boshof**	**79.93**	**118**	P	**P**	**01 03 38.5**	**+0.2**
	comp=N,2.5nm,0.7s,baz=270,slow=2.4,SNR=6.6						
PDAR	**Pinedale Array**	**84.06**	**333**	P	**P**	**01 04 00.3**	**+0.7**
	comp=N,0.4nm,0.7s,baz=140,slow=5.9,SNR=3.7						
NVAR	**Mina Array Bea**	**84.15**	**325**	P	**P**	**01 04 00.2**	**+0.1**
	comp=N,0.4nm,0.7s,baz=152,slow=6.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**84.35**	**70**	P	**P**	**01 04 02.1**	**+0.7**
	comp=N,0.7nm,0.8s,baz=252,slow=4.0,SNR=6.5						
WRA	**Warramunga Arr**	**120.45**	**209**	PKP	**PKPdf**	**01 10 21.0**	**0.0**
	comp=N,0.5nm,0.5s,baz=161,slow=1.6,SNR=5.2						
H11S2	**WAKE ISLAND Hyl**	**25.74**	**269**	T	T	03 28 53.2	
	baz=120,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hyl**	**25.75**	**269**	T	T	03 28 48.2	
	baz=120,slow=76,SNR=46						
H11S3	**WAKE ISLAND Hyl**	**25.76**	**269**	T	T	03 28 47.0	
	baz=120,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hyl**	**26.16**	**270**	T	T	03 29 21.5	
	baz=115,slow=78,SNR=8.3						
H11N1	**WAKE ISLAND Hyl**	**26.17**	**270**	T	T	03 29 22.2	
	baz=115,slow=78,SNR=39						
H11N2	**WAKE ISLAND Hyl**	**26.18**	**270**	T	T	03 29 26.5	
	baz=115,slow=78,SNR=11						
ZALV	**Zalesovo Beam**	**154.53**	**33**	PKPbc	**PKPbc**	**01 11 30.1**	**+1.1**
	comp=N,1.1nm,0.7s,baz=343,slow=4.5,SNR=5.0						
ZALV				PKPab	**PKPab**	**01 11 43.8**	**+0.2**
	comp=N,0.4nm,0.5s,baz=316,slow=6.0,SNR=2.5						

GUC 12 01:04:04.2±0.5, 34°.29S×71°.90W, h25km±9km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.90**	**143**	*i* P	Pn	01 04 21.3	0.0
NICH				*i* S	Sn	01 04 34.1	+0.6
NICH				AML	AML	01 04 38.3	
	comp=E,6μm,0.6s						
ANTU	**Antumapu**	**1.27**	**56**	*i* P	Pb	01 04 27.6	+0.1
ANTU				*i* S	Sb	01 04 45.2	+1.6
ANTU				AML	AML	01 04 51.4	
	comp=E,2μm,0.2s						
STL	**Santa Lucia**	**1.35**	**51**	*i* P1	Pn	01 04 28.5	+1.0
STL				*i* S	Sb	01 04 47.8	+2.1
SJCH	**San Jose de Ma**	**1.44**	**64**	*i* P	Pb	01 04 30.4	0.0
SJCH				*i* S	Sb	01 04 50.1	+1.7
SJCH				AML	AML	01 04 56.3	
	comp=N,2μm,0.3s						
CLCH	**Cerro Calan**	**1.44**	**52**	*i* P	Pb	01 04 30.4	0.0
CLCH				*i* S	Sb	01 04 50.2	+1.7
CLCH				AML	AML	01 05 03.3	
	comp=E,2μm,0.8s						
PEL	**Peldehue**	**1.52**	**42**	*i* P	Pb	01 04 31.5	-0.4
PEL				*i* S	Sb	01 04 52.3	+1.4
PEL				AML	AML	01 04 59.5	
	comp=N,2μm,0.2s						

WEL 12 01:09:10.4±0.4, 35°.08S×178°.40E, h12km, ML3.6/2, Error ellipse: s-maj=9.1km s-min=2.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**2.72**	**190**	P*	Pn	01 09 53.6	-0.3
HAZ				*e*S*	Sn	01 10 24.5	-2.3
WMGZ	**Waiomatatini S**	**2.74**	**180**	*e*PN	Pn	01 09 53.3	-0.9
WMGZ				SN	Sn	01 10 25.8	-1.4
PUZ	**Puketiti**	**2.99**	**182**	*e*PN	Pn	01 09 56.1	-1.6
MWZ	**Matawai**	**3.33**	**192**	*e*P*	Pn	01 10 01.5	-0.8
MWZ				S*	Sn	01 10 37.8	-4.1
CNGZ	**Carnagh Statio**	**3.41**	**183**	*e*PN	Pn	01 10 01.9	-1.4
CNGZ				SN	Sn	01 10 41.0	-2.7
RAGZ	**Rawiri**	**3.50**	**193**	P*	Pn	01 10 04.1	-0.7

*IDC **12** 01:18:52.4±1.8, 34°.33S×72°.58W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.6/15, mbtmp3.4/3, ML3.9/1, Error ellipse: s-maj=40.5km s-min=34.8km az=109.0*
*GUC **12** 01:18:56.2±0.6, 34°.52S×71°.88W, h42km±11km, ML3.8*
*ISCJB **12** 01:18:58.0±1.5, 34°.56S±0°.05×71°.8W±0°.2, h35km, mb3.5/2, Error ellipse: s-maj=18.1km s-min=6.7km az=8.2*
ISC 12 01:18:59.8±2.2, 34°.56S±0°.05×71°.7W±0°.2, h35km, n9, σ1§46/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.61**	**137**	*i* P	**Pn**	**01 19 10.3**	**-1.6**
NICH				*i* S	**Sn**	**01 19 20.2**	**-0.3**
NICH				AML	AML	01 19 27.4	
	comp=E,10μm,0.6s						
RCDM	**Rinconada Maip**	**1.31**	**36**	*i* P	**Pn**	**01 19 19.8**	**-1.9**
ANTU	**Antumapu**	**1.34**	**43**	*i* P	**Pn**	**01 19 20.6**	**-1.4**
ANTU				*i* S	**Sn**	**01 19 39.1**	**+0.5**
CLCH	**Cerro Calan**	**1.52**	**41**	*i* P	**Pn**	**01 19 23.4**	**-1.2**
CLCH				*i* S	**Sn**	**01 19 44.2**	**+1.0**
CLCH				AML	AML	01 19 55.2	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**1.66**	**32**	*i* P1	**Pn**	**01 19 24.3**	**-2.0**
PEL				*i* S	**Sn**	**01 19 46.6**	**+0.2**
PEL				AML	AML	01 19 57.4	
	comp=E,2μm,0.5s						
CFAA	**Coronel Fontan**	**4.15**	**46**	Pn	**Pn**	**01 20 01.7**	**+1.0**
	comp=E,0.1nm,0.3s,baz=225,slow=10.0,SNR=2.3						
CFAA				Sn	Sn	01 20 58.7	+11
	comp=E,0.5nm,0.3s,baz=90,slow=16,SNR=3.1						
PLCA	**Paso Flores**	**6.24**	**172**	Pn	**Pn**	**01 20 30.6**	**+1.2**
	comp=E,0.6nm,0.3s,baz=336,slow=14,SNR=5.6						
TXAR	**Lajitas Array**	**70.34**	**331**	P	P	01 30 04.8	-5.2
	comp=E,0.2nm,0.4s,baz=148,slow=7.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**84.16**	**70**	P	**P**	**01 31 28.9**	**+1.3**
	comp=E,0.5nm,1.1s,baz=242,slow=3.1,SNR=2.5						

GUC 12 01:21:26.0±0.6, 34°.35S×71°.90W, h14km±26km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.85**	**140**	*i* P	Pg	01 21 42.3	-0.3
NICH				*i* S	Sb	01 21 54.1	+0.2
NICH				AML	AML	01 21 59.9	
	comp=E,14μm,0.6s						
RCDM	**Rinconada Maip**	**1.25**	**47**	*i* P1	Pn	01 21 47.9	-1.3
RCDM				*i* S	Sb	01 22 05.2	-0.3
RCDM				AML	AML	01 22 08.4	
	comp=N,3μm,0.1s						
SAN	**Santiago**	**1.37**	**49**	*i* P	Pn	01 21 50.7	0.0
SAN				*i* S	Sb	01 22 09.3	+0.5
SAN				AML	AML	01 22 15.6	
	comp=E,3μm,0.6s						
STL	**Santa Lucia**	**1.39**	**49**	*i* P	Pn	01 21 50.6	-0.4
STL				*i* S	Sb	01 22 09.7	+0.2
LACH	**Col Las Americ**	**1.45**	**52**	*e*P4	Pn	01 21 52.8	+0.9
LACH				*e*S	Sb	01 22 11.7	+0.4
LACH				AML	AML	01 22 19.4	
	comp=N,2μm,0.5s						
SJCH	**San Jose de Ma**	**1.47**	**62**	*i* S	Sb	01 22 11.9	0.0
SJCH				AML	AML	01 22 18.8	
	comp=N,2μm,0.6s						

*IDC **12** 01:22:42.5±1.4, 35°.03N×3°.23E, h0km, mb3.3/3, mb1 3.3/7, mb1mx3.2/33, mbtmp3.2/7, ML3.2/4, MS2.9/4, Ms1 2.9/4, ms1mx2.5/26, Error ellipse: s-maj=27.9km s-min=22.9km az=147.0*
*CRAAG **12** 01:22:45.3, 34°.94N×3°.29E, Ml4.1*
*MDD **12** 01:22:47.6±1.0, 34°.93N×3°.35E, h0km, mb4.1/14, Error ellipse: s-maj=12.7km s-min=6.2km az=0.0, PRXIMO*
*ISCJB **12** 01:22:48.3±0.7, 35°.18N±0°.04×3°.28E±0°.03, h10km, mb3.3/3, MS2.8/4, Error ellipse: s-maj=6.5km s-min=4.0km az=3.6*
*CSEM **12** 01:22:48.6±0.4, 35°.05N×3°.32E, h10km, ML4.1, Error ellipse: s-maj=10.2km s-min=5.5km az=1.0*
ISC 12 01:22:46.6±1.0, 34°.99N±0°.06×3°.36E±0°.04, h10km, n87, σ1§62/112, mb3.4/3, MS2.9/4, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**1.25**	**345**	P	**Pb**	**01 23 10.0**	**-0.4**
EMHD	**Djebel Mahouad**	**1.25**	**345**	P	**Pb**	**01 23 10.0**	**-0.4**
EMHD	**Djebel Mahouad**	**1.25**	**345**	P	**Pb**	**01 23 10.0**	**-0.4**
ETRT	**Tiaret**	**1.73**	**284**	P	**Pn**	**01 23 15.8**	**-1.1**
ETRT	**Tiaret**	**1.73**	**284**	P	**Pn**	**01 23 15.8**	**-1.1**
ETRT	**Tiaret**	**1.73**	**284**	P	**Pn**	**01 23 15.8**	**-1.1**
ABMS	**Boumerdes**	**1.76**	**3**	P	**Pn**	**01 23 17.2**	**+0.1**
ABMS	**Boumerdes**	**1.76**	**3**	P	**Pn**	**01 23 17.2**	**+0.1**
ABMS	**Boumerdes**	**1.76**	**3**	P	**Pn**	**01 23 17.2**	**+0.1**
ABA	**Alger-Bouzarea**	**1.83**	**352**	P	**Pn**	**01 23 20.2**	**+2.1**
ABA	**Alger-Bouzarea**	**1.83**	**352**	P	**Pn**	**01 23 20.2**	**+2.1**
ABA	**Alger-Bouzarea**	**1.83**	**352**	P	**Pn**	**01 23 20.2**	**+2.1**
EBNR	**Beni Rached**	**1.98**	**312**	P	**Pb**	**01 23 24.5**	**+1.8**
ECHA	**Ech Chlef**	**1.99**	**306**	P	**Pg**	**01 23 25.9**	**+1.0**
CKHR	**Kef el Ahmar**	**2.03**	**59**	P	**Pn**	**01 23 24.2**	**+3.1**
CKHR	**Kef el Ahmar**	**2.03**	**59**	P	**Pn**	**01 23 24.2**	**+3.1**
CKHR	**Kef el Ahmar**	**2.03**	**59**	P	**Pn**	**01 23 24.2**	**+3.1**
EANR	**'Ain N'Sour**	**2.08**	**298**	P	**Pn**	**01 23 21.9**	**+0.3**
EANR	**'Ain N'Sour**	**2.08**	**298**	P	**Pn**	**01 23 21.9**	**+0.3**
EANR	**'Ain N'Sour**	**2.08**	**298**	P	**Pn**	**01 23 21.9**	**+0.3**
OJGS	**Djebel Guires**	**2.20**	**284**	P	**Pn**	**01 23 25.0**	**+1.7**
OJGS	**Djebel Guires**	**2.20**	**284**	P	**Pn**	**01 23 25.0**	**+1.7**
OJGS	**Djebel Guires**	**2.20**	**284**	P	**Pn**	**01 23 25.0**	**+1.7**
OKGL	**Djebel Kef Gue**	**2.45**	**296**	P	**Pn**	**01 23 26.9**	**+0.2**
	9.2nm,0.3s,SNR=7.9						
OKGL				S	**Sn**	**01 23 59.2**	**+2.4**
	146nm,0.3s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.45**	**296**	P	**Pn**	**01 23 26.9**	**+0.2**
	9.2nm,0.3s,SNR=7.9						
OKGL				S	**Sn**	**01 23 59.2**	**+2.4**
	146nm,0.3s,SNR=7.9						
DFRA	**Djebel Bou Aff**	**2.57**	**52**	P	**Pn**	**01 23 28.2**	**-0.2**
DFRA	**Djebel Bou Aff**	**2.57**	**52**	P	**Pn**	**01 23 28.2**	**-0.2**
DFRA	**Djebel Bou Aff**	**2.57**	**52**	P	**Pn**	**01 23 28.2**	**-0.2**
CTEI	**Djebel Teioual**	**2.71**	**66**	P	**Pn**	**01 23 32.5**	**+2.2**
CTEI	**Djebel Teioual**	**2.71**	**66**	P	**Pn**	**01 23 32.5**	**+2.2**
CTEI	**Djebel Teioual**	**2.71**	**66**	P	**Pn**	**01 23 32.5**	**+2.2**
CASM	**Ain Smara**	**2.85**	**63**	P	**Pn**	**01 23 34.3**	**+2.1**
CASM	**Ain Smara**	**2.85**	**63**	P	**Pn**	**01 23 34.3**	**+2.1**
CASM	**Ain Smara**	**2.85**	**63**	P	**Pn**	**01 23 34.3**	**+2.1**
ODJA	**Bouhanifia**	**2.90**	**278**	P	Pn	01 23 23.0	-10
CKFL	**Kef-Lekhel**	**3.08**	**62**	P	**Pn**	**01 23 35.4**	**0.0**
CKFL	**Kef-Lekhel**	**3.08**	**62**	P	**Pn**	**01 23 35.4**	**0.0**
CKFL	**Kef-Lekhel**	**3.08**	**62**	P	**Pn**	**01 23 35.4**	**0.0**
EIBI	**Ibiza**	**4.34**	**339**	P	**Pn**	**01 23 54.0**	**+1.4**
	4.5nm,0.3s,SNR=7.5						
EIBI				S	**Sn**	**01 24 44.2**	**+0.9**
	5.1nm,0.3s						
EIBI	**Ibiza**	**4.34**	**339**	P	**Pn**	**01 23 54.0**	**+1.4**
	4.5nm,0.3s,SNR=7.5						
EIBI				S	**Sn**	**01 24 44.2**	**+0.9**
	5.1nm,0.3s						
EMUR	**La Murta**	**4.67**	**309**	P	**Pn**	**01 23 58.5**	**+1.2**
	4.8nm,0.4s,SNR=7.9						
EMUR				S	**Sn**	**01 24 51.2**	**-0.4**
	3.3nm,0.3s,SNR=5.2						
EMUR	**La Murta**	**4.67**	**309**	P	**Pn**	**01 23 58.5**	**+1.2**
	4.8nm,0.4s,SNR=7.9						
EMUR				S	**Sn**	**01 24 51.2**	**-0.4**
	3.3nm,0.3s,SNR=5.2						
EBEN	**Beniarda**	**4.69**	**323**	P	**Pn**	**01 23 58.8**	**+1.3**
	1.8nm,0.4s,SNR=7.9						
EBEN				S	**Sn**	**01 24 51.1**	**-0.9**
	3.4nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**4.69**	**323**	P	**Pn**	**01 23 58.8**	**+1.3**
	1.8nm,0.4s,SNR=7.9						
EBEN				S	**Sn**	**01 24 51.1**	**-0.9**
	3.4nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**4.79**	**355**	P	**Pn**	**01 23 59.5**	**+0.7**
	3.3nm,0.3s,SNR=7.5						
ETOS				S	**Sn**	**01 24 54.2**	**-0.2**
	1.8nm,0.4s,SNR=5.2						
ETOS	**Mallorca**	**4.79**	**355**	P	**Pn**	**01 23 59.5**	**+0.7**
	3.3nm,0.3s,SNR=7.5						
ETOS				S	**Sn**	**01 24 54.2**	**-0.2**
	1.8nm,0.4s,SNR=5.2						
ENIJ	**Nijar**	**4.93**	**295**	S	**Sn**	**01 24 58.0**	**+0.1**
	11nm,0.6s,SNR=7.9						
ENIJ	**Nijar**	**4.93**	**295**	S	**Sn**	**01 24 58.0**	**+0.1**
	11nm,0.6s,SNR=7.9						
KEST	**Kesra**	**4.95**	**80**	Pn	**Pn**	**01 24 00.7**	**-0.4**
	0.4nm,0.3s,baz=256,slow=8.3,SNR=28						
ETOB	**Tobarra**	**5.37**	**314**	P	**Pn**	**01 24 08.8**	**+2.0**
	2.1nm,0.4s,SNR=9.0						
ETOB				S	**Sn**	**01 25 08.4**	**-0.3**
	15nm,0.6s,SNR=4.7						
ETOB	**Tobarra**	**5.37**	**314**	P	**Pn**	**01 24 08.8**	**+2.0**
	2.1nm,0.4s,SNR=9.0						
ETOB				S	**Sn**	**01 25 08.4**	**-0.3**
	15nm,0.6s,SNR=4.7						
EBER	**Berja**	**5.42**	**292**	P	**Pn**	**01 24 09.5**	**+1.9**
	1.2nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**01 25 10.0**	**-0.1**
	0.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**5.42**	**292**	P	**Pn**	**01 24 09.5**	**+1.9**
	1.2nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**01 25 10.0**	**-0.1**
	0.4nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.57**	**302**	P	**Pn**	**01 24 12.1**	**+2.5**
	0.8nm,0.4s,SNR=7.9						
EHUE				S	**Sn**	**01 25 13.1**	**-0.6**
	0.5nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**5.57**	**302**	P	**Pn**	**01 24 12.1**	**+2.5**
	0.8nm,0.4s,SNR=7.9						
EHUE				S	**Sn**	**01 25 13.1**	**-0.6**
	0.5nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**5.69**	**305**	P	**Pn**	**01 24 13.0**	**+1.7**
	2.2nm,0.3s,SNR=7.9						
SESP				S	**Sn**	**01 25 17.2**	**+0.5**
	8.0nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**5.69**	**305**	P	**Pn**	**01 24 13.0**	**+1.7**
	2.2nm,0.3s,SNR=7.9						
SESP				S	**Sn**	**01 25 17.2**	**+0.5**
	8.0nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.90**	**300**	P	**Pn**	**01 24 15.5**	**+1.4**
	1.7nm,0.3s,SNR=9.6						
EQES				S	**Sn**	**01 25 21.6**	**-0.3**
	2.1nm,0.3s						
EQES	**Quesada**	**5.90**	**300**	P	**Pn**	**01 24 15.5**	**+1.4**
	1.7nm,0.3s,SNR=9.6						
EQES				S	**Sn**	**01 25 21.6**	**-0.3**
	2.1nm,0.3s						
EVIA	**Vianos**	**5.95**	**309**	S	**Sn**	**01 25 24.0**	**+0.9**
	7.0nm,0.4s,SNR=7.0						
EVIA	**Vianos**	**5.95**	**309**	S	**Sn**	**01 25 24.0**	**+0.9**
	7.0nm,0.4s,SNR=7.0						
EMOS	**Mosqueruela**	**6.16**	**332**	P	**Pn**	**01 24 18.8**	**+0.9**
	4.4nm,0.5s,SNR=15						
EMOS				S	**Sn**	**01 25 27.1**	**-1.4**
	1.8nm,0.4s						
EMOS	**Mosqueruela**	**6.16**	**332**	P	**Pn**	**01 24 18.8**	**+0.9**
	4.4nm,0.5s,SNR=15						
EMOS				S	**Sn**	**01 25 27.1**	**-1.4**
	1.8nm,0.4s						
CFON	**Fontmartina**	**6.80**	**354**	P	**Pn**	**01 24 28.5**	**+2.0**
	0.7nm,0.2s,SNR=7.9						
CFON				S	**Sn**	**01 25 42.0**	**-2.0**
	1.9nm,0.2s,SNR=4.0						
CFON	**Fontmartina**	**6.80**	**354**	P	**Pn**	**01 24 28.5**	**+2.0**
	0.7nm,0.2s,SNR=7.9						
CFON				S	**Sn**	**01 25 42.0**	**-2.0**
	1.9nm,0.2s,SNR=4.0						
MDT	**Midelt**	**6.97**	**254**	Pn	Pn	01 24 24.9	-4.1
	0.2nm,0.3s,baz=243,slow=6.2,SNR=2.7						
EMIR	**Miracle**	**7.06**	**349**	P	**Pn**	**01 24 32.6**	**+2.5**
	8.9nm,0.4s,SNR=12						
EMIR				S	**Sn**	**01 25 49.5**	**-0.9**
	1.0nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**7.06**	**349**	P	**Pn**	**01 24 32.6**	**+2.5**
	8.9nm,0.4s,SNR=12						
EMIR				S	**Sn**	**01 25 49.5**	**-0.9**
	1.0nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**7.46**	**357**	P	**Pn**	**01 24 37.9**	**+2.4**
	1.9nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**7.46**	**357**	P	**Pn**	**01 24 37.9**	**+2.4**
	1.9nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**7.47**	**311**	P	**Pn**	**01 24 38.5**	**+2.7**
	0.5nm,0.5s,baz=126,slow=13,SNR=5.2						
ESDC				S	**Sn**	**01 26 00.0**	**-0.6**
	0.4nm,0.3s,baz=123,slow=24,SNR=6.8						
ESDC	**Sonseca Array**	**7.47**	**311**	Pn	Pn	01 24 31.3	-4.5
	0.1nm,0.3s,baz=128,slow=13,SNR=2.6						
ESDC				Sn	**Sn**	**01 25 58.2**	**-2.4**
	0.7nm,0.3s,baz=124,slow=24,SNR=6.6						
ESDC	**Sonseca Array**	**7.47**	**311**	P	**Pn**	**01 24 38.5**	**+2.7**
	0.5nm,0.5s,SNR=5.2						
ESDC				S	**Sn**	**01 26 00.0**	**-0.6**
	0.4nm,0.3s,SNR=6.8						
SJAF	**Saint Jean de**	**7.49**	**357**	P	**Pn**	**01 24 38.4**	**+2.4**
	5.0nm,0.4s,SNR=7.9						
SJAF	**Saint Jean de**	**7.49**	**357**	P	**Pn**	**01 24 38.4**	**+2.4**
	5.0nm,0.4s,SNR=7.9						
CLLI	**Llivia**	**7.55**	**352**	P	**Pn**	**01 24 39.9**	**+3.0**
	0.5nm,0.3s,SNR=7.9						
CLLI				S	**Sn**	**01 26 01.9**	**-0.8**
	0.1nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**7.55**	**352**	P	**Pn**	**01 24 39.9**	**+3.0**
	0.5nm,0.3s,SNR=7.9						
CLLI				S	**Sn**	**01 26 01.9**	**-

MAZI	**Mazidag**	**1.27**	**166**	*e*Pn	**Pg**	**01 35 38.0**	**0.0**
MALT	**Malatya**	**1.33**	**254**	*e*PN	**Pg**	**01 35 39.6**	**+0.4**
MALT	**Malatya**	**1.33**	**254**	*e*Pn	**Pg**	**01 35 39.6**	**+0.4**
KEMA	**Kemaliye**	**1.34**	**296**	*i* P	**Pn**	**01 35 37.6**	**-0.2**
KEMA				*i* S	**Sg**	**01 35 59.2**	**+2.2**
KEMA	**Kemaliye**	**1.34**	**296**	*i* P	**Pn**	**01 35 37.6**	**-0.2**
KEMA				*i* S	**Sg**	**01 35 59.2**	**+2.2**
KOPT	**Kop Dagi**	**1.37**	**15**	*i* P	**Pb**	**01 35 39.0**	**-0.1**
KOPT				*i* S	**Sg**	**01 36 01.1**	**+3.1**
KOPT	**Kop Dagi**	**1.37**	**15**	*i* P	**Pb**	**01 35 39.0**	**-0.1**
KOPT				*i* S	**Sg**	**01 36 01.1**	**+3.1**
ILIC	**ilic-Erzincan**	**1.38**	**304**	*e*PN	**Pg**	**01 35 40.3**	**+0.1**
ILIC	**ilic-Erzincan**	**1.38**	**304**	*e*Pn	**Pg**	**01 35 40.3**	**+0.1**
MARD	**Mardin**	**1.49**	**157**	*i* P	**Pb**	**01 35 41.3**	**+0.4**
MARD				*i* S	**Sb**	**01 36 00.0**	**+0.3**
URFA	**Urfa**	**1.58**	**218**	*e*PN	**Pg**	**01 35 43.3**	**-0.6**
URFA	**Urfa**	**1.58**	**218**	*e*Pn	**Pg**	**01 35 43.3**	**-0.6**
KELT	**Kelkit**	**1.58**	**337**	*i* P	**Pb**	**01 35 42.9**	**+0.3**
KELT				*i* S	**Sb**	**01 36 03.1**	**+0.7**
KELT	**Kelkit**	**1.58**	**337**	*i* P	**Pb**	**01 35 42.9**	**+0.3**
KELT				*i* S	**Sb**	**01 36 03.1**	**+0.7**
EZM	**Erzurum**	**1.58**	**40**	*e*PN	**Pb**	**01 35 42.6**	**0.0**
ERZM	**Erzurum**	**1.59**	**40**	*i* P	**Pb**	**01 35 42.7**	**0.0**
ERZM	**Erzurum**	**1.59**	**40**	*i* P	**Pb**	**01 35 42.7**	**0.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.70**	**2**	*e*PN	**Pb**	**01 35 44.6**	**-0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.70**	**2**	*e*Pn	**Pb**	**01 35 44.6**	**-0.1**
KBSD	**Kabsdagh**	**1.73**	**167**	*e*P	**Pb**	**01 35 44.9**	**-0.1**
	SNR=45						
KBSD				*e*S	**Sb**	**01 36 08.0**	**+1.5**
	2µm,0.6s,SNR=40						
KBSD	**Kabsdagh**	**1.73**	**167**	*e*P	**Pb**	**01 35 44.9**	**-0.1**
KBSD				*e*S	**Sb**	**01 36 08.0**	**+1.5**
KBSD				AML	AML	01 36 18.4	
	comp=Z,2µm,0.6s						
TATV	**Tatvan**	**1.75**	**95**	*i* P	**Pb**	**01 35 45.7**	**+0.3**
TATV				*i* S	**Sg**	**01 36 09.3**	**-0.6**
TATV	**Tatvan**	**1.75**	**95**	*i* P	**Pb**	**01 35 45.7**	**+0.3**
TATV				*i* S	**Sg**	**01 36 09.3**	**-0.6**
GUMT	**Gumushane**	**1.82**	**346**	*e*PN	**Pb**	**01 35 46.1**	**-0.6**
GUMT	**Gumushane**	**1.82**	**346**	*e*Pn	**Pb**	**01 35 46.1**	**-0.6**
ATAB	**Bozova**	**1.84**	**229**	*i* P	**Pb**	**01 35 46.9**	**-0.1**
ATAB				*i* S	**Sg**	**01 36 13.3**	**+0.3**
ATAB	**Bozova**	**1.84**	**229**	*i* P	**Pb**	**01 35 46.9**	**-0.1**
ATAB				*i* S	**Sg**	**01 36 13.3**	**+0.3**
DARE	**Darende-Malaty**	**2.01**	**267**	*e*PN	**Pb**	**01 35 50.1**	**+0.3**
DARE	**Darende-Malaty**	**2.01**	**267**	*e*Pn	**Pb**	**01 35 50.2**	**+0.3**
SUSE	**Susehri**	**2.08**	**317**	*i* P	**Pb**	**01 35 51.5**	**+0.4**
SUSE				*i* S	**Sg**	**01 36 20.8**	**+0.1**
SUSE	**Susehri**	**2.08**	**317**	*i* P	**Pb**	**01 35 51.5**	**+0.4**
SUSE				*i* S	**Sg**	**01 36 20.8**	**+0.1**
SIRN	**S¨–rnak**	**2.21**	**122**	*i* P	**Pn**	**01 35 51.1**	**+1.3**
SIRN				*i* S	**Sb**	**01 36 19.5**	**-1.0**
SIRN	**S¨–rnak**	**2.21**	**122**	*i* P	**Pn**	**01 35 51.1**	**+1.3**
SIRN				*i* S	**Sb**	**01 36 19.5**	**-1.0**
EATA	**Eleskirt**	**2.23**	**58**	*i* P	**Pb**	**01 35 54.0**	**+0.3**
EATA	**Eleskirt**	**2.23**	**58**	*i* P	**Pb**	**01 35 54.0**	**+0.3**
SIRT	**Sirnak**	**2.23**	**121**	*e*PN	**Pb**	**01 35 52.2**	**-1.3**
SIRT	**Sirnak**	**2.23**	**121**	*e*Pn	**Pb**	**01 35 52.2**	**-1.3**
MACK	**Trabzon**	**2.26**	**355**	*i* P	**Pg**	**01 35 55.9**	**-1.1**
MACK	**Trabzon**	**2.26**	**355**	*i* P	**Pg**	**01 35 55.9**	**-1.1**
MACK				*i* S	**Sg**	**01 36 27.8**	**+1.5**
SFNV	**Sufian**	**2.27**	**179**	*e*P	**Pb**	**01 35 54.2**	**0.0**
	SNR=45						
SFNV				*e*S	**Sb**	**01 36 23.6**	**+1.6**
	comp=Z,2µm,0.5s,SNR=40						
SFNV	**Sufian**	**2.27**	**179**	*e*P	**Pb**	**01 35 54.2**	**0.0**
SFNV				*e*S	**Sb**	**01 36 23.6**	**+1.6**
SFNV				AML	AML	01 36 36.4	
	comp=Z,2µm,0.5s						
KTUT	**Trabzon**	**2.31**	**355**	*e*PN	**Pb**	**01 35 53.0**	**-1.8**
KTUT	**Trabzon**	**2.31**	**355**	*e*Pn	**Pb**	**01 35 53.0**	**-1.8**
GZT	**Gaziantep**	**2.37**	**237**	*i* P	**Pb**	**01 35 54.1**	**-1.9**
GEVA	**Gevas**	**2.39**	**98**	*i* P	**Pb**	**01 35 54.6**	**-1.8**
GEVA	**Gevas**	**2.39**	**98**	*i* P	**Pb**	**01 35 54.6**	**-1.8**
GEVA				*i* S	**Sg**	**01 36 29.5**	**-1.0**
ESPY	**Espiye-Giresun**	**2.45**	**336**	*e*PN	**Pb**	**01 35 55.6**	**-1.6**
ESPY	**Espiye-Giresun**	**2.45**	**336**	*e*Pn	**Pb**	**01 35 55.6**	**-1.6**
AGRB	**Hanur-Agry**	**2.45**	**68**	*e*PN	**Pn**	**01 35 54.1**	**+1.0**
AGRB	**Hanur-Agry**	**2.45**	**68**	*e*Pn	**Pn**	**01 35 54.1**	**+1.0**
DDEM	**Demirkent**	**2.56**	**30**	*i* P	**Pb**	**01 35 56.6**	**-2.6**
DDEM	**Demirkent**	**2.56**	**30**	*i* P	**Pb**	**01 35 56.6**	**-2.6**
VANB	**Van**	**2.62**	**91**	*e*PN	**Pb**	**01 35 57.6**	**-2.5**
VANB	**Van**	**2.62**	**91**	*e*Pn	**Pb**	**01 35 57.7**	**-2.5**
GRSN	**GIRESUNGRSN**	**2.62**	**329**	*e*P	**Pb**	**01 36 00.6**	**+0.4**
GRSN				*i* S	**Sg**	**01 36 35.3**	**-2.5**
GRSN	**GIRESUNGRSN**	**2.62**	**329**	*e*P	**Pb**	**01 36 00.6**	**+0.4**
GRSN				*i* S	**Sg**	**01 36 35.3**	**-2.5**
TVAN	**Van**	**2.63**	**92**	*i* P	**Pb**	**01 36 01.0**	**+0.5**
TVAN	**Van**	**2.63**	**92**	*i* P	**Pb**	**01 36 01.0**	**+0.5**
TVAN				*i* S	**Sg**	**01 36 38.7**	**+0.4**
DBAD	**Bademkaya**	**2.65**	**28**	*i* P	**Pb**	**01 35 58.0**	**-2.7**
DBAD	**Bademkaya**	**2.65**	**28**	*i* P	**Pb**	**01 35 58.0**	**-2.7**
SVSK	**Karacayir**	**2.67**	**298**	*e*PN	**Pb**	**01 35 59.1**	**-1.8**
SVSK	**Karacayir**	**2.67**	**298**	*e*Pn	**Pb**	**01 35 59.1**	**-1.8**
RSDY	**Resadiye-TOKAT**	**2.71**	**310**	*e*PN	**Pb**	**01 35 59.5**	**-2.2**
RSDY	**Resadiye-TOKAT**	**2.71**	**310**	*e*Pn	**Pb**	**01 35 59.5**	**-2.2**
KMRS	**Kahramanmaras**	**2.75**	**246**	*e*PN	**Pb**	**01 36 00.7**	**-1.7**
KMRS	**Kahramanmaras**	**2.75**	**246**	*e*Pn	**Pb**	**01 36 00.7**	**-1.7**
DAGI	**Agillar**	**2.78**	**30**	*i* P	**Pn**	**01 35 59.3**	**+1.7**
MNKR	**ALMNKUR**	**2.81**	**193**	*e*P	**Pb**	**01 36 02.6**	**-0.8**
	SNR=45						
MNKR	**ALMNKUR**	**2.81**	**193**	*e*P	**Pb**	**01 36 02.6**	**-0.8**
MNKR				*e*S	**Sg**	**01 36 41.3**	**-2.7**
MNKR				AML	AML	01 36 46.4	
	comp=Z,3µm,0.5s						
ARTV	**Artvin**	**2.88**	**30**	*i* P	**Pn**	**01 36 01.5**	**+2.4**
ARTV	**Artvin**	**2.88**	**30**	*i* P	**Pn**	**01 36 01.5**	**+2.4**
MZRK	**Al-Mazaregh**	**2.90**	**170**	*e*P	**Pn**	**01 36 00.5**	**+1.4**
	SNR=45						
MZRK				*e*S	**Sb**	**01 36 37.5**	**-2.6**
	comp=Z,350nm,0.4s,SNR=40						
MZRK	**Al-Mazaregh**	**2.90**	**170**	*e*P	**Pn**	**01 36 00.5**	**+1.4**
MZRK				*e*S	**Sb**	**01 36 37.5**	**-2.6**
MZRK				AML	AML	01 36 47.8	
	comp=Z,350nm,0.4s						
DBOC	**Borcka**	**2.93**	**25**	*i* P	**Pn**	**01 36 01.1**	**+1.6**
DBOC	**Borcka**	**2.93**	**25**	*i* P	**Pn**	**01 36 01.1**	**+1.6**
BCA	**Borcka**	**3.00**	**23**	*e*PN	**Pn**	**01 36 02.7**	**+2.1**
BCA	**Borcka**	**3.00**	**23**	*e*Pn	**Pn**	**01 36 02.7**	**+2.1**
KARS	**Kars**	**3.04**	**49**	*e*PN	**Pn**	**01 36 03.4**	**+2.3**
KARS	**Kars**	**3.04**	**49**	*e*Pn	**Pn**	**01 36 03.4**	**+2.3**
KUZU	**Kuzuini**	**3.04**	**232**	*i* P	**Pn**	**01 36 03.0**	**+2.0**
KUZU	**Kuzuini**	**3.04**	**232**	*i* P	**Pn**	**01 36 03.0**	**+2.0**
CLDR	**Caldiran**	**3.05**	**80**	*e*PN	**Pn**	**01 36 03.3**	**+1.9**
CLDR	**Caldiran**	**3.05**	**80**	*e*Pn	**Pn**	**01 36 03.3**	**+1.9**
DIGO	**Kars**	**3.09**	**55**	*i* P	Pn	01 36 04.8	+2.8
DIGO	**Kars**	**3.09**	**55**	*i* P	Pn	01 36 04.8	+2.8
HAKT	**HAKKARI**	**3.10**	**110**	*i* P	**Pn**	**01 36 04.1**	**+2.0**
HAKT	**HAKKARI**	**3.10**	**110**	*i* P	**Pn**	**01 36 04.1**	**+2.0**
HKR	**Hakkari**	**3.12**	**110**	*e*PN	**Pn**	**01 36 05.2**	**+3.0**
HKR	**Hakkari**	**3.12**	**110**	*e*Pn	**Pn**	**01 36 05.2**	**+3.0**
ANDN	**Andirin**	**3.12**	**250**	*i* P	**Pb**	**01 36 06.7**	**-2.1**
ANDN	**Andirin**	**3.12**	**250**	*i* P	**Pb**	**01 36 06.7**	**-2.1**
CUKT	**Cukurca**	**3.16**	**116**	*e*PN	**Pn**	**01 36 05.2**	**+2.4**
CUKT	**Cukurca**	**3.16**	**116**	*e*Pn	**Pn**	**01 36 05.2**	**+2.4**
BNN	**Bunyan**	**3.29**	**274**	*e*PN	Pn	01 36 07.5	+2.9
BNN	**Bunyan**	**3.29**	**274**	*e*Pn	Pn	01 36 07.5	+2.9
EAK	**Akyaka**	**3.39**	**53**	*i* P	**Pb**	**01 36 15.3**	**+1.9**
KOZT	**Kozan**	**3.54**	**251**	*e*PN	Pn	01 36 11.3	+3.4
KOZT	**Kozan**	**3.54**	**251**	*e*Pn	Pn	01 36 11.3	+3.4
KVT	**Kavak**	**3.90**	**309**	*e*PN	Pb	01 36 17.1	-4.9
KVT	**Kavak**	**3.90**	**309**	*e*Pn	Pb	01 36 17.1	-4.9
GNI	**Garni**	**3.92**	**67**	*e*PN	**Pn**	**01 36 15.9**	**+2.7**
GNI	**Garni**	**3.92**	**67**	*e*Pn	**Pn**	**01 36 15.9**	**+2.7**
ONI	**Oni**	**4.68**	**33**	P	Pn	01 36 27.7	+4.1
ONI	**Oni**	**4.68**	**33**	P	Pn	01 36 27.7	+4.1
DGRG	**David-gareji**	**4.93**	**54**	P	Pn	01 36 30.8	+3.8
DGRG	**David-gareji**	**4.93**	**54**	P	Pn	01 36 30.8	+3.8
GUDG	**Gudauri**	**5.06**	**40**	P	Pn	01 36 32.6	+3.6
GUDG	**Gudauri**	**5.06**	**40**	P	Pn	01 36 32.6	+3.6
BRTR	**Keskin Array B**	**5.08**	**284**	Pn	Pn	01 36 32.3	+3.0
	comp=Z,1.0nm,0.3s,baz=99,slow=15,SNR=31						
BRTR				Lg	Lg	01 37 56.0	
	comp=Z,0.4nm,0.3s,baz=96,slow=15,SNR=3.8						
KBZ	**Khabaz**	**5.47**	**22**	Pn	**Pn**	**01 36 33.6**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=206,slow=18,SNR=2.5						
MMAI	**Mount Meron Ar**	**6.80**	**215**	Pn	Pn	01 36 56.1	+3.3
	comp=Z,1.8nm,0.3s,baz=65,slow=14,SNR=7.0						
MMAI				Lg	Lg	01 38 56.1	
	comp=Z,3.2nm,0.3s,baz=25,slow=31,SNR=4.9						
ASF	**Jabal al Asfar**	**6.99**	**203**	Pn	Pn	01 36 58.8	+3.4
	comp=Z,0.2nm,0.3s,baz=342,slow=19,SNR=4.8						
ASF				Lg	Lg	01 38 57.3	
	comp=Z,1.4nm,0.3s,baz=215,slow=22,SNR=3.0						
EIL	**Elat**	**9.94**	**207**	Lg	Lg	01 40 34.3	
	comp=Z,0.2nm,0.3s,baz=39,slow=14,SNR=3.2						
EIL				LR	LR	01 41 55.6	
	comp=Z,25nm,19.6s,baz=83,slow=40						
FINES	**FINESS Array B**	**24.37**	**344**	P	**P**	**01 40 30.5**	**-0.2**
	comp=Z,1.7nm,1.0s,baz=165,slow=12,SNR=2.2						

ISCJB ***12*** *01:41:26.0±1.3, 34°.60S±0°.04×72°.07W±0°.07, h18km±9km, mb4.1/10, MS3.3/1, Error ellipse: s-maj=9.8km s-min=6.6km az=18.7*

IDC ***12*** *01:41:26.0±1.4, 34°.52S×71°.72W, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.9/17, mbtmp3.8/6, ML3.8/2, MS2.8/2, Ms1 2.8/2, ms1mx2.6/25, Error ellipse: s-maj=40.8km s-min=25.3km az=83.0*

NEIC ***12*** *01:41:27.5, 34°.60S×71°.94W, h11km, mb4.4/7, ML4.1(GUC), After GUC.*

GUC ***12*** *01:41:27.5±0.6, 34°.60S×71°.94W, h11km±11km, ML4.1*

ISC 12 01:41:27.8±1.8, 34°.58S±0°.04×71°.89W±0°.08, h17km±11km, n43, ∘0º70/51, mb4.3/10, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.69**	**128**	*i* P	**Pg**	**01 41 40.9**	**-0.5**
NICH				*i* S	**Sb**	**01 41 51.6**	**+0.9**
NICH	**Los Niches**	**0.69**	**128**	*e*P	**Pg**	**01 41 40.9**	**-0.5**
NICH				*e*S	**Sb**	**01 41 51.6**	**+0.9**
LNV	**Longovilo**	**0.73**	**33**	*i* P	**Pg**	**01 41 42.0**	**-0.2**
LNV	**Longovilo**	**0.73**	**33**	⇓*i*P	**Pg**	**01 41 42.0**	**-0.2**
RCDM	**Rinconada Maip**	**1.41**	**40**	*e*P	**Pn**	**01 41 52.7**	**-0.1**
RCDM				AML	AML	01 42 15.6	
	comp=E,3µm,0.8s						
RCDM	**Rinconada Maip**	**1.41**	**40**	*e*P	**Pn**	**01 41 52.7**	**-0.1**
ANTU	**Antumapu**	**1.45**	**46**	*i* P	**Pn**	**01 41 53.7**	**+0.4**
ANTU				*i* S	**Sb**	**01 42 13.4**	**+0.9**
ANTU				AML	AML	01 42 19.8	
	comp=N,5µm,0.4s						
ANTU	**Antumapu**	**1.45**	**46**	*e*P	**Pn**	**01 41 53.9**	**+0.5**
ANTU				*i* S	**Sb**	**01 42 13.4**	**+0.9**
IHA	**Instituto Hidr**	**1.56**	**8**	*e*P1	**Pn**	**01 41 54.8**	**-0.1**
IHA	**Instituto Hidr**	**1.56**	**8**	*e*P	**Pn**	**01 41 54.8**	**-0.1**
SJCH	**San Jose de Ma**	**1.58**	**54**	*i* P	**Pn**	**01 41 55.8**	**+0.6**
SJCH				*i* S4	**Sb**	**01 42 16.9**	**+0.5**
SJCH	**San Jose de Ma**	**1.58**	**54**	*e*P	**Pn**	**01 41 55.8**	**+0.6**
SJCH				S	**Sb**	**01 42 16.9**	**+0.5**
CLCH	**Cerro Calan**	**1.63**	**44**	*e*P	**Pn**	**01 41 56.7**	**+0.9**
CLCH				*e*S	**Sb**	**01 42 18.2**	**+0.4**
CLCH				AML	AML	01 42 22.5	
	comp=E,4µm,0.4s						
PEL	**Peldehue**	**1.75**	**35**	*i* P	**Pn**	**01 41 58.5**	**+1.1**
PEL				*i* S	**Sb**	**01 42 22.1**	**+1.0**
PEL				AML	AML	01 42 28.5	
	comp=N,6µm,0.5s						
PEL	**Peldehue**	**1.75**	**35**	⇑*i*P	**Pn**	**01 41 58.5**	**+1.1**
PEL				*i* S	**Sb**	**01 42 22.1**	**+1.0**
CFAA	**Coronel Fontan**	**4.26**	**47**	Pn	**Pn**	**01 42 31.4**	**-0.7**
	comp=N,0.1nm,0.3s,baz=227,slow=12,SNR=2.1						
CFAA				Lg	Lg	01 43 31.2	
	comp=N,0.8nm,0.3s,baz=236,slow=23,SNR=3.6						
CFAA				LR	LR	01 44 24.9	
	comp=N,27nm,19.8s,baz=206,slow=44						
LCO	**Las Campanas**	**5.64**	**11**	*e*Pn	**Pn**	**01 42 51.0**	**-0.2**
	comp=N,14nm,0.6s						
LCO				*e*Sn	**Sn**	**01 43 55.7**	**-0.1**
PLCA	**Paso Flores**	**6.24**	**171**	Pn	**Pn**	**01 43 00.5**	**+1.3**
	comp=N,1.0nm,0.3s,baz=349,slow=14,SNR=11						
PLCA				Lg	Lg	01 44 38.5	
	comp=N,0.5nm,0.3s,baz=255,slow=16,SNR=5.7						
TRQA	**Tornquist**	**8.72**	**116**	*e*Pn	**Pn**	**01 43 33.2**	**0.0**
LVC	**Limon Verde**	**12.20**	**13**	*e*Pn	**Pn**	**01 44 22.0**	**+0.8**
LPAZ	**La Paz**	**18.52**	**11**	P	**P**	**01 45 43.4**	**-0.8**
	comp=N,0.1nm,0.3s,baz=194,slow=12,SNR=5.6						
LPAZ	**La Paz**	**18.52**	**11**	P	**P**	**01 45 43.4**	**-0.8**
LPAZ				*e*Pn	**Pn**	**01 45 44.6**	**+0.2**
SIV	**San Ignacio**	**20.90**	**30**	P	**P**	**01 46 08.8**	**-0.8**
	comp=N,2.4nm,0.8s,baz=215,slow=8.3,SNR=4.1						
SAML	**Samuel**	**26.73**	**19**	*e*P	**P**	**01 47 05.8**	**-0.8**
	comp=N,4.2nm,1.1s						
PTGA	**Pitinga**	**35.47**	**21**	LR	LR	02 04 22.3	
	comp=N,58nm,21.8s,baz=146,slow=39						
GRGR	**Grenville**	**47.46**	**14**	*e*P	**P**	**01 50 01.4**	**-0.5**
SNAA	**Sanae**	**51.01**	**158**	*e*P	**P**	**01 50 27.6**	**-0.9**
	comp=N,9.8nm,1.4s						
CBYP	**Canovanas**	**52.87**	**7**	*e*P	**P**	**01 50 43.3**	**+0.4**
SDDR	**Presa de Saban**	**53.27**	**1**	*e*P	**P**	**01 50 46.4**	**+0.6**
TXAR	**Lajitas Array**	**70.30**	**331**	P	**P**	**01 52 41.6**	**+1.1**
	comp=N,0.4nm,0.5s,baz=155,slow=8.7,SNR=7.5						
SWET	**Sewanee**	**70.66**	**348**	*e*P	**P**	**01 52 42.4**	**-0.1**
	comp=N,1.9nm,0.6s						
ABTX	**Abilene, Hawle**	**71.75**	**336**	*e*P	**P**	**01 52 48.8**	**-0.4**
	comp=N,3.4nm,0.7s						
WVT	**Waverly**	**71.90**	**346**	*e*P	**P**	**01 52 49.8**	**-0.1**
	comp=N,1.7nm,0.4s						
WMOK	**Wichita Mounta**	**73.41**	**337**	*e*P	**P**	**01 52 59.1**	**+0.1**
	comp=N,3.6nm,1.2s						
BOSA	**Boshof**	**79.69**	**118**	P	**P**	**01 53 35.5**	**+0.5**
	comp=N,1.5nm,0.9s,baz=250,slow=6.0,SNR=3.3						
DUG	**Dugway, Tooele**	**83.43**	**330**	*e*P	**P**	**01 53 55.2**	**+0.9**
	comp=N,1.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**84.29**	**70**	P	**P**	**01 53 58.7**	**-0.4**
	comp=N,1.1nm,0.8s,baz=245,slow=4.5,SNR=6.4						
H11S2	**WAKE ISLAND Hyl**	**25.89**	**269**	T	T	04 18 49.2	
	baz=115						
H11S1	**WAKE ISLAND Hyl**	**25.90**	**269**	T	T	04 18 49.8	
	baz=115						
H11S3	**WAKE ISLAND Hyl**	**25.90**	**269**	T	T	04 18 50.5	
	baz=115						
KULM	**Kulim**	**150.05**	**165**	*e*PKPbc	**PKPbc**	**02 01 17.5**	**-0.7**
AAK	**Ala-Archa**	**152.66**	**63**	*e*PKPdf	**PKPdf**	**02 01 15.5**	**-1.1**
AAK				*e*PKPbc	**PKPbc**	**02 01 22.9**	**-0.8**
TKM2	**Tokmak 2**	**153.44**	**62**	*e*PKPdf	**PKPdf**	**02 01 17.1**	**-0.7**

SKHL 12 01:44:29.3±0.4, 52°.55N×132°.49E, h10km±1km, mb3.8/4, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	**Ekimchan**	**0.59**	**28**	⇓*i*Pg	Pg	01 44 39.3	-1.6
EKMR				AMB	AMB	01 44 39.5	
	112nm,0.3s						
EKMR				pPg	Pb	01 44 41.9	+0.1
EKMR				*e*Sg	Sg	01 44 46.7	-2.0
EKMR				A	A	01 44 47.8	
	510nm,0.3s						
EKMR				A	A	01 44 47.8	
	440nm,0.3s						
EKMR				A	A	01 44 47.8	
	560nm,0.3s						
GRNR	**Gornyy**	**3.03**	**125**	*e*Pg	Pb	01 45 23.8	+0.5
GRNR				*e*Sg	Sb	01 46 02.6	+2.2
GRNR				A	A	01 46 03.2	
	40nm,0.3s						
GRNR				A	A	01 46 03.2	
	52nm,0.3s						
BMKR	**Bomnak**	**3.07**	**316**	*e*Pn	Pn	01 45 18.0	+0.2
BMKR				*e*Pg	Pb	01 45 24.5	+0.6
BMKR				AMB	AMB	01 45 26.2	
	15nm,0.4s						
BMKR				AMB	AMB	01 45 26.2	
	11nm,0.4s						
BMKR				AMB	AMB	01 45 26.2	
	28nm,0.4s						
BMKR				*e*Sn	Sn	01 45 54.9	+0.4
BMKR				*e*Sg	Sb	01 46 04.5	+3.1
BMKR				A	A	01 46 05.8	
	32nm,0.4s						
BMKR				A	A	01 46 05.8	
	38nm,0.4s						
BMKR				A	A	01 46 05.8	
	16nm,0.4s						
KLR	**Kul'dur**	**3.36**	**188**	*e*Pg	Pb	01 45 29.9	+1.0
KLR				*e*Sg	Sb	01 46 12.6	+2.8
ZEA	**Zeya**	**3.37**	**293**	*e*Sg	Sb	01 46 13.5	+3.3
KROS	**Kirovskiy**	**3.80**	**302**	*e*Pn	Pn	01 45 28.0	+0.1
KROS				*e*Pg	Pb	01 45 37.9	+1.5
KROS				AMB	AMB	01 45 39.1	
	7.0nm,0.5s						
KROS				sPg	sPg	01 45 42.0	
KROS				*e*Sg	Sg	01 46 27.0	-4.3
KROS				A	A	01 46 30.7	
	20nm,0.4s						
KROS				A	A	01 46 30.7	
	9.0nm,0.4s						
NKL	**Nikolayevsk**	**5.00**	**80**	*e*Sg	Sg	01 47 05.0	-4.7
NKL				A	A	01 47 08.5	
	33nm,0.9s						

IDC ***12*** *01:46:54.3±0.5, 34°.41S×72°.05W, h0km, mb4.6/17, mb1 4.8/19, mb1mx4.7/24, mbtmp4.6/19, ML4.5/2, MS3.7/10, Ms1 3.7/10, ms1mx3.4/27, Error ellipse: s-maj=21.2km s-min=13.3km az=81.0*

NEIC ***12*** *01:46:55.9, 34°.42S×71°.99W, h7km, mb5.0/66, ML4.8(GUC), After GUC.*

NEIC Felt [IV] at Curico, Pichilemu and Talca; [III] at Santiago; [II] at Colchagua, Melipilla, Rancagua and San Antonio.

GUC ***12*** *01:46:55.9±0.5, 34°.42S×71°.99W, h8km±4km, ML4.8*

ISCJB ***12*** *01:46:58.3±0.1, 34°.44S±0°.03×71°.94W±0°.03, h33km, mb4.8/83, MS3.8/9, Error ellipse: s-maj=4.2km s-min=3.8km az=137.6*

MOS ***12*** *01:46:58.5±0.9, 34°.44S×71°.92W, h33km, mb5.1/29, Error ellipse: s-maj=16.8km s-min=7.9km az=100.0*

BJI ***12*** *01:47:00.3, 34°.30S×71°.60W, h30km, mB5.0/8, Ms5.4/6, Ms7 5.2/6*

ISC 12 01:46:59.4±0.8, 34°.42S±0°.03×71°.89W±0°.06, h33km±4km, n569, ∘0º92/587, mb4.9/83, MS4.0/9, 168C-165D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.80**	**137**	*i* P	**Pn**	**01 47 12.3**	**-2.1**
NICH				*i* S	**Sb**	**01 47 24.2**	**-1.2**
NICH				AML	AML	01 47 26.9	
	comp=E,189µm,0.5s						
NICH	**Los Niches**	**0.80**	**137**	⇑*i*P	**Pn**	**01 47 12.3**	**-2.1**
NICH				*i* S	**Sb**	**01 47 24.2**	**-1.2**
RCDM	**Rinconada Maip**	**1.29**	**45**	*i* P	**Pn**	**01 47 19.8**	**-1.4**
RCDM				*i* S	**Sn**	**01 47 37.9**	**+0.5**
RCDM	**Rinconada Maip**	**1.29**	**45**	⇓*i*P	**Pn**	**01 47 19.8**	**-1.4**
RCDM				*i* S	**Sn**	**01 47 37.9**	**+0.5**
ANTU	**Antumapu**	**1.35**	**51**	*i* P	**Pn**	**01 47 21.2**	**-0.7**
ANTU				AML	AML	01 47 47.8	
	comp=E,21µm,0.6s						
ANTU	**Antumapu**	**1.35**	**51**	⇓*i*P	**Pn**	**01 47 21.2**	**-0.7**
IHA	**Instituto Hidr**	**1.40**	**9**	*e*P1	**Pn**	**01 47 20.6**	**-2.0**
IHA	**Instituto Hidr**	**1.40**	**9**	*e*P	**Pn**	**01 47 20.6**	**-2.0**
LACH	**Col Las Americ**	**1.49**	**50**	*i* P	**Pn**	**01 47 23.1**	**-0.8**
LACH				*i* S	**Sn**	**01 47 43.5**	**+1.3**
LACH				AML	AML	01 47 49.0	
	comp=E,11µm,0.6s						
LACH	**Col Las Americ**	**1.49**	**50**	⇑*i*P	**Pn**	**01 47 23.1**	**-0.8**
LACH				*i* S	**Sn**	**01 47 43.5**	**+1.3**
CLCH	**Cerro Calan**	**1.52**	**48**	*i* P	**Pn**	**01 47 23.8**	**-0.5**
CLCH				*i* S	**Sb**	**01 47 45.1**	**-0.9**
CLCH				AML	AML	01 47 56.9	
	comp=E,24µm,

832A Faith Ranch, C 67.79 333 ⇓P P 01 57 54.2 +0.3
baz=68,SNR=8.1
636A Smothers Creek 67.86 336 ⇓P P 01 57 55.6 +1.3
baz=68
HKT Hockley 67.89 338 eP P 01 57 56.9 +2.5
HKT pmax pmax
comp=Z,9.0nm,1.2s
HKT Hockley 67.89 338 eP P 01 57 56.9 +2.5
comp=Z,8.8nm,1.2s
733A Divot King Ran 67.93 334 ⇓P P 01 57 56.1 +1.3
baz=68
732A Laxson Ranch, 68.19 334 ⇑P P 01 57 56.7 +0.3
baz=68,SNR=8.8
535A Dale 68.53 336 ⇓P P 01 57 59.0 +0.4
baz=69
633A Saathoff Ranch 68.56 335 ⇓P P 01 57 59.4 +0.7
baz=69
LRAL Lakeview Retre 68.58 346 eP P 01 57 58.5 -0.2
comp=Z,12nm,1.1s
632A Uvalde 68.83 334 ⇑P P 01 58 00.8 +0.4
baz=69,SNR=8.3
631A Perdido Creek 69.03 333 ⇑P P 01 58 02.7 +1.0
baz=69
533A Kerrville 69.07 335 ⇓P P 01 58 02.7 +0.8
baz=69
337A Centerville 69.18 338 ⇓P P 01 58 03.7 +1.2
baz=70
435B Jarrell 69.23 336 ⇓P P 01 58 03.9 +1.1
baz=70
532A Rocksprings 69.43 334 ⇑P P 01 58 04.5 +0.4
baz=70,SNR=15
434A Burnet 69.49 336 ⇓P P 01 58 04.6 +0.2
baz=70,SNR=6.7
336A Riesel 69.55 337 ⇓P P 01 58 05.8 +1.0
baz=70
335A Moody 69.64 337 ⇓P P 01 58 05.7 +0.3
baz=70
531A Rocksprings 69.70 334 ⇓P P 01 58 05.9 +0.1
baz=70,SNR=5.3
433A Art 69.71 335 ⇓P P 01 58 05.5 -0.3
baz=70,SNR=11
JCT Junction City 69.71 334 eP P 01 58 06.0 +0.1
JCT pmax pmax
comp=Z,24nm,1.1s
JCT Junction City 69.71 334 ⇑P P 01 58 06.0 +0.1
baz=70,SNR=6.3
JCT Junction City 69.71 334 eP P 01 58 06.0 +0.1
comp=Z,24nm,1.1s
334A Lometa 69.95 336 ⇑P P 01 58 07.4 +0.1
baz=70,SNR=5.1
530A J-C Ranch, Com 69.98 333 ⇓P P 01 58 08.3 +0.7
baz=70,SNR=8.4
432A Menard 70.07 335 ⇑P P 01 58 08.3 +0.3
baz=70
TXAR Lajitas Array 70.16 331 P P 01 58 08.9 +0.2
comp=Z,2.4nm,0.8s,baz=151,slow=8.3,SNR=22
TXAR LR LR 02 24 39.8
comp=Z,96nm,18.4s,baz=0.0,slow=32
431A Sonora 70.19 334 ⇓P P 01 58 08.9 +0.1
baz=70,SNR=5.6
333A Richland Sprin 70.20 336 ⇓P P 01 58 08.6 -0.2
baz=70,SNR=7.2
529A Stev Forest Ra 70.29 332 ⇑P P 01 58 09.8 +0.3
baz=71,SNR=9.3
WHTX Lake Whitney, 70.30 337 ⇓P P 01 58 09.9 +0.5
baz=71
PPT Papeete 70.30 262 LR LR 02 22 30.6
comp=Z,71nm,18.6s,baz=174,slow=30
OXF Oxford 70.51 345 eP P 01 58 09.7 -0.9
OXF pmax pmax
comp=Z,36nm,1.0s
OXF Oxford 70.51 345 eP P 01 58 09.7 -0.9
comp=Z,36nm,1.0s
SWET Sewanee 70.51 348 eP P 01 58 10.2 -0.4
comp=Z,53nm,1.3s
430A Baggett Ranch, 70.51 333 ⇓P P 01 58 10.9 +0.1
baz=71,SNR=6.9
332A Millersview 70.51 335 ⇑P P 01 58 10.8 0.0
baz=71
234A Clairette 70.53 337 ⇑P P 01 58 11.6 +0.7
baz=71
429A Davenport Ranc 70.61 333 ⇑P P 01 58 11.7 +0.2
baz=71,SNR=8.0
331A San Angelo 70.69 334 ⇓P P 01 58 11.9 0.0
baz=71,SNR=7.0
233A Rising Star 70.80 336 ⇑P P 01 58 12.4 -0.1
baz=71,SNR=5.5
232A Coleman 70.94 335 ⇓P P 01 58 13.3 -0.1
baz=71,SNR=5.2
330A Mertzon 71.05 334 ⇓P P 01 58 13.9 -0.1
baz=71,SNR=5.6
231A Bronte 71.22 335 ⇓P P 01 58 14.6 -0.5
baz=72,SNR=5.5
133A Hamilton Ranch 71.35 336 ⇑P P 01 58 15.6 -0.2
baz=72,SNR=6.1
329A Wagon Wheel Ra 71.42 333 ⇑P P 01 58 16.4 +0.1
baz=72,SNR=6.0
230A Sterling City 71.46 334 ⇓P P 01 58 16.5 0.0
baz=72
Z35A Perchaven, San 71.47 338 ⇓P P 01 58 16.8 +0.2
baz=72
MIAR Mount Ida 71.55 341 eP P 01 58 17.0 +0.1
MIAR pmax pmax
comp=Z,16nm,1.4s
MIAR Mount Ida 71.55 341 eP P 01 58 17.0 +0.1
comp=Z,16nm,1.4s
ABTX Abilene, Hawle 71.61 336 ⇑P P 01 58 17.2 -0.2
baz=72,SNR=6.4
ABTX Abilene, Hawle 71.61 336 eP P 01 58 17.2 -0.2
comp=Z,16nm,0.9s
Z34A Collier Ranch, 71.72 337 ⇑P P 01 58 18.2 +0.2
baz=72
WVT Waverly 71.74 346 eP P 01 58 17.7 -0.3
WVT pmax pmax
comp=Z,40nm,0.8s
WVT Waverly 71.74 346 eP P 01 58 17.7 -0.3
comp=Z,40nm,0.8s
229A Bryant Ranch, 71.78 333 ⇓P P 01 58 18.4 -0.1
baz=72
Z33A Whitaker Ranch 71.92 337 ⇑P P 01 58 19.1 -0.2
baz=72,SNR=6.7
130A Snyder 72.05 334 ⇑P P 01 58 20.2 +0.1
baz=72
Z32A Haskell 72.17 336 ⇑P P 01 58 21.0 +0.2
baz=72,SNR=9.0
228A UT Block 9, Go 72.21 333 ⇓P P 01 58 21.2 +0.1
baz=72
Y34A Reagan Ranch, 72.21 338 ⇓P P 01 58 21.0 +0.1
baz=72
Z31A Sharp Cattle R 72.41 335 ⇑P P 01 58 22.2 +0.1
baz=73,SNR=8.4
Y33A Hilltop Ranch, 72.54 337 ⇑P P 01 58 22.9 0.0
baz=73
128A Castleberry Fa 72.62 333 ⇓P P 01 58 23.4 -0.2
baz=73
Z30A Sanderson Ranc 72.73 335 ⇑P P 01 58 23.7 -0.4
baz=73,SNR=5.3
MAW Mawson 72.75 163 LR LR 02 29 44.5
comp=Z,78nm,19.0s,baz=238,slow=35
Y32A R-V Farms, Ver 72.80 336 ⇑P P 01 58 24.0 -0.4
baz=73
X34A Smith Ranch, M 72.83 338 ⇑P P 01 58 24.6 0.0
baz=73,SNR=5.3
Z29A Hungry Hill Ra 72.91 334 ⇑P P 01 58 24.9 -0.3
baz=73
MNTX Cornudas Mount 72.93 331 eP P 01 58 24.4 -0.9
comp=Z,5.9nm,0.8s
X33A Lawton 72.99 337 ⇑P P 01 58 25.0 -0.5
baz=73
Y31A Rekieta Farm, 73.04 336 ⇓P P 01 58 26.2 +0.3
baz=73,SNR=5.2
X32A Elmer 73.13 337 ⇓P P 01 58 26.4 0.0
baz=73
Z28A Tucker Farm, M 73.18 334 ⇓P P 01 58 26.7 -0.2
baz=74
WMOK Wichita Mounta 73.26 337 eP P 01 58 25.6 -1.6
WMOK pmax pmax
comp=Z,25nm,1.9s
WMOK Wichita Mounta 73.26 337 eP P 01 58 25.6 -1.6
comp=Z,25nm,1.9s
W34A Bridge Creek, 73.40 338 ⇓P P 01 58 27.9 0.0
baz=74
Y29A Porterfield Fa 73.44 334 ⇑P P 01 58 28.1 -0.3
baz=74,SNR=8.6
TUL1 Leonard 73.44 340 ⇑P P 01 58 27.7 -0.5
baz=74,SNR=5.5
TUL1 Leonard 73.44 340 eP P 01 58 28.1 -0.1
comp=Z,16nm,1.0s
W33A Caddo, Fort Co 73.54 338 ⇑P P 01 58 29.0 +0.2
baz=74,SNR=9.5
X31A McDonald Ranch 73.55 336 ⇓P P 01 58 28.4 -0.6
baz=74,SNR=6.3
SIUC Southern Illin 73.55 346 eP P 01 58 28.2 -0.6
X30A Coker Ranch, T 73.69 335 ⇓P P 01 58 29.5 -0.2
baz=74
Y28A McKinney Farm, 73.69 334 ⇑P P 01 58 29.7 -0.2
baz=74
W32A Sentinel 73.76 337 ⇓P P 01 58 29.7 -0.4
baz=74,SNR=12
V34A Guthrie 73.87 339 ⇓P P 01 58 30.2 -0.5
baz=74
V34A Guthrie 73.87 339 eP P 01 58 30.8 +0.1
MSTX Muleshoe 73.93 334 ⇑P P 01 58 31.0 -0.3
baz=74,SNR=5.5
MSTX Muleshoe 73.93 334 eP P 01 58 31.5 +0.3
comp=Z,13nm,0.8s
X29A Tulia 73.98 335 ⇑P P 01 58 30.8 -0.6
baz=74
Y27A Causey 74.00 333 ⇓P P 01 58 31.1 -0.6
baz=74
W31A Holland Ranch, 74.05 336 ⇓P P 01 58 31.9 +0.1
baz=74
V33A Lossen Ranch, 74.10 338 ⇑P P 01 58 31.9 -0.2
baz=74,SNR=7.5
V32A Arapaho 74.24 337 ⇑P P 01 58 33.0 +0.1
baz=74
319A Douglas 74.32 327 ⇑P P 01 58 34.2 +0.6
baz=75
AMTX Amarillo 74.36 335 ⇑P P 01 58 34.3 +0.6
baz=75
AMTX Amarillo 74.36 335 eP P 01 58 34.2 +0.5
comp=Z,19nm,1.1s
U34A Anderson Ranch 74.44 339 ⇑P P 01 58 34.3 +0.2
baz=75
SUR Sutherland 74.52 119 eP P 01 58 36.5 +1.4
comp=Z,22nm,1.1s
V31A Spring Creek L 74.55 337 ⇓P P 01 58 35.2 +0.4
baz=75
W29A Amarillo 74.57 335 ⇑P P 01 58 35.1 +0.2
baz=75
121A Cookes Peak, D 74.66 329 ⇑P P 01 58 36.7 +1.1
baz=75,SNR=12
121A Cookes Peak, D 74.66 329 eP P 01 58 36.4 +0.8
comp=Z,15nm,0.9s
X27A F and S Farms, 74.66 334 ⇑P P 01 58 35.9 +0.4
baz=75
LIC Lamto 74.79 71 eP P 01 58 36.8 +0.2
comp=Z,54nm,1.5s
V30A Spur Ranch, Mi 74.82 336 ⇓P P 01 58 37.1 +0.8
baz=75
U32A Winter Ranch, 74.83 338 ⇑P P 01 58 36.6 +0.2
baz=75
X26A CR and CF Fran 74.84 333 ⇓P P 01 58 36.7 +0.2
baz=75,SNR=8.1
Y24A Capitan 74.91 332 ⇓P P 01 58 37.5 +0.4
baz=75,SNR=10
ACSO Alum Creek Sta 74.98 351 eP P 01 58 36.8 -0.2
comp=Z,20nm,0.7s
W27A Bowe Ranch, En 75.02 334 ⇓P P 01 58 37.9 +0.3
baz=75,SNR=6.9
TIC Toumodi 75.06 71 eP P 01 58 38.1 -0.1
comp=Z,3.9nm,0.2s
KIC Kosan Boka 75.10 71 eP P 01 58 38.6 +0.2
comp=Z,32nm,0.9s
X25A Clemmons Ranch 75.14 332 ⇑P P 01 58 38.4 +0.1
baz=75
Y23A Lovelace Mesa, 75.16 331 ⇑P P 01 58 39.3 +0.8
baz=75,SNR=6.5
DBIC Dimbokro 75.20 71 ⇓iP P 01 58 39.0 0.0
DBIC Dimbokro 75.20 71 eP P 01 58 39.7 +0.7
DBIC pmax pmax
comp=Z,9.0nm,0.8s
DBIC Dimbokro 75.20 71 P P 01 58 39.4 +0.4
comp=Z,8.2nm,0.7s,baz=200,slow=5.4,SNR=12
DBIC LR LR 02 30 25.1
comp=Z,40nm,18.2s,baz=215,slow=35
DBIC Dimbokro 75.20 71 eP P 01 58 39.7 +0.7
comp=Z,9.2nm,0.8s
T33A Patterson Ranc 75.25 338 ⇓P P 01 58 39.4 +0.7
baz=76
W26A Owens Ranch, T 75.30 333 ⇓P P 01 58 39.9 +0.7
baz=76
V28A Channing 75.34 335 ⇑P P 01 58 40.3 +1.0
baz=76
X24A Lazy VL Ranch, 75.47 332 ⇑P P 01 58 41.1 +0.8
baz=76,SNR=6.9
U30A WK&E Inc. Balk 75.51 336 ⇑P P 01 58 41.3 +1.0
baz=76
T32A Huddler Ranch, 75.55 338 ⇓P P 01 58 41.0 +0.6
baz=76
W25A X Bar L Ranch, 75.67 333 ⇑P P 01 58 41.4 0.0
baz=76,SNR=5.9
T31A Randall Ranch, 75.71 337 ⇑P P 01 58 42.2 +0.8
baz=76
LPM Los Pinos Moun 75.72 331 eP P 01 58 43.0 +1.2
X23A Hourglass Bar 75.78 331 ⇓P P 01 58 42.6 +0.6
baz=76
TUC Tucson 75.78 327 eP P 01 58 43.2 +1.2
TUC pmax pmax
comp=Z,10.0nm,1.2s
TUC Tucson 75.78 327 eP P 01 58 43.2 +1.2
comp=Z,9.6nm,1.2s
U28A Mallet 75.90 335 ⇓P P 01 58 43.3 +0.7
baz=76
V26A Tequesquite Ra 75.94 334 ⇓P P 01 58 43.5 +0.7
baz=76
LAZ Ladron 76.01 331 eP P 01 58 44.1 +0.8
comp=Z,6.8nm,1.2s
W24A Lazy 6 Ranch, 76.03 332 ⇓P P 01 58 43.9 +0.4
baz=76,SNR=6.6
S32A Newby Ranch, P 76.03 338 ⇑P P 01 58 43.6 +0.5
baz=76
S31A Mullinville 76.12 338 ⇓P P 01 58 44.3 +0.6
baz=76
U27A Thompson Grove 76.15 335 ⇓P P 01 58 44.7 +0.7
baz=76
ANMO Albuquerque 76.21 331 eP P 01 58 45.0 +0.6
ANMO pmax pmax
comp=Z,8.0nm,1.0s
ANMO Albuquerque 76.21 331 eP P 01 58 45.0 +0.6
comp=Z,8.3nm,1.0s
W23A Werner Place, 76.27 332 ⇓P P 01 58 45.5 +0.7
baz=77
V25A Rancho No Teng 76.28 333 ⇓P P 01 58 45.1 +0.2
baz=77,SNR=9.5
T29A Hugoton 76.29 336 ⇓P P 01 58 45.2 +0.5
baz=77
R33A Olander Ranch, 76.30 339 ⇑P P 01 58 44.7 0.0
baz=77
214A Organ Pipe Nat 76.43 325 ⇓P P 01 58 46.7 +1.1
baz=77
V24A Rampart Ranch, 76.43 333 ⇑P P 01 58 46.3 +0.5
baz=77
S30A Montezuma 76.45 337 ⇓P P 01 58 46.2 +0.5
baz=77
U26A Atchley Ranch, 76.45 334 ⇓P P 01 58 46.3 +0.5
baz=77
T28A Walsh 76.53 336 ⇑P P 01 58 46.4 +0.2
baz=77,SNR=8.5
R32A Long Quarter, 76.63 339 ⇑P P 01 58 47.0 +0.5
baz=77
S29A Ulysses 76.65 337 ⇓P P 01 58 47.3 +0.5
baz=77
T27A Campo 76.69 335 ⇓P P 01 58 47.6 +0.6
baz=77
U25A Circle Dot Ran 76.70 334 ⇑P P 01 58 48.1 +0.8
baz=77,SNR=7.2
R31A Burdett 76.75 338 ⇓P P 01 58 48.0 +0.7
baz=77
V23A Ortiz Mt. (NFS 76.80 332 ⇑P P 01 58 48.6 +0.8
baz=77
S28A Manter 76.88 336 ⇑P P 01 58 48.6 +0.5
baz=77,SNR=13
Q33A Connelly Farm, 76.90 340 ⇓P P 01 58 48.2 +0.1
baz=77
T26A Comanche Natio 77.10 334 ⇓P P 01 58 50.2 +0.7
baz=77
Q32A Meitler Ranch, 77.11 339 ⇓P P 01 58 50.1 +0.8
baz=77
V22A San Miguel Ran 77.23 331 ⇑P P 01 58 51.5 +1.3
baz=78,SNR=15
X18A Snowflake 77.29 329 ⇑P P 01 58 51.5 +0.9
baz=78
U23A El Rito 77.31 332 ⇓P P 01 58 52.1 +1.4
baz=78
T25A Trinidad 77.36 334 ⇓P P 01 58 51.9 +0.9
baz=78,SNR=15
Q31A Ellis 77.37 338 ⇑P P 01 58 51.4 +0.7
baz=78
R29A Marienthal 77.39 337 ⇑P P 01 58 52.0 +1.1
baz=78
S26A Kim 77.45 335 ⇑P P 01 58 52.2 +0.8
baz=78,SNR=13
R28A Tribune 77.53 336 ⇓P P 01 58 52.2 +0.5
baz=78,SNR=10
Q30A Quinter 77.60 338 ⇓P P 01 58 52.3 +0.3
baz=78,SNR=6.7
U22A Llaves 77.61 332 ⇑P P 01 58 53.8 +1.4
baz=78
T24B San Luis 77.65 333 ⇑P P 01 58 53.5 +0.8
baz=78,SNR=6.1
P32A Huiting Farm, 77.70 339 ⇑P P 01 58 52.9 +0.3
baz=78
Q29A Oakley 77.76 337 ⇑P P 01 58 53.1 +0.2
baz=78,SNR=5.2
R27A Eads 77.82 336 ⇑P P 01 58 53.7 +0.3
baz=78,SNR=12
S25A Robets Cordova 77.83 334 ⇓P P 01 58 54.1 +0.6
baz=78,SNR=7.5
P31A Stockton 77.84 339 ⇓P P 01 58 54.0 +0.7
baz=78
X16A Lo Mia Camp, P 77.85 327 ⇓P P 01 58 55.1 +1.4
baz=78,SNR=16
T23A Casias Ranch, 77.87 333 ⇓P P 01 58 54.7 +0.9
baz=78
R26A Arlington 78.05 335 ⇑P P 01 58 55.9 +1.2
baz=78,SNR=8.4
MDV Middlebury 78.05 359 eP P 01 58 54.1 -0.2
GRM Grahamstown 78.09 122 eP P 01 58 55.8 +0.7
GRM AMB AMB 01 59 45.7
comp=Z,109nm,5.4s
GRM Grahamstown 78.09 122 P P 01 58 55.8 +0.7
GRM pmax pmax
comp=Z,109nm,5.4s
GRM Grahamstown 78.09 122 P P 01 58 55.8 +0.7
comp=Z,109nm,5.4s
S24A Houchin Ranch, 78.10 334 ⇑P P 01 58 56.2 +1.1
baz=78,SNR=14
P30A Selden 78.13 338 ⇓P P 01 58 55.6 +0.7
baz=78
Y14A Wickenburg 78.16 326 ⇑P P 01 58 56.1 +0.8
baz=78,SNR=5.4
Q28A Sharon Springs 78.19 337 ⇑P P 01 58 56.4 +1.0
baz=78
O32A Brockman Farm, 78.20 340 ⇑P P 01 58 56.1 +0.8
baz=78
GLA Glamis 78.29 324 eP P 01 58 57.5 +1.5
GLA pmax pmax
comp=Z,39nm,1.9s
GLA Glamis 78.29 324 ⇓P P 01 58 57.2 +1.2
baz=78
GLA Glamis 78.29 324 eP P 01 58 57.5 +1.5
comp=Z,39nm,1.9s
P29A Atwood 78.39 337 ⇑P P 01 58 57.3 +0.9
baz=79,SNR=5.2
SCIA State Center 78.44 344 eP P 01 58 56.0 -0.6
comp=Z,28nm,1.1s
R24A Sanders Place, 78.58 334 ⇑P P 01 58 58.8 +1.1
baz=79,SNR=13
P28A Saint Francis 78.63 337 ⇓P P 01 58 58.3 +0.5
baz=79
Q26A Hugo 78.64 335 ⇑P P 01 58 58.8 +0.9
baz=79
LONY Lake Ozonia 78.70 358 eP P 01 58 58.5 +0.5
comp=Z,6.9nm,0.9s
Y12C Blythe 78.72 325 ⇑P P 01 58 59.6 +1.4
baz=79,SNR=5.1
WUAZ Wupatki 78.75 328 ⇑P P 01 58 59.7 +1.1
baz=79,SNR=5.9
WUAZ Wupatki 78.75 328 eP P 01 59 00.1 +1.5
comp=Z,13nm,1.0s
JFWS Jewell Farm 78.77 346 eP P 01 58 58.3 -0.1
JFWS pmax pmax
comp=Z,12nm,0.8s
JFWS Jewell Farm 78.77 346 eP P 01 58 58.2 -0.1
comp=Z,12nm,0.8s
S22A 4UR Ranch, Cre 78.80 332 ⇓P P 01 59 00.2 +1.2
baz=79
R23A Moffat 78.81 333 ⇑P P 01 59 00.1 +1.1
baz=79,SNR=5.4
HVD Gariep Dam 78.85 119 eP P 01 59 00.3 +0.7
HVD AMB AMB 01 59 06.8
comp=Z,66nm,6.3s
HVD Gariep Dam 78.85 119 P P 01 59 00.3 +0.7
HVD pmax pmax
comp=Z,66nm,6.3s
HVD Gariep Dam 78.85 119 P P 01 59 00.3 +0.7
comp=Z,66nm,6.3s
Q25A Bedland, Calha 78.88 335 ⇑P P 01 59 00.0 +0.7
baz=79
TSUM Tsumeb 78.98 106 P P 01 59 01.4 +1.0
comp=Z,4.5nm,0.9s,baz=199,slow=7.3,SNR=4.4
MVCO Mesa Verde 78.99 331 ⇑P P 01 59 01.1 +1.1
baz=79
MVCO Mesa Verde 78.99 331 eP P 01 59 01.1 +1.1
comp=Z,7.8nm,1.0s
PDMCI Parker Dam,Lak 78.99 325 ⇓P P 01 59 01.1 +1.4
baz=79
BC3 Big Chuckawall 79.09 324 ⇑P P 01 59 01.4 +0.9
baz=79,SNR=8.3
O28A Krutsinger Ran 79.14 337 ⇓P P 01 59 01.5 +1.0
baz=79
P26A Davis Ranch, A 79.15 336 ⇑P P 01 59 01.6 +0.9
baz=80
Q24A Divide 79.25 334 ⇑P P 01 59 02.4 +0.9
baz=80
IRM Iron Mountain 79.35 325 ⇓P P 01 59 02.6 +0.8
baz=80,SNR=6.2
P25A Willow Gulch B 79.39 335 ⇓P P 01 59 03.5 +1.5
baz=80,SNR=6.5
M31A Lambtecht Ranc 79.40 340 ⇑P P 01 59 02.6 +0.7
baz=80
O27A Beecher Island 79.42 337 ⇑P P 01 59 03.6 +1.5
baz=80
W13A Hualapai Mount 79.53 326 ⇑P P 01 59 04.4 +1.5
baz=80
PFO Pinyon Flats O 79.54 323 ⇓P P 01 59 04.2 +1.3
baz=80,SNR=5.5
N28A Pribbeno Ranch 79.57 338 ⇑P P 01 59 04.2 +1.2
baz=80
CASY Casey 79.61 181 eP P 01 59 02.9 +0.1
comp=Z,30nm,0.9s
BELC Belle Mtn. Jos 79.63 324 ⇓P P 01 59 04.8 +1.4
baz=80
O26A Horse Wrangler 79.75 336 ⇓P P 01 59 05.0 +1.0
baz=80
BOSA Boshof 79.77 118 eP P 01 59 04.9 +0.3
BOSA AMB AMB 01 59 14.4
comp=Z,51nm,3.9s
BOSA Boshof 79.77 118 eP P 01 59 04.9 +0.3
BOSA pmax pmax
comp=Z,27nm,1.1s
BOSA Boshof 79.77 118 P P 01 59 05.1 +0.5
comp=Z,17nm,0.9s,baz=249,slow=5.4,SNR=16
BOSA Boshof 79.77 118 eP P 01 59 04.9 +0.3
comp=Z,27nm,1.1s
MURC Murrieta 79.90 323 ⇑P P 01 59 06.7 +1.9
baz=80
O25A Wiggins 79.91 335 ⇑P P 01 59 06.3 +1.5
baz=80
U15A North Rim 79.92 328 ⇓P P 01 59 06.3 +1.1
baz=80,SNR=9.7
N27A Anderson Farm, 80.00 337 ⇑P P 01 59 06.5 +1.2
baz=80
LDFC Landfair 80.08 325 eP P 01 59 07.2 +1.4
GMRC Granite Mounta 80.10 325 ⇑P P 01 59 07.3 +1.3
baz=80,SNR=8.5
SMCO Snowmass 80.11 333 eP P 01 59 07.3 +1.1
ISCO Idaho Springs 80.15 334 eP P 01 59 07.0 +0.6
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO Idaho Springs 80.15 334 ⇑P P 01 59 07.3 +0.9
baz=80
ISCO Idaho Springs 80.15 334 eP P 01 59 07.0 +0.6
comp=Z,4.2nm,0.8s
M28A Bar X Bar Ranc 80.16 338 ⇑P P 01 59 07.1 +1.0
baz=80
SWZ Schweizer 80.62 116 eP P 01 59 09.3 +0.2
SWZ AMB AMB 01 59 10.8
comp=Z,54nm,5.4s
SWZ Schweizer 80.62 116 P P 01 59 09.3 +0.2
comp=Z,54nm,5.4s
O23A Lake Granby, G 80.62 334 ⇑P P 01 59 10.1 +1.2
baz=81,SNR=9.0

BFSC	Mount Baldy Ra	80.64	323	⇑P	P	01 59 09.9 +1.0
	baz=81,SNR=5.4					
TUQ	Turquoise Moun	80.76	325	⇑P	P	01 59 10.5 +1.0
	baz=81,SNR=6.8					
M26A	McRoberts Ranc	80.79	337	⇑P	P	01 59 10.4 +0.9
	baz=81					
N24A	Carr	80.81	335	⇓P	P	01 59 10.5 +0.9
	baz=81					
K30A	Basset	80.81	340	⇓P	P	01 59 10.5 +1.0
	baz=81					
O22A	Kremmling	80.81	334	⇑P	P	01 59 10.3 +0.4
	baz=81,SNR=9.0					
ECSD	EROS Data Cent	80.98	342	⇓P	P	01 59 10.3 -0.1
	baz=81,SNR=24					
ECSD	EROS Data Cent	80.98	342	eP	P	01 59 10.2 -0.1
	comp=Z,24nm,0.9s					
M25A	Palm-Egli Farm	81.07	336	⇓P	P	01 59 12.3 +1.2
	baz=81					
GSC	Goldstone, Bar	81.07	324	eP	P	01 59 12.7 +1.6
GSC	Goldstone, Bar	81.07	324	⇓P	P	01 59 12.3 +1.2
	baz=81					
GSC	Goldstone, Bar	81.07	324	eP	P	01 59 12.7 +1.6
K29A	Lazy Trails An	81.09	339	⇓P	P	01 59 12.1 +1.1
	baz=81					
N23A	Red Feather La	81.24	335	⇑P	P	01 59 13.2 +1.1
	baz=82					
SHPR	Sheep Range	81.27	326	eP	P	01 59 13.5 +1.3
EDW2	Edwards Air Fo	81.31	323	⇓P	P	01 59 13.2 +0.9
	baz=82,SNR=5.1					
CCUT	Cedar City	81.32	328	eP	P	01 59 13.5 +0.9
	comp=Z,12nm,1.0s					
N22A	Wattenberg Ran	81.34	334	⇓P	P	01 59 13.5 +0.8
	baz=82,SNR=5.9					
M24A	Cheyenne	81.36	336	⇓P	P	01 59 13.7 +1.1
	baz=82					
K28A	Ten Mile Ranch	81.36	338	⇑P	P	01 59 14.1 +1.6
	baz=82					
J30A	Dallas	81.37	340	⇑P	P	01 59 13.2 +0.8
	baz=82					
RUDU	RUNDU	81.39	106	eP	P	01 59 14.8 +1.5
RUDU				AMB	AMB	01 59 20.9
	comp=Z,15nm,1.2s					
RUDU	RUNDU	81.39	106	P	P	01 59 14.8 +1.5
	comp=Z,15nm,1.2s					
O20A	White River Ci	81.42	333	⇑P	P	01 59 13.5 +0.5
	baz=82					
PHWY	Pilot Hill	81.43	335	eP	P	01 59 13.4 +0.3
SRU	San Rafael Swe	81.43	331	eP	P	01 59 13.8 +0.7
SRU				pmax	pmax	
	comp=Z,8.0nm,0.8s					
SRU	San Rafael Swe	81.43	331	eP	P	01 59 13.8 +0.7
	comp=Z,8.2nm,0.8s					
SPMN	Marine on St.	81.51	345	⇓P	P	01 59 12.8 -0.3
	baz=82					
K27A	Flueckinger Fa	81.62	338	⇑P	P	01 59 14.9 +1.1
	baz=82					
MVU	Marysvale	81.62	329	eP	P	01 59 15.7 +1.5
LRMC	Laurel Mtn Rad	81.64	324	⇓P	P	01 59 15.1 +0.9
	baz=82,SNR=6.3					
SEK	Senekal	81.66	119	eP	P	01 59 15.3 +0.6
SEK				AMB	AMB	01 59 20.0
	comp=Z,41nm,4.8s					
SEK	Senekal	81.66	119	P	P	01 59 15.3 +0.6
	comp=Z,41nm,4.8s					
J29A	Okreek	81.69	339	⇑P	P	01 59 14.8 +0.7
	baz=82					
I30A	Oacoma	81.90	340	⇑P	P	01 59 15.6 +0.4
	baz=82					
M22A	Cedar Creek Ra	81.92	334	⇑P	P	01 59 16.8 +1.1
	baz=82					
J28A	Allard Ranch,	81.97	339	⇓P	P	01 59 16.5 +0.9
	baz=82					
MPMC	Manual Prospec	82.01	324	⇓P	P	01 59 16.4 +0.2
	baz=82					
LBTB	Lobatse	82.02	115	eP	P	01 59 16.7 +0.1
LBTB				AMB	AMB	01 59 21.0
	comp=Z,16nm,1.6s					
LBTB	Lobatse	82.02	115	eP	P	01 59 16.8 +0.2
LBTB				pmax	pmax	
	comp=Z,9.0nm,0.5s					
LBTB	Lobatse	82.02	115	eP	P	01 59 16.8 +0.2
	comp=Z,9.4nm,0.5s					
N20A	Spence Gulch,	82.03	333	⇑P	P	01 59 17.0 +0.7
	baz=82					
J27A	Elkhorn Farm,	82.05	338	⇑P	P	01 59 17.2 +1.1
	baz=82					
K25A	Mack Ranch, Ha	82.06	337	⇓P	P	01 59 17.5 +1.3
	baz=82					
ISA	Isabella, Lake	82.17	323	eP	P	01 59 18.2 +1.2
ISA	Isabella, Lake	82.17	323	⇓P	P	01 59 18.1 +1.2
	baz=82,SNR=8.6					
ISA	Isabella, Lake	82.17	323	eP	P	01 59 18.2 +1.2
DAC	Darwin (Calif)	82.23	324	eP	P	01 59 18.5 +1.1
DAC				pmax	pmax	
	comp=Z,11nm,0.9s					
DAC	Darwin (Calif)	82.23	324	eP	P	01 59 18.5 +1.1
	comp=Z,10nm,0.9s					
I29A	Vivian Onida	82.25	340	⇑P	P	01 59 17.4 +0.4
	baz=83					
BRSD	Miller	82.26	341	⇑P	P	01 59 17.5 +0.4
	baz=83					
BRSD	Miller	82.26	341	eP	P	01 59 16.3 -0.8
	comp=Z,31nm,0.9s					
L22A	Ellis Ranch, M	82.41	335	⇓P	P	01 59 19.5 +1.3
	baz=83					
J26A	Sides Ranch, S	82.43	338	⇓P	P	01 59 18.8 +0.7
	baz=83,SNR=8.2					
K24A	Anderson Ranch	82.47	336	⇓P	P	01 59 19.1 +0.7
	baz=83,SNR=5.7					
I28A	Midland	82.48	339	⇑P	P	01 59 19.1 +0.9
	baz=83					
VES	Vestal, Richgr	82.62	323	⇓P	P	01 59 20.0 +0.9
	baz=83,SNR=5.0					
MPU	Maple Canyon	82.65	330	eP	P	01 59 20.4 +1.0
GRAC	Grapevine Rang	82.71	325	⇓P	P	01 59 21.2 +1.6
	baz=83					
J25A	Sunshine Ranch	82.73	337	⇓P	P	01 59 20.9 +1.2
	baz=83					
K23A	Bowen Ranch, D	82.77	336	⇑P	P	01 59 20.4 +0.5
	baz=83					
H29A	Onida	82.78	340	⇑P	P	01 59 20.2 +0.4
	baz=83					
I27A	Quinn	82.80	339	⇑P	P	01 59 20.7 +0.7
	baz=83					
G30A	Faulkton	82.94	341	⇑P	P	01 59 21.3 +0.7
	baz=83					
J24A	Dixon Ranch, L	82.96	337	⇑P	P	01 59 22.0 +1.1
	baz=83,SNR=6.1					
R11A	Troy Canyon, C	82.97	327	⇑P	P	01 59 22.4 +1.2
	baz=83,SNR=12					
R11A	Troy Canyon, C	82.97	327	eP	P	01 59 21.9 +0.8
	comp=Z,8.2nm,0.9s					
K22A	Casper	82.99	335	⇑P	P	01 59 22.1 +0.9
	baz=83					
K22A	Casper	82.99	335	eP	P	01 59 22.0 +0.9
H28A	Mission Ridge	83.05	340	⇓P	P	01 59 21.6 +0.4
	baz=83,SNR=6.5					
JLU	Jordanelle	83.08	331	eP	P	01 59 22.6 +0.9
OBSV	Observatory	83.20	117	eP	P	01 59 23.0 +0.1
OBSV				AMB	AMB	01 59 27.1
	comp=Z,20nm,5.0s					
G29A	Hoven	83.22	340	⇓P	P	01 59 22.6 +0.5
	baz=84					
K21A	Alcova	83.23	335	⇓P	P	01 59 22.7 +0.3
	baz=84,SNR=9.3					
I25A	Rochford	83.28	337	⇓P	P	01 59 23.1 +0.6
	baz=84,SNR=7.6					
DUG	Dugway, Tooele	83.29	330	eP	P	01 59 23.8 +1.1
DUG				pmax	pmax	
	comp=Z,36nm,1.8s					
DUG	Dugway, Tooele	83.29	330	⇑P	P	01 59 23.1 +0.4
	baz=84,SNR=8.8					
DUG	Dugway, Tooele	83.29	330	eP	P	01 59 23.8 +1.1
	comp=Z,36nm,1.8s					
H27A	Howes	83.32	339	⇑P	P	01 59 22.6 0.0
	baz=84,SNR=10.0					
G28A	Parade	83.39	340	⇓P	P	01 59 23.2 +0.3
	baz=84,SNR=6.5					
I24A	Kuemmerle Ranc	83.42	337	⇓P	P	01 59 23.8 +0.5
	baz=84					
RSSD	Black Hills	83.47	337	eP	P	01 59 23.6 0.0
RSSD				pmax	pmax	
	comp=Z,7.0nm,0.9s					
RSSD	Black Hills	83.47	337	eP	P	01 59 23.6 0.0
	comp=Z,7.4nm,0.9s					
TPH	Tonopah	83.50	326	eP	P	01 59 25.2 +1.3
TPH				pmax	pmax	
	comp=Z,10.0nm,1.0s					
TPH	Tonopah	83.50	326	eP	P	01 59 25.2 +1.3
	comp=Z,10nm,1.0s					
SLR	Silverton	83.61	117	eP	P	01 59 25.0 +0.1
SLR				AMB	AMB	01 59 28.6
	comp=Z,27nm,4.8s					
SLR	Silverton	83.61	117	P	P	01 59 25.0 +0.1
SLR				pmax	pmax	
	comp=Z,27nm,4.8s					
SLR	Silverton	83.61	117	P	P	01 59 25.0 +0.1
	comp=Z,27nm,4.8s					
J22A	Midwest	83.64	335	⇑P	P	01 59 24.8 +0.3
	baz=84					
H25A	Fruitdale	83.78	338	⇑P	P	01 59 25.6 +0.6
	baz=84					
F29A	Eureka	83.78	341	⇓P	P	01 59 25.3 +0.4
	baz=84					
MLAC	Mammoth, Mammo	83.91	324	⇓P	P	01 59 27.6 +1.6
	baz=84					
J21A	Lysite	83.92	335	⇓P	P	01 59 26.4 +0.5
	baz=84					
G27A	Dupree	83.96	339	⇓P	P	01 59 26.0 +0.1
	baz=84					
HWUT	Hardware Ranch	83.97	331	eP	P	01 59 26.4 +0.2
	comp=Z,14nm,1.0s					
BGU	Big Grassy Mou	83.99	330	eP	P	01 59 26.9 +0.6
	comp=Z,7.2nm,1.6s					
F28A	McLaughlin	84.06	340	⇑P	P	01 59 26.6 +0.3
	baz=84					
I22A	9 Mile Ranch,	84.07	336	⇑P	P	01 59 26.6 0.0
	baz=84					
SPUT	South Promonto	84.08	330	eP	P	01 59 26.7 0.0
	comp=Z,8.2nm,0.9s					
G26A	Maurine	84.08	339	⇑P	P	01 59 26.6 +0.1
	baz=84,SNR=7.8					
E30A	Jud	84.15	342	⇑P	P	01 59 26.9 +0.2
	baz=84					
J20A	Shoshoni	84.16	334	⇓P	P	01 59 27.4 +0.3
	baz=84,SNR=14					
PDAR	Pinedale Array	84.19	333	P	P	01 59 27.1 -0.2
	comp=Z,2.8nm,0.8s,baz=145,slow=5.4,SNR=15					
H24A	Dirks Ranch, A	84.19	337	⇓P	P	01 59 26.9 -0.2
	baz=84,SNR=5.7					
G25A	Newell	84.24	338	⇑P	P	01 59 27.3 0.0
	baz=84,SNR=5.5					
TORD	Torodi Ar. Bea	84.24	70	P	P	01 59 28.4 +0.5
	comp=Z,12nm,0.8s,baz=256,slow=4.0,SNR=43					
TORD				LR	LR	02 35 39.5
	comp=Z,65nm,19.5s,baz=305,slow=35					
I21A	Big Trails, Te	84.28	335	⇓P	P	01 59 27.1 -0.6
	baz=85,SNR=5.1					
NVAR	Mina Array Bea	84.29	325	P	P	01 59 28.1 +0.2
	comp=Z,3.0nm,0.8s,baz=154,slow=6.2,SNR=20					
E29A	Napoleon	84.41	341	⇓P	P	01 59 27.8 -0.2
	baz=85					
J19A	Crowheart	84.43	334	⇑P	P	01 59 28.4 -0.1
	baz=85,SNR=6.3					
F27A	Lemmon	84.43	339	⇑P	P	01 59 28.0 -0.3
	baz=85,SNR=8.8					
F26A	Lodgepole	84.60	339	⇑P	P	01 59 29.4 +0.2
	baz=85					
HVU	Hansel Valley	84.61	331	eP	P	01 59 28.9 -0.5
HVU				pmax	pmax	
	comp=Z,12nm,0.8s					
HVU	Hansel Valley	84.61	331	eP	P	01 59 28.9 -0.5
	comp=Z,12nm,0.8s					
H22A	Clearmont	84.64	336	⇓P	P	01 59 29.6 +0.1
	baz=85					
G24A	Alzada	84.67	338	⇑P	P	01 59 29.6 0.0
	baz=85					
D30A	Buchanan	84.67	342	⇑P	P	01 59 29.3 -0.1
	baz=85,SNR=7.2					
I20A	Worland	84.69	335	⇓P	P	01 59 29.7 0.0
	baz=85,SNR=9.7					
E28A	Huff	84.70	341	⇑P	P	01 59 30.1 +0.5
	baz=85					
ELK	Elko	84.78	328	eP	P	01 59 30.8 +0.4
ELK	Elko	84.78	328	eP	P	01 59 30.8 +0.4
E27A	Carson	84.81	340	⇑P	P	01 59 30.5 +0.4
	baz=85					
D29A	Pettibone, Tap	84.85	341	⇓P	P	01 59 30.7 +0.4
	baz=85					
G23A	Biddle	84.86	337	⇓P	P	01 59 30.5 0.0
	baz=85					
WAKR	Walker	84.89	324	eP	P	01 59 32.2 +1.3
	comp=Z,11nm,1.4s					
F25A	Bowman	84.91	338	⇑P	P	01 59 31.0 +0.3
	baz=85					
H21A	Big Horn, Sher	84.91	336	⇓P	P	01 59 30.9 +0.1
	baz=85					
CMB	Columbia Colle	84.99	324	eP	P	01 59 32.4 +1.1
CMB				pmax	pmax	
	comp=Z,8.0nm,1.3s					
CMB	Columbia Colle	84.99	324	eP	P	01 59 32.4 +1.1
	comp=Z,7.5nm,1.3s					
I19A	Meeteetse	85.08	334	⇓P	P	01 59 32.1 +0.4
	baz=85					
AGMN	Agassiz Nation	85.09	344	⇓P	P	01 59 30.9 -0.6
	baz=85,SNR=7.9					
AGMN	Agassiz Nation	85.09	344	eP	P	01 59 31.1 -0.4
	comp=Z,9.9nm,0.7s					
E26A	Carlson Angus	85.10	339	⇓P	P	01 59 31.7 +0.1
	baz=85					
H20A	Greybull	85.11	335	⇑P	P	01 59 31.7 -0.1
	baz=85,SNR=9.7					
F24A	Ekalaka	85.14	338	⇓P	P	01 59 32.3 +0.4
	baz=85					
C30A	Mose, Pekin	85.16	342	⇑P	P	01 59 31.8 0.0
	baz=86,SNR=11					
G22A	Birney	85.18	336	⇑P	P	01 59 32.5 +0.4
	baz=86					
D28A	Regan	85.23	341	⇓P	P	01 59 32.8 +0.6
	baz=86					
F23A	Volborg	85.33	337	⇑P	P	01 59 32.4 -0.4
	baz=86,SNR=7.6					
MSKU	Masuku	85.36	89	P	P	01 59 34.6 +0.9
	comp=Z,9.0nm,1.0s,baz=256,slow=12,SNR=2.8					
E25A	Miller Ranch,	85.41	339	⇑P	P	01 59 33.9 +0.7
	baz=86					
FXWY	Fox Creek	85.49	333	eP	P	01 59 33.8 -0.1
	comp=Z,23nm,2.1s					
G21A	Lodge Grass	85.49	336	⇑P	P	01 59 33.8 +0.1
	baz=86					
I17A	Pilgrim Ck.	85.56	333	⇑P	P	01 59 34.9 +0.7
	baz=86,SNR=5.8					
MDND	Maddock	85.58	342	⇓P	P	01 59 34.4 +0.5
	baz=86					
D26A	Manning	85.60	340	⇓P	P	01 59 34.7 +0.6
	baz=86					
H19A	Powell	85.62	334	⇓P	P	01 59 34.4 +0.1
	baz=86,SNR=5.4					
F22A	Rosebud	85.66	337	⇑P	P	01 59 34.4 -0.1
	baz=86,SNR=6.2					
IMW	Indian Meadow	85.68	333	eP	P	01 59 35.3 +0.5
E24A	Baker	85.74	338	⇓P	P	01 59 35.7 +0.9
	baz=86					
B30A	Myrvik Farm, E	85.81	343	⇑P	P	01 59 34.9 -0.1
	baz=86,SNR=17					
G20A	Bridger	85.83	335	⇓P	P	01 59 35.1 -0.3
	baz=86,SNR=16					
H18A	Shoshone NF, C	85.87	334	⇓P	P	01 59 35.7 -0.1
	baz=86,SNR=24					
C27A	Sayler Ranch,	85.96	340	⇓P	P	01 59 36.7 +0.9
	baz=86					
H17A	Grant Village	85.97	333	⇓P	P	01 59 37.0 +0.8
	baz=86					
D25A	Fairfield	85.97	339	⇓P	P	01 59 36.9 +0.9
	baz=86					
B29A	Wagenman Farm,	86.08	342	⇓P	P	01 59 36.3 -0.1
	baz=86,SNR=6.5					
YFT	Old Faithful	86.11	333	eP	P	01 59 39.2 +2.2
E22A	Miles City	86.14	337	⇓P	P	01 59 37.0 +0.2
	baz=86					
C26A	Wahner Farm, P	86.23	340	⇑P	P	01 59 37.6 +0.5
	baz=86					
D24A	Glendive	86.24	338	⇑P	P	01 59 37.7 +0.4
	baz=87					
A30A	Hoffart Farm,	86.26	343	⇓P	P	01 59 36.8 -0.5
	baz=87,SNR=6.1					
F20A	Billings	86.31	336	⇑P	P	01 59 37.6 -0.1
	baz=87					
B28A	Dugan Ranch, T	86.33	341	⇑P	P	01 59 37.9 +0.3
	baz=87,SNR=5.7					
YMR	Madison River	86.34	333	eP	P	01 59 39.2 +1.2
	comp=Z,23nm,0.9s					
LAO	LASA Array	86.45	337	eP	P	01 59 37.9 -0.4
	comp=Z,22nm,1.0s					
A29A	Manning Farm,	86.47	342	⇑P	P	01 59 38.2 -0.1
	baz=87,SNR=6.8					
D23A	Lindsay	86.56	338	⇑P	P	01 59 39.3 +0.4
	baz=87,SNR=24					
E21A	Keefer Ranch,	86.60	337	⇓P	P	01 59 39.1 0.0
	baz=87,SNR=5.6					
F19A	Roth Farm, Mol	86.63	335	⇓P	P	01 59 39.1 -0.2
	baz=87,SNR=5.9					
C24A	Savage	86.64	339	⇓P	P	01 59 39.7 +0.4
	baz=87,SNR=20					
QLMT	Earthquake Lak	86.66	333	eP	P	01 59 40.3 +0.7
	comp=Z,0.5nm,0.7s					
A28A	Rude Farm, Bot	86.73	342	⇓P	P	01 59 39.8 +0.2
	baz=87					
HLID	Hailey	86.76	331	⇓P	P	01 59 40.8 +0.7
	baz=87,SNR=11					
HLID	Hailey	86.76	331	eP	P	01 59 40.8 +0.7
	comp=Z,6.0nm,0.9s					
D22A	Cohagen	86.85	337	⇓P	P	01 59 40.4 +0.2
	baz=87,SNR=10					
MSNA	Messina	86.87	115	eP	P	01 59 41.6 +0.5
MSNA				AMB	AMB	01 59 50.2
	comp=Z,28nm,4.5s					
MSNA	Messina	86.87	115	P	P	01 59 41.6 +0.5
	comp=Z,28nm,4.5s					
E20A	Meyer Farm, Mu	86.92	336	⇑P	P	01 59 40.9 +0.3
	baz=87,SNR=20					
ULM	Lac du Bonnet	86.93	345	P	P	01 59 40.1 -0.4
	comp=Z,7.7nm,0.9s,baz=156,slow=3.7,SNR=12					
B25A	Knox Farm, Ray	86.94	340	⇓P	P	01 59 41.2 +0.6
	baz=87,SNR=6.5					
D21A	La Casta Ranch	87.03	337	⇓P	P	01 59 41.4 +0.3
	baz=87,SNR=8.0					
E19A	Rath Farm, Rou	87.11	335	⇑P	P	01 59 41.5 0.0
	baz=87,SNR=14					
C23A	Lambert	87.12	338	⇑P	P	01 59 41.6 +0.1
	baz=87,SNR=12					
A26A	Wade Farm, Ken	87.19	341	⇑P	P	01 59 42.1 +0.3
	baz=88					
MCMT	McKenzie Canyo	87.19	332	eP	P	01 59 43.0 +0.8
	comp=Z,7.9nm,1.0s					
MFID	Camas Ranch	87.22	330	eP	P	01 59 43.1 +0.9
	comp=Z,39nm,2.1s					
C22A	Vida	87.28	338	⇑P	P	01 59 42.5 +0.2
	baz=88					
D20A	Manuel Ranch,	87.43	336	⇑P	P	01 59 43.0 -0.1
	baz=88,SNR=11					
A25A	Svangstu Ranch	87.53	340	⇑P	P	01 59 44.1 +0.7
	baz=88					
B23A	Brockton	87.65	339	⇓P	P	01 59 44.7 +0.7
	baz=88					
D19A	Cripps Ranch,	87.75	336	⇓P	P	01 59 45.2 +0.6
	baz=88					
A24A	Westby	87.77	339	⇓P	P	01 59 45.4 +0.8
	baz=88					
B22A	Reddig Ranch S	87.81	338	⇑P	P	01 59 45.7 +0.9
	baz=88					
LRM	Limekiln Ridge	87.88	333	eP	P	01 59 46.2 +0.7
C20A	Veseth Ranch,	87.93	337	⇓P	P	01 59 45.2 -0.2
	baz=88,SNR=5.5					
B21A	Ellsworth Farm	88.24	337	⇑P	P	01 59 47.1 +0.3
	baz=88					
C19A	Slack Wire Ran	88.30	336	⇑P	P	01 59 46.7 -0.5
	baz=89					
A22A	Carney Farms,	88.40	338	⇑P	P	01 59 48.0 +0.4
	baz=89,SNR=11					
B20A	Solberg Farm,	88.57	337	⇓P	P	01 59 48.2 -0.3
	baz=89,SNR=6.0					
M04C	Macdoel	88.60	325	⇑P	P	01 59 49.6 +0.7
	baz=89					
A21A	Bergtoll Ranch	88.71	338	⇓P	P	01 59 49.2 +0.1
	baz=89					
EGMT	Eagleton	88.79	336	⇑P	P	01 59 49.8 +0.3
	baz=89					
A20A	Cobblestone Ra	88.93	337	⇓P	P	01 59 50.0 -0.1
	baz=89,SNR=7.3					
A19A	Klindworth Far	89.23	337	⇑P	P	01 59 51.7 +0.1
	baz=90					
J05D	Fort Rock, OR	89.49	326	⇓P	P	01 59 54.3 +1.2
	baz=90					
LSZ	Lusaka	89.56	108	P	P	01 59 56.1 +2.0
	comp=Z,1.8nm,0.7s,baz=225,slow=5.7,SNR=3.3					
TAM	Tamanrasset	92.90	64	eP	P	02 00 09.9 +0.5
TAM				pmax	pmax	
	comp=Z,1.0nm,0.7s					
TAM	Tamanrasset	92.90	64	eP	P	02 00 09.9 +0.5
	comp=Z,1.4nm,0.7s					
FCC	Fort Churchill	94.66	349	eP	P	02 00 15.8 -0.5
FCC	Fort Churchill	94.66	349	eP	P	02 00 15.8 -0.5
	comp=Z,0.1nm,0.7s					
YKA	Yellowknife Ar	102.49	341	P	Pdif	02 00 50.8 -0.7
	comp=Z,0.6nm,0.7s,baz=142,slow=4.4,SNR=18					
ILAR	Eielson Array	114.62	333	PKP		
	comp=Z,0.7nm,0.9s,baz=173,slow=3.8,SNR=4.9					
VYHS	Vyhne	115.28	47	ePKIKP	PKPdf	02 05 39.9 +2.9
VYHS	Vyhne	115.28	47	ePKP	PKPdf	02 05 39.9 +2.9
STHS	Stebnicka Huta	117.11	47	ePKIKP	PKPdf	02 05 43.2 +2.7
STHS	Stebnicka Huta	117.11	47	ePKP	PKPdf	02 05 43.2 +2.7
ASAR	Alice Springs	117.25	207	PKP	PKPdf	02 05 40.4 -1.4
	comp=Z,0.6nm,0.7s,baz=159,slow=1.8,SNR=6.1					
SUW	Suwalki	119.83	43	ePKIKP	PKPdf	02 05 45.0 -0.5
SUW	Suwalki	119.83	43	ePKPdf	PKPdf	02 05 45.0 -0.5
WRA	Warramunga Arr	120.45	209	PKP	PKPdf	02 05 46.9 -1.1
	comp=Z,1.3nm,0.6s,baz=164,slow=1.5,SNR=7.3					
WRAB	Tennant Creek	120.46	209	ePKIKP	PKPdf	02 05 46.6 -1.4
WRAB	Tennant Creek	120.46	209	ePKPdf	PKPdf	02 05 46.6 -1.4
BRTR	Keskin Array B	121.93	61	PKP	PKPdf	02 05 50.6 +0.3
	comp=Z,1.9nm,0.8s,baz=190,slow=2.4,SNR=7.9					
KIEV	Kiev	122.37	48	ePKIKP	PKPdf	02 05 48.6 -1.9
KIEV	Kiev	122.37	48	ePKPdf	PKPdf	02 05 48.6 -1.9
AKASG	Malin Array Be	122.39	48	PKP	PKPdf	02 05 49.8 -0.7
	comp=Z,1.0nm,0.5s,baz=265,slow=2.6,SNR=4.3					
MBWA	Marble Bar	123.64	193	ePKPdf	PKPdf	02 05 53.8 -0.2
H11S2	WAKE ISLAND Hyl	25.88	269	T	T	04 24 11.7
	baz=120,slow=76,SNR=34					
H11S1	WAKE ISLAND Hyl	25.90	269	T	T	04 24 16.4
	baz=120,slow=76,SNR=125					
H11S3	WAKE ISLAND Hyl	25.90	269	T	T	04 24 15.2
	baz=120,slow=76,SNR=72					
H11N3	WAKE ISLAND Hyl	26.31	270	T	T	04 24 46.5
	baz=115,slow=78,SNR=45					
H11N1	WAKE ISLAND Hyl	26.32	270	T	T	04 24 49.1
	baz=115,slow=78,SNR=99					
H11N2	WAKE ISLAND Hyl	26.32	270	T	T	04 24 49.1
	baz=115,slow=78,SNR=49					
KIV	Kislovodsk	129.61	58	ePKIKP	PKPdf	02 06 04.6 -0.2
KIV	Kislovodsk	129.61	58	ePKPdf	PKPdf	02 06 04.5 -0.2
GNI	Garni	130.20	64	ePKIKP	PKPdf	02 06 06.1 0.0
GNI	Garni	130.20	64	ePKPdf	PKPdf	02 06 06.0 0.0
GEYT	Alibeck	139.88	70	PKP	PKPdf	02 06 24.2 +0.1
	comp=Z,2.1nm,0.7s,baz=268,slow=4.5,SNR=4.1					
TIXI	Tiksi	141.13	350	ePKIKP	PKPdf	02 06 26.4 +1.2
TIXI	Tiksi	141.13	350	ePKPdf	PKPdf	02 06 26.4 +1.2
KSM	Kuching	147.16	184	ePKPbc	PKPab	02 06 42.3 +1.0
HYB	Hyderabad	148.65	115	i PKP	PKPbc	02 06 43.0 -0.6
YAK	Yakutsk	149.16	340	ePKHKP	PKPbc	02 06 40.7 -2.8
YAK				pmax	pmax	

KSH SKKS **SKKSac** **02 17 30.8 -0.3**
KSH SS **SS** **02 30 14.5 -5.2**
KSH PPMZ
comp=E,130nm,4.9s
KSH LN
comp=E,62nm,4.8s
KSH LE
comp=E,29nm,5.9s
KSH LZ
comp=E,140nm,6.3s
ZALV Zalesovo Beam 154.51 33 PKP **PKPdf** **02 06 47.3 -0.3**
comp=E,2.6nm,0.8s,baz=288,slow=1.4,SNR=7.1
ZALV PKPbc **PKPbc** **02 06 56.0 +0.1**
comp=E,6.9nm,0.9s,baz=318,slow=2.0,SNR=18
ZALV PKPab **PKPab** **02 07 11.1 +0.5**
comp=E,5.8nm,0.8s,baz=308,slow=5.5,SNR=6.5
BOD Bodaibo 156.26 352 *e*PKP2 **PKPab** **02 07 17.6 -0.3**
BOD pmax pmax
comp=Z,8.0nm,1.1s
MKAR Makanchi Array 156.94 50 PKP **PKPdf** **02 06 51.2 +0.1**
comp=Z,0.9nm,0.8s,baz=281,slow=2.3,SNR=5.3
MKAR PKPab **PKPab** **02 07 20.9 -0.4**
comp=Z,2.2nm,0.8s,baz=293,slow=2.9,SNR=7.6
WMQ Urumqi 161.63 53 *e*PKP **PKPdf** **02 06 55.4 -1.3**
WMQ pPKP **pPKPdf** **02 07 06.0 -1.5**
SONM Songino Array 166.53 5 PKP **PKPdf** **02 07 00.8 -0.3**
comp=Z,0.8nm,0.8s,baz=317,slow=0.2,SNR=4.4
SONM PKPab **PKPab** **02 08 03.2 0.0**
comp=Z,1.1nm,0.9s,baz=327,slow=3.1,SNR=6.0
GTA Gaotai 171.70 51 *e*PKP **PKPdf** **02 07 05.5 +0.9**
GTA pPKP **pPKPdf** **02 07 16.3 +0.8**
GTA sPKP 02 07 20.0
GTA PKPab **PKPab** **02 08 27.4 +0.9**
HHC Hu-ho-hao-te 173.02 338 *e*PKP **PKPdf** **02 07 05.5 +0.4**
HHC pPKP **pPKPdf** **02 07 16.1 +0.1**
HHC sPKP 02 07 19.8
HHC PP **PP** **02 12 26.8 +3.6**
HHC SKS **SKSdf** **02 14 02.1 -3.8**
HHC SS **SS** **02 33 34.6 +0.2**
HHC PPMZ
comp=Z,81nm,6.5s
HHC LN
comp=Z,160nm,21.2s
HHC LE
comp=Z,150nm,22.0s
HHC LZ
comp=Z,130nm,21.9s
CD2 Chengdu 174.93 132 *e*PKP **PKPdf** **02 07 05.9 -0.1**
LZH Lanzhou 176.13 63 *e*PKP **PKPdf** **02 07 05.5 -0.8**
LZH pPKP **pPKPdf** **02 07 17.5 +0.3**
LZH sPKP 02 07 20.5

ISCJB ***12*** *01:53:45.5±0.5, 34°.66S±0°.06×72°.26W±0°.09, h10km, mb4.1/15, Error ellipse: s-maj=11.3km s-min=8.0km az=9.2*
IDC ***12*** *01:53:46.7±1.4, 34°.68S×72°.12W, h0km, mb3.9/4, mb1 3.9/7, mb1mx3.8/17, mbtmp3.7/7, ML3.2/3, Error ellipse: s-maj=36.0km s-min=19.4km az=88.0*
NEIC ***12*** *01:53:47.3±4.2, 34°.64S×72°.20W, h10km±25km, mb4.3/12, Error ellipse: s-maj=18.3km s-min=7.7km az=81.0*
ISC 12 01:53:47.5±0.6, 34°.64S±0°.07×72°.3W±0°.1, h10km, n34, σ1°13/30, mb4.3/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.54**	**49**	Pn	**Pn**	**01 54 56.4**	**+0.1**
	0.2nm,0.3s,baz=224,slow=14,SNR=7.4						
CFAA				Sn	**Sn**	**01 55 50.8**	**+1.6**
	0.8nm,0.3s,baz=25,slow=17,SNR=3.7						
CFAA				Lg	Lg	01 56 03.5	
	1.4nm,0.3s,baz=151,slow=24,SNR=4.7						
LCO	**Las Campanas**	**5.77**	**14**	*e*Pn	**Pn**	**01 55 11.6**	**-1.9**
PLCA	**Paso Flores**	**6.23**	**168**	Pn	**Pn**	**01 55 18.7**	**-0.9**
	0.1nm,0.3s,baz=356,slow=14,SNR=1.5						
PLCA				Lg	Lg	01 57 04.0	
	0.5nm,0.3s,baz=106,slow=19,SNR=2.5						
TRQA	**Tornquist**	**8.97**	**115**	*e*Pn	**Pn**	**01 55 55.7**	**-1.4**
LVC	**Limon Verde**	**12.34**	**15**	*e*Pn	**Pn**	**01 56 43.8**	**+0.3**
LPAZ	**La Paz**	**18.65**	**13**	P	**P**	**01 58 06.5**	**+0.3**
	0.2nm,0.3s,baz=187,slow=8.1,SNR=3.9						
SIV	**San Ignacio**	**21.12**	**31**	P	**P**	**01 58 32.9**	**+0.4**
	1.5nm,0.6s,baz=212,slow=9.5,SNR=4.7						
SAML	**Samuel**	**26.90**	**20**	*e*P	**P**	**01 59 27.9**	**-0.8**
	2.1nm,0.7s						
SDV	**Santo Domingo**	**43.32**	**2**	*e*P	**P**	**02 01 48.9**	**-1.0**
	5.5nm,0.9s						
JTS	**JuntasAbangare**	**46.28**	**343**	*e*P	**P**	**02 02 14.1**	**+0.8**
	6.6nm,1.1s						
GRGR	**Grenville**	**47.60**	**14**	*e*P	**P**	**02 02 23.3**	**-0.3**
SNAA	**Sanae**	**51.07**	**158**	*e*P	**P**	**02 02 48.7**	**-0.9**
	3.2nm,0.8s						
CBYP	**Canovanas**	**52.97**	**8**	*e*P	**P**	**02 03 02.8**	**-1.5**
QSPA	**South Pole Qui**	**55.60**	**180**	*e*P	**P**	**02 03 25.8**	**+2.6**
	8.1nm,1.3s						
TXAR	**Lajitas Array**	**70.20**	**331**	P	**P**	**02 05 02.3**	**+1.7**
	0.3nm,0.5s,baz=155,slow=9.4,SNR=7.3						
SWET	**Sewanee**	**70.66**	**348**	*e*P	**P**	**02 05 03.7**	**+0.5**
	3.0nm,0.6s						
WVT	**Waverly**	**71.89**	**347**	*e*P	**P**	**02 05 10.9**	**+0.4**
	6.4nm,0.8s						
WMOK	**Wichita Mounta**	**73.34**	**337**	*e*P	**P**	**02 05 18.8**	**-0.5**
	2.3nm,1.1s						
ANMO	**Albuquerque**	**76.25**	**332**	*e*P	**P**	**02 05 35.7**	**-0.7**
	0.5nm,0.6s						
WUAZ	**Wupatki**	**78.77**	**328**	*e*P	**P**	**02 05 50.7**	**+0.2**
	1.0nm,0.5s						
BOSA	**Boshof**	**79.94**	**118**	P	**P**	**02 05 57.6**	**+0.4**
	3.1nm,0.9s,baz=253,slow=8.1,SNR=3.5						
LBTB	**Lobatse**	**82.21**	**115**	*e*P	**P**	**02 06 09.6**	**+0.4**
	2.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**84.61**	**70**	P	**P**	**02 06 21.2**	**-0.3**
	1.0nm,0.9s,baz=227,slow=3.6,SNR=8.2						
H11S2	**WAKE ISLAND Hyl**	**25.57**	**269**	T	T	04 31 15.7	
	baz=118						
H11S1	**WAKE ISLAND Hyl**	**25.58**	**269**	T	T	04 31 16.4	
	baz=118						
H11S3	**WAKE ISLAND Hyl**	**25.58**	**269**	T	T	04 31 16.7	
	baz=118						
H11N3	**WAKE ISLAND Hyl**	**26.00**	**270**	T	T	04 31 48.1	
	baz=118						
H11N1	**WAKE ISLAND Hyl**	**26.01**	**270**	T	T	04 31 45.8	
	baz=118						
H11N2	**WAKE ISLAND Hyl**	**26.01**	**270**	T	T	04 31 47.2	
	baz=118						
GNI	**Garni**	**130.58**	**64**	*e*PKPdf	**PKPdf**	**02 12 58.3**	**-0.3**
ABKAR	**Akbulak array**	**142.23**	**52**	*e*PKPdf	**PKPdf**	**02 13 19.2**	**-0.5**
KULM	**Kulim**	**150.07**	**166**	*e*PKPbc	**PKPdf**	**02 13 36.6**	**+2.5**
KKM	**Kota Kinabalu**	**150.48**	**197**	*e*PKPbc	**PKPbc**	**02 13 39.6**	**-0.5**
KKM				*e*PKPab	**PKPab**	**02 13 45.9**	**-0.6**
TKM2	**Tokmak 2**	**153.75**	**62**	*e*PKPdf	**PKPdf**	**02 13 38.1**	**-0.9**

MOS ***12*** *01:53:53.8±1.0, 36°.32N×23°.52E, h33km, mb4.5/27, Error ellipse: s-maj=7.6km s-min=4.6km az=110.1*
BJI ***12*** *01:53:54.6, 36°.18N×22°.71E, h90km, mb4.5/3*
HLW ***12*** *01:53:56.1, 36°.39N×23°.75E, h19km±12km, Md3.7, Ml3.9*
ISCJB ***12*** *01:53:58.8±0.2, 36°.39N±0°.01×23°.46E±0°.02, h84km±2km, mb4.1/42, Error ellipse: s-maj=2.6km s-min=1.6km az=41.6*
IDC ***12*** *01:53:59.1±1.2, 36°.44N×23°.48E, h67km±12km, mb3.9/22, mb1 4.0/29, mb1mx3.9/49, mbtmp4.2/29, MS2.8/5, Ms1 2.8/5, ms1mx2.5/50, Error ellipse: s-maj=12.9km s-min=9.9km az=41.0*
ATH ***12*** *01:53:59.7, 36°.43N×23°.52E, h53km±3km, MD3.6/49, ML4.6*
CSEM ***12*** *01:53:59.7±0.1, 36°.35N×23°.45E, h80km, mb4.2/31, Error ellipse: s-maj=2.9km s-min=1.8km az=40.0*
NEIC ***12*** *01:53:59.2±0.4, 36°.43N×23°.49E, h68km±4km, mb4.2/22, Error ellipse: s-maj=5.5km s-min=3.3km az=203.0*
NEIC Felt at Athens and Metamorfosi,.
THE ***12*** *01:54:01.4, 36°.47N×23°.54E, h39km±4km, ML4.3/39, Error ellipse: s-maj=4.0km s-min=0.3km az=226.0*
TIR ***12*** *01:54:04.3, 37°.05N×22°.61E, h7km*
NIC ***12*** *01:54:07.7, 35°.66N×24°.54E, h5km, mb4.7, ML4.2*
DDA ***12*** *01:54:19.1, 37°.44N×25°.03E, h22km, ML4.3*
ISC 12 01:53:59.2±0.4, 36°.39N±0°.02×23°.47E±0°.02, h65km±4km, n705, σ1°38/812, mb4.2/42, 28C-7D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.37**	**252**	*e*P	**Pn**	**01 54 11.4**	**+0.9**
KYTH	**Kithira**	**0.37**	**252**	*e*P	**Pn**	**01 54 11.4**	**+0.9**
VLI	**Veliai**	**0.54**	**307**	P	**Pn**	**01 54 12.4**	**+0.4**
VLI				S	**Sn**	**01 54 20.4**	**-1.0**
VLI	**Veliai**	**0.54**	**307**	*e*P	**Pn**	**01 54 12.6**	**+0.6**
VLI				*e*S	**Sn**	**01 54 20.9**	**-0.5**
VLI	**Veliai**	**0.54**	**307**	*e*P	**Pn**	**01 54 12.6**	**+0.6**
VLI				S	**Sn**	**01 54 20.4**	**-1.0**
ANKY	**Antikythira Is**	**0.54**	**195**	P	**Pn**	**01 54 13.1**	**+1.0**
ANKY				S	**Sn**	**01 54 21.8**	**+0.4**
ANKY	**Antikythira Is**	**0.54**	**195**	*e*P	**Pn**	**01 54 13.4**	**+1.3**
ANKY				*e*S	**Sn**	**01 54 22.1**	**+0.7**
ANKY	**Antikythira Is**	**0.54**	**195**	*e*P	**Pn**	**01 54 13.4**	**+1.3**
ANKY				*e*S	**Sn**	**01 54 22.1**	**+0.7**
DID	**Didima**	**1.13**	**351**	P	**Pn**	**01 54 20.0**	**+0.8**
DID				S	**Sn**	**01 54 33.4**	**-0.6**
DID	**Didima**	**1.13**	**351**	*e*P	**Pn**	**01 54 19.6**	**+0.4**
DID				*e*S	**Sn**	**01 54 34.5**	**+0.5**
DID	**Didima**	**1.13**	**351**	P	**Pn**	**01 54 20.0**	**+0.8**
DID				*e*S	**Sn**	**01 54 34.5**	**+0.5**
VAM	**Vamos**	**1.15**	**149**	P	**Pn**	**01 54 18.5**	**-0.9**
VAM				S	**Sn**	**01 54 33.7**	**-0.8**
VAM	**Vamos**	**1.15**	**149**	*e*P	**Pn**	**01 54 20.1**	**+0.7**
VAM				*e*S	**Sn**	**01 54 35.6**	**+1.1**
VAM	**Vamos**	**1.15**	**149**	*e*P	**Pn**	**01 54 20.1**	**+0.7**
VAM				*e*S	**Sn**	**01 54 35.6**	**+1.1**
VLX	**Vlachokerasia**	**1.31**	**318**	P	**Pn**	**01 54 22.8**	**+1.2**
VLX				S	**Sn**	**01 54 38.5**	**+0.1**
VLX	**Vlachokerasia**	**1.31**	**318**	*e*P	**Pn**	**01 54 23.0**	**+1.4**
VLX	**Vlachokerasia**	**1.31**	**318**	*e*P	**Pn**	**01 54 23.0**	**+1.4**
VLX				S	**Sn**	**01 54 38.5**	**+0.1**
NAIG	**Nisos Aigina**	**1.36**	**1**	*e*P	**Pn**	**01 54 23.2**	**+1.0**
NAIG	**Nisos Aigina**	**1.36**	**1**	*e*P	**Pn**	**01 54 23.2**	**+1.0**
ITM	**Ithomi**	**1.47**	**303**	P	**Pn**	**01 54 25.9**	**+2.3**
ITM				S	**Sn**	**01 54 43.4**	**+1.4**
ITM	**Ithomi**	**1.47**	**303**	*e*P	**Pn**	**01 54 25.8**	**+2.2**
ITM	**Ithomi**	**1.47**	**303**	*e*P	**Pn**	**01 54 25.8**	**+2.2**
ITM				S	**Sn**	**01 54 43.4**	**+1.4**
PYL	**PYLOS**	**1.48**	**290**	P	**Pn**	**01 54 24.9**	**+1.2**
PYL				S	**Sn**	**01 54 43.8**	**+1.6**
PYL	**PYLOS**	**1.48**	**290**	*e*P	**Pn**	**01 54 24.9**	**+1.2**
PYL				*e*S	**Sn**	**01 54 45.0**	**+2.8**
PYL	**PYLOS**	**1.48**	**290**	*e*P	**Pn**	**01 54 24.9**	**+1.2**
PYL				S	**Sn**	**01 54 43.8**	**+1.6**
THR2	**Thira island,**	**1.59**	**87**	P	**Pn**	**01 54 26.4**	**+1.2**
THR2	**Thira island,**	**1.59**	**87**	P	**Pn**	**01 54 26.4**	**+1.2**
ATH	**Athens Observa**	**1.59**	**7**	P	**Pn**	**01 54 26.0**	**+0.7**
ATH				S	**Sn**	**01 54 44.7**	**-0.2**
ATH	**Athens Observa**	**1.59**	**7**	*e*P	**Pn**	**01 54 25.9**	**+0.7**
ATH				*e*S	**Sn**	**01 54 45.0**	**+0.1**
ATH	**Athens Observa**	**1.59**	**7**	P	**Pn**	**01 54 26.0**	**+0.7**
ATH				*e*S	**Sn**	**01 54 45.0**	**+0.1**
ATHU	**Athens Univers**	**1.59**	**9**	P	**Pn**	**01 54 25.9**	**+0.6**
ATHU				S	**Sn**	**01 54 44.2**	**-0.8**
ATHU	**Athens Univers**	**1.59**	**9**	P	**Pn**	**01 54 25.9**	**+0.6**
ATHU				S	**Sn**	**01 54 44.2**	**-0.8**
IDI	**Anoyia**	**1.60**	**133**	P	**Pn**	**01 54 25.7**	**+0.3**
	255nm,0.3s,baz=259,slow=5.7,SNR=770						
IDI				S	**Sn**	**01 54 46.0**	**+0.8**
	564nm,0.3s,baz=74,slow=18,SNR=26						
SANT	**Santorini**	**1.61**	**90**	P	**Pn**	**01 54 27.2**	**+1.7**
SANT				S	**Sn**	**01 54 45.8**	**+0.5**
SANT	**Santorini**	**1.61**	**90**	*e*P	**Pn**	**01 54 27.1**	**+1.6**
SANT				*e*S	**Sn**	**01 54 45.9**	**+0.6**
SANT	**Santorini**	**1.61**	**90**	*e*Pn	**Pn**	**01 54 26.9**	**+1.4**
SANT				*e*S	**Sn**	**01 54 45.9**	**+0.6**
SANT	**Santorini**	**1.61**	**90**	*e*Pn	**Pn**	**01 54 26.9**	**+1.4**
LTK	**Loutraki**	**1.68**	**346**	P	**Pn**	**01 54 27.5**	**+1.1**
LTK				S	**Sn**	**01 54 47.5**	**+0.5**
LTK	**Loutraki**	**1.68**	**346**	*e*P	**Pn**	**01 54 27.8**	**+1.4**
LTK				*e*S	**Sn**	**01 54 48.2**	**+1.2**
LTK	**Loutraki**	**1.68**	**346**	*e*P	**Pn**	**01 54 27.8**	**+1.4**
LTK				*e*S	**Sn**	**01 54 48.2**	**+1.2**
PTL	**Penteli**	**1.68**	**11**	P	**Pn**	**01 54 27.2**	**+0.7**
PTL				S	**Sn**	**01 54 46.7**	**-0.4**
PTL	**Penteli**	**1.68**	**11**	*e*P	**Pn**	**01 54 27.5**	**+1.0**
PTL				*e*S	**Sn**	**01 54 46.8**	**-0.4**
PTL	**Penteli**	**1.68**	**11**	*e*P	**Pn**	**01 54 27.5**	**+1.0**
PTL				*e*S	**Sn**	**01 54 46.8**	**-0.4**
SIVA	**Sivas**	**1.75**	**141**	P	**Pn**	**01 54 29.6**	**+2.2**
SIVA				S	**Sn**	**01 54 51.4**	**+2.6**
SIVA	**Sivas**	**1.75**	**141**	*e*P	**Pn**	**01 54 29.9**	**+2.5**
SIVA	**Sivas**	**1.75**	**141**	P	**Pn**	**01 54 29.6**	**+2.2**
SIVA				S	**Sn**	**01 54 51.4**	**+2.6**
GUR	**Goura**	**1.79**	**330**	P	**Pn**	**01 54 29.0**	**+1.0**
GUR				S	**Sn**	**01 54 50.6**	**+0.9**
GUR	**Goura**	**1.79**	**330**	*e*P	**Pn**	**01 54 28.8**	**+0.8**
GUR				*e*S	**Sn**	**01 54 50.8**	**+1.1**
GUR	**Goura**	**1.79**	**330**	P	**Pn**	**01 54 29.0**	**+1.0**
GUR				*e*S	**Sn**	**01 54 50.8**	**+1.1**
APE	**Apeiranthos**	**1.79**	**67**	P	**Pn**	**01 54 29.1**	**+1.1**
APE				S	**Sn**	**01 54 49.1**	**-0.6**
APE	**Apeiranthos**	**1.79**	**67**	*e*PN	**Pn**	**01 54 30.0**	**+2.1**
APE				*e*SN	**Sn**	**01 54 49.4**	**-0.3**
APE	**Apeiranthos**	**1.79**	**67**	*c e* P	**Pn**	**01 54 29.1**	**+1.1**
APE	**Apeiranthos**	**1.79**	**67**	*e*P	**Pn**	**01 54 29.2**	**+1.2**
APE				*e*S	**Sn**	**01 54 49.8**	**+0.1**
APE	**Apeiranthos**	**1.79**	**67**	*i e* P	**Pn**	**01 54 29.2**	**+1.2**
APE				S	**Sn**	**01 54 50.9**	**+1.2**
APE	**Apeiranthos**	**1.79**	**67**	*e*P	**Pn**	**01 54 29.2**	**+1.2**
APE				*e*Sn	**Sn**	**01 54 49.4**	**-0.3**
AMT	**Artemida-Makis**	**1.81**	**309**	P	**Pn**	**01 54 30.3**	**+2.0**
AMT				S	**Sn**	**01 54 52.2**	**+1.9**
AMT	**Artemida-Makis**	**1.81**	**309**	*e*P	**Pn**	**01 54 30.6**	**+2.3**
AMT	**Artemida-Makis**	**1.81**	**309**	P	**Pn**	**01 54 30.3**	**+2.0**
AMT				S	**Sn**	**01 54 52.2**	**+1.9**
MRMA	**Marmari**	**1.81**	**23**	P	**Pn**	**01 54 30.1**	**+1.8**
MRMA				S	**Sn**	**01 54 51.3**	**+1.0**
MRMA	**Marmari**	**1.81**	**23**	P	**Pn**	**01 54 30.1**	**+1.8**
MRMA				S	**Sn**	**01 54 51.3**	**+1.0**
KLV	**Kalavryta, Ach**	**1.96**	**328**	P	**Pn**	**01 54 31.5**	**+1.3**
KLV				S	**Sn**	**01 54 54.5**	**+0.7**
KLV	**Kalavryta, Ach**	**1.96**	**328**	*e*P	**Pn**	**01 54 31.6**	**+1.3**
KLV	**Kalavryta, Ach**	**1.96**	**328**	P	**Pn**	**01 54 31.5**	**+1.3**
KLV				S	**Sn**	**01 54 54.5**	**+0.7**
LAST	**Lasithi**	**2.04**	**126**	P	**Pn**	**01 54 32.7**	**+1.2**
LAST				S	**Sn**	**01 54 57.7**	**+1.7**
LAST	**Lasithi**	**2.04**	**126**	*e*P	**Pn**	**01 54 32.7**	**+1.2**
LAST				*e*S	**Sn**	**01 54 57.7**	**+1.7**
LAST	**Lasithi**	**2.04**	**126**	*e*P	**Pn**	**01 54 32.7**	**+1.2**
LAST				*e*S	**Sn**	**01 54 57.7**	**+1.7**
NPS	**Neapolis**	**2.08**	**122**	P	**Pn**	**01 54 32.9**	**+1.1**
NPS				S	**Sn**	**01 54 58.6**	**+2.0**
NPS	**Neapolis**	**2.08**	**122**	*e*P	**Pn**	**01 54 33.1**	**+1.3**
NPS	**Neapolis**	**2.08**	**122**	*e*P	**Pn**	**01 54 33.1**	**+1.3**
NPS				S	**Sn**	**01 54 58.6**	**+2.0**
DRO	**Drossia**	**2.10**	**318**	P	**Pn**	**01 54 34.9**	**+2.8**
DRO				S	**Sn**	**01 54 57.0**	**-0.2**
DRO	**Drossia**	**2.10**	**318**	*e*P	**Pn**	**01 54 34.5**	**+2.4**
DRO	**Drossia**	**2.10**	**318**	*e*P	**Pn**	**01 54 34.5**	**+2.4**
DRO				S	**Sn**	**01 54 57.0**	**-0.2**
SFD	**Strofades**	**2.15**	**294**	*e*P	**Pn**	**01 54 33.7**	**+1.0**
SFD	**Strofades**	**2.15**	**294**	*e*P	**Pn**	**01 54 33.7**	**+1.0**
DSF	**Desfina**	**2.15**	**340**	P	**Pn**	**01 54 33.8**	**+0.9**
DSF				S	**Sn**	**01 54 59.2**	**+0.7**
DSF	**Desfina**	**2.15**	**340**	*e*P	**Pn**	**01 54 33.8**	**+1.1**
DSF	**Desfina**	**2.15**	**340**	*e*P	**Pn**	**01 54 34.0**	**+1.1**
DSF				S	**Sn**	**01 54 59.2**	**+0.7**
KALE	**Kalithea**	**2.26**	**332**	P	**Pn**	**01 54 35.6**	**+1.3**
KALE				S	**Sn**	**01 55 02.0**	**+0.8**
KALE	**Kalithea**	**2.26**	**332**	*e*P	**Pn**	**01 54 35.6**	**+1.3**
KALE	**Kalithea**	**2.26**	**332**	*e*P	**Pn**	**01 54 35.6**	**+1.3**
KALE				S	**Sn**	**01 55 02.0**	**+0.8**
LKR	**Lokris**	**2.29**	**351**	P	**Pn**	**01 54 35.6**	**+0.9**
LKR				S	**Sn**	**01 55 02.4**	**+0.7**
LKR	**Lokris**	**2.29**	**351**	*e*P	**Pn**	**01 54 35.5**	**+0.9**
LKR	**Lokris**	**2.29**	**351**	P	**Pn**	**01 54 35.6**	**+0.9**
LKR				S	**Sn**	**01 55 02.4**	**+0.7**
RLS	**Riolos of Patr**	**2.31**	**317**	P	**Pn**	**01 54 37.4**	**+2.5**
RLS				S	**Sn**	**01 55 03.7**	**+1.5**
RLS	**Riolos of Patr**	**2.31**	**317**	*e*P	**Pn**	**01 54 37.4**	**+2.5**
RLS	**Riolos of Patr**	**2.31**	**317**	*e*P	**Pn**	**01 54 37.4**	**+2.5**
RLS				S	**Sn**	**01 55 03.7**	**+1.5**
MRKA	**Markates**	**2.31**	**2**	P	**Pn**	**01 54 36.2**	**+1.2**
MRKA				S	**Sn**	**01 55 02.7**	**+0.3**
MRKA	**Markates**	**2.31**	**2**	*e*P	**Pn**	**01 54 36.3**	**+1.2**
MRKA	**Markates**	**2.31**	**2**	P	**Pn**	**01 54 36.2**	**+1.2**
MRKA				S	**Sn**	**01 55 02.7**	**+0.3**
UPR	**University Cam**	**2.32**	**325**	P	Pn	01 54 39.2	+4.2
UPR	**University Cam**	**2.32**	**325**	P	Pn	01 54 39.2	+4.2
EFP	**Efpalio**	**2.38**	**329**	P	**Pn**	**01 54 37.7**	**+1.8**
EFP				S	**Sn**	**01 55 03.7**	**-0.3**
EFP	**Efpalio**	**2.38**	**329**	*e*P	**Pn**	**01 54 37.5**	**+1.6**
EFP	**Efpalio**	**2.38**	**329**	*e*P	**Pn**	**01 54 37.5**	**+1.6**
EFP				S	**Sn**	**01 55 03.7**	**-0.3**
AXAR	**Agios Charalam**	**2.46**	**345**	P	**Pn**	**01 54 38.2**	**+1.2**
AXAR				S	**Sn**	**01 55 06.6**	**+0.7**
AXAR	**Agios Charalam**	**2.46**	**345**	P	**Pn**	**01 54 38.2**	**+1.2**
AXAR				S	**Sn**	**01 55 06.6**	**+0.7**
SMIA	**Simia**	**2.49**	**355**	P	**Pn**	**01 54 38.9**	**+1.4**
SMIA				S	**Sn**	**01 55 08.2**	**+1.4**
SMIA	**Simia**	**2.49**	**355**	*e*P	**Pn**	**01 54 38.9**	**+1.4**
SMIA	**Simia**	**2.49**	**355**	*e*P	**Pn**	**01 54 38.9**	**+1.4**
SMIA				S	**Sn**	**01 55 08.2**	**+1.4**
ZKR	**Zakros**	**2.57**	**119**	P	**Pn**	**01 54 40.6**	**+2.0**
ZKR				S	**Sn**	**01 55 09.5**	**+0.8**
ZKR	**Zakros**	**2.57**	**119**	*e*P	**Pn**	**01 54 40.6**	**+2.0**
ZKR	**Zakros**	**2.57**	**119**	*e*P	**Pn**	**01 54 40.6**	**+2.0**
ZKR				S	**Sn**	**01 55 09.5**	**+0.8**
PVO	**Paravola**	**2.71**	**326**	P	**Pn**	**01 54 42.7**	**+2.4**
PVO				S	**Sn**	**01 55 13.0**	**+1.1**
PVO	**Paravola**	**2.71**	**326**	P	**Pn**	**01 54 42.7**	**+2.4**
PVO				S	**Sn**	**01 55 13.0**	**+1.1**
SKIA	**Skiathos**	**2.77**	**360**	P	**Pn**	**01 54 42.6**	**+1.4**
SKIA				S	**Sn**	**01 55 14.3**	**+0.8**
SKIA	**Skiathos**	**2.77**	**360**	*e*P	**Pn**	**01 54 42.7**	**+1.5**
SKIA	**Skiathos**	**2.77**	**360**	P	**Pn**	**01 54 42.6**	**+1.4**
SKIA				S	**Sn**	**01 55 14.3**	**+0.8**
AGG	**Agios Georgios**	**2.78**	**341**	P	**Pn**	**01 54 42.7**	**+1.3**
AGG				S	**Sn**	**01 55 14.1**	**+0.4**
AGG	**Agios Georgios**	**2.78**	**341**	*e*P	**Pn**	**01 54 43.1**	**+1.7**
AGG	**Agios Georgios**	**2.78**	**341**	P	**Pn**	**01 54 42.7**	**+1.3**
AGG				S	**Sn**	**01 55 14.1**	**+0.4**
AOS	**Alonnisos**	**2.79**	**7**	P	**Pn**	**01 54 42.3**	**+0.8**
AOS				S	**Sn**	**01 55 14.2**	**+0.1**
AOS	**Alonnisos**	**2.79**	**7**	*e*P	**Pn**	**01 54 42.4**	**+0.9**
AOS	**Alonnisos**	**2.79**	**7**	*e*P	**Pn**	**01 54 42.4**	**+0.9**
AOS				S	**Sn**	**01 55 14.2**	**+0.1**
MAKR	**Makrakomi, Fth**	**2.82**	**338**	P	**Pn**	**01 54 44.0**	**+2.0**
MAKR				S	**Sn**	**01 55 15.8**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.82**	**338**	*e*P	**Pn**	**01 54 43.6**	**+1.6**
MAKR	**Makrakomi, Fth**	**2.82**	**338**	*e*P	**Pn**	**01 54 43.6**	**+1.6**
MAKR				S	**Sn**	**01 55 15.8**	**+0.9**
EVR	**Evrytania**	**2.84**	**333**	P	**Pn**	**01 54 44.7**	**+2.4**
EVR				S	**Sn**	**01 55 17.2**	**+1.7**
EVR	**Evrytania**	**2.84**	**333**	*e*P	**Pn**	**01 54 44.3**	**+2.0**
EVR	**Evrytania**	**2.84**	**333**	*e*P	**Pn**	**01 54 44.3**	**+2.0**
EVR				S	**Sn**	**01 55 17.2**	**+1.7**
PDO	**Prodromos**	**2.86**	**321**	P	**Pn**	**01 54 44.7**	**+2.3**
PDO				S	**Sn**	**01 55 17.2**	**+1.6**
PDO	**Prodromos**	**2.86**	**321**	*e*P	**Pn**	**01 54 44.5**	**+2.1**
PDO	**Prodromos**	**2.86**	**321**	*e*P	**Pn**	**01 54 44.5**	**+2.1**
PDO				S	**Sn**	**01 55 17.2**	**+1.6**
CHOS	**Chios island**	**2.86**	**45**	P	**Pn**	**01 54 43.7**	**+1.1**
CHOS				S	**Sn**	**01 55 16.2**	**+0.3**
CHOS	**Chios island**	**2.86**	**45**	*e*P	**Pn**	**01 54 43.5**	**+0.9**
CHOS	**Chios island**	**2.86**	**45**	P	**Pn**	**01 54 43.7**	**+1.1**
CHOS				S	**Sn**	**01 55 16.2**	**+0.3**
VLS	**Valsamata**	**2.91**	**309**	P	**Pn**	**01 54 43.7**	**+0.7**
VLS				S	**Sn**	**01 55 17.5**	**+0.6**
VLS	**Valsamata**	**2.91**	**309**	*e*P	**Pn**	**01 54 43.8**	**+0.7**
VLS	**Valsamata**	**2.91**	**309**	*e*P	**Pn**	**01 54 43.8**	**+0.7**
VLS				S	**Sn**	**01 55 17.5**	**+0.6**
NEO	**Neokhori**	**2.92**	**356**	P	**Pn**	**01 54 44.6**	**+1.4**
NEO				S	**Sn**	**01 55 17.7**	**+0.6**
NEO	**Neokhori**	**2.92**	**356**	*e*P	**Pn**	**01 54 44.4**	**+1.2**
NEO	**Neokhori**	**2.92**	**356**	*e*P	**Pn**	**01 54 44.4**	**+1.2**
NEO				S	**Sn**	**01 55 17.7**	**+0.6**
XOR	**Xorichti**	**2.98**	**356**	P	**Pn**	**01 54 45.3**	**+1.2**
XOR				S	**Sn**	**01 55 19.0**	**+0.4**
XOR	**Xorichti**	**2.98**	**356**	*e*P	**Pn**	**01 54 45.2**	**+1.2**
XOR	**Xorichti**	**2.98**	**

OUR	**Ouranopolis**	**3.96**	**6**	P	**Pn**	**01 54 58.6**	**+1.2**
OUR				S	**Sn**	**01 55 44.2**	**+1.7**
PLG	**Polygyros**	**3.98**	**360**	P	**Pn**	**01 54 58.9**	**+1.2**
PLG				S	**Sn**	**01 55 43.6**	**+0.5**
PLG	**Polygyros**	**3.98**	**360**	*e*P	**Pn**	**01 54 58.8**	**+1.1**
PLG	**Polygyros**	**3.98**	**360**	*e*P	**Pn**	**01 54 58.8**	**+1.1**
PLG				S	**Sn**	**01 55 43.6**	**+0.5**
IGT	**Igoumenitsa**	**4.00**	**323**	P	**Pn**	**01 54 58.5**	**+0.5**
IGT				S	**Sn**	**01 55 43.4**	**-0.1**
IGT	**Igoumenitsa**	**4.00**	**323**	*e*P	**Pn**	**01 54 58.8**	**+0.8**
IGT	**Igoumenitsa**	**4.00**	**323**	*e*P	**Pn**	**01 54 58.8**	**+0.8**
IGT				S	**Sn**	**01 55 43.4**	**-0.1**
BOZC	**Bozcaada**	**4.00**	**30**	*i* P	**Pn**	**01 54 58.6**	**+0.6**
BOZC				*i* S	**Sn**	**01 55 42.6**	**-1.1**
EZN	**Ezine**	**4.10**	**32**	*e*PN	**Pn**	**01 54 59.6**	**+0.2**
EZN	**Ezine**	**4.10**	**32**	*e*Pn	**Pn**	**01 54 59.6**	**+0.2**
KZN	**Kozani**	**4.13**	**342**	P	**Pn**	**01 55 01.9**	**+2.1**
KZN				S	**Sn**	**01 55 48.1**	**+1.2**
KZN	**Kozani**	**4.13**	**342**	*e*P	**Pn**	**01 55 02.0**	**+2.1**
KZN	**Kozani**	**4.13**	**342**	P	**Pn**	**01 55 01.9**	**+2.1**
KZN				S	**Sn**	**01 55 48.1**	**+1.2**
DALY	**Dalyan (Mu¨la**	**4.19**	**83**	*e*PN	Pn	01 55 04.3	+3.7
DALY	**Dalyan (Mu¨la**	**4.19**	**83**	*e*Pn	Pn	01 55 04.3	+3.7
HORT	**Hortiatis**	**4.21**	**356**	P	**Pn**	**01 55 02.3**	**+1.3**
HORT	**Hortiatis**	**4.21**	**356**	*e*P	**Pn**	**01 55 02.2**	**+1.3**
HORT	**Hortiatis**	**4.21**	**356**	*e*P	**Pn**	**01 55 02.2**	**+1.3**
AKS	**Akhisar**	**4.25**	**53**	*e*PN	**Pn**	**01 55 02.8**	**+1.4**
AKS	**Akhisar**	**4.25**	**53**	*e*Pn	**Pn**	**01 55 02.8**	**+1.4**
AKHS	**Akhisar**	**4.25**	**53**	*i* P	**Pn**	**01 55 03.4**	**+2.0**
AKHS	**Akhisar**	**4.25**	**53**	*i* P	**Pn**	**01 55 03.4**	**+2.0**
THE	**Thessaloniki**	**4.25**	**355**	P	**Pn**	**01 55 02.5**	**+1.1**
THE	**Thessaloniki**	**4.25**	**355**	*e*P	**Pn**	**01 55 02.6**	**+1.1**
THE	**Thessaloniki**	**4.25**	**355**	P	**Pn**	**01 55 02.5**	**+1.1**
SMTH	**Samothraki Isl**	**4.38**	**21**	*e*P	**Pn**	**01 55 05.1**	**+1.9**
SMTH	**Samothraki Isl**	**4.38**	**21**	*e*P	**Pn**	**01 55 05.1**	**+1.9**
KEK	**Kerkira**	**4.40**	**320**	P	**Pn**	**01 55 03.9**	**+0.4**
KEK				S	**Sn**	**01 55 51.7**	**-1.8**
KEK	**Kerkira**	**4.40**	**320**	*e*P	**Pn**	**01 55 03.9**	**+0.4**
KEK	**Kerkira**	**4.40**	**320**	*e*P	**Pn**	**01 55 03.9**	**+0.4**
KEK				S	**Sn**	**01 55 51.7**	**-1.8**
SOH	**Sokhos**	**4.42**	**359**	P	**Pn**	**01 55 05.6**	**+1.7**
SOH				S	**Sn**	**01 55 55.6**	**+1.5**
SOH	**Sokhos**	**4.42**	**359**	*e*P	**Pn**	**01 55 05.7**	**+1.8**
SOH	**Sokhos**	**4.42**	**359**	P	**Pn**	**01 55 05.6**	**+1.7**
SOH				S	**Sn**	**01 55 55.6**	**+1.5**
SRN	**Sarande**	**4.43**	**323**	*i* PN	**Pn**	**01 55 04.7**	**+0.9**
SRN	**Sarande**	**4.43**	**323**	P	**Pn**	**01 55 04.5**	**+0.7**
SRN				S	**Sn**	**01 55 51.5**	**-2.5**
SRN	**Sarande**	**4.43**	**323**	*i* Pn	**Pn**	**01 55 04.7**	**+0.9**
SRN				S	**Sn**	**01 55 51.5**	**-2.5**
NEST	**Nestorio**	**4.44**	**335**	P	**Pn**	**01 55 06.2**	**+2.0**
NEST				S	**Sn**	**01 55 56.7**	**+2.1**
NEST	**Nestorio**	**4.44**	**335**	*e*P	**Pn**	**01 55 06.1**	**+1.9**
NEST	**Nestorio**	**4.44**	**335**	*e*P	**Pn**	**01 55 06.1**	**+1.9**
NEST				S	**Sn**	**01 55 56.7**	**+2.1**
FETY	**Fethiye**	**4.53**	**85**	*e*PN	Pn	01 55 09.5	+4.2
FETY	**Fethiye**	**4.53**	**85**	*e*Pn	Pn	01 55 09.5	+4.2
MANT	**Manisa**	**4.56**	**61**	*i* P	**Pn**	**01 55 08.4**	**+2.5**
MANT	**Manisa**	**4.56**	**61**	*i* P	**Pn**	**01 55 08.4**	**+2.5**
GRG	**Griva**	**4.63**	**350**	P	**Pn**	**01 55 08.2**	**+1.5**
GRG	**Griva**	**4.63**	**350**	P	**Pn**	**01 55 08.2**	**+1.5**
KULA	**Kula-Manisa**	**4.64**	**61**	P	**Pn**	**01 55 09.6**	**+2.7**
KULA	**Kula-Manisa**	**4.64**	**61**	*e*PN	**Pn**	**01 55 09.2**	**+2.3**
KULA	**Kula-Manisa**	**4.64**	**61**	*e*Pn	**Pn**	**01 55 09.2**	**+2.3**
KULA	**Kula-Manisa**	**4.64**	**61**	P	**Pn**	**01 55 09.6**	**+2.7**
GELI	**Tayfur-Gelibol**	**4.64**	**30**	*e*PN	**Pn**	**01 55 07.5**	**+0.7**
GELI	**Tayfur-Gelibol**	**4.64**	**30**	*e*Pn	**Pn**	**01 55 07.5**	**+0.7**
DNZL	**Cakiroluk**	**4.65**	**72**	*i* P	Pn	01 55 10.7	+3.7
DNZL	**Cakiroluk**	**4.65**	**72**	*i* P	Pn	01 55 10.7	+3.7
KAVA	**Kavala**	**4.67**	**10**	P	**Pn**	**01 55 08.5**	**+1.3**
KAVA				S	**Sn**	**01 56 00.5**	**+0.5**
KAVA	**Kavala**	**4.67**	**10**	*e*P	**Pn**	**01 55 08.0**	**+0.8**
KAVA	**Kavala**	**4.67**	**10**	*e*P	**Pn**	**01 55 08.0**	**+0.8**
KAVA				S	**Sn**	**01 56 00.5**	**+0.5**
FNA	**Florina**	**4.68**	**340**	P	**Pn**	**01 55 08.8**	**+1.4**
FNA				S	**Sn**	**01 55 58.6**	**-1.8**
FNA	**Florina**	**4.68**	**340**	*e*P	**Pn**	**01 55 08.7**	**+1.4**
FNA	**Florina**	**4.68**	**340**	*e*P	**Pn**	**01 55 08.7**	**+1.4**
FNA				S	**Sn**	**01 55 58.6**	**-1.8**
KBN	**Korca**	**4.72**	**334**	*i* PN	**Pn**	**01 55 10.7**	**+2.8**
KBN				*i* SN	**Sn**	**01 56 00.8**	**-0.5**
KBN	**Korca**	**4.72**	**334**	P	**Pn**	**01 55 10.1**	**+2.2**
KBN				S	**Sn**	**01 56 03.6**	**+2.2**
KBN	**Korca**	**4.72**	**334**	P	**Pn**	**01 55 10.1**	**+2.2**
KBN	**Korca**	**4.72**	**334**	*i* Pn	**Pn**	**01 55 10.7**	**+2.8**
KBN				*i* Sn	**Sn**	**01 56 00.8**	**-0.5**
KBN				S	**Sn**	**01 56 03.6**	**+2.2**
SRS	**Serrai**	**4.72**	**1**	P	**Pn**	**01 55 09.3**	**+1.4**
SRS	**Serrai**	**4.72**	**1**	*e*P	**Pn**	**01 55 09.3**	**+1.4**
SRS	**Serrai**	**4.72**	**1**	*e*P	**Pn**	**01 55 09.3**	**+1.4**
LPK	**Lapseki**	**4.74**	**32**	*e*PN	**Pn**	**01 55 08.7**	**+0.6**
LPK	**Lapseki**	**4.74**	**32**	*e*Pn	**Pn**	**01 55 08.7**	**+0.6**
BALB	**Balikesir**	**4.76**	**46**	*e*PN	**Pn**	**01 55 09.6**	**+1.2**
BALB	**Balikesir**	**4.76**	**46**	*e*Pn	**Pn**	**01 55 09.6**	**+1.2**
KNT	**Kendrikon**	**4.78**	**355**	P	**Pn**	**01 55 10.8**	**+2.0**
KNT				S	**Sn**	**01 56 04.0**	**+1.2**
KNT	**Kendrikon**	**4.78**	**355**	*e*P	**Pn**	**01 55 10.7**	**+2.0**
KNT	**Kendrikon**	**4.78**	**355**	*e*P	**Pn**	**01 55 10.7**	**+2.0**
KNT				S	**Sn**	**01 56 04.0**	**+1.2**
ENEZ	**Enez**	**4.82**	**25**	*e*PN	**Pn**	**01 55 09.5**	**+0.3**
ENEZ	**Enez**	**4.82**	**25**	*e*Pn	**Pn**	**01 55 09.5**	**+0.3**
GLHS	**Glhisar (BURDU**	**4.90**	**79**	*e*PN	Pn	01 55 14.5	+4.1
GLHS	**Glhisar (BURDU**	**4.90**	**79**	*e*Pn	Pn	01 55 14.5	+4.1
ALN	**Alexandroupoli**	**4.93**	**23**	*e*P	**Pn**	**01 55 11.8**	**+1.1**
ALN	**Alexandroupoli**	**4.93**	**23**	*e*P	**Pn**	**01 55 11.8**	**+1.1**
AKAS	**Kas**	**4.96**	**90**	*i* P	Pn	01 55 14.5	+3.2
AKAS	**Kas**	**4.96**	**90**	*i* P	Pn	01 55 14.5	+3.2
GOLH	**Golhisar**	**4.96**	**78**	*i* P	Pn	01 55 16.4	+5.2
GOLH	**Golhisar**	**4.96**	**78**	*i* P	Pn	01 55 16.4	+5.2
NVR	**Nevrokopi**	**4.96**	**3**	P	**Pn**	**01 55 12.7**	**+1.5**
NVR	**Nevrokopi**	**4.96**	**3**	*e*P	**Pn**	**01 55 12.4**	**+1.2**
NVR	**Nevrokopi**	**4.96**	**3**	*e*P	**Pn**	**01 55 12.4**	**+1.2**
VAY	**Valandovo**	**4.97**	**352**	P	**Pn**	**01 55 13.4**	**+2.1**
VAY	**Valandovo**	**4.97**	**352**	*i* Pn	**Pn**	**01 55 13.4**	**+2.1**
VAY				*i* Sg	**Sn**	**01 56 07.5**	**0.0**
VAY	**Valandovo**	**4.97**	**352**	*i* Pn	**Pn**	**01 55 13.3**	**+2.0**
VAY				*i* Sg	**Sn**	**01 56 07.4**	**0.0**
KRBG	**Karabiga-Canak**	**5.00**	**36**	*e*PN	**Pn**	**01 55 12.4**	**+0.8**
KRBG	**Karabiga-Canak**	**5.00**	**36**	*e*Pn	**Pn**	**01 55 12.4**	**+0.8**
RDO	**Rodhopi**	**5.01**	**18**	P	**Pn**	**01 55 13.1**	**+1.2**
RDO				S	**Sn**	**01 56 09.9**	**+1.5**
RDO	**Rodhopi**	**5.01**	**18**	*e*P	**Pn**	**01 55 13.1**	**+1.2**
RDO	**Rodhopi**	**5.01**	**18**	*e*P	**Pn**	**01 55 13.1**	**+1.2**
RDO				S	**Sn**	**01 56 09.9**	**+1.5**
DURS	**Dursunbey**	**5.09**	**49**	*i* P	**Pn**	**01 55 14.6**	**+1.6**
DURS				*i* S	**Sn**	**01 56 10.9**	**+0.5**
DURS	**Dursunbey**	**5.09**	**49**	*i* P	**Pn**	**01 55 14.6**	**+1.6**
DURS				*i* S	**Sn**	**01 56 10.9**	**+0.5**
SLUM		**5.10**	**163**	P	**Pn**	**01 55 11.2**	**-1.8**
	baz=165						
SLUM				S	**Sn**	**01 56 06.3**	**-4.3**
	baz=165						
SLUM		**5.10**	**163**	P	**Pn**	**01 55 11.2**	**-1.8**
VLO	**Vlora**	**5.13**	**324**	*i* PN	**Pn**	**01 55 14.0**	**+0.6**
VLO				*i* SN	**Sn**	**01 56 08.5**	**-2.7**
VLO	**Vlora**	**5.13**	**324**	*i* Pn	**Pn**	**01 55 14.0**	**+0.6**
VLO				*i* Sn	**Sn**	**01 56 08.5**	**-2.7**
RKY	**Sarkoy-Tekirda**	**5.18**	**33**	*e*PN	**Pn**	**01 55 14.9**	**+0.7**
RKY	**Sarkoy-Tekirda**	**5.18**	**33**	*e*Pn	**Pn**	**01 55 14.9**	**+0.7**
MMB	**Musomiste**	**5.19**	**2⇑**	*i*P	**Pn**	**01 55 15.9**	**+1.5**
MMB	**Musomiste**	**5.19**	**2⇑**	*i*P	**Pn**	**01 55 15.9**	**+1.5**
ELL	**Elmali**	**5.20**	**84**	*e*PN	Pn	01 55 18.7	+4.2
ELL	**Elmali**	**5.20**	**84**	*e*Pn	Pn	01 55 18.7	+4.2
EDC	**Edincik**	**5.24**	**40**	*e*PN	**Pn**	**01 55 16.2**	**+1.2**
EDC	**Edincik**	**5.24**	**40**	*e*Pn	**Pn**	**01 55 16.2**	**+1.2**
KCTX	**Karacabey (Bur**	**5.45**	**43**	*e*PN	**Pn**	**01 55 19.1**	**+1.2**
KDZ	**Kurdzhali**	**5.46**	**16⇑**	*i*P	**Pn**	**01 55 18.8**	**+0.7**
TKR	**Tekirdag**	**5.58**	**33**	*e*PN	**Pn**	**01 55 20.6**	**+1.0**
TVSB	**Tavsanli**	**5.63**	**55**	*e*PN	**Pn**	**01 55 22.7**	**+2.2**
PLD	**Plovdiv**	**5.79**	**9**	P	**Pn**	**01 55 24.9**	**+2.5**
PLD	**Plovdiv**	**5.79**	**9**	P	**Pn**	**01 55 24.9**	**+2.5**
CRLT	**Corlu**	**5.79**	**34**	*e*PN	**Pn**	**01 55 23.6**	**+1.2**
SKO	**Skopje**	**5.79**	**345**	*e*Pn	**Pn**	**01 55 22.9**	**+0.4**
ANTB	**Antalya**	**5.80**	**83**	*e*PN	Pn	01 55 27.2	+4.6
BCK	**Bucak**	**5.80**	**77**	*e*PN	Pn	01 55 26.8	+4.1
ISP	**Isparta**	**5.81**	**74**	*e*PN	Pn	01 55 26.7	+3.7
ISP	**Isparta**	**5.81**	**74⇑**	*i*P	Pn	01 55 27.0	+4.1
MDNY	**Mudanya-Bursa**	**5.82**	**45**	*e*PN	**Pn**	**01 55 24.7**	**+1.8**
ALT	**Altintas**	**5.90**	**61**	*e*PN	**Pn**	**01 55 27.0**	**+3.0**
MATC	**Matruh**	**5.93**	**147**	P	**Pn**	**01 55 21.9**	**-2.4**
	baz=149						
ARMT	**Armutlu**	**5.94**	**44**	*e*PN	**Pn**	**01 55 26.4**	**+1.8**
TIP	**Timpagrande**	**6.00**	**300**	*e*Pn	**Pn**	**01 55 23.2**	**-2.2**
TIP	**Timpagrande**	**6.00**	**300**	*e*Pn	**Pn**	**01 55 23.2**	**-2.2**
EDRB	**Edirne**	**6.01**	**24**	*e*PN	**Pn**	**01 55 26.3**	**+0.8**
SHUT	**Suhut-Afyon**	**6.03**	**67**	*e*PN	Pn	01 55 29.2	+3.3
SLVT	**Silivri**	**6.08**	**36**	*e*PN	**Pn**	**01 55 27.9**	**+1.4**
IZI	**Iznik**	**6.14**	**48**	*e*PN	**Pn**	**01 55 29.6**	**+2.2**
VTS	**Vitosha**	**6.20**	**358**	P	**Pn**	**01 55 30.8**	**+2.6**
VTS	**Vitosha**	**6.20**	**358⇑**	*i*P	**Pn**	**01 55 31.0**	**+2.8**
VTS	**Vitosha**	**6.20**	**358**	S	**Sn**	**01 56 38.3**	**+0.7**
VTS	**Vitosha**	**6.20**	**358**	P	**Pn**	**01 55 30.8**	**+2.6**
CTKS	**Kestanelik-??a**	**6.23**	**38**	*e*PN	**Pn**	**01 55 30.0**	**+1.5**
CAVI	**Cavuskoy**	**6.29**	**51**	*e*PN	**Pn**	**01 55 32.1**	**+2.7**
CEL	**Celeste**	**6.32**	**289**	*e*PN	**Pn**	**01 55 30.2**	**+0.4**
CEL	**Celeste**	**6.32**	**289**	*e*Pn	**Pn**	**01 55 30.2**	**+0.4**
BGKT	**Bogazkoy**	**6.33**	**39**	*e*PN	**Pn**	**01 55 31.4**	**+1.6**
ISK	**Istanbul-Kandi**	**6.39**	**41**	*e*PN	**Pn**	**01 55 32.0**	**+1.3**
BORA	**Eskisehir**	**6.51**	**56**	*i* P	Pn	01 55 36.0	+3.6
JMB	**Yambol**	**6.53**	**21⇑**	*i*P	**Pn**	**01 55 34.3**	**+1.7**
GULT	**Gulveren**	**6.84**	**52**	*e*PN	**Pn**	**01 55 39.1**	**+2.1**
CUC	**Castrocucco**	**7.02**	**303**	*e*Pn	**Pn**	**01 55 40.2**	**+0.9**
CUC	**Castrocucco**	**7.02**	**303**	*e*Pn	**Pn**	**01 55 40.2**	**+0.9**
SVRH	**Sivrihisar-ESK**	**7.06**	**62**	*e*PN	Pn	01 55 43.0	+3.1
KIZT	**Kizilcal**	**7.12**	**67**	*e*PN	Pn	01 55 43.9	+3.1
KDHN	**Kadinhani**	**7.20**	**70**	*i* P	Pn	01 55 46.7	+4.8
KONT	**Konya--Tatoy**	**7.27**	**75**	*e*PN	Pn	01 55 46.2	+3.4
MDUB	**Mudurnu**	**7.30**	**54**	*e*PN	**Pn**	**01 55 45.1**	**+1.8**
LADK	**Ladik-KONYA**	**7.32**	**73**	*e*PN	Pn	01 55 46.8	+3.3
SWA2		**7.32**	**166**	P	**Pn**	**01 55 42.6**	**-0.9**
	baz=168						
SWA2		**7.32**	**166**	P	**Pn**	**01 55 42.6**	**-0.9**
AKMC	**Akamas**	**7.34**	**98**	P	**Pn**	**01 55 43.1**	**-0.6**
	baz=277						
AKMC	**Akamas**	**7.34**	**98**	P	**Pn**	**01 55 43.1**	**-0.6**
PPCY	**Paphos**	**7.38**	**99**	P	**Pn**	**01 55 43.7**	**-0.6**
	baz=279						
PPCY	**Paphos**	**7.38**	**99**	P	**Pn**	**01 55 43.7**	**-0.6**
ALFC	**Alevga**	**7.52**	**97**	P	**Pn**	**01 55 46.4**	**+0.1**
	baz=276						
ALFC				S	Sn	01 57 03.4	-6.7
ALFC	**Alevga**	**7.52**	**97**	P	**Pn**	**01 55 46.4**	**+0.1**
ALFC				S	Sn	01 57 03.4	-6.7
ERMK	**Ermenek**	**7.61**	**85**	*i* P	Pn	01 55 51.1	+3.6
SZAC	**Souni-Zanaja**	**7.84**	**99**	P	**Pn**	**01 55 50.6**	**0.0**
	baz=279						
SZAC				S	Sn	01 57 09.8	-8.1
SZAC	**Souni-Zanaja**	**7.84**	**99**	P	**Pn**	**01 55 50.6**	**0.0**
SZAC				S	Sn	01 57 09.8	-8.1
MAMC	**Mammari**	**8.02**	**96**	P	**Pn**	**01 55 52.5**	**-0.5**
	baz=276						
MAMC	**Mammari**	**8.02**	**96**	P	**Pn**	**01 55 52.5**	**-0.5**
ANTO	**Ankara**	**8.13**	**62**	*e*P	**Pn**	**01 55 56.9**	**+2.4**
ANTO	**Ankara**	**8.13**	**62**	*e*Pn	**Pn**	**01 55 56.9**	**+2.4**
ANTO	**Ankara**	**8.13**	**62**	*e*Pn	**Pn**	**01 55 56.9**	**+2.4**
CSS	**Prodhromos**	**8.15**	**97**	*e*Pn	**Pn**	**01 55 55.0**	**+0.2**
CSS	**Prodhromos**	**8.15**	**97**	*e*Pn	**Pn**	**01 55 55.0**	**+0.2**
BRTR	**Keskin Array B**	**8.68**	**64**	P	Pn	01 56 06.9	+4.7
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRTR	**Keskin Array B**	**8.68**	**64**	P	Pn	01 56 06.9	+4.7
	comp=Z,1.6nm,0.3s,baz=248,slow=14,SNR=66						
EREN	**Erenkoy**	**8.72**	**93**	*e*PN	Pn	01 56 07.2	+4.6
MERS	**Mersin**	**8.90**	**84**	*e*PN	Pn	01 56 08.7	+3.6
HMYD	**Mayadein**	**9.00**	**135**	P	**Pn**	**01 56 04.9**	**-1.6**
	baz=136						
HMYD	**Mayadein**	**9.00**	**135**	P	**Pn**	**01 56 04.9**	**-1.6**
GZR	**Gura Zlata**	**9.01**	**357⇓**	*i*P	**Pn**	**01 56 08.2**	**+1.7**
ARR	**Arges**	**9.01**	**5⇑**	*i*P	**Pn**	**01 56 08.7**	**+2.1**
HNAT	**Natroun**	**9.02**	**136**	P	**Pn**	**01 56 05.0**	**-1.7**
	baz=137						
HNAT	**Natroun**	**9.02**	**136**	P	**Pn**	**01 56 05.1**	**-1.7**
VOIR		**9.12**	**7⇑**	*i*P	**Pn**	**01 56 10.3**	**+2.3**
FYM	**Al Fayyum**	**9.22**	**134**	P	**Pn**	**01 56 07.4**	**-2.0**
	baz=135						
AWBH		**9.27**	**149**	P	**Pn**	**01 56 08.9**	**-1.2**
	baz=150						
AWBH		**9.27**	**149**	P	**Pn**	**01 56 08.9**	**-1.2**
AYT	**Al 'Ayyat**	**9.27**	**134**	P	**Pn**	**01 56 08.2**	**-2.0**
	baz=135						
MLR	**Muntele Rosu**	**9.28**	**11**	P	**Pn**	**01 56 12.2**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=165,slow=4.3,SNR=15						
MLR				S	**Sn**	**01 57 52.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=138,slow=16,SNR=2.1						
MLR				LR	LR	02 00 02.5	
	comp=Z,18nm,20.1s,baz=274,slow=39						
BZS	**Buzias**	**9.32**	**352⇑**	*i*P	**Pn**	**01 56 12.1**	**+1.4**
KARA	**Karaisali**	**9.33**	**81**	*e*PN	Pn	01 56 14.6	+3.7
CFR	**Carcaliu**	**9.46**	**20⇑**	*i*P	**Pn**	**01 56 14.5**	**+1.9**
KOT	**Kottamia**	**9.52**	**130**	P	**Pn**	**01 56 11.6**	**-1.9**
	baz=131						
DOPR	**Dopca**	**9.68**	**8⇑**	*i*P	**Pn**	**01 56 17.6**	**+2.0**
GLL	**Jalalah**	**9.70**	**132**	P	**Pn**	**01 56 14.2**	**-1.7**
	baz=133						
PLOR	**Plostina**	**9.75**	**13⇑**	*i*P	Pn	01 56 19.9	+3.3
VRI	**Vrincioaia**	**9.78**	**14⇑**	*i*P	**Pn**	**01 56 19.1**	**+2.1**
AMAG	**Maghara**	**9.95**	**122**	P	**Pn**	**01 56 17.3**	**-2.1**
	baz=123						
UDBI	**Udbina**	**10.02**	**327**	Sn	Sn	01 58 04.4	-6.7
HFRF	**Wahat Farafira**	**10.09**	**155**	P	**Pn**	**01 56 20.4**	**-1.0**
	baz=156						
HFRF	**Wahat Farafira**	**10.09**	**155**	P	**Pn**	**01 56 20.4**	**-1.0**
RSH		**10.11**	**119**	P	**Pn**	**01 56 19.9**	**-1.8**
	baz=120						
BHL	**Bhannes**	**10.28**	**100**	*e*P	**Pn**	**01 56 22.6**	**-1.4**
BHL	**Bhannes**	**10.28**	**100**	*e*P	**Pn**	**01 56 22.6**	**-1.4**
MMAI	**Mount Meron Ar**	**10.38**	**105**	P	**Pn**	**01 56 22.5**	**-2.9**
	comp=Z,6.2nm,0.3s,baz=301,slow=13,SNR=19						
MMAI				S	Sn	01 58 12.9	-7.3
	comp=Z,18nm,0.3s,baz=298,slow=27,SNR=9.8						
TESR	**Tescani**	**10.39**	**12⇓**	*i*P	Pn	01 56 28.4	+3.1
DRGR		**10.41**	**357⇑**	*i*P	**Pn**	**01 56 27.5**	**+1.9**
HWQ	**Hawqa**	**10.41**	**98**	*e*P	**Pn**	**01 56 24.6**	**-1.2**
HWQ	**Hawqa**	**10.41**	**98**	*e*P	**Pn**	**01 56 24.6**	**-1.2**
NVLJ	**Novalja**	**10.46**	**324**	*i* Pn	**Pn**	**01 56 23.9**	**-2.3**
NVLJ				Sn	Sn	01 58 12.3	-9.4
PKSM	**Moragy**	**10.46**	**341⇑**	*i*P	**Pn**	**01 56 25.0**	**-1.2**
RCY	**Rachaya**	**10.55**	**102**	*e*P	**Pn**	**01 56 25.8**	**-2.0**
HNKL	**Nakhl**	**10.91**	**123**	P	**Pn**	**01 56 30.9**	**-1.7**
	baz=124						
HNKL	**Nakhl**	**10.91**	**123**	P	**Pn**	**01 56 30.9**	**-1.7**
BOJS	**Bojanci**	**11.01**	**328**	*e*Pn	**Pn**	**01 56 31.2**	**-2.6**
BOJS				*i* Sn	Sn	01 58 28.0	-7.3
BOJS	**Bojanci**	**11.01**	**328**	*e*Pn	**Pn**	**01 56 31.2**	**-2.6**
BOJS				*i* Sn	Sn	01 58 28.0	-7.3
CRES	**Cresnjev**	**11.19**	**330**	*e*Pn	Pn	01 56 33.1	-3.1
CRES				*i* Sn	Sn	01 58 30.6	-9.0
CRES	**Cresnjev**	**11.19**	**330**	*e*Pn	Pn	01 56 33.2	-3.0
CRES				*i* Sn	Sn	01 58 30.5	-9.1
BURAR	**Bucovina Array**	**11.29**	**6⇑**	*i*P	Pn	01 56 41.0	+3.3
VISS	**Visnje**	**11.43**	**328**	*e*Pn	**Pn**	**01 56 36.8**	**-2.7**
VISS				*e*Sn	Sn	01 58 37.9	-7.5
VISS	**Visnje**	**11.43**	**328**	*e*Pn	**Pn**	**01 56 36.8**	**-2.7**
VISS				*e*Sn	Sn	01 58 37.9	-7.5
KEST	**Kesra**	**11.45**	**271**	S	Sn	01 58 38.2	-8.0
	comp=Z,0.1nm,0.3s,baz=86,slow=23,SNR=7.0						
EIL	**Elat**	**11.73**	**122**	P	**Pn**	**01 56 42.4**	**-1.4**
	comp=Z,1.7nm,0.3s,baz=331,slow=14,SNR=68						
EIL				S	Sn	01 58 44.4	-8.7
	comp=Z,8.6nm,0.3s,baz=314,slow=4.7,SNR=8.8						
JAVS	**Javornik**	**11.84**	**326**	*i* Pn	**Pn**	**01 56 42.9**	**-2.3**
JAVS				*i* Sn	Sn	01 58 46.8	-8.8
JAVS	**Javornik**	**11.84**	**326**	*i* Pn	**Pn**	**01 56 42.8**	**-2.4**
JAVS				*i* Sn	Sn	01 58 46.8	-8.7
HKAT	**Jabal Katrina**	**11.85**	**128**	P	**Pn**	**01 56 44.3**	**-1.2**
	baz=129						
HKAT	**Jabal Katrina**	**11.85**	**128**	P	**Pn**	**01 56 44.3**	**-1.2**
HBST	**Basata**	**11.87**	**124**	P	**Pn**	**01 56 44.3**	**-1.3**
	baz=124						
ASF	**Jabal al Asfar**	**11.88**	**107**	P	**Pn**	**01 56 44.7**	**-1.1**
ASF				S	**Sn**	**01 58 51.6**	**-5.0**
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASF				smax	smax		
	comp=N,1.0nm,0.3s						
ASF	**Jabal al Asfar**	**11.88**	**107**	P	**Pn**	**01 56 44.7**	**-1.1**
	comp=N,0.6nm,0.3s,baz=329,slow=6.9,SNR=9.8						
ASF				S	**Sn**	**01 58 51.6**	**-5.0**
	comp=N,0.8nm,0.3s,baz=126,slow=19,SNR=3.5						
PERS	**Pernice**	**11.99**	**331**	*i* Pn	Pn	01 56 43.7	-3.5
PERS				*e*Sn	Sn	01 58 51.8	-7.4
PERS	**Pernice**	**11.99**	**331**	*i* Pn	Pn	01 56 43.7	-3.5
PERS				*e*Sn	Sn	01 58 51.8	-7.3
HQLS		**12.04**	**123**	P	**Pn**	**01 56 46.0**	**-2.0**
HQLS		**12.04**	**123**	P	**Pn**	**01 56 46.4**	**-1.5**
SOKA	**Soboth**	**12.06**	**331⇑**	*i*Pn	Pn	01 56 44.7	-3.5
	SNR=14						
SOKA				⇑*i*Sn	Sn	01 58 51.6	-9.2
OBKA	**Obir**	**12.11**	**329⇑**	*i*Pn	**Pn**	**01 56 46.2**	**-2.7**
OBKA				⇓*i*Sn	Sn	01 58 52.8	-10
HDHB	**Dhahab**	**12.12**	**126**	P	**Pn**	**01 56 48.5**	**-0.5**
	baz=126						
TR1		**12.19**	**130**	P	**Pn**	**01 56 49.0**	**-1.0**
	baz=131						
RSHS		**12.52**	**127**	P	**Pn**	**01 56 54.0**	**-0.5**
RSHS		**12.52**	**127**	P	**Pn**	**01 56 53.9**	**-0.6**
HHRG	**Al Ghardaqah**	**12.54**	**134**	P	**Pn**	**01 56 54.1**	**-0.7**
	baz=135						
VYHS	**Vyhne**	**12.56**	**346**	*e*P	**Pn**	**01 56 55.2**	**+0.2**
VYHS	**Vyhne**	**12.56**	**346**	*e*P	**Pn**	**01 56 55.2**	**+0.2**
VYHS	**Vyhne**	**12.56**	**346**	*

comp=Z,5.0nm,0.5s
HAU Haudompre 17.15 318 *e*P **Pn 01 57 52.4 -2.0**
comp=Z,5.3nm,0.5s
HAU Haudompre 17.15 318 *e*P **Pn 01 57 52.4 -2.0**
comp=Z,5.3nm,0.5s
SUW Suwalki 17.62 359 *e*P **Pn 01 58 00.3 +0.2**
SUW Suwalki 17.62 359 *e*P **Pn 01 58 00.3 +0.2**
SUW Suwalki 17.62 359 *e*Pn **Pn 01 58 00.3 +0.2**
PAGF Fort de Pagny 17.81 319 *e*P **Pn 01 58 05.2 +2.8**
comp=Z,2.6nm,0.8s
PAGF Fort de Pagny 17.81 319 *e*P **Pn 01 58 05.2 +2.8**
comp=Z,2.6nm,0.8s
SMF Signal de Mont 17.87 311 *e*P **P 01 58 03.0 -0.1**
comp=Z,6.1nm,0.7s
SMF Signal de Mont 17.87 311 *e*P **P 01 58 03.0 -0.1**
SMF pmax pmax
comp=Z,6.0nm,0.7s
SMF Signal de Mont 17.87 311 *e*P **P 01 58 03.0 -0.1**
comp=Z,3.0nm,0.7s
SMF Signal de Mont 17.87 311 *e*P **P 01 58 03.0 -0.1**
comp=Z,6.1nm,0.7s
SFTF Sexfontaines 17.98 317 *e*P **P 01 58 03.0 -1.3**
comp=Z,3.7nm,0.5s
SFTF Sexfontaines 17.98 317 *e*P **P 01 58 03.0 -1.3**
comp=Z,1.9nm,0.5s
SFTF Sexfontaines 17.98 317 *e*P **P 01 58 03.0 -1.3**
comp=Z,3.7nm,0.5s
MEZF Maizieres J'vi 18.14 318 *e*P **P 01 58 06.2 +0.2**
comp=Z,9.5nm,0.7s
MEZF Maizieres J'vi 18.14 318 *e*P **P 01 58 06.2 +0.2**
comp=Z,4.8nm,0.7s
MEZF Maizieres J'vi 18.14 318 *e*P **P 01 58 06.2 +0.2**
comp=Z,9.5nm,0.7s
LOR Lormes 18.16 313 *e*P **P 01 58 06.4 +0.1**
LOR Lormes 18.16 313 *e*P **P 01 58 06.4 +0.1**
LOR Lormes 18.16 313 *e*P **P 01 58 06.4 +0.1**
LOR Lormes 18.16 313 *e*P **P 01 58 06.4 +0.1**
AVF Avril sur Loir 18.23 311 *e*P **P 01 58 05.8 -1.3**
AVF Avril sur Loir 18.23 311 *e*P **P 01 58 05.8 -1.3**
AVF Avril sur Loir 18.23 311 *e*P **P 01 58 05.8 -1.3**
AVF Avril sur Loir 18.23 311 *e*P **P 01 58 05.8 -1.3**
SSF Saint Saulge 18.27 312 *e*P **P 01 58 06.7 -0.8**
SSF Saint Saulge 18.27 312 *e*P **P 01 58 06.7 -0.8**
SSF Saint Saulge 18.27 312 *e*P **P 01 58 06.7 -0.8**
SSF Saint Saulge 18.27 312 *e*P **P 01 58 06.7 -0.8**
CAF Calviac 18.30 304 *e*P **P 01 58 07.2 -0.7**
CAF Calviac 18.30 304 *e*P **P 01 58 07.2 -0.7**
CAF Calviac 18.30 304 *e*P **P 01 58 07.2 -0.7**
CAF Calviac 18.30 304 *e*P **P 01 58 07.2 -0.7**
VORD Divnogorie 18.47 33 *e*P **P 01 58 09.9 +0.4**
VORD pmax pmax
comp=Z,7.0nm,0.9s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,40nm,0.7s
VORD Divnogorie 18.47 33 *e*P **P 01 58 09.9 +0.4**
comp=E,20nm,0.6s
VSR Storozhevoye 18.59 32 *d i*P **P 01 58 11.3 +0.4**
VSR Storozhevoye 18.59 32 *i*P **P 01 58 11.3 +0.4**
RJF Les Rejaudoux 18.80 305 *e*P **Pn 01 58 13.8 -0.6**
comp=E,6.8nm,0.8s
RJF Les Rejaudoux 18.80 305 *e*P **Pn 01 58 13.8 -0.6**
RJF pmax pmax
comp=Z,7.0nm,0.8s
RJF Les Rejaudoux 18.80 305 *e*P **Pn 01 58 13.8 -0.6**
comp=Z,3.4nm,0.8s
RJF Les Rejaudoux 18.80 305 *e*P **Pn 01 58 13.8 -0.6**
comp=Z,6.8nm,0.8s
EPF Esparros 18.96 298 *e*P **Pn 01 58 15.7 -0.7**
EPF Esparros 18.96 298 *e*P **Pn 01 58 15.7 -0.7**
EPF Esparros 18.96 298 *e*P **Pn 01 58 15.7 -0.7**
EPF Esparros 18.96 298 *e*P **Pn 01 58 15.7 -0.7**
BAIF Baives 19.51 320 *e*P **P 01 58 20.9 0.0**
comp=Z,8.3nm,0.5s
BAIF Baives 19.51 320 *e*P **P 01 58 20.9 0.0**
BAIF pmax pmax
comp=Z,8.0nm,0.5s
BAIF Baives 19.51 320 *e*P **P 01 58 20.9 0.0**
comp=Z,4.2nm,0.5s
BAIF Baives 19.51 320 *e*P **P 01 58 20.9 0.0**
comp=Z,8.3nm,0.5s
ETSF Etsaut 19.58 297 *e*P **Pn 01 58 23.5 -0.2**
comp=Z,7.4nm,0.6s
ETSF Etsaut 19.58 297 *e*P **Pn 01 58 23.5 -0.2**
ETSF pmax pmax
comp=Z,7.0nm,0.6s
ETSF Etsaut 19.58 297 *e*P **Pn 01 58 23.5 -0.2**
comp=Z,3.7nm,0.6s
ETSF Etsaut 19.58 297 *e*P **Pn 01 58 23.5 -0.2**
comp=Z,7.4nm,0.6s
VRHR Novokhopersk 19.62 36 *e*P **P 01 58 23.1 +1.0**
VRHR pmax pmax
comp=Z,70nm,0.7s
VRHR pmax pmax
comp=N,50nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR Novokhopersk 19.62 36 *e*P **P 01 58 23.1 +1.0**
comp=E,50nm,0.8s
BSD Bornholm Skovb 19.62 345 *e*P **P 01 58 22.9 +0.8**
BSD Bornholm Skovb 19.62 345 *i*P **P 01 58 22.9 +0.8**
BSD Bornholm Skovb 19.62 345 *e*P **P 01 58 22.9 +0.8**
MFF Saint Martin d 20.35 307 *e*P **P 01 58 29.6 -0.5**
comp=E,10nm,0.6s
MFF Saint Martin d 20.35 307 *e*P **P 01 58 29.6 -0.5**
MFF pmax pmax
comp=Z,10.0nm,0.6s
MFF Saint Martin d 20.35 307 *e*P **P 01 58 29.6 -0.5**
comp=Z,5.2nm,0.6s
MFF Saint Martin d 20.35 307 *e*P **P 01 58 29.6 -0.5**
comp=Z,10nm,0.6s
TAM Tamanrasset 20.62 234 *e*P Pn 01 58 36.0 -0.3
TAM pmax pmax
comp=Z,1.0nm,0.7s
TAM Tamanrasset 20.62 234 *e*P Pn 01 58 36.0 -0.3
comp=Z,0.8nm,0.7s
TAM Tamanrasset 20.62 234 *e*P Pn 01 58 36.0 -0.4
comp=Z,0.8nm,0.7s
OBN Obninsk 20.77 22 *e*P Pn 01 58 36.4 -1.1
OBN *e**PP pP 01 58 55.9 +7.5
OBN pmax pmax
comp=Z,13nm,1.0s
OBN Obninsk 20.77 22 P **P 01 58 35.5 +0.9**
comp=Z,13nm,0.4s,baz=30,slow=12,SNR=5.8
LDF La Druitiere 21.14 313 *e*P **P 01 58 38.6 -0.1**
comp=Z,8.5nm,0.6s
LDF La Druitiere 21.14 313 *e*P **P 01 58 38.6 -0.1**
LDF pmax pmax
comp=Z,9.0nm,0.6s
LDF La Druitiere 21.14 313 *e*P **P 01 58 38.6 -0.1**
comp=Z,4.2nm,0.6s
LDF La Druitiere 21.14 313 *e*P **P 01 58 38.6 -0.1**
comp=E,8.5nm,0.6s
FLN La Foliniere 21.43 313 *e*P **P 01 58 41.3 -0.4**
FLN La Foliniere 21.43 313 *e*P **P 01 58 41.3 -0.4**
FLN La Foliniere 21.43 313 *e*P **P 01 58 41.3 -0.4**
FLN La Foliniere 21.43 313 *e*P **P 01 58 41.3 -0.4**
GRR Gorron 21.50 311 *e*P **P 01 58 41.1 -1.3**
GRR Gorron 21.50 311 *e*P **P 01 58 41.1 -1.3**
GRR Gorron 21.50 311 *e*P **P 01 58 41.1 -1.3**
GRR Gorron 21.50 311 *e*P **P 01 58 41.1 -1.3**
ESDC Sonseca Array 21.82 287 P **P 01 58 45.4 -0.7**
comp=Z,1.0nm,0.5s,baz=80,slow=10,SNR=18
SGMF Saint Gilles 22.48 310 *e*P **P 01 58 52.4 -0.6**
SGMF Saint Gilles 22.48 310 *e*P **P 01 58 52.4 -0.6**
SGMF Saint Gilles 22.48 310 *e*P **P 01 58 52.4 -0.6**
SGMF Saint Gilles 22.48 310 *e*P **P 01 58 52.4 -0.6**
QUIF Quistinic 22.74 309 *e*P **P 01 58 54.9 -0.8**
comp=Z,16nm,0.6s
QUIF Quistinic 22.74 309 *e*P **P 01 58 54.9 -0.8**
QUIF pmax pmax
comp=Z,16nm,0.6s
QUIF Quistinic 22.74 309 *e*P **P 01 58 54.9 -0.8**
comp=Z,7.8nm,0.6s
QUIF Quistinic 22.74 309 *e*P **P 01 58 54.9 -0.8**
comp=Z,16nm,0.6s
ROSF Rostrenen 22.96 310 *e*P **P 01 58 57.7 -0.3**
comp=Z,18nm,0.7s
ROSF Rostrenen 22.96 310 *e*P **P 01 58 57.7 -0.3**
ROSF pmax pmax
comp=Z,18nm,0.7s
ROSF Rostrenen 22.96 310 *e*P **P 01 58 57.7 -0.3**
comp=Z,8.9nm,0.7s
ROSF Rostrenen 22.96 310 *e*P **P 01 58 57.7 -0.3**
comp=Z,18nm,0.7s
HFS Hagfors 24.58 348 P **P 01 59 11.9 -0.9**
HFS pmax pmax
comp=Z,2.0nm,0.4s
HFS Hagfors 24.58 348 P **P 01 59 11.9 -0.9**
comp=Z,2.4nm,0.4s,baz=156,slow=11,SNR=24
FINES FINESS Array B 25.13 3 P **P 01 59 16.6 -1.1**
FINES 02 02 49.7
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES MLR MLR
comp=Z,48nm,18.1s
FINES FINESS Array B 25.13 3 P **P 01 59 16.6 -1.1**
comp=Z,1.1nm,0.3s,baz=171,slow=11,SNR=30
FINES PcP **PcP 02 02 49.7 -0.5**
comp=Z,1.1nm,0.7s,baz=170,slow=1.2,SNR=5.5
FINES LR LR 02 10 06.8
comp=Z,48nm,18.1s,baz=344,slow=39
KAF Kangasniemi 25.81 3 *e*P **P 01 59 22.2 -1.7**
KAF pmax pmax
comp=Z,1.0nm,0.5s
KAF Kangasniemi 25.81 3 *e*P **P 01 59 22.2 -1.7**
comp=Z,1.0nm,0.5s
KAF Kangasniemi 25.81 3 *e*P **P 01 59 22.2 -1.7**
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 25.87 346 P **P 01 59 24.1 -0.4**
comp=Z,0.8nm,0.6s,baz=160,slow=10
NB2 NORSAR Subarra 25.87 346 P **P 01 59 24.1 -0.4**
comp=Z,0.8nm,0.6s,SNR=4.8
NOA NORSAR Array B 25.87 346 P **P 01 59 23.9 -0.6**
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 25.87 346 P **P 01 59 23.9 -0.6**
comp=Z,0.5nm,0.4s,baz=157,slow=10.0,SNR=10
EKA Eskdalemuir Ar 26.24 325 P **P 01 59 27.9 0.0**
EKA pmax pmax
comp=Z,3.0nm,0.4s
EKA Eskdalemuir Ar 26.24 325 P **P 01 59 27.9 0.0**
comp=Z,3.4nm,0.4s,baz=129,slow=6.6,SNR=32
JOF Joensuu 26.99 8 *e*P **P 01 59 33.0 -1.6**
JOF pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 26.99 8 *e*p **P 01 59 33.0 -1.6**
comp=Z,0.8nm,0.5s
JOF Joensuu 26.99 8 *e*P **P 01 59 33.0 -1.6**
comp=Z,1.0nm,0.5s
GEYT Alibeck 27.56 76 P **P 01 59 39.8 -0.3**
comp=Z,1.8nm,0.4s,baz=284,slow=9.9,SNR=7.4
AKTK Aktyubinsk 28.46 50 P **P 01 59 49.0 +1.2**
comp=Z,1.0nm,0.5s
AKTO Aktyubinsk 28.46 50 P **P 01 59 49.0 +1.2**
AKTO pmax pmax
comp=Z,1.0nm,0.5s
AKTO Aktyubinsk 28.46 50 P **P 01 59 46.9 -1.0**
comp=Z,1.2nm,0.4s,baz=254,slow=9.2,SNR=10
AB31 Akbulak array 29.38 53 *e*P **P 01 59 55.1 -0.9**
AB31 pmax pmax
comp=Z,1.0nm,0.2s
AB31 Akbulak array 29.38 53 *e*P **P 01 59 55.1 -0.9**
comp=Z,1.0nm,0.2s
ABKAR Akbulak array 29.38 53 *e*P **P 01 59 54.7 -1.3**
ABKAR Akbulak array 29.38 53 *e*P **P 01 59 54.7 -1.3**
TORD Torodi Ar. Bea 30.30 226 P **P 02 00 04.4 0.0**
comp=Z,0.4nm,0.4s,baz=35,slow=10.0,SNR=9.4
ARU Arti 30.91 38 *c i*P **P 02 00 09.1 -0.3**
ARU 02 01 12.5
ARU S **S 02 05 10.0 +1.2**
ARU pmax pmax
comp=Z,13nm,2.5s
ARU Arti 30.91 38 *i*P **P 02 00 09.1 -0.3**
comp=Z,13nm,2.5s
ARU S **S 02 05 10.0 +1.2**
ARCES ARCESS Array B 33.22 1 P **P 02 00 28.3 -1.2**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 33.22 1 P **P 02 00 28.3 -1.2**
comp=Z,2.4nm,0.9s,baz=191,slow=10,SNR=7.4
KEV Kevo 33.48 2 *e*P **P 02 00 31.0 -0.7**
KEV Kevo 33.48 2 *e*p **P 02 00 31.0 -0.7**
comp=Z,0.4nm,0.3s
KEV Kevo 33.48 2 *e*P **P 02 00 31.0 -0.7**
KK31 Karatay Array 36.40 65 *i*P **P 02 00 56.8 -0.5**
KK31 pmax pmax
comp=Z,4.0nm,0.5s
KK31 Karatay Array 36.40 65 *i*P **P 02 00 56.8 -0.5**
comp=Z,4.0nm,0.5s
KKAR Karatay Array 36.40 65 *e*P **P 02 00 55.5 -1.8**
KKAR pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 36.40 65 *e*P **P 02 00 55.5 -1.8**
comp=Z,5.8nm,0.6s
KKAR Karatay Array 36.40 65 *e*P **P 02 00 55.5 -1.8**
comp=Z,5.8nm,0.6s
BRVK Borovoye 36.46 48 ↓↓ *i*P **P 02 00 57.6 0.0**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 36.46 48 *i*P **P 02 00 57.6 0.0**
comp=Z,4.0nm,1.0s
BRVK Borovoye 36.46 48 *e*P **P 02 00 57.2 -0.4**
comp=Z,3.2nm,0.6s
BVA0 Borovoye Array 36.52 48 *i*P **P 02 00 57.2 -0.9**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s
BVA0 Borovoye Array 36.52 48 *i*P **P 02 00 57.2 -0.9**
comp=Z,4.0nm,1.2s
EKS2 Erkin-Say 38.83 65 *e*P **P 02 01 18.4 +0.4**
EKS2 pmax pmax
comp=Z,3.0nm,0.6s
EKS2 Erkin-Say 38.83 65 *e*P **P 02 01 18.4 +0.4**
comp=Z,2.7nm,0.6s
EKS2 Erkin-Say 38.83 65 *e*P **P 02 01 18.4 +0.4**
comp=Z,2.7nm,0.6s
DBIC Dimbokro 39.31 228 P **P 02 01 21.8 -0.2**
DBIC pmax pmax
comp=Z,1.0nm,0.5s
DBIC Dimbokro 39.31 228 P **P 02 01 21.8 -0.2**
comp=Z,0.9nm,0.5s,baz=23,slow=7.7,SNR=2.9
DBIC Dimbokro 39.31 228 *e*P **P 02 01 21.1 -0.9**
comp=Z,4.3nm,0.9s
DBIC Dimbokro 39.31 228 *e*P **P 02 01 21.1 -0.9**
comp=Z,4.3nm,0.9s
LIC Lamto 39.77 228 *e*P **P 02 01 26.4 +0.6**
LIC Lamto 39.77 228 *e*P **P 02 01 26.4 +0.6**
LIC Lamto 39.77 228 *e*P **P 02 01 26.4 +0.6**
KURK Kurchatov 41.49 52 *e*P **P 02 01 38.5 -1.1**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 41.49 52 *e*P **P 02 01 38.5 -1.1**
comp=Z,3.9nm,0.8s
KURK Kurchatov 41.49 52 *e*P **P 02 01 38.5 -1.1**
comp=Z,3.9nm,0.8s
SPITS Spitsbergen Ar 42.00 358 P **P 02 01 42.8 -0.7**
SPITS pmax pmax
comp=Z,2.0nm,0.7s
SPITS Spitsbergen Ar 42.00 358 P **P 02 01 42.8 -0.7**
comp=Z,6.1nm,0.9s,baz=148,slow=12,SNR=11
SPITS Spitsbergen Ar 42.00 358 P **P 02 01 42.8 -0.7**
comp=Z,2.0nm,0.7s
NVS Novosibirsk 44.20 46 *e*P **P 02 01 58.7 -2.8**
NVS pmax pmax
comp=Z,10.0nm,0.5s
NVS pmax pmax
comp=N,2.0nm,0.4s
NVS pmax pmax
comp=E,4.0nm,0.5s
MK31 Makanchi Array 44.26 57 *e*P **P 02 02 01.9 -0.2**
MK31 pmax pmax
comp=Z,12nm,0.3s
MK31 Makanchi Array 44.26 57 *e*P **P 02 02 01.9 -0.2**
comp=Z,12nm,0.3s
MKAR Makanchi Array 44.26 57 P **P 02 02 01.6 -0.5**
MKAR 02 03 45.6
MKAR pmax pmax
comp=Z,13nm,0.4s
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 44.26 57 P **P 02 02 01.6 -0.5**
comp=Z,13nm,0.3s,baz=271,slow=8.3,SNR=496
MKAR PcP **PcP 02 03 45.6 0.0**
comp=Z,1.5nm,0.5s,baz=262,slow=3.7,SNR=4.1
ZALV Zalesovo Beam 45.16 47 P **P 02 02 08.2 -0.9**
ZALV pmax pmax
comp=Z,6.0nm,0.3s
ZALV Zalesovo Beam 45.16 47 P **P 02 02 08.2 -0.9**
comp=Z,6.4nm,0.3s,baz=270,slow=8.0,SNR=43
DANN Dangsing 50.84 81 *e*P **P 02 02 54.1 +0.4**
comp=Z,49nm,0.5s
KOLN Koldanda 50.96 82 *e*P **P 02 02 53.3 -1.2**
comp=Z,7.4nm,0.4s
GKN Gorkha 51.69 81 *e*P **P 02 02 59.2 -0.7**
DMN Daman 52.23 81 *e*P **P 02 03 03.9 -0.2**
KKN Kakani 52.29 81 *e*P **P 02 03 03.6 -0.9**
PKIN Phulchoki 52.48 81 *e*P **P 02 03 04.9 -1.0**
PKI Pulchoki 52.49 81 *e*P **P 02 03 05.5 -0.6**
comp=Z,12nm,0.5s
GUN Gumba 52.72 80 *e*P **P 02 03 07.4 -0.4**
comp=Z,16nm,0.5s
JIRN Jiri 53.07 80 *e*P **P 02 03 10.1 -0.3**
comp=Z,12nm,0.4s
RAMN Ramite 53.71 81 *e*P **P 02 03 14.1 -0.9**
comp=Z,14nm,0.6s
TAPN Taplejung 54.42 80 *e*P **P 02 03 18.8 -1.4**
GTA Gaotai 58.59 62 *e*P **P 02 03 49.1 -0.4**
GTA PMZ
comp=Z,4.0nm,0.7s
SONM Songino Array 59.77 51 P **P 02 03 56.9 -0.6**
SONM 02 04 43.4
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 59.77 51 P **P 02 03 56.9 -0.6**
comp=Z,0.8nm,0.5s,baz=273,slow=7.0,SNR=6.9
SONM PcP **PcP 02 04 43.4 -0.2**
comp=Z,0.3nm,0.3s,baz=289,slow=4.5,SNR=4.0
TIXI Tiksi 60.50 21 *e*P **P 02 04 02.8 +1.0**
TIXI pmax pmax
comp=Z,6.0nm,2.5s
TIXI Tiksi 60.50 21 *e*P **P 02 04 02.8 +1.0**
comp=Z,6.0nm,2.5s
LBTB Lobatse 61.11 178 *e*P **P 02 04 05.7 -0.9**
LBTB pmax pmax
comp=Z,9.0nm,1.3s
LBTB Lobatse 61.11 178 *e*P **P 02 04 05.7 -0.9**
comp=Z,9.1nm,1.3s
LBTB Lobatse 61.11 178 *e*P **P 02 04 05.7 -0.9**
comp=Z,9.1nm,1.3s
SCHQ Schefferville 61.36 319 P **P 02 04 07.9 -0.1**
comp=Z,1.8nm,0.3s,baz=58,slow=7.1,SNR=14
RES Resolute Bay 62.12 345 *e*P **P 02 04 13.5 +0.7**
RES Resolute Bay 62.12 345 *e*P **P 02 04 13.5 +0.7**
RES Resolute Bay 62.12 345 *e*P **P 02 04 13.5 +0.7**
BOSA Boshof 64.68 178 *e*P **P 02 04 30.2 -0.1**
BOSA pmax pmax
comp=Z,15nm,1.5s
BOSA Boshof 64.68 178 *e*P **P 02 04 30.2 -0.1**
comp=Z,15nm,1.5s
BOSA Boshof 64.68 178 *e*P **P 02 04 30.2 -0.1**
comp=Z,15nm,1.5s
CMAR Chiang Mai Arr 67.79 83 *c e*P **P 02 04 50.7 +0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 67.79 83 P **P 02 04 50.0 -0.5**
comp=Z,1.1nm,0.3s,baz=309,slow=6.4,SNR=7.1
CMAR Chiang Mai Arr 67.79 83 P **P 02 04 50.0 -0.5**
BILL Bilibino 72.21 14 *e*P **P 02 05 19.3 +2.6**
BILL pmax pmax
comp=Z,3.0nm,1.4s
YKA Yellowknife Ar 75.85 341 P **P 02 05 37.2 -0.8**
comp=Z,0.4nm,0.6s,baz=31,slow=5.2,SNR=8.2
USRK Ussuriysk Ar. 76.93 44 P **P 02 05 43.9 -0.6**
comp=Z,1.0nm,0.4s,baz=307,slow=5.2,SNR=6.5
KSAR Wonju Array Be 78.59 52 P **P 02 05 53.3 -0.6**
KSAR Wonju Array Be 78.59 52 P **P 02 05 53.3 -0.6**
KSAR Wonju Array Be 78.59 52 P **P 02 05 53.3 -0.6**
KSRS Korea Array 78.61 52 P **P 02 05 53.3 -0.6**
KSRS pmax pmax
comp=Z,3.0nm,0.5s
KSRS Korea Array 78.61 52 P **P 02 05 53.3 -0.6**
comp=Z,3.2nm,0.5s,baz=312,slow=4.7,SNR=8.8
ILAR Eielson Array 78.88 356 P **P 02 05 55.0 0.0**
comp=Z,0.3nm,0.4s,baz=337,slow=3.8,SNR=8.9
MJAR Matsushiro Arr 85.51 47 P **P 02 06 30.0 -0.2**
MJAR pmax pmax
comp=Z,3.0nm,0.5s
MJAR Matsushiro Arr 85.51 47 P **P 02 06 30.0 -0.2**
comp=Z,3.1nm,0.6s,baz=310,slow=3.8,SNR=6.8
MJAR Matsushiro Arr 85.51 47 P **P 02 06 30.0 -0.2**
comp=Z,3.0nm,0.5s
WRA Warramunga Arr 118.08 95 PKP **PKPdf 02 12 38.4 -0.6**
comp=Z,0.3nm,0.4s,baz=316,slow=2.1,SNR=3.1
ASAR Alice Springs 119.61 99 PKP **PKPdf 02 12 41.8 -0.1**
comp=Z,0.3nm,0.5s,baz=332,slow=1.9,SNR=3.8

DJA 12 02:00:12.0±1.1, 11°S±8°×11°8E±°, h10km, M3.8/5, mb4.0/1, mB4.3/1, MLv3.6/5, Mw(mB)3.5/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.67**	**42**	P	Pn	02 00 39.3	-2.1
WBSI				S	Sb	02 01 03.5	-0.5
JAGI	**Jajag, Banyuwa**	**4.71**	**300**	P	Pn	02 01 14.5	-8.7
BKSI	**Bulukumba**	**5.83**	**19**	P	Pn	02 01 39.1	+0.5

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*ISCJB **12** 02:00:27.3±0.6, 34°36S±0°07×72°1W±0°1, h16km, mb4.1/9, Error ellipse: s-maj=15.9km s-min=10.3km az=164.8*
*IDC **12** 02:00:27.7±1.6, 34°30S×71°75W, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.6/34, mbtmp3.9/6, ML4.0/2, MS3.2/1, Ms1 3.1/1, ms1mx2.8/25, Error ellipse: s-maj=49.7km s-min=28.8km az=88.0*
*NEIC **12** 02:00:31.9±0.5, 34°36S×72°06W, h35km, mb4.3/7, Error ellipse: s-maj=11.8km s-min=8.2km az=74.0*

ISC 12 02:00:29.3±0.9, 34°34S±0°09×72°1W±0°1, h16km, n25, σ0°85/23, mb4.3/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan** baz=228,slow=12	**4.27**	**51**	Pn	**Pn**	**02 01 35.4**	**+1.7**
LCO	**Las Campanas** 23nm,0.7s	**5.45**	**13**	*e*Pn	**Pn**	**02 01 50.4**	**+0.2**
PLCA	**Paso Flores** 0.8nm,0.3s,baz=343,slow=12,SNR=9.1	**6.50**	**169**	Pn	**Pn**	**02 02 04.8**	**+0.4**
PLCA				Lg	Lg	02 03 44.4	
PLCA	0.4nm,0.3s,baz=284,slow=13,SNR=3.4			LR	LR	02 04 42.1	
PLCA	comp=Z,185nm,20.2s,baz=330,slow=39 **Paso Flores** 8.1nm,0.7s	**6.50**	**169**	*e*Pn	**Pn**	**02 02 04.4**	**0.0**
PLCA				Lg	Lg	02 03 44.4	
TRQA	**Tornquist**	**9.01**	**117**	*e*Pn	**Pn**	**02 02 38.8**	**+0.1**
LVC	**Limon Verde**	**12.02**	**14**	*e*Pn	Pn	02 03 16.8	-3.5
LPAZ	**La Paz** 0.2nm,0.3s,baz=196,slow=9.2,SNR=7.1	**18.34**	**12**	P	**Pn**	**02 04 42.3**	**-1.3**
LPAZ	**La Paz** 4.8nm,1.1s	**18.34**	**12**	*e*P	**P**	**02 04 44.3**	**+0.6**
SIV	**San Ignacio** 1.4nm,0.6s,baz=204,slow=10.0,SNR=3.7	**20.81**	**31**	P	**P**	**02 05 08.6**	**-1.4**
SAML	**Samuel** 1.7nm,0.8s	**26.58**	**20**	*e*P	**P**	**02 06 06.5**	**-0.3**
OTAV	**Otavalo**	**34.90**	**349**	*e*P	**P**	**02 07 20.9**	**+0.2**
PTGA	**Pitinga** 1.4nm,0.3s,baz=201,slow=12,SNR=6.2	**35.32**	**21**	P	**P**	**02 07 23.7**	**-0.2**
SDV	**Santo Domingo**	**43.01**	**2**	*e*P	**P**	**02 08 28.1**	**-0.3**
OBIP	**Obispado Ponce**	**52.36**	**7**	*e*P	**P**	**02 09 41.1**	**+0.6**
SDDR	**Presa de Saban**	**53.03**	**1**	*e*P	P	02 09 42.1	-3.5
GOGA	**Godfrey**	**68.23**	**350**	*e*P	**P**	**02 11 28.5**	**-0.5**
KMSC	**Kings Mountain** 2.0nm,0.6s	**69.66**	**352**	*e*P	**P**	**02 11 37.7**	**-0.1**
TXAR	**Lajitas Array** 0.3nm,0.5s,baz=158,slow=8.1,SNR=6.2	**69.99**	**331**	P	**P**	**02 11 42.0**	**+1.8**
WHTX	**Lake Whitney,** 8.4nm,0.9s	**70.15**	**337**	*e*P	**P**	**02 11 39.7**	**-1.3**
SWET	**Sewanee** 2.1nm,0.6s	**70.39**	**348**	*e*P	**P**	**02 11 42.5**	**+0.1**
WVT	**Waverly** 4.2nm,0.7s	**71.62**	**347**	*e*P	**P**	**02 11 50.2**	**+0.4**
LAZ	**Ladron**	**75.84**	**331**	*e*P	**P**	**02 12 14.8**	**-0.1**
ANMO	**Albuquerque**	**76.04**	**331**	*e*P	**P**	**02 12 16.2**	**+0.3**
DUG	**Dugway, Tooele** 1.2nm,0.7s	**83.12**	**330**	*e*P	**P**	**02 12 55.1**	**+0.8**
TORD	**Torodi Ar. Bea** 0.5nm,0.5s,baz=250,slow=6.4,SNR=11	**84.41**	**70**	P	**P**	**02 13 00.5**	**-0.8**

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*IDC **12** 02:12:51.4±3.0, 34°65S×72°30W, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.5/17, mbtmp3.4/4, ML3.6/3, MS3.5/1, Ms1 3.4/1, ms1mx2.6/26, Error ellipse: s-maj=67.7km s-min=21.7km az=95.0*

*ISCJB **12** 02:12:52.2±0.6, 34°.59S±0°.07×72°.39W±0°.10, h18km, mb4.1/10, MS3.4/1, Error ellipse: s-maj=11.9km s-min=9.1km az=24.7*
*NEIC **12** 02:12:55.3±3.6, 34°.57S×72°.30W, h27km±25km, mb4.2/9, Error ellipse: s-maj=20.0km s-min=9.7km az=77.0*
ISC 12 02:12:52.7±0.8, 34.80S±0°.06×72.4W±0°.1, h18km, n22, σ1§43/21, mb4.3/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.72**	**49**	Pn	**Pn**	**02 14 03.5**	**+0.4**
	0.5nm,0.3s,baz=228,slow=12,SNR=10						
CFAA				Sn	**Sn**	**02 14 55.9**	**-1.5**
	0.8nm,0.3s,baz=209,slow=19,SNR=3.6						
LCO	**Las Campanas**	**5.95**	**14**	*e*Pn	**Pn**	**02 14 17.1**	**-3.0**
	7.3nm,0.6s						
LCO				*e*Sn	Sn	02 15 20.3	-7.7
LCO				*e*Sg	**Sb**	**02 15 49.9**	**+2.9**
PLCA	**Paso Flores**	**6.10**	**167**	Pn	Pn	02 14 26.7	+4.7
	0.8nm,0.3s,baz=347,slow=11,SNR=17						
PLCA				Lg	Lg	02 16 08.7	
	0.5nm,0.3s,baz=276,slow=22,SNR=4.6						
PLCA	**Paso Flores**	**6.10**	**167**	*e*Pn	Pn	02 14 27.2	+5.2
PLCA				*e*Sg	**Sg**	**02 16 07.2**	**-1.3**
PLCA				Lg	Lg	02 16 08.7	
TRQA	**Tornquist**	**9.00**	**114**	*e*Pn	**Pn**	**02 15 02.4**	**+0.6**
LPAZ	**La Paz**	**18.83**	**13**	P	**Pn**	**02 17 12.7**	**0.0**
	0.1nm,0.3s,baz=194,slow=8.3,SNR=3.0						
LPAZ	**La Paz**	**18.83**	**13**	*e*P	**Pn**	**02 17 11.8**	**-0.9**
	2.2nm,1.0s						
BDFB	**Brasilia**	**29.03**	**55**	LR	LR	02 32 45.6	
	comp=Z,82nm,18.2s,baz=214,slow=41						
BCIP	**Isla Barro Col**	**44.29**	**349**	*e*P	**P**	**02 21 01.4**	**-0.1**
JTS	**JuntasAbangare**	**46.39**	**343**	*e*P	**P**	**02 21 17.9**	**-0.3**
LRAL	**Lakeview Retre**	**68.86**	**347**	*e*P	**P**	**02 23 55.9**	**0.0**
	1.8nm,0.6s						
WVT	**Waverly**	**72.02**	**347**	*e*P	**P**	**02 24 15.9**	**+0.6**
	2.2nm,0.7s						
ANMO	**Albuquerque**	**76.34**	**332**	*e*P	**P**	**02 24 39.0**	**-1.8**
	0.6nm,0.7s						
WUAZ	**Wupatki**	**78.85**	**328**	*e*P	**P**	**02 24 54.6**	**-0.1**
	2.6nm,0.9s						
MVCO	**Mesa Verde**	**79.12**	**331**	*e*P	**P**	**02 24 55.8**	**-0.5**
CASY	**Casey**	**79.22**	**181**	*e*P	P	02 24 59.2	+3.0
	47nm,1.2s						
TSUM	**Tsumeb**	**79.28**	**106**	*e*P	**P**	**02 24 59.3**	**+1.7**
	2.4nm,0.8s						
ISCO	**Idaho Springs**	**80.32**	**335**	*e*P	**P**	**02 25 04.4**	**+1.6**
	1.7nm,0.9s						
LBTB	**Lobatse**	**82.24**	**115**	*e*P	**P**	**02 25 13.8**	**+0.5**
	1.5nm,0.5s						
DUG	**Dugway, Tooele**	**83.41**	**330**	*e*P	**P**	**02 25 19.5**	**+0.6**
	1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**84.76**	**70**	P	**P**	**02 25 25.4**	**-0.7**
	0.5nm,0.8s,baz=238,slow=5.9,SNR=3.9						
TKM2	**Tokmak 2**	**153.91**	**62**	*e*PKPbc	**PKPbc**	**02 32 52.9**	**+1.9**

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*ISCJB **12** 02:24:48.0±1.0, 34°.32S±0°.03×72°.07W±0°.06, h19km±7km, mb4.1/14, MS4.1/2, Error ellipse: s-maj=8.0km s-min=5.4km az=16.1*
*IDC **12** 02:24:47.7±1.2, 34°.21S×71°.82W, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.9/17, mbtmp3.9/6, ML3.8/2, MS4.0/2, Ms1 4.0/2, ms1mx3.1/26, Error ellipse: s-maj=45.4km s-min=26.3km az=78.0*
*NEIC **12** 02:24:48.9, 34°.32S×72°.00W, h11km, mb4.3/13, ML4.1(GUC), After GUC.*
NEIC Felt [IV] at Pichilemu, [III] at San Fernando and [II] at Quillota, Rancagua and San Antonio.
*GUC **12** 02:24:49.0±0.5, 34°.32S×71°.97W, h11km±4km, ML4.1*
ISC 12 02:24:48.4±1.6, 34.32S±0°.03×71.95W±0°.06, h10km±10km, n64, σ1§08/77, mb4.3/14, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.58**	**51**	⇑*i*P	**Pb**	**02 25 00.7**	**+0.1**
LNV				*e*S	**Sb**	**02 25 09.1**	**+0.1**
NICH	**Los Niches**	**0.90**	**139**	*i* P	**Pg**	**02 25 05.6**	**-0.2**
NICH				*i* S	**Sb**	**02 25 18.9**	**+0.7**
NICH				AML	AML	02 25 21.5	
	comp=E,13μm,0.4s						
NICH	**Los Niches**	**0.90**	**139**	*e*P	**Pg**	**02 25 05.6**	**-0.2**
NICH				*i* S	**Sb**	**02 25 18.9**	**+0.7**
CACH	**El Canelo**	**1.14**	**80**	⇑*i*P	**Pg**	**02 25 10.5**	**+0.2**
CACH				*i* S	**Sn**	**02 25 27.1**	**+0.8**
CHCH	**Chadas Angostu**	**1.14**	**70**	⇓*i*P	**Pb**	**02 25 10.1**	**-0.3**
RCDM	**Rinconada Maip**	**1.26**	**49**	*i* P	**Pn**	**02 25 11.3**	**-0.9**
RCDM				*i* S	**Sb**	**02 25 28.0**	**-0.7**
RCDM				AML	AML	02 25 30.3	
	comp=E,4μm,0.2s						
RCDM	**Rinconada Maip**	**1.26**	**49**	⇓*i*P	**Pn**	**02 25 11.2**	**-0.9**
RCDM				*i* S	**Sb**	**02 25 28.0**	**-0.7**
IHA	**Instituto Hidr**	**1.32**	**11**	*i* P	**Pn**	**02 25 12.0**	**-0.9**
IHA				*i* S	**Sb**	**02 25 29.7**	**-0.5**
IHA	**Instituto Hidr**	**1.32**	**11**	*e*P	**Pn**	**02 25 12.1**	**-0.9**
IHA				*i* S	**Sb**	**02 25 29.8**	**-0.5**
ANTU	**Antumapu**	**1.33**	**56**	*i* P	**Pn**	**02 25 12.7**	**-0.4**
ANTU				*i* S	**Sb**	**02 25 30.6**	**+0.1**
ANTU				AML	AML	02 25 32.4	
	comp=N,8μm,0.3s						
ANTU	**Antumapu**	**1.33**	**56**	⇓*i*P	**Pn**	**02 25 12.9**	**-0.2**
ANTU				*i* S	**Sg**	**02 25 31.3**	**+0.1**
STL	**Santa Lucia**	**1.40**	**51**	*i* P4	**Pn**	**02 25 13.2**	**-1.0**
STL				*i* S	**Sn**	**02 25 32.4**	**-0.3**
LACH	**Col Las Americ**	**1.47**	**54**	*i* P	**Pn**	**02 25 14.9**	**-0.1**
LACH				*i* S	**Sn**	**02 25 34.5**	**+0.2**
LACH				AML	AML	02 25 38.7	
	comp=E,2μm,0.4s						
LACH	**Col Las Americ**	**1.47**	**54**	*e*P	**Pn**	**02 25 14.7**	**-0.3**
LACH				*i* S	**Sb**	**02 25 35.1**	**+0.5**
CLCH	**Cerro Calan**	**1.50**	**52**	*i* P	**Pn**	**02 25 15.4**	**0.0**
CLCH				*i* S	**Sn**	**02 25 35.4**	**+0.3**
CLCH				AML	AML	02 25 45.9	
	comp=N,6μm,0.5s						
PEL	**Peldehue**	**1.58**	**42**	*i* P	**Pn**	**02 25 16.9**	**+0.4**
PEL				*i* S	**Sn**	**02 25 37.6**	**+0.5**
PEL				AML	AML	02 25 42.8	
	comp=N,10μm,0.5s						
PEL	**Peldehue**	**1.58**	**42**	*e*P	**Pn**	**02 25 16.9**	**+0.4**
PEL				*i* S	**Sb**	**02 25 37.8**	**0.0**
CFAA	**Coronel Fontan**	**4.13**	**50**	Pn	**Pn**	**02 25 54.7**	**+3.0**
	comp=N,0.4nm,0.3s,baz=224,slow=12,SNR=18						
CFAA				Lg	Lg	02 26 54.0	
	comp=N,1.2nm,0.3s,baz=131,slow=20,SNR=3.2						
CFAA				LR	LR	02 27 21.9	
	comp=N,7.4nm,21.2s,baz=202,slow=39						
LCO	**Las Campanas**	**5.40**	**12**	*e*Pn	**Pn**	**02 26 08.7**	**-0.7**
	comp=N,16nm,0.6s						
LCO				*e*Sg	**Sb**	**02 27 33.6**	**+5.5**
PLCA	**Paso Flores**	**6.49**	**171**	Pn	**Pn**	**02 26 25.9**	**+1.7**
	comp=N,0.4nm,0.3s,baz=339,slow=15,SNR=12						
PLCA				Lg	Lg	02 28 06.4	
	comp=N,0.3nm,0.3s,baz=258,slow=19,SNR=2.8						
PLCA	**Paso Flores**	**6.49**	**171**	*e*Pn	**Pn**	**02 26 26.2**	**+2.1**
	comp=N,5.7nm,0.7s						
PLCA				*e*Pg	Pg	02 26 47.5	-5.3
PLCA				*e*Sn	**Sn**	**02 27 37.1**	**-1.2**
PLCA				*e*Sg	Sb	02 28 05.9	+6.7
PLCA				Lg	Lg	02 28 06.4	
TRQA	**Tornquist**	**8.88**	**118**	*e*Pn	**Pn**	**02 26 56.7**	**-0.1**
LVC	**Limon Verde**	**11.97**	**14**	*e*Pn	**Pn**	**02 27 37.0**	**-2.4**
LPAZ	**La Paz**	**18.29**	**12**	P	**Pn**	**02 29 02.4**	**-0.5**
	comp=N,0.1nm,0.3s,baz=181,slow=8.7,SNR=9.5						
LPAZ	**La Paz**	**18.29**	**12**	*e*P	**P**	**02 29 03.7**	**+0.6**
	comp=N,3.5nm,0.8s						
SIV	**San Ignacio**	**20.71**	**31**	P	**P**	**02 29 27.6**	**-1.4**
	comp=N,2.0nm,0.6s,baz=214,slow=11,SNR=7.3						
SAML	**Samuel**	**26.51**	**20**	*e*P	**P**	**02 30 25.6**	**-0.6**
	comp=N,2.1nm,0.8s						
BCIP	**Isla Barro Col**	**43.89**	**349**	*e*P	**P**	**02 32 54.6**	**-0.7**
JTS	**JuntasAbangare**	**46.05**	**342**	*e*P	**P**	**02 33 13.2**	**+0.6**
SNAA	**Sanae**	**51.26**	**158**	*e*P	**P**	**02 33 52.4**	**+0.3**
	comp=N,2.1nm,0.7s						
APG	**El Apazote**	**52.12**	**337**	LR	LR	02 49 41.4	
	comp=N,182nm,21.6s,baz=266,slow=29						
OBIP	**Obispado Ponce**	**52.32**	**6**	*e*P	**P**	**02 33 59.3**	**-1.1**
CBYP	**Canovanas**	**52.62**	**7**	*e*P	**P**	**02 34 00.6**	**-2.1**
QSPA	**South Pole Qui**	**55.91**	**180**	*e*P	**P**	**02 34 27.3**	**+1.0**
	comp=N,2.3nm,0.8s						
HKT	**Hockley**	**67.79**	**338**	*e*P	**P**	**02 35 47.5**	**+1.1**
	comp=N,2.1nm,0.8s						
TXAR	**Lajitas Array**	**70.05**	**331**	P	**P**	**02 36 01.3**	**+0.6**
	comp=N,0.2nm,0.5s,baz=161,slow=8.6,SNR=7.9						
SWET	**Sewanee**	**70.41**	**348**	*e*P	**P**	**02 36 02.7**	**+0.1**
	comp=N,5.0nm,0.7s						
WVT	**Waverly**	**71.64**	**347**	*e*P	**P**	**02 36 09.9**	**-0.2**
	comp=N,7.1nm,0.9s						
ANMO	**Albuquerque**	**76.10**	**331**	*e*P	**P**	**02 36 36.3**	**-0.2**
	comp=N,1.5nm,1.0s						
BOSA	**Boshof**	**79.86**	**118**	P	**P**	**02 36 58.5**	**+0.8**
	comp=N,2.0nm,0.8s,baz=249,slow=5.4,SNR=3.8						
BOSA	**Boshof**	**79.86**	**118**	*e*P	**P**	**02 36 58.1**	**+0.4**
	comp=N,3.3nm,0.7s						
ISCO	**Idaho Springs**	**80.05**	**334**	*e*P	**P**	**02 36 56.4**	**-2.1**
	comp=N,1.2nm,0.8s						
LBTB	**Lobatse**	**82.10**	**115**	*e*P	**P**	**02 37 09.9**	**+0.3**
	comp=N,1.7nm,0.7s						
DUG	**Dugway, Tooele**	**83.19**	**330**	*e*P	**P**	**02 37 14.7**	**-0.2**
	comp=N,3.3nm,1.2s						
HWUT	**Hardware Ranch**	**83.87**	**331**	*e*P	**P**	**02 37 17.9**	**-0.5**
	comp=N,2.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**84.25**	**70**	P	**P**	**02 37 20.6**	**-0.1**
	comp=N,0.8nm,0.8s,baz=239,slow=4.3,SNR=6.4						
FCC	**Fort Churchill**	**94.56**	**349**	*e*P	**P**	**02 38 08.6**	**+0.1**
FRB	**Frobisher Bay**	**97.78**	**2**	LR	LR	03 26 48.7	
	comp=N,66nm,20.3s,baz=241,slow=38						
YKA	**Yellowknife Ar**	**102.39**	**341**	P	**Pdif**	**02 38 43.2**	**-0.5**
	comp=N,0.1nm,0.6s,baz=143,slow=4.4,SNR=6.4						
H11S2	**WAKE ISLAND Hyl**	**25.84**	**269**	T	T	05 02 07.4	
	baz=99						
H11S1	**WAKE ISLAND Hyl**	**25.85**	**269**	T	T	05 02 06.8	
	baz=99						
H11S3	**WAKE ISLAND Hyl**	**25.86**	**269**	T	T	05 02 09.9	
	baz=99						
H11N3	**WAKE ISLAND Hyl**	**26.26**	**270**	T	T	05 02 40.1	
	baz=116,slow=78,SNR=4.6						
H11N1	**WAKE ISLAND Hyl**	**26.27**	**270**	T	T	05 02 40.6	
	baz=116,slow=78,SNR=1.4						
H11N2	**WAKE ISLAND Hyl**	**26.28**	**270**	T	T	05 02 41.0	
	baz=116,slow=78,SNR=8.4						
GNI	**Garni**	**130.20**	**64**	*e*PKPdf	**PKPdf**	**02 44 00.1**	**+1.2**
BRVK	**Borovoye**	**147.39**	**43**	*e*PKPbc	**PKPbc**	**02 44 32.8**	**+0.8**
BVAR	**Borovoye Array**	**147.47**	**43**	PKPbc	**PKPbc**	**02 44 32.8**	**+0.6**
	comp=N,1.2nm,0.5s,baz=300,slow=2.8,SNR=7.3						
KKAR	**Karatay Array**	**149.63**	**62**	*e*PKPbc	**PKPbc**	**02 44 38.1**	**0.0**
KKAR				*e*PKPab	**PKPab**	**02 44 42.9**	**-0.5**
KULM	**Kulim**	**150.31**	**165**	*e*PKPdf	**PKPdf**	**02 44 35.1**	**-0.3**
KULM				*e*PKPbc	**PKPbc**	**02 44 40.0**	**-0.5**
KURBB	**Kurchatov Arra**	**153.05**	**44**	PKPbc	**PKPbc**	**02 44 46.1**	**+0.4**
	comp=N,0.6nm,0.5s,baz=298,slow=2.9,SNR=4.7						
KURK	**Kurchatov**	**153.06**	**44**	PKPbc	**PKPbc**	**02 44 46.1**	**+0.4**
TKM2	**Tokmak 2**	**153.36**	**62**	*e*PKPdf	**PKPdf**	**02 44 39.0**	**-0.4**
ZALV	**Zalesovo Beam**	**154.46**	**33**	PKPbc	**PKPbc**	**02 44 49.1**	**+0.5**
	comp=N,0.8nm,0.5s,baz=316,slow=4.1,SNR=3.9						
ZALV				PKPab	**PKPab**	**02 45 03.3**	**+0.3**
	comp=N,0.9nm,0.6s,baz=307,slow=2.9,SNR=3.6						

IGQ 12 02:29:07±0.2, 1°.81S×77°.70W, h2km±15km, Mb4.1, 7C-22D, Error ellipse: s-maj=1.2km s-min=0.9km az=17.3, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.67**	**228**	⇓P	Pg	02 29 20.2	0.0
MACE	**Macas**	**0.67**	**228**	⇓S	Sg	02 29 29.7	+0.6
ULBA	**Ulba**	**0.80**	**296**	P	Pb	02 29 24.0	-0.1
BPAT	**Tungurahua Vol**	**0.80**	**292**	⇓P	Pg	02 29 23.1	+0.2
BPAT	**Tungurahua Vol**	**0.80**	**292**	⇓S	Sg	02 29 34.2	+0.5
PAT1	**Patacocha**	**0.80**	**292**	⇓P	Pg	02 29 23.1	+0.1
BULB	**Ulba Tungurahu**	**0.80**	**297**	⇓S	Sg	02 29 34.3	+0.6
BULB	**Ulba Tungurahu**	**0.80**	**297**	⇓P	Pg	02 29 23.1	+0.2
BRUN	**Tungurahua Vol**	**0.81**	**298**	⇓S	Sb	02 29 35.6	-0.4
BRUN	**Tungurahua Vol**	**0.81**	**298**	⇓P	Pg	02 29 23.5	+0.4
ARRY	**Arrayan**	**0.81**	**291**	S	Sb	02 29 35.6	-0.6
ARRY	**Arrayan**	**0.81**	**291**	P	Pb	02 29 24.7	+0.3
RUN5	**Runtun**	**0.82**	**298**	P	Pg	02 29 23.5	+0.2
RETU	**Refugio**	**0.83**	**295**	⇓P	Pb	02 29 24.6	-0.2
RETU	**Refugio**	**0.83**	**295**	⇓S	Sg	02 29 35.0	+0.1
BMAS	**Trigal station**	**0.84**	**291**	⇓S	Sg	02 29 35.1	+0.3
BMAS	**Trigal station**	**0.84**	**291**	⇓P	Pb	02 29 24.6	-0.2
JUI6	**Juive**	**0.86**	**296**	⇓P	Pb	02 29 24.8	-0.3
JUI6	**Juive**	**0.86**	**296**	⇓S	Sg	02 29 35.6	+0.2
BBIL	**Ulba Tungurahu**	**0.87**	**294**	⇓P	Pg	02 29 24.1	0.0
BBIL	**Ulba Tungurahu**	**0.87**	**294**	⇓S	Sb	02 29 36.8	-0.9
BIL2	**Estacion Bilba**	**0.88**	**293**	P	Pb	02 29 25.7	+0.3
BIL2	**Estacion Bilba**	**0.88**	**293**	S	Sg	02 29 36.5	+0.5
RIOE	**Riobamba**	**0.94**	**273**	S	Sg	02 29 37.4	-0.5
RIOE	**Riobamba**	**0.94**	**273**	P	Pg	02 29 25.1	-0.4
IGUA	**Igualata**	**0.99**	**288**	⇓P	Pb	02 29 27.9	+0.2
PISA	**Pisayambo**	**1.01**	**317**	⇓P	Pg	02 29 27.2	+0.1
COV1	**Cotopaxi Volc**	**1.31**	**330**	P	Pb	02 29 33.3	+0.2
COV1	**Cotopaxi Volc**	**1.31**	**330**	S	Sn	02 29 53.0	+1.2
BMOR	**Cotopaxi Volca**	**1.31**	**324**	⇓S	Sn	02 29 51.5	-0.2
BMOR	**Cotopaxi Volca**	**1.31**	**324**	⇓P	Pg	02 29 32.5	-0.5
MOV1	**Cotopaxi Vol s**	**1.32**	**326**	P	Pb	02 29 33.5	+0.3
MOV1	**Cotopaxi Vol s**	**1.32**	**326**	S	Sg	02 29 49.8	-0.9
BTAM	**Cotopaxi Volca**	**1.32**	**328**	⇑P	Pb	02 29 33.6	+0.3
BTAM	**Cotopaxi Volca**	**1.32**	**328**	⇑S	Sn	02 29 52.1	+0.1
BVC2	**Cotopaxi Volca**	**1.35**	**328**	⇑P	Pn	02 29 33.1	-0.5
BREF	**Cotopaxi Volca**	**1.35**	**327**	⇑S	Sn	02 29 52.8	-0.1
BREF	**Cotopaxi Volca**	**1.35**	**327**	⇑P	Pn	02 29 33.3	-0.4
VC1	**Cotopaxi 1**	**1.35**	**329**	P	Pn	02 29 33.2	-0.4
CAMI	**Rancho Maria**	**1.38**	**324**	P	Pb	02 29 34.8	+0.6
CAMI	**Rancho Maria**	**1.38**	**324**	S	Sn	02 29 53.7	+0.5
NAS2	**Nasa**	**1.39**	**326**	P	Pn	02 29 34.1	0.0
ANTI	**Antisana**	**1.43**	**341**	⇑P	Pn	02 29 34.8	+0.1
PAST	**Pastocalle**	**1.45**	**319**	⇑P	Pb	02 29 35.4	0.0
LAV4	**Lavas4-Reventad**	**1.70**	**2**	P	Pn	02 29 38.4	+0.3
CHAR	**Charly**	**1.71**	**1**	P	Pb	02 29 39.1	-0.6
CONE	**Cono NE Rev Vo**	**1.72**	**2**	P	Pb	02 29 39.5	-0.4
JUA2	**San Juan 2**	**1.82**	**330**	P	Pb	02 29 41.4	-0.4
CAYR	**Refugio Cayamb**	**1.83**	**350**	S	Sb	02 30 06.5	+0.4
CAYR	**Refugio Cayamb**	**1.83**	**350**	P	Pn	02 29 41.2	+0.8
GGP	**Refugio Guagua**	**1.85**	**331**	P	Pn	02 29 41.3	+0.7
TERV	**Terraza Guagua**	**1.86**	**331**	P	Pb	02 29 42.2	-0.2
TERV	**Terraza Guagua**	**1.86**	**331**	S	Sg	02 30 08.2	+0.2
ANGU	**Angureal**	**1.87**	**350**	P	Pg	02 29 45.8	+2.2
PINO	**Pino**	**1.87**	**331**	P	Pb	02 29 42.3	-0.4
PINO	**Pino**	**1.87**	**331**	S	Sg	02 30 09.4	+0.8
CAYA	**Cayambe**	**1.89**	**351**	P	Pb	02 29 42.6	-0.3
CAYA	**Cayambe**	**1.89**	**351**	S	Sg	02 30 08.7	-0.2
OTAV	**Otavalo**	**2.17**	**340**	⇓P	Pb	02 29 46.4	-1.1
MAG1	**Magdalena**	**2.70**	**310**	P	Pb	02 29 56.3	+0.2

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*BJI **12** 02:30:39.1, 3°.81N×123°.20E, h595km, mB4.7/24, mb4.7/37*
*ISCJB **12** 02:30:43.0±0.3, 4°.32N±0°.03×122°.96E±0°.04, h592km±4km, mb4.5/54, Error ellipse: s-maj=6.0km s-min=3.7km az=147.5*
*NEIC **12** 02:30:43.7±0.3, 4°.27N×122°.95E, h587km±4km, mb4.6/26, Error ellipse: s-maj=7.1km s-min=4.6km az=52.0*
*DJA **12** 02:30:44.9±0.3, 4°N±4°×12°3E±°, h578km±3km, M4.5/45, mB5.0/21, mb4.7/45, MLv5.2/16, Mw(mB)4.4/21, Mwp6.9/1*
*IDC **12** 02:30:44.5±0.9, 4°.29N×122°.96E, h598km±12km, mb3.7/27, mb1 3.8/27, mb1mx3.7/41, mbtmp4.7/27, Error ellipse: s-maj=12.3km s-min=6.7km az=72.0*
*KLM **12** 02:30:46.1, 4°.38N×122°.87E, h550km, mb4.8, ML4.4, MS5.5*
ISC 12 02:30:44.4±0.4, 4°.24N±0°.04×122°.95E±0°.06, h596km±4km, n208, σ1§34/245, mb4.5/53, 3C-5D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**3.58**	**179**	P	**P**	**02 32 04.5**	**-2.4**
TOLI	**Toli-Toli**	**3.77**	**215**	*e*Pn	**P**	**02 32 05.7**	**-2.4**
KMSI	**Cibinong**	**3.79**	**164**	P	**P**	**02 32 06.7**	**-1.5**
DAV	**Davao City (W)**	**3.84**	**43**	*e*P	**P**	**02 32 08.1**	**-0.4**
MRSI	**Marisa**	**3.87**	**195**	P	**P**	**02 32 08.0**	**-0.8**
MYLDM	**Lahad Datu**	**4.53**	**282**	*e*P	**P**	**02 32 13.2**	**-0.2**
MPSI	**Mapaga**	**4.93**	**218**	P	**P**	**02 32 15.0**	**-1.6**
TSM	**Tawau**	**5.06**	**271**	⇓P	**P**	**02 32 15.8**	**-1.7**
LUWI	**Luwuk**	**5.25**	**182**	P	**P**	**02 32 17.5**	**-1.6**
	143nm,0.8s,2μm3.3nm						
LUWI	**Luwuk**	**5.25**	**182**	P	**P**	**02 32 17.3**	**-1.8**
	baz=5.3,SNR=11						
LUWI				S	**S**	**02 33 32.4**	**-4.0**
	baz=5.3,SNR=18						
LUWI	**Luwuk**	**5.25**	**182**	*e*P	**P**	**02 32 17.2**	**-1.9**
LUWI				*e*S	**S**	**02 33 30.7**	**-5.7**
APSI	**Ampana**	**5.28**	**194**	P	**P**	**02 32 18.0**	**-1.4**
	174nm,0.9s,4μm1.1nm						
TNTI	**Ternate**	**5.60**	**128**	P	**P**	**02 32 20.5**	**-1.5**
	749nm,0.5s,8μm5.4nm						
TNTI	**Ternate**	**5.60**	**128**	*e*P	**P**	**02 32 20.3**	**-1.7**
TNTI				*e*S	S	02 33 30.5	-11
SDKM	**Sandakan**	**5.90**	**284**	⇓P	**P**	**02 32 23.0**	**-1.5**
KDM	**Kudat**	**6.64**	**294**	⇑P	**P**	**02 32 29.5**	**-1.5**
LBMI	**Labuha**	**6.65**	**137**	P	**P**	**02 32 30.2**	**-0.9**
	373nm,0.6s,5μm4.2nm						
KKM	**Kota Kinabalu**	**6.94**	**285**	P	**P**	**02 32 32.1**	**-1.7**
	baz=6.9,SNR=132						
KKM	**Kota Kinabalu**	**6.94**	**285**	⇓P	**P**	**02 32 32.6**	**-1.3**
KKM	**Kota Kinabalu**	**6.94**	**285**	*e*P	**P**	**02 32 31.9**	**-1.9**
	670nm,0.6s						
SANI	**Sanana**	**6.95**	**154**	P	**P**	**02 32 30.9**	**-3.0**
SGKI	**Sangatta, Kali**	**7.14**	**229**	P	P	02 32 30.2	-5.4
TTSI	**Tana Toraja**	**7.89**	**203**	P	**P**	**02 32 41.9**	**-0.7**
	166nm,1.2s,1μm0.4nm						
BKB	**Balikpapan**	**8.15**	**228**	P	**P**	**02 32 44.2**	**-0.9**
	298nm,0.8s,4μm						
NLAI	**Namlea**	**8.51**	**151**	P	**P**	**02 32 49.8**	**+1.2**
	111nm,0.7s,1μm						
SPSI	**Sidrap Palu**	**8.75**	**201**	P	**P**	**02 32 49.8**	**-1.1**
	66nm,0.6s,666nm						
BNSI	**Bone**	**9.04**	**198**	P	**P**	**02 32 54.3**	**+0.6**
	128nm,1.0s,1μm						
MTKI	**Muara Teweh, K**	**9.55**	**238**	P	**P**	**02 32 58.5**	**-0.3**
	84nm,0.7s,6μm						
BBSI	**Bau Bau**	**9.67**	**182**	P	**P**	**02 33 00.6**	**+0.7**
	45nm,0.8s						
KAPI	**Kappang**	**9.73**	**199**	*e*P	**P**	**02 32 59.1**	**-1.4**
	96nm,1.1s						
BTM	**Bintulu**	**9.90**	**264**	⇑P	**P**	**02 33 02.5**	**+0.3**
BKSI	**Bulukumba**	**9.91**	**197**	P	**P**	**02 33 01.8**	**-0.5**
	17nm,0.8s						
SBUM	**Sibu**	**10.86**	**261**	⇑P	**P**	**02 33 12.4**	**+0.6**
SBUM	**Sibu**	**10.86**	**261**	*e*P	**P**	**02 33 11.9**	**+0.1**
FAKI	**Fak Fak**	**11.71**	**127**	P	P	02 33 23.4	+3.1
	68nm,0.6s						
FAKI	**Fak Fak**	**11.71**	**127**	P	**P**	**02 33 20.4**	**+0.1**
	baz=12,SNR=16						
FAKI				S	**S**	**02 35 29.3**	**+0.9**
	baz=12,SNR=9.7						
FAKI	**Fak Fak**	**11.71**	**127**	*e*P	**P**	**02 33 20.5**	**+0.2**
	48nm,0.6s						
KSM	**Kuching**	**12.92**	**258**	P	**P**	**02 33 32.2**	**-0.3**
	baz=13,SNR=7.0						
KSM				S	**S**	**02 35 54.4**	**+3.6**
	baz=13,SNR=3.4						
KSM	**Kuching**	**12.92**	**258**	*e*P	**P**	**02 33 32.0**	**-0.5**
	28nm,0.4s						
SOEI	**Soe**	**13.97**	**175**	P	**P**	**02 33 43.5**	**+0.2**
	37nm,0.7s						
SOEI	**Soe**	**13.97**	**175**	S	**S**	**02 36 11.4**	**+1.8**
	baz=14,SNR=4.6						
SOEI	**Soe**	**13.97**	**175**	*e*P	**P**	**02 33 43.4**	**+0.1**
BATI	**Baumata**	**14.37**	**177**	P	**P**	**02 33 47.1**	**+0.1**
	150nm,0.5s,2μm						
BATI	**Baumata**	**14.37**	**177**	P	**P**	**02 33 46.9**	**-0.2**
	84nm,0.3s,baz=358,slow=2.5,SNR=54						
BATI				S	**S**	**02 36 15.7**	**-0.6**
	4.6nm,0.3s,baz=243,slow=24,SNR=6.7						
ABJI	**Asem Bagus**	**14.79**	**216**	P	P	02 33 57.1	+6.3
JAGI	**Jajag, Bany

MTSU Mount Surprise 30.64 137 P **P** **02 36 13.0 +1.0**
baz=31,SNR=16
MEEK Meekatharra 30.98 188 P **P** **02 36 15.1 +0.3**
baz=31,SNR=7.8
CD2 Chengdu 32.10 328 *e*P **P** **02 36 24.9 +0.6**
CD2 PcP **PcP** **02 38 52.6 -2.5**
CD2 S **S** **02 40 58.5 +2.6**
CD2 PMZ
20nm,1.2s
CD2 PMZ
170nm,10.6s
CTAO Charters Tower 33.30 137 *e*P **P** **02 36 35.3 +0.8**
14nm,0.6s
KSRS Korea Array 33.37 7 P **P** **02 36 34.7 0.0**
1.7nm,0.5s,baz=183,slow=9.7,SNR=5.6
MORW Morawa 33.78 191 P **P** **02 36 38.8 +0.4**
baz=34,SNR=4.9
MAJO Matsushiro 35.08 22 *e*P **P** **02 36 47.4 -1.7**
11nm,0.8s
MAT Matsushiro 35.08 22 P **P** **02 36 47.8 -1.3**
MJAR Matsushiro Arr 35.08 22 P **P** **02 36 47.9 -1.2**
12nm,0.8s,baz=191,slow=8.6,SNR=22
FORT Forrest 35.17 172 P **P** **02 36 51.0 +1.1**
baz=35,SNR=25
FORT Forrest 35.17 172 *e*P **P** **02 36 50.5 +0.6**
48nm,0.6s
BLDU Ballidu 35.17 189 P **P** **02 36 50.2 +0.3**
baz=35,SNR=9.9
KMBL Kambalda 35.43 182 P **P** **02 36 52.8 +0.8**
baz=36,SNR=6.8
KLBR Kellerberrin 35.98 188 P **P** **02 36 57.1 +0.5**
baz=36,SNR=18
LZH Lanzhou 36.25 333 *e*P **P** **02 37 00.8 +1.8**
LZH sP **sP** **02 39 47.1 +0.7**
LZH PMZ
38nm,1.1s
LZH PMZ
130nm,6.3s
QLP Quilpie 36.92 147 P **P** **02 37 05.4 +1.0**
baz=37,SNR=16
NWAO Narrogin (SRO) 37.36 188 P **P** **02 37 08.4 +0.5**
12nm,0.5s,baz=20,slow=8.2,SNR=14
HHC Hu-ho-hao-te 37.86 346 *e*P **P** **02 37 11.3 -0.6**
HHC PP **PP** **02 39 01.6 +2.9**
HHC sP **sP** **02 40 02.1 +1.9**
HHC S **S** **02 42 23.4 +1.6**
HHC sS **sS** **02 45 25.4 -1.0**
HHC ScS **ScS** **02 46 12.7 -2.6**
HHC PMZ
32nm,0.6s
HHC PMZ
110nm,5.7s
BBOO Buckleboo 38.89 162 P **P** **02 37 21.3 +1.0**
baz=39,SNR=34
LSA Lhasa 39.31 314 *e*P **P** **02 37 25.0 +0.8**
32nm,0.6s
STKA Stephens Creek 40.07 155 P **P** **02 37 30.7 +1.0**
9.9nm,0.5s,baz=331,slow=7.7,SNR=51
STKA Stephens Creek 40.07 155 P **P** **02 37 30.9 +1.2**
baz=40,SNR=9.8
STKA Stephens Creek 40.07 155 *e*P **P** **02 37 31.0 +1.3**
EIDS Eidsvold 40.16 139 P **P** **02 37 31.2 +0.7**
baz=40,SNR=3.9
HTT Hallett 40.41 159 P **P** **02 37 34.1 +1.7**
baz=41,SNR=4.4
USRK Ussuriysk Ar. 40.58 10 P **P** **02 37 33.0 -0.6**
11nm,1.0s,baz=198,slow=6.0,SNR=12
MDJ Mudanjiang 40.63 7 P **P** **02 37 33.4 -0.5**
MDJ PMZ
15nm,1.0s
MDJ PMZ
200nm,4.2s
TAPN Taplejung 40.70 308 *e*P **P** **02 37 35.3 +0.1**
21nm,0.4s
ODAN Odare 40.73 307 *e*P **P** **02 37 35.4 +0.1**
26nm,0.5s
GTA Gaotai 40.80 332 ⇓P **P** **02 37 36.3 +0.7**
GTA pP **PcP** **02 39 19.9 -1.9**
GTA sP **sP** **02 40 26.7 +1.4**
GTA ScP **ScP** **02 42 16.1 +0.6**
GTA S **S** **02 43 05.7 +0.9**
GTA sS **sS** **02 46 12.0 -0.3**
GTA SS **SS** **02 46 28.1 -2.6**
GTA PMZ
19nm,0.7s
GTA PMZ
120nm,4.6s
RAMN Ramite 41.40 307 *e*P **P** **02 37 40.9 +0.3**
59nm,0.6s
CMSA Cobar Meteorol 41.66 150 P **P** **02 37 44.4 +2.2**
baz=42,SNR=14
JIRN Jiri 42.04 308 *e*P **P** **02 37 46.0 +0.2**
66nm,0.4s
PALK Pallekele 42.13 276 *e*P **P** **02 37 46.0 -0.3**
GUN Gumba 42.40 308 *e*P **P** **02 37 48.7 +0.1**
PKI Pulchoki 42.62 307 *e*P **P** **02 37 49.9 -0.4**
28nm,0.5s
PKIN Phulchoki 42.63 307 *e*P **P** **02 37 50.0 -0.3**
31nm,0.4s
KKN Kakani 42.82 307 *e*P **P** **02 37 51.4 -0.3**
36nm,0.5s
DMN Daman 42.88 307 *e*P **P** **02 37 52.1 -0.1**
23nm,0.5s
ASAJ Asahikawa 43.33 21 P **P** **02 37 55.0 0.0**
9.6nm,0.5s,baz=231,slow=11,SNR=11
GKN Gorkha 43.42 307 *e*P **P** **02 37 56.2 -0.1**
20nm,0.3s
ARMA Armidale 44.05 143 P **P** **02 38 03.9 +2.9**
baz=44,SNR=8.1
KOLN Koldanda 44.16 306 *e*P **P** **02 38 02.4 +0.4**
156nm,0.5s
DANN Dangsing 44.27 307 *e*P **P** **02 38 03.0 0.0**
166nm,0.6s
ARPS Mount Arapiles 44.45 158 P **P** **02 38 05.2 +1.4**
baz=45,SNR=17
HYB Hyderabad 45.40 290 *i*P **P** **02 38 10.5 -0.9**
ULN Ulaanbaatar 45.56 345 *e*P **P** **02 38 12.2 -0.1**
5.7nm,0.7s
SONM Songino Array 45.70 344 P **P** **02 38 13.1 -0.2**
6.5nm,0.8s,baz=158,slow=8.5,SNR=52
SONM PcP **PcP** **02 39 37.4 -1.2**
1.2nm,0.6s,baz=170,slow=2.6,SNR=5.0
SONM ScP **ScP** **02 42 35.4 0.0**
0.8nm,0.6s,baz=152,slow=3.8,SNR=5.4
CNB Canberra Magne 46.52 150 P **P** **02 38 22.0 +2.3**
baz=47,SNR=11
NDI New Delhi 49.70 304 *e*P **P** **02 38 41.0 -2.4**
WMQ Urumqi 50.19 327 P **P** **02 38 47.7 +1.0**
WMQ PcP **PcP** **02 39 55.7 +0.7**
WMQ PP **PP** **02 40 53.6 +2.9**
WMQ S **S** **02 45 16.5 +1.0**
WMQ ScS **ScS** **02 47 31.6 -3.0**
WMQ PMZ
28nm,1.0s
WMQ PMZ
120nm,5.6s
MKAR Makanchi Array 55.02 327 P **P** **02 39 21.1 +0.1**
20nm,0.3s,baz=123,slow=7.6,SNR=970
MKAR PcP **PcP** **02 40 12.7 -0.7**
7.0nm,0.6s,baz=120,slow=4.0,SNR=14
MKAR ScP **ScP** **02 43 14.8 -0.7**
1.8nm,0.7s,baz=122,slow=5.1,SNR=5.7
KSH Kashi 55.04 316 P **P** **02 39 22.5 +1.1**
KSH pP **pP** **02 41 16.5 +2.8**
KSH PP **PP** **02 41 37.5 +3.6**
KSH S **S** **02 46 16.9 -3.0**
KSH PMZ
5.0nm,0.8s
KSH PMZ
100nm,5.1s
PETK Petropavlovsk- 56.45 24 P **P** **02 39 30.6 -0.1**
2.6nm,0.5s,baz=209,slow=6.2,SNR=6.0
KZA Kyzart 56.72 319 P **P** **02 39 34.4 +1.2**
SNR=6.3
TKM2 Tokmak 2 56.89 320 P **P** **02 39 34.8 +0.6**
SNR=12
TKM2 Tokmak 2 56.89 320 *e*P **P** **02 39 34.2 0.0**
8.9nm,0.6s
KBK Karagaybulak 57.19 319 P **P** **02 39 36.8 +0.7**
SNR=7.0
UCH Uchtor 57.27 319 P **P** **02 39 38.0 +1.0**
SNR=15
AAK Ala-Archa 57.47 319 P **P** **02 39 38.8 +0.7**
SNR=5.7
USP Ospenovka 57.76 320 P **P** **02 39 40.3 +0.5**
SNR=8.6

AML Almayashu 57.77 318 P **P** **02 39 41.2 +0.8**
SNR=15
YAK Yakutsk 57.88 4 *e*P **P** **02 39 40.3 +0.1**
26nm,0.8s
EKS2 Erkin-Say 57.95 319 P **P** **02 39 42.2 +1.0**
SNR=8.7
EKS2 Erkin-Say 57.95 319 *e*P **P** **02 39 41.6 +0.3**
7.1nm,0.6s
KBL Kabul 58.23 308 P **P** **02 39 43.3 -0.1**
baz=58,SNR=10
KBL Kabul 58.23 308 *e*P **P** **02 39 43.0 -0.4**
18nm,0.6s
ZALV Zalesovo Beam 58.47 335 P **P** **02 39 43.4 -0.9**
7.2nm,0.6s,baz=130,slow=5.1,SNR=32
KURK Kurchatov 59.32 329 *e*P **P** **02 39 49.7 -0.3**
22nm,0.4s
BVAR Borovoye Array 64.86 328 P **P** **02 40 25.5 -0.3**
3.0nm,0.4s,baz=136,slow=9.1,SNR=40
BRVK Borovoye 64.93 328 *e*P **P** **02 40 25.3 -1.0**
18nm,1.1s
IDAH Dahanechah 65.16 304 *e*P **P** **02 40 28.6 +0.1**
IKOO Kooshah 65.81 304 *e*P **P** **02 40 32.1 -0.4**
ASHO Ashiyiah 67.25 295 ⇓*i*P **P** **02 40 40.7 -0.6**
SNR=6.1
GEYT Alibeck 67.64 309 P **P** **02 40 43.5 +0.1**
6.0nm,0.6s,baz=123,slow=5.3,SNR=14
ABKAR Akbulak array 69.38 321 *e*P **P** **02 40 52.8 -0.7**
12nm,0.6s
BILL Bilibino 70.06 16 *e*P **P** **02 40 57.2 0.0**
ISAD Sadrabad 70.18 302 *e*P **P** **02 40 58.5 -0.5**
ISRV Sarvestan 70.37 300 *e*P **P** **02 40 59.3 -1.0**
IPAR Pars 70.48 300 *e*P **P** **02 41 00.4 -0.5**
ILAS Lasjerd 71.26 306 *e*P **P** **02 41 04.5 -0.8**
IZEF Zefreh 71.45 303 *e*P **P** **02 41 04.6 -1.8**
IFIR Firoozkooh 71.46 306 *e*P **P** **02 41 06.1 -0.4**
IKAZ Kazeroun 71.51 300 *e*P **P** **02 41 05.5 -1.5**
IPRN Peran 71.88 307 *e*P **P** **02 41 08.0 -0.7**
IKLH Kolahrood 72.12 304 *e*P **P** **02 41 10.5 +0.2**
ARU Arti 72.50 328 *e*P **P** **02 41 10.4 -1.3**
8.8nm,0.6s
IPIR Pirpir 72.62 303 *e*P **P** **02 41 11.4 -1.9**
IMHD Mahdasht 73.15 306 *e*P **P** **02 41 16.0 0.0**
IRAZ Razeghan 73.72 306 *e*P **P** **02 41 18.8 -0.6**
RAYN Ar Rayn 76.81 293 *e*P **P** **02 41 35.4 -1.1**
14nm,0.6s
KBZ Khabaz 79.89 314 P **P** **02 41 52.0 -0.4**
3.5nm,0.8s,baz=91,slow=5.9,SNR=5.2
VNDA Vanda 84.43 172 P **P** **02 42 15.4 +0.8**
0.7nm,0.4s,baz=313,slow=6.6,SNR=5.4
VNDA Vanda 84.43 172 *e*P **P** **02 42 15.2 +0.6**
0.8nm,0.5s
MCK McKinley 85.39 26 *e*P **P** **02 42 19.4 -0.2**
2.1nm,0.5s
KMBO Kilima Mbogo 85.79 269 P **P** **02 42 23.3 +0.5**
3.3nm,0.8s,baz=57,slow=8.3,SNR=7.8
EIL Elat 86.18 299 P **P** **02 42 24.5 +0.4**
baz=86,SNR=6.4
ILAR Eielson Array 86.26 25 P **P** **02 42 22.6 -1.1**
0.4nm,0.6s,baz=267,slow=4.4,SNR=8.3
BRTR Keskin Array B 86.78 309 P **P** **02 42 25.7 -1.2**
1.3nm,0.7s,baz=123,slow=4.8,SNR=8.4
JOF Joensuu 87.00 333 *e*p **P** **02 42 24.5 -2.7**
6.5nm,0.6s
KEV Kevo 88.11 340 *e*p **P** **02 42 32.2 0.0**
0.5nm,0.3s
ARCES ARCESS Array B 88.66 340 P **P** **02 42 33.5 -1.3**
3.0nm,0.7s,baz=83,slow=5.8,SNR=10
PPT2 Papeete2 88.86 108 *e*LR LR 02 44 46.1
146nm,26.5s
AKASG Malin Array Be 89.11 321 P **P** **02 42 35.9 -1.4**
1.8nm,0.5s,baz=69,slow=4.8,SNR=6.1
KAF Kangasniemi 89.39 332 *e*p **P** **02 42 35.6 -2.7**
7.4nm,0.6s
FINES FINESS Array B 89.59 332 P **P** **02 42 38.0 -1.2**
5.1nm,0.6s,baz=76,slow=5.9,SNR=38
KOLS Kolonicke sedl 93.82 319 *e*P **P** **02 42 58.0 -1.0**
STHS Stebnicka Huta 94.39 320 *e*P **P** **02 43 02.0 +0.4**
NB2 NORSAR Subarra 96.63 333 P **P** **02 43 09.6 -1.9**
comp=Z,1.3nm,0.6s,baz=68,slow=4.6
NOA NORSAR Array B 96.63 333 P **P** **02 43 09.8 -1.6**
comp=Z,0.9nm,0.6s,baz=62,slow=1.9,SNR=6.3
MORC Moravsky Berou 96.65 321 *e*P **P** **02 43 12.0 +0.2**
comp=Z,1.2nm,0.6s
GERES GERESS Array B 99.32 321 P **Pdif** **02 43 23.6 -0.2**
comp=Z,0.3nm,0.5s,baz=80,slow=5.4,SNR=5.3
TORD Torodi Ar. Bea 119.17 287 PKP **PKPdf** **02 48 27.2 -0.5**
comp=Z,1.2nm,0.5s,baz=74,slow=1.7,SNR=40
SCHQ Schefferville 120.58 7 PKP **PKPdf** **02 48 28.7 -0.6**
comp=Z,1.0nm,0.6s,baz=333,slow=4.5,SNR=3.9
DBIC Dimbokro 126.78 282 PKP **PKPdf** **02 48 42.2 -0.1**
comp=Z,2.6nm,0.6s,baz=67,slow=3.4,SNR=6.3

NEIC ***12*** *02:32:01.9±1.3,29°.65S×177°.66W,h48km±10km,mb4.3/2,*
Error ellipse: s-maj=17.4km s-min=13.5km az=119.0
IDC ***12*** *02:32:03.4±0.6,29°.41S×177°.66W,h56km±4km,mb3.8/4,*
mb1 4.1/4,mb1mx3.8/17,mbtmp4. 1/4,MS3.5/3,Ms1 3.4/3,
ms1mx3.0/33,Error ellipse: s-maj=22.0km s-min=11.2km
az=31.0
ISC 12 02:32:01.9±0.7,29°.92S±0°.06×177°.8W±0°.1,h54km±5km,
h53km:pP-P,n64,σ1s67/61,mb4.4/9,1D,Kermadec
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.68**	**349**	P	**Pn**	**02 32 13.3**	**-2.3**
	2μm,0.3s,baz=104,slow=6.9,SNR=198						
RAO				S	**Sn**	**02 32 22.2**	**-3.2**
	5μm,0.3s,baz=72,slow=19,SNR=52						
MXZ	**Matakaoa Point**	**8.29**	**202**	*e*PN	**Pn**	**02 33 57.1**	**-2.4**
MXZ				SN	**Sn**	**02 35 30.8**	**-0.9**
WMGZ	**Waiomatatini S**	**8.49**	**201**	*e*PN	**Pn**	**02 34 00.4**	**-1.8**
HAZ	**Te Kaha**	**8.64**	**204**	*e*PN	**Pn**	**02 34 02.5**	**-1.8**
HAZ				*e*SN	**Sn**	**02 35 40.8**	**+0.5**
PUZ	**Puketiti**	**8.77**	**201**	*e*PN	Pn	02 34 02.4	-3.7
PUZ				SN	**Sn**	**02 35 40.0**	**-3.6**
TWGZ	**Tauwhareparae**	**8.96**	**202**	SN	**Sn**	**02 35 45.4**	**-2.7**
OUZ	**Omahuta**	**9.00**	**232**	*e*Pn	Pn	02 34 18.7	+10
	86nm,0.5s						
CNGZ	**Carnagh Statio**	**9.17**	**200**	PN	Pn	02 34 06.0	-5.5
MWZ	**Matawai**	**9.25**	**204**	*e*PN	Pn	02 34 09.4	-3.3
MWZ				SN	**Sn**	**02 35 53.2**	**-2.1**
URZ	**Urewera**	**9.34**	**206**	P	**Pn**	**02 34 15.7**	**+1.9**
	1.3nm,0.3s,baz=272,slow=5.1,SNR=8.0						
URZ				S	**Sn**	**02 35 56.9**	**-0.4**
	3.8nm,0.3s,baz=24,slow=22,SNR=9.0						
URZ	**Urewera**	**9.34**	**206**	*e*PN	**Pn**	**02 34 11.5**	**-2.3**
URZ				SN	**Sn**	**02 35 57.9**	**+0.6**
RAGZ	**Rawiri**	**9.43**	**204**	*e*PN	**Pn**	**02 34 12.8**	**-2.4**
RAGZ				SN	**Sn**	**02 35 58.2**	**-1.7**
PNHZ	**Pukenui**	**11.13**	**205**	SN	**Sn**	**02 36 37.5**	**-3.7**
BFZ	**Birch Farm**	**11.79**	**203**	SN	Sn	02 36 50.4	-6.9
MRZ	**Mangatainoka R**	**12.01**	**205**	*e*PN	Pn	02 34 44.8	-5.5
MRZ				SN	Sn	02 36 55.1	-7.6
HOWZ	**Holdsworth Sta**	**12.24**	**205**	SN	Sn	02 37 00.4	-8.0
TMWZ	**Te Maipa**	**12.29**	**203**	SN	Sn	02 37 03.1	-6.6
KIW	**Kapiti Island**	**12.44**	**207**	SN	Sn	02 37 06.6	-6.5
TCW	**Tory Channel**	**12.98**	**208**	SN	Sn	02 37 18.7	-7.8
KHZ	**Kahutara**	**14.30**	**207**	SN	Sn	02 37 48.5	-10
DZM	**Mont Dzumac**	**16.19**	**295**	LR	LR	02 40 25.8
	comp=Z,150nm,18.7s,baz=316,slow=31						
TBI	**Tubuai**	**26.10**	**82**	*e*T	T	03 03 37.0
	13nm,0.3s						
PAE	**Paea**	**28.45**	**71**	*e*T	T	03 06 46.0
	3.5nm,0.3s						
CTAO	**Charters Tower**	**33.92**	**278**	*e*P	**P**	**02 38 39.6**	**-0.5**
	40nm,1.4s						
STKA	**Stephens Creek**	**34.78**	**256**	P	P	02 38 51.2	+3.8
	3.5nm,0.6s,baz=98,slow=15,SNR=2.3						
STKA				pP	pP	02 39 06.3	+5.1
	4.9nm,0.7s,baz=94,slow=7.9,SNR=2.9						
STKA				LR	LR	02 51 59.8
	comp=Z,56nm,19.1s,baz=34,slow=34						
PMG	**Port Moresby**	**38.58**	**295**	*e*P	**P**	**02 39 19.5**	**-0.4**
	36nm,1.3s						
ASAR	**Alice Springs**	**43.33**	**266**	P	**P**	**02 40 00.3**	**+1.3**
	0.9nm,0.6s,baz=104,slow=7.0,SNR=5.5						
ASAR				pP	**pP**	**02 40 16.4**	**+3.3**
	2.6nm,0.7s,baz=103,slow=7.3,SNR=8.9						
ASAR				LR	LR	02 57 24.4
	comp=Z,57nm,18.6s,baz=144,slow=35						
WRAB	**Tennant Creek**	**44.27**	**272**	*e*P	**P**	**02 40 07.7**	**+1.2**
WRA	**Warramunga Arr**	**44.28**	**272**	P	**P**	**02 40 08.1**	**+1.5**
	1.4nm,0.4s,baz=109,slow=7.7,SNR=3.7						
WRA				pP	**pP**	**02 40 24.5**	**+3.8**
	3.7nm,0.6s,baz=111,slow=7.7,SNR=7.4						
FORT	**Forrest**	**46.36**	**255**	*e*P	P	02 40 27.2	+4.3
	24nm,0.9s						
SYO	**Syowa Base**	**77.62**	**193**	⇓*e*P	pP	02 44 08.6	+1.4
SNAA	**Sanae**	**78.63**	**178**	*e*P	P	02 44 01.8	+4.1
	5.2nm,1.1s						
NVAR	**Mina Array Bea**	**87.75**	**43**	P	**P**	**02 44 44.8**	**-0.4**
	1.0nm,0.7s,baz=225,slow=8.8,SNR=8.4						
TUC	**Tucson**	**88.66**	**51**	*e*P	**P**	**02 44 50.9**	**+1.4**
	1.3nm,0.8s						
RES	**Resolute Bay**	**116.73**	**17**	*e*PKPdf	**PKPdf**	**02 50 37.8**	**-1.3**
MKAR	**Makanchi Array**	**117.61**	**310**	PKP	**PKPdf**	**02 50 41.3**	**-0.4**
	0.2nm,0.7s,baz=115,slow=2.1,SNR=2.8						
BOSA	**Boshof**	**117.78**	**203**	*e*PKPdf	**PKPdf**	**02 50 45.7**	**+2.8**
KURK	**Kurchatov**	**120.86**	**314**	PKP	**PKPdf**	**02 50 46.5**	**-1.2**
KURK				pPKP	**pPKPdf**	**02 51 04.2**	**+0.4**
KURBB	**Kurchatov Arra**	**120.90**	**314**	PKP	**PKPdf**	**02 50 46.5**	**-1.3**
	0.6nm,0.3s,baz=80,slow=1.5,SNR=5.0						
KURBB				pPKP	**pPKPdf**	**02 51 04.2**	**+0.3**
	0.7nm,0.6s,baz=108,slow=2.0,SNR=4.0						
AAK	**Ala-Archa**	**122.01**	**304**	*e*PKPdf	**PKPdf**	**02 50 51.1**	**+0.6**
BVAR	**Borovoye Array**	**126.20**	**316**	PKP	**PKPdf**	**02 50 57.8**	**-0.1**
	0.4nm,0.4s,baz=54,slow=2.5,SNR=3.3						
BVAR				pPKP	**pPKPdf**	**02 51 14.7**	**+0.7**
	1.1nm,0.7s,baz=141,slow=2.6,SNR=6.2						
KMBO	**Kilima Mbogo**	**134.52**	**234**	*e*PKPdf	**PKPdf**	**02 51 15.8**	**+0.5**
H10S3	**ASCENSION HYDR**	**138.07**	**155**	T	T	05 26 19.2
	baz=204,slow=75,SNR=15						
H10S2	**ASCENSION HYDR**	**138.07**	**155**	T	T	05 26 19.2
	baz=204,slow=75,SNR=16						
H10S1	**ASCENSION HYDR**	**138.09**	**155**	T	T	05 26 19.2
	baz=204,slow=75,SNR=12						
ARCES	**ARCESS Array B**	**138.16**	**348**	PKhKP	PKPpre	02 51 16.6
	1.7nm,0.8s,baz=318,slow=1.2,SNR=4.5						
ARCES				PKP	**PKPdf**	**02 51 20.1**	**+0.1**
	2.4nm,0.8s,baz=18,slow=4.3,SNR=4.1						
H10N3	**ASCENSION HYDR**	**139.16**	**154**	T	T	05 27 33.9
	baz=203,slow=75,SNR=10.0						
H10N1	**ASCENSION HYDR**	**139.16**	**154**	T	T	05 27 33.0
	baz=203,slow=75,SNR=12						
H10N2	**ASCENSION HYDR**	**139.17**	**154**	T	T	05 27 32.8
	baz=203,slow=75,SNR=9.0						
JOF	**Joensuu**	**142.04**	**339**	*e*pkp	PKPdf	02 51 21.9	-5.3
GNI	**Garni**	**144.02**	**298**	*e*PKPdf	**PKPdf**	**02 51 32.6**	**+1.0**
KAF	**Kangasniemi**	**144.16**	**341**	*e*pkp	**PKPab**	**02 51 25.6**	**-3.2**
FINES	**FINESS Array B**	**144.76**	**340**	PKP	**PKPab**	**02 51 30.9**	**-0.1**
	0.8nm,0.3s,baz=116,slow=3.2,SNR=10						
KIV	**Kislovodsk**	**145.12**	**305**	*e*PKPdf	**PKPdf**	**02 51 33.5**	**+0.2**
NB2	**NORSAR Subarra**	**148.31**	**352**	PKP	**PKPbc**	**02 51 41.0**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=13,slow=2.9						
NOA	**NORSAR Array B**	**148.31**	**352**	PKPbc	**PKPbc**	**02 51 41.3**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=14,slow=4.3,SNR=12						
NOA				pPKPbc	**pPKPbc**	**02 51 58.4**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=12,slow=4.4,SNR=6.2						
HFS	**Hagfors**	**148.81**	**349**	PKPbc	**PKPbc**	**02 51 42.5**	**-0.3**
	comp=Z,4.6nm,0.7s,baz=46,slow=4.2,SNR=15						
HFS				pPKPbc	**pPKPbc**	**02 51 59.3**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=77,slow=3.2,SNR=5.0						
AKASG	**Malin Array Be**	**151.04**	**323**	PKPbc	**PKPbc**	**02 51 48.5**	**0.0**
	comp=Z,0.8nm,0.4s,baz=48,slow=3.2,SNR=3.1						
AKASG				PKPab	**PKPab**	**02 51 57.1**	**+0.9**
	baz=39,slow=1.9						
AKASG				pPKPbc	**pPKPbc**	**02 52 04.3**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=47,slow=2.9,SNR=4.4						
MMAI	**Mount Meron Ar**	**151.60**	**285**	PKPbc	**PKPbc**	**02 51 50.9**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=86,slow=5.9,SNR=7.6						
MMAI				PKPab	**PKPab**	**02 52 00.6**	**+1.3**
	comp=Z,0.7nm,0.4s,baz=94,slow=7.6,SNR=5.6						
MMAI				pPKPbc	**pPKPbc**	**02 52 07.4**	**+0.9**
	comp=Z,2.4nm,0.6s,baz=61,slow=5.2,SNR=5.2						
BRTR	**Keskin Array B**	**152.54**	**299**	PKPbc	**PKPbc**	**02 51 53.8**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=119,slow=4.4,SNR=3.3						
BRTR				PKPab	**PKPab**	**02 52 03.0**	**-0.2**
	baz=68,slow=3.7						
BRTR				pPKPbc	**pPKPbc**	**02 52 09.3**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=142,slow=4.7,SNR=3.4						
EKA	**Eskdalemuir Ar**	**154.31**	**7**	PKPab	**PKPab**	**02 52 09.2**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=326,slow=2.9,SNR=4.9						
STU	**Stuttgart**	**160.44**	**346**	*e*PKPdf	**PKPdf**	**02 51 55.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**163.30**	**178**	PKPab	**PKPab**	**02 52 51.8**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=186,slow=5.0,SNR=3.4						
AQU	**L'Aquila**	**164.68**	**327**	*e*PKPdf	**PKPdf**	**02 51 59.4**	**-0.3**
AQU				*e*PKPab	**PKPab**	**02 52 53.6**	**-1.8**

IDC ***12*** *02:35:41.8±0.9,35°.20S×71°.81W,h0km,mb4.1/7,*
mb1 4.2/8,mb1mx4.0/17,mbtmp4.1/8,ML4.3/1,MS3.4/2,
Ms1 3.4/2,ms1mx3.0/23,Error ellipse: s-maj=36.2km
s-min=22.4km az=76.0
ISCJB ***12*** *02:35:47.8±0.9,35°.13S±0°.04×71°.96W±0°.10,h57km±7km,*
mb4.4/24,MS3.7/1,Error ellipse: s-maj=13.5km
s-min=6.8km az=4.2
NEIC ***12*** *02:35:47.7,35°.03S×72°.03W,h31km±3km,mb4.4/17,*
ML4.3(GUC),After GUC.
NEIC Felt [IV] at Curico and [III] at San Fernando.
GUC ***12*** *02:35:47.7±0.7,35°.03S×72°.03W,h31km±3km,ML4.3*
ISC 12 02:35:48.5±1.4,35°.08S±0°.05×71°.98W±0°.10,h46km±11km,
n73,σ1s07/92,mb4.4/24,7C-4D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.62**	**83**	⇑*i*P	**Pn**	**02 36 00.8**	**-0.3**
NICH				*i* S	**Sn**	**02 36 09.6**	**-0.5**
NICH				AML	AML	02 36 10.5
	comp=E,46μm,0.5s						
NICH	**Los Niches**	**0.62**	**83**	⇑*i*P	**Pn**	**02 36 00.8**	**-0.3**
NICH				*i* S	**Sn**	**02 36 09.6**	**-0.5**
LNV	**Longovilo**	**1.22**	**23**	*e*P1	**Pn**	**02 36 08.3**	**-0.8**
LNV	**Longovilo**	**1.22**	**23**	*e*P	**Pn**	**02 36 08.3**	**-0.8**
CACH	**El Canelo**	**1.49**	**50**	⇓*i*P	**Pn**	**02 36 13.2**	**+0.2**
CACH	**El Canelo**	**1.49**	**50**	⇓*i*P	**Pn**	**02 36 13.2**	**+0.2**
CHCH	**Chadas Angostu**	**1.58**	**44**	⇓*i*P	**Pn**	**02 36 14.8**	**+0.7**
CHCH	**Chadas Angostu**	**1.58**	**44**	⇓*i*P	**Pn**	**02 36 14.8**	**+0.7**
RCDM	**Rinconada Maip**	**1.86**	**32**	*e*P	**Pn**	**02 36 17.9**	**0.0**
RCDM				*i* S	**Sn**	**02 36 41.7**	**+1.4**
RCDM				AML	AML	02 36 45.0
	comp=E,3μm,0.1s						
RCDM	**Rinconada Maip**	**1.86**	**32**	*e*P	**Pn**	**02 36 17.9**	**0.0**
RCDM				*i* S	**Sn**	**02 36 41.7**	**+1.4**
ANTU	**Antumapu**	**1.88**	**37**	*e*P	**Pn**	**02 36 18.6**	**+0.4**
ANTU				*i* S	**Sn**	**02 36 42.3**	**+1.7**
ANTU				AML	AML	02 36 45.6
	comp=E,7μm,0.3s						
ANTU	**Antumapu**	**1.88**	**37**	*e*P	**Pn**	**02 36 18.6**	**+0.4**
ANTU				*i* S	**Sn**	**02 36 42.3**	**+1.7**
SAN	**Santiago**	**1.96**	**34**	⇑*i*P	**Pn**	**02 36 20.0**	**+0.7**
SAN				*i* S	**Sn**	**02 36 44.6**	**+2.0**
SAN				AML	AML	02 36 50.2
	comp=N,3μm,0.3s						
SAN	**Santiago**	**1.96**	**34**	⇑*i*P	**Pn**	**02 36 20.0**	**+0.7**
SAN				*i* S	**Sn**	**02 36 44.6**	**+2.0**
SJCH	**San Jose de Ma**	**1.97**	**44**	*e*P9	**Pn**	**02 36 19.4**	**-0.1**
SJCH				*e*S	**Sn**	**02 36 44.3**	**+1.3**
SJCH				AML	AML	02 36 51.8
	comp=E,2μm,0.4s						
SJCH	**San Jose de Ma**	**1.97**	**44**	*e*P	**Pn**	**02 36 19.4**	**-0.1**
SJCH				*e*S	**Sn**	**02 36 44.3**	**+1.3**
STL	**Santa Lucia**	**1.98**	**34**	*e*P1	**Pn**	**02 36 20.1**	**+0.5**
STL				*i* S1	**Sn**	**02 36 44.7**	**+1.5**
LACH	**Col Las Americ**	**2.02**	**37**	*e*P1	**Pn**	**02 36 20.8**	**+0.6**
LACH				*i* S	**Sn**	**02 36 46.0**	**+1.8**
LACH				AML	AML	02 36 50.8
	comp=N,2μm,0.3s						
LACH	**Col Las Americ**	**2.02**	**37**	*e*P	**Pn**	**02 36 20.8**	**+0.6**
LACH				*i* S	**Sn**

comp=N,217nm,21.0s,baz=286,slow=43
PLCA Paso Flores 5.75 169 *e*Pn **Pn 02 37 13.4 +2.0**
comp=N,11nm,0.6s
LCO Las Campanas 6.15 11 *e*Pn **Pn 02 37 15.9 -1.1**
comp=N,23nm,0.6s
LCO *e*Sn **Sn 02 38 22.9 -3.3**
TRQA Tornquist 8.58 113 *e*Pn **Pn 02 37 51.2 +1.1**
LVC Limon Verde 12.71 13 *e*Pn **Pn 02 38 45.3 -1.6**
LPAZ La Paz 19.03 11 P **Pn 02 40 08.3 -0.1**
comp=N,0.4nm,0.3s,baz=182,slow=6.1,SNR=10
LPAZ La Paz 19.03 11 *e*P **Pn 02 40 08.7 +0.3**
comp=N,2.9nm,0.6s
SIV San Ignacio 21.38 30 P **P 02 40 30.0 -2.2**
comp=N,5.4nm,0.7s,baz=224,slow=6.7,SNR=9.7
SAML Samuel 27.23 19 *e*P **P 02 41 27.3 -0.9**
comp=N,1.8nm,0.8s
OTAV Otavalo 35.65 349 *e*P **P 02 42 43.9 +1.1**
comp=N,2.6nm,0.9s
SDV Santo Domingo 43.75 2 *e*P **P 02 43 48.0 -1.6**
comp=N,4.6nm,0.8s
RCBR Riachuelo 44.18 57 LR LR 03 02 17.9
comp=N,77nm,18.2s,baz=212,slow=36
GRGR Grenville 47.96 14 *e*P **P 02 44 24.7 +2.0**
SNAA Sanae 50.57 157 P **P 02 44 40.6 -1.5**
comp=N,2.7nm,0.8s,baz=284,slow=12,SNR=13
SNAA Sanae 50.57 157 *e*P **P 02 44 41.6 -0.5**
comp=N,8.6nm,0.9s
OBIP Obispado Ponce 53.08 6 *e*P **P 02 45 01.4 +0.2**
QSPA South Pole Qui 55.16 180 *e*P **P 02 45 17.5 +1.4**
comp=N,5.1nm,0.9s
ASCN Ascension 59.10 77 *e*P **P 02 45 42.9 -1.6**
HKT Hockley 68.48 338 *e*P **P 02 46 45.8 +0.1**
comp=N,2.8nm,1.0s
LRAL Lakeview Retre 69.21 347 *e*P **P 02 46 50.8 +0.5**
comp=N,4.5nm,0.6s
KMSC Kings Mountain 70.41 352 *e*P **P 02 46 57.5 -0.1**
comp=N,11nm,1.1s
TXAR Lajitas Array 70.70 331 P **P 02 47 00.6 +1.0**
comp=N,0.4nm,0.5s,baz=149,slow=7.3,SNR=6.5
SWET Sewanee 71.14 348 *e*P **P 02 47 02.0 -0.1**
comp=N,7.2nm,0.8s
WVT Waverly 72.37 347 *e*P **P 02 47 09.6 +0.2**
comp=N,8.5nm,0.8s
WCI Wyandotte Cave 74.14 348 *e*P **P 02 47 20.2 +0.4**
comp=N,3.4nm,0.6s
LIC Lamto 75.07 71 *e*P **P 02 47 25.7 -0.1**
comp=N,41nm,1.9s
TIC Toumodi 75.34 71 *e*P **P 02 47 26.7 -0.7**
comp=N,2.3nm,0.2s
KIC Kosan Boka 75.38 71 *e*P **P 02 47 27.2 -0.4**
comp=N,34nm,1.4s
DBIC Dimbokro 75.48 71 P **P 02 47 27.9 -0.3**
comp=N,3.3nm,0.7s,baz=216,slow=7.2,SNR=6.3
DBIC Dimbokro 75.48 71 *e*P **P 02 47 27.6 -0.6**
comp=N,3.3nm,0.6s
ANMO Albuquerque 76.75 331 *e*P **P 02 47 35.9 +0.8**
comp=N,1.1nm,0.9s
CASY Casey 78.94 181 *e*P **P 02 47 47.4 +0.6**
comp=N,68nm,1.3s
BOSA Boshof 79.53 118 P **P 02 47 49.8 -1.1**
comp=N,1.2nm,0.5s,baz=229,slow=2.4,SNR=5.8
BOSA Boshof 79.53 118 *e*P **P 02 47 50.2 -0.6**
comp=N,4.7nm,0.9s
HWUT Hardware Ranch 84.52 331 *e*P **P 02 48 17.4 +0.8**
comp=N,1.0nm,0.6s
TORD Torodi Ar. Bea 84.53 70 P **P 02 48 16.6 -0.4**
comp=N,2.4nm,0.7s,baz=252,slow=5.4,SNR=31
PDAR Pinedale Array 84.75 333 P **P 02 48 18.1 +0.4**
comp=N,0.4nm,0.6s,baz=140,slow=5.7,SNR=3.5
TAM Tamanrasset 93.25 64 *e*P **P 02 48 58.2 -0.3**
comp=N,0.6nm,0.6s
FCC Fort Churchill 95.30 349 *e*P **P 02 49 06.8 +0.1**
WRA Warramunga Arr 119.84 209 PKP **PKPdf 02 54 33.8 -0.5**
comp=N,0.4nm,0.8s,baz=154,slow=1.7,SNR=3.0
GNI Garni 130.55 64 *e*PKPdf **PKPdf 02 54 53.3 -0.9**
PALK Pallekele 142.64 131 *e*PKPdf **PKPdf 02 55 18.2 +1.0**
BRVK Borovoye 147.96 44 *e*PKPbc **PKPbc 02 55 28.7 +0.6**
BVAR Borovoye Array 148.03 44 PKPbc **PKPbc 02 55 28.5 +0.1**
comp=N,0.8nm,0.5s,baz=276,slow=3.2,SNR=8.3
IPM Ipoh 148.87 166 *e*PKPbc **PKPbc 02 55 32.2 +0.5**
AAK Ala-Archa 152.96 64 PKPbc **PKPbc 02 55 41.2 +0.4**
comp=N,2.5nm,0.7s,baz=216,slow=11,SNR=6.5
AAK PKPab **PKPab 02 55 51.5 -0.6**
comp=N,1.2nm,0.5s,baz=54,slow=1.8,SNR=3.9
TKM2 Tokmak 2 153.74 63 *e*PKPdf **PKPdf 02 55 34.8 +0.2**
TKM2 *e*PKPbc **PKiKP 02 55 42.6 0.0**
TKM2 *e*PKPab **PKPab 02 55 54.3 -1.2**
ZALV Zalesovo Beam 155.10 34 PKPbc PKPdf 02 55 44.2 +8.4
comp=N,0.3nm,0.3s,baz=319,slow=3.3,SNR=2.2
ZALV PKPab **PKPab 02 56 00.8 +0.1**
comp=N,0.7nm,0.7s,baz=336,slow=3.2,SNR=3.3
MKAR Makanchi Array 157.42 51 PKPab **PKPab 02 56 10.7 -0.2**
comp=N,0.2nm,0.4s,baz=297,slow=4.0,SNR=6.0
SONM Songino Array 167.20 5 PKPab **PKPab 02 56 54.3 +0.7**
comp=N,0.4nm,0.9s,baz=339,slow=3.6,SNR=3.4

ISCJB ***12*** *02:47:25.5±0.4, 17°.23N±0°.03×93°.62W±0°.03, h201km±2km, mb4.2/45, Error ellipse: s-maj=5.4km s-min=4.7km az=10.4*
IDC ***12*** *02:47:25.4±0.8, 17°.45N×93°.42W, h174km±9km, mb3.7/21, mb1 3.9/22, mb1mx3.8/30, mbtmp4.3/22, Error ellipse: s-maj=17.9km s-min=10.8km az=51.0*
MEX ***12*** *02:47:26.8±0.8, 17°.07N×93°.70W, h204km±8km, MD3.8*
NEIC ***12*** *02:47:30.7±1.2, 17°.53N×93°.48W, h223km±10km, mb4.6/38, Error ellipse: s-maj=12.1km s-min=6.2km az=217.0*
ISC 12 02:47:26.5±0.6, 17°.27N±0°.06×93°.70W±0°.06, h197km±6km, n371, σ1$06/375, mb4.4/44, 123C-125D, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**1.02**	**318**	*e*P	Pn	02 47 57.4	+1.3
TUIG				*e*S	**Sn**	**02 48 20.0**	**+0.9**
CMIG	**Matias Romero**	**1.15**	**261**	*i* P	**Pn**	**02 47 57.3**	**+0.4**
CMIG				*i* S	**Sn**	**02 48 19.4**	**-1.1**
CMIG	**Matias Romero**	**1.15**	**261**	P	**Pn**	**02 47 57.4**	**+0.4**
	706nm,0.3s,baz=70,slow=7.4,SNR=5909						
CMIG				LR	LR	02 48 12.9	
	comp=Z,269nm,18.2s,baz=168,slow=33						
CMIG				S	**Sn**	**02 48 19.7**	**-0.8**
	616nm,0.3s,baz=336,slow=22,SNR=42						
HUIG	**Huatulco**	**2.75**	**237**	*i* P	**Pn**	**02 48 11.1**	**-2.0**
HUIG				*e*S	**Sn**	**02 48 47.0**	**-2.3**
VHO	**Vista Hermosa**	**2.91**	**267**	*e*P	**Pn**	**02 48 14.8**	**-0.2**
VHO				*e*S	**Sn**	**02 48 52.0**	**-0.9**
SCIG	**Sabancuy**	**2.93**	**54**	*i* P	Pn	02 48 16.2	+1.1
SCIG				*i* S	Sn	02 48 53.9	+0.8
APG	**El Apazote**	**3.84**	**125**	P	**Pn**	**02 48 24.4**	**-2.1**
	41nm,0.3s,baz=313,slow=17,SNR=434						
PNIG	**Pinotepa**	**4.33**	**259**	*e*P	**Pn**	**02 48 30.4**	**-2.0**
PNIG				*e*S	**Sn**	**02 49 22.1**	**-1.9**
TLIG	**Tlapa**	**4.65**	**274**	*i* P	**Pn**	**02 48 36.3**	**-0.2**
MEIG	**Mezcala**	**5.68**	**277**	*i* P	**Pn**	**02 48 50.3**	**+0.5**
MEIG				*e*S	**Sn**	**02 49 54.3**	**-1.1**
CAIG	**El Cayaco**	**6.28**	**269**	*i* P	**Pn**	**02 48 56.7**	**-0.7**
ARIG	**Puente Sto Nin**	**6.41**	**280**	*i* P	**Pn**	**02 49 00.3**	**+1.2**
034A	**Hebbronville**	**10.78**	**336**	⇓P	P	02 49 59.6	-3.2
	baz=11						
JTS	**JuntasAbangare**	**10.97**	**128**	P	Pn	02 50 00.2	+1.8
	3.1nm,0.3s,baz=312,slow=7.2,SNR=14						
JTS				S	**S**	**02 52 03.0**	**+1.8**
	0.8nm,0.3s,baz=252,slow=20,SNR=2.8						
JTS	**JuntasAbangare**	**10.97**	**128**	*e*Pn	P	02 50 01.1	-3.9
933A	**Laredo**	**11.51**	**334**	⇓P	**P**	**02 50 08.0**	**-2.9**
	baz=11						
835A	**Beeville**	**11.61**	**342**	⇑P	**P**	**02 50 09.0**	**-2.9**
	baz=12						
834A	**Tilden**	**11.69**	**338**	⇑P	**Pn**	**02 50 09.8**	**+2.2**
	baz=12						
832A	**Faith Ranch, C**	**12.39**	**333**	⇓P	**P**	**02 50 18.6**	**-2.1**
	baz=12,SNR=5.8						
733A	**Divot King Ran**	**12.50**	**337**	⇓P	**P**	**02 50 20.5**	**-1.3**
	baz=12						
636A	**Smothers Creek**	**12.54**	**346**	⇓P	**Pn**	**02 50 19.6**	**+1.3**
	baz=12,SNR=5.1						
635A	**Leesville**	**12.63**	**344**	⇑P	**Pn**	**02 50 20.8**	**+1.4**
	baz=12						
HKT	**Hockley**	**12.77**	**352**	*e*P	**P**	**02 50 26.1**	**+1.3**
	39nm,1.5s						
732A	**Laxson Ranch,**	**12.78**	**334**	⇑P	**P**	**02 50 24.4**	**-0.6**
	baz=13						
537A	**Green Hill Far**	**12.97**	**350**	⇑P	**P**	**02 50 25.6**	**-1.5**
	baz=13,SNR=9.7						
536A	**Bastrop**	**13.11**	**347**	⇑P	**P**	**02 50 27.2**	**-1.5**
	baz=13,SNR=6.5						
633A	**Saathoff Ranch**	**13.13**	**339**	⇑P	**P**	**02 50 27.8**	**-1.0**
	baz=13						
535A	**Dale**	**13.19**	**345**	⇑P	**P**	**02 50 27.8**	**-1.6**
	baz=13,SNR=6.0						
632A	**Uvalde**	**13.40**	**336**	⇓P	**P**	**02 50 32.5**	**+0.7**
	baz=13						
534A	**Blanco**	**13.43**	**342**	⇑P	**P**	**02 50 30.7**	**-1.5**
	baz=13,SNR=9.9						
631A	**Perdido Creek**	**13.63**	**334**	⇓P	**P**	**02 50 33.9**	**-0.6**
	baz=14						
533A	**Kerrville**	**13.64**	**340**	⇑P	**P**	**02 50 33.5**	**-1.1**
	baz=14,SNR=5.6						
436A	**Wall Ranch, Ga**	**13.73**	**349**	⇑P	**P**	**02 50 34.0**	**-1.5**
	baz=14						
435B	**Jarrell**	**13.91**	**346**	⇑P	**P**	**02 50 36.5**	**-1.0**
	baz=14,SNR=6.3						
532A	**Rocksprings**	**14.00**	**337**	⇑P	**P**	**02 50 38.0**	**-0.5**
	baz=14,SNR=6.2						
339A	**Huntington**	**14.02**	**357**	⇑P	**Pn**	**02 50 36.9**	**+0.1**
	baz=14						
338A	**Crockett**	**14.10**	**354**	⇓P	**P**	**02 50 38.3**	**-1.3**
	baz=14						
434A	**Burnet**	**14.11**	**344**	⇑P	**Pn**	**02 50 38.0**	**0.0**
	baz=14,SNR=7.9						
531A	**Rocksprings**	**14.28**	**335**	⇑P	**P**	**02 50 42.8**	**+1.1**
	baz=14						
JCT	**Junction City**	**14.28**	**338**	⇓P	**P**	**02 50 41.2**	**-0.5**
	baz=14						
JCT	**Junction City**	**14.28**	**338**	*e*Pn	**P**	**02 50 43.1**	**+1.5**
433A	**Art**	**14.29**	**341**	⇑P	**Pn**	**02 50 40.4**	**+0.2**
	baz=14						
336A	**Riesel**	**14.34**	**349**	⇓P	**Pn**	**02 50 41.1**	**+0.3**
	baz=14,SNR=7.0						
335A	**Moody**	**14.36**	**347**	⇑P	**P**	**02 50 42.2**	**-0.3**
	baz=14,SNR=7.0						
334A	**Lometa**	**14.60**	**344**	⇓P	**P**	**02 50 44.9**	**-0.3**
	baz=14,SNR=8.2						
530A	**J-C Ranch, Com**	**14.60**	**333**	⇑P	**P**	**02 50 46.7**	**+1.5**
	baz=14						
432A	**Menard**	**14.64**	**339**	⇓P	**P**	**02 50 46.5**	**+0.8**
	baz=14,SNR=5.6						
239A	**Gary**	**14.70**	**357**	⇑P	**P**	**02 50 45.4**	**-0.9**
	baz=14						
238A	**Jacksonville**	**14.73**	**355**	⇓P	**P**	**02 50 45.7**	**-0.9**
	baz=15						
431A	**Sonora**	**14.76**	**336**	⇓P	**P**	**02 50 47.2**	**+0.2**
	baz=15						
333A	**Richland Sprin**	**14.79**	**342**	⇓P	**P**	**02 50 47.6**	**+0.2**
	baz=15						
529A	**Stev Forest Ra**	**14.98**	**330**	⇓P	**P**	**02 50 50.4**	**+1.0**
	baz=15						
WHTX	**Lake Whitney,**	**15.05**	**348**	⇑P	**P**	**02 50 50.2**	**+0.1**
	baz=15						
332A	**Millersview**	**15.09**	**340**	⇓P	**P**	**02 50 50.8**	**+0.2**
	baz=15						
TXAR	**Lajitas Array**	**15.09**	**325**	P	**P**	**02 50 52.2**	**+1.5**
	0.4nm,0.3s,baz=148,slow=13,SNR=25						
430A	**Baggett Ranch,**	**15.11**	**334**	⇑P	**P**	**02 50 51.9**	**+1.0**
	baz=15						
VBMS	**Vicksburg**	**15.16**	**10**	*e*P	**P**	**02 50 51.9**	**+0.6**
234A	**Clairette**	**15.21**	**345**	⇓P	**P**	**02 50 52.1**	**+0.2**
	baz=15,SNR=9.5						
429A	**Davenport Ranc**	**15.25**	**332**	⇑P	**P**	**02 50 54.1**	**+1.7**
	baz=15,SNR=13						
331A	**San Angelo**	**15.26**	**338**	⇓P	**P**	**02 50 53.6**	**+1.1**
	baz=15,SNR=8.3						
137A	**Heron Place, G**	**15.38**	**353**	⇑P	**P**	**02 50 53.5**	**-0.3**
	baz=15						
138A	**Matatall Enter**	**15.38**	**356**	⇑P	**P**	**02 50 53.6**	**-0.1**
	baz=15						
233A	**Rising Star**	**15.42**	**343**	⇑P	**P**	**02 50 55.1**	**+0.8**
	baz=15,SNR=16						
MTDJ	**Mount Denham**	**15.43**	**84**	*e*Pn	**P**	**02 50 55.5**	**+0.9**
	234nm,1.5s						
232A	**Coleman**	**15.52**	**341**	⇑P	**P**	**02 50 55.9**	**+0.5**
	baz=15						
330A	**Mertzon**	**15.63**	**336**	⇓P	**P**	**02 50 57.6**	**+1.0**
	baz=16,SNR=6.2						
134A	**White-Moore Ra**	**15.74**	**346**	⇓P	**P**	**02 50 57.9**	**+0.1**
	baz=16						
231A	**Bronte**	**15.79**	**339**	⇑P	**P**	**02 50 59.1**	**+0.8**
	baz=16						
133A	**Hamilton Ranch**	**15.98**	**344**	⇓P	**P**	**02 51 01.3**	**+0.8**
	baz=16,SNR=6.4						
329A	**Wagon Wheel Ra**	**16.03**	**334**	⇑P	**Pn**	**02 51 02.6**	**+1.2**
	baz=16						
230A	**Sterling City**	**16.03**	**337**	⇑P	**Pn**	**02 51 02.3**	**+0.9**
	baz=16,SNR=7.8						
ABTX	**Abilene, Hawle**	**16.20**	**342**	⇓P	**Pn**	**02 51 03.6**	**+0.1**
	baz=16						
ABTX	**Abilene, Hawle**	**16.20**	**342**	*e*Pn	**Pn**	**02 51 03.9**	**+0.4**
	8.3nm,0.8s						
Z35A	**Perchaven, San**	**16.31**	**349**	⇓P	**Pn**	**02 51 04.2**	**-0.5**
	baz=16						
229A	**Bryant Ranch,**	**16.38**	**335**	⇓P	**Pn**	**02 51 06.3**	**+0.7**
	baz=16						
Z34A	**Collier Ranch,**	**16.48**	**347**	⇑P	**Pn**	**02 51 06.1**	**-0.6**
	baz=16						
131A	**Roby**	**16.48**	**340**	⇑P	**Pn**	**02 51 06.9**	**0.0**
	baz=16,SNR=7.3						
Z33A	**Whitaker Ranch**	**16.59**	**345**	⇑P	**Pn**	**02 51 08.4**	**+0.3**
	baz=16						
130A	**Snyder**	**16.61**	**338**	⇓P	**Pn**	**02 51 09.3**	**+0.9**
	baz=16						
Z32A	**Haskell**	**16.80**	**343**	P	**Pn**	**02 51 10.7**	**+0.2**
	baz=17,SNR=12						
LRAL	**Lakeview Retre**	**16.82**	**20**	*e*P	**Pn**	**02 51 10.0**	**-0.8**
	8.7nm,0.6s						
TIGA	**Tifton**	**16.83**	**31**	*e*Pn	**Pn**	**02 51 11.4**	**+0.4**
	45nm,0.6s						
228A	**UT Block 9, Go**	**16.83**	**333**	⇑P	**Pn**	**02 51 11.6**	**+0.5**
	baz=17						
129A	**Stewart Farms,**	**16.98**	**336**	⇓P	**Pn**	**02 51 12.3**	**-0.5**
	baz=17						
Z31A	**Sharp Cattle R**	**17.00**	**341**	⇓P	**Pn**	**02 51 12.5**	**-0.5**
	baz=17,SNR=12						
Y34A	**Reagan Ranch,**	**17.01**	**348**	⇓P	**Pn**	**02 51 12.3**	**-0.8**
	baz=17,SNR=7.7						
MIAR	**Mount Ida**	**17.21**	**0**	*e*Pn	**P**	**02 51 13.6**	**-0.3**
	22nm,0.8s						
128A	**Castleberry Fa**	**17.22**	**334**	⇓P	**Pn**	**02 51 15.5**	**-0.2**
	baz=17						
Y33A	**Hilltop Ranch,**	**17.25**	**346**	⇑P	**P**	**02 51 14.7**	**+0.4**
	baz=17						
Z30A	**Sanderson Ranc**	**17.29**	**339**	⇓P	**Pn**	**02 51 16.2**	**-0.3**
	baz=17,SNR=12						
Y32A	**R-V Farms, Ver**	**17.44**	**344**	⇑P	**Pn**	**02 51 17.7**	**-0.4**
	baz=17,SNR=14						
UALR	**University of**	**17.48**	**4**	*e*Pn	**Pn**	**02 51 17.9**	**-0.6**
	22nm,1.0s						
Z29A	**Hungry Hill Ra**	**17.48**	**337**	⇑P	**P**	**02 51 17.3**	**+0.4**
	baz=17						
OXF	**Oxford**	**17.60**	**12**	*e*P	**P**	**02 51 18.1**	**0.0**
	29nm,0.6s						
Y31A	**Rekieta Farm,**	**17.64**	**342**	⇑P	**Pn**	**02 51 19.7**	**-0.8**
	baz=18,SNR=20						
X34A	**Smith Ranch, M**	**17.65**	**349**	⇓P	**P**	**02 51 19.4**	**+0.6**
	baz=18,SNR=6.9						
GDL2	**Guadalupe Moun**	**17.72**	**329**	*e*Pn	**Pn**	**02 51 22.9**	**+1.3**
X33A	**Lawton**	**17.73**	**347**	P	**Pn**	**02 51 20.5**	**-1.0**
	baz=18,SNR=15						
Y30A	**Stafford Cattl**	**17.75**	**340**	⇓P	**P**	**02 51 20.7**	**+0.7**
	baz=18						
Z28A	**Tucker Farm, M**	**17.77**	**336**	⇑P	**Pn**	**02 51 22.0**	**-0.1**
	baz=18,SNR=8.5						
X32A	**Elmer**	**17.80**	**345**	⇓P	**Pn**	**02 51 21.5**	**-0.9**
	baz=18,SNR=18						
GTBY	**Guantanamo Bay**	**17.82**	**79**	*e*Pn	**Pn**	**02 51 22.7**	**0.0**
	219nm,0.8s						
WMOK	**Wichita Mounta**	**17.98**	**346**	*e*P	**P**	**02 51 22.8**	**+0.4**
	7.5nm,0.8s						
Y29A	**Porterfield Fa**	**18.00**	**338**	⇑P	**Pn**	**02 51 24.0**	**-0.8**
	baz=18,SNR=7.2						
X31A	**McDonald Ranch**	**18.18**	**343**	⇓P	**Pn**	**02 51 26.1**	**-0.7**
	baz=18,SNR=19						
W34A	**Bridge Creek,**	**18.26**	**349**	⇑P	**P**	**02 51 26.1**	**+0.7**
	baz=18,SNR=9.4						
W34A	**Bridge Creek,**	**18.26**	**349**	*e*P	**P**	**02 51 26.2**	**+0.9**
	32nm,0.6s						
Y28A	**McKinney Farm,**	**18.26**	**337**	⇓P	**P**	**02 51 26.2**	**+0.8**
	baz=18,SNR=9.4						
X30A	**Coker Ranch, T**	**18.27**	**341**	⇑P	**Pn**	**02 51 26.8**	**-1.1**
	baz=18,SNR=9.9						
W33A	**Caddo, Fort Co**	**18.31**	**347**	⇑P	**Pn**	**02 51 27.2**	**-1.2**
	baz=18,SNR=7.4						
W32A	**Sentinel**	**18.46**	**346**	⇑P	**P**	**02 51 28.2**	**+0.7**
	baz=18,SNR=9.1						
MSTX	**Muleshoe**	**18.52**	**336**	⇑P	**P**	**02 51 29.5**	**+1.2**
	baz=18,SNR=5.5						
MSTX	**Muleshoe**	**18.52**	**336**	*e*P	**P**	**02 51 26.4**	**-1.9**
	8.1nm,0.8s						
GOGA	**Godfrey**	**18.52**	**28**	*e*P	**P**	**02 51 27.8**	**-0.5**
	47nm,1.2s						
X29A	**Tulia**	**18.54**	**339**	⇓P	**P**	**02 51 29.2**	**+0.6**
	baz=18						
Y27A	**Causey**	**18.60**	**335**	⇓P	**P**	**02 51 30.0**	**+0.8**
	baz=18,SNR=7.2						
TUL1	**Leonard**	**18.66**	**355**	⇓P	**P**	**02 51 29.9**	**+0.2**
	baz=18,SNR=11						
TUL1	**Leonard**	**18.66**	**355**	*e*P	**P**	**02 51 29.6**	**0.0**
	42nm,0.7s						
W31A	**Holland Ranch,**	**18.69**	**344**	⇑P	**P**	**02 51 30.5**	**+0.4**
	baz=19						
X28A	**Dimmitt**	**18.79**	**338**	⇓P	**P**	**02 51 32.0**	**+0.8**
	baz=19						
V34A	**Guthrie**	**18.80**	**350**	⇓P	**P**	**02 51 31.0**	**-0.2**
	baz=19,SNR=7.2						
V34A	**Guthrie**	**18.80**	**350**	*e*P	**P**	**02 51 30.9**	**-0.3**
	22nm,0.8s						
W30A	**Crocket Farms**	**18.86**	**342**	⇓P	**P**	**02 51 31.8**	**-0.2**
	baz=19						
V33A	**Lossen Ranch,**	**18.92**	**348**	⇓P	**P**	**02 51 33.0**	**+0.4**
	baz=19,SNR=16						
AMTX	**Amarillo**	**18.93**	**339**	⇑P	**P**	**02 51 33.4**	**+0.6**
	baz=19						
AMTX	**Amarillo**	**18.93**	**339**	*e*P	**P**	**02 51 32.8**	**0.0**
	24nm,0.9s						
V32A	**Arapaho**	**18.98**	**347**	⇓P	**P**	**02 51 33.5**	**+0.3**
	baz=19						
W29A	**Amarillo**	**19.14**	**340**	⇑P	**P**	**02 51 35.7**	**+0.7**
	baz=19,SNR=5.3						
V31A	**Spring Creek L**	**19.22**	**345**	⇓P	**P**	**02 51 36.2**	**+0.4**
	baz=19,SNR=15						
X27A	**F and S Farms,**	**19.24**	**336**	P	**P**	**02 51 36.6**	**+0.5**
	baz=19,SNR=8.9						
U34A	**Anderson Ranch**	**19.39**	**351**	⇑P	**P**	**02 51 38.1**	**+0.5**
	baz=19						
U34A	**Anderson Ranch**	**19.39**	**351**	*e*P	**P**	**02 51 38.3**	**+0.7**
	11nm,0.6s						
V30A	**Spur Ranch, Mi**	**19.44**	**343**	⇑P	**P**	**02 51 38.7**	**+0.5**
	baz=19						
X26A	**CR and CF Fran**	**19.44**	**334**	⇓P	**P**	**02 51 39.3**	**+1.0**
	baz=19						
WVT	**Waverly**	**19.50**	**14**	*e*P	**P**	**02 51 38.4**	**-0.3**
	9.4nm,0.8s						
W27A	**Bowe Ranch, En**	**19.59**	**337**	⇑P	**P**	**02 51 40.5**	**+0.6**
	baz=20,SNR=13						
U32A	**Winter Ranch,**	**19.61**	**347**	⇑P	**P**	**02 51 39.7**	**-0.2**
	baz=20						
Y24A	**Capitan**	**19.65**	**330**	⇑P	**P**	**02 51 42.0**	**+1.5**
	baz=20						
PBMO	**Poplar Bluff**	**19.65**	**8**	*e*P	**P**	**02 51 40.2**	**-0.1**
	35nm,1.1s						
121A	**Cookes Peak, D**	**19.82**	**323**	⇑P	**P**	**02 51 44.0**	**+1.6**
	baz=20,SNR=11						
Z22A	**Elephant Butte**	**19.90**	**326**	⇑P	**P**	**02 51 44.5**	**+1.3**
	baz=20						
V28A	**Channing**	**19.91**	**339**	⇑P	**P**	**02 51 44.1**	**+0.9**
	baz=20,SNR=7.6						
319A	**Douglas**	**19.93**	**318**	⇓P	**P**	**02 51 46.2**	**+2.6**
	baz=20,SNR=6.0						
Y23A	**Lovelace Mesa,**	**19.95**	**329**	⇑P	**P**	**02 51 45.6**	**+1.7**
	baz=20,SNR=5.9						
V27A	**Dan Oppiter Fa**	**20.12**	**338**	⇓P	**P**	**02 51 46.7**	**+1.1**
	baz=20						
T33A	**Patterson Ranc**	**20.14**	**349**	⇑P	**P**	**02 51 45.5**	**-0.1**
	baz=20						
U30A	**WK&E Inc. Balk**	**20.15**	**344**	⇑P	**P**	**02 51 46.6**	**+0.9**
	baz=20,SNR=12						
X24A	**Lazy VL Ranch,**	**20.17**	**331**	⇓P	**P**	**02 51 47.6**	**+1.5**
	baz=20						
U29A	**Oasis Ranch, S**	**20.25**	**342**	⇑P	**P**	**02 51 47.7**	**+0.8**
	baz=20						
W25A	**X Bar L Ranch,**	**20.29**	**334**	⇓P	**P**	**02 51 48.1**	**+0.8**
	baz=20						
TKL	**Tuckaleechee C**	**20.33**	**24**	P	**P**	**02 51 46.2**	**-1.4**
	5.8nm,0.7s,baz=214,slow=9.4,SNR=6.8						
T32A	**Huddler Ranch,**	**20.36**	**348**	⇓P	**P**	**02 51 48.1**	**+0.1**
	baz=20						
T31A	**Randall Ranch,**	**20.44**	**346**	⇓P	**P**	**02 51 49.0**	**+0.1**
	baz=20						
U28A	**Mallet**	**20.48**	**340**	⇓P	**P**	**02 51 49.9**	**+0.5**
	baz=20						
V26A	**Tequesquite Ra**	**20.52**	**336**	⇑P	**P**	**02 51 50.5**	**+0.8**
	baz=20						
LENM	**Lemitar**	**20.61**	**327**	*e*P	Pn	02 51 53.9	-2.4
T30A	**Plains**	**20.61**	**344**	⇓P	**P**	**02 51 51.2**	**+0.5**
	baz=20						
W24A	**Lazy 6 Ranch,**	**20.69**	**332**	⇓P	**P**	**02 51 53.1**	**+1.3**
	baz=21						
U27A	**Thompson Grove**	**20.72**	**339**	⇓P	**P**	**02 51 52.2**	**+0.3**
	baz=21						
S32A	**Newby Ranch, P**	**20.87**	**348**	⇓P	**P**	**02 51 53.0**	**-0.4**
	baz=21						
V25A	**Rancho No Teng**	**20.88**	**334**	⇑P	**P**	**02 51 54.3**	**+0.5**
	baz=21						
T29A	**Hugoton**	**20.91**	**343**	⇓P	**P**	**02 51 53.7**	**-0.1**
	baz=21						
ANMO	**Albuquerque**	**20.97**	**330**	P	**P**	**02 51 55.8**	**+1.2**
	1.5nm,0.5s,baz=152,slow=10,SNR=8.0						
ANMO	**Albuquerque**	**20.97**	**330**	*e*P	**P**	**02 51 56.0**	**+1.4**
	47nm,2.7s						
U26A	**Atchley Ranch,**	**21.03**	**337**	⇓P	**P**	**02 51 55.6**	**+0.4**
	baz=21,SNR=10						
T28A	**Walsh**	**21.12**	**341

	baz=22						
214A	Organ Pipe Nat	22.65	314	⇑P	P	02 52 13.0	+1.9
	baz=23						
P32A	Huiting Farm,	22.68	350	⇑P	P	02 52 10.5	-0.7
	baz=22						
BLO	Bloomington	22.70	15	eP	P	02 52 11.2	-0.2
	27nm,1.0s						
P31A	Stockton	22.72	349	⇓P	P	02 52 11.7	+0.1
	baz=23						
R25A	Fountain Ranch	22.78	338	⇑P	P	02 52 13.3	+1.0
	baz=23,SNR=12						
W18A	Petrified Fore	22.81	324	⇑P	P	02 52 14.0	+1.3
	baz=23						
Q28A	Sharon Springs	22.84	344	⇑P	P	02 52 13.2	+0.3
	baz=23,SNR=6.4						
P30A	Selden	22.91	347	⇓P	P	02 52 12.3	-1.1
	baz=23						
KSCO	Kaye Shedlock'	23.02	342	⇓P	P	02 52 15.2	+0.7
	baz=23						
P29A	Atwood	23.12	346	⇑P	P	02 52 15.6	+0.3
	baz=23,SNR=6.0						
R24A	Sanders Place,	23.16	337	⇑P	P	02 52 16.8	+1.1
	baz=23						
Q26A	Hugo	23.22	340	⇑P	P	02 52 17.3	+1.1
	baz=23,SNR=5.4						
O32A	Brockman Farm,	23.25	351	⇓P	P	02 52 16.5	+0.1
	baz=23						
P28A	Saint Francis	23.30	344	⇑P	P	02 52 16.9	0.0
	baz=23						
X16A	Lo Mia Camp, P	23.32	320	⇑P	P	02 52 18.1	+0.9
	baz=23						
R23A	Moffat	23.40	335	⇑P	P	02 52 19.4	+1.3
	baz=23						
O30A	MW Ranch, Wils	23.48	348	⇓P	P	02 52 18.5	-0.1
	baz=23						
P27A	Ficken Ranch,	23.51	343	⇓P	P	02 52 19.5	+0.7
	baz=23						
Z14A	Wintersburg	23.59	316	⇑P	P	02 52 21.9	+2.4
	baz=24						
O29A	4D Ranch, Culb	23.59	346	⇑P	P	02 52 20.0	+0.5
	baz=24						
P26A	Davis Ranch, A	23.74	341	⇑P	P	02 52 22.0	+1.0
	baz=24,SNR=7.2						
MVCO	Mesa Verde	23.77	330	⇑P	P	02 52 22.8	+1.5
	baz=24						
MVCO	Mesa Verde	23.77	330	eP	P	02 52 23.5	+2.1
	13nm,1.3s						
113A	Mohawk Valley,	23.78	314	⇑P	P	02 52 23.6	+2.3
	baz=24						
Q24A	Divide	23.81	337	⇑P	P	02 52 22.8	+0.9
	baz=24						
O28A	Krutsinger Ran	23.83	345	⇓P	P	02 52 22.2	+0.5
	baz=24						
SDV	Santo Domingo	23.94	107	eP	P	02 52 23.8	+0.6
	14nm,0.6s						
Y14A	Wickenburg	23.98	317	⇑P	P	02 52 25.5	+2.3
	baz=24						
O27A	Beecher Island	24.07	343	⇑P	P	02 52 24.8	+0.8
	baz=24						
N29A	Votaw Ranch, W	24.22	347	⇑P	P	02 52 25.9	+0.7
	baz=24						
N28A	Pribbeno Ranch	24.30	345	⇓P	P	02 52 26.7	+0.7
	baz=24						
P23A	Jefferson	24.43	337	⇓P	P	02 52 28.8	+1.3
	baz=24						
SCIA	State Center	24.56	1	eP	P	02 52 27.3	-0.9
	18nm,0.5s						
N27A	Anderson Farm,	24.66	344	⇓P	P	02 52 29.6	+0.3
	baz=25						
OGNE	Ogallala	24.66	345	⇓P	P	02 52 29.3	0.0
	baz=24						
ISCO	Idaho Springs	24.72	338	⇓P	P	02 52 30.7	+0.6
	baz=25						
PV04	Paradox Valley	24.90	331	eP	P	02 52 35.4	+3.7
PV04				epP	pP	02 53 10.2	-0.3
PDMCI	Parker Dam,Lak	24.95	317	⇓P	P	02 52 34.0	+2.2
	baz=25						
U15A	North Rim	25.20	323	⇓P	P	02 52 36.2	+1.8
	baz=25						
W13A	Hualapai Mount	25.28	319	⇑P	P	02 52 36.7	+1.6
	baz=25						
SWSC	Sam W. Stewart	25.29	312	⇓P	P	02 52 37.6	+2.6
	baz=25						
BC3	Big Chuckawall	25.45	314	⇓P	P	02 52 38.1	+1.6
	baz=25,SNR=6.6						
JFWS	Jewell Farm	25.73	6	eP	P	02 52 36.6	-2.2
	14nm,0.6s						
BELC	Belle Mtn. Jos	26.02	314	⇓P	P	02 52 43.6	+1.9
	baz=26						
LDFC	Landfair	26.05	317	eP	P	02 52 45.2	+3.3
	9.8nm,0.9s						
PFO	Pinyon Flats O	26.12	313	P	P	02 52 44.5	+1.9
	2.0nm,0.7s,baz=123,slow=9.6,SNR=3.8						
PFO	Pinyon Flats O	26.12	313	⇓P	P	02 52 44.7	+2.2
	baz=26						
GMRC	Granite Mounta	26.24	316	⇑P	P	02 52 45.5	+1.8
	baz=26						
ECSD	EROS Data Cent	26.50	355	⇑P	P	02 52 44.9	-0.7
	baz=26,SNR=8.8						
ECSD	EROS Data Cent	26.50	355	eP	P	02 52 44.2	-1.5
	30nm,1.7s						
MURC	Murrieta	26.64	312	⇑P	P	02 52 49.4	+2.2
	baz=27						
TUQ	Turquoise Moun	26.80	317	⇓P	P	02 52 50.4	+1.7
	baz=27						
J26A	Sides Ranch, S	27.15	345	⇑P	P	02 52 52.0	+0.4
	baz=27						
J24A	Dixon Ranch, L	27.59	343	⇓P	P	02 52 56.4	+0.8
	baz=28						
SPMN	Marine on St.	27.88	1	⇑P	P	02 52 57.1	-0.8
	baz=28,SNR=9.1						
SPMN	Marine on St.	27.88	1	eP	P	02 52 57.3	-0.7
	18nm,0.6s						
DAC	Darwin (Calif)	28.39	317	eP	P	02 53 04.9	+2.1
	4.0nm,1.0s						
R11A	Troy Canyon, C	28.43	322	⇓P	P	02 53 05.2	+2.1
	baz=28						
ARVC	Arvin	28.59	313	⇑P	P	02 53 06.4	+2.1
	baz=29						
GRAC	Grapevine Rang	28.67	318	⇑P	P	02 53 07.3	+2.2
	baz=29						
PDAR	Pinedale Array	28.78	335	P	P	02 53 07.4	+1.1
	0.2nm,0.4s,baz=137,slow=11,SNR=3.0						
H24A	Dirks Ranch, A	28.87	344	⇑P	P	02 53 07.5	+0.6
	baz=29						
VES	Vestal, Richgr	29.14	314	⇑P	P	02 53 11.9	+2.6
	baz=29						
I20A	Worland	29.26	338	⇓P	P	02 53 11.1	+0.7
	baz=29						
H21A	Big Horn, Sher	29.49	340	⇓P	P	02 53 12.9	+0.5
	baz=29						
RCTC	Rector, Farmer	29.51	315	⇓P	P	02 53 14.5	+2.1
	baz=30						
G23A	Biddle	29.52	343	⇑P	P	02 53 12.7	+0.2
	baz=29						
I19A	Meeteetse	29.65	337	⇑P	P	02 53 14.8	+0.9
	baz=30						
H20A	Greybull	29.68	339	⇓P	P	02 53 14.2	+0.1
	baz=30						
E28A	Huff	29.79	350	⇓P	P	02 53 14.6	-0.2
	baz=30						
G22A	Birney	29.80	342	⇓P	P	02 53 15.2	+0.2
	baz=30						
REDW	Red Top Meadow	29.80	334	eP	P	02 53 17.1	+1.9
	6.9nm,1.2s						
ELK	Elko	29.88	326	P	P	02 53 17.6	+1.6
	2.0nm,0.8s,baz=186,slow=4.5,SNR=9.6						
F23A	Volborg	30.00	343	⇑P	P	02 53 17.0	+0.2
	baz=30						
E26A	Carlson Angus	30.01	348	⇓P	P	02 53 17.2	+0.3
	baz=30						
SADO	Sadowa	30.02	21	P	P	02 53 14.9	-1.9
	6.3nm,0.8s,baz=250,slow=9.5,SNR=4.5						
D30A	Buchanan	30.05	353	⇑P	P	02 53 16.5	-0.6
	baz=30						
G21A	Lodge Grass	30.08	341	⇑P	P	02 53 17.7	+0.1
	baz=30						
NVAR	Mina Array Bea	30.12	319	P	P	02 53 20.8	+2.6
	5.8nm,0.6s,baz=133,slow=8.9,SNR=51						
NVAR				PcP	PcP	02 56 10.4	+1.3
	0.5nm,0.5s,baz=114,slow=3.4,SNR=3.4						
I17A	Pilgrim Ck.	30.15	335	⇑P	P	02 53 19.1	+0.8
	baz=30						
E25A	Miller Ranch,	30.24	347	⇑P	P	02 53 19.4	+0.5
	baz=30						
D28A	Regan	30.37	351	⇑P	P	02 53 20.1	+0.1
	baz=30						
G20A	Bridger	30.40	340	⇓P	P	02 53 20.8	+0.4
	baz=30						
H18A	Shoshone NF, C	30.44	337	⇓P	P	02 53 21.4	+0.5
	baz=30						
D26A	Manning	30.54	348	⇑P	P	02 53 21.7	+0.2
	baz=30						
C30A	Mose, Pekin	30.60	354	⇑P	P	02 53 21.1	-0.9
	baz=30,SNR=7.7						
EYMN	Ely	30.65	3	eP	P	02 53 20.6	-1.8
	5.7nm,0.6s						
D25A	Fairfield	30.84	347	⇑P	P	02 53 24.7	+0.6
	baz=31						
AGMN	Agassiz Nation	31.00	357	P	P	02 53 24.7	-0.8
	baz=31,SNR=5.1						
AGMN	Agassiz Nation	31.00	357	eP	P	02 53 24.6	-0.8
	11nm,1.1s						
D24A	Glendive	31.03	346	⇓P	P	02 53 26.3	+0.5
	baz=31						
C27A	Sayler Ranch,	31.03	350	⇓P	P	02 53 25.9	+0.1
	baz=31						
F19A	Roth Farm, Mol	31.20	339	⇓P	P	02 53 27.9	+0.5
	baz=31						
C26A	Wahner Farm, P	31.24	349	⇓P	P	02 53 27.5	-0.1
	baz=31						
D23A	Lindsay	31.30	345	⇓P	P	02 53 29.1	+0.9
	baz=31						
B30A	Myrvik Farm, E	31.33	354	⇓P	P	02 53 27.7	-0.6
	baz=31,SNR=6.2						
C24A	Savage	31.44	346	⇓P	P	02 53 30.0	+0.6
	baz=31						
B29A	Wagenman Farm,	31.45	353	⇓P	P	02 53 29.2	-0.2
	baz=31,SNR=5.9						
E20A	Meyer Farm, Mu	31.51	341	⇑P	P	02 53 30.9	+0.9
	baz=31						
D22A	Cohagen	31.53	344	⇑P	P	02 53 30.9	+0.7
	baz=31						
HLID	Hailey	31.54	331	⇑P	P	02 53 32.1	+1.6
	baz=32						
B28A	Dugan Ranch, T	31.57	352	⇑P	P	02 53 30.4	-0.1
	baz=31						
A30A	Hoffart Farm,	31.81	354	⇓P	P	02 53 31.9	-0.7
	baz=32,SNR=17						
B25A	Knox Farm, Ray	31.87	348	⇓P	P	02 53 33.7	+0.5
	baz=32						
C23A	Lambert	31.88	345	⇓P	P	02 53 33.5	+0.3
	baz=32						
A29A	Manning Farm,	31.89	353	⇑P	P	02 53 32.7	-0.5
	baz=32,SNR=8.8						
C22A	Vida	32.00	344	⇑P	P	02 53 34.5	+0.2
	baz=32						
A28A	Rude Farm, Bot	32.01	352	⇑P	P	02 53 34.1	-0.2
	baz=32						
D20A	Manuel Ranch,	32.04	341	⇑P	P	02 53 35.0	+0.3
	baz=32						
A26A	Wade Farm, Ken	32.27	350	⇓P	P	02 53 36.5	0.0
	baz=32						
D19A	Cripps Ranch,	32.34	340	⇓P	P	02 53 38.1	+0.8
	baz=32						
C20A	Veseth Ranch,	32.56	342	⇓P	P	02 53 39.5	+0.4
	baz=32						
A24A	Westby	32.67	347	⇓P	P	02 53 40.8	+0.8
	baz=32						
ULM	Lac du Bonnet	32.95	357	P	P	02 53 40.8	-1.6
	3.2nm,0.6s,baz=170,slow=10,SNR=6.3						
ULM	Lac du Bonnet	32.95	357	eP	P	02 53 40.8	-1.6
	9.8nm,1.3s						
B20A	Solberg Farm,	33.22	343	⇓P	P	02 53 45.6	+0.7
	baz=33						
EGMT	Eagleton	33.38	340	⇓P	P	02 53 46.9	+0.7
	baz=33						
EGMT	Eagleton	33.38	340	eP	P	02 53 47.6	+1.3
	8.1nm,0.4s						
A21A	Bergtoll Ranch	33.42	344	⇓P	P	02 53 46.6	0.0
	baz=33						
B19A	Brinkman Farms	33.50	342	⇑P	P	02 53 47.7	+0.4
	baz=33						
A20A	Cobblestone Ra	33.59	343	⇓P	P	02 53 48.5	+0.4
	baz=34						
A19A	Klindworth Far	33.87	342	⇓P	P	02 53 51.2	+0.7
	baz=34						
MSO	Missoula	33.90	335	⇓P	P	02 53 51.7	+0.9
	baz=34						
FFC	Flin Flon	37.92	352	eP	P	02 54 23.6	-1.2
	75nm,2.7s						
FCC	Fort Churchill	41.43	360	eP	P	02 54 52.0	-1.5
LPAZ	La Paz	41.80	142	P	P	02 54 59.0	+1.3
	1.2nm,0.5s,baz=342,slow=6.5,SNR=7.3						
SCHQ	Schefferville	42.80	23	P	P	02 55 02.6	-2.1
	1.9nm,0.6s,baz=243,slow=6.8,SNR=3.9						
YKA	Yellowknife Ar	47.49	347	P	P	02 55 41.2	-0.2
	3.5nm,0.8s,baz=150,slow=7.4,SNR=68						
INK	Inuvik	56.86	343	P	P	02 56 50.4	+0.2
	6.4nm,0.7s,baz=134,slow=6.9,SNR=30						
INK				PcP	PcP	02 57 44.0	+0.5
	1.5nm,0.9s,baz=123,slow=5.3,SNR=3.1						
RKT	Rikitea	56.91	226	eT	T	02 56 17.6	
	2.1nm,0.2s						
ILAR	Eielson Array	59.20	336	P	P	02 57 07.0	+0.4
	1.2nm,0.9s,baz=127,slow=5.1,SNR=14						
PLCA	Paso Flores	61.59	160	P	P	02 57 25.2	+2.0
	3.7nm,0.8s,baz=337,slow=7.0,SNR=5.7						
EKA	Eskdalemuir Ar	76.29	36	P	P	02 58 53.1	-0.4
	3.5nm,0.5s,baz=278,slow=5.6,SNR=29						
GRR	Gorron	79.14	43	eP	P	02 59 09.3	-0.1
	7.9nm,0.7s						
GRR	Gorron	79.14	43	eP	P	02 59 09.3	-0.1
	7.9nm,0.7s						
FLN	La Foliniere	79.30	42	eP	P	02 59 09.1	-1.1
FLN	La Foliniere	79.30	42	eP	P	02 59 09.1	-1.1
LDF	La Druitiere	79.57	42	eP	P	02 59 11.8	+0.1
LDF	La Druitiere	79.57	42	eP	P	02 59 11.8	+0.1
MFF	Saint Martin d	80.05	44	eP	P	02 59 13.5	-0.8
MFF	Saint Martin d	80.05	44	eP	P	02 59 13.5	-0.8
RJF	Les Rejaudoux	81.50	45	eP	P	02 59 21.5	-0.6
RJF	Les Rejaudoux	81.50	45	eP	P	02 59 21.5	-0.6
TCF	Toulx Ste Croi	81.70	44	eP	P	02 59 22.3	-0.8
TCF	Toulx Ste Croi	81.70	44	eP	P	02 59 22.3	-0.8
BGF	Bois d'Agland	82.05	44	eP	P	02 59 24.7	-0.2
	11nm,0.8s						
BGF	Bois d'Agland	82.05	44	eP	P	02 59 24.7	-0.2
	11nm,0.8s						
NB2	NORSAR Subarra	82.06	28	P	P	02 59 25.9	+1.2
	comp=Z,2.8nm,0.8s,baz=290,slow=5.3						
NOA	NORSAR Array B	82.06	28	P	P	02 59 25.2	+0.5
	comp=Z,5.1nm,0.9s,baz=291,slow=5.2,SNR=11						
LOR	Lormes	82.50	43	eP	P	02 59 27.1	-0.2
LOR	Lormes	82.50	43	eP	P	02 59 27.1	-0.2
MEZF	Maizieres J'vi	82.90	41	eP	P	02 59 29.4	+0.2
	comp=Z,9.2nm,0.7s						
MEZF	Maizieres J'vi	82.90	41	eP	P	02 59 29.4	+0.2
	comp=Z,9.2nm,0.7s						
SFTF	Sexfontaines	82.98	42	eP	P	02 59 29.5	-0.2
	comp=Z,3.6nm,0.4s						
SFTF	Sexfontaines	82.98	42	eP	P	02 59 29.5	-0.2
	comp=Z,3.6nm,0.4s						
PAGF	Fort de Pagny	83.31	41	eP	P	02 59 31.6	+0.3
	comp=Z,2.1nm,0.5s						
PAGF	Fort de Pagny	83.31	41	eP	P	02 59 31.6	+0.3
	comp=Z,2.1nm,0.5s						
HFS	Hagfors	83.54	29	P	P	02 59 32.6	+0.3
	comp=Z,2.9nm,0.8s,baz=309,slow=4.6,SNR=6.4						
ARCES	ARCESS Array B	83.56	18	P	P	02 59 32.5	+0.3
	comp=Z,2.6nm,0.6s,baz=302,slow=5.2,SNR=23						
HAU	Haudompre	83.88	42	eP	P	02 59 34.4	+0.1
	comp=Z,7.8nm,0.6s						
HAU	Haudompre	83.88	42	eP	P	02 59 34.4	+0.1
	comp=Z,7.8nm,0.6s						
HINF	Hinteralfeld	84.26	42	eP	P	02 59 36.1	-0.1
	comp=Z,4.3nm,0.6s						
HINF	Hinteralfeld	84.26	42	eP	P	02 59 36.1	-0.1
	comp=Z,4.3nm,0.6s						
CDF	Champ du Feu	84.33	41	eP	P	02 59 36.5	-0.1
CDF	Champ du Feu	84.33	41	eP	P	02 59 36.5	-0.1
ORIF	Oris-en-Rattie	84.57	45	eP	P	02 59 37.7	-0.2
ORIF	Oris-en-Rattie	84.57	45	eP	P	02 59 37.7	-0.2
DBIC	Dimbokro	86.95	84	P	P	02 59 49.4	-0.7
	comp=Z,2.0nm,0.9s,baz=270,slow=5.7,SNR=5.4						
GERES	GERESS Array B	88.12	39	P	P	02 59 55.5	+0.3
	comp=Z,0.8nm,0.7s,baz=290,slow=4.0,SNR=8.6						
TORD	Torodi Ar. Bea	91.19	76	P	P	03 00 08.3	-1.6
	comp=Z,0.2nm,0.5s,baz=300,slow=4.5,SNR=4.1						
WB2	Warramunga Arr	134.50	259	ePKPdf	PKPdf	03 06 22.8	+0.7
WRA	Warramunga Arr	134.51	259	PKP	PKPdf	03 06 22.8	+0.6
	comp=Z,2.0nm,0.7s,baz=82,slow=2.0,SNR=13						
ASAR	Alice Springs	135.11	254	PKP	PKPdf	03 06 24.1	+0.9
	comp=Z,0.9nm,0.6s,baz=98,slow=1.7,SNR=10						
KAPI	Kappang	145.06	286	ePKPbc	PKPbc	03 06 42.0	+0.7

GUC **12** *02:58:44.3±0.6, 37°.16S×74°.53W, h23km±10km, ML4.4*
IDC **12** *02:58:47.1±0.8, 37°.25S×73°.82W, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.3/28, mbtmp4.4/14, ML3.6/2, MS3.9/7, Ms1 3.9/7, ms1mx3.6/25, Error ellipse: s-maj=24.9km s-min=15.2km az=78.0*
ISCJB **12** *02:58:53.6±0.4, 37°.21S±0°.06×73°.1W±0°.1, h35km, mb4.6/35, MS3.8/7, Error ellipse: s-maj=13.0km s-min=7.4km az=165.0*
NEIC **12** *02:58:55.1±0.4, 37°.14S×72°.94W, h35km, mb4.7/22, Error ellipse: s-maj=13.2km s-min=8.4km az=74.0*
NEIC Felt at Concepcion.
BJI **12** *02:58:55.3, 37°.10S×72°.80W, h35km, mB5.1/2, Ms5.0/1, Ms7 4.9/2*
ISC 12 02:58:55.0±0.4, 37°.12S±0°.06×72°.98W±0°.10, h35km, n81, σ1°42/87, mb4.6/35, MS3.8/7, 2C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.29	339	eP	Pn	02 59 05.3	+2.4
CCSP				eS1		02 59 20.6	
CCSP				AML	AML	02 59 24.9	
	comp=N,15μm,0.4s						
COCH	Cobquecura	1.00	9	⇑iP	Pn	02 59 13.8	+1.3
VLCH	Valdivia	2.69	184	⇑iP	Pn	02 59 29.4	-6.3
OSCH	Osorno	3.45	182	eP	Pn	02 59 40.3	-6.0
PLCA	Paso Flores	4.07	153	Pn	Pn	02 59 53.8	-1.1
	comp=N,1.1nm,0.3s,baz=319,slow=15,SNR=9.0						
PLCA				Pg		03 00 06.5	
	comp=N,2.4nm,0.3s,baz=321,slow=16,SNR=14						
PLCA				Lg	Lg	03 01 08.6	
	comp=N,4.7nm,0.3s,baz=239,slow=18,SNR=3.2						
PLCA	Paso Flores	4.07	153	ePn	Pn	02 59 55.6	+0.7
PLCA				Pg		03 00 06.5	
PLCA				eSn	Sn	03 00 45.3	+3.9
PLCA				Lg	Lg	03 01 08.6	
CFAA	Coronel Fontan	6.75	37	Pn	Pn	03 00 34.5	+2.8
	comp=N,0.3nm,0.3s,baz=215,slow=14,SNR=12						
CFAA				LR	LR	03 02 39.7	
	comp=N,11nm,21.3s,baz=226,slow=32						
LCO	Las Campanas	8.31	14	ePn	Pn	03 00 51.8	-1.5
LCO				eSn	Sn	03 02 25.3	-0.7
TRQA	Tornquist	8.78	99	ePn	Pn	03 00 58.0	-1.5
LVC	Limon Verde	14.88	15	ePn	Pn	03 02 22.2	-0.8
EFI	East Falkland	17.98	149	ePn	Pn	03 03 01.9	-0.1
	comp=N,82nm,0.9s						
LPAZ	La Paz	21.19	13	P	P	03 03 39.5	+1.3
	comp=N,25nm,1.1s,baz=191,slow=7.4,SNR=27						
LPAZ	La Paz	21.19	13	eP	P	03 03 39.1	+0.9
	comp=N,33nm,1.0s						
SIV	San Ignacio	23.54	30	P	P	03 04 03.5	+1.2
	comp=N,6.9nm,0.8s,baz=226,slow=7.9,SNR=21						
SIV				LR	LR	03 15 30.7	
	comp=N,864nm,18.4s,baz=220,slow=42						
SAML	Samuel	29.42	20	eP	P	03 04 54.5	-0.8
	comp=N,10nm,1.3s						
ATAH	Atahualpa	30.25	349	LR	LR	03 15 57.1	
	comp=N,84nm,18.4s,baz=186,slow=34						
BDFB	Brasilia	30.78	53	P	P	03 05 09.5	+2.0
	comp=N,5.1nm,0.9s,baz=211,slow=5.8,SNR=6.2						
BDFB				LR	LR	03 17 47.1	
	comp=N,384nm,19.4s,baz=222,slow=36						
OTAV	Otavalo	37.52	351	eP	P	03 06 05.7	-0.5
	comp=N,19nm,1.4s						
PTGA	Pitinga	38.15	21	P	P	03 06 11.0	-0.1
	comp=N,5.7nm,0.8s,baz=199,slow=8.9,SNR=7.2						
PTGA				LR	LR	03 24 13.7	
	comp=N,143nm,19.0s,baz=151,slow=40						
PTGA	Pitinga	38.15	21	eP	P	03 06 11.2	+0.1
	comp=N,17nm,1.4s						
ROSC	El Rosal	41.78	358	P	P	03 06 42.8	+1.2
	comp=N,4.0nm,0.5s,baz=266,slow=18,SNR=6.3						
ROSC	El Rosal	41.78	358	eP	P	03 06 43.1	+1.5
ROSC				epP	pP	03 06 49.6	-2.3
SDV	Santo Domingo	45.81	3	eP	P	03 07 11.7	-2.1
	comp=N,9.4nm,1.0s						
RCBR	Riachuelo	45.97	57	LR	LR	03 26 03.0	
	comp=N,162nm,18.2s,baz=201,slow=35						
VNA3	Neumayer Olymp	46.78	157	P	P	03 07 20.3	-0.4
VNA2	Neumayer--Watz	47.46	156	P	P	03 07 23.8	-2.1
	baz=282,slow=8.0						
JTS	JuntasAbangare	48.48	344	LR	LR	03 24 08.6	
	comp=N,39nm,19.9s,baz=155,slow=31						
SNAA	Sanae	49.01	157	P	P	03 07 37.2	-0.7
SNAA	Sanae	49.01	157	P	P	03 07 36.7	-1.2
	comp=N,5.1nm,1.0s,baz=282,slow=7.0,SNR=10						
SNAA	Sanae	49.01	157	eP	P	03 07 37.1	-0.7
	comp=N,57nm,1.7s						
QSPA	South Pole Qui	53.12	180	P	P	03 08 05.2	-3.7
	comp=N,4.2nm,1.0s,baz=140,slow=4.8,SNR=5.4						
VAH	Vaihoa	68.83	267	eT	T	03 10 23.1	
	comp=N,19nm,0.2s						
JCT	Junction City	71.79	336	eP	P	03 10 14.9	+1.1
	comp=N,12nm,1.1s						
TXAR	Lajitas Array	72.10	332	P	P	03 10 11.8	-4.0
	comp=N,2.0nm,0.9s,baz=160,slow=8.9,SNR=16						
SWET	Sewanee	72.97	349	eP	P	03 10 20.1	-0.7
	comp=N,16nm,1.0s						
ABTX	Abilene, Hawle	73.72	337	eP	P	03 10 25.4	+0.1
	comp=N,8.6nm,0.9s						
MNTX	Cornudas Mount	74.87	332	eP	P	03 10 31.6	-0.3
	comp=N,2.4nm,1.0s						
AMTX	Amarillo	76.45	336	eP	P	03 10 41.0	-0.1
	comp=N,12nm,1.2s						
LIC	Lamto	76.49	71	eP	P	03 10 42.3	+0.7
	comp=N,38nm,1.2s						
TIC	Toumodi	76.77	71	eP	P	03 10 45.0	+1.8
	comp=N,3.2nm,0.2s						
KIC	Kosan Boka	76.80	71	eP	P	03 10 45.5	+2.1
	comp=N,47nm,1.2s						
DBIC	Dimbokro	76.91	71	P	P	03 10 45.6	+1.7
	comp=N,4.9nm,0.7s,baz=192,slow=5.2,SNR=10						
DBIC	Dimbokro	76.91	71	eP	P	03 10 45.6	+1.7
	comp=N,16nm,1.3s						
ANMO	Albuquerque	78.17	332	eP	P	03 10 47.5	-3.3
	comp=N,6.3nm,1.1s						
BOSA	Boshof	79.30	118	P	P	03 10 57.4	+0.1
	comp=N,6.6nm,1.0s,baz=238,slow=6.2,SNR=7.0					

TKM2					*e*PKPbc	PKPbc	03 18 52.8	
TKM2					*e*PKPab	**PKPab**	**03 19 08.8**	**-1.3**
KSH	**Kashi**	**155.58**	**75**		*e*PKP	**PKPdf**	**03 18 44.6**	**-0.4**
KSH					sPKP		03 18 59.1	
KSH					PKS	**PKSdf**	**03 22 19.1**	**+0.1**
KSH					PP	**PP**	**03 22 47.1**	**-1.4**
KSH					SKS	**SKSdf**	**03 25 49.2**	**+0.5**
KSH					SKKS	**SKKSac**	**03 29 34.1**	**-1.0**
KSH					SS	**SS**	**03 42 30.2**	**-2.8**
KSH					PPMZ			
	comp=N,74nm,5.0s							
KSH					LZ			
	comp=N,140nm,5.9s							
ZALV	**Zalesovo Beam**	**157.24**	**35**		PKPab	**PKPab**	**03 19 16.5**	**-1.1**
	comp=N,1.7nm,0.6s,baz=306,slow=4.9,SNR=5.5							
MKAR	**Makanchi Array**	**159.30**	**54**		PKPab	**PKPab**	**03 19 26.8**	**0.0**
	comp=N,1.0nm,0.7s,baz=294,slow=3.9,SNR=7.4							
WMQ	**Urumqi**	**163.86**	**60**		*e*PKP	**PKPdf**	**03 18 54.0**	**-0.1**
WMQ					pPKP	**pPKPdf**	**03 19 05.0**	**-0.6**
SONM	**Songino Array**	**169.28**	**2**		PKPab	**PKPab**	**03 20 08.6**	**-2.0**
	comp=N,0.6nm,0.9s,baz=357,slow=2.9,SNR=4.0							
HHC	**Hu-ho-hao-te**	**174.86**	**318**		*e*PKP	**PKPdf**	**03 19 01.0**	**0.0**
HHC					pPKP	**pPKPdf**	**03 19 11.2**	**-1.3**
HHC					sPKP		03 19 15.4	
HHC					PP	**PP**	**03 24 31.9**	**+3.8**
HHC					SKS	**SKSdf**	**03 25 58.6**	**-2.8**
HHC					SS	**SS**	**03 45 47.8**	**-0.5**
HHC					PPMZ			
	comp=N,160nm,6.2s							
HHC					LN			
	comp=N,200nm,21.8s							
HHC					LE			
	comp=N,170nm,22.7s							
HHC					LZ			
	comp=N,100nm,21.0s							
LZH	**Lanzhou**	**177.24**	**111**		*e*PKP	**PKPdf**	**03 19 02.7**	**+0.9**
LZH					pPKP	**pPKPdf**	**03 19 14.8**	**+1.5**
LZH					sPKP		03 19 21.3	

IDC ***12*** *03:10:43.5±0.7,34°.33S×72°.13W,h0km,mb4.3/12, mb1 4.4/15,mb1mx4.3/21,mbtmp4.3/15,ML4.0/3,MS3.1/2, Ms1 3.2/2,ms1mx3.0/27,Error ellipse: s-maj=24.0km s-min=15.7km az=82.0*

ISCJB ***12*** *03:10:45.5±1.0,34°.34S±0°.03×71°.99W±0°.05,h20km±7km, mb4.6/38,Error ellipse: s-maj=7.1km s-min=5.2km az=8.4*

GUC ***12*** *03:10:45.2±0.6,34°.36S×72°.03W,h35km±3km,ML4.8*

NEIC ***12*** *03:10:46.9±2.3,34°.35S×71°.88W,h19km±14km,mb4.8/33, ML4.8(GUC),Error ellipse: s-maj=9.9km s-min=5.7km az=79.0*

NEIC Felt [IV] at Paredones and Pichilemu; [III] at Navidad, San Antonio and Talca; [II] at Rancagua and San Fernando. Also felt at Santiago.

BJI ***12*** *03:10:47.8,34°.34S×72°.17W,h33km,mB5.1/4,Ms5.4/3, Ms7 5.2/3*

ISC 12 03:10:48.3±0.8,34°.35S±0°.04×71°.90W±0°.06,h31km±5km, n110,σ1°30/128,mb4.6/40,9C-12D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.56**	**46**	⇑*iP*	**Pb**	**03 10 57.7**	**-2.0**
LNV	**Longovilo**	**0.56**	**46**	⇑*iP*	**Pb**	**03 10 57.7**	**-2.0**
NICH	**Los Niches**	**0.85**	**140**	⇑*iP*	**Pn**	**03 11 02.2**	**-2.1**
NICH				*i* S	**Sn**	**03 11 14.8**	**-0.9**
NICH				AML	AML	03 11 20.9	
	comp=E,71μm,0.6s						
NICH	**Los Niches**	**0.85**	**140**	⇑*iP*	**Pn**	**03 11 02.2**	**-2.1**
NICH				*i* S	**Sn**	**03 11 14.8**	**-0.9**
CACH	**El Canelo**	**1.10**	**78**	⇑*iP*	**Pn**	**03 11 07.2**	**-0.6**
CACH	**El Canelo**	**1.10**	**78**	⇑*iP*	**Pn**	**03 11 07.2**	**-0.6**
CHCH	**Chadas Angostu**	**1.11**	**68**	*i* P1	**Pn**	**03 11 06.5**	**-1.3**
CHCH	**Chadas Angostu**	**1.11**	**68**	*i* P	**Pn**	**03 11 06.5**	**-1.3**
RCDM	**Rinconada Maip**	**1.25**	**47**	⇓*iP*	**Pn**	**03 11 08.1**	**-1.6**
RCDM	**Rinconada Maip**	**1.25**	**47**	⇓*iP*	**Pn**	**03 11 08.1**	**-1.6**
ANTU	**Antumapu**	**1.31**	**54**	⇓*iP*	**Pn**	**03 11 09.8**	**-0.7**
ANTU				*i* S1		03 11 28.3	
ANTU				AML	AML	03 11 33.7	
	comp=E,23μm,0.4s						
ANTU	**Antumapu**	**1.31**	**54**	⇓*iP*	**Pn**	**03 11 09.8**	**-0.7**
ANTU				*i* S	**Sb**	**03 11 28.3**	**-0.5**
IHA	**Instituto Hidr**	**1.34**	**9**	⇑*iP*	**Pn**	**03 11 08.8**	**-2.0**
IHA	**Instituto Hidr**	**1.34**	**9**	⇑*iP*	**Pn**	**03 11 08.8**	**-2.0**
STL	**Santa Lucia**	**1.39**	**49**	⇓*iP*	**Pn**	**03 11 09.8**	**-1.8**
STL				*i* S1	**Sn**	**03 11 28.9**	**+0.1**
LACH	**Col Las Americ**	**1.45**	**52**	⇓*iP*	**Pn**	**03 11 11.7**	**-0.7**
LACH				*i* S1	**Sb**	**03 11 31.9**	**-0.8**
LACH	**Col Las Americ**	**1.45**	**52**	⇓*iP*	**Pn**	**03 11 11.7**	**-0.7**
LACH				*i* S	**Sb**	**03 11 31.9**	**-0.8**
SJCH	**San Jose de Ma**	**1.46**	**62**	⇓*iP*	**Pn**	**03 11 11.6**	**-1.1**
SJCH				*i* S4	**Sn**	**03 11 31.2**	**+0.3**
SJCH				AML	AML	03 11 37.9	
	comp=E,14μm,0.5s						
SJCH	**San Jose de Ma**	**1.46**	**62**	⇓*iP*	**Pn**	**03 11 11.6**	**-1.1**
SJCH				S	**Sn**	**03 11 31.2**	**+0.3**
CLCH	**Cerro Calan**	**1.48**	**50**	⇑*iP*	**Pn**	**03 11 12.3**	**-0.6**
CLCH				*i* S1	**Sb**	**03 11 33.3**	**-0.3**
CLCH				AML	AML	03 11 41.9	
	comp=E,18μm,0.7s						
PEL	**Peldehue**	**1.57**	**40**	⇓*iP*	**Pn**	**03 11 13.5**	**-0.6**
PEL				*i* S1	**Sn**	**03 11 34.2**	**+0.8**
PEL				AML	AML	03 11 42.3	
	comp=N,26μm,0.4s						
PEL	**Peldehue**	**1.57**	**40**	⇓*iP*	**Pn**	**03 11 13.5**	**-0.6**
PEL				*i* S	**Sn**	**03 11 34.2**	**+0.8**
CFAA	**Coronel Fontan**	**4.12**	**49**	Pn	**Pn**	**03 11 51.0**	**+1.9**
	comp=N,2.6nm,0.3s,baz=218,slow=13,SNR=46						
CFAA				Lg	Lg	03 12 54.9	
	comp=N,8.7nm,0.3s,baz=137,slow=20,SNR=12						
CFAA				LR	LR	03 13 40.7	
	comp=N,116nm,19.5s,baz=239,slow=42						
LCO	**Las Campanas**	**5.42**	**11**	*e*Pn	**Pn**	**03 12 05.8**	**-1.4**
LCO				*e*Sn	**Sn**	**03 13 08.6**	**-0.1**
PLCA	**Paso Flores**	**6.46**	**171**	Pn	**Pn**	**03 12 21.6**	**+0.2**
	comp=N,1.0nm,0.3s,baz=348,slow=13,SNR=31						
PLCA				Lg	Lg	03 13 57.8	
	baz=255,slow=20						
PLCA				LR	LR	03 14 53.4	
	comp=N,389nm,20.4s,baz=70,slow=38						
TRQA	**Tornquist**	**8.83**	**118**	*e*Pn	**Pn**	**03 12 54.9**	**+1.1**
TRQA				*e*Sn	**Sn**	**03 14 36.5**	**+4.3**
LVC	**Limon Verde**	**11.98**	**13**	*e*Pn	Pn	**03 13 32.1**	**-5.2**
LPAZ	**La Paz**	**18.30**	**12**	P	**P**	**03 15 00.7**	**+0.2**
	comp=N,0.2nm,0.3s,baz=187,slow=8.1,SNR=11						
LPAZ	**La Paz**	**18.30**	**12**	*e*Pn	**P**	**03 15 00.6**	**+0.2**
	comp=N,15nm,0.8s						
SIV	**San Ignacio**	**20.71**	**31**	P	**P**	**03 15 26.1**	**-0.1**
	comp=N,4.7nm,0.6s,baz=207,slow=11,SNR=14						
NNA	**Nana**	**22.71**	**347**	P	**P**	**03 15 46.6**	**-1.1**
	comp=N,5.0nm,0.6s,baz=200,slow=12,SNR=2.9						
SAML	**Samuel**	**26.52**	**20**	*e*P	**P**	**03 16 24.7**	**+1.4**
	comp=N,4.9nm,0.7s						
BDFB	**Brasilia**	**28.43**	**55**	P	**P**	**03 16 42.2**	**+1.7**
	comp=N,7.9nm,0.8s,baz=228,slow=10,SNR=8.7						
OTAV	**Otavalo**	**34.95**	**349**	*e*P	**P**	**03 17 37.8**	**-0.4**
	comp=N,9.0nm,1.3s						
PTGA	**Pitinga**	**35.26**	**21**	*e*P	**P**	**03 17 39.7**	**-0.5**
	comp=N,7.9nm,0.8s						
SDV	**Santo Domingo**	**43.01**	**2**	*e*P	**P**	**03 18 47.0**	**+1.8**
	comp=N,5.2nm,0.9s						
BCIP	**Isla Barro Col**	**43.93**	**349**	*e*P	**P**	**03 18 52.3**	**-0.1**
	comp=N,8.0nm,0.8s						
JTS	**JuntasAbangare**	**46.09**	**342**	*e*P	**P**	**03 19 09.5**	**-0.1**
	comp=N,9.9nm,1.1s						
VNA3	**Neumayer Olymp**	**48.99**	**158**	P	**P**	**03 19 34.7**	**+3.1**
VNA2	**Neumayer--Watz**	**49.65**	**157**	P	**P**	**03 19 36.7**	**+0.2**
	baz=282,slow=10						
SNAA	**Sanae**	**51.22**	**158**	P	**P**	**03 19 48.4**	**-0.1**
SNAA	**Sanae**	**51.22**	**158**	P	**P**	**03 19 49.0**	**+0.5**
	comp=N,2.3nm,0.8s,baz=308,slow=8.1,SNR=8.6						
SNAA	**Sanae**	**51.22**	**158**	*e*P	**P**	**03 19 48.3**	**-0.2**
	comp=N,8.2nm,0.9s						
SDDR	**Presa de Saban**	**53.04**	**1**	*e*P	**P**	**03 20 02.6**	**0.0**
	comp=N,12nm,1.0s						
GTBY	**Guantanamo Bay**	**54.06**	**356**	*e*P	**P**	**03 20 10.3**	**+0.4**
	comp=N,20nm,0.8s						
QSPA	**South Pole Qui**	**55.89**	**180**	P	**P**	**03 20 23.2**	**+0.3**
	comp=N,10nm,0.9s,baz=141,slow=4.9,SNR=20						
QSPA	**South Pole Qui**	**55.89**	**180**	*e*P	**P**	**03 20 23.2**	**+0.3**
	comp=N,12nm,1.0s						
SYO	**Syowa Base**	**65.50**	**158**	⇓*eX*	P	03 21 20.6	-7.5
TXAR	**Lajitas Array**	**70.09**	**331**	P	**P**	**03 21 56.7**	**-0.9**
	comp=N,0.7nm,0.6s,baz=152,slow=8.1,SNR=6.8						
WVT	**Waverly**	**71.68**	**346**	*e*P	**P**	**03 22 06.3**	**-0.6**
	comp=N,15nm,0.8s						
MNTX	**Cornudas Mount**	**72.87**	**331**	*e*P	**P**	**03 22 13.3**	**-0.9**
	comp=N,45nm,3.0s						
GDL2	**Guadalupe Moun**	**72.90**	**332**	*e*P	**P**	**03 22 17.7**	**+3.1**
121A	**Cookes Peak, D**	**74.60**	**329**	*e*P	**P**	**03 22 24.8**	**+0.3**
	comp=N,4.3nm,0.8s						
DBIC	**Dimbokro**	**75.18**	**71**	P	**P**	**03 22 28.3**	**+0.2**
	comp=N,2.6nm,0.6s,baz=178,slow=8.0,SNR=5.3						
DBIC	**Dimbokro**	**75.18**	**71**	*e*P	**P**	**03 22 27.2**	**-0.9**
	comp=N,2.5nm,0.5s						
ANMO	**Albuquerque**	**76.14**	**331**	*e*P	**P**	**03 22 34.1**	**+0.7**
	comp=N,4.9nm,1.2s						
WUAZ	**Wupatki**	**78.69**	**328**	*e*P	**P**	**03 22 48.8**	**+1.2**
	comp=N,47nm,2.5s						
BOSA	**Boshof**	**79.81**	**118**	P	**P**	**03 22 54.8**	**+0.8**
	comp=N,5.0nm,0.7s,baz=241,slow=4.2,SNR=14						
BOSA	**Boshof**	**79.81**	**118**	*e*P	**P**	**03 22 53.8**	**-0.2**
	comp=N,8.0nm,0.8s						
LDFC	**Landfair**	**80.02**	**325**	*e*P	**P**	**03 22 55.6**	**+0.8**
	comp=N,7.1nm,1.0s						
SMCO	**Snowmass**	**80.04**	**333**	*e*P	**P**	**03 22 56.1**	**+1.0**
	comp=N,3.6nm,1.0s						
ECSD	**EROS Data Cent**	**80.92**	**342**	*e*P	**P**	**03 22 58.7**	**-0.5**
	comp=N,6.5nm,0.8s						
GSC	**Goldstone, Bar**	**81.01**	**324**	*e*P	**P**	**03 23 01.3**	**+1.3**
	comp=N,35nm,2.3s						
SHPR	**Sheep Range**	**81.21**	**326**	*e*P	P	03 23 07.3	+6.1
CCUT	**Cedar City**	**81.26**	**328**	*e*P	**P**	**03 23 03.0**	**+1.4**
	comp=N,96nm,2.8s						
LBTB	**Lobatse**	**82.05**	**115**	*e*P	**P**	**03 23 07.2**	**+1.2**
	comp=N,135nm,2.6s						
DAC	**Darwin (Calif)**	**82.18**	**324**	*e*P	**P**	**03 23 06.9**	**+0.6**
	comp=N,4.2nm,1.0s						
R11A	**Troy Canyon, C**	**82.91**	**327**	*e*P	**P**	**03 23 13.0**	**+2.9**
	comp=N,68nm,3.0s						
DUG	**Dugway, Tooele**	**83.23**	**330**	*e*P	**P**	**03 23 12.2**	**+0.6**
	comp=N,15nm,1.8s						
TPH	**Tonopah**	**83.44**	**326**	*e*P	**P**	**03 23 14.4**	**+1.5**
	comp=N,90nm,2.9s						
PDAR	**Pinedale Array**	**84.13**	**333**	P	**P**	**03 23 15.8**	**-0.5**
	comp=N,1.1nm,0.7s,baz=140,slow=7.1,SNR=8.0						
TORD	**Torodi Ar. Bea**	**84.22**	**70**	P	**P**	**03 23 17.6**	**+0.5**
	comp=N,3.1nm,0.8s,baz=246,slow=3.8,SNR=13						
NVAR	**Mina Array Bea**	**84.24**	**325**	P	**P**	**03 23 16.8**	**-0.1**
	comp=N,1.2nm,0.8s,baz=145,slow=5.5,SNR=9.3						
HVU	**Hansel Valley**	**84.54**	**331**	*e*P	**P**	**03 23 18.3**	**0.0**
	comp=N,53nm,2.4s						
FLWY	**Flagg Ranch**	**85.68**	**333**	*e*P	**P**	**03 23 24.5**	**+0.5**
	comp=N,50nm,2.1s						
YMR	**Madison River**	**86.28**	**333**	*e*P	**P**	**03 23 28.2**	**+1.1**
	comp=N,151nm,2.9s						
HLID	**Hailey**	**86.70**	**331**	*e*P	**P**	**03 23 29.9**	**+0.8**
	comp=N,4.6nm,1.2s						
ULM	**Lac du Bonnet**	**86.86**	**345**	P	**P**	**03 23 28.5**	**-0.9**
	comp=N,2.5nm,0.7s,baz=185,slow=4.9,SNR=4.7						
MCMT	**McKenzie Canyo**	**87.13**	**332**	*e*P	**P**	**03 23 31.5**	**+0.3**
	comp=N,1.6nm,0.8s						
FCC	**Fort Churchill**	**94.59**	**349**	*e*P	**P**	**03 24 04.2**	**-1.1**
	comp=N,0.1nm,0.8s						
YKA	**Yellowknife Ar**	**102.42**	**341**	P	**Pdif**	**03 24 39.4**	**-1.0**
	comp=N,0.3nm,0.6s,baz=142,slow=4.5,SNR=8.6						
MORC	**Moravsky Berou**	**114.98**	**46**	*e*PKPdf	PKPdf	03 29 25.5	-0.3
KOLS	**Kolonicke sedl**	**117.51**	**48**	*e*PKP	**PKPdf**	**03 29 33.0**	**+2.4**
SUW	**Suwalki**	**119.78**	**43**	*e*PKPdf	**PKPdf**	**03 29 34.9**	**+0.2**
WRAB	**Tennant Creek**	**120.52**	**209**	*e*PKPdf	**PKPdf**	**03 29 35.6**	**-1.7**
TNA	**Tin City**	**123.15**	**330**	*e*PKPdf	**PKPdf**	**03 29 40.8**	**0.0**
MBWA	**Marble Bar**	**123.70**	**193**	*e*PKPdf	**PKPdf**	**03 29 42.2**	**-1.2**
H11S2	**WAKE ISLAND Hyl**	**25.88**	**269**	T	T	05 48 05.5	
	baz=120,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hyl**	**25.89**	**269**	T	T	05 48 05.4	
	baz=120,slow=75,SNR=59						
H11S3	**WAKE ISLAND Hyl**	**25.90**	**269**	T	T	05 48 07.3	
	baz=120,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hyl**	**26.30**	**270**	T	T	05 48 36.4	
	baz=130						
H11N1	**WAKE ISLAND Hyl**	**26.32**	**270**	T	T	05 48 35.8	
	baz=130						
H11N2	**WAKE ISLAND Hyl**	**26.32**	**270**	T	T	05 48 37.8	
	baz=130						
KIV	**Kislovodsk**	**129.57**	**58**	*e*PKPdf	**PKPdf**	**03 29 54.0**	**0.0**
TIXI	**Tiksi**	**141.06**	**350**	*e*PKPdf	**PKPdf**	**03 30 14.3**	**-0.1**
ABKAR	**Akbulak array**	**141.81**	**52**	*e*PKPdf	**PKPdf**	**03 30 14.3**	**-2.1**
BRVK	**Borovoye**	**147.38**	**43**	*e*PKPbc	**PKPbc**	**03 30 28.9**	**+0.5**
IPM	**Ipoh**	**149.56**	**166**	*e*PKPbc	**PKPbc**	**03 30 35.2**	**-0.1**
YSS	**Yuzh-Sakhalins**	**151.09**	**306**	*e*PKPbc	**PKPbc**	**03 30 37.7**	**-0.2**
KURK	**Kurchatov**	**153.05**	**44**	*e*PKPdf	**PKPdf**	**03 30 35.1**	**+0.2**
KURK				*e*PKPbc	**PKPbc**	**03 30 42.0**	**-0.3**
TKM2	**Tokmak 2**	**153.34**	**62**	*e*PKPab	**PKPab**	**03 30 54.5**	**-1.0**
KSH	**Kashi**	**153.89**	**69**	*e*PKPbc	**PKPdf**	**03 30 37.0**	**+0.4**
KSH				sPKP		03 30 49.2	
KSH				PKS	**PKSdf**	**03 34 11.6**	**+0.6**
KSH				PP	**PP**	**03 34 32.0**	**-1.0**
KSH				SKS	**SKSdf**	**03 37 39.2**	**-2.1**
KSH				SKKS	**SKKSac**	**03 41 19.0**	**-1.5**
KSH				SS	**SS**	**03 54 06.2**	**-2.7**
KSH				PPMZ			
	comp=N,98nm,4.6s						
KSH				LN			
	comp=N,57nm,3.8s						
KSH				LE			
	comp=N,57nm,4.0s						
KSH				LZ			
	comp=N,180nm,5.3s						
ZALV	**Zalesovo Beam**	**154.46**	**33**	PKPbc	**PKPbc**	**03 30 45.5**	**+0.4**
	comp=N,2.0nm,0.7s,baz=321,slow=2.1,SNR=8.8						
ZALV				PKPab	**PKPab**	**03 30 59.8**	**+0.2**
	comp=N,2.3nm,0.7s,baz=301,slow=4.3,SNR=4.7						
MKAR	**Makanchi Array**	**156.90**	**50**	PKPab	**PKPab**	**03 31 10.2**	**-0.2**
	comp=N,0.7nm,0.7s,baz=286,slow=3.1,SNR=5.2						
WMQ	**Urumqi**	**161.59**	**53**	*e*PKP	**PKPdf**	**03 30 45.4**	**-0.5**
WMQ				pPKP	**pPKPdf**	**03 30 56.0**	**-0.1**
SONM	**Songino Array**	**166.47**	**5**	PKPab	**PKPab**	**03 31 52.8**	**+0.6**
	comp=N,0.6nm,0.8s,baz=29,slow=3.3,SNR=3.1						
ULN	**Ulaanbaatar**	**166.47**	**3**	*e*PKPdf	**PKPdf**	**03 30 51.3**	**+0.9**
ULN				*e*PKPab	**PKPab**	**03 31 52.7**	**+0.5**
GTA	**Gaotai**	**171.66**	**50**	*e*PKP	**PKPdf**	**03 30 54.1**	**+0.2**
GTA				pPKP	**pPKPdf**	**03 31 04.2**	**+0.1**
GTA				sPKP		03 31 08.1	
HHC	**Hu-ho-hao-te**	**172.95**	**338**	*e*PKP	**PKPdf**	**03 30 54.5**	**+0.1**
HHC				pPKP	**pPKPdf**	**03 31 05.2**	**+0.6**
HHC				sPKP		03 31 09.1	
HHC				PP	**PP**	**03 36 16.8**	**+4.6**
HHC				SKS	**SKSdf**	**03 37 52.2**	**-3.1**
HHC				SS	**SS**	**03 57 24.6**	**+1.4**
HHC				PPMZ			
	comp=N,130nm,5.9s						
HHC				LN			
	comp=N,110nm,21.8s						
HHC				LE			
	comp=N,200nm,22.2s						
HHC				LZ			
	comp=N,140nm,21.0s						
LZH	**Lanzhou**	**176.11**	**62**	*e*PKP	**PKPdf**	**03 30 57.3**	**+1.7**
LZH				pPKP	**pPKPdf**	**03 31 08.4**	**+2.6**
LZH				sPKP		03 31 12.4	

MDD ***12*** *03:17:31.4±0.7,33°.91N×4°.48W,h0km,mb3.6/6,Error ellipse: s-maj=10.2km s-min=5.6km az=110.0,PRXIMO*

ISCJB ***12*** *03:17:32.5±0.5,34°.00N±0°.03×4°.61W±0°.04,h24km,Error ellipse: s-maj=5.0km s-min=3.7km az=29.7*

CSEM ***12*** *03:17:32.6±0.2,33°.98N×4°.56W,h15km,MD3.1,Error ellipse: s-maj=4.9km s-min=3.4km az=120.0*

CNRM ***12*** *03:17:34.7,33°.76N×4°.17W,h30km,MD3.1*

ISC 12 03:17:32.8±1.1,33°.93N±0°.03×4°.50W±0°.04,h24km,n46, σ0°93/81,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMEL	**Melilla**	**1.86**	**43**	P	**Pn**	**03 18 03.0**	**-0.2**
	26nm,0.1s,SNR=4.0						
EMEL				S	**Sb**	**03 18 28.4**	**-0.6**
	37nm,0.3s,SNR=7.9						
EMLI	**Melilla**	**1.87**	**43**	P	**Pn**	**03 18 03.0**	**-0.3**
	26nm,0.1s,SNR=4.0						
EMLI				S	**Sb**	**03 18 28.4**	**-0.8**
	37nm,0.3s,SNR=7.9						
KIB	**El Ksiba**	**1.87**	**224**	P	**Pn**	**03 18 04.0**	**+0.6**
KIB				S	**Sn**	**03 18 26.0**	**-0.3**
KIB	**El Ksiba**	**1.87**	**224**	*i* P	**Pn**	**03 18 04.0**	**+0.6**
KIB				*i* S	**Sn**	**03 18 26.0**	**-0.3**
ZFT	**Errachidia**	**1.90**	**176**	P	**Pn**	**03 18 02.0**	**-1.8**
ZFT	**Errachidia**	**1.90**	**176**	P	**Pn**	**03 18 02.0**	**-1.8**
TZC	**Tazercounte**	**2.44**	**224**	P	**Pn**	**03 18 13.0**	**+1.7**
TZC				S	**Sn**	**03 18 42.0**	**+1.5**
TZC	**Tazercounte**	**2.44**	**224**	*e*P	**Pn**	**03 18 13.0**	**+1.7**
TZC				*i* S	**Sn**	**03 18 42.0**	**+1.5**
EMIJ	**Mijas**	**2.64**	**355**	P	**Pn**	**03 18 13.0**	**-0.9**
	1.1nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**03 18 46.2**	**+1.1**
	3.3nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**2.64**	**355**	P	**Pn**	**03 18 13.0**	**-0.9**
	1.1nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**03 18 46.2**	**+1.1**
	3.3nm,0.4s,SNR=7.9						
EBER	**Berja**	**3.24**	**23**	P	**Pn**	**03 18 23.4**	**+1.1**
	2.3nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**03 18 58.8**	**-1.4**
	3.0nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.24**	**23**	P	**Pn**	**03 18 23.4**	**+1.1**
	2.3nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**03 18 58.8**	**-1.4**
	3.0nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.03**	**16**	P	**Pn**	**03 18 33.7**	**+0.5**
	1.2nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**03 19 21.7**	**+2.0**
	2.0nm,0.5s,SNR=7.9						
EQES	**Quesada**	**4.03**	**16**	P	**Pn**	**03 18 33.7**	**+0.5**
	1.2nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**03 19 21.7**	**+2.0**
	2.0nm,0.5s,SNR=7.9						
EHUE	**Huescar**	**4.17**	**21**	P	**Pn**	**03 18 35.8**	**+0.7**
	0.3nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**4.17**	**21**	P	**Pn**	**03 18 35.8**	**+0.7**
	0.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.20**	**350**	P	**Pn**	**03 18 35.8**	**+0.4**
	0.3nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**03 19 24.3**	**+0.6**
	1.1nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**4.20**	**350**	P	**Pn**	**03 18 35.8**	**+0.4**
	0.3nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**03 19 24.3**	**+0.6**
	1.1nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.22**	**336**	P	**Pn**	**03 18 35.9**	**+0.3**
	0.9nm,0.3s,SNR=7.9						
EMIN				S	**Sn**	**03 19 24.9**	**+0.9**
	1.4nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.22**	**336**	P	**Pn**	**03 18 35.9**	**+0.3**
	0.9nm,0.3s,SNR=7.9						
EMIN				S	**Sn**	**03 19 24.9**	**+0.9**
	1.4nm,0.4s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.33**	**321**	*e*Pn	**Pn**	**03 18 36.8**	**-0.3**
PBDV				*e*Sn	**Sn**	**03 19 26.3**	**-0.6**
PBDV	**Barranco-do-Ve**	**4.33**	**321**	P	**Pn**	**03 18 36.8**	**-0.3**
PBDV				S	**Sn**	**03 19 26.3**	**-0.6**
PBDV	**Barranco-do-Ve**	**4.33**	**321**	P	**Pn**	**03 18 36.8**	**-0.3**
PBDV				S	**Sn**	**03 19 26.3**	**-0.6**
EGRO	**El Granado**	**4.34**	**327**	P	**Pn**	**03 18 37.0**	**-0.2**
	1.6nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**03 19 25.6**	**-1.4**
	1.3nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**4.34**	**327**	P	**Pn**	**03 18 37.0**	**-0.2**
	1.6nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**03 19 25.6**	**-1.4**
	1.3nm,0.3s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.34**	**324**	*e*Pn	**Pn**	**03 18 37.2**	**-0.1**
PVAQ				*e*Sn	**Sn**	**03 19 27.1**	**-0.1**
PVAQ				A	A	03 19 33.0	
	3.6nm,0.7s						
PVAQ	**Vaqueiros**	**4.34**	**324**	P	**Pn**	**03 18 37.2**	**-0.1**
PVAQ				S	**Sn**	**03 19 27.1**	**-0.1**
	3.6nm,0.7s						
PVAQ	**Vaqueiros**	**4.34**	**324**	P	**Pn**	**03 18 37.2**	**-0.1**
PVAQ				S	**Sn**	**03 19 27.1**	**-0.1**
	3.6nm,0.7s						
SESP	**Santiago Espad**	**4.47**	**20**	P	**Pn**	**03 18 40.4**	**+1.2**
	0.4nm,0.2s,SNR=4.0						
SESP				S	**Sn**	**03 19 31.3**	**+

baz=111,slow=15,SNR=4.9
PMG LR LR 03 29 00.1
comp=Z,5μm,19.3s,baz=78,slow=37
PMG Port Moresby 10.37 268 *e*Pn **Pn 03 25 16.4 +0.2**
COEN Coen 14.96 250 ⇑P **Pn 03 26 18.4 +0.5**
baz=15,SNR=24
COEN Coen 14.96 250 *e*Pn **Pn 03 26 16.6 -1.3**
DZM Mont Dzumac 15.33 148 Pn **Pn 03 26 20.7 -2.0**
comp=Z,0.3nm,0.3s,baz=311,slow=6.7,SNR=4.7
DZM LR LR 03 31 18.7
comp=Z,2μm,21.8s,baz=330,slow=34
DZM Mont Dzumac 15.33 148 *e*Pn **Pn 03 26 21.0 -1.7**
comp=Z,111nm,1.6s
CTA Charters Tower 15.45 224 Pn Pn 03 26 18.5 -5.7
comp=Z,1.1nm,0.3s,baz=50,slow=14,SNR=9.3
CTAO Charters Tower 15.45 224 *e*P **Pn 03 26 20.1 -4.1**
CTAO pmax pmax
comp=Z,108nm,1.3s
CTAO Charters Tower 15.45 224 *e*Pn **Pn 03 26 20.1 -4.1**
comp=Z,108nm,1.3s
MTSU Mount Surprise 15.71 234 ⇓P **Pn 03 26 25.7 -1.7**
baz=16,SNR=24
EIDS Eidsvold 17.26 200 ⇑P **P 03 26 47.9 +0.6**
baz=17,SNR=11
EIDS Eidsvold 17.26 200 *e*Pn **Pn 03 26 45.5 -1.2**
comp=Z,155nm,1.2s
JAY Jayapura 18.12 290 P **P 03 26 55.1 -1.8**
comp=Z,81nm,1.0s
JAY Jayapura 18.12 290 P **P 03 26 55.4 -1.5**
baz=18,SNR=8.2
GENI Genyem 18.59 290 P Pn 03 27 09.1 +6.1
comp=Z,171nm,0.9s,comp=Z,5μm
RMQ Roma 19.16 205 ⇓P **P 03 27 09.0 +0.8**
baz=19,SNR=20
SMPI Sarmi 20.16 290 P Pn 03 27 20.4 -1.2
comp=Z,202nm,1.7s
KWAJ Kwajalein Atol 20.44 29 *e*P Pn 03 27 24.2 -0.7
KWAJ pmax pmax
comp=Z,159nm,1.0s
KWAJ Kwajalein Atol 20.44 29 *e*P Pn 03 27 24.2 -0.7
comp=Z,159nm,1.0s
QIS Mount Isa 20.76 235 P **P 03 27 25.5 -0.2**
baz=21,SNR=56
QLP Quilpie 21.47 215 P **P 03 27 32.5 -0.6**
baz=22,SNR=37
MSVF Nonsavu 21.55 115 *e*P **P 03 27 35.8 +1.6**
MSVF pmax pmax
comp=Z,240nm,1.8s
MSVF Nonsavu 21.55 115 *e*P **P 03 27 35.8 +1.6**
comp=Z,240nm,1.8s
ARMA Armidale 21.85 194 P **P 03 27 36.9 -0.4**
baz=22,SNR=12
ARMA Armidale 21.85 194 *e*P **P 03 27 36.1 -1.2**
comp=Z,43nm,0.8s
RKPI Ransiki, Papua 24.58 287 P **P 03 28 05.9 +1.8**
comp=Z,416nm,1.4s,comp=Z,29μm
CMSA Cobar Meteorol 24.86 205 P **P 03 28 06.3 -0.2**
baz=25,SNR=19
WRAB Tennant Creek 24.92 242 P **P 03 28 06.6 -0.6**
comp=Z,728nm,1.1s,SNR=41
WRAB Tennant Creek 24.92 242 *d i*P **P 03 28 06.2 -1.0**
WRAB pmax pmax
comp=Z,423nm,1.2s
WRAB Tennant Creek 24.92 242 *e*P **P 03 28 06.5 -0.7**
comp=Z,131nm,1.0s
WB2 Warramunga Arr 24.93 242 *e*P **P 03 28 06.1 -1.1**
WRA Warramunga Arr 24.94 242 P **P 03 28 06.3 -1.0**
comp=Z,100nm,0.9s,baz=66,slow=9.8,SNR=117
WRA PcP **PcP 03 31 42.1 +0.7**
comp=Z,4.0nm,0.7s,baz=72,slow=2.6,SNR=6.2
WRA LR LR 03 37 31.8
comp=Z,3μm,19.6s,baz=70,slow=36
GUMO Guam 25.96 331 *e*P **P 03 28 16.7 +0.2**
GUMO pmax pmax
comp=Z,366nm,1.1s
GUMO Guam 25.96 331 LR LR 03 39 51.3
comp=Z,255nm,18.2s,slow=40
GUMO Guam 25.96 331 *e*P **P 03 28 16.7 +0.2**
comp=Z,366nm,1.1s
FAKI Fak Fak 26.02 282 *e*P **P 03 28 18.9 +1.8**
comp=Z,325nm,2.0s
SAUI Saumlaki 26.09 271 *e*P **P 03 28 18.6 +0.8**
comp=Z,347nm,1.1s
YNG Young 26.39 197 ⇑P **P 03 28 21.0 +0.7**
baz=26,SNR=10
AS31 Alice Springs 26.88 235 *e*P **P 03 28 23.0 -1.9**
ASAR Alice Springs 26.89 235 P **P 03 28 23.4 -1.6**
comp=Z,19nm,1.0s,baz=64,slow=9.5,SNR=76
ASAR PcP **PcP 03 31 46.8 +0.8**
comp=Z,1.2nm,0.6s,baz=75,slow=2.4,SNR=4.2
ASAR LR LR 03 38 51.6
comp=Z,2μm,18.2s,baz=56,slow=36
STKA Stephens Creek 27.05 211 *e*P **P 03 28 26.1 -0.1**
STKA pmax pmax
comp=Z,34nm,1.3s
STKA Stephens Creek 27.05 211 P **P 03 28 26.2 -0.1**
comp=Z,55nm,0.9s,baz=33,slow=11,SNR=39
STKA LR LR 03 40 14.2
comp=Z,907nm,18.2s,baz=29,slow=39
STKA Stephens Creek 27.05 211 P **P 03 28 26.1 -0.1**
baz=27,SNR=51
STKA Stephens Creek 27.05 211 *e*P **P 03 28 26.1 -0.1**
comp=Z,34nm,1.3s
CNB Canberra Magne 27.08 195 ⇑P **P 03 28 28.1 +1.5**
baz=27,SNR=12
CAN Canberra 27.18 196 *e*P **P 03 28 27.9 +0.4**
CAN pmax pmax
comp=Z,46nm,1.3s
CAN Canberra 27.18 196 *e*P **P 03 28 27.9 +0.4**
comp=Z,46nm,1.3s
KNRA Kununurra 28.93 254 P **P 03 28 42.3 -0.8**
baz=29,SNR=4.6
HTT Hallett 29.66 213 P **P 03 28 50.4 +0.8**
baz=30,SNR=8.5
TOO Toolangi 30.32 199 P **P 03 28 56.1 +0.9**
baz=30,SNR=3.7
BBOO Buckleboo 30.83 217 P **P 03 28 59.0 -0.8**
baz=31,SNR=14
BBOO Buckleboo 30.83 217 *e*P **P 03 28 58.8 -1.0**
NLAI Namlea 30.94 279 P **P 03 29 02.6 +1.6**
comp=Z,34nm,1.6s
ARPS Mount Arapiles 30.98 205 P **P 03 29 02.4 +1.4**
baz=31,SNR=7.0
LBMI Labuha 31.20 284 P **P 03 29 05.8 +2.5**
comp=Z,126nm,1.5s
TNTI Ternate 31.76 287 P **P 03 29 10.1 +1.9**
comp=Z,100nm,1.6s
TNTI Ternate 31.76 287 *e*P **P 03 29 08.5 +0.3**
comp=Z,350nm,1.7s
WRKA Warakurna 32.08 237 P **P 03 29 09.1 -1.8**
baz=32,SNR=21
SANI Sanana 32.29 281 P **P 03 29 14.3 +1.4**
comp=Z,72nm,1.2s,comp=Z,868nm
FITZ Fitzroy Crossi 32.31 251 P **P 03 29 11.5 -1.4**
baz=32,SNR=8.3
FITZ Fitzroy Crossi 32.31 251 *e*P **P 03 29 11.6 -1.3**
comp=Z,18nm,1.0s
SOEI Soe 32.94 266 *e*P **P 03 29 18.5 -0.1**
comp=Z,98nm,1.6s
BATI Baumata 33.52 265 P **P 03 29 23.8 +0.2**
comp=Z,31nm,1.5s
URZ Urewera 33.82 152 P **P 03 29 25.7 -0.1**
comp=Z,12nm,0.9s,baz=346,slow=9.4,SNR=4.0
URZ Urewera 33.82 152 *e*P **P 03 29 27.9 +2.1**
comp=Z,56nm,1.4s
TAU Tasmania Unive 34.78 193 *e*P **P 03 29 34.9 +0.7**
TAU pmax pmax
comp=Z,90nm,1.5s
TAU Tasmania Unive 34.78 193 *e*P **P 03 29 34.9 +0.7**
comp=Z,90nm,1.5s
KMSI Cibinong 34.92 284 P **P 03 29 38.0 +2.3**
comp=Z,293nm,1.3s
FORT Forrest 34.95 228 P **P 03 29 35.5 -0.3**
baz=35,SNR=6.8
FORT Forrest 34.95 228 *e*P **P 03 29 34.2 -1.6**
comp=Z,118nm,1.2s
BBSI Bau Bau 34.99 274 P **P 03 29 37.5 +1.2**
comp=Z,72nm,1.1s,comp=Z,2μm
MMRI Maumere 34.99 268 P **P 03 29 35.3 -1.1**
comp=Z,96nm,1.4s,comp=Z,3μm
MMRI Maumere 34.99 268 *e*P **P 03 29 35.1 -1.3**
comp=Z,36nm,0.4s
LUWI Luwuk 35.65 281 P **P 03 29 44.4 +2.4**
comp=Z,69nm,1.5s,comp=Z,3μm
LUWI Luwuk 35.65 281 *e*P **P 03 29 41.3 -0.7**
comp=Z,172nm,1.6s
APSI Ampana 36.77 281 P **P 03 29 53.1 +1.5**
comp=Z,58nm,1.6s,comp=Z,822nm

MRSI Marisa 36.85 283 P **P 03 29 53.4 +1.2**
comp=Z,28nm,1.2s,comp=Z,2μm
BSSI Bau Bau, Buton 36.95 272 P **P 03 29 53.3 +0.2**
comp=Z,76nm,1.1s,comp=Z,3μm
BKSI Bulukumba 37.42 273 P **P 03 29 57.2 +0.1**
comp=Z,23nm,1.2s,comp=Z,393nm
BNSI Bone 37.58 275 P **P 03 29 59.3 +0.9**
comp=Z,58nm,1.4s
WBSI Waikabubak, Su 37.74 266 P **P 03 30 00.6 +0.7**
comp=Z,82nm,1.0s,comp=Z,13μm
KAPI Kappang 37.83 274 P **P 03 30 00.2 -0.4**
comp=Z,263nm,1.1s,SNR=7.4
KAPI Kappang 37.83 274 *e*P **P 03 30 00.4 -0.2**
comp=Z,89nm,1.3s
SPSI Sidrap Palu 37.98 275 P **P 03 30 02.5 +0.7**
comp=Z,27nm,1.4s,comp=Z,436nm
TTSI Tana Toraja 38.10 277 P **P 03 30 04.6 +1.8**
comp=Z,33nm,1.2s,comp=Z,1μm
MBWA Marble Bar 38.38 248 *e*P **P 03 30 03.7 -1.4**
comp=Z,33nm,1.1s
MPSI Mapaga 38.78 282 P **P 03 30 08.7 +0.2**
comp=Z,30nm,1.8s
KMBL Kambalda 39.88 231 P **P 03 30 17.4 -0.1**
baz=40,SNR=6.0
MEEK Meekatharra 40.79 240 P **P 03 30 24.4 -0.8**
baz=41,SNR=7.5
MYLDM Lahad Datu 41.56 289 *e*P **P 03 30 33.6 +2.0**
comp=Z,101nm,1.3s
TSM Tawau 41.86 287 ⇑P **P 03 30 34.5 +0.5**
IGBI Denpasar 41.98 267 P **P 03 30 35.0 +0.1**
comp=Z,72nm,1.3s
BBKI Banjar Baru 42.91 275 P **P 03 30 44.8 +2.2**
comp=Z,153nm,1.3s,comp=Z,9μm
SDKM Sandakan 42.94 289 ⇓P **P 03 30 45.2 +2.3**
ABJI Asem Bagus 42.96 268 P P 03 30 46.4 +3.5
comp=Z,60nm,1.3s
JAGI Jajag, Banyuwa 42.98 267 P **P 03 30 42.4 -0.7**
comp=Z,110nm,1.3s,comp=Z,1μm
JAGI Jajag, Banyuwa 42.98 267 P **P 03 30 41.0 -2.1**
baz=43,SNR=5.2
JAGI Jajag, Banyuwa 42.98 267 *e*P **P 03 30 40.6 -2.5**
comp=Z,59nm,0.7s
KLBR Kellerberrin 43.19 233 P **P 03 30 44.5 -0.2**
baz=43,SNR=7.4
BLDU Ballidu 43.67 235 P **P 03 30 49.1 +0.6**
baz=44,SNR=3.9
MORW Morawa 43.71 237 ⇓P **P 03 30 48.3 -0.5**
baz=44,SNR=6.3
KKM Kota Kinabalu 44.00 289 *e*P **P 03 30 51.0 -0.4**
comp=Z,46nm,1.1s
NWAO Narrogin (SRO) 44.11 232 P **P 03 30 50.9 -1.0**
comp=Z,49nm,1.1s,baz=72,slow=7.0,SNR=8.1
PWJI Pagerwojo 45.33 268 P **P 03 31 02.7 +0.8**
comp=Z,98nm,1.1s,comp=Z,1μm
JOW Kunigami 45.78 322 *e*P **P 03 31 05.1 -0.1**
comp=Z,71nm,1.6s
BTM Bintulu 46.10 283 ⇓P P 03 31 11.8 +3.7
SBUM Sibu 46.74 282 *e*P **P 03 31 14.6 +1.6**
comp=Z,69nm,1.4s
STKI Sintang 46.89 279 P **P 03 31 17.0 +2.8**
YOJ Yonaguni jima 47.56 315 *e*P **P 03 31 19.9 +0.7**
YOJ pmax pmax
comp=Z,54nm,1.2s
YOJ Yonaguni jima 47.56 315 *e*P **P 03 31 19.9 +0.7**
comp=Z,54nm,1.2s
YULB Yu-li 48.10 313 *e*P **P 03 31 22.7 -0.7**
comp=Z,21nm,0.9s
KPJI Karang Pucung 48.23 268 P **P 03 31 26.1 +1.5**
comp=Z,36nm,0.8s
KSM Kuching 48.35 280 P **P 03 31 25.9 +0.4**
baz=48,SNR=4.4
KSM Kuching 48.35 280 *e*P **P 03 31 24.2 -1.2**
comp=Z,132nm,1.7s
NACB Ninganchiao 48.38 314 *e*P **P 03 31 25.4 -0.1**
comp=Z,116nm,1.4s
SSLB Sungklang 48.59 313 *e*P **P 03 31 27.1 -0.1**
comp=Z,189nm,1.9s
YHNB Yeheng 48.84 314 *e*P **P 03 31 28.5 -0.6**
comp=Z,51nm,0.8s
MJAR Matsushiro Arr 49.03 339 P **P 03 31 28.5 -1.8**
comp=Z,8.6nm,0.8s,baz=168,slow=8.7,SNR=18
MJAR LR LR 03 52 46.0
comp=Z,86nm,18.8s,baz=125,slow=37
MAJO Matsushiro 49.04 339 *e*P **P 03 31 29.0 -1.4**
MAJO pmax pmax
comp=Z,50nm,0.7s
MAJO Matsushiro 49.04 339 *e*P **P 03 31 29.0 -1.4**
comp=Z,18nm,1.0s
MAT Matsushiro 49.04 339 P **P 03 31 28.3 -2.1**
MAT *e*S **S 03 38 31.2 +1.1**
JNU Nakatsue 49.21 330 *e*P **P 03 31 32.2 +0.5**
comp=Z,20nm,1.0s
CISI Cisompet, Garu 49.31 268 P **P 03 31 34.4 +1.4**
comp=Z,69nm,1.3s
CISI Cisompet, Garu 49.31 268 *e*P **P 03 31 31.2 -1.7**
comp=Z,75nm,1.1s
LEM Lembang 49.58 269 P **P 03 31 35.7 +0.6**
comp=Z,92nm,1.4s
TPI Tanjungpandan 50.10 274 P **P 03 31 41.3 +2.4**
comp=Z,39nm,1.4s,comp=Z,627nm
CBJI Citeko 50.38 269 P **P 03 31 40.8 -0.2**
comp=Z,189nm,0.8s
CGJI Cibinong 51.51 269 P **P 03 31 48.9 -0.5**
comp=Z,85nm,1.3s
PPT Papeete 51.86 105 LR LR 03 51 10.2
comp=Z,233nm,18.7s,baz=274,slow=33
PPT2 Papeete2 51.86 105 *e*S S 03 39 20.9 +11
comp=Z,173nm,26.2s
PPT2 *e*LQ LQ 03 44 50.5
comp=Z,2μm,26.0s
PPT2 *e*LR LR 03 47 02.9
comp=Z,754nm,25.8s
KASI Kota Agung 52.82 270 P **P 03 31 58.4 -0.8**
comp=Z,38nm,1.2s
SSE Sheshan 53.17 320 *e*P **P 03 32 04.1 +2.7**
SSE PP **PP 03 34 01.2 -1.0**
SSE S **S 03 39 26.9 -0.4**
SSE sS **sS 03 39 57.1 +0.1**
SSE PMZ
comp=Z,27nm,0.7s
SSE PMZ
comp=Z,150nm,4.7s
SSE LN
comp=Z,330nm,21.2s
SSE LE
comp=Z,360nm,21.2s
SSE LZ
comp=Z,490nm,21.1s
DLV T Lat 53.20 292 *e*P **P 03 32 02.7 +0.5**
comp=Z,509nm,2.5s
MDSI Maura Dua 53.27 271 P **P 03 32 02.0 -0.5**
comp=Z,28nm,1.4s
PMOR Pomariorio Ree 53.44 102 *e*P P 03 32 11.0 +7.3
comp=Z,70nm,1.2s
YUK Yuzh-Kuril'sk 54.05 350 *c i*P P 03 31 59.3 -8.3
KSRS Korea Array 54.12 331 P **P 03 32 07.4 -0.8**
comp=Z,2.2nm,0.7s,baz=157,slow=7.6,SNR=5.7
KSRS PcP **PcP 03 33 12.8 +0.5**
comp=Z,2.0nm,0.7s,baz=158,slow=4.1,SNR=3.5
KSRS LR LR 03 53 55.1
comp=Z,345nm,20.4s,baz=132,slow=35
KSAR Wonju Array Be 54.13 331 P **P 03 32 07.4 -0.9**
KSAR 03 33 12.8
KSAR Wonju Array Be 54.13 331 P **P 03 32 07.4 -0.9**
KSAR PcP **PcP 03 33 12.8 +0.5**
ASAJ Asahikawa 54.79 347 LR LR 03 54 55.8
comp=Z,1μm,19.5s,baz=171,slow=35
QIZ Qiongzhong 54.85 301 P **P 03 32 13.9 0.0**
QIZ S **S 03 39 50.9 +0.5**
QIZ LE
comp=Z,180nm,27.8s
QIZ LZ
comp=Z,650nm,32.6s
NJ2 Nanjing 55.29 320 *e*P **P 03 32 17.2 +0.4**
NJ2 pP **pP 03 32 33.9 -0.5**
NJ2 S **S 03 39 51.5 -4.3**
NJ2 PMZ
comp=Z,70nm,1.2s
NJ2 LN
comp=Z,2μm,30.5s
NJ2 LE
comp=Z,1μm,22.8s
NJ2 LZ
comp=Z,1μm,22.0s
SDSI Sungai Dareh 56.55 275 P **P 03 32 27.3 +1.1**
comp=Z,65nm,1.0s,comp=Z,18μm
UBPT Khong Chiam 57.14 295 P **P 03 32 31.9 +1.6**

comp=Z,38nm,0.9s
WHN Wuhan 57.35 315 ⇓P **P 03 32 32.0 +0.5**
WHN S S 03 40 11.0 -12
WHN LZ
comp=Z,2μm,25.0s
YSS Yuzh-Sakhalins 57.46 348 *e*P **P 03 32 31.8 -0.1**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS Yuzh-Sakhalins 57.46 348 *e*P **P 03 32 31.8 -0.1**
comp=Z,49nm,1.1s
USRK Ussuriysk Ar. 58.01 338 P **P 03 32 35.3 -0.6**
comp=Z,22nm,1.1s,baz=145,slow=7.0,SNR=9.3
USRK LR LR 03 58 01.9
comp=Z,131nm,18.8s,baz=132,slow=37
IPM Ipoh 58.06 281 *e*P **P 03 32 35.5 -1.4**
KULM Kulim 58.62 282 *e*P **P 03 32 39.8 -0.9**
comp=Z,28nm,1.2s
MNSI Mandailing Nat 58.69 277 P **P 03 32 41.9 +0.7**
comp=Z,55nm,0.9s
MDJ Mudanjiang 59.27 337 P **P 03 32 46.5 +1.9**
MDJ pP **pP 03 33 04.6 +2.2**
MDJ sP sP 03 33 12.4 +2.3
MDJ PP **PP 03 34 57.5 +1.1**
MDJ ScP **ScP 03 37 25.4 -1.7**
MDJ PcS **PcS 03 37 34.2 +0.1**
MDJ S **S 03 40 50.9 +3.3**
MDJ PMZ
comp=Z,12nm,1.5s
MDJ PMZ
comp=Z,100nm,3.3s
MDJ LN
comp=Z,340nm,32.8s
MDJ LE
comp=Z,85nm,25.4s
MDJ LZ
comp=Z,470nm,26.2s
PSI Prapat 59.73 279 ⇓P **P 03 32 48.7 +0.1**
baz=60,SNR=9.1
ENH Enshi 60.66 312 *e*P **P 03 32 54.7 +0.2**
comp=Z,14nm,0.8s
GSI Gunungsitoli 60.75 277 P **P 03 32 55.7 +0.3**
comp=Z,95nm,1.4s
GSI Gunungsitoli 60.75 277 *e*P **P 03 32 56.5 +1.0**
comp=Z,140nm,1.3s
HABR Khabarovsk 60.79 343 *e*P **P 03 32 52.0 -2.9**
HABR *e**PP **pP 03 33 07.8 -5.0**
HABR *e* 03 33 35.7
HABR *e*S **S 03 41 03.5 -3.5**
HABR *e**SS sS 03 41 31.2 -6.1
HABR 03 42 37.1
HABR *e*SS **SS 03 45 04.0 -3.3**
HABR pmax pmax
comp=Z,49nm,1.4s
HABR MLR MLR
comp=Z,348nm,18.0s
SLVN Son La 60.87 301 *e*P **P 03 32 56.4 +0.2**
comp=Z,27nm,1.2s
GYA Guiyang 60.88 307 ⇓ *i*P **P 03 32 57.2 +1.0**
GYA pP pP 03 33 17.2 +3.1
GYA sP sP 03 33 25.8 +4.1
GYA PP **PP 03 35 15.0 +3.9**
GYA ScP **ScP 03 37 33.4 -1.5**
GYA S **S 03 41 09.6 +0.3**
GYA sS **sS 03 41 41.0 +1.4**
GYA SS **SS 03 45 10.7 +1.0**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.0s
GYA LN
comp=Z,880nm,18.8s
GYA LE
comp=Z,660nm,19.6s
GYA LZ
comp=Z,710nm,18.4s
KCSI Kotacane, Aceh 61.01 279 P **P 03 32 55.3 -1.9**
PHET Kaeng Krachan 61.68 290 P **P 03 33 03.7 +2.1**
comp=Z,71nm,1.0s
PETK Petropavlovsk- 62.06 0 P **P 03 33 02.1 -1.3**
comp=Z,5.7nm,0.8s,baz=159,slow=8.3,SNR=7.6
PETK LR LR 03 56 07.8
comp=Z,387nm,21.6s,baz=173,slow=32
KLR Kul'dur 62.47 341 *e*P P 03 33 01.7 -4.6
XAN Xi'an 63.12 316 P **P 03 33 10.7 -0.3**
XAN PMZ
comp=Z,8.0nm,0.9s
XAN PMZ
comp=Z,33nm,4.8s
SUKH Sukhothai 63.16 295 P **P 03 33 12.5 +1.0**
comp=Z,6.8nm,1.2s
FX1 Attu Island--F 63.24 10 LR LR 03 57 31.9
comp=Z,354nm,20.0s,baz=243,slow=33
KMI Kunming 63.43 304 P **P 03 33 16.0 +2.6**
KMI sP sP 03 33 41.6 +2.6
KMI S **S 03 41 43.0 +1.4**
KMI sS sS 03 42 16.2 +4.1
KMI PMZ
comp=Z,30nm,1.4s
KMI PMZ
comp=Z,210nm,4.6s
KMI LN
comp=Z,180nm,22.3s
KMI LE
comp=Z,400nm,21.4s
KMI LZ
comp=Z,640nm,24.3s
PAYA Payao 63.61 297 P **P 03 33 16.7 +2.2**
comp=Z,13nm,1.1s,comp=Z,640nm
CMAR Chiang Mai Arr 64.11 296 P **P 03 33 18.1 +0.3**
comp=Z,1.9nm,0.3s,baz=116,slow=4.3,SNR=4.4
CMAR LR LR 03 59 19.2
comp=Z,92nm,22.0s,baz=130,slow=34
CHTO Chiang Mai 64.23 296 *e*P **P 03 33 18.0 -0.6**
CHTO pmax pmax
comp=Z,62nm,1.5s
CHTO Chiang Mai 64.23 296 P **P 03 33 19.2 +0.6**
comp=Z,122nm,1.4s
CHTO Chiang Mai 64.23 296 *e*P **P 03 33 18.0 -0.6**
comp=Z,62nm,1.5s
CD2 Chengdu 65.24 310 *e*P **P 03 33 25.4 +0.4**
CD2 pP **pP 03 33 42.0 -1.0**
CD2 PcP PcP 03 34 02.3 +5.4
CD2 S **S 03 42 03.9 +0.4**
CD2 sS sS 03 42 38.4 +4.3
CD2 ScS **SKSac 03 43 12.9 -1.5**
CD2 SS **SS 03 46 20.3 +2.6**
CD2 PMZ
comp=Z,30nm,1.3s
CD2 PMZ
comp=Z,250nm,7.1s
CD2 LN
comp=Z,300nm,22.6s
CD2 LE
comp=Z,610nm,22.6s
CD2 LZ
comp=Z,610nm,22.2s
HHC Hu-ho-hao-te 65.42 323 *e*P **P 03 33 28.4 +2.4**
HHC pP pP 03 33 47.3 +3.2
HHC sP sP 03 33 56.7 +5.0
HHC ScP 03 37 54.9
HHC S **S 03 42 05.7 +0.2**
HHC sS sS 03 42 38.6 +2.5
HHC ScS **SKSac 03 43 13.3 -2.2**
HHC PMZ
comp=Z,16nm,0.6s
HHC PMZ
comp=Z,320nm,5.6s
HHC LN
comp=Z,570nm,16.3s
HHC LE
comp=Z,410nm,14.8s
HHC LZ
comp=Z,500nm,15.7s
RKT Rikitea 65.68 111 *e*LR LR 03 53 22.6
comp=Z,632nm,33.5s
HIA Hailar 67.03 334 *e*P **P 03 33 35.0 -1.0**
HIA pmax pmax
comp=Z,6.0nm,1.0s
LZH Lanzhou 67.73 315 ⇓P **P 03 33 42.5 +1.6**
LZH pP pP 03 34 01.9 +2.9
LZH PcP **PcP 03 34 07.4 +0.1**
LZH sP sP 03 34 10.6 +4.0
LZH *e*S **S 03 42 31.0 -2.6**
LZH sS sS 03 43 07.1 +2.7
LZH SS **SS 03 46 56.4 +0.1**

LZH PMZ
comp=Z,60nm,1.3s
LZH PMZ
comp=Z,190nm,4.0s
LZH LN
comp=Z,340nm,17.0s
LZH LE
comp=Z,360nm,14.8s
LZH LZ
comp=Z,730nm,19.3s
VNDA Vanda 68.33 179 *e*P **P 03 33 44.4 +0.6**
VNDA pmax pmax
comp=Z,32nm,1.1s
VNDA Vanda 68.33 179 P **P 03 33 44.4 +0.6**
comp=Z,20nm,0.9s,baz=345,slow=5.5,SNR=42
VNDA LR LR 04 00 22.9
comp=Z,267nm,18.1s,baz=360,slow=33
VNDA Vanda 68.33 179 *e*P **P 03 33 44.4 +0.6**
comp=Z,32nm,1.1s
SEY Seymchan 72.03 357 *e*P **P 03 34 06.3 -0.1**
GTA Gaotai 72.14 316 *e*P **P 03 34 08.9 +1.0**
GTA pP **PcP 03 34 28.2 +2.4**
GTA sP sP 03 34 36.7 +3.0
GTA S **S 03 43 23.3 -1.9**
GTA sS SKSac 03 43 58.9 -7.6
GTA SS **SS 03 48 02.6 -1.5**
GTA PMZ
comp=Z,16nm,0.9s
GTA PMZ
comp=Z,130nm,4.2s
GTA LN
comp=Z,290nm,20.5s
GTA LE
comp=Z,430nm,19.5s
GTA LZ
comp=Z,520nm,21.8s
ULN Ulaanbaatar 72.27 327 *c i*P **P 03 34 08.8 +0.3**
ULN pmax pmax
comp=Z,34nm,2.5s
ULN Ulaanbaatar 72.27 327 *e*P **P 03 34 09.1 +0.7**
comp=Z,13nm,1.1s
SONM Songino Array 72.61 327 P **P 03 34 10.8 +0.3**
comp=Z,9.6nm,0.8s,baz=136,slow=5.6,SNR=68
SONM LR LR 04 06 14.8
comp=Z,180nm,19.7s,baz=139,slow=36
SHL Shillong 72.68 300 *e*P **P 03 34 12.0 +0.6**
YAK Yakutsk 74.27 347 *e*P P 03 34 16.4 -3.3
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=Z,409nm,20.0s
YAK MLR MLR
comp=Z,409nm,20.0s
YAK Yakutsk 74.27 347 *e*P **P 03 34 19.4 -0.3**
comp=Z,50nm,0.8s
LSA Lhasa 74.69 304 *e*P **P 03 34 24.6 +1.2**
LSA pmax pmax
comp=Z,15nm,0.8s
LSA Lhasa 74.69 304 *e*P **P 03 34 24.6 +1.2**
comp=Z,15nm,0.8s
BOD Bodaibo 75.63 338 *e*P **P 03 34 26.1 -1.5**
BOD pmax pmax
comp=Z,10.0nm,1.8s
ZAK Zakamensk 75.75 328 *e*P **P 03 34 28.5 -0.1**
ZAK pmax pmax
comp=Z,6.0nm,2.0s
TLY Talaya 76.30 329 *e*P **P 03 34 31.9 +0.3**
TLY *e*S S 03 44 03.2 -7.8
TLY pmax pmax
comp=Z,14nm,1.7s
TLY MLR MLR
comp=Z,192nm,18.0s
GAMB Gambell 76.40 13 *e*P **P 03 34 32.2 +0.4**
comp=Z,20nm,1.4s
TAPN Taplejung 76.79 301 *e*P **P 03 34 35.4 +0.1**
comp=Z,81nm,1.3s
ODAN Odare 76.92 300 *e*P **P 03 34 36.0 +0.1**
comp=Z,36nm,0.9s
BILL Bilibino 77.29 3 *e*P **P 03 34 36.5 -0.3**
BILL *e* 03 34 44.5
BILL pmax pmax
comp=Z,30nm,1.9s
BILL Bilibino 77.29 3 *e*P **P 03 34 36.3 -0.5**
comp=Z,17nm,1.0s
RAMN Ramite 77.62 300 *e*P **P 03 34 39.5 -0.4**
KDAK Kodiak Island 78.02 25 *i*P **P 03 34 41.8 +0.8**
JIRN Jiri 78.17 301 *e*P **P 03 34 43.2 +0.1**
PALK Pallekele 78.40 279 *e*P **P 03 34 45.7 +1.5**
PALK pmax pmax
comp=Z,47nm,1.3s
PALK Pallekele 78.40 279 *e*P **P 03 34 45.6 +1.5**
comp=Z,47nm,1.3s
GUN Gumba 78.51 301 *e*P **P 03 34 45.1 +0.2**
comp=Z,47nm,0.9s
TNA Tin City 78.79 14 *e*P **P 03 34 45.5 +0.4**
comp=Z,10nm,1.0s
PKI Pulchoki 78.81 300 *e*P **P 03 34 46.4 -0.2**
PKIN Phulchoki 78.82 300 *e*P **P 03 34 46.5 -0.1**
KKN Kakani 78.98 301 *e*P **P 03 34 47.5 +0.1**
SVW2 Sparrevohn 79.06 21 *e*P **P 03 34 47.5 +0.7**
comp=Z,38nm,1.2s
DMN Daman 79.08 300 *e*P **P 03 34 48.3 +0.4**
GKN Gorkha 79.59 301 *e*P **P 03 34 50.6 0.0**
comp=Z,188nm,1.4s
KOLN Koldanda 80.41 300 *e*P **P 03 34 54.9 -0.2**
comp=Z,34nm,0.8s
DANN Dangsing 80.43 301 *e*P **P 03 34 54.6 -0.7**
comp=Z,64nm,1.2s
QSPA South Pole Qui 80.79 180 *e*P **P 03 34 56.3 0.0**
comp=Z,68nm,1.1s
RC01 Rabbit Creek A 81.22 23 *e*P **P 03 34 58.6 +0.2**
comp=Z,57nm,1.5s
PAF Port-aux-Franc 81.44 221 S S 03 44 53.0 -13
PAF SS SS 03 50 08.0 -15
PAF R 04 01 00.0
PPLA Purkeypile 81.45 21 *e*P **P 03 34 59.2 -0.6**
comp=Z,62nm,1.8s
PMR Palmer 81.76 23 *e*P **P 03 35 00.8 -0.4**
PMR pmax pmax
comp=Z,23nm,1.0s
PMR Palmer 81.76 23 *e*P **P 03 35 00.8 -0.4**
comp=Z,23nm,1.0s
CAST Castle Rocks 81.83 20 *e*P **P 03 35 00.5 -1.1**
comp=Z,16nm,0.8s
WMQ Urumqi 82.23 317 P **P 03 35 04.6 +0.4**
WMQ pP **pP 03 35 24.3 +1.4**
WMQ sP sP 03 35 32.7 +2.4
WMQ PP **PP 03 38 16.0 +2.4**
WMQ S **S 03 45 12.2 -2.1**
WMQ SKS **SKSac 03 45 14.0 -5.1**
WMQ sS **sS 03 45 46.0 0.0**
WMQ SS **SS 03 50 36.4 +0.5**
WMQ PMZ
comp=Z,20nm,1.3s
WMQ PMZ
comp=Z,110nm,3.5s
WMQ LN
comp=Z,210nm,26.0s
WMQ LE
comp=Z,360nm,23.0s
WMQ LZ
comp=Z,440nm,26.0s
KTH Kantishna Hill 82.31 21 *e*P **P 03 35 03.1 -1.0**
comp=Z,21nm,0.9s
TRF Thorofare Moun 82.47 21 *e*P **P 03 35 04.5 -0.7**
comp=Z,20nm,0.8s
HYB Hyderabad 82.48 289 *i*P **P 03 35 05.0 -1.0**
DIV Divide 82.81 24 *e*P **P 03 35 07.5 +0.6**
comp=Z,165nm,2.5s
TIXI Tiksi 82.91 351 *e*P **P 03 35 06.2 -0.8**
TIXI pmax pmax
comp=Z,23nm,2.5s
TIXI Tiksi 82.91 351 *e*P **P 03 35 06.5 -0.5**
comp=Z,17nm,1.4s
IM04 Indian Mountai 82.95 18 *e*P **P 03 35 07.4 +0.1**
MCK McKinley 83.12 21 *e*P **P 03 35 07.3 -1.1**
MCK pmax pmax
comp=Z,70nm,0.9s
MCK McKinley 83.12 21 *e*P **P 03 35 07.2 -1.1**
comp=Z,70nm,0.9s
MAW Mawson 83.39 203 LR LR 04 08 56.6
comp=Z,170nm,19.7s,baz=62,slow=33
COLA College 84.19 20 *e*P **P 03 35 12.7 -0.9**
COLA College 84.19 20 *e*P **P 03 35 12.7 -0.9**
comp=Z,32nm,0.8s
ILAR Eielson Array 84.46 21 P **P 03 35 14.1 -1.0**
comp=Z,9.2nm,0.9s,baz=266,slow=4.3,SNR=67
ILAR LR LR 04 12 56.8
comp=Z,263nm,18.2s,baz=248,slow=36
COLD Coldfoot 84.86 18 *e*P **P 03 35 18.1 +1.0**
comp=Z,12nm,1.2s
DOT Dot Lake 84.86 22 *e*P **P 03 35 16.9 -0.3**
comp=Z,30nm,0.9s
HYT Haines Junctio 86.14 26 *e*P **P 03 35 24.2 +0.4**
EGAK Eagle 86.53 22 *e*P **P 03 35 25.2 -0.2**
comp=Z,33nm,1.3s
SKAG Skagway 86.54 28 *e*P **P 03 35 26.1 +0.6**
comp=Z,42nm,1.2s
MKAR Makanchi Array 86.79 318 *c e*P **P 03 35 27.1 0.0**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 86.79 318 P **P 03 35 26.9 -0.2**
comp=Z,6.3nm,0.8s,baz=103,slow=6.5,SNR=35
MKAR LR LR 04 12 31.8
comp=Z,191nm,21.8s,baz=116,slow=34
DAWY Dawson 86.86 23 *e*P **P 03 35 28.4 +1.3**
ZALV Zalesovo Beam 87.47 326 *i*P **P 03 35 29.2 -1.0**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV Zalesovo Beam 87.47 326 P **P 03 35 29.1 -1.1**
comp=Z,3.8nm,0.6s,baz=114,slow=5.2,SNR=18
ZALV LR LR 04 14 14.9
comp=Z,170nm,21.3s,baz=70,slow=35
YBH Yreka Blue Hor 88.41 47 LR LR 04 10 17.9
comp=Z,274nm,19.5s,baz=256,slow=32
NVS Novosibirsk 88.64 326 *e*P **P 03 35 33.1 -2.6**
CMB Columbia Colle 89.33 51 *e*P **P 03 35 40.8 +1.4**
CMB pmax pmax
comp=Z,60nm,2.4s
CMB Columbia Colle 89.33 51 *e*P **P 03 35 40.8 +1.4**
comp=Z,60nm,2.4s
KSH Kashi 89.44 310 P **P 03 35 41.9 +1.9**
KSH sP sP 03 36 11.1 +4.8
KSH PP **PP 03 39 16.1 +4.0**
KSH SKS **SKSac 03 46 00.8 -3.8**
KSH S **SKKSac 03 46 21.8 +4.7**
KSH sS **sS 03 46 57.8 +0.4**
KSH SS **SS 03 52 22.9 +0.8**
KSH PMZ
comp=Z,8.0nm,1.3s
KSH PMZ
comp=Z,160nm,3.7s
KSH LN
comp=Z,460nm,11.7s
KSH LE
comp=Z,170nm,7.4s
KSH LZ
comp=Z,190nm,14.8s
J05D Fort Rock, OR 89.83 46 P **P 03 35 42.7 +1.0**
baz=90
VES Vestal, Richgr 89.90 54 P **P 03 35 43.1 +1.0**
baz=90
ARVC Arvin 89.97 55 P **P 03 35 43.7 +1.3**
baz=90
WAKR Walker 90.16 51 *e*P **P 03 35 44.7 +1.3**
KURK Kurchatov 90.19 321 *e*P **P 03 35 42.1 -0.9**
KURK Kurchatov 90.19 321 *e*P **P 03 35 42.1 -0.9**
ISA Isabella, Lake 90.36 54 *e*P **P 03 35 45.8 +1.5**
ISA pmax pmax
comp=Z,26nm,1.8s
ISA Isabella, Lake 90.36 54 P **P 03 35 45.5 +1.2**
baz=90
ISA Isabella, Lake 90.36 54 *e*P **P 03 35 45.8 +1.5**
comp=Z,26nm,1.8s
MWC Mount Wilson 90.42 56 *e*P **P 03 35 45.6 +0.8**
MWC pmax pmax
comp=Z,20nm,1.1s
MWC Mount Wilson 90.42 56 *e*P **P 03 35 45.5 +0.8**
comp=Z,20nm,1.1s
TKM2 Tokmak 2 90.44 313 *e*P **P 03 35 44.6 -0.1**
TKM2 pmax pmax
comp=Z,11nm,1.3s
TKM2 Tokmak 2 90.44 313 *e*P **P 03 35 44.6 -0.1**
comp=Z,11nm,1.3s
EDW2 Edwards Air Fo 90.60 55 P **P 03 35 46.9 +1.4**
baz=91
MTUM Tungsten Hills 90.61 52 *e*P **P 03 35 47.5 +1.9**
BFSC Mount Baldy Ra 90.75 56 P **P 03 35 47.3 +1.0**
baz=91
INK Inuvik 90.85 20 *e*P **P 03 35 45.3 -0.4**
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 90.85 20 *e*P **P 03 35 45.3 -0.4**
comp=Z,3.3nm,0.7s
LRMC Laurel Mtn Rad 90.95 54 P **P 03 35 48.7 +1.6**
baz=91
NVAR Mina Array Bea 91.01 51 P **P 03 35 48.7 +1.2**
comp=Z,6.6nm,0.8s,baz=246,slow=7.0,SNR=41
DAC Darwin (Calif) 91.17 54 *e*P **P 03 35 49.5 +1.3**
DAC pmax pmax
comp=Z,18nm,1.4s
DAC Darwin (Calif) 91.17 54 *e*P **P 03 35 49.5 +1.3**
comp=Z,18nm,1.4s
I07A Izee 91.22 46 *e*P **P 03 35 49.4 +1.2**
comp=Z,178nm,2.8s
GRAC Grapevine Rang 91.48 53 P **P 03 35 51.2 +1.7**
baz=92
WVOR Wild Horse Val 91.52 47 *e*P **P 03 35 51.1 +1.5**
WVOR pmax pmax
comp=Z,12nm,1.2s
WVOR Wild Horse Val 91.52 47 *e*P **P 03 35 51.1 +1.5**
comp=Z,12nm,1.2s
PFO Pinyon Flats O 91.62 56 LR LR 04 10 09.6
comp=Z,703nm,20.7s,baz=207,slow=31
EKS2 Erkin-Say 91.70 313 *e*P **P 03 35 50.4 0.0**
EKS2 pmax pmax
comp=Z,6.0nm,1.0s
EKS2 Erkin-Say 91.70 313 *e*P **P 03 35 50.4 0.0**
comp=Z,6.1nm,1.0s
TPH Tonopah 91.79 52 *e*P **P 03 35 52.3 +1.2**
TPH pmax pmax
comp=Z,7.0nm,0.8s
TPH Tonopah 91.79 52 *e*P **P 03 35 52.2 +1.2**
comp=Z,6.7nm,0.8s
FURC Furnace Creek, 91.79 54 P **P 03 35 52.4 +1.6**
baz=92
BELC Belle Mtn. Jos 92.06 56 P **P 03 35 53.4 +1.0**
baz=92
SHOC Shoshone, Teco 92.15 54 P **P 03 35 53.9 +1.3**
baz=92
TUQ Turquoise Moun 92.36 55 P **P 03 35 54.8 +1.1**
baz=92
BC3 Big Chuckawall 92.45 56 P **P 03 35 55.3 +1.1**
baz=93
GMRC Granite Mounta 92.47 55 P **P 03 35 55.3 +1.1**
baz=93
R11A Troy Canyon, C 93.10 52 P **P 03 35 58.4 +1.3**
baz=93
R11A Troy Canyon, C 93.10 52 *e*P **P 03 35 58.6 +1.5**
comp=Z,22nm,1.8s
SHPR Sheep Range 93.15 54 *e*P **P 03 35 58.4 +1.1**
F10A Beach Ranch, E 93.16 44 *e*P **P 03 35 57.4 +0.3**
comp=Z,92nm,2.3s
MFID Camas Ranch 93.72 47 *e*P **P 03 36 01.6 +1.8**
comp=Z,20nm,1.7s
ELK Elko 93.74 50 *e*P **P 03 36 01.7 +1.6**
ELK pmax pmax
comp=Z,7.0nm,1.3s
ELK Elko 93.74 50 *e*P **P 03 36 01.7 +1.6**
comp=Z,7.0nm,1.3s
CRZF Crozet Islands 94.09 222 SS SS 03 53 26.0 -1.6
CRZF R 04 07 00.0
HLID Hailey 94.76 47 P **P 03 36 05.5 +0.9**
baz=95
HLID Hailey 94.76 47 *e*P **P 03 36 06.1 +1.5**
comp=Z,28nm,2.2s
BRVK Borovoye 95.70 323 *e*P **P 03 36 07.5 -0.9**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
HVU Hansel Valley 95.72 49 *e*P **P 03 36 10.6 +1.6**
HVU pmax pmax
comp=Z,12nm,1.4s
HVU Hansel Valley 95.72 49 *e*P **P 03 36 10.6 +1.6**
comp=Z,12nm,1.4s
YKA Yellowknife Ar 97.04 28 P **P 03 36 14.2 0.0**
comp=Z,1.4nm,0.6s,baz=262,slow=4.8,SNR=42
YKA PKKPbc **PKKPbc 03 52 54.4 -2.9**
comp=Z,0.8nm,1.1s,baz=75,slow=3.3,SNR=7.2
PDAR Pinedale Array 98.20 48 P **P 03 36 20.4 +0.1**
comp=Z,1.0nm,0.8s,baz=215,slow=1.8,SNR=7.8
PDAR LR LR 04 16 36.8
comp=Z,187nm,19.2s,baz=288,slow=33
F19A Roth Farm, Mol 98.88 45 P Pdif 03 36 24.0 +0.9
baz=99
E19A Rath Farm, Rou 99.03 44 P **Pdif 03 36 24.4 +0.7**
baz=99
G20A Bridger 99.35 46 P **Pdif 03 36 26.1 +0.9**
baz=100
K21A Alcova 99.89 48 P **Pdif 03 36 28.6 +0.8**
baz=100
ABKAR Akbulak array 101.94 318 *e*PKP **Pdif 03 36 34.7 -1.7**
comp=Z,1.3nm,0.8s
TXAR Lajitas Array 101.97 62 PP PP 03 40 47.4 -2.0
comp=Z,0.7nm,1.0s,baz=256,slow=10,SNR=4.4
APA Apatity 111.09 340 ‖ *i*PKIKP PKiKP 03 41 26.8 +11
APA MLR MLR
comp=Z,900nm,15.0s
GNI Garni 113.37 310 *e*PKIKP **PKiKP 03 41 21.6 +0.8**
GNI Garni 113.37 310 *e*PKP **PKiKP 03 41 21.6 +0.8**
KIV Kislovodsk 114.26 314 *e*PKIKP PKPdf 03 41 19.0 -3.3
KIV Kislovodsk 114.26 314 *e*PKP PKPdf 03 41 19.0 -3.3
KMBO Kilima Mbogo 119.77 263 *e*PKIKP **PKPdf 03 41 35.1 +1.1**
KMBO Kilima Mbogo 119.77 263 *e*PKPdf **PKPdf 03 41 35.1 +1.1**
LCO Las Campanas 119.86 131 *e*PKPdf **PKPdf 03 41 32.1 -1.7**
TRQA Tornquist 120.18 144 ‖ *e*PKP **PKPdf 03 41 34.6 +0.7**
BOSA Boshof 120.65 229 *e*PKIKP **PKPdf 03 41 35.6 +0.4**
BOSA Boshof 120.65 229 PKP **PKPdf 03 41 35.9 +0.7**
comp=Z,1.7nm,0.6s,baz=100,slow=2.8,SNR=11
BOSA Boshof 120.65 229 *e*PKPdf **PKPdf 03 41 35.6 +0.4**
BOSA PKP **PKPdf 03 41 35.9 +0.7**
AKASG Malin Array Be 120.85 325 *c i*PKIKP **PKPdf 03 41 34.7 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 120.85 325 PKP **PKPdf 03 41 34.7 +0.1**
comp=Z,2.1nm,0.5s,baz=49,slow=2.3,SNR=6.4
KIEV Kiev 120.87 325 *e*PKIKP **PKPdf 03 41 34.2 -0.5**
KIEV Kiev 120.87 325 *e*PKPdf **PKPdf 03 41 34.2 -0.5**
BRTR Keskin Array B 121.81 311 *c i*PKIKP **PKPdf 03 41 36.4 -0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 121.81 311 PKP **PKPdf 03 41 36.8 -0.3**
comp=Z,1.3nm,0.8s,baz=118,slow=3.2,SNR=5.7
MMAI Mount Meron Ar 121.93 303 PKP **PKPdf 03 41 38.3 +0.9**
comp=Z,1.4nm,0.7s,baz=64,slow=6.6,SNR=4.4
LBTB Lobatse 122.23 233 *e*PKIKP **PKPdf 03 41 38.3 0.0**
LBTB Lobatse 122.23 233 *e*PKPdf **PKPdf 03 41 38.3 0.0**
NB2 NORSAR Subarra 122.63 341 PKPdf **PKPdf 03 41 37.1 -0.7**
comp=Z,2.4nm,1.0s,baz=39,slow=1.9
NOA NORSAR Array B 122.63 341 PKP **PKPdf 03 41 37.6 -0.3**
comp=Z,1.2nm,0.7s,baz=45,slow=1.9,SNR=4.3
EIL Elat 122.86 299 PKP **PKPdf 03 41 39.5 +0.3**
comp=Z,2.5nm,0.7s,baz=46,slow=2.5,SNR=4.2
CSS Prodhromos 123.22 306 *e*PKPdf **PKPdf 03 41 38.6 -1.2**
BCIP Isla Barro Col 123.29 85 *e*PKPdf **PKPdf 03 41 39.2 -1.2**
LVC Limon Verde 124.50 125 *e*PKPdf **PKPdf 03 41 44.4 +1.5**
KOLS Kolonicke sedl 125.65 325 *e*PKIKP **PKPdf 03 41 45.0 +1.0**
KOLS Kolonicke sedl 125.65 325 *e*PKP **PKPdf 03 41 45.0 +1.0**
UZH Uzhgorod 125.80 325 *e*PKIKP **PKPdf 03 41 46.3 +2.1**
UZH *e* 03 41 57.3
STHS Stebnicka Huta 125.97 326 *e*PKIKP **PKPdf 03 41 44.3 -0.3**
STHS Stebnicka Huta 125.97 326 *e*PKP **PKPdf 03 41 44.3 -0.3**
PSZ Piszkesteto 127.53 325 *e*PKIKP **PKPdf 03 41 48.5 +0.8**
PSZ Piszkesteto 127.53 325 *e*PKPdf **PKPdf 03 41 48.5 +0.8**
MORC Moravsky Berou 127.74 328 *e*PKIKP **PKPdf 03 41 48.5 +0.5**
MORC Moravsky Berou 127.74 328 *e*PKPdf **PKPdf 03 41 48.5 +0.5**
VYHS Vyhne 127.80 326 *e*PKIKP **PKPdf 03 41 48.1 0.0**
VYHS Vyhne 127.80 326 *e*PKP **PKPdf 03 41 48.1 0.0**
DPC Dobruska-Polom 128.01 329 *e*PKIKP **PKPdf 03 41 49.6 +1.1**
DPC *e* 03 41 59.2
DPC Dobruska-Polom 128.01 329 *e*PKPdf **PKPdf 03 41 49.6 +1.1**
DPC *e*pPKP pPKPdf 03 41 59.2 -8.9
LPAZ La Paz 128.09 119 *e*PKIKP **PKPdf 03 41 50.9 +0.6**
LPAZ La Paz 128.09 119 PKP **PKPdf 03 41 50.7 +0.4**
comp=Z,2.5nm,0.7s,baz=256,slow=2.8,SNR=8.2
LPAZ La Paz 128.09 119 *e*PKPdf **PKPdf 03 41 50.9 +0.6**
PVCC Panska Ves 128.76 331 *e*PKIKP **PKPdf 03 41 51.1 +1.3**
PVCC Panska Ves 128.76 331 *e*PKPdf **PKPdf 03 41 51.1 +1.3**
BRG Berggiesshubel 128.84 331 *e*PKP **PKPdf 03 41 51.3 +1.4**
comp=Z,4.5nm,1.2s
BRG Berggiesshubel 128.84 331 *e*PKIKP **PKPdf 03 41 51.3 +1.4**
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG MLR MLR
comp=N,297nm,18.1s
BRG MLR MLR
comp=E,164nm,21.4s
BRG MLR MLR
comp=Z,422nm,23.7s
CLL Collm 128.99 332 *i*PKIKP **PKPdf 03 41 51.1 +0.9**
CLL *i* 03 41 58.6
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL MLR MLR
comp=Z,200nm,19.3s
CLL Collm 128.99 332 *i*PKPdf **PKPdf 03 41 51.1 +0.9**
comp=Z,7.0nm,1.2s
CLL *i*pPKPdf PKiKP 03 41 58.6 +7.7
CLL LmV 03 44 00.0
comp=Z,200nm,19.3s
TREC Trest 129.09 329 *e*PKIKP **PKPdf 03 41 51.8 +1.3**
TREC Trest 129.09 329 *e*PKPdf **PKPdf 03 41 51.8 +1.3**
PRU Pruhonice 129.13 330 *e*PKIKP **PKPdf 03 41 51.6 +1.1**
PRU Pruhonice 129.13 330 *e*PKPdf **PKPdf 03 41 51.6 +1.1**
CONA Conrad Observa 129.74 327 ⇑ *i*PKIKP **PKiKP 03 41 52.8 +0.1**
comp=Z,2.1nm,0.7s
KHC Kasperske Hory 130.16 330 *e*PKIKP **PKPdf 03 41 53.4 +0.8**
KHC *e* 03 42 08.1
KHC Kasperske Hory 130.16 330 *e*PKPdf **PKPdf 03 41 53.4 +0.8**
KHC *e*pPKP **pPKPdf 03 42 08.1 -4.2**
GERES GERESS Array B 130.28 329 PKP **PKPdf 03 41 52.8 -0.1**
comp=Z,1.4nm,0.6s,baz=65,slow=1.7,SNR=14
SDV Santo Domingo 132.33 86 *e*PKPdf **PKPdf 03 41 57.8 -0.1**
FETA Feichten 132.99 329 ⇑ *i*PKIKP **PKiKP 03 41 59.2 -0.1**
comp=Z,5.4nm,1.2s
WLF Walferdange 133.20 335 *e*PKIKP **PKPdf 03 41 58.4 +0.1**
WLF Walferdange 133.20 335 *e*PKPdf **PKPdf 03 41 58.4 +0.1**
DAVA Damuels 133.23 330 ‖ *i*PKIKP **PKPdf 03 41 59.5 +0.9**
comp=Z,7.1nm,1.1s
DAVOX Davos/Dischmat 133.58 330 PKIKP **PKPdf 03 42 00.0 +0.6**
DAVOX Davos/Dischmat 133.58 330 PKP **PKPdf 03 41 60.0 +0.6**
comp=Z,4.7nm,0.8s,baz=153,slow=2.3,SNR=6.4
CDF Champ du Feu 133.65 333 *e*PKIKP **PKPdf 03 41 59.1 -0.2**
comp=Z,4.0nm,0.7s
CDF Champ du Feu 133.65 333 *e*PKIKP **PKPdf 03 41 59.1 -0.2**
CDF Champ du Feu 133.65 333 *e*PKPdf **PKPdf 03 41 59.1 -0.2**
TIP Timpagrande 134.06 317 *e*PKPdf **PKPdf 03 42 00.8 +0.5**
HINF Hinteralfeld 134.28 333 *e*PKIKP **PKPdf 03 42 00.7 +0.3**
comp=Z,5.3nm,0.7s
HINF Hinteralfeld 134.28 333 *e*PKIKP **PKPdf 03 42 00.7 +0.3**
HINF Hinteralfeld 134.28 333 *e*PKPdf **PKPdf 03 42 00.7 +0.3**
HAU Haudompre 134.37 333 *e*PKIKP **PKPdf 03 42 00.8 +0.2**
comp=Z,11nm,0.9s
HAU Haudompre 134.37 333 *e*PKIKP **PKPdf 03 42 00.8 +0.2**
HAU Haudompre 134.37 333 *e*PKPdf **PKPdf 03 42 00.8 +0.2**
SAML Samuel 135.51 113 *e*PKPdf **PKPdf 03 42 03.9 +0.3**
CABF La Chapelle 135.53 332 *e*PKIKP **PKPdf 03 42 02.3 -0.6**
CABF La Chapelle 135.53 332 *e*PKIKP **PKPdf 03 42 02.3 -0.6**
CABF La Chapelle 135.53 332 *e*PKPdf **PKPdf 03 42 02.3 -0.6**
LOR Lormes 136.02 334 *e*PKIKP **PKPdf 03 42 04.2 +0.5**
comp=Z,7.1nm,1.0s
LOR Lormes 136.02 334 *e*PKIKP **PKPdf 03 42 04.2 +0.5**
LOR Lormes 136.02 334 *e*PKPdf **PKPdf 03 42 04.2 +0.5**
LPL La Plagne 136.02 331 *e*PKIKP **PKPdf 03 42 03.2 -0.8**
comp=Z,4.6nm,0.7s
LPL La Plagne 136.02 331 *e*PKIKP **PKPdf 03 42 03.2 -0.8**
LPL La Plagne 136.02 331 *e*PKPdf **PKPdf 03 42 03.2 -0.8**
LPG La Plagne 136.03 330 *e*PKIKP **PKPdf 03 42 04.0 -0.1**
comp=Z,13nm,0.9s
LPG La Plagne 136.03 330 *e*PKIKP **PKPdf 03 42 04.0 -0.1**
LPG La Plagne 136.03 330 *e*PKPdf **PKPdf 03 42 04.0 -0.1**
SSF Saint Saulge 136.33 334 *e*PKIKP **PKPdf 03 42 05.5 +1.3**
SSF Saint Saulge 136.33 334 *e*PKIKP **PKPdf 03 42 05.5 +1.3**
SSF Saint Saulge 136.33 334 *e*PKPdf **PKPdf 03 42 05.5 +1.3**
BNI Bardonecchia 136.39 330 *e*PKIKP **PKPdf 03 42 05.4 +0.9**
BNI Bardonecchia 136.39 330 *e*PKPdf **PKPdf 03 42 05.4 +0.9**
SMF Signal de Mont 136.51 334 *e*PKIKP **PKPdf 03 42 03.9 -0.7**
SMF Signal de Mont 136.51 334 *e*PKIKP **PKPdf 03 42 03.9 -0.7**
SMF Signal de Mont 136.51 334 *e*PKPdf **PKPdf 03 42 03.9 -0.7**
AVF Avril sur Loir 136.61 334 *e*PKIKP **PKPdf 03 42 04.4 -0.3**
AVF Avril sur Loir 136.61 334 *e*PKPdf **PKPdf 03 42 04.4 -0.3**
AVF Avril sur Loir 136.61 334 *e*PKPdf **PKPdf 03 42 04.4 -0.3**
TCF Toulx Ste Croi 137.49 335 *e*PKIKP **PKPdf 03 42 08.3 +1.9**
comp=Z,19nm,1.2s
TCF Toulx Ste Croi 137.49 335 *e*PKIKP **PKPdf 03 42 08.3 +1.9**

TCF	**Toulx Ste Croi**	**137.49 335**	*e*PKPdf	**PKPdf**	**03 42 08.3**	**+1.9**
ETSF	**Etsaut**	**141.39 334**	*e*PKIKP	**PKPdf**	**03 42 12.3**	**-1.4**
ETSF	**Etsaut**	**141.39 334**	*e*PKIKP	**PKPdf**	**03 42 12.3**	**-1.4**
ETSF	**Etsaut**	**141.39 334**	*e*PKPdf	**PKPdf**	**03 42 12.3**	**-1.4**
BDFB	**Brasilia**	**144.56 134**	PKP	PKPbc	03 42 19.4	+0.5
	comp=Z,23nm,0.7s,baz=227,slow=2.2,SNR=40					
MVO	**Moncorvo**	**145.40 339**	PKPdf	**PKPab**	**03 42 22.0**	**+1.0**
MVO	**Moncorvo**	**145.40 339**	PKPbc	PKPab	03 42 29.0	+8.0
MVO	**Moncorvo**	**145.40 339**	*e*LR	LR	04 43 17.4	
	comp=Z,177nm,20.0s					
POLO	**Lamas de Olo**	**145.47 341**	PKPdf	**PKPab**	**03 42 21.8**	**+0.5**
POLO	**Lamas de Olo**	**145.47 341**	PKPbc	PKPab	03 42 29.0	+7.7
ESDC	**Sonseca Array**	**145.50 335**	PKPbc	**PKPdf**	**03 42 21.2**	**+0.2**
	comp=Z,8.3nm,1.0s,baz=23,slow=3.3,SNR=28					
PVRL	**Vila Real**	**145.53 340**	PKPdf	**PKPab**	**03 42 21.9**	**+0.5**
PVRL	**Vila Real**	**145.53 340**	PKPbc	PKPab	03 42 29.1	+7.7
PTO	**Porto**	**145.94 341**	PKPdf	**PKPab**	**03 42 24.1**	**+1.2**
PTO	**Porto**	**145.94 341**	PKPbc	PKPab	03 42 31.2	+8.3
PVIS	**Viseu**	**146.09 340**	PKPdf	**PKPab**	**03 42 24.6**	**+1.0**
MTE	**Manteigas**	**146.25 339**	PKPdf	**PKPab**	**03 42 25.4**	**+1.2**
MTE	**Manteigas**	**146.25 339**	PKPbc	PKPab	03 42 32.5	+8.3
MTE	**Manteigas**	**146.25 339**	*e*LQ	LQ	04 26 11.9	
MTE			*e*LR	LR	04 33 54.4	
	comp=Z,190nm,20.0s					
MTE	**Manteigas**	**146.25 339**	*e*PKPbc	**PKPab**	**03 42 24.5**	**+0.3**
PCBR	**Castelo Branco**	**146.73 339**	PKPdf	**PKPab**	**03 42 25.9**	**-0.1**
PCBR	**Castelo Branco**	**146.73 339**	PKPbc	PKPab	03 42 32.9	+6.9
PMRV	**Marv??o**	**147.06 338**	PKPdf	**PKPbc**	**03 42 26.6**	**+0.9**
PMRV	**Marv??o**	**147.06 338**	PKPbc	PKPab	03 42 34.7	+7.4
PMRV	**Marv??o**	**147.06 338**	*e*LR	LR	04 34 20.5	
	comp=Z,174nm,20.0s					
PTOM	**Tomar**	**147.25 340**	PKPdf	**PKPbc**	**03 42 27.3**	**+1.1**
PTOM	**Tomar**	**147.25 340**	PKPbc	PKPab	03 42 34.7	+6.7
PESTR	**Estremoz**	**147.63 338**	PKPdf	**PKPbc**	**03 42 28.1**	**+0.8**
PMTG	**Montargil**	**147.68 339**	PKPdf	**PKPbc**	**03 42 28.0**	**+0.6**
PMTG	**Montargil**	**147.68 339**	PKPbc	PKPab	03 42 39.8	+10
PBAR	**Barrancos**	**148.03 337**	PKPbc	**PKPab**	**03 42 31.4**	**+0.3**
EVO	**Evora**	**148.08 338**	PKPbc	**PKPab**	**03 42 30.4**	**-0.9**
PNCL	**Nicolau / Gran**	**148.64 339**	PKPdf	**PKPbc**	**03 42 31.2**	**+1.3**
PVAQ	**Vaqueiros**	**148.96 337**	PKPbc	**PKPab**	**03 42 34.2**	**-0.7**
PVAQ	**Vaqueiros**	**148.96 337**	*e*LR	LR	04 35 50.6	
	comp=Z,239nm,22.0s					
MORF	**Marmelete**	**149.40 338**	PKPbc	**PKPbc**	**03 42 33.0**	**+1.0**
TAM	**Tamanrasset**	**150.07 300**	*e*PKHKP	**PKPdf**	**03 42 29.2**	**+0.1**
TAM			*e*		03 42 35.3	
TAM	**Tamanrasset**	**150.07 300**	*e*PKPdf	**PKPdf**	**03 42 29.2**	**+0.1**
TAM			*e*PKPbc	**PKiKP**	**03 42 35.3**	**+0.2**
SHEL	**Horse Pasture**	**150.09 213**	*i* PKIKP	**PKPab**	**03 42 38.8**	**-1.3**
PMOZ	**Porto Moniz, M**	**156.01 349**	PKPbc	**PKPdf**	**03 42 39.6**	**+2.2**
TORD	**Torodi Ar. Bea**	**156.10 282**	PKP	**PKPdf**	**03 42 37.1**	**-0.7**
	comp=Z,2.3nm,1.1s,baz=31,slow=0.8,SNR=7.0					
TORD			PKPbc	PKPbc	03 42 47.6	
	comp=Z,2.6nm,0.9s,baz=92,slow=2.0,SNR=4.1					
TORD			PKPab	**PKPab**	**03 43 05.5**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=85,slow=2.7,SNR=5.7					
LIC	**Lamto**	**162.59 261**	*e*PKIKP	**PKPdf**	**03 42 45.8**	**+0.4**
LIC	**Lamto**	**162.59 261**	*e*PKPdf	**PKPdf**	**03 42 45.8**	**+0.4**

IDC ***12*** *03:34:35.8±0.8,38°.08N×22°.73E,h0km,mb3.7/10, mb1 3.7/16,mb1mx3.6/33,mbtmp3.5/16,ML3.3/5,MS2.8/2, Ms1 2.8/2,ms1mx2.4/43,Error ellipse: s-maj=18.4km s-min=15.3km az=42.0*

ISCJB ***12*** *03:34:36.6±0.3,38°.10N±0°.01×22°.71E±0°.01,h4km±2km, mb3.7/9,MS4.7/1,Error ellipse: s-maj=2.1km s-min=1.9km az=8.1*

CSEM ***12*** *03:34:37.3±0.1,38°.11N×22°.70E,h2km,ML3.5,Error ellipse: s-maj=2.2km s-min=1.9km az=1.0*

THE ***12*** *03:34:37.7,38°.12N×22°.66E,h0km,ML3.5/25,Error ellipse: s-maj=0.9km s-min=0.3km az=188.0*

ATH ***12*** *03:34:37.3,38°.12N×22°.63E,h20km±1km,ML3.8*

ISC 12 03:34:37.9±0.9,38°.12N±0°.01×22°.65E±0°.01,h10km±6km, n293,σ1§04/381,mb3.6/9,8C-13D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.27**	**112**	P	**Pg**	**03 34 43.3**	**-0.1**
LTK				S	**Sg**	**03 34 47.8**	**+0.7**
LTK	**Loutraki**	**0.27**	**112**	*e*PB	**Pg**	**03 34 43.3**	**-0.1**
LTK				*e*SB	**Sb**	**03 34 48.4**	**-1.1**
LTK	**Loutraki**	**0.27**	**112**	P	**Pg**	**03 34 43.3**	**-0.1**
LTK				*e*Sb	**Sb**	**03 34 48.4**	**-1.1**
DSF	**Desfina**	**0.30**	**341**	P	**Pg**	**03 34 43.6**	**-0.5**
DSF				S	**Sg**	**03 34 48.8**	**+0.6**
DSF	**Desfina**	**0.30**	**341**	*e*PB	**Pg**	**03 34 43.7**	**-0.4**
DSF				*e*SB	**Sg**	**03 34 49.0**	**+0.8**
DSF	**Desfina**	**0.30**	**341**	P	**Pg**	**03 34 43.6**	**-0.5**
DSF				S	**Sg**	**03 34 48.8**	**+0.6**
GUR	**Goura**	**0.31**	**233**	P	**Pg**	**03 34 43.6**	**-0.5**
GUR				S	**Sg**	**03 34 48.1**	**-0.1**
GUR	**Goura**	**0.31**	**233**	*e*PB	**Pg**	**03 34 43.7**	**-0.4**
GUR				*e*SB	**Sg**	**03 34 48.1**	**-0.1**
GUR	**Goura**	**0.31**	**233**	*e*Pb	**Pg**	**03 34 43.7**	**-0.4**
GUR				S	**Sg**	**03 34 48.1**	**-0.1**
KLV	**Kalavryta, Ach**	**0.40**	**259**	P	**Pg**	**03 34 45.2**	**-0.7**
KLV				S	**Sg**	**03 34 51.5**	**+0.3**
KLV	**Kalavryta, Ach**	**0.40**	**259**	*e*PB	**Pg**	**03 34 45.2**	**-0.7**
KLV	**Kalavryta, Ach**	**0.40**	**259**	P	**Pg**	**03 34 45.2**	**-0.7**
KLV				S	**Sg**	**03 34 51.5**	**+0.3**
KALE	**Kalithea**	**0.48**	**304**	P	**Pg**	**03 34 47.0**	**-0.4**
KALE				S	**Sg**	**03 34 54.4**	**+0.6**
KALE	**Kalithea**	**0.48**	**304**	*e*PB	**Pg**	**03 34 46.9**	**-0.4**
KALE	**Kalithea**	**0.48**	**304**	P	**Pg**	**03 34 47.0**	**-0.4**
KALE				S	**Sg**	**03 34 54.4**	**+0.6**
LKR	**Lokris**	**0.59**	**27**	P	**Pg**	**03 34 48.5**	**-1.0**
LKR				S	**Sg**	**03 34 57.7**	**+0.4**
LKR	**Lokris**	**0.59**	**27**	*e*PB	**Pg**	**03 34 48.5**	**-1.0**
LKR	**Lokris**	**0.59**	**27**	P	**Pg**	**03 34 48.5**	**-1.0**
LKR				S	**Sg**	**03 34 57.7**	**+0.4**
AXAR	**Agios Charalam**	**0.64**	**1**	P	**Pg**	**03 34 49.6**	**-0.8**
AXAR				S	**Sb**	**03 34 59.9**	**-0.4**
AXAR	**Agios Charalam**	**0.64**	**1**	*e*PB	**Pg**	**03 34 49.5**	**-0.8**
AXAR	**Agios Charalam**	**0.64**	**1**	P	**Pg**	**03 34 49.6**	**-0.8**
AXAR				S	**Sb**	**03 34 59.9**	**-0.4**
EFP	**Efpalio**	**0.66**	**298**	P	**Pg**	**03 34 50.2**	**-0.5**
EFP				S	**Sb**	**03 35 00.8**	**+0.1**
EFP	**Efpalio**	**0.66**	**298**	*e*PN	**Pg**	**03 34 50.2**	**-0.5**
EFP	**Efpalio**	**0.66**	**298**	P	**Pg**	**03 34 50.2**	**-0.5**
EFP				S	**Sb**	**03 35 00.8**	**+0.1**
UPR	**University Cam**	**0.70**	**284**	P	**Pg**	**03 34 51.0**	**-0.4**
UPR	**University Cam**	**0.70**	**284**	P	**Pg**	**03 34 51.0**	**-0.4**
NAIG	**Nisos Aigina**	**0.76**	**118**	*e*PN	**Pg**	**03 34 52.6**	**+0.1**
NAIG	**Nisos Aigina**	**0.76**	**118**	*e*Pn	**Pg**	**03 34 52.6**	**+0.1**
DRO	**Drossia**	**0.76**	**257**	P	**Pg**	**03 34 51.9**	**-0.7**
DRO				S	**Sg**	**03 35 03.2**	**+0.6**
DRO	**Drossia**	**0.76**	**257**	*e*PN	**Pg**	**03 34 51.7**	**-0.9**
DRO	**Drossia**	**0.76**	**257**	P	**Pg**	**03 34 51.9**	**-0.7**
DRO				S	**Sg**	**03 35 03.2**	**+0.6**
DID	**Didima**	**0.77**	**143**	P	**Pg**	**03 34 52.2**	**-0.6**
DID	**Didima**	**0.77**	**143**	P	**Pg**	**03 34 52.2**	**-0.6**
VLX	**Vlachokerasia**	**0.78**	**196**	P	**Pg**	**03 34 52.3**	**-0.7**
VLX	**Vlachokerasia**	**0.78**	**196**	*e*PN	**Pg**	**03 34 52.3**	**-0.7**
VLX	**Vlachokerasia**	**0.78**	**196**	*e*Pn	**Pg**	**03 34 52.3**	**-0.7**
ATH	**Athens Observa**	**0.85**	**100**	P	**Pg**	**03 34 54.2**	**-0.2**
ATH				S	**Sb**	**03 35 06.3**	**0.0**
ATH	**Athens Observa**	**0.85**	**100**	*e*PN	**Pg**	**03 34 54.4**	**0.0**
ATH	**Athens Observa**	**0.85**	**100**	P	**Pg**	**03 34 54.2**	**-0.2**
SMIA	**Simia**	**0.87**	**30**	P	**Pg**	**03 34 53.8**	**-1.0**
SMIA				S	**Sb**	**03 35 06.9**	**0.0**
SMIA	**Simia**	**0.87**	**30**	*e*PN	**Pb**	**03 34 55.2**	**0.0**
SMIA	**Simia**	**0.87**	**30**	P	**Pg**	**03 34 53.8**	**-1.0**
SMIA	**Simia**	**0.87**	**30**	*e*Pn	**Pb**	**03 34 55.2**	**0.0**
SMIA				S	**Sb**	**03 35 06.9**	**0.0**
ATHU	**Athens Univers**	**0.91**	**100**	P	**Pg**	**03 34 55.2**	**-0.2**
ATHU				S	**Sg**	**03 35 07.1**	**-0.2**
ATHU	**Athens Univers**	**0.91**	**100**	P	**Pg**	**03 34 55.2**	**-0.2**
ATHU				S	**Sg**	**03 35 07.1**	**-0.2**
AGG	**Agios Georgios**	**0.93**	**344**	P	**Pg**	**03 34 54.9**	**-1.0**
AGG				S	**Sn**	**03 35 09.9**	**-0.6**
AGG	**Agios Georgios**	**0.93**	**344**	*e*PN	**Pg**	**03 34 54.8**	**-1.1**
AGG	**Agios Georgios**	**0.93**	**344**	P	**Pg**	**03 34 54.9**	**-1.0**
AGG				S	**Sn**	**03 35 09.9**	**-0.6**
RLS	**Riolos of Patr**	**0.94**	**266**	P	**Pg**	**03 34 55.1**	**-0.8**
RLS				S	**Sn**	**03 35 10.2**	**-0.3**
RLS	**Riolos of Patr**	**0.94**	**266**	*e*PN	**Pg**	**03 34 54.8**	**-1.1**
RLS	**Riolos of Patr**	**0.94**	**266**	*e*Pn	**Pg**	**03 34 54.8**	**-1.1**
RLS	**Riolos of Patr**	**0.94**	**266**	P	**Pg**	**03 34 55.1**	**-0.8**
RLS				S	**Sn**	**03 35 10.2**	**-0.3**
MRKA	**Markates**	**0.94**	**51**	P	**Pg**	**03 34 55.3**	**-0.7**
MRKA				S	**Sb**	**03 35 09.0**	**+0.2**
MRKA	**Markates**	**0.94**	**51**	*e*PB	**Pg**	**03 34 54.8**	**-1.2**
MRKA	**Markates**	**0.94**	**51**	*e*Pb	**Pg**	**03 34 54.8**	**-1.2**
MRKA	**Markates**	**0.94**	**51**	P	**Pg**	**03 34 55.3**	**-0.7**
MRKA				S	**Sb**	**03 35 09.0**	**+0.2**
AMT	**Artemida-Makis**	**0.95**	**232**	P	**Pg**	**03 34 55.4**	**-0.8**
AMT				S	**Sg**	**03 35 09.3**	**+0.7**
AMT	**Artemida-Makis**	**0.95**	**232**	*e*PN	**Pg**	**03 34 55.2**	**-1.0**
AMT	**Artemida-Makis**	**0.95**	**232**	P	**Pg**	**03 34 55.4**	**-0.8**
AMT				S	**Sg**	**03 35 09.3**	**+0.7**
PTL	**Penteli**	**0.96**	**94**	P	**Pg**	**03 34 55.9**	**-0.5**
PTL	**Penteli**	**0.96**	**94**	*e*PN	**Pb**	**03 34 56.8**	**+0.2**
PTL	**Penteli**	**0.96**	**94**	P	**Pg**	**03 34 55.9**	**-0.5**
PTL	**Penteli**	**0.96**	**94**	*e*Pn	**Pb**	**03 34 56.8**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.98**	**336**	P	**Pg**	**03 34 56.1**	**-0.6**
MAKR				S	**Sb**	**03 35 10.2**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.98**	**336**	*e*PN	**Pg**	**03 34 56.1**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.98**	**336**	P	**Pg**	**03 34 56.1**	**-0.6**
MAKR				S	**Sb**	**03 35 10.2**	**+0.3**
EVR	**Evrytania**	**1.03**	**320**	P	**Pb**	**03 34 57.2**	**-0.7**
EVR				S	**Sn**	**03 35 13.2**	**+0.2**
EVR	**Evrytania**	**1.03**	**320**	*e*PN	**Pb**	**03 34 57.3**	**-0.7**
EVR	**Evrytania**	**1.03**	**320**	P	**Pb**	**03 34 57.2**	**-0.7**
EVR				S	**Sn**	**03 35 13.2**	**+0.2**
ITM	**Ithomi**	**1.10**	**212**	P	**Pb**	**03 34 58.4**	**-0.6**
ITM				S	**Sg**	**03 35 14.4**	**+1.0**
ITM	**Ithomi**	**1.10**	**212**	*e*PN	**Pb**	**03 34 58.4**	**-0.6**
ITM	**Ithomi**	**1.10**	**212**	P	**Pb**	**03 34 58.4**	**-0.6**
ITM				S	**Sg**	**03 35 14.4**	**+1.0**
SKIA	**Skiathos**	**1.22**	**31**	P	**Pn**	**03 35 00.6**	**-0.4**
SKIA				S	**Sn**	**03 35 18.6**	**+1.0**
SKIA	**Skiathos**	**1.22**	**31**	*e*PN	**Pn**	**03 35 00.7**	**-0.3**
SKIA	**Skiathos**	**1.22**	**31**	P	**Pn**	**03 35 00.6**	**-0.4**
SKIA				S	**Sn**	**03 35 18.6**	**+1.0**
PDO	**Prodromos**	**1.25**	**293**	P	**Pg**	**03 35 03.2**	**+1.3**
PDO				S	**Sg**	**03 35 20.0**	**+1.9**
PDO	**Prodromos**	**1.25**	**293**	*e*PN	**Pg**	**03 35 03.2**	**+1.3**
PDO	**Prodromos**	**1.25**	**293**	P	**Pg**	**03 35 03.2**	**+1.3**
PDO				S	**Sg**	**03 35 20.0**	**+1.9**
NEO	**Neokhori**	**1.26**	**21**	P	**Pn**	**03 35 01.0**	**-0.7**
NEO				S	**Sg**	**03 35 21.4**	**+2.8**
NEO	**Neokhori**	**1.26**	**21**	*e*PN	**Pn**	**03 35 00.9**	**-0.7**
NEO	**Neokhori**	**1.26**	**21**	P	**Pn**	**03 35 01.0**	**-0.7**
XOR	**Xorichti**	**1.31**	**19**	P	**Pn**	**03 35 01.8**	**-0.5**
XOR				S	**Sg**	**03 35 20.2**	**0.0**
XOR	**Xorichti**	**1.31**	**19**	*e*PN	**Pn**	**03 35 02.1**	**-0.2**
XOR	**Xorichti**	**1.31**	**19**	P	**Pn**	**03 35 01.8**	**-0.5**
XOR	**Xorichti**	**1.31**	**19**	*e*Pn	**Pn**	**03 35 02.1**	**-0.2**
XOR				S	**Sg**	**03 35 20.2**	**0.0**
MRMA	**Marmari**	**1.37**	**92**	P	**Pb**	**03 35 03.5**	**0.0**
MRMA				S	**Sg**	**03 35 23.2**	**+1.3**
MRMA	**Marmari**	**1.37**	**92**	P	**Pb**	**03 35 03.5**	**0.0**
VLI	**Veliai**	**1.42**	**171**	P	**Pn**	**03 35 04.0**	**+0.3**
VLI				S	**Sg**	**03 35 23.7**	**+0.1**
VLI	**Veliai**	**1.42**	**171**	*e*PN	**Pn**	**03 35 03.5**	**-0.2**
VLI	**Veliai**	**1.42**	**171**	*e*Pn	**Pn**	**03 35 03.5**	**-0.2**
VLI	**Veliai**	**1.42**	**171**	P	**Pn**	**03 35 04.0**	**+0.3**
VLI				S	**Sg**	**03 35 23.7**	**+0.1**
AOS	**Alonnisos**	**1.42**	**42**	P	**Pn**	**03 35 03.2**	**-0.6**
AOS				S	**Sg**	**03 35 24.1**	**+0.4**
AOS	**Alonnisos**	**1.42**	**42**	*e*PN	**Pn**	**03 35 03.1**	**-0.7**
AOS	**Alonnisos**	**1.42**	**42**	P	**Pn**	**03 35 03.2**	**-0.6**
AOS				S	**Sg**	**03 35 24.1**	**+0.4**
PYL	**PYLOS**	**1.42**	**211**	P	**Pn**	**03 35 04.2**	**+0.4**
PYL				S	**Sg**	**03 35 24.0**	**+0.3**
PYL	**PYLOS**	**1.42**	**211**	*e*PN	**Pn**	**03 35 04.2**	**+0.4**
PYL	**PYLOS**	**1.42**	**211**	P	**Pn**	**03 35 04.2**	**+0.4**
PYL				S	**Sg**	**03 35 24.0**	**+0.3**
KFL	**Anninata**	**1.47**	**270**	P	**Pn**	**03 35 05.0**	**+0.6**
KFL				S	**Sg**	**03 35 26.3**	**+1.1**
KFL	**Anninata**	**1.47**	**270**	P	**Pn**	**03 35 05.0**	**+0.6**
KFL				S	**Sg**	**03 35 26.3**	**+1.1**
THL	**Klokotos Trika**	**1.52**	**341**	P	**Pn**	**03 35 05.4**	**+0.3**
THL				S	**Sg**	**03 35 26.9**	**0.0**
THL	**Klokotos Trika**	**1.52**	**341**	*e*PN	**Pn**	**03 35 05.5**	**+0.3**
THL	**Klokotos Trika**	**1.52**	**341**	P	**Pn**	**03 35 05.4**	**+0.3**
THL				S	**Sg**	**03 35 26.9**	**0.0**
DSL	**Palaion Diasel**	**1.58**	**310**	P	**Pb**	**03 35 08.1**	**+0.9**
DSL				S	**Sg**	**03 35 29.1**	**+0.3**
DSL	**Palaion Diasel**	**1.58**	**310**	P	**Pb**	**03 35 08.1**	**+0.9**
DSL				S	**Sg**	**03 35 29.1**	**+0.3**
VLS	**Valsamata**	**1.62**	**273**	P	**Pn**	**03 35 07.5**	**+0.9**
VLS	**Valsamata**	**1.62**	**273**	*e*PN	**Pn**	**03 35 07.4**	**+0.9**
VLS	**Valsamata**	**1.62**	**273**	P	**Pn**	**03 35 07.5**	**+0.9**
LKD2	**Lefkada island**	**1.70**	**294**	P	**Pb**	**03 35 09.7**	**+0.5**
LKD2				S	**Sg**	**03 35 32.3**	**-0.3**
LKD2	**Lefkada island**	**1.70**	**294**	*e*PN	**Pg**	**03 35 10.3**	**-0.2**
LKD2	**Lefkada island**	**1.70**	**294**	P	**Pb**	**03 35 09.7**	**+0.5**
LKD2	**Lefkada island**	**1.70**	**294**	*e*Pn	**Pg**	**03 35 10.3**	**-0.2**
LKD2				S	**Sg**	**03 35 32.3**	**-0.3**
KYTH	**Kithira**	**1.86**	**170**	P	**Pn**	**03 35 10.7**	**+0.8**
KYTH	**Kithira**	**1.86**	**170**	*e*PN	**Pn**	**03 35 10.9**	**+1.0**
KYTH	**Kithira**	**1.86**	**170**	P	**Pn**	**03 35 10.7**	**+0.8**
PAIG	**Paliouri**	**1.97**	**24**	P	**Pn**	**03 35 11.3**	**0.0**
PAIG				S	**Sb**	**03 35 39.0**	**+0.5**
PAIG	**Paliouri**	**1.97**	**24**	*e*PB	**Pn**	**03 35 10.7**	**-0.6**
PAIG	**Paliouri**	**1.97**	**24**	*e*Pb	**Pn**	**03 35 10.7**	**-0.6**
PAIG	**Paliouri**	**1.97**	**24**	P	**Pn**	**03 35 11.3**	**0.0**
PAIG				S	**Sb**	**03 35 39.0**	**+0.5**
LIT	**Litokhoron**	**1.98**	**356**	P	**Pn**	**03 35 11.6**	**+0.1**
LIT				S	**Sb**	**03 35 38.8**	**+0.1**
LIT	**Litokhoron**	**1.98**	**356**	*e*PN	**Pn**	**03 35 11.8**	**+0.3**
LIT	**Litokhoron**	**1.98**	**356**	*e*Pn	**Pn**	**03 35 11.8**	**+0.3**
LIT				S	**Sb**	**03 35 38.8**	**+0.1**
JAN	**Janina**	**2.08**	**318**	P	**Pb**	**03 35 15.5**	**-0.2**
JAN				S	**Sn**	**03 35 39.4**	**+0.6**
JAN	**Janina**	**2.08**	**318**	*e*PN	**Pb**	**03 35 16.5**	**+0.8**
JAN	**Janina**	**2.08**	**318**	P	**Pb**	**03 35 15.5**	**-0.2**
JAN	**Janina**	**2.08**	**318**	*e*Pn	**Pb**	**03 35 16.5**	**+0.8**
JAN				S	**Sn**	**03 35 39.4**	**+0.6**
KZN	**Kozani**	**2.29**	**343**	P	**Pn**	**03 35 15.9**	**+0.2**
KZN				S	**Sn**	**03 35 45.6**	**+1.7**
KZN	**Kozani**	**2.29**	**343**	*e*PN	**Pn**	**03 35 16.4**	**+0.7**
KZN	**Kozani**	**2.29**	**343**	P	**Pn**	**03 35 15.9**	**+0.2**
KZN	**Kozani**	**2.29**	**343**	*e*Pn	**Pn**	**03 35 16.4**	**+0.7**
KZN				S	**Sn**	**03 35 45.6**	**+1.7**
PLG	**Polygyros**	**2.33**	**15**	P	**Pn**	**03 35 16.7**	**+0.4**
PLG				S	**Sb**	**03 35 47.0**	**-1.9**
PLG	**Polygyros**	**2.33**	**15**	*e*PN	**Pn**	**03 35 15.7**	**-0.6**
PLG	**Polygyros**	**2.33**	**15**	*e*Pn	**Pn**	**03 35 15.7**	**-0.6**
PLG	**Polygyros**	**2.33**	**15**	P	**Pn**	**03 35 16.7**	**+0.4**
PLG				S	**Sb**	**03 35 47.0**	**-1.9**
OUR	**Ouranopolis**	**2.44**	**25**	P	**Pn**	**03 35 17.6**	**-0.1**
OUR				S	**Sn**	**03 35 49.2**	**+1.6**
OUR	**Ouranopolis**	**2.44**	**25**	*e*PN	**Pn**	**03 35 17.2**	**-0.5**
OUR	**Ouranopolis**	**2.44**	**25**	*e*Pn	**Pn**	**03 35 17.2**	**-0.5**
OUR	**Ouranopolis**	**2.44**	**25**	P	**Pn**	**03 35 17.6**	**-0.1**
OUR				S	**Sn**	**03 35 49.2**	**+1.6**
HORT	**Hortiatis**	**2.50**	**8**	P	**Pn**	**03 35 18.7**	**+0.1**
HORT	**Hortiatis**	**2.50**	**8**	*e*PN	**Pn**	**03 35 18.0**	**-0.6**
HORT	**Hortiatis**	**2.50**	**8**	*e*Pn	**Pn**	**03 35 18.0**	**-0.6**
HORT	**Hortiatis**	**2.50**	**8**	P	**Pn**	**03 35 18.7**	**+0.1**
APE	**Apeiranthos**	**2.52**	**114**	*e*P	**Pn**	**03 35 18.7**	**-0.2**
APE	**Apeiranthos**	**2.52**	**114**	||*e*P	Pg	03 35 37.0	+11
APE	**Apeiranthos**	**2.52**	**114**	*e*P	**Pn**	**03 35 18.7**	**-0.2**
NEST	**Nestorio**	**2.60**	**332**	P	**Pn**	**03 35 22.3**	**+2.2**
NEST				S	**Sn**	**03 35 54.6**	**+2.8**
NEST	**Nestorio**	**2.60**	**332**	*e*PB	**Pn**	**03 35 21.9**	**+1.8**
NEST	**Nestorio**	**2.60**	**332**	*e*Pb	**Pn**	**03 35 21.9**	**+1.8**
NEST	**Nestorio**	**2.60**	**332**	P	**Pn**	**03 35 22.3**	**+2.2**
NEST				S	**Sn**	**03 35 54.6**	**+2.8**
CHOS	**Chios island**	**2.69**	**83**	P	**Pn**	**03 35 21.5**	**+0.2**
CHOS				S	**Sn**	**03 35 55.7**	**+1.7**
CHOS	**Chios island**	**2.69**	**83**	*e*PN	**Pn**	**03 35 21.3**	**0.0**
CHOS	**Chios island**	**2.69**	**83**	*e*Pn	**Pn**	**03 35 21.3**	**0.0**
CHOS				S	**Sn**	**03 35 55.7**	**+1.7**
SIGR	**SIGRI**	**2.73**	**66**	P	**Pn**	**03 35 21.9**	**+0.1**
SIGR	**SIGRI**	**2.73**	**66**	P	**Pn**	**03 35 21.9**	**+0.1**
SOH	**Sokhos**	**2.75**	**11**	P	**Pn**	**03 35 22.6**	**+0.5**
SOH				S	**Sn**	**03 35 56.1**	**+0.7**
SOH	**Sokhos**	**2.75**	**11**	*e*PN	**Pn**	**03 35 22.7**	**+0.6**
SOH	**Sokhos**	**2.75**	**11**	P	**Pn**	**03 35 22.6**	**+0.5**
SOH				S	**Sn**	**03 35 56.1**	**+0.7**
FNA	**Florina**	**2.83**	**340**	P	**Pn**	**03 35 24.8**	**+1.6**
FNA				S	**Sn**	**03 36 00.5**	**+3.0**
FNA	**Florina**	**2.83**	**340**	*e*PB	**Pn**	**03 35 24.5**	**+1.2**
FNA	**Florina**	**2.83**	**340**	*e*Pb	**Pn**	**03 35 24.5**	**+1.2**
FNA	**Florina**	**2.83**	**340**	P	**Pn**	**03 35 24.8**	**+1.6**
FNA				S	**Sn**	**03 36 00.5**	**+3.0**
GRG	**Griva**	**2.84**	**356**	P	**Pn**	**03 35 23.8**	**+0.5**
GRG	**Griva**	**2.84**	**356**	P	**Pn**	**03 35 23.8**	**+0.5**
KBN	**Korca**	**2.88**	**331**	P	**Pb**	**03 35 27.5**	**-2.0**
KBN				S	**Sn**	03 35 42.8	-16
KNT	**Kendrikon**	**3.04**	**4**	P	**Pn**	**03 35 26.8**	**+0.7**
KNT				S	**Sn**	**03 36 04.8**	**+2.3**
KNT	**Kendrikon**	**3.04**	**4**	*e*PN	**Pn**	**03 35 26.7**	**+0.7**
KNT	**Kendrikon**	**3.04**	**4**	*e*Pn	**Pn**	**03 35 26.7**	**+0.7**
KNT				S	**Sn**	**03 36 04.8**	**+2.3**
PRK	**Paraskevi**	**3.05**	**67**	P	**Pn**	**03 35 26.1**	**0.0**
PRK				S	**Sn**	**03 36 05.2**	**+2.6**
PRK	**Paraskevi**	**3.05**	**67**	P	**Pn**	**03 35 26.1**	**0.0**
PRK				S	**Sn**	**03 36 05.2**	**+2.6**
SRS	**Serrai**	**3.08**	**13**	P	**Pn**	**03 35 26.6**	**+0.1**
SRS	**Serrai**	**3.08**	**13**	*e*PN	**Pn**	**03 35 26.2**	**-0.3**
SRS	**Serrai**	**3.08**	**13**	*e*Pn	**Pn**	**03 35 26.2**	**-0.3**
SRS	**Serrai**	**3.08**	**13**	P	**Pn**	**03 35 26.6**	**+0.1**
VAY	**Valandovo**	**3.19**	**359**	P	**Pn**	**03 35 28.5**	**+0.4**
VAY	**Valandovo**	**3.19**	**359**	*e*Pn	**Pn**	**03 35 25.9**	**-2.3**
VAY				*e*Sg	**Sb**	**03 36 11.3**	**-2.3**
VAY	**Valandovo**	**3.19**	**359**	*e*Pn	**Pn**	**03 35 25.8**	**-2.3**
VAY	**Valandovo**	**3.19**	**359**	P	**Pn**	**03 35 28.5**	**+0.4**
EZN	**Ezine**	**3.33**	**58**	*e*P	**Pn**	**03 35 28.6**	**-1.4**
EZN	**Ezine**	**3.33**	**58**	*e*P	**Pn**	**03 35 28.6**	**-1.4**
SMG	**Samos**	**3.34**	**96**	*e*PN	**P

1.8nm,0.6s,baz=64,slow=6.6,SNR=5.2
YKA Yellowknife Ar 74.00 341 P **P 03 46 12.3 -0.9**
0.1nm,0.4s,baz=29,slow=5.2,SNR=6.5
ULM Lac du Bonnet 76.73 325 LR LR 04 21 31.9
comp=Z,314nm,18.0s,baz=273,slow=37
ILAR Eielson Array 77.11 355 P **P 03 46 31.0 0.0**
0.3nm,0.5s,baz=349,slow=3.6,SNR=5.8
ASAR Alice Springs 120.50 97 PKP **PKPdf 03 53 28.4 -1.5**
0.2nm,0.3s,baz=310,slow=1.8,SNR=4.0

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*IDC **12** 03:43:49.2±2.4,22°.43S×68°.28W,h99km±21km,mb3.7/4, mb1 3.9/7,mb1mx3.4/34,mbtmp4.1/7,Error ellipse: s-maj=27.4km s-min=23.8km az=97.0*
*ISCJB **12** 03:43:50.6±0.5,22°.23S±0°.08×68°.39W±0°.06,h121km±6km, mb4.0/3,Error ellipse: s-maj=13.0km s-min=8.7km az=11.0*
*SJA **12** 03:43:52.6±0.9,22°.41S×68°.33W,h100km,ML5.2,MW4.8*
*GUC **12** 03:43:52.0±0.3,22°.51S×68°.57W,h116km±3km,ML4.2*
ISC 12 03:43:51.0±0.8,22°.33S±0°.08×68°.45W±0°.06,h119km±7km, n22,σ1°87/26,mb4.2/3,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.51**	**237**	*e*P	**Pn**	**03 44 09.7**	**+0.6**
LVC				*e*S	**Sn**	**03 44 23.1**	**+0.3**
LVC				AML	AML	03 44 24.7	
	comp=Z,58μm,0.2s						
SPCH	**San Pedro de A**	**0.62**	**158**	*i* P	**Pn**	**03 44 10.5**	**+0.5**
SPCH				*i* S	**Sn**	**03 44 24.7**	**+0.5**
SPCH				AML	AML	03 44 26.4	
	comp=N,8μm,0.7s						
MACH	**Maria Elena**	**1.22**	**276**	*i* P	**Pn**	**03 44 16.2**	**+0.8**
MACH				*i* S	**Sn**	**03 44 34.3**	**+0.4**
CEN1	**Los Morros**	**1.92**	**237**	*i* P	**Pn**	**03 44 25.4**	**+1.9**
CEN1				*i* S	**Sn**	**03 44 50.9**	**+2.5**
CEN1				AML	AML	03 45 00.1	
	comp=N,2μm,0.9s						
ANCH	**Antofagasta**	**2.25**	**233**	*e*P4	Pn	03 44 24.1	-3.4
ANCH				*e*S4	**Sn**	**03 44 50.6**	**-4.8**
ANCH				AML	AML	03 45 01.2	
	comp=E,3μm,0.3s						
YJA	**Yavi**	**2.73**	**87**	*e*P	**Pn**	**03 44 36.2**	**+2.1**
SLA	**San Lorenzo**	**3.60**	**132**	*e*P4	**Pn**	**03 44 48.0**	**+2.6**
AZAP	**Zapla**	**3.64**	**122**	*e*P	**Pn**	**03 44 46.8**	**+0.9**
ASTB	**Santa Barbara**	**3.99**	**115**	*e*P	**Pn**	**03 44 51.3**	**+0.7**
ALOL	**LOMAS DE OLMED**	**4.38**	**111**	*e*P4	**Pn**	**03 44 54.8**	**-0.9**
LPAZ	**La Paz**	**6.02**	**3**	P	**Pn**	**03 45 18.6**	**+0.2**
	comp=E,3.1nm,0.3s,baz=191,slow=8.7,SNR=28						
CYA	**Choya**	**6.54**	**159**	*e*P	**Pn**	**03 45 26.6**	**+1.9**
CFAA	**Coronel Fontan**	**9.24**	**179**	P	**Pn**	**03 45 58.1**	**-3.1**
	comp=E,0.4nm,0.3s,baz=8.9,slow=13,SNR=12						
CFAA				S	Sn	03 47 34.9	-8.5
	comp=E,0.1nm,0.3s,baz=260,slow=18,SNR=2.6						
SIV	**San Ignacio**	**9.40**	**49**	P	**Pn**	**03 46 00.5**	**-3.0**
	comp=E,2.6nm,0.3s,baz=250,slow=12,SNR=50						
SIV				S	Sn	03 47 37.4	-10
	comp=E,0.5nm,0.3s,baz=318,slow=22,SNR=3.3						
BDFB	**Brasilia**	**20.43**	**75**	P	**P**	**03 48 17.3**	**-1.9**
	comp=E,1.9nm,0.4s,baz=233,slow=10,SNR=6.8						
TXAR	**Lajitas Array**	**61.55**	**325**	P	**P**	**03 53 56.8**	**+1.0**
	comp=E,0.3nm,0.6s,baz=153,slow=7.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**77.24**	**70**	P	**P**	**03 55 32.5**	**-0.1**
	comp=E,2.0nm,0.4s,baz=254,slow=5.4,SNR=68						
YKA	**Yellowknife Ar**	**92.11**	**340**	P	**P**	**03 56 47.4**	**+1.0**
	comp=E,1.2nm,0.6s,baz=135,slow=4.5,SNR=35						
ASAR	**Alice Springs**	**129.37**	**207**	PKP	**PKPdf**	**04 02 47.2**	**+0.9**
	comp=E,0.7nm,0.8s,baz=140,slow=2.1,SNR=5.2						
WRA	**Warramunga Arr**	**132.45**	**210**	PKP	**PKPdf**	**04 02 52.1**	**-0.1**
	comp=E,0.6nm,0.7s,baz=161,slow=1.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**142.52**	**26**	PKP	**PKPdf**	**04 03 09.1**	**-0.5**
	comp=E,0.9nm,0.5s,baz=298,slow=3.1,SNR=3.3						
MKAR	**Makanchi Array**	**146.05**	**37**	PKPbc	**PKPbc**	**04 03 17.3**	**+0.2**
	comp=E,1.5nm,0.8s,baz=322,slow=2.3,SNR=15						

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*ISCJB **12** 03:54:55.9±0.7,44°.38N±0°.05×129°.15W±0°.08,h10km, mb3.9/7,Error ellipse: s-maj=10.0km s-min=5.4km az=142.8*
*IDC **12** 03:54:56.4±2.5,44°.44N×129°.05W,h0km,mb3.3/2, mb1 3.6/6,mb1mx3.4/30,mbtmp3.2/6,ML3.0/4,Error ellipse: s-maj=45.5km s-min=18.9km az=53.0*
*NEIC **12** 03:54:57.5±0.6,44°.39N×129°.23W,h10km,mb4.1/11, Error ellipse: s-maj=8.5km s-min=4.6km az=50.0*
ISC 12 03:54:57.8±1.3,44°.42N±0°.10×129°.2W±0°.1,h10km,n52, σ0°92/47,mb4.1/7,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COR	**Corvallis**	**4.20**	**86**	*e*Pn	**Pn**	**03 56 00.2**	**-1.7**
NLWA	**Neilton Lookou**	**4.75**	**49**	*e*Pn	**Pn**	**03 56 09.6**	**+0.1**
HUMO	**Hull Mountain**	**4.87**	**110**	*e*Pn	**Pn**	**03 56 10.7**	**-0.5**
LVP	**Lakeview Peak**	**5.05**	**69**	P	**Pn**	**03 56 13.8**	**+0.1**
OBC	**Olympics--Boni**	**5.06**	**42**	P	**Pn**	**03 56 14.2**	**+0.4**
OSD	**Olympics--Snow**	**5.10**	**46**	P	**Pn**	**03 56 14.9**	**+0.4**
FL2	**Flat Top 2**	**5.13**	**67**	P	**Pn**	**03 56 14.5**	**-0.3**
TDL	**Tradedollar La**	**5.27**	**66**	P	**Pn**	**03 56 16.4**	**-0.2**
YBH	**Yreka Blue Hor**	**5.44**	**117**	Pn	**Pn**	**03 56 19.2**	**+0.1**
	0.2nm,0.3s,baz=304,slow=11,SNR=4.3						
YBH				Sn	**Sn**	**03 57 20.7**	**-1.0**
	0.1nm,0.3s,baz=225,slow=20,SNR=2.4						
BLN	**Blyn Mountain**	**5.60**	**48**	P	**Pn**	**03 56 22.0**	**+0.8**
LON	**Longmire**	**5.67**	**63**	*e*Pn	**Pn**	**03 56 21.9**	**-0.2**
	12nm,0.7s						
PGC	**Sidney**	**5.79**	**41**	*e*Pn	**Pn**	**03 56 23.4**	**-0.3**
JCW	**Jim Creek**	**6.28**	**50**	P	**Pn**	**03 56 31.4**	**+0.9**
MBW	**Mount Baker**	**6.64**	**46**	P	**Pn**	**03 56 37.3**	**+1.6**
WVOR	**Wild Horse Val**	**7.92**	**101**	*e*Pn	**Pn**	**03 56 54.1**	**+1.0**
BMO	**Blue Mountains**	**8.47**	**83**	*e*Pn	**Pn**	**03 57 01.3**	**+0.6**
NEW	**Newport**	**9.18**	**61**	Pn	**Pn**	**03 57 09.6**	**-0.7**
	0.2nm,0.3s,baz=248,slow=14,SNR=7.1						
NEW	**Newport**	**9.18**	**61**	*e*Pn	**Pn**	**03 57 09.8**	**-0.4**
	5.6nm,1.0s						
CMB	**Columbia Colle**	**9.18**	**131**	*e*Pn	**Pn**	**03 57 11.1**	**+0.7**
BMN	**Battle Mountai**	**9.69**	**110**	*e*Pn	**Pn**	**03 57 17.8**	**+0.4**
NVAR	**Mina Array Bea**	**10.11**	**123**	Pn	**Pn**	**03 57 23.6**	**+0.3**
	0.0nm,0.3s,baz=300,slow=12,SNR=2.4						
HLID	**Hailey**	**10.67**	**89**	*e*Pn	**Pn**	**03 57 32.8**	**+2.0**
	5.7nm,1.0s						
SWMT	**Swartz Lake**	**11.01**	**68**	*e*Pn	**Pn**	**03 57 36.5**	**+1.1**
	5.0nm,1.2s						
BGU	**Big Grassy Mou**	**12.38**	**101**	*e*Pn	**Pn**	**03 57 54.1**	**-0.2**
DUG	**Dugway, Tooele**	**12.82**	**104**	*e*Pn	**Pn**	**03 58 00.6**	**+0.3**
TCUT	**Toone Canyon**	**13.46**	**98**	*e*Pn	**Pn**	**03 58 09.9**	**+0.9**
ARUT	**Antelope Range**	**13.57**	**114**	*e*Pn	**Pn**	**03 58 10.3**	**-0.2**
	92nm,1.2s						
CCUT	**Cedar City**	**13.76**	**114**	*e*Pn	**Pn**	**03 58 11.7**	**-1.4**
MVU	**Marysvale**	**14.01**	**109**	*e*Pn	**Pn**	**03 58 16.3**	**-0.3**
RLMT	**Red Lodge**	**14.16**	**80**	*e*Pn	**Pn**	**03 58 19.2**	**+0.7**
BW06	**Boulder Array**	**14.31**	**90**	*e*Pn	**Pn**	**03 58 21.1**	**+0.5**
TUC	**Tucson**	**18.76**	**124**	*e*P	**Pn**	**03 59 17.9**	**+0.5**
	1.1nm,0.6s						
DIV	**Divide**	**19.42**	**335**	*e*P	**Pn**	**03 59 25.7**	**+0.5**
	2.8nm,0.4s						
ANMO	**Albuquerque**	**19.82**	**111**	*e*P	**P**	**03 59 28.0**	**-0.8**
	1.4nm,1.0s						
YKA	**Yellowknife Ar**	**19.99**	**20**	P	**P**	**03 59 29.8**	**-0.4**
	0.0nm,0.3s,baz=211,slow=11,SNR=7.4						
121A	**Cookes Peak, D**	**20.45**	**118**	*e*P	**P**	**03 59 36.8**	**+1.2**
	8.1nm,1.1s						
RC01	**Rabbit Creek A**	**20.67**	**331**	*e*P	**P**	**03 59 34.6**	**-3.0**
	20nm,1.4s						
PMR	**Palmer**	**20.83**	**333**	*e*P	**P**	**03 59 39.1**	**-0.2**
	14nm,1.3s						
DOT	**Dot Lake**	**21.06**	**341**	*e*P	**P**	**03 59 41.6**	**-0.2**
	9.4nm,1.1s						
ILAR	**Eielson Array**	**22.67**	**340**	P	**P**	**03 59 59.2**	**+0.1**
	1.1nm,0.9s,baz=157,slow=10,SNR=9.1						
PPLA	**Purkeypile**	**22.77**	**332**	*e*P	**P**	**04 00 00.3**	**+0.1**
	10nm,1.3s						
AMTX	**Amarillo**	**23.11**	**105**	*e*P	**P**	**04 00 03.3**	**-0.7**
	5.1nm,0.8s						
TXAR	**Lajitas Array**	**25.21**	**118**	P	**P**	**04 00 23.2**	**-0.6**
	0.9nm,1.1s,baz=311,slow=8.2,SNR=4.8						
U34A	**Anderson Ranch**	**25.25**	**97**	*e*P	**P**	**04 00 22.1**	**-1.9**
	4.4nm,0.6s						
MIAR	**Mount Ida**	**28.99**	**98**	*e*P	**P**	**04 00 57.9**	**+0.3**
	5.8nm,1.2s						
WCI	**Wyandotte Cave**	**32.50**	**86**	*e*P	**P**	**04 01 28.7**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**57.95**	**267**	T	T	05 07 28.1	
	baz=49,slow=75,SNR=240						
H11N3	**WAKE ISLAND Hy**	**57.95**	**267**	T	T	05 07 20.9	
	baz=49,slow=75,SNR=390						
H11N1	**WAKE ISLAND Hy**	**57.96**	**267**	T	T	05 07 21.9	
	baz=49,slow=75,SNR=192						
H11S1	**WAKE ISLAND Hy**	**58.88**	**266**	T	T	05 08 29.6	
	baz=49,slow=75,SNR=25						
H11S2	**WAKE ISLAND Hy**	**58.89**	**266**	T	T	05 08 32.3	
	baz=49,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**58.90**	**266**	T	T	05 08 29.0	
	baz=49,slow=75,SNR=18						

SJA 12 04:02:16.0±1.3,31°.31S×68°.90W,h108km±5km,ML3.0, MW3.6,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	**San Juan**	**0.36**	**127**	*e*P	Pn	04 02 33.0	+1.2
RTLL	**Cerro Villicun**	**0.36**	**93**	*e*P	Pn	04 02 32.7	+0.8
RTLL				*e*S	Sn	04 02 44.8	+0.9
AMOG	**MOGNA**	**0.51**	**43**	*e*P	Pn	04 02 33.9	+1.1
AMOG				*e*S	Sn	04 02 46.1	+0.7
RTLS	**Leoncito**	**0.59**	**215**	*e*P	Pn	04 02 34.4	+0.7
RTLS				*e*S	Sn	04 02 48.2	+1.2
CFAA	**Coronel Fontan**	**0.64**	**118**	*e*P	Pn	04 02 34.4	+0.7
CFAA				*e*S	Sn	04 02 48.1	+1.1
AUSP	**Uspallata**	**1.00**	**204**	*e*P	Pn	04 02 38.1	+0.6
AUSP				*e*S	Sn	04 02 54.7	+1.1
ASAL	**Salagasta**	**1.28**	**178**	*e*P	Pn	04 02 41.3	+1.0
ASAL				*e*S	Sn	04 03 00.5	+1.9
AVFE	**Valle Fertil**	**1.40**	**63**	*e*P	Pn	04 02 42.5	+0.9
AVFE				*e*S	Sn	04 03 02.5	+1.4
AVFE				AML	AML	04 03 03.0	
	comp=Z,146nm,0.6s						
ARCO	**CERRO ARCO**	**1.53**	**181**	*e*P	Pn	04 02 44.2	+1.0
ARCO				*e*S	Sn	04 03 06.3	+2.3
ACAN	**Cantantal**	**1.74**	**124**	*e*P	Pn	04 02 46.5	+0.8
ACAN				*e*S	Sn	04 03 08.6	+0.2
AAGR	**Agrelo**	**1.77**	**178**	*e*P	Pn	04 02 47.0	+0.8
AAGR				*e*S	Sn	04 03 10.7	+1.6
AGUA	**GUANDACOL**	**1.85**	**11**	*e*P	Pn	04 02 48.8	+1.5
APLL	**PUNTA DE LOS L**	**2.23**	**66**	*e*P	Pn	04 02 52.8	+0.8
ACLC	**CERRO LA CRUZ**	**2.52**	**42**	*e*P	Pn	04 02 56.7	+0.8
ACLC				*e*S	Sn	04 03 27.8	+1.2

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*IDC **12** 04:03:52.9±1.6,23°.60S×179°.97E,h508km±16km,mb3.8/9, mb1 4.1/11,mb1mx3.6/37,mbtmp4.8/11,Error ellipse: s-maj=21.5km s-min=15.1km az=15.0*
*NEIC **12** 04:03:54.4±0.9,23°.77S×179°.99E,h532km±11km, mb4.4/14,Error ellipse: s-maj=14.1km s-min=7.9km az=180.0*
*ISCJB **12** 04:03:55.0±0.4,23°.79S±0°.08×179°.95E±0°.07,h550km, mb4.3/21,Error ellipse: s-maj=10.0km s-min=8.6km az=14.2*
ISC 12 04:03:55.9±0.5,23°.87S±0°.08×179°.97W±0°.10,h550km, n58,σ1°24/64,mb4.4/21,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.67**	**162**	P	**P**	**04 05 29.9**	**-1.5**
	149nm,0.3s,baz=128,slow=23,SNR=6.3						
RAO				S	**S**	**04 06 48.5**	**-1.1**
	75nm,0.3s,baz=90,slow=20,SNR=3.8						
DZM	**Mont Dzumac**	**12.64**	**275**	*e*Pn	P	04 06 32.9	-8.3
URZ	**Urewera**	**14.56**	**189**	P	**P**	**04 07 00.3**	**-0.4**
	3.3nm,0.3s,baz=36,slow=2.1,SNR=15						
URZ				S	**S**	**04 09 33.0**	**+0.1**
	1.9nm,0.3s,baz=30,slow=23,SNR=10.0						
URZ	**Urewera**	**14.56**	**189**	*e*Pn	**P**	**04 06 59.8**	**-0.9**
	17nm,0.6s						
URZ				S	**S**	**04 09 33.0**	**+0.1**
EIDS	**Eidsvold**	**26.34**	**261**	P	**P**	**04 08 49.0**	**+0.5**
	baz=28,SNR=14						
RMQ	**Roma**	**28.39**	**258**	P	**P**	**04 09 08.1**	**+1.6**
	baz=30,SNR=6.5						
CMSA	**Cobar Meteorol**	**31.25**	**248**	P	**P**	**04 09 31.7**	**+0.6**
	baz=33,SNR=13						
CTAO	**Charters Tower**	**31.50**	**270**	*e*P	**P**	**04 09 33.2**	**-0.1**
	47nm,0.5s						
QLP	**Quilpie**	**32.43**	**258**	P	**P**	**04 09 41.5**	**+0.3**
	baz=34,SNR=7.6						
TOO	**Toolangi**	**32.49**	**237**	P	**P**	**04 09 42.8**	**+1.2**
	baz=34,SNR=6.0						
PMG	**Port Moresby**	**34.51**	**289**	P	**P**	**04 09 55.8**	**-3.0**
	17nm,0.6s,baz=135,slow=5.7,SNR=5.7						
PMG	**Port Moresby**	**34.51**	**289**	*e*P	**P**	**04 09 58.0**	**-0.8**
	24nm,0.8s						
STKA	**Stephens Creek**	**34.76**	**248**	P	**P**	**04 10 01.1**	**+0.4**
	4.4nm,0.5s,baz=89,slow=10,SNR=8.7						
STKA	**Stephens Creek**	**34.76**	**248**	P	**P**	**04 10 01.5**	**+0.8**
	baz=36,SNR=6.2						
COEN	**Coen**	**36.14**	**279**	P	**P**	**04 10 12.4**	**+0.1**
	baz=37,SNR=9.2						
COEN	**Coen**	**36.14**	**279**	*e*P	**P**	**04 10 12.2**	**-0.1**
HTT	**Hallett**	**37.11**	**246**	P	**P**	**04 10 20.6**	**+0.4**
	baz=38,SNR=8.8						
MANU	**Manus Island**	**38.33**	**300**	P	P	04 10 36.8	+6.6
	baz=39,SNR=5.1						
BBOO	**Buckleboo**	**39.48**	**247**	P	**P**	**04 10 39.2**	**-0.2**
	baz=41,SNR=15						
AS31	**Alice Springs**	**42.07**	**261**	*e*P	**P**	**04 10 59.8**	**-0.3**
ASAR	**Alice Springs**	**42.07**	**261**	P	**P**	**04 11 00.0**	**-0.1**
	15nm,0.8s,baz=100,slow=7.2,SNR=114						
ASAR				ScP	**ScP**	**04 15 45.0**	**+4.7**
	2.3nm,0.7s,baz=110,slow=4.3,SNR=16						
WRAB	**Tennant Creek**	**42.43**	**266**	*e*P	**P**	**04 11 01.7**	**-1.2**
	16nm,0.4s						
WRA	**Warramunga Arr**	**42.44**	**266**	P	**P**	**04 11 02.2**	**-0.8**
	17nm,0.5s,baz=102,slow=8.2,SNR=40						
WRA				ScP	**ScP**	**04 15 46.6**	**+4.7**
	0.6nm,0.6s,baz=93,slow=4.7,SNR=6.4						
KDU	**Kakadu**	**46.31**	**275**	P	**P**	**04 11 32.0**	**-0.9**
	baz=48,SNR=4.6						
FORT	**Forrest**	**46.35**	**250**	P	**P**	**04 11 32.5**	**-0.4**
	baz=48,SNR=24						
FORT	**Forrest**	**46.35**	**250**	*e*P	**P**	**04 11 32.0**	**-0.9**
	40nm,0.6s						
WRKA	**Warakurna**	**46.87**	**257**	P	**P**	**04 11 36.9**	**-0.1**
	baz=48,SNR=13						
MTN	**Manton Dam**	**47.48**	**274**	P	**P**	**04 11 40.7**	**-1.0**
	baz=49,SNR=5.6						
MTN				S	S	04 18 05.9	+10
	baz=49,SNR=4.8						
KNRA	**Kununurra**	**48.72**	**270**	P	**P**	**04 11 50.6**	**-0.2**
	baz=50,SNR=14						
FITZ	**Fitzroy Crossi**	**50.86**	**266**	P	**P**	**04 12 06.6**	**0.0**
	baz=52,SNR=16						
MEEK	**Meekatharra**	**55.15**	**253**	P	**P**	**04 12 36.3**	**-0.7**
	baz=56,SNR=6.9						
BATI	**Baumata**	**55.25**	**274**	P	**P**	**04 12 38.3**	**+0.4**
	20nm,0.5s,baz=326,slow=2.7,SNR=4.7						
MBWA	**Marble Bar**	**55.41**	**260**	*e*P	**P**	**04 12 37.6**	**-1.2**
	9.5nm,0.7s						
BLDU	**Ballidu**	**56.07**	**248**	P	**P**	**04 12 43.0**	**-0.3**
	baz=57,SNR=7.3						
MORW	**Morawa**	**56.91**	**250**	P	**P**	**04 12 49.3**	**+0.2**
	baz=58,SNR=6.5						
QSPA	**South Pole Qui**	**66.22**	**180**	P	**P**	**04 13 50.8**	**+1.6**
	2.5nm,0.8s,baz=289,slow=0.6,SNR=9.6						
KKM	**Kota Kinabalu**	**68.92**	**287**	*e*P	**P**	**04 14 06.2**	**-0.4**
	15nm,0.9s						
IPM	**Ipoh**	**81.79**	**279**	*e*P	**P**	**04 15 17.1**	**-1.0**
	7.1nm,0.6s						
KULM	**Kulim**	**82.47**	**279**	*e*P	**P**	**04 15 21.7**	**+0.1**
	5.3nm,0.7s						
SNAA	**Sanae**	**84.70**	**179**	*e*P	**P**	**04 15 33.2**	**+1.5**
	10nm,1.4s						
NVAR	**Mina Array Bea**	**84.71**	**44**	P	**P**	**04 15 32.2**	**-0.2**
	0.6nm,0.7s,baz=223,slow=7.3,SNR=5.8						
TUC	**Tucson**	**86.48**	**52**	*e*P	**P**	**04 15 41.1**	**+0.3**
	2.5nm,1.0s						
WVOR	**Wild Horse Val**	**86.87**	**41**	*e*P	**P**	**04 15 41.6**	**-0.9**
	13nm,1.6s						
CMAR	**Chiang Mai Arr**	**89.54**	**290**	P	**P**	**04 15 57.0**	**+1.6**
	3.3nm,0.3s,baz=146,slow=3.2,SNR=5.9						
HLID	**Hailey**	**90.05**	**41**	*e*P	**P**	**04 15 57.9**	**+0.6**
	3.7nm,1.3s						
TXAR	**Lajitas Array**	**90.39**	**58**	P	**P**	**04 15 59.8**	**+0.6**
	0.8nm,0.7s,baz=216,slow=6.6,SNR=13						
ANMO	**Albuquerque**	**90.92**	**52**	*e*P	**P**	**04 16 01.4**	**-0.2**
	1.8nm,1.1s						
BORG	**Borgarnes**	**136.82**	**13**	*e*PKPdf	**PKPdf**	**04 22 16.6**	**+1.3**
FINES	**FINESS Array B**	**138.42**	**341**	PKP	**PKPdf**	**04 22 18.9**	**+0.5**
	1.1nm,0.7s,baz=179,slow=7.6,SNR=3.4						
GNI	**Garni**	**139.21**	**304**	*e*PKPdf	**PKPdf**	**04 22 19.4**	**-1.4**
AKASG	**Malin Array Be**	**144.96**	**327**	PKP	**PKPab**	**04 22 30.1**	**-1.9**
	1.8nm,0.5s,baz=43,slow=4.3,SNR=6.9						
KIEV	**Kiev**	**144.97**	**327**	*e*PKPdf	**PKPab**	**04 22 30.4**	**-1.7**
ASCN	**Ascension**	**145.41**	**154**	*e*PKPbc	**PKPab**	**04 22 33.9**	**-0.8**
BRTR	**Keskin Array B**	**147.58**	**307**	PKPbc	**PKPbc**	**04 22 38.5**	**-0.4**
	0.7nm,0.6s,baz=146,slow=5.2,SNR=4.5						
CSS	**Prodhromos**	**149.09**	**299**	*e*PKPdf	**PKPdf**	**04 22 38.0**	**+0.3**
CSS				*e*PKPbc	**PKiKP**	**04 22 42.5**	**-1.0**
CSS				*e*PKPab	**PKPab**	**04 22 49.4**	**+0.1**
MORC	**Moravsky Berou**	**150.73**	**336**	*e*PKPbc	**PKPbc**	**04 22 46.0**	**0.0**
MORC				*e*PKPab	**PKPab**	**04 22 55.3**	**-0.3**
PSZ	**Piszkesteto**	**151.27**	**332**	*e*PKPbc	**PKPbc**	**04 22 47.8**	**+0.4**
TIP	**Timpagrande**	**159.16**	**321**	*e*PKPdf	**PKPdf**	**04 22 51.4**	**-0.2**

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*IDC **12** 04:10:15.2±0.7,14°.44N×145°.88E,h0km,mb4.1/15, mb1 4.3/15,mb1mx4.0/35,mbtmp4.1/15,MS3.3/1, Ms1 3.3/1,ms1mx2.7/34,Error ellipse: s-maj=24.4km s-min=18.0km az=90.0*
*ISCJB **12** 04:10:26.9±0.5,14°.44N±0°.06×145°.7E±0°.1,h109km, mb4.0/19,Error ellipse: s-maj=14.9km s-min=7.4km az=16.4*
*NEIC **12** 04:10:28.3±1.0,14°.43N×145°.65E,h108km±9km,mb4.0/4, Error ellipse: s-maj=15.0km s-min=7.3km az=90.0*
NEIC Felt on Saipan and at Andersen AFB, Guam.
ISC 12 04:10:28.3±0.7,14°.43N±0°.09×145°.7E±0°.1,h109km,n35, σ0°71/30,mb4.0/19,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.14**	**223**	*e*Pn	**Pn**	**04 10 51.2**	**+0.4**
GUMO				*e*Sn	**Sn**	**04 11 07.3**	**-0.6**
CBIJ	**Chichi jima**	**13.01**	**346**	*e*Pn	**Pn**	**04 13 28.0**	**-1.0**
JOW	**Kunigami**	**20.39**	**310**	*e*P	**P**	**04 14 56.2**	**-0.3**
	16nm,1.3s						
H11S3	**WAKE ISLAND Hy**	**20.56**	**76**	T	T	04 36 20.7	
	baz=263,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**20.57**	**76**	T	T	04 36 29.4	
	baz=263,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**20.58**	**76**	T	T	04 36 27.9	
	baz=263,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**20.96**	**73**	T	T	04 37 02.0	
	baz=260,slow=75,SNR=16						
H11N2	**WAKE ISLAND Hy**	**20.96**	**72**	T	T	04 37 02.2	
	baz=260,slow=75,SNR=2.6						
H11N3	**WAKE ISLAND Hy**	**20.97**	**73**	T	T	04 37 00.9	
	baz=260,slow=75,SNR=15						
JNU	**Nakatsue**	**22.95**	**327**	P	**P**	**04 15 23.7**	**+0.3**
	4.2nm,0.6s,baz=276,slow=11,SNR=9.1						
KSRS	**Korea Array**	**27.83**	**329**	P	**P**	**04 16 08.1**	**+0.7**
	2.6nm,0.5s,baz=143,slow=8.7,SNR=6.4						
KSAR	**Wonju Array Be**	**27.84**	**329**	P	**P**	**04 16 08.1**	**+0.6**
WRAB	**Tennant Creek**	**35.92**	**198**	*e*P	**P**	**04 17 17.6**	**-0.6**
	1.6nm,0.8s						
WB2	**Warramunga Arr**	**35.92**	**198**	*e*P	**P**	**04 17 17.6**	**-0.7**
WRA	**Warramunga Arr**	**35.93**	**198**	P	**P**	**04 17 18.1**	**-0.3**
	0.5nm,0.5s,baz=20,slow=9.4,SNR=3.7						
FITZ	**Fitzroy Crossi**	**37.88**	**212**	*e*P	**P**	**04 17 35.4**	**+0.6**
	1.0nm,0.6s						
ASAR	**Alice Springs**	**39.57**	**197**	P	**P**	**04 17 49.4**	**+0.4**
	0.6nm,0.7s,baz=19,slow=12,SNR=6.7						
WRKA	**Warakurna**	**42.73**	**204**	S	**P**	**04 18 15.1**	**+0.2**
	baz=48,SNR=7.3						
ULN	**Ulaanbaatar**	**46.14**	**324**	*e*P	**P**	**04 18 42.1**	**+0.2**
	1.8nm,0.6s						
SONM	**Songino Array**	**46.50**	**324**	P	**P**	**04 18 46.0**	**+1.3**
	0.4nm,0.3s,baz=131,slow=5.9,SNR=13						
SONM				PcP	**PcP**	**04 20 17.0**	**-0.4**
	0.3nm,0.5s,baz=158,slow=1.8,SNR=4.2						
SEY	**Seymchan**	**48.67**	**4**	P	**P**	**04 19 01.4**	**+0.3**
	0.6nm,0.2s,baz=205,slow=10,SNR=4.1						
TLY	**Talaya**	**50.06**	**327**	LR	LR	04 38 57.8	
	comp=Z,36nm,21.4s,baz=296,slow=34						
ZALV	**Zalesovo Beam**	**61.40**	**324**	P	**P**	**04 20 33.0**	**+0.3**
	0.8nm,0.3s,baz=104,slow=7.2,SNR=4.2						
**

0.4nm,0.9s,baz=256,slow=4.3,SNR=4.0

*ISCJB **12** 04:23:43.0±1.2, 19°.8S±0°.4×178°.1W±0°.3, h500km, mb3.3/8, Error ellipse: s-maj=63.1km s-min=14.4km az=151.6*
*IDC **12** 04:23:43.3±4.5, 19°.78S×178°.12W, h494km±46km, mb2.9/8, mb1 3.2/9, mb1mx3.1/20, mbtmp3.8/9, Error ellipse: s-maj=61.8km s-min=21.4km az=146.0*
ISC 12 04:23:43.7±1.2, 19°.8S±0°.4×178°.1W±0°.2, h500km, n26, σ1§70/27, mb3.3/8, 2C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.59**	**258**	P	**P**	**04 26 50.3**	**+0.6**
	0.3nm,0.3s,baz=119,slow=19,SNR=2.9						
STKA	**Stephens Creek**	**37.99**	**243**	P	**P**	**04 30 18.8**	**+0.4**
	0.7nm,0.4s,baz=129,slow=6.5,SNR=2.5						
STKA				PcP	**PcP**	**04 32 21.2**	**0.0**
	0.8nm,0.4s,baz=98,slow=8.1,SNR=3.0						
ASAR	**Alice Springs**	**44.57**	**256**	P	**P**	**04 31 11.2**	**+0.4**
	0.4nm,0.5s,baz=99,slow=7.7,SNR=4.7						
ASAR				PcP	**pP**	**04 32 43.4**	**-0.2**
	0.8nm,0.5s,baz=105,slow=3.8,SNR=8.7						
WRA	**Warramunga Arr**	**44.58**	**261**	P	**P**	**04 31 09.1**	**-1.9**
	0.4nm,0.5s,baz=93,slow=5.4,SNR=3.4						
WRA				PcP	**pP**	**04 32 43.9**	**+0.1**
	0.3nm,0.3s,baz=88,slow=3.6,SNR=2.8						
NVAR	**Mina Array Bea**	**80.60**	**43**	P	**P**	**04 35 04.4**	**+0.3**
	0.3nm,0.6s,baz=225,slow=8.2,SNR=3.6						
SEY	**Seymchan**	**85.67**	**347**	P	**P**	**04 35 29.0**	**+0.5**
	0.7nm,0.3s,baz=144,slow=1.5,SNR=4.9						
TXAR	**Lajitas Array**	**86.78**	**57**	P	**P**	**04 35 34.6**	**-0.2**
	0.3nm,0.7s,baz=224,slow=5.2,SNR=5.6						
ILAR	**Eielson Array**	**87.66**	**13**	P	**P**	**04 35 38.0**	**0.0**
	0.5nm,0.5s,baz=216,slow=6.1,SNR=16						
PDAR	**Pinedale Array**	**88.53**	**43**	P	**P**	**04 35 42.9**	**0.0**
	0.3nm,0.5s,baz=174,slow=4.5,SNR=4.1						
MKAR	**Makanchi Array**	**110.63**	**314**	PKiKP	**PKiKP**	**04 41 17.8**	**-1.3**
	0.3nm,0.6s,baz=86,slow=1.8,SNR=5.5						
BVAR	**Borovoye Array**	**118.47**	**320**	PKP	**PKPdf**	**04 41 33.3**	**-0.5**
	0.9nm,0.4s,baz=202,slow=1.6,SNR=4.7						
ARCES	**ARCESS Array B**	**128.21**	**350**	PKP	**PKPdf**	**04 41 51.9**	**-0.2**
	3.9nm,0.9s,baz=290,slow=8.6,SNR=3.8						
FINES	**FINESS Array B**	**135.07**	**344**	PKP	**PKPdf**	**04 42 05.1**	**-0.1**
	1.0nm,0.8s,baz=142,slow=4.9,SNR=4.7						
HFS	**Hagfors**	**138.83**	**351**	PKhKP	PKPpre	04 42 03.7	
	1.7nm,0.8s,baz=64,slow=3.4,SNR=6.7						
AKASG	**Malin Array Be**	**142.34**	**331**	PKhKP	PKPpre	04 42 15.4	
	1.6nm,0.5s,baz=39,slow=4.5,SNR=5.5						
KWP	**Kalwaria Pacla**	**145.90**	**336**	↓*i*P	**PKPab**	**04 42 27.7**	**-0.7**
BRTR	**Keskin Array B**	**146.28**	**313**	PKPbc	**PKPbc**	**04 42 28.7**	**+0.4**
	1.5nm,0.6s,baz=137,slow=4.8,SNR=7.6						
BURAR	**Bucovina Array**	**146.39**	**331**	↑*i*P	**PKPab**	**04 42 30.6**	**+0.1**
TRPA	**Tarpa**	**147.16**	**334**	↓*i*P	**PKPbc**	**04 42 31.1**	**+0.9**
CLL	**Collm**	**147.35**	**347**	↓*i*(P)	**PKPbc**	**04 42 31.1**	**+0.5**
	comp=Z,6.0nm,0.6s						
MLR	**Muntele Rosu**	**147.57**	**328**	↓*i*P	**PKPbc**	**04 42 31.9**	**+0.4**
VOIR		**148.05**	**328**	↓*i*P	**PKPbc**	**04 42 33.7**	**+1.0**
VRAC	**Vranov**	**148.28**	**342**	↓*i*P	**PKPbc**	**04 42 34.5**	**+1.4**
GZR	**Gura Zlata**	**149.17**	**331**	↓*i*P	**PKPbc**	**04 42 35.5**	**0.0**
GERES	**GERESS Array B**	**149.49**	**345**	PKPbc	**PKPbc**	**04 42 36.2**	**0.0**
	comp=Z,1.6nm,0.8s,baz=48,slow=2.0,SNR=10						
PKSM	**Moragy**	**150.26**	**336**	↑*i*P	**PKPbc**	**04 42 38.4**	**+0.5**

*IDC **12** 04:52:30.8±1.1, 34°.66S×72°.08W, h0km, mb3.8/6, mb1 4.0/9, mb1mx3.9/22, mbtmp3.7/9, ML3.8/3, Error ellipse: s-maj=34.4km s-min=25.2km az=78.0*
*ISCJB **12** 04:52:32.8±0.5, 34°.36S±0°.04×72°.10W±0°.06, h16km, mb4.1/13, Error ellipse: s-maj=6.9km s-min=6.2km az=154.2*
*NEIC **12** 04:52:34.6±0.4, 34°.76S×72°.02W, h35km, mb4.3/10, Error ellipse: s-maj=14.4km s-min=8.9km az=80.0*
*GUC **12** 04:52:34.9±0.5, 34°.39S×71°.97W, h46km±6km, ML4.0*
ISC 12 04:52:32.9±0.5, 34°.48S±0°.04×72°.00W±0°.08, h16km, n36, σ1§36/37, mb4.2/13, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.82**	**130**	*i*P	**Pn**	**04 52 51.2**	**+1.3**
NICH				*i*S	**Sn**	**04 53 03.0**	**+1.2**
NICH				AML	AML	04 53 07.2	
	comp=E,23μm,0.5s						
STL	**Santa Lucia**	**1.54**	**48**	*e*P	**Pn**	**04 52 59.7**	**0.0**
STL				*i*S	**Sn**	**04 53 18.9**	**-0.4**
SJCH	**San Jose de Ma**	**1.60**	**59**	*i*P	**Pn**	**04 53 01.1**	**+0.4**
SJCH				*i*S	**Sn**	**04 53 21.4**	**+0.3**
SJCH				AML	AML	04 53 28.1	
	comp=N,2μm,0.6s						
COCH	**Cobquecura**	**1.77**	**201**	*e*P9	**Pb**	**04 53 04.7**	**-0.3**
COCH				*e*S4	**Sb**	**04 53 27.1**	**+0.2**
COCH				AML	AML	04 53 33.5	
	comp=N,867nm,0.6s						
CFAA	**Coronel Fontan**	**4.27**	**49**	Pn	Pn	04 53 40.7	+3.4
	comp=N,0.8nm,0.3s,baz=223,slow=12,SNR=22						
CFAA				Lg	Lg	04 54 43.1	
	comp=N,0.9nm,0.3s,baz=83,slow=22,SNR=3.6						
LCO	**Las Campanas**	**5.56**	**12**	*e*Pn	**Pn**	**04 53 55.3**	**+0.1**
	comp=N,12nm,0.5s						
LCO				*e*Sn	**Sn**	**04 54 58.0**	**-1.0**
PLCA	**Paso Flores**	**6.35**	**170**	Pn	Pn	04 54 01.2	-4.7
	comp=N,1.5nm,0.3s,baz=310,slow=11,SNR=16						
PLCA	**Paso Flores**	**6.35**	**170**	*e*Pn	Pn	04 54 00.9	-5.0
	comp=N,0.5nm,0.3s						
TRQA	**Tornquist**	**8.85**	**117**	*e*Pn	**Pn**	**04 54 39.0**	**-1.1**
TRQA				*e*Lg	Lg	04 57 13.4	
LVC	**Limon Verde**	**12.13**	**14**	*e*Pn	Pn	04 55 29.4	+4.1
LPAZ	**La Paz**	**18.44**	**12**	P	**Pn**	**04 56 49.5**	**+0.9**
	comp=N,0.1nm,0.3s,baz=206,slow=9.0,SNR=5.8						
LPAZ	**La Paz**	**18.44**	**12**	*e*P	**Pn**	**04 56 49.7**	**+1.1**
	comp=N,3.6nm,1.0s						
SIV	**San Ignacio**	**20.87**	**31**	P	**P**	**04 57 15.3**	**+1.0**
	comp=N,1.7nm,0.6s,baz=241,slow=4.1,SNR=6.6						
SAML	**Samuel**	**26.67**	**20**	*e*P	**P**	**04 58 12.7**	**+1.6**
	comp=N,1.4nm,0.6s						
OTAV	**Otavalo**	**35.06**	**349**	*e*P	**P**	**04 59 26.2**	**+0.6**
	comp=N,1.0nm,0.8s						
SNAA	**Sanae**	**51.13**	**158**	*e*P	**P**	**05 01 32.0**	**-2.5**
	comp=N,4.3nm,0.9s						
SDDR	**Presa de Saban**	**53.17**	**1**	*e*P	**P**	**05 01 50.1**	**-0.1**
QSPA	**South Pole Qui**	**55.76**	**180**	*e*P	**P**	**05 02 10.9**	**+2.2**
	comp=N,2.8nm,0.9s						
TXAR	**Lajitas Array**	**70.16**	**331**	P	**P**	**05 03 45.9**	**+1.0**
	comp=N,0.3nm,0.7s,baz=160,slow=4.0,SNR=3.7						
WVT	**Waverly**	**71.78**	**347**	*e*P	**P**	**05 03 54.8**	**+0.4**
	comp=N,4.9nm,0.9s						
WCI	**Wyandotte Cave**	**73.55**	**348**	*e*P	**P**	**05 04 06.0**	**+1.2**
	comp=N,16nm,1.3s						
MVCO	**Mesa Verde**	**79.00**	**331**	*e*P	**P**	**05 04 36.4**	**+0.3**
	comp=N,1.9nm,0.8s						
BOSA	**Boshof**	**79.82**	**118**	P	**P**	**05 04 42.1**	**+1.2**
	comp=N,2.9nm,0.8s,baz=206,slow=3.2,SNR=5.1						
BOSA	**Boshof**	**79.82**	**118**	*e*P	**P**	**05 04 40.3**	**-0.7**
	comp=N,14nm,1.5s						
DUG	**Dugway, Tooele**	**83.30**	**330**	*e*P	**P**	**05 04 59.7**	**+0.9**
	comp=N,5.7nm,1.3s						
PDAR	**Pinedale Array**	**84.20**	**333**	P	**P**	**05 05 05.0**	**+1.5**
	comp=N,0.4nm,0.7s,baz=169,slow=2.4,SNR=3.7						
NVAR	**Mina Array Bea**	**84.29**	**325**	P	**P**	**05 05 05.6**	**+1.6**
	comp=N,0.5nm,0.8s,baz=160,slow=4.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**84.35**	**70**	P	**P**	**05 05 05.2**	**+0.6**
	comp=N,1.1nm,0.9s,baz=272,slow=3.5,SNR=6.2						
FCC	**Fort Churchill**	**94.70**	**349**	*e*P	**P**	**05 05 53.4**	**+0.7**
MORC	**Moravsky Berou**	**115.14**	**46**	*e*PKPdf	**PKPdf**	**05 11 11.3**	**-1.6**
KWP	**Kalwaria Pacla**	**118.18**	**47**	*e*PKPdf	**PKPdf**	**05 11 15.3**	**-3.4**
WRAB	**Tennant Creek**	**120.36**	**209**	*e*PKPdf	**PKPdf**	**05 11 22.0**	**-1.9**
TIXI	**Tiksi**	**141.17**	**350**	*e*PKPdf	**PKPdf**	**05 11 60.0**	**-1.5**
ABKAR	**Akbulak array**	**141.95**	**52**	*e*PKPdf	**PKPdf**	**05 12 00.7**	**-2.9**
PALK	**Pallekele**	**143.05**	**131**	*e*PKPdf	**PKPdf**	**05 12 05.8**	**-0.9**
BVAR	**Borovoye Array**	**147.61**	**43**	PKPbc	**PKPab**	**05 12 17.7**	**-0.5**
	comp=N,0.8nm,0.5s,baz=325,slow=2.3,SNR=4.2						

GUC 12 04:58:22.1±0.6, 34°.43S×71°.86W, h25km±38km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.77**	**138**	*i*P	Pb	04 58 36.3	-0.6
NICH				*i*S	Sb	04 58 47.0	+0.1
NICH				AML	AML	04 58 48.2	
	comp=E,13μm,0.8s						
RCDM	**Rinconada Maip**	**1.28**	**43**	*i*P	Pn	04 58 44.3	-0.1
RCDM				*i*S	Sn	04 59 01.0	+0.2
ANTU	**Antumapu**	**1.33**	**50**	*i*P	Pn	04 58 45.6	+0.4
ANTU				*i*S	Sb	04 59 03.2	+0.2
ANTU				AML	AML	04 59 08.3	
	comp=N,2μm,0.4s						
STL	**Santa Lucia**	**1.41**	**46**	*i*P1	Pn	04 58 46.2	-0.1
STL				*i*S1	Sn	04 59 04.8	+0.6
SJCH	**San Jose de Ma**	**1.47**	**58**	*i*P1	Pn	04 58 47.2	0.0
SJCH				*i*S	Sb	04 59 07.3	-0.1
SJCH				AML	AML	04 59 10.3	
	comp=N,2μm,0.4s						
CLCH	**Cerro Calan**	**1.50**	**47**	*i*P	Pn	04 58 48.2	+0.6
CLCH				*i*S	Sb	04 59 07.9	-0.3
CLCH				AML	AML	04 59 13.7	
	comp=E,2μm,0.2s						
PEL	**Peldehue**	**1.61**	**38**	*i*P	Pn	04 58 50.1	+1.0
PEL				*i*S	Sb	04 59 10.7	-0.5
PEL				AML	AML	04 59 16.6	
	comp=E,3μm,0.4s						

GUC 12 05:03:24.2±0.6, 34°.42S×71°.79W, h0km±12km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.74**	**142**	*i*P	Pb	05 03 39.5	-0.6
NICH				*i*S	Sb	05 03 51.9	+1.1
NICH				AML	AML	05 03 54.2	
	comp=E,12μm,0.6s						
RCDM	**Rinconada Maip**	**1.23**	**42**	*i*P	Pb	05 03 48.3	-0.1
RCDM				*i*S	Sn	05 04 06.4	+0.2
RCDM				AML	AML	05 04 09.1	
	comp=E,2μm,0.2s						
ANTU	**Antumapu**	**1.28**	**49**	*i*P	Pb	05 03 49.3	+0.1
ANTU				*e*S4	Sn	05 04 07.6	+0.3
ANTU				AML	AML	05 04 14.7	
	comp=E,3μm,0.5s						
STL	**Santa Lucia**	**1.37**	**44**	*i*P	Pg	05 03 50.4	-0.1
STL				*i*S	Sn	05 04 10.2	+0.7
SJCH	**San Jose de Ma**	**1.42**	**57**	*i*P	Pn	05 03 51.2	-0.2
SJCH				*i*S	Sn	05 04 11.8	+0.9
SJCH				AML	AML	05 04 20.4	
	comp=N,1μm,0.2s						
CLCH	**Cerro Calan**	**1.46**	**46**	*i*P	Pn	05 03 51.7	-0.2
CLCH				*i*S	Sn	05 04 12.7	+1.0
CLCH				AML	AML	05 04 19.1	
	comp=E,1μm,0.2s						
PEL	**Peldehue**	**1.57**	**36**	*i*P	Pn	05 03 53.7	+0.3
PEL				*i*S	Sg	05 04 15.9	+1.1
PEL				AML	AML	05 04 23.4	
	comp=N,4μm,0.5s						

IDC 12 05:08:18.4±51.0, 18°.21S×178°.77W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.7/31, mbtmp4.3/3, Error ellipse: s-maj=936.1km s-min=147.1km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.19**	**241**	P	P	05 15 40.5	+0.6
	1.6nm,0.4s,baz=86,slow=10,SNR=6.4						
WRA	**Warramunga Arr**	**44.24**	**260**	P	P	05 16 29.7	-0.3
	1.6nm,0.4s,baz=97,slow=7.6,SNR=26						
ASAR	**Alice Springs**	**44.38**	**255**	P	P	05 16 30.4	-0.6
	2.2nm,0.5s,baz=89,slow=7.9,SNR=30						

SJA 12 05:15:11.4±1.1, 34°.80S×69°.50W, h24km±114km, ML3.2, MW4.2, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	**Agrelo**	**1.79**	**18**	*e*P	Pb	05 15 42.9	-0.9
ARCO	**CERRO ARCO**	**2.00**	**14**	*e*P	Pb	05 15 46.1	-1.3
ARCO				AML	AML	05 16 13.5	
	comp=Z,201nm,0.2s						
ASAL	**Salagasta**	**2.27**	**14**	*e*P	Pb	05 15 50.6	-1.2
ASAL				*e*S	Sb	05 16 18.5	-1.0
AUSP	**Uspallata**	**2.57**	**2**	*e*P	Pb	05 15 54.9	-2.3
AUSP				*e*S	Sb	05 16 26.1	-2.4
RTLS	**Leoncito**	**2.99**	**3**	*e*P4	Pn	05 16 02.3	+4.6
RTLS				*e*S	Sb	05 16 38.2	-2.5
CFAA	**Coronel Fontan**	**3.35**	**19**	*e*P	Pn	05 16 05.4	+3.0
CFAA				*e*S4	Sn	05 16 48.0	+6.5
RTLL	**Cerro Villicun**	**3.56**	**14**	*e*P	Pn	05 16 08.5	+3.2
AMOG	**MOGNA**	**3.94**	**13**	*e*P	Pn	05 16 13.0	+2.5
ACLC	**CERRO LA CRUZ**	**5.77**	**23**	*e*P	Pn	05 16 39.3	+3.5

KRSC 12 05:19:34.0±1.1, 53°.28N×160°.74E, h52km±14km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.47**	**248**	*i*S	Sn	05 19 52.8	0.0
NLC	**Nalytchevo**	**0.84**	**263**	*i*P	Pn	05 19 51.4	+1.7
NLC				*i*S	Sn	05 20 01.8	+0.7
KII	**Karymskiy**	**1.08**	**315**	*i*P	Pn	05 19 54.5	+1.5
KII				*i*S	Sn	05 20 07.4	+0.4
SDLR	**Sedlovina**	**1.11**	**271**	*i*P	Pn	05 19 55.4	+1.9
SDLR				*i*S	Sn	05 20 08.4	+0.5
UGLR	**Uglovaya**	**1.15**	**267**	*i*P	Pn	05 19 56.2	+2.2
UGLR				*i*S	Sn	05 20 10.2	+1.4
SMAR	**Somma**	**1.16**	**270**	*i*P	Pn	05 19 56.1	+1.8
SMAR				*i*S	Sn	05 20 09.5	+0.2
KRER	**Koryakskii**	**1.20**	**272**	*i*P	Pn	05 19 56.8	+2.1
KRER				*i*S	Sn	05 20 11.3	+1.3
AVH	**Avacha**	**1.20**	**270**	*e*P	Pn	05 19 56.8	+2.2
AVH				*e*S	Sn	05 20 11.5	+1.6
KRX	**Arik**	**1.26**	**275**	*i*P	Pn	05 19 57.2	+1.8
KRX				*i*S	Sn	05 20 11.7	+0.3
KOK	**Koryaka**	**1.26**	**272**	*i*P	Pn	05 19 57.4	+2.0
KOK				*i*S	Sn	05 20 12.1	+0.7
PET	**Petropavlovsk**	**1.28**	**259**	*e*P	Pn	05 19 57.5	+2.0
PET				*e*S	Sn	05 20 12.3	+0.7
MKZ	**Mys Kozlova**	**1.41**	**24**	*e*P	Pn	05 20 00.0	+2.8
MKZ				*e*S	Sn	05 20 16.7	+2.0
RUS	**Russkaya**	**1.59**	**239**	*e*P	Pn	05 20 01.8	+2.0
RUS				*e*S	Sn	05 20 20.5	+1.3
GNL	**Ganaly**	**1.72**	**285**	*e*P	Pn	05 20 04.0	+2.3
GNL				*e*S	Sn	05 20 26.4	+3.7
MTVR	**Mutnovka**	**1.74**	**244**	*e*P	Pn	05 20 04.8	+2.8
MTVR				*e*S	Sn	05 20 25.1	+1.9
TUMR	**Tumrok**	**2.04**	**350**	*i*P	Pn	05 20 09.8	+3.8
TUMR				*i*S	Sn	05 20 33.8	+3.4
APC	**Apacha**	**2.19**	**262**	*e*P	Pn	05 20 11.2	+3.3
APC				*e*S	Sn	05 20 37.3	+3.6
KMNR	**Kamenistaya**	**2.50**	**353**	*i*P	Pn	05 20 14.9	+2.6
MIPR	**Malaya Ipel'ka**	**2.62**	**249**	*e*P	Pn	05 20 17.5	+3.7
ESO	**Esso**	**2.91**	**337**	*e*P	Pn	05 20 20.9	+3.1
PAU	**Pauzhetka**	**3.01**	**235**	*e*P	Pn	05 20 23.9	+4.7
PAU				*e*S	Sn	05 20 56.3	+2.3
SRDR	**Sredinnyy**	**3.10**	**349**	*e*P	Pn	05 20 23.7	+3.2
KBTR	**Krutoberegovo**	**3.17**	**21**	*i*P	Pn	05 20 25.9	+4.5
KBTR				*i*S	Sn	05 21 00.4	+2.4
SMKR	**Semkarok**	**3.34**	**7**	*e*P	Pn	05 20 27.3	+3.5
SMKR				*e*S	Sn	05 21 05.5	+3.3
SRKR	**Sorokina**	**3.39**	**4**	*e*P	Pn	05 20 28.1	+3.6
SRKR				*e*S	Sn	05 21 06.3	+2.8
BKI	**Bering**	**3.63**	**56**	*e*P	Pn	05 20 31.7	+4.2
BKI				*e*S	Sn	05 21 10.5	+1.5
SKR	**Severo-Kuril's**	**3.86**	**230**	*e*S	Sn	05 21 17.4	+2.6

IDC 12 05:24:25.0±2.0, 0°.26N×126°.35E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/30, mbtmp3.4/4, Error ellipse: s-maj=246.9km s-min=22.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.55**	**159**	P	P	05 29 16.6	+0.4
	0.4nm,0.6s,baz=338,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**24.89**	**163**	P	P	05 29 49.4	-0.4
	0.3nm,0.6s,baz=343,slow=7.3,SNR=4.6						
MKAR	**Makanchi Array**	**60.20**	**327**	P	P	05 34 34.6	-0.2
	0.3nm,0.4s,baz=128,slow=7.2,SNR=12						
KURBB	**Kurchatov Arra**	**64.46**	**328**	P	P	05 35 03.4	+0.2
	0.3nm,0.4s,baz=127,slow=6.1,SNR=4.8						

*IDC **12** 05:30:35.9±1.6, 34°.76S×72°.01W, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.8/17, mbtmp3.6/7, ML3.5/2, MS1.9/1, Ms1 1.9/1, ms1mx1.9/23, Error ellipse: s-maj=45.7km s-min=32.7km az=142.0*
*ISCJB **12** 05:30:39.7±0.8, 34°.30S±0°.05×72°.21W±0°.06, h16km, mb3.5/4, Error ellipse: s-maj=7.8km s-min=6.9km az=44.9*
*GUC **12** 05:30:42.2±0.5, 34°.33S×72°.07W, h49km±4km, ML4.1*
ISC 12 05:30:40.1±0.8, 34°.38S±0°.06×72°.12W±0°.08, h16km, n17, σ1§09/24, mb3.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.96**	**131**	*i*P	**Pn**	**05 30 59.7**	**+0.7**
NICH				*i*S	**Sn**	**05 31 13.4**	**+1.1**
NICH				AML	AML	05 31 15.7	
	comp=E,33μm,0.9s						
RCDM	**Rinconada Maip**	**1.40**	**51**	*i*P	**Pn**	**05 31 05.5**	**+0.4**
RCDM				*i*S	**Sn**	**05 31 22.5**	**-0.7**
RCDM				AML	AML	05 31 25.1	
	comp=N,3μm,0.6s						
ANTU	**Antumapu**	**1.47**	**57**	*i*P1	**Pb**	**05 31 07.0**	**-0.2**
ANTU				*i*S	**Sn**	**05 31 25.0**	**0.0**
ANTU				AML	AML	05 31 30.9	
	comp=N,5μm,0.4s						
STL	**Santa Lucia**	**1.54**	**53**	*i*P	**Pn**	**05 31 07.4**	**+0.4**
STL				*i*S	**Sn**	**05 31 27.0**	**+0.2**
CLCH	**Cerro Calan**	**1.64**	**54**	*i*P	**Pn**	**05 31 08.8**	**+0.4**
CLCH				*i*S	**Sn**	**05 31 29.2**	**+0.1**
CLCH				AML	AML	05 31 40.5	
	comp=N,3μm,0.6s						
SJCH	**San Jose de Ma**	**1.64**	**64**	*e*P9	**Pn**	**05 31 08.3**	**0.0**
SJCH				*e*S4	**Sn**	**05 31 28.0**	**-1.1**
SJCH				AML	AML	05 31 34.5	
	comp=N,3μm,0.4s						
PEL	**Peldehue**	**1.71**	**45**	*i*P	**Pn**	**05 31 10.0**	**+0.6**
PEL				*i*S1	**Sn**	**05 31 30.6**	**-0.4**
PEL				AML	AML	05 31 40.1	
	comp=N,5μm,0.8s						
COCH	**Cobquecura**	**1.84**	**197**	*e*S4	**Sn**	**05 31 33.8**	**-0.1**
COCH				AML	AML	05 31 44.9	
	comp=E,992nm,0.7s						
CFAA	**Coronel Fontan**	**4.27**	**51**	Pn	**Pn**	**05 31 46.1**	**+1.5**
	comp=E,0.5nm,0.3s,baz=219,slow=13,SNR=30						
CFAA				Lg	Lg	05 32 42.8	
	comp=E,0.7nm,0.3s,baz=57,slow=7.1,SNR=4.4						
CFAA				LR	LR	05 33 27.0	
	comp=E,14nm,20.1s,baz=246,slow=38						
PLCA	**Paso Flores**	**6.47**	**169**	Pn	**Pn**	**05 32 14.7**	**0.0**
	baz=346,slow=12						
PLCA				Lg	Lg	05 33 59.4	
	comp=E,0.3nm,0.3s,baz=260,slow=14,SNR=3.3						
LPAZ	**La Paz**	**18.36**	**12**	P	**Pn**	**05 34 55.7**	**+0.9**
	comp=E,0.2nm,0.3s,baz=178,slow=6.0,SNR=7.8						
SIV	**San Ignacio**	**20.83**	**31**	P	**P**	**05 35 20.4**	**-0.7**
	comp=E,1.6nm,0.7s,baz=231,slow=15,SNR=6.4						
TXAR	**Lajitas Array**	**70.03**	**331**	P	**P**	**05 41 52.5**	**+1.3**
	comp=E,0.2nm,0.6s,baz=142,slow=8.7,SNR=4.7						
PDAR	**Pinedale Array**	**84.07**	**333**	P	**P**	**05 43 10.7**	**+0.6**
	comp=E,0.2nm,0.3s,baz=135,slow=9.0,SNR=6.5						
NVAR	**Mina Array Bea**	**84.16**	**325**	P	**P**	**05 43 11.1**	**+0.5**
	comp=E,0.1nm,0.4s,baz=114,slow=23,SNR=3.0						
TORD	**Torodi Ar. Bea**	**84.40**	**70**	P	**P**	**05 43 11.8**	**-0.3**
	comp=E,0.6nm,0.9s,baz=288,slow=5.7,SNR=4.3						
WRA	**Warramunga Arr**	**120.40**	**209**	PKP	**PKPdf**	**05 49 27.5**	**-3.8**
	comp=E,0.7nm,1.2s,baz=148,slow=1.7,SNR=4.6						

*IDC **12** 05:38:42.4±1.3, 34°.29S×71°.90W, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.6/24, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=58.1km s-min=30.8km az=82.0*
*ISCJB **12** 05:38:43.1±1.9, 34°.34S±0°.05×72°.13W±0°.07, h15km±15km, mb3.5/2, Error ellipse: s-maj=10.6km s-min=7.4km az=13.8*
*GUC **12** 05:38:45.8±0.6, 34°.38S×71°.87W, h36km±4km, ML3.6*
*SJA **12** 05:39:19.4±0.8, 32°.25S×70°.16W, h105km±6km, ML2.8, MW3.4*
ISC 12 05:38:43.8±2.4, 34°.32S±0°.08×72°.02W±0°.10, h8km±16km, n22, σ1§10/28, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.94**	**136**	*i*P	**Pg**	**05 39 01.8**	**-0.1**
NICH				*i*S	**Sg**	**05 39 13.6**	**-0.5**
NICH				AML	AML	05 39 15.8	
	comp=N,4μm,0.3s						
RCDM	**Rinconada Maip**	**1.31**	**51**	*i*P	**Pb**	**05 39 08.5**	**-0.1**
RCDM				*i*S	**Sn**	**05 39 25.8**	**-0.2**
RCDM				AML	AML	05 39 32.9	
	comp=E,2μm,0.4s						
ANTU	**Antumapu**	**1.38**	**57**	*i*P	**Pb**	**05 39 09.8**	**0.0**
ANTU				*i*S	**Sb**	**05 39 27.4**	**-0.1**
ANTU				AML	AML	05 39 34.2	
	comp=E,2μm,0.3s						
STL	**Santa Lucia**	**1.45**	**53**	*i

RDWB				S	Sb	05 43 33.6	-0.6
DFR	Drift River	2.04	331	P	Pn	05 43 07.5	+0.2
NCT	North Crescent	2.08	327	P	Pn	05 43 08.1	+0.2
OHAK	Old Harbor	2.14	222	P	Pn	05 43 08.1	-0.5
OHAK				S	Sb	05 43 37.9	-0.3
PTE	Portage	2.19	21	P	Pn	05 43 10.1	+0.8
RC01	Rabbit Creek A	2.31	11	P	Pn	05 43 11.5	+0.6
FIB	Fire Island	2.35	6	P	Pn	05 43 12.8	+1.3
KAKN	Katmai Knife C	2.37	259	P	Pn	05 43 11.9	0.0
KABR	Katmai Barrier	2.38	255	P	Pn	05 43 11.9	0.0
KCE	Katmai Mt Cerb	2.45	258	P	Pn	05 43 13.9	+1.0
KVTA	Katmai Vly 10	2.47	261	P	Pn	05 43 13.5	+0.3
CGLM	Capps Glacier	2.57	345	P	Pn	05 43 15.3	+0.7
SUA	Susitna One	2.64	359	P	Pn	05 43 15.9	+0.4
KELA	Mount Kelaz	2.69	264	P	Pn	05 43 17.1	+0.8
GLI	Glacier Island	2.73	40	P	Pn	05 43 16.8	+0.2
STLK	Strandline Lak	2.74	348	P	Pn	05 43 17.9	+1.1
PMR	Palmer	2.87	15	P	Pn	05 43 18.9	+0.3
SII	Sitkinak Islan	2.97	221	P	Pn	05 43 21.0	+1.1
JPK	Jack Peak	3.02	41	P	Pn	05 43 21.2	+0.5
EYAK	Cordova Ski Ar	3.02	53	P	Pn	05 43 21.0	+0.3
VMT	TAPS Tl Valdez	3.12	42	P	Pn	05 43 22.9	+0.9
VLZ	Valdez	3.16	41	P	Pn	05 43 23.4	+0.8
SKT	Skwentna	3.19	353	P	Pn	05 43 24.1	+1.1
SGAM	Sherman Glacie	3.23	57	P	Pn	05 43 24.4	+0.8
SVW2	Sparrevohn	3.36	315	P	Pn	05 43 25.4	0.0
DIV	Divide	3.36	45	P	Pn	05 43 26.1	+0.6
RAGM	Ragged Mountai	3.41	60	P	Pn	05 43 26.9	+0.8
SCM	Sheep Creek Mo	3.43	27	P	Pn	05 43 27.5	+1.1
GOAT	Goat Mountain	3.48	57	P	Pn	05 43 27.8	+0.8
KLU	Klutina	3.56	40	P	Pn	05 43 28.9	+0.7
BMRM	Bremner River	3.72	52	P	Pn	05 43 30.9	+0.6
PS11	TAPS Pump St11	4.14	36	P	Pn	05 43 38.0	+1.9
PPLA	Purkeypile	4.14	350	P	Pn	05 43 37.8	+1.6
GLB	Gilahina Butte	4.30	50	P	Pn	05 43 39.1	+0.7
HARP	HAARP	4.49	35	P	Pn	05 43 42.4	+1.5
DHY	Denali Highway	4.54	19	P	Pn	05 43 43.0	+1.3
TRF	Thorofare Moun	4.63	2	P	Pn	05 43 44.1	+1.1
RND	Reindeer	4.67	10	P	Pn	05 43 44.4	+1.0
BALM	Baldy	4.72	59	P	Pn	05 43 44.9	+0.7
KTH	Kantishna Hill	4.74	359	P	Pn	05 43 45.5	+1.2
TT01	Tatalina	4.85	330	P	Pn	05 43 46.0	+0.2
PAX	Paxson	4.86	29	P	Pn	05 43 47.6	+1.6
MCK	McKinley	4.98	9	P	Pn	05 43 49.2	+1.5
CHX	Chaix Hills	5.02	72	P	Pn	05 43 49.2	+1.0
MENT	Mentasta	5.33	36	*e*Pn	Pn	05 43 55.3	+2.9
DDM	Donnelly Dome	5.48	23	P	Pn	05 43 55.5	+1.0
WRH	Wood River Hil	5.79	11	P	Pn	05 43 60.0	+1.4
CCB	Clear Creek Bu	5.99	12	P	Pn	05 44 02.5	+1.2
PS08	TAPS Pump Stn8	6.01	16	P	Pn	05 44 02.4	+0.7
BCA3	Beaver Creek A	6.05	42	P	Pn	05 44 02.5	+0.2
SCRK	Sand Creek	6.07	29	P	Pn	05 44 03.2	+0.6
COLA	College	6.20	11	P	Pn	05 44 05.6	+1.3
IL1	Eielson Array	6.22	15	P	Pn	05 44 05.0	+0.4
ILAR	Eielson Array	6.22	15	P	Pn	05 44 05.0	+0.4
	2.3nm,0.3s,baz=200,slow=14,SNR=141						
ILAR				S	Sn	05 45 10.8	-4.2
	0.8nm,0.3s,baz=180,slow=19,SNR=5.9						
MLY	Manley	6.22	360	P	Pn	05 44 05.8	+1.2
MDM	Murphy Dome	6.25	10	P	Pn	05 44 06.2	+1.2
SDPT	Sand Point	6.39	241	P	Pn	05 44 07.8	+0.8
HYT	Haines Junctio	6.92	68	P	Pn	05 44 15.2	+0.8
HAG	Hague Volcano	7.07	245	P	Pn	05 44 16.7	+0.3
IM3	Indian Mountai	7.32	350	P	Pn	05 44 19.8	+0.1
DTNA	Dutton South F	7.33	245	P	Pn	05 44 20.6	+0.8
EGAK	Eagle	7.46	33	P	Pn	05 44 22.1	+0.6
DAWY	Dawson	7.52	41	P	Pn	05 44 22.3	-0.1
WHY	Whitehorse	8.17	70	P	Pn	05 44 31.8	+0.4
COLD	Coldfoot	8.43	1	P	Pn	05 44 34.5	-0.4
BM3	Burnt Mountain	9.03	15	P	Pn	05 44 42.7	-0.5
DLBC	Dease Lake	10.75	83	P	Pn	05 45 08.4	+1.6
	0.4nm,0.3s,baz=270,slow=3.4,SNR=7.3						
INK	Inuvik	12.13	31	P	Pn	05 45 25.9	+0.5
	0.0nm,0.3s,baz=245,slow=17,SNR=2.7						
YKA	Yellowknife Ar	17.88	63	P	P	05 46 42.6	+0.9
	0.1nm,0.3s,baz=272,slow=9.9,SNR=15						
FX1	Attu Island--F	20.97	269	LR	LR	05 56 22.6	
	comp=Z,49nm,19.5s,baz=46,slow=39						
RES	Resolute Bay	25.68	30	P	P	05 48 02.0	-0.2
	0.9nm,1.0s,baz=266,slow=10,SNR=3.6						
PDAR	Pinedale Array	29.95	104	P	P	05 48 42.3	+1.4
	0.2nm,0.4s,baz=306,slow=7.7,SNR=3.3						
SCHQ	Schefferville	43.19	57	P	P	05 50 33.1	0.0
	1.9nm,0.8s,baz=295,slow=7.8,SNR=3.5						
ARCES	ARCESS Array B	51.90	2	P	P	05 51 39.2	-1.4
	2.6nm,0.8s,baz=1.5,slow=6.1,SNR=8.1						
SONM	Songino Array	56.45	308	P	P	05 52 14.2	0.0
	0.7nm,0.8s,baz=64,slow=3.4,SNR=5.1						
NOA	NORSAR Array B	59.63	10	P	P	05 52 35.0	-1.1
	0.8nm,0.7s,baz=348,slow=6.8,SNR=4.0						
FINES	FINESS Array B	60.03	2	P	P	05 52 38.0	-0.8
	2.2nm,0.7s,baz=353,slow=6.8,SNR=12						

JMA ***12*** *05:51:50.4±0.4, 43°.67N×147°.79E, h0km, M5.0*
JMA Felt I J1.
BJI ***12*** *05:51:51.5, 44°.19N×148°.47E, h54km, mB4.9/22, mb4.8/31, Ms4.4/15, Ms7 3.8/15*
MOS ***12*** *05:51:52.7±1.0, 43°.98N×147°.91E, h43km, mb4.7/37, Error ellipse: s-maj=9.0km s-min=5.5km az=104.5*
ISCJB ***12*** *05:51:52.2±0.6, 43°.92N±0°.04×147°.94E±0°.05, h40km±4km, mb4.4/65, MS3.6/6, Error ellipse: s-maj=7.6km s-min=4.4km az=137.4*
SKHL ***12*** *05:51:53.1±0.6, 43°.90N×147°.97E, h58km±8km, mb5.6/2*
IDC ***12*** *05:51:54.0±0.7, 43°.91N×147°.91E, h43km±7km, mb3.9/24, mb1 4.0/29, mb1mx4.0/34, mbtmp4.1/29, ML3.7/4, MS3.3/10, Ms1 3.3/10, ms1mx3.1/40, Error ellipse: s-maj=16.6km s-min=11.0km az=154.0*
NEIC ***12*** *05:51:55.2±0.7, 43°.94N×147°.92E, h52km±5km, mb4.7/32, Error ellipse: s-maj=7.0km s-min=4.5km az=139.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
ISC 12 05:51:55.1±0.5, 43°.91N±0°.05×147°.95E±0°.05, h52km±3km, h51km:pP-P, n264, σ1°.26/295, mb4.4/65, MS3.5/6, 3C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.32**	**357**	*e*PN	**Pn**	**05 52 15.4**	**-1.8**
KUR				*i* S	**Sn**	**05 52 32.6**	**-1.1**
KUR				pmax	pmax		
	comp=N,277nm,0.4s						
KUR				pmax	pmax		
	comp=E,311nm,0.4s						
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				smax	smax		
	comp=N,2μm,0.4s						
KUR				smax	smax		
	comp=E,4μm,0.4s						
KUR	**Kuril'sk**	**1.32**	**357**	*e*P	**Pn**	**05 52 15.4**	**-1.8**
KUR				AMB	AMB	05 52 16.7	
	comp=E,1μm,0.4s						
KUR				*e*S	**Sn**	**05 52 32.6**	**-1.1**
KUR				A	A	05 52 33.0	
	comp=E,4μm,0.4s						
KUR				A	A	05 52 33.0	
	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.52**	**275**	*d i* PN	**Pn**	**05 52 17.4**	**-2.4**
YUK				*i* S	**Sn**	**05 52 35.2**	**-3.1**
YUK				pmax	pmax		
	comp=N,970nm,0.2s						
YUK				pmax	pmax		
	comp=E,914nm,0.2s						
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				smax	smax		
	comp=E,4μm,0.2s						
YUK				smax	smax		
	comp=N,43nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.52**	**275**	*e*P	**Pn**	**05 52 17.4**	**-2.4**
YUK				AMB	AMB	05 52 20.6	
	comp=N,3μm,0.2s						
YUK				*e*S	**Sn**	**05 52 35.2**	**-3.1**
YUK				A	A	05 52 41.3	
	comp=N,4μm,0.2s						
NEM2	**Nemuro 2**	**1.69**	**252**	⇓P	Pn	05 52 18.8	-3.4
NEM2				*e*S	**Sn**	**05 52 39.8**	**-2.9**
JRA	**Rausu**	**2.05**	**272**	P	**Pn**	**05 52 25.3**	**-1.7**
JNK	**Nakash**	**2.37**	**263**	P	**Pn**	**05 52 29.1**	**-2.3**
JAK	**Akkeshi**	**2.54**	**250**	P	**Pn**	**05 52 30.9**	**-2.9**
JTKR	**Abashiri--Toko**	**2.92**	**273**	⇓P	**Pn**	**05 52 38.2**	**-0.8**
JAR	**Ashorobuto**	**3.10**	**260**	P	**Pn**	**05 52 39.9**	**-1.6**
JOB	**Onbets**	**3.17**	**253**	P	**Pn**	**05 52 40.4**	**-1.9**
JMP	**Maruseppu**	**3.32**	**273**	⇓P	**Pn**	**05 52 43.9**	**-0.6**
JCH	**Churui**	**3.59**	**250**	P	**Pn**	**05 52 46.3**	**-1.9**
JCH				*e*S	**Sn**	**05 53 27.2**	**-2.2**
ASAJ	**Asahikawa**	**3.87**	**275**	PN	**Pn**	**05 52 51.9**	**-0.1**
ASAJ				S	Sn	05 53 43.1	+6.9
ASAJ				pmax	pmax		
	comp=Z,13nm,0.3s						
ASAJ				smax	smax		
	comp=N,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,665nm,19.4s						
ASAJ	**Asahikawa**	**3.87**	**275**	P	**Pn**	**05 52 51.9**	**-0.1**
	comp=Z,13nm,0.3s,baz=70,slow=13,SNR=32						
ASAJ				S	Sn	05 53 43.1	+6.9
	comp=Z,2.6nm,0.3s,baz=131,slow=20,SNR=1.6						
ASAJ				LR	LR	05 54 31.3	
	comp=Z,665nm,19.4s,baz=147,slow=41						
JSE	**Soyaes**	**3.99**	**287**	P	**Pn**	**05 52 53.2**	**-0.4**
JEM	**Erimo**	**4.00**	**243**	P	**Pn**	**05 52 54.4**	**+0.7**
ERM	**Erimo**	**4.00**	**243**	*d i* PN	**Pn**	**05 52 54.4**	**+0.7**
ERM	**Erimo**	**4.00**	**243**	*e*P	**Pn**	**05 52 54.4**	**+0.7**
ERM	**Erimo**	**4.00**	**243**	*e*Pn	**Pn**	**05 52 54.6**	**+0.8**
JNBK	**Urakawa-nobuka**	**4.14**	**249**	P	**Pn**	**05 52 54.0**	**-1.7**
JWK2	**Keihoku**	**4.55**	**290**	P	**Pn**	**05 53 02.4**	**+1.1**
YSS	**Yuzh-Sakhalins**	**4.76**	**312**	⇑*i* PN	**Pn**	**05 53 04.0**	**-0.1**
YSS				*e*S	**Sn**	**05 53 56.0**	**-2.0**
YSS				pmax	pmax		
	comp=Z,30nm,0.4s						
YSS				smax	smax		
	comp=N,60nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.76**	**312**	*e*P	**Pn**	**05 53 04.0**	**-0.1**
YSS				*e*S	**Sn**	**05 53 56.0**	**-2.0**
YSS	**Yuzh-Sakhalins**	**4.76**	**312**	*e*Pn	**Pn**	**05 53 04.1**	**-0.1**
JKB	**Kayabe**	**5.47**	**251**	⇑P	**Pn**	**05 53 13.1**	**-0.8**
UGL	**Uglegorsk**	**6.57**	**324**	*e*PN	Pn	05 53 45.0	+16
SKR	**Severo-Kuril's**	**8.75**	**36**	*e*PN	**Pn**	**05 53 58.0**	**-0.8**
JAG	**Ashikaga**	**9.90**	**224**	P	**Pn**	**05 54 12.0**	**-2.7**
HABR	**Khabarovsk**	**10.04**	**302**	*e*PN	**Pn**	**05 54 15.1**	**-1.4**
HABR				pmax	pmax		
	comp=Z,33nm,2.0s						
HABR				MLR	MLR		
	comp=Z,226nm,14.0s						
MJAR	**Matsushiro Arr**	**10.47**	**229**	PN	**Pn**	**05 54 20.6**	**-1.8**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,63nm,20.8s						
MJAR	**Matsushiro Arr**	**10.47**	**229**	P	**Pn**	**05 54 20.6**	**-1.8**
	comp=Z,1.3nm,0.3s,baz=26,slow=14,SNR=5.2						
MJAR				LR	LR	05 58 36.7	
	comp=Z,63nm,20.8s,baz=80,slow=39						
MAJO	**Matsushiro**	**10.47**	**229**	*e*PN	**Pn**	**05 54 22.1**	**-0.3**
MAJO	**Matsushiro**	**10.47**	**229**	*e*P	**Pn**	**05 54 22.1**	**-0.3**
JRY	**Ryogami san**	**10.50**	**224**	P	**Pn**	**05 54 24.8**	**+1.9**
PETK	**Petropavlovsk-**	**11.23**	**32**	PN	**Pn**	**05 54 31.7**	**-1.1**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,15nm,28.6s						
PETK	**Petropavlovsk-**	**11.23**	**32**	P	**Pn**	**05 54 31.7**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=199,slow=14,SNR=6.6						
PETK				LR	LR	05 59 21.5	
	comp=Z,47nm,19.7s,baz=214,slow=40						
USRK	**Ussuriysk Ar.**	**11.50**	**277**	P	**Pn**	**05 54 36.3**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=87,slow=16,SNR=7.5						
USRK				LR	LR	05 59 23.7	
	comp=Z,178nm,18.1s,baz=97,slow=39						
KLR	**Kul'dur**	**12.35**	**301**	*e*PN	**Pn**	**05 54 47.8**	**-0.2**
KLR				MLR	MLR		
	comp=Z,1μm,12.0s						
MDJ	**Mudanjiang**	**13.18**	**279**	P	**Pn**	**05 54 59.5**	**+0.1**
MDJ				PMZ			
	comp=Z,14nm,0.9s						
MDJ				PMZ			
	comp=Z,140nm,4.4s						
KSRS	**Korea Array**	**16.49**	**254**	LR	LR	06 02 25.0	
	comp=Z,93nm,18.7s,baz=60,slow=38						
JNU	**Nakatsue**	**17.13**	**237**	P	**P**	**05 55 53.1**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=51,slow=8.7,SNR=5.9						
JNU				LR	LR	06 02 46.0	
	comp=Z,80nm,19.3s,baz=18,slow=38						
JNU	**Nakatsue**	**17.13**	**237**	*e*P	**P**	**05 55 53.4**	**+1.6**
	comp=Z,4.5nm,0.5s						
SEY	**Seymchan**	**19.23**	**6**	P	**P**	**05 56 13.6**	**-1.0**
	baz=186,slow=18,SNR=3.3						
SEY	**Seymchan**	**19.23**	**6**	*e*P	**P**	**05 56 14.1**	**-0.5**
BJI	**Beijing**	**23.86**	**272**	P	**P**	**05 57 04.4**	**+0.9**
BJI				S	**S**	**06 01 15.3**	**-0.5**
BJI				PMZ			
	comp=Z,18nm,0.8s						
BJI				LZ			
	comp=Z,80nm,19.1s						
NJ2	**Nanjing**	**25.68**	**252**	*e*P	P	05 57 26.0	+5.9
NJ2				PMZ			
	comp=Z,30nm,0.5s						
BILL	**Bilibino**	**26.05**	**16**	*e*P	**P**	**05 57 22.1**	**-1.0**
BILL				*e*		06 00 54.8	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.6s						
HHC	**Hu-ho-hao-te**	**26.92**	**276**	*e*P	**P**	**05 57 30.5**	**-0.9**
HHC				pP	**pP**	**05 57 45.1**	**+0.6**
HHC				sP	**sP**	**05 57 52.0**	**+1.4**
HHC				PP	**PnPn**	**05 58 16.8**	**+1.4**
HHC				S	**S**	**06 02 00.5**	**-4.2**
HHC				sS	**sS**	**06 02 24.8**	**-2.1**
HHC				ScS	**ScS**	**06 08 16.4**	**-2.5**
HHC				PMZ			
	comp=Z,14nm,0.5s						
HHC				PMZ			
	comp=Z,110nm,6.0s						
HHC				LN			
	comp=Z,230nm,14.7s						
HHC				LE			
	comp=Z,340nm,12.9s						
HHC				LZ			
	comp=Z,180nm,14.8s						
ULN	**Ulaanbaatar**	**28.50**	**292**	*e*P	**P**	**05 57 45.5**	**-0.1**
ULN				pmax	pmax		
	comp=Z,32nm,2.5s						
ULN	**Ulaanbaatar**	**28.50**	**292**	*e*P	**P**	**05 57 45.4**	**-0.1**
ULN	**Ulaanbaatar**	**28.50**	**292**	*e*P	**P**	**05 57 45.5**	**-0.1**
	comp=Z,32nm,2.5s						
H11N2	**WAKE ISLAND Hy**	**28.85**	**141**	T	T	06 28 33.7	
	baz=331,slow=76,SNR=354						
H11N1	**WAKE ISLAND Hy**	**28.86**	**141**	T	T	06 28 36.5	
	baz=331,slow=76,SNR=518						
H11N3	**WAKE ISLAND Hy**	**28.87**	**141**	T	T	06 28 36.9	
	baz=331,slow=76,SNR=366						
SONM	**Songino Array**	**28.95**	**293**	P	**P**	**05 57 48.2**	**-1.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,15nm,28.6s						
SONM	**Songino Array**	**28.95**	**293**	P	**P**	**05 57 48.2**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=89,slow=8.2,SNR=13						
SONM				LR	LR	06 10 17.0	
	comp=Z,77nm,19.8s,baz=134,slow=38						
TIK	**Tiksi**	**29.31**	**348**	*e*P	**P**	**05 57 52.5**	**+0.3**
TIXI	**Tiksi**	**29.32**	**348**	*e*P	**P**	**05 57 52.5**	**+0.2**
H11S1	**WAKE ISLAND Hy**	**29.83**	**142**	T	T	06 29 41.7	
	baz=332,slow=76,SNR=1259						
H11S3	**WAKE ISLAND Hy**	**29.84**	**142**	T	T	06 29 41.8	
	baz=332,slow=76,SNR=1042						
H11S2	**WAKE ISLAND Hy**	**29.85**	**142**	T	T	06 29 40.3	
	baz=332,slow=76,SNR=470						
TLY	**Talaya**	**30.37**	**301**	LR	LR	06 11 22.0	
	comp=Z,85nm,19.3s,baz=70,slow=38						
TNA	**Tin City**	**32.40**	**33**	*e*P	**P**	**05 58 21.2**	**+1.7**
TNA	**Tin City**	**32.40**	**33**	*e*P	**P**	**05 58 20.3**	**+0.8**
	comp=Z,2.2nm,0.8s						
LZH	**Lanzhou**	**34.35**	**272**	*e*P	**P**	**05 58 37.7**	**+0.7**
LZH				pP	**pP**	**05 58 51.5**	**+1.2**
LZH				sP	**sP**	**05 58 59.6**	**+3.2**
LZH				PMZ			
	comp=Z,40nm,1.0s						
LZH				PMZ			
	comp=Z,170nm,4.8s						
GTA	**Gaotai**	**35.84**	**280**	*e*P	**P**	**05 58 49.7**	**-0.1**
GTA				PMZ			
	comp=Z,5.0nm,1.1s						
CD2	**Chengdu**	**37.00**	**265**	*e*P	**P**	**05 58 58.5**	**-1.1**
CD2				pP	**pP**	**05 59 14.4**	**+1.4**
CD2				PP	**PP**	**06 00 24.6**	**0.0**
CD2				S	**S**	**06 04 36.7**	**-4.8**
CD2				PMZ			
	comp=Z,20nm,0.8s						
CD2				PMZ			
	comp=Z,70nm,6.0s						
GYA	**Guiyang**	**37.52**	**256**	*e*P	**P**	**05 59 06.2**	**+2.0**
GYA				pP	**pP**	**05 59 20.8**	**+3.2**
GYA				PP	**PnPn**	**06 00 34.5**	**+2.7**
GYA				S	**S**	**06 04 49.0**	**-0.7**
GYA				ScP	**ScP**	**06 05 04.4**	**+0.1**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				PMZ			
	comp=Z,80nm,5.4s						
GYA				LN			
	comp=Z,480nm,16.8s						
GYA				LE			
	comp=Z,360nm,17.6s						
GYA				LZ			
	comp=Z,410nm,16.4s						
IM04	**Indian Mountai**	**38.17**	**34**	*e*P	**P**	**05 59 09.9**	**+0.9**
COLD	**Coldfoot**	**39.70**	**32**	*e*P	**P**	**05 59 22.6**	**+0.8**
	comp=Z,4.8nm,1.0s						
QIZ	**Qiongzhong**	**40.36**	**244**	P	**P**	**05 59 29.7**	**+1.9**
QIZ				S	**S**	**06 05 33.9**	**+1.7**
COLA	**College**	**40.60**	**36**	*e*P	**P**	**05 59 31.0**	**+1.7**
COLA				pmax	pmax		
	comp=Z,100nm,2.9s						
COLA	**College**	**40.60**	**36**	*e*P	**P**	**05 59 30.9**	**+1.7**
	comp=Z,100nm,2.9s						
ILAR	**Eielson Array**	**41.01**	**36**	P	**P**	**05 59 33.1**	**+0.4**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	**Eielson Array**	**41.01**	**36**	P	**P**	**05 59 33.0**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=270,slow=8.9,SNR=24						
KMI	**Kunming**	**41.12**	**258**	P	**P**	**05 59 35.3**	**+1.0**
KMI				PMZ			
	comp=Z,12nm,0.5s						
ZALV	**Zalesovo Beam**	**41.37**	**307**	PcP	**PcP**	**06 01 32.5**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=85,slow=3.6,SNR=5.9						
WMQ	**Urumqi**	**42.58**	**292**	P	**P**	**05 59 46.7**	**+0.9**
WMQ				pP	**pP**	**06 00 02.2**	**+2.8**
WMQ				PP	**PP**	**06 01 28.0**	**+2.9**
WMQ				S	S	06 05 57.6	-7.1
WMQ				sS	**sS**	**06 06 29.8**	**+2.2**
WMQ				PMZ			
	comp=Z,6.0nm,1.1s						
WMQ				PMZ			
	comp=Z,110nm,5.6s						
WMQ				LE			
	comp=Z,130nm,19.0s						
WMQ				LZ			
	comp=Z,63nm,20.0s						
MKAR	**Makanchi Array**	**45.02**	**298**	P	**P**	**06 00 05.0**	**-0.4**
MKAR						06 01 45.2	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,99nm,18.1s						
MKAR	**Makanchi Array**	**45.02**	**298**	P	**P**	**06 00 05.0**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=77,slow=8.9,SNR=26						
MKAR				PcP	**PcP**	**06 01 45.2**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=75,slow=4.8,SNR=3.6						
MKAR				LR	LR	06 20 15.9	
	comp=Z,99nm,18.1s,baz=4.5,slow=38						
MKAR	**Makanchi Array**	**45.02**	**298**	*e*P	**P**	**06 00 05.0**	**-0.4**
KURK	**Kurchatov**	**45.92**	**304**	*e*P	**P**	**06 00 11.8**	**-0.6**
KURK						06 01 48.3	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**45.92**	**304**	*e*P	**P**	**06 00 11.8**	**-0.6**
	comp=Z,1.2nm,0.5s						
KURK				PcP	**PcP**	**06 01 48.3**	**-0.2**
INK	**Inuvik**	**45.97**	**30**	P	**P**	**06 00 13.1**	**+0.6**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**45.97**	**30**	P	**P**	**06 00 13.1**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=300,slow=9.1,SNR=25						
KURBB	**Kurchatov Arra**	**46.01**	**304**	P	**P**	**06 00 12.6**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=74,slow=9.0,SNR=4.9						
KURBB				PcP	**PcP**	**06 01 48.3**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=67,slow=3.7,SNR=6.4						
CHTO	**Chiang Mai**	**47.89**	**255**	*e*P	**P**	**06 00 28.6**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CHTO	**Chiang Mai**	**47.89**	**255**	*e*P	**P**	**06 00 28.6**	**+0.5**
	comp=Z,5.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**48.13**	**254**	P	**P**	**06 00 30.4**	**+0.4**
CMAR				*PP	**pP**	**06 00 41.0**	**-2.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,34nm,20.0s						
CMAR	**Chiang Mai Arr**	**48.13**	**254**	P	**P**	**06 00 30.4**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=43,slow=7.6,SNR=11						
CMAR				pP	**pP**	**06 00 41.0**	**-2.8**
	comp=Z,1.4nm,0.7s,baz=39,slow=7.4,SNR=2.5						
CMAR				LR	LR	06 21 26.2	
	comp=Z,34nm,20.0s,baz=128,slow=37						
CMAR	**Chiang Mai Arr**	**48.13**	**254**	*e*P	**P**	**06 00 31.0**	**+1.0**
BVAR	**Borovoye Array**	**49.85**	**309**	P	**P**	**06 00 42.7**	**0.0**
BVAR						06 02 02.8	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**49.85**	**309**	P	**P**	**06 00 42.7**	**0.0**
	comp=Z,1.1nm,0.5s,baz=81,slow=11,SNR=6.5						
BVAR		

ARU S **S** **06 08 54.3 +0.5**
ARU SS **SS** **06 12 32.3 -4.1**
ARU pmax pmax
comp=Z,13nm,2.5s
ARU Arti 54.63 317 *eP* **P** **06 01 17.7 -0.3**
ARU Arti 54.63 317 *eP* **P** **06 01 17.8 -0.3**
comp=Z,5.0nm,0.2s
RES Resolute Bay 54.65 17 P **P** **06 01 17.0 -0.9**
RES pmax pmax
comp=Z,2.0nm,0.4s
RES Resolute Bay 54.65 17 P **P** **06 01 16.9 -0.9**
comp=Z,1.6nm,0.4s,baz=334,slow=5.6,SNR=23
RES Resolute Bay 54.65 17 *eP* **P** **06 01 17.0 -0.9**
comp=Z,3.8nm,0.9s
YKA Yellowknife Ar 55.34 34 P **P** **06 01 23.5 +0.4**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 55.34 34 P **P** **06 01 23.5 +0.4**
comp=Z,0.5nm,0.6s,baz=299,slow=6.8,SNR=12
ABKAR Akbulak array 57.42 309 *eP* **P** **06 01 38.0 0.0**
comp=Z,7.0nm,0.6s
AKTO Aktyubinsk 57.87 311 P **P** **06 01 40.7 -0.6**
AKTO pmax pmax
comp=Z,1.0nm,0.4s
AKTO Aktyubinsk 57.87 311 P **P** **06 01 40.6 -0.6**
comp=Z,1.0nm,0.4s,baz=74,slow=10,SNR=7.5
ARCES ARCESS Array B 59.30 340 P **P** **06 01 49.1 -1.8**
ARCES pmax pmax
comp=Z,2.0nm,1.0s
ARCES ARCESS Array B 59.30 340 P **P** **06 01 49.1 -1.8**
comp=Z,2.5nm,0.8s,baz=166,slow=34,SNR=3.9
KBL Kabul 59.68 290 *eP* **P** **06 01 53.7 -0.7**
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 59.68 290 *eP* **P** **06 01 53.7 -0.7**
comp=Z,4.9nm,0.6s
JOF Joensuu 62.22 332 *eP* **P** **06 02 09.1 -1.7**
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 62.22 332 *ep* **P** **06 02 09.1 -1.7**
comp=Z,1.6nm,0.5s
E09A Wood Farm, Sta 62.23 51 *eP* **P** **06 02 10.9 -0.3**
comp=Z,105nm,2.6s
KAF Kangasniemi 64.43 334 *eP* **P** **06 02 23.8 -1.6**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 64.43 334 *ep* **P** **06 02 23.8 -1.6**
comp=Z,1.5nm,0.5s
WRAB Tennant Creek 64.74 194 *eP* **P** **06 02 28.3 +0.4**
WRAB pmax pmax
comp=Z,3.0nm,1.0s
WRAB Tennant Creek 64.74 194 *eP* **P** **06 02 28.3 +0.4**
comp=Z,3.4nm,1.0s
WB2 Warramunga Arr 64.75 194 *eP* **P** **06 02 28.4 +0.3**
WRA Warramunga Arr 64.75 194 *i* P **P** **06 02 29.0 +1.0**
WRA Warramunga Arr 64.75 194 P **P** **06 02 26.8 -1.2**
comp=Z,1.0nm,0.7s,baz=12,slow=6.7,SNR=5.3
WRA Warramunga Arr 64.75 194 *eP* **P** **06 02 29.0 +1.0**
GEYT Alibeck 64.87 299 P **P** **06 02 28.5 -0.3**
comp=Z,2.0nm,0.5s,baz=46,slow=4.3,SNR=4.7
FINES FINESS Array B 65.00 333 P **P** **06 02 28.1 -1.1**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 65.00 333 P **P** **06 02 28.1 -1.1**
comp=Z,3.0nm,0.5s,baz=44,slow=6.7,SNR=29
FINES FINESS Array B 65.00 333 *eP* **P** **06 02 28.0 -1.1**
OBN Obninsk 65.53 324 *eP* **P** **06 02 32.7 0.0**
OBN *e* 06 03 03.7
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,39nm,17.0s
FCC Fort Churchill 65.59 30 *eP* **P** **06 02 32.9 -0.1**
FCC Fort Churchill 65.59 30 *eP* **P** **06 02 33.2 +0.2**
FCC Fort Churchill 65.59 30 *eP* **P** **06 02 32.9 -0.1**
comp=Z,0.1nm,0.5s
NVAR Mina Array Bea 67.00 58 P **P** **06 02 43.2 +0.5**
comp=Z,0.6nm,0.5s,baz=297,slow=7.1,SNR=7.6
NVAR pP **pP** **06 02 55.9 -1.2**
comp=Z,1.1nm,0.6s,baz=295,slow=6.5,SNR=7.3
ASAR Alice Springs 68.47 194 P **P** **06 02 51.8 +0.1**
ASAR *PP **pP** **06 03 03.1 -3.1**
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 68.47 194 P **P** **06 02 51.8 +0.1**
comp=Z,0.4nm,0.6s,baz=5.1,slow=5.6,SNR=4.8
ASAR pP **pP** **06 03 03.0 -3.1**
comp=Z,0.5nm,0.8s,baz=209,slow=27,SNR=2.8
FRB Frobisher Bay 68.86 16 P **P** **06 02 52.8 -0.8**
FRB pmax pmax
comp=Z,3.0nm,0.8s
FRB Frobisher Bay 68.86 16 P **P** **06 02 52.8 -0.8**
comp=Z,3.3nm,0.8s,baz=329,slow=7.0,SNR=22
PDAR Pinedale Array 69.36 50 P **P** **06 02 57.1 -0.4**
comp=Z,0.4nm,0.7s,baz=169,slow=0.6,SNR=4.2
NB2 NORSAR Subarra 69.66 339 P **P** **06 02 57.8 -0.9**
comp=Z,1.0nm,0.4s,baz=30,slow=6.5
NOA NORSAR Array B 69.66 339 P **P** **06 02 58.3 -0.4**
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 69.66 339 P **P** **06 02 58.3 -0.4**
comp=Z,0.9nm,0.4s,baz=33,slow=6.6,SNR=13
KIV Kislovodsk 70.09 312 *eP* **P** **06 03 01.0 -0.7**
KIV pmax pmax
comp=Z,24nm,0.7s
KIV Kislovodsk 70.09 312 *eP* **P** **06 03 01.0 -0.7**
comp=Z,24nm,0.7s
KBZ Khabaz 70.13 312 P **P** **06 03 02.9 +1.1**
KBZ pmax pmax
comp=Z,12nm,0.8s
KBZ Khabaz 70.13 312 P **P** **06 03 02.9 +1.1**
comp=Z,12nm,0.8s,baz=74,slow=4.7,SNR=19
ZEI Tsey 70.21 311 *eP* **P** **06 03 01.9 -0.7**
ZEI pmax pmax
comp=Z,13nm,0.8s
AKASG Malin Array Be 71.79 324 P **P** **06 03 11.3 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 71.79 324 P **P** **06 03 11.2 -0.5**
comp=Z,3.8nm,0.5s,baz=38,slow=6.1,SNR=12
KIEV Kiev 71.81 324 *eP* **P** **06 03 11.2 -0.6**
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 71.81 324 *eP* **P** **06 03 11.2 -0.6**
comp=Z,7.5nm,1.0s
KWP Kalwaria Pacla 75.29 327 *eP* **P** **06 03 33.0 +0.6**
KWP Kalwaria Pacla 75.29 327 *eP* **P** **06 03 33.0 +0.6**
KWP Kalwaria Pacla 75.29 327 *eP* **P** **06 03 33.0 +0.6**
KOLS Kolonicke sedl 76.02 326 *eP* **P** **06 03 37.2 +0.6**
KOLS pmax pmax
comp=Z,36nm,2.7s
KOLS Kolonicke sedl 76.02 326 *eP* **P** **06 03 37.2 +0.6**
STHS Stebnicka Huta 76.04 327 *eP* **P** **06 03 37.9 +1.2**
STHS pmax pmax
comp=Z,8.0nm,1.5s
STHS Stebnicka Huta 76.04 327 *eP* **P** **06 03 37.9 +1.2**
UPC Upice 77.09 331 *eP* **P** **06 03 40.1 -2.5**
UPC Upice 77.09 331 *eP* **P** **06 03 40.1 -2.5**
DPC Dobruska-Polom 77.11 331 *eP* **P** **06 03 43.6 +0.9**
DPC Dobruska-Polom 77.11 331 *eP* **P** **06 03 43.6 +0.9**
DPC Dobruska-Polom 77.11 331 *eP* **P** **06 03 43.7 +0.9**
MORC Moravsky Berou 77.15 330 *eP* **P** **06 03 43.1 +0.2**
MORC pmax pmax
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 77.15 330 *eP* **P** **06 03 43.1 +0.2**
comp=Z,7.3nm,0.9s
SCHQ Schefferville 77.28 20 P **P** **06 03 43.5 0.0**
comp=Z,2.3nm,0.9s,baz=8.8,slow=5.4,SNR=5.1
CLL Collm 77.44 333 *i* P **P** **06 03 43.4 -1.1**
CLL pmax pmax
comp=Z,12nm,0.9s
CLL pmax pmax
comp=Z,15nm,1.5s
CLL MLR MLR
comp=Z,200nm,20.2s
CLL Collm 77.44 333 *i* P **P** **06 03 43.4 -1.1**
comp=Z,12nm,0.9s
CLL *es*P **sP** **06 04 05.0 +0.1**
CLL Collm 77.44 333 *eP* **P** **06 03 44.4 -0.1**
comp=Z,12nm,0.8s
BRG Berggiesshubel 77.50 332 *eP* **P** **06 03 44.7 -0.1**
comp=Z,2.3nm,0.7s
BRG Berggiesshubel 77.50 332 *eP* **P** **06 03 44.7 -0.1**
BRG pmax pmax
comp=Z,2.0nm,0.7s
PVCC Panska Ves 77.57 332 *eP* **P** **06 03 45.7 +0.4**
PVCC Panska Ves 77.57 332 *eP* **P** **06 03 45.7 +0.4**
VYHS Vyhne 77.72 328 *eP* **P** **06 03 46.4 +0.3**
VYHS pmax pmax
comp=Z,2.0nm,1.1s
VYHS Vyhne 77.72 328 *eP* **P** **06 03 46.4 +0.3**
BRTR Keskin Array B 77.85 314 *ceP* **P** **06 03 49.0 +1.8**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 77.85 314 P **P** **06 03 46.5 -0.7**
comp=Z,1.6nm,0.9s,baz=46,slow=5.3,SNR=3.9
PRU Pruhonice 78.04 331 *eP* **P** **06 03 48.4 +0.5**
PRU Pruhonice 78.04 331 *eP* **P** **06 03 48.4 +0.5**
KHC Kasperske Hory 79.10 331 *eP* **P** **06 03 53.8 0.0**
KHC pmax pmax
comp=Z,8.0nm,0.9s
KHC Kasperske Hory 79.10 331 *eP* **P** **06 03 54.1 +0.3**
KHC Kasperske Hory 79.10 331 *eP* **P** **06 03 53.8 0.0**
comp=Z,8.0nm,0.9s
GERES GERESS Array B 79.30 331 P **P** **06 03 54.4 -0.6**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 79.30 331 P **P** **06 03 54.4 -0.6**
comp=Z,0.8nm,0.5s,baz=45,slow=5.1,SNR=7.4
CDF Champ du Feu 81.79 335 *eP* **P** **06 04 08.0 -0.3**
comp=Z,4.8nm,0.7s
CDF Champ du Feu 81.79 335 *eP* **P** **06 04 08.0 -0.3**
CDF pmax pmax
comp=Z,5.0nm,0.7s
CDF Champ du Feu 81.79 335 *eP* **P** **06 04 08.0 -0.3**
comp=Z,4.8nm,0.7s
TXAR Lajitas Array 82.08 57 P **P** **06 04 10.8 +0.7**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 82.08 57 P **P** **06 04 10.8 +0.7**
comp=Z,0.7nm,0.5s,baz=293,slow=3.5,SNR=15
PAGF Fort de Pagny 82.13 336 *eP* **P** **06 04 09.9 0.0**
comp=Z,2.4nm,0.8s
PAGF Fort de Pagny 82.13 336 *eP* **P** **06 04 09.9 0.0**
comp=Z,2.4nm,0.8s
HAU Haudompre 82.43 335 *eP* **P** **06 04 11.7 +0.1**
HAU Haudompre 82.43 335 *eP* **P** **06 04 11.7 +0.1**
HAU Haudompre 82.43 335 *eP* **P** **06 04 11.7 +0.1**
RAYN Ar Rayn 82.46 295 *eP* **P** **06 04 12.6 +0.5**
comp=Z,1.4nm,0.4s
SFTF Sexfontaines 82.64 336 *eP* **P** **06 04 12.3 -0.3**
SFTF Sexfontaines 82.64 336 *eP* **P** **06 04 12.3 -0.3**
FLN La Foliniere 83.64 340 *eP* **P** **06 04 17.4 -0.4**
FLN La Foliniere 83.64 340 *eP* **P** **06 04 17.4 -0.4**
FLN La Foliniere 83.64 340 *eP* **P** **06 04 17.4 -0.4**
LDF La Druitiere 83.71 339 *eP* **P** **06 04 18.0 -0.1**
comp=Z,24nm,1.2s
LDF La Druitiere 83.71 339 *eP* **P** **06 04 18.0 -0.1**
LDF pmax pmax
comp=Z,24nm,1.2s
LDF La Druitiere 83.71 339 *eP* **P** **06 04 18.0 -0.1**
comp=Z,24nm,1.2s
LOR Lormes 83.83 336 *eP* **P** **06 04 18.4 -0.4**
comp=Z,11nm,1.0s
LOR Lormes 83.83 336 *eP* **P** **06 04 18.4 -0.4**
LOR pmax pmax
comp=Z,11nm,1.0s
LOR Lormes 83.83 336 *eP* **P** **06 04 18.4 -0.4**
comp=Z,11nm,1.0s
GRR Gorron 84.08 340 *eP* **P** **06 04 20.1 +0.1**
comp=Z,23nm,1.0s
GRR Gorron 84.08 340 *eP* **P** **06 04 20.1 +0.1**
GRR pmax pmax
comp=Z,23nm,1.0s
GRR Gorron 84.08 340 *eP* **P** **06 04 20.1 +0.1**
comp=Z,23nm,1.0s
SSF Saint Saulge 84.12 336 *eP* **P** **06 04 20.1 -0.2**
SSF Saint Saulge 84.12 336 *eP* **P** **06 04 20.1 -0.2**
SSF Saint Saulge 84.12 336 *eP* **P** **06 04 20.1 -0.2**
SMF Signal de Mont 84.40 336 *eP* **P** **06 04 21.6 -0.1**
comp=Z,8.0nm,0.8s
SMF Signal de Mont 84.40 336 *eP* **P** **06 04 21.6 -0.1**
SMF pmax pmax
comp=Z,8.0nm,0.8s
SMF Signal de Mont 84.40 336 *eP* **P** **06 04 21.6 -0.1**
comp=Z,8.0nm,0.8s
AVF Avril sur Loir 84.42 336 *eP* **P** **06 04 21.8 +0.1**
comp=Z,4.3nm,0.7s
AVF Avril sur Loir 84.42 336 *eP* **P** **06 04 21.8 +0.1**
AVF pmax pmax
comp=Z,4.0nm,0.7s
AVF Avril sur Loir 84.42 336 *eP* **P** **06 04 21.8 +0.1**
comp=Z,4.3nm,0.7s
LPL La Plagne 84.53 334 *eP* **P** **06 04 22.7 +0.1**
LPL La Plagne 84.53 334 *eP* **P** **06 04 22.7 +0.1**
LPL La Plagne 84.53 334 *eP* **P** **06 04 22.7 +0.1**
LPG La Plagne 84.54 334 *eP* **P** **06 04 22.4 -0.4**
comp=Z,6.5nm,0.8s
LPG La Plagne 84.54 334 *eP* **P** **06 04 22.4 -0.4**
LPG pmax pmax
comp=Z,7.0nm,0.8s
LPG La Plagne 84.54 334 *eP* **P** **06 04 22.4 -0.4**
comp=Z,6.5nm,0.8s
SGMF Saint Gilles 84.63 341 *eP* **P** **06 04 22.9 +0.1**
comp=Z,21nm,0.9s
SGMF Saint Gilles 84.63 341 *eP* **P** **06 04 22.9 +0.1**
SGMF pmax pmax
comp=Z,21nm,0.9s
SGMF Saint Gilles 84.63 341 *eP* **P** **06 04 22.9 +0.1**
comp=Z,21nm,0.9s
ROSF Rostrenen 84.72 341 *eP* **P** **06 04 23.6 +0.4**
ROSF Rostrenen 84.72 341 *eP* **P** **06 04 23.6 +0.4**
ROSF Rostrenen 84.72 341 *eP* **P** **06 04 23.6 +0.4**
QUIF Quistinic 85.09 341 *eP* **P** **06 04 24.3 -0.8**
comp=Z,18nm,1.0s
QUIF Quistinic 85.09 341 *eP* **P** **06 04 24.3 -0.8**
QUIF pmax pmax
comp=Z,18nm,1.0s
QUIF Quistinic 85.09 341 *eP* **P** **06 04 24.3 -0.8**
comp=Z,18nm,1.0s
ORIF Oris-en-Rattie 85.34 334 *eP* **P** **06 04 26.2 -0.3**
ORIF Oris-en-Rattie 85.34 334 *eP* **P** **06 04 26.2 -0.3**
ORIF Oris-en-Rattie 85.34 334 *eP* **P** **06 04 26.2 -0.3**
MFF Saint Martin d 85.56 339 *eP* **P** **06 04 27.2 -0.2**
MFF Saint Martin d 85.56 339 *eP* **P** **06 04 27.2 -0.2**
MFF Saint Martin d 85.56 339 *eP* **P** **06 04 27.2 -0.2**
RJF Les Rejaudoux 86.30 337 *eP* **P** **06 04 31.4 +0.2**
RJF Les Rejaudoux 86.30 337 *eP* **P** **06 04 31.4 +0.2**
RJF Les Rejaudoux 86.30 337 *eP* **P** **06 04 31.4 +0.2**
CAF Calviac 86.48 336 *eP* **P** **06 04 32.9 +0.8**
comp=Z,8.3nm,0.8s
CAF Calviac 86.48 336 *eP* **P** **06 04 32.9 +0.8**
CAF pmax pmax
comp=Z,8.0nm,0.8s
CAF Calviac 86.48 336 *eP* **P** **06 04 32.9 +0.8**
comp=Z,8.3nm,0.8s
LFF La Frestale 86.85 337 *eP* **P** **06 04 34.1 +0.3**
LFF La Frestale 86.85 337 *eP* **P** **06 04 34.1 +0.3**
LFF La Frestale 86.85 337 *eP* **P** **06 04 34.1 +0.3**
TORD Torodi Ar. Bea 115.42 323 PKP **PKPdf** **06 10 30.1 -1.4**
comp=Z,0.2nm,0.7s,baz=1.9,slow=1.6,SNR=4.4

ISCJB ***12*** *05:53:32.0±1.7, 34°.72S±0°.04×72°.20W±0°.06, h13km±12km, mb4.1/6, MS3.0/1, Error ellipse: s-maj=9.0km s-min=7.1km az=10.9*
IDC ***12*** *05:53:32.8±1.5, 34°.77S×72°.35W, h0km, mb4.0/4, mb1 4.1/7, mb1mx3.9/19, mbtmp4.0/7, ML3.5/2, MS2.7/3, Ms1 2.7/3, ms1mx2.6/26, Error ellipse: s-maj=53.6km s-min=19.6km az=110.0*
NEIC ***12*** *05:53:34.0, 34°.68S×72°.09W, h20km, mb4.5/4, ML4.5(GUC), After GUC.*
NEIC Felt [IV] at Paredones; [III] at Pichilemu, San Fernando and Talca; [II] at Curico, Navidad, Parral, Rancagua and Santiago.
GUC ***12*** *05:53:34.0±0.9, 34°.68S×72°.09W, h20km±17km, ML4.5*
ISC 12 05:53:32.9±2.3, 34°.67S±0°.06×72°.11W±0°.08, h5km±14km, n37, σ0°99/51, mb4.2/6, 10C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.80**	**115**	⇑*iP*	**Pg**	**05 53 48.4**	**+0.2**
NICH				*i* S1	**Sg**	**05 53 58.7**	**+0.2**
NICH				AML	AML	05 54 04.1	
	comp=E,36μm,0.3s						
NICH	**Los Niches**	**0.80**	**115**	⇑*iP*	**Pg**	**05 53 48.4**	**+0.2**
NICH				*i* S	**Sg**	**05 53 58.7**	**+0.2**
RCDM	**Rinconada Maip**	**1.60**	**43**	⇑*iP*	**Pn**	**05 54 01.5**	**-0.4**
RCDM				AML	AML	05 54 25.2	
	comp=E,9μm,0.3s						
RCDM	**Rinconada Maip**	**1.60**	**43**	⇑*iP*	**Pn**	**05 54 01.5**	**-0.4**
ANTU	**Antumapu**	**1.64**	**49**	*eP*1	**Pn**	**05 54 02.4**	**-0.2**
ANTU				*i* S1	**Sn**	**05 54 23.3**	**-0.7**
ANTU				AML	AML	05 54 27.4	
	comp=N,12μm,0.3s						
ANTU	**Antumapu**	**1.64**	**49**	*eP*	**Pn**	**05 54 02.4**	**-0.2**
ANTU				*i* S	**Sn**	**05 54 23.3**	**-0.7**
IHA	**Instituto Hidr**	**1.68**	**14**	⇓*iP*	**Pn**	**05 54 02.3**	**-0.7**
IHA	**Instituto Hidr**	**1.68**	**14**	⇓*iP*	**Pn**	**05 54 02.3**	**-0.7**
STL	**Santa Lucia**	**1.73**	**45**	*i* P1	**Pn**	**05 54 03.1**	**-0.6**
STL				*i* S1	**Sn**	**05 54 25.2**	**-1.0**
FSR	**Penalolen**	**1.77**	**48**	⇓*iP*	**Pn**	**05 54 05.1**	**+0.8**
FSR				*e*S1	**Sb**	**05 54 28.4**	**0.0**
FSR	**Penalolen**	**1.77**	**48**	⇓*iP*	**Pn**	**05 54 05.1**	**+0.8**
FSR				*e*S	**Sb**	**05 54 28.4**	**0.0**
SJCH	**San Jose de Ma**	**1.78**	**55**	⇑*iP*	**Pn**	**05 54 03.7**	**-0.7**
SJCH				*i* S1	**Sn**	**05 54 26.7**	**-0.9**
SJCH	**San Jose de Ma**	**1.78**	**55**	⇑*iP*	**Pn**	**05 54 03.7**	**-0.7**
SJCH				*i* S	**Sn**	**05 54 26.7**	**-0.9**
LACH	**Col Las Americ**	**1.79**	**48**	*eP*1	**Pn**	**05 54 04.0**	**-0.5**
LACH				*i* S1	**Sb**	**05 54 27.6**	**-1.2**
LACH				AML	AML	05 54 33.7	
	comp=N,4μm,0.4s						
LACH	**Col Las Americ**	**1.79**	**48**	*eP*	**Pn**	**05 54 04.0**	**-0.5**
LACH				*i* S	**Sb**	**05 54 27.6**	**-1.2**
PEL	**Peldehue**	**1.93**	**38**	⇑*iP*	**Pn**	**05 54 06.6**	**+0.2**
PEL				*e*S1	**Sn**	**05 54 30.7**	**-0.4**
PEL				AML	AML	05 54 35.9	
	comp=E,11μm,0.5s						
PEL	**Peldehue**	**1.93**	**38**	⇑*iP*	**Pn**	**05 54 06.6**	**+0.2**
PEL				*e*S	**Sn**	**05 54 30.7**	**-0.4**
CMCH	**Combarbala**	**3.61**	**15**	⇑*iP*	**Pn**	**05 54 30.2**	**+0.6**
CMCH	**Combarbala**	**3.61**	**15**	⇑*iP*	**Pn**	**05 54 30.2**	**+0.6**
CFAA	**Coronel Fontan**	**4.46**	**48**	Pn	**Pn**	**05 54 43.5**	**+2.3**
	comp=E,0.8nm,0.3s,baz=230,slow=10,SNR=26						
CFAA				Sn	**Sb**	**05 55 42.6**	**-3.2**
	comp=E,2.4nm,0.3s,baz=122,slow=22,SNR=7.0						
CFAA				Lg	Lg	05 55 53.7	
	comp=E,2.3nm,0.3s,baz=130,slow=23,SNR=9.1						
CFAA				LR	LR	05 56 31.8	
	comp=E,22nm,21.0s,baz=234,slow=38						
LCO	**Las Campanas**	**5.77**	**12**	*eP*n	**Pn**	**05 54 58.3**	**-1.1**
	comp=E,31nm,0.3s						
PLCA	**Paso Flores**	**6.18**	**169**	Pn	**Pn**	**05 55 03.9**	**-1.0**
	baz=338,slow=16						
PLCA				Lg	Lg	05 56 40.0	
	baz=59,slow=19						
PLCA				LR	LR	05 57 01.3	
	comp=E,106nm,20.9s,baz=184,slow=34						
PLCA	**Paso Flores**	**6.18**	**169**	*eP*n	**Pn**	**05 55 04.2**	**-0.7**
	comp=E,24nm,0.6s						
PLCA				Lg	Lg	05 56 40.0	
TRQA	**Tornquist**	**8.84**	**115**	*eP*n	**Pn**	**05 55 41.6**	**+0.2**
	comp=E,9.3nm,0.7s						
LVC	**Limon Verde**	**12.33**	**14**	*eP*n	**Pn**	**05 56 28.6**	**-0.8**
LPAZ	**La Paz**	**18.65**	**12**	P	**Pn**	**05 57 53.2**	**+0.7**
	comp=E,0.1nm,0.3s,baz=187,slow=6.8,SNR=14						
LPAZ	**La Paz**	**18.65**	**12**	*eP*	**Pn**	**05 57 53.8**	**+1.3**
	comp=E,12nm,1.0s						
USHA	**Ushuaia**	**20.32**	**174**	P	**P**	**05 58 08.6**	**-1.1**
	comp=E,8.6nm,0.8s,baz=340,slow=11,SNR=4.2						
SIV	**San Ignacio**	**21.07**	**31**	P	**P**	**05 58 17.3**	**-0.9**
	comp=E,2.3nm,0.6s,baz=228,slow=13,SNR=7.0						
SIV				LR	LR	06 06 01.0	
	comp=E,69nm,21.3s,baz=244,slow=35						
BDFB	**Brasilia**	**28.76**	**55**	P	**P**	**05 59 33.9**	**+2.1**
	comp=E,1.9nm,0.7s,baz=243,slow=11,SNR=4.1						
QSPA	**South Pole Qui**	**55.57**	**180**	P	**P**	**06 03 09.7**	**+0.6**
	comp=E,2.7nm,1.1s,baz=302,slow=4.4,SNR=4.1						
QSPA	**South Pole Qui**	**55.57**	**180**	*eP*	**P**	**06 03 09.8**	**+0.6**
	comp=E,6.6nm,1.3s						
WVT	**Waverly**	**71.95**	**347**	*eP*	**P**	**06 04 57.2**	**+0.1**
	comp=E,8.8nm,1.2s						
ECSD	**EROS Data Cent**	**81.17**	**342**	*eP*	**P**	**06 05 48.5**	**-0.7**
	comp=E,8.6nm,1.5s						
TORD	**Torodi Ar. Bea**	**84.49**	**70**	P	**P**	**06 06 09.2**	**+2.0**
	comp=E,0.5nm,0.7s,baz=233,slow=5.3,SNR=6.1						
WRA	**Warramunga Arr**	**120.15**	**209**	PKP	**PKPdf**	**06 12 24.8**	**-0.7**
	comp=E,0.2nm,0.8s,baz=160,slow=1.9,SNR=3.0						
BVAR	**Borovoye Array**	**147.81**	**44**	PKPbc	**PKPab**	**06 13 20.7**	**-0.1**
	comp=E,0.5nm,0.7s,baz=270,slow=2.9,SNR=2.7						

NNC 12 05:54:18.1±3.1, 37°.07N×71°.11E, h0km, mb3.8, mpv3.5, 3C-5D, Error ellipse: s-maj=26.2km s-min=11.9km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.50**	**314**	⇑Pn	Pn	05 55 00.1	-0.1
DZET				⇓Sn	Sn	05 55 32.9	+1.4
KK31	**Karatay Array**	**6.04**	**356**	⇑Pn	Pn	05 55 49.5	+0.8
	1.4nm,0.4s,baz=186,slow=15,SNR=16						
KK31				⇓Sn	Sn	05 56 58.6	0.0
	1.1nm,0.3s,baz=188,slow=24,SNR=6.7						
AAK	**Ala-Archa**	**6.13**	**24**	⇑Pn	Pn	05 55 50.5	+0.4
	6.1nm,1.2s						
AAK				⇓Sn	Sn	05 57 02.8	+1.7
	7.2nm,1.2s						
TKM2	**Tokmak 2**	**6.78**	**29**	⇓Pn	Pn	05 55 58.6	-0.5
	2.4nm,0.6s						
TKM2				⇓Sn	Sn	05 57 18.2	+1.1
	4.4nm,1.2s						
AB31	**Akbulak array**	**14.63**	**330**	Pn	Pn	05 57 41.2	-5.0
	0.4nm,0.3s,baz=141,slow=12,SNR=15						

GUC 12 06:08:44.1±0.5, 37°.61S×73°.32W, h49km±5km, ML4.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.53**	**112**	*i* P1	Pn	06 08 55.8	+0.1
AGCH				*i* S	Sn	06 09 03.7	-0.3
CCSP	**San Pedro de C**	**0.78**	**13**	*i* P	Pn	06 08 58.5	-0.3
CCSP				*i* S1	Sn	06 09 09.6	0.0
CCSP				AML	AML	06 09 11.7	
	comp=E,15μm,0.4s						
COCH	**Cobquecura**	**1.54**	**16**	*i* P	Pn	06 09 09.0	-0.1
COCH				*i* S	Sn	06 09 28.0	+0.2
VLCH	**Valdivia**	**2.19**	**179**	*i* P	Pn	06 09 18.0	-0.1
VLCH				*i* S	Sn	06 09 44.1	+0.1
VLCH				AML	AML	06 09 47.0	
	comp=E,9μm,0.1s						

IDC ***12*** *06:10:31.9±0.5, 34°.50S×71°.80W, h0km, mb4.7/14, mb1 4.8/16, mb1mx4.8/19, mbtmp4.7/16, ML4.0/2, MS3.6/4, Ms1 3.5/4, ms1mx3.3/20, Error ellipse: s-maj=21.2km s-min=13.3km az=86.0*
NEIC ***12*** *06:10:34.4, 34°.49S×71°.82W, h23km, mb5.0/89, ML5.0(GUC), After GUC.*
NEIC Felt [V] at San Fernando; [IV] at Curico, Navidad, Paredones, Pichilemu, San Antonio and Talca; [III] at Rancagua and Santiago; [II] at Valparaiso. Also felt at Buin, Quilpue and Vina del Mar.
ISCJB ***12*** *06:10:34.7±0.9, 34°.48S±0°.03×71°.75W±0°.06, h22km±6km, mb4.9/97, MS3.6/3, Error ellipse: s-maj=7.7km s-min=4.5km az=3.0*
GUC ***12*** *06:10:34.4±0.7, 34°.49S×71°.82W, h23km±7km, ML5.0*
MOS ***12*** *06:10:36.1±1.0, 34°.48S×71°.67W, h33km, mb5.1/25, Error ellipse: s-maj=21.6km s-min=7.4km az=103.7*
BJI ***12*** *06:10:38.1, 34°.40S×71°.60W, h35km, mB4.9/9, Ms5.5/8, Ms7 5.1/10*
ISC 12 06:10:37.3±0.7, 34°.48S±0°.03×71°.60W±0°.07, h31km±4km, n626, σ0°78/648, mb5.0/97, MS3.5/3, 191C-204D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.55**	**17**	⇑*iP*	**Pb**	**06 10 46.1**	**-2.4**
LNV	**Longovilo**	**0.55**	**17**	⇑*iP*	**Pb**	**06 10 46.1**	**-2.4**
NICH	**Los Niches**	**0.60**	**150**	⇓*iP*	**Pb**	**06 10 47.4**	**-2.1**
NICH				*i* S	**Sb**	**06 10 57.3**	**-0.6**
NICH				AML	AML	06 10 57.9	
	comp=N,186μm,0.4s						
NICH	**Los Niches**	**0.60**	**150**	⇓*iP*	**Pb**	**06 10 47.4**	**-2.1**
NICH				*i* S	**Sb**	**06 10 57.3**	**-0.6**
CACH	**El Canelo**	**0.90**	**67**	⇑*iP*	**Pn**	**06 10 53.7**	**-0.2**
CACH	**El Canelo**	**0.90**	**67**	⇑*iP*	**Pn**	**06 10 53.7**	**-0.2**
CHCH	**Chadas Angostu**	**0.95**	**56**	⇓*iP*	**Pn**	**06 10 54.4**	**-0.2**

CHCH **Chadas Angostu** 0.95 56⇓*i*P Pn 06 10 54.4 -0.2
RCDM **Rinconada Maip** 1.19 34⇑*i*P Pn 06 10 56.8 -0.9
RCDM *i*S Sb 06 11 13.9 -0.4
RCDM **Rinconada Maip** 1.19 34⇑*i*P Pn 06 10 56.8 -0.9
RCDM *i*S Sb 06 11 13.9 -0.4
ANTU **Antumapu** 1.21 42⇑*i*P Pn 06 10 58.0 -0.1
ANTU *i*S Sb 06 11 15.3 +0.3
ANTU AML AML 06 11 22.8
comp=N,43µm,0.4s
ANTU **Antumapu** 1.21 42⇑*i*P Pn 06 10 58.0 -0.1
ANTU *i*S Sb 06 11 15.3 +0.3
LACH **Col Las Americ** 1.36 41⇑*i*P Pn 06 11 00.1 0.0
LACH *i*S Sb 06 11 19.8 +0.6
LACH AML AML 06 11 25.8
comp=E,14µm,0.5s
LACH **Col Las Americ** 1.36 41⇑*i*P Pn 06 11 00.1 0.0
LACH *i*S Sb 06 11 19.8 +0.6
CLCH **Cerro Calan** 1.40 40⇑*i*P Pn 06 11 00.7 +0.1
CLCH *i*S Sb 06 11 20.2 -0.1
CLCH AML AML 06 11 28.4
comp=N,50µm,0.5s
CMCH **Combarbala** 3.33 9 *e*P1 Pn 06 11 26.4 -0.9
CMCH **Combarbala** 3.33 9 *e*P Pn 06 11 26.4 -0.9
CFAA **Coronel Fontan** 4.02 45 Pn Pn 06 11 38.6 +1.8
comp=N,2.8nm,0.3s,baz=225,slow=12,SNR=84
CFAA Lg Lg 06 12 33.4
comp=N,9.8nm,0.3s,baz=216,slow=19,SNR=10
LCO **Las Campanas** 5.50 8 *e*Pn Pn 06 11 56.2 -1.2
LCO *e*Sn Sn 06 13 00.8 +1.1
PLCA **Paso Flores** 6.30 173 *e*P Pn 06 12 08.8 +0.7
PLCA **Paso Flores** 6.30 173 Pn Pn 06 12 07.2 -0.9
baz=339,slow=12
PLCA LR LR 06 14 52.8
comp=N,436nm,19.8s,baz=354,slow=41
PLCA **Paso Flores** 6.30 173 *e*Pn Pn 06 12 08.8 +0.7
TRQA **Tornquist** 8.55 117 *e*Pn Pn 06 12 42.4 +3.5
LVC **Limon Verde** 12.06 12 *e*Pn Pn 06 13 26.8 -0.4
LPAZ **La Paz** 18.38 11 *e*P Pn 06 14 51.1 +0.7
LPAZ pmax pmax
comp=Z,21nm,0.9s
LPAZ **La Paz** 18.38 11 P Pn 06 14 50.6 +0.2
comp=Z,0.5nm,0.3s,baz=180,slow=8.2,SNR=24
LPAZ **La Paz** 18.38 11 *e*P Pn 06 14 51.1 +0.7
comp=Z,21nm,0.9s
EFI **East Falkland** 19.77 154 *e*P P 06 15 03.9 -0.7
EFI pmax pmax
comp=Z,50nm,1.0s
EFI **East Falkland** 19.77 154 *e*P P 06 15 03.9 -0.7
comp=Z,50nm,1.0s
USHA **Ushuaia** 20.47 175 P P 06 15 11.8 -0.4
comp=Z,17nm,0.9s,baz=23,slow=13,SNR=6.3
SIV **San Ignacio** 20.70 30 P P 06 15 15.0 +0.1
comp=Z,24nm,1.0s,baz=224,slow=11,SNR=33
NNA **Nana** 22.89 347 *e*P P 06 15 38.3 -0.2
NNA pmax pmax
comp=Z,44nm,1.1s
NNA **Nana** 22.89 347 P P 06 15 37.5 -1.0
comp=Z,32nm,1.0s,baz=211,slow=11,SNR=12
NNA **Nana** 22.89 347 *e*P P 06 15 38.3 -0.2
comp=Z,44nm,1.1s
SAML **Samuel** 26.56 19 *e*P P 06 16 12.4 -0.1
comp=Z,16nm,1.1s
BDFB **Brasilia** 28.31 54 P P 06 16 29.1 +0.8
comp=Z,23nm,0.9s,baz=216,slow=8.0,SNR=12
BDFB LR LR 06 30 00.8
comp=Z,130nm,20.6s,baz=222,slow=41
OTAV **Otavalo** 35.13 348 *e*P P 06 17 29.6 +1.0
comp=Z,16nm,1.3s
PTGA **Pitinga** 35.29 20 *e*P P 06 17 28.8 -0.7
comp=Z,28nm,0.9s
ROSC **El Rosal** 39.21 356 P P 06 18 05.8 +2.7
comp=Z,5.0nm,0.5s,baz=141,slow=2.6,SNR=4.4
ROSC **El Rosal** 39.21 356 *e*P P 06 18 06.0 +2.9
SDV **Santo Domingo** 43.14 1 *e*P P 06 18 34.6 -0.6
comp=Z,36nm,1.1s
JTS **JuntasAbangare** 46.29 342⇑*e*P P 06 19 00.1 0.0
JTS pmax pmax
comp=Z,27nm,1.7s
JTS **JuntasAbangare** 46.29 342 *e*P P 06 19 00.6 +0.5
comp=Z,5.9nm,0.8s
VNA3 **Neumayer Olymp** 48.78 158 P P 06 19 20.9 +2.1
VNA2 **Neumayer--Watz** 49.43 157 P P 06 19 24.3 +0.5
baz=302,slow=9.4
SNAA **Sanae** 51.01 158 P P 06 19 36.1 +0.3
SNAA **Sanae** 51.01 158*d*/P P 06 19 35.7 -0.1
SNAA pmax pmax
comp=Z,18nm,1.2s
SNAA **Sanae** 51.01 158 P P 06 19 35.5 -0.3
comp=Z,3.2nm,0.9s,baz=232,slow=6.1,SNR=15
SNAA **Sanae** 51.01 158 *e*P P 06 19 35.2 -0.6
comp=Z,22nm,1.2s
NVL **N'lazarevskaya** 55.74 157 *e*P P 06 20 10.3 -0.1
NVL *e*S S 06 27 53.4 -1.2
RKT **Rikitea** 55.88 264 *e*T T 07 19 48.8
comp=Z,1.3nm,0.2s
VNDA **Vanda** 63.70 191 *e*P P 06 21 06.0 +0.8
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA **Vanda** 63.70 191 P P 06 21 05.3 +0.1
comp=Z,4.9nm,1.0s,baz=120,slow=6.0,SNR=9.6
VNDA **Vanda** 63.70 191 *e*P P 06 21 06.0 +0.8
comp=Z,4.6nm,1.0s
SYO **Syowa Base** 65.29 158⇑*e*P P 06 21 10.3 -5.3
035Z **Hargill** 65.60 334 ⇓P P 06 21 18.9 +0.8
baz=66
035A **Encino** 66.04 334 ⇑P P 06 21 22.0 +1.1
baz=66
034A **Hebbronville** 66.37 334 ⇓P P 06 21 24.1 +1.0
baz=67
934A **Benavides** 66.80 334 ⇑P P 06 21 26.6 +0.8
baz=67
933A **Laredo** 67.08 333 ⇓P P 06 21 27.9 +0.3
baz=67,SNR=7.6
835A **Beeville** 67.18 335 ⇑P P 06 21 29.5 +1.4
baz=67
834A **Tilden** 67.29 334 ⇑P P 06 21 29.7 +0.8
baz=68,SNR=12
735A **Kenedy** 67.69 335 ⇓P P 06 21 32.1 +0.8
baz=68,SNR=6.7
833A **Chaparral WMA,** 67.77 334 ⇓P P 06 21 32.1 +0.2
baz=68,SNR=19
734A **La Parita Cree** 67.95 335 ⇑P P 06 21 33.0 0.0
baz=68
832A **Faith Ranch, C** 67.95 333 ⇑P P 06 21 33.1 0.0
baz=68,SNR=8.3
636A **Smothers Creek** 68.01 336 ⇓P P 06 21 34.3 +0.9
baz=68,SNR=9.0
733A **Divot King Ran** 68.09 334 ⇓P P 06 21 34.2 +0.2
baz=68
635A **Leesville** 68.17 335 ⇑P P 06 21 34.4 0.0
baz=68
537A **Green Hill Far** 68.32 337 ⇑P P 06 21 35.9 +0.6
baz=69
732A **Laxson Ranch,** 68.35 333 ⇓P P 06 21 35.8 +0.2
baz=69,SNR=25
GOGA **Godfrey** 68.45 349 *e*P P 06 21 35.0 -1.1
GOGA pmax pmax
comp=Z,8.0nm,0.6s
GOGA **Godfrey** 68.45 349 *e*P P 06 21 35.0 -1.1
comp=Z,7.7nm,0.6s
536A **Bastrop** 68.56 336 ⇑P P 06 21 37.1 +0.3
baz=69
438A **Sam Houston St** 68.68 338 ⇑P P 06 21 38.0 +0.5
baz=69
535A **Dale** 68.69 336 ⇑P P 06 21 37.9 +0.3
baz=69
633A **Saathoff Ranch** 68.72 334 ⇑P P 06 21 38.0 +0.1
baz=69,SNR=9.1
340A **Bronson** 68.83 340 ⇑P P 06 21 39.2 +0.8
baz=69
339A **Huntington** 68.94 339 ⇑P P 06 21 39.7 +0.5
baz=69
632A **Uvalde** 68.99 334 ⇓P P 06 21 39.9 +0.3
baz=69,SNR=14
534A **Blanco** 69.00 335 ⇑P P 06 21 39.2 -0.4
baz=69
MEH **Mehetia** 69.14 262 *e*T T 07 36 22.7
comp=Z,37nm,0.2s
338A **Crockett** 69.19 338 ⇓P P 06 21 40.7 0.0
baz=70
631A **Perdido Creek** 69.19 333 ⇑P P 06 21 40.4 -0.5
baz=69,SNR=8.4
533A **Kerrville** 69.23 335 ⇓P P 06 21 41.1 +0.1
baz=70,SNR=5.3
337A **Centerville** 69.33 338 ⇑P P 06 21 42.1 +0.5
baz=70

435B **Jarrell** 69.38 336 ⇓P P 06 21 42.5 +0.5
baz=70
239A **Gary** 69.56 339 ⇑P P 06 21 43.5 +0.5
baz=70
532A **Rocksprings** 69.59 334 ⇑P P 06 21 43.6 +0.3
baz=70,SNR=31
434A **Burnet** 69.64 336 ⇑P P 06 21 43.3 -0.3
baz=70,SNR=8.9
336A **Riesel** 69.70 337 ⇑P P 06 21 44.0 +0.1
baz=70,SNR=7.2
335A **Moody** 69.79 337 ⇑P P 06 21 44.5 +0.1
baz=70,SNR=6.2
KMSC **Kings Mountain** 69.86 352 ⇓P P 06 21 44.3 -0.5
baz=70
531A **Rocksprings** 69.86 333 ⇓P P 06 21 45.5 +0.5
baz=70,SNR=15
433A **Art** 69.87 335 ⇓P P 06 21 44.7 -0.3
baz=70,SNR=20
JCT **Junction City** 69.87 334 *e*P P 06 21 44.8 -0.2
JCT pmax pmax
comp=Z,19nm,0.8s
JCT **Junction City** 69.87 334 ⇓P P 06 21 44.8 -0.2
baz=70,SNR=14
JCT **Junction City** 69.87 334 *e*P P 06 21 44.8 -0.2
comp=Z,19nm,0.8s
237A **Washetta, Mont** 69.94 338 ⇓P P 06 21 45.5 +0.1
baz=70
334A **Lometa** 70.11 336 ⇑P P 06 21 46.2 -0.2
baz=70,SNR=8.5
530A **J-C Ranch, Com** 70.14 333 ⇓P P 06 21 47.0 +0.3
baz=70,SNR=15
TVO **Taravao** 70.16 262 *e*T T 07 37 39.0
comp=Z,1.0nm,0.3s
432A **Menard** 70.23 334 ⇓P P 06 21 46.9 -0.3
baz=70
TXAR **Lajitas Array** 70.33 331 P P 06 21 47.5 -0.4
comp=Z,5.2nm,0.5s,baz=156,slow=8.7,SNR=130
431A **Sonora** 70.35 334 ⇓P P 06 21 47.5 -0.5
baz=71,SNR=11
TIAR **Tiarei** 70.35 262 *e*T T 07 37 53.1
comp=Z,3.9nm,0.2s
333A **Richland Sprin** 70.36 335 ⇓P P 06 21 47.6 -0.4
baz=71,SNR=14
WHTX **Lake Whitney,** 70.45 337 ⇓P P 06 21 48.2 -0.3
baz=71
529A **Stev Forest Ra** 70.46 332 ⇑P P 06 21 48.6 0.0
baz=71
137A **Heron Place, G** 70.48 338 ⇓P P 06 21 49.0 +0.4
baz=71
PAE **Paea** 70.49 262 *e*T T 07 38 04.1
comp=Z,0.8nm,0.3s
PPT2 **Papeete2** 70.53 262 *e*LR LR 06 42 52.5
comp=Z,143nm,30.8s
SWET **Sewanee** 70.62 348 *e*P P 06 21 49.0 -0.5
comp=Z,25nm,0.6s
OXF **Oxford** 70.63 344 *e*P P 06 21 48.8 -0.7
OXF pmax pmax
comp=Z,47nm,1.0s
OXF **Oxford** 70.63 344 *e*P P 06 21 48.8 -0.7
comp=Z,47nm,1.0s
332A **Millersview** 70.67 335 ⇑P P 06 21 49.4 -0.5
baz=71,SNR=8.2
430A **Baggett Ranch,** 70.68 333 ⇓P P 06 21 49.9 -0.1
baz=71,SNR=15
234A **Clairette** 70.69 336 ⇑P P 06 21 49.8 -0.2
baz=71,SNR=9.6
429A **Davenport Ranc** 70.78 333 ⇑P P 06 21 50.5 -0.1
baz=71,SNR=16
331A **San Angelo** 70.85 334 ⇑P P 06 21 50.7 -0.3
baz=71,SNR=17
233A **Rising Star** 70.96 336 ⇓P P 06 21 51.3 -0.4
baz=71,SNR=11
135A **Vickery Place,** 70.96 337 ⇓P P 06 21 51.0 -0.5
baz=71
232A **Coleman** 71.10 335 ⇑P P 06 21 52.1 -0.4
baz=71,SNR=7.3
134A **White-Moore Ra** 71.19 337 ⇓P P 06 21 52.4 -0.5
baz=72
330A **Mertzon** 71.21 334 ⇓P P 06 21 52.6 -0.6
baz=72,SNR=13
231A **Bronte** 71.38 334 ⇓P P 06 21 53.6 -0.5
baz=72,SNR=14
133A **Hamilton Ranch** 71.50 336 ⇓P P 06 21 54.6 -0.3
baz=72,SNR=6.2
329A **Wagon Wheel Ra** 71.58 333 ⇓P P 06 21 55.1 -0.4
baz=72,SNR=12
230A **Sterling City** 71.62 334 ⇑P P 06 21 54.8 -0.8
baz=72
Z35A **Perchaven, San** 71.62 338 ⇓P P 06 21 55.3 -0.3
baz=72,SNR=9.8
MIAR **Mount Ida** 71.68 341 *e*P P 06 21 55.5 -0.4
MIAR pmax pmax
comp=Z,30nm,1.8s
MIAR **Mount Ida** 71.68 341 *e*P P 06 21 55.5 -0.4
comp=Z,30nm,1.8s
ABTX **Abilene, Hawle** 71.77 335 ⇓P P 06 21 56.0 -0.5
baz=72
ABTX **Abilene, Hawle** 71.77 335 *e*P P 06 21 56.2 -0.3
comp=Z,22nm,0.7s
WVT **Waverly** 71.86 346 *e*P P 06 21 56.0 -0.9
WVT pmax pmax
comp=Z,47nm,0.6s
WVT **Waverly** 71.86 346 *e*P P 06 21 56.0 -0.9
comp=Z,48nm,0.6s
Z34A **Collier Ranch,** 71.87 337 ⇓P P 06 21 56.8 -0.3
baz=72
229A **Bryant Ranch,** 71.95 333 ⇓P P 06 21 57.2 -0.5
baz=72
131A **Roby** 72.07 335 ⇓P P 06 21 58.1 -0.3
baz=72
Z33A **Whitaker Ranch** 72.07 336 ⇓P P 06 21 58.1 -0.2
baz=72,SNR=13
130A **Snyder** 72.21 334 ⇑P P 06 21 58.7 -0.4
baz=72,SNR=5.0
Z32A **Haskell** 72.33 336 ⇓P P 06 21 59.6 -0.2
baz=73,SNR=11
Y34A **Reagan Ranch,** 72.36 337 ⇓P P 06 21 59.6 -0.4
baz=73,SNR=6.2
228A **UT Block 9, Go** 72.38 333 ⇓P P 06 21 59.8 -0.4
baz=73,SNR=8.6
129A **Stewart Farms,** 72.56 334 ⇑P P 06 22 01.0 -0.3
baz=73
Z31A **Sharp Cattle R** 72.57 335 ⇑P P 06 22 01.2 -0.1
baz=73,SNR=19
Y33A **Hilltop Ranch,** 72.69 337 ⇑P P 06 22 01.8 -0.2
baz=73,SNR=7.7
128A **Castleberry Fa** 72.79 333 ⇑P P 06 22 02.7 0.0
baz=73,SNR=11
Z30A **Sanderson Ranc** 72.89 334 ⇓P P 06 22 02.7 -0.5
baz=73,SNR=12
Y32A **R-V Farms, Ver** 72.95 336 ⇑P P 06 22 03.3 -0.2
baz=73,SNR=9.4
X34A **Smith Ranch, M** 72.98 338 ⇑P P 06 22 03.3 -0.4
baz=73,SNR=5.1
PBMO **Poplar Bluff** 73.03 344 *e*P P 06 22 03.2 -0.7
comp=Z,22nm,0.9s
Z29A **Hungry Hill Ra** 73.07 334 ⇓P P 06 22 03.6 -0.7
baz=73,SNR=12
MNTX **Cornudas Mount** 73.11 330 *e*P P 06 22 03.0 -1.5
comp=Z,8.2nm,0.7s
GDL2 **Guadalupe Moun** 73.14 331 *e*P P 06 22 04.7 -0.1
comp=Z,5.3nm,0.7s
X33A **Lawton** 73.14 337 ⇓P P 06 22 03.4 -1.1
baz=73
Y31A **Rekieta Farm,** 73.19 335 ⇑P P 06 22 04.8 -0.2
baz=74,SNR=14
X32A **Elmer** 73.28 336 ⇑P P 06 22 04.9 -0.5
baz=74
Y30A **Stafford Cattl** 73.34 335 ⇑P P 06 22 05.3 -0.5
baz=74
Z28A **Tucker Farm, M** 73.35 333 ⇑P P 06 22 05.3 -0.6
baz=74,SNR=6.0
WMOK **Wichita Mounta** 73.41 337 *e*P P 06 22 05.4 -0.8
WMOK pmax pmax
comp=Z,6.0nm,0.9s
WMOK **Wichita Mounta** 73.41 337 *e*P P 06 22 05.4 -0.8
comp=Z,6.4nm,0.9s
W34A **Bridge Creek,** 73.55 338 ⇑P P 06 22 06.5 -0.5
baz=74
TUL1 **Leonard** 73.58 340 ⇑P P 06 22 06.5 -0.6
baz=74,SNR=8.0
TUL1 **Leonard** 73.58 340 *e*P P 06 22 06.5 -0.6
comp=Z,13nm,0.5s
Y29A **Porterfield Fa** 73.60 334 ⇓P P 06 22 07.0 -0.5
baz=74,SNR=13
SIUC **Southern Illin** 73.67 346 *e*P P 06 22 07.0 -0.7
comp=Z,14nm,0.8s
CPRX **Cap Rock** 73.68 332 *e*P P 06 22 08.0 0.0
comp=Z,3.3nm,0.8s
W33A **Caddo, Fort Co** 73.69 337 ⇓P P 06 22 08.2 +0.4
baz=74,SNR=9.8
X31A **McDonald Ranch** 73.71 336 ⇑P P 06 22 07.6 -0.3
baz=74,SNR=12
X30A **Coker Ranch, T** 73.85 335 ⇓P P 06 22 08.3 -0.5
baz=74
W32A **Sentinel** 73.91 337 ⇓P P 06 22 08.7 -0.4
baz=74,SNR=20
V34A **Guthrie** 74.02 338 ⇓P P 06 22 09.3 -0.5
baz=74,SNR=6.9
V34A **Guthrie** 74.02 338 *e*P P 06 22 09.2 -0.5
comp=Z,23nm,1.0s
MSTX **Muleshoe** 74.10 333 ⇓P P 06 22 09.5 -0.9
baz=74,SNR=11
MSTX **Muleshoe** 74.10 333 *e*P P 06 22 09.6 -0.9
comp=Z,17nm,0.8s
X29A **Tulia** 74.14 334 ⇓P P 06 22 10.1 -0.5
baz=74,SNR=7.7
Y27A **Causey** 74.17 333 ⇓P P 06 22 10.0 -0.8
baz=74
W31A **Holland Ranch,** 74.20 336 ⇑P P 06 22 10.4 -0.5
baz=74
V33A **Lossen Ranch,** 74.25 338 ⇓P P 06 22 10.7 -0.4
baz=74,SNR=10
SUR **Sutherland** 74.28 119 *e*P P 06 22 13.4 +1.5
comp=Z,18nm,1.1s
X28A **Dimmitt** 74.38 334 ⇓P P 06 22 11.8 -0.2
baz=75
V32A **Arapaho** 74.39 337 ⇑P P 06 22 12.0 +0.1
baz=75
319A **Douglas** 74.50 327 ⇓P P 06 22 13.4 +0.6
baz=75,SNR=6.3
AMTX **Amarillo** 74.52 335 ⇑P P 06 22 12.5 -0.3
baz=75
AMTX **Amarillo** 74.52 335 *e*P P 06 22 12.3 -0.5
comp=Z,34nm,1.2s
BLO **Bloomington** 74.58 348 *e*P P 06 22 11.4 -1.5
BLO pmax pmax
comp=Z,9.0nm,0.4s
BLO **Bloomington** 74.58 348 *e*P P 06 22 11.3 -1.5
comp=Z,9.0nm,0.4s
U34A **Anderson Ranch** 74.58 339 ⇓P P 06 22 12.9 -0.1
baz=75
U34A **Anderson Ranch** 74.58 339 *e*P P 06 22 12.5 -0.5
comp=Z,26nm,1.0s
V31A **Spring Creek L** 74.70 336 ⇑P P 06 22 14.1 +0.3
baz=75
W29A **Amarillo** 74.73 335 ⇑P P 06 22 14.2 +0.2
baz=75
X27A **F and S Farms,** 74.82 333 ⇓P P 06 22 14.5 -0.1
baz=75
121A **Cookes Peak, D** 74.83 329 ⇑P P 06 22 15.3 +0.5
baz=75,SNR=18
121A **Cookes Peak, D** 74.83 329 *e*P P 06 22 15.0 +0.3
comp=Z,15nm,0.8s
V30A **Spur Ranch, Mi** 74.97 336 ⇑P P 06 22 16.3 +0.9
baz=75
U32A **Winter Ranch,** 74.98 337 ⇑P P 06 22 15.5 +0.1
baz=75,SNR=10
DBIC **Dimbokro** 74.99 71 *e*P P 06 22 16.5 +0.6
DBIC pmax pmax
comp=Z,5.0nm,0.5s
DBIC **Dimbokro** 74.99 71 P P 06 22 16.5 +0.6
comp=Z,6.7nm,0.8s,baz=214,slow=5.0,SNR=11
DBIC LR LR 06 52 12.6
comp=Z,24nm,20.5s,baz=206,slow=33
DBIC **Dimbokro** 74.99 71 *e*P P 06 22 16.5 +0.6
comp=Z,4.9nm,0.5s
X26A **CR and CF Fran** 75.00 333 ⇑P P 06 22 15.7 +0.1
baz=75,SNR=14
Y24A **Capitan** 75.08 331 ⇑P P 06 22 16.1 -0.1
baz=75,SNR=6.0
ACSO **Alum Creek Sta** 75.08 351 *e*P P 06 22 15.0 -0.8
comp=Z,24nm,0.6s
W27A **Bowe Ranch, En** 75.18 334 ⇓P P 06 22 16.7 0.0
baz=75,SNR=20
X25A **Clemmons Ranch** 75.31 332 ⇑P P 06 22 17.2 -0.2
baz=76
Y23A **Lovelace Mesa,** 75.33 331 ⇑P P 06 22 18.1 +0.4
baz=76
T33A **Patterson Ranc** 75.39 338 ⇑P P 06 22 17.8 +0.2
baz=76
W26A **Owens Ranch, T** 75.46 333 ⇓P P 06 22 18.5 +0.2
baz=76,SNR=6.3
V28A **Channing** 75.50 335 ⇑P P 06 22 18.6 +0.2
baz=76,SNR=6.7
X24A **Lazy VL Ranch,** 75.64 332 ⇑P P 06 22 19.7 +0.3
baz=76,SNR=6.7
U30A **WK&E Inc. Balk** 75.66 336 ⇓P P 06 22 19.6 +0.3
baz=76
T32A **Huddler Ranch,** 75.69 338 ⇓P P 06 22 19.7 +0.2
baz=76
V27A **Dan Oppiter Fa** 75.72 334 ⇓P P 06 22 19.7 0.0
baz=76
W25A **X Bar L Ranch,** 75.84 333 ⇓P P 06 22 20.3 -0.2
baz=76,SNR=8.9
SFIN **Lafayette** 75.85 348 ⇓P P 06 22 18.6 -1.5
baz=76
SFIN **Lafayette** 75.85 348 *e*P P 06 22 18.7 -1.5
comp=Z,39nm,1.6s
T31A **Randall Ranch,** 75.86 337 ⇑P P 06 22 20.1 -0.3
baz=76
LPM **Los Pinos Moun** 75.89 331 *e*P P 06 22 21.4 +0.5
TUC **Tucson** 75.97 327 *e*P P 06 22 21.7 +0.5
TUC pmax pmax
comp=Z,10.0nm,1.2s
TUC **Tucson** 75.97 327 *e*P P 06 22 21.6 +0.5
comp=Z,10nm,1.2s
U28A **Mallet** 76.06 335 ⇑P P 06 22 21.3 -0.3
baz=76
V26A **Tequesquite Ra** 76.10 334 ⇑P P 06 22 21.5 -0.4
baz=76,SNR=5.2
S32A **Newby Ranch, P** 76.18 338 ⇓P P 06 22 22.3 +0.1
baz=76,SNR=5.5
LAZ **Ladron** 76.18 330 *e*P P 06 22 23.2 +0.8
comp=Z,6.3nm,1.1s
W24A **Lazy 6 Ranch,** 76.19 332 ⇑P P 06 22 22.7 +0.1
baz=76,SNR=15
S31A **Mullinville** 76.27 338 ⇓P P 06 22 22.8 +0.1
baz=76
U27A **Thompson Grove** 76.31 335 ⇑P P 06 22 23.1 0.0
baz=77,SNR=6.6
ANMO **Albuquerque** 76.38 331*d*/P P 06 22 23.5 -0.1
ANMO pmax pmax
comp=Z,63nm,1.2s
ANMO **Albuquerque** 76.38 331 *e*P P 06 22 23.4 -0.1
comp=Z,14nm,1.1s
W23A **Werner Place,** 76.44 331 ⇓P P 06 22 24.3 +0.3
baz=77
T29A **Hugoton** 76.44 336 ⇓P P 06 22 23.9 +0.1
baz=77
V25A **Rancho No Teng** 76.45 333 ⇓P P 06 22 24.2 +0.3
baz=77,SNR=16
R33A **Olander Ranch,** 76.45 339 ⇑P P 06 22 23.5 -0.2
baz=77
V24A **Rampart Ranch,** 76.60 332 ⇓P P 06 22 24.8 -0.1
baz=77,SNR=7.5
S30A **Montezuma** 76.61 337 ⇑P P 06 22 24.7 0.0
baz=77
214A **Organ Pipe Nat** 76.62 325 ⇑P P 06 22 25.5 +0.7
baz=77,SNR=5.9
214A **Organ Pipe Nat** 76.62 325 *e*P P 06 22 25.6 +0.7
comp=Z,22nm,1.4s
U26A **Atchley Ranch,** 76.62 334 ⇑P P 06 22 24.9 0.0
baz=77,SNR=7.4
T28A **Walsh** 76.69 335 ⇓P P 06 22 25.1 0.0
baz=77
R32A **Long Quarter,** 76.77 338 ⇑P P 06 22 25.5 0.0
baz=77,SNR=6.5
KSU1 **Kansas State U** 76.79 340 ⇓P P 06 22 25.0 -0.6
baz=77
KSU1 **Kansas State U** 76.79 340 *e*P P 06 22 24.9 -0.6
comp=Z,14nm,0.9s
S29A **Ulysses** 76.80 336 ⇓P P 06 22 26.1 +0.3
baz=77,SNR=8.9
T27A **Campo** 76.85 335 ⇓P P 06 22 26.3 +0.2
baz=77
TRY **Troy** 76.86 358 *e*P P 06 22 26.7 +0.8
U25A **Circle Dot Ran** 76.87 333 ⇑P P 06 22 26.5 +0.1
baz=77,SNR=13
R31A **Burdett** 76.90 338 ⇑P P 06 22 26.1 -0.1
baz=77,SNR=6.7
V23A **Ortiz Mt. (NFS** 76.97 332 ⇑P P 06 22 27.1 +0.2
baz=77
S28A **Manter** 77.04 336 ⇑P P 06 22 27.4 +0.2
baz=77,SNR=17
Q33A **Connelly Farm,** 77.04 339 ⇓P P 06 22 27.1 +0.1

	baz=77				
R30A	Dighton	77.13 337	⇑P	P	06 22 27.5 -0.1
	baz=77				
U24A	Moreno Valley	77.20 333	⇑P	P	06 22 28.9 +0.6
	baz=77				
Q32A	Meitler Ranch,	77.25 339	⇓P	P	06 22 28.1 -0.1
	baz=78,SNR=5.3				
T26A	Comanche Natio	77.26 334	⇑P	P	06 22 28.7 +0.2
	baz=78,SNR=7.7				
V22A	San Miguel Ran	77.40 331	⇑P	P	06 22 30.3 +0.9
	baz=78,SNR=28				
X18A	Snowflake	77.47 328	⇑P	P	06 22 30.5 +0.7
	baz=78,SNR=5.3				
U23A	El Rito	77.48 332	⇑P	P	06 22 30.7 +0.9
	baz=78,SNR=13				
Q31A	Ellis	77.52 338	⇓P	P	06 22 30.1 +0.4
	baz=78,SNR=8.5				
T25A	Trinidad	77.52 334	⇑P	P	06 22 30.9 +0.9
	baz=78,SNR=22				
R29A	Marienthal	77.54 337	⇑P	P	06 22 30.4 +0.5
	baz=78				
S26A	Kim	77.61 335	⇓P	P	06 22 31.0 +0.6
	baz=78,SNR=27				
R28A	Tribune	77.69 336	⇓P	P	06 22 31.0 +0.2
	baz=78,SNR=13				
Q30A	Quinter	77.75 338	⇑P	P	06 22 31.2 +0.2
	baz=78,SNR=9.8				
U22A	Llaves	77.78 332	⇓P	P	06 22 32.4 +0.9
	baz=78,SNR=6.5				
T24B	San Luis	77.81 333	⇑P	P	06 22 32.6 +0.9
	baz=78,SNR=11				
Z14A	Wintersburg	77.84 326	⇓P	P	06 22 32.5 +0.9
	baz=78				
P32A	Huiting Farm,	77.84 339	⇑P	P	06 22 31.7 +0.2
	baz=78				
W18A	Petrified Fore	77.88 329	⇑P	P	06 22 32.5 +0.5
	baz=78,SNR=6.8				
W18A	Petrified Fore	77.88 329	eP	P	06 22 32.7 +0.7
	comp=Z,11nm,0.8s				
Q29A	Oakley	77.91 337	⇓P	P	06 22 32.0 0.0
	baz=78,SNR=8.3				
R27A	Eads	77.97 335	⇑P	P	06 22 32.6 +0.2
	baz=78,SNR=17				
P31A	Stockton	77.98 338	⇑P	P	06 22 32.9 +0.6
	baz=78				
S25A	Robets Cordova	77.99 334	⇑P	P	06 22 33.4 +0.8
	baz=78,SNR=11				
X16A	Lo Mia Camp, P	78.03 327	⇑P	P	06 22 33.8 +0.9
	baz=78,SNR=20				
T23A	Casias Ranch,	78.04 332	⇓P	P	06 22 33.4 +0.4
	baz=78,SNR=8.9				
MDV	Middlebury	78.12 359	eP	P	06 22 33.1 +0.3
R26A	Arlington	78.21 335	⇓P	P	06 22 34.1 +0.4
	baz=78,SNR=11				
S24A	Houchin Ranch,	78.26 333	⇑P	P	06 22 35.2 +1.0
	baz=78,SNR=16				
P30A	Selden	78.27 338	⇓P	P	06 22 34.1 +0.2
	baz=79				
O32A	Brockman Farm,	78.34 339	⇑P	P	06 22 34.4 +0.2
	baz=79				
Q28A	Sharon Springs	78.35 336	⇑P	P	06 22 34.4 0.0
	baz=79				
LBNH	Lisbon	78.35 360	eP	P	06 22 34.6 +0.5
LBNH			pmax	pmax	
	comp=Z,19nm,1.0s				
LBNH	Lisbon	78.35 360	eP	P	06 22 34.6 +0.5
	comp=Z,19nm,1.0s				
Y14A	Wickenburg	78.35 326	⇓P	P	06 22 35.0 +0.6
	baz=78,SNR=9.8				
R25A	Fountain Ranch	78.37 334	⇑P	P	06 22 34.9 +0.2
	baz=79,SNR=5.4				
P29A	Atwood	78.54 337	⇓P	P	06 22 36.1 +0.7
	baz=79,SNR=9.1				
O31A	Woolen Ranch,	78.55 339	⇓P	P	06 22 36.0 +0.6
	baz=79				
KSCO	Kaye Shedlock'	78.57 336	⇑P	P	06 22 36.2 +0.6
	baz=79				
KSCO	Kaye Shedlock'	78.57 336	eP	P	06 22 36.3 +0.6
	comp=Z,18nm,0.9s				
S23A	Nye Farm, Mont	78.61 333	⇓P	P	06 22 37.0 +0.9
	baz=79				
WVL	Waterville	78.69 1	eP	P	06 22 36.8 +0.8
	comp=Z,21nm,1.2s				
R24A	Sanders Place,	78.75 334	⇑P	P	06 22 37.6 +0.9
	baz=79,SNR=23				
LONY	Lake Ozonia	78.77 358	eP	P	06 22 36.7 +0.2
	comp=Z,10nm,0.9s				
P28A	Saint Francis	78.78 337	⇑P	P	06 22 37.4 +0.6
	baz=79				
Q26A	Hugo	78.79 335	⇓P	P	06 22 37.4 +0.5
	baz=79				
SWSC	Sam W. Stewart	78.87 323	⇑P	P	06 22 38.1 +0.8
	baz=79				
JFWS	Jewell Farm	78.89 346	eP	P	06 22 36.5 -0.7
JFWS			pmax	pmax	
	comp=Z,19nm,0.9s				
JFWS	Jewell Farm	78.89 346	eP	P	06 22 36.5 -0.7
	comp=Z,19nm,0.9s				
Y12C	Blythe	78.91 325	⇓P	P	06 22 38.1 +0.6
	baz=79,SNR=6.3				
WUAZ	Wupatki	78.93 328	⇓P	P	06 22 38.5 +0.7
	baz=79,SNR=15				
WUAZ	Wupatki	78.93 328	eP	P	06 22 38.1 +0.3
	comp=Z,17nm,1.0s				
S22A	4UR Ranch, Cre	78.97 332	⇓P	P	06 22 38.6 +0.5
	baz=79,SNR=8.6				
R23A	Moffat	78.97 333	⇓P	P	06 22 38.8 +0.6
	baz=79,SNR=10				
P27A	Ficken Ranch,	79.04 336	⇑P	P	06 22 38.8 +0.6
	baz=79				
Q25A	Bedland, Calha	79.04 335	⇓P	P	06 22 38.7 +0.3
	baz=79,SNR=6.8				
MONP	Monument Peak,	79.14 323	⇓P	P	06 22 40.1 +1.0
	baz=79				
MVCO	Mesa Verde	79.16 331	⇓P	P	06 22 39.8 +0.8
	baz=79,SNR=5.8				
MVCO	Mesa Verde	79.16 331	eP	P	06 22 39.6 +0.5
	comp=Z,13nm,1.2s				
PDMCI	Parker Dam,Lak	79.18 325	⇑P	P	06 22 39.3 +0.4
	baz=79				
BC3	Big Chuckawall	79.28 324	⇑P	P	06 22 40.3 +0.7
	baz=80,SNR=9.1				
O28A	Krutsinger Ran	79.29 337	⇓P	P	06 22 40.1 +0.5
	baz=80				
P26A	Davis Ranch, A	79.30 336	⇓P	P	06 22 40.2 +0.5
	baz=80,SNR=6.5				
BGNE	Belgrade	79.36 340	⇓P	P	06 22 40.3 +0.4
	baz=80				
Q24A	Divide	79.41 334	⇓P	P	06 22 40.9 +0.4
	baz=80,SNR=10				
BOSA	Boshof	79.53 117	eP	P	06 22 41.9 +0.5
BOSA			pmax	pmax	
	comp=Z,20nm,1.1s				
BOSA	Boshof	79.53 117	P	P	06 22 41.9 +0.5
	comp=Z,15nm,0.8s,baz=237,slow=4.3,SNR=25				
BOSA	Boshof	79.53 117	eP	P	06 22 41.9 +0.5
	comp=Z,20nm,1.1s				
IRM	Iron Mountain	79.54 324	⇓P	P	06 22 41.6 +0.6
	baz=80,SNR=7.4				
M31A	Lambtecht Ranc	79.54 339	⇑P	P	06 22 41.7 +0.9
	baz=80				
P25A	Willow Gulch B	79.55 335	⇓P	P	06 22 42.0 +1.0
	baz=80,SNR=21				
O27A	Beecher Island	79.58 336	⇓P	P	06 22 42.1 +1.0
	baz=80				
W13A	Hualapai Mount	79.71 326	⇓P	P	06 22 43.0 +0.9
	baz=80,SNR=12				
N28A	Pribbeno Ranch	79.72 337	⇓P	P	06 22 42.4 +0.5
	baz=80				
PFO	Pinyon Flats O	79.73 323	P	P	06 22 43.0 +0.8
	comp=Z,80nm,0.8s,SNR=8.7				
PFO	Pinyon Flats O	79.73 323	eP	P	06 22 42.9 +0.8
PFO			pmax	pmax	
	comp=Z,16nm,1.0s				
PFO	Pinyon Flats O	79.73 323	⇑P	P	06 22 43.3 +1.1
	baz=80,SNR=12				
PFO	Pinyon Flats O	79.73 323	eP	P	06 22 42.9 +0.7
	comp=Z,16nm,1.0s				
BELC	Belle Mtn. Jos	79.82 324	⇑P	P	06 22 43.4 +0.7
	baz=80				
O26A	Horse Wrangler	79.90 336	⇓P	P	06 22 43.7 +0.8
	baz=80,SNR=9.2				
PV01	Paradox Valley	79.98 331	eP	P	06 22 43.8 +0.3
	comp=Z,589nm,0.9s				
O25A	Wiggins	80.06 335	⇑P	P	06 22 44.9 +1.1
	baz=80				
MURC	Murrieta	80.10 323	⇓P	P	06 22 44.5 +0.5
	baz=80,SNR=5.2				
U15A	North Rim	80.10 328	⇓P	P	06 22 45.1 +0.8
	baz=80,SNR=12				
N27A	Anderson Farm,	80.15 337	⇑P	P	06 22 44.8 +0.6
	baz=80				
L31A	Butterfield Fa	80.27 340	⇓P	P	06 22 45.0 +0.3
	baz=81				
SMCO	Snowmass	80.27 333	eP	P	06 22 45.8 +0.5
LDFC	Landfair	80.27 325	eP	P	06 22 46.3 +1.3
	comp=Z,15nm,0.9s				
SCI	San Clemente I	80.29 321	⇓P	P	06 22 46.0 +1.0
	baz=80				
GMRC	Granite Mounta	80.29 324	⇑P	P	06 22 46.2 +1.1
	baz=80,SNR=15				
ISCO	Idaho Springs	80.31 334	eP	P	06 22 45.6 +0.2
ISCO			pmax	pmax	
	comp=Z,8.0nm,0.9s				
ISCO	Idaho Springs	80.31 334	⇑P	P	06 22 46.0 +0.6
	baz=81,SNR=6.9				
ISCO	Idaho Springs	80.31 334	eP	P	06 22 45.6 +0.2
	comp=Z,8.4nm,0.9s				
L30A	Spencer Herefo	80.32 339	⇓P	P	06 22 45.6 +0.6
	baz=81				
PV04	Paradox Valley	80.34 331	eP	P	06 22 45.6 +0.3
PV10	Paradox Valley	80.38 331	eP	P	06 22 45.1 -0.6
	comp=Z,201nm,0.8s				
N26A	Koester Ranch,	80.40 336	⇓P	P	06 22 46.4 +0.8
	baz=81				
O24A	Longmont	80.41 335	⇓P	P	06 22 46.1 +0.5
	baz=81				
BBRC	Big Bear Solar	80.49 323	⇓P	P	06 22 47.2 +0.9
	baz=81				
P22A	Eagle	80.56 333	⇓P	P	06 22 47.3 +0.7
	baz=81,SNR=9.1				
HEC	Hector,Ludlow	80.65 324	⇑P	P	06 22 48.0 +1.0
	baz=81,SNR=10.0				
O23A	Lake Granby, G	80.79 334	⇑P	P	06 22 48.5 +0.7
	baz=81,SNR=18				
BFSC	Mount Baldy Ra	80.83 323	⇑P	P	06 22 48.4 +0.3
	baz=81				
TUQ	Turquoise Moun	80.95 325	⇑P	P	06 22 49.6 +0.9
	baz=81,SNR=13				
K30A	Basset	80.95 339	⇓P	P	06 22 49.3 +0.9
	baz=81				
N24A	Carr	80.96 335	⇓P	P	06 22 48.9 +0.2
	baz=81				
O22A	Kremmling	80.97 334	⇑P	P	06 22 49.1 +0.2
	baz=81,SNR=9.5				
MWC	Mount Wilson	81.02 323	eP	P	06 22 49.7 +0.5
MWC			pmax	pmax	
	comp=Z,12nm,1.1s				
MWC	Mount Wilson	81.02 323	eP	P	06 22 49.7 +0.5
	comp=Z,12nm,1.1s				
ECSD	EROS Data Cent	81.11 342	⇓P	P	06 22 48.9 -0.3
	baz=81,SNR=26				
ECSD	EROS Data Cent	81.11 342	eP	P	06 22 48.5 -0.7
	comp=Z,29nm,0.9s				
M25A	Palm-Egli Farm	81.22 336	⇓P	P	06 22 50.3 +0.2
	baz=82				
L27A	T5 Ranch, Ells	81.23 337	⇓P	P	06 22 50.6 +0.6
	baz=82				
K29A	Lazy Trails An	81.24 339	⇑P	P	06 22 50.8 +0.8
	baz=82				
GSC	Goldstone, Bar	81.26 324	eP	P	06 22 51.2 +0.9
GSC	Goldstone, Bar	81.26 324	⇑P	P	06 22 51.1 +0.9
	baz=82,SNR=5.8				
GSC	Goldstone, Bar	81.26 324	eP	P	06 22 51.2 +0.9
N23A	Red Feather La	81.40 334	⇓P	P	06 22 52.0 +0.9
	baz=82				
SHPR	Sheep Range	81.46 326	eP	P	06 22 52.0 +0.6
SHOC	Shoshone, Teco	81.49 325	⇑P	P	06 22 51.9 +0.5
	baz=82				
N22A	Wattenberg Ran	81.50 334	⇑P	P	06 22 52.3 +0.7
	baz=82,SNR=9.0				
CCUT	Cedar City	81.50 328	eP	P	06 22 52.6 +0.9
	comp=Z,13nm,1.0s				
EDW2	Edwards Air Fo	81.51 323	⇑P	P	06 22 51.8 +0.2
	baz=82,SNR=7.0				
K28A	Ten Mile Ranch	81.51 338	⇑P	P	06 22 52.2 +0.8
	baz=82,SNR=6.1				
M24A	Cheyenne	81.51 335	⇓P	P	06 22 51.9 +0.3
	baz=82				
J30A	Dallas	81.52 340	⇑P	P	06 22 51.5 +0.2
	baz=82				
O20A	White River Ci	81.58 332	⇓P	P	06 22 52.6 +0.6
	baz=82				
O20A	White River Ci	81.58 332	eP	P	06 22 52.4 +0.4
PHWY	Pilot Hill	81.58 335	eP	P	06 22 51.8 -0.3
SRU	San Rafael Swe	81.61 330	eP	P	06 22 52.3 +0.2
SRU			pmax	pmax	
	comp=Z,9.0nm,0.8s				
SRU	San Rafael Swe	81.61 330	eP	P	06 22 52.3 +0.2
	comp=Z,8.8nm,0.8s				
SPMN	Marine on St.	81.63 345	⇑P	P	06 22 50.9 -0.9
	baz=82,SNR=5.5				
SPMN	Marine on St.	81.63 345	eP	P	06 22 50.9 -0.9
ARUT	Antelope Range	81.73 328	eP	P	06 22 53.7 +0.9
ARUT			pmax	pmax	
	comp=Z,148nm,1.0s				
ARUT	Antelope Range	81.73 328	eP	P	06 22 53.6 +0.9
	comp=Z,148nm,1.0s				
K27A	Flueckinger Fa	81.77 338	⇓P	P	06 22 53.3 +0.5
	baz=82,SNR=6.5				
LBTB	Lobatse	81.77 115	eP	P	06 22 53.9 +0.5
LBTB			pmax	pmax	
	comp=Z,98nm,1.8s				
LBTB	Lobatse	81.77 115	eP	P	06 22 53.9 +0.5
	comp=Z,98nm,1.8s				
MVU	Marysvale	81.80 329	eP	P	06 22 53.8 +0.5
	comp=Z,6.2nm,0.9s				
M23A	Laramie	81.83 335	⇓P	P	06 22 53.9 +0.6
	baz=82				
J29A	Okreek	81.83 339	⇓P	P	06 22 53.1 +0.1
	baz=82,SNR=9.3				
L25A	Engebretsen Ra	81.83 336	⇓P	P	06 22 54.0 +0.8
	baz=82,SNR=5.4				
LRMC	Laurel Mtn Rad	81.84 324	⇓P	P	06 22 53.7 +0.4
	baz=82				
I30A	Oacoma	82.04 340	⇑P	P	06 22 54.2 +0.2
	baz=82				
TMUT	Trail Mountain	82.05 330	eP	P	06 22 54.9 +0.3
	comp=Z,10nm,0.9s				
L24A	Wheatland	82.06 336	⇑P	P	06 22 55.4 +1.0
	baz=82				
M22A	Cedar Creek Ra	82.08 334	⇓P	P	06 22 55.2 +0.6
	baz=82				
J28A	Allard Ranch,	82.12 339	⇑P	P	06 22 54.9 +0.3
	baz=82,SNR=8.2				
J27A	Elkhorn Farm,	82.19 338	⇑P	P	06 22 56.0 +1.0
	baz=82,SNR=11				
N20A	Spence Gulch,	82.20 333	⇑P	P	06 22 55.4 +0.2
	baz=82				
K25A	Mack Ranch, Ha	82.21 337	⇑P	P	06 22 56.2 +1.0
	baz=82				
FURC	Furnace Creek,	82.23 325	⇓P	P	06 22 55.4 +0.3
	baz=82				
ISA	Isabella, Lake	82.37 323	eP	P	06 22 57.1 +1.0
ISA			pmax	pmax	
	comp=Z,9.0nm,1.0s				
ISA	Isabella, Lake	82.37 323	⇑P	P	06 22 57.1 +1.0
	baz=83,SNR=11				
ISA	Isabella, Lake	82.37 323	eP	P	06 22 57.1 +1.0
	comp=Z,9.1nm,1.0s				
I29A	Vivian Onida	82.39 340	⇓P	P	06 22 55.6 -0.4
	baz=83				
L23A	Garrett	82.39 335	⇓P	P	06 22 56.0 -0.2
	baz=83				
BRSD	Miller	82.40 341	⇑P	P	06 22 55.6 -0.3
	baz=83				
BRSD	Miller	82.40 341	eP	P	06 22 55.6 -0.3
DAC	Darwin (Calif)	82.43 324	eP	P	06 22 57.0 +0.4
DAC			pmax	pmax	
	comp=Z,13nm,1.0s				
DAC	Darwin (Calif)	82.43 324	eP	P	06 22 57.0 +0.4
	comp=Z,13nm,1.0s				
L22A	Ellis Ranch, M	82.57 335	⇓P	P	06 22 57.4 +0.3
	baz=83				
J26A	Sides Ranch, S	82.58 337	⇑P	P	06 22 57.7 +0.6
	baz=83,SNR=7.3				
I28A	Midland	82.62 339	⇓P	P	06 22 57.4 +0.2
	baz=83,SNR=14				
VES	Vestal, Richgr	82.81 323	⇑P	P	06 22 58.8 +0.5
	baz=83,SNR=5.6				
MPU	Maple Canyon	82.83 330	eP	P	06 22 58.9 +0.4
	comp=Z,14nm,1.1s				
SMMC	Simmler	82.86 322	⇓P	P	06 22 59.2 +0.6
	baz=83				
J25A	Sunshine Ranch	82.89 337	⇓P	P	06 22 59.2 +0.6
	baz=83				
GRAC	Grapevine Rang	82.90 325	⇓P	P	06 22 59.8 +1.0
	baz=83,SNR=5.4				
H29A	Onida	82.92 340	⇓P	P	06 22 58.5 -0.1
	baz=83				
K23A	Bowen Ranch, D	82.93 335	⇑P	P	06 22 59.3 +0.3
	baz=83,SNR=5.8				
I27A	Quinn	82.95 338	⇓P	P	06 22 59.1 +0.2
	baz=83,SNR=7.4				
NLU	North Lily Min	82.96 330	eP	P	06 22 59.2 0.0
	comp=Z,9.3nm,1.1s				
DAU	Daniels Canyon	83.01 331	eP	P	06 23 00.0 +0.4
DAU	Daniels Canyon	83.01 331	eP	P	06 23 00.0 +0.4
J24A	Dixon Ranch, L	83.11 336	⇑P	P	06 23 00.7 +0.9
	baz=83				
K22A	Casper	83.15 335	⇓P	P	06 23 00.4 +0.3
	baz=83,SNR=5.8				
K22A	Casper	83.15 335	eP	P	06 23 00.4 +0.3
	comp=Z,14nm,1.0s				
R11A	Troy Canyon, C	83.16 327	⇑P	P	06 23 01.2 +0.9
	baz=83,SNR=11				
R11A	Troy Canyon, C	83.16 327	eP	P	06 23 00.8 +0.6
	comp=Z,5.2nm,0.9s				
I26A	New Underwood	83.16 338	⇑P	P	06 23 00.3 +0.3
	baz=83				
H28A	Mission Ridge	83.19 339	⇑P	P	06 23 00.2 +0.1
	baz=84,SNR=13				
JLU	Jordanelle	83.25 331	eP	P	06 23 01.0 +0.3
	comp=Z,8.4nm,0.8s				
RCTC	Rector, Farmer	83.26 323	⇓P	P	06 23 01.4 +0.8
	baz=83				
K21A	Alcova	83.39 334	⇓P	P	06 23 01.8 +0.4
	baz=84,SNR=15				
I25A	Rochford	83.43 337	⇓P	P	06 23 01.9 +0.4
	baz=84,SNR=12				
CTU	Camp Tracy	83.45 330	eP	P	06 23 01.4 -0.3
	comp=Z,5.5nm,0.8s				
H27A	Howes	83.47 339	⇑P	P	06 23 01.5 0.0
	baz=84,SNR=15				
DUG	Dugway, Tooele	83.47 329	eP	P	06 23 01.9 +0.1
DUG			pmax	pmax	
	comp=Z,14nm,1.1s				
DUG	Dugway, Tooele	83.47 329	⇓P	P	06 23 02.3 +0.5
	baz=84,SNR=9.8				
DUG	Dugway, Tooele	83.47 329	eP	P	06 23 01.9 +0.1
	comp=Z,14nm,1.1s				
G28A	Parade	83.53 340	⇑P	P	06 23 01.8 0.0
	baz=84,SNR=9.8				
I24A	Kuemmerle Ranc	83.57 337	⇓P	P	06 23 02.5 +0.3
	baz=84				
RSSD	Black Hills	83.62 337	eP	P	06 23 02.1 -0.4
RSSD			pmax	pmax	
	comp=Z,9.0nm,0.9s				
RSSD	Black Hills	83.62 337	eP	P	06 23 02.0 -0.4
	comp=Z,8.5nm,0.9s				
TCUT	Toone Canyon	83.67 331	eP	P	06 23 02.8 -0.1
	comp=Z,6.3nm,0.7s				
TPH	Tonopah	83.69 325	eP	P	06 23 03.4 +0.4
TPH	Tonopah	83.69 325	eP	P	06 23 03.4 +0.4
J22A	Midwest	83.80 335	⇓P	P	06 23 02.6 -0.8
	baz=84				
F29A	Eureka	83.92 341	⇓P	P	06 23 03.7 -0.1
	baz=84				
H25A	Fruitdale	83.93 338	⇑P	P	06 23 04.7 +0.8
	baz=84				
TORD	Torodi Ar. Bea	84.03 70	P	P	06 23 05.4 +0.4
	comp=Z,9.8nm,0.7s,baz=266,slow=4.2,SNR=61				
TORD			LR	LR	06 59 03.1
	comp=Z,46nm,18.3s,baz=270,slow=35				
J21A	Lysite	84.08 335	⇓P	P	06 23 04.4 -0.5
	baz=84				
G27A	Dupree	84.10 339	⇓P	P	06 23 04.6 -0.2
	baz=84,SNR=7.0				
MLAC	Mammoth, Mammo	84.11 324	⇓P	P	06 23 06.1 +0.9
	baz=84				
F28A	McLaughlin	84.20 340	⇑P	P	06 23 05.2 0.0
	baz=84,SNR=9.4				
G26A	Maurine	84.22 339	⇑P	P	06 23 05.1 -0.3
	baz=84,SNR=11				
I22A	9 Mile Ranch,	84.23 335	⇑P	P	06 23 05.1 -0.4
	baz=84,SNR=6.4				
E30A	Jud	84.29 341	⇓P	P	06 23 05.3 -0.3
	baz=85				
J20A	Shoshoni	84.32 334	⇑P	P	06 23 06.1 +0.1
	baz=85,SNR=15				
H24A	Dirks Ranch, A	84.34 337	⇓P	P	06 23 05.6 -0.4
	baz=85				
PDAR	Pinedale Array	84.35 333	P	P	06 23 05.7 -0.6
	comp=Z,6.6nm,1.0s,baz=153,slow=4.6,SNR=26				
G25A	Newell	84.38 338	⇑P	P	06 23 06.1 -0.1
	baz=85,SNR=11				
I21A	Big Trails, Te	84.44 335	⇓P	P	06 23 06.1 -0.6
	baz=85,SNR=11				
NVAR	Mina Array Bea	84.48 325	P	P	06 23 07.6 +0.5
	comp=Z,3.7nm,0.7s,baz=158,slow=5.8,SNR=32				
E29A	Napoleon	84.54 341	⇑P	P	06 23 06.8 -0.1
	baz=85				
F27A	Lemmon	84.58 339	⇑P	P	06 23 07.0 -0.2
	baz=85,SNR=14				
J19A	Crowheart	84.59 333	⇓P	P	06 23 07.3 -0.1
	baz=85,SNR=13				
F26A	Lodgepole	84.75 339	⇑P	P	06 23 07.7 -0.3
	baz=85,SNR=6.0				
HVU	Hansel Valley	84.78 330	eP	P	06 23 08.0 -0.4
HVU			pmax	pmax	
	comp=Z,11nm,0.8s				
HVU	Hansel Valley	84.78 330	eP	P	06 23 08.0 -0.4
	comp=Z,11nm,0.8s				
H22A	Clearmont	84.80 336	⇑P	P	06 23 07.8 -0.6
	baz=85				
D30A	Buchanan	84.81 342	⇑P	P	06 23 08.2 -0.1
	baz=85,SNR=5.8				
G24A	Alzada	84.82 337	⇓P	P	06 23 08.0 -0.4
	baz=85				
E28A	Huff	84.84 340	⇓P	P	06 23 08.3 -0.1
	baz=85				
I20A	Worland	84.85 334	⇓P	P	06 23 08.5 -0.2
	baz=85,SNR=9.9				
E27A	Carson	84.95 340	⇓P	P	06 23 08.7 -0.3
	baz=85,SNR=5.2				
ELK	Elko	84.96 328	eP	P	06 23 09.2 -0.2
ELK	Elko	84.96 328	eP	P	06 23 09.2 -0.2
D29A	Pettibone, Tap	84.98 341	⇑P	P	06 23 08.8 -0.3
	baz=85				
G23A	Biddle	85.02 337	⇓P	P	06 23 09.0 -0.4
	baz=85				
F25A	Bowman	85.05 338	⇑P	P	06 23 09.3 -0.2
	baz=85				
H21A	Big Horn, Sher	85.06 335	⇑P	P	06 23 09.1 -0.6
	baz=85,SNR=5.0				
WAKR	Walker	85.09 324	eP	P	06 23 10.9 +0.8
	comp=Z,11nm,1.3s				
CMB	Columbia Colle	85.18 323	eP	P	06 23 10.7 +0.3
CMB			pmax	pmax	
	comp=Z,11nm,1.3s				
CMB	Columbia Colle	85.18 323	eP	P	06 23 10.7 +0.3
	comp=Z,11nm,1.3s				
AGMN	Agassiz Nation	85.22 344	⇓P	P	06 23 09.7 -0.5
	baz=86,SNR=8.7				
AGMN	Agassiz Nation	85.22 344	eP	P	06 23 09.7 -0.5
	comp=Z,9.7nm,0.6s				
I19A	Meeteetse	85.24 334	⇑P	P	06 23 10.6 -0.2
	baz=86,SNR=8.7				
E26A	Carlson Angus	85.25 339	⇑P	P	06 23 10.3 -0.2
	baz=86				
H20A	Greybull	85.27 335	⇑P	P	06 23 10.5 -0.3
	baz=86,SNR=17				
C30A	Mose, Pekin	85.29 342	⇑P	P	06 23 10.8 +0.2
	baz=86,SNR=17				
F24A	Ekalaka	85.29 338	⇓P	P	06 23 10.6 -0.2
	baz=86,SNR=7.0				
G22A	Birney	85.33 336	⇓P	P	06 23 10.3 -0.7
	baz=86				
REDW	Red Top Meadow	85.35 332	eP	P	06 23 11.2 -0.2
D28A	Regan	85.37 341	⇓P	P	06 23 11.0 0.0
	baz=86				
LOHW	Long Hollow	85.47 333	eP	P	06 23 11.7 -0.2
	comp=Z,101nm,2.6s				
F23A	Volborg	85.48 337	⇓P	P	06 23 11.6 -0.2
	baz=86,SNR=8.1				
TPAW	Teton Pass	85.50 332	eP	P	06 23 12.1 -0.1
	comp=Z,7.8nm,0.8s				
E25A	Miller Ranch,	85.56 339	⇑P	P	06 23 12.2 +0.1
	baz=86,SNR=5.9				
G21A	Lodge Grass	85.64 336	⇓P	P	06 23 12.8 +0.3
	baz=86				
FXWY	Fox Creek	85.66 332	eP	P	06 23 12.6 -0.2
	comp=Z,14nm,1.5s				
I17A	Pilgrim Ck.	85.72 333	⇓P	P	06 23 13.6 +0.4

baz=86,SNR=12
D26A Manning 85.75 339 ⇓P **P 06 23 12.8 -0.2**
baz=86
H19A Powell 85.78 334 ⇓P **P 06 23 13.0 -0.3**
baz=86,SNR=5.9
F22A Rosebud 85.81 336 ⇓P **P 06 23 13.1 -0.3**
baz=86,SNR=8.7
IMW Indian Meadow 85.84 333 *e*P **P 06 23 13.8 0.0**
E24A Baker 85.89 338 ⇑P **P 06 23 13.6 -0.1**
baz=86,SNR=5.3
FLWY Flagg Ranch 85.91 333 *e*P **P 06 23 14.3 +0.3**
B30A Myrvik Farm, E 85.94 343 ⇓P **P 06 23 13.7 -0.2**
baz=86,SNR=24
G20A Bridger 85.99 335 ⇑P **P 06 23 13.8 -0.5**
baz=86,SNR=20
H18A Shoshone NF, C 86.03 334 ⇓P **P 06 23 14.4 -0.3**
baz=86
C27A Sayler Ranch, 86.10 340 ⇑P **P 06 23 15.0 +0.4**
baz=86
D25A Fairfield 86.11 339 ⇓P **P 06 23 15.1 +0.3**
baz=86,SNR=9.0
H17A Grant Village 86.13 333 ⇓P **P 06 23 15.4 +0.2**
baz=86
H17A Grant Village 86.13 333 *e*P **P 06 23 15.2 0.0**
comp=Z,7.9nm,1.2s
F21A Absaloka Mine, 86.14 336 ⇓P **P 06 23 14.8 -0.2**
baz=86
E23A Ismay 86.14 337 ⇑P **P 06 23 14.4 -0.5**
baz=86
B29A Wagenman Farm, 86.22 342 ⇓P **P 06 23 14.9 -0.3**
baz=86
RLMT Red Lodge 86.28 334 *e*P **P 06 23 15.4 -0.5**
comp=Z,9.9nm,0.7s
YFT Old Faithful 86.28 333 *e*P **P 06 23 16.9 +1.0**
comp=Z,12nm,0.9s
C26A Wahner Farm, P 86.37 340 ⇑P **P 06 23 16.1 +0.1**
baz=87
D24A Glendive 86.39 338 ⇓P **P 06 23 16.0 -0.1**
baz=87,SNR=5.2
A30A Hoffart Farm, 86.39 343 ⇓P **P 06 23 15.5 -0.6**
baz=87,SNR=11
B28A Dugan Ranch, T 86.46 341 ⇑P **P 06 23 16.7 +0.3**
baz=87
YMR Madison River 86.51 333 *e*P **P 06 23 17.7 +0.7**
comp=Z,27nm,0.9s
C25A Freed Ranch, W 86.60 339 ⇓P **P 06 23 17.3 +0.2**
baz=87
LAO LASA Array 86.60 337 *e*P **P 06 23 16.8 -0.4**
comp=Z,24nm,1.0s
A29A Manning Farm, 86.61 342 ⇓P **P 06 23 16.5 -0.6**
baz=87,SNR=11
B27A Peters Farms, 86.67 341 ⇑P **P 06 23 17.9 +0.5**
baz=87
D23A Lindsay 86.71 338 ⇑P **P 06 23 17.8 +0.1**
baz=87,SNR=24
E21A Keefer Ranch, 86.75 336 ⇑P **P 06 23 17.9 0.0**
baz=87,SNR=8.3
C24A Savage 86.79 338 ⇓P **P 06 23 18.6 +0.5**
baz=87,SNR=24
F19A Roth Farm, Mol 86.79 335 ⇑P **P 06 23 17.8 -0.4**
baz=87,SNR=7.8
QLMT Earthquake Lak 86.82 333 *e*P **P 06 23 19.2 +0.7**
A28A Rude Farm, Bot 86.86 342 ⇓P **P 06 23 18.5 +0.1**
baz=87
HLID Hailey 86.93 330 ⇑P **P 06 23 19.9 +0.9**
baz=87,SNR=15
HLID Hailey 86.93 330 *e*P **P 06 23 19.2 +0.2**
comp=Z,14nm,1.2s
D22A Cohagen 87.00 337 ⇑P **P 06 23 19.1 0.0**
baz=87,SNR=10
ULM Lac du Bonnet 87.06 345 *e*P **P 06 23 18.2 -1.0**
ULM pmax pmax
comp=Z,11nm,1.0s
ULM Lac du Bonnet 87.06 345 P **P 06 23 18.1 -1.1**
comp=Z,10nm,0.9s,baz=158,slow=3.1,SNR=16
ULM Lac du Bonnet 87.06 345 *e*P **P 06 23 18.2 -1.0**
comp=Z,11nm,1.0s
E20A Meyer Farm, Mu 87.08 336 ⇓P **P 06 23 19.6 0.0**
baz=87,SNR=24
B25A Knox Farm, Ray 87.08 340 ⇓P **P 06 23 19.4 -0.1**
baz=87
D21A La Casta Ranch 87.19 337 ⇑P **P 06 23 20.1 +0.1**
baz=88,SNR=14
C23A Lambert 87.26 338 ⇑P **P 06 23 20.3 -0.1**
baz=88,SNR=15
E19A Rath Farm, Rou 87.26 335 ⇓P **P 06 23 20.2 -0.3**
baz=88,SNR=19
A26A Wade Farm, Ken 87.33 340 ⇓P **P 06 23 20.5 -0.2**
baz=88,SNR=7.9
MCMT McKenzie Canyo 87.36 332 *e*P **P 06 23 21.5 +0.3**
comp=Z,8.8nm,1.0s
MFID Camas Ranch 87.40 329 *e*P **P 06 23 21.2 -0.1**
comp=Z,12nm,1.3s
C22A Vida 87.43 338 ⇓P **P 06 23 20.8 -0.4**
baz=88,SNR=7.0
D20A Manuel Ranch, 87.59 336 ⇓P **P 06 23 21.6 -0.3**
baz=88,SNR=16
A25A Svangstu Ranch 87.67 340 ⇓P **P 06 23 22.4 +0.2**
baz=88
DLMT Dillon 87.71 332 *e*P **P 06 23 23.2 +0.4**
B23A Brockton 87.79 338 ⇑P **P 06 23 22.5 -0.4**
baz=88,SNR=5.9
D19A Cripps Ranch, 87.91 336 ⇑P **P 06 23 23.3 -0.3**
baz=88
A24A Westby 87.91 339 ⇑P **P 06 23 23.3 -0.1**
baz=88
B22A Reddig Ranch S 87.96 338 ⇑P **P 06 23 23.3 -0.4**
baz=88,SNR=11
LRM Limekiln Ridge 88.04 333 *e*P **P 06 23 24.8 +0.3**
C20A Veseth Ranch, 88.09 336 ⇑P **P 06 23 23.6 -0.7**
baz=88,SNR=8.6
MOD Modoc Plateau 88.16 326 *e*P **P 06 23 25.0 0.0**
comp=Z,8.2nm,0.9s
A23A Redstone 88.20 339 ⇓P **P 06 23 24.4 -0.4**
baz=88
C19A Slack Wire Ran 88.45 336 ⇓P **P 06 23 25.4 -0.8**
baz=89
A22A Carney Farms, 88.55 338 ⇓P **P 06 23 26.2 -0.3**
baz=89,SNR=15
B20A Solberg Farm, 88.72 337 ⇓P **P 06 23 26.8 -0.6**
baz=89,SNR=6.3
A21A Bergtoll Ranch 88.86 338 ⇑P **P 06 23 27.1 -0.8**
baz=89,SNR=5.6
EGMT Eagleton 88.95 335 ⇓P **P 06 23 28.1 -0.3**
baz=89
B19A Brinkman Farms 89.04 336 ⇑P **P 06 23 28.2 -0.6**
baz=89,SNR=6.4
SCHQ Schefferville 89.05 3 P **P 06 23 27.7 -0.9**
comp=Z,1.1nm,0.4s,baz=201,slow=4.8,SNR=5.2
A20A Cobblestone Ra 89.08 337 ⇓P **P 06 23 28.5 -0.5**
baz=89,SNR=8.6
A19A Klindworth Far 89.39 337 ⇓P **P 06 23 30.0 -0.5**
baz=90
SLMT Seeley Lake 89.63 333 *e*P **P 06 23 31.1 -0.6**
HAWA Hanford 91.36 329 *e*P **P 06 23 40.4 +0.8**
comp=Z,8.1nm,1.0s
TAM Tamanrasset 92.70 64 *e*P **P 06 23 47.6 +1.0**
TAM pmax pmax
comp=Z,3.0nm,0.8s
TAM Tamanrasset 92.70 64 *e*P **P 06 23 47.6 +1.0**
comp=Z,2.6nm,0.8s
EDM Edmonton 94.57 336 *e*P **P 06 23 53.3 -1.0**
EDM Edmonton 94.57 336 *e*P **P 06 23 53.3 -1.0**
FCC Fort Churchill 94.77 348 *e*P **P 06 23 54.6 -0.4**
FCC Fort Churchill 94.77 348 *e*P **P 06 23 54.5 -0.4**
comp=Z,0.1nm,0.6s
YKA Yellowknife Ar 102.63 341 P **Pdif 06 24 29.2 -1.0**
comp=Z,0.6nm,0.6s,baz=142,slow=4.4,SNR=13
ILAR Eielson Array 114.79 333 PKP PKPdf 06 29 12.3 -1.4
comp=Z,0.4nm,0.7s,baz=63,slow=1.4,SNR=3.9
VYHS Vyhne 115.15 47 *e*PKIKP **PKPdf 06 29 15.0 +0.1**
VYHS Vyhne 115.15 47 *e*PKP **PKPdf 06 29 15.0 +0.1**
ASAR Alice Springs 117.30 206 PKP **PKPdf 06 29 18.3 -1.7**
comp=Z,0.8nm,0.8s,baz=152,slow=3.3,SNR=6.7
ASAR PKKPbc **PKKPbc 06 39 42.5 -0.4**
comp=Z,0.5nm,0.7s,baz=335,slow=2.8,SNR=6.0
WRA Warramunga Arr 120.52 209 PKP **PKPdf 06 29 24.8 -1.5**
comp=Z,1.5nm,0.5s,baz=163,slow=1.4,SNR=17
BRTR Keskin Array B 121.75 61 PKIKP **PKPdf 06 29 28.0 -0.1**
BRTR Keskin Array B 121.75 61 PKP **PKPdf 06 29 27.9 -0.1**
comp=Z,1.2nm,0.8s,baz=116,slow=2.9,SNR=5.0
KIEV Kiev 122.23 48 ⇑/PKIKP **PKPdf 06 29 27.7 -0.7**
AKASG Malin Array Be 122.25 48 PKP **PKPdf 06 29 27.6 -0.9**
comp=Z,0.6nm,0.4s,baz=318,slow=1.2,SNR=3.3
VSU Vasula 122.84 38 ⇑/PKIKP **PKPdf 06 29 28.8 -0.5**
FINES FINESS Array B 123.18 35 PKP **PKPdf 06 29 28.9 -1.0**
comp=Z,2.8nm,1.0s,baz=220,slow=35,SNR=3.5
ARCES ARCESS Array B 124.30 25 PKP **PKPdf 06 29 31.1 -0.8**
comp=Z,2.5nm,0.8s,baz=242,slow=4.4,SNR=6.4
FITZ Fitzroy Crossi 125.20 200 *e*PKPdf **PKPdf 06 29 34.1 -1.2**
H11S2 WAKE ISLAND Hyt26.12 269 T T 08 47 58.3
baz=119,slow=75,SNR=14
H11S1 WAKE ISLAND Hyt26.14 269 T T 08 47 56.4
baz=119,slow=75,SNR=17
H11S3 WAKE ISLAND Hyt26.14 269 T T 08 47 54.0
baz=119,slow=75,SNR=12
H11N3 WAKE ISLAND Hyt26.55 270 T T 08 48 28.5
baz=116,slow=78,SNR=16
H11N1 WAKE ISLAND Hyt26.56 270 T T 08 48 26.6
baz=116,slow=78,SNR=32
H11N2 WAKE ISLAND Hyt26.57 270 T T 08 48 24.0
baz=116,slow=78,SNR=18
SEY Seymchan 140.63 330 PKP **PKPdf 06 30 00.4 -2.3**
comp=Z,2.9nm,0.7s,baz=124,slow=4.1,SNR=8.5
TIXI Tiksi 141.23 350⇓ *e*PKIKP **PKPdf 06 30 04.8 +1.3**
POO Poona 145.44 108 *ex* **PKPdf 06 30 12.0 -0.6**
PSI Prapat 147.27 162 PKPbc **PKPdf 06 30 16.8 +0.8**
comp=Z,13nm,0.8s,baz=328,slow=1.8,SNR=11
BRVK Borovoye 147.31 44 *d i*PKP2 **PKPbc 06 30 16.8 -0.3**
BRVK Borovoye 147.31 44 *e*PKPbc **PKPbc 06 30 17.7 +0.6**
HYB Hyderabad 148.40 115 *i* PKP **PKPbc 06 30 19.5 -1.6**
YAK Yakutsk 149.30 340 *e*PKHKP **PKPdf 06 30 19.3 +1.7**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.1s
KKAR Karatay Array 149.45 62 *e*PKP2 **PKPbc 06 30 23.1 0.0**
KKAR Karatay Array 149.45 62 *e*PKPbc **PKPbc 06 30 23.1 0.0**
YSS Yuzh-Sakhalins 151.37 306 *e*PKIKP **PKPbc 06 30 27.0 -0.4**
EKS2 Erkin-Say 151.88 63 *e*PKIKP **PKPbc 06 30 29.5 +0.6**
EKS2 Erkin-Say 151.88 63 *e*PKPbc **PKPbc 06 30 29.5 +0.6**
NVS Novosibirsk 153.15 33 *e*PKIKP **PKPbc 06 30 30.4 -0.8**
KSH Kashi 153.70 69 PKPbc **PKPdf 06 30 25.5 +0.2**
KSH sPKP 06 30 38.6
KSH PKS **PKSdf 06 33 59.4 -0.2**
KSH PP **PP 06 34 19.6 -1.2**
KSH SKS **SKSdf 06 37 30.0 +0.1**
KSH SKKS **SKKSac 06 41 09.1 +0.8**
KSH SS **SS 06 53 52.4 -3.3**
KSH PPMZ
comp=N,99nm,4.3s
KSH LN
comp=N,80nm,4.1s
KSH LE
comp=N,80nm,4.0s
KSH LZ
comp=N,110nm,6.5s
ZALV Zalesovo Beam 154.43 33 PKP **PKPdf 06 30 25.1 -0.5**
comp=N,0.8nm,0.3s,baz=355,slow=3.6,SNR=3.8
ZALV PKPbc **PKPbc 06 30 33.4 -0.6**
comp=N,8.3nm,0.9s,baz=298,slow=3.2,SNR=10
ZALV PKPab **PKPab 06 30 47.7 -0.6**
comp=N,1.4nm,0.3s,baz=291,slow=4.5,SNR=3.2
MKAR Makanchi Array 156.80 50 PKP **PKPdf 06 30 28.0 -1.1**
comp=N,0.7nm,0.8s,baz=342,slow=0.4,SNR=6.3
MKAR PKPab **PKPab 06 30 58.1 -0.7**
comp=N,2.3nm,0.9s,baz=290,slow=3.5,SNR=8.7
WMQ Urumqi 161.47 54 *e*PKP **PKPdf 06 30 34.0 -0.7**
WMQ pPKP **pPKPdf 06 30 45.0 -0.1**
WMQ LZ
comp=N,34nm,20.0s
CMAR Chiang Mai Arr 161.95 150 PKP **PKPdf 06 30 35.7 -0.2**
comp=N,0.6nm,0.3s,baz=238,slow=2.8,SNR=5.6
CMAR PKPab **PKPab 06 31 21.7 -0.1**
comp=N,0.7nm,0.4s,baz=224,slow=5.0,SNR=3.3
CN2 Changchun 163.85 310 *e*PKP **PKPdf 06 30 37.2 +0.3**
SONM Songino Array 166.57 6 PKP **PKPdf 06 30 38.8 -0.5**
comp=N,0.7nm,0.8s,baz=351,slow=1.4,SNR=3.1
SONM PKPab **PKPab 06 31 40.9 -0.6**
comp=N,1.1nm,0.9s,baz=347,slow=3.8,SNR=6.1
KMI Kunming 169.46 151 PKP **PKPdf 06 30 41.9 -0.2**
KMI LZ
comp=N,43nm,29.4s
NJ2 Nanjing 170.92 257 *e*PKP **PKPdf 06 30 45.6 +3.2**
GTA Gaotai 171.55 52 *e*PKP **PKPdf 06 30 43.0 +0.3**
GTA pPKP **pPKPdf 06 30 53.8 +0.7**
GTA sPKP 06 30 57.4
GTA PKPab **PKPab 06 32 04.6 +0.6**
GYA Guiyang 171.87 169 PKP **PKPdf 06 30 42.0 -1.2**
GYA pPKP **pPKPdf 06 30 53.2 -0.4**
GYA PKPab **PKPab 06 32 07.4 +2.0**
GYA PKS **PKSdf 06 34 13.8 -1.9**
GYA PP **PP 06 35 59.2 +3.7**
GYA SKKS 06 42 40.4
GYA SS **SS 06 57 02.3 +1.2**
GYA PPMZ
comp=N,120nm,8.4s
GYA LN
comp=N,120nm,24.2s
GYA LE
comp=N,110nm,23.0s
GYA LZ
comp=N,120nm,24.6s
HHC Hu-ho-hao-te 173.16 339 *e*PKP **PKPdf 06 30 43.4 +0.1**
HHC pPKP **pPKPdf 06 30 53.6 -0.1**
HHC sPKP 06 30 57.9
HHC PP **PP 06 36 06.0 +3.9**
HHC SKS **SKSdf 06 37 42.0 -2.2**
HHC SS **SS 06 57 13.7 -0.4**
HHC PPMZ
comp=N,55nm,5.9s
HHC LN
comp=N,170nm,21.2s
HHC LE
comp=N,180nm,20.3s
HHC LZ
comp=N,85nm,21.0s
CD2 Chengdu 174.71 131 *e*PKP **PKPdf 06 30 44.3 +0.2**
LZH Lanzhou 175.94 65 *e*PKP **PKPdf 06 30 45.1 +0.7**
LZH pPKP **pPKPdf 06 30 57.5 +2.7**
LZH sPKP 06 31 02.5
LZH *e*PP **PP 06 36 21.3 +4.4**
LZH *e*SKKS 06 43 00.4
LZH *e*SS **SS 06 57 37.1 -6.2**
LZH PPMZ
comp=N,140nm,5.2s
LZH LN
comp=N,200nm,17.6s
LZH LE
comp=N,250nm,17.4s
LZH LZ
comp=N,420nm,18.9s

IDC 12 06:15:13.5±14.0, 11°32S×163°09E, h235km±149km, mb3.4/6, mb1 3.7/7, mb1mx3.3/37, mbtmp4.1/7, MS3.3/2, Ms1 3.3/2, ms1mx2.8/14, Error ellipse: s-maj=99.8km s-min=48.8km az=152.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.16**	**164**	LR	LR	06 21 03.3	
comp=Z,115nm,20.9s,baz=5.0,slow=31							
CTA	**Charters Tower**	**18.39**	**240**	P	P	06 19 11.8	+0.4
0.7nm,0.3s,baz=50,slow=9.2,SNR=7.4							
WRA	**Warramunga Arr**	**28.95**	**249**	P	P	06 20 50.4	-1.0
1.8nm,0.7s,baz=76,slow=9.2,SNR=12							
WRA				LR	LR	06 32 41.8	
comp=Z,66nm,19.8s,baz=285,slow=36							
ASAR	**Alice Springs**	**30.36**	**242**	P	P	06 21 04.1	+0.4
4.2nm,0.8s,baz=70,slow=10.0,SNR=30							
CMAR	**Chiang Mai Arr**	**69.84**	**295**	P	P	06 26 00.3	+1.1
0.8nm,0.4s,baz=112,slow=4.4,SNR=6.6							
SONM	**Songino Array**	**77.36**	**325**	P	P	06 26 41.7	-0.8
0.8nm,0.8s,baz=142,slow=6.8,SNR=3.6							
ILAR	**Eielson Array**	**84.61**	**19**	P	P	06 27 20.4	+0.3
0.4nm,0.8s,baz=241,slow=4.6,SNR=6.3							
MKAR	**Makanchi Array**	**91.95**	**317**	P	P	06 27 54.7	-0.7
0.4nm,0.7s,baz=93,slow=5.6,SNR=5.7							

IDC 12 06:26:31.0±0.7, 55°68S×26°71W, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.9/27, mbtmp4.2/5, ML3.2/1, MS3.6/1, Ms1 3.5/1, ms1mx2.9/26, Error ellipse: s-maj=37.8km s-min=19.9km az=80.0
ISCJB 12 06:26:33.2±0.8, 55°7S±0°1×26°9W±0°3, h25km, mb4.2/6, MS3.6/1, Error ellipse: s-maj=24.8km s-min=13.5km az=140.9
NEIC 12 06:26:36.3±0.5, 55°66S×26°94W, h35km, mb4.4/4, Error ellipse: s-maj=17.2km s-min=10.7km az=53.0

ISC 12 06:26:34.8±0.8, 55°7S±0°1×26°9W±0°2, h25km, n23, σ0°76/16, mb4.4/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.71**	**280**	*e*Pn	**Pn**	**06 27 57.2**	**-0.7**
SNAA	**Sanae**	**19.00**	**157**	P	**P**	**06 30 53.3**	**-1.0**
0.1nm,0.3s,baz=319,slow=14,SNR=6.3							
SNAA	**Sanae**	**19.00**	**157**	*e*P	**Pn**	**06 30 54.8**	**-0.3**
2.7nm,0.8s							
QSPA	**South Pole Qui**	**34.56**	**180**	P	**P**	**06 33 20.8**	**-0.3**
2.3nm,0.5s,baz=236,slow=1.4,SNR=24							
QSPA	**South Pole Qui**	**34.56**	**180**	*e*P	**P**	**06 33 22.1**	**+1.0**
15nm,1.4s							
BOSA	**Boshof**	**45.71**	**76**	LR	LR	06 50 03.6	
comp=Z,68nm,18.6s,baz=208,slow=31							
VNDA	**Vanda**	**46.94**	**183**	P	**P**	**06 35 03.9**	**+1.2**
2.6nm,0.6s,baz=176,slow=6.3,SNR=18							
H10S2	**ASCENSION HYDR**	**47.61**	**16**	T	T	07 26 34.6	
baz=190							
H10S3	**ASCENSION HYDR**	**47.61**	**16**	T	T	07 26 34.4	
baz=190,slow=74							
H10S1	**ASCENSION HYDR**	**47.62**	**16**	T	T	07 26 38.1	
baz=190,slow=74							
H10N1	**ASCENSION HYDR**	**48.73**	**16**	T	T	07 27 58.1	
baz=189,slow=75,SNR=9.5							
H10N3	**ASCENSION HYDR**	**48.73**	**16**	T	T	07 28 05.6	
baz=189,slow=75,SNR=20							
H10N2	**ASCENSION HYDR**	**48.74**	**16**	T	T	07 28 02.7	
baz=189,slow=75,SNR=13							
LPAZ	**La Paz**	**50.31**	**305**	P	**P**	**06 35 30.6**	**+0.5**
2.8nm,0.7s,baz=156,slow=4.0,SNR=14							
LPAZ	**La Paz**	**50.31**	**305**	*e*P	**P**	**06 35 30.7**	**+0.7**
2.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**72.66**	**29**	P	**P**	**06 38 00.5**	**+0.3**
0.6nm,0.5s,baz=197,slow=6.6,SNR=14							
SDV	**Santo Domingo**	**73.88**	**315**	*e*P	**P**	**06 38 07.9**	**+0.3**
3.3nm,0.8s							
ASAR	**Alice Springs**	**99.28**	**162**	P	**Pdif**	**06 40 13.4**	**-1.1**
0.3nm,0.6s,baz=180,slow=3.9,SNR=5.9							
FINES	**FINESS Array B**	**123.98**	**28**	PKP	**PKPdf**	**06 45 29.1**	**-0.1**
0.9nm,0.7s,baz=264,slow=4.2,SNR=2.6							
YKA	**Yellowknife Ar**	**136.02**	**318**	PKP	**PKPdf**	**06 45 50.9**	**-1.1**
0.3nm,0.7s,baz=129,slow=2.1,SNR=4.6							
INK	**Inuvik**	**145.63**	**321**	PKPbc	**PKPbc**	**06 46 09.3**	**-0.2**
2.5nm,0.5s,baz=67,slow=3.0,SNR=32							
ILAR	**Eielson Array**	**150.01**	**312**	PKPbc	**PKPbc**	**06 46 21.3**	**-0.2**
1.8nm,0.8s,baz=125,slow=1.4,SNR=21							
SONM	**Songino Array**	**150.53**	**86**	PKPbc	**PKPbc**	**06 46 23.1**	**-0.3**
0.9nm,0.5s,baz=214,slow=4.0,SNR=12							

ISCJB 12 06:32:49.6±1.1, 34°5S±0°1×72°2W±0°2, h10km, mb4.0/4, Error ellipse: s-maj=21.4km s-min=14.7km az=7.9
IDC 12 06:32:54.9±4.3, 34°58S×72°09W, h39km±35km, mb3.7/4, mb1 3.8/5, mb1mx3.6/16, mbtmp3.8/5, ML3.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/29, Error ellipse: s-maj=45.5km s-min=27.2km az=98.0
NEIC 12 06:32:55.2±1.1, 34°50S×72°11W, h35km, mb4.5/2, Error ellipse: s-maj=22.7km s-min=15.6km az=97.0

ISC 12 06:32:50.7±1.0, 34°5S±0°1×72°3W±0°2, h10km, n11, σ1°56/11, mb4.2/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.49**	**51**	Pn	**Pn**	**06 33 58.3**	**-0.5**
0.1nm,0.3s,baz=228,slow=15,SNR=3.7							
CFAA				Lg	Lg	06 35 07.7	
0.4nm,0.3s,baz=304,slow=20,SNR=6.7							
PLCA	**Paso Flores**	**6.37**	**168**	Pn	**Pn**	**06 34 24.6**	**-0.1**
0.7nm,0.3s,baz=346,slow=10,SNR=8.3							
PLCA				Lg	Lg	06 36 08.5	
baz=270,slow=20							
PLCA				LR	LR	06 37 08.8	
comp=Z,132nm,20.8s,baz=218,slow=40							
PLCA	**Paso Flores**	**6.37**	**168**	*e*Pn	**Pn**	**06 34 24.8**	**+0.2**
12nm,0.9s							
PLCA				Lg	Lg	06 36 08.5	
TRQA	**Tornquist**	**9.07**	**116**	*e*Pn	**Pn**	**06 35 02.9**	**+1.3**
16nm,1.4s							
QSPA	**South Pole Qui**	**55.73**	**180**	P	**P**	**06 42 27.5**	**+0.3**
2.2nm,0.9s,baz=129,slow=2.6,SNR=4.3							
QSPA	**South Pole Qui**	**55.73**	**180**	*e*P	**P**	**06 42 29.4**	**+2.2**
8.0nm,1.4s							
TXAR	**Lajitas Array**	**70.06**	**331**	P	**P**	**06 44 04.7**	**+1.8**
0.2nm,0.6s,baz=150,slow=7.3,SNR=2.3							
BOSA	**Boshof**	**80.04**	**118**	P	**P**	**06 45 00.1**	**-0.8**
1.7nm,0.8s,baz=223,slow=5.6,SNR=3.9							
BOSA	**Boshof**	**80.04**	**118**	*e*P	**P**	**06 44 60.0**	**-0.9**
7.0nm,1.5s							
TORD	**Torodi Ar. Bea**	**84.61**	**70**	P	**P**	**06 45 23.8**	**-0.8**
1.1nm,0.8s,baz=237,slow=3.7,SNR=5.0							
WRA	**Warramunga Arr**	**120.20**	**209**	PKP	**PKPdf**	**06 51 39.8**	**-2.7**
0.4nm,0.8s,baz=157,slow=1.5,SNR=3.5							

IDC 12 06:39:43.0±0.9, 36°15S×73°47W, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.9/25, mbtmp3.8/10, ML3.6/2, Error ellipse: s-maj=29.7km s-min=16.4km az=94.0
GUC 12 06:39:44.5±0.5, 36°14S×73°72W, h36km±6km, ML4.8
ISCJB 12 06:39:46.2±0.7, 36°17S±0°05×73°5W±0°1, h33km, mb4.1/8, Error ellipse: s-maj=14.1km s-min=7.1km az=14.2
NEIC 12 06:39:48.3±0.6, 36°14S×73°50W, h35km, mb4.5/3, Error ellipse: s-maj=16.6km s-min=9.4km az=91.0

ISC 12 06:39:48.2±0.7, 36°19S±0°05×73°52W±0°09, h35km, n24, σ1°05/27, mb4.0/8, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.60**	**85**	*e*P1	**Pn**	**06 39 58.7**	**-1.5**
COCH				*i* S1	**Sn**	**06 40 09.4**	**+0.8**
CCSP	**San Pedro de C**	**0.73**	**153**⇓	*i*P	**Pn**	**06 40 00.2**	**-1.9**
CCSP				*i* S1	**Sn**	**06 40 11.9**	**-0.1**
CLCH	**Cerro Calan**	**3.71**	**42**⇑	*i*P	**Pn**	**06 40 41.9**	**-1.2**
CLCH				AML	AML	06 41 57.8	
comp=N,1μm,0.7s							
PEL	**Peldehue**	**3.83**	**38**⇑	*i*P	**Pn**	**06 40 43.5**	**-1.3**
PEL				*i* S1	**Sn**	**06 41 28.0**	**-0.6**
PEL				AML	AML	06 41 55.0	
comp=E,655nm,0.7s							
PLCA	**Paso Flores**	**5.10**	**154**	Pn	**Pn**	**06 41 02.6**	**+0.5**
comp=E,0.6nm,0.3s,baz=322,slow=8.5,SNR=19							
PLCA	**Paso Flores**	**5.10**	**154**	*e*Pn	**Pn**	**06 41 02.7**	**+0.5**
comp=E,14nm,0.6s							
CFAA	**Coronel Fontan**	**6.34**	**45**	Pn	**Pn**	**06 41 18.2**	**-1.0**
comp=E,0.6nm,0.3s,baz=214,slow=13,SNR=31							
CFAA				Sn	**Sn**	**06 42 32.4**	**+1.9**
comp=E,0.4nm,0.3s,baz=168,slow=19,SNR=3.2							
LCO	**Las Campanas**	**7.54**	**19**	*e*Pn	**Pn**	**06 41 35.8**	**-0.1**
TRQA	**Tornquist**	**9.41**	**105**	*e*Pn	**Pn**	**06 42 02.6**	**+1.4**
comp=E,18nm,1.1s							
LPAZ	**La Paz**	**20.39**	**15**	P	**P**	**06 44 22.4**	**-0.3**
comp=E,1.6nm,0.7s,baz=196,slow=8.2,SNR=8.6							
LPAZ	**La Paz**	**20.39**	**15**	*e*P	**P**	**06 44 23.2**	**+0.5**
comp=E,11nm,1.2s							
SIV	**San Ignacio**	**22.97**	**32**	P	**P**	**06 44 48.3**	**-1.4**
comp=E,3.8nm,1.0s,baz=221,slow=9.7,SNR=13							
PMSA	**Palmer Station**	**29.18**	**172**	P	**P**	**06 45 46.4**	**+0.6**
comp=E,28nm,0.8s,baz=360,slow=16,SNR=5.8							
SNAA	**Sanae**	**50.03**	**157**	P	**P**	**06 48 38.9**	**+0.1**
comp=E,2.1nm,0.9s,baz=271,slow=8.2,SNR=5.0							
QSPA	**South Pole Qui**	**54.05**	**180**	P	**P**	**06 49 08.8**	**-0.1**
comp=E,3.2nm,0.9s,baz=174,slow=1.6,SNR=5.9							
QSPA	**South Pole Qui**	**54.05**	**180**	*e*P	**P**	**06 49 09.4**	**+0.4**
comp=E,6.2nm,1.1s							
TXAR	**Lajitas Array**	**71.08**	**332**	P	**P**	**06 51 02.6**	**-0.2**
comp=E,0.2nm,0.5s,baz=153,slow=10,SNR=3.9							
DBIC	**Dimbokro**	**77.03**	**72**	P	**P**	**06 51 37.8**	**-0.1**
comp=E,1.3nm,0.6s,baz=297,slow=4.6,SNR=3.0							
DBIC	**Dimbokro**	**77.03**	**72**	*e*P	**P**	**06 51 38.0**	**+0.2**
comp=E,14nm,1.3s							
NVAR	**Mina Array Bea**	**85.00**	**326**	P	**P**	**06 52 21.2**	**+1.2**
comp=E,0.2nm,0.4s,baz=152,slow=4.1,SNR=3.3							
TORD	**Torodi Ar. Bea**	**86.09**	**71**	P	**P**	**06 52 25.0**	**-0.7**
comp=E,0.8nm,0.9s,baz=226,slow=4.3,SNR=3.9							
TIXI	**Tiksi**	**142.61**	**349**	*e*PKPdf	**PKPdf**	**06 59 17.9**	**+1.6**
ABKAR	**Akbulak array**	**143.97**	**54**	*e*PKPdf	PKPab	06 59 17.0	+0.3
MKAR	**Makanchi Array**	**159.09**	**52**	PKPab	**PKPab**	**07 00 17.6**	**-1.5**
comp=E,0.4nm,0.8s,baz=290,slow=3.6,SNR=4.3							

IDC 12 06:44:56.0±0.5, 34°33S×71°85W, h0km, mb4.5/16, mb1 4.6/18, mb1mx4.6/26, mbtmp4.6/18, ML4.8/2, MS4.0/5, Ms1 4.0/5, ms1mx3.5/30, Error ellipse: s-maj=20.2km

s-min=13.0km az=88.0
*ISCJB **12** 06:44:58.3±1.1, 34°.38S±0°.03×72°.03W±0°.05, h28km±8km, mb4.7/40, MS4.1/3, Error ellipse: s-maj=7.3km s-min=4.7km az=28.5*
*NEIC **12** 06:44:58.8, 34°.35S×71°.98W, h34km, mb4.8/28, ML4.9(GUC), After GUC.*
NEIC Felt [V] at Pichilemu; [IV] at Navidad, Paredones, Rancagua, San Antonio and Santo Domingo; [III] at El Quisco, El Tabo, San Fernando, Santiago and Talca; [II] at Valparaiso. Also felt at Los Angeles, Quilpue and Vina del Mar.
*GUC **12** 06:44:58.8±0.8, 34°.35S×71°.98W, h34km±5km, ML4.9*
*BJI **12** 06:45:01.7, 34°.30S×71°.80W, h35km, mB5.2/3, Ms4.9/2, Ms7 4.8/3*

ISC 12 06:45:00.4±0.8, 34°.35S±0°.03×71°.89W±0°.06, h30km±5km, n106, σ0°.95/127, mb4.8/40, MS4.1/3, 8C-13D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.85**	**140**	⇓*iP*	**Pb**	**06 45 15.4**	**-1.2**
NICH				*i* S1	**Sn**	**06 45 27.5**	**-0.2**
NICH				AML	AML	06 45 32.4	
	comp=E,74μm,0.4s						
NICH	**Los Niches**	**0.85**	**140**	⇓*iP*	**Pb**	**06 45 15.4**	**-1.2**
NICH				*i* S	**Sn**	**06 45 27.5**	**-0.2**
RCDM	**Rinconada Maip**	**1.25**	**47**	⇓*iP*	**Pn**	**06 45 21.2**	**-0.6**
RCDM				*i* S1	**Sb**	**06 45 37.8**	**-1.3**
RCDM				AML	AML	06 45 43.1	
	comp=N,27μm,0.3s						
RCDM	**Rinconada Maip**	**1.25**	**47**	⇓*iP*	**Pn**	**06 45 21.2**	**-0.6**
RCDM				*i* S	**Sb**	**06 45 37.8**	**-1.3**
ANTU	**Antumapu**	**1.31**	**54**	⇓*iP*	**Pn**	**06 45 22.7**	**+0.1**
ANTU				*i* S	**Sb**	**06 45 40.6**	**-0.2**
ANTU				AML	AML	06 45 49.0	
	comp=E,35μm,0.4s						
ANTU	**Antumapu**	**1.31**	**54**	⇓*iP*	**Pn**	**06 45 22.7**	**+0.1**
ANTU				*i* S	**Sb**	**06 45 40.6**	**-0.2**
IHA	**Instituto Hidr**	**1.34**	**9**	⇓*iP*	**Pn**	**06 45 22.1**	**-0.9**
IHA				*i* S1	**Sn**	**06 45 39.9**	**+0.1**
IHA	**Instituto Hidr**	**1.34**	**9**	⇓*iP*	**Pn**	**06 45 22.1**	**-0.9**
IHA				*i* S	**Sn**	**06 45 39.9**	**+0.1**
STL	**Santa Lucia**	**1.39**	**49**	*e*P9	**Pn**	**06 45 22.7**	**-1.0**
STL				*i* S1	**Sn**	**06 45 41.9**	**+0.8**
FSR	**Penalolen**	**1.43**	**53**	⇑*iP*	**Pb**	**06 45 26.0**	**-0.5**
FSR				*i* S1	**Sb**	**06 45 45.2**	**+0.9**
FSR	**Penalolen**	**1.43**	**53**	⇑*iP*	**Pb**	**06 45 26.0**	**-0.5**
FSR				*i* S	**Sb**	**06 45 45.2**	**+0.9**
LACH	**Col Las Americ**	**1.45**	**52**	⇓*iP*	**Pn**	**06 45 24.6**	**0.0**
LACH				*i* S1	**Sb**	**06 45 44.6**	**-0.2**
LACH				AML	AML	06 45 56.7	
	comp=E,18μm,0.8s						
LACH	**Col Las Americ**	**1.45**	**52**	⇓*iP*	**Pn**	**06 45 24.6**	**0.0**
LACH				*i* S	**Sb**	**06 45 44.6**	**-0.2**
SJCH	**San Jose de Ma**	**1.46**	**61**	⇑*iP*	**Pn**	**06 45 24.6**	**-0.3**
SJCH				*i* S	**Sb**	**06 45 44.7**	**-0.6**
SJCH				AML	AML	06 45 50.3	
	comp=N,41μm,0.4s						
SJCH	**San Jose de Ma**	**1.46**	**61**	⇑*iP*	**Pn**	**06 45 24.6**	**-0.3**
SJCH				*i* S	**Sb**	**06 45 44.7**	**-0.6**
CLCH	**Cerro Calan**	**1.48**	**50**	⇓*iP*	**Pb**	**06 45 25.5**	**-1.8**
CLCH				*i* S1	**Sg**	**06 45 45.8**	**+2.5**
CLCH				AML	AML	06 45 54.2	
	comp=E,37μm,0.7s						
PEL	**Peldehue**	**1.57**	**40**	⇑*iP*	**Pn**	**06 45 26.7**	**+0.4**
PEL				*i* S1	**Sb**	**06 45 47.5**	**-0.9**
PEL				AML	AML	06 45 52.9	
	comp=N,69μm,0.4s						
PEL	**Peldehue**	**1.57**	**40**	⇑*iP*	**Pn**	**06 45 26.7**	**+0.4**
PEL				*i* S	**Sb**	**06 45 47.5**	**-0.9**
CMCH	**Combarbala**	**3.26**	**14**	⇓*iP*	**Pn**	**06 45 49.0**	**-0.5**
CMCH	**Combarbala**	**3.26**	**14**	⇓*iP*	**Pn**	**06 45 49.0**	**-0.5**
CFAA	**Coronel Fontan**	**4.12**	**49**	Pn	**Pn**	**06 46 03.5**	**+2.2**
	comp=N,7.2nm,0.3s,baz=226,slow=11,SNR=173						
CFAA				Lg	Lg	06 47 03.5	
	comp=N,14nm,0.3s,baz=335,slow=23,SNR=3.6						
CFAA				LR	LR	06 47 53.7	
	comp=N,389nm,19.2s,baz=172,slow=44						
LCO	**Las Campanas**	**5.42**	**11**	*e*Pn	**Pn**	**06 46 18.2**	**-1.2**
VACH	**Vallenar**	**5.84**	**10**	*i* P1		06 46 24.2	
VACH	**Vallenar**	**5.84**	**10**	*i* P	**Pn**	**06 46 24.2**	**-0.8**
PLCA	**Paso Flores**	**6.46**	**171**	Pn	**Pn**	**06 46 34.1**	**+0.6**
	comp=N,4.0nm,0.3s,baz=336,slow=10,SNR=61						
PLCA				Lg	Lg	06 48 19.6	
	comp=N,1.4nm,0.3s,baz=253,slow=16,SNR=4.7						
PLCA				LR	LR	06 49 02.9	
	comp=N,2μm,18.2s,baz=354,slow=38						
TRQA	**Tornquist**	**8.82**	**118**	*e*Pn	**Pn**	**06 47 07.5**	**+1.6**
LVC	**Limon Verde**	**11.99**	**13**	*e*Pn	Pn	06 47 43.6	-5.9
LPAZ	**La Paz**	**18.30**	**12**	P	**Pn**	**06 49 12.9**	**+0.1**
	comp=N,1.8nm,0.3s,baz=167,slow=6.3,SNR=95						
LPAZ	**La Paz**	**18.30**	**12**	*e*P	**Pn**	**06 49 12.8**	**+0.1**
	comp=N,164nm,1.7s						
USHA	**Ushuaia**	**20.62**	**174**	P	**P**	**06 49 35.7**	**-1.3**
	comp=N,22nm,0.9s,baz=119,slow=0.4,SNR=6.1						
USHA				LR	LR	06 58 32.1	
	comp=N,1μm,21.7s,baz=284,slow=40						
SIV	**San Ignacio**	**20.71**	**31**	P	**P**	**06 49 37.5**	**-0.9**
	comp=N,14nm,0.7s,baz=222,slow=9.8,SNR=42						
SIV				LR	LR	06 59 05.1	
	comp=N,781nm,18.5s,baz=178,slow=41						
NNA	**Nana**	**22.72**	**347**	P	**P**	**06 49 59.6**	**-0.4**
	comp=N,28nm,0.9s,baz=184,slow=11,SNR=10						
NNA	**Nana**	**22.72**	**347**	*e*P	**P**	**06 50 00.6**	**+0.6**
	comp=N,28nm,0.8s						
BDFB	**Brasilia**	**28.43**	**55**	P	**P**	**06 50 52.0**	**-0.8**
	comp=N,6.9nm,0.7s,baz=224,slow=8.3,SNR=13						
OTAV	**Otavalo**	**34.95**	**349**	*e*P	**P**	**06 51 51.1**	**+0.8**
	comp=N,10nm,0.9s						
PTGA	**Pitinga**	**35.26**	**21**	*e*P	**P**	**06 51 51.9**	**-0.6**
	comp=N,29nm,0.8s						
ROSC	**El Rosal**	**39.07**	**356**	P	**P**	**06 52 25.7**	**+0.5**
	comp=N,5.3nm,0.5s,baz=84,slow=23,SNR=6.8						
ROSC	**El Rosal**	**39.07**	**356**	*e*P	**P**	**06 52 26.1**	**+0.9**
SDV	**Santo Domingo**	**43.02**	**2**	*e*P	**P**	**06 52 56.8**	**-0.7**
	comp=N,18nm,1.0s						
VNA3	**Neumayer Olymp**	**48.99**	**158**	P	**P**	**06 53 44.2**	**+0.5**
VNA2	**Neumayer--Watz**	**49.64**	**157**	P	**P**	**06 53 49.4**	**+0.7**
FDF	**Fort de France**	**49.87**	**14**	*e*P	**P**	**06 53 49.6**	**-1.5**
	comp=N,27nm,0.7s						
SNAA	**Sanae**	**51.21**	**158**	P	**P**	**06 54 01.0**	**+0.3**
SNAA	**Sanae**	**51.21**	**158**	P	**P**	**06 54 00.9**	**+0.3**
	comp=N,6.5nm,0.8s,baz=285,slow=6.0,SNR=27						
SNAA	**Sanae**	**51.21**	**158**	*e*P	**P**	**06 54 01.0**	**+0.3**
	comp=N,28nm,1.0s						
CELP	**Cerrillos**	**52.38**	**6**	*e*P	**P**	**06 54 08.8**	**-1.0**
QSPA	**South Pole Qui**	**55.88**	**180**	P	**P**	**06 54 35.6**	**+0.5**
	comp=N,21nm,0.9s,baz=154,slow=2.1,SNR=45						
VNDA	**Vanda**	**63.78**	**191**	P	**P**	**06 55 30.4**	**+1.5**
	comp=N,1.9nm,0.8s,baz=135,slow=5.5,SNR=5.1						
SYO	**Syowa Base**	**65.49**	**158**	⇑*e*P	**P**	**06 55 37.7**	**-2.5**
SYO	**Syowa Base**	**65.49**	**158**	⇑*e*pP	P	06 55 44.6	+4.4
JCT	**Junction City**	**69.66**	**334**	*e*P	**P**	**06 56 07.5**	**+0.5**
	comp=N,11nm,1.1s						
TXAR	**Lajitas Array**	**70.10**	**331**	P	**P**	**06 56 09.9**	**0.0**
	comp=N,0.4nm,0.5s,baz=150,slow=9.0,SNR=8.7						
PPT	**Papeete**	**70.31**	**262**	P	**P**	**06 56 12.2**	**+0.8**
	comp=N,18nm,0.9s,baz=72,slow=20,SNR=2.6						
OXF	**Oxford**	**70.44**	**345**	*e*P	**P**	**06 56 11.2**	**-0.5**
	comp=N,32nm,1.0s						
SWET	**Sewanee**	**70.44**	**348**	*e*P	**P**	**06 56 11.3**	**-0.5**
	comp=N,39nm,1.4s						
WVT	**Waverly**	**71.68**	**346**	*e*P	**P**	**06 56 18.5**	**-0.6**
	comp=N,27nm,0.8s						
MNTX	**Cornudas Mount**	**72.88**	**331**	*e*P	**P**	**06 56 25.6**	**-0.8**
	comp=N,2.9nm,0.9s						
MSTX	**Muleshoe**	**73.88**	**334**	*e*P	**P**	**06 56 32.6**	**+0.2**
	comp=N,5.9nm,0.8s						
AMTX	**Amarillo**	**74.31**	**335**	*e*P	**P**	**06 56 34.6**	**-0.2**
	comp=N,9.7nm,1.0s						
121A	**Cookes Peak, D**	**74.60**	**329**	*e*P	**P**	**06 56 37.5**	**+0.8**
	comp=N,7.7nm,0.9s						
LIC	**Lamto**	**74.77**	**71**	*e*P	**P**	**06 56 37.6**	**-0.3**
	comp=N,30nm,1.3s						
ACSO	**Alum Creek Sta**	**74.92**	**351**	*e*P	**P**	**06 56 37.4**	**-0.7**
	comp=N,11nm,0.5s						
TIC	**Toumodi**	**75.03**	**71**	*e*P	**P**	**06 56 39.2**	**-0.3**
	comp=N,3.9nm,0.2s						
KIC	**Kosan Boka**	**75.08**	**71**	*e*P	**P**	**06 56 39.8**	**+0.1**
	comp=N,110nm,1.5s						
DBIC	**Dimbokro**	**75.18**	**71**	P	**P**	**06 56 40.4**	**+0.1**
	comp=N,8.0nm,0.6s,baz=209,slow=5.8,SNR=16						
DBIC	**Dimbokro**	**75.18**	**71**	*e*P	**P**	**06 56 40.4**	**+0.1**
	comp=N,8.5nm,0.6s						
ANMO	**Albuquerque**	**76.15**	**331**	*e*P	**P**	**06 56 46.3**	**+0.7**
	comp=N,4.0nm,1.0s						
TRY	**Troy**	**76.73**	**359**	*e*P	**P**	**06 56 49.7**	**+1.3**
	comp=N,17nm,1.0s						
BOSA	**Boshof**	**79.80**	**118**	P	**P**	**06 57 06.0**	**-0.2**
	comp=N,5.5nm,0.8s,baz=245,slow=5.2,SNR=7.7						
BOSA	**Boshof**	**79.80**	**118**	*e*P	**P**	**06 57 06.0**	**-0.2**
	comp=N,16nm,1.0s						
SMCO	**Snowmass**	**80.05**	**333**	*e*P	**P**	**06 57 08.5**	**+1.1**
	comp=N,5.5nm,1.1s						
ECSD	**EROS Data Cent**	**80.92**	**342**	*e*P	**P**	**06 57 11.1**	**-0.4**
	comp=N,11nm,1.0s						
SHPR	**Sheep Range**	**81.22**	**326**	*e*P	**P**	**06 57 14.6**	**+1.2**
	comp=N,4.3nm,1.0s						
CCUT	**Cedar City**	**81.27**	**328**	*e*P	**P**	**06 57 15.2**	**+1.4**
	comp=N,4.5nm,1.1s						
MVU	**Marysvale**	**81.57**	**329**	*e*P	**P**	**06 57 15.8**	**+0.5**
	comp=N,4.4nm,1.3s						
LBTB	**Lobatse**	**82.05**	**115**	*e*P	**P**	**06 57 18.7**	**+0.5**
	comp=N,8.2nm,0.9s						
ISA	**Isabella, Lake**	**82.12**	**323**	*e*P	**P**	**06 57 19.3**	**+1.2**
	comp=N,3.6nm,0.9s						
PDAR	**Pinedale Array**	**84.13**	**333**	P	**P**	**06 57 28.8**	**+0.2**
	comp=N,1.4nm,1.0s,baz=153,slow=3.7,SNR=6.5						
TORD	**Torodi Ar. Bea**	**84.22**	**70**	P	**P**	**06 57 29.2**	**-0.1**
	comp=N,7.6nm,0.8s,baz=253,slow=4.3,SNR=39						
NVAR	**Mina Array Bea**	**84.24**	**325**	P	**P**	**06 57 29.8**	**+0.6**
	comp=N,0.7nm,0.7s,baz=155,slow=6.4,SNR=6.4						
ULM	**Lac du Bonnet**	**86.87**	**345**	P	**P**	**06 57 40.2**	**-1.4**
	comp=N,3.8nm,0.9s,baz=158,slow=4.0,SNR=6.3						
MCMT	**McKenzie Canyo**	**87.14**	**332**	*e*P	**P**	**06 57 43.9**	**+0.5**
	comp=N,1.6nm,0.9s						
MDT	**Midelt**	**91.94**	**51**	LR	LR	07 40 01.3	
	comp=N,68nm,18.5s,slow=36						
FCC	**Fort Churchill**	**94.60**	**349**	*e*P	**P**	**06 58 16.8**	**-0.7**
YKA	**Yellowknife Ar**	**102.43**	**341**	P	**Pdif**	**06 58 53.5**	**+0.8**
	comp=N,0.2nm,0.6s,baz=144,slow=4.9,SNR=6.0						
WRA	**Warramunga Arr**	**120.51**	**209**	PKP	**PKPdf**	**07 03 48.2**	**-1.3**
	comp=N,1.1nm,0.6s,baz=169,slow=1.5,SNR=16						
COEN	**Coen**	**121.52**	**221**	*e*PKPdf	**PKPdf**	**07 03 52.9**	**+1.3**
H11S2	**WAKE ISLAND Hyl**	**25.89**	**269**	T	T	09 22 27.2	
	baz=119,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hyl**	**25.90**	**269**	T	T	09 22 23.3	
	baz=119,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hyl**	**25.90**	**269**	T	T	09 22 20.2	
	baz=119,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hyl**	**26.31**	**270**	T	T	09 22 47.1	
	baz=116,slow=78,SNR=16						
H11N1	**WAKE ISLAND Hyl**	**26.32**	**270**	T	T	09 22 49.1	
	baz=116,slow=78,SNR=36						
H11N2	**WAKE ISLAND Hyl**	**26.33**	**270**	T	T	09 22 49.2	
	baz=116,slow=78,SNR=16						
SEY	**Seymchan**	**140.40**	**330**	PKP	**PKPdf**	**07 04 25.6**	**0.0**
	comp=N,0.7nm,0.4s,baz=171,slow=2.6,SNR=5.4						
BVAR	**Borovoye Array**	**147.46**	**43**	PKPbc	**PKPbc**	**07 04 41.2**	**+0.4**
	comp=N,1.5nm,0.5s,baz=291,slow=4.5,SNR=9.8						
KKAR	**Karatay Array**	**149.60**	**62**	*e*PKPbc	**PKPbc**	**07 04 48.8**	**+2.0**
AAK	**Ala-Archa**	**152.56**	**62**	PKPbc	**PKPbc**	**07 04 55.5**	**+1.7**
	comp=N,3.0nm,0.9s,baz=189,slow=4.2,SNR=5.0						
KURBB	**Kurchatov Arra**	**153.04**	**44**	PKPbc	**PKPbc**	**07 04 54.6**	**+0.2**
	comp=N,1.5nm,0.7s,baz=304,slow=2.7,SNR=7.1						
KURK	**Kurchatov**	**153.05**	**44**	PKPbc	**PKPbc**	**07 04 54.6**	**+0.2**
KSH	**Kashi**	**153.89**	**69**	*e*PKPbc	**PKPdf**	**07 04 48.4**	**-0.4**
KSH				sPKP		07 05 02.6	
KSH				PKS	**PKSdf**	**07 08 23.5**	**+0.3**
KSH				PP	**PP**	**07 08 44.4**	**-0.8**
KSH				SKS	**SKSdf**	**07 11 54.0**	**+0.4**
KSH				SKKS	**SKKSac**	**07 15 33.8**	**+1.1**
KSH				SS	**SS**	**07 28 20.8**	**-0.3**
KSH				PPMZ			
	comp=N,120nm,6.1s						
KSH				LZ			
	comp=N,190nm,5.4s						
ZALV	**Zalesovo Beam**	**154.46**	**33**	PKPbc	**PKPbc**	**07 04 57.8**	**+0.4**
	comp=N,1.9nm,0.7s,baz=3.4,slow=5.0,SNR=4.8						
ZALV				PKPab	**PKPab**	**07 05 12.1**	**+0.2**
	comp=N,5.8nm,0.8s,baz=316,slow=4.0,SNR=8.4						
MKAR	**Makanchi Array**	**156.90**	**50**	PKP	**PKPdf**	**07 04 53.5**	**+0.9**
	comp=N,0.4nm,0.9s,baz=336,slow=1.7,SNR=2.7						
MKAR				PKPab	**PKPab**	**07 05 22.5**	**-0.1**
	comp=N,1.5nm,0.8s,baz=304,slow=2.8,SNR=8.8						
WMQ	**Urumqi**	**161.59**	**53**	*e*PKP	**PKPdf**	**07 04 57.4**	**-0.7**
WMQ				pPKP	**pPKPdf**	**07 05 08.0**	**-0.1**
WMQ				LN			
	comp=N,69nm,25.0s						
WMQ				LE			
	comp=N,60nm,25.0s						
WMQ				LZ			
	comp=N,94nm,25.0s						
SONM	**Songino Array**	**166.47**	**5**	PKPab	**PKPab**	**07 06 04.2**	**-0.2**
	comp=N,1.0nm,0.9s,baz=338,slow=3.5,SNR=7.0						
HHC	**Hu-ho-hao-te**	**172.96**	**338**	*e*PKP	**PKPdf**	**07 05 06.4**	**-0.1**
HHC				pPKP	**pPKPdf**	**07 05 17.3**	**+0.7**
HHC				sPKP		07 05 20.8	
HHC				PP	**PP**	**07 10 27.5**	**+3.1**
HHC				SKS	**SKSdf**	**07 12 04.9**	**-2.7**
HHC				SS	**SS**	**07 31 33.5**	**-2.0**
HHC				PPMZ			
	comp=N,130nm,6.3s						
HHC				LN			
	comp=N,180nm,21.5s						
HHC				LE			
	comp=N,270nm,21.1s						
HHC				LZ			
	comp=N,200nm,23.4s						
LZH	**Lanzhou**	**176.10**	**62**	*e*PKP	**PKPdf**	**07 05 08.1**	**+0.3**
LZH				pPKP	**pPKPdf**	**07 05 19.7**	**+1.9**
LZH				sPKP		07 05 24.6	

NNC 12 06:55:50.0±3.9, 37°.86N×71°.90E, h0km, mb3.6, mpv3.2, 1C-4D, Error ellipse: s-maj=36.6km s-min=14.6km az=152.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.60**	**292**	⇓Pn	Pn	06 56 33.2	-0.2
DZET				⇓Sn	Sn	06 57 07.3	+1.5
AAK	**Ala-Archa**	**5.17**	**22**	⇓Pn	Pn	06 57 09.2	+0.4
AAK	6.7nm,1.2s						
	6.7nm,1.1s			⇓Sn	Sn	06 58 10.8	+1.5
KK31	**Karatay Array**	**5.34**	**349**	Pn	Pn	06 57 11.3	+0.3
	0.8nm,0.3s,baz=164,slow=12,SNR=12						
KK31				Sn	Sn	06 58 13.9	+0.5
	3.0nm,0.3s,baz=24,slow=2.9,SNR=28						
AB31	**Akbulak array**	**14.29**	**327**	⇑P	Pn	06 59 07.2	-6.3
	0.8nm,0.7s,baz=139,slow=14,SNR=6.8						

*IDC **12** 06:56:03.4±1.1, 19°.56S×173°.49W, h0km, mb4.3/12, mb1 4.6/13, mb1mx4.3/25, mbtmp4.3/13, ML4.4/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/32, Error ellipse: s-maj=48.0km s-min=16.4km az=143.0*
*ISCJB **12** 06:56:05.7±0.7, 20°.1S±0°.2×173°.3W±0°.1, h35km, mb4.6/17, MS3.6/4, Error ellipse: s-maj=29.4km s-min=10.1km az=145.2*
*NEIC **12** 06:56:06.9±0.7, 20°.17S×173°.11W, h35km, mb4.8/9, Error ellipse: s-maj=29.6km s-min=10.0km az=145.0*

ISC 12 06:56:07.3±0.9, 20°.1S±0°.2×173°.2W±0°.2, h35km, n43, σ0°.97/35, mb4.7/17, MS3.6/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.21**	**73**	P	Pn	06 56 48.6	-6.7
NIUE	baz=2.5,SNR=46						
	baz=2.5,SNR=8.5			S	Sn	06 57 20.5	-12
MSVF	**Nonsavu**	**8.62**	**284**	*e*Pn	Pn	06 58 16.9	+7.1
DZM	**Mont Dzumac**	**19.13**	**260**	P	**P**	**07 00 26.8**	**-0.8**
	1.0nm,0.3s,baz=71,slow=19,SNR=8.1						
DZM				LR	LR	07 06 56.4	
	comp=Z,205nm,19.0s,baz=67,slow=34						
DZM	**Mont Dzumac**	**19.13**	**260**	*e*P	**Pn**	**07 00 30.1**	**+1.5**
	35nm,1.0s						
URZ	**Urewera**	**20.00**	**203**	P	Pn	07 00 42.3	+3.6
	6.5nm,0.7s,baz=60,slow=5.7,SNR=4.4						
URZ	**Urewera**	**20.00**	**203**	*e*P	Pn	07 00 42.7	+4.0
	31nm,0.9s						
PPT2	**Papeete2**	**22.47**	**88**	*e*LQ	LQ	07 05 10.2	
	250nm,23.8s						
PPT2				*e*LR	LR	07 06 02.3	
	373nm,26.8s						
PPT	**Papeete**	**22.47**	**88**	LR	LR	07 08 13.4	
	comp=Z,225nm,18.4s,baz=256,slow=32						
RPZ	**Rata Peaks**	**27.03**	**206**	*e*P	**P**	**07 01 44.3**	**-1.8**
	16nm,0.6s						
RKT	**Rikitea**	**35.59**	**102**	*e*LR	LR	07 12 04.8	
	313nm,32.8s						
CTA	**Charters Tower**	**38.04**	**263**	P	**P**	**07 03 21.2**	**-1.4**
	14nm,0.7s,baz=103,slow=12,SNR=14						
CMSA	**Cobar Meteorol**	**38.55**	**244**	P	**P**	**07 03 27.8**	**+1.0**
	baz=40,SNR=7.5						
TOO	**Toolangi**	**39.84**	**235**	P	**P**	**07 03 39.4**	**+1.9**
	baz=41,SNR=4.3						
STKA	**Stephens Creek**	**42.06**	**244**	P	**P**	**07 03 56.4**	**+0.6**
	3.2nm,0.7s,baz=88,slow=10,SNR=6.2						
STKA				LR	LR	07 20 16.4	
	comp=Z,182nm,18.4s,baz=40,slow=35						
STKA	**Stephens Creek**	**42.06**	**244**	P	**P**	**07 03 56.9**	**+1.1**
	baz=43,SNR=4.2						
COEN	**Coen**	**42.09**	**271**	P	**P**	**07 03 55.3**	**-1.0**
	baz=43,SNR=5.6						
AS31	**Alice Springs**	**49.02**	**256**	*e*P	**P**	**07 04 50.1**	**-1.0**
ASAR	**Alice Springs**	**49.02**	**256**	P	**P**	**07 04 51.1**	**0.0**
	13nm,0.9s,baz=97,slow=8.0,SNR=62						
WB2	**Warramunga Arr**	**49.13**	**261**	*e*P	**P**	**07 04 51.2**	**-0.8**
WRAB	**Tennant Creek**	**49.14**	**261**	*e*P	**P**	**07 04 50.9**	**-1.0**
	13nm,1.1s						
WRA	**Warramunga Arr**	**49.15**	**261**	P	**P**	**07 04 51.0**	**-1.1**
	3.8nm,0.8s,baz=97,slow=8.8,SNR=33						
KDU	**Kakadu**	**52.48**	**269**	P	**P**	**07 05 16.9**	**-0.3**
	baz=53,SNR=3.4						
WRKA	**Warakurna**	**53.94**	**253**	P	**P**	**07 05 27.9**	**0.0**
	baz=55,SNR=23						
KNRA	**Kununurra**	**55.21**	**265**	P	**P**	**07 05 36.8**	**-0.4**
	baz=56,SNR=4.9						
SOEI	**Soe**	**61.02**	**270**	P	**P**	**07 06 19.5**	**+1.5**
	baz=62,SNR=3.8						
SOEI	**Soe**	**61.02**	**270**	*e*P	**P**	**07 06 19.2**	**+1.2**
	42nm,0.9s						
MBWA	**Marble Bar**	**62.36**	**256**	*e*P	**P**	**07 06 27.1**	**+0.2**
	5.8nm,0.7s						
MJAR	**Matsushiro Arr**	**72.64**	**321**	LR	LR	07 35 01.6	
	comp=Z,30nm,20.8s,baz=110,slow=32						
NVAR	**Mina Array Bea**	**77.66**	**41**	P	**P**	**07 08 00.5**	**0.0**
	1.2nm,0.8s,baz=225,slow=9.6,SNR=8.7						
KSRS	**Korea Array**	**79.64**	**316**	LR	LR	07 38 06.4	
	comp=Z,20nm,20.4s,baz=160,slow=32						
PV01	**Paradox Valley**	**83.78**	**46**	*e*P	**P**	**07 08 34.4**	**+1.0**
PDAR	**Pinedale Array**	**85.59**	**41**	P	**P**	**07 08 43.1**	**+0.8**
	0.5nm,0.8s,baz=211,slow=5.2,SNR=4.4						
MCK	**McKinley**	**85.64**	**11**	*e*P	**P**	**07 08 41.0**	**-0.8**
	12nm,0.9s						
COLA	**College**	**86.88**	**11**	*e*P	**P**	**07 08 47.0**	**-0.8**
	12nm,0.9s						
ILAR	**Eielson Array**	**86.95**	**11**	P	**P**	**07 08 47.8**	**-0.4**
	1.3nm,0.7s,baz=220,slow=5.8,SNR=20						
SEY	**Seymchan**	**87.05**	**345**	P	**P**	**07 08 48.5**	**-0.3**
	3.8nm,0.9s,baz=157,slow=6.9						
INK	**Inuvik**	**92.72**	**14**	P	**P**	**07 09 14.7**	**-0.4**
	1.3nm,0.8s,baz=240,slow=6.5,SNR=6.3						
INK	**Inuvik**	**92.72**	**14**	*e*P	**P**	**07 09 14.9**	**-0.2**
	2.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**94.26**	**288**	P	**P**	**07 09 23.4**	**-0.1**
	0.9nm,0.3s,baz=115,slow=3.2,SNR=5.7						
YKA	**Yellowknife Ar**	**94.27**	**23**	P	**P**	**07 09 21.9**	**-0.5**
	0.5nm,0.8s,baz=238,slow=4.1,SNR=12						
CLL	**Collm**	**148.44**	**353**	*e*PKPbc	**PKPbc**	**07 15 51.0**	**+1.0**
	comp=Z,15nm,1.5s						
BRTR	**Keskin Array B**	**149.78**	**316**	PKPbc	**PKPbc**	**07 15 53.6**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=96,slow=2.9,SNR=4.8						
GERES	**GERESS Array B**	**150.75**	**351**	PKPbc	**PKPbc**	**07 15 57.3**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=70,slow=1.1,SNR=3.3						
GERES				PKPab	**PKPab**	**07 16 03.3**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=356,slow=3.9,SNR=2.7						

*IDC **12** 06:56:35.3±0.5, 34°.29S×71°.87W, h0km, mb4.7/19, mb1 4.8/21, mb1mx4.8/24, mbtmp4.7/21, ML4.8/2, MS4.5/16, Ms1 4.5/16, ms1mx4.2/28, Error ellipse: s-maj=21.3km s-min=11.8km az=86.0*
*NEIC **12** 06:56:38.5, 34°.34S×72°.00W, h36km, mb4.9/65, ML5.1(GUC), After GUC.*
*NEIC Felt [V] at Navidad,

EFI pmax pmax
comp=Z,73nm,0.9s
EFI **East Falkland** **20.00 154** *eP* **P** **07 01 10.1 -0.1**
comp=Z,73nm,0.9s
USHA **Ushuaia** **20.64 174** P **P** **07 01 18.3 +1.2**
comp=Z,17nm,1.0s,baz=333,slow=6.9,SNR=3.0
USHA LR LR 07 09 54.6
comp=Z,2µm,20.4s,baz=326,slow=39
SIV **San Ignacio** **20.69 31** P **P** **07 01 17.2 -0.8**
comp=Z,40nm,1.0s,baz=232,slow=13,SNR=32
SIV LR LR 07 10 44.4
comp=Z,3µm,18.6s,baz=230,slow=41
NNA **Nana** **22.70 347** *eP* **P** **07 01 40.2 +0.6**
NNA **Nana** **22.70 347** P **P** **07 01 39.2 -0.5**
comp=Z,12nm,0.5s,baz=194,slow=11,SNR=9.6
NNA **Nana** **22.70 347** *eP* **P** **07 01 40.3 +0.6**
comp=Z,26nm,0.9s
BDFB **Brasilia** **28.41 55** P **P** **07 02 31.7 -0.7**
comp=Z,18nm,0.8s,baz=230,slow=8.9,SNR=17
BDFB LR LR 07 14 59.3
comp=Z,3µm,18.6s,baz=219,slow=39
PMSA **Palmer Station** **30.84 173** P **P** **07 02 52.9 -0.3**
comp=Z,40nm,0.8s,baz=198,slow=19,SNR=5.5
PMSA LR LR 07 14 55.1
comp=Z,1µm,18.9s,baz=330,slow=36
RPN **Rapa Nui** **32.85 272** LR LR 07 13 07.6
comp=Z,1µm,18.6s,baz=84,slow=30
OTAV **Otavalo** **34.94 348** *eP* **P** **07 03 31.1 +1.0**
comp=Z,15nm,1.0s
PTGA **Pitinga** **35.24 21** P **P** **07 03 31.1 -1.0**
comp=Z,29nm,0.8s,baz=239,slow=19
PTGA LR LR 07 20 16.0
comp=Z,1µm,18.1s,baz=196,slow=40
PTGA **Pitinga** **35.24 21** *eP* **P** **07 03 31.4 -0.7**
comp=Z,41nm,1.0s
ROSC **El Rosal** **39.05 356** P **P** **07 04 07.6 +2.7**
comp=Z,4.9nm,0.6s,baz=253,slow=3.8,SNR=5.8
ROSC **El Rosal** **39.05 356** *eP* P 07 04 08.1 +3.2
SDV **Santo Domingo** **43.00 2** *eP* **P** **07 04 36.3 -0.9**
comp=Z,17nm,1.0s
RCBR **Riachuelo** **43.70 58** LR LR 07 24 28.1
comp=Z,2µm,19.6s,baz=201,slow=38
RCBR **Riachuelo** **43.70 58** *eP* **P** **07 04 43.0 +0.2**
comp=Z,73nm,1.5s
BCIP **Isla Barro Col** **43.92 349** *eP* **P** **07 04 44.9 +0.6**
comp=Z,36nm,1.3s
JTS **JuntasAbangare** **46.09 342**⇑ *eP* **P** **07 05 02.3 +0.7**
JTS pmax pmax
comp=Z,24nm,1.7s
JTS **JuntasAbangare** **46.09 342** *eP* **P** **07 05 02.1 +0.5**
comp=Z,26nm,1.4s
GRGR **Grenville** **47.22 14** *eP* **P** **07 05 09.6 -0.9**
comp=Z,76nm,0.6s
VNA3 **Neumayer Olymp** **49.00 158** P **P** **07 05 24.4 +0.7**
VNA2 **Neumayer--Watz** **49.65 157** P **P** **07 05 29.1 +0.5**
baz=290,slow=8.8
SNAA **Sanae** **51.22 158** P **P** **07 05 41.0 +0.4**
SNAA **Sanae** **51.22 158**⇑ *eP* **P** **07 05 42.4 +1.8**
SNAA pmax pmax
comp=Z,33nm,1.5s
SNAA **Sanae** **51.22 158** P **P** **07 05 39.7 -0.9**
comp=Z,2.1nm,0.8s,baz=272,slow=5.8,SNR=15
SNAA **Sanae** **51.22 158** *eP* **P** **07 05 40.9 +0.4**
comp=Z,25nm,1.1s
APG **El Apazote** **52.16 337** P P 07 05 43.8 -4.5
comp=Z,3.0nm,0.8s,baz=23,slow=19,SNR=4.9
CELP **Cerrillos** **52.36 6** *eP* **P** **07 05 48.8 -0.7**
CMIG **Matias Romero** **55.63 333** LR LR 07 25 19.1
comp=Z,138nm,18.4s,baz=189,slow=31
RKT **Rikitea** **55.67 264** *e*LR LR 07 22 25.1
comp=Z,511nm,25.8s
RKT **Rikitea** **55.67 264** *e*T T 08 06 02.1
comp=Z,2.0nm,0.2s
QSPA **South Pole Qui** **55.90 180** P **P** **07 06 15.6 +0.6**
comp=Z,24nm,1.0s,baz=146,slow=4.1,SNR=37
NVL **N'lazarevskaya** **55.96 157** *eP* P 07 06 21.5 +6.4
NVL *eS* **S** **07 13 59.4 -1.0**
NVL pmax pmax
comp=Z,20nm,0.9s
VNDA **Vanda** **63.80 191** *eP* **P** **07 07 10.6 +1.7**
VNDA pmax pmax
comp=Z,13nm,1.3s
VNDA **Vanda** **63.80 191** P **P** **07 07 10.3 +1.4**
comp=Z,2.8nm,1.0s,baz=106,slow=7.4,SNR=2.7
VNDA LR LR 07 33 28.1
comp=Z,204nm,18.0s,baz=136,slow=35
VNDA **Vanda** **63.80 191** *eP* **P** **07 07 10.6 +1.7**
comp=Z,13nm,1.3s
SYO **Syowa Base** **65.50 158**⇑ *eP* **P** **07 07 17.3 -2.8**
933A **Laredo** **66.86 334** ⇓P **P** **07 07 30.1 +0.8**
baz=67
834A **Tilden** **67.06 334** ⇓P **P** **07 07 31.6 +1.1**
baz=67
TBI **Tubuai** **67.37 257** *e*T T 08 20 31.6
comp=Z,7.1nm,0.3s
833A **Chaparral WMA,** **67.54 334** ⇑P **P** **07 07 33.9 +0.4**
baz=68
832A **Faith Ranch, C** **67.72 333** ⇓P **P** **07 07 35.3 +0.6**
baz=68
636A **Smothers Creek** **67.79 336** ⇑P **P** **07 07 36.1 +1.1**
baz=68
537A **Green Hill Far** **68.10 337** ⇓P **P** **07 07 38.1 +1.1**
baz=68
732A **Laxson Ranch,** **68.12 334** ⇓P **P** **07 07 37.8 +0.6**
baz=68
535A **Dale** **68.46 336** ⇓P **P** **07 07 39.6 +0.3**
baz=69
633A **Saathoff Ranch** **68.50 335** ⇑P **P** **07 07 40.1 +0.5**
baz=69
340A **Bronson** **68.61 340** ⇓P **P** **07 07 40.9 +0.7**
baz=69
339A **Huntington** **68.73 339** ⇓P **P** **07 07 41.2 +0.3**
baz=69
632A **Uvalde** **68.76 334** ⇑P **P** **07 07 41.6 +0.4**
baz=69
534A **Blanco** **68.77 335** ⇑P **P** **07 07 41.3 0.0**
baz=69
MEH **Mehetia** **68.94 262** *e*T T 08 22 34.6
comp=Z,58nm,0.2s
631A **Perdido Creek** **68.96 333** ⇑P **P** **07 07 43.0 +0.5**
baz=69
533A **Kerrville** **69.00 335** ⇓P **P** **07 07 43.1 +0.4**
baz=69
239A **Gary** **69.34 340** ⇓P **P** **07 07 45.7 +0.9**
baz=70
532A **Rocksprings** **69.36 334** ⇓P **P** **07 07 45.5 +0.4**
baz=70
434A **Burnet** **69.42 336** ⇑P **P** **07 07 45.4 +0.1**
baz=70
336A **Riesel** **69.48 337** ⇑P **P** **07 07 46.3 +0.7**
baz=70
531A **Rocksprings** **69.63 334** ⇓P **P** **07 07 47.3 +0.7**
baz=70
433A **Art** **69.65 335** ⇓P **P** **07 07 47.1 +0.4**
baz=70
JCT **Junction City** **69.65 334** *eP* **P** **07 07 47.0 +0.3**
JCT pmax pmax
comp=Z,22nm,1.3s
JCT **Junction City** **69.65 334** ⇓P **P** **07 07 47.3 +0.6**
baz=70
JCT **Junction City** **69.65 334** *eP* **P** **07 07 47.0 +0.3**
comp=Z,22nm,1.3s
334A **Lometa** **69.88 336** ⇓P **P** **07 07 48.3 +0.2**
baz=70
530A **J-C Ranch, Com** **69.91 333** ⇑P **P** **07 07 48.8 +0.4**
baz=70
TVO **Taravao** **69.96 262** *e*T T 08 23 48.6
comp=Z,2.0nm,0.2s
432A **Menard** **70.00 335** ⇑P **P** **07 07 48.9 0.0**
baz=70
TXAR **Lajitas Array** **70.09 331** P **P** **07 07 49.8 +0.2**
comp=Z,0.9nm,0.5s,baz=154,slow=8.0,SNR=22
431A **Sonora** **70.12 334** ⇑P **P** **07 07 49.5 -0.2**
baz=70
138A **Matatall Enter** **70.13 339** ⇑P **P** **07 07 49.8 +0.3**
baz=70
333A **Richland Sprin** **70.13 336** ⇓P **P** **07 07 49.9 +0.3**
baz=70
TIAR **Tiarei** **70.15 262** *e*T T 08 24 04.5
comp=Z,7.8nm,0.2s
529A **Stev Forest Ra** **70.22 332** ⇑P **P** **07 07 50.6 +0.3**
baz=70
WHTX **Lake Whitney,** **70.23 337** ⇑P **P** **07 07 50.5 +0.2**
baz=70
137A **Heron Place, G** **70.27 339** ⇑P **P** **07 07 50.7 +0.3**
baz=71
PAE **Paea** **70.29 262** *e*T T 08 24 14.8
comp=Z,1.2nm,0.2s

PPT2 **Papeete2** **70.32 262** *e*S **S** **07 17 03.7 +2.2**
comp=Z,176nm,26.2s
PPT2 **Papeete2** **70.32 262** *e*LR LR 07 29 20.9
comp=Z,793nm,25.5s,baz=124
SWET **Sewanee** **70.43 348** *eP* **P** **07 07 50.9 -0.6**
comp=Z,16nm,0.3s
OXF **Oxford** **70.43 345** *eP* **P** **07 07 51.0 -0.4**
OXF pmax pmax
comp=Z,31nm,0.9s
OXF **Oxford** **70.43 345** *eP* **P** **07 07 51.0 -0.4**
comp=Z,31nm,0.9s
430A **Baggett Ranch,** **70.44 333** ⇓P **P** **07 07 51.7 +0.1**
baz=71
332A **Millersview** **70.45 335** ⇓P **P** **07 07 51.6 0.0**
baz=71
TKL **Tuckaleechee C** **70.52 350** P **P** **07 07 50.8 -1.1**
comp=Z,9.5nm,0.9s,baz=149,slow=12,SNR=4.0
429A **Davenport Ranc** **70.55 333** ⇑P **P** **07 07 52.2 -0.1**
baz=71
331A **San Angelo** **70.62 334** ⇓P **P** **07 07 52.4 -0.3**
baz=71
233A **Rising Star** **70.73 336** ⇑P **P** **07 07 53.1 -0.2**
baz=71
232A **Coleman** **70.87 335** ⇓P **P** **07 07 54.1 -0.1**
baz=71
134A **White-Moore Ra** **70.97 337** ⇑P **P** **07 07 54.1 -0.7**
baz=71
330A **Mertzon** **70.98 334** ⇓P **P** **07 07 54.1 -0.8**
baz=71
231A **Bronte** **71.15 335** ⇑P **P** **07 07 55.5 -0.4**
baz=71
133A **Hamilton Ranch** **71.28 336** ⇑P **P** **07 07 56.2 -0.4**
baz=72
329A **Wagon Wheel Ra** **71.35 333** ⇑P **P** **07 07 56.5 -0.7**
baz=72
Z35A **Perchaven, San** **71.41 338** ⇓P **P** **07 07 56.7 -0.6**
baz=72
ABTX **Abilene, Hawle** **71.54 336** ⇓P **P** **07 07 57.8 -0.5**
baz=72
WVT **Waverly** **71.67 346** *eP* **P** **07 07 57.6 -1.3**
WVT pmax pmax
comp=Z,39nm,0.9s
WVT **Waverly** **71.67 346** *eP* **P** **07 07 57.6 -1.3**
comp=Z,39nm,0.9s
131A **Roby** **71.84 335** ⇑P **P** **07 07 59.3 -0.7**
baz=72
Z33A **Whitaker Ranch** **71.85 337** ⇓P **P** **07 07 59.5 -0.5**
baz=72
130A **Snyder** **71.98 334** ⇑P **P** **07 08 00.1 -0.8**
baz=72
Z32A **Haskell** **72.11 336** ⇑P **P** **07 08 01.5 -0.1**
baz=72
Y34A **Reagan Ranch,** **72.14 338** ⇓P **P** **07 08 01.6 -0.1**
baz=72
228A **UT Block 9, Go** **72.15 333** ⇓P **P** **07 08 01.7 -0.2**
baz=72
129A **Stewart Farms,** **72.34 334** ⇓P **P** **07 08 02.8 -0.3**
baz=73
Z31A **Sharp Cattle R** **72.34 335** ⇓P **P** **07 08 02.7 -0.3**
baz=73
Y33A **Hilltop Ranch,** **72.47 337** ⇑P **P** **07 08 03.3 -0.4**
baz=73
128A **Castleberry Fa** **72.56 333** ⇓P **P** **07 08 04.1 -0.3**
baz=73
Z30A **Sanderson Ranc** **72.66 335** ⇑P **P** **07 08 04.6 -0.4**
baz=73
Y32A **R-V Farms, Ver** **72.73 336** ⇑P **P** **07 08 05.0 -0.3**
baz=73
X34A **Smith Ranch, M** **72.76 338** ⇑P **P** **07 08 05.3 -0.1**
baz=73
PBMO **Poplar Bluff** **72.83 344** *eP* **P** **07 08 05.1 -0.7**
comp=Z,32nm,1.6s
Z29A **Hungry Hill Ra** **72.84 334** ⇓P **P** **07 08 05.4 -0.7**
baz=73
MNTX **Cornudas Mount** **72.87 331** *eP* **P** **07 08 05.4 -0.8**
comp=Z,5.4nm,1.0s
X33A **Lawton** **72.92 337** ⇓P **P** **07 08 05.6 -0.8**
baz=73
Y31A **Rekieta Farm,** **72.97 336** ⇓P **P** **07 08 06.2 -0.6**
baz=73
X32A **Elmer** **73.06 337** ⇑P **P** **07 08 06.7 -0.5**
baz=73
Z28A **Tucker Farm, M** **73.12 334** ⇓P **P** **07 08 07.0 -0.7**
baz=73
WMOK **Wichita Mounta** **73.19 337** *eP* **P** **07 08 07.1 -0.9**
WMOK pmax pmax
comp=Z,17nm,1.6s
WMOK **Wichita Mounta** **73.19 337** *eP* **P** **07 08 07.1 -0.9**
comp=Z,17nm,1.6s
W34A **Bridge Creek,** **73.33 338** ⇑P **P** **07 08 08.4 -0.4**
baz=74
TUL1 **Leonard** **73.37 340** ⇓P **P** **07 08 08.4 -0.6**
baz=74
Y29A **Porterfield Fa** **73.37 334** ⇑P **P** **07 08 08.5 -0.7**
baz=74
W33A **Caddo, Fort Co** **73.47 338** ⇓P **P** **07 08 09.2 -0.4**
baz=74
SIUC **Southern Illin** **73.48 346** *eP* **P** **07 08 09.1 -0.5**
comp=Z,51nm,1.6s
X31A **McDonald Ranch** **73.48 336** ⇑P **P** **07 08 09.2 -0.5**
baz=74
W32A **Sentinel** **73.69 337** ⇓P **P** **07 08 10.8 -0.2**
baz=74
V34A **Guthrie** **73.80 339** ⇑P **P** **07 08 11.0 -0.6**
baz=74
MSTX **Muleshoe** **73.87 334** ⇑P **P** **07 08 11.3 -0.8**
baz=74
MSTX **Muleshoe** **73.87 334** *eP* **P** **07 08 12.0 -0.1**
comp=Z,9.1nm,0.9s
X29A **Tulia** **73.91 335** ⇓P **P** **07 08 11.6 -0.8**
baz=74
Y27A **Causey** **73.94 333** ⇑P **P** **07 08 11.6 -1.0**
baz=74
W31A **Holland Ranch,** **73.98 336** ⇑P **P** **07 08 11.8 -0.8**
baz=74
V33A **Lossen Ranch,** **74.03 338** ⇑P **P** **07 08 12.4 -0.5**
baz=74
V32A **Arapaho** **74.17 337** ⇓P **P** **07 08 13.6 -0.1**
baz=74
319A **Douglas** **74.26 327** ⇑P **P** **07 08 13.8 -0.6**
baz=74
AMTX **Amarillo** **74.30 335** ⇓P **P** **07 08 13.9 -0.6**
baz=75
AMTX **Amarillo** **74.30 335** *eP* **P** **07 08 14.1 -0.5**
comp=Z,14nm,1.1s
U34A **Anderson Ranch** **74.37 339** ⇑P **P** **07 08 14.6 -0.2**
baz=75
V31A **Spring Creek L** **74.48 337** ⇓P **P** **07 08 15.8 +0.2**
baz=75
SUR **Sutherland** **74.55 119** *eP* **P** **07 08 17.1 +0.6**
comp=Z,28nm,1.1s
121A **Cookes Peak, D** **74.59 329** ⇑P **P** **07 08 16.6 +0.1**
baz=75
121A **Cookes Peak, D** **74.59 329** *eP* **P** **07 08 17.4 +0.9**
comp=Z,13nm,1.0s
LIC **Lamto** **74.75 71** *eP* **P** **07 08 17.4 -0.2**
comp=Z,46nm,1.4s
U32A **Winter Ranch,** **74.77 338** ⇑P **P** **07 08 17.2 0.0**
baz=75
X26A **CR and CF Fran** **74.77 333** ⇑P **P** **07 08 17.2 -0.2**
baz=75
Y24A **Capitan** **74.84 332** ⇓P **P** **07 08 17.6 -0.4**
baz=75
Z22A **Elephant Butte** **74.88 330** ⇑P **P** **07 08 18.0 -0.1**
baz=75
ACSO **Alum Creek Sta** **74.90 351** *eP* **P** **07 08 17.4 -0.4**
comp=Z,102nm,1.8s
W27A **Bowe Ranch, En** **74.95 334** ⇓P **P** **07 08 18.5 0.0**
baz=75
TIC **Toumodi** **75.02 71** *eP* **P** **07 08 19.0 -0.2**
comp=Z,10nm,0.3s
KIC **Kosan Boka** **75.06 71** *eP* **P** **07 08 19.5 +0.1**
comp=Z,124nm,1.5s
Y23A **Lovelace Mesa,** **75.09 331** ⇓P **P** **07 08 19.3 -0.1**
baz=75
DBIC **Dimbokro** **75.16 71** *eP* **P** **07 08 19.9 0.0**
DBIC pmax pmax
comp=Z,14nm,0.7s
DBIC **Dimbokro** **75.16 71** P **P** **07 08 20.0 0.0**
comp=Z,13nm,0.9s,baz=210,slow=7.0,SNR=16
DBIC LR LR 07 39 19.6
comp=Z,354nm,19.3s,baz=219,slow=34
DBIC **Dimbokro** **75.16 71** *eP* **P** **07 08 19.9 0.0**
comp=Z,14nm,0.7s
W26A **Owens Ranch, T** **75.23 333** ⇑P **P** **07 08 20.0 -0.1**
baz=76
V28A **Channing** **75.27 335** ⇓P **P** **07 08 20.3 +0.1**
baz=76

U30A **WK&E Inc. Balk** **75.44 336** ⇑P **P** **07 08 21.3 +0.2**
baz=76
T32A **Huddler Ranch,** **75.48 338** ⇑P **P** **07 08 21.5 +0.2**
baz=76
W25A **X Bar L Ranch,** **75.61 333** ⇑P **P** **07 08 22.3 +0.1**
baz=76
X23A **Hourglass Bar** **75.72 331** ⇓P **P** **07 08 22.8 -0.1**
baz=76
LAZ **Ladron** **75.94 331** *eP* **P** **07 08 25.1 +0.9**
comp=Z,2.2nm,1.0s
W24A **Lazy 6 Ranch,** **75.96 332** ⇓P **P** **07 08 24.6 +0.3**
baz=76
U27A **Thompson Grove** **76.08 335** ⇓P **P** **07 08 25.1 +0.2**
baz=76
ANMO **Albuquerque** **76.14 331** *eP* **P** **07 08 26.0 +0.7**
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO **Albuquerque** **76.14 331** *eP* **P** **07 08 26.0 +0.7**
comp=Z,6.4nm,1.1s
V25A **Rancho No Teng** **76.22 333** ⇑P **P** **07 08 25.7 -0.1**
baz=76
T29A **Hugoton** **76.22 336** ⇑P **P** **07 08 26.1 +0.5**
baz=76
V24A **Rampart Ranch,** **76.36 333** ⇑P **P** **07 08 26.8 +0.1**
baz=77
214A **Organ Pipe Nat** **76.37 325** ⇓P **P** **07 08 26.7 +0.2**
baz=77
S30A **Montezuma** **76.39 337** ⇓P **P** **07 08 26.1 -0.4**
baz=77
T28A **Walsh** **76.46 336** ⇑P **P** **07 08 26.6 -0.4**
baz=77
R32A **Long Quarter,** **76.56 339** ⇓P **P** **07 08 27.2 -0.2**
baz=77
S29A **Ulysses** **76.58 336** ⇑P **P** **07 08 28.0 +0.4**
baz=77
T27A **Campo** **76.62 335** ⇓P **P** **07 08 27.6 -0.3**
baz=77
U25A **Circle Dot Ran** **76.64 334** ⇓P **P** **07 08 27.8 -0.3**
baz=77
R31A **Burdett** **76.68 338** ⇑P **P** **07 08 27.9 -0.3**
baz=77
S28A **Manter** **76.81 336** ⇑P **P** **07 08 28.5 -0.5**
baz=77
Q33A **Connelly Farm,** **76.83 339** ⇑P **P** **07 08 28.6 -0.3**
baz=77
R30A **Dighton** **76.91 337** ⇑P **P** **07 08 29.2 -0.3**
baz=77
T26A **Comanche Natio** **77.03 334** ⇓P **P** **07 08 29.7 -0.6**
baz=77
Q32A **Meitler Ranch,** **77.03 339** ⇓P **P** **07 08 30.0 -0.1**
baz=77
V22A **San Miguel Ran** **77.17 331** ⇓P **P** **07 08 30.8 -0.4**
baz=77
X18A **Snowflake** **77.23 329** ⇓P **P** **07 08 31.2 -0.3**
baz=78
U23A **El Rito** **77.25 332** ⇓P **P** **07 08 31.5 -0.1**
baz=78
T25A **Trinidad** **77.29 334** ⇓P **P** **07 08 31.7 -0.1**
baz=78
Q31A **Ellis** **77.30 338** ⇑P **P** **07 08 31.2 -0.4**
baz=78
S26A **Kim** **77.39 335** ⇑P **P** **07 08 31.8 -0.4**
baz=78
R28A **Tribune** **77.47 336** ⇑P **P** **07 08 32.2 -0.4**
baz=78
113A **Mohawk Valley,** **77.49 325** ⇓P **P** **07 08 32.7 0.0**
baz=78
Q30A **Quinter** **77.53 338** ⇑P **P** **07 08 32.7 -0.2**
baz=78
U22A **Llaves** **77.55 332** ⇓P **P** **07 08 32.9 -0.4**
baz=78
T24B **San Luis** **77.58 333** ⇓P **P** **07 08 33.1 -0.4**
baz=78
W18A **Petrified Fore** **77.64 329** ⇓P **P** **07 08 33.6 -0.1**
baz=78
Q29A **Oakley** **77.69 337** ⇓P **P** **07 08 33.6 -0.2**
baz=78
R27A **Eads** **77.75 336** ⇑P **P** **07 08 33.9 -0.3**
baz=78
S25A **Robets Cordova** **77.77 334** ⇓P **P** **07 08 34.3 -0.2**
baz=78
X16A **Lo Mia Camp, P** **77.79 327** ⇓P **P** **07 08 34.8 +0.2**
baz=78
MDV **Middlebury** **77.97 359** *eP* **P** **07 08 35.2 0.0**
comp=Z,24µm,0.7s
R26A **Arlington** **77.99 335** ⇓P **P** **07 08 35.6 +0.1**
baz=78
S24A **Houchin Ranch,** **78.03 334** ⇑P **P** **07 08 36.2 +0.2**
baz=78
P30A **Selden** **78.06 338** ⇓P **P** **07 08 35.9 +0.1**
baz=78
Y14A **Wickenburg** **78.10 326** ⇑P **P** **07 08 35.9 -0.3**
baz=78
Q28A **Sharon Springs** **78.12 337** ⇑P **P** **07 08 36.3 0.0**
baz=78
R25A **Fountain Ranch** **78.14 334** ⇑P **P** **07 08 36.2 -0.2**
baz=78
P29A **Atwood** **78.32 337** ⇑P **P** **07 08 37.6 +0.3**
baz=79
O31A **Woolen Ranch,** **78.33 339** ⇓P **P** **07 08 38.1 +0.8**
baz=79
R24A **Sanders Place,** **78.52 334** ⇓P **P** **07 08 38.9 +0.3**
baz=79
WVL **Waterville** **78.56 2** *eP* **P** **07 08 39.0 +0.7**
comp=Z,21nm,1.2s
P28A **Saint Francis** **78.56 337** ⇓P **P** **07 08 39.2 +0.5**
baz=79
SWSC **Sam W. Stewart** **78.62 323** ⇓P **P** **07 08 39.3 +0.3**
baz=79
LONY **Lake Ozonia** **78.62 358** *eP* **P** **07 08 38.4 -0.4**
comp=Z,22nm,1.4s
Y12C **Blythe** **78.66 325** ⇑P **P** **07 08 39.3 +0.1**
baz=79
WUAZ **Wupatki** **78.69 328** ⇓P **P** **07 08 39.5 0.0**
baz=79
WUAZ **Wupatki** **78.69 328** *eP* **P** **07 08 40.4 +0.9**
comp=Z,9.0nm,1.2s
S22A **4UR Ranch, Cre** **78.73 332** ⇓P **P** **07 08 39.7 -0.2**
baz=79
R23A **Moffat** **78.75 333** ⇓P **P** **07 08 39.9 0.0**
baz=79
O29A **4D Ranch, Culb** **78.76 338** ⇓P **P** **07 08 40.1 +0.5**
baz=79
Q25A **Bedland, Calha** **78.81 335** ⇑P **P** **07 08 40.4 +0.2**
baz=79
MONP **Monument Peak,** **78.89 323** ⇑P **P** **07 08 39.7 -1.1**
baz=79
MVCO **Mesa Verde** **78.92 331** ⇑P **P** **07 08 40.3 -0.5**
baz=79
MVCO **Mesa Verde** **78.92 331** *eP* **P** **07 08 42.7 +1.8**
comp=Z,7.2nm,1.0s
PDMCI **Parker Dam,Lak** **78.93 325** ⇑P **P** **07 08 40.2 -0.5**
baz=79
BC3 **Big Chuckawall** **79.03 324** ⇓P **P** **07 08 40.8 -0.6**
baz=79
O28A **Krutsinger Ran** **79.07 337** ⇑P **P** **07 08 41.3 -0.1**
baz=79
P26A **Davis Ranch, A** **79.08 336** ⇑P **P** **07 08 41.2 -0.3**
baz=79
Q24A **Divide** **79.18 334** ⇑P **P** **07 08 41.9 -0.4**
baz=80
IRM **Iron Mountain** **79.29 325** ⇑P **P** **07 08 42.3 -0.5**
baz=80
P25A **Willow Gulch B** **79.32 335** ⇓P **P** **07 08 42.5 -0.4**
baz=80
W13A **Hualapai Mount** **79.47 326** ⇓P **P** **07 08 44.4 +0.5**
baz=80
PFO **Pinyon Flats O** **79.48 323** P **P** **07 08 44.8 +0.9**
comp=Z,3.9nm,0.9s,baz=70,slow=3.9,SNR=5.6
PFO **Pinyon Flats O** **79.48 323** ⇑P **P** **07 08 44.3 +0.4**
baz=80
BELC **Belle Mtn. Jos** **79.57 324** ⇓P **P** **07 08 44.8 +0.4**
baz=80
BOSA **Boshof** **79.79 118** *eP* **P** **07 08 46.1 +0.2**
BOSA pmax pmax
comp=Z,28nm,1.0s
BOSA **Boshof** **79.79 118** P **P** **07 08 46.1 +0.2**
comp=Z,23nm,1.0s,baz=229,slow=5.6,SNR=21
BOSA LR LR 07 42 32.8
comp=Z,191nm,18.0s,baz=212,slow=35
BOSA **Boshof** **79.79 118** *eP* **P** **07 08 46.1 +0.2**
comp=Z,28nm,1.0s
O25A **Wiggins** **79.84 335** ⇑P **P** **07 08 46.1 +0.4**
baz=80
U15A **North Rim** **79.85 328** ⇓P **P** **07 08 46.3 +0.3**
baz=80
SMCO **Snowmass** **80.04 333** *eP* **P** **07 08 48.2 +1.1**
comp=Z,8.6nm,1.0s

GMRC	Granite Mounta	80.04	325	⇓P	P	07 08 47.3 +0.4
	baz=80					
L31A	Butterfield Fa	80.06	340	⇓P	P	07 08 47.4 +0.8
	baz=80					
ISCO	Idaho Springs	80.09	334	⇓P	P	07 08 47.4 +0.2
	baz=80					
L30A	Spencer Herefo	80.10	339	⇑P	P	07 08 47.3 +0.4
	baz=80					
PV10	Paradox Valley	80.14	331	eP	P	07 08 45.8 -1.8
	comp=Z,101nm,0.8s					
P22A	Eagle	80.32	333	⇓P	P	07 08 48.3 -0.1
	baz=81					
HEC	Hector,Ludlow	80.41	324	⇓P	P	07 08 48.6 -0.1
	baz=81					
L29A	Maesberg Ranch	80.43	339	⇓P	P	07 08 48.8 +0.1
	baz=81					
O23A	Lake Granby, G	80.56	334	⇓P	P	07 08 49.8 +0.1
	baz=81					
BFSC	Mount Baldy Ra	80.58	323	⇑P	P	07 08 50.1 +0.2
	baz=81					
TUQ	Turquoise Moun	80.70	325	⇓P	P	07 08 51.6 +1.2
	baz=81,SNR=6.6					
O22A	Kremmling	80.74	334	⇑P	P	07 08 50.3 -0.5
	baz=81					
ECSD	EROS Data Cent	80.91	342	⇓P	P	07 08 50.5 -0.7
	baz=81					
ECSD	EROS Data Cent	80.91	342	eP	P	07 08 50.8 -0.4
	comp=Z,14nm,1.0s					
GSC	Goldstone, Bar	81.02	324	⇑P	P	07 08 51.5 -0.5
	baz=81					
N23A	Red Feather La	81.17	335	⇑P	P	07 08 52.6 -0.4
	baz=82					
SHPR	Sheep Range	81.21	326	eP	P	07 08 54.4 +1.3
EDW2	Edwards Air Fo	81.26	323	⇓P	P	07 08 52.5 -0.8
	baz=82					
CCUT	Cedar City	81.26	328	eP	P	07 08 54.8 +1.3
	comp=Z,11nm,1.2s					
N22A	Wattenberg Ran	81.27	334	⇓P	P	07 08 53.1 -0.4
	baz=82					
M24A	Cheyenne	81.29	336	⇓P	P	07 08 53.0 -0.5
	baz=82					
K28A	Ten Mile Ranch	81.29	338	⇓P	P	07 08 53.3 -0.1
	baz=82					
O20A	White River Ci	81.35	333	⇑P	P	07 08 53.4 -0.5
	baz=82					
PHWY	Pilot Hill	81.36	335	eP	P	07 08 54.5 +0.5
	comp=Z,7.2nm,0.9s					
SRU	San Rafael Swe	81.37	331	eP	P	07 08 54.1 +0.1
SRU				pmax	pmax	
	comp=Z,12nm,1.3s					
SRU	San Rafael Swe	81.37	331	eP	P	07 08 54.1 +0.1
	comp=Z,12nm,1.3s					
SPMN	Marine on St.	81.43	345	⇑P	P	07 08 53.0 -0.9
	baz=82					
SPMN	Marine on St.	81.43	345	eP	P	07 08 52.8 -1.1
	comp=Z,7.6nm,0.8s					
K27A	Flueckinger Fa	81.55	338	⇑P	P	07 08 54.0 -0.7
	baz=82					
MVU	Marysvale	81.56	329	eP	P	07 08 55.6 +0.6
	comp=Z,6.2nm,1.2s					
LRMC	Laurel Mtn Rad	81.59	324	⇑P	P	07 08 54.0 -1.1
	baz=82					
J29A	Okreek	81.62	339	⇓P	P	07 08 54.3 -0.6
	baz=82					
ARVC	Arvin	81.87	323	⇑P	P	07 08 55.9 -0.6
	baz=82					
J27A	Elkhorn Farm,	81.98	338	⇑P	P	07 08 56.6 -0.3
	baz=82					
LBTB	Lobatse	82.04	115	eP	P	07 08 58.5 +0.6
LBTB				pmax	pmax	
	comp=Z,16nm,0.8s					
LBTB	Lobatse	82.04	115	eP	P	07 08 58.5 +0.6
	comp=Z,16nm,0.8s					
ISA	Isabella, Lake	82.12	323	eP	P	07 08 58.6 +0.7
ISA				pmax	pmax	
	comp=Z,5.0nm,1.0s					
ISA	Isabella, Lake	82.12	323	⇓P	P	07 08 57.3 -0.6
	baz=82					
ISA	Isabella, Lake	82.12	323	eP	P	07 08 58.6 +0.7
	comp=Z,5.1nm,1.0s					
I29A	Vivian Onida	82.17	340	⇑P	P	07 08 57.3 -0.6
	baz=82					
DAC	Darwin (Calif)	82.18	324	eP	P	07 08 59.1 +0.8
DAC				pmax	pmax	
	comp=Z,14nm,1.2s					
DAC	Darwin (Calif)	82.18	324	eP	P	07 08 59.1 +0.8
	comp=Z,14nm,1.2s					
I28A	Midland	82.41	339	⇑P	P	07 08 59.2 +0.1
	baz=83					
VES	Vestal, Richgr	82.56	323	⇑P	P	07 08 59.6 -0.4
	baz=83					
GRAC	Grapevine Rang	82.65	325	⇑P	P	07 09 00.3 -0.3
	baz=83					
J25A	Sunshine Ranch	82.67	337	⇑P	P	07 09 00.5 0.0
	baz=83					
H29A	Onida	82.70	340	⇓P	P	07 09 00.6 0.0
	baz=83					
K23A	Bowen Ranch, D	82.70	336	⇑P	P	07 09 00.9 0.0
	baz=83					
I27A	Quinn	82.73	339	⇓P	P	07 09 01.0 +0.2
	baz=83					
J24A	Dixon Ranch, L	82.89	337	⇓P	P	07 09 02.1 +0.3
	baz=83					
R11A	Troy Canyon, C	82.91	327	⇓P	P	07 09 02.2 +0.1
	baz=83					
R11A	Troy Canyon, C	82.91	327	eP	P	07 09 02.6 +0.5
	comp=Z,16nm,1.5s					
K22A	Casper	82.92	335	⇑P	P	07 09 02.0 0.0
	baz=83					
K22A	Casper	82.92	335	eP	P	07 09 02.6 +0.6
	comp=Z,45nm,1.7s					
I26A	New Underwood	82.94	338	⇓P	P	07 09 02.0 0.0
	baz=83					
H28A	Mission Ridge	82.98	340	⇑P	P	07 09 02.3 +0.2
	baz=83					
JLU	Jordanelle	83.01	331	eP	P	07 09 02.6 0.0
	comp=Z,10nm,1.3s					
G29A	Hoven	83.14	340	⇑P	P	07 09 02.8 -0.1
	baz=84					
K21A	Alcova	83.16	335	⇓P	P	07 09 03.0 -0.3
	baz=84					
I25A	Rochford	83.21	337	⇑P	P	07 09 03.2 -0.3
	baz=84					
DUG	Dugway, Tooele	83.23	330	eP	P	07 09 04.3 +0.7
DUG				pmax	pmax	
	comp=Z,13nm,1.3s					
DUG	Dugway, Tooele	83.23	330	⇑P	P	07 09 03.3 -0.4
	baz=84					
DUG	Dugway, Tooele	83.23	330	eP	P	07 09 04.3 +0.7
	comp=Z,13nm,1.3s					
H27A	Howes	83.25	339	⇑P	P	07 09 03.1 -0.4
	baz=84					
G28A	Parade	83.31	340	⇑P	P	07 09 03.4 -0.4
	baz=84					
I24A	Kuemmerle Ranc	83.35	337	⇓P	P	07 09 03.7 -0.4
	baz=84					
RSSD	Black Hills	83.40	337	eP	P	07 09 04.3 -0.2
RSSD				pmax	pmax	
	comp=Z,5.0nm,0.9s					
RSSD	Black Hills	83.40	337	eP	P	07 09 04.2 -0.2
	comp=Z,5.5nm,0.9s					
TPH	Tonopah	83.44	326	eP	P	07 09 05.3 +0.5
TPH				pmax	pmax	
	comp=Z,10.0nm,1.2s					
TPH	Tonopah	83.44	326	eP	P	07 09 05.3 +0.5
	comp=Z,10nm,1.2s					
J22A	Midwest	83.58	335	⇑P	P	07 09 05.1 -0.3
	baz=84					
F29A	Eureka	83.71	341	⇓P	P	07 09 05.4 -0.4
	baz=84					
H25A	Fruitdale	83.71	338	⇑P	P	07 09 05.8 -0.1
	baz=84					
G27A	Dupree	83.89	339	⇓P	P	07 09 06.6 -0.2
	baz=84					
BGU	Big Grassy Mou	83.93	330	eP	P	07 09 07.9 +0.7
	comp=Z,6.3nm,1.5s					
F28A	McLaughlin	83.99	340	⇑P	P	07 09 06.8 -0.4
	baz=84					
I22A	9 Mile Ranch,	84.00	336	⇑P	P	07 09 06.2 -1.2
	baz=84					
G26A	Maurine	84.01	339	⇑P	P	07 09 06.7 -0.7
	baz=84					
E30A	Jud	84.08	342	⇑P	P	07 09 07.3 -0.4
	baz=84					
J20A	Shoshoni	84.09	334	⇓P	P	07 09 07.4 -0.5
	baz=84					
H24A	Dirks Ranch, A	84.12	337	⇓P	P	07 09 07.6 -0.4
	baz=84					
PDAR	Pinedale Array	84.12	333	P	P	07 09 07.5 -0.7
	comp=Z,1.3nm,0.7s,baz=151,slow=5.8,SNR=8.4					
G25A	Newell	84.17	338	⇓P	P	07 09 07.7 -0.5
	baz=84					
TORD	Torodi Ar. Bea	84.20	70	P	P	07 09 08.8 -0.1
	comp=Z,14nm,0.9s,baz=254,slow=4.5,SNR=65					
TORD				LR	LR	07 45 40.6
	comp=Z,454nm,18.4s,baz=230,slow=35					
I21A	Big Trails, Te	84.21	335	⇑P	P	07 09 07.9 -0.7
	baz=84					
NVAR	Mina Array Bea	84.24	325	P	P	07 09 09.6 +0.7
	comp=Z,1.3nm,0.7s,baz=157,slow=6.7,SNR=7.4					
E29A	Napoleon	84.33	341	⇑P	P	07 09 08.4 -0.5
	baz=85					
F27A	Lemmon	84.36	339	⇓P	P	07 09 09.0 -0.2
	baz=85					
J19A	Crowheart	84.36	334	⇑P	P	07 09 08.8 -0.6
	baz=85					
F26A	Lodgepole	84.53	339	⇑P	P	07 09 09.8 -0.2
	baz=85					
HVU	Hansel Valley	84.54	331	eP	P	07 09 10.0 -0.3
HVU				pmax	pmax	
	comp=Z,4.0nm,0.7s					
HVU	Hansel Valley	84.54	331	eP	P	07 09 10.0 -0.3
	comp=Z,4.3nm,0.7s					
D30A	Buchanan	84.60	342	⇓P	P	07 09 10.2 -0.1
	baz=85,SNR=6.3					
E28A	Huff	84.62	340	⇑P	P	07 09 10.2 -0.3
	baz=85					
I20A	Worland	84.62	335	⇓P	P	07 09 10.1 -0.5
	baz=85					
ELK	Elko	84.72	328	eP	P	07 09 11.3 0.0
ELK				pmax	pmax	
	comp=Z,52nm,2.6s					
ELK	Elko	84.72	328	eP	P	07 09 11.3 0.0
	comp=Z,52nm,2.6s					
E27A	Carson	84.74	340	⇓P	P	07 09 10.5 -0.5
	baz=85					
D29A	Pettibone, Tap	84.78	341	⇑P	P	07 09 10.7 -0.5
	baz=85					
G23A	Biddle	84.80	337	⇑P	P	07 09 10.5 -0.9
	baz=85					
F25A	Bowman	84.84	338	⇑P	P	07 09 11.2 -0.4
	baz=85					
H21A	Big Horn, Sher	84.84	336	⇓P	P	07 09 10.8 -0.9
	baz=85					
I19A	Meeteetse	85.01	334	⇓P	P	07 09 11.9 -0.7
	baz=85					
AGMN	Agassiz Nation	85.02	344	⇓P	P	07 09 11.5 -0.8
	baz=85,SNR=5.1					
AGMN	Agassiz Nation	85.02	344	eP	P	07 09 11.7 -0.6
	comp=Z,3.8nm,0.6s					
E26A	Carlson Angus	85.03	339	⇑P	P	07 09 11.9 -0.6
	baz=85					
H20A	Greybull	85.05	335	⇓P	P	07 09 12.2 -0.5
	baz=85,SNR=5.4					
F24A	Ekalaka	85.07	338	⇑P	P	07 09 12.1 -0.7
	baz=85					
C30A	Mose, Pekin	85.08	342	⇓P	P	07 09 12.6 -0.1
	baz=85,SNR=6.8					
G22A	Birney	85.11	336	⇑P	P	07 09 12.7 -0.3
	baz=85					
REDW	Red Top Meadow	85.12	333	eP	P	07 09 13.3 0.0
	comp=Z,8.7nm,1.1s					
D28A	Regan	85.16	341	⇓P	P	07 09 12.6 -0.5
	baz=86					
LOHW	Long Hollow	85.24	333	eP	P	07 09 13.9 0.0
F23A	Volborg	85.26	337	⇑P	P	07 09 13.1 -0.6
	baz=86					
TPAW	Teton Pass	85.27	333	eP	P	07 09 14.2 +0.2
G21A	Lodge Grass	85.42	336	⇓P	P	07 09 13.7 -0.8
	baz=86					
FXWY	Fox Creek	85.42	333	eP	P	07 09 14.7 0.0
	comp=Z,36nm,2.5s					
I17A	Pilgrim Ck.	85.49	333	⇑P	P	07 09 13.8 -1.3
	baz=86					
MDND	Maddock	85.50	342	⇑P	P	07 09 14.0 -0.7
	baz=86					
MDND	Maddock	85.50	342	eP	P	07 09 14.7 -0.1
	comp=Z,10nm,1.2s					
D26A	Manning	85.53	340	⇑P	P	07 09 15.0 +0.1
	baz=86					
H19A	Powell	85.56	334	⇑P	P	07 09 15.1 -0.2
	baz=86					
C28A	Hausauer Farms	85.59	341	⇓P	P	07 09 14.8 -0.4
	baz=86					
F22A	Rosebud	85.59	337	⇑P	P	07 09 15.3 0.0
	baz=86					
IMW	Indian Meadow	85.61	333	eP	P	07 09 15.9 +0.2
	comp=Z,5.9nm,0.9s					
E24A	Baker	85.67	338	⇑P	P	07 09 15.1 -0.6
	baz=86					
FLWY	Flagg Ranch	85.68	333	eP	P	07 09 16.6 +0.6
	comp=Z,8.6nm,0.8s					
B30A	Myrvik Farm, E	85.74	343	⇑P	P	07 09 15.5 -0.5
	baz=86,SNR=12					
G20A	Bridger	85.76	335	⇑P	P	07 09 15.6 -0.6
	baz=86,SNR=7.9					
H18A	Shoshone NF, C	85.81	334	⇑P	P	07 09 16.4 -0.3
	baz=86,SNR=12					
D25A	Fairfield	85.90	339	⇓P	P	07 09 16.8 0.0
	baz=86					
B29A	Wagenman Farm,	86.01	342	⇑P	P	07 09 17.1 -0.1
	baz=86					
RLMT	Red Lodge	86.05	334	eP	P	07 09 17.7 -0.1
	comp=Z,4.9nm,0.5s					
E22A	Miles City	86.07	337	⇓P	P	07 09 17.6 -0.1
	baz=86					
C26A	Wahner Farm, P	86.16	340	⇑P	P	07 09 18.1 +0.1
	baz=86					
A30A	Hoffart Farm,	86.19	343	⇓P	P	07 09 17.4 -0.7
	baz=86,SNR=7.4					
F20A	Billings	86.25	335	⇑P	P	07 09 18.1 -0.5
	baz=86					
B28A	Dugan Ranch, T	86.26	341	⇑P	P	07 09 18.2 -0.2
	baz=87					
YMR	Madison River	86.28	333	eP	P	07 09 19.9 +1.0
	comp=Z,10nm,0.9s					
LAO	LASA Array	86.38	337	eP	P	07 09 19.0 -0.2
	comp=Z,9.3nm,0.9s					
A29A	Manning Farm,	86.40	342	⇓P	P	07 09 19.1 -0.1
	baz=87					
B27A	Peters Farms,	86.45	341	⇓P	P	07 09 19.3 -0.1
	baz=87					
D23A	Lindsay	86.49	338	⇑P	P	07 09 19.6 -0.1
	baz=87,SNR=7.2					
E21A	Keefer Ranch,	86.53	337	⇓P	P	07 09 19.5 -0.4
	baz=87					
F19A	Roth Farm, Mol	86.57	335	⇑P	P	07 09 19.7 -0.5
	baz=87					
C24A	Savage	86.57	339	⇑P	P	07 09 20.2 +0.2
	baz=87,SNR=11					
A28A	Rude Farm, Bot	86.66	342	⇓P	P	07 09 20.0 -0.4
	baz=87					
HLID	Hailey	86.69	331	⇓P	P	07 09 20.3 -0.7
	baz=87					
HLID	Hailey	86.69	331	eP	P	07 09 21.5 +0.5
	comp=Z,2.6nm,0.8s					
B26A	Jensen Ranch,	86.70	340	⇑P	P	07 09 20.5 -0.2
	baz=87					
D22A	Cohagen	86.78	337	⇑P	P	07 09 20.9 -0.3
	baz=87					
E20A	Meyer Farm, Mu	86.85	336	⇓P	P	07 09 21.2 -0.3
	baz=87,SNR=7.5					
ULM	Lac du Bonnet	86.86	345	P	P	07 09 20.1 -1.2
	comp=Z,5.2nm,0.8s,baz=136,slow=1.9,SNR=9.2					
D21A	La Casta Ranch	86.97	337	⇓P	P	07 09 21.9 -0.2
	baz=87					
E19A	Rath Farm, Rou	87.04	335	⇓P	P	07 09 22.1 -0.3
	baz=87,SNR=5.3					
C23A	Lambert	87.05	338	⇓P	P	07 09 22.3 -0.1
	baz=87,SNR=5.4					
A26A	Wade Farm, Ken	87.12	341	⇑P	P	07 09 22.6 -0.1
	baz=87					
MCMT	McKenzie Canyo	87.13	332	eP	P	07 09 23.8 +0.6
	comp=Z,3.9nm,1.0s					
D20A	Manuel Ranch,	87.37	336	⇓P	P	07 09 23.2 -0.8
	baz=88					
A25A	Svangstu Ranch	87.45	340	⇑P	P	07 09 23.6 -0.7
	baz=88					
B23A	Brockton	87.58	339	⇓P	P	07 09 24.4 -0.5
	baz=88					
D19A	Cripps Ranch,	87.68	336	⇑P	P	07 09 24.9 -0.6
	baz=88					
A24A	Westby	87.70	339	⇑P	P	07 09 25.0 -0.5
	baz=88					
B22A	Reddig Ranch S	87.74	338	⇑P	P	07 09 25.5 -0.3
	baz=88					
C20A	Veseth Ranch,	87.86	337	⇓P	P	07 09 25.9 -0.4
	baz=88					
C19A	Slack Wire Ran	88.23	336	⇓P	P	07 09 28.3 +0.1
	baz=88					
A22A	Carney Farms,	88.33	338	⇑P	P	07 09 28.2 -0.3
	baz=89,SNR=6.6					
N02D	Trinity Center	88.34	324	⇑P	P	07 09 28.9 +0.1
	baz=89					
B20A	Solberg Farm,	88.50	337	⇑P	P	07 09 29.8 +0.4
	baz=89					
A21A	Bergtoll Ranch	88.64	338	⇓P	P	07 09 29.8 -0.2
	baz=89					
A20A	Cobblestone Ra	88.86	337	⇑P	P	07 09 31.0 -0.1
	baz=89					
SCHQ	Schefferville	88.91	3	P	P	07 09 29.9 -1.2
	comp=Z,2.8nm,1.0s,baz=217,slow=10,SNR=4.0					
SCHQ				LR	LR	07 52 26.9
	comp=Z,92nm,19.1s,baz=143,slow=38					
A19A	Klindworth Far	89.17	337	⇓P	P	07 09 32.9 +0.4
	baz=90					
J05D	Fort Rock, OR	89.43	326	⇓P	P	07 09 33.9 -0.1
	baz=90					
TAM	Tamanrasset	92.84	64	eP	P	07 09 50.7 +0.3
TAM				pmax	pmax	
	comp=Z,3.0nm,1.0s					
TAM	Tamanrasset	92.84	64	eP	P	07 09 50.7 +0.3
	comp=Z,2.8nm,1.0s					
FCC	Fort Churchill	94.58	349	eP	P	07 09 56.6 -0.6
FCC	Fort Churchill	94.58	349	eP	P	07 09 56.6 -0.6
	comp=Z,0.1nm,0.6s					
ESDC	Sonseca Array	96.71	46	LR	LR	07 51 52.9
	comp=Z,128nm,20.8s,baz=250,slow=34					
YKA	Yellowknife Ar	102.42	341	P	Pdif	07 10 31.5 -0.9
	comp=Z,0.4nm,0.6s,baz=143,slow=4.7,SNR=8.6					
CLL	Collm	113.00	43	ePS	PS	07 25 44.0 +5.4
CLL				eSS	SS	07 31 48.0 +2.9
CLL				Lm	MLR	08 00 00.0
	comp=Z,200nm,20.2s					
ASAR	Alice Springs	117.33	207	PKP	PKPdf	07 15 21.1 -2.1
	comp=Z,0.5nm,0.7s,baz=190,slow=2.0,SNR=4.4					
WRA	Warramunga Arr	120.53	209	PKP	PKPdf	07 15 27.2 -2.2
	comp=Z,0.6nm,0.6s,baz=157,slow=1.6,SNR=11					
KIEV	Kiev	122.31	48	⇑iPKIKP	PKPdf	07 15 33.2 +1.6
FITZ	Fitzroy Crossi	125.25	201	ePKPdf	PKPdf	07 15 39.8 +1.4
VSR	Storozhevoye	128.56	49	⇓ePKIKP	PKPdf	07 15 43.7 +0.1
KLMR	Klimovskoe	129.59	36	ePKIKP	PKPdf	07 15 44.6 -0.7
KLMR				pmax	pmax	
	comp=Z,22nm,1.3s					
SEY	Seymchan	140.39	330	PKP	PKPdf	07 16 04.4 -0.9
	comp=Z,2.0nm,0.6s,baz=102,slow=2.8,SNR=8.0					
POO	Poona	145.70	109	ex	PKPdf	07 16 17.0 +0.8
BRVK	Borovoye	147.36	43	⇑ePKP2	PKPbc	07 16 20.1 -0.2
BRVK	Borovoye	147.36	43	ePKPbc	PKPbc	07 16 20.7 +0.4
BVAR	Borovoye Array	147.43	43	PKPbc	PKPbc	07 16 20.8 +0.3
	comp=Z,4.2nm,0.6s,baz=333,slow=1.7,SNR=21					
PSI	Prapat	147.47	163	PKPbc	PKPbc	07 16 20.9 -1.1
	comp=Z,3.4nm,0.4s,baz=238,slow=4.0,SNR=5.1					
HYB	Hyderabad	148.67	115	i PKP	PKPbc	07 16 23.5 -1.4
IPM	Ipoh	149.57	166	ePKPbc	PKPbc	07 16 26.7 -0.5
IPM				ePKPab	PKPab	07 16 32.6 +0.4
KKAR	Karatay Array	149.58	62	ePKP2	PKPbc	07 16 26.4 -0.1
KKAR	Karatay Array	149.58	62	ePKPbc	PKPbc	07 16 26.4 -0.1
YSS	Yuzh-Sakhalins	151.10	306	ePKIKP	PKPbc	07 16 30.0 +0.1
EKS2	Erkin-Say	152.01	62	ePKIKP	PKPdf	07 16 27.0 +1.2
EKS2				e		07 16 32.7
EKS2	Erkin-Say	152.01	62	ePKPdf	PKPdf	07 16 27.0 +1.2
EKS2				ePKPbc	PKiKP	07 16 32.7 +0.1
KURBB	Kurchatov Arra	153.02	44	PKPbc	PKPbc	07 16 33.9 -0.2
	comp=Z,1.2nm,0.4s,baz=301,slow=2.8,SNR=14					
KURBB				PKPab	PKPab	07 16 44.1 -1.5
	comp=Z,1.3nm,0.4s,baz=306,slow=2.8,SNR=9.9					
KURK	Kurchatov	153.03	44	ePKIKP	PKPdf	07 16 26.9 +0.1
KURK						07 16 33.9
KURK						07 16 44.1
KURK	Kurchatov	153.03	44	ePKPdf	PKPdf	07 16 26.9 +0.1
KURK				PKPbc	PKPbc	07 16 33.9 -0.2
KURK				PKPab	PKPab	07 16 44.1 -1.5
NVS	Novosibirsk	153.15	33	ePKIKP	PKPdf	07 16 27.9 +1.1
KSH	Kashi	153.87	69	ePKPbc	PKPdf	07 16 31.9 +3.3
KSH				sPKP		07 16 42.7
KSH				PKS	PKSdf	07 20 03.1 +0.2
KSH				PP	PP	07 20 23.7 -1.1
KSH				SKS	SKSdf	07 23 32.4 -0.5
KSH				SKKS	SKKSac	07 27 11.6 -0.4
KSH				SS	SS	07 39 58.0 -2.3
KSH				PPMZ		
	comp=Z,91nm,4.8s					
KSH				LN		
	comp=Z,63nm,4.1s					
KSH				LE		
	comp=Z,80nm,3.5s					
KSH				LZ		
	comp=Z,140nm,5.4s					
ZALV	Zalesovo Beam	154.44	33	PKPbc	PKPbc	07 16 36.2 -0.9
	comp=Z,3.3nm,0.7s,baz=270,slow=3.0,SNR=8.2					
ZALV				PKPab	PKPab	07 16 51.0 -0.4
	comp=Z,4.4nm,0.6s,baz=318,slow=4.0,SNR=6.6					
BOD	Bodaibo	156.18	352	ePKP2	PKPab	07 16 57.9 -0.9
BOD				pmax	pmax	
	comp=Z,6.0nm,1.2s					
MKAR	Makanchi Array	156.88	50	PKP	PKPdf	07 16 31.9 -0.4
	comp=Z,0.4nm,0.5s,baz=17,slow=1.3,SNR=3.7					
MKAR				PKPab	PKPab	07 17 02.2 -0.1
	comp=Z,2.7nm,0.8s,baz=305,slow=4.3,SNR=12					
WMQ	Urumqi	161.57	53	ePKP	PKPdf	07 16 37.1 -0.8
WMQ				LN		
	comp=Z,61nm,19.0s					
WMQ				LE		
	comp=Z,86nm,23.0s					
WMQ				LZ		
	comp=Z,140nm,22.0s					
ZAK	Zakamensk	163.58	11	ePKP2	PKPab	07 17 27.1 -4.2
ZAK				pmax	pmax	
	comp=Z,3.0nm,1.6s					
SONM	Songino Array	166.45	5	PKPab	PKPab	07 17 43.7 -0.3
	comp=Z,1.3nm,0.9s,baz=337,slow=4.0,SNR=7.7					
GTA	Gaotai	171.63	50	ePKP	PKPdf	07 16 46.2 +0.4
GTA				pPKP	pPKPdf	07 16 57.7 +0.6
GTA				sPKP		07 17 01.9
GTA				PKPab	PKPab	07 18 08.1 +0.7
GYA	Guiyang	172.05	170	PKP	PKPdf	07 16 46.0 -0.4
GYA				pPKP	pPKPdf	07 16 58.2 +0.6
GYA				PKPab	PKPab	07 18 11.6 +2.3
GYA				PKS	PKSdf	07 20 17.5 -1.4
GYA				PP	PP	07 22 04.0 +4.5
GYA				SKKS		07 28 45.4
GYA				SS	SS	07 43 08.8 +3.2
GYA				PPMZ		
	comp=Z,120nm,8.2s					
GYA				LN		
	comp=Z,120nm,24.6s					
GYA				LE		
	comp=Z,110nm,23.4s					
GYA				LZ		
	comp=Z,120nm,24.2s					
HHC	Hu-ho-hao-te	172.95	338	ePKP	PKPdf	07 16 46.3 0.0
HHC				pPKP	pPKPdf	07 16 56.8 -0.8
HHC				sPKP		07 17 01.4
HHC				PP	PP	07 22 08.1 +4.0
HHC				SKS	SKSdf	07 23 43.7 -3.2
HHC				SS	SS	07 43 15.0 +0.2
HHC				PPMZ		
	comp=Z,83nm,6.0s					
HHC				LN		
	comp=Z,130nm,21.1s					
HHC				LE		
	comp=Z,210nm,20.3s					
HHC				LZ		
	comp=Z,160nm,21.0s					
CD2	Chengdu	174.98	132	ePKP	PKPdf	07 16 47.5 +0.3
LZH	Lanzhou	176.08	62	ePKP	PKPdf	07 16 48.5 +1.0
LZH				pPKP	pPKPdf	07 16 59.4 +0.6
LZH				sPKP		07 17 04.9

*ISCJB **12

Error ellipse: s-maj=53.3km s-min=18.0km az=155.0

ISC 12 07:04:50.3±0.5, 37°20N±0°05×72°13E±0°06, h200km, n52, σ1§52/57, mb3.6/8, 8C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	3.06	303	⇑Pn	Pn	07 05 42.0	+1.2
DZET				⇑Sn	Sn	07 06 18.4	-1.9
KSH	Kashi	3.80	51	Pn	Pn	07 05 45.6	-4.1
KSH				Sn	Sn	07 06 24.1	-12
KSH	comp=N,210nm,0.5s			smax	smax		
KSH	comp=E,120nm,0.3s			smax	smax		
AML	Almayashu	5.07	13	P	Pn	07 06 05.5	-0.4
	SNR=124						
UCH	Uchtor	5.35	19	P	Pn	07 06 09.0	-0.5
	SNR=25						
KZA	Kyzart	5.43	25	P	Pn	07 06 09.7	-0.9
	SNR=12						
EKS2	Erkin-Say	5.60	13	P	Pn	07 06 12.4	-0.1
	SNR=18						
DLH	Dalhousie	5.61	145	*e*P	Pn	07 06 15.0	+2.2
DLH				*e*S	Sn	07 07 19.0	+1.1
AAK	Ala-Archa	5.72	18	⇑Pn	Pn	07 06 13.1	-1.0
	comp=E,2.7nm,0.3s						
AAK				⇑Sn	Sn	07 07 11.7	-8.6
	comp=E,42nm,0.8s						
AAK	Ala-Archa	5.72	18	P	Pn	07 06 14.2	+0.1
	SNR=19						
AAK	Ala-Archa	5.72	18	P	Pn	07 06 14.1	+0.1
	comp=E,3.3nm,0.3s,baz=183,slow=9.6,SNR=44						
AAK				S	Sn	07 07 16.4	-3.9
	comp=E,5.3nm,0.3s,baz=143,slow=20,SNR=18						
KBK	Karagaybulak	5.87	21	P	Pn	07 06 16.8	+0.9
	SNR=7.0						
KK31	Karatay Array	6.03	349	⇑Pn	Pn	07 06 17.4	-0.5
	comp=E,6.1nm,0.5s,baz=171,slow=13,SNR=85						
KK31				⇓Sn	Sn	07 07 20.1	-7.1
	comp=E,14nm,0.3s,baz=170,slow=22,SNR=27						
CHMS	Chumysh	6.13	18	P	Pn	07 06 19.1	-0.1
	SNR=5.8						
TKM2	Tokmak 2	6.30	24	⇓Pn	Pn	07 06 21.2	-0.4
	comp=E,13nm,1.1s						
TKM2				⇓Sn	Sn	07 07 24.9	-9.0
	comp=E,10nm,0.8s						
SMLA	Simla	7.35	144	⇑*i*P	Pn	07 06 38.1	+3.0
SMLA				*i* S	Sn	07 07 57.5	-0.8
SMLA				*i* S	Sn	07 07 57.6	-0.8
SMLA				AML	AML	07 08 02.5	
	comp=N,109nm,0.6s						
SMLA				AML	AML	07 08 03.5	
	comp=E,159nm,0.2s						
KHET	Khetri	9.61	160	*e*P4	Pn	07 07 05.2	+0.7
KHET				*e*S	Sn	07 08 48.2	-3.9
KHET				AML	AML	07 09 34.3	
	comp=N,126nm,0.1s						
KHET				AML	AML	07 09 34.3	
	comp=E,132nm,0.1s						
AYAN	Aya Nagar	9.65	153	*e*S	Sn	07 08 50.5	-2.5
KUDL	Kundal	9.74	157	*e*P	Pn	07 07 07.3	+1.0
KUDL				*e*S	Sn	07 08 50.9	-4.3
KUDL				AML	AML	07 08 53.5	
	comp=N,4.5nm,0.2s						
KUDL				AML	AML	07 08 54.2	
	comp=E,14nm,0.5s						
SONA	Sohna	9.85	154	*e*P	Pn	07 07 09.5	+2.0
SONA				*e*S	Sn	07 08 53.5	-4.2
SONA				AML	AML	07 08 60.0	
	comp=E,17nm,0.2s						
SONA				AML	AML	07 09 00.6	
	comp=N,15nm,0.2s						
AGRA	Agra	11.09	152	*e*P	P	07 07 28.6	-1.2
AGRA				*ex*	x	07 08 38.6	
AGRA				AML	AML	07 09 08.9	
	comp=E,114nm,0.2s						
AGRA				AML	AML	07 09 09.2	
	comp=N,91nm,0.3s						
GEYT	Alibeck	11.15	278	P	Pn	07 07 25.0	+0.7
	comp=N,1.2nm,0.3s,baz=104,slow=12,SNR=6.1						
MKAR	Makanchi Array	12.20	35	P	Pn	07 07 37.3	-0.3
	comp=N,0.2nm,0.3s,baz=222,slow=11,SNR=6.9						
PYUN	Piuthan	12.87	132	*e*P	Pn	07 07 47.3	+0.9
	comp=N,50nm,0.4s						
DANN	Dangsing	13.16	129	*e*P	Pn	07 07 50.6	+0.5
	comp=N,14nm,0.3s						
KOLN	Koldanda	13.48	131	*e*P	P	07 07 55.7	-0.9
GKN	Gorkha	13.96	127	*e*P	P	07 08 01.1	-0.7
	comp=N,92nm,0.4s						
KURBB	Kurchatov Arra	14.18	17	P	P	07 08 04.2	+0.3
	comp=N,0.0nm,0.3s,baz=200,slow=11,SNR=3.1						
KKN	Kakani	14.51	126	*e*P	Pn	07 08 06.9	+0.1
	comp=N,17nm,0.4s						
DMN	Daman	14.53	127	*e*P	P	07 08 08.6	+0.3
	comp=N,16nm,0.4s						
PKIN	Phulchoki	14.74	127	*e*P	P	07 08 10.9	+0.3
PKI	Pulchoki	14.75	127	*e*P	P	07 08 10.8	0.0
GUN	Gumba	14.82	125	*e*P	Pn	07 08 11.0	+0.3
	comp=N,22nm,0.4s						
AB31	Akbulak array	14.95	328	⇑Pn	P	07 08 13.3	+0.9
	comp=N,1.5nm,0.7s,baz=156,slow=11,SNR=34						
AB31				⇓Sn	S	07 10 50.5	-7.0
	comp=N,2.3nm,0.7s,baz=171,slow=13,SNR=5.2						
JIRN	Jiri	15.19	125	*e*P	P	07 08 16.6	+0.9
	comp=N,24nm,0.3s						
RAMN	Ramite	15.94	126	*e*P	Pn	07 08 25.3	+1.1
	comp=N,30nm,0.5s						
TAPN	Taplejung	16.41	122	*e*P	Pn	07 08 31.7	+1.8
ODAN	Odare	16.52	124	*e*P	Pn	07 08 32.7	+1.6
AKTO	Aktyubinsk	16.66	327	⇓Pn	Pn	07 08 32.5	+0.2
	comp=N,3.8nm,0.9s						
AKTO				⇑Sn	S	07 11 32.8	-2.2
	comp=N,2.6nm,1.0s						
AKTO	Aktyubinsk	16.66	327	P	Pn	07 08 32.5	+0.2
	comp=N,0.5nm,0.3s,baz=129,slow=10,SNR=10						
ZALV	Zalesovo Beam	18.91	24	P	P	07 08 55.4	-0.3
	comp=N,0.8nm,0.3s,baz=228,slow=11,SNR=4.1						
ZALV				LR	LR	07 17 21.1	
	comp=N,39nm,22.0s,baz=44,slow=40						
SONM	Songino Array	27.19	56	P	P	07 10 15.9	+0.6
	comp=N,0.3nm,0.7s,baz=255,slow=10,SNR=2.4						
ASF	Jabal al Asfar	29.30	271	LR	LR	07 23 51.3	
	comp=N,226nm,21.1s,baz=298,slow=39						
BRTR	Keskin Array B	30.09	287	P	P	07 10 42.7	+1.5
	comp=N,0.6nm,0.5s,baz=64,slow=9.8,SNR=3.4						
FINES	FINESS Array B	37.42	325	P	P	07 11 44.5	+0.7
	comp=N,0.5nm,0.3s,baz=118,slow=9.6,SNR=5.9						
ARCES	ARCESS Array B	40.85	337	P	P	07 12 12.3	+0.2
	comp=N,1.2nm,0.4s,baz=107,slow=7.8,SNR=11						
NB2	NORSAR Subarra	44.38	323	P	P	07 12 41.0	+0.4
	comp=Z,0.7nm,0.5s,baz=93,slow=7.9						
NOA	NORSAR Array B	44.38	323	P	P	07 12 40.4	-0.1
	comp=Z,0.9nm,0.5s,baz=95,slow=7.7,SNR=4.4						
JNU	Nakatsue	47.54	77	LR	LR	07 36 54.3	
	comp=Z,48nm,18.9s,slow=40						
ASAJ	Asahikawa	52.42	59	LR	LR	07 37 25.4	
	comp=Z,60nm,18.4s,baz=118,slow=37						
TORD	Torodi Ar. Bea	66.64	269	P	P	07 15 20.1	+0.4
	comp=Z,1.4nm,0.4s,baz=48,slow=5.7,SNR=41						
INK	Inuvik	73.07	10	P	P	07 15 58.3	+0.4
	comp=Z,0.9nm,0.6s,baz=343,slow=5.7,SNR=8.4						
YKA	Yellowknife Ar	80.50	3	P	P	07 16 39.9	+0.4
	comp=Z,0.6nm,0.5s,baz=350,slow=5.4,SNR=17						

NIED ***12*** *07:08:00, 36°10N×139°90E, h44km, Mw4.1 Best double couple: M0 1.34000×10^15 NP1:φs275.00000°, δ33.00000°, λ134.00000°. NP2:φs46.00000°, δ67.00000°, λ65.00000°.*

IDC ***12*** *07:08:30.7±0.7, 35°97N×139°77E, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.9/29, mbtmp3.9/14, ML5.1/1, MS3.6/4, Ms1 3.6/4, ms1mx2.9/35, Error ellipse: s-maj=21.9km s-min=17.6km az=78.0*

ISCJB ***12*** *07:08:36.7±0.4, 36°04N±0°04×139°84E±0°05, h59km±3km, mb4.0/17, MS3.9/3, Error ellipse: s-maj=7.2km s-min=5.9km az=162.3*

NEIC ***12*** *07:08:36.9±0.9, 35°99N×139°95E, h45km±9km, mb4.5/4, MW4.0(NIED), Error ellipse: s-maj=12.1km s-min=8.4km az=87.0*

NEIC Felt at Tokyo and Tsukuba. Recorded [2 JMA] in Gumma, Ibaraki, Saitama and Tochigi; [1 JMA] in Chiba, Fukushima, Kanagawa and Tokyo.

JMA ***12*** *07:08:37.6±0.1, 36°05N×139°89E, h44km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs39.00000°, δ76.00000°, λ84.00000°. NP2:φs244.00000°, δ15.00000°, λ115.00000°. Principal axes: T Plg58.0000°, Azm300.0000°; N Plg6.0000°, Azm40.0000°; P Plg31.0000°, Azm134.0000°;*

JMA Felt II J1.

ISC 12 07:08:37.8±0.8, 36°06N±0°04×139°84E±0°05, h49km±7km, n45, σ1§05/40, mb3.9/17, MS4.3/3, 2C-2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.33	59	⇑P	Pn	07 08 46.3	-0.8
JYT				S	Sn	07 08 52.5	-1.2
TOK	Tokyo	0.38	191	⇑P	Pn	07 08 47.9	+0.3
TOK				S	Sn	07 08 55.4	+0.9
JAG	Ashikaga	0.48	319	⇓P	Pn	07 08 48.8	0.0
JAG				S	Sn	07 08 56.9	+0.2
JRY	Ryogami san	0.77	267	⇓P	Pn	07 08 52.3	-0.1
JRY				S	Sn	07 09 03.0	0.0
I30JP	ISUMI INFRASON	0.84	153	Pn	Pn	07 08 54.4	+1.0
JKT	Katashina	0.85	326	P	Pn	07 08 53.6	0.0
JKT				*e*S	Sn	07 09 05.9	+0.7
JOD2	Odawara 2	1.00	218	P	Pn	07 08 55.4	-0.2
JOD2				S	Sn	07 09 08.3	-0.4
MJAR	Matsushiro Arr	1.41	290	Pn	Pn	07 09 01.2	+0.2
	40nm,0.3s,baz=91,slow=14,SNR=252						
MJAR				Sn	Sn	07 09 16.0	-2.5
	36nm,0.3s,baz=90,slow=17,SNR=13						
MJAR				LR	LR	07 09 38.8	
	comp=Z,230nm,19.0s,baz=125,slow=50						
MAJO	Matsushiro	1.41	291	*e*Pn	Pn	07 09 01.7	+0.7
MAT	Matsushiro	1.41	291	P	Pn	07 09 01.5	+0.5
MAT				S	Sn	07 09 16.1	-2.4
JHJ2	Mitsune	2.94	180	*e*Pn	Pn	07 09 21.1	-0.9
ERM	Erimo	6.48	22	*e*Pn	Pn	07 10 07.1	-3.4
JNU	Nakatsue	7.95	251	Pn	Pn	07 10 33.4	+2.6
	0.7nm,0.3s,baz=4.5,slow=4.6,SNR=3.8						
ASAJ	Asahikawa	8.32	14	Pn	Pn	07 10 37.6	+1.9
	0.5nm,0.3s,baz=162,slow=20,SNR=2.0						
CBIJ	Chichi jima	9.16	167	Pn	Pn	07 10 43.0	-4.2
JCJ	Chichijima	9.16	167	Pn	Pn	07 10 43.0	-4.2
	18nm,0.3s,baz=336,slow=14,SNR=5.4						
KSRS	Korea Array	9.67	282	LR	LR	07 14 34.4	
	comp=Z,68nm,19.9s,baz=66,slow=38						
MDJ	Mudanjiang	11.58	321	*e*Pn	Pn	07 11 20.9	+0.6
	17nm,0.3s						
SONM	Songino Array	27.31	306	P	P	07 14 17.0	-0.8
	0.4nm,0.6s,baz=110,slow=8.8,SNR=3.4						
H11N2	WAKE ISLAND Hy	28.78	117	T	T	07 44 43.6	
	baz=312,slow=75,SNR=26						
H11N1	WAKE ISLAND Hy	28.79	117	T	T	07 44 44.0	
	baz=312,slow=75,SNR=29						
H11N3	WAKE ISLAND Hy	28.80	117	T	T	07 44 44.9	
	baz=312,slow=75,SNR=24						
H11S1	WAKE ISLAND Hy	29.44	119	T	T	07 45 32.3	
	baz=314,slow=76,SNR=33						
H11S3	WAKE ISLAND Hy	29.44	119	T	T	07 45 32.4	
	baz=314,slow=76,SNR=25						
H11S2	WAKE ISLAND Hy	29.45	119	T	T	07 45 33.9	
	baz=314,slow=76,SNR=20						
TLY	Talaya	30.04	313	LR	LR	07 26 03.6	
	comp=Z,28nm,19.0s,baz=22,slow=35						
ZALV	Zalesovo Beam	41.65	313	P	P	07 16 21.1	+0.1
	3.7nm,0.6s,baz=88,slow=6.4,SNR=9.5						
MKAR	Makanchi Array	43.57	303	P	P	07 16 36.6	-0.2
	1.1nm,0.7s,baz=87,slow=9.5,SNR=13						
KURK	Kurchatov	45.55	309	*e*P	P	07 16 51.8	-0.6
	8.0nm,1.3s						
KURBB	Kurchatov Arra	45.61	309	P	P	07 16 52.2	-0.7
	2.7nm,0.5s,baz=83,slow=7.7,SNR=14						
AAK	Ala-Archa	49.84	299	LR	LR	07 38 44.5	
	comp=Z,451nm,21.5s,baz=158,slow=36						
ILAR	Eielson Array	50.99	32	P	P	07 17 34.8	+0.5
	0.7nm,0.8s,baz=272,slow=5.9,SNR=7.1						
FITZ	Fitzroy Crossi	55.52	196	*e*P	P	07 18 07.6	-0.3
	2.5nm,0.8s						
INK	Inuvik	55.83	27	P	P	07 18 10.2	+0.7
	0.8nm,0.7s,baz=284,slow=6.2,SNR=5.6						
WRAB	Tennant Creek	55.93	186	*e*P	P	07 18 09.7	-1.2
	4.5nm,0.9s						
WB2	Warramunga Arr	55.94	186	*e*P	P	07 18 09.4	-1.5
WRA	Warramunga Arr	55.94	186	P	P	07 18 09.5	-1.5
	1.5nm,0.6s,baz=1.8,slow=7.7,SNR=17						
ARU	Arti	56.25	319	*e*P	P	07 18 12.4	-0.4
	3.1nm,0.4s						
ASAR	Alice Springs	59.67	186	P	P	07 18 36.5	-0.6
	0.3nm,0.6s,baz=7.6,slow=6.4,SNR=5.5						
YKA	Yellowknife Ar	65.28	30	P	P	07 19 14.1	0.0
	0.5nm,0.8s,baz=301,slow=6.6,SNR=7.2						
FINES	FINESS Array B	69.08	332	P	P	07 19 37.8	-0.4
	1.5nm,0.8s,baz=90,slow=7.6,SNR=3.5						
NOA	NORSAR Array B	74.59	337	P	P	07 20 11.0	-0.3
	0.6nm,0.4s,baz=41,slow=5.8,SNR=2.8						
NVAR	Mina Array Bea	76.58	52	P	P	07 20 24.8	+1.4
	0.2nm,0.6s,baz=292,slow=6.2,SNR=4.4						
GERES	GERESS Array B	82.86	327	LR	LR	08 01 09.6	
	comp=Z,131nm,20.3s,baz=246,slow=38						
TXAR	Lajitas Array	91.72	51	P	P	07 21 40.8	+0.4
	0.3nm,0.6s,baz=314,slow=3.2,SNR=5.0						

IDC ***12*** *07:13:16.1±1.8, 37°46S×73°29W, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.6/34, mbtmp3.6/6, ML3.3/2, Error ellipse: s-maj=51.2km s-min=19.7km az=67.0*

ISCJB ***12*** *07:13:18.6±1.4, 37°45S±0°1×73°1W±0°3, h23km, mb3.7/4, Error ellipse: s-maj=35.0km s-min=15.7km az=171.6*

ISC 12 07:13:19.9±1.5, 37°5S±0°1×73°2W±0°3, h23km, n7, σ0§84/7, mb3.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.85	148	Pn	Pn	07 14 18.1	+0.3
	0.7nm,0.3s,baz=310,slow=15,SNR=5.3						
PLCA				Lg	Lg	07 15 21.3	
	2.8nm,0.3s,baz=352,slow=14,SNR=2.1						
CFAA	Coronel Fontan	7.14	36	Pn	Pn	07 15 03.0	0.0
	0.2nm,0.3s,baz=205,slow=14,SNR=6.3						
LPAZ	La Paz	21.57	13	P	P	07 18 09.1	+0.6
	1.3nm,0.7s,baz=195,slow=5.3,SNR=3.5						
TXAR	Lajitas Array	72.33	332	P	P	07 24 44.0	+0.3
	0.3nm,0.8s,baz=153,slow=6.1,SNR=3.6						
DBIC	Dimbokro	77.19	71	P	P	07 25 12.6	+0.5
	1.5nm,0.7s,baz=225,slow=11,SNR=2.6						
TORD	Torodi Ar. Bea	86.27	70	P	P	07 25 59.3	-0.7
	0.5nm,0.7s,baz=227,slow=5.0,SNR=3.5						
ZALV	Zalesovo Beam	157.63	36	PKPab	PKPab	07 33 44.6	-1.3
	0.8nm,0.3s,baz=270,slow=1.4,SNR=2.8						

IDC ***12*** *07:14:04.9±0.9, 36°50S×73°34W, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.0/34, mbtmp4.0/12, ML3.1/1, MS3.7/3, Ms1 3.7/3, ms1mx3.3/22, Error ellipse: s-maj=26.5km s-min=21.0km az=102.0*

ISCJB ***12*** *07:14:07.4±0.5, 36°53S±0°05×73°44W±0°07, h27km, mb4.3/15, MS3.8/1, Error ellipse: s-maj=8.1km s-min=6.8km az=178.2*

GUC ***12*** *07:14:07.6±0.5, 36°58S×73°53W, h22km±4km, ML4.7*

NEIC ***12*** *07:14:11.5±0.6, 36°29S×73°32W, h35km, mb4.6/9, Error ellipse: s-maj=14.2km s-min=10.1km az=76.0*

ISC 12 07:14:08.9±0.6, 36°52S±0°05×73°39W±0°08, h27km, n38, σ1§01/34, mb4.3/15, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.40	145	⇓*i*P	Pb	07 14 16.2	-1.3
CCSP				*i* S	Sb	07 14 22.1	-1.3
CCSP				AML	AML	07 14 23.2	
	comp=E,105μm,0.5s						
COCH	Cobquecura	0.62	52	⇓*i*P	Pb	07 14 21.3	+0.1
COCH				*i* S	Sn	07 14 31.8	+0.8
NICH	Los Niches	2.32	50	*e*P	Pb	07 14 47.7	-2.4
NICH				*i* S	Sb	07 15 18.9	+0.5
ANTU	Antumapu	3.71	38	⇑*i*P	Pn	07 15 04.8	+0.2
PLCA	Paso Flores	4.76	153	Lg	Lg	07 16 30.9	
	comp=E,9.1nm,0.3s,baz=321,slow=6.7,SNR=3.0						
PLCA				LR	LR	07 16 36.4	
	comp=E,312nm,20.4s,baz=302,slow=32						
PLCA	Paso Flores	4.76	153	*e*Pn	Pb	07 15 26.2	-5.4
PLCA				Lg	Lg	07 16 30.9	
CFAA	Coronel Fontan	6.51	43	Pn	Pn	07 15 42.3	-0.6
	comp=E,0.4nm,0.3s,baz=215,slow=14,SNR=14						
CFAA				Sn	Sn	07 16 58.4	+2.2
	comp=E,0.3nm,0.3s,baz=294,slow=20,SNR=2.0						
LCO	Las Campanas	7.82	18	*e*Pn	Pn	07 15 59.4	-1.8
	comp=E,29nm,0.8s						
TRQA	Tornquist	9.23	103	*e*Pn	Pn	07 16 21.8	+1.7
	comp=E,14nm,0.8s						
LVC	Limon Verde	14.39	17	*e*P	P	07 17 37.5	-0.3
	comp=E,5.3nm,0.8s						
USHA	Ushuaia	18.63	171	LR	LR	07 26 26.4	
	comp=E,395nm,19.4s,baz=251,slow=40						
LPAZ	La Paz	20.69	14	*e*P	P	07 18 47.6	+0.1
	comp=E,2.6nm,0.7s,baz=167,slow=2.3,SNR=6.5						
LPAZ	La Paz	20.69	14	*e*P	Pn	07 18 49.2	-0.9
	comp=E,9.0nm,1.0s						
SIV	San Ignacio	23.20	31	P	P	07 19 12.9	-0.8
	comp=E,8.8nm,1.0s,baz=237,slow=13,SNR=8.4						
BDFB	Brasilia	30.69	54	P	P	07 20 20.7	-0.9
	comp=E,1.6nm,0.6s,baz=226,slow=6.8,SNR=3.8						
RPN	Rapa Nui	31.79	277	LR	LR	07 30 15.4	
	comp=E,198nm,18.9s,baz=33,slow=30						
PTGA	Pitinga	37.72	22	P	P	07 21 21.8	-0.6
	comp=E,3.2nm,0.6s,baz=195,slow=6.6,SNR=6.1						
SDV	Santo Domingo	45.24	4	*e*P	P	07 22 23.3	-0.8
	comp=E,9.4nm,1.1s						
QSPA	South Pole Qui	53.72	180	P	P	07 23 28.7	+0.4
	comp=E,2.2nm,0.9s,baz=115,slow=3.2,SNR=4.3						
QSPA	South Pole Qui	53.72	180	*e*P	P	07 23 29.8	+1.5
	comp=E,5.0nm,1.1s						
TXAR	Lajitas Array	71.42	332	P	P	07 25 26.8	+0.1
	comp=E,0.7nm,0.6s,baz=150,slow=8.5,SNR=11						
TUL1	Leonard	75.01	341	*e*P	P	07 25 48.5	+0.8
	comp=E,6.0nm,0.8s						
DBIC	Dimbokro	77.03	72	P	P	07 25 59.7	0.0
	comp=E,5.0nm,1.0s,baz=196,slow=4.5,SNR=6.3						
DBIC	Dimbokro	77.03	72	*e*P	P	07 26 00.1	+0.4
	comp=E,13nm,1.1s						
BOSA	Boshof	79.88	118	P	P	07 26 16.2	+0.8
	comp=E,2.6nm,0.9s,baz=198,slow=3.2,SNR=3.0						
BOSA	Boshof	79.88	118	*e*P	P	07 26 15.5	0.0
	comp=E,10nm,1.1s						
PV10	Paradox Valley	81.48	332	*e*P	P	07 26 24.3	+0.6
	comp=E,18nm,0.3s						
ECSD	EROS Data Cent	82.62	343	*e*P	P	07 26 29.3	0.0
	comp=E,3.0nm,0.7s						
NVAR	Mina Array Bea	85.34	326	P	P	07 26 44.3	+0.8
	comp=E,0.3nm,0.6s,baz=133,slow=7.5,SNR=3.1						
PDAR	Pinedale Array	85.52	334	P	P	07 26 45.0	+0.5
	comp=E,0.6nm,0.9s,baz=143,slow=5.2,SNR=3.7						
HVU	Hansel Valley	85.85	332	*e*P	P	07 26 47.0	+1.1
	comp=E,2.2nm,0.7s						
TORD	Torodi Ar. Bea	86.10	71	P	P	07 26 47.4	-0.3
	comp=E,0.8nm,0.5s,baz=212,slow=5.4,SNR=6.4						
H11S2	WAKE ISLAND Hy	124.60	268	T	T	09 50 10.2	
	baz=122,slow=74,SNR=5.4						
H11S1	WAKE ISLAND Hy	124.62	268	T	T	09 50 07.5	
	baz=122,slow=74,SNR=4.5						
H11S3	WAKE ISLAND Hy	124.62	268	T	T	09 50 08.2	
	baz=122						
ABKAR	Akbulak array	144.08	54	*e*PKPdf	PKPab	07 33 39.2	+0.1
BRVK	Borovoye	149.79	45	*e*PKPbc	PKPbc	07 33 57.0	+1.3
MKAR	Makanchi Array	159.21	53	PKPab	PKPab	07 34 41.3	-0.2
	comp=E,0.4nm,0.7s,baz=304,slow=3.3,SNR=2.5						

IDC ***12*** *07:18:54.5±8.2, 21°36S×68°12W, h120km±54km, mb3.4/2, mb1 3.5/5, mb1mx3.2/31, mbtmp3.8/5, Error ellipse: s-maj=80.0km s-min=26.0km az=36.0*

ISC 12 07:18:54.9±1.6, 21°4S±0°1×67°9W±0°1, h121km, n7, σ1§13/8, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.04	358	P	Pn	07 20 09.4	+0.4
	0.6nm,0.3s,baz=167,slow=4.7,SNR=9.9						
LPAZ				S	Sn	07 21 06.7	+0.2
	0.1nm,0.3s,baz=189,slow=5.3,SNR=1.7						
SIV	San Ignacio	8.39	52	P	Pn	07 20 55.0	+1.2
	1.8nm,0.3s,baz=266,slow=13,SNR=17						
SIV				S	Sn	07 22 25.6	-1.3
	0.1nm,0.3s,baz=270,slow=3.0,SNR=1.9						
BDFB	Brasilia	19.70	77	P	Pn	07 23 17.1	-0.6
	0.7nm,0.3s,baz=258,slow=10,SNR=7.1						
TORD	Torodi Ar. Bea	76.43	70	P	P	07 30 32.4	+0.6
	0.2nm,0.4s,baz=262,slow=4.6,SNR=5.1						
YKA	Yellowknife Ar	91.36	340	P	P	07 31 45.2	-1.3
	0.4nm,0.5s,baz=134,slow=4.7,SNR=15						
MKAR	Makanchi Array	144.96	36	PKPbc	PKPbc	07 38 16.2	-1.1
	0.3nm,0.8s,baz=316,slow=4.0,SNR=2.9						
SONM	Songino Array	153.18	9	PKPab	PKPab	07 38 51.3	+0.7
	0.2nm,0.7s,baz=343,slow=4.5,SNR=2.9						

BJI ***12*** *07:21:14.8, 0°23S×123°65E, h289km, mB4.5/27, mb4.6/47*

ISCJB ***12*** *07:21:19.1±0.3, 0°41N±0°03×123°49E±0°03, h281km±2km, mb4.5/70, Error ellipse: s-maj=5.5km s-min=3.5km az=150.8*

IDC ***12*** *07:21:20.5±1.2, 0°41N×123°38E, h282km±12km, mb4.2/34, mb1 4.2/35, mb1mx4.2/39, mbtmp4.8/35, Error ellipse: s-maj=12.5km s-min=7.1km az=73.0*

NEIC ***12*** *07:21:20.5±0.4, 0°40N×123°45E, h282km±4km, mb4.6/38, Error ellipse: s-maj=7.2km s-min=4.4km az=66.0*

DJA ***12*** *07:21:20.6±0.2, 0°N±2°×12°4E±°, h256km±2km, M4.5/47, mB5.0/14, mb4.7/47, MLv4.8/24, Mw(mB)4.3/14*

KLM ***12*** *07:21:21.0, 0°51N×123°56E, h275km, mb4.8, ML5.3, MS5.2*

ISC 12 07:21:20.8±0.4, 0°38N±0°04×123°45E±0°05, h284km±2km, n190, σ1§33/229, mb4.5/69, 5C-3D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	0.51	300	P	Pn	07 21 55.4

baz=10,SNR=9.2
SOEI Soe 10.10 175 *e*Pn **Pn 07 23 42.2 +1.8**
BATI Baumata 10.51 179 P **P 07 23 47.5 -1.7**
293nm,0.6s,3μm
BATI Baumata 10.51 179 P **Pn 07 23 46.9 +1.3**
59nm,0.3s,baz=355,slow=1.7,SNR=32
BATI S S 07 25 52.5 +8.9
1.8nm,0.3s,baz=18,slow=20,SNR=4.0
WBSI Waikabubak, Su 10.74 202 P **Pn 07 23 47.5 -0.8**
126nm,0.8s,10μm
SBUM Sibu 11.42 281 ⇓P **Pn 07 23 57.3 +0.7**
SBUM Sibu 11.42 281 *e*Pn **Pn 07 23 57.1 +0.5**
STKI Sintang 11.98 269 P **P 07 24 05.2 -0.3**
30nm,0.6s
JAGI Jajag, Banyuwa 12.77 226 P P 07 24 20.7 +6.4
baz=13,SNR=3.0
KSM Kuching 13.19 275 P **P 07 24 20.9 +2.0**
baz=13,SNR=7.3
KSM Kuching 13.19 275 ⇑P **P 07 24 19.7 +0.8**
KSM Kuching 13.19 275 *e*Pn **P 07 24 19.4 +0.5**
TGY Tagaytay City 13.86 350 P **Pn 07 24 27.2 +0.8**
42nm,0.3s,baz=195,slow=2.6,SNR=6.3
MTN Manton Dam 15.18 150 P **P 07 24 38.5 -2.4**
baz=15,SNR=29
KDU Kakadu 15.76 146 P **P 07 24 47.6 +0.4**
baz=16,SNR=55
KDU S **S 07 27 33.4 -5.4**
baz=16,SNR=9.5
KPJI Karang Pucung 16.38 242 P **Pn 07 24 56.6 +0.4**
53nm,0.8s
KNRA Kununurra 16.79 162 P **P 07 24 58.9 +0.5**
baz=17,SNR=42
CBJI Citeko 17.89 248 P Pn 07 25 19.0 +5.1
317nm,0.3s,27μm
FITZ Fitzroy Crossi 18.49 173 P **P 07 25 15.6 -1.1**
baz=19,SNR=43
FITZ Fitzroy Crossi 18.49 173 *e*P **P 07 25 15.7 -1.1**
34nm,0.8s
MDSI Maura Dua 19.85 256 P **Pn 07 25 36.7 +0.2**
15nm,0.8s
MBWA Marble Bar 21.71 189 *e*P **P 07 25 49.0 -0.6**
28nm,1.3s
TWG Pinlang 22.43 354 *e*P **P 07 25 56.3 +0.2**
113nm,0.6s
IPM Ipoh 22.77 281 *e*P **P 07 25 59.7 +0.3**
20nm,0.9s
WRAB Tennant Creek 22.83 153 *e*P **P 07 25 59.8 0.0**
37nm,0.9s
WRA Warramunga Arr 22.84 153 P **P 07 25 59.9 0.0**
29nm,0.7s,baz=328,slow=10,SNR=377
WRA S S 07 29 55.5 +7.7
3.1nm,1.0s,baz=321,slow=16,SNR=3.3
WRA ScP **ScP 07 32 53.4 +1.1**
3.6nm,1.0s,baz=334,slow=2.9,SNR=5.8
WB2 Warramunga Arr 22.84 153 *e*P **P 07 25 59.6 -0.3**
QIZ Qiongzhong 22.85 325 P **P 07 26 00.2 +0.3**
QIZ sP **sP 07 27 24.3 +0.1**
QIZ S **S 07 29 48.1 +0.2**
QIZ PMZ
17nm,1.2s
QIZ PMZ
130nm,5.5s
QIZ Qiongzhong 22.85 325 *e*P **P 07 26 00.3 +0.3**
13nm,0.6s
TPUB Ta-pu 22.95 353 *e*P **P 07 26 02.7 +1.8**
129nm,0.8s
YULB Yu-li 22.98 355 *e*P **P 07 25 59.8 -1.3**
22nm,0.8s
PDSI Padang 23.03 267 P **P 07 26 03.6 +1.9**
43nm,1.1s
SSLB Suanglung 23.40 354 *e*P **P 07 26 04.8 -0.1**
50nm,0.7s
YOJ Yonaguni jima 23.95 359 *e*P **P 07 26 09.9 0.0**
52nm,0.9s
COEN Coen 24.17 127 P **P 07 26 12.0 0.0**
baz=24,SNR=8.1
YHNB Yeheng 24.23 355 *e*P **P 07 26 12.9 +0.3**
27nm,0.6s
GIRL Giralia 24.58 201 P **P 07 26 16.8 +1.2**
baz=25,SNR=3.5
PSI Prapat 24.64 276 P **P 07 26 16.2 -0.2**
5.8nm,0.7s,baz=87,slow=9.0,SNR=5.9
PMG Port Moresby 25.52 113 P **P 07 26 25.0 +0.8**
21nm,0.7s,baz=263,slow=16,SNR=5.9
PMG Port Moresby 25.52 113 *e*P **P 07 26 24.4 +0.2**
17nm,0.6s
WRKA Warakurna 25.69 170 P **P 07 26 25.8 +0.2**
baz=26,SNR=234
AS31 Alice Springs 25.96 158 *e*P **P 07 26 28.4 +0.4**
ASAR Alice Springs 25.96 158 P **P 07 26 28.1 +0.1**
5.4nm,0.5s,baz=342,slow=15,SNR=90
ASAR PcP **PcP 07 29 49.1 +0.5**
1.5nm,0.5s,baz=352,slow=2.7,SNR=4.8
ASAR ScP **ScP 07 33 02.2 +1.3**
4.4nm,0.9s,baz=342,slow=2.4,SNR=16
QIS Mount Isa 26.13 144 P **P 07 26 30.1 +0.6**
baz=26,SNR=20
PHET Kaeng Krachan 26.70 299 P **P 07 26 36.6 +1.9**
45nm,0.9s
MEEK Meekatharra 27.26 189 P **P 07 26 39.3 -0.3**
baz=27,SNR=28
UTTA Uttaradit 28.37 309 P **P 07 26 50.6 +1.1**
7.2nm,0.8s
CMAR Chiang Mai Arr 30.04 308 P **P 07 27 05.1 +0.9**
5.2nm,0.4s,baz=140,slow=7.8,SNR=31
CMAR PcP **PcP 07 29 59.9 +1.2**
1.6nm,0.5s,baz=186,slow=1.8,SNR=11
CMAR ScP **ScP 07 33 15.0 +1.4**
0.9nm,0.3s,baz=161,slow=2.3,SNR=6.7
MORW Morawa 30.12 193 P **P 07 27 04.9 +0.1**
baz=30,SNR=7.0
CTAO Charters Tower 30.21 134 *e*P **P 07 27 06.6 +1.0**
26nm,1.1s
CHTO Chiang Mai 30.24 309 P **P 07 27 06.8 +0.9**
136nm,1.1s
CHTO Chiang Mai 30.24 309 *e*P **P 07 27 06.4 +0.5**
19nm,0.8s
GYA Guiyang 30.56 329 *e*P **P 07 27 11.0 +2.2**
GYA pP **pP 07 28 05.8 +1.8**
GYA sP **sP 07 28 39.0 +2.1**
GYA PcP **PcP 07 30 01.4 +1.3**
GYA S **S 07 31 51.7 +2.3**
GYA ScP **ScP 07 33 15.6 +0.2**
GYA PcS **PcS 07 33 45.0 +0.6**
GYA ScS **ScS 07 37 11.2 -1.3**
GYA PMZ
20nm,0.8s
CMAI Chiengmai2 30.80 311 P **P 07 27 11.6 +0.5**
19nm,1.0s
WHN Wuhan 31.23 345 ⇑P **P 07 27 16.1 +1.7**
WHN pP pP 07 28 17.7 +8.0
FORT Forrest 31.29 172 P **P 07 27 15.2 +0.3**
baz=32,SNR=39
FORT Forrest 31.29 172 *e*P **P 07 27 15.1 +0.1**
48nm,0.5s
BLDU Ballidu 31.48 191 P **P 07 27 16.5 -0.1**
baz=32,SNR=14
KMBL Kambalda 31.60 183 P **P 07 27 17.9 +0.2**
baz=32,SNR=9.7
KMI Kunming 31.72 322 P **P 07 27 21.4 +2.3**
KMI PMZ
9.0nm,0.9s
NJ2 Nanjing 31.80 353 *e*P **P 07 27 20.5 +1.1**
NJ2 PMZ
60nm,0.8s
KLBR Kellerberrin 32.25 189 P **P 07 27 23.4 +0.1**
baz=32,SNR=12
ENH Enshi 32.56 337 *e*P **P 07 27 26.6 +0.5**
12nm,0.8s
JNU Nakatsue 33.31 11 P **P 07 27 33.8 +1.3**
20nm,1.1s,baz=248,slow=5.4,SNR=4.1
QLP Quilpie 33.45 145 P **P 07 27 34.6 +0.8**
baz=34,SNR=9.4
NWAO Narrogin (SRO) 33.64 189 P **P 07 27 35.4 +0.2**
18nm,0.9s,baz=22,slow=7.7,SNR=6.1
BBOO Buckleboo 35.09 161 P **P 07 27 47.6 0.0**
baz=35,SNR=19
BBOO Buckleboo 35.09 161 *e*P **P 07 27 47.6 0.0**
169nm,0.6s
CD2 Chengdu 35.66 330 ⇓*i*P **P 07 27 52.4 -0.2**
CD2 sP **sP 07 29 18.5 -3.1**
CD2 S **S 07 33 08.5 +0.9**
CD2 sS **sS 07 34 49.1 +0.1**
CD2 PMZ
60nm,0.9s
CD2 PMZ
90nm,4.8s

XAN Xi'an 36.15 339 P **P 07 27 57.3 +0.6**
XAN pP **pP 07 28 52.9 -0.3**
XAN sP **sP 07 29 26.3 +0.5**
XAN PMZ
5.0nm,0.7s
STKA Stephens Creek 36.39 153 P **P 07 27 59.1 +0.4**
23nm,0.8s,baz=325,slow=8.1,SNR=35
STKA Stephens Creek 36.39 153 P **P 07 27 59.1 +0.4**
baz=37,SNR=17
STKA Stephens Creek 36.39 153 *e*P **P 07 27 59.0 +0.4**
5.0nm,0.9s
HTT Hallett 36.64 158 P **P 07 28 01.8 +1.0**
baz=37,SNR=29
KSAR Wonju Array Be 37.11 6 P **P 07 28 05.0 +0.3**
KSRS Korea Array 37.13 6 P **P 07 28 05.0 +0.2**
11nm,0.7s,baz=185,slow=9.3,SNR=18
CMSA Cobar Meteorol 38.10 148 P **P 07 28 14.0 +1.1**
baz=38,SNR=79
MAJO Matsushiro 38.50 19 *e*P **P 07 28 15.3 -0.9**
18nm,0.9s
MAT Matsushiro 38.50 19 P **P 07 28 15.0 -1.2**
MJAR Matsushiro Arr 38.50 19 P **P 07 28 15.2 -1.0**
12nm,0.8s,baz=196,slow=9.3,SNR=26
LZH Lanzhou 39.93 335 ⇑P **P 07 28 30.7 +2.5**
LZH pP **pP 07 29 28.5 +2.8**
LZH sP **sP 07 30 00.3 +2.3**
LZH *e*S **S 07 34 16.0 +4.2**
LZH sS **sS 07 35 55.1 +0.4**
LZH SS **SS 07 37 18.2 -3.4**
LZH PMZ
28nm,1.0s
LZH PMZ
120nm,4.0s
BJI Beijing 40.03 351 P **P 07 28 28.2 -0.5**
BJI PMZ
22nm,0.8s
ARMA Armidale 40.70 141 P **P 07 28 36.8 +2.3**
baz=41,SNR=10
ARMA Armidale 40.70 141 *e*P **P 07 28 36.2 +1.8**
15nm,0.6s
ARPS Mount Arapiles 40.70 157 P **P 07 28 35.0 +0.7**
baz=41,SNR=22
YNG Young 41.67 148 P **P 07 28 44.4 +2.1**
baz=42,SNR=9.4
HHC Hu-ho-hao-te 41.71 346 *e*P **P 07 28 44.4 +1.9**
HHC pP **pP 07 29 43.7 +3.3**
HHC sP **sP 07 30 12.4 -0.3**
HHC PP **PP 07 30 24.3 -1.4**
HHC S **S 07 34 36.4 -1.3**
HHC sS **sS 07 36 22.4 +1.2**
HHC SS **SS 07 37 52.9 -3.1**
HHC PMZ
34nm,0.9s
HHC PMZ
210nm,5.3s
MGCD Mangrove Creek 42.35 145 P **P 07 28 50.4 +2.7**
baz=42,SNR=8.9
LSA Lhasa 42.39 316 *e*P **P 07 28 49.0 +0.4**
13nm,0.5s
TOO Toolangi 42.90 154 P **P 07 28 53.9 +1.9**
baz=43,SNR=12
CNB Canberra Magne 42.96 148 P **P 07 28 54.5 +1.9**
baz=43,SNR=11
ODAN Odare 43.53 310 *e*P **P 07 28 57.1 -0.3**
TAPN Taplejung 43.54 311 *e*P **P 07 28 57.5 -0.1**
36nm,0.8s
RAMN Ramite 44.18 310 *e*P **P 07 29 02.4 -0.2**
89nm,0.9s
USRK Ussuriysk Ar. 44.29 9 P **P 07 29 02.9 0.0**
13nm,0.7s,baz=196,slow=7.0,SNR=20
MDJ Mudanjiang 44.39 6 P **P 07 29 05.1 +1.5**
MDJ PMZ
32nm,0.9s
MDJ PMZ
72nm,2.9s
MDJ Mudanjiang 44.39 6 *e*P **P 07 29 05.5 +1.9**
13nm,0.6s
GTA Gaotai 44.45 334 *e*P **P 07 29 04.0 -0.4**
GTA pP **pP 07 30 03.3 +0.2**
GTA sP **sP 07 30 35.7 +0.5**
GTA PcP **PcP 07 30 42.7 +0.1**
GTA PMZ
19nm,1.0s
JIRN Jiri 44.85 310 *e*P **P 07 29 07.3 -0.8**
25nm,0.6s
GUN Gumba 45.22 311 *e*P **P 07 29 10.3 -0.6**
32nm,0.4s
PKI Pulchoki 45.41 310 *e*P **P 07 29 11.3 -1.0**
13nm,0.6s
PKIN Phulchoki 45.42 310 *e*P **P 07 29 11.6 -0.8**
KKN Kakani 45.61 310 *e*P **P 07 29 13.4 -0.4**
DMN Daman 45.66 310 *e*P **P 07 29 13.4 -0.8**
GKN Gorkha 46.21 310 *e*P **P 07 29 17.5 -0.9**
21nm,0.6s
ASAJ Asahikawa 46.77 19 P **P 07 29 22.4 +0.1**
34nm,1.0s,baz=205,slow=11,SNR=6.4
ASAJ Asahikawa 46.77 19 *e*P **P 07 29 21.8 -0.4**
13nm,0.9s
KOLN Koldanda 46.90 309 *e*P **P 07 29 23.0 -0.8**
22nm,0.5s
DANN Dangsing 47.06 310 *e*P **P 07 29 24.2 -0.9**
34nm,0.6s
HYB Hyderabad 47.30 294 *i*P **P 07 29 26.0 -0.8**
50nm,1.0s
SONM Songino Array 49.54 345 P **P 07 29 42.6 -0.8**
15nm,0.8s,baz=167,slow=7.9,SNR=8.9
SONM ScP **ScP 07 34 29.1 +0.5**
1.0nm,0.8s,baz=150,slow=5.3,SNR=4.0
WMQ Urumqi 53.71 328 P **P 07 30 14.2 +0.1**
WMQ pP **pP 07 31 15.7 +0.5**
WMQ sP **sP 07 31 46.2 -0.4**
WMQ PP **PP 07 32 20.7 +2.3**
WMQ S **S 07 37 24.6 -1.2**
WMQ sS **sS 07 39 12.6 -1.4**
WMQ ScS **ScS 07 39 30.8 -3.0**
WMQ SS **SS 07 41 10.2 -0.9**
WMQ PMZ
36nm,1.0s
WMQ PMZ
130nm,3.8s
KSH Kashi 58.20 318 P **P 07 30 45.7 -0.3**
KSH pP **pP 07 31 48.1 0.0**
KSH PP **PP 07 33 00.0 +1.5**
KSH S S 07 38 18.3 -6.8
KSH PMZ
10.0nm,0.7s
KSH PMZ
53nm,3.5s
KSH LN
290nm,10.1s
KSH LE
170nm,7.7s
KSH LZ
130nm,5.8s
MKAR Makanchi Array 58.54 328 P **P 07 30 46.9 -1.1**
20nm,0.8s,baz=123,slow=8.3,SNR=85
MKAR PcP **PcP 07 31 34.3 -0.7**
3.7nm,0.6s,baz=155,slow=3.1,SNR=8.1
MKAR ScP **ScP 07 35 06.5 -1.4**
0.6nm,0.6s,baz=134,slow=5.9,SNR=4.1
PETK Petropavlovsk- 59.77 23 P **P 07 30 56.7 +0.5**
5.9nm,0.6s,baz=193,slow=6.1,SNR=10
TKM2 Tokmak 2 60.18 321 *e*P **P 07 30 59.1 -0.4**
42nm,1.5s
AAK Ala-Archa 60.73 320 P **P 07 31 02.9 -0.3**
3.0nm,0.6s,baz=156,slow=4.1,SNR=8.1
AAK PcP **PcP 07 31 44.1 0.0**
4.4nm,1.0s,baz=140,slow=6.7,SNR=4.3
AAK Ala-Archa 60.73 320 *e*P **P 07 31 02.2 -0.9**
8.5nm,1.0s
AAK PcP **PcP 07 31 44.1 0.0**
KBL Kabul 61.05 310 *e*P **P 07 31 04.8 -0.7**
12nm,0.6s
YAK Yakutsk 61.68 3 *e*P **P 07 31 08.7 -0.1**
53nm,0.8s
ZALV Zalesovo Beam 62.16 335 P **P 07 31 10.4 -1.8**
11nm,0.4s,baz=116,slow=6.8,SNR=26
KURBB Kurchatov Arra 62.87 330 P **P 07 31 15.9 -1.0**
27nm,0.8s,baz=128,slow=5.9,SNR=103
KURK Kurchatov 62.88 330 *e*P **P 07 31 15.1 -1.9**
33nm,0.8s
KKAR Karatay Array 63.53 319 *e*P **P 07 31 21.0 -0.5**
3.1nm,0.8s
SEY Seymchan 66.04 14 P **P 07 31 37.5 +0.4**
5.7nm,1.0s,baz=218,slow=5.9,SNR=24
BVAR Borovoye Array 68.40 329 P **P 07 31 50.8 -1.3**
14nm,0.9s,baz=141,slow=7.5,SNR=41
BRVK Borovoye 68.47 329 *e*P **P 07 31 50.9 -1.6**
26nm,1.1s
GEYT Alibeck 70.49 310 P **P 07 32 04.8 -0.4**
2.5nm,0.7s,baz=116,slow=3.4,SNR=5.1
TIXI Tiksi 71.25 2 *e*P **P 07 32 07.7 -1.3**
16nm,0.7s
ABKAR Akbulak array 72.71 322 *e*P **P 07 32 16.8 -1.4**
2.3nm,0.6s
AKTO Aktyubinsk 74.29 323 P **P 07 32 26.1 -1.1**
7.6nm,0.8s,baz=111,slow=7.5,SNR=30
ARU Arti 76.05 329 *e*P **P 07 32 35.1 -1.9**
12nm,0.7s
GAMB Gambell 78.78 24 *e*P **P 07 32 53.0 +1.0**
4.1nm,1.0s
RAYN Ar Rayn 78.80 294 *e*P **P 07 32 51.8 -1.3**
4.0nm,0.7s
VNDA Vanda 80.55 172 P **P 07 33 00.8 -0.5**
4.2nm,0.7s,baz=325,slow=5.9,SNR=20
VNDA Vanda 80.55 172 *e*P **P 07 33 01.7 +0.4**
3.8nm,0.8s
KBZ Khabaz 82.91 314 P **P 07 33 13.0 -1.1**
3.4nm,0.8s,baz=150,slow=5.8,SNR=3.8
KMBO Kilima Mbogo 86.21 269 P **P 07 33 31.1 -0.4**
3.8nm,0.8s,baz=37,slow=20,SNR=3.0
KMBO Kilima Mbogo 86.21 269 *e*P **P 07 33 31.6 0.0**
5.9nm,1.0s
ASF Jabal al Asfar 86.88 302 P **P 07 33 33.9 -0.3**
6.1nm,1.0s,baz=102,slow=1.1,SNR=7.7
MMAI Mount Meron Ar 88.16 303 P **P 07 33 40.5 +0.2**
1.9nm,0.4s,baz=85,slow=9.3,SNR=5.9
COLD Coldfoot 88.23 23 *e*P **P 07 33 40.8 +1.0**
6.1nm,1.1s
ILAR Eielson Array 89.52 25 P **P 07 33 44.6 -1.2**
0.4nm,0.5s,baz=244,slow=4.9,SNR=16
BRTR Keskin Array B 89.62 310 P **P 07 33 45.4 -1.7**
2.1nm,0.9s,baz=106,slow=4.9,SNR=6.4
QSPA South Pole Qui 90.31 180 P **P 07 33 50.0 +0.4**
3.5nm,0.9s,baz=317,slow=2.3,SNR=6.0
ARCES ARCESS Array B 92.44 340 P **P 07 33 57.3 -2.0**
4.3nm,0.7s,baz=89,slow=5.3,SNR=12
FINES FINESS Array B 93.21 331 P **P 07 34 01.2 -1.7**
1.1nm,0.5s,baz=119,slow=2.4,SNR=4.7
INK Inuvik 94.46 21 P **P 07 34 06.9 -1.6**
1.0nm,0.4s,baz=292,slow=4.4,SNR=10
KOLS Kolonicke sedl 97.06 319 *e*P Pdif 07 34 21.5 +0.7
HFS Hagfors 99.41 331 P **Pdif 07 34 28.9 -2.1**
1.2nm,0.5s,baz=119,slow=1.9,SNR=7.7
ULM Lac du Bonnet 119.44 28 PKP **PKPdf 07 39 36.1 -0.6**
0.7nm,0.3s,baz=9.4,slow=10.0,SNR=3.2
TORD Torodi Ar. Bea 120.75 285 PKP **PKPdf 07 39 39.5 -0.8**
1.6nm,0.7s,baz=45,slow=2.1,SNR=17
SCHQ Schefferville 124.33 7 PKP **PKPdf 07 39 45.2 -0.9**
1.4nm,0.5s,baz=270,slow=3.8,SNR=5.6
TXAR Lajitas Array 126.23 52 PKP **PKPdf 07 39 50.9 +0.4**
0.2nm,0.5s,baz=258,slow=4.5,SNR=3.1

GUC 12 07:22:19.5±0.5, 35°.76S×73°.31W, h35km±5km, ML3.8, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.56**	**131**	⇓*i*P			Pn	07 22 30.4	-0.7
COCH				*i*S			Sn	07 22 38.7	-0.4
COCH						AML	AML	07 22 40.4	
	comp=N,9μm,0.8s								
NICH	**Los Niches**	**1.86**	**67**	*i*P			Pn	07 22 51.0	+2.2
NICH				*i*S			Sn	07 23 14.5	+3.4

*ISCJB **12** 07:23:26.4±0.3, 37°.76N±0°.02×22°.73E±0°.02, h93km±2km, mb3.6/10, Error ellipse: s-maj=3.1km s-min=3.0km az=137.7*
*CSEM **12** 07:23:27.8±0.1, 37°.76N×22°.72E, h80km±2km, ML3.5, Error ellipse: s-maj=3.0km s-min=2.9km az=7.0*
*ATH **12** 07:23:27.1, 37°.76N×22°.76E, h80km±2km, ML3.9*
*IDC **12** 07:23:28.4±1.6, 37°.76N×22°.78E, h105km±19km, mb3.3/10, mb1 3.3/13, mb1mx3.2/32, mbtmp3.6/13, Error ellipse: s-maj=18.2km s-min=14.6km az=59.0*
*THE **12** 07:23:28.6, 37°.79N×22°.75E, h73km, ML3.5/21, Error ellipse: s-maj=0.9km s-min=0.4km az=210.0*
*DDA **12** 07:23:30.1, 37°.66N×23°.55E, h5km, MD3.3*

ISC 12 07:23:26.2±0.7, 37°.77N±0°.02×22°.74E±0°.02, h81km±4km, n166, σ1§82/247, mb3.5/10, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.31**	**34**	P			Pn	07 23 40.1	+1.4
LTK				S			Sn	07 23 48.8	+0.9
LTK	**Loutraki**	**0.31**	**34**	*e*P			Pn	07 23 40.1	+1.4
LTK				*e*S			Sn	07 23 48.6	+0.7
LTK	**Loutraki**	**0.31**	**34**	P			Pn	07 23 40.1	+1.4
LTK				S			Sn	07 23 48.8	+0.9
GUR	**Goura**	**0.36**	**298**	P			Pn	07 23 40.5	+1.4
GUR				S			Sn	07 23 49.2	+0.6
GUR	**Goura**	**0.36**	**298**	P			Pn	07 23 40.5	+1.4
GUR				S			Sn	07 23 49.2	+0.6
DID	**Didima**	**0.47**	**123**	*e*P			Pn	07 23 41.3	+1.5
DID	**Didima**	**0.47**	**123**	*e*P			Pn	07 23 41.3	+1.5
VLX	**Vlachokerasia**	**0.49**	**216**	P			Pn	07 23 41.5	+1.5
VLX				S			Sn	07 23 51.5	+1.2
VLX	**Vlachokerasia**	**0.49**	**216**	*e*P			Pn	07 23 41.6	+1.5
VLX				*e*S			Sn	07 23 51.2	+0.9
VLX	**Vlachokerasia**	**0.49**	**216**	*e*P			Pn	07 23 41.6	+1.5
VLX				S			Sn	07 23 51.5	+1.2
KLV	**Kalavryta, Ach**	**0.55**	**301**	P			Pn	07 23 41.8	+1.3
KLV				S			Sn	07 23 52.0	+0.9
KLV	**Kalavryta, Ach**	**0.55**	**301**	*e*P			Pn	07 23 41.8	+1.3
KLV				*e*S			Sn	07 23 52.1	+0.9
KLV	**Kalavryta, Ach**	**0.55**	**301**	P			Pn	07 23 41.8	+1.3
KLV				*e*S			Sn	07 23 52.1	+0.9
NAIG	**Nisos Aigina**	**0.59**	**90**	*e*P			Pn	07 23 42.6	+1.7
NAIG	**Nisos Aigina**	**0.59**	**90**	*e*P			Pn	07 23 42.6	+1.7
DSF	**Desfina**	**0.67**	**345**	P			Pn	07 23 42.9	+1.3
DSF				S			Sn	07 23 54.5	+1.3
DSF	**Desfina**	**0.67**	**345**	*e*P			Pn	07 23 43.0	+1.3
DSF	**Desfina**	**0.67**	**345**	*e*P			Pn	07 23 43.0	+1.3
DSF				S			Sn	07 23 54.5	+1.3
KALE	**Kalithea**	**0.79**	**323**	P			Pn	07 23 44.5	+1.5
KALE				S			Sn	07 23 56.4	+1.0
KALE	**Kalithea**	**0.79**	**323**	P			Pn	07 23 44.5	+1.5
KALE				S			Sn	07 23 56.4	+1.0
ATH	**Athens Observa**	**0.80**	**75**	P			Pn	07 23 44.8	+1.8
ATH				S			Sn	07 23 57.0	+1.6
ATH	**Athens Observa**	**0.80**	**75**	*e*P			Pn	07 23 44.8	+1.8
ATH				*e*S			Sn	07 23 57.0	+1.6
ATH	**Athens Observa**	**0.80**	**75**	P			Pn	07 23 44.8	+1.8
ATH				S			Sn	07 23 57.0	+1.6
DRO	**Drossia**	**0.84**	**283**	P			Pn	07 23 45.1	+1.6
DRO				S			Sn	07 23 58.3	+2.0
DRO	**Drossia**	**0.84**	**283**	*e*P			Pn	07 23 45.2	+1.7
DRO	**Drossia**	**0.84**	**283**	*e*P			Pn	07 23 45.2	+1.7
DRO				S			Sn	07 23 58.3	+2.0
ATHU	**Athens Univers**	**0.85**	**76**	P			Pn	07 23 45.3	+1.7
ATHU				S			Sn	07 23 57.6	+1.1
ATHU	**Athens Univers**	**0.85**	**76**	P			Pn	07 23 45.2	+1.7
ATHU				S			Sn	07 23 57.6	+1.1
AMT	**Artemida-Makis**	**0.85**	**255**	P			Pn	07 23 46.1	+2.4
AMT				S			Sn	07 23 58.6	+2.0
AMT	**Artemida-Makis**	**0.85**	**255**	*e*P			Pn	07 23 46.2	+2.5
AMT	**Artemida-Makis**	**0.85**	**255**	P			Pn	07 23 46.0	+2.4
AMT				S			Sn	07 23 58.1	+1.5
ITM	**Ithomi**	**0.87**	**228**	P			Pn	07 23 46.1	+2.2
ITM				S			Sn	07 23 58.7	+1.7
ITM	**Ithomi**	**0.87**	**228**	*e*P			Pn	07 23 46.1	+2.2
ITM				*e*S			Sn	07 24 00.1	+3.1
ITM	**Ithomi**	**0.87**	**228**	P			Pn	07 23 46.1	+2.2
ITM				S			Sn	07 23 58.7	+1.7
LKR	**Lokris**	**0.91**	**13**	P			Pn	07 23 45.7	+1.5
LKR				S			Sn	07 23 59.1	+1.5
LKR	**Lokris**	**0.91**	**13**	*e*P			Pn	07 23 45.7	+1.5
LKR				*e*S			Sn	07 23 59.5	+1.9
LKR	**Lokris**	**0.91**	**13**	P			Pn	07 23 45.7	+1.5
LKR				*e*S			Sn	07 23 59.5	+1.9
UPR	**University Cam**	**0.92**	**305**	P			Pn	07 23 46.4	+2.1
UPR	**University Cam**	**0.92**	**305**	P			Pn	07 23 46.4	+2.1
PTL	**Penteli**	**0.93**	**72**	P			Pn	07 23 46.4	+1.9
PTL				S			Sn	07 23 59.5	+1.3
PTL	**Penteli**	**0.93**	**72**	P			Pn	07 23 46.4	+1.9
PTL				S			Sn	07 23 59.5	+1.3
EFP	**Efpalio**	**0.93**	**315**	P			Pn	07 23 46.2	+1.7

EFP			S	Sn	07 24 00.0	+1.8
EFP	**Efpalio**	**0.93 315**	*e*P	**Pn**	07 23 46.3	+1.7
EFP	**Efpalio**	**0.93 315**	*e*P	**Pn**	07 23 46.3	+1.7
EFP			S	Sn	07 24 00.0	+1.8
AXAR	**Agios Charalam**	**1.00 356**	P	**Pn**	07 23 47.1	+1.7
AXAR			S	Sn	07 24 01.5	+1.8
AXAR	**Agios Charalam**	**1.00 356**	P	**Pn**	07 23 47.1	+1.7
AXAR			S	Sn	07 24 01.5	+1.8
RLS	**Riolos of Patr**	**1.05 287**	P	**Pn**	07 23 48.1	+2.2
RLS			S	Sn	07 24 02.7	+2.1
RLS	**Riolos of Patr**	**1.05 287**	*e*P	**Pn**	07 23 47.8	+1.9
RLS	**Riolos of Patr**	**1.05 287**	*e*P	**Pn**	07 23 47.8	+1.9
RLS			S	Sn	07 24 02.7	+2.1
VLI	**Veliai**	**1.06 172**	P	**Pn**	07 23 47.6	+1.5
VLI			S	Sn	07 24 01.9	+1.1
VLI	**Veliai**	**1.06 172**	*e*P	**Pn**	07 23 47.5	+1.5
VLI			*e*S	Sn	07 24 01.7	+0.9
VLI	**Veliai**	**1.06 172**	*e*P	**Pn**	07 23 47.5	+1.5
VLI			S	Sn	07 24 01.9	+1.1
SMIA	**Simia**	**1.17 18**	P	**Pn**	07 23 49.2	+1.8
SMIA			S	Sn	07 24 04.6	+1.3
SMIA	**Simia**	**1.17 18**	P	**Pn**	07 23 49.2	+1.8
SMIA			S	Sn	07 24 04.6	+1.3
PYL	**PYLOS**	**1.18 223**	P	**Pn**	07 23 48.7	+1.3
PYL			S	Sn	07 24 05.7	+2.2
PYL	**PYLOS**	**1.18 223**	*e*P	**Pn**	07 23 48.8	+1.3
PYL	**PYLOS**	**1.18 223**	*e*P	**Pn**	07 23 48.8	+1.3
PYL			S	Sn	07 24 05.7	+2.2
AGG	**Agios Georgios**	**1.30 346**	P	**Pn**	07 23 50.8	+1.8
AGG			S	Sn	07 24 07.6	+1.5
AGG	**Agios Georgios**	**1.30 346**	*e*P	**Pn**	07 23 50.9	+1.9
AGG			*e*S	Sn	07 24 09.0	+2.9
AGG	**Agios Georgios**	**1.30 346**	P	**Pn**	07 23 50.8	+1.8
AGG			S	Sn	07 24 07.6	+1.5
MRMA	**Marmari**	**1.33 77**	P	**Pn**	07 23 52.0	+2.6
MRMA	**Marmari**	**1.33 77**	P	**Pn**	07 23 52.0	+2.6
MAKR	**Makrakomi, Fth**	**1.34 339**	P	**Pn**	07 23 51.5	+1.9
MAKR			S	Sn	07 24 08.6	+1.6
MAKR	**Makrakomi, Fth**	**1.34 339**	P	**Pn**	07 23 51.4	+1.9
MAKR			S	Sn	07 24 08.6	+1.6
EVR	**Evrytania**	**1.36 328**	P	**Pn**	07 23 51.9	+2.0
EVR			S	Sn	07 24 09.1	+1.3
EVR	**Evrytania**	**1.36 328**	*e*P	**Pn**	07 23 52.6	+2.7
EVR	**Evrytania**	**1.36 328**	P	**Pn**	07 23 51.7	+1.8
EVR			S	Sn	07 24 09.4	+1.6
SFD	**Strofades**	**1.47 250**	*e*P	**Pn**	07 23 52.2	+1.1
SFD	**Strofades**	**1.47 250**	*e*P	**Pn**	07 23 52.2	+1.1
PDO	**Prodromos**	**1.48 305**	P	**Pn**	07 23 53.3	+1.9
PDO			S	Sn	07 24 12.2	+1.8
PDO	**Prodromos**	**1.48 305**	*e*P	**Pn**	07 23 53.3	+1.9
PDO	**Prodromos**	**1.48 305**	P	**Pn**	07 23 53.3	+1.9
PDO			S	Sn	07 24 12.2	+1.8
KYTH	**Kithira**	**1.50 171**	P	**Pn**	07 23 53.9	+2.3
KYTH	**Kithira**	**1.50 171**	*e*P	**Pn**	07 23 53.8	+2.2
KYTH	**Kithira**	**1.50 171**	*e*P	**Pn**	07 23 53.8	+2.2
SKIA	**Skiathos**	**1.51 22**	P	**Pn**	07 23 53.4	+1.7
SKIA	**Skiathos**	**1.51 22**	P	**Pn**	07 23 53.4	+1.7
KFL	**Anninata**	**1.58 283**	P	**Pn**	07 23 54.5	+1.8
KFL			S	Sn	07 24 14.9	+2.2
KFL	**Anninata**	**1.58 283**	P	**Pn**	07 23 54.5	+1.8
KFL			S	Sn	07 24 14.9	+2.2
NEO	**Neokhori**	**1.58 14**	P	**Pn**	07 23 54.2	+1.5
NEO			S	Sn	07 24 14.4	+1.7
NEO	**Neokhori**	**1.58 14**	*e*P	**Pn**	07 23 54.2	+1.5
NEO	**Neokhori**	**1.58 14**	P	**Pn**	07 23 54.2	+1.5
NEO			S	Sn	07 24 14.4	+1.7
XOR	**Xorichti**	**1.64 12**	P	**Pn**	07 23 54.8	+1.4
XOR			S	Sn	07 24 15.2	+1.3
XOR	**Xorichti**	**1.64 12**	*e*P	**Pn**	07 23 54.9	+1.5
XOR	**Xorichti**	**1.64 12**	*e*P	**Pn**	07 23 54.9	+1.5
XOR			S	Sn	07 24 15.2	+1.3
AOS	**Alonnisos**	**1.66 32**	P	**Pn**	07 23 55.1	+1.4
AOS			S	Sn	07 24 16.0	+1.5
AOS	**Alonnisos**	**1.66 32**	*e*P	**Pn**	07 23 55.1	+1.4
AOS	**Alonnisos**	**1.66 32**	P	**Pn**	07 23 55.1	+1.4
AOS			S	Sn	07 24 16.0	+1.5
VLS	**Valsamata**	**1.75 284**	P	**Pn**	07 23 56.9	+2.0
VLS	**Valsamata**	**1.75 284**	P	**Pn**	07 23 56.9	+2.0
DSL	**Palaion Diasel**	**1.88 317**	P	**Pn**	07 23 58.9	+2.3
DSL			S	Sn	07 24 22.2	+2.5
DSL	**Palaion Diasel**	**1.88 317**	P	**Pn**	07 23 58.9	+2.3
DSL			S	Sn	07 24 22.2	+2.5
THL	**Klokotos Trika**	**1.89 343**	P	**Pn**	07 23 58.2	+1.7
THL	**Klokotos Trika**	**1.89 343**	*e*P	**Pn**	07 23 58.3	+1.7
THL	**Klokotos Trika**	**1.89 343**	*e*P	**Pn**	07 23 58.3	+1.7
PAIG	**Paliouri**	**2.28 18**	P	**Pn**	07 24 03.2	+1.3
PAIG	**Paliouri**	**2.28 18**	P	**Pn**	07 24 03.2	+1.3
APE	**Apeiranthos**	**2.33 107**	*e*P	**Pn**	07 24 04.5	+2.0
APE	**Apeiranthos**	**2.33 107**	*e*P	**Pn**	07 24 04.5	+2.0
LIT	**Litokhoron**	**2.34 355**	P	**Pn**	07 24 04.4	+1.7
LIT			S	Sn	07 24 32.9	+2.3
LIT	**Litokhoron**	**2.34 355**	P	**Pn**	07 24 04.4	+1.7
LIT			S	Sn	07 24 32.9	+2.3
JAN	**Janina**	**2.40 322**	*e*P	**Pn**	07 24 05.7	+2.2
JAN	**Janina**	**2.40 322**	*e*P	**Pn**	07 24 05.7	+2.2
VAM	**Vamos**	**2.63 153**	*e*P	**Pn**	07 24 07.7	+1.1
VAM	**Vamos**	**2.63 153**	*e*P	**Pn**	07 24 07.7	+1.1
PLG	**Polygyros**	**2.66 12**	*e*P	**Pn**	07 24 08.4	+1.4
PLG	**Polygyros**	**2.66 12**	*e*P	**Pn**	07 24 08.4	+1.4
CHOS	**Chios island**	**2.69 76**	P	**Pn**	07 24 09.7	+2.3
CHOS			S	Sn	07 24 41.5	+2.5
CHOS	**Chios island**	**2.69 76**	*e*P	**Pn**	07 24 09.5	+2.1
CHOS	**Chios island**	**2.69 76**	*e*P	**Pn**	07 24 09.5	+2.1
CHOS			S	Sn	07 24 41.5	+2.5
OUR	**Ouranopolis**	**2.74 20**	P	**Pn**	07 24 09.7	+1.7
OUR	**Ouranopolis**	**2.74 20**	P	**Pn**	07 24 09.7	+1.7
HORT	**Hortiatis**	**2.84 5**	P	**Pn**	07 24 11.3	+1.8
HORT			S	Sn	07 24 45.8	+3.0
HORT	**Hortiatis**	**2.84 5**	P	**Pn**	07 24 11.3	+1.8
HORT			S	Sn	07 24 45.8	+3.0
NEST	**Nestorio**	**2.96 334**	P	**Pn**	07 24 13.5	+2.4
NEST	**Nestorio**	**2.96 334**	P	**Pn**	07 24 13.5	+2.4
ZEY	**˜zmir**	**3.01 80**	*i* P	**Pn**	07 24 13.5	+1.8
ZEY			*i* S	Sn	07 24 46.4	-0.3
IDI	**Anoyia**	**3.02 144**	P	**Pn**	07 24 13.6	+1.7
	3.8nm,0.3s,baz=286,slow=7.7,SNR=24					
IDI			S	Sn	07 24 50.1	+3.0
	11nm,0.3s,baz=259,slow=21,SNR=8.1					
SOH	**Sokhos**	**3.09 9**	P	**Pn**	07 24 14.9	+2.1
SOH			S	Sn	07 24 50.7	+2.0
SOH	**Sokhos**	**3.09 9**	P	**Pn**	07 24 14.9	+2.1
SOH			S	Sn	07 24 50.7	+2.0
URLA	**Izmir**	**3.10 78**	*i* P	**Pn**	07 24 15.1	+2.2
URLA			*i* S	Sn	07 24 47.9	-1.0
URLA	**Izmir**	**3.10 78**	*i* P	**Pn**	07 24 15.1	+2.2
URLA			*i* S	Sn	07 24 47.9	-1.0
FNA	**Florina**	**3.20 341**	P	**Pn**	07 24 16.2	+1.9
FNA			S	Sn	07 24 54.4	+3.1
FNA	**Florina**	**3.20 341**	P	**Pn**	07 24 16.2	+1.9
FNA			S	Sn	07 24 54.4	+3.1
GRG	**Griva**	**3.20 355**	P	**Pn**	07 24 16.9	+2.6
GRG	**Griva**	**3.20 355**	P	**Pn**	07 24 16.9	+2.6
SMG	**Samos**	**3.25 90**	P	**Pn**	07 24 17.5	+2.6
SMG	**Samos**	**3.25 90**	P	**Pn**	07 24 17.5	+2.6
KNT	**Kendrikon**	**3.39 2**	P	**Pn**	07 24 19.1	+2.2
KNT			S	Sn	07 24 59.3	+3.2
KNT	**Kendrikon**	**3.39 2**	P	**Pn**	07 24 19.1	+2.2
KNT			S	Sn	07 24 59.3	+3.2
SRS	**Serrai**	**3.41 11**	P	**Pn**	07 24 19.7	+2.5
SRS	**Serrai**	**3.41 11**	P	**Pn**	07 24 19.7	+2.5
VAY	**Valandovo**	**3.55 358**	*e*Pn	**Pn**	07 24 17.5	-1.6
VAY			*i* Sg	Sn	07 25 01.1	+1.2
VAY	**Valandovo**	**3.55 358**	*e*Pn	**Pn**	07 24 17.5	-1.6
VAY			*i* Sg	Sn	07 25 01.1	+1.2
NVR	**Nevrokopi**	**3.68 13**	P	**Pn**	07 24 23.5	+2.6
NVR	**Nevrokopi**	**3.68 13**	P	**Pn**	07 24 23.5	+2.6
TIP	**Timpagrande**	**4.90 289**	P	**Pn**	07 24 37.9	+0.4
TIP	**Timpagrande**	**4.90 289**	P	**Pn**	07 24 37.9	+0.4
TAR1	**Taranto**	**5.06 305**	*e*Pn	**Pn**	07 24 39.3	-0.3
BARS	**Barje**	**5.09 352**	*e*Pn	Pn	07 24 43.7	+3.6
PE1	**Pezze di Greco**	**5.12 308**	*e*Pn	**Pn**	07 24 39.9	-0.5
SG1	**Sgolgore (BA)**	**5.62 305**	*e*Pn	**Pn**	07 24 46.9	-0.3
CDT	**Castel del Mon**	**6.00 305**	*e*Pn	**Pn**	07 24 52.0	-0.5
STON	**Ston**	**6.39 325**	*i* Pn	Pn	07 24 55.4	-2.3
STON				Sn	07 26 02.5	-6.6
BBLS	**Lazići**	**6.60 338**	*e*Pn	**Pn**	07 24 59.8	-0.8
DIVS	**Divibare**	**6.66 343**	*e*Pn	**Pn**	07 25 01.1	-0.4
TEKS	**Tekeris**	**7.20 341**	*e*Pn	**Pn**	07 25 08.0	-0.7
MLR	**Muntele Rosu**	**8.08 16**	P	**Pn**	07 25 23.5	+2.6

	0.1nm,0.3s,baz=190,slow=6.9,SNR=3.3					
UDBI	**Udbina**	**8.56 324**	*e*Pn	**Pn**	07 25 25.5	-1.9
UDBI			Sn	**Sn**	07 26 58.1	-4.2
BRTR	**Keskin Array B**	**8.74 74**	P	**Pn**	07 25 33.0	+3.2
	0.2nm,0.3s,baz=256,slow=12,SNR=7.2					
NVLJ	**Novalja**	**9.02 321**	*i* Pn	**Pn**	07 25 32.4	-1.1
NVLJ			Sn	Sn	07 27 05.3	-7.9
KEST	**Kesra**	**10.94 263**	S	**Sn**	07 27 56.0	-4.5
	0.1nm,0.3s,baz=72,slow=20,SNR=4.5					
GERES	**GERESS Array B**	**12.87 332**	P	**P**	07 26 32.6	-1.1
	0.4nm,0.3s,baz=148,slow=11,SNR=9.3					
ESDC	**Sonseca Array**	**20.90 284**	P	**P**	07 28 02.5	+0.4
	0.4nm,0.4s,baz=79,slow=9.7,SNR=2.7					
HFS	**Hagfors**	**23.12 348**	P	**P**	07 28 23.9	-1.2
	1.5nm,0.5s,baz=161,slow=11,SNR=9.0					
FINES	**FINESS Array B**	**23.79 4**	P	**P**	07 28 30.1	-1.1
	1.2nm,0.8s,baz=217,slow=14,SNR=2.7					
NB2	**NORSAR Subarra**	**24.40 346**	P	**P**	07 28 37.1	+0.3
	comp=Z,0.9nm,0.7s,baz=160,slow=10					
NB2	**NORSAR Subarra**	**24.40 346**	P	**P**	07 28 37.1	+0.3
	comp=Z,0.9nm,0.7s,baz=160,slow=9.7,SNR=3.7					
NOA	**NORSAR Array B**	**24.40 346**	P	**P**	07 28 36.9	+0.1
	comp=Z,0.6nm,0.5s,baz=154,slow=9.5,SNR=6.9					
EKA	**Eskdalemuir Ar**	**24.79 323**	P	**P**	07 28 40.6	+0.3
	comp=Z,0.3nm,0.3s,baz=122,slow=8.3,SNR=6.7					
TORD	**Torodi Ar. Bea**	**30.87 223**	P	**P**	07 29 35.6	+0.6
	comp=Z,0.1nm,0.4s,baz=24,slow=8.5,SNR=3.2					
KURBB	**Kurchatov Arra**	**41.06 53**	P	**P**	07 31 01.2	-0.4
	comp=Z,1.6nm,0.7s,baz=280,slow=8.7,SNR=14					
MKAR	**Makanchi Array**	**44.02 58**	P	**P**	07 31 25.4	-0.3
	comp=Z,2.3nm,0.9s,baz=280,slow=6.1,SNR=3.6					
SCHQ	**Schefferville**	**59.95 318**	P	**P**	07 33 24.0	+0.2
	comp=Z,1.9nm,0.9s,baz=60,slow=14,SNR=2.7					
PALK	**Pallekele**	**60.41 105**	P	**P**	07 33 26.4	-1.1
	comp=Z,11nm,0.7s,baz=24,slow=2.4,SNR=4.1					
YKA	**Yellowknife Ar**	**74.36 341**	P	**P**	07 34 54.2	-0.5
	comp=Z,0.2nm,0.5s,baz=34,slow=5.3,SNR=5.4					

MEX 12 07:29:29.5±0.5, 23°.28N×103°.69W, h5km±10km, MD3.8, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAIG	**Zacatecas**	**1.15**	**116**	*e*P	Pg	07 29 48.4	-3.6
ZAIG				*e*S	Sg	07 30 04.1	-3.3
MAIG	**Mazatlaan**	**2.52**	**268**	*e*P	Pn	07 30 08.3	-2.8
MAIG				*e*S	Sn	07 30 38.1	-4.0
LNIG	**Linares**	**4.18**	**67**	*e*P	Pn	07 30 32.1	-1.9
LNIG				*e*S	Sn	07 31 19.4	-3.9
MOIG	**Morelia**	**4.28**	**147**	*e*P	Pn	07 30 33.3	-2.3
MOIG				*e*S	Sn	07 31 22.6	-3.5
DEIG	**Demacu**	**5.25**	**124**	*e*P	Pb	07 31 05.6	+3.5
DEIG				*e*S	Sb	07 32 06.5	+0.9

IDC 12 07:57:47.1±6.0, 43°.55N×105°.84E, h0km, mb1 2.7/2, mb1mx2.7/34, mbtmp2.7/2, ML2.8/2, Error ellipse: s-maj=60.4km s-min=34.8km az=130.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**4.27**	**5**	*i*		08 22 40.0	
	baz=181,slow=323,SNR=0.5						
SONM	**Songino Array**	**4.30**	**5**	Pn	Pn	07 58 54.8	+0.7
	0.4nm,0.3s,baz=187,slow=15,SNR=16						
SONM				Pg	Pb	07 59 05.6	+1.8
	1.3nm,0.3s,baz=191,slow=18,SNR=20						
SONM				Lg	Lg	08 00 03.6	
	2.9nm,0.3s,baz=186,slow=29,SNR=22						
MKAR	**Makanchi Array**	**16.90**	**289**	Pn	Pn	08 01 43.9	-1.0
	0.0nm,0.3s,baz=94,slow=12,SNR=3.0						

*IDC **12** 08:01:29.6±0.9, 34°.25S×72°.03W, h0km, mb4.2/9, mb1 4.2/12, mb1mx4.1/21, mbtmp4.2/12, ML4.0/3, MS3.5/4, Ms1 3.4/4, ms1mx3.2/17, Error ellipse: s-maj=33.6km s-min=15.8km az=101.0*

*ISCJB **12** 08:01:31.6±1.4, 34°.36S±0°.04×72°.17W±0°.06, h28km±11km, mb4.2/9, MS3.8/2, Error ellipse: s-maj=9.2km s-min=5.9km az=23.3*

*NEIC **12** 08:01:33.4, 34°.35S×71°.99W, h39km, mb4.5/6, After GUC.*

NEIC Felt [IV] at Curico, Navidad and Talca; [III] at Paredones, Rancagua and San Fernando; [II] at Santiago.

*GUC **12** 08:01:33.4±0.7, 34°.35S×71°.99W, h39km±3km, ML4.6*

ISC 12 08:01:32.4±1.6, 34°.28S±0°.03×72°.04W±0°.06, h17km±9km, n51, σ1°.04/62, mb4.5/9, 10C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.98**	**137**	⇑*i*P	**Pb**	**08 01 50.1**	**-0.8**
NICH				*i* S	**Sb**	**08 02 02.5**	**-1.0**
NICH				AML	AML	08 02 03.3	
	comp=N,75μm,0.5s						
NICH	**Los Niches**	**0.98**	**137**	⇑*i*P	**Pb**	**08 01 50.1**	**-0.8**
NICH				*i* S	**Sb**	**08 02 02.5**	**-1.0**
IHA	**Instituto Hidr**	**1.30**	**15**	*e*P1	**Pn**	**08 01 56.6**	**+0.9**
IHA				*e*S1	**Sg**	**08 02 15.2**	**+0.9**
IHA	**Instituto Hidr**	**1.30**	**15**	*e*P	**Pn**	**08 01 56.6**	**+0.9**
IHA				*e*S	**Sg**	**08 02 15.2**	**+0.9**
ANTU	**Antumapu**	**1.36**	**59**	⇑*i*P	**Pb**	**08 01 57.5**	**-0.1**
ANTU				*i* S1	**Sb**	**08 02 15.4**	**+0.6**
ANTU				AML	AML	08 02 20.0	
	comp=E,16μm,0.6s						
ANTU	**Antumapu**	**1.36**	**59**	⇑*i*P	**Pb**	**08 01 57.5**	**-0.1**
ANTU				*i* S	**Sb**	**08 02 15.4**	**+0.6**
STL	**Santa Lucia**	**1.43**	**54**	⇓*i*P	**Pn**	**08 01 57.8**	**+0.1**
STL				*i* S1	**Sn**	**08 02 16.2**	**+0.1**
FSR	**Penalolen**	**1.49**	**58**	⇑*i*P	**Pg**	**08 02 01.0**	**-0.1**
FSR				*i* S1	**Sg**	**08 02 20.6**	**+0.1**
FSR	**Penalolen**	**1.49**	**58**	⇑*i*P	**Pg**	**08 02 01.0**	**-0.1**
FSR				*i* S	**Sg**	**08 02 20.6**	**+0.1**
LACH	**Col Las Americ**	**1.50**	**57**	⇑*i*P	**Pb**	**08 01 59.6**	**-0.3**
LACH				*i* S	**Sb**	**08 02 19.2**	**+0.6**
LACH	**Col Las Americ**	**1.50**	**57**	⇑*i*P	**Pb**	**08 01 59.6**	**-0.3**
LACH				*i* S	**Sb**	**08 02 19.2**	**+0.6**
CLCH	**Cerro Calan**	**1.53**	**55**	⇓*i*P	**Pb**	**08 02 00.1**	**-0.3**
CLCH				AML	AML	08 02 34.3	
	comp=N,11μm,0.7s						
SJCH	**San Jose de Ma**	**1.54**	**66**	⇓*i*P	**Pn**	**08 01 59.3**	**+0.2**
SJCH				*i* S1	**Sb**	**08 02 19.6**	**-0.1**
SJCH				AML	AML	08 02 24.6	
	comp=N,10μm,0.4s						
SJCH	**San Jose de Ma**	**1.54**	**66**	⇓*i*P	**Pn**	**08 01 59.3**	**+0.2**
SJCH				*i* S	**Sb**	**08 02 19.6**	**-0.1**
PEL	**Peldehue**	**1.60**	**45**	⇑*i*P	**Pn**	**08 02 00.6**	**+0.7**
PEL				*i* S1	**Sb**	**08 02 21.4**	**-0.1**
PEL				AML	AML	08 02 27.5	
	comp=N,18μm,0.4s						
PEL	**Peldehue**	**1.60**	**45**	⇑*i*P	**Pn**	**08 02 00.6**	**+0.7**
PEL				*i* S	**Sb**	**08 02 21.4**	**-0.1**
CMCH	**Combarbala**	**3.22**	**16**	*e*P1	**Pn**	**08 02 23.4**	**+1.1**
CMCH	**Combarbala**	**3.22**	**16**	*e*P	**Pn**	**08 02 23.4**	**+1.1**
CFAA	**Coronel Fontan**	**4.16**	**51**	Pn	**Pn**	**08 02 36.1**	**+0.9**
	comp=N,1.5nm,0.3s,baz=223,slow=12,SNR=79						
CFAA				Lg	Lg	08 03 36.7	
	comp=N,3.2nm,0.3s,baz=146,slow=14,SNR=4.0						
CFAA				LR	LR	08 04 28.3	
	comp=N,123nm,18.8s,baz=202,slow=43						
LCO	**Las Campanas**	**5.38**	**13**	*e*Pn	**Pn**	**08 02 52.8**	**+0.6**
	comp=N,35nm,0.5s						
PLCA	**Paso Flores**	**6.55**	**170**	Pn	**Pn**	**08 03 08.8**	**+0.9**
	comp=N,1.0nm,0.3s,baz=335,slow=11,SNR=30						
PLCA				Sn	**Sn**	**08 04 26.2**	**+3.9**
	baz=52,slow=19						
PLCA				LR	LR	08 05 19.4	
	comp=N,322nm,19.7s,baz=334,slow=35						
PLCA	**Paso Flores**	**6.55**	**170**	*e*Pn	**Pn**	**08 03 08.3**	**+0.4**
	comp=N,28nm,1.3s						
PLCA				Sn	**Sn**	**08 04 26.2**	**+3.9**
TRQA	**Tornquist**	**8.96**	**118**	*e*Pn	**Pn**	**08 03 42.6**	**+1.6**
	comp=N,42nm,1.1s						
LVC	**Limon Verde**	**11.95**	**14**	*e*Pn	**Pn**	**08 04 21.1**	**-1.1**
LPAZ	**La Paz**	**18.26**	**12**	P	**Pn**	**08 05 45.2**	**-0.4**
	comp=N,0.3nm,0.3s,baz=187,slow=6.3,SNR=21						
LPAZ	**La Paz**	**18.26**	**12**	*e*P	**P**	**08 05 47.9**	**+2.0**
	comp=N,9.2nm,0.9s						
USHA	**Ushuaia**	**20.70**	**174**	P	**P**	**08 06 11.0**	**-0.5**
	comp=N,11nm,0.8s,baz=320,slow=7.9,SNR=2.6						
SIV	**San Ignacio**	**20.71**	**31**	P	**P**	**08 06 11.2**	**-0.8**
	comp=N,4.6nm,0.7s,baz=206,slow=14,SNR=15						
BDFB	**Brasilia**	**28.49**	**55**	P	**P**	**08 07 26.0**	**-1.0**
	comp=N,3.5nm,0.7s,baz=245,slow=7.7,SNR=8.2						
BDFB				LR	LR	08 20 22.7	
	comp=N,197nm,18.2s,baz=266,slow=40						
OTAV	**Otavalo**	**34.86**	**349**	*e*P	**P**	**08 08 22.6**	**-0.8**
	comp=N,3.0nm,1.0s						
SNAA	**Sanae**	**51.32**	**158**	P	**P**	**08 10 35.7**	**+0.3**
	comp=N,0.6nm,0.7s,baz=292,slow=11,SNR=5.8						
QSPA	**South Pole Qui**	**55.95**	**180**	P	**P**	**08 11 10.2**	**+0.7**
	comp=N,7.1nm,1.0s,baz=128,slow=3.4,SNR=10						
QSPA	**South Pole Qui**	**55.95**	**180**	*e*P	**P**	**08 11 09.5**	**0.0**
	comp=N,11nm,0.9s						
TXAR	**Lajitas Array**	**69.98**	**331**	P	**P**	**08 12 42.7**	**-0.4**
	comp=N,0.1nm,0.4s,baz=147,slow=8.5,SNR=2.6						
PPT	**Papeete**	**70.21**	**262**	LR	LR	08 35 26.8	
	comp=N,53nm,21.5s,baz=118,slow=29						
WVT	**Waverly**	**71.59**	**347**	*e*P	**P**	**08 12 51.8**	**-0.7**
	comp=N,4.9nm,0.8s						
DBIC	**Dimbokro**	**75.27**	**71**	P	**P**	**08 13 14.6**	**-0.1**
	comp=N,3.5nm,0.6s,baz=207,slow=4.7,SNR=11						
DBIC	**Dimbokro**	**75.27**	**71**	*e*P	**P**	**08 13 14.9**	**+0.2**
	comp=N,6.0nm,0.8s						
BOSA	**Boshof**	**79.94**	**118**	P	**P**	**08 13 39.6**	**-1.3**
	comp=N,3.0nm,0.7s,baz=250,slow=6.3,SNR=7.2						
BOSA	**Boshof**	**79.94**	**118**	*e*P	**P**	**08 13 40.7**	**-0.2**
	comp=N,4.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**84.30**	**70**	P	**P**	**08 14 03.8**	**0.0**
	comp=N,2.9nm,0.8s,baz=256,slow=4.5,SNR=15						
WRA	**Warramunga Arr**	**120.52**	**209**	PKP	**PKPdf**	**08 20 22.1**	**-1.6**
	comp=N,0.4nm,0.6s,baz=163,slow=1.6,SNR=3.4						
H11S2	**WAKE ISLAND Hyl**	**25.77**	**269**	T	T	10 38 54.4	
	baz=119,slow=75,SNR=8.7						
H11S1	**WAKE ISLAND Hyl**	**25.78**	**269**	T	T	10 38 56.8	
	baz=119,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hyl**	**25.79**	**269**	T	T	10 38 55.3	
	baz=119,slow=75,SNR=8.6						
H11N3	**WAKE ISLAND Hyl**	**26.19**	**270**	T	T	10 39 25.4	
	baz=121,slow=76,SNR=4.9						
H11N1	**WAKE ISLAND Hyl**	**26.20**	**270**	T	T	10 39 28.4	
	baz=121,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hyl**	**26.21**	**270**	T	T	10 39 26.6	
	baz=121,slow=76,SNR=6.8						
BRVK	**Borovoye**	**147.41**	**43**	*e*PKPbc	**PKPbc**	**08 21 15.6**	**+0.8**
ZALV	**Zalesovo Beam**	**154.46**	**33**	PKPbc	**PKPbc**	**08 21 32.4**	**+0.9**
	comp=N,0.9nm,0.3s,baz=144,slow=1.2,SNR=2.1						
ZALV				PKPab	**PKPab**	**08 21 46.4**	**+0.6**
	comp=N,1.2nm,0.3s,baz=318,slow=5.8,SNR=3.1						
MKAR	**Makanchi Array**	**156.95**	**49**	PKPab	**PKPab**	**08 21 56.1**	**-0.7**
	comp=N,0.4nm,0.7s,baz=285,slow=4.3,SNR=4.1						

*ISCJB **12** 08:10:33.2±1.9, 35°.14S±0°.07×72°.3W±0°.1, h21km±15km, Error ellipse: s-maj=16.6km s-min=9.6km az=27.1*

*NEIC **12** 08:10:35.6, 35°.11S×72°.10W, h32km, mb3.8/1, ML3.9(GUC), After GUC.*

NEIC Felt [II] at Curico and Talca.

*GUC **12** 08:10:35.6±0.7, 35°.11S×72°.10W, h32km±3km, ML3.9*

ISC 12 08:10:33.7±2.8, 35°.07S±0°.09×72°.2W±0°.1, h9km±16km, n14, σ0°.62/22, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.81**	**86**	⇓*i*P	**Pg**	**08 10 49.4**	**+0.1**
NICH				*i* S	**Sg**	**08 10 59.5**	**-0.3**
NICH				AML	AML	08 11 00.0	

0.5nm,0.3s,baz=223,slow=11,SNR=30
CFAA Sn Sb 08 36 53.3 -7.4
0.2nm,0.3s,baz=274,slow=9.9,SNR=2.5
CFAA Lg Lg 08 37 02.4
0.8nm,0.3s,baz=297,slow=20,SNR=4.2
PLCA Paso Flores 6.27 168 Pn **Pn 08 36 20.1 -0.1**
0.3nm,0.3s,baz=326,slow=7.7,SNR=7.9
PLCA LR LR 08 38 17.2
comp=Z,103nm,21.4s,baz=116,slow=34
LPAZ La Paz 18.60 12 P **P 08 39 05.1 -0.6**
0.4nm,0.3s,baz=193,slow=7.3,SNR=22
SIV San Ignacio 21.07 31 P **P 08 39 29.7 -2.2**
1.7nm,0.6s,baz=204,slow=7.6,SNR=6.1
TXAR Lajitas Array 70.17 331 P **P 08 46 00.8 +0.5**
0.3nm,0.6s,baz=151,slow=9.0,SNR=9.4
NVAR Mina Array Bea 84.28 325 P **P 08 47 19.4 0.0**
0.2nm,0.6s,baz=168,slow=4.6,SNR=2.6
TORD Torodi Ar. Bea 84.57 70 P **P 08 47 21.1 -0.1**
0.3nm,0.7s,baz=202,slow=7.0,SNR=3.1
MKAR Makanchi Array 157.27 50 PKPab **PKPab 08 55 14.9 +0.6**
0.2nm,0.7s,baz=298,slow=3.1,SNR=2.3

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*IDC **12** 08:47:15.7±1.5,36.21S×72.14W,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.8/16,mbtmp3.8/6,Error ellipse: s-maj=41.3km s-min=17.7km az=85.0*
*ISCJB **12** 08:47:22.5±0.5,35.80S±0.06×72.01W±0.08,h35km, mb4.0/7,Error ellipse: s-maj=11.0km s-min=5.4km az=40.6*
*NEIC **12** 08:47:23.0±0.8,35.85S×72.25W,h35km,mb4.8/4,Error ellipse: s-maj=22.4km s-min=11.1km az=86.0*
*GUC **12** 08:47:23.6±0.6,35.84S×72.10W,h56km±3km,ML3.9*
ISC 12 08:47:23.3±0.6,35.86S±0.07×72.08W±0.08,h35km,n22, σ1§52/24,mb3.9/7,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.64**	**244**	⇑*i*P	**Pn**	**08 47 36.9**	**+1.1**
COCH				*i* S	**Sn**	**08 47 46.7**	**+1.9**
NICH	**Los Niches**	**1.10**	**39**	⇑*i*P	**Pn**	**08 47 43.4**	**+1.2**
NICH				*e*S	**Sn**	**08 47 57.8**	**+1.7**
CCSP	**San Pedro de C**	**1.29**	**220**	*e*P	**Pn**	**08 47 45.8**	**+1.0**
CCSP				*e*S	**Sn**	**08 48 02.3**	**+1.4**
CCSP				AML	AML	08 48 09.2	
	comp=E,4μm,0.4s						
PLCA	**Paso Flores**	**5.01**	**167**	Pg	Pn	08 48 39.5	+3.3
	baz=343,slow=12						
PLCA				Lg	Lg	08 49 44.6	
	comp=E,0.3nm,0.3s,baz=273,slow=19,SNR=2.1						
PLCA	**Paso Flores**	**5.01**	**167**	*e*Pn	**Pn**	**08 48 38.8**	**+2.7**
	comp=E,0.8nm,1.4s						
PLCA				Lg	Lg	08 49 44.6	
CFAA	**Coronel Fontan**	**5.31**	**38**	Pn	**Pn**	**08 48 41.5**	**+1.3**
	baz=217,slow=14						
CFAA				Sn	Sn	08 49 47.6	+7.5
	comp=E,0.4nm,0.3s,baz=131,slow=14,SNR=7.4						
LCO	**Las Campanas**	**6.92**	**10**	*e*Pn	**Pn**	**08 49 02.2**	**-0.4**
TRQA	**Tornquist**	**8.38**	**108**	*e*Pn	**Pn**	**08 49 24.9**	**+2.7**
LVC	**Limon Verde**	**13.48**	**13**	*e*Pn	**Pn**	**08 50 33.1**	**+0.7**
LPAZ	**La Paz**	**19.80**	**11**	P	**P**	**08 51 52.2**	**+0.8**
	comp=E,1.4nm,0.5s,baz=224,slow=4.6,SNR=7.9						
LPAZ	**La Paz**	**19.80**	**11**	*e*P	**P**	**08 51 52.2**	**+0.8**
	comp=E,2.1nm,0.8s						
SIV	**San Ignacio**	**22.09**	**29**	P	**P**	**08 52 14.8**	**-0.7**
	comp=E,2.5nm,0.6s,baz=212,slow=5.4,SNR=5.6						
OTAV	**Otavalo**	**36.40**	**349**	*e*P	**P**	**08 54 26.4**	**+1.4**
	comp=E,1.0nm,0.6s						
QSPA	**South Pole Qui**	**54.38**	**180**	*e*P	**P**	**08 56 44.9**	**-1.6**
	comp=E,23nm,2.1s						
TXAR	**Lajitas Array**	**71.34**	**331**	P	**P**	**08 58 39.3**	**-0.2**
	comp=E,0.2nm,0.5s,baz=156,slow=8.3,SNR=4.4						
DBIC	**Dimbokro**	**75.81**	**71**	P	**P**	**08 59 05.1**	**-1.0**
	comp=E,0.8nm,0.5s,baz=205,slow=5.1,SNR=4.3						
DBIC	**Dimbokro**	**75.81**	**71**	*e*P	**P**	**08 59 05.3**	**-0.8**
	comp=E,18nm,1.6s						
BOSA	**Boshof**	**79.24**	**117**	P	**P**	**08 59 23.2**	**-2.1**
	comp=E,2.0nm,0.6s,baz=296,slow=3.9,SNR=4.9						
BOSA	**Boshof**	**79.24**	**117**	*e*P	**P**	**08 59 24.5**	**-0.8**
	comp=E,15nm,1.5s						
TORD	**Torodi Ar. Bea**	**84.88**	**70**	P	**P**	**08 59 53.4**	**-1.4**
	comp=E,0.2nm,0.6s,baz=243,slow=6.3,SNR=2.2						
BRVK	**Borovoye**	**148.56**	**45**	*e*PKPdf	**PKPdf**	**09 07 00.0**	**-2.2**
KURK	**Kurchatov**	**154.23**	**46**	*e*PKPbc	**PKPbc**	**09 07 19.3**	**+0.3**

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*IDC **12** 08:50:46.6±1.7,35.12S×72.43W,h0km,mb3.6/3, mb1 3.7/6,mb1mx3.7/18,mbtmp3.5/6,ML3.1/2,Error ellipse: s-maj=42.7km s-min=29.6km az=92.0*
*ISCJB **12** 08:50:47.5±1.2,35.1S±0.1×72.5W±0.3,h18km,mb3.6/3, Error ellipse: s-maj=32.2km s-min=14.6km az=4.6*
ISC 12 08:50:49.4±1.4,35.1S±0.1×72.5W±0.2,h18km,n6,σ1§06/6, mb3.7/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.97**	**47**	Pn	**Pn**	**08 52 04.1**	**+0.9**
	0.2nm,0.3s,baz=224,slow=14,SNR=6.0						
CFAA				Lg	Lg	08 53 13.8	
	0.7nm,0.3s,baz=303,slow=17,SNR=4.3						
PLCA	**Paso Flores**	**5.82**	**165**	Pn	**Pn**	**08 52 15.2**	**+0.3**
	baz=341,slow=9.0						
LPAZ	**La Paz**	**19.14**	**13**	P	**Pn**	**08 55 13.4**	**+0.3**
	0.1nm,0.3s,baz=186,slow=10,SNR=4.3						
SIV	**San Ignacio**	**21.60**	**31**	P	**P**	**08 55 37.3**	**-1.2**
	2.7nm,0.8s,baz=224,slow=8.8,SNR=7.5						
TXAR	**Lajitas Array**	**70.52**	**331**	P	**P**	**09 02 03.6**	**+0.4**
	0.2nm,0.5s,baz=155,slow=6.8,SNR=7.3						
TORD	**Torodi Ar. Bea**	**84.92**	**70**	P	**P**	**09 03 22.7**	**-0.9**
	0.3nm,0.6s,baz=246,slow=5.1,SNR=4.4						

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*CNRM **12** 08:51:36.3,34.12N×3.86W,h30km,MD3.3*
*CSEM **12** 08:51:40.2±0.3,34.04N×4.55W,h10km,ML2.7/8,Error ellipse: s-maj=8.9km s-min=4.6km az=108.0*
*MDD **12** 08:51:40.2±1.1,34.02N×4.52W,h0km,mb3.8/4,Error ellipse: s-maj=16.1km s-min=6.6km az=109.0,PRXIMO*
*ISCJB **12** 08:51:41.4±0.7,34.10N±0.03×4.62W±0.07,h24km,Error ellipse: s-maj=8.1km s-min=4.1km az=17.7*
ISC 12 08:51:41.4±1.3,34.01N±0.03×4.50W±0.05,h24km,n41, σ1§21/65,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIB	**El Ksiba**	**1.92**	**222**	Pn	**Pn**	**08 52 12.0**	**-0.8**
KIB				Sn	**Sn**	**08 52 38.0**	**+1.7**
KIB	**El Ksiba**	**1.92**	**222**	*i* P	**Pn**	**08 52 12.0**	**-0.8**
KIB				*i* S	**Sn**	**08 52 38.0**	**+1.7**
ZFT	**Errachidia**	**1.97**	**176**	Pn	Pn	08 52 08.0	-5.6
ZFT				Sn	**Sn**	**08 52 33.0**	**-4.7**
TZC	**Tazercounte**	**2.50**	**222**	Pn	**Pn**	**08 52 21.0**	**+0.3**
TZC				Sn	**Sn**	**08 52 53.0**	**+2.5**
TZC	**Tazercounte**	**2.50**	**222**	*e*P	**Pn**	**08 52 21.0**	**+0.3**
TZC				*i* S	**Sn**	**08 52 53.0**	**+2.5**
EMIJ	**Mijas**	**2.56**	**355**	Pn	**Pn**	**08 52 21.9**	**+0.5**
	2.5nm,0.3s,SNR=7.9						
EMIJ				Sn	**Sn**	**08 52 52.7**	**+0.8**
	2.9nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**2.56**	**355**	Pn	**Pn**	**08 52 21.9**	**+0.5**
	2.5nm,0.3s,SNR=7.9						
EMIJ				Sn	**Sn**	**08 52 52.7**	**+0.8**
	2.9nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.17**	**24**	Pn	**Pn**	**08 52 29.5**	**-0.5**
	0.9nm,0.3s,SNR=7.9						
EBER				Sn	**Sn**	**08 53 08.9**	**+1.8**
	4.4nm,0.5s,SNR=7.9						
EBER	**Berja**	**3.17**	**24**	Pn	**Pn**	**08 52 29.5**	**-0.5**
	0.9nm,0.3s,SNR=7.9						
EBER				Sn	**Sn**	**08 53 08.9**	**+1.8**
	4.4nm,0.5s,SNR=7.9						
ECAB	**El Cabril**	**4.12**	**350**	Pn	**Pn**	**08 52 43.5**	**+0.5**
	0.4nm,0.2s,SNR=7.9						
ECAB				Sn	**Sn**	**08 53 32.2**	**+1.7**
	1.4nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.12**	**350**	Pn	**Pn**	**08 52 43.5**	**+0.5**
	0.4nm,0.2s,SNR=7.9						
ECAB				Sn	**Sn**	**08 53 32.2**	**+1.7**
	1.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.14**	**335**	Pn	**Pn**	**08 52 43.5**	**+0.3**
	1.0nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**08 53 30.4**	**-0.5**
	0.1nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.14**	**335**	Pn	**Pn**	**08 52 43.5**	**+0.3**
	1.0nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**08 53 30.4**	**-0.5**
	0.1nm,0.3s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.27**	**320**	*e*Pn	**Pn**	**08 52 45.0**	**+0.1**
PBDV				*e*Sn	**Sn**	**08 53 33.7**	**-0.3**
PBDV				A	A	08 53 38.3	
	3.2nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.27**	**320**	Pn	**Pn**	**08 52 45.0**	**+0.1**
PBDV				Sn	**Sn**	**08 53 33.7**	**-0.3**
	3.2nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.27**	**320**	Pn	**Pn**	**08 52 45.0**	**+0.1**
PBDV				Sn	**Sn**	**08 53 33.7**	**-0.3**
	3.2nm,0.6s						
EGRO	**El Granado**	**4.27**	**326**	Pn	**Pn**	**08 52 44.1**	**-0.8**
	2.3nm,0.2s,SNR=6.6						
EGRO				Sn	**Sn**	**08 53 32.2**	**-1.8**
	0.6nm,0.3s,SNR=5.0						
EGRO	**El Granado**	**4.27**	**326**	Pn	**Pn**	**08 52 44.1**	**-0.8**
	2.3nm,0.2s,SNR=6.6						
EGRO				Sn	**Sn**	**08 53 32.2**	**-1.8**
	0.6nm,0.3s,SNR=5.0						
PVAQ	**Vaqueiros**	**4.28**	**323**	*e*Pn	**Pn**	**08 52 44.1**	**-1.0**
PVAQ				*e*Sn	**Sn**	**08 53 32.6**	**-1.6**
PVAQ				A	A	08 53 40.7	
	4.5nm,0.6s						
PVAQ	**Vaqueiros**	**4.28**	**323**	Pn	**Pn**	**08 52 44.1**	**-1.0**
PVAQ				Sn	**Sn**	**08 53 32.6**	**-1.6**
	4.5nm,0.6s						
PVAQ	**Vaqueiros**	**4.28**	**323**	Pn	**Pn**	**08 52 44.1**	**-1.0**
PVAQ				Sn	**Sn**	**08 53 32.6**	**-1.6**
	4.5nm,0.6s						
SESP	**Santiago Espad**	**4.40**	**21**	Pn	**Pn**	**08 52 46.8**	**-0.1**
	1.1nm,0.2s,SNR=4.0						
SESP				Sn	**Sn**	**08 53 37.7**	**+0.3**
	0.4nm,0.1s,SNR=4.0						
SESP	**Santiago Espad**	**4.40**	**21**	Pn	**Pn**	**08 52 46.8**	**-0.1**
	1.1nm,0.2s,SNR=4.0						
SESP				Sn	**Sn**	**08 53 37.7**	**+0.3**
	0.4nm,0.1s,SNR=4.0						
PBAR	**Barrancos**	**4.64**	**334**	*e*Pn	**Pn**	**08 52 48.9**	**-1.1**
PBAR	**Barrancos**	**4.64**	**334**	Pn	**Pn**	**08 52 48.9**	**-1.1**
PBAR	**Barrancos**	**4.64**	**334**	Pn	**Pn**	**08 52 48.9**	**-1.1**
MORF	**Marmelete**	**4.71**	**315**	*e*Pn	**Pn**	**08 52 52.5**	**+1.4**
MORF	**Marmelete**	**4.71**	**315**	Pn	**Pn**	**08 52 52.5**	**+1.4**
MORF	**Marmelete**	**4.71**	**315**	Pn	**Pn**	**08 52 52.5**	**+1.4**
MESJ	**Messejana**	**4.87**	**323**	*e*Pn	**Pn**	**08 52 53.0**	**-0.2**
MESJ	**Messejana**	**4.87**	**323**	Pn	**Pn**	**08 52 53.0**	**-0.2**
MESJ	**Messejana**	**4.87**	**323**	Pn	**Pn**	**08 52 53.0**	**-0.2**
EBAD	**Badajoz**	**5.15**	**338**	Pn	**Pn**	**08 52 57.1**	**0.0**
	1.9nm,0.3s,SNR=5.5						
EBAD				Sn	**Sn**	**08 53 54.1**	**-1.5**
	0.6nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**5.15**	**338**	Pn	**Pn**	**08 52 57.1**	**0.0**
	1.9nm,0.3s,SNR=5.5						
EBAD				Sn	**Sn**	**08 53 54.2**	**-1.5**
	0.6nm,0.3s,SNR=7.9						
PNCL	**Nicolau / Gran**	**5.23**	**323**	*e*Pn	**Pn**	**08 52 57.9**	**-0.3**
PNCL	**Nicolau / Gran**	**5.23**	**323**	*e*Pn	**Pn**	**08 52 57.9**	**-0.3**
EVO	**Evora**	**5.33**	**329**	*e*Pn	**Pn**	**08 52 59.5**	**0.0**
EVO	**Evora**	**5.33**	**329**	Pn	**Pn**	**08 52 59.5**	**0.0**
EVO	**Evora**	**5.33**	**329**	Pn	**Pn**	**08 52 59.5**	**0.0**
PMTG	**Montargil**	**5.87**	**330**	*e*Pn	**Pn**	**08 53 06.5**	**-0.4**
PMTG	**Montargil**	**5.87**	**330**	*e*Pn	**Pn**	**08 53 06.5**	**-0.4**

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*ISCJB **12** 08:53:23.6±1.1,34.48S±0.03×71.78W±0.07,h18km±8km, mb4.6/53,MS3.6/8,Error ellipse: s-maj=9.5km s-min=5.3km az=179.6*
*NEIC **12** 08:53:23.2,34.51S×71.83W,h17km,mb4.7/43, ML4.8(GUC),After GUC.*
NEIC Felt [IV] at Paredones; [III] at Curico and Talca; [II] at Concepcion, Rancagua, San Fernando and Santiago.
*GUC **12** 08:53:23.2±0.7,34.51S×71.83W,h17km±14km,ML4.8*
*BJI **12** 08:53:27.5,34.30S×71.60W,h35km,mB4.9/1,Ms5.0/1, Ms7 4.8/2*
*IDC **12** 08:53:27.8±3.4,34.46S×71.76W,h39km±28km,mb4.2/11, mb1 4.3/14,mb1mx4.2/20,mbtmp4.4/14,ML4.2/3,MS3.4/10, Ms1 3.4/10,ms1mx3.3/22,Error ellipse: s-maj=24.0km s-min=16.9km az=80.0*
ISC 12 08:53:26.5±0.8,34.50S±0.04×71.64W±0.07,h30km±4km, n402,σ0§75/412,mb4.6/54,MS3.6/8,179C-131D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.60**	**146**	⇓*i*P	**Pb**	**08 53 36.1**	**-2.5**
NICH				*i* S	**Sb**	**08 53 45.8**	**-1.0**
NICH				AML	AML	08 53 46.7	
	comp=E,135μm,0.3s						
NICH	**Los Niches**	**0.60**	**146**	⇓*i*P	**Pb**	**08 53 36.1**	**-2.5**
NICH				*i* S	**Sb**	**08 53 45.8**	**-1.0**
CACH	**El Canelo**	**0.94**	**66**	⇑*i*P	**Pn**	**08 53 43.0**	**-0.8**
CACH	**El Canelo**	**0.94**	**66**	⇑*i*P	**Pn**	**08 53 43.0**	**-0.8**
CHCH	**Chadas Angostu**	**0.99**	**55**	⇓*i*P	**Pn**	**08 53 43.4**	**-1.0**
CHCH	**Chadas Angostu**	**0.99**	**55**	⇓*i*P	**Pn**	**08 53 43.4**	**-1.0**
ANTU	**Antumapu**	**1.25**	**42**	*e*P1	**Pn**	**08 53 47.2**	**-0.7**
ANTU				*i* S1	**Sb**	**08 54 05.1**	**-0.2**
ANTU				AML	AML	08 54 08.6	
	comp=N,25μm,0.4s						
ANTU	**Antumapu**	**1.25**	**42**	*e*P	**Pn**	**08 53 47.2**	**-0.7**
ANTU				*i* S	**Sb**	**08 54 05.1**	**-0.2**
SJCH	**San Jose de Ma**	**1.37**	**51**	⇑*i*P	**Pn**	**08 53 48.6**	**-1.0**
SJCH				*e*S1	**Sb**	**08 54 08.3**	**-0.4**
SJCH	**San Jose de Ma**	**1.37**	**51**	⇑*i*P	**Pn**	**08 53 48.6**	**-1.0**
SJCH				*e*S	**Sb**	**08 54 08.3**	**-0.4**
LACH	**Col Las Americ**	**1.39**	**42**	*e*P1	**Pn**	**08 53 49.2**	**-0.7**
LACH				*i* S1	**Sb**	**08 54 08.8**	**-0.6**
LACH				AML	AML	08 54 14.4	
	comp=N,10μm,0.7s						
LACH	**Col Las Americ**	**1.39**	**42**	*e*P	**Pn**	**08 53 49.2**	**-0.7**
LACH				*i* S	**Sb**	**08 54 08.8**	**-0.6**
IHA	**Instituto Hidr**	**1.47**	**360**	⇑*i*P	**Pn**	**08 53 47.9**	**-3.0**
IHA				*i* S1	**Sn**	**08 54 08.2**	**-1.0**
IHA	**Instituto Hidr**	**1.47**	**360**	⇑*i*P	**Pn**	**08 53 47.9**	**-3.0**
IHA				*i* S	**Sn**	**08 54 08.2**	**-1.0**
PEL	**Peldehue**	**1.57**	**31**	⇓*i*P	**Pn**	**08 53 51.7**	**-0.7**
PEL				*i* S1	**Sb**	**08 54 13.0**	**-1.4**
PEL				AML	AML	08 54 17.9	
	comp=E,24μm,0.7s						
PEL	**Peldehue**	**1.57**	**31**	⇓*i*P	**Pn**	**08 53 51.7**	**-0.7**
PEL				*i* S	**Sb**	**08 54 13.0**	**-1.4**
CMCH	**Combarbala**	**3.36**	**9**	*e*P1	**Pn**	**08 54 16.6**	**-0.4**
CMCH	**Combarbala**	**3.36**	**9**	*e*P	**Pn**	**08 54 16.6**	**-0.4**
CFAA	**Coronel Fontan**	**4.06**	**46**	Pn	**Pn**	**08 54 29.0**	**+2.4**
	comp=E,1.8nm,0.3s,baz=203,slow=6.4,SNR=16						
CFAA				Lg	Lg	08 55 31.4	
	comp=E,5.5nm,0.3s,baz=284,slow=13,SNR=7.2						
CFAA				LR	LR	08 56 22.5	
	comp=E,54nm,19.0s,baz=220,slow=43						
LCO	**Las Campanas**	**5.53**	**9**	*e*Pn	**Pn**	**08 54 46.2**	**-0.9**
PLCA	**Paso Flores**	**6.28**	**172**	Pn	**Pn**	**08 54 58.6**	**+1.5**
	comp=E,3.0nm,0.3s,baz=338,slow=12,SNR=9.7						
PLCA				Sn	Sb	08 56 21.7	-8.1
	baz=0.0,slow=15						
PLCA				LR	LR	08 58 01.1	
	comp=E,142nm,18.4s,baz=26,slow=43						
TRQA	**Tornquist**	**8.56**	**117**	*e*Pn	**Pn**	**08 55 31.4**	**+3.0**
LVC	**Limon Verde**	**12.08**	**12**	*e*Pn	Pn	08 56 12.8	-4.1
LPAZ	**La Paz**	**18.41**	**11**	P	**Pn**	**08 57 40.0**	**-0.1**
	comp=E,0.3nm,0.3s,baz=191,slow=9.3,SNR=18						
LPAZ	**La Paz**	**18.41**	**11**	*e*P	**Pn**	**08 57 40.0**	**-0.1**
	comp=E,34nm,1.5s						
SIV	**San Ignacio**	**20.73**	**30**	P	**P**	**08 58 04.4**	**-0.4**
	comp=E,8.1nm,0.6s,baz=218,slow=12,SNR=20						
SIV				LR	LR	09 08 03.8	
	comp=E,112nm,19.2s,baz=224,slow=42						
BDFB	**Brasilia**	**28.35**	**54**	P	**P**	**08 59 18.7**	**+0.6**
	comp=E,3.0nm,0.5s,baz=206,slow=9.9,SNR=5.6						
BDFB				LR	LR	09 11 59.9	
	comp=E,251nm,18.7s,baz=227,slow=39						
OTAV	**Otavalo**	**35.14**	**348**	*e*P	**P**	**09 00 19.3**	**+1.2**
	comp=E,23nm,2.0s						
PTGA	**Pitinga**	**35.33**	**20**	*e*P	**P**	**09 00 18.4**	**-0.8**
	comp=E,9.5nm,0.7s						
RCBR	**Riachuelo**	**43.63**	**57**	LR	LR	09 20 49.4	
	comp=E,179nm,19.9s,baz=210,slow=38						
JTS	**JuntasAbangare**	**46.30**	**342**	P	**P**	**09 01 47.7**	**-1.9**
	comp=E,5.8nm,0.9s,baz=157,slow=5.7,SNR=4.4						
JTS				LR	LR	09 17 23.7	
	comp=E,39nm,19.5s,baz=176,slow=31						
SNAA	**Sanae**	**50.99**	**158**	LR	LR	09 21 48.5	
	comp=E,28nm,18.4s,baz=216,slow=33						
QSPA	**South Pole Qui**	**55.73**	**180**	P	**P**	**09 03 00.5**	**+0.4**
	comp=E,1.7nm,0.7s,baz=149,slow=2.2,SNR=9.6						
RKT	**Rikitea**	**55.85**	**264**	*e*T	T	10 02 45.4	
	comp=E,0.8nm,0.2s						
SYO	**Syowa Base**	**65.28**	**158**	⇑*e*P	**P**	**09 04 03.6**	**-1.3**
035A	**Encino**	**66.05**	**334**	⇓P	**P**	**09 04 11.3**	**+0.9**
	baz=66						
034A	**Hebbronville**	**66.38**	**334**	⇑P	**P**	**09 04 13.3**	**+0.8**
	baz=67						
933A	**Laredo**	**67.09**	**333**	⇑P	**P**	**09 04 17.7**	**+0.7**
	baz=67						
834A	**Tilden**	**67.29**	**334**	⇓P	**P**	**09 04 19.1**	**+0.8**
	baz=68						
735A	**Kenedy**	**67.70**	**335**	⇓P	**P**	**09 04 21.7**	**+0.9**
	baz=68						
833A	**Chaparral WMA,**	**67.78**	**334**	⇑P	**P**	**09 04 22.0**	**+0.6**
	baz=68						
832A	**Faith Ranch, C**	**67.96**	**333**	⇓P	**P**	**09 04 22.8**	**+0.3**
	baz=68,SNR=6.0						
636A	**Smothers Creek**	**68.02**	**336**	⇓P	**P**	**09 04 23.9**	**+1.0**
	baz=68,SNR=5.4						
733A	**Divot King Ran**	**68.10**	**334**	⇑P	**P**	**09 04 24.1**	**+0.7**
	baz=68						
537A	**Green Hill Far**	**68.33**	**337**	⇓P	**P**	**09 04 25.6**	**+0.8**
	baz=69						
732A	**Laxson Ranch,**	**68.36**	**333**	⇓P	**P**	**09 04 25.2**	**+0.2**
	baz=69,SNR=9.2						
633A	**Saathoff Ranch**	**68.73**	**334**	⇑P	**P**	**09 04 27.7**	**+0.3**
	baz=69						
340A	**Bronson**	**68.84**	**340**	⇑P	**P**	**09 04 28.6**	**+0.7**
	baz=69						
632A	**Uvalde**	**69.00**	**334**	⇑P	**P**	**09 04 29.3**	**+0.3**
	baz=69,SNR=8.4						
MEH	**Mehetia**	**69.11**	**262**	*e*T	T	10 19 20.5	
	comp=E,13nm,0.2s						
631A	**Perdido Creek**	**69.20**	**333**	⇑P	**P**	**09 04 30.2**	**0.0**
	baz=69						
533A	**Kerrville**	**69.24**	**335**	⇓P	**P**	**09 04 30.6**	**+0.1**
	baz=70,SNR=6.1						
532A	**Rocksprings**	**69.60**	**334**	⇑P	**P**	**09 04 33.1**	**+0.3**
	baz=70,SNR=12						
434A	**Burnet**	**69.65**	**336**	⇓P	**P**	**09 04 32.9**	**-0.1**
	baz=70,SNR=5.8						
336A	**Riesel**	**69.71**	**337**	⇑P	**P**	**09 04 33.5**	**+0.2**
	baz=70						
531A	**Rocksprings**	**69.87**	**334**	⇑P	**P**	**09 04 34.7**	**+0.3**
	baz=70,SNR=11						
433A	**Art**	**69.88**	**335**	⇑P	**P**	**09 04 34.4**	**0.0**
	baz=70,SNR=11						
JCT	**Junction City**	**69.88**	**334**	⇓P	**P**	**09 04 34.7**	**+0.2**
	baz=70,SNR=5.7						
JCT	**Junction City**	**69.88**	**334**	*e*P	**P**	**09 04 34.7**	**+0.2**
	comp=E,9.5nm,0.8s						
334A	**Lometa**	**70.12**	**336**	⇑P	**P**	**09 04 35.9**	**0.0**
	baz=70,SNR=7.0						
TVO	**Taravao**	**70.13**	**262**	*e*T	T	10 20 37.0	
	comp=E,0.7nm,0.2s						
530A	**J-C Ranch, Com**	**70.15**	**333**	⇑P	**P**	**09 04 36.6**	**+0.4**
	baz=70,SNR=8.1						
432A	**Menard**	**70.24**	**334**	⇑P	**P**	**09 04 36.4**	**-0.3**
	baz=70						
TIAR	**Tiarei**	**70.32**	**262**	*e*T	T	10 20 51.5	
	comp=E,2.0nm,0.2s						
TXAR	**Lajitas Array**	**70.33**	**331**	P	**P**	**09 04 37.5**	**+0.1**
	comp=E,2.5nm,0.5s,baz=153,slow=6.4,SNR=47						
431A	**Sonora**	**70.36**	**334**	⇓P	**P**	**09 04 37.5**	**+0.1**
	baz=71						
333A	**Richland Sprin**	**70.36**	**335**	⇑P	**P**	**09 04 37.2**	**-0.2**
	baz=71,SNR=6.3						
529A	**Stev Forest Ra**	**70.46**	**332**	⇑P	**P**	**09 04 38.2**	**+0.1**
	baz=71,SNR=9.9						
WHTX	**Lake Whitney,**	**70.46**	**337**	⇑P	**P**	**09 04 37.8**	**-0.2**
	baz=71						
137A	**Heron Place, G**	**70.49**	**339**	⇑P	**P**	**09 04 38.0**	**-0.1**
	baz=71						
PPT2	**Papeete2**	**70.49**	**262**	*e*LR	LR	09 25 51.4	
	comp=E,95nm,26.0s						
PPT	**Papeete**	**70.50**	**262**	LR	LR	09 26 17.8	
	comp=E,77nm,21.2s,baz=98,slow=28						
SWET	**Sewanee**	**70.64**	**348**	*e*P	**P**	**09 04 38.5**	**-0.4**
	comp=E,6.6nm,0.4s						
OXF	**Oxford**	**70.64**	**345**	*e*P	**P**	**09 04 39.0**	**0.0**
	comp=E,21nm,0.9s						
332A	**Millersview**	**70.68**	**335**	⇑P	**P**	**09 04 39.0**	**-0.4**
	baz=71						
430A	**Baggett Ranch,**	**70.68**	**333**	⇑P	**P**	**09 04 39.5**	**0.0**
	baz=71,SNR=9.5						
234A	**Clairette**	**70.70**	**336**	⇓P	**P**	**09 04 39.2**	**-0.2**
	baz=71						
429A	**Davenport Ranc**	**70.78**	**333**	⇓P	**P**	**09 04 40.1**	**0.0**
	baz=71,SNR=6.3						
331A	**San Angelo**	**70.86**	**334**	⇑P	**P**	**09 04 40.2**	**-0.3**
	baz=71,SNR=8.7						
233A	**Rising

W32A	Sentinel baz=74,SNR=10	73.92 337 ⇑P	P	09 04 58.6	0.0
V34A	Guthrie baz=74	74.03 338 ⇓P	P	09 04 59.1	-0.1
MSTX	Muleshoe baz=74,SNR=11	74.11 333 ⇑P	P	09 04 59.5	-0.3
MSTX	Muleshoe comp=E,10nm,0.8s	74.11 333 eP	P	09 04 59.7	-0.2
X29A	Tulia baz=74,SNR=5.2	74.14 335 ⇓P	P	09 04 59.6	-0.4
Y27A	Causey baz=74	74.17 333 ⇓P	P	09 04 59.6	-0.6
V33A	Lossen Ranch, baz=74	74.26 338 ⇓P	P	09 05 00.2	-0.4
X28A	Dimmitt baz=75	74.39 334 ⇓P	P	09 05 01.1	-0.3
V32A	Arapaho baz=75	74.40 337 ⇑P	P	09 05 01.3	-0.2
319A	Douglas baz=75	74.50 327 ⇑P	P	09 05 02.5	+0.3
AMTX	Amarillo baz=75	74.53 335 ⇓P	P	09 05 02.0	-0.3
AMTX	Amarillo comp=E,7.8nm,0.9s	74.53 335 eP	P	09 05 01.6	-0.7
U34A	Anderson Ranch baz=75	74.59 339 ⇓P	P	09 05 02.1	-0.3
V31A	Spring Creek L baz=75	74.71 337 ⇓P	P	09 05 03.0	-0.2
W29A	Amarillo baz=75	74.73 335 ⇑P	P	09 05 03.2	-0.3
121A	Cookes Peak, D baz=75	74.84 329 ⇑P	P	09 05 04.3	+0.1
121A	Cookes Peak, D comp=E,5.9nm,0.8s	74.84 329 eP	P	09 05 05.0	+0.7
U32A	Winter Ranch, baz=75	75.00 337 ⇓P	P	09 05 04.6	-0.3
X26A	CR and CF Fran baz=75,SNR=11	75.01 333 ⇑P	P	09 05 05.0	-0.1
DBIC	Dimbokro comp=E,4.4nm,0.9s,baz=201,slow=7.3,SNR=4.2	75.03 71 P	P	09 05 05.6	+0.1
DBIC		LR	LR	09 35 06.3	
	comp=E,32nm,20.9s,baz=204,slow=33				
Y24A	Capitan baz=75	75.08 331 ⇑P	P	09 05 05.5	-0.1
ACSO	Alum Creek Sta comp=E,7.8nm,0.7s	75.10 351 eP	P	09 05 04.5	-0.7
Z22A	Elephant Butte baz=75	75.12 330 ⇑P	P	09 05 05.6	-0.2
W27A	Bowe Ranch, En baz=75,SNR=9.3	75.19 334 ⇓P	P	09 05 06.1	+0.1
T33A	Patterson Ranc baz=76	75.41 338 ⇑P	P	09 05 07.3	+0.1
W26A	Owens Ranch, T baz=76,SNR=5.9	75.47 333 ⇓P	P	09 05 07.9	+0.2
V28A	Channing baz=76	75.50 335 ⇑P	P	09 05 08.1	+0.2
U30A	WK&E Inc. Balk baz=76	75.67 336 ⇑P	P	09 05 09.0	+0.3
W25A	X Bar L Ranch, baz=76	75.85 333 ⇑P	P	09 05 09.7	-0.2
X23A	Hourglass Bar baz=76	75.96 331 ⇓P	P	09 05 11.1	+0.5
V26A	Tequesquite Ra baz=76	76.11 334 ⇓P	P	09 05 11.0	-0.3
LAZ	Ladron comp=E,2.2nm,1.0s	76.19 330 eP	P	09 05 12.4	+0.5
S32A	Newby Ranch, P baz=76	76.19 338 ⇑P	P	09 05 11.8	+0.1
W24A	Lazy 6 Ranch, baz=76,SNR=7.0	76.20 332 ⇓P	P	09 05 12.2	+0.2
U27A	Thompson Grove baz=77	76.32 335 ⇑P	P	09 05 12.6	+0.1
ANMO	Albuquerque comp=E,4.6nm,1.0s	76.38 331 eP	P	09 05 13.0	0.0
T29A	Hugoton baz=77	76.45 336 ⇑P	P	09 05 13.5	+0.3
V25A	Rancho No Teng baz=77,SNR=7.4	76.45 333 ⇑P	P	09 05 13.6	+0.2
V24A	Rampart Ranch, baz=77	76.60 332 ⇓P	P	09 05 14.7	+0.4
S30A	Montezuma baz=77	76.62 337 ⇓P	P	09 05 14.2	+0.1
214A	Organ Pipe Nat baz=77	76.62 325 ⇑P	P	09 05 14.7	+0.5
U26A	Atchley Ranch, baz=77	76.62 334 ⇑P	P	09 05 14.3	0.0
T28A	Walsh baz=77,SNR=5.9	76.70 335 ⇑P	P	09 05 14.9	+0.2
R32A	Long Quarter, baz=77	76.78 338 ⇓P	P	09 05 14.5	-0.5
KSU1	Kansas State U baz=77	76.80 340 ⇓P	P	09 05 14.6	-0.4
KSU1	Kansas State U comp=E,16nm,1.0s	76.80 340 eP	P	09 05 14.2	-0.9
S29A	Ulysses baz=77	76.81 336 ⇓P	P	09 05 15.5	+0.3
T27A	Campo baz=77	76.86 335 ⇓P	P	09 05 15.8	+0.2
U25A	Circle Dot Ran baz=77,SNR=6.0	76.87 333 ⇑P	P	09 05 16.1	+0.3
R31A	Burdett baz=77	76.91 338 ⇑P	P	09 05 16.2	+0.5
V23A	Ortiz Mt. (NFS baz=77	76.97 332 ⇓P	P	09 05 16.8	+0.4
S28A	Manter baz=77,SNR=9.1	77.05 336 ⇑P	P	09 05 17.0	+0.4
R30A	Dighton baz=77	77.14 337 ⇓P	P	09 05 17.4	+0.3
U24A	Moreno Valley baz=78	77.21 333 ⇓P	P	09 05 18.5	+0.7
T26A	Comanche Natio baz=78	77.27 334 ⇑P	P	09 05 18.3	+0.4
V22A	San Miguel Ran baz=78	77.41 331 ⇑P	P	09 05 19.9	+1.1
X18A	Snowflake baz=78	77.48 328 ⇑P	P	09 05 19.9	+0.8
U23A	El Rito baz=78,SNR=6.1	77.49 332 ⇓P	P	09 05 20.6	+1.4
Q31A	Ellis baz=78	77.53 338 ⇑P	P	09 05 19.9	+0.7
T25A	Trinidad baz=78,SNR=14	77.53 334 ⇑P	P	09 05 20.5	+1.1
R29A	Marienthal baz=78	77.55 337 ⇑P	P	09 05 20.0	+0.7
S26A	Kim baz=78,SNR=11	77.62 335 ⇓P	P	09 05 20.5	+0.7
R28A	Tribune baz=78	77.70 336 ⇑P	P	09 05 20.7	+0.5
113A	Mohawk Valley, baz=78	77.74 325 ⇓P	P	09 05 21.3	+0.8
Q30A	Quinter baz=78,SNR=5.2	77.76 338 ⇓P	P	09 05 20.8	+0.3
U22A	Llaves baz=78	77.79 332 ⇑P	P	09 05 21.7	+0.8
T24B	San Luis baz=78,SNR=7.1	77.82 333 ⇓P	P	09 05 22.4	+1.2
P32A	Huiting Farm, baz=78	77.86 339 ⇑P	P	09 05 21.2	+0.3
Q29A	Oakley baz=78	77.92 337 ⇓P	P	09 05 21.3	-0.1
R27A	Eads baz=78,SNR=7.1	77.98 335 ⇑P	P	09 05 22.3	+0.5
S25A	Robets Cordova baz=78,SNR=6.2	78.00 334 ⇑P	P	09 05 22.8	+0.7
X16A	Lo Mia Camp, P baz=78	78.04 327 ⇑P	P	09 05 23.4	+1.1
T23A	Casias Ranch, baz=78	78.05 332 ⇑P	P	09 05 23.1	+0.7
R26A	Arlington baz=78	78.22 335 ⇑P	P	09 05 23.2	+0.1
S24A	Houchin Ranch, baz=78,SNR=10	78.27 333 ⇑P	P	09 05 25.0	+1.3
O32A	Brockman Farm, baz=79	78.35 339 ⇑P	P	09 05 24.0	+0.3
Y14A	Wickenburg baz=79	78.35 326 ⇑P	P	09 05 24.0	+0.1
R25A	Fountain Ranch baz=79	78.38 334 ⇓P	P	09 05 24.7	+0.7
GLA	Glamis baz=79	78.49 324 ⇓P	P	09 05 25.4	+0.7
P29A	Atwood baz=79	78.55 337 ⇓P	P	09 05 25.8	+0.9
KSCO	Kaye Shedlock' baz=79	78.58 336 ⇓P	P	09 05 26.1	+1.0
KSCO	Kaye Shedlock' comp=E,3.1nm,0.4s	78.58 336 eP	P	09 05 25.5	+0.4
R24A	Sanders Place, baz=79,SNR=7.0	78.75 334 ⇑P	P	09 05 27.0	+0.8
P28A	Saint Francis baz=79	78.79 337 ⇓P	P	09 05 27.0	+0.8
Q26A	Hugo baz=79	78.80 335 ⇑P	P	09 05 27.1	+0.7
Y12C	Blythe baz=79	78.91 325 ⇑P	P	09 05 28.3	+1.4
WUAZ	Wupatki baz=79	78.93 328 ⇑P	P	09 05 28.2	+1.0
WUAZ	Wupatki comp=E,4.7nm,1.0s	78.93 328 eP	P	09 05 28.1	+1.0
S22A	4UR Ranch, Cre baz=79	78.97 332 ⇓P	P	09 05 28.2	+0.7
R23A	Moffat baz=79	78.98 333 ⇓P	P	09 05 28.3	+0.7
Q25A	Bedland, Calha baz=79	79.05 335 ⇑P	P	09 05 28.3	+0.5
MVCO	Mesa Verde baz=79	79.16 331 ⇓P	P	09 05 29.5	+1.0
BC3	Big Chuckawall baz=80	79.28 324 ⇑P	P	09 05 30.1	+1.0
O28A	Krutsinger Ran baz=80	79.30 337 ⇑P	P	09 05 30.2	+1.2
P26A	Davis Ranch, A baz=80	79.31 336 ⇓P	P	09 05 30.0	+0.8
Q24A	Divide baz=80	79.42 334 ⇓P	P	09 05 30.8	+0.8
BOSA	Boshof comp=E,7.8nm,0.7s,baz=244,slow=4.9,SNR=14	79.54 117 P	P	09 05 31.8	+0.9
IRM	Iron Mountain baz=80	79.54 325 ⇑P	P	09 05 31.6	+1.2
P25A	Willow Gulch B baz=80	79.55 335 ⇑P	P	09 05 31.9	+1.4
O27A	Beecher Island baz=80	79.59 336 ⇑P	P	09 05 32.1	+1.5
W13A	Hualapai Mount baz=80	79.72 326 ⇓P	P	09 05 32.7	+1.2
PFO	Pinyon Flats O baz=80	79.73 323 ⇑P	P	09 05 32.8	+1.3
PFO	Pinyon Flats O comp=E,4.4nm,0.9s	79.73 323 eP	P	09 05 32.8	+1.3
BELC	Belle Mtn. Jos baz=80	79.83 324 ⇑P	P	09 05 33.2	+1.1
O26A	Horse Wrangler baz=80	79.91 336 ⇑P	P	09 05 33.6	+1.2
PV01	Paradox Valley comp=E,218nm,1.0s	79.99 331 eP	P	09 05 33.4	+0.4
O25A	Wiggins baz=80	80.07 335 ⇑P	P	09 05 34.1	+0.8
MURC	Murrieta baz=80	80.10 323 ⇑P	P	09 05 34.1	+0.7
U15A	North Rim baz=80	80.10 328 ⇓P	P	09 05 34.7	+1.0
N27A	Anderson Farm, baz=80	80.16 337 ⇓P	P	09 05 34.9	+1.3
SMCO	Snowmass comp=E,6.4nm,0.8s	80.28 333 eP	P	09 05 35.8	+1.1
L31A	Butterfield Fa baz=81	80.28 340 ⇓P	P	09 05 35.3	+1.1
GMRC	Granite Mounta baz=80	80.29 325 ⇑P	P	09 05 35.7	+1.1
PV10	Paradox Valley comp=E,86nm,0.7s	80.39 331 eP	P	09 05 35.0	-0.2
P22A	Eagle baz=81	80.56 333 ⇓P	P	09 05 36.7	+0.7
O23A	Lake Granby, G baz=81,SNR=6.3	80.79 334 ⇑P	P	09 05 37.9	+0.6
BFSC	Mount Baldy Ra baz=81	80.83 323 ⇑P	P	09 05 38.2	+0.7
TUQ	Turquoise Moun baz=81	80.95 325 ⇑P	P	09 05 39.2	+1.1
K30A	Basset baz=81	80.96 339 ⇑P	P	09 05 39.2	+1.4
O22A	Kremmling baz=81	80.98 334 ⇓P	P	09 05 38.4	+0.1
ECSD	EROS Data Cent baz=81	81.13 342 ⇓P	P	09 05 38.5	-0.2
ECSD	EROS Data Cent comp=E,14nm,0.9s	81.13 342 eP	P	09 05 38.2	-0.4
M25A	Palm-Egli Farm baz=82	81.23 336 ⇓P	P	09 05 40.1	+0.7
L27A	T5 Ranch, Ells baz=82	81.24 337 ⇑P	P	09 05 40.3	+0.9
GSC	Goldstone, Bar baz=82	81.27 324 ⇑P	P	09 05 40.1	+0.4
N23A	Red Feather La baz=82	81.41 334 ⇑P	P	09 05 40.9	+0.4
SHPR	Sheep Range comp=E,21nm,1.7s	81.46 326 eP	P	09 05 41.9	+1.1
CCUT	Cedar City comp=E,5.2nm,1.1s	81.51 328 eP	P	09 05 42.4	+1.3
N22A	Wattenberg Ran baz=82	81.51 334 ⇓P	P	09 05 41.5	+0.4
EDW2	Edwards Air Fo baz=82	81.51 323 ⇑P	P	09 05 41.0	+0.1
K28A	Ten Mile Ranch baz=82	81.52 338 ⇑P	P	09 05 41.5	+0.7
J30A	Dallas baz=82	81.53 340 ⇑P	P	09 05 41.0	+0.2
O20A	White River Ci baz=82	81.59 332 ⇑P	P	09 05 41.8	+0.3
PHWY	Pilot Hill comp=E,13nm,1.4s	81.59 335 eP	P	09 05 42.0	+0.5
SRU	San Rafael Swe comp=E,2.2nm,0.7s	81.61 330 eP	P	09 05 41.7	+0.2
SPMN	Marine on St. baz=82	81.64 345 ⇑P	P	09 05 41.1	-0.2
K27A	Flueckinger Fa baz=82	81.78 338 ⇓P	P	09 05 43.3	+1.0
M23A	Laramie baz=82	81.83 335 ⇑P	P	09 05 43.4	+0.7
LRMC	Laurel Mtn Rad baz=82	81.84 324 ⇓P	P	09 05 43.1	+0.3
J29A	Okreek baz=82,SNR=5.7	81.84 339 ⇓P	P	09 05 43.1	+0.6
I30A	Oacoma baz=82	82.05 340 ⇑P	P	09 05 43.7	+0.2
L24A	Wheatland baz=82	82.07 336 ⇑P	P	09 05 43.9	+0.1
M22A	Cedar Creek Ra baz=82	82.09 334 ⇓P	P	09 05 44.6	+0.5
J28A	Allard Ranch, baz=82	82.13 339 ⇑P	P	09 05 44.7	+0.7
N20A	Spence Gulch, baz=82	82.20 333 ⇑P	P	09 05 45.5	+0.8
J27A	Elkhorn Farm, baz=82,SNR=5.3	82.21 338 ⇓P	P	09 05 45.3	+0.8
K25A	Mack Ranch, Ha baz=82	82.22 337 ⇑P	P	09 05 45.7	+1.1
FURC	Furnace Creek, baz=82	82.23 325 ⇓P	P	09 05 45.6	+1.0
ISA	Isabella, Lake baz=83	82.37 323 ⇑P	P	09 05 46.5	+1.0
ISA	Isabella, Lake comp=E,2.8nm,0.8s	82.37 323 eP	P	09 05 46.5	+1.0
L23A	Garrett baz=83	82.40 335 ⇑P	P	09 05 45.9	+0.2
BRSD	Miller baz=83	82.41 341 ⇓P	P	09 05 45.3	-0.1
DAC	Darwin (Calif) comp=E,6.1nm,1.1s	82.43 324 eP	P	09 05 46.5	+0.6
L22A	Ellis Ranch, M baz=83	82.58 335 ⇑P	P	09 05 46.7	+0.1
J26A	Sides Ranch, S baz=83	82.59 337 ⇓P	P	09 05 47.0	+0.6
I28A	Midland baz=83,SNR=6.1	82.63 339 ⇑P	P	09 05 47.0	+0.4
VES	Vestal, Richgr baz=83	82.81 323 ⇑P	P	09 05 48.0	+0.3
H29A	Onida baz=83	82.93 340 ⇓P	P	09 05 48.1	0.0
K23A	Bowen Ranch, D baz=83	82.94 335 ⇑P	P	09 05 48.2	-0.2
I27A	Quinn baz=83	82.96 338 ⇓P	P	09 05 48.7	+0.3
DAU	Daniels Canyon comp=E,2.9nm,0.8s	83.02 331 eP	P	09 05 49.2	+0.2
J24A	Dixon Ranch, L baz=83	83.12 336 ⇓P	P	09 05 50.3	+1.0
K22A	Casper baz=83	83.16 335 ⇑P	P	09 05 49.7	+0.1
R11A	Troy Canyon, C baz=83	83.16 327 ⇑P	P	09 05 50.4	+0.7
R11A	Troy Canyon, C comp=E,2.2nm,0.8s	83.16 327 eP	P	09 05 50.3	+0.7
I26A	New Underwood baz=84	83.17 338 ⇑P	P	09 05 49.0	-0.4
H28A	Mission Ridge baz=84,SNR=6.3	83.20 339 ⇑P	P	09 05 49.8	+0.3
JLU	Jordanelle comp=E,2.6nm,0.7s	83.25 331 eP	P	09 05 50.4	+0.2
K21A	Alcova baz=84,SNR=5.7	83.40 334 ⇓P	P	09 05 51.0	+0.2
I25A	Rochford baz=84,SNR=5.2	83.44 337 ⇑P	P	09 05 51.4	+0.4
DUG	Dugway, Tooele baz=84	83.47 329 ⇑P	P	09 05 51.6	+0.4
DUG	Dugway, Tooele comp=E,9.7nm,1.5s	83.47 329 eP	P	09 05 51.5	+0.3
H27A	Howes baz=84,SNR=6.0	83.48 339 ⇓P	P	09 05 50.7	-0.3
G28A	Parade baz=84	83.54 340 ⇓P	P	09 05 51.4	+0.1
I24A	Kuemmerle Ranc baz=84	83.58 337 ⇑P	P	09 05 51.6	0.0
RSSD	Black Hills comp=E,2.3nm,0.8s	83.63 337 eP	P	09 05 51.9	0.0
TPH	Tonopah comp=E,4.4nm,1.0s	83.69 325 eP	P	09 05 53.4	+1.0
H25A	Fruitdale baz=84	83.94 338 ⇑P	P	09 05 54.3	+0.9
TORD	Torodi Ar. Bea comp=E,4.3nm,0.9s,baz=256,slow=3.9,SNR=15	84.07 70 P	P	09 05 55.0	+0.4
TORD		LR	LR	09 43 27.4	
	comp=E,22nm,18.8s,baz=335,slow=36				
G27A	Dupree baz=84	84.11 339 ⇓P	P	09 05 54.4	+0.2
F28A	McLaughlin baz=84	84.21 340 ⇓P	P	09 05 54.4	-0.2
G26A	Maurine baz=84	84.23 339 ⇓P	P	09 05 54.7	-0.2
I22A	9 Mile Ranch, baz=84	84.24 335 ⇓P	P	09 05 54.5	-0.4
E30A	Jud baz=85	84.30 341 ⇓P	P	09 05 55.0	-0.1
J20A	Shoshoni baz=85,SNR=6.9	84.33 334 ⇓P	P	09 05 56.0	+0.5
H24A	Dirks Ranch, A baz=85	84.35 337 ⇑P	P	09 05 55.4	-0.1
PDAR	Pinedale Array comp=E,1.5nm,0.8s,baz=146,slow=4.7,SNR=14	84.36 333 P	P	09 05 55.4	-0.4
G25A	Newell baz=85,SNR=6.7	84.39 338 ⇓P	P	09 05 55.6	-0.1
I21A	Big Trails, Te baz=85	84.44 335 ⇓P	P	09 05 55.6	-0.5
NVAR	Mina Array Bea comp=E,1.7nm,0.8s,baz=155,slow=6.5,SNR=12	84.49 325 P	P	09 05 57.3	+0.8
J19A	Crowheart baz=85	84.60 334 ⇓P	P	09 05 56.6	-0.3
F26A	Lodgepole baz=85	84.76 339 ⇑P	P	09 05 57.4	0.0
HVU	Hansel Valley comp=E,5.8nm,0.9s	84.78 330 eP	P	09 05 57.6	-0.2
H22A	Cleanmont baz=85	84.81 336 ⇓P	P	09 05 57.7	-0.2
D30A	Buchanan baz=85,SNR=6.1	84.82 342 ⇑P	P	09 05 57.4	-0.3
G24A	Alzada baz=85	84.83 337 ⇑P	P	09 05 57.8	-0.1
E28A	Huff baz=85	84.85 340 ⇓P	P	09 05 58.0	+0.1
I20A	Worland baz=85	84.86 334 ⇑P	P	09 05 58.4	+0.3
ELK	Elko comp=E,2.6nm,0.9s	84.96 328 eP	P	09 05 59.5	+0.6
D29A	Pettibone, Tap baz=85	85.00 341 ⇓P	P	09 05 58.9	+0.3
G23A	Biddle baz=85	85.03 337 ⇑P	P	09 05 59.0	+0.1
F25A	Bowman baz=85	85.06 338 ⇑P	P	09 05 59.2	+0.2
H21A	Big Horn, Sher baz=85	85.07 335 ⇑P	P	09 05 58.7	-0.4
AGMN	Agassiz Nation baz=86	85.23 344 ⇑P	P	09 05 59.5	-0.1
AGMN	Agassiz Nation comp=E,3.0nm,0.8s	85.23 344 eP	P	09 05 59.1	-0.5
I19A	Meeteetse baz=86	85.25 334 ⇑P	P	09 06 00.1	-0.1
E26A	Carlson Angus baz=86	85.26 339 ⇓P	P	09 06 00.2	+0.2
H20A	Greybull baz=86,SNR=5.5	85.28 335 ⇓P	P	09 05 59.9	-0.3
F24A	Ekalaka baz=86	85.30 338 ⇑P	P	09 06 00.2	0.0
C30A	Mose, Pekin baz=86	85.30 342 ⇑P	P	09 06 00.3	+0.2
G22A	Birney baz=86	85.34 336 ⇑P	P	09 06 00.4	0.0
D28A	Regan baz=86	85.38 341 ⇓P	P	09 06 00.8	+0.3
LOHW	Long Hollow comp=E,3.2nm,0.9s	85.48 333 eP	P	09 06 01.4	0.0
F23A	Volborg baz=86,SNR=6.1	85.49 337 ⇓P	P	09 06 00.8	-0.3
TPAW	Teton Pass comp=E,74nm,3.0s	85.51 332 eP	P	09 06 01.7	+0.2
E25A	Miller Ranch, baz=86	85.56 339 ⇑P	P	09 06 01.7	+0.2
G21A	Lodge Grass baz=86	85.65 336 ⇑P	P	09 06 02.0	0.0
MDND	Maddock baz=86	85.72 342 ⇓P	P	09 06 02.6	+0.4
I17A	Pilgrim Ck. baz=86	85.73 333 ⇑P	P	09 06 03.0	+0.4
D26A	Manning baz=86	85.76 339 ⇓P	P	09 06 03.4	+1.0
H19A	Powell baz=86	85.79 334 ⇓P	P	09 06 02.7	-0.1
F22A	Rosebud baz=86,SNR=5.3	85.82 337 ⇑P	P	09 06 02.3	-0.5
IMW	Indian Meadow comp=E,5.0nm,1.1s	85.85 333 eP	P	09 06 03.4	+0.1
FLWY	Flagg Ranch comp=E,7.5nm,0.8s	85.92 333 eP	P	09 06 04.0	+0.5
B30A	Myrvik Farm, E baz=86,SNR=7.8	85.96 343 ⇓P	P	09 06 03.0	-0.3
G20A	Bridger baz=86,SNR=9.5	86.00 335 ⇓P	P	09 06 03.2	-0.6
H18A	Shoshone NF, C baz=86	86.04 334 ⇑P	P	09 06 03.8	-0.4
C27A	Sayler Ranch, baz=86	86.11 340 ⇑P	P	09 06 04.8	+0.6
D25A	Fairfield baz=86	86.13 339 ⇑P	P	09 06 05.0	+0.7
H17A	Grant Village baz=86	86.14 333 ⇑P	P	09 06 05.0	+0.3
B29A	Wagenman Farm, baz=86	86.23 342 ⇑P	P	09 06 04.7	+0.1
E22A	Miles City baz=87	86.30 337 ⇑P	P	09 06 04.8	-0.3
C26A	Wahner Farm, P baz=87	86.38 340 ⇑P	P	09 06 05.6	+0.1
D24A	Glendive baz=87	86.40 338 ⇑P	P	09 06 05.9	+0.3
A30A	Hoffart Farm, baz=87	86.41 343 ⇓P	P	09 06 05.5	-0.1
B28A	Dugan Ranch, T baz=87,SNR=5.0	86.48 341 ⇓P	P	09 06 05.9	0.0
F20A	Billings baz=87	86.48 335 ⇓P	P	09 06 05.8	-0.3
YMR	Madison River comp=E,12nm,0.9s	86.52 333 eP	P	09 06 07.0	+0.5
C25A	Freed Ranch, W baz=87	86.61 339 ⇑P	P	09 06 07.1	+0.5
A29A	Manning Farm, baz=87	86.62 342 ⇓P	P	09 06 06.3	-0.3
D23A	Lindsay baz=87,SNR=7.5	86.72 338 ⇓P	P	09 06 07.2	0.0
E21A	Keefer Ranch, baz=87	86.76 336 ⇑P	P	09 06 07.6	+0.2
C24A	Savage baz=87,SNR=11	86.80 338 ⇑P	P	09 06 07.6	+0.1
F19A	Roth Farm, Mol baz=87	86.80 335 ⇑P	P	09 06 07.5	-0.2
A28A	Rude Farm, Bot baz=87	86.88 342 ⇑P	P	09 06 08.0	+0.1
HLID	Hailey baz=87	86.94 330 ⇓P	P	09 06 09.0	+0.5
HLID	Hailey comp=E,4.6nm,1.1s	86.94 330 eP	P	09 06 09.0	+0.5
D22A	Cohagen baz=87,SNR=5.5	87.01 337 ⇑P	P	09 06 08.5	-0.1
ULM	Lac du Bonnet comp=E,3.6nm,0.8s,baz=188,slow=4.4,SNR=5.5	87.07 345 P	P	09 06 07.3	-1.4
E20A	Meyer Farm, Mu baz=87,SNR=10	87.08 336 ⇑P	P	09 06 09.0	0.0

D21A	La Casta Ranch	87.20	337	⇓P	P	09 06 09.8	+0.3
	baz=88						
E19A	Rath Farm, Rou	87.27	335	⇑P	P	09 06 10.1	+0.2
	baz=88						
C23A	Lambert	87.27	338	⇓P	P	09 06 10.0	+0.2
	baz=88,SNR=7.0						
A26A	Wade Farm, Ken	87.34	340	⇑P	P	09 06 10.3	+0.2
	baz=88						
MCMT	McKenzie Canyo	87.37	332	eP	P	09 06 11.3	+0.7
	comp=E,2.8nm,1.1s						
C22A	Vida	87.44	338	⇓P	P	09 06 10.3	-0.3
	baz=88						
D20A	Manuel Ranch,	87.60	336	⇑P	P	09 06 11.6	+0.1
	baz=88,SNR=7.6						
B23A	Brockton	87.80	339	⇑P	P	09 06 12.4	+0.1
	baz=88						
D19A	Cripps Ranch,	87.91	336	⇓P	P	09 06 12.8	-0.2
	baz=88						
A24A	Westby	87.92	339	⇓P	P	09 06 12.8	-0.1
	baz=88						
B22A	Reddig Ranch S	87.97	338	⇑P	P	09 06 13.1	-0.1
	baz=88						
C20A	Veseth Ranch,	88.10	336	⇑P	P	09 06 13.7	-0.1
	baz=88						
A23A	Redstone	88.21	339	⇓P	P	09 06 14.2	-0.1
	baz=88						
B21A	Ellsworth Farm	88.40	337	⇓P	P	09 06 15.3	+0.2
	baz=89						
C19A	Slack Wire Ran	88.46	336	⇑P	P	09 06 15.8	+0.2
	baz=89						
A22A	Carney Farms,	88.56	338	⇑P	P	09 06 16.3	+0.4
	baz=89						
A21A	Bergtoll Ranch	88.87	338	⇑P	P	09 06 17.4	0.0
	baz=89						
A20A	Cobblestone Ra	89.09	337	⇓P	P	09 06 18.4	0.0
	baz=89						
YKA	Yellowknife Ar	102.64	341	P	Pdif	09 07 18.6	-1.0
	comp=E,0.2nm,0.6s,baz=143,slow=4.8,SNR=6.8						
WRA	Warramunga Arr	120.48	209	PKP	PKPdf	09 12 14.3	-1.3
	comp=E,0.3nm,0.6s,baz=161,slow=1.6,SNR=7.5						
H11S2	WAKE ISLAND Hyl	26.09	269	T	T	11 30 47.0	
	baz=118,slow=74,SNR=4.6						
H11S1	WAKE ISLAND Hyl	26.11	269	T	T	11 30 47.2	
	baz=118,slow=74,SNR=8.4						
H11S3	WAKE ISLAND Hyl	26.11	269	T	T	11 30 50.8	
	baz=118,slow=74,SNR=3.6						
H11N3	WAKE ISLAND Hyl	26.52	270	T	T	11 31 17.6	
	baz=120						
H11N1	WAKE ISLAND Hyl	26.53	270	T	T	11 31 16.4	
	baz=120,SNR=13						
H11N2	WAKE ISLAND Hyl	26.54	270	T	T	11 31 19.0	
	baz=120						
BRVK	Borovoye	147.34	44	ePKPbc	PKPbc	09 13 07.4	+0.8
KSH	Kashi	153.74	69	ePKPbc	PKPdf	09 13 15.1	+0.4
KSH				sPKP		09 13 28.8	
KSH				PKS	PKSdf	09 16 49.5	+0.4
KSH				PP	PP	09 17 09.3	-1.1
KSH				SKS	SKSdf	09 20 19.6	+0.1
KSH				SKKS	SKKSac	09 23 58.1	+0.1
KSH				SS	SS	09 36 43.8	-1.8
KSH				LZ			
	comp=E,100nm,7.8s						
MKAR	Makanchi Array	156.83	50	PKPab	PKPab	09 13 49.5	+1.1
	comp=E,0.8nm,0.8s,baz=270,slow=3.6,SNR=5.2						
WMQ	Urumqi	161.51	54	ePKP	PKPdf	09 13 24.5	+0.4
WMQ				pPKP	pPKPdf	09 13 35.5	+1.3
SONM	Songino Array	166.60	6	PKPab	PKPab	09 14 31.5	+0.5
	comp=E,0.3nm,0.8s,baz=336,slow=3.2,SNR=2.7						
GTA	Gaotai	171.59	52	ePKP	PKPdf	09 13 32.9	+0.8
GTA				pPKP	pPKPdf	09 13 43.6	+1.5
GTA				sPKP		09 13 47.5	
GTA				PKPab	PKPab	09 14 55.8	+2.3
HHC	Hu-ho-hao-te	173.18	339	ePKP	PKPdf	09 13 33.5	+0.8
HHC				pPKP	pPKPdf	09 13 44.4	+1.6
HHC				sPKP		09 13 48.3	
HHC				PP	PP	09 18 55.4	+3.9
HHC				SKS	SKSdf	09 20 31.5	-2.3
HHC				SS	SS	09 40 03.9	+0.2
HHC				PPMZ			
	comp=E,79nm,6.1s						
HHC				LN			
	comp=E,150nm,20.6s						
HHC				LE			
	comp=E,140nm,21.8s						
HHC				LZ			
	comp=E,83nm,22.2s						
LZH	Lanzhou	175.98	66	ePKP	PKPdf	09 13 33.1	-0.7
LZH				pPKP	pPKPdf	09 13 45.3	+1.4
LZH				sPKP		09 13 50.5	

*IDC **12** 09:00:50.3±0.5, 34°.40S×72°.01W, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.4/23, mbtmp4.4/13, ML4.1/3, MS3.6/2, Ms1 3.6/2, ms1mx3.2/19, Error ellipse: s-maj=19.4km s-min=15.3km az=103.0*

*ISCJB **12** 09:00:52.0±0.9, 34°.39S±0°.03×71°.98W±0°.05, h17km±6km, mb4.6/54, MS3.4/2, Error ellipse: s-maj=6.4km s-min=4.2km az=6.8*

*NEIC **12** 09:00:52.4, 34°.39S×71°.96W, h11km, mb4.8/47, ML4.7(GUC), After GUC.*

NEIC Felt [V] at Pichilemu, [IV] at Paredones and [II] at Rancagua. Also felt at Santiago.

*GUC **12** 09:00:52.4±0.5, 34°.39S×71°.96W, h11km±3km, ML4.7*

*BJI **12** 09:00:56.2, 34°.30S×71°.70W, h35km, mB5.1/4, Ms5.4/3, Ms7 5.4/3*

ISC 12 09:00:55.5±0.9, 34°.37S±0°.03×71°.80W±0°.07, h31km±5km, n413, σ0°69/444, mb4.7/54, 170C-139D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.53	38	⇑iP	Pb	09 01 04.8	-1.5
LNV	Longovilo	0.53	38	⇑iP	Pb	09 01 04.8	-1.5
NICH	Los Niches	0.78	143	⇑iP	Pn	09 01 08.2	-2.2
NICH				i S	Sb	09 01 19.9	-1.0
NICH				AML	AML	09 01 24.9	
	comp=E,118μm,0.7s						
NICH	Los Niches	0.78	143	⇑iP	Pn	09 01 08.2	-2.2
NICH				i S	Sb	09 01 19.9	-1.0
TACH	Talagante	1.01	45	⇓iP	Pn	09 01 12.3	-1.2
TACH	Talagante	1.01	45	⇓iP	Pn	09 01 12.3	-1.2
CACH	El Canelo	1.02	76	⇑iP	Pn	09 01 13.8	0.0
CACH	El Canelo	1.02	76	⇑iP	Pn	09 01 13.8	0.0
CHCH	Chadas Angostu	1.04	65	⇑iP	Pn	09 01 13.6	-0.4
CHCH	Chadas Angostu	1.04	65	⇑iP	Pn	09 01 13.6	-0.4
ANTU	Antumapu	1.26	51	⇑iP	Pn	09 01 16.7	-0.2
ANTU				i S	Sb	09 01 34.8	+0.3
ANTU				AML	AML	09 01 41.0	
	comp=E,11μm,0.6s						
ANTU	Antumapu	1.26	51	⇑iP	Pn	09 01 16.7	-0.2
ANTU				i S	Sb	09 01 34.8	+0.3
SAN	Santiago	1.32	46	⇑iP	Pn	09 01 17.5	-0.2
SAN				i S	Sb	09 01 36.4	+0.2
SAN				AML	AML	09 01 42.1	
	comp=N,12μm,0.8s						
SAN	Santiago	1.32	46	⇑iP	Pn	09 01 17.5	-0.2
SAN				i S	Sb	09 01 36.0	+0.2
STL	Santa Lucia	1.34	46	eP9	Pn	09 01 16.4	-1.7
STL				i S	Sb	09 01 36.0	-0.9
IHA	Instituto Hidr	1.35	6	⇓iP	Pn	09 01 16.2	-1.9
IHA				i S1	Sn	09 01 35.1	+0.1
IHA	Instituto Hidr	1.35	6	⇓iP	Pn	09 01 16.2	-1.9
IHA				i S	Sn	09 01 35.1	+0.1
LACH	Col Las Americ	1.40	49	eP1	Pn	09 01 18.7	-0.2
LACH				i S	Sb	09 01 39.0	+0.5
LACH	Col Las Americ	1.40	49	eP	Pn	09 01 18.7	-0.2
LACH				i S	Sb	09 01 39.0	+0.5
SJCH	San Jose de Ma	1.40	59	eP9	Pn	09 01 18.4	-0.6
SJCH				i S	Sb	09 01 38.5	-0.2
SJCH	San Jose de Ma	1.40	59	eP	Pn	09 01 18.4	-0.6
SJCH				i S	Sb	09 01 38.5	-0.2
CLCH	Cerro Calan	1.43	47	⇑iP	Pn	09 01 19.3	0.0
CLCH				i S	Sb	09 01 39.6	+0.1
CLCH				AML	AML	09 01 45.1	
	comp=N,14μm,0.7s						
PEL	Peldehue	1.54	37	⇑iP	Pn	09 01 20.6	-0.2
PEL				i S	Sb	09 01 42.5	0.0
PEL				AML	AML	09 01 47.8	
	comp=N,22μm,0.3s						
PEL	Peldehue	1.54	37	⇑iP	Pn	09 01 20.6	-0.2
PEL				i S	Sb	09 01 42.5	0.0
CFAA	Coronel Fontan	4.07	48	Pn	Pn	09 01 57.3	+1.7
	comp=N,1.6nm,0.3s,baz=223,slow=11,SNR=54						
CFAA				Sn	Sb	09 02 51.9	-3.4
	comp=N,2.2nm,0.3s,baz=302,slow=15,SNR=4.6						
CFAA				Lg	Lg	09 03 04.4	
	comp=N,5.3nm,0.3s,baz=314,slow=22,SNR=12						
LCO	Las Campanas	5.43	10	ePn	Pn	09 02 13.2	-1.2
LCO				eSn	Sn	09 03 17.3	+1.3
PLCA	Paso Flores	6.42	172	Pn	Pn	09 02 27.2	-0.8
	comp=N,1.8nm,0.3s,baz=342,slow=11,SNR=16						
PLCA				Lg	Lg	09 04 04.5	
	comp=N,1.2nm,0.3s,baz=62,slow=17,SNR=3.1						
PLCA	Paso Flores	6.42	172	ePn	Pn	09 02 28.3	+0.4
PLCA				eSn	Sn	09 03 42.3	+2.1
PLCA				Lg	Lg	09 04 04.5	
TRQA	Tornquist	8.74	118	ePn	Pn	09 03 02.1	+2.4
LVC	Limon Verde	11.99	13	ePn	Pn	09 03 38.8	-5.7
LPAZ	La Paz	18.31	11	P	Pn	09 05 08.0	+0.3
	comp=N,0.5nm,0.3s,baz=193,slow=7.1,SNR=21						
LPAZ	La Paz	18.31	11	eP	P	09 05 07.5	-0.1
	comp=N,43nm,1.5s						
USHA	Ushuaia	20.59	174	P	P	09 05 32.0	+0.4
	comp=N,20nm,0.9s,baz=16,slow=15,SNR=3.9						
USHA				LR	LR	09 14 22.4	
	comp=N,234nm,21.7s,baz=28,slow=40						
SIV	San Ignacio	20.69	30	P	P	09 05 32.1	-1.0
	comp=N,7.1nm,0.7s,baz=211,slow=11,SNR=11						
ATAH	Atahualpa	27.78	346	LR	LR	09 16 35.6	
	comp=N,82nm,18.9s,baz=157,slow=34						
BDFB	Brasilia	28.38	55	P	P	09 06 47.8	+0.6
	comp=N,2.4nm,0.5s,baz=227,slow=11,SNR=4.6						
OTAV	Otavalo	34.99	348	eP	P	09 07 46.5	+1.0
	comp=N,20nm,1.5s						
PTGA	Pitinga	35.25	21	eP	P	09 07 39.9	-7.5
	comp=N,9.2nm,0.9s						
SDV	Santo Domingo	43.04	2	eP	P	09 08 51.6	-0.9
	comp=N,14nm,1.1s						
BCIP	Isla Barro Col	43.97	349	eP	P	09 09 00.2	+0.4
	comp=N,5.0nm,0.6s						
VNA3	Neumayer Olymp	48.94	158	P	P	09 09 42.7	+4.4
VNA2	Neumayer-Watz	49.59	157	P	P	09 09 44.8	+1.5
	baz=294,slow=8.8						
SNAA	Sanae	51.16	158	P	P	09 09 55.8	+0.6
SNAA	Sanae	51.16	158	P	P	09 09 55.6	+0.4
	comp=N,2.2nm,0.8s,baz=297,slow=9.6,SNR=12						
SNAA	Sanae	51.16	158	eP	P	09 09 55.5	+0.4
	comp=N,88nm,2.5s						
SDDR	Presa de Saban	53.06	1	eP	P	09 10 08.5	-1.3
	comp=N,6.7nm,0.8s						
QSPA	South Pole Qui	55.86	180	eP	P	09 10 30.4	+0.6
	comp=N,16nm,0.9s						
SYO	Syowa Base	65.44	158	⇓eP	P	09 11 34.8	0.0
034A	Hebbronville	66.20	334	⇑P	P	09 11 41.0	+0.8
	baz=66						
834A	Tilden	67.12	334	⇑P	P	09 11 47.0	+1.0
	baz=67						
735A	Kenedy	67.53	335	⇓P	P	09 11 49.0	+0.5
	baz=68						
833A	Chaparral WMA,	67.61	334	⇓P	P	09 11 49.7	+0.6
	baz=68						
832A	Faith Ranch, C	67.78	333	⇓P	P	09 11 50.8	+0.6
	baz=68						
636A	Smothers Creek	67.85	336	⇑P	P	09 11 51.2	+0.6
	baz=68						
537A	Green Hill Far	68.16	337	⇑P	P	09 11 52.8	+0.3
	baz=68						
732A	Laxson Ranch,	68.19	333	⇑P	P	09 11 53.0	+0.3
	baz=68,SNR=7.0						
535A	Dale	68.52	336	⇓P	P	09 11 54.9	+0.1
	baz=69						
633A	Saathoff Ranch	68.56	334	⇓P	P	09 11 55.4	+0.3
	baz=69						
340A	Bronson	68.67	340	⇓P	P	09 11 56.1	+0.5
	baz=69						
339A	Huntington	68.79	339	⇑P	P	09 11 56.7	+0.3
	baz=69						
632A	Uvalde	68.82	334	⇓P	P	09 11 56.8	+0.1
	baz=69,SNR=5.9						
631A	Perdido Creek	69.03	333	⇓P	P	09 11 58.3	+0.3
	baz=69						
533A	Kerrville	69.07	335	⇑P	P	09 11 58.7	+0.4
	baz=69						
337A	Centerville	69.17	338	⇓P	P	09 12 00.1	+1.3
	baz=70						
532A	Rocksprings	69.43	334	⇓P	P	09 12 01.0	+0.5
	baz=70,SNR=8.5						
434A	Burnet	69.48	336	⇑P	P	09 12 00.8	0.0
	baz=70						
336A	Riesel	69.54	337	⇑P	P	09 12 01.1	+0.1
	baz=70						
335A	Moody	69.63	337	⇑P	P	09 12 02.3	+0.7
	baz=70						
531A	Rocksprings	69.69	334	⇓P	P	09 12 02.4	+0.3
	baz=70,SNR=5.3						
433A	Art	69.71	335	⇓P	P	09 12 02.0	-0.1
	baz=70,SNR=6.7						
JCT	Junction City	69.71	334	⇓P	P	09 12 02.4	+0.2
	baz=70						
JCT	Junction City	69.71	334	eP	P	09 12 02.2	0.0
	comp=N,8.9nm,0.9s						
334A	Lometa	69.94	336	⇓P	P	09 12 03.7	+0.1
	baz=70,SNR=5.7						
530A	J-C Ranch, Com	69.97	333	⇑P	P	09 12 04.4	+0.5
	baz=70,SNR=6.1						
432A	Menard	70.06	335	⇑P	P	09 12 04.2	-0.2
	baz=70						
TXAR	Lajitas Array	70.16	331	P	P	09 12 05.1	0.0
	comp=N,1.4nm,0.7s,baz=153,slow=8.3,SNR=17						
431A	Sonora	70.18	334	⇓P	P	09 12 05.1	-0.1
	baz=70						
333A	Richland Sprin	70.19	335	⇓P	P	09 12 04.9	-0.3
	baz=70						
529A	Stev Forest Ra	70.29	332	⇑P	P	09 12 05.7	-0.1
	baz=71						
137A	Heron Place, G	70.32	339	⇑P	P	09 12 06.1	+0.2
	baz=71						
SWET	Sewanee	70.48	348	eP	P	09 12 06.4	-0.4
	comp=N,13nm,0.7s						
332A	Millersview	70.51	335	⇑P	P	09 12 07.0	0.0
	baz=71						
430A	Baggett Ranch,	70.51	333	⇓P	P	09 12 07.0	-0.1
	baz=71,SNR=5.6						
234A	Clairette	70.53	336	⇓P	P	09 12 07.2	0.0
	baz=71						
429A	Davenport Ranc	70.61	333	⇓P	P	09 12 07.8	0.0
	baz=71						
331A	San Angelo	70.68	334	⇑P	P	09 12 08.0	-0.2
	baz=71,SNR=6.4						
233A	Rising Star	70.80	336	⇓P	P	09 12 08.7	-0.1
	baz=71						
232A	Coleman	70.93	335	⇑P	P	09 12 09.4	-0.3
	baz=71						
134A	White-Moore Ra	71.03	337	⇓P	P	09 12 09.7	-0.4
	baz=71						
330A	Mertzon	71.04	334	⇓P	P	09 12 09.8	-0.6
	baz=71						
231A	Bronte	71.21	335	⇑P	P	09 12 10.8	-0.5
	baz=72						
133A	Hamilton Ranch	71.34	336	⇓P	P	09 12 11.6	-0.5
	baz=72						
329A	Wagon Wheel Ra	71.42	333	⇑P	P	09 12 12.2	-0.5
	baz=72						
Z35A	Perchaven, San	71.47	338	⇑P	P	09 12 12.6	-0.2
	baz=72						
MIAR	Mount Ida	71.53	341	eP	P	09 12 12.6	-0.6
	comp=N,2.4nm,0.8s						
ABTX	Abilene, Hawle	71.60	335	⇓P	P	09 12 13.3	-0.4
	baz=72						
ABTX	Abilene, Hawle	71.60	335	eP	P	09 12 13.5	-0.1
	comp=N,7.2nm,0.8s						
Z34A	Collier Ranch,	71.71	337	⇑P	P	09 12 14.1	-0.2
	baz=72						
WVT	Waverly	71.72	346	eP	P	09 12 13.7	-0.6
	comp=N,31nm,0.9s						
229A	Bryant Ranch,	71.78	333	⇑P	P	09 12 14.6	-0.2
	baz=72						
131A	Roby	71.91	335	⇑P	P	09 12 15.3	-0.3
	baz=72						
Z33A	Whitaker Ranch	71.91	336	⇑P	P	09 12 15.3	-0.2
	baz=72						
130A	Snyder	72.04	334	⇑P	P	09 12 16.1	-0.3
	baz=72						
Z32A	Haskell	72.17	336	⇑P	P	09 12 17.1	0.0
	baz=72,SNR=5.9						
Y34A	Reagan Ranch,	72.20	338	⇑P	P	09 12 16.9	-0.3
	baz=72						
228A	UT Block 9, Go	72.21	333	⇑P	P	09 12 17.4	0.0
	baz=72						
129A	Stewart Farms,	72.40	334	⇓P	P	09 12 18.7	+0.2
	baz=73						
Z31A	Sharp Cattle R	72.41	335	⇑P	P	09 12 18.4	-0.1
	baz=73,SNR=6.1						
Y33A	Hilltop Ranch,	72.53	337	⇓P	P	09 12 18.6	-0.6
	baz=73						
128A	Castleberry Fa	72.62	333	⇓P	P	09 12 19.2	-0.6
	baz=73						
Z30A	Sanderson Ranc	72.72	335	⇑P	P	09 12 20.1	-0.3
	baz=73						
Y32A	R-V Farms, Ver	72.79	336	⇓P	P	09 12 20.8	0.0
	baz=73						
X34A	Smith Ranch, M	72.82	338	⇑P	P	09 12 21.0	+0.1
	baz=73						
MNTX	Cornudas Mount	72.93	330	eP	P	09 12 20.9	-0.8
	comp=N,3.0nm,0.8s						
Y31A	Rekieta Farm,	73.03	336	⇓P	P	09 12 22.1	-0.1
	baz=73						
X32A	Elmer	73.12	336	⇑P	P	09 12 22.4	-0.3
	baz=73						
Z28A	Tucker Farm, M	73.18	334	⇓P	P	09 12 22.6	-0.6
	baz=74						
WMOK	Wichita Mounta	73.25	337	eP	P	09 12 22.9	-0.5
	comp=N,2.4nm,0.9s						
W34A	Bridge Creek,	73.39	338	⇓P	P	09 12 23.4	-0.8
	baz=74						
TUL1	Leonard	73.43	340	⇑P	P	09 12 23.8	-0.6
	baz=74						
TUL1	Leonard	73.43	340	eP	P	09 12 24.2	-0.2
	comp=N,8.0nm,0.8s						
Y29A	Porterfield Fa	73.43	334	⇑P	P	09 12 24.4	-0.2
	baz=74,SNR=6.7						
W33A	Caddo, Fort Co	73.53	337	⇑P	P	09 12 25.1	+0.1
	baz=74						
X31A	McDonald Ranch	73.55	336	⇓P	P	09 12 24.9	-0.3
	baz=74						
X30A	Coker Ranch, T	73.68	335	⇓P	P	09 12 26.0	0.0
	baz=74						
Y28A	McKinney Farm,	73.69	334	⇑P	P	09 12 26.2	0.0
	baz=74						
W32A	Sentinel	73.75	337	⇑P	P	09 12 26.2	-0.2
	baz=74,SNR=7.2						
MSTX	Muleshoe	73.93	334	⇑P	P	09 12 27.4	-0.2
	baz=74,SNR=5.8						
MSTX	Muleshoe	73.93	334	eP	P	09 12 27.5	-0.1
	comp=N,7.5nm,0.8s						
X29A	Tulia	73.97	335	⇑P	P	09 12 27.5	-0.3
	baz=74						
Y27A	Causey	74.00	333	⇑P	P	09 12 27.5	-0.5
	baz=74						
W31A	Holland Ranch,	74.04	336	⇓P	P	09 12 27.9	-0.2
	baz=74						
V33A	Lossen Ranch,	74.09	338	⇑P	P	09 12 28.2	-0.2
	baz=74						
V32A	Arapaho	74.23	337	⇓P	P	09 12 29.0	-0.2
	baz=74						
319A	Douglas	74.32	327	⇓P	P	09 12 30.3	+0.4
	baz=75						
AMTX	Amarillo	74.36	335	⇑P	P	09 12 30.2	+0.2
	baz=75						
U34A	Anderson Ranch	74.43	339	⇓P	P	09 12 29.9	-0.4
	baz=75						
V31A	Spring Creek L	74.54	337	⇓P	P	09 12 30.9	-0.1
	baz=75						
W29A	Amarillo	74.56	335	⇑P	P	09 12 31.0	-0.2
	baz=75						
121A	Cookes Peak, D	74.66	329	⇓P	P	09 12 32.7	+0.7
	baz=75						
U32A	Winter Ranch,	74.83	338	⇓P	P	09 12 32.6	-0.1
	baz=75						
X26A	CR and CF Fran	74.83	333	⇑P	P	09 12 33.0	+0.1
	baz=75,SNR=6.5						
Y24A	Capitan	74.91	332	⇑P	P	09 12 33.4	0.0
	baz=75						
Z22A	Elephant Butte	74.94	330	⇑P	P	09 12 33.4	-0.1
	baz=75						
ACSO	Alum Creek Sta	74.95	351	eP	P	09 12 32.6	-0.6
	comp=N,14nm,0.6s						
W27A	Bowe Ranch, En	75.02	334	⇑P	P	09 12 33.8	-0.1
	baz=75,SNR=6.4						
DBIC	Dimbokro	75.11	71	P	P	09 12 35.2	+0.5
	comp=N,3.5nm,0.6s,baz=216,slow=4.2,SNR=9.0						
Y23A	Lovelace Mesa,	75.16	331	⇓P	P	09 12 35.2	+0.4
	baz=75						
T33A	Patterson Ranc	75.24	338	⇑P	P	09 12 35.3	+0.3
	baz=76						
W26A	Owens Ranch, T	75.30	333	⇓P	P	09 12 35.6	+0.1
	baz=76						
V28A	Channing	75.33	335	⇑P	P	09 12 35.8	+0.2
	baz=76						
U30A	WK&E Inc. Balk	75.50	336	⇑P	P	09 12 36.8	+0.2
	baz=76						
W25A	X Bar L Ranch,	75.67	333	⇑P	P	09 12 37.8	+0.1
	baz=76						
X23A	Hourglass Bar	75.78	331	⇓P	P	09 12 38.9	+0.5
	baz=76						
TUC	Tucson	75.79	327	eP	P	09 12 38.4	+0.1
	comp=N,34nm,2.3s						
T30A	Plains	75.93	337	⇑P	P	09 12 39.0	0.0
	baz=76						
V26A	Tequesquite Ra	75.93	334	⇓P	P	09 12 39.0	-0.1
	baz=76						
S32A	Newby Ranch, P	76.02	338	⇓P	P	09 12 39.6	+0.2
	baz=76						
W24A	Lazy 6 Ranch,	76.03	332	⇓P	P	09 12 39.8	0.0
	baz=76						
S31A	Mullinville	76.11	338	⇑P	P	09 12 39.9	-0.1
	baz=76						
U27A	Thompson Grove	76.14	335	⇓P	P	09 12 40.6	+0.3
	baz=76						
ANMO	Albuquerque	76.21	331	eP	P	09 12 41.3	+0.5
	comp=N,2.0nm,1.0s						
V25A	Rancho No Teng	76.28	333	⇓P	P	09 12 41.2	0.0
	baz=77,SNR=5.7						
T29A	Hugoton	76.28	336	⇑P	P	09 12 41.3	+0.2
	baz=77						
V24A	Rampart Ranch,	76.43	333	⇑P	P	09 12 42.1	0.0
	baz=77						
214A	Organ Pipe Nat	76.44	325	⇑P	P	09 12 41.9	0.0
	baz=77						
T28A	Walsh	76.53	335	⇑P	P	09 12 42.6	+0.2
	baz=77,SNR=5.3						
R32A	Long Quarter,	76.61	339	⇑P	P	09 12 42.3	-0.5
	baz=77						
KSU1	Kansas State U	76.64	340	⇑P	P	09 12 42.5	-0.4
	baz=77						
S29A	Ulysses	76.64	336	⇓P	P	09 12 43.2	+0.1
	baz=77						
T27A	Campo	76.68	335	⇓P	P	09 12 43.5	+0.1
	baz=77						
U25A	Circle Dot Ran	76.70	333	⇑P	P	09 12 43.8	+0.3
	baz=77						
S28A	Manter	76.88	336	⇑P	P	09 12 44.4	0.0
	baz=77,SNR=6.2						
U24A	Moreno Valley	77.03	333	⇑P	P	09 12 45.5	-0.1
	baz=77						
T26A	Comanche Natio	77.09	334	⇑P	P	09 12 46.1	+0.3
	baz=77						
Q32A	Meitler Ranch,	77.09	339	⇑P	P	09 12 45.3	-0.2

X16A	Lo Mia Camp, P	77.86 327	⇓P	P	09 12 50.4 +0.3
	baz=78				
T23A	Casias Ranch,	77.87 333	⇓P	P	09 12 50.4 +0.2
	baz=78				
R26A	Arlington	78.05 335	⇑P	P	09 12 51.3 +0.3
	baz=78,SNR=6.6				
S24A	Houchin Ranch,	78.09 333	⇑P	P	09 12 52.5 +1.0
	baz=78,SNR=6.6				
Y14A	Wickenburg	78.17 326	⇑P	P	09 12 52.2 +0.6
	baz=78				
Q28A	Sharon Springs	78.19 337	⇑P	P	09 12 52.0 +0.3
	baz=78				
R25A	Fountain Ranch	78.21 334	⇓P	P	09 12 52.1 +0.2
	baz=78				
P29A	Atwood	78.38 337	⇓P	P	09 12 53.0 +0.3
	baz=79				
KSCO	Kaye Shedlock'	78.40 336	⇑P	P	09 12 53.1 +0.2
	baz=79				
R24A	Sanders Place,	78.58 334	⇑P	P	09 12 55.0 +1.0
	baz=79,SNR=8.3				
P28A	Saint Francis	78.62 337	⇑P	P	09 12 54.5 +0.5
	baz=79				
Q26A	Hugo	78.63 335	⇑P	P	09 12 54.6 +0.4
	baz=79				
SWSC	Sam W. Stewart	78.69 323	⇑P	P	09 12 54.6 +0.1
	baz=79				
Y12C	Blythe	78.73 325	⇑P	P	09 12 55.0 +0.4
	baz=79				
WUAZ	Wupatki	78.75 328	⇑P	P	09 12 55.0 0.0
	baz=79				
WUAZ	Wupatki	78.75 328	eP	P	09 12 55.8 +0.8
	comp=N,5.8nm,1.0s				
S22A	4UR Ranch, Cre	78.80 332	⇓P	P	09 12 55.2 -0.1
	baz=79				
R23A	Moffat	78.81 333	⇑P	P	09 12 55.8 +0.4
	baz=79,SNR=5.2				
Q25A	Bedland, Calha	78.88 335	⇓P	P	09 12 55.8 +0.2
	baz=79				
MVCO	Mesa Verde	78.99 331	⇑P	P	09 12 56.4 +0.1
	baz=79				
BC3	Big Chuckawall	79.10 324	⇓P	P	09 12 57.2 +0.3
	baz=79				
P26A	Davis Ranch, A	79.14 336	⇑P	P	09 12 57.3 +0.2
	baz=79				
Q24A	Divide	79.24 334	⇓P	P	09 12 58.3 +0.5
	baz=80,SNR=5.2				
IRM	Iron Mountain	79.36 325	⇑P	P	09 12 58.7 +0.5
	baz=80				
P25A	Willow Gulch B	79.38 335	⇑P	P	09 12 59.2 +0.8
	baz=80,SNR=7.7				
O27A	Beecher Island	79.42 337	⇑P	P	09 12 59.3 +0.8
	baz=80				
W13A	Hualapai Mount	79.54 326	⇑P	P	09 12 59.8 +0.5
	baz=80				
PFO	Pinyon Flats O	79.55 323	⇓P	P	09 12 59.8 +0.4
	baz=80				
BELC	Belle Mtn. Jos	79.64 324	⇓P	P	09 13 00.3 +0.4
	baz=80				
BOSA	Boshof	79.72 118 P		P	09 13 01.1 +0.5
	comp=N,5.1nm,0.8s,baz=238,slow=4.8,SNR=9.4				
O26A	Horse Wrangler	79.74 336	⇓P	P	09 13 00.9 +0.6
	baz=80				
O25A	Wiggins	79.90 335	⇓P	P	09 13 02.0 +0.9
	baz=80				
MURC	Murrieta	79.91 323	⇑P	P	09 13 02.0 +0.8
	baz=80				
U15A	North Rim	79.92 328	⇓P	P	09 13 02.2 +0.7
	baz=80				
N27A	Anderson Farm,	79.99 337	⇓P	P	09 13 02.4 +0.8
	baz=80				
SMCO	Snowmass	80.10 333	eP	P	09 13 03.5 +0.9
	comp=N,6.9nm,0.9s				
GMRC	Granite Mounta	80.11 325	⇑P	P	09 13 02.9 +0.6
	baz=80				
P22A	Eagle	80.39 333	⇑P	P	09 13 04.2 +0.3
	baz=81				
O23A	Lake Granby, G	80.62 334	⇑P	P	09 13 05.8 +0.7
	baz=81,SNR=6.7				
BFSC	Mount Baldy Ra	80.65 323	⇓P	P	09 13 05.8 +0.5
	baz=81				
TUQ	Turquoise Moun	80.77 325	⇑P	P	09 13 06.4 +0.6
	baz=81				
K30A	Basset	80.80 340	⇑P	P	09 13 06.5 +0.8
	baz=81				
O22A	Kremmling	80.81 334	⇑P	P	09 13 06.6 +0.4
	baz=81,SNR=5.7				
ECSD	EROS Data Cent	80.97 342	⇓P	P	09 13 06.3 -0.3
	baz=81				
ECSD	EROS Data Cent	80.97 342	eP	P	09 13 06.2 -0.4
	comp=N,15nm,0.8s				
M25A	Palm-Egli Farm	81.06 336	⇑P	P	09 13 07.1 -0.3
	baz=81				
GSC	Goldstone, Bar	81.08 324	⇓P	P	09 13 07.2 -0.3
	baz=81				
SHPR	Sheep Range	81.28 326	eP	P	09 13 09.7 +1.1
	comp=N,14nm,1.5s				
EDW2	Edwards Air Fo	81.33 323	⇑P	P	09 13 08.8 0.0
	baz=82				
CCUT	Cedar City	81.33 328	eP	P	09 13 10.5 +1.6
	comp=N,5.4nm,1.0s				
N22A	Wattenberg Ran	81.33 334	⇑P	P	09 13 09.2 +0.3
	baz=82				
M24A	Cheyenne	81.35 336	⇓P	P	09 13 09.2 +0.3
	baz=82				
K28A	Ten Mile Ranch	81.35 338	⇑P	P	09 13 09.2 +0.5
	baz=82				
J30A	Dallas	81.36 340	⇓P	P	09 13 08.5 -0.2
	baz=82				
O20A	White River Ci	81.42 333	⇓P	P	09 13 08.8 -0.5
	baz=82				
SRU	San Rafael Swe	81.44 331	eP	P	09 13 09.9 +0.5
	comp=N,4.4nm,0.9s				
SPMN	Marine on St.	81.48 345	⇓P	P	09 13 08.6 -0.7
	baz=82				
K27A	Flueckinger Fa	81.61 338	⇑P	P	09 13 10.2 +0.1
	baz=82				
MVU	Marysvale	81.62 329	eP	P	09 13 11.5 +1.0
	comp=N,51nm,2.6s				
J29A	Okreek	81.67 339	⇑P	P	09 13 10.2 -0.2
	baz=82				
I30A	Oacoma	81.89 340	⇓P	P	09 13 10.7 -0.8
	baz=82				
M22A	Cedar Creek Ra	81.91 334	⇑P	P	09 13 11.3 -0.7
	baz=82				
J28A	Allard Ranch,	81.96 339	⇑P	P	09 13 11.9 0.0
	baz=82				
LBTB	Lobatse	81.97 115	eP	P	09 13 13.3 +0.7
	comp=N,81nm,2.5s				
MPMC	Manual Prospec	82.02 324	⇑P	P	09 13 12.4 -0.2
	baz=82				
N20A	Spence Gulch,	82.03 333	⇑P	P	09 13 12.4 -0.2
	baz=82				
J27A	Elkhorn Farm,	82.04 338	⇑P	P	09 13 12.7 +0.3
	baz=82				
K25A	Mack Ranch, Ha	82.05 337	⇓P	P	09 13 12.4 -0.1
	baz=82				
ISA	Isabella, Lake	82.19 323	eP	P	09 13 14.7 +1.4
	comp=N,3.9nm,0.9s				
L23A	Garrett	82.22 335	⇓P	P	09 13 12.9 -0.6
	baz=82				
DAC	Darwin (Calif)	82.25 324	eP	P	09 13 14.5 +0.7
	comp=N,4.3nm,0.9s				
J26A	Sides Ranch, S	82.42 338	⇑P	P	09 13 15.0 +0.6
	baz=83				
I28A	Midland	82.47 339	⇑P	P	09 13 14.7 +0.2
	baz=83,SNR=6.8				
VES	Vestal, Richgr	82.63 323	⇑P	P	09 13 15.8 +0.3
	baz=83				
SMMC	Simmler	82.68 322	⇓P	P	09 13 15.8 0.0
	baz=83				
J25A	Sunshine Ranch	82.73 337	⇓P	P	09 13 16.0 0.0
	baz=83				
H29A	Onida	82.76 340	⇑P	P	09 13 16.2 +0.2
	baz=83				
K23A	Bowen Ranch, D	82.77 336	⇑P	P	09 13 16.2 0.0
	baz=83				
I27A	Quinn	82.79 339	⇑P	P	09 13 16.2 0.0
	baz=83				
G30A	Faulkton	82.93 341	⇓P	P	09 13 17.1 +0.2
	baz=83				
J24A	Dixon Ranch, L	82.95 336	⇓P	P	09 13 17.7 +0.5
	baz=83				
R11A	Troy Canyon, C	82.98 327	⇓P	P	09 13 17.6 +0.1
	baz=83				
R11A	Troy Canyon, C	82.98 327	eP	P	09 13 18.5 +1.0
	comp=N,3.1nm,0.8s				
K22A	Casper	82.98 335	⇓P	P	09 13 17.3 -0.1
	baz=83				
K22A	Casper	82.98 335	eP	P	09 13 18.0 +0.6
	comp=N,8.5nm,1.0s				
H28A	Mission Ridge	83.04 339	⇓P	P	09 13 17.5 0.0
	baz=83,SNR=10				
JLU	Jordanelle	83.08 331	eP	P	09 13 18.6 +0.5
	comp=N,3.9nm,0.8s				
K21A	Alcova	83.23 334	⇓P	P	09 13 18.7 0.0
	baz=84,SNR=7.2				
I25A	Rochford	83.27 337	⇓P	P	09 13 19.3 +0.4
	baz=84,SNR=5.7				
DUG	Dugway, Tooele	83.30 330	⇑P	P	09 13 19.2 +0.1
	baz=84				
DUG	Dugway, Tooele	83.30 330	eP	P	09 13 19.9 +0.8
	comp=N,14nm,1.6s				
H27A	Howes	83.31 339	⇓P	P	09 13 18.9 0.0
	baz=84				
G28A	Parade	83.37 340	⇓P	P	09 13 19.3 +0.2
	baz=84,SNR=5.7				
I24A	Kuemmerle Ranc	83.41 337	⇑P	P	09 13 19.7 +0.1
	baz=84				
RSSD	Black Hills	83.46 337	eP	P	09 13 20.0 +0.1
	comp=N,4.7nm,0.9s				
TPH	Tonopah	83.51 326	eP	P	09 13 21.3 +1.0
	comp=N,3.8nm,0.8s				
J22A	Midwest	83.64 335	⇓P	P	09 13 20.2 -0.6
	baz=84				
F29A	Eureka	83.76 341	⇑P	P	09 13 20.8 -0.3
	baz=84				
H25A	Fruitdale	83.77 338	⇓P	P	09 13 21.0 -0.3
	baz=84				
J21A	Lysite	83.92 335	⇑P	P	09 13 21.6 -0.6
	baz=84				
G27A	Dupree	83.94 339	⇑P	P	09 13 21.4 -0.7
	baz=84				
F28A	McLaughlin	84.05 340	⇓P	P	09 13 22.6 0.0
	baz=84				
I22A	9 Mile Ranch,	84.06 336	⇓P	P	09 13 22.5 -0.4
	baz=84				
G26A	Maurine	84.07 339	⇓P	P	09 13 22.6 -0.1
	baz=84				
E30A	Jud	84.14 342	⇑P	P	09 13 23.2 +0.2
	baz=84				
TORD	Torodi Ar. Bea	84.15 70 P		P	09 13 24.4 +0.6
	comp=N,3.3nm,0.6s,baz=285,slow=6.1,SNR=27				
J20A	Shoshoni	84.15 334	⇓P	P	09 13 23.9 +0.6
	baz=84,SNR=8.4				
H24A	Dirks Ranch, A	84.18 337	⇓P	P	09 13 23.1 -0.3
	baz=84				
PDAR	Pinedale Array	84.19 333 P		P	09 13 23.3 -0.4
	comp=N,1.7nm,0.7s,baz=154,slow=5.4,SNR=16				
G25A	Newell	84.22 338	⇓P	P	09 13 23.4 -0.2
	baz=84,SNR=7.7				
I21A	Big Trails, Te	84.27 335	⇓P	P	09 13 23.8 -0.2
	baz=85				
NVAR	Mina Array Bea	84.31 325 P		P	09 13 24.8 +0.4
	comp=N,1.8nm,0.7s,baz=156,slow=6.1,SNR=15				
E29A	Napoleon	84.39 341	⇓P	P	09 13 23.6 -0.7
	baz=85				
F27A	Lemmon	84.42 339	⇑P	P	09 13 24.5 0.0
	baz=85,SNR=6.5				
J19A	Crowheart	84.43 334	⇓P	P	09 13 24.7 -0.1
	baz=85,SNR=7.1				
F26A	Lodgepole	84.59 339	⇓P	P	09 13 25.1 -0.3
	baz=85				
HVU	Hansel Valley	84.61 330	eP	P	09 13 25.6 -0.1
	comp=N,6.0nm,0.8s				
D30A	Buchanan	84.66 342	⇓P	P	09 13 25.2 -0.4
	baz=85,SNR=6.7				
G24A	Alzada	84.66 338	⇓P	P	09 13 25.2 -0.6
	baz=85				
E28A	Huff	84.68 340	⇓P	P	09 13 25.5 -0.3
	baz=85				
E27A	Carson	84.80 340	⇓P	P	09 13 26.4 0.0
	baz=85				
D29A	Pettibone, Tap	84.83 341	⇓P	P	09 13 26.6 0.0
	baz=85				
G23A	Biddle	84.86 337	⇑P	P	09 13 26.3 -0.5
	baz=85				
F25A	Bowman	84.90 338	⇑P	P	09 13 26.5 -0.4
	baz=85				
H21A	Big Horn, Sher	84.90 336	⇑P	P	09 13 26.6 -0.5
	baz=85				
AGMN	Agassiz Nation	85.07 344	⇑P	P	09 13 27.1 -0.5
	baz=85,SNR=6.3				
AGMN	Agassiz Nation	85.07 344	eP	P	09 13 27.4 -0.2
	comp=N,7.0nm,0.6s				
E26A	Carlson Angus	85.09 339	⇑P	P	09 13 27.5 -0.4
	baz=85				
H20A	Greybull	85.11 335	⇑P	P	09 13 27.7 -0.4
	baz=85,SNR=8.9				
F24A	Ekalaka	85.13 338	⇑P	P	09 13 27.7 -0.5
	baz=85				
C30A	Mose, Pekin	85.14 342	⇓P	P	09 13 28.1 +0.1
	baz=86,SNR=8.8				
D28A	Regan	85.22 341	⇓P	P	09 13 28.2 -0.2
	baz=86				
LOHW	Long Hollow	85.31 333	eP	P	09 13 29.3 +0.1
	comp=N,25nm,2.3s				
F23A	Volborg	85.32 337	⇓P	P	09 13 29.0 -0.1
	baz=86				
TPAW	Teton Pass	85.33 333	eP	P	09 13 29.6 +0.2
	comp=N,7.1nm,1.2s				
E25A	Miller Ranch,	85.40 339	⇑P	P	09 13 29.5 +0.1
	baz=86				
G21A	Lodge Grass	85.48 336	⇑P	P	09 13 29.8 -0.1
	baz=86				
FXWY	Fox Creek	85.49 333	eP	P	09 13 30.3 +0.1
	comp=N,37nm,2.5s				
I17A	Pilgrim Ck.	85.56 333	⇑P	P	09 13 31.2 +0.7
	baz=86				
MDND	Maddock	85.56 342	⇓P	P	09 13 30.3 +0.2
	baz=86				
D26A	Manning	85.59 340	⇑P	P	09 13 30.5 +0.1
	baz=86				
H19A	Powell	85.62 334	⇓P	P	09 13 30.2 -0.5
	baz=86				
C28A	Hausauer Farms	85.65 341	⇓P	P	09 13 30.6 0.0
	baz=86				
F22A	Rosebud	85.65 337	⇑P	P	09 13 30.4 -0.3
	baz=86				
IMW	Indian Meadow	85.67 333	eP	P	09 13 31.2 0.0
	comp=N,3.5nm,0.9s				
E24A	Baker	85.73 338	⇑P	P	09 13 30.7 -0.4
	baz=86				
FLWY	Flagg Ranch	85.74 333	eP	P	09 13 32.0 +0.6
	comp=N,8.1nm,0.7s				
B30A	Myrvik Farm, E	85.80 343	⇓P	P	09 13 31.0 -0.3
	baz=86,SNR=11				
G20A	Bridger	85.82 335	⇓P	P	09 13 31.4 -0.3
	baz=86,SNR=10.0				
H18A	Shoshone NF, C	85.87 334	⇑P	P	09 13 31.8 -0.2
	baz=86,SNR=16				
C27A	Sayler Ranch,	85.95 340	⇓P	P	09 13 32.4 +0.3
	baz=86,SNR=6.0				
D25A	Fairfield	85.96 339	⇓P	P	09 13 32.3 +0.1
	baz=86				
E23A	Ismay	85.98 338	⇑P	P	09 13 32.0 -0.3
	baz=86				
B29A	Wagenman Farm,	86.07 342	⇑P	P	09 13 32.4 -0.2
	baz=86				
RLMT	Red Lodge	86.11 334	eP	P	09 13 33.3 +0.1
	comp=N,4.0nm,0.5s				
C26A	Wahner Farm, P	86.22 340	⇓P	P	09 13 33.3 -0.1
	baz=86				
D24A	Glendive	86.23 338	⇑P	P	09 13 33.4 -0.2
	baz=86				
A30A	Hoffart Farm,	86.24 343	⇓P	P	09 13 33.1 -0.4
	baz=87,SNR=5.8				
F20A	Billings	86.31 335	⇓P	P	09 13 33.9 -0.2
	baz=87				
B28A	Dugan Ranch, T	86.31 341	⇓P	P	09 13 33.9 0.0
	baz=87,SNR=5.0				
YMR	Madison River	86.34 333	eP	P	09 13 35.4 +1.0
	comp=N,12nm,0.8s				
C25A	Freed Ranch, W	86.45 339	⇑P	P	09 13 34.7 +0.1
	baz=87				
A29A	Manning Farm,	86.46 342	⇓P	P	09 13 34.2 -0.3
	baz=87,SNR=6.0				
D23A	Lindsay	86.55 338	⇑P	P	09 13 35.3 +0.2
	baz=87,SNR=12				
E21A	Keefer Ranch,	86.59 336	⇓P	P	09 13 35.4 0.0
	baz=87				
F19A	Roth Farm, Mol	86.63 335	⇑P	P	09 13 34.9 -0.7
	baz=87				
C24A	Savage	86.63 339	⇑P	P	09 13 35.7 +0.2
	baz=87				
B26A	Jensen Ranch,	86.75 340	⇑P	P	09 13 36.2 +0.1
	baz=87				
HLID	Hailey	86.76 330	⇓P	P	09 13 36.9 +0.5
	baz=87				
HLID	Hailey	86.76 330	eP	P	09 13 37.3 +0.9
	comp=N,4.6nm,1.0s				
D22A	Cohagen	86.84 337	⇑P	P	09 13 36.4 -0.1
	baz=87,SNR=5.8				
ULM	Lac du Bonnet	86.91 345 P		P	09 13 35.8 -0.9
	comp=N,3.2nm,0.7s,baz=159,slow=1.9,SNR=8.3				
E20A	Meyer Farm, Mu	86.91 336	⇑P	P	09 13 36.8 -0.1
	baz=87,SNR=12				
D21A	La Casta Ranch	87.03 337	⇑P	P	09 13 38.0 +0.5
	baz=87				
E19A	Rath Farm, Rou	87.10 335	⇑P	P	09 13 37.6 -0.3
	baz=87,SNR=8.0				
C23A	Lambert	87.11 338	⇑P	P	09 13 37.7 -0.1
	baz=87,SNR=12				
A26A	Wade Farm, Ken	87.17 341	⇑P	P	09 13 38.4 +0.4
	baz=88				
MCMT	McKenzie Canyo	87.19 332	eP	P	09 13 39.4 +0.9
	comp=N,4.5nm,1.3s				
C22A	Vida	87.27 338	⇑P	P	09 13 38.4 -0.2
	baz=88				
D20A	Manuel Ranch,	87.43 336	⇑P	P	09 13 39.3 -0.1
	baz=88,SNR=9.5				
B23A	Brockton	87.64 339	⇑P	P	09 13 40.4 +0.1
	baz=88				
D19A	Cripps Ranch,	87.74 336	⇓P	P	09 13 40.6 -0.3
	baz=88				
A24A	Westby	87.75 339	⇑P	P	09 13 41.1 +0.2
	baz=88				
B22A	Reddig Ranch S	87.80 338	⇓P	P	09 13 41.0 -0.1
	baz=88,SNR=5.7				
C20A	Veseth Ranch,	87.93 336	⇓P	P	09 13 41.5 -0.2
	baz=88				
A23A	Redstone	88.04 339	⇑P	P	09 13 42.3 +0.1
	baz=88				
B21A	Ellsworth Farm	88.23 337	⇑P	P	09 13 43.2 0.0
	baz=88				
C19A	Slack Wire Ran	88.29 336	⇓P	P	09 13 43.5 0.0
	baz=89				
A22A	Carney Farms,	88.39 338	⇓P	P	09 13 43.9 0.0
	baz=89				
A21A	Bergtoll Ranch	88.70 338	⇑P	P	09 13 45.1 -0.2
	baz=89				
A20A	Cobblestone Ra	88.92 337	⇓P	P	09 13 46.3 -0.1
	baz=89,SNR=5.6				
A19A	Klindworth Far	89.23 337	⇓P	P	09 13 47.2 -0.7
	baz=90				
YKA	Yellowknife Ar	102.48 341 P		Pdif	09 14 46.8 -0.9
	comp=N,0.5nm,0.6s,baz=143,slow=4.6,SNR=12				
VYHS	Vyhne	115.20 47	ePKP	PKPdf	09 19 36.6 +3.4
ASAR	Alice Springs	117.33 207	PKP	PKPdf	09 19 36.5 -1.8
	comp=N,0.2nm,0.7s,baz=152,slow=1.5,SNR=3.9				
WRA	Warramunga Arr	120.53 209	PKP	PKPdf	09 19 42.9 -1.6
	comp=N,0.5nm,0.5s,baz=159,slow=1.7,SNR=15				
BRTR	Keskin Array B	121.84 61	PKP	PKPdf	09 19 46.0 -0.4
	comp=N,0.7nm,0.7s,baz=234,slow=1.2,SNR=3.4				
FINES	FINESS Array B	123.18 35	PKP	PKPdf	09 19 47.9 -0.2
	comp=N,1.6nm,0.9s,baz=232,slow=6.8,SNR=2.6				
H11S2	WAKE ISLAND Hyl	25.97 269	T	T	11 38 09.4
	baz=118,slow=74,SNR=28				
H11S1	WAKE ISLAND Hyl	25.98 269	T	T	11 38 10.2
	baz=118,slow=74,SNR=49				
H11S3	WAKE ISLAND Hyl	25.98 269	T	T	11 38 12.4
	baz=118,slow=74,SNR=34				
H11N3	WAKE ISLAND Hyl	26.39 270	T	T	11 38 43.2
	baz=115,slow=78,SNR=12				
H11N1	WAKE ISLAND Hyl	26.40 270	T	T	11 38 41.7
	baz=115,slow=78,SNR=47				
H11N2	WAKE ISLAND Hyl	26.40 270	T	T	11 38 44.2
	baz=115,slow=78,SNR=29				
ABKAR	Akbulak array	141.75 52	ePKPdf	PKPdf	09 20 17.9 -5.4
BRVK	Borovoye	147.34 43	ePKPbc	PKPbc	09 20 36.2 +0.8
BVAR	Borovoye Array	147.41 43	PKPbc	PKPbc	09 20 36.4 +0.8
	comp=N,3.6nm,0.5s,baz=293,slow=3.5,SNR=20				
KKAR	Karatay Array	149.54 62	ePKPdf	PKPdf	09 20 36.8 -0.1
KKAR			ePKPbc	PKPbc	09 20 41.3 -0.2
KKAR			ePKPab	PKPab	09 20 46.0 -0.6
CBIJ	Chichi jima	150.00 265	PKPbc	PKPdf	09 20 40.4 +2.4
JCJ	Chichijima	150.00 265	PKPbc	PKPdf	09 20 40.4 +2.3
	baz=21,slow=18				
EKS2	Erkin-Say	151.97 63	ePKPdf	PKPdf	09 20 40.0 -0.8
EKS2			ePKPbc	PKiKP	09 20 48.2 +0.5
AAK	Ala-Archa	152.50 63	PKP	PKPdf	09 20 42.1 +0.5
	comp=N,1.0nm,0.6s,baz=221,slow=19,SNR=3.1				
AAK			PKPbc	PKiKP	09 20 49.0 +0.2
	comp=N,3.1nm,0.6s,baz=210,slow=14,SNR=9.5				
AAK	Ala-Archa	152.50 63	PKP	PKPdf	09 20 42.1 +0.5
AAK			ePKPbc	PKPbc	09 20 48.7 +0.1
AAK			PKPbc	PKiKP	09 20 49.0 +0.2
KURBB	Kurchatov Arra	153.00 44	PKP	PKPdf	09 20 42.1 +0.3
	comp=N,0.2nm,0.3s,baz=302,slow=2.0,SNR=4.4				
KURBB			PKPbc	PKiKP	09 20 49.3 0.0
	comp=N,1.8nm,0.5s,baz=301,slow=2.8,SNR=14				
KURK	Kurchatov	153.01 44	ePKPdf	PKPdf	09 20 41.9 +0.1
KURK			PKP	PKPdf	09 20 42.1 +0.3
KURK			ePKPbc	PKPbc	09 20 49.3 +0.1
KURK			PKPbc	PKPbc	09 20 49.4 +0.1
KURK			ePKPab	PKPab	09 20 60.0 -0.7
KSH	Kashi	153.82 69	ePKPbc	PKPdf	09 20 43.0 -0.6
KSH			sPKP		09 20 56.6
KSH			PKS	PKSdf	09 24 17.6 -0.4
KSH			PP	PP	09 24 37.4 -2.2
KSH			SKS	SKSdf	09 27 47.8 -0.5
KSH			SKKS	SKKSac	09 31 25.2 -1.9
KSH			SS	SS	09 44 11.5 -3.7
KSH			PPMZ		
	comp=N,86nm,4.9s				
KSH			LN		
	comp=N,55nm,3.8s				
KSH			LE		
	comp=N,85nm,6.6s				
KSH			LZ		
	comp=N,210nm,5.3s				
ZALV	Zalesovo Beam	154.43 33	PKPbc	PKPbc	09 20 52.1 -0.1
	comp=N,1.1nm,0.3s,baz=350,slow=4.4,SNR=5.1				
ZALV			PKPab	PKPab	09 21 06.7 +0.1
	comp=N,1.1nm,0.3s,baz=298,slow=6.6,SNR=4.0				
MKAR	Makanchi Array	156.85 50	PKP	PKPdf	09 20 47.3 0.0
	comp=N,0.8nm,0.9s,baz=258,slow=5.6,SNR=5.4				
MKAR			PKPab	PKPab	09 21 16.9 -0.4
	comp=N,1.1nm,0.9s,baz=305,slow=4.3,SNR=6.5				
WMQ	Urumqi	161.54 53	ePKP	PKPdf	09 20 52.3 -0.6
SONM	Songino Array	166.48 5	PKPab	PKPab	09 21 59.8 +0.5
	comp=N,0.9nm,0.9s,baz=351,slow=3.1,SNR=4.8				
HHC	Hu-ho-hao-te	173.01 339	ePKP	PKPdf	09 21 01.4 0.0
HHC			pPKP	pPKPdf	09 21 12.1 +0.3
HHC			sPKP		09 21 16.3
HHC			PP	PP	09 26 23.3 +3.8
HHC			SKS	SKSdf	09 27 59.4 -3.0
HHC			SS	SS	09 47 31.0 +0.2
HHC			PPMZ		
	comp=N,89nm,6.4s				
HHC			LN		
	comp=N,150nm,20.9s				
HHC			LE		
	comp=N,190nm,21.4s				
HHC			LZ		
	comp=N,150nm,21.3s				
LZH	Lanzhou	176.04 63	ePKP	PKPdf	09 21 02.3 -0.3
LZH			pPKP	pPKPdf	09 21 13.6 +0.6
LZH			sPKP		09 21 17.4

ISCJB **12** *09:09:20.8±0.6, 32°.74S±0°.06×68°.8W±0°.1, h139km±3km, mb3.4/4, Error ellipse: s-maj=15.5km s-min=8.0km az=25.7*

IDC **12** *09:09:20.9±1.5, 32°.80S×68°.85W, h130km±10km, mb3.3/4, mb1 3.6/7, mb1mx3.5/18, mbtmp3.7/7, Error ellipse: s-maj=32.4km s-min=21.0km az=101.0*

SJA **12** *09:09:21.0±1.1, 32°.69S×68°.84W, h139km±5km, ML3.8, MW4.7*

ISC 12 09:09:21.7±0.8, 32°.73S±0°.07×68°.80W±0°.08, h137km±5km, n25, σ0°45/34, mb3.5/4, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAL	Salagasta	0.14	349	eP	Pn	09 09 40.6	+0.3
ASAL				eS	Sn	09 09 54.5	0.0
ARCO	CERRO ARCO	0.15	225	eP	Pn	09 09 40.6	+0.2
ARCO				eS	Sn	09 09 55.2	+0.5
ARCO				AML	AML	09 09 57.5	
	comp=Z,2μm,0.2s						
AAGR	Agrelo	0.35	183	eP	Pn	09 09 41.3	+0.3
AUSP	Uspallata	0.71	316	eP	Pn	09 09 43.4	+0.2

AUSP				*e*S	**Sn**	**09 09 58.6**	**-0.8**
RTLS	**Leoncito**	**1.02**	**336**	*e*P	**Pn**	**09 09 45.8**	**+0.1**
SJA	**San Juan**	**1.22**	**10**	*e*P	**Pn**	**09 09 47.8**	**+0.4**
SJA				*e*S	**Sn**	**09 10 06.6**	**-0.3**
CFAA	**Coronel Fontan**	**1.22**	**23**	P	**Pn**	**09 09 47.1**	**-0.3**
comp=Z,18nm,0.3s,baz=181,slow=5.1,SNR=2705							
CFAA				S	**Sn**	**09 10 06.6**	**-0.4**
comp=Z,78nm,0.3s,baz=42,slow=17,SNR=120							
CFAA	**Coronel Fontan**	**1.22**	**23**	*e*P	**Pn**	**09 09 47.4**	**0.0**
CFAA				*e*S	**Sn**	**09 10 06.7**	**-0.2**
RTLL	**Cerro Villicun**	**1.43**	**11**	*e*P	**Pn**	**09 09 49.4**	**-0.2**
RTLL				*e*S	**Sn**	**09 10 10.5**	**-0.2**
ACAN	**Cantantal**	**1.44**	**72**	*e*P	**Pn**	**09 09 50.0**	**+0.4**
AVFE	**Valle Fertil**	**2.37**	**29**	*e*P	**Pn**	**09 10 00.1**	**-0.5**
AVFE				*e*S	**Sn**	**09 10 29.9**	**-0.6**
AVFE				AML	AML	09 10 33.0	
comp=Z,339nm,0.8s							
ACHE	**Chepes**	**2.40**	**50**	*e*P	**Pn**	**09 10 00.9**	**-0.1**
APLL	**PUNTA DE LOS L**	**3.03**	**40**	*e*P	**Pn**	**09 10 08.7**	**-0.3**
AGUA	**GUANDACOL**	**3.25**	**5**	*e*P	**Pn**	**09 10 11.9**	**+0.1**
PLCA	**Paso Flores**	**8.11**	**189**	P	**Pn**	**09 11 14.9**	**-1.6**
baz=11,slow=14							
PLCA				S	Sn	09 12 29.9	-17
comp=Z,0.3nm,0.3s,baz=22,slow=19,SNR=2.1							
LPAZ	**La Paz**	**16.39**	**2**	P	**P**	**09 13 05.5**	**+0.7**
comp=Z,0.2nm,0.3s,baz=170,slow=9.8,SNR=5.9							
SIV	**San Ignacio**	**18.08**	**25**	P	**Pn**	**09 13 24.4**	**+0.1**
comp=Z,0.1nm,0.3s,baz=190,slow=9.2,SNR=4.2							
TXAR	**Lajitas Array**	**70.03**	**328**	P	**P**	**09 20 18.9**	**+0.2**
comp=Z,0.3nm,0.4s,baz=159,slow=8.4,SNR=8.2							
TORD	**Torodi Ar. Bea**	**81.23**	**68**	P	**P**	**09 21 22.7**	**0.0**
comp=Z,1.0nm,0.7s,baz=274,slow=5.4,SNR=7.3							
TORD				pP	**pP**	**09 21 57.1**	**+0.1**
comp=Z,0.6nm,0.6s,baz=221,slow=2.1,SNR=4.1							
PDAR	**Pinedale Array**	**83.91**	**331**	P	**P**	**09 21 36.4**	**+0.1**
comp=Z,0.3nm,0.6s,baz=141,slow=5.8,SNR=3.4							
NVAR	**Mina Array Bea**	**84.44**	**323**	P	**P**	**09 21 38.8**	**-0.3**
comp=Z,0.4nm,0.5s,baz=136,slow=4.9,SNR=3.4							
ARCES	**ARCESS Array B**	**121.74**	**24**	PKP	**PKPdf**	**09 27 57.9**	**-0.5**
comp=Z,2.3nm,0.8s,baz=255,slow=4.2,SNR=5.1							
KURBB	**Kurchatov Arra**	**150.09**	**44**	PKPbc	**PKPbc**	**09 28 56.0**	**+0.2**
comp=Z,1.2nm,0.7s,baz=294,slow=3.0,SNR=13							
ZALV	**Zalesovo Beam**	**151.69**	**34**	PKPbc	**PKPbc**	**09 28 59.5**	**+0.2**
comp=Z,4.8nm,0.4s,baz=339,slow=2.3,SNR=8.6							
MKAR	**Makanchi Array**	**153.89**	**49**	PKPab	**PKPab**	**09 29 18.2**	**-0.1**
comp=Z,0.2nm,0.4s,baz=297,slow=2.7,SNR=4.8							

*IDC **12** 09:16:06.9±1.8, 35°.06S×72°.95W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.7/17, mbtmp3.6/5, ML3.2/2, Error ellipse: s-maj=55.2km s-min=21.7km az=80.0*
*ISCJB **12** 09:16:09.8±1.2, 35°.09S±0°.08×72°.9W±0°.4, h33km, mb3.6/3, Error ellipse: s-maj=43.9km s-min=12.1km az=178.7*

ISC 12 09:16:11.3±1.4, 35°.1S±0°.1×73°.0W±0°.3, h35km, n7, σ1§36/6, mb3.7/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.04**	**170**	*i* P	**Pn**	**09 16 27.8**	**-1.5**
COCH				*i* S	Sn	09 16 34.6	-8.0
NICH	**Los Niches**	**1.47**	**86**	*i* P	Pn	09 16 25.4	-10
PLCA	**Paso Flores**	**5.94**	**162**	**Pn**	**Pn**	**09 17 37.9**	**+1.1**
0.1nm,0.3s,baz=343,slow=14,SNR=2.6							
PLCA				Lg	Lg	09 19 15.6	
0.1nm,0.3s,baz=0.0,slow=20,SNR=2.9							
LPAZ	**La Paz**	**19.25**	**14**	P	**Pn**	**09 20 34.1**	**-0.4**
0.1nm,0.3s,baz=216,slow=8.7,SNR=7.7							
SIV	**San Ignacio**	**21.84**	**32**	P	**P**	**09 20 59.8**	**-1.0**
2.4nm,0.7s,baz=207,slow=7.2,SNR=6.8							
TXAR	**Lajitas Array**	**70.32**	**332**	P	**P**	**09 27 22.1**	**+0.7**
0.3nm,0.7s,baz=146,slow=8.3,SNR=3.6							
TORD	**Torodi Ar. Bea**	**85.34**	**71**	P	**P**	**09 28 45.8**	**+0.7**
0.8nm,0.9s,baz=240,slow=4.9,SNR=4.3							

*IDC **12** 09:21:23.5±1.6, 41°.86N×141°.20E, h95km±15km, mb3.2/9, mb1 3.3/12, mb1mx3.2/31, mbtmp3.5/12, Error ellipse: s-maj=21.1km s-min=13.3km az=115.0*
*ISCJB **12** 09:21:24.3±0.4, 41°.87N±0°.03×141°.08E±0°.05, h118km±3km, mb3.4/9, Error ellipse: s-maj=6.7km s-min=5.2km az=21.7*
*JMA **12** 09:21:25.9±0.1, 41°.91N×141°.12E, h106km±1km, M2.9*

ISC 12 09:21:25.4±0.7, 41°.89N±0°.04×141°.10E±0°.05, h112km±6km, n34, σ0§84/41, mb3.4/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.05**	**270**	P	**Pn**	**09 21 40.6**	**-0.1**
JOT	**Ohata**	**0.51**	**185**	P	**Pn**	**09 21 42.6**	**+0.2**
JOT				*e*S	**Sn**	**09 21 55.6**	**+0.4**
JNB	**Noboribetsu**	**0.58**	**355**	P	**Pn**	**09 21 42.5**	**-0.5**
JNB				*e*S	**Sn**	**09 21 55.3**	**-0.9**
JYM2	**Yakumo 2**	**0.59**	**293**	P	**Pn**	**09 21 43.2**	**+0.2**
JYM2				*e*S	**Sn**	**09 21 55.9**	**-0.4**
JSR	**Shiriuchi**	**0.63**	**235**	P	**Pn**	**09 21 43.5**	**+0.2**
JSR				*e*S	**Sn**	**09 21 56.4**	**-0.3**
JEW	**Eniwo**	**0.99**	**15**	P	**Pn**	**09 21 46.7**	**+0.2**
JEW				*e*S	**Sn**	**09 22 03.0**	**+0.5**
JSH	**Shimam**	**1.09**	**314**	P	**Pn**	**09 21 48.0**	**+0.4**
JSH				*e*S	**Sn**	**09 22 04.3**	**-0.1**
JTM	**Tenmabayashi**	**1.10**	**181**	P	**Pn**	**09 21 48.2**	**+0.5**
JTM				*e*S	**Sn**	**09 22 05.0**	**+0.4**
JOSM	**Okushiri--Mats**	**1.23**	**280**	P	**Pn**	**09 21 48.9**	**-0.2**
JOSM				*e*S	**Sn**	**09 22 06.4**	**-0.7**
JNBK	**Urakawa-nobuka**	**1.29**	**72**	P	**Pn**	**09 21 50.2**	**+0.4**
JBT2	**Biratori 2**	**1.29**	**46**	P	**Pn**	**09 21 50.2**	**+0.4**
JBT2				*e*S	**Sn**	**09 22 08.8**	**+0.5**
JSK	**Shakotan**	**1.54**	**343**	P	**Pn**	**09 21 53.2**	**+0.6**
JANG	**Nango**	**1.54**	**168**	P	**Pn**	**09 21 52.6**	**-0.2**
JANG				*e*S	**Sn**	**09 22 13.6**	**-0.1**
JFR	**Furan**	**1.69**	**40**	P	**Pn**	**09 21 54.0**	**-0.5**
JCH	**Churui**	**1.83**	**66**	P	**Pn**	**09 21 56.7**	**+0.5**
JCH				*e*S	**Sn**	**09 22 19.5**	**-0.3**
JHR	**Hokuryu**	**1.91**	**14**	P	**Pn**	**09 21 58.4**	**+1.1**
JHR				*e*S	**Sn**	**09 22 23.2**	**+1.6**
ASAJ	**Asahikawa**	**2.48**	**26**	P	**Pn**	**09 22 03.9**	**-0.7**
6.5nm,0.3s,baz=224,slow=12,SNR=2.1							
ASAJ				S	**Sn**	**09 22 31.3**	**-3.4**
2.3nm,0.3s,baz=183,slow=19,SNR=3.4							
MJAR	**Matsushiro Arr**	**5.79**	**204**	P	**Pn**	**09 22 47.8**	**-1.1**
0.3nm,0.3s,baz=19,slow=14,SNR=3.8							
USRK	**Ussuriysk Ar.**	**7.07**	**292**	P	**Pn**	**09 23 06.1**	**0.0**
0.6nm,0.3s,baz=92,slow=15,SNR=9.9							
SEY	**Seymchan**	**22.11**	**14**	P	**P**	**09 26 10.2**	**-1.1**
0.8nm,0.5s,baz=221,slow=13,SNR=5.6							
SONM	**Songino Array**	**25.16**	**296**	P	**P**	**09 26 41.4**	**+1.1**
0.2nm,0.4s,baz=84,slow=8.8,SNR=2.3							
H11N2	**WAKE ISLAND Hy 31.07**	**127**		T	T	10 00 16.0	
baz=322,slow=75,SNR=4.6							
H11N1	**WAKE ISLAND Hy 31.08**	**127**		T	T	10 00 15.5	
baz=322,slow=75,SNR=4.9							
H11N3	**WAKE ISLAND Hy 31.09**	**127**		T	T	10 00 17.1	
baz=322,slow=75,SNR=5.9							
H11S1	**WAKE ISLAND Hy 31.91**	**129**		T	T	10 00 55.5	
baz=318							
H11S3	**WAKE ISLAND Hy 31.91**	**129**		T	T	10 00 51.0	
baz=318							
H11S2	**WAKE ISLAND Hy 31.93**	**129**		T	T	10 00 49.1	
baz=318							
MKAR	**Makanchi Array**	**41.50**	**297**	P	**P**	**09 29 01.0**	**-0.3**
0.3nm,0.7s,baz=75,slow=6.3,SNR=3.7							
KURBB	**Kurchatov Arra**	**42.96**	**304**	P	**P**	**09 29 12.9**	**-0.1**
0.6nm,0.4s,baz=79,slow=9.0,SNR=5.4							
INK	**Inuvik**	**50.22**	**29**	P	**P**	**09 30 09.9**	**+0.6**
0.6nm,0.3s,baz=278,slow=6.0,SNR=8.6							
YKA	**Yellowknife Ar**	**59.76**	**31**	P	**P**	**09 31 18.9**	**+0.8**
0.1nm,0.6s,baz=301,slow=7.2,SNR=3.7							
WRA	**Warramunga Arr**	**61.83**	**187**	P	**P**	**09 31 32.2**	**-0.4**
0.7nm,0.4s,baz=5.8,slow=6.9,SNR=14							
FINES	**FINESS Array B**	**64.43**	**331**	P	**P**	**09 31 49.2**	**-0.1**
0.8nm,0.8s,baz=34,slow=10,SNR=4.5							
ASAR	**Alice Springs**	**65.56**	**187**	P	**P**	**09 31 56.0**	**-1.0**
0.3nm,0.7s,baz=13,slow=8.9,SNR=4.3							

GUC 12 09:34:01.4±0.6, 34°.65S×71°.79W, h35km±6km, ML4.0, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJCH	**San Jose de Ma**	**1.56**	**50**	⇓*i* P	Pn	09 34 28.6	+1.9
SJCH				*i* S	Sn	09 34 48.7	+2.9
SJCH				AML	AML	09 34 54.2	
comp=N,2μm,0.5s							
LACH	**Col Las Americ**	**1.59**	**41**	*e*P	Pn	09 34 28.6	+1.5
LACH				*e*S	Sn	09 34 49.4	+2.9
CLCH	**Cerro Calan**	**1.63**	**40**	⇓*i* P	Pn	09 34 29.6	+1.9
CLCH				*i* S	Sn	09 34 51.0	+3.5
CLCH				AML	AML	09 35 02.6	
comp=N,3μm,0.6s							
PEL	**Peldehue**	**1.76**	**32**	⇑*i* P	Pn	09 34 31.2	+1.7
PEL				*i* S	Sn	09 34 54.5	+3.7
PEL				AML	AML	09 35 01.2	
comp=E,4μm,0.5s							

*HEL **12** 09:35:40.0±1.2, 67°.72N×34°.11E, h0km, ML2.0, Explosion*
*KOLA **12** 09:35:42.6, 67°.66N×34°.11E, h0km*
*CSEM **12** 09:35:43.4±1.2, 67°.53N×33°.43E, h2km, ML2.0, Error ellipse: s-maj=25.3km s-min=14.5km az=90.0, Mining explosion.*
*NAO **12** 09:35:45.5±2.7, 67°.55N×33°.18E, ML2.6*

ISC 12 09:35:40.3±2.1, 67°.65N±0°.05×34°.3E±0°.1, h0km, n27, σ1§37/44, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.36**	**257**	P	**Pg**	**09 35 47.7**	**+0.6**
APA				S	**Sg**	**09 35 51.4**	**-0.3**
APA0	**Apatity Array**	**0.51**	**266**	P	**Pg**	**09 35 50.3**	**+0.3**
APA0				S	**Sg**	**09 35 55.9**	**-0.6**
VRF	**Varrio**	**1.80**	**275**	SN	**Sn**	**09 36 34.7**	**-1.3**
VRF				MSG		09 36 34.7	
comp=Z,12nm,0.2s							
VRF	**Varrio**	**1.80**	**275**	Sn	**Sn**	**09 36 34.7**	**-1.3**
KU6	**Riekki**	**2.39**	**229**	PG	**Pn**	**09 36 22.1**	**+1.4**
baz=46							
KU6				SG	**Sb**	**09 36 53.9**	**-0.2**
KU6	**Riekki**	**2.39**	**229**	Pg	**Pn**	**09 36 22.0**	**+1.4**
KU6				Sg	**Sb**	**09 36 53.9**	**-0.2**
MSF	**Maaselka**	**2.72**	**233**	PG	**Pb**	**09 36 29.2**	**-0.5**
MSF				SG	**Sb**	**09 37 01.7**	**-2.0**
MSF				MSG		09 37 01.7	
comp=Z,6.4nm,0.3s							
SGF	**Sodankyl**	**3.00**	**270**	PB	**Pn**	**09 36 29.2**	**+0.3**
SGF				SB	**Sn**	**09 37 07.3**	**+1.8**
SGF				MSG		09 37 07.3	
comp=Z,7.2nm,0.3s							
SGF	**Sodankyl**	**3.00**	**270**	Pb	**Pn**	**09 36 29.2**	**+0.3**
SGF				Sb	**Sn**	**09 37 07.3**	**+1.8**
KEV	**Kevo**	**3.40**	**312**	PB	**Pn**	**09 36 35.4**	**+0.8**
KEV				SB	**Sn**	**09 37 14.9**	**-0.6**
KEV				MSG		09 37 14.9	
comp=Z,6.0nm,0.2s							
KEV	**Kevo**	**3.40**	**312**	Pb	**Pn**	**09 36 35.3**	**+0.8**
KEV				Sb	**Sn**	**09 37 14.9**	**-0.6**
RNF	**Rovaniemi**	**3.41**	**256**	PB	**Pn**	**09 36 35.0**	**+0.4**
RNF				SB	**Sn**	**09 37 16.1**	**+0.5**
RNF				MSG		09 37 16.1	
comp=Z,3.8nm,0.2s							
RNF	**Rovaniemi**	**3.41**	**256**	Pb	**Pn**	**09 36 34.9**	**+0.4**
RNF				Sb	**Sn**	**09 37 16.1**	**+0.5**
ARA0	**ARCESS Array S**	**3.74**	**304**	Pn	**Pn**	**09 36 39.6**	**+0.4**
baz=131,slow=16							
ARA0				Sn	**Sn**	**09 37 21.6**	**-2.3**
baz=120,slow=28							
ARA0				Lg	Lg	09 37 34.0	
baz=107,slow=37							
ARA0	**ARCESS Array S**	**3.74**	**304**	Pn	**Pn**	**09 36 39.6**	**+0.4**
baz=131,slow=16							
ARA0				Sn	**Sn**	**09 37 21.6**	**-2.3**
baz=120,slow=28							
ARA0				Lg	Lg	09 37 34.0	
baz=107,slow=37							
ARA0	**ARCESS Array S**	**3.74**	**304**	Pn	**Pn**	**09 36 39.6**	**+0.4**
SNR=197							
ARA0				Sn	**Sn**	**09 37 21.6**	**-2.3**
SNR=1.8							
HEF	**Hetta**	**4.07**	**286**	PN	**Pn**	**09 36 43.5**	**-0.2**
baz=100							
HEF				SN	**Sn**	**09 37 31.1**	**-1.0**
HEF				MSG		09 37 31.1	
comp=Z,1.4nm,0.2s							
HEF	**Hetta**	**4.07**	**286**	Pn	**Pn**	**09 36 43.5**	**-0.2**
HEF				Sn	**Sn**	**09 37 31.0**	**-1.0**
OUL	**Oulu**	**4.25**	**237**	PG	**Pb**	**09 36 57.1**	**+1.3**
KTK1	**Kautokeino**	**4.33**	**293**	*e*P	**Pn**	**09 36 46.8**	**-0.4**
KTK1				IAML		09 37 53.0	
comp=N,41nm,0.5s							
KTK1	**Kautokeino**	**4.33**	**293**	*e*P	**Pn**	**09 36 46.8**	**-0.4**
SNR=49							
LANU	**Lannavaara**	**4.68**	**281**	PN	**Pn**	**09 36 51.4**	**-0.7**
LANU				SG	**Sb**	**09 38 03.4**	**+3.4**
LANU	**Lannavaara**	**4.68**	**281**	Pn	**Pn**	**09 36 51.4**	**-0.7**
KALU	**Kalix**	**4.70**	**253**	SN	**Sn**	**09 37 42.7**	**-4.6**
FIA0	**FINESS Array S**	**7.16**	**213**	Pn	**Pn**	**09 37 25.9**	**-0.2**
baz=24,slow=16							
FIA0				Sn	Sn	09 38 39.9	-8.2
baz=42,slow=22							
FIA0				Lg	Lg	09 39 21.1	
baz=29,slow=28							
FIA0	**FINESS Array S**	**7.16**	**213**	Pn	**Pn**	**09 37 25.9**	**-0.2**
baz=24,slow=16							
FIA0				Sn	Sn	09 38 39.9	-8.2
baz=42,slow=22							
FIA0				Lg	Lg	09 39 21.1	
baz=29,slow=28							
FIA0	**FINESS Array S**	**7.16**	**213**	Pn	**Pn**	**09 37 26.0**	**-0.2**
SNR=5.5							
FIA0				Lg	Lg	09 39 21.1	
SNR=3.0							

*IDC **12** 09:44:25.4±1.2, 35°.84S×72°.84W, h0km, mb3.9/6, mb1 3.8/9, mb1mx3.8/20, mbtmp3.7/9, ML3.6/3, MS3.6/5, Ms1 3.5/5, ms1mx3.2/24, Error ellipse: s-maj=39.9km s-min=16.9km az=89.0*
*GUC **12** 09:44:25.6±0.4, 35°.75S×73°.29W, h14km±2km, ML3.8*
*ISCJB **12** 09:44:27.8±0.5, 35°.83S±0°.04×72°.7W±0°.1, h28km, mb4.0/8, MS3.7/4, Error ellipse: s-maj=13.4km s-min=5.0km az=8.0*
*NEIC **12** 09:44:30.6±0.7, 35°.78S×72°.74W, h35km, mb4.2/5, Error ellipse: s-maj=19.2km s-min=9.5km az=85.0*

ISC 12 09:44:29.2±0.7, 35°.83S±0°.05×72°.9W±0°.1, h28km, n23, σ1§15/24, mb4.2/8, MS3.7/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.32**	**162**	*i* P	**Pb**	**09 44 36.7**	**0.0**
COCH				*i* S	**Sn**	**09 44 45.3**	**+1.6**
COCH				AML	AML	09 44 46.9	
comp=N,12μm,0.8s							
CCSP	**San Pedro de C**	**1.02**	**189**	*i* P	**Pn**	**09 44 45.8**	**-1.9**
CCSP				*i* S	**Sn**	**09 45 01.0**	**-0.2**
PLCA	**Paso Flores**	**5.24**	**160**	Pn	**Pn**	**09 45 46.1**	**+0.4**
comp=N,1.0nm,0.3s,baz=338,slow=13,SNR=8.2							
PLCA				Lg	Lg	09 47 12.5	
comp=N,2.1nm,0.3s,baz=285,slow=14,SNR=5.3							
PLCA				LR	LR	09 47 47.6	
comp=N,100nm,20.5s,baz=296,slow=39							
PLCA	**Paso Flores**	**5.24**	**160**	*e*Pn	**Pn**	**09 45 46.6**	**+1.0**
comp=N,1.2nm,0.6s							
PLCA				*e*Sn	**Sn**	**09 46 44.0**	**-1.1**
PLCA				Lg	Lg	09 47 12.5	
CFAA	**Coronel Fontan**	**5.74**	**44**	Pn	**Pn**	**09 45 52.2**	**-0.4**
comp=N,0.7nm,0.3s,baz=220,slow=13,SNR=29							
CFAA				Lg	Lg	09 47 33.6	
comp=N,0.4nm,0.3s,baz=140,slow=23,SNR=7.5							
TRQA	**Tornquist**	**9.03**	**107**	*e*Pn	**Pn**	**09 46 37.3**	**-0.4**
comp=N,12nm,1.0s							
LVC	**Limon Verde**	**13.62**	**16**	*e*Pn	**Pn**	**09 47 40.1**	**-0.7**
LVC				*e*Sn	**Sn**	**09 50 11.7**	**+0.3**
LPAZ	**La Paz**	**19.92**	**14**	P	**P**	**09 49 00.2**	**+0.7**
comp=N,0.1nm,0.3s,baz=186,slow=9.2,SNR=3.2							
LPAZ	**La Paz**	**19.92**	**14**	*e*P	**P**	**09 48 59.0**	**-0.5**
comp=N,4.5nm,1.0s							
SIV	**San Ignacio**	**22.41**	**31**	P	**P**	**09 49 24.8**	**-0.8**
comp=N,2.6nm,0.9s,baz=225,slow=10.0,SNR=3.7							
SIV				LR	LR	10 00 08.3	
comp=N,235nm,18.2s,baz=236,slow=42							
PMSA	**Palmer Station**	**29.47**	**172**	LR	LR	10 01 15.6	
comp=N,239nm,18.3s,baz=233,slow=34							
BDFB	**Brasilia**	**29.97**	**54**	LR	LR	10 04 07.8	
comp=N,125nm,21.7s,baz=218,slow=40							
OTAV	**Otavalo**	**36.25**	**351**	*e*P	**P**	**09 51 30.7**	**+0.1**
PTGA	**Pitinga**	**36.94**	**22**	*e*P	**P**	**09 51 32.8**	**-3.1**
comp=N,9.1nm,1.4s							
SDV	**Santo Domingo**	**44.53**	**3**	*e*P	**P**	**09 52 40.7**	**+2.0**
comp=N,3.8nm,1.0s							
SNAA	**Sanae**	**50.17**	**157**	P	**P**	**09 53 22.2**	**+0.3**
comp=N,0.9nm,0.7s,baz=258,slow=8.5,SNR=3.6							
SNAA	**Sanae**	**50.17**	**157**	*e*P	**P**	**09 53 22.1**	**+0.2**
comp=N,2.6nm,0.8s							
QSPA	**South Pole Qui**	**54.41**	**180**	P	**P**	**09 53 53.1**	**-0.4**
comp=N,2.3nm,1.0s,baz=148,slow=1.4,SNR=7.1							
QSPA	**South Pole Qui**	**54.41**	**180**	*e*P	**P**	**09 53 53.7**	**+0.2**
comp=N,1.1nm,0.7s							
PPT	**Papeete**	**69.29**	**263**	LR	LR	10 17 12.4	
comp=N,48nm,21.0s,baz=80,slow=28							
TXAR	**Lajitas Array**	**70.99**	**332**	P	**P**	**09 55 45.8**	**+1.5**
comp=N,0.1nm,0.5s,baz=158,slow=7.5,SNR=2.7							
DBIC	**Dimbokro**	**76.44**	**71**	P	**P**	**09 56 16.4**	**-0.1**
comp=N,1.9nm,0.7s,baz=232,slow=5.5,SNR=4.2							
BOSA	**Boshof**	**79.85**	**118**	P	**P**	**09 56 35.6**	**+0.1**
comp=N,2.0nm,0.8s,baz=291,slow=0.7,SNR=4.2							

*IDC **12** 09:47:30.6±0.6, 28°.54S×178°.25W, h196km±4km, mb3.6/6, mb1 3.8/7, mb1mx3.6/19, mbtmp4.2/7, Error ellipse: s-maj=22.2km s-min=17.5km az=49.0*
*ISCJB **12** 09:47:31.5±0.7, 29°.13S±0°.03×178°.6W±0°.1, h200km, mb3.7/6, Error ellipse: s-maj=12.6km s-min=4.5km az=7.4*

ISC 12 09:47:33.3±0.8, 29°.22S±0°.06×178°.7W±0°.1, h200km, n52, σ2§44/49, mb3.9/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.66**	**93**	P	**Pn**	**09 47 59.3**	**-1.8**
1μm,0.3s,baz=72,slow=20,SNR=167							
RAO				LR	LR	09 48 13.0	
comp=Z,86nm,21.6s,baz=102,slow=56							
RAO				S	**Sn**	**09 48 20.8**	**-1.7**
631nm,0.3s,baz=86,slow=24,SNR=12							
MXZ	**Matakaoa Point**	**8.70**	**196**	*e*PN	**Pn**	**09 49 34.6**	**-0.9**
MXZ				SN	**Sn**	**09 51 17.6**	**+4.5**
WMGZ	**Waiomatatini S**	**8.91**	**195**	SN	**Sn**	**09 51 22.0**	**+3.7**
HAZ	**Te Kaha**	**9.01**	**198**	PN	**Pn**	**09 49 38.2**	**-1.5**
HAZ				SN	**Sn**	**09 51 25.6**	**+5.0**
PUZ	**Puketiti**	**9.19**	**195**	SN	**Sn**	**09 51 26.2**	**+1.2**
MWZ	**Matawai**	**9.63**	**198**	*e*PN	Pn	09 49 41.5	-6.1
MWZ				SN	**Sn**	**09 51 37.7**	**+2.4**
URZ	**Urewera**	**9.68**	**200**	PN	Pn	09 49 45.4	-2.8
URZ				SN	**Sn**	**09 51 37.7**	**+1.3**
SNGZ	**Shannon Statio**	**10.09**	**198**	SN	**S**	**09 51 47.7**	**+0.8**
RAHZ	**Arahi**	**10.29**	**199**	SN	**S**	**09 51 54.0**	**+2.4**
ARHZ	**Aropaoanui**	**10.64**	**199**	SN	**S**	**09 52 02.1**	**+2.4**
BKZ	**Black Stump Fm**	**10.70**	**201**	*e*PN	**Pn**	**09 49 59.7**	**-1.8**
BKZ				SN	**S**	**09 52 02.5**	**+1.3**
KRHZ	**Kereru**	**11.17**	**200**	SN	**Sn**	**09 52 10.8**	**-1.3**
TSZ	**Takapari Road**	**11.68**	**201**	*e*PN	**Pn**	**09 50 14.4**	**+0.3**
TSZ				SN	**Sn**	**09 52 23.0**	**-1.2**
ANWZ	**Angora Road**	**11.90**	**198**	SN	**Sn**	**09 52 27.2**	**-2.2**
POWZ	**Post Office Ro**	**12.04**	**201**	SN	**Sn**	**09 52 32.4**	**-0.4**
PRWZ	**Pori Road**	**12.13**	**200**	SN	**Sn**	**09 52 32.8**	**-2.1**
BFZ	**Birch Farm**	**12.17**	**199**	SN	**Sn**	**09 52 32.9**	**-2.9**
MRZ	**Mangatainoka R**	**12.35**	**201**	SN	**Sn**	**09 52 35.5**	**-4.6**
TIWZ	**Tintock**	**12.36**	**200**	SN	**Sn**	**09 52 38.9**	**-1.5**
KIW	**Kapiti Island**	**12.74**	**203**	SN	**Sn**	**09 52 45.3**	**-4.3**
TCW	**Tory Channel**	**13.28**	**204**	SN	S	09 52 56.3	-5.7
NNZ	**Nelson**	**13.61**	**206**	SN	**S**	**09 53 06.1**	**-3.8**
THZ	**Tophouse**	**14.26**	**206**	SN	**S**	**09 53 22.1**	**-2.9**
CTZ	**Chatham Island**	**14.58**	**174**	SN	**Sn**	**09 53 32.9**	**-0.4**
KHZ	**Kahutara**	**14.60**	**203**	SN	S	09 53 27.3	-5.3
DZM	**Mont Dzumac**	**15.18**	**295**	P	**Pn**	**09 50 58.1**	**+0.1**
0.2nm,0.3s,baz=107,slow=19,SNR=2.2							
LTZ	**Lake Taylor**	**15.38**	**206**	SN	**S**	**09 53 45.1**	**-5.6**
OXZ	**Oxford**	**15.93**	**205**	SN	S	09 53 55.0	-8.0
MQZ	**McQueen's Vall**	**16.04**	**203**	SN	S	09 53 57.9	-7.5
STKA	**Stephens Creek**	**34.19**	**255**	P	**P**	**09 54 02.0**	**+2.1**
2.0nm,0.6s,baz=105,slow=9.4,SNR=6.7							
STKA	**Stephens Creek**	**34.19**	**255**	P	P	09 54 03.5	+3.6
baz=36,SNR=4.2							
HTT	**Hallett**	**36.28**	**252**	P	**P**	**09 54 20.4**	**+2.7**
baz=38,SNR=4.0							
ASAR	**Alice Springs**	**42.60**	**266**	P	**P**	**09 55 10.8**	**+0.8**
1.6nm,

comp=N,1μm,0.3s
PB07 IPOC Station P 3.54 302 ⇑ *i* P **Pn 10 09 50.9 +1.0**
PB07 *i* S **S 10 10 31.6 -1.7**
PB07 AML AML 10 10 32.8
comp=N,2μm,0.3s
PB10 IPOC Station P 3.58 271 *i* P **Pn 10 09 51.4 +1.2**
PB10 *i* S **S 10 10 32.1 -1.8**
PB10 AML AML 10 10 39.3
comp=E,1μm,0.2s
PB01 IPOC Station P 3.68 314 *e*P4 **Pn 10 09 52.2 +0.7**
PB01 *i* S **S 10 10 35.1 -1.2**
PB01 AML AML 10 10 37.2
comp=E,2μm,0.2s
LPAZ La Paz 7.44 349 P **Pn 10 10 40.6 +0.4**
comp=E,4.3nm,0.3s,baz=160,slow=8.7,SNR=78
LPAZ S **S 10 12 01.3 -3.4**
baz=83,slow=16,SNR=3.7
CFAA Coronel Fontan 8.06 190 P **Pn 10 10 48.1 +0.6**
comp=E,0.7nm,0.3s,baz=357,slow=3.2,SNR=40
CFAA S **S 10 12 15.3 -3.0**
comp=E,0.6nm,0.3s,baz=283,slow=22,SNR=10
SIV San Ignacio 9.24 36 P **Pn 10 11 01.4 -1.7**
comp=E,3.1nm,0.3s,baz=226,slow=12,SNR=55
PLCA Paso Flores 17.36 190 P **Pn 10 12 43.6 -0.3**
baz=14,slow=14
BDFB Brasilia 19.26 69 P **P 10 13 03.0 -0.1**
comp=E,1.1nm,0.3s,baz=242,slow=11,SNR=20
TXAR Lajitas Array 63.57 324 P **P 10 19 05.4 +2.4**
comp=E,0.3nm,0.9s,baz=142,slow=8.0,SNR=3.0
DBIC Dimbokro 67.39 71 P **P 10 19 26.7 -1.0**
comp=E,2.6nm,0.8s,baz=200,slow=9.3,SNR=3.0
TORD Torodi Ar. Bea 76.14 69 P **P 10 20 18.9 -0.9**
comp=E,1.6nm,0.4s,baz=258,slow=5.9,SNR=32
ASAR Alice Springs 128.91 204 PKP **PKPdf 10 27 38.1 +0.1**
comp=E,0.1nm,0.5s,baz=132,slow=1.4,SNR=3.4
WRA Warramunga Arr 132.09 207 PKP **PKPdf 10 27 45.4 +1.4**
comp=E,0.1nm,0.3s,baz=151,slow=1.9,SNR=5.3

*IDC **12** 10:09:37.7±3.9, 64°.10N×35°.81E, h0km, mb1 3.2/3, mb1mx2.9/28, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=44.7km s-min=13.9km az=108.0*
*UPP **12** 10:09:53.5, 64°.52N×31°.25E, h0km, ML1.5, Suspected Mining explosion.*
*ISCJB **12** 10:09:54.7±0.6, 64°.70N±0°.03×30°.7E±0°.1, h0km, Error ellipse: s-maj=6.4km s-min=4.1km az=17.1*
*CSEM **12** 10:09:55.3±0.6, 64°.71N×30°.92E, h2km, ML1.7, Error ellipse: s-maj=14.8km s-min=7.6km az=77.0, Mining explosion.*
*HEL **12** 10:09:56.2±0.2, 64°.67N×30°.72E, h0km, ML1.7, ML1.5(UPP), Explosion*
*KOLA **12** 10:09:57.3, 64°.74N×30°.60E, h0km*
ISC 12 10:09:55.3±1.1, 64°.69N±0°.03×30°.79E±0°.05, h0km, n31, σ1º08/42, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.40**	**345**	*e*P	**Pn**	**10 10 21.0**	**-1.0**
KU6				*e*S	**Sg**	**10 10 39.7**	**-0.4**
KU6	**Riekki**	**1.40**	**345**	P	**Pn**	**10 10 21.0**	**-1.0**
KU6				S	**Sg**	**10 10 39.7**	**-0.4**
MSF	**Maaselka**	**1.43**	**330**	*e*P	**Pn**	**10 10 21.6**	**-1.0**
MSF				*e*S	**Sg**	**10 10 40.1**	**-1.2**
MSF	**Maaselka**	**1.43**	**330**	P	**Pn**	**10 10 21.5**	**-1.0**
MSF				S	**Sg**	**10 10 40.1**	**-1.2**
KJN	**Kajaani**	**1.47**	**247**	*e*P	**Pn**	**10 10 21.7**	**-1.2**
KJN				*e*S	**Sg**	**10 10 40.0**	**-2.3**
JOF	**Joensuu**	**1.79**	**172**	*e*P	**Pn**	**10 10 27.3**	**-0.1**
JOF				*e*S	**Sb**	**10 10 51.6**	**-0.2**
JOF				MSG		10 10 53.8	
	comp=Z,5.0nm,0.1s						
JOF	**Joensuu**	**1.79**	**172**	P	**Pn**	**10 10 27.3**	**-0.1**
JOF				S	**Sb**	**10 10 51.6**	**-0.2**
OUL	**Oulu**	**2.13**	**283**	*e*P	**Pn**	**10 10 33.0**	**+0.9**
OUL				*e*S	**Sn**	**10 10 59.4**	**+0.3**
OUL	**Oulu**	**2.13**	**283**	P	**Pn**	**10 10 32.9**	**+0.9**
OUL				S	**Sn**	**10 10 59.3**	**+0.3**
SUF	**Sumiainen**	**2.86**	**228**	MSG		10 11 26.0	
	comp=Z,3.1nm,0.1s						
APA0	**Apatity Array**	**3.07**	**16**	P	**Pn**	**10 10 45.9**	**+1.0**
APA0				S	**Sn**	**10 11 22.3**	**0.0**
APA	**Apatity**	**3.08**	**19**	P	**Pn**	**10 10 46.3**	**+1.1**
APA				S	**Sn**	**10 11 22.9**	**+0.2**
FINES	**FINESS Array B**	**3.90**	**216**	Pn	**Pn**	**10 10 56.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=48,slow=14,SNR=5.8						
FINES				Sn	**Sb**	**10 11 54.8**	**+2.4**
	comp=Z,0.7nm,0.3s,baz=61,slow=29,SNR=7.4						
SJUU	**Sjulsmark**	**3.97**	**286**	*e*P	**Pn**	**10 10 58.2**	**+0.9**
SJUU	**Sjulsmark**	**3.97**	**286**	P	**Pn**	**10 10 58.2**	**+0.9**
ERTU	**Ertsjaerv**	**4.03**	**302**	*e*P	**Pn**	**10 10 58.9**	**+0.8**
ERTU	**Ertsjaerv**	**4.03**	**302**	P	**Pn**	**10 10 58.9**	**+0.8**
BURU	**Burvik**	**4.05**	**273**	*e*P	**Pn**	**10 10 58.0**	**-0.4**
BURU	**Burvik**	**4.05**	**273**	P	**Pn**	**10 10 58.0**	**-0.4**
HARU	**Harads**	**4.36**	**294**	*e*P	**Pn**	**10 11 04.4**	**+1.7**
HARU	**Harads**	**4.36**	**294**	P	**Pn**	**10 11 04.3**	**+1.7**
UMAU	**Umeaa**	**4.48**	**264**	*e*P	**Pn**	**10 11 03.4**	**-0.9**
UMAU	**Umeaa**	**4.48**	**264**	P	**Pn**	**10 11 03.4**	**-0.9**
LILU	**Lilltraesk**	**4.69**	**282**	*e*P	**Pn**	**10 11 08.1**	**+0.9**
LILU	**Lilltraesk**	**4.69**	**282**	P	**Pn**	**10 11 08.0**	**+0.9**
SVAU	**Svanoeiden**	**4.84**	**273**	*e*P	**Pn**	**10 11 11.4**	**+2.2**
SVAU	**Svanoeiden**	**4.84**	**273**	P	**Pn**	**10 11 11.4**	**+2.2**
HUSU	**Husum**	**5.26**	**260**	*e*P	**Pn**	**10 11 15.2**	**+0.1**
HUSU	**Husum**	**5.26**	**260**	P	**Pn**	**10 11 15.2**	**+0.1**
ARCES	**ARCESS Array B**	**5.29**	**339**	Pn	**Pn**	**10 11 15.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=145,slow=13,SNR=26						
ARCES				Sn	**Sb**	**10 12 32.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=144,slow=26,SNR=3.8						
NOA	**NORSAR Array B**	**9.64**	**257**	Pn	Pn	10 12 18.5	+3.3
	comp=Z,0.1nm,0.3s,baz=59,slow=15,SNR=2.6						

GUC 12 10:23:26.8±0.6, 34°.47S×71°.88W, h40km±66km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.76**	**135**	*i* P	Pn	10 23 41.7	+0.6
NICH				*i* S	Sn	10 23 53.4	+2.0
NICH				AML	AML	10 23 54.6	
	comp=N,7μm,0.3s						
ANTU	**Antumapu**	**1.37**	**50**	*i* P	Pn	10 23 51.5	+2.0
ANTU				*i* S	Sn	10 24 10.2	+3.7
ANTU				AML	AML	10 24 14.2	
	comp=E,3μm,0.3s						
STL	**Santa Lucia**	**1.46**	**46**	*i* P1	Pn	10 23 52.6	+1.9
STL				*i* S	Sn	10 24 12.7	+4.1
CLCH	**Cerro Calan**	**1.55**	**47**	*i* P	Pn	10 23 54.5	+2.5
CLCH				*i* S	Sn	10 24 14.9	+4.0
CLCH				AML	AML	10 24 24.4	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**1.65**	**37**	*i* P	Pn	10 23 55.7	+2.3
PEL				*i* S	Sn	10 24 17.4	+4.0
PEL				AML	AML	10 24 23.6	
	comp=E,3μm,0.5s						

*ISCJB **12** 10:23:27.8±0.6, 59°.29N±0°.03×27°.08E±0°.09, h0km, Error ellipse: s-maj=6.9km s-min=3.8km az=6.0*
*CSEM **12** 10:23:29.3±0.4, 59°.32N×27°.00E, h1km, ML1.6, Error ellipse: s-maj=11.4km s-min=6.4km az=97.0, Mining explosion.*
*HEL **12** 10:23:29.8±0.2, 59°.31N×27°.08E, h0km, ML1.5, Explosion*
*BER **12** 10:23:30.7±1.9, 59°.37N×27°.09E, h0km, ML2.3(NAO), Suspected explosion*
*NAO **12** 10:23:31.1±1.9, 59°.40N×27°.05E, ML2.3*
*IDC **12** 10:23:32.8±2.3, 59°.45N×27°.04E, h9km±14km, mb1 3.2/5, mb1mx3.0/30, mbtmp3.2/5, ML2.6/5, Error ellipse: s-maj=13.4km s-min=10.0km az=96.0*
ISC 12 10:23:28.7±0.8, 59°.32N±0°.02×27°.02E±0°.04, h0km, n34, σ1º30/54, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.87**	**190**	*e*P	**Pg**	**10 23 45.2**	**-0.2**
VSU				*e*S	**Sg**	**10 23 56.1**	**-0.6**
VSU	**Vasula**	**0.87**	**190**	P	**Pg**	**10 23 45.2**	**-0.2**
VSU				S	**Sg**	**10 23 56.1**	**-0.6**
VJF	**Virojoki**	**1.25**	**12**	*e*P	**Pg**	**10 23 52.1**	**-0.6**
VJF				*e*SB	**Sg**	**10 24 09.2**	**+0.3**
VJF				MSG		10 24 09.5	
	comp=Z,7.2nm,0.1s						
PVF	**Pernaja**	**1.36**	**335**	*e*P	**Pg**	**10 23 54.8**	**0.0**
PVF				MSG	**Sg**	**10 24 12.7**	**+0.4**
	comp=Z,3.4nm,0.2s						
PVF				*e*S	**Sg**	**10 24 12.7**	**+0.4**
PVF	**Pernaja**	**1.36**	**335**	P	**Pg**	**10 23 54.8**	**0.0**
MEF	**Metsahovi**	**1.60**	**305**	*e*PG	**Pb**	**10 23 59.3**	**+0.1**
MEF				*e*S	**Sg**	**10 24 20.4**	**+0.3**
MEF				MSG		10 24 20.8	
	comp=Z,4.0nm,0.1s						
MEF	**Metsahovi**	**1.60**	**305**	Pg	**Pb**	**10 23 59.2**	**+0.1**
MEF				S	**Sg**	**10 24 20.4**	**+0.3**
MTSE	**Matsula**	**1.76**	**251**	*e*P	**Pb**	**10 24 01.7**	**-0.2**
MTSE				*e*SN	**Sg**	**10 24 26.2**	**+0.9**
MTSE	**Matsula**	**1.76**	**251**	P	**Pb**	**10 24 01.7**	**-0.2**
FIA0	**FINESS Array S**	**2.18**	**348**	Pn	**Pn**	**10 24 07.1**	**+0.9**
	baz=163,slow=18						
FIA0				Pg	**Pb**	**10 24 08.4**	**-0.6**
	baz=165,slow=16						
FIA0				Lg	Lg	10 24 37.9	
	baz=168,slow=37						
FIA0				Rg	Rg	10 24 49.9	
	baz=166,slow=56						
FIA0	**FINESS Array S**	**2.18**	**348**	Pn	**Pn**	**10 24 07.1**	**+0.9**
	baz=163,slow=18						
FIA0				Pg	**Pb**	**10 24 08.4**	**-0.6**
	baz=165,slow=16						
FIA0				Lg	Lg	10 24 37.9	
	baz=168,slow=37						
FIA0				Rg	Rg	10 24 49.9	
	baz=166,slow=56						
FIA0	**FINESS Array S**	**2.18**	**348**	*e*P	**Pn**	**10 24 07.1**	**+0.9**
FIA0				*e*PB	**Pb**	**10 24 08.5**	**-0.5**
FIA0				*e*S	**Sb**	**10 24 36.0**	**-0.6**
FIA0				*e*SG	**Sg**	**10 24 38.0**	**-0.7**
FIA0				MSG		10 24 38.8	
	comp=Z,3.1nm,0.2s						
FIA0	**FINESS Array S**	**2.18**	**348**	Pn	**Pn**	**10 24 07.1**	**+0.9**
	baz=163,slow=18,SNR=6.2						
FINES	**FINESS Array B**	**2.18**	**348**	Pn	**Pn**	**10 24 07.1**	**+0.9**
	comp=Z,1.6nm,0.3s,baz=165,slow=17,SNR=48						
FINES				Sn	**Sn**	**10 24 34.9**	**+1.0**
	comp=Z,2.7nm,0.3s,baz=169,slow=23,SNR=26						
FINES				Lg	Lg	10 24 37.8	
	comp=Z,2.7nm,0.3s,baz=169,slow=30,SNR=22						
KAF	**Kangasniemi**	**2.82**	**353**	*e*P	**Pn**	**10 24 16.7**	**+1.6**
KAF				*e*S	**Sn**	**10 24 51.2**	**+1.5**
KAF	**Kangasniemi**	**2.82**	**353**	P	**Pn**	**10 24 16.6**	**+1.6**
KAF				S	**Sn**	**10 24 51.2**	**+1.5**
RAF	**Rauma**	**3.13**	**305**	*e*P	**Pn**	**10 24 21.8**	**+2.6**
RAF	**Rauma**	**3.13**	**305**	P	**Pn**	**10 24 21.8**	**+2.6**
SUF	**Sumiainen**	**3.44**	**353**	*e*P	**Pn**	**10 24 25.0**	**+1.6**
SUF	**Sumiainen**	**3.44**	**353**	P	**Pn**	**10 24 25.0**	**+1.6**
AAL	**Aland**	**3.66**	**287**	*e*S	**Sn**	**10 25 11.1**	**+0.9**
AAL	**Aland**	**3.66**	**287**	S	**Sn**	**10 25 11.1**	**+0.9**
JOF	**Joensuu**	**4.17**	**28**	*e*P	**Pn**	**10 24 34.5**	**+0.9**
JOF	**Joensuu**	**4.17**	**28**	P	**Pn**	**10 24 34.4**	**+0.9**
VAF	**Ylistaro**	**4.29**	**332**	*e*SG	**Sg**	**10 25 43.1**	**-3.1**
HFS	**Hagfors**	**6.79**	**283**	Pn	**Pn**	**10 25 10.5**	**+1.1**
HFS				Sn	**Sn**	**10 26 25.0**	**-2.3**
	baz=88,slow=28						
HFS				Lg	Lg	10 26 59.4	
	baz=94,slow=28						
HFS	**Hagfors**	**6.79**	**283**	Pn	**Pn**	**10 25 10.5**	**+1.1**
HFS				Sn	**Sn**	**10 26 25.0**	**-2.3**
	baz=88,slow=28						
HFS				Lg	Lg	10 26 59.4	
	baz=94,slow=28						
HFS	**Hagfors**	**6.79**	**283**	Pn	**Pn**	**10 25 10.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=92,slow=14,SNR=2.6						
HFS				Sn	**Sn**	**10 26 24.5**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=92,slow=28,SNR=4.2						
HFS				Lg	Lg	10 27 03.3	
	comp=Z,0.5nm,0.3s,baz=93,slow=30,SNR=6.8						
HFS	**Hagfors**	**6.79**	**283**	Pn	**Pn**	**10 25 10.5**	**+1.1**
HFS				Sn	**Sn**	**10 26 25.0**	**-2.3**
	baz=88,slow=27,SNR=5.8						
NOA	**NORSAR Array B**	**8.06**	**289**	Pn	**Pn**	**10 25 26.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=90,slow=13,SNR=4.0						
NOA				Lg	Lg	10 27 41.2	
	comp=Z,0.3nm,0.3s,baz=120,slow=22,SNR=2.9						
AKASG	**Malin Array Be**	**8.73**	**171**	Pn	**Pn**	**10 25 36.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=352,slow=13,SNR=1.9						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**10 25 55.8**	**-1.5**
	baz=173,slow=16						
ARA0				Sn	Sn	10 27 45.1	-7.9
	baz=176,slow=28						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**10 25 55.8**	**-1.5**
	baz=173,slow=16						
ARA0				Sn	Sn	10 27 45.1	-7.9
	baz=176,slow=28						
ARCES	**ARCESS Array B**	**10.28**	**357**	Pn	**Pn**	**10 25 55.4**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=176,slow=13,SNR=5.6						

*IDC **12** 10:23:57.6±1.3, 40°.19N×121°.50W, h0km, mb3.1/2, mb1 3.4/5, mb1mx3.3/28, mbtmp3.0/5, ML2.8/3, Error ellipse: s-maj=25.7km s-min=5.1km az=46.0*
*NEIC **12** 10:23:58.1, 40°.19N×121°.33W, h9km, ML3.6(NCEDC), After NCEDC.*
NEIC Felt [IV] at Mineral and [II] at Magalia. Also felt at Chester, Forest Ranch, Paradise, Twain and Westwood.
ISC 12 10:23:57.1±1.2, 40°.19N±0°.02×121°.40W±0°.02, h2km±10km, n40, σ1º36/63, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDC	**Whiskeytown Da**	**0.95**	**294**	*e*Pg	**Pg**	**10 24 15.2**	**-0.1**
WDC				*e*Sg	**Sg**	**10 24 29.0**	**+1.3**
N02D	**Trinity Center**	**1.26**	**309**	P	**Pn**	**10 24 20.7**	**-1.2**
	baz=1.3						
N02D				S	**Sb**	**10 24 37.7**	**-0.7**
	baz=1.3						
M04C	**Macdoel**	**1.62**	**348**	P	**Pb**	**10 24 28.2**	**+0.4**
	baz=1.6						
M02C	**Callahan**	**1.63**	**318**	P	**Pn**	**10 24 27.0**	**+0.2**
	baz=1.7						
M02C				S	**Sb**	**10 24 49.1**	**+0.1**
	baz=1.7						
KIPM	**Iron Peak**	**1.64**	**257**	*e*Pn	**Pb**	**10 24 28.5**	**+0.4**
KCPM	**Cahto Peak**	**1.75**	**254**	*e*Pn	**Pn**	**10 24 29.4**	**+0.8**
KCPM				*e*Sn	**Sn**	**10 24 51.5**	**-0.1**
HOPS	**Hopland Field**	**1.76**	**228**	*e*Pn	**Pn**	**10 24 29.0**	**+0.4**
HOPS				*e*Sn	**Sn**	**10 24 51.2**	**-0.4**
YBH	**Yreka Blue Hor**	**1.83**	**328**	Pg	**Pn**	**10 24 30.4**	**+0.7**
	24nm,0.3s,baz=144,slow=9.6,SNR=269						
YBH				Lg	Lg	10 24 54.7	
	53nm,0.3s,baz=131,slow=20,SNR=20						
MOD	**Modoc Plateau**	**1.90**	**26**	*e*Pn	**Pn**	**10 24 30.8**	**+0.1**
MOD				*e*Sn	**Sn**	**10 24 54.6**	**-0.7**
KHMM	**Horse Mountain**	**1.90**	**292**	*e*Pn	**Pb**	**10 24 32.3**	**-0.3**
KHMM				*e*Sn	**Sb**	**10 24 56.6**	**-0.2**
WAKR	**Walker**	**2.27**	**137**	*e*Pn	**Pn**	**10 24 36.6**	**+0.8**
WAKR				*e*Sg	**Sb**	**10 25 08.6**	**+1.0**
CMB	**Columbia Colle**	**2.30**	**160**	*e*Pn	**Pn**	**10 24 35.9**	**-0.1**
CMB				*e*Sg	**Sg**	**10 25 10.2**	**-0.6**
MCCM	**Marconi Confer**	**2.35**	**210**	*e*Pn	**Pn**	**10 24 37.6**	**+1.0**
MCCM				*e*Sn	**Sb**	**10 25 07.5**	**-2.0**
L02D	**Cave Junction,**	**2.57**	**320**	Pb	**Pb**	**10 24 43.2**	**-0.7**
	baz=2.6						
HUMO	**Hull Mountain**	**2.68**	**335**	*e*Pn	**Pn**	**10 24 43.4**	**+2.1**
SAC	**San Andreas**	**2.73**	**197**	*e*Pn	**Pn**	**10 24 42.5**	**+0.6**
SAC				*e*Sn	**Sn**	**10 25 12.3**	**-3.1**
NVAR	**Mina Array Bea**	**2.98**	**125**	Pn	**Pn**	**10 24 46.0**	**+0.4**
	3.9nm,0.3s,baz=300,slow=14,SNR=92						
NVAR				Pg	**Pb**	**10 24 52.9**	**+1.9**
	8.8nm,0.3s,baz=303,slow=16,SNR=33						
NVAR				Lg	Lg	10 25 32.9	
	8.5nm,0.3s,baz=307,slow=31,SNR=8.0						
WVOR	**Wild Horse Val**	**3.06**	**42**	*e*Pn	**Pn**	**10 24 46.7**	**+0.1**
WVOR				*e*Sg	**Sg**	**10 25 36.1**	**+0.9**
J05D	**Fort Rock, OR**	**3.09**	**2**	Pb	**Pb**	**10 24 52.3**	**-0.5**
	baz=3.1						
BMN	**Battle Mountai**	**3.20**	**84**	*e*Pn	**Pn**	**10 24 47.9**	**-0.7**
BMN				*e*Sn	**Sn**	**10 25 25.7**	**-1.8**
SAO	**San Andreas Ge**	**3.42**	**181**	*e*Pn	**Pn**	**10 24 51.8**	**+0.3**
SAO				*e*Sn	**Sn**	**10 25 31.9**	**-0.8**
PINOR	**Pine Mountain**	**3.64**	**6**	*e*Pg	**Pg**	**10 25 07.2**	**+0.5**
TPH	**Tonopah**	**3.88**	**122**	*e*Pn	**Pn**	**10 24 58.6**	**+0.6**
GRAC	**Grapevine Rang**	**4.49**	**134**	Pb	Pb	10 25 19.8	+3.1
	baz=4.4						
ELK	**Elko**	**4.73**	**81**	Pn	**Pn**	**10 25 10.9**	**+1.2**
	0.1nm,0.3s,baz=270,slow=20,SNR=2.4						
ELK				Pg	**Pb**	**10 25 23.1**	**+2.2**
	0.9nm,0.3s,baz=356,slow=15,SNR=15						
ELK				Lg	Lg	10 26 22.7	
	1.8nm,0.3s,baz=288,slow=20,SNR=5.5						
R11A	**Troy Canyon, C**	**4.88**	**110**	*e*Pn	**Pn**	**10 25 11.9**	**+0.3**
R11A				*e*Sg	**Sg**	**10 26 32.3**	**-1.3**
DAC	**Darwin (Calif)**	**4.93**	**141**	*e*Pn	**Pn**	**10 25 12.6**	**+0.3**
DAC				*e*Sg	**Sg**	**10 26 32.1**	**-3.3**
ISA	**Isabella, Lake**	**5.08**	**152**	*e*Pn	**Pn**	**10 25 14.8**	**+0.4**
	5.8nm,0.4s						
ISA				*e*Sg	**Sg**	**10 26 40.9**	**+0.6**
MFID	**Camas Ranch**	**5.26**	**50**	*e*Pn	**Pn**	**10 25 17.0**	**+0.1**
	17nm,0.8s						
MFID				*e*Sn	**Sn**	**10 26 13.6**	**-4.6**
SHPR	**Sheep Range**	**6.13**	**125**	*e*Pn	**Pn**	**10 25 28.7**	**-0.1**
	2.4nm,0.4s						
SHPR				*e*Sg	**Sg**	**10 27 11.6**	**-2.4**
HLID	**Hailey**	**6.21**	**55**	*e*Pg	**Pg**	**10 25 55.5**	**-0.5**
	8.7nm,0.8s						
HLID				*e*Sn	**Sn**	**10 26 42.7**	**+1.2**
DUG	**Dugway, Tooele**	**6.58**	**87**	*e*Pn	**Pn**	**10 25 36.2**	**+1.2**
	4.9nm,0.8s						
DUG				*e*Sg	**Sg**	**10 27 28.4**	**+0.2**
ARUT	**Antelope Range**	**6.65**	**109**	*e*Pn	**Pn**	**10 25 35.3**	**-0.7**
	135nm,0.5s						
HVU	**Hansel Valley**	**6.72**	**74**	*e*Pg	**Pg**	**10 26 05.7**	**0.0**
	5.9nm,0.7s						
HVU				*e*Sg	**Sg**	**10 27 29.4**	**-3.3**
CCUT	**Cedar City**	**6.80**	**110**	*e*Pn	**Pn**	**10 25 39.2**	**+1.1**
	3.6nm,0.8s						
CCUT				*e*Sg	Sg	10 27 29.3	-6.3
MVU	**Marysvale**	**7.32**	**100**	*e*Pn	**Pn**	**10 25 46.8**	**+1.6**
	7.5nm,0.7s						
MVU				*e*Sg	**Sg**	**10 27 51.0**	**-1.0**
PFO	**Pinyon Flats O**	**7.67**	**147**	Pn	Pn	10 25 54.8	+4.8
	0.4nm,0.3s,baz=119,slow=15,SNR=6.2						
PFO				Lg	Lg	10 27 56.8	
	0.2nm,0.3s,baz=16,slow=7.4,SNR=5.1						
TXAR	**Lajitas Array**	**18.12**	**121**	P	**P**	**10 28 12.3**	**+1.8**
	0.0nm,0.3s,baz=300,slow=9.1,SNR=2.5						
YKA	**Yellowknife Ar**	**22.70**	**8**	P	**P**	**10 28 58.7**	**-1.1**
	0.1nm,0.5s,baz=189,slow=11,SNR=2.3						
ILAR	**Eielson Array**	**28.70**	**337**	P	**P**	**10 29 56.6**	**+1.4**
	1.5nm,0.8s,baz=157,slow=8.0,SNR=19						

*IDC **12** 10:26:15.3±1.2, 9°.12S×157°.86E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/29, mbtmp3.8/7, MS2.7/3, Ms1 2.7/3, ms1mx2.6/23, Error ellipse: s-maj=44.9km s-min=24.3km az=113.0*
*ISCJB **12** 10:26:17.5±0.7, 9°.1S±0°.1×157°.81E±0°.07, h23km, mb3.6/7, Error ellipse: s-maj=21.1km s-min=9.2km az=0.4*
ISC 12 10:26:18.9±0.8, 9°.1S±0°.2×157°.87E±0°.09, h23km, n11, σ1º13/9, mb3.5/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.08**	**99**	LR	LR	10 27 25.6	
	comp=Z,43nm,21.5s,baz=290,slow=34						
HNR	**Honiara**	**2.08**	**99**	*e*P	**Pn**	**10 26 51.0**	**-1.4**
HNR				*e*S	**Sn**	**10 27 19.0**	**+1.5**
PMG	**Port Moresby**	**10.57**	**268**	LR	LR	10 31 40.5	
	comp=Z,36nm,18.9s,baz=145,slow=31						
DZM	**Mont Dzumac**	**15.29**	**148**	LR	LR	10 35 20.2	
	comp=Z,115nm,18.2s,baz=238,slow=36						
WRA	**Warramunga Arr**	**25.15**	**242**	P	**P**	**10 31 41.5**	**-1.1**
	3.1nm,1.0s,baz=68,slow=9.6,SNR=13						
ASAR	**Alice Springs**	**27.09**	**235**	P	**P**	**10 31 59.8**	**-0.5**
	1.0nm,1.1s,baz=63,slow=9.9,SNR=4.5						
STKA	**Stephens Creek**	**27.22**	**211**	P	**P**	**10 32 02.5**	**+1.3**
	1.9nm,0.5s,baz=18,slow=9.3,SNR=3.7						
SONM	**Songino Array**	**72.66**	**326**	P	**P**	**10 37 45.7**	**+0.7**
	0.3nm,0.7s,baz=136,slow=6.8,SNR=4.1						
QSPA	**South Pole Qui**	**80.87**	**180**	P	**P**	**10 38 31.0**	**-0.1**
	2.0nm,1.0s,baz=26,slow=1.5,SNR=4.9						
ILAR	**Eielson Array**	**84.32**	**21**	P	**P**	**10 38 48.5**	**-0.2**
	0.3nm,0.9s,baz=233,slow=5.4,SNR=3.5						
MKAR	**Makanchi Array**	**86.87**	**318**	P	**P**	**10 39 02.0**	**+0.1**
	0.2nm,0.6s,baz=115,slow=5.4,SNR=3.7						

IDC 12 10:32:22.1±2.1, 35°.38S×72°.90W, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.4/17, mbtmp3.3/5, ML3.0/2, MS3.7/1, Ms1 3.7/1, ms1mx3.1/15, Error ellipse: s-maj=49.8km s-min=40.7km az=158.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.41**	**47**	Pn	Pn	10 33 43.1	-1.0
	0.2nm,0.3s,baz=233,slow=10,SNR=4.5						
LPAZ	**La Paz**	**19.48**	**14**	P	P	10 36 50.5	-1.0
	0.0nm,0.3s,baz=214,slow=11,SNR=1.9						
SIV	**San Ignacio**	**22.01**	**32**	P	P	10 37 19.2	+1.1
	0.9nm,0.5s,baz=196,slow=7.4,SNR=2.6						
PTGA	**Pitinga**	**36.51**	**22**	LR	LR	10 54 27.6	
	comp=Z,98nm,18.2s,baz=193,slow=36						
TXAR	**Lajitas Array**	**70.60**	**332**	P	P	10 43 39.5	+0.2
	0.2nm,0.6s,baz=148,slow=8.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**85.34**	**70**	P	P	10 45 01.9	+0.4
	0.5nm,0.9s,baz=232,slow=5.6,SNR=3.0						
BVAR	**

SNAA	Sanae	48.86	157	P	P	10 41 16.9	+0.1
SNAA	Sanae	48.86	157	P	P	10 41 16.2	-0.6
	2.5nm,1.0s,baz=241,slow=14,SNR=6.5						
SNAA	Sanae	48.86	157	eP	P	10 41 16.5	-0.3
	18nm,1.1s						
QSPA	South Pole Qui	52.58	180	P	P	10 41 44.5	-0.5
	6.4nm,0.9s,baz=156,slow=4.2,SNR=15						
QSPA	South Pole Qui	52.58	180	eP	P	10 41 44.9	-0.1
	23nm,1.0s						
RKT	Rikitea	53.65	267	eLR	LR	10 57 22.1	
	777nm,26.2s						
VNDA	Vanda	60.19	192	P	P	10 42 39.5	+0.7
	0.8nm,0.8s,baz=104,slow=3.9,SNR=2.4						
VNDA	Vanda	60.19	192	eP	P	10 42 38.8	-0.1
	15nm,1.4s						
PPT2	Papeete2	68.16	264	eS	S	10 52 19.6	-10
	168nm,23.8s						
PPT2	Papeete2	68.16	264	eLR	LR	11 04 08.1	
	531nm,25.5s,baz=125						
PPT	Papeete	68.17	264	LR	LR	11 06 24.5	
	comp=Z,330nm,18.2s,baz=112,slow=30						
TXAR	Lajitas Array	72.18	333	P	P	10 43 56.9	+0.5
	0.9nm,0.8s,baz=155,slow=6.9,SNR=5.7						
TXAR				LR	LR	11 11 00.3	
	comp=Z,117nm,18.2s,baz=0.0,slow=32						
WVT	Waverly	74.52	348	eP	P	10 44 10.1	+0.2
	1.6nm,0.6s						
TUL1	Leonard	75.92	342	P	P	10 44 17.3	-0.7
	4.8nm,0.9s						
ANMO	Albuquerque	78.25	333	eP	P	10 44 32.9	+1.6
	3.5nm,1.0s						
BOSA	Boshof	79.81	118	P	P	10 44 39.7	-0.4
	4.0nm,0.9s,baz=222,slow=7.5,SNR=5.6						
PV01	Paradox Valley	81.86	333	eP	P	10 44 48.2	-2.6
CCUT	Cedar City	83.17	330	eP	P	10 45 00.1	+2.5
	6.9nm,1.4s						
SRU	San Rafael Swe	83.43	332	eP	P	10 45 00.2	+1.4
	1.4nm,0.8s						
ECSD	EROS Data Cent	83.56	344	eP	P	10 44 59.9	+0.8
	8.2nm,0.8s						
DUG	Dugway, Tooele	85.24	331	eP	P	10 45 08.4	+0.4
	4.9nm,1.1s						
NVAR	Mina Array Bea	85.99	327	P	P	10 45 11.8	0.0
	0.4nm,0.7s,baz=134,slow=5.2,SNR=3.1						
PDAR	Pinedale Array	86.32	335	P	P	10 45 13.9	+0.6
	1.2nm,0.9s,baz=157,slow=4.2,SNR=8.7						
HVU	Hansel Valley	86.60	332	eP	P	10 45 16.1	+1.4
	6.3nm,1.3s						
TORD	Torodi Ar. Bea	86.98	71	P	P	10 45 16.5	-0.4
	2.3nm,0.8s,baz=235,slow=3.8,SNR=11						
TIXI	Tiksi	143.96	348	ePKPdf	PKPbc	10 52 03.3	-0.2
ABKAR	Akbulak array	145.17	56	ePKPbc	PKPab	10 52 08.2	+0.1
BRVK	Borovoye	150.96	46	ePKPdf	PKPdf	10 52 19.1	+1.4
BRVK				ePKPbc	PKiKP	10 52 24.5	+0.5
BRVK				ePKPab	PKPab	10 52 30.5	-0.5
BVAR	Borovoye Array	151.03	46	PKP	PKPdf	10 52 16.3	-1.5
	0.9nm,0.6s,baz=298,slow=3.2,SNR=5.7						
BVAR				PKPbc	PKPbc	10 52 23.6	0.0
	2.1nm,0.7s,baz=279,slow=2.9,SNR=11						
AAK	Ala-Archa	155.54	68	PKPab	PKPab	10 52 50.5	-0.5
	2.8nm,0.8s,baz=224,slow=8.4,SNR=5.7						
KURBB	Kurchatov Arra	156.60	48	PKP	PKPdf	10 52 26.2	+0.4
	0.2nm,0.4s,baz=319,slow=2.7,SNR=2.9						
KURBB				PKPab	PKPab	10 52 55.6	+0.6
	0.3nm,0.7s,baz=291,slow=3.0,SNR=4.3						
KURK	Kurchatov	156.62	47	PKP	PKPdf	10 52 26.2	+0.4
KURK				PKPab	PKPab	10 52 55.6	+0.5
ZALV	Zalesovo Beam	158.18	35	PKPab	PKPab	10 53 00.6	-1.0
	1.5nm,0.6s,baz=276,slow=4.3,SNR=4.2						
MKAR	Makanchi Array	160.31	55	PKPab	PKPab	10 53 11.4	+0.1
	0.8nm,0.8s,baz=298,slow=3.3,SNR=5.8						
SONM	Songino Array	169.82	358	PKPab	PKPab	10 53 54.1	+1.1
	0.8nm,0.9s,baz=343,slow=2.8,SNR=5.9						

*KOLA **12** 10:35:56.6, 67°.64N×33°.93E, h0km*
*HEL **12** 10:35:56.2±0.3, 67°.63N×33°.88E, h0km, ML2.4, Explosion*
*CSEM **12** 10:35:57.2±0.7, 67°.57N×33°.53E, h2km, ML2.4, Error ellipse: s-maj=13.4km s-min=8.3km az=83.0, Mining explosion.*
*NAO **12** 10:35:58.7±1.7, 67°.62N×33°.32E, ML3.0*
*IDC **12** 10:35:58.5±1.8, 67°.70N×33°.45E, h0km, mb1 3.4/5, mb1mx3.1/48, mbtmp3.4/5, ML3.2/5, Error ellipse: s-maj=20.4km s-min=9.5km az=82.0*
ISC 12 10:35:52.7±1.4,**67°.60N**±0°.04×**34°.20E**±0°.07,**h0**km,**n44**, σ1**s54**/70,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.30	265	P	Pb	10 36 00.4	-0.6
APA				S	Sg	10 36 03.2	+0.8
APA0	Apatity Array	0.46	272	P	Pb	10 36 03.0	-0.6
APA0				S	Sg	10 36 07.7	+0.3
VRF	Varrio	1.76	277	SG	Sn	10 36 46.4	-1.0
VRF				MSG		10 36 46.4	
	comp=Z,11nm,0.2s						
VRF	Varrio	1.76	277	Sg	Sn	10 36 46.4	-1.0
KU6	Riekki	2.32	229	PB	Pb	10 36 35.3	0.0
	baz=45						
KU6				SG	Sb	10 37 05.3	+0.8
MSF	Maaselka	2.66	233	PB	Pb	10 36 40.5	-0.5
	baz=47						
MSF				SG	Sb	10 37 15.9	+1.9
MSF				MSG		10 37 15.9	
	comp=Z,20nm,0.3s						
SGF	Sodankyl	2.95	271	PN	Pn	10 36 42.3	+1.6
SGF				SG	Sb	10 37 22.1	-0.5
SGF				MSG		10 37 22.1	
	comp=Z,17nm,0.2s						
SGF	Sodankyl	2.95	271	Pn	Pn	10 36 42.3	+1.6
SGF				Sg	Sb	10 37 22.1	-0.5
RNF	Rovaniemi	3.35	257	PN	Pn	10 36 48.0	+1.9
RNF				SN	Sn	10 37 28.2	+1.7
RNF				MSG		10 37 28.2	
	comp=Z,31nm,0.3s						
RNF	Rovaniemi	3.35	257	Pn	Pn	10 36 48.0	+1.9
KEV	Kevo	3.40	313	SN	Sn	10 37 28.1	+0.2
KEV				MSG		10 37 28.1	
	comp=Z,12nm,0.2s						
KEV	Kevo	3.40	313	Sn	Sn	10 37 28.1	+0.2
ARA0	ARCESS Array S	3.73	305	Pn	Pn	10 36 53.3	+1.8
	baz=123,slow=16						
ARA0				Pg	Pb	10 37 01.4	+2.0
	baz=121,slow=16						
ARA0				Sn	Sn	10 37 35.0	-1.1
	baz=125,slow=28						
ARA0				Lg	Lg	10 37 45.7	
	baz=122,slow=37						
ARA0	ARCESS Array S	3.73	305	Pn	Pn	10 36 53.3	+1.8
	baz=123,slow=16						
ARA0				Pg	Pb	10 37 01.4	+2.0
	baz=121,slow=16						
ARA0				Sn	Sn	10 37 35.0	-1.1
	baz=125,slow=28						
ARA0				Lg	Lg	10 37 45.7	
	baz=122,slow=37						
ARA0	ARCESS Array S	3.73	305	Pn	Pn	10 36 53.3	+1.8
	SNR=50						
ARA0	ARCESS Array S	3.73	305	Pg	Pb	10 37 01.4	+2.0
	SNR=90						
ARA0				Sn	Sn	10 37 35.0	-1.1
	SNR=50						
ARA0				Lg	Lg	10 37 45.7	
	SNR=2.8						
ARCES	ARCESS Array B	3.73	305	Pn	Pn	10 36 53.3	+1.8
	comp=Z,11nm,0.3s,baz=120,slow=15,SNR=620						
ARCES				Sn	Sn	10 37 34.2	-1.9
	comp=Z,4.8nm,0.3s,baz=121,slow=25,SNR=13						
ARCES				Lg	Lg	10 37 45.1	
	comp=Z,13nm,0.3s,baz=116,slow=28,SNR=14						
ARE0	ARCESS Array S	3.73	305	PN	Pn	10 36 53.0	+1.5
ARE0				SN	Sn	10 37 35.0	-1.1
ARE0				MSG		10 37 35.0	
	comp=Z,15nm,0.3s						
ARE0	ARCESS Array S	3.73	305	Pn	Pn	10 36 53.0	+1.5
ARE0				Sn	Sn	10 37 35.0	-1.1
HEF	Hetta	4.05	286	PN	Pn	10 36 57.5	+1.7
	baz=97						
HEF				SN	Sn	10 37 43.6	-0.1
HEF				MSG		10 37 43.6	
	comp=Z,5.0nm,0.2s						
HEF	Hetta	4.05	286	Pn	Pn	10 36 57.4	+1.7
HEF				Sn	Sn	10 37 43.6	-0.1
OUL	Oulu	4.19	237	PB	Pb	10 37 06.4	-0.7
	baz=49						

KTK1	Kautokeino	4.31	294	eS	Sn	10 37 48.9	-1.3
KTK1				IAML		10 38 06.2	
	comp=N,42nm,0.2s						
KTK1	Kautokeino	4.31	294	eS	Sn	10 37 48.9	-1.3
	SNR=49						
KALU	Kalix	4.64	253	PN	Pn	10 37 06.6	+2.8
KALU				SG	Sb	10 38 15.2	+4.1
KALU	Kalix	4.64	253	Pn	Pn	10 37 06.6	+2.8
LANU	Lannavaara	4.65	281	PN	Pn	10 37 04.7	+0.6
LANU				SN	Sn	10 37 56.7	-1.9
LANU	Lannavaara	4.65	281	Pn	Pn	10 37 04.6	+0.6
LANU				Sn	Sn	10 37 56.7	-1.9
ERTU	Ertsjaerv	4.81	263	PN	Pn	10 37 07.4	+1.2
ERTU				SN	Sn	10 38 02.0	-0.6
ERTU	Ertsjaerv	4.81	263	Pn	Pn	10 37 07.4	+1.2
ERTU				Sn	Sn	10 38 02.0	-0.6
FIA0	FINESS Array S	7.09	213	Pn	Pn	10 37 40.0	+2.4
	baz=27,slow=12						
FIA0				Sn	Sn	10 38 56.9	-1.9
	baz=38,slow=28						
FIA0				Lg	Lg	10 39 31.4	
	baz=18,slow=22						
FIA0	FINESS Array S	7.09	213	Pn	Pn	10 37 40.0	+2.4
	baz=27,slow=12						
FIA0				Sn	Sn	10 38 56.9	-1.9
	baz=38,slow=28						
FIA0				Lg	Lg	10 39 31.4	
	baz=18,slow=22						
FIA0	FINESS Array S	7.09	213	Pn	Pn	10 37 40.0	+2.4
	SNR=50						
FIA0				Sn	Sn	10 38 56.9	-1.9
	SNR=50						
FINES	FINESS Array B	7.09	213	Pn	Pn	10 37 39.7	+2.1
	comp=N,0.2nm,0.3s,baz=26,slow=14,SNR=6.0						
FINES				Sn	Sn	10 38 57.7	-1.1
	comp=N,0.3nm,0.3s,baz=23,slow=22,SNR=3.5						
FINES				Lg	Lg	10 39 31.8	
	comp=N,1.1nm,0.3s,baz=22,slow=23,SNR=5.9						
HFS	Hagfors	11.68	240	Pn	Pn	10 38 38.8	-1.5
	baz=31,slow=14						
HFS	Hagfors	11.68	240	P	Pn	10 38 38.8	-1.5
	baz=31,slow=14						
HFS	Hagfors	11.68	240	Pn	Pn	10 38 39.8	-0.5
	comp=N,0.1nm,0.3s,baz=42,slow=14,SNR=4.2						
SPA0	Spitsbergen Ar	11.76	342	Pn	Pn	10 38 40.8	-0.5
	baz=140,slow=16						
SPA0	Spitsbergen Ar	11.76	342	P	Pn	10 38 40.8	-0.5
	baz=140,slow=16						
SPITS	Spitsbergen Ar	11.76	342	Pn	Pn	10 38 41.1	-0.3
	baz=140,slow=16,SNR=17						
NB2	NORSAR Subarra	11.88	247	Pn	Pn	10 38 41.8	-1.2
	baz=46,slow=12						
NB2	NORSAR Subarra	11.88	247	P	Pn	10 38 41.8	-1.2
	baz=46,slow=12						
NB2	NORSAR Subarra	11.88	247	P	Pn	10 38 41.8	-1.2
	SNR=47						
NOA	NORSAR Array B	11.88	247	Pn	Pn	10 38 42.6	-0.4
	comp=N,0.2nm,0.3s,baz=46,slow=11,SNR=5.7						

*ISCJB **12** 10:39:22.8±1.2, 34°.38S±0°.03×72°.12W±0°.06, h18km±8km, mb4.5/30, MS4.1/2, Error ellipse: s-maj=7.9km s-min=5.4km az=20.5*
*GUC **12** 10:39:23.4±0.4, 34°.36S×72°.11W, h32km±2km, ML4.8*
*NEIC **12** 10:39:26.2, 34°.36S×72°.11W, h32km, mb4.7/21, ML4.8(GUC), After GUC.*
NEIC Felt [IV] at San Fernando, [III] at Navidad and Pichilemu and [II] at Santiago.
*IDC **12** 10:39:26.2±4.8, 34°.31S×71°.98W, h33km±35km, mb4.1/13, mb1 4.2/16, mb1mx4.2/23, mbtmp4.3/16, ML3.9/2, MS3.9/3, Ms1 3.8/3, ms1mx3.6/20, Error ellipse: s-maj=26.0km s-min=13.5km az=93.0*
*BJI **12** 10:39:27.0, 34°.30S×71°.90W, h35km, mB5.0/4, Ms5.3/3, Ms7 5.0/2*
ISC 12 10:39:25.9±0.6,**34°.36S**±0°.03×**71°.92W**±0°.06,**h32**km±4km, **h32**km:**pP-P**,**n96**,σ1**s24**/118,**mb4.6**/31,**7C-5D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.59	47	ePn	Pb	10 39 36.9	-0.9
LNV	Longovilo	0.59	47	eP	Pb	10 39 36.9	-0.9
NICH	Los Niches	0.86	138	⇑iP	Pn	10 39 41.1	-0.7
NICH				i S	Sb	10 39 54.0	+0.4
NICH				AML	AML	10 40 00.5	
	comp=E,52μm,0.4s						
NICH	Los Niches	0.86	138	⇑iP	Pn	10 39 41.1	-0.7
NICH				i S	Sb	10 39 54.0	+0.4
CACH	El Canelo	1.12	78	⇓iP	Pn	10 39 46.3	+0.8
CACH	El Canelo	1.12	78	⇓iP	Pn	10 39 46.3	+0.8
CHCH	Chadas Angostu	1.14	68	ePn	Pn	10 39 45.8	+0.2
CHCH	Chadas Angostu	1.14	68	eP	Pn	10 39 45.8	+0.2
ANTU	Antumapu	1.33	54	⇓iP	Pn	10 39 48.7	+0.4
ANTU				i S	Sb	10 40 08.0	+1.0
ANTU				AML	AML	10 40 11.5	
	comp=N,18μm,0.5s						
ANTU	Antumapu	1.33	54	⇓iP	Pn	10 39 48.7	+0.4
ANTU				i S	Sb	10 40 08.0	+1.0
IHA	Instituto Hidr	1.35	10	ePn	Pn	10 39 47.7	-0.8
IHA	Instituto Hidr	1.35	10	eP	Pn	10 39 47.7	-0.8
LACH	Col Las Americ	1.47	52	eP	Pn	10 39 50.6	+0.4
LACH				i S	Sb	10 40 11.7	+0.7
LACH	Col Las Americ	1.47	52	eP	Pn	10 39 50.6	+0.4
LACH				i S	Sb	10 40 11.7	+0.7
CLCH	Cerro Calan	1.50	51	⇓iP	Pn	10 39 51.3	+0.7
CLCH				i S	Sb	10 40 12.6	+0.7
CLCH				AML	AML	10 40 21.0	
	comp=E,16μm,0.6s						
PEL	Peldehue	1.59	41	⇑iP	Pn	10 39 52.4	+0.5
PEL				i S	Sb	10 40 14.5	0.0
PEL				AML	AML	10 40 20.9	
	comp=N,21μm,0.8s						
PEL	Peldehue	1.59	41	⇑iP	Pn	10 39 52.4	+0.5
PEL				i S	Sb	10 40 14.5	0.0
CMCH	Combarbala	3.27	14	⇑iP	Pn	10 40 14.5	-0.5
CMCH	Combarbala	3.27	14	⇑iP	Pn	10 40 14.5	-0.5
CFAA	Coronel Fontan	4.14	49	Pn	Pn	10 40 28.3	+1.4
	comp=N,3.1nm,0.3s,baz=223,slow=12,SNR=47						
CFAA				Lg	Lg	10 41 27.8	
	comp=N,3.7nm,0.3s,baz=234,slow=22,SNR=3.6						
LCO	Las Campanas	5.43	11	ePn	Pn	10 40 44.1	-0.8
LCO				eSn	Sn	10 41 44.3	-2.1
PLCA	Paso Flores	6.46	171	Pn	Pn	10 40 58.2	-0.6
	baz=325,slow=17						
PLCA				Lg	Lg	10 42 39.7	
	baz=329,slow=18						
PLCA				LR	LR	10 43 35.7	
	comp=N,568nm,18.8s,baz=344,slow=38						
PLCA	Paso Flores	6.46	171	ePn	Pn	10 40 58.4	-0.3
	comp=N,0.2nm,0.3s						
PLCA				eSn	Sn	10 42 08.5	-2.9
PLCA				Lg	Lg	10 42 39.7	
TRQA	Tornquist	8.84	118	ePn	Pn	10 41 34.5	+3.0
TRQA				eSn	Sn	10 43 07.1	-2.9
LVC	Limon Verde	12.00	14	ePn	Pn	10 42 15.6	+0.7
LVC				eSn	Sn	10 44 24.9	-2.9
LPAZ	La Paz	18.32	12	P	Pn	10 43 38.7	+0.6
	comp=N,0.3nm,0.3s,baz=193,slow=7.3,SNR=18						
USHA	Ushuaia	20.61	174	P	P	10 44 02.6	+0.3
	comp=N,11nm,0.8s,baz=346,slow=4.4,SNR=3.3						
SIV	San Ignacio	20.73	31	P	P	10 44 03.3	-0.6
	comp=N,5.9nm,0.6s,baz=226,slow=10,SNR=14						
BDFB	Brasilia	28.46	55	P	P	10 45 18.1	-0.1
	comp=N,4.6nm,0.8s,baz=228,slow=11,SNR=6.2						
BDFB	Brasilia	28.46	55	eP	P	10 45 18.4	+0.2
OTAV	Otavalo	34.96	349	eP	P	10 46 16.2	+0.6
	comp=N,6.8nm,0.6s						
PTGA	Pitinga	35.28	21	P	P	10 46 16.7	-1.1
	comp=N,4.9nm,0.8s,baz=198,slow=9.2,SNR=9.1						
PTGA	Pitinga	35.28	21	eP	P	10 46 17.4	-0.4
	comp=N,15nm,0.8s						
SDV	Santo Domingo	43.02	2	eP	P	10 47 22.9	+0.2
	comp=N,2.0nm,0.7s						
SDV				epP	pP	10 47 31.4	-0.9
RCBR	Riachuelo	43.75	58	eP	P	10 47 28.6	+0.1
JTS	JuntasAbangare	46.09	342	eP	P	10 47 44.0	-3.0
	comp=N,1.4nm,0.5s						
VNA3	Neumayer Olymp	48.99	158	P	P	10 48 09.8	+0.8
VNA2	Neumayer--Watz	49.65	157	P	P	10 48 14.7	+0.8
	baz=289,slow=9.2						
SNAA	Sanae	51.22	158	P	P	10 48 26.8	+0.8
SNAA	Sanae	51.22	158	P	P	10 48 26.7	+0.8
	comp=N,4.4nm,0.9s,baz=293,slow=9.1,SNR=14						

SNAA	Sanae	51.22	158	eP	P	10 48 26.5	+0.6
	comp=N,15nm,1.1s						
SDDR	Presa de Saban	53.05	1	eP	P	10 48 40.0	0.0
	comp=N,4.5nm,0.6s						
QSPA	South Pole Qui	55.88	180	P	P	10 49 01.2	+1.0
	comp=N,13nm,0.8s,baz=153,slow=1.5,SNR=34						
QSPA	South Pole Qui	55.88	180	eP	P	10 49 01.0	+0.8
QSPA				epP	pP	10 49 09.6	-0.4
VNDA	Vanda	63.77	191	P	P	10 49 54.8	+0.7
	comp=N,0.9nm,0.8s,baz=154,slow=4.0,SNR=3.6						
SYO	Syowa Base	65.50	158	⇑eP	P	10 50 03.8	-1.7
JCT	Junction City	69.65	334	eP	P	10 50 33.1	+0.9
	comp=N,846nm,1.6s						
TX31	Lajitas Ar. Si	70.09	331	eP	P	10 50 35.6	+0.6
TXAR	Lajitas Array	70.09	331	P	P	10 50 35.4	+0.4
	comp=N,0.3nm,0.6s,baz=152,slow=8.3,SNR=5.1						
MIAR	Mount Ida	71.48	341	eP	P	10 50 46.2	+3.0
	comp=N,9.6nm,1.4s						
WVT	Waverly	71.68	346	eP	P	10 50 44.3	0.0
	comp=N,14nm,0.8s						
SUR	Sutherland	74.57	119	P	P	10 51 03.9	+1.8
	comp=N,5.5nm,0.9s,baz=231,slow=13,SNR=3.3						
LENM	Lemitar	75.67	331	eP	P	10 51 09.9	+1.8
ANMO	Albuquerque	76.14	331	eP	P	10 51 11.8	+1.0
	comp=N,1.6nm,1.0s						
WUAZ	Wupatki	78.69	328	eP	P	10 51 26.7	+1.8
WUAZ				ePcP	PcP	10 51 33.4	-0.4
MVCO	Mesa Verde	78.92	331	eP	P	10 51 27.0	+0.7
	comp=N,52nm,2.5s						
BOSA	Boshof	79.82	118	P	P	10 51 32.3	+0.8
	comp=N,4.6nm,0.8s,baz=227,slow=6.1,SNR=8.1						
SMCO	Snowmass	80.04	333	eP	P	10 51 30.1	-2.4
	comp=N,69nm,3.0s						
PV10	Paradox Valley	80.14	331	eP	P	10 51 33.7	+0.7
KNB	Kanab	80.58	328	eP	P	10 51 36.9	+1.7
	comp=N,7.7nm,1.2s						
ECSD	EROS Data Cent	80.92	342	eP	P	10 51 36.6	0.0
ECSD				ePcP	PcP	10 51 43.5	+0.4
CCUT	Cedar City	81.26	328	eP	P	10 51 40.3	+1.4
	comp=N,2.5nm,0.9s						
CCUT				epP	pP	10 51 47.9	-1.1
SRU	San Rafael Swe	81.37	331	eP	P	10 51 39.7	+0.3
	comp=N,1.2nm,0.6s						
DUG	Dugway, Tooele	83.23	330	eP	P	10 51 48.1	-1.0
	comp=N,5.1nm,1.4s						
PDAR	Pinedale Array	84.12	333	P	P	10 51 53.5	-0.2
	comp=N,0.9nm,0.8s,baz=160,slow=5.1,SNR=7.2						
NVAR	Mina Array Bea	84.23	325	P	P	10 51 55.2	+0.9
	comp=N,1.1nm,0.7s,baz=156,slow=5.7,SNR=8.8						
TOA0	Torodi Ar. Sit	84.24	70	eP	P	10 51 55.2	+0.6
TORD	Torodi Ar. Bea	84.24	70	P	P	10 51 55.0	+0.4
	comp=N,1.5nm,0.8s,baz=244,slow=3.1,SNR=9.2						
HVU	Hansel Valley	84.54	331	eP	P	10 51 56.0	+0.3
	comp=N,11nm,1.3s						
MDND	Maddock	85.51	342	eP	P	10 52 00.8	+0.6
	comp=N,20nm,1.9s						
RLMT	Red Lodge	86.05	335	eP	P	10 52 03.8	+0.5
	comp=N,3.7nm,0.6s						
YMR	Madison River	86.28	333	eP	P	10 52 05.7	+1.3
	comp=N,8.0nm,1.0s						
HLID	Hailey	86.69	331	eP	P	10 52 07.6	+1.2
	comp=N,5.4nm,1.3s						
ULM	Lac du Bonnet	86.87	345	LR	LR	11 28 15.1	
	comp=N,76nm,21.8s,baz=112,slow=34						
MCMT	McKenzie Canyo	87.13	332	eP	P	10 52 09.4	+0.8
	comp=N,2.8nm,1.1s						
SCHQ	Schefferville	88.94	3	LR	LR	11 35 03.6	
	comp=N,77nm,18.1s,baz=124,slow=38						
YKA	Yellowknife Ar	102.43	341	P	Pdif	10 53 17.0	-0.8
	comp=N,0.2nm,0.7s,baz=142,slow=4.5,SNR=7.5						
TARA	Tarawa	111.39	256	ePKPdf		10 57 59.2	
ILAR	Eielson Array	114.56	333	PKP	PKPdf	10 58 01.9	+0.1
	comp=N,0.4nm,0.9s,baz=186,slow=7.3,SNR=4.0						
ASAR	Alice Springs	117.29	207	PKP	PKPdf	10 58 07.1	-1.4
	comp=N,0.6nm,1.1s,baz=129,slow=2.1,SNR=5.8						
CSS	Prodhromos	119.95	66	ePKPdf	PKPdf	10 58 15.0	+1.9
WRA	Warramunga Arr	120.49	209	PKP	PKPdf	10 58 13.9	-0.8
	comp=N,1.2nm,0.7s,baz=161,slow=1.7,SNR=22						
H11S2	WAKE ISLAND Hyf	25.86	269	T	T	13 16 48.0	
	baz=119,slow=75,SNR=9.9						
H11S1	WAKE ISLAND Hyf	25.87	269	T	T	13 16 47.4	
	baz=119,slow=75,SNR=22						
H11S3	WAKE ISLAND Hyf	25.88	269	T	T	13 16 46.0	
	baz=119,slow=75,SNR=12						
H11N3	WAKE ISLAND Hyf	26.28	270	T	T	13 17 15.5	
	baz=121,slow=76,SNR=6.7						
H11N1	WAKE ISLAND Hyf	26.30	270	T	T	13 17 21.1	
	baz=121,slow=76,SNR=18						
H11N2	WAKE ISLAND Hyf	26.30	270	T	T	13 17 19.1	
	baz=121,slow=76,SNR=9.5						
BRVK	Borovoye	147.41	43	ePKPdf	PKPdf	10 59 03.7	+0.5
BRVK				ePKPbc	PKPbc	10 59 06.8	+0.9
BRVK				ePKPab	PKiKP	10 59 08.1	+0.1
EKS2	Erkin-Say	152.06	63	ePKPbc	PKPbc	10 59 19.1	+1.2
AAK	Ala-Archa	152.59	62	ePKPdf	PKPdf	10 59 13.0	+0.9
AAK				ePKPbc	PKiKP	10 59 20.3	+1.0
KSH	Kashi	153.91	69	ePKPbc	PKPdf	10 59 14.3	+0.2
KSH				sPKP		10 59 28.0	
KSH				PP	PP	11 03 09.5	-1.0
KSH				SKS	SKSdf	11 06 18.4	-0.2
KSH				SKKS	SKKSac	11 09 55.9	-2.0
KSH				SS	SS	11 22 43.8	-2.6
KSH				PPMZ			
	comp=N,110nm,5.6s						
KSH				LN			
	comp=N,54nm,5.2s						
KSH				LE			
	comp=N,43nm,4.8s						
KSH				LZ			
	comp=N,140nm,5.5s					

mb1 4.1/11, mb1mx4.0/25, mbtmp4.1/11, ML3.9/2, MS4.0/7, Ms1 4.0/7, ms1mx3.8/17, Error ellipse: s-maj=23.6km s-min=13.9km az=64.0

ISCJB ***12*** *11:02:11.7±0.4, 38°.11S±0°.04×72°.36W±0°.09, h22km, mb4.7/35, MS4.2/6, Error ellipse: s-maj=10.9km s-min=5.7km az=167.3*

NEIC ***12*** *11:02:13.2±0.4, 38°.12S×72°.39W, mb4.8/26, Error ellipse: s-maj=14.7km s-min=7.8km az=65.0*

BJI ***12*** *11:02:15.0, 38°.00S×72°.40W, h35km, mB5.2/5, Ms5.1/4, Ms7 4.9/4*

ISC 12 11:02:13.7±0.6, 38°.09S±0°.05×72°.15W±0°.09, h25km±3km, h24km: pP-P, n66, σ1s92/81, mb4.8/36, MS4.2/6, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.91**	**155**	Pn	**Pb**	**11 03 03.2**	**-1.7**
	5.0nm,0.3s,baz=316,slow=14,SNR=11						
PLCA				Lg	Lg	11 03 56.5	
	baz=235,slow=18						
PLCA	**Paso Flores**	**2.91**	**155**	*e*Sn	**Sn**	**11 03 33.9**	**+1.2**
PLCA				Lg	Lg	11 03 56.5	
CFAA	**Coronel Fontan**	**7.23**	**28**	Pn	**Pn**	**11 04 00.8**	**+3.1**
	0.4nm,0.3s,baz=220,slow=3.9,SNR=16						
CFAA				Sn	Sn	11 05 30.2	+11
	0.4nm,0.3s,baz=352,slow=14,SNR=4.0						
CFAA				LR	LR	11 07 47.7	
	comp=Z,144nm,19.4s,baz=222,slow=43						
TRQA	**Tornquist**	**8.02**	**93**	*e*Pn	Pn	11 04 11.9	+3.3
TRQA				*e*Sn	**Sn**	**11 05 34.6**	**-4.0**
LCO	**Las Campanas**	**9.14**	**8**	*e*Pn	**Pn**	**11 04 21.5**	**-2.7**
LCO				*e*Sn	**Sn**	**11 06 08.4**	**+1.9**
LVC	**Limon Verde**	**15.68**	**11**	*e*Pn	**Pn**	**11 05 53.5**	**+0.3**
	34nm,1.6s						
LVC				*e*Sn	**Sn**	**11 08 47.0**	**+0.6**
LPAZ	**La Paz**	**22.01**	**10**	P	**P**	**11 07 05.7**	**-1.2**
	7.4nm,1.1s,baz=169,slow=8.2,SNR=12						
SIV	**San Ignacio**	**24.09**	**27**	P	**P**	**11 07 27.3**	**0.0**
	2.5nm,0.9s,baz=239,slow=9.8,SNR=5.9						
BDFB	**Brasilia**	**30.87**	**50**	LR	LR	11 20 54.9	
	comp=Z,328nm,21.8s,baz=216,slow=36						
OTAV	**Otavalo**	**38.58**	**350**	*e*P	**P**	**11 09 34.6**	**-0.6**
	44nm,1.5s						
VNA2	**Neumayer--Watz**	**46.30**	**156**	P	**P**	**11 10 36.0**	**-0.9**
	baz=310,slow=12						
SDV	**Santo Domingo**	**46.76**	**2**	*e*P	**P**	**11 10 42.7**	**+1.5**
	8.9nm,1.0s						
BCIP	**Isla Barro Col**	**47.56**	**350**	*e*P	**P**	**11 10 47.1**	**-0.2**
	11nm,1.1s						
SNAA	**Sanae**	**47.85**	**156**	P	**P**	**11 10 48.0**	**-1.1**
SNAA	**Sanae**	**47.85**	**156**	P	**P**	**11 10 48.0**	**-1.1**
	3.8nm,1.1s,baz=253,slow=6.1,SNR=4.6						
JTS	**JuntasAbangare**	**49.60**	**343**	*e*P	**P**	**11 11 03.8**	**+0.8**
	11nm,1.0s						
QSPA	**South Pole Qui**	**52.15**	**180**	P	P	11 11 15.9	-5.9
	2.3nm,1.0s,baz=122,slow=2.3,SNR=3.6						
QSPA	**South Pole Qui**	**52.15**	**180**	*e*P	**P**	**11 11 21.6**	**-0.2**
	4.4nm,0.9s						
RKT	**Rikitea**	**55.14**	**267**	*e*LR	LR	11 27 23.8	
	416nm,25.2s						
SDDR	**Presa de Saban**	**56.78**	**1**	*e*P	**P**	**11 11 57.1**	**+1.3**
	9.5nm,1.1s						
SYO	**Syowa Base**	**62.11**	**158**	*e*X	P	11 12 26.0	-5.9
PPT2	**Papeete2**	**69.61**	**263**	*e*S	**S**	**11 22 28.4**	**+0.2**
	107nm,23.0s						
PPT2	**Papeete2**	**69.61**	**263**	*e*LR	LR	11 33 59.1	
	265nm,25.8s						
PPT	**Papeete**	**69.63**	**263**	LR	LR	11 35 31.3	
	comp=Z,143nm,19.7s,baz=132,slow=29						
JCT	**Junction City**	**72.95**	**335**	*e*P	**P**	**11 13 40.8**	**-0.1**
	25nm,1.3s						
TXAR	**Lajitas Array**	**73.27**	**332**	P	P	11 13 35.8	-7.1
	0.7nm,0.7s,baz=155,slow=8.1,SNR=8.2						
TXAR				pP	pP	11 13 42.6	-8.2
	1.5nm,0.6s,baz=152,slow=8.2,SNR=15						
TXAR				LR	LR	11 40 36.8	
	comp=Z,142nm,18.4s,baz=0.0,slow=32						
SWET	**Sewanee**	**74.06**	**348**	*e*P	**P**	**11 13 48.4**	**+1.2**
	15nm,0.9s						
ABTX	**Abilene, Hawle**	**74.87**	**336**	*e*P	**P**	**11 13 52.0**	**-0.1**
	22nm,1.3s						
WVT	**Waverly**	**75.27**	**347**	*e*P	**P**	**11 13 54.4**	**+0.2**
	29nm,1.4s						
LIC	**Lamto**	**76.18**	**71**	*e*P	**P**	**11 14 02.3**	**+2.3**
	67nm,1.2s						
TIC	**Toumodi**	**76.47**	**70**	*e*P	**P**	**11 14 03.8**	**+2.2**
	44nm,1.1s						
KIC	**Kosan Boka**	**76.49**	**71**	*e*P	**P**	**11 14 04.0**	**+2.3**
	165nm,1.7s						
WMOK	**Wichita Mounta**	**76.56**	**338**	*e*P	**P**	**11 14 01.6**	**-0.1**
	13nm,1.4s						
DBIC	**Dimbokro**	**76.61**	**70**	P	**P**	**11 14 04.8**	**+2.4**
	7.4nm,0.8s,baz=188,slow=6.3,SNR=6.9						
DBIC				pP	**pP**	**11 14 11.9**	**+1.6**
	9.3nm,0.7s,baz=205,slow=4.4,SNR=5.4						
DBIC				LR	LR	11 46 44.3	
	comp=Z,109nm,18.2s,baz=204,slow=34						
DBIC	**Dimbokro**	**76.61**	**70**	*e*P	**P**	**11 14 04.4**	**+2.0**
	5.9nm,0.8s						
DBIC				*e*pP	**pP**	**11 14 11.8**	**+1.5**
TUL1	**Leonard**	**76.82**	**340**	*e*P	**P**	**11 14 03.0**	**-0.1**
	32nm,1.4s						
MSTX	**Muleshoe**	**77.14**	**334**	*e*P	**P**	**11 14 05.2**	**+0.2**
V34A	**Guthrie**	**77.22**	**339**	*e*P	**P**	**11 14 05.2**	**-0.2**
	16nm,1.2s						
AMTX	**Amarillo**	**77.61**	**335**	*e*P	**P**	**11 14 08.1**	**+0.4**
	16nm,1.1s						
BOSA	**Boshof**	**78.27**	**117**	P	**P**	**11 14 12.8**	**+1.1**
	6.5nm,0.8s,baz=231,slow=5.5,SNR=10						
BOSA				LR	LR	11 45 58.7	
	comp=Z,114nm,19.3s,baz=226,slow=33						
ANMO	**Albuquerque**	**79.34**	**332**	*e*P	**P**	**11 14 15.2**	**-2.1**
	9.7nm,1.1s						
LBTB	**Lobatse**	**80.68**	**114**	*e*P	**P**	**11 14 25.9**	**+1.0**
	16nm,1.2s						
WUAZ	**Wupatki**	**81.76**	**329**	*e*P	**P**	**11 14 28.8**	**-1.5**
	6.9nm,1.3s						
MVCO	**Mesa Verde**	**82.10**	**331**	*e*P	**P**	**11 14 33.4**	**+1.3**
	15nm,1.4s						
SMCO	**Snowmass**	**83.29**	**333**	*e*P	**P**	**11 14 40.5**	**+2.1**
CCUT	**Cedar City**	**84.33**	**328**	*e*P	**P**	**11 14 43.8**	**+0.2**
	190nm,1.4s						
ECSD	**EROS Data Cent**	**84.41**	**342**	*e*P	**P**	**11 14 43.7**	**+0.2**
	15nm,1.1s						
SRU	**San Rafael Swe**	**84.54**	**331**	*e*P	**P**	**11 14 42.9**	**-1.6**
	1.2nm,0.7s						
MVU	**Marysvale**	**84.67**	**330**	*e*P	**P**	**11 14 42.9**	**-2.5**
	49nm,2.7s						
TORD	**Torodi Ar. Bea**	**85.70**	**70**	P	**P**	**11 14 51.2**	**+0.5**
	1.2nm,0.9s,baz=247,slow=3.4,SNR=6.5						
TORD				pP	**pP**	**11 14 57.6**	**-1.1**
	2.4nm,1.0s,baz=241,slow=3.6,SNR=10						
TORD				LR	LR	11 52 01.6	
	comp=Z,90nm,19.2s,baz=160,slow=34						
DUG	**Dugway, Tooele**	**86.36**	**330**	*e*P	**P**	**11 14 53.9**	**+0.4**
	9.9nm,1.5s						
NVAR	**Mina Array Bea**	**87.19**	**325**	P	P	11 14 51.2	-6.6
	0.2nm,0.6s,baz=183,slow=9.0,SNR=2.9						
NVAR				pP	**PcP**	**11 14 58.1**	**-1.8**
	0.6nm,0.7s,baz=153,slow=6.2,SNR=4.6						
PDAR	**Pinedale Array**	**87.37**	**333**	pP	**P**	**11 14 58.1**	**-0.4**
	1.4nm,1.1s,baz=193,slow=6.1,SNR=5.1						
HVU	**Hansel Valley**	**87.70**	**331**	*e*P	**P**	**11 14 59.9**	**-0.1**
	1.3nm,0.7s						
ESK	**Eskdalemuir**	**110.00**	**35**	*e*PKPdf	**PKiKP**	**11 20 41.9**	**-0.2**
BRTR	**Keskin Array B**	**123.82**	**63**	PKP	**PKPdf**	**11 21 06.8**	**-2.5**
	0.5nm,0.6s,baz=172,slow=4.4,SNR=3.4						
BRTR				pPKP	**pPKPdf**	**11 21 13.8**	**-3.9**
	0.7nm,0.8s,baz=131,slow=5.6,SNR=3.0						
AKTO	**Aktyubinsk**	**142.92**	**54**	PKP	PKPdf	11 21 39.1	-5.4
	2.2nm,0.8s,baz=240,slow=3.6,SNR=8.1						
AKTO				pPKP	**PKiKP**	**11 21 45.9**	**-1.8**
	3.6nm,0.9s,baz=299,slow=4.1,SNR=6.8						
ABKAR	**Akbulak array**	**144.16**	**56**	*e*PKPdf	**PKPab**	**11 21 43.3**	**-1.1**
AAK	**Ala-Archa**	**154.28**	**69**	*e*PKPbc	**PKPbc**	**11 22 10.1**	**-1.4**
KSH	**Kashi**	**155.18**	**77**	*e*PKPbc	**PKPdf**	**11 22 05.3**	**+0.7**
KSH				sPKP		11 22 19.7	
KSH				PKS	**PKSdf**	**11 25 40.1**	**+1.4**
KSH				PP	**PP**	**11 26 07.7**	**+1.3**
KSH				SKS	**SKSdf**	**11 29 09.8**	**+0.3**
KSH				SKKS	**SKKSac**	**11 32 56.1**	**+1.9**
KSH				PPMZ			
	140nm,5.6s						
KSH				LN			
	44nm,4.2s						
KSH				LZ			
	100nm,5.7s						
MKAR	**Makanchi Array**	**159.30**	**57**	PKP	**PKPdf**	**11 22 05.0**	**-4.4**
	1.2nm,1.2s,baz=242,slow=3.1,SNR=2.8						
MKAR				PKPab	**PKPab**	**11 22 46.6**	**-0.3**
	1.1nm,0.7s,baz=294,slow=3.3,SNR=9.6						
GYA	**Guiyang**	**168.35**	**175**	*e*PKP	**PKPdf**	**11 22 18.2**	**-0.3**
GYA				pPKP	**pPKPdf**	**11 22 30.6**	**+3.7**
GYA				PKPab	**PKPab**	**11 23 29.4**	**+2.2**
GYA				PKS	**PKSdf**	**11 25 49.3**	**-2.0**
GYA				PP	**PP**	**11 27 19.0**	**+3.8**
GYA				SKKS		11 34 01.8	
GYA				SS	**SS**	**11 48 05.2**	**+1.0**
GYA				PPMZ			
	120nm,8.6s						
GYA				LN			
	120nm,24.4s						
GYA				LE			
	110nm,23.6s						
GYA				LZ			
	120nm,24.3s						
SONM	**Songino Array**	**170.21**	**6**	PKPab	**PKPab**	**11 23 31.3**	**-3.6**
	0.1nm,0.3s,baz=345,slow=4.9,SNR=4.0						
SONM				pPKPab	**pPKPab**	**11 23 38.0**	**-5.0**
	1.4nm,0.9s,baz=349,slow=4.6,SNR=6.7						
CD2	**Chengdu**	**172.08**	**154**	*e*PKP	**PKPdf**	**11 22 21.5**	**+1.1**
HHC	**Hu-ho-hao-te**	**176.02**	**315**	*e*PKP	**PKPdf**	**11 22 22.2**	**+0.7**
HHC				pPKP	**pPKPdf**	**11 22 33.1**	**+3.2**
HHC				sPKP		11 22 36.8	
HHC				PP	**PP**	**11 27 56.8**	**+2.9**
HHC				SKS	**SKSdf**	**11 29 20.2**	**-2.7**
HHC				SS	**SS**	**11 49 17.7**	**-3.0**
HHC				PPMZ			
	170nm,6.1s						
HHC				LN			
	200nm,20.1s						
HHC				LE			
	170nm,20.1s						
HHC				LZ			
	140nm,22.2s						
LZH	**Lanzhou**	**176.22**	**121**	*e*PKP	**PKPdf**	**11 22 21.0**	**-0.8**
LZH				pPKP	**pPKPdf**	**11 22 32.0**	**+1.9**
LZH				sPKP		11 22 36.7	

CSEM ***12*** *11:20:39.4, 37°.46N×25°.02W, h0km, ML3.7*

PDA 12 11:20:39.4±0.6, 37°.46N×25°.02W, h0km±7km, MD3.9, ML3.7, Error ellipse: s-maj=13.1km s-min=1.1km az=76.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.46**	**185**	*e*P	Pg	11 20 47.8	-0.4
PSMN				*e*S	Sg	11 20 54.1	0.0
PSMN				A	A	11 20 57.9	
	536nm,0.5s						
PSMN	**Pico do Norte,**	**0.46**	**185**	*e*P	Pg	11 20 47.8	-0.4
PSMN				*e*S	Sg	11 20 54.1	0.0
PSMA	**Santa Maria**	**0.47**	**191**	*e*P	Pg	11 20 48.0	-0.4
PSMA				*e*S	Sg	11 20 54.5	-0.1
PSMA				A	A	11 20 57.0	
	2μm,0.4s						
GRON	**Grota Negra**	**0.51**	**307**	*e*P	Pg	11 20 47.0	-2.3
GRON				*e*S	Sg	11 20 53.1	-2.9
GRON				A	A	11 20 54.1	
	1μm,0.2s						
PDA	**Ponta Delgada**	**0.59**	**300**	*e*P	Pg	11 20 49.6	-1.0
PDA				*e*S	Sg	11 20 57.6	-0.7
PDA				A	A	11 20 58.6	
	2μm,0.2s						
PDA	**Ponta Delgada**	**0.59**	**300**	*e*P	Pg	11 20 49.6	-1.0
PDA				*e*S	Sg	11 20 57.6	-0.7
PSET	**Sete Cidades**	**0.67**	**303**	*e*P	Pg	11 20 51.0	-1.2
PSET				*e*S	Sg	11 20 59.8	-1.1
PSET				A	A	11 21 02.4	
	3μm,0.3s						
PSET	**Sete Cidades**	**0.67**	**303**	*e*P	Pg	11 20 51.0	-1.2
PSET				*e*S	Sg	11 20 59.8	-1.1
ADH	**Angra Heroismo**	**2.12**	**305**	*e*P	Pn	11 21 11.4	-4.7
ADH				*e*S	Sn	11 21 35.1	-8.0
ADH				A	A	11 21 39.8	
	151nm,0.3s						
ADH	**Angra Heroismo**	**2.12**	**305**	*e*P	Pn	11 21 11.4	-4.7
ADH				*e*S	Sn	11 21 35.1	-8.0
TOPO	**Topo**	**2.55**	**297**	*e*P	Pn	11 21 17.3	-4.8
TOPO				*e*S	Sn	11 21 45.8	-8.2
TOPO	**Topo**	**2.55**	**297**	*e*P	Pn	11 21 17.3	-4.8
TOPO				*e*S	Sn	11 21 45.8	-8.2
PMAN	**Manadas**	**2.69**	**297**	*e*P	Pn	11 21 19.4	-4.6
PMAN				*e*S	Sn	11 21 49.1	-8.2
PMAN				A	A	11 21 51.1	
	88nm,0.2s						
PMAN	**Manadas**	**2.69**	**297**	*e*P	Pn	11 21 19.4	-4.6
PMAN				*e*S	Sn	11 21 49.1	-8.2
ROSA	**Rosais**	**2.84**	**297**	*e*P	Pn	11 21 21.5	-4.5
ROSA				*e*S	Sn	11 21 52.8	-8.1
ROSA				A	A	11 21 55.9	
	54nm,0.2s						
ROSA	**Rosais**	**2.84**	**297**	*e*P	Pn	11 21 21.5	-4.5
ROSA				*e*S	Sn	11 21 52.8	-8.1
PICO	**Pico**	**2.88**	**292**	*e*P	Pn	11 21 23.3	-3.4
PICO				*e*S	Sn	11 21 54.0	-8.2
PICO	**Pico**	**2.88**	**292**	*e*P	Pn	11 21 23.3	-3.4
PICO				*e*S	Sn	11 21 54.0	-8.2
PCAN	**Candelaria**	**2.92**	**291**	*e*P	Pn	11 21 22.6	-4.5
PCAN				*e*S	Sn	11 21 54.6	-8.3
PCAN				A	A	11 21 59.6	
	70nm,0.3s						
PCAN	**Candelaria**	**2.92**	**291**	*e*P	Pn	11 21 22.6	-4.5
PCAN				*e*S	Sn	11 21 54.6	-8.3
CALA	**Caldeira**	**3.12**	**292**	*e*P	Pn	11 21 25.2	-4.7
CALA				*e*S	Sn	11 21 59.6	-8.3
CALA	**Caldeira**	**3.12**	**292**	*e*P	Pn	11 21 25.2	-4.7
CALA				*e*S	Sn	11 21 59.6	-8.3
PCED	**Cedros**	**3.13**	**293**	*e*P	Pn	11 21 25.3	-4.7
PCED				*e*S	Sn	11 21 59.8	-8.3
PCED				A	A	11 22 10.4	
	59nm,0.6s						
PCED	**Cedros**	**3.13**	**293**	*e*P	Pn	11 21 25.3	-4.7
PCED				*e*S	Sn	11 21 59.8	-8.3

KRSC 12 11:21:13.5±3.3, 61°.05N×168°.41E, h10km±5km, ML4.0, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**1.27**	**242**	*i* P	Pg	11 21 37.7	-0.1
TILK				*i* S	Sn	11 21 55.8	+1.6
OSSR	**Ossora**	**3.23**	**238**	*e*P	Pb	11 22 07.5	-3.3
OSSR				*e*S	Sn	11 22 45.5	+3.0
PALN	**Palana**	**4.66**	**249**	*e*P	Pn	11 22 28.4	+4.5
PALN				*e*S	Sn	11 23 20.8	+2.8
KBTR	**Krutoberegovo**	**5.66**	**213**	*e*P	Pn	11 22 41.0	+3.4
BKI	**Bering**	**6.00**	**193**	P	Pn	11 22 47.5	+5.3

IDC ***12*** *11:23:39.5±1.2, 35°.78S×73°.05W, h0km, mb3.9/5, mb1 4.0/8, mb1mx3.9/25, mbtmp3.9/8, ML3.9/2, Error ellipse: s-maj=33.0km s-min=17.1km az=90.0*

ISCJB ***12*** *11:23:41.7±0.7, 35°.78S±0°.07×73°.0W±0°.1, h28km, mb4.0/8, Error ellipse: s-maj=13.3km s-min=9.0km az=15.5*

NEIC ***12*** *11:23:44.9±0.7, 35°.73S×72°.91W, h35km, mb4.0/4, Error ellipse: s-maj=15.6km s-min=9.8km az=80.0*

ISC 12 11:23:43.5±0.8, 35°.77S±0°.08×73°.1W±0°.1, h28km, n18, σ1s00/19, mb4.1/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.34**	**159**	Pn	**Pn**	**11 25 01.9**	**+0.5**
	1.7nm,0.3s,baz=325,slow=9.5,SNR=38						
PLCA				Lg	Lg	11 26 30.4	
	4.4nm,0.3s,baz=293,slow=13,SNR=5.1						
PLCA	**Paso Flores**	**5.34**	**159**	*e*Pn	**Pn**	**11 25 01.0**	**-0.4**
	17nm,0.6s						
CFAA	**Coronel Fontan**	**5.78**	**46**	Pn	**Pn**	**11 25 08.2**	**+0.7**
	1.2nm,0.3s,baz=221,slow=12,SNR=28						
CFAA				Sn	**Sn**	**11 26 14.6**	**+1.7**
	0.5nm,0.3s,baz=212,slow=13,SNR=2.5						
CFAA				Lg	Lg	11 26 37.0	
	0.4nm,0.3s,baz=126,slow=19,SNR=4.8						
LCO	**Las Campanas**	**7.03**	**17**	*e*Pn	**Pn**	**11 25 22.9**	**-1.8**
	22nm,0.7s						
TRQA	**Tornquist**	**9.17**	**108**	*e*Pn	**Pn**	**11 25 53.3**	**-0.6**
	15nm,0.9s						
LVC	**Limon Verde**	**13.60**	**17**	Pn	**Pn**	**11 26 53.6**	**-1.1**
LPAZ	**La Paz**	**19.89**	**14**	P	**Pn**	**11 28 14.5**	**-0.6**
	baz=191,slow=4.8,SNR=3.0						
LPAZ	**La Paz**	**19.89**	**14**	*e*P	**Pn**	**11 28 14.4**	**-0.7**
	10nm,1.2s						
SIV	**San Ignacio**	**22.42**	**32**	P	**P**	**11 28 38.7**	**-1.3**
	4.2nm,1.1s,baz=231,slow=13,SNR=7.9						
PTGA	**Pitinga**	**36.93**	**22**	*e*P	**P**	**11 30 49.4**	**-0.7**
	2.9nm,1.0s						
QSPA	**South Pole Qui**	**54.48**	**180**	P	**P**	**11 33 07.7**	**-0.6**
	1.8nm,0.8s,baz=319,slow=1.9,SNR=7.2						
TXAR	**Lajitas Array**	**70.87**	**332**	P	**P**	**11 34 59.0**	**+1.2**
	0.4nm,0.8s,baz=156,slow=8.9,SNR=3.1						
WVT	**Waverly**	**72.84**	**348**	*e*P	**P**	**11 35 10.5**	**+1.1**
DBIC	**Dimbokro**	**76.54**	**72**	P	**P**	**11 35 31.4**	**0.0**
	5.4nm,1.0s,baz=184,slow=7.2,SNR=3.2						
DUG	**Dugway, Tooele**	**83.98**	**330**	*e*P	**P**	**11 36 11.4**	**+0.4**
	0.4nm,0.5s						
HVU	**Hansel Valley**	**85.31**	**331**	*e*P	**P**	**11 36 18.0**	**+0.3**
	0.3nm,0.2s						
TORD	**Torodi Ar. Bea**	**85.60**	**71**	P	**P**	**11 36 19.4**	**-0.1**
	1.5nm,1.1s,baz=245,slow=6.3,SNR=4.1						
ABKAR	**Akbulak array**	**143.42**	**54**	*e*PKPdf	**PKPdf**	**11 43 15.8**	**+1.0**

IDC ***12*** *11:27:19.7±1.1, 37°.56S×73°.72W, h0km, mb4.0/6, mb1 4.0/8, mb1mx3.9/25, mbtmp3.9/8, ML3.5/2, MS3.8/6, Ms1 3.7/6, ms1mx3.4/30, Error ellipse: s-maj=34.8km s-min=20.5km az=100.0*

ISCJB ***12*** *11:27:21.5±0.8, 37°.53S±0°.05×73°.6W±0°.1, h23km, mb4.1/8, MS4.0/4, Error ellipse: s-maj=14.6km s-min=7.2km az=177.8*

NEIC ***12*** *11:27:24.3±3.7, 37°.51S×73°.69W, h31km±25km, mb4.7/3, Error ellipse: s-maj=24.8km s-min=8.8km az=87.0*

ISC 12 11:27:23.2±0.8, 37°.54S±0°.07×73°.7W±0°.1, h23km, n19, σ0s75/19, mb4.2/8, MS4.0/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.01**	**144**	Pn	**Pn**	**11 28 24.1**	**+0.7**
	0.9nm,0.3s,baz=306,slow=12,SNR=11						
PLCA				Lg	Lg	11 29 32.2	
	baz=242,slow=15						
PLCA				LR	LR	11 29 57.3	
	comp=Z,360nm,19.4s,baz=296,slow=39						
PLCA	**Paso Flores**	**4.01**	**144**	*e*Pn	**Pn**	**11 28 24.9**	**+1.5**
PLCA				*e*Sn	**Sn**	**11 29 08.3**	**-1.4**
PLCA				Lg	Lg	11 29 32.2	
CFAA	**Coronel Fontan**	**7.43**	**39**	Pn	**Pn**	**11 29 09.9**	**-0.4**
	0.4nm,0.3s,baz=203,slow=2.9,SNR=7.8						
CFAA				Sn	**Sn**	**11 30 34.5**	**+0.5**
	0.0nm,0.3s,baz=220,slow=17,SNR=2.5						
CFAA				LR	LR	11 32 30.6	
	comp=Z,99nm,19.7s,baz=226,slow=42						
LCO	**Las Campanas**	**8.87**	**17**	*e*Pn	**Pn**	**11 29 29.1**	**-1.1**
LPAZ	**La Paz**	**21.73**	**15**	P	**P**	**11 32 14.5**	**+0.9**
	3.9nm,1.0s,baz=186,slow=5.8,SNR=4.4						
SIV	**San Ignacio**	**24.19**	**31**	P	**P**	**11 32 39.0**	**+0.9**
	1.3nm,0.5s,baz=216,slow=9.5,SNR=3.6						
SIV				LR	LR	11 44 10.8	
	comp=Z,601nm,18.3s,baz=226,slow=42						
BDFB	**Brasilia**	**31.49**	**53**	P	**P**	**11 33 43.1**	**-0.3**
	3.9nm,1.0s,baz=145,slow=12,SNR=2.7						
BDFB				LR	LR	11 46 07.3	
	comp=Z,251nm,18.6s,baz=226,slow=36						
RPN	**Rapa Nui**	**31.69**	**279**	LR	LR	11 42 49.1	
	comp=Z,202nm,20.8s,baz=24,slow=29						
RCBR	**Riachuelo**	**46.67**	**57**	LR	LR	11 57 12.7	
	comp=Z,274nm,18.4s,baz=205,slow=38						
SNAA	**Sanae**	**48.85**	**157**	*e*P	**P**	**11 36 06.5**	**+0.1**
	20nm,1.2s						
QSPA	**South Pole Qui**	**52.70**	**180**	P	**P**	**11 36 35.4**	**-0.2**
	4.2nm,0.9s,baz=85,slow=0.6,SNR=8.0						
QSPA	**South Pole Qui**	**52.70**	**180**	*e*P	**P**	**11 36 35.5**	**-0.2**
	15nm,1.3s						
TXAR	**Lajitas Array**	**72.21**	**333**	P	**P**	**11 38 46.5**	**+0.1**
	0.4nm,0.9s,baz=144,slow=7.8,SNR=4.0						
WVT	**Waverly**	**74.47**	**348**	*e*P	**P**	**11 38 59.4**	**0.0**
	1.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**86.66**	**71**	P	**P**	**11 40 04.8**	**-0.5**
	2.2nm,1.0s,baz=237,slow=4.0,SNR=7.8						
AKTO	**Aktyubinsk**	**143.58**	**54**	PKhKP	PKPpre	11 46 50.8	
	1.5nm,0.9s,baz=194,slow=4.2,SNR=4.9						
ABKAR	**Akbulak array**	**144.86**	**55**	*e*PKPdf	**PKPab**	**11 46 56.7**	**-0.2**
AAK	**Ala-Archa**	**155.22**	**68**	*e*PKPdf	**PKPdf**	**11 47 14.5**	**0.0**
AAK				*e*PKPbc	PKPbc	11 47 23.1	
AAK				*e*PKPab	**PKPab**	**11 47 39.7**	**+0.2**
MKAR	**Makanchi Array**	**160.00**	**55**	PKPab	**PKPab**	**11 47 60.0**	**+0.1**
	0.6nm,0.8s,baz=280,slow=7.1,SNR=5.2						

ISK ***12*** *11:35:04.5, 39°.86N×24°.40E, h32km, MD3.2*

DDA ***12*** *11:35:05.2, 40°.53N×27°.23E, h7km, MD3.0*

ATH ***12*** *11:35:06.5, 40°.02N×24°.62E, h30km±1km, MD2.9/16*

ISCJB ***12*** *11:35:07.0±1.0, 40°.03N±0°.02×24°.63E±0°.02, h14km±8km, Error ellipse: s-maj=3.6km s-min=2.7km az=168.7*

CSEM ***12*** *11:35:06.9±0.1, 40°.02N×24°.64E, h15km, MD2.9, Error ellipse: s-maj=3.0km s-min=2.3km az=170.0*

THE ***12*** *11:35:07.5, 40°.04N×24°.61E, h11km, ML2.6/11, Error ellipse: s-maj=0.6km s-min=0.4km az=356.0*

ISC 12 11:35:06.7±1.0, 40°.03N±0°.02×24°.63E±0°.02, h14km±9km, n67, σ0s45/108, Aegean Sea

| Code | Station Name | Δ° | A

SOH	**Sokhos**	**1.25**	**310**	*e*PN	**Pb**	**11 35 30.0**	**-0.2**
SOH	**Sokhos**	**1.25**	**310**	P	**Pb**	**11 35 30.0**	**-0.2**
SOH				S	**Sn**	**11 35 46.7**	**+0.1**
XOR	**Xorichti**	**1.29**	**240**	*e*PB	**Pn**	**11 35 29.7**	**-0.6**
XOR	**Xorichti**	**1.29**	**240**	*e*Pb	**Pn**	**11 35 29.7**	**-0.6**
HORT	**Hortiatis**	**1.30**	**296**	*e*PN	**Pb**	**11 35 30.5**	**-0.5**
HORT	**Hortiatis**	**1.30**	**296**	*e*Pn	**Pb**	**11 35 30.5**	**-0.5**
RDO	**Rodhopi**	**1.31**	**31**	P	**Pn**	**11 35 30.5**	**-0.1**
RDO				S	**Sg**	**11 35 49.0**	**-0.1**
RDO	**Rodhopi**	**1.31**	**31**	*e*PN	**Pn**	**11 35 30.5**	**-0.1**
RDO	**Rodhopi**	**1.31**	**31**	P	**Pn**	**11 35 30.5**	**-0.1**
RDO				S	**Sg**	**11 35 49.0**	**-0.1**
EZN	**Ezine**	**1.32**	**98**	*e*PN	**Pn**	**11 35 29.5**	**-1.2**
EZN				*e*SN	**Sb**	**11 35 47.9**	**-0.1**
EZN	**Ezine**	**1.32**	**98**	*e*Pn	**Pn**	**11 35 29.5**	**-1.2**
EZN				*e*Sn	**Sb**	**11 35 47.9**	**-0.1**
ENEZ	**Enez**	**1.36**	**58**	*e*PN	**Pn**	**11 35 31.3**	**0.0**
ENEZ				*e*SN	**Sg**	**11 35 50.7**	**0.0**
ENEZ	**Enez**	**1.36**	**58**	*e*Pn	**Pn**	**11 35 31.3**	**0.0**
ENEZ				*e*Sn	**Sg**	**11 35 50.7**	**0.0**
ALN	**Alexandroupoli**	**1.39**	**51**	P	**Pn**	**11 35 31.5**	**-0.1**
ALN				S	**Sg**	**11 35 51.1**	**-0.3**
ALN	**Alexandroupoli**	**1.39**	**51**	*e*PB	**Pn**	**11 35 31.3**	**-0.3**
ALN	**Alexandroupoli**	**1.39**	**51**	P	**Pn**	**11 35 31.5**	**-0.1**
ALN				S	**Sg**	**11 35 51.1**	**-0.3**
NVR	**Nevrokopi**	**1.44**	**336**	P	**Pn**	**11 35 32.6**	**+0.1**
NVR				S	**Sb**	**11 35 51.8**	**+0.1**
NVR	**Nevrokopi**	**1.44**	**336**	*e*PN	**Pn**	**11 35 32.5**	**+0.1**
NVR	**Nevrokopi**	**1.44**	**336**	*e*Pn	**Pn**	**11 35 32.5**	**+0.1**
NVR				S	**Sb**	**11 35 51.8**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.46**	**75**	*e*PN	**Pn**	**11 35 32.3**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.46**	**75**	*e*Pn	**Pn**	**11 35 32.3**	**-0.4**
MRKA	**Markates**	**1.55**	**212**	P	**Pb**	**11 35 34.3**	**-0.8**
MRKA				S	**Sb**	**11 35 54.9**	**+0.3**
MRKA	**Markates**	**1.55**	**212**	P	**Pb**	**11 35 34.3**	**-0.8**
MRKA				S	**Sb**	**11 35 54.9**	**+0.3**
LPK	**Lapseki**	**1.67**	**77**	*e*PN	**Pn**	**11 35 35.3**	**-0.2**
LPK	**Lapseki**	**1.67**	**77**	*e*Pn	**Pn**	**11 35 35.3**	**-0.2**
KNT	**Kendrikon**	**1.74**	**311**	P	**Pn**	**11 35 36.9**	**+0.5**
KNT	**Kendrikon**	**1.74**	**311**	*e*PN	**Pn**	**11 35 37.0**	**+0.5**
KNT	**Kendrikon**	**1.74**	**311**	P	**Pn**	**11 35 36.9**	**+0.5**
CHOS	**Chios island**	**1.98**	**145**	*e*PB	**Pn**	**11 35 40.8**	**+1.0**
CHOS	**Chios island**	**1.98**	**145**	*e*Pb	**Pn**	**11 35 40.8**	**+1.0**
VAY	**Valandovo**	**2.03**	**310**	*e*Pn	**Pg**	**11 35 46.0**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.06**	**70**	*e*PN	**Pn**	**11 35 41.0**	**+0.1**
RKY	**Sarkoy-Tekirda**	**2.06**	**70**	*e*Pn	**Pn**	**11 35 41.0**	**+0.1**
KRBG	**Karabiga-Canak**	**2.08**	**79**	*e*PN	**Pn**	**11 35 41.0**	**-0.1**
KRBG	**Karabiga-Canak**	**2.08**	**79**	*e*Pn	**Pn**	**11 35 41.0**	**-0.1**
MRMT	**Marmara Adasi**	**2.34**	**75**	*e*PN	**Pn**	**11 35 44.6**	**-0.2**
MRMT	**Marmara Adasi**	**2.34**	**75**	*e*Pn	**Pn**	**11 35 44.6**	**-0.2**
EDRB	**Edirne**	**2.42**	**41**	*e*PN	**Pn**	**11 35 46.3**	**+0.4**
EDRB	**Edirne**	**2.42**	**41**	*e*Pn	**Pn**	**11 35 46.3**	**+0.4**

ISCJB ***12*** *11:36:17.5±1.1,34°.35S±0°.04×72°.16W±0°.06,h16km±8km, mb4.2/10,Error ellipse: s-maj=9.3km s-min=5.7km az=28.5*

IDC ***12*** *11:36:17.1±0.7,34°.38S×72°.06W,h0km,mb3.9/7, mb1 4.2/9,mb1mx4.0/28,mbtmp4.0/9,ML3.5/2,MS3.4/1, Ms1 3.3/1,ms1mx2.9/24,Error ellipse: s-maj=27.9km s-min=17.2km az=95.0*

NEIC ***12*** *11:36:19.6,34°.38S×72°.01W,h34km,mb4.3/4, ML4.5(GUC),After GUC.*

NEIC Felt [III] at Paredones, Pichilemu and San Fernando; [II] at Rancagua and San Antonio.

GUC ***12*** *11:36:19.6±0.4,34°.38S×72°.01W,h34km±2km,ML4.5*

ISC 12 11:36:17.5±1.8,34°.37S±0°.04×72°.05W±0°.06,h6km±10km, n53,σ1§07/64,mb4.2/10,9C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.67**	**52**	⇑*i*P	**Pb**	**11 36 32.2**	**+0.5**
LNV	**Longovilo**	**0.67**	**52**	⇑*i*P	**Pb**	**11 36 32.2**	**+0.5**
NICH	**Los Niches**	**0.93**	**133**	⇑*i*P	**Pb**	**11 36 36.1**	**+0.1**
NICH				*i* S	**Sb**	**11 36 48.2**	**-0.3**
NICH				AML	AML	11 36 51.3	
	comp=E,29µm,0.6s						
NICH	**Los Niches**	**0.93**	**133**	⇑*i*P	**Pb**	**11 36 36.1**	**+0.1**
NICH				*i* S	**Sb**	**11 36 48.2**	**-0.3**
TACH	**Talagante**	**1.17**	**53**	⇓*i*P	**Pg**	**11 36 39.6**	**-0.4**
TACH				*e*S1	**Sg**	**11 36 55.1**	**0.0**
TACH	**Talagante**	**1.17**	**53**	⇓*i*P	**Pg**	**11 36 39.6**	**-0.4**
TACH				*e*S	**Sg**	**11 36 55.1**	**0.0**
CACH	**El Canelo**	**1.23**	**79**	⇑*i*P	**Pg**	**11 36 41.4**	**+0.3**
CACH	**El Canelo**	**1.23**	**79**	⇑*i*P	**Pg**	**11 36 41.4**	**+0.3**
CHCH	**Chadas Angostu**	**1.24**	**70**	⇓*i*P	**Pn**	**11 36 41.1**	**-0.3**
CHCH	**Chadas Angostu**	**1.24**	**70**	⇓*i*P	**Pn**	**11 36 41.1**	**-0.3**
IHA	**Instituto Hidr**	**1.38**	**15**	*e*P	**Pn**	**11 36 43.3**	**0.0**
IHA	**Instituto Hidr**	**1.38**	**15**	*e*P	**Pn**	**11 36 43.3**	**0.0**
ANTU	**Antumapu**	**1.43**	**56**	⇑*i*P	**Pn**	**11 36 44.0**	**+0.1**
ANTU				*e*S1	**Sb**	**11 37 02.5**	**-0.4**
ANTU				AML	AML	11 37 07.4	
	comp=E,12µm,0.4s						
ANTU	**Antumapu**	**1.43**	**56**	⇑*i*P	**Pn**	**11 36 44.0**	**+0.1**
ANTU				*e*S	**Sb**	**11 37 02.5**	**-0.4**
SAN	**Santiago**	**1.48**	**52**	*e*P	**Pn**	**11 36 44.6**	**+0.1**
SAN				*e*S	**Sn**	**11 37 03.8**	**-0.4**
SAN	**Santiago**	**1.48**	**52**	*e*P	**Pn**	**11 36 44.6**	**+0.1**
SAN				*e*S	**Sn**	**11 37 03.8**	**-0.4**
LACH	**Col Las Americ**	**1.56**	**55**	*e*P	**Pn**	**11 36 46.2**	**+0.3**
LACH				*e*S	**Sn**	**11 37 06.3**	**-0.1**
LACH	**Col Las Americ**	**1.56**	**55**	*e*P	**Pn**	**11 36 46.2**	**+0.3**
LACH				*e*S	**Sn**	**11 37 06.3**	**-0.1**
CLCH	**Cerro Calan**	**1.59**	**53**	⇑*i*P	**Pn**	**11 36 46.7**	**+0.5**
CLCH				*i* S	**Sn**	**11 37 07.2**	**0.0**
CLCH				AML	AML	11 37 14.3	
	comp=E,7µm,0.6s						
PEL	**Peldehue**	**1.67**	**43**	⇓*i*P	**Pn**	**11 36 47.9**	**+0.5**
PEL				*i* S	**Sn**	**11 37 09.1**	**0.0**
PEL				AML	AML	11 37 16.1	
	comp=N,12µm,0.6s						
PEL	**Peldehue**	**1.67**	**43**	⇓*i*P	**Pn**	**11 36 47.9**	**+0.5**
PEL				*i* S	**Sn**	**11 37 09.1**	**0.0**
CFAA	**Coronel Fontan**	**4.23**	**50**	Pn	**Pn**	**11 37 25.1**	**+2.7**
	comp=N,0.3nm,0.3s,baz=223,slow=12,SNR=12						
CFAA				Sn	**Sn**	**11 38 16.7**	**+4.5**
	comp=N,1.4nm,0.3s,baz=221,slow=4.0,SNR=4.4						
LCO	**Las Campanas**	**5.46**	**13**	*e*Pn	**Pn**	**11 37 39.6**	**-0.1**
	comp=N,31nm,0.4s						
LCO				*e*Sn	**Sn**	**11 38 41.4**	**-1.6**
PLCA	**Paso Flores**	**6.46**	**170**	Pn	**Pn**	**11 37 55.3**	**+2.1**
	baz=345,slow=13						
PLCA				Lg	Lg	11 39 34.7	
	comp=N,0.6nm,0.3s,baz=233,slow=11,SNR=4.3						
PLCA				LR	LR	11 40 42.3	
	comp=N,273nm,18.8s,baz=38,slow=41						
PLCA	**Paso Flores**	**6.46**	**170**	*e*Pn	**Pn**	**11 37 55.0**	**+1.7**
	comp=N,14nm,0.8s						
PLCA				Lg	Lg	11 39 34.7	
TRQA	**Tornquist**	**8.93**	**117**	*e*Pn	**Pn**	**11 38 26.0**	**-1.1**
TRQA				*e*Sn	**Sn**	**11 40 06.4**	**-1.6**
LPAZ	**La Paz**	**18.35**	**12**	P	**P**	**11 40 35.2**	**+1.9**
	comp=N,0.2nm,0.3s,baz=164,slow=7.4,SNR=8.1						
LPAZ	**La Paz**	**18.35**	**12**	*e*P	**Pn**	**11 40 31.3**	**-1.9**
SIV	**San Ignacio**	**20.80**	**31**	P	**P**	**11 40 59.0**	**-0.5**
	comp=N,1.4nm,0.4s,baz=221,slow=5.2,SNR=3.7						
PMSA	**Palmer Station**	**30.82**	**173**	P	**P**	**11 42 34.2**	**+0.4**
	comp=N,24nm,0.8s,baz=25,slow=15,SNR=4.2						
OTAV	**Otavalo**	**34.95**	**349**	*e*P	**P**	**11 43 08.6**	**-2.2**
	comp=N,1.8nm,0.6s						
PTGA	**Pitinga**	**35.32**	**21**	*e*P	**P**	**11 43 11.7**	**-1.9**
	comp=N,1.7nm,0.6s						
QSPA	**South Pole Qui**	**55.87**	**180**	P	**P**	**11 45 56.9**	**+1.3**
	comp=N,3.1nm,0.9s,baz=136,slow=2.1,SNR=8.1						
QSPA	**South Pole Qui**	**55.87**	**180**	*e*P	**P**	**11 45 55.2**	**-0.5**
	comp=N,2.9nm,0.8s						
TXAR	**Lajitas Array**	**70.05**	**331**	P	**P**	**11 47 31.6**	**+1.3**
	comp=N,0.3nm,0.5s,baz=159,slow=8.0,SNR=5.4						
WVT	**Waverly**	**71.67**	**347**	*e*P	**P**	**11 47 39.8**	**0.0**
	comp=N,8.7nm,0.9s						
ANMO	**Albuquerque**	**76.10**	**331**	*e*P	P	11 48 01.4	-4.7
BOSA	**Boshof**	**79.91**	**118**	P	**P**	**11 48 27.9**	**+0.3**
	comp=N,3.6nm,0.9s,baz=178,slow=2.1,SNR=4.8						
PDAR	**Pinedale Array**	**84.09**	**333**	P	**P**	**11 48 49.5**	**+0.4**
	comp=N,0.4nm,0.7s,baz=145,slow=5.4,SNR=4.4						
NVAR	**Mina Array Bea**	**84.18**	**325**	P	**P**	**11 48 51.1**	**+1.5**
	comp=N,0.6nm,0.7s,baz=144,slow=4.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**84.35**	**70**	P	**P**	**11 48 51.2**	**+0.4**
	comp=N,1.6nm,0.8s,baz=252,slow=3.8,SNR=8.6						
YKA	**Yellowknife Ar**	**102.40**	**341**	P	**Pdif**	**11 50 13.3**	**-0.1**
	comp=N,0.1nm,0.6s,baz=141,slow=4.7,SNR=4.1						
WRA	**Warramunga Arr**	**120.43**	**209**	PKP	**PKPdf**	**11 55 09.7**	**-0.7**
	comp=N,0.2nm,0.4s,baz=160,slow=1.8,SNR=10						
H11S2	**WAKE ISLAND Hyl**	**25.75**	**269**	T	T	14 13 39.8	
	baz=119,slow=76,SNR=8.3						
H11S1	**WAKE ISLAND Hyl**	**25.77**	**269**	T	T	14 13 35.7	
	baz=119,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hyl**	**25.77**	**269**	T	T	14 13 36.2	
	baz=119,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hyl**	**26.17**	**270**	T	T	14 14 14.6	
	baz=115,slow=78,SNR=6.7						
H11N1	**WAKE ISLAND Hyl**	**26.19**	**270**	T	T	14 14 13.1	
	baz=115,slow=78,SNR=23						
H11N2	**WAKE ISLAND Hyl**	**26.19**	**270**	T	T	14 14 12.4	
	baz=115,slow=78,SNR=19						
KURBB	**Kurchatov Arra**	**153.15**	**44**	PKPbc	**PKPbc**	**11 56 15.9**	**+0.3**
	comp=N,0.3nm,0.4s,baz=301,slow=2.8,SNR=7.7						
KURBB				PKPab	**PKPab**	**11 56 27.4**	**+0.1**
	comp=N,0.3nm,0.5s,baz=302,slow=3.2,SNR=4.6						
KURK	**Kurchatov**	**153.16**	**44**	PKPbc	**PKPbc**	**11 56 15.9**	**+0.3**
KURK				PKPab	**PKPab**	**11 56 27.4**	**+0.1**
MKAR	**Makanchi Array**	**157.01**	**50**	PKPab	**PKPab**	**11 56 43.1**	**-0.9**
	comp=N,0.3nm,0.5s,baz=265,slow=4.2,SNR=4.2						
SONM	**Songino Array**	**166.50**	**4**	PKPab	**PKPab**	**11 57 26.2**	**+0.8**
	comp=N,0.2nm,0.6s,baz=336,slow=3.7,SNR=2.8						

ISK ***12*** *11:38:36.0,38°.80N×40°.12E,h5km,ML3.4*

DDA ***12*** *11:38:36.4,38°.78N×40°.09E,h15km,ML3.7*

CSEM ***12*** *11:38:37.5±0.2,38°.78N×40°.08E,h2km,ML3.4,Error ellipse: s-maj=4.5km s-min=4.1km az=171.0*

ISC 12 11:38:37.3±1.1,38°.77N±0°.02×40°.08E±0°.02,h2km±10km, n81,σ0§92/103,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.34**	**72**	*e*Pg	**Pb**	**11 38 46.6**	**+0.5**
BNGB	**Bing¶ll**	**0.52**	**65**	*e*PG	**Pg**	**11 38 46.6**	**-0.6**
SVRC	**Sivrice-ELAZID**	**0.72**	**237**	*e*PG	**Pg**	**11 38 51.5**	**+0.4**
SVRC	**Sivrice-ELAZID**	**0.72**	**237**	*e*Pg	**Pg**	**11 38 51.5**	**+0.4**
DYBB	**Diyarbakir**	**0.82**	**177**	*e*PG	**Pg**	**11 38 53.3**	**+0.3**
DIYA	**Diyarbakir**	**0.85**	**178**	*i* P	**Pg**	**11 38 53.2**	**-0.3**
DIYA				*i* S	**Sb**	**11 39 06.5**	**-0.1**
DIYA	**Diyarbakir**	**0.85**	**178**	*i* P	**Pg**	**11 38 53.2**	**-0.3**
DIYA				*i* S	**Sb**	**11 39 06.5**	**-0.1**
BNGL	**BINGOL**	**0.86**	**78**	*i* P	**Pg**	**11 38 52.1**	**-1.6**
BNGL				*i* S	**Sb**	**11 39 06.2**	**-0.8**
ERZN	**Erzincan**	**0.86**	**341**	*e*PG	**Pg**	**11 38 53.5**	**-0.3**
DIY	**Diyarbakir**	**0.88**	**172**	*e*Pg	**Pg**	**11 38 53.3**	**-0.9**
ELZG	**Elazig**	**0.90**	**253**	*i* P	**Pg**	**11 38 53.4**	**-1.1**
ELZG				*i* S	**Sn**	**11 39 10.0**	**-0.7**
ELZG	**Elazig**	**0.90**	**253**	*i* P	**Pg**	**11 38 53.4**	**-1.1**
ELZG				*i* S	**Sn**	**11 39 10.0**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.08**	**125**	*e*PG	**Pg**	**11 38 57.7**	**-0.2**
SVAN				*e*SG	**Sb**	**11 39 13.2**	**+0.1**
VRTB	**Varto-Mus**	**1.14**	**70**	*e*PN	**Pg**	**11 38 58.0**	**-1.1**
BTMT	**Batman**	**1.25**	**117**	*e*PN	**Pg**	**11 39 00.4**	**-0.8**
BTMT	**Batman**	**1.25**	**117**	*e*Pn	**Pg**	**11 39 00.4**	**-0.8**
KOPT	**Kop Dagi**	**1.28**	**15**	*i* P	**Pg**	**11 39 00.8**	**-1.1**
KOPT	**Kop Dagi**	**1.28**	**15**	*i* P	**Pg**	**11 39 00.8**	**-1.1**
KOPT				*i* S	**Sn**	**11 39 23.7**	**+3.2**
BEST	**Besiri**	**1.29**	**133**	*i* P	**Pg**	**11 39 00.8**	**-1.1**
BEST				*i* S	**Sb**	**11 39 19.0**	**-0.3**
KEMA	**Kemaliye**	**1.33**	**292**	*i* P	Pg	11 38 59.4	-3.4
KEMA				*i* S	**Sg**	**11 39 20.3**	**+0.3**
KEMA	**Kemaliye**	**1.33**	**292**	*i* P	Pg	11 38 59.4	-3.4
KEMA				*i* S	**Sg**	**11 39 20.3**	**+0.3**
MAZI	**Mazidag**	**1.34**	**167**	*e*PN	**Pb**	**11 39 03.2**	**0.0**
MAZI	**Mazidag**	**1.34**	**167**	*e*Pn	**Pb**	**11 39 03.2**	**0.0**
ILIC	**ilic-Erzincan**	**1.36**	**300**	*e*PN	**Pn**	**11 39 02.9**	**-0.4**
ILIC	**ilic-Erzincan**	**1.36**	**300**	*e*Pn	**Pn**	**11 39 02.9**	**-0.4**
MALT	**Malatya**	**1.37**	**251**	*e*PN	**Pb**	**11 39 03.9**	**+0.2**
MALT	**Malatya**	**1.37**	**251**	*e*Pn	**Pb**	**11 39 03.9**	**+0.2**
EZM	**Erzurum**	**1.51**	**41**	*e*PN	**Pn**	**11 39 04.8**	**-0.8**
ERZM	**Erzurum**	**1.51**	**41**	*i* P	**Pn**	**11 39 04.4**	**-1.2**
ERZM				*i* S	**Sg**	**11 39 27.7**	**+1.9**
ERZM	**Erzurum**	**1.51**	**41**	*i* P	**Pn**	**11 39 04.4**	**-1.2**
ERZM				*i* S	**Sg**	**11 39 27.7**	**+1.9**
KELT	**Kelkit**	**1.51**	**335**	*i* P	**Pn**	**11 39 04.9**	**-0.7**
KELT				*i* S	**Sn**	**11 39 25.3**	**-0.7**
KELT	**Kelkit**	**1.51**	**335**	*i* P	**Pn**	**11 39 04.9**	**-0.7**
KELT				*i* S	**Sn**	**11 39 25.3**	**-0.7**
MARD	**Mardin**	**1.56**	**159**	*i* P	**Pn**	**11 39 04.9**	**-1.2**
MARD				*i* S	**Sn**	**11 39 26.7**	**-0.2**
BAYT	**Ayd¨–ntepe-Bay**	**1.62**	**2**	*e*PN	**Pn**	**11 39 06.3**	**-0.7**
BAYT	**Ayd¨–ntepe-Bay**	**1.62**	**2**	*e*Pn	**Pn**	**11 39 06.3**	**-0.7**
EKAR	**Karacoban**	**1.62**	**72**	*i* P	**Pn**	**11 39 07.2**	**+0.2**
EKAR				*i* S	**Sg**	**11 39 31.4**	**+2.0**
EKAR	**Karacoban**	**1.62**	**72**	*i* P	**Pn**	**11 39 07.2**	**+0.2**
EKAR				*i* S	**Sg**	**11 39 31.4**	**+2.0**
URFA	**Urfa**	**1.66**	**217**	*e*PN	**Pn**	**11 39 07.2**	**-0.2**
URFA	**Urfa**	**1.66**	**217**	*e*Pn	**Pn**	**11 39 07.2**	**-0.2**
GUMT	**Gumushane**	**1.75**	**345**	*e*PN	**Pn**	**11 39 08.2**	**-0.5**
GUMT	**Gumushane**	**1.75**	**345**	*e*Pn	**Pn**	**11 39 08.2**	**-0.5**
AKCD	**Akcadag**	**1.76**	**255**	*i* P	**Pb**	**11 39 10.0**	**-0.3**
AKCD	**Akcadag**	**1.76**	**255**	*i* P	**Pb**	**11 39 10.0**	**-0.3**
AKCD				*i* S	Sg	11 39 39.9	+6.2
DARE	**Darende-Malaty**	**2.04**	**265**	*e*PN	**Pb**	**11 39 13.9**	**-1.2**
DARE	**Darende-Malaty**	**2.04**	**265**	*e*Pn	**Pb**	**11 39 13.9**	**-1.2**
SUSE	**Susehri**	**2.04**	**315**	*i* P	**Pn**	**11 39 13.9**	**+1.1**
SUSE				*i* S	**Sb**	**11 39 40.7**	**-0.3**
SUSE	**Susehri**	**2.04**	**315**	*i* P	**Pn**	**11 39 13.9**	**+1.1**
SUSE				*i* S	**Sb**	**11 39 40.7**	**-0.3**
KTUT	**Trabzon**	**2.23**	**354**	*e*PN	**Pn**	**11 39 14.9**	**-0.2**
KTUT	**Trabzon**	**2.23**	**354**	*e*Pn	**Pn**	**11 39 14.9**	**-0.2**
SIRT	**Sirnak**	**2.25**	**124**	*e*PN	**Pn**	**11 39 16.3**	**+0.7**
SIRT	**Sirnak**	**2.25**	**124**	*e*Pn	**Pn**	**11 39 16.3**	**+0.7**
ESPY	**Espiye-Giresun**	**2.38**	**335**	*e*PN	**Pn**	**11 39 18.2**	**+0.9**
ESPY	**Espiye-Giresun**	**2.38**	**335**	*e*Pn	**Pn**	**11 39 18.2**	**+0.9**
GEVA	**Gevas**	**2.38**	**100**	*i* P	**Pb**	**11 39 19.7**	**-1.3**
GEVA	**Gevas**	**2.38**	**100**	*i* P	**Pb**	**11 39 19.7**	**-1.3**
GEVA				*i* S	**Sg**	**11 39 54.1**	**+0.3**
AGRB	**Hanur-Agry**	**2.40**	**70**	*e*PN	**Pn**	**11 39 17.3**	**-0.5**
AGRB	**Hanur-Agry**	**2.40**	**70**	*e*Pn	**Pn**	**11 39 17.3**	**-0.5**
GZT	**Gaziantep**	**2.44**	**235**	*i* P	**Pn**	**11 39 17.0**	**-1.2**
GZT				*i* S	**Sg**	**11 39 56.2**	**+0.6**
GRSN	**GIRESUNGRSN**	**2.56**	**328**	*i* P	**Pn**	**11 39 20.7**	**+0.9**
GRSN				*i* S	**Sb**	**11 39 56.3**	**+0.4**
GRSN	**GIRESUNGRSN**	**2.56**	**328**	*i* P	**Pn**	**11 39 20.7**	**+0.9**
GRSN				*i* S	**Sb**	**11 39 56.3**	**+0.4**
VANB	**Van**	**2.60**	**93**	*e*PN	**Pn**	**11 39 21.1**	**+0.7**
VANB	**Van**	**2.60**	**93**	*e*Pn	**Pn**	**11 39 21.1**	**+0.7**
SVSK	**Karacayir**	**2.65**	**297**	*e*PN	**Pn**	**11 39 22.1**	**+1.2**
SVSK	**Karacayir**	**2.65**	**297**	*e*Pn	**Pn**	**11 39 22.1**	**+1.2**
RSDY	**Resadiye-TOKAT**	**2.67**	**308**	*e*PN	**Pn**	**11 39 22.5**	**+1.2**
RSDY	**Resadiye-TOKAT**	**2.67**	**308**	*e*Pn	**Pn**	**11 39 22.5**	**+1.2**
KMRS	**Kahramanmaras**	**2.81**	**244**	*e*PN	**Pn**	**11 39 24.4**	**+1.3**
KMRS	**Kahramanmaras**	**2.81**	**244**	*e*Pn	**Pn**	**11 39 24.5**	**+1.3**
BCA	**Borcka**	**2.92**	**23**	*e*PN	**Pn**	**11 39 24.4**	**-0.3**
BCA	**Borcka**	**2.92**	**23**	*e*Pn	**Pn**	**11 39 24.5**	**-0.3**
KUZU	**Kuzuini**	**3.10**	**231**	*i* P	**Pg**	**11 39 35.3**	**-1.5**
KUZU				*i* S	**Sg**	**11 40 17.3**	**+0.3**
HKR	**Hakkari**	**3.12**	**111**	*e*PN	**Pn**	**11 39 28.3**	**+0.6**
HKR	**Hakkari**	**3.12**	**111**	*e*Pn	**Pn**	**11 39 28.3**	**+0.6**
ANDN	**Andirin**	**3.17**	**249**	*i* P	**Pb**	**11 39 34.1**	**-0.3**
ANDN	**Andirin**	**3.17**	**249**	*i* P	**Pb**	**11 39 34.1**	**-0.3**
ANDN				*i* S	Sg	11 40 25.6	+6.4
CUKT	**Cukurca**	**3.18**	**118**	*e*PN	**Pn**	**11 39 29.2**	**+0.9**
CUKT	**Cukurca**	**3.18**	**118**	*e*Pn	**Pn**	**11 39 29.2**	**+0.9**
BNN	**Bunyan**	**3.31**	**273**	*e*PN	**Pn**	**11 39 30.7**	**+0.6**
BNN	**Bunyan**	**3.31**	**273**	*e*Pn	**Pn**	**11 39 30.7**	**+0.6**
KOZT	**Kozan**	**3.59**	**250**	*e*PN	**Pn**	**11 39 35.0**	**+1.0**
KOZT	**Kozan**	**3.59**	**250**	*e*Pn	**Pn**	**11 39 35.0**	**+1.0**

IDC ***12*** *11:42:45.3±0.6,35°.49N×27°.24E,h0km,mb4.0/22, mb1 4.0/28,mb1mx4.0/51,mbtmp4.0/28,ML3.8/5,MS3.4/1, Ms1 3.4/1,ms1mx2.6/39,Error ellipse: s-maj=15.3km s-min=12.5km az=164.0*

ISK ***12*** *11:42:47.6,35°.41N×27°.40E,h10km,ML3.8*

NSSC ***12*** *11:42:47.3±1.5,35°.81N×27°.33E,h36km±999km,MD2.3, ML3.5*

HLW ***12*** *11:42:48.1,35°.50N×27°.42E,h33km±19km,Md3.9,Ml4.1*

ISCJB ***12*** *11:42:49.3±0.2,35°.33N±0°.02×27°.41E±0°.02,h42km±3km, mb4.0/29,MS3.3/1,Error ellipse: s-maj=3.3km s-min=2.5km az=10.5*

CSEM ***12*** *11:42:50.6±0.1,35°.34N×27°.41E,h30km,mb4.0/4,Error ellipse: s-maj=3.1km s-min=2.4km az=13.0*

NEIC ***12*** *11:42:51.4,35°.58N×27°.21E,h31km,mb4.2/9, ML4.0(ATH),After ATH.*

ATH ***12*** *11:42:51.4,35°.58N×27°.21E,h31km,MD3.8/20,ML4.0*

DDA ***12*** *11:43:02.3,36°.25N×28°.20E,h13km,ML4.3*

ISC 12 11:42:49.9±0.8,35°.38N±0°.04×27°.39E±0°.03,h32km±6km, n328,σ1§63/365,mb4.0/29,7C-4D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.25**	**312**	*e*PB	**Pb**	**11 42 56.6**	**-0.4**
KARP				*e*SB	**Sb**	**11 43 00.8**	**-1.0**
KARP	**Karpathos**	**0.25**	**312**	*e*Pb	**Pb**	**11 42 56.6**	**-0.4**
KARP				*e*Sb	**Sb**	**11 43 00.8**	**-1.0**
ZKR	**Zakros**	**0.99**	**255**	*e*PB	**Pb**	**11 43 08.6**	**-0.1**
ZKR				*e*SN	**Sb**	**11 43 23.9**	**+2.4**
ZKR	**Zakros**	**0.99**	**255**	*e*Pb	**Pb**	**11 43 08.6**	**-0.1**
ZKR				*e*Sn	**Sb**	**11 43 23.9**	**+2.4**
ARG	**Arkhangelos**	**1.03**	**36**	*e*PN	**Pb**	**11 43 09.8**	**+0.6**
ARG				*e*SN	**Sb**	**11 43 24.3**	**+2.0**
ARG	**Arkhangelos**	**1.03**	**36**	*e*Pn	**Pb**	**11 43 09.8**	**+0.6**
ARG				*e*Sn	**Sb**	**11 43 24.3**	**+2.0**
NIS1	**Nisyros Isl.**	**1.23**	**352**	*e*PN	**Pn**	**11 43 11.4**	**+0.5**
NIS1	**Nisyros Isl.**	**1.23**	**352**	*e*Pn	**Pn**	**11 43 11.4**	**+0.5**
NPS	**Neapolis**	**1.46**	**266**	*e*PN	**Pb**	**11 43 16.2**	**-0.2**
NPS				*e*SN	**Sb**	**11 43 34.3**	**-0.3**
NPS	**Neapolis**	**1.46**	**266**	*e*Pn	**Pb**	**11 43 16.2**	**-0.2**
NPS				*e*Sn	**Sb**	**11 43 34.3**	**-0.3**
LAST	**Lasithi**	**1.58**	**263**	*e*PN	**Pb**	**11 43 18.9**	**+0.4**
LAST				*e*SN	**Sn**	**11 43 36.2**	**+1.1**
LAST	**Lasithi**	**1.58**	**263**	*e*Pn	**Pb**	**11 43 18.9**	**+0.4**
LAST				*e*Sn	**Sn**

PYL	PYLOS	4.81 290	*e*PN	Pn	11 44 03.3 +3.2
PYL	PYLOS	4.81 290	*e*Pn	Pn	11 44 03.3 +3.2
SMIA	Simia	4.83 317	*e*PN	Pn	11 44 00.8 +0.4
SMIA	Simia	4.83 317	*e*Pn	Pn	11 44 00.8 +0.4
LIA	Limnos Island	4.84 339	*e*PN	Pn	11 44 02.0 +1.6
LIA	Limnos Island	4.84 339	*e*Pn	Pn	11 44 02.0 +1.6
LADK	Ladik-KONYA	4.88 53	*e*PN	Pn	11 44 03.1 +1.9
LADK	Ladik-KONYA	4.88 53	*e*Pn	Pn	11 44 03.1 +1.9
CSS	Prodhromos	4.88 93	*e*PN	Pn	11 44 03.3 +2.1
CSS	Prodhromos	4.88 93	*e*Pn	Pn	11 44 01.7 +0.5
	6.8nm,0.7s				
CSS			*e*Sn	Sn	11 45 01.7 +5.1
CSS	Prodhromos	4.88 93	*e*Pn	Pn	11 44 01.7 +0.5
	6.9nm,0.7s				
CSS			*e*Sn	Sn	11 45 01.7 +5.1
SKIA	Skiathos	4.90 322	*e*PN	Pn	11 44 02.6 +1.2
SKIA	Skiathos	4.90 322	*e*Pn	Pn	11 44 02.6 +1.2
DSF	Desfina	4.93 309	*e*PN	Pn	11 44 02.1 +0.3
DSF	Desfina	4.93 309	*e*Pn	Pn	11 44 02.1 +0.3
KCTX	Karacabey (Bur	4.94 9	*e*PN	Pn	11 44 03.6 +1.8
KCTX	Karacabey (Bur	4.94 9	*e*Pn	Pn	11 44 03.6 +1.8
KLV	Kalavryta, Ach	4.98 304	*e*PN	Pn	11 44 05.1 +2.7
KLV	Kalavryta, Ach	4.98 304	*e*Pn	Pn	11 44 05.1 +2.7
KRBG	Karabiga-Canak	5.00 359	*e*PN	Pn	11 44 04.5 +1.8
KRBG	Karabiga-Canak	5.00 359	*e*Pn	Pn	11 44 04.5 +1.8
KIZT	Kizilcal	5.01 44	*e*PN	Pn	11 44 04.8 +1.9
KIZT	Kizilcal	5.01 44	*e*Pn	Pn	11 44 04.8 +1.9
LPK	Lapseki	5.01 354	*e*PN	Pn	11 44 05.0 +2.2
LPK	Lapseki	5.01 354	*e*Pn	Pn	11 44 05.0 +2.2
LFK	Lefkose	5.02 89	*e*PN	Pn	11 44 05.5 +2.4
LFK	Lefkose	5.02 89	*e*Pn	Pn	11 44 05.5 +2.4
AMT	Artemida-Makis	5.06 297	*e*PN	Pn	11 44 04.4 +0.9
AMT	Artemida-Makis	5.06 297	*e*Pn	Pn	11 44 04.4 +0.9
GELI	Tayfur-Gelibol	5.06 352	*e*PN	Pn	11 44 05.0 +1.5
GELI	Tayfur-Gelibol	5.06 352	*e*Pn	Pn	11 44 05.0 +1.5
AXAR	Agios Charalam	5.07 313	*e*PN	Pn	11 44 04.5 +0.8
AXAR	Agios Charalam	5.07 313	*e*Pn	Pn	11 44 04.5 +0.8
NEO	Neokhori	5.13 321	*e*PN	Pn	11 44 05.9 +1.3
NEO	Neokhori	5.13 321	*e*Pn	Pn	11 44 05.9 +1.3
KALE	Kalithea	5.17 307	*e*PN	Pn	11 44 07.4 +2.3
KALE	Kalithea	5.17 307	*e*Pn	Pn	11 44 07.4 +2.3
XOR	Xorichti	5.19 321	*e*PN	Pn	11 44 05.7 +0.3
XOR	Xorichti	5.19 321	*e*Pn	Pn	11 44 05.7 +0.3
MRMT	Marmara Adasi	5.21 2	*e*PN	Pn	11 44 08.0 +2.3
MRMT	Marmara Adasi	5.21 2	*e*Pn	Pn	11 44 08.0 +2.3
DRO	Drossia	5.24 301	*e*PN	Pn	11 44 07.7 +1.7
DRO	Drossia	5.24 301	*e*Pn	Pn	11 44 07.7 +1.7
SMTH	Samothraki Isl	5.29 344	*e*PN	Pn	11 44 07.1 +0.4
SMTH	Samothraki Isl	5.29 344	*e*Pn	Pn	11 44 07.1 +0.4
ARMT	Armutlu	5.30 12	*e*PN	Pn	11 44 09.0 +2.1
ARMT	Armutlu	5.30 12	*e*Pn	Pn	11 44 09.0 +2.1
ADVT	Abdulvahap	5.37 20	*e*PN	Pn	11 44 09.9 +2.2
ADVT	Abdulvahap	5.37 20	*e*Pn	Pn	11 44 10.0 +2.2
AGG	Agios Georgios	5.43 313	*e*PN	Pn	11 44 09.9 +1.2
AGG	Agios Georgios	5.43 313	*e*Pn	Pn	11 44 09.9 +1.2
RLS	Riolos of Patr	5.46 301	*e*PN	Pn	11 44 11.1 +2.2
RLS	Riolos of Patr	5.46 301	*e*Pn	Pn	11 44 11.1 +2.2
MAKR	Makrakomi, Fth	5.54 312	*e*PN	Pn	11 44 12.2 +2.0
MAKR	Makrakomi, Fth	5.54 312	*e*Pn	Pn	11 44 12.2 +2.0
ALN	Alexandroupoli	5.61 350	*e*PN	Pn	11 44 12.2 +1.2
ALN	Alexandroupoli	5.61 350	*e*Pn	Pn	11 44 12.2 +1.2
EVR	Evrytania	5.68 310	*e*PN	Pn	11 44 14.3 +2.1
EVR	Evrytania	5.68 310	*e*Pn	Pn	11 44 14.3 +2.1
PDO	Prodromos	5.91 305	*e*PN	Pn	11 44 17.2 +2.0
PDO	Prodromos	5.91 305	*e*Pn	Pn	11 44 17.2 +2.0
THL	Klokotos Trika	5.97 316	*e*PN	Pn	11 44 18.7 +2.6
THL	Klokotos Trika	5.97 316	*e*Pn	Pn	11 44 18.7 +2.6
LIT	Litokhoron	6.10 322	*e*PN	Pn	11 44 20.0 +2.1
LIT	Litokhoron	6.10 322	*e*Pn	Pn	11 44 20.0 +2.1
VLS	Valsamata	6.13 299	*e*PN	Pn	11 44 20.9 +2.7
VLS	Valsamata	6.13 299	*e*Pn	Pn	11 44 20.9 +2.7
ANTO	Ankara	6.20 42	*e*Pn	Pn	11 44 20.9 +1.6
	20nm,0.7s				
ANTO	Ankara	6.20 42	*e*Pn	Pn	11 44 20.9 +1.6
	20nm,0.7s				
GULE	Gulek	6.26 70	*i* P	Pn	11 44 22.8 +2.7
GULE	Gulek	6.26 70	*i* P	Pn	11 44 22.8 +2.7
HMYD	Mayadein	6.27 152	P	Pn	11 44 20.6 +0.4
	baz=152				
HMYD	Mayadein	6.27 152	P	Pn	11 44 20.6 +0.4
SWA2		6.34 195	P	Pn	11 44 22.2 +1.1
	baz=196				
SWA2			S	Sn	11 45 30.4 -1.9
	baz=196				
SWA2		6.34 195	P	Pn	11 44 22.2 +1.1
SWA2			S	Sn	11 45 30.4 -1.9
HNAT	Natroun	6.35 154	P	Pn	11 44 21.5 +0.3
	baz=154				
HNAT	Natroun	6.35 154	P	Pn	11 44 21.5 +0.3
FYM	Al Fayyum	6.46 150	P	Pn	11 44 23.4 +0.6
	baz=151				
FYM	Al Fayyum	6.46 150	P	Pn	11 44 23.4 +0.6
BRTR	Keskin Array B	6.59 47	Pn	Pn	11 44 26.3 +1.6
	1.1nm,0.3s,baz=219,slow=15,SNR=30				
KOT	Kottamia	6.60 144	P	Pn	11 44 25.0 +0.2
	baz=145				
KOT	Kottamia	6.60 144	P	Pn	11 44 25.0 +0.2
KNT	Kendrikon	6.76 330	*e*PN	Pn	11 44 29.6 +2.7
KNT	Kendrikon	6.76 330	*e*Pn	Pn	11 44 29.6 +2.7
AMAG	Maghara	6.80 132	P	Pn	11 44 27.4 -0.1
	baz=133				
AMAG	Maghara	6.80 132	P	Pn	11 44 27.4 -0.1
GLL	Jalalah	6.84 147	P	Pn	11 44 28.5 +0.4
	baz=147				
GLL	Jalalah	6.84 147	P	Pn	11 44 28.5 +0.4
RSH		6.90 128	P	Pn	11 44 29.2 +0.4
	baz=128				
RSH		6.90 128	P	Pn	11 44 29.2 +0.4
MMAI	Mount Meron Ar	7.05 107	Pn	Pn	11 44 30.6 -0.3
	6.3nm,0.3s,baz=306,slow=13,SNR=8.0				
MMAI			Sn	Sn	11 45 48.0 -1.9
	7.3nm,0.3s,baz=294,slow=25,SNR=7.4				
SUZ		7.18 139	P	Pn	11 44 33.3 +0.6
	baz=139				
SUZ		7.18 139	P	Pn	11 44 33.3 +0.6
BIDA	Albida	7.32 90	*e*P	Pn	11 44 34.3 -0.4
	SNR=90				
BIDA			*e*S	Sn	11 45 49.8 -6.9
	62nm,0.5s,SNR=90				
BIDA	Albida	7.32 90	*e*P	Pn	11 44 34.3 -0.4
BIDA			*e*S	Sn	11 45 49.8 -6.9
BIDA			AML	AML	11 45 59.2
	comp=N,115nm,0.4s				
BIDA			AML	AML	11 46 13.0
	comp=E,62nm,0.5s				
BIDA	Albida	7.32 90	*e*P	Pn	11 44 34.0 -0.6
BIDA			*i* S	Sn	11 45 48.9 -7.9
BIDA			*e*S	Sn	11 45 48.9 -7.9
BIDA			AML	AML	11 45 58.2
	comp=E,74nm,0.6s				
BIDA			AML	AML	11 45 59.2
	comp=N,115nm,0.4s				
BRBR	Barbar	7.34 103	*e*P	Pn	11 44 35.0 -0.1
	SNR=90				
BRBR			*e*S	Sn	11 45 53.9 -3.6
	comp=N,76nm,0.6s,SNR=90				
BRBR	Barbar	7.34 103	*e*P	Pn	11 44 35.0 -0.1
BRBR			*e*S	Sn	11 45 53.9 -3.6
BRBR			AML	AML	11 46 00.3
	comp=N,25nm,0.7s				
BRBR			AML	AML	11 46 00.4
	comp=E,76nm,0.6s				
BRBR	Barbar	7.34 103	*e*P	Pn	11 44 35.5 +0.4
BRBR			*i* S	Sn	11 45 52.6 -4.9
BRBR			*e*S	Sn	11 45 52.6 -4.9
BRBR			AML	AML	11 46 00.3
	comp=N,25nm,0.7s				
HAWK	Haweek	7.45 94	*e*P	Pn	11 44 36.0 -0.5
	SNR=90				
HAWK			*e*S	Sn	11 45 55.6 -4.4
	comp=N,39nm,0.5s,SNR=90				
HAWK	Haweek	7.45 94	*e*P	Pn	11 44 36.0 -0.5
HAWK			*e*S	Sn	11 45 55.6 -4.4
HAWK			AML	AML	11 45 58.6
	comp=N,53nm,0.5s				
HAWK			AML	AML	11 46 00.4
	comp=E,39nm,0.5s				
HAWK	Haweek	7.45 94	*e*P	Pn	11 44 35.5 -1.0
HAWK			*e*S	Sn	11 45 52.2 -7.7
HAWK			AML	AML	11 45 58.6
	comp=N,53nm,0.5s				
HAWK			AML	AML	11 46 00.3
	comp=E,39nm,0.5s				
HNKL	Nakhl	7.77 133	P	Pn	11 44 41.5 +0.6
	baz=133				
HNKL	Nakhl	7.77 133	P	Pn	11 44 41.4 +0.6
ASF	Jabal al Asfar	8.54 109	Pn	Pn	11 44 52.1 +0.7
	comp=E,0.5nm,0.3s,baz=268,slow=3.6,SNR=4.3				
ASF			Sn	Sn	11 46 25.2 -1.5
	comp=E,0.6nm,0.3s,baz=233,slow=19,SNR=4.3				
EIL	Elat	8.55 130	Pn	Pn	11 44 51.3 -0.2
	comp=E,1.5nm,0.3s,baz=322,slow=3.2,SNR=24				
EIL			Sn	Sn	11 46 21.9 -5.0
	comp=E,7.7nm,0.3s,baz=336,slow=18,SNR=16				
TIRR	Tirgusor	9.10 5	⇓*iP*	Pn	11 45 01.0 +2.1
TIRR	Tirgusor	9.10 5	⇓*iP*	Pn	11 45 01.0 +2.1
HUMR	Humele	9.32 349	⇑*iP*	Pn	11 45 05.8 +3.9
HUMR	Humele	9.32 349	⇑*iP*	Pn	11 45 05.8 +3.9
SULR		9.33 355	⇑*iP*	Pn	11 44 55.2 -6.8
CFR	Carcaliu	9.80 3	⇓*iP*	Pn	11 45 09.9 +1.4
CFR	Carcaliu	9.80 3	⇓*iP*	Pn	11 45 09.9 +1.4
MLR	Muntele Rosu	10.16 354	⇑*iP*	Pn	11 45 17.1 +3.6
MLR	Muntele Rosu	10.16 354	Pn	Pn	11 45 13.7 +0.2
	comp=E,0.2nm,0.3s,baz=348,slow=16,SNR=4.4				
MLR	Muntele Rosu	10.16 354	⇑*iP*	Pn	11 45 17.1 +3.6
VOIR		10.20 351	⇑*iP*	Pn	11 45 17.9 +3.8
VOIR		10.20 351	⇑*iP*	Pn	11 45 17.9 +3.8
KOLS	Kolonicke sedl	14.06 346	*e*	P	11 46 12.9 -1.2
KBZ	Khabaz	14.56 50	Pn	P	11 46 17.7 -2.0
	comp=E,0.0nm,0.3s,baz=241,slow=19,SNR=2.3				
KEST	Kesra	14.70 277	Pn	P	11 46 18.6 -2.7
	comp=E,0.1nm,0.3s,baz=357,slow=5.5,SNR=3.9				
SBF	Sospel	17.52 305	*e*P	Pn	11 46 51.5 -0.2
SBF	Sospel	17.52 305	*e*P	Pn	11 46 51.5 -0.2
SBF	Sospel	17.52 305	*e*P	Pn	11 46 51.5 -0.2
FRF	La Foret Royal	17.95 303	*e*P	P	11 46 57.4 +0.2
FRF	La Foret Royal	17.95 303	*e*P	P	11 46 57.4 +0.2
FRF	La Foret Royal	17.95 303	*e*P	P	11 46 57.4 +0.2
MBDF	Montbardon	18.30 307	*e*P	Pn	11 47 03.5 +2.2
	comp=E,10nm,0.8s				
MBDF	Montbardon	18.30 307	*e*P	Pn	11 47 03.5 +2.2
	comp=E,5.1nm,0.8s				
MBDF	Montbardon	18.30 307	*e*P	Pn	11 47 03.5 +2.2
	comp=E,10nm,0.8s				
LPG	La Plagne	18.63 309	*e*P	Pn	11 47 07.1 +1.6
	comp=E,12nm,0.8s				
LPG	La Plagne	18.63 309	*e*P	Pn	11 47 07.1 +1.6
	comp=E,5.9nm,0.8s				
LPG	La Plagne	18.63 309	*e*P	Pn	11 47 07.1 +1.6
	comp=E,12nm,0.8s				
LPL	La Plagne	18.65 309	*e*P	Pn	11 47 07.0 +1.3
LPL	La Plagne	18.65 309	*e*P	Pn	11 47 07.0 +1.3
LPL	La Plagne	18.65 309	*e*P	Pn	11 47 07.0 +1.3
SMRF	Simiane la Rot	18.82 304	*e*P	Pn	11 47 08.2 +0.7
SMRF	Simiane la Rot	18.82 304	*e*P	Pn	11 47 08.2 +0.7
SMRF	Simiane la Rot	18.82 304	*e*P	Pn	11 47 08.2 +0.7
ORIF	Oris-en-Rattie	18.95 307	*e*P	Pn	11 47 10.0 +0.8
	comp=E,22nm,1.2s				
ORIF	Oris-en-Rattie	18.95 307	*e*P	Pn	11 47 10.0 +0.8
	comp=E,11nm,1.2s				
ORIF	Oris-en-Rattie	18.95 307	*e*P	Pn	11 47 10.0 +0.8
	comp=E,22nm,1.2s				
CABF	La Chapelle	19.54 312	*e*P	P	11 47 15.1 +0.3
	comp=E,9.1nm,0.6s				
CABF	La Chapelle	19.54 312	*e*P	P	11 47 15.1 +0.3
	comp=E,4.6nm,0.6s				
CABF	La Chapelle	19.54 312	*e*P	P	11 47 15.1 +0.3
	comp=E,9.1nm,0.6s				
HINF	Hinteralfeld	19.68 315	*e*P	Pn	11 47 18.6 +0.8
HINF	Hinteralfeld	19.68 315	*e*P	Pn	11 47 18.6 +0.8
HINF	Hinteralfeld	19.68 315	*e*P	Pn	11 47 18.6 +0.8
VIVF	Saint-Julien-l	19.73 306	*e*P	Pn	11 47 19.0 +0.6
VIVF	Saint-Julien-l	19.73 306	*e*P	Pn	11 47 19.0 +0.6
VIVF	Saint-Julien-l	19.73 306	*e*P	Pn	11 47 19.0 +0.6
CDF	Champ du Feu	19.76 317	*e*P	Pn	11 47 19.5 +0.6
CDF	Champ du Feu	19.76 317	*e*P	Pn	11 47 19.5 +0.6
CDF	Champ du Feu	19.76 317	*e*P	Pn	11 47 19.5 +0.6
SMF	Signal de Mont	20.95 310	*e*P	P	11 47 30.3 +0.3
	comp=E,8.6nm,0.8s				
SMF	Signal de Mont	20.95 310	*e*P	P	11 47 30.3 +0.3
	comp=E,4.3nm,0.8s				
SMF	Signal de Mont	20.95 310	*e*P	P	11 47 30.3 +0.3
	comp=E,8.6nm,0.8s				
LOR	Lormes	21.20 311	*e*P	P	11 47 34.7 +2.0
	comp=E,8.7nm,0.8s				
LOR	Lormes	21.20 311	*e*P	P	11 47 34.7 +2.0
	comp=E,4.3nm,0.8s				
LOR	Lormes	21.20 311	*e*P	P	11 47 34.7 +2.0
	comp=E,8.7nm,0.8s				
AVF	Avril sur Loir	21.32 310	*e*P	P	11 47 35.8 +1.9
AVF	Avril sur Loir	21.32 310	*e*P	P	11 47 35.8 +1.9
AVF	Avril sur Loir	21.32 310	*e*P	P	11 47 35.8 +1.9
SSF	Saint Saulge	21.33 310	*e*P	P	11 47 35.8 +1.7
	comp=E,14nm,0.9s				
SSF	Saint Saulge	21.33 310	*e*P	P	11 47 35.8 +1.7
	comp=E,7.2nm,0.9s				
SSF	Saint Saulge	21.33 310	*e*P	P	11 47 35.8 +1.7
	comp=E,14nm,0.9s				
BGF	Bois d'Agland	21.55 309	*e*P	P	11 47 38.5 +2.1
	comp=E,13nm,0.8s				
BGF	Bois d'Agland	21.55 309	*e*P	P	11 47 38.5 +2.1
	comp=E,6.7nm,0.8s				
BGF	Bois d'Agland	21.55 309	*e*P	P	11 47 38.5 +2.1
	comp=E,13nm,0.8s				
RJF	Les Rejaudoux	21.99 305	*e*P	P	11 47 42.8 +1.7
RJF	Les Rejaudoux	21.99 305	*e*P	P	11 47 42.8 +1.7
RJF	Les Rejaudoux	21.99 305	*e*P	P	11 47 42.8 +1.7
TAM	Tamanrasset	22.80 242	*e*P	P	11 47 52.8 +2.7
	comp=E,4.5nm,1.1s				
TAM	Tamanrasset	22.80 242	*e*P	P	11 47 52.8 +2.7
	comp=E,4.5nm,1.1s				
GEYT	Alibeck	24.73 75	P	P	11 48 09.3 +0.9
	comp=E,2.1nm,0.5s,baz=266,slow=14,SNR=3.5				
GEYT			LR	LR	12 00 50.7
	comp=E,93nm,19.4s,baz=220,slow=44				
ESDC	Sonseca Array	25.16 289	P	P	11 48 11.6 -0.7
	comp=E,0.7nm,0.5s,baz=77,slow=9.9,SNR=4.8				
SGMF	Saint Gilles	25.58 309	*e*P	P	11 48 16.5 +0.6
SGMF	Saint Gilles	25.58 309	*e*P	P	11 48 16.5 +0.6
SGMF	Saint Gilles	25.58 309	*e*P	P	11 48 16.5 +0.6
ROSF	Rostrenen	26.06 309	*e*P	P	11 48 20.4 +0.2
ROSF	Rostrenen	26.06 309	*e*P	P	11 48 20.4 +0.2
ROSF	Rostrenen	26.06 309	*e*P	P	11 48 20.4 +0.2
FINES	FINESS Array B	26.09 359	P	P	11 48 18.9 -1.5
	comp=E,1.7nm,0.8s,baz=169,slow=11,SNR=5.0				
HFS	Hagfors	26.31 344	P	P	11 48 20.6 -1.8
	comp=E,1.0nm,0.6s,baz=178,slow=7.2,SNR=4.1				
AKTO	Aktyubinsk	26.77 46	P	P	11 48 26.8 +0.1
	comp=E,2.2nm,0.8s,baz=240,slow=8.4,SNR=7.5				
NOA	NORSAR Array B	27.68 343	P	P	11 48 34.3 -0.5
	comp=E,0.6nm,0.7s,baz=148,slow=10.0,SNR=2.4				
TORD	Torodi Ar. Bea	32.05 233	P	P	11 49 14.6 +0.8
	comp=E,3.7nm,0.5s,baz=37,slow=8.4,SNR=56				
ARCES	ARCESS Array B	34.22 359	P	P	11 49 30.5 -1.7
	comp=E,2.0nm,0.9s,baz=170,slow=7.4,SNR=5.0				
AAK	Ala-Archa	36.92 64	P	P	11 49 57.4 +1.5
	comp=E,1.4nm,0.5s,baz=191,slow=9.0,SNR=4.5				
MSKU	Masuku	39.03 202	P	P	11 50 14.3 +0.5
	comp=E,5.2nm,0.5s,baz=24,slow=8.2,SNR=4.1				
KURBB	Kurchatov Arra	39.56 51	P	P	11 50 18.2 +0.4
	comp=E,1.6nm,0.8s,baz=277,slow=8.9,SNR=9.5				
KURBB			PcP	PcP	11 52 25.9 +1.2
	comp=E,0.5nm,0.5s,baz=269,slow=3.9,SNR=5.2				
KURK	Kurchatov	39.62 51	P	P	11 50 18.2 -0.1
KURK	Kurchatov	39.62 51	PcP	PcP	11 52 25.9 +1.0
KURK	Kurchatov	39.62 51	P	P	11 50 18.2 -0.1
KURK			PcP	PcP	11 52 25.9 +1.0
DBIC	Dimbokro	41.15 234	P	P	11 50 30.7 -0.6
	comp=E,2.1nm,0.5s,baz=3.2,slow=6.6,SNR=3.7				
TIC	Toumodi	41.27 234	*e*P	P	11 50 32.4 0.0
	comp=E,7.3nm,0.2s				
KIC	Kosan Boka	41.30 233	*e*P	P	11 50 32.9 +0.3
	comp=E,27nm,1.2s				
LIC	Lamto	41.59 233	*e*P	P	11 50 30.8 -4.2
	comp=E,30nm,1.4s				
MKAR	Makanchi Array	42.13 57	P	P	11 50 40.0 +1.0
	comp=E,1.8nm,0.8s,baz=280,slow=6.0,SNR=18				
MKAR			PcP	PcP	11 52 34.2 +1.0
	comp=E,0.4nm,0.6s,baz=280,slow=4.1,SNR=2.5				
ZALV	Zalesovo Beam	43.53 46	P	P	11 50 50.5 +0.2
	comp=E,1.3nm,0.5s,baz=268,slow=9.8,SNR=4.2				
SONM	Songino Array	57.93 51	P	P	11 52 39.8 +0.8
	comp=E,1.2nm,0.8s,baz=291,slow=7.9,SNR=8.5				
SCHQ	Schefferville	64.19 320	P	P	11 53 20.2 -1.0
	comp=E,1.8nm,0.8s,baz=56,slow=11,SNR=4.8				
CMAR	Chiang Mai Arr	64.73 85	P	P	11 53 25.4 0.0
	comp=E,0.7nm,0.5s,baz=302,slow=9.0,SNR=7.3				
USRK	Ussuriysk Ar.	75.38 46	P	P	11 54 31.1 +0.9
	comp=E,3.1nm,0.6s,baz=301,slow=5.3,SNR=11				
KSAR	Wonju Array Be	76.67 54	P	P	11 54 38.9 +1.2
KSAR	Wonju Array Be	76.67 54	P	P	11 54 38.9 +1.2
KSRS	Korea Array	76.69 54	P	P	11 54 38.9 +1.1
	comp=E,2.3nm,0.6s,baz=309,slow=4.2,SNR=7.1				
YKA	Yellowknife Ar	77.78 343	P	P	11 54 42.0 -1.4
	comp=E,0.2nm,0.7s,baz=30,slow=5.6,SNR=5.4				
ILAR	Eielson Array	80.08 358	P	P	11 54 54.7 -1.3
	comp=E,0.2nm,0.6s,baz=345,slow=3.8,SNR=7.9				
PDAR	Pinedale Array	92.85 330	P	P	11 55 59.0 -0.7
	comp=E,0.6nm,1.1s,baz=302,slow=3.3,SNR=3.8				

ISCJB ***12*** *11:45:46.9±0.6,34°.41S±0°.04×71°.89W±0°.06,h16km, mb4.0/9,Error ellipse: s-maj=7.5km s-min=5.7km az=178.7*

IDC ***12*** *11:45:46.0±1.1,34°.49S×71°.95W,h0km,mb3.8/5, mb1 4.1/8,mb1mx3.9/27,mbtmp3.8/8,ML3.5/2,Error ellipse: s-maj=31.8km s-min=25.1km az=114.0*

GUC ***12*** *11:45:48.2±0.6,34°.47S×71°.80W,h54km±7km,ML4.2*

NEIC ***12*** *11:45:50.8±0.6,34°.48S×71°.85W,h35km,mb4.1/6,Error ellipse: s-maj=20.2km s-min=10.6km az=94.0*

ISC 12 11:45:48.6±0.7,34°.47S±0°.06×71°.85W±0°.08,h16km,n25, σ1§69/25,mb4.0/9,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.73	136	*i* P	Pg	11 46 02.1	-0.9
NICH				*i* S	Sg	11 46 12.9	+0.2
NICH				AML	AML	11 46 16.1	
	comp=E,29μm,0.4s						
ANTU	Antumapu	1.35	49	*e*P9	Pn	11 46 10.2	-2.7
ANTU				*e*S4	Sn	11 46 27.7	-2.8
ANTU				AML	AML	11 46 37.3	
	comp=E,4μm,0.4s						
STL	Santa Lucia	1.44	44	*i* P	Pn	11 46 12.2	-1.9
STL				*i* S	Sn	11 46 30.2	-2.5
SJCH	San Jose de Ma	1.49	57	*i* P	Pn	11 46 13.4	-1.4
SJCH				*i* S	Sn	11 46 32.0	-2.0
CFAA	Coronel Fontan	4.17	48	Pn	Pn	11 46 54.0	+2.4
	comp=E,0.8nm,0.3s,baz=142,slow=0.2,SNR=7.3						
CFAA				Sn	Sn	11 47 44.5	+4.4
	comp=E,0.6nm,0.3s,baz=61,slow=17,SNR=3.9						
LCO	Las Campanas	5.53	10	*e*Pn	Pn	11 47 09.2	-1.4
	comp=E,14nm,0.5s						
LCO				*e*Sn	Sn	11 48 13.1	-0.8
PLCA	Paso Flores	6.33	171	Pn	Pn	11 47 22.7	+1.3
	baz=90,slow=20						
PLCA	Paso Flores	6.33	171	*e*Pn	Pn	11 47 20.9	-0.6
LPAZ	La Paz	18.41	11	P	P	11 50 04.1	+0.3
	comp=E,0.1nm,0.3s,baz=174,slow=11,SNR=6.0						
LPAZ	La Paz	18.41	11	*e*Pn	P	11 50 03.0	-0.8
	comp=E,4.2nm,1.0s						
SIV	San Ignacio	20.80	30	P	P	11 50 28.3	-1.0
	comp=E,1.7nm,0.5s,baz=193,slow=9.7,SNR=3.9						
OTAV	Otavalo	35.08	348	*e*P	P	11 52 39.6	-2.0
	comp=E,0.6nm,0.6s						
PTGA	Pitinga	35.36	21	*e*P	P	11 52 42.7	-0.8
	comp=E,1.8nm,0.5s						
SNAA	Sanae	51.09	158	*e*P	P	11 54 47.8	-2.2
	comp=E,3.8nm,0.9s						
TXAR	Lajitas Array	70.22	331	P	P	11 57 01.1	+0.2
	comp=E,0.5nm,0.5s,baz=155,slow=8.6,SNR=6.8						
WVT	Waverly	71.81	346	*e*P	P	11 57 09.5	-0.7
	comp=E,3.7nm,0.8s						
SRU	San Rafael Swe	81.50	331	*e*P	P	11 58 05.7	+0.4
	comp=E,1.0nm,0.6s						
TORD	Torodi Ar. Bea	84.22	70	P	P	11 58 19.8	+0.1
	comp=E,0.9nm,0.7s,baz=271,slow=4.2,SNR=6.0						
PDAR	Pinedale Array	84.25	333	P	P	11 58 19.2	-0.3
	comp=E,0.8nm,1.0s,baz=134,slow=6.4,SNR=4.6						
NVAR	Mina Array Bea	84.36	325	P	P	11 58 21.1	+0.9
	comp=E,0.5nm,0.8s,baz=127,slow=5.1,SNR=4.7						
YKA	Yellowknife Ar	102.55	341	P	Pdif	11 59 42.8	-0.8
	comp=E,0.1nm,0.6s,baz=142,slow=4.4,SNR=5.0						
WRA	Warramunga Arr	120.43	209	PKP	PKPdf	12 04 38.7	-1.1
	comp=E,0.2nm,0.5s,baz=158,slow=1.7,SNR=5.9						
BRVK	Borovoye	147.44	44	*e*PKPbc	PKPdf	12 05 31.7	+3.1
KURK	Kurchatov	153.11	44	*e*PKPdf	PKPdf	12 05 37.1	-0.5
MKAR	Makanchi Array	156.95	50	PKPab	PKPab	12 06 12.5	-0.8
	comp=E,0.3nm,0.7s,baz=274,slow=5.7,SNR=3.0						

ISCJB ***12*** *12:25:04.1±1.2,34°.53S±0°.03×72°.06W±0°.07,h26km±8km, mb4.1/10,Error ellipse: s-maj=9.7km s-min=5.4km az=2.3*

NEIC ***12*** *12:25:05.3,34°.50S×71°.99W,h15km,mb4

SNAA Sanae 51.12 158 *e*P **P 12 34 06.7 +0.2**
comp=E,3.3nm,1.0s
SDDR Presa de Saban 53.17 1 *e*P **P 12 34 23.4 +1.1**
comp=E,3.8nm,0.5s
QSPA South Pole Qui 55.75 180 P **P 12 34 40.7 +0.1**
comp=E,0.7nm,0.9s,baz=53,slow=1.5,SNR=6.9
QSPA South Pole Qui 55.75 180 *e*P **P 12 34 40.8 +0.1**
comp=E,2.8nm,0.9s
TXAR Lajitas Array 70.19 331 P **P 12 36 17.1 +0.2**
comp=E,0.1nm,0.5s,baz=153,slow=8.1,SNR=3.0
TXAR pP **pP 12 36 23.5 +0.4**
comp=E,0.3nm,0.6s,baz=152,slow=7.3,SNR=3.7
WVT Waverly 71.80 347 *e*P **P 12 36 26.6 +0.2**
comp=E,2.8nm,0.7s
DBIC Dimbokro 75.28 71 P **P 12 36 46.8 -0.7**
comp=E,1.2nm,0.5s,baz=236,slow=3.6,SNR=2.6
DBIC pP **pP 12 36 54.7 +1.0**
comp=E,3.3nm,1.0s,baz=271,slow=4.2,SNR=1.9
BOSA Boshof 79.79 118 P **P 12 37 12.4 -0.3**
comp=E,4.5nm,0.9s,baz=239,slow=3.6,SNR=6.3
LBTB Lobatse 82.05 115 P **P 12 37 24.0 -0.8**
comp=E,2.9nm,0.6s,baz=248,slow=3.7,SNR=5.1
TORD Torodi Ar. Bea 84.32 70 P **P 12 37 35.8 -0.7**
comp=E,1.5nm,0.9s,baz=255,slow=4.9,SNR=7.0
TORD pP **pP 12 37 42.7 0.0**
comp=E,0.4nm,0.5s,baz=281,slow=6.1,SNR=3.3
WRA Warramunga Arr 120.37 209 PKP **PKPdf 12 43 53.9 -2.1**
comp=E,0.1nm,0.3s,baz=153,slow=1.7,SNR=6.9
WRA pPKP **pPKPdf 12 44 00.8 -1.7**
comp=E,0.1nm,0.3s,baz=153,slow=1.9,SNR=1.6
AAK Ala-Archa 152.68 63 *e*PKPdf **PKPdf 12 44 52.3 -1.5**
MKAR Makanchi Array 157.03 50 PKPab **PKPab 12 45 29.1 -0.7**
comp=E,0.2nm,0.6s,baz=273,slow=5.2,SNR=3.1

IDC 12 12:25:58.9±5.4, 39°.38N×110°.40E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/41, mbtmp3.3/3, ML2.4/1, Error ellipse: s-maj=112.3km s-min=25.0km az=85.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.94**	**342**	Pn	Pn	12 28 09.7	+0.3
	0.0nm,0.3s,baz=155,slow=12,SNR=9.9						
SONM				Lg	Lg	12 30 41.9	
	0.0nm,0.3s,baz=160,slow=29,SNR=3.1						
MKAR	**Makanchi Array**	**21.75**	**299**	P	P	12 30 52.0	+0.1
	0.8nm,0.8s,baz=95,slow=12,SNR=11						
CMAR	**Chiang Mai Arr**	**23.09**	**209**	P	P	12 31 06.2	-0.1
	0.9nm,0.7s,baz=13,slow=11,SNR=8.1						

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*ISCJB **12** 12:35:36.9±0.5, 17°.98S±0°.05×35°.05E±0°.08, h6km, mb4.0/8, MS3.3/2, Error ellipse: s-maj=12.4km s-min=5.3km az=30.0*
*IDC **12** 12:35:38.3±1.0, 17°.91S×35°.06E, h0km, mb3.9/5, mb1 4.1/10, mb1mx3.9/35, mbtmp4.0/10, ML3.8/4, MS3.3/4, Ms1 3.3/4, ms1mx2.9/33, Error ellipse: s-maj=29.0km s-min=21.0km az=153.0*
*NEIC **12** 12:35:39.8±0.4, 17°.91S×35°.04E, h10km, mb4.4/4, Error ellipse: s-maj=12.0km s-min=6.0km az=123.0*
ISC 12 12:35:39.0±0.6, 17°.91S±0°.07×34°.91E±0°.07, h6km, n30, σ1§72/31, mb4.1/8, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**6.48**	**210**	P	Pn	12 37 07.5	-7.4
MOPA				S	Sn	**12 38 30.8**	**+1.5**
MATP	**Matopo**	**6.55**	**246**	*i* S	Sn	**12 38 28.1**	**-3.2**
LSZ	**Lusaka**	**6.95**	**291**	Pn	Pn	**12 37 23.5**	**+1.9**
	12nm,0.3s,baz=85,slow=6.8,SNR=13						
LSZ				Sn	Sn	**12 38 38.7**	**-2.4**
	14nm,0.3s,baz=36,slow=20,SNR=9.1						
LSZ				Lg	Lg	12 39 12.0	
	18nm,0.3s,baz=21,slow=20,SNR=8.5						
ERPM	**east rand prop**	**10.42**	**215**	P	Pn	**12 38 08.2**	**-1.1**
KSR	**Koster**	**10.85**	**222**	P	Pn	**12 38 14.9**	**-0.2**
LBTB	**Lobatse**	**11.18**	**229**	Pn	Pn	**12 38 21.5**	**+1.9**
	1.1nm,0.3s,baz=53,slow=15,SNR=7.6						
LBTB				Sn	Sn	**12 40 21.4**	**-3.7**
	2.3nm,0.3s,baz=137,slow=19,SNR=3.5						
LBTB				Lg	Lg	12 41 25.0	
	13nm,0.3s,baz=142,slow=22,SNR=6.8						
LBTB				LR	LR	12 42 59.9	
	comp=Z,206nm,19.8s,baz=58,slow=39						
PRYS	**Parys**	**11.37**	**217**	P	Pn	**12 38 23.5**	**+1.4**
OPO	**Ambohidratompo**	**11.69**	**95**	Pn	Pn	**12 38 24.8**	**-1.8**
	1.1nm,0.3s,baz=252,slow=15,SNR=6.3						
OPO				Sn	Sn	12 40 23.1	-15
	2.0nm,0.3s,baz=217,slow=5.1,SNR=3.9						
SEK	**Senekal**	**12.34**	**212**	P	Pn	**12 38 36.3**	**+0.8**
	45nm,5.4s						
SWZ	**Schweizer**	**12.78**	**222**	P	Pn	**12 38 43.8**	**+2.3**
	43nm,4.1s						
KSD	**Kokstad**	**13.54**	**201**	P	Pn	**12 38 53.6**	**+1.8**
	9.6nm,2.0s						
BOSA	**Boshof**	**13.86**	**218**	Pn	Pn	**12 38 56.2**	**+0.1**
	0.3nm,0.3s,baz=38,slow=15,SNR=6.7						
BOSA				Lg	Lg	12 42 48.0	
	1.7nm,0.3s,baz=318,slow=10.0,SNR=5.3						
BOSA				LR	LR	12 44 33.9	
	comp=Z,143nm,19.0s,baz=52,slow=38						
BOSA	**Boshof**	**13.86**	**218**	*i* P	Pn	**12 38 53.3**	**-2.9**
BOSA				*i*		12 38 53.3	
	baz=90,slow=28						
BOSA				*i* S	Sn	12 41 22.5	-8.0
BOSA	**Boshof**	**13.86**	**218**	*e*Pn	Pn	**12 38 56.4**	**+0.2**
BOSA				Sn	Sn	**12 41 31.5**	**+1.0**
BOSA				Lg	Lg	12 42 48.0	
KMBO	**Kilima Mbogo**	**16.83**	**8**	Lg	Lg	12 44 17.6	
	0.2nm,0.3s,baz=340,slow=24,SNR=6.2						
KMBO	**Kilima Mbogo**	**16.83**	**8**	*e*Pn	Pn	**12 39 33.9**	**-1.8**
KMBO				*e*Sn	Sn	**12 42 45.6**	**+2.3**
KMBO				Lg	Lg	12 44 17.6	
SUR	**Sutherland**	**19.22**	**219**	P	Pn	**12 40 06.5**	**+1.5**
	0.2nm,0.3s,baz=22,slow=15,SNR=2.2						
SUR				Lg	Lg	12 45 39.0	
	0.6nm,0.3s,baz=120,slow=21,SNR=8.7						
SUR	**Sutherland**	**19.22**	**219**	*e*P	Pn	**12 40 06.2**	**+1.2**
	10nm,1.3s						
SUR				Lg	Lg	12 45 39.0	
TORD	**Torodi Ar. Bea**	**45.01**	**311**	P	P	**12 43 56.1**	**+0.4**
	0.9nm,0.9s,baz=126,slow=7.5,SNR=5.4						
BRTR	**Keskin Array B**	**57.34**	**359**	P	P	**12 45 28.9**	**+0.8**
	1.0nm,0.8s,baz=179,slow=8.5,SNR=5.0						
KBZ	**Khabaz**	**61.77**	**7**	LR	LR	13 13 55.3	
	comp=Z,26nm,21.0s,baz=244,slow=37						
ESDC	**Sonseca Array**	**67.80**	**328**	P	P	**12 46 39.7**	**+1.8**
	0.9nm,0.7s,baz=139,slow=5.7,SNR=4.7						
KKAR	**Karatay Array**	**68.97**	**27**	*e*P	P	**12 46 44.9**	**-0.2**
	5.6nm,0.9s						
ABKAR	**Akbulak array**	**70.47**	**17**	*e*P	P	**12 46 53.4**	**-0.8**
	2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**72.57**	**63**	P	P	**12 47 07.2**	**-0.3**
	0.5nm,0.4s,baz=236,slow=6.4,SNR=5.5						
ARU	**Arti**	**76.68**	**13**	*e*P	P	**12 47 31.2**	**+0.6**
	2.1nm,0.3s						
BRVK	**Borovoye**	**77.00**	**21**	*e*P	P	**12 47 32.2**	**-0.3**
MKAR	**Makanchi Array**	**77.24**	**31**	P	P	**12 47 33.6**	**-0.4**
	1.2nm,0.8s,baz=213,slow=5.5,SNR=13						
NOA	**NORSAR Array B**	**80.94**	**349**	LR	LR	13 28 48.8	
	comp=Z,10nm,18.7s,baz=115,slow=39						
NVAR	**Mina Array Bea**	**148.95**	**317**	PKPbc	**PKPbc**	**12 55 27.4**	**-1.1**
	0.5nm,0.6s,baz=64,slow=3.4,SNR=5.0						

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*ISCJB **12** 12:41:56.8±0.7, 34°.30S±0°.06×72°.2W±0°.1, h19km, mb3.9/4, Error ellipse: s-maj=13.7km s-min=8.3km az=14.7*
*IDC **12** 12:41:56.6±1.1, 34°.24S×72°.03W, h0km, mb3.8/5, mb1 3.9/8, mb1mx3.8/32, mbtmp3.7/8, ML3.3/2, Error ellipse: s-maj=36.7km s-min=19.1km az=101.0*
*NEIC **12** 12:42:01.2±0.7, 34°.22S×72°.05W, h35km, mb4.2/3, Error ellipse: s-maj=18.5km s-min=9.3km az=87.0*
ISC 12 12:41:58.9±0.8, 34°.25S±0°.08×72°.2W±0°.1, h19km, n17, σ1§18/18, mb4.0/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.25**	**53**	Pn	Pn	**12 43 03.2**	**+0.6**
	0.5nm,0.3s,baz=228,slow=12,SNR=12						
CFAA				Sn	Sn	**12 43 53.4**	**+1.6**
	0.3nm,0.3s,baz=144,slow=19,SNR=2.5						
CFAA				Lg	Lg	12 44 06.3	
	1.0nm,0.3s,baz=301,slow=14,SNR=11						
LCO	**Las Campanas**	**5.38**	**14**	*e*Pn	Pn	**12 43 17.0**	**-1.4**
	7.5nm,0.4s						
PLCA	**Paso Flores**	**6.60**	**169**	Pn	Pn	**12 43 35.5**	**+0.5**
	baz=335,slow=15						
PLCA				Lg	Lg	12 45 15.3	
	baz=255,slow=19,SNR=1.6						
PLCA	**Paso Flores**	**6.60**	**169**	*e*Pn	Pn	**12 43 35.1**	**+0.1**
PLCA				Lg	Lg	12 45 15.3	
TRQA	**Tornquist**	**9.09**	**118**	*e*Pn	Pn	**12 44 08.5**	**-0.6**
LPAZ	**La Paz**	**18.26**	**13**	P	Pn	**12 46 11.8**	**-0.1**
	0.1nm,0.3s,baz=202,slow=5.1,SNR=7.9						
LPAZ	**La Paz**	**18.26**	**13**	*e*Pn	P	**12 46 12.7**	**+0.7**
	2.2nm,0.7s						
SIV	**San Ignacio**	**20.75**	**32**	P	P	**12 46 36.9**	**-1.8**
	1.4nm,0.6s,baz=218,slow=12,SNR=3.2						
NNA	**Nana**	**22.56**	**348**	*e*P	P	**12 46 57.5**	**-0.7**
VNA2	**Neumayer--Watz**	**49.83**	**157**	P	P	**12 50 47.8**	**-2.4**
	baz=304,slow=10						
SNAA	**Sanae**	**51.40**	**158**	P	P	**12 51 02.0**	**-0.1**
SNAA	**Sanae**	**51.40**	**158**	P	P	**12 51 02.3**	**+0.1**
	1.6nm,0.9s,baz=310,slow=11,SNR=4.0						
SNAA	**Sanae**	**51.40**	**158**	*e*P	P	**12 51 02.2**	**0.0**
	2.9nm,0.8s						
QSPA	**South Pole Qui**	**55.99**	**180**	P	P	**12 51 36.8**	**+0.9**
	3.1nm,1.1s,baz=144,slow=1.3,SNR=6.4						
QSPA	**South Pole Qui**	**55.99**	**180**	*e*P	P	**12 51 36.9**	**+0.9**
	4.0nm,1.0s						
TXAR	**Lajitas Array**	**69.89**	**331**	P	P	**12 53 10.3**	**+1.6**
	0.2nm,0.5s,baz=155,slow=9.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**84.42**	**70**	P	P	**12 54 29.8**	**-0.7**
	0.5nm,0.8s,baz=251,slow=3.9,SNR=3.2						

IDC 12 12:44:27.4±19.0, 19°.90S×179°.86E, h626km±185km, mb2.5/3, mb1 2.8/3, mb1mx2.6/31, mbtmp3.5/3, Error ellipse: s-maj=256.4km s-min=66.3km az=135.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.69**	**262**	P	P	12 51 32.0	+0.4
	0.2nm,0.4s,baz=95,slow=7.7,SNR=17						
ASAR	**Alice Springs**	**42.70**	**256**	P	P	12 51 31.1	-0.6
	0.5nm,0.6s,baz=98,slow=8.3,SNR=9.7						
ILAR	**Eielson Array**	**88.19**	**14**	P	P	12 56 12.7	0.0
	0.2nm,0.4s,baz=219,slow=5.2,SNR=5.5						
ARCES	**ARCESS Array B**	**127.95**	**349**	PKP	PKPdf	13 02 21.5	-1.2
	4.4nm,0.9s,baz=28,slow=2.1,SNR=3.6						
GERES	**GERESS Array B**	**149.04**	**342**	PKPbc	PKPbc	13 03 06.5	+0.2
	0.3nm,0.4s,baz=62,slow=2.3,SNR=3.2						

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*IDC **12** 12:46:48.6±0.7, 33°.53S×71°.88W, h0km, mb4.0/9, mb1 4.1/11, mb1mx4.0/29, mbtmp4.0/11, ML4.1/1, MS3.0/3, Ms1 3.0/3, ms1mx2.8/23, Error ellipse: s-maj=29.8km s-min=17.4km az=96.0*
*ISCJB **12** 12:46:51.1±1.0, 33°.53S±0°.04×72°.11W±0°.05, h30km±7km, mb4.0/9, MS3.4/2, Error ellipse: s-maj=6.9km s-min=6.0km az=151.9*
*NEIC **12** 12:46:51.9, 33°.58S×71°.97W, h6km, mb4.2/3, ML4.2(GUC), After GUC.*
NEIC Felt [III] at Valparaiso and Villa Alemana; [II] at Pichilemu, Quillota, San Antonio and Santiago.
*GUC **12** 12:46:51.9±0.7, 33°.58S×71°.97W, h6km±3km, ML4.2*
ISC 12 12:46:52.6±1.5, 33°.54S±0°.04×72°.00W±0°.06, h28km±10km, n50, σ0§80/61, mb4.2/9, 7C-9D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.59**	**31**	⇓*i*P	**Pb**	**12 47 04.4**	**0.0**
IHA	**Instituto Hidr**	**0.59**	**31**	⇓*i*P	**Pb**	**12 47 04.4**	**0.0**
LNV	**Longovilo**	**0.64**	**130**	⇑*i*P	**Pb**	**12 47 04.3**	**-1.0**
LNV	**Longovilo**	**0.64**	**130**	⇑*i*P	**Pb**	**12 47 04.3**	**-1.0**
STL	**Santa Lucia**	**1.14**	**85**	⇑*i*P	**Pn**	**12 47 11.7**	**-1.0**
STL				*i* S	Sn	**12 47 27.4**	**-0.1**
ANTU	**Antumapu**	**1.14**	**92**	⇓*i*P	**Pn**	**12 47 12.6**	**-0.2**
ANTU				*i* S	**Sb**	**12 47 28.1**	**-0.1**
ANTU				AML	AML	12 47 33.6	
	comp=E,9μm,0.6s						
ANTU	**Antumapu**	**1.14**	**92**	⇓*i*P	**Pn**	**12 47 12.6**	**-0.2**
ANTU				*i* S	**Sb**	**12 47 28.1**	**-0.1**
PEL	**Peldehue**	**1.17**	**71**	⇑*i*P	**Pb**	**12 47 13.8**	**-0.4**
PEL				*i* S	**Sb**	**12 47 30.0**	**+1.1**
PEL				AML	AML	12 47 33.1	
	comp=N,19μm,0.4s						
PEL	**Peldehue**	**1.17**	**71**	⇑*i*P	**Pb**	**12 47 13.8**	**-0.4**
PEL				*i* S	**Sb**	**12 47 30.0**	**+1.1**
CHCH	**Chadas Angostu**	**1.19**	**110**	⇑*i*P	**Pn**	**12 47 12.8**	**-0.6**
CHCH	**Chadas Angostu**	**1.19**	**110**	⇑*i*P	**Pn**	**12 47 12.8**	**-0.6**
LACH	**Col Las Americ**	**1.23**	**86**	⇓*i*P	**Pn**	**12 47 14.3**	**+0.4**
LACH				*i* S	**Sb**	**12 47 31.1**	**+0.3**
LACH	**Col Las Americ**	**1.23**	**86**	⇓*i*P	**Pn**	**12 47 14.3**	**+0.4**
LACH				*i* S	**Sb**	**12 47 31.1**	**+0.3**
CLCH	**Cerro Calan**	**1.23**	**84**	⇓*i*P	**Pn**	**12 47 14.2**	**+0.2**
CLCH				*i* S	**Sb**	**12 47 31.0**	**+0.2**
CLCH				AML	AML	12 47 39.8	
	comp=E,8μm,0.3s						
CACH	**El Canelo**	**1.30**	**117**	⇓*i*P	**Pn**	**12 47 15.5**	**+0.5**
CACH	**El Canelo**	**1.30**	**117**	⇓*i*P	**Pn**	**12 47 15.5**	**+0.5**
SJCH	**San Jose de Ma**	**1.38**	**95**	*e*P9	**Pn**	**12 47 15.5**	**-0.5**
SJCH				*i* S	**Sn**	**12 47 33.8**	**+0.4**
SJCH	**San Jose de Ma**	**1.38**	**95**	*e*P	**Pn**	**12 47 15.5**	**-0.5**
SJCH				*i* S	**Sn**	**12 47 33.8**	**+0.4**
NICH	**Los Niches**	**1.59**	**157**	*e*P	**Pn**	**12 47 19.1**	**+0.2**
NICH				*i* S	**Sn**	**12 47 39.4**	**+0.8**
NICH	**Los Niches**	**1.59**	**157**	*e*P	**Pn**	**12 47 19.1**	**+0.2**
NICH				*i* S	**Sn**	**12 47 39.4**	**+0.8**
CMCH	**Combarbala**	**2.50**	**20**	*e*P	**Pn**	**12 47 31.5**	**0.0**
CMCH	**Combarbala**	**2.50**	**20**	*e*P	**Pn**	**12 47 31.5**	**0.0**
CFAA	**Coronel Fontan**	**3.72**	**60**	Pn	**Pn**	**12 47 50.4**	**+2.2**
	comp=E,1.0nm,0.3s,baz=68,slow=6.4,SNR=24						
CFAA				Lg	Lg	12 48 43.0	
	comp=E,3.6nm,0.3s,baz=83,slow=12,SNR=6.2						
CFAA				LR	LR	12 49 38.9	
	comp=E,36nm,19.9s,baz=244,slow=47						
LCO	**Las Campanas**	**4.65**	**14**	*e*Pn	**Pn**	**12 48 00.7**	**-0.5**
LCO				Sn	**Sn**	**12 48 53.9**	**-0.4**
PLCA	**Paso Flores**	**7.27**	**171**	Pn	**Pn**	**12 48 37.8**	**+0.7**
	baz=322,slow=19						
PLCA	**Paso Flores**	**7.27**	**171**	*e*Pn	**Pn**	**12 48 37.1**	**+0.1**
TRQA	**Tornquist**	**9.30**	**122**	*e*Pn	**Pn**	**12 49 06.4**	**+1.6**
LPAZ	**La Paz**	**17.53**	**12**	P	**Pn**	**12 50 56.1**	**+0.5**
	comp=E,0.3nm,0.3s,baz=182,slow=6.0,SNR=14						
LPAZ	**La Paz**	**17.53**	**12**	*e*Pn	**P**	**12 50 56.3**	**-0.2**
	comp=E,4.8nm,0.8s						
SIV	**San Ignacio**	**20.07**	**32**	P	**P**	**12 51 23.1**	**-0.7**
	comp=E,2.2nm,0.7s,baz=224,slow=11,SNR=5.9						
SIV				LR	LR	13 00 26.2	
	comp=E,111nm,20.3s,baz=260,slow=41						
BDFB	**Brasilia**	**28.05**	**56**	P	**P**	**12 52 40.4**	**-1.4**
	comp=E,2.1nm,0.5s,baz=177,slow=11,SNR=3.1						
PTGA	**Pitinga**	**34.54**	**22**	P	**P**	**12 53 38.4**	**-0.3**
	comp=E,5.1nm,0.7s,baz=190,slow=10.0,SNR=8.1						
PTGA	**Pitinga**	**34.54**	**22**	*e*P	**P**	**12 53 38.6**	**-0.1**
	comp=E,3.0nm,0.8s						
SNAA	**Sanae**	**52.00**	**158**	P	**P**	**12 55 59.5**	**+0.4**
	comp=E,0.8nm,0.8s,baz=299,slow=10,SNR=5.8						
QSPA	**South Pole Qui**	**56.70**	**180**	P	**P**	**12 56 34.2**	**+0.8**
	comp=E,1.2nm,1.0s,baz=116,slow=2.9,SNR=4.7						
TXAR	**Lajitas Array**	**69.35**	**331**	P	**P**	**12 57 59.1**	**+1.4**
	comp=E,0.4nm,0.5s,baz=151,slow=8.7,SNR=9.0						
WVT	**Waverly**	**70.87**	**346**	*e*P	**P**	**12 58 07.2**	**+0.4**
	comp=E,4.9nm,0.7s						
DBIC	**Dimbokro**	**75.00**	**71**	P	**P**	**12 58 31.6**	**-0.2**
	comp=E,1.6nm,0.6s,baz=226,slow=5.8,SNR=2.6						
LBTB	**Lobatse**	**82.47**	**115**	LR	LR	13 31 20.9	
	comp=E,21nm,20.1s,baz=226,slow=32						
PDAR	**Pinedale Array**	**83.37**	**333**	P	**P**	**12 59 17.9**	**+0.8**
	comp=E,0.3nm,0.9s,baz=162,slow=4.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**84.02**	**70**	P	**P**	**12 59 21.0**	**+0.2**
	comp=E,2.3nm,0.7s,baz=287,slow=5.4,SNR=16						
ASAR	**Alice Springs**	**117.99**	**207**	PKP	**PKPdf**	**13 05 36.2**	**-1.0**
	comp=E,0.1nm,0.7s,baz=153,slow=0.4,SNR=4.2						
WRA	**Warramunga Arr**	**121.18**	**209**	PKP	**PKPdf**	**13 05 42.6**	**-0.8**
	comp=E,0.4nm,0.7s,baz=164,slow=1.2,SNR=6.4						
H11S2	**WAKE ISLAND Hyt**	**25.81**	**269**	T	T	15 24 43.4	
	baz=118,slow=74,SNR=21						
H11S1	**WAKE ISLAND Hyt**	**25.82**	**269**	T	T	15 24 45.1	
	baz=118,slow=74,SNR=19						
H11S3	**WAKE ISLAND Hyt**	**25.83**	**269**	T	T	15 24 46.3	
	baz=118,slow=74,SNR=13						
BRVK	**Borovoye**	**146.85**	**42**	*e*PKPbc	**PKPab**	**13 06 32.5**	**-0.5**
KURK	**Kurchatov**	**152.52**	**43**	*e*PKPdf	**PKPbc**	**13 06 42.8**	**-2.9**
ZALV	**Zalesovo Beam**	**153.82**	**32**	PKPbc	**PKPbc**	**13 06 48.6**	**+0.1**
	comp=E,1.2nm,0.5s,baz=302,slow=2.7,SNR=6.0						
ZALV				PKPab	**PKPab**	**13 07 01.9**	**+0.3**
	comp=E,1.7nm,0.6s,baz=328,slow=3.7,SNR=6.5						
MKAR	**Makanchi Array**	**156.44**	**48**	PKP	**PKPdf**	**13 06 43.4**	**-1.1**
	comp=E,0.7nm,1.0s,baz=349,slow=1.9,SNR=4.2						
MKAR				PKPab	**PKPab**	**13 07 13.5**	**+0.4**
	comp=E,0.6nm,0.6s,baz=300,slow=3.3,SNR=7.0						

IDC 12 13:06:41.3±3.7, 3°.52S×150°.91E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/22, mbtmp3.5/2, Error ellipse: s-maj=144.5km s-min=47.0km az=114.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.97**	**223**	P	P	13 11 49.2	+1.4
	0.9nm,0.3s,baz=45,slow=9.5,SNR=31						
ASAR	**Alice Springs**	**25.91**	**218**	P	P	13 12 14.0	-1.4
	0.4nm,0.3s,baz=54,slow=9.2,SNR=21						
TORD	**Torodi Ar. Bea**	**148.11**	**289**	PKPbc	PKPbc	13 26 29.8	-0.4
	0.2nm,0.4s,baz=56,slow=2.0,SNR=5.8						

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*CSEM **12** 13:20:27.7±0.2, 42°.54N×24°.10E, h2km, ML1.2, Error ellipse: s-maj=8.0km s-min=2.9km az=26.0, Mining explosion.*
BEO 12 13:20:29.5±0.4, 42°.36N×24°.01E, h0km, ML1.2/4, Mining explosion., Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLD	**Plovdiv**	**0.57**	**116**	*e*Pg	Pg	13 20 39.4	-1.1
PLD				*e*Sg	Sg	13 20 48.1	+0.1
PLD	**Plovdiv**	**0.57**	**116**	*e*Pg	Pg	13 20 39.4	-1.1
PLD				*e*Sg	Sg	13 20 48.1	+0.1
VTS	**Vitosha**	**0.64**	**292**	*e*Pg	Pg	13 20 40.5	-1.5
VTS				*e*Sg	Sg	13 20 49.2	-1.2
VTS	**Vitosha**	**0.64**	**292**	*e*Pg	Pg	13 20 40.5	-1.5
VTS				*e*Sg	Sg	13 20 49.2	-1.2
ZAPS	**Zavoj**	**1.36**	**313**	*e*Pg	Pg	13 20 53.4	-2.3
ZAPS				*e*Sg	Sg	13 21 13.1	-0.4
BARS	**Barje**	**1.68**	**286**	*e*Pg	Pn	13 21 00.1	-0.1
BARS				*e*Sg	Sb	13 21 23.2	0.0
BARS	**Barje**	**1.68**	**286**	*e*Pg	Pn	13 21 00.1	-0.1
BARS				*e*Sg	Sb	13 21 23.2	0.0

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*TIR **12** 13:21:37.0, 41°.22N×20°.77E, h2km, ML2.8*
*THE **12** 13:21:38.6, 41°.19N×20°.80E, h7km±1km, ML2.7/4, Error ellipse: s-maj=2.0km s-min=0.6km az=274.0*
*SKO **12** 13:21:38.4, 41°.14N×20°.73E, h9km, M2.2, ML2.4*
*BEO **12** 13:21:39.9±0.7, 41°.07N×20°.82E, h0km, ML2.3/1*
*CSEM **12** 13:21:39.9±0.2, 41°.14N×20°.81E, h2km, ML2.4, Error ellipse: s-maj=6.1km s-min=3.6km az=71.0*
ISC 12 13:21:39.1±0.8, 41°.15N±0°.02×20°.82E±0°.03, h4km±6km, n46, σ1§04/78, 2C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.04**	**199**	⇑*i*Pg	**Pg**	**13 21 40.0**	**-0.2**
OHR				*i* Sg	**Sg**	**13 21 41.6**	**+0.5**
OHR	**Ohrid**	**0.04**	**199**	⇑*i*Pg	**Pg**	**13 21 40.0**	**-0.2**
OHR				*i* Sg	**Sg**	**13 21 41.6**	**+0.5**
KBN	**Korca**	**0.53**	**182**	*i* PG	**Pb**	**13 21 50.4**	**-0.5**
KBN				*i* SG	**Sb**	**13 21 58.2**	**-0.6**
KBN	**Korca**	**0.53**	**182**	P	**Pg**	**13 21 49.3**	**+0.1**
KBN				S	**Sb**	**13 21 57.2**	**-1.7**
KBN	**Korca**	**0.53**	**182**	P	**Pg**	**13 21 49.3**	**+0.1**
KBN	**Korca**	**0.53**	**182**	*i* Pg	**Pb**	**13 21 50.4**	**-0.5**
KBN				*i* Sg	**Sb**	**13 21 58.2**	**-0.6**
KBN	**Korca**	**0.53**	**182**	S	**Sb**	**13 21 57.2**	**-1.7**
FNA	**Florina**	**0.56**	**131**	P	**Pb**	**13 21 50.7**	**-0.8**
FNA				S	**Sb**	**13 21 59.0**	**-0.8**
FNA	**Florina**	**0.56**	**131**	P	**Pb**	**13 21 50.7**	**-0.8**
FNA				S	**Sb**	**13 21 59.0**	**-0.8**
PHP	**Peshkopia**	**0.60**	**332**	*i* PG	**Pg**	**13 21 49.8**	**-0.9**
PHP				*i* SG	**Sg**	**13 21 58.5**	**0.0**
PHP	**Peshkopia**	**0.60**	**332**	P	**Pg**	**13 21 49.7**	**-0.9**
PHP				S	**Sg**	**13 21 57.2**	**-1.4**
PHP	**Peshkopia**	**0.60**	**332**	*i* Pg	**Pg**	**13 21 49.8**	**-0.9**
PHP				S	**Sg**	**13 21 57.2**	**-1.4**
PHP	**Peshkopia**	**0.60**	**332**	*i* Sg	**Sg**	**13 21 58.5**	**-0.1**
NEST	**Nestorio**	**0.76**	**166**	P	**Pb**	**13 21 54.3**	**-0.5**
NEST				S	**Sb**	**13 22 04.9**	**-0.6**
NEST	**Nestorio**	**0.76**	**166**	P	**Pb**	**13 21 54.3**	**-0.5**
NEST				S	**Sb**	**13 22 04.9**	**-0.6**
SKO	**Skopje**	**0

s-maj=134.1km s-min=24.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.21**	**163**	P	P	13 27 37.0	+0.6
	1.5nm,0.5s,baz=343,slow=11,SNR=29						
ASAR	**Alice Springs**	**26.66**	**167**	P	P	13 28 07.4	-1.0
	0.2nm,0.3s,baz=346,slow=9.3,SNR=14						
ASAR				PcP	PcP	13 31 30.9	-1.6
	0.1nm,0.3s,baz=337,slow=2.1,SNR=4.3						
STKA	**Stephens Creek**	**36.64**	**160**	P	P	13 29 36.6	+0.7
	1.3nm,0.2s,baz=332,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**59.05**	**325**	P	P	13 32 30.1	+0.6
	0.1nm,0.3s,baz=112,slow=8.5,SNR=4.2						

GUC **12** *13:25:23.5±0.6, 34°.33S×72°.03W, h35km±2km, ML5.0*
NEIC **12** *13:25:23.5, 34°.33S×72°.03W, h35km, mb4.9/59, ML5.0(GUC), After GUC.*
NEIC Felt [IV] at Navidad and Pichilemu; [III] at Casablanca, El Quisco, San Antonio, San Fernando and Santiago; [II] at Valparaiso. Also felt at Vina del Mar. Felt at Mendoza, Argentina.
ISCJB **12** *13:25:23.9±0.8, 34°.38S±0°.03×72°.03W±0°.06, h34km±7km, mb4.9/74, MS4.2/12, Error ellipse: s-maj=9.0km s-min=4.5km az=173.8*
MOS **12** *13:25:23.8±1.7, 34°.32S×72°.04W, h33km, mb5.1/22, Error ellipse: s-maj=18.7km s-min=8.2km az=98.6*
IDC **12** *13:25:24.0±0.5, 34°.28S×71°.98W, h23km±3km, mb4.4/14, mb1 4.5/16, mb1mx4.4/25, mbtmp4.6/16, ML4.6/1, MS4.2/14, Ms1 4.2/14, ms1mx4.0/29, Error ellipse: s-maj=21.9km s-min=12.0km az=86.0*
BJI **12** *13:25:26.7, 34°.20S×71°.80W, h35km, mB5.0/6, Ms5.3/6, Ms7 5.0/6*
ISC 12 13:25:24.5±0.5, 34°.30S±0°.03×71°.94W±0°.05, h28km±2km, h28km:pP-P, n478, σ1§11/501, mb4.9/74, MS4.3/12, 154C-148D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.56**	**52**	⇓*iP*	**Pb**	**13 25 35.9**	**+0.1**
LNV	**Longovilo**	**0.56**	**52**	⇓*iP*	**Pb**	**13 25 35.9**	**+0.1**
NICH	**Los Niches**	**0.92**	**140**	⇓*iP*	**Pn**	**13 25 40.6**	**-0.9**
NICH				*i* S	**Sn**	**13 25 53.4**	**-0.3**
NICH	**Los Niches**	**0.92**	**140**	⇓*iP*	**Pn**	**13 25 40.6**	**-0.9**
NICH				*i* S	**Sn**	**13 25 53.4**	**-0.3**
CACH	**El Canelo**	**1.13**	**81**	⇓*iP*	**Pb**	**13 25 45.4**	**-0.1**
CACH	**El Canelo**	**1.13**	**81**	⇓*iP*	**Pb**	**13 25 45.4**	**-0.1**
CHCH	**Chadas Angostu**	**1.13**	**72**	⇑*iP*	**Pn**	**13 25 45.0**	**+0.5**
CHCH	**Chadas Angostu**	**1.13**	**72**	⇑*iP*	**Pn**	**13 25 45.0**	**+0.5**
IHA	**Instituto Hidr**	**1.30**	**11**	⇑*iP*	**Pn**	**13 25 46.6**	**0.0**
IHA				*i* S1	**Sb**	**13 26 04.7**	**+0.2**
IHA	**Instituto Hidr**	**1.30**	**11**	⇑*iP*	**Pn**	**13 25 46.6**	**0.0**
IHA				*i* S	**Sb**	**13 26 04.7**	**+0.2**
ANTU	**Antumapu**	**1.31**	**57**	⇑*iP*	**Pn**	**13 25 47.8**	**+0.8**
ANTU				*i* S	**Sb**	**13 26 05.8**	**+0.8**
ANTU				AML	AML	13 26 13.1	
	comp=E,41μm,0.7s						
ANTU	**Antumapu**	**1.31**	**57**	⇑*iP*	**Pn**	**13 25 47.8**	**+0.8**
ANTU				*i* S	**Sb**	**13 26 05.8**	**+0.8**
LACH	**Col Las Americ**	**1.45**	**55**	⇑*iP*	**Pn**	**13 25 49.8**	**+0.9**
LACH				*e*S	**Sb**	**13 26 10.2**	**+1.3**
LACH				AML	AML	13 26 19.9	
	comp=N,17μm,0.6s						
LACH	**Col Las Americ**	**1.45**	**55**	⇑*iP*	**Pn**	**13 25 49.8**	**+0.9**
LACH				*e*S	**Sb**	**13 26 10.2**	**+1.3**
CLCH	**Cerro Calan**	**1.48**	**53**	⇓*iP*	**Pn**	**13 25 50.4**	**+1.1**
CLCH				*i* S	**Sb**	**13 26 11.0**	**+1.3**
CLCH				AML	AML	13 26 20.2	
	comp=E,37μm,0.6s						
PEL	**Peldehue**	**1.56**	**43**	⇑*iP*	**Pn**	**13 25 51.5**	**+1.1**
PEL				*i* S	**Sb**	**13 26 12.0**	**-0.1**
PEL	**Peldehue**	**1.56**	**43**	⇑*iP*	**Pn**	**13 25 51.5**	**+1.1**
PEL				*i* S	**Sb**	**13 26 12.0**	**-0.1**
PEL				AML	AML	13 26 20.6	
	comp=N,67μm,0.6s						
PEL	**Peldehue**	**1.56**	**43**	⇑*iP*	**Pn**	**13 25 51.5**	**+1.1**
PEL				*i* S	**Sb**	**13 26 12.0**	**-0.1**
FCH	**Farellones**	**1.68**	**55**	⇓*iP*	Pn	13 25 46.3	-6.0
FCH				*i* S	**Sn**	**13 26 09.1**	**-4.0**
FCH				AML	AML	13 26 19.1	
	comp=N,14μm,0.5s						
CMCH	**Combarbala**	**3.22**	**15**	⇓*eP*	**Pn**	**13 26 13.6**	**+0.3**
CMCH	**Combarbala**	**3.22**	**15**	⇓*eP*	**Pn**	**13 26 13.6**	**+0.3**
CFAA	**Coronel Fontan**	**4.12**	**50**	Pn	**Pn**	**13 26 28.5**	**+3.0**
	comp=N,3.5nm,0.3s,baz=224,slow=13,SNR=66						
CFAA				Lg	Lg	13 27 26.3	
	comp=N,11nm,0.3s,baz=116,slow=22,SNR=3.4						
CFAA				LR	LR	13 28 19.9	
	comp=N,618nm,19.7s,baz=234,slow=43						
LCO	**Las Campanas**	**5.38**	**12**	*e*Pn	**Pn**	**13 26 42.4**	**-0.7**
LCO				*e*Sn	**Sn**	**13 27 42.2**	**-2.0**
PLCA	**Paso Flores**	**6.52**	**171**	*e*P	**Pn**	**13 26 59.3**	**+0.8**
PLCA				*e*		13 28 12.1	
PLCA	**Paso Flores**	**6.52**	**171**	Pn	**Pn**	**13 26 58.9**	**+0.4**
	baz=336,slow=15						
PLCA				Lg	Lg	13 28 40.1	
	baz=252,slow=19						
PLCA				LR	LR	13 29 27.2	
	comp=N,2μm,18.1s,baz=348,slow=37						
PLCA	**Paso Flores**	**6.52**	**171**	*e*Pn	**Pn**	**13 26 59.3**	**+0.8**
PLCA				*e*Sn	**Sn**	**13 28 12.1**	**+0.2**
PLCA				Lg	Lg	13 28 40.1	
TRQA	**Tornquist**	**8.88**	**118**	*e*Pn	**Pn**	**13 27 31.2**	**+0.2**
TRQA				*e*Sn	**Sn**	**13 29 07.6**	**-2.5**
LVC	**Limon Verde**	**11.95**	**14**	*e*Pn	Pn	13 28 08.4	-4.8
LPAZ	**La Paz**	**18.26**	**12**	*e*P	**P**	**13 29 36.1**	**-0.4**
LPAZ	**La Paz**	**18.26**	**12**	P	**Pn**	**13 29 37.4**	**+0.9**
	comp=N,0.9nm,0.3s,baz=186,slow=8.0,SNR=54						
LPAZ	**La Paz**	**18.26**	**12**	*e*Pn	**P**	**13 29 35.2**	**-1.3**
	comp=N,49nm,1.0s						
USHA	**Ushuaia**	**20.68**	**174**	P	**P**	**13 30 02.2**	**+0.3**
	comp=N,20nm,0.9s,baz=0.0,slow=6.1,SNR=3.2						
USHA				LR	LR	13 38 38.4	
	comp=N,1μm,21.0s,baz=326,slow=38						
SIV	**San Ignacio**	**20.69**	**31**	P	**P**	**13 30 02.4**	**-0.1**
	comp=N,29nm,0.8s,baz=225,slow=10,SNR=50						
SIV				LR	LR	13 39 30.5	
	comp=N,1μm,18.9s,baz=231,slow=41						
NNA	**Nana**	**22.66**	**347**	*e*P	**P**	**13 30 23.7**	**+0.1**
NNA	**Nana**	**22.66**	**347**	P	**P**	**13 30 26.6**	**+3.0**
	comp=N,8.5nm,0.6s,baz=150,slow=8.1,SNR=2.6						
NNA				LR	LR	13 37 16.1	
	comp=N,341nm,20.2s,baz=182,slow=32						
NNA	**Nana**	**22.66**	**347**	*e*Pn	**P**	**13 30 22.6**	**-0.9**
	comp=N,38nm,1.1s						
ATAH	**Atahualpa**	**27.68**	**346**	LR	LR	13 40 60.0	
	comp=N,262nm,19.4s,baz=187,slow=34						
BDFB	**Brasilia**	**28.44**	**55**	P	**P**	**13 31 17.6**	**+0.5**
	comp=N,15nm,0.7s,baz=220,slow=9.1,SNR=17						
BDFB				LR	LR	13 43 45.6	
	comp=N,1μm,18.4s,baz=190,slow=39						
PMSA	**Palmer Station**	**30.88**	**173**	*e*P	**P**	**13 31 37.0**	**-1.0**
OTAV	**Otavalo**	**34.90**	**349**	*e*P	**P**	**13 32 13.8**	**-0.3**
	comp=N,22nm,1.3s						
SDV	**Santo Domingo**	**42.97**	**2**	*e*P	**P**	**13 33 20.2**	**-1.1**
	comp=N,17nm,0.9s						
RCBR	**Riachuelo**	**43.73**	**58**	*e*P	**P**	**13 33 27.8**	**+0.3**
	comp=N,16nm,1.0s						
JTS	**JuntasAbangare**	**46.03**	**342**	*e*P	**P**	**13 33 44.1**	**-1.6**
JTS				*PP	**pP**	**13 33 52.5**	**-1.8**
JTS				pmax	pmax		
	comp=Z,17nm,1.2s						
JTS	**JuntasAbangare**	**46.03**	**342**	pP	pP	13 33 52.5	-1.8
	comp=Z,7.4nm,0.8s,baz=128,slow=11,SNR=3.8						
JTS	**JuntasAbangare**	**46.03**	**342**	*e*P	**P**	**13 33 44.1**	**-1.6**
	comp=Z,18nm,1.2s						
JTS				pP	**pP**	**13 33 52.5**	**-1.8**
VNA3	**Neumayer Olymp**	**49.05**	**158**	P	**P**	**13 34 09.2**	**+0.6**
VNA2	**Neumayer--Watz**	**49.71**	**157**	P	**P**	**13 34 14.1**	**+0.6**
	baz=294,slow=9.7						
SNAA	**Sanae**	**51.28**	**158**	P	**P**	**13 34 26.0**	**+0.5**
SNAA	**Sanae**	**51.28**	**158**	*e*P	**P**	**13 34 23.0**	**-2.5**
SNAA				pmax	pmax		
	comp=Z,41nm,1.2s						
SNAA	**Sanae**	**51.28**	**158**	P	**P**	**13 34 25.8**	**+0.3**
	comp=Z,9.4nm,1.0s,baz=234,slow=4.9,SNR=28						
SNAA	**Sanae**	**51.28**	**158**	*e*P	**P**	**13 34 23.0**	**-2.5**
	comp=Z,41nm,1.2s						
CELP	**Cerrillos**	**52.33**	**6**	*e*P	**P**	**13 34 33.3**	**-0.5**
RKT	**Rikitea**	**55.62**	**264**	*e*T	T	14 34 47.0	
	comp=Z,1.6nm,0.2s						
QSPA	**South Pole Qui**	**55.94**	**180**	P	**P**	**13 35 00.3**	**+0.5**
	comp=Z,28nm,0.9s,baz=146,slow=2.9,SNR=46						
QSPA				pP	**pP**	**13 35 08.4**	**-0.1**
	comp=Z,34nm,0.9s,baz=165,slow=1.5,SNR=20						
QSPA	**South Pole Qui**	**55.94**	**180**	*e*P	**P**	**13 34 58.1**	**-1.7**
	comp=Z,44nm,1.0s						
QSPA				pP	**pP**	**13 35 08.4**	**-0.1**
NVL	**N'lazarevskaya**	**56.02**	**157**	*e*P	**P**	**13 34 59.0**	**-1.0**
NVL				pmax	pmax		
	comp=Z,20nm,1.0s						
TEIG	**Tepich**	**56.41**	**342**	*e*P	**P**	**13 35 04.2**	**+0.8**
	comp=Z,41nm,0.7s						
VNDA	**Vanda**	**63.82**	**191**	P	**P**	**13 35 54.8**	**+1.2**
	comp=Z,2.6nm,0.9s,baz=155,slow=2.6,SNR=8.0						
VNDA				LR	LR	14 00 37.4	
	comp=Z,82nm,19.1s,baz=153,slow=33						
SYO	**Syowa Base**	**65.56**	**158**	⇑*e*P	**P**	**13 36 02.8**	**-2.2**
035A	**Encino**	**65.76**	**334**	⇓P	**P**	**13 36 08.4**	**+1.7**
	baz=66						
034A	**Hebbronville**	**66.08**	**334**	⇑P	**P**	**13 36 10.6**	**+1.8**
	baz=66						
934A	**Benavides**	**66.51**	**334**	⇑P	**P**	**13 36 13.1**	**+1.5**
	baz=67						
738A	**Farr-Stevens R**	**66.68**	**337**	⇓P	**P**	**13 36 14.4**	**+1.8**
	baz=67						
933A	**Laredo**	**66.80**	**334**	⇑P	**P**	**13 36 15.3**	**+1.9**
	baz=67,SNR=5.1						
834A	**Tilden**	**67.00**	**335**	⇓P	**P**	**13 36 16.5**	**+1.8**
	baz=67,SNR=6.6						
TBI	**Tubuai**	**67.32**	**257**	*e*T	T	14 49 26.9	
	comp=Z,5.5nm,0.2s						
833A	**Chaparral WMA,**	**67.49**	**334**	⇑P	**P**	**13 36 19.4**	**+1.7**
	baz=68,SNR=7.7						
734A	**La Parita Cree**	**67.66**	**335**	⇑P	**P**	**13 36 19.9**	**+1.1**
	baz=68						
832A	**Faith Ranch, C**	**67.66**	**333**	⇑P	**P**	**13 36 20.4**	**+1.5**
	baz=68,SNR=5.8						
636A	**Smothers Creek**	**67.73**	**336**	⇑P	**P**	**13 36 21.0**	**+1.7**
	baz=68,SNR=5.5						
732A	**Laxson Ranch,**	**68.06**	**334**	⇑P	**P**	**13 36 22.2**	**+0.8**
	baz=68,SNR=8.6						
632A	**Uvalde**	**68.70**	**334**	⇑P	**P**	**13 36 25.7**	**+0.3**
	baz=69,SNR=5.7						
MEH	**Mehetia**	**68.89**	**262**	*e*T	T	14 51 21.7	
	comp=Z,31nm,0.2s						
631A	**Perdido Creek**	**68.91**	**333**	⇑P	**P**	**13 36 27.3**	**+0.7**
	baz=69						
533A	**Kerrville**	**68.95**	**335**	⇓P	**P**	**13 36 27.6**	**+0.7**
	baz=69						
337A	**Centerville**	**69.06**	**338**	⇑P	**P**	**13 36 27.8**	**+0.3**
	baz=69						
532A	**Rocksprings**	**69.31**	**334**	⇑P	**P**	**13 36 29.9**	**+0.8**
	baz=70						
434A	**Burnet**	**69.36**	**336**	⇑P	**P**	**13 36 29.8**	**+0.3**
	baz=70,SNR=5.5						
336A	**Riesel**	**69.42**	**337**	⇑P	**P**	**13 36 30.3**	**+0.5**
	baz=70,SNR=5.5						
335A	**Moody**	**69.51**	**337**	⇑P	**P**	**13 36 30.7**	**+0.4**
	baz=70						
531A	**Rocksprings**	**69.57**	**334**	⇓P	**P**	**13 36 31.3**	**+0.5**
	baz=70,SNR=5.3						
433A	**Art**	**69.59**	**335**	⇑P	**P**	**13 36 31.3**	**+0.4**
	baz=70,SNR=6.5						
JCT	**Junction City**	**69.59**	**335**	*e*P	**P**	**13 36 31.3**	**+0.4**
JCT				pmax	pmax		
	comp=Z,25nm,1.0s						
JCT	**Junction City**	**69.59**	**335**	⇑P	**P**	**13 36 31.4**	**+0.5**
	baz=70,SNR=6.6						
JCT	**Junction City**	**69.59**	**335**	*e*P	**P**	**13 36 31.3**	**+0.4**
	comp=Z,25nm,1.0s						
334A	**Lometa**	**69.83**	**336**	⇓P	**P**	**13 36 32.7**	**+0.3**
	baz=70						
530A	**J-C Ranch, Com**	**69.85**	**333**	⇑P	**P**	**13 36 33.3**	**+0.8**
	baz=70,SNR=7.9						
TVO	**Taravao**	**69.91**	**262**	*e*T	T	14 52 36.5	
	comp=Z,1.8nm,0.2s						
432A	**Menard**	**69.95**	**335**	⇓P	**P**	**13 36 33.6**	**+0.5**
	baz=70						
TXAR	**Lajitas Array**	**70.03**	**331**	P	**P**	**13 36 34.5**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=158,slow=7.1,SNR=10						
TXAR				pP	**pP**	**13 36 41.5**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=154,slow=8.3,SNR=24						
431A	**Sonora**	**70.06**	**334**	⇑P	**P**	**13 36 34.0**	**+0.1**
	baz=70						
333A	**Richland Sprin**	**70.07**	**336**	⇓P	**P**	**13 36 34.3**	**+0.4**
	baz=70,SNR=8.4						
TIAR	**Tiarei**	**70.10**	**262**	*e*T	T	14 52 44.7	
	comp=Z,7.0nm,0.3s						
529A	**Stev Forest Ra**	**70.17**	**332**	⇓P	**P**	**13 36 34.9**	**+0.4**
	baz=70						
PPT2	**Papeete2**	**70.27**	**262**	*e*LR	LR	13 58 04.3	
	comp=Z,357nm,25.0s						
OXF	**Oxford**	**70.38**	**345**	P	**P**	**13 36 34.9**	**-0.7**
OXF				pmax	pmax		
	comp=Z,58nm,1.0s						
OXF	**Oxford**	**70.38**	**345**	P	**P**	**13 36 34.9**	**-0.7**
	comp=Z,58nm,1.0s						
SWET	**Sewanee**	**70.38**	**348**	*e*P	**P**	**13 36 35.4**	**-0.3**
	comp=Z,32nm,1.1s						
430A	**Baggett Ranch,**	**70.39**	**333**	⇑P	**P**	**13 36 36.2**	**+0.4**
	baz=71,SNR=7.2						
332A	**Millersview**	**70.39**	**335**	⇓P	**P**	**13 36 36.0**	**+0.2**
	baz=71,SNR=5.6						
234A	**Clairette**	**70.41**	**337**	⇓P	**P**	**13 36 35.6**	**-0.3**
	baz=71						
429A	**Davenport Ranc**	**70.49**	**333**	⇑P	**P**	**13 36 37.0**	**+0.5**
	baz=71,SNR=7.4						
331A	**San Angelo**	**70.56**	**334**	⇓P	**P**	**13 36 37.0**	**+0.2**
	baz=71,SNR=5.7						
233A	**Rising Star**	**70.68**	**336**	⇓P	**P**	**13 36 37.6**	**+0.1**
	baz=71						
232A	**Coleman**	**70.81**	**335**	⇓P	**P**	**13 36 38.1**	**-0.3**
	baz=71						
330A	**Mertzon**	**70.92**	**334**	⇓P	**P**	**13 36 39.0**	**-0.1**
	baz=71						
231A	**Bronte**	**71.09**	**335**	⇓P	**P**	**13 36 40.1**	**+0.1**
	baz=71,SNR=5.2						
133A	**Hamilton Ranch**	**71.22**	**336**	⇑P	**P**	**13 36 40.7**	**-0.1**
	baz=72						
329A	**Wagon Wheel Ra**	**71.29**	**333**	⇑P	**P**	**13 36 41.5**	**+0.1**
	baz=72						
230A	**Sterling City**	**71.33**	**334**	⇑P	**P**	**13 36 41.5**	**-0.1**
	baz=72						
MIAR	**Mount Ida**	**71.42**	**341**	*e*P	**P**	**13 36 42.0**	**+0.1**
MIAR				pmax	pmax		
	comp=Z,12nm,1.0s						
MIAR	**Mount Ida**	**71.42**	**341**	*e*P	**P**	**13 36 42.0**	**+0.1**
	comp=Z,12nm,1.0s						
ABTX	**Abilene, Hawle**	**71.48**	**336**	⇓P	**P**	**13 36 42.9**	**+0.4**
	baz=72,SNR=5.1						
ABTX	**Abilene, Hawle**	**71.48**	**336**	*e*P	**P**	**13 36 42.8**	**+0.4**
	comp=Z,18nm,0.8s						
Z34A	**Collier Ranch,**	**71.60**	**337**	⇑P	**P**	**13 36 43.2**	**+0.1**
	baz=72						
WVT	**Waverly**	**71.62**	**346**	P	**P**	**13 36 40.6**	**-2.5**
WVT				pmax	pmax		
	comp=Z,54nm,0.9s						
WVT	**Waverly**	**71.62**	**346**	P	**P**	**13 36 40.6**	**-2.5**
	comp=Z,54nm,0.9s						
131A	**Roby**	**71.79**	**335**	⇑P	**P**	**13 36 44.0**	**-0.3**
	baz=72						
Z33A	**Whitaker Ranch**	**71.80**	**337**	⇑P	**P**	**13 36 44.1**	**-0.1**
	baz=72						
130A	**Snyder**	**71.92**	**334**	⇓P	**P**	**13 36 44.7**	**-0.3**
	baz=72						
Z32A	**Haskell**	**72.05**	**336**	⇓P	**P**	**13 36 46.4**	**+0.6**
	baz=72,SNR=7.2						
228A	**UT Block 9, Go**	**72.09**	**333**	⇓P	**P**	**13 36 45.2**	**-0.9**
	baz=72						
Z31A	**Sharp Cattle R**	**72.29**	**335**	⇓P	**P**	**13 36 48.1**	**+0.8**
	baz=73,SNR=5.7						
Y33A	**Hilltop Ranch,**	**72.41**	**337**	⇑P	**P**	**13 36 47.6**	**-0.4**
	baz=73						
128A	**Castleberry Fa**	**72.50**	**333**	⇓P	**P**	**13 36 48.7**	**+0.1**
	baz=73,SNR=6.0						
Z30A	**Sanderson Ranc**	**72.60**	**335**	⇓P	**P**	**13 36 49.6**	**+0.4**
	baz=73,SNR=6.4						
Y32A	**R-V Farms, Ver**	**72.68**	**336**	⇑P	**P**	**13 36 49.6**	**+0.1**
	baz=73						
X34A	**Smith Ranch, M**	**72.71**	**338**	⇑P	**P**	**13 36 49.9**	**+0.3**
	baz=73						
Z29A	**Hungry Hill Ra**	**72.78**	**334**	⇓P	**P**	**13 36 50.3**	**0.0**
	baz=73,SNR=6.4						
MNTX	**Cornudas Mount**	**72.81**	**331**	*e*P	**P**	**13 36 50.2**	**-0.1**
	comp=Z,7.6nm,0.8s						
MAW	**Mawson**	**72.87**	**163**	LR	LR	14 08 22.2	
	comp=Z,261nm,20.7s,baz=240,slow=35						
Y31A	**Rekieta Farm,**	**72.91**	**336**	⇓P	**P**	**13 36 51.0**	**+0.1**
	baz=73						
WMOK	**Wichita Mounta**	**73.13**	**337**	*e*P	**P**	**13 36 51.9**	**-0.3**
WMOK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WMOK	**Wichita Mounta**	**73.13**	**337**	*e*P	**P**	**13 36 51.9**	**-0.3**
	comp=Z,10.0nm,1.2s						
Y29A	**Porterfield Fa**	**73.31**	**334**	⇑P	**P**	**13 36 53.6**	**+0.3**
	baz=74						
TUL1	**Leonard**	**73.31**	**340**	*e*P	**P**	**13 36 53.3**	**0.0**
	comp=Z,17nm,1.0s						
W33A	**Caddo, Fort Co**	**73.41**	**338**	⇑P	**P**	**13 36 54.4**	**+0.5**
	baz=74						
X31A	**McDonald Ranch**	**73.43**	**336**	⇑P	**P**	**13 36 54.3**	**+0.4**
	baz=74,SNR=5.9						
X30A	**Coker Ranch, T**	**73.56**	**335**	⇓P	**P**	**13 36 55.0**	**+0.2**
	baz=74						
Y28A	**McKinney Farm,**	**73.56**	**334**	⇓P	**P**	**13 36 55.2**	**+0.4**
	baz=74						
W32A	**Sentinel**	**73.64**	**337**	⇑P	**P**	**13 36 55.8**	**+0.6**
	baz=74,SNR=7.5						
V34A	**Guthrie**	**73.75**	**339**	⇑P	**P**	**13 36 56.3**	**+0.5**
	baz=74						
V34A	**Guthrie**	**73.75**	**339**	*e*P	**P**	**13 36 56.7**	**+0.9**
	comp=Z,37nm,1.4s						
MSTX	**Muleshoe**	**73.81**	**334**	⇑P	**P**	**13 36 56.8**	**+0.5**
	baz=74						
MSTX	**Muleshoe**	**73.81**	**334**	*e*P	**P**	**13 36 55.5**	**-0.8**
	comp=Z,16nm,0.9s						
Y27A	**Causey**	**73.88**	**333**	⇓P	**P**	**13 36 57.3**	**+0.6**
	baz=74						
W31A	**Holland Ranch,**	**73.92**	**336**	⇑P	**P**	**13 36 57.6**	**+0.7**
	baz=74						
V33A	**Lossen Ranch,**	**73.97**	**338**	⇓P	**P**	**13 36 57.8**	**+0.6**
	baz=74						
V32A	**Arapaho**	**74.12**	**337**	⇑P	**P**	**13 36 58.0**	**0.0**
	baz=74						
319A	**Douglas**	**74.19**	**327**	⇑P	**P**	**13 36 59.9**	**+1.2**
	baz=74						
AMTX	**Amarillo**	**74.24**	**335**	⇑P	**P**	**13 37 00.1**	**+1.3**
	baz=75						
AMTX	**Amarillo**	**74.24**	**335**	*e*P	**P**	**13 36 57.3**	**-1.5**
	comp=Z,21nm,1.0s						
U34A	**Anderson Ranch**	**74.31**	**339**	⇑P	**P**	**13 37 00.4**	**+1.3**
	baz=75						
U34A	**Anderson Ranch**	**74.31**	**339**	*e*P	**P**	**13 36 59.4**	**+0.3**
	comp=Z,23nm,1.1s						
V31A	**Spring Creek L**	**74.43**	**337**	⇓P	**P**	**13 37 00.9**	**+1.1**
	baz=75						
W29A	**Amarillo**	**74.44**	**335**	⇓P	**P**	**13 37 00.5**	**+0.5**
	baz=75						
121A	**Cookes Peak, D**	**74.53**	**329**	⇑P	**P**	**13 37 02.0**	**+1.3**
	baz=75						
121A	**Cookes Peak, D**	**74.53**	**329**	*e*P	**P**	**13 37 01.2**	**+0.5**
	comp=Z,20nm,0.9s						
X26A	**CR and CF Fran**	**74.71**	**333**	⇓P	**P**	**13 37 02.2**	**+0.6**
	baz=75,SNR=5.5						
Y24A	**Capitan**	**74.78**	**332**	⇓P	**P**	**13 37 02.1**	**0.0**
	baz=75						
LIC	**Lamto**	**74.80**	**71**	*e*P	**P**	**13 37 02.8**	**+0.4**
	comp=Z,44nm,1.6s						
ACSO	**Alum Creek Sta**	**74.86**	**351**	*e*P	**P**	**13 37 00.3**	**-1.8**
	comp=Z,19nm,0.9s						
W27A	**Bowe Ranch, En**	**74.90**	**334**	⇑P	**P**	**13 37 03.0**	**+0.3**
	baz=75,SNR=6.3						
Y23A	**Lovelace Mesa,**	**75.04**	**331**	⇓P	**P**	**13 37 04.4**	**+0.8**
	baz=75						
TIC	**Toumodi**	**75.06**	**71**	*e*P	**P**	**13 37 04.4**	**+0.5**
	comp=Z,28nm,0.2s						
KIC	**Kosan Boka**	**75.10**	**71**	*e*P	**P**	**13 37 04.6**	**+0.4**
	comp=Z,52nm,1.2s						
T33A	**Patterson Ranc**	**75.12**	**338**	⇓P	**P**	**13 37 04.7**	**+0.9**
	baz=76						
W26A	**Owens Ranch, T**	**75.18**	**333**	⇓P	**P**	**13 37 04.6**	**+0.3**
	baz=76						
DBIC	**Dimbokro**	**75.20**	**71**	P	**P**	**13 37 05.5**	**+0.7**
	comp=Z,7.4nm,0.8s,baz=202,slow=5.8,SNR=10.0						
DBIC				LR	LR	14 08 25.5	
	comp=Z,165nm,19.3s,baz=212,slow=34						
U30A	**WK&E Inc. Balk**	**75.38**	**336**	⇓P	**P**	**13 37 06.3**	**+0.9**
	baz=76						
T32A	**Huddler Ranch,**	**75.42**	**338**	⇓P	**P**	**13 37 05.9**	**+0.4**
	baz=76						
V27A	**Dan Oppiter Fa**	**75.44**	**334**	⇑P	**P**	**13 37 06.5**	**+0.7**
	baz=76						
W25A	**X Bar L Ranch,**	**75.55**	**333**	⇑P	**P**	**13 37 07.4**	**+0.9**
	baz=76						
LPM	**Los Pinos Moun**	**75.60**	**331**	*e*P	**P**	**13 37 07.5**	**+0.7**
TUC	**Tucson**	**75.66**	**327**	*e*P	**P**	**13 37 06.3**	**-0.8**
TUC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TUC	**Tucson**	**75.66**	**327**	*e*P	**P**	**13 37 06.3**	**-0.8**
	comp=Z,9.6nm,1.2s						
U28A	**Mallet**	**75.78**	**335**	⇑P	**P**	**13 37 08.5**	**+0.9**

comp=Z,19nm,1.1s
Q29A Oakley 77.64 337 ⇑P P 13 37 19.1 +1.1
baz=78
R27A Eads 77.69 336 ⇓P P 13 37 19.4 +1.0
baz=78
S25A Robets Cordova 77.71 334 ⇑P P 13 37 19.4 +0.8
baz=78,SNR=5.1
X16A Lo Mia Camp, P 77.73 327 ⇓P P 13 37 20.4 +1.5
baz=78,SNR=8.9
T23A Casias Ranch, 77.75 333 ⇓P P 13 37 19.9 +0.9
baz=78
R26A Arlington 77.93 335 ⇓P P 13 37 20.8 +1.0
baz=78
S24A Houchin Ranch, 77.97 334 ⇓P P 13 37 21.5 +1.2
baz=78,SNR=6.3
Y14A Wickenburg 78.04 326 ⇑P P 13 37 21.7 +1.3
baz=78
O32A Brockman Farm, 78.07 340 ⇓P P 13 37 20.4 0.0
baz=78
R25A Fountain Ranch 78.09 334 ⇓P P 13 37 21.7 +1.1
baz=78
GLA Glamis 78.17 324 ⇑P P 13 37 22.4 +1.3
baz=78
P29A Atwood 78.27 338 ⇑P P 13 37 22.6 +1.1
baz=79
R24A Sanders Place, 78.46 334 ⇓P P 13 37 23.9 +1.1
baz=79,SNR=7.0
P28A Saint Francis 78.51 337 ⇑P P 13 37 24.3 +1.4
baz=79
Q26A Hugo 78.51 335 ⇑P P 13 37 24.3 +1.3
baz=79
SWSC Sam W. Stewart 78.56 324 ⇑P P 13 37 24.4 +1.2
baz=79
Y12C Blythe 78.60 325 ⇑P P 13 37 24.5 +1.1
baz=79
WUAZ Wupatki 78.63 328 ⇑P P 13 37 25.2 +1.5
baz=79,SNR=5.8
WUAZ Wupatki 78.63 328 *e*P P 13 37 21.5 -2.2
comp=Z,14nm,1.0s
S22A 4UR Ranch, Cre 78.67 332 ⇓P P 13 37 25.5 +1.4
baz=79,SNR=5.2
R23A Moffat 78.69 333 ⇑P P 13 37 24.9 +0.8
baz=79
Q25A Bedland, Calha 78.76 335 ⇑P P 13 37 25.4 +1.0
baz=79
MVCO Mesa Verde 78.86 331 ⇓P P 13 37 26.5 +1.4
baz=79,SNR=6.2
MVCO Mesa Verde 78.86 331 *e*P P 13 37 25.0 -0.1
comp=Z,20nm,1.2s
BC3 Big Chuckawall 78.97 324 ⇑P P 13 37 27.3 +1.7
baz=79,SNR=6.8
P26A Davis Ranch, A 79.02 336 ⇑P P 13 37 26.9 +1.1
baz=79
BGNE Belgrade 79.10 340 ⇑P P 13 37 27.3 +1.3
baz=80
Q24A Divide 79.12 334 ⇓P P 13 37 27.7 +1.1
baz=79
IRM Iron Mountain 79.23 325 ⇑P P 13 37 28.6 +1.7
baz=80
P25A Willow Gulch B 79.26 335 ⇑P P 13 37 28.8 +1.7
baz=80,SNR=5.1
O27A Beecher Island 79.30 337 ⇓P P 13 37 28.6 +1.4
baz=80
W13A Hualapai Mount 79.41 326 ⇑P P 13 37 29.7 +1.6
baz=80,SNR=5.9
PFO Pinyon Flats O 79.42 323 *e*P P 13 37 25.5 -2.6
PFO pmax pmax
comp=Z,16nm,1.0s
PFO Pinyon Flats O 79.42 323 ⇑P P 13 37 29.9 +1.8
baz=80,SNR=5.8
PFO Pinyon Flats O 79.42 323 *e*P P 13 37 25.4 -2.6
comp=Z,16nm,1.0s
BELC Belle Mtn. Jos 79.51 324 ⇑P P 13 37 30.1 +1.5
baz=80
PV01 Paradox Valley 79.69 331 P P 13 37 29.1 -0.4
comp=Z,709nm,1.1s
MURC Murrieta 79.78 323 ⇑P P 13 37 31.3 +1.4
baz=80
U15A North Rim 79.79 328 ⇓P P 13 37 31.8 +1.5
baz=80,SNR=6.1
BOSA Boshof 79.86 118 *e*P P 13 37 29.2 -1.6
BOSA pmax pmax
comp=Z,11nm,0.9s
BOSA Boshof 79.86 118 P P 13 37 31.1 +0.2
comp=Z,7.0nm,0.8s,baz=247,slow=6.2,SNR=10
BOSA LR LR 14 09 29.9
comp=Z,96nm,18.0s,baz=166,slow=33
BOSA Boshof 79.86 118 *e*P P 13 37 29.2 -1.6
comp=Z,11nm,0.9s
GMRC Granite Mounta 79.98 325 ⇓P P 13 37 32.7 +1.6
baz=80,SNR=6.4
SMCO Snowmass 79.98 333 *e*P P 13 37 33.1 +1.7
comp=Z,17nm,1.0s
ISCO Idaho Springs 80.03 334 P P 13 37 29.8 -1.7
ISCO pmax pmax
comp=Z,9.0nm,1.1s
ISCO Idaho Springs 80.03 334 ⇓P P 13 37 32.2 +0.7
baz=80
ISCO Idaho Springs 80.03 334 P P 13 37 29.8 -1.7
comp=Z,8.9nm,1.1s
PV04 Paradox Valley 80.05 331 *e*P P 13 37 32.6 +1.2
P22A Eagle 80.27 333 ⇓P P 13 37 33.5 +0.8
baz=81
O23A Lake Granby, G 80.50 334 ⇓P P 13 37 35.4 +1.4
baz=81,SNR=5.4
BFSC Mount Baldy Ra 80.52 323 ⇓P P 13 37 35.3 +1.3
baz=81
TUQ Turquoise Moun 80.64 325 ⇑P P 13 37 36.1 +1.4
baz=81,SNR=6.3
K30A Basset 80.68 340 ⇑P P 13 37 35.8 +1.2
baz=81
O22A Kremmling 80.69 334 ⇑P P 13 37 36.1 +1.1
baz=81,SNR=6.4
MWC Mount Wilson 80.71 323 *e*P P 13 37 37.3 +2.2
MWC pmax pmax
comp=Z,10.0nm,0.9s
MWC Mount Wilson 80.71 323 *e*P P 13 37 37.3 +2.2
comp=Z,10nm,0.9s
ECSD EROS Data Cent 80.86 342 ⇓P P 13 37 36.1 +0.7
baz=81
ECSD EROS Data Cent 80.86 342 P P 13 37 34.8 -0.6
comp=Z,28nm,1.0s
GSC Goldstone, Bar 80.95 324 *e*P P 13 37 38.1 +1.8
GSC pmax pmax
comp=Z,6.0nm,0.8s
GSC Goldstone, Bar 80.95 324 ⇓P P 13 37 37.1 +0.8
baz=81
GSC Goldstone, Bar 80.95 324 *e*P P 13 37 38.1 +1.8
comp=Z,6.0nm,0.8s
N23A Red Feather La 81.11 335 ⇓P P 13 37 37.9 +0.6
baz=81
SHPR Sheep Range 81.15 326 P P 13 37 37.6 +0.2
SHOC Shoshone, Teco 81.18 325 ⇑P P 13 37 38.7 +1.3
baz=82
EDW2 Edwards Air Fo 81.19 323 ⇑P P 13 37 38.3 +0.7
baz=82
CCUT Cedar City 81.20 328 *e*P P 13 37 39.9 +2.1
comp=Z,15nm,1.0s
N22A Wattenberg Ran 81.22 334 ⇓P P 13 37 38.9 +1.1
baz=82,SNR=5.6
O20A White River Ci 81.29 333 ⇓P P 13 37 38.8 +0.7
baz=82
PHWY Pilot Hill 81.30 335 *e*P P 13 37 39.2 +1.0
comp=Z,11nm,1.0s
SRU San Rafael Swe 81.31 331 *e*P P 13 37 37.2 -1.0
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU San Rafael Swe 81.31 331 *e*P P 13 37 37.2 -1.0
comp=Z,9.1nm,0.9s
ARUT Antelope Range 81.43 328 P P 13 37 38.0 -0.9
ARUT pmax pmax
comp=Z,212nm,1.0s
ARUT Antelope Range 81.43 328 P P 13 37 38.0 -0.9
comp=Z,212nm,1.0s
LRMC Laurel Mtn Rad 81.52 324 ⇑P P 13 37 40.1 +0.8
baz=82
M23A Laramie 81.54 335 ⇓P P 13 37 40.2 +0.8
baz=82
J29A Okreek 81.56 340 ⇑P P 13 37 40.2 +1.0
baz=82
ARVC Arvin 81.81 323 ⇑P P 13 37 41.7 +1.0
baz=82
J28A Allard Ranch, 81.85 339 ⇓P P 13 37 42.0 +1.2
baz=82
FURC Furnace Creek, 81.92 325 ⇓P P 13 37 42.3 +1.1
baz=82
J27A Elkhorn Farm, 81.92 338 ⇓P P 13 37 42.2 +1.0
baz=82

ISA Isabella, Lake 82.06 323 P P 13 37 41.4 -0.7
ISA pmax pmax
comp=Z,9.0nm,0.9s
ISA Isabella, Lake 82.06 323 ⇓P P 13 37 43.2 +1.1
baz=82,SNR=5.9
ISA Isabella, Lake 82.06 323 P P 13 37 41.4 -0.7
comp=Z,9.3nm,0.9s
L23A Garrett 82.11 335 ⇑P P 13 37 41.3 -1.0
baz=82
DAC Darwin (Calif) 82.12 324 *e*P P 13 37 43.9 +1.3
DAC pmax pmax
comp=Z,13nm,1.0s
DAC Darwin (Calif) 82.12 324 *e*P P 13 37 43.9 +1.3
comp=Z,13nm,1.0s
I29A Vivian Onida 82.12 340 ⇑P P 13 37 42.8 +0.6
baz=82
BRSD Miller 82.13 341 ⇑P P 13 37 43.0 +0.8
baz=82
BRSD Miller 82.13 341 *e*P P 13 37 40.9 -1.3
comp=Z,25nm,0.9s
J26A Sides Ranch, S 82.31 338 ⇑P P 13 37 44.1 +0.9
baz=83
I28A Midland 82.35 339 ⇓P P 13 37 44.0 +0.6
baz=83
VES Vestal, Richgr 82.50 323 ⇓P P 13 37 44.8 +0.6
baz=83
MPU Maple Canyon 82.53 330 *e*P P 13 37 46.3 +1.7
comp=Z,9.2nm,1.0s
SMMC Simmler 82.54 322 ⇑P P 13 37 44.9 +0.4
baz=83
K23A Bowen Ranch, D 82.65 336 ⇑P P 13 37 45.3 +0.2
baz=83
H29A Onida 82.65 340 ⇓P P 13 37 45.0 +0.1
baz=83
NLU North Lily Min 82.66 330 *e*P P 13 37 46.4 +1.1
comp=Z,9.8nm,1.3s
I27A Quinn 82.68 339 ⇓P P 13 37 45.8 +0.7
baz=83
DAU Daniels Canyon 82.71 331 *e*P P 13 37 46.7 +1.0
DAU Daniels Canyon 82.71 331 *e*P P 13 37 46.7 +1.0
G30A Faulkton 82.82 341 ⇓P P 13 37 46.5 +0.8
baz=83
J24A Dixon Ranch, L 82.84 337 ⇓P P 13 37 46.7 +0.7
baz=83
R11A Troy Canyon, C 82.85 327 ⇑P P 13 37 47.3 +1.0
baz=83
R11A Troy Canyon, C 82.85 327 *e*P P 13 37 46.2 -0.1
comp=Z,9.4nm,1.0s
K22A Casper 82.87 335 ⇑P P 13 37 46.4 +0.1
baz=83
I26A New Underwood 82.89 338 ⇑P P 13 37 46.5 +0.3
baz=83
H28A Mission Ridge 82.93 340 ⇓P P 13 37 46.8 +0.5
baz=83
JLU Jordanelle 82.95 331 *e*P P 13 37 48.0 +1.2
comp=Z,6.0nm,0.9s
K21A Alcova 83.11 335 ⇑P P 13 37 48.4 +0.8
baz=83,SNR=5.8
CTU Camp Tracy 83.15 331 *e*P P 13 37 49.0 +1.2
comp=Z,5.7nm,0.8s
I25A Rochford 83.15 337 ⇑P P 13 37 48.2 +0.5
baz=84
DUG Dugway, Tooele 83.17 330 *e*P P 13 37 46.6 -1.3
DUG pmax pmax
comp=Z,18nm,1.4s
DUG Dugway, Tooele 83.17 330 ⇓P P 13 37 48.2 +0.3
baz=84
DUG Dugway, Tooele 83.17 330 *e*P P 13 37 46.6 -1.3
comp=Z,18nm,1.4s
H27A Howes 83.20 339 ⇓P P 13 37 48.0 +0.2
baz=84
G28A Parade 83.26 340 ⇓P P 13 37 48.2 +0.1
baz=84
RSSD Black Hills 83.34 337 P P 13 37 42.7 -6.0
RSSD Black Hills 83.34 337 P P 13 37 42.7 -6.0
TPH Tonopah 83.38 326 *e*P P 13 37 48.4 -0.7
TPH pmax pmax
comp=Z,12nm,1.0s
TPH Tonopah 83.38 326 *e*P P 13 37 48.4 -0.7
comp=Z,12nm,1.0s
J22A Midwest 83.52 335 ⇓P P 13 37 49.5 -0.1
baz=84
H25A Fruitdale 83.65 338 ⇓P P 13 37 50.4 +0.3
baz=84
F29A Eureka 83.65 341 ⇑P P 13 37 50.4 +0.4
baz=84
MLAC Mammoth, Mammo 83.79 324 ⇓P P 13 37 52.2 +1.0
baz=84
J21A Lysite 83.80 335 ⇓P P 13 37 51.3 +0.2
baz=84
G27A Dupree 83.83 339 ⇑P P 13 37 51.0 0.0
baz=84
BGU Big Grassy Mou 83.87 330 *e*P P 13 37 52.3 +0.8
comp=Z,6.3nm,1.6s
F28A McLaughlin 83.94 340 ⇑P P 13 37 51.6 +0.1
baz=84
I22A 9 Mile Ranch, 83.95 336 ⇓P P 13 37 51.7 -0.1
baz=84
G26A Maurine 83.95 339 ⇑P P 13 37 51.4 -0.2
baz=84
E30A Jud 84.03 342 ⇓P P 13 37 52.6 +0.6
baz=84
J20A Shoshoni 84.03 334 ⇑P P 13 37 52.6 +0.4
baz=84
PDAR Pinedale Array 84.06 333 P P 13 37 52.7 +0.2
comp=Z,1.5nm,0.8s,baz=167,slow=3.7,SNR=13
PDAR pP pP 13 37 59.2 -2.4
comp=Z,3.9nm,0.9s,baz=153,slow=5.0,SNR=15
H24A Dirks Ranch, A 84.07 337 ⇓P P 13 37 52.4 +0.1
baz=84
G25A Newell 84.11 338 ⇓P P 13 37 52.6 +0.2
baz=84
I21A Big Trails, Te 84.15 335 ⇓P P 13 37 52.8 0.0
baz=84
NVAR Mina Array Bea 84.17 325 P P 13 37 54.1 +1.0
comp=Z,2.1nm,0.8s,baz=159,slow=6.6,SNR=13
NVAR pP pP 13 38 01.3 -1.0
comp=Z,4.0nm,0.8s,baz=152,slow=6.0,SNR=17
TORD Torodi Ar. Bea 84.24 70 P P 13 37 54.6 +0.8
comp=Z,7.1nm,0.8s,baz=253,slow=4.0,SNR=35
TORD LR LR 14 14 36.4
comp=Z,239nm,18.4s,baz=215,slow=35
F27A Lemmon 84.31 339 ⇑P P 13 37 53.9 +0.4
baz=85
J19A Crowheart 84.31 334 ⇑P P 13 37 53.7 +0.1
baz=85,SNR=5.6
HVU Hansel Valley 84.48 331 P P 13 37 53.6 -0.9
HVU pmax pmax
comp=Z,11nm,0.8s
HVU Hansel Valley 84.48 331 P P 13 37 53.6 -0.9
comp=Z,11nm,0.8s
G24A Alzada 84.54 338 ⇓P P 13 37 54.3 -0.4
baz=85
D30A Buchanan 84.55 342 ⇓P P 13 37 54.8 +0.3
baz=85
I20A Worland 84.57 335 ⇑P P 13 37 55.2 +0.3
baz=85
E28A Huff 84.57 341 ⇑P P 13 37 55.2 +0.5
baz=85
ELK Elko 84.66 328 *e*P P 13 37 56.7 +1.1
ELK pmax pmax
comp=Z,6.0nm,0.9s
ELK Elko 84.66 328 *e*P P 13 37 56.7 +1.1
comp=Z,6.0nm,0.9s
D29A Pettibone, Tap 84.72 341 ⇑P P 13 37 55.3 -0.1
baz=85
G23A Biddle 84.74 337 ⇓P P 13 37 55.7 0.0
baz=85
F25A Bowman 84.78 339 ⇑P P 13 37 55.9 0.0
baz=85
I19A Meteetse 84.95 334 ⇓P P 13 37 56.7 -0.2
baz=85
AGMN Agassiz Nation 84.97 344 ⇓P P 13 37 56.6 0.0
baz=85
AGMN Agassiz Nation 84.97 344 *e*P P 13 37 56.8 +0.2
comp=Z,6.7nm,0.8s
E26A Carlson Angus 84.98 339 ⇑P P 13 37 56.6 -0.2
baz=85
H20A Greybull 84.99 335 ⇓P P 13 37 57.3 +0.3
baz=85,SNR=5.6
F24A Ekalaka 85.01 338 ⇑P P 13 37 57.3 +0.2
baz=85
C30A Mose, Pekin 85.03 342 ⇑P P 13 37 57.2 +0.2
baz=85
D28A Regan 85.11 341 ⇑P P 13 37 57.6 +0.2
baz=86
LOHW Long Hollow 85.18 333 *e*P P 13 37 58.7 +0.6
comp=Z,3.8nm,0.8s

F23A Volborg 85.21 337 ⇑P P 13 37 58.5 +0.5
baz=86
TPAW Teton Pass 85.21 333 *e*P P 13 37 59.1 +0.8
E25A Miller Ranch, 85.28 339 ⇓P P 13 37 58.6 +0.3
baz=86
G21A Lodge Grass 85.36 336 ⇑P P 13 37 59.0 +0.2
baz=86
FXWY Fox Creek 85.36 333 *e*P P 13 37 59.7 +0.6
comp=Z,4.5nm,1.0s
MSKU Masuku 85.40 89 LR LR 14 11 56.9
comp=Z,105nm,18.6s,baz=288,slow=33
I17A Pilgrim Ck. 85.44 333 ⇓P P 13 38 00.1 +0.7
baz=86
MDND Maddock 85.45 342 ⇑P P 13 37 59.9 +0.9
baz=86
H19A Powell 85.50 334 ⇓P P 13 38 00.3 +0.7
baz=86
F22A Rosebud 85.54 337 ⇑P P 13 38 00.4 +0.8
baz=86
IMW Indian Meadow 85.55 333 *e*P P 13 38 00.5 +0.4
comp=Z,9.5nm,1.0s
E24A Baker 85.61 338 ⇑P P 13 38 00.4 +0.4
baz=86
B30A Myrvik Farm, E 85.69 343 ⇓P P 13 38 00.6 +0.4
baz=86
G20A Bridger 85.70 335 ⇑P P 13 38 00.8 +0.3
baz=86
H18A Shoshone NF, C 85.75 334 ⇓P P 13 38 01.3 +0.4
baz=86
C27A Sayler Ranch, 85.84 340 ⇑P P 13 38 01.8 +0.8
baz=86
H17A Grant Village 85.84 333 ⇓P P 13 38 01.9 +0.5
baz=86
D25A Fairfield 85.85 339 ⇓P P 13 38 01.9 +0.8
baz=86
E23A Ismay 85.87 338 ⇑P P 13 38 01.9 +0.7
baz=86
B29A Wagenman Farm, 85.96 342 ⇓P P 13 38 01.8 +0.2
baz=86
D24A Glendive 86.12 338 ⇓P P 13 38 02.7 +0.3
baz=86
A30A Hoffart Farm, 86.14 343 ⇑P P 13 38 02.6 +0.1
baz=86
F20A Billings 86.19 336 ⇓P P 13 38 02.8 -0.1
baz=86
B28A Dugan Ranch, T 86.20 341 ⇓P P 13 38 03.4 +0.6
baz=87
YMR Madison River 86.22 333 *e*P P 13 38 04.7 +1.4
comp=Z,30nm,1.0s
A29A Manning Farm, 86.35 342 ⇑P P 13 38 03.7 +0.2
baz=87
D23A Lindsay 86.44 338 ⇓P P 13 38 04.7 +0.6
baz=87,SNR=10
F19A Roth Farm, Mol 86.51 335 ⇓P P 13 38 05.0 +0.5
baz=87
C24A Savage 86.52 339 ⇓P P 13 38 04.5 +0.2
baz=87,SNR=7.8
QLMT Earthquake Lak 86.53 333 *e*P P 13 38 06.8 +2.1
HLID Hailey 86.64 331 ⇑P P 13 38 06.1 +0.9
baz=87
HLID Hailey 86.64 331 *e*P P 13 38 04.4 -0.8
comp=Z,7.6nm,1.0s
B26A Jensen Ranch, 86.64 340 ⇓P P 13 38 05.9 +0.9
baz=87
D22A Cohagen 86.72 337 ⇑P P 13 38 05.8 +0.4
baz=87
E20A Meyer Farm, Mu 86.80 336 ⇓P P 13 38 06.2 +0.3
baz=87
ULM Lac du Bonnet 86.81 345 P P 13 38 05.9 +0.2
comp=Z,1.9nm,0.6s,baz=146,slow=6.2,SNR=4.5
ULM pP pP 13 38 12.3 -2.6
comp=Z,6.0nm,0.9s,baz=163,slow=3.8,SNR=7.1
D21A La Casta Ranch 86.91 337 ⇓P P 13 38 06.5 +0.1
baz=87
E19A Rath Farm, Rou 86.98 335 ⇑P P 13 38 07.0 +0.3
baz=87
C23A Lambert 86.99 338 ⇓P P 13 38 07.0 +0.3
baz=87,SNR=7.2
A26A Wade Farm, Ken 87.06 341 ⇓P P 13 38 07.3 +0.3
baz=87
MCMT McKenzie Canyo 87.07 332 *e*P P 13 38 05.4 -2.1
comp=Z,8.9nm,1.1s
C22A Vida 87.16 338 ⇑P P 13 38 07.6 +0.1
baz=88
D20A Manuel Ranch, 87.31 336 ⇑P P 13 38 08.4 +0.1
baz=88
A25A Svangstu Ranch 87.40 340 ⇓P P 13 38 08.8 +0.2
baz=88
B23A Brockton 87.52 339 ⇑P P 13 38 09.5 +0.3
baz=88
D19A Cripps Ranch, 87.62 336 ⇓P P 13 38 09.7 -0.1
baz=88
A24A Westby 87.64 339 ⇑P P 13 38 10.1 +0.3
baz=88
B22A Reddig Ranch S 87.69 338 ⇓P P 13 38 10.1 +0.1
baz=88
LRM Limekiln Ridge 87.75 333 *e*P P 13 38 10.7 0.0
C20A Veseth Ranch, 87.81 337 ⇓P P 13 38 10.7 +0.1
baz=88
A23A Redstone 87.93 339 ⇓P P 13 38 11.3 +0.1
baz=88
C19A Slack Wire Ran 88.18 336 ⇑P P 13 38 12.5 0.0
baz=88
A22A Carney Farms, 88.27 338 ⇑P P 13 38 13.4 +0.6
baz=89,SNR=5.4
M04C Macdoel 88.48 325 ⇓P P 13 38 13.5 -0.6
baz=89
A21A Bergtoll Ranch 88.58 338 ⇑P P 13 38 13.8 -0.5
baz=89
EGMT Eagleton 88.67 336 ⇓P P 13 38 14.0 -0.7
baz=89
B19A Brinkman Farms 88.77 336 ⇓P P 13 38 14.9 -0.3
baz=89
A20A Cobblestone Ra 88.80 337 ⇑P P 13 38 15.3 -0.1
baz=89
SCHQ Schefferville 88.88 3 P P 13 38 16.1 +0.6
comp=Z,1.2nm,0.7s,baz=163,slow=5.2,SNR=4.0
K04D Chiloquin, OR 89.09 326 ⇓P P 13 38 16.6 -0.3
baz=89
A19A Klindworth Far 89.11 337 ⇑P P 13 38 16.8 0.0
baz=89
YKA Yellowknife Ar 102.37 341 P Pdif 13 39 15.9 -0.8
comp=Z,0.4nm,0.7s,baz=140,slow=4.2,SNR=12
CLL Collm 113.01 43 *e*PKIKP PKiKP 13 44 00.0 +1.7
CLL Collm 113.01 43 *e*(PKiKP) PKiKP 13 44 00.0 +1.7
CLL LmV 14 29 00.0
comp=Z,100nm,20.0s
ILAR Eielson Array 114.50 333 PKP PKPdf 13 44 00.5 -0.4
comp=Z,0.3nm,0.7s,baz=159,slow=2.9,SNR=4.5
ASAR Alice Springs 117.34 207 PKP **PKPdf** 13 44 06.3 -1.5
comp=Z,0.5nm,0.8s,baz=168,slow=2.8,SNR=5.8
WRA Warramunga Arr 120.54 209 PKP **PKPdf** 13 44 12.8 -1.2
comp=Z,1.3nm,0.7s,baz=167,slow=1.5,SNR=16
BRTR Keskin Array B 121.91 61 PKP **PKPdf** 13 44 15.8 -0.3
comp=Z,0.5nm,0.6s,baz=140,slow=6.4,SNR=3.8
H11S2 WAKE ISLAND Hyl 25.84 269 T T 16 02 41.9
baz=120,slow=76,SNR=18
H11S1 WAKE ISLAND Hyl 25.86 269 T T 16 02 44.0
baz=120,slow=76,SNR=28
H11S3 WAKE ISLAND Hyl 25.86 269 T T 16 02 43.2
baz=120,slow=76,SNR=24
H11N3 WAKE ISLAND Hyl 26.27 270 T T 16 03 14.8
baz=122,slow=76,SNR=17
H11N1 WAKE ISLAND Hyl 26.28 270 T T 16 03 16.8
baz=122,slow=76,SNR=30
H11N2 WAKE ISLAND Hyl 26.28 270 T T 16 03 14.4
baz=122,slow=76,SNR=22
OBN Obninsk 127.60 43⇑ *e*PKIKP **PKPdf** 13 44 26.5 +0.3
OBN pmax pmax
comp=Z,7.0nm,1.0s
VSR Storozhevoye 128.58 49⇑ *e*PKIKP **PKPdf** 13 44 29.6 +1.4
KLMR Klimovskoe 129.60 36 *e*PKIKP **PKPdf** 13 44 25.9 -4.0
KLMR pmax pmax
comp=Z,22nm,1.8s
BILL Bilibino 133.14 334⇑ *i*PKIKP **PKPdf** 13 44 38.7 +2.3
BILL pmax pmax
comp=Z,3.0nm,1.2s
TIXI Tiksi 141.00 350⇑ *e*PKIKP **PKPdf** 13 44 52.5 +1.7
POO Poona 145.77 109 *e*P **PKPab** 13 45 02.0 +0.3
BRVK Borovoye 147.37 43⇑ *e*PKP2 **PKPbc** 13 45 05.6 +0.7
BRVK Borovoye 147.37 43 *e*PKPbc **PKPab** 13 45 06.0 -0.9
HYB Hyderabad 148.73 115 *i*PKP **PKPbc** 13 45 09.0 -0.6
YAK Yakutsk 149.04 340 *e*PKP2 **PKPbc** 13 45 07.4 -1.6
YAK pmax pmax
comp=Z,29nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax

comp=E,6.0nm,1.3s
YAK Yakutsk 149.04 340 *e*PKPbc **PKPbc 13 45 08.9 -0.1**
KKAR Karatay Array 149.62 62 *e*PKP2 **PKPbc 13 45 11.3 +0.2**
KKAR Karatay Array 149.62 62 *e*PKPbc **PKPbc 13 45 11.3 +0.2**
YSS Yuzh-Sakhalins 151.03 306 *e*PKIKP **PKPbc 13 45 13.8 -0.5**
AAK Ala-Archa 152.58 62 *e*PKIKP **PKPbc 13 45 18.5 +0.3**
AAK Ala-Archa 152.58 62 *e*PKPbc **PKPbc 13 45 18.5 +0.3**
NVS Novosibirsk 153.15 33 *e*PKIKP **PKPbc 13 45 18.7 -0.1**
NVS pmax pmax
comp=Z,9.0nm,1.1s
NVS pmax pmax
comp=N,5.0nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.8s
KSH Kashi 153.91 69 *e*PKPbc **PKPdf 13 45 14.1 +0.9**
KSH sPKP 13 45 27.7
KSH PKS **PKSdf 13 48 48.1 +0.6**
KSH PP **PP 13 49 08.7 -0.9**
KSH SKS **SKSdf 13 52 18.8 +0.7**
KSH SKKS **SKKSac 13 55 57.9 +0.5**
KSH SS **SS 14 08 42.7 -3.1**
KSH PPMZ
comp=E,93nm,5.3s
KSH LN
comp=E,58nm,3.9s
KSH LE
comp=E,76nm,4.0s
KSH LZ
comp=E,280nm,16.1s
ZALV Zalesovo Beam 154.44 33 PKP **PKPdf 13 45 13.8 +0.5**
comp=E,0.8nm,0.4s,baz=230,slow=3.6,SNR=3.3
ZALV PKPbc **PKPbc 13 45 20.5 -1.1**
comp=E,3.7nm,0.7s,baz=297,slow=2.8,SNR=13
ZALV PKPab **PKPab 13 45 35.4 -0.6**
comp=E,3.6nm,0.6s,baz=334,slow=3.0,SNR=4.9
BOD Bodaibo 156.14 352 *e*PKP2 **PKPab 13 45 39.7 -3.4**
BOD pmax pmax
comp=Z,5.0nm,1.1s
MKAR Makanchi Array 156.90 50 PKP **PKPdf 13 45 17.1 +0.3**
comp=Z,0.5nm,0.9s,baz=56,slow=2.2,SNR=3.7
MKAR PKPab **PKPab 13 45 47.4 +0.5**
comp=Z,1.5nm,0.7s,baz=290,slow=3.5,SNR=8.7
WMQ Urumqi 161.59 53 *e*PKP **PKPdf 13 45 22.6 +0.1**
WMQ pPKP **pPKPdf 13 45 33.4 +1.4**
WMQ LN
comp=Z,60nm,18.0s
WMQ LE
comp=Z,42nm,22.0s
WMQ LZ
comp=Z,89nm,22.0s
CMAR Chiang Mai Arr 162.25 150 PKP **PKPdf 13 45 23.1 -0.7**
comp=Z,0.4nm,0.5s,baz=245,slow=2.2,SNR=7.2
SONM Songino Array 166.42 5 PKPab **PKPab 13 46 29.3 +0.8**
comp=Z,1.4nm,0.9s,baz=320,slow=4.4,SNR=4.5
KMI Kunming 169.76 152 PKP **PKPdf 13 45 28.5 -1.4**
KMI pPKP **pPKPdf 13 45 40.1 +0.7**
GTA Gaotai 171.66 50 *e*PKP **PKPdf 13 45 31.7 +1.3**
GTA pPKP **pPKPdf 13 45 42.3 +2.4**
GTA sPKP 13 45 46.1
GTA PKPab **PKPab 13 46 54.1 +2.0**
GYA Guiyang 172.09 171 *e*PKP **PKPdf 13 45 31.0 0.0**
GYA pPKP **pPKPdf 13 45 43.6 +3.1**
GYA PKPab **PKPab 13 46 57.2 +3.1**
GYA PKS **PKSdf 13 49 02.8 -0.7**
GYA PP **PP 13 50 49.1 +4.9**
GYA SKKS 13 57 31.4
GYA PPMZ
comp=Z,120nm,8.5s
GYA LN
comp=Z,120nm,24.2s
GYA LE
comp=Z,110nm,23.4s
GYA LZ
comp=Z,120nm,24.5s
HHC Hu-ho-hao-te 172.89 338 *e*PKP **PKPdf 13 45 31.3 +0.4**
HHC pPKP **pPKPdf 13 45 41.7 +1.3**
HHC sPKP 13 45 45.9
HHC PP **PP 13 50 52.2 +3.8**
HHC SKS **SKSdf 13 52 29.0 -3.1**
HHC SS **SS 14 11 59.2 -0.2**
HHC PPMZ
comp=Z,66nm,6.1s
HHC LN
comp=Z,170nm,20.4s
HHC LE
comp=Z,200nm,21.0s
HHC LZ
comp=Z,220nm,21.4s
CD2 Chengdu 175.04 132 *e*PKP **PKPdf 13 45 32.5 +0.7**
LZH Lanzhou 176.12 61 *e*PKP **PKPdf 13 45 34.1 +2.0**
LZH pPKP **pPKPdf 13 45 45.9 +4.3**
LZH sPKP 13 45 50.1

*ISCJB **12** 13:34:49.9±0.8, 36°.84S±0°.04×73°.2W±0°.1, h34km±6km, mb4.1/8, Error ellipse: s-maj=20.0km s-min=7.0km az=6.2*
*IDC **12** 13:34:50.3±0.7, 36°.82S×73°.26W, h24km±4km, mb3.9/9, mb1 4.0/11, mb1mx3.9/27, mbtmp4.0/11, ML3.8/2, Error ellipse: s-maj=27.8km s-min=15.0km az=87.0*
*GUC **12** 13:34:50.2±0.6, 36°.87S×73°.28W, h32km±4km, ML3.8*
*NEIC **12** 13:34:51.2±0.6, 36°.95S×73°.01W, h35km, mb4.0/2, Error ellipse: s-maj=16.7km s-min=11.0km az=83.0*
ISC 12 13:34:50.0±0.7, 36°.85S±0°.05×73°.3W±0°.1, h26km±4km, n22, σ0°89/30, mb4.1/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.14**	**86**	*i* P	**Pb**	**13 34 55.4**	**+0.3**
CCSP				*i* S	**Sb**	**13 34 59.0**	**+0.4**
COCH	**Cobquecura**	**0.82**	**29**	*i* P	**Pb**	**13 35 05.0**	**-0.7**
COCH				*i* S	**Sn**	**13 35 17.2**	**0.0**
COCH				AML	AML	13 35 19.7	
	comp=N,7μm,0.7s						
AGCH	**Angol**	**1.06**	**154**	*i* P	**Pn**	**13 35 08.8**	**-0.4**
AGCH				*i* S	**Sn**	**13 35 22.6**	**-0.5**
PLCA	**Paso Flores**	**4.42**	**152**	Pn	**Pn**	**13 35 57.4**	**+1.9**
	comp=N,2.1nm,0.3s,baz=319,slow=11,SNR=7.6						
PLCA				Lg	Lg	13 37 04.9	
	baz=45,slow=20						
PLCA	**Paso Flores**	**4.42**	**152**	*e*Pn	**Pn**	**13 35 54.7**	**-0.8**
PLCA				Lg	Lg	13 37 04.9	
CFAA	**Coronel Fontan**	**6.70**	**40**	Pn	**Pn**	**13 36 26.5**	**-0.2**
	comp=N,0.3nm,0.3s,baz=198,slow=9.4,SNR=12						
CFAA				Sn	**Sn**	**13 37 41.8**	**-0.4**
	comp=N,0.2nm,0.3s,baz=208,slow=15,SNR=2.0						
TRQA	**Tornquist**	**9.07**	**101**	Pn	Pn	13 36 54.3	-4.9
LPAZ	**La Paz**	**20.99**	**14**	P	**P**	**13 39 32.9**	**+0.9**
	comp=N,2.5nm,0.6s,baz=187,slow=7.5,SNR=6.3						
SIV	**San Ignacio**	**23.44**	**31**	P	**P**	**13 39 56.9**	**-0.4**
	comp=N,3.7nm,0.9s,baz=243,slow=15,SNR=5.2						
SNAA	**Sanae**	**49.35**	**157**	P	**P**	**13 43 37.5**	**+0.8**
	comp=N,1.1nm,1.0s,baz=276,slow=10,SNR=5.6						
SNAA	**Sanae**	**49.35**	**157**	*e*P	**P**	**13 43 35.2**	**-1.5**
	comp=N,2.3nm,0.8s						
QSPA	**South Pole Qui**	**53.39**	**180**	P	**P**	**13 44 08.2**	**+1.1**
	comp=N,3.1nm,0.8s,baz=126,slow=2.5,SNR=7.6						
QSPA				pP	**pP**	**13 44 15.3**	**+0.1**
	comp=N,3.9nm,1.0s,baz=295,slow=1.1,SNR=5.3						
QSPA	**South Pole Qui**	**53.39**	**180**	*e*P	**P**	**13 44 05.6**	**-1.6**
	comp=N,0.8nm,0.7s						
QSPA				pP	**pP**	**13 44 15.3**	**+0.1**
TXAR	**Lajitas Array**	**71.75**	**332**	P	**P**	**13 46 10.6**	**+0.6**
	comp=N,1.7nm,0.7s,baz=155,slow=8.6,SNR=18						
TXAR				pP	**pP**	**13 46 18.6**	**+0.3**
	comp=N,1.3nm,0.6s,baz=150,slow=8.5,SNR=12						
DBIC	**Dimbokro**	**77.05**	**71**	P	**P**	**13 46 41.9**	**+0.8**
	comp=N,2.1nm,0.6s,baz=185,slow=4.4,SNR=3.3						
NVAR	**Mina Array Bea**	**85.66**	**326**	pP	pP	13 47 36.0	+1.0
	comp=N,0.4nm,0.6s,baz=124,slow=7.9,SNR=3.5						
PDAR	**Pinedale Array**	**85.86**	**334**	P	**P**	**13 47 27.7**	**+0.4**
	comp=N,2.6nm,1.1s,baz=156,slow=7.5,SNR=7.0						
PDAR				pP	**pP**	**13 47 36.0**	**+0.1**
	comp=N,0.6nm,0.7s,baz=178,slow=3.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**86.13**	**71**	P	**P**	**13 47 28.7**	**-0.3**
	comp=N,0.3nm,0.4s,baz=250,slow=5.3,SNR=4.2						
ULM	**Lac du Bonnet**	**89.00**	**346**	P	**P**	**13 47 41.0**	**-0.9**
	comp=N,2.7nm,0.8s,baz=214,slow=5.9,SNR=3.4						
WRA	**Warramunga Arr**	**117.78**	**210**	PKP	**PKPdf**	**13 53 33.5**	**-0.9**
	comp=N,0.2nm,0.5s,baz=152,slow=1.5,SNR=6.4						
WRA				pPKP	**pPKPdf**	**13 53 41.3**	**-1.9**
	comp=N,0.2nm,0.5s,baz=155,slow=1.6,SNR=1.8						
MKAR	**Makanchi Array**	**159.34**	**54**	PKP	**PKPdf**	**13 54 46.1**	**+0.5**
	comp=N,0.3nm,0.8s,baz=78,slow=1.7,SNR=3.6						
MKAR				PKPab	**PKPab**	**13 55 23.6**	**+0.2**
	comp=N,1.1nm,0.8s,baz=289,slow=3.7,SNR=8.3						
SONM	**Songino Array**	**169.02**	**1**	PKPab	**PKPab**	**13 56 06.7**	**+0.9**
	comp=N,0.6nm,1.0s,baz=10,slow=4.2,SNR=5.9						

*ISCJB **12** 13:38:28.2±1.5, 34°.36S±0°.04×72°.23W±0°.05, h5km±10km, mb4.1/9, MS4.0/3, Error ellipse: s-maj=7.4km s-min=5.9km az=30.2*
*IDC **12** 13:38:29.7±0.7, 34°.34S×72°.18W, h0km, mb4.0/8, mb1 4.2/11, mb1mx4.0/28, mbtmp4.0/11, ML3.8/3, MS3.8/2, Ms1 3.8/2, ms1mx3.1/30, Error ellipse: s-maj=26.4km s-min=17.1km az=92.0*
*NEIC **12** 13:38:30.6, 34°.38S×72°.16W, h32km, mb4.3/4, ML4.4(GUC), After GUC.*
NEIC Felt [IV] at Paredones; [III] at Concepcion and Pichilemu; [II] at Navidad and Talca.
*GUC **12** 13:38:30.6±0.7, 34°.38S×72°.16W, h32km±3km, ML4.4*
ISC 12 13:38:28.6±1.9, 34°.38S±0°.05×72°.23W±0°.06, h7km±11km, n57, σ1°905/57, mb4.3/9, MS3.9/3, 13C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.80**	**58**	⇑*i* P	**Pg**	**13 38 44.5**	**+0.6**
LNV	**Longovilo**	**0.80**	**58**	⇑*i* P	**Pg**	**13 38 44.5**	**+0.6**
NICH	**Los Niches**	**1.03**	**127**	*e*P1	**Pb**	**13 38 48.6**	**-0.1**
NICH				*i* S	**Sb**	**13 39 01.9**	**-0.6**
NICH				AML	AML	13 39 04.6	
	comp=E,22μm,0.4s						
NICH	**Los Niches**	**1.03**	**127**	*e*P	**Pb**	**13 38 48.6**	**-0.1**
NICH				*i* S	**Sb**	**13 39 01.9**	**-0.6**
TACH	**Talagante**	**1.30**	**56**	⇓*i* P	**Pn**	**13 38 52.0**	**-1.2**
TACH	**Talagante**	**1.30**	**56**	⇓*i* P	**Pn**	**13 38 52.0**	**-1.2**
CACH	**El Canelo**	**1.38**	**79**	⇑*i* P	**Pn**	**13 38 53.9**	**-0.4**
CACH	**El Canelo**	**1.38**	**79**	⇑*i* P	**Pn**	**13 38 53.9**	**-0.4**
CHCH	**Chadas Angostu**	**1.38**	**71**	⇓*i* P	**Pn**	**13 38 53.6**	**-0.8**
CHCH	**Chadas Angostu**	**1.38**	**71**	⇓*i* P	**Pn**	**13 38 53.6**	**-0.8**
IHA	**Instituto Hidr**	**1.44**	**20**	⇑*i* P	**Pn**	**13 38 55.3**	**+0.2**
IHA				*e*S1	**Sn**	**13 39 13.9**	**-0.4**
IHA	**Instituto Hidr**	**1.44**	**20**	⇑*i* P	**Pn**	**13 38 55.3**	**+0.2**
IHA				*e*S	**Sn**	**13 39 13.9**	**-0.4**
ANTU	**Antumapu**	**1.56**	**59**	⇑*i* P	**Pn**	**13 38 56.4**	**-0.4**
ANTU				AML	AML	13 39 22.8	
	comp=N,12μm,0.4s						
ANTU	**Antumapu**	**1.56**	**59**	⇑*i* P	**Pn**	**13 38 56.4**	**-0.4**
SAN	**Santiago**	**1.60**	**55**	*e*P	**Pn**	**13 38 57.0**	**-0.4**
SAN				*i* S	**Sn**	**13 39 17.1**	**-1.1**
SAN				AML	AML	13 39 22.5	
	comp=N,10μm,0.6s						
SAN	**Santiago**	**1.60**	**55**	*e*P	**Pn**	**13 38 57.0**	**-0.4**
SAN				*i* S	**Sn**	**13 39 17.1**	**-1.1**
PCH	**Pirque**	**1.61**	**62**	⇑*i* P	**Pn**	**13 38 57.6**	**0.0**
PCH	**Pirque**	**1.61**	**62**	⇑*i* P	**Pn**	**13 38 57.6**	**0.0**
LACH	**Col Las Americ**	**1.69**	**57**	*e*P1	**Pn**	**13 38 58.6**	**0.0**
LACH				*e*S1	**Sn**	**13 39 20.1**	**-0.5**
LACH				AML	AML	13 39 27.4	
	comp=E,4μm,0.6s						
LACH	**Col Las Americ**	**1.69**	**57**	*e*P	**Pn**	**13 38 58.6**	**0.0**
LACH				*e*S	**Sn**	**13 39 20.1**	**-0.5**
CLCH	**Cerro Calan**	**1.72**	**55**	⇑*i* P	**Pn**	**13 38 59.1**	**+0.1**
CLCH				*i* S	**Sb**	**13 39 21.5**	**-0.9**
CLCH				AML	AML	13 39 25.5	
	comp=N,8μm,0.7s						
PEL	**Peldehue**	**1.78**	**47**	⇓*i* P	**Pn**	**13 39 00.2**	**+0.3**
PEL				*i* S	**Sn**	**13 39 22.3**	**-0.6**
PEL				AML	AML	13 39 28.6	
	comp=N,15μm,0.6s						
PEL	**Peldehue**	**1.78**	**47**	⇓*i* P	**Pn**	**13 39 00.2**	**+0.3**
PEL				*i* S	**Sn**	**13 39 22.3**	**-0.6**
FCH	**Farellones**	**1.93**	**57**	⇑*i* P	**Pn**	**13 39 02.6**	**+0.5**
FCH				*i* S	**Sn**	**13 39 26.9**	**+0.2**
FCH				AML	AML	13 39 34.5	
	comp=N,4μm,0.3s						
FCH	**Farellones**	**1.93**	**57**	⇑*i* P	**Pn**	**13 39 02.6**	**+0.5**
FCH				*i* S	**Sn**	**13 39 26.9**	**+0.2**
CFAA	**Coronel Fontan**	**4.35**	**52**	Pn	Pn	13 39 38.1	+2.9
	comp=N,1.1nm,0.3s,baz=167,slow=5.5,SNR=11						
CFAA				Sn	**Sn**	**13 40 30.6**	**+4.4**
	comp=N,1.1nm,0.3s,baz=37,slow=20,SNR=3.2						
CFAA				LR	LR	13 40 55.4	
	comp=N,23nm,18.6s,baz=218,slow=34						
LCO	**Las Campanas**	**5.51**	**14**	*e*Pn	**Pn**	**13 39 51.4**	**0.0**
LCO				*e*Sn	**Sn**	**13 40 53.7**	**-1.5**
PLCA	**Paso Flores**	**6.48**	**169**	Pn	Pn	13 40 08.2	+3.8
	comp=N,0.8nm,0.3s,baz=345,slow=10,SNR=12						
PLCA				Lg	Lg	13 41 48.4	
	comp=N,1.2nm,0.3s,baz=267,slow=12,SNR=6.5						
PLCA	**Paso Flores**	**6.48**	**169**	*e*Pn	**Pn**	**13 40 04.8**	**+0.3**
	comp=N,14nm,0.8s						
PLCA				Lg	Lg	13 41 48.4	
TRQA	**Tornquist**	**9.06**	**117**	Pn	Pn	13 40 35.4	-4.4
LVC	**Limon Verde**	**12.08**	**15**	*e*Pn	**Pn**	**13 41 20.1**	**-1.4**
LPAZ	**La Paz**	**18.39**	**13**	P	**P**	**13 42 47.3**	**+2.4**
	comp=N,0.3nm,0.3s,baz=182,slow=7.7,SNR=9.3						
LPAZ	**La Paz**	**18.39**	**13**	Pn	**P**	**13 42 45.4**	**+0.6**
	comp=N,12nm,0.9s						
SIV	**San Ignacio**	**20.88**	**31**	P	**P**	**13 43 11.9**	**+0.4**
	comp=N,2.7nm,0.7s,baz=207,slow=8.6,SNR=6.0						
NNA	**Nana**	**22.69**	**348**	P	**P**	**13 43 29.8**	**-1.1**
PMSA	**Palmer Station**	**30.83**	**173**	LR	LR	13 57 59.5	
	comp=N,223nm,18.5s,baz=319,slow=38						
OTAV	**Otavalo**	**34.93**	**349**	P	**P**	**13 45 19.7**	**-2.0**
	comp=N,3.0nm,0.5s						
RCBR	**Riachuelo**	**43.98**	**58**	LR	LR	14 04 30.1	
	comp=N,77nm,18.1s,baz=192,slow=36						
JTS	**JuntasAbangare**	**46.04**	**342**	LR	LR	14 01 06.1	
	comp=N,688nm,20.2s,baz=329,slow=30						
SNAA	**Sanae**	**51.29**	**158**	P	P	13 47 35.5	+2.6
	comp=N,0.8nm,0.7s,baz=283,slow=12,SNR=4.7						
SNAA	**Sanae**	**51.29**	**158**	*e*P	**P**	**13 47 32.6**	**-0.3**
	comp=N,1.8nm,0.8s						
QSPA	**South Pole Qui**	**55.85**	**180**	P	P	13 48 10.2	+3.6
	comp=N,2.7nm,0.8s,baz=273,slow=0.6,SNR=7.6						
QSPA	**South Pole Qui**	**55.85**	**180**	P	**P**	**13 48 06.1**	**-0.5**
TXAR	**Lajitas Array**	**69.99**	**331**	P	P	13 49 44.2	+3.2
	comp=N,0.4nm,0.5s,baz=158,slow=8.1,SNR=9.4						
BOSA	**Boshof**	**80.03**	**118**	P	P	13 50 41.2	+2.0
	comp=N,5.1nm,0.8s,baz=242,slow=6.3,SNR=7.3						
ECSD	**EROS Data Cent**	**80.86**	**342**	*e*P	**P**	**13 50 43.1**	**+0.1**
	comp=N,7.6nm,1.3s						
PDAR	**Pinedale Array**	**84.03**	**333**	P	P	13 51 01.9	+2.0
	comp=N,0.5nm,0.8s,baz=194,slow=5.5,SNR=4.5						
NVAR	**Mina Array Bea**	**84.11**	**325**	P	P	13 51 02.8	+2.4
	comp=N,0.6nm,0.7s,baz=149,slow=6.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**84.49**	**70**	P	P	13 51 03.9	+1.4
	comp=N,1.7nm,0.8s,baz=252,slow=4.2,SNR=9.4						
YKA	**Yellowknife Ar**	**102.37**	**341**	P	**Pdif**	**13 52 25.5**	**+1.2**
	comp=N,0.0nm,0.3s,baz=132,slow=4.1,SNR=3.7						
ASAR	**Alice Springs**	**117.16**	**207**	PKP	**PKPdf**	**13 57 15.9**	**+0.8**
	comp=N,0.3nm,0.9s,baz=114,slow=2.2,SNR=3.2						
WRA	**Warramunga Arr**	**120.35**	**209**	PKP	**PKPdf**	**13 57 22.6**	**+1.3**
	comp=N,0.5nm,0.6s,baz=158,slow=1.8,SNR=13						
H11S2	**WAKE ISLAND Hyd**	**25.61**	**269**	T	T	16 15 51.7	
	baz=120,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hyd**	**25.62**	**269**	T	T	16 15 50.9	
	baz=120,slow=75,SNR=44						
H11S3	**WAKE ISLAND Hyd**	**25.62**	**269**	T	T	16 15 51.3	
	baz=120,slow=75,SNR=21						
ZALV	**Zalesovo Beam**	**154.63**	**33**	PKPbc	**PKPbc**	**13 58 31.1**	**+1.4**
	comp=N,2.1nm,0.8s,baz=5.0,slow=3.4,SNR=5.6						
ZALV				PKPab	**PKPab**	**13 58 45.6**	**+1.1**
	comp=N,1.6nm,0.6s,baz=312,slow=5.1,SNR=4.7						
MKAR	**Makanchi Array**	**157.13**	**50**	PKPab	**PKPab**	**13 58 57.3**	**+1.8**
	comp=N,0.4nm,0.5s,baz=292,slow=3.2,SNR=7.6						

IDC 12 13:44:15.4±4.7, 7°.11S×148°.66E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.4/28, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=82.3km s-min=55.1km az=140.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.72**	**213**	Pn	Pn	13 45 02.6	+2.2
	6.3nm,0.3s,baz=28,slow=12,SNR=30						
PMG				Sn	Sn	13 45 34.7	+0.6
	17nm,0.3s,baz=45,slow=11,SNR=6.4						
WRA	**Warramunga Arr**	**18.86**	**226**	P	P	13 48 35.5	-1.8
	0.3nm,0.3s,baz=52,slow=11,SNR=26						
ASAR	**Alice Springs**	**21.72**	**219**	P	P	13 49 07.8	-0.7
	1.0nm,0.5s,baz=57,slow=9.3,SNR=75						
STKA	**Stephens Creek**	**25.51**	**194**	P	P	13 49 46.3	+0.7
	0.7nm,0.3s,baz=45,slow=10.0,SNR=3.7						

*IDC **12** 13:56:20.6±1.8, 35°.22S×73°.92W, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.4/38, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=40.8km s-min=31.8km az=85.0*
*GUC **12** 13:56:37.9±0.4, 35°.81S×73°.34W, h31km±4km, ML3.5*
ISC 12 13:56:25.8±1.3, 35°.25S±0°.08×73°.7W±0°.2, h35km, n9, σ0°81/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**1.13**	**142**	*i* P	Pn	13 56 49.3	+4.2
COCH				*i* S	**Sn**	**13 56 58.0**	**-1.4**
COCH				AML	AML	13 57 00.3	
	comp=E,3μm,0.7s						
CCSP	**San Pedro de C**	**1.65**	**165**	*i* P	Pn	13 56 57.2	+4.9
CCSP				*i* S	**Sn**	**13 57 12.2**	**-0.1**
CCSP				AML	AML	13 57 17.6	
	comp=E,5μm,0.5s						
NICH	**Los Niches**	**2.00**	**84**	*i* P	Pn	13 57 10.8	+14
NICH				*i* S	Sn	13 57 35.4	+14
CFAA	**Coronel Fontan**	**5.80**	**53**	Pn	**Pn**	**13 57 49.8**	**+0.3**
	comp=E,0.1nm,0.3s,baz=227,slow=13,SNR=4.5						
PLCA	**Paso Flores**	**6.00**	**157**	Pn	**Pn**	**13 57 52.9**	**+0.8**
	baz=328,slow=12						
PLCA				Lg	Lg	13 59 24.4	
	baz=90,slow=20						
LPAZ	**La Paz**	**19.52**	**16**	P	**Pn**	**14 00 52.0**	**-0.3**
	comp=E,0.1nm,0.3s,baz=220,slow=7.9,SNR=6.6						
SIV	**San Ignacio**	**22.24**	**34**	P	**P**	**14 01 19.9**	**+0.2**
	comp=E,2.6nm,0.9s,baz=226,slow=10,SNR=4.5						
TXAR	**Lajitas Array**	**70.20**	**332**	P	**P**	**14 07 34.4**	**-0.7**
	comp=E,0.3nm,0.6s,baz=145,slow=6.6,SNR=3.3						
MKAR	**Makanchi Array**	**158.58**	**50**	PKPab	**PKPab**	**14 16 54.9**	**+0.3**
	comp=E,0.2nm,0.7s,baz=265,slow=7.2,SNR=2.7						

*IDC **12** 13:59:27.9±0.9, 11°.24N×86°.21W, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.0/38, mbtmp4.1/11, ML3.0/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/39, Error ellipse: s-maj=42.2km s-min=14.5km az=49.0*
*NEIC **12** 13:59:29.1±3.6, 11°.26N×86°.11W, h8km±23km, mb4.7/17, Error ellipse: s-maj=14.3km s-min=7.7km az=56.0*
*CASC **12** 13:59:32.1±2.4, 10°.87N×86°.48W, h20km±10km, MD4.5*
ISC 12 13:59:27.7±1.6, 10°.84N±0°.06×86°.58W±0°.06, h7km±9km, n168, σ1°944/174, mb4.3/24, MS3.6/3, 51C-55D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBS3	**Finca Las lm^¡**	**1.11**	**93**	*i* P	**Pn**	**13 59 49.8**	**+0.2**
LAPC	**Finca la Perla**	**1.13**	**93**	*i* P	**Pn**	**13 59 50.0**	**+0.1**
LAPC				*i* S	**Sb**	**14 00 04.0**	**-0.4**
BUEV	**Buena Vista**	**1.15**	**92**	*i* P	**Pn**	**13 59 50.9**	**+0.5**
BUEV				*i* S	**Sn**	**14 00 06.3**	**-0.1**
GB1A	**Borinquen Arri**	**1.16**	**91**	*i* P	**Pn**	**13 59 50.8**	**+0.4**
GB1A				*i* S	**Sn**	**14 00 05.9**	**-0.7**
GPS3	**Bodega del ICE**	**1.20**	**94**	*i* P	**Pn**	**13 59 51.0**	**+0.2**
LIM1	**Limonal**	**1.31**	**96**	*i* P	**Pg**	**13 59 53.2**	**+0.3**
LIM1				*i* S	**Sn**	**14 00 10.6**	**+0.3**
COPN	**Copaltepe**	**1.33**	**359**	*e*P	**Pg**	**13 59 54.8**	**+1.5**
COPN				*e*S	**Sn**	**14 00 14.5**	**+3.8**
COLC	**Colonia**	**1.36**	**97**	*i* P	**Pg**	**13 59 54.6**	**+0.8**
MESS	**Mesas**	**1.36**	**94**	*i* P	**Pg**	**13 59 54.0**	**+0.1**
HORNC	**Hornillas**	**1.38**	**95**	*i* P	**Pg**	**13 59 54.0**	**-0.2**
CUI	**Cuipilapa**	**1.40**	**97**	*i* P	**Pg**	**13 59 54.6**	**0.0**
CUI				*i* S	**Sg**	**14 00 13.0**	**+0.1**
HUEN		**1.54**	**15**	*e*P	**Pg**	**13 59 57.4**	**+0.1**
PTEN	**Parque Tenorio**	**1.57**	**94**	*i* P	**Pb**	**13 59 57.2**	**+0.1**
AMAS	**Alto Masis**	**1.57**	**98**	*i* P	**Pb**	**13 59 57.3**	**+0.1**
CNGN	**Cerro Negro**	**1.66**	**356**	*e*P	**Pg**	**13 59 59.0**	**-0.5**
CNGN				*e*S	**Sg**	**14 00 21.6**	**+0.6**
JTS	**JuntasAbangare**	**1.69**	**109**	Pn	**Pb**	**13 59 58.6**	**-0.5**
	96nm,0.3s,baz=115,slow=23,SNR=240						
JTS				Sn	**Sg**	**14 00 22.4**	**+0.3**
	271nm,0.3s,baz=169,slow=24,SNR=12						
JTS	**JuntasAbangare**	**1.69**	**109**	*e*Pn	**Pn**	**13 59 58.2**	**+0.6**
JTS				*e*Pn	**Pb**	**13 59 58.7**	**-0.4**
JTS				*e*Sn	**Sn**	**14 00 17.1**	**-2.4**
JTS				Sn	**Sg**	**14 00 22.4**	**+0.3**
JCR	**Jicaral**	**1.75**	**124**	*e*P	**Pn**	**13 59 59.1**	**+0.7**
CGA2	**Cerro Gallo 2**	**2.23**	**111**	⇑*e*P	**Pn**	**14 00 07.0**	**+1.7**
CGA2				*e*S	**Sn**	**14 00 34.4**	**+1.3**
SJS	**Escuela Geolog**	**2.64**	**110**	*e*P	**Pn**	**14 00 12.1**	**+1.2**
CNCH	**Conchagua**	**2.72**	**333**	*e*P	**Pb**	**14 00 14.5**	**-2.2**
QCR	**Quepos**	**2.76**	**120**	*e*P	**Pb**	**14 00 16.1**	**-1.3**
URSC	**Urasca**	**2.93**	**110**	⇑*e*P	**Pb**	**14 00 19.1**	**-1.4**
BUS	**Buena Vista**	**3.06**	**114**	*e*P	**Pb**	**14 00 21.1**	**-1.6**
BUS				*e*S	**Sn**	**14 00 54.5**	**+0.6**
VSM	**San Miguel**	**3.06**	**327**	*e*P	**Pb**	**14 00 20.2**	**-2.5**
LFRS	**El Faro**	**3.68**	**319**	*e*P	Pn	14 00 29.2	+4.1
ACR	**Cerro Adams**	**4.00**	**123**	*e*P	**Pn**	**14 00 32.3**	**+2.8**
ACR				*e*S	**Sn**	**14 01 12.3**	**-4.4**
APG	**El Apazote**	**5.61**	**318**	Pn	**Pn**	**14 00 52.8**	**+1.0**
	0.4nm,0.3s,baz=160,slow=14,SNR=3.5						
TEIG	**Tepich**	**9.48**	**350**	P	Pn	14 01 40.4	-4.3
	0.1nm,1.0s						
PAYG	**Puerto Ayora**	**12.02**	**198**	Pn	P

X30A	Coker Ranch, T	26.88 333	⇓P	P	14 05 11.1 +1.8
baz=27					
W27A	Bowe Ranch, En	28.41 331	⇓P	P	14 05 25.0 +1.9
baz=28					
Y24A	Capitan	28.74 326	⇑P	P	14 05 28.6 +2.4
baz=29					
PTGA	Pitinga	28.85 112	P	P	14 05 27.1 0.0
2.2nm,0.9s,baz=289,slow=9.9,SNR=4.7					
PTGA			LR	LR	14 18 26.6
comp=Z,137nm,19.7s,baz=259,slow=40					
Y23A	Lovelace Mesa,	29.09 325	⇓P	P	14 05 32.1 +2.9
baz=29					
W25A	X Bar L Ranch,	29.22 329	⇓P	P	14 05 32.0 +1.7
baz=29					
V26A	Tequesquite Ra	29.34 331	⇑P	P	14 05 33.2 +1.8
baz=29					
U27A	Thompson Grove	29.41 333	⇓P	P	14 05 32.6 +0.7
baz=29					
SFIN	Lafayette	29.43 359	eP	P	14 05 29.9 -1.9
29nm,1.4s					
U26A	Atchley Ranch,	29.81 331	⇑P	P	14 05 37.1 +1.6
baz=30					
R30A	Dighton	29.96 338	⇑P	P	14 05 37.1 +0.4
baz=30					
Q32A	Meitler Ranch,	30.00 341	⇓P	P	14 05 37.0 0.0
baz=30					
W23A	Werner Place,	30.06 327	⇑P	P	14 05 40.8 +3.0
baz=30					
ANMO	Albuquerque	30.06 326	P	P	14 05 39.0 +1.1
1.9nm,0.8s,baz=141,slow=7.2,SNR=7.1					
ANMO	Albuquerque	30.06 326	P	P	14 05 39.0 +1.1
ANMO			eP	P	14 05 39.7 +1.8
U23A	El Rito	30.97 328	⇑P	P	14 05 47.8 +1.9
baz=31					
R25A	Fountain Ranch	31.48 333	⇑P	P	14 05 52.3 +2.0
baz=31					
JFWS	Jewell Farm	32.12 355	eP	P	14 05 53.8 -1.8
13nm,0.9s					
R23A	Moffat	32.24 331	⇓P	P	14 05 58.9 +1.9
baz=32					
S22A	4UR Ranch, Cre	32.38 329	⇓P	P	14 06 00.7 +2.3
baz=32					
MVCO	Mesa Verde	32.85 327	⇓P	P	14 06 04.8 +2.4
baz=33					
WUAZ	Wupatki	33.32 321	eP	P	14 06 08.5 +2.0
3.2nm,0.9s					
ECSD	EROS Data Cent	33.91 347	⇓P	P	14 06 10.1 -1.2
baz=34					
SADO	Sadowa	34.41 9	P	P	14 06 13.2 -2.4
3.7nm,0.6s,baz=194,slow=6.7,SNR=4.2					
J29A	Okreek	34.58 342	⇑P	P	14 06 16.8 -0.3
baz=34					
W13A	Hualapai Mount	34.64 319	⇓P	P	14 06 23.5 +5.4
baz=35					
SPMN	Marine on St.	34.68 352	eP	P	14 06 16.1 -1.8
15nm,0.9s					
O20A	White River Ci	34.92 330	⇓P	P	14 06 22.3 +1.9
baz=35					
K25A	Mack Ranch, Ha	35.07 338	⇑P	P	14 06 21.9 +0.4
baz=35					
BRSD	Miller	35.15 345	⇑P	P	14 06 20.4 -1.6
baz=35					
M22A	Cedar Creek Ra	35.17 333	⇓P	P	14 06 23.9 +1.4
baz=35					
SRU	San Rafael Swe	35.32 327	eP	P	14 06 24.8 +1.0
3.3nm,0.9s					
L23A	Garrett	35.37 335	⇓P	P	14 06 25.0 +0.8
baz=35					
I28A	Midland	35.37 342	⇑P	P	14 06 23.2 -0.7
baz=35					
N20A	Spence Gulch,	35.48 331	⇑P	P	14 06 27.2 +2.1
baz=35					
H27A	Howes	36.22 341	⇑P	P	14 06 31.7 +0.4
baz=36					
SCI	San Clemente I	36.71 312	⇓P	P	14 06 42.9 +7.4
baz=37					
SIV	San Ignacio	36.72 136	P	P	14 06 37.1 +1.3
1.5nm,0.6s,baz=316,slow=8.6,SNR=3.7					
J22A	Midwest	36.77 336	⇓P	P	14 06 36.9 +0.9
baz=37					
G26A	Maurine	36.98 341	⇓P	P	14 06 37.5 -0.2
baz=37					
E30A	Jud	37.06 346	⇓P	P	14 06 37.3 -1.0
baz=37					
J21A	Lysite	37.11 334	⇓P	P	14 06 40.4 +1.3
baz=37					
H24A	Dirks Ranch, A	37.16 339	⇑P	P	14 06 39.5 +0.2
baz=37					
I22A	9 Mile Ranch,	37.17 336	⇑P	P	14 06 40.4 +0.9
baz=37					
DUG	Dugway, Tooele	37.34 326	⇓P	P	14 06 44.0 +3.0
baz=37					
J20A	Shoshoni	37.39 334	⇓P	P	14 06 42.8 +1.4
baz=37					
PDAR	Pinedale Array	37.59 332	P	P	14 06 43.9 +0.7
1.2nm,0.8s,baz=129,slow=10,SNR=11					
PDAR			PcP	PcP	14 09 02.4 +1.3
0.9nm,0.9s,baz=127,slow=4.7,SNR=4.9					
D30A	Buchanan	37.59 346	⇓P	P	14 06 41.5 -1.3
baz=37					
R11A	Troy Canyon, C	37.72 321	⇑P	P	14 06 49.9 +5.5
baz=38					
J19A	Crowheart	37.75 333	⇑P	P	14 06 45.8 +1.3
baz=38					
DAC	Darwin (Calif)	37.78 317	eP	P	14 06 47.6 +2.8
33nm,1.6s					
I20A	Worland	37.89 334	⇑P	P	14 06 47.3 +1.7
baz=38					
F24A	Ekalaka	38.08 340	⇓P	P	14 06 47.0 -0.1
baz=38					
C30A	Mose, Pekin	38.09 347	⇓P	P	14 06 45.8 -1.2
baz=38					
D28A	Regan	38.12 345	⇑P	P	14 06 46.7 -0.6
baz=38					
AGMN	Agassiz Nation	38.14 350	⇓P	P	14 06 45.5 -2.0
baz=38,SNR=8.1					
AGMN	Agassiz Nation	38.14 350	eP	P	14 06 44.9 -2.6
9.9nm,0.4s					
H20A	Greybull	38.27 335	⇓P	P	14 06 49.3 +0.5
baz=38					
F23A	Volborg	38.31 339	⇓P	P	14 06 49.0 +0.1
baz=38					
REDW	Red Top Meadow	38.65 331	eP	P	14 06 53.0 +0.9
5.4nm,0.9s					
E24A	Baker	38.66 340	⇑P	P	14 06 52.1 +0.2
baz=38					
B30A	Myrvik Farm, E	38.76 347	⇓P	P	14 06 51.7 -1.1
baz=39					
C27A	Sayler Ranch,	38.85 344	⇓P	P	14 06 51.8 -1.7
baz=39					
I17A	Pilgrim Ck.	38.95 332	⇓P	P	14 06 56.5 +1.9
baz=39					
G20A	Bridger	38.96 336	⇑P	P	14 06 55.2 +0.7
baz=39					
B29A	Wagenman Farm,	39.00 346	⇑P	P	14 06 53.9 -0.8
baz=39					
C26A	Wahner Farm, P	39.11 343	⇑P	P	14 06 55.4 -0.3
baz=39					
A30A	Hoffart Farm,	39.22 348	⇑P	P	14 06 54.8 -1.7
baz=39,SNR=5.3					
B28A	Dugan Ranch, T	39.23 345	⇑P	P	14 06 55.9 -0.7
baz=39					
A29A	Manning Farm,	39.41 347	⇓P	P	14 06 56.7 -1.4
baz=39,SNR=6.8					
NVAR	Mina Array Bea	39.47 319	P	P	14 07 03.7 +4.6
1.3nm,0.7s,baz=144,slow=6.9,SNR=11					
NVAR			PcP	PcP	14 09 09.6 +2.6
1.7nm,0.7s,baz=133,slow=4.2,SNR=13					
D23A	Lindsay	39.49 340	⇑P	P	14 06 59.1 +0.2
baz=39					
F19A	Roth Farm, Mol	39.77 335	⇑P	P	14 07 02.1 +0.8
baz=40					
D22A	Cohagen	39.81 339	⇓P	P	14 07 01.7 +0.2
baz=40					
B25A	Knox Farm, Ray	39.82 343	⇓P	P	14 07 01.5 -0.1
baz=40					
E20A	Meyer Farm, Mu	39.98 337	⇓P	P	14 07 03.6 +0.6
baz=40,SNR=5.4					
D21A	La Casta Ranch	40.03 338	⇑P	P	14 07 04.1 +0.7
baz=40					
C23A	Lambert	40.03 340	⇑P	P	14 07 03.7 +0.4
baz=40,SNR=5.5					
ULM	Lac du Bonnet	40.04 351	P	P	14 07 01.3 -2.0
3.7nm,0.4s,baz=152,slow=8.8,SNR=14					
ULM	Lac du Bonnet	40.04 351	eP	P	14 07 01.2 -2.1
8.5nm,1.2s					
A26A	Wade Farm, Ken	40.07 344	⇓P	P	14 07 03.2 -0.5
baz=40					
E19A	Rath Farm, Rou	40.21 336	⇓P	P	14 07 05.9 +1.0
baz=40					
C22A	Vida	40.22 340	⇓P	P	14 07 05.3 +0.4
baz=40,SNR=5.5					
A25A	Svangstu Ranch	40.41 343	⇑P	P	14 07 05.9 -0.5
baz=40					
B23A	Brockton	40.55 341	⇓P	P	14 07 07.8 +0.2
baz=40					
HLID	Hailey	40.55 329	⇑P	P	14 07 10.4 +2.5
baz=40					
HLID	Hailey	40.55 329	eP	P	14 07 10.2 +2.3
56nm,3.0s					
A24A	Westby	40.65 342	⇑P	P	14 07 08.1 -0.4
baz=40					
D19A	Cripps Ranch,	40.82 337	⇑P	P	14 07 10.8 +0.8
baz=41					
A22A	Carney Farms,	41.31 341	⇑P	P	14 07 14.1 +0.2
baz=41					
C19A	Slack Wire Ran	41.35 337	⇓P	P	14 07 15.5 +1.2
baz=41					
B20A	Solberg Farm,	41.56 338	⇑P	P	14 07 16.7 +0.7
baz=41					
A21A	Bergtoll Ranch	41.64 340	⇓P	P	14 07 17.1 +0.4
baz=42					
EGMT	Eagleton	41.86 337	⇑P	P	14 07 19.3 +0.8
baz=42					
A20A	Cobblestone Ra	41.90 339	⇓P	P	14 07 18.9 +0.2
baz=42,SNR=5.6					
B19A	Brinkman Farms	41.91 338	⇓P	P	14 07 19.3 +0.5
baz=42					
A19A	Klindworth Far	42.23 338	⇑P	P	14 07 22.1 +0.6
baz=42					
SCHQ	Schefferville	46.58 16	P	P	14 07 53.8 -2.3
1.1nm,0.4s,baz=210,slow=6.3,SNR=8.3					
SCHQ			LR	LR	14 27 48.3
comp=Z,161nm,19.4s,baz=180,slow=37					
YKA	Yellowknife Ar	55.38 345	P	P	14 09 01.0 -1.2
1.2nm,0.7s,baz=140,slow=7.1,SNR=26					
YKA			PcP	PcP	14 10 02.2 -0.4
0.1nm,0.4s,baz=147,slow=4.7,SNR=3.8					
ILAR	Eielson Array	67.83 336	P	P	14 10 25.9 -0.4
0.7nm,0.4s,baz=130,slow=4.3,SNR=28					
SONM	Songino Array	120.46 350	PKP	PKPdf	14 18 20.0 -0.3
0.2nm,0.5s,baz=359,slow=0.5,SNR=3.2					
MKAR	Makanchi Array	121.77 9	PKP	PKPdf	14 18 21.7 -1.1
0.1nm,0.4s,baz=303,slow=4.4,SNR=5.8					
ASAR	Alice Springs	139.44 246	PKP	PKPdf	14 18 58.0 +1.3
0.6nm,0.9s,baz=94,slow=2.2,SNR=6.2					
WRA	Warramunga Arr	139.62 252	PKP	PKPdf	14 18 58.5 +1.4
0.4nm,0.7s,baz=93,slow=2.6,SNR=7.2					
CMAR	Chiang Mai Arr	150.38 349	PKPbc	PKPbc	14 19 21.4 +0.5
1.4nm,0.7s,baz=338,slow=3.7,SNR=9.1					

CSEM ***12*** *14:11:22.0, 39.°76N×32.°55E, h7km, MD2.6*
DDA 12 14:11:22.0, 39.°76N×32.°55E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.99**	**42**	*i* P	Pn	14 11 44.1	+1.5
ELDT				*i* S	Sb	14 11 55.1	-0.2
ELDT				*i* S	Sn	14 11 56.6	-0.5
ELDT	**Eldivan**	**0.99**	**42**	*i* P	Pn	14 11 44.1	+1.5
ELDT				*i* S	Sb	14 11 55.1	-0.2
ELDT				*i* S	Sn	14 11 56.6	-0.5
BCAM	**Yenicaga**	**1.12**	**341**	*i* P	Pg	14 11 43.6	-0.2
BCAM				*i* S	Sn	14 12 03.2	+3.1
BCAM	**Yenicaga**	**1.12**	**341**	*i* P	Pg	14 11 43.6	-0.1
BCAM				*i* S	Sn	14 12 03.2	+3.1
KDHN	**Kadinhani**	**1.28**	**195**	*i* P	Pn	14 11 46.0	-0.4
KDHN				*i* S	Sn	14 12 07.2	+3.3
KDHN	**Kadinhani**	**1.28**	**195**	*i* P	Pn	14 11 46.0	-0.4
KDHN				*i* S	Sn	14 12 07.2	+3.3
CDAG	**Cicekdag**	**1.41**	**95**	*i* P	Pg	14 11 49.2	-0.1
CDAG				*i* S	Sg	14 12 08.5	+0.8
CDAG	**Cicekdag**	**1.41**	**95**	*i* P	Pg	14 11 49.2	-0.1
CDAG				*i* S	Sg	14 12 08.5	+0.7

NIED ***12*** *14:12:00, 33.°60N×133.°20E, h41km, Mw3.7 Best double couple: M0=3.57000×10^14 NP1:φs=161.00000°, δ72.00000°, λ-168.00000°. NP2:φs=67.00000°, δ78.00000°, λ-19.00000°.*
JMA 12 14:12:06.0, 33.°64N×133.°17E, h36km, M3.7, 4C-3D Broadband fault plane solution: P waves. NP1: φs=66.00000°, δ88.00000°, λ-16.00000°. **NP2:** φs=156.00000°, δ74.00000°, λ-178.00000°. **Principal axes:** T Plg10.0000°, Azm112.0000°; N Plg74.0000°, Azm239.0000°; P Plg13.0000°, Azm20.0000°; **Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JET	**Tanbara**	**0.17**	**324**	⇑P	Pn	14 12 12.4	-3.1
JET				S	Sn	14 12 17.0	-7.5
JKU	**Kubokawa**	**0.34**	**195**	⇓P	Pn	14 12 14.2	-0.2
JKU				S	Sn	14 12 20.0	-1.0
JNA	**Nagahama**	**0.58**	**262**	⇑P	Pn	14 12 17.5	-0.4
JNA				S	Sn	14 12 25.6	-0.6
JMN	**Monobe**	**0.60**	**81**	⇑P	Pn	14 12 17.7	-0.5
JMN				S	Sn	14 12 26.4	-0.3
UWA2	**Uwa jima 2**	**0.62**	**227**	⇓P	Pn	14 12 18.2	-0.3
UWA2				S	Sn	14 12 27.0	-0.2
JHM	**Kurahashi**	**0.73**	**313**	⇑P	Pn	14 12 19.8	0.0
JHM				S	Sn	14 12 29.9	+0.2
JTO	**Tosashimizu**	**0.84**	**202**	⇓P	Pn	14 12 21.1	-0.2
JTO				S	Sn	14 12 32.4	0.0

IDC ***12*** *14:12:36.1±0.6, 37.°52S×73.°56W, h0km, mb4.4/17, mb1 4.5/20, mb1mx4.4/33, mbtmp4.4/20, ML4.0/3, MS4.0/3, Ms1 3.9/3, ms1mx3.4/29 Error ellipse: s-maj=21.4km s-min=13.4km az=89.0*
ISCJB ***12*** *14:12:39.7±0.9, 37.°48S±0.°03×73.°6W±0.°1, h35km±8km, mb4.6/23, MS3.9/3, Error ellipse: s-maj=13.5km s-min=5.6km az=3.7*
GUC ***12*** *14:12:39.0±0.4, 37.°58S×73.°62W, h19km±4km, ML5.3*
NEIC ***12*** *14:12:41.1±0.3, 37.°48S×73.°50W, h35km, mb4.7/5, Error ellipse: s-maj=11.1km s-min=6.4km az=87.0*
ISC 12 14:12:40.3±1.7, 37.°55S±0.°04×73.°60W±0.°07, h32km±12km, n59, σ1§21/66, mb4.5/23, MS3.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.76**	**110**	*i* P	**Pn**	**14 12 54.2**	**-0.6**
AGCH				*i* S	**Sn**	**14 13 05.3**	**0.0**
CCSP	**San Pedro de C**	**0.81**	**29**	*i* P	**Pn**	**14 12 55.1**	**-0.4**
CCSP				*i* S	**Sb**	**14 13 07.3**	**+0.7**
PSCH	**Puerto Saavedr**	**1.25**	**172**	*i* P	**Pn**	**14 13 01.6**	**+0.1**
PSCH				*i* S	**Sb**	**14 13 18.9**	**-0.4**
PSCH				AML	AML	14 13 24.6	
comp=N,125μm,0.5s							
COCH	**Cobquecura**	**1.56**	**25**	*e*P4	**Pn**	**14 13 04.9**	**-0.9**
COCH				*i* S	**Sb**	**14 13 29.6**	**+1.6**
VLCH	**Valdivia**	**2.27**	**173**	*e*P9	**Pn**	**14 13 12.8**	**-2.7**
VLCH				*e*S4	**Sn**	**14 13 39.0**	**-3.4**
VLCH				AML	AML	14 13 58.8	
comp=E,27μm,0.4s							
PLCA	**Paso Flores**	**3.96**	**144**	Pn	**Pn**	**14 13 39.9**	**+0.9**
comp=E,6.2nm,0.3s,baz=309,slow=13,SNR=6.7							
CFAA	**Coronel Fontan**	**7.40**	**38**	Pn	**Pn**	**14 14 25.5**	**-0.6**
comp=E,1.5nm,0.3s,baz=212,slow=13,SNR=25							
CFAA				LR	LR	14 16 47.4	
comp=E,17nm,19.8s,baz=222,slow=34							
LCO	**Las Campanas**	**8.86**	**17**	*e*Pn	**Pn**	**14 14 44.1**	**-2.2**
comp=E,94nm,0.8s							
LCO				*e*Sn	**Sn**	**14 16 23.9**	**-1.2**
TRQA	**Tornquist**	**9.21**	**97**	*e*Pn	**Pn**	**14 14 49.7**	**-1.2**
comp=E,19nm,0.6s							
TRQA				*e*Sn	**Sn**	**14 16 31.4**	**-2.2**
LVC	**Limon Verde**	**15.43**	**17**	*e*Pn	**Pn**	**14 16 15.0**	**-0.8**
comp=E,15nm,0.7s							
LVC				*e*Sn	**Sn**	**14 19 04.5**	**-1.4**
USHA	**Ushuaia**	**17.64**	**170**	P	**P**	**14 16 44.7**	**+0.7**
comp=E,0.1nm,0.3s,baz=344,slow=15,SNR=3.6							
LPAZ	**La Paz**	**21.73**	**14**	P	**P**	**14 17 30.6**	**+1.1**
comp=E,12nm,1.0s,baz=154,slow=7.9,SNR=17							
LPAZ	**La Paz**	**21.73**	**14**	*e*P	**P**	**14 17 30.8**	**+1.2**
SIV	**San Ignacio**	**24.17**	**31**	P	**P**	**14 17 54.1**	**+0.3**
comp=E,12nm,0.8s,baz=219,slow=8.7,SNR=29							
SIV				LR	LR	14 29 08.5	
comp=E,368nm,19.4s,baz=226,slow=41							
BDFB	**Brasilia**	**31.44**	**53**	P	**P**	**14 18 57.9**	**-1.0**
comp=E,2.3nm,0.7s,baz=193,slow=10,SNR=3.4							
BDFB				LR	LR	14 32 31.9	
comp=E,293nm,20.0s,baz=220,slow=38							
RPN	**Rapa Nui**	**31.76**	**279**	LR	LR	14 28 53.7	
comp=E,167nm,18.4s,baz=62,slow=31							
OTAV	**Otavalo**	**37.87**	**352**	*e*P	**P**	**14 19 53.7**	**-1.1**
comp=E,7.5nm,1.2s							
PTGA	**Pitinga**	**38.74**	**22**	P	**P**	**14 20 00.9**	**-0.8**
comp=E,2.8nm,0.6s,baz=212,slow=7.7,SNR=6.9							
SDV	**Santo Domingo**	**46.28**	**4**	*e*P	**P**	**14 21 01.3**	**-1.7**
comp=E,9.8nm,0.8s							
VNA3	**Neumayer Olymp**	**46.59**	**156**	P	**P**	**14 21 06.0**	**+1.2**
RCBR	**Riachuelo**	**46.62**	**57**	P	**P**	**14 21 07.0**	**+1.3**
comp=E,13nm,1.0s,baz=243,slow=11,SNR=4.3							
VNA2	**Neumayer--Watz**	**47.27**	**156**	P	**P**	**14 21 11.0**	**+1.0**
baz=305,slow=9.1							
SNAA	**Sanae**	**48.81**	**157**	P	**P**	**14 21 23.1**	**+1.1**
SNAA	**Sanae**	**48.81**	**157**	P	**P**	**14 21 22.6**	**+0.5**
comp=E,3.2nm,0.9s,baz=289,slow=7.9,SNR=7.3							
SNAA	**Sanae**	**48.81**	**157**	*e*P	**P**	**14 21 22.1**	**+0.1**
comp=E,10nm,1.0s							
QSPA	**South Pole Qui**	**52.69**	**180**	P	**P**	**14 21 52.2**	**+0.7**
comp=E,5.5nm,0.9s,baz=128,slow=3.2,SNR=10							
QSPA	**South Pole Qui**	**52.69**	**180**	*e*P	**P**	**14 21 51.8**	**+0.4**
comp=E,42nm,1.9s							
APG	**El Apazote**	**54.63**	**340**	P	**P**	14 22 02.4	-3.8
comp=E,1.9nm,0.5s,baz=126,slow=19,SNR=4.8							
VNDA	**Vanda**	**60.37**	**192**	P	**P**	**14 22 47.5**	**+1.8**
comp=E,0.7nm,0.8s,baz=180,slow=4.0,SNR=3.4							
TXAR	**Lajitas Array**	**72.25**	**333**	P	**P**	**14 24 03.1**	**+0.7**
comp=E,2.3nm,0.7s,baz=152,slow=8.6,SNR=17							
SUR	**Sutherland**	**74.23**	**119**	P	**P**	**14 24 15.7**	**+1.2**
comp=E,9.1nm,0.9s,baz=269,slow=3.1,SNR=4.8							
LIC	**Lamto**	**77.10**	**72**	*e*P	**P**	**14 24 31.2**	**+0.4**
comp=E,36nm,0.9s							
TIC	**Toumodi**	**77.38**	**71**	*e*P	**P**	**14 24 33.9**	**+1.6**
comp=E,94nm,0.2s							
KIC	**Kosan Boka**	**77.40**	**72**	*e*P	**P**	**14 24 32.7**	**+0.2**
comp=E,61nm,1.0s							
DBIC	**Dimbokro**	**77.52**	**71**	P	**P**	**14 24 33.7**	**+0.6**
comp=E,12nm,0.8s,baz=216,slow=8.2,SNR=15							
BOSA	**Boshof**	**79.54**	**118**	P	**P**	**14 24 44.8**	**+0.5**
comp=E,3.9nm,0.8s,baz=229,slow=9.3,SNR=6.3							
NVAR	**Mina Array Bea**	**86.10**	**326**	P	**P**	**14 25 19.6**	**+1.6**
comp=E,1.2nm,0.8s,baz=160,slow=6.7,SNR=8.1							
PDAR	**Pinedale Array**	**86.38**	**334**	P	**P**	**14 25 19.9**	**+0.7**
comp=E,1.6nm,1.0s,baz=141,slow=5.7,SNR=6.8							
TORD	**Torodi Ar. Bea**	**86.60**	**71**	P	**P**	**14 25 20.4**	**-0.3**
comp=E,3.0nm,0.8s,baz=219,slow=4.9,SNR=16							
ELK	**Elko**	**86.75**	**330**	P	**P**	**14 25 22.0**	**+0.8**
comp=E,2.0nm,0.8s,baz=91,slow=3.9,SNR=8.0							
ULM	**Lac du Bonnet**	**89.61**	**346**	P	**P**	**14 25 34.4**	**+0.3**
comp=E,4.0nm,0.9s,baz=180,slow=8.3,SNR=3.2							
BRTR	**Keskin Array B**	**124.61**	**64**	PKP	**PKPdf**	**14 31 36.6**	**+0.3**
comp=E,1.6nm,0.8s,baz=198,slow=2.5,SNR=6.5							
GEYT	**Alibeck**	**142.16**	**74**	PKhKP	PKPpre	14 32 04.8	
comp=E,2.0nm,0.6s,baz=292,slow=4.3,SNR=4.3							
SEY	**Seymchan**	**142.40**	**327**	PKhKP	PKPpre	14 32 04.2	
comp=E,0.3nm,0.4s,baz=53,slow=20,SNR=2.9							
AKTO	**Aktyubinsk**	**143.53**	**54**	PKhKP	PKPpre	14 32 07.5	
comp=E,2.0nm,0.8s,baz=257,slow=4.5,SNR=6.5							
ABKAR	**Akbulak array**	**144.81**	**55**	*e*PKPdf	PKPbc	14 32 12.5	0.0
MDRS	**Chennai**	**146.26**	**129**	*ex*	**PKPdf**	**14 32 13.2**	**-3.6**
HYB	**Hyderabad**	**148.37**	**122**	*i* PKP	**PKPbc**	**14 32 23.0**	**-0.9**
BRVK	**Borovoye**	**150.62**	**46**	*e*PKPbc	**PKPbc**	**14 32 29.0**	**+0.7**
BVAR	**Borovoye Array**	**150.70**	**47**	PKPbc	**PKPbc**	**14 32 29.6**	**+1.1**
comp=E,6.0nm,0.7s,baz=280,slow=4.2,SNR=28							
YAK	**Yakutsk**	**151.57**	**337**	*e*PKPbc	**PKPbc**	**14 32 30.1**	**0.0**
AAK	**Ala-Archa**	**155.16**	**68**	PKP	**PKPdf**	**14 32 31.4**	**+1.4**
comp=E,1.9nm,0.8s,baz=239,slow=4.9,SNR=3.9							
AAK				PKPbc	PKPbc	14 32 39.9	
comp=E,1.8nm,0.8s,baz=204,slow=4.1,SNR=4.7							
AAK				PKPab	**PKPab**	**14 32 55.6**	**+0.6**
comp=E,6.4nm,0.8s,baz=201,slow=4.1,SNR=11							
AAK	**Ala-Archa**	**155.16**	**68**	PKP	**PKPdf**	**14 32 31.4**	**+1.4**
AAK				PKPbc	PKPbc	14 32 39.9	
AAK				*e*PKPab	**PKPab**	**14 32 55.1**	**+0.1**
AAK				PKPab	**PKPab**	**14 32 55.6**	**+0.6**
KURBB	**Kurchatov Arra**	**156.26**	**48**	PKPbc	PKPdf	14 32 41.0	+10
comp=E,1.0nm,0.7s,baz=294,slow=2.6,SNR=4.1							
KURBB				PKPab	**PKPab**	**14 32 59.7**	**+0.5**
comp=E,2.3nm,0.9s,baz=284,slow=5.4,SNR=12							
KURK	**Kurchatov**	**156.28**	**47**	PKPbc	PKPdf	14 32 41.0	+10
KURK				PKPab	**PKPab**	**14 32 59.7**	**+0.5**
ZALV	**Zalesovo Beam**	**157.88**	**35**	PKP	**PKPdf**	**14 32 31.8**	**-1.2**
comp=E,1.9nm,0.8s,baz=270,slow=4.0,SNR=7.3							
ZALV				PKPab	**PKPab**	**14 33 06.7**	**+0.7**
comp=E,4.4nm,0.8s,baz=308,slow=5.1,SNR=9.1							
CMAR	**Chiang Mai Arr**	**159.88**	**159**	PKPab	**PKPab**	**14 33 14.5**	**-1.1**
comp=E,0.3nm,0.3s,baz=202,slow=4.6,SNR=4.5							
MKAR	**Makanchi Array**	**159.95**	**55**	PKP	**PKPdf**	**14 32 35.7**	**0.0**
comp=E,1.2nm,1.0s,baz=321,slow=1.6,SNR=5.8							
MKAR				PKPab	**PKPab**	**14 33 15.3**	**-0.1**
comp=E,2.0nm,0.8s,baz=278,slow=3.6,SNR=12							
SONM	**Songino Array**	**169.72**	**0**	PKPab	**PKPab**	**14 33 57.8**	**-0.4**
comp=E,0.6nm,0.9s,baz=319,slow=3.5,SNR=4.3							

IDC ***12*** *14:15:57.4±0.5, 46.°70N×152.°72E, h0km, mb4.3/32, mb1 4.5/35, mb1mx4.4/51, mbtmp4.3/35, ML4.5/3, MS4.2/28, Ms1 4.2/28, ms1mx4.0/48, Error ellipse: s-maj=15.6km s-min=10.0km az=156.0*
BJI ***12*** *14:15:59.8, 46.°88N×153.°08E, h38km, mB5.0/37, mb4.5/45, Ms4.6/43, Ms7 4.3/42*
ISCJB ***12*** *14:15:59.1±0.8, 46.°60N±0.°03×152.°79E±0.°02, h24km±5km, mb4.8/157, MS4.3/34, Error ellipse: s-maj=4.9km s-min=2.2km az=158.1*
NIED ***12*** *14:16:00, 46.°60N×153.°00E, h17km, Mw5.1 Best double couple: M0=4.49000×10^16 NP1:φs=220.00000°, δ41.00000°, λ37.00000°. NP2:φs=101.00000°, δ67.00000°, λ125.00000°.*
MOS ***12*** *14:16:01.9±1.1, 46.°68N×152.°83E, h45km, mb5.0/44, MS4.3/17, Error ellipse: s-maj=7.3km s-min=4.6km az=95.4*
SKHL ***12*** *14:16:01.5±0.8, 46.°44N×153.°11E, h54km, mb5.

comp=Z,370nm,0.5s
SKR smax smax
comp=N,480nm,0.6s
SKR smax smax
comp=E,310nm,0.5s
SKR smax smax
comp=N,7μm,6.0s
SKR smax smax
comp=E,4μm,4.0s
SKR MLR MLR
comp=N,3μm,12.0s
SKR MLR MLR
comp=E,5μm,12.0s
SKR MLR MLR
comp=Z,5μm,12.0s
SKR Severo-Kuril's 4.66 27 *e*P **Pn 14 17 07.9 -2.8**
SKR AMB AMB 14 17 11.5
comp=Z,370nm,0.5s
SKR *e*S **Sn 14 18 01.2 -2.3**
SKR A A 14 18 23.1
comp=Z,480nm,0.6s
SKR A A 14 18 23.1
comp=Z,313nm,0.6s
SKR A A 14 18 36.0
comp=Z,7μm,6.0s
SKR A A 14 18 36.0
comp=Z,4μm,6.0s
SKR AMS AMS 14 19 24.0
comp=Z,3μm,12.0s
SKR AMS AMS 14 19 24.0
comp=Z,5μm,12.0s
YUK Yuzh-Kuril'sk 5.53 245 *c i*PN **Pn 14 17 24.8 +2.2**
YUK pmax pmax
comp=E,382nm,0.4s
YUK pmax pmax
comp=Z,909nm,0.4s
YUK pmax pmax
comp=N,637nm,0.5s
YUK Yuzh-Kuril'sk 5.53 245 *e*P **Pn 14 17 24.8 +2.2**
YUK AMB AMB 14 17 28.9
comp=N,910nm,0.4s
YUK *e*S **Sn 14 18 27.0 +2.2**
YUK A A 14 18 47.0
comp=N,4μm,0.8s
YUK A A 14 18 47.0
comp=N,3μm,0.8s
NEM2 Nemuro 2 5.96 240 P **Pn 14 17 28.2 -0.3**
NEM2 *e*S **Sn 14 18 32.8 -2.6**
JRA Rausu 6.04 247 ||P **Pn 14 17 31.8 +2.2**
JNK Nakash 6.47 245 P **Pn 14 17 37.0 +1.5**
JNK *e*S **Sn 14 18 49.5 +1.5**
JAK Akkeshi 6.80 241 P **Pn 14 17 39.8 -0.2**
JAK *e*S **Sn 14 18 52.2 -3.8**
JTKR Abashiri--Toko 6.81 251 P **Pn 14 17 42.6 +2.4**
YSS Yuzh-Sakhalins 6.93 277⇑*e*PN **Pn 14 17 44.8 +3.0**
YSS pmax pmax
comp=Z,80nm,1.1s
YSS MLR MLR
comp=E,2μm,17.0s
YSS MLR MLR
comp=Z,2μm,17.0s
YSS MLR MLR
comp=N,900nm,14.0s
YSS Yuzh-Sakhalins 6.93 277 *e*P **Pn 14 17 44.8 +3.0**
YSS *e*S **Sn 14 18 59.0 -0.3**
YSS AMS AMS 14 20 09.0
comp=N,2μm,17.0s
YSS Yuzh-Sakhalins 6.93 277 Pn **Pn 14 17 39.3 -2.6**
YSS *e*Sn **Sn 14 18 55.4 -3.9**
JMP Maruseppu 7.15 252 ||P **Pn 14 17 47.5 +2.6**
JAR Ashorobuto 7.21 246 P **Pn 14 17 47.5 +1.8**
JAR *e*S **Sn 14 19 07.4 +1.2**
PETK Petropavlovsk- 7.27 24 Pn **Pn 14 17 47.0 +0.6**
comp=N,4.3nm,0.3s,baz=180,slow=11,SNR=59
PETK Sn **Sn 14 19 08.2 +0.7**
baz=181,slow=7.2,SNR=1.3
JOB Onbets 7.37 243 P **Pn 14 17 48.0 +0.1**
JOB *e*S **Sn 14 19 06.9 -3.3**
PET Petropavlovsk 7.48 28 *e*PN **Pn 14 17 49.7 +0.3**
PET pmax pmax
comp=Z,900nm,5.6s
PET pmax pmax
comp=Z,135nm,1.5s
PET MLR MLR
comp=Z,2μm,15.0s
PET MLR MLR
comp=Z,2μm,17.0s
PET Petropavlovsk 7.48 28 *e*P **Pn 14 17 49.5 +0.1**
PET Petropavlovsk 7.48 28 *e*Pn **Pn 14 17 49.5 +0.1**
PET *e*Sn **Sn 14 19 12.1 -0.7**
HRK Horoka 7.54 249 *e*P **Pn 14 17 52.6 +2.3**
HRK *e*S **Sn 14 19 16.5 +2.1**
JKK2 Kamakawa 2 7.61 253 P **Pn 14 17 54.1 +2.9**
ASAJ Asahikawa 7.61 255 PN **Pn 14 17 53.7 +2.5**
ASAJ 14 19 29.2
ASAJ pmax pmax
comp=Z,6.0nm,0.3s
ASAJ smax smax
comp=N,2.0nm,0.3s
ASAJ Asahikawa 7.61 255 P **Pn 14 17 54.1 +2.9**
ASAJ Asahikawa 7.61 255 Pn **Pn 14 17 53.7 +2.5**
comp=N,6.2nm,0.3s,baz=72,slow=20,SNR=61
ASAJ Sn Sn 14 19 29.2 +13
comp=N,1.7nm,0.3s,baz=114,slow=12,SNR=2.3
ASAJ Asahikawa 7.61 255 *e*Pn **Pn 14 17 51.0 -0.2**
ASAJ *e*Sn **Sn 14 19 13.7 -2.4**
UGL Uglegorsk 7.67 293 PN Pn 14 17 56.8 +4.9
UGL Uglegorsk 7.67 293 *e*P Pn 14 17 57.5 +5.6
UGL AMB AMB 14 18 02.0
comp=N,120nm,0.8s
UGL *e*S **Sn 14 19 19.2 +1.8**
UGL A A 14 19 23.3
comp=N,100nm,0.6s
UGL A A 14 19 23.3
comp=N,150nm,0.6s
UGL AMS AMS 14 21 04.0
comp=N,2μm,16.0s
UGL AMS AMS 14 21 04.0
comp=N,1μm,16.0s
JWK2 Keihoku 7.72 265 P Pn 14 17 58.5 +5.8
JCH Churui 7.82 243 P **Pn 14 17 53.8 -0.3**
JCH *e*S **Sn 14 19 18.1 -3.2**
JFR Furan 8.02 249 P **Pn 14 17 58.7 +1.8**
JFR *e*S **Sn 14 19 27.3 +1.0**
MYR Moyori 8.05 241 *e*P **Pn 14 17 57.3 0.0**
MYR *e*S **Sn 14 19 23.4 -3.5**
JAB Ashibetsu 8.11 252 P Pn 14 18 01.3 +3.3
JEM Erimo 8.29 240 P **Pn 14 18 01.8 +1.3**
JEM *e*S **Sn 14 19 31.2 -1.6**
ERM Erimo 8.29 240 Pn **Pn 14 18 02.8 +2.3**
comp=N,1μm,0.5s,SNR=29
ERM Erimo 8.29 240 PN **Pn 14 18 00.0 -0.5**
ERM Erimo 8.29 240 *e*P **Pn 14 18 02.0 +1.5**
ERM Erimo 8.29 240 Pn **Pn 14 17 60.0 -0.5**
ERM *e*Sn **Sn 14 19 31.6 -1.2**
JBT2 Biratori 2 8.36 247 P **Pn 14 18 02.2 +0.7**
JNBK Urakawa-nobuka 8.38 243 P **Pn 14 18 01.4 -0.4**
JNBK *e*S **Sn 14 19 29.4 -5.6**
JEW Eniwo 8.91 249 P **Pn 14 18 09.3 +0.2**
JEW *e*S **Sn 14 19 49.0 +0.9**
JNB Noboribetsu 9.36 248 *e*S **Sn 14 19 56.2 -2.8**
OKH Okha 9.45 321 *e*PN Pn 14 18 20.0 +3.7
OKH pmax pmax
comp=Z,600nm,2.0s
OKH Okha 9.45 321 *e*P Pn 14 18 20.0 +3.7
OKH AMB AMB 14 18 20.4
comp=Z,600nm,2.0s
OKH *e*S **Sn 14 20 01.2 +0.2**
OKH AMS AMS 14 23 22.4
comp=Z,2μm,14.0s
OKH AMS AMS 14 23 22.4
comp=Z,2μm,14.0s
JKB Kayabe 9.67 245 P **Pn 14 18 18.6 -0.8**
JKB *e*S Sn 14 20 00.0 -6.5
JSH Shimam 9.92 251 P **Pn 14 18 24.0 +1.2**
JYM2 Yakumo 2 9.97 248 P **Pn 14 18 24.0 +0.5**
JSR Shiriuchi 10.25 245 P **Pn 14 18 27.6 +0.3**
JANG Nango 10.28 237 P **Pn 14 18 25.0 -2.8**
JANG *e*S Sn 14 20 11.8 -10
JTM Tenmabayashi 10.29 240 P **Pn 14 18 26.0 -1.8**
JTM *e*S Sn 14 20 13.2 -8.5
JTH Tanohata 10.38 234 P Pn 14 18 25.6 -3.5
JTH *e*S Sn 14 20 15.0 -8.9
OFUJ Ofunato 11.09 232 P Pn 14 18 35.4 -3.4
OFUJ *e*S Sn 14 20 31.7 -10
JRG Rokugo 11.44 236 P **Pn 14 18 41.2 -2.4**
JRG *e*S Sn 14 20 43.7 -6.2
JIO Ouri 11.71 230 P **Pn 14 18 44.7 -2.6**
HABR Khabarovsk 12.17 285 *e*PN **Pn 14 18 52.4 -1.1**
HABR pmax pmax
comp=Z,65nm,1.5s
HABR pmax pmax
comp=E,35nm,1.5s
HABR pmax pmax
comp=N,80nm,3.1s
HABR MLR MLR
comp=Z,984nm,17.0s
JYA Atsumi 12.51 235 P **Pn 14 18 55.6 -2.6**
JFY Yanaizu 13.36 231 P **Pn 14 19 07.9 -2.0**
JHK Hiroka 13.85 233 P **Pn 14 19 14.1 -2.5**
JAG Ashikaga 14.23 229 P **Pn 14 19 19.4 -2.2**
KLR Kul'dur 14.38 288 *e*P **Pn 14 19 26.2 +2.6**
KLR MLR MLR
comp=Z,2μm,12.0s
JJN Nakama 14.43 234 P **Pn 14 19 22.5 -1.8**
FX1 Attu Island--F 14.57 57 *e*P Pn 14 19 22.5 -3.6
FX1 Attu Island--F 14.57 57 Pn **Pn 14 19 25.2 -0.8**
comp=Z,15nm,0.3s,baz=280,slow=6.0,SNR=30
FX1 LR LR 14 24 23.3
comp=Z,445nm,20.9s,baz=306,slow=35
FX1 Attu Island--F 14.57 57 *e*Pn Pn 14 19 22.5 -3.6
MAJO Matsushiro 14.81 233 *e*P Pn 14 19 24.9 -4.5
MAJO Matsushiro 14.81 233 *e*Pn Pn 14 19 24.9 -4.5
MAT Matsushiro 14.81 233 P **Pn 14 19 27.2 -2.2**
MJAR Matsushiro Arr 14.81 233 P **Pn 14 19 27.2 -2.2**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 14.81 233 Pn **Pn 14 19 27.2 -2.2**
comp=Z,1.4nm,0.3s,baz=28,slow=13,SNR=15
JRY Ryogami san 14.83 230 P **Pn 14 19 27.5 -2.1**
USRK Ussuriysk Ar. 14.83 268 Pn **Pn 14 19 31.2 +1.6**
comp=Z,0.8nm,0.3s,baz=74,slow=13,SNR=11
USRK LR LR 14 24 58.0
comp=Z,810nm,21.0s,baz=81,slow=37
JNG Nsakai 14.97 233 P Pn 14 19 27.8 -3.7
JGN Niukaw 15.54 234 P **Pn 14 19 36.5 -2.4**
MDJ Mudanjiang 16.37 272 P **Pn 14 19 48.2 -1.2**
MDJ pP **pP 14 20 00.2 -2.1**
MDJ sP **sP 14 20 05.9 -2.1**
MDJ S **Sn 14 22 48.2 -1.7**
MDJ PMZ
comp=Z,17nm,2.1s
MDJ PMZ
comp=Z,230nm,3.7s
MDJ LN
comp=Z,300nm,17.1s
MDJ LE
comp=Z,570nm,28.1s
MDJ LZ
comp=Z,790nm,26.1s
SEY Seymchan 16.41 359 P **Pn 14 19 48.6 -1.1**
SEY pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 16.41 359 Pn **Pn 14 19 48.6 -1.1**
comp=Z,0.5nm,0.3s,baz=183,slow=8.4,SNR=31
SEY Seymchan 16.41 359 *e*P **Pn 14 19 49.8 +0.1**
CN2 Changchun 19.46 272 *e*P **Pn 14 20 28.0 +0.8**
CN2 *ep*P **pP 14 20 38.0 +1.6**
CN2 *e*S **S 14 23 58.9 -4.2**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,700nm,20.0s
CN2 LE
comp=Z,600nm,20.0s
CN2 LZ
comp=Z,300nm,16.0s
CLNS Chul'man 19.99 311 *e*P **Pn 14 20 37.4 +4.0**
CLNS pmax pmax
comp=Z,4.0nm,1.0s
CLNS pmax pmax
comp=N,5.0nm,0.7s
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS MLR MLR
comp=Z,906nm,14.0s
CLNS MLR MLR
comp=N,855nm,16.0s
CLNS MLR MLR
comp=E,955nm,14.0s
YAK Yakutsk 20.37 328 *e*P **P 14 20 36.0 +0.6**
YAK *e* 14 20 56.6
YAK *e*S **S 14 24 19.8 -1.1**
YAK *e*SSS SSS 14 24 54.4
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=Z,106nm,1.0s
YAK pmax pmax
comp=E,121nm,1.5s
YAK pmax pmax
comp=N,143nm,1.4s
YAK smax smax
comp=E,181nm,1.6s
YAK smax smax
comp=N,244nm,2.2s
YAK MLR MLR
comp=N,602nm,24.0s
YAK MLR MLR
comp=E,414nm,18.0s
YAK MLR MLR
comp=Z,715nm,24.0s
YAK Yakutsk 20.37 328 *e*P **P 14 20 36.2 +0.8**
YAK Yakutsk 20.37 328 P **P 14 20 34.8 -0.6**
comp=Z,58nm,0.9s
KSRS Korea Array 20.55 253 P **P 14 20 38.7 +1.1**
KSRS pmax pmax
comp=Z,14nm,1.0s
KSRS Korea Array 20.55 253 P **P 14 20 38.6 +1.1**
comp=Z,14nm,1.0s,baz=56,slow=11,SNR=18
KSAR Wonju Array Be 20.59 253 P **P 14 20 38.7 +0.7**
KSAR Wonju Array Be 20.59 253 P **P 14 20 38.6 +0.7**
SNY Shenyang 21.43 268⇑P **P 14 20 48.6 +1.6**
SNY PMZ
comp=Z,230nm,4.7s
SNY LN
comp=Z,730nm,18.9s
SNY LE
comp=Z,910nm,18.9s
SNY LZ
comp=Z,1μm,14.0s
JNU Nakatsue 21.45 239 P **P 14 20 48.6 +1.2**
comp=Z,29nm,1.0s,baz=293,slow=0.9,SNR=5.4
JNU LR LR 14 29 48.0
comp=Z,300nm,19.1s,baz=76,slow=39
JNU Nakatsue 21.45 239 *e*P **P 14 20 46.5 -0.9**
comp=Z,43nm,1.6s
BILL Bilibino 22.62 13⇑*i*P **P 14 20 58.5 -1.0**
BILL *e* 14 21 07.4
BILL *e* 14 21 20.7
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,1μm,19.0s
BILL Bilibino 22.62 13 *e*P **P 14 20 58.5 -1.0**
BILL Bilibino 22.62 13 *e*P **P 14 20 58.3 -1.2**
comp=Z,30nm,1.6s
BOD Bodaibo 25.95 310 *e*P **P 14 21 33.5 +2.7**
BOD pmax pmax
comp=Z,9.0nm,1.7s
GAMB Gambell 26.09 36 P **P 14 21 30.9 -1.0**
comp=Z,16nm,1.0s
BJI Beijing 27.28 270 P **P 14 21 41.7 -1.2**
BJI S S 14 26 27.4 +8.4
BJI PMZ
comp=Z,12nm,0.5s
BJI LN
comp=Z,460nm,16.8s
BJI LE
comp=Z,900nm,16.8s
BJI LZ
comp=Z,560nm,21.9s
TIK Tiksi 27.58 344 *e*P **P 14 21 46.2 +0.9**
TIXI Tiksi 27.59 344⇑*e*P **P 14 21 46.2 +0.8**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
TNA Tin City 28.30 34 *e*P **P 14 21 51.7 0.0**
comp=Z,86nm,2.4s
H11N2 WAKE ISLAND Hy 29.15 152 T T 14 53 28.7
baz=340,slow=76,SNR=6204
H11N1 WAKE ISLAND Hy 29.16 152 T T 14 53 27.8
baz=340,slow=76,SNR=4840
H11N3 WAKE ISLAND Hy 29.16 152 T T 14 53 30.1
baz=340,slow=76,SNR=5280
NJ2 Nanjing 29.75 253 *e*P **P 14 22 05.6 +0.6**
NJ2 pP **pP 14 22 18.0 +1.0**
NJ2 S **S 14 26 55.5 -2.6**
NJ2 PMZ
comp=Z,30nm,0.8s
NJ2 PMZ
comp=Z,310nm,4.5s
NJ2 LN
comp=Z,1μm,24.6s
NJ2 LE
comp=Z,850nm,23.4s
NJ2 LZ
comp=Z,850nm,19.0s
HHC Hu-ho-hao-te 30.11 274 *e*P **P 14 22 09.3 +1.1**
HHC pP **pP 14 22 20.8 +0.6**
HHC sP **sP 14 22 26.8 +1.2**
HHC PP **PnPn 14 23 07.8 +1.3**
HHC S **S 14 27 02.9 -0.9**
HHC sS **sS 14 27 23.2 -0.7**
HHC ScS **ScS 14 32 41.0 -1.8**
HHC PMZ
comp=Z,16nm,0.6s
HHC PMZ
comp=Z,300nm,5.4s
HHC LN
comp=Z,490nm,13.5s
HHC LE
comp=Z,690nm,14.3s
HHC LZ
comp=Z,410nm,15.8s
H11S1 WAKE ISLAND Hy 30.23 153 T T 14 54 54.4
baz=341,slow=76,SNR=3900
H11S3 WAKE ISLAND Hy 30.24 153 T T 14 54 52.2
baz=341,slow=76,SNR=3728
H11S2 WAKE ISLAND Hy 30.25 153 T T 14 54 52.9
baz=341,slow=76,SNR=3347
ULN Ulaanbaatar 30.77 289⇑*e*P **P 14 22 14.7 +0.6**
ULN pmax pmax
comp=Z,5.0nm,2.5s
ULN Ulaanbaatar 30.77 289 *e*P **P 14 22 14.7 +0.6**
ULN Ulaanbaatar 30.77 289 *e*P **P 14 22 13.4 -0.7**
comp=Z,4.8nm,1.0s
SONM Songino Array 31.21 290 P **P 14 22 19.2 +1.3**
comp=Z,0.5nm,0.6s,baz=90,slow=8.1,SNR=5.2
SONM LR LR 14 35 47.4
comp=Z,362nm,19.9s,baz=82,slow=38
TLY Talaya 32.09 298 LR LR 14 36 27.6
comp=Z,636nm,18.7s,baz=72,slow=38
TLY Talaya 32.09 298 *e*P **P 14 22 27.0 +1.5**
ZAK Zakamensk 32.58 295 *e*P **P 14 22 28.1 -1.7**
IM04 Indian Mountai 34.02 36 *e*P **P 14 22 42.9 +0.8**
KDAK Kodiak Island 34.37 51 P **P 14 22 46.0 +0.8**
comp=Z,166nm,0.7s,SNR=5.0
KDAK Kodiak Island 34.37 51 *i*P **P 14 22 45.2 0.0**
KDAK Kodiak Island 34.37 51 *e*P **P 14 22 45.2 0.0**
PPLA Purkeypile 34.44 42 *e*P **P 14 22 46.5 +0.6**
comp=Z,98nm,1.5s
QZH Quanzhou 34.77 244⇑*i*P P 14 22 54.8 +5.8
QZH S **S 14 28 20.3 +4.0**
QZH PMZ
comp=Z,520nm,6.0s
QZH LZ
comp=Z,1μm,27.4s
KTH Kantishna Hill 35.03 40 P **P 14 22 50.2 -0.7**
comp=Z,67nm,1.2s
TRF Thorofare Moun 35.31 41 *e*P **P 14 22 53.1 -0.4**
comp=Z,86nm,2.1s
COLD Coldfoot 35.60 34 *e*P **P 14 22 54.1 -1.6**
comp=Z,18nm,1.2s
RC01 Rabbit Creek A 35.60 45 *e*P **P 14 22 55.4 -0.4**
comp=Z,53nm,1.6s
PMR Palmer 35.87 44 *e*P **P 14 22 58.8 +0.7**
PMR pmax pmax
comp=Z,25nm,1.4s
PMR Palmer 35.87 44 *e*P **P 14 22 58.8 +0.7**
comp=Z,24nm,1.4s
MCK McKinley 35.92 40 P **P 14 22 57.0 -1.5**
MCK pmax pmax
comp=Z,32nm,1.3s
MCK McKinley 35.92 40 P **P 14 22 57.0 -1.5**
comp=Z,32nm,1.3s
COLA College 36.41 38 *c i*P **P 14 23 03.6 +1.0**
COLA College 36.41 38 *e*P **P 14 23 03.6 +1.0**
COLA College 36.41 38 *e*P **P 14 23 01.0 -1.6**
comp=Z,87nm,1.5s
ILAR Eielson Array 36.82 38 P **P 14 23 06.5 +0.4**
ILAR pmax pmax
comp=Z,16nm,1.2s
ILAR MLR MLR
comp=Z,404nm,19.9s
ILAR Eielson Array 36.82 38 P **P 14 23 06.5 +0.4**
comp=Z,16nm,1.2s,baz=263,slow=7.1,SNR=48
ILAR LR LR 14 40 10.7
comp=Z,404nm,19.9s,baz=288,slow=40
PAX Paxson 37.51 41 *e*P **P 14 23 10.3 -1.8**
PAX pmax pmax
comp=Z,17nm,1.3s
PAX Paxson 37.51 41 *e*P **P 14 23 10.3 -1.8**
comp=Z,17nm,1.3s
LZH Lanzhou 37.70 272 *e*P **P 14 23 13.7 -0.4**
LZH pP **pP 14 23 24.6 -1.7**
LZH sP **sP 14 23 29.2 -2.4**
LZH PP **PnPn 14 24 43.0 +1.0**
LZH PMZ
comp=Z,22nm,1.0s
LZH PMZ
comp=Z,98nm,4.8s
LZH LN
comp=Z,570nm,15.4s
LZH LE
comp=Z,390nm,14.2s
LZH LZ
comp=Z,580nm,16.7s
GTA Gaotai 38.80 279 *e*P **P 14 23 24.5 +1.2**
GTA pP **pP 14 23 36.5 +0.9**
GTA sP **sP 14 23 42.0 +1.1**
GTA S **ScP 14 29 18.6 +0.4**
GTA sS **sS 14 29 38.8 +0.6**
GTA SS **SS 14 32 02.5 -7.1**
GTA ScS **ScS 14 33 28.9 -0.3**
GTA PMZ
comp=Z,4.0nm,1.2s
GTA PMZ
comp=Z,180nm,5.0s
GTA LN
comp=Z,310nm,14.0s
GTA LE
comp=Z,320nm,14.5s
GTA LZ
comp=Z,370nm,13.1s
EGAK Eagle 39.27 38 P **P 14 23 25.2 -1.5**
comp=Z,81nm,1.5s
DAWY Dawson 40.11 39 *e*P **P 14 23 34.3 +0.5**
CD2 Chengdu 40.67 265 *e*P **P 14 23 39.1 +0.3**
CD2 sP **sP 14 23 56.0 -0.4**
CD2 PP **PnPn 14 25 17.8 +0.5**
CD2 S **S 14 29 43.1 -2.6**
CD2 sS **sS 14 30 06.8 +0.7**
CD2 PMZ
comp=Z,20nm,1.1s
CD2 PMZ
comp=Z,100nm,7.1s
CD2 LN
comp=Z,410nm,15.4s
CD2 LE
comp=Z,290nm,16.6s
CD2 LZ
comp=Z,350nm,16.6s
GYA Guiyang 41.48 257 P **P 14 23 45.8 +0.2**
GYA pP **pP 14 23 57.4 -0.5**
GYA sP **sP 14 24 02.3 -0.9**
GYA PP **PnPn 14 25 25.0 -1.9**
GYA S **S 14 29 57.8 -0.2**
GYA sS **sS 14 30 18.6 +0.1**
GYA PMZ
comp=Z,20nm,0.8s

GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,560nm,18.8s
GYA LE
comp=Z,490nm,19.4s
GYA LZ
comp=Z,520nm,18.5s
HYT Haines Junctio 41.54 44 P **P 14 23 43.9 -1.9**
INK Inuvik 41.91 32 P **P 14 23 49.6 +1.1**
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 41.91 32 P **P 14 23 49.6 +1.1**
comp=Z,9.2nm,0.9s,baz=283,slow=7.4,SNR=16
ZALV Zalesovo Beam 42.56 306 P **P 14 23 52.3 -1.6**
ZALV 14 25 46.2
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV MLR MLR
comp=Z,538nm,19.3s
ZALV Zalesovo Beam 42.56 306 P **P 14 23 52.3 -1.6**
comp=Z,1.4nm,0.5s,baz=55,slow=6.9,SNR=4.9
ZALV PcP **PcP 14 25 46.2 +0.6**
comp=Z,1.9nm,0.7s,baz=54,slow=2.8,SNR=6.5
ZALV LR LR 14 42 42.8
comp=Z,538nm,19.3s,baz=58,slow=38
QIZ Qiongzhong 44.59 247 P **P 14 24 10.4 -0.3**
QIZ pP **pP 14 24 22.0 -1.1**
QIZ S **S 14 30 43.7 +0.2**
QIZ sS **sS 14 31 04.5 +0.4**
QIZ SS **ScS 14 34 04.8 +0.1**
QIZ PMZ
comp=Z,11nm,2.3s
QIZ LN
comp=Z,270nm,18.2s
QIZ LZ
comp=Z,370nm,22.0s
WMQ Urumqi 44.81 291 *e*P **P 14 24 14.5 +2.2**
WMQ pP **pP 14 24 26.3 +1.6**
WMQ PcP **PP 14 25 56.5 -0.8**
WMQ PP PcP 14 26 00.0 +6.5
WMQ S **S 14 30 47.3 +1.0**
WMQ sS **sS 14 31 08.0 +1.0**
WMQ SS **ScS 14 34 00.0 -5.6**
WMQ PMZ
comp=Z,6.0nm,1.1s
WMQ PMZ
comp=Z,150nm,5.0s
WMQ LN
comp=Z,180nm,28.0s
WMQ LE
comp=Z,180nm,28.0s
WMQ LZ
comp=Z,200nm,17.0s
KMI Kunming 45.01 259 P pP 14 24 28.0 +1.3
KMI Kunming 45.01 259 P **P 14 24 16.6 +2.3**
KMI pP **pP 14 24 28.0 +1.3**
KMI sP **sP 14 24 32.3 +0.4**
KMI S **S 14 30 49.5 -0.4**
KMI sS **sS 14 31 08.7 -1.9**
KMI SS **ScS 14 34 05.4 -2.3**
KMI PMZ
comp=Z,4.0nm,1.3s
KMI PMZ
comp=Z,82nm,4.6s
KMI LN
comp=Z,140nm,21.5s
KMI LE
comp=Z,270nm,23.4s
KMI LZ
comp=Z,350nm,19.9s
DLBC Dease Lake 45.87 46 P **P 14 24 20.6 +0.2**
comp=Z,5.9nm,0.8s,baz=251,slow=6.3,SNR=9.2
DLBC Dease Lake 45.87 46 *e*P **P 14 24 20.1 -0.3**
MKAR Makanchi Array 46.85 297 P **P 14 24 27.7 -0.6**
MKAR 14 26 00.9
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,373nm,20.3s
MKAR Makanchi Array 46.85 297 P **P 14 24 27.6 -0.6**
comp=Z,1.4nm,0.6s,baz=70,slow=8.2,SNR=30
MKAR PcP **PcP 14 26 00.9 +0.4**
comp=Z,1.0nm,0.6s,baz=67,slow=4.9,SNR=5.8
MKAR LR LR 14 45 05.7
comp=Z,373nm,20.3s,baz=57,slow=37
MKAR Makanchi Array 46.85 297 *e*P **P 14 24 27.2 -1.1**
KURK Kurchatov 47.30 304 P **P 14 24 31.7 0.0**
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 47.30 304 *e*P **P 14 24 30.0 -1.7**
KURBB Kurchatov Arra 47.39 304 P **P 14 24 31.7 -0.6**
comp=Z,2.5nm,0.7s,baz=71,slow=8.4,SNR=3.6
LSA Lhasa 50.09 273 P **P 14 24 53.7 -0.2**
LSA pmax pmax
comp=Z,6.0nm,0.5s
LSA Lhasa 50.09 273 P **P 14 24 53.7 -0.2**
comp=Z,5.7nm,0.5s
MYLDM Lahad Datu 50.77 226 *e*P **P 14 24 59.3 +0.7**
comp=Z,69nm,1.7s
BVAR Borovoye Array 50.82 309 P **P 14 24 58.1 -0.5**
BVAR 14 26 14.4
BVAR pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 50.82 309 P **P 14 24 58.1 -0.5**
comp=Z,1.8nm,0.8s,baz=66,slow=8.3,SNR=11
BVAR PcP **PcP 14 26 14.4 -0.3**
comp=Z,1.6nm,0.7s,baz=72,slow=4.8,SNR=4.2
BRVK Borovoye 50.86 310 ⇑*i*P **P 14 24 58.7 -0.2**
BRVK pmax pmax
comp=Z,11nm,2.5s
BRVK Borovoye 50.86 310 *e*P **P 14 24 57.0 -1.9**
comp=Z,3.9nm,0.7s
RES Resolute Bay 51.07 18 P **P 14 25 00.0 -0.1**
RES pmax pmax
comp=Z,2.0nm,0.9s
RES Resolute Bay 51.07 18 P **P 14 24 60.0 -0.1**
comp=Z,1.9nm,0.9s,baz=327,slow=11,SNR=6.6
RES Resolute Bay 51.07 18 *e*P **P 14 25 00.1 -0.1**
YKA Yellowknife Ar 51.19 37 P **P 14 25 02.0 +0.8**
YKA pmax pmax
comp=Z,6.0nm,1.0s
YKA Yellowknife Ar 51.19 37 P **P 14 25 02.0 +0.8**
comp=Z,6.3nm,1.0s,baz=298,slow=7.6,SNR=50
UTTA Uttaradit 51.56 254 P pP 14 25 15.5 -1.6
comp=Z,3.3nm,0.8s
CHTO Chiang Mai 51.88 257 *e*P **P 14 25 06.8 -0.1**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 51.88 257 *e*P **P 14 25 06.8 -0.1**
comp=Z,7.8nm,0.8s
CHAI Chaiyaphum 51.95 251 P pP 14 25 21.6 +1.6
comp=Z,233nmcomp=Z,4.8nm,0.8s
PBKT Sadao Pong 52.13 253 P pP 14 25 22.9 +1.5
comp=Z,13nm,1.6s
CMAR Chiang Mai Arr 52.13 256 P **P 14 25 10.9 +2.1**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 52.13 256 P **P 14 25 10.8 +2.1**
comp=Z,2.6nm,0.9s,baz=32,slow=8.3,SNR=17
CMAR LR LR 14 50 08.9
comp=Z,268nm,19.4s,baz=58,slow=39
SUKH Sukhothai 52.37 255 P pP 14 25 26.4 +3.3
comp=Z,2.8nm,0.7s
MHMT Maesarieng 53.01 257 P pP 14 25 30.3 +2.4
comp=Z,13nm,0.9s
AAK Ala-Archa 53.74 296 P **P 14 25 19.9 -0.7**
AAK pmax pmax
comp=Z,1.0nm,0.5s
AAK Ala-Archa 53.74 296 P **P 14 25 19.9 -0.7**
comp=Z,1.3nm,0.5s,baz=63,slow=4.5,SNR=2.0
TAPN Taplejung 53.91 273 *e*P **P 14 25 22.6 +0.4**
ODAN Odare 54.44 273 *e*P **P 14 25 27.5 +1.5**
KSH Kashi 54.54 292 *e*P P 14 25 31.8 +5.4
KSH sP sP 14 25 49.1 +4.8
KSH PP PP 14 27 35.1 +6.4
KSH S **S 14 33 07.3 +4.9**
KSH sS sS 14 33 28.2 +4.6
KSH ScS **ScS 14 35 13.3 +1.5**
KSH SS **SS 14 36 51.2 +6.3**
KSH PMZ
comp=Z,5.0nm,0.4s
KSH PMZ
comp=Z,41nm,3.8s
KSH LN
comp=Z,200nm,5.3s
KSH LE
comp=Z,130nm,6.3s
KSH LZ
comp=Z,140nm,6.2s
JIRN Jiri 54.76 274 *e*P **P 14 25 29.8 +1.3**
comp=Z,29nm,0.6s
GUN Gumba 54.82 275 *e*P **P 14 25 29.8 +1.0**
comp=Z,14nm,0.5s
RAMN Ramite 54.93 274 *e*P **P 14 25 30.7 +1.2**
comp=Z,30nm,0.6s
ARU Arti 55.02 317 *d i*P **P 14 25 28.3 -1.1**
ARU 14 26 28.6
ARU 14 27 30.5
ARU S **S 14 33 07.3 -0.7**
ARU SS **SS 14 36 47.0 -4.4**
ARU pmax pmax
comp=Z,7.0nm,1.2s
KKN Kakani 55.31 275 *e*P **P 14 25 33.6 +1.4**
comp=Z,20nm,0.6s
PKI Pulchoki 55.36 275 *e*P **P 14 25 33.5 +0.8**
comp=Z,17nm,0.7s
PKIN Phulchoki 55.36 275 *e*P **P 14 25 33.6 +0.9**
comp=Z,11nm,0.6s
DMN Daman 55.54 275 *e*P **P 14 25 35.4 +1.5**
comp=Z,50nm,0.8s
GKN Gorkha 55.62 276 *e*P **P 14 25 35.2 +0.9**
comp=Z,22nm,0.6s
PHET Kaeng Krachan 55.69 251 P pP 14 25 50.4 +2.9
comp=Z,53nm,0.7s
DANN Dangsing 56.00 277 *e*P **P 14 25 38.7 +1.5**
comp=Z,33nm,0.6s
B08A Colville Reser 56.17 53 *e*P **P 14 25 39.3 +1.4**
comp=Z,52nm,1.8s
KOLN Koldanda 56.47 276 *e*P **P 14 25 41.8 +1.3**
comp=Z,18nm,0.6s
EDM Edmonton 56.59 46 *e*P **P 14 25 40.4 -0.4**
EDM Edmonton 56.59 46 *e*P **P 14 25 41.7 +0.9**
EDM Edmonton 56.59 46 *e*P **P 14 25 40.4 -0.4**
DAG Danmarks Havn 56.82 358 *i* P **P 14 25 41.3 -0.7**
comp=Z,6.3nm,1.1s
C09A Chrisman Ranch 57.08 53 *e*P **P 14 25 45.8 +1.5**
comp=Z,20nm,1.3s
PRGR Permogore 57.41 327 *e*P **P 14 25 43.7 -2.7**
PRGR pmax pmax
comp=Z,2.0nm,0.3s
NEW Newport 57.44 52 P **P 14 25 46.0 -0.9**
NEW pmax pmax
comp=Z,7.0nm,1.2s
NEW Newport 57.44 52 P **P 14 25 46.0 -0.9**
comp=Z,6.9nm,1.2s,baz=278,slow=7.6,SNR=4.6
NEW Newport 57.44 52 *e*P **P 14 25 48.2 +1.3**
NEW Newport 57.44 52 ⇑P **P 14 25 47.7 +0.7**
baz=57
NEW Newport 57.44 52 *e*P **P 14 25 48.2 +1.3**
KEV Kevo 57.45 340 *e*P **P 14 25 44.7 -1.8**
KEV pmax pmax
comp=Z,3.0nm,0.6s
KEV Kevo 57.45 340 *e*p **P 14 25 44.7 -1.8**
comp=Z,3.1nm,0.6s
KULLO Kullorsuaq 57.48 9 *i* P **P 14 25 46.2 -0.5**
KULLO Kullorsuaq 57.48 9 *i* P **P 14 25 46.2 -0.5**
E09A Wood Farm, Sta 57.89 55 *e*P **P 14 25 51.1 +1.1**
comp=Z,52nm,1.7s
ARCES ARCESS Array B 57.96 341 P **P 14 25 49.3 -0.9**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 57.96 341 P **P 14 25 49.3 -0.9**
comp=Z,2.3nm,0.8s,baz=26,slow=9.3,SNR=6.7
ABKAR Akbulak array 58.39 310 *e*P **P 14 25 51.7 -1.7**
WALA Waterton Lakes 58.71 50 *e*P **P 14 25 57.4 +1.6**
WALA Waterton Lakes 58.71 50 *e*P **P 14 25 57.5 +1.6**
YBMT Yellow Bay 59.37 51 *e*P **P 14 26 01.6 +1.1**
SWMT Swartz Lake 59.59 52 P **P 14 25 58.8 -3.1**
WVOR Wild Horse Val 60.02 59 *e*P **P 14 26 05.8 +0.7**
WVOR pmax pmax
comp=Z,46nm,1.9s
WVOR Wild Horse Val 60.02 59 *e*P **P 14 26 05.8 +0.7**
comp=Z,46nm,1.9s
SLMT Seeley Lake 60.02 52 *e*P **P 14 26 05.1 +0.1**
MSO Missoula 60.03 52 ⇑P **P 14 26 05.4 +0.4**
baz=60,SNR=9.3
MSO Missoula 60.03 52 *e*P **P 14 26 06.2 +1.1**
comp=Z,35nm,1.4s
SUMG Summit 60.90 4 P **P 14 26 08.6 -2.3**
SUMG pmax pmax
comp=Z,34nm,1.2s
SUMG Summit 60.90 4 *i* P **P 14 26 10.8 -0.1**
comp=Z,17nm,1.0s
SUMG Summit 60.90 4 P **P 14 26 08.6 -2.3**
comp=Z,34nm,1.2s
FFC Flin Flon 61.01 40 P **P 14 26 12.0 +0.6**
comp=Z,105nm,1.4s,SNR=8.4
FFC Flin Flon 61.01 40 *e*P **P 14 26 12.0 +0.6**
FFC pmax pmax
comp=Z,57nm,1.5s
FFC Flin Flon 61.01 40 *e*P **P 14 26 12.6 +1.2**
FFC Flin Flon 61.01 40 *e*P **P 14 26 12.0 +0.6**
comp=Z,57nm,1.5s
JOF Joensuu 61.41 334 *e*P **P 14 26 12.6 -1.4**
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 61.41 334 *e*p **P 14 26 12.6 -1.4**
comp=Z,1.5nm,0.7s
LRM Limekiln Ridge 61.47 52 *e*P **P 14 26 15.1 +0.1**
A19A Klindworth Far 61.48 48 ⇑P **P 14 26 15.6 +0.8**
baz=61,SNR=11
FCC Fort Churchill 61.52 33 *e*P **P 14 26 15.1 +0.3**
EGMT Eagleton 61.53 49 ⇓P **P 14 26 16.1 +1.0**
baz=61,SNR=9.7
EGMT Eagleton 61.53 49 *e*P **P 14 26 14.2 -0.9**
comp=Z,51nm,1.4s
B19A Brinkman Farms 61.68 48 ⇑P **P 14 26 16.9 +0.8**
baz=61,SNR=6.9
HLID Hailey 61.78 55 ⇑P **P 14 26 18.0 +1.0**
baz=62
HLID Hailey 61.78 55 *e*P **P 14 26 17.8 +0.8**
comp=Z,17nm,1.7s
A20A Cobblestone Ra 61.93 48 ⇑P **P 14 26 18.8 +1.0**
baz=62,SNR=18
KBL Kabul 61.95 292 *e*P **P 14 26 17.1 -1.2**
KBL pmax pmax
comp=Z,7.0nm,1.0s
KBL Kabul 61.95 292 *e*P **P 14 26 17.1 -1.2**
comp=Z,7.0nm,1.0s
JMIC Jan Mayen 61.99 353 LR LR 14 51 02.5
comp=Z,131nm,20.4s,baz=86,slow=34
C19A Slack Wire Ran 62.08 49 ⇓P **P 14 26 20.1 +1.3**
baz=62,SNR=12
BMN Battle Mountai 62.09 60 *e*P **P 14 26 20.8 +1.6**
BMN pmax pmax
comp=Z,30nm,1.8s
BMN Battle Mountai 62.09 60 *e*P **P 14 26 20.8 +1.6**
comp=Z,30nm,1.8s
B20A Solberg Farm, 62.16 48 ⇑P **P 14 26 19.9 +0.5**
baz=62
A21A Bergtoll Ranch 62.37 47 ⇑P **P 14 26 22.2 +1.5**
baz=62,SNR=7.9
D19A Cripps Ranch, 62.53 50 ⇓P **P 14 26 23.0 +1.1**
baz=62,SNR=6.4
C20A Veseth Ranch, 62.64 49 ⇑P **P 14 26 23.8 +1.3**
baz=62,SNR=13
B21A Ellsworth Farm 62.69 48 ⇑P **P 14 26 23.9 +1.0**
baz=62
NVAR Mina Array Bea 62.70 62 P **P 14 26 24.8 +1.5**
comp=Z,1.8nm,0.7s,baz=299,slow=7.0,SNR=14
MLAC Mammoth, Mammo 62.87 63 ⇓P **P 14 26 25.8 +1.4**
baz=63
A22A Carney Farms, 62.88 47 ⇓P **P 14 26 25.0 +0.9**
baz=63,SNR=14
D20A Manuel Ranch, 62.97 49 ⇑P **P 14 26 26.2 +1.4**
baz=63,SNR=9.1
YMR Madison River 63.01 53 *e*P **P 14 26 28.2 +3.0**
comp=Z,11nm,1.1s
E19A Rath Farm, Rou 63.03 50 ⇓P **P 14 26 26.2 +1.0**
baz=63,SNR=5.9
ELK Elko 63.07 58 P **P 14 26 27.1 +1.4**
ELK pmax pmax
comp=Z,1.0nm,0.6s
ELK Elko 63.07 58 P **P 14 26 27.1 +1.4**
comp=Z,0.7nm,0.6s,baz=46,slow=6.4,SNR=2.7
B22A Reddig Ranch S 63.29 47 ⇓P **P 14 26 27.8 +1.0**
baz=63
F19A Roth Farm, Mol 63.34 51 ⇑P **P 14 26 28.3 +1.0**
baz=63,SNR=5.7
E20A Meyer Farm, Mu 63.35 50 ⇑P **P 14 26 28.7 +1.4**
baz=63
H17A Grant Village 63.40 53 *e*P P 14 26 31.3 +3.5
comp=Z,21nm,1.4s
A23A Redstone 63.41 46 ⇑P **P 14 26 29.0 +1.4**
baz=63
IMW Indian Meadow 63.52 53 *e*P **P 14 26 31.1 +2.4**
comp=Z,19nm,1.5s
KAF Kangasniemi 63.53 335 *e*P **P 14 26 26.7 -1.4**
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 63.53 335 *e*p **P 14 26 26.7 -1.4**
comp=Z,2.4nm,0.6s
TPH Tonopah 63.58 62 *e*P **P 14 26 29.6 +0.5**
TPH pmax pmax
comp=Z,20nm,1.4s
TPH Tonopah 63.58 62 *e*P **P 14 26 29.6 +0.5**
comp=Z,20nm,1.4s
D21A La Casta Ranch 63.58 49 ⇑P **P 14 26 30.0 +1.1**
baz=63
FXWY Fox Creek 63.63 54 *e*P **P 14 26 31.3 +1.9**
comp=Z,19nm,1.7s
B23A Brockton 63.69 47 ⇑P **P 14 26 30.3 +0.9**
baz=63,SNR=8.6
C22A Vida 63.71 48 ⇑P **P 14 26 30.5 +0.9**
baz=63
H18A Shoshone NF, C 63.71 52 ⇑P **P 14 26 30.8 +0.9**
baz=64
TPAW Teton Pass 63.77 54 *e*P **P 14 26 32.6 +2.3**
comp=Z,47nm,1.7s
F20A Billings 63.80 50 ⇑P **P 14 26 31.6 +1.3**
baz=64
VES Vestal, Richgr 63.85 65 ⇓P **P 14 26 31.3 +0.6**
baz=64
A24A Westby 63.87 46 ⇓P **P 14 26 32.0 +1.4**
baz=64
LOHW Long Hollow 63.88 53 *e*P **P 14 26 33.3 +2.2**
comp=Z,16nm,1.3s
REDW Red Top Meadow 63.91 54 *e*P **P 14 26 33.5 +2.3**
comp=Z,44nm,1.7s
D22A Cohagen 63.95 48 ⇑P **P 14 26 32.6 +1.4**
baz=64
C23A Lambert 64.02 47 ⇓P **P 14 26 33.1 +1.4**
baz=64
FINES FINESS Array B 64.12 335 P **P 14 26 31.4 -0.6**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES MLR MLR
comp=Z,299nm,20.7s
FINES FINESS Array B 64.12 335 P **P 14 26 31.4 -0.6**
comp=Z,5.6nm,0.6s,baz=39,slow=6.8,SNR=38
FINES LR LR 14 57 28.3
comp=Z,299nm,20.7s,baz=27,slow=39
G20A Bridger 64.14 51 ⇓P **P 14 26 33.6 +1.0**
baz=64
A25A Svangstu Ranch 64.30 45 ⇑P **P 14 26 34.5 +1.0**
baz=64
ISA Isabella, Lake 64.35 65 *e*P **P 14 26 34.5 +0.5**
ISA pmax pmax
comp=Z,4.0nm,0.9s
ISA Isabella, Lake 64.35 65 ⇑P **P 14 26 34.5 +0.5**
baz=64
ISA Isabella, Lake 64.35 65 *e*P **P 14 26 34.5 +0.5**
comp=Z,3.6nm,0.9s
R11A Troy Canyon, C 64.39 61 ⇓P **P 14 26 35.3 +0.9**
baz=64,SNR=6.0
R11A Troy Canyon, C 64.39 61 *e*P **P 14 26 35.5 +1.1**
comp=Z,23nm,1.9s
D23A Lindsay 64.43 48 ⇑P **P 14 26 35.3 +0.9**
baz=64
I19A Meeteetse 64.49 52 ⇑P **P 14 26 35.9 +0.9**
baz=64
BSC Santa Cruz Isl 64.69 67 ⇑P **P 14 26 38.0 +1.7**
baz=65
B25A Knox Farm, Ray 64.72 46 ⇓P **P 14 26 37.9 +1.6**
baz=64
F22A Rosebud 64.81 49 ⇑P **P 14 26 38.2 +1.3**
baz=65
E23A Ismay 64.83 48 ⇓P **P 14 26 38.3 +1.3**
baz=65
FURC Furnace Creek, 64.83 63 ⇑P **P 14 26 38.6 +1.6**
baz=65
DUG Dugway, Tooele 64.84 58 *e*P **P 14 26 38.9 +1.6**
DUG pmax pmax
comp=Z,34nm,1.7s
DUG Dugway, Tooele 64.84 58 ⇑P **P 14 26 38.5 +1.2**
baz=65,SNR=7.1
DUG Dugway, Tooele 64.84 58 *e*P **P 14 26 38.9 +1.6**
comp=Z,34nm,1.7s
A26A Wade Farm, Ken 64.85 45 ⇑P **P 14 26 38.2 +1.1**
baz=65
D24A Glendive 64.92 47 ⇑P **P 14 26 38.7 +1.2**
baz=65
LRMC Laurel Mtn Rad 64.96 64 ⇑P **P 14 26 38.5 +0.4**
baz=65
J19A Crowheart 64.97 53 ⇓P **P 14 26 39.3 +1.2**
baz=65,SNR=5.1
BW06 Boulder Array 65.02 54 *e*P **P 14 26 38.6 +0.1**
comp=Z,22nm,1.5s
PDAR Pinedale Array 65.02 54 P **P 14 26 39.4 +0.9**
comp=Z,3.1nm,1.0s,baz=270,slow=1.5,SNR=13
I20A Worland 65.02 52 ⇓P **P 14 26 39.3 +0.9**
baz=65
EDW2 Edwards Air Fo 65.16 65 ⇑P **P 14 26 40.3 +1.0**
baz=65,SNR=9.2
H21A Big Horn, Sher 65.16 51 ⇓P **P 14 26 39.9 +0.6**
baz=65
G22A Birney 65.17 50 ⇑P **P 14 26 39.9 +0.6**
baz=65
FRB Frobisher Bay 65.29 19 LR LR 14 58 25.6
comp=Z,226nm,19.9s,baz=354,slow=39
F23A Volborg 65.30 49 ⇓P **P 14 26 40.7 +0.7**
baz=65
E24A Baker 65.30 48 ⇑P **P 14 26 40.9 +0.9**
baz=65
OBN Obninsk 65.35 325 *e*P **P 14 26 40.7 +0.6**
OBN *e* 14 27 02.9
OBN pmax pmax
comp=Z,5.0nm,0.9s
SFJD Kangerlussuaq 65.37 10 LR LR 14 56 57.2
comp=Z,342nm,20.3s,baz=331,slow=38
J20A Shoshoni 65.44 52 ⇑P **P 14 26 41.6 +0.5**
baz=65
H22A Clearmont 65.55 50 ⇑P **P 14 26 42.4 +0.6**
baz=65
C26A Wahner Farm, P 65.55 46 ⇑P **P 14 26 42.3 +0.7**
baz=65
I21A Big Trails, Te 65.57 52 ⇓P **P 14 26 42.4 +0.5**
baz=65,SNR=10
G23A Biddle 65.65 49 ⇑P **P 14 26 43.1 +0.8**
baz=65
A28A Rude Farm, Bot 65.70 44 ⇑P **P 14 26 43.3 +0.7**
baz=65,SNR=5.6
F24A Ekalaka 65.71 48 ⇑P **P 14 26 43.4 +0.6**
baz=66,SNR=6.0
BFSC Mount Baldy Ra 65.78 65 ⇑P **P 14 26 44.4 +0.9**
baz=66
SHPR Sheep Range 65.84 62 *e*P **P 14 26 43.4 -0.4**
D26A Manning 65.93 46 ⇓P **P 14 26 44.7 +0.7**
baz=66
I22A 9 Mile Ranch, 65.95 51 ⇑P **P 14 26 45.1 +0.7**
baz=66
B28A Dugan Ranch, T 65.97 44 ⇓P **P 14 26 45.0 +0.8**
baz=66
TUQ Turquoise Moun 66.08 63 ⇓P **P 14 26 46.1 +0.8**
baz=66,SNR=8.3
A29A Manning Farm, 66.18 43 ⇓P **P 14 26 46.2 +0.6**
baz=66,SNR=10
HEC Hector,Ludlow 66.22 64 ⇓P **P 14 26 47.2 +1.0**
baz=66
CCUT Cedar City 66.24 60 *e*P **P 14 26 46.8 +0.3**
comp=Z,12nm,1.5s
J22A Midwest 66.27 51 ⇑P **P 14 26 47.5 +1.0**
baz=66,SNR=7.8
E26A Carlson Angus 66.30 47 ⇓P **P 14 26 47.6 +1.1**
baz=66
K21A Alcova 66.38 53 ⇑P **P 14 26 48.0 +0.8**
baz=66
H24A Dirks Ranch, A 66.40 49 ⇑P **P 14 26 47.8 +0.6**
baz=66,SNR=6.1
B29A Wagenman Farm, 66.44 44 ⇓P **P 14 26 48.3 +1.0**
baz=66,SNR=5.8
MURC Murrieta 66.49 66 ⇓P **P 14 26 48.7 +0.8**
baz=66
GEYT Alibeck 66.53 301 P **P 14 26 48.9 +0.8**
comp=Z,2.6nm,0.6s,baz=64,slow=3.4,SNR=5.2
GEYT LR LR 14 58 14.9
comp=Z,146nm,19.3s,baz=60,slow=38
A30A Hoffart Farm, 66.61 43 ⇓P **P 14 26 49.0 +0.6**
baz=66,SNR=8.3
F26A Lodgepole 66.61 47 ⇓P **P 14 26 48.9 +0.4**

baz=66
GMRC Granite Mounta 66.67 64 ⇓P P 14 26 50.1 +1.0
baz=66
G25A Newell 66.68 48 ⇑P P 14 26 49.6 +0.7
baz=66
D28A Regan 66.74 45 ⇓P P 14 26 50.3 +1.0
baz=66
MDND Maddock 66.75 44 ⇑P P 14 26 50.2 +0.9
baz=66
K22A Casper 66.76 52 ⇓P P 14 26 50.0 +0.3
baz=66
K22A Casper 66.76 52 eP P 14 26 48.9 -0.8
comp=Z,15nm,1.3s
ULM Lac du Bonnet 66.79 41 P P 14 26 49.1 -0.3
ULM pmax pmax
comp=Z,4.0nm,0.8s
ULM MLR MLR
comp=Z,98nm,19.4s
ULM Lac du Bonnet 66.79 41 P P 14 26 49.1 -0.3
comp=Z,4.4nm,0.8s,baz=315,slow=5.5,SNR=6.4
ULM LR LR 14 58 26.0
comp=Z,98nm,19.4s,baz=318,slow=38
ULM Lac du Bonnet 66.79 41 eP P 14 26 49.5 +0.1
SRU San Rafael Swe 66.88 57 eP P 14 26 50.3 -0.2
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael Swe 66.88 57 eP P 14 26 50.3 -0.2
comp=Z,7.0nm,0.8s
F27A Lemmon 66.93 47 ⇑P P 14 26 50.9 +0.4
baz=67
B30A Myrvik Farm, E 66.94 43 ⇓P P 14 26 51.2 +0.8
baz=67,SNR=5.3
I24A Kuemmerle Ranc 66.96 50 ⇓P P 14 26 51.2 +0.4
baz=67
H25A Fruitdale 66.98 49 ⇑P P 14 26 51.3 +0.4
baz=67
N20A Spence Gulch, 67.02 55 ⇑P P 14 26 52.5 +1.1
baz=67,SNR=5.7
G26A Maurine 67.03 48 ⇑P P 14 26 51.7 +0.5
baz=67,SNR=6.5
RSSD Black Hills 67.09 50 eP P 14 26 51.5 -0.3
RSSD pmax pmax
comp=Z,46nm,1.8s
RSSD Black Hills 67.09 50 eP P 14 26 51.5 -0.3
comp=Z,46nm,1.8s
VSR Storozhevoye 67.13 321 ⇓iP P 14 26 51.4 -0.2
VSR pmax pmax
comp=Z,9.0nm,0.5s
J24A Dixon Ranch, L 67.30 51 ⇓P P 14 26 53.5 +0.5
baz=67
G27A Dupree 67.32 47 ⇑P P 14 26 53.5 +0.5
baz=67
I25A Rochford 67.32 50 ⇓P P 14 26 53.3 +0.2
baz=67
IRM Iron Mountain 67.40 64 ⇓P P 14 26 54.6 +0.9
baz=67,SNR=5.6
BC3 Big Chuckawall 67.54 64 ⇑P P 14 26 55.4 +0.7
baz=67
W13A Hualapai Mount 67.55 62 ⇑P P 14 26 55.7 +0.9
baz=67
M22A Cedar Creek Ra 67.57 53 ⇑P P 14 26 55.6 +0.8
baz=67
L23A Garrett 67.57 52 ⇓P P 14 26 55.4 +0.5
baz=67
U15A North Rim 67.63 60 ⇑P P 14 26 55.8 +0.4
baz=67
D30A Buchanan 67.68 44 ⇑P P 14 26 55.6 +0.4
baz=67
PDMCI Parker Dam,Lak 67.93 63 ⇓P P 14 26 57.6 +0.7
baz=68
N22A Wattenberg Ran 68.05 54 ⇓P P 14 26 58.2 +0.3
baz=68
F29A Eureka 68.06 46 ⇓P P 14 26 58.4 +0.8
baz=68
I27A Quinn 68.16 49 ⇑P P 14 26 58.7 +0.4
baz=68
AGMN Agassiz Nation 68.20 42 ⇓P P 14 26 58.8 +0.4
baz=68
AGMN Agassiz Nation 68.20 42 eP P 14 26 58.5 +0.2
comp=Z,38nm,1.6s
WRAB Tennant Creek 68.26 199 ceP P 14 27 00.1 +1.1
WRAB pmax pmax
comp=Z,22nm,2.5s
H28A Mission Ridge 68.27 48 ⇓P P 14 26 59.6 +0.7
baz=68
N23A Red Feather La 68.27 53 ⇓P P 14 27 00.2 +0.9
baz=68
WRA Warramunga Arr 68.27 199 P P 14 26 59.7 +0.6
comp=Z,1.2nm,0.6s,baz=22,slow=7.1,SNR=14
WRA LR LR 14 54 42.4
comp=Z,61nm,21.3s,baz=80,slow=34
PV04 Paradox Valley 68.30 57 eP P 14 26 59.9 +0.5
GLA Glamis 68.33 65 ⇑P P 14 27 01.0 +1.4
baz=68
NB2 NORSAR Subarra 68.34 341 P P 14 26 58.7 -0.4
comp=Z,49nm,1.2s,baz=28,slow=6.2
NB2 NORSAR Subarra 68.34 341 P P 14 26 58.7 -0.4
baz=28,slow=6.2
NOA NORSAR Array B 68.34 341 P P 14 26 58.8 -0.3
comp=Z,17nm,1.0s,baz=29,slow=6.7,SNR=25
NOA LR LR 15 00 42.1
comp=Z,187nm,19.6s,baz=25,slow=39
O22A Kremmling 68.44 54 ⇓P P 14 27 01.1 +0.7
baz=68
M24A Cheyenne 68.49 52 ⇑P P 14 27 01.2 +0.6
baz=68
HFS Hagfors 68.56 339 LR LR 15 00 07.0
comp=Z,237nm,20.1s,baz=22,slow=39
I28A Midland 68.67 48 ⇑P P 14 27 02.4 +0.9
baz=68
P22A Eagle 68.71 55 ⇓P P 14 27 03.1 +1.1
baz=68
H29A Onida 68.71 47 ⇑P P 14 27 02.2 +0.5
baz=68
O23A Lake Granby, G 68.76 54 ⇓P P 14 27 03.1 +0.7
baz=68
J27A Elkhorn Farm, 68.76 49 ⇑P P 14 27 02.9 +0.8
baz=68
WUAZ Wupatki 68.79 61 ⇑P P 14 27 03.3 +0.8
baz=69
SMCO Snowmass 68.87 55 eP P 14 27 03.4 +0.2
comp=Z,22nm,1.8s
ISCO Idaho Springs 69.21 54 eP P 14 27 05.8 +0.6
ISCO pmax pmax
comp=Z,20nm,1.6s
ISCO Idaho Springs 69.21 54 ⇑P P 14 27 05.7 +0.5
baz=69
ISCO Idaho Springs 69.21 54 eP P 14 27 05.8 +0.6
comp=Z,20nm,1.6s
MVCO Mesa Verde 69.34 58 ⇑P P 14 27 07.0 +1.1
baz=69
X16A Lo Mia Camp, P 69.50 61 ⇑P P 14 27 08.1 +1.2
baz=69
S22A 4UR Ranch, Cre 69.94 56 ⇓P P 14 27 11.4 +1.7
baz=70,SNR=5.8
K29A Lazy Trails An 69.98 49 ⇓P P 14 27 10.2 +0.6
baz=70
N27A Anderson Farm, 70.19 51 ⇓P P 14 27 12.3 +1.3
baz=70
R23A Moffat 70.20 55 ⇓P P 14 27 12.6 +1.3
baz=70
P25A Willow Gulch B 70.21 53 ⇑P P 14 27 12.3 +1.1
baz=70
Q25A Bedland, Calha 70.58 54 ⇑P P 14 27 14.2 +0.7
baz=70
KBZ Khabaz 70.85 314 P P 14 27 15.6 +0.9
comp=Z,3.2nm,0.8s,baz=65,slow=7.9,SNR=3.9
KBZ LR LR 15 03 17.3
comp=Z,333nm,18.7s,baz=39,slow=40
S24A Houchin Ranch, 70.93 55 ⇓P P 14 27 16.7 +0.9
baz=71
R25A Fountain Ranch 71.10 54 ⇓P P 14 27 16.8 +0.2
baz=71
ECSD EROS Data Cent 71.16 46 ⇑P P 14 27 16.5 -0.2
baz=71
ECSD EROS Data Cent 71.16 46 eP P 14 27 17.2 +0.5
comp=Z,40nm,1.5s
T24B San Luis 71.24 56 ⇓P P 14 27 18.9 +1.3
baz=71
U23A El Rito 71.29 57 ⇑P P 14 27 19.4 +1.5
baz=71,SNR=8.2
AKASG Malin Array Be 71.59 326 P P 14 27 18.6 -0.5
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG MLR MLR
comp=Z,256nm,19.1s
AKASG Malin Array Be 71.59 326 P P 14 27 18.6 -0.5
comp=Z,3.9nm,0.5s,baz=32,slow=5.9,SNR=13
AKASG LR LR 15 01 14.3
comp=Z,256nm,19.1s,baz=45,slow=38
KIEV Kiev 71.60 326 d iP P 14 27 18.7 -0.5
KIEV Kiev 71.60 326 P P 14 27 16.7 -2.5
comp=Z,7.1nm,0.7s
V23A Ortiz Mt. (NFS 71.70 57 ⇑P P 14 27 21.1 +0.8
baz=72
T25A Trinidad 71.74 55 ⇑P P 14 27 22.2 +1.7
baz=72
SPMN Marine on St. 71.89 43 eP P 14 27 21.7 +0.7
comp=Z,34nm,1.5s
AS31 Alice Springs 71.97 198 eP P 14 27 22.6 +1.0
ASAR Alice Springs 71.97 198 P P 14 27 23.2 +1.6
comp=Z,2.5nm,0.7s,baz=11,slow=5.1,SNR=58
ASAR LR LR 14 57 18.9
comp=Z,93nm,21.8s,baz=14,slow=34
ANMO Albuquerque 72.10 58 c iP P 14 27 23.9 +1.2
ANMO pmax pmax
comp=Z,25nm,1.7s
T26A Comanche Natio 72.17 55 ⇓P P 14 27 22.3 -0.8
baz=72
V24A Rampart Ranch, 72.24 57 ⇑P P 14 27 24.1 +0.4
baz=72
U25A Circle Dot Ran 72.26 56 ⇓P P 14 27 24.1 +0.5
baz=72
X23A Hourglass Bar 72.51 58 ⇑P P 14 27 25.4 +0.2
baz=72
W24A Lazy 6 Ranch, 72.53 57 ⇓P P 14 27 25.5 +0.2
baz=72
Z22A Elephant Butte 72.99 60 ⇑P P 14 27 30.5 +2.5
baz=73
121A Cookes Peak, D 73.00 61 ⇑P P 14 27 29.0 +0.9
baz=73
T28A Walsh 73.04 54 ⇓P P 14 27 28.1 -0.1
baz=73
Y23A Lovelace Mesa, 73.05 59 ⇑P P 14 27 28.9 +0.5
baz=73
W25A X Bar L Ranch, 73.07 57 ⇓P P 14 27 29.0 +0.5
baz=73
U27A Thompson Grove 73.14 55 ⇓P P 14 27 29.4 +0.5
baz=73
Y24A Capitan 73.42 58 ⇑P P 14 27 31.7 +1.2
baz=73
SCHQ Schefferville 73.56 23 P P 14 27 31.6 +0.8
comp=Z,2.9nm,0.9s,baz=6.5,slow=12,SNR=3.4
SCHQ LR LR 15 05 17.2
comp=Z,129nm,19.2s,baz=351,slow=40
RGN Rugen 73.58 337 eL L 15 01 24.3
comp=Z,258nm,21.0s
X26A CR and CF Fran 73.92 57 ⇓P P 14 27 34.0 +0.6
baz=74
SCIA State Center 74.19 45 eP P 14 27 34.5 -0.2
comp=Z,110nm,1.7s
LVV L'vov 74.25 328 eP P 14 27 34.6 -0.3
KWP Kalwaria Pacla 74.88 329 ⇓P P 14 27 39.2 +0.6
KWP Kalwaria Pacla 74.88 329 eP P 14 27 39.1 +0.5
KWP Kalwaria Pacla 74.88 329 ⇓iP P 14 27 39.2 +0.6
BSEG Bad Segeberg 74.93 338 eP P 14 27 38.7 0.0
comp=Z,29nm,1.5s
MNTX Cornudas Mount 75.03 60 eP P 14 27 39.9 +0.1
comp=Z,12nm,1.6s
OJC Ojcow 75.39 331 eP P 14 27 41.4 -0.1
OJC Ojcow 75.39 331 eP P 14 27 41.4 -0.1
STHS Stebnicka Huta 75.58 330 eP P 14 27 43.5 +0.9
STHS pmax pmax
comp=Z,14nm,1.2s
STHS Stebnicka Huta 75.58 330 eP P 14 27 43.5 +0.9
KOLS Kolonicke sedl 75.62 329 eP P 14 27 42.8 -0.1
KOLS pmax pmax
comp=Z,16nm,1.2s
KOLS Kolonicke sedl 75.62 329 eP P 14 27 42.8 -0.1
BURAR Bucovina Array 75.63 326 ⇑P P 14 27 43.2 +0.1
BURAR Bucovina Array 75.63 326 ⇑iP P 14 27 43.2 +0.1
UZH Uzhgorod 75.87 329 ⇑iP P 14 27 43.9 -0.3
UZH i 14 27 58.3
BANOM Banah 75.87 293 ⇑iP P 14 27 45.6 +0.9
SNR=6.8
NIE Niedzica 75.89 330 eP P 14 27 44.5 +0.1
NIE Niedzica 75.89 330 eP P 14 27 44.5 +0.1
KSP Ksiaz 75.98 333 eP P 14 27 44.7 -0.1
KSP Ksiaz 75.98 333 eP P 14 27 44.9 +0.1
TESR Tescani 75.98 325 ⇑iP P 14 27 44.9 -0.1
128A Castleberry Fa 76.07 57 ⇓P P 14 27 47.1 +1.3
baz=76
OKC Ostrava-Krasne 76.26 332 eP P 14 27 46.7 +0.2
OKC MLR MLR
comp=Z,300nm,17.0s
OKC Ostrava-Krasne 76.26 332 eP P 14 27 46.7 +0.2
OKC AMS AMS 15 05 20.0
comp=Z,300nm,17.0s
UPC Upice 76.36 333 eP P 14 27 47.6 +0.6
UPC e 14 27 54.1
UPC Upice 76.36 333 eP P 14 27 47.6 +0.6
UPC ex x 14 27 54.1
DPC Dobruska-Polom 76.40 333 eP P 14 27 47.4 +0.1
DPC Dobruska-Polom 76.40 333 eP P 14 27 47.4 +0.1
DPC AMS AMS 15 04 30.0
DPC Dobruska-Polom 76.40 333 eP P 14 27 47.6 +0.2
CFR Carcaliu 76.47 323 ⇑P P 14 27 47.8 +0.1
CFR Carcaliu 76.47 323 ⇑iP P 14 27 47.8 +0.1
VRI Vrincioaia 76.48 325 ⇑P P 14 27 49.7 +1.9
VRI Vrincioaia 76.48 325 ⇑iP P 14 27 49.7 +1.9
KRLC Kraliky 76.49 333 eP P 14 27 48.0 +0.1
KRLC Kraliky 76.49 333 eP P 14 27 48.0 +0.1
MORC Moravsky Berou 76.51 332 ⇓P P 14 27 48.7 +0.8
MORC Moravsky Berou 76.51 332 ⇓iP P 14 27 48.7 +0.8
MORC Moravsky Berou 76.51 332 eP P 14 27 46.8 -1.2
comp=Z,22nm,1.1s
CLL Collm 76.55 335 ⇑iP P 14 27 47.7 -0.4
CLL pmax pmax
comp=Z,40nm,1.2s
CLL MLR MLR
comp=Z,200nm,21.1s
CLL Collm 76.55 335 eP P 14 27 47.6 -0.5
comp=Z,40nm,1.2s
CLL eL L 15 04 55.6
comp=Z,214nm,21.1s
CLL Collm 76.55 335 ⇑iP P 14 27 47.7 -0.4
comp=Z,40nm,1.2s
CLL ePP PP 14 30 38.0 -1.7
CLL LmV 15 04 00.0
comp=Z,200nm,21.1s
CLL Collm 76.55 335 eP P 14 27 47.7 -0.4
comp=Z,46nm,1.2s
UOSS Wadi Hilu 76.62 292 P P 14 27 49.0 +0.1
comp=Z,86nm,1.1s,SNR=5.0
BRG Berggiesshubel 76.66 335 i P P 14 27 48.3 -0.4
comp=Z,15nm,1.2s
BRG Berggiesshubel 76.66 335 i P P 14 27 48.3 -0.4
BRG pmax pmax
comp=Z,15nm,1.3s
BRG Berggiesshubel 76.66 335 eP P 14 27 48.4 -0.4
comp=Z,15nm,1.2s
HATD Hatta, Dubai 76.75 292 ⇓iP P 14 27 50.6 +0.9
SNR=6.5
PVCC Panska Ves 76.78 334 eP P 14 27 49.8 +0.4
PVCC MLR MLR
comp=Z,400nm,17.6s
PVCC Panska Ves 76.78 334 eP P 14 27 49.8 +0.4
PVCC AMS AMS 15 04 10.0
comp=Z,400nm,17.6s
FBE Freiberg 76.79 335 eP P 14 27 49.6 +0.2
comp=Z,18nm,1.0s
CLZ Clausthal 76.80 337 eP P 14 27 50.0 +0.5
comp=Z,33nm,1.1s
ASHO Ashiyiah 76.90 292 i P P 14 27 51.5 +1.0
SNR=6.9
DOPR Dopca 76.93 325 ⇑iP P 14 28 04.0 +14
TIRR Tirgusor 76.94 323 ⇓P P 14 27 47.0 -3.4
TIRR Tirgusor 76.94 323 ⇓iP P 14 27 47.0 -3.4
NEUB Neuenburg 76.99 336 eP P 14 27 50.4 -0.1
comp=Z,40nm,1.2s
MLR Muntele Rosu 77.10 325 ⇑P P 14 27 52.9 +1.4
MLR Muntele Rosu 77.10 325 ⇑iP P 14 27 52.9 +1.4
MALT Malatya 77.13 313 ⇓P P 14 27 53.6 +1.9
MALT Malatya 77.13 313 ⇓iP P 14 27 53.6 +1.9
VRAC Vranov 77.22 332 ⇑P P 14 27 52.7 +0.8
VRAC Vranov 77.22 332 ⇑iP P 14 27 52.7 +0.8
VRAC Vranov 77.22 332 LR LR 15 05 43.2
comp=Z,242nm,21.9s,baz=24,slow=39
PRA Prague 77.23 334 eP P 14 27 52.3 +0.4
PRA Prague 77.23 334 eP P 14 27 52.3 +0.4
PRU Pruhonice 77.27 334 eP P 14 27 52.4 +0.3
PRU e 14 28 00.9
PRU MLR MLR
comp=Z,300nm,17.1s
PRU Pruhonice 77.27 334 eP P 14 27 52.4 +0.3
PRU epP PcP 14 28 00.9 -1.7
PRU AMS AMS 15 03 40.0
comp=Z,300nm,17.1s
Z32A Haskell 77.29 55 ⇓P P 14 27 52.0 -0.6
baz=77
PSZ Piszkesteto 77.32 330 ⇑P P 14 27 53.0 +0.4
PSZ Piszkesteto 77.32 330 ⇑iP P 14 27 53.0 +0.4
PSZ Piszkesteto 77.32 330 eP P 14 27 50.0 -2.6
comp=Z,22nm,1.1s
VOIR 77.50 325 ⇓P P 14 27 54.5 +0.9
VOIR 77.50 325 ⇓iP P 14 27 54.5 +0.9
TANN Tannenbergstha 77.50 335 eP P 14 27 53.6 +0.1
comp=Z,18nm,1.5s
WERD Werda 77.52 335 eP P 14 27 53.7 +0.1
comp=Z,19nm,1.3s
PLN Plauen 77.53 336 eP P 14 27 53.6 0.0
MOX Moxa 77.54 336 eP P 14 27 53.7 0.0
comp=Z,22nm,1.2s
TREC Trest 77.59 333 eP P 14 27 54.4 +0.4
TREC MLR MLR
comp=Z,400nm,19.0s
TREC Trest 77.59 333 eP P 14 27 54.4 +0.4
TREC AMS AMS 15 05 10.0
comp=Z,400nm,19.0s
GUNZ Gunzen 77.59 335 eP P 14 27 54.1 +0.1
comp=Z,16nm,1.2s
WERN Wernitzgruen 77.64 335 eP P 14 27 54.4 +0.1
comp=Z,24nm,1.2s
PSN Preselentsi 77.67 322 ⇑P P 14 27 54.3 -0.2
PSN Preselentsi 77.67 322 ⇑iP P 14 27 54.3 -0.2
ARR Arges 77.72 325 ⇑iP P 14 27 56.8 +1.9
TXAR Lajitas Array 77.76 60 P P 14 27 56.3 +0.9
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 77.76 60 P P 14 27 56.2 +0.9
comp=Z,1.5nm,0.6s,baz=291,slow=3.7,SNR=13
BUG Bochum--Univer 77.97 339 eP P 14 27 56.1 +0.1
BUG eL L 15 04 50.7
comp=Z,256nm,21.1s
529A Stev Forest Ra 78.04 59 ⇓P P 14 27 57.0 +0.1
baz=78
430A Baggett Ranch, 78.14 58 ⇑P P 14 27 57.5 +0.1
baz=78
ROTZ Rotzenmuhle 78.16 335 eP P 14 27 57.6 +0.5
comp=Z,19nm,1.2s
232A Coleman 78.24 56 ⇑P P 14 27 58.3 +0.4
baz=78
HUMR Humele 78.28 325 ⇑iP P 14 27 56.4 -1.5
KHC Kasperske Hory 78.32 334 eP P 14 27 57.5 -0.5
KHC pmax pmax
comp=Z,26nm,1.2s
KHC Kasperske Hory 78.32 334 eP P 14 27 58.3 +0.2
KHC AMS AMS 15 04 20.0
comp=Z,300nm,26.1s
KHC Kasperske Hory 78.32 334 eP P 14 27 57.5 -0.5
comp=Z,26nm,1.2s
BRTR Keskin Array B 78.39 317 ceP P 14 27 59.5 +0.7
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 78.39 317 P P 14 27 58.9 +0.1
comp=Z,6.5nm,0.9s,baz=67,slow=4.2,SNR=22
BRTR LR LR 15 08 29.0
comp=Z,115nm,18.5s,baz=16,slow=40
GZR Gura Zlata 78.42 327 ⇑P P 14 27 58.5 -0.2
GZR Gura Zlata 78.42 327 ⇑iP P 14 27 58.5 -0.2
GRF Grafenberg Arr 78.51 336 eP P 14 27 59.6 +0.5
comp=Z,41nm,1.2s
GRF eL L 15 08 06.4
comp=Z,185nm,18.8s
WET Wettzell 78.52 334 eP P 14 27 59.6 +0.5
comp=Z,30nm,1.2s
GEC2 GERESS Array S 78.53 334 eP P 14 27 59.3 -0.1
GEC2 GERESS Array S 78.53 334 eP P 14 27 59.3 -0.1
comp=Z,10.0nm,1.2s
GEC2 GERESS Array S 78.53 334 eP P 14 27 59.3 -0.1
GERES GERESS Array B 78.53 334 P P 14 27 59.2 -0.1
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES MLR MLR
comp=Z,298nm,18.3s
GERES GERESS Array B 78.53 334 P P 14 27 59.1 -0.2
comp=Z,2.8nm,0.7s,baz=42,slow=4.2,SNR=16
GERES LR LR 15 07 01.5
comp=Z,298nm,18.3s,baz=26,slow=39
530A J-C Ranch, Com 78.54 58 ⇓P P 14 27 59.8 +0.1
baz=78
332A Millersview 78.56 56 ⇓P P 14 27 59.8 +0.1
baz=78
431A Sonora 78.58 57 ⇑P P 14 27 59.6 -0.2
baz=78
BZS Buzias 78.66 327 ⇑P P 14 27 59.8 -0.2
BZS Buzias 78.66 327 ⇑iP P 14 27 59.8 -0.2
CONA Conrad Observa 78.67 332 i P P 14 28 01.0 +0.9
comp=Z,25nm,1.3s,SNR=13
STKA Stephens Creek 78.73 190 LR LR 15 05 21.2
comp=Z,40nm,18.1s,baz=18,slow=38
TNS Taunus Mts 78.78 338 eP P 14 28 00.8 +0.2
comp=Z,26nm,1.3s
TNS eL L 15 06 23.7
comp=Z,139nm,21.7s
333A Richland Sprin 79.04 56 ⇓P P 14 28 02.7 +0.4
baz=79
MEM Membach 79.05 339 P P 14 28 02.5 +0.6
comp=Z,18nm,1.3s
MEM Membach 79.05 339 eP P 14 28 02.7 +0.7
MEM pmax pmax
comp=Z,28nm,1.0s
MEM Membach 79.05 339 eP P 14 28 02.7 +0.7
comp=Z,28nm,1.0s
JCT Junction City 79.19 57 eP P 14 28 04.2 +1.0
JCT pmax pmax
comp=Z,23nm,1.4s
JCT Junction City 79.19 57 ⇑P P 14 28 03.6 +0.4
baz=79
JCT Junction City 79.19 57 eP P 14 28 04.2 +1.0
comp=Z,23nm,1.4s
MOA Molln 79.24 333 ⇓iP P 14 28 03.5 +0.3
comp=Z,8.3nm,1.1s
ARSA Arzberg 79.37 332 ⇑iP P 14 28 04.6 +0.7
comp=Z,15nm,1.3s,SNR=5.6
SIUC Southern Illin 79.37 45 eP P 14 28 05.3 +1.4
BCLA Clavier 79.40 340 P P 14 28 05.0 +1.1
comp=Z,11nm,1.4s
433A Art 79.40 56 ⇑P P 14 28 04.7 +0.4
baz=79
334A Lometa 79.46 55 ⇑P P 14 28 05.6 +1.1
baz=79
631A Perdido Creek 79.53 58 ⇓P P 14 28 05.5 +0.5
baz=79
MPEP Malo Peshtene 79.75 325 eP P 14 28 05.5 -0.5
RJOB Jochberg 79.80 334 eP P 14 28 06.2 0.0
GIVF Givet 79.81 340 eP P 14 28 06.2 +0.1
comp=Z,29nm,1.1s
GIVF Givet 79.81 340 eP P 14 28 06.2 +0.1
GIVF pmax pmax
comp=Z,29nm,1.1s
GIVF Givet 79.81 340 eP P 14 28 06.2 +0.1
comp=Z,29nm,1.1s
DOU Dourbes 79.87 340 P P 14 28 06.8 +0.4
FUR Furstenfeldbru 79.87 335 eP P 14 28 07.0 +0.5
FUR eL L 15 08 18.6
comp=Z,201nm,19.2s
STU Stuttgart 79.91 337 eP P 14 28 07.1 +0.4
BAIF Baives 79.99 340 eP P 14 28 07.4 +0.3
BAIF Baives 79.99 340 eP P 14 28 07.4 +0.3
BAIF Baives 79.99 340 eP P 14 28 07.4 +0.3
SOKA Soboth 80.03 332 ⇑iP P 14 28 07.9 +0.4
comp=Z,25nm,1.1s,SNR=14
PERS Pernice 80.05 332 eP P 14 28 08.1 +0.5
GROS Grobnik 80.07 332 eP P 14 28 07.5 -0.3
KBA Koelnbreinsper 80.22 333 ⇑iP P 14 28 09.0 +0.4
comp=Z,43nm,1.4s,SNR=13
BFO Black Forest 80.55 337 P P 14 28 10.0 -0.2
comp=Z,74nm,1.2s,SNR=5.6
BFO Black Forest 80.55 337 eP P 14 28 08.8 -1.4
BFO pmax pmax
comp=Z,11nm,0.9s
BFO Black Forest 80.55 337 eP P 14 28 10.2 0.0
comp=Z,20nm,1.2s
BFO eL L 15 06 00.8
comp=Z,196nm,20.3s
BFO Black Forest 80.55 337 eP P 14 28 08.8 -1.4
comp=Z,11nm,0.9s
WTTA Wattenberg 80.57 334 ⇓iP P 14 28 11.1 +0.5

comp=Z,22nm,0.7s,SNR=10
VTS Vitosha 80.61 325 ⇑P P 14 28 11.1 +0.3
VTS Vitosha 80.61 325⇑*i*P P 14 28 11.1 +0.3
VTS Vitosha 80.61 325 *e*P P 14 28 10.1 -0.7
RETA Reutte 80.63 335 *i* P P 14 28 10.9 +0.2
SNR=5.8
MOTA Moosalm 80.66 335⇑*i*P P 14 28 11.6 +0.6
comp=Z,18nm,0.9s,SNR=8.5
CDF Champ du Feu 80.75 338 *e*P P 14 28 11.3 -0.1
comp=Z,60nm,1.3s
CDF Champ du Feu 80.75 338 *e*P P 14 28 11.3 -0.1
CDF pmax pmax
comp=Z,60nm,1.3s
CDF Champ du Feu 80.75 338 *e*P P 14 28 11.3 -0.1
comp=Z,60nm,1.3s
RZN Rozhen 80.75 323 *e*P P 14 28 11.0 -0.6
VISS Visnje 80.87 332 *e*P P 14 28 11.8 -0.1
ECH Echery 80.96 338 *e*P P 14 28 10.0 -2.4
ECH pmax pmax
comp=Z,20nm,1.3s
ECH Echery 80.96 338 *e*P P 14 28 10.0 -2.4
comp=Z,20nm,1.3s
BOJS Bojanci 81.00 331 *e*P P 14 28 12.6 0.0
PAGF Fort de Pagny 81.02 339 *e*P P 14 28 13.1 +0.4
comp=Z,42nm,1.4s
PAGF Fort de Pagny 81.02 339 *e*P P 14 28 13.1 +0.4
comp=Z,42nm,1.4s
JAVS Javornik 81.04 332 *i* P P 14 28 13.2 +0.2
FETA Feichten 81.06 335⇑*i*P P 14 28 13.5 +0.4
comp=Z,13nm,1.2s
PMOR Pomariorio Ree 81.12 123 *e*T T 15 57 31.4
comp=Z,16nm,0.2s
MEZF Maizieres J'vi 81.24 339 *e*P P 14 28 14.2 +0.4
MEZF Maizieres J'vi 81.24 339 *e*P P 14 28 14.2 +0.4
MMB Musomiste 81.24 324 *e*P P 14 28 13.0 -1.0
HAU Haudompre 81.37 338 *e*P P 14 28 14.5 -0.1
HAU *e*R
comp=Z,226nm,22.0s
HAU Haudompre 81.37 338 *e*P P 14 28 14.5 -0.1
HAU Haudompre 81.37 338 *e*P P 14 28 14.5 -0.1
HINF Hinteralfeld 81.41 338 *e*P P 14 28 14.5 -0.3
comp=Z,12nm,0.9s
HINF Hinteralfeld 81.41 338 *e*P P 14 28 14.5 -0.3
HINF pmax pmax
comp=Z,12nm,0.9s
HINF Hinteralfeld 81.41 338 *e*P P 14 28 14.5 -0.3
comp=Z,12nm,0.9s
SFTF Sexfontaines 81.52 339 *e*P P 14 28 15.4 +0.1
comp=Z,55nm,1.1s
SFTF Sexfontaines 81.52 339 *e*P P 14 28 15.4 +0.1
comp=Z,55nm,1.1s
FUORN Ofenpass-Fuorn 81.56 335 *e*P P 14 28 16.9 +1.0
comp=Z,22nm,1.3s
TUE Stuetta 81.96 335 *e*P P 14 28 15.5 -2.4
comp=Z,18nm,1.2s
PPT2 Papeete2 82.23 126 *e*LR LR 14 54 15.5
comp=Z,177nm,26.8s
FLN La Foliniere 82.25 343 *e*P P 14 28 19.1 0.0
comp=Z,30nm,1.0s
FLN *e*R
comp=Z,312nm,22.5s
FLN La Foliniere 82.25 343 *e*P P 14 28 19.1 0.0
FLN pmax pmax
comp=Z,30nm,1.0s
FLN La Foliniere 82.25 343 *e*P P 14 28 19.1 0.0
comp=Z,30nm,1.0s
LDF La Druitiere 82.34 342 *e*P P 14 28 19.7 +0.1
LDF La Druitiere 82.34 342 *e*P P 14 28 19.7 +0.1
LDF La Druitiere 82.34 342 *e*P P 14 28 19.7 +0.1
LOR Lormes 82.68 339 *e*P P 14 28 21.5 +0.1
comp=Z,20nm,0.9s
LOR *e*R
comp=Z,339nm,23.0s
LOR Lormes 82.68 339 *e*P P 14 28 21.5 +0.1
LOR pmax pmax
comp=Z,20nm,0.9s
LOR Lormes 82.68 339 *e*P P 14 28 21.5 +0.1
comp=Z,20nm,0.9s
GRR Gorron 82.68 343 *e*P P 14 28 21.3 -0.1
comp=Z,62nm,1.4s
GRR Gorron 82.68 343 *e*P P 14 28 21.3 -0.1
GRR pmax pmax
comp=Z,63nm,1.4s
GRR Gorron 82.68 343 *e*P P 14 28 21.3 -0.1
comp=Z,62nm,1.4s
SSF Saint Saulge 82.96 339 *e*P P 14 28 23.2 +0.3
comp=Z,57nm,1.6s
SSF Saint Saulge 82.96 339 *e*P P 14 28 23.2 +0.3
SSF pmax pmax
comp=Z,57nm,1.5s
SSF Saint Saulge 82.96 339 *e*P P 14 28 23.2 +0.3
comp=Z,57nm,1.5s
HYF Humbligny 82.97 340 *e*P P 14 28 23.3 +0.4
HYF Humbligny 82.97 340 *e*P P 14 28 23.3 +0.4
ROSF Rostrenen 83.21 344 *e*P P 14 28 24.3 +0.2
comp=Z,21nm,1.0s
ROSF Rostrenen 83.21 344 *e*P P 14 28 24.3 +0.2
ROSF pmax pmax
comp=Z,21nm,1.0s
ROSF Rostrenen 83.21 344 *e*P P 14 28 24.3 +0.2
comp=Z,21nm,1.0s
AVF Avril sur Loir 83.25 339 *e*P P 14 28 24.6 +0.2
comp=Z,100nm,1.5s
AVF Avril sur Loir 83.25 339 *e*P P 14 28 24.6 +0.2
AVF pmax pmax
comp=Z,100nm,1.5s
AVF Avril sur Loir 83.25 339 *e*P P 14 28 24.6 +0.2
comp=Z,100nm,1.5s
SMF Signal de Mont 83.27 339 *e*P P 14 28 24.8 +0.3
comp=Z,85nm,1.3s
SMF Signal de Mont 83.27 339 *e*P P 14 28 24.8 +0.3
SMF pmax pmax
comp=Z,85nm,1.3s
SMF Signal de Mont 83.27 339 *e*P P 14 28 24.8 +0.3
comp=Z,85nm,1.3s
LPL La Plagne 83.56 337 *e*P P 14 28 27.1 +0.8
LPL La Plagne 83.56 337 *e*P P 14 28 27.1 +0.8
LPL La Plagne 83.56 337 *e*P P 14 28 27.1 +0.8
LPG La Plagne 83.58 337 *e*P P 14 28 27.2 +0.8
comp=Z,39nm,1.2s
LPG La Plagne 83.58 337 *e*P P 14 28 27.2 +0.8
LPG pmax pmax
comp=Z,39nm,1.2s
LPG La Plagne 83.58 337 *e*P P 14 28 27.2 +0.8
comp=Z,39nm,1.2s
BGF Bois d'Agland 83.59 340 *e*P P 14 28 26.5 +0.4
BGF Bois d'Agland 83.59 340 *e*P P 14 28 26.5 +0.4
BGF Bois d'Agland 83.59 340 *e*P P 14 28 26.5 +0.4
TCF Toulx Ste Croi 84.00 340 *e*P P 14 28 28.6 +0.4
comp=Z,27nm,1.2s
TCF Toulx Ste Croi 84.00 340 *e*P P 14 28 28.6 +0.4
TCF pmax pmax
comp=Z,27nm,1.2s
TCF Toulx Ste Croi 84.00 340 *e*P P 14 28 28.6 +0.4
comp=Z,27nm,1.2s
MBDF Montbardon 84.28 336 *e*P P 14 28 30.1 +0.2
comp=Z,42nm,1.4s
MBDF Montbardon 84.28 336 *e*P P 14 28 30.1 +0.2
MBDF pmax pmax
comp=Z,42nm,1.4s
MBDF Montbardon 84.28 336 *e*P P 14 28 30.1 +0.2
comp=Z,42nm,1.4s
ORIF Oris-en-Rattie 84.35 337 *e*P P 14 28 30.8 +0.7
ORIF *e*R
comp=Z,241nm,22.8s
ORIF Oris-en-Rattie 84.35 337 *e*P P 14 28 30.8 +0.7
ORIF Oris-en-Rattie 84.35 337 *e*P P 14 28 30.8 +0.7
VIVF Saint-Julien-l 84.72 338 *e*P P 14 28 32.5 +0.5
comp=Z,49nm,1.4s
VIVF Saint-Julien-l 84.72 338 *e*P P 14 28 32.5 +0.5
VIVF pmax pmax
comp=Z,49nm,1.4s
VIVF Saint-Julien-l 84.72 338 *e*P P 14 28 32.5 +0.5
comp=Z,49nm,1.4s
SBF Sospel 84.89 336 *e*P P 14 28 32.5 -0.4
SBF Sospel 84.89 336 *e*P P 14 28 32.5 -0.4
SBF Sospel 84.89 336 *e*P P 14 28 32.5 -0.4
SMRF Simiane la Rot 85.30 337 *e*P P 14 28 35.8 +0.9
comp=Z,40nm,1.3s
SMRF Simiane la Rot 85.30 337 *e*P P 14 28 35.8 +0.9
comp=Z,40nm,1.3s
FRF La Foret Royal 85.39 336 *e*P P 14 28 35.5 +0.2
FRF La Foret Royal 85.39 336 *e*P P 14 28 35.5 +0.2
FRF La Foret Royal 85.39 336 *e*P P 14 28 35.5 +0.2
NWAO Narrogin (SRO) 85.40 209 LR LR 15 06 00.2
comp=Z,27nm,21.8s,slow=35

LFF La Frestale 85.61 341 *e*P P 14 28 35.9 -0.4
LFF La Frestale 85.61 341 *e*P P 14 28 35.9 -0.4
LFF La Frestale 85.61 341 *e*P P 14 28 35.9 -0.4
LMR La Mourre 85.64 336 *e*P P 14 28 36.8 +0.3
LMR La Mourre 85.64 336 *e*P P 14 28 36.8 +0.3
LMR La Mourre 85.64 336 *e*P P 14 28 36.8 +0.3
LASF Ste Croix 85.66 338 *e*P P 14 28 37.4 +0.7
LASF Ste Croix 85.66 338 *e*P P 14 28 37.4 +0.7
TIP Timpagrande 86.03 327 *e*P P 14 28 39.0 +0.4
comp=Z,12nm,1.2s
MTLF Montolieu 86.76 339 *e*P P 14 28 41.7 -0.4
MTLF Montolieu 86.76 339 *e*P P 14 28 41.7 -0.4
MTLF Montolieu 86.76 339 *e*P P 14 28 41.7 -0.4
TBI Tubuai 86.94 129 *e*T T 16 04 48.0
comp=Z,14nm,0.3s
EPF Esparros 87.51 340 *e*P P 14 28 46.0 +0.2
EPF Esparros 87.51 340 *e*P P 14 28 46.0 +0.2
EPF Esparros 87.51 340 *e*P P 14 28 46.0 +0.2
ESDC Sonseca Array 91.67 342 P P 14 29 04.8 -0.5
comp=Z,0.3nm,0.3s,baz=9.8,slow=3.9,SNR=6.9
ESDC LR LR 15 13 52.5
comp=Z,164nm,21.3s,baz=110,slow=38
TORD Torodi Ar. Bea 115.15 329 PKP PKPdf 14 34 39.5 0.0
comp=Z,1.0nm,1.1s,baz=11,slow=0.9,SNR=3.2
LIC Lamto 123.88 333 *e*PKIKP PKPdf 14 34 56.4 +0.1
comp=Z,7.7nm,0.9s
LIC Lamto 123.88 333 *e*PKPdf PKPdf 14 34 56.4 +0.1
BDFB Brasilia 144.61 36 PKIKP PKPbc 14 35 33.9 +0.3
BDFB pmax pmax
comp=Z,5.0nm,0.9s
BDFB Brasilia 144.61 36 PKP PKPbc 14 35 33.9 +0.3
comp=Z,4.7nm,0.9s,baz=353,slow=5.1,SNR=4.0
CFAA Coronel Fontan 145.22 79 PKPbc PKPab 14 35 35.3 0.0
comp=Z,1.2nm,0.6s,baz=293,slow=2.7,SNR=8.8

*IDC **12** 14:17:03.4±1.5, 37°.50S×73°.59W, h0km, mb4.1/5, mb1 4.1/7, mb1mx3.9/32, mbtmp4.0/7, ML3.4/1, Error ellipse: s-maj=44.6km s-min=18.4km az=85.0*
*ISCJB **12** 14:17:06.0±1.4, 37°.53S±0°.09×73°.5W±0°.3, h23km, mb4.5/9, Error ellipse: s-maj=38.5km s-min=12.5km az=4.4*
*NEIC **12** 14:17:08.6±1.2, 37°.54S×73°.61W, h35km, mb4.0/2, Error ellipse: s-maj=35.5km s-min=11.9km az=93.0*
ISC 12 14:17:07.0±1.5, 37°.5S±0°.1×73°.6W±0°.3, h23km, n16, σ1°.05/16, mb4.2/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.00**	**144**	Pn		**Pn**	**14 18 07.5**	**+0.7**
baz=287,slow=17								
PLCA				Lg		Lg	14 19 09.0	
6.6nm,0.3s,baz=233,slow=20,SNR=3.0								
CFAA	**Coronel Fontan**	**7.39**	**39**	Pn		**Pn**	**14 18 53.5**	**-0.1**
0.6nm,0.3s,baz=240,slow=11,SNR=5.5								
LPAZ	**La Paz**	**21.71**	**14**	P		**P**	**14 21 59.2**	**+2.1**
3.4nm,0.8s,baz=154,slow=8.9,SNR=4.2								
SIV	**San Ignacio**	**24.16**	**31**	P		**P**	**14 22 20.1**	**-1.4**
3.8nm,0.9s,baz=242,slow=12,SNR=3.4								
SNAA	**Sanae**	**48.84**	**157**	P		**P**	**14 25 49.4**	**-0.8**
2.9nm,1.1s,baz=254,slow=11,SNR=3.4								
SNAA	**Sanae**	**48.84**	**157**	*e*P		**P**	**14 25 49.4**	**-0.8**
1.6nm,0.8s								
QSPA	**South Pole Qui**	**52.72**	**180**	P		**P**	**14 26 20.5**	**+1.0**
2.8nm,1.0s,baz=141,slow=5.4,SNR=3.7								
QSPA	**South Pole Qui**	**52.72**	**180**	*e*P		**P**	**14 26 19.5**	**-0.1**
0.8nm,0.6s								
LIC	**Lamto**	**77.11**	**72**	*e*P		**P**	**14 28 59.6**	**+0.8**
20nm,1.0s								
TIC	**Toumodi**	**77.39**	**71**	*e*P		**P**	**14 28 59.8**	**-0.6**
48nm,0.2s								
KIC	**Kosan Boka**	**77.42**	**72**	*e*P		**P**	**14 29 01.3**	**+0.8**
24nm,1.1s								
DBIC	**Dimbokro**	**77.53**	**71**	P		**P**	**14 29 02.4**	**+1.2**
4.1nm,0.8s,baz=191,slow=6.0,SNR=4.4								
TORD	**Torodi Ar. Bea**	**86.61**	**71**	P		**P**	**14 29 48.8**	**0.0**
0.9nm,0.8s,baz=213,slow=3.7,SNR=4.3								
AAK	**Ala-Archa**	**155.17**	**68**	PKPab		**PKPab**	**14 37 23.0**	**-0.1**
1.9nm,0.6s,baz=269,slow=4.5,SNR=3.9								
ZALV	**Zalesovo Beam**	**157.87**	**35**	PKPab		**PKPab**	**14 37 32.8**	**-1.2**
0.5nm,0.3s,baz=287,slow=5.9,SNR=5.1								
MKAR	**Makanchi Array**	**159.96**	**55**	PKPab		**PKPab**	**14 37 42.5**	**-1.0**
0.6nm,0.8s,baz=268,slow=4.3,SNR=3.8								

GUC 12 14:22:33.3±0.5, 34°.37S×71°.99W, h41km±7km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.32**	**48**	*i* P		Pn	14 22 56.1	+0.8
RCDM				*e*S4		Sn	14 23 12.5	+0.7
CLCH	**Cerro Calan**	**1.55**	**52**	*i* P		Pn	14 23 00.3	+1.7
CLCH				*i* S		Sn	14 23 20.7	+3.1
CLCH				AML		AML	14 23 28.1	
comp=N,2μm,0.5s								
PEL	**Peldehue**	**1.64**	**42**	*i* P		Pn	14 23 01.4	+1.6
PEL				*i* S		Sn	14 23 22.5	+2.8
PEL				AML		AML	14 23 31.1	
comp=N,2μm,0.6s								
FCH	**Farellones**	**1.76**	**54**	*i* P		Pn	14 23 03.5	+1.8
FCH				*i* S		Sn	14 23 26.5	+3.3

IDC 12 14:28:40.8±2.6, 21°.25S×66°.32W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/25, mbtmp3.6/4, ML2.7/1, Error ellipse: s-maj=93.6km s-min=37.7km az=30.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.22**	**340**	Pn		Pn	14 30 00.4	-0.4
0.1nm,0.3s,baz=172,slow=9.3,SNR=5.4								
TXAR	**Lajitas Array**	**61.84**	**323**	P		P	14 39 03.0	+1.0
0.6nm,0.9s,baz=142,slow=6.3,SNR=3.7								
TORD	**Torodi Ar. Bea**	**75.00**	**69**	P		P	14 40 24.7	+1.0
0.7nm,0.8s,baz=241,slow=3.9,SNR=4.9								
NVAR	**Mina Array Bea**	**76.81**	**321**	P		P	14 40 33.9	-0.8
0.7nm,0.9s,baz=131,slow=6.3,SNR=3.6								
ZALV	**Zalesovo Beam**	**140.67**	**27**	PKP		PKPdf	14 48 09.7	-2.4
0.8nm,0.6s,baz=284,slow=6.0,SNR=3.6								
MKAR	**Makanchi Array**	**143.99**	**37**	PKP		PKPdf	14 48 18.6	+0.3
0.5nm,0.8s,baz=291,slow=1.2,SNR=3.6								

IGQ 12 14:31:16±0.4, 2°.33S×78°.97W, h3km±178km, Mb4.0, 5C-5D, Error ellipse: s-maj=2.3km s-min=1.6km az=7.6, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RIOE	**Riobamba**	**0.67**	**31**	⇑P		Pb	14 31 30.6	-0.2
RIOE	**Riobamba**	**0.67**	**31**	⇑S		Sb	14 31 39.8	-0.9
MACE	**Macas**	**0.78**	**85**	⇓S		Sg	14 31 41.2	-0.3
MACE	**Macas**	**0.78**	**85**	⇓P		Pg	14 31 31.5	+0.3
IGUA	**Igualata**	**0.90**	**22**	P		Pb	14 31 34.8	-0.1
BMAS	**Trigal station**	**0.96**	**31**	P		Pb	14 31 35.9	+0.1
BMAS	**Trigal station**	**0.96**	**31**	S		Sb	14 31 48.7	-0.5
ARRY	**Arrayan**	**0.97**	**32**	P		Pn	14 31 36.9	0.0
ARRY	**Arrayan**	**0.97**	**32**	S		Sn	14 31 50.6	-0.9
PAT1	**Patacocha**	**0.97**	**33**	P		Pg	14 31 35.7	+0.3
PAT1	**Patacocha**	**0.97**	**33**	S		Sg	14 31 48.7	+0.3
BPAT	**Tungurahua Vol**	**0.98**	**33**	P		Pg	14 31 35.9	+0.4
BPAT	**Tungurahua Vol**	**0.98**	**33**	S		Sb	14 31 49.9	-0.1
BBIL	**Ulba Tungurahu**	**1.00**	**29**	P		Pb	14 31 36.8	+0.4
BBIL	**Ulba Tungurahu**	**1.00**	**29**	S		Sb	14 31 50.7	+0.4
RETU	**Refugio**	**1.02**	**31**	P		Pn	14 31 37.6	-0.2
JUI6	**Juive**	**1.03**	**29**	S		Sg	14 31 49.4	-0.4
JUI6	**Juive**	**1.03**	**29**	P		Pg	14 31 36.5	+0.3
ULBA	**Ulba**	**1.04**	**33**	P		Pg	14 31 36.2	-0.2
BULB	**Ulba Tungurahu**	**1.05**	**33**	S		Sb	14 31 51.5	-0.3
BULB	**Ulba Tungurahu**	**1.05**	**33**	P		Pg	14 31 36.4	-0.3
RUN5	**Runtun**	**1.06**	**31**	P		Pg	14 31 37.0	+0.2
BRUN	**Tungurahua Vol**	**1.06**	**32**	⇑S		Sg	14 31 51.1	+0.2
BRUN	**Tungurahua Vol**	**1.06**	**32**	⇑P		Pg	14 31 36.2	-0.6
PISA	**Pisayambo**	**1.39**	**25**	P		Pn	14 31 43.1	+0.1
BMOR	**Cotopaxi Volca**	**1.67**	**18**	P		Pn	14 31 47.2	+0.3
TAMB	**Tambo**	**1.73**	**20**	P		Pb	14 31 49.4	+0.3
BTAM	**Cotopaxi Volca**	**1.74**	**19**	⇓P		Pg	14 31 50.0	-0.1
BVC2	**Cotopaxi Volca**	**1.75**	**19**	S		Sg	14 32 13.7	+0.1
BVC2	**Cotopaxi Volca**	**1.75**	**19**	P		Pb	14 31 49.9	+0.3
VC1	**Cotopaxi 1**	**1.77**	**19**	P		Pb	14 31 49.4	-0.4
ANTI	**Antisana**	**2.04**	**24**	S		Sg	14 32 23.6	+0.8
ANTI	**Antisana**	**2.04**	**24**	P		Pg	14 31 55.5	-0.3
JUA2	**San Juan 2**	**2.13**	**10**	P		Pg	14 31 57.5	0.0

TERV Terraza Guagua 2.17 10 P Pg 14 31 57.6 -0.8
GGP Refugio Guagua 2.17 10 ⇓S Sg 14 32 27.7 +0.5
GGP Refugio Guagua 2.17 10 ⇓P Pb 14 31 57.1 +0.4
PINO Pino 2.19 10 P Pb 14 31 57.8 +0.8
OTAV Otavalo 2.60 12 ⇑P Pb 14 32 05.0 +1.1

*IDC **12** 14:39:35.8±0.3, 58°.68S×25°.54W, h0km, mb4.9/18, mb1 4.9/19, mb1mx4.8/25, mbtmp4.9/19, ML5.0/1, MS4.3/21, Ms1 4.3/21, ms1mx4.3/24, Error ellipse: s-maj=16.6km s-min=12.2km az=62.0*
*ISCJB **12** 14:39:39.3±0.3, 58°.73S±0°.05×25°.8W±0°.1, h35km, mb4.9/29, MS4.3/19, Error ellipse: s-maj=9.8km s-min=6.4km az=147.6*
*NEIC **12** 14:39:41.2±0.2, 58°.71S×25°.67W, h35km, mb5.0/13, Error ellipse: s-maj=8.4km s-min=6.4km az=222.0*
*GCMT **12** 14:39:41.2±0.3, 59°.08S×25°.22W, h47km, MW5.2/69, Moment Tensor Solution. s63,c81; s69,c94; Duration: 0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.68±.03; $M_{\theta\theta}$0.04±.02; $M_{\phi\phi}$-0.72±.02; $M_{r\theta}$-0.12±.02; $M_{r\phi}$-0.05±.01; $M_{\theta\phi}$0.12±.01; Best double couple: $M_0$0.72100×10^{17} NP1:ϕ_s353.00000°, δ51.00000°, λ76.00000°. NP2: ϕ_s194.00000°, δ41.00000°, λ106.00000°. Principal axes: T 0.7090, Plg78.0000°, Azm206.0000°; N 0.0240, Plg11.0000°, Azm2.0000°; P -0.7330, Plg5.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*AWI **12** 14:40:17.9, 62°.97S×29°.47W*
ISC 12 14:39:41.1±0.3, 58°.72S±0°.07×25°.75W±0°.07, h35km, n217, σ0°.80/214, mb5.0/28, MS4.4/19, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.42**	**302**	Pn		**Pn**	**14 41 26.3**	**-0.4**
532nm,1.3s								
HOPE				*e*Sn		**Sn**	**14 42 46.6**	**-2.9**
VNA1	**Neumayer--Stat**	**14.03**	**156**	P		**Pn**	**14 42 57.0**	**0.0**
VNA3	**Neumayer Olymp**	**14.21**	**159**	P		**Pn**	**14 42 58.6**	**-1.0**
VNA2	**Neumayer--Watz**	**14.43**	**155**	P		**Pn**	**14 43 01.0**	**-1.5**
baz=318,slow=15								
SNAA	**Sanae**	**15.99**	**153**	P		**Pn**	**14 43 23.1**	**0.0**
SNAA	**Sanae**	**15.99**	**153**	Pn		**Pn**	**14 43 22.9**	**-0.2**
6.5nm,0.3s,baz=327,slow=17,SNR=177								
SNAA				Sn		Sn	14 46 03.7	-15
0.6nm,0.3s,baz=328,slow=19,SNR=2.9								
SNAA				LR		LR	14 48 17.2	
comp=Z,470nm,20.2s,baz=316,slow=33								
PMSA	**Palmer Station**	**18.87**	**235**	P		**Pn**	**14 44 01.1**	**+2.5**
2.0nm,0.3s,baz=70,slow=9.0,SNR=4.7								
PMSA				LR		LR	14 50 09.3	
comp=Z,1μm,18.9s,baz=89,slow=33								
EFI	**East Falkland**	**19.59**	**277**	*e*P		**P**	**14 44 05.2**	**-0.7**
USHA	**Ushuaia**	**23.41**	**261**	P		**P**	**14 44 48.4**	**+1.9**
48nm,0.7s,baz=104,slow=9.5,SNR=22								
USHA				LR		LR	14 51 58.7	
comp=Z,1μm,18.9s,baz=92,slow=32								
TRQA	**Tornquist**	**31.14**	**296**	*e*P		**P**	**14 45 56.0**	**-0.2**
18nm,0.8s								
QSPA	**South Pole Qui**	**31.53**	**180**	P		**P**	**14 46 00.6**	**+1.0**
20nm,0.8s,baz=202,slow=2.6,SNR=179								
QSPA				PcP		**PcP**	**14 48 51.3**	**0.0**
9.0nm,0.7s,baz=222,slow=7.2,SNR=4.3								
QSPA				LR		LR	14 58 21.6	
comp=Z,429nm,19.8s,baz=174,slow=36								
QSPA	**South Pole Qui**	**31.53**	**180**	*e*P		**P**	**14 45 59.6**	**0.0**
20nm,0.7s								
QSPA				PcP		**PcP**	**14 48 51.4**	**0.0**
PLCA	**Paso Flores**	**33.29**	**283**	P		**P**	**14 46 16.2**	**+1.0**
12nm,0.7s,baz=174,slow=8.8,SNR=12								
PLCA				LR		LR	14 59 59.8	
comp=Z,374nm,18.1s,baz=148,slow=37								
PLCA	**Paso Flores**	**33.29**	**283**	*e*P		**P**	**14 46 15.4**	**+0.2**
160nm,0.9s								
MAW	**Mawson**	**37.56**	**141**	LR		LR	15 00 15.6	
comp=Z,643nm,20.1s,baz=240,slow=33								
CFAA	**Coronel Fontan**	**39.36**	**295**	P		**P**	**14 47 07.4**	**+0.4**
2.6nm,0.6s,baz=150,slow=7.9,SNR=22								
SUR	**Sutherland**	**40.69**	**70**	LR		LR	15 00 09.3	
comp=Z,620nm,19.1s,baz=164,slow=30								
LCO	**Las Campanas**	**42.69**	**294**	*e*P		**P**	**14 47 34.5**	**-0.2**
43nm,1.0s								
SBA	**Scott Base**	**43.47**	**184**	*e*P		**P**	**14 47 40.0**	**0.0**
31nm,1.2s								
VNDA	**Vanda**	**43.94**	**182**	P		**P**	**14 47 45.5**	**+1.6**
17nm,0.7s,baz=186,slow=6.5,SNR=132								
VNDA				PcP		**PcP**	**14 49 30.2**	**+1.1**
6.0nm,0.8s,baz=241,slow=4.5,SNR=3.3								
VNDA				LR		LR	15 04 22.0	
comp=Z,319nm,21.4s,baz=170,slow=34								
VNDA	**Vanda**	**43.94**	**182**	*e*P		**P**	**14 47 45.3**	**+1.5**
19nm,0.8s								
VNDA				PcP		**PcP**	**14 49 30.2**	**+1.1**
BOSA	**Boshof**	**45.96**	**72**	P		**P**	**14 48 00.1**	**-0.5**
5.1nm,0.8s,baz=201,slow=6.9,SNR=9.0								
BOSA				LR		LR	15 02 59.8	
comp=Z,394nm,21.6s,baz=233,slow=31								
BDFB	**Brasilia**	**46.07**	**330**	P		**P**	**14 48 02.1**	**+0.6**
7.1nm,0.5s,baz=157,slow=8.4,SNR=9.4								
BDFB				PcP		**PcP**	**14 49 38.8**	**+1.4**
3.7nm,0.5s,baz=146,slow=3.5,SNR=2.7								
LVC	**Limon Verde**	**47.32**	**301**	*e*P		**P**	**14 48 11.2**	**-0.3**
107nm,2.4s								
SIV	**San Ignacio**	**49.98**	**313**	P		**P**	**14 48 30.4**	**-1.3**
3.2nm,0.6s,baz=158,slow=9.5,SNR=8.9								
SIV				LR		LR	15 09 31.3	
comp=Z,156nm,19.7s,baz=193,slow=36								
H10S2	**ASCENSION HYDR**	**50.37**	**14**	T		T	15 43 04.8	
baz=188,slow=75,SNR=162								
H10S3	**ASCENSION HYDR**	**50.37**	**14**	T		T	15 43 05.1	
baz=188,slow=75,SNR=155								
H10S1	**ASCENSION HYDR**	**50.38**	**14**	T		T	15 43 06.2	
baz=188,slow=75,SNR=146								
TSUM	**Tsumeb**	**50.39**	**57**	*e*P		**P**	**14 48 35.2**	**+0.3**
H10N1	**ASCENSION HYDR**	**51.48**	**14**	T		T	15 44 31.3	
baz=181,slow=71,SNR=16								
H10N3	**ASCENSION HYDR**	**51.49**	**14**	T		T	15 44 30.0	
baz=181,slow=71,SNR=110								
H10N2	**ASCENSION HYDR**	**51.50**	**14**	T		T	15 44 30.5	
baz=181,slow=71,SNR=51								
LPAZ	**La Paz**	**52.56**	**305**	P		**P**	**14 48 52.2**	**+0.5**
5.1nm,0.5s,baz=135,slow=6.1,SNR=20								
LPAZ				LR		LR	15 12 48.0	
comp=Z,137nm,20.3s,baz=149,slow=38								
LPAZ	**La Paz**	**52.56**	**305**	*e*P		**P**	**14 48 51.3**	**-0.4**
6.2nm,0.8s								
RCBR	**Riachuelo**	**53.34**	**347**	P		**P**	**14 48 57.0**	**+0.3**
5.6nm,0.7s,baz=167,slow=9.4,SNR=4.8								
RCBR				PcP		**PcP**	**14 50 04.4**	**+0.5**
11nm,0.8s,baz=200,slow=6.0,SNR=5.4								
LSZ	**Lusaka**	**58.68**	**66**	*e*P		**P**	**14 49 35.1**	**0.0**
6.9nm,0.8s								
PTGA	**Pitinga**	**63.75**	**321**	P		**P**	**14 50 08.5**	**-0.7**
1.1nm,0.3s,baz=139,slow=7.8,SNR=4.7								
LIC	**Lamto**	**66.84**	**22**	*e*P		**P**	**14 50 29.9**	**+0.7**
56nm,0.7s								
KIC	**Kosan Boka**	**67.03**	**23**	*e*P		**P**	**14

STKA **Stephens Creek 89.13 169** P **P 14 52 32.5 -0.2**
9.8nm,0.7s,baz=170,slow=5.8,SNR=27
STKA LR LR 15 30 02.5
comp=Z,218nm,20.4s,baz=201,slow=34
STKA **Stephens Creek 89.13 169** *e*P **P 14 52 33.0 +0.3**
2.4nm,0.8s
PPT2 **Papeete2 91.19 232** *e*LR LR 15 22 49.5
234nm,22.8s
PPT **Papeete 91.21 232** LR LR 15 25 09.9
comp=Z,126nm,19.3s,baz=186,slow=30
ASAR **Alice Springs 96.21 161** P **P 14 53 04.5 -1.0**
6.4nm,0.6s,baz=183,slow=4.1,SNR=152
ASAR PP **PP 14 56 58.0 +0.2**
0.7nm,0.9s,baz=188,slow=6.4,SNR=4.1
ASAR PKiKP **PKiKP 14 57 43.0 -0.5**
0.4nm,0.7s,baz=178,slow=1.5,SNR=7.4
ASAR PKKP **PKKPbc 15 09 51.0 +2.2**
2.5nm,0.7s,baz=13,slow=2.2,SNR=49
ASAR LR LR 15 34 24.1
comp=Z,230nm,19.6s,baz=204,slow=34
AS31 **Alice Springs 96.21 161** *e*P **P 14 53 03.9 -1.6**
KEST **Kesra 98.55 28** LR LR 15 32 06.0
comp=Z,126nm,18.6s,baz=193,slow=32
ESDC **Sonseca Array 99.70 17** LR LR 15 33 12.9
comp=Z,74nm,20.2s,baz=145,slow=32
WRA **Warramunga Arr 99.92 161** P **Pdif 14 53 20.7 -1.5**
0.9nm,0.5s,baz=194,slow=4.3,SNR=6.9
WRA PKKP **PKKPbc 15 09 40.1 +1.5**
1.5nm,0.6s,baz=359,slow=2.8,SNR=44
WRA LR LR 15 36 48.3
comp=Z,219nm,19.7s,baz=185,slow=34
BRTR **Keskin Array B 109.76 45** PKKPbc PKKPbc 15 09 10.9 +1.0
0.9nm,0.7s,baz=152,slow=1.0,SNR=5.1
U25A **Circle Dot Ran 114.91 299** P PKPdf 14 58 18.0 +0.4
baz=115
S25A **Robets Cordova 115.96 300** P **PKPdf 14 58 19.9 +0.4**
baz=116
S24A **Houchin Ranch, 116.30 299** P **PKPdf 14 58 20.8 +0.4**
baz=117
Y14A **Wickenburg 116.95 291** P **PKPdf 14 58 22.0 +0.6**
baz=117
R23A **Moffat 117.03 299** P **PKPdf 14 58 22.2 +0.5**
baz=117
N28A **Pribbeno Ranch 117.17 304** P **PKPdf 14 58 22.4 +0.8**
baz=118
ECSD **EROS Data Cent 117.62 309** P **PKPdf 14 58 22.2 -0.1**
baz=118
PDMCI **Parker Dam,Lak 117.80 291** P **PKPdf 14 58 23.7 +0.7**
baz=118
AKASG **Malin Array Be 117.90 36** PKP **PKPdf 14 58 21.9 -0.7**
2.8nm,0.7s,baz=236,slow=1.2,SNR=6.3
SCHQ **Schefferville 117.92 335** PKP **PKPdf 14 58 22.0 -0.5**
6.8nm,0.6s,baz=112,slow=2.9,SNR=14
W13A **Hualapai Mount 118.32 291** P **PKPdf 14 58 24.2 0.0**
baz=119
J30A **Dallas 118.46 307** P **PKPdf 14 58 24.1 +0.1**
baz=119
BELC **Belle Mtn. Jos 118.47 289** P **PKPdf 14 58 25.2 +0.7**
baz=119
L27A **T5 Ranch, Ells 118.64 304** P **PKPdf 14 58 24.9 +0.4**
baz=119
O23A **Lake Granby, G 118.71 301** P **PKPdf 14 58 25.3 +0.4**
baz=119
O22A **Kremmling 118.95 300** P **PKPdf 14 58 25.7 +0.3**
baz=119
BRSD **Miller 119.16 308** P **PKPdf 14 58 25.4 +0.2**
baz=120
M24A **Cheyenne 119.24 302** P **PKPdf 14 58 25.8 +0.1**
baz=120
N22A **Wattenberg Ran 119.43 301** P **PKPdf 14 58 26.7 +0.4**
baz=120
BFSC **Mount Baldy Ra 119.48 288** P **PKPdf 14 58 26.9 +0.5**
baz=120
O20A **White River Ci 119.70 299** P **PKPdf 14 58 27.0 +0.3**
baz=120
G30A **Faulkton 119.80 309** P **PKPdf 14 58 26.6 +0.1**
baz=120
H29A **Onida 119.83 308** P **PKPdf 14 58 26.5 0.0**
baz=120
GSC **Goldstone, Bar 119.91 289** P **PKPdf 14 58 27.7 +0.6**
baz=120
SHPR **Sheep Range 120.06 291** *e*PKPdf **PKPdf 14 58 28.6 +1.2**
EDW2 **Edwards Air Fo 120.16 288** P **PKPdf 14 58 28.3 +0.7**
baz=120
H28A **Mission Ridge 120.20 307** P **PKPdf 14 58 27.7 +0.4**
baz=120
J25A **Sunshine Ranch 120.34 304** P **PKPdf 14 58 27.5 -0.2**
baz=121
H27A **Howes 120.61 306** P **PKPdf 14 58 27.8 -0.3**
baz=121
E30A **Jud 120.82 310** P **PKPdf 14 58 28.4 0.0**
baz=121
K22A **Casper 120.94 302** P **PKPdf 14 58 28.5 -0.4**
baz=121
ISA **Isabella, Lake 121.02 288** P **PKPdf 14 58 29.4 +0.2**
baz=121
RSSD **Black Hills 121.03 305** *e*PKPdf **PKPdf 14 58 28.4 -0.7**
I24A **Kuemmerle Ranc 121.08 304** P **PKPdf 14 58 28.3 -0.8**
baz=121
AGMN **Agassiz Nation 121.09 313** P **PKPdf 14 58 28.2 -0.7**
baz=121
AGMN **Agassiz Nation 121.09 313** *e*PKPdf **PKPdf 14 58 28.3 -0.5**
G27A **Dupree 121.15 307** P **PKPdf 14 58 28.6 -0.5**
baz=121
H25A **Fruitdale 121.25 305** P **PKPdf 14 58 28.9 -0.5**
baz=122
G26A **Maurine 121.36 306** P **PKPdf 14 58 28.9 -0.6**
baz=122
J22A **Midwest 121.53 302** P **PKPdf 14 58 29.1 -0.9**
baz=122
D29A **Pettibone, Tap 121.55 310** P **PKPdf 14 58 29.6 -0.2**
baz=122
E28A **Huff 121.61 309** P **PKPdf 14 58 29.5 -0.5**
baz=122
R11A **Troy Canyon, C 121.73 292** P **PKPdf 14 58 31.2 +0.5**
baz=122
H24A **Dirks Ranch, A 121.75 305** P **PKPdf 14 58 30.0 -0.4**
baz=122
F26A **Lodgepole 121.84 307** P **PKPdf 14 58 30.7 +0.3**
baz=122
DUG **Dugway, Tooele 121.86 296** P **PKPdf 14 58 31.5 +0.7**
baz=122
DUG **Dugway, Tooele 121.86 296** *e*PKPdf **PKPdf 14 58 31.9 +1.1**
J21A **Lysite 121.90 302** P **PKPdf 14 58 30.2 -0.6**
baz=122
I22A **9 Mile Ranch, 121.91 303** P **PKPdf 14 58 30.1 -0.7**
baz=122
D28A **Regan 122.05 309** P **PKPdf 14 58 30.6 -0.1**
baz=122
G24A **Alzada 122.16 305** P **PKPdf 14 58 30.7 -0.4**
baz=122
B30A **Myrvik Farm, E 122.17 311** P **PKPdf 14 58 30.2 -0.7**
baz=122
J20A **Shoshoni 122.19 301** P **PKPdf 14 58 31.5 +0.2**
baz=122
MDND **Maddock 122.19 310** P **PKPdf 14 58 30.5 -0.4**
baz=122
I21A **Big Trails, Te 122.20 302** P **PKPdf 14 58 30.4 -0.9**
baz=122
PDAR **Pinedale Array 122.39 300** PKP **PKPdf 14 58 30.9 -0.9**
1.4nm,0.6s,baz=120,slow=5.0,SNR=18
C28A **Hausauer Farms 122.40 310** P **PKPdf 14 58 31.2 -0.2**
baz=123
HFS **Hagfors 122.47 22** PKP **PKPdf 14 58 28.9 -2.1**
2.0nm,0.6s,baz=177,slow=3.0,SNR=8.7
J19A **Crowheart 122.56 301** P **PKPdf 14 58 31.1 -1.0**
baz=123
A30A **Hoffart Farm, 122.56 312** P **PKPdf 14 58 31.0 -0.6**
baz=123
I20A **Worland 122.68 302** P **PKPdf 14 58 32.1 -0.1**
baz=123
D26A **Manning 122.69 308** P **PKPdf 14 58 32.0 0.0**
baz=123
ULM **Lac du Bonnet 122.69 314** PKP **PKPdf 14 58 31.1 -0.7**
10nm,0.6s,baz=145,slow=0.3,SNR=23
H21A **Big Horn, Sher 122.74 303** P **PKPdf 14 58 32.0 -0.3**
baz=123
NB2 **NORSAR Subarra122.84 20** PKPdf **PKPdf 14 58 31.5 -0.3**
comp=Z,5.3nm,1.1s,baz=202,slow=1.9
NOA **NORSAR Array B122.84 20** PKP **PKPdf 14 58 31.8 0.0**
comp=Z,3.3nm,0.9s,baz=198,slow=1.8,SNR=7.2
G22A **Birney 122.88 304** P **PKPdf 14 58 31.7 -0.8**
baz=123
F23A **Volborg 122.89 305** P **PKPdf 14 58 31.8 -0.7**
baz=123
A29A **Manning Farm, 122.91 311** P **PKPdf 14 58 31.8 -0.5**
baz=123
B28A **Dugan Ranch, T 122.98 310** P **PKPdf 14 58 32.1 -0.4**
baz=123
E24A **Baker 123.09 306** P **PKPdf 14 58 31.9 -1.0**
baz=123
NVAR **Mina Array Bea 123.11 290** PKP **PKPdf 14 58 34.9 +1.6**
comp=Z,2.2nm,0.6s,baz=135,slow=3.2,SNR=20
I19A **Meeteetse 123.14 301** P **PKPdf 14 58 32.8 -0.4**
baz=123
C26A **Wahner Farm, P 123.18 309** P **PKPdf 14 58 33.1 +0.2**
baz=124
KOLN **Koldanda 123.27 91** *e*P **PKPdf 14 58 33.1 -0.9**
A28A **Rude Farm, Bot 123.31 310** P **PKPdf 14 58 32.7 -0.4**
baz=124
CMAR **Chiang Mai Arr 123.39 111** PKP **PKPdf 14 58 34.1 0.0**
comp=Z,6.1nm,0.7s,baz=231,slow=3.7,SNR=49
D24A **Glendive 123.54 307** P **PKPdf 14 58 34.3 +0.6**
baz=124
E22A **Miles City 123.69 305** P **PKPdf 14 58 33.2 -0.7**
baz=124
G20A **Bridger 123.72 303** P **PKPdf 14 58 33.9 -0.2**
baz=124
I17A **Pilgrim Ck. 123.76 300** P **PKPdf 14 58 34.3 -0.1**
baz=124
DANN **Dangsing 123.82 90** *e*P **PKPdf 14 58 34.4 -0.7**
DMN **Daman 123.92 92** *e*P **PKPdf 14 58 34.6 -0.7**
comp=Z,18nm,0.9s
H18A **Shoshone NF, C 123.94 301** P **PKPdf 14 58 33.7 -1.0**
baz=124
D23A **Lindsay 123.96 306** P **PKPdf 14 58 34.5 +0.1**
baz=124
B25A **Knox Farm, Ray 123.97 308** P **PKPdf 14 58 35.1 +0.7**
baz=124
OBN **Obninsk 123.98 38** PKP **PKPdf 14 58 33.0 -1.1**
comp=Z,22nm,0.4s,baz=13,slow=17,SNR=4.1
GKN **Gorkha 124.00 91** *e*P **PKPdf 14 58 34.2 -1.1**
comp=Z,8.3nm,0.6s
PKIN **Phulchoki 124.05 92** *e*P **PKPdf 14 58 34.5 -1.1**
comp=Z,14nm,0.9s
PKI **Pulchoki 124.05 92** *e*P **PKPdf 14 58 34.8 -0.8**
comp=Z,19nm,0.8s
KKN **Kakani 124.16 92** *e*P **PKPdf 14 58 34.9 -0.8**
comp=Z,9.1nm,0.7s
RAMN **Ramite 124.17 94** *e*P **PKPdf 14 58 35.6 -0.2**
comp=Z,27nm,0.8s
D22A **Cohagen 124.35 305** P **PKPdf 14 58 35.6 +0.5**
baz=125
C23A **Lambert 124.44 307** P **PKPdf 14 58 35.6 +0.3**
baz=125
ODAN **Odare 124.51 95** *e*P **PKPdf 14 58 36.1 -0.3**
JIRN **Jiri 124.53 93** *e*P **PKPdf 14 58 36.1 -0.5**
comp=Z,28nm,0.6s
F19A **Roth Farm, Mol 124.53 303** P **PKPdf 14 58 35.6 -0.1**
baz=125
GUN **Gumba 124.57 92** *e*P **PKPdf 14 58 36.2 -0.4**
comp=Z,13nm,0.6s
D21A **La Casta Ranch 124.63 305** P **PKPdf 14 58 36.2 +0.4**
baz=125
E20A **Meyer Farm, Mu 124.68 304** P **PKPdf 14 58 36.1 +0.2**
baz=125
C22A **Vida 124.69 306** P **PKPdf 14 58 36.1 +0.2**
baz=125
A24A **Westby 124.83 308** P **PKPdf 14 58 36.4 +0.4**
baz=125
TAPN **Taplejung 125.07 94** *e*P **PKPdf 14 58 36.5 -1.1**
D20A **Manuel Ranch, 125.14 304** P **PKPdf 14 58 37.1 +0.3**
baz=125
B22A **Reddig Ranch S 125.17 306** P **PKPdf 14 58 37.4 +0.7**
baz=126
A23A **Redstone 125.22 308** P **PKPdf 14 58 36.6 -0.2**
baz=126
C21A **Desert Coulee 125.27 305** P **PKPdf 14 58 36.9 0.0**
baz=126
D19A **Cripps Ranch, 125.52 304** P **PKPdf 14 58 37.9 +0.4**
baz=126
C20A **Veseth Ranch, 125.57 305** P **PKPdf 14 58 37.8 +0.3**
baz=126
BOZ **Bozeman (W) 125.57 301** *e*PKPdf **PKPdf 14 58 38.4 +0.7**
A22A **Carney Farms, 125.67 307** P **PKPdf 14 58 38.2 +0.5**
baz=126
B21A **Ellsworth Farm 125.70 306** P **PKPdf 14 58 38.3 +0.6**
baz=126
C19A **Slack Wire Ran 126.03 304** P **PKPdf 14 58 38.8 +0.4**
baz=126
A21A **Bergtold Ranch 126.09 306** P **PKPdf 14 58 38.9 +0.4**
baz=126
B20A **Solberg Farm, 126.13 305** P **PKPdf 14 58 38.9 +0.3**
baz=126
FINES **FINESS Array B 126.38 28** PKP **PKPdf 14 58 38.3 -0.2**
comp=Z,6.5nm,0.5s,baz=174,slow=3.3,SNR=58
FRB **Frobisher Bay 126.42 338** PKP **PKPdf 14 58 38.7 +0.2**
comp=Z,12nm,0.6s,baz=137,slow=3.1,SNR=39
A20A **Cobblestone Ra 126.43 306** P **PKPdf 14 58 39.7 +0.6**
baz=127
EGMT **Eagleton 126.56 304** P **PKPdf 14 58 40.2 +0.7**
baz=127
A19A **Klindworth Far 126.82 305** P **PKPdf 14 58 40.5 +0.6**
baz=127
KAF **Kangasniemi 127.01 28** *e*pkp **PKPdf 14 58 38.5 -1.2**
MSO **Missoula 127.51 300** P **PKPdf 14 58 42.1 +0.8**
baz=128
ABKAR **Abkulak array 128.23 56** *e*PKPdf **PKPdf 14 58 42.3 -0.2**
FFC **Flin Flon 128.52 314** *e*PKPdf **PKPdf 14 58 42.9 0.0**
LSA **Lhasa 128.75 96** *e*PKPdf **PKPdf 14 58 45.5 +0.8**
JOF **Joensuu 128.95 30** *e*pkp **PKPdf 14 58 41.8 -1.6**
comp=Z,14nm,0.7s
EDM **Edmonton 131.95 306** *e*PKPdf **PKPdf 14 58 49.3 -0.1**
ARCES **ARCESS Array B 133.13 22** PKhKP PKPpre 14 58 43.7
comp=Z,4.0nm,0.8s,baz=280,slow=2.5,SNR=5.4
ARCES PKP **PKPdf 14 58 51.1 0.0**
comp=Z,5.1nm,0.7s,baz=230,slow=2.2,SNR=31
KEV **Kevo 133.61 23** *e*pkp **PKPdf 14 58 51.1 -0.9**
DAG **Danmarks Havn 135.31 2** *i*P **PKPdf 14 58 53.8 -1.2**
comp=Z,5.5nm,0.8s
MKAR **Makanchi Array 136.96 73** PKhKP PKPpre 14 58 50.2
comp=Z,0.9nm,0.7s,baz=236,slow=2.2,SNR=9.3
KURBB **Kurchatov Arra 137.70 67** PKP **PKPdf 14 59 01.0 +0.7**
comp=Z,4.0nm,0.7s,baz=232,slow=2.7
KURK **Kurchatov 137.80 66** PKP **PKPdf 14 59 00.9 +0.6**
YKA **Yellowknife Ar 138.65 315** PKhKP PKPpre 14 58 53.9
comp=Z,0.6nm,0.5s,baz=121,slow=3.5,SNR=15
YKA PKP **PKPdf 14 59 00.2 -1.3**
comp=Z,25nm,0.6s,baz=129,slow=2.4,SNR=261
YKA PKKP **PKKPdf 15 08 30.0 -1.3**
comp=Z,0.1nm,0.5s,baz=332,slow=1.7,SNR=5.2
RES **Resolute Bay 140.63 337** PKhKP PKPpre 14 58 57.8
comp=Z,3.1nm,0.7s,baz=153,slow=5.7,SNR=22
RES PKP **PKPdf 14 59 06.0 +1.1**
comp=Z,7.9nm,0.8s,baz=200,slow=1.9,SNR=18
ZALV **Zalesovo Beam 142.79 66** PKhKP PKPpre 14 59 04.9
comp=Z,1.9nm,0.5s,baz=240,slow=2.9,SNR=7.2
JCJ **Chichijima 147.29 160** PKPbc **PKPbc 14 59 19.4 -1.0**
comp=Z,56nm,0.4s,baz=272,slow=13,SNR=6.9
CBIJ **Chichi jima 147.29 160** PKPbc **PKPbc 14 59 19.4 -1.0**
SONM **Songino Array 150.03 90** PKP **PKPdf 14 59 21.3 -0.6**
comp=Z,1.0nm,0.7s,baz=204,slow=2.1,SNR=4.6
SONM PKPbc **PKPbc 14 59 26.7 -0.3**
comp=Z,14nm,0.9s,baz=214,slow=2.2,SNR=47
EGAK **Eagle 150.08 309** *e*PKPbc **PKPbc 14 59 26.5 +0.1**
BMRM **Bremner River 150.17 301** *e*PKPbc **PKPbc 14 59 27.9 +1.2**
ULN **Ulaanbaatar 150.39 91** *e*PKPbc **PKPbc 14 59 28.8 +0.9**
MENT **Mentasta 150.52 305** *e*PKPbc **PKPbc 14 59 28.6 +1.1**
TLY **Talaya 150.90 82** *e*PKPbc **PKPbc 14 59 28.8 0.0**
DOT **Dot Lake 150.91 306** *e*PKPbc **PKPbc 14 59 29.6 +1.2**
PAX **Paxson 151.28 304** *e*PKPbc **PKPbc 14 59 30.3 +0.9**
ILAR **Eielson Array 152.42 308** PKPbc **PKPbc 14 59 31.6 -0.2**
comp=Z,12nm,0.8s,baz=321,slow=1.9,SNR=88
RC01 **Rabbit Creek A 152.54 299** *e*PKPbc **PKPbc 14 59 33.0 +0.9**
KSAR **Wonju Array Be 152.69 130** PKPbc **PKPbc 14 59 32.6 -0.6**
KSAR PKPab **PKPab 14 59 44.2 +0.2**
KSRS **Korea Array 152.72 130** PKPbc **PKPbc 14 59 32.6 -0.7**
comp=Z,3.7nm,0.6s,baz=188,slow=2.3,SNR=12
KSRS PKPab **PKPab 14 59 44.2 +0.1**
comp=Z,2.1nm,0.8s,baz=223,slow=5.1,SNR=4.1
COLA **College 152.85 308** *e*PKPbc **PKPbc 14 59 32.9 +0.3**
MCK **McKinley 153.00 305** *e*PKPbc **PKPbc 14 59 34.1 +1.0**
KTH **Kantishna Hill 153.81 304** *e*PKPbc **PKPbc 14 59 35.5 +0.6**
COLD **Coldfoot 154.25 312** *e*PKPbc **PKPbc 14 59 36.5 +0.9**
MJAR **Matsushiro Arr 155.45 148** PKPab **PKPab 14 59 55.4 -0.4**
comp=Z,3.3nm,0.8s,baz=171,slow=5.2,SNR=7.2
USRK **Ussuriysk Ar. 160.05 127** PKPab **PKPab 15 00 15.4 -0.2**
comp=Z,1.7nm,0.6s,baz=203,slow=4.4,SNR=4.9
PETK **Petropavlovsk- 174.05 200** PKP **PKPdf 14 59 44.4 -1.2**
comp=Z,2.4nm,0.9s,baz=131,slow=6.5,SNR=3.3
PETK PKPab **PKPab 15 01 16.9 -0.1**
comp=Z,4.1nm,0.8s,baz=134,slow=7.4,SNR=13

ISCJB **12** *14:45:32.9±0.9, 38°.05S±0°.08×73°.6W±0°.2, h22km, mb4.6/9, MS4.4/1, Error ellipse: s-maj=22.5km s-min=9.5km az=17.1*
IDC **12** *14:45:34.7±0.9, 38°.16S×73°.56W, h20km±4km, mb4.1/6, mb1 4.1/8, mb1mx4.0/18, mbtmp4.1/8, ML3.7/2, MS3.4/3, Ms1 3.4/3, ms1mx3.2/20, Error ellipse: s-maj=24.0km s-min=15.1km az=70.0*
NEIC **12** *14:45:35.9±0.6, 38°.15S×73°.70W, h35km, mb4.4/3, Error ellipse: s-maj=21.8km s-min=12.9km az=83.0*
ISC 12 14:45:34.6±0.8, 38°.13S±0°.09×73°.6W±0°.1, h22km, n25, σ0s62/30, mb4.6/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.52**	**139**		Pn		**Pn**	**14 46 29.1**	**+1.0**
3.8nm,0.3s,baz=296,slow=7.6,SNR=16									
PLCA					Lg		Lg	14 47 24.7	
18nm,0.3s,baz=243,slow=15,SNR=8.9									
PLCA					LR		LR	14 47 41.8	
comp=Z,356nm,20.4s,baz=251,slow=37									
CFAA	**Coronel Fontan**	**7.86**	**36**		Pn		**Pn**	**14 47 27.7**	**0.0**
0.2nm,0.3s,baz=185,slow=12,SNR=6.1									
CFAA					Sn		**Sn**	**14 48 55.8**	**-0.2**
0.1nm,0.3s,baz=303,slow=18,SNR=3.2									
CFAA					Lg		Lg	14 49 45.8	
0.1nm,0.3s,baz=128,slow=12,SNR=3.7									
CFAA					LR		LR	14 51 12.9	
comp=Z,48nm,20.4s,baz=227,slow=43									
SNAA	**Sanae**	**48.29**	**156**		P		**P**	**14 54 13.7**	**0.0**
3.0nm,1.2s,baz=298,slow=15,SNR=6.5									
SNAA	**Sanae**	**48.29**	**156**	*e*	P		**P**	**14 54 12.9**	**-0.8**
2.0nm,0.6s									
QSPA	**South Pole Qui**	**52.12**	**180**		P		**P**	**14 54 42.7**	**-0.2**
2.4nm,0.8s,baz=160,slow=3.2,SNR=3.7									
QSPA	**South Pole Qui**	**52.12**	**180**	*e*	P		**P**	**14 54 42.2**	**-0.7**
3.2nm,1.2s									
MAW	**Mawson**	**69.59**	**164**		LR		LR	15 26 15.1	
comp=Z,188nm,18.2s,baz=242,slow=35									
TXAR	**Lajitas Array**	**72.76**	**333**		P		**P**	**14 57 01.6**	**+0.5**
0.9nm,0.8s,baz=141,slow=8.9,SNR=6.4									
TXAR					pP		**pP**	**14 57 08.8**	**+0.6**
1.2nm,0.7s,baz=152,slow=9.1,SNR=7.9									
LIC	**Lamto**	**77.29**	**72**	*e*	P		**P**	**14 57 28.1**	**+0.5**
56nm,1.5s									
TIC	**Toumodi**	**77.57**	**71**	*e*	P		**P**	**14 57 29.7**	**+0.5**
13nm,0.2s									
KIC	**Kosan Boka**	**77.59**	**72**	*e*	P		**P**	**14 57 29.7**	**+0.4**
18nm,0.8s									
DBIC	**Dimbokro**	**77.71**	**71**		P		**P**	**14 57 30.9**	**+1.0**
5.2nm,0.8s,baz=210,slow=9.5,SNR=6.8									
DBIC					pP		**pP**	**14 57 37.0**	**-0.1**
7.7nm,0.8s,baz=223,slow=5.9,SNR=6.8									
DBIC	**Dimbokro**	**77.71**	**71**	*e*	P		**P**	**14 57 29.2**	**-0.7**
7.1nm,0.8s									
DBIC					pP		**pP**	**14 57 37.0**	**-0.1**
BOSA	**Boshof**	**79.28**	**118**		P		**P**	**14 57 38.6**	**0.0**
5.3nm,0.8s,baz=200,slow=5.8,SNR=9.6									
TORD	**Torodi Ar. Bea**	**86.80**	**71**		P		**P**	**14 58 17.0**	**-0.5**
0.6nm,0.7s,baz=224,slow=4.9,SNR=3.7									
TORD					pP		**pP**	**14 58 23.6**	**-1.2**
1.5nm,0.8s,baz=233,slow=4.5,SNR=5.7									
SEY	**Seymchan**	**142.88**	**327**		PKhKP		PKPpre	15 05 01.9	
0.4nm,0.5s,baz=101,slow=18,SNR=3.6									
SEY					PKP		**PKPdf**	**15 05 05.6**	**+0.3**
0.8nm,0.7s,baz=82,slow=6.8,SNR=4.9									
AKTO	**Aktyubinsk**	**143.87**	**54**		PKP		PKPbc	15 05 05.6	+0.3
2.2nm,0.7s,baz=257,slow=2.6,SNR=10									
ABKAR	**Abkulak array**	**145.14**	**56**	*e*	PKPdf		**PKPbc**	**15 05 09.0**	**-0.3**
BVAR	**Borovoye Array**	**151.09**	**47**		PKPbc		**PKPbc**	**15 05 25.8**	**+0.5**
1.7nm,0.7s,baz=287,slow=4.2,SNR=13									
BVAR					PKPab		**PKPab**	**15 05 32.6**	**-0.4**
3.2nm,0.7s,baz=295,slow=4.0,SNR=16									
AAK	**Ala-Archa**	**155.38**	**69**		PKPab		**PKPab**	**15 05 51.9**	**+0.2**
0.9nm,0.5s,baz=118,slow=21,SNR=4.0									
KURBB	**Kurchatov Arra**	**156.65**	**49**		PKPab		**PKPab**	**15 05 56.9**	**+0.3**
1.4nm,0.8s,baz=290,slow=5.1,SNR=11									
KURK	**Kurchatov**	**156.67**	**48**		PKPab		**PKPab**	**15 05 56.9**	**+0.2**
ZALV	**Zalesovo Beam**	**158.35**	**36**		pPKP		**pPKPdf**	**15 05 35.4**	**-1.5**
0.6nm,0.5s,baz=289,slow=4.5,SNR=2.6									
ZALV					PKPab		**PKPab**	**15 06 04.4**	**+0.6**
1.5nm,0.8s,baz=331,slow=5.8,SNR=4.5									
MKAR	**Makanchi Array**	**160.28**	**56**		PKPab		**PKPab**	**15 06 12.4**	**-0.2**
1.0nm,0.7s,baz=298,slow=3.1,SNR=10.0									
SONM	**Songino Array**	**170.29**	**360**		PKPab		**PKPab**	**15 06 57.2**	**+0.6**
0.3nm,0.5s,baz=347,slow=4.4,SNR=2.9									

ISCJB **12** *14:48:16.7±0.6, 64°.6N±0°.1×17°.7W±0°.2, h10km, mb3.4/9, Error ellipse: s-maj=18.9km s-min=6.5km az=27.0*
IDC **12** *14:48:16.8±0.9, 64°.56N×17°.77W, h0km, mb3.4/8, mb1 3.7/9, mb1mx3.5/42, mbtmp3.5/9, ML4.2/1, Error ellipse: s-maj=30.5km s-min=14.4km az=30.0*
ISC 12 14:48:18.2±0.7, 64°.5N±0°.2×17°.86W±0°.09, h10km, n17, σ1s25/18, mb3.4/9, Iceland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**1.51**	**280**		Pn		**Pn**	**14 48 44.1**	**-1.1**
13nm,0.3s,baz=84,slow=7.3,SNR=35									
BORG					Sn		**Sg**	**14 49 06.1**	**-0.6**
7.7nm,0.3s,baz=107,slow=8.0,SNR=5.7									
EKA	**Eskdalemuir Ar**	**11.77**	**135**		Pn		**Pn**	**14 51 04.9**	**-1.0**
baz=319,slow=13,SNR=5.5									
BAIF	**Baives**	**18.61**	**131**	*e*	P		**P**	**14 52 35.5**	**+0.1**
LOR	**Lormes**	**20.95**	**135**	*e*	P		**P**	**14 53 01.8**	**+0.8**
4.2nm,0.6s									
SSF	**Saint Saulge**	**21.03**	**136**	*e*	P		**P**	**14 53 02.6**	**+0.7**
CDF	**Champ du Feu**	**21.06**	**128**	*e*	P		**P**	**14 53 05.3**	**+3.1**
AVF	**Avril sur Loir**	**21.23**	**137**	*e*	P		**P**	**14 53 05.7**	**+1.7**
18nm,1.2s									
TCF	**Toulx Ste Croi**	**21.36**	**139**	*e*	P		**P**	**14 53 05.2**	**-0.2**
SMF	**Signal de Mont**	**21.51**	**136**	*e*	P		**P**	**14 53 07.4**	**+0.4**
FRB	**Frobisher Bay**	**21.65**	**291**		P		**P**	**14 53 10.2**	**+1.8**
0.8nm,0.3s,baz=29,slow=12,SNR=3.4									
GERES	**GERESS Array B**	**23.03**	**118**		P		**P**	**14 53 23.8**	**+0.6**
0.1nm,0.3s,baz=332,slow=7.8,SNR=2.6									
ESDC	**Sonseca Array**	**26.19**	**155**		P		**P**	**14 53 53.4**	**+0.7**
0.2nm,0.3s,baz=355,slow=9.5,SNR=4.1									
YKA	**Yellowknife Ar**	**39.20**	**313**		P		**P**	**14 55 46.2**	**+0.4**
0.3nm,0.8s,baz=43,slow=9.3,SNR=6.0									
ILAR	**Eielson Array**	**45.74**	**332**		P		**P**	**14 56 39.2**	**+0.2**
0.3nm,0.8s,baz=28,slow=6.1,SNR=4.0									
MKAR	**Makanchi Array**	**52.93**	**58**		P		**P**	**14 57 32.7**	**-1.4**
0.4nm,0.8s,baz=325,slow=5.9,SNR=3.9									
TORD	**Torodi Ar. Bea**	**53.07**	**156**		P		**P**	**14 57 35.2**	**-0.2**
0.7nm,0.8s,baz=340,slow=8.3,SNR=3.8									
PDAR	**Pinedale Array**	**53.09**	**293**		P		**P**	**14 57 36.1**	**+0.5**
0.8nm,0.9s,baz=43,slow=6.7,SNR=6.0									

ISCJB **12** *14:48:54.9±0.9, 33°.84N±0°.02×36°.55E±0°.08, h6km±5km, Error ellipse: s-maj=10.7km s-min=3.9km az=3.2*
NSSC **12** *14:48:54.0±1.1, 33°.80N×36°.67E, h0km±5km, MD0.0, ML3.1*
GRAL **12** *14:48:55.9±0.3, 33°.86N×36°.58E, h2km±4km, MD3.5*
CSEM **12** *14:48:55.0±0.2, 33°.83N×36°.57E, h5km, ML3.5, Error ellipse: s-maj=5.8km s-min=2.3km az=102.0*
DDA **12** *14:49:20.0, 34°.78N×35°.77E, h4km, MD3.7*
ISC 12 14:48:55.3±1.2, 33°.83N±0°.02×36°.57E±0°.04, h2km±10km, n33, σ0s87/60, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.43**	**342**	*e*	P		**Pg**	**14 49 03.2**	**-0.5**
FKH				*e*	S		**Sg**	**14 49 08.7**	**-0.6**
FKH	**Fakeheh**	**0.43**	**342**	*e*	P		**Pg**	**14 49 03.2**	**-0.5**
FKH				*e*	S		**Sg**	**14 49 08.7**	**-0.6**
TOTH	**TOTAH**	**0.48**	**194**	*e*	P		**Pg**	**14 49 04.1**	**-0.5**
SNR=91									
TOTH				*e*	S		**Sg**	**14 49 11.1**	**+0.2**
606nm,0.3s,SNR=59									
TOTH	**TOTAH**	**0.48**	**194**	*e*	P		**Pg**	**14 49 04.1**	**-0.5**
TOTH				*e*	S		**Sg**	**14 49 11.1**	**+0.2**
TOTH					AML		AML	14 49 15.9	
comp=N,746nm,0.3s									
TOTH					AML		AML	14 49 16.7	
comp=E,606nm,0.3s									
BRBR	**Barbar**	**0.67**	**231**	*e*	P		**Pg**	**14 49 08.4**	**+0.3**
SNR=75									
BRBR				*e*	S		**Sg**	**14 49 18.0**	**+1.3**
comp=E,317nm,0.4s,SNR=59									
BRBR	**Barbar**	**0.67**	**231**	*e*

comp=N,3μm,0.8s
BRBR **Barbar** 0.67 231 eP Pg 14 49 08.4 +0.3
BRBR eS Sg 14 49 18.0 +1.3
BRBR AML AML 14 49 25.5
comp=E,407nm,0.8s
BRBR AML AML 14 49 26.1
comp=N,317nm,0.4s
HWQ Hawqa 0.68 311 eP Pg 14 49 07.9 -0.5
HWQ eS Sg 14 49 16.9 -0.4
HWQ Hawqa 0.68 311 eP Pg 14 49 07.9 -0.5
HWQ eS Sg 14 49 16.9 -0.4
RCY Rachaya 0.70 242 eP Pg 14 49 08.9 +0.2
BHL Bhannes 0.76 276 eP Pg 14 49 09.7 -0.3
BHL Bhannes 0.76 276 eP Pg 14 49 09.7 -0.3
BEYL Beirut 0.90 273 eP Pg 14 49 12.0 -0.5
BIDA Albida 1.20 350 eP Pg 14 49 17.7 -0.6
SNR=57
BIDA eS Sn 14 49 35.9 -0.1
comp=N,2μm,0.4s,SNR=49
BIDA Albida 1.20 350 eP Pg 14 49 17.7 -0.6
BIDA eS Sn 14 49 35.9 -0.1
BIDA AML AML 14 49 38.7
comp=E,1μm,0.5s
BIDA AML AML 14 49 39.0
comp=N,2μm,0.4s
TCHB Talchebab 1.26 204 eP Pg 14 49 18.0 -1.6
TCHB eS Sg 14 49 35.3 -0.6
TCHB AML AML 14 49 38.9
comp=E,1μm,0.4s
TCHB AML AML 14 49 40.4
comp=N,559nm,0.4s
NAQL Naqoura 1.39 240 eP Pn 14 49 20.7 -1.0
NAQL Naqoura 1.39 240 eP Pn 14 49 20.7 -1.0
ARNB Al Arnab 2.08 347 eP Pn 14 49 31.2 -0.1
SNR=45
ARNB eS Sn 14 49 58.3 +0.4
comp=N,241nm,0.3s,SNR=40
ARNB Al Arnab 2.08 347 eP Pn 14 49 31.2 -0.1
ARNB eS Sb 14 50 00.3 +0.1
ARNB AML AML 14 50 02.8
comp=E,325nm,0.4s
ARNB AML AML 14 50 05.7
comp=N,241nm,0.3s
ARNB Al Arnab 2.08 347 eP Pn 14 49 31.2 -0.1
ARNB eS Sn 14 49 58.4 +0.4
ARNB AML AML 14 50 05.2
comp=E,267nm,0.4s
ARNB AML AML 14 50 05.8
comp=N,241nm,0.3s
BTCH Batrach 2.20 358 eP Pn 14 49 32.2 -0.8
SNR=45
BTCH eS Sn 14 49 59.8 -1.0
comp=N,226nm,0.8s,SNR=40
BTCH Batrach 2.20 358 eP Pn 14 49 32.2 -0.8
BTCH eS Sn 14 49 59.8 -1.0
BTCH AML AML 14 50 09.2
comp=N,344nm,0.3s
BTCH AML AML 14 50 13.1
comp=E,226nm,0.8s
YAYL Yayladag 2.23 350 iP Pn 14 49 32.4 -1.0
YAYL iS Sn 14 50 01.5 -0.1
YAYL Yayladag 2.23 350 iP Pn 14 49 32.4 -1.0
YAYL iS Sn 14 50 01.5 -0.1
KUZU Kuzuini 2.96 8 iP Pb 14 49 49.8 +0.9
KUZU iS Sb 14 50 26.8 +1.2
KUZU Kuzuini 2.96 8 iP Pb 14 49 49.8 +0.9
KUZU iS Sb 14 50 26.8 +1.2
KIZK Mersin 3.31 324 iP Pn 14 49 47.7 -0.3
KIZK iS Sn 14 50 26.2 -1.7
KIZK Mersin 3.31 324 iP Pn 14 49 47.7 -0.3
KIZK iS Sn 14 50 26.2 -1.7
KAMA Osmaniye 3.35 1 iP Pb 14 49 56.6 +1.2
KAMA iS Sb 14 50 39.6 +2.9
GZT Gaziantep 3.61 13 iP Pg 14 50 04.7 +0.2
GZT iS Sg 14 50 49.7 -1.6
GULE Gulek 3.74 338 iP Pn 14 49 54.3 +0.1
GULE iS Sn 14 50 38.2 -0.7
GULE Gulek 3.74 338 iP Pn 14 49 54.3 +0.1
GULE iS Sn 14 50 38.2 -0.7

IDC 12 14:51:24.7±27.0, 20°99S×173°33W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/33, mbtmp3.9/4, Error ellipse: s-maj=502.3km s-min=156.1km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.79**	**264**	P	P	14 58 43.5	+0.5
	3.5nm,0.9s,baz=90,slow=14,SNR=3.5						
STKA	**Stephens Creek**	**41.53**	**245**	P	P	14 59 14.1	0.0
	1.4nm,0.6s,baz=90,slow=8.1,SNR=4.8						
ASAR	**Alice Springs**	**48.66**	**256**	P	P	15 00 10.4	-0.5
	0.8nm,0.6s,baz=107,slow=7.7,SNR=14						
WRA	**Warramunga Arr**	**48.85**	**261**	P	P	15 00 12.1	-0.4
	0.5nm,0.5s,baz=96,slow=8.3,SNR=12						

*IDC **12** 14:52:06.8±0.7, 37°57S×73°64W, h0km, mb4.0/9, mb1 4.1/11, mb1mx4.1/24, mbtmp3.9/11, ML3.7/2, Error ellipse: s-maj=26.8km s-min=16.1km az=106.0*
*ISCJB **12** 14:52:08.6±0.7, 37°53S±0°07×73°6W±0°1, h23km, mb4.0/9, Error ellipse: s-maj=17.3km s-min=9.1km az=20.1*
*NEIC **12** 14:52:11.8±0.6, 37°52S×73°55W, h35km, mb4.0/2, Error ellipse: s-maj=19.7km s-min=10.4km az=94.0*

ISC 12 14:52:10.2±0.8, 37°54S±0°08×73°7W±0°1, h23km, n20, σ0°99/19, mb4.0/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.01**	**144**	Pn	Pn	14 53 10.8	+0.6
	1.5nm,0.3s,baz=315,slow=12,SNR=24						
PLCA				Lg	Lg	14 54 10.4	
	baz=50,slow=19						
CFAA	**Coronel Fontan**	**7.43**	**39**	Pn	Pn	14 53 56.0	-1.3
	0.7nm,0.3s,baz=206,slow=12,SNR=16						
CFAA				Sn	Sn	14 55 22.3	+1.5
	0.2nm,0.3s,baz=221,slow=17,SNR=2.1						
CFAA				Lg	Lg	14 56 04.7	
	0.0nm,0.3s,baz=143,slow=15,SNR=7.1						
LCO	**Las Campanas**	**8.87**	**17**	ePn	Pn	14 54 15.2	-2.0
	25nm,0.8s						
LPAZ	**La Paz**	**21.73**	**15**	P	P	14 57 01.9	+1.4
	3.7nm,0.9s,baz=161,slow=6.3,SNR=9.9						
LPAZ	**La Paz**	**21.73**	**15**	eP	P	14 57 00.6	0.0
	6.3nm,0.8s						
SIV	**San Ignacio**	**24.19**	**31**	P	P	14 57 24.7	-0.3
	3.9nm,0.8s,baz=243,slow=6.8,SNR=10						
QSPA	**South Pole Qui**	**52.70**	**180**	P	P	15 01 23.3	+0.6
	3.1nm,1.0s,baz=150,slow=5.7,SNR=5.4						
QSPA	**South Pole Qui**	**52.70**	**180**	eP	P	15 01 21.6	-1.0
	1.2nm,0.8s						
VNDA	**Vanda**	**60.37**	**192**	P	P	15 02 16.2	-0.6
	1.9nm,0.9s,baz=276,slow=14,SNR=9.0						
TXAR	**Lajitas Array**	**72.22**	**333**	P	P	15 03 34.5	+1.1
	0.8nm,0.7s,baz=159,slow=7.5,SNR=5.6						
DBIC	**Dimbokro**	**77.57**	**72**	P	P	15 04 04.8	+0.2
	5.6nm,0.9s,baz=230,slow=5.0,SNR=5.6						
NVAR	**Mina Array Bea**	**86.09**	**326**	P	P	15 04 49.9	+0.9
	0.3nm,0.5s,baz=153,slow=6.1,SNR=3.0						
PDAR	**Pinedale Array**	**86.34**	**334**	P	P	15 04 50.2	-0.1
	0.4nm,0.8s,baz=133,slow=4.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**86.65**	**71**	P	P	15 04 51.8	-0.4
	0.8nm,0.7s,baz=237,slow=3.9,SNR=6.1						
AKTO	**Aktyubinsk**	**143.57**	**54**	PKhKP	PKPpre	15 11 39.4	
	0.9nm,0.9s,baz=281,slow=5.0,SNR=3.5						
ABKAR	**Akbulak array**	**144.85**	**55**	ePKPdf	PKPbc	15 11 44.0	+0.1
BVAR	**Borovoye Array**	**150.73**	**46**	PKPbc	**PKPbc**	15 12 00.6	+0.7
	1.7nm,0.7s,baz=276,slow=4.2,SNR=12						
AAK	**Ala-Archa**	**155.21**	**68**	PKPab	**PKPab**	15 12 25.4	-1.0
	2.1nm,0.7s,baz=184,slow=13,SNR=5.4						
ZALV	**Zalesovo Beam**	**157.91**	**35**	PKPab	**PKPab**	15 12 37.5	+0.2
	0.7nm,0.3s,baz=297,slow=4.5,SNR=5.4						
MKAR	**Makanchi Array**	**160.00**	**55**	PKPab	**PKPab**	15 12 46.8	0.0
	0.5nm,0.8s,baz=276,slow=2.3,SNR=4.4						

TRN 12 14:55:24.8, 14°64N×60°98W, h102km, MD3.5, M3.4(FDF), 2C-11D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAM	**Aeronautique**	**0.08**	**217**	⇑eP	Pn	14 55 40.4	+1.5
ZAM				eS	Sn	14 55 51.5	+2.0
MVM	**Montagne Vaucl**	**0.12**	**135**	eP	Pn	14 55 40.1	+1.0
TRMF	**Trois Ilets**	**0.12**	**215**	⇓eP	Pn	14 55 40.9	+1.8
BVM	**Bellevue**	**0.13**	**320**	⇑eP	Pn	14 55 40.1	+1.0
BIM	**Bigot**	**0.15**	**217**	⇓eP	Pn	14 55 41.2	+2.1
FDF	**Fort de France**	**0.19**	**300**	eP	Pn	14 55 40.5	+1.2
FDF	**Fort de France**	**0.19**	**300**	eP	Pn	14 55 41.0	+1.7
FDF				eS	Sn	14 55 51.4	+1.3
FDF				eS	Sn	14 55 51.8	+1.8
SVN	**Savane Anatole**	**0.27**	**318**	⇓eP	Pn	14 55 41.0	+1.5
SVN				eS	Sn	14 55 52.4	+1.8
DSHT	**Scott's Head**	**0.69**	**326**	⇓iP	Pn	14 55 43.5	+1.2
DSHT				eS	Sn	14 55 56.4	+0.9
DLPL	**La Plaine**	**0.74**	**340**	eP	Pn	14 55 43.5	+0.7
DLPL	**La Plaine**	**0.74**	**340**	⇓iP	Pn	14 55 43.5	+0.7
DLPL				eS	Sn	14 55 56.6	+0.4
DLPL				eS	Sn	14 55 56.7	+0.4
MCLT	**Moule a Chique**	**0.92**	**178**	eP	Pn	14 55 45.4	+0.8
MCLT				eS	Sn	14 56 00.1	+0.7
BBL	**Barber's Block**	**1.00**	**332**	⇓iP	Pn	14 55 46.6	+1.1
SFAN	**Fancy Village**	**1.26**	**189**	eP	Pn	14 55 49.7	+1.4
SFAN				eS	Sn	14 56 06.9	+0.8
TBG	**Guadaloupe-3**	**1.37**	**332**	eP	Pn	14 55 50.8	+1.3
SVB	**Belmont**	**1.38**	**191**	eP	Pn	14 55 51.1	+1.3
SVB	**Belmont**	**1.38**	**191**	eP	Pn	14 55 51.3	+1.5
SVB				eS	Sn	14 56 09.7	+1.0
PHG	**Guadaloupe-2**	**1.51**	**335**	⇓iP	Pn	14 55 52.6	+1.1
DOG	**Dongo Capester**	**1.52**	**336**	eP	Pn	14 55 52.4	+1.0
ECG	**Echelle**	**1.54**	**335**	⇓iP	Pn	14 55 52.9	+1.0
SCG	**Saint Claude**	**1.54**	**334**	eP	Pn	14 55 52.8	+1.0
LKG	**Breislack**	**1.54**	**335**	⇓iP	Pn	14 55 52.9	+0.9
TAG	**Tarade**	**1.54**	**335**	⇓iP	Pn	14 55 53.1	+1.2
CRG	**Carmichael**	**1.55**	**335**	eP	Pn	14 55 53.0	+1.0
FNG	**Fond-Bernard**	**1.57**	**334**	eP	Pn	14 55 53.2	+1.1
MLG	**Mont-d'or**	**1.58**	**334**	⇓iP	Pn	14 55 53.5	+1.2
MLG				eS	Sn	14 56 14.8	+1.7
SSG	**Sans Toucher**	**1.59**	**335**	eP	Pn	14 55 53.3	+0.7
LZG	**Guadaloupe-1**	**1.68**	**333**	eP	Pn	14 55 54.5	+1.1
SEG	**Port Louis**	**1.83**	**344**	eP	Pn	14 55 55.9	+0.6

IDC 12 15:07:27.9±5.5, 29°25S×178°33W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.5/22, mbtmp3.3/2, Error ellipse: s-maj=286.5km s-min=81.5km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.90**	**266**	P	P	15 15 28.2	-0.2
	0.2nm,0.8s,baz=105,slow=7.3,SNR=7.3						
WRA	**Warramunga Arr**	**43.78**	**271**	P	P	15 15 35.6	-0.1
	0.4nm,0.6s,baz=109,slow=8.2,SNR=7.6						
FINES	**FINESS Array B**	**143.97**	**340**	PKP	PKPdf	15 27 04.1	-0.5
	1.7nm,0.5s,baz=65,slow=3.1,SNR=19						

IGQ 12 15:18:18±0.7, 0°09N×80°96W, h4km±45km, Mb4.2, 10C-8D, Error ellipse: s-maj=4.2km s-min=2.4km az=16.6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.83**	**115**	⇓P	Pg	15 18 33.7	-0.5
MAG1	**Magdalena**	**1.20**	**98**	P	Pg	15 18 41.0	-0.1
MAG1	**Magdalena**	**1.20**	**98**	S	Sg	15 18 56.5	-0.3
PECV	**Mancha de Ca P**	**1.26**	**133**	S	Sg	15 18 49.8	-8.7
PECV	**Mancha de Ca P**	**1.26**	**133**	P	Pg	15 18 38.0	-4.2
ISPT	**Isla de la Pla**	**1.35**	**185**	⇓P	Pb	15 18 44.7	+0.8
ISPT	**Isla de la Pla**	**1.35**	**185**	⇓S	Sg	15 18 60.0	-1.5
GOLV	**Golondrinas**	**1.83**	**86**	P	Pn	15 18 50.1	-0.3
PINO	**Pino**	**2.37**	**96**	P	Pn	15 18 58.6	+0.1
TERV	**Terraza Guagua**	**2.37**	**96**	⇓P	Pn	15 18 58.2	-0.3
JUA2	**San Juan 2**	**2.38**	**97**	P	Pn	15 18 58.1	-0.4
GGP	**Refugio Guagua**	**2.38**	**96**	P	Pn	15 18 58.0	-0.7
PAST	**Pastocalle**	**2.45**	**109**	P	Pn	15 18 59.8	+0.4
OTAV	**Otavalo**	**2.52**	**87**	⇑S	Sn	15 19 32.0	0.0
OTAV	**Otavalo**	**2.52**	**87**	⇑P	Pn	15 19 00.5	+0.1
CAMI	**Rancho Maria**	**2.57**	**107**	P	Pn	15 19 02.6	+1.4
NAS2	**Nasa**	**2.60**	**106**	⇑P	Pn	15 19 02.5	+0.9
BREF	**Cotopaxi Volca**	**2.63**	**107**	⇑P	Pn	15 19 04.0	+1.8
BREF	**Cotopaxi Volca**	**2.63**	**107**	⇑S	Sb	15 19 37.7	-2.2
BMOR	**Cotopaxi Volca**	**2.63**	**108**	⇑P	Pn	15 19 02.5	+0.4
BVC2	**Cotopaxi Volca**	**2.66**	**106**	⇑S	Sn	15 19 36.5	+0.8
BVC2	**Cotopaxi Volca**	**2.66**	**106**	⇑P	Pn	15 19 03.2	+0.8
VC1	**Cotopaxi 1**	**2.66**	**106**	P	Pn	15 19 03.3	+0.8
BTAM	**Cotopaxi Volca**	**2.68**	**106**	⇑P	Pn	15 19 04.6	+1.9
BTAM	**Cotopaxi Volca**	**2.68**	**106**	⇑S	Sn	15 19 35.1	-1.0
TAMB	**Tambo**	**2.71**	**107**	⇓P	Pn	15 19 04.9	+1.8
COV1	**Cotopaxi Volc**	**2.72**	**106**	P	Pn	15 19 03.9	+0.4
IGUA	**Igualata**	**2.80**	**124**	P	Pb	15 19 07.7	-1.8
PISA	**Pisayambo**	**2.82**	**114**	P	Pn	15 19 05.8	+1.2
ANTI	**Antisana**	**2.85**	**101**	⇓P	Pn	15 19 06.2	+1.0
BMAS	**Trigal station**	**2.94**	**123**	P	Pn	15 19 07.9	+1.8
CAYR	**Refugio Cayamb**	**2.96**	**91**	⇓P	Pb	15 19 09.5	-2.6
BRUN	**Tungurahua Vol**	**2.96**	**120**	P	Pn	15 19 07.2	+0.8
BULB	**Ulba Tungurahu**	**2.97**	**121**	⇓P	Pn	15 19 07.2	+0.6
CAYA	**Cayambe**	**2.97**	**90**	P	Pn	15 19 08.3	+1.5
ULBA	**Ulba**	**2.98**	**121**	P	Pn	15 19 07.3	+0.7
PAT1	**Patacocha**	**2.98**	**122**	S	Sn	15 19 44.4	+0.8
PAT1	**Patacocha**	**2.98**	**122**	P	Pn	15 19 08.4	+1.6
BPAT	**Tungurahua Vol**	**2.98**	**122**	P	Pn	15 19 08.4	+1.6
MACE	**Macas**	**3.61**	**130**	P	Pn	15 19 18.2	+3.1

*ISCJB **12** 15:30:59.7±1.6, 34°53S±0°03×71°85W±0°05, h10km±10km, mb4.2/10, Error ellipse: s-maj=8.0km s-min=3.6km az=23.2*
*IDC **12** 15:30:59.5±0.6, 34°54S×71°93W, h0km, mb4.1/10, mb1 4.4/12, mb1mx4.3/23, mbtmp4.2/12, ML3.7/2, Error ellipse: s-maj=28.0km s-min=16.1km az=88.0*
*GUC **12** 15:31:00.2±0.5, 34°54S×71°78W, h32km±6km, ML4.1*
*NEIC **12** 15:31:04.8±0.5, 34°52S×71°92W, h35km, mb4.0/3, Error ellipse: s-maj=15.4km s-min=8.6km az=93.0*

ISC 12 15:31:00.7±2.6, 34°51S±0°04×71°88W±0°07, h8km±16km, n36, σ1°41/41, mb4.2/10, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.91**	**167**	iP	Pb	15 31 17.0	-1.8
TALC				iS	**Sg**	**15 31 29.2**	**-0.9**
RCDM	**Rinconada Maip**	**1.35**	**42**	⇑iP	Pn	15 31 24.2	-1.8
RCDM				iS	**Sn**	**15 31 42.2**	**-2.0**
RCDM				AML	AML	15 31 45.9	
	comp=E,5μm,0.3s						
ANTU	**Antumapu**	**1.40**	**48**	iP	Pn	15 31 24.2	-2.4
ANTU				iS	**Sn**	**15 31 43.5**	**-1.9**
FSR	**Penalolen**	**1.53**	**48**	eP4	**Pn**	**15 31 28.1**	**-0.3**
FSR				iS	**Sn**	**15 31 47.2**	**-1.3**
SJCH	**San Jose de Ma**	**1.54**	**56**	eP	Pn	15 31 26.7	-1.9
SJCH				iS	**Sn**	**15 31 47.0**	**-1.7**
SJCH				AML	AML	15 31 51.9	
	comp=N,5μm,0.5s						
CLCH	**Cerro Calan**	**1.58**	**46**	iP	Pn	15 31 27.1	-2.0
CLCH				iS	**Sn**	**15 31 48.8**	**-1.0**
CLCH				AML	AML	15 31 55.0	
	comp=N,13μm,0.7s						
PEL	**Peldehue**	**1.69**	**37**	iP	Pn	15 31 28.9	-1.7
PEL				iS	**Sn**	**15 31 52.2**	**-0.2**
PEL				AML	AML	15 31 55.9	
	comp=N,18μm,0.5s						
FCH	**Farellones**	**1.77**	**49**	iP	**Pn**	**15 31 30.9**	**-1.1**
FCH				iS	**Sn**	**15 31 54.2**	**-0.7**
COCH	**Cobquecura**	**1.78**	**204**	⇓iP	**Pn**	**15 31 30.9**	**-0.9**
COCH				iS	**Sn**	**15 31 54.5**	**-0.1**
CFAA	**Coronel Fontan**	**4.21**	**48**	Pn	**Pn**	**15 32 07.3**	**+1.9**
	comp=N,1.0nm,0.3s,baz=198,slow=13,SNR=20						
CFAA				Sn	**Sn**	**15 33 00.0**	**+5.2**
	comp=N,0.8nm,0.3s,baz=283,slow=18,SNR=2.6						
CFAA				Lg	Lg	15 33 11.7	
	comp=N,1.3nm,0.3s,baz=262,slow=22,SNR=4.2						
LCO	**Las Campanas**	**5.57**	**11**	eP	**Pn**	**15 32 24.4**	**+0.1**
	comp=N,29nm,0.6s						
LCO				eSn	**Sn**	**15 33 28.6**	**-0.1**
PLCA	**Paso Flores**	**6.30**	**171**	Pn	**Pn**	**15 32 35.5**	**+1.5**
	baz=340,slow=14						
PLCA				Lg	Lg	15 34 13.4	
	comp=N,1.5nm,0.3s,baz=61,slow=18,SNR=3.1						
PLCA	**Paso Flores**	**6.30**	**171**	eP	**Pn**	**15 32 35.8**	**+1.7**
PLCA				eSn	**Sn**	**15 33 46.0**	**-0.2**
PLCA				Lg	Lg	15 34 13.4	
TRQA	**Tornquist**	**8.74**	**117**	P	**Pn**	**15 33 08.2**	**+0.7**
	comp=N,26nm,0.9s						
TRQA				eSn	**Sn**	**15 34 47.2**	**+0.9**
LPAZ	**La Paz**	**18.46**	**11**	P	**Pn**	**15 35 19.5**	**+1.9**
	comp=N,0.2nm,0.3s,baz=180,slow=6.6,SNR=10						
LPAZ	**La Paz**	**18.46**	**11**	eP	**P**	**15 35 17.4**	**-0.1**
	comp=N,4.0nm,0.7s						
USHA	**Ushuaia**	**20.46**	**174**	P	**P**	**15 35 38.7**	**+0.1**
	comp=N,15nm,0.8s,baz=312,slow=10.0,SNR=4.7						
SIV	**San Ignacio**	**20.84**	**30**	P	**P**	**15 35 43.5**	**+0.5**
	comp=N,2.6nm,0.8s,baz=160,slow=7.0,SNR=6.1						
SAML	**Samuel**	**26.66**	**19**	eP	**P**	**15 36 41.6**	**+1.4**
BDFB	**Brasilia**	**28.52**	**55**	P	P	15 37 00.4	+3.4
	comp=N,4.1nm,0.6s,baz=218,slow=11,SNR=6.4						
PTGA	**Pitinga**	**35.41**	**21**	eP	**P**	**15 37 56.6**	**-0.6**
SNAA	**Sanae**	**51.07**	**158**	P	**P**	**15 40 03.2**	**0.0**
	comp=N,2.0nm,0.9s,baz=332,slow=6.3,SNR=5.1						
SNAA	**Sanae**	**51.07**	**158**	eP	**P**	**15 40 02.0**	**-1.3**
	comp=N,2.0nm,0.9s						
QSPA	**South Pole Qui**	**55.73**	**180**	eP	**P**	**15 40 37.8**	**+0.2**
	comp=N,1.5nm,0.8s						
VNDA	**Vanda**	**63.63**	**191**	P	**P**	**15 41 32.7**	**+1.0**
	comp=N,1.7nm,0.9s,baz=122,slow=6.2,SNR=6.5						
SYO	**Syowa Base**	**65.35**	**158**	⇓eP	P	15 41 47.0	+4.0
TXAR	**Lajitas Array**	**70.24**	**331**	P	**P**	**15 42 14.8**	**+0.4**
	comp=N,0.9nm,0.6s,baz=152,slow=8.1,SNR=9.4						
BOSA	**Boshof**	**79.72**	**118**	P	**P**	**15 43 09.4**	**-0.1**
	comp=N,5.0nm,0.7s,baz=262,slow=6.4,SNR=8.0						
TORD	**Torodi Ar. Bea**	**84.26**	**70**	P	**P**	**15 43 32.9**	**-0.5**
	comp=N,2.5nm,0.7s,baz=241,slow=3.5,SNR=13						
PDAR	**Pinedale Array**	**84.27**	**333**	P	**P**	**15 43 33.6**	**+0.6**
	comp=N,1.2nm,1.0s,baz=149,slow=3.5,SNR=6.3						
NVAR	**Mina Array Bea**	**84.38**	**325**	P	**P**	**15 43 34.6**	**+0.9**
	comp=N,1.0nm,0.8s,baz=165,slow=5.0,SNR=5.1						
ULM	**Lac du Bonnet**	**87.02**	**345**	P	**P**	**15 43 45.8**	**-0.5**
	comp=N,2.7nm,0.7s,baz=157,slow=4.9,SNR=4.7						
ASAR	**Alice Springs**	**117.17**	**207**	PKP	**PKPdf**	**15 49 45.3**	**-1.8**
	comp=N,0.3nm,0.8s,baz=104,slow=3.0,SNR=3.4						
WRA	**Warramunga Arr**	**120.38**	**209**	PKP	**PKPdf**	**15 49 52.0**	**-1.3**
	comp=N,0.3nm,0.5s,baz=155,slow=1.8,SNR=10						
ZALV	**Zalesovo Beam**	**154.59**	**33**	PKPbc	**PKPbc**	**15 51 00.1**	**-1.4**
	comp=N,0.7nm,0.5s,baz=339,slow=3.7,SNR=3.3						
MKAR	**Makanchi Array**	**157.00**	**50**	PKPab	**PKPab**	**15 51 28.6**	**+1.7**
	comp=N,0.6nm,0.9s,baz=298,slow=3.1,SNR=3.8						

*NEIC **12** 15:31:60.0±0.4, 3°95N×128°53E, h35km, mb4.7/18, Error ellipse: s-maj=9.3km s-min=7.0km az=79.0*
*ISCJB **12** 15:31:59.5±0.2, 3°90N±0°02×128°51E±0°03, h46km, mb4.5/38, MS3.5/3, Error ellipse: s-maj=3.7km s-min=3.1km az=162.1*
*IDC **12** 15:32:03.2±2.1, 3°82N×128°45E, h68km±18km, mb4.0/15, mb1 4.2/16, mb1mx4.0/35, mbtmp4.3/16, MS3.6/4, Ms1 3.6/4, ms1mx3.0/31, Error ellipse: s-maj=22.6km s-min=10.4km az=73.0*
*MAN **12** 15:32:07, 4°37N×128°05E, h9km, mb5.6, ML4.6, MS4.9*
*DJA **12** 15:32:08.6±0.5, 4°N±3°×12°8E±°, h42km±5km, M5.0/48, mb5.0/48, mB5.5/29, MLv5.3/15, Mw(mB)5.0/29*
*KLM **12** 15:32:08.5, 3°38N×127°93E, h20km, mb4.9, ML4.4, MS5.8*

ISC 12 15:32:01.3±0.4, 3°89N±0°04×128°50E±0°04, h46km, n141, σ1°52/143, mb4.6/37, MS3.5/3, 6C-4D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.97**	**266**	P	Pn	15 32 42.2	-3.7
TNTI	**Ternate**	**3.29**	**200**	P	**Pn**	**15 32 52.7**	**+2.3**
TNTI	**Ternate**	**3.29**	**200**	ePn	**Pn**	**15 32 52.7**	**+2.3**
TNTI				eSn	**Sn**	**15 33 29.9**	**+1.6**
MATI	**Mati**	**3.77**	**324**	eP	**Pn**	**15 32 56.8**	**-0.1**
LBMI	**Labuha**	**4.60**	**193**	P	**Pn**	**15 33 09.9**	**+1.5**
BUKP	**Musuan**	**5.24**	**319**	eP	**Pn**	**15 33 18.8**	**+1.7**
CTBH	**Cotabato--PC H**	**5.37**	**308**	⇑iP	**Pn**	**15 33 19.7**	**+0.7**
SWI	**Sorong**	**5.47**	**150**	P	**Pn**	**15 33 21.5**	**+1.3**
	137nm,0.6s,2μm0.6nm						
SWI				S	**Sn**	**15 34 20.9**	**-1.0**
	137nm,0.6s,2μm0.6nm						
SWI	**Sorong**	**5.47**	**150**	P	**Pn**	**15 33 22.5**	**+2.3**
	baz=5.6,SNR=68						
SWI				S	**Sn**	**15 34 22.1**	**+0.2**
	baz=5.6,SNR=9.4						
KMSI	**Cibinong**	**5.58**	**234**	P	**Pn**	**15 33 21.8**	**0.0**
	2μm,1.2s,14μm6.3nm						
BUTP	**Butuan**	**5.80**	**331**	eP	**Pn**	**15 33 27.4**	**+2.5**
CGP	**Cagayan de Oro**	**5.91**	**320**	eP	**Pn**	**15 33 26.9**	**+0.6**
GTOI	**Gorontalo**	**6.36**	**240**	P	**Pn**	**15 33 33.4**	**+0.9**
	1μm,0.8s,16μm5.8nm						
SANI	**Sanana**	**6.41**	**203**	P	**Pn**	**15 33 33.1**	**0.0**
	104nm,1.0s,3μm0.8nm						
SANI				S	**Sn**	**15 34 41.3**	**-3.7**
	104nm,1.0s,3μm0.8nm						
PAGZ	**Pagadian**	**6.43**	**308**	eP	**Pn**	**15 33 35.2**	**+1.7**
SCPH	**Surigao**	**6.57**	**333**	⇓eP	**Pn**	**15 33 37.1**	**+1.6**
PALU	**Palau**	**6.87**	**60**	P	**Pn**	**15 33 40.4**	**+0.9**
	baz=6.8,SNR=7.2						
PALU				S	**Sn**	**15 34 57.0**	**+0.6**
	baz=6.8,SNR=3.6						
MSLP	**Maasin**	**7.18**	**330**	eP	**Pn**	**15 33 44.2**	**+0.4**
NLAI	**Namlea**	**7.21**	**191**	P	**Pn**	**15 33 47.1**	**+2.9**
	53nm,1.0s,1μm0.5nm						
NLAI				S	**Sn**	**15 35 08.6**	**+3.7**
	53nm,1.0s,1μm0.5nm						
MRSI	**Marisa**	**7.37**	**243**	P	**Pn**	**15 33 48.5**	**+2.1**
	5μm,0.6s,48μm20nm						
LUWI	**Luwuk**	**7.53**	**230**	P	**Pn**	**15 33 50.5**	**+1.9**
	338nm,0.6s

SBUM	Sibu	16.31 265	*e*Pn	Pn	15 35 46.8	-0.6
	76nm,1.1s					
MTN	Manton Dam	16.83 171	P	Pn	15 35 54.1	+0.4
	baz=17,SNR=7.6					
KDU	Kakadu	16.93 167	P	Pn	15 35 55.7	+0.7
	baz=17,SNR=6.7					
STKI	Sintang	17.43 258	P	Pn	15 36 01.5	+0.3
	70nm,0.8s,13μm					
SRBI	Singaraja	17.80 228	P	P	15 36 06.5	+0.4
	80nm,0.8s					
KSM	Kuching	18.32 263	P	Pn	15 36 12.9	+0.7
	baz=18,SNR=11					
KSM	Kuching	18.32 263	⇑P	Pn	15 36 13.0	+0.8
KSM	Kuching	18.32 263	*e*Pn	P	15 36 11.8	-0.1
	34nm,0.6s					
IGBI	Denpasar	18.34 226	P	Pn	15 36 17.3	+4.9
	74nm,0.7s,941nm					
BLJI	Banyuglugur	18.83 232	P	Pn	15 36 26.8	+8.5
JAGI	Jajag, Banyuwa	18.85 229	P	Pn	15 36 19.4	+0.8
	58nm,1.2s					
JAGI	Jajag, Banyuwa	18.85 229	P	P	15 36 18.4	+0.8
	baz=19,SNR=11					
JAGI	Jajag, Banyuwa	18.85 229	*e*P	P	15 36 16.1	-1.6
	32nm,0.7s					
GMJI	Gumukmas	19.27 231	P	Pn	15 36 25.1	+1.5
	84nm,0.8s,836nm					
KNRA	Kununurra	19.44 179	P	P	15 36 24.2	+0.2
	baz=20,SNR=56					
PWJI	Pagerwojo	20.43 235	P	P	15 36 35.2	+0.4
	53nm,0.9s					
WOJI	Wonogiri, Jawa	21.05 236	P	P	15 36 44.7	+3.1
	81nm,0.8s,6μm					
SSLB	Suanglung	21.08 340	*e*P	P	15 36 41.2	-0.7
	25nm,0.6s					
UGM	Wanagama	21.42 237	P	P	15 36 49.1	+3.5
	baz=22,SNR=3.9					
YHNB	Yeheng	21.77 342	*e*P	P	15 36 50.1	+0.8
	15nm,0.8s					
KPJI	Karang Pucung	22.48 240	P	P	15 36 57.4	+0.4
	46nm,1.0s					
PMG	Port Moresby	22.81 125	P	P	15 37 00.1	-0.3
	27nm,0.9s,baz=305,slow=12,SNR=3.9					
COEN	Coen	22.94 141	P	P	15 37 03.2	+1.4
	baz=23,SNR=7.2					
COEN	Coen	22.94 141	*e*P	P	15 37 01.0	-0.8
	152nm,1.0s					
CISI	Cisompet, Garu	23.56 241	*e*P	P	15 37 07.2	-0.7
	32nm,0.7s					
WRAB	Tennant Creek	24.36 167	*e*P	P	15 37 15.1	-0.1
	16nm,0.7s					
WRA	Warramunga Arr	24.37 167	P	P	15 37 14.3	-0.9
	7.9nm,0.4s,baz=342,slow=10,SNR=92					
WRA		S		S	15 41 34.5	+2.7
	2.8nm,0.8s,baz=342,slow=21,SNR=5.0					
WB2	Warramunga Arr	24.37 167	*e*P	P	15 37 14.3	-1.0
MYKOM	Kota Tinggi	24.70 266	*e*P	P	15 37 15.9	-2.5
	45nm,1.2s					
CGJI	Cibinong	25.04 245	P	P	15 37 20.3	-1.1
	217nm,0.6s,8μm					
UBPT	Khong Chiam	25.34 298	P	P	15 37 32.0	+7.9
MDSI	Maura Dua	25.68 251	P	P	15 37 27.2	0.0
	19nm,0.8s					
KASI	Kota Agung	25.73 249	P	P	15 37 28.6	+0.9
	37nm,0.9s,684nm					
LWLI	Liwa	25.96 250	P	P	15 37 35.1	+5.1
MBWA	Marble Bar	26.33 199	*e*P	P	15 37 33.2	+0.2
QIS	Mount Isa	26.63 156	P	P	15 37 35.8	0.0
	baz=27,SNR=27					
AS31	Alice Springs	27.89 169	*e*P	P	15 37 46.5	-0.5
ASAR	Alice Springs	27.89 169	P	P	15 37 46.3	-0.7
	2.6nm,0.6s,baz=355,slow=8.8,SNR=44					
ASAR		S		S	15 42 24.1	-3.5
	1.7nm,0.8s,baz=348,slow=19,SNR=6.8					
ASAR		ScP		ScP	15 44 38.0	-1.3
	0.8nm,0.5s,baz=341,slow=2.7,SNR=7.2					
ASAR		LR		LR	15 50 09.8	
	comp=Z,113nm,19.0s,baz=350,slow=39					
CHAI	Chaiyaphum	28.67 296	P	P	15 37 54.7	+0.7
	6.4nm,0.7s					
WRKA	Warakurna	28.75 180	P	P	15 37 54.0	-0.7
	baz=29,SNR=19					
PSI	Prapat	29.54 269	P	P	15 38 01.3	-0.7
	7.1nm,0.8s,baz=45,slow=5.7,SNR=3.6					
PBKT	Sadao Pong	29.82 297	P	P	15 38 04.9	+0.6
	12nm,1.3s,1μm					
PBKT		P		P	15 38 11.6	+7.3
	12nm,1.3s,1μm					
UTTA	Uttaradit	30.64 299	P	P	15 38 20.9	+9.4
MEEK	Meekatharra	31.82 197	P	P	15 38 20.6	-1.2
	baz=32,SNR=7.1					
CRAI	Chiangrai	31.85 303	P	P	15 38 30.9	+8.7
CMAR	Chiang Mai Arr	32.33 299	P	P	15 38 26.2	-0.1
	1.7nm,0.7s,baz=103,slow=6.9,SNR=14					
CMAR		LR		LR	15 51 40.0	
	comp=Z,88nm,20.9s,baz=160,slow=36					
CMMT	Chiang Mai	32.46 300	P	P	15 38 29.9	+2.3
	9.2nm,1.4s					
CHTO	Chiang Mai	32.47 300	P	P	15 38 29.9	+2.3
	29nm,1.0s					
CHTO	Chiang Mai	32.47 300	*e*P	P	15 38 25.6	-2.0
	4.5nm,0.8s					
KSRS	Korea Array	33.41 359	P	P	15 38 39.7	+4.2
	1.6nm,0.7s,baz=178,slow=9.8,SNR=5.2					
QLP	Quilpie	33.90 154	P	P	15 38 39.5	-0.4
	baz=34,SNR=6.0					
MORW	Morawa	34.88 199	P	P	15 38 48.4	0.0
	baz=35,SNR=5.7					
BLDU	Ballidu	36.11 197	P	P	15 38 59.1	+0.2
	baz=36,SNR=9.3					
BBOO	Buckleboo	37.19 169	P	P	15 39 08.1	0.0
	baz=38,SNR=9.3					
STKA	Stephens Creek	37.69 162	P	P	15 39 12.3	0.0
	6.4nm,0.4s,baz=337,slow=8.1,SNR=28					
STKA		LR		LR	15 56 46.6	
	comp=Z,69nm,18.2s,baz=26,slow=39					
STKA	Stephens Creek	37.69 162	P	P	15 39 12.7	+0.3
	baz=38,SNR=26					
STKA	Stephens Creek	37.69 162	*e*P	P	15 39 11.2	-1.2
	1.9nm,0.6s					
NWAO	Narrogin (SRO)	38.14 195	P	P	15 39 15.0	-1.1
	4.9nm,0.7s,baz=36,slow=8.1,SNR=4.7					
HTT	Hallett	38.40 166	P	P	15 39 19.8	+1.4
	baz=39,SNR=4.3					
H11S3	WAKE ISLAND Hy	40.06 66	T	T	16 22 43.5	
	baz=253,slow=75,SNR=18					
H11S1	WAKE ISLAND Hy	40.07 66	T	T	16 22 44.1	
	baz=253,slow=75,SNR=16					
H11S2	WAKE ISLAND Hy	40.07 66	T	T	16 22 44.7	
	baz=253,slow=75,SNR=18					
ARMA	Armidale	40.65 149	P	P	15 39 38.3	+1.0
	baz=41,SNR=7.9					
TOO	Toolangi	44.17 161	P	P	15 40 07.8	+2.1
	baz=44,SNR=5.2					
TAPN	Taplejung	45.36 305	*e*P	P	15 40 15.0	-0.7
ODAN	Odare	45.42 304	*e*P	P	15 40 15.8	-0.3
	18nm,0.7s					
JIRN	Jiri	46.72 305	*e*P	P	15 40 25.3	-1.2
	32nm,1.0s					
GUN	Gumba	47.07 305	*e*P	P	15 40 28.7	-0.5
	52nm,1.2s					
ULN	Ulaanbaatar	47.54 341	P	P	15 40 31.1	-1.2
	4.4nm,0.7s					
SONM	Songino Array	47.73 340	P	P	15 40 33.9	+0.1
	0.7nm,0.5s,baz=156,slow=10,SNR=5.2					
GKN	Gorkha	48.12 305	*e*P	P	15 40 36.2	-0.9
KOLN	Koldanda	48.89 304	*e*P	P	15 40 42.7	-0.4
	17nm,0.6s					
DANN	Dangsing	48.97 305	*e*P	P	15 40 43.1	-0.7
HYB	Hyderabad	50.73 289	*i* P	P	15 40 56.5	-0.5
PETK	Petropavlovsk-	54.63 21	P	P	15 41 25.3	+0.1
	0.6nm,0.4s,baz=195,slow=10,SNR=2.7					
MKAR	Makanchi Array	58.44 324	P	P	15 41 52.2	-0.3
	3.4nm,0.4s,baz=112,slow=7.4,SNR=131					
MKAR		ScP		ScP	15 46 36.3	-3.3
	0.6nm,0.7s,baz=102,slow=4.3,SNR=6.3					
ZALV	Zalesovo Beam	61.26 332	P	P	15 42 10.4	-1.2
	0.5nm,0.3s,baz=100,slow=6.2,SNR=3.7					
KURK	Kurchatov	62.57 327	*e*P	P	15 42 19.9	-0.6
	4.4nm,0.6s					
BRVK	Borovoye	68.23 326	*e*P	P	15 42 55.8	-1.3
	6.2nm,0.9s					
ABKAR	Akbulak array	73.15 320	*e*P	P	15 43 25.9	-1.2
	1.6nm,0.5s					
RAYN	Ar Rayn	82.04 293	P	P	15 44 20.2	+2.9
	16nm,0.7s					
COLD	Coldfoot	83.06 23	*e*P	P	15 44 23.3	+1.6
	7.7nm,1.0s					
MCK	McKinley	83.24 26	*e*P	P	15 44 22.4	-0.3
	10.0nm,1.0s					
VNDA	Vanda	83.36 173	P	P	15 44 23.2	+0.2
	1.0nm,0.4s,baz=320,slow=5.2,SNR=14					
VNDA	Vanda	83.36 173	P	P	15 44 23.2	+0.2
VNDA			*e*pP	PcP	15 44 23.5	-3.8
ILAR	Eielson Array	84.21 25	P	P	15 44 27.8	+0.2
	0.5nm,0.8s,baz=236,slow=4.4,SNR=5.3					
ARCES	ARCESS Array B	90.91 340	P	P	15 44 57.9	-2.0
	4.2nm,1.0s,baz=96,slow=6.4,SNR=3.4					
YKA	Yellowknife Ar	98.62 25	P	Pdif	15 45 35.3	+0.1
	0.4nm,0.9s,baz=300,slow=4.3,SNR=3.7					
TORD	Torodi Ar. Bea	124.54 289	PKP	PKPdf	15 50 56.6	-0.1
	0.4nm,0.7s,baz=74,slow=2.2,SNR=3.4					

MEX 12 15:41:04.7±0.6, 17°.06N×95°.13W, h127km±8km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.24	83	*i* P	Pn	15 41 20.9	-1.4
CMIG				*i* S	Sn	15 41 33.6	-2.0
VHO	Vista Hermosa	1.53	271	*e*P	Pn	15 41 32.4	-0.8
VHO				*e*S	Sn	15 41 53.1	-1.9
HUIG	Huatulco	1.59	216	*i* P	Pn	15 41 32.6	-1.1
HUIG				*e*S	Sn	15 41 54.1	-1.7
PNIG	Pinotepa	2.95	257	*i* P	Pn	15 41 48.0	-2.6
PNIG				*i* S	Sn	15 42 23.9	-2.1

TIR 12 15:44:33.1, 41°.23N×20°.84E, h6km, ML3.1
SKO 12 15:44:35.4, 41°.13N×20°.68E, h10km, ML3.0
ATH 12 15:44:37.8, 41°.17N×20°.86E, h16km±1km, MD3.5/20
THE 12 15:44:37.7, 41°.17N×20°.87E, h1km±1km, ML3.0/9, Error ellipse: s-maj=2.0km s-min=0.8km az=49.0
CSEM 12 15:44:37.9±0.1, 41°.16N×20°.85E, h2km, ML3.0, Error ellipse: s-maj=2.7km s-min=1.8km az=71.0
PDG 12 15:44:38.1±0.5, 41°.18N×20°.85E, h11km±1km, ML3.4/11, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0
BEO 12 15:44:38.3±0.7, 41°.14N×20°.80E, h8km±3km, ML2.9/1

ISC 12 15:44:37.2±0.9, 41°.17N±0°.01×20°.85E±0°.01, h5km±7km, n145, σ1s20/226, 27C-19D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	Ohrid	0.07	211	⇑*i*Pg	Pg	15 44 37.9	-1.0
OHR				*i* Sg	Sg	15 44 39.4	-0.6
OHR	Ohrid	0.07	211	⇑*i*Pg	Pg	15 44 37.8	-1.0
OHR				*i* Sg	Sg	15 44 39.3	-0.6
KBN	Korca	0.55	185	*i* PG	Pg	15 44 48.0	+0.3
KBN				*i* SG	Sg	15 44 56.0	+1.2
KBN	Korca	0.55	185	P	Pg	15 44 47.3	-0.4
KBN				S	Sg	15 44 55.9	+1.1
KBN	Korca	0.55	185	P	Pg	15 44 47.3	-0.4
KBN	Korca	0.55	185	*i* Pg	Pg	15 44 48.0	+0.3
KBN				S	Sg	15 44 55.9	+1.1
FNA	Florina	0.56	134	P	Pg	15 44 48.4	+0.5
FNA				S	Sb	15 44 56.8	-1.0
FNA	Florina	0.56	134	*e*PN	Pg	15 44 48.6	+0.7
FNA				*e*SN	Sb	15 44 56.8	-1.0
FNA	Florina	0.56	134	*e*Pn	Pg	15 44 48.6	+0.7
FNA				S	Sb	15 44 56.8	-1.0
PHP	Peshkopia	0.60	330	*i* SG	Sg	15 44 47.5	-9.2
PHP				*i* PG	Pn	15 44 56.2	+3.8
NEST	Nestorio	0.77	168	P	Pb	15 44 51.9	-1.2
NEST				S	Sg	15 45 02.8	+0.8
NEST	Nestorio	0.77	168	*e*PB	Pb	15 44 51.7	-1.4
NEST				*e*SN	Sg	15 45 03.2	+1.2
NEST	Nestorio	0.77	168	P	Pb	15 44 51.9	-1.2
NEST				S	Sg	15 45 02.8	+0.8
NEST				*e*Sn	Sg	15 45 03.2	+1.2
SKO	Skopje	0.92	29	P	Pb	15 44 54.4	-1.2
SKO				S	Sn	15 45 08.7	-1.7
SKO	Skopje	0.92	29	⇑*i*Pg	Pb	15 44 54.9	-0.7
SKO	Skopje	0.92	29	*i* Pg	Pg	15 44 55.6	+0.8
SKO				*e*Sg	Sn	15 45 09.8	-0.6
SKO				*e*Lg	Lg	15 45 12.0	
	comp=N,470nm,0.3s						
SKO	Skopje	0.92	29	P	Pb	15 44 54.4	-1.2
SKO	Skopje	0.92	29	*i* Pg	Pg	15 44 55.5	+0.8
SKO				S	Sn	15 45 08.7	-1.7
SKO				*e*Sg	Sn	15 45 09.8	-0.6
SKO				*e*Lg	Lg	15 45 11.9	
	comp=N,470nm,0.3s						
KZN	Kozani	1.11	141	P	Pb	15 44 58.4	-0.6
KZN				S	Sg	15 45 14.6	+1.7
KZN	Kozani	1.11	141	*e*PN	Pn	15 44 58.8	-0.7
KZN				*e*SN	Sg	15 45 14.7	+1.8
KZN	Kozani	1.11	141	P	Pb	15 44 58.4	-0.6
KZN	Kozani	1.11	141	*e*Pn	Pn	15 44 58.8	-0.7
KZN				S	Sg	15 45 14.6	+1.7
GRG	Griva	1.20	100	P	Pb	15 45 00.2	-0.2
GRG				S	Sg	15 45 17.5	+1.9
GRG	Griva	1.20	100	P	Pb	15 45 00.2	-0.2
GRG				S	Sg	15 45 17.5	+1.9
VAY	Valandovo	1.31	83	P	Pb	15 45 01.8	-0.5
VAY				S	Sg	15 45 20.8	+1.5
VAY	Valandovo	1.31	83	⇓*i*Pg	Pb	15 45 02.1	-0.2
VAY				*e*Sg	Sg	15 45 21.2	+1.9
VAY	Valandovo	1.31	83	⇓*i*Pg	Pg	15 45 02.7	+0.4
VAY				*e*Sg	Sg	15 45 22.6	+3.4
VAY	Valandovo	1.31	83	P	Pb	15 45 01.8	-0.5
VAY	Valandovo	1.31	83	⇓*i*Pg	Pg	15 45 02.6	+0.4
VAY				S	Sg	15 45 20.8	+1.5
VAY				*e*Sg	Sg	15 45 21.2	+1.9
BCI	Bajram Curri	1.33	334	*i* PG	Pg	15 45 03.3	+0.6
BCI				*i* SG	Sb	15 45 20.2	+0.2
BCI	Bajram Curri	1.33	334	*i* Pg	Pg	15 45 03.3	+0.6
BCI				*i* Sg	Sb	15 45 20.2	+0.2
ULC	Ulcinj	1.44	304	⇑*i*Pg	Pn	15 45 02.4	-1.6
ULC				*e*Sg	Sg	15 45 25.9	+2.5
ULC	Ulcinj	1.44	304	⇑*i*Pg	Pn	15 45 02.4	-1.6
ULC				*e*Sg	Sg	15 45 25.9	+2.5
SRN	Sarande	1.44	207	*i* PN	Pg	15 45 06.0	+1.2
SRN				*i* SN	Sg	15 45 26.5	+3.1
SRN	Sarande	1.44	207	P	Pb	15 45 03.9	-0.6
SRN				S	Sg	15 45 25.2	+1.8
SRN	Sarande	1.44	207	P	Pb	15 45 03.9	-0.6
SRN	Sarande	1.44	207	*i* Pn	Pg	15 45 06.0	+1.2
SRN				S	Sg	15 45 25.2	+1.8
SRN				*i* Sn	Sg	15 45 26.5	+3.1
JAN	Janina	1.51	180	P	Pb	15 45 06.0	+0.3
JAN				S	Sg	15 45 26.2	+0.5
JAN	Janina	1.51	180	*e*PN	Pg	15 45 06.6	+0.5
JAN				*e*SN	Sg	15 45 27.1	+1.4
JAN	Janina	1.51	180	P	Pb	15 45 06.0	+0.3
JAN	Janina	1.51	180	*e*Pn	Pg	15 45 06.6	+0.5
JAN				S	Sg	15 45 26.2	+0.5
JAN				*e*Sn	Sg	15 45 27.1	+1.4
KNT	Kendrikon	1.55	90	*e*PN	Pg	15 45 07.1	+0.2
KNT	Kendrikon	1.55	90	*e*Pn	Pg	15 45 07.1	+0.2
PVY	Plav	1.57	335	⇑*i*Pg	Pb	15 45 07.2	+0.4
PVY				*e*Sg	Sg	15 45 29.3	+1.7
PVY	Plav	1.57	335	⇑*i*Pg	Pb	15 45 07.2	+0.4
PVY				*e*Sg	Sg	15 45 29.3	+1.7
DRME	Dracevica, Mon	1.61	310	⇑*i*Pn	Pn	15 45 05.9	-0.3
DRME				*e*Sn	Sg	15 45 30.8	+2.0
DRME	Dracevica, Mon	1.61	310	⇑*i*Pn	Pn	15 45 05.9	-0.3
DRME				*e*Sn	Sg	15 45 30.8	+2.0
LIT	Litokhoron	1.65	130	P	Pb	15 45 07.4	-0.6
LIT				S	Sg	15 45 29.6	-0.4
LIT	Litokhoron	1.65	130	*e*PN	Pb	15 45 07.9	-0.1
LIT				*e*SN	Sg	15 45 29.7	-0.3
LIT	Litokhoron	1.65	130	P	Pb	15 45 07.4	-0.6
LIT	Litokhoron	1.65	130	*e*Pn	Pb	15 45 07.9	-0.1
LIT				S	Sg	15 45 29.6	-0.4
KEK	Kerkira	1.66	209	P	Pb	15 45 07.8	-0.5
KEK				S	Sg	15 45 30.5	0.0
KEK	Kerkira	1.66	209	*e*PN	Pb	15 45 08.1	-0.2
KEK	Kerkira	1.66	209	P	Pb	15 45 07.8	-0.5
KEK	Kerkira	1.66	209	*e*Pn	Pb	15 45 08.1	-0.2
KEK				S	Sg	15 45 30.5	0.0
IGT	Igoumenitsa	1.68	194	P	Pb	15 45 08.6	0.0
IGT				S	Sb	15 45 29.4	-0.7
IGT	Igoumenitsa	1.68	194	*e*PN	Pb	15 45 09.0	+0.4
IGT				*e*SN	Sg	15 45 31.5	+0.3
IGT	Igoumenitsa	1.68	194	P	Pb	15 45 08.6	0.0
IGT	Igoumenitsa	1.68	194	*e*Pn	Pb	15 45 09.0	+0.4
IGT				S	Sb	15 45 29.4	-0.7
IGT				*e*Sn	Sg	15 45 31.5	+0.3
PDG	Podgorica	1.73	317	P	Pb	15 45 08.4	-1.1
PDG				S	Sg	15 45 32.5	-0.3
PDG	Podgorica	1.73	317	*e*Pn	Pn	15 45 08.3	+0.4
PDG				*e*Sg	Sg	15 45 33.5	+0.8
PDG				*e*Sg	Sb	15 45 35.2	+3.7
PDG	Podgorica	1.73	317	P	Pb	15 45 08.4	-1.1
PDG	Podgorica	1.73	317	⇓*i*Pn	Pb	15 45 09.3	-0.2
PDG				S	Sg	15 45 32.5	-0.3
PDG				*e*Sn	Sg	15 45 33.6	+0.8
TTG	Podgorica	1.73	317	⇓*i*Pn	Pb	15 45 09.3	-0.2
TTG				*e*Sn	Sg	15 45 33.6	+0.8
BARS	Barje	1.80	23	⇑*i*Pn	Pb	15 45 10.1	-0.5
BARS				*e*Sg	Sg	15 45 38.7	+3.8
BARS	Barje	1.80	23	⇑*i*Pn	Pb	15 45 10.1	-0.5
HORT	Hortiatis	1.80	108	*e*PN	Pb	15 45 09.9	-0.8
HORT	Hortiatis	1.80	108	*e*Pn	Pb	15 45 09.9	-0.8
THL	Klokotos Trika	1.84	150	P	Pn	15 45 09.0	-0.4
THL				S	Sb	15 45 33.9	-0.6
THL	Klokotos Trika	1.84	150	*e*PN	Pb	15 45 10.4	-0.8
THL	Klokotos Trika	1.84	150	P	Pn	15 45 09.0	-0.4
THL	Klokotos Trika	1.84	150	*e*Pn	Pb	15 45 10.4	-0.8
THL				S	Sb	15 45 33.9	-0.6
BEY	Berane	1.84	338	⇓*i*Pn	Pb	15 45 10.5	-0.9
BEY				*e*Sn	Sb	15 45 35.8	+1.0
IVA	Berane	1.84	338	⇓*i*Pn	Pb	15 45 10.5	-0.9
IVA				*e*Sn	Sb	15 45 35.8	+1.0
BUM	Brajici-Budva	1.85	308	⇓*i*Pn	Pb	15 45 10.4	-1.1
BUM				*e*Sn	Sg	15 45 36.4	-0.1
BUM	Brajici-Budva	1.85	308	⇓*i*Pn	Pb	15 45 10.4	-1.1
BUM				*e*Sn	Sg	15 45 36.4	-0.1
SOH	Sokhos	1.93	100	*e*PN	Pb	15 45 12.5	-0.4
SOH	Sokhos	1.93	100	*e*Pn	Pb	15 45 12.5	-0.4
SELS	Selova	2.06	6	*e*Pn	Pn	15 45 12.8	+0.3
SELS				*e*Sg	Sg	15 45 44.3	+1.0
SRS	Serrai	2.08	91	*e*PN	Pb	15 45 14.0	-1.3
SRS	Serrai	2.08	91	*e*Pn	Pb	15 45 14.0	-1.3
PLG	Polygyros	2.13	111	*e*PN	Pb	15 45 14.5	-1.8
PLG	Polygyros	2.13	111	*e*Pn	Pb	15 45 14.5	-1.8
NKME	Niksic	2.13	319	⇓*i*Pn	Pb	15 45 15.0	-1.3
NKME				*e*Sn	Sb	15 45 42.7	-0.4
NKME	Niksic	2.13	319	⇓*i*Pn	Pb	15 45 15.0	-1.3
NKME				*e*Sn	Sb	15 45 42.7	-0.4
NKY	Niksic	2.15	321	⇑*i*Pn	Pn	15 45 14.7	+0.9
NKY				*e*Sn	Sb	15 45 43.4	-0.2
NKY	Niksic	2.15	321	⇑*i*Pn	Pn	15 45 14.7	+0.9
NKY				*e*Sn	Sb	15 45 43.4	-0.2
HCY	Herceg Novi	2.17	307	⇑*i*Pn	Pb	15 45 15.9	-1.1
HCY				*e*Sn	Sb	15 45 43.9	-0.3
HCY	Herceg Novi	2.17	307	⇑*i*Pn	Pb	15 45 15.9	-1.1
HCY				*e*Sn	Sb	15 45 43.9	-0.3
SJES	Sjenica	2.19	343	*e*Pn	Pb	15 45 17.0	-0.3
SJES				*e*Sg	Sg	15 45 47.2	-0.3
MMB	Musomiste	2.21	78	⇑*i*P	Pb	15 45 16.5	-1.1
MMB	Musomiste	2.21	78	⇑*i*P	Pb	15 45 16.5	-1.1
VTS	Vitosha	2.27	50	⇑*i*Pn	Pb	15 45 17.5	-1.2
VTS				*e*Sn	Sb	15 45 46.2	-0.9
VTS	Vitosha	2.27	50	⇑*i*P	Pb	15 45 17.5	-1.2
VTS	Vitosha	2.27	50	⇑*i*P	Pb	15 45 17.5	-1.2
VTS				*e*Sn	Sb	15 45 46.2	-0.9
NVR	Nevrokopi	2.28	84	*e*PN	Pb	15 45 18.0	-0.9
NVR	Nevrokopi	2.28	84	*e*Pn	Pb	15 45 18.0	-0.9
MAKR	Makrakomi, Fth	2.37	155	*e*PB	Pn	15 45 17.9	+1.1
MAKR	Makrakomi, Fth	2.37	155	*e*Pb	Pn	15 45 17.9	+1.1
LKD2	Lefkada island	2.38	184	*e*PN	Pb	15 45 19.2	-1.4
LKD2	Lefkada island	2.38	184	*e*Pn	Pb	15 45 19.2	-1.4
PLE	Pljevlja	2.41	334	⇓*i*Pn	Pb	15 45 19.3	-1.9
PLE				*e*Sn	Sb	15 45 49.6	-1.7
PLE	Pljevlja	2.41	334	⇓*i*Pn	Pb	15 45 19.3	-1.9
PLE				*e*Sn	Sb	15 45 49.6	-1.7
IVAS	Ivanjica	2.46	348	*e*Pn	Pn	15 45 17.7	-0.3
IVAS				*e*Sg	Sg	15 45 56.0	-0.2
IVAS	Ivanjica	2.46	348	*e*Pn	Pn	15 45 17.7	-0.3
IVAS				*e*Sg	Sg	15 45 56.0	-0.2
ZAPS	Zavoj	2.49	32	⇑*i*Pn	Pb	15 45 20.3	-2.1
PAIG	Paliouri	2.49	119	*e*PN	Pn	15 45 19.2	+0.8
PAIG	Paliouri	2.49	119	*e*Pn	Pn	15 45 19.2	+0.8
UPM	Unac-Piva	2.49	325	⇑*i*Pn	Pn	15 45 20.2	+1.6
UPM				*e*Sn	Sb	15 45 51.6	-2.0
UPM	Unac-Piva	2.49	325	⇑*i*Pn	Pn	15 45 20.2	+1.6
UPM				*e*Sn	Sb	15 45 51.6	-2.0
XOR	Xorichti	2.54	134	*e*PN	Pn	15 45 19.9	+0.7
XOR	Xorichti	2.54	134	*e*Pn	Pn	15 45 19.9	+0.7
PDO	Prodromos	2.58	174	*e*PB	Pb	15 45 22.1	-1.9
PDO	Prodromos	2.58	174	*e*Pb	Pb	15 45 22.1	-1.9
GRUS	Gruza	2.72	358	*e*Pn	Pb	15 45 24.1	-2.2
GRUS	Gruza	2.72	358	*e*Pn	Pb	15 45 24.1	-2.2
STON	Ston	2.90	307	*e*Pn	Pn	15 45 24.9	+0.9
STON				Sn	Sn	15 46 00.1	+1.0
STON	Ston	2.90	307	*e*Pn	Pn	15 45 24.8	+0.9
STON				Sn	Sn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.66**	**53**	⇑*iP*	**Pb**	**15 48 30.4**	**-0.5**
LNV	**Longovilo**	**0.66**	**53**	⇑*iP*	**Pb**	**15 48 30.4**	**-0.5**
NICH	**Los Niches**	**0.93**	**134**	⇑*iP*	**Pb**	**15 48 35.1**	**-0.4**
NICH				*i* S	**Sb**	**15 48 47.9**	**+0.3**
NICH				AML	AML	15 48 48.2	
	comp=N,11μm,0.2s						
NICH	**Los Niches**	**0.93**	**134**	⇑*iP*	**Pb**	**15 48 35.1**	**-0.4**
NICH				*i* S	**Sb**	**15 48 47.9**	**+0.3**
CACH	**El Canelo**	**1.22**	**79**	⇑*iP*	**Pn**	**15 48 39.7**	**0.0**
CACH				*i* S1	**Sb**	**15 48 56.3**	**+0.4**
CACH	**El Canelo**	**1.22**	**79**	⇑*iP*	**Pn**	**15 48 39.7**	**0.0**
CACH				*i* S	**Sb**	**15 48 56.3**	**+0.4**
CHCH	**Chadas Angostu**	**1.23**	**70**	⇓*iP*	**Pn**	**15 48 39.4**	**-0.4**
CHCH	**Chadas Angostu**	**1.23**	**70**	⇓*iP*	**Pn**	**15 48 39.4**	**-0.4**
IHA	**Instituto Hidr**	**1.37**	**14**	⇓*iP*	**Pn**	**15 48 41.5**	**-0.1**
IHA				*i* S1	**Sn**	**15 48 59.1**	**+0.2**
IHA	**Instituto Hidr**	**1.37**	**14**	⇓*iP*	**Pn**	**15 48 41.5**	**-0.1**
IHA				*i* S	**Sn**	**15 48 59.1**	**+0.2**
ANTU	**Antumapu**	**1.41**	**57**	⇑*iP*	**Pn**	**15 48 42.1**	**-0.1**
ANTU				*i* S	**Sn**	**15 48 60.0**	**-0.1**
ANTU				AML	AML	15 49 04.8	
	comp=E,8μm,0.3s						
ANTU	**Antumapu**	**1.41**	**57**	⇑*iP*	**Pn**	**15 48 42.1**	**-0.1**
ANTU				*i* S	**Sn**	**15 48 60.0**	**-0.1**
LACH	**Col Las Americ**	**1.55**	**55**	*eP*	**Pn**	**15 48 44.4**	**+0.3**
LACH				*eS*	**Sn**	**15 49 04.2**	**+0.7**
LACH	**Col Las Americ**	**1.55**	**55**	*eP*	**Pn**	**15 48 44.4**	**+0.3**
LACH				*eS*	**Sn**	**15 49 04.2**	**+0.7**
CLCH	**Cerro Calan**	**1.58**	**53**	⇑*iP*	**Pn**	**15 48 44.8**	**+0.2**
CLCH				*i* S	**Sn**	**15 49 05.1**	**+0.8**
CLCH				AML	AML	15 49 10.7	
	comp=E,5μm,0.6s						
PEL	**Peldehue**	**1.66**	**44**	⇑*iP*	**Pn**	**15 48 46.4**	**+0.7**
PEL				*i* S	**Sn**	**15 49 06.9**	**+0.8**
PEL				AML	AML	15 49 12.1	
	comp=N,6μm,0.4s						
PEL	**Peldehue**	**1.66**	**44**	⇑*iP*	**Pn**	**15 48 46.4**	**+0.7**
PEL				*i* S	**Sn**	**15 49 06.9**	**+0.8**
FCH	**Farellones**	**1.78**	**55**	*eP*9	**Pn**	**15 48 46.6**	**-1.0**
FCH				*i* S	**Sn**	**15 49 09.3**	**-0.4**
FCH				AML	AML	15 49 13.8	
	comp=N,2μm,0.5s						
FCH	**Farellones**	**1.78**	**55**	*eP*	**Pn**	**15 48 46.6**	**-1.0**
FCH				*i* S	**Sn**	**15 49 09.3**	**-0.4**
LCO	**Las Campanas**	**5.45**	**13**	*e*Pn	**Pn**	**15 49 36.1**	**-1.9**
	comp=N,9.9nm,0.5s						
LCO				*e*Sn	**Sn**	**15 50 37.9**	**-2.1**
PLCA	**Paso Flores**	**6.48**	**170**	Pn	**Pn**	**15 49 53.1**	**+1.2**
	comp=N,0.3nm,0.3s,baz=347,slow=14,SNR=5.1						
PLCA	**Paso Flores**	**6.48**	**170**	*e*Pn	**Pn**	**15 49 51.8**	**-0.1**
PLCA				*e*Sn	**Sn**	**15 51 02.9**	**-2.2**
LPAZ	**La Paz**	**18.33**	**12**	P	**Pn**	**15 52 32.7**	**+1.4**
	comp=N,0.1nm,0.3s,baz=207,slow=14,SNR=4.7						
SIV	**San Ignacio**	**20.78**	**31**	P	**P**	**15 52 58.4**	**+0.9**
	comp=N,4.6nm,1.1s,baz=205,slow=10,SNR=4.8						
SNAA	**Sanae**	**51.26**	**158**	*eP*	**P**	**15 57 18.5**	**-1.0**
	comp=N,1.0nm,0.9s						
QSPA	**South Pole Qui**	**55.88**	**180**	*eP*	**P**	**15 57 52.8**	**-0.7**
	comp=N,2.3nm,1.2s						
TORD	**Torodi Ar. Bea**	**84.34**	**70**	P	**P**	**16 00 48.8**	**+0.4**
	comp=N,1.7nm,1.0s,baz=252,slow=3.6,SNR=6.4						
MKAR	**Makanchi Array**	**157.00**	**50**	PKPab	**PKPab**	**16 08 41.7**	**+0.1**
	comp=N,0.3nm,0.7s,baz=298,slow=3.1,SNR=3.6						

GUC 12 15:50:43.6±0.4, 34°.53S×71°.91W, h66km±15km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.73**	**131**	*i* P	Pn	15 50 58.5	-0.1
NICH				*i* S	Sn	15 51 10.1	+0.4
NICH				IAML		15 51 10.9	
	comp=N,5μm,0.3s						
TALC	**Talca**	**0.90**	**166**	*i* P	Pn	15 51 00.8	+0.2
TALC				*i* S	Sn	15 51 13.5	+0.3
RCDM	**Rinconada Maip**	**1.38**	**42**	*i* P	Pn	15 51 07.2	+0.2
RCDM				*i* S	Sn	15 51 24.9	+0.5
RCDM				IAML		15 51 30.3	
	comp=E,2μm,0.1s						
ANTU	**Antumapu**	**1.43**	**48**	*i* P	Pn	15 51 08.1	+0.5
ANTU				*e*S4	Sn	15 51 25.3	-0.2
ANTU				IAML		15 51 30.7	
	comp=E,1μm,0.2s						
STL	**Santa Lucia**	**1.51**	**44**	*i* P	Pn	15 51 09.0	+0.3
STL				*i* S	Sn	15 51 28.1	+0.5
SJCH	**San Jose de Ma**	**1.56**	**56**	*i* P	Pn	15 51 09.9	+0.4
SJCH				*i* S	Sn	15 51 29.9	+1.0
SJCH				IAML		15 51 34.4	
	comp=N,904nm,0.3s						

GUC 12 16:00:29.9±0.5, 34°.75S×71°.22W, h110km±5km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.25**	**182**	*i* P	Pn	16 00 44.8	-0.6
NICH				*i* S	Sn	16 00 56.0	-1.1
NICH				IAML		16 00 58.4	
	comp=N,2μm,0.2s						
ANTU	**Antumapu**	**1.28**	**22**	*i* P	Pn	16 00 53.7	-0.4
ANTU				*i* S	Sn	16 01 12.2	-0.4
ANTU				IAML		16 01 16.4	
	comp=E,934nm,0.5s						
SJCH	**San Jose de Ma**	**1.32**	**33**	*i* P	Pn	16 00 54.7	0.0
SJCH				*i* S	Sn	16 01 13.0	-0.5
SJCH				*i* S	Sn	16 01 13.4	-0.1
SJCH				IAML		16 01 19.9	
	comp=N,782nm,0.3s						
CLCH	**Cerro Calan**	**1.47**	**23**	*i* P	Pn	16 00 56.0	-0.4
CLCH				*i* S	Sn	16 01 16.5	-0.1
CLCH				IAML		16 01 24.5	
	comp=N,643nm,0.5s						
PEL	**Peldehue**	**1.67**	**16**	*e*P4	Pn	16 00 56.8	-2.0
PEL				*e*S4	Sn	16 01 18.6	-2.2
PEL				IAML		16 01 30.7	
	comp=E,765nm,0.5s						

IDC ***12*** *16:04:50.7±0.6, 34°.35S×71°.94W, h21km±3km, mb4.6/14, mb1 4.8/17, mb1mx4.7/20, mbtmp4.8/17, ML5.2/2, MS4.1/7, Ms1 4.1/7, ms1mx3.8/19, Error ellipse: s-maj=18.3km s-min=12.3km az=79.0*

ISCJB ***12*** *16:04:50.7±1.0, 34°.38S±0°.03×71°.97W±0°.04, h29km±7km, mb5.0/92, MS4.1/7, Error ellipse: s-maj=6.1km s-min=4.4km az=26.9*

GUC ***12*** *16:04:51.2±0.6, 34°.34S×71°.94W, h36km±2km, ML5.1*

NEIC ***12*** *16:04:51.2, 34°.34S×71°.94W, h36km, mb5.0/79, ML5.1(GUC), After GUC.*

NEIC Felt [IV] at Pichilemu; [III] at Casablanca, Cordillera, Maipo, Melipilla, Quillota, San Antonio, Santiago, Santo Domingo, Talca and Valparaiso; [II] Chacabuco, Rancagua, San Fernando and Talagante. Also felt at Llaillay and Quilpue.

MOS ***12*** *16:04:51.4±1.1, 34°.28S×72°.05W, h34km, mb5.1/33, Error ellipse: s-maj=15.4km s-min=7.9km az=94.2*

BJI ***12*** *16:04:53.3, 34°.20S×71°.70W, h35km, mB5.1/9, Ms5.5/7, Ms7 5.2/8*

ISC 12 16:04:51.6±0.5, 34°.32S±0°.03×71°.89W±0°.05, h28km±3km, h28km:pP-P, n589, σ1°13/633, mb5.0/92, MS4.0/7, 189C-175D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.53**	**48**	⇑*iP*	**Pb**	**16 05 02.8**	**+0.4**
LNV	**Longovilo**	**0.53**	**48**	⇑*iP*	**Pb**	**16 05 02.8**	**+0.4**
NICH	**Los Niches**	**0.87**	**142**	⇑*iP*	**Pn**	**16 05 07.4**	**-0.6**
NICH				*i* S	**Sb**	**16 05 19.8**	**+0.3**
NICH				AML	AML	16 05 22.3	
	comp=E,138μm,0.6s						
NICH	**Los Niches**	**0.87**	**142**	⇑*iP*	**Pn**	**16 05 07.4**	**-0.6**
NICH				*i* S	**Sb**	**16 05 19.8**	**+0.3**
TACH	**Talagante**	**1.03**	**50**	⇓*iP*	**Pn**	**16 05 10.3**	**+0.2**
TACH	**Talagante**	**1.03**	**50**	⇓*iP*	**Pn**	**16 05 10.3**	**+0.2**
CACH	**El Canelo**	**1.08**	**80**	⇑*iP*	**Pb**	**16 05 12.2**	**+0.4**
CACH	**El Canelo**	**1.08**	**80**	⇑*iP*	**Pb**	**16 05 12.2**	**+0.4**
CHCH	**Chadas Angostu**	**1.09**	**70**	⇓*iP*	**Pb**	**16 05 11.8**	**0.0**
CHCH	**Chadas Angostu**	**1.09**	**70**	⇓*iP*	**Pb**	**16 05 11.8**	**0.0**
RCDM	**Rinconada Maip**	**1.22**	**48**	⇑*iP*	**Pn**	**16 05 12.8**	**+0.1**
RCDM				*i* S	**Sb**	**16 05 29.6**	**+0.2**
RCDM				AML	AML	16 05 35.0	
	comp=E,49μm,0.7s						
RCDM	**Rinconada Maip**	**1.22**	**48**	⇑*iP*	**Pn**	**16 05 12.8**	**+0.1**
RCDM				*i* S	**Sb**	**16 05 29.6**	**+0.2**
ANTU	**Antumapu**	**1.28**	**55**	⇓*iP*	**Pb**	**16 05 14.8**	**-0.3**
ANTU				*i* S	**Sb**	**16 05 32.3**	**+1.2**
ANTU				AML	AML	16 05 37.0	
	comp=E,89μm,0.5s						
ANTU	**Antumapu**	**1.28**	**55**	⇓*iP*	**Pb**	**16 05 14.8**	**-0.3**
ANTU				*i* S	**Sb**	**16 05 32.3**	**+1.2**
SAN	**Santiago**	**1.33**	**50**	⇓*iP*	**Pb**	**16 05 15.4**	**-0.6**
SAN				*i* S	**Sb**	**16 05 33.6**	**+1.0**
SAN	**Santiago**	**1.33**	**50**	⇓*iP*	**Pb**	**16 05 15.3**	**-0.6**
SAN				*i* S	**Sb**	**16 05 33.6**	**+1.0**
SAN	**Santiago**	**1.33**	**50**	⇓*iP*	**Pb**	**16 05 15.3**	**-0.6**
SAN				*i* S	**Sb**	**16 05 33.6**	**+1.0**
LACH	**Col Las Americ**	**1.42**	**53**	*e*P1	**Pn**	**16 05 16.8**	**+1.2**
LACH				*i* S	**Sb**	**16 05 36.1**	**+1.0**
LACH	**Col Las Americ**	**1.42**	**53**	*eP*	**Pn**	**16 05 16.8**	**+1.2**
LACH				*i* S	**Sb**	**16 05 36.1**	**+1.0**
CLCH	**Cerro Calan**	**1.45**	**51**	⇑*iP*	**Pb**	**16 05 17.4**	**-0.5**
CLCH				*i* S	**Sb**	**16 05 36.8**	**+0.9**
CLCH				AML	AML	16 05 45.8	
	comp=N,39μm,0.7s						
PEL	**Peldehue**	**1.54**	**41**	⇑*iP*	**Pb**	**16 05 18.5**	**-1.0**
PEL				*i* S	**Sb**	**16 05 38.7**	**+0.2**
PEL	**Peldehue**	**1.54**	**41**	⇑*iP*	**Pb**	**16 05 18.4**	**-1.0**
PEL				*i* S	**Sb**	**16 05 38.7**	**+0.2**
PEL				AML	AML	16 05 44.7	
	comp=N,59μm,0.6s						
PEL	**Peldehue**	**1.54**	**41**	⇑*iP*	**Pb**	**16 05 18.4**	**-1.0**
PEL				*i* S	**Sb**	**16 05 38.7**	**+0.2**
CFAA	**Coronel Fontan**	**4.09**	**50**	Pn	**Pn**	**16 05 54.5**	**+2.3**
	comp=N,4.9nm,0.3s,baz=204,slow=12,SNR=123						
CFAA				Lg	Lg	16 06 52.2	
	comp=N,11nm,0.3s,baz=84,slow=11,SNR=5.2						
LCO	**Las Campanas**	**5.38**	**11**	*e*Pn	**Pn**	**16 06 10.4**	**+0.1**
	comp=N,182nm,0.6s						
LCO				*e*Sn	**Sn**	**16 07 11.9**	**+0.5**
PLCA	**Paso Flores**	**6.49**	**171**	*eP*	**Pn**	**16 06 25.8**	**+0.5**
PLCA				*e*		16 07 38.3	
PLCA	**Paso Flores**	**6.49**	**171**	Pn	**Pn**	**16 06 26.1**	**+0.8**
	comp=N,20nm,0.3s,baz=336,slow=11,SNR=283						
PLCA				Lg	Lg	16 08 08.0	
	comp=N,2.6nm,0.3s,baz=81,slow=20,SNR=3.6						
PLCA				LR	LR	16 09 05.8	
	comp=N,3μm,18.1s,baz=350,slow=40						
PLCA	**Paso Flores**	**6.49**	**171**	*e*Pn	**Pn**	**16 06 25.8**	**+0.5**
PLCA				*e*Sn	**Sn**	**16 07 38.3**	**-0.2**
PLCA				Lg	Lg	16 08 08.0	
TRQA	**Tornquist**	**8.83**	**118**	*e*Pn	**Pn**	**16 06 58.5**	**+1.1**
TRQA				*e*Sn	**Sn**	**16 08 35.3**	**-0.7**
LVC	**Limon Verde**	**11.95**	**13**	*e*Pn	Pn	16 07 35.1	-5.2
LVC				*e*Sn	**Sn**	**16 09 50.3**	**-2.5**
LPAZ	**La Paz**	**18.27**	**12**	*eP*	**Pn**	**16 09 04.7**	**+1.1**
LPAZ				pmax	pmax		
	comp=Z,67nm,1.3s						
LPAZ	**La Paz**	**18.27**	**12**	P	**Pn**	**16 09 05.2**	**+1.6**
	comp=Z,1.5nm,0.3s,baz=183,slow=6.9,SNR=45						
LPAZ	**La Paz**	**18.27**	**12**	*eP*	**Pn**	**16 09 04.7**	**+1.1**
	comp=Z,67nm,1.3s						
USHA	**Ushuaia**	**20.66**	**174**	P	**P**	**16 09 28.3**	**-0.5**
	comp=Z,22nm,0.9s,baz=338,slow=9.8,SNR=9.3						
SIV	**San Ignacio**	**20.68**	**31**	P	**P**	**16 09 29.5**	**0.0**
	comp=Z,7.4nm,0.6s,baz=222,slow=11,SNR=30						
SIV				LR	LR	16 18 46.6	
	comp=Z,557nm,20.1s,baz=206,slow=40						
NNA	**Nana**	**22.68**	**347**	*eP*	**P**	**16 09 48.8**	**-2.1**
NNA	**Nana**	**22.68**	**347**	P	**P**	**16 09 51.6**	**+0.7**
	comp=Z,42nm,0.8s,baz=195,slow=11,SNR=17						
BDFB	**Brasilia**	**28.41**	**55**	P	**P**	**16 10 43.3**	**-0.6**
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BDFB				MLR	MLR		
	comp=Z,16nm,28.6s						
BDFB	**Brasilia**	**28.41**	**55**	P	**P**	**16 10 43.3**	**-0.6**
	comp=Z,7.8nm,0.7s,baz=217,slow=9.7,SNR=8.1						
BDFB				LR	LR	16 23 37.8	
	comp=Z,399nm,18.4s,baz=223,slow=40						
OTAV	**Otavalo**	**34.92**	**348**	*eP*	**P**	**16 11 40.3**	**-1.2**
	comp=Z,53nm,1.6s						
PTGA	**Pitinga**	**35.22**	**21**	*eP*	**P**	**16 11 42.3**	**-1.3**
	comp=Z,26nm,0.8s						
ROSC	**El Rosal**	**39.03**	**356**	P	**P**	**16 12 17.7**	**+1.4**
	comp=Z,11nm,0.5s,baz=262,slow=23,SNR=5.1						
ROSC				LR	LR	16 28 51.4	
	comp=Z,133nm,19.3s,baz=205,slow=37						
ROSC	**El Rosal**	**39.03**	**356**	*eP*	**P**	**16 12 14.4**	**-1.9**
SDV	**Santo Domingo**	**42.98**	**2**	*eP*	**P**	**16 12 48.0**	**-0.6**
	comp=Z,19nm,0.8s						
JTS	**JuntasAbangare**	**46.06**	**342**	*c iP*	**P**	**16 13 13.0**	**-0.1**
JTS				pmax	pmax		
	comp=Z,31nm,1.7s						
JTS	**JuntasAbangare**	**46.06**	**342**	LR	LR	16 28 16.5	
	comp=Z,70nm,20.1s,baz=175,slow=30						
VNA3	**Neumayer Olymp**	**49.02**	**158**	P	**P**	**16 13 36.5**	**+1.0**
VNA2	**Neumayer--Watz**	**49.67**	**157**	P	**P**	**16 13 40.2**	**-0.2**
	baz=284,slow=8.1						
SNAA	**Sanae**	**51.25**	**158**	P	**P**	**16 13 53.1**	**+0.7**
SNAA	**Sanae**	**51.25**	**158**	P	**P**	**16 13 52.9**	**+0.5**
SNAA				*PP	**pP**	**16 13 58.5**	**-2.4**
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SNAA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SNAA	**Sanae**	**51.25**	**158**	P	**P**	**16 13 52.9**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=232,slow=6.4,SNR=17						
SNAA				pP	**pP**	**16 13 58.5**	**-2.4**
	comp=Z,3.5nm,0.8s,baz=302,slow=11,SNR=7.9						
SNAA	**Sanae**	**51.25**	**158**	*eP*	**P**	**16 13 52.9**	**+0.5**
	comp=Z,12nm,0.9s						
SNAA				pP	**pP**	**16 13 58.5**	**-2.4**
CELP	**Cerrillos**	**52.34**	**6**	*eP*	**P**	**16 14 01.1**	**+0.1**
TEIG	**Tepich**	**56.44**	**341**	*eP*	P	16 14 26.4	-4.3
	comp=Z,32nm,0.9s						
VNDA	**Vanda**	**63.82**	**191**	P	**P**	**16 15 22.1**	**+1.4**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNDA	**Vanda**	**63.82**	**191**	P	**P**	**16 15 22.1**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=101,slow=14,SNR=3.8						
SYO	**Syowa Base**	**65.53**	**158**	⇓*eP*	**P**	**16 15 31.4**	**-0.5**
035A	**Encino**	**65.79**	**334**	⇑P	**P**	**16 15 35.7**	**+1.6**
	baz=66						
034A	**Hebbronville**	**66.12**	**334**	⇑P	**P**	**16 15 37.9**	**+1.7**
	baz=66						
933A	**Laredo**	**66.83**	**334**	⇓P	**P**	**16 15 42.5**	**+1.7**
	baz=67						
834A	**Tilden**	**67.04**	**334**	⇓P	**P**	**16 15 43.9**	**+1.9**
	baz=67,SNR=6.4						
735A	**Kenedy**	**67.44**	**335**	⇓P	**P**	**16 15 46.4**	**+1.8**
	baz=68						
833A	**Chaparral WMA,**	**67.52**	**334**	⇓P	**P**	**16 15 46.4**	**+1.3**
	baz=68,SNR=5.2						
832A	**Faith Ranch, C**	**67.70**	**333**	⇑P	**P**	**16 15 47.1**	**+0.9**
	baz=68,SNR=6.0						
636A	**Smothers Creek**	**67.77**	**336**	⇑P	**P**	**16 15 48.3**	**+1.6**
	baz=68,SNR=5.0						
732A	**Laxson Ranch,**	**68.10**	**334**	⇑P	**P**	**16 15 49.7**	**+0.9**
	baz=68,SNR=6.4						
GOGA	**Godfrey**	**68.24**	**350**	*eP*	**P**	**16 15 49.2**	**-0.3**
GOGA	**Godfrey**	**68.24**	**350**	*eP*	**P**	**16 15 49.2**	**-0.3**
536A	**Bastrop**	**68.32**	**337**	⇓P	**P**	**16 15 51.2**	**+1.2**
	baz=69						
633A	**Saathoff Ranch**	**68.47**	**335**	⇓P	**P**	**16 15 52.2**	**+1.1**
	baz=69						
632A	**Uvalde**	**68.74**	**334**	⇑P	**P**	**16 15 53.9**	**+1.1**
	baz=69,SNR=6.5						
631A	**Perdido Creek**	**68.94**	**333**	⇑P	**P**	**16 15 55.4**	**+1.4**
	baz=69						
533A	**Kerrville**	**68.98**	**335**	⇓P	**P**	**16 15 55.8**	**+1.5**
	baz=69						
337A	**Centerville**	**69.09**	**338**	⇑P	**P**	**16 15 56.8**	**+1.9**
	baz=69						
435B	**Jarrell**	**69.14**	**336**	⇑P	**P**	**16 15 56.5**	**+1.3**
	baz=70						
239A	**Gary**	**69.32**	**340**	⇓P	**P**	**16 15 57.7**	**+1.4**
	baz=70						
532A	**Rocksprings**	**69.34**	**334**	⇓P	**P**	**16 15 57.5**	**+1.0**
	baz=70,SNR=13						
434A	**Burnet**	**69.40**	**336**	⇓P	**P**	**16 15 57.7**	**+0.9**
	baz=70,SNR=5.8						
336A	**Riesel**	**69.46**	**337**	⇓P	**P**	**16 15 57.9**	**+0.8**
	baz=70						
531A	**Rocksprings**	**69.61**	**334**	⇓P	**P**	**16 15 59.2**	**+1.0**
	baz=70,SNR=6.1						
433A	**Art**	**69.62**	**335**	⇑P	**P**	**16 15 58.8**	**+0.5**
	baz=70,SNR=16						
JCT	**Junction City**	**69.62**	**334**	*eP*	**P**	**16 15 57.3**	**-1.0**
JCT				pmax	pmax		
	comp=Z,19nm,0.8s						
JCT	**Junction City**	**69.62**	**334**	⇓P	**P**	**16 15 59.0**	**+0.8**
	baz=70,SNR=6.4						
JCT	**Junction City**	**69.62**	**334**	*eP*	**P**	**16 15 57.3**	**-1.0**
	comp=Z,19nm,0.8s						
KMSC	**Kings Mountain**	**69.66**	**352**	⇓P	**P**	**16 15 58.7**	**+0.4**
	baz=70						
237A	**Washetta, Mont**	**69.70**	**338**	⇓P	**P**	**16 16 00.2**	**+1.6**
	baz=70						
334A	**Lometa**	**69.86**	**336**	⇓P	**P**	**16 16 00.2**	**+0.5**
	baz=70,SNR=5.2						
530A	**J-C Ranch, Com**	**69.89**	**333**	⇓P	**P**	**16 16 01.3**	**+1.4**
	baz=70,SNR=7.5						
432A	**Menard**	**69.98**	**335**	⇑P	**P**	**16 16 01.5**	**+1.0**
	baz=70						
TXAR	**Lajitas Array**	**70.07**	**331**	P	**P**	**16 16 01.9**	**+0.8**
TXAR				*PP	**pP**	**16 16 08.3**	**-1.7**
TXAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR				MLR	MLR		
	comp=Z,146nm,18.2s						
TXAR	**Lajitas Array**	**70.07**	**331**	P	**P**	**16 16 01.9**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=151,slow=8.4,SNR=18						
TXAR				pP	**pP**	**16 16 08.2**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=155,slow=8.4,SNR=4.1						
TXAR				LR	LR	16 42 13.6	
	comp=Z,146nm,18.2s,baz=0.0,slow=32						
431A	**Sonora**	**70.10**	**334**	⇑P	**P**	**16 16 02.7**	**+1.5**
	baz=70						
333A	**Richland Sprin**	**70.11**	**336**	⇑P	**P**	**16 16 01.5**	**+0.3**
	baz=70,SNR=7.0						
529A	**Stev Forest Ra**	**70.20**	**332**	⇓P	**P**	**16 16 02.5**	**+0.6**
	baz=70,SNR=11						
WHTX	**Lake Whitney,**	**70.21**	**337**	⇑P	**P**	**16 16 02.6**	**+0.8**
	baz=70						
137A	**Heron Place, G**	**70.24**	**339**	⇑P	**P**	**16 16 03.3**	**+1.3**
	baz=71						
332A	**Millersview**	**70.42**	**335**	⇓P	**P**	**16 16 03.4**	**+0.3**
	baz=71,SNR=5.8						
430A	**Baggett Ranch,**	**70.42**	**333**	⇑P	**P**	**16 16 03.8**	**+0.6**
	baz=71,SNR=7.5						
234A	**Clairette**	**70.44**	**336**	⇓P	**P**	**16 16 04.3**	**+1.0**
	baz=71						
TKL	**Tuckaleechee C**	**70.49**	**350**	*eP*	**P**	**16 16 03.0**	**-0.4**
TKL	**Tuckaleechee C**	**70.49**	**350**	*eP*	**P**	**16 16 03.0**	**-0.4**
429A	**Davenport Ranc**	**70.52**	**333**	⇓P	**P**	**16 16 04.7**	**+0.9**
	baz=71,SNR=6.7						
331A	**San Angelo**	**70.60**	**334**	⇑P	**P**	**16 16 05.0**	**+0.8**
	baz=71,SNR=5.6						
233A	**Rising Star**	**70.71**	**336**	⇓P	**P**	**16 16 05.7**	**+0.8**
	baz=71						
232A	**Coleman**	**70.85**	**335**	⇓P	**P**	**16 16 06.4**	**+0.6**
	baz=71,SNR=7.5						
330A	**Mertzon**	**70.96**	**334**	⇑P	**P**	**16 16 07.3**	**+0.9**
	baz=71						
231A	**Bronte**	**71.13**	**335**	⇓P	**P**	**16 16 07.8**	**+0.4**
	baz=71,SNR=7.9						
133A	**Hamilton Ranch**	**71.26**	**336**	⇑P	**P**	**16 16 08.7**	**+0.6**
	baz=72,SNR=5.3						
329A	**Wagon Wheel Ra**	**71.33**	**333**	⇓P	**P**	**16 16 09.3**	**+0.6**
	baz=72,SNR=6.3						
230A	**Sterling City**	**71.37**	**334**	⇑P	**P**	**16 16 10.1**	**+1.1**
	baz=72						
Z35A	**Perchaven, San**	**71.38**	**338**	⇓P	**P**	**16 16 09.8**	**+1.0**
	baz=72						
MIAR	**Mount Ida**	**71.45**	**341**	*eP*	**P**	**16 16 06.9**	**-2.4**
MIAR				pmax	pmax		
	comp=Z,12nm,1.1s						
MIAR	**Mount Ida**	**71.45**	**341**	*eP*	**P**	**16 16 06.9**	**-2.4**
	comp=Z,12nm,1.1s						
ABTX	**Abilene, Hawle**	**71.52**	**336**	⇑P	**P**	**16 16 10.4**	**+0.7**
	baz=72,SNR=5.2						
ABTX	**Abilene, Hawle**	**71.52**	**336**	*eP*	**P**	**16 16 10.2**	**+0.5**
	comp=Z,20nm,0.8s						
Z34A	**Collier Ranch,**	**71.63**	**337**	⇑P	**P**	**16 16 11.5**	**+1.1**
	baz=72						
WVT	**Waverly**	**71.65**	**346**	*eP*	**P**	**16 16 09.6**	**-0.8**
WVT				pmax	pmax		
	comp=Z,82nm,0.9s						
WVT	**Waverly**	**71.65**	**346**	*eP*	**P**	**16 16 09.6**	**-0.8**
	comp=Z,82nm,0.9s						
229A	**Bryant Ranch,**	**71.70**	**333**	⇓P	**P**	**16 16 11.9**	**+1.0**
	baz=72						
131A	**Roby**	**71.82**	**335**	⇑P	**P**	**16 16 12.6**	**+1.0**
	baz=72						
Z33A	**Whitaker Ranch**	**71.83**	**337**	⇑P	**P**	**16 16 12.0**	**+0.5**
	baz=72,SNR=6.6						
**130A

baz=75,SNR=6.5
X27A **F and S Farms,** 74.57 334 ⇑P P 16 16 29.3 +1.4
baz=75
121A **Cookes Peak, D** 74.57 329 ⇓P P 16 16 29.5 +1.4
baz=75,SNR=12
121A **Cookes Peak, D** 74.57 329 eP P 16 16 26.8 -1.2
comp=Z,18nm,0.9s
U32A **Winter Ranch,** 74.74 338 ⇓P P 16 16 29.8 +1.1
baz=75
X26A **CR and CF Fran** 74.75 333 ⇓P P 16 16 29.9 +1.0
baz=75,SNR=5.3
LIC **Lamto** 74.75 71 eP P 16 16 29.6 +0.3
comp=Z,25nm,0.7s
Y24A **Capitan** 74.82 332 ⇑P P 16 16 30.3 +0.8
baz=75,SNR=6.3
Z22A **Elephant Butte** 74.85 330 ⇑P P 16 16 31.3 +1.7
baz=75,SNR=9.1
ACSO **Alum Creek Sta** 74.88 351 eP P 16 16 27.9 -1.5
comp=Z,35nm,0.6s
W27A **Bowe Ranch, En** 74.93 334 ⇓P P 16 16 30.7 +0.8
baz=75,SNR=12
TIC **Toumodi** 75.02 71 eP P 16 16 31.2 +0.4
comp=Z,25nm,0.2s
X25A **Clemmons Ranch** 75.05 332 ⇑P P 16 16 31.4 +0.7
baz=75
KIC **Kosan Boka** 75.06 71 eP P 16 16 31.6 +0.5
comp=Z,69nm,0.9s
T33A **Patterson Ranc** 75.16 338 ⇑P P 16 16 32.0 +0.9
baz=76,SNR=6.9
DBIC **Dimbokro** 75.16 71 eP P 16 16 32.0 +0.4
DBIC pmax pmax
comp=Z,16nm,0.6s
DBIC **Dimbokro** 75.16 71 P P 16 16 32.2 +0.6
comp=Z,13nm,0.6s,baz=206,slow=5.8,SNR=24
DBIC **Dimbokro** 75.16 71 eP P 16 16 32.0 +0.4
comp=Z,16nm,0.6s
W26A **Owens Ranch, T** 75.21 333 ⇓P P 16 16 32.1 +0.5
baz=76,SNR=8.2
V28A **Channing** 75.25 335 ⇓P P 16 16 32.8 +1.0
baz=76
U30A **WK&E Inc. Balk** 75.41 336 ⇓P P 16 16 33.9 +1.2
baz=76
T32A **Huddler Ranch,** 75.45 338 ⇓P P 16 16 33.8 +1.0
baz=76
V27A **Dan Oppiter Fa** 75.47 334 ⇑P P 16 16 34.0 +0.9
baz=76
S33A **Kaszmaul Farm,** 75.56 339 ⇓P P 16 16 34.4 +1.0
baz=76
W25A **X Bar L Ranch,** 75.58 333 ⇑P P 16 16 34.5 +0.7
baz=76,SNR=6.1
SFIN **Lafayette** 75.64 348 ⇓P P 16 16 33.0 -0.8
baz=76
TUC **Tucson** 75.70 327 eP P 16 16 35.5 +1.1
TUC pmax pmax
comp=Z,12nm,1.2s
TUC **Tucson** 75.70 327 eP P 16 16 35.5 +1.1
comp=Z,12nm,1.2s
U28A **Mallet** 75.81 335 ⇑P P 16 16 35.9 +0.9
baz=76
V26A **Tequesquite Ra** 75.85 334 ⇑P P 16 16 36.0 +0.8
baz=76
S32A **Newby Ranch, P** 75.94 338 ⇑P P 16 16 37.1 +1.5
baz=76
W24A **Lazy 6 Ranch,** 75.94 332 ⇑P P 16 16 36.8 +0.9
baz=76,SNR=8.4
U27A **Thompson Grove** 76.06 335 ⇑P P 16 16 37.6 +1.1
baz=76
ANMO **Albuquerque** 76.12 331 eP P 16 16 35.8 -1.1
ANMO pmax pmax
comp=Z,11nm,1.0s
ANMO **Albuquerque** 76.12 331 eP P 16 16 35.8 -1.1
comp=Z,11nm,1.0s
W23A **Werner Place,** 76.19 332 ⇓P P 16 16 38.6 +1.3
baz=76,SNR=6.2
V25A **Rancho No Teng** 76.19 333 ⇓P P 16 16 38.0 +0.7
baz=76,SNR=11
R33A **Olander Ranch,** 76.21 339 ⇓P P 16 16 37.7 +0.6
baz=77
V24A **Rampart Ranch,** 76.34 333 ⇓P P 16 16 39.2 +1.0
baz=77
214A **Organ Pipe Nat** 76.35 325 ⇑P P 16 16 39.4 +1.4
baz=77,SNR=6.8
U26A **Atchley Ranch,** 76.37 334 ⇓P P 16 16 39.1 +0.8
baz=77
T28A **Walsh** 76.44 336 ⇑P P 16 16 39.2 +0.7
baz=77,SNR=7.2
R32A **Long Quarter,** 76.53 339 ⇓P P 16 16 39.9 +1.0
baz=77
KSU1 **Kansas State U** 76.55 340 ⇑P P 16 16 39.8 +0.8
baz=77
KSU1 **Kansas State U** 76.55 340 eP P 16 16 37.5 -1.5
comp=Z,13nm,0.8s
S29A **Ulysses** 76.56 337 ⇑P P 16 16 40.4 +1.2
baz=77
T27A **Campo** 76.60 335 ⇓P P 16 16 40.6 +1.1
baz=77
U25A **Circle Dot Ran** 76.61 334 ⇓P P 16 16 40.6 +0.9
baz=77,SNR=11
R31A **Burdett** 76.66 338 ⇓P P 16 16 40.9 +1.2
baz=77
TRY **Troy** 76.69 359 eP P 16 16 39.6 -0.1
comp=Z,18nm,0.9s
S28A **Manter** 76.79 336 ⇓P P 16 16 41.8 +1.3
baz=77
Q33A **Connelly Farm,** 76.81 340 ⇓P P 16 16 41.3 +0.9
baz=77
T26A **Comanche Natio** 77.01 334 ⇑P P 16 16 43.2 +1.3
baz=77,SNR=8.4
Q32A **Meitler Ranch,** 77.01 339 ⇓P P 16 16 42.4 +0.8
baz=77
V22A **San Miguel Ran** 77.14 331 ⇓P P 16 16 44.2 +1.5
baz=78,SNR=21
X18A **Snowflake** 77.21 329 ⇑P P 16 16 44.5 +1.5
baz=78,SNR=5.7
U23A **El Rito** 77.22 332 ⇑P P 16 16 44.9 +1.8
baz=78,SNR=6.3
T25A **Trinidad** 77.27 334 ⇓P P 16 16 44.9 +1.5
baz=78,SNR=19
Q31A **Ellis** 77.28 338 ⇓P P 16 16 44.1 +1.0
baz=78,SNR=5.1
R29A **Marienthal** 77.30 337 ⇓P P 16 16 44.5 +1.2
baz=78
S26A **Kim** 77.36 335 ⇓P P 16 16 45.0 +1.3
baz=78,SNR=23
R28A **Tribune** 77.44 336 ⇑P P 16 16 45.3 +1.2
baz=78
113A **Mohawk Valley,** 77.47 325 ⇑P P 16 16 46.1 +1.8
baz=78
Q30A **Quinter** 77.51 338 ⇑P P 16 16 45.4 +1.0
baz=78,SNR=5.1
U22A **Llaves** 77.53 332 ⇓P P 16 16 46.6 +1.8
baz=78
T24B **San Luis** 77.56 333 ⇑P P 16 16 46.8 +1.7
baz=78,SNR=6.5
P32A **Huiting Farm,** 77.61 339 ⇓P P 16 16 46.5 +1.5
baz=78
W18A **Petrified Fore** 77.62 329 ⇓P P 16 16 46.8 +1.5
baz=78,SNR=5.4
W18A **Petrified Fore** 77.62 329 eP P 16 16 45.4 +0.1
comp=Z,24nm,1.2s
Q29A **Oakley** 77.67 337 ⇑P P 16 16 46.3 +1.0
baz=78
R27A **Eads** 77.73 336 ⇓P P 16 16 46.7 +0.9
baz=78,SNR=12
S25A **Robets Cordova** 77.74 334 ⇑P P 16 16 47.3 +1.3
baz=78,SNR=11
P31A **Stockton** 77.75 339 ⇓P P 16 16 46.6 +0.9
baz=78,SNR=5.1
X16A **Lo Mia Camp, P** 77.77 327 ⇑P P 16 16 47.8 +1.6
baz=78,SNR=21
T23A **Casias Ranch,** 77.79 333 ⇓P P 16 16 47.4 +1.1
baz=78
R26A **Arlington** 77.96 335 ⇑P P 16 16 48.4 +1.3
baz=78
S24A **Houchin Ranch,** 78.01 334 ⇓P P 16 16 49.3 +1.7
baz=78,SNR=18
Y14A **Wickenburg** 78.08 326 ⇓P P 16 16 49.4 +1.6
baz=78
Q28A **Sharon Springs** 78.10 337 ⇓P P 16 16 49.2 +1.4
baz=78
O32A **Brockman Farm,** 78.10 340 ⇓P P 16 16 49.0 +1.3
baz=78
R25A **Fountain Ranch** 78.12 334 ⇑P P 16 16 49.3 +1.3
baz=78
GLA **Glamis** 78.21 324 ⇑P P 16 16 50.0 +1.5
baz=78
P29A **Atwood** 78.30 337 ⇓P P 16 16 50.3 +1.5
baz=79
O31A **Woolen Ranch,** 78.31 339 ⇑P P 16 16 50.4 +1.5
baz=79
SCIA **State Center** 78.34 344 eP P 16 16 48.7 -0.2
comp=Z,23nm,0.9s
R24A **Sanders Place,** 78.49 334 ⇓P P 16 16 51.9 +1.8
baz=79,SNR=21
P28A **Saint Francis** 78.54 337 ⇑P P 16 16 51.8 +1.6
baz=79
SWSC **Sam W. Stewart** 78.60 323 ⇑P P 16 16 52.6 +2.1
baz=79
WUAZ **Wupatki** 78.66 328 ⇓P P 16 16 52.6 +1.5
baz=79,SNR=9.5
WUAZ **Wupatki** 78.66 328 eP P 16 16 50.9 -0.2
comp=Z,18nm,1.1s
JFWS **Jewell Farm** 78.67 346 eP P 16 16 48.8 -2.0
JFWS pmax pmax
comp=Z,17nm,0.7s
JFWS **Jewell Farm** 78.67 346 eP P 16 16 48.8 -2.0
comp=Z,17nm,0.7s
S22A **4UR Ranch, Cre** 78.71 332 ⇑P P 16 16 52.5 +1.1
baz=79,SNR=7.8
R23A **Moffat** 78.72 333 ⇓P P 16 16 52.7 +1.2
baz=79,SNR=8.0
Q25A **Bedland, Calha** 78.79 335 ⇑P P 16 16 53.2 +1.4
baz=79
N31A **Bailey Ranch,** 78.82 339 ⇑P P 16 16 53.3 +1.6
baz=79
BAR **Barrett** 78.82 323 P P 16 16 49.9 -1.9
MONP **Monument Peak,** 78.86 323 ⇓P P 16 16 54.1 +1.8
baz=79
MVCO **Mesa Verde** 78.90 331 ⇓P P 16 16 53.3 +0.9
baz=79,SNR=7.7
MVCO **Mesa Verde** 78.90 331 eP P 16 16 51.5 -1.0
comp=Z,8.2nm,0.8s
PDMCI **Parker Dam,Lak** 78.91 325 ⇓P P 16 16 53.7 +1.5
baz=79
BC3 **Big Chuckawall** 79.01 324 ⇓P P 16 16 54.5 +1.6
baz=79,SNR=12
O28A **Krutsinger Ran** 79.05 337 ⇑P P 16 16 54.3 +1.3
baz=79
P26A **Davis Ranch, A** 79.06 336 ⇑P P 16 16 54.8 +1.6
baz=79
BGNE **Belgrade** 79.13 340 eP P 16 16 52.9 -0.4
comp=Z,52nm,1.1s
Q24A **Divide** 79.16 334 ⇓P P 16 16 55.2 +1.3
baz=80,SNR=14
IRM **Iron Mountain** 79.27 325 ⇓P P 16 16 55.7 +1.4
baz=80,SNR=8.8
P25A **Willow Gulch B** 79.30 335 ⇓P P 16 16 56.2 +1.7
baz=80,SNR=10
M31A **Lambtecht Ranc** 79.31 340 ⇑P P 16 16 55.6 +1.3
baz=80
N29A **Votaw Ranch, W** 79.32 338 ⇑P P 16 16 55.8 +1.4
baz=80
O27A **Beecher Island** 79.33 337 ⇓P P 16 16 56.3 +1.7
baz=80
W13A **Hualapai Mount** 79.45 326 ⇑P P 16 16 57.4 +1.9
baz=80
PFO **Pinyon Flats O** 79.46 323 eP P 16 16 54.1 -1.3
PFO pmax pmax
comp=Z,13nm,0.9s
PFO **Pinyon Flats O** 79.46 323 ⇓P P 16 16 57.5 +2.1
baz=80,SNR=7.6
PFO **Pinyon Flats O** 79.46 323 eP P 16 16 54.1 -1.3
comp=Z,13nm,0.9s
BELC **Belle Mtn. Jos** 79.55 324 ⇑P P 16 16 57.6 +1.6
baz=80,SNR=5.5
O26A **Horse Wrangler** 79.66 336 ⇓P P 16 16 58.3 +1.9
baz=80
PV01 **Paradox Valley** 79.73 331 eP P 16 16 55.5 -1.5
comp=Z,628nm,0.9s
P23A **Jefferson** 79.77 334 ⇓P P 16 16 59.3 +2.0
baz=80
BOSA **Boshof** 79.81 118 P P 16 16 58.2 +0.5
BOSA *PP PcP 16 17 05.0 -0.3
BOSA pmax pmax
comp=Z,16nm,0.8s
BOSA pmax pmax
comp=Z,13nm,0.8s
BOSA **Boshof** 79.81 118 P P 16 16 58.2 +0.5
comp=Z,16nm,0.8s,baz=240,slow=4.7,SNR=27
BOSA pP PcP 16 17 05.0 -0.3
comp=Z,13nm,0.8s,baz=239,slow=3.7,SNR=9.8
BOSA **Boshof** 79.81 118 P P 16 16 58.2 +0.5
comp=Z,10.0nm,0.9s
BOSA pP PcP 16 17 05.0 -0.3
O25A **Wiggins** 79.82 335 ⇓P P 16 16 59.1 +1.9
baz=80
MURC **Murrieta** 79.82 323 ⇓P P 16 16 59.3 +2.0
baz=80
U15A **North Rim** 79.83 328 ⇑P P 16 16 58.9 +1.4
baz=80,SNR=17
N27A **Anderson Farm,** 79.91 337 ⇓P P 16 16 59.4 +1.7
baz=80
LDFC **Landfair** 80.00 325 eP P 16 16 59.8 +1.4
comp=Z,13nm,0.9s
SMCO **Snowmass** 80.02 333 eP P 16 16 59.2 +0.5
comp=Z,16nm,0.9s
GMRC **Granite Mounta** 80.02 325 ⇑P P 16 17 00.3 +1.8
baz=80,SNR=14
L31A **Butterfield Fa** 80.03 340 ⇑P P 16 16 59.8 +1.5
baz=80
ISCO **Idaho Springs** 80.06 334 eP P 16 16 57.2 -1.6
ISCO pmax pmax
comp=Z,6.0nm,0.8s
ISCO **Idaho Springs** 80.06 334 ⇑P P 16 16 59.9 +1.1
baz=80,SNR=6.3
ISCO **Idaho Springs** 80.06 334 eP P 16 16 57.2 -1.6
comp=Z,6.3nm,0.8s
PV04 **Paradox Valley** 80.08 331 P P 16 16 57.3 -1.5
P22A **Eagle** 80.30 333 ⇑P P 16 17 01.8 +1.8
baz=81
HEC **Hector,Ludlow** 80.38 324 ⇓P P 16 17 02.3 +2.0
baz=81
L29A **Maesberg Ranch** 80.41 339 ⇑P P 16 17 02.3 +2.0
baz=81
O23A **Lake Granby, G** 80.54 334 ⇓P P 16 17 02.5 +1.2
baz=81,SNR=15
BFSC **Mount Baldy Ra** 80.56 323 ⇑P P 16 17 02.8 +1.4
baz=81,SNR=6.9
TUQ **Turquoise Moun** 80.68 325 ⇓P P 16 17 03.8 +1.8
baz=81,SNR=12
M26A **McRoberts Ranc** 80.70 337 ⇑P P 16 17 04.2 +2.3
baz=81
K30A **Basset** 80.72 340 ⇓P P 16 17 03.2 +1.3
baz=81,SNR=7.8
O22A **Kremmling** 80.72 334 ⇑P P 16 17 03.3 +0.9
baz=81,SNR=14
MWC **Mount Wilson** 80.75 323 eP P 16 17 02.5 0.0
MWC pmax pmax
comp=Z,14nm,0.9s
MWC **Mount Wilson** 80.75 323 eP P 16 17 02.5 0.0
comp=Z,14nm,0.9s
ECSD **EROS Data Cent** 80.89 342 ⇑P P 16 17 02.9 +0.2
baz=81,SNR=34
ECSD **EROS Data Cent** 80.89 342 eP P 16 17 01.1 -1.6
comp=Z,34nm,0.8s
M25A **Palm-Egli Farm** 80.97 336 ⇑P P 16 17 05.0 +1.5
baz=81
L27A **T5 Ranch, Ells** 80.99 338 ⇑P P 16 17 05.0 +1.6
baz=81
GSC **Goldstone, Bar** 80.99 324 eP P 16 17 04.5 +0.9
GSC pmax pmax
comp=Z,8.0nm,0.8s
GSC **Goldstone, Bar** 80.99 324 ⇑P P 16 17 05.3 +1.7
baz=81
GSC **Goldstone, Bar** 80.99 324 eP P 16 17 04.5 +0.9
comp=Z,7.6nm,0.8s
K29A **Lazy Trails An** 81.00 339 ⇓P P 16 17 05.1 +1.6
baz=81
N23A **Red Feather La** 81.15 335 ⇑P P 16 17 05.8 +1.2
baz=82,SNR=5.9
SHPR **Sheep Range** 81.19 326 eP P 16 17 04.0 -0.7
EDW2 **Edwards Air Fo** 81.24 323 ⇑P P 16 17 05.8 +0.9
baz=82,SNR=8.5
CCUT **Cedar City** 81.24 328 eP P 16 17 05.8 +0.8
comp=Z,16nm,1.1s
N22A **Wattenberg Ran** 81.25 334 ⇓P P 16 17 06.3 +1.2
baz=82,SNR=9.3
M24A **Cheyenne** 81.27 336 ⇓P P 16 17 06.3 +1.2
baz=82
K28A **Ten Mile Ranch** 81.27 338 ⇓P P 16 17 06.7 +1.8
baz=82
J30A **Dallas** 81.28 340 ⇑P P 16 17 05.9 +1.0
baz=82
O20A **White River Ci** 81.33 333 ⇓P P 16 17 06.5 +1.1
baz=82
PHWY **Pilot Hill** 81.34 335 eP P 16 17 06.7 +1.1
comp=Z,19nm,1.2s
SRU **San Rafael Swe** 81.35 331 P P 16 17 02.9 -2.6
SRU pmax pmax
comp=Z,11nm,0.8s
SRU **San Rafael Swe** 81.35 331 P P 16 17 02.9 -2.6
comp=Z,11nm,0.8s
SPMN **Marine on St.** 81.41 345 ⇓P P 16 17 04.8 -0.7
baz=82,SNR=5.1
SPMN **Marine on St.** 81.41 345 eP P 16 17 04.7 -0.8
comp=Z,21nm,0.9s
K27A **Flueckinger Fa** 81.53 338 ⇑P P 16 17 08.0 +1.7
baz=82
MVU **Marysvale** 81.54 329 eP P 16 17 05.3 -1.4
comp=Z,14nm,1.3s
LRMC **Laurel Mtn Rad** 81.56 324 ⇑P P 16 17 08.3 +1.7
baz=82
M23A **Laramie** 81.58 335 ⇑P P 16 17 08.3 +1.5
baz=82
L25A **Engebretsen Ra** 81.59 336 ⇓P P 16 17 08.2 +1.5
baz=82
J29A **Okreek** 81.59 339 ⇓P P 16 17 07.7 +1.2
baz=82,SNR=10
TMUT **Trail Mountain** 81.78 330 eP P 16 17 07.7 -0.4
comp=Z,7.5nm,0.8s
I30A **Oacoma** 81.80 340 ⇓P P 16 17 08.4 +0.8
baz=82
M22A **Cedar Creek Ra** 81.83 334 ⇓P P 16 17 09.6 +1.5
baz=82
J28A **Allard Ranch,** 81.88 339 ⇑P P 16 17 08.9 +0.9
baz=82,SNR=7.6
N20A **Spence Gulch,** 81.94 333 ⇓P P 16 17 09.6 +0.9
baz=82,SNR=5.9
J27A **Elkhorn Farm,** 81.95 338 ⇑P P 16 17 10.2 +1.7
baz=82,SNR=5.3
K25A **Mack Ranch, Ha** 81.97 337 ⇑P P 16 17 10.4 +1.8
baz=82
ISA **Isabella, Lake** 82.10 323 eP P 16 17 10.3 +0.9
ISA pmax pmax
comp=Z,8.0nm,0.8s
ISA **Isabella, Lake** 82.10 323 ⇓P P 16 17 11.0 +1.6
baz=82,SNR=10
ISA **Isabella, Lake** 82.10 323 eP P 16 17 10.3 +0.9
comp=Z,8.4nm,0.8s
L23A **Garrett** 82.14 335 ⇑P P 16 17 10.5 +0.8
baz=82
I29A **Vivian Onida** 82.15 340 ⇑P P 16 17 10.6 +1.2
baz=82
DAC **Darwin (Calif)** 82.16 324 eP P 16 17 10.7 +0.8
DAC pmax pmax
comp=Z,14nm,1.0s
DAC **Darwin (Calif)** 82.16 324 eP P 16 17 10.7 +0.8
comp=Z,14nm,1.0s
BRSD **Miller** 82.16 341 ⇑P P 16 17 10.3 +0.8
baz=82
BRSD **Miller** 82.16 341 eP P 16 17 09.4 -0.1
comp=Z,46nm,0.9s
L22A **Ellis Ranch, M** 82.32 335 ⇑P P 16 17 11.3 +0.7
baz=83
J26A **Sides Ranch, S** 82.34 338 ⇓P P 16 17 11.6 +1.1
baz=83,SNR=6.9
K24A **Anderson Ranch** 82.38 336 ⇓P P 16 17 12.3 +1.5
baz=83
I28A **Midland** 82.38 339 ⇑P P 16 17 11.8 +1.2
baz=83,SNR=8.2
VES **Vestal, Richgr** 82.54 323 ⇓P P 16 17 13.2 +1.6
baz=83
MPU **Maple Canyon** 82.57 330 eP P 16 17 12.5 +0.5
comp=Z,13nm,1.0s
GRAC **Grapevine Rang** 82.63 325 ⇑P P 16 17 13.8 +1.6
baz=83,SNR=5.9
J25A **Sunshine Ranch** 82.64 337 ⇓P P 16 17 13.1 +0.9
baz=83,SNR=5.7
H29A **Onida** 82.68 340 ⇑P P 16 17 12.6 +0.4
baz=83,SNR=6.8
K23A **Bowen Ranch, D** 82.68 336 ⇑P P 16 17 13.7 +1.3
baz=83,SNR=6.6
I27A **Quinn** 82.71 339 ⇑P P 16 17 13.3 +0.9
baz=83
DAU **Daniels Canyon** 82.75 331 eP P 16 17 13.4 +0.4
DAU **Daniels Canyon** 82.75 331 eP P 16 17 13.4 +0.4
G30A **Faulkton** 82.85 341 ⇓P P 16 17 14.2 +1.2
baz=83
J24A **Dixon Ranch, L** 82.87 337 ⇑P P 16 17 14.4 +1.1
baz=83,SNR=5.8
R11A **Troy Canyon, C** 82.89 327 ⇓P P 16 17 15.2 +1.6
baz=83,SNR=21
R11A **Troy Canyon, C** 82.89 327 eP P 16 17 14.7 +1.0
comp=Z,9.7nm,0.9s
K22A **Casper** 82.90 335 ⇑P P 16 17 14.6 +1.0
baz=83
K22A **Casper** 82.90 335 eP P 16 17 13.8 +0.2
comp=Z,16nm,0.9s
I26A **New Underwood** 82.92 338 ⇑P P 16 17 14.1 +0.6
baz=83
H28A **Mission Ridge** 82.96 340 ⇓P P 16 17 14.4 +0.8
baz=83,SNR=6.4
JLU **Jordanelle** 82.99 331 eP P 16 17 14.4 +0.2
comp=Z,9.6nm,0.8s
G29A **Hoven** 83.12 340 ⇑P P 16 17 14.9 +0.4
baz=84
K21A **Alcova** 83.14 335 ⇓P P 16 17 15.7 +0.8
baz=84,SNR=13
I25A **Rochford** 83.19 337 ⇑P P 16 17 16.0 +1.0
baz=84,SNR=13
DUG **Dugway, Tooele** 83.21 330 eP P 16 17 15.2 0.0
DUG pmax pmax
comp=Z,19nm,1.4s
DUG **Dugway, Tooele** 83.21 330 ⇑P P 16 17 16.0 +0.8
baz=84,SNR=9.2
DUG **Dugway, Tooele** 83.21 330 eP P 16 17 15.2 0.0
comp=Z,19nm,1.4s
H27A **Howes** 83.23 339 ⇑P P 16 17 15.5 +0.4
baz=84,SNR=13
G28A **Parade** 83.29 340 ⇑P P 16 17 16.1 +0.8
baz=84,SNR=9.3
I24A **Kuemmerle Ranc** 83.33 337 ⇑P P 16 17 16.6 +0.9
baz=84
RSSD **Black Hills** 83.37 337 eP P 16 17 16.5 +0.5
RSSD pmax pmax
comp=Z,10.0nm,0.9s
RSSD **Black Hills** 83.37 337 eP P 16 17 16.5 +0.5
comp=Z,10nm,0.9s
TCUT **Toone Canyon** 83.41 331 eP P 16 17 15.2 -1.1
comp=Z,6.9nm,0.6s
TPH **Tonopah** 83.42 326 eP P 16 17 17.0 +0.6
TPH pmax pmax
comp=Z,12nm,0.9s
TPH **Tonopah** 83.42 326 eP P 16 17 16.9 +0.6
comp=Z,12nm,0.9s
J22A **Midwest** 83.56 335 ⇑P P 16 17 16.9 0.0
baz=84,SNR=7.7
F29A **Eureka** 83.68 341 ⇓P P 16 17 17.5 +0.2
baz=84,SNR=5.8
G27A **Dupree** 83.86 339 ⇑P P 16 17 18.8 +0.5
baz=84
HWUT **Hardware Ranch** 83.89 331 eP P 16 17 18.1 -0.6
comp=Z,13nm,0.8s
BGU **Big Grassy Mou** 83.91 330 eP P 16 17 18.7 -0.1
comp=Z,12nm,1.8s
F28A **McLaughlin** 83.97 340 ⇑P P 16 17 19.6 +0.8
baz=84
I22A **9 Mile Ranch,** 83.98 336 ⇓P P 16 17 19.3 +0.3
baz=84,SNR=10
G26A **Maurine** 83.98 339 ⇑P P 16 17 19.2 +0.3
baz=84,SNR=9.6
E30A **Jud** 84.06 342 ⇑P P 16 17 19.9 +0.7
baz=84
J20A **Shoshoni** 84.07 334 ⇑P P 16 17 20.9 +1.4
baz=84,SNR=16
H24A **Dirks Ranch, A** 84.10 337 ⇑P P 16 17 19.8 +0.2
baz=84,SNR=8.6
PDAR **Pinedale Array** 84.10 333 P P 16 17 19.9 0.0
comp=Z,4.8nm,0.8s,baz=157,slow=5.2,SNR=38
G25A **Newell** 84.14 338 ⇑P P 16 17 20.1 +0.4
baz=84,SNR=9.1
I21A **Big Trails, Te** 84.19 335 ⇓P P 16 17 20.4 +0.2
baz=84,SNR=6.3
TORD **Torodi Ar. Bea** 84.20 70 P P 16 17 21.0 +0.4
comp=Z,13nm,0.8s,baz=258,slow=4.2,SNR=67
TORD pP pP 16 17 28.2 -1.5
comp=Z,5.2nm,0.7s,baz=256,slow=3.5,SNR=11
NVAR **Mina Array Bea** 84.21 325 P P 16 17 20.6 +0.1
comp=Z,5.5nm,0.7s,baz=158,slow=6.4,SNR=20
E29A **Napoleon** 84.31 341 ⇑P P 16 17 20.8 +0.3
baz=85
F27A **Lemmon** 84.34 339 ⇑P P 16 17 21.5 +0.8
baz=85,SNR=12
J19A **Crowheart** 84.34 334 ⇓P P 16 17 21.3 +0.3

baz=85,SNR=15
F26A Lodgepole 84.51 339 ⇓P P 16 17 22.2 +0.6
baz=85
HVU Hansel Valley 84.52 331 *eP* **P 16 17 22.0 +0.1**
HVU pmax pmax
comp=Z,17nm,0.7s
HVU Hansel Valley 84.52 331 *eP* **P 16 17 22.0 +0.1**
comp=Z,17nm,0.7s
H22A Clearmont 84.55 336 ⇑P P 16 17 22.3 +0.4
baz=85
D30A Buchanan 84.58 342 ⇑P P 16 17 22.5 +0.7
baz=85,SNR=6.4
I20A Worland 84.60 335 ⇓P P 16 17 22.7 +0.5
baz=85,SNR=13
ELK Elko 84.70 328 *eP* **P 16 17 23.2 +0.3**
ELK pmax pmax
comp=Z,8.0nm,0.8s
ELK Elko 84.70 328 *eP* **P 16 17 23.2 +0.3**
comp=Z,7.7nm,0.8s
D29A Pettibone, Tap 84.75 341 ⇑P P 16 17 23.0 +0.3
baz=85,SNR=7.0
G23A Biddle 84.77 337 ⇑P P 16 17 23.2 +0.2
baz=85
F25A Bowman 84.81 338 ⇓P P 16 17 23.4 +0.2
baz=85
H21A Big Horn, Sher 84.82 336 ⇑P P 16 17 23.3 0.0
baz=85
CMB Columbia Colle 84.91 324 *eP* **P 16 17 24.6 +0.8**
CMB pmax pmax
comp=Z,8.0nm,1.1s
CMB Columbia Colle 84.91 324 *eP* **P 16 17 24.6 +0.8**
comp=Z,8.0nm,1.1s
I19A Meeteetse 84.99 334 ⇑P P 16 17 25.2 +0.9
baz=85,SNR=7.7
AGMN Agassiz Nation 84.99 344 ⇓P P 16 17 23.9 +0.1
baz=85,SNR=8.7
AGMN Agassiz Nation 84.99 344 *eP* **P 16 17 23.6 -0.3**
comp=Z,16nm,0.6s
E26A Carlson Angus 85.01 339 ⇓P P 16 17 25.1 +1.0
baz=85
H20A Greybull 85.03 335 ⇑P P 16 17 24.6 +0.3
baz=85,SNR=12
F24A Ekalaka 85.05 338 ⇑P P 16 17 25.4 +1.1
baz=85
C30A Mose, Pekin 85.06 342 ⇑P P 16 17 24.9 +0.7
baz=85,SNR=8.5
G22A Birney 85.08 336 ⇓P P 16 17 25.3 +0.7
baz=85
REDW Red Top Meadow 85.10 333 *eP* **P 16 17 24.1 -0.8**
comp=Z,7.0nm,0.6s
D28A Regan 85.14 341 ⇓P P 16 17 25.2 +0.5
baz=86,SNR=5.4
LOHW Long Hollow 85.22 333 *eP* **P 16 17 25.2 -0.3**
comp=Z,6.1nm,0.6s
F23A Volborg 85.24 337 ⇓P P 16 17 26.0 +0.7
baz=86
TPAW Teton Pass 85.25 333 *eP* **P 16 17 26.2 +0.5**
comp=Z,11nm,0.9s
D27A Center 85.32 340 ⇑P P 16 17 26.7 +1.1
baz=86
G21A Lodge Grass 85.40 336 ⇑P P 16 17 26.7 +0.6
baz=86,SNR=8.0
FXWY Fox Creek 85.40 333 *eP* **P 16 17 26.0 -0.4**
comp=Z,3.9nm,0.8s
I17A Pilgrim Ck. 85.47 333 ⇑P P 16 17 27.5 +0.8
baz=86,SNR=13
MDND Maddock 85.48 342 ⇓P P 16 17 27.5 +1.2
baz=86
MDND Maddock 85.48 342 *eP* **P 16 17 26.6 +0.2**
comp=Z,14nm,0.6s
D26A Manning 85.51 340 ⇑P P 16 17 27.3 +0.8
baz=86,SNR=7.7
H19A Powell 85.53 334 ⇑P P 16 17 27.3 +0.4
baz=86,SNR=8.0
F22A Rosebud 85.57 337 ⇓P P 16 17 27.2 +0.2
baz=86,SNR=7.7
IMW Indian Meadow 85.59 333 *eP* **P 16 17 27.9 +0.5**
comp=Z,72nm,2.1s
E24A Baker 85.64 338 ⇓P P 16 17 27.0 -0.3
baz=86
FLWY Flagg Ranch 85.66 333 *eP* **P 16 17 28.2 +0.7**
comp=Z,21nm,0.6s
B30A Myrvik Farm, E 85.72 343 ⇓P P 16 17 27.9 +0.4
baz=86,SNR=21
G20A Bridger 85.74 335 ⇑P P 16 17 27.9 0.0
baz=86,SNR=20
H18A Shoshone NF, C 85.78 334 ⇓P P 16 17 28.8 +0.5
baz=86,SNR=59
C27A Sayler Ranch, 85.87 340 ⇓P P 16 17 29.2 +0.9
baz=86,SNR=7.8
H17A Grant Village 85.88 333 ⇑P P 16 17 29.7 +1.0
baz=86
H17A Grant Village 85.88 333 *eP* **P 16 17 30.0 +1.3**
comp=Z,4.4nm,0.6s
F21A Absaloka Mine, 85.89 336 ⇓P P 16 17 29.6 +1.1
baz=86
E23A Ismay 85.90 338 ⇑P P 16 17 29.1 +0.6
baz=86
B29A Wagenman Farm, 85.99 342 ⇓P P 16 17 29.3 +0.4
baz=86,SNR=6.1
YFT Old Faithful 86.02 333 *eP* **P 16 17 30.6 +1.2**
comp=Z,11nm,0.9s
RLMT Red Lodge 86.03 334 *eP* **P 16 17 28.0 -1.4**
comp=Z,12nm,0.5s
E22A Miles City 86.05 337 ⇓P P 16 17 29.5 +0.3
baz=86
C26A Wahner Farm, P 86.14 340 ⇑P P 16 17 30.1 +0.5
baz=86
D24A Glendive 86.15 338 ⇑P P 16 17 30.5 +0.8
baz=86,SNR=6.9
A30A Hoffart Farm, 86.17 343 ⇓P P 16 17 29.8 0.0
baz=86,SNR=7.4
F20A Billings 86.22 336 ⇑P P 16 17 30.6 +0.4
baz=87
B28A Dugan Ranch, T 86.23 341 ⇑P P 16 17 30.5 +0.4
baz=87,SNR=8.4
YMR Madison River 86.25 333 *eP* **P 16 17 31.6 +1.0**
comp=Z,32nm,0.8s
LAO LASA Array 86.36 337 *eP* **P 16 17 29.1 -1.7**
comp=Z,28nm,1.0s
A29A Manning Farm, 86.38 342 ⇑P P 16 17 31.3 +0.5
baz=87,SNR=9.7
D23A Lindsay 86.47 338 ⇓P P 16 17 32.2 +0.9
baz=87,SNR=23
E21A Keefer Ranch, 86.51 337 ⇓P P 16 17 32.3 +0.7
baz=87,SNR=5.6
F19A Roth Farm, Mol 86.54 335 ⇑P P 16 17 32.2 +0.4
baz=87,SNR=8.8
C24A Savage 86.55 339 ⇑P P 16 17 32.4 +0.8
baz=87,SNR=20
QLMT Earthquake Lak 86.57 333 *eP* **P 16 17 32.9 +0.8**
A28A Rude Farm, Bot 86.63 342 ⇑P P 16 17 32.2 +0.1
baz=87,SNR=5.1
HLID Hailey 86.67 331 ⇓P P 16 17 33.7 +1.1
baz=87,SNR=15
HLID Hailey 86.67 331 *eP* **P 16 17 33.7 +1.1**
comp=Z,12nm,0.9s
B26A Jensen Ranch, 86.67 340 ⇑P P 16 17 33.0 +0.8
baz=87
D22A Cohagen 86.75 337 ⇑P P 16 17 33.3 +0.6
baz=87,SNR=13
E20A Meyer Farm, Mu 86.83 336 ⇓P P 16 17 33.7 +0.6
baz=87,SNR=24
ULM Lac du Bonnet 86.83 345 P P 16 17 32.6 -0.3
ULM pmax pmax
comp=Z,12nm,0.9s
ULM Lac du Bonnet 86.83 345 P P 16 17 32.6 -0.3
comp=Z,12nm,0.9s,baz=157,slow=3.2,SNR=15
B25A Knox Farm, Ray 86.84 340 ⇑P P 16 17 34.0 +0.9
baz=87
A27A Ledoux Ranch, 86.93 341 ⇓P P 16 17 34.6 +1.2
baz=87
D21A La Casta Ranch 86.94 337 ⇓P P 16 17 34.1 +0.5
baz=87,SNR=11
E19A Rath Farm, Rou 87.02 335 ⇑P P 16 17 34.4 +0.3
baz=87,SNR=26
C23A Lambert 87.02 338 ⇑P P 16 17 34.5 +0.5
baz=87,SNR=23
A26A Wade Farm, Ken 87.09 341 ⇓P P 16 17 34.8 +0.5
baz=87,SNR=6.7
MCMT McKenzie Canyo 87.11 332 *eP* **P 16 17 34.2 -0.5**
comp=Z,9.8nm,1.0s
C22A Vida 87.19 338 ⇑P P 16 17 35.3 +0.5
baz=88,SNR=5.0
D20A Manuel Ranch, 87.34 336 ⇓P P 16 17 36.1 +0.5
baz=88,SNR=14
A25A Svangstu Ranch 87.43 340 ⇑P P 16 17 36.8 +0.9
baz=88,SNR=5.3
DLMT Dillon 87.46 333 *eP* **P 16 17 36.8 +0.5**
comp=Z,16nm,1.3s
B23A Brockton 87.55 339 ⇑P P 16 17 36.9 +0.4
baz=88,SNR=8.8
WVOR Wild Horse Val 87.56 327 *eP* **P 16 17 37.1 +0.2**
WVOR pmax pmax
comp=Z,8.0nm,1.0s
WVOR Wild Horse Val 87.56 327 *eP* **P 16 17 37.1 +0.2**
comp=Z,7.6nm,1.0s
D19A Cripps Ranch, 87.66 336 ⇓P P 16 17 37.2 +0.1
baz=88,SNR=5.8
A24A Westby 87.67 339 ⇓P P 16 17 37.7 +0.6
baz=88,SNR=6.2
B22A Reddig Ranch S 87.72 338 ⇑P P 16 17 37.9 +0.6
baz=88,SNR=7.3
LRM Limekiln Ridge 87.79 333 *eP* **P 16 17 38.6 +0.6**
C20A Veseth Ranch, 87.84 337 ⇑P P 16 17 38.3 +0.4
baz=88
MOD Modoc Plateau 87.90 326 *eP* **P 16 17 39.0 +0.5**
comp=Z,11nm,0.8s
A23A Redstone 87.96 339 ⇓P P 16 17 39.3 +0.9
baz=88
B21A Ellsworth Farm 88.15 337 ⇓P P 16 17 40.1 +0.7
baz=88
C19A Slack Wire Ran 88.21 336 ⇑P P 16 17 39.8 +0.1
baz=88,SNR=5.4
A22A Carney Farms, 88.31 338 ⇑P P 16 17 40.3 +0.2
baz=89,SNR=14
N02D Trinity Center 88.32 324 ⇑P P 16 17 41.3 +0.9
baz=89
B20A Solberg Farm, 88.48 337 ⇑P P 16 17 41.1 +0.1
baz=89,SNR=8.3
M04C Macdoel 88.52 325 ⇓P P 16 17 42.7 +1.2
baz=89
A21A Bergtoll Ranch 88.62 338 ⇓P P 16 17 41.3 -0.3
baz=89,SNR=8.0
EGMT Eagleton 88.70 336 ⇓P P 16 17 42.5 +0.4
baz=89
EGMT Eagleton 88.70 336 *eP* **P 16 17 42.6 +0.6**
comp=Z,7.9nm,0.9s
M02C Callahan 88.71 324 ⇓P P 16 17 43.2 +0.9
baz=89
B19A Brinkman Farms 88.80 336 ⇑P P 16 17 42.6 +0.1
baz=89,SNR=6.6
A20A Cobblestone Ra 88.84 337 ⇑P P 16 17 43.0 +0.3
baz=89,SNR=12
SCHQ Schefferville 88.89 3 P P 16 17 42.1 -0.6
comp=Z,1.6nm,0.5s,baz=180,slow=4.1,SNR=5.8
A19A Klindworth Far 89.14 337 ⇑P P 16 17 44.3 +0.2
baz=90,SNR=7.1
J05D Fort Rock, OR 89.41 326 ⇓P P 16 17 46.8 +1.2
baz=90
F10A Beach Ranch, E 89.80 330 *eP* **P 16 17 48.4 +1.1**
comp=Z,130nm,2.5s
JTMT Jette 90.09 333 *eP* **P 16 17 48.5 -0.2**
C09A Chrisman Ranch 91.69 331 *eP* **P 16 17 56.9 +0.9**
comp=Z,87nm,2.4s
EDM Edmonton 94.33 336 *eP* **P 16 18 07.1 -0.9**
EDM Edmonton 94.33 336 *eP* **P 16 18 07.1 -0.9**
FCC Fort Churchill 94.56 349 *eP* **P 16 18 08.9 +0.1**
FCC Fort Churchill 94.56 349 *eP* **P 16 18 08.9 +0.1**
YKA Yellowknife Ar 102.40 341 P Pdif 16 18 43.5 -0.5
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 102.40 341 P Pdif 16 18 43.5 -0.5
comp=Z,1.2nm,0.7s,baz=141,slow=4.4,SNR=28
ILAR Eielson Array 114.53 333 PKIKP PKPdf 16 23 27.8 -0.2
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 114.53 333 PKP PKPdf 16 23 27.8 -0.2
comp=Z,0.4nm,0.6s,baz=169,slow=1.1,SNR=9.4
ASAR Alice Springs 117.34 207 PKP PKPdf 16 23 33.0 -1.9
comp=Z,0.4nm,0.7s,baz=106,slow=1.5,SNR=5.6
WRA Warramunga Arr 120.55 209 PKIKP PKPdf 16 23 39.8 -1.3
WRA 16 23 47.1
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 120.55 209 PKP PKPdf 16 23 39.8 -1.3
comp=Z,1.0nm,0.5s,baz=156,slow=1.8,SNR=17
WRA pPKP **pPKPdf 16 23 47.0 -3.4**
comp=Z,1.1nm,0.5s,baz=163,slow=1.5,SNR=5.9
WRA PKKPbc **PKKPbc 16 33 47.0 +1.1**
comp=Z,0.4nm,0.5s,baz=339,slow=4.5,SNR=6.3
BRTR Keskin Array B 121.87 61 *c i* PKIKP **PKPdf 16 23 43.2 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 121.87 61 PKP PKPdf 16 23 42.2 -0.9
comp=Z,1.5nm,0.8s,baz=180,slow=3.1,SNR=11
AKASG Malin Array Be 122.31 48 *c i* PKIKP **PKPdf 16 23 43.5 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 122.31 48 PKP PKPdf 16 23 42.0 -1.3
comp=Z,1.3nm,0.7s,baz=254,slow=2.4,SNR=4.0
VSU Vasula 122.86 38 *e* PKIKP **PKPdf 16 23 44.7 +0.5**
FINES FINESS Array B 123.18 35 PKIKP PKPdf 16 23 43.8 -0.9
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 123.18 35 PKP PKPdf 16 23 43.8 -0.9
comp=Z,1.8nm,0.8s,baz=147,slow=3.9,SNR=7.6
ARCES ARCESS Array B 124.25 25 PKIKP PKPdf 16 23 46.8 +0.2
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 124.25 25 PKP PKPdf 16 23 46.8 +0.2
comp=Z,2.6nm,0.8s,baz=240,slow=4.4,SNR=9.4
H11S1 WAKE ISLAND Hyl 25.91 269 T T 18 42 12.7
baz=326,slow=74,SNR=18
H11S3 WAKE ISLAND Hyl 25.91 269 T T 18 42 13.8
baz=119,slow=74,SNR=23
H11N3 WAKE ISLAND Hyl 26.31 270 T T 18 42 48.8
baz=115,slow=78,SNR=15
H11N1 WAKE ISLAND Hyl 26.33 270 T T 18 42 49.9
baz=115,slow=78,SNR=38
H11N2 WAKE ISLAND Hyl 26.33 270 T T 18 42 41.2
baz=115,slow=78,SNR=18
VSR Storozhevoye 128.56 49 *i* PKIKP **PKPdf 16 23 56.2 +0.9**
KLMR Klimovskoe 129.58 36 *e* PKIKP **PKPdf 16 23 56.6 -0.4**
KLMR pmax pmax
comp=Z,23nm,1.4s
PRGR Permogore 132.50 35 PKIKP PKPdf 16 24 02.0 -0.5
PRGR pmax pmax
comp=Z,12nm,0.4s
BILL Bilibino 133.17 334 *e* PKIKP **PKPdf 16 24 04.6 +1.0**
BILL 16 26 34.0
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,89nm,18.0s
GEYT Alibeck 139.84 70 PKP PKPdf 16 24 18.1 +1.2
comp=Z,1.7nm,0.6s,baz=318,slow=2.0,SNR=3.7
SEY Seymchan 140.37 330 PKIKP PKPdf 16 24 16.6 -0.5
SEY pmax pmax
comp=Z,5.0nm,0.7s
SEY Seymchan 140.37 330 PKP PKPdf 16 24 16.6 -0.5
comp=Z,4.9nm,0.7s,baz=73,slow=2.2,SNR=7.8
PETK Petropavlovsk- 140.47 314 PKIKP PKPdf 16 24 17.8 +0.2
PETK pmax pmax
comp=Z,3.0nm,0.9s
PETK Petropavlovsk- 140.47 314 PKP PKPdf 16 24 17.8 +0.2
comp=Z,2.9nm,0.9s,baz=98,slow=4.7,SNR=4.5
AB31 Akbulak array 141.78 52 *i* PKHKP PKPpre 16 24 14.2
AB31 pmax pmax
comp=Z,1.0nm,0.3s
BRVK Borovoye 147.35 43 *e* PKP2 **PKPbc 16 24 32.2 +0.2**
BRVK Borovoye 147.35 43 *e* PKPab **PKPbc 16 24 33.0 +1.0**
BVA0 Borovoye Array 147.42 43 *i* PKIKP **PKPdf 16 24 30.3 +0.6**
BVA0 pmax pmax
comp=Z,10.0nm,0.6s
HYB Hyderabad 148.68 115 *i* PKP **PKPbc 16 24 35.5 -1.1**
YAK Yakutsk 149.07 340 *e* PKP2 **PKPbc 16 24 35.0 -1.2**
YAK pmax pmax
comp=Z,20nm,0.8s
YAK Yakutsk 149.07 340 *e* PKPbc **PKPbc 16 24 35.7 -0.5**
KK31 Karatay Array 149.58 62 *i* PKP2 **PKPbc 16 24 37.6 -0.6**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 149.58 62 *e* PKP2 **PKPbc 16 24 38.1 -0.1**
KKAR Karatay Array 149.58 62 *e* PKPbc **PKPbc 16 24 38.1 -0.1**
YSS Yuzh-Sakhalins 151.08 306 *e* PKIKP **PKPbc 16 24 41.3 -0.2**
ASAJ Asahikawa 151.73 301 PKIKP PKPbc 16 24 43.4 +0.2
ASAJ pmax pmax
comp=Z,15nm,0.8s
ASAJ Asahikawa 151.73 301 PKPbc PKPbc 16 24 43.4 +0.2
comp=Z,15nm,0.8s,baz=306,slow=7.1,SNR=4.0
EKS2 Erkin-Say 152.01 62 *e* PKIKP **PKPbc 16 24 45.1 +1.1**
EKS2 Erkin-Say 152.01 62 *e* PKPbc **PKPbc 16 24 45.1 +1.1**
AAK Ala-Archa 152.54 62 PKIKP PKPpre 16 24 30.9
AAK pmax pmax
comp=Z,12nm,0.9s
AAK Ala-Archa 152.54 62 *e* PKPbc **PKPbc 16 24 44.7 -0.6**
KURBB Kurchatov Arra 153.01 44 PKPbc PKPbc 16 24 46.2 +0.4
comp=Z,4.3nm,0.5s,baz=302,slow=2.8,SNR=33
KURBB PKPab **PKPab 16 24 57.4 +0.1**
comp=Z,2.0nm,0.7s,baz=300,slow=3.3,SNR=6.8
KURK Kurchatov 153.02 44 *e* PKIKP **PKPbc 16 24 45.6 -0.2**
KURK 16 24 57.4
KURK Kurchatov 153.02 44 *e* PKPbc **PKPbc 16 24 45.6 -0.2**
KURK PKPab **PKPab 16 24 57.4 +0.1**
NVS Novosibirsk 153.14 33 *i* PKIKP **PKPdf 16 24 37.5 -1.0**
NVS pmax pmax
comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,3.0nm,0.7s
NVS pmax pmax
comp=Z,14nm,0.7s
KSH Kashi 153.87 69 PKPbc PKPdf 16 24 41.1 +0.8
KSH sPKP 16 24 54.3
KSH PKS **PKSdf 16 28 15.2 +0.6**
KSH PP **PP 16 28 34.7 -1.8**
KSH SKS **SKSdf 16 31 46.5 +1.2**
KSH SKKS **SKKSac 16 35 24.5 +0.2**
KSH SS **SS 16 48 08.1 -4.5**
KSH PPMZ
comp=Z,110nm,4.2s
KSH LN
comp=Z,54nm,4.6s
KSH LE
comp=Z,31nm,6.1s
KSH LZ
comp=Z,210nm,5.8s
ZALV Zalesovo Beam 154.42 33 PKIKP PKPdf 16 24 40.2 -0.2
ZALV 16 24 49.1
ZALV 16 25 04.0
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV pmax pmax
comp=Z,8.0nm,0.7s
ZALV pmax pmax
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 154.42 33 PKP PKPdf 16 24 40.2 -0.2
comp=Z,1.4nm,0.6s,baz=291,slow=1.3,SNR=8.1
ZALV PKPbc **PKiKP 16 24 49.0 +0.3**
comp=Z,8.1nm,0.7s,baz=298,slow=3.2,SNR=32
ZALV PKPab **PKPab 16 25 04.0 +0.8**
comp=Z,11nm,0.8s,baz=306,slow=5.3,SNR=13
BOD Bodaibo 156.16 352 *i* PKP2 **PKPab 16 25 10.5 +0.1**
BOD pmax pmax
comp=Z,12nm,1.1s
MKAR Makanchi Array 156.87 50 PKIKP PKPdf 16 24 44.1 +0.1
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 156.87 50 PKP PKPdf 16 24 44.0 +0.1
comp=Z,0.7nm,0.9s,baz=294,slow=1.2,SNR=5.5
MKAR PKPab **PKPab 16 25 13.7 -0.3**
comp=Z,3.2nm,0.7s,baz=297,slow=3.8,SNR=14
WMQ Urumqi 161.56 53 *e* PKP **PKPdf 16 24 49.0 -0.6**
WMQ pPKP **pPKPdf 16 25 00.0 +1.1**
WMQ PKPab **PKPab 16 25 35.3 +0.8**
WMQ PKS **PKSdf 16 28 21.0 -1.8**
WMQ PP **PP 16 29 19.4 +1.1**
WMQ SKS **SKSdf 16 31 49.0 -3.6**
WMQ SKKS **SKKSac 16 36 02.3 -2.2**
WMQ SS **SS 16 49 28.6 -5.2**
WMQ PPMZ
comp=Z,110nm,5.0s
CMAR Chiang Mai Arr 162.21 150 PKIKP PKPdf 16 24 51.2 +0.3
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 162.21 150 PKP PKPdf 16 24 51.1 +0.3
comp=Z,0.6nm,0.7s,baz=235,slow=3.5,SNR=4.9
TLY Talaya 162.34 9 *e* PKP2 **PKPab 16 25 38.5 +1.0**
TLY pmax pmax
comp=Z,3.0nm,0.9s
KSRS Korea Array 163.65 287 PKP2 PKPab 16 25 43.7 -0.1
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS Korea Array 163.65 287 PKPab PKPab 16 25 43.6 -0.1
comp=Z,0.5nm,0.5s,baz=93,slow=5.1,SNR=5.3
KSAR Wonju Array Be 163.68 287 PKP2 PKPab 16 25 43.7 -0.2
KSAR Wonju Array Be 163.68 287 PKPab PKPab 16 25 43.6 -0.2
SONM Songino Array 166.43 5 PKP2 PKPab 16 25 56.6 +0.9
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 166.43 5 PKPab PKPab 16 25 56.6 +0.9
comp=Z,2.0nm,0.8s,baz=350,slow=3.6,SNR=13
KMI Kunming 169.72 152 PKP PKPdf 16 24 54.7 -2.4
NJ2 Nanjing 170.72 259 *e* PKP **PKPdf 16 25 00.2 +3.1**
GTA Gaotai 171.63 50 *e* PKP **PKPdf 16 24 57.5 0.0**
GTA pPKP **pPKPdf 16 25 08.3 +1.4**
GTA sPKP 16 25 11.8
GTA PKPab **PKPab 16 26 20.0 +0.9**
GYA Guiyang 172.07 171 *e* PKP **PKPdf 16 24 58.2 +0.1**
GYA pPKP **pPKPdf 16 25 10.8 +3.3**
GYA PKPab **PKPab 16 26 25.0 +3.9**
GYA PKS **PKSdf 16 28 29.4 -1.2**
GYA PP PP 16 30 17.6 +6.3
GYA SKKS 16 36 58.2
GYA SS **SS 16 51 21.8 +3.6**
GYA PPMZ
comp=Z,120nm,8.5s
GYA LN
comp=Z,120nm,24.6s
GYA LE
comp=Z,110nm,23.4s
GYA LZ
comp=Z,120nm,24.0s
HHC Hu-ho-hao-te 172.93 338 *e* PKP **PKPdf 16 24 58.3 +0.3**
HHC pPKP **pPKPdf 16 25 09.6 +2.2**
HHC sPKP 16 25 12.3
HHC PP **PP 16 30 19.8 +4.1**
HHC SKS **SKSdf 16 31 56.5 -2.8**
HHC SS **SS 16 51 25.3 -1.6**
HHC PPMZ
comp=Z,140nm,6.0s
HHC LN
comp=Z,630nm,20.6s
HHC LE
comp=Z,1μm,21.6s
HHC LZ
comp=Z,1μm,19.7s
CD2 Chengdu 175.00 132 *e* PKP **PKPdf 16 24 59.7 +0.7**

IDC ***12*** *16:05:51.8±1.6, 0.°72S×123.°06E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/29, mbtmp3.1/3, Error ellipse: s-maj=219.7km s-min=25.3km az=61.0*
DJA ***12*** *16:05:56.9±0.3, 1.°S±3.°×12.°3E±.°, h10km, M3.8/14, mb4.1/2, MLv3.7/14*
ISCJB ***12*** *16:05:57.3±0.5, 0.°63S±0.°05×123.°43E±0.°05, h54km, mb3.0/3, Error ellipse: s-maj=7.9km s-min=6.6km az=141.5*
ISC 12 16:05:58.6±1.0, 0.°63S±0.°05×123.°45E±0.°04, h54km, n15, σ2.°09/18, mb2.9/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.79**	**239**	P	**Pn**	**16 06 10.5**	**-3.1**
LUWI				S	**Sn**	**16 06 20.2**	**-4.4**
KMSI	**Cibinong**	**1.31**	**24**	P	**Pn**	**16 06 19.4**	**-1.3**
KMSI				S	**Sn**	**16 06 36.3**	**-0.8**
GTOI	**Gorontalo**	**1.33**	**341**	P	**Pn**	**16 06 21.6**	**+0.7**
APSI	**Ampana**	**1.82**	**261**	P	**Pn**	**16 06 28.1**	**+0.6**
APSI				S	**Sn**	**16 06 53.5**	**+4.1**
MRSI	**Marisa**	**1.87**	**306**	P	**Pn**	**16 06 26.0**	**-2.2**
SANI	**Sanana**	**2.91**	**119**	P	**Pn**	**16 06 41.7**	**-0.7**
MPSI	**Mapaga**	**3.68**	**285**	P	**Pn**	**16 06 55.5**	**+2.5**
LBMI	**Labuha**	**4.05**	**90**	P	**Pn**	**16 06 58.5**	**+0.3**
TTSI	**Tana Toraja**	**4.34**	**236**	P	**Pn**	**16 07 02.0**	**-0.1**
NLAI	**Namlea**	**4.48**	**125**	P	**Pn**	**16 07 05.6**	**+1.7**
SPSI	**Sidrap Palu**	**4.94**	**228**	P	**Pn**	**16 07 11.1**	**+0.7**
BNSI	**Bone**	**5.01**	**222**	P	**Pn**	**16 07 11.9**	**+0.6**
	15nm,0.6s,0.1nm						
WRA	**Warramunga Arr**	**21.95**	**152**	P	**P**	**16 10 48.2**	**+0.2**
	0.3nm,0.7s,baz=327,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**25.04**	**157**	P	**P**	**16 11 18.8**	**+0.8**
	0.4nm,0.9s,baz=334,slow=8.2,SNR=6.1						

MKAR Makanchi Array 59.38 328 P P 16 15 55.1 -0.4
0.1nm,0.5s,baz=124,slow=8.2,SNR=2.8

IDC 12 16:17:03.2±2.5,34°58S×153°54E,h479km±27km, Error ellipse: s-maj=54.9km s-min=19.4km az=126.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.58**	**227**	P	P	16 19 07.3	+2.0
	0.8nm,0.3s,baz=356,slow=14,SNR=4.7						
CTA	**Charters Tower**	**17.88**	**203**	P	P	16 20 42.5	-1.0
	0.9nm,0.3s,baz=23,slow=11,SNR=8.5						
WRA	**Warramunga Arr**	**24.80**	**228**	P	P	16 21 46.1	-0.2
	0.5nm,0.3s,baz=53,slow=9.5,SNR=15						
ASAR	**Alice Springs**	**27.54**	**222**	P	P	16 22 10.2	-0.3
	1.4nm,0.3s,baz=55,slow=9.0,SNR=97						
ASAR				S	S	16 26 17.4	0.0
	0.4nm,0.7s,baz=48,slow=15,SNR=4.8						
ILAR	**Eielson Array**	**80.76**	**22**	P	P	16 28 24.0	-1.6
	0.4nm,0.8s,baz=238,slow=5.2,SNR=3.0						
QSPA	**South Pole Qui**	**86.37**	**180**	P	P	16 28 54.9	+1.1
	1.2nm,0.7s,baz=310,slow=2.1,SNR=6.3						
TORD	**Torodi Ar. Bea**	**150.60**	**291**	PKPbc	PKPbc	16 36 02.5	+1.1
	0.2nm,0.6s,baz=85,slow=3.9,SNR=4.4						

*IDC **12** 16:18:06.8±1.0, 34°.13S×72°.15W, h0km, mb3.8/4, mb1 4.0/7, mb1mx3.8/26, mbtmp3.8/7, ML3.7/3, MS3.2/3, Ms1 3.2/3, ms1mx3.0/29, Error ellipse: s-maj=41.6km s-min=21.6km az=101.0*
*ISCJB **12** 16:18:08.2±1.0, 34°.14S±0°.09×72°.2W±0°.2, h19km, mb3.9/3, MS3.6/2, Error ellipse: s-maj=27.4km s-min=12.2km az=10.6*
ISC 12 16:18:10.0±1.0, 34°.1S±0°.1×72°.2W±0°.2, h19km, n12, σ0 78/10, mb3.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.16**	**54**	Pn	**Pn**	**16 19 13.3**	**+0.8**
	0.7nm,0.3s,baz=226,slow=12,SNR=22						
CFAA				Lg	Lg	16 20 12.9	
	1.0nm,0.3s,baz=72,slow=7.1,SNR=4.1						
CFAA				LR	LR	16 21 01.7	
	comp=Z,38nm,18.4s,baz=238,slow=42						
PLCA	**Paso Flores**	**6.74**	**169**	Pn	**Pn**	**16 19 48.6**	**+0.6**
	0.5nm,0.3s,baz=352,slow=12,SNR=6.0						
LPAZ	**La Paz**	**18.11**	**13**	P	**P**	**16 22 21.9**	**+0.3**
	0.3nm,0.3s,baz=187,slow=5.3,SNR=17						
SIV	**San Ignacio**	**20.63**	**32**	P	**P**	**16 22 48.1**	**-0.4**
	3.3nm,0.6s,baz=208,slow=7.5,SNR=9.0						
BDFB	**Brasilia**	**28.50**	**56**	LR	LR	16 36 15.0	
	comp=Z,90nm,19.0s,baz=213,slow=38						
RCBR	**Riachuelo**	**43.81**	**58**	LR	LR	16 45 28.8	
	comp=Z,98nm,18.1s,baz=218,slow=38						
QSPA	**South Pole Qui**	**56.13**	**180**	P	**P**	**16 27 47.9**	**-0.1**
	1.0nm,0.9s,baz=174,slow=9.2,SNR=4.3						
TXAR	**Lajitas Array**	**69.76**	**331**	P	**P**	**16 29 19.8**	**+0.8**
	0.4nm,0.5s,baz=152,slow=8.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**84.37**	**70**	P	**P**	**16 30 40.5**	**-0.9**
	1.3nm,0.8s,baz=255,slow=4.2,SNR=7.2						
KURBB	**Kurchatov Arra**	**153.03**	**43**	PKPbc	**PKPbc**	**16 38 05.2**	**-0.5**
	0.7nm,0.5s,baz=96,slow=8.1,SNR=7.6						
ZALV	**Zalesovo Beam**	**154.38**	**32**	PKPbc	**PKPbc**	**16 38 07.8**	**-0.7**
	1.0nm,0.5s,baz=318,slow=4.1,SNR=5.8						
MKAR	**Makanchi Array**	**156.93**	**49**	PKPab	**PKPab**	**16 38 33.0**	**-1.0**
	0.4nm,0.6s,baz=290,slow=4.6,SNR=8.2						

KRNET 12 16:23:33.8±0.1, 39°.64N×74°.19E, h3km, mb3.5, 1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.65**	**306**	*eP*	Pg	16 23 46.0	-0.6
	baz=306						
SFK				*eS*	Sg	16 23 56.0	+0.8
	baz=306						
ARSB	**Arslanbob**	**1.92**	**332**	*eP*	Pg	16 24 12.5	+1.7
	baz=332						
ARSB				*eS*	Sg	16 24 40.6	+4.7
	baz=332						
ARLS	**Aral**	**2.23**	**3**	*i/eP*	Pg	16 24 17.1	+0.4
	baz=3.0						
NRN	**Naryn**	**2.27**	**37**	*eP*	Pg	16 24 17.6	-0.1
	baz=37						
NRN				*eS*	Sg	16 24 49.4	+2.0
	baz=37						

*IDC **12** 16:42:13.8±4.8, 24°.92N×122°.91E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/47, mbtmp3.4/3, MS3.0/3, Ms1 3.0/3, ms1mx2.6/28, Error ellipse: s-maj=306.1km s-min=28.6km az=59.0*
*ISCJB **12** 16:42:16.3±1.5, 24°.9N±0°.1×122°.89E±0°.08, h29km±9km, mb3.5/3, MS3.2/1, Error ellipse: s-maj=19.7km s-min=10.4km az=24.1*
*JMA **12** 16:42:16.0±0.1, 24°.88N×122°.85E, h32km±3km, M2.6*
ISC 12 16:42:15.3±2.3, 24°.91N±0°.08×122°.96E±0°.07, h11km±14km, n13, σ0 48/15, mb3.3/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.45**	**174**	P	**Pb**	**16 42 25.4**	**+0.1**
YOJ				*eS*	**Sb**	**16 42 31.8**	**-0.2**
JYNG	**Yonagunijimaku**	**0.46**	**182**	P	**Pb**	**16 42 25.3**	**-0.1**
JYNG				*eS*	**Sb**	**16 42 32.4**	**+0.2**
IRIF	**Iriomote-Funau**	**0.91**	**129**	P	**Pn**	**16 42 33.9**	**-0.1**
IRIF				*eS*	**Sb**	**16 42 45.9**	**+0.8**
HATJ	**Hateruma jima**	**1.15**	**138**	P	**Pb**	**16 42 36.7**	**-0.5**
HATJ				*eS*	**Sb**	**16 42 51.2**	**-0.9**
JKRS	**Kuro-shima**	**1.17**	**125**	P	**Pg**	**16 42 37.9**	**+0.1**
JKRS				*eS*	**Sn**	**16 42 53.6**	**+0.1**
JIJ	**Ishigaki jima**	**1.21**	**117**	P	**Pn**	**16 42 37.8**	**-0.3**
JISG	**Ishigakijimahi**	**1.27**	**104**	P	**Pb**	**16 42 39.4**	**+0.1**
KSRS	**Korea Array**	**13.20**	**18**	LR	LR	16 50 41.0	
	comp=Z,42nm,18.9s,baz=110,slow=38						
MJAR	**Matsushiro Arr**	**17.48**	**45**	LR	LR	16 52 59.0	
	comp=Z,32nm,21.2s,baz=300,slow=37						
MKAR	**Makanchi Array**	**38.96**	**315**	P	**P**	**16 49 41.2**	**-0.3**
	0.3nm,0.7s,baz=97,slow=12,SNR=4.5						
PMG	**Port Moresby**	**41.48**	**142**	LR	LR	17 06 04.8	
	comp=Z,34nm,19.5s,baz=194,slow=34						
WRA	**Warramunga Arr**	**45.94**	**165**	P	**P**	**16 50 38.3**	**-0.1**
	1.6nm,0.6s,baz=347,slow=8.7,SNR=6.8						
ASAR	**Alice Springs**	**49.44**	**167**	P	**P**	**16 51 06.3**	**+0.8**
	0.2nm,0.6s,baz=354,slow=7.5,SNR=5.8						

*ISCJB **12** 16:46:32.2±1.0, 17°.7N±0°.1×39°.99E±0°.09, h10km, mb3.6/6, MS3.1/3, Error ellipse: s-maj=17.3km s-min=11.5km az=25.5*
*IDC **12** 16:46:32.5±2.4, 17°.78N×40°.08E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.4/43, mbtmp3.7/6, MS3.3/4, Ms1 3.3/4, ms1mx3.0/44, Error ellipse: s-maj=56.6km s-min=25.9km az=158.0*
*SGS **12** 16:46:45.7, 17°.77N×40°.88E, h22km*
ISC 12 16:46:33.5±1.1, 17°.7N±0°.1×40°.0E±0°.1, h10km, n14, σ1 22/11, mb3.6/6, MS3.1/3, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRSS	**Farasan al Kab**	**2.19**	**115**	P	**Pn**	**16 47 10.6**	**+0.6**
NAMS	**An Nimas**	**2.54**	**54**	P	**Pn**	**16 47 15.0**	**0.0**
LTHS	**Al Lith**	**2.62**	**8**	P	**Pn**	**16 47 15.8**	**0.0**
JAZS	**Jizan**	**2.82**	**102**	P	**Pn**	**16 47 17.8**	**-0.8**
TATS	**Tathlith**	**3.76**	**60**	P	**Pn**	**16 47 33.5**	**+1.8**
KMBO	**Kilima Mbogo**	**18.88**	**189**	LR	LR	16 58 04.8	
	comp=Z,99nm,19.7s,baz=96,slow=36						
BRTR	**Keskin Array B**	**22.67**	**347**	P	**P**	**16 51 35.7**	**+0.5**
	1.3nm,1.1s,baz=156,slow=12,SNR=5.8						
BRTR				LR	LR	16 59 43.5	
	comp=Z,46nm,19.3s,baz=146,slow=35						
GNI	**Garni**	**22.77**	**9**	LR	LR	17 01 22.4	
	comp=Z,62nm,18.7s,baz=179,slow=39						
AKTO	**Aktyubinsk**	**35.72**	**20**	LR	LR	17 09 40.3	
	comp=Z,58nm,18.4s,baz=184,slow=39						
TORD	**Torodi Ar. Bea**	**37.19**	**269**	P	**P**	**16 53 46.3**	**+1.1**
	1.8nm,1.0s,baz=81,slow=8.0,SNR=8.9						
GERES	**GERESS Array B**	**37.73**	**331**	P	**P**	**16 53 48.0**	**-1.4**
	0.2nm,0.4s,baz=150,slow=12,SNR=2.5						
KURBB	**Kurchatov Arra**	**44.94**	**34**	P	**P**	**16 54 49.5**	**+1.0**
	0.9nm,0.3s,baz=238,slow=8.0,SNR=6.5						

MKAR Makanchi Array 45.25 41 P P 16 54 49.4 -1.7
0.2nm,0.5s,baz=249,slow=9.5,SNR=6.3
ZALV Zalesovo Beam 49.96 33 P P 16 55 27.2 -0.4
0.5nm,0.3s,baz=222,slow=5.8,SNR=4.1

*IDC **12** 16:50:00.5±0.3, 34°.28S×71°.94W, h0km, mb5.6/31, mb1 5.7/33, mb1mx5.6/38, mbtmp5.6/33, ML4.5/2, MS5.2/20, Ms1 5.2/20, ms1mx5.1/28, Error ellipse: s-maj=13.1km s-min=10.1km az=83.0*
*NEIC **12** 16:50:01.7±0.1, 34°.23S×71°.92W, h7km, mb6.1/201, ME5.8, MS5.4/77, MW5.8, ML5.8(GUC), Error ellipse: s-maj=3.5km s-min=3.0km az=59.0, Moment Tensor Solution. s48 Moment tensor: Scale 10^{17}Nm; M_{rr}-6.18; $M_{\theta\theta}$1.62; $M_{\phi\phi}$4.57; $M_{r\theta}$2.77; $M_{\theta\phi}$0.51; $M_{r\phi}$1.47; Best double couple: $M_0$6.40000×10^{17} NP1:ϕ_s1.00000°, δ36.00000°, λ-114.00000°. NP2:ϕ_s210.00000°, δ58.00000°, λ-73.00000°. Principal axes: T 5.0400, Plg11.0000°, Azm287.0000°; N 2.1600, Plg13.0000°, Azm20.0000°; P -7.2000, Plg71.0000°, Azm160.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [V] at Maipo; [IV] at Casablanca, Cordillera, Melipilla, Pichilemu and Santo Domingo; [III] at Rancagua, San Antonio, San Fernando, Santiago, Talagante, Valparaiso and Villa Alemana; [II] at Puente Alto and Quillota. Also felt at Chimbarongo, Colina, Graneros, Llaillay, Quilpue and San Bernardo. Felt at San Martin, Argentina.
*GCMT **12** 16:50:01.7±0.1, 34°.41S×72°.18W, h12km, MW5.7/122, Moment Tensor Solution. s90,c158; s122,c319; Duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.95±.04; $M_{\theta\theta}$0.25±.04; $M_{\phi\phi}$3.70±.04; $M_{r\theta}$-0.38±.11; $M_{\theta\phi}$-1.47±.03; $M_{r\phi}$0.68±.11; Best double couple: $M_0$4.17000×10^{17} NP1:ϕ_s158.00000°, δ50.00000°, λ-92.00000°. NP2:ϕ_s342.00000°, δ40.00000°, λ-87.00000°. Principal axes: T 4.3140, Plg5.0000°, Azm250.0000°; N -0.2880, Plg2.0000°, Azm159.0000°; P -4.0260, Plg84.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*GUC **12** 16:50:02.0±0.6, 34°.30S×72°.02W, h33km±2km, ML5.8*
*ISCJB **12** 16:50:02.4±0.8, 34°.21S±0°.02×71°.96W±0°.04, h19km±5km, mb6.0/240, MS5.4/119, Error ellipse: s-maj=4.9km s-min=3.7km az=174.2*
*MOS **12** 16:50:05.4±1.0, 34°.01S×71°.95W, h33km, mb6.3/63, MS5.4/31, Error ellipse: s-maj=10.2km s-min=6.3km az=88.8*
*BJI **12** 16:50:06.0, 34°.30S×71°.80W, h30km, mB5.9/55, Ms5.9/54, Ms7 5.7/55*
ISC 12 16:50:03.8±0.3, 34°.28S±0°.03×71°.89W±0°.05, h21km±3km, n1429, σ1 94/1457, mb6.1/240, MS5.5/119, 266C-287D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.51**	**51**	*i/eP*	**Pb**	**16 50 13.6**	**-0.5**
LNV	**Longovilo**	**0.51**	**51**	*i/eP*	**Pb**	**16 50 13.6**	**-0.5**
NICH	**Los Niches**	**0.91**	**143**	*eP*	**Pb**	**16 50 19.3**	**-1.5**
NICH				*i S*	**Sb**	**16 50 32.8**	**+0.4**
NICH				AML	AML	16 50 36.3	
	comp=N,912μm,0.5s						
NICH	**Los Niches**	**0.91**	**143**	*eP*	**Pb**	**16 50 19.3**	**-1.5**
NICH				*i S*	**Sb**	**16 50 32.8**	**+0.4**
TACH	**Talagante**	**1.00**	**52**	*i/eP*	**Pn**	**16 50 21.4**	**-1.4**
TACH	**Talagante**	**1.00**	**52**	*i/eP*	**Pn**	**16 50 21.4**	**-1.4**
CACH	**El Canelo**	**1.08**	**82**	*i/eP*	**Pn**	**16 50 23.4**	**-0.5**
CACH	**El Canelo**	**1.08**	**82**	*i/eP*	**Pn**	**16 50 23.4**	**-0.5**
CHCH	**Chadas Angostu**	**1.08**	**72**	*eP1*	**Pn**	**16 50 22.9**	**-0.9**
CHCH	**Chadas Angostu**	**1.08**	**72**	*eP*	**Pn**	**16 50 22.9**	**-0.9**
RCDM	**Rinconada Maip**	**1.19**	**49**	*eP*	**Pn**	**16 50 24.6**	**-0.7**
RCDM	**Rinconada Maip**	**1.19**	**49**	*eP*	**Pn**	**16 50 24.6**	**-0.7**
ANTU	**Antumapu**	**1.26**	**56**	*eP*	**Pn**	**16 50 25.9**	**-0.4**
ANTU				*i S*	**Sb**	**16 50 43.9**	**+1.3**
ANTU				AML	AML	16 50 51.3	
	comp=E,240μm,0.8s						
ANTU	**Antumapu**	**1.26**	**56**	*eP*	**Pn**	**16 50 25.9**	**-0.4**
ANTU				*i S*	**Sb**	**16 50 43.9**	**+1.3**
IHA	**Instituto Hidr**	**1.27**	**9**	*i/eP*	**Pn**	**16 50 24.7**	**-1.6**
IHA	**Instituto Hidr**	**1.27**	**9**	*i/eP*	**Pn**	**16 50 24.7**	**-1.6**
SAN	**Santiago**	**1.31**	**51**	*i/eP*	**Pn**	**16 50 26.7**	**-0.3**
SAN	**Santiago**	**1.31**	**51**	*i/eP*	**Pn**	**16 50 26.7**	**-0.3**
SAN	**Santiago**	**1.31**	**51**	*i/eP*	**Pn**	**16 50 26.7**	**-0.3**
PCH	**Pirque**	**1.32**	**61**	*eP1*	**Pn**	**16 50 27.0**	**-0.1**
PCH	**Pirque**	**1.32**	**61**	*eP*	**Pn**	**16 50 27.0**	**-0.1**
LACH	**Col Las Americ**	**1.40**	**54**	*eP*	**Pn**	**16 50 28.0**	**-0.2**
LACH				*i S*	**Sb**	**16 50 47.8**	**+1.1**
LACH	**Col Las Americ**	**1.40**	**54**	*eP*	**Pn**	**16 50 28.0**	**-0.2**
LACH				*i S*	**Sb**	**16 50 47.8**	**+1.1**
CLCH	**Cerro Calan**	**1.43**	**52**	*i/eP*	**Pn**	**16 50 28.4**	**-0.2**
CLCH				*eS*	**Sb**	**16 50 48.4**	**+0.8**
CLCH				AML	AML	16 51 00.7	
	comp=N,179μm,0.8s						
CLCH				AML	AML	16 51 02.1	
	comp=N,216μm,0.8s						
PEL	**Peldehue**	**1.51**	**42**	*i/eP*	**Pn**	**16 50 29.6**	**-0.1**
PEL				*i S*	**Sb**	**16 50 50.8**	**+0.9**
PEL	**Peldehue**	**1.51**	**42**	*i/eP*	**Pn**	**16 50 29.6**	**-0.1**
PEL				*i S*	**Sb**	**16 50 50.8**	**+0.9**
PEL				AML	AML	16 50 55.7	
	comp=N,249μm,1.0s						
PEL	**Peldehue**	**1.51**	**42**	*i/eP*	**Pn**	**16 50 29.6**	**-0.1**
PEL				*i S*	**Sb**	**16 50 50.8**	**+0.9**
FCH	**Farellones**	**1.63**	**55**	*eP1*	**Pn**	**16 50 32.3**	**+0.7**
FCH				*eS*	**Sb**	**16 50 54.4**	**+0.7**
FCH	**Farellones**	**1.63**	**55**	*eP*	**Pn**	**16 50 32.3**	**+0.7**
FCH				*eS*	**Sb**	**16 50 54.4**	**+0.7**
CFAA	**Coronel Fontan**	**4.06**	**50**	Pn	**Pn**	**16 51 05.7**	**+0.8**
	comp=N,7.1nm,0.3s,baz=225,slow=12,SNR=275						
CFAA				Lg	Lg	16 52 11.6	
	comp=N,34nm,0.3s,baz=143,slow=18,SNR=19						
CFAA				LR	LR	16 53 01.9	
	comp=N,8μm,20.4s,baz=210,slow=44						
LCO	**Las Campanas**	**5.35**	**11**	*e*Pn	**Pn**	**16 51 21.5**	**-1.2**
LCO				*e*Sn	**Sn**	**16 52 24.9**	**+1.1**
PLCA	**Paso Flores**	**6.53**	**171**	*eP*	**Pn**	**16 51 39.3**	**+0.5**
PLCA				*e*		16 52 53.3	
PLCA	**Paso Flores**	**6.53**	**171**	Pn	**Pn**	**16 51 39.5**	**+0.7**
	baz=340,slow=15						
PLCA				LR	LR	16 54 28.6	
	comp=N,26μm,19.6s,baz=351,slow=41						
PLCA	**Paso Flores**	**6.53**	**171**	*e*Pn	**Pn**	**16 51 39.3**	**+0.5**
PLCA				*e*Pg	Pb	16 52 05.9	+9.1
PLCA				*e*Sn	**Sn**	**16 52 53.3**	**+0.6**
TRQA	**Tornquist**	**8.85**	**118**	*e*Pn	**Pn**	**16 52 10.2**	**-0.4**
TRQA				*e*Sn	**Sn**	**16 53 46.8**	**-2.9**
LVC	**Limon Verde**	**11.91**	**13**	*e*Pn	Pn	16 52 47.6	-5.1
LVC				*e*Sn	**Sn**	**16 55 03.1**	**-2.1**
LPAZ	**La Paz**	**18.23**	**12**	*eP*	**Pn**	**16 54 15.3**	**-0.9**
LPAZ				pmax	pmax		
	comp=Z,490nm,0.8s						
LPAZ	**La Paz**	**18.23**	**12**	P	**Pn**	**16 54 15.6**	**-0.6**
	comp=Z,2.2nm,0.3s,baz=177,slow=9.5,SNR=128						
LPAZ	**La Paz**	**18.23**	**12**	*e*Pn	**Pn**	**16 54 15.3**	**-0.9**
	comp=Z,490nm,0.8s						
EFI	**East Falkland**	**20.06**	**154**	*eP*	**P**	**16 54 34.5**	**-1.0**
EFI				pmax	pmax		
	comp=Z,206nm,1.0s						
EFI				MLR	MLR		
	comp=Z,8μm,21.6s						
EFI	**East Falkland**	**20.06**	**154**	*eP*	**P**	**16 54 34.5**	**-1.0**
	comp=Z,206nm,1.0s						
EFI				LR	LR		
	comp=Z,8μm,21.6s						
SIV	**San Ignacio**	**20.65**	**31**	P	**P**	**16 54 41.8**	**-0.4**
	comp=Z,135nm,1.0s,baz=227,slow=12,SNR=256						
SIV				LR	LR	17 03 40.7	
	comp=Z,14μm,19.0s,baz=222,slow=40						
USHA	**Ushuaia**	**20.69**	**174**	P	**P**	**16 54 43.5**	**+1.1**
	comp=Z,125nm,0.8s,baz=325,slow=7.0,SNR=34						
USHA				LR	LR	17 02 54.3	
	comp=Z,14μm,19.4s,baz=338,slow=37						
NNA	**Nana**	**22.64**	**347**	*eP*	**P**	**16 55 03.3**	**-0.4**
NNA	**Nana**	**22.64**	**347**	P	**P**	**16 55 04.6**	**+0.9**
	comp=Z,190nm,0.9s,baz=190,slow=11,SNR=62						
NNA				LR	LR	17 01 57.0	
	comp=Z,8μm,20.4s,baz=182,slow=32						
NNA	**Nana**	**22.64**	**347**	*eP*	**P**	**16 55 03.4**	**-0.4**
	comp=Z,302nm,1.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**27.67**	**346**	P	**P**	**16 55 51.4**	**+0.5**
	comp=Z,77nm,1.2s,baz=170,slow=5.7,SNR=46						
ATAH				PcP	**PcP**	**16 59 08.2**	**+0.3**
	comp=Z,37nm,1.0s,baz=119,slow=6.4,SNR=4.6						
ATAH				LR	LR	17 05 39.6	
	comp=Z,4μm,18.4s,baz=161,slow=34						
BDFB	**Brasilia**	**28.39**	**55**	P	**P**	**16 55 56.8**	**-0.2**
	comp=Z,96nm,0.9s,baz=222,slow=8.2,SNR=44						
BDFB				LR	LR	17 08 26.1	
	comp=Z,25μm,18.4s,baz=224,slow=39						
HOPE	**Hope Point**	**31.80**	**140**	*eP*	**P**	**16 56 26.8**	**+0.2**
	comp=Z,52nm,0.9s						
HOPE				LR	LR		
	comp=Z,3μm,20.0s						
OTAV	**Otavalo**	**34.88**	**348**	*eP*	**P**	**16 56 54.5**	**+0.2**
	comp=Z,504nm,1.5s						
PTGA	**Pitinga**	**35.19**	**21**	*eP*	**P**	**16 56 55.1**	**-1.5**
	comp=Z,332nm,1.3s						
PAYG	**Puerto Ayora**	**37.60**	**329**	*eP*	**P**	**16 57 17.2**	**0.0**
	comp=Z,1μm,1.5s						
ROSC	**El Rosal**	**38.99**	**356**	P	**P**	**16 57 30.6**	**+1.3**
	comp=Z,63nm,0.8s,baz=152,slow=3.5,SNR=35						
SDV	**Santo Domingo**	**42.94**	**2**	*eP*	**P**	**16 57 59.6**	**-1.9**
	comp=Z,315nm,1.2s						
RCBR	**Riachuelo**	**43.68**	**58**	*eP*	**P**	**16 58 07.2**	**-0.3**
	comp=Z,178nm,1.4s						
BCIP	**Isla Barro Col**	**43.86**	**349**	*eP*	**P**	**16 58 07.2**	**-1.5**
	comp=Z,573nm,1.4s						
BCIP				*e*PcP	**PcP**	**16 59 54.9**	**0.0**
BCIP				LR	LR		
	comp=Z,2μm,22.0s						
ACR	**Cerro Adams**	**44.01**	**344**	*eP*	**P**	**16 58 10.4**	**+0.4**
QCR	**Quepos**	**44.99**	**343**	*eP*	**P**	**16 58 19.1**	**+1.3**
BUS	**Buena Vista**	**45.02**	**343**	*eP*	**P**	**16 58 19.1**	**+0.5**
URSC	**Urasca**	**45.30**	**343**	*eP*	**P**	**16 58 21.9**	**+1.5**
CGA2	**Cerro Gallo 2**	**45.64**	**343**	*eP*	**P**	**16 58 24.1**	**+1.0**
JCR	**Jicaral**	**45.64**	**342**	*eP*	**P**	**16 58 24.2**	**+1.1**
JTS	**JuntasAbangare**	**46.02**	**342**	*d/eP*	**P**	**16 58 26.2**	**+0.2**
JTS				pmax	pmax		
	comp=Z,616nm,1.8s						
JTS				MLR	MLR		
	comp=Z,6μm,22.0s						
JTS	**JuntasAbangare**	**46.02**	**342**	P	**P**	**16 58 27.4**	**+1.4**
	comp=Z,153nm,1.2s,baz=150,slow=4.0,SNR=44						
JTS				PcP	**PcP**	**17 00 02.2**	**-0.3**
	comp=Z,52nm,1.2s,baz=124,slow=3.4,SNR=3.6						
JTS				LR	LR	17 12 55.1	
	comp=Z,740nm,20.9s,baz=182,slow=30						
JTS	**JuntasAbangare**	**46.02**	**342**	*eP*	**P**	**16 58 26.3**	**+0.3**
	comp=Z,360nm,1.4s						
JTS				PcP	**PcP**	**17 00 02.2**	**-0.3**
GRGR	**Grenville**	**47.17**	**14**	*eP*	**P**	**16 58 34.1**	**-0.8**
	comp=Z,381nm,0.9s						
GRGR				LR	LR		
	comp=Z,4μm,20.0s						
BBGH	**Gun Hill**	**48.59**	**16**	PFAKE		16 59 00.0	+14
BBGH				LR	LR		
	comp=Z,6μm,22.0s						
VNA3	**Neumayer Olymp**	**49.06**	**158**	P	**P**	**16 58 50.0**	**+1.0**
VNA1	**Neumayer--Stat**	**49.37**	**157**	P	**P**	**16 58 52.7**	**+1.3**
BIM	**Bigot**	**49.60**	**14**	*eP*	**P**	**16 58 53.7**	**-0.1**
TRMF	**Trois Ilets**	**49.62**	**14**	*eP*	**P**	**16 58 53.7**	**-0.2**
ZAM	**Aeronautique**	**49.66**	**14**	*eP*	**P**	**16 58 54.1**	**0.0**
MVM	**Montagne Vaucl**	**49.67**	**14**	*eP*	**P**	**16 58 54.0**	**-0.2**
LPMF	**Morne Lapointe**	**49.68**	**14**	*eP*	**P**	**16 58 54.1**	**-0.2**
VNA2	**Neumayer--Watz**	**49.71**	**157**	P	**P**	**16 58 54.7**	**+0.7**
	baz=292,slow=9.5						
FDF	**Fort de France**	**49.80**	**14**	*eP*	**P**	**16 58 52.7**	**-2.5**
FDF				*e*		17 00 14.7	
FDF				pmax	pmax		
	comp=Z,226nm,1.2s						
FDF				MLR	MLR		
	comp=Z,6μm,20.0s						
FDF	**Fort de France**	**49.80**	**14**	*eP*	**P**	**16 58 54.6**	**-0.6**
FDF				*e*S	**pP**	**16 58 58.5**	**-3.2**
FDF	**Fort de France**	**49.80**	**14**	*eP*	**P**	**16 58 52.7**	**-2.5**
	comp=Z,226nm,1.2s						
FDF				*e*PcP	**PcP**	**17 00 14.7**	**-1.1**
FDF				LR	LR		
	comp=Z,6μm,20.0s						
SNAA	**Sanae**	**51.28**	**158**	P	**P**	**16 59 06.4**	**+0.5**
SNAA	**Sanae**	**51.28**	**158**	*eP*	**P**	**16 59 05.8**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,311nm,1.0s						
SNAA	**Sanae**	**51.28**	**158**	P	**P**	**16 59 06.0**	**+0.1**
	comp=Z,91nm,0.9s,baz=285,slow=6.5,SNR=176						
SNAA	**Sanae**	**51.28**	**158**	*eP*	**P**	**16 59 05.8**	**-0.1**
	comp=Z,311nm,1.0s						
APG	**El Apazote**	**52.10**	**337**	P	P	16 59 09.1	-3.7
	comp=Z,138nm,1.0s,baz=166,slow=6.9,SNR=80						
CRPR	**Cabo Rojo, PR**	**52.19**	**6**	*eP*	**P**	**16 59 12.0**	**-1.1**
	comp=Z,309nm,1.1s						
CRPR				*e*PcP	**PcP**	**17 00 24.6**	**-0.1**
SABA	**Saba**	**52.26**	**10**	*eP*	**P**	**16 59 13.7**	**0.0**
	comp=Z,660nm,1.0s						
OBIP	**Obispado Ponce**	**52.27**	**6**	*eP*	**P**	**16 59 11.6**	**-2.1**
	comp=Z,342nm,1.1s						
OBIP				*e*PcP	**PcP**	**17 00 20.6**	**-4.3**
CELP	**Cerrillos**	**52.30**	**6**	*eP*	**P**	**16 59 13.5**	**-0.5**
LSP	**Las Mesas**	**52.36**	**6**	*eP*

VNDA LR LR 17 25 31.8
comp=Z,2µm,18.5s,baz=131,slow=33
VNDA PKPPKP P'P'df 17 29 27.0 -7.4
comp=Z,6.6nm,1.1s,baz=287,slow=5.7,SNR=7.7
VNDA Vanda 63.85 191 *eP* **P 17 00 35.9 +1.7**
VNDA P'P' 17 29 27.0
H06S1 SOCORRO T 64.51 319 T T 18 10 37.3
SNR=4.8
035Z Hargill 65.31 334 ⇓P **P 17 00 45.5 +1.2**
baz=66
035A Encino 65.76 334 ⇓P **P 17 00 48.5 +1.3**
baz=66,SNR=22
034A Hebbronville 66.08 334 ⇓P **P 17 00 50.6 +1.3**
baz=66,SNR=21
KVTX Kingsville 66.24 335 PFAKE 17 01 00.0 +10
KVTX LR LR
comp=Z,2µm,20.0s
TIGA Tifton 66.29 349 ⇑P **P 17 00 50.0 -0.4**
baz=67,SNR=12
TIGA Tifton 66.29 349 *eP* **P 17 00 50.2 -0.3**
comp=Z,288nm,1.0s
BRAL Brewton 66.50 346 *eP* **P 17 00 51.9 +0.1**
comp=Z,377nm,1.0s
BRAL LR LR
comp=Z,1µm,19.0s
934A Benavides 66.51 334 ⇑P **P 17 00 53.1 +1.0**
baz=67,SNR=25
BBSR BB Station 66.64 7 *eP* **P 17 00 52.5 -0.2**
comp=Z,142nm,1.3s
BBSR LR LR
comp=Z,1µm,19.0s
933A Laredo 66.80 334 ⇑P **P 17 00 54.6 +0.8**
baz=67,SNR=31
835A Beeville 66.89 335 ⇓P **P 17 00 56.1 +1.7**
baz=67,SNR=19
834A Tilden 67.00 334 ⇓P **P 17 00 56.1 +0.9**
baz=67,SNR=84
TBI Tubuai 67.37 257 *eP* **P 17 00 58.5 +0.7**
comp=Z,516nm,1.3s
TBI Tubuai 67.37 257 *eT* T 18 13 55.1
comp=Z,15nm,0.2s
735A Kenedy 67.41 335 ⇑P **P 17 00 58.5 +0.8**
baz=68,SNR=31
NHSC New Hope 67.48 352 *eP* **P 17 00 57.3 -0.7**
comp=Z,579nm,1.3s
NHSC LR LR
comp=Z,2µm,20.0s
833A Chaparral WMA, 67.48 334 ⇓P **P 17 00 58.6 +0.4**
baz=68,SNR=118
734A La Parita Cree 67.66 335 ⇓P **P 17 00 59.6 +0.3**
baz=68,SNR=14
832A Faith Ranch, C 67.66 333 ⇑P **P 17 00 59.8 +0.4**
baz=68,SNR=98
636A Smothers Creek 67.73 336 ⇑P **P 17 01 00.5 +0.8**
baz=68,SNR=54
HKT Hockley 67.77 338 *eP* **P 17 00 59.9 +0.1**
HKT pmax pmax
comp=Z,300nm,1.4s
HKT Hockley 67.77 338 *eP* **P 17 00 59.9 +0.1**
comp=Z,300nm,1.4s
733A Divot King Ran 67.81 334 ⇓P **P 17 01 00.4 +0.2**
baz=68,SNR=26
733A ⇓S **S 17 10 00.4 +3.2**
baz=68
635A Leesville 67.88 336 ⇑P **P 17 01 00.5 -0.2**
baz=68,SNR=9.9
538A Harpers Horsep 67.91 338 ⇓P **P 17 01 01.9 +1.1**
baz=68
537A Green Hill Far 68.04 337 ⇑P **P 17 01 02.2 +0.6**
baz=68,SNR=23
732A Laxson Ranch, 68.06 334 ⇓P **P 17 01 01.9 +0.1**
baz=68,SNR=90
634A China Grove, S 68.08 335 ⇑P **P 17 01 01.9 -0.1**
baz=68
GOGA Godfrey 68.20 350 *eP* **P 17 01 01.6 -1.0**
GOGA pmax pmax
comp=Z,272nm,1.3s
GOGA MLR MLR
comp=Z,935nm,22.0s
GOGA Godfrey 68.20 350 *eP* **P 17 01 01.6 -1.0**
comp=Z,272nm,1.3s
GOGA LR LR
comp=Z,935nm,22.0s
536A Bastrop 68.28 337 ⇑P **P 17 01 03.2 +0.1**
baz=68,SNR=22
438A Sam Houston St 68.40 338 ⇓P **P 17 01 04.9 +1.0**
baz=69
535A Dale 68.41 336 ⇑P **P 17 01 04.5 +0.6**
baz=69,SNR=19
VBMS Vicksburg 68.43 343 *eP* **P 17 01 03.6 -0.4**
comp=Z,386nm,1.0s
633A Saathoff Ranch 68.44 335 ⇓P **P 17 01 04.5 +0.3**
baz=69,SNR=44
LRAL Lakeview Retre 68.45 346 *eP* **P 17 01 03.7 -0.5**
comp=Z,180nm,1.1s
340A Bronson 68.56 340 ⇑P **P 17 01 05.0 +0.1**
baz=69,SNR=9.9
LPIG La Paz 68.58 322 P **P 17 01 04.5 -0.6**
comp=Z,30nm,0.3s,baz=101,slow=3.4,SNR=6.4
339A Huntington 68.67 339 ⇑P **P 17 01 05.7 +0.1**
baz=69,SNR=22
437A Phantom Ranch, 68.68 338 ⇑P **P 17 01 05.7 +0.1**
baz=69,SNR=10
632A Uvalde 68.70 334 ⇓P **P 17 01 05.9 0.0**
baz=69,SNR=121
534A Blanco 68.71 335 ⇓P **P 17 01 05.9 0.0**
baz=69,SNR=21
436A Wall Ranch, Ga 68.83 337 ⇓P **P 17 01 06.8 +0.2**
baz=69,SNR=11
631A Perdido Creek 68.91 333 ⇓P **P 17 01 07.0 -0.1**
baz=69,SNR=34
338A Crockett 68.92 339 ⇑P **P 17 01 07.8 +0.7**
baz=69,SNR=11
MEH Mehetia 68.94 262 *eP* **P 17 01 08.4 +0.7**
comp=Z,57nm,1.3s
MEH Mehetia 68.94 262 *eT* T 18 15 51.1
comp=Z,78nm,0.2s
533A Kerrville 68.95 335 ⇑P **P 17 01 07.3 -0.1**
baz=69,SNR=56
337A Centerville 69.05 338 ⇓P **P 17 01 08.8 +0.9**
baz=69,SNR=26
NATX Nacogdoches 69.10 339 *eP* **P 17 01 07.1 -1.2**
comp=Z,792nm,1.3s
435B Jarrell 69.10 336 ⇑P **P 17 01 08.3 0.0**
baz=69,SNR=11
239A Gary 69.29 340 ⇑P **P 17 01 09.4 0.0**
baz=70,SNR=16
532A Rocksprings 69.31 334 ⇑P **P 17 01 09.8 +0.1**
baz=70,SNR=160
434A Burnet 69.36 336 ⇓P **P 17 01 09.7 -0.2**
baz=70,SNR=60
CNNC Cliffs of the 69.38 355 *eP* **P 17 01 08.6 -1.2**
comp=Z,195nm,0.8s
CNNC LR LR
comp=Z,1µm,19.0s
336A Riesel 69.42 337 ⇓P **P 17 01 10.7 +0.5**
baz=70,SNR=59
238A Jacksonville 69.46 339 ⇑P **P 17 01 11.1 +0.6**
baz=70,SNR=8.2
335A Moody 69.51 337 ⇓P **P 17 01 11.1 +0.3**
baz=70,SNR=18
531A Rocksprings 69.57 334 ⇑P **P 17 01 11.9 +0.6**
baz=70,SNR=102
433A Art 69.59 335 ⇑P **P 17 01 11.3 -0.1**
baz=70,SNR=204
JCT Junction City 69.59 334 *eP* **P 17 01 11.3 0.0**
JCT pmax pmax
comp=Z,462nm,1.2s
JCT MLR MLR
comp=Z,445nm,22.0s
JCT Junction City 69.59 334 ⇓P **P 17 01 11.4 0.0**
baz=70,SNR=119
JCT Junction City 69.59 334 *eP* **P 17 01 11.3 0.0**
comp=Z,462nm,1.2s
JCT LR LR
comp=Z,445nm,22.0s
KMSC Kings Mountain 69.62 352 ⇑P **P 17 01 10.6 -0.8**
baz=70,SNR=5.1
237A Washetta, Mont 69.67 338 ⇑P **P 17 01 12.4 +0.6**
baz=70,SNR=10
334A Lometa 69.83 336 ⇑P **P 17 01 13.0 +0.2**
baz=70,SNR=63
530A J-C Ranch, Com 69.85 333 ⇓P **P 17 01 13.3 +0.3**
baz=70,SNR=171
VAH Vaihoa 69.92 265 *eP* **P 17 01 14.4 +0.6**
432A Menard 69.94 335 ⇓P **P 17 01 13.4 -0.1**
baz=70,SNR=64
TVO Taravao 69.95 262 *eP* **P 17 01 15.0 +0.9**
comp=Z,113nm,1.7s
TVO Taravao 69.95 262 *eT* T 18 17 07.6
comp=Z,4.4nm,0.2s
TXAR Lajitas Array 70.04 331 P **P 17 01 14.0 -0.2**
comp=Z,55nm,1.0s,baz=148,slow=7.4,SNR=150
TXAR PKPPKP **P'P'df 17 29 17.4 +4.9**
comp=Z,1.1nm,1.0s,baz=275,slow=3.1,SNR=5.1
431A Sonora 70.06 334 ⇓P **P 17 01 14.2 -0.1**
baz=70,SNR=76
138A Matatall Enter 70.07 339 ⇑P **P 17 01 14.6 +0.4**
baz=70,SNR=15
333A Richland Sprin 70.07 336 ⇑P **P 17 01 14.1 -0.2**
baz=70,SNR=68
TIAR Tiarei 70.14 262 *eP* **P 17 01 15.9 +0.7**
comp=Z,41nm,1.1s
TIAR Tiarei 70.14 262 *eT* T 18 17 21.7
comp=Z,18nm,0.2s
529A Stev Forest Ra 70.17 332 ⇓P **P 17 01 15.1 +0.1**
baz=70,SNR=192
WHTX Lake Whitney, 70.17 337 ⇑P **P 17 01 14.6 -0.3**
baz=70,SNR=19
WHTX Lake Whitney, 70.17 337 *eP* **P 17 01 15.3 +0.5**
comp=Z,392nm,1.1s
137A Heron Place, G 70.21 339 ⇑P **P 17 01 15.2 +0.1**
baz=70,SNR=16
PMOR Pomariorio Ree 70.26 265 *eP* **P 17 01 16.4 +0.5**
comp=Z,124nm,1.2s
PAE Paea 70.28 262 *eP* **P 17 01 16.7 +0.7**
comp=Z,55nm,1.2s
PAE Paea 70.28 262 *eT* T 18 17 32.2
comp=Z,3.0nm,0.3s
PPT2 Papeete2 70.32 262 *eP* **P 17 01 17.3 +1.0**
comp=Z,296nm,1.3s
PPT2 *eS* **S 17 10 23.1 -4.6**
comp=Z,2µm,23.5s
PPT2 Papeete2 70.32 262 *eLR* LR 17 22 35.7
comp=Z,11µm,28.2s,baz=119
PPT Papeete 70.33 262 P **P 17 01 16.4 +0.1**
comp=Z,187nm,1.0s,baz=153,slow=2.4,SNR=15
PPT LR LR 17 24 14.1
comp=Z,2µm,21.0s,baz=118,slow=29
CPCT Cooper Cave 70.36 349 *eP* **P 17 01 14.7 -1.2**
OXF Oxford 70.37 345 *eP* **P 17 01 14.9 -1.1**
OXF pmax pmax
comp=Z,680nm,1.0s
OXF Oxford 70.37 345 *eP* **P 17 01 14.9 -1.1**
comp=Z,680nm,1.0s
332A Millersview 70.39 335 ⇑P **P 17 01 16.3 0.0**
baz=71,SNR=72
430A Baggett Ranch, 70.39 333 ⇓P **P 17 01 16.2 -0.1**
baz=71,SNR=73
234A Clairette 70.41 336 ⇑P **P 17 01 16.3 0.0**
baz=71,SNR=49
TKL Tuckaleechee C 70.45 350 *eP* **P 17 01 15.9 -0.6**
TKL Tuckaleechee C 70.45 350 P **P 17 01 16.2 -0.3**
comp=Z,95nm,0.9s,baz=173,slow=5.0,SNR=23
TKL Tuckaleechee C 70.45 350 *eP* **P 17 01 15.9 -0.6**
429A Davenport Ranc 70.49 333 ⇑P **P 17 01 16.9 0.0**
baz=71,SNR=130
331A San Angelo 70.56 334 ⇓P **P 17 01 17.0 -0.3**
baz=71,SNR=85
233A Rising Star 70.68 336 ⇑P **P 17 01 17.8 -0.2**
baz=71,SNR=40
135A Vickery Place, 70.68 337 ⇓P **P 17 01 17.7 -0.3**
baz=71,SNR=9.0
232A Coleman 70.81 335 ⇑P **P 17 01 18.4 -0.5**
baz=71,SNR=64
134A White-Moore Ra 70.91 337 ⇑P **P 17 01 19.1 -0.3**
baz=71,SNR=28
330A Mertzon 70.92 334 ⇑P **P 17 01 19.2 -0.4**
baz=71,SNR=54
231A Bronte 71.09 335 ⇑P **P 17 01 20.1 -0.5**
baz=71,SNR=58
133A Hamilton Ranch 71.22 336 ⇓P **P 17 01 20.8 -0.4**
baz=72,SNR=59
329A Wagon Wheel Ra 71.29 333 ⇓P **P 17 01 21.5 -0.3**
baz=72,SNR=70
UALR University of 71.31 342 *eP* **P 17 01 21.0 -0.7**
comp=Z,199nm,1.2s
230A Sterling City 71.33 334 ⇓P **P 17 01 21.3 -0.7**
baz=72,SNR=8.0
Z35A Perchaven, San 71.35 338 ⇑P **P 17 01 21.8 -0.1**
baz=72,SNR=35
MIAR Mount Ida 71.42 341 *eP* **P 17 01 22.1 -0.3**
MIAR pmax pmax
comp=Z,223nm,1.3s
MIAR Mount Ida 71.42 341 *eP* **P 17 01 22.1 -0.3**
comp=Z,222nm,1.3s
ABTX Abilene, Hawle 71.48 336 ⇑P **P 17 01 22.4 -0.4**
baz=72,SNR=51
ABTX Abilene, Hawle 71.48 336 *eP* **P 17 01 22.5 -0.4**
comp=Z,421nm,1.2s
BLA Blacksburg 71.57 353 *eP* **P 17 01 23.1 -0.2**
BLA MLR MLR
comp=Z,1µm,20.0s
BLA Blacksburg 71.57 353 *eP* **P 17 01 23.1 -0.2**
BLA LR LR
comp=Z,1µm,20.0s
Z34A Collier Ranch, 71.59 337 ⇑P **P 17 01 23.2 -0.3**
baz=72,SNR=16
WVT Waverly 71.61 346 *eP* **P 17 01 22.2 -1.3**
WVT pmax pmax
comp=Z,757nm,1.0s
WVT Waverly 71.61 346 *eP* **P 17 01 22.2 -1.3**
comp=Z,758nm,1.0s
HBAR Harrisburg 71.65 344 *eP* **P 17 01 22.8 -0.9**
229A Bryant Ranch, 71.66 333 ⇑P **P 17 01 23.5 -0.5**
baz=72,SNR=34
131A Roby 71.79 335 ⇓P **P 17 01 24.4 -0.3**
baz=72,SNR=39
Z33A Whitaker Ranch 71.79 337 ⇑P **P 17 01 24.2 -0.5**
baz=72,SNR=48
JSRW J. Sargeant Re 71.82 355 *eP* **P 17 01 25.4 +0.7**
130A Snyder 71.92 334 ⇑P **P 17 01 24.9 -0.6**
baz=72,SNR=32
GLAT Glass 72.04 345 *eP* **P 17 01 26.1 0.0**
Z32A Haskell 72.05 336 ⇓P **P 17 01 26.1 -0.2**
baz=72,SNR=100
Y34A Reagan Ranch, 72.08 338 ⇓P **P 17 01 26.0 -0.4**
baz=72,SNR=23
228A UT Block 9, Go 72.09 333 ⇑P **P 17 01 26.1 -0.5**
baz=72,SNR=66
129A Stewart Farms, 72.28 334 ⇑P **P 17 01 27.3 -0.4**
baz=72,SNR=14
Z31A Sharp Cattle R 72.29 335 ⇓P **P 17 01 27.4 -0.3**
baz=73,SNR=70
Y33A Hilltop Ranch, 72.41 337 ⇓P **P 17 01 28.2 -0.1**
baz=73,SNR=12
128A Castleberry Fa 72.50 333 ⇓P **P 17 01 28.5 -0.5**
baz=73,SNR=72
Z30A Sanderson Ranc 72.60 335 ⇓P **P 17 01 29.0 -0.6**
baz=73,SNR=87
Y32A R-V Farms, Ver 72.67 336 ⇓P **P 17 01 29.8 -0.2**
baz=73,SNR=32
ELIM Elim 72.70 120 *eP* **P 17 01 31.6 +1.2**
ELIM AMB AMB 17 01 32.2
comp=Z,157nm,1.3s
ELIM Elim 72.70 120 P **P 17 01 31.6 +1.2**
comp=Z,157nm,1.3s
X34A Smith Ranch, M 72.70 338 ⇓P **P 17 01 30.0 -0.1**
baz=73,SNR=37
PBMO Poplar Bluff 72.78 344 *eP* **P 17 01 29.9 -0.5**
comp=Z,284nm,1.1s
Z29A Hungry Hill Ra 72.78 334 ⇑P **P 17 01 29.8 -0.9**
baz=73,SNR=58
MNTX Cornudas Mount 72.81 331 *eP* **P 17 01 29.5 -1.3**
GDL2 Guadalupe Moun 72.84 332 *eP* **P 17 01 31.8 +0.6**
X33A Lawton 72.86 337 ⇑P **P 17 01 30.3 -0.8**
baz=73,SNR=8.5
MAW Mawson 72.88 163 P **P 17 01 30.5 -0.3**
comp=Z,46nm,0.9s,baz=235,slow=10,SNR=5.4
MAW LR LR 17 34 55.2
comp=Z,3µm,19.4s,baz=226,slow=37
Y31A Rekieta Farm, 72.91 336 ⇓P **P 17 01 30.8 -0.6**
baz=73,SNR=41
X32A Elmer 73.00 337 ⇓P **P 17 01 31.4 -0.5**
baz=73,SNR=20
Y30A Stafford Cattl 73.06 335 ⇑P **P 17 01 31.6 -0.7**
baz=73,SNR=11
Z28A Tucker Farm, M 73.06 334 ⇓P **P 17 01 31.7 -0.7**
baz=73,SNR=17
WMOK Wichita Mounta 73.13 337 *eP* **P 17 01 32.0 -0.6**
WMOK pmax pmax
comp=Z,212nm,1.4s
WMOK Wichita Mounta 73.13 337 *eP* **P 17 01 32.0 -0.6**
comp=Z,212nm,1.4s
W34A Bridge Creek, 73.27 338 ⇓P **P 17 01 33.1 -0.4**
baz=74,SNR=18
W34A Bridge Creek, 73.27 338 *eP* **P 17 01 33.6 +0.2**
comp=Z,428nm,1.4s
TUL1 Leonard 73.31 340 ⇑P **P 17 01 32.8 -0.9**
baz=74,SNR=24
Y29A Porterfield Fa 73.31 334 ⇑P **P 17 01 33.3 -0.5**
baz=74,SNR=17
USIN University of 73.36 347 *eP* **P 17 01 33.3 -0.5**
comp=Z,467nm,1.1s
WCI Wyandotte Cave 73.37 348 *eP* **P 17 01 32.6 -1.4**
WCI pmax pmax
comp=Z,284nm,1.5s
WCI Wyandotte Cave 73.37 348 *eP* **P 17 01 32.5 -1.4**
comp=Z,284nm,1.5s
W33A Caddo, Fort Co 73.41 338 ⇑P **P 17 01 34.1 -0.1**
baz=74,SNR=29
SIUC Southern Illin 73.42 346 *eP* **P 17 01 33.0 -1.2**
comp=Z,270nm,1.1s
X31A McDonald Ranch 73.42 336 ⇓P **P 17 01 34.1 -0.3**
baz=74,SNR=26
KOMG Komaggas 73.44 115 ⇓*iP* **P 17 01 36.1 +1.3**
KOMG AMB AMB 17 01 37.2
comp=Z,208nm,1.3s
KOMG Komaggas 73.44 115 P **P 17 01 36.1 +1.3**
comp=Z,208nm,1.3s
SDMD Soldier's Deli 73.46 356 *eP* **P 17 01 33.2 -1.3**
comp=Z,286nm,1.5s
X30A Coker Ranch, T 73.56 335 ⇓P **P 17 01 34.8 -0.5**
baz=74,SNR=17
Y28A McKinney Farm, 73.56 334 ⇑P **P 17 01 34.9 -0.4**
baz=74,SNR=16
W32A Sentinel 73.63 337 ⇓P **P 17 01 35.1 -0.5**
baz=74,SNR=97
V34A Guthrie 73.75 339 ⇓P **P 17 01 35.3 -0.9**
baz=74,SNR=29
V34A Guthrie 73.75 339 *eP* **P 17 01 36.2 0.0**
comp=Z,430nm,1.3s
MSTX Muleshoe 73.81 334 ⇓P **P 17 01 36.1 -0.7**
baz=74,SNR=78
MSTX Muleshoe 73.81 334 *eP* **P 17 01 36.3 -0.5**
comp=Z,246nm,1.0s
X29A Tulia 73.85 335 ⇓P **P 17 01 36.6 -0.4**
baz=74,SNR=18
Y27A Causey 73.88 333 ⇑P **P 17 01 36.3 -0.9**
baz=74,SNR=26
W31A Holland Ranch, 73.92 336 ⇑P **P 17 01 36.6 -0.7**
baz=74,SNR=13
V33A Lossen Ranch, 73.97 338 ⇑P **P 17 01 37.3 -0.3**
baz=74,SNR=46
X28A Dimmitt 74.09 334 ⇑P **P 17 01 37.9 -0.5**
baz=74,SNR=13
V32A Arapaho 74.11 337 ⇓P **P 17 01 38.5 +0.1**
baz=74,SNR=20
W30A Crocket Farms 74.13 336 ⇑P **P 17 01 38.5 -0.1**
baz=74
OLIL Olney 74.18 347 *eP* **P 17 01 38.0 -0.7**
comp=Z,309nm,1.3s
319A Douglas 74.20 327 ⇑P **P 17 01 40.0 +0.9**
baz=74,SNR=73
AMTX Amarillo 74.24 335 ⇓P **P 17 01 39.4 +0.1**
baz=74
AMTX Amarillo 74.24 335 *eP* **P 17 01 39.3 +0.1**
comp=Z,458nm,1.3s
U34A Anderson Ranch 74.31 339 ⇑P **P 17 01 38.8 -0.7**
baz=75,SNR=30
U34A Anderson Ranch 74.31 339 *eP* **P 17 01 39.4 -0.1**
comp=Z,355nm,1.2s
BLO Bloomington 74.33 348 *eP* **P 17 01 37.6 -1.9**
BLO pmax pmax
comp=Z,693nm,1.8s
BLO Bloomington 74.33 348 *eP* **P 17 01 37.6 -1.9**
comp=Z,693nm,1.8s
V31A Spring Creek L 74.42 337 ⇑P **P 17 01 40.5 +0.3**
baz=75,SNR=16
W29A Amarillo 74.44 335 ⇓P **P 17 01 40.5 +0.1**
baz=75,SNR=53
SLM Saint Louis 74.52 345 *eP* **P 17 01 40.2 -0.4**
SLM pmax pmax
comp=Z,366nm,1.0s
SLM Saint Louis 74.52 345 *eP* **P 17 01 40.2 -0.4**
comp=Z,366nm,1.0s
X27A F and S Farms, 74.54 334 ⇑P **P 17 01 40.6 -0.4**
baz=75,SNR=19
121A Cookes Peak, D 74.54 329 ⇓P **P 17 01 41.7 +0.6**
baz=75,SNR=163
121A Cookes Peak, D 74.54 329 *eP* **P 17 01 40.6 -0.5**
comp=Z,246nm,1.1s
SUR Sutherland 74.59 119 P **P 17 01 44.5 +2.7**
SNR=7.8
SUR Sutherland 74.59 119 *eP* **P 17 01 42.2 +0.5**
comp=Z,210nm,1.0s
BRNJ Basking Ridge 74.63 358 *eP* **P 17 01 41.3 +0.1**
comp=Z,276nm,1.6s
V30A Spur Ranch, Mi 74.69 336 ⇑P **P 17 01 42.0 +0.1**
baz=75,SNR=29
U32A Winter Ranch, 74.71 338 ⇑P **P 17 01 41.6 -0.3**
baz=75,SNR=25
X26A CR and CF Fran 74.71 333 ⇑P **P 17 01 42.1 0.0**
baz=75,SNR=80
LIC Lamto 74.74 71 *eP* **P 17 01 42.8 +0.2**
comp=Z,177nm,1.1s,baz=238
LIC *eR*
comp=Z,4µm,18.0s
LIC Lamto 74.74 71 *eP* **P 17 01 42.3 -0.3**
comp=Z,321nm,1.3s
LIC Lamto 74.74 71 *eP* **P 17 01 42.8 +0.2**
comp=Z,177nm,1.1s
SSPA Standing Stone 74.75 355 *eP* **P 17 01 42.3 +0.3**
comp=Z,186nm,1.4s
W28A Vega 74.76 335 ⇑P **P 17 01 42.4 +0.1**
baz=75,SNR=6.6
Y24A Capitan 74.79 332 ⇓P **P 17 01 42.5 -0.1**
baz=75,SNR=63
Z22A Elephant Butte 74.82 330 ⇓P **P 17 01 43.1 +0.4**
baz=75,SNR=92
ACSO Alum Creek Sta 74.84 351 *eP* **P 17 01 42.4 -0.1**
comp=Z,307nm,1.0s
ACSO LR LR
comp=Z,1µm,20.0s
W27A Bowe Ranch, En 74.89 334 ⇑P **P 17 01 43.3 +0.2**
baz=75,SNR=87
U31A Nine Bar Ranch 74.97 337 ⇓P **P 17 01 43.3 -0.1**
baz=75,SNR=6.8
TIC Toumodi 75.01 71 *eP* **P 17 01 44.3 +0.2**
comp=Z,150nm,1.2s
X25A Clemmons Ranch 75.02 332 ⇓P **P 17 01 43.4 -0.5**
baz=75,SNR=9.3
ODNJ Ogdensburg 75.03 358 *eP* **P 17 01 44.3 +0.8**
comp=Z,250nm,1.5s
KIC Kosan Boka 75.05 71 *eP* **P 17 01 44.5 +0.1**
comp=Z,656nm,1.4s
V29A Stinnett 75.08 335 ⇑P **P 17 01 44.0 -0.1**
baz=75,SNR=6.3
T33A Patterson Ranc 75.12 338 ⇑P **P 17 01 44.2 0.0**
baz=75,SNR=67
DBIC Dimbokro 75.15 71 ⇓*iP* **P 17 01 45.5 +0.6**
DBIC Dimbokro 75.15 71 *eP* **P 17 01 45.3 +0.4**
DBIC pmax pmax
comp=Z,112nm,0.9s
DBIC Dimbokro 75.15 71 P **P 17 01 45.4 +0.4**
comp=Z,66nm,0.8s,baz=209,slow=6.2,SNR=88
DBIC LR LR 17 33 06.4
comp=Z,3µm,18.8s,baz=210,slow=34
DBIC Dimbokro 75.15 71 *eP* **P 17 01 45.3 +0.4**
comp=Z,112nm,0.9s
W26A Owens Ranch, T 75.18 333 ⇑P **P 17 01 44.8 +0.1**
baz=75,SNR=56
V28A Channing 75.21 335 ⇓P **P 17 01 45.0 +0.1**
baz=76,SNR=18
YLE Yale 75.23 359 *eP* **P 17 01 46.0 +1.4**
comp=Z,324nm,1.1s
X24A Lazy VL Ranch, 75.35 332 P **P 17 01 46.6 +0.7**
baz=76
U30A WK&E Inc. Balk 75.38 336 ⇑P **P 17 01 45.8 0.0**
baz=76,SNR=20
T32A Huddler Ranch, 75.42 338 ⇑P **P 17 01 45.9 0.0**
baz=76,SNR=23
V27A Dan Oppiter Fa 75.43 334 ⇓P **P 17 01 46.6 +0.5**
baz=76,SNR=21
Y22D IRIS PASSCAL I 75.51 331 ⇓P **P 17 01 47.7 +1.0**
baz=76
U29A Oasis Ranch, S 75.52 336 ⇓P **P 17 01 46.1 -0.5**
baz=76
S33A Kaszmaul Farm, 75.52 339 ⇓P **P 17 01 46.2 -0.3**
baz=76,SNR=14
W25A X Bar L Ranch, 75.55 333 ⇓P **P 17 01 46.6 -0.3**
baz=76,SNR=92
T31A Randall Ranch, 75.58 337 ⇓P **P 17 01 46.3 -0.5**
baz=76,SNR=8.3

LPM	Los Pinos Moun	75.60	331	eP	P	17 01 48.3 +1.1
SFIN	Lafayette	75.60	348	⇓P	P	17 01 45.1 -1.7
	baz=76,SNR=15					
SFIN	Lafayette	75.60	348	eP	P	17 01 45.8 -1.1
	comp=Z,254nm,1.4s					
LENM	Lemitar	75.61	331	eP	P	17 01 48.4 +1.1
X23A	Hourglass Bar	75.66	331	⇓P	P	17 01 47.9 +0.3
	baz=76,SNR=39					
TUC	Tucson	75.67	327	eP	P	17 01 48.7 +1.1
TUC				pmax	pmax	
	comp=Z,217nm,1.3s					
TUC	Tucson	75.67	327	eP	P	17 01 48.6 +1.1
	comp=Z,217nm,1.3s					
U28A	Mallet	75.78	335	⇑P	P	17 01 47.6 -0.5
	baz=76,SNR=9.4					
T30A	Plains	75.81	337	⇑P	P	17 01 48.4 +0.2
	baz=76,SNR=5.7					
V26A	Tequesquite Ra	75.81	334	⇑P	P	17 01 47.9 -0.4
	baz=76,SNR=27					
LAZ	Ladron	75.89	331	eP	P	17 01 49.3 +0.4
	comp=Z,146nm,1.4s					
S32A	Newby Ranch, P	75.90	338	⇓P	P	17 01 48.7 0.0
	baz=76,SNR=12					
W24A	Lazy 6 Ranch,	75.91	332	⇑P	P	17 01 49.2 +0.2
	baz=76,SNR=83					
S31A	Mullinville	76.00	338	⇓P	P	17 01 49.2 -0.1
	baz=76,SNR=7.5					
U27A	Thompson Grove	76.03	335	⇑P	P	17 01 49.6 +0.1
	baz=76,SNR=32					
ANMO	Albuquerque	76.08	331	d iP	P	17 01 50.7 +0.7
ANMO				pmax	pmax	
	comp=Z,1μm,1.7s					
ANMO				MLR	MLR	
	comp=Z,5μm,18.0s					
ANMO	Albuquerque	76.08	331	P	P	17 01 50.1 +0.1
	comp=Z,97nm,1.0s,baz=150,slow=7.1,SNR=138					
ANMO				LR	LR	17 30 08.8
	comp=Z,571nm,20.5s,baz=166,slow=32					
ANMO	Albuquerque	76.08	331	eP	P	17 01 50.2 +0.2
W23A	Werner Place,	76.15	332	⇓P	P	17 01 50.5 0.0
	baz=76,SNR=69					
V25A	Rancho No Teng	76.16	333	⇑P	P	17 01 50.5 +0.1
	baz=76,SNR=102					
T29A	Hugoton	76.16	336	⇓P	P	17 01 49.8 -0.5
	baz=76,SNR=17					
R33A	Olander Ranch,	76.17	339	⇓P	P	17 01 49.3 -0.9
	baz=76,SNR=15					
BINY	Binghamton	76.20	357	eP	P	17 01 49.5 -0.8
	comp=Z,317nm,1.6s					
BINY				LR	LR	
	comp=Z,1μm,19.0s					
V24A	Rampart Ranch,	76.31	333	⇑P	P	17 01 51.2 -0.1
	baz=77,SNR=55					
214A	Organ Pipe Nat	76.31	325	⇓P	P	17 01 51.6 +0.4
	baz=77,SNR=75					
214A	Organ Pipe Nat	76.31	325	eP	P	17 01 51.4 +0.2
	comp=Z,320nm,1.4s					
S30A	Montezuma	76.33	337	⇑P	P	17 01 51.2 0.0
	baz=77,SNR=17					
U26A	Atchley Ranch,	76.33	334	⇑P	P	17 01 51.0 -0.4
	baz=77,SNR=44					
ERPA	Erie	76.39	354	eP	P	17 01 50.9 -0.4
	comp=Z,199nm,1.1s					
ERPA				LR	LR	
	comp=Z,956nm,19.0s					
T28A	Walsh	76.41	336	⇓P	P	17 01 51.4 -0.3
	baz=77,SNR=49					
HRV	Adam Dziewonsk	76.41	0	eP	P	17 01 51.0 -0.4
HRV				pmax	pmax	
	comp=Z,192nm,1.2s					
HRV	Adam Dziewonsk	76.41	0	eP	P	17 01 51.0 -0.4
	comp=Z,192nm,1.2s					
DRV	Dumont d'Urvil	76.46	193	S	SKiKP	17 11 18.0 +10
DRV				SS	SS	17 16 23.0 -6.1
DRV				L	L	17 22 00.0
DRV				R		17 25 00.0
R32A	Long Quarter,	76.50	339	⇑P	P	17 01 51.5 -0.5
	baz=77,SNR=29					
KSU1	Kansas State U	76.52	340	⇑P	P	17 01 51.3 -0.9
	baz=77,SNR=18					
KSU1	Kansas State U	76.52	340	eP	P	17 01 51.6 -0.6
	comp=Z,159nm,1.1s					
KSU1				LR	LR	
	comp=Z,916nm,19.0s					
S29A	Ulysses	76.52	337	⇓P	P	17 01 52.6 +0.3
	baz=77,SNR=18					
T27A	Campo	76.56	335	⇓P	P	17 01 52.8 +0.2
	baz=77,SNR=50					
U25A	Circle Dot Ran	76.58	334	⇑P	P	17 01 52.5 -0.3
	baz=77,SNR=93					
R31A	Burdett	76.62	338	⇓P	P	17 01 52.3 -0.5
	baz=77,SNR=20					
TRY	Troy	76.66	359	eP	P	17 01 54.0 +1.2
	comp=Z,278nm,1.1s					
V23A	Ortiz Mt. (NFS	76.68	332	⇑P	P	17 01 54.3 +0.9
	baz=77,SNR=19					
S28A	Manter	76.76	336	⇓P	P	17 01 53.5 -0.1
	baz=77,SNR=54					
Q33A	Connelly Farm,	76.77	340	⇑P	P	17 01 53.4 -0.1
	baz=77,SNR=17					
MMNY	Mt. Morris Dam	76.84	355	eP	P	17 01 53.8 0.0
	comp=Z,697nm,1.3s					
WIN	Windhoek	76.85	108	eP	P	17 01 56.3 +1.5
WIN				AMB	AMB	17 01 57.5
	comp=Z,45nm,1.3s					
WIN				AMS	AMS	17 29 37.2
	comp=Z,776nm,23.2s					
WIN	Windhoek	76.85	108	P	P	17 01 56.3 +1.5
WIN				pmax	pmax	
	comp=Z,45nm,1.3s					
WIN	Windhoek	76.85	108	P	P	17 01 56.3 +1.5
	comp=Z,45nm,1.3s					
R30A	Dighton	76.86	337	⇓P	P	17 01 54.2 +0.1
	baz=77,SNR=17					
U24A	Moreno Valley	76.91	333	⇓P	P	17 01 55.5 +0.7
	baz=77,SNR=7.1					
AAM	Ann Arbor	76.97	351	eP	P	17 01 54.2 -0.4
AAM				pmax	pmax	
	comp=Z,308nm,1.4s					
AAM				MLR	MLR	
	comp=Z,1μm,20.0s					
AAM	Ann Arbor	76.97	351	eP	P	17 01 54.2 -0.4
	comp=Z,308nm,1.4s					
AAM				LR	LR	
	comp=Z,1μm,20.0s					
T26A	Comanche Natio	76.97	334	⇓P	P	17 01 55.0 0.0
	baz=77,SNR=40					
Q32A	Meitler Ranch,	76.98	339	⇓P	P	17 01 54.5 -0.3
	baz=77,SNR=29					
UPI	Upington	77.00	115	⇓iP	P	17 01 56.6 +1.1
UPI				AMB	AMB	17 01 57.3
	comp=Z,208nm,1.3s					
UPI				AMS	AMS	17 33 03.4
	comp=Z,2μm,15.5s					
UPI	Upington	77.00	115	P	P	17 01 56.6 +1.1
	comp=Z,208nm,1.3s					
V22A	San Miguel Ran	77.11	331	⇑P	P	17 01 56.7 +0.9
	baz=77,SNR=168					
P33A	Williams Farm,	77.14	340	⇑P	P	17 01 55.2 -0.4
	baz=77,SNR=5.3					
X18A	Snowflake	77.18	329	⇓P	P	17 01 56.7 +0.5
	baz=77,SNR=58					
S27A	Las Animas	77.18	335	⇓P	P	17 01 56.4 +0.3
	baz=78					
U23A	El Rito	77.19	332	⇓P	P	17 01 57.3 +1.0
	baz=78,SNR=35					
T25A	Trinidad	77.24	334	⇓P	P	17 01 57.1 +0.6
	baz=78,SNR=212					
Q31A	Ellis	77.24	338	⇓P	P	17 01 56.5 +0.2
	baz=78,SNR=35					
R29A	Marienthal	77.26	337	⇑P	P	17 01 56.5 0.0
	baz=78,SNR=13					
ACCN	Adirondack Com	77.31	359	eP	P	17 01 57.3 +0.8
	comp=Z,278nm,1.4s					
S26A	Kim	77.33	335	⇓P	P	17 01 57.3 +0.4
	baz=78,SNR=144					
R28A	Tribune	77.41	336	⇑P	P	17 01 57.4 +0.1
	baz=78,SNR=50					
113A	Mohawk Valley,	77.44	325	⇑P	P	17 01 58.3 +0.9
	baz=78,SNR=22					
Q30A	Quinter	77.47	338	⇑P	P	17 01 57.6 0.0
	baz=78,SNR=21					
U22A	Llaves	77.49	332	⇑P	P	17 01 59.1 +1.1
	baz=78,SNR=78					
T24B	San Luis	77.53	333	⇑P	P	17 01 59.3 +1.1
	baz=78,SNR=116					
Z14A	Wintersburg	77.54	326	⇓P	P	17 01 58.3 +0.2
	baz=78,SNR=12					
P32A	Huiting Farm,	77.57	339	⇑P	P	17 01 57.8 -0.3
	baz=78,SNR=25					
W18A	Petrified Fore	77.58	329	⇑P	P	17 01 59.0 +0.5
	baz=78,SNR=64					
W18A	Petrified Fore	77.58	329	eP	P	17 01 59.3 +0.8
	comp=Z,411nm,1.3s					
HNH	Hanover	77.61	360	eP	P	17 01 59.2 +1.0
	comp=Z,178nm,1.2s					
Q29A	Oakley	77.63	337	⇓P	P	17 01 58.3 -0.2
	baz=78,SNR=12					
R27A	Eads	77.69	336	⇓P	P	17 01 58.6 -0.3
	baz=78,SNR=88					
S25A	Robets Cordova	77.71	334	⇑P	P	17 01 59.7 +0.6
	baz=78					
P31A	Stockton	77.71	339	⇑P	P	17 01 58.6 -0.3
	baz=78,SNR=19					
X16A	Lo Mia Camp, P	77.74	327	⇑P	P	17 01 60.0 +0.6
	baz=78,SNR=199					
T23A	Casias Ranch,	77.75	333	⇓P	P	17 02 00.3 +0.9
	baz=78,SNR=5.4					
NCB	Newcomb	77.91	358	eP	P	17 02 00.2 +0.4
	comp=Z,108nm,1.2s					
NCB				LR	LR	
	comp=Z,2μm,22.0s					
MDV	Middlebury	77.91	359	eP	P	17 02 00.1 +0.3
R26A	Arlington	77.93	335	⇑P	P	17 02 00.5 +0.3
	baz=78,SNR=47					
S24A	Houchin Ranch,	77.97	334	⇓P	P	17 02 01.4 +0.7
	baz=78,SNR=199					
P30A	Selden	78.00	338	⇓P	P	17 02 00.5 +0.1
	baz=78,SNR=7.1					
Y14A	Wickenburg	78.05	326	⇑P	P	17 02 01.1 +0.2
	baz=78,SNR=66					
Q28A	Sharon Springs	78.07	337	⇓P	P	17 02 00.8 -0.1
	baz=78,SNR=16					
O32A	Brockman Farm,	78.07	340	⇑P	P	17 02 00.3 -0.5
	baz=78,SNR=12					
R25A	Fountain Ranch	78.09	334	⇑P	P	17 02 01.4 +0.3
	baz=78,SNR=18					
LBNH	Lisbon	78.15	360	eP	P	17 02 00.6 -0.5
LBNH				pmax	pmax	
	comp=Z,149nm,1.0s					
LBNH				MLR	MLR	
	comp=Z,1μm,19.0s					
LBNH	Lisbon	78.15	360	eP	P	17 02 00.6 -0.5
	comp=Z,149nm,1.0s					
LBNH				LR	LR	
	comp=Z,1μm,19.0s					
GRM	Grahamstown	78.16	122	⇓iP	P	17 02 03.0 +1.2
GRM				AMB	AMB	17 02 03.4
	comp=Z,255nm,1.3s					
GRM	Grahamstown	78.16	122	P	P	17 02 03.0 +1.2
GRM				pmax	pmax	
	comp=Z,255nm,1.3s					
GRM	Grahamstown	78.16	122	P	P	17 02 03.0 +1.2
	comp=Z,255nm,1.3s					
GLA	Glamis	78.18	324	eP	P	17 02 02.7 +1.0
GLA				pmax	pmax	
	comp=Z,373nm,1.5s					
GLA	Glamis	78.18	324	⇑P	P	17 02 02.3 +0.7
	baz=78,SNR=37					
GLA	Glamis	78.18	324	eP	P	17 02 02.6 +1.0
	comp=Z,373nm,1.5s					
P29A	Atwood	78.27	337	⇑P	P	17 02 02.1 +0.1
	baz=79,SNR=32					
O31A	Woolen Ranch,	78.27	339	⇑P	P	17 02 01.9 0.0
	baz=79,SNR=14					
KSCO	Kaye Shedlock'	78.28	336	⇓P	P	17 02 02.5 +0.3
	baz=79,SNR=12					
S23A	Nye Farm, Mont	78.33	333	⇓P	P	17 02 03.5 +0.9
	baz=79,SNR=12					
R24A	Sanders Place,	78.46	334	⇓P	P	17 02 04.0 +0.7
	baz=79,SNR=118					
WVL	Waterville	78.50	2	eP	P	17 02 04.0 +1.0
	comp=Z,261nm,1.2s					
P28A	Saint Francis	78.50	337	⇑P	P	17 02 03.7 +0.4
	baz=79,SNR=17					
Q26A	Hugo	78.51	335	⇓P	P	17 02 04.1 +0.6
	baz=79,SNR=9.5					
O30A	MW Ranch, Wils	78.52	338	⇓P	P	17 02 03.2 -0.2
	baz=79,SNR=14					
PTN	Potsdam (NY)	78.53	358	eP	P	17 02 03.7 +0.5
PTN				pmax	pmax	
	comp=Z,309nm,1.3s					
PTN	Potsdam (NY)	78.53	358	eP	P	17 02 03.7 +0.5
	comp=Z,309nm,1.3s					
N32A	Stulken Farm,	78.54	340	⇑P	P	17 02 02.9 -0.5
	baz=79,SNR=7.1					
LONY	Lake Ozonia	78.56	358	eP	P	17 02 03.6 +0.2
	comp=Z,196nm,1.2s					
LONY				LR	LR	
	comp=Z,1μm,19.0s					
SWSC	Sam W. Stewart	78.56	323	⇓P	P	17 02 04.5 +0.8
	baz=79,SNR=29					
WUAZ	Wupatki	78.63	328	⇓P	P	17 02 04.8 +0.6
	baz=79,SNR=111					
WUAZ	Wupatki	78.63	328	eP	P	17 02 04.9 +0.7
	comp=Z,306nm,1.2s					
JFWS	Jewell Farm	78.64	346	eP	P	17 02 02.8 -1.1
JFWS				pmax	pmax	
	comp=Z,429nm,1.3s					
JFWS				MLR	MLR	
	comp=Z,2μm,22.0s					
JFWS	Jewell Farm	78.64	346	eP	P	17 02 02.8 -1.1
	comp=Z,428nm,1.3s					
JFWS				LR	LR	
	comp=Z,2μm,22.0s					
S22A	4UR Ranch, Cre	78.68	332	⇑P	P	17 02 05.3 +0.7
	baz=79,SNR=75					
R23A	Moffat	78.69	333	⇓P	P	17 02 04.7 +0.1
	baz=79,SNR=98					
O29A	4D Ranch, Culb	78.70	338	⇓P	P	17 02 04.5 +0.2
	baz=79,SNR=6.1					
Q25A	Bedland, Calha	78.76	335	⇑P	P	17 02 05.0 +0.1
	baz=79,SNR=11					
P27A	Ficken Ranch,	78.76	336	⇓P	P	17 02 05.1 +0.3
	baz=79,SNR=10					
N31A	Bailey Ranch,	78.78	339	⇓P	P	17 02 05.0 +0.2
	baz=79					
MONP	Monument Peak,	78.83	323	⇑P	P	17 02 06.6 +1.2
	baz=79,SNR=38					
MVCO	Mesa Verde	78.87	331	⇓P	P	17 02 06.0 +0.4
	baz=79,SNR=98					
MVCO	Mesa Verde	78.87	331	eP	P	17 02 05.8 +0.2
	comp=Z,298nm,1.3s					
PDMCI	Parker Dam,Lak	78.88	325	⇓P	P	17 02 05.9 +0.5
	baz=79,SNR=26					
HVD	Gariep Dam	78.92	119	⇓iP	P	17 02 07.5 +1.3
HVD				AMB	AMB	17 02 08.7
	comp=Z,373nm,1.2s					
HVD				AMS	AMS	17 35 56.4
	comp=Z,1μm,19.3s					
HVD	Gariep Dam	78.92	119	P	P	17 02 07.5 +1.3
HVD				pmax	pmax	
	comp=Z,373nm,1.2s					
HVD	Gariep Dam	78.92	119	P	P	17 02 07.5 +1.3
	comp=Z,373nm,1.2s					
SADO	Sadowa	78.95	355	P	P	17 02 04.7 -0.8
	comp=Z,64nm,1.0s,baz=203,slow=4.8,SNR=27					
BC3	Big Chuckawall	78.97	324	⇑P	P	17 02 06.5 +0.4
	baz=79,SNR=107					
O28A	Krutsinger Ran	79.01	337	⇑P	P	17 02 06.4 +0.2
	baz=79,SNR=20					
TSUM	Tsumeb	79.02	106	eP	P	17 02 06.7 -0.1
	comp=Z,258nm,1.4s					
P26A	Davis Ranch, A	79.02	336	⇓P	P	17 02 06.5 +0.3
	baz=79,SNR=27					
BGNE	Belgrade	79.09	340	⇓P	P	17 02 06.3 -0.2
	baz=79,SNR=18					
BGNE	Belgrade	79.09	340	eP	P	17 02 06.9 +0.5
	comp=Z,429nm,1.0s					
N30A	Hueftle Ranch,	79.10	339	⇓P	P	17 02 06.5 -0.1
	baz=79					
Q24A	Divide	79.12	334	⇑P	P	17 02 07.5 +0.4
	baz=79,SNR=77					
109C	Camp Elliot, M	79.17	323	⇑P	P	17 02 08.2 +1.2
	baz=79					
PKME	Peaks-Kenny Pk	79.20	2	eP	P	17 02 07.5 +0.7
	comp=Z,99nm,1.1s					
IRM	Iron Mountain	79.24	325	⇓P	P	17 02 08.1 +0.6
	baz=80,SNR=100					
P25A	Willow Gulch B	79.26	335	⇑P	P	17 02 08.1 +0.5
	baz=80,SNR=79					
M31A	Lambtecht Ranc	79.27	340	⇑P	P	17 02 07.5 +0.1
	baz=80,SNR=26					
N29A	Votaw Ranch, W	79.28	338	⇓P	P	17 02 07.4 -0.1
	baz=80,SNR=14					
O27A	Beecher Island	79.30	337	⇑P	P	17 02 08.0 +0.3
	baz=80,SNR=31					
Q23A	Hartsel	79.32	334	⇓P	P	17 02 08.4 +0.3
	baz=80					
W13A	Hualapai Mount	79.41	326	⇓P	P	17 02 09.2 +0.6
	baz=80					
PFO	Pinyon Flats O	79.43	323	eP	P	17 02 09.6 +1.0
PFO				pmax	pmax	
	comp=Z,320nm,1.3s					
PFO	Pinyon Flats O	79.43	323	P	P	17 02 10.3 +1.7
	comp=Z,127nm,1.0s,baz=134,slow=5.0,SNR=117					
PFO	Pinyon Flats O	79.43	323	⇑P	P	17 02 09.3 +0.7
	baz=80,SNR=81					
PFO	Pinyon Flats O	79.43	323	eP	P	17 02 09.6 +1.0
	comp=Z,320nm,1.3s					
N28A	Pribbeno Ranch	79.44	337	⇑P	P	17 02 08.8 +0.4
	baz=80,SNR=12					
NEE2	Needles Airpor	79.48	325	⇓P	P	17 02 09.6 +0.8
	baz=80					
BELC	Belle Mtn. Jos	79.52	324	⇑P	P	17 02 09.5 +0.4
	baz=80,SNR=50					
P24A	Kohler Place,	79.52	335	⇑P	P	17 02 09.3 +0.2
	baz=80,SNR=9.9					
O26A	Horse Wrangler	79.62	336	⇓P	P	17 02 09.8 +0.3
	baz=80,SNR=33					
PV01	Paradox Valley	79.69	331	eP	P	17 02 09.1 -1.0
	comp=Z,21μm,1.5s					
M30A	Dale-Ortello V	79.71	339	⇑P	P	17 02 09.8 -0.1
	baz=80					
P23A	Jefferson	79.73	334	⇑P	P	17 02 10.8 +0.4
	baz=80,SNR=23					
CASY	Casey	79.75	181	eP	P	17 02 09.8 0.0
	comp=Z,212nm,1.1s					
CASY				LR	LR	
	comp=Z,3μm,20.0s					
O25A	Wiggins	79.78	335	⇑P	P	17 02 11.2 +0.8
	baz=80,SNR=25					
MURC	Murrieta	79.79	323	⇑P	P	17 02 11.3 +0.9
	baz=80,SNR=30					
U15A	North Rim	79.80	328	⇑P	P	17 02 11.3 +0.5
	baz=80,SNR=167					
BOSA	Boshof	79.83	118	⇓iP	P	17 02 11.6 +0.5
BOSA				AMB	AMB	17 02 12.4
	comp=Z,283nm,1.1s					
BOSA				AMS	AMS	17 38 07.7
	comp=Z,1μm,15.4s					
BOSA	Boshof	79.83	118	P	P	17 02 11.3 +0.1
	comp=Z,222nm,0.9s,baz=237,slow=5.1,SNR=206					
BOSA				LR	LR	17 36 00.1
	comp=Z,1μm,18.1s,baz=240,slow=35					
BOSA	Boshof	79.83	118	eP	P	17 02 11.3 +0.1
	comp=Z,0.1nm,0.3s					
OGNE	Ogallala	79.84	337	⇑P	P	17 02 10.7 +0.1
	baz=80,SNR=5.2					
OGNE	Ogallala	79.84	337	eP	P	17 02 10.6 0.0
	comp=Z,435nm,1.5s					
M29A	Burnside Ranch	79.87	338	⇓P	P	17 02 10.6 -0.1
	baz=80,SNR=8.5					
N27A	Anderson Farm,	79.87	337	⇓P	P	17 02 10.9 +0.1
	baz=80,SNR=16					
LDFC	Landfair	79.97	325	eP	P	17 02 13.0 +1.5
SCI	San Clemente I	79.98	322	⇓P	P	17 02 12.2 +0.8
	baz=80,SNR=10					
SMCO	Snowmass	79.98	333	eP	P	17 02 12.3 +0.4
	comp=Z,297nm,1.2s					
GMRC	Granite Mounta	79.99	325	⇑P	P	17 02 12.0 +0.4
	baz=80,SNR=145					
L31A	Butterfield Fa	80.00	340	⇓P	P	17 02 11.2 -0.2
	baz=80,SNR=41					
ISCO	Idaho Springs	80.03	334	eP	P	17 02 12.5 +0.6
ISCO				MLR	MLR	
	comp=Z,757nm,22.0s					
ISCO	Idaho Springs	80.03	334	⇓P	P	17 02 12.2 +0.3
	baz=80,SNR=89					
ISCO	Idaho Springs	80.03	334	eP	P	17 02 12.5 +0.6
ISCO				LR	LR	
	comp=Z,757nm,22.0s					
M28A	Bar X Bar Ranc	80.04	338	⇓P	P	17 02 12.1 +0.5
	baz=80,SNR=10					
L30A	Spencer Herefo	80.04	339	⇑P	P	17 02 11.8 +0.2
	baz=80,SNR=13					
PV04	Paradox Valley	80.05	331	eP	P	17 02 12.9 +1.0
N26A	Koester Ranch,	80.12	336	⇑P	P	17 02 12.2 +0.1
	baz=80,SNR=11					
O24A	Longmont	80.12	335	⇓P	P	17 02 12.5 +0.3
	baz=80,SNR=5.2					
BBRC	Big Bear Solar	80.18	324	⇑P	P	17 02 13.7 +0.9
	baz=80,SNR=6.9					
CIS	Catalina Islan	80.24	322	⇑P	P	17 02 13.7 +0.7
	baz=80,SNR=22					
P22A	Eagle	80.27	333	⇑P	P	17 02 13.7 +0.5
	baz=80,SNR=52					
HEC	Hector,Ludlow	80.35	324	⇓P	P	17 02 14.6 +1.1
	baz=81,SNR=102					
L29A	Maesberg Ranch	80.37	339	⇓P	P	17 02 13.8 +0.4
	baz=81,SNR=26					
N25A	Grover	80.39	336	⇑P	P	17 02 14.2 +0.5
	baz=81					
FMP	Fort Macarthur	80.43	322	⇓P	P	17 02 14.8 +0.9
	baz=81					
M27A	Reverse DX Ran	80.48	337	⇑P	P	17 02 14.5 +0.5
	baz=81,SNR=7.4					
O23A	Lake Granby, G	80.50	334	⇑P	P	17 02 14.9 +0.4
	baz=81,SNR=130					
BFSC	Mount Baldy Ra	80.53	323	⇓P	P	17 02 15.3 +0.7
	baz=81,SNR=70					
L28A	Connealy Angus	80.64	338	⇓P	P	17 02 15.4 +0.5
	baz=81,SNR=6.9					
TUQ	Turquoise Moun	80.65	325	⇑P	P	17 02 15.7 +0.5
	baz=81,SNR=126					
M26A	McRoberts Ranc	80.67	337	⇑P	P	17 02 15.4 +0.3
	baz=81,SNR=7.6					
SWZ	Schweizer	80.67	116	⇓iP	P	17 02 15.9 +0.2
SWZ				AMB	AMB	17 02 17.2
	comp=Z,277nm,4.9s					
SWZ				AMS	AMS	17 35 19.7
	comp=Z,2μm,18.5s					
SWZ	Schweizer	80.67	116	P	P	17 02 15.9 +0.2
	comp=Z,277nm,4.9s					
K30A	Basset	80.68	340	⇓P	P	17 02 15.1 0.0
	baz=81,SNR=39					
N24A	Carr	80.68	335	⇓P	P	17 02 15.7 +0.5
	baz=81,SNR=20					
O22A	Kremmling	80.69	334	⇑P	P	17 02 16.1 +0.7
	baz=81,SNR=129					
MWC	Mount Wilson	80.72	323	eP	P	17 02 16.6 +1.0
MWC				pmax	pmax	
	comp=Z,238nm,1.2s					
MWC	Mount Wilson	80.72	323	eP	P	17 02 16.6 +1.0
	comp=Z,238nm,1.2s					
RRX	Edison Barstow	80.72	324	⇑P	P	17 02 16.9 +1.5
	baz=81,SNR=9.2					
PASC	Pasadena Art C	80.74	323	eP	P	17 02 15.6 +0.1
	comp=Z,337nm,1.4s					
ECSD	EROS Data Cent	80.85	342	⇑P	P	17 02 15.5 -0.4
	baz=81,SNR=258					
ECSD	EROS Data Cent	80.85	342	eP	P	17 02 15.1 -0.8
	comp=Z,473nm,1.1s					
ECSD				LR	LR	
	comp=Z,1μm,20.0s					
DECC	Green Verdugo	80.87	323	⇑P	P	17 02 16.8 +0.5
	baz=81,SNR=9.1					
M25A	Palm-Egli Farm	80.94	336	⇓P	P	17 02 17.4 +0.7
	baz=81,SNR=21					
L27A	T5 Ranch, Ells	80.96	338	⇑P	P	17 02 17.3 +0.7
	baz=81,SNR=6.2					
GSC	Goldstone, Bar	80.96	324	⇑P	P	17 02 17.2 +0.4
	baz=81,SNR=50					
K29A	Lazy Trails An	80.96	339	⇑P	P	17 02 16.8 +0.3
	baz=81,SNR=25					
N23A	Red Feather La	81.11	335	⇓P	P	17 02 18.0 +0.3
	baz=81,SNR=83					
SHPR	Sheep Range	81.16	326	eP	P	17 02 18.6 +0.7
L26A	Underwood Farm	81.16	337	⇑P	P	17 02 18.0 +0.3
	baz=81,SNR=6.3					
SHOC	Shoshone, Teco	81.19	325	⇑P	P	17 02 18.6 +0.6
	baz=81,SNR=5.2					
EDW2	Edwards Air Fo	81.20	323	⇓P	P	17 02 18.6 +0.6
	baz=81,SNR

O20A **White River Ci** 81.30 333 ⇊P P 17 02 18.7 +0.2
baz=82,SNR=49
O20A **White River Ci** 81.30 333 eP P 17 02 19.1 +0.5
comp=Z,190nm,1.3s
PHWY **Pilot Hill** 81.30 335 eP P 17 02 19.0 +0.3
comp=Z,213nm,1.2s
SRU **San Rafael Swe** 81.31 331 eP P 17 02 19.0 +0.3
SRU pmax pmax
comp=Z,172nm,1.2s
SRU **San Rafael Swe** 81.31 331 eP P 17 02 19.0 +0.3
comp=Z,172nm,1.2s
BSC **Santa Cruz Isl** 81.34 322 ⇑P P 17 02 19.1 +0.4
baz=82,SNR=20
SPMN **Marine on St.** 81.37 345 ⇊P P 17 02 17.7 -0.9
baz=82,SNR=29
SPMN **Marine on St.** 81.37 345 eP P 17 02 17.6 -0.9
comp=Z,179nm,1.0s
RUDU **RUNDU** 81.42 106 eP P 17 02 21.4 +1.6
RUDU AMB AMB 17 02 22.7
comp=Z,330nm,1.2s
RUDU AMS AMS 17 32 55.5
comp=Z,2μm,20.6s
RUDU **RUNDU** 81.42 106 P P 17 02 21.4 +1.6
comp=Z,330nm,1.2s
ARUT **Antelope Range** 81.44 328 eP P 17 02 20.1 +0.8
ARUT pmax pmax
comp=Z,6μm,1.5s
ARUT **Antelope Range** 81.44 328 eP P 17 02 20.1 +0.8
comp=Z,6μm,1.5s
K27A **Flueckinger Fa** 81.49 338 ⇑P P 17 02 19.8 +0.3
baz=82,SNR=12
COWI **Conover** 81.51 348 eP P 17 02 16.7 -2.7
comp=Z,275nm,1.5s
COWI LR LR
comp=Z,1μm,20.0s
LRMC **Laurel Mtn Rad** 81.53 324 ⇑P P 17 02 20.8 +1.0
baz=82,SNR=40
M23A **Laramie** 81.54 335 ⇊P P 17 02 20.2 +0.3
baz=82,SNR=31
L25A **Engebretsen Ra** 81.55 336 ⇊P P 17 02 20.2 +0.4
baz=82,SNR=10
J29A **Okreek** 81.56 339 ⇊P P 17 02 20.0 +0.3
baz=82,SNR=135
SEK **Senekal** 81.72 119 eP P 17 02 21.9 +0.6
SEK AMB AMB 17 02 23.4
comp=Z,310nm,1.3s
SEK AMS AMS 17 35 45.8
comp=Z,1μm,19.6s
SEK **Senekal** 81.72 119 P P 17 02 21.9 +0.6
comp=Z,310nm,1.3s
SBC **Santa Barbara** 81.73 322 ⇑P P 17 02 20.9 +0.2
baz=82
TMUT **Trail Mountain** 81.75 330 eP P 17 02 22.1 +0.9
comp=Z,238nm,1.3s
KSD **Kokstad** 81.75 121 eP P 17 02 23.1 +1.7
KSD AMB AMB 17 02 23.6
comp=Z,38nm,1.6s
KSD **Kokstad** 81.75 121 P P 17 02 23.1 +1.7
comp=Z,38nm,1.6s
I30A **Oacoma** 81.77 340 ⇑P P 17 02 20.3 -0.4
baz=82,SNR=26
L24A **Wheatland** 81.78 336 ⇑P P 17 02 21.4 +0.4
baz=82,SNR=7.0
K26A **Motz Farm, Whi** 81.79 337 P P 17 02 21.1 +0.1
baz=82
M22A **Cedar Creek Ra** 81.79 334 ⇊P P 17 02 21.4 +0.1
baz=82,SNR=31
ARVC **Arvin** 81.82 323 ⇊P P 17 02 22.2 +1.0
baz=82
J28A **Allard Ranch,** 81.84 339 ⇑P P 17 02 21.3 +0.1
baz=82,SNR=77
N20A **Spence Gulch,** 81.91 333 ⇊P P 17 02 21.8 0.0
baz=82,SNR=49
J27A **Elkhorn Farm,** 81.92 338 ⇊P P 17 02 22.2 +0.6
baz=82,SNR=75
FURC **Furnace Creek,** 81.93 325 ⇑P P 17 02 22.4 +0.7
baz=82,SNR=29
K25A **Mack Ranch, Ha** 81.93 337 ⇑P P 17 02 22.3 +0.5
baz=82,SNR=19
ISA **Isabella, Lake** 82.07 323 eP P 17 02 23.3 +0.7
ISA pmax pmax
comp=Z,188nm,1.1s
ISA **Isabella, Lake** 82.07 323 ⇊P P 17 02 24.0 +1.4
baz=82,SNR=124
ISA **Isabella, Lake** 82.07 323 eP P 17 02 23.3 +0.7
comp=Z,188nm,1.1s
L23A **Garrett** 82.11 335 ⇊P P 17 02 22.7 -0.1
baz=82,SNR=42
I29A **Vivian Onida** 82.11 340 ⇊P P 17 02 22.3 -0.3
baz=82,SNR=28
DAC **Darwin (Calif)** 82.12 324 eP P 17 02 23.5 +0.4
DAC pmax pmax
comp=Z,239nm,1.1s
DAC **Darwin (Calif)** 82.12 324 eP P 17 02 23.5 +0.4
comp=Z,239nm,1.1s
BRSD **Miller** 82.13 341 ⇊P P 17 02 21.9 -0.7
baz=82,SNR=15
BRSD **Miller** 82.13 341 eP P 17 02 22.6 0.0
comp=Z,338nm,0.9s
L22A **Ellis Ranch, M** 82.29 335 ⇊P P 17 02 24.2 +0.4
baz=83,SNR=12
J26A **Sides Ranch, S** 82.31 338 ⇊P P 17 02 24.3 +0.6
baz=83,SNR=70
K24A **Anderson Ranch** 82.34 336 ⇑P P 17 02 24.5 +0.5
baz=83,SNR=27
I28A **Midland** 82.35 339 ⇑P P 17 02 24.0 +0.2
baz=83,SNR=100
VES **Vestal, Richgr** 82.51 323 ⇊P P 17 02 25.5 +0.7
baz=83,SNR=60
MPU **Maple Canyon** 82.53 330 eP P 17 02 25.7 +0.6
comp=Z,210nm,1.2s
SMMC **Simmler** 82.55 322 ⇑P P 17 02 26.3 +1.2
baz=83,SNR=8.6
KSR **Koster** 82.58 116 ⇊iP P 17 02 26.4 +0.5
KSR AMB AMB 17 02 26.9
comp=Z,104nm,1.3s
KSR **Koster** 82.58 116 P P 17 02 26.4 +0.5
comp=Z,104nm,1.3s
GRAC **Grapevine Rang** 82.60 325 ⇊P P 17 02 26.5 +1.2
baz=83,SNR=80
J25A **Sunshine Ranch** 82.61 337 ⇊P P 17 02 25.7 +0.4
baz=83,SNR=28
H29A **Onida** 82.64 340 ⇑P P 17 02 24.9 -0.4
baz=83,SNR=92
K23A **Bowen Ranch, D** 82.65 336 ⇑P P 17 02 25.5 0.0
baz=83,SNR=47
WDLM **Western Deep L** 82.65 117 eP P 17 02 27.0 +0.8
WDLM AMB AMB 17 02 27.4
comp=Z,100nm,1.2s
NLU **North Lily Min** 82.67 330 eP P 17 02 27.0 +1.2
comp=Z,286nm,1.5s
I27A **Quinn** 82.67 339 ⇑P P 17 02 25.0 -0.5
baz=83,SNR=20
DAU **Daniels Canyon** 82.72 331 eP P 17 02 27.1 +0.9
DAU **Daniels Canyon** 82.72 331 eP P 17 02 27.1 +0.9
G30A **Faulkton** 82.81 341 ⇑P P 17 02 25.4 -0.8
baz=83,SNR=19
KLOF **Kloof** 82.83 117 eP P 17 02 28.0 +0.9
KLOF AMB AMB 17 02 28.3
comp=Z,139nm,1.1s
KLOF **Kloof** 82.83 117 P P 17 02 28.0 +0.9
comp=Z,139nm,1.1s
J24A **Dixon Ranch, L** 82.83 337 ⇑P P 17 02 26.8 +0.3
baz=83,SNR=54
R11A **Troy Canyon, C** 82.86 327 ⇊P P 17 02 27.4 +0.6
baz=83,SNR=212
R11A **Troy Canyon, C** 82.86 327 eP P 17 02 27.4 +0.6
comp=Z,201nm,1.1s
K22A **Casper** 82.86 335 ⇑P P 17 02 26.9 +0.2
baz=83,SNR=64
K22A **Casper** 82.86 335 eP P 17 02 26.6 -0.2
comp=Z,548nm,1.5s
I26A **New Underwood** 82.89 338 ⇊P P 17 02 26.4 -0.3
baz=83,SNR=15
H28A **Mission Ridge** 82.92 340 ⇑P P 17 02 26.8 0.0
baz=83,SNR=53
JLU **Jordanelle** 82.95 331 eP P 17 02 27.4 +0.1
comp=Z,143nm,1.2s
RCTC **Rector, Farmer** 82.96 323 ⇑P P 17 02 27.3 +0.2
baz=83
MRZ **Mangatainoka R** 82.97 225 P* P 17 02 28.2 +0.8
KHZ **Kahutara** 83.00 223 P* P 17 02 28.0 +0.5
TIN **Tinemaha, Big** 83.05 324 ⇑P P 17 02 28.3 +0.5
baz=83,SNR=25
G29A **Hoven** 83.08 340 ⇊P P 17 02 27.4 -0.2
baz=83,SNR=20
K21A **Alcova** 83.11 335 ⇊P P 17 02 28.4 +0.4
baz=83,SNR=44

ROSA **Rosais** 83.14 33 eP P 17 02 23.2 -4.8
comp=Z,43nm,0.6s
I25A **Rochford** 83.15 337 ⇑P P 17 02 28.5 +0.3
baz=83,SNR=92
CTU **Camp Tracy** 83.15 331 eP P 17 02 28.8 +0.5
comp=Z,53nm,0.9s
DUG **Dugway, Tooele** 83.17 330 eP P 17 02 28.7 +0.4
DUG pmax pmax
comp=Z,371nm,1.4s
DUG MLR MLR
comp=Z,380nm,19.0s
DUG **Dugway, Tooele** 83.17 330 ⇊P P 17 02 28.8 +0.4
baz=83,SNR=157
DUG **Dugway, Tooele** 83.17 330 eP P 17 02 28.7 +0.4
comp=Z,371nm,1.4s
DUG LR LR
comp=Z,380nm,19.0s
CRWM **Crown Mines** 83.19 117 eP P 17 02 29.5 +0.4
CRWM AMB AMB 17 02 30.1
comp=Z,148nm,1.1s
H27A **Howes** 83.19 339 ⇊P P 17 02 28.1 -0.1
baz=84,SNR=85
J23A **Dilts Ranch, B** 83.20 336 ⇊P P 17 02 28.2 -0.1
baz=84,SNR=6.6
PSMN **Pico do Norte,** 83.24 36 eP P 17 02 24.1 -4.5
comp=Z,134nm,1.0s
G28A **Parade** 83.26 340 ⇑P P 17 02 28.5 0.0
baz=84,SNR=20
OBSV **Observatory** 83.26 117 eP P 17 02 30.0 +0.5
OBSV AMB AMB 17 02 30.4
comp=Z,128nm,1.2s
I24A **Kuemmerle Ranc** 83.29 337 ⇑P P 17 02 29.0 +0.1
baz=84,SNR=31
ERPM **east rand prop** 83.30 117 eP P 17 02 30.5 +0.9
ERPM AMB AMB 17 02 31.7
comp=Z,143nm,1.8s
ERPM **east rand prop** 83.30 117 P P 17 02 30.5 +0.9
comp=Z,143nm,1.8s
RSSD **Black Hills** 83.34 337 eP P 17 02 28.1 -1.1
RSSD pmax pmax
comp=Z,112nm,1.0s
RSSD **Black Hills** 83.34 337 eP P 17 02 28.1 -1.1
comp=Z,112nm,1.0s
BKZ **Black Stump Fm** 83.37 227 eP P 17 02 31.5 +1.9
comp=Z,188nm,1.4s
TCUT **Toone Canyon** 83.38 331 eP P 17 02 29.0 -0.5
comp=Z,393nm,1.4s
H26A **Fairpoint** 83.39 338 ⇑P P 17 02 28.7 -0.5
baz=84
TPH **Tonopah** 83.39 326 eP P 17 02 30.1 +0.5
TPH pmax pmax
comp=Z,253nm,1.1s
TPH **Tonopah** 83.39 326 eP P 17 02 30.1 +0.5
comp=Z,253nm,1.1s
F30A **Leola** 83.43 341 ⇑P P 17 02 29.4 0.0
baz=84,SNR=6.5
MTUM **Tungsten Hills** 83.45 324 eP P 17 02 31.2 +1.3
HAZ **Te Kaha** 83.47 228 P* P 17 02 31.7 +1.7
LTZ **Lake Taylor** 83.47 222 P* P 17 02 30.2 +0.2
PGRA **Graciosa** 83.51 33 eP P 17 02 24.9 -5.0
comp=Z,84nm,0.7s
RPZ **Rata Peaks** 83.52 221 eP* P 17 02 30.7 +0.5
RPZ **Rata Peaks** 83.52 221 eP P 17 02 31.3 +1.1
comp=Z,290nm,1.1s
J22A **Midwest** 83.52 335 ⇑P P 17 02 29.3 -0.8
baz=84,SNR=42
URZ **Urewera** 83.56 228 P P 17 02 29.8 -0.7
comp=Z,35nm,1.0s,baz=100,slow=3.5,SNR=7.8
URZ LR LR 17 30 32.4
comp=Z,4μm,22.0s,baz=185,slow=29
URZ **Urewera** 83.56 228 eP P 17 02 31.7 +1.2
PSET **Sete Cidades** 83.58 35 eP P 17 02 25.5 -4.8
comp=Z,192nm,0.9s
F29A **Eureka** 83.65 341 ⇑P P 17 02 29.9 -0.6
baz=84,SNR=58
WHZ **Wether Hill Ro** 83.65 217 eP P 17 02 31.7 +0.9
comp=Z,189nm,1.3s
H25A **Fruitdale** 83.65 338 ⇑P P 17 02 30.5 0.0
baz=84,SNR=21
I23A **Meade Ranch, G** 83.66 336 P P 17 02 30.7 -0.1
baz=84
SLR **Silverton** 83.67 117 ⇊iP P 17 02 31.6 +0.2
SLR AMB AMB 17 02 32.4
comp=Z,172nm,1.2s
SLR AMS AMS 17 47 35.6
comp=Z,2μm,18.0s
SLR **Silverton** 83.67 117 P P 17 02 31.7 +0.2
SLR pmax pmax
comp=Z,172nm,1.2s
SLR **Silverton** 83.67 117 P P 17 02 31.6 +0.2
comp=Z,172nm,1.2s
EYMN **Ely** 83.72 347 PFAKE 17 02 40.0 +9.2
EYMN LR LR
comp=Z,1μm,21.0s
J21A **Lysite** 83.80 335 ⇑P P 17 02 31.3 -0.2
baz=84,SNR=25
MLAC **Mammoth, Mammo** 83.80 324 ⇊P P 17 02 32.6 +0.8
baz=84,SNR=22
G27A **Dupree** 83.83 339 ⇊P P 17 02 30.9 -0.5
baz=84,SNR=21
HWUT **Hardware Ranch** 83.85 331 eP P 17 02 31.5 -0.4
comp=Z,294nm,1.2s
BGU **Big Grassy Mou** 83.88 330 eP P 17 02 32.1 +0.2
comp=Z,117nm,1.5s
NNZ **Nelson** 83.88 224 P* P 17 02 32.1 0.0
F28A **McLaughlin** 83.93 340 ⇊P P 17 02 31.8 -0.1
baz=84,SNR=32
I22A **9 Mile Ranch,** 83.94 336 ⇑P P 17 02 31.8 -0.4
baz=84,SNR=62
G26A **Maurine** 83.95 339 ⇊P P 17 02 31.9 -0.2
baz=84,SNR=56
SPUT **South Promonto** 83.96 330 eP P 17 02 31.5 -0.9
comp=Z,440nm,1.5s
E30A **Jud** 84.02 342 ⇊P P 17 02 31.7 -0.7
baz=84,SNR=33
J20A **Shoshoni** 84.03 334 ⇊P P 17 02 32.6 -0.1
baz=84,SNR=105
H24A **Dirks Ranch, A** 84.06 337 ⇑P P 17 02 32.3 -0.5
baz=84,SNR=44
BW06 **Boulder Array** 84.06 333 eP P 17 02 32.1 -0.9
comp=Z,171nm,1.4s
BW06 LR LR
comp=Z,1μm,19.0s
PDAR **Pinedale Array** 84.06 333 P P 17 02 32.1 -0.8
comp=Z,50nm,1.0s,baz=142,slow=5.6,SNR=162
PDAR PKKPbc **PKKPbc** 17 20 46.6 -2.1
comp=Z,1.6nm,0.8s,baz=90,slow=1.7,SNR=12
PDAR PKPPKP P'P'df 17 28 54.0 +6.3
comp=Z,1.1nm,1.1s,baz=90,slow=3.0,SNR=4.2
G25A **Newell** 84.11 338 ⇊P P 17 02 32.2 -0.7
baz=84,SNR=19
I21A **Big Trails, Te** 84.15 335 ⇊P P 17 02 32.7 -0.6
baz=84,SNR=101
H23A **Clabaugh Cattl** 84.17 337 ⇑P P 17 02 32.2 -1.1
baz=84
NVAR **Mina Array Bea** 84.18 325 P P 17 02 34.4 +0.8
comp=Z,46nm,0.9s,baz=151,slow=5.8,SNR=180
NVAR PKKPbc **PKKPbc** 17 20 48.2 +0.1
comp=Z,1.1nm,0.8s,baz=303,slow=1.9,SNR=6.0
TORD **Torodi Ar. Bea** 84.19 70 P P 17 02 33.7 -0.2
comp=Z,99nm,0.8s,baz=248,slow=4.0,SNR=374
TORD PKKPbc **PKKPbc** 17 20 46.1 -0.4
comp=Z,1.2nm,1.0s,baz=19,slow=1.6,SNR=5.7
TORD PKPPKP **P'P'df** 17 28 53.4 +1.2
comp=Z,1.8nm,1.1s,baz=52,slow=1.1,SNR=4.6
TORD LR LR 17 38 58.8
comp=Z,4μm,18.2s,baz=230,slow=35
PMOZ **Porto Moniz, M** 84.23 44 eSKS S 17 13 25.2 +27
PMOZ **Porto Moniz, M** 84.23 44 eLR LR 17 30 05.8
comp=Z,636nm,22.0s
E29A **Napoleon** 84.27 341 ⇊P P 17 02 33.4 -0.2
baz=85,SNR=24
F27A **Lemmon** 84.30 339 ⇑P P 17 02 33.3 -0.5
baz=85,SNR=115
J19A **Crowheart** 84.31 334 ⇊P P 17 02 33.5 -0.6
baz=85,SNR=110
PMAR **Madeira** 84.32 44 eP P 17 02 35.7 +1.3
comp=Z,213nm,1.4s
SAO **San Andreas Ge** 84.42 322 eP P 17 02 36.3 +1.7
SAO pmax pmax
comp=Z,88nm,1.3s
SAO **San Andreas Ge** 84.42 322 eP P 17 02 36.3 +1.7
comp=Z,88nm,1.3s
VRZ **Vera Road** 84.43 226 P* P 17 02 35.7 +0.7
F26A **Lodgepole** 84.47 339 ⇊P P 17 02 34.5 -0.3
baz=85,SNR=36
HVU **Hansel Valley** 84.48 331 eP P 17 02 34.7 -0.3

HVU pmax pmax
comp=Z,194nm,1.1s
HVU **Hansel Valley** 84.48 331 eP P 17 02 34.7 -0.3
comp=Z,194nm,1.1s
H22A **Clearmont** 84.52 336 ⇊P P 17 02 34.1 -1.0
baz=85,SNR=33
G24A **Alzada** 84.54 338 ⇊P P 17 02 35.0 -0.1
baz=85,SNR=14
D30A **Buchanan** 84.54 342 ⇊P P 17 02 34.7 -0.3
baz=85,SNR=74
E28A **Huff** 84.57 340 ⇑P P 17 02 34.4 -0.7
baz=85,SNR=33
I20A **Worland** 84.57 335 ⇑P P 17 02 35.2 -0.2
baz=85,SNR=102
QRZ **Quartz Range** 84.62 223 eP* P 17 02 35.0 -0.9
AHID **Auburn Hatcher** 84.65 332 eP P 17 02 34.8 -1.1
comp=Z,365nm,1.6s
AHID LR LR
comp=Z,984nm,19.0s
ELK **Elko** 84.66 328 P P 17 02 35.7 -0.4
comp=Z,80nm,1.1s,baz=174,slow=3.0,SNR=152
E27A **Carson** 84.68 340 ⇊P P 17 02 35.2 -0.5
baz=85,SNR=8.7
D29A **Pettibone, Tap** 84.72 341 ⇊P P 17 02 35.3 -0.6
baz=85,SNR=42
G23A **Biddle** 84.74 337 ⇊P P 17 02 35.2 -1.0
baz=85,SNR=30
F25A **Bowman** 84.78 338 ⇑P P 17 02 36.1 -0.2
baz=85,SNR=27
H21A **Big Horn, Shar** 84.78 336 ⇊P P 17 02 35.6 -0.8
baz=85,SNR=13
WAKR **Walker** 84.78 324 eP P 17 02 38.1 +1.4
CMB **Columbia Colle** 84.88 324 eP P 17 02 37.5 +0.5
CMB pmax pmax
comp=Z,111nm,1.3s
CMB **Columbia Colle** 84.88 324 eP P 17 02 37.5 +0.5
comp=Z,111nm,1.3s
TOZ **Tahuroa Road** 84.88 227 P* P 17 02 38.0 +0.8
I19A **Meeteetse** 84.95 334 ⇊P P 17 02 37.1 -0.3
baz=85,SNR=66
AGMN **Agassiz Nation** 84.95 344 ⇑P P 17 02 36.2 -0.8
baz=85,SNR=17
AGMN **Agassiz Nation** 84.95 344 eP P 17 02 35.9 -1.2
comp=Z,126nm,1.0s
AGMN LR LR
comp=Z,1μm,21.0s
E26A **Carlson Angus** 84.97 339 ⇑P P 17 02 36.8 -0.4
baz=85,SNR=17
H20A **Greybull** 84.99 335 ⇊P P 17 02 37.1 -0.4
baz=85,SNR=110
F24A **Ekalaka** 85.01 338 ⇑P P 17 02 37.3 -0.2
baz=85,SNR=39
C30A **Mose, Pekin** 85.02 342 ⇊P P 17 02 37.7 +0.3
baz=85,SNR=133
CRZF **Crozet Islands** 85.03 145 S S 17 12 56.0 -10
CRZF SS SS 17 18 17.0 -21
CRZF R 17 31 00.0
G22A **Birney** 85.05 336 ⇊P P 17 02 36.9 -0.9
baz=85,SNR=28
REDW **Red Top Meadow** 85.06 333 eP P 17 02 37.9 -0.1
comp=Z,267nm,1.5s
D28A **Regan** 85.10 341 ⇊P P 17 02 37.6 -0.3
baz=85,SNR=50
LOHW **Long Hollow** 85.18 333 eP P 17 02 38.1 -0.5
comp=Z,195nm,1.5s
F23A **Volborg** 85.20 337 ⇑P P 17 02 37.9 -0.6
baz=86,SNR=47
TPAW **Teton Pass** 85.21 333 eP P 17 02 38.8 0.0
comp=Z,118nm,1.0s
E25A **Miller Ranch,** 85.28 339 ⇊P P 17 02 38.6 -0.2
baz=86,SNR=28
BMN **Battle Mountai** 85.29 327 eP P 17 02 39.5 +0.4
BMN pmax pmax
comp=Z,33nm,1.1s
BMN **Battle Mountai** 85.29 327 eP P 17 02 39.5 +0.4
comp=Z,33nm,1.1s
D27A **Center** 85.29 340 ⇊P P 17 02 38.5 -0.3
baz=86,SNR=11
G21A **Lodge Grass** 85.36 336 ⇊P P 17 02 38.8 -0.5
baz=86,SNR=50
FXWY **Fox Creek** 85.37 333 eP P 17 02 39.4 -0.1
comp=Z,221nm,1.8s
I17A **Pilgrim Ck.** 85.44 333 ⇑P P 17 02 40.0 +0.2
baz=86,SNR=111
MDND **Maddock** 85.44 342 ⇊P P 17 02 39.0 -0.5
baz=86,SNR=52
MDND **Maddock** 85.44 342 eP P 17 02 38.8 -0.7
comp=Z,120nm,1.0s
D26A **Manning** 85.47 340 ⇊P P 17 02 39.6 -0.2
baz=86,SNR=14
H19A **Powell** 85.50 334 ⇊P P 17 02 39.8 -0.2
baz=86,SNR=66
C28A **Hausauer Farms** 85.53 341 ⇊P P 17 02 39.8 -0.1
baz=86,SNR=6.1
F22A **Rosebud** 85.53 337 ⇊P P 17 02 39.2 -0.8
baz=86,SNR=58
IMW **Indian Meadow** 85.55 333 eP P 17 02 40.2 -0.3
comp=Z,201nm,1.3s
E24A **Baker** 85.61 338 ⇑P P 17 02 40.5 0.0
baz=86,SNR=40
FLWY **Flagg Ranch** 85.62 333 eP P 17 02 40.9 +0.1
comp=Z,205nm,1.0s
B30A **Myrvik Farm, E** 85.68 343 ⇊P P 17 02 40.7 0.0
baz=86,SNR=179
G20A **Bridger** 85.70 335 ⇑P P 17 02 40.5 -0.6
baz=86,SNR=156
H18A **Shoshone NF, C** 85.75 334 ⇑P P 17 02 41.2 -0.2
baz=86,SNR=252
RAO **Raoul Island** 85.83 237 LR LR 17 32 31.9
comp=Z,314nm,20.1s,baz=120,slow=30
C27A **Sayler Ranch,** 85.83 340 ⇊P P 17 02 41.7 +0.2
baz=86,SNR=42
D25A **Fairfield** 85.84 339 ⇑P P 17 02 42.0 +0.4
baz=86,SNR=60
H17A **Grant Village** 85.84 333 ⇊P P 17 02 42.6 +0.8
baz=86,SNR=33
H17A **Grant Village** 85.84 333 eP P 17 02 42.7 +0.8
comp=Z,82nm,1.3s
F21A **Absaloka Mine,** 85.86 336 ⇊P P 17 02 41.8 +0.1
baz=86,SNR=32
E23A **Ismay** 85.86 338 ⇑P P 17 02 41.0 -0.7
baz=86,SNR=11
B29A **Wagenman Farm,** 85.95 342 ⇑P P 17 02 41.5 -0.5
baz=86,SNR=63
YFT **Old Faithful** 85.99 333 eP P 17 02 44.4 +1.8
comp=Z,481nm,1.9s
RLMT **Red Lodge** 85.99 334 eP P 17 02 41.9 -0.7
comp=Z,286nm,1.3s
E22A **Miles City** 86.02 337 ⇊P P 17 02 41.5 -0.9
baz=86,SNR=35
C26A **Wahner Farm, P** 86.10 340 ⇊P P 17 02 42.4 -0.4
baz=86,SNR=30
D24A **Glendive** 86.11 338 ⇑P P 17 02 43.1 +0.2
baz=86,SNR=87
A30A **Hoffart Farm,** 86.13 343 ⇊P P 17 02 42.1 -0.7
baz=86,SNR=72
YNR **Norris Junctio** 86.15 333 eP P 17 02 44.7 +1.3
comp=Z,137nm,1.5s
F20A **Billings** 86.19 336 ⇑P P 17 02 42.7 -0.7
baz=86,SNR=30
B28A **Dugan Ranch, T** 86.20 341 ⇊P P 17 02 43.1 -0.1
baz=86,SNR=100
YMR **Madison River** 86.22 333 eP P 17 02 45.3 +1.6
comp=Z,379nm,1.1s
LAO **LASA Array** 86.33 337 eP P 17 02 43.2 -0.8
comp=Z,390nm,1.2s
LAO LR LR
comp=Z,854nm,20.0s
C25A **Freed Ranch, W** 86.33 339 ⇑P P 17 02 43.8 -0.2
baz=87,SNR=7.0
A29A **Manning Farm,** 86.34 342 ⇊P P 17 02 43.2 -0.7
baz=87,SNR=105
B27A **Peters Farms,** 86.40 341 ⇊P P 17 02 43.8 -0.4
baz=87,SNR=9.7
OHCM **Honcut** 86.43 324 eP P 17 02 45.7 +1.2
D23A **Lindsay** 86.43 338 ⇑P P 17 02 44.3 -0.2
baz=87,SNR=160
E21A **Keefer Ranch,** 86.47 337 ⇊P P 17 02 44.6 -0.1
baz=87,SNR=56
F19A **Roth Farm, Mol** 86.51 335 ⇑P P 17 02 44.5 -0.4
baz=87,SNR=118
C24A **Savage** 86.51 339 ⇊P P 17 02 44.8 -0.1
baz=87,SNR=51
QLMT **Earthquake Lak** 86.53 333 eP P 17 02 46.1 +0.9
A28A **Rude Farm, Bot** 86.59 342 ⇑P P 17 02 44.8 -0.4
baz=87,SNR=32
B26A **Jensen Ranch,** 86.64 340 ⇊P P 17 02 45.6 +0.2
baz=87

HLID Hailey 86.64 331 ⇑P P 17 02 46.5 +0.8
baz=87,SNR=143
HLID Hailey 86.64 331 *eP* **P 17 02 46.0 +0.3**
comp=Z,232nm,1.3s
D22A Cohagen 86.72 337 ⇑P P 17 02 45.9 0.0
baz=87,SNR=125
E20A Meyer Farm, Mu 86.79 336 ⇑P P 17 02 46.2 -0.1
baz=87,SNR=121
ULM Lac du Bonnet 86.80 345 P **P 17 02 45.0 -1.1**
ULM Lac du Bonnet 86.80 345 P **P 17 02 45.0 -1.1**
comp=Z,101nm,1.0s,baz=163,slow=4.2,SNR=95
ULM PKKPbc **PKKPdf 17 20 39.1 +2.5**
comp=Z,2.8nm,0.8s,baz=311,slow=3.1,SNR=4.2
B25A Knox Farm, Ray 86.81 340 ⇑P P 17 02 46.2 -0.1
baz=87,SNR=53
A27A Ledoux Ranch, 86.89 341 ⇑P P 17 02 47.0 +0.4
baz=87,SNR=69
D21A La Casta Ranch 86.91 337 ⇑P P 17 02 46.5 -0.4
baz=87,SNR=70
MSNA Messina 86.92 115 ⇓*i*P P 17 02 49.1 +1.5
MSNA AMB AMB 17 02 49.6
comp=Z,144nm,1.3s
MSNA Messina 86.92 115 P **P 17 02 49.1 +1.5**
comp=Z,144nm,1.3s
E19A Rath Farm, Rou 86.98 335 ⇑P P 17 02 47.1 -0.2
baz=87,SNR=225
C23A Lambert 86.99 338 ⇑P P 17 02 46.7 -0.5
baz=87,SNR=117
A26A Wade Farm, Ken 87.06 341 ⇓P P 17 02 47.2 -0.3
baz=87,SNR=54
MCMT McKenzie Canyo 87.07 332 P **P 17 02 48.5 +0.6**
MFID Camas Ranch 87.10 330 *eP* **P 17 02 48.7 +0.8**
comp=Z,205nm,1.4s
C22A Vida 87.15 338 ⇑P P 17 02 48.1 +0.2
baz=87
MOPA Mopani 87.26 117 ⇓*i*P P 17 02 50.7 +1.4
MOPA AMB AMB 17 02 52.3
comp=Z,108nm,3.9s
MOPA Mopani 87.26 117 P **P 17 02 50.7 +1.4**
comp=Z,108nm,3.9s
BOZ Bozeman (W) 87.30 333 *eP* **P 17 02 47.6 -1.3**
BOZ pmax pmax
comp=Z,81nm,1.1s
BOZ MLR MLR
comp=Z,969nm,19.0s
BOZ Bozeman (W) 87.30 333 *eP* **P 17 02 47.6 -1.3**
comp=Z,81nm,1.1s
BOZ LR LR
comp=Z,969nm,19.0s
D20A Manuel Ranch, 87.31 336 ⇑P P 17 02 48.1 -0.6
baz=88,SNR=128
A25A Svangstu Ranch 87.40 340 ⇓P P 17 02 49.1 +0.1
baz=88,SNR=52
DLMT Dillon 87.42 333 *eP* **P 17 02 49.6 +0.2**
comp=Z,277nm,1.3s
B23A Brockton 87.52 339 ⇑P P 17 02 49.4 -0.3
baz=88,SNR=105
WVOR Wild Horse Val 87.53 327 *eP* **P 17 02 50.5 +0.5**
WVOR pmax pmax
comp=Z,198nm,1.4s
WVOR Wild Horse Val 87.53 327 *eP* **P 17 02 50.5 +0.5**
comp=Z,198nm,1.4s
C21A Desert Coulee 87.61 337 P **P 17 02 49.5 -0.6**
baz=88
D19A Cripps Ranch, 87.62 336 ⇓P P 17 02 49.6 -0.7
baz=88,SNR=42
A24A Westby 87.64 339 ⇓P P 17 02 50.0 -0.2
baz=88,SNR=29
B22A Reddig Ranch S 87.68 338 ⇓P P 17 02 49.9 -0.6
baz=88,SNR=58
LRM Limekiln Ridge 87.75 333 *eP* **P 17 02 51.2 0.0**
C20A Veseth Ranch, 87.81 337 ⇓P P 17 02 50.5 -0.6
baz=88,SNR=44
MOD Modoc Plateau 87.86 326 *eP* **P 17 02 51.6 0.0**
comp=Z,168nm,1.2s
WDC Whiskeytown Da 87.90 324 *eP* **P 17 02 50.5 -1.2**
WDC pmax pmax
comp=Z,126nm,1.1s
WDC Whiskeytown Da 87.90 324 *eP* **P 17 02 50.5 -1.2**
comp=Z,126nm,1.1s
A23A Redstone 87.93 339 ⇓P P 17 02 51.2 -0.5
baz=88,SNR=21
B21A Ellsworth Farm 88.11 337 ⇓P P 17 02 51.9 -0.6
baz=88,SNR=76
C19A Slack Wire Ran 88.17 336 ⇑P P 17 02 52.2 -0.7
baz=88,SNR=78
KMRM Mail Ridge 88.20 323 *eP* **P 17 02 55.6 +2.4**
comp=Z,381nm,1.3s
A22A Carney Farms, 88.27 338 ⇑P P 17 02 53.0 -0.3
baz=89,SNR=144
HRY Holter Researc 88.28 334 *eP* **P 17 02 54.2 +0.7**
N02D Trinity Center 88.28 324 ⇓P P 17 02 53.3 -0.3
baz=88,SNR=16
B20A Solberg Farm, 88.44 337 ⇑P P 17 02 53.4 -0.8
baz=89,SNR=129
M04C Macdoel 88.49 325 ⇓P P 17 02 54.5 -0.2
baz=89,SNR=32
A21A Bergtoll Ranch 88.58 338 ⇑P P 17 02 54.0 -0.8
baz=89,SNR=66
EGMT Eagleton 88.66 336 ⇓P P 17 02 54.3 -0.9
baz=89,SNR=50
EGMT Eagleton 88.66 336 PFAKE
EGMT LR LR 17 03 10.0 +15
comp=Z,976nm,20.0s
M02C Callahan 88.68 324 ⇓P P 17 02 55.0 -0.5
baz=89,SNR=21
KHMM Horse Mountain 88.71 323 *eP* **P 17 02 57.8 +2.0**
comp=Z,321nm,1.5s
B19A Brinkman Farms 88.76 336 ⇑P P 17 02 54.7 -0.9
baz=89,SNR=103
A20A Cobblestone Ra 88.80 337 ⇓P P 17 02 54.9 -0.9
baz=89,SNR=148
SCHQ Schefferville 88.86 3 P **P 17 02 54.5 -1.4**
comp=Z,42nm,1.1s,baz=172,slow=3.3,SNR=29
SCHQ LR LR 17 43 56.9
comp=Z,1μm,21.4s,baz=177,slow=36
YBH Yreka Blue Hor 88.87 325 *eP* **P 17 02 55.2 -1.2**
YBH pmax pmax
comp=Z,136nm,1.3s
YBH Yreka Blue Hor 88.87 325 P **P 17 02 55.9 -0.5**
comp=Z,72nm,1.1s,baz=118,slow=5.3,SNR=34
YBH Yreka Blue Hor 88.87 325 *eP* **P 17 02 55.2 -1.2**
comp=Z,136nm,1.3s
BMO Blue Mountains 88.89 330 *eP* **P 17 02 53.9 -2.5**
BMO pmax pmax
comp=Z,84nm,1.2s
BMO Blue Mountains 88.89 330 *eP* **P 17 02 53.9 -2.5**
comp=Z,84nm,1.2s
CHMT Chamberlain Mo 88.97 333 *eP* **P 17 02 56.5 -0.3**
K04D Chiloquin, OR 89.10 326 ⇓P P 17 02 57.8 +0.4
baz=89,SNR=6.6
A19A Klindworth Far 89.11 337 ⇑P P 17 02 56.7 -0.6
baz=89,SNR=92
MSO Missoula 89.16 333 ⇓P P 17 02 58.1 +0.5
baz=89,SNR=27
MSO Missoula 89.16 333 *eP* **P 17 02 57.8 +0.1**
comp=Z,146nm,1.6s
SLMT Seeley Lake 89.34 333 *eP* **P 17 02 59.0 +0.4**
J05D Fort Rock, OR 89.37 326 ⇑P P 17 02 59.0 +0.2
baz=90,SNR=30
LSZ Lusaka 89.60 108 *eP* **P 17 03 00.2 -0.4**
LSZ pmax pmax
comp=Z,116nm,1.3s
LSZ MLR MLR
comp=Z,2μm,20.0s
LSZ Lusaka 89.60 108 *eP* **P 17 03 00.2 -0.4**
comp=Z,116nm,1.3s
LSZ LR LR
comp=Z,2μm,20.0s
L02D Cave Junction, 89.62 324 ⇑P P 17 02 59.4 -0.4
baz=90,SNR=5.4
J04D Umpqua Nationa 89.74 326 ⇓P P 17 03 01.3 +0.8
baz=90
SWMT Swartz Lake 89.75 333 *eP* **P 17 03 00.8 +0.4**
F10A Beach Ranch, E 89.76 330 *eP* **P 17 03 00.6 +0.1**
comp=Z,724nm,2.5s
G08A Pilot Rock 89.94 329 *eP* **P 17 03 02.2 +0.8**
comp=Z,141nm,1.4s
YBMT Yellow Bay 90.05 333 *eP* **P 17 03 02.2 +0.4**
JTMT Jette 90.06 333 *eP* **P 17 03 02.3 +0.4**
PAF Port-aux-Franc 90.18 156 S S 17 13 38.0 -17
PAF L L 17 29 00.0
PAF R 17 35 00.0
I05D Terrebonne, OR 90.24 327 ⇓P P 17 03 02.8 +0.1
baz=90,SNR=13
I04A Tendick Farm, 90.31 326 ⇑P P 17 03 03.3 +0.3
baz=91,SNR=6.0

BSMT Bassoo Peak 90.33 333 *eP* **P 17 03 03.5 +0.3**
I03D Drain, OR 90.67 325 ⇑P P 17 03 06.3 +1.7
baz=91
G05D Wamic, OR 90.93 328 ⇑P P 17 03 07.2 +1.4
WALA Waterton Lakes 91.01 334 *eP* **P 17 03 04.2 -2.0**
comp=Z,6.9nm,1.4s
H2OWA Water 91.02 329 P **P 17 03 07.4 +1.2**
HAWA Hanford 91.06 329 *eP* **P 17 03 04.1 -2.3**
comp=Z,225nm,1.4s
WRD Warden 91.22 330 P **P 17 03 08.7 +1.6**
TRW Toppenish Ridg 91.41 329 P **P 17 03 09.2 +1.1**
NEW Newport 91.57 332 *eP* **P 17 03 06.9 -1.9**
NEW pmax pmax
comp=Z,71nm,1.3s
NEW Newport 91.57 332 P **P 17 03 07.4 -1.4**
comp=Z,36nm,1.1s,baz=128,slow=4.4,SNR=20
NEW Newport 91.57 332 ⇑P P 17 03 08.2 -0.6
baz=92,SNR=24
NEW Newport 91.57 332 *eP* **P 17 03 06.9 -1.9**
comp=Z,71nm,1.3s
NAC Naches 91.88 329 P **P 17 03 11.2 +1.0**
SAW Saint Andrews 92.04 330 P **P 17 03 11.6 +0.7**
TBM Table Mountain 92.12 329 P **P 17 03 12.4 +1.0**
WTV Waterville 92.27 330 P **P 17 03 12.6 +0.6**
LON Longmire 92.32 328 *eP* **P 17 03 11.1 -1.2**
LON pmax pmax
comp=Z,29nm,1.0s
LON Longmire 92.32 328 *eP* **P 17 03 11.1 -1.2**
comp=Z,29nm,1.0s
F04D Rainier, OR 92.34 327 ⇓P P 17 03 13.6 +1.3
baz=93
MORF Marmelete 92.35 45 *eP* **P 17 03 13.1 +0.5**
MORF *eS* **SKSac 17 13 46.9 +2.1**
MORF AMS AMS 17 43 52.9
comp=Z,2μm,19.4s
MORF Marmelete 92.35 45 *eP* **P 17 03 13.2 +0.6**
comp=Z,72nm,1.7s
MORF Marmelete 92.35 45 *e*SKS SKSac 17 13 55.3 +11
MORF Marmelete 92.35 45 *eP* **P 17 03 13.1 +0.5**
MORF *eS* **SKSac 17 13 46.9 +2.1**
FFC Flin Flon 92.35 343 *eP* **P 17 03 10.0 -2.1**
FFC pmax pmax
comp=Z,117nm,1.7s
FFC MLR MLR
comp=Z,1μm,20.0s
FFC Flin Flon 92.35 343 *eP* **P 17 03 10.0 -2.1**
comp=Z,117nm,1.7s
FFC LR LR
comp=Z,1μm,20.0s
PBDV Barranco-do-Ve 92.73 46 *eP* **P 17 03 15.6 +1.2**
comp=Z,107nm,1.6s
PBDV Barranco-do-Ve 92.73 46 *e*SKS SKSac 17 13 59.5 +13
TAM Tamanrasset 92.83 64 *eP* **P 17 03 14.2 -1.1**
TAM pmax pmax
comp=Z,74nm,1.4s
TAM Tamanrasset 92.83 64 *eP* **P 17 03 14.2 -1.1**
comp=Z,74nm,1.4s
MESJ Messejana 92.96 45 *eP* **P 17 03 15.7 +0.3**
MESJ *eS* **SKSac 17 13 50.5 +2.5**
MESJ AMS AMS 17 44 21.6
comp=Z,2μm,19.5s
MESJ Messejana 92.96 45 *eP* **P 17 03 16.5 +1.1**
comp=Z,70nm,1.8s
MESJ Messejana 92.96 45 *eP* **P 17 03 15.6 +0.3**
MESJ *eS* **SKSac 17 13 50.5 +2.5**
PNCL Nicolau / Gran 92.96 45 *eP* **P 17 03 15.7 +0.3**
comp=Z,43nm,1.5s
PNCL Nicolau / Gran 92.96 45 *e*SKS SKSac 17 14 01.9 +14
PVAQ Vaqueiros 92.97 46 *eP* **P 17 03 16.1 +0.7**
comp=Z,77nm,1.7s
PVAQ Vaqueiros 92.97 46 *e*SKS SKSac 17 13 55.9 +7.8
PVAQ Vaqueiros 92.97 46 *e*LQ LQ 17 32 10.9
PVAQ *e*LR LR 17 34 25.6
comp=Z,820nm,20.0s
LIS Lisbon 93.01 44 *eP* **P 17 03 15.8 +0.3**
LIS AMS AMS 17 43 44.0
comp=Z,2μm,17.7s
LIS Lisbon 93.01 44 *eP* **P 17 03 15.8 +0.3**
LIS Lisbon 93.01 44 A A 17 43 44.0
comp=Z,2μm,17.7s
LIS Lisbon 93.01 44 *eP* **P 17 03 15.8 +0.3**
PMAFR Mafra 93.09 44 *e*SKS SKSac 17 14 00.5 +12
PMTG Montargil 93.78 44 *eP* **P 17 03 19.7 +0.6**
comp=Z,64nm,1.5s
PMTG Montargil 93.78 44 *e*SKS SKSac 17 14 03.9 +11
PBAR Barrancos 93.88 46 *eP* **P 17 03 20.1 +0.5**
comp=Z,72nm,1.6s
PBAR Barrancos 93.88 46 *e*SKS **SKSac 17 13 49.4 -3.7**
PESTR Estremoz 94.01 45 *eP* **P 17 03 20.9 +0.7**
comp=Z,36nm,1.5s
PESTR Estremoz 94.01 45 *e*SKS SKSac 17 14 01.1 +7.3
PCAS Casmilo, Conde 94.28 43 *e*SKS SKSac 17 14 08.8 +14
EDM Edmonton 94.29 336 *eP* **P 17 03 18.5 -2.6**
EDM Edmonton 94.29 336 *eP* **P 17 03 18.5 -2.6**
PMRV Marv??o 94.50 45 *eP* **P 17 03 22.4 -0.1**
comp=Z,29nm,1.8s
PMRV Marv??o 94.50 45 *e*SKS SKSac 17 14 09.1 +13
PMRV Marv??o 94.50 45 *e*LQ LQ 17 33 30.9
PMRV *e*LR LR 17 35 04.3
comp=Z,1μm,22.0s
FCC Fort Churchill 94.53 349 *eP* **P 17 03 20.2 -1.8**
FCC pmax pmax
comp=Z,2.0nm,0.9s
FCC Fort Churchill 94.53 349 *eP* **P 17 03 20.2 -1.8**
comp=Z,2.3nm,0.9s
MTE Manteigas 95.06 44 *eP* **P 17 03 24.7 -0.3**
comp=Z,28nm,1.1s
MTE Manteigas 95.06 44 *e*SKS SKSac 17 14 16.5 +17
MTE Manteigas 95.06 44 *e*LQ LQ 17 32 57.5
MTE *e*LR LR 17 35 11.3
comp=Z,1μm,22.0s
MTE Manteigas 95.06 44 PFAKE
MTE LR LR 17 03 40.0 +15
comp=Z,2μm,19.0s
PVRL Vila Real 95.54 43 *eP* **P 17 03 27.7 +0.5**
comp=Z,54nm,2.3s
POLO Lamas de Olo 95.56 43 *e*SKS SKSac 17 14 11.4 +9.2
PGAV Gavieira, Arco 95.69 42 *eP* **P 17 03 27.4 -0.5**
comp=Z,47nm,1.7s
PGAV Gavieira, Arco 95.69 42 *e*SKS SKSac 17 14 14.9 +12
PGAV Gavieira, Arco 95.69 42 *e*LQ LQ 17 33 49.5
PGAV *e*LR LR 17 35 31.9
comp=Z,823nm,26.0s
MSVF Nonsavu 95.80 244 PFAKE
MSVF LR LR 17 03 40.0 +11
comp=Z,2μm,20.0s
MVO Moncorvo 95.85 43 *eP* **P 17 03 29.0 +0.3**
comp=Z,52nm,1.8s
MVO Moncorvo 95.85 43 *e*SKS SKSac 17 14 18.0 +14
MVO Moncorvo 95.85 43 *e*LQ LQ 17 33 59.4
MVO *e*LR LR 17 35 43.1
comp=Z,1μm,22.0s
PBRG Braganca 96.44 43 *eP* **P 17 03 31.4 +0.1**
comp=Z,38nm,1.3s
ESDC Sonseca Array 96.68 46 P **P 17 03 31.4 -1.1**
comp=Z,4.2nm,0.8s,baz=241,slow=4.2,SNR=22
ESDC LR LR 17 46 38.5
comp=Z,1μm,18.6s,baz=230,slow=35
FRB Frobisher Bay 97.73 1 P **P 17 03 35.3 -1.1**
comp=Z,2.5nm,0.7s,baz=192,slow=6.5,SNR=5.8
FRB PP **PP 17 07 37.3 +2.2**
comp=Z,4.0nm,0.8s,baz=191,slow=8.5,SNR=3.9
SJPF Ste Jean 100.43 45 *eP* **Pdif 17 03 49.2 +0.1**
comp=Z,47nm,1.1s
SJPF Ste Jean 100.43 45 *eP* **Pdif 17 03 49.2 +0.1**
SJPF pmax pmax
comp=Z,47nm,1.1s
SJPF Ste Jean 100.43 45 *eP* **Pdif 17 03 49.2 +0.1**
comp=Z,47nm,1.1s
ETSF Etsaut 100.69 45 *eP* **Pdif 17 03 50.4 +0.1**
comp=Z,38nm,1.3s
ETSF Etsaut 100.69 45 *eP* **Pdif 17 03 50.4 +0.1**
ETSF pmax pmax
comp=Z,38nm,1.3s
ETSF Etsaut 100.69 45 *eP* **Pdif 17 03 50.4 +0.1**
comp=Z,38nm,1.3s
CAN Canberra 100.91 213 PFAKE
CAN LR LR 17 04 00.0 +8.2
comp=Z,2μm,20.0s
EPF Esparros 101.29 45 *eP* **Pdif 17 03 52.8 -0.2**
EPF Esparros 101.29 45 *eP* **Pdif 17 03 52.8 -0.2**
EPF Esparros 101.29 45 *eP* **Pdif 17 03 52.8 -0.2**
ABPO Ambohimpanom 101.51 122 PFAKE
ABPO LR LR 17 04 10.0 +15

comp=Z,1μm,20.0s
QUIF Quistinic 102.28 40 *eP* **Pdif 17 03 57.5 +0.3**
QUIF Quistinic 102.28 40 *eP* **Pdif 17 03 57.5 +0.3**
QUIF Quistinic 102.28 40 *eP* **Pdif 17 03 57.5 +0.3**
YKA Yellowknife Ar 102.36 341 P **Pdif 17 03 56.5 -0.6**
comp=Z,7.2nm,0.8s,baz=140,slow=4.3,SNR=121
YKA PP **PP 17 08 09.0 -1.3**
comp=Z,8.8nm,1.1s,baz=138,slow=7.8,SNR=6.7
YKA PKKPbc **PKKPbc 17 19 57.7 -2.8**
comp=Z,1.0nm,0.9s,baz=324,slow=3.8,SNR=9.2
ROSF Rostrenen 102.48 40 *eP* **Pdif 17 03 58.5 +0.4**
ROSF Rostrenen 102.48 40 *eP* **Pdif 17 03 58.5 +0.4**
ROSF Rostrenen 102.48 40 *eP* **Pdif 17 03 58.5 +0.4**
MTLF Montolieu 102.59 46 *eP* **Pdif 17 03 57.4 -1.3**
comp=Z,46nm,1.5s
MTLF Montolieu 102.59 46 *eP* **Pdif 17 03 57.4 -1.3**
MTLF pmax pmax
comp=Z,47nm,1.5s
MTLF Montolieu 102.59 46 *eP* **Pdif 17 03 57.4 -1.3**
comp=Z,46nm,1.5s
LFF La Frestale 102.65 44 *eP* **Pdif 17 03 58.6 -0.3**
LFF La Frestale 102.65 44 *eP* **Pdif 17 03 58.6 -0.3**
LFF La Frestale 102.65 44 *eP* **Pdif 17 03 58.6 -0.3**
SGMF Saint Gilles 102.81 40 *eP* **Pdif 17 03 59.8 +0.3**
comp=Z,82nm,1.4s
SGMF Saint Gilles 102.81 40 *eP* **Pdif 17 03 59.8 +0.3**
SGMF pmax pmax
comp=Z,82nm,1.4s
SGMF Saint Gilles 102.81 40 *eP* **Pdif 17 03 59.8 +0.3**
comp=Z,82nm,1.4s
MFF Saint Martin d 103.13 42 *eP* **Pdif 17 04 00.5 -0.5**
comp=Z,70nm,1.5s
MFF Saint Martin d 103.13 42 *eP* **Pdif 17 04 00.5 -0.5**
MFF pmax pmax
comp=Z,70nm,1.5s
MFF Saint Martin d 103.13 42 *eP* **Pdif 17 04 00.5 -0.5**
comp=Z,70nm,1.5s
RJF Les Rejaudoux 103.31 44 *eP* **Pdif 17 04 01.3 -0.6**
comp=Z,56nm,1.5s
RJF *e*R
comp=Z,3μm,19.8s
RJF Les Rejaudoux 103.31 44 *eP* **Pdif 17 04 01.3 -0.6**
RJF pmax pmax
comp=Z,56nm,1.5s
RJF Les Rejaudoux 103.31 44 *eP* **Pdif 17 04 01.3 -0.6**
comp=Z,56nm,1.5s
CAF Calviac 103.41 45 *eP* **Pdif 17 04 02.1 -0.3**
comp=Z,38nm,1.3s
CAF Calviac 103.41 45 *eP* **Pdif 17 04 02.1 -0.3**
CAF pmax pmax
comp=Z,38nm,1.3s
CAF Calviac 103.41 45 *eP* **Pdif 17 04 02.1 -0.3**
comp=Z,38nm,1.3s
GRR Gorron 103.80 40 *eP* **Pdif 17 04 02.8 -1.1**
GRR Gorron 103.80 40 *eP* **Pdif 17 04 02.8 -1.1**
GRR Gorron 103.80 40 *eP* **Pdif 17 04 02.8 -1.1**
LASF Ste Croix 103.98 46 *eP* **Pdif 17 04 04.5 -0.4**
LASF Ste Croix 103.98 46 *eP* **Pdif 17 04 04.5 -0.4**
TCF Toulx Ste Croi 104.28 43 *eP* **Pdif 17 04 05.5 -0.7**
comp=Z,44nm,1.6s
TCF Toulx Ste Croi 104.28 43 *eP* **Pdif 17 04 05.5 -0.7**
TCF pmax pmax
comp=Z,44nm,1.6s
TCF Toulx Ste Croi 104.28 43 *eP* **Pdif 17 04 05.5 -0.7**
comp=Z,44nm,1.6s
DLBC Dease Lake 104.29 333 Pdiff **Pdif 17 04 05.7 -0.3**
comp=Z,5.7nm,1.1s,baz=209,slow=2.2,SNR=3.6
DLBC PP **PP 17 08 24.1 -0.9**
comp=Z,10nm,1.1s,baz=202,slow=3.0,SNR=4.6
LDF La Druitiere 104.31 41 *eP* **Pdif 17 04 05.3 -0.9**
LDF La Druitiere 104.31 41 *eP* **Pdif 17 04 05.3 -0.9**
LDF La Druitiere 104.31 41 *eP* **Pdif 17 04 05.3 -0.9**
BGF Bois d'Agland 104.79 44 *eP* **Pdif 17 04 07.7 -0.7**
comp=Z,56nm,1.4s
BGF Bois d'Agland 104.79 44 *eP* **Pdif 17 04 07.7 -0.7**
BGF pmax pmax
comp=Z,57nm,1.4s
BGF Bois d'Agland 104.79 44 *eP* **Pdif 17 04 07.7 -0.7**
comp=Z,56nm,1.4s
VIVF Saint-Julien-l 104.90 46 *eP* **Pdif 17 04 09.1 +0.1**
VIVF Saint-Julien-l 104.90 46 *eP* **Pdif 17 04 09.1 +0.1**
VIVF Saint-Julien-l 104.90 46 *eP* **Pdif 17 04 09.1 +0.1**
KMBO Kilima Mbogo 105.10 102 PFAKE 17 08 40.0
KMBO LR LR
comp=Z,2μm,19.0s
LMR La Mourre 105.18 48 *eP* **Pdif 17 04 09.6 -0.6**
LMR La Mourre 105.18 48 *eP* **Pdif 17 04 09.6 -0.6**
LMR La Mourre 105.18 48 *eP* **Pdif 17 04 09.6 -0.6**
AVF Avril sur Loir 105.21 44 *eP* **Pdif 17 04 09.7 -0.5**
comp=Z,38nm,1.4s
AVF Avril sur Loir 105.21 44 *eP* **Pdif 17 04 09.7 -0.5**
AVF pmax pmax
comp=Z,38nm,1.4s
AVF Avril sur Loir 105.21 44 *eP* **Pdif 17 04 09.7 -0.5**
comp=Z,38nm,1.4s
FRF La Foret Royal 105.39 48 *eP* **Pdif 17 04 11.4 +0.3**
comp=Z,17nm,0.9s
FRF La Foret Royal 105.39 48 *eP* **Pdif 17 04 11.4 +0.3**
FRF pmax pmax
comp=Z,17nm,0.9s
FRF La Foret Royal 105.39 48 *eP* **Pdif 17 04 11.4 +0.3**
comp=Z,17nm,0.9s
SMF Signal de Mont 105.41 44 *eP* **Pdif 17 04 10.9 -0.3**
comp=Z,46nm,1.4s
SMF Signal de Mont 105.41 44 *eP* **Pdif 17 04 10.9 -0.3**
SMF pmax pmax
comp=Z,47nm,1.4s
SMF Signal de Mont 105.41 44 *eP* **Pdif 17 04 10.9 -0.3**
comp=Z,46nm,1.4s
SSF Saint Saulge 105.45 43 *eP* **Pdif 17 04 10.6 -0.7**
comp=Z,27nm,1.2s
SSF Saint Saulge 105.45 43 *eP* **Pdif 17 04 10.6 -0.7**
SSF pmax pmax
comp=Z,27nm,1.2s
SSF Saint Saulge 105.45 43 *eP* **Pdif 17 04 10.6 -0.7**
comp=Z,27nm,1.2s
ORIF Oris-en-Rattie 105.66 46 *eP* **Pdif 17 04 12.0 -0.4**
comp=Z,34nm,1.4s
ORIF *e*R
comp=Z,2μm,21.0s
ORIF Oris-en-Rattie 105.66 46 *eP* **Pdif 17 04 12.0 -0.4**
ORIF pmax pmax
comp=Z,35nm,1.4s
ORIF Oris-en-Rattie 105.66 46 *eP* **Pdif 17 04 12.0 -0.4**
comp=Z,34nm,1.4s
LOR Lormes 105.76 43 *eP* **Pdif 17 04 13.4 +0.7**
comp=Z,19nm,1.0s
LOR *e*R
comp=Z,3μm,20.8s
LOR Lormes 105.76 43 *eP* **Pdif 17 04 13.4 +0.7**
LOR pmax pmax
comp=Z,19nm,1.0s
LOR Lormes 105.76 43 *eP* **Pdif 17 04 13.4 +0.7**
comp=Z,19nm,1.0s
MBDF Montbardon 106.09 47 *eP* **Pdif 17 04 14.8 +0.4**
comp=Z,13nm,1.1s
MBDF Montbardon 106.09 47 *eP* **Pdif 17 04 14.8 +0.4**
MBDF pmax pmax
comp=Z,13nm,1.1s
MBDF Montbardon 106.09 47 *eP* **Pdif 17 04 14.8 +0.4**
comp=Z,13nm,1.1s
BNI Bardonecchia 106.21 46 PFAKE 17 08 40.0
BNI LR LR
comp=Z,2μm,20.0s
BORG Borgarnes 106.31 20 PFAKE 17 08 40.0
BORG LR LR
comp=Z,1μm,20.0s
PGF Pioggiola 106.31 49 *eP* **Pdif 17 04 15.9 +0.5**
comp=Z,44nm,1.1s
PGF Pioggiola 106.31 49 *eP* **Pdif 17 04 15.9 +0.5**
PGF pmax pmax
comp=Z,44nm,1.1s
PGF Pioggiola 106.31 49 *eP* **Pdif 17 04 15.9 +0.5**
comp=Z,44nm,1.1s
LPL La Plagne 106.48 46 *eP* **Pdif 17 04 16.7 +0.4**
comp=Z,17nm,1.1s
LPL La Plagne 106.48 46 *eP* **Pdif 17 04 16.7 +0.4**
LPL pmax pmax
comp=Z,17nm,1.1s
LPL La Plagne 106.48 46 *eP* **Pdif 17 04 16.7 +0.4**
comp=Z,17nm,1.1s
LPG La Plagne 106.49 46 *eP* **Pdif 17 04 15.3 -1.0**
comp=Z,15nm,1.2s
LPG La Plagne 106.49 46 *eP* **Pdif 17 04 15.3 -1.0**
LPG pmax pmax
comp=Z,15nm,1.2s

LPG	**La Plagne**	**106.49**	**46**	*e*P	**Pdif**	**17 04 15.3**	**-1.0**
	comp=Z,15nm,1.2s						
CABF	**La Chapelle**	**106.69**	**45**	*e*P	**Pdif**	**17 04 17.0**	**0.0**
CABF	**La Chapelle**	**106.69**	**45**	*e*P	**Pdif**	**17 04 17.0**	**0.0**
CABF	**La Chapelle**	**106.69**	**45**	*e*P	**Pdif**	**17 04 17.0**	**0.0**
ESK	**Eskdalemuir**	**106.73**	**34**	PFAKE		17 08 40.0	
ESK				LR	LR		
	comp=Z,2μm,19.0s						
STKA	**Stephens Creek**	**107.04**	**209**	PKKPab	PKKPab	17 19 58.6	-4.9
	comp=Z,4.8nm,0.8s,baz=333,slow=4.3,SNR=8.1						
ECH	**Echery**	**108.15**	**44**	PFAKE		17 08 40.0	
ECH				LR	LR		
	comp=Z,1μm,20.0s						
CDF	**Champ du Feu**	**108.32**	**44**	*e*P	**Pdif**	**17 04 23.7**	**-0.5**
CDF	**Champ du Feu**	**108.32**	**44**	*e*P	**Pdif**	**17 04 23.7**	**-0.5**
CDF	**Champ du Feu**	**108.32**	**44**	*e*P	**Pdif**	**17 04 23.7**	**-0.5**
CEL	**Celeste**	**108.69**	**56**	PFAKE		17 08 40.0	
CEL				LR	LR		
	comp=Z,5μm,19.0s						
BFO	**Black Forest**	**108.88**	**44**	PFAKE		17 08 40.0	
BFO				LR	LR		
	comp=Z,1μm,19.0s						
AQU	**L'Aquila**	**109.02**	**51**	PFAKE		17 08 40.0	
AQU				LR	LR		
	comp=Z,2μm,19.0s						
CUC	**Castrocucco**	**109.47**	**55**	PFAKE		17 08 40.0	
CUC				LR	LR		
	comp=Z,1μm,21.0s						
FETA	**Feichten**	**109.64**	**46⇑**	*i*PKiKP	**PKiKP**	**17 08 33.3**	**+0.4**
	comp=Z,12nm,1.3s						
RES	**Resolute Bay**	**109.75**	**354**	PKiKP	**PKiKP**	**17 08 31.8**	**-0.3**
	comp=Z,0.9nm,0.2s,baz=304,slow=6.2,SNR=4.1						
INK	**Inuvik**	**111.97**	**339**	Pdiff	**Pdif**	**17 04 39.3**	**-0.4**
	comp=Z,5.4nm,1.1s,baz=107,slow=5.3,SNR=8.2						
INK				PKiKP	**PKiKP**	**17 08 35.4**	**-1.0**
	comp=Z,3.9nm,1.0s,baz=122,slow=1.9,SNR=5.6						
INK				PP	**PP**	**17 09 21.1**	**+0.4**
	comp=Z,12nm,1.1s,baz=133,slow=7.5,SNR=6.0						
INK				PKKPbc	**PKKPbc**	**17 19 29.1**	**-1.1**
	comp=Z,6.7nm,1.1s,baz=278,slow=1.4,SNR=9.2						
GERES	**GERESS Array B**	**112.26**	**45**	PKiKP	**PKiKP**	**17 08 37.5**	**-0.2**
	comp=Z,6.4nm,1.0s,baz=204,slow=1.3,SNR=25						
GERES				PKKPbc	**PKKPbc**	**17 19 29.0**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=62,slow=3.2,SNR=6.8						
KHC	**Kasperske Hory**	**112.32**	**45**	*e*PKIKP	**PKiKP**	**17 08 37.7**	**0.0**
KHC				MLR	MLR		
	comp=Z,1μm,16.3s						
KHC	**Kasperske Hory**	**112.32**	**45**	*e*PKP		17 08 37.7	
KHC				AMS	AMS	17 55 50.0	
	comp=Z,1μm,16.3s						
EGAK	**Eagle**	**112.39**	**334**	PFAKE		17 08 50.0	
EGAK				LR	LR		
	comp=Z,1μm,19.0s						
CLL	**Collm**	**112.96**	**43⇑**	*i*PKIKP	**PKiKP**	**17 08 39.4**	**+0.6**
CLL				*e*		17 08 45.0	
CLL				*e*		17 09 27.0	
CLL				pmax	pmax		
	comp=Z,18nm,1.2s						
CLL				pmax	pmax		
	comp=Z,25nm,1.7s						
CLL				MLR	MLR		
	comp=Z,1μm,20.1s						
CLL	**Collm**	**112.96**	**43⇑**	*i*PKiKP	**PKiKP**	**17 08 39.4**	**+0.6**
	comp=Z,18nm,1.2s						
CLL				*e*		17 08 45.0	
CLL				*e*PP	**PP**	**17 09 27.0**	**-1.2**
CLL				*e*Sdif	Sdif	17 17 12.0	+3.8
CLL				*e*PS	**PS**	**17 19 07.0**	**+4.0**
CLL				*e*PKKPbc	**PKKPbc**	**17 19 27.0**	**+0.5**
CLL				*e*PKKPab	**PKKPab**	**17 19 34.0**	**+2.6**
	comp=Z,25nm,1.7s						
CLL				*e*PKKPdf	**PKKPdf**	**17 19 47.0**	**-0.8**
CLL				*e*PPS	PPS	17 20 14.0	
CLL				*e*		17 20 39.0	
CLL				*e*SS	**SS**	**17 25 10.0**	**-0.8**
CLL				*e*SSS	SSS	17 29 20.0	
CLL				*e*SSSS		17 32 42.0	
CLL				Lm	MLR	17 53 00.0	
	comp=N,500nm,21.4s						
CLL				Lm	MLR	17 53 00.0	
	comp=E,1μm,20.6s						
CLL				Lm	MLR	17 53 00.0	
	comp=Z,1μm,20.1s						
CONA	**Conrad Observa**	**113.14**	**47⇑**	*i*PKiKP	**PKiKP**	**17 08 39.6**	**+0.2**
	comp=Z,7.2nm,1.0s						
PRU	**Pruhonice**	**113.26**	**45**	*e*PKIKP	**PKiKP**	**17 08 39.4**	**0.0**
PRU				MLR	MLR		
	comp=Z,1μm,22.3s						
PRU	**Pruhonice**	**113.26**	**45**	*e*PKP	**PKiKP**	**17 08 39.4**	**0.0**
PRU				*e*PP	**PP**	**17 09 26.0**	**-4.4**
PRU				AMS	AMS	17 56 40.0	
	comp=Z,1μm,22.3s						
BRG	**Berggiesshubel**	**113.30**	**43**	*e*PKP	**PKiKP**	**17 08 40.0**	**+0.6**
	comp=Z,12nm,1.1s						
BRG				*e*PP	**PP**	**17 09 29.6**	**-1.1**
	comp=Z,24nm,1.7s						
BRG				PS	**PS**	**17 19 11.0**	**+4.8**
BRG				SS	SS	17 25 07.0	-8.3
BRG	**Berggiesshubel**	**113.30**	**43**	*e*PKIKP	**PKiKP**	**17 08 40.0**	**+0.6**
BRG				*e*		17 09 29.6	
BRG				PS	**PS**	**17 19 11.0**	**+4.8**
BRG				SS	SS	17 25 07.0	-8.3
BRG				pmax	pmax		
	comp=Z,12nm,1.1s						
BRG				pmax	pmax		
	comp=Z,24nm,1.7s						
BRG				MLR	MLR		
	comp=N,1μm,20.8s						
BRG				MLR	MLR		
	comp=E,872nm,19.4s						
BRG				MLR	MLR		
	comp=Z,2μm,18.6s						
PVCC	**Panska Ves**	**113.51**	**44**	*e*PKIKP	**PKiKP**	**17 08 40.6**	**+0.7**
PVCC				MLR	MLR		
	comp=Z,1μm,17.1s						
PVCC	**Panska Ves**	**113.51**	**44**	*e*PKP	**PKiKP**	**17 08 40.6**	**+0.7**
PVCC				AMS	AMS	17 56 50.0	
	comp=Z,1μm,17.1s						
TREC	**Trest**	**113.51**	**45**	*e*PKIKP	**PKiKP**	**17 08 40.5**	**+0.5**
TREC				MLR	MLR		
	comp=Z,1μm,17.0s						
TREC	**Trest**	**113.51**	**45**	*e*PKP	**PKiKP**	**17 08 40.5**	**+0.5**
TREC				AMS	AMS	18 04 50.0	
	comp=Z,1μm,17.0s						
KDAK	**Kodiak Island**	**113.68**	**325**	PFAKE		17 08 50.0	
KDAK				LR	LR		
	comp=Z,1μm,21.0s						
UPC	**Upice**	**114.33**	**44**	*e*PKIKP	PKPdf	17 08 42.1	+0.6
UPC	**Upice**	**114.33**	**44**	*e*PKP	PKPdf	17 08 42.1	+0.6
DPC	**Dobruska-Polom**	**114.45**	**45**	*e*PKIKP	PKPdf	17 08 42.4	+0.7
DPC	**Dobruska-Polom**	**114.45**	**45**	*e*PKP	PKPdf	17 08 42.4	+0.7
DPC				AMS	AMS	17 57 50.0	
ILAR	**Eielson Array**	**114.50**	**333**	PKP	PKPdf	17 08 40.9	-0.5
	comp=Z,5.3nm,0.9s,baz=178,slow=1.2,SNR=36						
ILAR				PP	**PP**	**17 09 39.4**	**+0.6**
	comp=Z,5.1nm,1.0s,baz=114,slow=4.8,SNR=7.7						
ILAR				PKKPbc	**PKKPbc**	**17 19 19.6**	**-2.1**
	comp=Z,1.1nm,0.9s,baz=289,slow=4.3,SNR=5.8						
COP	**Copenhagen**	**114.56**	**38**	*i*PKIKP	PKPdf	17 08 42.3	+0.7
COP				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KRLC	**Kraliky**	**114.60**	**45**	*e*PKIKP	PKPdf	17 08 42.9	+0.9
KRLC	**Kraliky**	**114.60**	**45**	*e*PKP	PKPdf	17 08 42.9	+0.9
KSP	**Ksiaz**	**114.64**	**44**	*i*PKIKP	PKPdf	17 08 42.9	+0.9
KSP				*e*		17 09 39.0	
KSP				*e*SP	SP	17 19 19.0	+3.6
KSP				*e*PPS	PPS	17 20 38.5	
KSP				MLR	MLR		
	comp=Z,11μm,20.5s						
KSP	**Ksiaz**	**114.64**	**44**	*e*PKP	PKPdf	17 08 42.6	+0.6
KONO	**Kongsberg**	**114.88**	**34**	PFAKE		17 08 50.0	+7.8
KONO				LR	LR		
	comp=Z,1μm,21.0s						
CTAO	**Charters Tower**	**114.88**	**220**	PFAKE		17 09 00.0	+16
CTAO				LR	LR		
	comp=Z,1μm,19.0s						
COLA	**College**	**114.91**	**333***c*	*i*PKIKP	PKPdf	17 08 41.7	-0.4
COLA	**College**	**114.91**	**333**	PFAKE		17 08 50.0	+7.9
COLA				LR	LR		
	comp=Z,1μm,20.0s						
MORC	**Moravsky Berou**	**114.93**	**46**	⇑PKIKP	PKPdf	17 08 43.3	+0.6
MORC	**Moravsky Berou**	**114.93**	**46⇑**	*i*P	PKPdf	17 08 43.3	+0.6
VYHS	**Vyhne**	**115.19**	**47**	*e*PKIKP	**PKPdf**	**17 08 43.3**	**+0.1**
VYHS	**Vyhne**	**115.19**	**47**	*e*PKP	**PKPdf**	**17 08 43.3**	**+0.1**
KKB	**Krupnik**	**115.24**	**55**	*e*P	**PKPdf**	**17 08 41.5**	**-2.0**
OKC	**Ostrava-Krasne**	**115.31**	**46**	*e*PKIKP	**PKPdf**	**17 08 44.3**	**+1.0**
OKC				MLR	MLR		
	comp=Z,1μm,16.7s						
OKC	**Ostrava-Krasne**	**115.31**	**46**	*e*PKP	**PKPdf**	**17 08 44.3**	**+1.0**
OKC				AMS	AMS	18 03 10.0	
	comp=Z,1μm,16.7s						
DAG	**Danmarks Havn**	**115.56**	**12**	*i* P	**PKPdf**	**17 08 42.3**	**-0.8**
	comp=Z,4.5nm,0.9s						
VTS	**Vitosha**	**115.62**	**55**	⇑PKIKP	**PKPdf**	**17 08 45.3**	**+0.9**
VTS	**Vitosha**	**115.62**	**55⇑**	*i*P	**PKPdf**	**17 08 45.3**	**+0.9**
VTS	**Vitosha**	**115.62**	**55**	*e*P	**PKPdf**	**17 08 43.0**	**-1.4**
BZS	**Buzias**	**115.78**	**51**	⇓PKIKP	**PKPdf**	**17 08 43.9**	**-0.5**
BZS	**Buzias**	**115.78**	**51⇓**	*i*P	**PKPdf**	**17 08 43.9**	**-0.5**
GKP	**Gorka Klasztor**	**116.14**	**42**	*e*PKIKP	**PKPdf**	**17 08 44.4**	**-0.4**
GKP	**Gorka Klasztor**	**116.14**	**42**	*e*PKP	**PKPdf**	**17 08 44.4**	**-0.4**
NB2	**NORSAR Subarra**	**116.19**	**33**	PKPdf	**PKPdf**	**17 08 44.1**	**-0.6**
	comp=Z,13nm,1.2s,baz=248,slow=1.9						
NB2	**NORSAR Subarra**	**116.19**	**33**	PKPdf	**PKPdf**	**17 08 44.1**	**-0.6**
	baz=248,slow=1.9						
NOA	**NORSAR Array B**	**116.19**	**33**	PKP	**PKPdf**	**17 08 43.8**	**-0.9**
	comp=Z,4.5nm,0.9s,baz=252,slow=2.0,SNR=8.7						
NOA				PKKPbc	**PKKPab**	**17 19 18.0**	**+1.2**
	comp=Z,7.1nm,0.9s,baz=69,slow=4.4,SNR=16						
MPEP	**Malo Peshtene**	**116.28**	**54**	*e*P	**PKPdf**	**17 08 44.5**	**-0.9**
GZR	**Gura Zlata**	**116.44**	**52**	⇓PKIKP	**PKPdf**	**17 08 45.6**	**-0.2**
GZR	**Gura Zlata**	**116.44**	**52⇓**	*i*P	**PKPdf**	**17 08 45.6**	**-0.2**
COLD	**Coldfoot**	**116.81**	**335**	*e*PKPdf	**PKPdf**	**17 08 46.0**	**+0.2**
DRGR		**116.93**	**50**	⇓PKIKP	**PKPdf**	**17 08 46.7**	**0.0**
DRGR		**116.93**	**50⇓**	*i*P	**PKPdf**	**17 08 46.7**	**0.0**
HFS	**Hagfors**	**116.96**	**34**	PKKPbc	PKKPbc	17 19 14.9	+2.1
	comp=Z,15nm,1.0s,baz=83,slow=4.6,SNR=13						
STHS	**Stebnicka Huta**	**117.01**	**47**	*e*PKIKP	**PKPdf**	**17 08 47.1**	**+0.4**
STHS	**Stebnicka Huta**	**117.01**	**47**	*e*PKP	**PKPdf**	**17 08 47.1**	**+0.4**
MSEY	**Mahe Island**	**117.10**	**117**	PFAKE		17 09 00.0	+12
MSEY				LR	LR		
	comp=Z,1μm,19.0s						
TRPA	**Tarpa**	**117.33**	**49⇓**	*i*P	**PKPdf**	**17 08 47.4**	**+0.2**
UZH	**Uzhgorod**	**117.36**	**48**	*i* PKIKP	**PKPdf**	**17 08 47.1**	**-0.2**
UZH				*e*		17 08 55.9	
UZH				*e*		17 09 55.7	
UZH				*e*PPP	PPP	17 12 38.9	
UZH				*e*		17 19 33.9	
UZH				*e*		17 19 46.7	
UZH				*e*SS	SS	17 26 02.7	-5.9
UZH				MLR	MLR		
	comp=N,300nm,17.0s						
UZH				MLR	MLR		
	comp=E,1μm,17.0s						
UZH				MLR	MLR		
	comp=Z,400nm,17.0s						
ASAR	**Alice Springs**	**117.38**	**207**	PKP	**PKPdf**	**17 08 47.0**	**-1.4**
	comp=Z,6.6nm,0.9s,baz=150,slow=2.1,SNR=38						
ASAR				PP	**PP**	**17 10 00.8**	**+2.4**
	comp=Z,2.0nm,0.9s,baz=162,slow=4.7,SNR=5.1						
ASAR				PKKPbc	**PKKPbc**	**17 19 10.8**	**0.0**
	comp=Z,4.4nm,0.9s,baz=337,slow=3.2,SNR=30						
ASAR				SKKPbc	SKKPbc	17 22 42.5	-11
	comp=Z,3.0nm,1.1s,baz=359,slow=3.7,SNR=5.7						
AS31	**Alice Springs**	**117.38**	**207**	*e*PKPdf	**PKPdf**	**17 08 46.9**	**-1.4**
KOLS	**Kolonicke sedl**	**117.46**	**48**	*e*PKIKP	**PKPdf**	**17 08 47.7**	**+0.2**
KOLS	**Kolonicke sedl**	**117.46**	**48**	*e*PKP	**PKPdf**	**17 08 47.7**	**+0.2**
ARR	**Arges**	**117.64**	**52**	⇓*i*P	**PKPdf**	**17 08 48.0**	**-0.1**
JMB	**Yambol**	**117.86**	**56**	⇑PKIKP	**PKPdf**	**17 08 49.5**	**+1.0**
JMB	**Yambol**	**117.86**	**56⇑**	*i*P	**PKPdf**	**17 08 49.5**	**+1.0**
JMB	**Yambol**	**117.86**	**56**	*e*P	**PKPdf**	**17 08 48.2**	**-0.3**
VOIR		**117.94**	**52**	⇓PKIKP	**PKPdf**	**17 08 49.5**	**+0.8**
VOIR		**117.94**	**52⇓**	*i*P	**PKPdf**	**17 08 49.5**	**+0.8**
KWP	**Kalwaria Pacla**	**117.97**	**47**	⇓PKIKP	**PKPdf**	**17 08 49.5**	**+1.0**
KWP	**Kalwaria Pacla**	**117.97**	**47**	*e*PKP	**PKPdf**	**17 08 49.1**	**+0.6**
KWP	**Kalwaria Pacla**	**117.97**	**47⇓**	*i*P	**PKPdf**	**17 08 49.5**	**+1.0**
KWP	**Kalwaria Pacla**	**117.97**	**47**	*e*PKPdf	**PKPdf**	**17 08 49.3**	**+0.8**
KWP				LR	LR		
	comp=Z,1μm,20.0s						
DOPR	**Dopca**	**118.35**	**52⇓**	*i*P	**PKPdf**	**17 08 49.2**	**-0.2**
MLR	**Muntele Rosu**	**118.55**	**52**	⇑PKIKP	**PKPdf**	**17 08 49.9**	**0.0**
MLR	**Muntele Rosu**	**118.55**	**52⇑**	*i*P	**PKPdf**	**17 08 49.9**	**0.0**
PRD	**Provadia**	**118.69**	**55**	*e*P	**PKPdf**	**17 08 49.2**	**-0.8**
TVSB	**Tavsanli**	**118.75**	**60**	*e*P	**PKPdf**	**17 08 50.5**	**0.0**
BURAR	**Bucovina Array**	**118.82**	**50**	⇓PKIKP	**PKPdf**	**17 08 50.7**	**+0.4**
BURAR	**Bucovina Array**	**118.82**	**50⇓**	*i*P	**PKPdf**	**17 08 50.7**	**+0.4**
LVV	**L'vov**	**118.84**	**47**	*e*PKIKP	**PKPdf**	**17 08 49.6**	**-0.5**
ISP	**Isparta**	**118.90**	**62**	PFAKE		17 09 00.0	+9.2
ISP				LR	LR		
	comp=Z,1μm,22.0s						
PLOR	**Plostina**	**119.14**	**52**	⇓PKIKP	**PKPdf**	**17 08 50.3**	**-0.6**
PLOR	**Plostina**	**119.14**	**52⇓**	*i*P	**PKPdf**	**17 08 50.3**	**-0.6**
VRI	**Vrincioaia**	**119.19**	**52**	⇑PKIKP	**PKPdf**	**17 08 50.5**	**-0.5**
VRI	**Vrincioaia**	**119.19**	**52⇑**	*i*P	**PKPdf**	**17 08 50.5**	**-0.5**
CAVI	**Cavuskoy**	**119.30**	**59**	*e*P	**PKPdf**	**17 08 51.1**	**-0.3**
ADVT	**Abdulvahap**	**119.31**	**59**	*e*P	**PKPdf**	**17 08 51.1**	**-0.2**
TESR	**Tescani**	**119.36**	**52⇓**	*i*P	**PKPdf**	**17 08 50.8**	**-0.5**
SUW	**Suwalki**	**119.72**	**43**	*e*PKIKP	**PKPdf**	**17 08 51.2**	**-0.5**
SUW	**Suwalki**	**119.72**	**43**	*e*PKP	**PKPdf**	**17 08 51.1**	**-0.6**
SUW	**Suwalki**	**119.72**	**43**	*e*PKPdf	**PKPdf**	**17 08 51.6**	**-0.1**
TIRR	**Tirgusor**	**119.82**	**54**	⇓PKIKP	**PKPdf**	**17 08 52.1**	**-0.1**
TIRR	**Tirgusor**	**119.82**	**54⇓**	*i*P	**PKPdf**	**17 08 52.0**	**-0.1**
TIRR	**Tirgusor**	**119.82**	**54**	*e*PKPdf	**PKPdf**	**17 08 51.9**	**-0.3**
CFR	**Carcaliu**	**119.89**	**53**	⇓PKIKP	**PKPdf**	**17 08 52.2**	**-0.1**
CFR	**Carcaliu**	**119.89**	**53⇓**	*i*P	**PKPdf**	**17 08 52.2**	**-0.1**
CSS	**Prodhromos**	**119.89**	**66**	*e*P	**PKPdf**	**17 08 53.6**	**+0.9**
CSS	**Prodhromos**	**119.89**	**66**	*e*PKPdf	**PKPdf**	**17 08 52.8**	**+0.1**
SVRH	**Sivrihisar-ESK**	**120.23**	**61**	*e*P	**PKPdf**	**17 08 54.3**	**+1.0**
KONT	**Konya--Tatoy**	**120.29**	**63**	*e*P	**PKPdf**	**17 08 54.3**	**+0.9**
LADK	**Ladik-KONYA**	**120.39**	**62**	*e*P	**PKPdf**	**17 08 54.3**	**+0.7**
WRA	**Warramunga Arr**	**120.58**	**209**	PKP	**PKPdf**	**17 08 53.4**	**-1.2**
	comp=Z,15nm,0.9s,baz=159,slow=1.7,SNR=73						
WRA				PKKPbc	**PKKPbc**	**17 19 00.0**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=343,slow=4.1,SNR=14						
WRAB	**Tennant Creek**	**120.58**	**209***d*	*i*PKIKP	**PKPdf**	**17 08 53.7**	**-0.9**
WRAB	**Tennant Creek**	**120.58**	**209**	*e*PKPdf	**PKPdf**	**17 08 53.6**	**-0.9**
MMAI	**Mount Meron Ar**	**120.72**	**69**	PKKPbc	PKKPbc	17 19 01.7	+3.1
	comp=Z,3.1nm,0.9s,baz=20,slow=9.8,SNR=5.0						
KIS	**Kishinev**	**120.93**	**52**	*e*P	**Pdif**	**17 05 23.0**	**+2.9**
KIS				*i*		17 08 54.0	
KIS				*e*		17 10 20.0	
KIS				pmax	pmax		
	comp=Z,200nm,1.0s						
KIS				MLR	MLR		
	comp=Z,3μm,24.0s						
KIS				MLR	MLR		
	comp=E,700nm,22.0s						
KIS				MLR	MLR		
	comp=Z,1μm,24.0s						
KIS	**Kishinev**	**120.93**	**52**	*e*P	**Pdif**	**17 05 23.0**	**+2.9**
KIS	**Kishinev**	**120.93**	**52**	*i* PKP	**PKPdf**	**17 08 54.0**	**-0.2**
KIS				M	M	17 08 54.5	
	comp=Z,200nm,1.0s						
KIS	**Kishinev**	**120.93**	**52**	*e*PP	PP	17 10 20.0	-4.0
KIS	**Kishinev**	**120.93**	**52**	*e*PS	PS	17 20 23.0	+7.5
KIS				LRM	MLR	17 58 44.0	
	comp=Z,1μm,24.0s						
LOD	**Lodumlu**	**121.28**	**61**	*e*P	**PKPdf**	**17 08 56.2**	**+0.9**
ANTO	**Ankara**	**121.30**	**61**	*e*P	**PKPdf**	**17 08 57.4**	**+2.1**
ANTO	**Ankara**	**121.30**	**61**	*e*PKIKP	**PKPdf**	**17 08 55.7**	**+0.4**
ANTO	**Ankara**	**121.30**	**61**	PKPdf	**PKPdf**	**17 08 56.6**	**+1.3**
SNR=6.3							
ANTO	**Ankara**	**121.30**	**61**	*e*PKPdf	**PKPdf**	**17 08 55.7**	**+0.4**
AFSR	**Af'ar-Bala (A**	**121.35**	**61**	*e*P	**PKPdf**	**17 08 56.4**	**+1.0**
MERS	**Mersin**	**121.50**	**64**	*e*P	**PKPdf**	**17 08 56.3**	**+0.5**
BRTR	**Keskin Array B**	**121.86**	**61***c*	*i*PKIKP	**PKPdf**	**17 08 56.0**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,13nm,0.9s						
BRTR	**Keskin Array B**	**121.86**	**61**	PKP	**PKPdf**	**17 08 56.0**	**-0.5**
	comp=Z,12nm,0.9s,baz=190,slow=3.1,SNR=57						
NACGM	**Naroch**	**121.99**	**42**	*e*	**PKPdf**	**17 08 53.0**	**-3.0**
KARA	**Karaisali**	**122.04**	**64**	*e*P	**PKPdf**	**17 08 57.3**	**+0.6**
KBS	**Kingsbay**	**122.20**	**13**	PFAKE		17 09 10.0	+14
KBS				LR	LR		
	comp=Z,1μm,20.0s						
KIEV	**Kiev**	**122.27**	**48***d*	*i*PKIKP	**PKPdf**	**17 08 55.8**	**-0.9**
KIEV	**Kiev**	**122.27**	**48**	*e*PKPdf	**PKPdf**	**17 08 55.9**	**-0.9**
KIEV				LR	LR		
	comp=Z,2μm,20.0s						
AKASG	**Malin Array Be**	**122.29**	**48**	PKP	**PKPdf**	**17 08 55.4**	**-1.4**
	comp=Z,16nm,0.8s,baz=270,slow=2.6,SNR=35						
AKASG				PP	PP	17 10 27.8	-5.3
	comp=Z,8.6nm,1.1s,baz=251,slow=7.9,SNR=4.7						
MNK	**Minsk**	**122.47**	**43⇑**	*e*PKIKP	**PKPdf**	**17 08 55.0**	**-2.0**
MNK				pmax	pmax		
	comp=Z,260nm,1.0s						
MICGM	**Minsk**	**122.50**	**43⇑**	*e*P	**PKPdf**	**17 08 55.0**	**-2.0**
KOZT	**Kozan**	**122.69**	**64**	*e*P	**PKPdf**	**17 08 58.8**	**+0.8**
CORM	**Corum**	**122.73**	**61**	*e*P	**PKPdf**	**17 08 59.0**	**+0.8**
VSU	**Vasula**	**122.83**	**38***d*	*i*PKIKP	**PKPdf**	**17 08 57.1**	**-0.4**
PMG	**Port Moresby**	**122.93**	**228***d*	*i*PKIKP	**PKPdf**	**17 08 59.1**	**0.0**
TNA	**Tin City**	**123.09**	**330**	*e*PKPdf	**PKPdf**	**17 08 57.9**	**+0.1**
FINES	**FINESS Array B**	**123.15**	**35**	PKIKP	**PKPdf**	**17 08 58.0**	**0.0**
FINES	**FINESS Array B**	**123.15**	**35**	PKP	**PKPdf**	**17 08 58.0**	**0.0**
	comp=Z,16nm,0.9s,baz=132,slow=2.8,SNR=29						
FINES				PKKPbc	**PKKPbc**	**17 18 48.6**	**-1.1**
	comp=Z,4.4nm,0.8s,baz=88,slow=9.7,SNR=11						
KAF	**Kangasniemi**	**123.39**	**34**	*e*PKIKP	**PKPdf**	**17 08 56.4**	**-2.1**
KAF				pmax	pmax		
	comp=Z,15nm,0.8s						
KAF	**Kangasniemi**	**123.39**	**34**	*e*p	**PKPdf**	**17 08 56.4**	**-2.1**
	comp=Z,15nm,0.8s						
KMRS	**Kahramanmaras**	**123.50**	**65**	*e*P	**PKPdf**	**17 09 00.7**	**+1.2**
SIM	**Simferopol'**	**123.84**	**55**	*i* PKIKP	**PKPdf**	**17 09 00.6**	**+0.7**
SIM				*e*		17 10 42.0	
SIM				pmax	pmax		
	comp=Z,120nm,8.2s						
SIM				MLR	MLR		
	comp=Z,1μm,21.0s						
ARCES	**ARCESS Array B**	**124.21**	**25**	PKP	**PKPdf**	**17 08 59.9**	**-0.1**
	comp=Z,13nm,0.9s,baz=246,slow=3.1,SNR=20						
DARE	**Darende-Malaty**	**124.29**	**64**	*e*P	**PKPdf**	**17 09 02.4**	**+1.3**
GAMB	**Gambell**	**124.40**	**328**	*e*PKPdf	**PKPdf**	**17 09 00.7**	**+0.3**
KEV	**Kevo**	**124.76**	**25**	*e*PKIKP	**PKPdf**	**17 09 00.2**	**-0.7**
KEV	**Kevo**	**124.76**	**25**	*e*p	**PKPdf**	**17 09 00.2**	**-0.7**
KEV	**Kevo**	**124.76**	**25**	PFAKE		17 09 10.0	+9.1
KEV				LR	LR		
	comp=Z,3μm,20.0s						
RAYN	**Ar Rayn**	**124.90**	**84**	*e*PKPdf	**PKPdf**	**17 09 03.4**	**+0.7**
MALT	**Malatya**	**124.91**	**64**	*e*P	**PKPdf**	**17 09 03.5**	**+1.2**
MALT	**Malatya**	**124.91**	**64**	⇑PKIKP	**PKPdf**	**17 09 02.5**	**+0.2**
MALT	**Malatya**	**124.91**	**64⇑**	*i*P	**PKPdf**	**17 09 02.5**	**+0.2**
JOF	**Joensuu**	**125.80**	**33**	*e*PKIKP	**PKPdf**	**17 09 01.1**	**-2.0**
JOF				pmax	pmax		
	comp=Z,16nm,0.8s						
JOF	**Joensuu**	**125.80**	**33**	*e*p	**PKPdf**	**17 09 01.1**	**-2.0**
	comp=Z,16nm,0.8s						
H11S2	**WAKE ISLAND Hyl**	**25.89**	**269**	T	T	19 27 17.8	
	baz=120,slow=76,SNR=42						
H11S1	**WAKE ISLAND Hyl**	**25.90**	**269**	T	T	19 27 21.4	
	baz=120,slow=76,SNR=109						
H11S3	**WAKE ISLAND Hyl**	**25.91**	**269**	T	T	19 27 20.5	
	baz=120,slow=76,SNR=62						
ANN	**Anapa**	**126.07**	**56**	*i* PKIKP	**PKPdf**	**17 09 02.0**	**-2.1**
ANN				*e*		17 10 56.8	
ANN				pmax	pmax		
	comp=Z,95nm,1.5s						
DYBB	**Diyarbakir**	**126.08**	**65**	*e*P	**PKPdf**	**17 09 06.0**	**+1.4**
MAZI	**Mazidag**	**126.15**	**66**	*e*P	**PKPdf**	**17 09 05.8**	**+1.1**
H11N3	**WAKE ISLAND Hyl**	**26.31**	**270**	T	T	19 27 49.5	
	baz=122,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hyl**	**26.33**	**270**	T	T	19 27 58.1	

SOEI	**Soe**	133.60	202	*e*PKPdf	**PKPdf**	17 09 20.3	+0.7
FAQ	**Al Faqa, Dubai**	133.75	87⇓	*i*PKiKP	**PKPdf**	17 09 19.4	0.0
	SNR=9.1						
NAZ	**Nazwa, Dubai**	133.91	87⇑	*i*PKiKP	**PKPdf**	17 09 19.6	-0.1
	SNR=8.4						
ARQ	**Araqi**	133.92	90	PKPdf	**PKPdf**	17 09 21.4	+1.6
	SNR=6.9						
ASHO	**Ashiyiah**	134.11	88	PKPdf	**PKPdf**	17 09 20.2	0.0
	SNR=7.8						
ASHO	**Ashiyiah**	134.11	88	*i* PKiKP	**PKPdf**	17 09 20.5	+0.4
	SNR=8.2						
HATD	**Hatta, Dubai**	134.23	87⇓	*i*PKPdf	**PKPdf**	17 09 15.8	-4.5
	SNR=9.0						
JMDO	**Jabal Madar**	134.81	92	PKPdf	**PKPdf**	17 09 20.0	-1.5
	SNR=6.5						
SMDO	**Samad**	135.07	91	PKPdf	**PKPdf**	17 09 22.4	+0.3
	SNR=12						
MMRI	**Maumere**	135.27	200	*e*PKPdf	**PKPdf**	17 09 21.9	-0.7
WBK	**Wadi Bani Khal**	135.63	92	PKPdf	**PKPdf**	17 09 24.1	+1.1
	SNR=12						
JAGI	**Jajag, Banyuwa**	137.10	189	P	**PKPdf**	17 09 25.3	-0.8
	comp=Z,65nm,1.3s,comp=Z,954nm						
JAGI	**Jajag, Banyuwa**	137.10	189	*e*PKPdf	**PKPdf**	17 09 25.3	-0.8
SRBI	**Singaraja**	137.34	190	P	**PKPdf**	17 09 26.5	+0.1
	comp=Z,46nm,1.2s,comp=Z,860nm						
ABJI	**Asem Bagus**	137.76	189	P	**PKPdf**	17 09 29.5	+2.3
BLJI	**Banyuglugur**	137.89	188	P	**PKPdf**	17 09 29.5	+2.0
SOKR	**Solikamsk**	138.24	37*c*	*i*PKIKP	**PKPdf**	17 09 26.8	+0.2
SOKR				pmax	pmax		
	comp=Z,80nm,1.3s						
CISI	**Cisompet, Garu**	138.40	180	P	**PKPdf**	17 09 28.7	+0.2
KPJI	**Karang Pucung**	138.61	181	P	**PKPdf**	17 09 30.7	+1.9
	comp=Z,31nm,1.2s,comp=Z,762nm						
LEM	**Lembang**	139.12	179	P	**PKPdf**	17 09 29.0	-0.9
	comp=Z,158nm,1.0s,comp=Z,2μm						
KAPI	**Kappang**	139.40	198	PKPdf	**PKPdf**	17 09 31.5	+1.2
	SNR=7.1						
KAPI	**Kappang**	139.40	198	*e*PKPdf	**PKPdf**	17 09 29.7	-0.5
KAPI				LR	LR		
	comp=Z,909nm,21.0s						
GEYT	**Alibeck**	139.83	70	PKhKP	PKPpre	17 09 21.4	
	comp=Z,5.0nm,0.7s,baz=244,slow=6.4,SNR=8.5						
GEYT				PKP	**PKiKP**	17 09 31.6	-1.1
	comp=Z,14nm,0.8s,baz=282,slow=3.0,SNR=15						
ARU	**Arti**	139.87	41	*i* PKIKP	**PKPdf**	17 09 29.6	-0.1
ARU	**Arti**	139.87	41	*e*PKPdf	**PKPdf**	17 09 30.8	+1.1
ARU				LR	LR		
	comp=Z,2μm,19.0s						
PET	**Petropavlovsk**	139.88	314	*i* PKIKP	**PKPdf**	17 09 29.6	-0.2
PET				*e*		17 12 26.4	
PET				*e*SS	SS	17 30 41.2	-5.7
PET				pmax	pmax		
	comp=Z,500nm,5.7s						
PET				MLR	MLR		
	comp=Z,1μm,19.0s						
PET	**Petropavlovsk**	139.88	314	*e*PKPdf	**PKPdf**	17 09 29.9	+0.1
SEY	**Seymchan**	140.33	330	PKhKP	PKPpre	17 09 21.7	
	comp=Z,9.5nm,0.8s,baz=100,slow=3.5,SNR=15						
SEY				PKP	**PKPdf**	17 09 30.5	+0.1
	comp=Z,39nm,0.8s,baz=133,slow=4.4,SNR=56						
AKTO	**Aktyubinsk**	140.42	50	PKhKP	PKPpre	17 09 23.6	
	comp=Z,5.5nm,0.8s,baz=273,slow=2.3,SNR=26						
AKTO				PKP	**PKPdf**	17 09 31.2	+0.2
	comp=Z,24nm,1.2s,baz=307,slow=2.4,SNR=20						
PETK	**Petropavlovsk-**	140.44	314	PKhKP	PKPpre	17 09 23.2	
	comp=Z,9.4nm,0.9s,baz=98,slow=6.1,SNR=10						
PETK				PKP	**PKPdf**	17 09 31.6	+0.7
	comp=Z,20nm,0.9s,baz=107,slow=6.2,SNR=13						
LWLI	**Liwa**	140.73	174	P	PKPdf	17 09 27.5	-5.3
	comp=Z,71nm,1.2s						
SVE	**Sverdlovsk**	140.90	40	*e*PKHKP	PKPpre	17 09 25.2	
SVE				pmax	pmax		
	comp=Z,61nm,2.2s						
TIXI	**Tiksi**	140.99	350	*ce*PKIKP	**PKPdf**	17 09 31.4	+0.1
MDSI	**Maura Dua**	141.27	174	P	PKPdf	17 09 27.6	-6.0
	comp=Z,38nm,1.0s,comp=Z,614nm						
AB31	**Akbulak array**	141.75	52	*i* PKHKP	PKPpre	17 09 26.8	
AB31				pmax	pmax		
	comp=Z,94nm,1.2s						
LHSI	**Lahat**	141.85	173	P	**PKPdf**	17 09 30.4	-4.3
	comp=Z,64nm,1.2s,comp=Z,945nm						
TNTI	**Ternate**	142.11	212	*e*PKPdf	**PKPdf**	17 09 34.5	-0.7
SDSI	**Sungai Dareh**	144.42	168	P	**PKPab**	17 09 37.3	0.0
TOLI	**Toli-Toli**	144.95	202	*e*PKPdf	**PKPab**	17 09 38.2	-1.1
BKNI	**Bangkinang**	145.58	167	*e*PKPbc	**PKPab**	17 09 42.1	+0.6
POO	**Poona**	145.73	108⇓	*i*P	**PKPdf**	17 09 41.0	-0.3
	comp=Z,55nm,1.0s						
SNSI	**Sinabang, Aceh**	146.44	158	P	**PKPab**	17 09 44.7	-0.1
KSM	**Kuching**	147.30	184	*e*PKPbc	**PKPbc**	17 09 46.7	+0.3
BRVK	**Borovoye**	147.32	43	*de*PKIKP	**PKPdf**	17 09 43.2	+0.3
BRVK	**Borovoye**	147.32	43	PKPdf	**PKPbc**	17 09 44.6	-0.8
	SNR=46						
BRVK	**Borovoye**	147.32	43	*e*PKPbc	**PKPab**	17 09 46.3	-0.9
BRVK				LR	LR		
	comp=Z,2μm,21.0s						
BVA0	**Borovoye Array**	147.40	43	*i* PKIKP	**PKPdf**	17 09 43.5	+0.5
BVA0				pmax	pmax		
	comp=Z,210nm,1.2s						
BVAR	**Borovoye Array**	147.40	43	PKPbc	**PKPdf**	17 09 43.6	+0.6
	comp=Z,75nm,0.8s,baz=270,slow=1.5,SNR=104						
KUR	**Kuril'sk**	147.84	302	*d*PKP2	**PKPbc**	17 09 46.6	-0.3
KUR				pmax	pmax		
	comp=E,149nm,1.3s						
KUR				pmax	pmax		
	comp=N,86nm,1.3s						
KUR				pmax	pmax		
	comp=Z,930nm,1.3s						
DAV	**Davao City (W)**	148.49	215	PFAKE		17 10 00.0	+7.1
DAV				LR	LR		
	comp=Z,1μm,22.0s						
HYB	**Hyderabad**	148.70	115	*i* PKP	**PKPdf**	17 09 46.0	-0.3
YAK	**Yakutsk**	149.03	340	*e*PKHKP	PKPpre	17 09 44.3	
YAK				*e*		17 13 18.1	
YAK				pmax	pmax		
	comp=Z,399nm,1.4s						
YAK				pmax	pmax		
	comp=E,42nm,1.1s						
YAK				pmax	pmax		
	comp=N,57nm,1.5s						
YAK				pmax	pmax		
	comp=N,159nm,2.0s						
YAK				pmax	pmax		
	comp=E,193nm,2.5s						
YAK				pmax	pmax		
	comp=Z,292nm,2.3s						
YAK	**Yakutsk**	149.03	340	*e*PKPbc	**PKPbc**	17 09 49.6	+0.1
CTBH	**Cotabato--PC H**	149.23	213⇓	*i*P	**PKPbc**	17 09 51.2	-0.3
LHMI	**Lhok Sumawe**	149.30	158	*e*PKPbc	**PKPbc**	17 09 51.8	+0.2
MYLDM	**Lahad Datu**	149.49	201	⇑P	**PKPdf**	17 09 47.7	+0.1
KKAR	**Karatay Array**	149.57	62	*e*PKPdf	**PKPdf**	17 09 47.3	+0.4
KKAR				*e*PKPbc	**PKPbc**	17 09 51.6	+0.1
IPM	**Ipoh**	149.63	166	*e*PKPdf	**PKPdf**	17 09 47.9	0.0
IPM				*e*PKPbc	**PKPbc**	17 09 52.3	-0.2
CBIJ	**Chichi jima**	149.94	266	PKPbc	**PKPbc**	17 09 51.1	-1.8
JCJ	**Chichijima**	149.94	266	PKPbc	**PKPbc**	17 09 51.1	-1.8
	comp=Z,156nm,0.9s,baz=235,slow=2.1,SNR=4.5						
AJM	**Ajmer**	150.20	96	*ex*	**PKPdf**	17 09 49.0	+0.5
KULM	**Kulim**	150.34	165	*e*PKPbc	**PKPbc**	17 09 53.7	-0.5
KULM				*e*PKPab	**PKPab**	17 10 00.8	+0.5
KKM	**Kota Kinabalu**	150.92	197	*e*PKPbc	**PKPbc**	17 09 55.1	-0.6
YSS	**Yuzh-Sakhalins**	151.06	306	*e*PKIKP	**PKPdf**	17 09 48.8	-0.3
YSS				*e*		17 09 54.9	
YSS	**Yuzh-Sakhalins**	151.06	306	*e*PKPdf	**PKPdf**	17 09 48.8	-0.3
YSS				*e*PKPbc	**PKPbc**	17 09 54.9	0.0
ERM	**Erimo**	151.53	296	PFAKE		17 10 00.0	+3.9
ERM				LR	LR		
	comp=Z,2μm,20.0s						
ASAJ	**Asahikawa**	151.71	301	PKPbc	**PKPbc**	17 09 56.8	+0.3
	comp=Z,175nm,1.0s,baz=239,slow=6.0,SNR=31						
ASAJ	**Asahikawa**	151.71	301	*e*PKPbc	**PKPbc**	17 09 55.9	-0.6
KHET	**Khetri**	151.75	94	*e*P	**PKPdf**	17 09 51.0	+0.3
AML	**Almayashu**	151.98	64	P	**PKPdf**	17 09 52.6	+1.4
	SNR=14						
EKS2	**Erkin-Say**	152.00	62	P	**PKPdf**	17 09 51.9	+1.1
	SNR=20						
EKS2	**Erkin-Say**	152.00	62	*e*PKIKP	**PKPdf**	17 09 51.7	+0.9
EKS2				*e*		17 09 58.7	
EKS2	**Erkin-Say**	152.00	62	*e*PKPdf	**PKPdf**	17 09 51.7	+0.9
EKS2				*e*PKPbc	**PKiKP**	17 09 58.7	+1.0
KUDL	**Kundal**	152.34	94	*e*P	**PKPdf**	17 09 52.2	+0.6
USP	**Ospenovka**	152.45	61	P	**PKPdf**	17 09 52.6	+1.2
	SNR=18						
AAK	**Ala-Archa**	152.53	62	P	**PKPdf**	17 09 52.0	+0.3
	SNR=20						
AAK	**Ala-Archa**	152.53	62	*e*PKIKP	**PKPdf**	17 09 52.2	+0.5
AAK						17 09 52.7	
AAK						17 09 59.4	
AAK				*e*		17 09 59.6	
AAK				MLR	MLR		
	comp=Z,2μm,19.0s						
AAK	**Ala-Archa**	152.53	62	PKPdf	**PKPdf**	17 09 53.5	+1.8
	SNR=39						
AAK	**Ala-Archa**	152.53	62	PKP	**PKPdf**	17 09 52.7	+1.0
	comp=Z,25nm,1.2s,baz=214,slow=3.3,SNR=17						
AAK				PKPbc	**PKiKP**	17 09 59.3	+0.5
	comp=Z,107nm,0.9s,baz=192,slow=3.3,SNR=108						
AAK	**Ala-Archa**	152.53	62	*e*PKPdf	**PKPdf**	17 09 52.2	+0.5
AAK				PKP	**PKPdf**	17 09 52.7	+1.0
AAK				PKPbc	**PKiKP**	17 09 59.4	+0.5
AAK				*e*PKPbc	**PKPbc**	17 09 59.6	+0.9
AAK				LR	LR		
	comp=Z,2μm,19.0s						
UCH	**Uchtor**	152.58	63	P	**PKPdf**	17 09 53.4	+1.3
	SNR=26						
FRU	**Bishkek**	152.59	62⇑	*i*PKIKP	**PKPdf**	17 09 53.0	+1.4
FRU				*i*		17 10 02.0	
FRU				*i*		17 10 09.0	
FRU				*i*		17 13 40.0	
FRU				pmax	pmax		
	comp=Z,90nm,2.0s						
FRU				pmax	pmax		
	comp=Z,360nm,1.8s						
CHMS	**Chumysh**	152.67	61	P	**PKPdf**	17 09 52.8	+1.1
	SNR=8.5						
KBK	**Karagaybulak**	152.85	62	P	**PKPdf**	17 09 52.6	+0.4
	SNR=8.7						
SONA	**Sohna**	152.87	94	*e*P	**PKPdf**	17 09 52.4	0.0
BHGR	**Bahadurgarh**	152.90	93	*e*P	**PKPdf**	17 09 52.3	-0.1
KURBB	**Kurchatov Arra**	152.98	44	PKP	**PKPdf**	17 09 52.1	+0.3
	comp=Z,12nm,1.0s,baz=298,slow=2.2,SNR=34						
KURBB				PKPbc	**PKPbc**	17 09 58.8	-0.4
	comp=Z,38nm,0.8s,baz=302,slow=3.1,SNR=59						
KURBB				PP	**PP**	17 13 42.9	-1.0
	comp=Z,2.9nm,0.8s,baz=296,slow=6.2,SNR=4.5						
KURBB				SKKPbc		17 20 40.4	
	comp=Z,0.2nm,0.2s,baz=143,slow=2.4,SNR=4.1						
AYAN	**Aya Nagar**	152.99	94	*e*P	**PKPdf**	17 09 52.5	0.0
KURK	**Kurchatov**	152.99	44	*e*PKIKP	**PKPdf**	17 09 51.9	+0.1
KURK						17 09 58.8	
KURK				*e*		17 09 59.6	
KURK						17 13 42.9	
KURK				MLR	MLR		
	comp=Z,767nm,21.0s						
KURK	**Kurchatov**	152.99	44	PKPdf	**PKPdf**	17 09 52.4	+0.6
	SNR=33						
KURK	**Kurchatov**	152.99	44	*e*PKPdf	**PKPdf**	17 09 51.9	+0.1
KURK				PKP	PKPbc	17 09 52.1	-7.0
KURK				PKPbc	**PKiKP**	17 09 58.8	-0.5
KURK				*e*PKPbc	**PKiKP**	17 09 59.6	+0.3
KURK				PP	**PP**	17 13 42.9	-1.1
KURK				SKKPbc		17 20 40.4	
KURK				LR	LR		
	comp=Z,767nm,21.0s						
PONG	**Pong**	153.02	86	*e*P	**PKPdf**	17 09 50.6	-1.9
NDI	**New Delhi**	153.13	93	*e*PKP	**PKPdf**	17 09 52.5	-0.3
NDI				*e*PP	**PP**	17 13 44.0	-1.7
KZA	**Kyzart**	153.14	63	P	**PKPdf**	17 09 54.5	+1.6
	SNR=8.3						
AGRA	**Agra**	153.21	97	*e*P	**PKPdf**	17 09 52.7	-0.2
BHK	**Bhakra**	153.27	87	*e*P	**PKPdf**	17 09 52.0	-0.9
TKM2	**Tokmak 2**	153.29	61	P	**PKPdf**	17 09 53.8	+0.9
	SNR=13						
TKM2	**Tokmak 2**	153.29	61	*e*PKIKP	**PKPdf**	17 09 52.8	-0.1
TKM2				*e*		17 10 01.2	
TKM2	**Tokmak 2**	153.29	61	*e*PKPdf	**PKPdf**	17 09 52.8	-0.1
TKM2				*e*PKPbc	**PKiKP**	17 10 01.1	+0.6
SMLA	**Simla**	153.82	88	*i* P	**PKPdf**	17 09 54.4	+0.7
KSH	**Kashi**	153.85	69⇓	*i*PKPbc	**PKPdf**	17 09 54.5	+0.8
KSH				PKS	**PKSdf**	17 13 28.4	+0.4
KSH				PP	**PP**	17 13 48.7	-1.1
KSH				PPMZ			
	comp=Z,1μm,5.3s						
KSH				LN			
	comp=Z,1μm,15.9s						
KSH				LE			
	comp=Z,700nm,10.5s						
KSH				LZ			
	comp=Z,2μm,14.9s						
ZALV	**Zalesovo Beam**	154.39	33	PKP	**PKPdf**	17 09 53.5	-0.3
	comp=Z,25nm,0.9s,baz=279,slow=2.9,SNR=83						
ZALV				PKPbc	**PKiKP**	17 10 02.3	+0.2
	comp=Z,95nm,0.8s,baz=296,slow=3.3,SNR=60						
ZALV				PKPab	**PKPab**	17 10 16.8	+0.4
	comp=Z,85nm,0.9s,baz=303,slow=5.4,SNR=15						
CLNS	**Chul'man**	154.70	338	*e*PKIKP	**PKPbc**	17 10 01.4	-1.3
CLNS				pmax	pmax		
	comp=Z,62nm,1.0s						
CLNS				pmax	pmax		
	comp=N,12nm,1.0s						
CLNS				pmax	pmax		
	comp=E,16nm,1.2s						
MJAR	**Matsushiro Arr**	155.41	284	PKP	**PKPdf**	17 09 55.0	-0.7
	comp=E,8.3nm,1.1s,baz=234,slow=1.1,SNR=14						
MJAR				PKPbc	PKPbc	17 10 04.7	
	comp=E,10nm,1.1s,baz=157,slow=1.4,SNR=8.8						
MJAR				PKPab	**PKPab**	17 10 20.4	-1.0
	comp=E,12nm,1.0s,baz=100,slow=2.5,SNR=8.3						
MAJO	**Matsushiro**	155.41	284	*e*PKIKP	**PKPdf**	17 09 55.2	-0.6
MAJO	**Matsushiro**	155.41	284	*e*PKPdf	**PKPdf**	17 09 55.2	-0.6
HABR	**Khabarovsk**	155.47	313	*ce*PKIKP	**PKPdf**	17 09 54.4	-1.0
HABR				*e*		17 10 04.9	
HABR				*e*		17 10 20.0	
HABR						17 13 57.0	
HABR				*e*		17 16 58.4	
HABR				*e*PPP	PPP	17 17 27.7	
HABR				*e*SSS	SSS	17 39 35.0	
HABR				pmax	pmax		
	comp=Z,64nm,1.3s						
HABR				pmax	pmax		
	comp=N,28nm,1.2s						
HABR				pmax	pmax		
	comp=Z,58nm,1.2s						
HABR				pmax	pmax		
	comp=E,18nm,1.2s						
JOSI	**Joshimath**	155.65	91	*ex*	**PKPab**	17 10 21.4	-1.5
LGTI	**Lohaghat**	155.88	94	*ex*	**PKPdf**	17 10 01.1	+4.5
BOD	**Bodaibo**	156.12	352	*e*PKIKP	**PKPdf**	17 09 54.3	-1.7
BOD				*e*		17 10 23.3	
BOD				pmax	pmax		
	comp=Z,25nm,1.8s						
BOD				pmax	pmax		
	comp=Z,144nm,1.3s						
MKAR	**Makanchi Array**	156.85	50	PKP	**PKPdf**	17 09 57.2	-0.2
	comp=Z,11nm,0.9s,baz=321,slow=1.7,SNR=71						
MKAR				PKPab	**PKPab**	17 10 27.3	+0.1
	comp=Z,31nm,0.9s,baz=318,slow=3.4,SNR=17						
MKAR				PP	**PP**	17 14 07.5	+1.6
	comp=Z,13nm,1.2s,baz=256,slow=4.9,SNR=6.0						
KLR	**Kul'dur**	157.02	318	*e*PKIKP	PKPdf	17 09 50.8	-6.6
KLR				pmax	pmax		
	comp=Z,120nm,1.8s						
KOLN	**Koldanda**	158.04	101	*e*P	**PKPdf**	17 09 59.5	-0.2
	comp=Z,148nm,1.4s						
DANN	**Dangsing**	158.40	99	*e*P	**PKPdf**	17 09 59.8	-0.4
	comp=Z,296nm,1.0s						
GKN	**Gorkha**	158.98	101	*e*P	**PKPdf**	17 09 59.9	-0.8
	comp=Z,222nm,1.3s						
USRK	**Ussuriysk Ar.**	159.09	305	PKP	**PKPdf**	17 09 59.5	-0.5
	comp=Z,2.5nm,0.9s,baz=159,slow=6.2,SNR=4.0						
USRK				PKPab	**PKPab**	17 10 37.2	+0.3
	comp=Z,26nm,1.1s,baz=64,slow=4.4,SNR=10						
DMN	**Daman**	159.20	102	*e*P	**PKPdf**	17 10 00.9	-0.2
	comp=Z,175nm,1.4s						
KKN	**Kakani**	159.41	102	*e*P	**PKPdf**	17 10 01.1	-0.2
	comp=Z,197nm,1.6s						
PKIN	**Phulchoki**	159.42	103	*e*P	**PKPdf**	17 10 00.8	-0.6
	comp=Z,165nm,1.6s						
PKI	**Pulchoki**	159.43	103	*e*P	**PKPdf**	17 10 01.1	-0.4
	comp=Z,206nm,1.4s						
GUN	**Gumba**	159.95	102	*e*P	**PKPdf**	17 10 01.9	-0.2
	comp=Z,297nm,1.6s						
JIRN	**Jiri**	160.10	103	*e*P	**PKPdf**	17 10 02.1	-0.2
	comp=Z,194nm,1.5s						
RAMN	**Ramite**	160.12	106	*e*P	**PKPdf**	17 10 02.5	+0.3
	comp=Z,475nm,1.5s						
MDJ	**Mudanjiang**	160.51	308	PKP	**PKPdf**	17 10 01.0	-0.7
MDJ				PP	**PP**	17 14 26.9	+1.1
MDJ				SKS	**SKSdf**	17 17 03.6	-2.0
MDJ				SS	**SS**	17 34 41.2	+4.5
MDJ				PPMZ			
	comp=Z,79nm,17.5s						
MDJ				LN			
	comp=Z,190nm,22.1s						
MDJ				LE			
	comp=Z,660nm,25.8s						
MDJ				LZ			
	comp=Z,840nm,28.0s						
ODAN	**Odare**	160.71	107	*e*P	**PKPdf**	17 10 02.3	-0.5
	comp=Z,213nm,1.4s						
TAPN	**Taplejung**	161.18	106	*e*P	**PKPdf**	17 10 03.5	+0.1
	comp=Z,160nm,1.4s						
WMQ	**Urumqi**	161.54	53	PKP	**PKPdf**	17 10 02.6	-0.4
WMQ				PKPab	**PKPab**	17 10 49.0	+1.3
WMQ				PKS	**PKSdf**	17 13 34.6	-1.6
WMQ				PP	**PP**	17 14 32.7	+1.2
WMQ				SKS	**SKSdf**	17 17 06.3	-0.4
WMQ				SKKS	**SKKSac**	17 21 20.4	+1.9
WMQ				SS	**SS**	17 34 47.8	+0.1
WMQ				PPMZ			
	comp=Z,730nm,5.5s						
WMQ				LN			
	comp=Z,700nm,20.0s						
WMQ				LE			
	comp=Z,1μm,22.0s						
WMQ				LZ			
	comp=Z,1μm,23.0s						
IRK	**Irkutsk**	161.83	8	*e*PKIKP	**PKPdf**	17 10 02.0	-0.9
IRK				*e*		17 10 48.6	
IRK				pmax	pmax		
	comp=Z,85nm,1.6s						
CIT	**Chita**	161.84	349	*e*PKIKP	**PKPdf**	17 10 02.7	-0.3
CIT				*e*		17 14 27.5	
CIT				pmax	pmax		
	comp=Z,327nm,1.7s						
MOY	**Mondy**	161.87	14	*e*PKIKP	**PKPdf**	17 10 03.4	+0.3
MOY				pmax	pmax		
	comp=Z,99nm,2.5s						
UTTA	**Uttaradit**	162.20	156	P	**PKPdf**	17 10 04.3	0.0
	comp=Z,12nm,1.0s						
CMAR	**Chiang Mai Arr**	162.25	150	PKP	**PKPdf**	17 10 04.5	+0.1
	comp=Z,17nm,1.0s,baz=248,slow=2.3,SNR=65						
CMAR				PKPab	**PKPab**	17 10 50.8	-0.4
	comp=Z,11nm,1.1s,baz=218,slow=4.8,SNR=8.8						
CMAR				PP	**PP**	17 14 37.0	+2.5
	comp=Z,2.1nm,0.8s,baz=225,slow=5.5,SNR=5.1						
TLY	**Talaya**	162.31	9*d*	*i*PKIKP	**PKPdf**	17 10 01.7	-1.7
TLY				*e*		17 14 35.7	
TLY				pmax	pmax		
	comp=Z,27nm,1.4s						
TLY	**Talaya**	162.31	9	PKPdf	**PKPdf**	17 10 04.2	+0.8
	SNR=15						
TLY	**Talaya**	162.31	9	PKP	**PKPdf**	17 10 03.8	+0.4
	comp=Z,3.3nm,0.8s,baz=318,slow=1.2,SNR=16						
TLY				PKPab	**PKPab**	17 10 52.0	+1.4
	comp=Z,16nm,0.8s,baz=331,slow=3.5,SNR=12						
TLY				PP	**PP**	17 14 38.3	+3.9
	comp=Z,1.2nm,0.3s,baz=14,slow=8.2,SNR=4.1						
CHTO	**Chiang Mai**	162.57	150	*e*PKIKP	**PKPdf**	17 10 04.8	+0.1
CHTO				MLR	MLR		
	comp=Z,703nm,22.0s						
CHTO	**Chiang Mai**	162.57	150	PKPdf	**PKPdf**	17 10 05.3	+0.7
	SNR=13						
CHTO	**Chiang Mai**	162.57	150	P	**PKPdf**	17 10 04.6	-0.1
	comp=Z,159nm,1.6s						
CHTO	**Chiang Mai**	162.57	150	*e*PKPdf	**PKPdf**	17 10 04.8	+0.1
CHTO				LR	LR		
	comp=Z,703nm,22.0s						
CMMT	**Chiang Mai**	162.57	150	P	**PKPdf**	17 10 04.5	-0.2
	comp=Z,45nm,1.6s						
LAMP	**Lampang**	162.58	152	P	**PKPdf**	17 10 05.2	+0.5
	comp=Z,12nm,1.1s						
HIA	**Hailar**	162.72	334	PFAKE		17 10 10.0	+6.1
HIA				LR	LR		
	comp=Z,1μm,20.0s						
SHL	**Shillong**	163.48	117⇓	*i*P	**PKPdf**	17 10 07.5	+1.9
ZAK	**Zakamensk**	163.52	11	*e*PKIKP	**PKPdf**	17 10 04.2	-0.5
ZAK				pmax	pmax		
	comp=Z,11nm,1.8s						
CN2	**Changchun**	163.54	310	*e*PKP	**PKPdf**	17 10 05.0	+0.2
CN2				*e*PP	**PP**	17 14 45.6	+3.7
CN2				*e*SS	SS	17 35 07.6	-0.5
CN2				PPMZ			
	comp=Z,200nm,4.0s						
CN2				LN			
	comp=Z,1μm,17.0s						
CN2				LE			
	comp=Z,1μm,17.0s						
CN2				LZ			
	comp=Z,400nm,15.0s						
KSRS	**Korea Array**	163.63	287	PKP	**PKPdf**	17 10 04.5	-0.5
	comp=Z,11nm,1.1s,baz=120,slow=0.8,SNR=22						
KSRS				PKPab	**PKPab**	17 10 57.7	+0.7
	comp=Z,23nm,1.1s,baz=98,slow=4.5,SNR=18						
KSAR	**Wonju Array Be**	163.66	287	PKIKP	**PKPdf**	17 10 04.6	-0.6
KSAR						17 10 57.7	
KSAR	**Wonju Array Be**	163.66	287	PKP	**PKPdf**	17 10 04.5	-0.6
KSAR				PKPab	**PKPab**	17 10 57.7	+0.5
INCN	**Inchon**	164.65	287	PFAKE		17 10 20.0	+14
INCN				LR	LR		
	comp=Z,768nm

BJT	**Baijiatuau**	**171.39**	**314**	PFAKE		17 10 20.0	+9.4
BJT				LR	LR		
comp=Z,1μm,22.0s							
GTA	**Gaotai**	**171.61**	**50**	⇓PKP	**PKPdf**	**17 10 11.6**	**+0.7**
GTA				PKPab	**PKPab**	**17 11 33.5**	**+1.1**
GTA				PP	**PP**	**17 15 26.4**	**+3.0**
GTA				SKS	**SKSdf**	**17 17 13.7**	**+0.5**
GTA				SKKS	**SKKSac**	**17 22 12.2**	**+3.2**
GTA				SS	**SS**	**17 36 30.9**	**+1.3**
GTA				PPMZ			
comp=Z,940nm,7.9s							
GTA				LN			
comp=Z,940nm,21.9s							
GTA				LE			
comp=Z,780nm,18.8s							
GTA				LZ			
comp=Z,1μm,19.7s							
GYA	**Guiyang**	**172.11**	**171**	*i* PKP	**PKPdf**	**17 10 11.0**	**-0.5**
GYA				PKPab	**PKPab**	**17 11 36.8**	**+2.2**
GYA				PKS	**PKSdf**	**17 13 42.4**	**-1.6**
GYA				PP	**PP**	**17 15 28.2**	**+3.4**
GYA				SKKS		17 22 13.5	
GYA				SS	**SS**	**17 36 35.8**	**+3.2**
GYA				PPMZ			
comp=Z,280nm,9.8s							
GYA				LN			
comp=Z,480nm,24.8s							
GYA				LE			
comp=Z,390nm,23.6s							
GYA				LZ			
comp=Z,460nm,24.4s							
TIA	**Tai'an**	**172.38**	**287**	PKP	**PKPdf**	**17 10 11.2**	**0.0**
TIA				SS	SS	17 36 38.0	0.0
TIA				PPMZ			
comp=Z,2μm,5.7s							
TIA				LN			
comp=Z,720nm,18.4s							
TIA				LE			
comp=Z,860nm,19.0s							
TIA				LZ			
comp=Z,1μm,21.0s							
HHC	**Hu-ho-hao-te**	**172.89**	**338**	*e*PKP	**PKPdf**	**17 10 11.4**	**0.0**
HHC				pPKP	**pPKPdf**	**17 10 22.1**	**+3.6**
HHC				sPKP		17 10 26.3	
HHC				PP	**PP**	**17 15 32.6**	**+3.8**
HHC				SKS	**SKSdf**	**17 17 07.5**	**-6.0**
HHC				SS	**SS**	**17 36 40.2**	**-0.4**
HHC				PPMZ			
comp=Z,410nm,6.0s							
HHC				LN			
comp=Z,650nm,21.6s							
HHC				LE			
comp=Z,1μm,23.5s							
HHC				LZ			
comp=Z,1μm,20.6s							
BTO	**Baotou**	**173.50**	**347**	*e*PKP	**PKPdf**	**17 10 10.9**	**-0.7**
WHN	**Wuhan**	**173.54**	**236**	⇑PKP	**PKPdf**	**17 10 12.4**	**+0.6**
WHN				PKPab	**PKPab**	**17 11 42.0**	**+1.0**
WHN				PP	**PP**	**17 15 37.1**	**+4.2**
CD2	**Chengdu**	**175.02**	**131**	*e*PKP	**PKPdf**	**17 10 12.9**	**+0.5**
CD2				sPKP		17 10 28.9	
CD2				PKPab	**PKPab**	**17 11 46.6**	**-1.0**
CD2				SKS	SKSdf	17 17 06.0	-8.4
CD2				SS	SS	17 36 54.9	-7.6
CD2				PPMZ			
comp=Z,780nm,5.4s							
CD2				LE			
comp=Z,880nm,26.2s							
CD2				LZ			
comp=Z,1μm,28.2s							
TIY	**Taiyuan**	**175.10**	**316**	*e*PKP	**PKPdf**	**17 10 11.6**	**-0.6**
TIY				PKPab	**PKPab**	**17 11 46.8**	**-1.0**
TIY				SKKS		17 22 30.1	
TIY				PPMZ			
comp=Z,480nm,5.5s							
TIY				LN			
comp=Z,2μm,11.9s							
TIY				LE			
comp=Z,6μm,13.9s							
TIY				LZ			
comp=Z,9μm,16.0s							
ENH	**Enshi**	**175.84**	**197**	*e*PKPdf	**PKPdf**	**17 10 12.5**	**-0.1**
ENH				LR	LR		
comp=Z,503nm,22.0s							
LZH	**Lanzhou**	**176.07**	**61**	⇑PKP	**PKPdf**	**17 10 13.8**	**+1.2**
LZH				PKPab	**PKPab**	**17 11 53.3**	**+0.9**
LZH				PP	**PP**	**17 15 46.5**	**+1.0**
LZH				SKKS		17 22 31.0	
LZH				SS	**SS**	**17 37 10.1**	**-3.4**
LZH				PPMZ			
comp=Z,1μm,5.0s							
LZH				LN			
comp=Z,600nm,17.2s							
LZH				LE			
comp=Z,960nm,18.1s							
LZH				LZ			
comp=Z,1μm,20.5s							
XAN	**Xi'an**	**179.29**	**251**	PKP	**PKPdf**	**17 10 13.0**	**0.0**
XAN				PP	**PP**	**17 15 58.6**	**-2.1**
XAN				PPMZ			
comp=Z,320nm,10.1s							

*IDC **12** 16:54:20.6±2.2, 17°.97N×40°.08E, h0km, mb3.6/5, mb1 3.6/5, mb1mx3.4/41, mbtmp3.6/5, Error ellipse: s-maj=63.5km s-min=27.3km az=158.0*
*SGS **12** 16:54:21.8, 18°.02N×40°.06E, h34km*
*ISCJB **12** 16:54:22.3±1.1, 17°.8N±0°.2×40°.2E±0°.1, h28km, mb3.6/5, Error ellipse: s-maj=25.7km s-min=10.1km az=28.2*
ISC 12 16:54:23.8±1.2, 17°.8N±0°.2×40°.2E±0°.1, h28km, n8, σ1§03/8, mb3.8/5, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FRSS	**Farasan al Kab**	**2.11**	**120**	P		**Pn**	**16 54 57.3**	**+0.1**
JAZS	**Jizan**	**2.69**	**105**	S		**Sn**	**16 55 36.2**	**-0.7**
JAZS	**Jizan**	**2.69**	**105**	P		**Pn**	**16 55 04.9**	**-0.3**
BRTR	**Keskin Array B**	**22.58**	**347**	P		**P**	**16 59 20.9**	**-1.2**
0.4nm,0.4s,baz=166,slow=7.3,SNR=5.6								
TORD	**Torodi Ar. Bea**	**37.35**	**268**	P		**P**	**17 01 34.2**	**-0.1**
1.3nm,0.9s,baz=86,slow=6.8,SNR=6.6								
MKAR	**Makanchi Array**	**45.05**	**41**	P		**P**	**17 02 38.5**	**+1.3**
0.8nm,1.0s,baz=225,slow=5.3,SNR=5.9								
ZALV	**Zalesovo Beam**	**49.76**	**33**	P		**P**	**17 03 13.0**	**-0.7**
0.5nm,0.3s,baz=234,slow=8.9,SNR=5.4								
SONM	**Songino Array**	**61.08**	**45**	P		**P**	**17 04 36.4**	**+1.0**
0.8nm,1.1s,baz=270,slow=8.6,SNR=3.4								

*ISK **12** 16:55:59.9, 38°.71N×40°.11E, h5km, MD3.4*
*DDA **12** 16:56:01.3, 38°.71N×40°.10E, h10km, MD3.1*
*CSEM **12** 16:56:01.3±0.2, 38°.70N×40°.13E, h2km, MD3.4, Error ellipse: s-maj=4.5km s-min=4.0km az=93.0*
ISC 12 16:56:01.3±1.1, 38°.71N±0°.02×40°.10E±0°.02, h3km±11km, n57, σ0§66/76, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNGB	**Bing¨¶l**	**0.54**	**58**	*e*PG		**Pg**	**16 56 11.1**	**-0.5**
BNGB				*e*SG		**Sg**	**16 56 19.5**	**+0.8**
SVRC	**Sivrice-ELAZID**	**0.70**	**242**	*e*PG		**Pg**	**16 56 14.7**	**0.0**
SVRC				*e*SG		**Sb**	**16 56 25.8**	**-0.6**
SVRC	**Sivrice-ELAZID**	**0.70**	**242**	*e*Pg		**Pg**	**16 56 14.7**	**0.0**
SVRC				*e*Sg		**Sb**	**16 56 25.8**	**-0.6**
DYBB	**Diyarbakir**	**0.75**	**177**	*e*PG		**Pg**	**16 56 15.7**	**0.0**
DYBB				*e*SG		**Sb**	**16 56 27.4**	**-0.3**
DIYA	**Diyarbakir**	**0.78**	**179**	*i* P		**Pb**	**16 56 17.9**	**+0.3**
DIYA	**Diyarbakir**	**0.78**	**179**	*i* P		**Pb**	**16 56 17.9**	**+0.3**
DIY	**Diyarbakir**	**0.81**	**173**	*e*Pg		**Pg**	**16 56 15.7**	**-1.2**
DIY				*e*Sg		**Sg**	**16 56 27.4**	**-0.1**
BNGL	**BINGOL**	**0.86**	**73**	*i* P		**Pg**	**16 56 17.8**	**0.0**
BNGL				*i* S		**Sb**	**16 56 31.1**	**+0.1**
ELZG	**Elazig**	**0.90**	**257**	*i* P		**Pg**	**16 56 18.6**	**+0.1**
ELZG				*i* S		**Sn**	**16 56 34.6**	**+0.1**
ELZG	**Elazig**	**0.90**	**257**	*i* P		**Pg**	**16 56 18.6**	**+0.1**
ELZG				*i* S		**Sn**	**16 56 34.6**	**+0.1**
ERZN	**Erzincan**	**0.93**	**342**	*e*PG		**Pg**	**16 56 18.9**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.03**	**122**	*e*PG		**Pg**	**16 56 20.8**	**-0.3**
EUZM	**Uzumlu**	**1.05**	**343**	*i* P		**Pg**	**16 56 20.8**	**-0.6**
EUZM				*i* S		**Sb**	**16 56 36.4**	**+0.1**
EUZM	**Uzumlu**	**1.05**	**343**	*i* P		**Pg**	**16 56 20.8**	**-0.6**
EUZM				*i* S		**Sb**	**16 56 36.4**	**+0.1**
VRTB	**Varto-Mus**	**1.15**	**66**	*e*PN		**Pg**	**16 56 23.0**	**-0.5**
VRTB	**Varto-Mus**	**1.15**	**66**	*e*Pn		**Pg**	**16 56 23.0**	**-0.5**
BTMT	**Batman**	**1.21**	**115**	*e*PN		**Pg**	**16 56 23.9**	**-0.6**
BTMT	**Batman**	**1.21**	**115**	*e*Pn		**Pg**	**16 56 23.9**	**-0.6**
BEST	**Besiri**	**1.23**	**131**	*i* P		**Pb**	**16 56 24.9**	**-0.3**
BEST				*i* S		**Sn**	**16 56 42.5**	**-0.1**
MAZI	**Mazidag**	**1.27**	**167**	*e*PN		**Pg**	**16 56 25.5**	**-0.3**
MAZI	**Mazidag**	**1.27**	**167**	*e*Pn		**Pg**	**16 56 25.5**	**-0.3**
KOPT	**Kop Dagi**	**1.35**	**13**	*i* P		**Pb**	**16 56 27.3**	**-0.1**
KOPT	**Kop Dagi**	**1.35**	**13**	*i* P		**Pb**	**16 56 27.3**	**-0.1**
MALT	**Malatya**	**1.37**	**254**	*e*PN		**Pn**	**16 56 27.1**	**-0.3**
MALT	**Malatya**	**1.37**	**254**	*e*Pn		**Pn**	**16 56 27.1**	**-0.3**
KEMA	**Kemaliye**	**1.37**	**295**	*i* P		**Pn**	**16 56 25.2**	**-2.2**
KEMA				*i* S		**Sb**	**16 56 45.8**	**+0.2**
KEMA	**Kemaliye**	**1.37**	**295**	*i* P		**Pn**	**16 56 25.2**	**-2.2**
KEMA				*i* S		**Sb**	**16 56 45.8**	**+0.2**
MARD	**Mardin**	**1.49**	**159**	*i* P		**Pn**	**16 56 29.0**	**-0.1**
MARD				*i* S		**Sn**	**16 56 48.7**	**-0.4**
EZM	**Erzurum**	**1.55**	**39**	*e*PN		**Pn**	**16 56 29.9**	**-0.1**
KELT	**Kelkit**	**1.58**	**336**	*i* P		**Pb**	**16 56 31.2**	**-0.1**
KELT				*i* S		**Sg**	**16 56 53.8**	**+1.6**
KELT	**Kelkit**	**1.58**	**336**	*i* P		**Pb**	**16 56 31.2**	**-0.1**
KELT				*i* S		**Sg**	**16 56 53.8**	**+1.6**
URFA	**Urfa**	**1.61**	**219**	*e*PN		**Pn**	**16 56 31.2**	**+0.4**
URFA	**Urfa**	**1.61**	**219**	*e*Pn		**Pn**	**16 56 31.2**	**+0.4**
BAYT	**Ayd¨¨ntepe-Bay**	**1.69**	**1**	*e*PN		**Pn**	**16 56 32.0**	**+0.2**
BAYT	**Ayd¨¨ntepe-Bay**	**1.69**	**1**	*e*Pn		**Pn**	**16 56 32.0**	**+0.2**
GUMT	**Gumushane**	**1.82**	**345**	*e*PN		**Pn**	**16 56 34.0**	**+0.4**
GUMT	**Gumushane**	**1.82**	**345**	*e*Pn		**Pn**	**16 56 34.0**	**+0.4**
ATAB	**Bozova**	**1.88**	**230**	*i* P		**Pn**	**16 56 35.3**	**+0.9**
ATAB				*i* S		**Sg**	**16 57 01.5**	**-0.3**
ATAB	**Bozova**	**1.88**	**230**	*i* P		**Pn**	**16 56 35.3**	**+0.9**
ATAB				*i* S		**Sg**	**16 57 01.5**	**-0.3**
DARE	**Darende-Malaty**	**2.05**	**267**	*e*PN		**Pn**	**16 56 37.5**	**+0.7**
DARE	**Darende-Malaty**	**2.05**	**267**	*e*Pn		**Pn**	**16 56 37.5**	**+0.7**
SUSE	**Susehri**	**2.10**	**316**	*i* P		**Pb**	**16 56 39.2**	**-0.9**
SUSE	**Susehri**	**2.10**	**316**	*i* P		**Pb**	**16 56 39.2**	**-0.9**
SUSE				*i* S		**Sg**	**16 57 08.6**	**-0.2**
SIRT	**Sirnak**	**2.21**	**122**	*e*PN		**Pn**	**16 56 39.0**	**+0.2**
SIRT	**Sirnak**	**2.21**	**122**	*e*Pn		**Pn**	**16 56 39.1**	**+0.2**
AGRB	**Hanur-Agry**	**2.41**	**68**	*e*PN		**Pn**	**16 56 41.9**	**0.0**
AGRB	**Hanur-Agry**	**2.41**	**68**	*e*Pn		**Pn**	**16 56 41.9**	**0.0**
ESPY	**Espiye-Giresun**	**2.45**	**335**	*e*PN		**Pn**	**16 56 42.5**	**+0.4**
ESPY	**Espiye-Giresun**	**2.45**	**335**	*e*Pn		**Pn**	**16 56 42.5**	**+0.4**
SVSK	**Karacayir**	**2.69**	**298**	*e*PN		**Pn**	**16 56 46.3**	**+0.9**
SVSK	**Karacayir**	**2.69**	**298**	*e*Pn		**Pn**	**16 56 46.3**	**+0.9**
KMRS	**Kahramanmaras**	**2.79**	**246**	*e*PN		**Pn**	**16 56 47.9**	**+1.0**
KMRS	**Kahramanmaras**	**2.79**	**246**	*e*Pn		**Pn**	**16 56 47.9**	**+1.0**
BCA	**Borcka**	**2.98**	**23**	*e*PN		**Pn**	**16 56 49.4**	**-0.1**
BCA	**Borcka**	**2.98**	**23**	*e*Pn		**Pn**	**16 56 49.4**	**-0.1**
CUKT	**Cukurca**	**3.13**	**117**	*e*PN		**Pn**	**16 56 52.3**	**+0.6**
CUKT	**Cukurca**	**3.13**	**117**	*e*Pn		**Pn**	**16 56 52.3**	**+0.6**

*ISCJB **12** 16:56:26.0±0.3, 43°.20N±0°.06×140°.17E±0°.07, h191km±4km, mb3.8/17, Error ellipse: s-maj=10.3km s-min=7.5km az=141.4*
*IDC **12** 16:56:27.0±1.2, 43°.19N×140°.15E, h181km±12km, mb3.5/14, mb1 3.6/16, mb1mx3.4/51, mbtmp4.0/16, Error ellipse: s-maj=16.1km s-min=12.0km az=119.0*
*JMA **12** 16:56:27.6±0.1, 43°.24N×140°.16E, h177km±1km, M3.5*
ISC 12 16:56:27.1±0.7, 43°.17N±0°.07×140°.19E±0°.06, h185km±5km, n37, σ0§80/47, mb4.0/17, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.27**	**49**	P		**Pn**	**16 56 51.4**	**-0.2**
JSK				*e*S		**Sn**	**16 57 09.6**	**-1.0**
JSH	**Shimam**	**0.54**	**192**	P		**Pn**	**16 56 52.7**	**+0.1**
JSH				*e*S		**Sn**	**16 57 11.4**	**-0.8**
JNB	**Noboribetsu**	**0.94**	**138**	P		**Pn**	**16 56 55.0**	**+0.2**
JEW	**Eniwo**	**0.98**	**109**	P		**Pn**	**16 56 55.6**	**+0.5**
JEW				*e*S		**Sn**	**16 57 18.4**	**+1.7**
JYM2	**Yakumo 2**	**1.06**	**173**	P		**Pn**	**16 56 56.2**	**+0.5**
JOSM	**Okushiri--Mats**	**1.21**	**206**	P		**Pn**	**16 56 57.5**	**+0.6**
JHR	**Hokuryu**	**1.25**	**62**	P		**Pn**	**16 56 57.6**	**+0.4**
JHR				*e*S		**Sn**	**16 57 20.8**	**+0.3**
JKB	**Kayabe**	**1.43**	**154**	P		**Pn**	**16 56 58.9**	**+0.2**
JFR	**Furan**	**1.76**	**90**	P		**Pn**	**16 57 02.1**	**+0.2**
JFR				*e*S		**Sn**	**16 57 29.1**	**+0.2**
JOT	**Ohata**	**1.90**	**160**	P		**Pn**	**16 57 03.5**	**+0.1**
ASAJ	**Asahikawa**	**1.98**	**61**	P		**Pn**	**16 57 04.6**	**+0.4**
6.1nm,0.3s,baz=247,slow=10,SNR=16								
ASAJ				S		Sn	16 57 25.8	-7.4
1.8nm,0.3s,baz=52,slow=19,SNR=2.8								
JKK2	**Kamakawa 2**	**1.98**	**69**	P		**Pn**	**16 57 04.9**	**+0.7**
JKK2				*e*S		**Sn**	**16 57 33.5**	**+0.3**
JNBK	**Urakawa-nobuka**	**2.09**	**114**	P		**Pn**	**16 57 05.4**	**+0.1**
JNBK				*e*S		**Sn**	**16 57 35.8**	**+0.7**
JCH	**Churui**	**2.40**	**102**	P		**Pn**	**16 57 07.6**	**-1.2**
JCH				*e*S		**Sn**	**16 57 38.8**	**-2.4**
JWK2	**Keihoku**	**2.47**	**29**	P		**Pn**	**16 57 10.4**	**+0.9**
JAR	**Ashorobuto**	**2.62**	**86**	P		**Pn**	**16 57 11.6**	**+0.3**
JAR				*e*S		**Sn**	**16 57 45.8**	**0.0**
USRK	**Ussuriysk Ar.**	**6.04**	**283**	P		Pn	16 58 00.2	+5.7
0.2nm,0.3s,baz=84,slow=15,SNR=2.2								
MJAR	**Matsushiro Arr**	**6.80**	**194**	P		**Pn**	**16 58 05.2**	**+0.6**
2.2nm,0.3s,baz=8.0,slow=13,SNR=19								
PETK	**Petropavlovsk-**	**15.30**	**43**	P		**P**	**16 59 53.8**	**-0.2**
0.2nm,0.3s,baz=216,slow=6.3,SNR=8.1								
SEY	**Seymchan**	**21.03**	**16**	P		**P**	**17 00 54.9**	**-1.2**
2.8nm,0.6s,baz=208,slow=9.4,SNR=28								
SONM	**Songino Array**	**24.02**	**293**	P		**P**	**17 01 24.1**	**-0.9**
0.8nm,0.6s,baz=81,slow=8.8,SNR=7.4								
ZALV	**Zalesovo Beam**	**37.29**	**307**	P		**P**	**17 03 21.4**	**+0.5**
2.4nm,0.4s,baz=93,slow=9.4,SNR=12								
ZALV					ScP	**ScP**	**17 09 06.7**	**+1.1**
0.4nm,0.3s,baz=77,slow=3.2,SNR=4.0								
MKAR	**Makanchi Array**	**40.32**	**296**	P		**P**	**17 03 46.9**	**+0.7**
0.4nm,0.6s,baz=80,slow=11,SNR=9.2								
MKAR					ScP	**ScP**	**17 09 18.0**	**+0.6**
0.3nm,0.7s,baz=41,slow=3.9,SNR=3.9								
ILAR	**Eielson Array**	**44.92**	**35**	P		**P**	**17 04 23.9**	**+0.9**
0.6nm,0.7s,baz=277,slow=7.9,SNR=9.0								
INK	**Inuvik**	**49.42**	**29**	P		**P**	**17 04 58.1**	**+0.5**
1.5nm,0.3s,baz=307,slow=11,SNR=22								
RES	**Resolute Bay**	**56.91**	**15**	P		**P**	**17 05 52.0**	**-0.1**
1.9nm,0.3s,baz=305,slow=6.1,SNR=11								
KEV	**Kevo**	**57.39**	**338**	*ep*		**P**	**17 05 54.3**	**-1.3**
0.3nm,0.4s								
ARCES	**ARCESS Array B**	**57.94**	**338**	P		**P**	**17 05 59.4**	**-0.1**
3.6nm,1.0s,baz=46,slow=7.1,SNR=5.3								
YKA	**Yellowknife Ar**	**59.02**	**32**	P		**P**	**17 06 07.7**	**+0.8**
0.6nm,0.5s,baz=305,slow=6.5,SNR=8.8								
JOF	**Joensuu**	**60.15**	**330**	*ep*		**P**	**17 06 12.9**	**-1.7**
2.4nm,0.6s								
KAF	**Kangasniemi**	**62.46**	**331**	*ep*		**P**	**17 06 29.3**	**-0.8**
1.5nm,0.5s								
FINES	**FINESS Array B**	**62.98**	**331**	P		**P**	**17 06 33.6**	**0.0**
3.0nm,0.4s,baz=68,slow=6.4,SNR=55								
WRA	**Warramunga Arr**	**63.03**	**186**	P		**P**	**17 06 34.5**	**0.0**
0.5nm,0.9s,baz=4.6,slow=7.0,SNR=6.1								
ASAR	**Alice Springs**	**66.76**	**186**	P		**P**	**17 06 58.6**	**+0.2**
0.3nm,0.6s,baz=4.9,slow=7.6,SNR=6.4								
NB2	**NORSAR Subarra**	**68.19**	**336**	P		**P**	**17 07 06.9**	**-0.1**
comp=Z,1.3nm,0.6s,baz=36,slow=6.5								
NOA	**NORSAR Array B**	**68.19**	**336**	P		**P**	**17 07 06.8**	**-0.2**
comp=Z,2.0nm,0.7s,baz=44,slow=8.2,SNR=8.5								
FRB	**Frobisher Bay**	**71.01**	**13**	P		**P**	**17 07 23.4**	**-0.7**
comp=Z,1.7nm,0.6s,baz=353,slow=6.6,SNR=4.0								

*ISCJB **12** 16:57:50.2±1.0, 34°.29S±0°.05×72°.12W±0°.09, h16km, mb4.2/4, Error ellipse: s-maj=10.7km s-min=6.9km az=16.1*
*IDC **12** 16:57:52.1±1.8, 34°.03S×71°.41W, h0km, mb4.3/3, mb1 4.3/3, mb1mx3.6/33, mbtmp4.3/3, Error ellipse: s-maj=87.9km s-min=36.9km az=102.0*
*GUC **12** 16:57:52.9±0.6, 34°.29S×71°.96W, h25km±69km, ML3.9*
*NEIC **12** 16:57:55.5±0.8, 34°.31S×71°.81W, h35km, mb4.2/2, Error ellipse: s-maj=25.7km s-min=11.3km az=86.0*
ISC 12 16:57:52.7±0.9, 34°.31S±0°.06×71°.87W±0°.09, h16km, n15, σ0§48/19, mb4.2/4, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.87**	**143**	⇓*i* P		**Pg**	**16 58 09.8**	**+0.1**
NICH				*i* S		**Sn**	**16 58 22.5**	**-0.2**
STL	**Santa Lucia**	**1.34**	**50**	*e*P		**Pn**	**16 58 16.7**	**-0.1**
STL				*i* S		**Sg**	**16 58 35.2**	**-0.7**
LACH	**Col Las Americ**	**1.40**	**53**	*e*P		**Pb**	**16 58 18.6**	**0.0**
LACH				*i* S3		**Sg**	**16 58 38.0**	**0.0**
LACH				AML	AML		16 58 46.6	
comp=N,2μm,0.5s								
SJCH	**San Jose de Ma**	**1.42**	**63**	⇑*i* P		**Pb**	**16 58 18.7**	**-0.2**
SJCH				*i* S		**Sg**	**16 58 38.3**	**-0.3**
SJCH				AML	AML		16 58 44.7	
comp=N,4μm,0.4s								
LCO	**Las Campanas**	**5.37**	**11**	*e*Pn		**Pn**	**16 59 12.0**	**-0.5**
PLCA	**Paso Flores**	**6.50**	**171**	Pn		**Pn**	**16 59 26.9**	**-0.8**
TRQA	**Tornquist**	**8.82**	**118**	Pn		**Pn**	**16 59 59.9**	**+0.3**
SNAA	**Sanae**	**51.25**	**158**	*e*P		**P**	**17 06 54.9**	**-0.4**
comp=N,3.3nm,1.1s								
QSPA	**South Pole Qui**	**55.93**	**180**	P		P	17 07 34.1	+4.3
comp=N,4.1nm,0.9s,baz=122,slow=1.8,SNR=5.3								
QSPA	**South Pole Qui**	**55.93**	**180**	*e*P		**P**	**17 07 30.8**	**+1.0**
comp=N,2.0nm,1.0s								
BOSA	**Boshof**	**79.80**	**118**	P		**P**	**17 10 00.9**	**+0.2**
comp=N,2.9nm,1.0s,baz=222,slow=5.3,SNR=3.3								
TORD	**Torodi Ar. Bea**	**84.18**	**70**	P		**P**	**17 10 23.8**	**+0.2**
comp=N,1.4nm,0.8s,baz=239,slow=3.2,SNR=3.7								
BVAR	**Borovoye Array**	**147.41**	**43**	PKPbc		**PKPbc**	**17 17 35.7**	**+0.5**
comp=N,1.0nm,0.5s,baz=251,slow=4.4,SNR=4.5								
ZALV	**Zalesovo Beam**	**154.41**	**33**	PKPbc		**PKPbc**	**17 17 51.6**	**-0.2**
comp=N,0.5nm,0.3s,baz=319,slow=6.3,SNR=3.0								
ZALV				PKPab		**PKPab**	**17 18 06.6**	**+0.5**
comp=N,0.7nm,0.4s,baz=293,slow=4.2,SNR=4.5								
MKAR	**Makanchi Array**	**156.85**	**50**	PKPab		**PKPab**	**17 18 16.9**	**-0.1**
comp=N,1.4nm,1.1s,baz=317,slow=2.7,SNR=5.6								

*TIR **12** 17:04:58.7±2.4, 41°.21N×20°.77E, h3km±216km*
*SKO **12** 17:04:59.4, 41°.12N×20°.70E, h10km, M1.1, ML1.9*
*THE **12** 17:05:00.4, 41°.17N×20°.77E, h12km±1km, ML2.4/3, Error ellipse: s-maj=2.0km s-min=0.6km az=249.0*
*ATH **12** 17:05:01.3, 41°.16N×20°.83E, h11km±4km, MD2.9/5*
*BEO **12** 17:05:01.9±0.7, 41°.08N×20°.78E, h2km±3km, ML2.1/6*
CSEM 12 17:05:01.2±0.2, 41°.13N×20°.78E, h2km, ML1.9, 2C, Error ellipse: s-maj=6.0km s-min=3.3km az=68.0, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.03**	**145**	*i* Pg		Pg	17 04 54.6	-7.3
OHR				*e*Sg		Sg	17 05 02.9	+0.5
OHR	**Ohrid**	**0.03**	**145**	⇑*i* Pg		Pg	17 05 01.4	-0.5
OHR				*i* Sg		Sg	17 05 03.0	+0.6
OHR				*e*Lg		Lg	17 05 03.2	
comp=E,1μm,0.5s								
OHR	**Ohrid**	**0.03**	**145**	⇑*i* Pg		Pg	17 05 01.4	-0.5
OHR				*i* Sg		Sg	17 05 03.0	+0.6
OHR				*e*Lg		Lg	17 05 03.1	
comp=E,1μm,0.5s								
KBN	**Korca**	**0.51**	**179**	*i* PG		Pb	17 05 12.2	-0.8
KBN				*i* SG		Sb	17 05 19.5	-1.4
KBN	**Korca**	**0.51**	**179**	P		Pg	17 05 11.4	+0.3
KBN				S		Sg	17 05 18.7	+1.0
KBN	**Korca**	**0.51**	**179**	P		Pg	17 05 11.4	+0.3
KBN	**Korca**	**0.51**	**179**	*i* Pg		Pb	17 05 12.2	-0.8
SNR=92								
KBN				S		Sg	17 05 18.7	+1.0
KBN				*i* Sg		Sb	17 05 19.5	-1.4
SNR=92								
FNA	**Florina**	**0.57**	**127**	P		Pg	17 05 11.8	-0.4
FNA				S		Sg	17 05 20.8	+1.1
FNA	**Florina**	**0.57**	**127**	*e*PB		Pg	17 05 12.2	0.0
FNA				*e*SB		Sg	17 05 20.7	+1.0
FNA	**Florina**	**0.57**	**127**	P		Pg	17 05 11.8	-0.4
FNA	**Florina**	**0.57**	**127**	*e*Pb		Pg	17 05 12.2	0.0
FNA				*e*Sb		Sg	17 05 20.7	+1.0
PHP	**Peshkopia**	**0.61**	**335**	*i* PG		Pg	17 05 11.4	-1.6
PHP				*i* SG		Sg	17 05 20.1	-0.8
PHP	**Peshkopia**	**0.61**	**335**	P		Pg	17 05 11.0	-2.0
PHP				S		Sg	17 05 19.6	-1.4
PHP	**Peshkopia**	**0.61**	**335**	P		Pg	17 05 11.0	-2.0
PHP	**Peshkopia**	**0.61**	**335**	*i* Pg		Pg	17 05 11.4	-1.6
SNR=92								
PHP				S		Sg	17 05 19.6	-1.4
PHP				*i* Sg		Sb	17 05 20.1	-3.7
SNR=92								
NEST	**Nestorio**	**0.74**	**164**	P		Pg	17 05 15.1	-0.5
N

FRSS	Farasan al Kab	2.17	123	P	Pn	17 17 31.5	-0.8
NAMS	An Nimas	2.24	57	P	Pn	17 17 36.0	+2.4
NAMS	An Nimas	2.24	57	P	Pn	17 17 35.8	+2.1
JAZS	Jizan	2.71	108	P	Pn	17 17 39.0	-0.8
JAZS	Jizan	2.71	108	P	Pn	17 17 39.4	-0.4
RAYN	Ar Rayn	7.43	41	*e*Pn	Pn	17 18 45.2	+0.4
	14nm,1.2s						
RAYN				*e*Sn	Sn	17 20 05.0	-4.2
RAYN				*e*Lg	Lg	17 21 06.7	
RAYN	Ar Rayn	7.43	41	*e*Pn	Pn	17 18 45.2	+0.4
	14nm,1.2s						
RAYN				*e*Sn	Sn	17 20 05.0	-4.2
RAYN				*e*Sb	Sb	17 20 32.5	-1.5
RAYN				*e*Sg	Sg	17 20 54.5	-0.4
RAYN				*e*Lg	Lg	17 21 06.7	
ASF	Jabal al Asfar	14.49	349	Pn	Pn	17 20 21.4	0.0
	0.1nm,0.3s,baz=132,slow=8.3,SNR=3.5						
MMAI	Mount Meron Ar	15.63	345	Pn	Pn	17 20 36.3	-0.3
	0.1nm,0.3s,baz=126,slow=14,SNR=2.6						
KMBO	Kilima Mbogo	19.17	189	LR	LR	17 28 34.8	
	comp=Z,751nm,20.4s,baz=72,slow=36						
KMBO	Kilima Mbogo	19.17	189	P	Pn	17 21 22.5	+1.3
	9.1nm,1.5s						
KMBO	Kilima Mbogo	19.17	189	P	Pn	17 21 22.4	+1.3
	9.1nm,1.5s						
ISP	Isparta	21.56	339	P	P	17 21 46.3	+0.4
	5.5nm,0.7s						
ISP	Isparta	21.56	339	P	P	17 21 46.4	+0.4
	5.5nm,0.7s						
BRTR	Keskin Array B	22.45	347	P	P	17 21 55.3	-0.2
	10nm,1.2s,baz=159,slow=7.4,SNR=20						
GNI	Garni	22.48	9	P	P	17 21 58.8	+3.0
	17nm,1.2s						
GNI	Garni	22.48	9	P	P	17 21 58.8	+3.0
	17nm,1.2s						
GEYT	Alibeck	25.34	35	P	P	17 22 24.9	+1.5
	0.7nm,0.5s,baz=273,slow=13,SNR=2.5						
KBZ	Khabaz	25.81	4	P	P	17 22 29.2	+1.8
	3.3nm,0.9s,baz=157,slow=7.7,SNR=3.2						
KIV	Kislovodsk	26.02	4	P	P	17 22 29.2	-0.3
	10.0nm,0.9s						
KIV	Kislovodsk	26.02	4	P	P	17 22 29.2	-0.3
	10.0nm,0.9s						
TAM	Tamanrasset	32.84	284	*e*P	P	17 23 31.3	+0.9
	4.9nm,0.9s						
TAM	Tamanrasset	32.84	284	*e*P	P	17 23 31.3	+0.9
	4.9nm,0.9s						
AKASG	Malin Array Be	33.85	347	P	P	17 23 38.1	-0.5
	0.2nm,0.3s,baz=164,slow=7.4,SNR=4.6						
MORC	Moravsky Berou	36.63	335	P	P	17 24 00.0	-2.7
	7.8nm,1.3s						
MORC	Moravsky Berou	36.63	335	P	P	17 24 00.0	-2.7
	7.8nm,1.3s						
TORD	Torodi Ar. Bea	37.38	268	P	P	17 24 08.3	-1.1
	4.1nm,0.9s,baz=82,slow=6.9,SNR=17						
GERES	GERESS Array B	37.58	331	P	P	17 24 09.4	-1.4
	0.9nm,0.9s,baz=125,slow=6.8,SNR=7.2						
ARU	Arti	40.84	16	*e*P	P	17 24 38.2	+0.3
	3.0nm,0.9s						
ARU	Arti	40.84	16	*e*P	P	17 24 38.2	+0.3
	3.0nm,0.9s						
BRVK	Borovoye	42.15	27	P	P	17 24 50.1	+1.4
	2.4nm,0.9s						
BRVK	Borovoye	42.15	27	P	P	17 24 50.1	+1.4
	2.4nm,0.9s						
BVAR	Borovoye Array	42.17	27	P	P	17 24 49.9	+1.0
	0.4nm,0.6s,baz=226,slow=7.7,SNR=5.5						
ESDC	Sonseca Array	43.82	309	P	P	17 25 01.5	-1.0
	0.2nm,0.3s,baz=110,slow=9.5,SNR=4.5						
FINES	FINESS Array B	44.60	350	P	P	17 25 07.3	-1.0
	1.1nm,0.6s,baz=156,slow=9.6,SNR=6.2						
KURBB	Kurchatov Arra	44.62	34	P	P	17 25 08.9	+0.2
	0.6nm,0.3s,baz=240,slow=8.0,SNR=9.3						
KURK	Kurchatov	44.71	34	P	P	17 25 08.9	-0.5
KURK	Kurchatov	44.71	34	P	P	17 25 08.9	-0.5
MKAR	Makanchi Array	44.93	41	P	P	17 25 12.5	+1.3
	0.6nm,0.6s,baz=250,slow=8.7,SNR=8.8						
DBIC	Dimbokro	45.33	262	P	P	17 25 15.3	+0.5
	4.0nm,0.8s,baz=74,slow=7.1,SNR=5.2						
DBIC	Dimbokro	45.33	262	*e*P	P	17 25 14.2	-0.6
	5.2nm,0.8s						
DBIC	Dimbokro	45.33	262	*e*P	P	17 25 14.2	-0.6
	5.2nm,0.8s						
HFS	Hagfors	46.26	342	P	P	17 25 20.6	-0.9
	3.1nm,0.8s,baz=138,slow=11,SNR=6.4						
NB2	NORSAR Subarra	47.73	341	P	P	17 25 31.9	-1.2
	comp=Z,23nm,2.0s,SNR=9.3						
NB2	NORSAR Subarra	47.73	341	P	P	17 25 31.9	-1.2
	comp=Z,23nm,2.0s,SNR=4.4						
NOA	NORSAR Array B	47.73	341	P	P	17 25 31.4	-1.6
	comp=Z,2.5nm,1.0s,baz=176,slow=4.9,SNR=3.0						
ZALV	Zalesovo Beam	49.63	33	P	P	17 25 47.1	-0.7
	comp=Z,5.2nm,1.1s,baz=243,slow=8.2,SNR=10.0						
EKA	Eskdalemuir Ar	49.72	329	LR	LR	17 47 07.8	
	comp=Z,591nm,21.8s,baz=230,slow=37						
CMAR	Chiang Mai Arr	55.56	80	P	P	17 26 33.6	+1.3
	comp=Z,0.8nm,1.0s,baz=292,slow=6.7,SNR=6.3						
SONM	Songino Array	60.96	45	P	P	17 27 11.9	+2.1
	comp=Z,1.5nm,1.1s,baz=251,slow=8.0,SNR=9.0						
BILL	Bilibino	85.82	18	P	P	17 29 36.9	+1.3
BILL	Bilibino	85.82	18	P	P	17 29 36.9	+1.3

IDC 12 17:22:51.0±4.7, 10°.82S×166°.17E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/35, mbtmp3.5/3, Error ellipse: s-maj=242.3km s-min=32.8km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.95	250	P	P	17 29 19.5	+0.6
	0.3nm,0.6s,baz=83,slow=8.6,SNR=6.4						
ASAR	Alice Springs	33.27	243	P	P	17 29 29.9	-0.6
	0.6nm,0.6s,baz=67,slow=9.5,SNR=12						
ILAR	Eielson Array	83.17	18	P	P	17 35 18.6	0.0
	0.2nm,0.7s,baz=240,slow=5.7,SNR=5.6						

GUC 12 17:23:28.7±0.4, 35°.00S×70°.73W, h107km±6km, ML3.9, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.41	270	*i* P	Pn	17 23 43.8	-0.9
NICH				*i* S	Sn	17 23 55.8	-0.8
NICH				AML	AML	17 24 00.1	
	comp=N,7μm,0.3s						
TALC	Talca	0.84	242	*i* P	Pn	17 23 47.5	-0.5
TALC				*i* S	Sn	17 24 02.1	-0.5
TALC				AML	AML	17 24 16.1	
	comp=E,5μm,0.3s						
SJCH	San Jose de Ma	1.39	13	*i* P	Pn	17 23 54.2	0.0
ANTU	Antumapu	1.43	3	*i* P	Pn	17 23 54.5	-0.1
ANTU				*i* S	Sn	17 24 13.8	-0.4
CLCH	Cerro Calan	1.61	6	*i* P	Pn	17 23 56.6	-0.1
CLCH				*i* S	Sn	17 24 18.0	-0.1
CLCH				AML	AML	17 24 22.7	
	comp=N,1μm,0.4s						

BJI ***12*** *17:27:39.0, 0°.99S×99°.61E, h83km, mB5.0/17, mb4.6/27, Ms4.8/15, Ms7 4.5/14*
ISCJB ***12*** *17:27:40.0±0.4, 0°.91S±0°.03×99°.81E±0°.03, h79km±3km, mb4.6/52, Error ellipse: s-maj=6.8km s-min=3.4km az=142.7*
IDC ***12*** *17:27:39.5±0.5, 0°.80S×100°.08E, h65km±3km, mb4.2/34, mb1 4.3/36, mb1mx4.2/55, mbtmp4.5/36, MS3.7/3, Ms1 3.7/3, ms1mx3.5/44, Error ellipse: s-maj=14.3km s-min=8.8km az=51.0*
KLM ***12*** *17:27:40.1, 0°.89S×99°.74E, h32km, mb5.0, ML4.7, MS5.7*
NEIC ***12*** *17:27:41.1±0.6, 0°.85S×99°.94E, h78km±6km, mb4.8/23, Error ellipse: s-maj=7.9km s-min=4.6km az=59.0*
NEIC Felt [III] at Padang, Padangpanjang, Pariaman and in Pasaman.
DJA ***12*** *17:27:42.0±0.6, 1°.S±3°.×10°.0E±°, h38km±5km, M4.7/25, mB5.2/12, mb4.9/25, MLv5.0/19, Mw(mB)4.6/12*
ISC 12 17:27:40.5±0.3, 0°.95S±0°.04×99°.80E±0°.05, h72km±2km, h72km:pP-P, n227, σ1§56/251, mb4.7/52, 11C-9D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	0.66	87	P	Pn	17 27 55.4	+0.3
PDSI				S	Sn	17 28 06.2	+0.2
SDSI	Sungai Dareh	1.62	90	P	Pn	17 28 08.4	+1.2
MNSI	Mandailing Nat	1.74	353	P	Pn	17 28 08.2	-0.6
MNSI				S	Sn	17 28 27.5	-2.7
BKNI	Bangkinang	1.77	44	P	Pn	17 28 09.4	+0.3
BKNI	Bangkinang	1.77	44	P	Pn	17 28 09.0	-0.1
	baz=1.7,SNR=40						
BKNI	Bangkinang	1.77	44	*e*Pn	Pn	17 28 09.1	-0.1
RGRI	Rengat	2.60	77	P	Pn	17 28 21.3	+1.0
PSI	Prapat	3.82	347	P	Pn	17 28 34.0	-3.2
	38nm,0.3s,baz=152,slow=11,SNR=88						
PSI				LR	LR	17 29 39.6	
	comp=Z,260nm,18.8s,baz=165,slow=33						
PSI	Prapat	3.82	347	P	Pn	17 28 35.5	-1.6
	baz=3.7,SNR=44						
JMBI	JAMBI	3.90	100	P	Pn	17 28 39.8	+1.8
FRIM	Kepong	4.54	24	⇓P	Pn	17 28 46.7	0.0
BTDF	Bukit Timah Da	4.58	60	P	Pn	17 28 47.6	+0.2
	baz=4.5,SNR=33						
KGM	Kluang	4.58	50	⇑P	Pn	17 28 47.7	+0.4
TSI	Tuntungan	4.59	344	P	Pn	17 28 49.1	+1.7
MNAI	Manna	4.63	137	P	Pn	17 28 50.0	+2.0
	baz=4.6,SNR=21						
MNAI	Manna	4.63	137	*e*Pn	Pn	17 28 49.7	+1.7
LHSI	Lahat	4.69	128	P	Pn	17 28 51.4	+2.6
SNSI	Sinabang, Aceh	4.81	314	P	Pn	17 28 51.7	+1.2
MYKOM	Kota Tinggi	4.87	56	⇑P	Pn	17 28 52.4	+1.1
MYKOM	Kota Tinggi	4.87	56	*e*Pn	Pn	17 28 51.6	+0.2
KCSI	Kotacane, Aceh	4.88	335	P	Pn	17 28 52.0	+0.5
TPTI		4.93	328	P	Pn	17 28 58.9	+6.8
TPRI	Tanjung Pinang	5.07	69	P	Pn	17 28 54.3	+0.2
	228nm,0.6s,4μm1.2nm						
PMBI	Palembang	5.34	112	*e*Pn	Pn	17 28 55.0	-2.7
IPM	Ipoh	5.53	13	⇑P	Pn	17 29 02.0	+1.7
IPM	Ipoh	5.53	13	*e*Pn	Pn	17 29 00.8	+0.5
MDSI	Maura Dua	5.61	129	P	Pn	17 29 03.4	+2.0
	187nm,0.8s,2μm0.6nm						
LWLI	Liwa	5.87	134	P	Pn	17 29 07.5	+2.5
	204nm,0.7s,10μm1.3nm						
KULM	Kulim	6.25	8	⇓P	Pn	17 29 10.0	-0.2
KULM	Kulim	6.25	8	*e*Pn	Pn	17 29 09.3	-0.9
KASI	Kota Agung	6.53	134	P	Pn	17 29 14.8	+0.8
	130nm,0.6s,3μm0.9nm						
LHMI	Lhok Sumawe	6.76	335	P	Pn	17 29 19.0	+1.8
	baz=6.8,SNR=4.1						
LHMI	Lhok Sumawe	6.76	335	*e*Pn	Pn	17 29 17.1	0.0
KTGM	Kuala Trenggan	7.07	28	⇑P	Pn	17 29 22.5	+1.2
CGJI	Cibinong	8.14	134	P	Pn	17 29 34.8	-1.2
	34nm,0.8s,775nm						
PKDT	Phuket	8.90	351	P	Pn	17 29 48.5	+2.1
	50nm,0.6s,0.2nm						
SURT	Suratani	9.89	354	P	Pn	17 30 08.8	+8.9
CISI	Cisompet, Garu	10.34	130	P	Pn	17 30 04.5	-1.6
	88nm,0.6s,993nm						
CISI	Cisompet, Garu	10.34	130	P	Pn	17 30 03.4	-2.7
	baz=10,SNR=6.8						
CISI				S	Sn	17 31 58.1	-2.3
	baz=10,SNR=4.4						
CISI	Cisompet, Garu	10.34	130	*e*Pn	Pn	17 30 01.9	-4.2
CISI				*e*Sn	Sn	17 31 54.1	-6.3
KPJI	Karang Pucung	11.09	125	P	Pn	17 30 16.3	0.0
	36nm,0.6s,1μm						
XMI	Christmas Isla	11.11	148	S	Sn	17 32 15.5	-3.6
	baz=11,SNR=5.0						
XMIS	Christmas Isla	11.11	149	P	Pn	17 30 13.2	-3.4
	baz=11,SNR=3.1						
XMIS				S	Sn	17 32 06.1	-13
	baz=11,SNR=4.2						
COCO	West Island	11.55	195	*e*Pn	Pn	17 30 22.8	+0.2
UGM	Wanagama	12.73	123	P	Pn	17 30 38.0	-0.7
	baz=13,SNR=9.0						
UGM	Wanagama	12.73	123	*e*Pn	Pn	17 30 34.2	-4.5
UGM				*es*Pn	sPn	17 30 49.9	-8.7
SBUM	Sibu	12.86	75	⇓P	Pn	17 30 41.3	+0.8
SBUM	Sibu	12.86	75	*e*Pn	Pn	17 30 40.9	+0.4
PWJI	Pagerwojo	13.87	121	P	P	17 31 14.1	+14
BBKI	Banjar Baru	15.23	100	P	P	17 31 13.3	-1.7
	55nm,0.8s						
JAGI	Jajag, Banyuwa	16.13	118	P	Pn	17 31 21.8	-1.1
	baz=16,SNR=4.8						
JAGI	Jajag, Banyuwa	16.13	118	*e*Pn	Pn	17 31 21.0	-1.9
	15nm,0.9s						
JAGI				*e*Sn	Sn	17 34 20.6	-0.6
CHAI	Chaiyaphum	16.88	7	P	P	17 31 39.4	+6.2
SRBI	Singaraja	16.91	115	P	P	17 31 39.9	+6.3
	43nm,0.8s,600nm						
UBPT	Khong Chiam	17.07	19	P	P	17 31 48.5	+13
PBKT	Sadao Pong	17.44	4	P	P	17 31 47.5	+8.1
KKM	Kota Kinabalu	17.80	67	⇓P	Pn	17 31 46.3	+2.7
KKM	Kota Kinabalu	17.80	67	*e*P	Pn	17 31 45.1	+1.5
SUKH	Sukhothai	18.31	359	P	Pn	17 31 52.6	+2.9
	3.4nm,0.8s,66nm						
SDKM	Sandakan	18.56	69	⇓P	Pn	17 31 54.8	+2.0
UTTA	Uttaradit	18.59	2	P	Pn	17 31 53.5	+0.5
	3.2nm,0.8s,36nm						
MHMT	Maesarieng	19.09	355	P	Pn	17 32 00.1	+1.1
	9.9nm,0.8s						
CM01	Chiang Mai Arr	19.26	358	*e*P	P	17 31 55.3	-4.1
CM01				*e*ScP	ScP	17 39 48.4	-1.2
CMAR	Chiang Mai Arr	19.30	358	P	P	17 31 56.3	-3.5
	0.3nm,0.3s,baz=186,slow=10,SNR=18						
CMAR				LR	LR	17 39 55.8	
	comp=Z,94nm,21.5s,baz=325,slow=38						
LAMP	Lampang	19.35	360	P	Pn	17 32 07.6	+5.5
	8.7nm,0.8s						
MYLDM	Lahad Datu	19.64	72	*e*P	Pn	17 32 06.7	+1.1
	22nm,0.8s						
CMMT	Chiang Mai	19.65	358	P	Pn	17 32 06.6	+0.9
	17nm,1.4s						
CHTO	Chiang Mai	19.65	358	P	Pn	17 32 06.7	+1.0
	55nm,1.4s						
CHTO	Chiang Mai	19.65	358	*e*P	P	17 32 02.9	-0.7
	6.9nm,0.9s						
TTSI	Tana Toraja	20.11	96	P	Pn	17 32 12.7	+1.6
	32nm,1.1s						
MPSI	Mapaga	20.14	86	P	Pn	17 32 11.0	-0.4
	15nm,0.9s						
KAPI	Kappang	20.32	102	*e*P	P	17 32 11.2	+0.2
	24nm,0.8s						
BNSI	Bone	20.57	100	P	Pn	17 32 15.8	-0.7
	43nm,1.1s						
PALK	Pallekele	20.73	293	P	Pn	17 32 17.4	-1.1
	22nm,0.8s,baz=102,slow=8.7,SNR=5.0						
BKSI	Bulukumba	20.75	103	P	Pn	17 32 19.1	+0.5
	28nm,0.9s						
APSI	Ampana	21.84	90	P	P	17 32 36.3	+9.0
	38nm,1.0s						
QIZ	Qiongzhong	22.17	26	P	P	17 32 30.8	+0.1
QIZ				S	S	17 36 31.1	+0.4
QIZ				PMZ			
	11nm,1.4s						
QIZ				LN			
	320nm,18.1s						
QIZ				LZ			
	310nm,21.8s						
QIZ	Qiongzhong	22.17	26	P	P	17 32 28.7	-2.0
MRSI	Marisa	22.18	86	P	P	17 32 32.3	+1.4
	64nm,0.8s						
LUWI	Luwuk	22.96	90	P	P	17 32 39.8	+0.6
	baz=23,SNR=4.5						
GTOI	Gorontalo	23.26	86	P	P	17 32 42.8	+0.7
SOEI	Soe	25.86	111	P	P	17 33 03.0	-2.8
	baz=26,SNR=5.1						
KMI	Kunming	26.07	6	P	P	17 33 09.7	+2.0
KMI				PMZ			
	8.0nm,0.9s						
MBWA	Marble Bar	27.96	137	*e*P	P	17 33 25.2	+0.8
	11nm,0.8s						
H08S2	Diego Garcia H	28.02	255	T	T	18 01 50.7	
	baz=77,slow=76,SNR=36						
H08S3	Diego Garcia H	28.02	256	T	T	18 01 51.3	
	baz=77,slow=76,SNR=41						
H08S1	Diego Carcia H	28.04	255	T	T	18 01 30.5	
	baz=77,slow=76,SNR=31						
GYA	Guiyang	28.04	13	P	P	17 33 27.2	+2.0
GYA				pP	pP	17 33 44.6	+2.3
GYA				sP	sP	17 33 54.2	+3.5
GYA				PP	PnPn	17 34 20.0	+3.6
GYA				S	S	17 38 04.5	-0.3
GYA				sS	sS	17 38 36.9	+2.7
GYA				SS	SnSn	17 39 31.4	+4.6
GYA				PMZ			
	10.0nm,0.8s						
GYA				PMZ			
	90nm,4.8s						
GYA				LN			
	530nm,17.8s						
GYA				LE			
	460nm,18.0s						
GYA				LZ			
	500nm,17.4s						
ODAN	Odare	30.12	338	*e*P	P	17 33 43.8	0.0
	42nm,0.6s						
TAPN	Taplejung	30.45	338	*e*P	P	17 33 47.2	+0.5
	85nm,0.8s						
RAMN	Ramite	30.51	336	*e*P	P	17 33 47.7	+0.4
	18nm,0.6s						
FITZ	Fitzroy Crossi	30.57	125	P	P	17 33 46.0	-1.6
	baz=31,SNR=17						
FITZ	Fitzroy Crossi	30.57	125	*e*P	P	17 33 45.7	-1.9
	3.9nm,0.8s						
JIRN	Jiri	31.31	336	*e*P	P	17 33 54.6	+0.2
	50nm,0.6s						
PKI	Pulchoki	31.55	335	*e*P	P	17 33 56.3	-0.2
	20nm,0.5s						
PKIN	Phulchoki	31.56	335	*e*P	P	17 33 56.3	-0.2
	9.1nm,0.4s						
LSA	Lhasa	31.57	346	*e*P	P	17 33 56.5	-0.4
	19nm,0.5s						
GUN	Gumba	31.66	336	*e*P	P	17 33 57.8	+0.3
	98nm,0.5s						
DMN	Daman	31.71	335	*e*P	P	17 33 57.8	-0.1
KKN	Kakani	31.80	335	*e*P	P	17 33 58.6	0.0
	30nm,0.5s						
CD2	Chengdu	31.90	6	*e*P	P	17 34 00.2	+1.0
CD2				PMZ			
	10.0nm,1.0s						
MORW	Morawa	31.97	152	P	P	17 34 02.5	+2.7
	baz=32,SNR=5.0						
YULB	Yu-li	31.97	39	*e*P	P	17 33 58.8	-1.1
	107nm,2.1s						
SSLB	Suanglung	32.04	39	*e*P	P	17 33 59.3	-1.3
SSLB				*e*PcP	PcP	17 36 50.0	+1.1
KNRA	Kununurra	32.10	119	P	P	17 33 58.5	-2.6
	baz=32,SNR=6.1						
GKN	Gorkha	32.26	334	*e*P	P	17 34 02.6	+0.1
	30nm,0.5s						
FAKI	Fak Fak	32.48	94	P	P	17 34 03.8	-0.8
	baz=32,SNR=5.8						
KOLN	Koldanda	32.52	333	*e*P	P	17 34 05.2	+0.3
	37nm,0.7s						
DANN	Dangsing	32.94	333	*e*P	P	17 34 08.7	0.0
	35nm,0.5s						
KLBR	Kellerberrin	34.89	153	P	P	17 34 27.8	+2.6
	baz=35,SNR=6.3						
NWAO	Narrogin (SRO)	35.79	154	P	P	17 34 32.8	-0.1
	17nm,0.9s,baz=334,slow=9.1,SNR=6.9						
H01W3	Cape Leeuwin H	36.32	160	T	T	18 12 45.0	
	baz=335,slow=76,SNR=4.2						
H01W2	Cape Leeuwin H	36.33	160	T	T	18 13 02.5	
	baz=335,slow=76,SNR=4.6						
H01W1	Cape Leeuwin H	36.33	160	T	T	18 12 47.9	
	baz=335,slow=76,SNR=4.8						
WRKA	Warakurna	36.48	133	P	P	17 34 39.4	+0.4
	baz=36,SNR=41						
KMBL	Kambalda	36.77	148	P	P	17 34 43.6	+2.3
	baz=37,SNR=7.5						
LZH	Lanzhou	37.03	5	*e*P	P	17 34 46.8	+3.2
LZH				pP	pP	17 35 03.7	+2.6
LZH				sP	sP	17 35 12.6	+3.1
LZH				PMZ			
	11nm,1.0s						
LZH				PMZ			
	110nm,4.3s						
WRA	Warramunga Arr	38.70	121	P	P	17 34 55.8	-2.0
	6.5nm,0.4s,baz=302,slow=9.1,SNR=102						
WRA				PcP	PcP	17 37 08.2	-0.3
	1.1nm,0.4s,baz=316,slow=2.5,SNR=7.3						
WRA				S	S	17 40 43.2	-6.5
	1.7nm,1.1s,baz=292,slow=16,SNR=5.5						
WRA				LR	LR	17 50 57.5	
	comp=Z,1μm,22.0s,baz=150,slow=36						
WRAB	Tennant Creek	38.70	121	*e*P	P	17 34 55.8	-2.0
	9.5nm,0.8s						
WB2	Warramunga Arr	38.71	121	*e*P	P	17 34 56.0	-1.9
FORT	Forrest	39.97	141	P	P	17 35 10.2	+2.0
	baz=40,SNR=28						
FORT	Forrest	39.97	141	*e*P	P	17 35 09.3	+1.1
	50nm,0.6s						
ASAR	Alice Springs	40.03	127	P	P	17 35 08.2	-0.7
	6.4nm,0.7s,baz=303,slow=7.4,SNR=169						
ASAR				PcP	PcP	17 37 13.3	+0.6
	2.4nm,0.5s,baz=310,slow=3.0,SNR=8.5						
ASAR				ScP	ScP	17 40 54.8	-0.8
	1.0nm,0.9s,baz=292,slow=4.9,SNR=5.1						
AS31	Alice Springs	40.03	127	*e*P	P	17 35 07.8	-1.0
AS01	Alice Springs	40.07	127	*e*P	P	17 35 08.0	-1.1
GTA	Gaotai	40.16	0	*e*P	P	17 35 08.3	-1.4
GTA				pP	pP	17 35 27.5	+0.1
GTA				sP	sP	17 35 36.5	+0.8
GTA				PcP	PcP	17 37 12.3	-0.6
GTA				PMZ			
	2.0nm,1.0s						
HHC	Hu-ho-hao-te	42.95	13	*e*P	P	17 35 34.3	+1.8
HHC				pP	pP	17 35 52.7	+2.4
HHC				sP	sP	17 36 01.8	+3.2
HHC				PP	PP	17 37 17.6	+4.0
HHC				S	S	17 41 53.8	+1.2
HHC				sS	sS	17 42 23.8	+0.9
HHC				PMZ			
	6.0nm,0.5s						
HHC				PMZ			
	280nm,6.3s						
HHC				LN			
	1μm,16.9s						
HHC				LE			
	1μm,17.8s						
HHC				LZ			
	1μm,16.1s						
QIS	Mount Isa	43.48	119	P	P	17 35 35.9	-1.1
	baz=44,SNR=3.7						
KBL	Kabul	45.57	324	P	P	17 35 55.1	+1.4
KSH	Kashi	45.80	334	P	P	17 35 54.0	-1.4
KSH				sP	sP	17 36 22.0	+0.4
KSH				PP	PP	17 37 43.1	-0.9
KSH				S	S	17 42 28.5	-5.5
KSH				sS	sS	17 43 01.6	-3.0
KSH				ScS	ScS	17 45 37.5	-7.2
KSH				SS	SS	17 45 46.5	-13
KSH				PMZ			
	5.0nm,0.9s						
KSH				PMZ			
	64nm,4.5s						
KSH				LN			
	350nm,7.2s						
KSH				LE			
	300nm,12.2s						
KSH				LZ			
	220nm,8.2s						
WMQ	Urumqi	45.87	348	P	P	17 35 56.4	+0.7
WMQ				pP	pP

AAK ePP **pP** **17 36 37.9 -0.4**
ULN Ulaanbaatar 49.02 6 P **P** **17 36 18.7 -1.5**
EKS2 Erkin-Say 49.33 335 P **P** **17 36 23.6 +0.9**
SNR=7.9
EKS2 Erkin-Say 49.33 335 eP **P** **17 36 22.8 +0.1**
18nm,0.8s
QLP Quilpie 49.71 125 P **P** **17 36 25.9 +0.3**
baz=50,SNR=10.0
MK01 Makanchi Array 49.94 344 eP **P** **17 36 26.4 -0.6**
MKAR Makanchi Array 49.97 344 P **P** **17 36 26.9 -0.4**
11nm,0.4s,baz=158,slow=7.5,SNR=265
MKAR pP **pP** **17 36 43.0 -2.5**
11nm,0.5s,baz=159,slow=7.1,SNR=12
STKA Stephens Creek 50.00 132 P **P** **17 36 28.1 +0.5**
17nm,0.6s,baz=313,slow=6.8,SNR=56
STKA Stephens Creek 50.00 132 P **P** **17 36 28.2 +0.5**
baz=50,SNR=46
STKA Stephens Creek 50.00 132 eP **P** **17 36 28.2 +0.5**
3.6nm,0.7s
KKAR Karatay Array 51.13 333 eP **P** **17 36 36.4 +0.3**
TLY Talaya 52.53 3 P **P** **17 36 44.5 -1.9**
2.1nm,0.7s,baz=232,slow=3.5,SNR=6.0
TLY Talaya 52.53 3 eP **P** **17 36 47.4 +1.1**
62nm,1.0s
CMSA Cobar Meteorol 52.93 130 P **P** **17 36 50.3 +0.6**
baz=53,SNR=71
USRK Ussuriysk Ar. 53.33 29 P **P** **17 36 50.6 -1.7**
8.7nm,0.6s,baz=239,slow=3.5,SNR=8.7
USRK pP **pP** **17 37 08.2 -2.5**
7.6nm,0.6s,baz=235,slow=3.8,SNR=3.2
KURBB Kurchatov Arra 54.49 344 P **P** **17 37 00.2 -0.4**
10nm,0.6s,baz=163,slow=7.2,SNR=90
KURBB pP **pP** **17 37 16.6 -2.5**
8.8nm,0.7s,baz=162,slow=7.1,SNR=10
GEYT Alibeck 54.52 320 P **P** **17 37 01.1 -0.1**
2.1nm,0.7s,baz=141,slow=7.3,SNR=5.5
GEYT pP **pP** **17 37 18.2 -1.4**
4.6nm,0.7s,baz=152,slow=6.6,SNR=6.9
KURK Kurchatov 54.55 344 eP **P** **17 36 59.3 -1.7**
10.0nm,0.8s
KURK pP **pP** **17 37 16.6 -3.0**
EIDS Eidsvold 55.05 121 P **P** **17 37 05.5 +0.3**
baz=55,SNR=4.0
ZAA0 Zalesovo Array 56.10 349 eP **P** **17 37 11.2 -1.0**
ZALV Zalesovo Beam 56.10 349 P **P** **17 37 11.6 -0.6**
19nm,0.6s,baz=178,slow=5.9,SNR=48
ZALV pP **pP** **17 37 28.2 -2.5**
12nm,0.6s,baz=172,slow=6.4,SNR=7.2
ARMA Armidale 57.17 126 P **P** **17 37 21.9 +1.5**
baz=57,SNR=10
MGCD Mangrove Creek 57.79 129 P **P** **17 37 25.8 +1.2**
baz=58,SNR=5.7
VOSK Vostochnaya 58.68 340 eP **P** **17 37 29.3 -1.1**
10nm,0.6s
BVAR Borovoye Array 59.13 340 P **P** **17 37 32.5 -1.1**
5.8nm,0.4s,baz=136,slow=8.8,SNR=39
BVAR pP **pP** **17 37 48.6 -3.6**
7.5nm,0.5s,baz=144,slow=8.2,SNR=9.5
BRVK Borovoye 59.20 340 eP **P** **17 37 33.0 -0.9**
8.5nm,0.6s
ABKAR Akbulak array 60.63 331 eP **P** **17 37 42.8 -1.0**
AKTO Aktyubinsk 62.34 331 P **P** **17 37 54.2 -1.2**
3.5nm,0.7s,baz=127,slow=4.7,SNR=7.7
KMBO Kilima Mbogo 62.54 269 P **P** **17 37 59.1 +1.4**
2.3nm,0.7s,baz=64,slow=8.8,SNR=6.8
KMBO Kilima Mbogo 62.54 269 eP **P** **17 37 58.5 +0.8**
3.0nm,0.9s
ARU Arti 66.17 336 eP **P** **17 38 20.9 +0.7**
ARU e 17 38 35.5
KBZ Khabaz 67.39 319 P **P** **17 38 28.4 +0.1**
4.1nm,0.9s,baz=167,slow=5.3,SNR=5.4
ASF Jabal al Asfar 67.82 305 P **P** **17 38 32.0 +0.6**
0.6nm,0.4s,baz=47,slow=3.6,SNR=3.1
EIL Elat 68.79 302 P **P** **17 38 37.7 +0.3**
3.7nm,0.7s,baz=302,slow=4.8,SNR=5.4
EIL Elat 68.79 302 P **P** **17 38 38.7 +1.3**
baz=69,SNR=3.9
MMAI Mount Meron Ar 69.26 306 P **P** **17 38 40.9 +0.6**
0.9nm,0.5s,baz=99,slow=19,SNR=3.3
PETK Petropavlovsk- 72.10 32 P **P** **17 38 55.9 -1.2**
3.1nm,0.9s,baz=244,slow=9.6,SNR=6.8
BRTR Keskin Array B 72.47 312 P **P** **17 38 58.8 -1.0**
1.2nm,0.7s,baz=146,slow=8.1,SNR=8.3
BRTR pP **pP** **17 39 18.4 -0.6**
3.4nm,0.8s,baz=132,slow=7.5,SNR=9.5
BR231 Keskin MP Arra 73.14 312 eP P 17 38 59.4 -4.3
BOSA Boshof 75.99 241 P **P** **17 39 22.4 +2.0**
6.0nm,0.7s,baz=90,slow=5.1,SNR=16
BOSA Boshof 75.99 241 eP **P** **17 39 22.1 +1.6**
6.2nm,0.7s
TIRR Tirgusor 77.46 316⇓ iP **P** **17 39 28.3 +0.1**
AKASG Malin Array Be 78.54 322 P **P** **17 39 34.2 +0.2**
0.4nm,0.3s,baz=88,slow=5.4,SNR=2.6
AKASG pP **pP** **17 39 50.8 -2.7**
3.9nm,0.8s,baz=83,slow=5.3,SNR=4.4
SYO Syowa Base 78.80 199⇓ eP **P** **17 39 34.4 -0.7**
VRI Vrincioaia 78.95 317⇑ iP **P** **17 39 37.5 +1.0**
PLOR Plostina 79.00 317⇓ iP **P** **17 39 37.9 +1.1**
TESR Tescani 79.15 318⇑ iP **P** **17 39 38.0 +0.5**
MLR Muntele Rosu 79.40 317⇑ iP **P** **17 39 40.6 +1.5**
MLR Muntele Rosu 79.40 317 P **P** **17 39 40.2 +1.1**
1.3nm,0.6s,baz=325,slow=3.9,SNR=5.7
MLR pP **pP** **17 39 59.1 +0.5**
3.2nm,0.9s,baz=153,slow=2.1,SNR=6.2
VOIR 80.01 316⇑ iP P 17 39 48.5 +6.2
SUR Sutherland 80.19 237 eP **P** **17 39 46.4 +2.7**
29nm,1.2s
BURAR Bucovina Array 80.34 319⇑ iP **P** **17 39 45.3 +1.2**
BUR04 Bucovina Ar. S 80.35 319 eP **P** **17 39 44.8 +0.7**
VTS Vitosha 80.79 313⇓ iP **P** **17 39 46.3 -0.3**
JOF Joensuu 81.19 334 ep **P** **17 39 47.3 -0.8**
1.6nm,0.6s
DRGR 81.86 317⇑ iP **P** **17 39 52.9 +0.8**
TSUM Tsumeb 82.34 251 P **P** **17 39 57.4 +2.1**
5.1nm,0.9s
KWP Kalwaria Pacla 82.37 320 eP pP 17 40 12.9 -1.4
BZS Buzias 82.42 316⇑ iP **P** **17 39 55.3 +0.3**
KOLS Kolonicke sedl 82.53 320 eP **P** **17 39 56.6 +1.1**
KOLS epP **pP** **17 40 16.1 +1.0**
SUW Suwalki 82.92 325 eP pP 17 40 16.7 -0.3
FINES FINESS Array B 83.09 332 P **P** **17 39 58.2 +0.1**
2.8nm,0.5s,baz=110,slow=5.4,SNR=19
FINES pP **pP** **17 40 15.6 -2.1**
7.1nm,0.5s,baz=114,slow=6.2,SNR=14
KAF Kangasniemi 83.16 333 ep **P** **17 39 58.1 -0.3**
5.9nm,0.6s
VNDA Vanda 83.23 169 P **P** **17 39 59.6 +1.1**
4.3nm,0.7s,baz=312,slow=5.6,SNR=42
VNDA Vanda 83.23 169 eP **P** **17 40 00.3 +1.7**
3.0nm,0.6s
SBA Scott Base 84.32 169 eP **P** **17 40 06.5 +2.4**
216nm,2.9s
VYHS Vyhne 84.71 319 epP pP 17 40 26.3 -0.1
KEV Kevo 84.98 341 ep **P** **17 40 06.5 -1.0**
0.8nm,0.3s
ARCES ARCESS Array B 85.42 340 P **P** **17 40 09.6 -0.2**
3.1nm,0.4s,baz=98,slow=6.5,SNR=25
ARCES pP **pP** **17 40 27.5 -2.0**
6.0nm,0.4s,baz=98,slow=4.8,SNR=7.4
GERES GERESS Array B 88.13 319 P **P** **17 40 22.9 -0.6**
0.8nm,0.7s,baz=94,slow=4.1,SNR=9.6
GERES pP **pP** **17 40 41.3 -2.0**
1.5nm,0.8s,baz=76,slow=5.6,SNR=5.2
CLL Collm 88.72 321 eP **P** **17 40 27.0 +0.9**
HFS Hagfors 88.87 330 P **P** **17 40 26.9 +0.3**
0.6nm,0.3s,baz=152,slow=4.7,SNR=7.2
HFS pP **pP** **17 40 45.3 -1.2**
2.2nm,0.5s,baz=147,slow=3.5,SNR=3.3
SPITS Spitsbergen Ar 89.57 348 P **P** **17 40 28.2 -1.3**
3.0nm,0.5s,baz=116,slow=7.8,SNR=21
FUORN Ofenpass-Fuorn 90.36 316 eP **P** **17 40 35.1 +0.8**
FUORN epP **pP** **17 40 52.9 -1.2**
DAVOX Davos/Dischmat 90.63 317 P **P** **17 40 35.8 +0.4**
6.2nm,0.8s,baz=91,slow=8.2,SNR=7.4
DAVOX pP **pP** **17 40 53.2 -2.1**
6.5nm,0.6s,baz=211,slow=6.4,SNR=6.3
KEST Kesra 90.92 306 P **P** **17 40 37.2 +0.3**
1.7nm,0.8s,baz=223,slow=1.8,SNR=5.0
KEST pP **pP** **17 40 55.4 -1.3**
2.2nm,0.6s,baz=31,slow=4.1,SNR=4.3
NVAR Mina Array Bea 128.91 39 PKP **PKPdf** **17 46 40.9 +0.2**
0.5nm,0.6s,baz=317,slow=3.8,SNR=2.4
TXAR Lajitas Array 143.98 36 PKP PKPbc 17 47 06.8 +0.1
3.1nm,0.6s,baz=225,slow=0.3,SNR=14
BDFB Brasilia 144.18 241 PKP **PKPdf** **17 47 09.5 +0.2**
4.5nm,0.5s,baz=113,slow=4.1,SNR=8.1
MIAR Mount Ida 144.31 19 ePKPdf **PKPab** **17 47 06.6 -0.4**
TKL Tuckaleechee C 145.30 5 ePKPdf **PKPbc** **17 47 09.0 -1.4**
CPCT Cooper Cave 145.44 6 ePKPdf **PKPab** **17 47 12.2 +1.1**
KMSC Kings Mountain 145.96 2 ePKPdf **PKPbc** **17 47 12.8 +0.3**
LPAZ La Paz 159.14 214 PKP **PKPdf** **17 47 33.1 +0.9**
1.4nm,0.8s,baz=39,slow=6.3,SNR=5.4

NIED ***12*** *17:32:00,34°.90N×142°.00E,h5km,Mw5.2 Best double couple: M0:7.77000×10^16 NP1:φs318.00000°,δ42.00000°, λ30.00000°. NP2:φs204.00000°,δ70.00000°,λ128.00000°.*
BJI ***12*** *17:32:05.4,34°.89N×141°.55E,h12km,mB5.2/61,mb5.2/77, Ms5.5/89,Ms7 5.4/80*
IDC ***12*** *17:32:05.6±0.4,34°.88N×141°.76E,h0km,mb4.8/44, mb1 4.9/49,mb1mx4.9/51,mbtmp4.8/49,ML4.2/4,MS4.8/22, Ms1 4.9/22,ms1mx4.5/59,Error ellipse: s-maj=11.7km s-min=10.3km az=126.0*
JMA ***12*** *17:32:06.4±0.2,34°.91N×142°.03E,h52km±5km,M5.1*
GCMT ***12*** *17:32:08.3±0.5,34°.88N×142°.05E,h20km,MW5.2/55, Moment Tensor Solution. s33,c36; s55,c77; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.44±.03; Mθθ-0.06±.02; Mφφ-0.38±.02; Mrθ0.18±.05; Mrφ-0.19±.01; Mθφ0.77±.04; Best double couple: M0:0.91700×10^17 NP1:φs14.00000°,δ75.00000°,λ84.00000°. NP2: φs215.00000°,δ16.00000°,λ110.00000°. Principal axes: T 0.9090, Plg59.0000°, Azm277.0000°; N 0.0150, Plg5.0000°, Azm16.0000°; P -0.9250, Plg30.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***12*** *17:32:08.3±0.5,34°.90N×141°.60E,h15km±2km,mb5.2/122, MS5.0/120,MW5.2(NIED) Error ellipse: s-maj=4.1km s-min=2.9km az=140.0*
MOS ***12*** *17:32:09.5±1.0,34°.96N×141°.66E,h33km,mb5.5/89, MS5.0/37,Error ellipse: s-maj=7.3km s-min=3.9km az=116.0*
ISCJB ***12*** *17:32:09.0±0.6,34°.86N±0°.02×141°.63E±0°.02,h29km±4km, mb5.2/286,MS5.0/155,Error ellipse: s-maj=3.1km s-min=2.4km az=159.4*
ISC 12 17:32:08.5±0.3,34°.93N±0°.03×141°.73E±0°.03,h17km±1km, h17km:pP-P,n1039,σ1.26/1056,mb5.3/292,MS5.0/155, 143C-106D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.68**	**246**	⇑P	**Pn**	**17 32 22.8**	**0.0**
BSO3	**Boso 3**	**1.01**	**263**	⇑P	**Pg**	**17 32 28.3**	**+0.2**
CHOJ	**Chosi**	**1.05**	**317**	⇑P	**Pb**	**17 32 27.9**	**-0.4**
CHOJ				S	**Sg**	**17 32 43.1**	**+0.4**
BSO4	**Boso 4**	**1.15**	**274**	⇑P	**Pg**	**17 32 30.6**	**-0.1**
BSO4				S	**Sg**	**17 32 48.1**	**+2.4**
KTR	**Katsuura**	**1.18**	**281**	⇑P	**Pb**	**17 32 30.8**	**+0.3**
KTR				S	**Sg**	**17 32 48.5**	**+1.6**
I30JP	**ISUMI INFRASON**	**1.22**	**288**	Pn	**Pg**	**17 32 32.2**	**+0.1**
I30JP				Sn	**Sg**	**17 32 49.7**	**+1.6**
JCN	**Nagara**	**1.35**	**292**	⇑P	**Pb**	**17 32 33.2**	**-0.1**
JCN				S	**Sg**	**17 32 52.8**	**+0.8**
JIM2	**Oshima 3**	**1.91**	**264**	P	**Pn**	**17 32 40.0**	**-0.2**
JIM2				S	**Sn**	**17 33 03.7**	**-0.1**
AJI	**Ajiro2**	**2.17**	**274**	⇑P	**Pn**	**17 32 43.5**	**-0.4**
JOD2	**Odawara 2**	**2.19**	**280**	⇑P	**Pn**	**17 32 44.2**	**0.0**
JOD2				S	**Sn**	**17 33 11.9**	**+0.9**
JIZS	**Izushimoda**	**2.36**	**266**	⇑P	**Pn**	**17 32 46.4**	**0.0**
JIZS				S	**Sn**	**17 33 15.0**	**0.0**
JAG	**Ashikaga**	**2.38**	**309**	P	**Pn**	**17 32 47.1**	**+0.3**
JAG				S	**Sn**	**17 33 16.6**	**+1.0**
JHJ2	**Mitsune**	**2.41**	**222**	P	**Pn**	**17 32 46.7**	**-0.5**
JHJ2				S	**Sn**	**17 33 15.3**	**-1.0**
JHJ2	**Mitsune**	**2.41**	**222**	ePn	**Pn**	**17 32 46.4**	**-0.8**
JHJ2				eSn	**Sn**	**17 33 11.7**	**-4.6**
JFK	**Kawauchi**	**2.53**	**344**	P	**Pn**	**17 32 46.7**	**-2.2**
JFK				S	**Sn**	**17 33 15.5**	**-3.8**
JRY	**Ryogami san**	**2.55**	**296**	P	**Pn**	**17 32 49.4**	**+0.2**
JRY				S	**Sn**	**17 33 21.6**	**+1.7**
JKT	**Katashina**	**2.73**	**313**	P	**Pn**	**17 32 51.6**	**0.0**
JKT				S	**Sn**	**17 33 24.9**	**+0.7**
JNT	**Takato**	**3.08**	**289**	P	**Pn**	**17 32 57.7**	**+1.2**
JHK	**Hiroka**	**3.19**	**317**	P	**Pn**	**17 32 58.6**	**+0.7**
MJAR	**Matsushiro Arr**	**3.29**	**300**	P	**Pn**	**17 32 59.1**	**-0.1**
MJAR						17 33 41.5	
MJAR				pmax	pmax		
	comp=Z,16nm,0.3s						
MJAR				smax	smax		
	comp=N,21nm,0.3s						
MJAR	**Matsushiro Arr**	**3.29**	**300**	Pn	**Pn**	**17 32 59.1**	**-0.1**
	comp=N,16nm,0.3s,baz=107,slow=12,SNR=311						
MJAR				Sn	**Sn**	**17 33 41.5**	**+3.5**
	comp=N,21nm,0.3s,baz=102,slow=8.4,SNR=5.7						
MAJO	**Matsushiro**	**3.29**	**300**	⇑iP	**Pn**	**17 32 59.6**	**+0.3**
MAJO	**Matsushiro**	**3.29**	**300**	⇑iPn	**Pn**	**17 32 59.6**	**+0.3**
JGN	**Niukaw**	**3.83**	**291**	⇑P	**Pn**	**17 33 08.2**	**+1.5**
JMK	**Achinoseki**	**4.04**	**354**	P	**Pn**	**17 33 07.5**	**-2.0**
JWZ	**Kozaga**	**5.18**	**256**	P	**Pn**	**17 33 26.9**	**+1.7**
ERM	**Erimo**	**7.16**	**9**	ceP	**Pn**	**17 33 50.4**	**-2.0**
ERM	**Erimo**	**7.16**	**9**	ePn	Pn	17 33 49.3	-3.1
ERM				eSn	Sn	17 35 04.5	-8.8
JKU	**Kubokawa**	**7.37**	**260**	P	**Pn**	**17 33 57.6**	**+2.3**
JTO	**Tosashimizu**	**7.71**	**257**	P	**Pn**	**17 34 01.9**	**+2.0**
UWA2	**Uwa jima 2**	**7.75**	**260**	P	**Pn**	**17 34 02.9**	**+2.4**
JNA	**Nagahama**	**7.78**	**263**	P	**Pn**	**17 34 03.8**	**+2.8**
CBIJ	**Chichi jima**	**7.82**	**177**	ePn	**Pn**	**17 33 59.1**	**-2.3**
CBIJ				eSn	Sn	17 35 21.5	-8.1
JCJ	**Chichijima**	**7.82**	**177**	Pn	**Pn**	**17 33 59.6**	**-1.9**
	comp=N,20nm,0.3s,baz=280,slow=20,SNR=8.4						
JCJ				Sn	Sn	17 35 20.3	-9.3
	comp=N,24nm,0.3s,baz=98,slow=24,SNR=7.7						
JCJ				LR	LR	17 37 11.5	
	comp=N,3μm,18.4s,baz=350,slow=39						
JNU	**Nakatsue**	**9.19**	**262**	P	**Pn**	**17 34 22.5**	**+2.2**
JNU	**Nakatsue**	**9.19**	**262**	Pn	**Pn**	**17 34 20.4**	**+0.1**
	comp=N,1.9nm,0.3s,baz=71,slow=8.7,SNR=25						
JNU				LR	LR	17 38 08.7	
	comp=N,4μm,19.8s,baz=72,slow=40						
JNU	**Nakatsue**	**9.19**	**262**	⇑iPn	**Pn**	**17 34 22.4**	**+2.0**
ASAJ	**Asahikawa**	**9.20**	**4**	P	**Pn**	**17 34 17.5**	**-2.9**
ASAJ						17 35 57.8	
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,8.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,9μm,19.9s						
ASAJ	**Asahikawa**	**9.20**	**4**	Pn	**Pn**	**17 34 17.5**	**-2.9**
	comp=Z,8.5nm,0.3s,baz=225,slow=9.8,SNR=37						
ASAJ				Sn	Sn	17 35 57.8	-5.7
	comp=Z,7.8nm,0.3s,baz=43,slow=19,SNR=12						
ASAJ				LR	LR	17 38 39.0	
	comp=Z,9μm,19.9s,baz=152,slow=42						
ASAJ	**Asahikawa**	**9.20**	**4**	ePn	Pn	17 34 16.3	-4.1
ASAJ				eSn	Sn	17 35 48.3	-15
ASAJ				Sn	Sn	17 35 57.8	-5.8
VLA	**Vladivostok**	**11.20**	**320**	*c* iP	**Pn**	**17 34 48.0**	**+0.3**
VLA				eS	**Sn**	**17 36 55.6**	**+3.1**
KSRS	**Korea Array**	**11.44**	**287**	P	**Pn**	**17 34 52.7**	**+1.6**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,16nm,28.6s						
KSRS	**Korea Array**	**11.44**	**287**	Pn	**Pn**	**17 34 52.6**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=95,slow=13,SNR=31						
KSRS				LR	LR	17 39 49.1	
	comp=Z,8μm,18.1s,baz=84,slow=40						
KSAR	**Wonju Array Be**	**11.47**	**287**	P	**Pn**	**17 34 52.7**	**+1.2**
KSAR	**Wonju Array Be**	**11.47**	**287**	Pn	**Pn**	**17 34 52.6**	**+1.2**
USRK	**Ussuriysk Ar.**	**11.92**	**324**	Pn	**Pn**	**17 34 57.9**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=139,slow=12,SNR=36						
USRK				LR	LR	17 39 58.7	
	comp=Z,7μm,18.4s,baz=129,slow=40						
YSS	**Yuzh-Sakhalins**	**12.04**	**3**	⇑eP	Pn	17 34 55.0	-4.2
YSS				*i* S	Sn	17 37 05.0	-8.0
YSS				pmax	pmax		
	comp=Z,160nm,1.0s						
YSS				smax	smax		
	comp=N,610nm,1.3s						
YSS				smax	smax		
	comp=E,450nm,1.2s						
YSS				smax	smax		
	comp=Z,2μm,3.0s						
YSS				MLR	MLR		
	comp=Z,6μm,15.0s						
YSS				MLR	MLR		
	comp=E,7μm,14.0s						
YSS	**Yuzh-Sakhalins**	**12.04**	**3**	ePn	Pn	17 34 55.1	-4.2
	comp=E,335nm,1.0s						
YSS				eSn	Sn	17 37 06.1	-7.0
MDJ	**Mudanjiang**	**13.43**	**320**	P	**Pn**	**17 35 19.2**	**+0.9**
MDJ				S	**Sn**	**17 37 49.3**	**+2.2**
MDJ				PcP	**PcP**	**17 40 46.1**	**+0.4**
MDJ				ScP	**ScP**	**17 44 20.4**	**+2.1**
MDJ				PcS	**PcS**	**17 44 22.5**	**+2.4**
MDJ				ScS	**ScS**	**17 47 55.2**	**+0.2**
MDJ				PMZ			
	comp=E,28nm,0.9s						
MDJ				PMZ			
	comp=E,1μm,9.9s						
MDJ				LN			
	comp=E,6μm,15.6s						
MDJ				LE			
	comp=E,10μm,13.5s						
MDJ				LZ			
	comp=E,9μm,12.2s						
JOW	**Kunigami**	**14.09**	**239**	ePn	**Pn**	**17 35 25.9**	**-1.4**
	comp=E,65nm,1.3s						
UGL	**Uglegorsk**	**14.14**	**1**	P	**Pn**	**17 35 28.0**	**+0.1**
UGL				*e*		17 38 14.0	
UGL				MLR	MLR		
	comp=N,12μm,15.0s						
UGL				MLR	MLR		
	comp=E,5μm,15.0s						
UGL				MLR	MLR		
	comp=Z,8μm,15.0s						
HABR	**Khabarovsk**	**14.42**	**342**	eP	Pn	17 35 28.5	-3.2
HABR				eS	**Sn**	**17 38 05.9**	**-5.1**
HABR				pmax	pmax		
	comp=N,21nm,0.9s						
HABR				pmax	pmax		
	comp=E,18nm,0.9s						
HABR				pmax	pmax		
	comp=Z,36nm,0.9s						
HABR				MLR	MLR		
	comp=Z,5μm,16.0s						
CN2	**Changchun**	**15.38**	**310**	eP	**Pn**	**17 35 43.0**	**-1.6**
CN2				*es*P	**sP**	**17 35 51.5**	**-4.7**
CN2				*e*S	**Sn**	**17 38 33.7**	**-0.9**
CN2				PMZ			
	comp=Z,30nm,1.2s						
CN2				PMZ			
	comp=Z,200nm,4.0s						
CN2				LN			
	comp=Z,10μm,16.0s						
CN2				LE			
	comp=Z,8μm,16.0s						
CN2				LZ			
	comp=Z,2μm,15.0s						
SNY	**Shenyang**	**15.80**	**301**	⇓P	**Pn**	**17 35 49.5**	**-0.6**
SNY				PMZ			
	comp=Z,50nm,1.6s						
SNY				PMZ			
	comp=Z,1μm,12.9s						
SNY				LN			
	comp=Z,5μm,12.6s						
SNY				LE			
	comp=Z,6μm,15.3s						
SNY				LZ			
	comp=Z,7μm,13.7s						
KLR	**Kul'dur**	**16.08**	**336**	eP	Pn	17 35 47.8	-5.8
KLR				MLR	MLR		
	comp=Z,29μm,12.0s						
DL2	**Dalian**	**16.56**	**290**	P	**Pn**	**17 35 58.7**	**-1.1**
DL2				S	**Sn**	**17 39 05.0**	**+1.8**
DL2				PMZ			
	comp=Z,83nm,1.3s						
DL2				PMZ			
	comp=Z,860nm,10.0s						
DL2				LN			
	comp=Z,7μm,14.4s						
DL2				LE			
	comp=Z,6μm,16.5s						
DL2				LZ			
	comp=Z,8μm,16.3s						
SSE	**Sheshan**	**17.65**	**263**	P	**Pn**	**17 36 13.8**	**+0.3**
SSE				pP	**pP**	**17 36 21.3**	**+2.1**
SSE				S	**Sn**	**17 39 30.1**	**+0.4**
SSE				sS	**S**	**17 39 36.2**	**-0.9**
SSE				PMZ			
	comp=Z,33nm,0.7s						
SSE				PMZ			
	comp=Z,870nm,12.0s						
SSE				LN			
	comp=Z,15μm,18.4s						
SSE				LE			
	comp=Z,4μm,18.5s						
SSE				LZ			
	comp=Z,12μm,15.6s						
SKR	**Severo-Kuril's**	**18.90**	**29**	eP	**P**	**17 36 27.2**	**-0.8**
SKR				pmax	pmax		
	comp=Z,130nm,1.0s						
SKR				pmax	pmax		
	comp=N,2μm,12.0s						
SKR				pmax	pmax		
	comp=E,3μm,12.0s						
SKR				MLR	MLR		
	comp=N,2μm,14.0s						
SKR				MLR	MLR		
	comp=Z,3μm,14.0s						
SKR				MLR	MLR		
	comp=E,5μm,12.0s						
NJ2	**Nanjing**	**19.29**	**268**	eP	**P**	**17 36 31.4**	**-1.1**
NJ2				pP	**pP**	**17 36 41.6**	**+4.3**
NJ2				PMZ			
	comp=E,70nm,0.8s						
NJ2				PMZ			
	comp=E,1μm,7.4s						
NJ2				LN			
	comp=E,18μm,15.5s						
NJ2				LE			
	comp=E,17μm,15.3s						
NJ2				LZ			
	comp=E,17μm,15.4s						
TIA	**Tai'an**	**20.05**	**281**	⇓P	Pn	17 36 42.8	+0.2
TIA				PMZ			
	comp=E,20nm,1.9s						
TIA				PMZ			
	comp=E,1μm,11.0s						
TIA				LN			
	comp=E,11μm,14.0s						
TIA				LE			
	comp=E,9μm,15.0s						
TIA				LZ			
	comp=E,12μm,14.0s						
TATO	**Taipei**	**20.12**	**246**	PFAKE		17 36 50.0	+6.5
TATO				LR	LR		
	comp=Z,2μm,20.0s						
YHNB	**Yeheng**	**20.38**	**245**	eP	**P**	**17 36 40.6**	**-3.8**
	comp=Z,18nm,0.8s						
YHNB				LR	LR		
	comp=Z,2μm,20.0s						
NACB	**Ninganchiao**	**20.50**	**244**	P	**P**	**17 36 42.1**	**-3.6**
BJI	**Beijing**	**20.88**	**292**	P	**P**	**17 36 46.6**	**-3.2**
BJI				S	**S**	**17 40 44.5**	**+2.6**
BJI				PMZ			
	comp=Z,49nm,1.8s						
BJI				PMZ			
	comp=Z,850nm,13.0s						
BJI				LN			
	comp=Z,7μm,15.7s						
BJI				LE			
	comp=Z,4μm,16.5s						
BJI				LZ			
	comp=Z,3μm,17.0s						
BJT	**Baijiatuau**	**20.89**	**292**	PFAKE		17 37 00.0	+7.6
BJT				LR	LR		
	comp=Z,2μm,19.0s						
YULB	**Yu-li**	**21.18**	**243**	eP	**P**	**17 36 50.8**	**-2.4**
	comp=Z,48nm,1.5s						
PETK	**Petropavlovsk-**	**21.41**	**27**	P	**P**	**17 36 55.0**	**-0.4**
PETK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PETK				MLR	MLR		
	comp=Z,16nm,28.6s						
PETK	**Petropavlovsk-**	**21.41**	**27**	P	**P**	**17 36 55.0**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=202,slow=11,SNR=3.2						
PETK				LR	LR	17 48 18.6	
	comp=Z,452nm,18.1s,baz=207,slow=45						
GUMO	**Guam**	**21.43**	**172**	P	**P**	**17 36 58.3**	**+2.5**
GUMO	**Guam**	**21.43**	**172**	P	**P**	**17 36 58.3**	**+2.5**
HIA	**Hailar**	**21.61**	**318**	*c* iP	**P**	**17 36 53.9**	**-3.6**

HIA pmax pmax
comp=Z,63nm,1.7s
HIA Hailar 21.61 318 *e*P **P 17 36 54.1 -3.5**
comp=Z,171nm,1.2s
HIA Hailar 21.61 318 PFAKE 17 37 10.0 +12
HIA LR LR
comp=Z,2μm,19.0s
PET Petropavlovsk 21.71 28 *e*P **P 17 36 58.8 +0.3**
PET *e*S **S 17 40 53.0 -5.0**
PET pmax pmax
comp=Z,37nm,1.2s
PET pmax pmax
comp=Z,600nm,6.4s
PET MLR MLR
comp=Z,2μm,16.0s
PET MLR MLR
comp=Z,2μm,14.0s
PET Petropavlovsk 21.71 28 *e*P **P 17 36 58.4 -0.1**
comp=Z,143nm,1.7s
PET LR LR
comp=Z,2μm,19.0s
TPUB Ta-pu 21.73 243 *e*P **P 17 36 55.6 -3.4**
comp=Z,31nm,0.9s
QZH Quanzhou 22.34 250⇑*i*P **P 17 37 01.7 -3.8**
QZH S S 17 41 01.7 -8.8
QZH LN
comp=Z,9μm,16.6s
QZH LE
comp=Z,11μm,17.2s
QZH LZ
comp=Z,7μm,15.9s
WHN Wuhan 23.41 267⇓*i*P **P 17 37 14.3 -2.4**
WHN sP **sP 17 37 24.7 +0.9**
WHN S **S 17 41 25.2 -4.0**
WHN LN
comp=Z,7μm,11.9s
WHN LE
comp=Z,16μm,13.9s
WHN LZ
comp=Z,20μm,14.0s
TIY Taiyuan 23.73 285 *e*P **P 17 37 20.2 +0.4**
TIY sP **sP 17 37 28.6 +1.6**
TIY S **S 17 41 32.9 -1.4**
TIY SS **SnSn 17 42 16.4 +4.0**
TIY PMZ
comp=Z,550nm,6.5s
TIY LN
comp=Z,2μm,12.2s
TIY LE
comp=Z,8μm,15.7s
TIY LZ
comp=Z,8μm,16.1s
HHC Hu-ho-hao-te 24.46 293 *e*P **P 17 37 24.2 -2.4**
HHC pP **pP 17 37 29.7 -2.1**
HHC PP **PnPn 17 37 59.4 +2.1**
HHC PcP **PcP 17 41 04.7 -0.4**
HHC S **S 17 41 42.5 -3.6**
HHC sS sS 17 41 49.0 -5.5
HHC PMZ
comp=Z,39nm,0.6s
HHC PMZ
comp=Z,1μm,6.1s
HHC LN
comp=Z,7μm,13.6s
HHC LE
comp=Z,5μm,14.1s
HHC LZ
comp=Z,5μm,13.4s
CLNS Chul'man 24.72 338 *e*P **P 17 37 28.0 -0.7**
CLNS *e**PP **pP 17 37 36.2 +2.3**
CLNS *e* 17 37 40.3
CLNS *e* 17 41 38.4
CLNS *e*SS SnSn 17 42 48.5 +12
CLNS pmax pmax
comp=Z,84nm,0.9s
CLNS pmax pmax
comp=N,77nm,1.1s
CLNS pmax pmax
comp=E,31nm,1.1s
CLNS pmax pmax
comp=E,27nm,1.1s
CLNS pmax pmax
comp=Z,105nm,1.2s
CLNS pmax pmax
comp=N,94nm,1.0s
CLNS MLR MLR
comp=Z,3μm,14.0s
CLNS MLR MLR
comp=E,2μm,11.0s
CLNS MLR MLR
comp=N,2μm,12.0s
BTO Baotou 25.62 292 *e*P **P 17 37 35.5 -1.6**
CIT Chita 26.41 319 *e*P **P 17 37 42.9 -1.2**
CIT *e* 17 37 55.0
CIT *e* 17 48 37.1
CIT pmax pmax
comp=Z,264nm,1.3s
H11N2 WAKE ISLAND Hy 26.89 118 T T 18 05 57.6
SNR=8.5
XAN Xi'an 27.00 278 P **P 17 37 47.4 -2.2**
XAN sP **sP 17 37 55.5 -1.4**
XAN PP **PnPn 17 38 31.1 -0.9**
XAN S S 17 42 18.0 -8.4
XAN SS **SnSn 17 43 30.1 -2.3**
XAN PMZ
comp=Z,14nm,1.2s
XAN PMZ
comp=Z,190nm,11.5s
XAN LN
comp=Z,4μm,16.1s
XAN LE
comp=Z,1μm,17.8s
XAN LZ
comp=Z,2μm,14.8s
ENH Enshi 27.49 269 PFAKE 17 38 00.0 +6.0
ENH LR LR
comp=Z,3μm,20.0s
H11S3 WAKE ISLAND Hy 27.54 120 T T 18 06 43.8
baz=312,slow=74,SNR=6.4
H11S1 WAKE ISLAND Hy 27.54 120 T T 18 06 45.8
baz=134,slow=74,SNR=6.7
YAK Yakutsk 28.18 348 *e*P **P 17 37 57.9 -1.8**
YAK *e**PP **pP 17 38 09.6 +4.7**
YAK *e* 17 38 50.5
YAK *e*PPP PPP 17 38 59.4
YAK *e*S **S 17 42 47.5 +3.3**
YAK *e*SS SnSn 17 44 12.5 +12
YAK *e*SSS SSS 17 44 20.2
YAK *e* 17 48 40.1
YAK pmax pmax
comp=Z,41nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,30nm,1.3s
YAK pmax pmax
comp=Z,50nm,1.1s
YAK pmax pmax
comp=E,95nm,1.5s
YAK pmax pmax
comp=N,55nm,1.3s
YAK smax smax
comp=N,1μm,5.2s
YAK smax smax
comp=E,758nm,5.0s
YAK MLR MLR
comp=N,5μm,14.0s
YAK MLR MLR
comp=Z,7μm,16.0s
YAK MLR MLR
comp=E,2μm,13.0s
YAK Yakutsk 28.18 348 *e*P **P 17 37 58.5 -1.2**
comp=E,53nm,0.8s
YAK LR LR
comp=Z,2μm,21.0s
ULN Ulaanbaatar 28.79 307*c i*P **P 17 38 06.5 +0.9**
ULN pmax pmax
comp=Z,148nm,1.7s
ULN Ulaanbaatar 28.79 307 P **P 17 38 07.1 +1.5**
SNR=32
ULN Ulaanbaatar 28.79 307 *e*P **P 17 38 06.5 +0.9**
comp=Z,106nm,1.2s
ULN LR LR
comp=Z,2μm,20.0s
SEY Seymchan 28.81 10 P **P 17 38 04.3 -1.1**
SEY pmax pmax
comp=Z,4.0nm,0.8s
SEY Seymchan 28.81 10 P **P 17 38 04.3 -1.1**
comp=Z,4.4nm,0.8s,baz=201,slow=6.6,SNR=20
SONA1 Songino Array 29.21 307 *e*P **P 17 38 10.2 +0.9**
SONA1 *e*ScP **ScP 17 44 56.8 -0.3**
SONM Songino Array 29.22 307 P **P 17 38 10.5 +1.2**
SONM pmax pmax
comp=Z,73nm,1.1s
SONM pmax pmax
comp=N,4.0nm,1.2s
SONM MLR MLR
comp=Z,16nm,28.6s
SONM Songino Array 29.22 307 P **P 17 38 10.5 +1.2**
comp=Z,46nm,0.9s,baz=110,slow=8.9,SNR=84
SONM ScP **ScP 17 44 56.8 -0.3**
comp=Z,3.7nm,1.2s,baz=95,slow=2.9,SNR=6.6
SONM LR LR 17 50 00.3
comp=Z,2μm,20.2s,baz=98,slow=37
BOD Bodaibo 29.46 330 *e*P **P 17 38 10.8 -0.4**
BOD pmax pmax
comp=Z,139nm,1.4s
LZH Lanzhou 30.74 283⇓P **P 17 38 22.5 -0.5**
LZH pP **pP 17 38 26.7 -1.5**
LZH sP **sP 17 38 31.2 +0.9**
LZH PP **PnPn 17 39 22.1 -0.8**
LZH S **S 17 43 21.0 -4.4**
LZH sS **sS 17 43 31.0 -3.0**
LZH SS **ScP 17 45 02.0 -0.3**
LZH PMZ
comp=Z,82nm,1.1s
LZH PMZ
comp=Z,310nm,4.0s
LZH LN
comp=Z,6μm,14.2s
LZH LE
comp=Z,7μm,14.9s
LZH LZ
comp=Z,8μm,15.5s
GYA Guiyang 31.19 264⇑*i*P **P 17 38 24.3 -2.7**
GYA PP **PnPn 17 39 30.2 +1.4**
GYA PcP **PcP 17 41 22.0 +0.3**
GYA S **S 17 43 26.9 -5.6**
GYA ScP **ScP 17 45 04.8 +0.9**
GYA SS **SnSn 17 45 16.4 +1.6**
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,410nm,5.4s
GYA LN
comp=Z,7μm,17.8s
GYA LE
comp=Z,3μm,15.9s
GYA LZ
comp=Z,4μm,16.2s
DAV Davao City (W) 31.46 212 PFAKE 17 38 40.0 +11
DAV LR LR
comp=Z,1μm,20.0s
IRK Irkutsk 31.73 315 *e*P **P 17 38 31.2 -0.2**
IRK pmax pmax
comp=Z,102nm,1.3s
ZAK Zakamensk 31.81 311 *e*P **P 17 38 32.6 +0.4**
ZAK pmax pmax
comp=Z,45nm,1.3s
TLY Talaya 31.93 313 P **P 17 38 34.8 +1.6**
comp=Z,331nm,1.0s,SNR=13
TLY Talaya 31.93 313*c i*P **P 17 38 33.7 +0.5**
TLY *e*S **S 17 43 47.0 +3.5**
TLY pmax pmax
comp=Z,90nm,1.3s
TLY MLR MLR
comp=Z,3μm,13.0s
TLY Talaya 31.93 313 P **P 17 38 34.2 +1.0**
SNR=27
TLY Talaya 31.93 313 P **P 17 38 34.4 +1.2**
comp=Z,26nm,0.8s,baz=125,slow=7.1,SNR=42
TLY Talaya 31.93 313 *e*P **P 17 38 33.9 +0.8**
comp=Z,62nm,1.0s
TLY LR LR
comp=Z,1μm,20.0s
CD2 Chengdu 32.00 274⇑*i*P **P 17 38 32.0 -2.0**
CD2 PP **PnPn 17 39 41.8 +2.6**
CD2 PcP **PcP 17 41 21.8 -1.9**
CD2 S **S 17 43 47.8 +2.8**
CD2 SS **SnSn 17 45 35.0 +0.6**
CD2 ScS **ScS 17 49 02.8 -2.4**
CD2 PMZ
comp=Z,80nm,0.8s
CD2 PMZ
comp=Z,400nm,10.6s
CD2 LN
comp=Z,9μm,14.3s
CD2 LE
comp=Z,12μm,14.3s
CD2 LZ
comp=Z,12μm,14.3s
QIZ Qiongzhong 32.36 249 P **P 17 38 37.7 +0.5**
QIZ pP **pP 17 38 40.7 -1.7**
QIZ S **S 17 43 51.9 +1.3**
QIZ sS **sS 17 43 57.4 -1.8**
QIZ PMZ
comp=Z,21nm,2.0s
QIZ PMZ
comp=Z,190nm,4.3s
QIZ LN
comp=Z,3μm,17.2s
QIZ LZ
comp=Z,2μm,16.5s
QIZ Qiongzhong 32.36 249 PFAKE 17 38 50.0 +13
QIZ LR LR
comp=Z,2μm,19.0s
GTA Gaotai 33.48 290⇑P **P 17 38 46.9 -0.1**
GTA pP **pP 17 38 51.5 -0.7**
GTA sP **sP 17 38 53.8 -0.5**
GTA PcP **PcP 17 41 28.5 +0.7**
GTA S **S 17 44 08.0 -0.1**
GTA sS **sS 17 44 15.3 -1.3**
GTA ScP **ScP 17 45 11.1 -0.4**
GTA PcS **PcS 17 45 14.0 +0.4**
GTA SS **SnSn 17 46 12.2 +2.0**
GTA ScS **ScS 17 49 11.2 -1.5**
GTA PMZ
comp=Z,58nm,1.4s
GTA PMZ
comp=Z,700nm,4.8s
GTA LN
comp=Z,3μm,20.0s
GTA LE
comp=Z,5μm,13.5s
GTA LZ
comp=Z,6μm,14.0s
MOY Mondy 33.52 313 *e*P **P 17 38 47.5 +0.3**
MOY pmax pmax
comp=Z,89nm,3.4s
KMI Kunming 34.96 265 P **P 17 38 58.4 -1.6**
KMI pP **pP 17 39 05.0 -0.3**
KMI sP **sP 17 39 07.9 +0.5**
KMI PP **PnPn 17 40 18.1 +1.2**
KMI S **S 17 44 26.4 -4.9**
KMI sS **sS 17 44 40.1 +0.2**
KMI SS **SnSn 17 46 43.1 -3.4**
KMI PMZ
comp=Z,17nm,1.0s
KMI PMZ
comp=Z,220nm,9.4s
KMI LN
comp=Z,6μm,18.2s
KMI LE
comp=Z,3μm,18.5s
KMI LZ
comp=Z,5μm,15.6s
BILL Bilibino 35.98 15⇓*i*P **P 17 39 06.8 -1.2**
BILL *e**PP **pP 17 39 12.1 -1.1**
BILL *e* 17 39 19.2
BILL *e* 17 40 24.8
BILL *e* 17 41 35.7
BILL pmax pmax
comp=Z,9.0nm,1.2s
BILL MLR MLR
comp=Z,2μm,19.0s
BILL Bilibino 35.98 15 *e*P **P 17 39 07.7 -0.3**
comp=Z,27nm,1.2s
BILL LR LR
comp=Z,2μm,19.0s
TNTI Ternate 36.53 205 P P 17 39 09.9 -3.4
comp=Z,111nm,1.3s,comp=Z,2μm
TNTI Ternate 36.53 205 *e*P **P 17 39 12.4 -0.9**
comp=Z,172nm,1.3s
MYLDM Lahad Datu 36.57 221 *e*P **P 17 39 14.2 +0.5**
comp=Z,63nm,1.4s
SDKM Sandakan 36.91 223⇑P **P 17 39 15.2 -1.4**
SWI Sorong 36.93 198 P **P 17 39 17.4 +0.8**
comp=Z,54nm,1.2s,comp=Z,826nm
KKM Kota Kinabalu 37.15 225 PFAKE 17 39 30.0 +11
KKM LR LR
comp=Z,967nm,20.0s
TIXI Tiksi 37.41 353*c i*P **P 17 39 19.5 -0.6**
TIXI pmax pmax
comp=Z,20nm,1.7s
TIXI Tiksi 37.41 353 *e*P **P 17 39 19.4 -0.8**
TIXI LR LR
comp=Z,2μm,21.0s
TSM Tawau 37.65 221⇓P **P 17 39 22.5 -0.3**
LBMI Labuha 37.80 204 P **P 17 39 22.8 -1.3**
comp=Z,92nm,2.0s,comp=Z,2μm
HVS Khovu-Aksy 37.93 310*c i*P **P 17 39 24.9 0.0**
HVS pmax pmax
comp=Z,917nm,1.7s
UBPT Khong Chiam 37.94 248 P **P 17 39 24.6 -0.7**
comp=Z,35nm,1.2s
GTOI Gorontalo 38.33 211 P **P 17 39 27.4 -1.1**
comp=Z,43nm,1.6s
FAKI Fak Fak 38.69 195 *e*P **P 17 39 32.3 +0.8**
MRSI Marisa 38.94 213 P **P 17 39 33.4 -0.2**
comp=Z,63nm,1.2s,comp=Z,824nm
SPIA Saint Paul Isl 38.98 40 *e*P **P 17 39 34.4 +0.9**
comp=Z,62nm,1.2s
CRAI Chiangrai 39.19 259 P **P 17 39 33.8 -2.0**
comp=Z,137nm,0.7s
SANI Sanana 39.64 205 P P 17 39 36.0 -3.5
comp=Z,61nm,1.2s,comp=Z,882nm
MPSI Mapaga 40.00 215 P **P 17 39 42.1 -0.4**
comp=Z,18nm,1.2s
CHAI Chaiyaphum 40.26 252 P **P 17 39 43.5 -1.2**
comp=Z,50nm,0.8s,comp=Z,390nm
APSI Ampana 40.30 212 P **P 17 39 44.2 -0.8**
comp=Z,65nm,0.7s,comp=Z,896nm
UTTA Uttaradit 40.36 256 P **P 17 39 44.5 -1.0**
comp=Z,24nm,1.0s,comp=Z,178nm
NLAI Namlea 40.38 203 P P 17 39 49.1 +3.5
comp=Z,59nm,1.6s,comp=Z,781nm
GAMB Gambell 40.40 30 *e*P **P 17 39 45.7 +0.5**
comp=Z,35nm,1.8s
CMAI Chiengmai2 40.41 260 P **P 17 39 46.8 +0.7**
comp=Z,67nm,0.8s
LAMP Lampang 40.67 257 P **P 17 39 47.5 -0.6**
comp=Z,17nm,1.1s,comp=Z,137nm
PBKT Sadao Pong 40.68 254 P **P 17 39 47.1 -1.0**
comp=Z,116nm,1.1s,comp=Z,880nm
CMMT Chiang Mai 41.07 258 P **P 17 39 50.0 -1.4**
comp=Z,43nm,1.3s,comp=Z,600nm
CHTO Chiang Mai 41.07 258⇑*i*P **P 17 39 49.5 -1.9**
CHTO pmax pmax
comp=Z,51nm,1.3s
CHTO MLR MLR
comp=Z,1μm,20.0s
CHTO Chiang Mai 41.07 258 P **P 17 39 50.8 -0.6**
SNR=14
CHTO Chiang Mai 41.07 258 P **P 17 39 50.1 -1.3**
comp=Z,149nm,1.3s,comp=Z,2μm
CHTO Chiang Mai 41.07 258⇑*i*P **P 17 39 49.5 -1.9**
comp=Z,51nm,1.3s
CHTO LR LR
comp=Z,1μm,20.0s
SUKH Sukhothai 41.23 256 P **P 17 39 52.0 -0.7**
comp=Z,20nm,1.0s,comp=Z,152nm
CMAR Chiang Mai Arr 41.26 258*ce*P **P 17 39 51.7 -1.2**
CMAR pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 41.26 258 P **P 17 39 51.8 -1.2**
comp=Z,9.4nm,0.8s,baz=48,slow=6.6,SNR=46
CM01 Chiang Mai Arr 41.27 258 *e*P **P 17 39 50.9 -2.1**
CM01 *e*PcP **PcP 17 41 52.5 +0.9**
BTM Bintulu 41.27 227⇓P **P 17 39 52.7 -0.4**
WMQ Urumqi 42.05 299 P **P 17 40 00.1 +0.8**
WMQ pP **pP 17 40 05.7 +1.1**
WMQ PP **PP 17 41 40.5 +4.0**
WMQ PcP **PcP 17 41 55.1 +1.1**
WMQ S **S 17 46 18.8 +1.1**
WMQ sS **sS 17 46 27.3 +0.9**
WMQ SS **SS 17 49 19.3 -5.6**
WMQ ScS **ScS 17 49 59.2 -1.9**
WMQ PMZ
comp=Z,110nm,1.6s
WMQ PMZ
comp=Z,780nm,4.0s
WMQ LN
comp=Z,4μm,20.0s
WMQ LE
comp=Z,940nm,20.0s
WMQ LZ
comp=Z,1μm,19.0s
MHMT Maesarieng 42.22 258 P **P 17 40 00.5 -0.3**
comp=Z,24nm,1.3s,comp=Z,267nm
SBUM Sibu 42.39 227⇑P **P 17 40 02.2 0.0**
SBUM Sibu 42.39 227 *e*P **P 17 40 01.0 -1.1**
comp=Z,44nm,1.1s
TNA Tin City 42.57 28 *e*P **P 17 40 03.9 +0.9**
comp=Z,14nm,1.0s
LSA Lhasa 42.70 278 PFAKE 17 40 20.0 +15
LSA LR LR
comp=Z,1μm,21.0s
BKB Balikpapan 42.86 218 P **P 17 40 07.1 +1.2**
comp=Z,122nm,1.1s
SRDT SRDT 43.41 253 P **P 17 40 09.8 -0.7**
comp=Z,183nm,1.1s
ZAA0 Zalesovo Array 43.54 314 *e*P **P 17 40 10.7 -0.4**
ZALV Zalesovo Beam 43.54 314 P **P 17 40 11.3 +0.2**
ZALV 17 41 58.6
ZALV pmax pmax
comp=Z,17nm,0.7s
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV pmax pmax
comp=N,2.0nm,0.9s
ZALV Zalesovo Beam 43.54 314 P **P 17 40 11.3 +0.2**
comp=N,17nm,0.7s,baz=93,slow=6.5,SNR=29
ZALV PcP **PcP 17 41 58.6 0.0**
comp=N,7.2nm,0.7s,baz=99,slow=3.5,SNR=4.3
ZALV ScP **ScP 17 45 49.3 0.0**
comp=N,2.3nm,0.9s,baz=114,slow=3.6,SNR=5.2
KHLT Khaolaem Dam 43.57 254 P **P 17 40 11.5 -0.2**
comp=N,18nm,1.2s,comp=N,350nm
MTKI Muara Teweh, K 43.63 221 P **P 17 40 13.2 +1.0**
comp=N,47nm,1.0s,comp=N,5μm
SHL Shillong 43.68 272 *e*P **P 17 40 12.0 -0.8**
SHL *e*S **S 17 46 40.0 -2.3**
SPSI Sidrap Palu 43.85 213 P **P 17 40 11.2 -2.8**
comp=N,40nm,1.0s
BNSI Bone 44.10 212 P **P 17 40 16.8 +0.9**
comp=N,103nm,1.4s,comp=N,2μm
KSM Kuching 44.32 228⇑P **P 17 40 17.7 -0.1**
KSM Kuching 44.32 228⇑*i*P **P 17 40 16.8 -1.0**
comp=N,71nm,1.3s
KSM LR LR
comp=Z,724nm,20.0s
PMG Port Moresby 44.39 172 PFAKE 17 40 30.0 +12
PMG LR LR
comp=Z,1μm,19.0s
NVS Novosibirsk 44.50 315⇑*i*P **P 17 40 18.1 -0.6**
NVS *i* 17 40 30.0
NVS *e*S **S 17 46 52.8 -0.3**
NVS *e*SS **SS 17 50 12.1 -0.3**
NVS pmax pmax
comp=Z,85nm,1.4s
NVS pmax pmax
comp=N,7.0nm,0.8s
NVS pmax pmax
comp=E,74nm,1.5s
NVS smax smax
comp=N,11nm,1.8s
NVS smax smax
comp=E,20nm,1.8s
STKI Sintang 44.73 226 P **P 17 40 20.7 -0.4**
comp=E,87nm,1.0s,comp=E,1μm
KAPI Kappang 44.80 212 P **P 17 40 21.0 -0.5**
comp=E,325nm,1.4s,SNR=8.2
KAPI Kappang 44.80 212 P **P 17 40 21.9 +0.3**
SNR=34
KAPI Kappang 44.80 212 *e*P **P 17 40 20.6 -0.9**
comp=E,467nm,1.9s
KAPI LR LR
comp=Z,909nm,21.0s

BKSI	Bulukumba	44.91 211	P	P	17 40 21.8	-0.7
	comp=Z,26nm,1.1s					
MK01	Makanchi Array	45.48 304	eP	P	17 40 26.2	-0.5
MKAR	Makanchi Array	45.48 304	ceP	P	17 40 26.8	+0.1
MKAR			pmax	pmax		
	comp=Z,17nm,0.7s					
MKAR	Makanchi Array	45.48 304	P	P	17 40 26.9	+0.1
	comp=Z,17nm,0.7s,baz=83,slow=10,SNR=50					
BBKI	Banjar Baru	45.79 219	P	P	17 40 28.5	-0.9
	comp=Z,114nm,1.0s,comp=Z,1μm					
TAPN	Taplejung	46.38 276	eP	P	17 40 34.2	-0.2
ODAN	Odare	46.84 276	eP	P	17 40 37.1	-0.9
	comp=Z,38nm,0.7s					
SURT	Suratani	46.96 247	P	P	17 40 38.7	0.0
	comp=Z,19nm,1.6s,comp=Z,262nm					
SVW2	Sparrevohn	47.05 36	eP	P	17 40 39.7	+0.8
	comp=Z,38nm,1.1s					
MMRI	Maumere	47.09 207	P	P	17 40 40.0	+0.4
	comp=Z,152nm,1.4s,comp=Z,2μm					
MMRI	Maumere	47.09 207⇑	iP	P	17 40 38.3	-1.3
	comp=Z,359nm,1.5s					
HNR	Honiara	47.37 155	LR	LR	17 57 40.2	
	comp=Z,706nm,20.8s,baz=328,slow=32					
SOEI	Soe	47.42 204	P	P	17 40 42.6	+0.3
	comp=Z,105nm,1.4s,comp=Z,2μm					
SOEI	Soe	47.42 204	eP	P	17 40 41.8	-0.5
	comp=Z,138nm,0.9s					
RAMN	Ramite	47.45 276	eP	P	17 40 42.4	-0.3
	comp=Z,172nm,0.9s					
KURK	Kurchatov	47.45 310	P	P	17 40 41.7	-0.4
	comp=Z,295nm,0.7s,SNR=46					
KURK	Kurchatov	47.45 310⇑	iP	P	17 40 41.6	-0.5
KURK			pmax	pmax		
	comp=Z,38nm,0.8s					
KURK			MLR	MLR		
	comp=Z,729nm,19.0s					
KURK	Kurchatov	47.45 310	P	P	17 40 42.2	+0.1
	SNR=26					
KURK	Kurchatov	47.45 310⇑	iP	P	17 40 41.6	-0.5
	comp=Z,38nm,0.8s					
KURK			ScP	ScP	17 46 05.6	0.0
KURK			LR	LR		
	comp=Z,729nm,19.0s					
JIRN	Jiri	47.50 277	eP	P	17 40 43.4	+0.1
	comp=Z,168nm,0.8s					
KURBB	Kurchatov Arra	47.52 310	P	P	17 40 42.3	-0.3
	comp=Z,54nm,1.0s,baz=84,slow=8.2,SNR=107					
KURBB			ScP	ScP	17 46 05.6	-0.3
	comp=Z,3.4nm,1.3s,baz=109,slow=3.6,SNR=6.9					
GUN	Gumba	47.66 278	eP	P	17 40 44.5	+0.1
	comp=Z,141nm,0.9s					
PKDT	Phuket	47.99 246	P	P	17 40 46.8	+0.1
	comp=Z,66nm,1.2s,comp=Z,926nm					
KULM	Kulim	48.02 242	eP	P	17 40 46.4	-0.5
	comp=Z,52nm,1.3s					
KULM			LR	LR		
	comp=Z,1μm,20.0s					
BATI	Baumata	48.04 204	P	P	17 40 47.3	+0.3
	comp=Z,70nm,1.1s					
BATI	Baumata	48.04 204	P	P	17 40 46.8	-0.2
	comp=Z,120nm,1.0s,baz=178,slow=2.3,SNR=13					
BATI			S	S	17 47 42.6	-2.1
	comp=Z,24nm,0.9s,baz=56,slow=19,SNR=4.3					
BATI			LR	LR	17 59 29.3	
	comp=Z,1μm,21.7s,baz=167,slow=34					
PKI	Pulchoki	48.17 278	eP	P	17 40 47.9	-0.5
	comp=Z,168nm,1.3s					
PKIN	Phulchoki	48.18 278	eP	P	17 40 47.9	-0.5
	comp=Z,73nm,1.0s					
KKN	Kakani	48.19 278	eP	P	17 40 48.3	-0.1
	comp=Z,123nm,1.0s					
MYKOM	Kota Tinggi	48.25 235	⇓P	P	17 40 49.2	+0.5
IPM	Ipoh	48.30 241	eP	P	17 40 47.9	-1.2
	comp=Z,33nm,0.7s					
IM04	Indian Mountai	48.33 30	eP	P	17 40 49.6	+0.9
DMN	Daman	48.41 278	eP	P	17 40 49.7	-0.4
	comp=Z,141nm,1.3s					
RSO	Redoubt South	48.41 37	eP	P	17 40 48.0	-1.6
KGM	Kluang	48.45 236	⇓P	P	17 40 51.1	+0.9
KDAK	Kodiak Island	48.51 41	PFAKE		17 41 00.0	+10
KDAK			LR	LR		
	comp=Z,1μm,21.0s					
GKN	Gorkha	48.63 278	eP	P	17 40 51.6	-0.2
	comp=Z,608nm,1.4s					
COEN	Coen	48.63 178	esP	sP	17 40 58.6	-0.3
FRIM	Kepong	48.74 239	⇑P	P	17 40 51.4	-1.1
PPLA	Purkeypile	48.76 34	eP	P	17 40 53.6	+1.4
	comp=Z,62nm,1.4s					
WSI	Waingapu	48.77 209	P	P	17 40 55.4	+2.8
	comp=Z,213nm,0.5s,comp=Z,3μm					
DANN	Dangsing	49.21 279	eP	P	17 40 56.5	+0.2
	comp=Z,603nm,1.1s					
KMMI	Kalianget	49.30 218	P	P	17 40 57.2	+0.5
	comp=Z,99nm,1.2s					
KTH	Kantishna Hill	49.36 33	eP	P	17 40 57.5	+0.8
	comp=Z,35nm,1.2s					
KOLN	Koldanda	49.57 279	eP	P	17 40 58.9	-0.1
	comp=Z,254nm,1.4s					
SRBI	Singaraja	49.58 216	P	P	17 40 59.0	+0.2
	comp=Z,115nm,1.1s,comp=Z,2μm					
TRF	Thorofare Moun	49.64 33	eP	P	17 41 02.5	+3.5
	comp=Z,25nm,1.4s					
ABJI	Asem Bagus	49.80 217	P	P	17 41 01.2	+0.7
	comp=Z,88nm,2.0s,comp=Z,1μm					
AAA	Alma-Ata	49.84 300	iP	P	17 41 02.3	+1.6
AAA			iS	S	17 48 05.8	-3.9
AAA			pmax	pmax		
	comp=Z,400nm,1.6s					
AAA			smax	smax		
	comp=E,300nm,2.0s					
AAA			MLR	MLR		
	comp=Z,3μm,8.0s					
COLD	Coldfoot	49.87 28	eP	P	17 41 00.8	+0.3
RC01	Rabbit Creek A	49.89 36	eP	P	17 41 00.6	-0.1
	comp=Z,41nm,1.2s					
GRJI	Gresik	49.94 219	P	P	17 41 01.8	+0.2
	comp=Z,120nm,0.9s,comp=Z,1μm					
SEW	Seward	50.06 38	eP	P	17 41 03.1	+1.2
	comp=Z,76nm,1.3s					
DNP	Denpasar	50.10 215	P	P	17 41 02.7	-0.1
	comp=Z,379nm,1.3s,comp=Z,7μm					
PMR	Palmer	50.17 36	eP	P	17 41 00.1	-2.7
PMR			pmax	pmax		
	comp=Z,46nm,1.2s					
PMR	Palmer	50.17 36	eP	P	17 41 00.1	-2.7
	comp=Z,46nm,1.2s					
TBJI	Tambak Boyo	50.19 220	P	P	17 41 04.9	+1.4
	comp=Z,137nm,1.8s					
MCK	McKinley	50.25 33	eP	P	17 41 02.8	-0.6
MCK			pmax	pmax		
	comp=Z,41nm,1.5s					
MCK	McKinley	50.25 33	eP	P	17 41 02.8	-0.6
	comp=Z,41nm,1.5s					
IGBI	Denpasar	50.25 215	P	P	17 41 03.6	-0.3
	comp=Z,77nm,1.2s,comp=Z,993nm					
JAGI	Jajag, Banyuwa	50.43 216	P	P	17 41 04.6	-0.7
	comp=Z,46nm,1.0s					
JAGI	Jajag, Banyuwa	50.43 216	eP	P	17 41 02.9	-2.4
	comp=Z,41nm,1.0s					
GMJI	Gumukmas	50.61 217	P	P	17 41 05.9	-0.7
	comp=Z,39nm,1.4s					
COLA	College	50.73 31⇑	eP	P	17 41 05.8	-1.2
COLA			pmax	pmax		
	comp=Z,76nm,1.2s					
COLA	College	50.73 31	eP	P	17 41 07.7	+0.7
	comp=Z,15nm,0.7s					
COLA			LR	LR		
	comp=Z,1μm,20.0s					
TKM2	Tokmak 2	50.88 300	P	P	17 41 09.9	+1.2
	SNR=34					
TKM2	Tokmak 2	50.88 300	eP	P	17 41 09.5	+0.8
TKM2			pmax	pmax		
	comp=Z,157nm,1.3s					
TKM2			MLR	MLR		
	comp=Z,1μm,21.0s					
TKM2	Tokmak 2	50.88 300	eP	P	17 41 09.5	+0.8
	comp=Z,157nm,1.3s					
TKM2			LR	LR		
	comp=Z,1μm,21.0s					
JMBI	JAMBI	50.93 233	P	P	17 41 12.2	+3.1
	comp=Z,198nm,1.3s,comp=Z,3μm					
PSI	Prapat	50.97 241	P	P	17 41 08.8	-0.8
PSI			pmax	pmax		
	comp=Z,20nm,0.9s					
PSI	Prapat	50.97 241	P	P	17 41 08.8	-0.8
	comp=Z,20nm,0.9s,baz=309,slow=3.7,SNR=8.8					
IL1	Eielson Array	51.14 31	eP	P	17 41 09.7	-0.4
ILAR	Eielson Array	51.14 31	P	P	17 41 09.9	-0.2
ILAR			pmax	pmax		
	comp=Z,9.0nm,0.9s					
ILAR	Eielson Array	51.14 31	P	P	17 41 09.8	-0.2
	comp=Z,8.2nm,0.8s,baz=266,slow=6.1,SNR=78					
PMBI	Palembang	51.19 230	P	P	17 41 14.5	+3.5
	comp=Z,285nm,0.9s					
BKNI	Bangkinang	51.23 237	P	P	17 41 12.6	+1.2
	comp=Z,121nm,1.4s					
BKNI	Bangkinang	51.23 237	P	P	17 41 12.0	+0.6
PWJI	Pagerwojo	51.23 219	P	P	17 41 09.8	-1.5
	comp=Z,140nm,0.8s,comp=Z,1μm					
KZA	Kyzart	51.35 299	P	P	17 41 14.1	+1.5
	SNR=14					
KZA	Kyzart	51.35 299	iP	P	17 41 14.0	+1.5
KBK	Karagaybulak	51.41 300	P	P	17 41 13.3	+0.6
	SNR=23					
CHMS	Chumysh	51.46 300	P	P	17 41 13.2	+0.2
	SNR=16					
CHMS	Chumysh	51.46 300	iP	P	17 41 13.1	+0.2
KSH	Kashi	51.53 296⇑	iP	P	17 41 17.3	+3.8
KSH			sP	sP	17 41 26.1	+5.1
KSH			PP	PP	17 43 15.5	+4.8
KSH			S	S	17 48 36.4	+3.1
KSH			sS	sS	17 48 47.4	+5.2
KSH			ScS	ScS	17 51 03.4	0.0
KSH			SS	SS	17 52 11.5	+2.4
KSH			PMZ			
	comp=Z,31nm,0.9s					
KSH			PMZ			
	comp=Z,320nm,4.8s					
KSH			LN			
	comp=Z,2μm,16.1s					
KSH			LE			
	comp=Z,2μm,14.0s					
KSH			LZ			
	comp=Z,4μm,15.5s					
USP	Ospenovka	51.57 301	P	P	17 41 14.3	+0.5
	SNR=17					
USP	Ospenovka	51.57 301	iP	P	17 41 14.2	+0.5
FRU	Bishkek	51.60 300	iP	P	17 41 15.0	+1.1
FRU			i		17 41 29.0	
FRU			MLR	MLR		
	comp=Z,2μm,17.0s					
AAK	Ala-Archa	51.74 300	P	P	17 41 15.0	-0.1
	comp=Z,126nm,1.1s,SNR=10					
AAK	Ala-Archa	51.74 300	P	P	17 41 15.6	+0.4
	SNR=11					
AAK	Ala-Archa	51.74 300	cP	P	17 41 15.3	+0.2
AAK			pmax	pmax		
	comp=Z,121nm,1.8s					
AAK	Ala-Archa	51.74 300	P	P	17 41 15.9	+0.8
	SNR=11					
AAK	Ala-Archa	51.74 300	P	P	17 41 15.6	+0.4
	comp=Z,16nm,1.0s,baz=90,slow=3.2,SNR=23					
AAK	Ala-Archa	51.74 300	eP	P	17 41 15.2	0.0
	comp=Z,31nm,1.1s					
AAK			LR	LR		
	comp=Z,2μm,19.0s					
DIV	Divide	51.81 36	eP	P	17 41 15.4	+0.2
	comp=Z,51nm,1.1s					
UGM	Wanagama	51.81 221	P	P	17 41 15.2	-0.5
	comp=Z,363nm,1.2s,comp=Z,4μm					
PAX	Paxson	51.83 34	eP	P	17 41 15.8	+0.4
PAX			pmax	pmax		
	comp=Z,42nm,1.6s					
PAX	Paxson	51.83 34	eP	P	17 41 15.8	+0.4
	comp=Z,42nm,1.6s					
UCH	Uchtor	51.83 299	P	P	17 41 17.1	+0.9
	SNR=13					
UCH	Uchtor	51.83 299	iP	P	17 41 17.1	+0.9
SDSI	Sungai Dareh	51.88 235	P	P	17 41 18.3	+2.1
	comp=Z,78nm,0.9s,comp=Z,3μm					
VOSK	Vostochnaya	51.89 313	eP	P	17 41 15.7	-0.2
VOSK			pmax	pmax		
	comp=Z,99nm,0.9s					
VOSK	Vostochnaya	51.89 313	eP	P	17 41 15.7	-0.2
	comp=Z,99nm,0.9s					
VOSK			eScP	ScP	17 46 25.2	+0.6
MNSI	Mandailing Nat	51.91 239	P	P	17 41 16.5	+0.1
	comp=Z,32nm,1.2s					
BVA0	Borovoye Array	52.19 314	iP	P	17 41 17.4	-0.8
BVA0			pmax	pmax		
	comp=Z,64nm,1.1s					
BVAR	Borovoye Array	52.19 314	P	P	17 41 18.2	+0.1
BVAR			pmax	pmax		
	comp=Z,37nm,0.9s					
BVAR			pmax	pmax		
	comp=N,1.0nm,0.9s					
BVAR	Borovoye Array	52.19 314	P	P	17 41 18.2	+0.1
	comp=N,37nm,0.9s,baz=88,slow=6.7,SNR=94					
BVAR			ScP	ScP	17 46 25.9	0.0
	comp=N,1.2nm,0.9s,baz=94,slow=6.2,SNR=4.2					
KPJI	Karang Pucung	52.21 223	P	P	17 41 18.1	-0.5
	comp=N,181nm,1.0s,comp=N,2μm					
EKS2	Erkin-Say	52.24 300	P	P	17 41 18.2	-0.7
	SNR=7.0					
EKS2	Erkin-Say	52.24 300	iP	P	17 41 18.1	-0.7
EKS2	Erkin-Say	52.24 300	eP	P	17 41 18.7	-0.2
	comp=N,22nm,1.1s					
EKS2			LR	LR		
	comp=Z,2μm,20.0s					
BRVK	Borovoye	52.25 314	P	P	17 41 18.9	+0.4
	comp=Z,398nm,1.0s,SNR=40					
BRVK	Borovoye	52.25 314	cP	P	17 41 18.4	-0.2
BRVK			pmax	pmax		
	comp=Z,94nm,1.2s					
BRVK	Borovoye	52.25 314	P	P	17 41 19.0	+0.4
	SNR=25					
BRVK	Borovoye	52.25 314	eP	P	17 41 18.1	-0.5
	comp=Z,62nm,0.9s					
BRVK			LR	LR		
	comp=Z,2μm,19.0s					
BMRM	Bremner River	52.39 36	eP	P	17 41 20.1	+0.5
	comp=Z,52nm,1.1s					
DOT	Dot Lake	52.42 33	eP	P	17 41 19.9	+0.1
	comp=Z,14nm,0.8s					
AML	Almayashu	52.45 300	P	P	17 41 21.9	+1.2
	SNR=39					
PDSI	Padang	52.52 236	P	P	17 41 21.8	+0.8
	comp=Z,27nm,0.9s					
LEM	Lembang	52.54 225	P	P	17 41 21.2	-0.1
	comp=Z,323nm,1.0s,comp=Z,3μm					
MENT	Mentasta	52.63 34	eP	P	17 41 22.6	+1.3
LHSI	Lahat	52.67 231	P	P	17 41 22.4	+0.3
	comp=Z,255nm,1.2s,comp=Z,3μm					
MDSI	Maura Dua	52.76 230	P	P	17 41 21.9	-0.8
	comp=Z,165nm,1.3s,comp=Z,2μm					
BLSI	Bandar Lampung	52.79 228	P	P	17 41 22.4	-0.6
	comp=Z,149nm,1.0s					
CISI	Cisompet, Garu	53.02 224	P	P	17 41 23.4	-1.3
	comp=Z,56nm,1.1s					
CISI	Cisompet, Garu	53.02 224	eP	P	17 41 21.9	-2.8
	comp=Z,42nm,0.8s					
SNSI	Sinabang, Aceh	53.12 243	P	P	17 41 25.5	+0.1
	comp=Z,111nm,1.1s,comp=Z,7μm					
LWLI	Liwa	53.25 229	P	P	17 41 25.3	-1.2
	comp=Z,45nm,1.0s,comp=Z,4μm					
KASI	Kota Agung	53.37 229	P	P	17 41 25.2	-2.0
	comp=Z,72nm,1.2s					
CGJI	Cibinong	53.50 227	P	P	17 41 25.9	-2.3
EGAK	Eagle	53.59 31	eP	P	17 41 28.5	+0.2
	comp=Z,25nm,1.3s					
EGAK			LR	LR		
	comp=Z,1μm,19.0s					
NDI	New Delhi	54.35 283	ex	P	17 41 33.5	-0.9
KK31	Karatay Array	54.42 302	iP	P	17 41 34.7	0.0
KK31			pmax	pmax		
	comp=Z,134nm,1.1s					
KKAR	Karatay Array	54.42 302	eP	P	17 41 35.1	+0.4
KKAR	Karatay Array	54.42 302	eP	P	17 41 35.1	+0.4
CTAO	Charters Tower	54.88 175	PFAKE		17 41 50.0	+12
CTAO			LR	LR		
	comp=Z,551nm,20.0s					
FITZ	Fitzroy Crossi	54.91 199	eP	P	17 41 38.2	-0.1
	comp=Z,46nm,1.3s					
WRAB	Tennant Creek	55.01 188	P	P	17 41 39.0	0.0
	comp=Z,250nm,1.0s,SNR=7.2					
WRAB	Tennant Creek	55.01 188	ceP	P	17 41 38.7	-0.3
WRAB			pmax	pmax		
	comp=Z,110nm,1.2s					
WRAB	Tennant Creek	55.01 188	eP	P	17 41 38.7	-0.3
	comp=Z,46nm,0.9s					
WRAB			LR	LR		
	comp=Z,771nm,19.0s					
WB2	Warramunga Arr	55.02 188	eP	P	17 41 38.6	-0.5
WRA	Warramunga Arr	55.02 188	P	P	17 41 38.6	-0.5
WRA			S	S	17 49 24.9	+4.2
WRA			pmax	pmax		
	comp=Z,18nm,0.9s					
WRA			pmax	pmax		
	comp=N,3.0nm,1.2s					
WRA			smax	smax		
	comp=N,2.0nm,1.0s					
WRA	Warramunga Arr	55.02 188	P	P	17 41 38.6	-0.5
	comp=N,18nm,0.9s,baz=5.7,slow=7.6,SNR=50					
WRA			ScP	ScP	17 46 37.5	-1.0
	comp=N,2.9nm,1.2s,baz=10,slow=4.4,SNR=4.7					
WRA			S	S	17 49 24.9	+4.2
	comp=N,2.4nm,1.0s,baz=8.3,slow=14,SNR=4.5					
HYT	Haines Junctio	55.84 36	eP	P	17 41 46.4	+1.6
INK	Inuvik	56.15 26	P	P	17 41 47.8	+1.1
INK			pmax	pmax		
	comp=Z,8.0nm,1.1s					
INK	Inuvik	56.15 26	P	P	17 41 47.8	+1.1
	comp=Z,7.6nm,1.1s,baz=287,slow=6.9,SNR=13					
SVE	Sverdlovsk	56.91 320⇓	iP	P	17 41 52.6	+0.3
SVE			e		17 42 51.3	
SVE			eS	S	17 49 48.9	+3.8
SVE			e		17 51 39.0	
SVE			pmax	pmax		
	comp=Z,126nm,1.2s					
SVE			MLR	MLR		
	comp=Z,3μm,15.0s					
ARU	Arti	58.12 319	P	P	17 42 00.7	-0.1
	comp=Z,650nm,0.8s,SNR=44					
ARU	Arti	58.12 319	c iP	P	17 42 00.6	-0.2
ARU					17 42 52.8	
ARU					17 44 08.6	
ARU			S	S	17 50 00.7	-0.4
ARU			SS	SS	17 53 48.7	-3.3
ARU			pmax	pmax		
	comp=Z,161nm,1.2s					
ARU			MLR	MLR		
	comp=Z,2μm,17.0s					
ARU	Arti	58.12 319	eP	P	17 42 00.7	-0.1
	comp=Z,119nm,1.0s					
ARU			LR	LR		
	comp=Z,2μm,19.0s					
SOKR	Solikamsk	58.16 323	eP	P	17 42 01.7	+0.7
SOKR			pmax	pmax		
	comp=Z,50nm,1.1s					
HYB	Hyderabad	58.43 270	iP	P	17 42 03.0	-0.6
	comp=Z,75nm,1.0s					
KBL	Kabul	58.43 292	eP	P	17 42 02.8	-0.9
KBL			pmax	pmax		
	comp=Z,38nm,1.1s					
KBL	Kabul	58.43 292	eP	P	17 42 02.8	-0.9
	comp=Z,38nm,1.1s					
AS01	Alice Springs	58.74 188	eP	P	17 42 05.4	-0.1
AS31	Alice Springs	58.74 188	eP	P	17 42 06.0	+0.5
ASAR	Alice Springs	58.74 188	P	P	17 42 05.4	-0.1
ASAR			S	S	17 50 15.5	+5.6
ASAR			pmax	pmax		
	comp=Z,3.0nm,0.9s					
ASAR			smax	smax		
	comp=N,2.0nm,1.1s					
ASAR	Alice Springs	58.74 188	P	P	17 42 05.4	-0.1
	comp=N,2.5nm,0.9s,baz=13,slow=9.4,SNR=15					
ASAR			S	S	17 50 15.4	+5.6
	comp=N,2.4nm,1.1s,baz=19,slow=21,SNR=8.9					
AB31	Akbulak array	59.51 311	iP	P	17 42 09.6	-1.0
AB31			pmax	pmax		
	comp=Z,39nm,0.9s					
ABKAR	Akbulak array	59.51 311	eP	P	17 42 10.2	-0.4
MBWA	Marble Bar	59.56 204	eP	P	17 42 11.3	+0.1
	comp=Z,23nm,0.8s					
MBWA			esP	sP	17 42 18.3	-0.4
MBWA			LR	LR		
	comp=Z,823nm,19.0s					
WRAK	Wrangell Islan	59.58 40	PFAKE		17 42 30.0	+19
WRAK			LR	LR		
	comp=Z,643nm,21.0s					
DLBC	Dease Lake	60.13 37	P	P	17 42 15.5	+0.6
	comp=Z,5.6nm,0.9s,baz=277,slow=11,SNR=7.3					
DLBC	Dease Lake	60.13 37	eP	P	17 42 16.9	+2.0
	comp=Z,23nm,1.1s					
AKTO	Aktyubinsk	60.28 313	P	P	17 42 15.0	-1.0
AKTO			pmax	pmax		
	comp=Z,30nm,0.9s					
AKTO	Aktyubinsk	60.28 313	P	P	17 42 15.2	-0.7
	comp=Z,24nm,0.8s,baz=78,slow=7.1,SNR=35					
AKTO			LR	LR	18 11 18.6	
	comp=Z,1μm,18.6s,baz=296,slow=39					
DZM	Mont Dzumac	61.35 154	LR	LR	18 09 16.4	
	comp=Z,740nm,19.0s,baz=20,slow=36					
POO	Poona	61.73 274⇑	ix	P	17 42 26.0	-0.3
PALK	Pallekele	62.19 259	eP	P	17 42 29.4	0.0
PALK	Pallekele	62.19 259	P	P	17 42 30.0	+0.6
	comp=Z,34nm,0.7s,baz=41,slow=5.2,SNR=7.9					
PALK			LR	LR	18 09 09.1	
	comp=Z,2μm,21.6s,baz=206,slow=36					
PALK	Pallekele	62.19 259	eP	P	17 42 29.4	0.0
PRGR	Permogore	62.67 328	eP	P	17 42 31.6	-0.3
PRGR			pmax	pmax		
	comp=Z,42nm,0.8s					
MSVF	Nonsavu	62.71 141	eP	P	17 42 32.7	0.0
MSVF			pmax	pmax		
	comp=Z,84nm,1.4s					
MSVF	Nonsavu	62.71 141	eP	P	17 42 32.7	0.0
	comp=Z,84nm,1.4s					
KBS	Kingsbay	62.77 350	PFAKE		17 42 40.0	+7.7
KBS			LR	LR		
	comp=Z,1μm,20.0s					
COCO	West Island	63.29 231	PFAKE		17 42 50.0	+13
COCO			LR	LR		
	comp=Z,2μm,20.0s					
LVZ	Lovozero	64.14 336	PFAKE		17 42 50.0	+8.5
LVZ			LR	LR		
	comp=Z,1μm,21.0s					
RES	Resolute Bay	64.57 14	P	P	17 42 44.5	+0.3
RES			pmax	pmax		
	comp=Z,6.0nm,0.8s					
RES	Resolute Bay	64.57 14	P	P	17 42 44.5	+0.3
	comp=Z,5.8nm,0.8s,baz=313,slow=7.1,SNR=20					
APA	Apatity	64.71 336⇑	iP	P	17 42 45.0	-0.2
APA			i		17 43 14.0	
APA			i		17 45 12.0	
APA			iS	S	17 51 22.0	-2.4
APA			MLR	MLR		
	comp=Z,2μm,16.0s					
TMCR	Tamitsa	64.72 332	eP	P	17 42 45.3	0.0
TMCR			e		17 43 17.9	
TMCR			e		17 45 07.9	
TMCR			pmax	pmax		
	comp=Z,16nm,1.0s					
ABKT	Ailbek	65.09 300	P	P	17 42 48.4	+0.1
	comp=Z,247nm,0.9s,SNR=13					
GEYT	Alibeck	65.09 300	P	P	17 42 48.8	+0.5
	comp=Z,30nm,0.9s,baz=33,slow=3.5,SNR=65					
YKA	Yellowknife Ar	65.50 30	P	P	17 42 50.6	+0.2
YKA			pmax	pmax		
	comp=Z,5.0nm,1.2s					
YKA	Yellowknife Ar	65.50 30	P	P	17 42 50.6	+0.2
	comp=Z,4.6nm,1.2s,baz=298,slow=6.2,SNR=18					
KEV	Kevo	65.50 340	eP	P	17 42 44.4	-5.9
KEV			pmax	pmax		
	comp=Z,5.0nm,0.8s					
KEV	Kevo	65.50 340	ep	P	17 42 44.4	-5.9
	comp=Z,4.5nm,0.8s					
KEV	Kevo	65.50 340	PFAKE		17 43 00.0	+10
KEV			LR	LR		
	comp=Z,3μm,20.0s					
AFI	Afiamalu	65.59 129	PFAKE		17 43 00.0	+8.3
AFI			LR	LR		
	comp=Z,2μm,20.0s					
KLMR	Klimovskoe	65.68 328	eP	P	17 42 49.1	-2.5
KLMR			pmax	pmax		
	comp=Z,106nm,1.7s					
ARCES	ARCESS Array B	66.06 340	P	P	17 42 54.3	+0.4
ARCES			pmax	pmax		
	comp=Z,6.0nm,0.8s					
ARCES			MLR	MLR		
	comp=Z,936nm,18.6s					
ARCES	ARCESS Array B	66.06 340	P	P	17 42 54.3	+0.4
	comp=Z,6.2nm,0.8s,baz=57,slow=8.8,SNR=7.6					
ARCES			LR	LR	18 17 13.4	
	comp=Z,936nm,18.6s,baz=39,slow=41					
STKA	Stephens Creek	66.45 180	P	P	17 42 57.1	+0.3
STKA			pmax	pmax		
	comp=Z,2.0nm,0.8s					
STKA	Stephens Creek	66.45 180	P	P	17 42 57.1	+0.3
	comp=Z,2.0nm,0.8s,baz=333,slow=7.8,SNR=3.7					

STKA	Stephens Creek	66.45	180	P	P	17 42 57.1 +0.3
STKA				*es*P	sP	17 43 03.7 -0.7
FORT	Forrest	66.61	193	*e*P	P	17 43 01.6 +3.7
	comp=Z,46nm,1.0s					
DAG	Danmarks Havn	67.89	355	*i* P	P	17 43 05.4 -0.1
	comp=Z,11nm,0.9s					
JOF	Joensuu	67.94	332	*e*P	P	17 43 04.2 -1.8
JOF				pmax	pmax	
	comp=Z,5.0nm,0.7s					
JOF	Joensuu	67.94	332	*e*p	P	17 43 04.2 -1.8
	comp=Z,5.0nm,0.7s					
B06A	Marblemount	68.83	45	*e*P	P	17 43 17.2 +5.5
	comp=Z,33nm,1.2s					
MOS	Moscow	69.10	324	*e*P	P	17 43 13.1 -0.2
MOS				*e*		17 43 22.2
MOS				*e*S	S	17 52 16.2 -1.5
MOS				pmax	pmax	
	comp=Z,131nm,1.4s					
MOS				MLR	MLR	
	comp=Z,2µm,15.0s					
MOS				MLR	MLR	
	comp=E,2µm,16.0s					
MOS				MLR	MLR	
	comp=Z,800nm,18.0s					
VRHR	Novokhopersk	69.43	318	*e*P	P	17 43 12.9 -2.5
VRHR				pmax	pmax	
	comp=Z,20nm,0.8s					
VRHR				pmax	pmax	
	comp=N,40nm,1.5s					
VRHR				pmax	pmax	
	comp=E,20nm,0.9s					
OBN	Obninsk	69.94	324*c*	*i*P	P	17 43 18.2 -0.3
OBN				*e*		17 43 28.1
OBN				*i*		17 43 38.2
OBN				*e*		17 45 52.6
OBN				pmax	pmax	
	comp=Z,106nm,1.7s					
OBN				MLR	MLR	
	comp=Z,2µm,14.0s					
OBN	Obninsk	69.94	324	*e*P	P	17 43 18.1 -0.4
	comp=Z,78nm,1.2s					
OBN				LR	LR	
	comp=Z,2µm,19.0s					
MAK	Makhachkala	69.97	309	*e*P	P	17 43 20.0 +1.1
MAK				*e*		17 45 56.4
MAK				*e*PPP	PPP	17 47 37.6
MAK				*e*S	S	17 52 29.1 +0.7
MAK				*e*		17 53 16.2
MAK				pmax	pmax	
	comp=Z,178nm,1.1s					
B08A	Colville Reser	70.15	44	*e*P	P	17 43 21.5 +1.4
	comp=Z,167nm,2.6s					
CAN	Canberra	70.22	174	PFAKE		17 43 30.0 +10
CAN				LR	LR	
	comp=Z,643nm,19.0s					
KAF	Kangasniemi	70.30	333	*e*P	P	17 43 19.2 -1.4
KAF				pmax	pmax	
	comp=Z,8.0nm,0.7s					
KAF	Kangasniemi	70.30	333	*e*p	P	17 43 19.2 -1.4
	comp=Z,7.7nm,0.7s					
VSR	Storozhevoye	70.69	319*c*	*i*P	P	17 43 22.9 -0.3
VSR				pmax	pmax	
	comp=Z,111nm,1.7s					
VSR				MLR	MLR	
	comp=Z,2µm,16.0s					
VORD	Divnogorie	70.75	319	*e*P	P	17 43 21.0 -2.6
VORD				pmax	pmax	
	comp=Z,40nm,1.5s					
VORD				pmax	pmax	
	comp=N,20nm,0.7s					
VORD				pmax	pmax	
	comp=E,20nm,0.6s					
FINES	FINESS Array B	70.80	333	P	P	17 43 23.5 -0.2
FINES				pmax	pmax	
	comp=Z,15nm,0.8s					
FINES	FINESS Array B	70.80	333	P	P	17 43 23.5 -0.2
	comp=Z,15nm,0.8s,baz=74,slow=6.9,SNR=26					
EDM	Edmonton	70.84	38	*e*P	P	17 43 22.2 -2.0
EDM	Edmonton	70.84	38	*e*P	P	17 43 22.2 -2.0
C09A	Chrisman Ranch	71.05	45	*e*P	P	17 43 26.4 +0.9
	comp=Z,18nm,1.0s					
D08A	Wollman Farm,	71.05	46	*e*P	P	17 43 27.0 +1.5
	comp=Z,246nm,2.8s					
NWAO	Narrogin (SRO)	71.31	202	P	P	17 43 26.9 -0.1
NWAO				pmax	pmax	
	comp=Z,8.0nm,0.8s					
NWAO	Narrogin (SRO)	71.31	202	P	P	17 43 26.9 -0.1
	comp=Z,8.3nm,0.8s,baz=25,slow=11,SNR=3.8					
NEW	Newport	71.46	44	P	P	17 43 28.1 +0.1
NEW				pmax	pmax	
	comp=Z,7.0nm,1.0s					
NEW	Newport	71.46	44	P	P	17 43 28.1 +0.1
	comp=Z,7.2nm,1.0s,baz=288,slow=5.7,SNR=6.0					
NEW	Newport	71.46	44	⇑P	P	17 43 28.7 +0.7
	baz=71					
NEW	Newport	71.46	44	*e*P	P	17 43 28.8 +0.8
	comp=Z,18nm,1.1s					
WBK	Wadi Bani Khal	71.73	285	P	P	17 43 31.4 +1.4
	SNR=7.6					
E09A	Wood Farm, Sta	71.79	46	*e*P	P	17 43 31.0 +1.0
	comp=Z,42nm,1.5s					
N02D	Trinity Center	71.82	52	⇓P	P	17 43 31.2 +0.9
	baz=72					
BANOM	Banah	72.14	289	P	P	17 43 33.6 +1.2
	SNR=5.9					
BANOM	Banah	72.14	289	⇑*i*P	P	17 43 32.7 +0.2
	SNR=6.8					
GUDG	Gudauri	72.14	310	P	P	17 43 35.2 +2.8
DUS	Dusheti	72.20	309	P	P	17 43 38.2 +5.7
SMDO	Samad	72.23	286	P	P	17 43 33.6 +0.5
	SNR=16					
ZEI	Tsey	72.34	310	*e*P	P	17 43 29.0 -4.6
ZEI				pmax	pmax	
	comp=Z,26nm,1.5s					
TBLG	Delisi	72.36	309	P	P	17 43 33.6 +0.1
VSU	Vasula	72.40	330*c*	*i*P	P	17 43 33.4 0.0
VSU				pmax	pmax	
	comp=Z,174nm,1.2s					
KBZ	Khabaz	72.48	311	P	P	17 43 34.5 +0.4
KBZ				pmax	pmax	
	comp=Z,16nm,1.1s					
KBZ	Khabaz	72.48	311	P	P	17 43 34.5 +0.4
	comp=Z,16nm,1.1s,baz=15,slow=3.2,SNR=15					
KIV	Kislovodsk	72.49	312	P	P	17 43 35.7 +1.4
	comp=Z,235nm,1.5s,SNR=6.1					
KIV	Kislovodsk	72.49	312	*e*P	P	17 43 34.3 0.0
KIV				pmax	pmax	
	comp=Z,82nm,1.3s					
KIV				MLR	MLR	
	comp=Z,1µm,19.0s					
KIV	Kislovodsk	72.49	312	P	P	17 43 35.8 +1.4
	SNR=10					
KIV	Kislovodsk	72.49	312	⇓*i*P	P	17 43 34.7 +0.4
	SNR=9.3					
KIV	Kislovodsk	72.49	312	*e*P	P	17 43 34.3 0.0
	comp=Z,82nm,1.3s					
KIV				LR	LR	
	comp=Z,1µm,19.0s					
JMDO	Jabal Madar	72.54	285	P	P	17 43 35.4 +0.6
	SNR=13					
HOQ	Hoqain	72.54	287	P	P	17 43 35.6 +0.7
	SNR=16					
UOSS	Wadi Hilu	72.71	289	P	P	17 43 36.0 +0.2
	comp=Z,114nm,1.0s,SNR=7.2					
ONI	Oni	72.73	310	P	P	17 43 36.2 +0.5
SUMG	Summit	72.79	0	*e*P	P	17 43 36.0 0.0
SUMG				pmax	pmax	
	comp=Z,21nm,1.1s					
SUMG	Summit	72.79	0	*i* P	P	17 43 38.6 +2.6
	comp=Z,7.4nm,0.9s					
SUMG	Summit	72.79	0	*e*P	P	17 43 36.0 0.0
	comp=Z,20nm,1.1s					
WALA	Waterton Lakes	72.83	42	*e*P	P	17 43 41.8 +5.5
WALA				*e*PcP	pP	17 43 47.5 +5.7
HATD	Hatta, Dubai	72.83	289	⇓*i*P	P	17 43 36.8 +0.3
	SNR=13					
ASHO	Ashiyiah	72.96	288	P	P	17 43 37.9 +0.5
	SNR=12					
ASHO	Ashiyiah	72.96	288	*i* P	P	17 43 37.5 +0.2
	SNR=12					
BSMT	Bassoo Peak	73.00	43	*e*P	P	17 43 38.2 +0.8
	comp=Z,6.0nm,1.3s					
NAZ	Nazwa, Dubai	73.11	289	⇑*i*P	P	17 43 38.2 0.0
	SNR=5.7					
BMO	Blue Mountains	73.17	47	*e*P	P	17 43 39.4 +1.0
BMO				pmax	pmax	
	comp=Z,10.0nm,0.9s					
BMO	Blue Mountains	73.17	47	*e*P	P	17 43 39.4 +1.0
	comp=Z,9.9nm,0.9s					
GNI	Garni	73.18	307*c*	*i*P	P	17 43 39.3 +0.7
GNI				pmax	pmax	
	comp=Z,67nm,1.7s					
GNI	Garni	73.18	307	P	P	17 43 40.7 +2.1
	SNR=6.1					
GNI	Garni	73.18	307	P	P	17 43 39.9 +1.3
	comp=Z,11nm,0.8s,baz=147,slow=2.2,SNR=10					
GNI	Garni	73.18	307	*e*P	P	17 43 39.4 +0.7
	comp=Z,42nm,1.1s					
GNI				LR	LR	
	comp=Z,848nm,22.0s					
ARQ	Araqi	73.29	287	P	P	17 43 40.0 +0.7
	SNR=16					
FAQ	Al Faqa, Dubai	73.29	289	*i* P	P	17 43 39.2 0.0
	SNR=9.0					
JTMT	Jette	73.35	43	*e*P	P	17 43 40.2 +0.8
YBMT	Yellow Bay	73.43	43	*e*P	P	17 43 40.2 +0.3
	comp=Z,18nm,1.2s					
ASUD	Al Ashush, Dub	73.56	289	⇓*i*P	P	17 43 41.2 +0.4
	SNR=9.4					
SWMT	Swartz Lake	73.64	43	*e*P	P	17 43 41.6 +0.5
WVOR	Wild Horse Val	73.66	50	*e*P	P	17 43 47.1 +5.8
WVOR	Wild Horse Val	73.66	50	*e*pP	P	17 43 47.1 +5.8
MSO	Missoula	74.05	44	⇓P	P	17 43 44.2 +0.6
	baz=74					
MSO	Missoula	74.05	44	*e*P	P	17 43 44.6 +1.1
MSO				*e*pP	pP	17 43 48.5 -0.6
SLMT	Seeley Lake	74.07	43	*e*P	P	17 43 43.3 -0.4
CLDR	Caldiran	74.25	307	*e*P	P	17 43 45.9 +0.9
RAO	Raoul Island	74.33	144	LR	LR	18 17 38.4
	comp=Z,410nm,18.1s,baz=328,slow=37					
MICGM	Minsk	74.39	326	⇑*e*P	P	17 43 44.0 -1.2
CHMT	Chamberlain Mo	74.39	43	*e*P	P	17 43 45.5 -0.1
	comp=Z,7.4nm,1.3s					
MNK	Minsk	74.41	326	⇑*e*P	P	17 43 44.0 -1.3
MNK				pmax	pmax	
	comp=Z,130nm,1.0s					
NACGM	Naroch	74.63	327	*e*	P	17 43 44.0 -2.6
CMB	Columbia Colle	74.89	54	*e*P	P	17 43 49.5 +1.1
CMB				pmax	pmax	
	comp=Z,17nm,1.1s					
CMB	Columbia Colle	74.89	54	*e*P	P	17 43 49.5 +1.1
	comp=Z,17nm,1.1s					
WAKR	Walker	75.26	53	*e*P	P	17 43 51.6 +0.8
	comp=Z,39nm,1.8s					
FFC	Flin Flon	75.34	33	*e*P	P	17 43 50.6 -0.1
FFC				pmax	pmax	
	comp=Z,18nm,0.9s					
FFC				MLR	MLR	
	comp=Z,564nm,20.0s					
FFC	Flin Flon	75.34	33	*e*P	P	17 43 50.5 -0.1
	comp=Z,18nm,0.9s					
FFC				LR	LR	
	comp=Z,564nm,20.0s					
CUKT	Cukurca	75.47	305	*e*P	P	17 43 52.3 +0.4
LRM	Limekiln Ridge	75.47	44	*e*P	P	17 43 52.2 +0.3
HLID	Hailey	75.62	47	⇓P	P	17 43 53.2 +0.4
	baz=76					
HLID	Hailey	75.62	47	*e*P	P	17 43 54.0 +1.3
	comp=Z,89nm,2.8s					
BMN	Battle Mountai	75.64	51	*e*P	P	17 43 54.4 +1.5
BMN				pmax	pmax	
	comp=Z,26nm,1.6s					
BMN	Battle Mountai	75.64	51	*e*P	P	17 43 54.4 +1.5
	comp=Z,26nm,1.6s					
DLMT	Dillon	75.66	44	*e*P	P	17 43 54.4 +1.6
	comp=Z,24nm,1.3s					
A19A	Klindworth Far	75.68	40	⇓P	P	17 43 53.6 +0.8
	baz=76,SNR=13					
EGMT	Eagleton	75.68	41	⇓P	P	17 43 53.5 +0.7
	baz=76,SNR=9.8					
EGMT	Eagleton	75.68	41	*e*P	P	17 43 53.0 +0.1
	comp=Z,28nm,1.1s					
EGMT				LR	LR	
	comp=Z,812nm,19.0s					
FCC	Fort Churchill	75.77	26	*e*P	P	17 43 53.0 0.0
FCC				pmax	pmax	
	comp=Z,64nm,1.4s					
FCC	Fort Churchill	75.77	26	*e*P	P	17 43 53.0 0.0
	comp=Z,64nm,1.4s					
B19A	Brinkman Farms	75.86	40	⇓P	P	17 43 54.7 +0.8
	baz=76,SNR=17					
BOZ	Bozeman (W)	76.04	44	PFAKE		17 44 10.0 +15
BOZ				LR	LR	
	comp=Z,951nm,21.0s					
NV01	Mina Array Sit	76.05	53	*e*P	P	17 43 55.9 +0.5
NVAR	Mina Array Bea	76.05	53	P	P	17 43 54.8 -0.6
	comp=Z,5.3nm,0.9s,baz=283,slow=6.0,SNR=26					
HFS	Hagfors	76.11	336	P	P	17 43 54.3 -0.7
HFS				pmax	pmax	
	comp=Z,10.0nm,0.9s					
HFS	Hagfors	76.11	336	P	P	17 43 54.3 -0.7
	comp=Z,9.7nm,0.9s,baz=41,slow=4.7,SNR=9.6					
SIRT	Sirnak	76.11	306	*e*P	P	17 43 56.2 +0.6
AKASG	Malin Array Be	76.12	323	P	P	17 43 54.9 -0.3
AKASG				pmax	pmax	
	comp=Z,9.0nm,0.8s					
AKASG				MLR	MLR	
	comp=Z,2µm,18.2s					
AKASG	Malin Array Be	76.12	323	P	P	17 43 54.9 -0.3
	comp=Z,9.3nm,0.8s,baz=44,slow=5.9,SNR=41					
AKASG				LR	LR	18 21 06.5
	comp=Z,2µm,18.2s,baz=55,slow=39					
KIEV	Kiev	76.14	323*c*	*i*P	P	17 43 54.6 -0.7
KIEV	Kiev	76.14	323	*e*P	P	17 43 54.7 -0.5
	comp=Z,78nm,1.5s					
KIEV				LR	LR	
	comp=Z,2µm,20.0s					
A20A	Cobblestone Ra	76.14	40	⇑P	P	17 43 55.9 +0.4
	baz=76					
AK11	Malin Array Si	76.17	323	*e*P	P	17 43 55.1 -0.3
NB2	NORSAR Subarra	76.23	338	P	P	17 43 55.3 -0.4
	comp=Z,199nm,2.0s,baz=40,slow=5.9					
NB2	NORSAR Subarra	76.23	338	P	P	17 43 55.3 -0.4
	baz=40,slow=5.9					
NOA	NORSAR Array B	76.23	338	P	P	17 43 55.7 0.0
NOA				pmax	pmax	
	comp=Z,12nm,0.8s					
NOA				MLR	MLR	
	comp=Z,17nm,28.6s					
NOA	NORSAR Array B	76.23	338	P	P	17 43 55.7 0.0
	comp=Z,12nm,0.8s,baz=39,slow=5.7,SNR=38					
NOA				LR	LR	18 21 12.8
	comp=Z,1µm,19.5s,baz=15,slow=39					
C19A	Slack Wire Ran	76.24	41	⇓P	P	17 43 57.0 +0.9
	baz=76,SNR=22					
NBO02	NORSAR Array S	76.33	338	*e*P	P	17 43 56.0 -0.2
B20A	Solberg Farm,	76.36	40	⇑P	P	17 43 57.0 +0.3
	baz=76					
BNGB	Bing^|||	76.44	308	*e*P	P	17 43 58.5 +1.1
A21A	Bergtoll Ranch	76.59	39	⇓P	P	17 43 58.7 +0.7
	baz=76,SNR=13					
QLMT	Earthquake Lak	76.64	44	*e*P	P	17 43 58.9 +0.4
D19A	Cripps Ranch,	76.67	41	⇓P	P	17 43 59.2 +0.6
	baz=76					
SUW	Suwalki	76.80	328	*e*P	P	17 43 58.9 -0.1
SUW				*e**PP	PcP	17 44 10.6 +0.3
SUW	Suwalki	76.80	328	*e*P	P	17 43 58.9 -0.1
SUW				*e*pP	PcP	17 44 10.5 +0.3
SUW	Suwalki	76.80	328	*e*P	P	17 43 58.6 -0.4
	comp=Z,92nm,1.5s					
C20A	Veseth Ranch,	76.81	41	⇓P	P	17 43 59.7 +0.4
	baz=77					
TPH	Tonopah	76.95	53	*e*P	P	17 44 01.6 +1.1
TPH				pmax	pmax	
	comp=Z,13nm,1.1s					
TPH	Tonopah	76.95	53	*e*P	P	17 44 01.6 +1.1
	comp=Z,13nm,1.1s					
VES	Vestal, Richgr	76.95	55	⇑P	P	17 44 00.2 0.0
	baz=77					
GCMT	Greycliff	77.06	43	*e*P	P	17 44 01.2 +0.3
A22A	Carney Farms,	77.11	39	⇓P	P	17 44 01.4 +0.4
	baz=77,SNR=11					
D20A	Manuel Ranch,	77.12	41	⇓P	P	17 44 01.8 +0.8
	baz=77,SNR=7.7					
E19A	Rath Farm, Rou	77.15	42	⇑P	P	17 44 02.3 +1.0
	baz=77,SNR=16					
DYBB	Diyarbakir	77.38	307	*e*P	P	17 44 03.4 +0.7
H17A	Grant Village	77.39	44	⇓P	P	17 44 05.0 +2.2
	baz=77,SNR=9.6					
H17A	Grant Village	77.39	44	*e*P	P	17 44 05.1 +2.3
	comp=Z,16nm,0.9s					
F19A	Roth Farm, Mol	77.43	43	⇓P	P	17 44 03.7 +0.9
	baz=77					
ISA	Isabella, Lake	77.47	55	⇓P	P	17 44 03.2 0.0
	baz=77					
E20A	Meyer Farm, Mu	77.48	42	⇓P	P	17 44 03.9 +0.8
	baz=77					
FLWY	Flagg Ranch	77.50	45	*e*P	P	17 44 05.6 +2.1
	comp=Z,34nm,1.4s					
DGAR	Diego Garcia	77.57	252	PFAKE		17 44 10.0 +6.1
DGAR				LR	LR	
	comp=Z,818nm,19.0s					
FXWY	Fox Creek	77.58	45	*e*P	P	17 44 05.6 +1.7
	comp=Z,12nm,1.4s					
HVU	Hansel Valley	77.63	48	*e*P	P	17 44 05.5 +1.4
HVU				pmax	pmax	
	comp=Z,11nm,1.0s					
HVU	Hansel Valley	77.63	48	*e*P	P	17 44 05.5 +1.4
	comp=Z,11nm,1.0s					
A23A	Redstone	77.66	38	⇓P	P	17 44 04.3 +0.3
	baz=78					
I17A	Pilgrim Ck.	77.67	45	⇑P	P	17 44 05.7 +1.3
	baz=78,SNR=7.0					
RLMT	Red Lodge	77.69	43	*e*P	P	17 44 06.3 +1.8
	comp=Z,6.5nm,0.8s					
TPAW	Teton Pass	77.71	45	*e*P	P	17 44 06.4 +1.7
	comp=Z,14nm,1.1s					
DAC	Darwin (Calif)	77.71	54	*e*P	P	17 44 09.9 +5.1
DAC				pmax	pmax	
	comp=Z,5.0nm,0.9s					
DAC	Darwin (Calif)	77.71	54	*e*P	P	17 44 09.9 +5.1
	comp=Z,5.2nm,0.9s					
H18A	Shoshone NF, C	77.74	44	⇓P	P	17 44 05.6 +0.8
	baz=78					
KONO	Kongsberg	77.81	337	PFAKE		17 44 20.0 +15
KONO				LR	LR	
	comp=Z,2µm,19.0s					
LOHW	Long Hollow	77.84	45	*e*P	P	17 44 07.3 +2.0
	comp=Z,6.2nm,1.0s					
REDW	Red Top Meadow	77.84	45	*e*P	P	17 44 07.5 +2.1
	comp=Z,12nm,1.0s					
R11A	Troy Canyon, C	77.86	52	⇑P	P	17 44 06.4 +1.0
	baz=78,SNR=12					
R11A	Troy Canyon, C	77.86	52	*e*P	P	17 44 06.5 +1.0
	comp=Z,18nm,1.4s					
F20A	Billings	77.90	42	⇑P	P	17 44 06.1 +0.6
	baz=78					
B23A	Brockton	77.92	39	⇑P	P	17 44 06.3 +0.8
	baz=78,SNR=13					
SFJD	Kangerlussuaq	77.96	5	LR	LR	18 22 11.1
	comp=Z,491nm,18.2s,baz=354,slow=38					
BGU	Big Grassy Mou	77.98	48	*e*P	P	17 44 07.5 +1.4
	comp=Z,42nm,2.4s					
H19A	Powell	78.13	43	⇑P	P	17 44 07.7 +0.9
	baz=78					
D22A	Cohagen	78.13	40	⇑P	P	17 44 07.2 +0.5
	baz=78,SNR=7.6					
RBK	Rabkut	78.22	283	⇓P	P	17 44 06.8 -0.8
	SNR=12					
EDW2	Edwards Air Fo	78.23	56	⇑P	P	17 44 08.1 +0.6
	baz=78					
C23A	Lambert	78.24	39	⇓P	P	17 44 07.9 +0.7
	baz=78					
SVSK	Karacayir	78.25	311	*e*P	P	17 44 08.0 +0.6
MALT	Malatya	78.28	309	⇑*i*P	P	17 44 08.6 +0.9
LAO	LASA Array	78.40	41	*e*P	P	17 44 08.8 +0.7
	comp=Z,21nm,1.0s					
LAO				LR	LR	
	comp=Z,443nm,21.0s					
HWUT	Hardware Ranch	78.47	47	*e*P	P	17 44 10.2 +1.4
	comp=Z,23nm,1.4s					
URFA	Urfa	78.53	308	*e*P	P	17 44 10.2 +1.2
DUG	Dugway, Tooele	78.54	49	*e*P	P	17 44 10.2 +1.0
DUG				pmax	pmax	
	comp=Z,14nm,1.0s					
DUG				MLR	MLR	
	comp=Z,543nm,19.0s					
DUG	Dugway, Tooele	78.54	49	⇑P	P	17 44 09.9 +0.7
	baz=78					
DUG	Dugway, Tooele	78.54	49	*e*P	P	17 44 10.2 +1.0
	comp=Z,14nm,1.0s					
DUG				LR	LR	
	comp=Z,543nm,19.0s					
D23A	Lindsay	78.63	40	⇓P	P	17 44 10.3 +0.9
	baz=78					
KIS	Kishinev	78.67	320	*e*P	P	17 44 10.0 +0.5
KIS				MLR	MLR	
	comp=Z,5µm,16.0s					
KIS				MLR	MLR	
	comp=N,2µm,15.0s					
KIS				MLR	MLR	
	comp=E,3µm,16.0s					
KIS				MLR	MLR	
	comp=Z,5µm,16.0s					
KIS	Kishinev	78.67	320	*e*P	P	17 44 10.0 +0.5
KIS				LRM	MLR	18 22 28.0
	comp=Z,2µm,15.0s					
E22A	Miles City	78.70	41	⇓P	P	17 44 10.1 +0.3
	baz=78					
DARE	Darende-Malaty	78.73	309	*e*P	P	17 44 11.5 +1.3
GSC	Goldstone, Bar	78.79	55	⇑P	P	17 44 11.3 +0.7
	baz=79					
BFSC	Mount Baldy Ra	78.82	56	⇓P	P	17 44 11.7 +0.9
	baz=79					
SCI	San Clemente I	78.92	58	⇑P	P	17 44 12.3 +1.1
	baz=79					
J19A	Crowheart	78.95	45	⇑P	P	17 44 12.0 +0.6
	baz=79,SNR=9.5					
F22A	Rosebud	78.95	41	⇓P	P	17 44 12.1 +0.9
	baz=79					
BW06	Boulder Array	78.96	45	*e*P	P	17 44 11.4 -0.1
PDAR	Pinedale Array	78.96	45	P	P	17 44 11.9 +0.4
	comp=Z,0.9nm,0.8s,baz=266,slow=0.8,SNR=8.2					
ABTO	Aybut	79.03	283	P	P	17 44 11.8 -0.2
	SNR=11					
I20A	Worland	79.06	44	⇑P	P	17 44 12.9 +0.9
	baz=79					
D24A	Glendive	79.13	39	⇑P	P	17 44 13.6 +1.4
	baz=79					
A26A	Wade Farm, Ken	79.13	37	⇓P	P	17 44 13.1 +1.0
	baz=79					
JLU	Jordanelle	79.14	48	*e*P	P	17 44 14.5 +1.9
	comp=Z,25nm,1.6s					
SHPR	Sheep Range	79.19	53	*e*P	P	17 44 13.8 +1.0
LVV	L'vov	79.23	324	*e*P	P	17 44 12.3 -0.3
LVV				MLR	MLR	
	comp=Z,1µm,17.0s					
LVV				MLR	MLR	
	comp=N,500nm,16.0s					
LVV				MLR	MLR	
	comp=E,1µm,17.0s					
H21A	Big Horn, Sher	79.24	43	⇓P	P	17 44 13.7 +0.8
	baz=79					
TUQ	Turquoise Moun	79.31	54	⇑P	P	17 44 14.6 +1.1
	baz=79					
BEL	Belsk	79.35	327	*e*P	P	17 44 13.9 +0.7
BEL				*e**PP	PcP	17 44 25.2 +3.9
BEL	Belsk	79.35	327	*e*P	P	17 44 13.9 +0.7
BEL				*e*pP	PcP	17 44 25.1 +3.8
DAU	Daniels Canyon	79.37	48	*e*P	P	17 44 14.6 +0.7
DAU	Daniels Canyon	79.37	48	*e*P	P	17 44 14.6 +0.7
MPU	Maple Canyon	79.37	48	*e*P	P	17 44 15.3 +1.5
	comp=E,12nm,1.0s					
B26A	Jensen Ranch,	79.38	38	⇓P	P	17 44 14.7 +1.3
	baz=79					
HEC	Hector,Ludlow	79.38	55	⇑P	P	17 44 15.0 +1.2
	baz=79					
BSD	Bornholm Skovb	79.42	332	*i* P	P	17 44 26.6 +13
BSD				pmax	pmax	
	comp=Z,16nm,0.9s					
BSD	Bornholm Skovb	79.42	332	*i* P	P	17 44 26.6 +13
	comp=Z,16nm,0.9s					
F23A	Volborg	79.45	41	⇑P	P	17 44 15.1 +1.1
	baz=79					
J20A	Shoshoni	79.45	44	⇓P	P	17 44 15.0 +0.9
	baz=79					
ARUT	Antelope Range	79.56	51	*e*P	P	17 44 15.7 +0.8
ARUT	Antelope Range	79.56	51	*e*P	P	17 44 15.7 +0.8
I21A	Big Trails, Te	79.61	43	⇑P	P	17 44 15.9 +0.9
	baz=80					
KMRS	Kahramanmaras	79.73	309	*e*P	P	17 44 16.3 +0.6
CCUT	Cedar City	79.75	51	*e*P	P	17 44 17.4 +1.4
	comp=Z,24nm,1.4s					
G23A	Biddle	79.79	41	⇑P	P	17 44 16.3 +0.5
	baz=80					
GMRC	Granite Mounta	79.86	55	⇓P	P	17 44 17.5 +1.0
	baz=80					
F24A	Ekalaka	79.89	41	⇑P	P	17 44 17.3 +0.9
	baz=80					

MVU Marysvale 79.92 50 eP P 17 44 18.4 +1.5
comp=Z,16nm,1.4s
A28A Rude Farm, Bot 79.99 36 ⇓P P 17 44 17.7 +0.9
baz=80
KWP Kalwaria Pacla 79.99 325 eP P 17 44 17.5 +0.7
KWP e*PP PcP 17 44 30.0 +5.7
KWP Kalwaria Pacla 79.99 325 eP P 17 44 17.5 +0.7
KWP epP PcP 17 44 29.9 +5.7
KWP Kalwaria Pacla 79.99 325 eP P 17 44 17.2 +0.5
comp=Z,77nm,1.1s
KWP LR LR
comp=Z,1µm,19.0s
PFO Pinyon Flats O 80.00 56 eP P 17 44 16.8 -0.4
PFO pmax pmax
comp=Z,15nm,1.1s
PFO MLR MLR
comp=Z,1µm,19.0s
PFO Pinyon Flats O 80.00 56 ⇓P P 17 44 18.0 +0.8
baz=80
PFO Pinyon Flats O 80.00 56 eP P 17 44 16.8 -0.4
comp=Z,15nm,1.1s
PFO LR LR
comp=Z,1µm,19.0s
I22A 9 Mile Ranch, 80.02 43 ⇓P P 17 44 17.6 +0.4
baz=80
BELC Belle Mtn. Jos 80.08 55 ⇓P P 17 44 18.0 +0.3
baz=80
TESR Tescani 80.12 321 ⇑iP P 17 44 17.4 -0.1
BUR04 Bucovina Ar. S 80.12 322 eP P 17 44 17.9 +0.2
BURAR Bucovina Array 80.12 322 ⇓iP P 17 44 18.1 +0.5
C27A Sayler Ranch, 80.18 38 ⇓P P 17 44 18.4 +0.5
baz=80
CFR Carcaliu 80.20 319 ⇑iP P 17 44 18.0 +0.1
B28A Dugan Ranch, T 80.26 37 ⇓P P 17 44 19.2 +1.0
baz=80
J22A Midwest 80.33 43 ⇓P P 17 44 19.1 +0.3
baz=80,SNR=8.4
K21A Alcova 80.38 44 ⇓P P 17 44 19.7 +0.4
baz=80
KNB Kanab 80.41 51 eP P 17 44 21.1 +1.6
KNB pmax pmax
comp=Z,43nm,1.3s
KNB Kanab 80.41 51 eP P 17 44 21.1 +1.6
comp=Z,43nm,1.3s
KOZT Kozan 80.43 309 eP P 17 44 19.8 +0.4
MONP Monument Peak, 80.44 57 ⇑P P 17 44 20.3 +0.5
baz=80
BRTR Keskin Array B 80.44 312 P P 17 44 20.1 +0.5
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 80.44 312 P P 17 44 20.1 +0.5
comp=Z,4.6nm,0.8s,baz=93,slow=4.9,SNR=27
A29A Manning Farm, 80.48 36 ⇑P P 17 44 20.1 +0.6
baz=80
VRI Vrincioaia 80.50 320 ⇓iP P 17 44 21.2 +1.6
E26A Carlson Angus 80.52 39 ⇑P P 17 44 20.3 +0.6
baz=80
H24A Dirks Ranch, A 80.54 41 ⇑P P 17 44 20.6 +0.7
baz=80
PLOR Plostina 80.55 320 ⇓iP P 17 44 22.7 +2.8
IRM Iron Mountain 80.56 55 ⇑P P 17 44 21.1 +0.9
baz=80
SRU San Rafael Swe 80.60 49 eP P 17 44 21.3 +0.8
SRU pmax pmax
comp=Z,17nm,0.9s
SRU San Rafael Swe 80.60 49 eP P 17 44 21.3 +0.8
comp=Z,17nm,0.9s
BC3 Big Chuckawall 80.65 56 ⇓P P 17 44 21.5 +0.8
baz=81
KOLS Kolonicke sedl 80.68 324 eP P 17 44 20.7 +0.2
KOLS pmax pmax
comp=Z,50nm,2.2s
KOLS Kolonicke sedl 80.68 324 eP P 17 44 20.7 +0.2
KOLS ePP PP 17 47 24.8 +1.1
B29A Wagenman Farm, 80.74 36 ⇓P P 17 44 21.8 +1.0
baz=81
STHS Stebnicka Huta 80.83 325 eP P 17 44 22.6 +1.3
STHS pmax pmax
comp=Z,13nm,1.2s
STHS Stebnicka Huta 80.83 325 eP P 17 44 22.6 +1.3
W13A Hualapai Mount 80.86 54 ⇓P P 17 44 23.0 +1.0
baz=81
ANTO Ankara 80.87 312 eP P 17 44 19.3 -2.5
ANTO pmax pmax
comp=Z,59nm,1.8s
ANTO MLR MLR
comp=Z,302nm,20.0s
ANTO Ankara 80.87 312 eP P 17 44 19.3 -2.5
comp=Z,59nm,1.8s
ANTO LR LR
comp=Z,302nm,20.0s
UZH Uzhgorod 80.88 324 eP P 17 44 20.5 -1.0
UZH e 17 44 29.5
UZH eS S 17 54 23.1 -6.0
UZH MLR MLR
comp=N,2µm,15.0s
UZH MLR MLR
comp=E,2µm,15.0s
UZH MLR MLR
comp=Z,1µm,15.0s
BR231 Keskin MP Arra 80.90 312 eP P 17 44 19.6 -2.3
N20A Spence Gulch, 80.91 46 ⇑P P 17 44 23.1 +0.9
baz=81,SNR=6.2
A30A Hoffart Farm, 80.92 35 ⇑P P 17 44 21.9 +0.1
baz=81
OJC Ojcow 80.93 326 eP P 17 44 22.1 +0.3
OJC Ojcow 80.93 326 eP P 17 44 22.1 +0.3
OJC Ojcow 80.93 326 eP P 17 44 22.2 +0.5
comp=Z,43nm,1.1s
TRPA Tarpa 81.10 324 ⇑iP P 17 44 23.4 +0.7
U15A North Rim 81.11 52 ⇓P P 17 44 24.2 +0.9
baz=81
ULM Lac du Bonnet 81.12 33 P P 17 44 22.4 -0.4
ULM pmax pmax
comp=Z,3.0nm,0.8s
ULM Lac du Bonnet 81.12 33 P P 17 44 22.4 -0.4
comp=Z,2.9nm,0.8s,baz=311,slow=4.6,SNR=4.2
ULM Lac du Bonnet 81.12 33 eP P 17 44 23.6 +0.9
comp=Z,70nm,2.1s
DOPR Dopca 81.13 321 ⇓iP P 17 44 24.5 +1.5
F27A Lemmon 81.15 39 ⇑P P 17 44 23.8 +0.7
baz=81
PDMCI Parker Dam,Lak 81.16 54 ⇓P P 17 44 23.9 +0.7
baz=81
MLR Muntele Rosu 81.16 320 ⇑iP P 17 44 24.2 +0.9
G26A Maurine 81.23 40 ⇑P P 17 44 24.5 +1.0
baz=81
B30A Myrvik Farm, E 81.24 36 ⇓P P 17 44 24.4 +0.9
baz=81
NIE Niedzica 81.26 326 eP P 17 44 24.5 +0.9
NIE Niedzica 81.26 326 eP P 17 44 24.5 +0.9
GLA Glamis 81.43 56 ⇑P P 17 44 25.8 +1.0
baz=81
SULT Sultanhani-AKS 81.45 311 eP P 17 44 25.4 +0.5
M22A Cedar Creek Ra 81.53 45 ⇓P P 17 44 25.7 +0.2
baz=81
L23A Garrett 81.59 44 ⇓P P 17 44 25.9 +0.1
baz=81
VOIR 81.67 321 ⇑iP P 17 44 26.0 +0.1
RAYN Ar Rayn 81.70 293 P P 17 44 26.0 -0.4
comp=Z,149nm,0.9s,SNR=29
RAYN Ar Rayn 81.70 293 eP P 17 44 26.0 -0.4
comp=Z,77nm,1.5s
PV09 Paradox Valley 81.84 48 eP P 17 44 28.6 +1.4
ARR Arges 81.93 321 ⇓iP P 17 44 28.9 +1.6
DRGR 81.94 323 ⇓iP P 17 44 27.8 +0.5
OKC Ostrava-Krasne 81.95 327 i P P 17 44 27.5 +0.3
OKC e 17 44 38.8
OKC MLR MLR
comp=Z,2µm,15.2s
OKC Ostrava-Krasne 81.95 327 ⇑iP P 17 44 27.5 +0.3
OKC ex x 17 44 38.8
OKC AMS AMS 18 25 20.0
comp=Z,2µm,15.2s
D30A Buchanan 81.96 37 ⇑P P 17 44 27.8 +0.5
baz=82
PV10 Paradox Valley 81.97 49 eP P 17 44 29.3 +1.4
N22A Wattenberg Ran 82.00 45 ⇓P P 17 44 28.1 +0.1
baz=82
KSP Ksiaz 82.03 329 ⇑eP P 17 44 27.9 +0.3
KSP e*PP pP 17 44 39.4 +6.2
KSP e 17 47 34.8
KSP MLR MLR
comp=Z,8µm,18.4s
KSP Ksiaz 82.03 329 eP P 17 44 28.1 +0.5
KSP epP pP 17 44 39.9 +6.7

PV04 Paradox Valley 82.04 48 eP P 17 44 29.6 +1.4
PV05 Paradox Valley 82.12 49 eP P 17 44 29.7 +1.1
Y14A Wickenburg 82.13 54 ⇑P P 17 44 29.3 +0.8
baz=82
LADK Ladik-KONYA 82.17 311 eP P 17 44 28.8 +0.1
N23A Red Feather La 82.23 45 ⇓P P 17 44 29.5 +0.3
baz=82
WUAZ Wupatki 82.25 52 ⇑P P 17 44 30.2 +0.9
baz=82
WUAZ Wupatki 82.25 52 eP P 17 44 30.3 +1.1
comp=Z,16nm,1.1s
WUAZ LR LR
comp=Z,494nm,21.0s
MORC Moravsky Berou 82.26 327 eP P 17 44 29.0 +0.1
MORC pmax pmax
comp=Z,78nm,2.1s
MORC Moravsky Berou 82.26 327 ⇑iP P 17 44 29.5 +0.6
MORC Moravsky Berou 82.26 327 eP P 17 44 29.0 +0.1
comp=Z,78nm,2.1s
J26A Sides Ranch, S 82.28 42 ⇑P P 17 44 29.7 +0.6
baz=82
113A Mohawk Valley, 82.32 55 ⇓P P 17 44 30.3 +0.9
baz=82
ADVT Abdulvahap 82.34 314 eP P 17 44 29.6 +0.3
O22A Kremmling 82.35 46 ⇓P P 17 44 30.4 +0.5
baz=82
DPC Dobruska-Polom 82.38 328 i P P 17 44 30.3 +0.8
DPC Dobruska-Polom 82.38 328 i P P 17 44 30.3 +0.8
DPC AMS AMS 18 26 00.0
KRLC Kraliky 82.38 328 i P P 17 44 29.7 +0.2
KRLC Kraliky 82.38 328 ⇑iP P 17 44 29.7 +0.2
UPC Upice 82.40 328 i P P 17 44 29.4 -0.1
UPC e 17 44 40.7
UPC Upice 82.40 328 ⇑iP P 17 44 29.4 -0.1
UPC ex x 17 44 40.7
PV01 Paradox Valley 82.41 49 eP P 17 44 31.0 +0.9
H28A Mission Ridge 82.47 40 ⇑P P 17 44 30.9 +0.8
baz=82
M24A Cheyenne 82.51 44 ⇓P P 17 44 31.2 +0.7
baz=82
AGMN Agassiz Nation 82.52 35 ⇑P P 17 44 31.1 +0.9
baz=82
AGMN Agassiz Nation 82.52 35 eP P 17 44 33.6 +3.4
comp=Z,35nm,1.8s
AGMN LR LR
comp=Z,729nm,20.0s
PSZ Piszkesteto 82.52 325 eP P 17 44 30.6 +0.3
PSZ pmax pmax
comp=Z,201nm,2.2s
PSZ Piszkesteto 82.52 325 ⇑iP P 17 44 31.0 +0.7
PSZ Piszkesteto 82.52 325 eP P 17 44 30.8 +0.5
PSZ Piszkesteto 82.52 325 eP P 17 44 30.6 +0.3
comp=Z,201nm,2.2s
CTKS Kestanelik-??a 82.54 316 eP P 17 44 29.8 -0.6
P22A Eagle 82.58 46 ⇓P P 17 44 31.9 +0.9
baz=82,SNR=6.8
VYHS Vyhne 82.61 326 eP P 17 44 31.1 +0.4
VYHS pmax pmax
comp=Z,10.0nm,1.1s
VYHS Vyhne 82.61 326 eP P 17 44 31.1 +0.4
VYHS ePP PP 17 47 40.3 +0.8
SZH Strazhica 82.64 318 eP P 17 44 31.1 +0.2
O23A Lake Granby, G 82.69 46 ⇓P P 17 44 31.2 -0.4
baz=82
SMCO Snowmass 82.72 47 eP P 17 44 33.2 +1.3
comp=Z,49nm,1.8s
ARMT Armutlu 82.77 315 eP P 17 44 31.5 -0.2
JMB Yambol 82.82 318 eP P 17 44 30.8 -1.0
GZR Gura Zlata 82.87 322 ⇓iP P 17 44 32.6 +0.4
X16A Lo Mia Camp, P 82.87 53 ⇓P P 17 44 33.1 +0.5
baz=83
ASF Jabal al Asfar 82.90 304 P P 17 44 33.1 +0.5
ASF pmax pmax
comp=Z,6.0nm,0.9s
ASF Jabal al Asfar 82.90 304 P P 17 44 33.1 +0.5
comp=Z,5.8nm,0.9s,baz=41,slow=1.7,SNR=13
PVCC Panska Ves 82.99 329 i P P 17 44 33.7 +1.1
PVCC e 17 44 44.9
PVCC MLR MLR
comp=Z,2µm,16.4s
PVCC Panska Ves 82.99 329 ⇑iP P 17 44 33.7 +1.1
PVCC ex x 17 44 44.9
PVCC AMS AMS 18 28 10.0
comp=Z,2µm,16.4s
BRG Berggiesshubel 83.00 330 eP P 17 44 32.7 +0.1
comp=Z,21nm,1.4s
BRG e 17 44 44.5
comp=Z,51nm,1.8s
BRG ePP PP 17 47 41.7 -0.9
comp=Z,32nm,1.9s
BRG Berggiesshubel 83.00 330 eP P 17 44 32.7 +0.1
BRG e 17 44 44.5
BRG e 17 47 41.7
BRG pmax pmax
comp=Z,21nm,1.4s
BRG pmax pmax
comp=Z,51nm,1.8s
BRG pmax pmax
comp=Z,32nm,1.9s
BRG MLR MLR
comp=N,2µm,14.8s
BRG MLR MLR
comp=E,1µm,17.5s
BRG MLR MLR
comp=Z,2µm,16.3s
BRG Berggiesshubel 83.00 330 eP P 17 44 32.8 +0.1
VRAC Vranov 83.03 327 P P 17 44 33.0 +0.2
VRAC pmax pmax
comp=Z,6.0nm,0.7s
VRAC Vranov 83.03 327 ⇑iP P 17 44 33.7 +0.9
VRAC Vranov 83.03 327 P P 17 44 33.0 +0.2
comp=Z,6.1nm,0.7s,baz=51,slow=4.8,SNR=14
MVCO Mesa Verde 83.03 49 ⇓P P 17 44 34.0 +0.7
baz=83,SNR=8.9
MVCO Mesa Verde 83.03 49 eP P 17 44 34.5 +1.1
comp=Z,48nm,1.6s
MVCO LR LR
comp=Z,336nm,19.0s
CLL Collm 83.05 330 i P P 17 44 31.5 -1.4
CLL i 17 44 44.0
CLL pmax pmax
comp=Z,20nm,1.1s
CLL MLR MLR
comp=Z,800nm,18.8s
CLL Collm 83.05 330 eP P 17 44 32.5 -0.4
CLL Collm 83.05 330 i P P 17 44 31.5 -1.4
comp=Z,20nm,1.1s
CLL i (sP) sP 17 44 44.0 +3.5
CLL i 17 44 52.1
CLL ePP PP 17 47 45.0 +2.0
CLL LmV 18 21 00.0
comp=Z,800nm,18.8s
CLL Collm 83.05 330 eP P 17 44 33.1 +0.2
comp=Z,25nm,1.1s
SHUT Suhut-Afyon 83.05 313 eP P 17 44 33.9 +0.6
TVSB Tavsanli 83.13 314 eP P 17 44 34.0 +0.3
ISCO Idaho Springs 83.13 46 eP P 17 44 35.6 +1.6
ISCO pmax pmax
comp=Z,13nm,1.3s
ISCO MLR MLR
comp=Z,445nm,20.0s
ISCO Idaho Springs 83.13 46 ⇑P P 17 44 34.2 +0.3
baz=83
ISCO Idaho Springs 83.13 46 eP P 17 44 35.5 +1.6
comp=Z,13nm,1.3s
ISCO LR LR
comp=Z,445nm,20.0s
J28A Allard Ranch, 83.20 41 ⇑P P 17 44 34.2 +0.3
baz=83
P23A Jefferson 83.27 46 ⇓P P 17 44 35.2 +0.5
baz=83
BZS Buzias 83.30 322 ⇓iP P 17 44 34.3 0.0
MMAI Mount Meron Ar 83.40 306 P P 17 44 35.4 +0.3
comp=Z,16nm,0.9s,baz=46,slow=6.0,SNR=26
PRU Pruhonice 83.41 329 ⇑iP P 17 44 35.1 +0.3
PRU e 17 44 46.9
PRU MLR MLR
comp=Z,2µm,17.5s
PRU Pruhonice 83.41 329 ⇑iP P 17 44 35.1 +0.3
PRU ex x 17 44 46.9
PRU AMS AMS 18 25 40.0
comp=Z,2µm,17.5s
214A Organ Pipe Nat 83.45 56 ⇓P P 17 44 36.4 +1.0
baz=83
PPT Papeete 83.46 117 LR LR 18 19 54.6

comp=Z,440nm,18.6s,baz=335,slow=34
TREC Trest 83.52 328 ⇑iP P 17 44 35.7 +0.3
TREC e 17 44 47.8
TREC MLR MLR
comp=Z,2µm,14.8s
TREC Trest 83.52 328 ⇑iP P 17 44 35.7 +0.3
TREC ex x 17 44 47.8
TREC AMS AMS 18 26 20.0
comp=Z,2µm,14.8s
ISP Isparta 83.53 312 PFAKE 17 44 50.0 +14
ISP LR LR
comp=Z,487nm,19.0s
CSS Prodhromos 83.56 308 eP P 17 44 35.6 -0.3
comp=Z,4.8nm,0.9s
CSS LR LR
comp=Z,100nm,21.0s
CLZ Clausthal 83.68 332 eP P 17 44 36.3 +0.1
S22A 4UR Ranch, Cre 83.72 48 ⇓P P 17 44 38.0 +1.1
baz=84,SNR=15
MMLI Mount Malkishu 83.74 305 eP P 17 44 37.7 +0.9
MPEP Malo Peshtene 83.77 320 eP P 17 44 36.9 +0.2
X18A Snowflake 83.78 52 ⇑P P 17 44 38.1 +0.9
baz=84
KRBG Karabiga-Canak 83.78 316 eP P 17 44 37.2 +0.4
BALB Balikesir 83.94 315 eP P 17 44 38.0 +0.3
Q24A Divide 83.95 46 ⇓P P 17 44 38.8 +0.6
baz=84
TANN Tannenbergstha 83.95 330 eP P 17 44 37.8 +0.2
R23A Moffat 84.04 47 ⇑P P 17 44 39.7 +1.1
baz=84,SNR=12
PGB Panagyurishte 84.09 319 eP P 17 44 38.5 0.0
MOX Moxa 84.12 331 eP P 17 44 38.5 +0.1
CONA Conrad Observa 84.38 327 i PcP P 17 44 40.6 +0.8
comp=Z,31nm,1.0s,SNR=12
OGNE Ogallala 84.44 43 PFAKE 17 44 50.0 +10
OGNE LR LR
comp=Z,491nm,20.0s
R24A Sanders Place, 84.45 47 ⇑P P 17 44 41.6 +1.0
baz=84,SNR=8.3
KHC Kasperske Hory 84.47 329 ⇑iP P 17 44 40.5 +0.2
KHC e 17 44 52.5
KHC MLR MLR
comp=Z,1µm,14.9s
KHC Kasperske Hory 84.47 329 ⇑iP P 17 44 40.5 +0.2
KHC ex x 17 44 52.5
KHC AMS AMS 18 26 20.0
comp=Z,1µm,14.9s
KHC Kasperske Hory 84.47 329 eP P 17 44 40.0 -0.2
comp=Z,18nm,1.0s
Q25A Bedland, Calha 84.51 46 ⇓P P 17 44 41.7 +0.8
baz=84
ROTZ Rotzenmuhle 84.56 330 eP P 17 44 41.2 +0.5
VTS Vitosha 84.57 319 ⇑iP P 17 44 42.0 +0.9
VTS Vitosha 84.57 319 eP P 17 44 40.6 -0.5
U22A Llaves 84.58 49 ⇑P P 17 44 42.6 +1.3
baz=84
K30A Basset 84.59 41 ⇑P P 17 44 41.9 +0.9
baz=84
TUC Tucson 84.60 54 eP P 17 44 42.3 +1.0
TUC pmax pmax
comp=Z,12nm,1.3s
TUC MLR MLR
comp=Z,756nm,19.0s
TUC Tucson 84.60 54 eP P 17 44 42.3 +1.0
comp=Z,12nm,1.3s
TUC LR LR
comp=Z,756nm,19.0s
GEC2 GERESS Array S 84.64 328 eP P 17 44 41.0 -0.2
GEC2 GERESS Array S 84.64 328 eP P 17 44 40.9 -0.2
GEC2 GERESS Array S 84.64 328 eP P 17 44 41.0 -0.2
GERES GERESS Array B 84.64 328 P P 17 44 41.4 +0.2
GERES 17 48 00.9
GERES pmax pmax
comp=Z,5.0nm,0.8s
GERES pmax pmax
comp=Z,2.0nm,0.9s
GERES GERESS Array B 84.64 328 P P 17 44 41.4 +0.2
comp=Z,4.9nm,0.8s,baz=35,slow=4.9,SNR=31
GERES PP PP 17 48 00.9 +4.7
comp=Z,1.6nm,0.9s,baz=48,slow=7.9,SNR=3.8
T23A Casias Ranch, 84.66 48 ⇑P P 17 44 42.8 +1.1
baz=84
WET Wettzell 84.76 329 eP P 17 44 42.0 +0.3
EYMN Ely 84.77 33 PFAKE 17 44 50.0 +8.3
EYMN LR LR
comp=Z,774nm,20.0s
S24A Houchin Ranch, 84.77 47 ⇓P P 17 44 43.6 +1.3
baz=85,SNR=9.1
V22A San Miguel Ran 84.84 49 ⇓P P 17 44 43.3 +0.6
baz=85,SNR=6.9
MMB Musomiste 84.98 318 ⇑iP P 17 44 44.3 +1.3
MMB Musomiste 84.98 318 eP P 17 44 42.1 -0.9
R25A Fountain Ranch 84.99 46 ⇓P P 17 44 44.6 +1.3
baz=85
U23A El Rito 85.02 49 ⇑P P 17 44 45.0 +1.5
baz=85,SNR=20
GRF Grafenberg Arr 85.02 330 eP P 17 44 43.4 +0.4
GRFO Grafenberg 85.02 330 eP P 17 44 43.5 +0.5
GRFO pmax pmax
comp=Z,54nm,1.2s
GRFO Grafenberg 85.02 330 eP P 17 44 43.5 +0.5
comp=Z,54nm,1.2s
ARSA Arzberg 85.03 327 i PcP P 17 44 43.5 +0.3
comp=Z,16nm,1.1s,SNR=6.5
AYDB Zeytinkoy-Aydi 85.04 313 eP P 17 44 43.3 -0.2
T24B San Luis 85.04 48 ⇓P P 17 44 45.2 +1.5
baz=85,SNR=14
KKB Krupnik 85.14 319 eP P 17 44 42.8 -0.9
MOA Molln 85.15 328 ⇑iPcP P 17 44 43.9 +0.2
comp=Z,19nm,1.1s,SNR=5.8
BUG Bochum--Univer 85.17 333 eP P 17 44 43.2 -0.4
EKA Eskdalemuir Ar 85.20 341 P P 17 44 44.3 +0.6
EKA pmax pmax
comp=Z,4.0nm,0.8s
EKA Eskdalemuir Ar 85.20 341 P P 17 44 44.3 +0.6
comp=Z,3.7nm,0.8s,baz=30,slow=6.8,SNR=6.8
S25A Robets Cordova 85.22 47 ⇑P P 17 44 45.3 +0.8
baz=85
ESK Eskdalemuir 85.23 341 PFAKE 17 45 00.0 +16
ESK LR LR
comp=Z,537nm,21.0s
V23A Ortiz Mt. (NFS 85.40 49 ⇑P P 17 44 47.2 +1.8
baz=85
ECSD EROS Data Cent 85.41 38 ⇓P P 17 44 46.1 +1.1
baz=85
ECSD EROS Data Cent 85.41 38 eP P 17 44 44.4 -0.6
comp=Z,69nm,2.2s
ECSD LR LR
comp=Z,377nm,19.0s
T25A Trinidad 85.58 47 ⇓P P 17 44 47.3 +1.0
baz=85,SNR=6.1
LAZ Ladron 85.66 51 eP P 17 44 44.9 -1.8
PERS Pernice 85.68 326 i P P 17 44 46.2 -0.1
PERS i 17 44 58.9
SOKA Soboth 85.69 326 i PcP P 17 44 46.3 -0.2
comp=Z,30nm,1.1s,SNR=14
TNS Taunus Mts 85.70 332 eP P 17 44 46.3 -0.1
EIL Elat 85.74 303 P P 17 44 46.7 -0.3
comp=Z,9.6nm,1.1s,baz=5.6,slow=5.3,SNR=8.3
ANMO Albuquerque 85.74 50 d iP P 17 44 46.7 -0.4
ANMO pmax pmax
comp=Z,56nm,1.2s
ANMO Albuquerque 85.74 50 eP P 17 44 48.4 +1.2
comp=Z,16nm,1.3s
ANMO LR LR
comp=Z,603nm,20.0s
W23A Werner Place, 85.80 50 ⇓P P 17 44 48.2 +0.8
baz=86
S26A Kim 85.82 46 ⇓P P 17 44 48.2 +0.8
baz=86
RJOB Jochberg 85.87 328 eP P 17 44 47.6 +0.3
V24A Rampart Ranch, 85.98 49 ⇓P P 17 44 49.4 +1.1
baz=86,SNR=7.3
T26A Comanche Natio 86.05 47 ⇓P P 17 44 49.6 +1.0
baz=86
U25A Circle Dot Ran 86.07 48 ⇑P P 17 44 49.7 +1.0
baz=86,SNR=16
BNM Barren Site 86.15 51 eP P 17 44 50.3 +1.1
BNM epP pP 17 44 54.0 -0.9
319A Douglas 86.18 54 ⇓P P 17 44 49.4 +0.2
baz=86
FUR Furstenfeldbru 86.19 329 eP P 17 44 48.9 0.0
HGN Heimansgroeve 86.21 334 i P P 17 44 48.6 -0.2
comp=Z,37nm,1.2s
W24A Lazy 6 Ranch, 86.23 49 ⇑P P 17 44 50.4 +0.9
baz=86,SNR=9.6

MEM Membach 86.31 334 P **P** **17 44 49.6 +0.3**
comp=Z,16nm,1.6s
MEM AP **PcP** **17 44 53.3 +1.5**
MEM Membach 86.31 334 *e*P **P** **17 44 49.7 +0.3**
MEM pmax pmax
comp=Z,54nm,1.5s
MEM Membach 86.31 334 *e*P **P** **17 44 49.7 +0.4**
comp=Z,54nm,1.5s
V25A Rancho No Teng 86.31 48 ⇓P **P** **17 44 50.9 +1.0**
baz=86,SNR=16
VISS Visnje 86.43 326 *i* P **P** **17 44 49.4 -0.7**
VISS *i* 17 45 02.1
121A Cookes Peak, D 86.44 52 ⇓P **P** **17 44 51.8 +1.2**
baz=86
BOJS Bojanci 86.47 325 *e*P **P** **17 44 50.1 -0.1**
BOJS *i* 17 45 02.2
U26A Atchley Ranch, 86.47 47 ⇓P **P** **17 44 51.6 +0.9**
baz=86,SNR=6.1
Z22A Elephant Butte 86.51 51 ⇓P **P** **17 44 51.8 +1.0**
baz=86,SNR=6.5
STU Stuttgart 86.57 331 *e*P **P** **17 44 50.7 0.0**
STU Stuttgart 86.57 331 *e*P **P** **17 44 50.4 -0.3**
STU Stuttgart 86.57 331 *e*P **P** **17 44 50.7 0.0**
BCLA Clavier 86.72 334 P **P** **17 44 50.8 -0.5**
comp=Z,16nm,1.6s
JAVS Javornik 86.72 326 *e*P **P** **17 44 50.8 -0.7**
JAVS *e* 17 45 04.3
W25A X Bar L Ranch, 86.81 49 ⇑P **P** **17 44 53.1 +0.8**
baz=87,SNR=7.5
V26A Tequesquite Ra 86.84 48 ⇓P **P** **17 44 53.4 +1.0**
baz=87
RETA Reutte 86.94 329 ⇑*i*PcP **P** **17 44 52.9 +0.3**
comp=Z,20nm,1.1s,SNR=5.4
U27A Thompson Grove 87.01 47 ⇓P **P** **17 44 53.9 +0.7**
baz=87
SNF Seneffe 87.01 334 P **P** **17 44 53.0 +0.2**
WLF Walferdange 87.03 333 P **P** **17 44 53.2 +0.3**
comp=Z,27nm,2.1s
WLF E 17 45 05.7
WLF Walferdange 87.03 333 *e*P **P** **17 44 53.2 +0.3**
WLF Walferdange 87.03 333 PFAKE 17 45 00.0 +7.1
WLF LR LR
comp=Z,841nm,21.0s
Y24A Capitan 87.05 50 ⇑P **P** **17 44 54.6 +1.0**
baz=87
GIVF Givet 87.15 334 *e*P **P** **17 44 53.3 -0.2**
GIVF Givet 87.15 334 *e*P **P** **17 44 53.3 -0.2**
GIVF Givet 87.15 334 *e*P **P** **17 44 53.3 -0.2**
DOU Dourbes 87.24 334 P **P** **17 44 53.5 -0.4**
comp=Z,10nm,2.3s
BFO Black Forest 87.27 331 P **P** **17 44 54.9 +0.8**
comp=Z,90nm,1.0s,SNR=6.9
BFO Black Forest 87.27 331 P **P** **17 44 54.6 +0.5**
comp=Z,92nm,0.8s,SNR=6.9
BFO Black Forest 87.27 331 *e*P **P** **17 44 53.7 -0.4**
BFO MLR MLR
comp=Z,582nm,22.0s
BFO Black Forest 87.27 331 *e*P **P** **17 44 53.7 -0.4**
BFO Black Forest 87.27 331 *e*P **P** **17 44 53.6 -0.4**
BFO LR LR
comp=Z,582nm,22.0s
SCHQ Schefferville 87.28 16 P **P** **17 44 54.0 0.0**
comp=Z,3.6nm,0.8s,baz=12,slow=7.1,SNR=6.2
SCHQ LR LR 18 24 54.7
comp=Z,439nm,21.6s,baz=354,slow=36
SCHQ Schefferville 87.28 16 *e*P P 17 44 58.8 +4.7
FETA Feichten 87.32 329 ⇓*i*PcP **P** **17 44 53.9 -0.7**
comp=Z,7.7nm,1.1s
BAIF Baives 87.41 334 *e*P **P** **17 44 54.8 +0.1**
BAIF Baives 87.41 334 *e*P **P** **17 44 54.8 +0.1**
BAIF Baives 87.41 334 *e*P **P** **17 44 54.8 +0.1**
CDF Champ du Feu 87.61 332 *e*P **P** **17 44 55.7 -0.2**
comp=Z,19nm,0.9s
CDF Champ du Feu 87.61 332 *e*P **P** **17 44 55.7 -0.2**
CDF pmax pmax
comp=Z,19nm,0.9s
CDF Champ du Feu 87.61 332 *e*P **P** **17 44 55.7 -0.2**
comp=Z,19nm,0.9s
X26A CR and CF Fran 87.65 49 ⇓P **P** **17 44 57.5 +1.1**
baz=88
W27A Bowe Ranch, En 87.77 48 ⇑P **P** **17 44 58.0 +1.1**
baz=88,SNR=6.7
ECH Echery 87.82 332 *e*P **P** **17 44 56.1 -0.7**
ECH *e* 17 45 08.0
ECH pmax pmax
comp=Z,8.0nm,1.1s
ECH MLR MLR
comp=Z,839nm,19.0s
ECH Echery 87.82 332 *e*P **P** **17 44 56.3 -0.5**
ECH Echery 87.82 332 *e*P **P** **17 44 56.1 -0.7**
comp=Z,8.0nm,1.1s
ECH *e* 17 45 08.0
ECH LR LR
comp=Z,839nm,19.0s
FUORN Ofenpass-Fuorn 87.83 329 *e*P **P** **17 44 57.5 +0.3**
comp=Z,52nm,1.6s
DAVOX Davos/Dischmat 87.86 329 P **P** **17 44 56.8 -0.4**
DAVOX pmax pmax
comp=Z,2.0nm,0.6s
DAVOX Davos/Dischmat 87.86 329 P **P** **17 44 56.8 -0.4**
comp=Z,2.1nm,0.6s,baz=254,slow=1.0,SNR=3.8
PAGF Fort de Pagny 88.10 333 *e*P **P** **17 44 58.3 +0.2**
comp=Z,16nm,1.2s
PAGF Fort de Pagny 88.10 333 *e*P **P** **17 44 58.3 +0.2**
comp=Z,16nm,1.2s
HINF Hinteralfeld 88.26 331 *e*P **P** **17 44 57.2 -1.7**
comp=Z,22nm,1.3s
HINF Hinteralfeld 88.26 331 *e*P **P** **17 44 57.2 -1.7**
HINF pmax pmax
comp=Z,22nm,1.3s
HINF Hinteralfeld 88.26 331 *e*P **P** **17 44 57.2 -1.7**
comp=Z,22nm,1.3s
HAU Haudompre 88.31 332 *e*P **P** **17 44 58.5 -0.6**
HAU *e*R
comp=Z,1μm,20.0s
HAU Haudompre 88.31 332 *e*P **P** **17 44 58.5 -0.6**
HAU Haudompre 88.31 332 *e*P **P** **17 44 58.5 -0.6**
TUE Stuetta 88.33 329 *e*P **P** **17 44 58.3 -1.2**
comp=Z,13nm,1.5s
TUE LR LR
comp=Z,340nm,21.0s
MEZF Maizieres J'vi 88.39 333 *e*P **P** **17 44 59.8 +0.4**
MEZF Maizieres J'vi 88.39 333 *e*P **P** **17 44 59.8 +0.4**
SCIA State Center 88.45 38 PFAKE 17 45 10.0 +10
SCIA LR LR
comp=Z,515nm,21.0s
SFTF Sexfontaines 88.64 333 *e*P **P** **17 45 00.8 +0.1**
comp=Z,37nm,1.0s
SFTF Sexfontaines 88.64 333 *e*P **P** **17 45 00.8 +0.1**
comp=Z,37nm,1.0s
KSU1 Kansas State U 88.71 41 ⇑P **P** **17 45 01.7 +0.6**
baz=88
KSU1 Kansas State U 88.71 41 *e*P **P** **17 45 01.5 +0.4**
comp=Z,20nm,0.8s
KSU1 LR LR
comp=Z,473nm,20.0s
X29A Tulia 89.01 48 ⇓P **P** **17 45 03.5 +0.7**
baz=89
JFWS Jewell Farm 89.15 35 PFAKE 17 45 10.0 +6.9
JFWS LR LR
comp=Z,410nm,20.0s
MSEY Mahe Island 89.58 264 PFAKE 17 45 20.0 +14
MSEY LR LR
comp=Z,522nm,19.0s
VLC Villacollemand 89.71 327 PFAKE 17 45 20.0 +14
VLC LR LR
comp=Z,748nm,19.0s
AQU L'Aquila 89.72 324 *e*P **P** **17 45 05.9 0.0**
AQU pmax pmax
comp=Z,22nm,0.9s
AQU MLR MLR
comp=Z,926nm,20.0s
AQU L'Aquila 89.72 324 *e*P **P** **17 45 05.9 0.0**
comp=Z,22nm,0.9s
AQU LR LR
comp=Z,926nm,20.0s
Z29A Hungry Hill Ra 89.81 49 ⇓P **P** **17 45 06.9 +0.4**
baz=90
LOR Lormes 89.87 333 *e*P **P** **17 45 06.3 -0.1**
comp=Z,23nm,1.0s
LOR *e*R
comp=Z,945nm,20.0s
LOR Lormes 89.87 333 *e*P **P** **17 45 06.3 -0.1**
LOR pmax pmax
comp=Z,23nm,1.0s
LOR Lormes 89.87 333 *e*P **P** **17 45 06.3 -0.1**
comp=Z,23nm,1.0s
FLN La Foliniere 90.13 336 *e*P **P** **17 45 07.4 -0.2**
comp=Z,24nm,0.9s
FLN *e*R
comp=Z,1μm,20.5s
FLN La Foliniere 90.13 336 *e*P **P** **17 45 07.4 -0.2**
FLN pmax pmax
comp=Z,24nm,0.9s
FLN La Foliniere 90.13 336 *e*P **P** **17 45 07.4 -0.2**
comp=Z,24nm,0.9s
Z30A Sanderson Ranc 90.15 48 ⇑P **P** **17 45 08.8 +0.8**
baz=90
LDF La Druitiere 90.16 336 *e*P **P** **17 45 07.5 -0.2**
comp=Z,18nm,1.0s
LDF La Druitiere 90.16 336 *e*P **P** **17 45 07.5 -0.2**
LDF pmax pmax
comp=Z,18nm,1.0s
LDF La Druitiere 90.16 336 *e*P **P** **17 45 07.5 -0.2**
comp=Z,18nm,1.0s
SSF Saint Saulge 90.17 333 *e*P **P** **17 45 07.9 +0.1**
comp=Z,31nm,1.2s
SSF Saint Saulge 90.17 333 *e*P **P** **17 45 07.9 +0.1**
SSF pmax pmax
comp=Z,31nm,1.2s
SSF Saint Saulge 90.17 333 *e*P **P** **17 45 07.9 +0.1**
comp=Z,31nm,1.2s
LPL La Plagne 90.18 330 *e*P **P** **17 45 08.1 -0.1**
comp=Z,17nm,0.9s
LPL La Plagne 90.18 330 *e*P **P** **17 45 08.1 -0.1**
LPL pmax pmax
comp=Z,17nm,0.9s
LPL La Plagne 90.18 330 *e*P **P** **17 45 08.1 -0.1**
comp=Z,17nm,0.9s
LPG La Plagne 90.19 330 *e*P **P** **17 45 08.3 0.0**
comp=Z,19nm,1.0s
LPG La Plagne 90.19 330 *e*P **P** **17 45 08.3 0.0**
LPG pmax pmax
comp=Z,19nm,1.0s
LPG La Plagne 90.19 330 *e*P **P** **17 45 08.3 0.0**
comp=Z,19nm,1.0s
Y31A Rekieta Farm, 90.21 47 ⇓P **P** **17 45 09.1 +0.8**
baz=90
CUC Castrocucco 90.31 322 PFAKE 17 45 20.0 +11
CUC LR LR
comp=Z,584nm,19.0s
SMF Signal de Mont 90.39 332 *e*P **P** **17 45 08.9 0.0**
comp=Z,48nm,1.4s
SMF Signal de Mont 90.39 332 *e*P **P** **17 45 08.9 0.0**
SMF pmax pmax
comp=Z,48nm,1.4s
SMF Signal de Mont 90.39 332 *e*P **P** **17 45 08.9 0.0**
comp=Z,48nm,1.4s
TIP Timpagrande 90.43 320 PFAKE 17 45 20.0 +11
TIP LR LR
comp=Z,512nm,21.0s
AVF Avril sur Loir 90.46 333 *e*P **P** **17 45 09.2 +0.1**
comp=Z,67nm,1.3s
AVF Avril sur Loir 90.46 333 *e*P **P** **17 45 09.2 +0.1**
AVF pmax pmax
comp=Z,67nm,1.3s
AVF Avril sur Loir 90.46 333 *e*P **P** **17 45 09.2 +0.1**
comp=Z,67nm,1.3s
WMOK Wichita Mounta 90.56 46 PFAKE 17 45 20.0 +10
WMOK LR LR
comp=Z,541nm,20.0s
GRR Gorron 90.58 336 *e*P **P** **17 45 09.8 +0.1**
comp=Z,61nm,1.3s
GRR Gorron 90.58 336 *e*P **P** **17 45 09.8 +0.1**
GRR pmax pmax
comp=Z,61nm,1.3s
GRR Gorron 90.58 336 *e*P **P** **17 45 09.8 +0.1**
comp=Z,61nm,1.3s
BNI Bardonecchia 90.58 330 PFAKE 17 45 20.0 +10
BNI LR LR
comp=Z,437nm,21.0s
MBDF Montbardon 90.81 330 *e*P **P** **17 45 10.3 -0.7**
comp=Z,25nm,1.1s
MBDF Montbardon 90.81 330 *e*P **P** **17 45 10.3 -0.7**
MBDF pmax pmax
comp=Z,25nm,1.1s
MBDF Montbardon 90.81 330 *e*P **P** **17 45 10.3 -0.7**
comp=Z,25nm,1.1s
ORIF Oris-en-Rattie 91.02 330 *e*P **P** **17 45 11.7 -0.2**
comp=Z,20nm,1.0s
ORIF *e*R
comp=Z,628nm,21.0s
ORIF Oris-en-Rattie 91.02 330 *e*P **P** **17 45 11.7 -0.2**
ORIF pmax pmax
comp=Z,20nm,1.0s
ORIF Oris-en-Rattie 91.02 330 *e*P **P** **17 45 11.7 -0.2**
comp=Z,20nm,1.0s
PLDF La Plantade 91.04 332 *e*P **P** **17 45 11.5 -0.5**
Z32A Haskell 91.14 47 ⇑P **P** **17 45 13.3 +0.7**
baz=91
AGO Saint Agoulin 91.16 333 *e*P **P** **17 45 11.9 -0.6**
TX31 Lajitas Ar. Si 91.19 53 *e*P **P** **17 45 13.2 +0.2**
TXAR Lajitas Array 91.20 53 P **P** **17 45 13.8 +0.7**
TXAR pmax pmax
comp=Z,2.0nm,0.9s
TXAR MLR MLR
comp=Z,431nm,18.4s
TXAR Lajitas Array 91.20 53 P **P** **17 45 13.8 +0.7**
comp=Z,2.5nm,0.9s,baz=298,slow=2.7,SNR=14
TXAR LR LR 18 25 37.2
comp=Z,431nm,18.4s,baz=0.0,slow=35
SBF Sospel 91.23 329 *e*P **P** **17 45 12.0 -0.9**
comp=Z,52nm,0.9s
SBF Sospel 91.23 329 *e*P **P** **17 45 12.0 -0.9**
SBF pmax pmax
comp=Z,52nm,0.9s
SBF Sospel 91.23 329 *e*P **P** **17 45 12.0 -0.9**
comp=Z,52nm,0.9s
SGMF Saint Gilles 91.25 337 *e*P **P** **17 45 12.0 -0.8**
comp=Z,32nm,1.1s
SGMF Saint Gilles 91.25 337 *e*P **P** **17 45 12.0 -0.8**
SGMF pmax pmax
comp=Z,32nm,1.1s
SGMF Saint Gilles 91.25 337 *e*P **P** **17 45 12.0 -0.8**
comp=Z,32nm,1.1s
SSB Saint Sauveur 91.26 331 PFAKE 17 45 20.0 +7.0
SSB LR LR
comp=Z,801nm,19.0s
TCF Toulx Ste Croi 91.31 333 *e*P **P** **17 45 13.2 0.0**
comp=Z,9.3nm,0.8s
TCF Toulx Ste Croi 91.31 333 *e*P **P** **17 45 13.2 0.0**
TCF pmax pmax
comp=Z,9.0nm,0.8s
TCF Toulx Ste Croi 91.31 333 *e*P **P** **17 45 13.2 0.0**
comp=Z,9.3nm,0.8s
ROSF Rostrenen 91.41 337 *e*P **P** **17 45 13.7 +0.2**
comp=Z,26nm,1.0s
ROSF Rostrenen 91.41 337 *e*P **P** **17 45 13.7 +0.2**
ROSF pmax pmax
comp=Z,26nm,1.0s
ROSF Rostrenen 91.41 337 *e*P **P** **17 45 13.7 +0.2**
comp=Z,26nm,1.0s
PYM Petit Puy Mans 91.46 332 *e*P **P** **17 45 13.5 -0.4**
VIVF Saint-Julien-l 91.56 331 *e*P **P** **17 45 14.3 -0.1**
comp=Z,17nm,0.9s
VIVF Saint-Julien-l 91.56 331 *e*P **P** **17 45 14.3 -0.1**
VIVF pmax pmax
comp=Z,17nm,0.9s
VIVF Saint-Julien-l 91.56 331 *e*P **P** **17 45 14.3 -0.1**
comp=Z,17nm,0.9s
CEL Celeste 91.56 320 PFAKE 17 45 30.0 +15
CEL LR LR
comp=Z,658nm,21.0s
529A Stev Forest Ra 91.60 51 ⇑P **P** **17 45 16.2 +1.3**
baz=92
PGF Pioggiola 91.61 327 *e*P **P** **17 45 14.6 -0.1**
comp=Z,24nm,1.0s
PGF Pioggiola 91.61 327 *e*P **P** **17 45 14.6 -0.1**
PGF pmax pmax
comp=Z,24nm,1.0s
PGF Pioggiola 91.61 327 *e*P **P** **17 45 14.6 -0.1**
comp=Z,24nm,1.0s
430A Baggett Ranch, 91.78 50 ⇑P **P** **17 45 16.0 +0.3**
baz=92
FRF La Foret Royal 91.81 329 *e*P **P** **17 45 14.7 -0.8**
comp=Z,20nm,0.9s
FRF La Foret Royal 91.81 329 *e*P **P** **17 45 14.7 -0.8**
FRF pmax pmax
comp=Z,20nm,0.9s
FRF La Foret Royal 91.81 329 *e*P **P** **17 45 14.7 -0.8**
comp=Z,20nm,0.9s
MFF Saint Martin d 91.88 335 *e*P **P** **17 45 16.0 +0.2**
comp=Z,53nm,1.2s
MFF Saint Martin d 91.88 335 *e*P **P** **17 45 16.0 +0.2**
MFF pmax pmax
comp=Z,53nm,1.2s
MFF Saint Martin d 91.88 335 *e*P **P** **17 45 16.0 +0.2**
comp=Z,53nm,1.2s
SMRF Simiane la Rot 91.92 330 *e*P **P** **17 45 16.6 +0.5**
comp=Z,35nm,1.2s
SMRF Simiane la Rot 91.92 330 *e*P **P** **17 45 16.6 +0.5**
comp=Z,35nm,1.3s
LMR La Mourre 92.06 329 *e*P **P** **17 45 16.1 -0.5**
comp=Z,36nm,1.1s
LMR La Mourre 92.06 329 *e*P **P** **17 45 16.1 -0.5**
LMR pmax pmax
comp=Z,36nm,1.1s
LMR La Mourre 92.06 329 *e*P **P** **17 45 16.1 -0.5**
comp=Z,36nm,1.1s
530A J-C Ranch, Com 92.15 51 ⇓P **P** **17 45 18.9 +1.5**
baz=92
332A Millersview 92.31 49 ⇓P **P** **17 45 18.2 +0.2**
baz=92
RJF Les Rejaudoux 92.40 333 *e*P **P** **17 45 18.5 +0.3**
comp=Z,17nm,0.8s
RJF *e*R
comp=Z,973nm,20.8s
RJF Les Rejaudoux 92.40 333 *e*P **P** **17 45 18.5 +0.3**
RJF pmax pmax
comp=Z,17nm,0.8s
RJF Les Rejaudoux 92.40 333 *e*P **P** **17 45 18.5 +0.3**
comp=Z,17nm,0.8s
CAF Calviac 92.51 333 *e*P **P** **17 45 19.4 +0.6**
comp=Z,35nm,1.2s
CAF Calviac 92.51 333 *e*P **P** **17 45 19.4 +0.6**
CAF pmax pmax
comp=Z,35nm,1.2s
CAF Calviac 92.51 333 *e*P **P** **17 45 19.4 +0.6**
comp=Z,35nm,1.2s
LASF Ste Croix 92.53 331 *e*P **P** **17 45 18.1 -0.8**
comp=Z,51nm,1.3s
LASF Ste Croix 92.53 331 *e*P **P** **17 45 18.1 -0.8**
comp=Z,51nm,1.3s
AAM Ann Arbor 92.63 32 PFAKE 17 45 30.0 +11
AAM LR LR
comp=Z,668nm,20.0s
531A Rocksprings 92.64 50 ⇑P **P** **17 45 20.4 +0.8**
baz=92
JCT Junction City 92.89 49 PFAKE 17 45 30.0 +9.2
JCT LR LR
comp=Z,956nm,20.0s
LFF La Frestale 92.99 333 *e*P **P** **17 45 21.4 +0.5**
comp=Z,72nm,1.2s
LFF La Frestale 92.99 333 *e*P **P** **17 45 21.4 +0.5**
LFF pmax pmax
comp=Z,72nm,1.2s
LFF La Frestale 92.99 333 *e*P **P** **17 45 21.4 +0.5**
comp=Z,72nm,1.2s
532A Rocksprings 93.07 50 ⇓P **P** **17 45 22.3 +0.6**
baz=93
631A Perdido Creek 93.14 51 ⇑P **P** **17 45 22.8 +0.9**
baz=93
MIAR Mount Ida 93.69 43 *e*P **P** **17 45 24.5 +0.1**
MIAR MLR MLR
comp=Z,473nm,21.0s
MIAR Mount Ida 93.69 43 *e*P **P** **17 45 24.5 +0.1**
MIAR LR LR
comp=Z,473nm,21.0s
MTLF Montolieu 93.79 332 *e*P **P** **17 45 24.8 +0.1**
MTLF Montolieu 93.79 332 *e*P **P** **17 45 24.8 +0.1**
MTLF Montolieu 93.79 332 *e*P **P** **17 45 24.8 +0.1**
VSL Villasalto 93.86 325 PFAKE 17 45 40.0 +15
VSL LR LR
comp=Z,343nm,20.0s
WDD Wield Dalam 94.08 320 PFAKE 17 45 40.0 +14
WDD LR LR
comp=Z,290nm,19.0s
LONY Lake Ozonia 94.23 25 PFAKE 17 45 40.0 +13
LONY LR LR
comp=Z,447nm,19.0s
ERPA Erie 94.33 30 PFAKE 17 45 40.0 +13
ERPA LR LR
comp=Z,757nm,19.0s
ACSO Alum Creek Sta 94.61 33 PFAKE 17 45 40.0 +12
ACSO LR LR
comp=Z,632nm,20.0s
NCB Newcomb 94.93 25 PFAKE 17 45 40.0 +10
NCB LR LR
comp=Z,602nm,19.0s
ETSF Etsaut 95.23 333 *e*P **P** **17 45 32.5 +1.2**
ETSF Etsaut 95.23 333 *e*P **P** **17 45 32.5 +1.2**
ETSF Etsaut 95.23 333 *e*P **P** **17 45 32.5 +1.2**
SJPF Ste Jean 95.29 334 *e*P **P** **17 45 32.0 +0.5**
SJPF Ste Jean 95.29 334 *e*P **P** **17 45 32.0 +0.5**
SJPF Ste Jean 95.29 334 *e*P **P** **17 45 32.0 +0.5**
PKME Peaks-Kenny Pk 95.38 21 PFAKE 17 45 40.0 +8.2
PKME LR LR
comp=Z,713nm,20.0s
LBNH Lisbon 95.47 24 PFAKE 17 45 40.0 +7.7
LBNH LR LR
comp=Z,556nm,19.0s
BINY Binghamton 95.83 27 PFAKE 17 45 50.0 +16
BINY LR LR
comp=Z,658nm,20.0s
KEST Kesra 96.85 323 LR LR 18 36 06.1
comp=Z,274nm,18.8s,baz=346,slow=40
BLA Blacksburg 98.23 33 PFAKE 17 46 00.0 +15
BLA LR LR
comp=Z,610nm,19.0s
ESDC Sonseca Array 99.29 334 PP PP 17 49 56.0 +4.4
comp=Z,0.4nm,0.4s,baz=24,slow=8.5,SNR=4.1
ESDC LR LR 18 34 05.7
comp=Z,833nm,20.4s,baz=80,slow=37
PAB San Pablo 99.54 334 PFAKE 17 46 00.0 +9.1
PAB LR LR
comp=Z,1μm,21.0s
GOGA Godfrey 99.90 37 PFAKE 17 46 00.0 +7.5
GOGA LR LR
comp=Z,568nm,19.0s
CNNC Cliffs of the 100.99 32 PFAKE 17 46 10.0 +13
CNNC LR LR
comp=Z,602nm,20.0s
KMBO Kilima Mbogo 102.51 277 PFAKE 17 46 20.0 +15
KMBO LR LR
comp=Z,331nm,19.0s
CASY Casey 103.70 192 PFAKE 17 46 20.0 +12
CASY LR LR
comp=Z,576nm,21.0s
ABPO Ambohimpanom 104.22 257 PFAKE 17 46 20.0 +8.0
ABPO LR LR
comp=Z,369nm,20.0s
RTC Rabat Centre 105.40 333 PFAKE 17 50 40.0
RTC LR LR
comp=Z,536nm,19.0s
TEIG Tepich 107.46 49 PFAKE 17 50 50.0
TEIG LR LR
comp=Z,1.0nm,21.0s
BBSR BB Station 108.60 23 PFAKE 17 50 50.0
BBSR LR LR
comp=Z,313nm,19.0s
TAM Tamanrasset 109.14 317 PFAKE 17 50 50.0
TAM LR LR
comp=Z,207nm,19.0s
GTBY Guantanamo Bay 115.19 39 PFAKE 17 51 00.0 +11
GTBY LR LR
comp=Z,336nm,19.0s
MTDJ Mount Denham 115.31 42 PFAKE 17 51 00.0 +10
MTDJ LR LR
comp=Z,460nm,20.0s
GRTK Grand Turk 115.78 34 PFAKE 17 51 00.0 +10
GRTK LR LR
comp=Z,631nm,19.0s
JTS JuntasAbangare 116.97 53 PFAKE 17 51 00.0 +7.0
JTS LR LR
comp=Z,360nm,19.0s
LSZ Lusaka 117.78 270 PFAKE 17 51 10.0 +15
LSZ LR LR
comp=Z,472nm,19.0s
SDDR Presa de Saban 117.88 36 PFAKE 17 51 10.0 +15
SDDR LR LR
comp=Z,743nm,19.0s
TORD Torodi Ar. Bea 118.99 314 PKP **PKPdf** **17 50 56.4 -0.5**
comp=Z,1.2nm,0.9s,baz=8.4,slow=2.1,SNR=6.1
PAYG Puerto Ayora 120.82 67 PFAKE 17 51 10.0 +10
PAYG LR LR
comp=Z,630nm,19.0s
BCIP Isla Barro Col 121.12 50 PFAKE 17 51 10.0 +9.1
BCIP LR LR
comp=Z,335nm,20.0s

SDV	**Santo Domingo**	**126.75**	**41**	PFAKE		17 51 20.0	+8.0
SDV				LR	LR		
comp=Z,596nm,20.0s							
GRGR	**Grenville**	**128.21**	**30**	PFAKE		17 51 30.0	+15
GRGR				LR	LR		
comp=Z,344nm,20.0s							
LIC	**Lamto**	**128.45**	**316**	*e*PKIKP	**PKPdf**	**17 51 16.7**	**+1.7**
comp=Z,48nm,1.6s							
LIC	**Lamto**	**128.45**	**316**	*e*PKPdf	**PKPdf**	**17 51 16.7**	**+1.7**
SACV	**Santiago Islan**	**128.46**	**342**	PFAKE		17 51 30.0	+15
SACV				LR	LR		
comp=Z,305nm,20.0s							
OTAV	**Otavalo**	**128.71**	**56**	PFAKE		17 51 30.0	+14
OTAV				LR	LR		
comp=Z,266nm,21.0s							
NNA	**Nana**	**138.26**	**66**	PFAKE		17 51 50.0	+17
NNA				LR	LR		
comp=Z,486nm,20.0s							
PTGA	**Pitinga**	**140.41**	**35**	PFAKE		17 51 50.0	+13
PTGA				LR	LR		
comp=Z,283nm,20.0s							
ASCN	**Ascension**	**145.31**	**315**	PFAKE		17 52 00.0	+14
ASCN				LR	LR		
comp=Z,377nm,20.0s							
SAML	**Samuel**	**145.52**	**47**	PFAKE		17 52 00.0	+13
SAML				LR	LR		
comp=Z,378nm,19.0s							
LPAZ	**La Paz**	**147.48**	**63**	*e*PKP2	**PKPbc**	**17 51 52.9**	**+0.1**
LPAZ	**La Paz**	**147.48**	**63**	PKPbc	**PKPbc**	**17 51 53.3**	**+0.4**
comp=Z,6.1nm,0.8s,baz=311,slow=4.1,SNR=22							
LPAZ	**La Paz**	**147.48**	**63**	*e*PKPbc	**PKPbc**	**17 51 52.9**	**+0.1**
LVC	**Limon Verde**	**150.59**	**74**	*e*PKPbc	**PKPbc**	**17 52 01.1**	**+1.0**
RCBR	**Riachuelo**	**150.96**	**355**	PFAKE		17 52 10.0	+1.8
RCBR				LR	LR		
comp=Z,269nm,19.0s							
TRQA	**Tornquist**	**160.69**	**106**	PFAKE		17 52 20.0	+13
TRQA				LR	LR		
comp=Z,516nm,19.0s							

GUC 12 17:33:38.4±0.4, 35°.04S×72°.35W, h55km±11km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.69**	**122**	*i* P	Pn	17 33 53.2	+0.9
TALC				*i* S	Sn	17 34 04.1	+1.8
TALC				AML	AML	17 34 16.0	
comp=N,3μm,0.0s							
NICH	**Los Niches**	**0.92**	**88**	*i* P	Pn	17 33 56.5	+1.3
NICH				*i* S	Sn	17 34 09.7	+2.0
NICH				AML	AML	17 34 15.4	
comp=E,3μm,0.3s							
COCH	**Cobquecura**	**1.15**	**198**	*i* P	Pn	17 33 59.2	+1.0
COCH				*i* S	Sn	17 34 15.2	+2.3
LNV	**Longovilo**	**1.33**	**36**	*i* P	Pn	17 34 01.9	+1.2
CLCH	**Cerro Calan**	**2.23**	**43**	*i* P	Pn	17 34 14.8	+1.9

CASC 12 17:42:35.8±1.9, 12°.62N×90°.09W, h0km±14km, MD3.8, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.30**	**20**	*e*P	Pg	17 42 60.0	-1.1
SNJE	**San Jose**	**1.33**	**20**	*e*P	Pg	17 43 00.5	-1.1
RTR	**El Retiro**	**1.34**	**19**	*e*P	Pg	17 43 00.9	-0.9
RTR				*e*S	Sn	17 43 20.6	-0.3
BOQS	**Boqueron**	**1.36**	**35**	*e*P	Pg	17 43 02.2	0.0
BOQS				*e*S	Sn	17 43 21.4	0.0
LFRS	**El Faro**	**1.41**	**45**	*e*P	Pn	17 43 01.5	-1.5
LFU	**La Fuente**	**1.47**	**40**	*e*P	Pn	17 43 02.3	-1.4
LBRS	**Las Brisas**	**1.51**	**42**	*e*P	Pn	17 43 02.8	-1.4
RBDL	**Robledal**	**1.54**	**15**	*e*P	Pn	17 43 03.8	-0.9
SNVI	**San Vicente**	**1.57**	**51**	*e*P	Pn	17 43 04.0	-1.2
SNVI				*e*S	Sg	17 43 28.0	+1.4
IXG	**Ixpaco**	**1.59**	**347**	*e*P	Pn	17 43 04.0	-1.5
VSM	**San Miguel**	**1.94**	**65**	*e*P	Pn	17 43 10.1	-0.4
NBG	**Las Nubes**	**1.98**	**353**	*e*P	Pn	17 43 11.8	+0.8
BLLM	**Bellamira**	**1.98**	**65**	*e*P	Pn	17 43 10.6	-0.1
MRL	**Marmol**	**2.46**	**9**	*e*P	Pb	17 43 19.7	-1.6

MAN 12 17:42:41, 11°.24N×124°.78E, h23km, mb4.1, ML2.9, MS2.6, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.21**	**111**	||*i* P	Pn	17 42 48.2	-0.6
PLP				*i* S	Sb	17 42 51.6	+1.1
OCLP	**Ormoc**	**0.25**	**221**	*e*P	Pn	17 42 48.7	-0.6
OCLP				*e*S	Sb	17 42 51.8	+0.5
MSLP	**Maasin**	**1.10**	**176**	*e*P	Pb	17 43 01.8	+0.3
MSLP				*e*S	Sn	17 43 17.1	+1.5

GUC 12 17:44:03.4±0.6, 34°.92S×71°.77W, h49km±37km, ML4.0, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.45**	**101**	||*i* P	Pn	17 44 14.1	0.0
NICH				*i* S	Sn	17 44 21.6	0.0
RCDM	**Rinconada Maip**	**1.63**	**29**	*e*P	Pn	17 44 30.3	+0.6
RCDM				*i* S	Sn	17 44 51.3	+1.6
RCDM				AML	AML	17 44 55.3	
comp=E,2μm,0.1s							
STL	**Santa Lucia**	**1.75**	**33**	*e*P3	Pn	17 44 31.8	+0.4
STL				*i* S	Sn	17 44 54.2	+1.7
CLCH	**Cerro Calan**	**1.83**	**34**	⇑*i* P	Pn	17 44 33.5	+1.0
CLCH				*i* S	Sn	17 44 56.9	+2.3
CLCH				AML	AML	17 44 59.6	
comp=E,3μm,0.3s							
PEL	**Peldehue**	**1.98**	**27**	⇑*i* P	Pn	17 44 36.0	+1.4
PEL				*i* S4	Sn	17 45 01.4	+3.1
PEL				AML	AML	17 45 05.3	
comp=N,1μm,0.2s							

*ISCJB **12** 17:44:55.7±0.3, 18°.08N±0°.04×39°.93E±0°.04, h10km, mb4.3/52, MS4.3/4, Error ellipse: s-maj=6.5km s-min=5.9km az=16.0*
*IDC **12** 17:44:56.2±0.8, 18°.12N×39°.97E, h0km, mb4.1/19, mb1 4.1/21, mb1mx3.9/52, mbtmp4.0/21, ML3.5/2, MS4.3/4, Ms1 4.3/4, ms1mx3.7/47, Error ellipse: s-maj=21.3km s-min=14.4km az=148.0*
*NEIC **12** 17:44:57.2±0.3, 18°.06N×39°.93E, h10km, mb4.4/25, Error ellipse: s-maj=6.7km s-min=6.2km az=101.0*
*CSEM **12** 17:44:57.4±0.2, 18°.08N×39°.94E, h10km, mb4.4/36, Ms4.3, Error ellipse: s-maj=7.9km s-min=7.3km az=98.0*

ISC 12 17:44:57.5±0.4, 18°.13N±0°.06×40°.01E±0°.07, h10km, n142, σ19°10/143, mb4.3/52, MS4.3/4, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAYN	**Ar Rayn**	**7.43**	**43**	*e*Pn	Pn	17 46 42.5	-3.5
RAYN				*e*S	**Sb**	**17 48 31.8**	**-3.4**
RAYN	**Ar Rayn**	**7.43**	**43**	*e*Pn	Pn	17 46 42.5	-3.5
RAYN				*e*S	**Sb**	**17 48 31.8**	**-3.4**
FURI	**Furi**	**9.27**	**188**	P	**Pn**	**17 47 13.5**	**+2.0**
FURI				S	Sn	17 49 30.5	+34
MMAI	**Mount Meron Ar**	**15.39**	**345**	Pn	**Pn**	**17 48 36.3**	**+1.4**
0.3nm,0.3s,baz=163,slow=10,SNR=3.0							
CSS	**Prodhromos**	**17.79**	**342**	Pn	**Pn**	**17 49 05.4**	**+0.1**
18nm,1.7s							
CSS	**Prodhromos**	**17.79**	**342**	Pn	**Pn**	**17 49 05.4**	**+0.1**
18nm,1.7s							
KMBO	**Kilima Mbogo**	**19.33**	**188**	P	**Pn**	**17 49 25.4**	**+1.0**
0.1nm,0.3s,baz=356,slow=14,SNR=5.0							
KMBO	**Kilima Mbogo**	**19.33**	**188**	P	**P**	**17 49 22.4**	**-0.9**
KMBO	**Kilima Mbogo**	**19.33**	**188**	P	**P**	**17 49 22.4**	**-0.9**
BRTR	**Keskin Array B**	**22.22**	**347**	P	**P**	**17 49 56.1**	**+1.8**
4.6nm,0.9s,baz=172,slow=9.5,SNR=11							
BRTR				PcP	**PcP**	**17 53 50.0**	**-0.8**
0.7nm,0.6s,baz=116,slow=2.9,SNR=4.5							
BRTR	**Keskin Array B**	**22.22**	**347**	PcP	**PcP**	**17 53 50.0**	**-0.8**
SANT	**Santorini**	**22.26**	**328**	P	**P**	**17 49 55.0**	**+0.3**
118nm,1.4s							
SANT	**Santorini**	**22.26**	**328**	P	**P**	**17 49 55.0**	**+0.3**
118nm,1.4s							
GNI	**Garni**	**22.32**	**10**	P	**P**	**17 49 54.9**	**-0.6**
19nm,1.1s							
GNI	**Garni**	**22.32**	**10**	P	**P**	**17 49 54.9**	**-0.6**
19nm,1.1s							
ANTO	**Ankara**	**22.55**	**345**	P	**P**	**17 49 58.9**	**+1.1**
9.2nm,0.8s							
ANTO	**Ankara**	**22.55**	**345**	P	**P**	**17 49 58.9**	**+1.1**
9.2nm,0.8s							
GEYT	**Alibeck**	**25.30**	**35**	P	**P**	**17 50 25.9**	**+1.7**
7.7nm,1.1s,baz=245,slow=9.5,SNR=8.7							
KIV	**Kislovodsk**	**25.85**	**4**	*e*P	**P**	**17 50 32.5**	**+3.3**
17nm,1.1s							
KIV	**Kislovodsk**	**25.85**	**4**	*e*P	**P**	**17 50 32.5**	**+3.3**
17nm,1.1s							
MSEY	**Mahe Island**	**27.32**	**145**	P	**P**	**17 50 42.8**	**+0.1**
69nm,1.2s							
MSEY	**Mahe Island**	**27.32**	**145**	P	**P**	**17 50 42.8**	**+0.1**
69nm,1.2s							
TIRR	**Tirgusor**	**28.00**	**342**	P	**P**	**17 50 48.7**	**+0.2**
21nm,1.3s							
TIRR	**Tirgusor**	**28.00**	**342**	P	**P**	**17 50 48.6**	**+0.2**
21nm,1.3s							
KBL	**Kabul**	**30.58**	**52**	*e*P	**P**	**17 51 12.6**	**+0.8**
12nm,1.2s							
KBL	**Kabul**	**30.58**	**52**	*e*P	**P**	**17 51 12.6**	**+0.8**
12nm,1.2s							
MSKU	**Masuku**	**32.59**	**236**	P	**P**	**17 51 29.2**	**-0.2**
5.1nm,0.5s,baz=73,slow=9.5,SNR=5.6							
TAM	**Tamanrasset**	**32.60**	**284**	*e*P	**P**	**17 51 30.1**	**+0.5**
9.2nm,1.1s							
TAM	**Tamanrasset**	**32.60**	**284**	*e*P	**P**	**17 51 30.1**	**+0.5**
9.2nm,1.1s							
ABKAR	**Akbulak array**	**34.98**	**23**	*e*P	**P**	**17 51 49.5**	**-0.3**
1.5nm,0.6s							
ABKAR	**Akbulak array**	**34.98**	**23**	*e*P	**P**	**17 51 49.5**	**-0.3**
1.5nm,0.6s							
LSZ	**Lusaka**	**35.18**	**200**	P	**P**	**17 51 49.3**	**-2.7**
4.4nm,1.1s							
LSZ	**Lusaka**	**35.18**	**200**	P	**P**	**17 51 49.3**	**-2.7**
4.4nm,1.1s							
KKAR	**Karatay Array**	**35.84**	**39**	*e*P	**P**	**17 51 56.8**	**-0.5**
2.1nm,0.6s							
KKAR	**Karatay Array**	**35.84**	**39**	*e*P	**P**	**17 51 56.8**	**-0.5**
2.1nm,0.6s							
MORC	**Moravsky Berou**	**36.37**	**335**	P	**P**	**17 52 02.1**	**+0.3**
3.3nm,1.0s							
MORC	**Moravsky Berou**	**36.37**	**335**	P	**P**	**17 52 02.1**	**+0.3**
3.3nm,1.0s							
TORD	**Torodi Ar. Bea**	**37.18**	**268**	P	**P**	**17 52 09.0**	**-0.1**
3.4nm,0.8s,baz=84,slow=8.5,SNR=12							
TORD				LR	LR	18 07 49.1	
comp=Z,209nm,18.7s,baz=50,slow=37							
GERES	**GERESS Array B**	**37.32**	**331**	P	**P**	**17 52 09.5**	**-0.5**
1.0nm,0.8s,baz=134,slow=7.6,SNR=8.5							
GERES				PcP	**PcP**	**17 54 28.6**	**-0.6**
0.6nm,0.8s,baz=187,slow=3.5,SNR=4.8							
SBF	**Sospel**	**37.52**	**320**	*e*P	**P**	**17 52 12.0**	**+0.3**
9.2nm,0.6s							
SBF	**Sospel**	**37.52**	**320**	*e*P	**P**	**17 52 12.0**	**+0.3**
4.6nm,0.6s							
SBF	**Sospel**	**37.52**	**320**	*e*P	**P**	**17 52 12.0**	**+0.3**
9.2nm,0.6s							
FRF	**La Foret Royal**	**37.84**	**319**	*e*P	**P**	**17 52 13.1**	**-1.2**
FRF	**La Foret Royal**	**37.84**	**319**	*e*P	**P**	**17 52 13.1**	**-1.2**
FRF	**La Foret Royal**	**37.84**	**319**	*e*P	**P**	**17 52 13.1**	**-1.2**
AAK	**Ala-Archa**	**38.08**	**43**	P	**P**	**17 52 18.6**	**+2.0**
1.5nm,0.8s,baz=187,slow=16,SNR=2.7							
AAK	**Ala-Archa**	**38.08**	**43**	P	**P**	**17 52 16.0**	**-0.6**
13nm,1.4s							
AAK	**Ala-Archa**	**38.08**	**43**	P	**P**	**17 52 16.0**	**-0.6**
13nm,1.4s							
MBDF	**Montbardon**	**38.38**	**321**	*e*P	**P**	**17 52 20.3**	**+1.2**
10nm,0.9s							
MBDF	**Montbardon**	**38.38**	**321**	*e*P	**P**	**17 52 20.3**	**+1.2**
5.2nm,0.9s							
MBDF	**Montbardon**	**38.38**	**321**	*e*P	**P**	**17 52 20.3**	**+1.2**
10nm,0.9s							
LPG	**La Plagne**	**38.82**	**322**	*e*P	**P**	**17 52 22.1**	**-0.8**
25nm,1.3s							
LPG	**La Plagne**	**38.82**	**322**	*e*P	**P**	**17 52 22.1**	**-0.8**
13nm,1.3s							
LPG	**La Plagne**	**38.82**	**322**	*e*P	**P**	**17 52 22.1**	**-0.8**
25nm,1.3s							
TKM2	**Tokmak 2**	**38.93**	**43**	P	**P**	**17 52 26.5**	**+2.7**
28nm,1.7s							
TKM2	**Tokmak 2**	**38.93**	**43**	P	**P**	**17 52 26.5**	**+2.7**
28nm,1.7s							
CABF	**La Chapelle**	**39.82**	**323**	*e*P	**P**	**17 52 30.2**	**-0.9**
11nm,0.9s							
CABF	**La Chapelle**	**39.82**	**323**	*e*P	**P**	**17 52 30.2**	**-0.9**
5.3nm,0.9s							
CABF	**La Chapelle**	**39.82**	**323**	*e*P	**P**	**17 52 30.2**	**-0.9**
11nm,0.9s							
LASF	**Ste Croix**	**39.84**	**318**	*e*P	**P**	**17 52 30.9**	**-0.3**
LASF	**Ste Croix**	**39.84**	**318**	*e*P	**P**	**17 52 30.9**	**-0.3**
LASF	**Ste Croix**	**39.84**	**318**	*e*P	**P**	**17 52 30.9**	**-0.3**
ARU	**Arti**	**40.71**	**16**	*e*P	**P**	**17 52 37.5**	**-0.6**
3.9nm,0.8s							
ARU	**Arti**	**40.71**	**16**	*e*P	**P**	**17 52 37.5**	**-0.6**
3.9nm,0.8s							
KOLN	**Koldanda**	**41.09**	**68**	*e*P	**P**	**17 52 41.8**	**-0.1**
24nm,0.9s							
SMF	**Signal de Mont**	**41.15**	**322**	*e*P	**P**	**17 52 41.0**	**-0.9**
SMF	**Signal de Mont**	**41.15**	**322**	*e*P	**P**	**17 52 41.0**	**-0.9**
SMF	**Signal de Mont**	**41.15**	**322**	*e*P	**P**	**17 52 41.0**	**-0.9**
DANN	**Dangsing**	**41.27**	**68**	*e*P	**P**	**17 52 43.7**	**+0.2**
40nm,0.9s							
LOR	**Lormes**	**41.46**	**323**	*e*P	**P**	**17 52 43.9**	**-0.6**
4.0nm,0.6s							
LOR	**Lormes**	**41.46**	**323**	*e*P	**P**	**17 52 43.9**	**-0.6**
2.0nm,0.6s							
LOR	**Lormes**	**41.46**	**323**	*e*P	**P**	**17 52 43.9**	**-0.6**
4.0nm,0.6s							
AVF	**Avril sur Loir**	**41.51**	**322**	*e*P	**P**	**17 52 43.8**	**-1.0**
5.0nm,0.7s							
AVF	**Avril sur Loir**	**41.51**	**322**	*e*P	**P**	**17 52 43.8**	**-1.0**
2.5nm,0.7s							
AVF	**Avril sur Loir**	**41.51**	**322**	*e*P	**P**	**17 52 43.8**	**-1.0**
5.0nm,0.7s							
SSF	**Saint Saulge**	**41.56**	**322**	*e*P	**P**	**17 52 45.3**	**0.0**
11nm,1.1s							
SSF	**Saint Saulge**	**41.56**	**322**	*e*P	**P**	**17 52 45.3**	**0.0**
5.4nm,1.1s							
SSF	**Saint Saulge**	**41.56**	**322**	*e*P	**P**	**17 52 45.3**	**0.0**
11nm,1.1s							
BGF	**Bois d'Agland**	**41.69**	**321**	*e*P	**P**	**17 52 46.4**	**0.0**
15nm,0.8s							
BGF	**Bois d'Agland**	**41.69**	**321**	*e*P	**P**	**17 52 46.4**	**0.0**
7.5nm,0.8s							
BGF	**Bois d'Agland**	**41.69**	**321**	*e*P	**P**	**17 52 46.4**	**0.0**
15nm,0.8s							
GKN	**Gorkha**	**42.02**	**68**	*e*P	**P**	**17 52 50.2**	**+0.7**
BRVK	**Borovoye**	**42.07**	**27**	P	**P**	**17 52 49.6**	**+0.2**
3.8nm,1.0s							
BRVK	**Borovoye**	**42.07**	**27**	P	**P**	**17 52 49.6**	**+0.2**
3.8nm,1.0s							
BVAR	**Borovoye Array**	**42.09**	**27**	P	**P**	**17 52 50.7**	**+1.1**
1.0nm,0.7s,baz=216,slow=7.3,SNR=6.9							
LFF	**La Frestale**	**42.22**	**318**	*e*P	**P**	**17 52 49.9**	**-0.8**
LFF	**La Frestale**	**42.22**	**318**	*e*P	**P**	**17 52 49.9**	**-0.8**
LFF	**La Frestale**	**42.22**	**318**	*e*P	**P**	**17 52 49.9**	**-0.8**
DMN	**Daman**	**42.41**	**69**	*e*P	**P**	**17 52 53.6**	**+0.8**
66nm,1.7s							
KKN	**Kakani**	**42.58**	**68**	*e*P	**P**	**17 52 54.0**	**-0.1**
PKIN	**Phulchoki**	**42.67**	**69**	*e*P	**P**	**17 52 55.5**	**+0.6**
26nm,1.4s							
PKI	**Pulchoki**	**42.68**	**69**	*e*P	**P**	**17 52 56.1**	**+1.0**
BAIF	**Baives**	**42.81**	**326**	*e*P	**P**	**17 52 54.8**	**-0.7**
BAIF	**Baives**	**42.81**	**326**	*e*P	**P**	**17 52 54.8**	**-0.7**
BAIF	**Baives**	**42.81**	**326**	*e*P	**P**	**17 52 54.8**	**-0.7**
GUN	**Gumba**	**43.11**	**68**	*e*P	**P**	**17 52 59.2**	**+0.6**
21nm,1.0s							
TSUM	**Tsumeb**	**43.15**	**212**	P	**P**	**17 52 56.6**	**-2.0**
6.7nm,1.2s							
TSUM	**Tsumeb**	**43.15**	**212**	P	**P**	**17 52 56.6**	**-2.0**
6.7nm,1.2s							
JIRN	**Jiri**	**43.38**	**69**	*e*P	**P**	**17 53 00.4**	**-0.4**
9.8nm,0.8s							
ESDC	**Sonseca Array**	**43.55**	**309**	P	**P**	**17 53 02.3**	**+0.6**
0.1nm,0.3s,baz=94,slow=6.3,SNR=3.9							
RAMN	**Ramite**	**43.72**	**70**	*e*P	**P**	**17 53 04.2**	**+0.8**
FINES	**FINESS Array B**	**44.38**	**350**	P	**P**	**17 53 08.3**	**+0.4**
1.4nm,0.6s,baz=163,slow=11,SNR=11							
FINES				PcP	**PcP**	**17 54 52.2**	**+0.6**
1.1nm,0.6s,baz=151,slow=3.2,SNR=4.5							
ODAN	**Odare**	**44.42**	**70**	*e*P	**P**	**17 53 09.3**	**+0.3**
KURK	**Kurchatov**	**44.67**	**34**	*e*P	**P**	**17 53 11.0**	**+0.6**
6.9nm,1.4s							
KURK	**Kurchatov**	**44.67**	**34**	*e*P	**P**	**17 53 11.0**	**+0.6**
6.9nm,1.4s							
TAPN	**Taplejung**	**44.71**	**69**	*e*P	**P**	**17 53 11.6**	**+0.1**
FLN	**La Foliniere**	**44.73**	**322**	*e*P	**P**	**17 53 09.6**	**-1.3**
FLN	**La Foliniere**	**44.73**	**322**	*e*P	**P**	**17 53 09.6**	**-1.3**
FLN	**La Foliniere**	**44.73**	**322**	*e*P	**P**	**17 53 09.6**	**-1.3**
MKAR	**Makanchi Array**	**44.92**	**41**	P	**P**	**17 53 13.2**	**+0.7**
2.1nm,0.7s,baz=244,slow=9.5,SNR=21							
KAF	**Kangasniemi**	**44.98**	**351**	*e*p	**P**	**17 53 12.4**	**-0.3**
1.7nm,0.6s							
KAF	**Kangasniemi**	**44.98**	**351**	*e*P	**P**	**17 53 12.4**	**-0.3**
1.7nm,0.6s							
JOF	**Joensuu**	**45.15**	**354**	*e*p	**P**	**17 53 13.8**	**-0.2**
0.2nm,0.3s							
JOF	**Joensuu**	**45.15**	**354**	*e*P	**P**	**17 53 13.8**	**-0.2**
0.2nm,0.3s							
DBIC	**Dimbokro**	**45.16**	**261**	P	**P**	**17 53 15.2**	**+0.4**
9.6nm,1.1s,baz=24,slow=7.2,SNR=5.0							
DBIC				LR	LR	18 11 03.2	
comp=Z,354nm,18.5s,baz=46,slow=35							
DBIC	**Dimbokro**	**45.16**	**261**	*e*P	**P**	**17 53 13.3**	**-1.5**
22nm,1.3s							
DBIC	**Dimbokro**	**45.16**	**261**	*e*P	**P**	**17 53 13.3**	**-1.5**
22nm,1.3s							
QUIF	**Quistinic**	**45.95**	**320**	*e*P	**P**	**17 53 19.6**	**-0.9**
14nm,0.8s							
QUIF	**Quistinic**	**45.95**	**320**	*e*P	**P**	**17 53 19.6**	**-0.9**
7.2nm,0.8s							
QUIF	**Quistinic**	**45.95**	**320**	*e*P	**P**	**17 53 19.6**	**-0.9**
14nm,0.8s							
NB2	**NORSAR Subarra**	**47.49**	**341**	P	**P**	**17 53 32.3**	**-0.2**
comp=Z,16nm,1.4s,baz=140,slow=9.3							
NB2	**NORSAR Subarra**	**47.49**	**341**	P	**P**	**17 53 32.3**	**-0.2**
comp=Z,16nm,1.4s,baz=14,slow=8.6,SNR=4.6							
NOA	**NORSAR Array B**	**47.49**	**341**	P	**P**	**17 53 31.2**	**-1.3**
comp=Z,1.4nm,0.7s,baz=139,slow=8.7,SNR=4.5							
LSA	**Lhasa**	**47.81**	**66**	P	**P**	**17 53 37.0**	**+1.0**
comp=Z,6.3nm,1.3s							
LSA	**Lhasa**	**47.81**	**66**	P	**P**	**17 53 37.0**	**+1.0**
comp=Z,6.4nm,1.3s							
BOSA	**Boshof**	**48.61**	**197**	LR	LR	18 13 30.4	
comp=Z,328nm,18.4s,baz=353,slow=35							
BOSA	**Boshof**	**48.61**	**197**	P	**P**	**17 53 41.9**	**+0.3**
comp=Z,7.4nm,1.3s							
BOSA	**Boshof**	**48.61**	**197**	P	**P**	**17 53 41.9**	**+0.3**
comp=Z,7.4nm,1.3s							
ZALV	**Zalesovo Beam**	**49.59**	**33**	P	**P**	**17 53 48.6**	**-0.1**
comp=Z,5.3nm,0.8s,baz=247,slow=7.7,SNR=15							
ARCES	**ARCESS Array B**	**52.17**	**354**	P	**P**	**17 54 07.5**	**-0.5**
comp=Z,3.3nm,0.9s,baz=331,slow=7.1,SNR=4.6							
CHTO	**Chiang Mai**	**55.67**	**79**	*e*P	**P**	**17 54 34.5**	**+0.2**
comp=Z,1.8nm,0.9s							
CHTO	**Chiang Mai**	**55.67**	**79**	*e*P	**P**	**17 54 34.5**	**+0.2**
comp=Z,1.8nm,0.9s							
CMAR	**Chiang Mai Arr**	**55.73**	**80**	P	**P**	**17 54 34.6**	**-0.1**
comp=Z,0.8nm,0.3s,baz=288,slow=7.3,SNR=9.2							
SONM	**Songino Array**	**60.97**	**45**	P	**P**	**17 55 10.7**	**-0.4**
comp=Z,1.2nm,0.8s,baz=267,slow=8.3,SNR=8.3							
ULN	**Ulaanbaatar**	**61.42**	**45**	P	**P**	**17 55 15.9**	**+1.7**
comp=Z,2.6nm,1.1s							
ULN	**Ulaanbaatar**	**61.42**	**45**	P	**P**	**17 55 15.9**	**+1.7**
comp=Z,2.6nm,1.1s							
RES	**Resolute Bay**	**83.12**	**349**	P	**P**	**17 57 24.4**	**+1.2**
comp=Z,0.5nm,0.7s,baz=297,slow=1.7,SNR=4.7							
SCHQ	**Schefferville**	**84.67**	**326**	P	**P**	**17 57 30.8**	**-0.7**
comp=Z,2.2nm,0.8s,baz=47,slow=4.3,SNR=3.6							
BILL	**Bilibino**	**85.70**	**18**	P	**P**	**17 57 37.6**	**+1.3**
comp=Z,25nm,1.9s							
BILL	**Bilibino**	**85.70**	**18**	P	**P**	**17 57 37.6**	**+1.3**
comp=Z,25nm,1.9s							
MJAR	**Matsushiro Arr**	**85.75**	**53**	LR	LR	18 39 40.0	
comp=Z,223nm,19.2s,baz=115,slow=38							
YKA	**Yellowknife Ar**	**97.18**	**348**	P	**P**	**17 58 29.7**	**-0.4**
comp=Z,0.3nm,0.8s,baz=21,slow=5.0,SNR=4.7							

SJA 12 17:50:52.1±1.2, 33°.54S×68°.11W, h7km±11km, ML3.7, MW4.7, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	**Agrelo**	**0.76**	**307**	*e*P	Pb	17 51 07.6	-0.1
ARCO	**CERRO ARCO**	**0.98**	**315**	*e*P	Pb	17 51 11.9	+0.2
ARCO				*e*S	Sb	17 51 25.1	0.0
ARCO				AML	AML	17 51 27.8	
comp=Z,2μm,0.4s							
ASAL	**Salagasta**	**1.13**	**327**	*e*P	Pn	17 51 14.3	-0.1
ASAL				*e*S	Sn	17 51 30.6	+0.3
ACAN	**Cantantal**	**1.48**	**32**	*e*P	Pb	17 51 20.2	+0.1
ACAN				*e*S	Sg	17 51 41.1	+1.2
AUSP	**Uspallata**	**1.70**	**320**	*e*P	Pb	17 51 24.6	+0.5
AUSP				*e*S4	Sn	17 51 46.9	+2.1
CFAA	**Coronel Fontan**	**1.94**	**357**	*e*P	Pb	17 51 27.2	-0.6
RTLS	**Leoncito**	**2.01**	**330**	*e*P	Pb	17 51 29.7	+0.4
SJA	**San Juan**	**2.05**	**349**	*e*P	Pb

EKS2	Erkin-Say	46.11	336	P		P	18 06 53.4	-1.6
	5.5nm,1.1s						
SONM	Songino Array	47.06	9	P		P	18 07 02.7	+0.5
	2.8nm,0.8s,baz=191,slow=8.6,SNR=21						
MKAR	Makanchi Array	47.08	346	P		P	18 07 03.4	+1.1
	1.7nm,0.5s,baz=165,slow=7.9,SNR=25						
ULN	Ulaanbaatar	47.19	9	*e*P		P	18 07 03.2	-0.1
	2.3nm,0.9s						
TLY	Talaya	50.51	5	P		P	18 07 28.2	-0.3
	0.8nm,0.5s,baz=243,slow=2.2,SNR=4.4						
KURBB	Kurchatov Arra	51.56	345	P		P	18 07 37.6	+1.2
	0.7nm,0.4s,baz=167,slow=7.2,SNR=9.5						
KURK	Kurchatov	51.62	345	P		P	18 07 37.6	+0.7
MAJO	Matsushiro	51.77	43	P		P	18 07 33.8	-4.5
	11nm,1.1s						
MDJ	Mudanjiang	51.89	29	P		P	18 07 39.7	+0.7
	15nm,1.1s						
USRK	Ussuriysk Ar.	52.80	31	P		P	18 07 46.3	+0.5
	7.6nm,0.8s,baz=217,slow=5.0,SNR=9.7						
ZALV	Zalesovo Beam	53.41	351	P		P	18 07 51.1	+1.0
	3.5nm,0.6s,baz=181,slow=6.4,SNR=18						
STKA	Stephens Creek	53.61	132	P		P	18 07 53.9	+1.9
	0.8nm,0.6s,baz=342,slow=5.9,SNR=4.1						
BVAR	Borovoye Array	56.07	341	P		P	18 08 09.7	+0.3
	1.2nm,0.7s,baz=138,slow=11,SNR=6.0						
ABKAR	Akbulak array	57.30	332	*e*P		P	18 08 18.4	+0.1
	5.0nm,0.9s						
SEY	Seymchan	73.75	23	P		P	18 10 03.2	-1.1
	1.5nm,0.7s,baz=239,slow=7.1,SNR=11						
ARCES	ARCESS Array B	82.35	340	P		P	18 10 52.6	+0.7
	3.7nm,0.9s,baz=107,slow=2.9,SNR=5.5						
H09N1	TRISTAN DA CUN	06.12	232	T		T	20 09 33.1	
	SNR=19						
LPAZ	La Paz	159.09	224	PKP		PKPdf	18 18 28.9	-1.4
	0.9nm,0.5s,baz=168,slow=8.5,SNR=4.0						

ISCJB ***12*** *17:59:40.3±0.3, 37°.36N±0°.03×71°.82E±0°.06, h100km, mb3.7/7, Error ellipse: s-maj=7.1km s-min=3.5km az=149.5*
IDC ***12*** *17:59:40.4±4.0, 37°.44N×71°.90E, h83km±26km, mb3.5/6, mb1 3.6/13, mb1mx3.3/57, mbtmp3.8/13, Error ellipse: s-maj=44.2km s-min=19.3km az=145.0*
NNC ***12*** *17:59:44.2±4.2, 37°.89N×71°.71E, h0km±45km, mb4.2, mpv4.0, Error ellipse: s-maj=54.9km s-min=12.2km az=152.0*

ISC 12 17:59:41.4±0.6, 37°.42N±0°.06×71°.87E±0°.06, h100km, n52, σ1°78/55, mb3.8/7, 8C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DZET	Dzherino	2.77	301	⇑P		Pn	18 00 25.9	+1.7
DZET				⇓S		Sn	18 00 57.4	+0.3
AML	Almayashu	4.91	16	P		Pn	18 00 55.4	+2.2
	SNR=193							
UCH	Uchtor	5.22	22	P		Pn	18 01 00.0	+2.6
	SNR=15							
KZA	Kyzart	5.33	28	P		Pn	18 01 02.3	+3.4
	SNR=11							
EKS2	Erkin-Say	5.44	15	P		Pn	18 01 02.3	+2.2
	SNR=11							
AAK	Ala-Archa	5.58	20	⇑P		Pn	18 01 04.9	+2.8
	7.3nm,0.3s							
AAK				⇑S		Sn	18 02 04.6	-0.5
	11nm,0.5s							
AAK	Ala-Archa	5.58	20	P		Pn	18 01 05.0	+2.8
	SNR=20							
AAK	Ala-Archa	5.58	20	P		Pn	18 01 02.7	+0.6
	5.1nm,0.3s,baz=172,slow=5.8,SNR=109							
AAK				S		Sn	18 02 03.4	-1.6
	3.8nm,0.3s,baz=335,slow=19,SNR=13							
KK31	Karatay Array	5.78	350	⇓P		Pn	18 01 06.2	+1.7
	10nm,0.3s,baz=178,slow=14,SNR=161							
KK31				⇓S		Sn	18 02 07.8	-1.6
	19nm,0.3s,baz=179,slow=22,SNR=18							
DLH	Dalhousie	5.91	144	*e*P		Pn	18 01 12.0	+5.4
DLH				*e*S		Sn	18 02 12.0	-1.1
CHMS	Chumysh	6.00	21	P		Pn	18 01 10.2	+2.7
	SNR=16							
USP	Ospenovka	6.18	18	P		Pn	18 01 12.1	+2.0
	SNR=12							
TKM2	Tokmak 2	6.19	26	⇑P		Pn	18 01 13.0	+2.6
	9.3nm,0.7s							
TKM2	Tokmak 2	6.19	26	P		Pn	18 01 13.1	+2.6
	SNR=12							
SMLA	Simla	7.65	144	*i* P		Pn	18 01 32.7	+2.7
SMLA				*i* S		Sn	18 02 53.0	-2.1
SMLA				*i* S		Sn	18 02 53.5	-1.5
SMLA				AML		AML	18 05 37.6	
	comp=N,4.2nm,1.1s							
SMLA				AML		AML	18 05 39.9	
	comp=E,4.7nm,0.4s							
PDGK	Podgornoye	8.28	42	⇑P		Pn	18 01 40.5	+2.0
JOSI	Joshimath	9.35	135	*e*P9		x	18 02 21.6	
JOSI				*e*S		Sn	18 03 55.3	+18
JOSI				AML		AML	18 04 04.6	
	comp=N,110nm,0.9s							
JOSI				AML		AML	18 04 09.9	
	comp=E,107nm,0.6s							
KHET	Khetri	9.88	159	*e*P		Pn	18 01 59.4	-1.1
KHET				*e*S		Sn	18 03 39.3	-10
KHET				AML		AML	18 03 50.9	
	comp=N,88nm,0.1s							
KHET				AML		AML	18 03 52.0	
	comp=E,84nm,0.1s							
AYAN	Aya Nagar	9.94	152	*e*S		Sn	18 03 43.5	-7.3
KUDL	Kundal	10.03	156	*e*P		Pn	18 02 03.6	+1.2
KUDL				*e*S		Sn	18 03 42.5	-10
KUDL				AML		AML	18 03 52.9	
	comp=E,14nm,0.4s							
KUDL				AML		AML	18 03 57.2	
	comp=N,11nm,0.8s							
SONA	Sohna	10.13	153	*e*P		Pn	18 02 05.0	+1.1
SONA				*e*S		Sn	18 03 47.3	-8.3
SONA				AML		AML	18 03 57.1	
	comp=N,28nm,0.3s							
SONA				AML		AML	18 03 59.3	
	comp=E,25nm,0.3s							
GEYT	Alibeck	10.92	277	P		Pn	18 02 13.6	-0.9
	comp=E,0.5nm,0.3s,baz=95,slow=6.8,SNR=5.4							
GEYT				S		Sn	18 04 08.9	-5.7
	comp=E,1.1nm,0.3s,baz=103,slow=13,SNR=7.3							
AGRA	Agra	11.38	151	*e*S		Sn	18 04 16.0	-10
AGRA				AML		AML	18 04 27.9	
	comp=E,73nm,0.5s							
AGRA				AML		AML	18 04 30.7	
	comp=N,58nm,0.5s							
MKAR	Makanchi Array	12.14	36	P		Pn	18 02 30.6	-0.1
	comp=N,0.1nm,0.3s,baz=230,slow=16,SNR=17							
DANN	Dangsing	13.46	129	*e*P		Pn	18 02 47.7	-0.9
KOLN	Koldanda	13.78	131	*e*P		Pn	18 02 52.1	-0.5
	comp=N,7.1nm,0.4s							
KURBB	Kurchatov Arra	14.04	18	P		Pn	18 02 53.3	-2.2
	comp=N,0.0nm,0.3s,baz=209,slow=12,SNR=6.9							
GKN	Gorkha	14.25	127	*e*P		Pn	18 02 58.0	-0.7
	comp=N,11nm,0.3s							
AB31	Akbulak array	14.65	328	P		Pn	18 03 02.0	-1.5
	comp=N,0.5nm,0.4s,baz=144,slow=12,SNR=32							
AB31				⇑S		Sn	18 05 34.9	-10
	comp=N,4.1nm,0.8s,baz=151,slow=22,SNR=11							
KKN	Kakani	14.81	127	*e*P		Pn	18 03 05.7	-0.2
	comp=N,11nm,0.5s							
DMN	Daman	14.83	127	*e*P		Pn	18 03 05.1	-1.0
	comp=N,15nm,0.6s							
PKIN	Phulchoki	15.03	127	*e*P		Pn	18 03 08.7	0.0
PKI	Pulchoki	15.04	127	*e*P		Pn	18 03 08.9	-0.1
GUN	Gumba	15.12	125	*e*P		Pn	18 03 09.5	-0.4
VOSK	Vostochnaya	15.32	358	⇑P		Pn	18 03 10.7	-1.2
	comp=N,3.4nm,1.1s							
JIRN	Jiri	15.49	125	*e*P		Pn	18 03 14.0	-0.6
	comp=N,29nm,0.4s							
BVA0	Borovoye Array	15.64	357	⇑P		Pn	18 03 15.3	-0.7
	comp=N,4.1nm,1.1s,baz=201,slow=69,SNR=5.8							
BVA0				S		Sn	18 06 01.2	-7.5
	comp=N,0.1nm,0.6s,baz=167,slow=26,SNR=4.8							
BVAR	Borovoye Array	15.64	357	P		Pn	18 03 14.4	-1.6
	comp=N,0.4nm,0.3s,baz=160,slow=11,SNR=13							
RAMN	Ramite	16.24	126	*e*P		Pn	18 03 23.4	-0.4
	comp=N,14nm,0.5s							
AKTO	Aktyubinsk	16.36	327	⇓P		P	18 03 27.4	+1.4
	comp=N,13nm,1.0s							
AKTO				⇓S		Sn	18 06 19.6	-6.6
	comp=N,2.0nm,0.6s							
AKTO	Aktyubinsk	16.36	327	P		Pn	18 03 25.0	+0.1
	comp=N,1.3nm,0.3s,baz=132,slow=13,SNR=29							
TAPN	Taplejung	16.70	122	*e*P		Pn	18 03 29.3	-0.3
	comp=N,4.3nm,0.4s							
ODAN	Odare	16.81	124	*e*P		Pn	18 03 31.3	+0.4
	comp=N,8.8nm,0.6s							
ZALV	Zalesovo Beam	18.79	24	P		P	18 03 51.6	-1.0
	comp=N,0.5nm,0.3s,baz=223,slow=11,SNR=14							
JOF	Joensuu	35.43	329	*e*p		P	18 06 26.9	-0.6
	comp=N,1.5nm,0.6s							
FINES	FINESS Array B	37.12	325	P		P	18 06 43.7	+1.8
	comp=N,0.9nm,0.3s,baz=127,slow=9.4,SNR=16							
ARCES	ARCESS Array B	40.57	337	P		P	18 07 11.6	+1.0
	comp=N,4.7nm,1.0s,baz=110,slow=8.5,SNR=12							
NB2	NORSAR Subarra	44.08	322	P		P	18 07 40.4	+1.3
	comp=Z,0.7nm,0.5s,baz=92,slow=7.9							
NOA	NORSAR Array B	44.08	322	P		P	18 07 38.1	-1.0
	comp=Z,0.9nm,0.5s,baz=110,slow=6.2,SNR=4.6							
TORD	Torodi Ar. Bea	66.44	269	P		P	18 10 20.9	+0.7
	comp=Z,0.3nm,0.5s,baz=41,slow=5.3,SNR=3.2							
ILAR	Eielson Array	73.71	16	P		P	18 11 04.7	+0.8
	comp=Z,0.2nm,0.7s,baz=336,slow=5.9,SNR=3.9							
YKA	Yellowknife Ar	80.30	3	P		P	18 11 42.3	+1.5
	comp=Z,0.3nm,0.4s,baz=346,slow=5.5,SNR=5.4							

IDC 12 18:02:05.0±8.2, 35°.40S×75°.21W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.6/31, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=248.8km s-min=36.6km az=80.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	6.47	147	Pn		Pn	18 03 42.8	+1.1
	0.3nm,0.3s,baz=326,slow=9.8,SNR=8.4							
LPAZ	La Paz	20.05	20	P		P	18 06 41.4	+0.8
	2.0nm,0.7s,baz=193,slow=7.3,SNR=8.4							
TORD	Torodi Ar. Bea	87.14	72	P		P	18 14 52.3	-0.9
	0.7nm,0.8s,baz=253,slow=4.4,SNR=4.3							
MKAR	Makanchi Array	159.65	49	PKPab		PKPab	18 22 43.9	-0.1
	0.4nm,0.7s,baz=304,slow=2.6,SNR=4.4							

IDC ***12*** *18:06:01.3±1.9, 43°.28N×105°.28W, h0km, mb2.8/1, mb1 3.7/4, mb1mx3.4/30, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=39.7km s-min=9.2km az=152.0*
ISCJB ***12*** *18:06:03.0±0.1, 43°.56N±0°.01×105°.32W±0°.02, h0km, Error ellipse: s-maj=1.9km s-min=1.8km az=155.8*
NEIC ***12*** *18:06:03.1±0.3, 43°.56N×105°.21W, h0km, ML3.4, Error ellipse: s-maj=4.5km s-min=3.9km az=143.0, Suspected Mining explosion.*
NEIC 85 km [55 miles] SSE of Gillette.

ISC 12 18:06:03.0±0.6, 43°.52N±0°.02×105°.28W±0°.02, h0km, n151, σ1°11/168, 52C-46D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
J23A	Dilts Ranch, B	0.23	241	P		Pg	18 06 08.7	+1.3
	baz=0.3,SNR=1000							
I23A	Meade Ranch, G	0.46	343	P		Pg	18 06 13.1	+1.2
	baz=0.4							
J24A	Dixon Ranch, L	0.49	112	⇓P		Pb	18 06 13.7	-0.8
	baz=0.5,SNR=382							
J24A				⇓S		Sb	18 06 20.6	-1.6
	baz=0.5							
I24A	Kuemmerle Ranc	0.58	54	P		Pb	18 06 15.2	-1.0
	baz=0.5,SNR=832							
K23A	Bowen Ranch, D	0.80	199	⇑P		Pg	18 06 18.6	+0.3
	baz=0.9,SNR=44							
K24A	Anderson Ranch	0.86	157	⇓P		Pb	18 06 20.2	-0.8
	baz=0.9							
J22A	Midwest	0.88	264	P		Pg	18 06 20.0	+0.1
	baz=0.9,SNR=757							
I22A	9 Mile Ranch,	0.95	294	P		Pg	18 06 21.6	+0.4
	baz=1.0,SNR=1000							
H23A	Clabaugh Cattl	1.05	355	⇓P		Pg	18 06 22.9	-0.2
	baz=1.0,SNR=74							
J25A	Sunshine Ranch	1.08	96	⇓P		Pb	18 06 24.0	-0.7
	baz=1.0,SNR=382							
J25A				⇑S		Sn	18 06 40.2	-1.0
	baz=1.0							
RSSD	Black Hills	1.08	56	*e*Pg		Pg	18 06 23.6	-0.1
I25A	Rochford	1.23	65	⇑P		Pg	18 06 26.4	-0.1
	baz=1.2,SNR=605							
K22A	Casper	1.26	227	⇑P		Pg	18 06 26.7	-0.5
	baz=1.3							
K22A				⇑S		Sb	18 06 44.8	+0.2
	baz=1.3							
K22A	Casper	1.26	227	*e*Pn		Pg	18 06 26.5	-0.6
H22A	Clearmont	1.33	325	⇓P		Pg	18 06 28.5	0.0
	baz=1.3,SNR=396							
H24A	Dirks Ranch, A	1.34	23	P		Pg	18 06 28.0	-0.6
	baz=1.3,SNR=1000							
K25A	Mack Ranch, Ha	1.37	131	⇓P		Pb	18 06 30.4	+0.8
	baz=1.4,SNR=491							
K25A				⇓S		Sn	18 06 50.1	+1.7
	baz=1.4							
L23A	Garrett	1.44	193	⇑P		Pn	18 06 30.0	-0.5
	baz=1.5							
I21A	Big Trails, Te	1.49	282	P		Pn	18 06 30.5	-0.7
	baz=1.5,SNR=1000							
L24A	Wheatland	1.49	170	⇑P		Pb	18 06 31.3	-0.4
	baz=1.5							
L24A				⇑S		Sn	18 06 53.2	+1.7
	baz=1.5							
J21A	Lysite	1.59	265	⇓P		Pn	18 06 32.2	-0.4
	baz=1.6,SNR=64							
J26A	Sides Ranch, S	1.62	96	P		Pg	18 06 33.8	-0.2
	baz=1.6,SNR=279							
J26A				⇑S		Sg	18 06 57.0	+2.1
	baz=1.6							
H25A	Fruitdale	1.64	47	⇓P		Pb	18 06 33.7	-0.5
	baz=1.6,SNR=51							
H25A				⇑S		Sg	18 06 56.5	+0.9
	baz=1.6							
L25A	Engebretsen Ra	1.67	144	P		Pg	18 06 35.3	+0.3
	baz=1.7,SNR=113							
L25A				⇑Sb		Sg	18 06 59.6	+3.0
	baz=1.7							
G23A	Biddle	1.69	357	P		Pn	18 06 34.3	+0.5
	baz=1.6,SNR=643							
H21A	Big Horn, Sher	1.69	312	⇑P		Pn	18 06 34.6	+0.7
	baz=1.7,SNR=146							
K21A	Alcova	1.69	239	P		Pn	18 06 34.4	+0.4
	baz=1.8,SNR=805							
K21A				⇑S		Sg	18 06 57.4	-0.1
	baz=1.8							
L22A	Ellis Ranch, M	1.71	210	⇑P		Pb	18 06 34.8	-0.7
	baz=1.8,SNR=26							
L22A				⇓S		Sg	18 06 58.5	+0.5
	baz=1.8							
K26A	Motz Farm, Whi	1.74	117	P		Pg	18 06 35.8	-0.5
	baz=1.7							
I26A	New Underwood	1.82	73	⇑P		Pb	18 06 36.9	-0.4
	baz=1.8,SNR=20							
G22A	Birney	1.85	337	⇓P		Pn	18 06 37.0	+0.9
	baz=1.8,SNR=137							
G24A	Alzada	1.91	19	⇑P		Pn	18 06 38.0	+1.1
	baz=1.9,SNR=179							
J20A	Shoshoni	2.05	266	⇓Pb		Pb	18 06 41.3	+0.1
	baz=2.1							
J20A				⇓Sb		Sg	18 07 09.1	+0.2
	baz=2.1							
M23A	Laramie	2.07	189	⇓P		Pb	18 06 40.9	-0.7
	baz=2.1,SNR=113							
M24A	Cheyenne	2.08	171	⇑P		Pb	18 06 41.4	-0.3
	baz=2.1,SNR=142							
M24A				⇓Sb		Sg	18 07 11.5	+1.8
	baz=2.1							
I20A	Worland	2.11	283	P		Pn	18 06 41.0	+1.3
	baz=2.1,SNR=764							
I20A				⇓Sb		Sb	18 07 09.9	+0.9
	baz=2.1							
H26A	Fairpoint	2.11	58	⇑P		Pb	18 06 41.4	-0.9
	baz=2.0,SNR=16							
G25A	Newell	2.14	38	⇑P		Pb	18 06 41.7	-1.0
	baz=2.1,SNR=49							
H20A	Greybull	2.19	297	P		Pn	18 06 41.5	+0.8
	baz=2.2,SNR=228							
H20A				⇑Sb		Sb	18 07 11.8	+0.5
	baz=2.2							
L26A	Underwood Farm	2.19	132	⇓P		Pb	18 06 43.2	-0.3
	baz=2.2,SNR=44							
L26A				⇓Sb		Sg	18 07 15.2	+1.8
	baz=2.2							
G21A	Lodge Grass	2.20	322	⇑P		Pn	18 06 41.7	+0.8
	baz=2.2,SNR=174							
G21A				⇑Sb		Sb	18 07 12.3	+0.8
	baz=2.2							
F23A	Volborg	2.21	358	P		Pn	18 06 41.5	+0.6
	baz=2.2,SNR=289							
F23A				⇓Sb		Sb	18 07 13.0	+1.3
	baz=2.2							
M25A	Palm-Egli Farm	2.27	156	⇓P		Pb	18 06 44.1	-0.8
	baz=2.3,SNR=27							
M22A	Cedar Creek Ra	2.33	205	P		Pb	18 06 45.0	-0.9
	baz=2.4,SNR=401							
F22A	Rosebud	2.37	343	⇑P		Pn	18 06 43.4	+0.2
	baz=2.3,SNR=178							
F22A				⇓Sb		Sb	18 07 17.8	+1.4
	baz=2.3							
K27A	Flueckinger Fa	2.37	109	P		Pb	18 06 44.6	-2.0
	baz=2.3,SNR=229							
J27A	Elkhorn Farm,	2.40	95	⇑P		Pb	18 06 46.0	-1.1
	baz=2.3							
I27A	Quinn	2.40	76	⇓P		Pb	18 06 45.1	-2.0
	baz=2.3							
F24A	Ekalaka	2.40	14	⇓P		Pn	18 06 44.2	+0.5
	baz=2.3							
G26A	Maurine	2.62	46	⇑P		Pn	18 06 48.1	+1.5
	baz=2.5							
F21A	Absaloka Mine,	2.66	331	⇓P		Pn	18 06 46.8	-0.3
	baz=2.6,SNR=12							
N23A	Red Feather La	2.67	191	⇑P		Pb	18 06 49.5	-2.3
	baz=2.7,SNR=90							
N24A	Carr	2.70	174	⇑P		Pb	18 06 49.9	-2.5
	baz=2.7,SNR=22							
G20A	Bridger	2.71	310	P		Pn	18 06 48.1	+0.2
	baz=2.7,SNR=97							
J19A	Crowheart	2.76	266	⇓P		Pn	18 06 50.1	+1.4
	baz=2.8,SNR=134							
N22A	Wattenberg Ran	2.85	198	⇑P		Pb	18 06 52.2	-2.7
	baz=2.9,SNR=128							
H19A	Powell	2.91	295	P		Pn	18 06 51.9	+1.2
	baz=2.9,SNR=44							
E22A	Miles City	2.96	351	P		Pn	18 06 51.2	-0.1
	baz=2.9,SNR=41							
F26A	Lodgepole	2.98	38	⇓P		Pn	18 06 53.0	+1.3
	baz=2.9,SNR=75							
G27A	Dupree	3.03	51	P		Pn	18 06 53.6	+1.3
	baz=3.0,SNR=13							
F20A	Billings	3.07	319	⇓P		Pn	18 06 52.9	+0.1
	baz=3.1,SNR=15							
E24A	Baker	3.12	12	⇑P		Pn	18 06 54.6	+1.1
	baz=3.1,SNR=32							
BW06	Boulder Array	3.22	258	*e*Pn		Pn	18 06 55.5	+0.5
PDAR	Pinedale Array	3.22	258	Pn		Pn	18 06 55.8	+0.7
	5.1nm,0.3s,baz=70,slow=17,SNR=57							
PDAR				Lg		Lg	18 07 40.9	
	6.6nm,0.3s,baz=80,slow=33,SNR=4.4							
LAO	LASA Array	3.24	348	*e*Pn		Pn	18 06 55.0	-0.2
E21A	Keefer Ranch,	3.28	338	⇓P		Pn	18 06 55.3	-0.5
	baz=3.3,SNR=25							
RLMT	Red Lodge	3.28	301	*e*Pn		Pn	18 06 56.5	+0.6
F27A	Lemmon	3.31	43	⇓P		Pn	18 06 56.9	+0.9
	baz=3.2,SNR=11							
O23A	Lake Granby, G	3.34	188	⇓P		Pn	18 06 59.3	+2.6
	baz=3.4,SNR=28							
H18A	Shoshone NF, C	3.37	292	⇑P		Pn	18 06 57.6	+0.5
	baz=3.4,SNR=26							
N20A	Spence Gulch,	3.48	221	⇓P		Pn	18 07 00.3	+1.7
	baz=3.5,SNR=39							
O22A	Kremmling	3.48	196	⇑P		Pn	18 07 00.5	+1.8
	baz=3.5,SNR=45							
F19A	Roth Farm, Mol	3.51	313	⇓P		Pn	18 06 59.7	+0.8
	baz=3.5,SNR=161							
OGNE	Ogallala	3.52	136	*e*Pn		Pn	18 07 00.3	+1.2
E26A	Carlson Angus	3.57	33	⇑P		Pn	18 07 00.8	+1.2
	baz=3.5,SNR=24							
M28A	Bar X Bar Ranc	3.58	125	⇑P		Pn	18 07 01.7	+1.8
	baz=3.6,SNR=10							
E20A	Meyer Farm, Mu	3.61	327	P		Pn	18 06 59.5	-0.7
	baz=3.6,SNR=14							
D23A	Lindsay	3.66	1	P		Pn	18 07 01.7	+0.8
	baz=3.6,SNR=67							
ISCO	Idaho Springs	3.72	184	⇑P		Pn	18 07 04.0	+1.9
	baz=3.8,SNR=7.7							
ISCO	Idaho Springs	3.72	184	*e*Pn		Pn	18 07 03.8	+1.8
D21A	La Casta Ranch	3.75	342	⇑P		Pn	18 07 02.3	+0.2
	baz=3.7,SNR=14							
L29A	Maesberg Ranch	3.82	111	⇑P		Pn	18 07 04.1	+1.0
	baz=3.8,SNR=8.0							
E19A	Rath Farm, Rou	3.85	321	⇓P		Pn	18 07 03.7	0.0
	baz=3.8,SNR=24							
GCMT	Greycliff	3.87	307	*e*Pn		Pn	18 07 04.6	+0.7
H17A	Grant Village	3.93	285	*e*Pn		Pn	18 07 06.1	+1.3
O20A	White River Ci	4.04	214	*e*Pn		Pn	18 07 07.6	+1.3
YNR	Norris Junctio	4.07	289	*e*Pn		Pn	18 07 05.9	-0.9
P22A	Eagle	4.07	196	⇑P		Pn	18 07 07.8	+1.0
	baz=4.1,SNR=8.4							
P25A	Willow Gulch B	4.09	168	⇑P		Pn	18 07 08.4	+1.5
	baz=4.1,SNR=6.3							
YFT	Old Faithful	4.12	285	*e*Pn		Pn	18 07 09.1	+1.7
P26A	Davis Ranch, A	4.21	159	⇑P		Pn	18 07 10.1	+1.6
	baz=4.2,SNR=16							
YMR	Madison River	4.26	288	*e*Pn		Pn	18 07 11.0	+1.7
C23A	Lambert	4.29	1	⇓P		Pn	18 07 10.8	+1.2
	baz=4.2,SNR=91							
AHID	Auburn Hatcher	4.33	262	Pn		Pn	18 07 09.3	-0.9
D27A	Center	4.46	35	⇑P		Pn	18 07 12.4	+0.5
	baz=4.4,SNR=14							
E28A	Huff	4.46	45	⇓P		Pn	18 07 12.8	+0.9
	baz=4.4,SNR=8.3							
C20A	Veseth Ranch,	4.61	336	⇑P		Pn	18 07 13.4	-0.6
	baz=4.6,SNR=7.7							
QLMT	Earthquake Lak	4.62	289	*e*Pn		Pn	18 07 16.1	+1.9
C26A	Wahner Farm, P	4.85	26	⇑P		Pn	18 07 18.2	+0.9
	baz=4.8,S

baz=5.9,SNR=13
PV01 **Paradox Valley** 5.93 206 *e*Pn Pn 18 07 33.9 +1.7
761nm,0.7s
S26A **Kim** 6.05 166 ⇓P Pn 18 07 34.6 +0.8
baz=6.1,SNR=7.5
TMUT **Trail Mountain** 6.14 229 *e*Pn Pn 18 07 36.9 +1.7
12nm,0.6s
ECSD **EROS Data Cent** 6.29 85 *e*Pn Pn 18 07 36.5 -0.6
9.2nm,0.4s
A28A **Rude Farm, Bot** 6.42 31 ⇓P Pn 18 07 38.9 +0.2
baz=6.3,SNR=8.8
DUG **Dugway, Tooele** 6.53 242 ⇑P Pn 18 07 40.6 +0.2
baz=6.6,SNR=12
DUG **Dugway, Tooele** 6.53 242 *e*Pn Pn 18 07 40.3 -0.1
4.3nm,0.7s
CHMT **Chamberlain Mo** 6.58 304 *e*Pn Pn 18 07 41.6 +0.4
2.6nm,0.3s
MVCO **Mesa Verde** 6.76 202 *e*Pn Pn 18 07 46.2 +2.5
4.9nm,0.5s
A29A **Manning Farm,** 6.84 36 ⇑P Pn 18 07 44.6 +0.1
baz=6.8,SNR=9.5
SLMT **Seeley Lake** 6.88 306 *e*Pn Pn 18 07 44.8 -0.5
7.6nm,0.7s
MVU **Marysvale** 7.25 229 Pn Pn 18 07 51.9 +1.5
3.2nm,0.6s
YBMT **Yellow Bay** 7.50 308 *e*Pn Pn 18 07 54.9 +1.1
5.3nm,0.3s
JTMT **Jette** 7.60 307 *e*Pn Pn 18 07 55.8 +0.8
1.4nm,0.3s
AGMN **Agassiz Nation** 8.12 51 *e*Pn Pn 18 08 01.4 -0.7
6.7nm,0.5s
I10CA **LAC DU BONNET** 9.21 40 *i* 19 00 55.0
baz=221,slow=324,SNR=8.8
ULM **Lac du Bonnet** 9.31 40 Pn Pn 18 08 16.8 -1.6
1.7nm,0.3s,baz=229,slow=11,SNR=11
ULM Lg Lg 18 10 55.9
0.4nm,0.3s,baz=346,slow=9.7,SNR=3.7
NVAR **Mina Array Bea** 11.08 247 Pn Pn 18 08 42.6 -0.2
0.1nm,0.3s,baz=49,slow=18,SNR=2.3
FFC **Flin Flon** 11.42 10 *e*Pn Pn 18 08 44.9 -2.4
4.0nm,0.7s
YKA **Yellowknife Ar** 19.78 347 P P 18 10 34.0 -0.5
0.1nm,0.3s,baz=153,slow=12,SNR=4.9
YKA **Yellowknife Ar** 19.78 347 P P 18 10 34.0 -0.5

GUC 12 18:07:09.3±0.6, 34°.55S×71°.81W, h48km±10km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	0.65	133	*i* P	Pn	18 07 22.6	+0.2
NICH				*i* S	Sn	18 07 32.4	+0.5
NICH				AML	AML	18 07 35.5	
	comp=E,11µm,0.6s						
TALC	**Talca**	0.85	170	*i* P	Pn	18 07 25.3	+0.3
TALC				*i* S	Sn	18 07 37.6	+1.0
ANTU	**Antumapu**	1.38	45	*i* P	Pn	18 07 33.2	+0.9
ANTU				*i* S	Sn	18 07 51.2	+1.7
ANTU				AML	AML	18 07 58.8	
	comp=N,2µm,0.6s						
SJCH	**San Jose de Ma**	1.51	53	*i* P	Pn	18 07 34.7	+0.6
SJCH				*i* S	Sn	18 07 54.9	+2.2
SJCH				AML	AML	18 07 56.4	
	comp=N,943nm,0.8s						
PEL	**Peldehue**	1.69	34	*i* P	Pn	18 07 37.8	+1.4
PEL				*i* S	Sn	18 07 59.3	+2.4

IDC 12 18:08:46.8±49.0, 15°.47S×177°.89W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.6/41, mbtmp4.2/3, Error ellipse: s-maj=907.2km s-min=152.9km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	40.27	239	P	P	18 16 24.0	-1.8
	0.9nm,0.3s,baz=88,slow=8.1,SNR=7.5						
WRA	**Warramunga Arr**	45.61	257	P	P	18 17 10.2	+0.9
	1.0nm,0.7s,baz=85,slow=8.2,SNR=20						
ASAR	**Alice Springs**	45.97	252	P	P	18 17 12.4	+0.2
	4.3nm,0.5s,baz=89,slow=7.9,SNR=134						

GUC 12 18:11:15.6±0.6, 34°.47S×71°.73W, h87km±15km, ML3.5, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	0.67	142	⇑*i*P	Pn	18 11 32.5	+0.9
NICH				*i* S	Sn	18 11 45.0	+1.4
TALC	**Talca**	0.93	175	⇑*i*P	Pn	18 11 34.7	+0.4
TALC				*i* S	Sn	18 11 49.6	+1.3
SJCH	**San Jose de Ma**	1.41	55	*e*P	Pn	18 11 41.4	+1.1
SJCH				*i* S	Sn	18 12 00.4	+1.5
SJCH				AML	AML	18 12 07.2	
	comp=E,713nm,0.4s						
PEL	**Peldehue**	1.58	34	⇑*i*P	Pn	18 11 43.5	+1.1
PEL				*i* S	Sn	18 12 04.4	+1.7
PEL				AML	AML	18 12 10.7	
	comp=N,1µm,0.4s						

SJA 12 18:11:16.0±1.1, 28°.65S×68°.18W, h112km±11km, ML3.6, MW3.9, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	0.88	198	*e*P	Pn	18 11 37.2	+0.9
ACLC	**CERRO LA CRUZ**	1.33	126	*e*P	Pn	18 11 42.4	+1.3
ACLC				*e*S	Sn	18 12 01.8	+1.5
AVFE	**Valle Fertil**	2.10	163	*e*P	Pn	18 11 51.6	+1.1
AVFE				*e*S	Sn	18 12 17.4	+0.5
AVFE				AML	AML	18 12 18.7	
	comp=Z,309nm,0.3s						
CYA	**Choya**	2.11	85	*e*P	Pn	18 11 51.7	+1.3
CYA				*e*S	Sn	18 12 16.7	-0.1
CYA				AML	AML	18 12 18.4	
	comp=Z,244nm,0.7s						
LCO	**Las Campanas**	2.24	260	*e*P	Pn	18 11 53.7	+1.2
LCO				*e*S	Sn	18 12 20.7	+0.4
LCO				AML	AML	18 12 23.7	
	comp=N,455nm,0.3s						
APLL	**PUNTA DE LOS L**	2.26	141	*e*P	Pn	18 11 53.6	+1.1
AMOG	**MOGNA**	2.30	187	*e*P	Pn	18 11 54.1	+1.1
AMOG				*e*S	Sn	18 12 22.5	+1.1
RTLL	**Cerro Villicun**	2.68	185	*e*P	Pn	18 11 59.4	+1.4
RTLL				*e*S	Sn	18 12 30.7	+0.5
CFAA	**Coronel Fontan**	2.95	181	*e*P	Pn	18 12 03.0	+1.6
CFAA				*e*S	Sn	18 12 36.9	+0.5
FSA	**Cafayete**	3.20	38	*e*P	Pn	18 12 06.5	+1.6
RTLS	**Leoncito**	3.28	197	*e*P	Pn	18 12 07.5	+1.4

IDC 12 18:15:42.1±3.5, 34°.35S×71°.62W, h0km, mb4.3/2, mb1 4.2/3, mb1mx3.6/30, mbtmp4.1/3, ML3.7/1, Error ellipse: s-maj=127.3km s-min=44.9km az=75.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	18.26	11	P	Pn	18 19 57.4	-0.4
	0.1nm,0.3s,baz=196,slow=5.0,SNR=5.3						
BOSA	**Boshof**	79.60	117	P	P	18 27 51.7	+0.2
	2.6nm,0.8s,baz=232,slow=5.0,SNR=5.6						
TORD	**Torodi Ar. Bea**	84.01	70	P	P	18 28 14.3	-0.4
	1.4nm,0.7s,baz=247,slow=4.2,SNR=8.7						
ZALV	**Zalesovo Beam**	154.34	33	PKPbc	PKPbc	18 35 43.4	-0.4
	1.5nm,0.7s,baz=287,slow=2.5,SNR=6.6						
ZALV				PKPab	PKPab	18 35 57.8	0.0
	1.2nm,0.7s,baz=290,slow=6.1,SNR=4.2						
MKAR	**Makanchi Array**	156.73	50	PKPab	PKPab	18 36 08.5	+0.1
	0.5nm,0.7s,baz=319,slow=3.4,SNR=5.7						

MAN 12 18:17:52, 9°.14N×126°.64E, h31km, mb4.3, ML3.2, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	1.02	260	*e*P	Pn	18 18 09.7	-0.6
BUTP				*e*S	Sn	18 18 23.4	-0.1
SCPH	**Surigao**	1.30	299	⇓*e*P	Pb	18 18 15.1	-0.9
BUKP	**Musuan**	2.00	231	*e*P	Pn	18 18 25.5	+1.7
BUKP				*e*S	Sn	18 18 49.1	+1.2
CGP	**Cagayan de Oro**	2.04	251	*e*P	Pn	18 18 24.9	+0.7
MATI	**Mati**	2.21	190	*e*P	Pn	18 18 27.2	+0.5

*IDC **12** 18:23:03.2±0.8, 38°.06S×73°.92W, h0km, mb3.9/9, mb1 4.1/11, mb1mx3.9/29, mbtmp3.9/11, ML3.6/2, Error ellipse: s-maj=29.6km s-min=15.6km az=64.0*
*ISCJB **12** 18:23:04.7±0.7, 37°.94S±0°.08×73°.9W±0°.1, h18km, mb4.2/10, Error ellipse: s-maj=17.1km s-min=10.0km az=161.9*
*NEIC **12** 18:23:08.3±0.8, 37°.95S×73°.93W, h35km, mb4.5/2, Error ellipse: s-maj=19.6km s-min=11.1km az=75.0*
ISC 12 18:23:05.5±0.8, 37°.97S±0°.08×73°.9W±0°.1, h18km, n22, σ1§57/23, mb4.1/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	3.81	137	Pn	Pn	18 24 03.9	+0.5
	1.6nm,0.3s,baz=315,slow=8.4,SNR=17						
PLCA				Lg	Lg	18 25 03.4	
	5.5nm,0.3s,baz=310,slow=12,SNR=5.0						
PLCA	**Paso Flores**	3.81	137	Pn	Pn	18 24 03.9	+0.5
PLCA				Lg	Lg	18 25 03.4	
PLCA				*e*Sg	Sg	18 25 06.1	-1.7
CFAA	**Coronel Fontan**	7.89	38	Pn	Pn	18 24 59.7	+0.2
	0.3nm,0.3s,baz=207,slow=12,SNR=5.4						
LCO	**Las Campanas**	9.34	18	*e*Pn	Pn	18 25 15.7	-3.8
	23nm,0.5s						
TRQA	**Tornquist**	9.44	94	*e*Pn	Pn	18 25 22.3	+1.6
	7.8nm,0.6s						
LVC	**Limon Verde**	15.91	17	Pn	Pn	18 26 49.5	+0.8
EFI	**East Falkland**	17.68	146	*e*Pn	P	18 27 14.2	+2.7
LPAZ	**La Paz**	22.20	15	P	P	18 28 02.8	+1.2
	2.6nm,0.8s,baz=162,slow=8.5,SNR=3.8						
LPAZ	**La Paz**	22.20	15	P	P	18 28 02.8	+1.2
LPAZ				*e*Pn	pP	18 28 03.1	-3.6
OTAV	**Otavalo**	38.25	353	P	P	18 30 23.4	-1.7
SNAA	**Sanae**	48.53	156	P	P	18 31 46.4	-0.7
	1.7nm,0.9s,baz=233,slow=20,SNR=8.4						
SNAA	**Sanae**	48.53	156	P	P	18 31 45.9	-1.2
	5.3nm,0.8s						
QSPA	**South Pole Qui**	52.27	180	P	P	18 32 14.8	-0.8
	1.5nm,1.1s,baz=222,slow=14,SNR=1.9						
QSPA	**South Pole Qui**	52.27	180	P	P	18 32 14.3	-1.3
	4.8nm,1.1s						
BBGH	**Gun Hill**	52.60	18	P	P	18 32 16.4	-1.9
	710nm,1.3s						
TXAR	**Lajitas Array**	72.50	333	P	P	18 34 32.5	+1.3
	0.3nm,0.6s,baz=135,slow=9.0,SNR=2.8						
DBIC	**Dimbokro**	77.91	72	P	P	18 35 03.0	+0.5
	4.8nm,0.9s,baz=193,slow=7.9,SNR=5.2						
BOSA	**Boshof**	79.58	118	P	P	18 35 12.6	+0.7
	2.8nm,0.8s,baz=277,slow=6.4,SNR=4.9						
NVAR	**Mina Array Bea**	86.30	327	P	P	18 35 48.5	+2.2
	0.1nm,0.2s,baz=180,slow=1.8,SNR=3.4						
PDAR	**Pinedale Array**	86.64	335	P	P	18 35 49.0	+1.1
	0.3nm,0.3s,baz=152,slow=4.0,SNR=5.6						
TORD	**Torodi Ar. Bea**	86.99	71	P	P	18 35 50.0	+0.1
	0.9nm,0.8s,baz=246,slow=3.7,SNR=4.6						
MKAR	**Makanchi Array**	160.41	56	PKPab	PKPab	18 43 45.0	+0.2
	0.8nm,0.8s,baz=304,slow=2.8,SNR=6.5						

*IDC **12** 18:23:51.2±2.4, 36°.39N×70°.40E, h184km±22km, mb3.3/9, mb1 3.4/15, mb1mx3.2/52, mbtmp3.9/15, Error ellipse: s-maj=19.4km s-min=13.7km az=180.0*
*ISCJB **12** 18:23:52.2±0.3, 36°.49N±0°.02×70°.40E±0°.04, h204km, mb3.4/8, Error ellipse: s-maj=4.9km s-min=3.2km az=159.8*
*NEIC **12** 18:23:53.8±0.7, 36°.58N×70°.37E, h187km±10km, mb4.2/2, Error ellipse: s-maj=10.6km s-min=8.8km az=104.0*
*BJI **12** 18:23:57.5, 36°.59N×70°.91E, h187km, mb4.1/1*
*NNC **12** 18:23:58.4±4.5, 36°.98N×70°.17E, h210km±34km, mb3.2, mpv4.1, Error ellipse: s-maj=51.9km s-min=29.0km az=148.0*
ISC 12 18:23:52.8±0.5, 36°.50N±0°.05×70°.43E±0°.05, h204km, n72, σ1§51/80, mb3.4/8, 7C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	2.26	210	*e*Pn	Pn	18 24 34.9	+0.4
KBL				*e*Sn	S	18 25 04.2	-2.2
DZET	**Dzherino**	2.63	332	⇓P	Pn	18 24 38.3	-0.1
DZET				⇑S	S	18 25 11.2	-2.4
CEP	**Cherat**	2.93	155	⇑P	Pn	18 24 43.4	+1.4
CEP				S	S	18 25 20.0	+0.1
CHCP	**Chirah Chowk**	3.67	140	⇓P	Pn	18 24 52.5	+1.8
SARP	**Sargodha**	4.93	157	P	Pn	18 25 06.7	+0.3
KSH	**Kashi**	5.32	54	P	Pn	18 25 07.7	-3.7
KSH				S	S	18 26 01.7	-11
KSH				SMN			
	74nm,0.4s						
KSH				SME			
	57nm,0.4s						
DLH	**Dalhousie**	6.04	129	*e*P	Pn	18 25 21.0	+0.2
DLH				*e*S	S	18 26 26.0	-4.2
AML	**Almayashu**	6.17	23	P	Pn	18 25 23.1	+0.5
	SNR=98						
UCH	**Uchtor**	6.54	28	P	Pn	18 25 28.1	+0.8
	SNR=48						
KK31	**Karatay Array**	6.60	1	⇓P	Pn	18 25 27.7	0.0
	3.2nm,0.2s,baz=189,slow=13,SNR=255						
KK31				⇑S	S	18 26 38.4	-4.6
	8.3nm,0.4s,baz=189,slow=27,SNR=8.8						
KKAR	**Karatay Array**	6.60	1	*e*Pn	Pn	18 25 27.5	-0.2
	15nm,0.3s						
KKAR				*e*Sn	S	18 26 36.5	-6.4
EKS2	**Erkin-Say**	6.68	22	P	Pn	18 25 29.7	+0.9
	SNR=23						
EKS2	**Erkin-Say**	6.68	22	*e*Pn	Pn	18 25 29.3	+0.5
EKS2				*e*Sn	S	18 26 41.6	-3.4
KZA	**Kyzart**	6.71	32	P	Pn	18 25 29.8	+0.2
	SNR=10						
AAK	**Ala-Archa**	6.88	26	⇓P	Pn	18 25 32.4	+0.9
	9.0nm,0.7s						
AAK				⇓S	S	18 26 48.2	-1.7
	20nm,0.6s						
AAK	**Ala-Archa**	6.88	26	P	Pn	18 25 32.8	+1.2
	SNR=12						
AAK	**Ala-Archa**	6.88	26	P	Pn	18 25 32.6	+1.0
	3.9nm,0.3s,baz=190,slow=6.9,SNR=70						
AAK				S	S	18 26 47.8	-2.1
	3.1nm,0.3s,baz=353,slow=20,SNR=22						
AAK	**Ala-Archa**	6.88	26	*e*Pn	Pn	18 25 32.0	+0.4
AAK				*e*Sn	S	18 26 48.2	-1.7
KBK	**Karagaybulak**	7.07	28	P	Pn	18 25 35.1	+1.1
	SNR=6.0						
BHK	**Bhakra**	7.10	134	*ex*	S	18 26 53.4	-1.6
CHMS	**Chumysh**	7.29	26	P	Pn	18 25 37.7	+0.9
	SNR=5.6						
SDNR	**Sundarnagar**	7.37	131	*e*P	Pn	18 25 39.0	+1.1
SDNR				*e*S	S	18 26 57.0	-4.4
USP	**Ospenovka**	7.45	24	P	Pn	18 25 39.2	+0.4
	SNR=10						
TKM2	**Tokmak 2**	7.55	30	⇑P	Pn	18 25 41.0	+0.8
	10nm,0.5s						
TKM2				⇑S	S	18 27 03.5	-2.2
	11nm,0.8s						
TKM2	**Tokmak 2**	7.55	30	P	Pn	18 25 41.3	+1.0
	SNR=9.2						
TKM2	**Tokmak 2**	7.55	30	*e*Pn	Pn	18 25 40.5	+0.3
KHET	**Khetri**	9.55	150	*e*P	Pn	18 26 05.2	-1.0
KHET				*e*S	S	18 27 43.9	-9.5
KHET				AML	AML	18 27 48.9	
	comp=N,162nm,0.5s						
KHET				AML	AML	18 27 49.0	
	comp=E,216nm,0.3s						
JOSI	**Joshimath**	9.65	125	*e*P9	x	18 26 32.2	
JOSI				*e*S	S	18 28 10.2	+14
JOSI				AML	AML	18 28 22.4	
	comp=N,107nm,0.9s						
JOSI				AML	AML	18 28 22.8	
	comp=E,92nm,0.5s						
NDI	**New Delhi**	9.67	142	*e*S	S	18 27 46.5	-10
KUDL	**Kundal**	9.78	147	*e*P	Pn	18 26 07.7	-1.5
KUDL				*e*S	S	18 27 47.8	-11
KUDL				AML	AML	18 27 55.8	
	comp=E,27nm,0.5s						
KUDL				AML	AML	18 27 55.9	
	comp=N,23nm,0.4s						
AYAN	**Aya Nagar**	9.79	143	*e*P	Pn	18 26 09.8	+0.6
AYAN				*e*S	S	18 27 48.7	-10
GEYT	**Alibeck**	9.92	282	P	Pn	18 26 09.4	-1.5
	comp=N,0.5nm,0.3s,baz=100,slow=8.4,SNR=5.2						
GEYT				S	S	18 27 59.7	-2.4
	comp=N,0.6nm,0.3s,baz=114,slow=14,SNR=3.0						
SONA	**Sohna**	9.96	144	*e*P	Pn	18 26 11.1	-0.4
SONA				*e*S	S	18 27 54.0	-9.1
SONA				AML	AML	18 27 57.0	
	comp=N,31nm,0.6s						
SONA				AML	AML	18 27 58.3	
	comp=E,44nm,0.3s						
AGRA	**Agra**	11.23	143	*e*S	S	18 28 22.7	-10
AGRA				AML	AML	18 28 34.4	
	comp=E,110nm,0.9s						
AGRA				AML	AML	18 28 35.1	
	comp=N,83nm,0.4s						
MK01	**Makanchi Array**	13.55	37	*e*Pn	Pn	18 26 57.5	+0.7
MKAR	**Makanchi Array**	13.57	37	P	P	18 26 58.4	-1.0
	comp=N,0.7nm,0.3s,baz=208,slow=8.5,SNR=40						
DANN	**Dangsing**	13.88	122	*e*P	Pn	18 27 00.9	-0.4
DANN				*e*S	S	18 29 24.1	-12
KOLN	**Koldanda**	14.14	124	*e*P	Pn	18 27 03.9	-0.6
	comp=N,12nm,0.3s						
GKN	**Gorkha**	14.70	121	*e*P	Pn	18 27 11.3	0.0
	comp=N,25nm,0.3s						
AB31	**Akbulak array**	14.87	332	⇑P	P	18 27 15.3	+1.6
	comp=N,1.9nm,0.3s,baz=158,slow=12,SNR=5.9						
ABKAR	**Akbulak array**	14.87	332	*e*Pn	Pn	18 27 12.5	-0.5
ABKAR				*e*Sn	S	18 29 48.6	-9.0
DMN	**Daman**	15.27	121	*e*P	P	18 27 18.4	-0.2
KKN	**Kakani**	15.27	120	*e*P	P	18 27 18.6	-0.1
	comp=N,30nm,0.5s						
KURBB	**Kurchatov Arra**	15.28	20	P	Pn	18 27 18.1	+0.1
	comp=N,0.1nm,0.3s,baz=209,slow=10.0,SNR=13						
KURK	**Kurchatov**	15.38	20	Pn	P	18 27 21.4	+2.0
PKIN	**Phulchoki**	15.49	121	*e*P	P	18 27 21.1	0.0
PKI	**Pulchoki**	15.50	121	*e*P	Pn	18 27 21.1	-0.1
GUN	**Gumba**	15.62	119	*e*P	Pn	18 27 23.3	+0.6
	comp=N,31nm,0.5s						
JIRN	**Jiri**	15.99	119	*e*P	Pn	18 27 27.9	+0.7
	comp=N,60nm,0.5s						
VOSK	**Vostochnaya**	16.23	1	⇓P	Pn	18 27 30.0	+0.6
	comp=N,3.6nm,0.9s						
BVAR	**Borovoye Array**	16.52	360	P	Pn	18 27 33.7	+0.8
	comp=N,0.6nm,0.3s,baz=160,slow=9.3,SNR=11						
AKTO	**Aktyubinsk**	16.55	331	⇑P	Pn	18 27 34.1	+0.7
	comp=N,9.7nm,0.8s						
AKTO	**Aktyubinsk**	16.55	331	P	Pn	18 27 33.5	+0.2
	comp=N,1.2nm,0.3s,baz=139,slow=9.7,SNR=20						
BRVK	**Borovoye**	16.56	360	P	P	18 27 29.8	-2.5
RAMN	**Ramite**	16.71	120	*e*P	Pn	18 27 36.2	+0.5
	comp=N,33nm,0.5s						
TAPN	**Taplejung**	17.26	117	*e*P	Pn	18 27 43.1	+0.9
	comp=N,15nm,0.5s						
ODAN	**Odare**	17.32	119	*e*P	Pn	18 27 44.1	+1.2
	comp=N,28nm,0.7s						
LSA	**Lhasa**	18.62	105	*e*P	Pn	18 27 59.4	+1.1
	comp=N,2.3nm,0.8s						
ZAA0	**Zalesovo Array**	20.11	25	*e*P	P	18 28 12.0	+1.2
ZALV	**Zalesovo Beam**	20.11	25	P	P	18 28 12.0	+1.2
	comp=N,5.1nm,0.4s,baz=221,slow=11,SNR=23						
GNI	**Garni**	20.45	288	P	P	18 28 17.1	+2.3
ARU	**Arti**	21.49	342	*e*P	P	18 28 26.8	+1.6
BRTR	**Keskin Array B**	28.99	288	P	P	18 29 34.5	+0.9
	comp=N,0.3nm,0.6s,baz=87,slow=10.0,SNR=3.0						
CHTO	**Chiang Mai**	30.63	117	P	P	18 29 50.3	+2.2
CMAR	**Chiang Mai Arr**	30.86	118	P	P	18 29 51.5	+1.4
	comp=N,0.2nm,0.5s,baz=302,slow=8.2,SNR=4.3						
FINES	**FINESS Array B**	37.23	326	P	P	18 30 45.9	+1.6
	comp=N,2.0nm,0.6s,baz=134,slow=9.6,SNR=11						
ARCES	**ARCESS Array B**	40.97	338	P	P	18 31 16.2	+1.0
	comp=N,4.1nm,0.8s,baz=109,slow=6.9,SNR=17						
NB2	**NORSAR Subarra**	44.10	323	P	P	18 31 42.1	+1.6
	comp=Z,0.7nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	44.10	323	P	P	18 31 41.5	+1.0
	comp=Z,0.7nm,0.5s,baz=98,slow=7.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	65.25	268	P	P	18 34 12.2	-0.6
	comp=Z,0.2nm,0.3s,baz=54,slow=5.7,SNR=5.8						
INK	**Inuvik**	73.98	9	P	P	18 35 06.0	+0.8
	comp=Z,0.6nm,0.4s,baz=14,slow=5.0,SNR=4.4						
ASAR	**Alice Springs**	84.63	125	P	P	18 36 02.8	-0.8
	comp=Z,0.2nm,0.5s,baz=320,slow=4.9,SNR=6.1						

GUC 12 18:28:29.7±0.5, 35°.09S×70°.73W, h76km±8km, ML4.2, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	0.42	282	*i* P	Pn	18 28 42.0	-0.4
NICH				*i* S	Sn	18 28 51.4	-0.3
NICH				AML	AML	18 28 52.8	
	comp=E,16µm,0.3s						
TALC	**Talca**	0.80	247	*i* P	Pn	18 28 45.9	-0.2
TALC				*i* S	Sn	18 28 57.9	-0.4
TALC				AML	AML	18 28 60.0	
	comp=E,18µm,0.0s						
SJCH	**San Jose de Ma**	1.48	12	*i* P	Pn	18 28 54.7	-0.1
SJCH				*i* S	Sn	18 29 14.2	+0.5

*IDC **12** 18:29:54.2±1.2, 44°.18N×129°.51W, h0km, mb3.8/10, mb1 4.0/15, mb1mx3.8/42, mbtmp3.8/15, ML3.4/5, MS3.7/3, Ms1 3.7/3, ms1mx3.3/41, Error ellipse: s-maj=31.0km s-min=13.5km az=40.0*
*ISCJB **12** 18:29:56.2±0.5, 44°.41N±0°.04×129°.29W±0°.06, h13km, mb3.8/14, Error ellipse: s-maj=7.2km s-min=4.6km az=136.1*
*NEIC **12** 18:29:57.2±0.5, 44°.38N×129°.38W, h10km, mb4.2/11, Error ellipse: s-maj=7.6km s-min=4.3km az=224.0*
ISC 12 18:29:57.2±0.8, 44°.33N±0°.08×129°.39W±0°.09, h13km, n79, σ1§15/72, mb4.0/14, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	3.95	110	Pn	Pn	18 30 58.1	+0.6
COR	**Corvallis**	4.36	85	*e*Pn	Pn	18 31 01.8	-1.3
NLWA	**Neilton Lookou**	4.92	50	*e*Pn	Pn	18 31 10.2	-0.6
NLWA				*e*Sn	Sn	18 32 07.0	-0.6
BROR	**Big Rock Looko**	4.98	88	P	Pn	18 31 10.4	-1.1
RVW	**Rose Valley**	5.03	67	P	Pn	18 31 11.9	-0.5
OSD	**Olympics--Snow**	5.27	47	P	Pn	18 31 16.1	+0.2
FL2	**Flat Top 2**	5.30	67	P	Pn	18 31 15.9	-0.3
TDL	**Tradedollar La**	5.44	66	P	Pn	18 31 17.9	-0.2
TDH	**Tom, Dick, Har**	5.49	77	P	Pn	18 31 18.4	-0.3
YBH	**Yreka Blue Hor**	5.54	116	Pn	Pn	18 31 20.0	+0.6
	0.2nm,0.3s,baz=313,slow=11,SNR=4.9						
YBH	**Yreka Blue Hor**	5.54	116	*e*Pn	Pn	18 31 19.1	-0.4
VBEM	**Beaver Butte**	5.61	80	P	Pn	18 31 20.4	0.0
LON	**Longmire**	5.84	63	*e*Pn	Pn	18 31 23.2	-0.3
	33nm,0.7s						
PGC	**Sidney**	5.95	41	*e*Pn	Pn	18 31 24.7	-0.2
WDC	**Whiskeytown Da**	6.30	124	Pn	Pn	18 31 31.2	+1.5
MOD	**Modoc Plateau**	7.08	107	Pn	Pn	18 31 44.1	+3.5

53nm,1.0s
QLMT Earthquake Lak 12.82 81 *e*Pn **Pn 18 33 00.0 +0.8**
1.0nm,0.9s
DUG Dugway, Tooele 12.95 103 Pn **Pn 18 33 02.6 +1.6**
YMR Madison River 13.16 82 *e*Pn **Pn 18 33 05.1 +1.2**
8.8nm,1.1s
ARUT Antelope Range 13.68 113 *e*Pn **Pn 18 33 12.1 +1.0**
110nm,0.7s
CCUT Cedar City 13.87 114 *e*Pn **Pn 18 33 14.2 +0.6**
28nm,1.8s
GCMT Greycliff 14.02 77 *e*Pn **Pn 18 33 17.6 +2.1**
13nm,1.0s
EGMT Eagleton 14.09 68 *e*Pn **Pn 18 33 15.2 -1.2**
16nm,1.0s
MVU Marysvale 14.13 108 *e*Pn **Pn 18 33 17.6 +0.3**
24nm,1.5s
PDAR Pinedale Array 14.47 89 Pn **Pn 18 33 22.6 +0.9**
0.1nm,0.3s,baz=278,slow=10,SNR=6.8
PDAR LR LR 18 39 00.3
comp=Z,363nm,18.8s,baz=346,slow=38
SRU San Rafael Swe 15.01 104 *e*Pn **Pn 18 33 29.6 +0.5**
23nm,1.0s
SKAG Skagway 15.58 349 Pn **Pn 18 33 34.5 -1.8**
O20A White River Ci 16.20 98 *e*Pn **Pn 18 33 43.3 -1.4**
21nm,1.0s
WUAZ Wupatki 16.36 116 *e*Pn **Pn 18 33 47.3 +0.7**
2.4nm,0.8s
PV01 Paradox Valley 16.82 104 *e*Pn **Pn 18 33 51.4 -1.1**
2μm,1.3s
MVCO Mesa Verde 17.32 107 *e*Pn **Pn 18 33 58.1 -0.8**
15nm,1.2s
W18A Petrified Fore 17.66 115 Pn **P 18 34 04.0 0.0**
ANMO Albuquerque 19.94 110 P **Pn 18 34 30.1 -0.5**
0.1nm,0.3s,baz=306,slow=12,SNR=4.3
ANMO LR LR 18 42 48.2
comp=Z,242nm,20.0s,baz=343,slow=39
ANMO Albuquerque 19.94 110 *e*P **Pn 18 34 30.2 -0.5**
3.2nm,1.0s
YKA Yellowknife Ar 20.12 20 P Pn 18 34 31.8 -0.6
1.7nm,0.8s,baz=210,slow=10,SNR=19
FFC Flin Flon 20.47 50 *e*P **P 18 34 34.6 +0.2**
9.0nm,0.8s
121A Cookes Peak, D 20.55 118 *e*P **P 18 34 36.0 +0.3**
23nm,1.2s
PMR Palmer 20.83 333 P **P 18 34 38.4 +0.2**
MCK McKinley 22.39 337 *e*P **P 18 34 56.6 +1.6**
ILAR Eielson Array 22.70 340 P **P 18 34 59.0 +0.8**
3.1nm,0.9s,baz=154,slow=7.9,SNR=27
ULM Lac du Bonnet 23.35 63 P **P 18 35 07.0 +1.9**
3.4nm,0.6s,baz=277,slow=9.3,SNR=5.9
AGMN Agassiz Nation 23.38 68 *e*P **P 18 35 09.3 +3.9**
4.5nm,0.8s
INK Inuvik 24.13 356 P **P 18 35 12.8 +0.5**
1.3nm,0.9s,baz=168,slow=9.8,SNR=3.6
TXAR Lajitas Array 25.31 118 P **P 18 35 24.1 +0.5**
1.9nm,1.0s,baz=303,slow=7.0,SNR=5.4
FCC Fort Churchill 25.89 44 *e*P **P 18 35 29.1 +0.6**
0.3nm,1.3s
H11N3 WAKE ISLAND Hy 57.79 267 T T 19 42 15.2
baz=49,slow=75,SNR=281
H11N2 WAKE ISLAND Hy 57.79 267 T T 19 42 17.2
baz=49,slow=75,SNR=208
H11N1 WAKE ISLAND Hy 57.80 267 T T 19 42 17.3
baz=49,slow=75,SNR=187
H11S1 WAKE ISLAND Hy 58.72 266 T T 19 43 34.9
baz=48,slow=75,SNR=66
H11S2 WAKE ISLAND Hy 58.73 266 T T 19 43 31.1
baz=48,slow=75,SNR=39
H11S3 WAKE ISLAND Hy 58.74 266 T T 19 43 34.6
baz=48,slow=75,SNR=39
FINES FINESS Array B 72.72 12 P **P 18 41 24.2 -0.2**
2.7nm,1.0s,baz=356,slow=7.6,SNR=3.9
SONM Songino Array 75.95 325 P **P 18 41 43.0 -0.6**
0.7nm,0.8s,baz=48,slow=2.2,SNR=7.0
ZALV Zalesovo Beam 77.82 340 P **P 18 41 54.3 +0.4**
0.4nm,0.4s,baz=29,slow=6.8,SNR=4.6
ARU Arti 79.39 356 *e*P **P 18 42 02.2 -0.3**
5.9nm,1.0s
BRVK Borovoye 81.53 348 *e*P **P 18 42 14.6 +0.5**
1.9nm,0.9s
LPAZ La Paz 82.11 122 P **P 18 42 16.4 -1.9**
0.5nm,0.3s,baz=309,slow=11,SNR=3.7
KURK Kurchatov 82.25 342 *e*P **P 18 42 17.6 -0.3**
4.2nm,1.7s
MKAR Makanchi Array 85.04 339 P **P 18 42 31.2 -1.2**
0.4nm,0.9s,baz=31,slow=2.8,SNR=3.8

GUC 12 18:41:03.7±0.4, 35°.35S×72°.61W, h12km±7km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.79**	**190**	*i* P	Pg	18 41 17.5	-1.5
COCH				*i* S	Sg	18 41 28.2	-1.2
TALC	**Talca**	**0.80**	**94**	*i* P	Pg	18 41 17.8	-1.4
TALC				*i* S	Sg	18 41 28.5	-1.2
TALC				AML	AML	18 41 31.6	
	comp=N,3μm,0.0s						
NICH	**Los Niches**	**1.19**	**73**	*i* P	Pn	18 41 23.8	-2.2
NICH				*i* S	Sb	18 41 39.4	-1.9
NICH				AML	AML	18 41 46.6	
	comp=E,3μm,0.3s						

MAN 12 18:41:11, 11°.88N×125°.09E, h21km, mb4.6, ML3.4, MS3.3, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.43**	**129**	*e*P	Pn	18 41 21.6	-0.5
PLP	**Palo**	**0.72**	**189**↑	*e*P	Pb	18 41 24.7	-0.1
PLP				*i* S	Sb	18 41 34.8	+0.5
OCLP	**Ormoc**	**0.95**	**210**	*e*P	Pn	18 41 29.0	-0.1
OCLP				*e*S	Sn	18 41 41.8	-0.2
MSLP	**Maasin**	**1.75**	**188**	*e*P	Pb	18 41 42.3	0.0
MSLP				*e*S	Sn	18 42 01.9	+0.2
PVCP	**Virac**	**1.94**	**332**↓	*i*P	Pb	18 41 44.5	-1.1
PVCP				*i* S	Sb	18 42 11.3	+1.9
RCP	**Roxas**	**2.32**	**262**↑	*e*P	Pn	18 41 49.4	+1.4
RCP				*e*S	Sb	18 42 18.6	-1.9
GUIM	**Jordan**	**2.75**	**243**	*e*P	Pn	18 41 54.8	+0.9

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*IDC **12** 18:46:37.8±7.0, 16°.00N×97°.61W, h0km, mb3.4/3, mb1 3.9/4, mb1mx3.6/36, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=149.6km s-min=114.8km az=38.0*
*ISCJB **12** 18:47:07.5±0.6, 18°.11N±0°.05×102°.02W±0°.03, h59km±10km, mb3.3/3, Error ellipse: s-maj=7.9km s-min=4.4km az=16.4*
*MEX **12** 18:47:08.8±0.5, 18°.14N×101°.99W, h5km±6km, MD4.0*
ISC 12 18:47:08.0±1.1, 18°.10N±0°.05×102°.02W±0°.04, h49km±15km, n17, σ0s77/29, mb3.4/3, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.73**	**133**	*e*P	**Pn**	**18 47 21.8**	**-0.3**
ZIIG				*i* S	**Sn**	**18 47 32.0**	**-0.2**
ZIIG				*i* S	**Sn**	**18 47 32.2**	**0.0**
MMIG	**Aquila**	**1.27**	**278**	*e*P	**Pn**	**18 47 29.6**	**+0.2**
MMIG				*i* S	**Sn**	**18 47 45.7**	**+0.4**
URUA	**Uruapan**	**1.31**	**358**	*e*P	**Pn**	**18 47 29.9**	**-0.2**
URUA				*e*S	**Sn**	**18 47 45.8**	**-0.8**
ARIG	**Puente Sto Nin**	**1.60**	**83**	*e*P	**Pn**	**18 47 33.6**	**-0.3**
ARIG				*i* S	**Sn**	**18 47 53.3**	**-0.2**
MOIG	**Morelia**	**1.75**	**27**	*e*P	**Pn**	**18 47 36.1**	**-0.1**
MOIG				*e*S	**Sn**	**18 47 56.8**	**-0.7**
CAIG	**El Cayaco**	**1.98**	**122**	*e*P	**Pn**	**18 47 39.0**	**-0.1**
CAIG				*e*S	**Sn**	**18 48 03.0**	**+0.4**
EZ5V		**2.03**	**313**	*e*P	**Pn**	**18 47 41.3**	**+1.3**
EZ5V				*e*S	**Sn**	**18 48 04.9**	**+0.7**
MEIG	**Mezcala**	**2.29**	**94**	*e*P	**Pn**	**18 47 44.2**	**+0.7**
MEIG				*e*S	**Sn**	**18 48 11.0**	**+0.4**
PLIG	**Platanillo**	**2.41**	**83**	*e*P	**Pn**	**18 47 46.1**	**+1.0**
PLIG				*i* S	**Sn**	**18 48 13.8**	**+0.3**
MAVM	**Malinalco, Edo**	**2.54**	**70**	*e*P	**Pn**	**18 47 48.1**	**+1.1**
MAVM				*e*S	**Sn**	**18 48 17.5**	**+0.6**
MZVM		**2.86**	**67**	*e*P	**Pn**	**18 47 52.2**	**+1.1**
MZVM				*e*S	**Sn**	**18 48 24.8**	**+0.5**
YAIG	**Yautepec**	**2.90**	**74**	*e*P	**Pn**	**18 47 52.7**	**+0.8**
YAIG				*e*S	**Sn**	**18 48 26.4**	**+0.7**
AMVM	**AMECAMECA**	**3.23**	**71**	*e*P	**Pn**	**18 47 57.1**	**+0.5**
AMVM				*e*S	**Sn**	**18 48 34.2**	**+0.1**
TXAR	**Lajitas Array**	**11.28**	**353**	Pn	Pn	18 50 04.4	+18
	0.0nm,0.3s,baz=164,slow=13,SNR=7.3						
NVAR	**Mina Array Bea**	**24.74**	**328**	P	P	18 52 38.6	+13
	1.1nm,0.8s,baz=149,slow=11,SNR=4.5						
YKA	**Yellowknife Ar**	**45.21**	**352**	P	**P**	**18 55 18.0**	**-2.0**
	0.2nm,0.5s,baz=160,slow=7.3,SNR=4.3						
ILAR	**Eielson Array**	**55.39**	**338**	P	**P**	**18 56 38.0**	**+1.0**
	0.2nm,0.5s,baz=141,slow=5.6,SNR=5.8						

IDC 12 19:03:25.8±3.1, 44°.36N×128°.82W, h0km, mb3.1/2, mb1 3.6/4, mb1mx3.3/43, mbtmp3.2/4, ML3.0/2, MS3.3/1, Ms1 3.3/1, ms1mx3.0/9, Error ellipse: s-maj=64.7km s-min=25.5km az=45.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**14.06**	**90**	Pn	Pn	19 06 49.9	+3.4
	0.0nm,0.3s,baz=295,slow=15,SNR=2.7						
YKA	**Yellowknife Ar**	**19.96**	**20**	P	Pn	19 08 01.0	+0.2
	0.0nm,0.3s,baz=207,slow=10,SNR=4.1						
ILAR	**Eielson Array**	**22.82**	**340**	P	P	19 08 28.9	-1.1
	0.7nm,1.1s,baz=164,slow=8.9,SNR=5.1						
TXAR	**Lajitas Array**	**24.96**	**118**	P	P	19 08 51.6	+0.6
	0.3nm,0.6s,baz=331,slow=7.3,SNR=2.5						
SFJD	**Kangerlussuaq**	**45.71**	**33**	LR	LR	19 31 53.9	
	comp=Z,40nm,21.2s,baz=13,slow=37						

GUC 12 19:16:27.1±0.4, 34°.47S×71°.99W, h44km±2km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.70**	**43**	*i* P	Pn	19 16 40.5	-0.1
NICH	**Los Niches**	**0.82**	**131**	*i* P	Pn	19 16 42.5	+0.3
NICH				*i* S	Sn	19 16 54.2	+0.9
NICH				AML	AML	19 16 56.0	
	comp=E,2μm,0.3s						
TALC	**Talca**	**0.97**	**163**	*i* P	Pn	19 16 44.7	+0.4
TALC				*i* S	Sn	19 16 57.9	+1.0
TALC				AML	AML	19 16 59.2	
	comp=E,4μm,0.1s						
CHCH	**Chadas Angostu**	**1.23**	**65**	*i* P	Pn	19 16 48.9	+0.9
SJCH	**San Jose de Ma**	**1.59**	**59**	*i* P	Pn	19 16 54.1	+1.2
SJCH				*i* S	Sn	19 17 14.7	+2.4
CLCH	**Cerro Calan**	**1.61**	**49**	*i* P	Pn	19 16 54.6	+1.3
CLCH				*i* S	Sn	19 17 15.6	+2.7
COCH	**Cobquecura**	**1.78**	**201**	*i* P	Pn	19 16 56.6	+1.2
COCH				*i* S	Sn	19 17 19.2	+2.4
COCH				AML	AML	19 17 25.9	
	comp=E,481nm,0.5s						

GUC 12 19:24:46.4±0.6, 34°.61S×71°.82W, h75km±14km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.63**	**129**	*i* P1	Pn	19 25 02.0	+1.1
NICH				*i* S	Sn	19 25 13.1	+1.5
NICH				IAML		19 25 15.3	
	comp=E,7μm,0.2s						
TALC	**Talca**	**0.80**	**169**	*i* P	Pn	19 25 03.5	+0.7
TALC				*i* S	Sn	19 25 16.2	+1.2
ANTU	**Antumapu**	**1.43**	**44**	*i* P	Pn	19 25 11.6	+0.9
ANTU				*i* S	Sn	19 25 30.6	+1.7
ANTU				IAML		19 25 40.4	
	comp=N,1μm,0.6s						
SJCH	**San Jose de Ma**	**1.55**	**52**	*i* P	Pn	19 25 13.4	+1.0
SJCH				*i* S	Sn	19 25 33.9	+2.0
CLCH	**Cerro Calan**	**1.61**	**42**	*i* P	Pn	19 25 14.4	+1.3
CLCH				*e*S4	Sn	19 25 35.2	+1.8
CLCH				IAML		19 25 43.5	
	comp=N,1μm,0.7s						
PEL	**Peldehue**	**1.74**	**33**	*i* P	Pn	19 25 16.0	+1.2
PEL				*i* S	Sn	19 25 38.3	+2.0
PEL				IAML		19 25 40.5	
	comp=N,2μm,0.7s						
FCH	**Farellones**	**1.80**	**45**	*i* P	Pn	19 25 17.5	+1.5
FCH				*e*S4	Sn	19 25 39.0	+0.7
FCH				IAML		19 25 40.5	
	comp=N,1μm,0.2s						

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*NIED **12** 19:28:00, 28°.70N×142°.60E, h5km, Mw5.1 Best double couple: M0=4.46000×10^16 NP1:φs=26.00000°, δ37.00000°, λ110.00000°. NP2:φs182.00000°, δ55.00000°, λ76.00000°.*
*IDC **12** 19:28:56.5±0.5, 28°.59N×142°.72E, h0km, mb4.5/27, mb1 4.7/31, mb1mx4.7/38, mbtmp4.5/31, ML3.9/4, MS4.6/16, Ms1 4.6/16, ms1mx4.3/32, Error ellipse: s-maj=14.8km s-min=11.4km az=105.0*
*JMA **12** 19:28:58.2±0.1, 28°.65N×142°.58E, h21km, M4.9*
*ISCJB **12** 19:28:59.0±0.2, 28°.67N±0°.02×142°.63E±0°.03, h25km, mb4.8/100, MS4.6/19, Error ellipse: s-maj=3.5km s-min=2.7km az=179.1*
*BJI **12** 19:28:59.5, 28°.54N×142°.69E, h45km, mB5.2/54, mb4.8/62, Ms5.0/74, Ms7 4.7/67*
*NEIC **12** 19:29:00.7±2.3, 28°.59N×142°.64E, h29km±15km, mb5.0/38, MW5.0(NIED), Error ellipse: s-maj=7.3km s-min=5.2km az=108.0*
*MOS **12** 19:29:00.1±0.9, 28°.64N×142°.66E, h33km, mb4.9/50, MS4.4/7, Error ellipse: s-maj=9.6km s-min=4.9km az=110.7*
*GCMT **12** 19:29:00.7±0.2, 28°.42N×142°.85E, h12km, MW5.2/110, Moment Tensor Solution. s58,c74; s110,c185; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr6.10±.11; Mθθ0.59±.10; Mφφ-6.70±.10; Mrθ1.54±.39; Mφφ0.51±.10; Mφr3.01±.32; Best double couple: M0 7.27200×10^16 NP1:φs10.00000°, δ59.00000°, λ106.00000°. NP2: φs161.00000°, δ35.00000°, λ65.00000°. Principal axes: T 7.1690, Plg71.0000°, Azm318.0000°; N 0.1980, Plg14.0000°, Azm182.0000°; P -7.3760, Plg12.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 12 19:29:00.6±0.3, 28°.64N±0°.03×142°.68E±0°.04, h25km, h25km:pP-P, n360, σ1s67/422, mb4.8/100, MS4.6/19, 26C-10D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.60**	**196**	P	**Pn**	**19 29 25.6**	**-1.7**
CBIJ				S	**Sn**	**19 29 45.7**	**-1.5**
CBIJ	**Chichi jima**	**1.60**	**196**	Pn	**Pn**	**19 29 25.9**	**-1.5**
CBIJ				Sn	**Sn**	**19 29 45.2**	**-2.0**
JCJ	**Chichijima**	**1.60**	**196**	Pn	**Pn**	**19 29 25.9**	**-1.5**
	101nm,0.3s,baz=329,slow=8.0,SNR=35						
JCJ				Sn	**Sn**	**19 29 45.2**	**-2.0**
	318nm,0.3s,baz=90,slow=20,SNR=16						
JHHJ	**Haha-jima-NKT**	**2.05**	**193**	P	**Pn**	**19 29 32.2**	**-1.3**
JHCJ	**Hachijojimakas**	**5.07**	**331**	S	**Sn**	**19 31 12.6**	**-0.2**
JHJ2	**Mitsune**	**5.09**	**332**	P	**Pn**	**19 30 15.1**	**-0.3**
JHJ2				S	**Sn**	**19 31 12.2**	**-1.2**
BSO1	**Boso 1**	**6.17**	**347**	P	**Pn**	**19 30 28.8**	**-0.9**
BSO3	**Boso 3**	**6.42**	**344**	P	**Pn**	**19 30 33.4**	**+0.1**
BSO3				S	**Sn**	**19 31 45.9**	**+0.2**
BSO4	**Boso 4**	**6.64**	**343**	P	**Pn**	**19 30 38.0**	**+1.5**
JOD2	**Odawara 2**	**7.28**	**336**	P	**Pn**	**19 30 45.6**	**+0.2**
HMMJ	**Hamamatsu 2**	**7.50**	**327**	P	**Pn**	**19 30 49.3**	**+0.9**
JIE	**Ise**	**7.68**	**320**	P	Pn	19 30 56.0	+5.2
JHU	**Hanno**	**7.75**	**339**	P	**Pn**	**19 30 51.3**	**-0.5**
JHU				S	**Sn**	**19 32 13.4**	**-5.4**
JNY	**Yasuok**	**7.85**	**330**	P	**Pn**	**19 30 55.3**	**+2.0**
JYT	**Yasato**	**7.86**	**345**	P	**Pn**	**19 30 53.1**	**-0.2**
JYT				S	**Sn**	**19 32 18.5**	**-2.9**
JRY	**Ryogami san**	**8.02**	**337**	P	**Pn**	**19 30 55.4**	**-0.2**
JRY				S	**Sn**	**19 32 23.0**	**-2.6**
JHO	**Hitachi**	**8.15**	**348**	P	**Pn**	**19 30 55.0**	**-2.3**
JAG	**Ashikaga**	**8.23**	**341**	P	**Pn**	**19 30 57.0**	**-1.4**
MJAR	**Matsushiro Arr**	**8.74**	**336**	P	**Pn**	**19 31 05.1**	**-0.3**
MJAR						19 32 42.8	
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MJAR				smax	smax		
	comp=N,2.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,16nm,28.6s						
MJAR	**Matsushiro Arr**	**8.74**	**336**	Pn	**Pn**	**19 31 05.1**	**-0.3**
	comp=Z,7.3nm,0.3s,baz=102,slow=15,SNR=51						
MJAR				Sn	**Sn**	**19 32 42.8**	**-0.3**
	comp=Z,2.3nm,0.3s,baz=117,slow=19,SNR=5.2						
MJAR				LR	LR	19 34 11.5	
	comp=Z,2μm,18.7s,baz=170,slow=36						
MAJO	**Matsushiro**	**8.74**	**336**	*c i* P	**Pn**	**19 31 05.4**	**0.0**
MAJO	**Matsushiro**	**8.74**	**336**	*e* Pn	**Pn**	**19 31 05.4**	**0.0**
MAJO				*e* Sn	**Sn**	**19 32 42.4**	**-0.8**
JFK	**Kawauchi**	**8.84**	**351**	S	Sn	19 32 37.0	-8.6
JMK	**Ichinoseki**	**10.36**	**354**	P	**Pn**	**19 31 25.2**	**-2.4**
JMK				S	Sn	19 33 12.5	-10
JNU	**Nakatsue**	**11.08**	**297**	LR	LR	19 35 28.6	
	comp=Z,4μm,21.3s,baz=118,slow=35						
ERM	**Erimo**	**13.35**	**2**	*de* P	**Pn**	**19 32 09.3**	**+0.8**
KSRS	**Korea Array**	**15.17**	**309**	P	**Pn**	**19 32 34.7**	**+1.5**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,2μm,18.1s						
KSRS	**Korea Array**	**15.17**	**309**	Pn	**Pn**	**19 32 34.6**	**+1.5**
	comp=Z,1.6nm,0.3s,baz=116,slow=11,SNR=21						
KSRS				LR	LR	19 38 34.8	
	comp=Z,2μm,18.1s,baz=120,slow=38						
KSAR	**Wonju Array Be**	**15.19**	**309**	P	**Pn**	**19 32 34.7**	**+1.2**
KSAR	**Wonju Array Be**	**15.19**	**309**	Pn	**Pn**	**19 32 34.6**	**+1.2**
ASAJ	**Asahikawa**	**15.45**	**360**	P	**Pn**	**19 32 34.4**	**-2.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,16nm,28.6s						
ASAJ	**Asahikawa**	**15.45**	**360**	Pn	**Pn**	**19 32 34.4**	**-2.5**
	comp=Z,0.6nm,0.3s,baz=199,slow=11,SNR=7.8						
ASAJ				LR	LR	19 39 43.8	
	comp=Z,2μm,21.0s,baz=176,slow=42						
INCN	**Inchon**	**16.07**	**307**	*e* Pn	**P**	**19 32 47.0**	**-1.1**
	comp=Z,114nm,1.0s						
VLA	**Vladivostok**	**16.87**	**332**↑	*e* P	**Pn**	**19 32 55.2**	**+0.2**
VLA				pmax	pmax		
	comp=Z,92nm,0.8s						
USRK	**Ussuriysk Ar.**	**17.73**	**334**	P	**Pn**	**19 33 04.0**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=145,slow=11,SNR=12						
USRK				LR	LR	19 40 43.3	
	comp=Z,2μm,18.6s,baz=139,slow=40						
YSS	**Yuzh-Sakhalins**	**18.29**	**0**	*e* P	**P**	**19 33 12.0**	**-0.5**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**18.29**	**0**	*e* P	**Pn**	**19 33 10.3**	**-2.2**
SSE	**Sheshan**	**18.80**	**283**	*e* P	**P**	**19 33 18.1**	**-0.2**
SSE				sP	sP	19 33 33.6	+5.2
SSE				S	**Sn**	**19 36 44.1**	**-4.5**
SSE				sS	**sS**	**19 36 59.1**	**-2.8**
SSE				PMZ			
	comp=Z,10.0nm,0.5s						
SSE				PMZ			
	comp=Z,330nm,6.9s						
SSE				LN			
	comp=Z,990nm,13.3s						
SSE				LE			
	comp=Z,660nm,13.3s						
SSE				LZ			
	comp=Z,1μm,14.3s						
MDJ	**Mudanjiang**	**19.06**	**330**	P	**P**	**19 33 20.5**	**-0.5**
MDJ				pP	**pP**	**19 33 30.5**	**+2.7**
MDJ				sP	**sP**	**19 33 35.8**	**+4.7**
MDJ				S	**Sn**	**19 36 51.9**	**-2.7**
MDJ				PcP	**PcP**	**19 37 44.0**	**-1.2**
MDJ				ScP	**ScP**	**19 41 17.2**	**-2.2**
MDJ				PcS	**PcS**	**19 41 21.4**	**-0.6**
MDJ				PMZ			
	comp=Z,40nm,1.5s						
MDJ				PMZ			
	comp=Z,750nm,5.8s						
MDJ				LN			
	comp=Z,2μm,18.3s						
MDJ				LE			
	comp=Z,2μm,14.1s						
MDJ				LZ			
	comp=Z,1μm,14.8s						
MDJ	**Mudanjiang**	**19.06**	**330**	*e* P	**P**	**19 33 20.2**	**-0.8**
	comp=Z,40nm,0.9s						
TATO	**Taipei**	**19.26**	**264**	*e* P	**P**	**19 33 22.7**	**-0.7**
	comp=Z,91nm,1.0s						
DL2	**Dalian**	**20.24**	**306**	P	**P**	**19 33 32.8**	**-1.1**
DL2				S	**S**	**19 37 14.7**	**-5.1**
DL2				LN			
	comp=Z,890nm,11.9s						
DL2				LE			
	comp=Z,2μm,13.3s						
DL2				LZ			
	comp=Z,2μm,15.8s						
SNY	**Shenyang**	**20.36**	**315**↓	P	**P**	**19 33 35.0**	**-0.2**
SNY				PMZ			
	comp=Z,20nm,1.8s						
SNY				PMZ			
	comp=Z,730nm,5.5s						
SNY				LN			
	comp=Z,2μm,14.0s						
SNY				LE			
	comp=Z,1μm,14.3s						
SNY				LZ			
	comp=Z,2μm,12.5s						
UGL	**Uglegorsk**	**20.42**	**359**	*e* P	Pn	19 33 42.6	+4.6
UGL				*e*		19 33 51.2	
UGL				*e* S	**S**	**19 37 21.0**	**-2.1**
UGL				*e** SS	sS	19 37 35.8	+1.7
UGL				*e* SS	**SnSn**	**19 37 41.2**	**-0.9**
UGL				*e*		19 45 02.6	
CN2	**Changchun**	**20.49**	**322**	*e* P	Pn	19 33 37.6	-1.3
CN2				*e* sP	sP	19 33 54.3	+7.6
CN2				*e* S	**S**	**19 37 18.6**	**-6.1**
CN2				PMZ			
	comp=Z,10.0nm,1.2s						
CN2				PMZ			
	comp=Z,200nm,4.0s						
CN2				LN			
	comp=Z,3μm,14.0s						
CN2				LE			
	comp=Z,3μm,14.0s						
CN2				LZ			
	comp=Z,500nm,16.0s						
HABR	**Khabarovsk**	**20.66**	**345**	*ce* P	**P**	**19 33 37.4**	**-1.1**
HABR				*e** SP	**sP**	**19 33 50.0**	**+1.4**
HABR						19 33 55.5	
HABR				*e* S	**S**	**19 37 26.3**	**-1.8**
HABR				*e** SS	**sS**	**19 37 40.9**	**+1.9**
HABR				*e* SS	**SnSn**	**19 37 47.5**	**-0.7**
HABR				*e* SSS	SSS	19 38 01.1	
HABR				pmax	pmax		
	comp=N,85nm,2.0s						
HABR				pmax	pmax		
	comp=Z,107nm,2.0s						
HABR				pmax	pmax		
	comp=E,96nm,2.0s						
HABR				MLR	MLR		
	comp=Z,2μm,15.0s						
NJ2	**Nanjing**	**20.84**	**285**	*e* P	**P**	**19 33 39.3**	**-1.2**
NJ2				pP	**pP**	**19 33 48.8**	**+1.4**
NJ2				sP	**sP**	**19 33 52.7**	**+2.1**
NJ2				S	**S**	**19 37 34.5**	**+2.8**
NJ2				PMZ			
	comp=Z,110nm,0.8s						
NJ2				PMZ			
	comp=Z,1μm,9.1s						
NJ2				LN			
	comp=Z,3μm,14.0s						
NJ2				LE			
	comp=Z,3μm,14.8s						
NJ2				LZ			
	comp=Z,3μm,15.5s						
QZH	**Quanzhou**	**21.81**	**266**↑	*i* P	**P**	**19 33 50.1**	**-0.9**
QZH				S	S	19 37 43.0	-8.0
QZH				LN			
	comp=Z,830nm,10.6s						
QZH				LE			
	comp=Z,3μm,18.0s						
QZH				LZ			
	comp=Z,7μm,14.1s						
KLR	**Kul'dur**	**22.21**	**341**	*e* P	**P**	**19 33 52.2**	**-2.9**
KLR				*e* S	**S**	**19 38 00.0**	**+1.8**
KLR				pmax	pmax		
	comp=Z,240nm,2.2s						
KLR				pmax	pmax		
	comp=Z,1μm,11.0s						
KLR				smax	smax		
	comp=N,1μm,10.0s						
KLR				smax	smax		
	comp=E,800nm,10.0s						

TIA Tai'an 22.82 296 *e*P **P 19 34 01.1 -0.6**
TIA S **S 19 38 08.0 -1.5**
TIA PMZ
comp=E,20nm,1.0s
TIA LN
comp=E,1μm,20.0s
TIA LE
comp=E,2μm,18.4s
TIA LZ
comp=E,2μm,21.0s
H11N2 WAKE ISLAND Hy 23.77 107 T T 19 59 18.6
baz=296,slow=74,SNR=21
H11N1 WAKE ISLAND Hy 23.77 107 T T 19 59 20.3
baz=296,slow=74,SNR=21
H11N3 WAKE ISLAND Hy 23.78 107 T T 19 59 19.6
baz=296,slow=74,SNR=29
H11S1 WAKE ISLAND Hy 24.17 109 T T 20 00 48.8
SNR=0.6
BJT Baijiatuau 24.57 304 *e*P **P 19 34 16.9 -1.7**
BJT Baijiatuau 24.57 304 *e*P **P 19 34 16.9 -1.7**
BJI Beijing 24.58 305 P **P 19 34 18.2 -0.4**
BJI S **S 19 38 37.1 -1.0**
BJI sS sS 19 38 55.5 +5.3
BJI PMZ
comp=E,17nm,1.1s
BJI PMZ
comp=E,400nm,5.0s
BJI LN
comp=E,2μm,16.0s
BJI LE
comp=E,2μm,18.9s
BJI LZ
comp=E,2μm,20.4s
WHN Wuhan 24.69 281 ⇓P **P 19 34 19.1 -0.6**
WHN S **S 19 38 37.9 -2.1**
WHN PMZ
comp=E,1μm,7.5s
WHN LZ
comp=E,3μm,15.1s
TGY Tagaytay City 24.82 239 P **P 19 34 21.3 +0.2**
TGY pmax pmax
comp=Z,149nm,0.5s
TGY Tagaytay City 24.82 239 P **P 19 34 21.3 +0.2**
comp=Z,149nm,0.5s,baz=35,slow=0.8,SNR=7.5
PETK Petropavlovsk- 26.84 20 P **P 19 34 39.7 +0.7**
PETK pmax pmax
comp=Z,2.0nm,0.8s
PETK MLR MLR
comp=Z,16nm,28.6s
PETK Petropavlovsk- 26.84 20 P **P 19 34 39.7 +0.7**
comp=Z,1.5nm,0.8s,baz=135,slow=0.6,SNR=2.6
PETK LR LR 19 46 13.0
comp=Z,720nm,19.8s,baz=206,slow=39
HIA Hailar 27.06 326 *e*P **P 19 34 41.2 +0.1**
HIA pmax pmax
comp=Z,50nm,1.0s
HIA Hailar 27.06 326 *e*P **P 19 34 41.2 +0.1**
comp=Z,50nm,1.0s
PET Petropavlovsk 27.07 21 *e*P **P 19 34 44.3 +3.3**
PET *e*S **S 19 39 17.8 +0.5**
PET pmax pmax
comp=Z,19nm,1.5s
PET MLR MLR
comp=Z,2μm,23.0s
PET Petropavlovsk 27.07 21 P **P 19 34 42.0 +1.1**
CTBH Cotabato--PC H 27.51 223 ⇓*i*P **P 19 34 46.2 +0.9**
HHC Hu-ho-hao-te 28.17 304 *e*P **P 19 34 51.3 +0.1**
HHC pP **pP 19 35 00.5 +1.9**
HHC sP sP 19 35 09.4 +7.7
HHC PP **PnPn 19 35 41.0 +1.5**
HHC S **S 19 39 31.4 -3.9**
HHC sS **sS 19 39 50.8 +3.2**
HHC ScS **ScS 19 45 31.6 -5.2**
HHC PMZ
comp=Z,25nm,0.6s
HHC PMZ
comp=Z,280nm,5.1s
HHC LN
comp=Z,1μm,13.9s
HHC LE
comp=Z,3μm,14.5s
HHC LZ
comp=Z,3μm,13.9s
ENH Enshi 28.90 281 *e*P **P 19 34 55.0 -2.7**
comp=Z,27nm,0.8s
CLNS Chul'man 30.87 341 *e*P **P 19 35 15.9 +1.1**
CLNS pmax pmax
comp=Z,3.0nm,1.0s
CLNS pmax pmax
comp=N,4.0nm,1.2s
CLNS pmax pmax
comp=E,9.0nm,0.9s
TNTI Ternate 31.34 211 P **P 19 35 21.2 +1.9**
QIZ Qiongzhong 31.44 260 P **P 19 35 18.8 -1.4**
QIZ pP **pP 19 35 29.7 +2.1**
QIZ S S 19 40 20.7 -6.0
QIZ sS **sS 19 40 41.8 +2.8**
QIZ PMZ
comp=E,160nm,7.3s
QIZ LN
comp=E,550nm,15.8s
QIZ LE
comp=E,340nm,18.8s
QIZ LZ
comp=E,1μm,15.8s
QIZ Qiongzhong 31.44 260 P **P 19 35 19.8 -0.4**
GYA Guiyang 31.94 275⇑*i*P **P 19 35 23.4 -1.3**
GYA pP **pP 19 35 36.2 +4.1**
GYA sP sP 19 35 41.8 +6.6
GYA PP **PnPn 19 36 30.0 +0.1**
GYA S **S 19 40 30.5 -4.1**
GYA sS **sS 19 40 51.4 +4.5**
GYA ScP **ScP 19 41 52.8 -3.8**
GYA SS **SnSn 19 42 22.0 -2.0**
GYA PMZ
comp=E,30nm,0.9s
GYA PMZ
comp=E,130nm,4.8s
GYA LN
comp=E,830nm,17.4s
GYA LE
comp=E,670nm,18.0s
GYA LZ
comp=E,920nm,17.8s
LBMI Labuha 32.54 209 P **P 19 35 30.0 +0.2**
MYLDM Lahad Datu 32.71 229 ⇑P **P 19 35 33.7 +2.4**
SDKM Sandakan 33.26 231 ⇓P P 19 35 39.7 +3.5
LZH Lanzhou 33.47 293 *e*P **P 19 35 37.3 -0.7**
LZH pP pP 19 35 51.0 +5.5
LZH sP sP 19 35 55.8 +7.2
LZH PP **PnPn 19 36 49.9 +0.5**
LZH *e*S **S 19 40 54.0 -4.4**
LZH sS **sS 19 41 14.1 +3.4**
LZH SS **SnSn 19 42 59.2 -1.9**
LZH PMZ
comp=E,14nm,1.0s
LZH PMZ
comp=E,110nm,4.5s
LZH LN
comp=E,2μm,14.9s
LZH LE
comp=E,1μm,15.0s
LZH LZ
comp=E,2μm,15.4s
ULN Ulaanbaatar 33.53 315⇓*e*P **P 19 35 39.1 +0.7**
ULN pmax pmax
comp=Z,29nm,1.0s
ULN Ulaanbaatar 33.53 315 P **P 19 35 39.1 +0.7**
SNR=12
ULN Ulaanbaatar 33.53 315 *e*P **P 19 35 38.6 +0.2**
comp=Z,38nm,1.2s
GTOI Gorontalo 33.60 217 P P 19 35 49.2 +10
KKM Kota Kinabalu 33.65 233 ⇓P **P 19 35 37.9 -1.8**
CD2 Chengdu 33.75 284⇑*i*P **P 19 35 39.0 -1.4**
CD2 sP **sP 19 35 54.8 +3.9**
CD2 PP **PnPn 19 36 53.1 +0.2**
CD2 S S 19 40 56.6 -6.0
CD2 SS **SnSn 19 43 03.9 -4.0**
CD2 ScS **ScS 19 45 57.9 -6.4**
CD2 PMZ
comp=Z,50nm,1.0s
CD2 PMZ
comp=Z,240nm,7.1s
CD2 LN
comp=Z,3μm,15.5s
CD2 LE
comp=Z,1μm,13.1s
CD2 LZ
comp=Z,1μm,14.3s
TSM Tawau 33.78 229⇑P **P 19 35 40.9 +0.2**
SONM Songino Array 33.93 314 P **P 19 35 41.7 -0.2**
SONM pmax pmax
comp=Z,10.0nm,0.9s
SONM MLR MLR
comp=Z,1μm,18.1s
SONM Songino Array 33.93 314 P **P 19 35 41.7 -0.2**
comp=Z,10nm,0.9s,baz=120,slow=7.8,SNR=34
SONM LR LR 19 50 18.9
comp=Z,1μm,18.1s,baz=106,slow=38
MRSI Marisa 34.31 219 P **P 19 35 47.1 +1.8**
comp=Z,44nm,1.0s,comp=Z,632nmcomp=Z,0.1nm
SANI Sanana 34.46 210 P **P 19 35 44.9 -1.7**
comp=Z,49nm,0.8s,comp=Z,0.1nm
YAK Yakutsk 34.49 349 *e*P **P 19 35 45.1 -1.2**
YAK *e**PP **pP 19 35 56.4 +2.6**
YAK *e* 19 36 55.9
YAK *e*S **S 19 41 10.2 -2.9**
YAK *e*SSS SSS 19 43 52.0
YAK *e* 19 46 03.8
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=Z,11nm,1.0s
YAK pmax pmax
comp=N,36nm,1.6s
YAK smax smax
comp=E,142nm,10.6s
YAK smax smax
comp=N,241nm,15.9s
YAK Yakutsk 34.49 349 *e*P **P 19 35 45.2 -1.0**
comp=N,18nm,0.9s
SEY Seymchan 34.88 8 P **P 19 35 50.2 +0.5**
SEY pmax pmax
comp=Z,7.0nm,0.8s
SEY Seymchan 34.88 8 P **P 19 35 50.1 +0.5**
comp=Z,7.0nm,0.8s,baz=180,slow=6.2,SNR=25
NLAI Namlea 35.05 208 P P 19 35 56.7 +5.0
comp=Z,23nm,0.7s,comp=Z,484nmcomp=Z,0.1nm
BOD Bodaibo 35.37 334 *e*P **P 19 35 54.2 +0.2**
BOD pmax pmax
comp=Z,13nm,1.1s
MPSI Mapaga 35.59 222 P P 19 36 04.7 +8.4
comp=Z,14nm,0.7s,comp=Z,0.1nm
APSI Ampana 35.63 218 P P 19 36 00.3 +3.7
comp=Z,30nm,1.4s,comp=Z,0.1nm
KMI Kunming 35.69 274 P **P 19 35 57.1 -0.3**
KMI S S 19 41 27.2 -5.7
KMI PMZ
comp=Z,13nm,1.1s
KMI PMZ
comp=Z,300nm,4.3s
KMI LN
comp=Z,610nm,13.3s
KMI LE
comp=Z,990nm,16.6s
KMI LZ
comp=Z,1μm,17.4s
ZAK Zakamensk 36.76 317 *e*P **P 19 36 06.8 +0.6**
ZAK pmax pmax
comp=Z,20nm,1.8s
GTA Gaotai 36.81 298 *e*P **P 19 36 04.9 -1.9**
GTA pP **pP 19 36 17.0 +2.7**
GTA sP **sP 19 36 22.5 +5.1**
GTA PP **PnPn 19 37 31.5 +0.7**
GTA PcP **PcP 19 38 31.2 +2.7**
GTA S **S 19 41 44.5 -5.2**
GTA sS **sS 19 42 04.5 +2.4**
GTA SS SnSn 19 44 11.8 -10
GTA PMZ
comp=Z,8.0nm,1.4s
GTA PMZ
comp=Z,210nm,4.8s
GTA LN
comp=Z,970nm,14.7s
GTA LE
comp=Z,990nm,19.7s
GTA LZ
comp=Z,1μm,20.7s
UBPT Khong Chiam 36.83 257 P **P 19 36 09.8 +2.9**
comp=Z,33nm,1.3s
IRK Irkutsk 36.92 321 *e*P **P 19 36 08.7 +1.4**
IRK pmax pmax
comp=Z,103nm,2.3s
TLY Talaya 37.04 319 P **P 19 36 09.6 +1.2**
comp=Z,149nm,0.8s,SNR=6.7
TLY Talaya 37.04 319*c i*P **P 19 36 09.7 +1.3**
TLY *e*S **S 19 41 58.4 +5.7**
TLY pmax pmax
comp=Z,37nm,1.4s
TLY MLR MLR
comp=Z,2μm,16.0s
TLY Talaya 37.04 319 P **P 19 36 10.3 +1.8**
SNR=18
TLY Talaya 37.04 319 P **P 19 36 08.8 +0.4**
comp=Z,12nm,0.7s,baz=127,slow=6.8
MOY Mondy 38.57 318 *e*P **P 19 36 22.2 +0.8**
SBUM Sibu 38.99 234⇑P **P 19 36 24.4 -0.8**
SPSI Sidrap Palu 39.20 218 P P 19 36 30.3 +3.4
comp=Z,22nm,1.0s
CRAI Chiangrai 39.26 267 P **P 19 36 26.5 -0.9**
comp=Z,118nm,0.9s
BNSI Bone 39.38 217 P P 19 36 38.3 +10
comp=Z,30nm,0.9s
UTTA Uttaradit 40.03 264 P **P 19 36 34.0 +0.1**
comp=Z,6.3nm,1.0s,comp=Z,51nm
KAPI Kappang 40.08 217 *e*P **P 19 36 33.8 -0.4**
comp=Z,22nm,1.0s
PBKT Sadao Pong 40.15 262 P **P 19 36 35.2 +0.4**
comp=Z,39nm,0.9s
BKSI Bulukumba 40.15 216 P P 19 36 39.6 +4.8
comp=Z,18nm,1.0s
LAMP Lampang 40.53 265 P **P 19 36 41.2 +3.1**
comp=Z,5.3nm,0.7s
SUKH Sukhothai 40.94 264 P **P 19 36 43.3 +1.9**
comp=Z,3.4nm,1.2s
CMMT Chiang Mai 41.02 266 P **P 19 36 41.8 -0.3**
comp=Z,44nm,1.0s
CHTO Chiang Mai 41.03 266 *e*P **P 19 36 41.5 -0.6**
CHTO pmax pmax
comp=Z,17nm,1.2s
CHTO Chiang Mai 41.03 266 P **P 19 36 42.2 0.0**
SNR=6.2
CHTO Chiang Mai 41.03 266 *e*P **P 19 36 41.5 -0.6**
comp=Z,17nm,1.2s
CMAR Chiang Mai Arr 41.16 266*ce*P **P 19 36 43.0 -0.2**
CMAR pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 41.16 266 P **P 19 36 43.1 -0.2**
CMAR pmax pmax
comp=Z,5.0nm,1.0s
CMAR MLR MLR
comp=Z,483nm,20.9s
CMAR Chiang Mai Arr 41.16 266 P **P 19 36 43.0 -0.2**
comp=Z,6.3nm,1.1s,baz=49,slow=8.6,SNR=24
CMAR LR LR 19 53 48.9
comp=Z,483nm,20.9s,baz=88,slow=36
BILL Bilibino 41.86 13⇑*e*P **P 19 36 47.8 -0.5**
BILL *e* 19 38 24.4
BILL *e* 19 38 40.8
BILL pmax pmax
comp=Z,23nm,2.5s
BILL MLR MLR
comp=Z,755nm,22.0s
BILL Bilibino 41.86 13 *e*P **P 19 36 49.0 +0.7**
comp=Z,13nm,1.2s
MMRI Maumere 41.99 211 P P 19 37 03.4 +13
MHMT Maesarieng 42.16 266 P **P 19 36 53.6 +2.2**
comp=Z,12nm,0.8s,comp=Z,231nm
COEN Coen 42.35 179 *e*P **P 19 36 52.5 -0.3**
comp=Z,126nm,0.9s
SRDT SRDT 42.71 260 P **P 19 36 58.6 +2.7**
comp=Z,41nm,1.3s
HVS Khovu-Aksy 42.80 316*ce*P **P 19 36 57.0 +0.7**
KHLT Khaolaem Dam 42.98 261 P **P 19 37 00.6 +2.5**
comp=Z,6.3nm,1.3s
TIXI Tiksi 43.73 354⇑*e*P **P 19 37 04.5 +1.1**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 43.73 354 *e*P **P 19 37 01.8 -1.6**
comp=Z,10.0nm,1.0s
LSA Lhasa 44.70 284 *e*P **P 19 37 12.3 -0.1**
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA Lhasa 44.70 284 *e*P **P 19 37 12.3 -0.1**
comp=Z,5.5nm,0.8s
SHL Shillong 45.05 279 *e*P **P 19 37 15.0 +0.1**
KGM Kluang 45.91 242⇑P **P 19 37 21.7 +0.2**
WMQ Urumqi 46.05 305 P **P 19 37 21.9 -0.5**
WMQ pP **pP 19 37 33.5 +3.4**
WMQ PcP **PcP 19 38 58.3 -0.3**
WMQ PP **PP 19 39 10.4 -0.1**
WMQ S **S 19 44 02.5 -3.9**
WMQ sS **sS 19 44 23.0 +4.0**
WMQ ScS **ScS 19 47 11.0 -5.5**
WMQ SS SS 19 47 20.2 -11
WMQ PMZ
comp=Z,23nm,1.1s
WMQ PMZ
comp=Z,300nm,5.6s
WMQ LN
comp=Z,540nm,18.0s
WMQ LE
comp=Z,500nm,18.0s
WMQ LZ
comp=Z,790nm,20.0s
KULM Kulim 46.07 248⇑P **P 19 37 23.2 +0.4**
IPM Ipoh 46.23 247⇑P **P 19 37 24.6 +0.5**
TAPN Taplejung 48.19 282 *e*P **P 19 37 38.5 -1.1**
comp=Z,56nm,1.0s
ODAN Odare 48.60 282 *e*P **P 19 37 41.8 -0.9**
comp=Z,32nm,0.6s
ZALV Zalesovo Beam 48.63 318 P **P 19 37 42.1 -0.1**
ZALV 19 39 08.5
ZALV pmax pmax
comp=Z,6.0nm,0.5s
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 48.63 318 P **P 19 37 42.1 -0.1**
comp=Z,5.7nm,0.5s,baz=84,slow=7.9,SNR=27
ZALV PcP **PcP 19 39 08.5 +1.1**
comp=Z,4.4nm,0.7s,baz=110,slow=3.2,SNR=4.4
WRAB Tennant Creek 48.95 190 P **P 19 37 44.3 -0.7**
comp=Z,450nm,0.6s,SNR=71
WRAB Tennant Creek 48.95 190*ce*P **P 19 37 44.1 -0.9**
WRAB pmax pmax
comp=Z,199nm,1.2s
WRAB Tennant Creek 48.95 190 *e*P **P 19 37 44.0 -0.9**
comp=Z,46nm,0.7s
WB2 Warramunga Arr 48.96 190 *e*P **P 19 37 43.8 -1.3**
WRA Warramunga Arr 48.96 190 P **P 19 37 44.2 -0.9**
WRA pmax pmax
comp=Z,35nm,0.6s
WRA Warramunga Arr 48.96 190 P **P 19 37 44.2 -0.9**
comp=Z,34nm,0.6s,baz=12,slow=8.5,SNR=149
RAMN Ramite 49.25 282 *e*P **P 19 37 46.9 -0.8**
comp=Z,85nm,0.9s
FITZ Fitzroy Crossi 49.30 202 *e*P **P 19 37 47.1 -0.6**
comp=Z,17nm,1.0s
JIRN Jiri 49.41 283 *e*P **P 19 37 48.8 -0.3**
comp=Z,91nm,0.8s
GUN Gumba 49.62 284 *e*P **P 19 37 50.2 -0.4**
comp=Z,198nm,1.0s
NVS Novosibirsk 49.66 319⇓*i*P **P 19 37 50.2 +0.2**
NVS *i* S **S 19 45 00.2 +3.2**
NVS pmax pmax
comp=Z,42nm,1.5s
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=E,16nm,1.1s
NVS smax smax
comp=N,29nm,2.9s
NVS smax smax
comp=E,6.0nm,1.3s
MKAR Makanchi Array 49.85 309 P **P 19 37 51.7 0.0**
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MKAR pmax pmax
comp=N,1.0nm,0.8s
MKAR Makanchi Array 49.85 309 P **P 19 37 51.7 0.0**
comp=N,7.7nm,0.8s,baz=88,slow=8.6,SNR=65
MKAR ScP **ScP 19 43 10.9 +4.8**
comp=N,0.7nm,0.8s,baz=114,slow=3.6,SNR=3.9
PKI Pulchoki 50.11 283 *e*P **P 19 37 53.4 -0.9**
comp=N,55nm,1.0s
PKIN Phulchoki 50.12 283 *e*P **P 19 37 53.3 -1.0**
comp=N,34nm,0.9s
KKN Kakani 50.16 284 *e*P **P 19 37 53.9 -0.7**
comp=N,76nm,0.9s
DMN Daman 50.36 283 *e*P **P 19 37 55.5 -0.6**
comp=N,26nm,0.7s
GKN Gorkha 50.65 284 *e*P **P 19 37 57.5 -0.7**
comp=N,86nm,1.0s
DANN Dangsing 51.31 285 *e*P **P 19 38 03.0 -0.3**
comp=N,113nm,0.8s
KOLN Koldanda 51.60 284 *e*P **P 19 38 04.9 -0.5**
comp=N,62nm,0.8s
KURK Kurchatov 52.23 314 P **P 19 38 09.7 +0.2**
comp=N,231nm,0.9s,SNR=66
KURK Kurchatov 52.23 314 *e*P **P 19 38 09.0 -0.5**
KURK pmax pmax
comp=Z,36nm,0.9s
KURK Kurchatov 52.23 314 P **P 19 38 10.1 +0.6**
SNR=28
KURK Kurchatov 52.23 314 *e*P **P 19 38 09.0 -0.5**
comp=Z,36nm,0.9s
AS31 Alice Springs 52.68 190 *e*P P 19 38 09.6 -3.5
ASAR Alice Springs 52.68 190 P **P 19 38 11.9 -1.2**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR MLR MLR
comp=Z,17nm,28.6s
ASAR Alice Springs 52.68 190 P **P 19 38 11.8 -1.2**
comp=Z,2.3nm,0.6s,baz=5.4,slow=5.8,SNR=54
ASAR LR LR 19 58 46.1
comp=Z,776nm,22.0s,baz=354,slow=34
MBWA Marble Bar 54.24 207 *e*P **P 19 38 22.2 -2.3**
PMR Palmer 54.90 33 *e*P **P 19 38 28.1 -0.8**
PMR pmax pmax
comp=Z,16nm,0.9s
PMR Palmer 54.90 33 *e*P **P 19 38 28.1 -0.8**
comp=Z,16nm,0.9s
KSH Kashi 55.18 300 P P 19 38 34.8 +3.3
KSH sP sP 19 38 52.8 +11
KSH PP PP 19 40 40.7 +5.9
KSH S **S 19 46 13.7 +0.3**
KSH sS sS 19 46 35.8 +10
KSH ScS **ScS 19 48 16.8 -2.5**
KSH SS **SS 19 49 59.2 +1.9**
KSH PMZ
comp=Z,5.0nm,0.7s
KSH PMZ
comp=Z,160nm,7.6s
KSH LN
comp=Z,460nm,14.4s
KSH LE
comp=Z,410nm,10.9s
KSH LZ
comp=Z,410nm,20.3s
COLA College 55.75 29⇑*e*P **P 19 38 36.2 +1.3**
COLA pmax pmax
comp=Z,12nm,0.6s
COLA College 55.75 29 P **P 19 38 36.0 +1.1**
AAK Ala-Archa 55.75 304⇑*e*P **P 19 38 34.9 -0.7**
AAK pmax pmax
comp=Z,39nm,2.5s
AAK Ala-Archa 55.75 304 *e*P P 19 38 32.3 -3.3
comp=Z,5.9nm,0.9s
SMLA Simla 56.11 290 *i* x **P 19 38 37.6 -0.4**
baz=290,slow=8.6
SMLA *i* P **P 19 38 37.6 -0.4**
ILAR Eielson Array 56.15 29 P **P 19 38 37.2 -0.7**
ILAR pmax pmax
comp=Z,4.0nm,0.7s
ILAR MLR MLR
comp=Z,16nm,28.6s
ILAR Eielson Array 56.15 29 P **P 19 38 37.1 -0.7**
comp=Z,3.8nm,0.7s,baz=262,slow=5.7,SNR=17
ILAR LR LR 20 01 46.3
comp=Z,319nm,19.9s,baz=274,slow=35
NDI New Delhi 56.75 287 *e*P **P 19 38 41.0 -1.7**
BVAR Borovoye Array 57.22 317 P **P 19 38 46.4 +0.8**
BVAR pmax pmax
comp=Z,24nm,0.6s
BVAR Borovoye Array 57.22 317 P **P 19 38 46.4 +0.8**

comp=Z,24nm,0.6s,baz=93,slow=7.9,SNR=56
BRVK Borovoye 57.28 317 P P 19 38 46.0 0.0
comp=Z,177nm,1.0s,SNR=8.0
BRVK Borovoye 57.28 317 *ceP* **P 19 38 46.5 +0.5**
BRVK pmax pmax
comp=Z,23nm,0.8s
BRVK Borovoye 57.28 317 P P 19 38 46.9 +0.9
SNR=6.9
BRVK Borovoye 57.28 317 *eP* **P 19 38 45.3 -0.7**
comp=Z,27nm,0.9s
MENT Mentasta 57.48 31 *eP* **P 19 38 48.0 +0.6**
DAWY Dawson 59.40 30 *eP* **P 19 39 01.5 +0.8**
STKA Stephens Creek 60.19 181 *eP* **P 19 39 05.8 -0.6**
STKA pmax pmax
comp=Z,13nm,2.1s
STKA Stephens Creek 60.19 181 P P 19 39 05.7 -0.6
comp=Z,4.3nm,0.8s,baz=348,slow=6.9,SNR=7.6
STKA LR LR 20 04 24.9
comp=Z,482nm,20.8s,baz=7.7,slow=35
STKA Stephens Creek 60.19 181 *eP* **P 19 39 05.8 -0.6**
comp=Z,13nm,2.1s
HYT Haines Junctio 60.54 34 *eP* **P 19 39 09.5 +0.8**
INK Inuvik 61.45 25 P **P 19 39 15.2 +0.6**
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 61.45 25 P **P 19 39 15.2 +0.6**
comp=Z,5.6nm,0.7s,baz=283,slow=6.2,SNR=20
INK Inuvik 61.45 25 *eP* **P 19 39 13.9 -0.6**
KBL Kabul 61.74 296 *eP* **P 19 39 16.7 -0.7**
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 61.74 296 *eP* **P 19 39 16.7 -0.7**
comp=Z,8.8nm,0.8s
PALK Pallekele 61.99 263 *eP* **P 19 39 16.9 -2.3**
PALK Pallekele 61.99 263 *eP* **P 19 39 16.9 -2.3**
SIT Sitka 62.21 38 P **P 19 39 21.2 +1.3**
SIT Sitka 62.21 38 P **P 19 39 21.1 +1.3**
ARU Arti 63.48 322 P **P 19 39 28.1 -0.3**
comp=Z,99nm,0.5s,SNR=9.9
ARU Arti 63.48 322 *c iP* **P 19 39 28.3 -0.1**
ARU 19 40 05.4
ARU 19 41 47.7
ARU S **S 19 48 00.7 +0.8**
ARU SS **SS 19 52 04.9 -1.7**
ARU pmax pmax
comp=Z,15nm,1.0s
ARU MLR MLR
comp=Z,627nm,18.0s
ARU Arti 63.48 322 *eP* **P 19 39 27.6 -0.8**
comp=Z,67nm,1.6s
DLBC Dease Lake 64.70 36 P **P 19 39 37.1 +0.7**
comp=Z,2.5nm,0.7s,baz=35,slow=18,SNR=4.0
PRGR Permogore 68.45 329 *eP* **P 19 40 02.0 +1.8**
PRGR *e*PP **pP 19 40 12.0 +3.9**
ABKT Ailbek 69.04 303 P **P 19 40 05.1 +0.7**
comp=Z,124nm,0.9s,SNR=5.5
GEYT Alibeck 69.04 303 P **P 19 40 05.2 +0.8**
comp=Z,9.8nm,0.9s,baz=90,slow=1.5,SNR=23
ISFR Sfrayin 69.44 302 *eP* **P 19 40 08.1 +0.9**
IKOO Kooshah 70.35 297 *eP* **P 19 40 13.5 +0.7**
YKA Yellowknife Ar 70.58 29 P **P 19 40 13.1 -0.2**
comp=Z,3.9nm,1.1s,baz=292,slow=5.5,SNR=15
TAU Tasmania Unive 71.32 176 *eP* **P 19 40 19.0 +1.1**
TAU Tasmania Unive 71.32 176 *eP* **P 19 40 19.0 +1.1**
KLMR Klimovskoe 71.47 330 *eP* **P 19 40 19.1 +0.3**
KLMR pmax pmax
comp=Z,7.0nm,1.0s
KEV Kevo 71.68 341 *eP* P 19 40 14.4 -5.5
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 71.68 341 *ep* P 19 40 14.4 -5.5
comp=Z,0.7nm,0.3s
ARCES ARCESS Array B 72.23 341 P **P 19 40 23.7 +0.5**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES MLR MLR
comp=Z,17nm,28.6s
ARCES ARCESS Array B 72.23 341 P **P 19 40 23.7 +0.5**
comp=Z,6.0nm,0.9s,baz=70,slow=10,SNR=7.8
ARCES LR LR 20 16 19.5
comp=Z,432nm,21.9s,baz=68,slow=39
IGLO Ghaloghah 72.75 302 *eP* **P 19 40 28.0 +0.8**
ILAS Lasjerd 73.84 302 *eP* **P 19 40 34.3 +0.6**
JOF Joensuu 73.90 334 *eP* **P 19 40 32.8 -0.4**
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 73.90 334 *ep* **P 19 40 32.8 -0.4**
comp=Z,3.9nm,0.7s
ICHK Chekchek 74.00 298 *eP* **P 19 40 35.6 +0.9**
DAG Danmarks Havn 74.21 356 *i* P **P 19 40 36.2 +1.4**
comp=Z,4.1nm,1.0s
HOQ Hoqain 75.24 289 P **P 19 40 42.5 +0.8**
SNR=9.5
IZEF Zefreh 75.34 300 *eP* **P 19 40 43.2 +0.8**
NEW Newport 75.48 43 *eP* **P 19 40 42.6 -0.1**
NEW pmax pmax
comp=Z,17nm,1.4s
NEW Newport 75.48 43 *eP* **P 19 40 42.6 -0.1**
comp=Z,17nm,1.4s
OBN Obninsk 75.52 325 *eP* **P 19 40 45.4 +2.7**
OBN *e* 19 40 56.2
OBN *e* 19 43 31.0
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,590nm,18.0s
UOSS Wadi Hilu 75.58 291 P **P 19 40 44.2 +0.5**
comp=Z,87nm,1.0s,SNR=5.8
HATD Hatta, Dubai 75.69 291 ⇑ *iP* **P 19 40 45.0 +0.7**
SNR=11
ASHO Ashiyiah 75.81 290 P **P 19 40 46.2 +1.2**
SNR=5.0
ASHO Ashiyiah 75.81 290 ⇑ *iP* **P 19 40 45.3 +0.2**
SNR=10
ARQ Araqi 76.00 289 P **P 19 40 46.3 +0.2**
SNR=17
VSR Storozhevoye 76.03 321 ⇓ *iP* **P 19 40 46.1 +0.4**
FAQ Al Faqa, Dubai 76.17 291 ⇓ *iP* **P 19 40 46.9 -0.1**
SNR=8.0
KAF Kangasniemi 76.28 334 *eP* **P 19 40 46.5 -0.4**
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 76.28 334 *ep* **P 19 40 46.5 -0.4**
comp=Z,3.1nm,0.5s
ASUD Al Ashush, Dub 76.44 291 ⇑ P **P 19 40 48.5 0.0**
IPIR Pirpir 76.52 300 *eP* **P 19 40 48.3 -0.9**
FINES FINESS Array B 76.76 334 P **P 19 40 49.8 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 76.76 334 P **P 19 40 49.8 +0.1**
comp=Z,1.8nm,0.5s,baz=96,slow=5.9,SNR=26
ZEI Tsey 77.06 312 *eP* **P 19 40 52.0 0.0**
ZEI pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 77.28 313 P **P 19 40 52.5 -0.4**
KBZ pmax pmax
comp=Z,13nm,0.8s
KBZ Khabaz 77.28 313 P **P 19 40 52.5 -0.4**
comp=Z,13nm,0.8s,baz=143,slow=3.8,SNR=20
KIV Kislovodsk 77.32 313 *eP* **P 19 40 51.3 -2.0**
KIV pmax pmax
comp=Z,29nm,1.1s
KIV Kislovodsk 77.32 313 *eP* **P 19 40 51.2 -2.0**
comp=Z,29nm,1.1s
GNI Garni 77.69 309 *ceP* **P 19 40 56.8 +1.3**
GNI pmax pmax
comp=Z,46nm,2.5s
GNI Garni 77.69 309 P **P 19 40 53.0 -2.5**
comp=Z,35nm,1.2s
MFID Camas Ranch 78.53 47 *eP* P 19 40 54.5 -5.5
SUMG Summit 79.06 0 *eP* P 19 41 16.3 +14
SUMG pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 79.06 0 *i* P P 19 41 16.3 +14
comp=Z,5.7nm,0.9s
NVAR Mina Array Bea 79.22 52 P **P 19 41 03.7 -0.4**
comp=Z,2.6nm,0.8s,baz=293,slow=5.3,SNR=9.6
HLID Hailey 79.35 46 P **P 19 41 03.9 -0.8**
baz=79
HLID Hailey 79.35 46 *eP* **P 19 41 04.1 -0.5**
comp=Z,57nm,2.5s
EGMT Eagleton 79.90 41 P **P 19 41 07.3 -0.2**
PPT Papeete 79.94 116 LR LR 20 13 47.9
comp=Z,271nm,18.5s,baz=347,slow=34
ELK Elko 80.20 49 *eP* **P 19 41 10.1 +0.7**
ELK pmax pmax
comp=Z,77nm,2.8s
ELK Elko 80.20 49 *eP* **P 19 41 10.1 +0.7**
comp=Z,77nm,2.8s
ANN Anapa 80.20 316 *eP* **P 19 41 05.9 -3.0**
ANN *eS* **S 19 51 10.2 -2.2**
ANN pmax pmax
comp=Z,90nm,1.3s
ANN MLR MLR
comp=Z,563nm,19.0s
FFC Flin Flon 80.20 32 *eP* **P 19 41 09.0 +0.2**
FFC pmax pmax
comp=Z,13nm,1.0s
FFC Flin Flon 80.20 32 *eP* **P 19 41 08.9 +0.2**
comp=Z,13nm,1.0s
NACGM Naroch 80.36 328 *e* **P 19 41 08.0 -1.6**
C19A Slack Wire Ran 80.46 41 P **P 19 41 10.0 -0.5**
baz=80
RBK Rabkut 80.52 285 P **P 19 41 13.3 +2.1**
SNR=6.3
D19A Cripps Ranch, 80.86 41 P **P 19 41 12.6 0.0**
baz=81
A21A Bergtoll Ranch 80.97 39 P **P 19 41 13.5 +0.4**
baz=81
FCC Fort Churchill 81.03 26 *eP* **P 19 41 10.9 -2.2**
FCC Fort Churchill 81.03 26 *eP* **P 19 41 10.8 -2.2**
C20A Veseth Ranch, 81.06 40 P **P 19 41 13.4 -0.3**
baz=81
EDW2 Edwards Air Fo 81.12 55 P **P 19 41 13.5 -0.7**
baz=81
R11A Troy Canyon, C 81.14 51 P **P 19 41 13.2 -1.2**
baz=81
E19A Rath Farm, Rou 81.29 42 P **P 19 41 14.1 -0.8**
baz=81
D20A Manuel Ranch, 81.33 41 P **P 19 41 14.3 -0.8**
baz=81
ABTO Aybut 81.35 285 P **P 19 41 15.9 +0.2**
SNR=12
FXWY Fox Creek 81.44 45 *eP* **P 19 41 16.3 +0.3**
comp=Z,6.0nm,1.0s
C21A Desert Coulee 81.52 40 P **P 19 41 16.6 +0.6**
baz=81
A22A Carney Farms, 81.52 38 P **P 19 41 15.7 -0.4**
baz=81
AKASG Malin Array Be 81.64 324 P **P 19 41 16.5 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG MLR MLR
comp=Z,17nm,28.6s
AKASG Malin Array Be 81.64 324 P **P 19 41 16.5 0.0**
comp=Z,1.1nm,0.5s,baz=48,slow=5.9,SNR=5.8
AKASG LR LR 20 19 58.4
comp=Z,1μm,18.4s,baz=65,slow=38
GSC Goldstone, Bar 81.77 54 *eP* **P 19 41 17.1 -0.6**
GSC pmax pmax
comp=Z,2.0nm,0.8s
GSC Goldstone, Bar 81.77 54 *eP* **P 19 41 17.1 -0.6**
comp=Z,2.4nm,0.8s
DUG Dugway, Tooele 82.08 48 *eP* **P 19 41 18.9 -0.4**
DUG pmax pmax
comp=Z,11nm,1.3s
DUG Dugway, Tooele 82.08 48 *eP* **P 19 41 18.9 -0.4**
comp=Z,11nm,1.3s
SIM Simferopol' 82.13 317 *eP* **P 19 41 19.0 -0.2**
SIM *eS* **S 19 51 30.0 -2.6**
SIM pmax pmax
comp=Z,21μm,5.2s
HWUT Hardware Ranch 82.16 47 *eP* **P 19 41 19.4 -0.3**
comp=Z,112nm,2.7s
B23A Brockton 82.32 38 P **P 19 41 20.1 -0.2**
baz=82
NB2 NORSAR Subarra 82.34 338 P **P 19 41 19.4 -0.7**
comp=Z,6.1nm,0.8s,baz=43,slow=5.6
NOA NORSAR Array B 82.34 338 P **P 19 41 19.8 -0.3**
NOA pmax pmax
comp=Z,5.0nm,0.6s
NOA MLR MLR
comp=Z,16nm,28.6s
NOA NORSAR Array B 82.34 338 P **P 19 41 19.8 -0.3**
comp=Z,4.7nm,0.6s,baz=41,slow=5.2,SNR=18
NOA LR LR 20 22 55.5
comp=Z,384nm,20.1s,baz=55,slow=39
SUW Suwalki 82.56 329 *eP* **P 19 41 21.9 +0.6**
SUW Suwalki 82.56 329 *eP* **P 19 41 21.8 +0.5**
PDAR Pinedale Array 82.81 45 P **P 19 41 22.4 -0.7**
comp=Z,1.1nm,0.9s,baz=303,slow=0.9,SNR=7.8
PFO Pinyon Flats O 82.85 56 P **P 19 41 22.7 -0.7**
baz=83
J19A Crowheart 82.86 44 P **P 19 41 23.0 -0.3**
baz=83
DAU Daniels Canyon 82.98 48 *eP* **P 19 41 24.6 +0.4**
DAU pmax pmax
comp=Z,5.0nm,0.9s
DAU Daniels Canyon 82.98 48 *eP* **P 19 41 24.6 +0.4**
comp=Z,4.6nm,0.9s
BELC Belle Mtn. Jos 82.99 55 P **P 19 41 23.2 -0.9**
baz=83
I20A Worland 83.05 43 P **P 19 41 24.2 0.0**
baz=83
BC3 Big Chuckawall 83.55 55 P **P 19 41 26.4 -0.6**
baz=83
F23A Volborg 83.66 41 P **P 19 41 26.6 -0.6**
baz=84
SFJD Kangerlussuaq 84.13 5 LR LR 20 20 42.0
comp=Z,117nm,20.3s,baz=350,slow=37
J22A Midwest 84.34 43 P **P 19 41 30.5 -0.4**
baz=84
N20A Spence Gulch, 84.67 46 P **P 19 41 31.4 -1.4**
baz=84
FRB Frobisher Bay 84.68 13 P **P 19 41 32.3 +0.4**
FRB pmax pmax
comp=Z,3.0nm,0.8s
FRB Frobisher Bay 84.68 13 P **P 19 41 32.3 +0.4**
comp=Z,2.8nm,0.8s,baz=23,slow=3.8,SNR=7.4
RAYN Ar Rayn 84.93 294 P **P 19 41 34.0 -0.1**
comp=Z,339nm,0.7s,SNR=52
RAYN Ar Rayn 84.93 294 *eP* **P 19 41 34.8 +0.7**
comp=Z,42nm,0.8s
A29A Manning Farm, 85.10 36 P **P 19 41 34.2 -0.2**
baz=85
BRTR Keskin Array B 85.28 313 P **P 19 41 35.1 -0.6**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 85.28 313 P **P 19 41 35.1 -0.6**
comp=Z,4.6nm,0.8s,baz=101,slow=3.3,SNR=23
WUAZ Wupatki 85.48 52 *eP* **P 19 41 36.9 +0.1**
comp=Z,7.5nm,1.1s
L23A Garrett 85.55 44 P **P 19 41 36.4 -0.7**
baz=85
PV04 Paradox Valley 85.60 48 *eP* **P 19 41 34.8 -2.6**
KWP Kalwaria Pacla 85.60 326 *eP* **P 19 41 37.2 +0.3**
KWP Kalwaria Pacla 85.60 326 *eP* **P 19 41 37.1 +0.2**
B30A Myrvik Farm, E 85.86 36 P **P 19 41 37.7 -0.5**
baz=86
ULM Lac du Bonnet 85.92 33 P **P 19 41 38.9 +0.5**
ULM pmax pmax
comp=Z,2.0nm,0.7s
ULM Lac du Bonnet 85.92 33 P **P 19 41 38.9 +0.5**
comp=Z,0.8nm,0.3s,baz=321,slow=10,SNR=3.0
O22A Kremmling 86.13 46 P **P 19 41 38.9 -1.2**
baz=86
P22A Eagle 86.32 46 P **P 19 41 40.5 -0.4**
baz=86
O23A Lake Granby, G 86.50 46 P **P 19 41 40.8 -1.2**
baz=86
AGMN Agassiz Nation 87.21 35 P **P 19 41 43.7 -1.1**
baz=87
KSP Ksiaz 87.82 329 *eP* **P 19 41 49.1 +1.4**
VYHS Vyhne 88.26 326 *eP* **P 19 41 51.5 +1.6**
VYHS Vyhne 88.26 326 *eP* **P 19 41 51.5 +1.6**
CLL Collm 88.92 331 *eP* **P 19 41 53.0 +0.1**
CLL *i* 19 42 06.4
CLL *eS* **S 19 52 37.0 -2.1**
CLL MLR MLR
comp=Z,200nm,20.0s
CLL Collm 88.92 331 *eP* **P 19 41 53.0 +0.1**
CLL *i* sP **sP 19 42 06.4 +2.4**
CLL *eS* **S 19 52 37.0 -2.1**
CLL *e*PS **PS 19 53 46.0 +0.2**
CLL *e* 19 56 52.0
CLL *e*SS **SS 19 58 35.0 +4.5**
CLL *e*SSS SSS 20 02 06.0
CLL Lm MLR 20 21 00.0
comp=N,400nm,18.1s
CLL Lm MLR 20 21 00.0
comp=E,300nm,21.1s
CLL Lm MLR 20 21 00.0
comp=Z,200nm,20.0s
GERES GERESS Array B 90.42 329 P **P 19 42 00.4 +0.3**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 90.42 329 P **P 19 42 00.4 +0.3**
comp=Z,0.7nm,0.7s,baz=23,slow=4.4,SNR=6.7
CDF Champ du Feu 93.53 332 *eP* **P 19 42 14.5 0.0**
comp=Z,6.4nm,0.9s
CDF Champ du Feu 93.53 332 *eP* **P 19 42 14.5 0.0**
CDF pmax pmax
comp=Z,6.0nm,0.9s
CDF Champ du Feu 93.53 332 *eP* **P 19 42 14.5 0.0**
comp=Z,6.4nm,0.9s
HINF Hinteralfeld 94.17 332 *eP* **P 19 42 16.5 -0.9**
HINF Hinteralfeld 94.17 332 *eP* **P 19 42 16.5 -0.9**
HINF Hinteralfeld 94.17 332 *eP* **P 19 42 16.5 -0.9**
TXAR Lajitas Array 94.33 53 P **P 19 42 18.6 +0.1**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 94.33 53 P **P 19 42 18.6 +0.1**
comp=Z,1.3nm,0.8s,baz=277,slow=2.1,SNR=8.0
LOR Lormes 95.82 333 *eP* **P 19 42 22.8 -2.1**
LOR Lormes 95.82 333 *eP* **P 19 42 22.8 -2.1**
LOR Lormes 95.82 333 *eP* **P 19 42 22.8 -2.1**
LPL La Plagne 96.04 331 *eP* **P 19 42 25.2 -1.0**
LPL La Plagne 96.04 331 *eP* **P 19 42 25.2 -1.0**
LPL La Plagne 96.04 331 *eP* **P 19 42 25.2 -1.0**
LPG La Plagne 96.04 331 *eP* **P 19 42 25.0 -1.3**
comp=Z,9.9nm,1.1s
LPG La Plagne 96.04 331 *eP* **P 19 42 25.0 -1.3**
LPG pmax pmax
comp=Z,10.0nm,1.1s
LPG La Plagne 96.04 331 *eP* **P 19 42 25.0 -1.3**
comp=Z,9.9nm,1.1s
MBDF Montbardon 96.64 330 *eP* **P 19 42 28.1 -0.8**
comp=Z,9.1nm,0.8s
MBDF Montbardon 96.64 330 *eP* **P 19 42 28.1 -0.8**
MBDF pmax pmax
comp=Z,9.0nm,0.8s
MBDF Montbardon 96.64 330 *eP* **P 19 42 28.1 -0.8**
comp=Z,9.1nm,0.8s
TORD Torodi Ar. Bea 123.89 312 PKP **PKPdf 19 47 56.9 -0.4**
comp=Z,1.1nm,0.8s,baz=349,slow=1.3,SNR=6.5
TORD PP **PP 19 49 42.1 +2.2**
comp=Z,0.7nm,0.7s,baz=8.5,slow=5.4,SNR=4.0
SAML Samuel 148.77 56 *e*PKPdf **PKPdf 19 48 42.4 -0.4**
LPAZ La Paz 149.08 73 *e*PKIKP **PKPdf 19 48 43.2 -0.8**
LPAZ *e* 19 48 48.5
LPAZ 19 48 48.7
LPAZ La Paz 149.08 73 PKPbc **PKPbc 19 48 48.7 +0.6**
comp=Z,7.5nm,0.8s,baz=339,slow=6.0,SNR=20
LPAZ La Paz 149.08 73 *e*PKPdf **PKPdf 19 48 43.2 -0.8**
LPAZ *e*PKPbc **PKPbc 19 48 48.5 +0.3**
LPAZ PKPbc **PKPbc 19 48 48.7 +0.6**
LVC Limon Verde 150.94 85 *e*PKPdf **PKPdf 19 48 46.5 +0.2**

GUC 12 19:32:01.2±0.5, 34°.35S×72°.02W, h41km±5km, ML3.8,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.92**	**135**	*i* P	Pn	19 32 18.3	+0.5
NICH				*i* S	Sn	19 32 30.7	+0.9
NICH				AML	AML	19 32 33.0	
comp=E,5μm,0.2s							
CACH	**El Canelo**	**1.20**	**79**	*i* P	Pn	19 32 23.1	+1.4
CACH				*i* S	Sn	19 32 40.0	+3.1
CHCH	**Chadas Angostu**	**1.21**	**70**	*i* P	Pn	19 32 22.6	+0.8
CHCH				*i* S	Sn	19 32 38.9	+1.9
PEL	**Peldehue**	**1.64**	**43**	*i* P	Pn	19 32 29.0	+1.4
PEL				*i* S	Sn	19 32 50.4	+2.8
PEL				AML	AML	19 32 58.1	
comp=N,3μm,0.6s							
FCH	**Farellones**	**1.77**	**55**	*i* P	Pn	19 32 32.1	+2.3
FCH				*i* S	Sn	19 32 54.9	+3.6
FCH				AML	AML	19 33 01.1	
comp=E,1μm,0.3s							

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*JMA **12** 19:36:08.3±0.5, 47°.06N×141°.85E, h7km, M4.3*
*MOS **12** 19:36:09.6±1.0, 46°.90N×141°.77E, h13km, mb4.3/15, Error ellipse: s-maj=10.7km s-min=6.8km az=91.5*
MOS Felt (III) at Nevel'sk, Kholmsk.
*SKHL **12** 19:36:09.7±0.3, 46°.90N×141°.70E, h10km, mb4.3/7, ms4.5/2*
*IDC **12** 19:36:09.3±0.7, 46°.83N×141°.69E, h0km, mb3.8/13, mb1 4.0/16, mb1mx3.8/33, mbtmp3.8/16, ML3.1/3, Error ellipse: s-maj=17.8km s-min=15.9km az=130.0*
*ISCJB **12** 19:36:10.0±0.2, 46°.90N±0°.02×141°.71E±0°.04, h12km, mb4.0/24, Error ellipse: s-maj=3.9km s-min=2.8km az=178.5*
*NEIC **12** 19:36:11.7±1.7, 46°.94N×141°.73E, h13km±11km, mb4.5/8, Error ellipse: s-maj=10.1km s-min=6.7km az=125.0*
ISC 12 19:36:11.3±0.4, 46°.84N±0°.03×141°.83E±0°.03, h12km, n89,
σ1§23/94, mb4.0/24, 4D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.64**	**79κ**	*i* PN	**Pg**	**19 36 24.0**	**+0.2**
YSS				*e*		19 36 34.0	
YSS				pmax	pmax		
comp=Z,360nm,0.6s							
YSS				smax	smax		
comp=N,2μm,0.5s							
YSS				smax	smax		
comp=E,2μm,0.5s							
YSS	**Yuzh-Sakhalins**	**0.64**	**79**	⇓ *i* Pg	**Pg**	**19 36 24.0**	**+0.2**
YSS				⇓ *i* Pg	**Pg**	**19 36 24.0**	**+0.2**
YSS				AMB	AMB	19 36 24.5	
comp=E,440nm,0.7s							
YSS				AMB	AMB	19 36 24.8	
comp=E,360nm,0.6s							
YSS				*e*Sg	**Sb**	**19 36 34.0**	**+0.7**
YSS				A	A	19 36 37.0	
comp=E,2μm,0.5s							
YSS				A	A	19 36 37.0	
comp=E,6μm,0.5s							
YSS				AMS	AMS	19 36 49.0	
comp=E,4μm,6.0s							
YSS				AMS	AMS	19 36 49.0	
comp=E,6μm,6.0s							
YSS	**Yuzh-Sakhalins**	**0.64**	**79**	*e*Pg	**Pg**	**19 36 24.0**	**+0.2**
JWK2	**Keihoku**	**1.52**	**178**	P	**Pn**	**19 36 39.1**	**+0.8**
JWK2				*e*S	**Sg**	**19 37 01.9**	**+1.6**
JRR	**Rishiri**	**1.74**	**192**	P	**Pb**	**19 36 43.1**	**0.0**
JRR				*e*S	**Sg**	**19 37 07.8**	**+0.6**
JSE	**Soyaes**	**1.95**	**164**	P	**Pn**	**19 36 45.2**	**+1.0**
JSE				*e*S	**Sb**	**19 37 11.5**	**+0.5**
UGL	**Uglegorsk**	**2.25**	**4**	*e*PN	**Pn**	**19 36 47.0**	**-1.2**
UGL				*e*S	**Sb**	**19 37 17.8**	**-1.7**
UGL				pmax	pmax		
comp=Z,96nm,0.8s							
UGL				smax	smax		
comp=E,640nm,0.7s							
UGL				smax	smax		
comp=N,190nm,0.5s							
UGL	**Uglegorsk**	**2.25**	**4**	*e*P	**Pn**	**19 36 47.0**	**-1.2**
UGL				AMB	AMB	19 36 50.5	
comp=N,96nm,0.8s							
UGL				*e*Pg	**Pg**	**19 36 54.0**	**-0.3**
UGL				AMB	AMB	19 36 57.5	
comp=N,410nm,0.9s							
UGL				*e*Sg	**Sg**	**19 37 25.0**	**+1.6**
UGL				A	A	19 37 27.5	
comp=N,230nm,0.5s							
JSS	**Shosan**	**2.44**	**180**	P	**Pn**	**19 36 53.1**	**+2.2**
ASAJ	**Asahikawa**	**2.77**	**169**	P	**Pn**	**19 36 56.3**	**+0.8**
ASAJ	**Asahikawa**	**2.77**	**169**	Pn	**Pn**	**19 36 57.2**	**+1.7**
comp=N,5.0nm,0.3s,baz=332,slow=16,SNR=27							
ASAJ				Lg	Lg	19 37 41.2	
comp=N,10.0nm,0.3s,baz=117,slow=29,SNR=6.5							
JKK2	**Kamakawa 2**	**3.04**	**167**	P	**Pn**	**19 37 01.1**	**+2.0**
JHR	**Hokuryu**	**3.10**	**181**	P	**Pn**	**19 37 02.9**	**+3.0**
JTKR	**Abashiri--Toko**	**3.22**	**152**	P	**Pn**	**19 37 02.2**	**+0.6**
JAR	**Ashorobuto**	**3.80**	**158**	P	**Pn**	**19 37 10.8**	**+1.2**
TYV	**Tymovskoe**	**4.06**	**7**	*e*P	**Pn**	**19 37 13.0**	**-0.2**
TYV				*e*Pg	**Pg**	**19 37 30.5**	**+1.4**
TYV				AMB	AMB	19 37 32.5	
comp=N,13nm,0.6s							
TYV				*e*Sg	**Sg**	**19 38 26.0**	**+4.3**
TYV				A	A	19 38 38.0	
comp=N,14nm,0.5s							
TEY	**Ternei**	**4.07**	**246**	*e*Pg	**Pg**	**19 37 29.3**	**+0.1**

TEY				AMB	AMB	19 37 34.0	
	comp=N,200nm,0.6s						
TEY				eSg	**Sg**	**19 38 23.0**	**+1.1**
TEY				A	A	19 38 31.0	
	comp=N,40nm,0.6s						
TEY				AMS	AMS	19 40 02.0	
	comp=N,3μm,14.0s						
TEY				AMS	AMS	19 40 02.0	
	comp=N,4μm,14.0s						
HABR	**Khabarovsk**	**4.87**	**292**	ePN	**Pn**	**19 37 24.5**	**+0.3**
HABR				e		19 38 21.1	
HABR	**Khabarovsk**	**4.87**	**292**	eP	**Pn**	**19 37 24.5**	**+0.3**
GRNR	**Gornyy**	**5.31**	**320**	eP	**Pn**	**19 37 29.0**	**-1.4**
GRNR				AMB	AMB	19 37 32.5	
	comp=N,25nm,0.6s						
GRNR				ePg	**Pg**	**19 37 54.0**	**+1.0**
GRNR				eSg	**Sg**	**19 39 05.5**	**+3.7**
GRNR				A	A	19 39 07.0	
	comp=N,48nm,1.0s						
NKL	**Nikolayevsk**	**6.36**	**354**	eP	**Pn**	**19 37 45.0**	**+0.3**
NKL				AMB	AMB	19 37 46.0	
	comp=N,11nm,0.8s						
NKL				ePg	**Pg**	**19 38 13.0**	**0.0**
NKL				eSg	Sg	19 39 41.0	+5.7
NKL				A	A	19 39 43.8	
	comp=N,14nm,0.8s						
OKH	**Okha**	**6.76**	**6**	eSg	Sg	19 39 59.8	+12
KLR	**Kul'dur**	**7.17**	**293**	ePN	**Pb**	**19 38 16.8**	**+1.2**
USRK	**Ussuriysk Ar.**	**7.40**	**253**	Lg	Lg	19 40 06.0	
	comp=N,0.8nm,0.3s,baz=72,slow=33,SNR=5.7						
EKMR	**Ekimchan**	**8.46**	**321**	eP	**Pn**	**19 38 13.3**	**-0.3**
EKMR				AMB	AMB	19 38 16.5	
	comp=N,4.0nm,0.5s						
EKMR				eSg	**Sg**	**19 40 44.1**	**+1.5**
EKMR				A	A	19 40 52.5	
	comp=N,10.0nm,0.9s						
EKMR				A	A	19 40 52.5	
	comp=N,23nm,0.9s						
EKMR				A	A	19 40 52.5	
	comp=N,29nm,0.9s						
SKR	**Severo-Kuril's**	**10.18**	**63**	ePN	**Pn**	**19 38 38.0**	**+0.9**
SKR				MLR	MLR		
	comp=Z,3μm,10.0s						
SKR				MLR	MLR		
	comp=E,3μm,14.0s						
SKR				MLR	MLR		
	comp=Z,2μm,10.0s						
SKR	**Severo-Kuril's**	**10.18**	**63**	eP	**Pn**	**19 38 38.0**	**+0.9**
SKR				AMS	AMS	19 41 13.0	
	comp=Z,3μm,12.0s						
SKR				AMS	AMS	19 41 13.0	
	comp=Z,3μm,12.0s						
MAJO	**Matsushiro**	**10.64**	**196**	PN	**Pn**	**19 38 45.4**	**+1.9**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MAJO	**Matsushiro**	**10.64**	**196**	P	**Pn**	**19 38 45.4**	**+1.9**
	comp=Z,10nm,0.8s						
MJAR	**Matsushiro Arr**	**10.64**	**196**	Pn	Pn	19 38 46.8	+3.3
	comp=Z,0.1nm,0.3s,baz=1.8,slow=15,SNR=5.6						
YASR	**Yasnyy**	**10.99**	**311**	eSg		19 41 56.3	
YASR				A	A	19 42 18.3	
	comp=Z,14nm,1.0s						
YASR				A	A	19 42 18.3	
	comp=Z,11nm,1.0s						
BMKR	**Bomnak**	**11.38**	**319**	eSg		19 42 18.0	
BMKR				A	A	19 42 22.0	
	comp=Z,3.0nm,0.7s						
ZEA	**Zeya**	**11.59**	**312**	eSg		19 42 31.2	
PETK	**Petropavlovsk-**	**11.97**	**53**	Pn	**Pn**	**19 39 03.9**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=203,slow=10,SNR=2.4						
KROS	**Kirovskiy**	**12.10**	**314**	eSg		19 42 37.5	
SEY	**Seymchan**	**17.19**	**16**	Pn	**P**	**19 40 11.8**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=257,slow=20,SNR=5.2						
ULN	**Ulaanbaatar**	**23.47**	**285**	P	P	19 41 14.7	-6.0
ULN	**Ulaanbaatar**	**23.47**	**285**	P	P	19 41 14.7	-6.0
SONM	**Songino Array**	**23.91**	**285**	P	**P**	**19 41 24.7**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**23.91**	**285**	P	**P**	**19 41 24.7**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=83,slow=8.8,SNR=5.2						
BILL	**Bilibino**	**24.66**	**22**	eP	**P**	**19 41 30.7**	**-0.8**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BILL	**Bilibino**	**24.66**	**22**	eP	**P**	**19 41 30.7**	**-0.8**
	comp=Z,6.7nm,0.8s						
ZAK	**Zakamensk**	**25.54**	**292**	eP	**P**	**19 41 39.3**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ZALV	**Zalesovo Beam**	**36.16**	**303**	P	**P**	**19 43 12.3**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**36.16**	**303**	P	**P**	**19 43 12.3**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=80,slow=16,SNR=4.0						
MKAR	**Makanchi Array**	**39.88**	**293**	P	**P**	**19 43 44.5**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**39.88**	**293**	P	**P**	**19 43 44.5**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=74,slow=8.9,SNR=8.0						
KURK	**Kurchatov**	**40.71**	**300**	eP	**P**	**19 43 50.6**	**-0.9**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KURK	**Kurchatov**	**40.71**	**300**	eP	**P**	**19 43 50.6**	**-0.9**
	comp=Z,3.3nm,1.1s						
COLA	**College**	**40.87**	**38**	P	**P**	**19 43 53.3**	**+0.8**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
COLA	**College**	**40.87**	**38**	P	**P**	**19 43 53.3**	**+0.8**
	comp=Z,3.4nm,0.6s						
ILAR	**Eielson Array**	**41.29**	**38**	P	**P**	**19 43 56.5**	**+0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**41.29**	**38**	P	**P**	**19 43 56.5**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=284,slow=7.9,SNR=12						
LSA	**Lhasa**	**42.53**	**265**	P	**P**	**19 44 08.1**	**+0.9**
LSA	**Lhasa**	**42.53**	**265**	P	**P**	**19 44 08.1**	**+0.9**
BVAR	**Borovoye Array**	**44.65**	**305**	P	**P**	**19 44 22.9**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=59,slow=9.2,SNR=2.9						
INK	**Inuvik**	**45.67**	**31**	P	**P**	**19 44 30.9**	**-0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**45.67**	**31**	P	**P**	**19 44 30.9**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=294,slow=5.5,SNR=3.9						
AAK	**Ala-Archa**	**46.70**	**291**	eP	**P**	**19 44 37.9**	**-2.0**
AAK				pmax	pmax		
	comp=Z,13nm,1.5s						
AAK	**Ala-Archa**	**46.70**	**291**	eP	**P**	**19 44 37.9**	**-2.0**
	comp=Z,13nm,1.5s						
ARU	**Arti**	**49.51**	**313**	eP	**P**	**19 44 58.9**	**-2.4**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARU	**Arti**	**49.51**	**313**	eP	**P**	**19 44 58.9**	**-2.4**
	comp=Z,4.2nm,1.0s						
DLBC	**Dease Lake**	**50.94**	**43**	P	P	19 45 15.6	+3.4
KBL	**Kabul**	**54.69**	**285**	eP	**P**	**19 45 39.4**	**-0.9**
KBL	**Kabul**	**54.69**	**285**	eP	**P**	**19 45 39.4**	**-0.9**
YKA	**Yellowknife Ar**	**55.30**	**33**	P	**P**	**19 45 44.2**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**55.30**	**33**	P	**P**	**19 45 44.2**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=305,slow=6.9,SNR=13						
FINES	**FINESS Array B**	**60.37**	**330**	P	**P**	**19 46 19.2**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**60.37**	**330**	P	**P**	**19 46 19.2**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=39,slow=11,SNR=4.0						
SUMG	**Summit**	**60.89**	**0**	P	**P**	**19 46 23.7**	**+0.1**
SUMG	**Summit**	**60.89**	**0**	P	**P**	**19 46 23.6**	**+0.1**
KIV	**Kislovodsk**	**64.90**	**308**	P	**P**	**19 46 50.8**	**+0.4**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KIV	**Kislovodsk**	**64.90**	**308**	P	**P**	**19 46 50.8**	**+0.4**
	comp=Z,6.9nm,0.8s						
ZEI	**Tsey**	**65.01**	**306**	eP	**P**	**19 46 50.6**	**-0.7**
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.5s						
FCC	**Fort Churchill**	**65.16**	**28**	eP	**P**	**19 46 50.4**	**-1.2**
FCC	**Fort Churchill**	**65.16**	**28**	eP	**P**	**19 46 50.4**	**-1.2**
	comp=Z,0.1nm,1.0s						
FFC	**Flin Flon**	**65.38**	**35**	eP	**P**	**19 46 52.7**	**-0.5**
FFC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
FFC	**Flin Flon**	**65.38**	**35**	eP	**P**	**19 46 52.7**	**-0.5**
	comp=Z,7.2nm,1.1s						
WRA	**Warramunga Arr**	**66.81**	**188**	P	**P**	**19 47 02.4**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRA	**Warramunga Arr**	**66.81**	**188**	P	**P**	**19 47 02.4**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=360,slow=6.8,SNR=3.4						
SUW	**Suwalki**	**66.88**	**326**	P	**P**	**19 47 02.3**	**-0.5**
SUW	**Suwalki**	**66.88**	**326**	P	**P**	**19 47 02.3**	**-0.5**
CMB	**Columbia Colle**	**68.11**	**57**	P	**P**	**19 47 10.1**	**-0.9**
CMB				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMB	**Columbia Colle**	**68.11**	**57**	P	**P**	**19 47 10.1**	**-0.9**
	comp=Z,3.2nm,1.0s						
NVAR	**Mina Array Bea**	**69.04**	**56**	P	**P**	**19 47 18.2**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=288,slow=6.4,SNR=3.5						
ASAR	**Alice Springs**	**70.54**	**188**	P	**P**	**19 47 25.1**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=3.3,slow=5.6,SNR=8.1						
PDAR	**Pinedale Array**	**70.69**	**48**	P	**P**	**19 47 27.1**	**0.0**
	comp=Z,0.7nm,0.8s,baz=281,slow=0.8,SNR=4.3						
BRTR	**Keskin Array B**	**72.69**	**310**	P	**P**	**19 47 37.7**	**-1.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**72.69**	**310**	P	**P**	**19 47 37.6**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=62,slow=3.6,SNR=5.1						

*IDC **12** 19:48:28.3±0.7, 34°.58S×72°.00W, h0km, mb4.2/10, mb1 4.3/13, mb1mx4.2/25, mbtmp4.2/13, ML3.8/2, MS3.7/4, Ms1 3.7/4, ms1mx3.2/30, Error ellipse: s-maj=26.5km s-min=16.7km az=89.0*
*GUC **12** 19:48:29.8±0.7, 34°.49S×71°.90W, h15km±6km, ML4.8*
*ISCJB **12** 19:48:33.0±0.2, 34°.60S±0°.03×71°.59W±0°.05, h35km, mb4.6/21, MS3.8/3, Error ellipse: s-maj=6.2km s-min=3.6km az=13.0*
*NEIC **12** 19:48:33.8±0.5, 34°.48S×71°.63W, h35km, mb4.8/14, ML4.8(GUC), Error ellipse: s-maj=12.9km s-min=7.7km az=96.0*
NEIC Felt [IV] at Pichilemu and [II] at Casablanca, San Antonio, San Fernando and Santiago. Also felt at Valparaiso.
*BJI **12** 19:48:35.3, 34°.50S×71°.70W, h30km, mB5.2/4, Ms5.2/4, Ms7 5.0/4*

ISC 12 19:48:34.2±0.4, 34°.59S±0°.03×71°.61W±0°.07, h35km, n114, σ1§50/122, mb4.5/21, MS3.8/3, 10C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.52**	**142**	↓iP	**Pn**	**19 48 43.5**	**-1.6**
NICH				*i* S	**Sn**	**19 48 53.9**	**+1.2**
NICH				AML	AML	19 48 56.4	
	comp=E,253μm,0.5s						
NICH	**Los Niches**	**0.52**	**142**	↓iP	**Pn**	**19 48 43.5**	**-1.6**
NICH				*i* S	**Sn**	**19 48 53.9**	**+1.2**
LNV	**Longovilo**	**0.66**	**15**	↑iP	Pn	19 48 42.0	-5.1
LNV	**Longovilo**	**0.66**	**15**	↑iP	Pn	19 48 42.0	-5.1
TALC	**Talca**	**0.80**	**181**	↓iP	**Pn**	**19 48 46.0**	**-3.0**
TALC				*i* S	**Sn**	**19 48 58.8**	**-1.0**
TALC	**Talca**	**0.80**	**181**	↓iP	**Pn**	**19 48 46.0**	**-3.0**
TALC				*i* S	**Sn**	**19 48 58.8**	**-1.0**
CHCH	**Chadas Angostu**	**1.03**	**51**	↓iP	**Pn**	**19 48 50.4**	**-1.9**
CHCH	**Chadas Angostu**	**1.03**	**51**	↓iP	**Pn**	**19 48 50.4**	**-1.9**
TACH	**Talagante**	**1.09**	**31**	↑iP	Pn	19 48 49.6	-3.5
TACH	**Talagante**	**1.09**	**31**	↑iP	Pn	19 48 49.6	-3.5
LNCH	**Linares**	**1.25**	**180**	eP	**Pn**	**19 48 54.0**	**-1.2**
LNCH	**Linares**	**1.25**	**180**	eP	**Pn**	**19 48 54.0**	**-1.2**
ANTU	**Antumapu**	**1.31**	**39**	↑iP	**Pn**	**19 48 53.9**	**-2.1**
ANTU				*i* S	**Sn**	**19 49 12.4**	**+0.1**
ANTU				AML	AML	19 49 15.9	
	comp=E,29μm,0.5s						
ANTU	**Antumapu**	**1.31**	**39**	↑iP	**Pn**	**19 48 53.9**	**-2.1**
ANTU				*i* S	**Sn**	**19 49 12.4**	**+0.1**
PCH	**Pirque**	**1.33**	**44**	↑iP	**Pn**	**19 48 55.0**	**-1.5**
PCH	**Pirque**	**1.33**	**44**	↑iP	**Pn**	**19 48 55.0**	**-1.5**
SAN	**Santiago**	**1.39**	**35**	↓iP	**Pn**	**19 48 55.0**	**-2.1**
SAN				eS	**Sn**	**19 49 13.6**	**-0.6**
SAN				AML	AML	19 49 19.3	
	comp=N,18μm,0.6s						
SAN	**Santiago**	**1.39**	**35**	↓iP	**Pn**	**19 48 55.0**	**-2.1**
SAN				eS	**Sn**	**19 49 13.6**	**-0.6**
LACH	**Col Las Americ**	**1.45**	**39**	↓iP	**Pn**	**19 48 55.9**	**-2.2**
LACH				*i* S	**Sn**	**19 49 16.5**	**+0.6**
LACH				AML	AML	19 49 23.3	
	comp=N,12μm,0.6s						
LACH	**Col Las Americ**	**1.45**	**39**	↓iP	**Pn**	**19 48 55.9**	**-2.2**
LACH				*i* S	**Sn**	**19 49 16.5**	**+0.6**
IHA	**Instituto Hidr**	**1.56**	**359**	eP1	Pn	19 48 55.2	-4.3
IHA	**Instituto Hidr**	**1.56**	**359**	eP	Pn	19 48 55.2	-4.3
PEL	**Peldehue**	**1.64**	**28**	↑iP	**Pn**	**19 48 58.2**	**-2.4**
PEL				*i* S	**Sn**	**19 49 20.2**	**-0.3**
PEL				AML	AML	19 49 25.5	
	comp=N,27μm,0.9s						
PEL	**Peldehue**	**1.64**	**28**	↑iP	**Pn**	**19 48 58.2**	**-2.4**
PEL				*i* S	**Sn**	**19 49 20.2**	**-0.3**
CFAA	**Coronel Fontan**	**4.11**	**44**	Pn	**Pn**	**19 49 36.6**	**+2.0**
	comp=N,1.6nm,0.3s,baz=210,slow=13,SNR=48						
CFAA				Lg	Lg	19 50 40.0	
	comp=N,5.7nm,0.3s,baz=308,slow=19,SNR=18						
LCO	**Las Campanas**	**5.62**	**8**	ePn	Pn	19 49 51.4	-4.1
	comp=N,74nm,0.8s						
LCO				eSn	**Sn**	**19 50 58.4**	**-0.7**
PLCA	**Paso Flores**	**6.18**	**172**	Pn	**Pn**	**19 50 03.8**	**+0.7**
	baz=343,slow=15						
PLCA				Lg	Lg	19 51 40.9	
	comp=N,0.8nm,0.3s,baz=240,slow=20,SNR=1.8						
PLCA				LR	LR	19 52 53.0	
	comp=N,308nm,20.3s,baz=356,slow=42						
TRQA	**Tornquist**	**8.51**	**117**	ePn	Pn	19 50 37.6	+2.7
LVC	**Limon Verde**	**12.17**	**12**	ePn	Pn	19 51 18.2	-7.1
LPAZ	**La Paz**	**18.50**	**11**	P	**P**	**19 52 45.5**	**-2.5**
	comp=N,0.3nm,0.3s,baz=185,slow=6.7,SNR=9.3						
LPAZ	**La Paz**	**18.50**	**11**	eP	**P**	**19 52 46.0**	**-2.0**
	comp=N,8.4nm,0.9s						
EFI	**East Falkland**	**19.67**	**154**	eP	**P**	**19 52 59.1**	**-0.8**
USHA	**Ushuaia**	**20.36**	**175**	P	**P**	**19 53 07.0**	**-0.4**
	comp=N,7.2nm,0.5s,baz=346,slow=10,SNR=7.6						
SIV	**San Ignacio**	**20.80**	**30**	P	**P**	**19 53 09.7**	**-2.9**
	comp=N,2.6nm,0.5s,baz=229,slow=12,SNR=7.7						
SIV				LR	LR	20 01 54.8	
	comp=N,177nm,20.5s,baz=344,slow=38						
SAML	**Samuel**	**26.67**	**19**	eP	**P**	**19 54 10.3**	**+0.3**
	comp=N,61nm,2.3s						
BDFB	**Brasilia**	**28.39**	**54**	P	**P**	**19 54 26.0**	**+0.5**
	comp=N,5.0nm,0.8s,baz=231,slow=9.5,SNR=6.0						
BDFB				LR	LR	20 08 14.8	
	comp=N,200nm,18.0s,baz=232,slow=41						
BDFB	**Brasilia**	**28.39**	**54**	eP	P	19 54 29.3	+3.8
PMSA	**Palmer Station**	**30.56**	**174**	P	P	19 54 40.4	-3.7
OTAV	**Otavalo**	**35.24**	**348**	eP	**P**	**19 55 24.0**	**-1.9**
	comp=N,4.7nm,1.0s						
PTGA	**Pitinga**	**35.41**	**20**	eP	**P**	**19 55 24.8**	**-2.1**
	comp=N,3.7nm,0.6s						
VNA2	**Neumayer--Watz**	**49.33**	**157**	P	**P**	**19 57 20.4**	**+0.9**
	baz=290,slow=12						
SNAA	**Sanae**	**50.90**	**158**	P	**P**	**19 57 30.2**	**-1.3**
SNAA	**Sanae**	**50.90**	**158**	P	**P**	**19 57 30.5**	**-1.0**
	comp=N,2.4nm,1.1s,baz=299,slow=8.0,SNR=4.5						
SNAA	**Sanae**	**50.90**	**158**	P	**P**	**19 57 29.3**	**-2.2**
	comp=N,9.7nm,1.3s						
QSPA	**South Pole Qui**	**55.64**	**180**	P	**P**	**19 58 05.8**	**-0.7**
	comp=N,4.3nm,0.8s,baz=272,slow=1.1,SNR=18						
SYO	**Syowa Base**	**65.19**	**158**	eP	**P**	**19 59 09.9**	**-1.4**
732A	**Laxson Ranch,**	**68.45**	**333**	P	**P**	**19 59 33.5**	**+0.9**
	baz=69						
632A	**Uvalde**	**69.08**	**334**	P	**P**	**19 59 37.7**	**+1.1**
	baz=69						
631A	**Perdido Creek**	**69.29**	**333**	P	**P**	**19 59 38.8**	**+1.0**
	baz=70						
532A	**Rocksprings**	**69.69**	**334**	P	**P**	**19 59 40.7**	**+0.4**
	baz=70						
531A	**Rocksprings**	**69.96**	**334**	P	**P**	**19 59 43.2**	**+1.2**
	baz=70						
433A	**Art**	**69.97**	**335**	P	**P**	**19 59 42.6**	**+0.6**
	baz=70						
JCT	**Junction City**	**69.97**	**334**	P	**P**	**19 59 42.8**	**+0.7**
	baz=70						
TXAR	**Lajitas Array**	**70.42**	**331**	P	**P**	**19 59 43.3**	**-1.6**
	comp=N,1.0nm,0.6s,baz=154,slow=9.7,SNR=11						
231A	**Bronte**	**71.47**	**334**	P	**P**	**19 59 51.9**	**+0.7**
	baz=72						
WVT	**Waverly**	**71.97**	**346**	eP	**P**	**19 59 52.5**	**-1.5**
	comp=N,20nm,0.9s						
MAW	**Mawson**	**72.51**	**163**	LR	LR	20 35 34.0	
	comp=N,104nm,18.5s,baz=30,slow=39						
W32A	**Sentinel**	**74.01**	**337**	P	**P**	**20 00 07.1**	**+0.9**
	baz=74						
MSTX	**Muleshoe**	**74.19**	**333**	P	**P**	**20 00 08.9**	**+1.5**
	baz=74						
121A	**Cookes Peak, D**	**74.93**	**329**	P	**P**	**20 00 13.5**	**+1.8**
	baz=75						
DBIC	**Dimbokro**	**75.04**	**71**	P	**P**	**20 00 14.3**	**+1.7**
	comp=N,2.0nm,0.7s,baz=169,slow=5.5,SNR=4.2						
DBIC	**Dimbokro**	**75.04**	**71**	P	**P**	**20 00 13.6**	**+1.0**
SSPA	**Standing Stone**	**75.08**	**355**	eP	**P**	**20 00 13.0**	**+0.9**
	comp=N,12nm,0.8s						
W27A	**Bowe Ranch, En**	**75.28**	**334**	P	**P**	**20 00 14.1**	**+0.5**
	baz=76						
V25A	**Rancho No Teng**	**76.54**	**333**	P	**P**	**20 00 21.2**	**+0.3**
	baz=77						
V22A	**San Miguel Ran**	**77.50**	**331**	P	**P**	**20 00 27.6**	**+1.3**
	baz=78						
T25A	**Trinidad**	**77.62**	**334**	P	**P**	**20 00 27.2**	**+0.3**
	baz=78						
Q30A	**Quinter**	**77.85**	**338**	P	**P**	**20 00 29.2**	**+1.2**
	baz=78						
R27A	**Eads**	**78.07**	**335**	P	**P**	**20 00 30.1**	**+0.8**
	baz=78						
S25A	**Robets Cordova**	**78.09**	**334**	P	**P**	**20 00 31.1**	**+1.5**
	baz=78						
BOSA	**Boshof**	**79.48**	**117**	P	**P**	**20 00 38.8**	**+1.2**
	comp=N,1.6nm,0.6s,baz=233,slow=5.3,SNR=3.6						
ECSD	**EROS Data Cent**	**81.22**	**342**	P	**P**	**20 00 46.8**	**+0.7**
	baz=82						
ECSD	**EROS Data Cent**	**81.22**	**342**	eP	**P**	**20 00 46.2**	**+0.1**
	comp=N,6.2nm,0.8s						
K21A	**Alcova**	**83.49**	**334**	P	**P**	**20 00 58.9**	**+0.6**
	baz=84						
TOA0	**Torodi Ar. Sit**	**84.08**	**70**	eP	**P**	**20 01 03.0**	**+1.3**
TORD	**Torodi Ar. Bea**	**84.08**	**70**	P	**P**	**20 01 03.0**	**+1.4**
	comp=N,2.7nm,0.9s,baz=257,slow=3.9,SNR=12						
HWUT	**Hardware Ranch**	**84.24**	**331**	eP	**P**	**20 01 00.7**	**-1.4**
	comp=N,63nm,2.7s						
PDAR	**Pinedale Array**	**84.45**	**333**	P	**P**	**20 01 01.6**	**-1.7**
	comp=N,0.8nm,0.8s,baz=156,slow=2.5,SNR=4.0						
NVAR	**Mina Array Bea**	**84.57**	**325**	P	**P**	**20 01 04.0**	**+0.1**
	comp=N,0.9nm,0.8s,baz=160,slow=8.2,SNR=4.2						
HVU	**Hansel Valley**	**84.87**	**330**	eP	**P**	**20 01 06.3**	**+1.1**
	comp=N,88nm,2.6s						
AGMN	**Agassiz Nation**	**85.32**	**344**	P	**P**	**20 01 08.0**	**+0.8**
	baz=86						
H20A	**Greybull**	**85.37**	**335**	P	**P**	**20 01 08.6**	**+1.0**
	baz=86						
C30A	**Mose, Pekin**	**85.39**	**342**	P	**P**	**20 01 08.6**	**+1.1**
	baz=86						
G21A	**Lodge Grass**	**85.74**	**336**	P	**P**	**20 01 10.3**	**+0.8**
	baz=86						
MDND	**Maddock**	**85.82**	**342**	P	**P**	**20 01 10.8**	**+1.2**
	baz=86						
H19A	**Powell**	**85.88**	**334**	P	**P**	**20 01 11.2**	**+1.0**
	baz=86						
FLWY	**Flagg Ranch**	**86.01**	**333**	eP	**P**	**20 01 12.5**	**+1.6**
	comp=N,36nm,2.1s						
B30A	**Myrvik Farm, E**	**86.05**	**343**	P	**P**	**20 01 11.7**	**+0.9**
	baz=86						
G20A	**Bridger**	**86.09**	**335**	P	**P**	**20 01 11.6**	**+0.4**
	baz=86						
H18A	**Shoshone NF, C**	**86.13**	**334**	P	**P**	**20 01 11.7**	**+0.2**
	baz=86						
RLMT	**Red Lodge**	**86.37**	**334**	eP	**P**	**20 01 14.0**	**+1.3**
	comp=N,58nm,2.6s						
A30A	**Hoffart Farm,**	**86.50**	**343**	P	**P**	**20 01 13.4**	**+0.5**
	baz=87						
YMR	**Madison River**	**86.61**	**333**	eP	**P**	**20 01 16.2**	**+2.3**
	comp=N,5.6nm,0.8s						
A29A	**Manning Farm,**	**86.71**	**342**	P	**P**	**20 01 14.8**	**+0.8**
	baz=87						
D23A	**Lindsay**	**86.81**	**338**	P	**P**	**20 01 15.6**	**+1.0**
	baz=87						
HLID	**Hailey**	**87.03**	**330**	eP	**P**	**20 01 14.8**	**-1.1**
	comp=N,1.5nm,0.8s						
E20A	**Meyer Farm, Mu**	**87.17**	**336**	P	**P**	**20 01 17.4**	**+1.0**
	baz=87						
D21A	**La Casta Ranch**	**87.29**	**337**	P	**P**	**20 01 17.0**	**0.0**
	baz=88						
E19A	**Rath Farm, Rou**	**87.36**	**335**	P	**P**	**20 01 18.0**	**+0.7**
	baz=88						
C23A	**Lambert**	**87.37**	**338**	P	**P**	**20 01 18.1**	**+0.9**
	baz=88						
WRA	**Warramunga Arr**	**120.41**	**209**	PKP	**PKPdf**	**20 07 20.4**	**-2.0**
	comp=N,0.4nm,0.8s,baz=158,slow=1.7,SNR=6.3						
H11S2	**WAKE ISLAND Hyl**	**26.11**	**268**	T	T	22 25 51.8	
	baz=119,slow=74,SNR=24						
H11S1	**WAKE ISLAND Hyl**	**26.12**	**268**	T	T	22 25 52.7	
	baz=119,slow=74,SNR=36						
H11S3	**WAKE ISLAND Hyl**	**26.13**	**268**	T	T	22 25 55.1	
	baz=119,slow=74,SNR=25						
BVAR	**Borovoye Array**	**147.47**	**44**	PKPbc	**PKPbc**	**20 08 14.0**	**+0.1**
	comp=N,0.9nm,0.5s,baz=270,slow=2.2,SNR=9.2						
AAK	**Ala-Archa**	**152.47**	**63**	ePKPdf	**PKPdf**	**20 08 20.4**	**+0.6**
KSH	**Kashi**	**153.75**	**70**	ePKPbc	**PKPdf**	**20 08 21.4**	**-0.3**
KSH				PKS	**PKSdf**	**20 11 56.0**	**-0.1**
KSH				PP	**PP**	**20 12 16.0**	**-1.5**
KSH				SKS	**SKSdf**	**20 15 28.7**	**+2.7**
KSH				SKKS	**SKKSac**	**20 19 08.7**	**+

n74,σ1$22/84, mb4.7/24, MS4.2/4, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.62**	**30**	⇑*iP*	**Pn**	**20 23 26.6**	**-0.4**
CCSP				*i* S	**Sn**	**20 23 37.3**	**+1.5**
CCSP				AML	AML	20 23 38.6	
	comp=E,68μm,0.5s						
AGCH	**Angol**	**0.76**	**124**	*eP*	**Pb**	**20 23 28.2**	**-1.3**
AGCH				*i* S	**Sn**	**20 23 40.8**	**+1.4**
COCH	**Cobquecura**	**1.37**	**25**	⇑*iP*	**Pn**	**20 23 36.6**	**-0.8**
COCH				*e*S1	**Sb**	**20 23 57.2**	**+0.4**
VLCH	**Valdivia**	**2.43**	**176**	*eP*	**Pn**	**20 23 49.9**	**-2.0**
VLCH				*e*S1	**Sn**	**20 24 18.6**	**-1.9**
TALC	**Talca**	**2.48**	**38**	*eP*	**Pn**	**20 23 53.7**	**+1.0**
TALC				*e*S	**Sb**	**20 24 26.9**	**-1.7**
PLCA	**Paso Flores**	**4.05**	**147**	Pn	**Pn**	**20 24 15.1**	**+0.7**
	baz=317,slow=13						
PLCA				Lg	Lg	20 25 17.9	
	comp=E,24nm,0.3s,baz=51,slow=20,SNR=4.2						
CFAA	**Coronel Fontan**	**7.21**	**38**	Pn	**Pn**	**20 24 57.2**	**-0.5**
	comp=E,0.7nm,0.3s,baz=186,slow=7.7,SNR=17						
CFAA				LR	LR	20 28 02.8	
	comp=E,121nm,19.9s,baz=224,slow=41						
LCO	**Las Campanas**	**8.67**	**16**	*e*Pn	Pn	20 25 13.1	-4.9
	comp=E,19nm,0.6s						
TRQA	**Tornquist**	**9.15**	**98**	*e*Pn	**Pn**	**20 25 25.9**	**+1.6**
LVC	**Limon Verde**	**15.24**	**16**	Pn	**P**	**20 26 51.1**	**-1.1**
USHA	**Ushuaia**	**17.79**	**170**	P	**Pn**	**20 27 19.5**	**0.0**
	comp=E,0.2nm,0.3s,baz=332,slow=12,SNR=3.9						
EFI	**East Falkland**	**17.98**	**148**	*e*Pn	**P**	**20 27 22.6**	**+0.6**
	comp=E,36nm,0.6s						
LPAZ	**La Paz**	**21.54**	**14**	P	**P**	**20 28 02.6**	**+0.9**
	comp=E,4.8nm,0.8s,baz=178,slow=10,SNR=14						
LPAZ	**La Paz**	**21.54**	**14**	*e*P	**P**	**20 28 02.4**	**+0.7**
	comp=E,17nm,1.0s						
SIV	**San Ignacio**	**23.97**	**31**	P	**P**	**20 28 24.7**	**-1.5**
	comp=E,8.4nm,0.8s,baz=228,slow=12,SNR=21						
BDFB	**Brasilia**	**31.26**	**53**	LR	LR	20 43 01.7	
	comp=E,389nm,19.9s,baz=232,slow=38						
OTAV	**Otavalo**	**37.71**	**352**	*e*P	**P**	**20 30 28.3**	**+0.6**
	comp=E,13nm,1.4s						
RCBR	**Riachuelo**	**46.45**	**57**	P	**P**	**20 31 38.1**	**-0.5**
	comp=E,50nm,1.5s						
VNA3	**Neumayer Olymp**	**46.71**	**156**	P	**P**	**20 31 42.3**	**+2.3**
VNA2	**Neumayer-Watz**	**47.39**	**156**	P	**P**	**20 31 47.5**	**+2.3**
	baz=290,slow=8.8						
JTS	**JuntasAbangare**	**48.62**	**345**	P	**P**	**20 31 55.1**	**-0.3**
SNAA	**Sanae**	**48.93**	**157**	P	**P**	**20 31 57.9**	**+0.7**
SNAA	**Sanae**	**48.93**	**157**	P	**P**	**20 31 57.8**	**+0.6**
	comp=E,4.7nm,1.1s,baz=280,slow=7.5,SNR=8.9						
SNAA	**Sanae**	**48.93**	**157**	*e*P	**P**	**20 31 57.6**	**+0.4**
	comp=E,20nm,1.3s						
QSPA	**South Pole Qui**	**52.86**	**180**	P	**P**	**20 32 27.6**	**+0.6**
	comp=E,9.5nm,0.9s,baz=311,slow=0.8,SNR=34						
QSPA	**South Pole Qui**	**52.86**	**180**	*e*P	**P**	**20 32 27.3**	**+0.4**
	comp=E,18nm,1.1s						
RKT	**Rikitea**	**54.12**	**267**	*e*T	T	21 30 38.1	
	comp=E,3.2nm,0.2s						
SBA	**Scott Base**	**59.53**	**192**	P	**P**	**20 33 15.1**	**+0.9**
	comp=E,4.4nm,1.1s						
VNDA	**Vanda**	**60.56**	**192**	P	**P**	**20 33 20.6**	**-0.6**
	comp=E,4.4nm,1.2s						
MEH	**Mehetia**	**67.28**	**264**	*e*T	T	21 47 06.5	
	comp=E,26nm,0.2s						
TIAR	**Tiarei**	**68.47**	**264**	*e*T	T	21 48 35.7	
	comp=E,3.9nm,0.3s						
PPT2	**Papeete2**	**68.64**	**264**	*e*LR	LR	20 54 58.8	
	comp=E,178nm,25.2s						
MAW	**Mawson**	**70.28**	**164**	LR	LR	21 04 12.9	
	comp=E,176nm,18.8s,baz=244,slow=35						
TXAR	**Lajitas Array**	**72.14**	**333**	P	**P**	**20 34 36.8**	**+0.8**
	comp=E,1.4nm,0.7s,baz=147,slow=7.8,SNR=8.2						
TXAR				LR	LR	21 00 57.4	
	comp=E,126nm,19.5s,baz=0.0,slow=31						
TX31	**Lajitas Ar. Si**	**72.14**	**333**	*e*P	**P**	**20 34 36.4**	**+0.4**
SUR	**Sutherland**	**74.24**	**119**	P	**P**	**20 34 49.6**	**+0.9**
	comp=E,29nm,1.1s						
LIC	**Lamto**	**76.96**	**72**	*e*P	**P**	**20 35 04.7**	**+0.5**
	comp=E,37nm,1.1s						
TIC	**Toumodi**	**77.24**	**71**	*e*P	**P**	**20 35 06.1**	**+0.3**
	comp=E,2.9nm,0.2s						
KIC	**Kosan Boka**	**77.27**	**72**	*e*P	**P**	**20 35 06.5**	**+0.6**
	comp=E,20nm,0.8s						
DBIC	**Dimbokro**	**77.38**	**71**	P	**P**	**20 35 07.1**	**+0.6**
	comp=E,8.2nm,0.9s,baz=203,slow=6.4,SNR=8.6						
DBIC	**Dimbokro**	**77.38**	**71**	*e*P	**P**	**20 35 06.7**	**+0.1**
	comp=E,12nm,1.0s						
ANMO	**Albuquerque**	**78.21**	**333**	P	**P**	**20 35 12.0**	**+1.0**
	comp=E,0.5nm,0.3s,baz=143,slow=12,SNR=3.1						
ANMO	**Albuquerque**	**78.21**	**333**	P	P	20 35 07.0	-3.9
	comp=E,2.2nm,1.1s						
TSUM	**Tsumeb**	**79.42**	**106**	*e*P	**P**	**20 35 18.0**	**0.0**
	comp=E,8.0nm,1.1s						
BOSA	**Boshof**	**79.54**	**118**	P	**P**	**20 35 19.0**	**+0.5**
	comp=E,4.0nm,0.8s,baz=232,slow=5.1,SNR=6.0						
BOSA	**Boshof**	**79.54**	**118**	*e*P	**P**	**20 35 17.9**	**-0.6**
	comp=E,85nm,2.3s						
W18A	**Petrified Fore**	**79.60**	**330**	P	P	20 35 26.8	+8.3
	comp=E,84nm,1.6s						
PFO	**Pinyon Flats O**	**81.18**	**325**	P	**P**	**20 35 27.9**	**+0.9**
	comp=E,1.3nm,0.6s,baz=351,slow=4.1,SNR=4.0						
LBTB	**Lobatse**	**81.95**	**115**	*e*P	**P**	**20 35 31.2**	**-0.2**
	comp=E,12nm,1.1s						
NVAR	**Mina Array Bea**	**86.01**	**326**	P	**P**	**20 35 51.5**	**-0.3**
	comp=E,0.7nm,0.7s,baz=182,slow=6.5,SNR=3.9						
PDAR	**Pinedale Array**	**86.27**	**334**	LR	LR	21 10 54.8	
	comp=E,81nm,21.1s,baz=138,slow=33						
TOA0	**Torodi Ar. Sit**	**86.46**	**71**	*e*P	**P**	**20 35 54.2**	**0.0**
TORD	**Torodi Ar. Bea**	**86.46**	**71**	P	**P**	**20 35 54.1**	**-0.1**
	comp=E,1.9nm,0.9s,baz=218,slow=4.7,SNR=9.1						
MDND	**Maddock**	**88.00**	**343**	*e*P	**P**	**20 35 59.5**	**-1.4**
	comp=E,11nm,1.3s						
LSZ	**Lusaka**	**89.85**	**109**	*e*P	**P**	**20 36 10.2**	**-0.4**
	comp=E,5.7nm,1.1s						
GERES	**GERESS Array B**	**115.34**	**47**	PKP	**PKPdf**	**20 41 51.2**	**-1.2**
	comp=E,0.2nm,0.3s,baz=213,slow=6.4,SNR=3.7						
WRA	**Warramunga Arr**	**117.24**	**210**	PKP	**PKPdf**	**20 41 56.0**	**-1.0**
	comp=E,0.3nm,0.8s,baz=180,slow=1.4,SNR=4.2						
BRTR	**Keskin Array B**	**124.46**	**63**	PKP	**PKPdf**	**20 42 10.0**	**-0.3**
	comp=E,0.8nm,0.7s,baz=194,slow=3.6,SNR=5.5						
GEYT	**Alibeck**	**142.03**	**74**	PKhKP	PKPpre	20 42 39.1	
	comp=E,1.7nm,0.9s,baz=260,slow=7.4,SNR=3.5						
TIXI	**Tiksi**	**143.78**	**348**	*e*PKPpre	PKPpre	20 42 41.3	
HYB	**Hyderabad**	**148.39**	**121**	*i* PKP	**PKPbc**	**20 42 57.5**	**-0.6**
AAK	**Ala-Archa**	**155.01**	**68**	*e*PKPdf	**PKPdf**	**20 43 02.8**	**-1.3**
AAK				*e*PKPab	**PKPab**	**20 43 28.5**	**-0.1**
KSH	**Kashi**	**156.04**	**75**	*e*PKP	**PKPdf**	**20 43 04.7**	**-0.8**
KSH				sPKP		20 43 14.3	
KSH				PKS	**PKSdf**	**20 46 39.5**	**0.0**
KSH				PP	**PP**	**20 47 09.0**	**-2.0**
KSH				SKS	**SKSdf**	**20 50 10.8**	**+1.4**
KSH				SKKS	**SKKSac**	**20 54 00.1**	**+2.4**
KSH				SS	**SS**	**21 06 53.0**	**-5.1**
KSH				PPMZ			
	comp=E,190nm,4.6s						
KSH				LN			
	comp=E,43nm,5.8s						
KSH				LE			
	comp=E,45nm,5.1s						
KSH				LZ			
	comp=E,92nm,5.0s						
ZAA0	**Zalesovo Array**	**157.69**	**35**	*e*PKPdf	**PKPdf**	**20 43 06.0**	**-0.9**
ZAA0				*e*PKPab	**PKPab**	**20 43 40.1**	**+0.6**
ZALV	**Zalesovo Beam**	**157.69**	**35**	PKP	**PKPdf**	**20 43 06.5**	**-0.5**
	comp=E,1.3nm,0.7s,baz=279,slow=2.9,SNR=10						
ZALV				PKPab	**PKPab**	**20 43 40.0**	**+0.6**
	comp=E,2.5nm,0.6s,baz=307,slow=5.4,SNR=6.4						
MKAR	**Makanchi Array**	**159.78**	**55**	PKP	**PKPdf**	**20 43 09.9**	**+0.2**
	comp=E,1.2nm,1.0s,baz=327,slow=2.0,SNR=7.3						
MKAR				PKPab	**PKPab**	**20 43 48.8**	**-0.1**
	comp=E,1.3nm,0.9s,baz=291,slow=4.1,SNR=7.3						
MK01	**Makanchi Array**	**159.80**	**55**	*e*PKPdf	**PKPdf**	**20 43 09.5**	**-0.3**
CM01	**Chiang Mai Arr**	**159.98**	**159**	*e*PKPdf	**PKPdf**	**20 43 09.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**160.01**	**159**	PKP	**PKPdf**	**20 43 11.2**	**+0.4**
	comp=E,0.2nm,0.5s,baz=263,slow=5.1,SNR=4.2						
CMAR				PKPab	**PKPab**	**20 43 50.2**	**-0.1**
	comp=E,0.5nm,0.8s,baz=230,slow=4.0,SNR=5.3						
WMQ	**Urumqi**	**164.34**	**60**	*e*PKP	**PKPdf**	**20 43 13.5**	**-1.0**
LSA	**Lhasa**	**165.09**	**116**	*e*PKPdf	**PKPdf**	**20 43 16.1**	**0.0**
LSA				*e*PKPab	**PKPab**	**20 44 13.4**	**+0.2**
GTA	**Gaotai**	**174.36**	**67**	*e*PKP	**PKPdf**	**20 43 21.0**	**+0.1**
GTA				pPKP	**pPKPdf**	**20 43 31.8**	**+0.2**
GTA				sPKP		20 43 35.5	
HHC	**Hu-ho-hao-te**	**174.76**	**313**	*e*PKP	**PKPdf**	**20 43 22.0**	**+1.1**
HHC				pPKP	**pPKPdf**	**20 43 32.7**	**+1.0**
HHC				sPKP		20 43 36.4	
HHC				PP	**PP**	**20 48 52.1**	**+4.4**
HHC				SKS	**SKSdf**	**20 50 20.1**	**-1.4**
HHC				SS	**SS**	**21 10 07.6**	**-0.2**
HHC				PPMZ			
	comp=E,81nm,6.0s						
HHC				LN			
	comp=E,180nm,20.1s						
HHC				LE			
	comp=E,170nm,20.6s						
HHC				LZ			
	comp=E,180nm,19.7s						
LZH	**Lanzhou**	**177.50**	**120**	*e*PKP	**PKPdf**	**20 43 22.5**	**+0.8**
LZH				pPKP	**pPKPdf**	**20 43 32.8**	**+0.3**
LZH				sPKP		20 43 38.2	

MEX 12 20:25:55.7±0.3, 15°.63N×95°.99W, h6km±3km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.18**	**321**	*i* P	Pg	20 25 59.0	-0.4
HUIG				*i* S	Sg	20 26 01.8	-0.1
CMIG	**Matias Romero**	**1.80**	**36**	*e*P	Pn	20 26 23.8	-3.6
CMIG				*i* S	Sn	20 26 45.8	-4.7
PNIG	**Pinotepa**	**2.19**	**291**	*e*P	Pn	20 26 29.6	-3.1
PNIG				*i* S	Sn	20 26 55.8	-4.5

*IDC **12** 20:31:18.3±1.1, 44°.06N×129°.40W, h0km, mb4.0/14, mb1 4.1/20, mb1mx3.9/44, mbtmp3.9/20, ML3.4/6, MS3.7/20, Ms1 3.7/20, ms1mx3.5/46, Error ellipse: s-maj=25.6km s-min=11.9km az=45.0*

*ISCJB **12** 20:31:20.9±0.5, 44°.31N±0°.03×129°.23W±0°.05, h13km, mb4.1/18, MS3.7/14, Error ellipse: s-maj=6.2km s-min=4.2km az=144.5*

*NEIC **12** 20:31:21.4±0.6, 44°.26N×129°.33W, h10km, mb4.3/13, Error ellipse: s-maj=9.3km s-min=5.4km az=52.0*

ISC 12 20:31:21.8±0.6, 44°.27N±0°.07×129°.29W±0°.07, h13km, n116, σ1$59/91, mb4.2/18, MS3.6/14, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.86**	**109**	*e*Pn	**Pn**	**20 32 18.9**	**-2.0**
COR	**Corvallis**	**4.30**	**84**	*e*Pn	**Pn**	**20 32 26.4**	**-0.5**
KMOR	**Kings Mountain**	**4.34**	**70**	P	**Pn**	**20 32 27.1**	**-0.4**
HUMO	**Hull Mountain**	**4.90**	**108**	*e*Pn	**Pn**	**20 32 34.4**	**-0.8**
HUMO				*e*Sn	**Sn**	**20 33 26.8**	**-5.0**
BROR	**Big Rock Looko**	**4.91**	**88**	P	**Pn**	**20 32 34.7**	**-0.6**
NLWA	**Neilton Lookou**	**4.91**	**49**	*e*Pn	**Pn**	**20 32 34.9**	**-0.5**
NLWA				*e*Sn	**Sn**	**20 33 31.9**	**-0.2**
RVW	**Rose Valley**	**5.00**	**66**	P	**Pn**	**20 32 36.1**	**-0.4**
HBO	**Huckleberry Mo**	**5.04**	**92**	P	**Pn**	**20 32 38.2**	**+1.0**
LVP	**Lakeview Peak**	**5.19**	**67**	P	**Pn**	**20 32 40.3**	**+1.1**
FL2	**Flat Top 2**	**5.27**	**66**	P	**Pn**	**20 32 40.7**	**+0.3**
ERK	**Elk Rock**	**5.31**	**65**	P	**Pn**	**20 32 41.3**	**+0.4**
TDL	**Tradedollar La**	**5.41**	**65**	P	**Pn**	**20 32 42.2**	**-0.1**
TDH	**Tom, Dick, Har**	**5.44**	**77**	P	**Pn**	**20 32 43.3**	**+0.6**
YBH	**Yreka Blue Hor**	**5.45**	**115**	Pn	**Pn**	**20 32 41.7**	**-1.1**
	0.3nm,0.3s,baz=311,slow=13,SNR=3.8						
STW	**Striped Peak**	**5.51**	**43**	P	**Pn**	**20 32 44.3**	**+0.9**
REMR	**Mount Rainier-**	**5.82**	**61**	P	**Pn**	**20 32 48.7**	**+0.7**
RCM	**Mount Rainier-**	**5.90**	**62**	P	**Pn**	**20 32 50.4**	**+1.2**
PGC	**Sidney**	**5.96**	**41**	*e*Pn	**Pn**	**20 32 49.1**	**-0.5**
	1.5nm,0.6s						
PGC				*e*Sn	**Sn**	**20 33 56.4**	**-1.3**
WDC	**Whiskeytown Da**	**6.21**	**124**	Pn	**Pn**	**20 32 54.5**	**+1.4**
JCW	**Jim Creek**	**6.44**	**50**	P	**Pn**	**20 32 57.4**	**+1.1**
VDB	**Vedder Mountai**	**6.87**	**44**	P	**Pn**	**20 33 03.4**	**+1.3**
MOD	**Modoc Plateau**	**6.99**	**107**	Pn	**Pn**	**20 33 06.1**	**+2.1**
HAWA	**Hanford**	**7.20**	**69**	*e*Pn	**Pn**	**20 33 07.7**	**+1.0**
	17nm,0.9s						
BBB	**Bella Bella**	**7.96**	**5**	Pn	**Pn**	**20 33 18.8**	**+1.7**
	0.5nm,0.3s,baz=198,slow=7.9,SNR=9.6						
BBB				LR	LR	20 35 54.2	
	comp=Z,340nm,18.1s,baz=204,slow=34						
WVOR	**Wild Horse Val**	**7.98**	**100**	*e*Pn	Pn	20 33 21.1	+3.5
BMO	**Blue Mountains**	**8.58**	**82**	*e*Pn	**Pn**	**20 33 25.5**	**-0.3**
CMB	**Columbia Colle**	**9.15**	**130**	*e*Pn	**Pn**	**20 33 35.9**	**+2.4**
NEW	**Newport**	**9.33**	**60**	Pn	**Pn**	**20 33 35.8**	**-0.2**
	0.5nm,0.3s,baz=240,slow=9.7,SNR=18						
BMN	**Battle Mountai**	**9.72**	**109**	*e*Pn	Pn	20 33 45.1	+3.7
	20nm,1.3s						
MFID	**Camas Ranch**	**9.77**	**90**	*e*Pn	Pn	20 33 50.0	+7.9
NVAR	**Mina Array Bea**	**10.11**	**121**	Pn	**Pn**	**20 33 47.3**	**+0.5**
	0.1nm,0.3s,baz=278,slow=11,SNR=4.1						
HLID	**Hailey**	**10.76**	**89**	*e*Pn	Pn	20 33 58.8	+3.1
ELK	**Elko**	**10.96**	**104**	Pn	**Pn**	**20 33 58.5**	**0.0**
	0.1nm,0.3s,baz=347,slow=5.8,SNR=14						
ELK				LR	LR	20 38 12.8	
	comp=Z,551nm,21.6s,baz=360,slow=38						
ELK	**Elko**	**10.96**	**104**	*e*Pn	Pn	20 34 01.8	+3.4
TPH	**Tonopah**	**10.99**	**120**	*e*Pn	Pn	20 34 01.5	+2.6
	2.1nm,0.3s						
MSO	**Missoula**	**11.07**	**71**	*e*Pn	**Pn**	**20 34 00.7**	**+0.9**
CRAG	**Craig**	**11.48**	**349**	Pn	**Pn**	**20 34 06.4**	**+1.1**
WALA	**Waterton Lakes**	**11.60**	**60**	*e*Pn	Pn	20 34 12.3	+5.2
ISA	**Isabella, Lake**	**11.94**	**132**	*e*Pn	Pn	20 34 14.7	+3.0
	23nm,1.7s						
HVU	**Hansel Valley**	**12.34**	**96**	*e*Pn	**Pn**	**20 34 19.8**	**+2.4**
BGU	**Big Grassy Mou**	**12.44**	**100**	*e*Pn	**Pn**	**20 34 19.2**	**+0.6**
DUG	**Dugway, Tooele**	**12.87**	**103**	*e*Pn	**Pn**	**20 34 23.1**	**-1.4**
YMR	**Madison River**	**13.10**	**82**	*e*Pn	**Pn**	**20 34 29.4**	**+1.7**
FXWY	**Fox Creek**	**13.18**	**86**	*e*Pn	**Pn**	**20 34 30.9**	**+2.1**
IMW	**Indian Meadow**	**13.21**	**85**	*e*Pn	**Pn**	**20 34 31.9**	**+2.7**
YFT	**Old Faithful**	**13.21**	**83**	*e*Pn	**Pn**	**20 34 31.8**	**+2.5**
HWUT	**Hardware Ranch**	**13.26**	**95**	*e*Pn	**Pn**	**20 34 30.3**	**+0.5**
TPAW	**Teton Pass**	**13.26**	**87**	*e*Pn	**Pn**	**20 34 28.9**	**-1.0**
FLWY	**Flagg Ranch**	**13.35**	**84**	*e*Pn	**Pn**	**20 34 28.3**	**-2.8**
REDW	**Red Top Meadow**	**13.35**	**87**	*e*Pn	**Pn**	**20 34 28.5**	**-2.7**
ARUT	**Antelope Range**	**13.60**	**113**	*e*Pn	**Pn**	**20 34 36.9**	**+2.5**
	376nm,1.2s						
JLU	**Jordanelle**	**13.68**	**99**	*e*Pn	**Pn**	**20 34 36.2**	**+0.7**
CCUT	**Cedar City**	**13.78**	**114**	*e*Pn	**Pn**	**20 34 38.5**	**+1.6**
	26nm,1.5s						
EDM	**Edmonton**	**13.79**	**44**	Pn	**Pn**	**20 34 37.5**	**+0.6**
DAU	**Daniels Canyon**	**13.88**	**100**	*e*Pn	**Pn**	**20 34 37.7**	**-0.8**
	9.5nm,1.0s						
MVU	**Marysvale**	**14.05**	**108**	*e*Pn	**Pn**	**20 34 42.4**	**+1.8**
EGMT	**Eagleton**	**14.05**	**68**	*e*Pn	**Pn**	**20 34 41.1**	**+0.6**
DLBC	**Dease Lake**	**14.20**	**358**	LR	LR	20 39 32.1	
	comp=Z,249nm,20.5s,baz=158,slow=34						
LDFC	**Landfair**	**14.25**	**125**	*e*Pn	**Pn**	**20 34 43.5**	**+0.2**
PDAR	**Pinedale Array**	**14.40**	**89**	LR	LR	20 40 26.0	
	comp=Z,513nm,21.1s,baz=288,slow=38						
PFO	**Pinyon Flats O**	**14.58**	**133**	LR	LR	20 39 40.4	
	comp=Z,174nm,20.1s,baz=318,slow=35						
SRU	**San Rafael Swe**	**14.93**	**104**	*e*Pn	**Pn**	**20 34 52.5**	**-0.2**
WUAZ	**Wupatki**	**16.27**	**116**	*e*Pn	**P**	**20 35 12.0**	**-1.1**
	66nm,1.6s						
PV04	**Paradox Valley**	**16.38**	**104**	*e*Pn	**Pn**	**20 35 12.6**	**+1.0**
PV01	**Paradox Valley**	**16.74**	**104**	*e*Pn	**Pn**	**20 35 16.4**	**+0.3**
	3μm,1.4s						
MVCO	**Mesa Verde**	**17.24**	**107**	*e*Pn	**Pn**	**20 35 22.6**	**+0.2**
	48nm,1.4s						
TUC	**Tucson**	**18.75**	**123**	*e*P	**Pn**	**20 35 44.3**	**+3.3**
	8.8nm,1.0s						
LAZ	**Ladron**	**19.71**	**112**	*e*P	**P**	**20 35 51.2**	**+0.1**
	5.3nm,1.2s						
ANMO	**Albuquerque**	**19.85**	**110**	P	**P**	**20 35 52.2**	**-0.4**
	0.1nm,0.3s,baz=18,slow=13,SNR=2.7						
ANMO				LR	LR	20 43 53.3	
	comp=Z,424nm,22.0s,baz=306,slow=38						
ANMO	**Albuquerque**	**19.85**	**110**	*e*P	**P**	**20 35 51.9**	**-0.8**
	11nm,1.4s						
LENM	**Lemitar**	**19.96**	**113**	*e*P	**P**	**20 35 54.4**	**+0.6**
	11nm,1.1s						
LPM	**Los Pinos Moun**	**20.10**	**112**	*e*P	Pn	20 35 57.5	+0.2
YKA	**Yellowknife Ar**	**20.16**	**20**	P	Pn	20 35 57.0	-0.4
	1.4nm,0.7s,baz=208,slow=11,SNR=22						
FFC	**Flin Flon**	**20.47**	**50**	*e*P	**P**	**20 35 59.4**	**+0.5**
	21nm,0.9s						
MENT	**Mentasta**	**20.48**	**341**	P	Pn	20 36 02.5	+1.2
PMR	**Palmer**	**20.92**	**333**	*e*P	Pn	20 36 05.9	-0.4
	25nm,1.4s						
MNTX	**Cornudas Mount**	**22.55**	**116**	*e*P	**P**	**20 36 22.5**	**+1.0**
	11nm,1.5s						
ILAR	**Eielson Array**	**22.79**	**340**	P	**P**	**20 36 24.8**	**+1.1**
	3.9nm,0.9s,baz=151,slow=8.0,SNR=31						
ILAR				LR	LR	20 43 36.4	
	comp=Z,127nm,21.0s,baz=148,slow=32						
COLA	**College**	**23.11**	**340**	P	**P**	**20 36 29.5**	**+2.5**
ULM	**Lac du Bonnet**	**23.32**	**63**	P	**P**	**20 36 29.1**	**-0.3**
	3.3nm,0.5s,baz=288,slow=13,SNR=5.8						
ULM				LR	LR	20 45 41.9	
	comp=Z,380nm,19.6s,baz=270,slow=37						
ULM	**Lac du Bonnet**	**23.32**	**63**	*e*P	**P**	**20 36 28.7**	**-0.7**
	7.6nm,0.8s						
AGMN	**Agassiz Nation**	**23.34**	**68**	*e*P	**P**	**20 36 27.7**	**-2.0**
	9.2nm,0.8s						
ECSD	**EROS Data Cent**	**23.43**	**80**	*e*P	**P**	**20 36 27.2**	**-3.4**
	25nm,1.1s						
INK	**Inuvik**	**24.20**	**356**	P	**P**	**20 36 38.5**	**+0.9**
	1.6nm,0.8s,baz=162,slow=13,SNR=4.8						
INK				LR	LR	20 45 41.8	
	comp=Z,113nm,18.6s,baz=170,slow=35						
TXAR	**Lajitas Array**	**25.22**	**118**	P	**P**	**20 36 45.1**	**-2.3**
	1.5nm,0.9s,baz=302,slow=7.2,SNR=9.2						
TXAR				LR	LR	20 47 13.9	
	comp=Z,216nm,18.9s,baz=0.0,slow=38						
LPIG	**La Paz**	**25.41**	**136**	LR	LR	20 46 07.3	
	comp=Z,177nm,18.0s,baz=211,slow=35						
FCC	**Fort Churchill**	**25.90**	**43**	*e*P	**P**	**20 36 52.5**	**-0.6**
OXF	**Oxford**	**32.05**	**94**	*e*P	**P**	**20 37 49.9**	**+1.7**
	55nm,1.0s						
RES	**Resolute Bay**	**34.09**	**16**	P	**P**	**20 38 06.1**	**+0.6**
	3.1nm,0.7s,baz=233,slow=10,SNR=16						
SADO	**Sadowa**	**35.30**	**71**	P	**P**	**20 38 17.5**	**+1.2**
	3.5nm,0.9s,baz=312,slow=15,SNR=2.1						
CMIG	**Matias Romero**	**39.64**	**122**	P	**P**	**20 38 51.1**	**-2.2**
	3.1nm,0.9s,baz=285,slow=20,SNR=2.0						
SCHQ	**Schefferville**	**40.58**	**52**	LR	LR	20 55 47.3	
	comp=Z,255nm,21.2s,baz=300,slow=36						
SEY	**Seymchan**	**46.76**	**322**	P	**P**	**20 39 49.2**	**-1.1**
	1.0nm,0.9s,baz=96,slow=7.7,SNR=4.5						
PETK	**Petropavlovsk-**	**47.04**	**308**	LR	LR	20 56 26.6	
	comp=Z,67nm,20.9s,baz=97,slow=32						
H11N3	**WAKE ISLAND Hy**	**57.85**	**267**	T	T	21 43 40.4	
	baz=49,slow=75,SNR=3014						
H11N2	**WAKE ISLAND Hy**	**57.85**	**267**	T	T	21 43 40.1	
	baz=49,slow=75,SNR=1688						
H11N1	**WAKE ISLAND Hy**	**57.87**	**267**	T	T	21 43 42.4	
	baz=49,slow=75,SNR=1320						
H11S1	**WAKE ISLAND Hy**	**58.78**	**266**	T	T	21 44 52.0	
	baz=48,slow=75,SNR=192						
H11S2	**WAKE ISLAND Hy**	**58.79**	**266**	T	T	21 44 53.0	
	baz=48,slow=75,SNR=144						
H11S3	**WAKE ISLAND Hy**	**58.80**	**266**	T	T	21 44 49.7	
	baz=48,slow=75,SNR=170						
ARCES	**ARCESS Array B**	**65.01**	**10**	LR	LR	21 11 23.9	
	comp=Z,28nm,18.1s,baz=333,slow=37						
USRK	**Ussuriysk Ar.**	**66.11**	**309**	LR	LR	21 10 48.6	
	comp=Z,45nm,18.2s,baz=6.4,slow=36						
MJAR	**Matsushiro Arr**	**67.22**	**299**	LR	LR	21 06 25.9	
	comp=Z,34nm,20.8s,baz=115,slow=31						
FINES	**FINESS Array B**	**72.77**	**12**	P	**P**	**20 42 48.7**	**-0.6**
	3.5nm,0.9s,baz=356,slow=2.0,SNR=6.0						
KSRS	**Korea Array**	**72.86**	**306**	LR	LR	21 10 14.3	
	comp=Z,23nm,21.1s,baz=40,slow=32	

SHO			*e*S	**Sn**	**21 03 00.0**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**1.41 282**	*e*P	**Pn**	**21 02 58.0**	**-1.0**
YUK			AMB	AMB	21 02 58.3	
	150nm,0.4s					
YUK			*e*S	**Sn**	**21 03 15.3**	**-1.5**
YUK			A	A	21 03 17.4	
	500nm,0.6s					
KUR	**Kuril'sk**	**1.48 3**	*e*P	**Pn**	**21 02 59.8**	**-0.2**
KUR			*e*S	**Sn**	**21 03 19.0**	**+0.3**
KUR			A	A	21 03 19.5	
	328nm,0.2s					
KUR			A	A	21 03 19.5	
	230nm,0.2s					
NEM2	**Nemuro 2**	**1.52 256**	P	**Pn**	**21 02 59.9**	**-0.7**
JRA	**Rausu**	**1.93 277**	P	**Pn**	**21 03 06.1**	**0.0**
JRA			*e*S	**Sn**	**21 03 30.0**	**+0.5**
JNK	**Nakash**	**2.22 267**	P	**Pn**	**21 03 10.1**	**-0.1**
JNK			*e*S	**Sn**	**21 03 36.6**	**-0.2**
JAK	**Akkeshi**	**2.37 252**	P	**Pn**	**21 03 12.0**	**-0.1**
JAK			*e*S	**Sn**	**21 03 40.1**	**-0.2**
JTKR	**Abashiri--Toko**	**2.80 276**	P	**Pn**	**21 03 18.6**	**+0.5**
JAR	**Ashorobuto**	**2.95 263**	P	**Pn**	**21 03 21.2**	**+1.1**
JAR			*e*S	**Sn**	**21 03 55.8**	**+1.1**
JCH	**Churui**	**3.42 252**	*e*S	**Sn**	**21 04 05.8**	**-0.6**

GUC 12 21:29:56.3±0.3, 34°46S×71°83W, h20km±308km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.73**	**138**	*i* P	Pb	21 30 10.0	-0.5
NICH				*i* S	Sb	21 30 20.3	+0.2
SJCH	**San Jose de Ma**	**1.47**	**57**	*i* S	Sb	21 30 41.5	0.0
SJCH				AML	AML	21 30 44.2	
	comp=N,1μm,0.4s						
CLCH	**Cerro Calan**	**1.51**	**46**	*i* P	Pn	21 30 22.7	+0.3
CLCH				*i* S	Sb	21 30 42.5	0.0
CLCH				AML	AML	21 30 52.7	
	comp=E,961nm,0.4s						
PEL	**Peldehue**	**1.62**	**36**	*i* P	Pn	21 30 24.2	+0.4
PEL				*e*S4	Sn	21 30 43.7	-0.4
PEL				AML	AML	21 30 52.4	
	comp=E,1μm,0.4s						
FCH	**Farellones**	**1.71**	**49**	*i* P	Pn	21 30 26.4	+1.0
FCH				*i* S	Sb	21 30 49.2	+0.4
FCH				AML	AML	21 30 58.9	
	comp=N,750nm,0.3s						

*ISCJB **12** 21:38:28.4±0.7, 1°13N±0°09×100°17E±0°08, h200km, mb3.4/5, Error ellipse: s-maj=15.2km s-min=7.7km az=34.5*
*IDC **12** 21:38:28.2±1.3, 0°91N×100°04E, h203km±11km, mb3.4/6, mb1 3.4/7, mb1mx3.1/27, mbtmp3.9/7, Error ellipse: s-maj=42.1km s-min=14.2km az=43.0*
*DJA **12** 21:38:30.8±0.8, 1°N±7°×10°0E±°, h196km±13km, M3.5/10, MLv3.5/10*
ISC 12 21:38:28.6±0.9, 1°09N±0°10×100°13E±0°09, h200km, n14, σ1§41/17, mb3.5/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.62**	**242**	P	**Pn**	**21 38 58.2**	**+2.0**
BKNI	**Bangkinang**	**1.18**	**130**	P	**Pn**	**21 39 01.6**	**+2.0**
PDSI	**Padang**	**2.02**	**171**	P	**Pn**	**21 39 08.7**	**+1.4**
PSI	**Prapat**	**2.09**	**325**	P	**Pn**	**21 39 09.6**	**+1.5**
	5.1nm,0.3s,baz=144,slow=9.4,SNR=22						
PSI				S	**Sn**	**21 39 39.1**	**+0.1**
	0.5nm,0.3s,baz=180,slow=20,SNR=5.8						
GSI	**Gunungsitoli**	**2.56**	**275**	P	**Pn**	**21 39 15.0**	**+1.8**
GSI				S	**Sn**	**21 39 48.4**	**+0.4**
KCSI	**Kotacane, Aceh**	**3.38**	**316**	P	**Pn**	**21 39 24.0**	**+1.3**
TPTI		**3.65**	**306**	P	**Pn**	**21 39 27.9**	**+1.8**
SNSI	**Sinabang, Aceh**	**4.02**	**289**	P	**Pn**	**21 39 31.4**	**+0.7**
SNSI				S	**Sn**	**21 40 18.6**	**-0.8**
PALK	**Pallekele**	**20.32**	**288**	P	**P**	**21 42 49.0**	**-0.6**
	18nm,1.1s,baz=104,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**39.51**	**124**	P	**P**	**21 45 39.5**	**-0.7**
	1.6nm,0.4s,baz=304,slow=9.0,SNR=21						
ASAR	**Alice Springs**	**41.02**	**129**	P	**P**	**21 45 50.8**	**-1.8**
	0.2nm,0.3s,baz=301,slow=7.5,SNR=4.8						
MKAR	**Makanchi Array**	**48.12**	**344**	P	**P**	**21 46 48.9**	**+0.6**
	0.4nm,0.4s,baz=160,slow=7.6,SNR=14						
BRTR	**Keskin Array B**	**71.36**	**312**	P	**P**	**21 49 25.6**	**-1.5**
	0.5nm,0.6s,baz=104,slow=5.7,SNR=4.2						
FINES	**FINESS Array B**	**81.46**	**332**	P	**P**	**21 50 23.4**	**+0.3**
	2.2nm,1.1s,baz=95,slow=5.5,SNR=3.7						

IDC 12 21:47:27.4±1.9, 6°71S×132°02E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=114.1km s-min=23.6km az=72.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDU	**Kakadu**	**5.95**	**176**	P	Pn	21 48 59.9	+3.0
	baz=4.0,SNR=17						
MTN	**Manton Dam**	**6.15**	**188**	P	Pn	21 49 04.5	+4.9
	baz=4.1,SNR=8.1						
WRA	**Warramunga Arr**	**13.34**	**170**	Pn	Pn	21 50 36.7	-1.5
	0.2nm,0.3s,baz=352,slow=13,SNR=13						
WRA				Sn	Sn	21 53 06.1	-1.4
	0.4nm,0.3s,baz=351,slow=24,SNR=5.2						
ASAR	**Alice Springs**	**16.95**	**174**	Pn	Pn	21 51 24.6	-1.6
	0.1nm,0.3s,baz=358,slow=10,SNR=9.6						
ASAR				Sn	Sn	21 54 33.7	-1.8
	0.1nm,0.3s,baz=359,slow=27,SNR=3.2						
WRKA	**Warakurna**	**18.57**	**191**	P	Pn	21 51 48.8	+2.6
	baz=17,SNR=8.7						
STKA	**Stephens Creek**	**26.59**	**162**	P	P	21 53 09.0	+1.6
	0.9nm,0.5s,baz=337,slow=7.7,SNR=2.8						
MKAR	**Makanchi Array**	**69.10**	**326**	P	P	21 58 35.0	-0.4
	0.3nm,0.6s,baz=108,slow=6.4,SNR=5.1						

GUC 12 21:48:04.9±0.3, 34°39S×72°07W, h58km±47km, ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.92**	**132**	*i* P	Pn	21 48 21.9	+0.1
NICH				*i* S	Sn	21 48 35.0	+0.7
NICH				AML	AML	21 48 35.7	
	comp=E,11μm,0.3s						
TALC	**Talca**	**1.06**	**161**	*i* P	Pn	21 48 24.1	+0.4
TALC				*i* S	Sn	21 48 38.4	+0.8
ANTU	**Antumapu**	**1.45**	**56**	*i* P	Pn	21 48 29.3	+0.4
ANTU				*e*S4	Sn	21 48 47.6	+0.6
ANTU				AML	AML	21 48 54.5	
	comp=E,2μm,0.4s						
LNCH	**Linares**	**1.50**	**165**	*e*P4	Pn	21 48 31.8	+2.3
LNCH				*e*S4	Sn	21 48 49.5	+1.4
CLCH	**Cerro Calan**	**1.61**	**52**	*i* P	Pn	21 48 32.0	+0.8
CLCH				*i* S	Sn	21 48 52.5	+1.4
CLCH				AML	AML	21 49 01.7	
	comp=E,2μm,0.5s						
PEL	**Peldehue**	**1.70**	**43**	*i* P	Pn	21 48 32.9	+0.6
PEL				*e*S4	Sn	21 48 52.9	-0.1
PEL				AML	AML	21 49 01.6	
	comp=N,3μm,0.7s						

*ISCJB **12** 21:50:08.2±0.3, 50°13N±0°03×19°07E±0°02, h0km, mb3.2/5, MS2.7/1, Error ellipse: s-maj=4.2km s-min=1.6km az=11.7*
*CSEM **12** 21:50:09.0±0.3, 50°13N×19°10E, h2km, ML3.1/5, Error ellipse: s-maj=8.2km s-min=3.4km az=14.0*
*SIGU **12** 21:50:09.5±0.3, 50°09N±0°03×19°14E±0°02, h9km, mb2.8/10*
*VIE **12** 21:50:10.0±0.4, 49°68N×19°20E, h0km, mb2.4/4, ML2.6/4, Error ellipse: s-maj=3.4km s-min=2.8km az=163.0 61 km NNE of Zilina Suspected Mining induced.*
*IDC **12** 21:50:09.7±0.8, 49°98N×19°10E, h0km, mb3.2/5, mb1 3.4/12, mb1mx3.4/30, mbtmp3.3/12, ML3.0/7, MS2.9/2, Ms1 2.9/2, ms1mx2.4/21, Error ellipse: s-maj=15.6km s-min=7.4km az=144.0*
*PRU **12** 21:50:10.0, 50°15N×19°11E, h0km*
ISC 12 21:50:09.5±0.6, 50°07N±0°02×19°08E±0°02, h0km, n87, σ1§22/130, mb3.3/5, 9C-10D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.23**	**345**	*e*Pg	**Pg**	**21 50 14.4**	**+0.5**
CHZP				*e*Sg	**Sg**	**21 50 18.3**	**+1.4**
OJC	**Ojcow**	**0.48**	**72**	*e*Pg	**Pg**	**21 50 17.8**	**-1.0**
OJC				*e*Sg	**Sg**	**21 50 23.7**	**-1.3**
OJC	**Ojcow**	**0.48**	**72**	*e*Pg	**Pg**	**21 50 17.8**	**-1.0**
OJC				*e*Sg	**Sg**	**21 50 23.7**	**-1.3**
RAC	**Raciborz**	**0.57**	**272**	*e*Pg	**Pb**	**21 50 22.6**	**+0.2**
RAC				*e*Sg	**Sb**	**21 50 31.5**	**+0.4**
OKC	**Ostrava-Krasne**	**0.65**	**249**	*e*PG	**Pb**	**21 50 23.8**	**+0.1**
OKC				*e*SG	**Sb**	**21 50 32.9**	**-0.3**
	comp=Z,53nm,0.4s						
OKC	**Ostrava-Krasne**	**0.65**	**249**	Pg	**Pb**	**21 50 23.8**	**+0.1**
OKC				Sg	**Sb**	**21 50 32.9**	**-0.3**
	53nm,0.4s						
LANS	**Liptovska Anna**	**0.95**	**165**	*e*Pn	**Pb**	**21 50 29.0**	**+0.1**
LANS				*e*Sn	**Sb**	**21 50 42.8**	**+0.7**
NIE	**Niedzica**	**1.03**	**129**	*e*Pg	**Pg**	**21 50 29.2**	**0.0**
NIE				*e*Sg	**Sb**	**21 50 45.0**	**+0.7**
NIE	**Niedzica**	**1.03**	**129**	*e*Pg	**Pg**	**21 50 29.2**	**0.0**
MORC	**Moravsky Berou**	**1.04**	**254**	⇑*i*P	**Pb**	**21 50 30.6**	**+0.2**
MORC	**Moravsky Berou**	**1.04**	**254**	S	**Sn**	**21 50 46.7**	**+0.1**
MORC	**Moravsky Berou**	**1.04**	**254**	*e*Pg	**Pg**	**21 50 29.9**	**+0.5**
MORC	**Moravsky Berou**	**1.04**	**254**	⇑*i*P	**Pb**	**21 50 30.6**	**+0.2**
MORC				*e*Sg	**Sn**	**21 50 45.9**	**-0.7**
KRLC	**Kraliky**	**1.48**	**271**	*e*PG	**Pn**	**21 50 37.0**	**-0.5**
KRLC				*e*SG	**Sn**	**21 50 58.0**	**+0.4**
KRLC	**Kraliky**	**1.48**	**271**	Pg	**Pn**	**21 50 37.0**	**-0.5**
KRLC				Sg	**Sn**	**21 50 58.0**	**+0.4**
STHS	**Stebnicka Huta**	**1.55**	**114**	*e*Pn	**Pn**	**21 50 37.8**	**-0.5**
STHS				*e*Sn	**Sg**	**21 51 01.4**	**+2.3**
STHS	**Stebnicka Huta**	**1.55**	**114**	*e*PN	**Pn**	**21 50 37.8**	**-0.5**
STHS				*e*SN	**Sg**	**21 51 01.4**	**+2.3**
STHS				*e*LG	Lg	21 51 06.9	
VYHS	**Vyhne**	**1.58**	**186**	*e*Pn	**Pn**	**21 50 39.0**	**+0.2**
VYHS				*e*Sn	**Sb**	**21 51 01.3**	**+1.1**
VYHS	**Vyhne**	**1.58**	**186**	*e*PN	**Pn**	**21 50 39.0**	**+0.2**
VYHS				*e*SN	**Sb**	**21 51 01.3**	**+1.1**
VYHS				*e*LG	Lg	21 51 04.8	
VRAC	**Vranov**	**1.79**	**246**	⇑*i*P	**Pn**	**21 50 42.0**	**+0.4**
VRAC	**Vranov**	**1.79**	**246**	S	**Sn**	**21 51 05.5**	**+0.5**
VRAC	**Vranov**	**1.79**	**246**	Pg	**Pn**	**21 50 42.2**	**+0.6**
	5.8nm,0.3s,baz=59,slow=14,SNR=45						
VRAC				Lg	Lg	21 51 10.0	
	6.7nm,0.3s,baz=188,slow=21,SNR=10						
VRAC	**Vranov**	**1.79**	**246**	*e*Pn	**Pn**	**21 50 41.8**	**+0.2**
VRAC				*e*Sg	**Sg**	**21 51 09.1**	**+2.2**
DPC	**Dobruska-Polom**	**1.80**	**280**	*e*PG	**Pn**	**21 50 42.0**	**+0.2**
DPC				*e*SG	**Sg**	**21 51 06.8**	**-0.4**
DPC	**Dobruska-Polom**	**1.80**	**280**	Pg	**Pn**	**21 50 42.0**	**+0.2**
DPC				Sg	**Sg**	**21 51 06.8**	**-0.4**
KSP	**Ksiaz**	**1.94**	**295**	*e*Pn	**Pg**	**21 50 46.5**	**-0.2**
KSP				*e*Pg	Pb	21 50 49.5	+3.7
KSP				*e*Sn	**Sg**	**21 51 12.1**	**+0.2**
KSP				*e*Sg	**Sb**	**21 51 15.7**	**+5.1**
KSP	**Ksiaz**	**1.94**	**295**	*e*Pn	**Pn**	**21 50 42.9**	**-0.9**
KSP	**Ksiaz**	**1.94**	**295**	*e*Pn	**Pn**	**21 50 42.9**	**-0.9**
KSP	**Ksiaz**	**1.94**	**295**	*e*Pg	**Pg**	**21 50 46.5**	**-0.2**
KSP				*e*Sg	**Sg**	**21 51 12.1**	**+0.2**
UPC	**Upice**	**2.02**	**284**	*e*PG	**Pb**	**21 50 46.0**	**-0.4**
UPC				*e*SG	**Sg**	**21 51 14.4**	**+0.1**
	comp=Z,8.2nm,0.4s						
UPC	**Upice**	**2.02**	**284**	Pg	**Pb**	**21 50 46.6**	**-0.4**
UPC				Sg	**Sg**	**21 51 14.4**	**+0.1**
	8.2nm,0.4s						
PSZ	**Piszkesteto**	**2.22**	**166**	⇓*i*P	**Pn**	**21 50 48.0**	**+0.4**
PSZ	**Piszkesteto**	**2.22**	**166**	⇓*i*P	**Pn**	**21 50 48.0**	**+0.4**
PSZ	**Piszkesteto**	**2.22**	**166**	*e*	**Pg**	**21 50 53.0**	**+1.0**
KOLS	**Kolonicke sedl**	**2.37**	**117**	*e*Pn	**Pn**	**21 50 49.0**	**-0.6**
KOLS				*e*Sg	**Sg**	**21 51 24.9**	**-0.7**
KOLS	**Kolonicke sedl**	**2.37**	**117**	*e*PN	**Pn**	**21 50 49.0**	**-0.6**
KOLS				*e*		21 50 53.8	
KOLS	**Kolonicke sedl**	**2.37**	**117**	*e*SG	**Sg**	**21 51 24.9**	**-0.7**
KOLS				*e*LG	Lg	21 51 43.0	
UZH	**Uzhgorod**	**2.54**	**123**	*e*Pn	**Pn**	**21 50 51.5**	**-0.5**
UZH				Pnm		21 50 53.5	
UZH				*e*Sn	**Sb**	**21 51 26.3**	**-1.5**
UZH				Snm		21 51 35.7	
ONO	**Onokovtsy**	**2.55**	**122**	*e*Pn	**Pn**	**21 50 52.3**	**+0.3**
ONO				*e*Sn	**Sn**	**21 51 23.1**	**-0.6**
SHIU	**Shidnytsya**	**2.91**	**105**	*e*Pn	**Pn**	**21 50 56.9**	**-0.1**
SHIU				*e*Sn	**Sn**	**21 51 32.9**	**+0.2**
PRU	**Pruhonice**	**2.93**	**270**	*e*PN	**Pn**	**21 50 56.8**	**-0.5**
PRU				*e*PG	**Pb**	**21 51 02.4**	**-0.2**
PRU				*e*SG	**Sg**	**21 51 43.6**	**0.0**
	comp=Z,17nm,0.6s						
PRU	**Pruhonice**	**2.93**	**270**	Pn	**Pn**	**21 50 56.8**	**-0.5**
PRU				Sg	**Sg**	**21 51 43.6**	**0.0**
	17nm,0.6s						
PVCC	**Panska Ves**	**2.93**	**281**	*e*PN	**Pn**	**21 50 58.3**	**+1.0**
PVCC				*e*PG	**Pb**	**21 51 03.2**	**+0.6**
PVCC				*e*SG	**Sg**	**21 51 43.0**	**-0.6**
	comp=Z,50nm,0.5s						
PVCC	**Panska Ves**	**2.93**	**281**	Pn	**Pn**	**21 50 58.3**	**+1.0**
TRPA	**Tarpa**	**2.99**	**129**	⇓*i*P	**Pn**	**21 50 58.1**	**0.0**
TRPA	**Tarpa**	**2.99**	**129**	⇓*i*P	**Pn**	**21 50 58.1**	**0.0**
CONA	**Conrad Observa**	**3.02**	**226**	⇑*i*Pn	**Pn**	**21 50 56.2**	**-2.3**
CONA				⇓*i*Sn	**Sn**	**21 51 32.1**	**-3.3**
CONA	**Conrad Observa**	**3.02**	**226**	Pn	**Pn**	**21 50 56.2**	**-2.3**
CONA				Sn	**Sn**	**21 51 32.1**	**-3.3**
LVV	**L'vov**	**3.21**	**93**	*e*Pn	**Pn**	**21 51 01.2**	**+0.1**
LVV				Pnm		21 51 14.4	
LVV				*e*Sn	**Sn**	**21 51 42.0**	**+2.0**
LVV				Snm		21 51 42.8	
KORU	**Korolevo**	**3.28**	**124**	*e*Pn	**Pn**	**21 51 03.1**	**+1.0**
KORU				*e*Sn	**Sn**	**21 51 43.5**	**+1.8**
MEZ	**Mezhgor'ye**	**3.29**	**117**	*e*Pn	**Pn**	**21 51 03.0**	**+0.7**
MEZ				*e*Sn	**Sn**	**21 51 44.0**	**+1.9**
BRG	**Berggiesshubel**	**3.38**	**286**	PN	**Pg**	**21 51 12.9**	**-1.4**
BRG				PG	Pb	21 51 16.8	+6.5
BRG				*i*		21 51 40.2	
BRG	**Berggiesshubel**	**3.38**	**286**	SG	**Sg**	**21 51 59.2**	**+1.1**
	21nm,1.0s						
KHC	**Kasperske Hory**	**3.70**	**257**	*e*PN	**Pn**	**21 51 07.9**	**-0.1**
KHC				*ex*	x	21 51 15.6	
KHC				*e*SG	**Sg**	**21 52 07.9**	**-0.5**
KHC	**Kasperske Hory**	**3.70**	**257**	Pn	**Pn**	**21 51 07.9**	**-0.1**
KHC				Sg	**Sg**	**21 52 07.9**	**-0.5**
GERES	**GERESS Array B**	**3.72**	**253**	Pn	**Pn**	**21 51 08.7**	**+0.4**
	0.3nm,0.3s,baz=59,slow=14,SNR=9.0						
GERES				Pg	**Pb**	**21 51 17.6**	**+1.5**
	0.7nm,0.3s,baz=65,slow=16,SNR=6.5						
GERES				Lg	Lg	21 52 10.1	
	1.9nm,0.3s,baz=68,slow=32,SNR=6.2						
MOA	**Molln**	**3.87**	**237**	⇓*i*Pn	**Pn**	**21 51 08.8**	**-1.5**
MOA				⇑*i*Sg	**Sg**	**21 52 13.1**	**-0.7**
	11nm,0.6s						
MOA	**Molln**	**3.87**	**237**	Pn	**Pn**	**21 51 08.8**	**-1.5**
MOA				Sg	**Sg**	**21 52 13.1**	**-0.7**
	11nm,0.6s						
NSLU	**Nyzhne Selyshc**	**3.99**	**116**	*e*Pn	Pn	21 51 04.7	-7.2
NSLU				*e*Sn	Sn	21 51 47.3	-12
CLL	**Collm**	**4.06**	**290**	*e*Pn	**Pn**	**21 51 14.0**	**+1.2**
CLL				*e*Pg	**Pg**	**21 51 28.0**	**+0.7**
CLL				*e*Sn	**Sn**	**21 52 04.0**	**+3.0**
CLL				*e*Sg	**Sg**	**21 52 22.0**	**+2.1**
	comp=Z,10.0nm,0.6s						
DRGR		**4.07**	**142**	⇓*i*P	**Pn**	**21 51 13.5**	**+0.4**
DRGR		**4.07**	**142**	S	**Sn**	**21 52 00.4**	**-1.1**
DRGR		**4.07**	**142**	⇓*i*P	**Pn**	**21 51 13.5**	**+0.4**
DRGR				S	**Sn**	**21 52 00.4**	**-1.1**
KSV	**Kosov**	**4.30**	**112**	*e*Pn	**Pn**	**21 51 17.8**	**+1.7**
KSV				Pnm		21 51 35.6	
KSV				*e*Sn	**Sn**	**21 52 09.0**	**+2.1**
KSV				Snm		21 52 21.8	
BURAR	**Bucovina Array**	**4.74**	**119**	⇓*i*P	**Pn**	**21 51 22.3**	**+0.1**
BURAR	**Bucovina Array**	**4.74**	**119**	⇓*i*P	**Pn**	**21 51 22.3**	**+0.1**
BZS	**Buzias**	**4.77**	**158**	⇑*i*P	**Pn**	**21 51 23.1**	**+0.5**
BZS	**Buzias**	**4.77**	**158**	⇑*i*P	**Pn**	**21 51 23.1**	**+0.5**
CHRU	**Chernivtsi**	**4.82**	**109**	*e*Pn	Pn	21 51 26.8	+3.5
CHRU				*e*Sn	**Sn**	**21 52 20.6**	**+0.8**
KMPD	**K-Podol'skiy**	**5.05**	**105**	*e*Pn	**Pn**	**21 51 28.3**	**+1.8**
KMPD				*e*Sn	**Sn**	**21 52 27.8**	**+2.3**
GZR	**Gura Zlata**	**5.30**	**151**	⇑*i*P	**Pn**	**21 51 32.7**	**+2.8**
GZR	**Gura Zlata**	**5.30**	**151**	S	**Sn**	**21 52 30.3**	**-1.4**
GZR	**Gura Zlata**	**5.30**	**151**	⇑*i*P	**Pn**	**21 51 32.7**	**+2.8**
GZR				S	**Sn**	**21 52 30.3**	**-1.4**
AKASG	**Malin Array Be**	**6.52**	**81**	Pn	**Pn**	**21 51 44.8**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=267,slow=14,SNR=2.1						
AKASG				Lg	Lg	21 53 32.7	
	comp=Z,0.6nm,0.3s,baz=263,slow=29,SNR=4.3						
DAVOX	**Davos/Dischmat**	**6.95**	**245**	Pn	**Pn**	**21 51 53.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=40,slow=18,SNR=4.7						
DAVOX				Sn	**Sn**	**21 53 12.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=336,slow=20,SNR=2.5						
DAVOX				Lg	Lg	21 53 50.3	
	baz=195,slow=20						
HFS	**Hagfors**	**10.54**	**345**	Pn	Pn	21 52 36.8	-4.9
	comp=Z,0.1nm,0.3s,baz=138,slow=13,SNR=3.0						
NOA	**NORSAR Array B**	**11.85**	**341**	Pn	Pn	21 52 55.5	-4.1
	comp=Z,0.1nm,0.3s,baz=155,slow=12,SNR=2.5						
FINES	**FINESS Array B**	**12.05**	**16**	Pn	Pn	21 52 58.1	-4.2
	comp=Z,0.2nm,0.3s,baz=190,slow=12,SNR=12						
FINES				Sn	Sn	21 55 07.7	-10
	comp=Z,0.1nm,0.3s,baz=218,slow=18,SNR=4.2						
FINES				LR	LR	21 57 52.4	
	comp=Z,49nm,18.3s,baz=228,slow=38						
KAF	**Kangasniemi**	**12.72**	**16**	*e*p	Pn	21 53 07.0	-4.4
	comp=Z,0.4nm,0.3s						
JOF	**Joensuu**	**14.50**	**23**	*e*p	Pn	21 53 29.0	-6.7
	comp=Z,1.1nm,0.6s						
ARCES	**ARCESS Array B**	**19.77**	**7**	Pn	**P**	**21 54 38.4**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=3.7						
GNI	**Garni**	**20.55**	**109**	LR	LR	22 04 47.5	
	comp=Z,30nm,18.3s,baz=280,slow=43						
AKTO	**Aktyubinsk**	**24.71**	**74**	P	**P**	**21 55 31.6**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=300,slow=8.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**39.48**	**207**	P	**P**	**21 57 40.9**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=11,slow=8.9,SNR=2.9						
MKAR	**Makanchi Array**	**40.96**	**69**	P	**P**	**21 57 53.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=296,slow=8.1,SNR=3.4						
SONM	**Songino Array**	**54.17**	**56**	P	**P**	**21 59 36.6**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=291,slow=9.1,SNR=3.8						
YKA	**Yellowknife Ar**	**61.93**	**338**	P	**P**	**22 00 30.6**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=27,slow=6.9,SNR=3.1						

*CSEM **12** 22:03:52.9±0.2, 38°86N×23°36E, h10km, MD2.5, Error ellipse: s-maj=4.1km s-min=3.1km az=125.0*
ATH 12 22:03:53.1, 38°89N×23°36E, h5km, MD2.5/10, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIA	**Simia**	**0.12**	**265**	*e*PG	Pg	22 03 55.2	-0.4
SMIA				*e*SG	Sg	22 03 57.7	+0.4
SMIA	**Simia**	**0.12**	**265**	*e*Pg	Pg	22 03 55.2	-0.4
SMIA				*e*Sg	Sg	22 03 57.7	+0.4
MRKA	**Markates**	**0.26**	**136**	*e*PG	Pg	22 03 58.2	+0.1
MRKA	**Markates**	**0.26**	**136**	*e*Pg	Pg	22 03 58.2	+0.1
SKIA	**Skiathos**	**0.29**	**17**	*e*PB	Pg	22 03 59.5	+0.7
SKIA				*e*SB	Sg	22 04 03.7	+1.1
SKIA	**Skiathos**	**0.29**	**17**	*e*Pb	Pg	22 03 59.5	+0.7
SKIA				*e*Sb	Sg	22 04 03.7	+1.1
LKR	**Lokris**	**0.37**	**230**	*e*PG	Pg	22 04 00.0	-0.3
LKR				*e*SB	Sg	22 04 05.3	+0.2
LKR	**Lokris**	**0.37**	**230**	*e*Pg	Pg	22 04 00.0	-0.3
LKR				*e*Sb	Sg	22 04 05.3	+0.2
NEO	**Neokhori**	**0.43**	**346**	*e*PB	Pg	22 04 01.8	+0.3
NEO				*e*SB	Sg	22 04 07.7	+0.5
NEO	**Neokhori**	**0.43**	**346**	*e*Pb	Pg	22 04 01.8	+0.3
NEO				*e*Sb	Sg	22 04 07.7	+0.5
AOS	**Alonnisos**	**0.49**	**55**	*e*PB	Pg	22 04 02.6	0.0
AOS	**Alonnisos**	**0.49**	**55**	*e*Pb	Pg	22 04 02.6	0.0
XOR	**Xorichti**	**0.49**	**345**	*e*PB	Pg	22 04 03.5	+0.8
XOR				*e*SB	Sg	22 04 09.6	+0.4
XOR	**Xorichti**	**0.49**	**345**	*e*Pb	Pg	22 04 03.5	+0.8
XOR				*e*Sb	Sg	22 04 09.6	+0.4
AXAR	**Agios Charalam**	**0.56**	**258**	*e*PB	Pg	22 04 04.3	+0.3
AXAR	**Agios Charalam**	**0.56**	**258**	*e*Pb	Pg	22 04 04.3	+0.3
DSF	**Desfina**	**0.81**	**234**	*e*PB	Pg	22 04 08.4	-0.3
DSF	**Desfina**	**0.81**	**234**	*e*Pb	Pg	22 04 08.4	-0.3
AGG	**Agios Georgios**	**0.81**	**280**	*e*PG	Pg	22 04 08.3	-0.5
AGG	**Agios Georgios**	**0.81**	**280**	*e*Pg	Pg	22 04 08.3	-0.5

IDC 12 22:04:38.7±46.0, 18°13S×172°31W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/44, mbtmp3.9/3, Error ellipse: s-maj=894.9km s-min=172.7km az=82.0, Tonga Islands region

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

s-min=19.5km az=93.0
ISCJB ***12*** *22:21:00.6±0.7, 35°.53S±0°.07×73°.1W±0°.1, h17km, mb3.9/8, MS3.9/1, Error ellipse: s-maj=14.1km s-min=8.9km az=19.3*
NEIC ***12*** *22:21:04.5±0.7, 35°.49S×73°.09W, h35km, mb4.1/2, Error ellipse: s-maj=18.2km s-min=10.3km az=87.0*
ISC 12 22:21:01.9±0.7, 35°.49S±0°.08×73°.2W±0°.1, h17km, n20, σ1§05/20, mb4.0/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.63**	**159**	Pn	**Pn**	**22 22 25.4**	**+0.5**
	1.3nm,0.3s,baz=329,slow=12,SNR=18						
PLCA				Lg	Lg	22 23 55.7	
	baz=271,slow=18						
PLCA	**Paso Flores**	**5.63**	**159**	*e*Pn	**Pn**	**22 22 24.8**	**-0.2**
PLCA				Lg	Lg	22 23 55.7	
CFAA	**Coronel Fontan**	**5.67**	**48**	Pn	**Pn**	**22 22 26.2**	**+0.7**
	0.1nm,0.3s,baz=230,slow=10,SNR=6.8						
CFAA				Sn	**Sn**	**22 23 30.2**	**0.0**
	0.3nm,0.3s,baz=217,slow=13,SNR=4.3						
CFAA				LR	LR	22 24 50.5	
	comp=Z,34nm,18.8s,baz=232,slow=41						
LCO	**Las Campanas**	**6.80**	**19**	*e*Pn	**Pn**	**22 22 38.7**	**-2.4**
TRQA	**Tornquist**	**9.36**	**109**	*e*Pn	**Pn**	**22 23 15.5**	**-0.5**
LPAZ	**La Paz**	**19.65**	**15**	P	**Pn**	**22 25 33.5**	**+1.4**
	0.1nm,0.3s,baz=191,slow=10,SNR=8.1						
LPAZ	**La Paz**	**19.65**	**15**	*e*P	**P**	**22 25 31.1**	**+0.5**
	4.4nm,0.9s						
SIV	**San Ignacio**	**22.24**	**32**	P	**P**	**22 25 58.5**	**+0.5**
	3.7nm,0.8s,baz=224,slow=8.6,SNR=7.0						
SNAA	**Sanae**	**50.58**	**157**	P	**P**	**22 29 59.6**	**+0.3**
	0.8nm,0.6s,baz=305,slow=12,SNR=3.5						
SNAA	**Sanae**	**50.58**	**157**	*e*P	**P**	**22 29 59.3**	**0.0**
	2.9nm,0.6s						
QSPA	**South Pole Qui**	**54.75**	**180**	P	**P**	**22 30 31.2**	**+0.9**
	2.0nm,1.0s,baz=140,slow=7.9,SNR=6.3						
QSPA	**South Pole Qui**	**54.75**	**180**	*e*P	**P**	**22 30 29.4**	**-0.9**
TXAR	**Lajitas Array**	**70.58**	**332**	P	**P**	**22 32 17.0**	**+0.8**
	0.3nm,0.5s,baz=157,slow=7.6,SNR=2.9						
BOSA	**Boshof**	**80.22**	**118**	P	**P**	**22 33 11.7**	**-0.2**
	2.5nm,1.0s,baz=232,slow=12,SNR=2.9						
PDAR	**Pinedale Array**	**84.67**	**334**	P	**P**	**22 33 36.2**	**+1.5**
	0.2nm,0.5s,baz=148,slow=5.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**85.61**	**71**	P	**P**	**22 33 39.7**	**-0.1**
	0.3nm,1.0s,baz=270,slow=7.2,SNR=2.3						
ULM	**Lac du Bonnet**	**87.69**	**346**	P	**P**	**22 33 47.5**	**-1.6**
	0.9nm,0.3s,baz=194,slow=4.2,SNR=3.5						
BBB	**Bella Bella**	**99.59**	**329**	LR	LR	23 17 36.5	
	comp=Z,42nm,21.1s,baz=170,slow=34						
ZALV	**Zalesovo Beam**	**156.00**	**33**	PKPbc	PKPdf	22 41 02.2	+7.6
	0.3nm,0.4s,baz=230,slow=53,SNR=2.8						
ZALV				PKPab	**PKPab**	**22 41 20.4**	**-1.4**
	0.3nm,0.3s,baz=333,slow=5.5,SNR=2.6						
MKAR	**Makanchi Array**	**158.45**	**51**	PKPab	**PKPab**	**22 41 33.1**	**+0.2**
	0.3nm,0.7s,baz=282,slow=2.8,SNR=2.5						

NSSC ***12*** *22:50:26.7±1.8, 39°.96N×41°.19E, h0km±86km, MD2.0, ML4.1*
ISK ***12*** *22:50:44.7, 38°.77N×40°.08E, h3km, ML3.8*
DDA ***12*** *22:50:45.3, 38°.82N×40°.04E, h14km, ML4.2*
CSEM ***12*** *22:50:45.9±0.1, 38°.78N×40°.10E, h2km, ML3.8, Error ellipse: s-maj=3.5km s-min=2.8km az=147.0*
IDC ***12*** *22:50:45.3±0.8, 38°.87N×40°.02E, h0km, mb3.4/8, mb1 3.5/16, mb1mx3.5/34, mbtmp3.5/16, ML3.1/6, MS3.0/14, Ms1 3.0/14, ms1mx2.8/33, Error ellipse: s-maj=16.3km s-min=9.6km az=146.0*
GRAL ***12*** *22:52:04.2, 34°.35N×36°.32E, h15km*
ISC 12 22:50:45.5±1.1, 38°.81N±0°.02×40°.03E±0°.01, h2km±8km, n181, σ1§28/219, mb3.5/9, MS3.0/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.36**	**79**	*e*Pg	**Pb**	**22 50 55.2**	**+0.4**
BINT				*e*Sg	**Sb**	**22 51 02.8**	**+1.7**
BNGB	**Bing˜¶l**	**0.54**	**70**	*e*PG	**Pg**	**22 50 55.2**	**-0.6**
BNGB				*e*SG	**Sg**	**22 51 02.8**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.71**	**233**	*e*PG	**Pg**	**22 50 59.1**	**0.0**
SVRC				*e*SG	**Sg**	**22 51 10.0**	**+1.7**
SVRC	**Sivrice-ELAZID**	**0.71**	**233**	*e*Pg	**Pg**	**22 50 59.1**	**0.0**
SVRC				*e*Sg	**Sg**	**22 51 10.0**	**+1.7**
ERZN	**Erzincan**	**0.82**	**343**	*e*PG	**Pg**	**22 51 00.8**	**-0.3**
ELZG	**Elazig**	**0.88**	**250**	*i* P	**Pg**	**22 51 00.6**	**-1.6**
ELZG				*i* S	**Sb**	**22 51 16.3**	**+0.6**
ELZG	**Elazig**	**0.88**	**250**	*i* P	**Pg**	**22 51 00.6**	**-1.6**
ELZG				*i* S	**Sb**	**22 51 16.3**	**+0.6**
DIYA	**Diyarbakir**	**0.88**	**175**	*i* P	**Pg**	**22 51 02.5**	**+0.1**
DIYA				*i* S	**Sb**	**22 51 16.2**	**+0.3**
DIYA	**Diyarbakir**	**0.88**	**175**	*i* P	**Pg**	**22 51 02.5**	**+0.1**
DIYA				*i* S	**Sb**	**22 51 16.2**	**+0.3**
BNGL	**BINGOL**	**0.89**	**80**	*i* P	**Pg**	**22 51 01.6**	**-0.9**
BNGL				*i* S	**Sg**	**22 51 15.1**	**+1.1**
EUZM	**Uzumlu**	**0.94**	**344**	*i* P	**Pg**	**22 51 03.1**	**-0.4**
EUZM				*i* S	**Sb**	**22 51 17.7**	**+0.1**
EUZM	**Uzumlu**	**0.94**	**344**	*i* P	**Pg**	**22 51 03.1**	**-0.4**
EUZM				*i* S	**Sb**	**22 51 17.7**	**+0.1**
EZC	**Erzincan**	**1.08**	**331**	*e*Pg	Pg	22 51 00.8	-5.4
SVAN	**Silvan-Diyarba**	**1.13**	**125**	*e*PG	**Pg**	**22 51 06.4**	**-0.7**
VRTB	**Varto-Mus**	**1.17**	**72**	*e*PN	**Pg**	**22 51 06.7**	**-1.1**
VRTB	**Varto-Mus**	**1.17**	**72**	*e*Pn	**Pg**	**22 51 06.7**	**-1.1**
KOPT	**Kop Dagi**	**1.26**	**16**	*i* P	**Pg**	**22 51 09.1**	**-0.6**
KOPT				*i* S	**Sn**	**22 51 28.5**	**+0.2**
KOPT	**Kop Dagi**	**1.26**	**16**	*i* P	**Pg**	**22 51 09.1**	**-0.6**
KOPT				*i* S	**Sn**	**22 51 28.5**	**+0.2**
KEMA	**Kemaliye**	**1.28**	**292**	*i* P	**Pg**	**22 51 08.0**	**-2.1**
KEMA				*i* S	**Sg**	**22 51 25.6**	**-1.1**
KEMA	**Kemaliye**	**1.28**	**292**	*i* P	**Pg**	**22 51 08.0**	**-2.1**
KEMA				*i* S	**Sg**	**22 51 25.6**	**-1.1**
BTMT	**Batman**	**1.30**	**118**	*e*PN	**Pg**	**22 51 09.4**	**-1.0**
BTMT	**Batman**	**1.30**	**118**	*e*Pn	**Pg**	**22 51 09.4**	**-1.0**
ILIC	**ilic-Erzincan**	**1.31**	**300**	*e*PN	**Pn**	**22 51 11.3**	**+0.3**
ILIC	**ilic-Erzincan**	**1.31**	**300**	*e*Pn	**Pn**	**22 51 11.3**	**+0.3**
BEST	**Besiri**	**1.33**	**133**	*i* P	**Pg**	**22 51 10.1**	**-1.0**
BEST				*i* S	**Sg**	**22 51 28.0**	**-0.4**
MALT	**Malatya**	**1.35**	**249**	*e*PN	**Pg**	**22 51 11.3**	**-0.1**
MALT	**Malatya**	**1.35**	**249**	*e*Pn	**Pg**	**22 51 11.3**	**-0.1**
MAZI	**Mazidag**	**1.38**	**166**	*e*PN	**Pn**	**22 51 10.6**	**-1.3**
MAZI	**Mazidag**	**1.38**	**166**	*e*Pn	**Pn**	**22 51 10.6**	**-1.3**
KELT	**Kelkit**	**1.47**	**336**	*i* P	**Pn**	**22 51 12.7**	**-0.6**
KELT				*i* S	**Sg**	**22 51 33.2**	**+0.5**
KELT	**Kelkit**	**1.47**	**336**	*i* P	**Pn**	**22 51 12.7**	**-0.6**
KELT				*i* S	**Sg**	**22 51 33.2**	**+0.5**
EZM	**Erzurum**	**1.51**	**43**	*e*PN	**Pn**	**22 51 13.4**	**-0.4**
ERZM	**Erzurum**	**1.51**	**43**	*i* P	**Pn**	**22 51 13.4**	**-0.5**
ERZM	**Erzurum**	**1.51**	**43**	*i* P	**Pn**	**22 51 13.4**	**-0.5**
BAYT	**Ayd¯–ntepe-Bay**	**1.59**	**3**	*e*PN	**Pn**	**22 51 15.4**	**+0.5**
BAYT	**Ayd¯–ntepe-Bay**	**1.59**	**3**	*e*Pn	**Pn**	**22 51 15.4**	**+0.5**
MARD	**Mardin**	**1.60**	**158**	*i* P	**Pn**	**22 51 14.2**	**-0.8**
MARD				*i* S	**Sn**	**22 51 34.5**	**-1.8**
EKAR	**Karacoban**	**1.65**	**74**	*i* P	**Pn**	**22 51 15.5**	**-0.2**
EKAR	**Karacoban**	**1.65**	**74**	*i* P	**Pn**	**22 51 15.5**	**-0.2**
EKAR				*i* S	**Sg**	**22 51 42.3**	**+3.9**
URFA	**Urfa**	**1.66**	**215**	*e*PN	**Pn**	**22 51 15.2**	**-0.6**
URFA	**Urfa**	**1.66**	**215**	*e*Pn	**Pn**	**22 51 15.2**	**-0.6**
GUMT	**Gumushane**	**1.71**	**346**	*e*PN	**Pn**	**22 51 16.9**	**+0.5**
GUMT	**Gumushane**	**1.71**	**346**	*e*Pn	**Pn**	**22 51 16.9**	**+0.5**
TATV	**Tatvan**	**1.78**	**99**	*i* P	**Pn**	**22 51 17.7**	**+0.2**
TATV				*i* S	**Sb**	**22 51 42.2**	**+0.4**
TATV	**Tatvan**	**1.78**	**99**	*i* P	**Pn**	**22 51 17.7**	**+0.2**
TATV				*i* S	**Sb**	**22 51 42.2**	**+0.4**
HOMI	**Horasan**	**1.91**	**49**	*i* P	**Pn**	**22 51 19.3**	**0.0**
HOMI				*i* S	**Sg**	**22 51 47.0**	**+0.1**
ATAB	**Bozova**	**1.91**	**226**	*i* P	**Pn**	**22 51 18.9**	**-0.2**
ATAB				*i* S	**Sg**	**22 51 47.1**	**+0.3**
ATAB	**Bozova**	**1.91**	**226**	*i* P	**Pn**	**22 51 18.9**	**-0.2**
ATAB				*i* S	**Sg**	**22 51 47.1**	**+0.3**
SUSE	**Susehri**	**1.99**	**315**	*i* P	**Pn**	**22 51 20.9**	**+0.5**
SUSE				*i* S	**Sg**	**22 51 49.9**	**+0.5**
SUSE	**Susehri**	**1.99**	**315**	*i* P	**Pn**	**22 51 20.9**	**+0.5**
SUSE				*i* S	**Sg**	**22 51 49.9**	**+0.5**
DARE	**Darende-Malaty**	**2.01**	**264**	*e*PN	**Pn**	**22 51 20.9**	**+0.3**
DARE	**Darende-Malaty**	**2.01**	**264**	*e*Pn	**Pn**	**22 51 20.9**	**+0.3**
MACK	**Trabzon**	**2.15**	**355**	*i* P	**Pn**	**22 51 22.9**	**+0.5**
MACK	**Trabzon**	**2.15**	**355**	*i* P	**Pn**	**22 51 22.9**	**+0.5**
EATA	**Eleskirt**	**2.18**	**60**	*i* P	**Pb**	**22 51 26.2**	**+0.3**
EATA	**Eleskirt**	**2.18**	**60**	*i* P	**Pb**	**22 51 26.2**	**+0.3**
EATA				*i* S	**Sg**	**22 51 58.7**	**+3.2**
KTUT	**Trabzon**	**2.19**	**355**	*e*PN	**Pn**	**22 51 24.2**	**+1.3**
KTUT	**Trabzon**	**2.19**	**355**	*e*Pn	**Pn**	**22 51 24.2**	**+1.3**
TUTA	**Tutak**	**2.25**	**74**	*i* P	**Pn**	**22 51 22.0**	**-1.9**
TUTA	**Tutak**	**2.25**	**74**	*i* P	**Pn**	**22 51 22.0**	**-1.9**
SIRT	**Sirnak**	**2.30**	**124**	*e*PN	**Pn**	**22 51 24.2**	**-0.4**
SIRT	**Sirnak**	**2.30**	**124**	*e*Pn	**Pn**	**22 51 24.2**	**-0.4**
ESPY	**Espiye-Giresun**	**2.33**	**335**	*e*PN	**Pn**	**22 51 26.1**	**+1.1**
ESPY	**Espiye-Giresun**	**2.33**	**335**	*e*Pn	**Pn**	**22 51 26.1**	**+1.1**
SFNV	**Sufian**	**2.38**	**178**	*e*P	**Pn**	**22 51 25.9**	**+0.2**
	SNR=45						
SFNV	**Sufian**	**2.38**	**178**	*e*P	**Pn**	**22 51 25.9**	**+0.2**
SFNV				*e*S	**Sg**	**22 52 06.4**	**+4.3**
SFNV				AML	AML	22 52 11.5	
	comp=N,604nm,0.4s						
SFNV				AML	AML	22 52 15.4	
	comp=E,1μm,0.4s						
GEVA	**Gevas**	**2.42**	**101**	*i* P	**Pn**	**22 51 25.5**	**-0.8**
GEVA	**Gevas**	**2.42**	**101**	*i* P	**Pn**	**22 51 25.5**	**-0.8**
GEVA				*i* S	**Sg**	**22 52 02.4**	**-1.0**
AGRB	**Hanur-Agry**	**2.43**	**71**	*e*PN	**Pn**	**22 51 26.3**	**-0.1**
AGRB	**Hanur-Agry**	**2.43**	**71**	*e*Pn	**Pn**	**22 51 26.3**	**-0.1**
DDEM	**Demirkent**	**2.47**	**32**	*i* P	**Pn**	**22 51 26.8**	**-0.1**
DDEM				*i* S	**Sn**	**22 51 58.9**	**+1.2**
DDEM	**Demirkent**	**2.47**	**32**	*i* P	**Pn**	**22 51 26.8**	**-0.1**
DDEM				*i* S	**Sn**	**22 51 58.9**	**+1.2**
GRSN	**GIRESUNGRSN**	**2.51**	**328**	*i* P	**Pn**	**22 51 27.6**	**+0.1**
GRSN				*i* S	**Sb**	**22 52 02.4**	**-0.4**
GRSN	**GIRESUNGRSN**	**2.51**	**328**	*i* P	**Pn**	**22 51 27.6**	**+0.1**
GRSN				*i* S	**Sb**	**22 52 02.4**	**-0.4**
DBAD	**Bademkaya**	**2.55**	**30**	*i* P	**Pn**	**22 51 28.1**	**+0.1**
DBAD	**Bademkaya**	**2.55**	**30**	*i* P	**Pn**	**22 51 28.1**	**+0.1**
SVSK	**Karacayir**	**2.60**	**296**	*e*PN	**Pn**	**22 51 29.7**	**+1.2**
SVSK	**Karacayir**	**2.60**	**296**	*e*Pn	**Pn**	**22 51 29.7**	**+1.2**
RSDY	**Resadiye-TOKAT**	**2.62**	**308**	*e*PN	**Pn**	**22 51 30.2**	**+1.2**
RSDY	**Resadiye-TOKAT**	**2.62**	**308**	*e*Pn	**Pn**	**22 51 30.2**	**+1.2**
VANB	**Van**	**2.64**	**94**	*e*PN	**Pn**	**22 51 29.8**	**+0.6**
VANB	**Van**	**2.64**	**94**	*e*Pn	**Pn**	**22 51 29.8**	**+0.6**
DAGI	**Agillar**	**2.69**	**32**	*i* P	**Pn**	**22 51 30.0**	**0.0**
DAGI				*i* S	**Sb**	**22 52 07.0**	**-1.1**
ARTV	**Artvin**	**2.79**	**31**	*i* P	**Pn**	**22 51 31.3**	**-0.1**
ARTV	**Artvin**	**2.79**	**31**	*i* P	**Pn**	**22 51 31.3**	**-0.1**
KMRS	**Kahramanmaras**	**2.79**	**243**	*e*PN	**Pn**	**22 51 31.5**	**+0.3**
KMRS	**Kahramanmaras**	**2.79**	**243**	*e*Pn	**Pn**	**22 51 31.5**	**+0.3**
DBOC	**Borcka**	**2.83**	**26**	*i* P	**Pn**	**22 51 32.0**	**+0.2**
DBOC				*i* S	**Sn**	**22 52 06.6**	**+0.1**
DBOC	**Borcka**	**2.83**	**26**	*i* P	**Pn**	**22 51 32.0**	**+0.2**
DBOC				*i* S	**Sn**	**22 52 06.6**	**+0.1**
BCA	**Borcka**	**2.91**	**24**	*e*PN	**Pn**	**22 51 33.1**	**+0.3**
BCA	**Borcka**	**2.91**	**24**	*e*Pn	**Pn**	**22 51 33.1**	**+0.3**
MNKR	**ALMNKUR**	**2.92**	**192**	*e*P	**Pn**	**22 51 33.7**	**+0.7**
	SNR=45						
MNKR	**ALMNKUR**	**2.92**	**192**	*e*P	**Pn**	**22 51 33.7**	**+0.7**
MNKR				*e*S	**Sg**	**22 52 21.9**	**+2.6**
MNKR				AML	AML	22 52 24.1	
	comp=E,766nm,0.4s						
MNKR				AML	AML	22 52 29.6	
	comp=N,2μm,0.3s						
KARS	**Kars**	**2.97**	**51**	*e*PN	**Pn**	**22 51 34.3**	**+0.4**
KARS	**Kars**	**2.97**	**51**	*e*Pn	**Pn**	**22 51 34.3**	**+0.4**
MZRK	**Al-Mazaregh**	**3.01**	**170**	*e*P	**Pn**	**22 51 33.2**	**-1.1**
	SNR=45						
MZRK	**Al-Mazaregh**	**3.01**	**170**	*e*P	**Pn**	**22 51 33.2**	**-1.1**
MZRK				*e*S	**Sb**	**22 52 18.0**	**+0.8**
MZRK				AML	AML	22 52 24.2	
	comp=E,685nm,0.5s						
MZRK				AML	AML	22 52 32.7	
	comp=N,1μm,0.6s						
CLDR	**Caldiran**	**3.05**	**82**	*e*PN	**Pn**	**22 51 35.1**	**+0.1**
CLDR	**Caldiran**	**3.05**	**82**	*e*Pn	**Pn**	**22 51 35.1**	**+0.1**
KSRV	**Kasrt alli**	**3.05**	**196**	*e*P	**Pg**	**22 51 43.1**	**-0.7**
KSRV				AML	AML	22 52 27.9	
	comp=N,369nm,0.6s						
KSRV				AML	AML	22 52 38.0	
	comp=E,426nm,0.6s						
KUZU	**Kuzuini**	**3.10**	**230**	*i* P	**Pn**	**22 51 34.7**	**-0.8**
KUZU	**Kuzuini**	**3.10**	**230**	*i* P	**Pn**	**22 51 34.7**	**-0.8**
KUZU				*i* S	**Sg**	**22 52 25.0**	**0.0**
ANDN	**Andirin**	**3.15**	**248**	*e*P	**Pb**	**22 51 40.3**	**-2.0**
ANDN	**Andirin**	**3.15**	**248**	*e*P	**Pb**	**22 51 40.3**	**-2.0**
ANDN				*i* S	**Sg**	**22 52 29.9**	**+3.2**
HAKT	**HAKKARI**	**3.15**	**112**	*i* P	**Pn**	**22 51 35.9**	**-0.5**
HAKT	**HAKKARI**	**3.15**	**112**	*i* P	**Pn**	**22 51 35.9**	**-0.5**
HAKT				*i* S	**Sg**	**22 52 28.6**	**+1.8**
HKR	**Hakkari**	**3.17**	**112**	*e*PN	**Pn**	**22 51 36.6**	**0.0**
HKR	**Hakkari**	**3.17**	**112**	*e*Pn	**Pn**	**22 51 36.6**	**0.0**
BNN	**Bunyan**	**3.27**	**272**	*e*PN	**Pn**	**22 51 38.8**	**+0.9**
BNN	**Bunyan**	**3.27**	**272**	*e*Pn	**Pn**	**22 51 38.8**	**+0.9**
KOZT	**Kozan**	**3.57**	**250**	*e*PN	**Pn**	**22 51 42.7**	**+0.8**
KOZT	**Kozan**	**3.57**	**250**	*e*Pn	**Pn**	**22 51 42.7**	**+0.8**
AKH	**Akhalkalaki**	**3.72**	**44**	P	**Pg**	**22 51 56.9**	**+0.2**
YOZ	**Yozgat**	**3.75**	**284**	*e*PN	**Pn**	**22 51 46.1**	**+1.5**
YOZ	**Yozgat**	**3.75**	**284**	*e*Pn	**Pn**	**22 51 46.1**	**+1.5**
KVT	**Kavak**	**3.81**	**308**	*e*PN	**Pn**	**22 51 47.2**	**+1.9**
KVT	**Kavak**	**3.81**	**308**	*e*Pn	**Pn**	**22 51 47.2**	**+1.9**
CEYT	**Ceyhan**	**3.83**	**243**	*e*PN	**Pn**	**22 51 46.7**	**+1.2**
CEYT	**Ceyhan**	**3.83**	**243**	*e*Pn	**Pn**	**22 51 46.7**	**+1.2**
GNI	**Garni**	**3.88**	**68**	*e*PN	**Pn**	**22 51 47.4**	**+1.0**
GNI	**Garni**	**3.88**	**68**	Pn	**Pn**	**22 51 46.9**	**+0.5**
	comp=E,1.3nm,0.3s,baz=196,slow=5.2,SNR=5.1						
GNI				LR	LR	22 53 34.7	
	comp=E,118nm,18.6s,baz=214,slow=44						
GNI	**Garni**	**3.88**	**68**	*e*Pn	**Pn**	**22 51 47.4**	**+1.0**
BTCH	**Batrach**	**3.96**	**227**	*e*P	**Pn**	**22 51 48.9**	**+1.5**
	SNR=45						
BTCH	**Batrach**	**3.96**	**227**	*e*P	**Pn**	**22 51 48.9**	**+1.5**
BTCH				*e*S	**Sg**	**22 52 49.4**	**-3.4**
BTCH				AML	AML	22 52 59.1	
	comp=E,1μm,0.6s						
BTCH				AML	AML	22 53 07.8	
	comp=N,639nm,0.7s						
KARA	**Karaisali**	**4.22**	**250**	*e*PN	**Pn**	**22 51 52.3**	**+1.4**
KARA	**Karaisali**	**4.22**	**250**	*e*Pn	**Pn**	**22 51 52.3**	**+1.4**
ARNB	**Al Arnab**	**4.37**	**229**	*e*P	**Pn**	**22 51 54.0**	**+1.0**
	SNR=45						
ARNB	**Al Arnab**	**4.37**	**229**	*e*P	**Pn**	**22 51 54.0**	**+1.0**
ARNB				*e*S	**Sb**	**22 52 59.1**	**+2.9**
ARNB				AML	AML	22 53 10.4	
	comp=E,215nm,0.6s						
ARNB				AML	AML	22 53 14.9	
	comp=N,242nm,0.6s						
WRDH	**Warideh**	**4.38**	**222**	*e*P	**Pn**	**22 51 54.3**	**+1.2**
	SNR=45						
WRDH	**Warideh**	**4.38**	**222**	*e*P	**Pn**	**22 51 54.3**	**+1.2**
WRDH				*e*S	**Sb**	**22 52 59.8**	**+3.3**
WRDH				AML	AML	22 53 11.3	
	comp=N,251nm,0.6s						
WRDH				AML	AML	22 53 23.5	
	comp=E,332nm,0.6s						
CORM	**Corum**	**4.40**	**290**	*e*PN	**Pn**	**22 51 55.6**	**+2.2**
CORM	**Corum**	**4.40**	**290**	*e*Pn	**Pn**	**22 51 55.6**	**+2.2**
ONI	**Oni**	**4.59**	**33**	P	**Pn**	**22 51 57.0**	**+1.0**
DIKM	**Dikmen**	**4.63**	**309**	*e*PN	**Pn**	**22 51 58.4**	**+2.0**
DIKM	**Dikmen**	**4.63**	**309**	*e*Pn	**Pn**	**22 51 58.4**	**+2.0**
TBLG	**Delisi**	**4.64**	**49**	P	**Pn**	**22 51 57.2**	**+0.6**
TBLG	**Delisi**	**4.64**	**49**	P	**Pn**	**22 51 57.2**	**+0.6**
BIDA	**Albida**	**4.81**	**219**	*e*P	**Pn**	**22 52 00.7**	**+1.6**
	SNR=45						
BIDA	**Albida**	**4.81**	**219**	*e*P	**Pn**	**22 52 00.7**	**+1.6**
BIDA				*e*S	**Sb**	**22 53 09.4**	**+0.4**
BIDA				AML	AML	22 53 23.6	
	comp=E,386nm,0.6s						
BIDA				AML	AML	22 53 29.7	
	comp=N,455nm,0.7s						
DUS	**Dusheti**	**4.84**	**46**	P	**Pn**	**22 52 01.2**	**+1.7**
DUS	**Dusheti**	**4.84**	**46**	P	**Pn**	**22 52 01.2**	**+1.7**
DGRG	**David-gareji**	**4.87**	**55**	P	**Pn**	**22 52 00.8**	**+0.9**
DGRG	**David-gareji**	**4.87**	**55**	P	**Pn**	**22 52 00.8**	**+0.9**
GUDG	**Gudauri**	**4.98**	**41**	P	**Pn**	**22 52 02.4**	**+0.9**
GUDG	**Gudauri**	**4.98**	**41**	P	**Pn**	**22 52 02.4**	**+0.9**
BRTR	**Keskin Array B**	**5.04**	**282**	Pn	**Pn**	**22 52 03.4**	**+1.0**
	comp=N,1.3nm,0.3s,baz=102,slow=16,SNR=66						
BRTR				Lg	Lg	22 53 28.2	
	baz=109,slow=33,SNR=2.2						
SULT	**Sultanhani-AKS**	**5.15**	**265**	*e*PN	**Pn**	**22 52 06.3**	**+2.6**
SULT	**Sultanhani-AKS**	**5.15**	**265**	*e*Pn	**Pn**	**22 52 06.3**	**+2.6**
KBZ	**Khabaz**	**5.37**	**23**	Pn	**Pn**	**22 52 08.3**	**+1.6**
	comp=N,0.4nm,0.3s,baz=199,slow=5.3,SNR=8.6						
FKH	**Fakeheh**	**5.40**	**214**	*e*P	**Pn**	**22 52 07.6**	**+0.3**
AFSR	**Af¯ar-Bala (A**	**5.45**	**279**	*e*PN	**Pn**	**22 52 10.8**	**+2.9**
AFSR	**Af¯ar-Bala (A**	**5.45**	**279**	*e*Pn	**Pn**	**22 52 10.8**	**+2.9**
BZK	**Bozkurt**	**5.58**	**306**	*e*PN	**Pn**	**22 52 12.5**	**+3.0**
BZK	**Bozkurt**	**5.58**	**306**	*e*Pn	**Pn**	**22 52 12.5**	**+3.0**
HWQ	**Hawqa**	**5.59**	**217**	*e*P	**Pn**	**22 52 10.4**	**+0.6**
ANTO	**Ankara**	**5.71**	**283**	*e*PN	**Pn**	**22 52 14.0**	**+2.6**
ANTO	**Ankara**	**5.71**	**283**	*e*Pn	**Pn**	**22 52 14.0**	**+2.6**
LOD	**Lodumlu**	**5.74**	**283**	*e*PN	**Pn**	**22 52 14.2**	**+2.4**
LOD	**Lodumlu**	**5.74**	**283**	*e*Pn	**Pn**	**22 52 14.2**	**+2.4**
BHL	**Bhannes**	**6.03**	**217**	*e*P	**Pn**	**22 52 16.8**	**+0.9**
MMAI	**Mount Meron Ar**	**6.89**	**214**	Pn	**Pn**	**22 52 30.1**	**+2.5**
	comp=N,4.3nm,0.3s,baz=66,slow=15,SNR=45						
MMAI				Lg	Lg	22 54 24.7	
	comp=N,2.4nm,0.3s,baz=28,slow=25,SNR=4.9						
MMAI				LR	LR	22 55 08.5	
	comp=N,70nm,18.1s,baz=10,0,slow=38						
ASF	**Jabal al Asfar**	**7.09**	**202**	Pn	**Pn**	**22 52 31.5**	**+1.1**
	comp=N,0.4nm,0.3s,baz=47,slow=9.6,SNR=9.2						
ASF				Lg	Lg	22 54 30.7	
	comp=N,1.0nm,0.3s,baz=171,slow=19,SNR=3.9						
EIL	**Elat**	**10.03**	**206**	Pn	**Pn**	**22 53 12.3**	**+1.7**
	comp=N,0.1nm,0.3s,baz=8.1,slow=14,SNR=2.1						
EIL				Lg	Lg	22 56 04.0	
	comp=N,0.2nm,0.3s,baz=43,slow=19,SNR=3.8						
EIL				LR	LR	22 57 01.6	
	comp=N,82nm,20.9s,baz=26,slow=37						
GEYT	**Alibeck**	**14.22**	**88**	Pn	**Pn**	**22 54 07.7**	**-0.2**
	comp=N,0.1nm,0.3s,baz=267,slow=15,SNR=2.2						
GEYT				LR	LR	23 00 40.1	
	comp=N,32nm,18.1s,baz=100,slow=42						
AKTO	**Aktyubinsk**	**17.24**	**42**	Pn	**Pn**	**22 54 45.3**	**-2.0**
	comp=N,0.1nm,0.3s,baz=270,slow=11,SNR=2.8						
AKTO				LR	LR	23 03 25.1	
	comp=N,70nm,18.1s,baz=229,slow=44						
VRAC	**Vranov**	**19.77**	**310**	LR	LR	23 03 18.6	
	comp=N,35nm,18.7s,baz=174,slow=38						
GERES	**GERESS Array B**	**21.39**	**307**	P	**P**	**22 55 34.3**	**-0.1**
	comp=N,0.3nm,0.5s,baz=144,slow=37,SNR=6.0						
GERES				LR	LR	23 04 36.2	
	comp=N,42nm,20.0s,baz=94,slow=39						
FINES	**FINESS Array B**	**24.26**	**344**	P	**P**	**22 56 03.4**	**-0.3**
	comp=N,1.5nm,

ellipse: s-maj=6.4km s-min=3.3km az=120.6

NEIC **12** *23:19:55.2±0.1,23°.06N×94°.62E,mb5.5/135,MW5.5, Error ellipse: s-maj=3.7km s-min=2.3km az=45.0,Moment Tensor Solution. s7 Moment tensor: Scale 10^{17}Nm; M_{rr}0.14; $M_{\theta\theta}$-1.52; $M_{\phi\phi}$1.37; $M_{r\theta}$-0.84; $M_{\theta\phi}$0.27; $M_{\theta r}$-1.34; Best double couple: $M_0$2.20000×10^{17} NP1:ϕ_s230.00000°, δ85.00000°,λ45.00000°. NP2:ϕ_s135.00000°,δ45.00000°, λ173.00000°. Principal axes: T 2.3500, Plg33.0000°, Azm102.0000°; N -0.4600, Plg44.0000°, Azm234.0000°; P -1.9000, Plg25.0000°, Azm353.0000°;*

NEIC *Felt [IV] at Aizawl and [II] at Guwahati, India. Also felt at Calcutta, Shillong and Tawang. Felt [III] at Chittagong and [II] at Dhaka, Bangladesh. Also felt at Barguna, Comilla, Khagrachari and Rangamati. Felt at Thimphu, Bhutan.*

GCMT **12** *23:19:55.2±0.1,22°.99N×94°.62E,h115km,MW5.5/125, Moment Tensor Solution. s113,c195; s125,c260; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.24±.03; $M_{\theta\theta}$-1.52±.03; $M_{\phi\phi}$0.27±.03; $M_{r\theta}$-0.87±.02; $M_{\theta\phi}$-0.43±.03; $M_{\phi r}$-1.37±.02; Best double couple: $M_0$2.18300×10^{17} NP1:ϕ_s227.00000°,δ71.00000°, λ64.00000°. NP2:ϕ_s103.00000°,δ32.00000°,λ142.00000°. Principal axes: T 2.2710, Plg56.0000°, Azm103.0000°; N -0.1810, Plg24.0000°, Azm236.0000°; P -2.0950, Plg22.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC **12** *23:19:56.1±0.3,23°.07N×94°.63E,h109km±2km,mb5.0/43, mb1 5.1/44,mb1mx5.1/45,mbtmp5.4/44,MS4.3/25, Ms1 4.3/25,ms1mx4.1/39 Error ellipse: s-maj=7.0km s-min=4.8km az=50.0*

BKK **12** *23:19:56.0±0.5,23°N±4°×9°5E±°,h92km±5km,M5.4/55, mb5.6/55,mB5.8/48,MLv5.8/7,Mw(mB)5.4/48*

LDG **12** *23:19:57.6±0.4,23°.31N×93°.98E,h101km,Mb5.1/44, Ms4.3/13,Error ellipse: s-maj=19.7km s-min=17.3km az=81.0*

ISC 12 23:19:55.3±0.2,**23°.06N**±0°.02×**94°.58E**±0°.02,**h107**km±1km, **h107**km:**pP-P,n1488,**σ**1**§**35**/2063,**mb5.4**/331,**175C-254D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.51**	**316**	*e*P	**Pn**	**23 20 46.4**	**-1.8**
SHL				*i* x	**Sn**	**23 21 23.7**	**-5.4**
MHMT	**Maesarieng**	**5.78**	**147**	P	**Pn**	**23 21 18.5**	**-0.3**
	1μm,0.9s,9μm4.2nm						
CHTO	**Chiang Mai**	**5.87**	**135**	*e*P	**Pn**	**23 21 19.2**	**-0.8**
CHTO	**Chiang Mai**	**5.87**	**135**	Pn	**Pn**	**23 21 19.5**	**-0.4**
	SNR=170						
CHTO	**Chiang Mai**	**5.87**	**135**	P	**Pn**	**23 21 18.8**	**-1.2**
	2μm,1.0s,35μm19nm						
CHTO	**Chiang Mai**	**5.87**	**135**	*e*Pn	**Pn**	**23 21 19.2**	**-0.8**
CMMT	**Chiang Mai**	**5.87**	**135**	P	**Pn**	**23 21 18.8**	**-1.2**
	1μm,1.0s,17μm5.3nm						
CRAI	**Chiangrai**	**6.08**	**116**	P	**Pn**	**23 21 21.9**	**-0.9**
	341nm,1.3s,16μm3.3nm						
CMAR	**Chiang Mai Arr**	**6.13**	**137**	P	**Pn**	**23 21 23.4**	**-0.1**
	11nm,0.3s,baz=312,slow=13,SNR=276						
CMAR				S	**Sn**	**23 22 31.7**	**-0.6**
	baz=322,slow=16,SNR=2.9						
CMAR				LR	LR	23 24 08.2	
	comp=Z,3μm,18.7s,baz=328,slow=41						
CM01	**Chiang Mai Arr**	**6.17**	**138**	*e*Pn	**Pn**	**23 21 23.5**	**-0.5**
CM01				*e*ScP	**ScP**	**23 31 36.8**	**+0.4**
LAMP	**Lampang**	**6.53**	**133**	P	**Pn**	**23 21 28.5**	**-0.5**
	268nm,0.7s,3μm1.5nm						
SUKH	**Sukhothai**	**7.29**	**139**	P	**Pn**	**23 21 38.6**	**-0.7**
	105nm,0.9s,1μm						
LSA	**Lhasa**	**7.30**	**336**	P	**Pn**	**23 21 40.5**	**+0.8**
LSA				S	**Sn**	**23 22 58.5**	**-2.7**
LSA	**Lhasa**	**7.30**	**336**	*e*P	**Pn**	**23 21 40.1**	**+0.4**
LSA				*e*		23 22 59.0	
LSA	**Lhasa**	**7.30**	**336**	*e*Pn	**Pn**	**23 21 40.1**	**+0.4**
LSA				*e*Sn	**Sn**	**23 22 59.0**	**-2.2**
LSA				*e*ScP	**ScP**	**23 31 39.3**	**+1.5**
LSA				*e*ScS	**ScS**	**23 35 12.7**	**+0.9**
ODAN	**Odare**	**7.54**	**302**	*e*Pn	**Pn**	**23 21 40.8**	**-2.1**
ODAN				*e*Sn	Sn	23 22 46.5	-21
	31μm,0.7s						
TAPN	**Taplejung**	**7.55**	**306**	*e*Pn	**Pn**	**23 21 40.4**	**-2.6**
UTTA	**Uttaradit**	**7.70**	**132**	P	**Pn**	**23 21 44.3**	**-0.5**
	212nm,0.8s,2μm0.7nm						
KMI	**Kunming**	**7.73**	**73**	P	Pn	23 21 50.5	+5.1
KMI				S	Sn	23 23 18.3	+6.8
KMI				PMZ			
	450nm,1.2s						
KMI				PMZ			
	1μm,3.4s						
KMI				LN			
	9μm,13.2s						
KMI				LE			
	3μm,8.3s						
KMI				LZ			
	4μm,12.2s						
BOK	**Bokaro**	**8.02**	**277**	*e*P	**Pn**	**23 21 47.3**	**-1.9**
BOK				AMB	AMB	23 21 51.8	
	comp=Z,2μm,0.8s						
RAMN	**Ramite**	**8.21**	**300**	*e*Pn	**Pn**	**23 21 49.3**	**-2.6**
RAMN				*e*Sn	Sn	23 23 02.2	-21
	comp=Z,16μm,0.7s						
PBKT	**Sadao Pong**	**8.82**	**136**	P	**Pn**	**23 22 00.0**	**0.0**
	comp=Z,541nm,0.6s						
JIRN	**Jiri**	**8.87**	**303**	*e*Pn	**Pn**	**23 21 58.4**	**-2.5**
JIRN				*e*Sn	Sn	23 23 18.9	-21
	comp=Z,28μm,0.7s						
KHLT	**Khaolaem Dam**	**9.05**	**155**	P	**Pn**	**23 22 03.4**	**+0.3**
	comp=Z,116nm,1.3s,comp=Z,1μm						
GUN	**Gumba**	**9.23**	**303**	*e*Pn	**Pn**	**23 22 03.3**	**-2.5**
GUN				*e*Sn	Sn	23 23 26.6	-22
	comp=Z,24μm,0.7s						
PKI	**Pulchoki**	**9.44**	**300**	*e*Pn	**Pn**	**23 22 06.0**	**-2.6**
PKIN	**Phulchoki**	**9.45**	**300**	*e*Pn	**Pn**	**23 22 06.3**	**-2.5**
KKN	**Kakani**	**9.64**	**301**	*e*Pn	**Pn**	**23 22 08.3**	**-3.0**
KKN				*e*Sn	Sn	23 23 35.6	-22
	comp=Z,12μm,0.7s						
SRDT	**SRDT**	**9.67**	**153**	P	**Pn**	**23 22 11.3**	**-0.2**
	comp=Z,610nm,1.2s,comp=Z,7μm						
DMN	**Daman**	**9.70**	**300**	*e*Pn	**Pn**	**23 22 09.2**	**-2.9**
DMN				*e*Sn	Sn	23 23 37.6	-22
	comp=Z,13μm,0.8s						
DGPR	**DIGLIPUR**	**9.95**	**189**	*e*P	**Pn**	**23 22 13.1**	**-2.3**
DGPR				AMB	AMB	23 22 16.8	
	comp=Z,432nm,0.9s						
CHAI	**Chaiyaphum**	**9.97**	**134**	P	**Pn**	**23 22 17.4**	**+1.8**
	comp=Z,90nm,0.8s,comp=Z,685nm						
GKN	**Gorkha**	**10.24**	**301**	*e*Pn	**Pn**	**23 22 16.5**	**-2.9**
KOLN	**Koldanda**	**10.98**	**298**	*e*Pn	Pn	23 22 25.8	-3.6
KOLN				*e*Sn	Sn	23 24 06.5	-24
	comp=Z,5μm,0.5s						
DANN	**Dangsing**	**11.09**	**301**	*e*Pn	Pn	23 22 26.8	-4.2
DANN				*e*Sn	Sn	23 24 11.2	-22
	comp=Z,6μm,0.7s						
CD2	**Chengdu**	**11.31**	**44**	⇓*i*P	**Pn**	**23 22 34.2**	**+0.4**
CD2				PP	**P**	**23 22 45.4**	**+1.9**
CD2				sP		23 23 03.3	
CD2				S	**Sn**	**23 24 38.5**	**+0.3**
CD2				SS	S	23 24 56.3	-17
CD2				PMZ			
	comp=Z,170nm,1.0s						
CD2				PMZ			
	comp=Z,380nm,4.8s						
CD2				LN			
	comp=Z,4μm,10.7s						
CD2				LE			
	comp=Z,4μm,11.9s						
CD2				LZ			
	comp=Z,2μm,10.1s						
PBA	**Port Blair**	**11.47**	**189**	*e*P	Pn	23 22 33.7	-2.3
PBA				AMB	AMB	23 22 38.3	
	comp=Z,253nm,1.4s						
GYA	**Guiyang**	**11.49**	**70**	⇑*i*P	**Pn**	**23 22 36.8**	**+0.6**
GYA				PP	P	23 22 49.0	+3.5
GYA				sP		23 23 07.4	
GYA				S	**Sn**	**23 24 43.5**	**+0.9**
GYA				SS	S	23 25 02.7	-14
GYA				PMZ			
	comp=Z,110nm,0.9s						
GYA				PMZ			
	comp=Z,400nm,5.3s						
GYA				LN			
	comp=Z,5μm,13.0s						
GYA				LE			
	comp=Z,2μm,9.6s						
GYA				LZ			
	comp=Z,2μm,10.5s						
VIS	**Vishakhapatnam**	**11.81**	**245**	*i* P	**Pn**	**23 22 39.3**	**-1.1**
VIS				AMB	AMB	23 22 39.4	
	comp=Z,109nm,1.8s						
VIS				*i* x	x	23 24 35.5	
UBPT	**Khong Chiam**	**12.87**	**125**	P	**Pn**	**23 22 53.8**	**-0.5**
	comp=Z,227nm,1.3s,comp=Z,3μm						
LGTI	**Lohaghat**	**14.35**	**299**	*e*P	**P**	**23 23 15.6**	**-1.7**
LGTI				*e*x	x	23 25 25.6	
PTH	**Pithoragarh**	**14.41**	**300**	*e*x	Pn	23 23 08.9	-5.5
PTH				*e*x	x	23 25 29.3	
NGP	**Nagpur**	**14.52**	**265**	*e*P	**Pn**	**23 23 12.6**	**-3.1**
NGP				*e*x	x	23 23 22.8	
	comp=Z,479nm,1.3s						
NGP				*e*x	x	23 25 43.8	
SURT	**Suratani**	**14.59**	**163**	P	**Pn**	**23 23 16.6**	**0.0**
	comp=Z,113nm,1.0s,comp=Z,876nm						
QIZ	**Qiongzhong**	**14.80**	**103**	P	**Pn**	**23 23 19.1**	**-0.2**
QIZ				sP		23 23 50.1	
QIZ				S	**Sn**	**23 26 01.7**	**-1.0**
QIZ				PMZ			
	comp=Z,820nm,4.6s						
QIZ				LN			
	comp=Z,3μm,10.1s						
QIZ				LZ			
	comp=Z,4μm,13.2s						
QIZ	**Qiongzhong**	**14.80**	**103**	*e*Pn	**Pn**	**23 23 18.8**	**-0.5**
ENH	**Enshi**	**15.13**	**58**	*e*Pn	**Pn**	**23 23 22.5**	**-0.9**
	comp=Z,196nm,0.9s						
ENH				*e*Sn	**Sn**	**23 26 10.9**	**+0.3**
ENH				*e*ScS	**ScS**	**23 35 23.2**	**-3.0**
LZH	**Lanzhou**	**15.27**	**30**	⇑P	**Pn**	**23 23 24.4**	**-0.8**
LZH				sP	**sP**	**23 23 56.9**	**-4.0**
LZH				S	**Sn**	**23 26 11.0**	**-3.1**
LZH				ScP	**ScP**	**23 31 47.4**	**-0.8**
LZH				ScS	**ScS**	**23 35 25.2**	**-1.4**
LZH				PMZ			
	comp=Z,110nm,1.0s						
LZH				PMZ			
	comp=Z,630nm,4.7s						
PKDT	**Phuket**	**15.50**	**166**	P	**Pn**	**23 23 28.2**	**0.0**
	comp=Z,197nm,1.1s,comp=Z,2μm						
BHPL	**Bhopal**	**15.79**	**274**	*e*P	**Pn**	**23 23 31.6**	**-0.1**
BHPL				AMB	AMB	23 23 35.5	
	comp=Z,443nm,1.1s						
CMBY	**CAMPBELL BAY**	**15.97**	**182**	*e*P	**Pn**	**23 23 33.5**	**-0.5**
CMBY				AMB	AMB	23 23 35.8	
	comp=Z,319nm,0.3s						
HYB	**Hyderabad**	**16.05**	**252**	*e*P	**Pn**	**23 23 31.5**	**-3.5**
HYB				*e*S	**Sn**	**23 26 30.0**	**-3.0**
HYB	**Hyderabad**	**16.05**	**252**	*i* P	**Pn**	**23 23 31.5**	**-3.5**
	comp=Z,390nm,1.0s						
HYB				*e*		23 26 17.0	
HYB				*e*S	**Sn**	**23 26 30.0**	**-3.0**
HYB	**Hyderabad**	**16.05**	**252**	*e*P	**Pn**	**23 23 35.0**	**0.0**
HYB				AMB	AMB	23 23 38.6	
	comp=Z,296nm,0.6s						
HYB	**Hyderabad**	**16.05**	**252**	*e*P	**Pn**	**23 23 31.5**	**-3.5**
HYB				*e*		23 26 17.0	
HYB				*e*S	**Sn**	**23 26 30.0**	**-3.0**
DDI	**Dehra Dun**	**16.44**	**300**	*e*P	**P**	**23 23 40.6**	**0.0**
DDI				*e*x	x	23 26 24.0	
NDI	**New Delhi**	**16.60**	**293**	*e*x	Pn	23 23 36.0	-5.7
NDI				*e*x	x	23 26 27.0	
XAN	**Xi'an**	**16.67**	**46**	P	**Pn**	**23 23 42.0**	**-0.5**
XAN				sP	**sP**	**23 24 13.8**	**-2.5**
XAN				S	Sn	23 26 37.4	-10
XAN				PMZ			
	comp=Z,28nm,1.0s						
XAN				LN			
	comp=Z,1μm,13.5s						
XAN				LE			
	comp=Z,460nm,17.0s						
XAN				LZ			
	comp=Z,290nm,10.6s						
MDRS	**Chennai**	**16.85**	**236**	⇓*e*P	**Pn**	**23 23 44.7**	**-0.1**
MDRS				*e*x	x	23 26 42.7	
GTA	**Gaotai**	**16.90**	**14**	⇓P	**Pn**	**23 23 43.7**	**-1.7**
GTA				sP	**sP**	**23 24 14.9**	**-4.1**
GTA				S	**Sn**	**23 26 48.7**	**-4.6**
GTA				PcP	**PcP**	**23 28 27.4**	**+1.2**
GTA				ScP	**ScP**	**23 31 50.6**	**-0.7**
GTA				PcS	**PcS**	**23 32 03.0**	**+0.7**
GTA				ScS	**ScS**	**23 35 30.0**	**-0.9**
GTA				PMZ			
	comp=Z,850nm,4.1s						
GTA				LN			
	comp=Z,1μm,18.5s						
GTA				LE			
	comp=Z,1μm,8.1s						
GTA				LZ			
	comp=Z,2μm,17.8s						
GZH	**Guangzhou**	**17.27**	**86**	P	Pn	23 23 54.8	+5.0
GZH				LN			
	comp=Z,10μm,10.5s						
GZH				LE			
	comp=Z,3μm,7.7s						
SMLA	**Simla**	**17.45**	**301**	*i* P	**P**	**23 23 50.5**	**-1.2**
SMLA				*i* x	x	23 26 54.7	
SDNR	**Sundarnagar**	**17.76**	**302**	*e*P	**P**	**23 23 55.0**	**-0.1**
SDNR				*e*x	x	23 27 02.0	
LHMI	**Lhok Sumawe**	**17.87**	**172**	P	**Pn**	**23 23 57.5**	**+0.3**
LHMI	**Lhok Sumawe**	**17.87**	**172**	*e*P	**Pn**	**23 23 58.1**	**+0.9**
	comp=Z,294nm,0.7s						
BHK	**Bhakra**	**18.16**	**301**	*e*P	**Pn**	**23 24 01.4**	**+0.9**
BHK				*e*x	x	23 27 11.2	
DHRM	**DHARAMSHALA**	**18.58**	**303**	*e*P	**P**	**23 24 04.8**	**+0.5**
DHRM				AMB	AMB	23 24 08.1	
	comp=Z,2μm,1.8s						
KULM	**Kulim**	**18.61**	**161**	⇓P	**Pn**	**23 24 06.6**	**+0.6**
KULM	**Kulim**	**18.61**	**161**	*e*P	**P**	**23 24 05.0**	**+0.5**
	comp=Z,337nm,1.6s						
PONG	**Pong**	**18.73**	**302**	*e*P	**P**	**23 24 05.0**	**-0.7**
PONG				*e*x	x	23 25 15.0	
DLH	**Dalhousie**	**18.96**	**304**	*e*P	**P**	**23 24 08.0**	**-0.5**
DLH				*e*x	x	23 27 27.0	
WHN	**Wuhan**	**19.14**	**63**	⇓P	**Pn**	**23 24 12.1**	**-0.1**
WHN				S	**S**	**23 27 39.8**	**-1.7**
WHN				LN			
	comp=Z,5μm,11.9s						
WHN				LE			
	comp=Z,3μm,15.4s						
WHN				LZ			
	comp=Z,3μm,16.6s						
KTGM	**Kuala Trenggan**	**19.46**	**154**	⇓P	**Pn**	**23 24 16.6**	**+0.5**
IPM	**Ipoh**	**19.49**	**160**	*e*P	**P**	**23 24 13.9**	**-0.2**
	comp=Z,1μm,1.9s						
KCSI	**Kotcane, Aceh**	**19.66**	**171**	P	**P**	**23 24 16.0**	**0.0**
	comp=Z,278nm,1.3s,comp=Z,4μm						
TSI	**Tuntungan**	**19.82**	**168**	P	**Pn**	**23 24 19.8**	**-0.4**
TPTI		**19.84**	**172**	P	**P**	**23 24 17.1**	**-0.8**
POO	**Poona**	**19.90**	**261**	*e*P	**P**	**23 24 18.7**	**+0.1**
POO				AMB	AMB	23 24 20.7	
	comp=Z,272nm,0.6s						
PSI	**Prapat**	**20.57**	**168**	P	**P**	**23 24 26.9**	**+1.0**
	comp=Z,179nm,0.9s,baz=315,slow=10,SNR=26						
PSI				S	**S**	**23 28 15.7**	**+5.5**
	comp=Z,29nm,0.8s,baz=228,slow=23,SNR=5.6						
PSI				ScP	**ScP**	**23 31 59.1**	**-0.6**
	comp=Z,22nm,0.8s,baz=301,slow=2.8,SNR=9.9						
PSI				LR	LR	23 34 14.7	
	comp=Z,639nm,19.8s,baz=352,slow=42						
SNSI	**Sinabang, Aceh**	**20.60**	**175**	P	**P**	**23 24 23.8**	**-2.2**
PALK	**Pallekele**	**20.60**	**223**	P	**P**	**23 24 27.0**	**+0.8**
	comp=Z,740nm,0.7s,SNR=22						
PALK	**Pallekele**	**20.60**	**223**	*e*P	**P**	**23 24 27.8**	**+1.6**
PALK				*e*S	**S**	**23 28 06.9**	**-3.9**
PALK				pmax	pmax		
	comp=Z,97nm,0.7s						
PALK	**Pallekele**	**20.60**	**223**	P	Pn	23 24 28.5	-1.0
	SNR=6.8						
PALK	**Pallekele**	**20.60**	**223**	P	**P**	**23 24 27.4**	**+1.3**
	comp=Z,179nm,0.7s,baz=38,slow=9.7,SNR=41						
PALK				S	**S**	**23 28 06.3**	**-4.4**
	comp=Z,56nm,0.4s,baz=94,slow=22,SNR=8.9						
PALK				ScP	**ScP**	**23 32 00.5**	**+0.7**
	comp=Z,38nm,0.8s,baz=8.9,slow=4.6,SNR=5.0						
PALK				LR	LR	23 33 16.9	
	comp=Z,1μm,18.7s,baz=35,slow=39						
PALK	**Pallekele**	**20.60**	**223**	⇓*i*P	Pn	23 24 27.9	-1.6
	SNR=9.3						
PALK	**Pallekele**	**20.60**	**223**	*e*P	**P**	**23 24 27.8**	**+1.6**
	comp=Z,97nm,0.7s						
PALK				*e*S	**S**	**23 28 06.9**	**-3.9**
PALK				*e*ScP	**ScP**	**23 32 01.6**	**+1.9**
FRIM	**Kepong**	**20.85**	**160**	⇑P	**P**	**23 24 30.4**	**+1.6**
GOA	**Goa**	**20.98**	**253**	*e*P	**P**	**23 24 31.6**	**+1.6**
GOA				AMB	AMB	23 24 32.5	
	comp=Z,277nm,2.9s						
TIY	**Taiyuan**	**21.17**	**42**	*e*P	**P**	**23 24 32.0**	**-0.1**
TIY				sP	**sP**	**23 25 04.4**	**-1.5**
TIY				S	**S**	**23 28 19.7**	**-1.9**
TIY				PMZ			
	comp=Z,93nm,0.8s						
TIY				LN			
	comp=Z,880nm,7.8s						
TIY				LE			
	comp=Z,600nm,5.0s						
TIY				LZ			
	comp=Z,600nm,10.6s						
MNGI	**Mangalore**	**21.29**	**245**	*e*P9	P	23 24 26.1	-7.3
MNGI				*e*x	x	23 24 30.6	
	comp=Z,141nm,0.7s						
MNGI				*e*S	S	23 28 14.8	-9.2
SARP	**Sargodha**	**21.32**	**299**	⇓P	**P**	**23 24 32.7**	**-1.0**
WMQ	**Urumqi**	**21.48**	**346**	P	**P**	**23 24 36.7**	**+1.4**
WMQ				PP	**PnPn**	**23 25 06.8**	**+5.2**
WMQ				sP	**sP**	**23 25 12.5**	**+3.4**
WMQ				S	**S**	**23 28 24.6**	**-2.7**
WMQ				PcP	**PcP**	**23 28 33.1**	**-1.0**
WMQ				sS	**sS**	**23 29 00.5**	**-0.9**
WMQ				SS	**SnSn**	**23 29 07.3**	**+6.4**
WMQ				ScS	**ScS**	**23 35 43.8**	**-1.8**
WMQ				PMZ			
	comp=Z,1μm,1.0s						
WMQ				PMZ			
	comp=Z,1μm,3.5s						
WMQ				LN			
	comp=Z,2μm,29.0s						
WMQ				LE			
	comp=Z,800nm,29.0s						
WMQ				LZ			
	comp=Z,2μm,32.0s						
CHCP	**Chirah Chowk**	**21.49**	**304**	⇓P	**P**	**23 24 35.9**	**+0.4**
BTO	**Baotou**	**21.81**	**33**	*e*P	**P**	**23 24 37.9**	**-1.0**
GSI	**Gunungsitoli**	**21.82**	**172**	P	**P**	**23 24 38.2**	**-0.9**
	comp=Z,391nm,1.2s,comp=Z,4μm						
GSI	**Gunungsitoli**	**21.82**	**172**	*e*P	**P**	**23 24 37.7**	**-1.4**
	comp=Z,368nm,1.0s						
GSI				*e*S	**S**	**23 28 33.5**	**-0.4**
GSI				*e*ScP	**ScP**	**23 32 04.0**	**+1.3**
QZH	**Quanzhou**	**22.01**	**80**	⇑*i*P	**P**	**23 24 41.3**	**+0.3**
QZH				S	**S**	**23 28 39.9**	**+2.6**
QZH				PMZ			
	comp=Z,190nm,0.9s						
QZH				PMZ			
	comp=Z,2μm,4.4s						
QZH				LN			
	comp=Z,7μm,8.6s						
QZH				LE			
	comp=Z,2μm,7.8s						
QZH				LZ			
	comp=Z,4μm,11.1s						
TRD	**Trivandrum**	**22.25**	**232**	*e*P	**P**	**23 24 42.0**	**-1.6**
TRD				⇓*e*x	x	23 25 31.9	
TRD				*e*x	x	23 28 53.9	
KGM	**Kluang**	**22.57**	**157**	⇓P	**P**	**23 24 47.9**	**+1.0**
CEP	**Cherat**	**22.59**	**303**	⇓P	**P**	**23 24 46.8**	**-0.4**
CEP				S	**S**	**23 28 48.0**	**+0.9**
MNSI	**Mandailing Nat**	**22.66**	**167**	P	**P**	**23 24 46.8**	**-0.9**
	comp=Z,272nm,1.0s,comp=Z,2μm						
KSH	**Kashi**	**22.78**	**320**	⇓*i*P	**P**	**23 24 49.6**	**+0.7**
KSH				pP	**pP**	**23 25 10.0**	**+0.2**
KSH				sP	**sP**	**23 25 22.8**	**-0.4**
KSH				PcP	**PcP**	**23 28 37.9**	**+1.0**
KSH				S	**S**	**23 28 44.6**	**-5.3**
KSH				sS	**sS**	**23 29 23.7**	**-3.7**
KSH				SS	**SnSn**	**23 29 36.6**	**+4.0**
KSH				PMZ			
	comp=Z,520nm,1.0s						
KSH				LN			
	comp=Z,1μm,8.7s						
KSH				LE			
	comp=Z,900nm,10.5s						
KSH				LZ			
	comp=Z,840nm,10.6s						
HHC	**Hu-ho-hao-te**	**22.78**	**35**	SKKS	**SKKSdf**	**23 58 16.7**	**-4.0**
HHC	**Hu-ho-hao-te**	**22.78**	**35**	*e*P	**P**	**23 24 48.7**	**-0.2**
HHC				pP	**pP**	**23 25 11.6**	**+1.8**
HHC				PP	**PnPn**	**23 25 23.5**	**+4.2**
HHC				sP	**sP**	**23 25 26.1**	**+2.9**
HHC				S	**S**	**23 28 52.6**	**+2.7**
HHC				sS	**sS**	**23 29 24.3**	**-3.1**
HHC				ScS	**ScS**	**23 35 48.8**	**-1.8**
HHC				PMZ			
	comp=Z,19nm,0.6s						
HHC				PMZ			
	comp=Z,610nm,5.7s						
BHJ	**Bhuj**	**22.92**	**275**	*e*P	**P**	**23 24 51.5**	**+1.2**
BHJ				AMB	AMB	23 24 53.8	
	comp=Z,294nm,2.0s						
MYKOM	**Kota Tinggi**	**22.97**	**156**	⇑P	**P**	**23 24 52.0**	**+1.2**
MYKOM	**Kota Tinggi**	**22.97**	**156**	*e*P	**P**	**23 24 51.7**	**+0.9**
	comp=Z,833nm,1.4s						
NJ2	**Nanjing**	**23.27**	**62**	*e*P	**P**	**23 24 54.9**	**+1.4**
NJ2				pP	**pP**	**23 25 14.8**	**-0.2**
NJ2				S	**S**	**23 29 00.0**	**+2.4**
NJ2				PMZ			
	comp=Z,190nm,0.7s						
NJ2				PMZ			
	comp=Z,2μm,6.4s						
NJ2				LN			
	comp=Z,2μm,14.1s						
NJ2				LE			
	comp=Z,3μm,14.9s						
NJ2				LZ			
	comp=Z,3μm,14.7s						
BKNI	**Bangkinang**	**23.45**	**164**	P	**P**	**23 24 56.5**	**+1.2**
	comp=Z,173nm,1.1s,comp=Z,3μm						
BKNI	**Bangkinang**	**23.45**	**164**	*e*P	**P**	**23 24 54.5**	**-0.8**
BKNI				*e*pP	**pP**	**23 25 16.4**	**-0.7**
BKNI				*e*PcP	**PcP**	**23 28 37.4**	**-1.1**
BKNI				*e*ScP	**ScP**	**23 32 05.9**	**-1.0**
TIA	**Tai'an**	**23.50**	**51**	⇑P	**P**	**23 24 53.9**	**-1.8**
TIA				pP	**pP**	**23 25 20.0**	**+2.5**
TIA				S	**S**	**23 29 01.0**	**-0.3**
TIA				PMZ			
	comp=Z,100nm,1.1s						
TIA				PMZ			
	comp=Z,550nm,3.5s						
TIA				LN			
	comp=Z,2μm,17.2s						
TIA				LE			
	comp=Z,1μm,13.0s						
TIA				LZ			
	comp=Z,2μm,13.0s						
TPUB	**Ta-pu**	**23.94**	**84**	*e*P	**P**	**23 25 01.2**	**+1.5**
	comp=Z,262nm,0.9s						
TPRI	**Tanjung Pinang**	**24.03**	**155**	P	**P**	**23 25 01.7**	**+1.1**
	comp=Z,466nm,1.5s						
SSLB	**Suanglung**	**24.20**	**83**	*e*P	**P**	**23 25 03.8**	**+1.7**
	comp=Z,92nm,1.1s						
TWG	**Pinlang**	**24.39**	**85**	*e*P	**P**	**23 25 06.1**	**+2.3**
	comp=Z,916nm,1.0s						
ULHL	**Ulahol**	**24.49**	**326**	P	**P**	**23 25 07.1**	**+2.3**
	SNR=30						
ULHL	**Ulahol**	**24.49**

KZA **Kyzart** 24.90 324 P **P** 23 25 10.9 +2.1
SNR=63
KZA Kyzart 24.90 324 *i* P **P 23 25 10.8 +2.1**
BJI Beijing 24.90 42 P **P 23 25 08.7 +0.5**
BJI sP **sP 23 25 43.0 -1.2**
BJI S **S 23 29 26.0 +2.4**
BJI sS **sS 23 30 05.0 +0.5**
BJI ScP **ScP 23 32 10.3 -0.2**
BJI ScS **ScS 23 35 57.2 -1.5**
BJI PMZ
comp=N,43nm,0.9s
BJI PMZ
comp=N,400nm,5.0s
BJI LN
comp=N,1µm,11.1s
BJI LE
comp=N,630nm,9.4s
BJI LZ
comp=N,620nm,39.6s
SSE Sheshan 24.96 66 ⇑P **P 23 25 10.6 +1.7**
SSE pP **pP 23 25 32.2 -0.1**
SSE sP **sP 23 25 44.5 -0.3**
SSE S **S 23 29 25.0 +0.2**
SSE sS **sS 23 30 03.9 -1.7**
SSE PMZ
comp=N,89nm,0.8s
SSE PMZ
comp=N,350nm,5.4s
SSE LN
comp=N,2µm,17.3s
SSE LE
comp=N,820nm,17.2s
SSE LZ
comp=N,1µm,14.3s
KBL Kabul 25.06 303 *e*P **P 23 25 11.8 +1.7**
KBL pmax pmax
comp=Z,644nm,0.9s
KBL Kabul 25.06 303 *e*P **P 23 25 11.8 +1.7**
comp=Z,644nm,0.9s
TKM2 Tokmak 2 25.31 326 P **P 23 25 14.3 +2.0**
SNR=321
TKM2 Tokmak 2 25.31 326 *i* P **P 23 25 14.2 +2.0**
TKM2 Tokmak 2 25.31 326 *e*P **P 23 25 14.2 +2.0**
comp=Z,433nm,1.0s
UCH Uchtor 25.40 324 P **P 23 25 15.4 +2.1**
SNR=167
UCH Uchtor 25.40 324 *i* P **P 23 25 15.4 +2.1**
KBK Karagaybulak 25.46 325 P **P 23 25 15.6 +2.1**
SNR=156
MK01 Makanchi Array 25.65 340 *e*P **P 23 25 17.0 +2.0**
MK01 *e*PcP **PcP 23 28 43.3 +0.4**
MK01 *e*ScP **ScP 23 32 12.8 +0.2**
MK01 *e*ScS **ScS 23 36 04.9 +3.1**
MKAR Makanchi Array 25.67 340 P **P 23 25 17.5 +2.3**
MKAR pmax pmax
comp=Z,474nm,0.7s
MKAR Makanchi Array 25.67 340 P **P 23 25 17.4 +2.3**
comp=Z,472nm,0.7s,baz=145,slow=8.9,SNR=3678
MKAR ScP **ScP 23 32 13.0 +0.4**
comp=Z,9.4nm,1.0s,baz=83,slow=0.9,SNR=6.4
MKAR P3KPbc 23 58 08.4
comp=Z,1.2nm,0.8s,baz=353,slow=4.9,SNR=13
AAK Ala-Archa 25.69 324 P **P 23 25 18.0 +2.4**
comp=Z,2µm,0.8s
AAK Ala-Archa 25.69 324 P **P 23 25 18.2 +2.6**
SNR=248
AAK Ala-Archa 25.69 324 *d i* P **P 23 25 18.2 +2.6**
AAK pmax pmax
comp=Z,921nm,1.1s
AAK Ala-Archa 25.69 324 P **P 23 25 18.5 +2.9**
SNR=89
AAK Ala-Archa 25.69 324 P **P 23 25 18.1 +2.6**
comp=Z,234nm,0.8s,baz=129,slow=7.1,SNR=509
AAK Ala-Archa 25.69 324 *e*P **P 23 25 18.1 +2.6**
comp=Z,290nm,0.9s
FRU Bishkek 25.76 325 ⇓ *i*P **P 23 25 18.0 +1.9**
FRU *i* 23 25 50.0
FRU *i* S **S 23 29 40.0 +2.7**
FRU pmax pmax
comp=Z,480nm,1.9s
AML Almayashu 25.79 322 P **P 23 25 19.0 +2.2**
SNR=202
CHMS Chumysh 25.80 325 P **P 23 25 18.3 +1.8**
SNR=48
CHMS Chumysh 25.80 325 *i* P **P 23 25 18.2 +1.8**
YOJ Yonaguni jima 26.04 81 *e*P **P 23 25 19.9 +1.2**
YOJ *e**PP **pP 23 25 40.4 -1.8**
YOJ pmax pmax
comp=Z,171nm,0.9s
YOJ Yonaguni jima 26.04 81 *e*P **P 23 25 19.9 +1.2**
comp=Z,171nm,0.9s
YOJ *e*pP **pP 23 25 40.4 -1.8**
EKS2 Erkin-Say 26.10 323 P **P 23 25 21.4 +2.2**
SNR=194
EKS2 Erkin-Say 26.10 323 *i* P **P 23 25 21.4 +2.2**
EKS2 Erkin-Say 26.10 323 *e*P **P 23 25 21.4 +2.2**
EKS2 *e*pP **pP 23 25 42.1 -0.6**
USP Ospenovka 26.12 325 P **P 23 25 21.2 +1.8**
SNR=71
USP Ospenovka 26.12 325 *i* P **P 23 25 21.1 +1.8**
KSM Kuching 26.33 142 ⇓P **P 23 25 23.3 +1.9**
KSM Kuching 26.33 142 *e*P **P 23 25 22.0 +0.6**
comp=Z,161nm,1.1s
KSM *e*pP **pP 23 25 43.7 -1.2**
KSM *e*ScP **ScP 23 32 14.8 -0.2**
SONM Songino Array 26.47 18 P **P 23 25 23.2 +0.7**
comp=Z,13nm,0.9s,baz=198,slow=9.8,SNR=40
SONM pP **pP 23 25 47.4 +1.5**
comp=Z,41nm,0.8s,baz=196,slow=7.7,SNR=12
SONM PcP **PcP 23 28 45.6 +0.7**
comp=Z,3.1nm,0.6s,baz=200,slow=3.6,SNR=6.5
SONM ScP **ScP 23 32 15.1 +0.1**
comp=Z,24nm,0.9s,baz=197,slow=2.9,SNR=21
SONM P3KPbc 23 58 04.8
comp=Z,0.4nm,0.8s,baz=325,slow=2.3,SNR=4.4
SONA1 Songino Array 26.48 18 *e*P **P 23 25 23.1 +0.5**
SONA1 *e*pP **pP 23 25 44.0 -2.1**
SONA1 *e*ScP **ScP 23 32 15.0 -0.1**
TGY Tagaytay City 26.48 105 P **P 23 25 24.9 +2.0**
TGY pmax pmax
comp=Z,165nm,0.4s
TGY Tagaytay City 26.48 105 P **P 23 25 24.9 +2.0**
comp=Z,165nm,0.3s,baz=280,slow=19,SNR=3.2
BTM Bintulu 26.66 135 ⇑P **P 23 25 26.5 +2.1**
SBUM Sibu 26.68 138 ⇓P **P 23 25 26.8 +2.2**
SBUM Sibu 26.68 138 *e*P **P 23 25 26.0 +1.5**
comp=Z,85nm,0.9s
SBUM *e*ScP **ScP 23 32 16.3 +0.2**
ULN Ulaanbaatar 26.69 19 *c e*P **P 23 25 24.9 +0.4**
ULN pmax pmax
comp=Z,17nm,1.0s
ULN Ulaanbaatar 26.69 19 *e*P **P 23 25 26.1 +1.7**
comp=Z,65nm,0.8s
ULN *e*ScP **ScP 23 32 15.6 -0.2**
KDM Kudat 26.75 123 ⇑P **P 23 25 28.2 +3.0**
KKM Kota Kinabalu 26.85 126 ⇓P **P 23 25 28.9 +2.8**
KKM Kota Kinabalu 26.85 126 *e*P **P 23 25 28.0 +1.9**
KKM *e*pP **pP 23 25 49.5 -0.2**
PMBI Palembang 27.67 158 *e*P **P 23 25 33.4 0.0**
comp=Z,378nm,1.1s
HVS Khovu-Aksy 28.04 359 *d i*P **P 23 25 37.7 +1.3**
HVS pmax pmax
comp=Z,629nm,1.0s
LHSI Lahat 28.11 161 P **P 23 25 37.0 -0.3**
comp=Z,73nm,1.2s,comp=Z,2µm
ZAK Zakamensk 28.11 12 *e*P **P 23 25 38.5 +1.4**
ZAK *e* 23 28 49.0
ZAK pmax pmax
comp=Z,58nm,1.4s
STKI Sintang 28.15 142 P **P 23 25 39.7 +2.1**
comp=Z,193nm,1.0s
KKAR Karatay Array 28.23 321 *e*P **P 23 25 39.3 +1.1**
KKAR Karatay Array 28.23 321 *e*P **P 23 25 39.2 +1.1**
MNAI Manna 28.45 162 *e*P **P 23 25 40.1 -0.2**
comp=Z,151nm,1.1s
MDSI Maura Dua 28.93 160 P **P 23 25 43.3 -1.3**
MOY Mondy 28.99 8 *e*P **P 23 25 47.2 +2.3**
MOY pmax pmax
comp=Z,26nm,1.4s
LWLI Liwa 29.40 160 P **P 23 25 47.3 -1.5**
TLY Talaya 29.42 12 *e*P **P 23 25 51.7 +3.1**
TLY *e* 23 26 24.0
TLY *e*S **S 23 30 39.1 +4.4**
TLY *e*SS sS 23 31 21.7 +5.7
TLY pmax pmax
comp=Z,14nm,1.0s
TLY MLR MLR
comp=Z,618nm,20.0s
TLY Talaya 29.42 12 P **P 23 25 50.0 +1.4**
comp=Z,3.0nm,0.5s,baz=203,slow=8.1,SNR=12
TLY pP **pP 23 26 13.6 +1.2**
comp=Z,21nm,0.9s,baz=222,slow=12,SNR=6.5
TLY ScP **ScP 23 32 24.4 +0.4**
comp=Z,5.4nm,0.8s,baz=233,slow=4.1,SNR=3.6
TLY Talaya 29.42 12 *e*P **P 23 25 49.6 +1.0**
TLY *e*pP **pP 23 26 08.8 -3.6**
TLY ScP **ScP 23 32 24.4 +0.4**
KASI Kota Agung 30.01 160 P **P 23 25 52.9 -1.2**
IRK Irkutsk 30.07 12 *e*P **P 23 25 56.2 +1.9**
IRK *e* 23 26 21.7
IRK *e* 23 36 21.5
IRK pmax pmax
comp=Z,55nm,1.3s
KURBB Kurchatov Arra 30.23 340 P **P 23 25 57.4 +1.7**
comp=Z,119nm,0.6s,baz=153,slow=8.2,SNR=1111
KURBB pP **pP 23 26 21.1 +1.7**
comp=Z,99nm,0.9s,baz=151,slow=8.4,SNR=7.0
KURBB sP **sP 23 26 33.1 +1.2**
comp=Z,45nm,0.8s,baz=152,slow=8.3,SNR=2.7
KURBB PcP **PcP 23 28 54.4 +0.4**
comp=Z,40nm,0.8s,baz=163,slow=2.2,SNR=10
KURBB S **S 23 30 47.7 +0.4**
comp=Z,12nm,0.9s,baz=147,slow=17,SNR=5.2
KURBB ScP **ScP 23 32 27.1 +0.6**
comp=Z,36nm,0.9s,baz=160,slow=2.6,SNR=19
KURBB P3KPbc 23 57 48.0
comp=Z,1.9nm,0.8s,baz=328,slow=4.9,SNR=12
KURK Kurchatov 30.28 340 P **P 23 25 57.8 +1.7**
comp=Z,1µm,0.7s
KURK Kurchatov 30.28 340 *e*P **P 23 25 57.5 +1.4**
KURK *e**PP **pP 23 26 21.2 +1.3**
KURK *SP **sP 23 26 33.1 +0.7**
KURK 23 28 54.4
KURK S **S 23 30 47.7 -0.4**
KURK pmax pmax
comp=Z,126nm,0.7s
KURK Kurchatov 30.28 340 P **P 23 25 57.9 +1.8**
SNR=63
KURK Kurchatov 30.28 340 *e*P **P 23 25 57.5 +1.4**
comp=Z,126nm,0.7s
KURK *e*pP **pP 23 26 21.2 +1.3**
KURK sP **sP 23 26 33.1 +0.7**
KURK PcP **PcP 23 28 54.4 +0.3**
KURK S **S 23 30 47.7 -0.4**
KURK ScP **ScP 23 32 27.1 +0.5**
KURK *e* 23 57 48.0
PBKI Pangkalan Bun 30.55 145 P **P 23 26 01.8 +2.9**
SNY Shenyang 30.59 45 ⇑P **P 23 25 57.7 -1.3**
SNY pP **pP 23 26 23.1 +0.3**
SNY S **S 23 30 52.3 -0.8**
SNY PMZ
comp=Z,32nm,2.0s
SNY PMZ
comp=Z,370nm,4.2s
JOW Kunigami 30.73 76 P **P 23 26 01.3 +0.9**
comp=Z,2.7nm,0.3s,baz=303,slow=7.2
JOW Kunigami 30.73 76 *e*P **P 23 26 01.1 +0.7**
comp=Z,95nm,1.1s
MTKI Muara Teweh, K 30.98 138 P **P 23 26 04.8 +2.1**
comp=Z,147nm,1.0s,comp=Z,9µm
CGJI Cibinong 31.43 158 P P 23 26 03.3 -3.3
ZAA0 Zalesovo Array 31.72 349 *e*P **P 23 26 09.9 +1.2**
ZAA0 *e*PcP **PcP 23 28 58.4 +0.5**
ZAA0 *e*S **S 23 31 11.8 +1.4**
ZAA0 *e*ScP **ScP 23 32 31.2 -0.2**
ZAA0 *e*ScS **ScS 23 36 24.8 -4.6**
ZALV Zalesovo Beam 31.72 349 P **P 23 26 10.3 +1.6**
comp=Z,48nm,0.4s,baz=166,slow=7.6,SNR=447
ZALV sP **sP 23 26 46.3 +1.3**
comp=Z,49nm,0.8s,baz=169,slow=8.5,SNR=2.8
ZALV PcP **PcP 23 28 57.7 -0.1**
comp=Z,4.4nm,0.3s,baz=178,slow=5.3,SNR=5.1
ZALV S **S 23 31 12.3 +1.9**
comp=Z,28nm,0.9s,baz=168,slow=15,SNR=8.1
ZALV PKiKP **PKiKP 23 36 25.5 -0.8**
comp=Z,4.3nm,0.8s,baz=170,slow=9.0,SNR=5.8
ZALV P3KPbc 23 57 40.9
comp=Z,0.8nm,0.6s,baz=343,slow=4.5,SNR=6.2
KSAR Wonju Array Be 31.95 56 P **P 23 26 10.1 -1.0**
KSAR *PP **pP 23 26 36.2 +1.3**
KSAR 23 28 59.2
KSAR S **S 23 31 14.2 -0.4**
KSAR Wonju Array Be 31.95 56 P **P 23 26 10.1 -1.0**
KSAR pP **pP 23 26 36.1 +1.3**
KSAR PcP **PcP 23 28 59.1 +0.3**
KSAR S **S 23 31 14.2 -0.4**
KSAR ScP **ScP 23 32 31.8 -0.8**
KS01 Wonju Array Si 31.97 56 *e*P **P 23 26 09.6 -1.7**
KS01 *e*PcP **PcP 23 28 59.4 +0.5**
KS01 *e*ScP **ScP 23 32 31.7 -0.9**
KSRS Korea Array 31.99 56 P **P 23 26 10.1 -1.3**
comp=Z,3.6nm,0.6s,baz=244,slow=9.4,SNR=8.2
KSRS pP **pP 23 26 36.1 +1.0**
comp=Z,4.3nm,0.6s,baz=260,slow=8.9,SNR=3.7
KSRS PcP **PcP 23 28 59.1 +0.3**
comp=Z,4.8nm,0.7s,baz=262,slow=3.1,SNR=6.7
KSRS S **S 23 31 14.2 -0.8**
comp=Z,4.5nm,1.0s,baz=245,slow=13,SNR=4.8
KSRS ScP **ScP 23 32 31.8 -0.9**
comp=Z,5.8nm,1.0s,baz=241,slow=2.8,SNR=7.8
KSRS LR LR 23 39 19.3
comp=Z,340nm,19.3s,baz=230,slow=36
IDAH Dahanechah 32.04 295 *e*P **P 23 26 13.2 +1.0**
LEM Lembang 32.32 155 P **P 23 26 16.7 +2.1**
IMYA Miami 32.57 302 *e*P **P 23 26 18.4 +1.7**
CTBH Cotabato--PC H 32.57 114 ⇑*i*P **P 23 26 18.5 +1.8**
CNJI Cibinong 32.58 156 P **P 23 26 17.6 +0.9**
comp=Z,67nm,0.9s,comp=Z,989nm
IKOO Kooshah 32.72 294 *e*P **P 23 26 19.7 +1.6**
CN2 Changchun 32.75 43 *e*P **P 23 26 18.0 +0.1**
CN2 *e*pP **pP 23 26 42.6 +0.8**
CN2 *e*sP **sP 23 26 55.8 +1.6**
CN2 *e*S **S 23 31 24.5 -2.3**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,600nm,16.0s
CN2 LE
comp=Z,500nm,16.0s
CN2 LZ
comp=Z,500nm,13.0s
WBK Wadi Bani Khal 32.78 276 P **P 23 26 20.6 +2.2**
SNR=44
HIA Hailar 32.82 31 *e*P **P 23 26 18.8 +0.2**
HIA pmax pmax
comp=Z,48nm,1.2s
HIA Hailar 32.82 31 *e*P **P 23 26 18.8 +0.2**
comp=Z,48nm,1.2s
HIA *e*ScP **ScP 23 32 34.5 -0.9**
NVS Novosibirsk 32.86 348 ⇓*i*P **P 23 26 20.0 +1.3**
NVS *i* S S 23 31 22.0 -6.1
NVS pmax pmax
comp=Z,131nm,0.3s
NVS pmax pmax
comp=N,110nm,0.4s
NVS pmax pmax
comp=E,107nm,0.5s
NVS smax smax
comp=N,220nm,1.1s
NVS smax smax
comp=E,380nm,1.3s
BBKI Banjar Baru 32.95 141 P **P 23 26 22.0 +2.1**
comp=E,657nm,0.9s,comp=E,6µmcomp=E,10µm
ITEG Tejag 32.99 295 *e*P **P 23 26 21.9 +1.4**
CISI Cisompet, Garu 33.06 155 *e*P **P 23 26 18.3 -2.7**
comp=E,166nm,1.5s
KPJI Karang Pucung 33.31 153 P **P 23 26 24.4 +1.4**
comp=E,285nm,1.1s,comp=E,2µm
MPSI Mapaga 33.40 129 P **P 23 26 25.7 +1.8**
comp=E,22nm,1.6s,comp=E,727nm
JNU Nakatsue 33.41 64 P **P 23 26 24.2 +0.3**
comp=E,35nm,0.8s,baz=197,slow=5.0,SNR=12
JNU pP **pP 23 26 48.0 +0.2**
comp=E,23nm,0.8s,baz=122,slow=3.5,SNR=3.0
JNU Nakatsue 33.41 64 *e*P **P 23 26 22.5 -1.4**
comp=E,63nm,0.9s
JNU pP **pP 23 26 48.0 +0.2**
IPAY Payeh 33.46 302 *e*P **P 23 26 26.2 +1.7**
TOLI Toli-Toli 33.51 127 *e*P **P 23 26 26.4 +1.5**
comp=E,270nm,1.2s
SMDO Samad 33.56 277 P **P 23 26 27.2 +1.9**
SNR=76
JMDO Jabal Madar 33.60 276 P **P 23 26 27.4 +1.8**
SNR=22
IAKL Akhelmad 33.68 302 *e*P **P 23 26 27.8 +1.3**
DAV Davao City (W) 33.77 113 P P 23 26 30.9 +3.7
SNR=5.2
DAV Davao City (W) 33.77 113 *e*P **P 23 26 28.3 +1.1**
comp=E,220nm,0.4s
IKRD Kardeh 33.91 302 *e*P P 23 26 23.6 -4.8
TBJI Tambak Boyo 34.16 148 P **P 23 26 33.3 +2.9**
HOQ Hoqain 34.17 278 P **P 23 26 32.0 +1.5**
SNR=62
ISFR Sfrayin 34.38 302 *e*P **P 23 26 34.6 +2.1**
ABKT Ailbek 34.50 304 P **P 23 26 35.7 +2.4**
comp=E,617nm,1.2s,SNR=49
GEYT Alibeck 34.50 304 P **P 23 26 35.5 +2.2**
comp=E,91nm,1.1s,baz=116,slow=6.8,SNR=174
GEYT PcP **PcP 23 29 06.6 +0.5**
comp=E,11nm,0.7s,baz=134,slow=4.2,SNR=2.5
GEYT ScP **ScP 23 32 41.8 +0.3**
comp=E,22nm,0.9s,baz=122,slow=1.9,SNR=8.3
UGM Wanagama 34.51 151 P **P 23 26 33.1 -0.4**
UGM Wanagama 34.51 151 *e*P **P 23 26 33.0 -0.5**
comp=E,900nm,2.4s
UGM *e*PcP **PcP 23 29 05.7 -0.7**
GRJI Gresik 34.55 147 P **P 23 26 36.4 +2.6**
IBND Bandar-abas 34.59 285 *e*P **P 23 26 36.1 +1.9**
WOJI Wonogiri, Jawa 34.62 151 P **P 23 26 33.3 -1.1**
VOSK Vostochnaya 34.67 335 *e*P **P 23 26 35.9 +1.5**
VOSK *e* 23 29 06.5
VOSK *e*S **S 23 31 57.5 +1.3**
VOSK pmax pmax
comp=Z,371nm,0.6s
VOSK Vostochnaya 34.67 335 *e*P **P 23 26 35.9 +1.5**
comp=Z,371nm,0.6s
VOSK *e*PcP **PcP 23 29 06.5 +0.3**
VOSK *e*S **S 23 31 57.5 +1.3**
MRSI Marisa 34.79 126 P **P 23 26 38.5 +2.6**
comp=Z,116nm,0.8s
BANOM Banah 34.88 283 P **P 23 26 39.1 +2.4**
SNR=6.5
BANOM Banah 34.88 283 ⇓*i*P **P 23 26 38.3 +1.6**
SNR=5.2
ARQ Araqi 34.92 278 P **P 23 26 38.8 +1.8**
SNR=36
UOSS Wadi Hilu 35.03 281 P **P 23 26 38.0 0.0**
comp=Z,327nm,0.8s,SNR=23
XMIS Christmas Isla 35.05 161 *e*P **P 23 26 38.1 0.0**
comp=Z,871nm,1.0s
HATD Hatta, Dubai 35.11 281 ⇓*i*P **P 23 26 40.3 +1.7**
SNR=57
BVAR Borovoye Array 35.13 335 P **P 23 26 39.9 +1.5**
BVAR 23 29 08.7
BVAR S **S 23 32 03.7 +0.4**
BVAR 23 32 44.0
BVAR pmax pmax
comp=Z,61nm,0.7s
BVAR smax smax
comp=N,9.0nm,0.8s
BVAR Borovoye Array 35.13 335 P **P 23 26 39.9 +1.5**
comp=N,62nm,0.7s,baz=142,slow=10,SNR=208
BVAR PcP **PcP 23 29 08.7 +1.1**
comp=N,19nm,0.7s,baz=151,slow=3.4,SNR=4.4
BVAR S **S 23 32 03.7 +0.4**
comp=N,8.5nm,0.8s,baz=145,slow=18,SNR=4.8
BVAR ScP **ScP 23 32 44.0 +0.6**
comp=N,6.7nm,0.7s,baz=143,slow=5.2,SNR=4.9
BVAR LR LR 23 42 29.3
comp=N,2µm,21.7s,baz=140,slow=38
BVAR PKPPKP **P'P'df** 23 59 50.0 +1.4
comp=N,1.2nm,1.1s,baz=315,slow=0.6,SNR=2.0
ASHO Ashiyiah 35.19 281 P **P 23 26 41.4 +2.0**
SNR=32
ASHO Ashiyiah 35.19 281 ⇓*i*P **P 23 26 41.2 +1.8**
SNR=91
BRVK Borovoye 35.20 334 P **P 23 26 40.9 +1.9**
comp=N,720nm,0.8s,SNR=54
BRVK Borovoye 35.20 334 *e*P **P 23 26 39.8 +0.8**
BRVK *e*S **S 23 32 04.8 +0.5**
BRVK pmax pmax
comp=Z,74nm,0.8s
BRVK Borovoye 35.20 334 P **P 23 26 40.4 +1.5**
SNR=46
BRVK Borovoye 35.20 334 *e*P **P 23 26 39.8 +0.8**
comp=Z,74nm,0.8s
BRVK *e*S **S 23 32 04.8 +0.5**
KMMI Kalianget 35.42 145 P **P 23 26 43.8 +2.5**
GTOI Gorontalo 35.49 125 P **P 23 26 42.2 +0.3**
comp=Z,177nm,1.3s,comp=Z,3µm
APSI Ampana 35.52 128 P **P 23 26 45.2 +3.1**
NAZ Nazwa, Dubai 35.52 281 *i* P **P 23 26 43.3 +1.2**
SNR=45
NAZ *i* P **P 23 26 43.6 +1.5**
SNR=7.7
IBAF Bafgh 35.54 292 *e*P **P 23 26 43.8 +1.4**
FAQ Al Faqa, Dubai 35.61 281 ⇑*i*P **P 23 26 43.9 +1.1**
SNR=42
TTSI Tana Toraja 35.76 133 P **P 23 26 46.7 +2.5**
comp=Z,202nm,1.1s,comp=Z,2µm
MDJ Mudanjiang 35.77 45 P **P 23 26 44.2 +0.2**
MDJ pP **pP 23 27 06.8 -1.3**
MDJ sP **sP 23 27 18.6 -1.9**
MDJ PP **PP 23 28 06.7 -0.6**
MDJ PcP **PcP 23 29 07.5 -2.1**
MDJ S **S 23 32 14.7 +1.4**
MDJ ScP **ScP 23 32 46.0 +0.1**
MDJ PcS **PcS 23 32 57.1 +0.2**
MDJ ScS **ScS 23 36 50.3 -0.8**
MDJ PMZ
comp=Z,15nm,1.3s
MDJ PMZ
comp=Z,310nm,4.4s
MDJ LN
comp=Z,290nm,41.3s
MDJ LE
comp=Z,210nm,43.0s
MDJ LZ
comp=Z,320nm,41.3s
MDJ Mudanjiang 35.77 45 *e*P **P 23 26 43.5 -0.5**
comp=Z,76nm,1.4s
BLJI Banyuglugur 35.82 147 P **P 23 26 46.6 +1.9**
comp=Z,158nm,0.9s
ASUD Al Ashush, Dub 35.86 281 ⇓*i*P **P 23 26 46.4 +1.4**
SNR=54
ABJI Asem Bagus 36.19 146 P **P 23 26 50.3 +2.4**
GMJI Gumukmas 36.20 147 P **P 23 26 48.9 +1.0**
comp=Z,81nm,1.0s,comp=Z,1µm
KMSI Cibinong 36.27 124 P P 23 26 53.3 +4.8
IMEH Mehriz 36.34 292 *e*P **P 23 26 50.2 +0.9**
SPSI Sidrap Palu 36.41 134 P **P 23 26 51.5 +1.7**
comp=Z,136nm,1.2s,comp=Z,2µm
LUWI Luwuk 36.42 127 P **P 23 26 51.4 +1.5**
comp=Z,311nm,1.2s,comp=Z,4µm
LUWI Luwuk 36.42 127 *e*P **P 23 26 51.3 +1.4**
comp=Z,298nm,1.0s
ICHK Chekchek 36.57 293 *e*P **P 23 26 52.5 +1.3**
VLA Vladivostok 36.71 48 ⇑*e*P **P 23 26 50.7 -1.3**
VLA *i* 23 28 16.0
VLA S **S 23 32 25.8 -1.8**
VLA pmax pmax
comp=Z,78nm,1.2s
JAGI Jajag, Banyuwa 36.72 146 P **P 23 26 52.5 +0.1**
comp=Z,216nm,0.9s,comp=Z,2µm
JAGI Jajag, Banyuwa 36.72 146 *e*P **P 23 26 52.5 +0.1**
comp=Z,165nm,0.9s
JAGI *e*ScP **ScP 23 32 47.4 -2.5**
SRBI Singaraja 36.95 145 P **P 23 26 56.3 +2.0**
comp=Z,227nm,1.4s,comp=Z,3µm
BNSI Bone 36.96 134 P **P 23 26 55.7 +1.3**
comp=Z,93nm,1.1s,comp=Z,1µm
ISAD Sadrabad 37.16 293 *e*P **P 23 26 57.6 +1.3**
USRK Ussuriysk Ar. 37.17 46 P **P 23 26 55.9 -0.1**
comp=Z,14nm,0.8s,baz=247,slow=7.6,SNR=16
USRK pP **pP 23 27 21.1 +0.9**
comp=Z,13nm,0.9s,baz=256,slow=6.9,SNR=3.4
USRK PcP **PcP 23 29 11.9 -1.9**
comp=Z,5.0nm,0.8s,baz=252,slow=3.8,SNR=4.4
USRK ScP **ScP 23 32 49.3 -1.8**
comp=Z,3.1nm,0.8s,baz=250,slow=4.2,SNR=3.0
USRK LR LR 23 42 47.4
comp=Z,387nm,19.1s,baz=233,slow=37
KAPI Kappang 37.19 135 P **P 23 26 57.0 +0.7**
comp=Z,365nm,1.3s,SNR=10

KAPI	**Kappang**	**37.19 135**	P		**P**	**23 26 57.5 +1.2**
	SNR=23					
KAPI	**Kappang**	**37.19 135**	*e*P		**P**	**23 26 57.1 +0.8**
	comp=Z,96nm,1.1s					
KAPI			*e*ScP		**ScP**	**23 32 51.5 -0.2**
IANJ	**Anjilo**	**37.32 299**	*e*P		**P**	**23 26 59.5 +1.9**
DNP	**Denpasar**	**37.45 145**	P		**P**	**23 27 00.1 +1.6**
	comp=Z,364nm,1.0s					
BOD	**Bodaibo**	**37.45 17**	*e*P		**P**	**23 26 58.6 +0.5**
BOD			pmax		pmax	
	comp=Z,26nm,1.2s					
IGBI	**Denpasar**	**37.53 145**	P		**P**	**23 26 59.7 +0.5**
	comp=Z,148nm,1.1s,comp=Z,1μm					
IGLO	**Ghaloghah**	**37.55 300**	*e*P		**P**	**23 27 01.2 +1.7**
ISRV	**Sarvestan**	**37.59 289**	*e*P		**P**	**23 27 01.0 +1.0**
IKIA	**Kiasar**	**37.62 300**	*e*P		**P**	**23 27 02.0 +1.9**
IPAR	**Pars**	**37.64 289**	*e*P		**P**	**23 27 01.3 +0.9**
BKSI	**Bulukumba**	**37.66 135**	P		**P**	**23 27 01.2 +0.9**
	comp=Z,79nm,1.1s,comp=Z,862nm					
ABKAR	**Akbulak array**	**37.75 323**	*e*P		**P**	**23 27 02.4 +1.7**
ILAS	**Lasjerd**	**38.09 298**	*e*P		**P**	**23 27 05.7 +1.6**
RBK	**Rabkut**	**38.19 269**	P		**P**	**23 27 06.8 +1.9**
	SNR=46					
IFIR	**Firoozkooh**	**38.28 299**	*e*P		**P**	**23 27 07.5 +1.7**
IALA	**Alasht**	**38.30 299**	*e*P		**P**	**23 27 08.2 +2.3**
IZEF	**Zefreh**	**38.37 294**	*e*P		**P**	**23 27 07.0 +0.5**
IKAZ	**Kazeroun**	**38.69 289**	*e*P		**P**	**23 27 10.2 +0.8**
IPRN	**Peran**	**38.70 300**	*e*P		**P**	**23 27 10.7 +1.6**
TNTI	**Ternate**	**38.79 120**	P		**P**	**23 27 10.5 +0.7**
	comp=Z,258nm,1.2s,comp=Z,4μm					
TNTI	**Ternate**	**38.79 120**	*e*P		**P**	**23 27 10.1 +0.3**
	comp=Z,300nm,1.1s					
IDMV	**Damavand**	**38.86 299**	*e*P		**P**	**23 27 12.3 +1.7**
IKLH	**Kolahrood**	**39.02 295**	*e*P		**P**	**23 27 13.9 +1.9**
IVRN	**Varamin**	**39.04 298**	*e*P		**P**	**23 27 13.6 +1.7**
ABTO	**Aybut**	**39.06 269**	P		**P**	**23 27 13.4 +1.2**
	SNR=25					
KLR	**Kul'dur**	**39.17 39**	*e*P		P	23 27 09.2 -3.4
KLR			*e*S		**S**	**23 32 59.0 -5.7**
KLR			MLR		MLR	
	comp=Z,2μm,11.0s					
AKTO	**Aktyubinsk**	**39.42 323**	P		**P**	**23 27 16.0 +1.3**
AKTO			pmax		pmax	
	comp=Z,104nm,0.8s					
AKTO			pmax		pmax	
	comp=N,12nm,1.0s					
AKTO	**Aktyubinsk**	**39.42 323**	P		**P**	**23 27 16.0 +1.3**
	comp=N,104nm,0.8s,baz=123,slow=9.1					
AKTO			ScP		**ScP**	**23 32 57.5 -2.1**
	comp=N,12nm,1.0s,baz=92,slow=5.8,SNR=5.7					
SANI	**Sanana**	**39.48 125**	P		**P**	**23 27 15.7 +0.1**
IPIR	**Pirpir**	**39.56 294**	*e*P		**P**	**23 27 16.8 +0.3**
LBMI	**Labuha**	**39.75 122**	P		**P**	**23 27 19.2 +1.4**
	comp=N,148nm,1.0s,comp=N,2μm					
MAJO	**Matsushiro**	**39.84 60**	*c i*P		**P**	**23 27 17.8 -0.6**
MAJO			pmax		pmax	
	comp=Z,387nm,0.8s					
MAJO	**Matsushiro**	**39.84 60**	*e*P		**P**	**23 27 18.1 -0.3**
	comp=Z,183nm,1.0s					
MJAR	**Matsushiro Arr**	**39.84 60**	P		**P**	**23 27 18.6 +0.2**
	comp=Z,31nm,0.8s,baz=270,slow=10.0,SNR=64					
MJAR			pP		**pP**	**23 27 43.9 +1.0**
	comp=Z,44nm,1.1s,baz=268,slow=9.3,SNR=6.3					
MJAR			PcP		**PcP**	**23 29 22.3 0.0**
	comp=Z,9.1nm,0.7s,baz=235,slow=1.6,SNR=6.4					
MJAR			ScP		**ScP**	**23 33 00.8 -0.7**
	comp=Z,13nm,1.1s,baz=254,slow=4.5,SNR=10					
MJAR			LR		LR	23 45 08.9
	comp=Z,248nm,18.8s,baz=265,slow=38					
IMHD	**Mahdasht**	**39.98 298**	*e*P		**P**	**23 27 21.4 +1.7**
IRAZ	**Razeghan**	**40.55 298**	*e*P		**P**	**23 27 26.3 +1.8**
HABR	**Khabarovsk**	**40.80 41**	*d*P		**P**	**23 27 24.5 -1.6**
HABR			*e**PP		**pP**	**23 27 49.4 -1.3**
HABR			*e*			23 29 00.2
HABR						23 29 24.1
HABR			PPP		PPP	23 29 31.4
HABR			*e*S		**S**	**23 33 26.7 -2.2**
HABR			*e**SS		**sS**	**23 34 10.7 -0.7**
HABR			*e*SS		**SS**	**23 36 32.7 -1.3**
HABR			*e*			23 37 17.7
HABR			MLR		MLR	
	comp=Z,295nm,20.0s					
NLAI	**Namlea**	**41.10 125**	P		**P**	**23 27 31.4 +2.5**
	comp=Z,162nm,1.0s,comp=Z,1μm					
WSI	**Waingapu**	**41.13 139**	P		**P**	**23 27 28.3 -0.8**
MMRI	**Maumere**	**41.53 136**	P		**P**	**23 27 33.2 +0.8**
	comp=Z,125nm,1.4s,comp=Z,2μm					
MMRI	**Maumere**	**41.53 136**	*e*P		**P**	**23 27 31.8 -0.6**
	comp=Z,111nm,1.0s					
BASI	**Baing, Sumba**	**41.73 140**	P		**P**	**23 27 35.4 +1.4**
	comp=Z,267nm,0.9s,comp=Z,3μm					
SVE	**Sverdlovsk**	**41.81 333**	*c i*P		**P**	**23 27 36.1 +1.9**
SVE			*e*S		**S**	**23 33 45.0 +1.3**
SVE			pmax		pmax	
	comp=Z,562nm,0.8s					
SVE			MLR		MLR	
	comp=Z,1μm,19.0s					
IKOM	**Komasi**	**42.45 296**	*e*P		**P**	**23 27 41.4 +1.4**
ARU	**Arti**	**42.47 331**	P		**P**	**23 27 40.2 +0.6**
	comp=Z,2μm,0.4s					
ARU	**Arti**	**42.47 331**	*d i*P		**P**	**23 27 40.8 +1.2**
ARU			*PP		**pP**	**23 28 06.6 +2.3**
ARU			*SP		**sP**	**23 28 17.9 +1.4**
ARU			*e*			23 29 19.0
ARU						23 29 29.6
ARU			PPP		PPP	23 29 57.6
ARU			S		**S**	**23 33 53.9 +0.6**
ARU			*SS		**sS**	**23 34 36.2 +0.2**
ARU			SS		**SS**	**23 37 02.9 -3.6**
ARU						23 37 28.8
ARU			SSS		SSS	23 37 49.5
ARU			pmax		pmax	
	comp=Z,340nm,1.7s					
ARU			MLR		MLR	
	comp=Z,1μm,19.0s					
ARU	**Arti**	**42.47 331**	*e*P		**P**	**23 27 40.4 +0.8**
	comp=Z,148nm,0.7s					
ARU			*e*PP		**PP**	**23 29 18.4 -1.5**
ARU			*e*ScP		**ScP**	**23 33 11.8 +0.4**
ARU			*e*S		**S**	**23 33 54.3 +0.9**
SWI	**Sorong**	**42.88 119**	P		**P**	**23 27 44.3 +0.9**
	comp=Z,355nm,0.9s,comp=Z,4μm					
IHRS	**Heris**	**43.15 302**	*e*P		**P**	**23 27 46.8 +1.1**
IDHR	**Dehrash**	**43.40 297**	*e*P		**P**	**23 27 48.5 +0.8**
BATI	**Baumata**	**43.63 136**	P		**P**	**23 27 48.7 -0.7**
BATI	**Baumata**	**43.63 136**	P		**P**	**23 27 48.5 -1.0**
	comp=Z,198nm,0.5s,baz=291,slow=1.2,SNR=43					
BATI			PcP		**PcP**	**23 29 35.4 +0.3**
	comp=Z,38nm,0.6s,baz=243,slow=4.5,SNR=2.9					
BATI			ScP		**ScP**	**23 33 15.1 -1.8**
	comp=Z,6.9nm,0.3s,baz=270,slow=5.1,SNR=3.8					
SOEI	**Soe**	**43.68 135**	P		**P**	**23 27 49.4 -0.6**
SOEI	**Soe**	**43.68 135**	*e*P		**P**	**23 27 49.2 -0.8**
	comp=Z,344nm,0.8s					
ITBZ	**Tabriz**	**43.84 302**	*e*P		**P**	**23 27 52.6 +1.4**
BNDI	**Bandanaira**	**44.05 124**	P		**P**	**23 27 53.1 +0.3**
IMRD	**Marand**	**44.24 302**	*e*P		**P**	**23 27 56.2 +1.9**
ASAJ	**Asahikawa**	**44.45 50**	P		**P**	**23 27 56.7 +1.1**
ASAJ			pmax		pmax	
	comp=Z,22nm,0.9s					
ASAJ	**Asahikawa**	**44.45 50**	P		**P**	**23 27 56.7 +1.1**
	comp=Z,22nm,0.9s,baz=254,slow=33,SNR=4.8					
DGRG	**David-gareji**	**44.83 306**	P		**P**	**23 28 01.7 +2.8**
FAKI	**Fak Fak**	**44.89 120**	P		**P**	**23 28 00.1 +0.6**
FAKI	**Fak Fak**	**44.89 120**	*e*P		**P**	**23 28 00.1 +0.6**
	comp=Z,461nm,0.8s					
FAKI			*e*pP		**pP**	**23 28 23.5 -1.0**
RAYN	**Ar Rayn**	**44.90 281**	P		**P**	**23 28 00.0 +0.4**
	comp=Z,596nm,0.7s,SNR=89					
RAYN	**Ar Rayn**	**44.90 281**	*e*P		**P**	**23 28 00.6 +1.0**
	comp=Z,158nm,1.2s					
RAYN			*e*ScP		**ScP**	**23 33 22.4 +0.3**
SOKR	**Solikamsk**	**45.13 334**	*d i*P		**P**	**23 28 02.5 +1.7**
SOKR			*PP		**pP**	**23 28 27.6 +1.9**
SOKR			S		**S**	**23 34 32.9 +1.0**
SOKR			SS		**ScS**	**23 37 48.8 +2.4**
SOKR			pmax		pmax	
	comp=Z,400nm,0.9s					
SOKR			MLR		MLR	
	comp=Z,1μm,20.0s					
GNI	**Garni**	**45.14 304**	*e*P		**P**	**23 28 04.1 +2.7**
GNI	**Garni**	**45.14 304**	*d i*P		**P**	**23 28 03.5 +2.1**
GNI			pmax		pmax	
	comp=Z,145nm,1.7s					
GNI	**Garni**	**45.14 304**	P		**P**	**23 28 03.9 +2.5**
	SNR=10					
GNI	**Garni**	**45.14 304**	P		**P**	**23 28 03.6 +2.1**
	comp=Z,32nm,0.8s,baz=319,slow=2.7,SNR=35					
GNI	**Garni**	**45.14 304** ⇑	*i*P		**P**	**23 28 03.9 +2.5**
	SNR=18					
GNI	**Garni**	**45.14 304**	*e*P		**P**	**23 28 04.1 +2.7**
	comp=Z,74nm,1.0s					
YSS	**Yuzh-Sakhalins**	**45.21 46** ⇑	*i*P		**P**	**23 28 02.0 +0.4**
YSS			*e*			23 29 39.0
YSS			*e*			23 34 29.0
YSS			pmax		pmax	
	comp=Z,90nm,1.4s					
YSS	**Yuzh-Sakhalins**	**45.21 46**	*e*P		**P**	**23 27 59.7 -1.9**
	comp=Z,93nm,1.4s					
YSS			*e*ScP		**ScP**	**23 33 21.5 -1.4**
TBLG	**Delisi**	**45.35 306**	P		**P**	**23 28 04.5 +1.7**
DUS	**Dusheti**	**45.43 307**	P		**P**	**23 28 06.4 +2.8**
RKPI	**Ransiki, Papua**	**45.63 117**	P		**P**	**23 28 06.9 +1.5**
	comp=Z,326nm,1.0s,comp=Z,23μm					
GUDG	**Gudauri**	**45.65 307**	P		**P**	**23 28 07.4 +2.0**
CLDR	**Caldiran**	**45.67 303**	*e*P		**P**	**23 28 08.2 +2.5**
YAK	**Yakutsk**	**45.68 22**	*e*P		**P**	**23 28 05.0 -0.1**
YAK			*e**PP		**pP**	**23 28 29.4 -0.7**
YAK			*e*			23 29 46.2
YAK			*e*			23 29 52.7
YAK			*e*PPP		PPP	23 30 33.7
YAK			*e*S		**S**	**23 34 38.8 -0.9**
YAK			*e**SS		**sS**	**23 35 19.6 -3.2**
YAK			*e*			23 37 44.6
YAK			*e*SS		**SS**	**23 37 58.1 -7.0**
YAK			pmax		pmax	
	comp=Z,14nm,1.0s					
YAK			pmax		pmax	
	comp=Z,32nm,1.0s					
YAK			pmax		pmax	
	comp=N,15nm,1.2s					
YAK			pmax		pmax	
	comp=E,32nm,1.4s					
YAK			smax		smax	
	comp=E,260nm,2.1s					
YAK			smax		smax	
	comp=N,142nm,2.2s					
YAK	**Yakutsk**	**45.68 22**	*e*P		**P**	**23 28 03.8 -1.2**
	comp=N,48nm,1.0s					
YAK			*e*ScP		**ScP**	**23 33 22.9 -1.5**
HKR	**Hakkari**	**45.69 301**	*e*P		**P**	**23 28 08.1 +2.2**
CUKT	**Cukurca**	**45.77 300**	*e*P		**P**	**23 28 08.2 +1.7**
ZEI	**Tsey**	**46.12 308**	*e*P		**P**	**23 28 08.2 -0.9**
ZEI			pmax		pmax	
	comp=Z,734nm,1.3s					
AKH	**Akhalkalaki**	**46.23 306**	P		**P**	**23 28 13.1 +3.1**
ONI	**Oni**	**46.41 307**	P		P	23 28 15.4 +4.1
AGRB	**Hanur-Agry**	**46.42 303**	*e*P		**P**	**23 28 14.2 +2.7**
KARS	**Kars**	**46.45 305**	*e*P		**P**	**23 28 14.8 +3.0**
SIRT	**Sirnak**	**46.72 300**	*e*P		**P**	**23 28 15.2 +1.5**
KBZ	**Khabaz**	**46.98 309**	P		**P**	**23 28 16.9 +1.3**
KBZ			S		**S**	**23 35 00.6 +1.7**
KBZ			pmax		pmax	
	comp=Z,50nm,0.8s					
KBZ			pmax		pmax	
	comp=N,7.0nm,0.9s					
KBZ			smax		smax	
	comp=N,7.0nm,1.0s					
KBZ	**Khabaz**	**46.98 309**	P		**P**	**23 28 16.9 +1.3**
	comp=N,50nm,0.8s,baz=133,slow=8.2,SNR=85					
KBZ			ScP		**ScP**	**23 33 28.9 -1.4**
	comp=N,7.1nm,0.9s,baz=76,slow=4.2,SNR=2.8					
KBZ			S		**S**	**23 35 00.6 +1.7**
	comp=N,7.2nm,1.0s,baz=45,slow=10.0,SNR=3.5					
KBZ			LR		LR	23 51 46.6
	comp=N,285nm,19.9s,baz=96,slow=41					
KIV	**Kislovodsk**	**47.17 309**	P		**P**	**23 28 19.2 +2.0**
	comp=N,3μm,0.9s,SNR=66					
KIV	**Kislovodsk**	**47.17 309**	*e*P		**P**	**23 28 18.6 +1.4**
KIV			pmax		pmax	
	comp=Z,335nm,0.8s					
KIV	**Kislovodsk**	**47.17 309**	P		**P**	**23 28 19.1 +2.0**
	SNR=66					
KIV	**Kislovodsk**	**47.17 309** ⇑	*i*P		**P**	**23 28 19.1 +1.9**
	SNR=23					
KIV	**Kislovodsk**	**47.17 309**	*e*P		**P**	**23 28 18.6 +1.4**
	comp=Z,335nm,0.8s					
SAUI	**Saumlaki**	**47.35 126**	P		**P**	**23 28 20.6 +1.8**
	comp=Z,271nm,1.1s					
SAUI	**Saumlaki**	**47.35 126**	*e*P		**P**	**23 28 18.4 -0.4**
	comp=Z,190nm,0.8s					
BTMT	**Batman**	**47.50 301**	*e*P		**P**	**23 28 22.2 +2.4**
VRTB	**Varto-Mus**	**47.58 303**	*e*P		**P**	**23 28 23.3 +2.9**
BCA	**Borcka**	**47.63 306**	*e*P		**P**	**23 28 23.2 +2.5**
EZM	**Erzurum**	**47.70 304**	*e*P		P	23 28 24.9 +3.3
SVAN	**Silvan-Diyarba**	**47.73 301**	*e*P		**P**	**23 28 23.7 +2.1**
SOC	**Sochi**	**49.25 308**	*d i*P		**P**	**23 28 34.3 +1.2**
SOC			*e**PP		**pP**	**23 28 57.5 -0.9**
SOC			*e**SP		**sP**	**23 29 10.8 +0.4**
SOC			*e*			23 29 52.9
SOC			*e*			23 30 26.8
SOC			*i* S		**S**	**23 35 32.6 +1.6**
SOC			*e**SS		**sS**	**23 36 17.2 +2.6**
SOC			*e*SS		**SS**	**23 39 01.5 -2.1**
SOC			pmax		pmax	
	comp=Z,240nm,0.7s					
VRHR	**Novokhopersk**	**49.30 318**	*e*P		**P**	**23 28 33.0 -0.3**
VRHR			*e*S		**S**	**23 35 29.2 -2.2**
VRHR			pmax		pmax	
	comp=N,70nm,0.8s					
VRHR			pmax		pmax	
	comp=Z,280nm,0.8s					
VRHR			pmax		pmax	
	comp=E,240nm,0.9s					
VRHR			smax		smax	
	comp=N,1μm,1.9s					
VRHR			smax		smax	
	comp=Z,200nm,2.5s					
VRHR			smax		smax	
	comp=E,530nm,1.8s					
KSRV	**Kasrt alli**	**49.46 298**	*e*P		**P**	**23 28 36.9 +2.1**
SMPI	**Sarmi**	**49.66 114**	P		**P**	**23 28 38.4 +1.9**
	comp=E,148nm,1.2s					
JHLN	**Al Jahlan**	**49.92 298**	*e*P		P	23 28 52.1 +14
SLMH	**Al Salmeh**	**50.32 299**	*e*P		**P**	**23 28 42.9 +1.6**
MBWA	**Marble Bar**	**50.32 149**	P		**P**	**23 28 42.3 +1.0**
	SNR=8.6					
MBWA	**Marble Bar**	**50.32 149**	*e*P		**P**	**23 28 41.9 +0.6**
	comp=E,113nm,0.9s					
MBWA			*e*pP		**pP**	**23 29 05.2 -1.6**
VORD	**Divnogorie**	**50.70 318**	*e*P		**P**	**23 28 43.4 -0.5**
VORD			*e*S		**S**	**23 35 48.3 -2.6**
VORD			pmax		pmax	
	comp=N,70nm,0.9s					
VORD			pmax		pmax	
	comp=E,150nm,0.9s					
VORD			pmax		pmax	
	comp=Z,100nm,0.9s					
VORD			smax		smax	
	comp=N,600nm,2.1s					
VORD			smax		smax	
	comp=Z,470nm,3.5s					
VORD			smax		smax	
	comp=E,420nm,2.3s					
RSDY	**Resadiye-TOKAT**	**50.81 304**	*e*P		**P**	**23 28 47.1 +2.2**
VSR	**Storozhevoye**	**50.83 318**	*e*P		**P**	**23 28 44.0 -0.9**
VSR			*e*S		**S**	**23 35 50.5 -2.2**
VSR			pmax		pmax	
	comp=Z,80nm,0.8s					
VSR			pmax		pmax	
	comp=N,10.0nm,0.7s					
VSR			pmax		pmax	
	comp=E,100nm,0.9s					
VSR			smax		smax	
	comp=N,1μm,3.0s					
VSR			smax		smax	
	comp=Z,10.0nm,1.0s					
VSR			smax		smax	
	comp=E,350nm,1.7s					
PRGR	**Permogore**	**50.88 332** ⇓	*i*P		**P**	**23 28 45.9 +0.9**
PRGR			*e**PP		**pP**	**23 29 12.2 +1.7**
PRGR			*i* S		**S**	**23 35 52.4 -0.6**
VOR	**Voronezh**	**50.92 319**	*e*P		**P**	**23 28 46.0 +0.5**
VOR			*e*S		**S**	**23 35 51.0 -2.9**
VOR			pmax		pmax	
	comp=Z,460nm,1.2s					
FITZ	**Fitzroy Crossi**	**50.94 141**	*e*P		**P**	**23 28 46.6 +0.6**
	comp=Z,164nm,0.9s					
ZALF	**Zalf**	**50.97 294**	*e*P		**P**	**23 28 48.6 +2.3**
ANN	**Anapa**	**51.01 310**	*e*P		**P**	**23 28 45.9 -0.4**
ANN			*e**PP		**pP**	**23 29 12.7 +0.9**
ANN			*e*S		**S**	**23 35 54.6 -0.7**
ANN			*e*SS		**SS**	**23 39 36.9 +5.5**
ANN			pmax		pmax	
	comp=Z,167nm,1.2s					
SVSK	**Karacayir**	**51.05 303**	*e*P		**P**	**23 28 49.2 +2.5**
KMRS	**Kahramanmaras**	**51.12 300**	*e*P		**P**	**23 28 49.1 +1.8**
GENI	**Genyem**	**51.21 114**	P		**P**	**23 28 49.8 +1.6**
	comp=Z,577nm,1.0s,comp=Z,6μm					
ASF	**Jabal al Asfar**	**51.40 293**	ScP		**ScP**	**23 33 49.8 +0.3**
	baz=260,slow=1.4					
SALA	**Sala**	**51.49 294**	*e*P		**P**	**23 28 52.8 +2.5**
BTCH	**Batrach**	**51.51 298**	*e*P		**P**	**23 28 51.8 +1.4**
WRDH	**Warideh**	**51.58 298**	*e*P		**P**	**23 28 52.7 +1.9**
MARH	**Ras Al Marh**	**51.60 296**	*e*P		**P**	**23 28 53.5 +2.2**
HAWK	**Haweek**	**51.63 297**	*e*P		**P**	**23 28 53.2 +2.0**
BIDA	**Albida**	**51.67 297**	*e*P		**P**	**23 28 53.5 +2.0**
TOTH	**TOTAH**	**51.69 295**	*e*P		**P**	**23 28 53.7 +2.0**
KVT	**Kavak**	**51.80 305**	*e*P		**P**	**23 28 54.6 +2.2**
ARNB	**Al Arnab**	**51.92 298**	*e*P		**P**	**23 28 55.0 +1.7**
BNN	**Bunyan**	**51.94 302**	*e*P		**P**	**23 28 55.2 +1.7**
KOZT	**Kozan**	**51.97 300**	*e*P		**P**	**23 28 55.4 +1.7**
HWQ	**Hawqa**	**52.03 296**	*e*P		**P**	**23 28 56.3 +2.1**
CEYT	**Ceyhan**	**52.05 300**	*e*P		**P**	**23 28 56.5 +2.3**
BRBR	**Barbar**	**52.09 295**	*e*P		**P**	**23 28 57.0 +2.2**
TCHB	**Talchebab**	**52.13 294**	*e*P		**P**	**23 28 56.6 +1.6**
RCY	**Rachaya**	**52.18 295**	*e*P		**P**	**23 28 57.5 +2.1**
BHL	**Bhannes**	**52.30 296**	*e*P		**P**	**23 28 58.3 +2.1**
YOZ	**Yozgat**	**52.34 303**	*e*P		**P**	**23 28 58.4 +1.9**
TIXI	**Tiksi**	**52.38 13**	*ce*P		**P**	**23 28 55.4 -0.7**
TIXI			pmax		pmax	
	comp=Z,41nm,1.2s					
TIXI	**Tiksi**	**52.38 13**	*e*P		**P**	**23 28 55.3 -0.7**
	comp=Z,114nm,1.4s					
TIXI			*e*ScP		**ScP**	**23 33 52.0 -0.9**
TIXI			*e*S		**S**	**23 36 11.4 -1.9**
DIKM	**Dikmen**	**52.41 306**	*e*P		**P**	**23 28 58.7 +1.9**
MMAI	**Mount Meron Ar**	**52.58 295**	ScP		**ScP**	**23 33 53.8 -0.8**
	comp=Z,13nm,0.9s,baz=77,slow=6.5,SNR=7.5					
KARA	**Karaisali**	**52.60 300**	*e*P		**P**	**23 29 00.2 +1.9**
MMLI	**Mount Malkishu**	**52.62 294**	*e*P		**P**	**23 29 00.8 +2.3**
MOS	**Moscow**	**52.76 323**	*e*P		**P**	**23 28 59.2 +0.1**
MOS			*e**PP		**pP**	**23 29 26.3 +1.6**
MOS			*e*			23 30 07.7
MOS			*e*S		**S**	**23 36 16.7 -2.2**
MOS			pmax		pmax	
	comp=Z,400nm,1.3s					
MOS			pmax		pmax	
	comp=Z,287nm,1.0s					
CORM	**Corum**	**52.87 304**	*e*P		**P**	**23 29 02.3 +1.9**
NIG	**Nigde**	**52.92 301**	*e*P		**P**	**23 29 03.5 +2.5**
MERS	**Mersin**	**53.04 300**	*e*P		**P**	**23 29 03.1 +1.6**
OBN	**Obninsk**	**53.20 323**	P		**P**	**23 29 02.6 +0.3**
	comp=Z,822nm,0.7s,SNR=12					
OBN	**Obninsk**	**53.20 323**	*d i*P		**P**	**23 29 02.6 +0.3**
OBN			*i **PP		**pP**	**23 29 29.2 +1.2**
OBN			*e*			23 31 04.0
OBN			*i* S		**S**	**23 36 23.7 -1.2**
OBN			pmax		pmax	
	comp=Z,271nm,1.7s					
OBN			MLR		MLR	
	comp=Z,442nm,25.0s					
OBN	**Obninsk**	**53.20 323**	*e*P		**P**	**23 29 02.8 +0.4**
OBN			*e*pP		**pP**	**23 29 28.4 +0.5**
OBN			*e*ScP		**ScP**	**23 33 56.2 -0.5**
KLMR	**Klimovskoe**	**53.29 330**	*d i*P		**P**	**23 29 03.8 +0.9**
KLMR			*e**PP		**pP**	**23 29 31.0 +2.4**
KLMR			*e*S		**S**	**23 36 22.4 -3.5**
KLMR			pmax		pmax	
	comp=Z,280nm,1.3s					
EIL	**Elat**	**53.34 291**	ScP		**ScP**	**23 33 57.5 -0.4**
	baz=83,slow=5.6					
BZK	**Bozkurt**	**53.35 306**	*e*P		**P**	**23 29 05.6 +1.9**
SIM	**Simferopol'**	**53.37 310**	*de*P		**P**	**23 29 04.6 +0.8**
SIM			*e**PP		**pP**	**23 29 26.0 -3.5**
SIM			*e*S		**S**	**23 36 27.0 -0.6**
SIM			*e*			23 37 16.0
SIM			pmax		pmax	
	comp=Z,78nm,0.9s					
EREN	**Erenkoy**	**53.40 298**	*e*P		**P**	**23 29 05.7 +1.6**
BRTR	**Keskin Array B**	**53.64 303**	P		**P**	**23 29 07.0 +0.9**
BRTR			*PP		**pP**	**23 29 32.9 +1.1**
BRTR			S		**S**	**23 36 33.3 +1.6**
BRTR			pmax		pmax	
	comp=Z,33nm,0.9s					
BRTR			smax		smax	
	comp=N,2.0nm,1.0s					
BRTR	**Keskin Array B**	**53.64 303**	P		**P**	**23 29 07.0 +0.9**
	comp=N,33nm,0.8s,baz=98,slow=7.2,SNR=184					
BRTR			pP		**pP**	**23 29 32.9 +1.1**
	comp=N,15nm,0.9s,baz=85,slow=6.4,SNR=3.2					
BRTR			ScP		**ScP**	**23 33 57.0 -2.2**
	comp=N,7.5nm,0.9s,baz=126,slow=5.1,SNR=5.9					
BRTR			S		**S**	**23 36 33.2 +1.6**
	comp=N,2.0nm,1.0s,baz=71,slow=9.3,SNR=8.3					
CANT	**Cankiri**	**53.64 304**	*e*P		**P**	**23 29 07.8 +1.9**
SULT	**Sultanhani-AKS**	**53.78 301**	*e*P		**P**	**23 29 09.1 +2.1**
AFSR	**Af'ar-Bala (A**	**54.08 303**	*e*P		**P**	**23 29 10.6 +1.3**
CSS	**Prodhromos**	**54.13 297**	P		**P**	**23 29 08.2 -1.3**
CSS	**Prodhromos**	**54.13 297**	*e*P		**P**	**23 29 10.8 +1.2**
CSS	**Prodhromos**	**54.13 297**	*e*P		**P**	**23 29 09.6 +0.1**
	comp=N,15nm,0.7s					
CSS			*e*ScP		**ScP**	**23 34 01.0 -0.3**
ANTO	**Ankara**	**54.29 303**	*e*P		**P**	**23 29 11.8 +1.2**
ANTO	**Ankara**	**54.29 303**	*e*P		**P**	**23 29 11.6 +0.9**
ANTO			pmax		pmax	
	comp=Z,105nm,0.9s					
ANTO	**Ankara**	**54.29 303** ⇓	*i*P		**P**	**23 29 11.9 +1.2**
ANTO	**Ankara**	**54.29 303**	P		**P**	**23 29 12.2 +1.6**
	SNR=26					
ANTO	**Ankara**	**54.29 303**	*e*P		**P**	**23 29 11.6 +0.9**
	comp=Z,104nm,0.9s					
BR231	**Keskin MP Arra**	**54.30 303**	*e*P		**P**	**23 29 07.6 -3.2**
BR231			*e*ScP		**ScP**	**23 33 59.3 -2.8**
BR231			*e*S		S	23 36 33.8 -6.7
LOD	**Lodumlu**	**54.31 303**	*e*P		**P**	**23 29 12.2 +1.4**
SAFT	**Safranbolu**	**54.34 305**	*e*P		**P**	**23 29 13.1 +2.1**
LADK	**Ladik-KONYA**	**54.69 301**	*e*P		**P**	**23 29 14.4 +0.8**
KONT	**Konya--Tato

comp=Z,79nm,1.0s
ISP *e*pP **pP** **23 29 50.2 +0.2**
MRIV Mauritius Mete 56.26 223 *e*P **P** **23 29 25.6 +0.7**
PET Petropavlovsk 56.38 41 ⇓*i*P **P** **23 29 25.0 -0.3**
PET *e**PP **pP** **23 29 51.7 +0.5**
PET *e* 23 30 15.8
PET *e*S **S** **23 37 03.8 -3.8**
PET *e*SS **SS** **23 40 52.4 -3.4**
PET pmax pmax
comp=Z,31nm,1.0s
PET pmax pmax
comp=Z,600nm,7.9s
PET Petropavlovsk 56.38 41 *e*P **P** **23 29 24.7 -0.6**
comp=Z,27nm,1.0s
PET *e*ScP **ScP** **23 34 09.2 -1.6**
ALT Altintas 56.40 302 P **P** **23 29 25.7 -0.1**
ALT Altintas 56.40 302 *e*P **P** **23 29 27.1 +1.2**
CAVI Cavuskoy 56.54 304 *e*P **P** **23 29 27.8 +1.1**
ADVT Abdulvahap 56.60 304 *e*P **P** **23 29 28.1 +1.0**
HRT Hereke 56.64 305 *e*P **P** **23 29 28.7 +1.2**
SILT Sile 56.64 305 *e*P **P** **23 29 28.6 +1.3**
IZI Iznik 56.81 304 *e*P **P** **23 29 30.2 +1.5**
TVSB Tavsanli 56.88 303 *e*P **P** **23 29 30.5 +1.2**
AKASG Malin Array Be 56.99 316 P **P** **23 29 29.7 0.0**
AKASG *PP **pP** **23 29 56.3 +0.6**
AKASG S **S** **23 37 13.4 -2.3**
AKASG pmax pmax
comp=Z,66nm,0.6s
AKASG smax smax
comp=N,5.0nm,0.9s
AKASG MLR MLR
comp=Z,435nm,20.3s
AKASG Malin Array Be 56.99 316 P **P** **23 29 29.7 0.0**
comp=Z,49nm,0.6s,baz=82,slow=6.7,SNR=145
AKASG pP **pP** **23 29 56.2 +0.6**
comp=Z,37nm,0.7s,baz=76,slow=6.8,SNR=4.0
AKASG ScP **ScP** **23 34 12.5 -1.0**
comp=Z,9.1nm,1.0s,baz=78,slow=4.4,SNR=5.1
AKASG S **S** **23 37 13.3 -2.3**
comp=Z,5.4nm,0.9s,baz=88,slow=13,SNR=7.5
AKASG LR LR 23 57 18.4
comp=Z,435nm,20.3s,baz=95,slow=39
KIEV Kiev 57.00 316 *e*P **P** **23 29 29.8 0.0**
KIEV *e**PP **pP** **23 29 56.0 +0.3**
KIEV *e*S **S** **23 37 13.0 -2.8**
KIEV pmax pmax
comp=Z,118nm,1.0s
KIEV Kiev 57.00 316 *e*P **P** **23 29 29.8 0.0**
comp=Z,118nm,1.0s
KIEV *e*pP **pP** **23 29 56.0 +0.3**
KIEV *e*S **S** **23 37 13.0 -2.8**
GEMT Gemlik 57.02 304 *e*P **P** **23 29 31.0 +0.9**
AK11 Malin Array Si 57.03 316 *e*P **P** **23 29 29.8 -0.1**
AK11 *e*pP **pP** **23 29 56.2 +0.3**
AK11 *e*S **S** **23 37 13.6 -2.6**
GLHS Glhisar (BURDU 57.03 300 *e*P **P** **23 29 30.8 +0.5**
ISK Istanbul-Kandi 57.09 305 P **P** **23 29 29.5 -1.0**
ISK Istanbul-Kandi 57.09 305 *e*P **P** **23 29 31.6 +1.1**
KLYT Kilyos 57.09 305 *e*P **P** **23 29 31.8 +1.3**
KIS Kishinev 57.13 312 ⇓*i*P **P** **23 29 31.0 +0.3**
KIS *i* 23 29 57.0
KIS *e*S **S** **23 37 16.0 -1.7**
KIS pmax pmax
comp=Z,300nm,1.0s
KIS Kishinev 57.13 312 ⇓*i*P **P** **23 29 31.0 +0.3**
comp=Z,300nm,1.0s
KIS *e*pP **pP** **23 29 54.0 -2.7**
KIS *i* S **S** **23 37 16.0 -1.7**
TLCR 57.13 310 ⇓*i*P **P** **23 29 31.2 +0.4**
ARMT Armutlu 57.26 304 *e*P **P** **23 29 32.5 +0.7**
EFOR EFORIE 57.28 309 ⇓*i*P **P** **23 29 33.2 +1.4**
BGKT Bogazkoy 57.29 305 *e*P **P** **23 29 33.2 +1.2**
TIRR Tirgusor 57.43 309 *e*P **P** **23 29 32.4 -0.5**
TIRR pmax pmax
comp=Z,52nm,1.1s
TIRR Tirgusor 57.43 309 ⇓*i*P **P** **23 29 33.5 +0.6**
TIRR Tirgusor 57.43 309 *e*P **P** **23 29 32.4 -0.5**
comp=Z,52nm,1.1s
CTKS Kestanelik-??a 57.49 305 *e*P **P** **23 29 34.2 +0.8**
LEOM Leova 57.52 311 ⇓*i*P **P** **23 29 34.3 +0.8**
GIUM Giurgiulesti 57.56 310 ⇓*i*P **P** **23 29 34.8 +1.0**
KULA Kula-Manisa 57.57 302 P **P** **23 29 33.9 -0.2**
KULA Kula-Manisa 57.57 302 *e*P **P** **23 29 34.8 +0.7**
JOF Joensuu 57.60 331 *e*P **P** **23 29 34.0 +0.3**
JOF pmax pmax
comp=Z,69nm,0.7s
JOF Joensuu 57.60 331 *e*p **P** **23 29 34.0 +0.3**
comp=Z,69nm,0.7s
CFR Carcaliu 57.61 310 ⇓*i*P **P** **23 29 34.8 +0.7**
PSN Preselentsi 57.62 308 ⇓*i*P **P** **23 29 35.6 +1.4**
PSN Preselentsi 57.62 308 *e*P **P** **23 29 34.2 0.0**
LVZ Lovozero 57.65 337 P **P** **23 29 34.2 +0.1**
comp=Z,572nm,0.7s,SNR=5.7
LVZ Lovozero 57.65 337 *d*i **P** **23 29 34.4 +0.3**
LVZ *i* *PP **pP** **23 30 02.7 +2.6**
LVZ pmax pmax
comp=Z,75nm,0.8s
LVZ Lovozero 57.65 337 *e*P **P** **23 29 34.6 +0.5**
comp=Z,143nm,0.9s
KCTX Karacabey (Bur 57.67 304 *e*P **P** **23 29 35.7 +1.0**
SLVT Silivri 57.72 305 *e*P **P** **23 29 36.1 +1.2**
WRA Warramunga Arr 57.72 135 P **P** **23 29 36.0 +0.8**
comp=Z,113nm,0.8s,baz=324,slow=7.4,SNR=166
WRA S **S** **23 37 24.3 -1.6**
comp=Z,0.8nm,0.4s,baz=314,slow=14,SNR=3.9
WRA LR LR 23 59 06.5
comp=Z,89nm,18.9s,baz=325,slow=41
WRA PKPPKP **P'P'df** **23 59 15.6 -2.9**
comp=Z,2.4nm,0.8s,baz=116,slow=2.4,SNR=8.0
WRA PKP2bc 23 59 27.3
comp=Z,1.3nm,0.6s,baz=130,slow=1.8,SNR=5.7
WRAB Tennant Creek 57.72 135 P **P** **23 29 36.0 +0.8**
comp=Z,1μm,1.0s
WRAB Tennant Creek 57.72 135 *c*i P **P** **23 29 35.9 +0.8**
WRAB pmax pmax
comp=Z,589nm,1.2s
WRAB Tennant Creek 57.72 135 *e*P **P** **23 29 33.9 -1.3**
comp=Z,216nm,1.1s
DALY Dalyan (Mu¨la 57.73 300 *e*P **P** **23 29 35.8 +0.7**
HARR Harsova 57.77 309 ⇑*i*P **P** **23 29 36.2 +0.9**
IAS Iasi 57.99 312 ⇑*i*P **P** **23 29 37.1 +0.3**
APA Apatity 57.99 337 ⇑*i*P **P** **23 29 37.4 +1.0**
APA *i* *PP **pP** **23 30 06.0 +3.5**
APA *i* S **S** **23 37 26.0 -2.3**
APA pmax pmax
comp=Z,64nm,1.0s
YER Yerkesik 58.00 300 *e*P **P** **23 29 37.9 +0.9**
MICGM Minsk 58.08 321 ⇓*e*P **P** **23 29 36.0 -1.2**
CRLT Corlu 58.08 305 *e*P **P** **23 29 39.1 +1.6**
BALB Balikesir 58.08 303 *e*P **P** **23 29 38.5 +1.0**
MNK Minsk 58.10 321 ⇓*e*P **P** **23 29 36.0 -1.4**
MNK *e* 23 30 04.0
MNK *e*S **S** **23 37 27.0 -3.1**
MNK *e**SS sS 23 37 49.0 -26
MNK pmax pmax
comp=Z,390nm,1.0s
MNK smax smax
comp=N,590nm,1.8s
PHSR Pinarhisar 58.21 306 *e*P **P** **23 29 39.6 +1.3**
PRD Provadia 58.21 308 *e*P **P** **23 29 38.6 +0.3**
AYDB Zeytinkoy-Aydi 58.23 301 *e*P **P** **23 29 39.6 +0.9**
PETR Petresti 58.24 311 ⇓*i*P **P** **23 29 40.5 +2.0**
TKR Tekirdag 58.24 305 *e*P **P** **23 29 39.9 +1.3**
GRER 58.43 310 ⇓*i*P **P** **23 29 42.2 +2.3**
PGOR Pogoanele 58.44 310 ⇓*i*P **P** **23 29 41.3 +1.4**
KRBG Karabiga-Canak 58.47 304 *e*P **P** **23 29 41.1 +0.9**
VRI Vrincioaia 58.59 311 ⇓*i*P **P** **23 29 42.6 +1.6**
TESR Tescani 58.63 311 ⇓*i*P **P** **23 29 42.0 +0.8**
NACGM Naroch 58.74 321 *e*P **P** **23 29 39.0 -2.8**
ISR Istrita 58.74 310 ⇑*i*P **P** **23 29 44.4 +2.3**
EDRB Edirne 58.77 306 *e*P **P** **23 29 43.1 +0.8**
BODT Bodrum 58.78 300 *e*P **P** **23 29 43.1 +0.6**
BLCB Balcova 58.85 302 *e*P **P** **23 29 43.9 +1.1**
JMB Yambol 58.85 307 P **P** **23 29 43.2 +0.4**
JMB Yambol 58.85 307 ⇓*i*P **P** **23 29 45.3 +2.5**
JMB Yambol 58.85 307 *e*P **P** **23 29 44.8 +2.0**
LPK Lapseki 58.88 304 *e*P **P** **23 29 44.5 +1.5**
PRAR RASCA 58.90 312 ⇑*i*P **P** **23 29 43.3 +0.2**
SULR 58.97 309 ⇓*i*P **P** **23 29 45.6 +2.0**
SMG Samos 59.08 301 P **P** **23 29 44.4 -0.1**
VSU Vasula 59.08 325 ⇓*e*P **P** **23 29 44.5 +0.4**
VSU pmax pmax
comp=Z,366nm,1.2s

KARP Karpathos 59.08 299 P **P** **23 29 44.6 0.0**
GELI Tayfur-Gelibol 59.09 304 *e*P **P** **23 29 45.7 +1.1**
MLR Muntele Rosu 59.15 310 ⇓*i*P **P** **23 29 46.6 +1.6**
EZN Ezine 59.26 304 *e*P **P** **23 29 46.7 +1.1**
SZH Strazhica 59.28 308 *e*P **P** **23 29 46.3 +0.5**
ALN Alexandroupoli 59.37 305 P **P** **23 29 46.2 -0.2**
DOPR Dopca 59.52 311 ⇓*i*P **P** **23 29 48.6 +1.2**
BURAR Bucovina Array 59.58 313 ⇓*i*P **P** **23 29 48.6 +0.7**
BUR04 Bucovina Ar. S 59.58 313 *e*P **P** **23 29 48.5 +0.6**
BUR04 *e*pP **pP** **23 30 14.7 +0.6**
BUR04 *e*ScP **ScP** **23 34 25.7 +0.5**
CHOS Chios island 59.62 302 P **P** **23 29 48.9 +0.6**
DIM Dimitrovgrad 59.66 306 *e*P **P** **23 29 48.9 +0.5**
PVL Pavlikeni 59.72 308 *e*P **P** **23 29 50.2 +1.4**
NWAO Narrogin (SRO) 59.72 158 P **P** **23 29 49.0 +0.2**
NWAO pmax pmax
comp=Z,137nm,0.9s
NWAO Narrogin (SRO) 59.72 158 P **P** **23 29 49.0 +0.2**
comp=Z,136nm,0.9s,baz=337,slow=6.7,SNR=66
RDO Rodhopi 59.73 305 P **P** **23 29 48.7 -0.2**
KAF Kangasniemi 59.74 330 *e*P **P** **23 29 48.0 -0.6**
KAF pmax pmax
comp=Z,34nm,0.9s
KAF Kangasniemi 59.74 330 *e*p **P** **23 29 48.0 -0.6**
comp=Z,34nm,0.9s
FINES FINESS Array B 59.76 329 P **P** **23 29 49.4 +0.7**
FINES *PP **pP** **23 30 16.2 +1.3**
FINES S **S** **23 37 49.8 -1.4**
FINES pmax pmax
comp=Z,75nm,0.7s
FINES smax smax
comp=N,3.0nm,0.8s
FINES MLR MLR
comp=Z,458nm,18.9s
FINES FINESS Array B 59.76 329 P **P** **23 29 49.4 +0.7**
comp=Z,75nm,0.7s,baz=99,slow=6.5,SNR=299
FINES pP **pP** **23 30 16.2 +1.3**
comp=Z,48nm,0.8s,baz=111,slow=10,SNR=6.8
FINES S **S** **23 37 49.8 -1.4**
comp=Z,2.7nm,0.8s,baz=82,slow=10,SNR=3.8
FINES LR LR 23 57 32.6
comp=Z,458nm,18.9s,baz=100,slow=38
KDZ Kurdzhali 59.78 306 ⇓*i*P **P** **23 29 50.6 +1.3**
KDZ Kurdzhali 59.78 306 *e*P **P** **23 29 50.4 +1.1**
VOIR 59.78 310 ⇓*i*P **P** **23 29 49.8 +0.5**
MTUR Matau 59.78 310 ⇓*i*P **P** **23 29 50.9 +1.6**
GOLR 59.88 310 ⇑*i*P **P** **23 29 51.1 +1.2**
HUMR Humele 59.88 309 ⇓*i*P **P** **23 29 50.7 +0.8**
ARR Arges 60.08 310 ⇑*i*P **P** **23 29 52.1 +0.8**
COEN Coen 60.12 123 *e*P **P** **23 29 52.1 +0.2**
COEN *e*pP **pP** **23 30 17.4 -0.8**
ASAR Alice Springs 60.14 138 P **P** **23 29 53.0 +1.1**
comp=Z,99nm,0.9s,baz=321,slow=6.9,SNR=693
ASAR S **S** **23 37 57.7 +0.5**
comp=Z,1.3nm,1.0s,baz=319,slow=11,SNR=4.2
ASAR LR LR 23 58 31.4
comp=Z,90nm,18.7s,baz=317,slow=38
ASAR PKPPKP **P'P'df** **23 59 14.0 -0.5**
comp=Z,1.4nm,0.8s,baz=112,slow=2.5,SNR=9.0
ASAR PKP2bc 23 59 25.5
comp=Z,2.6nm,1.0s,baz=132,slow=3.2,SNR=5.7
AS01 Alice Springs 60.17 138 *e*P **P** **23 29 52.8 +0.6**
AS01 *e*pP **pP** **23 30 15.7 -2.6**
APE Apeiranthos 60.19 301 *de*P **P** **23 29 53.8 +1.6**
APE pmax pmax
comp=Z,35nm,1.0s
APE Apeiranthos 60.19 301 ⇓*i*P **P** **23 29 52.3 +0.1**
PLD Plovdiv 60.27 306 P **P** **23 29 52.5 -0.1**
PLD Plovdiv 60.27 306 *e*P **P** **23 29 53.2 +0.6**
RZN Rozhen 60.30 306 *e*P **P** **23 29 53.2 +0.2**
RZN Rozhen 60.30 306 *e*P **S** **23 38 00.3 +1.1**
LVV L'vov 60.31 315 *i* P **P** **23 29 53.0 +0.3**
LVV *i* *PP **pP** **23 30 20.6 +1.7**
LVV *i* S **S** **23 37 57.0 -1.7**
SANT Santorini 60.34 300 P **P** **23 29 50.8 -2.4**
SANT Santorini 60.34 300 *e*P **P** **23 29 53.1 -0.2**
SANT *e*pP **pP** **23 30 19.0 -0.4**
SANT *e*S **S** **23 37 57.5 -2.1**
THR2 Thira island, 60.35 300 P **P** **23 29 52.6 -0.6**
LAST Lasithi 60.50 298 P **P** **23 29 54.9 +0.5**
KAVA Kavala 60.52 305 P **P** **23 29 54.8 +0.5**
PGB Panagyurishte 60.63 307 *e*P **P** **23 29 55.8 +0.7**
LOT Lotru 60.68 310 ⇓*i*P **P** **23 29 56.1 +0.6**
KMBO Kilima Mbogo 60.69 255 *ce*P **P** **23 29 57.5 +1.4**
KMBO pmax pmax
comp=Z,8.0nm,0.8s
KMBO Kilima Mbogo 60.69 255 P **P** **23 29 58.2 +2.0**
SNR=5.4
KMBO Kilima Mbogo 60.69 255 P **P** **23 29 56.8 +0.6**
comp=Z,7.8nm,0.8s,baz=49,slow=12,SNR=22
KMBO LR LR 23 56 07.7
comp=Z,215nm,20.2s,baz=86,slow=36
KMBO Kilima Mbogo 60.69 255 *e*P **P** **23 29 57.5 +1.4**
KMBO *e*pP **pP** **23 30 21.1 -1.3**
CJR Cluj-Napoca 60.72 312 ⇑*i*P **P** **23 29 57.2 +1.6**
PMG Port Moresby 60.72 116 *ce*P **P** **23 29 57.4 +1.5**
PMG pmax pmax
comp=Z,134nm,1.0s
PMG Port Moresby 60.72 116 P **P** **23 29 57.5 +1.5**
comp=Z,98nm,0.8s,baz=305,slow=5.9,SNR=22
PMG Port Moresby 60.72 116 *e*P **P** **23 29 57.4 +1.5**
PMG *e*pP **pP** **23 30 20.5 -1.7**
BMR Baia Mare 60.74 313 ⇑*i*P **P** **23 29 57.0 +1.3**
SUW Suwalki 60.81 320 *e*P **P** **23 29 56.2 +0.2**
SUW *e**PP **pP** **23 30 23.5 +1.2**
SUW pmax pmax
comp=Z,200nm,1.0s
SUW Suwalki 60.81 320 *e*P **P** **23 29 56.1 +0.1**
SUW *e*pP **pP** **23 30 23.4 +1.2**
SUW *e*S **S** **23 38 03.1 -1.8**
SUW LMZ LR 23 55 16.0
SUW Suwalki 60.81 320 *e*P **P** **23 29 56.1 +0.1**
SUW *e*pP **pP** **23 30 23.4 +1.2**
KEV Kevo 60.83 338 *e*P **P** **23 29 57.0 +1.1**
KEV *e**PP **pP** **23 30 24.0 +1.9**
KEV Kevo 60.83 338 *e*p **P** **23 29 55.5 -0.4**
comp=Z,33nm,0.7s
KEV Kevo 60.83 338 *e*P **P** **23 29 57.0 +1.1**
KEV *e*pP **pP** **23 30 24.0 +1.9**
MPEP Malo Peshtene 60.87 308 *e*P **P** **23 29 57.8 +1.2**
MPEP Malo Peshtene 60.87 308 *e*P S 23 37 49.8 -16
NVR Nevrokopi 60.97 306 P **P** **23 29 55.9 -1.5**
MMB Musomiste 61.05 306 ⇓*i*P **P** **23 29 58.2 +0.3**
MMB Musomiste 61.05 306 *e*P **P** **23 29 57.8 -0.1**
MMB Musomiste 61.05 306 *e*P **S** **23 38 08.2 -0.3**
KWP Kalwaria Pacla 61.17 315 *e*P **P** **23 29 59.6 +1.0**
KWP *e**PP **pP** **23 30 26.9 +2.0**
KWP pmax pmax
comp=Z,200nm,1.1s
KWP Kalwaria Pacla 61.17 315 *e*P **P** **23 29 59.6 +1.0**
KWP *e*pP **pP** **23 30 26.9 +2.0**
KWP *e*S **S** **23 38 08.4 -1.4**
KWP LMZ LR 23 55 04.6
KWP Kalwaria Pacla 61.17 315 ⇓*i*P **P** **23 29 59.6 +1.0**
KWP Kalwaria Pacla 61.17 315 *e*P **P** **23 29 59.5 +0.9**
KWP *e*pP **pP** **23 30 22.2 -2.6**
SRS Serrai 61.20 305 P **P** **23 29 58.5 -0.4**
PAIG Paliouri 61.27 304 P **P** **23 29 59.4 0.0**
ARA0 ARCESS Array S 61.30 338 *e*P **P** **23 30 00.4 +1.3**
ARA0 *e*pP **pP** **23 30 25.9 +0.5**
ARCES ARCESS Array B 61.30 338 P **P** **23 30 00.7 +1.6**
ARCES *PP **pP** **23 30 26.4 +1.0**
ARCES pmax pmax
comp=Z,28nm,0.7s
ARCES MLR MLR
comp=Z,622nm,20.7s
ARCES ARCESS Array B 61.30 338 P **P** **23 30 00.7 +1.6**
comp=Z,28nm,0.7s,baz=104,slow=7.5,SNR=200
ARCES pP **pP** **23 30 26.4 +1.0**
comp=Z,73nm,0.7s,baz=91,slow=6.3,SNR=15
ARCES LR LR 23 58 37.6
comp=Z,622nm,20.7s,baz=102,slow=38
ARE0 ARCESS Array S 61.30 338 *e*P **S** **23 30 00.4 +1.3**
ARE0 *e*S **S** **23 38 10.0 -0.7**
DRGR 61.32 312 ⇓*i*P **P** **23 30 00.9 +1.2**
VTS Vitosha 61.33 307 P **P** **23 30 00.1 +0.1**
VTS Vitosha 61.33 307 ⇓*i*P **P** **23 30 00.9 +1.0**
VTS Vitosha 61.33 307 *e*P **P** **23 30 00.0 +0.1**
VTS Vitosha 61.33 307 *e*P **S** **23 38 07.9 -4.3**
TRPA Tarpa 61.36 313 ⇓*i*P **P** **23 30 00.7 +0.9**
TRPA Tarpa 61.36 313 ⇓*e* **P** **23 30 00.4 +0.6**
GZR Gura Zlata 61.38 310 ⇓*i*P **P** **23 30 01.0 +0.8**
PLG Polygyros 61.40 305 P **P** **23 29 59.7 -0.6**

KOLS Kolonicke sedl 61.49 314 *e*P **P** **23 30 01.1 +0.3**
KOLS pmax pmax
comp=Z,16nm,1.2s
KOLS Kolonicke sedl 61.49 314 *e*P **P** **23 30 01.0 +0.3**
KOLS *e*pP **pP** **23 30 28.3 +1.2**
UZH Uzhgorod 61.49 314 ⇓*i*P **P** **23 30 01.3 +0.6**
UZH *i* 23 30 27.1
UZH *e* 23 30 37.7
UZH *e* 23 30 42.3
UZH *e* 23 32 16.1
UZH *e*S **S** **23 38 12.7 -1.1**
UZH *e* 23 38 48.5
UZH *e* 23 39 46.5
UZH *e*SS **SS** **23 42 21.0 +4.9**
KKB Krupnik 61.49 306 *e*P **P** **23 30 00.0 -0.9**
KKB Krupnik 61.49 306 *e*P S 23 38 03.8 -10
VAM Vamos 61.50 299 P **P** **23 29 58.7 -2.3**
MRKA Markates 61.50 303 P **P** **23 30 00.5 -0.5**
HORT Hortiatis 61.63 305 P **P** **23 30 01.5 -0.4**
KNT Kendrikon 61.71 306 P **P** **23 30 02.3 -0.1**
XOR Xorichti 61.72 303 P **P** **23 30 01.3 -1.2**
BILL Bilibino 61.99 24 ⇑*e*P **P** **23 30 03.2 -0.5**
BILL *e**PP **pP** **23 30 29.6 -0.5**
BILL *e* 23 30 42.9
BILL *e* 23 32 23.5
BILL pmax pmax
comp=Z,14nm,1.2s
BILL MLR MLR
comp=Z,250nm,20.0s
BILL Bilibino 61.99 24 *e*P **P** **23 30 03.1 -0.5**
comp=Z,23nm,1.1s
BILL *e*S **S** **23 38 19.6 +0.1**
KTK1 Kautokeino 62.00 337 *e*P **P** **23 30 04.9 +1.1**
OPO Ambohidratompo 62.09 232 LR LR 23 55 13.2
comp=Z,386nm,19.3s,baz=14,slow=34
GRG Griva 62.11 305 P **P** **23 30 04.3 -0.8**
STHS Stebnicka Huta 62.14 315 *e*P **P** **23 30 05.7 +0.6**
STHS pmax pmax
comp=Z,11nm,0.8s
STHS Stebnicka Huta 62.14 315 *e*P **P** **23 30 05.7 +0.6**
STHS *e*pP **pP** **23 30 31.4 0.0**
LIT Litokhoron 62.16 304 P **P** **23 30 04.6 -0.8**
BZS Buzias 62.17 311 ⇓*i*P **P** **23 30 06.1 +0.7**
KYTH Kithira 62.29 300 P **P** **23 30 05.6 -0.7**
BEL Belsk 62.29 318 *e*P **P** **23 30 06.9 +0.9**
BEL *e**PP **pP** **23 30 34.2 +1.8**
BEL *e*S **S** **23 38 22.7 -1.1**
BEL pmax pmax
comp=Z,200nm,0.8s
BEL Belsk 62.29 318 *e*P **P** **23 30 06.9 +0.9**
BEL *e*pP **pP** **23 30 34.2 +1.8**
BEL *e*S **S** **23 38 22.7 -1.1**
BEL LMZ LR 23 56 13.3
VLI Veliai 62.30 301 P **P** **23 30 04.6 -1.8**
ABPO Ambohimpanom 62.34 232 *e*P **P** **23 30 07.8 +0.8**
ABPO pmax pmax
comp=Z,32nm,0.8s
ABPO Ambohimpanom 62.34 232 *e*P **P** **23 30 07.8 +0.8**
comp=Z,32nm,0.8s
FORT Forrest 62.42 148 *e*P **P** **23 30 08.0 +0.9**
comp=Z,199nm,1.2s
AGG Agios Georgios 62.43 303 P **P** **23 30 06.1 -1.1**
GUR Goura 62.58 302 P **P** **23 30 06.5 -1.8**
MAKR Makrakomi, Fth 62.58 303 P **P** **23 30 06.9 -1.3**
THL Klokotos Trika 62.59 304 P **P** **23 30 06.8 -1.4**
VLX Vlachokerasia 62.64 301 P **P** **23 30 07.2 -1.5**
KZN Kozani 62.67 305 P **P** **23 30 08.2 -0.7**
KLV Kalavryta, Ach 62.71 302 P **P** **23 30 07.2 -2.0**
NIE Niedzica 62.74 315 ⇓*i*P **P** **23 30 10.6 +1.5**
NIE *i* *PP **pP** **23 30 38.1 +2.6**
NIE *e* 23 30 46.3
NIE *e* 23 32 29.4
NIE Niedzica 62.74 315 *i* P **P** **23 30 10.6 +1.5**
NIE *i* pP **pP** **23 30 38.1 +2.6**
NIE *e*PcP **PcP** **23 30 46.3 -0.5**
NIE *e*PP **PP** **23 32 29.4 +1.3**
EFP Efpalio 62.84 303 P **P** **23 30 09.3 -0.6**
EVR Evrytania 62.84 303 P **P** **23 30 08.9 -1.2**
FNA Florina 62.91 305 P **P** **23 30 08.8 -1.6**
HOPEN Hopen 63.00 346 *e*P **P** **23 30 12.2 +1.9**
HOPEN *e*pP **pP** **23 30 38.7 +2.0**
HOPEN *e*S **S** **23 38 33.1 +1.3**
OJC Ojcow 63.02 316 ⇓*i*P **P** **23 30 11.4 +0.5**
OJC *i* *PP **pP** **23 30 38.7 +1.4**
OJC Ojcow 63.02 316 *i* P **P** **23 30 11.4 +0.5**
OJC *i* pP **pP** **23 30 38.7 +1.4**
OJC Ojcow 63.02 316 *e*P **P** **23 30 10.9 0.0**
OJC *e*pP **pP** **23 30 35.9 -1.4**
ITM Ithomi 63.02 301 P **P** **23 30 09.7 -1.5**
DRO Drossia 63.07 302 P **P** **23 30 10.1 -1.4**
AMT Artemida-Makis 63.14 302 P **P** **23 30 11.2 -0.8**
PSZ Piszkesteto 63.14 313 *e*P **P** **23 30 12.4 +0.5**
PSZ *e**PP **pP** **23 30 36.9 -1.4**
PSZ Piszkesteto 63.14 313 ⇓*i*P **P** **23 30 12.7 +0.8**
PSZ Piszkesteto 63.14 313 ⇑*e*P **P** **23 30 12.7 +0.8**
PSZ Piszkesteto 63.14 313 *e*P **P** **23 30 12.4 +0.5**
PSZ *e*pP **pP** **23 30 36.9 -1.4**
NEST Nestorio 63.20 305 P **P** **23 30 11.8 -0.6**
PYL PYLOS 63.22 301 P **P** **23 30 10.9 -1.5**
RLS Riolos of Patr 63.24 302 P **P** **23 30 11.8 -0.8**
DSL Palaion Diasel 63.36 303 P **P** **23 30 12.4 -1.0**
KBN Korca 63.37 305 P **P** **23 30 12.1 -1.4**
PIO Prodromos 63.38 303 P **P** **23 30 12.4 -1.1**
PHP Peshkopia 63.48 306 P **P** **23 30 13.2 -1.0**
DIVS Divibare 63.49 309 P **P** **23 30 13.9 -0.3**
TRO Tromso 63.60 338 *e*P **P** **23 30 15.3 +1.0**
TRO *e*S **S** **23 38 40.2 +0.8**
TRO *e*SS **SS** **23 42 49.8 +1.7**
LKD2 Lefkada island 63.75 303 P **P** **23 30 14.9 -1.1**
PKS2 Kecel 63.75 312 ⇑*e*P **P** **23 30 16.8 +1.0**
KFL Anninata 63.76 302 P **P** **23 30 14.9 -1.1**
VYHS Vyhne 63.79 314 *e*P **P** **23 30 16.6 +0.5**
VYHS pmax pmax
comp=Z,14nm,1.2s
VYHS Vyhne 63.79 314 *e*P **P** **23 30 16.6 +0.5**
VYHS *e*pP **pP** **23 30 44.0 +1.5**
VLS Valsamata 63.90 302 P **P** **23 30 14.7 -2.3**
OKC Ostrava-Krasne 64.11 316 ⇓*i*P **P** **23 30 19.1 +1.0**
OKC *e**PP **pP** **23 30 46.5 +1.9**
OKC *e*S **S** **23 38 45.2 -1.2**
OKC Ostrava-Krasne 64.11 316 ⇓*i*P **P** **23 30 19.1 +1.0**
OKC *e*pP **pP** **23 30 46.5 +1.9**
OKC *e*S **S** **23 38 45.2 -1.2**
PKSG 64.21 313 ⇓*e* **P** **23 30 19.3 +0.5**
GKP Gorka Klasztor 64.37 319 *e*P **P** **23 30 20.0 +0.3**
GKP *e**PP **pP** **23 30 48.9 +2.7**
GKP *e*S **S** **23 38 48.8 -0.7**
GKP Gorka Klasztor 64.37 319 *e*P **P** **23 30 20.0 +0.3**
GKP *e*pP **pP** **23 30 48.8 +2.6**
GKP *e*S **S** **23 38 48.7 -0.7**
GKP LMZ LR 23 56 50.9
PKS9 Tamasi 64.38 312 ⇓*e* **P** **23 30 20.5 +0.6**
PKST T¨s 64.47 313 ⇓*e*P **P** **23 30 20.8 +0.3**
MORC Moravsky Berou 64.51 316 *e*P **P** **23 30 21.5 +0.8**
MORC *e**PP **pP** **23 30 48.0 +0.7**
MORC Moravsky Berou 64.51 316 ⇑*i*P **P** **23 30 21.8 +1.1**
MORC Moravsky Berou 64.51 316 *e*P **P** **23 30 21.5 +0.8**
MORC *e*pP **pP** **23 30 48.0 +0.7**
STEI Steigen 64.85 336 *e*P **P** **23 30 23.5 +0.9**
KRLC Kraliky 64.96 316 ⇓*i*P **P** **23 30 24.6 +0.9**
KRLC *e**PP **pP** **23 30 51.7 +1.5**
KRLC *e**PP **pP** **23 30 51.8 +1.5**
KRLC Kraliky 64.96 316 ⇓*i*P **P** **23 30 24.6 +0.9**
KRLC *e*pP **pP** **23 30 51.7 +1.5**
MOR8 Moi Rana 65.17 334 *e*P **P** **23 30 24.6 -0.1**
MOR8 IAmb IAmb 23 30 25.8
comp=Z,108nm,0.8s
MOR8 *e*pP **pP** **23 30 52.7 +1.5**
VRAC Vranov 65.17 315 ⇓*i*P **P** **23 30 26.4 +1.4**
SPA0 Spitsbergen Ar 65.17 347 *e*P **P** **23 30 25.9 +1.3**
SPA0 *e*S **S** **23 39 00.8 +2.1**
SPITS Spitsbergen Ar 65.17 347 P **P** **23 30 25.9 +1.3**
SPITS *PP **pP** **23 30 52.3 +1.2**
SPITS pmax pmax
comp=Z,14nm,0.5s
SPITS Spitsbergen Ar 65.17 347 P **P** **23 30 25.9 +1.3**
comp=Z,14nm,0.5s,baz=100,slow=9.4,SNR=55
SPITS pP **pP** **23 30 52.3 +1.2**
comp=Z,61nm,0.7s,baz=127,slow=14,SNR=11
KSP Ksiaz 65.19 317 ⇓*e*P **P** **23 30 26.1 +1.0**
KSP *e**PP **pP** **23 30 52.8 +1.2**

KSP *eS* **S** **23 38 58.9 -0.7**
KSP Ksiaz 65.19 317 *eP* **P** **23 30 26.1 +1.0**
KSP *epP* **pP** **23 30 53.5 +1.9**
KSP *eS* **S** **23 38 59.2 -0.4**
KSP LMZ LR 23 57 34.6
DPC Dobruska-Polom 65.22 316⇓*iP* **P** **23 30 26.6 +1.2**
DPC *e*PP* **pP** **23 30 53.9 +1.9**
DPC *eS* **S** **23 38 57.2 -3.0**
DPC Dobruska-Polom 65.22 316⇓*iP* **P** **23 30 26.6 +1.2**
DPC *epP* **pP** **23 30 53.9 +1.9**
DPC *eS* **S** **23 38 57.2 -3.0**
DPC AMS AMS 00 01 50.0
HSPB Hornsund (broa 65.23 346 *eP* **P** **23 30 26.5 +1.6**
STON Ston 65.31 308 P **P** **23 30 25.3 -0.7**
UPC Upice 65.40 317 *eP* **P** **23 30 27.6 +1.1**
UPC Upice 65.40 317⇓*eP* **P** **23 30 27.6 +1.1**
SOP Sopron 65.40 313⇓*e* **P** **23 30 27.1 +0.6**
LOF Lofoten 65.49 336 *eP* **P** **23 30 26.9 +0.2**
KONS Konsvik 65.70 334 *eP* **P** **23 30 28.9 +0.9**
STOK Stokkvaagen 65.74 334 *eP* **P** **23 30 29.4 +1.1**
HFS Hagfors 65.79 327 S **S** **23 39 05.4 -1.2**
comp=Z,14nm,1.0s,baz=88,slow=14,SNR=8.1
CONA Conrad Observa 65.84 314 *i P* **P** **23 30 30.1 +0.6**
comp=Z,58nm,1.3s,SNR=36
TREC Trest 65.89 315⇓*iP* **P** **23 30 30.7 +1.0**
TREC *e*PP* **pP** **23 30 57.7 +1.4**
TREC MLR MLR
comp=Z,300nm,17.0s
TREC Trest 65.89 315⇓*iP* **P** **23 30 30.7 +1.0**
TREC *epP* **pP** **23 30 57.7 +1.4**
TREC AMS AMS 00 02 10.0
comp=Z,300nm,17.0s
KBS Kingsbay 66.12 348 *eP* **P** **23 30 31.9 +1.3**
KBS *eS* **S** **23 39 11.1 +1.0**
KBS Kingsbay 66.12 348 *eP* **P** **23 30 31.9 +1.3**
KBS *e*PP* **pP** **23 30 56.9 -0.3**
KBS Kingsbay 66.12 348 *eP* **P** **23 30 31.9 +1.3**
KBS *epP* **pP** **23 30 56.9 -0.3**
ARSA Arzberg 66.16 313 *i P* **P** **23 30 32.0 +0.6**
comp=Z,17nm,0.8s,SNR=14
CTA Charters Tower 66.18 126 P **P** **23 30 33.0 +1.1**
CTA pmax pmax
comp=Z,96nm,1.0s
CTA Charters Tower 66.18 126 P **P** **23 30 33.0 +1.1**
comp=Z,96nm,1.0s,baz=314,slow=8.6,SNR=34
CTAO Charters Tower 66.18 126 *eP* **P** **23 30 32.9 +1.1**
CTAO *e*PP* **pP** **23 30 57.3 -1.2**
CTAO pmax pmax
comp=Z,188nm,1.1s
CTAO Charters Tower 66.18 126 *eP* **P** **23 30 32.9 +1.1**
comp=Z,188nm,1.1s
CTAO *epP* **pP** **23 30 57.3 -1.2**
NSS Namsos 66.28 332 *eP* **P** **23 30 31.5 -0.3**
NSS *epP* **PcP** **23 30 59.9 -1.1**
PVCC Panska Ves 66.31 317⇓*iP* **P** **23 30 33.4 +1.1**
PVCC *e*PP* **PcP** **23 31 01.1 -0.3**
PVCC MLR MLR
comp=Z,500nm,14.9s
PVCC Panska Ves 66.31 317⇓*iP* **P** **23 30 33.4 +1.1**
PVCC *epP* **PcP** **23 31 01.1 -0.3**
PVCC AMS AMS 00 02 30.0
comp=Z,500nm,14.9s
PRU Pruhonice 66.41 316 *eP* **P** **23 30 33.8 +0.9**
PRU *e*PP* **PcP** **23 31 01.2 -0.6**
PRU *e* 23 34 38.1
PRU *eS* **S** **23 39 11.1 -3.4**
PRU MLR MLR
comp=Z,400nm,12.5s
PRU Pruhonice 66.41 316⇓*eP* **P** **23 30 33.8 +0.9**
PRU *epP* **PcP** **23 31 01.2 -0.6**
PRU *ex* x 23 33 33.6
PRU *ex* x 23 34 38.1
PRU *eS* **S** **23 39 11.1 -3.4**
PRU AMS AMS 00 02 30.0
comp=Z,400nm,12.5s
UDBI Udbina 66.43 310 P **P** **23 30 33.5 +0.2**
PRA Prague 66.46 316⇓*iP* **P** **23 30 34.4 +1.1**
PRA *e*PP* **PcP** **23 31 02.1 0.0**
PRA Prague 66.46 316⇓*iP* **P** **23 30 34.4 +1.1**
PRA *epP* **PcP** **23 31 02.1 0.0**
PERS Pernice 66.53 312 *i P* **P** **23 30 34.4 +0.6**
PERS *e* 23 31 02.0
PERS Pernice 66.53 312 *i P* **P** **23 30 34.4 +0.6**
RUE Ruedersdorf 66.54 319 *eP* **P** **23 30 34.4 +0.8**
RUE *epP* **PcP** **23 31 02.2 -0.1**
SOKA Soboth 66.58 312⇓*iP* **P** **23 30 34.9 +0.7**
comp=Z,24nm,1.0s,SNR=18
BOJS Bojanci 66.62 311 *eP* **P** **23 30 35.0 +0.7**
BOJS *e* 23 31 02.1
BOJS Bojanci 66.62 311 *eP* **P** **23 30 35.0 +0.7**
BRG Berggiesshubel 66.66 317⇓*iP* **P** **23 30 35.3 +0.9**
comp=Z,43nm,1.0s
BRG *i pP* **PcP** **23 31 02.7 -0.2**
comp=Z,169nm,1.5s
BRG PP **PP** **23 33 05.0 +2.7**
BRG Berggiesshubel 66.66 317⇓*iP* **P** **23 30 35.3 +0.9**
BRG *i *PP* **PcP** **23 31 02.7 -0.2**
BRG 23 33 05.0
BRG S **S** **23 39 20.0 +2.5**
BRG pmax pmax
comp=Z,43nm,1.0s
BRG Berggiesshubel 66.66 317 *eP* **P** **23 30 35.4 +0.9**
comp=Z,43nm,1.0s
BRG Berggiesshubel 66.66 317 *eL* L 00 01 56.6
comp=Z,369nm,21.4s
TIP Timpagrande 66.67 304 *eP* **P** **23 30 35.1 +0.2**
TIP *epP* **pP** **23 31 02.0 +0.4**
NC602 NORSAR Array S 66.80 328 *eP* **P** **23 30 35.6 +0.4**
NC602 *eS* **S** **23 39 18.0 -0.8**
VISS Visnje 66.86 312 *eP* **P** **23 30 36.6 +0.7**
VISS *e* 23 31 03.8
VISS Visnje 66.86 312 *eP* **P** **23 30 36.6 +0.7**
NB201 NORSAR Array S 66.88 328 *eP* **P** **23 30 35.9 +0.1**
NB201 *epP* **PcP** **23 31 04.0 +0.4**
MOA Molln 66.91 314⇑*iP* **P** **23 30 36.4 +0.2**
comp=Z,42nm,1.0s,SNR=17
NB2 NORSAR Subarra 66.92 328 P **P** **23 30 36.2 +0.2**
comp=Z,81nm,0.8s,baz=84,slow=6.5
NB2 NORSAR Subarra 66.92 328 P **P** **23 30 36.2 +0.2**
baz=84,slow=6.5
NOA NORSAR Array B 66.92 328 P **P** **23 30 36.6 +0.6**
NOA *PP **pP** **23 31 03.0 +0.3**
NOA 23 33 05.6
NOA S **S** **23 39 21.1 +0.7**
NOA pmax pmax
comp=Z,60nm,0.8s
NOA pmax pmax
comp=Z,7.0nm,0.8s
NOA smax smax
comp=N,3.0nm,1.1s
NOA MLR MLR
comp=Z,321nm,18.1s
NOA NORSAR Array B 66.92 328 P **P** **23 30 36.6 +0.6**
comp=Z,60nm,0.8s,baz=85,slow=6.3,SNR=33
NOA pP **pP** **23 31 03.0 +0.3**
comp=Z,86nm,0.9s,baz=84,slow=6.3,SNR=11
NOA PP **PP** **23 33 05.6 +1.2**
comp=Z,6.6nm,0.8s,baz=81,slow=8.4,SNR=3.2
NOA S **S** **23 39 21.1 +0.7**
comp=Z,3.1nm,1.1s,baz=89,slow=10,SNR=3.5
NOA LR LR 00 02 53.5
comp=Z,321nm,18.1s,baz=100,slow=38
OBKA Obir 66.94 312 *i P* **P** **23 30 37.2 +0.7**
comp=Z,21nm,0.9s,SNR=12
LJU Ljubljana 67.03 312 *eP* **P** **23 30 38.5 +1.5**
NVLJ Novalja 67.05 310 P **P** **23 30 36.9 -0.2**
LLD Lille Linde 67.08 322 *i P* **P** **23 30 38.3 +1.3**
LLD *i *PP* **PcP** **23 31 05.2 +0.7**
LLD Lille Linde 67.08 322 *i P* **P** **23 30 38.3 +1.3**
LLD *i pP* **PcP** **23 31 05.2 +0.7**
NBO02 NORSAR Array S 67.09 328 *eP* **P** **23 30 37.5 +0.4**
NBO02 *epP* **PcP** **23 31 05.0 +0.5**
GEC2 GERESS Array S 67.12 315 *eP* **P** **23 30 38.6 +1.0**
comp=Z,38nm,0.8s
GEC2 *esP* **pP** **23 31 05.7 +1.4**
GEC2 GERESS Array S 67.12 315 *epP* pP 23 31 06.5 +2.2
GERES GERESS Array B 67.12 315 P **P** **23 30 38.4 +0.8**
comp=Z,28nm,0.7s,baz=79,slow=5.9,SNR=195
GERES pP **PcP** **23 31 04.8 -0.2**
comp=Z,29nm,0.8s,baz=77,slow=5.9,SNR=15
GERES S **S** **23 39 24.1 +0.7**
comp=Z,0.3nm,0.7s,baz=71,slow=9.4,SNR=3.4
GERES LR LR 00 03 29.0
comp=Z,320nm,21.3s,baz=78,slow=39
GEB3 GERESS Array S 67.13 315 *eP* **P** **23 30 37.9 +0.2**
GEB3 *epP* **PcP** **23 31 06.3 +1.3**
KHC Kasperske Hory 67.16 315 *eP* **P** **23 30 38.3 +0.5**
KHC *e*PP* **PcP** **23 31 05.8 +0.8**
KHC *eS* **S** **23 39 21.4 -2.3**
KHC MLR MLR
comp=Z,300nm,19.5s
KHC Kasperske Hory 67.16 315⇓*eP* **P** **23 30 38.3 +0.5**
KHC *epP* **PcP** **23 31 05.8 +0.8**
KHC *ex* x 23 31 36.5
KHC *eS* **S** **23 39 21.4 -2.3**
KHC AMS AMS 00 01 20.0
comp=Z,300nm,19.5s
KHC Kasperske Hory 67.16 315 *eP* **P** **23 30 38.3 +0.5**
KHC *epP* **PcP** **23 31 05.9 +0.8**
CLL Collm 67.18 318⇓*iP* **P** **23 30 38.3 +0.5**
CLL *i *PP* **PcP** **23 31 05.2 +0.2**
CLL *eS* **S** **23 39 21.0 -2.8**
CLL pmax pmax
comp=Z,33nm,1.1s
CLL Collm 67.18 318 *eP* **P** **23 30 38.4 +0.6**
comp=Z,33nm,1.1s
CLL *esP* **pP** **23 31 05.6 +1.1**
CLL Collm 67.18 318⇓*iP* **P** **23 30 38.3 +0.5**
comp=Z,33nm,1.1s
CLL *i pP* **PcP** **23 31 05.2 +0.2**
comp=Z,78nm,1.3s
CLL *esP* **sP** **23 31 15.0 -1.2**
CLL *ePP* **PP** **23 33 06.0 -0.8**
CLL *ePPP* PPP 23 34 48.0
CLL *e*(PPPP) 23 35 54.0
CLL *eS* **S** **23 39 21.0 -2.8**
CLL *esS* **sS** **23 40 12.0 +2.4**
CLL *eSS* **SS** **23 43 42.0 -2.5**
CLL *esSS* 23 44 22.0
CLL *e* 23 45 42.0
CLL *eSSS* SSS 23 46 59.0
CLL Collm 67.18 318 *eP* **P** **23 30 38.1 +0.4**
CLL *epP* **PcP** **23 31 05.8 +0.8**
CUC Castrocucco 67.22 305 *eP* **P** **23 30 38.4 +0.1**
CUC *epP* **PcP** **23 31 05.5 0.0**
OSL Oslo 67.29 327 *eP* **P** **23 30 39.4 +1.1**
OSL IAmb IAmb 23 30 40.3
comp=Z,151nm,0.8s
OSL *epP* **pP** **23 31 04.0 -1.0**
JAVS Javornik 67.38 312 *i P* **P** **23 30 39.6 +0.3**
JAVS *e* 23 31 06.8
JAVS Javornik 67.38 312 *i P* **P** **23 30 39.6 +0.3**
CEL Celeste 67.52 303 *eP* **P** **23 30 41.0 +0.8**
CEL *epP* **pP** **23 31 08.1 +1.1**
MYKA Terra Mystica 67.53 313 *i P* **P** **23 30 40.4 +0.2**
comp=Z,9.4nm,0.7s,SNR=6.4
WET Wettzell 67.61 315 *eP* **P** **23 30 41.5 +0.9**
comp=Z,44nm,1.1s
WET Wettzell 67.61 315 *eL* L 00 03 21.3
comp=Z,377nm,21.1s
TRI Trieste 67.62 312 *eP* **P** **23 30 40.9 +0.3**
TRI *e* 23 31 07.7
TRI Trieste 67.62 312 *eP* **P** **23 30 40.9 +0.3**
TRI *ePcP* **pP** **23 31 07.7 +0.4**
KBA Koelnbreinsper 67.66 313⇑*iP* **P** **23 30 41.1 0.0**
comp=Z,28nm,0.9s,SNR=18
TANN Tannenbergstha 67.66 317 *eP* **P** **23 30 41.8 +0.9**
comp=Z,35nm,1.0s
TANN *esP* **pP** **23 31 09.0 +1.3**
KONO Kongsberg 67.89 327 *eP* **P** **23 30 42.7 +0.5**
KONO Kongsberg 67.89 327 *eP* **P** **23 30 42.6 +0.5**
KONO *e* 23 31 09.1
KONO Kongsberg 67.89 327 *eP* **P** **23 30 42.6 +0.5**
KONO *ePcP* **pP** **23 31 09.1 +0.3**
RJOB Jochberg 67.91 314 *eP* **P** **23 30 42.9 +0.4**
ROTZ Rotzenmuhle 67.93 316 *eP* **P** **23 30 44.1 +1.5**
comp=Z,92nm,1.0s
MOX Moxa 68.16 317 *eP* **P** **23 30 44.9 +0.9**
comp=Z,39nm,1.1s
BBOO Buckleboo 68.22 143 *eP* **P** **23 30 44.4 0.0**
comp=Z,672nm,0.9s
BBOO *ePcP* **PcP** **23 31 09.2 -0.3**
ABTA Abfaltersbach 68.28 313 *i P* **P** **23 30 44.4 -0.5**
comp=Z,28nm,1.2s,SNR=15
BSEG Bad Segeberg 68.38 321 *eP* **P** **23 30 46.7 +1.5**
comp=Z,75nm,0.9s
AQU L'Aquila 68.53 308 *eP* **P** **23 30 47.2 +0.7**
AQU *e* 23 31 09.2
AQU L'Aquila 68.53 308 *eP* **P** **23 30 47.2 +0.7**
AQU *ePcP* **PcP** **23 31 09.2 -1.7**
GRF Grafenberg Arr 68.58 316 *eP* **P** **23 30 48.0 +1.4**
GRF Grafenberg Arr 68.58 316 *eL* L 00 04 15.2
comp=Z,293nm,21.7s
GRFO Grafenberg 68.58 316 *eP* **P** **23 30 48.1 +1.5**
GRFO *e* 23 31 09.7
GRFO *e* 23 33 22.4
GRFO Grafenberg 68.58 316 *eP* **P** **23 30 48.1 +1.5**
GRFO *ePcP* **PcP** **23 31 09.7 -1.3**
GRFO *ePP* **PP** **23 33 22.4 +3.4**
MUD Monsted U'grnd 68.60 324⇑*iP* **P** **23 30 47.9 +1.3**
MUD pmax pmax
comp=Z,22nm,0.9s
MUD Monsted U'grnd 68.60 324⇑*iP* **P** **23 30 47.9 +1.3**
comp=Z,22nm,0.9s
HOMB Homborsund 68.66 326 *eP* **P** **23 30 47.3 +0.5**
CLZ Clausthal 68.71 319 *eP* **P** **23 30 48.5 +1.1**
comp=Z,64nm,0.9s
NRDL Niedersach Rie 68.75 319 *eP* **P** **23 30 48.8 +1.3**
comp=Z,78nm,1.3s
WTTA Wattenberg 68.77 314 *i P* **P** **23 30 48.0 0.0**
comp=Z,29nm,0.8s,SNR=19
AKN Aaknes 68.77 330 *eP* **P** **23 30 49.0 +1.4**
AKN *epP* **pP** **23 31 16.6 +2.3**
WATA Walderalm 68.79 314⇓*iP* **P** **23 30 47.8 -0.3**
comp=Z,23nm,0.9s,SNR=9.7
FUR Furstenfeldbru 68.83 315 *eP* **P** **23 30 49.1 +0.9**
comp=Z,78nm,1.3s
MOTA Moosalm 69.11 314⇓*iP* **P** **23 30 49.8 -0.3**
comp=Z,46nm,0.9s,SNR=33
RETA Reutte 69.30 314 *i P* **P** **23 30 51.5 +0.3**
comp=Z,77nm,1.6s,SNR=23
SNART Snartemo 69.32 326 *eP* **P** **23 30 52.2 +1.2**
SNART IAmb IAmb 23 30 53.0
comp=Z,25nm,0.8s
SNART *epP* **pP** **23 31 18.6 +0.8**
ODD1 Odda 69.33 327 *eP* **P** **23 30 52.0 +0.9**
ODD1 IAmb IAmb 23 30 53.9
comp=Z,38nm,0.7s
ODD1 *epP* **pP** **23 31 20.0 +2.0**
FETA Feichten 69.42 313 *i P* **P** **23 30 51.9 -0.2**
comp=Z,26nm,0.9s,SNR=16
BLS5 Blasjo 69.51 327 *eP* **P** **23 30 52.7 +0.6**
FUORN Ofenpass-Fuorn 69.82 313 *eP* **P** **23 30 54.8 +0.1**
comp=Z,36nm,1.0s
RUND Rundenannen 69.86 328 *eP* **P** **23 30 55.0 +0.6**
RUND *epP* **pP** **23 31 23.3 +2.2**
DAVA Damuels 69.93 314⇑*iP* **P** **23 30 55.2 0.0**
comp=Z,44nm,0.9s,SNR=15
STU Stuttgart 70.06 315 *eP* **P** **23 30 56.0 +0.3**
STU *e* 23 31 18.6
STU Stuttgart 70.06 315 *eP* **P** **23 30 56.8 +1.1**
comp=Z,74nm,1.1s
STU Stuttgart 70.06 315 *eL* L 00 05 13.4
comp=Z,213nm,19.9s
STU Stuttgart 70.06 315 *eP* **P** **23 30 56.0 +0.3**
STU *ePcP* **PcP** **23 31 18.6 +1.4**
IBBN Ibbenburen 70.20 319 *eP* **P** **23 30 57.6 +1.1**
comp=Z,48nm,1.1s
TNS Taunus Mts 70.22 317 *eP* **P** **23 30 57.7 +0.9**
comp=Z,52nm,0.9s
VLC Villacollemand 70.28 310 *eP* **P** **23 30 58.1 +0.9**
VLC *ePcP* **PcP** **23 31 18.4 +0.1**
TUE Stuetta 70.47 313 *eP* **P** **23 30 58.7 +0.2**
TUE *ePcP* **PcP** **23 31 19.6 +0.4**
BUG Bochum--Univer 70.69 319 *eP* **P** **23 31 00.5 +1.0**
comp=Z,44nm,1.0s
BFO Black Forest 70.72 315 P **P** **23 31 00.0 +0.2**
comp=Z,81nm,1.2s,SNR=8.3
BFO Black Forest 70.72 315 *eP* **P** **23 30 59.6 -0.2**
BFO *e*PP* **pP** **23 31 26.4 -0.3**
BFO Black Forest 70.72 315 *eP* **P** **23 31 00.3 +0.5**
BFO Black Forest 70.72 315 *eL* L 00 05 15.1
comp=Z,291nm,20.6s
BFO Black Forest 70.72 315 *eP* **P** **23 30 59.6 -0.2**
BFO *epP* **pP** **23 31 26.4 -0.3**
STKA Stephens Creek 70.75 139 *eP* **P** **23 31 00.4 +0.3**
STKA *e*PP* **pP** **23 31 25.2 -1.9**
STKA pmax pmax
comp=Z,21nm,1.0s
STKA Stephens Creek 70.75 139 P **P** **23 31 00.6 +0.5**
comp=Z,82nm,1.1s,baz=321,slow=6.3,SNR=62
STKA LR LR 00 06 54.6
comp=Z,224nm,19.1s,baz=314,slow=40
STKA Stephens Creek 70.75 139 *eP* **P** **23 31 00.3 +0.3**
comp=Z,21nm,1.0s
STKA *epP* **pP** **23 31 25.1 -1.9**
WTSB Winterswijk 70.85 319 *eP* **P** **23 31 01.5 +1.0**
comp=Z,43nm,0.8s
WTSB *epP* **pP** **23 31 28.5 +1.1**
LANF Langenberg 70.91 316 *eP* **P** **23 31 01.5 +0.6**
GAMB Gambell 71.19 28 *eP* **P** **23 31 01.7 -0.6**
comp=Z,154nm,2.3s
CDF Champ du Feu 71.38 315⇓*iP* **P** **23 31 04.3 +0.4**
comp=Z,53nm,0.9s
CDF *epP* **pP** **23 31 29.8 -1.1**
CDF Champ du Feu 71.38 315⇓*iP* **P** **23 31 04.3 +0.4**
CDF *e*PP* **pP** **23 31 29.8 -1.1**
CDF pmax pmax
comp=Z,53nm,0.9s
CDF Champ du Feu 71.38 315⇓*iP* **P** **23 31 04.3 +0.4**
comp=Z,53nm,0.9s
CDF *epP* **pP** **23 31 29.8 -1.1**
ECH Echery 71.51 315 *eP* **P** **23 31 04.3 -0.3**
MOF Molkenrain 71.61 315 *eP* **P** **23 31 05.4 +0.1**
HNR Honiara 71.61 109 P P 23 31 09.6 +4.0
HNR pmax pmax
comp=Z,209nm,0.9s
HNR Honiara 71.61 109 P P 23 31 09.6 +4.0
comp=Z,209nm,0.9s,baz=272,slow=4.0,SNR=6.2
HNR Honiara 71.61 109 *eP* **P** **23 31 05.7 0.0**
comp=Z,193nm,0.8s
PGF Pioggiola 71.65 309⇓*iP* **P** **23 31 06.2 +0.6**
comp=Z,112nm,1.0s
PGF *epP* **pP** **23 31 31.7 -0.9**
PGF Pioggiola 71.65 309⇓*iP* **P** **23 31 06.2 +0.6**
PGF *e*PP* **pP** **23 31 31.7 -0.9**
PGF pmax pmax
comp=Z,112nm,1.0s
PGF Pioggiola 71.65 309⇓*iP* **P** **23 31 06.2 +0.6**
comp=Z,112nm,1.0s
PGF *epP* **pP** **23 31 31.7 -0.9**
MEM Membach 71.66 318 P **P** **23 31 06.2 +0.9**
comp=Z,31nm,1.3s
MEM AP **pP** **23 31 33.5 +1.1**
MEM Membach 71.66 318 *eP* **P** **23 31 06.3 +0.9**
MEM *e*PP* **pP** **23 31 31.1 -1.2**
MEM Membach 71.66 318 *eP* **P** **23 31 06.2 +0.9**
MEM *epP* **pP** **23 31 31.1 -1.2**
HGN Heimansgroeve 71.66 318 *eP* **P** **23 31 06.1 +0.7**
comp=Z,16nm,0.9s
HGN *epP* **pP** **23 31 33.1 +0.7**
WLF Walferdange 71.80 317 P **P** **23 31 07.9 +1.7**
comp=Z,80nm,1.2s
WLF AP **pP** **23 31 33.6 +0.4**
WLF Walferdange 71.80 317 *eP* **P** **23 31 07.7 +1.5**
WLF *e*PP* **pP** **23 31 33.0 -0.2**
WLF Walferdange 71.80 317 *eP* **P** **23 31 07.9 +1.7**
comp=Z,133nm,1.0s
WLF Walferdange 71.80 317 *eP* **P** **23 31 07.7 +1.5**
WLF *epP* **pP** **23 31 33.0 -0.2**
HINF Hinteralfeld 71.80 315⇓*iP* **P** **23 31 06.6 +0.2**
comp=Z,38nm,1.1s
HINF Hinteralfeld 71.80 315⇓*iP* **P** **23 31 06.6 +0.2**
HINF pmax pmax
comp=Z,38nm,1.1s
HINF Hinteralfeld 71.80 315⇓*iP* **P** **23 31 06.6 +0.2**
comp=Z,38nm,1.1s
BEBN Eben Emael 71.81 318 P **P** **23 31 07.6 +1.3**
comp=Z,12nm,1.3s
BEBN AP **pP** **23 31 34.5 +1.2**
SENIN Lac Senin/Sane 71.87 313 *eP* **P** **23 31 07.2 +0.2**
SENIN *epP* **pP** **23 31 32.6 -1.4**
LOMF Lomont 71.94 314 *eP* **P** **23 31 06.9 -0.3**
HAU Haudompre 72.08 315 *eP* **P** **23 31 08.4 +0.4**
comp=Z,38nm,0.8s
HAU *epP* **pP** **23 31 34.0 -1.0**
HAU *eR*
comp=Z,344nm,20.2s
HAU Haudompre 72.08 315 *eP* **P** **23 31 08.4 +0.4**
HAU *e*PP* **pP** **23 31 34.0 -1.0**
HAU pmax pmax
comp=Z,38nm,0.8s
HAU Haudompre 72.08 315 *eP* **P** **23 31 08.4 +0.4**
comp=Z,38nm,0.8s
HAU *epP* **pP** **23 31 34.0 -1.0**
BCLA Clavier 72.14 318 P **P** **23 31 09.2 +1.0**
comp=Z,33nm,1.4s
BCLA AP **pP** **23 31 36.5 +1.2**
VSL Villasalto 72.17 306 *eP* **P** **23 31 09.6 +0.9**
VSL *epP* **pP** **23 31 35.2 -0.4**
THEF They Montfort 72.26 315 *eP* **P** **23 31 09.4 +0.3**
TNA Tin City 72.29 26 *eP* **P** **23 31 09.7 +0.8**
comp=Z,12nm,1.0s
SAOF Saorge 72.30 311 *eP* **P** **23 31 10.2 +0.8**
PAGF Fort de Pagny 72.35 316⇓*iP* **P** **23 31 10.4 +0.9**
comp=Z,24nm,0.9s
PAGF *epP* **pP** **23 31 36.0 -0.6**
PAGF Fort de Pagny 72.35 316⇓*iP* **P** **23 31 10.4 +0.9**
comp=Z,24nm,0.9s
PAGF *epP* **pP** **23 31 36.0 -0.6**
AUTN L'Aution 72.39 311 *eP* **P** **23 31 10.2 0.0**
SBF Sospel 72.42 311 *eP* **P** **23 31 10.6 +0.5**
comp=Z,95nm,1.0s
SBF *epP* **pP** **23 31 36.1 -1.1**
SBF Sospel 72.42 311 *eP* **P** **23 31 10.6 +0.5**
SBF *e*PP* **pP** **23 31 36.1 -1.1**
SBF pmax pmax
comp=Z,95nm,1.0s
SBF Sospel 72.42 311 *eP* **P** **23 31 10.6 +0.5**
comp=Z,95nm,1.0s
SBF *epP* **pP** **23 31 36.1 -1.1**
LPG La Plagne 72.46 313 *eP* **P** **23 31 11.5 +0.9**
comp=Z,87nm,0.9s
LPG *epP* **pP** **23 31 36.6 -1.1**
LPG La Plagne 72.46 313 *eP* **P** **23 31 11.5 +0.9**
LPG *e*PP* **pP** **23 31 36.6 -1.1**
LPG pmax pmax
comp=Z,87nm,0.9s
LPG La Plagne 72.46 313 *eP* **P** **23 31 11.5 +0.9**
comp=Z,87nm,0.9s
LPG *epP* **pP** **23 31 36.6 -1.1**
LPL La Plagne 72.47 313⇓*iP* **P** **23 31 11.5 +0.9**
comp=Z,62nm,0.8s
LPL *epP* **pP** **23 31 36.8 -0.9**
LPL La Plagne 72.47 313⇓*iP* **P** **23 31 11.5 +0.9**
LPL *e*PP* **pP** **23 31 36.8 -0.9**
LPL pmax pmax
comp=Z,62nm,0.8s
LPL La Plagne 72.47 313⇓*iP* **P** **23 31 11.5 +0.9**
comp=Z,62nm,0.8s
LPL *epP* **pP** **23 31 36.8 -0.9**
RSL Roselend 72.50 313 *eP* **P** **23 31 11.2 +0.5**
REVF Revere 72.50 311 *eP* **P** **23 31 10.9 +0.3**
TOUF Mont Tournerai 72.51 311 *eP* **P** **23 31 10.4 -0.4**
GIVF Givet 72.52 318 *eP* **P** **23 31 11.3 +0.8**
comp=Z,55nm,0.9s
GIVF Givet 72.52 318 *eP* **P** **23 31 11.3 +0.8**
GIVF pmax pmax
comp=Z,55nm,0.9s
GIVF Givet 72.52 318 *eP* **P** **23 31 11.3 +0.8**
comp=Z,55nm,0.9s
CABF La Chapelle 72.62 314⇓*iP* **P** **23 31 11.9 +0.6**
comp=Z,69nm,1.0s
CABF *epP* **pP** **23 31 37.5 -0.8**
CABF La Chapelle 72.62 314⇓*iP* **P** **23 31 11.9 +0.6**
CABF *e*PP* **pP** **23 31 37.5 -0.8**
CABF pmax pmax
comp=Z,69nm,1.0s
CABF La Chapelle 72.62 314⇓*iP* **P** **23 31 11.9 +0.6**
comp=Z,69nm,1.0s
CABF *epP* **pP** **23 31 37.5 -0.8**
UCC Uccle 72.62 318 P **P** **23 31 11.5 +0.4**
comp=Z,58nm,1.5s
BNI Bardonecchia 72.63 312 *eP* **P** **23 31 11.7 +0.3**
BNI pmax pmax
comp=Z,66nm,1.1s
BNI Bardonecchia 72.63 312 *eP* **P** **23 31 11.7 +0.3**
comp=Z,66nm,1.1s
MBDF Montbardon 72.65 312 *eP* **P** **23 31 11.4 -0.2**
comp=Z,40nm,0.8s
MBDF Montbardon 72.65 312 *eP* **P** **23 31 11.4 -0.2**
MBDF pmax pmax

comp=Z,40nm,0.8s
MBDF Montbardon 72.65 312 *e*P **P 23 31 11.4 -0.2**
comp=Z,40nm,0.8s
DOU Dourbes 72.66 318 P **P 23 31 12.1 +0.8**
comp=Z,26nm,1.5s
DOU AP **pP 23 31 38.2 -0.2**
SURF Saint Ours 72.69 311 *e*P **P 23 31 12.4 +0.5**
SNF Seneffe 72.74 318 P P 23 31 08.6 -3.2
SNF AP pP 23 31 36.1 -2.7
MEZF Maizieres J'vi 72.79 316⇓*i*P **P 23 31 13.0 +0.8**
comp=Z,126nm,0.9s
MEZF Maizieres J'vi 72.79 316⇓*i*P **P 23 31 13.0 +0.8**
comp=Z,126nm,0.9s
DAG Danmarks Havn 72.83 347⇑*i*P **P 23 31 12.2 +0.4**
comp=Z,35nm,0.9s
DAG *i* 23 31 39.2
SFTF Sexfontaines 72.88 316 *e*P **P 23 31 13.2 +0.5**
comp=Z,50nm,0.8s
SFTF *e*pP **pP 23 31 38.8 -1.0**
SFTF Sexfontaines 72.88 316 *e*P **P 23 31 13.2 +0.5**
comp=Z,50nm,0.8s
SFTF *e*pP **pP 23 31 38.8 -1.0**
EIDS Eidsvold 72.90 128 *e*P **P 23 31 14.1 +1.0**
comp=Z,103nm,1.0s
BAIF Baives 72.91 318⇓*i*P **P 23 31 13.7 +0.9**
comp=Z,86nm,1.0s
BAIF *e*pP **pP 23 31 39.3 -0.6**
BAIF Baives 72.91 318⇓*i*P **P 23 31 13.7 +0.9**
BAIF *e**PP **pP 23 31 39.3 -0.6**
BAIF pmax pmax
comp=Z,86nm,1.0s
BAIF Baives 72.91 318⇓*i*P **P 23 31 13.7 +0.9**
comp=Z,86nm,1.0s
BAIF *e*pP **pP 23 31 39.3 -0.6**
GDM Grand'Maison 72.97 312 *e*P **P 23 31 14.1 +0.6**
FRF La Foret Royal 73.05 311⇓*i*P **P 23 31 14.2 +0.4**
comp=Z,90nm,1.0s
FRF *e*pP **pP 23 31 39.9 -1.0**
FRF La Foret Royal 73.05 311⇓*i*P **P 23 31 14.2 +0.4**
FRF *e**PP **pP 23 31 39.9 -1.0**
FRF pmax pmax
comp=Z,90nm,1.0s
FRF La Foret Royal 73.05 311⇓*i*P **P 23 31 14.2 +0.4**
comp=Z,90nm,1.0s
FRF *e*pP **pP 23 31 39.9 -1.0**
LRW Lerwick 73.09 329 *e*P **P 23 31 14.7 +1.0**
LMR La Mourre 73.21 310 *e*P **P 23 31 15.3 +0.6**
comp=Z,95nm,1.0s
LMR *e*pP **pP 23 31 41.3 -0.5**
LMR La Mourre 73.21 310 *e*P **P 23 31 15.3 +0.6**
LMR *e**PP **pP 23 31 41.3 -0.5**
LMR pmax pmax
comp=Z,95nm,1.0s
LMR La Mourre 73.21 310 *e*P **P 23 31 15.3 +0.6**
comp=Z,95nm,1.0s
LMR *e*pP **pP 23 31 41.3 -0.5**
ORIF Oris-en-Rattie 73.21 312 *e*P **P 23 31 15.0 +0.2**
comp=Z,20nm,0.8s
ORIF *e*R
comp=Z,178nm,21.2s
ORIF Oris-en-Rattie 73.21 312 *e*P **P 23 31 15.0 +0.2**
ORIF pmax pmax
comp=Z,20nm,0.8s
ORIF Oris-en-Rattie 73.21 312 *e*P **P 23 31 15.0 +0.2**
comp=Z,20nm,0.8s
GRN Grenoble 73.21 312 *e*P **P 23 31 15.8 +1.0**
KEST Kesra 73.22 302 P **P 23 31 16.2 +1.2**
comp=Z,24nm,1.0s,baz=302,slow=1.8,SNR=39
KEST pP **pP 23 31 43.4 +1.3**
comp=Z,71nm,1.1s,baz=316,slow=0.1,SNR=16
KEST S **S 23 40 34.0 -0.9**
comp=Z,1.8nm,1.0s,baz=117,slow=24,SNR=5.9
KEST Kesra 73.22 302 *e*P **P 23 31 16.0 +0.9**
KEST *e*pP **pP 23 31 43.1 +1.0**
KEST S S 23 40 34.0 -0.9
SMRF Simiane la Rot 73.68 311 *e*P **P 23 31 18.4 +0.9**
comp=Z,30nm,0.9s
SMRF *e*pP **pP 23 31 44.1 -0.6**
SMRF Simiane la Rot 73.68 311 *e*P **P 23 31 18.4 +0.9**
comp=Z,30nm,0.9s
SMRF *e*pP **pP 23 31 44.1 -0.6**
LOR Lormes 73.90 315 *e*P **P 23 31 18.9 +0.1**
comp=Z,32nm,1.0s,baz=76
LOR *e*pP **pP 23 31 44.7 -1.2**
LOR *e*R
comp=Z,279nm,22.2s
LOR Lormes 73.90 315 *e*P **P 23 31 18.9 +0.1**
LOR *e**PP **pP 23 31 44.7 -1.2**
LOR pmax pmax
comp=Z,33nm,1.0s
LOR Lormes 73.90 315 *e*P **P 23 31 18.9 +0.1**
comp=Z,32nm,1.0s
LOR *e*pP **pP 23 31 44.7 -1.2**
SSB Saint Sauveur 74.02 313 *e*P **P 23 31 19.9 +0.4**
VIVF Saint-Julien-I 74.05 312⇓*i*P **P 23 31 20.2 +0.5**
comp=Z,77nm,1.1s
VIVF *e*pP **pP 23 31 45.8 -1.0**
VIVF Saint-Julien-I 74.05 312⇓*i*P **P 23 31 20.2 +0.5**
VIVF *e**PP **pP 23 31 45.8 -1.0**
VIVF pmax pmax
comp=Z,77nm,1.1s
VIVF Saint-Julien-I 74.05 312⇓*i*P **P 23 31 20.2 +0.5**
comp=Z,77nm,1.1s
VIVF *e*pP **pP 23 31 45.8 -1.0**
SMF Signal de Mont 74.09 314⇓*i*P **P 23 31 20.3 +0.4**
comp=Z,54nm,0.8s
SMF *e*pP **pP 23 31 46.2 -0.8**
SMF Signal de Mont 74.09 314⇓*i*P **P 23 31 20.3 +0.4**
SMF *e**PP **pP 23 31 46.2 -0.8**
SMF pmax pmax
comp=Z,54nm,0.8s
SMF Signal de Mont 74.09 314⇓*i*P **P 23 31 20.3 +0.4**
comp=Z,54nm,0.8s
SMF *e*pP **pP 23 31 46.2 -0.8**
SSF Saint Saulge 74.19 315⇓*i*P **P 23 31 21.0 +0.6**
comp=Z,97nm,1.0s
SSF *e*pP **pP 23 31 46.5 -1.1**
SSF Saint Saulge 74.19 315⇓*i*P **P 23 31 21.0 +0.6**
SSF *e**PP **pP 23 31 46.5 -1.1**
SSF pmax pmax
comp=Z,97nm,1.0s
SSF Saint Saulge 74.19 315⇓*i*P **P 23 31 21.0 +0.6**
comp=Z,97nm,1.0s
SSF *e*pP **pP 23 31 46.5 -1.1**
AVF Avril sur Loir 74.37 314⇓*i*P **P 23 31 21.9 +0.5**
comp=Z,90nm,1.1s
AVF *e*pP **pP 23 31 47.7 -0.9**
AVF Avril sur Loir 74.37 314⇓*i*P **P 23 31 21.9 +0.5**
AVF *e**PP **pP 23 31 47.7 -0.9**
AVF pmax pmax
comp=Z,90nm,1.1s
AVF Avril sur Loir 74.37 314⇓*i*P **P 23 31 21.9 +0.5**
comp=Z,90nm,1.1s
AVF *e*pP **pP 23 31 47.7 -0.9**
PLDF La Plantade 74.44 314 *e*P **P 23 31 22.1 +0.2**
CMAH Djebel Manchou 74.45 303 P **P 23 31 23.0 +0.8**
HYF Humbligny 74.70 315 *e*P **P 23 31 24.5 +1.2**
HYF *e*pP **pP 23 31 50.4 -0.1**
HYF Humbligny 74.70 315 *e*P **P 23 31 24.5 +1.2**
HYF *e*pP **pP 23 31 50.4 -0.1**
MLA1 Latheron 74.72 327⇑*e*P **P 23 31 24.6 +1.4**
AGO Saint Agoulin 74.74 314 *e*P **P 23 31 24.0 +0.4**
BGF Bois d'Agland 74.78 314 *e*P **P 23 31 24.3 +0.5**
comp=Z,26nm,0.8s
BGF *e*pP **pP 23 31 50.6 -0.4**
BGF Bois d'Agland 74.78 314 *e*P **P 23 31 24.3 +0.5**
BGF *e**PP **pP 23 31 50.6 -0.4**
BGF pmax pmax
comp=Z,20nm,0.8s
BGF Bois d'Agland 74.78 314 *e*P **P 23 31 24.3 +0.5**
comp=Z,20nm,0.8s
BGF *e*pP **pP 23 31 50.6 -0.4**
LASF Ste Croix 74.84 312 *e*P **P 23 31 25.1 +0.9**
comp=Z,83nm,1.0s
LASF Ste Croix 74.84 312 *e*P **P 23 31 25.1 +0.9**
comp=Z,83nm,1.0s
MCD Coleburn Disti 74.90 326⇑*e*P **P 23 31 25.6 +1.3**
LBL Lubilhac 74.91 313 *e*P **P 23 31 24.7 0.0**
PYM Petit Puy Mans 74.91 314 *e*P **P 23 31 24.6 -0.1**
CKFL Kef-Lekhel 75.06 303 P **P 23 31 26.6 +0.8**
ESY Stoneypath 75.11 325⇑*e*P **P 23 31 26.4 +0.8**
TCF Toulx Ste Croi 75.28 314 *e*P **P 23 31 27.7 +1.0**
comp=Z,109nm,1.1s
TCF Toulx Ste Croi 75.28 314 *e*P **P 23 31 27.7 +1.0**
TCF pmax pmax
comp=Z,109nm,1.1s
TCF Toulx Ste Croi 75.28 314 *e*P **P 23 31 27.7 +1.0**
comp=Z,109nm,1.1s
CASM Ain Smara 75.28 303 P **P 23 31 27.4 +0.4**
PAF Port-aux-Franc 75.28 196 S SKiKP 23 40 28.0 -11
PAF R 23 54 00.0
LSZ Lusaka 75.29 246 *e*P **P 23 31 28.2 +0.9**
LSZ pmax pmax
comp=Z,70nm,0.6s
LSZ Lusaka 75.29 246 *e*P **P 23 31 28.2 +0.9**
comp=Z,70nm,0.6s
FRNF Fournols 75.32 313 *e*P **P 23 31 28.4 +1.4**
EBL Broad Law 75.39 325⇑*e*P **P 23 31 28.2 +1.1**
LHO Holmfirth 75.47 322⇑*e*P **P 23 31 28.6 +0.9**
MDO Dochfour 75.51 327⇑*e*P **P 23 31 28.6 +0.8**
ESK Eskdalemuir 75.63 324 *e*P **P 23 31 29.3 +0.8**
ESK AMB AMB 23 31 33.5
comp=Z,37nm,2.9s
ESK Eskdalemuir 75.63 324 *e*P **P 23 31 28.8 +0.3**
ESK *e**PP **pP 23 31 52.6 -3.1**
ESK Eskdalemuir 75.63 324 *e*P **P 23 31 28.8 +0.3**
ESK *e*pP **pP 23 31 52.6 -3.1**
ECK Cauldkaine Hil 75.63 324⇑*e*P **P 23 31 28.5 -0.1**
DFRA Djebel Bou Aff 75.66 304 P **P 23 31 30.6 +1.4**
CAF Calviac 75.80 313 *e*P **P 23 31 30.7 +1.0**
comp=Z,50nm,0.9s
CAF *e*pP **pP 23 31 56.7 -0.3**
CAF Calviac 75.80 313 *e*P **P 23 31 30.7 +1.0**
CAF *e**PP **pP 23 31 56.7 -0.3**
CAF pmax pmax
comp=Z,50nm,0.9s
CAF Calviac 75.80 313 *e*P **P 23 31 30.7 +1.0**
comp=Z,50nm,0.9s
CAF *e*pP **pP 23 31 56.7 -0.3**
KESW Keswick, Cumbr 75.82 323 *e*P **P 23 31 30.8 +1.2**
KESW AMB AMB 23 31 30.8
comp=Z,61nm,1.7s
WOL Wolverton 75.84 320 *e*P **P 23 31 29.2 -0.5**
WOL AMB AMB 23 31 29.5
comp=Z,54nm,1.6s
EAB Aberfoyle 75.94 325⇑*e*P **P 23 31 31.3 +1.1**
KAC Achnashellach 75.97 327 *e*P **P 23 31 31.4 +1.0**
RJF Les Rejaudoux 76.05 313⇓*i*P **P 23 31 32.4 +1.3**
RJF *e*pP **pP 23 31 57.7 -0.7**
RJF *e*R
comp=Z,278nm,21.5s
RJF Les Rejaudoux 76.05 313⇓*i*P **P 23 31 32.4 +1.3**
RJF *e**PP **pP 23 31 57.7 -0.7**
RJF Les Rejaudoux 76.05 313⇓*i*P **P 23 31 32.4 +1.3**
RJF *e*pP **pP 23 31 57.7 -0.7**
LDF La Druitiere 76.05 317 *e*P **P 23 31 31.6 +0.6**
comp=Z,85nm,1.0s
LDF *e*pP **pP 23 31 57.8 -0.5**
LDF La Druitiere 76.05 317 *e*P **P 23 31 31.6 +0.6**
LDF *e**PP **pP 23 31 57.8 -0.5**
LDF pmax pmax
comp=Z,85nm,1.0s
LDF La Druitiere 76.05 317 *e*P **P 23 31 31.6 +0.6**
comp=Z,85nm,1.0s
LDF *e*pP **pP 23 31 57.8 -0.5**
SET Setif 76.14 304 P **P 23 31 33.0 +1.1**
PGBU Glenifferbraes 76.14 325 *e*P **P 23 31 32.8 +1.4**
PGBU AMB AMB 23 31 33.6
comp=Z,89nm,2.1s
MTLF Montolieu 76.20 311 *e*P **P 23 31 32.8 +0.8**
comp=Z,52nm,0.9s
MTLF *e*pP **pP 23 31 58.4 -0.9**
MTLF Montolieu 76.20 311 *e*P **P 23 31 32.8 +0.8**
MTLF *e**PP **pP 23 31 58.4 -0.9**
MTLF pmax pmax
comp=Z,52nm,0.9s
MTLF Montolieu 76.20 311 *e*P **P 23 31 32.8 +0.8**
comp=Z,52nm,0.9s
MTLF *e*pP **pP 23 31 58.4 -0.9**
KPL Plockton 76.20 327 *e*P **P 23 31 32.7 +1.0**
FLN La Foliniere 76.22 317⇓*i*P **P 23 31 32.4 +0.4**
FLN *e*pP **pP 23 31 59.3 0.0**
FLN *e*R
comp=Z,282nm,22.0s
FLN La Foliniere 76.22 317⇓*i*P **P 23 31 32.4 +0.4**
FLN *e**PP **pP 23 31 59.3 0.0**
FLN La Foliniere 76.22 317⇓*i*P **P 23 31 32.4 +0.4**
FLN *e*pP **pP 23 31 59.3 0.0**
STRD Stroud 76.24 321 *e*P **P 23 31 32.5 +0.6**
STRD AMB AMB 23 31 33.6
comp=Z,84nm,2.2s
ARMA Armidale 76.31 132 *e*P **P 23 31 34.7 +1.9**
comp=Z,34nm,0.8s
HLM1 Long Mynd 76.40 321 *e*P **P 23 31 32.4 -0.6**
HLM1 AMB AMB 23 31 35.0
comp=Z,47nm,2.1s
BATH Bath 76.45 320 *e*P **P 23 31 33.7 +0.5**
FOEL Foel Wylfa 76.45 322 *e*P **P 23 31 33.6 +0.4**
FOEL AMB AMB 23 31 35.5
comp=Z,31nm,1.0s
OLDB Oldbury-Upon-S 76.50 321 *e*P **P 23 31 34.1 +0.6**
OLDB AMB AMB 23 31 34.7
comp=Z,42nm,1.0s
GRR Gorron 76.58 317 *e*P **P 23 31 34.6 +0.6**
comp=Z,53nm,1.0s
GRR Gorron 76.58 317 *e*P **P 23 31 34.6 +0.6**
GRR pmax pmax
comp=Z,53nm,1.0s
GRR Gorron 76.58 317 *e*P **P 23 31 34.6 +0.6**
comp=Z,53nm,1.0s
MONM Monmouth 76.59 321 *e*P **P 23 31 34.2 +0.2**
MONM AMB AMB 23 31 36.7
comp=Z,43nm,2.0s
GAL1 Galloway 76.60 324 *e*P **P 23 31 33.6 -0.4**
MCH1 Michaelchurch 76.65 321 *e*P **P 23 31 33.4 -0.9**
MCH1 AMB AMB 23 31 40.3
comp=Z,38nm,2.2s
LFF La Frestale 76.69 313⇓*i*P **P 23 31 35.9 +1.2**
comp=Z,76nm,0.9s
LFF *e*pP **pP 23 32 01.9 -0.1**
LFF La Frestale 76.69 313⇓*i*P **P 23 31 35.9 +1.2**
LFF *e**PP **pP 23 32 01.9 -0.1**
LFF pmax pmax
comp=Z,76nm,0.9s
LFF La Frestale 76.69 313⇓*i*P **P 23 31 35.9 +1.2**
comp=Z,76nm,0.9s
LFF *e*pP **pP 23 32 01.9 -0.1**
MFF Saint Martin d 76.72 315 *e*P **P 23 31 35.4 +0.5**
comp=Z,18nm,0.8s
MFF *e*pP **pP 23 32 01.9 -0.3**
MFF Saint Martin d 76.72 315 *e*P **P 23 31 35.4 +0.5**
MFF *e**PP **pP 23 32 01.9 -0.3**
MFF pmax pmax
comp=Z,19nm,0.8s
MFF Saint Martin d 76.72 315 *e*P **P 23 31 35.4 +0.5**
comp=Z,18nm,0.8s
MFF *e*pP **pP 23 32 01.9 -0.3**
WPM1 Penmaenmawr 76.72 322⇑*e*P **P 23 31 35.9 +1.1**
WME Myndd Eilian 76.90 323 *e*P **P 23 31 34.4 -1.2**
YLL Llanberis 76.92 322⇑*e*P **P 23 31 36.9 +1.1**
WLF1 Llynfaes 76.99 323 *e*P **P 23 31 37.2 +1.0**
WLF1 AMB AMB 23 31 38.4
comp=Z,40nm,0.9s
YRC Rhoscolyn 77.10 323 *e*P **P 23 31 38.4 +1.5**
YRE Yr Eifl 77.12 322⇑*e*P **P 23 31 38.2 +1.3**
LPW Lampeter 77.22 321 *e*P **P 23 31 38.6 +1.1**
LPW AMB AMB 23 31 40.2
comp=Z,42nm,1.0s
MSNA Messina 77.34 239 *e*P **P 23 31 39.6 +0.9**
MSNA AMB AMB 23 31 40.2
comp=Z,72nm,0.8s
IM04 Indian Mountai 77.51 23 *e*P **P 23 31 39.1 +0.1**
MATP Matopo 77.58 241 *i*P **P 23 31 41.4 +1.2**
MATP *i* 23 31 41.5
baz=60,slow=5.6
MATP *i*S PcP 23 31 56.8 +6.8
EPF Esparros 77.59 312 *e*P **P 23 31 40.5 +0.6**
comp=Z,17nm,0.8s
EPF Esparros 77.59 312 *e*P **P 23 31 40.5 +0.6**
EPF pmax pmax
comp=Z,17nm,0.8s
EPF Esparros 77.59 312 *e*P **P 23 31 40.5 +0.6**
comp=Z,17nm,0.8s
SGMF Saint Gilles 77.69 317 *e*P **P 23 31 41.2 +1.0**
comp=Z,59nm,0.7s
SGMF *e*pP **pP 23 32 06.7 -0.9**
SGMF Saint Gilles 77.69 317 *e*P **P 23 31 41.2 +1.0**
SGMF *e**PP **pP 23 32 06.7 -0.9**
SGMF pmax pmax
comp=Z,59nm,0.7s
SGMF Saint Gilles 77.69 317 *e*P **P 23 31 41.2 +1.0**
comp=Z,59nm,0.7s
SGMF *e*pP **pP 23 32 06.7 -0.9**
ABA Alger-Bouzarea 77.74 305 P **P 23 31 41.9 +1.1**
DYA Yadsworthy 77.75 320 *e*P **P 23 31 40.0 -0.5**
DYA AMB AMB 23 31 41.0
comp=Z,38nm,1.6s
HTL Hartland 77.87 320 *e*P **P 23 31 41.4 +0.2**
EMHD Djebel Mahouad 78.01 304 P **P 23 31 44.5 +2.1**
ROSF Rostrenen 78.11 318 *e*P **P 23 31 43.5 +0.9**
comp=Z,67nm,0.7s
ROSF *e*pP **pP 23 32 08.9 -1.0**
ROSF Rostrenen 78.11 318 *e*P **P 23 31 43.5 +0.9**
ROSF *e**PP **pP 23 32 08.9 -1.0**
ROSF pmax pmax
comp=Z,67nm,0.7s
ROSF Rostrenen 78.11 318 *e*P **P 23 31 43.5 +0.9**
comp=Z,67nm,0.7s
ROSF *e*pP **pP 23 32 08.9 -1.0**
DSB Dublin 78.11 323 *e*P **P 23 31 41.5 -1.0**
comp=Z,74nm,1.7s
COLD Coldfoot 78.11 21 *e*P **P 23 31 42.6 +0.4**
COLD *e*pP **pP 23 32 09.8 +0.2**
QUIF Quistinic 78.19 317 *e*P **P 23 31 43.5 +0.5**
QUIF *e*pP **pP 23 32 09.1 -1.3**
QUIF Quistinic 78.19 317 *e*P **P 23 31 43.5 +0.5**
QUIF *e**PP **pP 23 32 09.1 -1.3**
QUIF Quistinic 78.19 317 *e*P **P 23 31 43.5 +0.5**
QUIF *e*pP **pP 23 32 09.1 -1.3**
ETSF Etsaut 78.26 312 *e*P **P 23 31 44.8 +1.2**
comp=Z,48nm,0.9s
ETSF Etsaut 78.26 312 *e*P **P 23 31 44.8 +1.2**
ETSF pmax pmax
comp=Z,48nm,0.9s
ETSF Etsaut 78.26 312 *e*P **P 23 31 44.8 +1.2**
comp=Z,48nm,0.9s
LARF Larrau 78.50 312 *e*P **P 23 31 46.6 +1.7**
SJPF Ste Jean 78.64 312 *e*P **P 23 31 47.1 +1.5**
comp=Z,56nm,1.0s
SJPF Ste Jean 78.64 312 *e*P **P 23 31 47.1 +1.5**
SJPF pmax pmax
comp=Z,56nm,1.0s
SJPF Ste Jean 78.64 312 *e*P **P 23 31 47.1 +1.5**
comp=Z,56nm,1.0s
EBNR Beni Rached 79.06 305 P **P 23 31 49.7 +1.6**
SVW2 Sparrevohn 79.13 28 *e*P **P 23 31 48.3 +0.4**
comp=Z,20nm,1.0s
ECHA Ech Chlef 79.23 305 P **P 23 31 51.0 +2.1**
CAST Castle Rocks 79.42 25 *e*P **P 23 31 48.3 -1.2**
CAST *e*pP **pP 23 32 18.5 +1.6**
EANR 'Ain N'Sour 79.50 305 P **P 23 31 52.3 +1.8**
SUMG Summit 79.52 347⇑*i*P **P 23 31 51.5 +1.2**
SUMG *i* 23 32 19.4
SUMG pmax pmax
comp=Z,32nm,1.0s
SUMG Summit 79.52 347⇑*i*P **P 23 31 51.5 +1.2**
comp=Z,32nm,1.0s
SUMG *i* 23 32 19.4
SUMG Summit 79.52 347 *e*P **P 23 31 51.1 +0.8**
SUMG *e*pP **pP 23 32 17.0 -0.8**
ETRT Tiaret 79.55 304 P **P 23 31 53.5 +2.6**
PPLA Purkeypile 79.64 25 *e*P **P 23 31 50.5 -0.4**
comp=Z,33nm,1.1s
KTH Kantishna Hill 79.79 24 *e*P **P 23 31 53.1 +1.6**
comp=Z,21nm,1.2s
TRF Thorofare Moun 80.09 24 *e*P **P 23 31 52.5 -0.8**
comp=Z,21nm,1.2s
COLA College 80.20 23⇓*e*P **P 23 31 53.7 +0.1**
COLA pmax pmax
comp=Z,55nm,1.2s
COLA College 80.20 23 *e*P **P 23 31 53.1 -0.5**
comp=Z,16nm,0.8s
MCK McKinley 80.44 24 *e*P **P 23 31 54.7 -0.3**
MCK pmax pmax
comp=Z,21nm,1.0s
MCK McKinley 80.44 24 *e*P **P 23 31 54.7 -0.3**
comp=Z,20nm,1.0s
SLR Silverton 80.46 237 *e*P **P 23 31 56.9 +1.1**
SLR AMB AMB 23 31 57.7
comp=Z,99nm,1.0s
IL1 Eielson Array 80.60 22 *e*P **P 23 31 54.4 -1.4**
IL1 *e*pP **pP 23 32 21.3 -2.0**
ILAR Eielson Array 80.60 22 P **P 23 31 54.5 -1.3**
comp=Z,3.5nm,1.0s,baz=298,slow=5.0,SNR=26
ILAR PKKPbc **PKKPbc 23 50 34.8 -2.0**
comp=Z,1.5nm,0.8s,baz=164,slow=2.4,SNR=14
ILAR LR LR 00 11 02.9
comp=Z,95nm,18.2s,baz=316,slow=38
ILB Eielson Array 80.60 22 *e*P **P 23 31 55.9 +0.1**
RSO Redoubt South 80.65 28 *e*P **P 23 31 55.8 -0.6**
ERPM east rand prop 80.81 236 *e*P **P 23 31 58.0 +0.3**
ERPM AMB AMB 23 31 58.8
comp=Z,41nm,1.2s
OBSV Observatory 80.85 237 *e*P **P 23 31 58.9 +0.9**
OBSV AMB AMB 23 31 59.3
comp=Z,48nm,1.1s
KULLO Kullorsuaq 80.91 353⇑*i*P **P 23 31 57.9 +0.7**
KULLO *i* 23 32 25.7
KULLO pmax pmax
comp=Z,76nm,1.1s
KULLO Kullorsuaq 80.91 353⇑*i*P **P 23 31 57.9 +0.7**
comp=Z,76nm,1.1s
KULLO *i* 23 32 25.7
CRWM Crown Mines 80.92 237 *e*P **P 23 31 58.8 +0.5**
CRWM AMB AMB 23 31 59.8
comp=Z,48nm,1.0s
KLOF Kloof 81.29 237 *e*P **P 23 32 01.2 +0.9**
KLOF AMB AMB 23 32 01.8
comp=Z,60nm,0.8s
WDLM Western Deep L 81.48 237 *e*P **P 23 32 02.2 +0.9**
WDLM AMB AMB 23 32 02.6
comp=Z,28nm,1.0s
PMR Palmer 81.55 26 *e*P **P 23 32 00.3 -0.5**
PMR *e**PP **pP 23 32 25.8 -2.6**
PMR Palmer 81.55 26 *e*P **P 23 32 00.3 -0.5**
PMR *e*pP **pP 23 32 25.8 -2.6**
RC01 Rabbit Creek A 81.58 26 *e*P **P 23 31 59.9 -1.1**
comp=Z,22nm,0.8s
KSR Koster 81.59 237 *e*P **P 23 32 02.9 +1.1**
KSR AMB AMB 23 32 03.4
comp=Z,53nm,1.0s
TAU Tasmania Unive 81.63 144 *e*P **P 23 32 01.8 +0.4**
TAU pmax pmax
comp=Z,85nm,1.4s
TAU Tasmania Unive 81.63 144 *e*P **P 23 32 01.8 +0.4**
comp=Z,85nm,1.4s
ES19 SONSECA Array 81.78 310 *e*P **P 23 32 03.3 +0.7**
ES19 *e*pP **pP 23 32 29.4 -0.8**
ES19 *e*PP **PP 23 35 10.3 -0.4**
PRYS Parys 81.78 236 *e*P **P 23 32 03.1 +0.3**
PRYS AMB AMB 23 32 03.8
comp=Z,23nm,1.6s
ESDC Sonseca Array 81.84 310 P **P 23 32 04.0 +1.2**
comp=Z,6.3nm,0.7s,baz=51,slow=5.1,SNR=33
ESDC pP **pP 23 32 30.0 -0.5**
comp=Z,17nm,0.9s,baz=55,slow=5.2,SNR=9.6
ESDC PP **PP 23 35 11.8 +0.7**
comp=Z,9.6nm,1.1s,baz=60,slow=7.6,SNR=4.8
ESDC LR LR 00 16 56.8
comp=Z,62nm,18.8s,baz=80,slow=42
OHAK Old Harbor 82.06 31 *e*P **P 23 32 03.1 -0.5**
comp=Z,40nm,1.0s
KDAK Kodiak Island 82.10 30 *e*P **P 23 32 03.4 -0.4**
KDAK pmax pmax
comp=Z,141nm,1.6s
KDAK Kodiak Island 82.10 30 *e*P **P 23 32 03.4 -0.4**
comp=Z,141nm,1.6s
KSD Kokstad 82.14 232 *e*P **P 23 32 05.2 +0.6**
KSD AMB AMB 23 32 18.5
comp=Z,30nm,3.8s
PAB San Pablo 82.16 310 *e*P **P 23 32 05.7 +1.1**
PAB pmax pmax
comp=Z,21nm,1.0s
PAB San Pablo 82.16 310 *e*P **P 23 32 05.7 +1.1**
comp=Z,21nm,1.0s
PAX Paxson 82.16 24 *e*P **P 23 32 03.4 -0.8**
PAX pmax pmax
comp=Z,17nm,1.0s
PAX Paxson 82.16 24 *e*P **P 23 32 03.4 -0.8**
comp=Z,17nm,1.0s
DOT Dot Lake 82.26 23 *e*P **P 23 32 04.8 +0.2**
DOT *e*pP **pP 23 32 28.6 -3.7**
SEK Senekal 82.30 235 *e*P **P 23 32 06.3 +0.8**
SEK AMB AMB 23 32 06.7

comp=Z,64nm,1.1s
RES Resolute Bay 82.30 3 *e*P **P 23 32 04.6 +0.1**
RES *e**PP **pP 23 32 33.2 +1.0**
RES Resolute Bay 82.30 3 *e*P **P 23 32 04.6 +0.1**
RES *ep*P **pP 23 32 33.2 +1.0**
MSKU Masuku 82.34 265 *e*P **P 23 32 05.9 0.0**
MSKU *ep*P **pP 23 32 33.1 -0.4**
MSKU *e*PP **PP 23 35 17.6 +1.4**
MSKU *e*S **S 23 42 10.4 -3.1**
MSKU *e*ScS **SKSac 23 42 11.0 -6.5**
INK Inuvik 82.37 16 P **P 23 32 05.1 +0.2**
comp=Z,8.2nm,0.8s,baz=342,slow=6.6,SNR=28
INK pP **pP 23 32 33.5 +0.9**
comp=Z,32nm,0.8s,baz=316,slow=8.6,SNR=8.5
INK Inuvik 82.37 16 *e*P **P 23 32 04.3 -0.6**
INK *ep*P **pP 23 32 33.1 +0.5**
EGAK Eagle 82.55 21 *e*P **P 23 32 05.5 -0.5**
comp=Z,24nm,1.0s
MENT Mentasta 82.82 23 *e*P **P 23 32 07.9 +0.4**
DZM Mont Dzumac 83.08 117 P **P 23 32 11.2 +1.6**
comp=Z,24nm,1.0s,baz=308,slow=7.1,SNR=3.6
DIV Divide 83.14 25 *e*P **P 23 32 08.8 -0.4**
comp=Z,18nm,0.8s
MVO Moncorvo 83.37 312 *e*P **P 23 32 12.5 +1.6**
comp=Z,32nm,0.8s
MVO pP **pP 23 32 40.0 +1.5**
SWZ Schweizer 83.47 237 *e*P **P 23 32 11.7 +0.1**
SWZ AMB AMB 23 32 13.3
comp=Z,93nm,3.1s
DAWY Dawson 83.59 21 *e*P **P 23 32 11.2 -0.4**
BMRM Bremner River 83.70 25 *e*P **P 23 32 12.5 +0.4**
comp=Z,66nm,0.9s
PVRL Vila Real 83.80 312 *e*P **P 23 32 14.7 +1.7**
comp=Z,25nm,1.8s
POLO Lamas de Olo 83.81 312 *e*P **P 23 32 12.2 -0.9**
comp=Z,16nm,1.3s
PCAB Cabril 83.82 313 *e*P **P 23 32 15.8 +2.7**
comp=Z,65nm,1.6s
PCAB pP **pP 23 32 40.5 -0.3**
RAGM Ragged Mountai 84.02 25 *e*P **P 23 32 12.5 -1.3**
comp=Z,143nm,1.7s
MTE Manteigas 84.05 311 *e*P **P 23 32 16.4 +2.1**
comp=Z,34nm,1.1s
MTE Manteigas 84.05 311 *e*P **P 23 32 16.1 +1.7**
comp=Z,71nm,1.5s
PVIS Viseu 84.16 312 *e*P **P 23 32 16.9 +2.1**
comp=Z,39nm,1.8s
PVIS pP **pP 23 32 43.3 +0.7**
BOSA Boshof 84.24 236⇑*i*P **P 23 32 16.2 +0.7**
BOSA AMB AMB 23 32 16.6
comp=Z,124nm,0.9s
BOSA Boshof 84.24 236 P **P 23 32 16.1 +0.7**
BOSA *PP **pP 23 32 44.2 +1.0**
BOSA pmax pmax
comp=Z,112nm,0.8s
BOSA MLR MLR
comp=Z,130nm,19.0s
BOSA Boshof 84.24 236 P **P 23 32 16.1 +0.7**
comp=Z,112nm,0.8s,baz=62,slow=4.2,SNR=133
BOSA pP **pP 23 32 44.2 +1.0**
comp=Z,57nm,0.9s,baz=60,slow=4.4,SNR=4.6
BOSA LR LR 00 09 16.8
comp=Z,130nm,18.9s,baz=54,slow=35
BOSA Boshof 84.24 236 *i* P **P 23 32 16.4 +1.0**
BOSA *i* 23 32 16.4
baz=24,slow=7.4
BOSA *i* S **pP 23 32 43.5 +0.3**
BOSA Boshof 84.24 236 *e*P **P 23 32 16.0 +0.5**
comp=Z,124nm,0.9s
BOSA *ep*P **pP 23 32 43.4 +0.3**
PCBR Castelo Branco 84.24 311 *e*P **P 23 32 16.7 +1.5**
comp=Z,29nm,1.3s
PCBR pP **pP 23 32 44.3 +1.4**
PMRV Marv??o 84.36 310 *e*P **P 23 32 17.4 +1.6**
comp=Z,32nm,1.0s
PMRV pP **pP 23 32 43.4 -0.2**
PBAR Barrancos 84.64 309 *e*P **P 23 32 18.9 +1.7**
comp=Z,89nm,1.7s
PBAR pP **pP 23 32 45.6 +0.6**
ILULI Ilulissat 84.71 348⇑*i*P **P 23 32 17.0 +0.1**
ILULI *i* 23 32 45.0
ILULI pmax pmax
comp=Z,23nm,0.9s
ILULI Ilulissat 84.71 348⇑*i*P **P 23 32 17.0 +0.1**
comp=Z,23nm,0.9s
ILULI *i* 23 32 45.0
PCAS Casmilo, Conde 84.86 311 *e*P **P 23 32 20.7 +2.4**
comp=Z,41nm,2.3s
PTOM Tomar 84.99 311 *e*P **P 23 32 20.9 +1.9**
comp=Z,59nm,1.2s
HVD Gariep Dam 85.06 234 *e*P **P 23 32 20.5 +1.0**
HVD AMB AMB 23 32 20.9
comp=Z,102nm,1.1s
PMTG Montargil 85.09 310 *e*P **P 23 32 21.1 +1.6**
comp=Z,24nm,1.5s
PMTG pP **pP 23 32 47.0 -0.3**
EVO Evora 85.18 310 *e*P **P 23 32 21.6 +1.7**
comp=Z,34nm,1.5s
EVO pP **pP 23 32 49.0 +1.3**
PVAQ Vaqueiros 85.45 309 *e*P **P 23 32 23.0 +1.7**
comp=Z,63nm,0.9s
PVAQ pP **pP 23 32 50.0 +0.9**
MESJ Messejana 85.62 309 *e*P **P 23 32 23.7 +1.6**
MESJ AMb AMB 23 32 25.2
comp=Z,59nm,1.0s
MESJ *e*S S 23 42 37.8 -7.8
MESJ Messejana 85.62 309 *e*P **P 23 32 24.0 +1.9**
comp=Z,58nm,1.0s
MESJ pP **pP 23 32 51.6 +1.6**
MESJ Messejana 85.62 309 *e*P **P 23 32 23.7 +1.6**
MESJ *e*S S 23 42 37.8 -7.8
PBDV Barranco-do-Ve 85.67 309 *e*P **P 23 32 24.5 +2.0**
comp=Z,79nm,1.3s
PBDV pP **pP 23 32 52.3 +2.0**
GRM Grahamstown 85.69 231 *e*P **P 23 32 23.0 +0.5**
GRM AMB AMB 23 32 24.3
comp=Z,48nm,0.8s
PNCL Nicolau / Gran 85.72 310 *e*P **P 23 32 24.5 +1.9**
comp=Z,49nm,0.9s
PNCL pP **pP 23 32 52.4 +1.9**
PMAFR Mafra 85.89 311 *e*P **P 23 32 25.0 +1.6**
comp=Z,84nm,1.2s
PMAFR pP **pP 23 32 53.1 +1.8**
TSUM Tsumeb 86.07 247 *e*P **P 23 32 25.3 +0.6**
TSUM *ep*P **pP 23 32 52.3 -0.3**
PTEO Sao Teotonio 86.11 309 *e*P **P 23 32 26.7 +2.1**
comp=Z,59nm,1.0s
MORF Marmelete 86.16 309 *e*P **P 23 32 26.4 +1.5**
MORF AMb AMB 23 32 28.7
comp=Z,60nm,2.2s
MORF Marmelete 86.16 309 *e*P **P 23 32 27.5 +2.6**
comp=Z,45nm,1.9s
MORF pP **pP 23 32 53.5 +0.8**
MORF Marmelete 86.16 309 *e*P **P 23 32 26.4 +1.5**
PFVI Vila Bisbo 86.37 309 *e*P **P 23 32 28.0 +2.2**
comp=Z,103nm,1.6s
PFVI pP **pP 23 32 54.0 +0.3**
HYT Haines Junctio 86.44 23 *e*P **P 23 32 25.7 -0.1**
HYT *ep*P **pP 23 32 54.4 +0.7**
SFJD Kangerlussuaq 86.51 347⇑*i*P **P 23 32 26.2 +0.3**
SFJD *i* *PP **pP 23 32 53.8 0.0**
SFJD pmax pmax
comp=Z,25nm,1.0s
SFJD Kangerlussuaq 86.51 347⇑*i*P **P 23 32 26.2 +0.3**
comp=Z,25nm,1.0s
SFJD *i* pP **pP 23 32 53.8 0.0**
SFJD Kangerlussuaq 86.51 347 *e*P **P 23 32 25.8 -0.1**
SFJD *ep*P **pP 23 32 52.9 -0.9**
BUFB Buffelsbos 87.39 231 *e*P **P 23 32 30.1 -0.5**
BUFB AMB AMB 23 32 31.6
comp=Z,1.8nm,0.9s
TOA0 Torodi Ar. Sit 87.55 283 *e*P **P 23 32 33.1 +1.2**
TOA0 *e*PP **PP 23 35 55.7 -2.6**
TOA0 *e*S **S 23 43 08.7 +3.8**
TORD Torodi Ar. Bea 87.55 283 P **P 23 32 33.1 +1.2**
comp=Z,12nm,0.9s,baz=61,slow=3.8,SNR=59
TORD pP **pP 23 32 59.6 -0.2**
comp=Z,20nm,1.1s,baz=55,slow=5.0,SNR=5.4
TORD PP **PP 23 35 55.8 -2.4**
comp=Z,16nm,1.0s,baz=63,slow=6.5,SNR=6.6
TORD S **SKSac 23 42 47.2 -3.4**
comp=Z,2.6nm,1.1s,baz=46,slow=5.1,SNR=4.5
TORD ScS **S 23 43 05.4 +0.5**
comp=Z,6.3nm,1.2s,baz=77,slow=8.5,SNR=11
TORD PKKPbc **PKKPbc 23 50 20.6 +1.4**
comp=Z,0.4nm,0.6s,baz=311,slow=2.9,SNR=3.7
WIN Windhoek 87.94 245 *e*P **P 23 32 35.2 +1.4**
WIN AMB AMB 23 32 35.8
comp=Z,14nm,1.1s
SKAG Skagway 88.17 23 *e*P **P 23 32 33.8 -0.2**
SKAG *ep*P **pP 23 32 59.4 -2.6**
SKAG *e*S **S 23 43 12.8 +3.5**
SUR Sutherland 89.41 234 P **P 23 32 41.1 +0.6**
comp=Z,260nm,0.9s,SNR=5.6
SUR Sutherland 89.41 234 *e*P **P 23 32 40.9 +0.4**
comp=Z,38nm,0.9s
CASY Casey 89.88 174 *e*P **P 23 32 41.6 0.0**
comp=Z,170nm,1.8s
DLBC Dease Lake 90.78 22 *e*P **P 23 32 47.3 +0.9**
comp=Z,72nm,1.8s
YKA Yellowknife Ar 91.63 13 P **P 23 32 49.5 -0.6**
comp=Z,1.4nm,0.7s,baz=328,slow=4.5,SNR=30
YKA pP **pP 23 33 17.8 -0.3**
comp=Z,5.6nm,0.8s,baz=329,slow=4.7,SNR=9.3
YKA S **SKSac 23 43 08.7 -4.0**
comp=Z,0.2nm,0.8s,baz=335,slow=5.7,SNR=2.5
YKA PKKPbc **PKKPdf 23 50 08.0 +2.0**
comp=Z,2.2nm,0.8s,baz=154,slow=2.4,SNR=6.2
YKA SKKPbc **SKKPbc 23 53 35.9 -0.9**
comp=Z,0.1nm,0.4s,baz=147,slow=2.6,SNR=5.1
YKA PKPPKP P'P'df 23 58 14.7 -5.4
comp=Z,0.8nm,0.8s,baz=150,slow=2.8,SNR=6.2
MAW Mawson 93.41 192 LR LR 00 10 12.9
comp=Z,225nm,18.5s,baz=28,slow=32
DBIC Dimbokro 96.03 280 P **P 23 33 12.0 +0.7**
DBIC *PP **pP 23 33 39.4 0.0**
DBIC 23 37 01.7
DBIC pmax pmax
comp=Z,6.0nm,0.8s
DBIC pmax pmax
comp=Z,6.0nm,0.9s
DBIC Dimbokro 96.03 280 P **P 23 33 12.0 +0.7**
comp=Z,5.7nm,0.8s,baz=34,slow=5.7,SNR=11
DBIC pP **pP 23 33 39.4 0.0**
comp=Z,6.5nm,0.7s,baz=28,slow=2.7,SNR=4.5
DBIC PP **PP 23 37 01.7 -3.5**
comp=Z,5.5nm,0.9s,baz=56,slow=11,SNR=3.5
DBIC LR LR 00 20 48.0
comp=Z,97nm,20.7s,baz=40,slow=38
DBIC Dimbokro 96.03 280 *e*P **P 23 33 10.7 -0.6**
comp=Z,19nm,1.3s
DBIC pP **pP 23 33 39.4 0.0**
DBIC PP **PP 23 37 01.7 -3.5**
KIC Kosan Boka 96.05 279 *e*PKIKP **P 23 33 12.1 +0.7**
comp=Z,71nm,1.6s
TIC Toumodi 96.19 280 *e*PKIKP **P 23 33 12.3 +0.3**
comp=Z,3.6nm,0.2s
LIC Lamto 96.37 279 *e*P **P 23 33 13.4 +0.6**
comp=Z,12nm,0.9s
LIC *e*R
comp=Z,297nm,22.6s
LIC Lamto 96.37 279 *e*PKIKP **P 23 33 12.0 -0.8**
comp=Z,44nm,1.5s
LIC Lamto 96.37 279 *e*P **P 23 33 13.4 +0.6**
comp=Z,12nm,0.9s
URZ Urewera 98.39 128 LR LR 00 21 36.5
comp=Z,49nm,19.6s,baz=299,slow=38
SYO Syowa Base 99.95 197⇓*e*X **Pdif 23 33 24.5 -3.0**
SYO Syowa Base 99.95 197⇓*ep*Pdiff pP 23 33 55.5 -0.2
SYO Syowa Base 99.95 197⇓*e*X **PP 23 37 31.8 -2.3**
SCHQ Schefferville 100.81 349 P **Pdif 23 33 31.1 -0.8**
comp=Z,4.5nm,1.0s,baz=25,slow=1.2,SNR=5.0
SCHQ pP pP 23 34 00.5 +0.3
comp=Z,10nm,0.9s,baz=45,slow=4.4,SNR=7.0
SCHQ PP **PP 23 37 38.0 -1.7**
comp=Z,6.4nm,0.8s,baz=32,slow=9.8,SNR=5.9
SCHQ PKKPbc **PKKPbc 23 49 43.4 -2.4**
comp=Z,2.7nm,0.7s,baz=230,slow=2.4,SNR=5.7
C19A Slack Wire Ran 106.40 16⇑PKiKP **PKiKP 23 38 07.9 +0.3**
baz=106
ULM Lac du Bonnet 106.43 7 PKiKP **PKiKP 23 38 06.2 -1.2**
comp=Z,2.4nm,0.7s,baz=57,slow=1.9,SNR=3.8
ULM PKKPbc **PKKPbc 23 49 26.4 -2.7**
comp=Z,2.5nm,0.6s,baz=151,slow=4.6,SNR=5.2
ULM PKKP **PKKPdf 23 49 41.7 +2.3**
comp=Z,8.0nm,0.8s,baz=194,slow=6.1,SNR=11
A30A Hoffart Farm, 107.41 9⇑PKiKP **PKiKP 23 38 09.7 +0.3**
baz=107
VNDA Vanda 107.62 168 PKKPbc PKKPbc 23 49 24.8 -1.5
comp=Z,2.0nm,0.8s,baz=121,slow=1.0,SNR=9.3
D22A Cohagen 107.65 15⇑PKiKP **PKiKP 23 38 10.4 +0.5**
baz=107
C26A Wahner Farm, P 107.87 12⇓PKiKP **PKiKP 23 38 11.1 +0.8**
baz=108
HLID Hailey 108.55 22⇓PKiKP **PKiKP 23 38 12.6 +0.7**
baz=108
E24A Baker 108.63 14⇑PKiKP **PKiKP 23 38 12.2 +0.4**
baz=108
D28A Regan 108.75 11⇑PKiKP **PKiKP 23 38 12.6 +0.6**
baz=108
I20A Worland 110.14 17⇓PKiKP **PKiKP 23 38 14.9 +0.1**
baz=110
G26A Maurine 110.20 13⇓PKiKP **PKiKP 23 38 15.3 +0.5**
baz=110
H24A Dirks Ranch, A 110.29 14⇓PKiKP **PKiKP 23 38 14.8 -0.3**
baz=110
I21A Big Trails, Te 110.50 17⇓PKiKP **PKiKP 23 38 15.4 -0.1**
baz=110
I22A 9 Mile Ranch, 110.63 16⇑PKiKP **PKiKP 23 38 15.1 -0.6**
baz=110
J20A Shoshoni 110.71 17⇑PKiKP **PKiKP 23 38 16.0 +0.1**
baz=110
BW06 Boulder Array 110.82 19 *e*PKiKP **PKiKP 23 38 16.1 -0.2**
PD31 Pinedale Array 110.82 19 *e*PKiKP **PKiKP 23 38 16.2 0.0**
PDAR Pinedale Array 110.82 19 PKiKP **PKiKP 23 38 15.7 -0.6**
comp=Z,2.3nm,0.8s,baz=50,slow=1.9,SNR=13
PDAR PP **PP 23 38 53.6 -0.4**
comp=Z,1.4nm,0.9s,baz=45,slow=3.1,SNR=3.9
PDAR PKKPbc **PKKPbc 23 49 12.8 -2.5**
comp=Z,0.9nm,0.9s,baz=150,slow=4.9,SNR=4.8
PDAR PKKPab **PKKPab 23 49 23.5 -4.5**
comp=Z,1.0nm,0.6s,baz=123,slow=6.6,SNR=5.9
G30A Faulkton 111.00 10⇓PKiKP **PKiKP 23 38 16.4 +0.1**
baz=111
J22A Midwest 111.08 16⇑PKiKP **PKiKP 23 38 16.6 -0.1**
baz=111
I25A Rochford 111.17 14⇓PKiKP **PKiKP 23 38 17.0 +0.2**
baz=111
I27A Quinn 111.48 13⇓PKiKP **PKiKP 23 38 17.8 +0.5**
baz=111
NV01 Mina Array Sit 111.50 27 *e*PKiKP **PKiKP 23 38 16.9 -0.7**
NVAR Mina Array Bea 111.50 27 PKiKP **PKiKP 23 38 18.9 +1.2**
comp=Z,2.8nm,0.9s,baz=301,slow=1.7,SNR=4.9
K21A Alcova 111.60 17⇑PKiKP **PKiKP 23 38 18.0 +0.3**
baz=111
J24A Dixon Ranch, L 111.61 15⇑PKiKP **PKiKP 23 38 17.3 -0.3**
baz=111
I28A Midland 111.73 12⇑PKiKP **PKiKP 23 38 17.8 +0.1**
baz=111
J25A Sunshine Ranch 111.75 14⇑PKiKP **PKiKP 23 38 17.8 0.0**
baz=111
K22A Casper 111.78 17⇑PKiKP **PKiKP 23 38 17.9 -0.1**
baz=112
K23A Bowen Ranch, D 111.92 16⇑PKiKP **PKiKP 23 38 18.3 0.0**
baz=112
J26A Sides Ranch, S 111.99 14⇑PKiKP **PKiKP 23 38 18.6 +0.3**
baz=112
DUG Dugway, Tooele 112.09 22⇓PKiKP **PKiKP 23 38 19.4 +0.7**
baz=112
I30A Oacoma 112.13 11⇓PKiKP **PKiKP 23 38 19.1 +0.7**
baz=112
J28A Allard Ranch, 112.27 12⇓PKiKP **PKiKP 23 38 19.1 +0.3**
baz=112
J29A Okreek 112.46 12⇓PKiKP **PKiKP 23 38 19.5 +0.4**
baz=112
L23A Garrett 112.50 16⇓PKiKP **PKiKP 23 38 19.2 -0.2**
baz=112
K26A Motz Farm, Whi 112.55 14⇑PKiKP **PKiKP 23 38 19.5 +0.1**
baz=112
R11A Troy Canyon, C 112.67 25⇓PKiKP **PKiKP 23 38 20.1 +0.2**
baz=112
R11A Troy Canyon, C 112.67 25 *e*PKiKP **PKiKP 23 38 20.5 +0.7**
J30A Dallas 112.69 11⇑PKiKP **PKiKP 23 38 20.0 +0.5**
baz=112
ECSD EROS Data Cent 112.75 9⇑PKiKP **PKiKP 23 38 20.0 +0.4**
baz=112
ECSD EROS Data Cent 112.75 9 *e*PKiKP **PKiKP 23 38 19.2 -0.4**
QSPA South Pole Qui 112.87 180 PKiKP **PKiKP 23 38 18.7 -0.3**
comp=Z,12nm,0.8s,baz=290,slow=1.0,SNR=14
L25A Engebretsen Ra 112.89 15⇑PKiKP **PKiKP 23 38 20.1 +0.1**
baz=113
M23A Laramie 113.10 16⇑PKiKP **PKiKP 23 38 21.0 +0.3**
baz=113
K30A Basset 113.30 11⇓PKiKP **PKiKP 23 38 21.5 +0.8**
baz=113
VES Vestal, Richgr 113.32 29⇑PKiKP **PKiKP 23 38 20.9 0.0**
baz=113
M24A Cheyenne 113.33 16⇑PKiKP **PKiKP 23 38 21.1 +0.1**
baz=113
N23A Red Feather La 113.57 17⇓PKiKP **PKiKP 23 38 21.9 +0.3**
baz=113
O20A White River Ci 113.63 19⇓PKiKP **PKiKP 23 38 21.6 -0.1**
baz=113
M26A McRoberts Ranc 113.73 14⇑PKiKP **PKiKP 23 38 21.7 -0.1**
baz=113
SNAA Sanae 114.02 200 P PKPdf 23 38 21.2 +0.1
SNAA Sanae 114.02 200⇓*i*PKIKP PKPdf 23 38 23.2 +2.1
SNAA Sanae 114.02 200 PKP PKPdf 23 38 19.6 -1.5
comp=Z,2.3nm,0.8s,baz=157,slow=4.4,SNR=5.7
O22A Kremmling 114.09 18⇓PKiKP PKPdf 23 38 22.7 +0.1
baz=114
O23A Lake Granby, G 114.22 17⇑PKiKP **PKiKP 23 38 22.8 -0.1**
baz=114
OGNE Ogallala 114.48 14⇑PKiKP **PKiKP 23 38 23.0 -0.1**
baz=114
P22A Eagle 114.56 18⇑PKiKP **PKiKP 23 38 23.5 0.0**
baz=114
M31A Lambtecht Ranc 114.70 11⇓PKiKP PKPdf 23 38 23.6 +0.1
baz=114
GSC Goldstone, Bar 114.78 28⇓PKiKP PKPdf 23 38 24.2 +0.4
baz=114
BGNE Belgrade 114.78 11⇑PKiKP PKPdf 23 38 23.9 +0.3
baz=114
BGNE Belgrade 114.78 11 *e*PKiKP **PKiKP 23 38 23.4 -0.2**
N28A Pribbeno Ranch 114.83 13⇓PKiKP PKPdf 23 38 24.1 +0.3
baz=114
P23A Jefferson 115.02 17⇓PKiKP **PKPdf 23 38 24.8 +0.3**
baz=115
O27A Beecher Island 115.10 14⇑PKiKP **PKPdf 23 38 24.5 +0.2**
baz=115
P25A Willow Gulch B 115.33 16⇓PKiKP **PKPdf 23 38 25.1 +0.2**
baz=115
N32A Stulken Farm, 115.39 11⇓PKiKP **PKiKP 23 38 24.8 0.0**
baz=115
P26A Davis Ranch, A 115.49 15⇓PKiKP **PKiKP 23 38 24.9 -0.3**
baz=115
VNA2 Neumayer--Watz 115.51 201 P **PKPdf 23 38 24.4 +0.5**
baz=46,slow=3.4
O30A MW Ranch, Wils 115.63 12⇓PKiKP **PKPdf 23 38 25.4 +0.1**
baz=115
GMRC Granite Mounta 115.71 27⇓PKiKP **PKiKP 23 38 25.6 -0.1**
baz=115
MURC Murrieta 116.04 29⇑PKiKP **PKPdf 23 38 26.4 +0.1**
baz=116
Q26A Hugo 116.06 16⇑PKiKP **PKPdf 23 38 26.3 +0.1**
baz=116
VNA3 Neumayer Olymp 116.22 200 P **PKPdf 23 38 25.6 +0.3**
P31A Stockton 116.39 12⇓PKiKP **PKiKP 23 38 27.0 +0.2**
baz=116
P32A Huiting Farm, 116.44 11⇓PKiKP **PKiKP 23 38 27.1 +0.2**
baz=116
R25A Fountain Ranch 116.59 17⇑PKiKP **PKPdf 23 38 27.2 -0.1**
baz=116
R26A Arlington 116.66 16⇑PKiKP **PKiKP 23 38 27.5 +0.1**
baz=116
MVL Millersville 116.70 352 *e*PKPdf **PKPdf 23 38 27.5 +0.3**
Q30A Quinter 116.75 13⇓PKiKP **PKiKP 23 38 27.5 0.0**
baz=116
PDMCI Parker Dam,Lak 116.76 26⇓PKiKP **PKPdf 23 38 27.4 -0.1**
baz=116
BC3 Big Chuckawall 116.76 28⇑PKiKP **PKiKP 23 38 28.0 +0.3**
baz=116
S24A Houchin Ranch, 116.82 18⇑PKiKP **PKPdf 23 38 27.7 -0.3**
baz=116
R27A Eads 116.84 15⇑PKiKP **PKPdf 23 38 27.5 -0.2**
baz=116
SFIN Lafayette 116.87 1⇑PKiKP **PKPdf 23 38 27.3 -0.3**
baz=116
S25A Robets Cordova 117.01 17⇑PKiKP **PKPdf 23 38 27.6 -0.6**
baz=117
R28A Tribune 117.02 14⇑PKiKP **PKPdf 23 38 27.7 -0.3**
baz=117
Q32A Meitler Ranch, 117.06 11⇑PKiKP **PKPdf 23 38 28.0 0.0**
baz=117
Q33A Connelly Farm, 117.18 11⇑PKiKP **PKiKP 23 38 28.4 +0.1**
baz=117
SWSC Sam W. Stewart 117.22 29⇑PKiKP **PKiKP 23 38 28.8 +0.3**
baz=117
KSU1 Kansas State U 117.29 10 *e*PKPdf **PKPdf 23 38 27.7 -0.7**
KSU1 Kansas State U 117.30 16⇑PKiKP **PKPdf 23 38 28.2 -0.5**
S26A Kim
baz=117
T25A Trinidad 117.51 17⇓PKiKP **PKPdf 23 38 29.1 -0.1**
baz=117
U22A Llaves 117.51 19⇓PKiKP **PKiKP 23 38 29.7 +0.5**
baz=117
GLA Glamis 117.55 28⇑PKiKP **PKiKP 23 38 29.7 +0.5**
baz=117
R31A Burdett 117.56 12⇓PKiKP **PKiKP 23 38 29.1 0.0**
baz=117
R32A Long Quarter, 117.58 12⇑PKiKP **PKiKP 23 38 29.3 +0.2**
baz=117
T26A Comanche Natio 117.69 16⇑PKiKP **PKPdf 23 38 29.2 -0.4**
baz=117
S28A Manter 117.71 15⇓PKiKP **PKPdf 23 38 29.2 -0.2**
baz=117
W18A Petrified Fore 117.71 22 *e*PKPdf **PKPdf 23 38 30.3 +0.7**
R33A Olander Ranch, 117.83 11⇓PKiKP **PKiKP 23 38 29.6 0.0**
baz=118
V22A San Miguel Ran 117.92 20⇓PKiKP **PKiKP 23 38 30.5 +0.4**
baz=118
T27A Campo 118.02 16⇓PKiKP **PKPdf 23 38 29.5 -0.6**
baz=118
T28A Walsh 118.11 15⇑PKiKP **PKPdf 23 38 30.0 -0.2**
baz=118
U25A Circle Dot Ran 118.20 17⇑PKiKP **PKiKP 23 38 30.6 0.0**
baz=118
S31A Mullinville 118.21 13⇑PKiKP **PKiKP 23 38 30.5 +0.1**
baz=118
113A Mohawk Valley, 118.24 27⇑PKiKP **PKiKP 23 38 30.6 +0.1**
baz=118
T29A Hugoton 118.27 14⇑PKiKP **PKiKP 23 38 30.6 +0.1**
baz=118
V23A Ortiz Mt. (NFS 118.30 19⇑PKiKP **PKiKP 23 38 31.3 +0.4**
baz=118
U26A Atchley Ranch, 118.39 17⇓PKiKP **PKPdf 23 38 30.7 -0.2**
baz=118
S33A Kaszmaul Farm, 118.52 11⇑PKiKP **PKPdf 23 38 30.9 0.0**
baz=118
V24A Rampart Ranch, 118.59 18⇑PKiKP **PKiKP 23 38 31.5 +0.1**
baz=118
U27A Thompson Grove 118.60 16⇑PKiKP **PKPdf 23 38 31.1 -0.1**
baz=118
V25A Rancho No Teng 118.67 18⇓PKiKP **PKPdf 23 38 31.4 -0.1**
baz=118
T32A Huddler Ranch, 118.75 12⇑PKiKP **PKiKP 23 38 31.5 +0.1**
baz=118
V26A Tequesquite Ra 118.94 17⇓PKiKP **PKPdf 23 38 31.4 -0.5**
baz=119
ANMO Albuquerque 118.96 20⇓*i*PKIKP **PKPdf 23 38 32.8 +0.8**
ANMO pmax pmax
comp=Z,34nm,1.2s
ANMO Albuquerque 118.96 20 SKKPbc SKKPbc 23 52 20.1 -2.4
comp=Z,0.3nm,0.4s,baz=22,slow=5.4,SNR=3.0
ANMO Albuquerque 118.96 20 *e*PKPdf **PKPdf 23 38 31.5 -0.6**
ANMO SKKPbc SKKPbc 23 52 20.1 -2.4
T33A Patterson Ranc 118.97 12⇓PKiKP **PKPdf 23 38 31.6 -0.1**
baz=119
U30A WK&E Inc. Balk 119.01 14⇓PKiKP **PKPdf 23 38 31.9 -0.1**
baz=119
W24A Lazy 6 Ranch, 119.03 19⇑PKiKP **PKiKP 23 38 32.5 +0.3**
baz=119
JSRW J. Sargeant Re 119.16 353 *e*PKPdf **PKPdf 23 38 32.6 +0.6**
LAZ Ladron 119.24 21 *e*PKPdf **PKPdf 23 38 32.9 +0.3**
W25A X Bar L Ranch, 119.30 18⇓PKiKP **PKPdf 23 38 32.6 -0.1**
baz=119
214A Organ Pipe Nat 119.34 27⇑PKiKP **PKiKP 23 38 33.1 +0.4**
baz=119
X23A Hourglass Bar 119.38 20⇑PKiKP **PKPdf 23 38 32.9 0.0**
baz=119
SIUC Southern Illin 119.45 3 *e*PKPdf **PKPdf 23 38 32.7 +0.1**
LPM Los Pinos Moun 119.49 20 *e*PKPdf **PKPdf 23 38 33.5 +0.5**
LENM Lemitar 119.51 20 *e*PKPdf **PKPdf 23 38 33.8 +0.7**
W26A Owens Ranch, T 119.61 17⇑PKiKP **PKiKP 23 38 33.3 0.0**
baz=119
BNM Barren Site 119.64 20 *e*PKPdf **PKPdf 23 38 33.8 +0.4**
BNM *e*SKPdf **SKPdf 23 41 58.9 -0.3**
U34A Anderson Ranch 119.73 11⇓PKiKP **PKiKP 23 38 33.4 +0.1**
baz=119

U34A	Anderson Ranch	119.73	11	ePKPdf	PKPdf	23 38 33.1	-0.2
W27A	Bowe Ranch, En	119.82	17	⇓PKiKP	PKPdf	23 38 33.1	-0.5
	baz=120						
X25A	Clemmons Ranch	119.88	18	⇑PKiKP	PKPdf	23 38 33.7	-0.1
	baz=120						
V31A	Spring Creek L	119.92	14	⇑PKiKP	PKiKP	23 38 34.0	+0.3
	baz=120						
X26A	CR and CF Fran	120.10	18	⇑PKiKP	PKPdf	23 38 34.1	-0.1
	baz=120						
V32A	Arapaho	120.14	13	⇓PKiKP	PKPdf	23 38 34.0	-0.1
	baz=120						
V33A	Lossen Ranch,	120.19	12	⇑PKiKP	PKiKP	23 38 34.3	0.0
	baz=120						
Y24A	Capitan	120.21	19	⇑PKiKP	PKPdf	23 38 34.3	-0.2
	baz=120						
V34A	Guthrie	120.32	11	⇓PKiKP	PKPdf	23 38 34.4	0.0
	baz=120						
V34A	Guthrie	120.32	11	ePKPdf	PKPdf	23 38 34.5	+0.2
Z22A	Elephant Butte	120.35	21	⇑PKiKP	PKiKP	23 38 35.0	+0.2
	baz=120						
W31A	Holland Ranch,	120.46	14	⇓PKiKP	PKPdf	23 38 34.6	-0.1
	baz=120						
PARMO	Parma	120.46	4	ePKPdf	PKPdf	23 38 34.7	+0.1
TUL1	Leonard	120.54	10	⇓PKiKP	PKPdf	23 38 34.5	-0.3
	baz=120						
TUL1	Leonard	120.54	10	ePKPdf	PKPdf	23 38 34.4	-0.3
W32A	Sentinel	120.67	13	⇓PKiKP	PKPdf	23 38 34.9	-0.2
	baz=120						
TZTN	Tazewell	120.69	358	ePKPdf	PKPdf	23 38 35.4	+0.3
121A	Cookes Peak, D	120.73	22	⇑PKiKP	PKiKP	23 38 35.8	+0.2
	baz=120						
X29A	Tulia	120.76	16	⇑PKiKP	PKiKP	23 38 35.8	+0.3
	baz=120						
W33A	Caddo, Fort Co	120.80	12	⇑PKiKP	PKiKP	23 38 35.4	0.0
	baz=120						
W34A	Bridge Creek,	120.85	12	⇑PKiKP	PKiKP	23 38 35.7	+0.1
	baz=120						
W34A	Bridge Creek,	120.85	12	ePKPdf	PKPdf	23 38 35.2	-0.2
Y27A	Causey	120.91	17	⇓PKiKP	PKiKP	23 38 35.8	0.0
	baz=121						
MSTX	Muleshoe	120.93	17	⇑PKiKP	PKiKP	23 38 35.8	0.0
	baz=121						
MSTX	Muleshoe	120.93	17	ePKPdf	PKPdf	23 38 35.1	-0.6
X30A	Coker Ranch, T	120.96	15	⇑PKiKP	PKPdf	23 38 35.5	-0.2
	baz=121						
X31A	McDonald Ranch	120.98	14	⇑PKiKP	PKPdf	23 38 35.6	-0.1
	baz=121						
WVT	Waverly	121.09	2	ePKIKP	PKPdf	23 38 35.1	-0.7
WVT	Waverly	121.09	2	ePKPdf	PKPdf	23 38 35.1	-0.7
Y28A	McKinney Farm,	121.13	16	⇓PKiKP	PKiKP	23 38 36.5	+0.3
	baz=121						
319A	Douglas	121.24	24	⇓PKiKP	PKPdf	23 38 36.5	0.0
	baz=121						
X34A	Smith Ranch, M	121.46	12	⇓PKiKP	PKPdf	23 38 36.5	-0.1
	baz=121						
Y31A	Rekieta Farm,	121.56	14	⇓PKiKP	PKPdf	23 38 36.3	-0.6
	baz=121						
TKL	Tuckaleechee C	121.58	358	ePKIKP	PKPdf	23 38 36.8	0.0
TKL	Tuckaleechee C	121.58	358	ePKPdf	PKPdf	23 38 36.8	0.0
Z28A	Tucker Farm, M	121.68	17	⇓PKiKP	PKPdf	23 38 36.7	-0.5
	baz=121						
Y32A	R-V Farms, Ver	121.71	14	⇓PKiKP	PKPdf	23 38 36.9	-0.2
	baz=121						
Y33A	Hilltop Ranch,	121.88	13	⇓PKiKP	PKPdf	23 38 37.0	-0.4
	baz=122						
Z29A	Hungry Hill Ra	121.88	16	⇓PKiKP	PKPdf	23 38 37.2	-0.4
	baz=122						
KMSC	Kings Mountain	121.99	356	⇓PKiKP	PKPdf	23 38 37.6	0.0
	baz=122						
Z30A	Sanderson Ranc	122.00	16	⇑PKiKP	PKPdf	23 38 37.3	-0.5
	baz=122						
Y34A	Reagan Ranch,	122.10	12	⇑PKiKP	PKPdf	23 38 37.8	-0.1
	baz=122						
UALR	University of	122.11	7	ePKPdf	PKPdf	23 38 37.0	-0.8
GDL2	Guadalupe Moun	122.14	19	ePKPdf	PKPdf	23 38 38.1	0.0
MIAR	Mount Ida	122.19	8	ePKIKP	PKPdf	23 38 37.8	-0.2
MIAR	Mount Ida	122.19	8	ePKPdf	PKPdf	23 38 37.8	-0.2
Z31A	Sharp Cattle R	122.21	15	⇑PKiKP	PKPdf	23 38 37.7	-0.4
	baz=122						
128A	Castleberry Fa	122.28	17	⇑PKiKP	PKPdf	23 38 38.3	-0.1
	baz=122						
Z32A	Haskell	122.37	14	⇓PKiKP	PKPdf	23 38 38.3	-0.1
	baz=122						
129A	Stewart Farms,	122.44	16	⇑PKiKP	PKPdf	23 38 38.7	+0.1
	baz=122						
Z33A	Whitaker Ranch	122.54	13	⇓PKiKP	PKPdf	23 38 38.6	-0.1
	baz=122						
Z34A	Collier Ranch,	122.64	12	⇓PKiKP	PKPdf	23 38 38.5	-0.4
	baz=122						
130A	Snyder	122.70	16	⇓PKiKP	PKPdf	23 38 39.1	0.0
	baz=122						
228A	UT Block 9, Go	122.73	17	⇑PKiKP	PKPdf	23 38 39.0	-0.2
	baz=122						
131A	Roby	122.77	15	⇑PKiKP	PKPdf	23 38 39.2	0.0
	baz=122						
Z35A	Perchaven, San	122.80	12	⇓PKiKP	PKPdf	23 38 39.1	-0.1
	baz=122						
ABTX	Abilene, Hawle	122.99	14	⇓PKiKP	PKPdf	23 38 39.6	0.0
	baz=123						
ABTX	Abilene, Hawle	122.99	14	ePKPdf	PKPdf	23 38 39.2	-0.4
229A	Bryant Ranch,	123.08	17	⇓PKiKP	PKPdf	23 38 39.5	-0.4
	baz=123						
133A	Hamilton Ranch	123.17	14	⇓PKiKP	PKPdf	23 38 39.8	-0.1
	baz=123						
230A	Sterling City	123.34	16	⇓PKiKP	PKPdf	23 38 40.3	0.0
	baz=123						
134A	White-Moore Ra	123.38	13	⇑PKiKP	PKPdf	23 38 40.1	-0.3
	baz=123						
231A	Bronte	123.49	15	⇑PKiKP	PKPdf	23 38 40.3	-0.3
	baz=123						
329A	Wagon Wheel Ra	123.49	17	⇓PKiKP	PKPdf	23 38 40.3	-0.4
	baz=123						
135A	Vickery Place,	123.52	12	⇓PKiKP	PKPdf	23 38 40.5	-0.1
	baz=123						
232A	Coleman	123.69	15	⇓PKiKP	PKPdf	23 38 40.8	-0.2
	baz=123						
233A	Rising Star	123.74	14	⇓PKiKP	PKPdf	23 38 40.8	-0.3
	baz=123						
330A	Mertzon	123.78	16	⇑PKiKP	PKPdf	23 38 41.0	-0.2
	baz=124						
137A	Heron Place, G	123.78	11	⇑PKiKP	PKPdf	23 38 41.1	0.0
	baz=124						
GOGA	Godfrey	123.82	358	ePKIKP	PKPdf	23 38 41.6	+0.5
GOGA	Godfrey	123.82	358	ePKPdf	PKPdf	23 38 41.6	+0.5
138A	Matatall Enter	123.83	10	⇑PKiKP	PKiKP	23 38 41.4	-0.1
	baz=124						
234A	Clairette	123.91	13	⇑PKiKP	PKPdf	23 38 41.2	-0.2
	baz=124						
331A	San Angelo	124.06	16	⇓PKiKP	PKPdf	23 38 41.7	-0.1
	baz=124						
WHTX	Lake Whitney,	124.06	12	⇑PKiKP	PKPdf	23 38 41.4	-0.3
	baz=124						
332A	Millersview	124.16	15	⇓PKiKP	PKPdf	23 38 41.8	-0.1
	baz=124						
LRAL	Lakeview Retre	124.20	2	ePKPdf	PKPdf	23 38 42.0	+0.1
429A	Davenport Ranc	124.33	17	⇑PKiKP	PKPdf	23 38 42.1	-0.2
	baz=124						
430A	Baggett Ranch,	124.35	17	⇑PKiKP	PKPdf	23 38 42.3	-0.1
	baz=124						
333A	Richland Sprin	124.39	14	⇑PKiKP	PKPdf	23 38 42.0	-0.3
	baz=124						
334A	Lometa	124.54	13	⇓PKiKP	PKPdf	23 38 42.1	-0.5
	baz=124						
239A	Gary	124.56	9	⇓PKiKP	PKPdf	23 38 42.0	-0.6
	baz=124						
431A	Sonora	124.61	16	⇑PKiKP	PKPdf	23 38 42.7	-0.1
	baz=124						
432A	Menard	124.63	15	⇓PKiKP	PKPdf	23 38 42.7	-0.1
	baz=124						
529A	Stev Forest Ra	124.71	18	⇑PKiKP	PKPdf	23 38 42.8	-0.3
	baz=124						
335A	Moody	124.76	13	⇓PKiKP	PKPdf	23 38 42.9	-0.2
	baz=124						
336A	Riesel	124.77	12	⇓PKiKP	PKPdf	23 38 43.2	+0.2
	baz=124						
433A	Art	124.91	14	⇑PKiKP	PKPdf	23 38 42.9	-0.5
	baz=125						
530A	J-C Ranch, Com	124.93	17	⇑PKiKP	PKiKP	23 38 43.7	-0.1
	baz=125						
JCT	Junction City	125.01	15	ePKIKP	PKPdf	23 38 43.9	+0.3
JCT	Junction City	125.01	15	⇑PKiKP	PKPdf	23 38 43.5	0.0
	baz=125						
JCT	Junction City	125.01	15	ePKPdf	PKPdf	23 38 43.9	+0.3
337A	Centerville	125.01	11	⇑PKiKP	PKPdf	23 38 43.6	+0.1
	baz=125						
TX31	Lajitas Ar. Si	125.03	20	ePKPdf	PKPdf	23 38 43.9	+0.2
TXAR	Lajitas Array	125.03	20	PKP	PKPdf	23 38 43.8	+0.1
	comp=Z,9.8nm,1.0s,baz=239,slow=0.7,SNR=24						
TXAR				pPKP	pPKPdf	23 39 12.0	-1.0
	comp=Z,3.0nm,0.6s,baz=71,slow=0.7,SNR=4.7						
TXAR				SKP		23 42 09.1	
	comp=Z,5.0nm,1.0s,baz=318,slow=1.2,SNR=4.8						
434A	Burnet	125.03	14	⇓PKiKP	PKPdf	23 38 43.1	-0.5
	baz=125						
338A	Crockett	125.07	10	⇓PKiKP	PKPdf	23 38 43.6	0.0
	baz=125						
531A	Rocksprings	125.12	16	⇑PKiKP	PKPdf	23 38 43.7	-0.1
	baz=125						
435B	Jarrell	125.21	13	⇑PKiKP	PKPdf	23 38 43.9	0.0
	baz=125						
340A	Bronson	125.23	9	⇓PKiKP	PKPdf	23 38 43.9	0.0
	baz=125						
532A	Rocksprings	125.32	15	⇓PKiKP	PKPdf	23 38 44.0	-0.2
	baz=125						
436A	Wall Ranch, Ga	125.38	12	⇑PKiKP	PKPdf	23 38 44.2	0.0
	baz=125						
437A	Phantom Ranch,	125.44	11	⇓PKiKP	PKPdf	23 38 44.4	+0.1
	baz=125						
533A	Kerrville	125.58	15	⇓PKiKP	PKPdf	23 38 44.5	-0.2
	baz=125						
534A	Blanco	125.75	14	⇑PKiKP	PKPdf	23 38 44.6	-0.4
	baz=125						
TIGA	Tifton	125.78	358	⇓PKiKP	PKPdf	23 38 45.0	0.0
	baz=126						
631A	Perdido Creek	125.83	16	⇓PKiKP	PKPdf	23 38 45.0	-0.2
	baz=126						
632A	Uvalde	125.94	15	⇓PKiKP	PKPdf	23 38 45.4	0.0
	baz=126						
536A	Bastrop	126.00	12	⇓PKiKP	PKPdf	23 38 45.5	+0.1
	baz=126						
633A	Saathoff Ranch	126.13	15	⇑PKiKP	PKPdf	23 38 45.9	+0.1
	baz=126						
537A	Green Hill Far	126.14	12	⇑PKiKP	PKiKP	23 38 46.1	0.0
	baz=126						
HKT	Hockley	126.35	11	ePKIKP	PKPdf	23 38 46.1	+0.1
HKT	Hockley	126.35	11	ePKPdf	PKPdf	23 38 46.1	+0.1
635A	Leesville	126.52	13	⇓PKiKP	PKPdf	23 38 46.6	+0.2
	baz=126						
636A	Smothers Creek	126.58	13	⇓PKiKP	PKiKP	23 38 46.9	-0.1
	baz=126						
732A	Laxson Ranch,	126.64	16	⇑PKiKP	PKPdf	23 38 46.9	+0.2
	baz=126						
733A	Divot King Ran	126.81	15	⇓PKiKP	PKiKP	23 38 47.3	-0.2
	baz=126						
734A	La Parita Cree	126.86	14	⇑PKiKP	PKPdf	23 38 47.2	+0.1
	baz=127						
735A	Kenedy	127.03	14	⇑PKiKP	PKiKP	23 38 47.8	-0.1
	baz=127						
832A	Faith Ranch, C	127.06	16	⇑PKiKP	PKPdf	23 38 47.7	+0.2
	baz=127						
833A	Chaparral WMA,	127.17	15	⇑PKiKP	PKiKP	23 38 48.0	-0.2
	baz=127						
738A	Farr-Stevens R	127.47	11	⇑PKiKP	PKPdf	23 38 48.5	+0.2
	baz=127						
834A	Tilden	127.56	15	⇑PKiKP	PKiKP	23 38 49.0	0.0
	baz=127						
835A	Beeville	127.57	14	⇑PKiKP	PKPdf	23 38 48.7	+0.2
	baz=127						
933A	Laredo	127.88	16	⇑PKiKP	PKiKP	23 38 49.6	0.0
	baz=128						
934A	Benavides	128.07	15	⇑PKiKP	PKiKP	23 38 49.9	-0.1
	baz=128						
034A	Hebbronville	128.55	15	⇑PKiKP	PKiKP	23 38 51.3	+0.2
	baz=128						
035A	Encino	128.81	15	⇓PKiKP	PKiKP	23 38 51.6	+0.1
	baz=128						
RCBR	Riachuelo	129.36	282	PKP	PKPdf	23 38 53.1	+0.8
	comp=Z,17nm,1.0s,baz=321,slow=1.4,SNR=4.1						
RCBR	Riachuelo	129.36	282	ePKPdf	PKPdf	23 38 51.0	-1.3
CELP	Cerrillos	135.16	334	ePKPdf	PKPdf	23 39 02.8	-0.3
OBIP	Obispado Ponce	135.21	334	eSKPbc	SKPbc	23 42 23.0	-1.3
SDDR	Presa de Saban	136.00	341	ePKPdf	PKPdf	23 39 03.9	-0.8
SDDR				eSKPbc	SKPbc	23 42 27.2	+0.4
CMIG	Matias Romero	139.04	14	PKP	PKPdf	23 39 10.0	-0.2
	comp=Z,7.3nm,0.8s,baz=341,slow=2.1						
CMIG				pPKP	pPKPdf	23 39 40.0	+0.5
	comp=Z,10nm,1.1s,baz=268,slow=3.1,SNR=2.7						
CMIG				SKPbc	SKPbc	23 42 34.5	-1.1
	comp=Z,16nm,0.9s,baz=228,slow=1.6,SNR=9.4						
APG	El Apazote	141.85	8	PKhKP	PKPpre	23 39 06.0	
	comp=Z,5.9nm,0.7s,baz=101,slow=16,SNR=4.5						
BDFB	Brasilia	144.02	275	PKiKP	PKPdf	23 39 18.5	-0.8
BDFB				pmax	pmax		
	comp=Z,22nm,0.8s						
BDFB				pmax	pmax		
	comp=N,15nm,0.8s						
BDFB	Brasilia	144.02	275	PKP	PKPdf	23 39 18.4	-0.8
	comp=N,22nm,0.8s,baz=71,slow=3.2,SNR=27						
BDFB				SKPbc	SKiKP	23 42 50.0	+0.7
	comp=N,15nm,0.8s,baz=128,slow=3.5,SNR=5.3						
EFI	East Falkland	144.50	210	ePKIKP	PKPab	23 39 17.1	-0.3
EFI	East Falkland	144.50	210	ePKPdf	PKPab	23 39 17.1	-0.3
SDV	Santo Domingo	145.11	334	ePKPbc	PKPdf	23 39 21.5	+0.1
SDV				eSKPbc	SKPbc	23 42 51.3	+0.1
PTGA	Pitinga	146.78	308	PKPbc	PKPdf	23 39 24.8	+0.9
	comp=N,14nm,0.7s,baz=34,slow=4.4,SNR=22						
PTGA				pPKPbc	pPKPbc	23 39 54.5	-0.3
	comp=N,53nm,1.1s,baz=55,slow=4.2,SNR=6.2						
PTGA	Pitinga	146.78	308	ePKPdf	PKPdf	23 39 24.6	+0.6
PTGA				pPKPbc	pPKPbc	23 39 54.5	-0.3
PTGA				eSKPdf	SKPbc	23 42 54.4	-0.4
JTS	JuntasAbangare	146.85	359	ePKIKP	PKPdf	23 39 23.8	-0.3
JTS	JuntasAbangare	146.85	359	PKPbc	PKPdf	23 39 24.8	+0.7
	comp=N,12nm,0.8s,baz=188,slow=4.1,SNR=6.2						
JTS	JuntasAbangare	146.85	359	ePKPdf	PKPdf	23 39 23.8	-0.3
BCIP	Isla Barro Col	147.51	350	ePKPdf	PKPdf	23 39 25.1	-0.1
ROSC	El Rosal	150.22	337	PKP	PKPdf	23 39 31.8	+1.7
	comp=N,36nm,0.9s,baz=154,slow=0.8,SNR=25						
ROSC				PKPbc	PKiKP	23 39 36.7	+0.6
	comp=N,240nm,0.8s,baz=85,slow=3.0,SNR=80						
ROSC	El Rosal	150.22	337	ePKPdf	PKPdf	23 39 31.4	+1.4
ROSC				PKPbc	PKiKP	23 39 36.7	+0.6
SAML	Samuel	154.49	300	ePKPdf	PKPdf	23 39 36.1	+0.3
SAML				ePKPbc	PKiKP	23 39 44.7	+0.4
TRQA	Tornquist	154.98	228	ePKPdf	PKPdf	23 39 35.6	-0.3
TRQA				ePKPab	PKPab	23 39 59.9	-0.6
OTAV	Otavalo	155.87	343	ePKPdf	PKPdf	23 39 39.3	+1.0
OTAV				ePKPab	PKPab	23 40 06.5	+1.1
OTAV				epPKPab	pPKPab	23 40 34.4	+0.8
SIV	San Ignacio	156.02	283	PKP	PKPdf	23 39 38.2	+0.4
	comp=N,7.5nm,0.9s,baz=353,slow=1.3,SNR=12						
SIV				PKPab	PKPab	23 40 06.5	+0.9
	comp=N,8.4nm,0.8s,baz=94,slow=9.1,SNR=8.7						
PLCA	Paso Flores	158.38	212	PKIKP	PKPdf	23 39 41.1	+0.9
PLCA						23 40 14.0	
PLCA				pmax	pmax		
	comp=Z,16nm,1.2s						
PLCA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PLCA	Paso Flores	158.38	212	PKP	PKPdf	23 39 41.1	+0.9
	comp=Z,16nm,1.2s,baz=126,slow=4.2,SNR=7.7						
PLCA				PKPab	PKPab	23 40 14.0	-1.1
	comp=Z,8.2nm,0.9s,baz=112,slow=1.7,SNR=3.8						
PLCA	Paso Flores	158.38	212	ePKPdf	PKPdf	23 39 41.1	+0.9
PLCA				ePKPab	PKPab	23 40 13.4	-1.7
LPAZ	La Paz	162.39	289	PKIKP	PKPdf	23 39 46.4	+0.4
LPAZ						23 40 33.7	
LPAZ				pmax	pmax		
	comp=Z,15nm,1.0s						
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LPAZ	La Paz	162.39	289	PKP	PKPdf	23 39 46.4	+0.4
	comp=Z,15nm,1.0s,baz=34,slow=1.9,SNR=46						
LPAZ				PKPab	PKPab	23 40 33.7	-0.3
	comp=Z,4.6nm,0.8s,baz=42,slow=6.4,SNR=4.2						
CFAA	Coronel Fontan	162.54	237	PKP	PKPdf	23 39 46.1	+1.1
	comp=Z,2.5nm,0.9s,baz=307,slow=1.3,SNR=35						
CFAA				PKPab	PKPab	23 40 34.2	+0.6
	comp=Z,8.7nm,0.8s,baz=107,slow=3.9,SNR=33						
ATAH	Atahualpa	162.79	336	PKP	PKPdf	23 39 46.9	+0.6
	comp=Z,18nm,1.0s,baz=28,slow=1.7,SNR=13						
ATAH				PKPab	PKPab	23 40 37.4	+2.1
	comp=Z,17nm,0.9s,baz=7.2,slow=6.3,SNR=5.0						
LVC	Limon Verde	164.77	268	ePKPdf	PKPdf	23 39 47.9	+0.3
LCO	Las Campanas	165.51	243	ePKPdf	PKPdf	23 39 48.5	+0.5
LCO				epPKPdf	pPKPdf	23 40 16.6	-0.9
NNA	Nana	166.29	322	PKIKP	PKPdf	23 39 49.8	+1.0
NNA						23 40 50.8	
NNA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NNA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
NNA	Nana	166.29	322	PKP	PKPdf	23 39 49.8	+1.0
	comp=Z,3.9nm,0.5s,baz=145,slow=5.3,SNR=3.7						
NNA				PKPab	PKPab	23 40 50.8	+0.5
	comp=Z,4.1nm,0.3s,baz=300,slow=8.1,SNR=2.5						

IDC **12** *23:25:57.8±0.7,37°.35S×73°.44W,h0km,mb4.4/10, mb1 4.4/12,mb1mx4.3/28,mbtmp4.3/12,ML3.4/1,MS3.9/6, Ms1 3.9/6,ms1mx3.6/26,Error ellipse: s-maj=26.1km s-min=14.9km az=80.0*

ISCJB **12** *23:25:58.9±0.3,37°.49S±0°.03×73°.70W±0°.06,h23km, mb4.6/22,MS4.0/5,Error ellipse: s-maj=7.0km s-min=4.5km az=24.7*

NEIC **12** *23:26:00.6,37°.43S×73°.65W,h19km,mb4.7/12, ML5.3(GUC),After GUC.*

NEIC Felt [V] at Concepcion. Also felt at Talcahuano.

GUC **12** *23:26:00.6±0.3,37°.43S×73°.65W,h19km±1km,ML5.3*

ISC 12 23:26:00.1±0.4,37°.47S±0°.04×73.73W±0°.08,h23km,n98, σ1§**34**/103,**mb4.6**/22,**MS4.0**/5,**4C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.80**	**39**	**⇑*i*P**	**Pb**	**23 26 14.1**	**-1.3**
CCSP				*i* S	**Sb**	**23 26 23.9**	**-1.8**
CCSP	**San Pedro de C**	**0.80**	**39**	**⇑*i*P**	**Pb**	**23 26 14.1**	**-1.3**
CCSP				*i* S	**Sb**	**23 26 23.9**	**-1.8**
LNCH	**Linares**	**2.36**	**47**	***e*P**	**Pn**	**23 26 38.2**	**+0.8**
LNCH				*i* S	**Sn**	**23 27 06.8**	**+1.2**
LNCH				AML	AML	23 27 18.8	
	comp=N,35μm,0.6s						
LNCH	**Linares**	**2.36**	**47**	***e*P**	**Pn**	**23 26 38.2**	**+0.8**
LNCH				*i* S	**Sn**	**23 27 06.8**	**+1.2**
VLCH	**Valdivia**	**2.36**	**171**	*i* P9	**Pn**	**23 26 35.7**	**-1.7**
VLCH				*i* S	**Sn**	**23 27 05.5**	**-0.2**
VLCH				AML	AML	23 27 34.3	
	comp=E,7μm,0.5s						
VLCH	**Valdivia**	**2.36**	**171**	*i* P	**Pn**	**23 26 35.7**	**-1.7**
VLCH				*i* S	**Sn**	**23 27 05.5**	**-0.2**
TALC	**Talca**	**2.67**	**40**	*i* P	**Pn**	**23 26 42.5**	**+0.8**
TALC				*i* S	**Sn**	**23 27 14.5**	**+1.1**
TALC				AML	AML	23 27 28.4	
	comp=N,22μm,0.5s						
TALC	**Talca**	**2.67**	**40**	*i* P	**Pn**	**23 26 42.5**	**+0.8**
TALC				*i* S	**Sn**	**23 27 14.5**	**+1.1**
OSCH	**Osorno**	**3.13**	**172**	AML	AML	23 28 00.8	
	comp=E,4μm,0.6s						
NICH	**Los Niches**	**3.19**	**40**	*i* P	**Pn**	**23 26 49.7**	**+0.9**
NICH				*i* S	**Sn**	**23 27 27.2**	**+1.1**
NICH				AML	AML	23 27 41.7	
	comp=N,18μm,0.5s						
NICH	**Los Niches**	**3.19**	**40**	*i* P	**Pn**	**23 26 49.7**	**+0.9**
NICH				*i* S	**Sn**	**23 27 27.2**	**+1.1**
PLCA	**Paso Flores**	**4.09**	**144**	Pn	**Pn**	**23 27 03.2**	**+2.0**
	baz=301,slow=16						
PLCA				Lg	Lg	23 28 09.0	
	baz=66,slow=19						
PLCA	**Paso Flores**	**4.09**	**144**	***e*Pn**	**Pn**	**23 27 02.8**	**+1.5**
PLCA				Lg	Lg	23 28 09.0	
CFAA	**Coronel Fontan**	**7.40**	**39**	Pn	**Pn**	**23 27 44.5**	**-2.3**
	comp=N,0.6nm,0.3s,baz=211,slow=14,SNR=24						
CFAA				LR	LR	23 30 49.3	
	comp=N,150nm,18.5s,baz=220,slow=41						
LCO	**Las Campanas**	**8.81**	**18**	***e*Pn**	Pn	23 28 02.8	-3.5
LCO				***e*Sn**	**Sn**	**23 29 39.5**	**-5.5**
TRQA	**Tornquist**	**9.32**	**97**	***e*Pn**	**Pn**	**23 28 13.5**	**+0.4**
LVC	**Limon Verde**	**15.38**	**17**	***e*Pn**	**Pn**	**23 29 34.6**	**-1.4**
	comp=N,18nm,0.9s						
LPAZ	**La Paz**	**21.67**	**15**	P	**P**	**23 30 50.7**	**+0.8**
	comp=N,9.1nm,0.8s,baz=182,slow=5.8,SNR=31						
LPAZ	**La Paz**	**21.67**	**15**	***e*P**	**P**	**23 30 49.9**	**0.0**
	comp=N,12nm,0.8s						
SIV	**San Ignacio**	**24.15**	**31**	P	**P**	**23 31 13.2**	**-1.4**
	comp=N,17nm,0.8s,baz=227,slow=11,SNR=52						
SIV				LR	LR	23 42 23.1	
	comp=N,485nm,19.0s,baz=218,slow=41						
SAML	**Samuel**	**29.96**	**21**	***e*P**	**P**	**23 32 05.3**	**-1.4**
	comp=N,5.7nm,0.8s						
BDFB	**Brasilia**	**31.47**	**53**	P	**P**	**23 32 18.1**	**-2.1**
	comp=N,4.0nm,0.8s,baz=248,slow=5.1,SNR=6.8						
BDFB				LR	LR	23 46 11.3	
	comp=N,475nm,20.3s,baz=222,slow=39						
BDFB	**Brasilia**	**31.47**	**53**	***e*P**	**P**	**23 32 18.2**	**-2.0**
OTAV	**Otavalo**	**37.78**	**352**	***e*P**	**P**	**23 33 16.3**	**+1.2

PDAR	**Pinedale Array**	**86.26**	**334**	P	**P**	**23**	**38 41.2 +1.3**
	comp=N,1.6nm,1.0s,baz=148,slow=2.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**86.67**	**71**	P	**P**	**23**	**38 41.5 -0.7**
	comp=N,2.8nm,1.0s,baz=234,slow=3.7,SNR=5.2						
MSKU	**Masuku**	**86.89**	**90**	*e*P	**P**	**23**	**38 43.0 -0.4**
	comp=N,14nm,1.3s						
GERES	**GERESS Array B**	**115.55**	**47**	PKP	**PKPdf**	**23**	**44 39.8 0.0**
	comp=N,0.3nm,0.6s,baz=183,slow=2.7,SNR=3.7						
IDI	**Anoyia**	**116.48**	**65**	PKP	**PKPdf**	**23**	**44 41.4 -0.6**
	comp=N,13nm,1.1s,baz=117,slow=9.0,SNR=3.4						
BRTR	**Keskin Array B**	**124.67**	**63**	PKP	**PKPdf**	**23**	**44 58.1 +0.4**
	comp=N,0.6nm,0.6s,baz=190,slow=3.7,SNR=5.3						
SEY	**Seymchan**	**142.28**	**327**	PKP	**PKPdf**	**23**	**45 31.5 +1.8**
	comp=N,0.7nm,0.3s,baz=101,slow=5.2,SNR=3.9						
TIXI	**Tiksi**	**143.83**	**348**	*e*PKPpre	PKPpre	23	45 29.2
ABKAR	**Akbulak array**	**144.85**	**55**	*e*PKPdf	PKPbc	23	45 34.0 +0.2
HYB	**Hyderabad**	**148.50**	**122**	*i* PKP	**PKPbc**	**23**	**45 45.5 +0.1**
KBL	**Kabul**	**149.87**	**84**	*e*PKPbc	**PKPbc**	**23**	**45 48.0 -0.7**
BRVK	**Borovoye**	**150.64**	**46**	*e*PKPbc	**PKPbc**	**23**	**45 50.1 +0.5**
BVAR	**Borovoye Array**	**150.71**	**46**	PKP	**PKPdf**	**23**	**45 44.9 +0.7**
	comp=N,0.6nm,0.7s,baz=260,slow=4.4,SNR=4.1						
BVAR				PKPbc	**PKiKP**	**23**	**45 50.9 +0.5**
	comp=N,4.9nm,0.7s,baz=292,slow=3.2,SNR=27						
VOSK	**Vostochnaya**	**151.15**	**47**	*e*PKPbc	**PKPbc**	**23**	**45 51.7 +0.9**
YAK	**Yakutsk**	**151.46**	**337**	*e*PKPbc	**PKPbc**	**23**	**45 51.5 +0.3**
KKAR	**Karatay Array**	**152.29**	**67**	*e*PKPbc	**PKPbc**	**23**	**45 53.5 -0.3**
AAK	**Ala-Archa**	**155.22**	**68**	PKPbc	PKPdf	23	46 01.5 +10
	comp=N,1.3nm,0.8s,baz=163,slow=3.9,SNR=5.4						
AAK				PKPab	**PKPab**	**23**	**46 16.7 +0.3**
	comp=N,2.9nm,0.6s,baz=61,slow=2.9,SNR=8.0						
KSH	**Kashi**	**156.25**	**76**	*e*PKP	**PKPdf**	**23**	**45 52.8 0.0**
KSH	**Kashi**	**156.25**	**76**	PKS	**PKSdf**	**23**	**49 26.4 -0.4**
KSH	**Kashi**	**156.25**	**76**	PP	PP	23	49 56.7 -2.4
KSH	**Kashi**	**156.25**	**76**	SKS	**SKSdf**	**23**	**52 56.5 -1.1**
KURBB	**Kurchatov Arra**	**156.28**	**47**	PKPab	**PKPab**	**23**	**46 20.6 +0.1**
	comp=N,2.4nm,0.9s,baz=288,slow=4.8,SNR=13						
KURBB				PP	**PP**	**23**	**50 02.4 +3.9**
	comp=N,0.4nm,0.5s,baz=299,slow=5.5,SNR=4.1						
KURK	**Kurchatov**	**156.30**	**47**	PKPab	**PKPab**	**23**	**46 20.6 +0.1**
KURK				PP	**PP**	**23**	**50 02.4 +3.9**
ZAA0	**Zalesovo Array**	**157.87**	**35**	*e*PKPdf	**PKPdf**	**23**	**45 53.4 -0.8**
ZAA0				*e*PKPab	**PKPab**	**23**	**46 26.6 -0.5**
ZALV	**Zalesovo Beam**	**157.87**	**35**	PKP	**PKPdf**	**23**	**45 54.2 0.0**
	comp=N,2.8nm,0.9s,baz=252,slow=3.0,SNR=10						
ZALV				PKPab	**PKPab**	**23**	**46 27.7 +0.5**
	comp=N,2.5nm,0.5s,baz=305,slow=5.2,SNR=8.3						
MKAR	**Makanchi Array**	**159.99**	**55**	PKP	**PKPdf**	**23**	**45 57.4 +0.4**
	comp=N,1.3nm,1.0s,baz=316,slow=3.3,SNR=7.8						
MKAR				PKPab	**PKPab**	**23**	**46 36.4 -0.4**
	comp=N,1.6nm,0.8s,baz=299,slow=5.0,SNR=8.7						
MK01	**Makanchi Array**	**160.00**	**55**	*e*PKPdf	**PKPdf**	**23**	**45 57.1 +0.2**
MK01				*e*PKPab	**PKPab**	**23**	**46 35.6 -1.2**
SONM	**Songino Array**	**169.64**	**360**	PKP	**PKPdf**	**23**	**46 06.7 +1.3**
	comp=N,0.2nm,0.5s,baz=288,slow=1.4,SNR=2.3						
SONM				PKPab	**PKPab**	**23**	**47 20.6 +1.5**
	comp=N,0.3nm,0.6s,baz=343,slow=2.7,SNR=3.4						
HHC	**Hu-ho-hao-te**	**174.68**	**311**	*e*PKP	**PKPdf**	**23**	**46 08.1 +0.2**
HHC	**Hu-ho-hao-te**	**174.68**	**311**	pPKP	pPKPdf	23	46 17.4 +1.7
HHC	**Hu-ho-hao-te**	**174.68**	**311**	SKS	**SKSdf**	**23**	**53 05.7 -3.8**

*CSEM **12** 23:36:50.0, 45°.78N×15°.06E, h0km, ML0.2*

LJU 12 23:36:50.0, 45°.78N×15°.06E, h7km, ML0.2, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VISS	**Visnje**	**0.16**	**278**	*i* Pg	Pg	23 36 53.3	+0.1
VISS				*i* Sg	Sg	23 36 55.6	+0.2
	comp=Z,2.0nm,0.0s						
VISS	**Visnje**	**0.16**	**278**	*i* Pg	Pg	23 36 53.3	0.0
VISS				*i* Sg	Sg	23 36 55.6	+0.2
	comp=Z,2.0nm,0.0s						
LEGS	**Legarje**	**0.25**	**47**	*i* Pg	Pg	23 36 54.8	-0.2
LEGS				*i* Sg	Sg	23 36 58.5	+0.3
LEGS	**Legarje**	**0.25**	**47**	*i* Pg	Pg	23 36 54.8	-0.1
LEGS				*i* Sg	Sg	23 36 58.5	+0.2
CRES	**Cresnjev**	**0.28**	**81**	*i* Pg	Pg	23 36 55.8	+0.2
CRES				*i* Sg	Sg	23 36 59.7	+0.4
	comp=Z,1.0nm,0.1s						
CRES	**Cresnjev**	**0.28**	**81**	*i* Pg	Pg	23 36 55.8	+0.2
CRES				*i* Sg	Sg	23 36 59.7	+0.3
	comp=Z,1.0nm,0.1s						
PDKS	**Podkum**	**0.28**	**351**	*i* Pg	Pg	23 36 55.7	0.0
	comp=Z,1.0nm,0.1s						
PDKS	**Podkum**	**0.28**	**351**	*i* Pg	Pg	23 36 55.7	0.0
	comp=Z,1.0nm,0.1s						
GBRS	**Gornja Briga**	**0.30**	**215**	*e*Pg	Pg	23 36 56.0	-0.1
BOJS	**Bojanci**	**0.31**	**154**	*i* Pg	Pg	23 36 56.0	0.0
BOJS	**Bojanci**	**0.31**	**154**	*i* Pg	Pg	23 36 56.0	0.0

*CSEM **12** 23:44:06.3, 42°.37N×13°.37E, h10km, MD2.0/8*

ROM 12 23:44:06.3±0.1, 42°.37N×13°.37E, h10km, Md2.0/8, Ml1.2/6, Error ellipse: s-maj=1.3km s-min=1.1km az=172.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0104	**Madonna delle**	**0.02**	**257**	Pg	Pg	23 44 08.8	+0.5
T0104				Sg	Sg	23 44 10.2	+0.5
AQU	**L'Aquila**	**0.03**	**114**	Pg	Pg	23 44 08.7	+0.4
AQU				Sg	Sg	23 44 10.1	+0.4
	143nm,0.1s						
AQU	**L'Aquila**	**0.03**	**114**	Pg	Pg	23 44 08.7	+0.4
AQU				Sg	Sg	23 44 10.1	+0.4
	143nm,0.1s						
FAGN	**Fagnano**	**0.19**	**122**	Pg	Pg	23 44 11.0	+0.6
FAGN				Sg	Sg	23 44 14.3	+1.0
	56nm,0.3s						
FAGN	**Fagnano**	**0.19**	**122**	Pg	Pg	23 44 11.0	+0.6
FAGN				Sg	Sg	23 44 14.3	+1.0
	56nm,0.3s						
FIAM	**Fiamignano**	**0.21**	**243**	Pg	Pg	23 44 11.5	+0.6
FIAM				Sg	Sg	23 44 15.1	+1.1
	15nm,0.4s						
FIAM	**Fiamignano**	**0.21**	**243**	Pg	Pg	23 44 11.5	+0.6
FIAM				Sg	Sg	23 44 15.1	+1.1
	15nm,0.4s						
SMA1	**SAN MARTINO**	**0.27**	**355**	Pg	Pg	23 44 12.3	+0.4
SMA1				Sg	Sg	23 44 16.9	+1.2
	32nm,0.4s						
TERO	**Teramo**	**0.31**	**34**	Pg	Pg	23 44 12.5	-0.2
TERO				Sg	Sb	23 44 18.2	-1.0
	29nm,0.3s						
TERO	**Teramo**	**0.31**	**34**	Pg	Pg	23 44 12.5	-0.2
TERO				Sg	Sb	23 44 18.2	-1.0
	29nm,0.3s						
VCEL	**Villa Celiera**	**0.35**	**85**	Pg	Pb	23 44 14.2	-0.6
VCEL				Sg	Sb	23 44 19.6	-0.9
	45nm,0.6s						
VCEL	**Villa Celiera**	**0.35**	**85**	Pg	Pb	23 44 14.2	-0.6
VCEL				Sg	Sb	23 44 19.6	-0.9
	45nm,0.6s						
NRCA	**Norcia**	**0.51**	**338**	Pg	Pg	23 44 16.4	+0.1
NRCA				Sg	Sb	23 44 24.2	-0.7
	14nm,0.1s						
NRCA	**Norcia**	**0.51**	**338**	Pg	Pg	23 44 16.4	+0.1
NRCA				Sg	Sb	23 44 24.2	-0.7
	14nm,0.1s						

MAN 12 23:52:58, 18°.12N×121°.01E, h35km, mb4.3, ML3.1, MS2.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.34**	**138**	*e*P	Pn	23 53 07.9	+1.4
APYP				*e*S	Sn	23 53 15.5	+3.2
ABRA	**Dolores**	**0.54**	**211**	*e*P	Pn	23 53 10.2	+1.0
ABRA				*e*S	Sn	23 53 19.5	+2.4
SIPP	**Brgy, Tapao**	**0.56**	**250⇓**	*e*P	Pn	23 53 11.2	+1.7
SIPP				*e*S	Sn	23 53 19.7	+2.2
SGCP	**Mt. Cagua**	**1.00**	**83**	*e*P	Pn	23 53 16.3	+0.8
SGCP				*e*S	Sn	23 53 27.2	-1.1

*ISCJB **12** 23:59:03.6±2.4, 34°.39S±0°.03×71°.98W±0°.08, h5km±19km, mb4.2/1, Error ellipse: s-maj=11.4km s-min=4.1km az=9.7*
*NEIC **12** 23:59:05.8, 34°.39S×71°.92W, h11km, mb3.8/2, ML4.1(GUC), After GUC.*
NEIC Felt [IV] at Pichilemu.
*GUC **12** 23:59:05.8±0.4, 34°.39S×71°.92W, h11km±2km, ML4.1*

ISC 12 23:59:04.2±1.4, 34°.38S±0°.03×71°.89W±0°.07, h5km±10km, n25, σ1§12/38, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.83**	**139⇑**	*i*P	**Pb**	**23 59 21.3**	**+0.2**
NICH				*i* S	**Sb**	**23 59 33.1**	**+0.6**
NICH				AML	AML	23 59 36.0	
	comp=E,37μm,0.4s						
NICH	**Los Niches**	**0.83**	**139⇑**	*i*P	**Pb**	**23 59 21.3**	**+0.2**
NICH				*i* S	**Sb**	**23 59 33.1**	**+0.6**
TALC	**Talca**	**1.04**	**168**	*i* P9	**Pg**	**23 59 23.1**	**-1.1**
TALC				*i* S	**Sg**	**23 59 37.5**	**-0.3**
TALC				AML	AML	23 59 43.2	
	comp=N,11μm,0.5s						
TALC	**Talca**	**1.04**	**168**	*i* P	**Pg**	**23 59 23.1**	**-1.1**
TALC				*i* S	**Sg**	**23 59 37.5**	**-0.3**
RCDM	**Rinconada Maip**	**1.26**	**46**	*e*P9	**Pb**	**23 59 27.8**	**-0.7**
RCDM				*i* S	**Sb**	**23 59 44.9**	**-0.1**
RCDM				AML	AML	23 59 52.0	
	comp=N,3μm,0.2s						
RCDM	**Rinconada Maip**	**1.26**	**46**	*e*P	**Pb**	**23 59 27.8**	**-0.7**
RCDM				*i* S	**Sb**	**23 59 44.9**	**-0.1**
ANTU	**Antumapu**	**1.32**	**53**	*i* P	**Pg**	**23 59 29.7**	**+0.2**
ANTU				*i* S	**Sn**	**23 59 47.7**	**+0.5**
ANTU				AML	AML	23 59 52.3	
	comp=N,4μm,0.5s						
ANTU	**Antumapu**	**1.32**	**53**	*i* P	**Pg**	**23 59 29.7**	**+0.2**
ANTU				*i* S	**Sn**	**23 59 47.7**	**+0.5**
IHA	**Instituto Hidr**	**1.36**	**9**	*i* P	**Pn**	**23 59 29.8**	**0.0**
IHA				*i* S	**Sg**	**23 59 48.5**	**+0.4**
IHA	**Instituto Hidr**	**1.36**	**9**	*i* P	**Pn**	**23 59 29.8**	**0.0**
IHA				*i* S	**Sg**	**23 59 48.5**	**+0.4**
LACH	**Col Las Americ**	**1.46**	**51⇑**	*i*P	**Pb**	**23 59 31.9**	**0.0**
LACH	**Col Las Americ**	**1.46**	**51⇑**	*i*P	**Pb**	**23 59 31.9**	**0.0**
SJCH	**San Jose de Ma**	**1.47**	**61**	AML	AML	23 59 58.8	
	comp=E,3μm,0.6s						
LNCH	**Linares**	**1.49**	**171⇑**	*i*P	**Pn**	**23 59 31.3**	**-0.3**
LNCH				*i* S	**Sn**	**23 59 50.7**	**-0.7**
LNCH				AML	AML	23 59 53.2	
	comp=E,6μm,0.6s						
LNCH	**Linares**	**1.49**	**171⇑**	*i*P	**Pn**	**23 59 31.3**	**-0.3**
LNCH				*i* S	**Sn**	**23 59 50.7**	**-0.7**
CLCH	**Cerro Calan**	**1.49**	**49⇑**	*i*P	**Pb**	**23 59 32.4**	**0.0**
CLCH				*i* S	**Sg**	**23 59 52.6**	**+0.4**
CLCH				AML	AML	00 00 00.6	
	comp=N,5μm,0.5s						
CLCH				AML	AML	00 00 01.2	
	comp=N,6μm,0.6s						
PEL	**Peldehue**	**1.59**	**40**	*e*P	**Pb**	**23 59 33.8**	**-0.3**
PEL				*i* S	**Sg**	**23 59 55.0**	**-0.2**
PEL				AML	AML	00 00 03.4	
	comp=N,5μm,0.4s						
PEL	**Peldehue**	**1.59**	**40**	*e*P	**Pb**	**23 59 33.8**	**-0.3**
PEL				*i* S	**Sg**	**23 59 55.0**	**-0.2**
FCH	**Farellones**	**1.69**	**52⇓**	*i*P	Pn	23 59 30.2	-4.5
FCH				*i* S	**Sn**	**23 59 53.2**	**-3.7**
FCH	**Farellones**	**1.69**	**52⇓**	*i*P	Pn	23 59 30.2	-4.5
FCH				*i* S	**Sn**	**23 59 53.2**	**-3.7**
	comp=E,2μm,0.4s						
FCH	**Farellones**	**1.69**	**52⇓**	*i*P	Pn	23 59 30.2	-4.5
FCH				*i* S	**Sn**	**23 59 53.2**	**-3.7**
LCO	**Las Campanas**	**5.44**	**11**	*e*Pn	Pn	00 00 22.5	-3.8
PLCA	**Paso Flores**	**6.43**	**171**	*e*Pn	**Pn**	**00 00 42.1**	**+2.5**
TRQA	**Tornquist**	**8.81**	**117**	*e*Pn	**Pn**	**00 01 13.4**	**+1.3**
LPAZ	**La Paz**	**18.33**	**12**	*e*Pn	**P**	**00 03 21.0**	**+1.0**
	comp=E,1.6nm,0.7s						
QSPA	**South Pole Qui**	**55.86**	**180**	*e*P	**P**	**00 08 42.5**	**0.0**
	comp=E,1.9nm,0.8s						

WEL 13 00:18:18.4±0.4, 36°.78S×177°.70E, h129km±4km, ML3.5/11, 1C-1D, Error ellipse: s-maj=4.1km s-min=3.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.92**	**148**	⇓PN	Pn	00 18 40.3	-0.1
MXZ				SN	Sn	00 18 57.6	+0.5
HAZ	**Te Kaha**	**0.98**	**176**	PN	Pn	00 18 40.9	0.0
HAZ				SN	Sn	00 18 58.1	+0.1
WMGZ	**Waiomatatini S**	**1.18**	**151**	PN	Pn	00 18 42.9	0.0
WMGZ				SN	Sn	00 19 02.2	+0.6
PUZ	**Puketiti**	**1.36**	**161**	PN	Pn	00 18 44.3	-0.6
PUZ				SN	Sn	00 19 04.5	-0.6
OPRZ	**Ohinepanea**	**1.40**	**220**	⇑PN	Pn	00 18 45.6	+0.4
TWGZ	**Tauwhareparae**	**1.41**	**171**	PN	Pn	00 18 45.8	+0.4
URZ	**Urewera**	**1.55**	**197**	PN	Pn	00 18 46.4	-0.5
URZ				AML	AML	00 19 09.8	
URZ				AML	AML	00 19 09.8	
MWZ	**Matawai**	**1.56**	**185**	PN	Pn	00 18 47.3	+0.2
MWZ				SN	Sn	00 19 08.6	-0.4
MWZ				AML	AML	00 19 10.7	
RAGZ	**Rawiri**	**1.73**	**187**	PN	Pn	00 18 49.6	+0.5
CNGZ	**Carnagh Statio**	**1.75**	**167**	PN	Pn	00 18 49.4	+0.2
PRGZ	**Paritu Road**	**2.15**	**176**	PN	Pn	00 18 51.8	-2.3
RAHZ	**Arahi**	**2.19**	**193**	PN	Pn	00 18 54.3	-0.2
KNZ	**Kokohu**	**2.24**	**181**	PN	Pn	00 18 54.3	-0.8
WHHZ	**Waihua**	**2.32**	**189**	PN	Pn	00 18 55.7	-0.5
NMHZ	**Naumai**	**2.42**	**197**	PN	Pn	00 18 57.4	-0.1
ARHZ	**Aropaoanui**	**2.54**	**192**	PN	Pn	00 18 58.2	-0.8
BKZ	**Black Stump Fm**	**2.57**	**201**	PN	Pn	00 18 58.9	-0.5
KRHZ	**Kereru**	**3.05**	**200**	PN	Pn	00 19 03.6	-1.9
KAHZ	**Kahuranaki**	**3.08**	**192**	PN	Pn	00 19 04.4	-1.6
PXZ	**Pawanui**	**3.31**	**191**	PN	Pn	00 19 06.4	-2.5
PNHZ	**Pukenui**	**3.34**	**200**	PN	Pn	00 19 07.1	-2.3
ANWZ	**Angora Road**	**3.80**	**194**	PN	Pn	00 19 12.9	-2.5
MRZ	**Mangatainoka R**	**4.22**	**203**	PN	Pn	00 19 17.4	-3.5
HOWZ	**Holdsworth Sta**	**4.45**	**202**	PN	Pn	00 19 20.1	-4.0
KIW	**Kapiti Island**	**4.62**	**207**	AML	AML	00 19 23.3	
MTW	**Mount Morrison**	**4.70**	**201**	AML	AML	00 19 24.0	
PLWZ	**Palliser**	**5.15**	**201**	PN	Pn	00 19 28.2	-5.2
TCW	**Tory Channel**	**5.17**	**210**	AML	AML	00 19 29.6	
TUWZ	**Tuamarina**	**5.49**	**211**	AML	AML	00 19 34.7	

*IDC **13** 00:31:37.3±1.5, 13°.33N×123°.99E, h0km, mb3.3/5, mb1 3.4/5, mb1mx3.3/34, mbtmp3.3/5, Error ellipse: s-maj=180.7km s-min=19.2km az=68.0*
*ISCJB **13** 00:31:40.6±0.8, 13°.42N±0°.06×124°.25E±0°.08, h46km, mb3.3/5, Error ellipse: s-maj=11.6km s-min=8.7km az=179.4*

ISC 13 00:31:42.4±1.1, 13°.40N±0°.08×124°.2E±0°.1, h46km, n14, σ1§85/10, mb3.4/5, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.20**	**342⇑**	*e*P	Pn	00 31 46.0	-4.3
PVCP				*i* S	**Sn**	**00 31 52.8**	**-3.2**
GQP	**Guinayangan**	**1.79**	**286⇓**	*e*P	**Pn**	**00 32 09.2**	**-1.7**
GQP				*e*S	**Sn**	**00 32 33.6**	**+1.1**
RCP	**Roxas**	**2.33**	**218⇑**	*e*P	**Pn**	**00 32 16.1**	**-2.2**
RCP				*e*S	**Sn**	**00 32 45.7**	**0.0**
WRA	**Warramunga Arr**	**34.60**	**163**	P	**P**	**00 38 28.5**	**+1.3**
	0.2nm,0.6s,baz=346,slow=8.2,SNR=3.5						
SONM	**Songino Array**	**37.40**	**340**	P	**P**	**00 38 52.7**	**+1.6**
	0.5nm,0.9s,baz=157,slow=7.8,SNR=3.0						
ASAR	**Alice Springs**	**38.04**	**166**	P	**P**	**00 38 57.0**	**+0.5**
	0.4nm,0.8s,baz=350,slow=7.9,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**41.08**	**77**	T	T	01 23 17.2	
	baz=269,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**41.09**	**77**	T	T	01 23 09.9	
	baz=269,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**41.09**	**77**	T	T	01 23 11.3	
	baz=269,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**41.30**	**75**	T	T	01 23 34.7	
	baz=268,slow=74,SNR=39						
H11N2	**WAKE ISLAND Hy**	**41.30**	**75**	T	T	01 23 35.4	
	baz=268,slow=74,SNR=28						
H11N3	**WAKE ISLAND Hy**	**41.32**	**75**	T	T	01 23 36.3	
	baz=268,slow=74,SNR=31						
MKAR	**Makanchi Array**	**48.33**	**322**	P	**P**	**00 40 19.9**	**+0.5**
	0.3nm,0.6s,baz=106,slow=7.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**50.93**	**331**	P	**P**	**00 40 39.3**	**+0.3**
	0.2nm,0.3s,baz=133,slow=9.2,SNR=2.5						

*IDC **13** 00:33:14.7±1.5, 37°.62S×73°.82W, h0km, mb3.9/4, mb1 3.8/6, mb1mx3.5/37, mbtmp3.7/6, ML3.0/1, MS3.3/2, Ms1 3.2/2, ms1mx2.8/21, Error ellipse: s-maj=42.6km s-min=19.7km az=81.0*
*ISCJB **13** 00:33:17.7±1.1, 37°.55S±0°.07×73°.4W±0°.2, h23km, mb4.1/5, MS3.8/1, Error ellipse: s-maj=24.4km s-min=10.4km az=178.7*

*NEIC **13** 00:33:20.8±0.8, 37°.54S×73°.50W, h35km, mb4.4/5, Error ellipse: s-maj=19.0km s-min=8.5km az=87.0*

ISC 13 00:33:18.9±1.2, 37°.57S±0°.08×73°.6W±0°.2, h23km, n18, σ0§97/16, mb4.0/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.94**	**144**	Pn	**Pn**	**00 34 16.5**	**-1.6**
	baz=311,slow=8.9						
PLCA				LR	LR	00 35 15.8	
	comp=Z,141nm,21.6s,baz=199,slow=30						
PLCA				Lg	Lg	00 35 23.7	
	9.4nm,0.3s,baz=49,slow=17,SNR=3.5						
PLCA	**Paso Flores**	**3.94**	**144**	*e*Pn	**Pn**	**00 34 19.0**	**+0.9**
PLCA				Lg	Lg	00 35 23.7	
CFAA	**Coronel Fontan**	**7.41**	**38**	Pn	**Pn**	**00 35 05.5**	**-0.2**
	0.2nm,0.3s,baz=212,slow=14,SNR=3.6						
LCO	**Las Campanas**	**8.87**	**17**	*e*Pn	**Pn**	**00 35 24.9**	**-1.1**
TRQA	**Tornquist**	**9.20**	**97**	*e*Pn	**Pn**	**00 35 30.4**	**+0.2**
EFI	**East Falkland**	**17.86**	**147**	*e*Pn	**Pn**	**00 37 24.6**	**-1.0**
	36nm,0.9s						
LPAZ	**La Paz**	**21.74**	**14**	P	**P**	**00 38 10.5**	**+1.2**
	1.8nm,0.6s,baz=178,slow=8.3,SNR=5.3						
LPAZ	**La Paz**	**21.74**	**14**	*e*P	**P**	**00 38 10.6**	**+1.2**
	6.9nm,1.1s						
RCBR	**Riachuelo**	**46.62**	**57**	LR	LR	01 03 04.4	
	comp=Z,99nm,19.8s,baz=204,slow=38						
SNAA	**Sanae**	**48.79**	**157**	*e*P	**P**	**00 42 02.9**	**+1.2**
	7.1nm,0.9s						
QSPA	**South Pole Qui**	**52.67**	**180**	P	**P**	**00 42 30.3**	**-0.8**
	0.9nm,0.8s,baz=124,slow=2.9,SNR=4.3						
QSPA	**South Pole Qui**	**52.67**	**180**	*e*P	**P**	**00 42 31.8**	**+0.6**
	2.8nm,0.9s						
DBIC	**Dimbokro**	**77.52**	**71**	P	**P**	**00 45 13.9**	**+0.9**
	2.7nm,0.8s,baz=245,slow=9.6,SNR=4.0						
DBIC	**Dimbokro**	**77.52**	**71**	*e*P	**P**	**00 45 13.1**	**+0.1**
	3.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**86.60**	**71**	P	**P**	**00 46 00.9**	**+0.2**
	0.5nm,0.6s,baz=222,slow=4.7,SNR=9.4						
ABKAR	**Akbulak array**	**144.81**	**56**	*e*PKPdf	PKPbc	00 52 52.9	+0.4
ZALV	**Zalesovo Beam**	**157.89**	**35**	PKPab	**PKPab**	**00 53 45.2**	**-0.8**
	0.4nm,0.5s,baz=311,slow=4.8,SNR=2.8						
MKAR	**Makanchi Array**	**159.96**	**55**	PKPab	**PKPab**	**00 53 55.1**	**-0.2**
	0.2nm,0.6s,baz=321,slow=1.8,SNR=2.6						

*IDC **13** 00:46:43.0±1.2, 35°.83S×73°.49W, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/30, mbtmp3.6/7, ML3.3/2, MS3.3/6, Ms1 3.3/6, ms1mx3.1/22, Error ellipse: s-maj=33.4km s-min=30.1km az=56.0*
*ISCJB **13** 00:46:46.5±0.9, 35°.94S±0°.09×73°.4W±0°.1, h33km, mb3.7/5, MS3.6/4, Error ellipse: s-maj=17.7km s-min=11.0km az=30.2*

ISC 13 00:46:47.9±0.9, 35°.95±0°.1×73°.5W±0°.1, h35km, n12, σ1§05/12, mb3.7/5, MS3.6/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.34**	**155**	Pn	**Pn**	**00 48 05.2**	**0.0**
	0.4nm,0.3s,baz=326,slow=10,SNR=8.1						
PLCA				Lg	Lg	00 49 26.4	
	baz=270,slow=20						
PLCA				LR	LR	00 49 31.5	
	comp=Z,206nm,21.8s,baz=360,slow=31						
CFAA	**Coronel Fontan**	**6.13**	**47**	Pn	**Pn**	**00 48 15.5**	**-0.6**
	0.2nm,0.3s,baz=226,slow=12,SNR=13						
CFAA				Sn	**Sn**	**00 49 26.3**	**+1.3**
	0.1nm,0.3s,baz=105,slow=16,SNR=2.1						
CFAA				LR	LR	00 50 52.3	
	comp=Z,50nm,21.4s,baz=260,slow=41						
LPAZ	**La Paz**	**20.12**	**15**	P	Pn	00 51 21.2	-0.4
	1.7nm,0.9s,baz=140,slow=6.4,SNR=7.6						
SIV	**San Ignacio**	**22.73**	**32**	P	**P**	**00 51 45.7**	**-1.2**
	4.9nm,0.9s,baz=215,slow=0.7,SNR=15						
RPN	**Rapa Nui**	**31.64**	**276**	LR	LR	01 02 13.8	
	comp=Z,123nm,19.1s,baz=37,slow=29						
TXAR	**Lajitas Array**	**70.84**	**332**	P	**P**	**00 57 59.9**	**-1.2**
	0.3nm,0.7s,baz=165,slow=7.5,SNR=2.8						
TXAR				LR	LR	01 23 46.7	
	comp=Z,39nm,20.5s,baz=0.0,slow=31						
DBIC	**Dimbokro**	**76.92**	**72**	LR	LR	01 31 38.2

s-maj=17.8km s-min=14.8km az=112.0

ISC 13 00:55:15.5±0.6, 31°39S±0°07×179°7E±0°1, h400km, n43, σ1§23/50, mb3.9/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.98**	**45**	P	**Pn**	**00 56 19.2**	**+0.5**
	60nm,0.3s,baz=79,slow=14,SNR=4.6						
RAO				S	**S**	**00 57 09.4**	**-0.2**
	94nm,0.3s,baz=91,slow=22,SNR=5.7						
MXZ	**Matakaoa Point**	**6.26**	**190**	PN	**Pn**	**00 56 52.6**	**+1.7**
MXZ				SN	**S**	**00 58 06.7**	**-1.9**
WMGZ	**Waiomatatini S**	**6.50**	**189**	PN	**Pn**	**00 56 55.6**	**+2.1**
WMGZ				SN	**S**	**00 58 13.5**	**+0.1**
HAZ	**Te Kaha**	**6.54**	**193**	PN	**P**	**00 56 55.9**	**+1.4**
HAZ				SN	**S**	**00 58 12.1**	**-2.1**
PUZ	**Puketiti**	**6.77**	**190**	PN	**P**	**00 56 57.7**	**+0.6**
MWZ	**Matawai**	**7.15**	**194**	PN	**P**	**00 57 02.3**	**+0.9**
URZ	**Urewera**	**7.17**	**196**	P	**P**	**00 57 02.3**	**+0.7**
	36nm,0.3s,baz=273,slow=3.6,SNR=138						
URZ				S	**S**	**00 58 24.9**	**-2.3**
	15nm,0.3s,baz=72,slow=22,SNR=16						
URZ	**Urewera**	**7.17**	**196**	PN	**P**	**00 57 01.9**	**+0.3**
URZ				SN	**S**	**00 58 25.2**	**-2.0**
SNGZ	**Shannon Statio**	**7.62**	**194**	PN	**P**	**00 57 08.6**	**+2.1**
KNZ	**Kokohu**	**7.79**	**192**	PN	**P**	**00 57 10.2**	**+1.8**
RAHZ	**Arahi**	**7.80**	**195**	PN	**P**	**00 57 10.5**	**+1.9**
WHHZ	**Waihua**	**7.92**	**194**	PN	**P**	**00 57 12.0**	**+2.1**
NMHZ	**Naumai**	**8.04**	**196**	PN	**P**	**00 57 11.9**	**+0.6**
ARHZ	**Aropaoanui**	**8.15**	**195**	PN	**P**	**00 57 14.0**	**+1.5**
BKZ	**Black Stump Fm**	**8.18**	**198**	PN	**Pn**	**00 57 12.6**	**+0.1**
MCHZ	**McNeill Hill**	**8.39**	**196**	PN	**P**	**00 57 16.0**	**+0.8**
BHHZ	**Black Hill Sta**	**8.60**	**199**	PN	**P**	**00 57 17.5**	**0.0**
KRHZ	**Kereru**	**8.66**	**197**	PN	**P**	**00 57 18.2**	**0.0**
KAHZ	**Kahuranaki**	**8.69**	**194**	PN	**P**	**00 57 19.8**	**+1.4**
PXZ	**Pawanui**	**8.92**	**194**	PN	**P**	**00 57 21.8**	**+0.8**
PNHZ	**Pukenui**	**8.96**	**197**	PN	**P**	**00 57 21.7**	**+0.2**
HOWZ	**Holdsworth Sta**	**10.07**	**198**	PN	**P**	**00 57 33.6**	**-0.1**
KIW	**Kapiti Island**	**10.21**	**201**	PN	**P**	**00 57 34.8**	**-0.5**
PLWZ	**Palliser**	**10.76**	**198**	PN	**Pn**	**00 57 41.9**	**-0.4**
STKA	**Stephens Creek**	**32.31**	**259**	P	**P**	**01 01 11.7**	**+2.3**
	1.6nm,0.3s,baz=124,slow=8.2,SNR=10						
ASAR	**Alice Springs**	**41.08**	**269**	P	**P**	**01 02 23.2**	**+0.8**
	0.9nm,0.5s,baz=105,slow=7.3,SNR=17						
ASAR				PcP	**PcP**	**01 04 12.1**	**-1.2**
	0.6nm,0.4s,baz=116,slow=3.8,SNR=8.8						
WRA	**Warramunga Arr**	**42.16**	**275**	P	**P**	**01 02 31.4**	**+0.4**
	2.1nm,0.3s,baz=115,slow=7.6,SNR=9.2						
WRA				PcP	**PcP**	**01 04 16.6**	**-0.2**
	0.5nm,0.3s,baz=120,slow=3.1,SNR=4.6						
QSPA	**South Pole Qui**	**58.72**	**180**	P	**P**	**01 04 33.5**	**+0.7**
	4.9nm,0.8s,baz=21,slow=2.3,SNR=9.8						
SNAA	**Sanae**	**77.21**	**179**	P	**P**	**01 06 26.2**	**0.0**
	1.0nm,0.6s,baz=176,slow=19,SNR=4.3						
PETK	**Petropavlovsk-**	**86.30**	**347**	P	**P**	**01 07 13.2**	**+0.3**
	2.9nm,0.6s,baz=128,slow=7.9,SNR=4.4						
MKAR	**Makanchi Array**	**116.88**	**310**	PKP	**PKPdf**	**01 13 11.8**	**-1.2**
	0.3nm,0.6s,baz=269,slow=2.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**117.44**	**318**	PKP	**PKPdf**	**01 13 12.1**	**-1.8**
	0.5nm,0.7s,baz=113,slow=1.9,SNR=3.3						
ARCES	**ARCESS Array B**	**139.10**	**346**	PKhKP	PKPpre	01 13 46.5	
	2.4nm,1.0s,baz=64,slow=2.1,SNR=2.9						
JOF	**Joensuu**	**142.57**	**337**	*ep*	**PKPdf**	**01 13 58.2**	**-2.6**
	353nm,3.2s						
KBZ	**Khabaz**	**143.97**	**302**	PKP	PKPab	01 14 03.0	+0.2
	2.0nm,0.8s,baz=281,slow=3.4,SNR=5.5						
KAF	**Kangasniemi**	**144.77**	**339**	*ep*	**PKPdf**	**01 14 04.4**	**-0.3**
	4.9nm,0.4s						
FINES	**FINESS Array B**	**145.35**	**338**	PKPbc	**PKPbc**	**01 14 06.4**	**-0.1**
	6.5nm,0.4s,baz=69,slow=3.6,SNR=109						
NB2	**NORSAR Subarra**	**149.38**	**349**	PKP	**PKPbc**	**01 14 17.0**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=19,slow=2.6						
NOA	**NORSAR Array B**	**149.38**	**349**	PKPbc	**PKPbc**	**01 14 17.1**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=17,slow=4.2,SNR=5.3						
AKASG	**Malin Array Be**	**150.82**	**320**	PKPbc	**PKPbc**	**01 14 20.8**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=57,slow=2.5,SNR=4.9						
BRTR	**Keskin Array B**	**151.28**	**296**	PKPbc	**PKPbc**	**01 14 22.2**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=140,slow=3.5,SNR=13						
BRTR				PKPab	**PKPab**	**01 14 32.5**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=69,slow=6.8,SNR=5.7						
GERES	**GERESS Array B**	**159.59**	**333**	PKPab	**PKPab**	**01 15 07.4**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=31,slow=8.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**161.75**	**186**	PKPab	**PKPab**	**01 15 16.9**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=166,slow=4.2,SNR=12						

*ISCJB **13** 01:00:08.0±0.3, 34°37S±0°02×72°08W±0°04, h10km, mb4.2/20, Error ellipse: s-maj=4.8km s-min=3.5km az=10.0*
*IDC **13** 01:00:08.0±0.7, 34°37S×71°89W, h0km, mb4.0/11, mb1 4.1/13, mb1mx4.0/26, mbtmp4.0/13, ML3.2/2, Error ellipse: s-maj=24.1km s-min=16.5km az=92.0*
*NEIC **13** 01:00:10.0, 34°38S×71°95W, h6km±4km, mb4.5/14, ML4.2(GUC), After GUC.*
NEIC Felt [IV] at Pichilemu and [III] at Navidad and Paredones.
*GUC **13** 01:00:10.0±0.4, 34°38S×71°95W, h6km±3km, ML4.2*

ISC 13 01:00:09.4±0.4, 34°40S±0°02×71°92W±0°05, h10km, n68, σ0§99/85, mb4.3/20, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.83**	**137**	*i* P	**Pn**	**01 00 26.4**	**-0.8**
NICH				*i* S	**Sn**	**01 00 38.8**	**-0.7**
NICH				AML	AML	01 00 41.4	
	comp=E,23μm,0.2s						
NICH	**Los Niches**	**0.83**	**137**	*i* P	**Pn**	**01 00 26.4**	**-0.8**
NICH				*i* S	**Sn**	**01 00 38.8**	**-0.7**
TALC	**Talca**	**1.02**	**167**	*i* P9	**Pg**	**01 00 27.1**	**-2.0**
TALC				*i* S	**Sg**	**01 00 42.0**	**-0.4**
TALC				AML	AML	01 00 43.5	
	comp=N,27μm,0.1s						
TALC	**Talca**	**1.02**	**167**	*i* P	**Pg**	**01 00 27.1**	**-2.0**
TALC				*i* S	**Sg**	**01 00 42.0**	**-0.4**
RCDM	**Rinconada Maip**	**1.30**	**46**	*i* P	**Pg**	**01 00 33.4**	**-0.9**
RCDM				*i* S	**Sg**	**01 00 50.9**	**-0.3**
RCDM				AML	AML	01 00 57.4	
	comp=N,5μm,0.4s						
RCDM	**Rinconada Maip**	**1.30**	**46**	*i* P	**Pg**	**01 00 33.4**	**-0.9**
RCDM				*i* S	**Sg**	**01 00 50.9**	**-0.3**
ANTU	**Antumapu**	**1.35**	**53**	*e*P	**Pg**	**01 00 34.8**	**-0.6**
ANTU				*i* S	**Sg**	**01 00 53.3**	**+0.3**
STL	**Santa Lucia**	**1.44**	**48**	*i* P	**Pb**	**01 00 35.6**	**-0.7**
STL				*i* S	**Sg**	**01 00 55.1**	**-0.5**
LNCH	**Linares**	**1.47**	**170**	*i* P	**Pb**	**01 00 36.5**	**-0.3**
LNCH				*i* S	**Sg**	**01 00 56.5**	**-0.2**
LNCH				AML	AML	01 01 02.3	
	comp=E,6μm,0.4s						
LNCH	**Linares**	**1.47**	**170**	*i* P	**Pb**	**01 00 36.5**	**-0.3**
LNCH				*i* S	**Sg**	**01 00 56.5**	**-0.2**
LACH	**Col Las Americ**	**1.49**	**51**	*i* P	**Pb**	**01 00 36.8**	**-0.6**
LACH				*i* S	**Sg**	**01 00 57.1**	**-0.4**
LACH	**Col Las Americ**	**1.49**	**51**	*i* P	**Pb**	**01 00 36.8**	**-0.6**
LACH				*i* S	**Sg**	**01 00 57.1**	**-0.4**
SJCH	**San Jose de Ma**	**1.51**	**60**	*i* P	**Pb**	**01 00 36.9**	**-0.6**
SJCH				*i* S	**Sg**	**01 00 57.8**	**-0.1**
SJCH				AML	AML	01 01 01.9	
	comp=N,6μm,0.3s						
SJCH	**San Jose de Ma**	**1.51**	**60**	*i* P	**Pb**	**01 00 36.9**	**-0.6**
SJCH				*i* S	**Sg**	**01 00 57.8**	**-0.1**
PEL	**Peldehue**	**1.62**	**40**	AML	AML	01 01 06.3	
	comp=N,5μm,0.4s						
CFAA	**Coronel Fontan**	**4.17**	**49**	Pn	**Pn**	**01 01 11.5**	**-1.6**
	comp=N,0.3nm,0.3s,baz=228,slow=11,SNR=9.3						
CFAA				Pg	**Pb**	**01 01 22.7**	**-0.2**
	comp=N,0.9nm,0.3s,baz=231,slow=13,SNR=12						
CFAA				Lg	Lg	01 02 12.9	
	comp=N,1.2nm,0.3s,baz=223,slow=23,SNR=4.1						
LCO	**Las Campanas**	**5.47**	**11**	*e*Pn	**Pn**	**01 01 31.1**	**-0.1**
	comp=N,17nm,0.5s						
LCO				*e*Sn	**Sn**	**01 02 34.6**	**+0.1**
LCO				*e*Sg	**Sg**	**01 03 00.2**	**-5.0**
PLCA	**Paso Flores**	**6.42**	**171**	Pn	**Pn**	**01 01 44.6**	**+0.6**
	baz=339,slow=12						
PLCA				Lg	Lg	01 03 23.9	
	baz=270,slow=20						
PLCA	**Paso Flores**	**6.42**	**171**	*e*Pn	**Pn**	**01 01 45.7**	**+1.6**
	comp=N,5.2nm,0.7s						
PLCA				*e*Pg	**Pg**	**01 02 10.6**	**-1.7**
PLCA				Lg	Lg	01 03 23.9	
PLCA				*e*Sg	Sg	01 03 27.0	-8.4
TRQA	**Tornquist**	**8.82**	**117**	*e*Pn	**Pn**	**01 02 17.9**	**+0.9**
LVC	**Limon Verde**	**12.04**	**13**	*e*Pn	**Pn**	**01 03 01.0**	**-0.4**
LPAZ	**La Paz**	**18.36**	**12**	P	**P**	**01 04 25.0**	**+0.1**
	comp=N,0.1nm,0.3s,baz=190,slow=12,SNR=5.2						
LPAZ	**La Paz**	**18.36**	**12**	*e*P	**P**	**01 04 26.4**	**+1.5**
	comp=N,2.3nm,0.7s						
SIV	**San Ignacio**	**20.77**	**31**	P	**P**	**01 04 49.6**	**-1.0**
	comp=N,0.8nm,0.5s,baz=222,slow=6.5,SNR=2.6						
SAML	**Samuel**	**26.57**	**20**	*e*P	**P**	**01 05 47.6**	**-0.2**
	comp=N,2.4nm,0.9s						
OTAV	**Otavalo**	**35.00**	**349**	*e*P	**P**	**01 07 03.6**	**+1.0**
	comp=N,1.2nm,0.6s						
PTGA	**Pitinga**	**35.31**	**21**	P	**P**	**01 07 04.7**	**-0.2**
	comp=N,1.3nm,0.7s,baz=215,slow=16,SNR=5.1						
JTS	**JuntasAbangare**	**46.13**	**342**	*e*P	**P**	**01 08 31.9**	**-2.3**
GRGR	**Grenville**	**47.29**	**14**	*e*P	P	01 08 45.0	+1.8
SNAA	**Sanae**	**51.18**	**158**	P	**P**	**01 09 12.5**	**0.0**
	comp=N,1.0nm,0.8s,baz=255,slow=19,SNR=3.3						
SNAA	**Sanae**	**51.18**	**158**	*e*P	**P**	**01 09 12.9**	**+0.4**
	comp=N,7.1nm,1.1s						
OBIP	**Obispado Ponce**	**52.40**	**6**	*e*P	**P**	**01 09 23.1**	**+1.1**
GTBY	**Guantanamo Bay**	**54.11**	**356**	*e*P	**P**	**01 09 35.6**	**+1.1**
QSPA	**South Pole Qui**	**55.84**	**180**	P	**P**	**01 09 47.2**	**+0.4**
	comp=N,1.4nm,0.8s,baz=122,slow=6.3,SNR=3.8						
QSPA	**South Pole Qui**	**55.84**	**180**	*e*P	**P**	**01 09 47.5**	**+0.7**
	comp=N,5.7nm,1.0s						
JCT	**Junction City**	**69.69**	**335**	*e*P	**P**	**01 11 20.3**	**+1.0**
	comp=N,3.2nm,0.6s						
TXAR	**Lajitas Array**	**70.13**	**331**	P	**P**	**01 11 22.4**	**+0.3**
	comp=N,0.2nm,0.5s,baz=150,slow=7.3,SNR=4.1						
SWET	**Sewanee**	**70.48**	**348**	*e*P	**P**	**01 11 24.2**	**+0.1**
	comp=N,6.6nm,0.8s						
WVT	**Waverly**	**71.72**	**346**	*e*P	**P**	**01 11 31.2**	**-0.3**
	comp=N,9.1nm,0.9s						
WMOK	**Wichita Mounta**	**73.23**	**337**	*e*P	**P**	**01 11 38.3**	**-2.3**
	comp=N,3.2nm,0.9s						
TUL1	**Leonard**	**73.41**	**340**	*e*P	**P**	**01 11 41.9**	**+0.3**
WCI	**Wyandotte Cave**	**73.48**	**348**	*e*P	**P**	**01 11 41.5**	**-0.4**
DBIC	**Dimbokro**	**75.22**	**71**	P	**P**	**01 11 53.1**	**+0.5**
	comp=N,2.4nm,0.6s,baz=221,slow=4.0,SNR=7.3						
DBIC	**Dimbokro**	**75.22**	**71**	*e*P	**P**	**01 11 52.5**	**-0.2**
	comp=N,7.6nm,1.0s						
ANMO	**Albuquerque**	**76.18**	**331**	*e*P	**P**	**01 11 58.6**	**+0.7**
	comp=N,1.6nm,0.9s						
MVCO	**Mesa Verde**	**78.96**	**331**	*e*P	**P**	**01 12 14.4**	**+0.9**
	comp=N,4.1nm,1.1s						
CASY	**Casey**	**79.62**	**181**	*e*P	P	01 12 18.6	+2.1
	comp=N,41nm,1.5s						
BOSA	**Boshof**	**79.80**	**118**	P	**P**	**01 12 18.7**	**+0.4**
	comp=N,4.5nm,0.9s,baz=223,slow=5.1,SNR=6.0						
BOSA	**Boshof**	**79.80**	**118**	*e*P	**P**	**01 12 18.6**	**+0.2**
	comp=N,5.2nm,0.9s						
LBTB	**Lobatse**	**82.05**	**115**	*e*P	**P**	**01 12 30.5**	**+0.1**
	comp=N,2.4nm,0.6s						
PDAR	**Pinedale Array**	**84.16**	**333**	P	**P**	**01 12 40.4**	**-0.4**
	comp=N,0.4nm,0.6s,baz=145,slow=5.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**84.26**	**70**	P	**P**	**01 12 42.0**	**+0.3**
	comp=N,1.3nm,0.6s,baz=280,slow=6.7,SNR=15						
NVAR	**Mina Array Bea**	**84.27**	**325**	P	**P**	**01 12 42.5**	**+1.1**
	comp=N,0.6nm,0.8s,baz=124,slow=7.9,SNR=2.8						
ULM	**Lac du Bonnet**	**86.91**	**345**	P	**P**	**01 12 54.0**	**0.0**
	comp=N,1.1nm,0.5s,baz=180,slow=4.0,SNR=2.6						
YKA	**Yellowknife Ar**	**102.47**	**341**	P	**Pdif**	**01 14 04.6**	**-0.4**
	comp=N,0.1nm,0.5s,baz=146,slow=4.3,SNR=3.8						
WRA	**Warramunga Arr**	**120.46**	**209**	PKP	**PKPdf**	**01 19 00.6**	**-1.2**
	comp=N,0.7nm,1.0s,baz=157,slow=1.2,SNR=3.0						
COEN	**Coen**	**121.47**	**221**	*e*PKPdf	**PKPdf**	**01 19 04.2**	**+0.4**
KIV	**Kislovodsk**	**129.62**	**58**	*e*PKPdf	**PKPdf**	**01 19 18.8**	**+0.2**
GNI	**Garni**	**130.21**	**64**	*e*PKPdf	**PKPdf**	**01 19 21.4**	**+1.5**
ABKAR	**Akbulak array**	**141.85**	**52**	*e*PKPdf	**PKPdf**	**01 19 41.6**	**+0.7**
BRVK	**Borovoye**	**147.43**	**43**	*e*PKPbc	**PKPab**	**01 19 54.0**	**-1.0**
KKAR	**Karatay Array**	**149.65**	**62**	*e*PKPbc	**PKPbc**	**01 19 59.1**	**0.0**
YSS	**Yuzh-Sakhalins**	**151.11**	**306**	*e*PKPbc	**PKPbc**	**01 20 03.0**	**+0.6**
KURK	**Kurchatov**	**153.10**	**44**	*e*PKPdf	**PKPdf**	**01 20 00.1**	**+0.6**
KURK				*e*PKPbc	**PKiKP**	**01 20 06.9**	**-0.1**
TKM2	**Tokmak 2**	**153.38**	**62**	*e*PKPbc	**PKPbc**	**01 20 08.6**	**+0.6**
ZALV	**Zalesovo Beam**	**154.51**	**33**	PKPbc	**PKPbc**	**01 20 09.8**	**+0.1**
	comp=N,0.8nm,0.7s,baz=279,slow=2.9,SNR=5.3						
MKAR	**Makanchi Array**	**156.95**	**50**	PKPab	**PKPab**	**01 20 34.7**	**-0.3**
	comp=N,0.3nm,0.7s,baz=304,slow=2.8,SNR=3.8						

*IDC **13** 01:14:47.1±1.2, 21°73N×121°70E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/25, mbtmp3.5/6, Error ellipse: s-maj=69.5km s-min=23.8km az=64.0*
*ISCJB **13** 01:14:50.9±0.6, 21°86N±0°03×121°50E±0°02, h18km±4km, mb3.3/6, Error ellipse: s-maj=5.6km s-min=3.7km az=173.7*
*TAP **13** 01:14:51.9, 21°91N×121°39E, h19km, ML3.7, C*
*JMA **13** 01:14:51.6±0.3, 21°99N×121°35E, h0km, M3.9*

ISC 13 01:14:51.6±1.1, 21°92N±0°04×121°46E±0°03, h17km±6km, n60, σ1§40/87, mb3.4/6, 4C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.15**	**38**	⇓*i* P	Pg	01 14 57.4	+1.6
	baz=50						
LAY				*i* S	**Sg**	**01 15 01.3**	**+2.7**
	baz=50						
TSEB	**Hengchuen, Pin**	**0.52**	**268**	⇑*i* P	**Pb**	**01 15 02.6**	**+0.4**
	baz=269						
TSEB				*i* S	**Sb**	**01 15 10.8**	**+1.4**
	baz=269						
TWK1	**Hengchun**	**0.60**	**272**	⇑*i* P	**Pg**	**01 15 03.1**	**-0.4**
	baz=285						
TWK1				*i* S	**Sb**	**01 15 11.5**	**-0.5**
	baz=285						
HEN	**Hengchun**	**0.67**	**277**	*i* P	**Pg**	**01 15 04.3**	**-0.5**
	baz=279						
HEN				*i* S	**Sb**	**01 15 13.6**	**-0.3**
	baz=279						
TAW	**Tawu**	**0.67**	**310**	*i* P	**Pg**	**01 15 04.2**	**-0.7**
	baz=314						
TAW				*i* S	**Sb**	**01 15 13.4**	**-0.6**
	baz=314						
EAST	**Anshuo**	**0.72**	**309**	⇑*i* P	**Pg**	**01 15 05.1**	**-0.8**
	baz=326						
EAST				*i* S	**Sg**	**01 15 14.3**	**-1.2**
	baz=326						
ECL	**Taimali**	**0.81**	**325**	*e*P	**Pg**	**01 15 06.3**	**-1.3**
	baz=330						
ECL				*e*S	**Sg**	**01 15 16.9**	**-1.5**
	baz=330						
TTN	**Taitung**	**0.87**	**341**	*e*P	**Pb**	**01 15 09.3**	**+1.0**
	baz=345						
TTN				*e*S	**Sb**	**01 15 19.7**	**0.0**
	baz=345						
SCZT	**Fangliau**	**0.89**	**300**	⇑*i* P	**Pg**	**01 15 08.0**	**-1.0**
	baz=316						
SCZT				*e*S	**Sg**	**01 15 18.9**	**-1.9**
	baz=316						
TWG	**Pinlang**	**0.96**	**338**	*i* P	**Pg**	**01 15 08.6**	**-1.7**
	baz=329						
TWG				*e*S	**Sg**	**01 15 21.1**	**-1.9**
	baz=329						
TWP	**Hsiaoliuchiu**	**1.10**	**293**	*e*P	**Pn**	**01 15 12.7**	**+0.5**
	baz=295						
TWP				*e*S	**Sn**	**01 15 27.8**	**+0.8**
	baz=295						
SSD	**Sandimen**	**1.12**	**317**	*e*P	**Pb**	**01 15 12.9**	**+0.4**
	baz=327						
CHKT	**Chengkung**	**1.17**	**356**	*e*P	**Pg**	**01 15 12.7**	**-1.7**
	baz=8.0						
CHKT				*e*S	**Sg**	**01 15 28.5**	**-1.2**
	baz=8.0						
SGLT	**Jiouru**	**1.20**	**312**	*e*P	**Pg**	**01 15 13.8**	**-1.0**
	baz=323						
TWM1	**Shoushan**	**1.31**	**313**	*e*P	**Pg**	**01 15 16.6**	**-0.3**
	baz=316						
ELDTW	**Lidau**	**1.32**	**342**	*e*P	**Pn**	**01 15 14.0**	**-1.4**
	baz=345						
STYT	**Tauyuan**	**1.39**	**333**	*e*P	**Pn**	**01 15 15.9**	**-0.4**
	baz=344						
SGST	**Jiashian**	**1.41**	**325**	*e*P	**Pn**	**01 15 17.4**	**+1.0**
	baz=327						
SGST				*e*S	**Sg**	**01 15 36.5**	**-0.7**
	baz=327						
TWF1	**Yuli**	**1.43**	**354**	*e*P	**Pn**	**01 15 16.9**	**+0.1**
	baz=6.0						
CHN1	**Nanshi**	**1.52**	**326**	*e*P	**Pn**	**01 15 19.0**	**+0.9**
	baz=328						
CHN1				*e*S	**Sg**	**01 15 40.2**	**-0.6**
	baz=328						
WTP	**Ta-pu**	**1.53**	**330**	*e*P	**Pn**	**01 15 19.2**	**+1.0**
	baz=332						
WTP				*e*S	**Sg**	**01 15 40.4**	**-0.6**
	baz=332						
EHY	**Hungye**	**1.58**	**356**	*e*P	**Pn**	**01 15 19.9**	**+1.0**
	baz=345						
EHY				*e*S	**Sn**	**01 15 38.1**	**-0.8**
	baz=345						
TWK	**Hsinying**	**1.61**	**326**	*e*P	**Pn**	**01 15 20.0**	**+0.7**
	baz=328						
TWK				*e*S	**Sn**	**01 15 40.6**	**+0.9**
	baz=328						
YUS	**Yu-Shan**	**1.63**	**344**	*e*P	**Pn**	**01 15 19.8**	**-0.2**
	baz=345						
CHN4	**Tsaushan**	**1.63**	**331**	*e*P	**Pn**	**01 15 20.6**	**+1.1**
	baz=333						
CHN4				*e*S	**Sb**	**01 15 42.3**	**+0.8**
	baz=333						
ALS	**Alishan**	**1.69**	**339**	*e*P	**Pn**	**01 15 21.2**	**+0.5**
	baz=341						
ALS				*e*S	**Sn**	**01 15 43.7**	**+1.7**
	baz=341						
CHN5	**Tsauling**	**1.81**	**337**	*e*P	**Pn**	**01 15 23.7**	**+1.6**
	baz=338						
CHN5				*e*S	**Sb**	**01 15 47.1**	**+0.2**
	baz=338						
CHY	**Chiayi**	**1.83**	**329**	*e*P	**Pn**	**01 15 22.7**	**+0.4**
	baz=330						
CHY				*e*S	**Sn**	**01 15 46.5**	**+1.4**
	baz=330						
SMLT	**Sun Moon Lake**	**2.02**	**345**	*e*P	**Pn**	**01 15 26.9**	**+1.9**
	baz=346						
SMLT				*e*S	**Sn**	**01 15 51.6**	**+1.8**
	baz=346						
TYC	**Yuchr**	**2.05**	**345**	*e*P	**Pn**	**01 15 26.6**	**+1.3**
	baz=346						
TYC				*e*S	**Sn**	**01 15 52.1**	**+1.7**
	baz=346						
WDGT	**Dungji**	**2.13**	**309**	*e*P	**Pn**	**01 15 25.6**	**-0.8**
	baz=310						
TWD	**Chiawan**	**2.15**	**3**	*e*P	**Pn**	**01 15 28.2**	**+1.5**
	baz=13						
WHF	**Hehuan Shan**	**2.22**	**356**	*e*P	**Pn**	**01 15 29.3**	**+1.3**
	baz=356						
WHF				*e*S	**Sn**	**01 15 57.2**	**+1.9**
	baz=356						
TWT	**Tachien**	**2.33**	**354**	*e*P	**Pn**	**01 15 30.8**	**+1.4**
	baz=4.0						
TWQ1	**Liyutan**	**2.49**	**346**	*e*P	**Pb**	**01 15 34.4**	**-1.6**
	baz=346						
TWQ1				*e*S	**Sn**	**01 16 04.4**	**+2.9**
	baz=346						
NNS	**Nan Shan**	**2.51**	**358**	*e*P	**Pn**	**01 15 34.0**	**+2.3**
	baz=7.0						
TWC	**Suao**	**2.70**	**8**	*e*P	**Pn**	**01 15 35.7**	**+1.4**
	baz=15						
NSTT	**Nanjuang**	**2.73**	**351**	*e*P	**Pn**	**01 15 37.8**	**+3.2**
	baz=337						
NSTT				*e*S	**Sn**	**01 16 09.9**	**+2.7**
	baz=337						
NSK	**Sanguang**	**2.74**	**358**	*e*P	**Pn**	**01 15 37.3**	**+2.4**
	baz=359						
NSK				*e*S	**Sn**	**01 16 09.4**	**+1.7**
	baz=359						
JYNG	**Yonagunijimaku**	**2.87**	**28**	P	**Pn**	**01 15 38.6**	**+2.1**
JYNG				*e*S	**Sn**	**01 16 13.5**	**+2.9**
YOJ	**Yonaguni jima**	**2.90**	**29**	P	**Pn**	**01 15 38.6**	**+1.5**
YOJ				*e*S	**Sn**	**01 16 13.6**	**+2.0**
HATJ	**Hateruma jima**	**3.03**	**45**	P	**Pn**	**01 15 39.7**	**+0.9**
HATJ				*e*S	**Sn**	**01 16 14.5**	**-0.3**
NWF	**Wu-fen Shan**	**3.15**	**5**	*e*P	**Pn**	**01 15 43.5**	**+3.0**
	baz=357						
IRIF	**Iriomote-Funau**	**3.19**	**41**	P	**Pn**	**01 15 41.8**	**+0.9**
IRIF				*e*S	**Sn**	**01 16 17.6**	**-0.9**
JKRS	**Kuro-shima**	**3.29**	**45**	P	**Pn**	**01 15 43.1**	**+0.7**
JKRS				*e*S	**Sn**	**01 16 20.5**	**-0.7**
JIJ	**Ishigaki jima**	**3.47**	**45**	P	**Pn**	**01 15 45.3**	**+0.5**
JIJ				*e*S	**Sn**	**01 16 23.9**	**-1.6**
JISG	**Ishigakijimahi**	**3.73**	**44**	P	**Pn**	**01 15 49.4**	**+1.0**
JISG				*e*S	**Sn**	**01 16 31.1**	**-0.9**
JTJ	**Tarama**	**4.03**	**47**	P	**Pn**	**01 15 53.5**	**+1.0**
JTJ				*e*S	**Sn**	**01 16 38.2**	**-1.1**
SONM	**Songino Array**	**28.55**	**339**	P	**P**	**01 20 46.2**	**-0.4**
	0.1nm,0.5s,baz=162,slow=6.1,SNR=2.4						
MKAR	**Makanchi Array**	**40.15**	**318**	P	**P**	**01 22 26.9**	**

AYVA	Ayvalik	1.12	199	*i* P	Pn	01 19 43.2	+0.1	PLG	Polygyros	2.84	271	*e*Pn	Pn	01 20 06.6	-0.2	HORT	Hortiatis	0.23	115 *e*PB Pg 01 31 02.6 -0.5
AYVA				*i* S	Sn	01 19 58.6	+0.5	MMB	Musomiste	2.87	296 ⇑	*i* P	Pn	01 20 07.3	0.0	HORT			*e*SB Sg 01 31 07.8 +1.3
AYVA	Ayvalik	1.12	199	*i* P	Pn	01 19 43.2	+0.1	MMB	Musomiste	2.87	296	*i* P	Pn	01 20 07.2	0.0	HORT	Hortiatis	0.23	115 *e*Pb Pg 01 31 02.6 -0.5
AYVA				*i* S	Sn	01 19 58.6	+0.5	MMB	Musomiste	2.87	296	*i* P	Pn	01 20 07.2	0.0	HORT	Hortiatis	0.23	115 P Pg 01 31 02.9 -0.2
SLVT	Silivri	1.17	42	*e*PN	Pn	01 19 43.2	-0.5	SOH	Sokhos	2.94	280	P	Pn	01 20 08.0	-0.1	HORT			S Sg 01 31 06.4 -0.1
SLVT	Silivri	1.17	42	*i* P	Pn	01 19 40.8	-2.9	SOH	Sokhos	2.94	280	*e*PN	Pn	01 20 08.0	-0.1	HORT			*e*Sb Sb 01 31 07.8 -0.5
SLVT	Silivri	1.17	42	*e*Pn	Pn	01 19 43.2	-0.5	SOH	Sokhos	2.94	280	P	Pn	01 20 08.0	-0.1	**SOH**	**Sokhos**	**0.42**	**72** P **Pg 01 31 06.6 +0.1**
SLVT				*i* S	Sb	01 19 55.1	-3.7	SZH	Strazhica	3.04	343	*i* P	Pn	01 20 09.6	+0.2	SOH			S Sg 01 31 12.4 +0.3
ELBA	**Catalca**	**1.23**	**51**	*i* P	Pn	01 19 44.4	-0.3	SZH	Strazhica	3.04	343	*i* P	Pn	01 20 09.6	+0.2	**SOH**	**Sokhos**	**0.42**	**72** *e*PB **Pg 01 31 06.5 +0.1**
ELBA				*i* S	Sb	01 20 00.3	-0.4	MDUB	Mudurnu	3.08	87	*e*PN	Pn	01 20 11.4	+1.3	SOH			*e*SB Sb 01 31 13.0 -0.6
ELBA	**Catalca**	**1.23**	**51**	*i* P	Pn	01 19 44.4	-0.3	MDUB	Mudurnu	3.08	87	*e*Pn	Pn	01 20 11.4	+1.3	**SOH**	**Sokhos**	**0.42**	**72** *e*Pb **Pg 01 31 06.5 +0.1**
ELBA				*i* S	Sb	01 20 00.3	-0.4	HORT	Hortiatis	3.11	275	*e*PN	Pn	01 20 10.4	-0.1	SOH			S Sg 01 31 12.4 +0.3
SMTH	**Samothraki Isl**	**1.25**	**275**	P	Pn	01 19 44.5	-0.4	HORT	Hortiatis	3.11	275	*e*Pn	Pn	01 20 10.4	-0.1	SOH			*e*Sb Sb 01 31 13.0 -0.6
SMTH				S	Sb	01 20 01.0	-0.2	SHUT	Suhut-Afyon	3.19	124	*e*PN	Pn	01 20 12.6	+1.0	**GRG**	**Griva**	**0.42**	**309** P **Pg 01 31 05.7 -0.8**
SMTH	**Samothraki Isl**	**1.25**	**275**	*e*PN	Pn	01 19 44.6	-0.4	SHUT	Suhut-Afyon	3.19	124	*e*Pn	Pn	01 20 12.6	+1.0	**GRG**	**Griva**	**0.42**	**309** P **Pg 01 31 05.7 -0.8**
SMTH				*e*SN	Sb	01 20 01.0	-0.2	NEO	Neokhori	3.22	252	*e*PN	Pn	01 20 11.1	-0.8	**KNT**	**Kendrikon**	**0.47**	**6** P **Pg 01 31 07.3 -0.2**
SMTH	**Samothraki Isl**	**1.25**	**275**	*e*Pn	Pn	01 19 44.6	-0.4	NEO	Neokhori	3.22	252	*e*Pn	Pn	01 20 11.1	-0.8	KNT			S Sg 01 31 13.6 -0.2
SMTH				S	Sb	01 20 01.0	-0.2	XOR	Xorichti	3.22	253	*e*PN	Pn	01 20 11.3	-0.7	**KNT**	**Kendrikon**	**0.47**	**6** *e*PB **Pg 01 31 07.2 -0.2**
PHSR	**Pinarhisar**	**1.29**	**12**	*e*PN	Pn	01 19 44.9	-0.5	XOR	Xorichti	3.22	253	*e*Pn	Pn	01 20 11.3	-0.7	KNT			*e*SB Sg 01 31 13.9 +0.1
PHSR	**Pinarhisar**	**1.29**	**12**	*e*Pn	Pn	01 19 44.9	-0.5	MRKA	Markates	3.23	240	*e*PN	Pn	01 20 12.4	+0.3	**KNT**	**Kendrikon**	**0.47**	**6** *e*Pb **Pg 01 31 07.2 -0.2**
ARMT	**Armutlu**	**1.31**	**81**	*e*PN	Pn	01 19 44.7	-1.0	MRKA	Markates	3.23	240	*e*Pn	Pn	01 20 12.4	+0.3	KNT			S Sg 01 31 13.6 -0.2
ARMT	**Armutlu**	**1.31**	**81**	*e*Pn	Pn	01 19 44.7	-1.0	BODT	Bodrum	3.31	178	*e*PN	Pn	01 20 14.6	+1.4	**PLG**	**Polygyros**	**0.57**	**124** P **Pg 01 31 08.5 -0.7**
MDNY	**Mudanya-Bursa**	**1.31**	**90**	*e*PN	Pn	01 19 45.5	-0.2	BODT	Bodrum	3.31	178	*e*Pn	Pn	01 20 14.6	+1.4	PLG			S Sb 01 31 17.7 -0.2
MDNY	**Mudanya-Bursa**	**1.31**	**90**	*e*Pn	Pn	01 19 45.5	-0.2	KNT	Kendrikon	3.34	285	*e*PN	Pn	01 20 13.9	+0.3	**PLG**	**Polygyros**	**0.57**	**124** *e*PN **Pg 01 31 08.6 -0.7**
PRK	**Paraskevi**	**1.32**	**212**	P	Pn	01 19 45.9	+0.1	KNT	Kendrikon	3.34	285	*e*Pn	Pn	01 20 13.9	+0.3	PLG			*e*SN Sg 01 31 17.4 +0.6
PRK				S	Sn	01 20 03.6	+0.6	YER	Yerkesik	3.35	165	*e*PN	Pn	01 20 15.4	+1.6	**PLG**	**Polygyros**	**0.57**	**124** *e*Pn **Pg 01 31 08.6 -0.7**
PRK	**Paraskevi**	**1.32**	**212**	*e*PN	Pn	01 19 45.8	0.0	YER	Yerkesik	3.35	165	*e*Pn	Pn	01 20 15.4	+1.6	PLG			*e*Sn Sg 01 31 17.4 +0.6
PRK				*e*SN	Sb	01 20 02.9	-0.1	PSN	Preselentsi	3.40	13 ⇓	*i*P	Pn	01 20 14.7	+0.4	**LIT**	**Litokhoron**	**0.65**	**204** P **Pg 01 31 10.7 0.0**
PRK	**Paraskevi**	**1.32**	**212**	P	Pn	01 19 45.9	+0.1	PSN	Preselentsi	3.40	13 ⇓	*i*P	Pn	01 20 14.7	+0.4	LIT			S Sg 01 31 19.0 -0.4
PRK				*e*Sn	Sb	01 20 02.9	-0.1	KKB	Krupnik	3.43	297	*i* P	Pn	01 20 15.3	+0.5	**LIT**	**Litokhoron**	**0.65**	**204** *e*PN **Pg 01 31 10.8 0.0**
PRK				S	Sn	01 20 03.6	+0.6	KKB	Krupnik	3.43	297	*i* P	Pn	01 20 15.3	+0.5	LIT			*e*SN Sg 01 31 19.4 0.0
CTKS	**Kestanelik-??a**	**1.33**	**49**	*e*PN	Pn	01 19 45.3	-0.7	PTL	Penteli	3.46	229	*e*PN	Pn	01 20 14.5	-0.7	**LIT**	**Litokhoron**	**0.65**	**204** *e*Pn **Pg 01 31 10.8 0.0**
CTKS	**Kestanelik-??a**	**1.33**	**49**	*e*Pn	Pn	01 19 45.3	-0.7	PTL	Penteli	3.46	229	*e*Pn	Pn	01 20 14.5	-0.7	LIT			S Sg 01 31 19.0 -0.4
ORLT	**Orhaneli**	**1.36**	**103**	*e*PN	Pb	01 19 47.3	+0.1	SVRH	Sivrihisar-ESK	3.48	104	*e*PN	Pn	01 20 16.9	+1.4	**VAY**	**Valandovo**	**0.66**	**343** P **Pg 01 31 09.8 -1.2**
ORLT	**Orhaneli**	**1.36**	**103**	*e*Pn	Pb	01 19 47.3	+0.1	SVRH	Sivrihisar-ESK	3.48	104	*e*Pn	Pn	01 20 16.9	+1.4	VAY			S Sg 01 31 18.9 -0.7
CTYL	**Yal??k??y-??at**	**1.39**	**37**	*e*PN	Pn	01 19 46.3	-0.5	APE	Apeiranthos	3.54	202	P	Pn	01 20 15.7	-0.6	**VAY**	**Valandovo**	**0.66**	**343** *i* Pg **Pg 01 31 10.4 -0.6**
CTYL	**Yal??k??y-??at**	**1.39**	**37**	*e*Pn	Pn	01 19 46.3	-0.5	APE	Apeiranthos	3.54	202	*e*PN	Pn	01 20 16.9	+0.5	VAY			*i* Sg Sg 01 31 19.3 -0.3
RDO	**Rodhopi**	**1.46**	**303**	P	Pn	01 19 47.0	-0.7	APE	Apeiranthos	3.54	202	*e*PN	Pn	01 20 15.6	-0.7	VAY			*e*Lg Lg 01 31 19.4
RDO				S	Sn	01 20 06.8	+0.3	APE	Apeiranthos	3.54	202	P	Pn	01 20 15.7	-0.6		comp=N,2μm,0.4s		
RDO	**Rodhopi**	**1.46**	**303**	*e*PN	Pn	01 19 48.0	+0.3	APE	Apeiranthos	3.54	202	*e*Pn	Pn	01 20 16.9	+0.5	VAY			*e*Lg Lg 01 31 19.4
RDO				*e*SN	Sn	01 20 06.2	-0.3	LIT	Litokhoron	3.59	267	*e*PN	Pn	01 20 16.8	-0.3		comp=E,2μm,0.5s		
RDO	**Rodhopi**	**1.46**	**303**	P	Pn	01 19 47.0	-0.7	LIT	Litokhoron	3.59	267	*e*Pn	Pn	01 20 16.8	-0.3	**VAY**	**Valandovo**	**0.66**	**343** P **Pg 01 31 09.8 -1.2**
RDO	**Rodhopi**	**1.46**	**303**	*e*Pn	Pn	01 19 48.0	+0.3	ISP	Isparta	3.65	133 ⇑	*i*P	Pn	01 20 18.1	+0.2	**VAY**	**Valandovo**	**0.66**	**343** *i* Pg **Pg 01 31 10.4 -0.6**
RDO				*e*Sn	Sn	01 20 06.2	-0.3	ISP	Isparta	3.65	133 ⇑	*i*P	Pn	01 20 18.1	+0.2	VAY			S Sg 01 31 18.9 -0.7
BGKT	**Bogazkoy**	**1.46**	**56**	*e*PN	Pn	01 19 47.1	-0.7	LKR	Lokris	3.65	243	*e*PN	Pn	01 20 17.6	-0.3	VAY			*i* Sg Sg 01 31 19.3 -0.3
BGKT	**Bogazkoy**	**1.46**	**56**	*e*Pn	Pn	01 19 47.1	-0.7	LKR	Lokris	3.65	243	*e*Pn	Pn	01 20 17.6	-0.3	**SRS**	**Serrai**	**0.71**	**54** P **Pg 01 31 11.5 -0.5**
EDRB	**Edirne**	**1.51**	**348**	P	Pn	01 19 48.0	-0.4	VTS	Vitosha	3.71	308	P	Pn	01 20 19.5	+0.7	SRS			S Sg 01 31 21.2 -0.3
EDRB				S	Sn	01 20 08.3	+0.5	VTS	Vitosha	3.71	308	*e*PN	Pn	01 20 20.4	+1.5	**SRS**	**Serrai**	**0.71**	**54** *e*PN **Pg 01 31 11.6 -0.5**
EDRB	**Edirne**	**1.51**	**348**	*e*PN	Pn	01 19 48.6	+0.2	VTS	Vitosha	3.71	308 ⇑	*i*P	Pn	01 20 19.3	+0.5	SRS			*e*SN Sg 01 31 21.4 -0.1
EDRB	**Edirne**	**1.51**	**348**	P	Pn	01 19 48.0	-0.4	VTS	Vitosha	3.71	308	*i* P	Pn	01 20 19.6	+0.7	**SRS**	**Serrai**	**0.71**	**54** P **Pg 01 31 11.5 -0.5**
EDRB	**Edirne**	**1.51**	**348**	*e*Pn	Pn	01 19 48.6	+0.2	VTS	Vitosha	3.71	308	*i* P	Pn	01 20 19.6	+0.7	SRS			S Sg 01 31 21.2 -0.3
EDRB				S	Sn	01 20 08.3	+0.5	VTS	Vitosha	3.71	308	*e*Pn	Pn	01 20 20.4	+1.5	**KZN**	**Kozani**	**0.90**	**245** P **Pg 01 31 14.7 -0.8**
SIGR	**SIGRI**	**1.54**	**222**	P	Pn	01 19 48.4	-0.4	DALY	Dalyan (Mu¨la	3.73	161	*e*PN	Pn	01 20 20.1	+1.1	**KZN**	**Kozani**	**0.90**	**245** *e*PB **Pg 01 31 14.8 -0.8**
SIGR				S	Sn	01 20 08.7	+0.3	DALY	Dalyan (Mu¨la	3.73	161	*e*Pn	Pn	01 20 20.1	+1.1	KZN			*e*SB Sb 01 31 29.1 +1.6
SIGR	**SIGRI**	**1.54**	**222**	*e*PN	Pn	01 19 48.4	-0.4	NAIG	Nisos Aigina	3.87	229	*e*PN	Pn	01 20 19.8	-1.1	**KZN**	**Kozani**	**0.90**	**245** P **Pg 01 31 14.7 -0.8**
SIGR				*e*SN	Sb	01 20 09.4	+0.1	NAIG	Nisos Aigina	3.87	229	*e*Pn	Pn	01 20 19.8	-1.1	KZN			*e*Sb Sb 01 31 29.1 +1.6
SIGR	**SIGRI**	**1.54**	**222**	P	Pn	01 19 48.4	-0.4	MPEP	Malo Peshtene	3.93	320	*i* P	Pn	01 20 22.2	+0.5	**OUR**	**Ouranopolis**	**0.95**	**112** P **Pg 01 31 16.3 -0.2**
SIGR				S	Sn	01 20 08.7	+0.3	KIZT	Kizilcal	3.93	111	*e*PN	Pn	01 20 23.2	+1.4	OUR			S Sb 01 31 29.4 +0.6
SIGR				*e*Sn	Sb	01 20 09.4	+0.1	KIZT	Kizilcal	3.93	111	*e*Pn	Pn	01 20 23.2	+1.4	**OUR**	**Ouranopolis**	**0.95**	**112** *e*PN **Pg 01 31 16.2 -0.2**
GEMT	**Gemlik**	**1.54**	**87**	*e*PN	Pn	01 19 49.8	+0.9	AGG	Agios Georgios	3.97	252	*e*PN	Pn	01 20 21.9	-0.3	OUR			*e*SB Sb 01 31 29.4 +0.6
GEMT	**Gemlik**	**1.54**	**87**	*e*Pn	Pn	01 19 49.8	+0.9	AGG	Agios Georgios	3.97	252	*e*Pn	Pn	01 20 21.9	-0.3	**OUR**	**Ouranopolis**	**0.95**	**112** P **Pg 01 31 16.3 -0.2**
BUY	**Buyukada**	**1.56**	**71**	*i* P	Pn	01 19 48.1	-1.0	LTK	Loutraki	4.02	236	*e*PN	Pn	01 20 22.5	-0.4	OUR			S Sb 01 31 29.4 +0.6
BUY				*i* S	Sg	01 20 11.6	-0.8	LTK	Loutraki	4.02	236	*e*Pn	Pn	01 20 22.5	-0.4	**PAIG**	**Paliouri**	**1.00**	**140** P **Pg 01 31 16.6 -0.9**
BUY	**Buyukada**	**1.56**	**71**	*i* P	Pn	01 19 48.1	-1.0	FETY	Fethiye	4.02	157	*e*PN	Pn	01 20 24.2	+1.2	PAIG			S Sb 01 31 31.4 +0.9
BUY				*i* S	Sg	01 20 11.6	-0.8	FETY	Fethiye	4.02	157	*e*Pn	Pn	01 20 24.2	+1.2	**PAIG**	**Paliouri**	**1.00**	**140** *e*PN **Pg 01 31 16.7 -0.8**
AKS	**Akhisar**	**1.57**	**161**	*e*PN	Pn	01 19 49.0	-0.3	THL	Klokotos Trika	4.04	260	*e*PN	Pn	01 20 23.1	-0.1	**PAIG**	**Paliouri**	**1.00**	**140** P **Pg 01 31 16.6 -0.9**
AKS	**Akhisar**	**1.57**	**161**	*e*Pn	Pn	01 19 49.0	-0.3	THL	Klokotos Trika	4.04	260	*e*Pn	Pn	01 20 23.1	-0.1	PAIG			S Sb 01 31 31.4 +0.9
AKHS	**Akhisar**	**1.57**	**161**	*i* P	Pn	01 19 49.3	0.0	DSF	Desfina	4.09	243	*e*PN	Pn	01 20 23.2	-0.8	**NVR**	**Nevrokopi**	**1.02**	**50** P **Pg 01 31 17.1 -0.7**
AKHS				*i* S	Sn	01 20 09.8	+0.5	DSF	Desfina	4.09	243	*e*Pn	Pn	01 20 23.2	-0.8	**NVR**	**Nevrokopi**	**1.02**	**50** *e*PN **Pg 01 31 17.0 -0.7**
AKHS	**Akhisar**	**1.57**	**161**	*i* P	Pn	01 19 49.3	0.0	MAKR	Makrakomi, Fth	4.11	252	*e*PN	Pn	01 20 24.6	+0.3	NVR			*e*SB Sb 01 31 31.5 +0.5
AKHS				*i* S	Sn	01 20 09.8	+0.5	MAKR	Makrakomi, Fth	4.11	252	*e*Pn	Pn	01 20 24.6	+0.3	**NVR**	**Nevrokopi**	**1.02**	**50** P **Pg 01 31 17.1 -0.7**
LIA	**Limnos Island**	**1.59**	**253**	P	Pn	01 19 49.6	0.0	KZN	Kozani	4.12	271	*e*PN	Pn	01 20 25.3	+0.8	NVR			*e*Sb Sb 01 31 31.5 +0.5
LIA				S	Sn	01 20 09.6	-0.2	KZN	Kozani	4.12	271	*e*Pn	Pn	01 20 25.3	+0.8	**FNA**	**Florina**	**1.11**	**275** P **Pg 01 31 18.0 -1.6**
LIA	**Limnos Island**	**1.59**	**253**	*e*PN	Pn	01 19 49.5	0.0	TIRR	Tirgusor	4.19	12 ⇑	*i*P	Pn	01 20 24.9	-0.3	**FNA**	**Florina**	**1.11**	**275** *e*PN **Pg 01 31 18.6 -1.0**
LIA				*e*SN	Sn	01 20 09.9	+0.1	TIRR	Tirgusor	4.19	12 ⇑	*i*P	Pn	01 20 24.9	-0.3	FNA			*e*SN Sb 01 31 34.5 +0.9
LIA	**Limnos Island**	**1.59**	**253**	P	Pn	01 19 49.6	0.0	DID	Didima	4.19	228	*e*PN	Pn	01 20 24.0	-1.3	**FNA**	**Florina**	**1.11**	**275** P **Pg 01 31 18.0 -1.6**
LIA				S	Sn	01 20 09.6	-0.2	DID	Didima	4.19	228	*e*Pn	Pn	01 20 24.0	-1.3	**FNA**	**Florina**	**1.11**	**275** *e*Pn **Pg 01 31 18.6 -1.0**
ISK	**Istanbul-Kandi**	**1.60**	**64**	P	Pn	01 19 49.6	0.0	ELL	Elmali	4.21	148	*e*PN	Pn	01 20 27.6	+1.9	FNA			*e*Sn Sb 01 31 34.5 +0.9
ISK				S	Sn	01 20 10.9	+1.0	ELL	Elmali	4.21	148	*e*Pn	Pn	01 20 27.6	+1.9	**MMB**	**Musomiste**	**1.12**	**37** ⇑ *i*P **Pg 01 31 18.7 -1.1**
ISK	**Istanbul-Kandi**	**1.60**	**64**	*e*PN	Pn	01 19 49.4	-0.2	SANT	Santorini	4.21	199	*e*PN	Pn	01 20 24.8	-0.8	**MMB**	**Musomiste**	**1.12**	**37** S **Sg 01 31 34.0 -0.4**
ISK	**Istanbul-Kandi**	**1.60**	**64**	P	Pn	01 19 49.6	0.0	SANT	Santorini	4.21	199	*e*Pn	Pn	01 20 24.8	-0.8	**MMB**	**Musomiste**	**1.12**	**37** *i* Pg **Pg 01 31 18.6 -1.2**
ISK				S	Sn	01 20 10.9	+1.0	ARG	Arkhangelos	4.22	169	*e*PN	Pn	01 20 26.1	+0.5	**MMB**	**Musomiste**	**1.12**	**37** *i* Pg **Pg 01 31 18.6 -1.2**
KLYT	**Kilyos**	**1.67**	**58**	*e*PN	Pn	01 19 50.9	+0.2	ARG	Arkhangelos	4.22	169	*e*Pn	Pn	01 20 26.1	+0.5	**KKB**	**Krupnik**	**1.19**	**9** *i* Pg **Pg 01 31 19.6 -1.4**
KLYT	**Kilyos**	**1.67**	**58**	*e*Pn	Pn	01 19 50.9	+0.2	LOD	Lodumlu	4.32	95	*e*PN	Pn	01 20 28.7	+1.6	**KKB**	**Krupnik**	**1.19**	**9** *i* Pg **Pg 01 31 19.6 -1.4**
IZI	**Iznik**	**1.76**	**90**	*e*PN	Pn	01 19 51.6	-0.4	LOD	Lodumlu	4.32	95	*e*Pn	Pn	01 20 28.7	+1.6	**THL**	**Klokotos Trika**	**1.29**	**209** P **Pn 01 31 21.3 -0.6**
IZI	**Iznik**	**1.76**	**90**	*e*Pn	Pn	01 19 51.6	-0.4	EVR	Evrytania	4.38	252	*e*PN	Pn	01 20 28.1	+0.1	THL			S Sn 01 31 40.4 +1.4
KDZ	**Kurdzhali**	**1.84**	**315** ⇑ *i*P	Pn	01 19 53.5	+0.5	EVR	Evrytania	4.38	252	*e*Pn	Pn	01 20 28.1	+0.1	**THL**	**Klokotos Trika**	**1.29**	**209** *e*PN **Pn 01 31 21.8 -0.1**
KDZ	**Kurdzhali**	**1.84**	**315** S	Sb	01 20 18.6	+0.5	FNA	Florina	4.43	277	*e*PN	Pn	01 20 29.3	+0.7	**THL**	**Klokotos Trika**	**1.29**	**209** P **Pn 01 31 21.3 -0.6**
KDZ	**Kurdzhali**	**1.84**	**315** *i* P	Pn	01 19 53.2	+0.2	FNA	Florina	4.43	277	*e*Pn	Pn	01 20 29.3	+0.7	**THL**	**Klokotos Trika**	**1.29**	**209** *e*Pn **Pn 01 31 21.8 -0.1**
KDZ	**Kurdzhali**	**1.84**	**315** *i* P	Pn	01 19 53.2	+0.2	GUR	Goura	4.47	239	*e*PN	Pn	01 20 29.0	-0.2	THL			S Sn 01 31 40.4 +1.4
ADVT	**Abdulvahap**	**1.96**	**87**	*e*PN	Pn	01 19 55.3	+0.6	GUR	Goura	4.47	239	*e*Pn	Pn	01 20 29.0	-0.2	**KAVA**	**Kavala**	**1.31**	**76** P **Pn 01 31 22.1 0.0**
ADVT	**Abdulvahap**	**1.96**	**87**	*e*Pn	Pn	01 19 55.3	+0.6	EFP	Efpalio	4.51	246	*e*PN	Pn	01 20 30.4	+0.7	KAVA			S Sg 01 31 39.9 -0.5
BLCB	**Balcova**	**1.98**	**183**	*e*PN	Pn	01 19 55.7	+0.7	EFP	Efpalio	4.51	246	*e*Pn	Pn	01 20 30.4	+0.7	**KAVA**	**Kavala**	**1.31**	**76** *e*PN **Pn 01 31 22.3 +0.2**
BLCB	**Balcova**	**1.98**	**183**	*e*Pn	Pn	01 19 55.7	+0.7	KLV	Kalavryta, Ach	4.54	241	*e*PN	Pn	01 20 29.7	-0.4	KAVA			*e*SB Sb 01 31 39.7 +0.4
TVSB	**Tavsanli**	**1.99**	**117**	*e*PN	Pn	01 19 55.5	+0.4	KLV	Kalavryta, Ach	4.54	241	*e*Pn	Pn	01 20 29.7	-0.4	**KAVA**	**Kavala**	**1.31**	**76** P **Pn 01 31 22.1 0.0**
TVSB	**Tavsanli**	**1.99**	**117**	*e*Pn	Pn	01 19 55.5	+0.4	NEST	Nestorio	4.67	273	*e*PN	Pn	01 20 33.0	+1.0	KAVA			*e*Sb Sb 01 31 39.7 +0.4
SILT	**Sile**	**2.04**	**67**	*e*PN	Pn	01 19 56.5	+0.8	NEST	Nestorio	4.67	273	*e*Pn	Pn	01 20 33.0	+1.0	**XOR**	**Xorichti**	**1.35**	**168** P **Pn 01 31 22.4 -0.4**
SILT	**Sile**	**2.04**	**67**	*e*Pn	Pn	01 19 56.5	+0.8	KONT	Konya--Tatoy	4.71	119	*e*PN	Pn	01 20 34.2	+1.8	**XOR**	**Xorichti**	**1.35**	**168** *e*PN **Pn 01 31 22.4 -0.4**
CAVI	**Cavuskoy**	**2.05**	**94**	*e*PN	Pn	01 19 56.5	+0.6	KONT	Konya--Tatoy	4.71	119	*e*Pn	Pn	01 20 34.3	+1.8	XOR			*e*SB Sb 01 31 40.8 +0.2
CAVI	**Cavuskoy**	**2.05**	**94**	*e*Pn	Pn	01 19 56.5	+0.6	VLX	Vlachokerasia	4.79	233	*e*PN	Pn	01 20 33.9	+0.3	**XOR**	**Xorichti**	**1.35**	**168** P **Pn 01 31 22.4 -0.4**
DIM	**Dimitrovgrad**	**2.08**	**324**	*i* P	Pn	01 19 56.4	+0.1	VLX	Vlachokerasia	4.79	233	*e*Pn	Pn	01 20 33.9	+0.3	XOR			*e*Sb Sb 01 31 40.8 +0.2
DIM	**Dimitrovgrad**	**2.08**	**324**	*i* P	Pn	01 19 56.4	+0.1	CFR	Carcaliu	4.86	8 ⇑	*i*P	Pn	01 20 34.6	+0.2	**NEST**	**Nestorio**	**1.39**	**259** *e*PN **Pn 01 31 23.7 +0.4**
KAVA	**Kavala**	**2.11**	**288**	P	Pn	01 19 56.3	-0.4	CFR	Carcaliu	4.86	8 ⇑	*i*P	Pn	01 20 34.6	+0.2	NEST			*e*SN Sg 01 31 43.5 +0.6
KAVA				S	Sn	01 20 21.3	-1.3	DRO	Drossia	4.88	242	*e*PN	Pn	01 20 36.8	+2.0	**NEST**	**Nestorio**	**1.39**	**259** *e*Pn **Pn 01 31 23.7 +0.4**
KAVA	**Kavala**	**2.11**	**288**	*e*PB	Pn	01 19 56.6	-0.1	DRO	Drossia	4.88	242	*e*Pn	Pn	01 20 36.8	+2.0	NEST			*e*Sn Sg 01 31 43.5 +0.6
KAVA	**Kavala**	**2.11**	**288**	P	Pn	01 19 56.3	-0.4	VLI	Veliai	4.93	224	*e*PN	Pn	01 20 35.4	0.0	**NEO**	**Neokhori**	**1.42**	**168** *e*PN **Pn 01 31 23.3 -0.4**
KAVA	**Kavala**	**2.11**	**288**	*e*Pb	Pn	01 19 56.6	-0.1	VLI	Veliai	4.93	224	*e*Pn	Pn	01 20 35.4	0.0	**NEO**	**Neokhori**	**1.42**	**168** *e*Pn **Pn 01 31 23.3 -0.4**
KAVA				S	Sn	01 20 21.3	-1.3	PDO	Prodromos	4.96	251	*e*PN	Pn	01 20 38.0	+2.2	**KBN**	**Korca**	**1.56**	**268** P **Pn 01 31 26.1 +0.5**
JMB	**Yambol**	**2.14**	**348**	P	Pn	01 19 58.3	+1.2	PDO	Prodromos	4.96	251	*e*Pn	Pn	01 20 38.0	+2.2	**KBN**	**Korca**	**1.56**	**268** P **Pn 01 31 26.1 +0.5**
JMB	**Yambol**	**2.14**	**348** ⇑ *i*P	Pb	01 19 59.2	-1.2	RLS	Riolos of Patr	4.99	244	*e*PN	Pn	01 20 38.0	+1.7	**SKIA**	**Skiathos**	**1.60**	**162** *e*PN **Pn 01 31 25.8 -0.4**
JMB	**Yambol**	**2.14**	**348** S	Sb	01 20 28.6	+1.9	RLS	Riolos of Patr	4.99	244	*e*Pn	Pn	01 20 38.0	+1.7	**SKIA**	**Skiathos**	**1.60**	**162** *e*Pn **Pn 01 31 25.8 -0.4**
JMB	**Yambol**	**2.14**	**348** *i* P	Pn	01 19 58.9	+1.8	AMT	Artemida-Makis	5.11	238	*e*PN	Pn	01 20 39.3	+1.3	**SKO**	**Skopje**	**1.65**	**321** *e*Pg **Pg 01 31 29.3 -0.6**
JMB	**Yambol**	**2.14**	**348** *i* P	Pn	01 19 58.9	+1.8	AMT	Artemida-Makis	5.11	238	*e*Pn	Pn	01 20 39.3	+1.3	SKO			*i* Sg Sg 01 31 52.1 +0.8
CHOS	**Chios island**	**2.16**	**204**	P	Pn	01 19 57.0	-0.5	BOLS	Boljevac	5.19	313 ⇑	*i*Pn	Pn	01 20 40.9	+1.8	SKO			*e*Lg Lg 01 31 52.2
CHOS				S	Sn	01 20 23.7	-0.2	MLR	Muntele Rosu	5.20	350 ⇑	*i*P	Pn	01 20 40.1	+0.9		comp=E,58nm,0.3s		
CHOS	**Chios island**	**2.16**	**204**	*e*PN	Pn	01 19 57.0	-0.5	MLR	Muntele Rosu	5.20	350 ⇑	*i*P	Pn	01 20 40.1	+0.9	SKO			*e*Lg Lg 01 31 58.4
CHOS				*e*SN	Sn	01 20 23.8	-0.2	KYTH	Kithira	5.22	220	P	Pn	01 20 39.5	+0.1		comp=N,100nm,0.5s		
CHOS	**Chios island**	**2.16**	**204**	P	Pn	01 19 57.0	-0.5	KYTH	Kithira	5.22	220	*e*PN	Pn	01 20 39.5	+0.1	**SKO**	**Skopje**	**1.65**	**321** *e*Pg **Pg 01 31 29.3 -0.6**
CHOS				*e*SN	Sn	01 20 23.8	-0.2	KYTH	Kithira	5.22	220	P	Pn	01 20 39.5	+0.1	SKO			*i* Sg Sg 01 31 52.1 +0.8
KULA	**Kula-Manisa**	**2.19**	**148**	P	Pn	01 19 58.0	+0.3	VOIR	Voir	5.30	344 ⇑	*i*P	Pn	01 20 40.8	+0.2	SKO			*e*Lg Lg 01 31 52.2
KULA	**Kula-Manisa**	**2.19**	**148**	*e*PN	Pn	01 19 58.1	+0.3	VOIR	Voir	5.30	344 ⇑	*i*P	Pn	01 20 40.8	+0.2		comp=N,58nm,0.3s		
KULA	**

KDZ	Kurdzhali	2.17	63	⇓P	Pn	01 31 33.5	-0.5
KDZ	Kurdzhali	2.17	63	S	Sn	01 32 00.4	-0.4
KDZ	Kurdzhali	2.17	63	*i* P	Pn	01 31 33.7	-0.3
KDZ	Kurdzhali	2.17	63	*i* P	Pn	01 31 33.7	-0.3
KDZ	Kurdzhali	2.17	63	*i* Pg	Pg	01 31 49.3	+9.5
IGT	Igoumenitsa	2.24	240	*e*PB	Pb	01 31 37.3	-1.2
IGT	Igoumenitsa	2.24	240	*e*Pb	Pb	01 31 37.3	-1.2
BARS	Barje	2.25	341	*e*Pn	Pn	01 31 34.6	-0.5
DSF	Desfina	2.29	186	*e*PN	Pn	01 31 35.6	-0.1
DSF	Desfina	2.29	186	*e*Pn	Pn	01 31 35.6	-0.1
KALE	Kalithea	2.36	193	*e*PN	Pn	01 31 36.9	+0.2
KALE	Kalithea	2.36	193	*e*Pn	Pn	01 31 36.9	+0.2
EFP	Efpalio	2.38	198	*e*PN	Pn	01 31 37.4	+0.6
EFP	Efpalio	2.38	198	*e*Pn	Pn	01 31 37.4	+0.6
ALN	Alexandroupoli	2.45	84	*e*PN	Pn	01 31 38.0	+0.2
ALN	Alexandroupoli	2.45	84	*e*Pn	Pn	01 31 38.0	+0.2
KEK	Kerkira	2.52	248	*e*PB	Pn	01 31 40.7	+1.9
KEK	Kerkira	2.52	248	*e*Pb	Pn	01 31 40.7	+1.9
ENEZ	Enez	2.52	88	*e*P	Pb	01 31 41.8	-1.5
ENEZ	Enez	2.52	88	*e*P	Pb	01 31 41.8	-1.5
LKD2	Lefkada island	2.54	222	*e*PB	Pb	01 31 41.7	-1.8
LKD2	Lefkada island	2.54	222	*e*Pb	Pb	01 31 41.7	-1.8
KLV	Kalavryta, Ach	2.70	192	*e*PN	Pn	01 31 41.0	-0.3
KLV	Kalavryta, Ach	2.70	192	*e*Pn	Pn	01 31 41.0	-0.3
MPEP	Malo Peshtene	2.74	14	*i* P	Pn	01 31 44.4	+2.5
MPEP				*i* Pg	Pg	01 31 49.3	-1.4
SIGR	SIGRI	2.76	122	*e*PN	Pn	01 31 42.7	+0.7
SIGR	SIGRI	2.76	122	*e*Pn	Pn	01 31 42.7	+0.7
PTL	Penteli	2.76	163	*e*PN	Pn	01 31 42.1	0.0
PTL	Penteli	2.76	163	*e*Pn	Pn	01 31 42.1	0.0
GUR	Goura	2.78	188	*e*PN	Pn	01 31 42.3	-0.2
GUR	Goura	2.78	188	*e*Pn	Pn	01 31 42.3	-0.2
GELI	Tayfur-Gelibol	2.79	95	*e*P	Pn	01 31 45.0	+2.5
GELI	Tayfur-Gelibol	2.79	95	*e*P	Pn	01 31 45.0	+2.5
EZN	Ezine	2.81	107	*e*P	Pn	01 31 43.0	+0.2
EZN	Ezine	2.81	107	*e*P	Pn	01 31 43.0	+0.2
RLS	Riolos of Patr	2.84	202	*e*PB	Pn	01 31 45.6	+2.5
RLS	Riolos of Patr	2.84	202	*e*Pb	Pn	01 31 45.6	+2.5
DRO	Drossia	2.87	198	*e*PN	Pn	01 31 44.2	+0.5
DRO	Drossia	2.87	198	*e*Pn	Pn	01 31 44.2	+0.5
NAIG	Nisos Aigina	2.98	170	*e*PN	Pn	01 31 46.5	+1.5
NAIG	Nisos Aigina	2.98	170	*e*Pn	Pn	01 31 46.5	+1.5
LPK	Lapseki	3.01	95	*e*P	Pn	01 31 47.8	+2.3
LPK	Lapseki	3.01	95	*e*P	Pn	01 31 47.8	+2.3
PRK	Paraskevi	3.01	118	*e*PN	Pn	01 31 46.9	+1.4
PRK	Paraskevi	3.01	118	*e*Pn	Pn	01 31 46.9	+1.4
VLS	Valsamata	3.06	215	*e*PN	Pn	01 31 47.1	+1.0
VLS	Valsamata	3.06	215	*e*Pn	Pn	01 31 47.1	+1.0
PVL	Pavlikeni	3.13	36	*i* P	Pn	01 31 45.9	-1.3
PVL				*i* Pg	Pb	01 31 53.2	-0.5
PVL	Pavlikeni	3.13	36	*i* P	Pn	01 31 45.9	-1.3
BOLS	Boljevac	3.20	349	*e*Pn	Pn	01 31 46.7	-1.4
DID	Didima	3.20	174	*e*PN	Pn	01 31 48.0	-0.1
DID	Didima	3.20	174	*e*Pn	Pn	01 31 48.0	-0.1
AMT	Artemida-Makis	3.28	196	*e*PN	Pn	01 31 51.4	+2.2
AMT	Artemida-Makis	3.28	196	*e*Pn	Pn	01 31 51.4	+2.2
JMB	Yambol	3.32	57	⇓*i*P	Pn	01 31 51.2	+1.4
JMB	Yambol	3.32	57	*i* P	Pn	01 31 51.1	+1.3
JMB	Yambol	3.32	57	*i* P	Pn	01 31 51.1	+1.3
CHOS	Chios island	3.39	132	*e*PN	Pn	01 31 52.0	+1.1
CHOS	Chios island	3.39	132	*e*Pn	Pn	01 31 52.0	+1.1
KRBG	Karabiga-Canak	3.42	94	*e*P	Pn	01 31 53.8	+2.7
KRBG	Karabiga-Canak	3.42	94	*e*P	Pn	01 31 53.8	+2.7
SZH	Strazhica	3.46	41	*i* P	Pn	01 31 52.9	+1.2
SZH	Strazhica	3.46	41	*i* P	Pn	01 31 52.9	+1.2
IVAS	Ivanjica	3.50	326	*e*Pn	Pn	01 31 54.6	+2.3
ITM	Ithomi	3.58	192	*e*PN	Pn	01 31 54.4	+1.0
ITM	Ithomi	3.58	192	*e*Pn	Pn	01 31 54.4	+1.0
BNT	Bandirma	3.89	93	*e*P	Pn	01 31 59.9	+2.2
BNT	Bandirma	3.89	93	*e*P	Pn	01 31 59.9	+2.2
TRUS	Trudelj	3.96	334	*e*Pn	Pn	01 31 58.2	-0.3
VLI	Veliai	3.97	179	*e*PN	Pn	01 31 58.8	+0.1
VLI	Veliai	3.97	179	*e*Pn	Pn	01 31 58.8	+0.1
BLCB	Balcova	3.99	124	*e*P	Pn	01 31 56.6	-2.3
BLCB	Balcova	3.99	124	*e*P	Pn	01 31 56.6	-2.3
DIVS	Divibare	4.00	329	⇑*i*Pn	Pn	01 31 59.3	+0.1
BALB	Balikesir	4.01	104	*e*P	Pn	01 32 00.7	+1.5
BALB	Balikesir	4.01	104	*e*P	Pn	01 32 00.7	+1.5
APE	Apeiranthos	4.19	149	*e*P	Pn	01 31 53.5	-8.2
APE	Apeiranthos	4.19	149	*e*PN	Pn	01 32 02.1	+0.3
APE	Apeiranthos	4.19	149	*e*Pn	Pn	01 32 02.1	+0.3
KCTX	Karacabey (Bur	4.24	94	*e*P	Pn	01 32 04.7	+2.3
KCTX	Karacabey (Bur	4.24	94	*e*P	Pn	01 32 04.7	+2.3
CTKS	Kestanelik-??a	4.33	81	*e*P	Pn	01 32 07.9	+4.3
CTKS	Kestanelik-??a	4.33	81	*e*P	Pn	01 32 07.9	+4.3
KYTH	Kithira	4.41	178	*e*PN	Pn	01 32 06.8	+2.0
KYTH	Kithira	4.41	178	*e*Pn	Pn	01 32 06.8	+2.0
ORLT	Orhaneli	4.68	96	*e*P	Pn	01 32 10.7	+2.2
ORLT	Orhaneli	4.68	96	*e*P	Pn	01 32 10.7	+2.2
KLYT	Kilyos	4.73	81	*e*P	Pn	01 32 13.5	+4.3
KLYT	Kilyos	4.73	81	*e*P	Pn	01 32 13.5	+4.3
ISK	Istanbul-Kandi	4.74	83	*e*P	Pn	01 32 12.7	+3.5
ISK	Istanbul-Kandi	4.74	83	*e*P	Pn	01 32 12.7	+3.5
PSN	Preselentsi	4.97	51	⇑*i*P	Pn	01 32 13.1	+0.7
PSN	Preselentsi	4.97	51	⇑*i*P	Pn	01 32 13.1	+0.7
FGSL	Fruska Gora	4.98	335	*e*Pn	Pn	01 32 13.8	+1.2
BZS	Buzias	5.00	350	⇑*i*P	Pn	01 32 12.3	-0.5
BZS	Buzias	5.00	350	⇑*i*P	Pn	01 32 12.3	-0.5
KULA	Kula-Manisa	5.00	114	*e*P	Pn	01 32 12.3	-0.6
KULA	Kula-Manisa	5.00	114	*e*P	Pn	01 32 12.3	-0.6
VOIR		5.01	18	⇑*i*P	Pn	01 32 13.9	+0.8
VOIR		5.01	18	⇑*i*P	Pn	01 32 13.9	+0.8
DOPR	Dopca	5.59	19	⇑*i*P	Pn	01 32 22.1	+1.1
DOPR	Dopca	5.59	19	⇑*i*P	Pn	01 32 22.1	+1.1
PLOR	Plostina	5.86	27	⇓*i*P	Pn	01 32 26.6	+1.9
PLOR	Plostina	5.86	27	⇓*i*P	Pn	01 32 26.6	+1.9
VRI	Vrincioaia	5.90	28	⇓*i*P	Pn	01 32 27.1	+1.9
VRI	Vrincioaia	5.90	28	⇓*i*P	Pn	01 32 27.1	+1.9
CFR	Carcaliu	5.94	39	⇓*i*P	Pn	01 32 26.5	+0.8
CFR	Carcaliu	5.94	39	⇓*i*P	Pn	01 32 26.5	+0.8
UDBI	Udbina	6.47	309	*e*Pn	Pn	01 32 34.7	+1.6
UDBI				Sn	Sn	01 33 47.2	+0.5
NVLJ	Novalja	7.03	306	*e*Pn	Pn	01 32 41.3	+0.6
NVLJ				Sn	Sn	01 33 59.0	-1.4
NVLJ	Novalja	7.03	306	*e*Pn	Pn	01 32 41.3	+0.6
NVLJ				Sn	Sn	01 33 59.0	-1.4

MEX 13 01:32:38.6±0.5, 16°.82N×100°.05W, h28km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.19**	**76**	*i* P	Pb	01 32 42.7	-1.8
ACX				*i* S	Sb	01 32 45.1	-3.5
CAIG	**El Cayaco**	**0.31**	**317**	*i* P	Pb	01 32 45.0	-1.0
CAIG				*i* S	Sb	01 32 49.4	-1.7
ZIIG	**Zihuatanejo**	**1.56**	**300**	*i* P	Pn	01 33 01.9	-2.6
ZIIG				*i* S	Sn	01 33 20.8	-3.0
PNIG	**Pinotepa**	**1.89**	**103**	*i* P	Pn	01 33 06.9	-2.2
PNIG				*i* S	Sn	01 33 29.6	-2.4
YAIG	**Yautepec**	**2.23**	**25**	*i* P	Pn	01 33 11.6	-2.3
YAIG				*i* S	Sn	01 33 37.9	-2.8

IDC 13 01:33:04.9±2.5, 8°.10S×158°.41E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, Error ellipse: s-maj=85.3km s-min=27.5km az=124.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.10**	**241**	P	P	01 38 41.1	+0.4
	0.4nm,0.4s,baz=66,slow=9.3,SNR=3.6						
ASAR	**Alice Springs**	**28.12**	**234**	P	P	01 38 58.3	-0.5
	0.2nm,0.5s,baz=58,slow=9.1,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**28.88**	**17**	T	T	02 09 38.6	
	baz=196,slow=76,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**28.89**	**17**	T	T	02 09 38.1	
	baz=196,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy**	**28.89**	**17**	T	T	02 09 38.8	
	baz=196,slow=76,SNR=8.0						
SONM	**Songino Array**	**72.11**	**326**	P	P	01 44 32.4	+1.0
	1.4nm,0.6s,baz=134,slow=6.2,SNR=12						
ILAR	**Eielson Array**	**83.18**	**21**	P	P	01 45 32.3	-0.4
	2.2nm,1.2s,baz=247,slow=6.0,SNR=4.9						
MKAR	**Makanchi Array**	**86.47**	**318**	P	P	01 45 48.7	-1.0
	0.2nm,0.4s,baz=95,slow=6.0,SNR=7.7						

*SJA **13** 01:56:05.3±0.6, 34°.42S×67°.95W, h10km±3km, MD3.9, ML4.4*

*BJI **13** 01:56:06.6, 34°.46S×67°.98W, h10km, mB5.0/2, Ms5.3/2, Ms7 5.1/2*

*ISCJB **13** 01:56:09.9±0.3, 34°.86S±0°.04×68°.07W±0°.08, h10km, mb4.6/38, MS3.7/8, Error ellipse: s-maj=9.8km s-min=5.8km az=175.0*

*IDC **13** 01:56:09.4±0.6, 34°.78S×68°.06W, h0km, mb4.2/9, mb1 4.3/12, mb1mx4.1/26, mbtmp4.1/12, ML3.9/3, MS3.6/11, Ms1 3.6/11, ms1mx3.4/25, Error ellipse: s-maj=25.0km s-min=15.4km az=93.0*

*NEIC **13** 01:56:11.0±3.3, 34°.79S×67°.67W, h14km±19km, mb4.7/29, Error ellipse: s-maj=14.2km s-min=8.4km az=86.0*

NEIC Felt [III] at San Rafael.

ISC 13 01:56:10.4±0.4, 34°.83S±0°.05×67°.76W±0°.06, h10km, n495, σ0991/503, mb4.7/38, MS3.7/8, 205C-199D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	**Agrelo**	**1.96**	**333**	*i* S	Sn	01 57 09.5	+1.1
ARCO	**CERRO ARCO**	**2.21**	**334**	*i* P	Pn	01 56 46.1	-1.2
ARCO				*i* S	Sn	01 57 16.2	+1.4
ARCO				AML	AML	01 57 28.5	
	comp=Z,2μm,0.5s						
ASAL	**Salagasta**	**2.41**	**338**	*i* P	Pn	01 56 49.5	-0.5
ASAL				*i* S	Sn	01 57 21.5	+2.0
ACAN	**Cantantal**	**2.60**	**11**	*i* P	Pb	01 56 55.2	-1.9
SUCO	**SUCO**	**2.81**	**59**	*i* P	Pb	01 57 01.3	+0.5
SUCO				*i* S	Sg	01 57 43.1	+2.3
SUCO				AML	AML	01 57 51.4	
	comp=Z,939nm,0.3s						
AUSP	**Uspallata**	**2.94**	**332**	*i* P	Pn	01 56 56.6	-0.8
AUSP				*i* S	Sn	01 57 34.1	+1.2
CFAA	**Coronel Fontan**	**3.25**	**353**	Pn	Pn	01 57 00.7	-0.8
	comp=Z,0.5nm,0.3s,baz=194,slow=14,SNR=24						
CFAA				Pg	Pb	01 57 07.7	-0.5
	comp=Z,1.3nm,0.3s,baz=190,slow=16,SNR=25						
CFAA				Lg	Lg	01 57 50.2	
	comp=Z,9.6nm,0.3s,baz=165,slow=11,SNR=7.0						
CFAA				LR	LR	01 57 56.4	
	comp=Z,19nm,18.9s,baz=173,slow=34						
CFAA	**Coronel Fontan**	**3.25**	**353**	*i* P	Pn	01 57 02.1	+0.7
CFAA				AML	AML	01 57 60.0	
	comp=Z,55nm,0.6s						
RTLS	**Leoncito**	**3.29**	**337**	*i* P	Pn	01 57 01.9	-0.4
RTLS				*i* P	Pn	01 57 01.9	-0.4
SJA	**San Juan**	**3.37**	**348**	*i* P	Pn	01 57 03.6	+0.5
SJA				AML	AML	01 58 08.2	
	comp=Z,1μm,0.5s						
RTLL	**Cerro Villicun**	**3.55**	**350**	*i* P	Pn	01 57 06.6	+1.1
CANA	**Caviahue**	**4.05**	**220**	*i* P	Pn	01 57 06.1	-6.4
CANA				AML	AML	01 58 45.2	
	comp=Z,347nm,0.7s						
TCA	**Tanti**	**4.38**	**38**	*i* P	Pb	01 57 23.1	-4.5
TCA				*i* S	Sb	01 58 20.9	+0.3
TCA				AML	AML	01 58 49.6	
	comp=N,340nm,0.8s						
TRQA	**Tornquist**	**5.66**	**126**	*e*Pn	Pn	01 57 30.2	-4.4
TRQA				*e*Lg	Lg	01 59 12.9	
PLCA	**Paso Flores**	**6.29**	**200**	Pn	Pn	01 57 45.2	+2.0
	comp=N,0.8nm,0.3s,baz=17,slow=12,SNR=17						
PLCA				Pg	Pb	01 58 03.9	+3.9
	comp=N,1.2nm,0.3s,baz=20,slow=15,SNR=9.7						
PLCA				Lg	Lg	01 59 24.6	
	comp=N,6.6nm,0.3s,baz=42,slow=13,SNR=2.9						
PLCA				LR	LR	01 59 35.9	
	comp=N,124nm,21.6s,baz=33,slow=33						
PLCA	**Paso Flores**	**6.29**	**200**	*e*Pn	Pn	01 57 44.8	+1.5
PLCA				Pg	Pb	01 58 03.9	+3.9
PLCA				*e*Lg	Lg	01 59 27.6	
LCO	**Las Campanas**	**6.32**	**336**	*e*Pn	Pn	01 57 42.6	-1.2
LVC	**Limon Verde**	**12.22**	**355**	*e*Pn	Pn	01 59 04.3	-0.5
LPAZ	**La Paz**	**18.47**	**359**	P	Pn	02 00 28.2	+1.0
	comp=N,0.2nm,0.3s,baz=162,slow=8.7,SNR=12						
LPAZ				LR	LR	02 08 49.7	
	comp=N,140nm,19.9s,baz=114,slow=41						
LPAZ	**La Paz**	**18.47**	**359**	*e*P	Pn	02 00 28.2	+1.0
	comp=N,6.1nm,0.8s						
SIV	**San Ignacio**	**19.70**	**19**	P	P	02 00 40.3	+0.3
	comp=N,0.2nm,0.3s,baz=219,slow=13,SNR=3.3						
SIV				LR	LR	02 10 02.9	
	comp=N,184nm,18.6s,baz=230,slow=42						
NNA	**Nana**	**24.20**	**338**	LR	LR	02 09 33.6	
	comp=N,144nm,19.9s,baz=172,slow=33						
BDFB	**Brasilia**	**26.07**	**48**	P	P	02 01 47.8	+3.5
	comp=N,1.9nm,0.6s,baz=236,slow=3.6,SNR=3.1						
BDFB				LR	LR	02 13 09.7	
	comp=N,212nm,19.0s,baz=230,slow=39						
SAML	**Samuel**	**26.10**	**10**	*e*P	P	02 01 44.1	-0.4
	comp=N,5.7nm,1.0s						
ATAH	**Atahualpa**	**29.25**	**338**	LR	LR	02 13 15.5	
	comp=N,109nm,18.9s,baz=191,slow=35						
PTGA	**Pitinga**	**34.70**	**14**	LR	LR	02 19 08.0	
	comp=N,102nm,21.8s,baz=199,slow=40						
PTGA	**Pitinga**	**34.70**	**14**	*e*P	P	02 02 59.2	-1.3
	comp=N,9.7nm,1.1s						
OTAV	**Otavalo**	**36.30**	**342**	*e*P	P	02 03 15.0	+0.3
	comp=N,7.5nm,1.3s						
SDV	**Santo Domingo**	**43.57**	**356**	*e*P	P	02 04 13.7	-1.2
	comp=N,7.9nm,1.0s						
BCIP	**Isla Barro Col**	**45.23**	**343**	*e*P	P	02 04 28.3	+0.3
	comp=N,19nm,0.9s						
CBYP	**Canovanas**	**52.84**	**2**	*e*P	P	02 05 25.7	-0.5
	comp=N,32nm,1.0s						
VNDA	**Vanda**	**63.96**	**191**	P	P	02 06 44.5	+1.4
	comp=N,2.1nm,1.0s,baz=107,slow=2.6,SNR=5.2						
VNDA	**Vanda**	**63.96**	**191**	*e*P	P	02 06 44.0	+0.8
	comp=N,5.5nm,1.2s						
TIGA	**Tifton**	**67.58**	**345**	⇓P	P	02 07 08.2	+1.2
	baz=68						
034A	**Hebboronville**	**68.16**	**330**	⇓P	P	02 07 12.1	+1.3
	baz=68						
934A	**Benavides**	**68.58**	**331**	⇓P	P	02 07 14.7	+1.3
	baz=69						
738A	**Farr-Stevens R**	**68.59**	**334**	⇓P	P	02 07 14.1	+0.8
	baz=69						
933A	**Laredo**	**68.89**	**330**	⇑P	P	02 07 16.6	+1.3
	baz=69						
834A	**Tilden**	**69.05**	**331**	⇑P	P	02 07 17.4	+1.1
	baz=69						
735A	**Kenedy**	**69.41**	**332**	⇓P	P	02 07 19.0	+0.5
	baz=70						
833A	**Chaparral WMA,**	**69.57**	**330**	⇓P	P	02 07 19.9	+0.4
	baz=70						
636A	**Smothers Creek**	**69.69**	**333**	⇑P	P	02 07 20.7	+0.5
	baz=70						
832A	**Faith Ranch, C**	**69.77**	**330**	⇑P	P	02 07 21.6	+0.8
	baz=70						
538A	**Harpers Horsep**	**69.79**	**335**	⇑P	P	02 07 22.0	+1.2
	baz=70						
733A	**Divot King Ran**	**69.88**	**331**	⇑P	P	02 07 22.4	+1.0
	baz=70						
537A	**Green Hill Far**	**69.96**	**334**	⇓P	P	02 07 23.2	+1.3
	baz=70						
732A	**Laxson Ranch,**	**70.16**	**330**	⇑P	P	02 07 23.2	+0.1
	baz=70						
438A	**Sam Houston St**	**70.27**	**335**	⇑P	P	02 07 23.7	0.0
	baz=71						
340A	**Bronson**	**70.34**	**336**	⇓P	P	02 07 24.2	0.0
	baz=71						
339A	**Huntington**	**70.48**	**336**	⇑P	P	02 07 25.3	+0.3
	baz=71						
534A	**Blanco**	**70.72**	**332**	⇓P	P	02 07 27.3	+0.8
	baz=71						
436A	**Wall Ranch, Ga**	**70.75**	**334**	⇓P	P	02 07 26.9	+0.1
	baz=71						
338A	**Crockett**	**70.76**	**335**	⇓P	P	02 07 26.9	+0.2
	baz=71						
632A	**Uvalde**	**70.77**	**331**	⇑P	P	02 07 27.1	+0.2
	baz=71						
337A	**Centerville**	**70.92**	**335**	⇓P	P	02 07 28.1	+0.3
	baz=71						
533A	**Kerrville**	**70.97**	**332**	⇓P	P	02 07 28.2	0.0
	baz=71						
631A	**Perdido Creek**	**71.01**	**330**	⇑P	P	02 07 28.5	+0.2
	baz=71						
239A	**Gary**	**71.08**	**336**	⇑P	P	02 07 29.2	+0.6
	baz=71						
238A	**Jacksonville**	**71.29**	**336**	⇑P	P	02 07 30.2	+0.3
	baz=72						
336A	**Riesel**	**71.33**	**334**	⇓P	P	02 07 30.3	+0.1
	baz=72						
434A	**Burnet**	**71.34**	**333**	⇑P	P	02 07 30.2	-0.2
	baz=72						
532A	**Rocksprings**	**71.37**	**331**	⇓P	P	02 07 30.1	-0.4
	baz=72,SNR=5.9						
335A	**Moody**	**71.45**	**333**	⇓P	P	02 07 30.6	-0.3
	baz=72						
237A	**Washetta, Mont**	**71.52**	**335**	⇓P	P	02 07 31.2	-0.1
	baz=72						
433A	**Art**	**71.60**	**332**	⇑P	P	02 07 31.6	-0.4
	baz=72						
JCT	**Junction City**	**71.64**	**331**	⇓P	P	02 07 31.8	-0.3
	baz=72						
JCT	**Junction City**	**71.64**	**331**	*e*P	P	02 07 30.6	-1.6
	comp=N,18nm,1.3s						
531A	**Rocksprings**	**71.66**	**330**	⇓P	P	02 07 32.1	-0.2
	baz=72						
LIC	**Lamto**	**71.74**	**69**	*e*P	P	02 07 42.6	+10
	comp=N,38nm,1.4s						
334A	**Lometa**	**71.79**	**333**	⇑P	P	02 07 32.9	-0.1
	baz=72						
138A	**Matatall Enter**	**71.88**	**336**	⇑P	P	02 07 33.1	-0.4
	baz=72						
530A	**J-C Ranch, Com**	**71.97**	**330**	⇑P	P	02 07 34.0	-0.2
	baz=72						
432A	**Menard**	**71.99**	**331**	⇑P	P	02 07 34.0	-0.3
	baz=72						
TIC	**Toumodi**	**72.01**	**68**	*e*P	P	02 07 44.1	+9.3
	comp=N,2.6nm,0.2s						
KIC	**Kosan Boka**	**72.04**	**69**	*e*P	P	02 07 44.5	+10
	comp=N,40nm,1.1s						
137A	**Heron Place, G**	**72.05**	**335**	⇑P	P	02 07 34.5	0.0
	baz=72						
333A	**Richland Sprin**	**72.07**	**332**	⇑P	P	02 07 34.7	-0.1
	baz=72						
WHTX	**Lake Whitney,**	**72.10**	**334**	⇑P	P	02 07 34.5	-0.3
	baz=72						
431A	**Sonora**	**72.14**	**331**	⇑P	P	02 07 34.6	-0.6
	baz=72						
DBIC	**Dimbokro**	**72.15**	**68**	P	P	02 07 37.9	+2.4
	comp=N,1.3nm,0.6s,baz=218,slow=6.5,SNR=3.0						
DBIC				LR	LR	02 36 16.8	
	comp=N,42nm,20.2s,baz=194,slow=33						
DBIC	**Dimbokro**	**72.15**	**68**	*e*P	P	02 07 33.2	-2.4
	comp=N,11nm,1.0s						
TXAR	**Lajitas Array**	**72.26**	**327**	P	P	02 07 35.3	-0.7
	comp=N,0.9nm,0.8s,baz=145,slow=8.2,SNR=11						
TXAR				LR	LR	02 34 32.1	
	comp=N,60nm,18.9s,baz=0.0,slow=32						
529A	**Stev Forest Ra**	**72.32**	**329**	⇓P	P	02 07 36.2	-0.1
	baz=73						
234A	**Clairette**	**72.36**	**333**	⇓P	P	02 07 35.9	-0.5
	baz=73						
332A	**Millersview**	**72.42**	**332**	⇓P	P	02 07 36.5	-0.3
	baz=73						
430A	**Baggett Ranch,**	**72.49**	**330**	⇑P	P	02 07 36.9	-0.4
	baz=73,SNR=5.2						
135A	**Vickery Place,**	**72.59**	**334**	⇑P	P	02 07 38.1	+0.3
	baz=73						
429A	**Davenport Ranc**	**72.62**	**330**	⇑P	P	02 07 38.1	0.0
	baz=73,SNR=6.1						
331A	**San Angelo**	**72.62**	**331**	⇓P	P	02 07 37.6	-0.5
	baz=73						
233A	**Rising Star**	**72.66**	**333**	⇑P	P	02 07 37.8	-0.4
	baz=73						
232A	**Coleman**	**72.83**	**332**	⇑P	P	02 07 38.8	-0.4
	baz=73						
134A	**White-Moore Ra**	**72.85**	**334**	⇓P	P	02 07 39.2	-0.1
	baz=73						
330A	**Mertzon**	**73.01**	**331**	⇑P	P	02 07 40.0	-0.3
	baz=73						
WVT	**Waverly**	**73.04**	**343**	*e*P	P	02 07 39.1	-1.3
	comp=N,11nm,1.0s						
231A	**Bronte**	**73.13**	**331**	⇓P	P	02 07 40.7	-0.3
	baz=73						
133A	**Hamilton Ranch**	**73.19**	**333**	⇑P	P	02 07 41.2	-0.2
	baz=74						
Z35A	**Perchaven, San**	**73.23**	**335**	⇑P	P	02 07 41.5	0.0
	baz=74						
230A	**Sterling City**	**73.41**	**331**	⇓P	P	02 07 42.4	-0.3
	baz=74						
329A	**Wagon Wheel Ra**	**73.41**	**330**	⇑P	P	02 07 42.4	-0.3
	baz=74,SNR=5.6						
ABTX	**Abilene, Hawle**	**73.48**	**332**	⇓P	P	02 07 42.9	-0.2
	baz=74						
Z34A	**Collier Ranch,**	**73.51**	**334**	⇑P	P	02 07 42.5	-0.6
	baz=74						
Z33A	**Whitaker Ranch**	**73.74**	**333**	⇓P	P	02 07 44.1	-0.5
	baz=74						
229A	**Bryant Ran

U32A	Winter Ranch,	76.60	335	⇓P	P	02 08 01.3 +0.3
	baz=77				
X27A	F and S Farms,	76.62	331	⇑P	P	02 08 01.5 +0.2
	baz=77				
V30A	Spur Ranch, Mi	76.66	333	⇑P	P	02 08 02.0 +0.6
	baz=77				
W28A	Vega	76.80	332	⇓P	P	02 08 02.2 0.0
	baz=77				
X26A	CR and CF Fran	76.82	330	⇑P	P	02 08 02.7 +0.2
	baz=77				
121A	Cookes Peak, D	76.83	326	⇑P	P	02 08 03.0 +0.4
	baz=77				
U31A	Nine Bar Ranch	76.89	334	⇓P	P	02 08 03.3 +0.6
	baz=77				
SFIN	Lafayette	76.94	345	⇓P	P	02 08 03.7 +1.0
	baz=77				
T33A	Patterson Ranc	76.97	335	⇓P	P	02 08 02.8 -0.2
	baz=77				
W27A	Bowe Ranch, En	76.97	331	⇑P	P	02 08 03.2 0.0
	baz=77				
Y24A	Capitan	76.97	329	⇑P	P	02 08 02.9 -0.5
	baz=77				
Z22A	Elephant Butte	77.07	327	⇑P	P	02 08 04.2 +0.3
	baz=77				
V29A	Stinnett	77.07	332	⇑P	P	02 08 04.4 +0.6
	baz=77				
X25A	Clemmons Ranch	77.16	329	⇓P	P	02 08 05.0 +0.6
	baz=78				
V28A	Channing	77.23	332	⇓P	P	02 08 04.9 +0.2
	baz=78				
W26A	Owens Ranch, T	77.27	330	⇑P	P	02 08 05.7 +0.8
	baz=78				
T32A	Huddler Ranch,	77.29	335	⇓P	P	02 08 06.1 +1.3
	baz=78				
U30A	WK&E Inc. Balk	77.33	333	⇑P	P	02 08 05.7 +0.6
	baz=78				
T31A	Randall Ranch,	77.48	334	⇑P	P	02 08 07.0 +1.0
	baz=78				
V27A	Dan Oppiter Fa	77.48	331	⇑P	P	02 08 06.7 +0.6
	baz=78				
U29A	Oasis Ranch, S	77.49	333	⇓P	P	02 08 06.8 +0.8
	baz=78				
W25A	X Bar L Ranch,	77.67	330	⇑P	P	02 08 07.2 0.0
	baz=78				
S32A	Newby Ranch, P	77.76	335	⇓P	P	02 08 08.5 +1.0
	baz=78				
U28A	Mallet	77.79	332	⇑P	P	02 08 08.7 +1.0
	baz=78				
X23A	Hourglass Bar	77.85	328	⇑P	P	02 08 09.4 +1.1
	baz=78				
S31A	Mullinville	77.88	335	⇑P	P	02 08 08.6 +0.4
	baz=78				
V26A	Tequesquite Ra	77.89	331	⇓P	P	02 08 08.5 +0.1
	baz=78				
R33A	Olander Ranch,	77.98	336	⇑P	P	02 08 09.2 +0.4
	baz=78				
W24A	Lazy 6 Ranch,	78.06	329	⇓P	P	02 08 09.6 +0.2
	baz=78,SNR=6.1				
U27A	Thompson Grove	78.06	332	⇑P	P	02 08 09.5 +0.2
	baz=78				
T29A	Hugoton	78.12	333	⇓P	P	02 08 10.8 +1.2
	baz=78				
S30A	Montezuma	78.25	334	⇓P	P	02 08 10.6 +0.4
	baz=79				
KSU1	Kansas State U	78.26	337	⇑P	P	02 08 10.6 +0.4
	baz=79				
V25A	Rancho No Teng	78.27	330	⇑P	P	02 08 10.6 +0.1
	baz=79				
ANMO	Albuquerque	78.28	328	eP	P	02 08 09.9 -0.7
	comp=N,4.0nm,1.0s				
W23A	Werner Place,	78.33	329	⇓P	P	02 08 11.3 +0.3
	baz=79				
R32A	Long Quarter,	78.33	336	⇓P	P	02 08 11.1 +0.5
	baz=79				
T28A	Walsh	78.39	333	⇑P	P	02 08 11.7 +0.5
	baz=79				
U26A	Atchley Ranch,	78.39	331	⇑P	P	02 08 11.3 +0.1
	baz=79				
V24A	Rampart Ranch,	78.44	330	⇑P	P	02 08 11.8 +0.2
	baz=79				
S29A	Ulysses	78.47	334	⇓P	P	02 08 11.5 0.0
	baz=79				
R31A	Burdett	78.49	335	⇑P	P	02 08 11.6 +0.1
	baz=79				
Q33A	Connelly Farm,	78.56	337	⇓P	P	02 08 12.3 +0.4
	baz=79				
T27A	Campo	78.58	332	⇓P	P	02 08 12.5 +0.4
	baz=79				
U25A	Circle Dot Ran	78.67	331	⇑P	P	02 08 13.0 +0.3
	baz=79				
S28A	Manter	78.73	333	⇑P	P	02 08 13.2 +0.3
	baz=79				
214A	Organ Pipe Nat	78.78	322	⇓P	P	02 08 13.8 +0.5
	baz=79				
Q32A	Meitler Ranch,	78.79	336	⇓P	P	02 08 13.7 +0.5
	baz=79				
T26A	Comanche Natio	79.01	332	⇓P	P	02 08 15.6 +0.9
	baz=79				
U24A	Moreno Valley	79.03	330	⇓P	P	02 08 15.8 +0.9
	baz=79				
Q31A	Ellis	79.09	335	⇓P	P	02 08 15.3 +0.4
	baz=79				
R29A	Marienthal	79.19	334	⇑P	P	02 08 15.7 +0.3
	baz=80				
V22A	San Miguel Ran	79.29	329	⇓P	P	02 08 17.2 +1.0
	baz=80,SNR=8.3				
T25A	Trinidad	79.31	331	⇑P	P	02 08 16.6 +0.4
	baz=80				
U23A	El Rito	79.34	329	⇓P	P	02 08 16.7 +0.2
	baz=80				
Q30A	Quinter	79.35	335	⇓P	P	02 08 16.3 0.0
	baz=80				
S26A	Kim	79.35	332	⇓P	P	02 08 16.5 +0.1
	baz=80				
R28A	Tribune	79.36	333	⇓P	P	02 08 16.4 +0.1
	baz=80				
P32A	Huiting Farm,	79.38	336	⇓P	P	02 08 16.9 +0.5
	baz=80				
X18A	Snowflake	79.49	326	⇓P	P	02 08 17.0 -0.3
	baz=80				
Q29A	Oakley	79.54	334	⇑P	P	02 08 17.7 +0.3
	baz=80				
P31A	Stockton	79.55	336	⇑P	P	02 08 17.7 +0.4
	baz=80				
T24B	San Luis	79.63	330	⇓P	P	02 08 18.2 0.0
	baz=80				
U22A	Llaves	79.66	329	⇑P	P	02 08 19.0 +0.7
	baz=80				
R27A	Eads	79.68	333	⇑P	P	02 08 18.5 +0.4
	baz=80				
S25A	Robets Cordova	79.77	331	⇓P	P	02 08 19.4 +0.7
	baz=80				
P30A	Selden	79.86	335	⇓P	P	02 08 19.0 0.0
	baz=80				
W18A	Petrified Fore	79.88	326	⇑P	P	02 08 19.9 +0.5
	baz=80				
113A	Mohawk Valley,	79.92	322	⇓P	P	02 08 19.7 +0.3
	baz=80				
R26A	Arlington	79.94	332	⇓P	P	02 08 19.8 +0.3
	baz=80				
Z14A	Wintersburg	79.98	323	⇑P	P	02 08 20.8 +1.1
	baz=80				
Q28A	Sharon Springs	80.00	334	⇓P	P	02 08 20.4 +0.5
	baz=80				
S24A	Houchin Ranch,	80.06	331	⇓P	P	02 08 20.8 +0.3
	baz=80				
O31A	Woolen Ranch,	80.09	336	⇑P	P	02 08 20.7 +0.5
	baz=80				
X16A	Lo Mia Camp, P	80.10	325	⇓P	P	02 08 21.1 +0.4
	baz=80				
R25A	Fountain Ranch	80.13	332	⇑P	P	02 08 21.1 +0.5
	baz=80				
P29A	Atwood	80.16	335	⇓P	P	02 08 21.2 +0.6
	baz=80				
KSCO	Kaye Shedlock'	80.25	333	⇓P	P	02 08 22.1 +0.9
	baz=81				
N32A	Stulken Farm,	80.31	337	⇑P	P	02 08 22.4 +1.0
	baz=81				
O30A	MW Ranch, Wils	80.37	335	⇓P	P	02 08 22.2 +0.5
	baz=81				
P28A	Saint Francis	80.42	334	⇑P	P	02 08 23.4 +1.3
	baz=81				
S23A	Nye Farm, Mont	80.44	330	⇑P	P	02 08 23.1 +0.7
	baz=81				
Y14A	Wickenburg	80.47	323	⇑P	P	02 08 22.9 +0.5
	baz=81				
Q26A	Hugo	80.51	332	⇑P	P	02 08 23.2 +0.6
	baz=81				
R24A	Sanders Place,	80.53	331	⇓P	P	02 08 23.7 +0.9
	baz=81				
N31A	Bailey Ranch,	80.58	337	⇓P	P	02 08 23.3 +0.5
	baz=81				
GLA	Glamis	80.68	321	⇓P	P	02 08 24.3 +0.7
	baz=81				
P27A	Ficken Ranch,	80.71	333	⇑P	P	02 08 24.3 +0.7
	baz=81				
Q25A	Bedland, Calha	80.78	332	⇓P	P	02 08 24.9 +0.8
	baz=81				
R23A	Moffat	80.78	331	⇓P	P	02 08 24.7 +0.4
	baz=81				
S22A	4UR Ranch, Cre	80.81	330	⇑P	P	02 08 24.9 +0.4
	baz=81				
O28A	Krutsinger Ran	80.92	334	⇓P	P	02 08 25.3 +0.5
	baz=81				
N30A	Hueftle Ranch,	80.93	336	⇓P	P	02 08 25.0 +0.2
	baz=81				
WUAZ	Wupatki	80.97	325	⇑P	P	02 08 25.8 +0.6
	baz=81				
P26A	Davis Ranch, A	81.00	333	⇑P	P	02 08 25.6 +0.3
	baz=81				
M31A	Lambtecht Ranc	81.05	337	⇓P	P	02 08 25.7 +0.4
	baz=81				
MVCO	Mesa Verde	81.07	328	⇓P	P	02 08 26.2 +0.4
	baz=81				
SWSC	Sam W. Stewart	81.09	321	⇓P	P	02 08 26.6 +0.9
	baz=81				
N29A	Votaw Ranch, W	81.13	335	⇑P	P	02 08 26.4 +0.6
	baz=82				
Q24A	Divide	81.17	331	⇑P	P	02 08 26.8 +0.4
	baz=82				
TORD	Torodi Ar. Bea	81.22	67	P	P	02 08 28.2 +1.4
	comp=N,2.3nm,0.7s,baz=302,slow=7.8,SNR=20				
TORD				LR	LR	02 41 31.7
	comp=N,47nm,20.8s,baz=180,slow=33				
P25A	Willow Gulch B	81.27	332	⇑P	P	02 08 27.8 +1.0
	baz=82				
PDMCI	Parker Dam,Lak	81.32	323	⇑P	P	02 08 27.5 +0.6
	baz=82				
N28A	Pribbeno Ranch	81.33	335	⇑P	P	02 08 27.1 +0.2
	baz=82				
MONP	Monument Peak,	81.38	320	⇓P	P	02 08 28.0 +0.5
	baz=82				
BC3	Big Chuckawall	81.48	321	⇑P	P	02 08 28.2 +0.3
	baz=82				
P24A	Kohler Place,	81.55	332	⇑P	P	02 08 28.9 +0.6
	baz=82				
O26A	Horse Wrangler	81.58	333	⇓P	P	02 08 29.2 +0.8
	baz=82				
M29A	Burnside Ranch	81.71	336	⇓P	P	02 08 29.5 +0.6
	baz=82				
IRM	Iron Mountain	81.72	322	⇓P	P	02 08 29.8 +0.7
	baz=82				
OGNE	Ogallala	81.73	334	⇓P	P	02 08 29.9 +0.8
	baz=82				
109C	Camp Elliot, M	81.74	320	⇑P	P	02 08 29.9 +0.7
	baz=82				
L31A	Butterfield Fa	81.76	337	⇑P	P	02 08 29.8 +0.7
	baz=82				
O25A	Wiggins	81.77	333	⇓P	P	02 08 30.2 +0.8
	baz=82				
N27A	Anderson Farm,	81.79	334	⇓P	P	02 08 30.2 +0.8
	baz=82				
P23A	Jefferson	81.80	331	⇓P	P	02 08 29.8 0.0
	baz=82				
W13A	Hualapai Mount	81.83	323	⇑P	P	02 08 30.1 +0.2
	baz=82				
L30A	Spencer Herefo	81.84	336	⇑P	P	02 08 30.4 +0.8
	baz=82				
M28A	Bar X Bar Ranc	81.90	335	⇓P	P	02 08 30.7 +0.8
	baz=82				
NEE2	Needles Airpor	81.93	323	⇓P	P	02 08 30.8 +0.6
	baz=82				
PFO	Pinyon Flats O	81.96	321	⇑P	P	02 08 31.4 +0.9
	baz=82				
BELC	Belle Mtn. Jos	82.03	321	⇑P	P	02 08 31.1 +0.3
	baz=82				
N26A	Koester Ranch,	82.06	334	⇑P	P	02 08 31.9 +1.1
	baz=82				
ISCO	Idaho Springs	82.08	331	⇑P	P	02 08 31.4 +0.2
	baz=82				
SMCO	Snowmass	82.09	330	eP	P	02 08 32.5 +1.1
	comp=N,4.8nm,1.0s				
U15A	North Rim	82.14	325	⇓P	P	02 08 32.0 +0.4
	baz=82				
O24A	Longmont	82.14	332	⇓P	P	02 08 32.0 +0.7
	baz=82				
L29A	Maesberg Ranch	82.19	336	⇑P	P	02 08 32.3 +0.9
	baz=82				
P22A	Eagle	82.36	331	⇑P	P	02 08 33.1 +0.5
	baz=83				
M27A	Reverse DX Ran	82.38	335	⇑P	P	02 08 33.2 +0.8
	baz=83				
LDFC	Landfair	82.42	323	eP	P	02 08 33.4 +0.5
	comp=N,6.0nm,0.9s				
K30A	Basset	82.46	337	⇑P	P	02 08 33.6 +0.8
	baz=83				
GMRC	Granite Mounta	82.47	322	⇓P	P	02 08 33.7 +0.6
	baz=83				
ECSD	EROS Data Cent	82.50	339	⇑P	P	02 08 33.6 +0.7
	baz=83				
ECSD	EROS Data Cent	82.50	339	eP	P	02 08 32.1 -0.8
	comp=N,9.0nm,1.0s				
O23A	Lake Granby, G	82.55	332	⇑P	P	02 08 34.1 +0.5
	baz=83				
M26A	McRoberts Ranc	82.59	334	⇑P	P	02 08 34.4 +0.8
	baz=83				
N24A	Carr	82.68	333	⇓P	P	02 08 34.6 +0.5
	baz=83				
O22A	Kremmling	82.75	331	⇓P	P	02 08 35.0 +0.3
	baz=83				
K29A	Lazy Trails An	82.76	336	⇓P	P	02 08 35.4 +1.0
	baz=83				
L27A	T5 Ranch, Ells	82.84	335	⇑P	P	02 08 36.0 +1.2
	baz=83				
HEC	Hector,Ludlow	82.85	322	⇑P	P	02 08 35.6 +0.6
	baz=83				
M25A	Palm-Egli Farm	82.90	333	⇓P	P	02 08 36.3 +1.0
	baz=83				
J30A	Dallas	83.00	337	⇓P	P	02 08 36.8 +1.2
	baz=83				
FMP	Fort Macarthur	83.01	320	⇓P	P	02 08 36.4 +0.7
	baz=83				
L26A	Underwood Farm	83.07	334	⇓P	P	02 08 36.6 +0.5
	baz=83				
K28A	Ten Mile Ranch	83.07	336	⇑P	P	02 08 37.0 +1.1
	baz=83				
BFSC	Mount Baldy Ra	83.08	320	⇓P	P	02 08 36.9 +0.6
	baz=83				
TUQ	Turquoise Moun	83.12	322	⇑P	P	02 08 37.2 +0.8
	baz=83				
N23A	Red Feather La	83.14	332	⇓P	P	02 08 37.1 +0.5
	baz=84				
M24A	Cheyenne	83.21	333	⇓P	P	02 08 37.9 +1.0
	baz=84				
RRX	Edison Barstow	83.23	321	⇑P	P	02 08 37.3 +0.4
	baz=84				
N22A	Wattenberg Ran	83.27	331	⇑P	P	02 08 38.0 +0.7
	baz=84				
J29A	Okreek	83.34	337	⇑P	P	02 08 38.4 +1.1
	baz=84				
K27A	Flueckinger Fa	83.36	335	⇑P	P	02 08 38.4 +0.9
	baz=84				
GSC	Goldstone, Bar	83.46	322	⇓P	P	02 08 39.2 +1.0
	baz=84				
L25A	Engebretsen Ra	83.49	334	⇑P	P	02 08 39.0 +0.7
	baz=84				
I30A	Oacoma	83.51	338	⇓P	P	02 08 38.9 +0.7
	baz=84				
CCUT	Cedar City	83.55	325	eP	P	02 08 39.8 +1.0
	comp=N,4.9nm,1.0s				
M23A	Laramie	83.55	332	⇓P	P	02 08 39.6 +0.9
	baz=84				
J28A	Allard Ranch,	83.66	336	⇑P	P	02 08 40.0 +1.1
	baz=84				
K26A	Motz Farm, Whi	83.69	335	⇓P	P	02 08 40.3 +1.1
	baz=84				
EDW2	Edwards Air Fo	83.74	321	⇑P	P	02 08 40.5 +0.8
	baz=84				
L24A	Wheatland	83.75	333	⇑P	P	02 08 40.5 +0.9
	baz=84				
J27A	Elkhorn Farm,	83.77	336	⇑P	P	02 08 40.6 +1.0
	baz=84				
MVU	Marysvale	83.79	326	eP	P	02 08 41.0 +1.0
	comp=N,5.0nm,1.1s				
M22A	Cedar Creek Ra	83.83	332	⇑P	P	02 08 41.2 +1.1
	baz=84				
BRSD	Miller	83.84	338	⇓P	P	02 08 40.7 +0.9
	baz=84				
K25A	Mack Ranch, Ha	83.86	334	⇑P	P	02 08 40.9 +0.8
	baz=84				
I29A	Vivian Onida	83.89	337	⇓P	P	02 08 41.5 +1.4
	baz=84				
BSC	Santa Cruz Isl	83.94	319	⇓P	P	02 08 41.5 +0.9
	baz=84				
L23A	Garrett	84.10	333	⇑P	P	02 08 42.7 +1.2
	baz=84				
I28A	Midland	84.15	336	⇓P	P	02 08 42.5 +1.1
	baz=84				
J26A	Sides Ranch, S	84.19	335	⇑P	P	02 08 42.7 +1.0
	baz=84				
K24A	Anderson Ranch	84.30	333	⇑P	P	02 08 43.4 +1.0
	baz=85				
L22A	Ellis Ranch, M	84.31	332	⇑P	P	02 08 43.1 +0.6
	baz=85				
SBC	Santa Barbara	84.32	319	⇓P	P	02 08 43.3 +0.9
	baz=85				
ARVC	Arvin	84.38	320	⇓P	P	02 08 44.2 +1.4
	baz=85				
FURC	Furnace Creek,	84.40	322	⇓P	P	02 08 44.0 +1.2
	baz=85				
H29A	Onida	84.40	337	⇑P	P	02 08 43.9 +1.2
	baz=85				
I27A	Quinn	84.50	336	⇑P	P	02 08 44.1 +0.9
	baz=85				
J25A	Sunshine Ranch	84.51	334	⇓P	P	02 08 44.0 +0.7
	baz=85				
G30A	Faulkton	84.52	338	⇑P	P	02 08 44.3 +1.0
	baz=85				
ISA	Isabella, Lake	84.60	321	⇑P	P	02 08 44.5 +0.5
	baz=85				
K23A	Bowen Ranch, D	84.62	333	⇓P	P	02 08 44.8 +0.7
	baz=85				
H28A	Mission Ridge	84.70	337	⇓P	P	02 08 45.2 +1.0
	baz=85				
I26A	New Underwood	84.74	335	⇑P	P	02 08 44.9 +0.4
	baz=85				
J24A	Dixon Ranch, L	84.77	334	⇓P	P	02 08 45.4 +0.7
	baz=85				
G29A	Hoven	84.82	338	⇓P	P	02 08 45.9 +1.1
	baz=85				
K22A	Casper	84.87	332	⇑P	P	02 08 45.9 +0.6
	baz=85				
H27A	Howes	85.01	336	⇓P	P	02 08 46.4 +0.6
	baz=85				
G28A	Parade	85.03	337	⇑P	P	02 08 46.5 +0.7
	baz=85				
I25A	Rochford	85.04	335	⇓P	P	02 08 46.7 +0.6
	baz=85				
VES	Vestal, Richgr	85.05	320	⇑P	P	02 08 47.2 +1.1
	baz=85				
GRAC	Grapevine Rang	85.06	322	⇑P	P	02 08 46.9 +0.6
	baz=85				
F30A	Leola	85.12	339	⇑P	P	02 08 46.9 +0.6
	baz=85				
SMMC	Simmler	85.14	320	⇓P	P	02 08 47.2 +0.6
	baz=85				
K21A	Alcova	85.14	332	⇑P	P	02 08 46.8 +0.1
	baz=86				
J23A	Dilts Ranch, B	85.16	333	⇓P	P	02 08 47.0 +0.3
	baz=86				
JLU	Jordanelle	85.17	328	eP	P	02 08 47.1 +0.2
	comp=N,50nm,2.7s				
I24A	Kuemmerle Ranc	85.21	334	⇓P	P	02 08 47.4 +0.5
	baz=86				
H26A	Fairpoint	85.23	336	⇓P	P	02 08 47.5 +0.6
	baz=86				
R11A	Troy Canyon, C	85.24	324	⇑P	P	02 08 48.0 +0.7
	baz=86				
R11A	Troy Canyon, C	85.24	324	eP	P	02 08 47.9 +0.6
	comp=N,17nm,2.1s				
F29A	Eureka	85.36	338	⇓P	P	02 08 47.8 +0.3
	baz=86				
DUG	Dugway, Tooele	85.43	327	⇑P	P	02 08 48.8 +0.6
	baz=86				
DUG	Dugway, Tooele	85.43	327	eP	P	02 08 48.4 +0.3
	comp=N,16nm,1.8s				
J22A	Midwest	85.51	333	⇑P	P	02 08 49.2 +0.7
	baz=86				
H25A	Fruitdale	85.52	335	⇑P	P	02 08 49.1 +0.7
	baz=86				
I23A	Meade Ranch, G	85.60	334	⇑P	P	02 08 49.5 +0.7
	baz=86				
G27A	Dupree	85.62	337	⇑P	P	02 08 49.7 +0.8
	baz=86				
F28A	McLaughlin	85.68	338	⇑P	P	02 08 49.9 +0.8
	baz=86				
E30A	Jud	85.69	339	⇑P	P	02 08 49.7 +0.6
	baz=86				
G26A	Maurine	85.77	336	⇓P	P	02 08 50.1 +0.5
	baz=86				
J21A	Lysite	85.82	332	⇓P	P	02 08 50.5 +0.5
	baz=86				
TPH	Tonopah	85.83	323	eP	P	02 08 51.2 +0.9
	comp=N,6.1nm,1.0s				
I22A	9 Mile Ranch,	85.92	333	⇑P	P	02 08 50.8 +0.4
	baz=86				
G25A	Newell	85.95	336	⇑P	P	02 08 51.0 +0.5
	baz=86				
H24A	Dirks Ranch, A	85.96	335	⇑P	P	02 08 51.1 +0.5
	baz=86				
E29A	Napoleon	85.97	339	⇓P	P	02 08 51.2 +0.7
	baz=86				
HWUT	Hardware Ranch	86.04	329	eP	P	02 08 51.0 -0.2
	comp=N,116nm,2.9s				
J20A	Shoshoni	86.07	332	⇑P	P	02 08 51.8 +0.6
	baz=86,SNR=5.8				
F27A	Lemmon	86.09	337	⇑P	P	02 08 51.9 +0.8
	baz=86				
H23A	Clabaugh Cattl	86.10	334	⇓P	P	02 08 51.9 +0.7
	baz=86				
I21A	Big Trails, Te	86.16	332	⇑P	P	02 08 52.1 +0.4
	baz=86				
PDAR	Pinedale Array	86.16	331	P	P	02 08 51.2 -0.6
	comp=N,2.1nm,0.9s,baz=158,slow=4.8,SNR=16				
D30A	Buchanan	86.19	339	⇓P	P	02 08 52.5 +0.9
	baz=86				
F26A	Lodgepole	86.28	336	⇑P	P	02 08 52.7 +0.6
	baz=87				
MLAC	Mammoth, Mammo	86.29	322	⇑P	P	02 08 53.1 +0.5
	baz=87				
E28A	Huff	86.29	338	⇓P	P	02 08 53.1 +1.0
	baz=87				
J19A	Crowheart	86.38	331	⇑P	P	02 08 53.5 +0.7
	baz=87,SNR=7.7				
D29A	Pettibone, Tap	86.40	339	⇓P	P	02 08 53.3 +0.7
	baz=87				
G24A	Alzada	86.42	335	⇓P	P	02 08 53.4 +0.6
	baz=87				
E27A	Carson	86.44	337	⇑P	P	02 08 53.5 +0.6
	baz=87				
H22A	Clearmont	86.47	333	⇓P	P	02 08 53.6 +0.4
	baz=87				
AGMN	Agassiz Nation	86.49	342	⇓P	P	02 08 53.6 +0.6
	baz=87				
I20A	Worland	86.59	332	⇑P	P	02 08 54.2 +0.5
	baz=87				
F25A	Bowman	86.61	336	⇓P	P	02 08 54.3 +0.6
	baz=87				
NVAR	Mina Array Bea	86.64	323	P	P	02 08 54.2 0.0
	comp=N,2.1nm,1.0s,baz=125,slow=9.9,SNR=5.7				
G23A	Biddle	86.65	334	⇓P	P	02 08 54.4 +0.4
	baz=87				
C30A	Mose, Pekin	86.65	340	⇑P	P	02 08 54.3 +0.5
	baz=87				
HVU	Hansel Valley	86.70	328	eP	P	02 08 54.1 -0.3
	comp=N,8.9nm,1.2s				
H21A	Big Horn, Sher	86.76	333	⇑P	P	02 08 55.0 +0.4
	baz=87				
E26A	Carlson Angus	86.76	337	⇓P	P	02 08 55.0 +0.5
	baz=87				
D28A	Regan	86.81	338	⇓P	P	02 08 54.9 +0.3
	baz=87				
ELK	Elko	86.98	326	eP	P	02 08 55.9 0.0
	comp=N,2.5nm,0.8s				
G22A	Birney	86.99	334	⇑P	P	02 08 55.9 +0.2
	baz=87				
H20A	Greybull	87.00	332	⇑P	P	02 08 55.8 +0.1
	baz=87,SNR=5.9				
I19A	Meeteetse	87.00	332	⇓P	P	02 08 55.9 0.0
	baz=87				
D27A	Center	87.03	338	⇓P	P	02 08 56.1 +0.4
	baz=87				
E25A	Miller Ranch,	87.10	336	⇑P	P	02 08 56.4 +0.4
	baz=87				

F23A	Volborg	87.10	335	⇑P		P	02 08 56.4 +0.2
	baz=87						
MDND	Maddock	87.11	339	⇓P		P	02 08 56.4 +0.4
	baz=87						
D26A	Manning	87.25	337	⇓P		P	02 08 56.9 +0.2
	baz=88						
B30A	Myrvik Farm, E	87.29	340	⇓P		P	02 08 57.1 +0.2
	baz=88						
G21A	Lodge Grass	87.33	333	⇑P		P	02 08 57.4 +0.1
	baz=88						
E24A	Baker	87.45	336	⇑P		P	02 08 58.2 +0.4
	baz=88						
F22A	Rosebud	87.45	334	⇑P		P	02 08 58.1 +0.3
	baz=88						
H19A	Powell	87.53	332	⇓P		P	02 08 58.5 +0.1
	baz=88						
I17A	Pilgrim Ck.	87.53	331	⇓P		P	02 08 58.5 +0.1
	baz=88						
C27A	Sayler Ranch,	87.56	338	⇑P		P	02 08 58.8 +0.6
	baz=88						
B29A	Wagenman Farm,	87.59	340	⇓P		P	02 08 59.0 +0.6
	baz=88						
D25A	Fairfield	87.64	337	⇓P		P	02 08 59.1 +0.5
	baz=88						
IMW	Indian Meadow	87.66	330	*e*P		P	02 08 58.8 -0.4
	comp=N,4.4nm,0.9s						
G20A	Bridger	87.70	333	⇓P		P	02 08 58.9 -0.2
	baz=88,SNR=6.4						
A30A	Hoffart Farm,	87.73	340	⇑P		P	02 08 58.9 -0.1
	baz=88						
E23A	Ismay	87.74	335	⇓P		P	02 08 59.3 +0.1
	baz=88						
H18A	Shoshone NF, C	87.80	332	⇓P		P	02 08 59.6 -0.2
	baz=88,SNR=11						
F21A	Absaloka Mine,	87.81	334	⇑P		P	02 08 59.5 0.0
	baz=88						
C26A	Wahner Farm, P	87.84	338	⇓P		P	02 08 59.8 +0.2
	baz=88						
E22A	Miles City	87.91	335	⇓P		P	02 09 00.4 +0.4
	baz=88						
H17A	Grant Village	87.93	331	⇑P		P	02 09 00.5 +0.2
	baz=88						
D24A	Glendive	87.94	336	⇓P		P	02 09 00.6 +0.5
	baz=88						
A29A	Manning Farm,	87.97	340	⇑P		P	02 09 00.7 +0.5
	baz=88						
B27A	Peters Farms,	88.10	338	⇓P		P	02 09 01.4 +0.6
	baz=88						
C25A	Freed Ranch, W	88.11	337	⇓P		P	02 09 01.3 +0.4
	baz=88						
F20A	Billings	88.17	333	⇑P		P	02 09 01.7 +0.5
	baz=88						
A28A	Rude Farm, Bot	88.26	339	⇑P		P	02 09 02.1 +0.6
	baz=89						
D23A	Lindsay	88.29	335	⇓P		P	02 09 02.5 +0.7
	baz=89						
ULM	Lac du Bonnet	88.29	342	P		P	02 09 00.6 -1.1
	comp=N,2.2nm,0.9s,baz=180,slow=2.0,SNR=3.9						
YMR	Madison River	88.31	331	*e*P		P	02 09 03.2 +1.1
	comp=N,9.0nm,1.0s						
C24A	Savage	88.34	336	⇓P		P	02 09 02.6 +0.7
	baz=89						
B26A	Jensen Ranch,	88.38	338	⇑P		P	02 09 03.2 +1.0
	baz=89						
E21A	Keefer Ranch,	88.40	334	⇑P		P	02 09 03.4 +1.1
	baz=89						
F19A	Roth Farm, Mol	88.51	333	⇓P		P	02 09 03.8 +0.9
	baz=89						
B25A	Knox Farm, Ray	88.57	337	⇓P		P	02 09 04.1 +1.1
	baz=89						
A27A	Ledoux Ranch,	88.58	339	⇓P		P	02 09 04.0 +1.0
	baz=89						
D22A	Cohagen	88.61	335	⇑P		P	02 09 04.2 +0.9
	baz=89						
E20A	Meyer Farm, Mu	88.75	333	⇑P		P	02 09 04.6 +0.6
	baz=89,SNR=9.0						
A26A	Wade Farm, Ken	88.78	338	⇑P		P	02 09 04.6 +0.6
	baz=89						
D21A	La Casta Ranch	88.82	334	⇑P		P	02 09 05.2 +0.9
	baz=89						
C23A	Lambert	88.83	336	⇑P		P	02 09 05.2 +1.0
	baz=89						
HLID	Hailey	88.85	328	⇑P		P	02 09 05.4 +0.7
	baz=89						
E19A	Rath Farm, Rou	88.96	333	⇑P		P	02 09 05.9 +0.9
	baz=89,SNR=7.0						
C22A	Vida	89.02	335	⇓P		P	02 09 06.4 +1.2
	baz=89						
A25A	Svangstu Ranch	89.15	338	⇑P		P	02 09 06.7 +1.0
	baz=90						
D20A	Manuel Ranch,	89.25	334	⇓P		P	02 09 07.2 +0.9
	baz=90						
B23A	Brockton	89.34	336	⇑P		P	02 09 07.6 +1.0
	baz=90						
A24A	Westby	89.42	337	⇓P		P	02 09 08.2 +1.2
	baz=90						
C21A	Desert Coulee	89.51	335	⇑P		P	02 09 08.5 +1.0
	baz=90						
D19A	Cripps Ranch,	89.59	333	⇑P		P	02 09 08.9 +1.0
	baz=90						
A23A	Redstone	89.73	337	⇑P		P	02 09 09.6 +1.2
	baz=90						
C20A	Veseth Ranch,	89.73	334	⇓P		P	02 09 09.6 +1.0
	baz=90						
A22A	Carney Farms,	90.10	336	⇓P		P	02 09 11.2 +1.0
	baz=90						
C19A	Slack Wire Ran	90.13	334	⇑P		P	02 09 11.4 +1.0
	baz=90						
B20A	Solberg Farm,	90.35	335	⇓P		P	02 09 12.5 +1.1
	baz=91						
A21A	Bergtoll Ranch	90.44	335	⇓P		P	02 09 12.9 +1.1
	baz=91						
EGMT	Eagleton	90.63	333	⇓P		P	02 09 13.8 +1.0
	baz=91						
A20A	Cobblestone Ra	90.69	335	⇓P		P	02 09 14.1 +1.1
	baz=91						
B19A	Brinkman Farms	90.70	334	⇑P		P	02 09 14.1 +1.1
	baz=91						
N02D	Trinity Center	90.78	322	⇑P		P	02 09 14.6 +0.9
	baz=91						
M04C	Macdoel	90.94	323	⇑P		P	02 09 15.3 +0.9
	baz=91						
A19A	Klindworth Far	91.02	334	⇓P		P	02 09 15.4 +0.9
	baz=91						
M02C	Callahan	91.17	322	⇑P		P	02 09 16.1 +0.6
	baz=92						
MSO	Missoula	91.28	330	⇓P		P	02 09 16.5 +0.7
	baz=92						
K04D	Chiloquin, OR	91.53	323	⇓P		P	02 09 17.9 +0.8
	baz=92						
J05D	Fort Rock, OR	91.77	324	⇓P		P	02 09 18.9 +0.6
	baz=92						
L02D	Cave Junction,	92.11	322	⇓P		P	02 09 20.5 +0.9
	baz=92						
J04D	Umpqua Nationa	92.16	324	⇑P		P	02 09 20.7 +0.5
	baz=92						
I04A	Tendick Farm,	92.72	324	⇑P		P	02 09 23.2 +0.7
	baz=93						
I03D	Drain, OR	93.11	323	⇑P		P	02 09 25.0 +0.8
	baz=93						
G05D	Wamic, OR	93.28	325	⇓P		P	02 09 25.9 +0.8
	baz=94						
NEW	Newport	93.73	329	⇑P		P	02 09 27.9 +0.8
	baz=94						
G03D	McMinnville, O	94.18	324	⇑P		P	02 09 29.9 +0.8
	baz=94						
F04D	Rainier, OR	94.70	325	⇑P		P	02 09 32.3 +0.9
	baz=95						
FCC	Fort Churchill	95.80	347	*e*P		P	02 09 35.7 -0.4
	comp=N,0.1nm,0.8s						
WRA	Warramunga Arr	121.61	205	PKP		PKPdf	02 15 04.4 -0.5
	comp=N,2.3nm,0.9s,baz=168,slow=1.8,SNR=5.1						
WRAB	Tennant Creek	121.62	205	*e*PKPdf		PKPdf	02 15 04.0 -1.0
COEN	Coen	123.28	217	*e*PKPdf		PKPdf	02 15 08.1 -0.1
TNA	Tin City	125.27	330	*e*PKPdf		PKPdf	02 15 10.4 +0.1
GNI	Garni	127.34	63	*e*PKPdf		PKPdf	02 15 12.6 -2.8
ABKAR	Akbulak array	139.39	53	*e*PKPdf		PKPdf	02 15 37.6 +0.1
PALK	Pallekele	140.09	126	*e*PKPdf		PKPdf	02 15 38.5 -1.4
SEY	Seymchan	142.49	331	PKP		PKPdf	02 15 43.6 +1.0
	comp=N,1.0nm,0.4s,baz=108,slow=2.7,SNR=6.8						
BRVK	Borovoye	145.35	45	*e*PKPbc		PKPdf	02 15 49.1 +1.2
HYB	Hyderabad	145.35	111	*i* PKP		PKPdf	02 15 50.0 +0.9
PSI	Prapat	145.81	156	PKPbc		PKPdf	02 15 50.9 +0.7
	comp=N,8.3nm,0.8s,baz=133,slow=11,SNR=8.0						
KKAR	Karatay Array	146.81	63	*e*PKPbc		PKPdf	02 15 50.6 -0.1
AAK	Ala-Archa	149.74	64	*e*PKPbc		PKPdf	02 15 57.5 +1.7
AAK				*e*PKPab		PKiKP	02 16 02.5 +1.0
TKM2	Tokmak 2	150.54	63	*e*PKPbc		PKPbc	02 16 03.4 +0.9
YAK	Yakutsk	150.63	343	*e*PKPbc		PKPbc	02 16 01.6 -0.1
KSH	Kashi	150.86	70	*e*PKPbc		PKPdf	02 15 56.8 -0.8
KSH				PKS		PKSdf	02 19 30.8 -1.6
KSH				PP		PP	02 19 37.6 -3.4
KSH				SKS		SKSdf	02 23 02.6 -2.8
KSH				SKKS		SKKSac	02 26 25.7 -6.0
KSH				SS		SS	02 38 56.1 -6.9
KSH				PPMZ			
	comp=N,77nm,4.5s						
KSH				LN			
	comp=N,66nm,4.2s						
KSH				LE			
	comp=N,110nm,6.6s						
KSH				LZ			
	comp=N,530nm,10.6s						
KURK	Kurchatov	150.98	47	*e*PKPbc		PKPbc	02 16 03.7 +0.8
ZALV	Zalesovo Beam	152.91	37	PKP		PKPdf	02 16 00.4 +0.4
	comp=N,0.4nm,0.3s,baz=345,slow=1.6,SNR=3.0						
ZALV				PKPbc		PKiKP	02 16 08.0 +0.5
	comp=N,2.0nm,0.6s,baz=302,slow=3.4,SNR=12						
MKAR	Makanchi Array	154.54	53	PKP		PKPdf	02 16 03.3 +0.7
	comp=N,0.3nm,0.9s,baz=336,slow=3.2,SNR=2.6						
MKAR				PKPbc		PKiKP	02 16 11.6 +0.5
	comp=N,0.6nm,0.8s,baz=346,slow=1.5,SNR=6.0						
MKAR				PKPab		PKPab	02 16 26.7 +1.1
	comp=N,0.9nm,0.9s,baz=291,slow=3.8,SNR=6.6						
WMQ	Urumqi	159.06	57	*e*PKP		PKPdf	02 16 07.4 -1.2
SONM	Songino Array	166.30	17	PKP		PKPdf	02 16 15.8 +0.2
	comp=N,1.2nm,1.2s,baz=162,slow=0.5,SNR=4.7						
ULN	Ulaanbaatar	166.42	15	*e*PKPab		PKPab	02 17 18.6 +1.3
CN2	Changchun	166.42	315	*e*PKP		PKPdf	02 16 13.7 -2.0
GTA	Gaotai	169.08	62	*e*PKP		PKPdf	02 16 08.1 -10
GTA				pPKP		pPKPdf	02 16 12.2 -9.1
GTA				sPKP			02 16 15.1
NJ2	Nanjing	173.81	245	*e*PKP		PKPdf	02 16 19.6 -0.6
HHC	Hu-ho-hao-te	173.97	5	*e*PKP		PKPdf	02 16 17.1 -3.1
HHC				PKS		PKSdf	02 19 48.8 -3.6
HHC				PP		PP	02 21 42.9 +0.7
HHC				SKS		SKSdf	02 23 15.4 -8.0
HHC				SKKS		SKKSac	02 28 21.8 -7.6
HHC				SS		SS	02 42 50.6 -10
HHC				PPMZ			
	comp=N,110nm,9.4s						
HHC				LN			
	comp=N,170nm,22.7s						
HHC				LE			
	comp=N,200nm,22.8s						
HHC				LZ			
	comp=N,110nm,22.8s						

IDC ***13*** *02:08:14.4±0.8, 0.°20S×125.°27E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.9/40, mbtmp4.1/9, MS3.1/2, Ms1 3.1/2, ms1mx2.7/29, Error ellipse: s-maj=62.3km s-min=15.1km az=73.0*

NEIC ***13*** *02:08:15.8±3.3, 0.°14S×125.°51E, h10km±21km, mb4.4/5, Error ellipse: s-maj=8.0km s-min=6.4km az=46.0*

ISCJB ***13*** *02:08:20.0±0.3, 0.°07S±0.°04×125.°71E±0.°04, h49km, mb4.2/14, MS3.1/2, Error ellipse: s-maj=6.4km s-min=5.4km az=14.2*

DJA ***13*** *02:08:19.9±0.3, 0.°S±3.°×12.°6E±.°, h10km, M4.2/8, mb4.5/3, mB4.8/3, MLv4.0/8, Mw(mB)4.1/3*

ISC 13 02:08:21.4±0.6, 0.°04S±0.°07×125.°73E±0.°04, h49km, n47, σ1§41/38, mb4.2/14, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.82	64	P	Pn	02 08 50.8	+0.5
TNTI				S	Sn	02 09 13.1	+0.9
TNTI	Ternate	1.82	64	*e*Pn	Pn	02 08 50.2	-0.1
KMSI	Cibinong	1.86	289	P	Pn	02 08 49.7	-1.1
KMSI				S	Sn	02 09 12.7	-0.4
LBMI	Labuha	1.86	109	P	Pn	02 08 49.1	-1.8
SANI	Sanana	2.01	173	P	Pn	02 08 55.0	+2.1
GTOI	Gorontalo	2.81	284	P	Pn	02 09 07.2	+3.4
LUWI	Luwuk	3.12	251	P	Pn	02 09 21.8	+14
LUWI	Luwuk	3.12	251	P	Pn	02 09 16.8	+8.6
	baz=3.2,SNR=4.3						
LUWI	Luwuk	3.12	251	*e*Pn	Pn	02 09 01.5	-6.7
LUWI				*e*Sn	Sn	02 09 33.3	-11
NLAI	Namlea	3.46	157	P	Pn	02 09 07.8	-5.0
MRSI	Marisa	3.83	278	P	Pn	02 09 21.4	+3.5
APSI	Ampana	4.18	258	P	Pn	02 09 25.4	+2.8
MPSI	Mapaga	5.85	274	P	Pn	02 09 49.8	+4.2
	28nm,0.7s,931nm						
TTSI	Tana Toraja	6.62	243	P	Pn	02 09 56.9	+0.7
	29nm,0.6s,969nm						
SPSI	Sidrap Palu	7.12	237	P	Pn	02 10 04.3	+1.2
KAPI	Kappang	7.75	230	*e*Pn	Pn	02 10 06.5	-5.2
	48nm,0.9s						
PALU	Palau	11.39	50	P	Pn	02 11 05.5	+3.9
	baz=11,SNR=3.9						
KNRA	Kununurra	15.82	169	P	P	02 12 06.1	+2.1
	baz=16,SNR=4.5						
WRAB	Tennant Creek	21.50	157	*e*P	P	02 13 04.5	-1.7
	8.1nm,0.9s						
WRA	Warramunga Arr	21.50	157	P	P	02 13 04.1	-2.2
	3.6nm,0.8s,baz=336,slow=10,SNR=10						
WB2	Warramunga Arr	21.50	157	*e*P	P	02 13 04.3	-2.1
COEN	Coen	22.12	129	P	P	02 13 14.2	+1.2
	baz=22,SNR=5.1						
COEN	Coen	22.12	129	*e*P	P	02 13 12.8	-0.2
XMI	Christmas Isla	22.45	242	P	P	02 13 17.5	+0.9
	baz=22,SNR=4.5						
PMG	Port Moresby	23.27	114	*e*P	P	02 13 26.7	+1.7
	9.6nm,0.7s						
QIS	Mount Isa	24.49	147	P	P	02 13 36.9	+0.6
	baz=24,SNR=6.5						
AS31	Alice Springs	24.79	162	*e*P	P	02 13 38.2	-0.7
ASAR	Alice Springs	24.79	162	P	P	02 13 38.4	-0.6
	2.2nm,0.6s,baz=345,slow=7.8,SNR=32						
WRKA	Warakurna	24.97	174	P	P	02 13 41.2	+0.6
	baz=25,SNR=5.4						
WRKA				S	S	02 17 56.2	-4.9
	baz=25,SNR=6.1						
BBOO	Buckleboo	34.02	164	P	P	02 15 05.5	+4.8
	baz=34,SNR=7.1						
STKA	Stephens Creek	35.04	156	P	P	02 15 09.7	+0.1
	3.1nm,0.7s,baz=342,slow=9.6,SNR=9.5						
STKA	Stephens Creek	35.04	156	P	P	02 15 10.2	+0.6
	baz=35,SNR=5.3						
HTT	Hallett	35.45	161	P	P	02 15 14.3	+1.1
	baz=36,SNR=4.0						
KSAR	Wonju Array Be	37.35	3	P	P	02 15 30.8	+1.5
KSRS	Korea Array	37.37	3	P	P	02 15 30.8	+1.4
	1.9nm,0.6s,baz=177,slow=9.4,SNR=5.0						
ARPS	Mount Arapiles	39.48	159	P	P	02 15 48.3	+1.1
	baz=40,SNR=7.5						
USRK	Ussuriysk Ar.	44.40	6	P	P	02 16 27.7	+0.5
	1.5nm,0.5s,baz=163,slow=5.7,SNR=5.4						
PALK	Pallekele	45.49	280	*e*P	P	02 16 34.8	-1.7
SONM	Songino Array	50.57	343	P	P	02 17 15.6	+0.4
	2.4nm,1.0s,baz=160,slow=6.6,SNR=5.2						
SONM				LR	LR	02 40 41.6	
	comp=Z,13nm,19.0s,baz=42,slow=38						
MKAR	Makanchi Array	60.11	327	P	P	02 18 22.4	-1.4
	2.0nm,0.4s,baz=120,slow=7.6,SNR=26						
MKAR				LR	LR	02 46 02.8	
	comp=Z,22nm,20.2s,baz=100,slow=38						
TKM2	Tokmak 2	61.95	320	*e*P	P	02 18 36.4	-0.2
	1.4nm,0.6s						
ZALV	Zalesovo Beam	63.51	334	P	P	02 18 45.7	-0.8
	0.7nm,0.4s,baz=106,slow=3.1,SNR=3.4						
KURK	Kurchatov	64.40	329	*e*P	P	02 18 51.3	-1.1
	1.7nm,0.4s						
BRVK	Borovoye	70.02	328	*e*P	P	02 19 27.4	-0.6
	1.5nm,0.5s						
ABKAR	Akbulak array	74.45	322	*e*P	P	02 19 53.8	-0.7
QSPA	South Pole Qui	89.89	180	P	P	02 21 15.1	+0.1
	1.1nm,0.8s,baz=342,slow=1.7,SNR=3.8						
TORD	Torodi Ar. Bea	123.06	286	PKP	PKPdf	02 27 12.8	-0.8
	0.6nm,0.8s,baz=93,slow=0.8,SNR=4.5						

IDC ***13*** *02:08:57.9±0.7, 34.°38S×72.°03W, h0km, mb4.1/9, mb1 4.2/11, mb1mx4.1/26, mbtmp4.1/11, ML3.5/2, Error ellipse: s-maj=30.3km s-min=16.8km az=92.0*

ISCJB ***13*** *02:08:58.2±0.9, 34.°38S±0.°03×72.°09W±0.°05, h17km±6km, mb4.2/15, Error ellipse: s-maj=8.0km s-min=3.9km az=19.1*

GUC ***13*** *02:09:00.1±0.3, 34.°41S×71.°96W, h21km±15km, ML4.2*

NEIC ***13*** *02:09:00.1, 34.°41S×71.°96W, h21km, mb4.4/11, ML4.2(GUC), After GUC.*

NEIC Felt [IV] at Pichilemu, [III] at Navidad and [II] at Quillota, San Antonio and Valparaiso.

ISC 13 02:08:59.5±1.4, 34.°41S±0.°03×71.°98W±0.°06, h14km±8km, n76, σ0§84/94, mb4.4/15, 10C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.65	46	*e*P	Pg	02 09 12.3	0.0
LNV				*i* S	Sg	02 09 21.4	+0.5
LNV	Longovilo	0.65	46	*e*P	Pg	02 09 12.3	0.0
LNV				*i* S	Sg	02 09 21.4	+0.5
NICH	Los Niches	0.85	134	⇑*i*P	Pb	02 09 15.3	-0.8
NICH				*i* S	Sb	02 09 27.0	-0.4
NICH				AML	AML	02 09 29.9	
	comp=E,33μm,0.5s						
NICH	Los Niches	0.85	134	⇑*i*P	Pb	02 09 15.3	-0.8
NICH				*i* S	Sb	02 09 27.0	-0.4
TALC	Talca	1.02	164	⇑*i*P	Pb	02 09 18.1	-0.9
TALC				*i* S	Sb	02 09 31.7	-0.6
TALC				AML	AML	02 09 39.0	
	comp=E,12μm,0.4s						
TALC	Talca	1.02	164	⇑*i*P	Pb	02 09 18.1	-0.9
TALC				*i* S	Sb	02 09 31.7	-0.6
TACH	Talagante	1.15	49	⇓*i*P	Pn	02 09 20.2	-0.9
TACH				*i* S	Sb	02 09 35.1	-0.7
TACH	Talagante	1.15	49	⇓*i*P	Pn	02 09 20.2	-0.9
TACH				*i* S	Sb	02 09 35.1	-0.7
CACH	El Canelo	1.18	76	*e*P	Pn	02 09 21.3	-0.3
CACH				*i* S	Sb	02 09 37.2	+0.3
CACH	El Canelo	1.18	76	*e*P	Pn	02 09 21.3	-0.3
CACH				*i* S	Sb	02 09 37.2	+0.3
CHCH	Chadas Angostu	1.20	67	*e*P	Pn	02 09 20.9	-1.0
CHCH	Chadas Angostu	1.20	67	*e*P	Pn	02 09 20.9	-1.0
RCDM	Rinconada Maip	1.34	47	⇑*i*P	Pn	02 09 23.0	-0.8
RCDM				*i* S	Sn	02 09 40.2	-1.1
RCDM				AML	AML	02 09 46.9	
	comp=N,4μm,0.7s						
RCDM	Rinconada Maip	1.34	47	⇑*i*P	Pn	02 09 23.0	-0.8
RCDM				*i* S	Sn	02 09 40.2	-1.1
ANTU	Antumapu	1.40	53	⇑*i*P	Pn	02 09 24.2	-0.3
ANTU				*i* S	Sn	02 09 42.4	-0.5
ANTU				AML	AML	02 09 48.0	
	comp=E,7μm,0.5s						
ANTU	Antumapu	1.40	53	⇑*i*P	Pn	02 09 24.2	-0.3
ANTU				*i* S	Sn	02 09 42.4	-0.5
SAN	Santiago	1.45	49	*e*P	Pn	02 09 24.9	-0.4
SAN				*i* S	Sn	02 09 43.7	-0.5
SAN				AML	AML	02 09 50.5	
	comp=N,7μm,0.6s						
SAN	Santiago	1.45	49	*e*P	Pn	02 09 24.9	-0.4
SAN				*i* S	Sn	02 09 43.7	-0.5
LNCH	Linares	1.47	168	*e*P	Pn	02 09 25.1	-0.3
LNCH				*e*S	Sn	02 09 44.1	-0.3
LNCH				AML	AML	02 09 50.6	
	comp=N,6μm,0.5s						
LNCH	Linares	1.47	168	*e*P	Pn	02 09 25.1	-0.3
LNCH				*e*S	Sn	02 09 44.1	-0.3
STL	Santa Lucia	1.48	49	*i* P	Pn	02 09 25.1	-0.6
STL				*i* S	Sn	02 09 44.5	-0.3
LACH	Col Las Americ	1.54	52	⇑*i*P	Pn	02 09 26.2	-0.3
LACH				*i* S	Sn	02 09 46.3	0.0
LACH	Col Las Americ	1.54	52	⇑*i*P	Pn	02 09 26.2	-0.3
LACH				*i* S	Sn	02 09 46.3	0.0
SJCH	San Jose de Ma	1.55	61	⇓*i*P	Pn	02 09 26.5	-0.3
SJCH				*i* S	Sn	02 09 46.7	-0.1
SJCH				AML	AML	02 09 54.4	
	comp=N,4μm,0.6s						
SJCH	San Jose de Ma	1.55	61	⇓*i*P	Pn	02 09 26.5	-0.3
SJCH				*i* S	Sn	02 09 46.7	-0.1
CLCH	Cerro Calan	1.57	50	*e*P	Pn	02 09 27.2	+0.2
CLCH				*i* S	Sn	02 09 47.2	+0.1
CLCH				AML	AML	02 09 54.1	
	comp=N,5μm,0.6s						
FCH	Farellones	1.77	53	AML	AML	02 10 47.0	
	comp=N,4μm,0.3s						
CFAA	Coronel Fontan	4.21	49	Pn	Pn	02 10 05.7	+2.5
	comp=N,0.7nm,0.3s,baz=228,slow=10.0,SNR=13						
CFAA				Lg	Lg	02 11 04.2	
	comp=N,1.6nm,0.3s,baz=198,slow=22,SNR=4.1						
LCO	Las Campanas	5.49	12	*e*Pn	Pn	02 10 20.9	-0.2
	comp=N,19nm,0.5s						
LCO				*e*Sn	Sn	02 11 22.6	-1.6
PLCA	Paso Flores	6.41	170	Pn	Pn	02 10 35.6	+2.1
	baz=355,slow=13						
PLCA				Lg	Lg	02 12 13.5	
	baz=86,slow=19						
PLCA	Paso Flores	6.41	170	*e*Pn	Pn	02 10 32.8	-0.8
	comp=N,11nm,0.8s						
PLCA				Lg	Lg	02 12 13.5	
TRQA	Tornquist	8.86	117	*e*Pn	Pn	02 11 05.0	-2.0
	comp=N,17nm,1.1s						
LVC	Limon Verde	12.06	14	*e*Pn	Pn	02 11 51.1	0.0
LPAZ	La Paz	18.38	12	P	Pn	02 13 15.7	+1.2
	comp=N,0.2nm,0.3s,baz=187,slow=8.7,SNR=8.8						
LPAZ	La Paz	18.38	12	*e*P	P	02 13 14.7	+0.2
	comp=N,8.0nm,1.1s						
SIV	San Ignacio	20.80	31	P	P	02 13 40.8	+0.4
	comp=N,3.2nm,0.7s,baz=221,slow=8.0,SNR=6.2						
SAML	Samuel	26.60	20	*e*P	P	02 14 37.2	-0.2
OTAV	Otavalo	35.00	349	*e*P	P	02 15 51.3	-0.7
	comp=N,1.4nm,0.6s						
PTGA	Pitinga	35.34	21	P	P	02 15 53.9	-0.5
	comp=N,2.9nm,0.7s,baz=224,slow=8.7,SNR=6.6						
SDV	Santo Domingo	43.08	2	*e*P	P	02 16 58.6	-0.7
	comp=N,3.5nm,0.6s						
SNAA	Sanae	51.19	158	P	P	02 18 02.6	+0.7
	comp=N,1.7nm,1.1s,baz=282,slow=9.3,SNR=2.6						
QSPA	South Pole Qui	55.83	180	P	P	02 18 37.5	+1.4
	comp=N,4.1nm,0.9s,baz=161,slow=4.0,SNR=8.2						
QSPA	South Pole Qui	55.83	180	*e*P	P	02 18 36.9	+0.8
	comp=N,4.4nm,1.0s						
TXAR	Lajitas Array	70.12	331	P	P	02 20 12.4	+1.0
	comp=N,0.3nm,0.6s,baz=157,slow=8.6,SNR=4.1						
WVT	Waverly	71.72	347	*e*P	P	02 20 21.1	+0.3
	comp=N,4.1nm,0.8s						
TUL1	Leonard	73.41	340

KURBB Kurchatov Arra 153.13 44 PKPbc **PKPbc 02 28 57.1 +0.9**
comp=N,0.5nm,0.4s,baz=300,slow=3.0,SNR=6.3
KURK Kurchatov 153.14 44 PKPbc **PKPbc 02 28 57.1 +0.9**
ZALV Zalesovo Beam 154.54 33 PKPab **PKPab 02 29 13.7 -0.1**
comp=N,1.2nm,0.6s,baz=292,slow=4.7,SNR=4.5
SONM Songino Array 166.53 5 PKPab **PKPab 02 30 07.4 +1.2**
comp=N,0.4nm,0.9s,baz=239,slow=3.3,SNR=2.6
ULN Ulaanbaatar 166.54 3 *e*PKPdf **PKPdf 02 29 03.1 -1.1**

GUC 13 02:14:41.9±0.3, 33°.84S×72°.11W, h36km±3km, ML3.6, 5C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**0.99**	**80**	*i* P	Pn	02 14 59.3	0.0
TACH				*i* S	Sn	02 15 12.2	+0.1
RCDM	**Rinconada Maip**	**1.14**	**73**	↑*i* P	Pn	02 15 01.3	-0.1
RCDM				*i* S	Sn	02 15 16.0	+0.2
RCDM				IAML		02 15 17.2	
	comp=N,3μm,0.2s						
STL	**Santa Lucia**	**1.29**	**72**	*i* P9	Pn	02 15 02.8	-0.6
STL				*i* S	Sn	02 15 19.4	0.0
LACH	**Col Las Americ**	**1.37**	**74**	↑*i* P	Pn	02 15 05.1	+0.6
LACH				*e*S	Sn	02 15 22.8	+1.3
LACH				IAML		02 15 27.8	
	comp=N,2μm,0.6s						
NICH	**Los Niches**	**1.37**	**148**	↑*i* P	Pn	02 15 05.0	+0.5
NICH				*i* S	Sn	02 15 22.6	+1.2
LNCH	**Linares**	**2.05**	**168**	↑*i* P	Pn	02 15 14.7	+0.8
CMCH	**Combarbala**	**2.81**	**20**	↑*e*P	Pn	02 15 25.5	+1.0
CMCH				*e*S	Sn	02 15 58.6	+1.3

*IDC **13** 02:22:00.3±0.6, 34°.45S×71°.83W, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/24, mbtmp4.2/13, Error ellipse: s-maj=29.0km s-min=15.7km az=78.0*
*ISCJB **13** 02:22:01.8±1.0, 34°.52S±0°.03×72°.03W±0°.06, h19km±8km, mb4.6/32, Error ellipse: s-maj=8.7km s-min=4.5km az=24.1*
*GUC **13** 02:22:02.5±0.5, 34°.53S×71°.92W, h8km±3km, ML4.5*
*NEIC **13** 02:22:05.6±0.2, 34°.49S×71°.78W, h35km, mb4.7/26, Error ellipse: s-maj=9.0km s-min=5.2km az=79.0*
NEIC Felt [II] at Santiago. Also felt at Rancagua and Vina del Mar.
*BJI **13** 02:22:05.3, 34°.44S×71°.14W, h42km, mB5.0/3, Ms5.2/1*
ISC 13 02:22:04.2±0.9, 34°.54S±0°.03×71°.85W±0°.07, h27km±6km, n87, σ0°.99/97, mb4.6/32, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.69**	**132**	*e*P	Pb	02 22 17.0	-0.6
NICH				*i* S	Sn	02 22 27.5	-0.5
LNV	**Longovilo**	**0.69**	**32**	↑*i* P	Pb	02 22 16.2	-1.5
TALC	**Talca**	**0.87**	**168**	*e*P	Pn	02 22 19.2	-1.5
CACH	**El Canelo**	**1.12**	**68**	↑*i* P	Pn	02 22 24.3	0.0
CHCH	**Chadas Angostu**	**1.17**	**59**	↓↓*i* P	Pn	02 22 24.5	-0.3
LNCH	**Linares**	**1.32**	**171**	↑*i* P	Pn	02 22 26.6	-0.2
LNCH				*i* S	Sb	02 22 44.1	-0.7
RCDM	**Rinconada Maip**	**1.36**	**40**	*i* P	Pn	02 22 26.7	-0.8
RCDM				*i* S	Sn	02 22 45.7	+1.0
ANTU	**Antumapu**	**1.40**	**47**	*e*P	Pn	02 22 28.2	+0.1
ANTU				*i* S	Sb	02 22 47.2	-0.1
IHA	**Instituto Hidr**	**1.52**	**7**	*i* P	Pn	02 22 29.1	-0.6
IHA				*i* S	Sn	02 22 49.5	+1.0
LACH	**Col Las Americ**	**1.55**	**46**	*i* P	Pn	02 22 30.0	0.0
LACH				*i* S	Sb	02 22 51.6	+0.2
CLCH	**Cerro Calan**	**1.58**	**44**	↑*i* P	Pn	02 22 30.9	+0.3
CLCH				*i* S	Sb	02 22 52.6	+0.2
CLCH				IAML		02 22 57.7	
	comp=N,9μm,0.5s						
CLCH				IAML		02 22 59.7	
	comp=E,8μm,0.6s						
PEL	**Peldehue**	**1.70**	**35**	↓↓*i* P	Pn	02 22 32.5	+0.3
PEL				*i* S	Sb	02 22 55.5	-0.4
PEL				IAML		02 23 02.5	
	comp=N,9μm,0.7s						
CFAA	**Coronel Fontan**	**4.22**	**47**	Pn	Pn	02 23 08.9	+2.2
	comp=N,0.6nm,0.3s,baz=221,slow=12,SNR=23						
CFAA				Lg	Lg	02 24 02.5	
	comp=N,1.2nm,0.3s,baz=192,slow=21,SNR=3.5						
LCO	**Las Campanas**	**5.60**	**10**	*e*Pn	Pn	02 23 25.1	-0.9
	comp=N,64nm,0.7s						
LCO				*e*Sn	Sn	02 24 28.6	-1.1
PLCA	**Paso Flores**	**6.26**	**171**	Pn	Pn	02 23 36.5	+1.6
	baz=346,slow=14						
PLCA	**Paso Flores**	**6.26**	**171**	*e*Pn	Pn	02 23 36.0	+1.2
	comp=N,114nm,0.2s						
TRQA	**Tornquist**	**8.71**	**117**	*e*Pn	Pn	02 24 08.0	-0.3
LPAZ	**La Paz**	**18.48**	**11**	P	Pn	02 26 20.1	+1.1
	comp=N,0.2nm,0.3s,baz=187,slow=9.1,SNR=20						
LPAZ	**La Paz**	**18.48**	**11**	*e*P	P	02 26 17.9	-0.9
	comp=N,9.0nm,0.9s						
USHA	**Ushuaia**	**20.43**	**174**	P	Pn	02 26 40.5	-0.8
	comp=N,6.7nm,0.8s,baz=333,slow=16,SNR=3.1						
SIV	**San Ignacio**	**20.86**	**30**	P	P	02 26 44.0	-0.1
	comp=N,2.2nm,0.6s,baz=64,slow=3.8,SNR=7.6						
NNA	**Nana**	**22.91**	**347**	P	P	02 27 05.5	-0.6
	comp=N,5.9nm,0.5s,baz=171,slow=11,SNR=4.5						
SAML	**Samuel**	**26.69**	**19**	*e*P	P	02 27 39.4	-1.7
	comp=N,5.4nm,0.8s						
OTAV	**Otavalo**	**35.15**	**348**	*e*P	P	02 28 56.0	-0.2
	comp=N,1.4nm,0.6s						
PTGA	**Pitinga**	**35.43**	**21**	*e*P	P	02 28 58.0	-0.2
	comp=N,6.4nm,0.8s						
SDV	**Santo Domingo**	**43.21**	**2**	*e*P	P	02 30 02.4	-0.9
	comp=N,6.4nm,0.9s						
BCIP	**Isla Barro Col**	**44.12**	**349**	*e*P	P	02 30 09.7	-0.6
	comp=N,6.0nm,0.6s						
SNAA	**Sanae**	**51.02**	**158**	P	P	02 31 04.7	+1.2
	comp=N,0.6nm,0.8s,baz=310,slow=17,SNR=2.5						
SNAA	**Sanae**	**51.02**	**158**	*e*P	P	02 31 04.7	+1.2
	comp=N,13nm,1.3s						
OBIP	**Obispado Ponce**	**52.53**	**6**	*e*P	P	02 31 13.4	-1.7
	comp=N,24nm,0.9s						
GTBY	**Guantanamo Bay**	**54.26**	**356**	*e*P	P	02 31 26.8	-1.0
	comp=N,30nm,0.7s						
QSPA	**South Pole Qui**	**55.69**	**180**	P	P	02 31 39.0	+1.1
	comp=N,1.6nm,0.8s,baz=162,slow=3.7,SNR=4.4						
QSPA	**South Pole Qui**	**55.69**	**180**	P	P	02 31 39.0	+1.1
SYO	**Syowa Base**	**65.31**	**158**	↑*e*X		02 32 48.0	
CNNC	**Cliffs of the**	**69.65**	**355**	*e*P	P	02 33 10.7	-0.2
	comp=N,28nm,0.6s						
JCT	**Junction City**	**69.84**	**334**	*e*P	P	02 33 13.3	+1.0
	comp=N,12nm,0.6s						
TXAR	**Lajitas Array**	**70.28**	**331**	P	P	02 33 15.8	+0.6
	comp=N,1.7nm,0.5s,baz=156,slow=8.7,SNR=46						
SWET	**Sewanee**	**70.64**	**348**	*e*P	P	02 33 16.6	-0.5
	comp=N,10nm,0.7s						
WVT	**Waverly**	**71.87**	**346**	*e*P	P	02 33 24.3	-0.2
	comp=N,17nm,0.8s						
MNTX	**Cornudas Mount**	**73.06**	**331**	*e*P	P	02 33 31.5	-0.2
MSTX	**Muleshoe**	**74.06**	**334**	*e*P	P	02 33 38.2	+0.5
	comp=N,5.7nm,0.9s						
DBIC	**Dimbokro**	**75.21**	**71**	P	P	02 33 44.7	0.0
	comp=N,2.0nm,0.6s,baz=210,slow=7.2,SNR=6.7						
DBIC	**Dimbokro**	**75.21**	**71**	*e*P	P	02 33 44.7	0.0
	comp=N,4.7nm,0.8s						
ANMO	**Albuquerque**	**76.33**	**331**	*e*P	P	02 33 51.8	+0.9
	comp=N,37nm,2.7s						
SDCO	**Great Sand Dun**	**78.42**	**333**	*e*P	P	02 34 03.9	+1.3
	comp=N,30nm,2.5s						
BOSA	**Boshof**	**79.68**	**118**	P	P	02 34 10.3	+0.6
	comp=N,4.2nm,0.8s,baz=193,slow=7.0,SNR=7.2						
BOSA	**Boshof**	**79.68**	**118**	*e*P	P	02 34 09.7	-0.1
	comp=N,5.1nm,0.9s						
ECSD	**EROS Data Cent**	**81.11**	**342**	*e*P	P	02 34 17.0	+0.3
	comp=N,8.0nm,0.9s						
SRU	**San Rafael Swe**	**81.56**	**331**	*e*P	P	02 34 20.4	+1.0
	comp=N,3.6nm,0.9s						
R11A	**Troy Canyon, C**	**83.09**	**327**	*e*P	P	02 34 28.9	+1.4
	comp=N,19nm,2.0s						
TORD	**Torodi Ar. Bea**	**84.25**	**70**	P	P	02 34 33.7	0.0
	comp=N,2.5nm,0.7s,baz=283,slow=5.9,SNR=37						
PDAR	**Pinedale Array**	**84.31**	**333**	P	P	02 34 33.6	-0.1
	comp=N,0.9nm,0.7s,baz=140,slow=4.7,SNR=7.6						
NVAR	**Mina Array Bea**	**84.42**	**325**	P	P	02 34 35.2	+0.9
	comp=N,1.8nm,0.8s,baz=173,slow=5.5,SNR=4.5						
AGMN	**Agassiz Nation**	**85.22**	**344**	*e*P	P	02 34 37.5	-0.2
	comp=N,18nm,1.7s						
IMW	**Indian Meadow**	**85.80**	**333**	*e*P	P	02 34 41.9	+0.7
	comp=N,6.6nm,1.4s						
FLWY	**Flagg Ranch**	**85.87**	**333**	*e*P	P	02 34 42.5	+1.1
	comp=N,5.1nm,0.8s						
LAO	**LASA Array**	**86.58**	**337**	*e*P	P	02 34 44.6	0.0
	comp=N,7.2nm,1.1s						
ULM	**Lac du Bonnet**	**87.06**	**345**	P	P	02 34 46.1	-0.7
	comp=N,2.1nm,0.8s,baz=176,slow=1.9,SNR=4.4						
MCMT	**McKenzie Canyo**	**87.32**	**332**	*e*P	P	02 34 49.5	+1.0
	comp=N,3.2nm,1.3s						
FCC	**Fort Churchill**	**94.79**	**349**	*e*P	P	02 35 22.8	+0.2
YKA	**Yellowknife Ar**	**102.62**	**341**	P	Pdif	02 35 55.1	-2.6
	comp=N,0.2nm,0.7s,baz=141,slow=3.2,SNR=3.9						
WRA	**Warramunga Arr**	**120.36**	**209**	PKP	PKPdf	02 40 52.6	-0.9
	comp=N,0.5nm,0.8s,baz=158,slow=1.8,SNR=2.5						
WRAB	**Tennant Creek**	**120.36**	**209**	*e*PKPdf	PKPdf	02 40 53.9	+0.3
H11S2	**WAKE ISLAND Hyt**	**25.91**	**269**	T	T	04 59 27.7	
	baz=119,slow=76,SNR=8.3						
H11S1	**WAKE ISLAND Hyt**	**25.93**	**269**	T	T	04 59 27.8	
	baz=119,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hyt**	**25.93**	**269**	T	T	04 59 27.9	
	baz=119,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hyt**	**26.34**	**270**	T	T	04 59 56.2	
	baz=115,slow=78,SNR=21						
H11N1	**WAKE ISLAND Hyt**	**26.35**	**270**	T	T	04 59 59.1	
	baz=115,slow=78,SNR=64						
H11N2	**WAKE ISLAND Hyt**	**26.36**	**270**	T	T	04 59 58.6	
	baz=115,slow=78,SNR=22						
KIV	**Kislovodsk**	**129.64**	**59**	*e*PKPdf	**PKPdf**	02 41 10.2	-0.3
ABKAR	**Akbulak array**	**141.90**	**52**	*e*PKPdf	PKPdf	02 41 27.5	-5.5
PALK	**Pallekele**	**142.91**	**131**	*e*PKPdf	**PKPdf**	02 41 34.8	-1.2
BRVK	**Borovoye**	**147.50**	**44**	*e*PKPbc	**PKPbc**	02 41 45.8	+0.6
BVAR	**Borovoye Array**	**147.57**	**44**	PKPbc	**PKPbc**	02 41 46.2	+0.8
	comp=N,1.8nm,0.7s,baz=269,slow=2.5,SNR=10						
KULM	**Kulim**	**150.07**	**165**	*e*PKPdf	**PKPdf**	02 41 47.3	-0.6
KULM				*e*PKPbc	**PKPbc**	02 41 52.7	-0.3
KULM				*e*PKPab	**PKPab**	02 41 58.9	+0.2
YSS	**Yuzh-Sakhalins**	**151.24**	**306**	*e*PKPdf	**PKPdf**	02 41 48.9	+0.2
KURK	**Kurchatov**	**153.17**	**44**	*e*PKPbc	**PKPbc**	02 41 58.8	-0.1
TKM2	**Tokmak 2**	**153.40**	**62**	*e*PKPdf	**PKPdf**	02 41 51.8	-0.6
KSH	**Kashi**	**153.92**	**70**	*e*PKPbc	**PKPdf**	02 41 53.4	+0.3
KSH				sPKP		02 42 06.4	
KSH				PKS	**PKSdf**	02 45 27.9	+0.4
KSH				PP	**PP**	02 45 46.9	-2.7
KSH				SKKS		02 52 34.0	
KSH				PPMZ			
	comp=N,75nm,5.3s						
KSH				LN			
	comp=N,40nm,4.4s						
KSH				LE			
	comp=N,56nm,5.9s						
ZALV	**Zalesovo Beam**	**154.60**	**33**	PKPbc	**PKPbc**	02 42 00.9	-1.0
	comp=N,0.6nm,0.5s,baz=293,slow=4.5,SNR=4.3						
ZALV				PKPab	**PKPab**	02 42 16.8	+0.2
	comp=N,1.0nm,0.5s,baz=321,slow=4.3,SNR=3.8						
MKAR	**Makanchi Array**	**157.00**	**50**	PKP	**PKPdf**	02 41 56.4	-0.5
	comp=N,0.2nm,0.8s,baz=17,slow=1.5,SNR=2.6						
MKAR				PKPab	**PKPab**	02 42 26.9	-0.4
	comp=N,0.3nm,0.7s,baz=329,slow=2.5,SNR=3.8						
WMQ	**Urumqi**	**161.68**	**54**	*e*PKP	**PKPdf**	02 42 01.0	-1.5
WMQ				pPKP	**pPKPdf**	02 42 13.0	+1.4
WMQ				PKPab	**PKPab**	02 42 48.3	+0.5
CN2	**Changchun**	**163.73**	**310**	*e*PKP	**PKPdf**	02 42 05.3	+0.9
SONM	**Songino Array**	**166.66**	**5**	PKPab	**PKPab**	02 43 09.0	-0.5
	comp=N,0.4nm,0.9s,baz=347,slow=4.4,SNR=2.8						
NJ2	**Nanjing**	**170.70**	**257**	*e*PKP	**PKPdf**	02 42 12.1	+2.3
HHC	**Hu-ho-hao-te**	**173.15**	**338**	*e*PKP	**PKPdf**	02 42 09.5	-1.4
HHC				PP	**PP**	02 47 32.3	+2.8
HHC				SS	SS	03 08 39.2	-2.7
HHC				PPMZ			
	comp=N,94nm,9.7s						
LZH	**Lanzhou**	**176.16**	**65**	*e*PKP	**PKPdf**	02 42 13.7	+1.7
LZH				pPKP	**pPKPdf**	02 42 22.0	+0.8
LZH				sPKP		02 42 26.0	

*IDC **13** 02:22:44.7±3.2, 23°.04N×94°.62E, h108km±31km, mb3.7/17, mb1 3.8/18, mb1mx3.5/51, mbtmp4.0/18, Error ellipse: s-maj=28.4km s-min=10.9km az=62.0*
ISC 13 02:22:42.6±0.7, 22°.8N±0°.1×94°.1E±0°.1, h105km, n32, σ2°.35/40, mb4.0/16, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.47**	**324**	*e*PN	**Pn**	02 23 34.5	-0.4
SHL				*e*SN	**Sn**	02 24 10.8	-4.4
CMAR	**Chiang Mai Arr**	**6.22**	**133**	P	**Pn**	02 24 10.4	-1.5
	0.8nm,0.3s,baz=315,slow=12,SNR=7.0						
CMAR				S	**Sn**	02 25 17.5	-4.2
	1.3nm,0.3s,baz=312,slow=22,SNR=4.4						
ODAN	**Odare**	**7.36**	**305**	*e*Pn	**Pn**	02 24 29.0	+1.4
ODAN				*e*Sn	**Sn**	02 25 45.8	-3.8
	100nm,0.2s						
TAPN	**Taplejung**	**7.40**	**309**	*e*Pn	**Pn**	02 24 28.7	+0.5
TAPN				*e*Sn	**Sn**	02 25 46.9	-3.8
	196nm,0.5s						
RAMN	**Ramite**	**8.01**	**303**	*e*Pn	**Pn**	02 24 38.3	+1.9
RAMN				*e*Sn	**Sn**	02 26 02.2	-3.3
	69nm,0.3s						
JIRN	**Jiri**	**8.69**	**306**	*e*Pn	**Pn**	02 24 47.0	+1.3
JIRN				*e*Sn	**Sn**	02 26 17.7	-4.4
	135nm,0.3s						
GUN	**Gumba**	**9.05**	**306**	*e*Pn	**Pn**	02 24 52.1	+1.4
GUN				*e*Sn	**Sn**	02 26 27.3	-3.7
	108nm,0.4s						
PKI	**Pulchoki**	**9.23**	**303**	*e*Pn	**Pn**	02 24 54.3	+1.1
PKI				*e*Sn	**Sn**	02 26 32.2	-3.2
	33nm,0.3s						
PKIN	**Phulchoki**	**9.25**	**303**	*e*Pn	**Pn**	02 24 54.5	+1.2
PKIN				*e*Sn	**Sn**	02 26 32.5	-3.2
	104nm,0.5s						
KKN	**Kakani**	**9.44**	**304**	*e*Pn	**Pn**	02 24 56.6	+0.7
KKN				*e*Sn	Sn	02 26 35.7	-4.6
	47nm,0.3s						
DMN	**Daman**	**9.49**	**302**	*e*Pn	**Pn**	02 24 57.5	+0.9
DMN				*e*Sn	**Sn**	02 26 38.1	-3.4
	60nm,0.5s						
GKN	**Gorkha**	**10.04**	**303**	*e*Pn	**Pn**	02 25 04.8	+0.8
GKN				*e*Sn	Sn	02 26 50.1	-4.7
	127nm,0.3s						
KOLN	**Koldanda**	**10.75**	**300**	*e*Pn	**Pn**	02 25 14.2	+0.5
KOLN				*e*Sn	**Sn**	02 27 08.3	-3.8
	45nm,0.3s						
DANN	**Dangsing**	**10.89**	**303**	*e*Pn	**Pn**	02 25 15.7	+0.1
DANN				*e*Sn	Sn	02 27 11.2	-4.3
	36nm,0.3s						
PSI	**Prapat**	**20.38**	**166**	P	Pn	02 27 17.1	+2.9
	3.0nm,0.6s,baz=36,slow=19,SNR=3.9						
AAK	**Ala-Archa**	**25.69**	**325**	P	**P**	02 28 06.6	+3.5
	2.1nm,0.7s,baz=112,slow=3.6,SNR=5.0						
MKAR	**Makanchi Array**	**25.82**	**341**	P	**P**	02 28 05.3	+1.3
	5.6nm,0.6s,baz=149,slow=9.8,SNR=93						
SONM	**Songino Array**	**26.88**	**18**	P	**P**	02 28 12.2	-1.5
	0.2nm,0.5s,baz=210,slow=8.3,SNR=2.8						
KURBB	**Kurchatov Arra**	**30.36**	**340**	P	**P**	02 28 45.3	+1.0
	1.7nm,0.4s,baz=150,slow=8.6,SNR=24						
ZALV	**Zalesovo Beam**	**31.93**	**350**	P	**P**	02 28 58.4	+0.3
	1.6nm,0.4s,baz=159,slow=7.4,SNR=10						
BVAR	**Borovoye Array**	**35.22**	**335**	P	**P**	02 29 27.6	+1.0
	0.8nm,0.4s,baz=134,slow=10,SNR=6.7						
AKTO	**Aktyubinsk**	**39.41**	**324**	P	**P**	02 30 03.9	+1.8
	1.0nm,0.6s,baz=114,slow=7.5,SNR=5.4						
KBZ	**Khabaz**	**46.84**	**309**	P	P	02 31 06.4	+4.4
	0.3nm,0.4s,baz=66,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**57.81**	**134**	P	**P**	02 32 24.1	+0.8
	1.7nm,0.3s,baz=320,slow=7.5,SNR=16						
FINES	**FINESS Array B**	**59.79**	**329**	P	**P**	02 32 37.4	+1.0
	1.0nm,0.5s,baz=89,slow=6.1,SNR=15						
ASAR	**Alice Springs**	**60.20**	**137**	P	**P**	02 32 41.3	+1.5
	1.8nm,0.5s,baz=321,slow=7.0,SNR=36						
ARCES	**ARCESS Array B**	**61.42**	**338**	P	**P**	02 32 48.1	+0.7
	1.1nm,0.7s,baz=96,slow=7.9,SNR=16						
SPITS	**Spitsbergen Ar**	**65.37**	**347**	P	**P**	02 33 13.3	0.0
	7.3nm,1.0s,baz=98,slow=10,SNR=7.9						
NB2	**NORSAR Subarra**	**66.96**	**328**	P	**P**	02 33 24.3	+0.6
	comp=Z,0.6nm,0.5s,baz=84,slow=6.2						
NOA	**NORSAR Array B**	**66.96**	**328**	P	**P**	02 33 24.4	+0.6
	comp=Z,0.9nm,0.8s,baz=78,slow=6.5,SNR=4.0						
GERES	**GERESS Array B**	**67.03**	**315**	P	**P**	02 33 26.3	+1.8
	comp=Z,0.3nm,0.4s,baz=69,slow=5.5,SNR=3.1						
BOSA	**Boshof**	**83.72**	**236**	P	P	02 35 04.3	+4.0
	comp=Z,1.4nm,0.8s,baz=45,slow=4.3,SNR=2.8						

*ISCJB **13** 02:23:00.9±0.4, 67°.77N±0°.02×20°.33E±0°.09, h0km, Error ellipse: s-maj=4.8km s-min=3.4km az=6.5*
*UPP **13** 02:23:01.5, 67°.81N×20°.21E, h0km, ML1.5, Mining explosion.*
*CSEM **13** 02:23:01.5±0.2, 67°.80N×20°.22E, h2km, ML1.5, Error ellipse: s-maj=5.4km s-min=3.7km az=86.0, Mining explosion.*
*NAO **13** 02:23:01.5±1.1, 67°.85N×20°.29E, ML2.4*
*IDC **13** 02:23:01.4±0.9, 67°.85N×20°.42E, h0km, mb1 3.0/4, mb1mx2.9/44, mbtmp3.0/4, ML2.4/4, Error ellipse: s-maj=16.4km s-min=6.2km az=122.0*
*HEL **13** 02:23:02.3±0.0, 67°.82N×20°.20E, h0km, ML1.5(UPP), Explosion*
*BER **13** 02:23:05.7±4.2, 67°.82N×20°.52E, h0km, ML2.1, ML2.4(NAO), Suspected explosion*
ISC 13 02:23:00.9±0.7, 67°.79N±0°.02×20°.18E±0°.03, h0km, n44, σ1°.11/59, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.17**	**20**	*i* P	**Pg**	02 23 04.7	+0.4
KUA				*i* S	**Sg**	02 23 06.7	+0.2
KUA	**Kurravaara**	**0.17**	**20**	P	**Pg**	02 23 04.7	+0.4
KUA				S	**Sg**	02 23 06.7	+0.2
NIKU	**Nikkaluokta**	**0.44**	**280**	*i* P	**Pg**	02 23 10.2	+0.8
NIKU	**Nikkaluokta**	**0.44**	**280**	P	**Pg**	02 23 10.2	+0.8
DUNU	**Dundret**	**0.69**	**167**	*i* P	**Pg**	02 23 14.5	+0.4
DUNU	**Dundret**	**0.69**	**167**	P	**Pg**	02 23 14.5	+0.4
LANU	**Lannavaara**	**0.73**	**68**	*e*P	**Pg**	02 23 15.1	+0.2
LANU	**Lannavaara**	**0.73**	**68**	P	**Pg**	02 23 15.1	+0.2
MASU	**Masugnsbyn**	**0.77**	**115**	*i* P	**Pg**	02 23 16.4	+0.7
MASU	**Masugnsbyn**	**0.77**	**115**	P	**Pg**	02 23 16.4	+0.7
KIF	**Kilpisjarvi**	**1.24**	**10**	Pg	**Pg**	02 23 23.3	-1.3
KIF				Lg	Lg	02 23 41.7	
KIF	**Kilpisjarvi**	**1.24**	**10**	*e*P	**Pg**	02 23 24.7	+0.1
KIF				*e*S	**Sb**	02 23 41.9	+0.2
KIF	**Kilpisjarvi**	**1.24**	**10**	Pg	**Pg**	02 23 23.3	-1.3
KIF	**Kilpisjarvi**	**1.24**	**10**	P	**Pg**	02 23 24.7	+0.1
KIF				Lg	Lg	02 23 41.7	
PAJU	**Pajala**	**1.37**	**123**	*e*P	**Pg**	02 23 26.9	-0.3
PAJU	**Pajala**	**1.37**	**123**	P	**Pg**	02 23 26.9	-0.3
ERTU	**Ertsjaerv**	**1.47**	**147**	*e*P	**Pn**	02 23 28.9	+0.2
ERTU	**Ertsjaerv**	**1.47**	**147**	P	**Pn**	02 23 28.8	+0.2
KTK1	**Kautokeino**	**1.67**	**41**	*e*Sg	**Sg**	02 23 56.4	+2.0
KTK1				IAML		02 23 58.0	
	comp=N,38nm,0.4s						
KTK1	**Kautokeino**	**1.67**	**41**	*e*Sg	**Sg**	02 23 56.4	+2.0
	SNR=90						
STEI	**Steigen**	**1.88**	**276**	*e*S	**Sg**	02 24 02.2	+1.1
STEI				IAML		02 24 05.6	
	comp=Z,24nm,0.5s						
STEI	**Steigen**	**1.88**	**276**	*e*S	**Sg**	02 24 02.2	+1.1
	SNR=50						
TRO	**Tromso**	**1.90**	**347**	*e*P	**Pb**	02 23 36.0	-0.5
TRO				*e*S	**Sb**	02 24 01.1	+0.3
TRO				IAML		02 24 06.2	
	comp=Z,31nm,0.4s						
TRO	**Tromso**	**1.90**	**347**	*e*P	**Pb**	02 23 36.0	-0.5
	SNR=50						
TRO				*e*S	**Sb**	02 24 01.1	+0.3
	SNR=50						
KALU	**Kalix**	**2.31**	**146**	*e*P	**Pn**	02 23 40.0	-0.2
KALU	**Kalix**	**2.31**	**146**	P	**Pn**	02 23 40.0	-0.2
ARA0	**ARCESS Array S**	**2.62**	**46**	Pn	**Pn**	02 23 44.6	+0.2
	baz=230,slow=14						
ARA0				Sn	**Sn**	02 24 17.8	+0.9
	baz=233,slow=28						
ARA0				Lg	Lg	02 24 21.1	
	baz=231,slow=28						
ARA0	**ARCESS Array S**	**2.62**	**46**	Pn	**Pn**	02 23 44.6	+0.2
	baz=230,slow=14						
ARA0				Sn	**Sn**	02 24 17.8	+0.9
	baz=233,slow=28						
ARA0				Lg	Lg	02 24 21.1	
	baz=231,slow=28						
ARA0	**ARCESS Array S**	**2.62**	**46**	Pn	**Pn**	02 23 44.6	+0.2
	SNR=50						
ARA0				Sn	**Sn**	02 24 17.8	+0.9
	SNR=50						
ARA0				Lg	Lg	02 24 21.1	
ARCES	**ARCESS Array B**	**2.62**	**46**	Pn	**Pn**	02 23 44.6	+0.2
	comp=Z,0.5nm,0.3s,baz=235,slow=14,SNR=73						
ARCES				Pg	**Pb**	02 23 46.1	-2.5
	comp=Z,0.7nm,0.3s,baz=227,

s-min=4.5km az=22.1
NEIC ***13*** *02:23:37.2, 34°.51S×71°.95W, h15km, mb4.5/22, ML4.4(GUC), After GUC.*
NEIC Felt [IV] at Constitucion; [III] at Curico, Linares, Navidad, Pichilemu, San Fernando and Talca; [II] at El Quisco, Rancagua and San Antonio.
GUC ***13*** *02:23:37.0±0.3, 34°.51S×71°.95W, h15km±2km, ML4.6*

ISC 13 02:23:36.6±1.8, 34°.53S±0°.03×71°.94W±0°.07, h15km±11km, n78, σ0°69/88, mb4.5/29, MS3.3/4, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.75**	**129**	*e*P1	**Pg**	**02 23 51.1**	**-0.1**
NICH				*i* S	**Sb**	**02 24 01.8**	**+0.3**
NICH	**Los Niches**	**0.75**	**129**	*e*P	**Pg**	**02 23 51.1**	**-0.1**
NICH				*i* S	**Sb**	**02 24 01.8**	**+0.3**
TALC	**Talca**	**0.90**	**164**	⇑*i*P	**Pb**	**02 23 53.3**	**-0.6**
TALC				*i* S4	**Sb**	**02 24 05.0**	**-0.8**
TALC	**Talca**	**0.90**	**164**	⇑*i*P	**Pb**	**02 23 53.3**	**-0.6**
TALC				S	**Sb**	**02 24 05.0**	**-0.8**
LNCH	**Linares**	**1.34**	**168**	*e*P	**Pn**	**02 24 00.6**	**-0.2**
LNCH				*i* S	**Sn**	**02 24 18.2**	**-0.2**
LNCH	**Linares**	**1.34**	**168**	⇑*i*P	**Pn**	**02 24 00.8**	**0.0**
LNCH				*i* S	**Sn**	**02 24 18.2**	**-0.2**
RCDM	**Rinconada Maip**	**1.40**	**43**	*i* P	**Pn**	**02 24 00.9**	**-0.7**
RCDM				*i* S	**Sn**	**02 24 19.0**	**-0.8**
RCDM	**Rinconada Maip**	**1.40**	**43**	*e*P	**Pn**	**02 24 01.1**	**-0.5**
ANTU	**Antumapu**	**1.45**	**49**	⇑*i*P	**Pn**	**02 24 01.8**	**-0.5**
ANTU				*i* S	**Sn**	**02 24 20.6**	**-0.4**
ANTU				AML	AML	02 24 26.8	
	comp=E,15μm,0.3s						
ANTU	**Antumapu**	**1.45**	**49**	*e*P	**Pn**	**02 24 01.8**	**-0.5**
ANTU				*i* S	**Sn**	**02 24 20.4**	**-0.7**
IHA	**Instituto Hidr**	**1.52**	**10**	⇓*i*P	**Pn**	**02 24 02.7**	**-0.5**
IHA				*i* S	**Sn**	**02 24 22.2**	**-0.5**
IHA	**Instituto Hidr**	**1.52**	**10**	*e*P	**Pn**	**02 24 02.7**	**-0.5**
IHA				*e*S	**Sn**	**02 24 22.1**	**-0.5**
LACH	**Col Las Americ**	**1.59**	**48**	⇓*i*P	**Pn**	**02 24 04.2**	**-0.1**
LACH				*i* S	**Sn**	**02 24 24.9**	**+0.4**
LACH	**Col Las Americ**	**1.59**	**48**	*e*P	**Pn**	**02 24 04.2**	**-0.1**
CLCH	**Cerro Calan**	**1.63**	**46**	*i* P4	**Pn**	**02 24 05.3**	**+0.6**
CLCH				*i* S	**Sn**	**02 24 25.8**	**+0.3**
CLCH				AML	AML	02 24 31.6	
	comp=N,12μm,0.5s						
PEL	**Peldehue**	**1.73**	**37**	*e*P	**Pn**	**02 24 06.3**	**+0.1**
PEL				*e*S	**Sn**	**02 24 28.6**	**+0.6**
PEL				AML	AML	02 24 36.3	
	comp=N,12μm,0.5s						
PEL	**Peldehue**	**1.73**	**37**	⇓*i*P	**Pn**	**02 24 06.4**	**+0.1**
PEL				*i* S	**Sn**	**02 24 28.6**	**+0.6**
CFAA	**Coronel Fontan**	**4.26**	**48**	Pn	**Pn**	**02 24 43.0**	**+2.0**
	comp=N,0.5nm,0.3s,baz=248,slow=11,SNR=1.6						
CFAA				Lg	Lg	02 25 40.4	
	comp=N,2.8nm,0.3s,baz=252,slow=20,SNR=2.5						
PLCA	**Paso Flores**	**6.29**	**170**	Pn	**Pn**	**02 25 10.4**	**+1.6**
	baz=0.9,slow=12						
PLCA				Lg	Lg	02 26 46.8	
	baz=71,slow=18						
PLCA	**Paso Flores**	**6.29**	**170**	*e*Pn	**Pn**	**02 25 09.8**	**+1.0**
PLCA				Lg	Lg	02 26 46.8	
TRQA	**Tornquist**	**8.78**	**117**	*e*Pn	**Pn**	**02 25 43.4**	**+0.4**
LPAZ	**La Paz**	**18.48**	**12**	P	**Pn**	**02 27 54.0**	**+1.2**
	comp=N,0.2nm,0.3s,baz=186,slow=4.8,SNR=7.1						
LPAZ	**La Paz**	**18.48**	**12**	*e*P	**P**	**02 27 52.8**	**+0.1**
	comp=N,9.0nm,0.7s						
USHA	**Ushuaia**	**20.45**	**174**	P	**P**	**02 28 14.1**	**+0.9**
	comp=N,6.6nm,0.8s,baz=292,slow=10,SNR=3.2						
SIV	**San Ignacio**	**20.89**	**31**	P	**P**	**02 28 17.7**	**-0.6**
	comp=N,4.5nm,0.9s,baz=230,slow=11,SNR=4.2						
SIV				LR	LR	02 37 35.9	
	comp=N,145nm,18.5s,baz=230,slow=40						
NNA	**Nana**	**22.88**	**348**	P	**P**	**02 28 41.2**	**+1.5**
	comp=N,5.3nm,0.5s,baz=188,slow=12,SNR=4.4						
NNA				LR	LR	02 35 10.7	
	comp=N,107nm,20.4s,baz=176,slow=30						
SAML	**Samuel**	**26.70**	**20**	*e*P	**P**	**02 29 14.3**	**-1.0**
	comp=N,3.7nm,0.6s						
ATAH	**Atahualpa**	**27.90**	**346**	LR	LR	02 39 06.1	
	comp=N,52nm,19.8s,baz=199,slow=33						
BDFB	**Brasilia**	**28.57**	**55**	P	**P**	**02 29 33.0**	**+0.9**
	comp=N,1.6nm,0.7s,baz=270,slow=14,SNR=2.3						
BDFB				LR	LR	02 41 59.4	
	comp=N,206nm,19.0s,baz=214,slow=39						
OTAV	**Otavalo**	**35.12**	**349**	*e*P	**P**	**02 30 30.3**	**+0.3**
	comp=N,1.6nm,0.7s						
SDV	**Santo Domingo**	**43.20**	**2**	*e*P	**P**	**02 31 36.5**	**-0.7**
	comp=N,6.8nm,0.9s						
SNAA	**Sanae**	**51.07**	**158**	P	**P**	**02 32 38.3**	**+0.4**
	comp=N,1.7nm,1.0s,baz=256,slow=4.2,SNR=2.8						
SNAA	**Sanae**	**51.07**	**158**	*e*P	**P**	**02 32 38.0**	**+0.1**
	comp=N,11nm,1.2s						
QSPA	**South Pole Qui**	**55.71**	**180**	P	**P**	**02 33 12.8**	**+0.7**
	comp=N,4.6nm,1.0s,baz=117,slow=3.6,SNR=4.6						
HKT	**Hockley**	**67.98**	**338**	*e*P	**P**	**02 34 35.2**	**+0.4**
	comp=N,1.6nm,0.7s						
JCT	**Junction City**	**69.80**	**335**	*e*P	**P**	**02 34 46.5**	**+0.3**
	comp=N,6.4nm,0.7s						
TXAR	**Lajitas Array**	**70.23**	**331**	P	**P**	**02 34 49.9**	**+0.9**
	comp=N,1.7nm,0.5s,baz=155,slow=8.7,SNR=24						
WHTX	**Lake Whitney,**	**70.39**	**337**	*e*P	**P**	**02 34 50.4**	**+0.6**
	comp=N,5.8nm,0.8s						
SWET	**Sewanee**	**70.61**	**348**	*e*P	**P**	**02 34 50.9**	**-0.2**
	comp=N,9.6nm,0.7s						
WVT	**Waverly**	**71.84**	**347**	*e*P	**P**	**02 34 57.2**	**-1.3**
WMOK	**Wichita Mounta**	**73.34**	**337**	*e*P	**P**	**02 35 08.1**	**+0.6**
	comp=N,2.3nm,0.7s						
TUL1	**Leonard**	**73.53**	**340**	*e*P	**P**	**02 35 08.5**	**-0.1**
	comp=N,7.7nm,0.7s						
WCI	**Wyandotte Cave**	**73.61**	**348**	*e*P	**P**	**02 35 08.1**	**-0.9**
	comp=N,4.7nm,0.6s						
DBIC	**Dimbokro**	**75.28**	**71**	P	**P**	**02 35 19.2**	**0.0**
	comp=N,2.4nm,0.5s,baz=191,slow=2.9,SNR=7.0						
DBIC	**Dimbokro**	**75.28**	**71**	*e*P	**P**	**02 35 18.7**	**-0.5**
	comp=N,20nm,1.3s						
LAZ	**Ladron**	**76.08**	**331**	*e*P	**P**	**02 35 24.8**	**+1.1**
ANMO	**Albuquerque**	**76.28**	**331**	*e*P	**P**	**02 35 25.5**	**+0.7**
	comp=N,2.0nm,0.9s						
WUAZ	**Wupatki**	**78.82**	**328**	*e*P	**P**	**02 35 40.0**	**+1.1**
	comp=N,5.1nm,1.1s						
MVCO	**Mesa Verde**	**79.06**	**331**	*e*P	**P**	**02 35 40.9**	**+0.6**
	comp=N,2.1nm,0.8s						
BOSA	**Boshof**	**79.75**	**118**	P	**P**	**02 35 44.3**	**-0.1**
	comp=N,3.1nm,0.7s,baz=220,slow=9.1,SNR=5.9						
BOSA	**Boshof**	**79.75**	**118**	*e*P	**P**	**02 35 44.1**	**-0.3**
	comp=N,7.4nm,1.0s						
ISCO	**Idaho Springs**	**80.23**	**334**	*e*P	**P**	**02 35 47.3**	**+0.6**
	comp=N,2.3nm,1.0s						
ECSD	**EROS Data Cent**	**81.08**	**342**	*e*P	**P**	**02 35 50.5**	**-0.2**
	comp=N,12nm,1.0s						
LBTB	**Lobatse**	**82.01**	**115**	*e*P	**P**	**02 35 56.3**	**-0.1**
	comp=N,4.8nm,0.8s						
DUG	**Dugway, Tooele**	**83.37**	**330**	*e*P	**P**	**02 36 03.8**	**+0.8**
	comp=N,1.9nm,0.8s						
HWUT	**Hardware Ranch**	**84.05**	**331**	*e*P	**P**	**02 36 06.4**	**-0.1**
	comp=N,2.6nm,0.9s						
PDAR	**Pinedale Array**	**84.27**	**333**	P	**P**	**02 36 07.6**	**-0.1**
	comp=N,0.8nm,0.7s,baz=152,slow=5.0,SNR=7.3						
TORD	**Torodi Ar. Bea**	**84.32**	**70**	P	**P**	**02 36 07.8**	**-0.5**
	comp=N,2.6nm,0.7s,baz=281,slow=6.1,SNR=16						
ULM	**Lac du Bonnet**	**87.03**	**345**	P	**P**	**02 36 20.6**	**-0.3**
	comp=N,1.4nm,0.3s,baz=142,slow=5.4,SNR=3.6						
MCMT	**McKenzie Canyo**	**87.27**	**332**	*e*P	**P**	**02 36 23.6**	**+1.1**
SCHQ	**Schefferville**	**89.11**	**3**	P	**P**	**02 36 30.8**	**+0.1**
	comp=N,0.6nm,0.3s,baz=180,slow=19,SNR=5.6						
FCC	**Fort Churchill**	**94.76**	**349**	*e*P	**P**	**02 36 56.5**	**-0.2**
YKA	**Yellowknife Ar**	**102.58**	**341**	P	**Pdif**	**02 37 31.1**	**-0.7**
	comp=N,0.2nm,0.7s,baz=144,slow=4.5,SNR=4.0						
WRA	**Warramunga Arr**	**120.34**	**209**	PKP	**PKPdf**	**02 42 26.7**	**-1.1**
	comp=N,0.6nm,0.9s,baz=159,slow=1.6,SNR=2.5						
H11S2	**WAKE ISLAND Hyl**	**25.84**	**269**	T	T	05 00 59.2	
	baz=119,slow=76,SNR=5.7						
H11S1	**WAKE ISLAND Hyl**	**25.85**	**269**	T	T	05 00 59.5	
	baz=119,slow=76,SNR=10.0						
H11S3	**WAKE ISLAND Hyl**	**25.86**	**269**	T	T	05 01 00.7	
	baz=119,slow=76,SNR=9.1						
H11N3	**WAKE ISLAND Hyl**	**26.27**	**270**	T	T	05 01 30.6	
	baz=116,slow=78,SNR=14						
H11N1	**WAKE ISLAND Hyl**	**26.28**	**270**	T	T	05 01 32.5	
	baz=116,slow=78,SNR=39						
H11N2	**WAKE ISLAND Hyl**	**26.28**	**270**	T	T	05 01 34.7	
	baz=116,slow=78,SNR=9.5						
GNI	**Garni**	**130.28**	**64**	*e*PKPdf	**PKPdf**	**02 42 47.0**	**+0.7**
BRVK	**Borovoye**	**147.54**	**44**	*e*PKPbc	**PKPbc**	**02 43 19.9**	**+0.4**
YAK	**Yakutsk**	**149.25**	**340**	*e*PKPbc	**PKPbc**	**02 43 23.5**	**-0.2**
KKAR	**Karatay Array**	**149.72**	**62**	*e*PKPbc	**PKPbc**	**02 43 25.3**	**-0.2**
KURK	**Kurchatov**	**153.21**	**44**	*e*PKPdf	**PKPdf**	**02 43 25.8**	**-0.1**
KURK				*e*PKPbc	**PKPbc**	**02 43 31.8**	**-1.5**
KURK				*e*PKPab	**PKPab**	**02 43 44.1**	**-1.0**
TKM2	**Tokmak 2**	**153.45**	**62**	*e*PKPbc	**PKPbc**	**02 43 33.4**	**-1.0**
ZALV	**Zalesovo Beam**	**154.63**	**33**	PKPbc	**PKPbc**	**02 43 36.0**	**-0.2**
	comp=N,0.7nm,0.5s,baz=270,slow=1.5,SNR=3.7						
MKAR	**Makanchi Array**	**157.05**	**50**	PKPab	**PKPab**	**02 44 01.5**	**-0.2**
	comp=N,0.5nm,0.8s,baz=299,slow=3.6,SNR=3.7						

IDC 13 02:32:33.0±1.9, 0°.04S×125°.87E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/29, mbtmp3.2/3, Error ellipse: s-maj=173.6km s-min=26.1km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.45**	**158**	P	P	02 37 22.1	-1.0
	0.3nm,0.4s,baz=336,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**24.74**	**162**	P	P	02 37 57.2	+0.7
	0.2nm,0.5s,baz=341,slow=8.1,SNR=2.8						
MKAR	**Makanchi Array**	**60.19**	**327**	P	P	02 42 42.7	-0.1
	0.2nm,0.4s,baz=124,slow=7.4,SNR=6.0						

IDC ***13*** *02:37:16.9±0.7, 38°.22S×73°.89W, h0km, mb4.5/11, mb1 4.6/13, mb1mx4.5/25, mbtmp4.6/13, ML3.9/3, MS4.0/4, Ms1 3.9/4, ms1mx3.6/23, Error ellipse: s-maj=25.6km s-min=15.5km az=83.0*
ISCJB ***13*** *02:37:19.6±0.2, 38°.16S±0°.05×73°.63W±0°.06, h18km, mb4.7/38, MS4.1/2, Error ellipse: s-maj=7.4km s-min=6.0km az=142.9*
NEIC ***13*** *02:37:20.8±2.4, 38°.17S×73°.81W, h22km±16km, mb4.8/29, Error ellipse: s-maj=11.7km s-min=6.1km az=77.0*
NEIC Felt [III] at Temuco.
BJI ***13*** *02:37:20.6, 38°.20S×73°.80W, h20km, mB5.2/4, Ms5.3/1, Ms7 5.4/1*

ISC 13 02:37:20.3±0.4, 38°.18S±0°.06×73°.77W±0°.09, h18km, n365, σ1°14/376, mb4.8/38, 143C-133D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.56**	**137**	Pn	**Pn**	**02 38 15.2**	**+0.5**
	4.6nm,0.3s,baz=306,slow=8.9,SNR=87						
PLCA				Lg	Lg	02 39 13.3	
	baz=33,slow=18						
PLCA	**Paso Flores**	**3.56**	**137**	*e*Pn	**Pn**	**02 38 15.3**	**+0.5**
PLCA				Lg	Lg	02 39 13.3	
PLCA				*e*Lg	Lg	02 39 15.0	
CFAA	**Coronel Fontan**	**7.98**	**36**	Pn	**Pn**	**02 39 13.6**	**-1.9**
	0.4nm,0.3s,baz=216,slow=12,SNR=15						
CFAA				Sn	**Sn**	**02 40 45.9**	**+0.6**
	0.5nm,0.3s,baz=248,slow=19,SNR=2.7						
CFAA				LR	LR	02 42 45.7	
	comp=Z,125nm,19.9s,baz=220,slow=41						
TRQA	**Tornquist**	**9.29**	**93**	*e*Pn	**Pn**	**02 39 35.8**	**+2.3**
TRQA				*e*Lg	Lg	02 42 19.0	
LCO	**Las Campanas**	**9.50**	**17**	*e*Pn	**Pn**	**02 39 34.1**	**-2.5**
LCO				*e*Lg	Lg	02 42 14.2	
LVC	**Limon Verde**	**16.07**	**16**	*e*Pn	**Pn**	**02 41 02.5**	**-3.2**
	22nm,1.2s						
USHA	**Ushuaia**	**17.04**	**169**	P	**Pn**	**02 41 17.8**	**+0.2**
	0.3nm,0.3s,baz=316,slow=9.3,SNR=5.6						
USHA				LR	LR	02 48 51.9	
	comp=Z,1μm,19.4s,baz=325,slow=41						
LPAZ	**La Paz**	**22.37**	**14**	P	**P**	**02 42 19.6**	**+1.4**
	14nm,0.9s,baz=184,slow=6.5,SNR=28						
LPAZ	**La Paz**	**22.37**	**14**	*e*P	**P**	**02 42 18.2**	**0.0**
	20nm,1.0s						
SIV	**San Ignacio**	**24.78**	**30**	P	**P**	**02 42 41.4**	**+0.2**
	5.7nm,0.9s,baz=224,slow=11,SNR=10						
SIV				LR	LR	02 54 28.1	
	comp=Z,759nm,18.1s,baz=224,slow=42						
SAML	**Samuel**	**30.63**	**21**	*e*P	**P**	**02 43 33.4**	**-0.2**
	3.6nm,0.7s						
BDFB	**Brasilia**	**31.93**	**52**	P	**P**	**02 43 44.9**	**-0.2**
	3.9nm,0.7s,baz=205,slow=13,SNR=7.0						
BDFB				LR	LR	02 58 47.5	
	comp=Z,283nm,20.0s,baz=218,slow=40						
OTAV	**Otavalo**	**38.48**	**352**	*e*P	**P**	**02 44 43.2**	**+1.3**
	17nm,1.4s						
PTGA	**Pitinga**	**39.38**	**22**	*e*P	**P**	**02 44 47.9**	**-1.0**
	21nm,1.5s						
SDV	**Santo Domingo**	**46.92**	**4**	*e*P	**P**	**02 45 51.1**	**+1.0**
	5.7nm,0.6s						
RCBR	**Riachuelo**	**47.08**	**57**	*e*P	**P**	**02 45 53.1**	**+1.8**
	55nm,1.5s						
BCIP	**Isla Barro Col**	**47.44**	**352**	*e*P	**P**	**02 45 53.9**	**-0.1**
SNAA	**Sanae**	**48.28**	**156**	P	**P**	**02 45 59.6**	**-0.4**
	6.5nm,1.1s,baz=256,slow=9.7,SNR=7.9						
SNAA	**Sanae**	**48.28**	**156**	*e*P	**P**	**02 45 59.7**	**-0.4**
	34nm,1.4s						
JTS	**JuntasAbangare**	**49.34**	**345**	*e*P	**P**	**02 46 08.9**	**+0.3**
	5.1nm,0.9s						
QSPA	**South Pole Qui**	**52.06**	**180**	P	**P**	**02 46 27.9**	**-0.9**
	14nm,1.1s,baz=142,slow=3.5,SNR=19						
QSPA	**South Pole Qui**	**52.06**	**180**	*e*P	**P**	**02 46 28.0**	**-0.8**
	14nm,1.0s						
VNDA	**Vanda**	**59.73**	**192**	*e*P	**P**	**02 47 24.2**	**+0.8**
	19nm,1.8s						
ASCN	**Ascension**	**61.21**	**77**	*e*P	**P**	**02 47 35.8**	**+1.5**
	168nm,1.2s						
034A	**Hebbronville**	**68.98**	**336**	⇑P	**P**	**02 48 26.6**	**+2.2**
	baz=69						
934A	**Benavides**	**69.43**	**337**	⇓P	**P**	**02 48 28.2**	**+1.0**
	baz=70						
933A	**Laredo**	**69.68**	**336**	⇓P	**P**	**02 48 29.5**	**+0.7**
	baz=70						
835A	**Beeville**	**69.86**	**337**	⇑P	**P**	**02 48 30.6**	**+0.8**
	baz=70						
833A	**Chaparral WMA,**	**70.38**	**336**	⇑P	**P**	**02 48 33.7**	**+0.6**
	baz=71						
735A	**Kenedy**	**70.38**	**338**	⇓P	**P**	**02 48 34.0**	**+0.9**
	baz=71						
832A	**Faith Ranch, C**	**70.53**	**336**	⇓P	**P**	**02 48 34.8**	**+0.8**
	baz=71						
734A	**La Parita Cree**	**70.60**	**337**	⇑P	**P**	**02 48 35.0**	**+0.7**
	baz=71						
636A	**Smothers Creek**	**70.75**	**339**	⇑P	**P**	**02 48 36.3**	**+1.1**
	baz=71						
635A	**Leesville**	**70.87**	**338**	⇓P	**P**	**02 48 36.9**	**+0.9**
	baz=71						
732A	**Laxson Ranch,**	**70.94**	**336**	⇑P	**P**	**02 48 37.1**	**+0.6**
	baz=71						
633A	**Saathoff Ranch**	**71.36**	**337**	⇓P	**P**	**02 48 40.1**	**+1.0**
	baz=72						
438A	**Sam Houston St**	**71.51**	**340**	⇓P	**P**	**02 48 40.7**	**+0.9**
	baz=72						
632A	**Uvalde**	**71.60**	**336**	⇓P	**P**	**02 48 41.5**	**+1.0**
	baz=72						
534A	**Blanco**	**71.68**	**338**	⇑P	**P**	**02 48 43.2**	**+2.2**
	baz=72						
340A	**Bronson**	**71.74**	**342**	⇑P	**P**	**02 48 42.5**	**+1.3**
	baz=72						
631A	**Perdido Creek**	**71.77**	**336**	⇑P	**P**	**02 48 43.5**	**+2.1**
	baz=72						
339A	**Huntington**	**71.83**	**341**	⇑P	**P**	**02 48 42.7**	**+0.9**
	baz=72						
436A	**Wall Ranch, Ga**	**71.89**	**339**	⇓P	**P**	**02 48 43.3**	**+1.2**
	baz=72						
533A	**Kerrville**	**71.89**	**337**	⇓P	**P**	**02 48 43.7**	**+1.4**
	baz=72						
LRAL	**Lakeview Retre**	**71.92**	**348**	*e*P	**P**	**02 48 41.9**	**-0.3**
	13nm,1.1s						
338A	**Crockett**	**72.04**	**341**	⇓P	**P**	**02 48 44.1**	**+1.0**
	baz=72						
337A	**Centerville**	**72.16**	**340**	⇓P	**P**	**02 48 44.9**	**+1.1**
	baz=72						
532A	**Rocksprings**	**72.21**	**336**	⇓P	**P**	**02 48 45.5**	**+1.3**
	baz=73,SNR=6.0						
434A	**Burnet**	**72.35**	**338**	⇓P	**P**	**02 48 45.7**	**+0.7**
	baz=73,SNR=7.7						
531A	**Rocksprings**	**72.45**	**336**	⇓P	**P**	**02 48 46.1**	**+0.5**
	baz=73						
239A	**Gary**	**72.46**	**342**	⇑P	**P**	**02 48 46.8**	**+1.2**
	baz=73						
336A	**Riesel**	**72.48**	**339**	⇓P	**P**	**02 48 46.5**	**+0.8**
	baz=73						
JCT	**Junction City**	**72.51**	**337**	⇑P	**P**	**02 48 46.7**	**+0.8**
	baz=73						
JCT	**Junction City**	**72.51**	**337**	*e*P	**P**	**02 48 46.2**	**+0.2**
	12nm,1.1s						
433A	**Art**	**72.54**	**337**	⇓P	**P**	**02 48 47.1**	**+1.0**
	baz=73,SNR=5.6						
335A	**Moody**	**72.55**	**339**	⇑P	**P**	**02 48 47.4**	**+1.3**
	baz=73						
530A	**J-C Ranch, Com**	**72.69**	**335**	⇑P	**P**	**02 48 47.7**	**+0.7**
	baz=73,SNR=6.4						
TXAR	**Lajitas Array**	**72.75**	**333**	P	**P**	**02 48 47.2**	**-0.2**
	1.9nm,0.8s,baz=151,slow=8.3,SNR=19						
237A	**Washetta, Mont**	**72.78**	**341**	⇑P	**P**	**02 48 48.4**	**+0.9**
	baz=73						
334A	**Lometa**	**72.83**	**338**	⇓P	**P**	**02 48 48.9**	**+1.1**
	baz=73,SNR=11						
432A	**Menard**	**72.87**	**337**	⇓P	**P**	**02 48 49.0**	**+0.9**
	baz=73						
431A	**Sonora**	**72.95**	**336**	⇑P	**P**	**02 48 49.2**	**+0.6**
	baz=73						
529A	**Stev Forest Ra**	**72.97**	**334**	⇓P	**P**	**02 48 49.2**	**+0.5**
	baz=73						
333A	**Richland Sprin**	**73.04**	**338**	⇑P	**P**	**02 48 49.7**	**+0.6**
	baz=73						
WHTX	**Lake Whitney,**	**73.22**	**339**	⇑P	**P**	**02 48 51.7**	**+1.6**
	baz=74						
WHTX	**Lake Whitney,**	**73.22**	**339**	*e*P	**P**	**02 48 49.2**	**-0.9**
	8.0nm,0.9s						
138A	**Matatall Enter**	**73.23**	**341**	⇓P	**P**	**02 48 51.5**	**+1.4**
	baz=74						
430A	**Baggett Ranch,**	**73.25**	**336**	⇑P	**P**	**02 48 51.8**	**+1.5**
	baz=74,SNR=5.6						
429A	**Davenport Ranc**	**73.32**	**335**	⇑P	**P**	**02 48 51.2**	**+0.4**
	baz=74,SNR=6.2						
332A	**Millersview**	**73.33**	**337**	⇑P	**P**	**02 48 52.5**	**+1.7**
	baz=74,SNR=6.5						
234A	**Clairette**	**73.43**	**339**	⇓P	**P**	**02 48 52.4**	**+1.1**
	baz=74,SNR=6.3						
331A	**San Angelo**	**73.47**	**336**	⇑P	**P**	**02 48 52.5**	**+0.9**
	baz=74,SNR=5.5						
233A	**Rising Star**	**73.67**	**338**	⇓P	**P**	**02 48 54.0**	**+1.2**
	baz=74						
135A	**Vickery Place,**	**73.74**	**339**	⇓P	**P**	**02 48 54.1**	**+0.9**
	baz=74						
232A	**Coleman**	**73.77**	**337**	⇓P	**P**	**02 48 54.1**	**+0.8**
	baz=74						
330A	**Mertzon**	**73.80**	**336**	⇑P	**P**	**02 48 54.9**	**+1.3**
	baz=74						
SWET	**Sewanee**	**73.90**	**350**	*e*P	**P**	**02 48 53.1**	**-1.0**
	22nm,1.2s						
134A	**White-Moore Ra**	**73.95**	**339**	⇓P	**P**	**02 48 55.5**	**+1.1**
	baz=74						
231A	**Bronte**	**74.02**	**337**	⇓P	**P**	**02 48 55.4**	**+0.6**
	baz=74						
SUR	**Sutherland**	**74.05**	**119**	P	**P**	**02 48 55.9**	**+0.4**
	4.9nm,0.7s,baz=259,slow=3.4,SNR=3.7						
329A	**Wagon Wheel Ra**	**74.14**	**335**	⇑P	**P**	**02 48 56.0**	**+0.4**
	baz=74						
133A	**Hamilton Ranch**	**74.22**	**338**	⇑P	**P**	**02 48 56.9**	**+1.0**
	baz=75						
230A	**Sterling City**	**74.23**	**336**	⇑P	**P**	**02 48 56.9**	**+0.9**
	baz=75						
Z35A	**Perchaven, San**	**74.43**	**340**	⇓P	**P**	**02 48 58.1**	**+1.0**
	baz=75						
ABTX	**Abilene, Hawle**	**74.45**	**338**	⇓P	**P**	**02 48 58.4**	**+1.1**
	baz=75						
ABTX	**Abilene, Hawle**	**74.45**	**338**	*e*P	**P**	**02 48 57.0**	**-0.3**
229A	**Bryant Ranch,**	**74.53**	**336**	⇓P	**P**	**02 48 58.5**	**+0.7**
	baz=75						
Z34A	**Collier Ranch,**	**74.65**	**339**	⇓P	**P**	**02 48 59.2**	**+0.8**
	baz=75						
131A	**Roby**	**74.73**	**337**	⇑P	**P**	**02 49 00.0**	**+1.1**
	baz=75						
Z33A	**Whitaker Ranch**	**74.81**	**338**	⇓P	**P**	**02 49 00.3**	**+1.0**
	baz=75						
130A	**Snyder**	**74.83**	**336**	⇑P	**P**	**02 49 00.2**	**+0.7**
	baz=75						
228A	**UT Block 9, Go**	**74.92**	**335**	⇑P	**P**	**02 49 01.0**	**+0.9**
	baz=75						
Z32A	**Haskell**	**75.04**	**338**	⇑P	**P**	**02 49 02.0**	**+1.3**
	baz=75,SNR=5.1						
WVT	**Waverly**	**75.08**	**348**	*e*P	**P**	**02 48 59.9**	**-0.9**
	14nm,1.1s						
129A	**Stewart Farms,**	**75.15**	**336**	⇓P	**P**	**02 49 01.8**	**+0.4**
	baz=76						
Y34A	**Reagan Ranch,**	**75.16**	**340**	⇑P	**P**	**02 49 02.1**	**+0.7**
	baz=76						
Z31A	**Sharp Cattle R**	**75.25**	**337**	⇑P	**P**	**02 49 02.6**	**+0.7**
	baz=76						
128A	**Castleberry Fa**	**75.35**	**335**	⇑P	**P**	**02 49 03.5**	**+0.9**
	baz=76						
Y33A	**Hilltop Ranch,**	**75.45**	**339**	⇓P	**P**	**02 49 04.0**

V30A	Spur Ranch, Mi baz=78	77.69 338	⇓P	P	02 49 16.9 +1.1
TIC	Toumodi 59nm,1.5s	77.71 71	eP	P	02 49 16.7 +0.4
KIC	Kosan Boka 60nm,1.2s	77.73 72	eP	P	02 49 16.6 +0.2
U32A	Winter Ranch, baz=78	77.78 339	⇓P	P	02 49 17.3 +1.2
W27A	Bowe Ranch, En baz=78	77.78 336	⇓P	P	02 49 17.4 +1.1
X25A	Clemmons Ranch baz=78	77.82 334	⇓P	P	02 49 17.3 +0.7
DBIC	Dimbokro 8.4nm,0.7s,baz=205,slow=4.5,SNR=12	77.84 71 P		P	02 49 17.0 0.0
DBIC	Dimbokro 43nm,1.5s	77.84 71	eP	P	02 49 17.3 +0.3
U31A	Nine Bar Ranch baz=78	78.01 339	⇑P	P	02 49 18.4 +1.0
W26A	Owens Ranch, T baz=78	78.03 335	⇑P	P	02 49 18.6 +0.9
V29A	Stinnett baz=78	78.04 337	⇑P	P	02 49 19.1 +1.4
V28A	Channing baz=78	78.14 337	⇓P	P	02 49 19.6 +1.3
TUC	Tucson 4.1nm,1.1s	78.15 329	eP	P	02 49 19.6 +1.2
Y22D	IRIS PASSCAL I baz=78	78.21 332	⇓P	P	02 49 20.0 +1.2
T33A	Patterson Ranc baz=79	78.23 340	⇑P	P	02 49 20.1 +1.4
V27A	Dan Oppiter Fa baz=79	78.34 336	⇑P	P	02 49 20.9 +1.4
W25A	X Bar L Ranch, baz=79	78.38 335	⇓P	P	02 49 20.7 +1.0
U30A	WK&E Inc. Balk baz=79	78.39 338	⇑P	P	02 49 21.2 +1.6
X23A	Hourglass Bar baz=79	78.40 333	⇑P	P	02 49 21.0 +1.1
U29A	Oasis Ranch, S baz=79	78.50 338	⇑P	P	02 49 21.7 +1.4
T32A	Huddler Ranch, baz=79	78.51 340	⇑P	P	02 49 21.6 +1.4
T31A	Randall Ranch, baz=79	78.64 339	⇑P	P	02 49 22.2 +1.3
S33A	Kaszmaul Farm, baz=79	78.65 341	⇓P	P	02 49 22.6 +1.7
V26A	Tequesquite Ra baz=79	78.68 335	⇓P	P	02 49 22.0 +0.7
214A	Organ Pipe Nat baz=79	78.69 327	⇑P	P	02 49 22.7 +1.3
W24A	Lazy 6 Ranch, baz=79	78.69 334	⇑P	P	02 49 22.5 +1.0
U28A	Mallet baz=79	78.72 337	⇓P	P	02 49 22.7 +1.2
ANMO	Albuquerque 5.6nm,1.1s	78.82 333	eP	P	02 49 22.9 +0.7
T30A	Plains baz=79	78.84 338	⇑P	P	02 49 23.5 +1.5
W23A	Werner Place, baz=79	78.91 333	⇓P	P	02 49 23.8 +1.1
U27A	Thompson Grove baz=79	78.95 336	⇑P	P	02 49 24.0 +1.2
V25A	Rancho No Teng baz=79	79.00 335	⇓P	P	02 49 23.8 +0.7
S32A	Newby Ranch, P baz=79	79.00 340	⇑P	P	02 49 24.0 +1.2
V24A	Rampart Ranch, baz=80	79.11 334	⇓P	P	02 49 24.7 +0.8
SFIN	Lafayette baz=80	79.13 350	⇑P	P	02 49 25.7 +2.3
T29A	Hugoton baz=80	79.16 338	⇑P	P	02 49 25.3 +1.5
U26A	Atchley Ranch, baz=80	79.22 336	⇑P	P	02 49 25.3 +1.0
R33A	Olander Ranch, baz=80	79.32 341	⇓P	P	02 49 26.0 +1.4
BOSA	Boshof 14nm,0.9s,baz=217,slow=5.0,SNR=19	79.36 118 P		P	02 49 25.1 -0.4
BOSA	Boshof 26nm,1.3s	79.36 118	eP	P	02 49 24.9 -0.6
S30A	Montezuma baz=80	79.37 339	⇑P	P	02 49 26.3 +1.3
T28A	Walsh baz=80	79.37 337	⇑P	P	02 49 26.2 +1.1
U25A	Circle Dot Ran baz=80	79.44 335	⇓P	P	02 49 26.6 +1.1
V23A	Ortiz Mt. (NFS baz=80	79.45 334	⇓P	P	02 49 26.5 +0.9
T27A	Campo baz=80	79.50 337	⇑P	P	02 49 27.1 +1.3
S29A	Ulysses baz=80	79.54 338	⇓P	P	02 49 27.1 +1.2
R32A	Long Quarter, baz=80	79.61 340	⇑P	P	02 49 27.4 +1.2
R31A	Burdett baz=80	79.71 340	⇑P	P	02 49 28.1 +1.3
KSU1	Kansas State U baz=80	79.72 342	⇑P	P	02 49 28.3 +1.6
U24A	Moreno Valley baz=80	79.74 335	⇑P	P	02 49 28.7 +1.4
S28A	Manter baz=80	79.74 338	⇓P	P	02 49 28.3 +1.3
X18A	Snowflake baz=80	79.76 330	⇑P	P	02 49 28.0 +0.7
113A	Mohawk Valley, baz=80	79.80 327	⇑P	P	02 49 28.6 +1.3
V22A	San Miguel Ran baz=80	79.86 333	⇑P	P	02 49 28.9 +1.0
T26A	Comanche Natio baz=80	79.88 336	⇓P	P	02 49 28.8 +0.9
R30A	Dighton baz=80	79.91 339	⇑P	P	02 49 28.9 +1.0
Q33A	Connelly Farm, baz=80	79.93 341	⇑P	P	02 49 29.1 +1.3
Z14A	Wintersburg baz=80	79.96 328	⇓P	P	02 49 29.7 +1.5
U23A	El Rito baz=80	79.98 334	⇓P	P	02 49 29.3 +0.8
Q32A	Meitler Ranch, baz=80	80.11 341	⇑P	P	02 49 30.1 +1.2
T25A	Trinidad baz=80	80.11 336	⇑P	P	02 49 30.2 +1.0
S27A	Las Animas baz=80	80.13 337	⇑P	P	02 49 30.4 +1.2
W18A	Petrified Fore baz=80	80.19 331	⇓P	P	02 49 30.6 +0.9
U22A	Llaves baz=81	80.25 333	⇓P	P	02 49 31.0 +1.0
S26A	Kim baz=81	80.25 336	⇑P	P	02 49 31.0 +1.2
X16A	Lo Mia Camp, P baz=81	80.25 329	⇓P	P	02 49 31.5 +1.5
R29A	Marienthal baz=81	80.29 339	⇓P	P	02 49 31.1 +1.1
P33A	Williams Farm, baz=81	80.31 341	⇑P	P	02 49 31.3 +1.4
Q31A	Ellis baz=81	80.34 340	⇓P	P	02 49 31.7 +1.6
T24B	San Luis baz=81	80.36 335	⇓P	P	02 49 31.8 +1.2
R28A	Tribune baz=81	80.41 338	⇓P	P	02 49 31.6 +1.0
Y14A	Wickenburg baz=81	80.48 328	⇑P	P	02 49 32.4 +1.3
GLA	Glamis baz=81	80.51 326	⇑P	P	02 49 32.4 +1.2
Q30A	Quinter baz=81	80.54 339	⇑P	P	02 49 32.3 +1.0
T23A	Casias Ranch, baz=81	80.56 334	⇓P	P	02 49 32.5 +0.8
S25A	Robets Cordova baz=81	80.59 336	⇑P	P	02 49 32.7 +0.9
R27A	Eads baz=81	80.65 337	⇓P	P	02 49 32.8 +0.9
Q29A	Oakley baz=81	80.68 339	⇓P	P	02 49 33.2 +1.2
P32A	Huiting Farm, baz=81	80.71 341	⇑P	P	02 49 33.8 +1.6
P31A	Stockton baz=81	80.82 340	⇑P	P	02 49 33.9 +1.2
S24A	Houchin Ranch, baz=81	80.83 335	⇑P	P	02 49 34.1 +0.9
R26A	Arlington baz=81	80.87 337	⇑P	P	02 49 34.3 +1.2
R25A	Fountain Ranch baz=81	80.99 336	⇑P	P	02 49 35.3 +1.5
P30A	Selden baz=81	81.08 340	⇑P	P	02 49 35.7 +1.6
Q28A	Sharon Springs baz=81	81.08 338	⇓P	P	02 49 35.3 +1.0
S23A	Nye Farm, Mont baz=82	81.15 335	⇓P	P	02 49 36.4 +1.6
WUAZ	Wupatki baz=82	81.18 330	⇑P	P	02 49 36.0 +1.1
WUAZ	Wupatki 7.3nm,1.3s	81.18 330	eP	P	02 49 36.0 +1.1
O32A	Brockman Farm, baz=82	81.23 341	⇓P	P	02 49 36.5 +1.6
KSCO	Kaye Shedlock' baz=82	81.27 338	⇑P	P	02 49 36.6 +1.4
P29A	Atwood baz=82	81.33 339	⇓P	P	02 49 36.9 +1.5
R24A	Sanders Place, baz=82	81.33 336	⇓P	P	02 49 36.8 +1.1
Q26A	Hugo baz=82	81.46 337	⇓P	P	02 49 37.3 +1.0
S22A	4UR Ranch, Cre baz=82	81.47 334	⇓P	P	02 49 37.2 +0.6
P28A	Saint Francis baz=82	81.53 338	⇓P	P	02 49 38.1 +1.5
R23A	Moffat baz=82	81.53 335	⇑P	P	02 49 37.7 +0.8
MVCO	Mesa Verde baz=82	81.58 333	⇑P	P	02 49 38.0 +0.9
IRM	Iron Mountain baz=82	81.59 326	⇓P	P	02 49 37.7 +0.8
O30A	MW Ranch, Wils baz=82	81.62 340	⇓P	P	02 49 38.7 +1.7
N32A	Stulken Farm, baz=82	81.71 341	⇓P	P	02 49 39.1 +1.7
P27A	Ficken Ranch, baz=82	81.76 338	⇑P	P	02 49 39.3 +1.5
LBTB	Lobatse 22nm,1.3s	81.81 115	eP	P	02 49 37.9 -0.7
W13A	Hualapai Mount baz=82	81.85 328	⇑P	P	02 49 39.9 +1.4
P26A	Davis Ranch, A baz=82	81.99 337	⇑P	P	02 49 40.5 +1.4
Q24A	Divide baz=82	82.01 336	⇑P	P	02 49 40.5 +1.1
MURC	Murrieta baz=82	82.03 325	⇑P	P	02 49 40.5 +1.2
O28A	Krutsinger Ran baz=82	82.05 339	⇓P	P	02 49 40.6 +1.3
P25A	Willow Gulch B baz=83	82.20 337	⇑P	P	02 49 41.2 +1.0
N30A	Hueftle Ranch, baz=83	82.21 340	⇓P	P	02 49 41.6 +1.5
O27A	Beecher Island baz=83	82.31 338	⇓P	P	02 49 42.5 +1.9
GMRC	Granite Mounta baz=83	82.34 326	⇓P	P	02 49 41.9 +0.9
U15A	North Rim baz=83	82.34 330	⇓P	P	02 49 42.5 +1.4
N29A	Votaw Ranch, W baz=83	82.37 340	⇓P	P	02 49 42.9 +2.0
CIS	Catalina Islan baz=83	82.43 324	⇑P	P	02 49 42.6 +1.2
M31A	Lambtecht Ranc baz=83	82.43 341	⇑P	P	02 49 43.0 +1.8
P24A	Kohler Place, baz=83	82.44 336	⇓P	P	02 49 42.8 +1.4
BBRC	Big Bear Solar baz=83	82.46 325	⇓P	P	02 49 43.0 +1.2
N28A	Pribbeno Ranch baz=83	82.50 339	⇓P	P	02 49 43.8 +2.2
O26A	Horse Wrangler baz=83	82.61 338	⇓P	P	02 49 43.4 +1.2
P23A	Jefferson baz=83	82.61 335	⇓P	P	02 49 43.6 +1.1
FMP	Fort Macarthur baz=83	82.63 324	⇓P	P	02 49 43.5 +1.2
BFSC	Mount Baldy Ra baz=83	82.78 325	⇓P	P	02 49 44.3 +1.1
OGNE	Ogallala baz=83	82.88 339	⇓P	P	02 49 45.0 +1.4
N27A	Anderson Farm, baz=83	82.90 338	⇑P	P	02 49 45.1 +1.4
ISCO	Idaho Springs baz=83	82.92 336	⇑P	P	02 49 45.3 +1.2
M29A	Burnside Ranch baz=83	82.97 340	⇑P	P	02 49 45.6 +1.6
M28A	Bar X Bar Ranc baz=84	83.11 339	⇑P	P	02 49 46.3 +1.5
N26A	Koester Ranch, baz=84	83.12 338	⇓P	P	02 49 46.5 +1.6
L31A	Butterfield Fa baz=84	83.18 342	⇑P	P	02 49 46.7 +1.7
L30A	Spencer Herefo baz=84	83.19 341	⇑P	P	02 49 46.8 +1.7
O23A	Lake Granby, G baz=84	83.39 336	⇓P	P	02 49 47.6 +1.1
EDW2	Edwards Air Fo baz=84	83.46 325	⇑P	P	02 49 47.6 +0.9
O22A	Kremmling baz=84	83.55 335	⇓P	P	02 49 48.1 +0.8
SRU	San Rafael Swe 3.9nm,0.9s	84.00 332	eP	P	02 49 48.7 -0.8
ECSD	EROS Data Cent baz=84	84.13 344	⇓P	P	02 49 51.2 +1.4
ECSD	EROS Data Cent 16nm,1.2s	84.13 344	eP	P	02 49 49.6 -0.2
ISA	Isabella, Lake baz=85	84.33 325	⇑P	P	02 49 52.4 +1.2
M23A	Laramie baz=85	84.47 336	⇑P	P	02 49 53.3 +1.4
K27A	Flueckinger Fa baz=85	84.57 339	⇑P	P	02 49 53.6 +1.4
M22A	Cedar Creek Ra baz=85	84.69 336	⇑P	P	02 49 54.0 +0.9
N20A	Spence Gulch, baz=85	84.73 334	⇑P	P	02 49 54.4 +1.1
L24A	Wheatland baz=85	84.75 337	⇓P	P	02 49 54.5 +1.3
VES	Vestal, Richgr baz=85	84.76 325	⇑P	P	02 49 54.4 +1.2
SPMN	Marine on St. baz=85	84.78 347	⇑P	P	02 49 54.5 +1.5
K26A	Motz Farm, Whi baz=85	84.83 339	⇓P	P	02 49 54.9 +1.4
K25A	Mack Ranch, Ha baz=85	84.95 338	⇑P	P	02 49 55.0 +0.8
I30A	Oacoma baz=85	84.96 342	⇓P	P	02 49 54.9 +0.8
J28A	Allard Ranch, baz=85	84.96 340	⇑P	P	02 49 55.0 +0.8
J27A	Elkhorn Farm, baz=85	85.01 340	⇑P	P	02 49 55.8 +1.4
L22A	Ellis Ranch, M baz=86	85.20 336	⇓P	P	02 49 56.5 +1.0
R11A	Troy Canyon, C baz=86	85.33 328	⇓P	P	02 49 57.4 +1.1
BRSD	Miller baz=86	85.34 342	⇓P	P	02 49 57.7 +1.8
I28A	Midland baz=86	85.48 341	⇓P	P	02 49 58.3 +1.7
J25A	Sunshine Ranch baz=86	85.64 339	⇑P	P	02 49 59.2 +1.6
DUG	Dugway, Tooele baz=86	85.81 331	⇑P	P	02 49 60.0 +1.4
J24A	Dixon Ranch, L baz=86	85.84 338	⇑P	P	02 49 59.6 +1.0
K21A	Alcova baz=86	86.01 336	⇓P	P	02 50 00.6 +1.0
H27A	Howes baz=87	86.31 340	⇓P	P	02 50 02.3 +1.5
F29A	Eureka baz=87	86.86 342	⇓P	P	02 50 04.8 +1.4
PDAR	Pinedale Array 2.5nm,1.1s,baz=145,slow=5.4,SNR=7.3	86.89 334 P		P	02 50 03.4 -0.6
I22A	9 Mile Ranch, baz=87	86.90 337	⇓P	P	02 50 04.5 +0.7
J20A	Shoshoni baz=87	86.92 336	⇑P	P	02 50 04.6 +0.6
TORD	Torodi Ar. Bea 3.0nm,0.7s,baz=222,slow=5.0,SNR=34	86.93 71 P		P	02 50 04.1 -0.4
G27A	Dupree baz=87	86.97 341	⇓P	P	02 50 05.0 +1.0
G26A	Maurine baz=87	87.06 340	⇑P	P	02 50 04.8 +0.3
I21A	Big Trails, Te baz=87	87.08 336	⇓P	P	02 50 05.2 +0.5
J19A	Crowheart baz=88	87.16 335	⇑P	P	02 50 05.9 +0.7
G25A	Newell baz=88	87.19 340	⇑P	P	02 50 06.2 +1.1
E30A	Jud baz=88	87.27 343	⇑P	P	02 50 06.8 +1.4
I20A	Worland baz=88	87.47 336	⇑P	P	02 50 07.0 +0.5
H22A	Clearmont baz=88	87.50 337	⇑P	P	02 50 07.6 +1.0
D30A	Buchanan baz=88	87.81 343	⇑P	P	02 50 08.6 +0.6
I19A	Meeteetse baz=88	87.83 335	⇓P	P	02 50 09.2 +0.8
D29A	Pettibone, Tap baz=88	87.95 343	⇓P	P	02 50 10.1 +1.4
I17A	Pilgrim Ck. baz=89	88.26 334	⇓P	P	02 50 10.6 +0.1
C30A	Mose, Pekin baz=89	88.30 344	⇓P	P	02 50 10.9 +0.6
D28A	Regan baz=89	88.31 342	⇑P	P	02 50 11.3 +0.9
AGMN	Agassiz Nation baz=89	88.32 345	⇓P	P	02 50 11.1 +0.8
G21A	Lodge Grass baz=89	88.33 337	⇑P	P	02 50 11.4 +0.8
H18A	Shoshone NF, C baz=89	88.62 335	⇓P	P	02 50 12.6 +0.4
MDND	Maddock baz=89	88.70 343	⇓P	P	02 50 14.5 +2.4
B30A	Myrvik Farm, E baz=89	88.98 344	⇓P	P	02 50 14.4 +1.0
C27A	Sayler Ranch, baz=89	89.03 342	⇓P	P	02 50 14.9 +1.2
B29A	Wagenman Farm, baz=90	89.22 343	⇑P	P	02 50 15.2 +0.6
HLID	Hailey baz=90	89.32 332	⇓P	P	02 50 16.4 +1.0
F19A	Roth Farm, Mol baz=90	89.43 336	⇑P	P	02 50 17.2 +1.4
B28A	Dugan Ranch, T baz=90	89.44 343	⇑P	P	02 50 16.7 +1.1
A29A	Manning Farm, baz=90	89.62 344	⇓P	P	02 50 17.4 +0.9
TAM	Tamanrasset 1.6nm,1.0s	95.86 66	eP	P	02 50 46.4 +0.3
GERES	GERESS Array B 0.6nm,0.7s,baz=228,slow=5.1,SNR=3.8	116.05 47	PKP	PKPdf	02 56 01.0 -0.8
WRAB	Tennant Creek	116.44 210	ePKPdf	PKPdf	02 56 04.7 +1.2
ILAR	Eielson Array 0.5nm,1.0s,baz=142,slow=2.1,SNR=3.0	117.27 333	PKP	PKPdf	02 56 02.2 -1.3
MORC	Moravsky Berou	118.72 48	ePKPdf	PKPdf	02 56 06.5 -0.3
VYHS	Vyhne	118.92 49	ePKP	PKiKP	02 56 06.7 -0.5
KWP	Kalwaria Pacla	121.70 49	ePKPdf	PKPdf	02 56 12.5 0.0
SUW	Suwalki	123.59 45	ePKPdf	PKPdf	02 56 15.4 -0.5
H11S2	WAKE ISLAND Hyl baz=126,slow=75,SNR=10	124.23 267	T	T	05 12 45.1
H11S1	WAKE ISLAND Hyl baz=126,slow=75,SNR=7.5	124.25 267	T	T	05 12 42.3
H11S3	WAKE ISLAND Hyl baz=126,slow=75,SNR=7.6	124.25 267	T	T	05 12 45.5
BRTR	Keskin Array B 1.0nm,0.8s,baz=183,slow=3.2,SNR=7.2	125.01 64	PKP	PKPdf	02 56 18.2 -1.1
TNA	Tin City	125.70 329	ePKPdf	PKPdf	02 56 19.6 -0.1
KIEV	Kiev	125.99 50	ePKPdf	PKPdf	02 56 20.6 0.0
KIV	Kislovodsk	132.80 62	ePKPdf	PKPdf	02 56 33.6 -0.4
PALK	Pallekele	141.53 137	ePKPdf	PKPdf	02 56 51.6 +0.6
GEYT	Alibeck 2.7nm,0.6s,baz=262,slow=4.5,SNR=4.7	142.46 75	PKhKP	PKPpre	02 56 47.6
SEY	Seymchan 2.9nm,0.8s,baz=99,slow=3.6,SNR=5.5	142.86 327	PKhKP	PKPpre	02 56 47.3
KSM	Kuching	143.27 187	ePKPdf	PKPdf	02 56 53.6 -0.5
ARU	Arti	143.78 44	ePKPdf	PKPab	02 56 50.6 +0.2
TIXI	Tiksi	144.52 348	ePKPdf	PKPab	02 56 50.4 -2.5
ABKAR	Akbulak array	145.28 56	ePKPbc	PKPbc	02 56 55.9 -0.3
KULM	Kulim	146.87 170	ePKPbc	PKPdf	02 57 00.3 +0.1
KBL	Kabul	149.97 85	ePKPbc	PKPbc	02 57 10.2 +0.4
BRVK	Borovoye	151.15 47	ePKPbc	PKPbc	02 57 12.0 +0.2
YSS	Yuzh-Sakhalins	151.92 300	ePKPdf	PKPdf	02 57 07.1 -0.1
YSS			ePKPbc	PKPbc	02 57 13.5 -0.2
KKAR	Karatay Array	152.59 68	ePKPdf	PKPdf	02 57 08.3 -0.1
KKAR			ePKPbc	PKPbc	02 57 15.1 -0.3
KKAR			ePKPab	PKPab	02 57 25.7 -0.4
AAK	Ala-Archa	155.51 69	ePKPdf	PKPdf	02 57 12.3 -0.5
AAK			ePKPab	PKPab	02 57 38.9 +0.2
TKM2	Tokmak 2	156.32 69	ePKPdf	PKPdf	02 57 13.5 -0.4
TKM2			ePKPbc	PKPbc	02 57 23.4
TKM2			ePKPab	PKPab	02 57 41.9 -0.3
KSH	Kashi	156.45 77	ePKP	PKPdf	02 57 13.7 -0.3
KSH			PKS	PKSdf	03 00 48.4 +0.4
KSH			PP	PP	03 01 19.8 -1.4
KSH			SKS	SKSdf	03 04 17.9 -1.5
KSH			SKKS	SKKSac	03 08 06.0 -3.4
KSH	130nm,4.7s		PPMZ		
KSH	70nm,5.7s		LN		
KSH	66nm,6.5s		LE		
KSH	190nm,7.3s		LZ		
KURK	Kurchatov	156.80 48	ePKPdf	PKPdf	02 57 13.5 -0.4
KURK			ePKPab	PKPab	02 57 43.8 +0.1
ZALV	Zalesovo Beam 0.4nm,0.3s,baz=262,slow=3.0,SNR=4.9	158.47 36	PKP	PKPdf	02 57 13.8 -2.1
ZALV			PKPab	PKPab	02 57 50.6 -0.1
MKAR	Makanchi Array 2.4nm,1.1s,baz=335,slow=1.7,SNR=8.0	160.42 56	PKP	PKPdf	02 57 18.1 -0.3
MKAR			PKPab	PKPab	02 57 59.3 -0.3
MKAR			PP	PP	03 01 41.7 -0.7
CN2	Changchun	164.45 297	ePKP	PKPdf	02 57 22.9 +0.4
WMQ	Urumqi	164.93 62	ePKP	PKPdf	02 57 22.1 -0.9
WMQ			pPKP	pPKPdf	02 57 33.0 +3.8
WMQ			PKPab	PKPab	02 58 19.8 +0.3
NJ2	Nanjing	167.99 243	ePKP	PKPdf	02 57 26.1 +0.5
SONM	Songino Array 0.7nm,1.0s,baz=57,slow=5.3,SNR=4.0	170.35 359	PKP	PKPdf	02 57 23.9 -2.9
SONM			PKPab	PKPab	02 58 43.4 +0.2
HHC	Hu-ho-hao-te 1.8nm,1.0s,baz=346,slow=2.2,SNR=7.7	175.09 304	ePKP	PKPdf	02 57 28.3 -0.7
HHC			SS	SS	03 24 21.3 +0.5
HHC	460nm,10.0s		PPMZ		

CSEM **13** *02:39:40.8±0.4, 50.°38N×18.°85E, h1km, Error ellipse: s-maj=9.3km s-min=3.6km az=5.0*

PRU 13 02:39:42.2, 50.°32N×18.°87E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.08**	**110**	*e*Pg	Pg	02 39 43.4	-0.4
CHZP				*e*Sg	Sg	02 39 45.1	+0.2
OJC	**Ojcow**	**0.60**	**99**	*e*Pg	Pg	02 39 52.6	-1.2
OJC				*e*Sg	Sg	02 40 01.7	0.0
OJC	**Ojcow**	**0.60**	**99**	*e*Pg	Pg	02 39 52.6	-1.2
OJC				*e*Sg	Sg	02 40 01.7	0.0
OKC	**Ostrava-Krasne**	**0.67**	**224**	*e*PG	Pg	02 39 54.9	-0.2
OKC				*e*SG	Sg	02 40 05.0	+1.2
	comp=Z,4.4nm,0.4s						
OKC	**Ostrava-Krasne**	**0.67**	**224**	Pg	Pg	02 39 54.9	-0.2
OKC				Sg	Sg	02 40 05.0	+1.2
	4.4nm,0.4s						
MORC	**Moravsky Berou**	**1.01**	**238**	*e*Pg	Pg	02 40 01.1	-0.6
MORC				*e*Sg	Sg	02 40 15.3	+0.4
LANS	**Liptovska Anna**	**1.23**	**161**	*e*Pn	Pg	02 40 05.9	0.0
LANS				*e*Sn	Sb	02 40 22.6	-0.4
NIE	**Niedzica**	**1.30**	**133**	*e*Pg	Pg	02 40 06.7	-0.5
NIE				*e*Sg	Sg	02 40 24.3	+0.2
NIE	**Niedzica**	**1.30**	**133**	*e*Pg	Pg	02 40 06.7	-0.5
NIE				*e*Sg	Sg	02 40 24.3	+0.2
DPC	**Dobruska-Polom**	**1.63**	**272**	*e*PG	Pn	02 40 10.8	-1.5
DPC				*e*SG	Sn	02 40 33.2	-0.9
DPC	**Dobruska-Polom**	**1.63**	**272**	Pg	Pn	02 40 10.8	-1.5
DPC				Sg	Sn	02 40 33.2	-0.9
STHS	**Stebnicka Huta**	**1.78**	**120**	*e*Pn	Pn	02 40 14.8	+0.5
STHS	**Stebnicka Huta**	**1.78**	**120**	*e*PN	Pn	02 40 14.8	+0.5
VYHS	**Vyhne**	**1.83**	**181**	*e*Pn	Pn	02 40 13.8	-1.1
VYHS				*e*Sn	Sn	02 40 37.2	-1.6
VYHS	**Vyhne**	**1.83**	**181**	*e*PN	Pn	02 40 13.8	-1.1
VYHS				*e*SN	Sn	02 40 37.2	-1.6
UPC	**Upice**	**1.84**	**277**	*e*SG	Sg	02 40 40.9	-0.4
UPC	**Upice**	**1.84**	**277**	Sg	Sg	02 40 40.9	-0.4
PRU	**Pruhonice**	**2.80**	**265**	*e*SG	Sg	02 41 10.9	-1.4
PRU	**Pruhonice**	**2.80**	**265**	Sg	Sg	02 41 10.9	-1.4

BRG	Berggiesshubel 2.4nm,0.9s	3.19 282	SG	Sg	02 41 27.5 +2.9
KHC	Kasperske Hory	3.63 253	eSG	Sg	02 41 38.2 -0.9
KHC	Kasperske Hory	3.63 253	Sg	Sg	02 41 38.2 -0.9

*IDC **13** 02:48:30.6±0.6, 14.°04N×145.°00E, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.0/36, mbtmp4.2/12, MS4.5/1, Ms1 4.5/1, ms1mx3.2/43, Error ellipse: s-maj=24.5km s-min=14.7km az=93.0*

*ISCJB **13** 02:48:44.2±0.4, 13.°89N±0.°06×144.°7E±0.°1, h125km, mb4.1/20, Error ellipse: s-maj=17.3km s-min=8.4km az=174.3*

*NEIC **13** 02:48:46.5±0.8, 13.°90N×144.°84E, h133km±6km, mb4.6/8, Error ellipse: s-maj=13.2km s-min=7.7km az=84.0*

NEIC Felt at Dededo and Santa Rita.

ISC 13 02:48:45.8±0.5, 13.°95N±0.°09×144.°8E±0.°1, h125km, n49, σ0.°89/42, mb4.1/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.36	173	ePn	Pn	02 49 05.5	+1.9
GUMO				eSn	Sn	02 49 18.5	+1.5
H11S3	WAKE ISLAND Hy	21.47	75	T	T	03 15 10.4	
	baz=262,slow=74						
H11S1	WAKE ISLAND Hy	21.48	75	T	T	03 15 12.6	
	baz=262						
H11S2	WAKE ISLAND Hy	21.48	75	T	T	03 15 12.0	
	baz=262,slow=74						
H11N1	WAKE ISLAND Hy	21.88	72	T	T	03 16 43.7	
	baz=257,slow=75,SNR=12						
H11N2	WAKE ISLAND Hy	21.89	72	T	T	03 16 43.4	
	baz=257,slow=75,SNR=7.8						
H11N3	WAKE ISLAND Hy	21.89	72	T	T	03 16 44.5	
	baz=257,slow=75,SNR=12						
COEN	Coen	27.77	183	eP	P	02 54 22.5	-0.5
CTA	Charters Tower	33.85	178	P	P	02 55 15.9	-0.5
	8.5nm,1.0s,baz=345,slow=12,SNR=3.6						
CTAO	Charters Tower	33.85	178	eP	P	02 55 16.2	-0.2
	10nm,0.8s						
WRAB	Tennant Creek	35.21	197	eP	P	02 55 27.1	-1.1
	3.9nm,0.6s						
WRA	Warramunga Arr	35.22	197	P	P	02 55 27.2	-1.1
	2.5nm,0.5s,baz=18,slow=9.4,SNR=12						
ASAR	Alice Springs	38.88	196	P	P	02 55 58.5	-0.7
	0.6nm,0.4s,baz=17,slow=11,SNR=10						
QLP	Quilpie	40.29	181	P	P	02 56 09.7	-1.1
	baz=34,SNR=3.5						
DZM	Mont Dzumac	41.60	149	P	P	02 56 22.3	+0.5
	16nm,0.5s,baz=236,slow=5.8,SNR=14						
DZM	Mont Dzumac	41.60	149	eP	P	02 56 21.8	+0.1
	24nm,0.8s						
WRKA	Warakurna	41.97	203	P	P	02 56 24.1	-0.5
	baz=36,SNR=25						
CMAR	Chiang Mai Arr	44.20	282	P	P	02 56 43.5	+0.8
	1.2nm,0.3s,baz=83,slow=8.3,SNR=5.9						
ARMA	Armidale	44.59	172	P	P	02 56 45.6	-0.1
	baz=39,SNR=5.6						
STKA	Stephens Creek	45.67	184	P	P	02 56 52.8	-1.2
	3.0nm,0.4s,baz=10,slow=12,SNR=7.7						
STKA	Stephens Creek	45.67	184	P	P	02 56 53.2	-0.8
	baz=40,SNR=4.8						
SONM	Songino Array	46.41	325	P	P	02 56 59.5	-0.5
	0.2nm,0.6s,baz=113,slow=4.4,SNR=2.4						
PSI	Prapat	46.65	261	LR	LR	03 15 16.7	
	comp=Z,516nm,21.6s,slow=34						
BBOO	Buckleboo	47.24	190	P	P	02 57 05.6	-0.7
	baz=41,SNR=9.0						
FORT	Forrest	47.30	200	eP	P	02 57 06.3	-0.5
	8.8nm,0.7s						
ARPS	Mount Arapiles	50.52	183	P	P	02 57 31.7	+0.4
	baz=45,SNR=16						
TOO	Toolangi	51.25	179	P	P	02 57 37.8	+1.1
	baz=46,SNR=7.6						
BLDU	Ballidu	51.91	211	P	P	02 57 40.5	-1.2
	baz=47,SNR=7.5						
MKAR	Makanchi Array	61.20	316	P	P	02 58 48.8	+1.4
	0.7nm,0.6s,baz=91,slow=8.2,SNR=5.0						
AAK	Ala-Archa	66.25	311	eP	P	02 59 20.7	-0.1
	3.2nm,1.2s						
EKS2	Erkin-Say	66.78	311	eP	P	02 59 23.8	-0.3
	3.4nm,1.1s						
ILAR	Eielson Array	68.27	25	P	P	02 59 31.1	-1.7
	0.6nm,0.4s,baz=251,slow=5.7,SNR=21						
INK	Inuvik	74.06	22	P	P	03 00 07.5	-0.1
	1.0nm,1.0s,baz=269,slow=2.2,SNR=3.8						
ABKAR	Akbulak array	76.25	318	eP	P	03 00 20.5	-0.1
YKA	Yellowknife Ar	82.56	27	P	P	03 00 53.7	-0.8
	0.6nm,0.5s,baz=285,slow=5.1,SNR=16						
NVAR	Mina Array Bea	86.73	51	P	P	03 01 17.2	+0.8
	1.7nm,0.6s,baz=266,slow=6.1,SNR=5.8						
KIV	Kislovodsk	88.95	315	eP	P	03 01 27.6	+1.0
	2.8nm,0.6s						
FINES	FINESS Array B	90.82	335	P	P	03 01 33.4	-1.4
	0.7nm,0.7s,baz=72,slow=6.2,SNR=5.8						
PDAR	Pinedale Array	91.75	45	P	P	03 01 39.9	0.0
	0.2nm,0.6s,baz=226,slow=4.8,SNR=2.9						
VNDA	Vanda	91.82	176	eP	P	03 01 38.7	-0.3
	13nm,1.9s						
SNAA	Sanae	119.13	191	ePKPdf	PKPdf	03 07 20.2	+0.9
LBTB	Lobatse	122.06	249	ePKPdf	PKPdf	03 07 27.7	+1.3
TORD	Torodi Ar. Bea	134.63	305	PKP	PKPdf	03 07 51.3	+0.8
	0.9nm,1.3s,baz=89,slow=1.5,SNR=5.4						
LCO	Las Campanas	143.87	120	ePKPdf	PKPbc	03 08 06.0	+0.7
TRQA	Tornquist	146.21	140	ePKPbc	PKPbc	03 08 11.8	-0.2
LVC	Limon Verde	146.89	110	ePKPbc	PKPab	03 08 15.7	-0.6
LPAZ	La Paz	148.12	98	PKPbc	PKPbc	03 08 19.4	+0.8
	2.1nm,0.8s,baz=218,slow=1.5,SNR=8.5						
LPAZ	La Paz	148.12	98	ePKPbc	PKPbc	03 08 18.8	+0.2
SAML	Samuel	152.12	83	ePKPbc	PKPbc	03 08 27.3	-0.2

*BJI **13** 02:53:08.5, 1.°61N×133.°40E, h10km, mB5.9/67, mb5.6/83, Ms5.4/91, Ms7 5.2/80*

*IDC **13** 02:53:13.5±0.3, 2.°18N×133.°05E, h0km, mb5.3/39, mb1 5.3/42, mb1mx5.3/47, mbtmp5.3/42, ML4.3/2, MS4.9/20, Ms1 4.8/20, ms1mx4.5/37, Error ellipse: s-maj=15.2km s-min=8.7km az=73.0*

*NEIC **13** 02:53:15.2±0.1, 2.°19N×133.°02E, h10km, mb5.9/82, MS5.2/142, MW5.9, MW5.9, Error ellipse: s-maj=3.7km s-min=3.0km az=88.0, Moment Tensor Solution. s59 Moment tensor: Scale 10^17^Nm; Mrr-7.36; Mθθ0.12; Mφφ7.23; Mrθ4.10; Mθφ-1.13; Mφr-2.98; Best double couple: M0 9.00000×10^17^ NP1:φs330.00000°, δ62.00000°, λ-111.00000°. NP2:φs189.00000°, δ35.00000°, λ-56.00000°. Principal axes: T 8.3100, Plg14.0000°, Azm74.0000°; N 1.1700, Plg18.0000°, Azm340.0000°; P -9.4900, Plg66.0000°, Azm200.0000°;*

NEIC Felt [II] at Manokwari, Indonesia.

*GCMT **13** 02:53:15.2±0.1, 2.°28N×133.°02E, h13km, MW5.8/131, Moment Tensor Solution. s126, c264; s131, c460; Duration: 2s0 Moment tensor: Scale 10^17^Nm; Mrr-6.32±.05; Mθθ-0.34±.04; Mφφ6.66±.05; Mrθ1.10±.12; Mθφ0.98±.04; Mφr0.82±.10; Best double couple: M0 6.70600×10^17^ NP1:φs197.00000°, δ50.00000°, λ-78.00000°. NP2:φs359.00000°, δ42.00000°, λ-104.00000°. Principal axes: T 6.8660, Plg4.0000°, Azm278.0000°; N -0.3210, Plg9.0000°, Azm9.0000°; P -6.5470, Plg80.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*ISCJB **13** 02:53:15.5±0.1, 2.°19N±0.°02×133.°03E±0.°02, h21km, mb5.6/198, MS5.1/179 Error ellipse: s-maj=3.1km s-min=2.4km az=5.6*

*DJA **13** 02:53:16.8±0.2, 2.°N±2.°×13.°3E±.°, h10km, M6.0/126, mb5.7/126, mB6.3/116, MLv6.0/15, Mw(mB)6.1/116, Mwp6.0/35*

*MOS **13** 02:53:17.9±1.2, 2.°22N×132.°97E, h37km, mb6.1/58, MS5.1/39, Error ellipse: s-maj=9.1km s-min=4.4km az=114.2*

*NEIC **13** 02:53:30.7±0.0, 2.°17N×132.°94E, h10km, Moment Tensor Solution. s135 Moment tensor: Scale 10^17^Nm; Mrr-6.37; Mθθ0.17; Mφφ6.20; Mrθ5.27; Mθφ0.69; Mφr-1.20; Best double couple: M0 7.90000×10^17^ NP1:φs210.00000°, δ48.00000°, λ-48.00000°. NP2:φs338.00000°, δ56.00000°, λ-125.00000°. Principal axes: T 6.3200, Plg4.0000°, Azm92.0000°; N 3.1000, Plg29.0000°, Azm0.0000°; P -9.4300, Plg60.0000°, Azm190.0000°;*

ISC 13 02:53:17.1±0.1, 2.°17N±0.°02×133.°03E±0.°03, h22km±2km, h21km; pP-P, n1207, σ1.°42/1246, mb5.7/197, MS5.2/182, 197C-226D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	3.49	211	P	Pn	02 54 08.1	-2.0
SWI				S	Pb	02 54 18.2	0.0
SWI	Sorong	3.49	211	P	Pn	02 54 08.1	-2.0
	baz=3.4,SNR=55						
SWI				S	Sn	02 54 47.7	-3.1
	baz=3.4,SNR=4.2						
RKPI	Ransiki, Papua	3.83	163	P	Pn	02 54 14.9	+0.2
FAKI	Fak Fak	5.11	189	P	Pn	02 54 32.6	+0.2
	556nm,2.1s,10μm63μm4.0nm						
FAKI	Fak Fak	5.11	189	P	Pn	02 54 32.4	0.0
	baz=5.1,SNR=58						
FAKI	Fak Fak	5.11	189	ePn	Pn	02 54 32.4	0.0
FAKI				ePg	Pb	02 54 51.6	+5.8
FAKI				eSn	Sn	02 55 31.7	+0.9
SRPI	Serui, Papua	5.13	141	P	Pn	02 54 36.7	+4.0
	882nm,0.7s,20μm3.8nm						
PALU	Palau	5.34	16	S	Pn	02 54 32.9	-2.7
	baz=9.6,SNR=7.0						
PALU	Palau	5.34	16	P	Pn	02 54 34.1	-1.5
	baz=5.4,SNR=32						
PALU				S	Sn	02 55 31.7	-4.8
	baz=5.4,SNR=9.1						
TNTI	Ternate	5.83	256	P	Pn	02 54 41.6	-0.7
	2μm,1.8s,45μm215μm11nm						
TNTI	Ternate	5.83	256	ePn	Pn	02 54 41.4	-0.9
LBMI	Labuha	6.19	243	P	Pn	02 54 47.5	+0.2
	2μm,1.1s,28μm103μm7.4nm						
MSAI	Masohi	6.84	217	P	Pn	02 54 57.5	+1.3
	484nm,0.6s,6μm1.6nm						
SMPI	Sarmi	7.02	126	P	Pn	02 54 56.7	-1.9
	1μm,0.7s,14μm3.8nm						
BNDI	Bandanaira	7.34	205	P	Pn	02 55 04.8	+1.7
	1μm,1.1s,20μm55μm6.8nm						
SGSI	Sangihe	7.65	282	P	Pn	02 55 06.7	-0.6
	3μm,0.5s,43μm10nm						
NLAI	Namlea	8.00	228	P	Pn	02 55 12.3	+0.2
	993nm,1.1s,9μm50μm3.8nm						
SANI	Sanana	8.19	239	P	Pn	02 55 14.6	-0.2
	505nm,1.3s,7μm83μm						
GENI	Genyem	8.56	123	P	Pn	02 55 17.7	-2.1
	446nm,1.5s,8μm102μm						
DAV	Davao City (W)	8.88	304	⇓iP	Pn	02 55 28.2	+4.0
DAV	Davao City (W)	8.88	304	P	Pn	02 55 28.5	+4.2
	SNR=13						
JAY	Jayapura	8.97	121	P	Pn	02 55 23.0	-2.5
	141nm,1.3s						
JAY	Jayapura	8.97	121	P	Pn	02 55 22.8	-2.7
	baz=9.0,SNR=6.5						
JAY				S	Sn	02 57 01.6	-4.4
	baz=9.0,SNR=4.5						
KMSI	Cibinong	9.19	260	P	Pn	02 55 29.8	+1.4
	3μm,1.0s,34μm49μm						
CTBH	Cotabato--PC H	10.09	300	⇓iP	Pn	02 55 39.0	-1.9
GTOI	Gorontalo	10.13	262	P	Pn	02 55 42.8	+1.4
	1μm,1.1s,11μm						
CGP	Cagayan de Oro	10.39	307	eP	Pn	02 55 42.0	-2.9
LUWI	Luwuk	10.74	253	P	Pn	02 55 49.5	-0.3
	2μm,1.2s,21μm48μm						
LUWI	Luwuk	10.74	253	P	Pn	02 55 49.5	-0.3
	baz=11,SNR=13						
LUWI	Luwuk	10.74	253	ePn	Pn	02 55 49.1	-0.6
MRSI	Marisa	11.22	262	P	Pn	02 55 56.1	-0.1
	613nm,1.3s,12μm						
APSI	Ampana	11.79	255	P	Pn	02 56 03.3	-0.7
	2μm,1.3s,20μm						
PLP	Palo	11.99	319	↑eP	Pn	02 56 06.8	0.0
TOLI	Toli-Toli	12.28	265	ePn	Pn	02 56 10.2	-0.6
	290nm,0.5s						
BBSI	Bau Bau	12.92	234	P	Pn	02 56 23.3	+3.7
	1μm,2.2s,28μm						
MPSI	Mapaga	13.26	262	P	Pn	02 56 24.3	+0.1
	424nm,2.6s,9μm34μm						
RCP	Roxas	13.83	313	⇓eP	Pn	02 56 32.0	+0.1
TTSI	Tana Toraja	14.19	249	P	Pn	02 56 36.3	-0.6
	598nm,1.8s,10μm30μm						
BNSI	Bone	14.47	243	P	Pn	02 56 41.8	+1.0
	422nm,1.2s,8μm24μm						
SPSI	Sidrap Palu	14.59	245	P	Pn	02 56 42.8	+0.4
	670nm,1.4s,12μm25μm						
SOEI	Soe	14.71	216	P	P	02 56 47.7	-2.5
	438nm,1.2s,11μm27μm						
SOEI	Soe	14.71	216	P	P	02 56 51.3	+1.1
	baz=15,SNR=5.3						
SOEI	Soe	14.71	216	ePn	Pn	02 56 45.3	+1.1
KDU	Kakadu	14.77	182	P	Pn	02 56 42.5	-2.2
	baz=15,SNR=29						
BKSI	Bulukumba	14.89	240	P	Pn	02 56 47.6	+1.2
	307nm,1.7s,8μm						
BSSI	Bau Bau, Buton	15.00	237	P	Pn	02 56 50.1	+2.2
	606nm,1.4s,12μm						
MTN	Manton Dam	15.03	187	P	Pn	02 56 47.3	-1.0
	baz=15,SNR=16						
MTN				S	S	02 59 54.5	+3.0
	baz=15,SNR=4.5						
KAPI	Kappang	15.06	242	P	Pn	02 56 49.1	+0.3
	SNR=112						
KAPI	Kappang	15.06	242	ePn	Pn	02 56 49.5	+0.7
MMRI	Maumere	15.20	225	P	P	02 56 54.4	-1.0
	564nm,1.7s,12μm26μm						
MMRI	Maumere	15.20	225	ePn	Pn	02 56 50.5	0.0
	713nm,1.3s						
MMRI				eS	S	02 59 56.9	+1.9
BATI	Baumata	15.43	217	P	Pn	02 56 54.5	+0.9
	256nm,1.3s,5μm						
BATI	Baumata	15.43	217	Pn	Pn	02 56 53.4	-0.2
	2.5nm,0.3s,baz=180,slow=2.4,SNR=23						
BATI				Sn	S	02 59 55.0	-4.8
	baz=164,slow=19,SNR=2.1						
BATI				LR	LR	03 03 15.0	
	comp=Z,10μm,18.2s,baz=34,slow=39						
SGKI	Sangatta, Kali	15.66	260	P	Pn	02 56 54.8	-1.8
	929nm,1.2s,12μm						
GUMO	Guam	16.30	45	eP	Pn	02 57 05.3	+0.4
GUMO				pmax	pmax		
	comp=Z,2μm,1.9s						
GUMO	Guam	16.30	45	ePn	Pn	02 57 05.3	+0.4
	comp=Z,2μm,1.9s						
BKB	Balikpapan	16.49	258	P	Pn	02 57 08.0	+0.8
	comp=Z,580nm,3.0s,comp=Z,18μm						
TGY	Tagaytay City	16.84	315	Pn	Pn	02 57 10.9	-0.8
	baz=53,slow=3.5,SNR=7.8						
KKM	Kota Kinabalu	17.21	283	P	P	02 57 17.5	-0.4
	baz=17,SNR=16						
KKM	Kota Kinabalu	17.21	283	eP	Pn	02 57 16.6	+0.2
	comp=Z,1μm,1.6s						
BASI	Baing, Sumba	17.47	225	P	Pn	02 57 19.5	0.0
	comp=Z,571nm,1.4s,comp=Z,11μm						
PMG	Port Moresby	18.17	129	c iP	P	02 57 29.3	+0.9
PMG				pmax	pmax		
	comp=Z,2μm,1.7s						
PMG	Port Moresby	18.17	129	P	P	02 57 28.4	0.0
	comp=Z,2.3nm,0.3s,baz=326,slow=12,SNR=51						
PMG				LR	LR	03 05 07.7	
	comp=Z,5μm,18.1s,baz=302,slow=39						
PMG	Port Moresby	18.17	129	P	P	02 57 30.5	+2.1
	baz=18,SNR=30						
PMG	Port Moresby	18.17	129	eP	P	02 57 30.0	+1.6
KNRA	Kununurra	18.22	193	P	Pn	02 57 26.5	-2.3
	baz=18,SNR=21						
MTKI	Muara Teweh, K	18.39	261	P	Pn	02 57 31.7	+0.7
	comp=Z,758nm,2.4s,comp=Z,16μm						
COEN	Coen	18.91	148	P	Pn	02 57 39.1	+1.9
	baz=19,SNR=52						
COEN				S	S	03 01 15.9	+5.5
	baz=19,SNR=11						
COEN	Coen	18.91	148	eP	Pn	02 57 38.8	+1.6
BBKI	Banjar Baru	19.02	253	P	Pn	02 57 40.3	+1.7
	comp=Z,2μm,2.2s,comp=Z,67μm						
SRBI	Singaraja	20.48	240	P	Pn	02 57 56.8	+0.9
	comp=Z,358nm,1.6s,comp=Z,16μmcomp=Z,30μm						
DNP	Denpasar	20.78	239	P	Pn	02 58 03.0	+3.6
	comp=Z,808nm,1.4s,comp=Z,31μm						
IGBI	Denpasar	20.90	238	P	Pn	02 58 03.0	+2.2
	comp=Z,382nm,1.7s,comp=Z,15μm						
KMMI	Kalianget	21.12	244	P	P	02 58 03.9	+3.3
	comp=Z,348nm,1.5s,comp=Z,11μm						
ABJI	Asem Bagus	21.20	242	P	P	02 58 04.0	+2.5
	comp=Z,509nm,2.9s,comp=Z,18μm						
FITZ	Fitzroy Crossi	21.42	200	S	Sn	03 02 07.9	-0.8
	baz=22,SNR=5.1						
JAGI	Jajag, Banyuwa	21.59	240	P	P	02 58 08.1	+2.5
	comp=Z,365nm,1.8s,comp=Z,11μm						
STKI	Sintang	21.65	265	P	P	02 58 09.0	+2.7
	comp=Z,435nm,3.0s,comp=Z,23μm						
BLJI	Banyuglugur	21.75	243	P	P	02 58 08.2	+0.9
	comp=Z,364nm,1.6s,comp=Z,9μm						
PBKI	Pangkalan Bun	21.90	257	P	P	02 58 11.0	+2.0
	comp=Z,693nm,1.2s,comp=Z,12μm						
WRAB	Tennant Creek	22.00	177	d iP	P	02 58 08.9	-1.1
WRAB				pmax	pmax		
	comp=Z,391nm,1.0s						
WRAB	Tennant Creek	22.00	177	eP	P	02 58 09.2	-0.8
	comp=Z,899nm,1.7s						
WRAB				LR	LR		
	comp=Z,5μm,22.0s						
WRA	Warramunga Arr	22.01	177	P	P	02 58 08.8	-1.3
	comp=Z,132nm,1.1s,baz=355,slow=10.0,SNR=127						
WRA				S	S	03 02 09.4	-2.7
	comp=Z,11nm,1.0s,baz=0.5,slow=20,SNR=3.7						
WRA				LR	LR	03 07 32.7	
	comp=Z,6μm,18.1s,baz=0.0,slow=39						
WB2	Warramunga Arr	22.01	177	eP	P	02 58 09.1	-1.0
GMJI	Gumukmas	22.12	242	P	P	02 58 13.5	+2.2
	comp=Z,321nm,1.3s,comp=Z,9μm						
GRJI	Gresik	22.41	246	P	P	02 58 18.5	+4.0
	comp=Z,237nm,1.2s,comp=Z,3μm						
KSM	Kuching	22.72	269	P	P	02 58 20.1	+2.2
	baz=23,SNR=36						
KSM	Kuching	22.72	269	⇓P	P	02 58 20.8	+2.9
KSM	Kuching	22.72	269	eP	P	02 58 19.1	+1.3
	comp=Z,422nm,1.2s						
KSM				LR	LR		
	comp=Z,9μm,21.0s						
TBJI	Tambak Boyo	22.95	247	P	P	02 58 22.4	+2.2
	comp=Z,2μm,1.7s,comp=Z,45μm						
PWJI	Pagerwojo	23.47	244	P	P	02 58 25.2	-0.2
	comp=Z,269nm,1.4s,comp=Z,7μm						
QIS	Mount Isa	23.48	164	P	P	02 58 25.0	-0.5
	baz=24,SNR=70						
QIS				S	S	03 02 41.3	+3.2
	baz=24,SNR=6.7						
TWG	Pinlang	23.59	331	eP	P	02 58 25.7	-0.8
	comp=Z,581nm,1.5s						
UWJI	Ujung Watu	23.64	249	P	P	02 58 30.0	+2.9
	comp=Z,1μm,1.8s,comp=Z,30μm						
YULB	Yu-li	23.97	333	eP	P	02 58 28.4	-1.7
	comp=Z,210nm,1.4s						
WOJI	Wonogiri, Jawa	24.19	246	P	P	02 58 34.6	+2.3
	comp=Z,595nm,1.8s,comp=Z,16μm						
YOJ	Yonaguni jima	24.19	337	eP	P	02 58 33.8	+1.7
YOJ				pmax	pmax		
	comp=Z,30nm,1.0s						
YOJ	Yonaguni jima	24.19	337	eP	P	02 58 33.8	+1.7
	comp=Z,30nm,1.0s						
TPUB	Ta-pu	24.21	331	eP	P	02 58 31.7	-0.7
	comp=Z,254nm,1.2s						
SSLB	Suanglung	24.47	332	eP	P	02 58 33.9	-0.8
	comp=Z,212nm,1.0s						
NACB	Ninganchiao	24.52	334	eP	P	02 58 34.2	-1.0
	comp=Z,2μm,2.1s						
JOW	Kunigami	24.95	350	P	P	02 58 37.7	-1.3
	comp=Z,3.0nm,0.9s,baz=166,slow=7.5,SNR=14						
JOW				LR	LR	03 07 28.8	
	comp=Z,536nm,20.1s,slow=34						
JOW	Kunigami	24.95	350	eP	P	02 58 40.4	+1.3
	comp=Z,92nm,1.4s						
YHNB	Yeheng	25.05	334	eP	P	02 58 40.0	-0.1
	comp=Z,205nm,1.0s						
YHNB				LR	LR		
	comp=Z,6μm,20.0s						
TATO	Taipei	25.27	335	eP	P	02 58 41.4	-0.5
	comp=Z,136nm,1.0s						
TATO				LR	LR		
	comp=Z,4μm,20.0s						
PATS	Pohnpei	25.62	79	P	P	02 58 54.0	+8.8
	baz=26,SNR=3.3						
CTA	Charters Tower	25.64	150	P	P	02 58 46.2	+0.7
	comp=Z,40nm,0.6s,baz=327,slow=10,SNR=46						
CTAO	Charters Tower	25.64	150	eP	P	02 58 46.1	+0.7
CTAO				pmax	pmax		
	comp=Z,785nm,2.0s						
CTAO				MLR	MLR		
	comp=Z,5μm,20.0s						
CTAO	Charters Tower	25.64	150	eP	P	02 58 46.1	+0.7
	comp=Z,785nm,2.0s						
CTAO				LR	LR		
	comp=Z,5μm,20.0s						
AS31	Alice Springs	25.69	178	eP	P	02 58 45.4	-0.4
ASAR	Alice Springs	25.69	178	P	P	02 58 45.1	-0.7
	comp=Z,61nm,0.9s,baz=7.0,slow=9.7,SNR=161						
ASAR				PcP	PcP	03 02 16.4	+0.3
	comp=Z,7.2nm,1.0s,baz=343,slow=1.4,SNR=5.8						
ASAR				LR	LR	03 09 49.4	
	comp=Z,6μm,18.2s,baz=8.5,slow=39						
KPJI	Karang Pucung	25.84	248	P	P	02 58 48.2	+1.0
	comp=Z,213nm,1.9s,comp=Z,7μm						
TPI	Tanjungpandan	25.84	259	P	P	02 58 48.7	+1.4
	comp=Z,204nm,2.3s,comp=Z,9μm						
JCJ	Chichijima	26.30	19	LR	LR	03 08 51.7	
	comp=Z,3μm,18.8s,baz=186,slow=36						
CMJI	Cimerak	26.44	248	P	P	02 58 55.4	+2.7
	comp=Z,284nm,1.5s,comp=Z,6μm						
MBWA	Marble Bar	26.59	209	eP	P	02 58 54.1	+0.1
	comp=Z,141nm,1.4s						
MBWA				LR	LR		
	comp=Z,6μm,19.0s						
QZH	Quanzhou	26.59	330	⇓iP	P	02 58 54.9	+1.0
QZH				PMZ			
	comp=Z,240nm,1.0s						
QZH				PMZ			
	comp=Z,7μm,8.0s						
QZH				LN			
	comp=Z,5μm,11.4s						
QZH				LE			
	comp=Z,3μm,9.1s						
QZH				LZ			
	comp=Z,4μm,13.5s						
LEM	Lembang	26.89	250	P	P	02 58 58.3	+1.3
	comp=Z,347nm,2.7s,comp=Z,12μm						
CISI	Cisompet, Garu	26.95	249	P	P	02 58 59.9	+2.5
	comp=Z,400nm,1.0s,comp=Z,7μmcomp=Z,14μm						
CISI	Cisompet, Garu	26.95	249	eP	P	02 58 54.8	-2.6
	comp=Z,550nm,1.8s						
HKC	Hong Kong Obse	27.14	319	P	P	02 59 00.0	+1.1
WRKA	Warakurna	27.43	189	P	P	02 59 01.5	0.0
	baz=28,SNR=19						
CNJI	Cibinong	27.51	250	P	P	02 59 02.0	-0.3
	comp=Z,182nm,1.6s,comp=Z,3μm						
QIZ	Qiongzhong	28.22	308	P	P	02 59 08.0	-0.7
QIZ				S	S	03 03 54.9	+1.4
QIZ				PMZ			
	comp=Z,100nm,1.4s						
QIZ				LN			
	comp=Z,6μm,24.2s						
QIZ				LZ			
	comp=Z,4μm,19.3s			

MNAI	**Manna**	**30.75 258**	P	P	02 59 35.0 +3.8
	comp=Z,210nm,1.5s,comp=Z,4μm				
MNAI	**Manna**	**30.75 258**	*e*P	**P**	**02 59 30.8 -0.3**
	comp=Z,463nm,1.5s				
JNU	**Nakatsue**	**30.86 356**	P	**P**	**02 59 31.6 -0.3**
	comp=Z,113nm,1.0s,baz=167,slow=6.3,SNR=29				
JNU			LR	LR	03 11 20.0
	comp=Z,2μm,20.6s,baz=177,slow=35				
JNU	**Nakatsue**	**30.86 356**	*e*P	**P**	**02 59 31.7 -0.2**
	comp=Z,74nm,1.1s				
SSE	**Sheshan**	**30.88 340**	P	**P**	**02 59 33.0 +1.0**
SSE			sP	**sP**	**02 59 37.9 -3.4**
SSE			S	**S**	**03 04 37.5 +2.5**
SSE			PcS	**PcS**	**03 06 13.2 +0.5**
SSE			PMZ		
	comp=Z,160nm,1.1s				
SSE			PMZ		
	comp=Z,1μm,6.6s				
SSE			LN		
	comp=Z,2μm,16.1s				
SSE			LE		
	comp=Z,4μm,16.1s				
SSE			LZ		
	comp=Z,3μm,19.3s				
FRIM	**Kepong**	**31.39 273**	⇑P	**P**	**02 59 38.8 +1.9**
IPM	**Ipoh**	**32.03 275**	*e*P	**P**	**02 59 42.7 +0.2**
	comp=Z,285nm,1.7s				
IPM			*e*PcP	**PcP**	**03 02 32.8 +0.6**
BKNI	**Bangkinang**	**32.04 267**	P	**P**	**02 59 44.5 +2.0**
	comp=Z,220nm,1.5s,comp=Z,8μm		comp=Z,10μm		
BKNI	**Bangkinang**	**32.04 267**	*e*P	**P**	**02 59 43.5 +0.9**
	comp=Z,595nm,1.5s				
RMQ	**Roma**	**32.28 153**	P	**P**	**02 59 46.8 +2.3**
	baz=32,SNR=10.0				
KULM	**Kulim**	**32.46 276**	*e*P	**P**	**02 59 46.5 +0.3**
	comp=Z,134nm,1.4s				
KULM			LR	LR	
	comp=Z,3μm,21.0s				
EIDS	**Eidsvold**	**32.48 149**	P	**P**	**02 59 47.8 +1.6**
	baz=33,SNR=4.9				
NJ2	**Nanjing**	**32.59 337**	*e*P	**P**	**02 59 47.2 +0.1**
NJ2			PP	**PnPn**	**03 00 57.5 +2.4**
NJ2			S	**S**	**03 05 03.5 +1.8**
NJ2			PMZ		
	comp=Z,450nm,0.8s				
NJ2			PMZ		
	comp=Z,3μm,8.4s				
NJ2			LN		
	comp=Z,5μm,14.5s				
NJ2			LE		
	comp=Z,7μm,16.1s				
NJ2			LZ		
	comp=Z,10μm,16.3s				
PDSI	**Padang**	**32.71 265**	P	**P**	**02 59 48.8 +0.4**
	comp=Z,66nm,1.7s,comp=Z,3μm				
FORT	**Forrest**	**33.10 188**	P	**P**	**02 59 51.9 +0.3**
	baz=33,SNR=24				
FORT	**Forrest**	**33.10 188**	*e*P	**P**	**02 59 51.4 -0.2**
	comp=Z,348nm,1.3s				
FORT			*e*PcP	**PcP**	**03 02 34.5 -0.2**
WHN	**Wuhan**	**33.31 330**	⇓P	**P**	**02 59 55.4 +1.9**
WHN			S	**S**	**03 05 14.0 +1.0**
WHN			PMZ		
	comp=Z,760nm,1.9s				
WHN			LN		
	comp=Z,4μm,9.2s				
WHN			LE		
	comp=Z,6μm,13.8s				
WHN			LZ		
	comp=Z,6μm,12.5s				
MNSI	**Mandailing Nat**	**33.47 268**	P	**P**	**02 59 56.4 +1.3**
	comp=Z,166nm,1.6s,comp=Z,3μm				
PSI	**Prapat**	**34.08 272**	P	**P**	**03 00 00.7 +0.1**
	baz=34,SNR=43				
PSI			S	**S**	**03 05 28.1 +2.5**
	baz=34,SNR=5.9				
TJN	**Taejon**	**34.45 352**	*i* P	**P**	**03 00 03.6 +0.4**
MJAR	**Matsushiro Arr**	**34.54 7**	P	**P**	**03 00 02.5 -1.5**
	comp=Z,26nm,1.1s,baz=184,slow=8.2,SNR=20				
MJAR			PcP	**PcP**	**03 02 39.4 +0.7**
	comp=Z,12nm,1.2s,baz=189,slow=4.1,SNR=5.1				
MJAR			LR	LR	03 12 33.8
	comp=Z,2μm,19.7s,baz=180,slow=34				
MAJO	**Matsushiro**	**34.54 7**	*c i*P	**P**	**03 00 03.2 -0.9**
MAJO			pmax	pmax	
	comp=Z,759nm,2.5s				
MAJO	**Matsushiro**	**34.54 7**	*e*P	**P**	**03 00 02.6 -1.5**
	comp=Z,226nm,1.8s				
MAJO			LR	LR	
	comp=Z,2μm,19.0s				
MAT	**Matsushiro**	**34.54 7**	P	**P**	**03 00 02.2 -1.9**
MAT			S	S	03 05 25.8 -6.1
PBKT	**Sadao Pong**	**34.64 296**	P	**P**	**03 00 07.2 +2.1**
	comp=Z,79nm,2.7s,comp=Z,4μm				
SURT	**Suratani**	**34.72 283**	P	**P**	**03 00 07.0 +1.1**
	comp=Z,35nm,0.9s				
STKA	**Stephens Creek**	**34.82 167**	P	**P**	**03 00 06.0 -0.4**
	comp=Z,85nm,1.0s,baz=345,slow=8.2,SNR=63				
STKA	**Stephens Creek**	**34.82 167**	P	**P**	**03 00 06.3 -0.1**
	baz=35,SNR=18				
GYA	**Guiyang**	**34.99 316**	⇑*i*P	**P**	**03 00 09.1 +0.8**
GYA			PcP	**PcP**	**03 02 41.6 +1.2**
GYA			S	**S**	**03 05 41.8 +2.5**
GYA			ScP	**ScP**	**03 06 25.6 +0.6**
GYA			ScS	**ScS**	**03 10 28.4 -0.5**
GYA			PMZ		
	comp=Z,50nm,1.0s				
GYA			PMZ		
	comp=Z,240nm,5.2s				
GYA			LN		
	comp=Z,16μm,16.0s				
GYA			LE		
	comp=Z,13μm,17.6s				
GYA			LZ		
	comp=Z,19μm,16.5s				
KMBL	**Kambalda**	**34.99 197**	P	**P**	**03 00 07.8 -0.2**
	baz=35,SNR=7.2				
PKDT	**Phuket**	**35.01 281**	P	**P**	**03 00 09.9 +1.5**
	comp=Z,124nm,1.5s,comp=Z,7μm				
MORW	**Morawa**	**35.07 206**	P	**P**	**03 00 08.6 -0.1**
	baz=35,SNR=7.2				
KCSI	**Kotacane, Aceh**	**35.24 273**	P	**P**	**03 00 09.9 -0.6**
	comp=Z,220nm,1.6s,comp=Z,5μm				
KSAR	**Wonju Array Be**	**35.42 353**	P	**P**	**03 00 11.8 +0.2**
KSAR					03 02 41.9
KSAR	**Wonju Array Be**	**35.42 353**	P	**P**	**03 00 11.8 +0.2**
KSAR			PcP	**PcP**	**03 02 41.9 +0.6**
KSRS	**Korea Array**	**35.43 353**	P	**P**	**03 00 11.8 +0.1**
	comp=Z,9.4nm,1.0s,baz=167,slow=9.0,SNR=13				
KSRS			PcP	**PcP**	**03 02 41.9 +0.6**
	comp=Z,6.0nm,0.9s,baz=182,slow=3.2,SNR=6.5				
KSRS			LR	LR	03 15 31.0
	comp=Z,2μm,18.8s,baz=177,slow=38				
UTTA	**Uttaradit**	**35.44 298**	P	**P**	**03 00 12.8 +0.8**
	comp=Z,20nm,1.0s,comp=Z,193nm				
GSI	**Gunungsitoli**	**35.45 269**	P	**P**	**03 00 11.3 -0.9**
	comp=Z,432nm,1.6s,comp=Z,7μm				
GSI	**Gunungsitoli**	**35.45 269**	*e*P	**P**	**03 00 11.0 -1.3**
	comp=Z,381nm,1.1s				
GSI			*e*PcP	**PcP**	**03 02 42.4 +0.6**
SRDT	**SRDT**	**35.61 292**	P	**P**	**03 00 15.3 +1.8**
	comp=Z,307nm,2.1s,comp=Z,9μm				
CMSA	**Cobar Meteorol**	**35.61 161**	P	**P**	**03 00 14.1 +0.8**
	baz=36,SNR=82				
INCN	**Inchon**	**35.64 351**	PFAKE		03 00 30.0 +16
INCN			LR	LR	
	comp=Z,2μm,19.0s				
NANT	**Nan**	**35.72 300**	P	**P**	**03 00 15.7 +1.2**
	comp=Z,142nm,1.3s,comp=Z,11μm				
ENH	**Enshi**	**35.77 324**	*e*P	**P**	**03 00 15.3 +0.5**
	comp=Z,28nm,1.1s				
ENH			LR	LR	
	comp=Z,1μm,21.0s				
TPTI		**35.83 273**	P	**P**	**03 00 15.0 -0.5**
	comp=Z,48nm,1.6s,comp=Z,14μm				
HTT	**Hallett**	**35.84 172**	P	**P**	**03 00 16.1 +0.8**
	baz=36,SNR=4.8				
BLDU	**Ballidu**	**36.12 204**	P	**P**	**03 00 17.7 0.0**
	baz=36,SNR=17				
LHMI	**Lhok Sumawe**	**36.13 276**	P	**P**	**03 00 17.4 -0.7**
	comp=Z,363nm,1.5s,comp=Z,8μm				
LHMI	**Lhok Sumawe**	**36.13 276**	*e*P	**P**	**03 00 19.1 +1.0**
	comp=Z,719nm,1.4s				
SUKH	**Sukhothai**	**36.16 297**	P	**P**	**03 00 19.3 +1.1**
	comp=Z,11nm,1.0s,comp=Z,117nm				
KHLT	**Khaolaem Dam**	**36.23 292**	P	**P**	**03 00 20.4 +1.5**
	comp=Z,69nm,1.1s,comp=Z,2μm				
UMPA	**Umpang Tak**	**36.42 295**	P	**P**	**03 00 23.4 +2.9**
	comp=Z,38nm,0.5s,comp=Z,4μm				
LAMP	**Lampang**	**36.54 299**	P	**P**	**03 00 22.6 +1.1**
	comp=Z,21nm,1.0s,comp=Z,203nm				
KLBR	**Kellerberrin**	**36.58 202**	P	**P**	**03 00 21.4 -0.2**
	baz=37,SNR=8.9				
CRAI	**Chiangrai**	**36.59 302**	P	**P**	**03 00 21.5 -0.4**
	comp=Z,42nm,1.1s,comp=Z,13μm				
SNSI	**Sinabang, Aceh**	**36.68 271**	P	**P**	**03 00 23.2 +0.5**
	comp=Z,267nm,1.4s,comp=Z,7μm				
H11S3	**WAKE ISLAND Hy**	**36.75 62**	T	T	03 39 22.7
	baz=247,slow=75,SNR=169				
H11S2	**WAKE ISLAND Hy**	**36.77 62**	T	T	03 39 24.4
	baz=247,slow=75,SNR=27				
H11S1	**WAKE ISLAND Hy**	**36.77 61**	T	T	03 39 23.4
	baz=247,slow=75,SNR=22				
TIA	**Tai'an**	**36.94 338**	⇑P	**P**	**03 00 25.2 +0.5**
TIA			PP	**PnPn**	**03 01 49.6 +0.3**
TIA			S	**S**	**03 06 11.9 +3.2**
TIA			SS	**SnSn**	**03 08 45.2 +3.0**
TIA			PMZ		
	comp=Z,220nm,1.1s				
TIA			LN		
	comp=Z,3μm,20.0s				
TIA			LE		
	comp=Z,1μm,15.0s				
TIA			LZ		
	comp=Z,3μm,18.0s				
ARMA	**Armidale**	**36.94 153**	P	**P**	**03 00 26.8 +1.9**
	baz=37,SNR=11				
ARMA	**Armidale**	**36.94 153**	*e*P	**P**	**03 00 26.5 +1.6**
	comp=Z,390nm,1.6s				
WAKE	**Wake Island**	**37.03 60**	PFAKE		03 00 40.0 +14
WAKE			LR	LR	
	comp=Z,3μm,19.0s				
KMI	**Kunming**	**37.06 311**	P	**P**	**03 00 27.7 +1.6**
KMI			pP	**pP**	**03 00 32.0 -0.7**
KMI			sP	**sP**	**03 00 34.9 -0.5**
KMI			PcP	**PcP**	**03 02 48.6 +1.9**
KMI			S	**S**	**03 06 07.3 -4.0**
KMI			PMZ		
	comp=Z,120nm,1.4s				
KMI			PMZ		
	comp=Z,1μm,6.8s				
KMI			LN		
	comp=Z,2μm,13.7s				
KMI			LE		
	comp=Z,2μm,14.0s				
KMI			LZ		
	comp=Z,4μm,19.0s				
CMAR	**Chiang Mai Arr**	**37.12 298**	P	**P**	**03 00 27.1 +0.7**
	comp=Z,18nm,0.9s,baz=120,slow=7.2,SNR=80				
CMAR			PcP	**PcP**	**03 02 48.5 +1.7**
	comp=Z,27nm,1.1s,baz=146,slow=1.2,SNR=22				
CMMT	**Chiang Mai**	**37.25 299**	P	**P**	**03 00 28.1 +0.5**
	comp=Z,188nm,1.5s,comp=Z,3μm				
CHTO	**Chiang Mai**	**37.26 299**	*e*P	**P**	**03 00 27.1 -0.5**
CHTO			*e*		03 02 47.8
CHTO			pmax	pmax	
	comp=Z,85nm,1.4s				
CHTO			MLR	MLR	
	comp=Z,2μm,21.0s				
CHTO	**Chiang Mai**	**37.26 299**	P	**P**	**03 00 28.8 +1.2**
	SNR=34				
CHTO	**Chiang Mai**	**37.26 299**	P	**P**	**03 00 28.2 +0.6**
	comp=Z,276nm,1.8s,comp=Z,11μm				
CHTO	**Chiang Mai**	**37.26 299**	*e*P	**P**	**03 00 27.1 -0.5**
	comp=Z,85nm,1.4s				
CHTO			*e*PcP	**PcP**	**03 02 47.8 +0.6**
CHTO			LR	LR	
	comp=Z,2μm,21.0s				
H11N1	**WAKE ISLAND Hy**	**37.40 60**	T	T	03 40 13.1
	baz=246,slow=75,SNR=966				
H11N2	**WAKE ISLAND Hy**	**37.41 60**	T	T	03 40 14.1
	baz=246,slow=75,SNR=871				
H11N3	**WAKE ISLAND Hy**	**37.42 60**	T	T	03 40 12.9
	baz=246,slow=75,SNR=1114				
MHMT	**Maesarieng**	**37.92 297**	P	**P**	**03 00 34.4 +1.2**
	comp=Z,57nm,1.6s,comp=Z,1μm				
NWAO	**Narrogin (SRO)**	**37.97 202**	P	**P**	**03 00 33.4 0.0**
	comp=Z,6.3nm,0.6s,baz=50,slow=9.0,SNR=5.7				
NWAO			PcP	**PcP**	**03 02 48.5 -0.6**
	comp=Z,32nm,1.0s,baz=45,slow=5.4,SNR=6.0				
DL2	**Dalian**	**38.02 345**	P	**P**	**03 00 34.0 +0.2**
DL2			S	**S**	**03 06 28.7 +3.7**
DL2			PMZ		
	comp=Z,150nm,1.3s				
DL2			PMZ		
	comp=Z,1μm,6.6s				
DL2			LN		
	comp=Z,1μm,19.4s				
DL2			LE		
	comp=Z,3μm,17.3s				
DL2			LZ		
	comp=Z,2μm,14.9s				
COCO	**West Island**	**38.69 247**	PFAKE		03 00 50.0 +10
COCO			LR	LR	
	comp=Z,2μm,20.0s				
XAN	**Xi'an**	**38.89 327**	P	**P**	**03 00 41.3 0.0**
XAN			sP	**sP**	**03 00 46.6 -4.0**
XAN			PP	**PnPn**	**03 02 16.3 +3.3**
XAN			PcP	**PcP**	**03 02 53.0 +1.0**
XAN			S	**S**	**03 06 36.7 -1.8**
XAN			ScS	**ScS**	**03 10 47.1 -3.2**
XAN			PMZ		
	comp=Z,28nm,1.4s				
XAN			LN		
	comp=Z,1μm,18.3s				
XAN			LE		
	comp=Z,280nm,17.5s				
XAN			LZ		
	comp=Z,610nm,17.1s				
YNG	**Young**	**39.04 160**	P	**P**	**03 00 43.9 +1.5**
	baz=39,SNR=29				
ARPS	**Mount Arapiles**	**39.59 169**	P	**P**	**03 00 48.0 +1.0**
	baz=40,SNR=46				
CD2	**Chengdu**	**39.79 319**	⇓*i*P	**P**	**03 00 49.7 +0.9**
CD2			PP	**PnPn**	**03 02 23.0 -0.7**
CD2			PcP	**PcP**	**03 02 52.4 -2.5**
CD2			S	**S**	**03 06 49.1 -3.0**
CD2			ScS	**ScS**	**03 10 56.5 +0.8**
CD2			PMZ		
	comp=Z,260nm,1.1s				
CD2			PMZ		
	comp=Z,2μm,10.7s				
CD2			LN		
	comp=Z,2μm,16.7s				
CD2			LE		
	comp=Z,4μm,10.7s				
CD2			LZ		
	comp=Z,2μm,13.1s				
TIY	**Taiyuan**	**40.12 334**	*e*P	**P**	**03 00 51.6 +0.1**
TIY			PP	**PnPn**	**03 02 28.5 +1.0**
TIY			S	**S**	**03 06 53.4 -3.4**
TIY			SS	**SS**	**03 09 53.1 -1.8**
TIY			PMZ		
	comp=Z,140nm,1.3s				
TIY			PMZ		
	comp=Z,2μm,7.6s				
TIY			LN		
	comp=Z,840nm,8.7s				
TIY			LE		
	comp=Z,1μm,10.2s				
TIY			LZ		
	comp=Z,1μm,21.4s				
CAN	**Canberra**	**40.18 160**	*e*P	**P**	**03 00 51.8 -0.1**
CAN			*e*		03 02 26.0
CAN			pmax	pmax	
	comp=Z,468nm,1.6s				
CAN			MLR	MLR	
	comp=Z,2μm,20.0s				
CAN	**Canberra**	**40.18 160**	*e*P	**P**	**03 00 51.8 -0.1**
	comp=Z,468nm,1.6s				
CAN			*e*PP	**PP**	**03 02 25.9 +1.3**
CAN			LR	LR	
	comp=Z,2μm,20.0s				
CNB	**Canberra Magne**	**40.30 159**	P	**P**	**03 00 54.8 +1.9**
	baz=40,SNR=16				
DZM	**Mont Dzumac**	**40.56 128**	P	**P**	**03 00 54.9 -0.4**
	comp=Z,29nm,1.0s,baz=254,slow=11,SNR=6.6				
BJT	**Baijiatuau**	**40.67 340**	*e*P	**P**	**03 00 56.5 +0.6**
BJT			pmax	pmax	
	comp=Z,472nm,1.0s				
BJT			MLR	MLR	
	comp=Z,3μm,19.0s				
BJT	**Baijiatuau**	**40.67 340**	*e*P	**P**	**03 00 56.5 +0.6**
	comp=Z,472nm,1.0s				
BJT			LR	LR	
	comp=Z,3μm,19.0s				
BJI	**Beijing**	**40.69 340**	P	**P**	**03 00 56.8 +0.8**
BJI			PP	**PP**	**03 02 29.9 -0.1**
BJI			S	**S**	**03 07 09.6 +4.5**
BJI			SS	**SS**	**03 10 07.6 +1.6**
BJI			PMZ		
	comp=Z,490nm,1.1s				
BJI			PMZ		
	comp=Z,2μm,6.1s				
BJI			LN		
	comp=Z,4μm,17.6s				
BJI			LE		
	comp=Z,2μm,16.0s				
BJI			LZ		
	comp=Z,2μm,23.5s				
ERM	**Erimo**	**40.70 12**	PFAKE		03 01 10.0 +14
ERM			LR	LR	
	comp=Z,2μm,19.0s				
VLA	**Vladivostok**	**40.79 359**	⇓*i*P	**P**	**03 00 58.1 +1.3**
VLA			*e*		03 02 31.8
VLA			*e*		03 02 58.1
VLA			*e*S	**S**	**03 07 07.1 +0.6**
VLA			pmax	pmax	
	comp=Z,102nm,1.1s				
DGPR	**DIGLIPUR**	**41.15 288**	*e*P	**P**	**03 00 59.0 -1.2**
TOO	**Toolangi**	**41.19 165**	P	**P**	**03 01 02.0 +1.8**
	baz=41,SNR=18				
MILA	**Mila**	**41.80 161**	P	**P**	**03 01 07.8 +2.5**
	baz=42,SNR=8.5				
USRK	**Ussuriysk Ar.**	**41.87 359**	P	**P**	**03 01 05.8 +0.2**
	comp=Z,41nm,0.9s,baz=178,slow=7.5,SNR=44				
USRK			LR	LR	03 17 25.1
	comp=Z,1μm,20.2s,baz=176,slow=35				
CN2	**Changchun**	**42.00 352**	*e*P	**P**	**03 01 05.7 -1.1**
CN2			*e*pP	**pP**	**03 01 12.1 -1.3**
CN2			*e*S	**S**	**03 07 24.0 -0.5**
CN2			PMZ		
	comp=Z,30nm,1.2s				
CN2			LN		
	comp=Z,2μm,18.0s				
CN2			LE		
	comp=Z,2μm,18.0s				
CN2			LZ		
	comp=Z,2μm,20.0s				
MDJ	**Mudanjiang**	**42.38 356**	P	**P**	**03 01 10.4 +0.5**
MDJ			pP	**pP**	**03 01 13.5 -3.0**
MDJ			sP	**sP**	**03 01 14.8 -4.4**
MDJ			PP	**PP**	**03 02 48.1 -0.2**
MDJ			PcP	**PcP**	**03 03 04.6 +1.7**
MDJ			PcS	**PcS**	**03 06 56.1 +1.4**
MDJ			S	**S**	**03 07 30.9 +0.8**
MDJ			SS	**SS**	**03 10 39.7 +0.2**
MDJ			ScS	**ScS**	**03 11 11.9 +1.3**
MDJ			PMZ		
	comp=Z,83nm,1.3s				
MDJ			PMZ		
	comp=Z,890nm,4.9s				
MDJ			LN		
	comp=Z,1μm,12.8s				
MDJ			LE		
	comp=Z,1μm,14.7s				
MDJ			LZ		
	comp=Z,2μm,17.6s				
MDJ	**Mudanjiang**	**42.38 356**	*e*P	**P**	**03 01 10.3 +0.5**
	comp=Z,121nm,1.3s				
MDJ			LR	LR	
	comp=Z,2μm,19.0s				
ASAJ	**Asahikawa**	**42.63 10**	P	**P**	**03 01 12.4 +0.6**
	comp=Z,34nm,1.0s,baz=211,slow=16,SNR=5.2				
HHC	**Hu-ho-hao-te**	**43.12 336**	⇓P	**P**	**03 01 17.5 +1.5**
HHC			sP	**sP**	**03 01 25.1 -0.3**
HHC			PP	**PP**	**03 03 00.9 +4.5**
HHC			PcP	**PcP**	**03 03 07.8 +2.1**
HHC			ScP	**ScP**	**03 06 56.8 +1.0**
HHC			S	**S**	**03 07 43.4 +2.1**
HHC			PMZ		
	comp=Z,240nm,0.9s				
HHC			PMZ		
	comp=Z,3μm,5.4s				
HHC			LN		
	comp=Z,4μm,14.9s				
HHC			LE		
	comp=Z,3μm,13.3s				
HHC			LZ		
	comp=Z,4μm,14.6s				
YUK	**Yuzh-Kuril'sk**	**43.22 14**	*c i*P	P	03 01 13.4 -3.2
YUK			*i*		03 02 56.8
YUK			*i*		03 03 06.9
YUK			*i* PPP	PPP	03 03 33.0
YUK			*i* S	**S**	**03 07 38.2 -4.1**
YUK			*i*		03 11 18.6
YUK			MLR	MLR	
	comp=N,1μm,17.0s				
YUK			MLR	MLR	
	comp=E,358nm,17.0s				
YUK			MLR	MLR	
	comp=Z,511nm,17.0s				
LZH	**Lanzhou**	**43.23 325**	P	**P**	**03 01 18.4 +1.3**
LZH			pP	**pP**	**03 01 23.3 -0.4**
LZH			sP	**sP**	**03 01 26.9 +0.5**
LZH			PP	**PP**	**03 03 00.2 +2.5**
LZH			*e*S	**S**	**03 07 46.1 +3.0**
LZH			sS	**sS**	**03 07 58.3 +4.2**
LZH			PMZ		
	comp=Z,330nm,1.3s				
LZH			PMZ		
	comp=Z,2μm,4.0s				
LZH			LN		
	comp=Z,1μm,10.0s				
LZH			LE		
	comp=Z,2μm,10.7s				
LZH			LZ		
	comp=Z,3μm,16.8s				
BTO	**Baotou**	**43.56 334**	*e*P	**P**	**03 01 20.1 +0.5**
YSS	**Yuzh-Sakhalins**	**45.41 9**	*d i*P	**P**	**03 01 34.0 -0.1**
YSS			*e*S	**S**	**03 08 16.0 +1.9**
YSS			pmax	pmax	
	comp=Z,140nm,1.2s				
YSS			pmax	pmax	
	comp=Z,2μm,5.0s				
YSS	**Yuzh-Sakhalins**	**45.41 9**	*e*P	**P**	**03 01 34.0 -0.1**
	comp=Z,423nm,2.1s				
YSS			LR	LR	
	comp=Z,618nm,19.0s				
SHL	**Shillong**	**45.91 304**	⇓*i*P	**P**	**03 01 37.5 -1.2**
SHL			*e*PCP	**PcP**	**03 03 15.5 -0.2**
SHL			*ex*	x	03 07 08.5
HABR	**Khabarovsk**	**46.16 2**	*de*P	**P**	**03 01 38.3 -1.7**
HABR			*e**PP	**pP**	**03 01 47.8 +1.0**
HABR			*e**SP	**sP**	**03 01 52.1 +2.7**
HABR			*e*		03 03 13.7
HABR					03 03 28.8
HABR			*e*S	**S**	**03 08 23.5 -1.5**
HABR			*e**SS	**sS**	**03 08 39.6 +3.6**
HABR			*e*		03 11 30.8
HABR			pmax	pmax	
	comp=Z,212nm,1.2s				
HABR			pmax	pmax	
	comp=N,75nm,1.0s				
HABR			pmax	pmax	
	comp=E,155nm,2.9s				
HABR			pmax	pmax	
	comp=Z,657nm,2.1s				
HABR			MLR	MLR	
	comp=Z,825nm,17.0s				
MOO	**Moorlands**	**46.21 165**	P	**P**	**03 01 42.4 +1.8**
	baz=46,SNR=4.7				
TAU	**Tasmania Unive**	**46.68 166**	*e*P	**P**	**03 01 45.6 +1.4**
TAU			pmax	pmax	
	comp=Z,164nm,1.6s				
TAU			MLR	MLR	
	comp=Z,3μm,22.0s				
TAU	**Tasmania Unive**	**46.68 166**	*e*P	**P**	**03 01 45.6 +1.4**
	comp=Z,164nm,1.6s				
TAU			LR	LR	
	comp=Z,3μm,22.0s				
KLR	**Kul'dur**	**46.90 359**	*e*P	**P**	**03 01 43.5 -2.3**
KLR			*e*S	S	03 08 28.0 -7.6
KLR			pmax	pmax	
	comp=N,1μm,11.0s				
KLR			pmax	pmax	
	comp=Z,4μm,11.0s				
KLR			MLR	MLR	

comp=N,1μm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s
GTA Gaotai 47.83 325 ⇓P **P 03 01 53.7 +0.3**
GTA pP **pP 03 01 57.8 -2.4**
GTA sP **sP 03 02 00.5 -2.3**
GTA PcP **PcP 03 03 23.9 +1.8**
GTA PP **PP 03 03 47.1 +1.7**
GTA S **S 03 08 53.6 +4.3**
GTA sS **sS 03 09 00.7 +0.3**
GTA SS **SS 03 12 18.8 +0.7**
GTA PMZ
comp=Z,170nm,1.2s
GTA PMZ
comp=Z,1μm,6.5s
GTA LN
comp=Z,1μm,18.5s
GTA LE
comp=Z,2μm,16.1s
GTA LZ
comp=Z,2μm,18.1s
LSA Lhasa 48.26 309 *e*P **P 03 01 57.8 +0.5**
LSA pmax pmax
comp=Z,236nm,1.5s
LSA MLR MLR
comp=Z,1μm,20.0s
LSA Lhasa 48.26 309 *e*P **P 03 01 57.8 +0.5**
comp=Z,236nm,1.5s
LSA LR LR
comp=Z,1μm,20.0s
HIA Hailar 48.29 348 *e*P **P 03 01 57.2 +0.5**
HIA pmax pmax
comp=Z,119nm,1.4s
HIA MLR MLR
comp=Z,2μm,19.0s
HIA Hailar 48.29 348 *e*P **P 03 01 57.2 +0.5**
comp=Z,119nm,1.4s
HIA LR LR
comp=Z,2μm,19.0s
MSVF Nonsavu 48.55 116 *e*P **P 03 02 02.0 +2.7**
MSVF pmax pmax
comp=Z,192nm,1.4s
MSVF MLR MLR
comp=Z,3μm,22.0s
MSVF Nonsavu 48.55 116 *e*P **P 03 02 02.0 +2.7**
comp=Z,192nm,1.4s
MSVF LR LR
comp=Z,3μm,22.0s
TAPN Taplejung 50.05 304 *e*P **P 03 02 10.8 -0.1**
comp=Z,767nm,1.2s
ODAN Odare 50.14 304 *e*P **P 03 02 11.2 -0.3**
comp=Z,584nm,1.1s
BOK Bokaro 50.39 299 *e*P **P 03 02 13.9 +0.8**
BOK AMB AMB 03 02 15.0
comp=Z,97nm,0.3s
ULN Ulaanbaatar 50.76 338*d i*P **P 03 02 16.5 +0.8**
ULN pmax pmax
comp=Z,313nm,1.0s
ULN Ulaanbaatar 50.76 338 P **P 03 02 16.7 +1.1**
SNR=103
ULN Ulaanbaatar 50.76 338 *e*P **P 03 02 16.6 +0.9**
comp=Z,272nm,1.0s
ULN LR LR
comp=Z,2μm,19.0s
RAMN Ramite 50.83 303 *e*P **P 03 02 16.7 0.0**
comp=Z,1μm,1.3s
SONM Songino Array 50.98 337 P **P 03 02 17.9 +0.6**
comp=Z,98nm,1.1s,baz=150,slow=5.9,SNR=238
SONM PcP **PcP 03 03 33.2 -0.2**
comp=Z,9.5nm,0.7s,baz=157,slow=4.1,SNR=8.7
SONM LR LR 03 23 41.5
comp=Z,2μm,19.8s,baz=144,slow=36
SONM PKP2ab 03 33 44.7
comp=Z,1.7nm,1.1s,baz=333,slow=2.8,SNR=3.5
VIS Vishakhapatnam 51.15 291 *e*P **P 03 02 18.2 -0.7**
VIS AMB AMB 03 02 20.6
comp=Z,82nm,1.9s
JIRN Jiri 51.42 304 *e*P **P 03 02 21.1 -0.2**
comp=Z,371nm,1.1s
GUN Gumba 51.77 304 *e*P **P 03 02 23.7 -0.2**
comp=Z,606nm,1.3s
PKI Pulchoki 52.04 304 *e*P **P 03 02 25.1 -0.8**
comp=Z,271nm,1.2s
PKIN Phulchoki 52.05 304 *e*P **P 03 02 25.3 -0.6**
comp=Z,159nm,1.2s
KKN Kakani 52.22 304 *e*P **P 03 02 26.5 -0.6**
comp=Z,319nm,1.1s
CIT Chita 52.29 345 *e*P **P 03 02 28.6 +1.6**
CIT *e* 03 02 40.0
CIT *e* 03 02 46.5
CIT *e* 03 03 39.2
CIT *e* 03 04 23.8
CIT pmax pmax
comp=Z,556nm,1.8s
DMN Daman 52.30 304 *e*P **P 03 02 27.4 -0.3**
comp=Z,404nm,1.1s
PALK Pallekele 52.37 277 *e*P **P 03 02 27.1 -1.1**
PALK pmax pmax
comp=Z,193nm,1.3s
PALK Pallekele 52.37 277 P **P 03 02 28.7 +0.5**
SNR=6.4
PALK Pallekele 52.37 277⇓*e*P **P 03 02 27.7 -0.5**
SNR=9.9
PALK Pallekele 52.37 277 *e*P **P 03 02 27.1 -1.1**
comp=Z,193nm,1.3s
GKN Gorkha 52.83 304 *e*P **P 03 02 31.0 -0.5**
comp=Z,470nm,1.2s
MDRS Chennai 53.32 285 *e*P **P 03 02 33.0 -2.1**
MDRS *ex* x 03 02 39.2
MDRS *ex* x 03 10 11.7
KOLN Koldanda 53.61 303 *e*P **P 03 02 37.3 -0.1**
comp=Z,557nm,1.0s
DANN Dangsing 53.67 304 *e*P **P 03 02 37.6 -0.3**
comp=Z,894nm,1.0s
ZAK Zakamensk 54.25 337 *e*P **P 03 02 41.4 -0.1**
ZAK *e* 03 03 46.1
ZAK pmax pmax
comp=Z,64nm,1.7s
PETK Petropavlovsk- 54.73 18 P **P 03 02 45.5 +0.7**
comp=Z,23nm,1.0s,baz=193,slow=6.1,SNR=14
PETK PcP **PcP 03 03 47.0 -0.2**
comp=Z,15nm,1.0s,baz=180,slow=4.3,SNR=4.3
PETK LR LR 03 28 32.2
comp=Z,270nm,18.0s,baz=194,slow=39
PET Petropavlovsk 54.96 19⇓*i*P **P 03 02 47.0 +0.6**
PET *e* 03 03 47.6
PET *e* 03 04 50.1
PET *e*S **S 03 10 25.9 -1.1**
PET *e* 03 12 33.2
PET *e*SS **SS 03 14 10.8 0.0**
PET pmax pmax
comp=Z,20nm,1.1s
PET pmax pmax
comp=Z,900nm,14.0s
PET Petropavlovsk 54.96 19 *e*P **P 03 02 46.9 +0.6**
comp=Z,185nm,1.4s
PET LR LR
comp=Z,794nm,20.0s
TLY Talaya 55.15 338*d i*P **P 03 02 47.3 -0.6**
TLY *e* 03 03 46.0
TLY *e* 03 04 53.5
TLY *e*S **S 03 10 29.3 -0.4**
TLY pmax pmax
comp=Z,110nm,1.6s
TLY MLR MLR
comp=Z,2μm,19.0s
TLY Talaya 55.15 338 P **P 03 02 49.6 +1.7**
SNR=38
TLY Talaya 55.15 338 *e*P **P 03 02 48.4 +0.5**
comp=Z,103nm,1.4s
TLY LR LR
comp=Z,2μm,21.0s
IRK Irkutsk 55.37 339 *e*P **P 03 02 49.8 +0.3**
IRK *e*S S 03 10 43.4 +11
IRK pmax pmax
comp=Z,481nm,1.6s
HYB Hyderabad 55.57 290 *i* P **P 03 02 50.0 -1.5**
comp=Z,150nm,1.0s
HYB *e*S **S 03 10 36.0 -0.4**
HYB Hyderabad 55.57 290 *e*P **P 03 02 51.1 -0.4**
HYB AMB AMB 03 02 52.4
comp=Z,130nm,0.5s
NGP Nagpur 55.81 294 *e*P **P 03 02 53.1 -0.1**
NGP AMP 03 02 59.7
comp=Z,120nm,1.4s
NGP *e*S **S 03 10 39.4 -0.2**

TRD Trivandrum 56.14 279 *e*P **P 03 02 54.8 -0.8**
TRD AMB AMB 03 02 56.3
comp=Z,146nm,0.9s
MOY Mondy 56.16 337 *e*P **P 03 02 56.4 +1.2**
MOY pmax pmax
comp=Z,489nm,2.6s
SNZO South Karori 57.48 144 PFAKE 03 03 20.0 +15
SNZO LR LR
comp=Z,2μm,19.0s
BOD Bodaibo 57.50 348 *e*P **P 03 03 04.0 -0.5**
BOD pmax pmax
comp=Z,94nm,1.7s
WMQ Urumqi 57.70 322 P **P 03 03 07.3 +1.0**
WMQ sP sP 03 03 21.1 +5.3
WMQ PcP **PcP 03 03 59.7 +0.6**
WMQ PP **PP 03 05 18.0 +3.6**
WMQ S **S 03 11 04.9 +0.9**
WMQ sS sS 03 11 21.6 +6.3
WMQ SS **SS 03 14 56.3 +1.7**
WMQ PMZ
comp=Z,170nm,1.3s
WMQ PMZ
comp=Z,2μm,4.5s
WMQ LN
comp=Z,1μm,23.0s
WMQ LE
comp=Z,900nm,20.0s
WMQ LZ
comp=Z,1μm,26.0s
BHPL Bhopal 57.73 296 *e*P **P 03 03 06.5 -0.3**
BHPL AMB AMB 03 03 07.5
comp=Z,117nm,0.5s
HVS Khovu-Aksy 58.93 332*c i*P **P 03 03 15.7 +1.0**
HVS pmax pmax
comp=Z,1μm,1.2s
NDI New Delhi 59.26 302 *e*P **P 03 03 15.0 -2.3**
YAK Yakutsk 59.77 358 *e*P **P 03 03 22.3 +2.1**
YAK *e**PP **pP 03 03 31.9 +4.8**
YAK *e* 03 04 05.1
YAK *e* 03 05 36.1
YAK *e*S **S 03 11 27.6 -2.4**
YAK *e**SS sS 03 11 46.8 +5.4
YAK *e* 03 13 07.9
YAK *e*SS **SS 03 15 31.4 +5.1**
YAK pmax pmax
comp=Z,104nm,1.2s
YAK pmax pmax
comp=N,49nm,1.2s
YAK pmax pmax
comp=Z,251nm,3.8s
YAK pmax pmax
comp=E,128nm,4.3s
YAK pmax pmax
comp=N,157nm,3.0s
YAK smax smax
comp=N,484nm,6.1s
YAK smax smax
comp=E,270nm,5.3s
YAK MLR MLR
comp=Z,1μm,17.0s
YAK MLR MLR
comp=N,943nm,16.0s
YAK MLR MLR
comp=E,383nm,17.0s
YAK Yakutsk 59.77 358 PFAKE 03 03 30.0 +10
YAK LR LR
comp=Z,1μm,20.0s
GOA Goa 59.79 287 *e*P P 03 03 16.2 -5.0
GOA AMB AMB 03 03 21.0
comp=Z,100nm,2.0s
SMLA Simla 59.99 305 *i* P **P 03 03 22.7 +0.3**
POO Poona 60.16 290⇑*i*P **P 03 03 22.0 -1.8**
comp=Z,160nm,1.2s
POO *e*P **P 03 03 22.3 -1.5**
POO AMB AMB 03 03 23.7
comp=Z,96nm,0.3s
FX1 Attu Island--F 60.47 27 P **P 03 03 25.2 0.0**
comp=Z,81nm,1.0s,baz=307,slow=10,SNR=5.1
BHK Bhakra 60.69 305 *e*P **P 03 03 27.0 -0.2**
DHRM DHARAMSHALA 61.03 306 *e*P **P 03 03 29.2 -0.5**
DHRM AMB AMB 03 03 31.1
comp=Z,265nm,1.3s
DGAR Diego Garcia 61.19 260⇑*e*P **P 03 03 30.2 -0.6**
DGAR Diego Garcia 61.19 260 PFAKE 03 03 40.0 +9.2
DGAR LR LR
comp=Z,2μm,21.0s
SEY Seymchan 62.31 10 P **P 03 03 37.7 +0.2**
comp=Z,39nm,1.0s,baz=202,slow=5.4,SNR=79
MKAR Makanchi Array 62.50 323 P **P 03 03 39.6 +0.5**
comp=Z,91nm,0.9s,baz=108,slow=7.8,SNR=364
KSH Kashi 63.63 314⇓*i*P **P 03 03 49.0 +2.1**
KSH sP **sP 03 03 56.3 -0.1**
KSH PP **PP 03 06 11.2 +4.2**
KSH S **S 03 12 20.9 +0.8**
KSH ScS **SKSac 03 13 38.1 -1.4**
KSH SS **SS 03 16 31.8 +3.9**
KSH PMZ
comp=Z,130nm,1.2s
KSH PMZ
comp=Z,1μm,3.7s
KSH LN
comp=Z,580nm,9.4s
KSH LE
comp=Z,770nm,13.4s
KSH LZ
comp=Z,470nm,14.8s
AAA Alma-Ata 64.35 318 *e*P **P 03 03 51.7 +0.2**
AAA *e*S **S 03 12 24.6 -4.1**
AAA pmax pmax
comp=Z,2μm,6.3s
AAA smax smax
comp=E,2μm,10.0s
AAA MLR MLR
comp=Z,1μm,17.0s
ULHL Ulahol 64.44 316 P **P 03 03 53.4 +1.1**
SNR=12
ULHL Ulahol 64.44 316 *i* P **P 03 03 53.3 +1.1**
BHJ Bhuj 64.75 295 *e*P **P 03 03 54.2 -0.1**
BHJ AMB AMB 03 03 56.2
comp=Z,180nm,1.2s
AIS Amsterdam Isla 64.79 226 S **S 03 12 29.0 -5.1**
AIS SS SS 03 16 23.0 -23
AIS R 03 23 00.0
ZALV Zalesovo Beam 64.92 331 P **P 03 03 54.5 -0.4**
comp=Z,63nm,1.0s,baz=104,slow=6.3,SNR=151
ZALV LR LR 03 31 53.6
comp=Z,645nm,21.9s,baz=80,slow=36
ZALV PKP2bc 03 32 45.0
comp=Z,7.0nm,1.0s,baz=306,slow=3.4,SNR=8.2
KZA Kyzart 65.06 316 P **P 03 03 57.6 +1.1**
SNR=96
KZA Kyzart 65.06 316 *i* P **P 03 03 57.6 +1.1**
TKM2 Tokmak 2 65.13 317 P **P 03 03 57.0 +0.3**
SNR=55
TKM2 Tokmak 2 65.13 317 *e*P **P 03 03 56.7 0.0**
TKM2 pmax pmax
comp=Z,84nm,1.4s
TKM2 MLR MLR
comp=Z,1μm,20.0s
TKM2 Tokmak 2 65.13 317 *e*P **P 03 03 56.7 0.0**
comp=Z,84nm,1.4s
TKM2 LR LR
comp=Z,1μm,20.0s
KBK Karagaybulak 65.48 317 P **P 03 04 00.3 +1.4**
SNR=33
KBK Karagaybulak 65.48 317 *i* P **P 03 04 00.3 +1.4**
UCH Uchtor 65.62 316 P **P 03 04 01.1 +0.8**
SNR=137
UCH Uchtor 65.62 316 *i* P **P 03 04 01.1 +0.8**
CHMS Chumysh 65.74 317 P **P 03 04 01.0 +0.6**
SNR=38
CHMS Chumysh 65.74 317 *i* P **P 03 04 01.0 +0.6**
FRU Bishkek 65.77 317 *e*P **P 03 04 01.0 +0.3**
FRU pmax pmax
comp=Z,125nm,2.2s
AAK Ala-Archa 65.78 316 P **P 03 04 01.9 +1.0**
SNR=30
AAK Ala-Archa 65.78 316*d i*P **P 03 04 01.9 +1.0**
AAK pmax pmax
comp=Z,357nm,2.3s
AAK Ala-Archa 65.78 316 P **P 03 04 02.4 +1.5**
SNR=32
AAK Ala-Archa 65.78 316 P **P 03 04 01.1 +0.2**
comp=Z,25nm,1.0s,baz=100,slow=6.3,SNR=50
AAK LR LR 03 34 09.6
comp=Z,1μm,22.0s,baz=134,slow=37

AAK Ala-Archa 65.78 316 *e*P **P 03 04 01.3 +0.4**
comp=Z,71nm,1.3s
AAK LR LR
comp=Z,1μm,20.0s
USP Ospenovka 66.00 317 P **P 03 04 02.4 +0.2**
SNR=104
USP Ospenovka 66.00 317 *i* P **P 03 04 02.4 +0.2**
AML Almayashu 66.16 316 P **P 03 04 04.9 +1.2**
SNR=115
AML Almayashu 66.16 316 *i* P **P 03 04 04.9 +1.2**
NVS Novosibirsk 66.19 331⇓*i*P **P 03 04 02.7 -0.3**
NVS *i* 03 06 37.1
NVS *i* S **S 03 12 50.7 +0.1**
NVS pmax pmax
comp=Z,732nm,2.4s
NVS pmax pmax
comp=N,143nm,1.8s
NVS pmax pmax
comp=E,149nm,1.5s
NVS pmax pmax
comp=N,45nm,2.7s
NVS pmax pmax
comp=Z,109nm,2.7s
NVS pmax pmax
comp=E,86nm,2.5s
NVS smax smax
comp=N,15nm,2.1s
NVS smax smax
comp=E,86nm,2.7s
EKS2 Erkin-Say 66.29 316 P **P 03 04 05.3 +1.2**
SNR=80
EKS2 Erkin-Say 66.29 316 *e*P **P 03 04 04.8 +0.7**
EKS2 pmax pmax
comp=Z,138nm,1.1s
EKS2 MLR MLR
comp=Z,1μm,21.0s
EKS2 Erkin-Say 66.29 316 *e*P **P 03 04 04.8 +0.7**
comp=Z,138nm,1.1s
EKS2 LR LR
comp=Z,1μm,21.0s
KURK Kurchatov 66.51 326 *e*P **P 03 04 05.1 -0.1**
KURK pmax pmax
comp=Z,371nm,1.4s
KURK MLR MLR
comp=Z,487nm,21.0s
KURK Kurchatov 66.51 326 P **P 03 04 05.5 +0.4**
SNR=193
KURK Kurchatov 66.51 326 *e*P **P 03 04 05.1 -0.1**
comp=Z,371nm,1.4s
KURK ⇑*e* 03 32 36.1
KURK LR LR
comp=Z,487nm,21.0s
KURBB Kurchatov Arra 66.51 326 P **P 03 04 05.7 +0.5**
comp=Z,167nm,0.9s,baz=121,slow=6.1,SNR=17
KURBB PKP2bc 03 32 36.1
comp=Z,5.4nm,1.1s,baz=291,slow=3.8,SNR=6.6
KBL Kabul 67.48 307 *e*P **P 03 04 11.8 -0.2**
KBL pmax pmax
comp=Z,106nm,1.1s
KBL Kabul 67.48 307 P **P 03 04 12.6 +0.6**
baz=68,SNR=7.4
KBL Kabul 67.48 307 *e*P **P 03 04 11.8 -0.2**
comp=Z,106nm,1.1s
KK31 Karatay Array 68.70 316 *i* P **P 03 04 19.4 +0.2**
KK31 pmax pmax
comp=Z,73nm,0.9s
KKAR Karatay Array 68.70 316 *e*P **P 03 04 19.3 +0.1**
KKAR pmax pmax
comp=Z,258nm,1.3s
KKAR Karatay Array 68.70 316 *e*P **P 03 04 19.3 +0.1**
comp=Z,258nm,1.3s
DRV Dumont d'Urvil 68.86 177 P P 03 04 07.0 -13
DRV S S 03 13 10.0 -12
DRV L L 03 20 00.0
DRV R 03 25 00.0
TIXI Tiksi 69.44 359*d i*P **P 03 04 22.3 -0.9**
TIXI pmax pmax
comp=Z,91nm,2.5s
TIXI Tiksi 69.44 359 *e*P **P 03 04 21.9 -1.2**
comp=Z,111nm,1.7s
TIXI LR LR
comp=Z,1μm,20.0s
BILL Bilibino 69.56 13*d i*P **P 03 04 23.9 -0.2**
BILL *e* 03 04 41.0
BILL *e* 03 06 57.1
BILL pmax pmax
comp=Z,11nm,1.0s
BILL MLR MLR
comp=Z,735nm,19.0s
BILL Bilibino 69.56 13 *e*P **P 03 04 23.7 -0.3**
comp=Z,43nm,1.5s
BILL LR LR
comp=Z,750nm,19.0s
CASY Casey 70.17 189 *e*P **P 03 04 28.3 +0.5**
comp=Z,125nm,1.3s
BVA0 Borovoye Array 72.11 326 *i* P **P 03 04 40.0 +0.2**
BVA0 pmax pmax
comp=Z,368nm,1.3s
BVAR Borovoye Array 72.11 326 P **P 03 04 40.0 +0.2**
BVAR Borovoye Array 72.11 326 P **P 03 04 40.0 +0.2**
comp=Z,190nm,1.0s,baz=116,slow=6.8,SNR=393
BRVK Borovoye 72.18 326*d i*P **P 03 04 40.7 +0.5**
BRVK pmax pmax
comp=Z,391nm,1.2s
BRVK Borovoye 72.18 326 P **P 03 04 40.7 +0.5**
SNR=139
BRVK Borovoye 72.18 326 *e*P **P 03 04 40.6 +0.4**
comp=Z,474nm,1.2s
BRVK LR LR
comp=Z,971nm,19.0s
GAMB Gambell 73.35 22 *e*P **P 03 04 47.4 +0.5**
comp=Z,112nm,1.4s
PAF Port-aux-Franc 74.33 217 P P 03 04 34.0 -19
PAF S SKiKP 03 14 05.0 -14
PAF SS SS 03 19 04.0 -8.3
PAF L L 03 24 00.0
PAF R 03 28 00.0
WBK Wadi Bani Khal 74.46 293 P **P 03 04 55.3 +0.9**
SNR=35
IDAH Dahanechah 74.69 303 *e*P **P 03 04 56.5 +0.7**
IMYA Miami 74.99 307 *e*P **P 03 04 58.7 +1.3**
JMDO Jabal Madar 75.25 292 P **P 03 04 59.1 +0.2**
SNR=38
SMDO Samad 75.34 293 P **P 03 04 59.9 +0.4**
SNR=39
IKOO Kooshah 75.37 303 *e*P **P 03 05 00.4 +0.6**
IMOG Moghan 75.57 307 *e*P **P 03 05 01.5 +0.6**
TNA Tin City 75.64 22 *e*P **P 03 05 00.0 -0.2**
comp=Z,132nm,1.9s
IPAY Payeh 75.89 307 *e*P **P 03 05 03.6 +1.0**
HOQ Hoqain 76.05 294 P **P 03 05 04.4 +0.9**
SNR=76
IAKL Akhelmad 76.10 307 *e*P **P 03 05 04.9 +1.0**
IKRD Kardeh 76.32 307 *e*P **P 03 05 02.5 -2.6**
ARQ Araqi 76.76 293 P **P 03 05 08.1 +0.6**
SNR=104
ISFR Sfrayin 76.76 307 *e*P **P 03 05 08.8 +1.2**
ABKT Ailbek 76.78 308 P **P 03 05 09.5 +2.1**
comp=Z,855nm,1.3s,SNR=39
GEYT Alibeck 76.78 308 P **P 03 05 08.3 +0.9**
comp=Z,55nm,1.0s,baz=117,slow=2.3,SNR=123
GEYT LR LR 03 41 21.5
comp=Z,760nm,21.4s,baz=120,slow=38
ISHV Shirvan 77.06 308 *e*P **P 03 05 10.9 +1.7**
BANOM Banah 77.13 296 P **P 03 05 11.3 +1.8**
SNR=37
BANOM Banah 77.13 296⇓*i*P **P 03 05 10.0 +0.5**
SNR=45
HATD Hatta, Dubai 77.21 295⇓*e*P **P 03 05 10.8 +0.8**
SNR=37
ASHO Ashiyiah 77.26 295 P **P 03 05 11.2 +0.8**
SNR=58
ASHO Ashiyiah 77.26 295⇓*i*P **P 03 05 10.7 +0.3**
SNR=50
AB31 Akbulak array 77.36 320 *i* P **P 03 05 10.2 -0.1**
AB31 pmax pmax
comp=Z,271nm,1.3s
ABKAR Akbulak array 77.36 320 *e*P **P 03 05 10.3 0.0**
comp=Z,166nm,1.1s
NAZ Nazwa, Dubai 77.64 295⇓*e*P **P 03 05 12.9 +0.5**
SNR=32
FAQ Al Faqa, Dubai 77.69 295⇓*i*P **P 03 05 13.1 +0.4**
SNR=13
MSEY Mahe Island 77.78 265 PFAKE 03 05 20.0 +6.5
MSEY LR LR
comp=Z,807nm,22.0s

ASUD Al Ashush, Dub 77.92 295⇓ *eP* **P 03 05 14.2 +0.2**
SNR=42
IBAF Bafgh 78.19 302 *eP* **P 03 05 15.2 -0.4**
SVE Sverdlovsk 78.61 328*c i*P **P 03 05 17.7 +0.6**
SVE *e* 03 08 13.4
SVE *e*PPP PPP 03 10 08.5
SVE *e*S **S 03 15 08.6 -4.1**
SVE *e* 03 15 48.4
SVE pmax pmax
comp=Z,224nm,1.5s
SVE pmax pmax
comp=Z,676nm,10.4s
PPT2 Papeete2 78.65 108 *e*S **S 03 15 17.1 +2.4**
comp=Z,6μm,31.5s
PPT2 Papeete2 78.65 108 *e*LR LR 03 29 50.4
comp=Z,2μm,29.5s
RBK Rabkut 78.70 287 P **P 03 05 18.3 -0.2**
SNR=35
AKTO Aktyubinsk 78.81 321 P **P 03 05 18.1 -0.3**
AKTO pmax pmax
comp=Z,164nm,1.5s
AKTO Aktyubinsk 78.81 321 P **P 03 05 18.2 -0.1**
comp=Z,45nm,1.0s,baz=95,slow=6.3,SNR=102
AKTO LR LR 03 43 22.6
comp=Z,380nm,18.5s,baz=110,slow=38
TIAR Tiarei 78.86 108 *eP* **P 03 05 21.9 +2.6**
comp=Z,25nm,1.3s
RER Riviere de l'E 78.94 248 PFAKE 03 05 30.0 +10
RER LR LR
comp=Z,872nm,20.0s
TVO Taravao 78.98 108 *eP* **P 03 05 22.7 +2.7**
comp=Z,21nm,1.2s
IMEH Mehriz 78.99 301 *eP* **P 03 05 19.1 -1.0**
ICHK Chekchek 79.23 302 *eP* **P 03 05 21.3 -0.1**
OHAK Old Harbor 79.38 32 *eP* **P 03 05 21.3 0.0**
comp=Z,184nm,1.3s
TBI Tubuai 79.40 114 *eP* **P 03 05 24.3 +2.2**
comp=Z,271nm,1.3s
ABTO Aybut 79.56 287 P **P 03 05 23.1 -0.1**
SNR=29
ARU Arti 79.64 327 P **P 03 05 22.9 +0.1**
comp=Z,575nm,0.9s,SNR=41
ARU Arti 79.64 327*d i*P **P 03 05 22.8 0.0**
ARU 03 08 22.4
ARU PPP PPP 03 10 11.3
ARU S **S 03 15 25.4 +1.7**
ARU SS **SS 03 20 35.0 +2.9**
ARU pmax pmax
comp=Z,330nm,2.5s
ARU Arti 79.64 327 *eP* **P 03 05 22.1 -0.6**
comp=Z,179nm,1.2s
ARU LR LR
comp=Z,805nm,19.0s
ISAD Sadrabad 79.81 302 *eP* **P 03 05 24.3 -0.3**
KDAK Kodiak Island 79.88 32 *i* P **P 03 05 24.5 +0.5**
KDAK Kodiak Island 79.88 32 PFAKE 03 05 40.0 +16
KDAK LR LR
comp=Z,864nm,21.0s
IANJ Anjilo 79.88 305 *eP* **P 03 05 25.0 +0.1**
PMOR Pomariorio Rege 80.01 106 *eP* **P 03 05 27.9 +2.3**
comp=Z,105nm,1.2s
IGLO Ghaloghah 80.03 307 *eP* **P 03 05 26.4 +0.8**
IKIA Kiasar 80.13 306 *eP* **P 03 05 26.8 +0.6**
ISRV Sarvestan 80.16 299 *eP* **P 03 05 26.0 -0.6**
IPAR Pars 80.24 300 *eP* **P 03 05 26.6 -0.4**
VAH Vaihoa 80.29 106 *eP* **P 03 05 29.0 +1.9**
comp=Z,59nm,1.3s
ILAS Lasjerd 80.66 305 *eP* **P 03 05 29.4 +0.4**
IFIR Firoozkooh 80.84 306 *eP* **P 03 05 30.4 +0.4**
IZEF Zefreh 81.02 303 *eP* **P 03 05 29.6 -1.5**
VNDA Vanda 81.15 174 *eP* **P 03 05 30.2 -0.3**
VNDA pmax pmax
comp=Z,77nm,1.4s
VNDA Vanda 81.15 174 P **P 03 05 30.6 +0.1**
comp=Z,36nm,1.1s,baz=325,slow=5.7,SNR=49
VNDA Vanda 81.15 174 *eP* **P 03 05 30.2 -0.3**
comp=Z,77nm,1.4s
PPLA Purkeypile 81.17 27 *eP* **P 03 05 31.0 -0.1**
comp=Z,175nm,1.6s
SOKR Solikamsk 81.19 330*d i*P **P 03 05 31.4 +0.4**
SOKR SS SS 03 20 51.2 -3.8
SOKR pmax pmax
comp=Z,320nm,1.5s
SOKR MLR MLR
comp=Z,1μm,19.0s
IPRN Peran 81.22 306 *eP* **P 03 05 32.4 +0.5**
IKAZ Kazeroun 81.28 300 *eP* **P 03 05 32.3 -0.3**
IDMV Damavand 81.42 305 *eP* **P 03 05 33.5 +0.3**
IVRN Varamin 81.64 305 *eP* **P 03 05 34.5 +0.5**
IKLH Kolahrood 81.67 303 *eP* **P 03 05 35.4 +0.8**
KTH Kantishna Hill 81.87 26 *eP* **P 03 05 34.5 -0.1**
comp=Z,86nm,1.3s
SEW Seward 81.91 30 *eP* **P 03 05 34.1 -0.7**
comp=Z,83nm,1.2s
RC01 Rabbit Creek A 81.94 29 *eP* **P 03 05 34.3 -0.7**
comp=Z,201nm,1.5s
TRF Thorofare Moun 82.13 26 *eP* **P 03 05 35.1 -1.1**
comp=Z,108nm,1.5s
IPIR Pirpir 82.22 303 *eP* **P 03 05 36.1 -1.4**
IR3 Iran Long-Peri 82.24 305 *eP* **P 03 05 37.9 +0.7**
PMR Palmer 82.32 28 *eP* **P 03 05 36.0 -0.9**
PMR pmax pmax
comp=Z,98nm,1.2s
PMR Palmer 82.32 28 *eP* **P 03 05 36.0 -0.9**
comp=Z,98nm,1.2s
IMHD Mahdasht 82.54 306 *eP* **P 03 05 39.4 +0.6**
MCK McKinley 82.77 26 *eP* **P 03 05 38.3 -1.0**
MCK pmax pmax
comp=Z,133nm,1.2s
MCK McKinley 82.77 26 *eP* **P 03 05 38.3 -1.0**
comp=Z,133nm,1.2s
COLD Coldfoot 82.90 22 *eP* **P 03 05 40.5 +0.6**
comp=Z,116nm,1.4s
IRAZ Razeghan 83.13 305 *eP* **P 03 05 42.6 +0.6**
COLA College 83.42 25*d i*P **P 03 05 41.6 -1.0**
COLA pmax pmax
comp=Z,482nm,2.5s
COLA College 83.42 25 *eP* **P 03 05 42.3 -0.3**
comp=Z,217nm,2.0s
COLA LR LR
comp=Z,524nm,19.0s
ILAR Eielson Array 83.82 25 P **P 03 05 43.3 -1.4**
comp=Z,20nm,1.1s,baz=261,slow=4.2,SNR=88
ILAR PP **PP 03 08 56.1 -1.7**
comp=Z,4.1nm,1.2s,baz=247,slow=6.4,SNR=5.3
ILAR PKKPbc **PKKPbc 03 23 59.5 -4.1**
comp=Z,2.0nm,1.1s,baz=51,slow=0.4,SNR=8.8
ILAR PKPPKP **P'P'df 03 32 07.8 +0.9**
comp=Z,2.1nm,1.2s,baz=213,slow=1.6,SNR=5.4
DIV Divide 83.86 29 *eP* **P 03 05 45.3 +0.3**
comp=Z,175nm,1.2s
PAX Paxson 84.21 27 *eP* **P 03 05 47.0 +0.2**
PAX pmax pmax
comp=Z,269nm,1.6s
PAX Paxson 84.21 27 *eP* **P 03 05 47.0 +0.2**
comp=Z,269nm,1.6s
BMRM Bremner River 84.40 29 *eP* **P 03 05 47.6 -0.1**
comp=Z,124nm,1.3s
DOT Dot Lake 84.91 26 *eP* **P 03 05 49.9 -0.3**
comp=Z,137nm,1.4s
MENT Mentasta 85.00 27 *eP* **P 03 05 51.0 +0.3**
ISRB Sarab 85.02 308 *eP* **P 03 05 52.9 +1.3**
MAK Makhachkala 85.26 313 *eP* **P 03 05 51.7 -0.7**
MAK *e* 03 09 15.0
MAK *e*PPP PPP 03 11 08.6
MAK *e*S **S 03 16 15.9 -5.8**
MAK *e*SS **SS 03 21 51.9 -4.2**
MAK pmax pmax
comp=Z,39nm,0.6s
CRZF Crozet Islands 85.47 223 P P 03 05 37.0 -16
CRZF Crozet Islands 85.47 223 S S 03 16 06.0 -18
CRZF SS SS 03 21 14.0 -45
CRZF L L 03 28 00.0
CRZF R 03 33 00.0
IHRS Heris 85.52 308 *eP* **P 03 05 54.9 +0.8**
IDHR Dehrash 86.02 304 *eP* **P 03 05 55.6 -1.0**
EGAK Eagle 86.26 25 *eP* **P 03 05 56.8 -0.2**
comp=Z,82nm,1.4s
EGAK LR LR
comp=Z,395nm,20.0s
ABPO Ambohimpanom 86.73 251 PFAKE 03 06 10.0 +10
ABPO LR LR
comp=Z,560nm,19.0s
DGRG David-gareji 86.82 311 P **P 03 06 01.3 +1.0**
PRGR Permogore 86.87 331⇓*i*P **P 03 05 58.2 -1.7**
PRGR *pP **pP** 03 06 08.6 +1.5
PRGR *e* 03 09 19.1
PRGR pmax pmax
comp=Z,397nm,1.7s
TBLG Delisi 87.30 311 P **P 03 06 02.5 0.0**
GNI Garni 87.31 310 *eP* **P 03 06 02.6 -0.2**
GNI Garni 87.31 310*de*P **P 03 06 03.1 +0.3**
GNI pmax pmax
comp=Z,159nm,1.7s
GNI Garni 87.31 310 P **P 03 06 05.7 +2.9**
SNR=14
GNI Garni 87.31 310 P **P 03 06 03.5 +0.7**
comp=Z,30nm,1.1s,baz=97,slow=3.1,SNR=16
GNI Garni 87.31 310 *eP* **P 03 06 04.4 +1.6**
SNR=17
GNI Garni 87.31 310 *eP* **P 03 06 03.6 +0.7**
comp=Z,130nm,1.4s
GNI LR LR
comp=Z,495nm,22.0s
GUDG Gudauri 87.49 312 P **P 03 06 03.9 +0.2**
HYT Haines Junctio 87.86 29 *eP* **P 03 06 05.7 +0.7**
ZEI Tsey 87.91 313 *eP* **P 03 06 03.0 -2.7**
ZEI pmax pmax
comp=Z,127nm,1.4s
AKH Akhalkalaki 88.24 311 P **P 03 06 07.8 +0.6**
VANB Van 88.39 308 *eP* **P 03 06 09.9 +2.0**
KBZ Khabaz 88.62 314 P **P 03 06 07.2 -1.5**
comp=Z,15nm,1.1s,baz=62,slow=2.9,SNR=13
KBZ LR LR 03 51 23.8
comp=Z,275nm,18.2s,baz=84,slow=39
KIV Kislovodsk 88.76 314*d i*P **P 03 06 08.5 -1.0**
KIV *e* 03 09 39.3
KIV *e*S **S 03 16 56.3 +0.5**
KIV pmax pmax
comp=Z,127nm,1.7s
KIV Kislovodsk 88.76 314 PFAKE 03 06 20.0 +10
KIV LR LR
comp=Z,461nm,20.0s
SKAG Skagway 88.99 31 *eP* **P 03 06 11.8 +1.7**
comp=Z,186nm,1.7s
SIRT Sirnak 89.17 307 *eP* **P 03 06 12.0 +0.4**
VRHR Novokhopersk 89.22 321 *eP* **P 03 06 09.6 -1.8**
VRHR *e*S **S 03 16 59.4 -0.1**
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,20nm,1.0s
VRHR pmax pmax
comp=Z,50nm,1.0s
VRHR smax smax
comp=N,50nm,2.6s
VRHR smax smax
comp=E,340nm,2.6s
VRHR smax smax
comp=Z,130nm,2.6s
VRHR MLR MLR
comp=N,340nm,22.0s
VRHR MLR MLR
comp=E,140nm,22.0s
VRHR MLR MLR
comp=Z,780nm,22.0s
INK Inuvik 89.28 22 *eP* **P 03 06 09.3 -2.0**
INK pmax pmax
comp=Z,33nm,1.4s
INK Inuvik 89.28 22 P **P 03 06 09.5 -1.8**
comp=Z,19nm,1.2s,baz=272,slow=7.3,SNR=20
INK Inuvik 89.28 22 *eP* **P 03 06 09.3 -2.0**
comp=Z,33nm,1.4s
KLMR Klimovskoe 89.84 331*d i*P **P 03 06 12.9 -1.2**
KLMR S **SKSac 03 16 39.1 -4.3**
KLMR pmax pmax
comp=Z,173nm,1.4s
TMCR Tamitsa 90.25 334 *eP* **P 03 06 14.7 -1.2**
TMCR *e* 03 09 52.4
TMCR *e*S **SKSac 03 16 41.3 -4.3**
MZRK Al-Mazaregh 90.68 306 *eP* **P 03 06 19.2 +0.6**
VORD Divnogorie 90.70 321 *eP* **P 03 06 16.4 -1.9**
VORD pmax pmax
comp=Z,50nm,1.1s
VORD pmax pmax
comp=N,6.0nm,0.8s
VORD pmax pmax
comp=E,40nm,1.1s
KBSD Kabsdagh 90.70 307 *eP* **P 03 06 17.7 -1.0**
MAZI Mazidag 90.75 307 *eP* **P 03 06 19.2 +0.1**
VSR Storozhevoye 90.76 321 *eP* **P 03 06 16.8 -1.7**
VSR *e*S **S 03 17 12.5 -1.3**
VSR pmax pmax
comp=N,5.0nm,1.0s
VSR pmax pmax
comp=E,40nm,1.0s
VSR pmax pmax
comp=Z,40nm,1.0s
VSR smax smax
comp=N,180nm,3.4s
VSR smax smax
comp=E,420nm,3.4s
VSR smax smax
comp=Z,260nm,3.4s
VSR MLR MLR
comp=N,230nm,16.0s
VSR MLR MLR
comp=E,620nm,16.0s
VSR MLR MLR
comp=Z,810nm,16.0s
BAYT Ayd'–ntepe-Bay 90.82 310 *eP* **P 03 06 19.5 +0.1**
SOC Sochi 90.93 313 *eP* **P 03 06 17.5 -2.0**
SOC *e*S **SKSac 03 16 45.9 -4.6**
SOC *e*SS **SS 03 23 13.5 -5.3**
SOC pmax pmax
comp=Z,38nm,1.0s
SOC MLR MLR
comp=Z,503nm,20.0s
DYBB Diyarbakir 90.97 308 *eP* **P 03 06 20.5 +0.6**
LVZ Lovozero 91.17 338⇑*eP* **P 03 06 19.0 -1.2**
LVZ pmax pmax
comp=Z,62nm,1.5s
LVZ Lovozero 91.17 338 PFAKE 03 06 30.0 +10
LVZ LR LR
comp=Z,6μm,20.0s
MOS Moscow 91.28 326 *eP* **P 03 06 18.0 -2.9**
MOS *e* 03 09 55.0
MOS *e*S **S 03 17 18.4 +0.1**
MOS *e*PS **PS 03 18 20.0 -9.4**
MOS pmax pmax
comp=Z,110nm,1.4s
MOS MLR MLR
comp=Z,1μm,19.0s
APA Apatity 91.69 338⇑*i*P **P 03 06 21.6 -0.9**
APA *i* 03 09 56.0
APA *i* 03 16 50.0
APA *i*S **S 03 17 20.0 -1.6**
APA *i*SS **SS 03 23 30.0 +1.5**
APA MLR MLR
comp=Z,2μm,17.0s
DLBC Dease Lake 91.81 31 P **P 03 06 22.6 -0.8**
comp=Z,2.2nm,0.8s,baz=188,slow=3.4,SNR=5.6
OBN Obninsk 91.94 325*d i*P **P 03 06 22.5 -1.4**
OBN *e* 03 10 01.0
OBN *e*S **S 03 17 20.5 -3.9**
OBN pmax pmax
comp=Z,102nm,1.5s
OBN MLR MLR
comp=Z,863nm,20.0s
OBN Obninsk 91.94 325 PFAKE 03 06 30.0 +6.1
OBN LR LR
comp=Z,1μm,21.0s
KSRV Kasrt alli 92.02 306 *eP* **P 03 06 24.2 -0.6**
QSPA South Pole Qui 92.08 180 *eP* **P 03 06 24.4 -0.1**
comp=Z,130nm,1.4s
QSPA LR LR
comp=Z,2μm,20.0s
MALT Malatya 92.29 308 *eP* **P 03 06 26.7 +0.5**
ANN Anapa 92.47 315 *eP* **P 03 06 23.8 -2.8**
ANN *e* 03 16 54.7
ANN pmax pmax
comp=Z,62nm,0.9s
JHLN Al Jahlan 92.48 306 *eP* **P 03 06 25.9 -1.0**
RKT Rikitea 92.67 113 *e*LR LR 03 36 18.2
comp=Z,2μm,39.8s
JOF Joensuu 93.41 333 *eP* **P 03 06 29.4 -1.2**
JOF Joensuu 93.41 333 *ep* **P 03 06 29.4 -1.2**
KEV Kevo 93.49 340 PFAKE 03 06 40.0 +9.2
KEV LR LR
comp=Z,967nm,21.0s
ROOS tl_alroos 93.55 304 *eP* **P 03 06 32.4 +0.4**
KMRS Kahramanmaras 93.56 308 *eP* **P 03 06 31.8 -0.2**
KBS Kingsbay 93.61 350 PFAKE 03 06 40.0 +8.8
KBS LR LR
comp=Z,688nm,19.0s
ZALF Zalf 93.62 303 *eP* **P 03 06 31.3 -1.0**
ASF Jabal al Asfar 94.06 302 P **P 03 06 34.9 +0.5**
comp=Z,7.3nm,1.1s,baz=343,slow=0.9,SNR=13
ARCES ARCESS Array B 94.06 340 P **P 03 06 31.9 -1.5**
comp=Z,48nm,1.1s,baz=80,slow=4.9,SNR=40
ARCES LR LR 03 52 11.7
comp=Z,595nm,20.8s,baz=82,slow=38
BTCH Batrach 94.06 306 *eP* **P 03 06 32.7 -1.5**
MARH Ras Al Marh 94.23 304 *eP* **P 03 06 35.6 +0.1**
HAWK Haweek 94.25 305 *eP* **P 03 06 33.8 -1.4**
BIDA Albida 94.27 305 *eP* P 03 06 30.2 -5.1
TOTH TOTAH 94.34 304 *eP* **P 03 06 34.1 -1.5**
TCHB Talchebab 94.79 303 *eP* **P 03 06 37.4 -0.3**
SIM Simferopol' 94.79 315 *eP* P 03 06 30.9 -6.4
SIM *e* 03 10 22.0
SIM *e*S **SKKSac 03 17 35.0 +1.1**
SIM *e*PS **PS 03 19 14.0 +5.2**
SIM pmax pmax
comp=Z,13nm,1.4s
MMAI Mount Meron Ar 95.23 303 P **P 03 06 39.2 -0.5**
comp=Z,8.1nm,1.1s,baz=84,slow=5.1,SNR=6.6
KMBO Kilima Mbogo 95.82 269 *eP* **P 03 06 43.3 +0.3**
KMBO pmax pmax
comp=Z,30nm,1.3s
KMBO MLR MLR
comp=Z,500nm,21.0s
KMBO Kilima Mbogo 95.82 269 P **P 03 06 44.5 +1.5**
SNR=10
KMBO Kilima Mbogo 95.82 269 P **P 03 06 43.0 0.0**
comp=Z,16nm,1.1s,baz=75,slow=4.9,SNR=20
KMBO Kilima Mbogo 95.82 269 P **P 03 06 43.9 +0.9**
baz=96,SNR=6.4
KMBO Kilima Mbogo 95.82 269 *eP* **P 03 06 43.3 +0.3**
comp=Z,30nm,1.3s
KMBO LR LR
comp=Z,500nm,21.0s
BRTR Keskin Array B 95.85 310 P **P 03 06 40.7 -1.8**
comp=Z,3.3nm,1.0s,baz=112,slow=4.6,SNR=16
BRTR PP **PP 03 10 35.0 +0.5**
comp=Z,4.4nm,1.1s,baz=93,slow=5.8,SNR=4.4
BRTR LR LR 03 54 12.8
comp=Z,185nm,21.6s,baz=84,slow=38
KAF Kangasniemi 95.86 333 *eP* **P 03 06 39.7 -2.1**
KAF pmax pmax
comp=Z,35nm,1.2s
KAF Kangasniemi 95.86 333 *ep* **P 03 06 39.7 -2.1**
comp=Z,35nm,1.2s
EIL Elat 95.96 300 P **P 03 06 42.5 -0.5**
comp=Z,4.2nm,0.9s,baz=106,slow=2.8,SNR=8.9
FINES FINESS Array B 96.15 332 P **P 03 06 41.3 -1.8**
comp=Z,11nm,0.9s,baz=84,slow=4.0,SNR=32
FINES PP **PP 03 10 35.9 0.0**
comp=Z,6.3nm,1.1s,baz=120,slow=12,SNR=6.4
FINES LR LR 03 53 10.7
comp=Z,695nm,19.1s,baz=74,slow=37
ANTO Ankara 96.47 310 PFAKE 03 07 00.0 +15
ANTO LR LR
comp=Z,283nm,20.0s
VSU Vasula 96.63 329*c i*P **P 03 06 44.7 -0.7**
VSU pmax pmax
comp=Z,296nm,1.7s
CSS Prodhromos 96.72 305 *eP* **P 03 06 45.1 -1.2**
comp=Z,10nm,1.3s
CSS LR LR
comp=Z,96nm,21.0s
AKASG Malin Array Be 97.05 322 P **P 03 06 45.4 -2.0**
comp=Z,9.2nm,1.0s,baz=64,slow=4.5,SNR=23
AKASG PP **PP 03 10 42.9 -0.3**
comp=Z,0.2nm,0.3s,baz=62,slow=8.8,SNR=4.5
KIEV Kiev 97.06 322⇓*i*P **P 03 06 45.9 -1.6**
KIEV Kiev 97.06 322 *eP* **P 03 06 45.1 -2.4**
comp=Z,15nm,1.1s
KIEV LR LR
comp=Z,673nm,19.0s
KIS Kishinev 98.08 318 *eP* Pdif 03 06 53.0 +0.8
KIS *e*PPP PPP 03 13 00.0
KIS *e* 03 18 20.0
KIS MLR MLR
comp=Z,600nm,20.0s
KIS MLR MLR
comp=Z,400nm,20.0s
KIS Kishinev 98.08 318 *eP* Pdif 03 06 53.0 +0.8
KIS Kishinev 98.08 318 *e*PP PP 03 11 04.0 +13
KIS Kishinev 98.08 318 *e*PPP PPP 03 13 00.0
KIS LRM MLR 03 52 48.0
comp=Z,400nm,20.0s
RES Resolute Bay 98.15 11 *eP* **P 03 06 50.8 -1.1**
RES pmax pmax
comp=Z,41nm,1.3s
RES Resolute Bay 98.15 11 P **P 03 06 51.0 -0.9**
comp=Z,17nm,1.0s,baz=308,slow=5.2,SNR=44
RES PKKPbc **PKKPbc 03 23 23.5 -3.8**
comp=Z,2.1nm,1.1s,baz=153,slow=2.3,SNR=5.0
RES Resolute Bay 98.15 11 *eP* **P 03 06 50.8 -1.1**
comp=Z,41nm,1.3s
RES PKKPbc **PKKPbc 03 23 23.5 -3.8**
YKA Yellowknife Ar 98.24 26 P **P 03 06 51.7 -0.8**
comp=Z,2.9nm,0.7s,baz=295,slow=4.7,SNR=65
YKA PP **PP 03 10 53.0 +1.1**
comp=Z,0.8nm,1.0s,baz=293,slow=7.4,SNR=3.5
YKA PKiKP **PKiKP 03 11 24.6 -0.5**
comp=Z,0.4nm,0.6s,baz=297,slow=1.6,SNR=7.6
YKA PKKPbc **PKKPbc 03 23 23.3 -3.4**
comp=Z,1.7nm,1.0s,baz=106,slow=3.0,SNR=16
ISP Isparta 98.54 309 PFAKE 03 07 10.0 +15
ISP LR LR
comp=Z,416nm,22.0s
DAG Danmarks Havn 99.56 354⇓*i*P **Pdif 03 06 57.1 -1.1**
comp=Z,7.8nm,1.2s
SUW Suwalki 99.79 326 *eP* **Pdif 03 06 55.9 -3.8**
SUW Suwalki 99.79 326 *eP* **Pdif 03 06 55.8 -3.9**
PRD Provadia 99.86 314 *eP* **PP 03 11 06.1 +1.2**
KWP Kalwaria Pacla 101.37 322 *eP* **Pdif 03 07 06.5 -0.4**
KWP pmax pmax
comp=Z,26nm,1.0s
KWP MLR MLR
comp=Z,1μm,20.0s
KWP Kalwaria Pacla 101.37 322 *eP* **Pdif 03 07 06.9 0.0**
KWP Kalwaria Pacla 101.37 322 *e*Pdif **Pdif 03 07 06.5 -0.4**
comp=Z,26nm,1.0s
KWP LR LR
comp=Z,1μm,20.0s
NEW Newport 101.46 40 PFAKE 03 07 20.0 +13
NEW LR LR
comp=Z,1μm,19.0s
KOLS Kolonicke sedl 101.85 321 *i* P **Pdif 03 07 09.1 +0.1**
KOLS Kolonicke sedl 101.85 321 PDIF **Pdif 03 07 09.1 +0.1**
UZH Uzhgorod 101.93 321 *eP* **Pdif 03 07 07.9 -1.4**
UZH *e* 03 17 46.7
UZH *e*S **Sdif 03 18 42.9 -7.5**
UZH *e* 03 20 21.3
UZH *e*SS **SS 03 25 59.7 +5.8**
WVOR Wild Horse Val 101.97 46 PFAKE 03 07 20.0 +10
WVOR LR LR
comp=Z,687nm,19.0s
BMO Blue Mountains 102.28 43 PFAKE 03 07 20.0 +8.8
BMO LR LR
comp=Z,607nm,20.0s
PGB Panagyurishte 102.33 314 *eP* **PP 03 11 21.7 -1.9**
STHS Stebnicka Huta 102.35 322 *i* P **Pdif 03 07 11.4 +0.2**
STHS Stebnicka Huta 102.35 322 PDIF **Pdif 03 07 11.4 +0.2**
STHS *e* 03 37 59.3
SANT Santorini 102.79 308 PFAKE 03 07 20.0 +6.5
SANT LR LR
comp=Z,331nm,22.0s
MMB Musomiste 102.89 313 *eP* **PP 03 11 28.0 +0.2**
NB2 NORSAR Subarra 102.92 335 P **Pdif 03 07 11.7 -1.8**
comp=Z,14nm,1.2s,baz=64,slow=4.4
NB2 NORSAR Subarra 102.92 335 P **Pdif 03 07 11.7 -1.8**
baz=64,slow=4.4
NOA NORSAR Array B 102.92 335 P **Pdif 03 07 11.9 -1.6**
comp=Z,3.9nm,0.9s,baz=271,slow=2.7,SNR=6.3
NOA PP **PP 03 11 30.1 +2.7**
comp=Z,4.9nm,1.0s,baz=62,slow=7.5,SNR=4.3
VTS Vitosha 103.00 315 *eP* **PP 03 11 32.2 +3.4**
NVAR Mina Array Bea 103.17 50 Pdiff **Pdif 03 07 15.1 -0.3**
comp=Z,0.4nm,0.3s,baz=224,slow=8.3,SNR=4.2
NVAR PP **PKiKP 03 11 35.8 +0.8**
comp=Z,0.4nm,0.5s,baz=267,slow=4.5,SNR=3.5
KKB Krupnik 103.28 314 *eP* **PP 03 11 34.2 +3.4**

PSZ Piszkesteto 103.67 320 *e*P **Pdif** **03 07 16.8 -0.4**
PSZ MLR MLR
comp=Z,758nm,20.0s
PSZ Piszkesteto 103.67 320 *e*Pdif **Pdif** **03 07 16.8 -0.4**
PSZ LR LR
comp=Z,758nm,20.0s
OKC Ostrava-Krasne 104.10 323 *e*P **Pdif** **03 07 19.2 +0.2**
OKC *e*SP SP 03 20 48.5 +3.2
OKC MLR MLR
comp=Z,700nm,21.7s
OKC Ostrava-Krasne 104.10 323 *e*PDIFF **Pdif** **03 07 19.2 +0.2**
OKC *e*PP PKiKP 03 11 29.6 -6.5
OKC *e*SP SP 03 20 48.5 +3.2
OKC AMS AMS 03 58 00.0
comp=Z,700nm,21.7s
VYHS Vyhne 104.15 321 *i* P **Pdif** **03 07 19.1 -0.1**
VYHS Vyhne 104.15 321 PDIF **Pdif** **03 07 19.1 -0.1**
KONO Kongsberg 104.32 334 PFAKE 03 07 30.0 +10
KONO LR LR
comp=Z,1μm,19.0s
MORC Moravsky Berou 104.49 323 *e*P **Pdif** **03 07 20.7 -0.1**
MORC pmax pmax
comp=Z,6.0nm,1.4s
MORC Moravsky Berou 104.49 323 *e*Pdif **Pdif** **03 07 20.7 -0.1**
comp=Z,5.7nm,1.4s
HLID Hailey 104.65 44 PFAKE 03 07 30.0 +8.2
HLID LR LR
comp=Z,889nm,19.0s
KSP Ksiaz 104.84 324 *e*P **Pdif** **03 07 22.2 0.0**
KSP *e* 03 11 42.5
KSP *e*SP SP 03 20 51.0 -1.9
KSP Ksiaz 104.84 324 *e*P **Pdif** **03 07 22.5 +0.3**
LSZ Lusaka 104.89 255 PFAKE 03 07 30.0 +6.7
LSZ LR LR
comp=Z,2μm,20.0s
DPC Dobruska-Polom 105.01 324 *e*P **Pdif** **03 07 23.2 +0.1**
DPC *e* 03 11 46.7
DPC *e*SP SP 03 20 53.8 -1.0
DPC *e*SS **SS** **03 26 31.9 -4.3**
DPC Dobruska-Polom 105.01 324 *e*PDIFF **Pdif** **03 07 23.2 +0.1**
DPC *e*PP **PP** **03 11 46.7 +3.4**
DPC *e*SP SP 03 20 53.8 -1.0
DPC *e*SS **SS** **03 26 31.9 -4.3**
DPC AMS AMS 03 59 10.0
UPC Upice 105.13 324 *e*P **Pdif** **03 07 23.7 +0.2**
UPC *e* 03 11 41.7
UPC Upice 105.13 324 *e*PDIFF **Pdif** **03 07 23.7 +0.2**
UPC *e*PP **PP** **03 11 41.7 -2.4**
R11A Troy Canyon, C 105.26 49 ⇓PKiKP **PKiKP** **03 11 38.0 -0.9**
baz=105
PFO Pinyon Flats O 105.76 54 PFAKE 03 11 50.0
PFO LR LR
comp=Z,1μm,19.0s
BOZ Bozeman (W) 105.86 41 PFAKE 03 11 50.0
BOZ LR LR
comp=Z,926nm,20.0s
TREC Trest 105.91 323 AMS AMS 03 59 50.0
comp=Z,600nm,15.1s
PVCC Panska Ves 105.97 324 *e*P **Pdif** **03 07 23.5 -3.8**
PVCC *e*SP SP 03 21 03.7 -1.0
PVCC MLR MLR
comp=Z,700nm,16.4s
PVCC Panska Ves 105.97 324 *e*PDIFF **Pdif** **03 07 23.5 -3.8**
PVCC *e*x x 03 07 27.5
PVCC *e*SP SP 03 21 03.7 -1.0
PVCC AMS AMS 03 56 20.0
comp=Z,700nm,16.4s
BELC Belle Mtn. Jos 106.03 54 ⇓PKiKP **PKiKP** **03 11 40.5 +0.2**
baz=106
SHPR Sheep Range 106.07 51 *e*PKP **PKiKP** **03 11 41.4 +1.0**
SHPR *e*PP **PP** **03 11 51.2 -0.7**
BRG Berggiesshubel 106.19 325 P **Pdif** **03 07 27.0 -1.2**
BRG *e* 03 11 53.3
BRG PS **PS** **03 21 07.0 -3.3**
BRG SS SS 03 27 05.0 +13
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG pmax pmax
comp=Z,41nm,1.8s
BRG MLR MLR
comp=N,524nm,20.9s
BRG MLR MLR
comp=E,318nm,20.9s
BRG MLR MLR
comp=Z,686nm,16.7s
BRG Berggiesshubel 106.19 325 PDIFF **Pdif** **03 07 27.0 -1.2**
BRG *e* 03 07 32.8
comp=Z,10nm,1.2s
BRG *e*PP **PP** **03 11 53.3 +1.4**
comp=Z,41nm,1.8s
BRG PS **PS** **03 21 07.0 -3.3**
BRG SS SS 03 27 05.0 +13
comp=N,524nm,20.9s
comp=E,318nm,20.9s
comp=Z,686nm,16.7s
EGMT Eagleton 106.20 38 ⇓PKiKP **PKiKP** **03 11 40.6 +0.5**
baz=106
EGMT Eagleton 106.20 38 PFAKE 03 11 50.0
EGMT LR LR
comp=Z,846nm,22.0s
PRU Pruhonice 106.20 324 *e*P **Pdif** **03 07 28.5 +0.2**
PRU *e* 03 11 52.4
PRU *e*SP SP 03 21 03.3 -3.8
PRU *e*SS **SKKPbc** **03 26 47.4 +2.7**
PRU MLR MLR
comp=Z,700nm,19.7s
PRU Pruhonice 106.20 324 *e*PDIFF **Pdif** **03 07 28.5 +0.2**
PRU *e*pP 03 07 33.0
PRU *e*PP **PP** **03 11 52.4 +0.4**
PRU *e*SP SP 03 21 03.3 -3.8
PRU *e*SS **SKKPbc** **03 26 47.4 +2.7**
PRU AMS AMS 03 56 40.0
comp=Z,700nm,19.7s
A19A Klindworth Far 106.47 37 ⇑PKiKP **PKiKP** **03 11 41.4 +0.8**
baz=106
LDFC Landfair 106.48 53 *e*PKP **PKiKP** **03 11 40.7 -0.3**
LDFC *e*PP **PP** **03 11 54.8 -0.1**
CLL Collm 106.54 325 *i* P **Pdif** **03 07 29.1 -0.7**
CLL *e* 03 11 56.0
CLL *e* 03 18 06.0
CLL pmax pmax
comp=Z,12nm,1.1s
CLL pmax pmax
comp=Z,16nm,1.6s
CLL pmax pmax
comp=Z,15nm,1.3s
CLL MLR MLR
comp=Z,1μm,19.6s
CLL Collm 106.54 325 ⇑*i*Pdif **Pdif** **03 07 29.1 -0.7**
comp=Z,12nm,1.1s
CLL *i* sPdif sPdif 03 07 33.8 -5.7
CLL *i* PKiKP **PKiKP** **03 11 41.9 +1.4**
comp=Z,16nm,1.6s
CLL *e*PP **PP** **03 11 56.0 +1.5**
comp=Z,15nm,1.3s
CLL *e* 03 12 10.0
CLL *e*PPP PPP 03 14 10.0
CLL *e*SKSac **SKSac** **03 18 06.0 -2.8**
CLL *e*Sdif **Sdif** **03 19 21.0 -7.8**
CLL *e*PS **PS** **03 21 12.0 -1.9**
CLL *e*PPS PPS 03 22 07.0
CLL *e*SS **SS** **03 27 02.0 +5.1**
CLL *e*SSS SSS 03 31 06.0
CLL LmH 03 51 00.0
comp=N,1μm,20.3s
CLL LmH 03 51 00.0
comp=E,800nm,20.7s
CLL LmV 03 58 00.0
comp=N,500nm,20.0s
CLL LmV 03 58 00.0
comp=E,900nm,18.4s
CLL LmV 03 58 00.0
comp=Z,1μm,19.6s
BOSA Boshof 106.63 241 *e*PKP **PKiKP** **03 11 42.0 +0.5**
LBTB Lobatse 106.71 245 *e*PKP **PKiKP** **03 11 41.7 -0.1**
C19A Slack Wire Ran 106.75 39 ⇓PKiKP **PKiKP** **03 11 41.9 +0.7**
baz=107
DUG Dugway, Tooele 106.80 47 ⇓PKiKP **PKiKP** **03 11 41.9 +0.4**
baz=107
DUG Dugway, Tooele 106.80 47 PFAKE 03 11 50.0
DUG LR LR
comp=Z,941nm,20.0s
A20A Cobblestone Ra 106.98 37 ⇑PKiKP **PKiKP** **03 11 42.5 +1.0**
baz=107

H17A Grant Village 106.99 42 ⇓PKiKP **PKiKP** **03 11 43.2 +1.3**
baz=107
LKWY Lake 107.05 42 PFAKE 03 11 50.0
LKWY LR LR
comp=Z,976nm,20.0s
B20A Solberg Farm, 107.10 38 ⇓PKiKP **PKiKP** **03 11 42.5 +0.8**
baz=107
KHC Kasperske Hory 107.13 323 *e*P **Pdif** **03 07 31.1 -1.4**
KHC *e* 03 11 59.5
KHC *e*SP SP 03 21 16.5 -0.2
KHC MLR MLR
comp=Z,900nm,22.8s
KHC Kasperske Hory 107.13 323 *e*PDIFF **Pdif** **03 07 31.1 -1.4**
KHC *e*pP 03 07 37.0
KHC *e*PP **PP** **03 11 59.5 +0.6**
KHC *e*SP SP 03 21 16.5 -0.2
KHC AMS AMS 03 59 40.0
comp=Z,900nm,22.8s
GERES GERESS Array B 107.17 323 Pdiff **Pdif** **03 07 32.4 -0.4**
comp=Z,2.6nm,1.1s,baz=67,slow=3.5,SNR=9.4
GERES PKiKP **PKiKP** **03 11 41.9 -0.1**
comp=Z,0.6nm,0.5s,baz=67,slow=2.6,SNR=3.7
AHID Auburn Hatcher 107.20 44 PFAKE 03 11 50.0
AHID LR LR
comp=Z,712nm,22.0s
HWUT Hardware Ranch 107.26 45 PFAKE 03 11 50.0
HWUT LR LR
comp=Z,748nm,19.0s
C20A Veseth Ranch, 107.40 38 ⇑PKiKP **PKiKP** **03 11 43.0 +0.7**
baz=107
W13A Hualapai Mount 107.44 52 ⇑PKiKP **PKiKP** **03 11 43.8 +0.8**
baz=107
PDMCI Parker Dam,Lak 107.45 53 ⇑PKiKP **PKiKP** **03 11 43.7 +1.0**
baz=107
PDKS Podkum 107.47 320 *e*Pdiff **Pdif** **03 07 34.4 +0.3**
H18A Shoshone NF, C 107.50 42 ⇓PKiKP **PKiKP** **03 11 44.0 +1.1**
baz=107
A21A Bergtoll Ranch 107.53 37 ⇑PKiKP **PKiKP** **03 11 43.5 +1.0**
baz=107
F19A Roth Farm, Mol 107.53 40 ⇓PKiKP **PKiKP** **03 11 43.5 +0.8**
baz=107
FFC Flin Flon 107.57 30 *e*PKP **PKiKP** **03 11 42.1 -0.2**
FFC LR LR
comp=Z,434nm,19.0s
D20A Manuel Ranch, 107.57 39 ⇓PKiKP **PKiKP** **03 11 43.3 +0.6**
baz=108
RLMT Red Lodge 107.60 41 PFAKE 03 11 50.0
RLMT LR LR
comp=Z,766nm,20.0s
C21A Desert Coulee 107.92 38 ⇑PKiKP **PKiKP** **03 11 43.0 -0.3**
baz=108
H19A Powell 107.95 41 ⇓PKiKP **PKiKP** **03 11 43.9 +0.4**
baz=108
A22A Carney Farms, 108.14 36 ⇓PKiKP **PKiKP** **03 11 44.4 +0.8**
baz=108
I19A Meeteetse 108.18 42 ⇓PKiKP **PKiKP** **03 11 45.0 +0.9**
baz=108
VOJS Vojsko 108.19 320 *e*Pdiff **Pdif** **03 07 37.0 -0.4**
VOJS *e* 03 11 43.5
VOJS *e*PP **PP** **03 12 06.8 -0.1**
VOJS *e* 03 22 30.2
CADS Cadrg 108.21 320 *e*Pdiff **Pdif** **03 07 36.8 -0.6**
G20A Bridger 108.25 41 ⇑PKiKP **PKiKP** **03 11 44.7 +0.6**
baz=108
BW06 Boulder Array 108.26 44 PFAKE 03 12 00.0
BW06 LR LR
comp=Z,1μm,19.0s
PDAR Pinedale Array 108.26 44 PKiKP **PKiKP** **03 11 44.6 +0.3**
comp=Z,0.6nm,0.6s,baz=294,slow=1.5,SNR=5.7
PDAR PKKPbc **PKKPbc** **03 22 54.1 -2.6**
comp=Z,0.7nm,0.9s,baz=141,slow=5.0,SNR=4.7
PDAR PKKP **PKKPab** **03 23 08.2 -1.3**
comp=Z,3.5nm,1.1s,baz=116,slow=3.4,SNR=12
D21A La Casta Ranch 108.29 39 ⇑PKiKP **PKiKP** **03 11 44.9 +0.9**
baz=108
U15A North Rim 108.32 51 ⇑PKiKP **PKiKP** **03 11 44.5 -0.2**
baz=108
J19A Crowheart 108.43 43 ⇓PKiKP **PKiKP** **03 11 45.0 +0.5**
baz=108
E21A Keefer Ranch, 108.46 39 ⇓PKiKP **PKiKP** **03 11 45.8 +1.5**
baz=108
Z14A Wintersburg 108.66 54 ⇓PKiKP **PKiKP** **03 11 45.0 0.0**
baz=109
H20A Greybull 108.67 41 ⇓PKiKP **PKiKP** **03 11 45.2 +0.3**
baz=109
TIP Timpagrande 108.68 313 PFAKE 03 12 00.0
TIP LR LR
comp=Z,268nm,22.0s
C22A Vida 108.69 38 ⇓PKiKP **PKiKP** **03 11 45.1 +0.4**
baz=109
F21A Absaloka Mine, 108.72 40 ⇑PKiKP **PKiKP** **03 11 44.9 0.0**
baz=109
D22A Cohagen 108.77 38 ⇑PKiKP **PKiKP** **03 11 45.8 +0.9**
baz=109
ABTA Abfaltersbach 108.77 321 ⇑*i*PKiKP **PKiKP** **03 11 44.7 -0.2**
comp=Z,11nm,1.3s
I20A Worland 108.80 42 ⇑PKiKP **PKiKP** **03 11 45.8 +0.7**
baz=109
FCC Fort Churchill 108.81 24 *e*PKP **PKiKP** **03 11 44.5 0.0**
FCC *e*PP **PP** **03 12 09.4 -1.3**
G21A Lodge Grass 108.90 40 ⇓PKiKP **PKiKP** **03 11 45.4 +0.1**
baz=109
B23A Brockton 108.92 37 ⇓PKiKP **PKiKP** **03 11 46.0 +0.9**
baz=109
LAO LASA Array 108.93 39 PFAKE 03 12 00.0
LAO LR LR
comp=Z,629nm,19.0s
J20A Shoshoni 109.05 43 ⇓PKiKP **PKiKP** **03 11 46.4 +0.7**
baz=109
CUC Castrocucco 109.09 314 PFAKE 03 12 00.0
CUC LR LR
comp=Z,396nm,22.0s
C23A Lambert 109.09 37 ⇓PKiKP **PKiKP** **03 11 45.7 +0.2**
baz=109
E22A Miles City 109.21 39 ⇓PKiKP **PKiKP** **03 11 46.1 +0.3**
baz=109
H21A Big Horn, Sher 109.25 41 ⇑PKiKP **PKiKP** **03 11 46.9 +0.9**
baz=109
F22A Rosebud 109.29 40 ⇓PKiKP **PKiKP** **03 11 46.2 +0.3**
baz=109
WUAZ Wupatki 109.30 51 ⇑PKiKP **PKiKP** **03 11 46.4 0.0**
baz=109
WUAZ Wupatki 109.30 51 PFAKE 03 12 00.0
WUAZ LR LR
comp=Z,875nm,19.0s
D23A Lindsay 109.36 38 ⇑PKiKP **PKiKP** **03 11 46.8 +0.8**
baz=109
I21A Big Trails, Te 109.41 42 ⇑PKiKP **PKiKP** **03 11 46.6 +0.2**
baz=109
J21A Lysite 109.48 42 ⇓PKiKP **PKiKP** **03 11 46.6 +0.1**
baz=109
G22A Birney 109.50 40 ⇓PKiKP **PKiKP** **03 11 46.5 +0.1**
baz=109
X16A Lo Mia Camp, P 109.56 52 ⇓PKiKP **PKiKP** **03 11 48.2 +1.2**
baz=110
E23A Ismay 109.58 39 ⇓PKiKP **PKiKP** **03 11 47.4 +0.9**
baz=110
CEL Celeste 109.62 312 PFAKE 03 12 00.0
CEL LR LR
comp=Z,449nm,22.0s
C24A Savage 109.67 37 ⇓PKiKP **PKiKP** **03 11 47.9 +1.4**
baz=110,SNR=6.5
H22A Clearmont 109.71 41 ⇓PKiKP **PKiKP** **03 11 47.9 +1.1**
baz=110
A25A Svangstu Ranch 109.81 36 ⇓PKiKP **PKiKP** **03 11 47.8 +1.0**
baz=110
F23A Volborg 109.86 39 ⇑PKiKP **PKiKP** **03 11 46.2 -0.8**
baz=110
N20A Spence Gulch, 109.86 45 ⇓PKiKP **PKiKP** **03 11 48.2 +0.8**
baz=110
SUR Sutherland 109.86 236 PFAKE 03 12 00.0
SUR LR LR
comp=Z,1μm,19.0s
STU Stuttgart 109.88 324 *e*PKP **PKiKP** **03 11 48.0 +1.2**
K21A Alcova 109.89 43 ⇑PKiKP **PKiKP** **03 11 47.5 +0.1**
baz=110
I22A 9 Mile Ranch, 109.91 42 ⇓PKiKP **PKiKP** **03 11 47.5 +0.3**
baz=110
D24A Glendive 109.92 38 ⇑PKiKP **PKiKP** **03 11 47.7 +0.7**
baz=110
AQU L'Aquila 109.94 317 *e*PKP **PKiKP** **03 11 46.1 -1.1**
AQU *e*PP **PP** **03 12 17.4 -2.3**
AQU LR LR
comp=Z,534nm,19.0s
G23A Biddle 110.08 40 ⇓PKiKP **PKiKP** **03 11 48.4 +0.9**
baz=110
J22A Midwest 110.11 42 ⇑PKiKP **PKiKP** **03 11 47.6 -0.1**
baz=110

O20A White River Ci 110.13 46 ⇓PKiKP **PKiKP** **03 11 48.5 +0.6**
baz=110
DAVA Damuels 110.16 323 ⇑*i*PKiKP **PKiKP** **03 11 46.9 -0.8**
comp=Z,7.7nm,1.2s
E24A Baker 110.18 38 ⇑PKiKP **PKiKP** **03 11 48.3 +0.7**
baz=110
C25A Freed Ranch, W 110.30 37 ⇑PKiKP **PKiKP** **03 11 48.5 +0.8**
baz=110
K22A Casper 110.38 43 ⇓PKiKP **PKiKP** **03 11 48.4 +0.1**
baz=110
F24A Ekalaka 110.41 39 ⇑PKiKP **PKiKP** **03 11 48.8 +0.7**
baz=110
A26A Wade Farm, Ken 110.45 35 ⇓PKiKP **PKiKP** **03 11 48.8 +0.8**
baz=110
D25A Fairfield 110.52 37 ⇓PKiKP **PKiKP** **03 11 49.0 +0.8**
baz=110
B26A Jensen Ranch, 110.59 36 ⇑PKiKP **PKiKP** **03 11 48.4 +0.1**
baz=110
BFO Black Forest 110.59 324 PFAKE 03 12 00.0
BFO LR LR
comp=Z,658nm,20.0s
G24A Alzada 110.65 39 ⇓PKiKP **PKiKP** **03 11 48.6 0.0**
baz=110
L22A Ellis Ranch, M 110.68 43 ⇑PKiKP **PKiKP** **03 11 49.9 +1.0**
baz=111
TUC Tucson 110.69 54 PFAKE 03 12 00.0
TUC LR LR
comp=Z,704nm,19.0s
X18A Snowflake 110.71 52 ⇑PKiKP **PKiKP** **03 11 49.2 +0.1**
baz=111
J23A Dilts Ranch, B 110.73 42 ⇓PKiKP **PKiKP** **03 11 49.5 +0.7**
baz=111
E25A Miller Ranch, 110.76 38 ⇑PKiKP **PKiKP** **03 11 49.5 +0.8**
baz=111
M22A Cedar Creek Ra 110.81 44 ⇑PKiKP **PKiKP** **03 11 50.0 +0.8**
baz=111
H24A Dirks Ranch, A 110.82 40 ⇑PKiKP **PKiKP** **03 11 49.3 +0.4**
baz=111
TUE Stuetta 110.85 322 PFAKE 03 12 00.0
TUE LR LR
comp=Z,932nm,20.0s
A27A Ledoux Ranch, 110.88 35 ⇑PKiKP **PKiKP** **03 11 50.1 +1.3**
baz=111
C26A Wahner Farm, P 110.93 36 ⇓PKiKP **PKiKP** **03 11 50.3 +1.3**
baz=111
SFJD Kangerlussuaq 110.94 2 PFAKE 03 12 00.0
SFJD LR LR
comp=Z,435nm,20.0s
K23A Bowen Ranch, D 110.94 42 ⇑PKiKP **PKiKP** **03 11 50.5 +1.2**
baz=111
MVCO Mesa Verde 110.96 49 ⇑PKiKP **PKiKP** **03 11 50.1 +0.5**
baz=111
MVCO Mesa Verde 110.96 49 PFAKE 03 12 00.0
MVCO LR LR
comp=Z,1μm,19.0s
F25A Bowman 110.99 39 ⇓PKiKP **PKiKP** **03 11 50.9 +1.7**
baz=111
D26A Manning 111.11 37 ⇑PKiKP **PKiKP** **03 11 50.3 +1.0**
baz=111
B27A Peters Farms, 111.14 35 ⇓PKiKP **PKiKP** **03 11 50.5 +1.2**
baz=111
N22A Wattenberg Ran 111.14 45 ⇑PKiKP **PKiKP** **03 11 50.1 +0.3**
baz=111
I24A Kuemmerle Ranc 111.15 41 ⇑PKiKP **PKiKP** **03 11 49.8 +0.3**
baz=111
L23A Garrett 111.15 43 ⇓PKiKP **PKiKP** **03 11 50.1 +0.4**
baz=111
WLF Walferdange 111.17 326 *e*PKIKP **PKiKP** **03 11 49.4 +0.1**
WLF MLR MLR
comp=Z,956nm,22.0s
WLF Walferdange 111.17 326 *e*PKP **PKiKP** **03 11 49.4 +0.1**
WLF LR LR
comp=Z,956nm,22.0s
VLC Villacollemand 111.22 319 PFAKE 03 12 00.0
VLC LR LR
comp=Z,682nm,19.0s
O22A Kremmling 111.32 45 ⇑PKiKP **PKiKP** **03 11 50.3 0.0**
baz=111
ECH Echery 111.33 324 PFAKE 03 12 00.0
ECH LR LR
comp=Z,511nm,22.0s
C27A Sayler Ranch, 111.34 36 ⇑PKiKP **PKiKP** **03 11 50.1 +0.4**
baz=111
G25A Newell 111.34 39 ⇑PKiKP **PKiKP** **03 11 50.2 +0.4**
baz=111
J24A Dixon Ranch, L 111.35 41 ⇑PKiKP **PKiKP** **03 11 50.2 +0.2**
baz=111
E26A Carlson Angus 111.35 38 ⇓PKiKP **PKiKP** **03 11 50.5 +0.7**
baz=111
P22A Eagle 111.39 46 ⇑PKiKP **PKiKP** **03 11 50.4 +0.1**
baz=111
M23A Laramie 111.39 44 ⇑PKiKP **PKiKP** **03 11 50.0 -0.2**
baz=111
WDD Wield Dalam 111.44 310 PFAKE 03 12 00.0
WDD LR LR
comp=Z,779nm,21.0s
A28A Rude Farm, Bot 111.46 35 ⇓PKiKP **PKiKP** **03 11 50.4 +0.5**
baz=111
N23A Red Feather La 111.47 44 ⇓PKiKP **PKiKP** **03 11 50.5 0.0**
baz=111
H25A Fruitdale 111.48 40 ⇓PKiKP **PKiKP** **03 11 50.3 +0.1**
baz=111
F26A Lodgepole 111.51 38 ⇓PKiKP **PKiKP** **03 11 50.4 +0.3**
baz=111
D27A Center 111.62 37 ⇑PKiKP **PKiKP** **03 11 50.7 +0.4**
baz=112
B28A Dugan Ranch, T 111.64 35 ⇑PKiKP **PKiKP** **03 11 50.9 +0.7**
baz=112
I25A Rochford 111.66 40 ⇑PKiKP **PKiKP** **03 11 50.7 +0.1**
baz=112,SNR=5.1
L24A Wheatland 111.70 43 ⇓PKiKP **PKiKP** **03 11 49.7 -1.0**
baz=112
HINF Hinteralfeld 111.71 324 *e*PKIKP **PKiKP** **03 11 50.2 -0.2**
HINF Hinteralfeld 111.71 324 *e*PKIKP **PKiKP** **03 11 50.2 -0.2**
HINF Hinteralfeld 111.71 324 *e*PKPdf **PKiKP** **03 11 50.2 -0.2**
O23A Lake Granby, G 111.75 45 ⇑PKiKP **PKiKP** **03 11 51.3 +0.2**
baz=112
G26A Maurine 111.81 39 ⇓PKiKP **PKiKP** **03 11 51.1 +0.4**
baz=112
J25A Sunshine Ranch 111.89 41 ⇓PKiKP **PKiKP** **03 11 51.4 +0.4**
baz=112,SNR=6.7
F27A Lemmon 111.91 38 ⇓PKiKP **PKiKP** **03 11 51.3 +0.4**
baz=112
HAU Haudompre 111.91 325 *e*PKIKP **PKiKP** **03 11 50.5 -0.3**
HAU Haudompre 111.91 325 *e*PKIKP **PKiKP** **03 11 50.5 -0.3**
HAU Haudompre 111.91 325 *e*PKPdf **PKiKP** **03 11 50.5 -0.3**
E27A Carson 111.92 37 ⇓PKiKP **PKiKP** **03 11 51.7 +0.8**
baz=112
C28A Hausauer Farms 111.99 36 ⇑PKiKP **PKiKP** **03 11 51.9 +1.0**
baz=112
M24A Cheyenne 112.01 43 ⇑PKiKP **PKiKP** **03 11 52.4 +1.1**
baz=112
S22A 4UR Ranch, Cre 112.02 48 ⇑PKiKP **PKiKP** **03 11 52.7 +1.0**
baz=112
A29A Manning Farm, 112.03 34 ⇓PKiKP **PKiKP** **03 11 51.4 +0.4**
baz=112,SNR=6.3
ISCO Idaho Springs 112.13 45 ⇓PKiKP **PKiKP** **03 11 51.8 0.0**
baz=112
ISCO Idaho Springs 112.13 45 PFAKE 03 12 00.0
ISCO LR LR
comp=Z,643nm,20.0s
P23A Jefferson 112.13 46 ⇓PKiKP **PKiKP** **03 11 51.2 -0.6**
baz=112
D28A Regan 112.14 36 ⇑PKiKP **PKiKP** **03 11 51.7 +0.4**
baz=112
319A Douglas 112.19 55 ⇑PKiKP **PKiKP** **03 11 52.8 +0.8**
baz=112
G27A Dupree 112.19 39 ⇓PKiKP **PKiKP** **03 11 51.8 +0.4**
baz=112,SNR=8.3
B29A Wagenman Farm,112.20 35 ⇓PKiKP **PKiKP** **03 11 52.0 +0.7**
baz=112
I26A New Underwood 112.22 40 ⇑PKiKP **PKiKP** **03 11 52.2 +0.6**
baz=112
N24A Carr 112.23 44 ⇑PKiKP **PKiKP** **03 11 52.8 +1.0**
baz=112
FRB Frobisher Bay 112.31 10 PKKPab PKKPab 03 22 49.2 -1.9
comp=Z,2.1nm,1.1s,baz=196,slow=3.6,SNR=3.6
E28A Huff 112.38 37 ⇓PKiKP **PKiKP** **03 11 52.4 +0.7**
baz=112
MDND Maddock 112.38 35 ⇑PKiKP **PKiKP** **03 11 52.6 +1.0**
baz=112
O24A Longmont 112.38 45 ⇓PKiKP **PKiKP** **03 11 52.6 +0.5**
baz=112
MEZF Maizieres J'vi 112.39 325 *e*PKIKP **PKiKP** **03 11 52.1 +0.5**
MEZF Maizieres J'vi 112.39 325 *e*PKPdf **PKiKP** **03 11 52.1 +0.5**
J26A Sides Ranch, S 112.40 41 ⇓PKiKP **PKiKP** **03 11 53.0 +1.1**

baz=112,SNR=5.1
ESK Eskdalemuir 112.44 335 PFAKE 03 12 00.0
ESK LR LR
comp=Z,916nm,20.0s
H27A Howes 112.45 39 ⇓PKiKP **PKiKP 03 11 51.8 -0.1**
baz=112,SNR=6.7
U22A Llaves 112.48 49 ⇓PKiKP **PKiKP 03 11 54.0 +1.5**
baz=112,SNR=5.3
A30A Hoffart Farm, 112.55 34 ⇑PKiKP **PKiKP 03 11 52.2 +0.2**
baz=112
R23A Moffat 112.59 47 ⇑PKiKP **PKiKP 03 11 53.4 +0.7**
baz=112
K26A Motz Farm, Whi 112.60 42 ⇑PKiKP **PKiKP 03 11 52.9 +0.5**
baz=112
V22A San Miguel Ran 112.61 50 ⇓PKiKP **PKiKP 03 11 54.3 +1.6**
baz=112,SNR=5.7
F28A McLaughlin 112.67 38 ⇑PKiKP **PKiKP 03 11 52.9 +0.6**
baz=112
I27A Quinn 112.72 40 ⇑PKiKP **PKiKP 03 11 52.7 +0.2**
baz=113
CABF La Chapelle 112.76 323 *e*PKIKP **PKiKP 03 11 52.0 -0.5**
CABF La Chapelle 112.76 323 *e*PKIKP **PKiKP 03 11 52.0 -0.5**
CABF La Chapelle 112.76 323 *e*PKPdf **PKiKP 03 11 52.0 -0.5**
D29A Pettibone, Tap 112.79 36 ⇑PKiKP **PKiKP 03 11 52.4 0.0**
baz=113
B30A Myrvik Farm, E 112.79 34 ⇓PKiKP **PKiKP 03 11 52.9 +0.5**
baz=113
T23A Casias Ranch, 112.86 48 ⇓PKiKP **PKiKP 03 11 53.2 0.0**
baz=113
LPG La Plagne 112.91 322 *e*PKIKP **PKiKP 03 11 53.6 +0.5**
LPG La Plagne 112.91 322 *e*PKIKP **PKiKP 03 11 53.6 +0.5**
LPG La Plagne 112.91 322 *e*PKPdf **PKiKP 03 11 53.6 +0.5**
LPL La Plagne 112.91 322 *e*PKIKP **PKiKP 03 11 53.5 +0.5**
comp=Z,3.4nm,0.5s
LPL La Plagne 112.91 322 *e*PKIKP **PKiKP 03 11 53.5 +0.5**
LPL La Plagne 112.91 322 *e*PKPdf **PKiKP 03 11 53.5 +0.5**
L26A Underwood Farm 112.96 42 ⇑PKiKP **PKiKP 03 11 54.3 +1.3**
baz=113
G28A Parade 112.97 38 ⇓PKiKP **PKiKP 03 11 53.1 +0.2**
baz=113,SNR=5.6
U23A El Rito 113.00 49 ⇑PKiKP **PKiKP 03 11 54.9 +1.4**
baz=113
E29A Napoleon 113.01 37 ⇓PKiKP **PKiKP 03 11 53.0 0.0**
baz=113
121A Cookes Peak, D 113.05 53 ⇑PKiKP **PKiKP 03 11 53.5 -0.1**
baz=113
H28A Mission Ridge 113.09 39 ⇓PKiKP **PKiKP 03 11 53.1 -0.1**
baz=113
C30A Mose, Pekin 113.10 35 ⇑PKiKP **PKiKP 03 11 53.2 +0.2**
baz=113
J27A Elkhorn Farm, 113.12 41 ⇑PKiKP **PKiKP 03 11 53.9 +0.6**
baz=113
ULM Lac du Bonnet 113.13 32 PKiKP **PKiKP 03 11 52.1 -0.8**
comp=Z,1.8nm,0.5s,baz=269,slow=3.8,SNR=3.8
ULM PP **PP 03 12 44.9 +2.8**
comp=Z,4.1nm,1.1s,baz=312,slow=4.4,SNR=5.2
ULM PKKPab **PKKPab 03 22 45.1 -2.5**
comp=Z,11nm,1.0s,baz=119,slow=3.9,SNR=14
M26A McRoberts Ranc 113.16 43 ⇓PKiKP **PKiKP 03 11 53.4 -0.1**
baz=113
BNI Bardonecchia 113.17 322 *e*PKIKP **PKiKP 03 11 54.1 +0.7**
BNI MLR MLR
comp=Z,1μm,20.0s
BNI Bardonecchia 113.17 322 *e*PKP **PKiKP 03 11 54.1 +0.7**
BNI LR LR
comp=Z,1μm,20.0s
V23A Ortiz Mt. (NFS 113.22 50 ⇓PKiKP **PKiKP 03 11 55.5 +1.6**
baz=113
K27A Flueckinger Fa 113.22 41 ⇓PKiKP **PKiKP 03 11 53.8 +0.3**
baz=113
S24A Houchin Ranch, 113.25 47 ⇓PKiKP **PKiKP 03 11 54.7 +0.7**
baz=113
D30A Buchanan 113.25 36 ⇑PKiKP **PKiKP 03 11 53.8 +0.4**
baz=113
P25A Willow Gulch B 113.26 45 ⇑PKiKP **PKiKP 03 11 54.6 +0.8**
baz=113,SNR=6.0
F29A Eureka 113.27 37 ⇑PKiKP **PKiKP 03 11 53.6 +0.2**
baz=113
ANMO Albuquerque 113.29 50 ⇓*i*PKIKP **PKiKP 03 11 54.9 +0.9**
ANMO pmax pmax
comp=Z,25nm,1.0s
ANMO Albuquerque 113.29 50 PFAKE 03 12 10.0
ANMO LR LR
comp=Z,648nm,19.0s
I28A Midland 113.32 40 ⇓PKiKP **PKiKP 03 11 53.5 -0.1**
baz=113
T24B San Luis 113.34 48 ⇑PKiKP **PKiKP 03 11 54.2 0.0**
baz=113
N26A Koester Ranch, 113.38 43 ⇓PKiKP **PKiKP 03 11 54.3 +0.4**
baz=113
Q25A Bedland, Calha 113.45 46 ⇑PKiKP **PKiKP 03 11 54.1 -0.1**
baz=113
W23A Werner Place, 113.45 50 ⇑PKiKP **PKiKP 03 11 55.3 +0.9**
baz=113
Z22A Elephant Butte 113.47 52 ⇓PKiKP **PKiKP 03 11 55.0 +0.6**
baz=113
E30A Jud 113.48 36 ⇑PKiKP **PKiKP 03 11 54.2 +0.4**
baz=113
J28A Allard Ranch, 113.55 40 ⇓PKiKP **PKiKP 03 11 54.1 0.0**
baz=113,SNR=8.5
O26A Horse Wrangler 113.56 44 ⇓PKiKP **PKiKP 03 11 54.3 -0.1**
baz=114
H29A Onida 113.62 39 ⇑PKiKP **PKiKP 03 11 54.1 0.0**
baz=114
M27A Reverse DX Ran 113.64 42 ⇑PKiKP **PKiKP 03 11 54.1 -0.3**
baz=114
U24A Moreno Valley 113.66 49 ⇑PKiKP **PKiKP 03 11 54.8 0.0**
baz=114
R25A Fountain Ranch 113.73 46 ⇓PKiKP **PKiKP 03 11 55.1 +0.4**
baz=114
ORIF Oris-en-Rattie 113.73 322 *e*PKIKP **PKiKP 03 11 54.6 +0.2**
comp=Z,20nm,1.2s
ORIF Oris-en-Rattie 113.73 322 *e*PKIKP **PKiKP 03 11 54.6 +0.2**
ORIF Oris-en-Rattie 113.73 322 *e*PKPdf **PKiKP 03 11 54.6 +0.2**
K28A Ten Mile Ranch 113.79 41 ⇑PKiKP **PKiKP 03 11 54.6 0.0**
baz=114
S25A Robets Cordova 113.81 47 ⇑PKiKP **PKiKP 03 11 55.7 +0.8**
baz=114
P26A Davis Ranch, A 113.82 45 ⇓PKiKP **PKiKP 03 11 55.4 +0.6**
baz=114,SNR=7.1
N27A Anderson Farm, 113.86 43 ⇑PKiKP **PKiKP 03 11 55.2 +0.4**
baz=114
I29A Vivian Onida 113.86 39 ⇓PKiKP **PKiKP 03 11 55.0 +0.3**
baz=114
VSL Villasalto 113.88 315 PFAKE 03 12 10.0
VSL LR LR
comp=Z,729nm,21.0s
V24A Rampart Ranch, 113.92 49 ⇑PKiKP **PKiKP 03 11 56.1 +0.8**
baz=114,SNR=6.1
Q26A Hugo 113.96 45 ⇓PKiKP **PKiKP 03 11 55.6 +0.5**
baz=114
W24A Lazy 6 Ranch, 114.00 50 ⇑PKiKP **PKiKP 03 11 55.8 +0.4**
baz=114,SNR=10.0
T25A Trinidad 114.03 48 ⇑PKiKP **PKiKP 03 11 55.7 +0.3**
baz=114,SNR=5.7
G30A Faulkton 114.03 38 ⇑PKiKP **PKiKP 03 11 54.9 0.0**
baz=114
SSF Saint Saulge 114.04 325 *e*PKIKP PKPdf 03 11 55.2 +0.4
SSF Saint Saulge 114.04 325 *e*PKIKP PKPdf 03 11 55.2 +0.4
SSF Saint Saulge 114.04 325 *e*PKPdf PKPdf 03 11 55.2 +0.4
J29A Okreek 114.14 40 ⇑PKiKP **PKiKP 03 11 55.3 +0.1**
baz=114,SNR=6.3
OGNE Ogallala 114.14 43 ⇓PKiKP **PKiKP 03 11 55.7 +0.4**
baz=114
OGNE Ogallala 114.14 43 PFAKE 03 12 10.0 +15
OGNE LR LR
comp=Z,506nm,20.0s
O27A Beecher Island 114.16 44 ⇓PKiKP **PKiKP 03 11 56.2 +0.7**
baz=114
AGMN Agassiz Nation 114.25 33 ⇓PKiKP PKPdf 03 11 55.5 +0.3
baz=114
AGMN Agassiz Nation 114.25 33 PFAKE 03 12 10.0 +15
AGMN LR LR
comp=Z,587nm,20.0s
R26A Arlington 114.27 46 ⇑PKiKP **PKiKP 03 11 56.1 +0.4**
baz=114
AVF Avril sur Loir 114.28 325 *e*PKIKP PKPdf 03 11 54.8 -0.5
AVF Avril sur Loir 114.28 325 *e*PKIKP PKPdf 03 11 54.8 -0.5
AVF Avril sur Loir 114.28 325 *e*PKPdf PKPdf 03 11 54.8 -0.5
U25A Circle Dot Ran 114.31 48 ⇑PKiKP **PKiKP 03 11 56.7 +0.7**
baz=114,SNR=5.7
P27A Ficken Ranch, 114.36 44 ⇓PKiKP **PKiKP 03 11 56.1 +0.2**
baz=114
SSB Saint Sauveur 114.37 323 PFAKE 03 12 10.0 +14
SSB LR LR
comp=Z,648nm,19.0s
V25A Rancho No Teng 114.37 49 ⇓PKiKP **PKiKP 03 11 56.4 +0.3**
baz=114,SNR=9.1
M28A Bar X Bar Ranc 114.39 42 ⇓PKiKP PKPdf 03 11 55.8 0.0
baz=114
Y24A Capitan 114.44 51 ⇑PKiKP **PKiKP 03 11 56.8 +0.6**
baz=114
K29A Lazy Trails An 114.45 40 ⇓PKiKP PKPdf 03 11 57.0 +1.1
baz=114
I30A Oacoma 114.46 39 ⇑PKiKP PKPdf 03 11 56.2 +0.5
baz=114
BRSD Miller 114.49 38 ⇓PKiKP PKPdf 03 11 56.5 +0.7
baz=114
S26A Kim 114.53 47 ⇑PKiKP PKPdf 03 11 56.9 +0.7
baz=114
KSCO Kaye Shedlock' 114.56 45 ⇓PKiKP PKPdf 03 11 56.4 +0.1
baz=114
N28A Pribbeno Ranch 114.59 43 ⇑PKiKP PKPdf 03 11 56.4 +0.2
baz=114
T26A Comanche Natio 114.61 47 ⇑PKiKP PKPdf 03 11 56.7 +0.2
baz=114
L29A Maesberg Ranch 114.67 41 ⇓PKiKP PKPdf 03 11 56.7 +0.4
baz=115
O28A Krutsinger Ran 114.68 44 ⇑PKiKP **PKiKP 03 11 56.3 -0.1**
baz=115
BGF Bois d'Agland 114.70 325 *e*PKIKP PKPdf 03 11 55.8 -0.3
comp=Z,13nm,1.0s
BGF Bois d'Agland 114.70 325 *e*PKIKP PKPdf 03 11 55.8 -0.3
BGF Bois d'Agland 114.70 325 *e*PKPdf PKPdf 03 11 55.8 -0.3
J30A Dallas 114.71 40 ⇑PKiKP PKPdf 03 11 56.3 +0.1
baz=115
TSUM Tsumeb 114.71 250 PFAKE 03 12 10.0 +13
TSUM LR LR
comp=Z,1μm,21.0s
W25A X Bar L Ranch, 114.72 49 ⇓PKiKP PKPdf 03 11 57.3 +0.6
baz=115
R27A Eads 114.74 46 ⇑PKiKP PKPdf 03 11 56.6 0.0
baz=115
U26A Atchley Ranch, 114.81 48 ⇑PKiKP **PKiKP 03 11 56.8 -0.1**
baz=115
X25A Clemmons Ranch 114.82 50 ⇑PKiKP **PKiKP 03 11 56.7 -0.2**
baz=115
M29A Burnside Ranch 114.82 42 ⇑PKiKP PKPdf 03 11 56.9 +0.3
baz=115
S27A Las Animas 114.92 46 ⇑PKiKP PKPdf 03 11 57.8 +0.8
baz=115
P28A Saint Francis 114.93 44 ⇑PKiKP PKPdf 03 11 57.5 +0.6
baz=115
K30A Basset 114.95 40 ⇓PKiKP PKPdf 03 11 57.1 +0.3
baz=115,SNR=5.2
V26A Tequesquite Ra 115.01 49 ⇓PKiKP **PKiKP 03 11 57.1 -0.1**
baz=115,SNR=5.3
Q28A Sharon Springs 115.10 45 ⇓PKiKP **PKPdf 03 11 57.7 +0.4**
baz=115
N29A Votaw Ranch, W 115.15 42 ⇑PKiKP **PKPdf 03 11 57.7 +0.4**
baz=115
TCF Toulx Ste Croi 115.21 325 *e*PKIKP **PKPdf 03 11 57.4 +0.3**
TCF Toulx Ste Croi 115.21 325 *e*PKIKP **PKPdf 03 11 57.4 +0.3**
TCF Toulx Ste Croi 115.21 325 *e*PKPdf **PKPdf 03 11 57.4 +0.3**
L30A Spencer Herefo 115.23 41 ⇓PKiKP **PKPdf 03 11 57.6 +0.3**
baz=115
W26A Owens Ranch, T 115.29 49 ⇑PKiKP **PKPdf 03 11 58.2 +0.4**
baz=115
T27A Campo 115.30 47 ⇑PKiKP **PKPdf 03 11 58.4 +0.7**
baz=115
O29A 4D Ranch, Culb 115.35 43 ⇓PKiKP **PKPdf 03 11 57.9 +0.3**
baz=115
KEST Kesra 115.41 311 PKP **PKPdf 03 11 57.9 0.0**
comp=Z,3.5nm,1.0s,baz=192,slow=4.6,SNR=5.3
KEST Kesra 115.41 311 *e*PKPdf **PKPdf 03 11 57.8 -0.1**
KEST PKP **PKPdf 03 11 57.9 0.0**
R28A Tribune 115.42 45 ⇑PKiKP **PKPdf 03 11 58.2 +0.3**
baz=115
X26A CR and CF Fran 115.46 50 ⇑PKiKP **PKiKP 03 11 58.1 0.0**
baz=115,SNR=6.5
U27A Thompson Grove 115.48 48 ⇓PKiKP **PKiKP 03 11 58.1 0.0**
baz=115
P29A Atwood 115.49 44 ⇑PKiKP **PKPdf 03 11 58.3 +0.3**
baz=115
N30A Hueftle Ranch, 115.52 42 ⇑PKiKP **PKPdf 03 11 58.6 +0.7**
baz=115
S28A Manter 115.68 46 ⇓PKiKP **PKPdf 03 11 59.1 +0.7**
baz=116
L31A Butterfield Fa 115.69 40 ⇑PKiKP **PKPdf 03 11 58.6 +0.4**
baz=116
T28A Walsh 115.72 47 ⇓PKiKP **PKPdf 03 11 59.1 +0.6**
baz=116
V27A Dan Oppiter Fa 115.73 48 ⇑PKiKP **PKPdf 03 11 59.1 +0.5**
baz=116
Q29A Oakley 115.77 45 ⇑PKiKP **PKPdf 03 11 58.9 +0.4**
baz=116
O30A MW Ranch, Wils 115.83 43 ⇓PKiKP **PKPdf 03 11 59.0 +0.4**
baz=116
W27A Bowe Ranch, En 115.84 49 ⇑PKiKP **PKiKP 03 11 58.7 -0.1**
baz=116
R29A Marienthal 115.86 45 ⇓PKiKP **PKPdf 03 11 59.3 +0.6**
baz=116
U28A Mallet 115.94 48 ⇓PKiKP **PKPdf 03 11 59.0 +0.1**
baz=116
X27A F and S Farms, 115.97 50 ⇓PKiKP **PKiKP 03 11 59.0 -0.1**
baz=116
P30A Selden 115.99 44 ⇓PKiKP **PKPdf 03 11 59.4 +0.5**
baz=116
M31A Lambtecht Ranc 116.00 41 ⇑PKiKP **PKiKP 03 11 58.5 -0.3**
baz=116
V28A Channing 116.19 48 ⇑PKiKP **PKiKP 03 12 00.4 +1.0**
baz=116
Y27A Causey 116.21 50 ⇓PKiKP **PKiKP 03 12 00.4 +0.8**
baz=116,SNR=8.7
S29A Ulysses 116.22 46 ⇑PKiKP **PKiKP 03 12 00.2 +0.8**
baz=116
Q30A Quinter 116.26 44 ⇑PKiKP **PKiKP 03 11 59.9 +0.5**
baz=116
N31A Bailey Ranch, 116.27 42 ⇓PKiKP **PKPdf 03 11 59.3 -0.1**
baz=116
T29A Hugoton 116.30 46 ⇑PKiKP **PKiKP 03 12 00.2 +0.6**
baz=116
ECSD EROS Data Cent 116.31 38 ⇑PKiKP **PKiKP 03 11 59.7 +0.4**
baz=116
ECSD EROS Data Cent 116.31 38 *e*PKPdf **PKPdf 03 11 58.3 -1.0**
ECSD *e*PP PP 03 12 58.0 -6.8
ECSD LR LR
comp=Z,642nm,20.0s
PMSA Palmer Station 116.31 172 *e*PKPdf **PKPdf 03 11 58.2 -0.4**
O31A Woolen Ranch, 116.34 43 ⇓PKiKP **PKiKP 03 11 60.0 +0.5**
baz=116
MFF Saint Martin d 116.38 326 *e*PKIKP **PKPdf 03 11 59.2 -0.1**
MFF Saint Martin d 116.38 326 *e*PKIKP **PKPdf 03 11 59.2 -0.1**
MFF Saint Martin d 116.38 326 *e*PKPdf **PKPdf 03 11 59.2 -0.1**
W28A Vega 116.41 49 ⇓PKiKP **PKiKP 03 12 00.6 +0.7**
baz=116
MSTX Muleshoe 116.48 50 ⇑PKiKP **PKiKP 03 12 00.4 +0.3**
baz=116,SNR=10
MSTX Muleshoe 116.48 50 *e*PKPdf **PKPdf 03 11 59.5 -0.6**
P31A Stockton 116.60 43 ⇑PKiKP **PKPdf 03 11 60.0 -0.1**
baz=116,SNR=6.0
V29A Stinnett 116.67 48 ⇓PKiKP **PKiKP 03 12 00.8 +0.4**
baz=117
S30A Montezuma 116.68 46 ⇑PKiKP **PKiKP 03 12 01.2 +0.9**
baz=117
X28A Dimmitt 116.70 49 ⇑PKiKP **PKiKP 03 12 01.2 +0.7**
baz=117,SNR=6.9
N32A Stulken Farm, 116.74 42 ⇓PKiKP **PKiKP 03 12 01.3 +1.1**
baz=117
EYMN Ely 116.82 32 PFAKE 03 12 10.0 +10
EYMN LR LR
comp=Z,557nm,20.0s
LFF La Frestale 116.82 324 *e*PKIKP **PKPdf 03 12 00.5 +0.3**
LFF La Frestale 116.82 324 *e*PKIKP **PKPdf 03 12 00.5 +0.3**
LFF La Frestale 116.82 324 *e*PKPdf **PKPdf 03 12 00.5 +0.3**
Q31A Ellis 116.82 44 ⇑PKiKP **PKiKP 03 12 01.3 +0.8**
baz=117
W29A Amarillo 116.88 49 ⇑PKiKP **PKiKP 03 12 01.5 +0.7**
baz=117
T30A Plains 116.89 46 ⇓PKiKP **PKiKP 03 12 01.4 +0.7**
baz=117
Y28A McKinney Farm, 116.90 50 ⇓PKiKP **PKiKP 03 12 01.2 +0.3**
baz=117,SNR=6.9
AMTX Amarillo 116.95 49 ⇓PKiKP **PKiKP 03 12 01.0 +0.1**
baz=117
O32A Brockman Farm, 116.99 42 ⇑PKiKP **PKPdf 03 12 00.7 -0.1**
baz=117
U30A WK&E Inc. Balk 117.03 47 ⇓PKiKP **PKiKP 03 12 01.6 +0.6**
baz=117
Z28A Tucker Farm, M 117.04 51 ⇑PKiKP **PKiKP 03 12 01.6 +0.4**
baz=117
R31A Burdett 117.06 45 ⇑PKiKP **PKiKP 03 12 01.6 +0.6**
baz=117,SNR=5.5
P32A Huiting Farm, 117.08 43 ⇑PKiKP **PKiKP 03 12 01.2 +0.3**
baz=117
X29A Tulia 117.11 49 ⇑PKiKP **PKiKP 03 12 01.7 +0.5**
baz=117
128A Castleberry Fa 117.21 51 ⇑PKiKP **PKiKP 03 12 01.8 +0.3**
baz=117
228A UT Block 9, Go 117.32 52 ⇑PKiKP **PKiKP 03 12 02.5 +0.8**
baz=117
V30A Spur Ranch, Mi 117.33 48 ⇓PKiKP **PKiKP 03 12 01.8 +0.1**
baz=117
Y29A Porterfield Fa 117.36 50 ⇓PKiKP **PKiKP 03 12 02.6 +0.8**
baz=117,SNR=5.7
S31A Mullinville 117.39 45 ⇓PKiKP **PKiKP 03 12 02.7 +1.1**
baz=117
Q32A Meitler Ranch, 117.41 43 ⇑PKiKP **PKiKP 03 12 01.9 +0.3**
baz=117
TXAR Lajitas Array 117.44 55 PKP **PKPdf 03 12 01.4 -0.7**
comp=Z,1.7nm,0.9s,baz=302,slow=0.7,SNR=10
TXAR PKKPbc **PKKPbc 03 22 25.1 -0.3**
comp=Z,1.3nm,0.9s,baz=126,slow=6.4,SNR=7.0
T31A Randall Ranch, 117.49 46 ⇑PKiKP **PKiKP 03 12 02.3 +0.5**
baz=117
R32A Long Quarter, 117.57 44 ⇓PKiKP **PKiKP 03 12 02.1 +0.2**
baz=118,SNR=7.0
Z29A Hungry Hill Ra 117.57 51 ⇓PKiKP **PKiKP 03 12 02.9 +0.7**
baz=118,SNR=6.1
W30A Crocket Farms 117.65 48 ⇑PKiKP **PKiKP 03 12 03.3 +1.1**
baz=118
U31A Nine Bar Ranch 117.68 47 ⇑PKiKP **PKiKP 03 12 02.7 +0.5**
baz=118
129A Stewart Farms, 117.69 51 ⇑PKiKP **PKiKP 03 12 03.0 +0.6**
baz=118
X30A Coker Ranch, T 117.73 49 ⇓PKiKP **PKiKP 03 12 02.9 +0.5**
baz=118
S32A Newby Ranch, P 117.74 45 ⇓PKiKP **PKiKP 03 12 03.2 +0.9**
baz=118
SPMN Marine on St. 117.74 35 ⇑PKiKP **PKiKP 03 12 02.5 +0.5**
baz=118
P33A Williams Farm, 117.78 43 ⇑PKiKP **PKiKP 03 12 02.5 +0.2**
baz=118
Q33A Connelly Farm, 117.90 43 ⇓PKiKP **PKiKP 03 12 02.7 +0.2**
baz=118
V31A Spring Creek L 117.94 47 ⇓PKiKP **PKiKP 03 12 03.5 +0.7**
baz=118,SNR=6.0
Y30A Stafford Cattl 117.95 50 ⇑PKiKP **PKiKP 03 12 03.0 +0.1**
baz=118
T32A Huddler Ranch, 117.99 45 ⇓PKiKP **PKiKP 03 12 03.6 +0.8**
baz=118
229A Bryant Ranch, 117.99 52 ⇓PKiKP **PKiKP 03 12 03.2 +0.2**
baz=118
Z30A Sanderson Ranc 118.01 50 ⇓PKiKP **PKiKP 03 12 03.2 +0.2**
baz=118
329A Wagon Wheel Ra 118.03 52 ⇓PKiKP **PKiKP 03 12 03.6 +0.5**
baz=118,SNR=5.9
W31A Holland Ranch, 118.12 48 ⇓PKiKP **PKiKP 03 12 03.6 +0.4**
baz=118,SNR=6.1
R33A Olander Ranch, 118.12 44 ⇑PKiKP **PKiKP 03 12 03.3 +0.3**
baz=118
U32A Winter Ranch, 118.29 46 ⇓PKiKP **PKiKP 03 12 04.2 +0.8**
baz=118
X31A McDonald Ranch 118.33 48 ⇓PKiKP **PKiKP 03 12 03.9 +0.3**
baz=118,SNR=9.0
529A Stev Forest Ra 118.34 54 ⇓PKiKP **PKiKP 03 12 04.5 +0.8**
baz=118,SNR=9.5
Y31A Rekieta Farm, 118.39 49 ⇓PKiKP **PKiKP 03 12 04.0 +0.3**
baz=118
130A Snyder 118.41 51 ⇑PKiKP **PKiKP 03 12 04.1 +0.4**
baz=118
429A Davenport Ranc 118.42 53 ⇓PKiKP **PKiKP 03 12 04.3 +0.4**
baz=118,SNR=14
S33A Kaszmaul Farm, 118.45 45 ⇑PKiKP **PKiKP 03 12 04.1 +0.4**
baz=118
T33A Patterson Ranc 118.51 45 ⇓PKiKP **PKiKP 03 12 04.1 +0.3**
baz=118
V32A Arapaho 118.55 47 ⇓PKiKP **PKiKP 03 12 04.7 +0.8**
baz=118
230A Sterling City 118.57 52 ⇑PKiKP **PKiKP 03 12 04.6 +0.5**
baz=118
W32A Sentinel 118.66 48 ⇓PKiKP **PKiKP 03 12 04.4 +0.2**
baz=119
KSU1 Kansas State U 118.68 43 ⇓PKiKP **PKiKP 03 12 04.5 +0.5**
baz=119
KSU1 Kansas State U 118.68 43 PFAKE 03 12 20.0 +16
KSU1 LR LR
comp=Z,522nm,19.0s
330A Mertzon 118.70 52 ⇓PKiKP **PKiKP 03 12 04.6 +0.2**
baz=119
Z31A Sharp Cattle R 118.75 50 ⇓PKiKP **PKiKP 03 12 04.6 +0.2**
baz=119
131A Roby 118.82 51 ⇑PKiKP **PKiKP 03 12 04.9 +0.4**
baz=119
430A Baggett Ranch, 118.89 53 ⇑PKiKP **PKiKP 03 12 05.5 +0.7**
baz=119,SNR=16
X32A Elmer 118.94 48 ⇓PKiKP **PKiKP 03 12 05.5 +0.8**
baz=119
Y32A R-V Farms, Ver 119.00 49 ⇓PKiKP **PKiKP 03 12 05.6 +0.7**
baz=119
530A J-C Ranch, Com 119.04 54 ⇓PKiKP **PKiKP 03 12 05.7 +0.7**
baz=119,SNR=13
V33A Lossen Ranch, 119.06 47 ⇓PKiKP **PKiKP 03 12 05.6 +0.7**
baz=119
231A Bronte 119.17 51 ⇓PKiKP **PKiKP 03 12 05.6 +0.4**
baz=119,SNR=6.1
WMOK Wichita Mounta 119.17 48 PFAKE 03 12 20.0 +15
WMOK LR LR
comp=Z,597nm,20.0s
W33A Caddo, Fort Co 119.22 47 ⇑PKiKP **PKiKP 03 12 06.1 +0.9**
baz=119
Z32A Haskell 119.26 50 ⇑PKiKP **PKiKP 03 12 06.1 +0.7**
baz=119,SNR=9.6
U34A Anderson Ranch 119.32 46 ⇑PKiKP **PKiKP 03 12 06.2 +0.8**
baz=119
U34A Anderson Ranch 119.32 46 *e*PKPdf **PKPdf 03 12 05.6 +0.3**
331A San Angelo 119.33 52 ⇓PKiKP **PKiKP 03 12 05.8 +0.2**
baz=119,SNR=9.0
SCIA State Center 119.40 38 PFAKE 03 12 20.0 +15
SCIA LR LR
comp=Z,702nm,19.0s
ABTX Abilene, Hawle 119.42 50 ⇓PKiKP **PKiKP 03 12 06.3 +0.5**
baz=119
ABTX Abilene, Hawle 119.42 50 *e*PKPdf **PKiKP 03 12 06.2 +0.5**
431A Sonora 119.43 53 ⇓PKiKP **PKiKP 03 12 06.4 +0.6**
baz=119,SNR=8.4
MSKU Masuku 119.46 269 PKP **PKPdf 03 12 05.1 -1.1**
comp=Z,32nm,1.1s,baz=28,slow=3.3
MSKU Masuku 119.46 269 PKP **PKPdf 03 12 05.1 -1.1**
MSKU LR LR
comp=Z,2.0nm,20.0s
X33A Lawton 119.47 48 ⇓PKiKP **PKiKP 03 12 06.3 +0.5**
baz=119
V34A Guthrie 119.61 46 ⇑PKiKP **PKiKP 03 12 06.8 +0.9**
baz=120,SNR=7.5
V34A Guthrie 119.61 46 *e*PKPdf **PKPdf 03 12 05.4 -0.5**
Y33A Hilltop Ranch, 119.61 49 ⇓PKiKP **PKiKP 03 12 06.3 +0.3**
baz=120
531A Rocksprings 119.67 53 ⇑PKiKP **PKPdf 03 12 05.8 -0.5**
baz=120,SNR=14
W34A Bridge Creek, 119.70 47 ⇑PKiKP **PKiKP 03 12 06.8 +0.6**
baz=120
232A Coleman 119.71 51 ⇓PKiKP **PKiKP 03 12 06.4 +0.1**
baz=120,SNR=5.9
Z33A Whitaker Ranch 119.81 49 ⇑PKiKP **PKiKP 03 12 06.4 0.0**
baz=120
332A Millersview 119.84 52 ⇑PKiKP **PKiKP 03 12 06.8 +0.3**
baz=120,SNR=8.6
631A Perdido Creek 119.93 54 ⇓PKiKP **PKPdf 03 12 06.6 -0.1**
baz=120,SNR=9.2
X34A Smith Ranch, M 119.94 48 ⇓PKiKP **PKiKP 03 12 07.3 +0.7**
baz=120,SNR=5.7
133A Hamilton Ranch 119.98 50 ⇓PKiKP **PKiKP 03 12 07.0 +0.2**
baz=120,SNR=5.4
432A Menard 120.00 52 ⇑PKiKP **PKiKP 03 12 07.3 +0.4**
baz=120
JCT Junction City 120.15 53 *e*PKIKP **PKPdf 03 12 07.0 -0.1**
JCT MLR MLR
comp=Z,505nm,21.0s
JCT Junction City 120.15 53 ⇓PKiKP **PKiKP 03 12 07.3 +0.1**
baz=120,SNR=11
JCT Junction City 120.15 53 *e*PKPdf **PKPdf 03 12 07.0 -0.1**
JCT LR LR
comp=Z,505nm,21.0s
532A Rocksprings 120.20 53 ⇓PKiKP **PKiKP 03 12 07.9 +0.6**
baz=120,SNR=8.6
233A Rising Star 120.24 51 ⇑PKiKP **PKiKP 03 12 08.1 +0.7**
baz=120,SNR=7.0
Y34A Reagan Ranch, 120.28 48 ⇓PKiKP **PKPdf 03 12 07.0 -0.2**
baz=120
Z34A Collier Ranch, 120.42 49 ⇑PKiKP **PKiKP 03 12 08.1 +0.5**
baz=120

333A	Richland Sprin	120.46	51	⇓PKiKP	PKPdf	03 12 07.7	0.0	
	baz=120,SNR=12							
632A	Uvalde	120.53	54	⇓PKiKP	PKiKP	03 12 08.4	+0.4	
	baz=120,SNR=10.0							
JFWS	Jewell Farm	120.60	36	*e*PKIKP	PKPdf	03 12 06.0	-1.6	
JFWS				MLR	MLR			
	comp=Z,697nm,19.0s							
JFWS	Jewell Farm	120.60	36	*e*PKPdf	PKPdf	03 12 06.0	-1.6	
JFWS				LR	LR			
	comp=Z,697nm,19.0s							
433A	Art	120.60	52	⇓PKiKP	PKiKP	03 12 08.3	+0.3	
	baz=120,SNR=14							
134A	White-Moore Ra	120.64	50	⇑PKiKP	PKiKP	03 12 09.1	+1.0	
	baz=120,SNR=6.3							
732A	Laxson Ranch,	120.68	55	⇓PKiKP	PKiKP	03 12 09.0	+0.8	
	baz=121,SNR=7.4							
TUL1	Leonard	120.81	45	⇑PKiKP	PKiKP	03 12 08.7	+0.4	
	baz=121							
TUL1	Leonard	120.81	45	*e*PKPdf	PKPdf	03 12 07.8	-0.3	
234A	Clairette	120.83	50	⇑PKiKP	PKiKP	03 12 08.7	+0.3	
	baz=121,SNR=7.5							
832A	Faith Ranch, C	120.84	55	⇑PKiKP	PKiKP	03 12 09.1	+0.5	
	baz=121,SNR=15							
SCHQ	Schefferville	120.87	13	PKP	PKPdf	03 12 07.3	-0.5	
	comp=Z,7.6nm,1.0s,baz=66,slow=1.7,SNR=5.8							
SCHQ				PKKPbc	PKKPab	03 22 10.7	-2.8	
	comp=Z,2.9nm,0.7s,baz=152,slow=5.1,SNR=5.6							
533A	Kerrville	120.92	53	⇑PKiKP	PKiKP	03 12 09.3	+0.6	
	baz=121							
Z35A	Perchaven, San	120.93	49	⇓PKiKP	PKiKP	03 12 09.0	+0.3	
	baz=121							
334A	Lometa	121.03	51	⇑PKiKP	PKiKP	03 12 09.0	+0.1	
	baz=121,SNR=8.1							
633A	Saathoff Ranch	121.04	54	⇑PKiKP	PKiKP	03 12 09.5	+0.5	
	baz=121							
135A	Vickery Place,	121.15	50	⇑PKiKP	PKiKP	03 12 09.9	+0.8	
	baz=121							
434A	Burnet	121.22	52	⇓PKiKP	PKiKP	03 12 09.4	+0.1	
	baz=121,SNR=13							
733A	Divot King Ran	121.23	54	⇓PKiKP	PKiKP	03 12 09.9	+0.6	
	baz=121							
833A	Chaparral WMA,	121.30	55	⇑PKiKP	PKiKP	03 12 10.0	+0.5	
	baz=121,SNR=9.4							
WHTX	Lake Whitney,	121.36	50	⇓PKiKP	PKiKP	03 12 10.3	+0.8	
	baz=121							
WHTX	Lake Whitney,	121.36	50	*e*PKPdf	PKPdf	03 12 09.4	+0.1	
WHTX				*e*PP	PP	03 13 38.4	-1.7	
534A	Blanco	121.38	53	⇑PKiKP	PKiKP	03 12 10.2	+0.6	
	baz=121,SNR=8.6							
933A	Laredo	121.66	56	⇑PKiKP	PKiKP	03 12 10.8	+0.6	
	baz=122							
335A	Moody	121.69	51	⇓PKiKP	PKiKP	03 12 10.7	+0.5	
	baz=122							
634A	China Grove, S	121.73	53	⇑PKiKP	PKiKP	03 12 11.3	+1.0	
	baz=122							
435B	Jarrell	121.77	51	⇓PKiKP	PKiKP	03 12 11.2	+0.8	
	baz=122							
734A	La Parita Cree	121.78	54	⇓PKiKP	PKiKP	03 12 11.5	+1.2	
	baz=122							
834A	Tilden	122.06	55	⇓PKiKP	PKiKP	03 12 12.4	+1.5	
	baz=122							
336A	Riesel	122.09	51	⇑PKiKP	PKiKP	03 12 11.8	+0.8	
	baz=122							
535A	Dale	122.09	52	⇑PKiKP	PKPdf	03 12 10.7	-0.1	
	baz=122							
635A	Leesville	122.19	53	⇑PKiKP	PKiKP	03 12 12.0	+0.8	
	baz=122,SNR=5.5							
934A	Benavides	122.28	55	⇑PKiKP	PKiKP	03 12 12.5	+1.1	
	baz=122							
034A	Hebbronville	122.35	56	⇑PKiKP	PKiKP	03 12 13.1	+1.5	
	baz=122,SNR=6.4							
735A	Kenedy	122.38	54	⇓PKiKP	PKiKP	03 12 13.1	+1.6	
	baz=122							
137A	Heron Place, G	122.39	49	⇑PKiKP	PKiKP	03 12 13.0	+1.6	
	baz=122							
436A	Wall Ranch, Ga	122.39	51	⇑PKiKP	PKiKP	03 12 12.2	+0.6	
	baz=122							
536A	Bastrop	122.47	52	⇑PKiKP	PKiKP	03 12 12.9	+1.2	
	baz=122							
835A	Beeville	122.58	54	⇑PKiKP	PKiKP	03 12 13.5	+1.5	
	baz=122							
237A	Washetta, Mont	122.61	49	⇓PKiKP	PKiKP	03 12 13.2	+1.3	
	baz=122							
ESDC	Sonseca Array	122.69	321	PKP	PKPdf	03 12 10.6	-1.2	
	comp=Z,1.0nm,0.6s,baz=15,slow=3.8,SNR=11							
ESDC				PP	PP	03 13 55.0	+6.2	
	comp=Z,2.1nm,1.0s,baz=62,slow=6.8,SNR=4.6							
ESDC				PKKPbc	PKKPbc	03 22 10.3	+4.1	
	comp=Z,0.4nm,0.8s,baz=242,slow=3.2,SNR=4.3							
636A	Smothers Creek	122.73	53	⇓PKiKP	PKiKP	03 12 14.2	+2.0	
	baz=123,SNR=14							
KVTX	Kingsville	122.82	55	PFAKE		03 12 20.0	+7.8	
KVTX				LR	LR			
	comp=Z,587nm,20.0s							
138A	Matatall Enter	122.86	48	⇑PKiKP	PKiKP	03 12 14.1	+1.6	
	baz=123							
337A	Centerville	122.86	50	⇓PKiKP	PKiKP	03 12 13.9	+1.5	
	baz=123							
035A	Encino	122.88	56	⇓PKiKP	PKiKP	03 12 14.7	+2.2	
	baz=123							
437A	Phantom Ranch,	122.88	51	⇓PKiKP	PKiKP	03 12 13.7	+1.3	
	baz=123							
PAB	San Pablo	123.01	321	*e*PKIKP	PKPdf	03 12 12.9	+0.5	
PAB				MLR	MLR			
	comp=Z,874nm,20.0s							
PAB	San Pablo	123.01	321	*e*PKPdf	PKPdf	03 12 12.9	+0.5	
PAB				LR	LR			
	comp=Z,874nm,20.0s							
MIAR	Mount Ida	123.06	46	*e*PKIKP	PKPdf	03 12 13.2	+0.6	
MIAR				MLR	MLR			
	comp=Z,687nm,19.0s							
MIAR	Mount Ida	123.06	46	*e*PKPdf	PKPdf	03 12 13.2	+0.6	
MIAR				LR	LR			
	comp=Z,687nm,19.0s							
PBRG	Braganca	123.06	325	PKPdf	PKPdf	03 12 09.4	-3.0	
PBRG	Braganca	123.06	325	*e*PP	PP	03 13 56.1	+5.0	
238A	Jacksonville	123.14	49	⇑PKiKP	PKiKP	03 12 14.2	+1.3	
	baz=123							
TAM	Tamanrasset	123.17	299	*e*PKIKP	PKPdf	03 12 13.6	+0.3	
TAM				MLR	MLR			
	comp=Z,1μm,19.0s							
TAM	Tamanrasset	123.17	299	*e*PKPdf	PKPdf	03 12 13.6	+0.3	
TAM				*e*PP	PP	03 13 46.6	-6.4	
TAM				LR	LR			
	comp=Z,1μm,19.0s							
338A	Crockett	123.28	50	⇓PKiKP	PKiKP	03 12 14.3	+1.0	
	baz=123							
438A	Sam Houston St	123.43	51	⇓PKiKP	PKiKP	03 12 14.7	+1.2	
	baz=123							
HKT	Hockley	123.50	52	*e*PKIKP	PKPdf	03 12 14.0	+0.6	
HKT				*e*		03 13 53.1		
HKT	Hockley	123.50	52	*e*PKPdf	PKPdf	03 12 14.0	+0.6	
HKT				*e*PP	PP	03 13 53.1	-1.5	
MVO	Moncorvo	123.63	324	*e*PP	PP	03 13 59.2	+4.2	
MVO	Moncorvo	123.63	324	*e*LR	LR	04 03 55.5		
	comp=Z,1μm,20.0s							
PGAV	Gavieira, Arco	123.82	326	*e*PP	PP	03 13 59.6	+3.3	
PGAV	Gavieira, Arco	123.82	326	*e*LR	LR	04 06 42.0		
	comp=Z,858nm,20.0s							
339A	Huntington	123.87	50	⇓PKiKP	PKiKP	03 12 15.7	+1.3	
	baz=124							
POLO	Lamas de Olo	123.94	325	*e*PP	PP	03 14 01.4	+4.3	
SFIN	Lafayette	124.02	36	⇑PKiKP	PKiKP	03 12 14.9	+0.5	
	baz=124							
738A	Farr-Stevens R	124.11	53	⇓PKiKP	PKiKP	03 12 15.3	+0.3	
	baz=124							
340A	Bronson	124.34	49	⇑PKiKP	PKiKP	03 12 16.3	+0.9	
	baz=124							
OLIL	Olney	124.42	39	*e*PKPdf	PKPdf	03 12 15.4	+0.4	
MTE	Manteigas	124.42	324	*e*PP	PP	03 14 04.9	+4.5	
MTE	Manteigas	124.42	324	*e*LQ	LQ	03 53 58.4		
MTE	Manteigas	124.42	324	*e*LR	LR	04 06 11.1		
	comp=Z,832nm,20.0s							
MTE	Manteigas	124.42	324	PFAKE		03 12 30.0	+15	
MTE				LR	LR			
	comp=Z,853nm,20.0s							
PARMO	Parma	124.57	42	*e*PKPdf	PKPdf	03 12 14.9	-0.4	
AAM	Ann Arbor	124.70	33	PFAKE		03 12 30.0	+15	
AAM				LR	LR			
	comp=Z,712nm,22.0s							
PCBR	Castelo Branco	124.74	323	*e*PKPdf	PKPdf	03 12 16.4	+0.8	
PMRV	Marv??o	124.95	323	*e*PP	PP	03 14 08.0	+4.2	
PMRV	Marv??o	124.95	323	*e*LR	LR	04 07 09.9		
	comp=Z,932nm,18.0s							
USIN	University of	125.16	39	*e*PKPdf	PKPdf	03 12 16.8	+0.3	
PCAS	Casmilo, Conde	125.20	324	*e*PP	PP	03 14 09.8	+4.3	
PESTR	Estremoz	125.42	323	*e*PP	PP	03 14 11.2	+4.2	
PBAR	Barrancos	125.51	322	PKPdf	PKPdf	03 12 18.1	+1.0	
PBAR	Barrancos	125.51	322	*e*PP	PP	03 14 10.9	+3.3	
PMTG	Montargil	125.68	323	*e*PP	PP	03 14 12.3	+3.6	
WCI	Wyandotte Cave	125.85	38	*e*PKIKP	PKPdf	03 12 17.6	-0.2	
WCI	Wyandotte Cave	125.85	38	*e*PKPdf	PKPdf	03 12 17.6	-0.2	
EVO	Evora	125.89	323	PKPdf	PKPdf	03 12 19.2	+1.4	
EVO	Evora	125.89	323	*e*PP	PP	03 14 14.0	+3.9	
WVT	Waverly	126.14	41	*e*PKIKP	PKPdf	03 12 18.0	-0.4	
WVT	Waverly	126.14	41	*e*PKPdf	PKPdf	03 12 18.0	-0.4	
PMAFR	Mafra	126.38	324	*e*PP	PP	03 14 17.2	+3.9	
PVAQ	Vaqueiros	126.41	321	*e*PP	PP	03 14 16.1	+2.5	
PVAQ	Vaqueiros	126.41	321	*e*LR	LR	04 05 18.2		
	comp=Z,786nm,18.0s							
MESJ	Messejana	126.45	322	*e*P	PKPdf	03 12 17.8	-1.2	
MESJ				*e*PP	PP	03 14 13.1	-0.8	
MESJ				AMS	AMS	04 17 20.7		
	comp=Z,914nm,16.1s							
MESJ	Messejana	126.45	322	*e*PP	PP	03 14 17.5	+3.7	
MESJ	Messejana	126.45	322	*e*PKIKP	PKPdf	03 12 17.7	-1.2	
MESJ				*e*		03 14 13.0		
LIS	Lisbon	126.45	323	*e*PP	PP	03 14 13.1	-0.7	
LIS				AMS	AMS	04 13 28.0		
	comp=E,1μm,27.0s							
LIS	Lisbon	126.45	323	*e*PP	PP	03 14 13.1	-0.7	
PNCL	Nicolau / Gran	126.47	322	PKPdf	PKPdf	03 12 19.9	+0.9	
PNCL	Nicolau / Gran	126.47	322	*e*PP	PP	03 14 18.2	+4.3	
ACSO	Alum Creek Sta	126.49	34	*e*PKPdf	PKPdf	03 12 19.0	0.0	
ACSO				*e*PP	PP	03 14 11.6	-2.4	
ACSO				LR	LR			
	comp=Z,813nm,21.0s							
PBDV	Barranco-do-Ve	126.64	321	PKPdf	PKPdf	03 12 20.3	+0.9	
PBDV	Barranco-do-Ve	126.64	321	*e*PP	PP	03 14 19.7	+4.5	
ERPA	Erie	126.75	30	PFAKE		03 12 30.0	+11	
ERPA				LR	LR			
	comp=Z,719nm,21.0s							
MDT	Midelt	126.99	315	PKP	PKPdf	03 12 20.6	+0.4	
	comp=Z,4.8nm,1.0s,baz=140,slow=1.8							
MORF	Marmelete	127.05	322	*e*P	PKPdf	03 12 18.6	-1.6	
MORF				*e*PP	PP	03 14 17.1	-0.8	
MORF				*e*SS	SS	03 31 26.3	+1.7	
MORF				AMS	AMS	04 14 08.0		
	comp=Z,1μm,21.1s							
MORF	Marmelete	127.05	322	PKPdf	PKPdf	03 12 18.8	-1.4	
MORF	Marmelete	127.05	322	*e*PP	PP	03 14 21.8	+3.9	
MORF	Marmelete	127.05	322	*e*PKIKP	PKPdf	03 12 18.6	-1.6	
MORF				*e*		03 14 17.1		
PFVI	Vila Bisbo	127.27	322	*e*PP	PP	03 14 22.1	+2.8	
LONY	Lake Ozonia	127.31	25	PFAKE		03 12 30.0	+10	
LONY				LR	LR			
	comp=Z,489nm,21.0s							
HOPE	Hope Point	127.34	188	PFAKE		03 12 30.0	+10	
HOPE				LR	LR			
	comp=Z,474nm,19.0s							
RTC	Rabat Centre	127.89	317	PFAKE		03 12 30.0	+8.2	
RTC				LR	LR			
	comp=Z,2μm,20.0s							
NCB	Newcomb	127.98	25	PFAKE		03 12 30.0	+8.3	
NCB				LR	LR			
	comp=Z,1μm,20.0s							
MDV	Middlebury	128.39	24	*e*PKPdf	PKPdf	03 12 23.0	+0.6	
LRAL	Lakeview Retre	128.49	44	*e*PKPdf	PKPdf	03 12 23.2	+0.3	
BINY	Binghamton	128.62	27	PFAKE		03 12 30.0	+7.0	
BINY				LR	LR			
	comp=Z,1μm,20.0s							
LBNH	Lisbon	128.69	23	PFAKE		03 12 30.0	+7.0	
LBNH				LR	LR			
	comp=Z,718nm,19.0s							
PKME	Peaks-Kenny Pk	128.78	20	PFAKE		03 12 30.0	+6.9	
PKME				LR	LR			
	comp=Z,534nm,22.0s							
TKL	Tuckaleechee C	129.03	39	*e*PKIKP	PKPdf	03 12 24.7	+0.7	
TKL	Tuckaleechee C	129.03	39	*e*PKPdf	PKPdf	03 12 24.7	+0.7	
TORD	Torodi Ar. Bea	129.38	289	PKP	PKPdf	03 12 24.4	-0.8	
	comp=Z,24nm,1.0s,baz=40,slow=2.2,SNR=74							
TORD				PP	PP	03 14 30.0	-4.4	
	comp=Z,2.7nm,1.0s,baz=68,slow=4.3,SNR=3.7							
BLA	Blacksburg	130.02	35	PFAKE		03 12 40.0	+14	
BLA				LR	LR			
	comp=Z,870nm,19.0s							
GOGA	Godfrey	130.64	41	PFAKE		03 12 40.0	+13	
GOGA				LR	LR			
	comp=Z,711nm,19.0s							
KMSC	Kings Mountain	130.88	38	⇓PKiKP	PKiKP	03 12 28.6	+0.2	
	baz=131							
TIGA	Tifton	131.76	43	⇑PKiKP	PKiKP	03 12 30.3	+0.1	
	baz=132							
CNNC	Cliffs of the	132.86	35	PFAKE		03 12 40.0	+8.8	
CNNC				LR	LR			
	comp=Z,768nm,22.0s							
NHSC	New Hope	132.95	39	PFAKE		03 12 40.0	+8.6	
NHSC				LR	LR			
	comp=Z,951nm,21.0s							
PMOZ	Porto Moniz, M	135.25	324	*e*PP	PP	03 15 13.5	+2.6	
PMOZ	Porto Moniz, M	135.25	324	A	A	04 09 30.5		
	comp=Z,630nm,18.0s							
PLCA	Paso Flores	136.08	154	*e*PKIKP	PKPdf	03 12 38.3	+1.1	
PLCA	Paso Flores	136.08	154	PKP	PKPdf	03 12 38.6	+1.4	
	comp=Z,13nm,1.0s,baz=238,slow=1.8							
PLCA	Paso Flores	136.08	154	*e*PKPdf	PKPdf	03 12 38.3	+1.1	
PLCA				PKP	PKPdf	03 12 38.6	+1.4	
PAYG	Puerto Ayora	136.67	89	PFAKE		03 12 50.0	+11	
PAYG				LR	LR			
	comp=Z,793nm,19.0s							
KIC	Kosan Boka	137.00	282	*e*PKIKP	PKPdf	03 12 39.3	-0.2	
	comp=Z,85nm,1.2s							
DBIC	Dimbokro	137.06	282	*e*PKHKP	PKPpre	03 12 30.5		
DBIC				*e*		03 12 39.4		
DBIC	Dimbokro	137.06	282	PKP	PKPdf	03 12 39.6	0.0	
	comp=Z,31nm,1.1s,baz=54,slow=1.6,SNR=9.1							
DBIC	Dimbokro	137.06	282	*e*PKPpre	PKPpre	03 12 30.5		
DBIC				*e*PKPdf	PKPdf	03 12 39.4	-0.2	
TIC	Toumodi	137.22	282	*e*PKIKP	PKPdf	03 12 39.7	-0.2	
	comp=Z,53nm,1.1s							
LIC	Lamto	137.31	282	*e*PKIKP	PKPdf	03 12 39.4	-0.7	
	comp=Z,112nm,1.3s							
LIC	Lamto	137.31	282	*e*PKIKP	PKPdf	03 12 39.3	-0.8	
	comp=Z,113nm,1.3s							
LIC	Lamto	137.31	282	*e*PKPdf	PKPdf	03 12 39.4	-0.7	
JTS	JuntasAbangare	140.21	71	*e*PKIKP	PKPdf	03 12 46.3	+0.9	
JTS				MLR	MLR			
	comp=Z,449nm,19.0s							
JTS	JuntasAbangare	140.21	71	*e*PKPdf	PKPdf	03 12 46.3	+0.9	
JTS				LR	LR			
	comp=Z,449nm,19.0s							
TRQA	Tornquist	141.72	161	*e*PKPpre	PKPpre	03 12 41.4		
TRQA				*e*PKPdf	PKPdf	03 12 48.0	+0.6	
BBSR	BB Station	141.76	25	PFAKE		03 13 00.0	+12	
BBSR				LR	LR			
	comp=Z,512nm,20.0s							
MTDJ	Mount Denham	143.72	55	PFAKE		03 13 00.0	+8.4	
MTDJ				LR	LR			
	comp=Z,531nm,21.0s							
CFAA	Coronel Fontan	144.50	148	PKP	PKPbc	03 12 51.1	0.0	
	comp=Z,11nm,1.1s,baz=218,slow=2.8,SNR=52							
GTBY	Guantanamo Bay	144.72	50	PFAKE		03 13 00.0	+6.8	
GTBY				LR	LR			
	comp=Z,613nm,19.0s							
LCO	Las Campanas	145.02	142	*e*PKPbc	PKPdf	03 12 53.8	0.0	
LCO				LR	LR			
	comp=Z,925nm,20.0s							
BCIP	Isla Barro Col	145.37	71	*e*PKPbc	PKPab	03 12 54.7	+0.2	
BCIP				LR	LR			
	comp=Z,512nm,20.0s							
BBTS	Babate	145.53	300	PKPbc	PKPbc	03 12 54.9	+0.1	
	comp=Z,304nm,0.9s,baz=107,slow=0.8,SNR=41							
GRTK	Grand Turk	146.65	44	*e*PKPbc	PKPbc	03 12 57.9	-0.1	
GRTK				LR	LR			
	comp=Z,441nm,21.0s							
ASCN	Ascension	147.03	259	*e*PKPdf	PKPdf	03 12 57.8	+0.5	
ASCN				*e*PKPbc	PKPbc	03 13 00.1	+0.7	
ASCN				LR	LR			
	comp=Z,975nm,20.0s							
SDDR	Presa de Saban	148.16	48	*e*PKPbc	PKPbc	03 13 02.1	-0.3	
SDDR				*e*PKPab	PKPab	03 13 05.5	+0.3	
SDDR				LR	LR			
	comp=Z,541nm,19.0s							
ATAH	Atahualpa	148.30	100	PKPbc	PKPbc	03 13 01.9	-1.4	
	comp=Z,52nm,1.0s,baz=295,slow=4.2,SNR=1.9							
OTAV	Otavalo	148.43	86	*e*PKPdf	PKPdf	03 13 00.7	+0.4	
OTAV				*e*PKPbc	PKPbc	03 13 04.1	+0.3	
OTAV				*e*PKPab	PKPab	03 13 07.6	+0.5	
OTAV				LR	LR			
	comp=Z,510nm,19.0s							
NNA	Nana	148.82	110	*e*PKIKP	PKPdf	03 13 00.7	+0.4	
NNA				*e*		03 13 04.6		
NNA				*e*		03 13 08.7		
NNA				MLR	MLR			
	comp=Z,721nm,19.0s							
NNA	Nana	148.82	110	PKPbc	PKPbc	03 13 04.1	-0.1	
	comp=Z,28nm,0.8s,baz=272,slow=5.2,SNR=8.6							
NNA	Nana	148.82	110	*e*PKPdf	PKPdf	03 13 00.7	+0.4	
NNA				*e*PKPbc	PKPbc	03 13 04.5	+0.3	
NNA				*e*PKPab	PKPab	03 13 08.7	+0.6	
NNA				LR	LR			
	comp=Z,721nm,19.0s							
SMN1	Samana, DR	149.49	45	*e*PKPdf	PKPdf	03 13 02.3	+1.0	
SMN1				*e*PKPbc	PKPbc	03 13 06.2	+0.5	
SMN1				*e*PKPab	PKPab	03 13 10.9	+0.4	
LVC	Limon Verde	150.56	135	*e*PKPdf	PKPdf	03 13 04.0	+0.8	
LVC				*e*PKPbc	PKiKP	03 13 09.2	-0.1	
LVC				LR	LR			
	comp=Z,556nm,20.0s							
SACV	Santiago Islan	151.29	307	PFAKE		03 13 20.0	+2.0	
SACV				LR	LR			
	comp=Z,552nm,20.0s							
LSP	Las Mesas	151.70	44	*e*PKPbc	PKPbc	03 13 11.0	0.0	
LRS	Lares	151.78	43	*e*PKPdf	PKPdf	03 13 04.8	0.0	
LRS				*e*PKPbc	PKPbc	03 13 11.2	0.0	
LRS				*e*PKPab	PKPab	03 13 20.0	0.0	
ROSC	El Rosal	151.78	76	PKP	PKPdf	03 13 05.8	+0.4	
	comp=Z,10.0nm,0.9s,baz=294,slow=6.4,SNR=18							
ROSC				PKPbc	PKPbc	03 13 12.0	+0.1	
	comp=Z,28nm,1.0s,baz=346,slow=1.9,SNR=22							
CRPR	Cabo Rojo, PR	151.79	44	*e*PKPbc	PKPbc	03 13 11.2	+0.1	
CELP	Cerrillos	152.11	43	*e*PKPdf	PKPdf	03 13 06.0	+0.7	
CELP				*e*PKPbc	PKiKP	03 13 12.3	0.0	
OBIP	Obispado Ponce	152.12	43	*e*PKPdf	PKPdf	03 13 05.0	-0.3	
OBIP				*e*PKPbc	PKiKP	03 13 12.3	0.0	
OBIP				*e*PKPab	PKPab	03 13 21.6	+0.2	
SDV	Santo Domingo	153.98	65	*e*PKPdf	PKPdf	03 13 08.4	0.0	
SDV				*e*PKPbc	PKPbc	03 13 16.1	-0.3	
SDV				LR	LR			
	comp=Z,991nm,22.0s							
LPAZ	La Paz	154.88	125	PKP	PKPdf	03 13 10.4	+0.3	
	comp=Z,31nm,1.4s,baz=357,slow=0.9,SNR=17							
LPAZ				PKPbc	PKiKP	03 13 19.7	+0.9	
	comp=Z,15nm,1.1s,baz=302,slow=0.3,SNR=9.2							
LPAZ				PKPab	PKPab	03 13 35.1	+1.2	
	comp=Z,23nm,0.8s,baz=252,slow=5.3,SNR=14							
FDF	Fort de France	158.11	39	PFAKE		03 13 20.0	+6.4	
FDF				LR	LR			
	comp=Z,458nm,20.0s							
GRGR	Grenville	159.63	45	PFAKE		03 13 30.0	+15	
GRGR				LR	LR			
	comp=Z,662nm,20.0s							
SIV	San Ignacio	160.46	136	PKP	PKPdf	03 13 15.6	-0.7	
	comp=Z,6.8nm,1.1s,baz=222,slow=3.0,SNR=13							
SIV				PKPab	PKPab	03 13 57.0	-0.3	
	comp=Z,3.8nm,0.9s,baz=273,slow=6.5,SNR=4.6							
SAML	Samuel	162.52	113	*e*PKPdf	PKPdf	03 13 18.6	+0.2	
SAML				*e*PKPab	PKPab	03 14 07.0	+0.6	
SAML				LR	LR			
	comp=Z,559nm,20.0s							
BDFB	Brasilia	166.57	176	PKP	PKPdf	03 13 21.2	-0.9	
	comp=Z,11nm,1.1s,baz=166,slow=1.4,SNR=13							
BDFB				PKPab	PKPab	03 14 24.0	+0.1	
	comp=Z,5.8nm,1.0s,baz=257,slow=6.6,SNR=4.6							
PTGA	Pitinga	166.93	84	*e*PKPdf	PKPdf	03 13 22.1	-0.2	
PTGA				*e*PKPab	PKPab	03 14 26.1	+0.2	
PTGA				LR	LR			
	comp=Z,188nm,22.0s							
RCBR	Riachuelo	168.38	251	PKP	PKPdf	03 13 23.2	-0.2	
	comp=Z,23nm,1.2s,baz=152,slow=1.9,SNR=4.3							
RCBR				PKPab	PKPab	03 14 31.3	-1.0	
	comp=Z,12nm,1.0s,baz=68,slow=3.9,SNR=4.9							
RCBR	Riachuelo	168.38	251	*e*PKPdf	PKPdf	03 13 23.2	-0.2	
RCBR				*e*PKPab	PKPab	03 14 32.7	+0.3	
RCBR				LR	LR			
	comp=Z,549nm,19.0s							

*CSEM **13** 02:53:59.8, 40°.70N×22°.84E, h13km, ML1.0/3*
THE 13 02:53:59.8, 40°.70N×22°.84E, h13km±1km, ML1.0/3, Error ellipse: s-maj=1.9km s-min=0.8km az=78.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	Thessaloniki	0.12	124	P	Pg	02 54 03.0	0.0
THE				S	Sg	02 54 05.1	-0.2
THE	Thessaloniki	0.12	124	P	Pg	02 54 03.0	0.0
THE				S	Sg	02 54 05.1	-0.2

EFP	Efpalio	0.76	128	*e*PN		Pb	03 06 14.9	-0.6
EFP	Efpalio	0.76	128	P		Pb	03 06 14.6	-0.9
EFP	Efpalio	0.76	128	*e*Pn		Pb	03 06 14.9	-0.6
MAKR	Makrakomi, Fth	0.78	82	P		Pb	03 06 15.7	-0.1
MAKR				S		Sn	03 06 27.0	-0.5
MAKR	Makrakomi, Fth	0.78	82	*e*PN		Pn	03 06 15.9	-0.6
MAKR				*e*SN		Sn	03 06 26.9	-0.5
MAKR	Makrakomi, Fth	0.78	82	P		Pb	03 06 15.7	-0.1
MAKR				S		Sn	03 06 27.0	-0.5
JAN	Janina	0.79	343	*e*PN		Pb	03 06 15.5	-0.5
JAN	Janina	0.79	343	*e*Pn		Pb	03 06 15.5	-0.5
KFL	Anninata	0.84	200	P		Pn	03 06 17.1	-0.3
KFL				S		Sn	03 06 30.1	+1.1
KFL	Anninata	0.84	200	P		Pn	03 06 17.1	-0.3
KFL				S		Sn	03 06 30.1	+1.1
VLS	Valsamata	0.84	211	P		Pb	03 06 16.0	-0.9
VLS				S		Sn	03 06 29.6	+0.5
VLS	Valsamata	0.84	211	*e*PB		Pb	03 06 15.7	-1.2
VLS	Valsamata	0.84	211	*e*Pb		Pb	03 06 15.7	-1.2
VLS	Valsamata	0.84	211	P		Pb	03 06 16.0	-0.9
VLS				S		Sn	03 06 29.6	+0.5
RLS	Riolos of Patr	0.88	163	*e*PN		Pn	03 06 17.6	-0.3
RLS	Riolos of Patr	0.88	163	*e*Pn		Pn	03 06 17.6	-0.3
MEV	Metsovon	0.88	4	P		Pn	03 06 17.9	-0.2
MEV	Metsovon	0.88	4	P		Pn	03 06 17.9	-0.2
IGT	Igoumenitsa	0.89	315	*e*PN		Pn	03 06 18.2	+0.1
IGT				*e*SN		Sn	03 06 31.3	+1.0
IGT	Igoumenitsa	0.89	315	*e*Pn		Pn	03 06 18.2	+0.1
IGT				*e*Sn		Sn	03 06 31.3	+1.0
AGG	Agios Georgios	0.93	82	P		Pb	03 06 18.2	-0.2
AGG	Agios Georgios	0.93	82	*e*PN		Pb	03 06 18.2	-0.2
AGG	Agios Georgios	0.93	82	*e*Pn		Pb	03 06 18.2	-0.2
KALE	Kalithea	0.93	123	*e*PN		Pb	03 06 17.9	-0.6
KALE	Kalithea	0.93	123	*e*Pn		Pb	03 06 17.9	-0.6
THL	Klokotos Trika	0.94	45	*e*PN		Pb	03 06 18.4	-0.2
THL	Klokotos Trika	0.94	45	*e*Pn		Pb	03 06 18.4	-0.2
DRO	Drossia	1.05	155	P		Pb	03 06 19.6	-0.8
DRO				S		Sn	03 06 35.9	+1.7
DRO	Drossia	1.05	155	*e*PN		Pn	03 06 20.3	+0.1
DRO	Drossia	1.05	155	P		Pb	03 06 19.6	-0.8
DRO	Drossia	1.05	155	*e*Pn		Pn	03 06 20.3	+0.1
DRO				S		Sn	03 06 35.9	+1.7
KLV	Kalavryta, Ach	1.17	137	*e*PN		Pn	03 06 21.8	-0.1
KLV	Kalavryta, Ach	1.17	137	*e*Pn		Pn	03 06 21.8	-0.1
DSF	Desfina	1.19	114	*e*PN		Pb	03 06 22.5	-0.3
DSF	Desfina	1.19	114	*e*Pn		Pb	03 06 22.5	-0.3
AXAR	Agios Charalam	1.19	96	*e*PN		Pb	03 06 23.9	+1.1
AXAR	Agios Charalam	1.19	96	*e*Pn		Pb	03 06 23.9	+1.1

IDC ***13*** *03:12:12.8±0.5, 33°.83S×71°.97W, h0km, mb4.3/14, mb1 4.4/16, mb1mx4.3/31, mbtmp4.4/16, ML4.1/1, Error ellipse: s-maj=21.5km s-min=12.4km az=91.0*
ISCJB ***13*** *03:12:14.8±0.3, 33°.83S±0°.04×72°.18W±0°.04, h19km, mb4.7/41, Error ellipse: s-maj=5.6km s-min=4.7km az=32.7*
GUC ***13*** *03:12:14.5±0.8, 33°.74S×72°.27W, h34km±9km, ML5.1*
NEIC ***13*** *03:12:18.4±0.2, 33°.87S×71°.86W, h35km, mb4.8/27, Error ellipse: s-maj=9.3km s-min=5.8km az=76.0*
BJI ***13*** *03:12:35.6, 31°.40S×73°.50W, h35km, mB5.2/3, Ms5.2/3, Ms7 4.9/3*

ISC 13 03:12:15.8±0.4, 33°.80S±0°.05×72°.10W±0°.05, h19km, n105, σ1§03/106, mb4.8/41, 5C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.59	105	⇓*iP*	Pg	03 12 28.4	+0.7
TACH	Talagante	0.98	82	⇑*iP*	Pb	03 12 34.4	+0.2
RCDM	Rinconada Maip	1.12	74	⇓*iP*	Pn	03 12 35.6	-0.9
RCDM				*e*S	Sn	03 12 52.5	+1.0
RCDM				AML	AML	03 12 54.8	
	comp=N,29μm,0.4s						
CHCH	Chadas Angostu	1.21	97	⇑*iP*	Pn	03 12 38.2	+0.4
ANTU	Antumapu	1.24	80	*e*P1	Pn	03 12 38.8	+0.6
ANTU				*e*S1	Sg	03 12 56.6	+0.4
SAN	Santiago	1.25	74	⇑*iP*	Pn	03 12 38.9	+0.6
SAN				*e*S1	Sn	03 12 56.1	+1.4
CACH	El Canelo	1.28	105	⇓*iP*	Pb	03 12 39.8	+0.3
LACH	Col Las Americ	1.35	76	⇓*iP*	Pn	03 12 40.3	+0.6
LACH				*e*S	Sg	03 12 59.7	0.0
NICH	Los Niches	1.40	149	⇓*iP*	Pn	03 12 39.9	-0.4
NICH				*i*S	Sb	03 13 00.2	+1.4
NICH				AML	AML	03 13 10.4	
	comp=E,64μm,0.4s						
SJCH	San Jose de Ma	1.46	84	*e*P9	Pg	03 12 41.2	-2.9
SJCH				*i*S1	Sg	03 13 01.5	-1.7
TALC	Talca	1.64	167	⇑*iP*	Pn	03 12 43.3	-0.3
TALC				AML	AML	03 13 14.4	
	comp=E,51μm,0.4s						
LNCH	Linares	2.08	169	⇑*iP*	Pn	03 12 49.8	+0.1
LNCH				AML	AML	03 13 28.2	
	comp=N,24μm,0.5s						
CFAA	Coronel Fontan	3.92	57	Pn	Pn	03 13 16.0	+0.9
	comp=N,1.3nm,0.3s,baz=182,slow=1.2,SNR=41						
CFAA				Pg	Pb	03 13 21.9	-2.6
	comp=N,6.5nm,0.3s,baz=230,slow=13,SNR=56						
CFAA				Lg	Lg	03 14 15.2	
	comp=N,7.5nm,0.3s,baz=238,slow=19,SNR=3.7						
PLCA	Paso Flores	7.03	170	Pn	Pn	03 13 57.6	-0.1
	baz=343,slow=12						
PLCA	Paso Flores	7.03	170	*e*Pn	Pn	03 13 57.2	-0.6
	comp=N,918nm,1.4s						
TRQA	Tornquist	9.24	120	*e*Pn	Pn	03 14 27.7	-0.4
	comp=N,36nm,0.9s						
LVC	Limon Verde	11.49	15	*e*Pn	Pn	03 14 54.8	-4.5
LPAZ	La Paz	17.80	13	P	Pn	03 16 23.7	+0.5
	comp=N,0.3nm,0.3s,baz=178,slow=4.7,SNR=7.7						
LPAZ	La Paz	17.80	13	*e*Pn	Pn	03 16 23.3	+0.1
	comp=N,28nm,1.0s						
SIV	San Ignacio	20.33	32	P	P	03 16 50.8	-0.3
	comp=N,2.4nm,0.6s,baz=217,slow=11,SNR=4.2						
USHA	Ushuaia	21.18	174	P	P	03 17 00.5	+0.6
	comp=N,12nm,0.9s,baz=342,slow=11,SNR=6.4						
NNA	Nana	22.14	348	P	P	03 17 11.5	+1.0
	comp=N,3.2nm,0.3s,baz=197,slow=14,SNR=1.9						
SAML	Samuel	26.06	20	*e*P	P	03 17 47.6	-0.5
	comp=N,47nm,1.3s						
BDFB	Brasilia	28.27	56	P	P	03 18 08.0	-0.2
	comp=N,1.2nm,0.4s,baz=212,slow=13,SNR=2.7						
OTAV	Otavalo	34.38	349	*e*P	P	03 18 57.0	-5.3
	comp=N,20nm,1.5s						
PTGA	Pitinga	34.81	22	P	P	03 19 05.2	-0.3
	comp=N,2.4nm,0.6s,baz=206,slow=11,SNR=3.4						
PTGA	Pitinga	34.81	22	*e*P	P	03 19 05.7	+0.2
	comp=N,16nm,1.2s						
SDV	Santo Domingo	42.47	2	*e*P	P	03 20 08.8	-1.3
	comp=N,14nm,1.2s						
GRGR	Grenville	46.75	14	*e*P	P	03 20 39.9	-4.0
	comp=N,195nm,1.1s						
SNAA	Sanae	51.79	158	P	P	03 21 21.8	-0.2
	comp=N,30nm,1.4s,baz=277,slow=7.2,SNR=22						
SNAA	Sanae	51.79	158	*e*P	P	03 21 21.7	-0.2
	comp=N,37nm,1.2s						
QSPA	South Pole Qui	56.43	180	P	P	03 21 56.0	0.0
	comp=N,14nm,1.0s,baz=307,slow=0.9,SNR=30						
VNDA	Vanda	64.29	191	P	P	03 22 50.0	+0.6
	comp=N,1.7nm,0.8s,baz=140,slow=4.8,SNR=5.1						
LRAL	Lakeview Retre	67.94	347	*e*P	P	03 23 13.6	+0.4
	comp=N,31nm,1.4s						
JCT	Junction City	69.08	335	*e*P	P	03 23 21.5	+1.0
	comp=N,28nm,1.4s						
TXAR	Lajitas Array	69.54	331	P	P	03 23 23.8	+0.4
	comp=N,1.0nm,0.5s,baz=155,slow=8.3,SNR=12						
SWET	Sewanee	69.87	348	*e*P	P	03 23 26.9	+1.7
	comp=N,49nm,1.5s						
ABTX	Abilene, Hawle	70.98	336	*e*P	P	03 23 33.3	+1.3
	comp=N,25nm,1.4s						
WVT	Waverly	71.11	347	*e*P	P	03 23 32.8	+0.1
	comp=N,31nm,1.0s						
MNTX	Cornudas Mount	72.31	331	*e*P	P	03 23 41.0	+0.9
	comp=N,7.5nm,1.4s						
SIUC	Southern Illin	72.92	346	*e*P	P	03 23 45.1	+1.5
MSTX	Muleshoe	73.31	334	*e*P	P	03 23 48.2	+2.1
	comp=N,17nm,1.1s						
MAW	Mawson	73.38	164	P	P	03 23 45.0	-1.0
	comp=N,68nm,1.2s,baz=270,slow=8.1,SNR=3.9						
LIC	Lamto	74.76	72	*e*P	P	03 23 58.7	+3.8
	comp=N,38nm,1.4s						
SUR	Sutherland	74.97	119	P	P	03 23 55.8	-0.4
	comp=N,5.8nm,0.9s,baz=220,slow=5.9,SNR=4.1						
TIC	Toumodi	75.02	71	*e*P	P	03 23 56.3	-0.2
	comp=N,2.4nm,0.2s						
KIC	Kosan Boka	75.07	72	*e*P	P	03 23 56.4	-0.3
	comp=N,43nm,1.4s						
DBIC	Dimbokro	75.16	71	P	P	03 23 57.0	-0.3
	comp=N,5.5nm,0.9s,baz=220,slow=4.5,SNR=7.9						
LAZ	Ladron	75.39	331	*e*P	P	03 24 00.4	+2.1
	comp=N,9.7nm,1.7s						
ANMO	Albuquerque	75.58	331	*e*P	P	03 24 01.5	+2.1
	comp=N,11nm,1.4s						
SDCO	Great Sand Dun	77.67	333	*e*P	P	03 24 13.5	+2.2
	comp=N,9.1nm,1.4s						
PFO	Pinyon Flats O	78.94	324	*e*P	P	03 24 21.8	+3.6
	comp=N,28nm,1.6s						
BOSA	Boshof	80.21	118	P	P	03 24 25.1	-0.4
	comp=N,2.0nm,0.5s,baz=254,slow=4.3,SNR=8.1						
BOSA	Boshof	80.21	118	*e*P	P	03 24 24.8	-0.7
	comp=N,16nm,1.3s						
ECSD	EROS Data Cent	80.34	342	*e*P	P	03 24 26.8	+1.3
	comp=N,20nm,1.4s						
SHPR	Sheep Range	80.67	326	*e*P	P	03 24 30.7	+3.1
	comp=N,18nm,1.5s						
R11A	Troy Canyon, C	82.36	327	*e*P	P	03 24 39.0	+2.5
	comp=N,8.6nm,1.4s						
LBTB	Lobatse	82.43	115	P	P	03 24 37.1	-0.2
	baz=259,slow=7.4						
JLU	Jordanelle	82.46	331	*e*P	P	03 24 39.2	+2.2
	comp=N,3.0nm,0.4s						
DUG	Dugway, Tooele	82.68	330	*e*P	P	03 24 41.0	+2.9
	comp=N,15nm,1.5s						
HWUT	Hardware Ranch	83.35	331	*e*P	P	03 24 42.2	+0.6
	comp=N,15nm,1.5s						
PDAR	Pinedale Array	83.56	333	P	P	03 24 43.8	+1.1
	comp=N,0.8nm,1.0s,baz=114,slow=3.4,SNR=3.3						
TORD	Torodi Ar. Bea	84.19	70	P	P	03 24 45.8	-0.4
	comp=N,3.2nm,0.5s,baz=278,slow=6.4,SNR=86						
HLID	Hailey	86.14	331	*e*P	P	03 24 58.0	+2.4
	comp=N,6.5nm,1.2s						
MCMT	McKenzie Canyo	86.57	332	*e*P	P	03 24 58.2	+0.4
	comp=N,6.8nm,1.4s						
TAM	Tamanrasset	92.78	64	*e*P	P	03 25 27.5	+0.1
	comp=N,5.2nm,1.4s						
YKA	Yellowknife Ar	101.85	341	P	Pdif	03 26 08.4	+1.2
	comp=N,0.1nm,0.4s,baz=144,slow=4.7,SNR=3.7						
MMAI	Mount Meron Ar	120.71	69	PKP	PKPdf	03 31 06.4	-0.3
	comp=N,0.6nm,0.4s,baz=267,slow=2.9,SNR=5.3						
WRA	Warramunga Arr	120.91	209	PKP	PKPdf	03 31 06.1	-1.4
	comp=N,0.9nm,0.4s,baz=168,slow=1.5,SNR=7.3						
WRAB	Tennant Creek	120.91	209	*e*PKPdf	PKPdf	03 31 06.5	-1.0
BRTR	Keskin Array B	121.78	61	PKP	PKPdf	03 31 07.8	-0.8
	comp=N,0.6nm,0.7s,baz=204,slow=4.2,SNR=5.2						
COEN	Coen	121.82	221	*e*PKPdf	PKPdf	03 31 08.4	-0.9
FINES	FINESS Array B	122.86	34	PKP	PKPdf	03 31 09.0	-0.8
	comp=N,0.6nm,0.7s,baz=197,slow=4.4,SNR=3.1						
ARCES	ARCESS Array B	123.86	25	PKP	PKPdf	03 31 10.9	-0.6
	comp=N,2.7nm,0.9s,baz=247,slow=4.0,SNR=6.5						
H11S2	WAKE ISLAND Hyl	25.72	269	T	T	05 50 19.0	
	baz=119,slow=74,SNR=10.0						
H11S1	WAKE ISLAND Hyl	25.74	269	T	T	05 50 17.9	
	baz=119,slow=74,SNR=10						
H11S3	WAKE ISLAND Hyl	25.74	269	T	T	05 50 18.3	
	baz=119,slow=74,SNR=8.4						
H11N3	WAKE ISLAND Hyl	26.13	271	T	T	05 50 28.4	
	baz=116						
H11N1	WAKE ISLAND Hyl	26.14	271	T	T	05 50 26.7	
	baz=116						
H11N2	WAKE ISLAND Hyl	26.15	271	T	T	05 50 37.4	
	baz=116						
SEY	Seymchan	139.83	330	PKP	PKPdf	03 31 41.5	-0.2
	comp=N,1.3nm,0.3s,baz=1.0,slow=23,SNR=4.3						
AKTO	Aktyubinsk	140.25	50	PKP	PKPdf	03 31 42.5	-0.4
	comp=N,1.2nm,0.9s,baz=299,slow=7.4,SNR=4.2						
ABKAR	Akbulak array	141.60	52	*e*PKPpre	PKPpre	03 31 39.8	
ABKAR				*e*PKPdf	PKPdf	03 31 45.6	+0.3
BRVK	Borovoye	147.10	43	*e*PKPbc	PKPbc	03 31 56.9	-0.1
BVAR	Borovoye Array	147.17	43	PKPbc	PKPdf	03 31 55.4	+0.4
	comp=N,1.5nm,0.4s,baz=270,slow=3.0,SNR=9.8						
PSI	Prapat	148.04	163	PKPbc	PKPdf	03 31 59.1	+1.4
	comp=N,3.8nm,0.4s,baz=195,slow=9.0,SNR=3.5						
HYB	Hyderabad	149.06	114	*i* PKP	PKPbc	03 32 02.0	-1.3
KKAR	Karatay Array	149.49	61	*e*PKPdf	PKPdf	03 31 58.9	-0.2
KKAR				*e*PKPbc	PKPbc	03 32 03.2	-0.4
KKAR				*e*PKPab	PKPab	03 32 08.0	-0.6
KKM	Kota Kinabalu	151.32	197	*e*PKPdf	PKPdf	03 32 03.2	+0.2
KKM				*e*PKPbc	PKPbc	03 32 08.9	0.0
KKM				*e*PKPab	PKPab	03 32 17.0	+0.2
AAK	Ala-Archa	152.46	61	*e*PKPbc	PKPbc	03 32 10.8	+0.1
AAK				*e*PKPab	PKPab	03 32 20.7	-0.4
KURBB	Kurchatov Arra	152.76	43	PKP	PKPdf	03 32 03.2	-0.6
	comp=N,0.3nm,0.4s,baz=24,slow=5.3,SNR=5.0						
KURBB				PKPbc	PKPbc	03 32 10.4	-0.5
	comp=N,1.7nm,0.5s,baz=303,slow=2.8,SNR=14						
KURK	Kurchatov	152.77	43	PKP	PKPdf	03 32 03.2	-0.6
KURK				*e*PKPdf	PKPbc	03 32 03.6	-7.3
KURK				PKPbc	PKiKP	03 32 10.4	-0.7
KURK				*e*PKPbc	PKiKP	03 32 10.5	-0.6
TKM2	Tokmak 2	153.22	61	*e*PKPdf	PKPdf	03 32 04.4	-0.6
TKM2				*e*PKPbc	PKPbc	03 32 12.0	-0.5
TKM2				*e*PKPab	PKPab	03 32 23.7	-0.7
KSH	Kashi	153.84	68	*e*PKPbc	PKPab	03 32 25.9	-1.1
KSH				sPKP		03 32 39.1	
KSH				PP	PP	03 36 21.8	+20
KSH				PPMZ			
	comp=N,140nm,6.3s						
KSH				LN			
	comp=N,23nm,4.5s						
KSH				LE			
	comp=N,33nm,3.8s						
KSH				LZ			
	comp=N,170nm,5.8s						
ZALV	Zalesovo Beam	154.09	32	PKP	PKPdf	03 32 05.2	-0.4
	comp=N,0.9nm,0.7s,baz=266,slow=4.5,SNR=6.2						
ZALV				PKPbc	PKPbc	03 32 13.2	-0.6
	comp=N,3.1nm,0.6s,baz=300,slow=2.7,SNR=12						
MKAR	Makanchi Array	156.67	49	PKP	PKPdf	03 32 08.6	-0.8
	comp=N,0.7nm,0.9s,baz=286,slow=6.1,SNR=4.9						
MKAR				PKPab	PKPab	03 32 38.4	-0.4
	comp=N,4.5nm,1.1s,baz=304,slow=2.8,SNR=13						
WMQ	Urumqi	161.39	52	*e*PKP	PKPdf	03 32 33.8	+19
WMQ				PKPab	PKPab	03 33 18.3	+19
CMAR	Chiang Mai Arr	162.75	150	PKP	PKPdf	03 32 16.9	-0.3
	comp=N,1.2nm,0.3s,baz=217,slow=1.5,SNR=4.8						
CN2	Changchun	163.10	311	*e*PKP	PKPdf	03 32 33.8	+17
SONM	Songino Array	165.94	4	PKPab	PKPab	03 33 20.0	+0.9
	comp=N,0.8nm,0.9s,baz=354,slow=2.6,SNR=3.6						
ULN	Ulaanbaatar	165.94	2	*e*PKPab	PKPab	03 33 19.1	-0.1
NJ2	Nanjing	170.63	262	*e*PKP	PKPdf	03 32 41.1	+18
GTA	Gaotai	171.42	47	*e*PKP	PKPdf	03 32 33.8	+11
HHC	Hu-ho-hao-te	172.38	339	*e*PKP	PKPdf	03 32 40.3	+17
HHC				pPKP	pPKPdf	03 32 49.4	+19
HHC				sPKP		03 32 55.8	
HHC				PP	PP	03 37 47.8	+9.2
HHC				SKS	SKSdf	03 39 35.4	+10
HHC				SS	SS	03 58 38.6	-10
HHC				PPMZ			
	comp=N,330nm,8.9s						
HHC				LN			
	comp=N,160nm,22.3s						
HHC				LE			
	comp=N,210nm,22.2s						
HHC				LZ			
	comp=N,190nm,22.4s						
LZH	Lanzhou	175.96	54	*e*PKP	PKPdf	03 32 44.1	+19
LZH				pPKP	pPKPdf	03 32 55.8	+24

CSEM ***13*** *03:14:20.2, 37°.33N×36°.51E, h7km, MD2.6*

DDA 13 03:14:20.3, 37°.33N×36°.51E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMA	Osmaniye	0.19	138	*i* P	Pg	03 14 24.3	+0.1
KAMA				*i* S	Sg	03 14 27.2	+0.4
KAMA	Osmaniye	0.19	138	*i* P	Pg	03 14 24.4	+0.2
KAMA				*i* S	Sg	03 14 27.7	+0.8
ANDN	Andirin	0.29	332	*i* P	Pg	03 14 16.6	-10
ANDN				*i* S	Sg	03 14 29.8	-0.3
ANDN	Andirin	0.29	332	*i* P	Pg	03 14 16.6	-10
ANDN				*i* S	Sg	03 14 29.8	-0.3
KUZU	Kuzuini	0.71	141	*i* P	Pb	03 14 35.6	+0.5
KUZU				*i* S	Sb	03 14 45.1	0.0
KUZU	Kuzuini	0.71	141	*i* P	Pb	03 14 35.5	+0.4
KUZU				*i* S	Sb	03 14 44.9	-0.3
KUZU	Kuzuini	0.71	141	*i* P	Pb	03 14 35.6	+0.5
KUZU				*i* S	Sb	03 14 45.1	0.0
GZT	Gaziantep	0.84	88	*i* P	Pb	03 14 37.4	0.0
GZT				*i* S	Sb	03 14 50.0	+1.0

IDC ***13*** *03:14:58.7±0.4, 36°.58S×73°.30W, h0km, mb4.8/26, mb1 4.9/29, mb1mx4.8/36, mbtmp4.8/29, ML3.9/2, Error ellipse: s-maj=16.4km s-min=11.4km az=87.0*
NEIC ***13*** *03:15:01.4, 36°.69S×73°.61W, h15km, mb5.1/83, After GUC.*
NEIC Felt [VI] at Concepcion, [III] at Santiago and [II] at Cauquenes, Linares, Parral and Talca.
GCMT ***13*** *03:15:01.4±0.4, 36°.69S×74°.02W, h31km±1km, MW5.3/46, Moment Tensor Solution. s33,c42; s46,c60; Duration: 1§1 Moment tensor: Scale 10^17^Nm; Mrr0.83±.06; Mθθ-0.08±.04; Mφφ-0.74±.04; Mrθ-0.05±.05; Mrφ-0.03±.03; Mθφ-0.76±.06; Best double couple: M0 1.10000×10^17^ NP1:φs183.00000°, δ67.00000°, λ91.00000°. NP2: φs2.00000°, δ23.00000°, λ88.00000°. Principal axes: T 1.1400, Plg68.0000°, Azm95.0000°; N -0.0790, Plg1.0000°, Azm3.0000°; P -1.0600, Plg22.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
GUC ***13*** *03:15:01.4±0.5, 36°.69S×73°.61W, h15km±7km, ML5.9*
ISCJB ***13*** *03:15:02.0±0.1, 36°.58S±0°.03×73°.25W±0°.05, h27km, mb5.0/110, Error ellipse: s-maj=6.2km s-min=3.7km az=149.0*
MOS ***13*** *03:15:02.6±1.1, 36°.56S×73°.35W, h33km, mb5.3/32, Error ellipse: s-maj=17.4km s-min=8.1km az=105.6*
BJI ***13*** *03:15:02.8, 36°.40S×72°.80W, h34km, mB5.3/10, Ms5.4/10, Ms7 5.2/12*

ISC 13 03:15:02.7±0.2, 36°.61S±0°.04×73°.37W±0°.05, h27km, n718, σ1§17/742, mb5.1/109, 203C-217D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.31	139	⇓*iP*	Pb	03 15 10.1	0.0
CCSP				*i* S	Sn	03 15 16.4	-0.8
CCSP	San Pedro de C	0.31	139	⇓*iP*	Pb	03 15 10.1	0.0
CCSP				*i* S	Sn	03 15 16.4	-0.8
LNCH	Linares	1.62	62	⇑*iP*	Pb	03 15 31.0	-0.9
LNCH				*i* S1	Sb	03 15 54.7	+2.8
LNCH	Linares	1.62	62	⇑*iP*	Pb	03 15 31.0	-0.9
LNCH				*i* S	Sb	03 15 54.7	+2.8
TALC	Talca	1.85	50	⇑*iP*	Pb	03 15 35.7	-0.2
TALC				AML	AML	03 16 11.9	
	comp=E,100μm,0.4s						
TALC	Talca	1.85	50	⇑*iP*	Pb	03 15 35.7	-0.2
NICH	Los Niches	2.36	48	⇓*iP*	Pb	03 15 43.2	-1.4
NICH				AML	AML	03 16 26.4	
	comp=E,74μm,0.6s						
NICH	Los Niches	2.36	48	⇓*iP*	Pb	03 15 43.2	-1.4
VLCH	Valdivia	3.19	178	*e*P1	Pn	03 15 51.1	0.0
VLCH				AML	AML	03 16 56.9	
	comp=E,31μm,0.6s						
VLCH	Valdivia	3.19	178	*e*P	Pn	03 15 51.1	0.0
PLCA	Paso Flores	4.67	153	Pn	Pn	03 16 11.7	+0.1
	baz=322,slow=17						
PLCA				Lg	Lg	03 17 25.6	
	baz=242,slow=17						
CFAA	Coronel Fontan	6.56	42	Pn	Pn	03 16 37.6	+0.2
	comp=E,2.4nm,0.3s,baz=220,slow=13,SNR=7.3						
CFAA				Sn	Sn	03 17 54.3	+3.0
	comp=E,0.9nm,0.3s,baz=212,slow=15,SNR=2.4						
TRQA	Tornquist	9.18	102	*e*Pn	Pn	03 17 10.5	-3.0
LVC	Limon Verde	14.47	17	*e*Pn	Pn	03 18 25.7	-0.4
USHA	Ushuaia	18.54	171	P	Pn	03 19 17.7	+0.3
	comp=E,0.3nm,0.3s,baz=312,slow=12,SNR=4.6						
LPAZ	La Paz	20.77	14	*e*P	Pn	03 19 43.8	-1.1
LPAZ	La Paz	20.77	14	P	P	03 19 43.4	+1.1
	comp=E,29nm,1.1s,baz=181,slow=6.8,SNR=18						
LPAZ	La Paz	20.77	14	*e*Pn	Pn	03 19 43.8	-1.1
	comp=E,60nm,1.0s						
SIV	San Ignacio	23.26	31	P	P	03 20 07.3	-0.9
	comp=E,42nm,0.9s,baz=225,slow=9.3,SNR=31						
NNA	Nana	24.71	352	*e*P	P	03 20 21.8	0.0
NNA				pmax	pmax		
	comp=Z,45nm,1.1s						
NNA	Nana	24.71	352	P	P	03 20 21.5	-0.4
	comp=Z,8.8nm,0.6s,baz=184,slow=11,SNR=5.1						
NNA	Nana	24.71	352	*e*P	P	03 20 21.8	0.0
	comp=Z,45nm,1.1s						
SAML	Samuel	29.05	21	*e*P	P	03 21 00.2	-0.6
	comp=Z,20nm,1.0s						
ATAH	Atahualpa	29.70	350	P	P	03 21 07.0	0.0
	comp=Z,7.0nm,1.0s,baz=113,slow=15,SNR=1.8						
BDFB	Brasilia	30.72	54	P	P	03 21 14.8	-1.0
	comp=Z,14nm,

baz=69
738A Farr-Stevens R 68.39 339 ⇑P P 03 26 04.2 +2.4
baz=69
835A Beeville 68.53 337 ⇓P P 03 26 03.9 +1.2
baz=69
834A Tilden 68.61 336 ⇑P P 03 26 05.3 +2.1
baz=69
TIAR Tiarei 68.66 264 eT T 04 40 36.2
comp=Z,4.5nm,0.2s
PAE Paea 68.78 263 eT T 04 40 46.1
comp=Z,0.9nm,0.3s
PPT2 Papeete2 68.82 263 eLR LR 03 47 02.2
comp=Z,1µm,24.5s
PPT Papeete 68.83 263 P P 03 26 07.4 +2.4
comp=Z,28nm,0.9s,baz=182,slow=1.5,SNR=3.4
735A Kenedy 69.05 337 ⇓P P 03 26 07.5 +1.6
baz=69
833A Chaparral WMA, 69.07 336 ⇓P P 03 26 07.8 +1.6
baz=69
832A Faith Ranch, C 69.23 335 ⇓P P 03 26 08.7 +1.6
baz=70
734A La Parita Cree 69.28 336 ⇓P P 03 26 10.0 +2.6
baz=70
733A Divot King Ran 69.41 336 ⇑P P 03 26 12.0 +3.9
baz=70
636A Smothers Creek 69.41 338 ⇓P P 03 26 10.1 +2.0
baz=70
635A Leesville 69.54 337 ⇑P P 03 26 11.2 +2.3
baz=70
732A Laxson Ranch, 69.64 335 ⇑P P 03 26 10.7 +1.1
baz=70
634A China Grove, S 69.71 337 ⇓P P 03 26 13.8 +3.7
baz=70
537A Green Hill Far 69.75 339 ⇓P P 03 26 12.0 +1.7
baz=70
536A Bastrop 69.97 338 ⇓P P 03 26 13.0 +1.5
baz=70
633A Saathoff Ranch 70.05 336 ⇓P P 03 26 13.5 +1.4
baz=70
535A Dale 70.08 338 ⇓P P 03 26 13.4 +1.2
baz=70
438A Sam Houston St 70.14 340 ⇑P P 03 26 13.7 +1.1
baz=70
632A Uvalde 70.30 336 ⇑P P 03 26 15.4 +1.8
baz=71
340A Bronson 70.35 341 ⇓P P 03 26 14.7 +0.8
baz=71
534A Blanco 70.35 337 ⇓P P 03 26 15.0 +1.0
baz=71
437A Phantom Ranch, 70.40 339 ⇑P P 03 26 15.0 +0.8
baz=71
339A Huntington 70.44 341 ⇑P P 03 26 16.0 +1.5
baz=71
LRAL Lakeview Retre 70.45 348 eP P 03 26 13.7 -0.7
comp=Z,9.8nm,0.9s
631A Perdido Creek 70.47 335 ⇑P P 03 26 15.7 +0.9
baz=71
533A Kerrville 70.57 337 ⇓P P 03 26 16.8 +1.5
baz=71
338A Crockett 70.67 340 ⇓P P 03 26 18.0 +2.2
baz=71
435B Jarrell 70.78 338 ⇑P P 03 26 18.2 +1.6
baz=71
337A Centerville 70.79 340 ⇓P P 03 26 18.2 +1.6
baz=71
532A Rocksprings 70.91 336 ⇑P P 03 26 19.0 +1.6
baz=71
434A Burnet 71.02 337 ⇑P P 03 26 19.4 +1.4
baz=71
336A Riesel 71.13 339 ⇑P P 03 26 19.9 +1.2
baz=72
531A Rocksprings 71.15 335 ⇑P P 03 26 20.4 +1.5
baz=72
JCT Junction City 71.20 336 eP P 03 26 18.7 -0.4
JCT pmax pmax
comp=Z,19nm,1.0s
JCT Junction City 71.20 336 ⇑P P 03 26 20.2 +1.1
baz=72
JCT Junction City 71.20 336 eP P 03 26 18.7 -0.4
comp=Z,19nm,1.0s
335A Moody 71.20 338 ⇑P P 03 26 20.3 +1.2
baz=72
433A Art 71.22 337 ⇑P P 03 26 20.2 +1.0
baz=72
530A J-C Ranch, Com 71.41 335 ⇑P P 03 26 22.3 +1.9
baz=72
334A Lometa 71.49 338 ⇓P P 03 26 21.8 +0.9
baz=72
TXAR Lajitas Array 71.51 332 P P 03 26 21.4 +0.3
comp=Z,1.4nm,0.5s,baz=152,slow=7.6,SNR=15
432A Menard 71.56 336 ⇑P P 03 26 22.8 +1.5
baz=72
431A Sonora 71.65 335 ⇑P P 03 26 23.6 +1.7
baz=72
529A Stev Forest Ra 71.69 334 ⇓P P 03 26 23.6 +1.4
baz=72
333A Richland Sprin 71.72 337 ⇓P P 03 26 23.0 +0.7
baz=72
KMSC Kings Mountain 71.77 353 ⇑P P 03 26 23.3 +0.8
baz=72
KMSC Kings Mountain 71.77 353 eP P 03 26 21.6 -0.8
comp=Z,35nm,1.0s
138A Matatall Enter 71.84 341 ⇑P P 03 26 24.2 +1.3
baz=72
WHTX Lake Whitney, 71.87 339 ⇓P P 03 26 24.1 +0.9
baz=72
WHTX Lake Whitney, 71.87 339 eP P 03 26 23.5 +0.4
comp=Z,17nm,0.8s
430A Baggett Ranch, 71.96 335 ⇓P P 03 26 24.8 +1.0
baz=72
137A Heron Place, G 71.96 340 ⇑P P 03 26 25.0 +1.4
baz=72
332A Millersview 72.01 336 ⇑P P 03 26 24.9 +0.8
baz=72
429A Davenport Ranc 72.04 334 ⇓P P 03 26 25.9 +1.7
baz=72
234A Clairette 72.09 338 ⇓P P 03 26 25.7 +1.3
baz=72
331A San Angelo 72.17 336 ⇓P P 03 26 25.5 +0.5
baz=72
OXF Oxford 72.32 346 eP P 03 26 24.7 -1.1
OXF pmax pmax
comp=Z,19nm,0.8s
OXF Oxford 72.32 346 eP P 03 26 24.6 -1.1
comp=Z,20nm,0.8s
233A Rising Star 72.33 337 ⇑P P 03 26 26.9 +1.0
baz=73
SWET Sewanee 72.41 349 eP P 03 26 25.9 -0.5
comp=Z,32nm,0.7s
CPCT Cooper Cave 72.44 350 eP P 03 26 28.4 +2.0
232A Coleman 72.45 337 ⇑P P 03 26 27.1 +0.4
baz=73
330A Mertzon 72.50 335 ⇓P P 03 26 28.1 +1.0
baz=73
TKL Tuckaleechee C 72.55 351 eP P 03 26 26.3 -0.8
TKL Tuckaleechee C 72.55 351 eP P 03 26 26.2 -0.8
134A White-Moore Ra 72.60 338 ⇑P P 03 26 28.3 +0.8
baz=73
231A Bronte 72.71 336 ⇑P P 03 26 29.0 +0.8
baz=73
329A Wagon Wheel Ra 72.85 335 ⇑P P 03 26 30.0 +0.9
baz=73
133A Hamilton Ranch 72.89 338 ⇑P P 03 26 29.9 +0.7
baz=73
Z35A Perchaven, San 73.07 339 ⇑P P 03 26 31.5 +1.2
baz=73
ABTX Abilene, Hawle 73.13 337 ⇓P P 03 26 31.5 +0.9
baz=74
ABTX Abilene, Hawle 73.13 337 eP P 03 26 29.6 -1.1
comp=Z,19nm,1.0s
229A Bryant Ranch, 73.23 335 ⇓P P 03 26 32.1 +0.8
baz=74
MIAR Mount Ida 73.25 343 eP P 03 26 31.2 -0.1
MIAR pmax pmax
comp=Z,61nm,2.0s
MIAR Mount Ida 73.25 343 eP P 03 26 31.2 -0.1
comp=Z,61nm,2.0s
Z34A Collier Ranch, 73.30 339 ⇓P P 03 26 32.4 +0.8
baz=74
131A Roby 73.41 336 ⇓P P 03 26 33.2 +0.8
baz=74
Z33A Whitaker Ranch 73.47 338 ⇑P P 03 26 34.1 +1.5
baz=74
130A Snyder 73.53 336 ⇑P P 03 26 34.8 +1.8
baz=74
KOMG Komaggas 73.55 115 eP P 03 26 34.7 +1.3
KOMG AMB AMB 03 26 35.4
comp=Z,48nm,1.4s
KOMG Komaggas 73.55 115 P P 03 26 34.7 +1.3
comp=Z,48nm,1.4s
WVT Waverly 73.61 348 eP P 03 26 32.3 -1.0
WVT pmax pmax
comp=Z,28nm,0.9s
WVT Waverly 73.61 348 eP P 03 26 32.3 -1.0
comp=Z,28nm,0.9s
228A UT Block 9, Go 73.64 334 ⇑P P 03 26 34.3 +0.6
baz=74
Z32A Haskell 73.71 337 ⇑P P 03 26 35.2 +1.2
baz=74
Y34A Reagan Ranch, 73.80 339 ⇑P P 03 26 35.1 +0.5
baz=74
129A Stewart Farms, 73.86 335 ⇑P P 03 26 35.4 +0.3
baz=74
Z31A Sharp Cattle R 73.93 337 ⇑P P 03 26 35.9 +0.6
baz=74
BBTS Babate 73.94 57 P P 03 26 36.7 +1.0
comp=Z,30nm,1.1s,baz=236,slow=1.8,SNR=4.1
128A Castleberry Fa 74.06 335 ⇓P P 03 26 37.3 +1.1
baz=74
Z30A Sanderson Ranc 74.21 336 ⇓P P 03 26 37.6 +0.5
baz=74
MNTX Cornudas Mount 74.27 332 eP P 03 26 36.8 -0.6
comp=Z,4.5nm,0.8s
Y32A R-V Farms, Ver 74.34 338 ⇓P P 03 26 38.4 +0.6
baz=75
Z29A Hungry Hill Ra 74.38 336 ⇑P P 03 26 38.4 +0.3
baz=75
X34A Smith Ranch, M 74.42 339 ⇑P P 03 26 39.1 +0.9
baz=75
PARMO Parma 74.47 346 eP P 03 26 38.6 +0.2
SUR Sutherland 74.52 119 P P 03 26 41.5 +2.2
comp=Z,226nm,0.9s,SNR=5.9
SUR Sutherland 74.52 119 eP P 03 26 40.0 +0.7
comp=Z,25nm,0.9s
Y31A Rekieta Farm, 74.56 337 ⇑P P 03 26 39.5 +0.5
baz=75
X33A Lawton 74.56 339 ⇓P P 03 26 40.0 +1.0
baz=75
Z28A Tucker Farm, M 74.63 335 ⇓P P 03 26 41.1 +1.6
baz=75
Y30A Stafford Cattl 74.68 337 ⇑P P 03 26 40.4 +0.7
baz=75
X32A Elmer 74.68 338 ⇓P P 03 26 40.5 +0.8
baz=75
WMOK Wichita Mounta 74.83 339 eP P 03 26 39.6 -0.9
WMOK pmax pmax
comp=Z,9.0nm,1.0s
WMOK Wichita Mounta 74.83 339 eP P 03 26 39.6 -0.9
comp=Z,8.6nm,1.0s
Y29A Porterfield Fa 74.92 336 ⇓P P 03 26 41.5 +0.4
baz=75
W34A Bridge Creek, 75.00 340 ⇓P P 03 26 42.2 +0.7
baz=75
X31A McDonald Ranch 75.09 338 ⇓P P 03 26 42.9 +0.9
baz=75
TUL1 Leonard 75.10 341 ⇑P P 03 26 43.1 +1.0
baz=76
TUL1 Leonard 75.10 341 eP P 03 26 41.9 -0.2
comp=Z,22nm,0.8s
W33A Caddo, Fort Co 75.12 339 ⇓P P 03 26 43.7 +1.5
baz=76
Y28A McKinney Farm, 75.15 335 ⇑P P 03 26 44.4 +1.8
baz=76
X30A Coker Ranch, T 75.20 337 ⇑P P 03 26 44.5 +1.8
baz=76
W32A Sentinel 75.33 338 ⇑P P 03 26 44.7 +1.3
baz=76
USIN University of 75.37 348 eP P 03 26 42.9 -0.6
comp=Z,37nm,0.9s
MSTX Muleshoe 75.39 335 ⇑P P 03 26 44.9 +1.0
baz=76
SIUC Southern Illin 75.40 347 eP P 03 26 42.4 -1.3
comp=Z,16nm,0.8s
Y27A Causey 75.44 335 ⇑P P 03 26 46.3 +2.1
baz=76
X29A Tulia 75.46 336 ⇑P P 03 26 45.3 +1.0
baz=76
V34A Guthrie 75.49 340 ⇓P P 03 26 45.3 +1.0
baz=76
V34A Guthrie 75.49 340 eP P 03 26 43.3 -1.0
comp=Z,17nm,0.8s
319A Douglas 75.54 329 ⇑P P 03 26 46.9 +2.1
baz=76
W31A Holland Ranch, 75.59 338 ⇓P P 03 26 47.1 +2.1
baz=76
X28A Dimmitt 75.69 336 ⇓P P 03 26 47.9 +2.3
baz=76
V33A Lossen Ranch, 75.70 339 ⇑P P 03 26 46.8 +1.4
baz=76
V32A Arapaho 75.82 339 ⇑P P 03 26 47.6 +1.4
baz=76
AMTX Amarillo 75.86 336 ⇑P P 03 26 47.9 +1.3
baz=76
AMTX Amarillo 75.86 336 eP P 03 26 46.0 -0.6
comp=Z,28nm,1.3s
121A Cookes Peak, D 75.94 331 ⇓P P 03 26 49.2 +2.0
baz=76
U34A Anderson Ranch 76.06 340 ⇓P P 03 26 48.7 +1.1
baz=76
U34A Anderson Ranch 76.06 340 eP P 03 26 47.6 +0.1
comp=Z,16nm,1.0s
W29A Amarillo 76.07 336 ⇑P P 03 26 48.6 +0.9
baz=76
V31A Spring Creek L 76.11 338 ⇑P P 03 26 49.9 +2.0
baz=76
X27A F and S Farms, 76.11 335 ⇓P P 03 26 49.3 +1.3
baz=76
Z22A Elephant Butte 76.26 331 ⇓P P 03 26 51.3 +2.4
baz=77
X26A CR and CF Fran 76.27 334 ⇑P P 03 26 50.2 +1.2
baz=77
Y24A Capitan 76.29 333 ⇑P P 03 26 50.8 +1.7
baz=77
V30A Spur Ranch, Mi 76.35 337 ⇑P P 03 26 50.6 +1.2
baz=77
BLO Bloomington 76.38 350 eP P 03 26 48.5 -0.7
BLO pmax pmax
comp=Z,17nm,0.8s
BLO Bloomington 76.38 350 eP P 03 26 48.5 -0.7
comp=Z,17nm,0.8s
U32A Winter Ranch, 76.42 339 ⇑P P 03 26 50.7 +1.1
baz=77
SLM Saint Louis 76.48 346 eP P 03 26 49.4 -0.4
SLM pmax pmax
comp=Z,11nm,0.6s
SLM Saint Louis 76.48 346 eP P 03 26 49.4 -0.4
comp=Z,11nm,0.6s
W27A Bowe Ranch, En 76.48 335 ⇑P P 03 26 51.2 +1.1
baz=77
LIC Lamto 76.62 72 eP P 03 26 51.7 +0.4
comp=Z,117nm,1.0s
W26A Owens Ranch, T 76.74 335 ⇑P P 03 26 52.9 +1.2
baz=77
V28A Channing 76.83 336 ⇓P P 03 26 53.6 +1.6
baz=77
T33A Patterson Ranc 76.86 340 ⇑P P 03 26 53.7 +1.6
baz=77
TIC Toumodi 76.90 71 eP P 03 26 53.3 +0.4
comp=Z,66nm,0.9s
KIC Kosan Boka 76.93 72 eP P 03 26 53.7 +0.7
comp=Z,112nm,0.9s
ACSO Alum Creek Sta 76.98 352 eP P 03 26 51.7 -0.9
comp=Z,125nm,1.6s
TUC Tucson 76.98 328 eP P 03 26 53.3 +0.3
TUC pmax pmax
comp=Z,13nm,1.2s
TUC Tucson 76.98 328 eP P 03 26 53.3 +0.3
comp=Z,13nm,1.2s
DBIC Dimbokro 77.04 72 eP P 03 26 54.3 +0.8
DBIC Dimbokro 77.04 72 eP P 03 26 54.4 +0.8
DBIC pmax pmax
comp=Z,47nm,0.8s
DBIC Dimbokro 77.04 72 P P 03 26 54.1 +0.5
comp=Z,35nm,0.8s,baz=204,slow=6.2,SNR=37
DBIC Dimbokro 77.04 72 eP P 03 26 54.4 +0.8
comp=Z,47nm,0.8s
U30A WK&E Inc. Balk 77.05 338 ⇑P P 03 26 54.6 +1.4
baz=77
LPM Los Pinos Moun 77.07 332 eP P 03 26 53.7 +0.1
comp=Z,11nm,1.2s
UPI Upington 77.08 116 eP P 03 26 54.4 +0.5
UPI AMB AMB 03 26 55.9
comp=Z,28nm,1.1s
UPI Upington 77.08 116 P P 03 26 54.4 +0.5
comp=Z,28nm,1.1s
W25A X Bar L Ranch, 77.10 334 ⇓P P 03 26 54.6 +0.9
baz=77
T32A Huddler Ranch, 77.15 339 ⇑P P 03 26 54.9 +1.2
baz=78
X23A Hourglass Bar 77.15 333 ⇑P P 03 26 55.7 +1.6
baz=77
WIN Windhoek 77.26 109 eP P 03 26 56.2 +1.1
WIN AMB AMB 03 27 17.3
comp=Z,9.4nm,3.5s
WIN Windhoek 77.26 109 P P 03 26 56.2 +1.1
WIN pmax pmax
comp=Z,9.0nm,3.5s
WIN Windhoek 77.26 109 P P 03 26 56.2 +1.1
comp=Z,9.4nm,3.5s
T31A Randall Ranch, 77.29 339 ⇑P P 03 26 56.8 +2.3
baz=78
LAZ Ladron 77.34 332 eP P 03 26 55.1 +0.1
comp=Z,7.1nm,1.1s
V26A Tequesquite Ra 77.39 335 ⇓P P 03 26 55.8 +0.6
baz=78
CASY Casey 77.39 182 eP P 03 26 54.8 0.0
comp=Z,15nm,0.9s
U28A Mallet 77.41 336 ⇑P P 03 26 56.6 +1.3
baz=78
W24A Lazy 6 Ranch, 77.43 334 ⇑P P 03 26 56.7 +1.1
baz=78
214A Organ Pipe Nat 77.56 326 ⇑P P 03 26 57.6 +1.4
baz=78
ANMO Albuquerque 77.57 333ceP P 03 26 57.0 +0.7
ANMO pmax pmax
comp=Z,41nm,1.2s
ANMO Albuquerque 77.57 333 eP P 03 26 57.1 +0.7
comp=Z,17nm,1.1s
S32A Newby Ranch, P 77.64 339 ⇓P P 03 26 58.9 +2.4
baz=78
U27A Thompson Grove 77.64 336 ⇓P P 03 26 58.7 +2.1
baz=78
SFIN Lafayette 77.65 349 ⇓P P 03 26 58.4 +2.1
baz=78
W23A Werner Place, 77.65 333 ⇓P P 03 26 58.5 +1.6
baz=78
V25A Rancho No Teng 77.71 334 ⇓P P 03 26 58.6 +1.4
baz=78
S31A Mullinville 77.72 339 ⇓P P 03 26 58.2 +1.3
baz=78
T29A Hugoton 77.83 337 ⇑P P 03 26 58.7 +1.1
baz=78
V24A Rampart Ranch, 77.84 334 ⇓P P 03 26 59.4 +1.5
baz=78
U26A Atchley Ranch, 77.92 335 ⇑P P 03 26 59.6 +1.3
baz=78
GRM Grahamstown 77.93 122 eP P 03 26 58.8 +0.3
GRM AMB AMB 03 27 00.2
comp=Z,55nm,1.5s
GRM Grahamstown 77.93 122 P P 03 26 58.8 +0.3
GRM pmax pmax
comp=Z,55nm,1.5s
GRM Grahamstown 77.93 122 P P 03 26 58.8 +0.3
comp=Z,55nm,1.5s
R33A Olander Ranch, 77.94 340 ⇓P P 03 26 58.7 +0.6
baz=78
S30A Montezuma 78.02 338 ⇑P P 03 26 59.9 +1.3
baz=78
T28A Walsh 78.05 337 ⇓P P 03 27 00.0 +1.2
baz=78
U25A Circle Dot Ran 78.15 335 ⇓P P 03 27 01.0 +1.4
baz=78
V23A Ortiz Mt. (NFS 78.19 333 ⇓P P 03 27 01.0 +1.2
baz=78
T27A Campo 78.19 336 ⇓P P 03 27 00.9 +1.3
baz=78
S29A Ulysses 78.20 338 ⇓P P 03 27 00.6 +1.0
baz=78
R32A Long Quarter, 78.25 340 ⇓P P 03 27 00.9 +1.1
baz=79
KSU1 Kansas State U 78.33 342 ⇓P P 03 27 01.6 +1.4
baz=79
R31A Burdett 78.35 339 ⇓P P 03 27 01.3 +0.9
baz=79
S28A Manter 78.41 337 ⇓P P 03 27 01.9 +1.1
baz=79
U24A Moreno Valley 78.46 334 ⇑P P 03 27 03.2 +1.9
baz=79
Q33A Connelly Farm, 78.55 341 ⇑P P 03 27 03.9 +2.5
baz=79
X18A Snowflake 78.56 330 ⇑P P 03 27 03.8 +2.0
baz=79
R30A Dighton 78.56 339 ⇓P P 03 27 04.0 +2.4
baz=79
T26A Comanche Natio 78.58 336 ⇓P P 03 27 03.9 +2.0
baz=79
V22A San Miguel Ran 78.60 333 ⇑P P 03 27 03.7 +1.6
baz=79
113A Mohawk Valley, 78.67 326 ⇓P P 03 27 03.9 +1.6
baz=79
U23A El Rito 78.71 333 ⇓P P 03 27 04.6 +1.9
baz=79
Q32A Meitler Ranch, 78.74 340 ⇓P P 03 27 03.7 +1.2
baz=79
T25A Trinidad 78.82 335 ⇑P P 03 27 05.1 +1.8
baz=79
HVD Gariep Dam 78.82 120 eP P 03 27 04.5 +0.9
HVD AMB AMB 03 27 20.6
comp=Z,46nm,2.3s
HVD Gariep Dam 78.82 120 P P 03 27 04.5 +0.9
HVD pmax pmax
comp=Z,46nm,2.3s
HVD Gariep Dam 78.82 120 P P 03 27 04.5 +0.9
comp=Z,46nm,2.3s
S26A Kim 78.94 336 ⇓P P 03 27 05.2 +1.4
baz=79
Q31A Ellis 78.98 340 ⇓P P 03 27 05.0 +1.2
baz=79
W18A Petrified Fore 78.98 330 ⇓P P 03 27 05.4 +1.2
baz=79
W18A Petrified Fore 78.98 330 eP P 03 27 04.5 +0.3
comp=Z,25nm,1.1s
U22A Llaves 78.99 333 ⇓P P 03 27 06.3 +2.0
baz=79
X16A Lo Mia Camp, P 79.07 329 ⇑P P 03 27 06.4 +1.7
baz=79
R28A Tribune 79.08 338 ⇓P P 03 27 05.3 +0.8
baz=79
T24B San Luis 79.08 334 ⇑P P 03 27 06.6 +1.8
baz=79
Q30A Quinter 79.19 339 ⇑P P 03 27 06.0 +1.0
baz=80
T23A Casias Ranch, 79.29 334 ⇑P P 03 27 07.3 +1.5
baz=80
S25A Robets Cordova 79.30 335 ⇓P P 03 27 07.3 +1.5
baz=80
Y14A Wickenburg 79.33 327 ⇓P P 03 27 07.6 +1.7
baz=80
Q29A Oakley 79.33 338 ⇓P P 03 27 06.7 +0.8
baz=80
R27A Eads 79.33 337 ⇑P P 03 27 06.6 +0.8
baz=80
P32A Huiting Farm, 79.34 340 ⇓P P 03 27 06.9 +1.1
baz=80
P31A Stockton 79.46 340 ⇑P P 03 27 07.4 +0.9
baz=80
S24A Houchin Ranch, 79.54 335 ⇓P P 03 27 08.9 +1.6
baz=80
R26A Arlington 79.55 336 ⇓P P 03 27 08.4 +1.3
baz=80
R25A Fountain Ranch 79.69 336 ⇑P P 03 27 09.2 +1.4
baz=80
P30A Selden 79.72 339 ⇓P P 03 27 09.1 +1.1
baz=80
SDCO Great Sand Dun 79.74 335 eP P 03 27 09.2 +0.8
comp=Z,8.5nm,1.1s
Q28A Sharon Springs 79.74 338 ⇑P P 03 27 10.1 +2.0
baz=80
SWSC Sam W. Stewart 79.74 325 ⇓P P 03 27 09.8 +1.7
baz=80
BOSA Boshof 79.81 118 eP P 03 27 09.3 +0.3
BOSA AMB AMB 03 27 19.1
comp=Z,42nm,1.3s
BOSA Boshof 79.81 118 eP P 03 27 08.7 -0.3
BOSA pmax pmax
comp=Z,42nm,1.1s
BOSA Boshof 79.81 118 P P 03 27 09.2 +0.1
comp=Z,26nm,1.0s,baz=236,slow=4.9,SNR=18
BOSA Boshof 79.81 118 eP P 03 27 08.7 -0.3
comp=Z,42nm,1.1s
O32A Brockman Farm, 79.85 341 ⇑P P 03 27 10.7 +2.2
baz=80
S23A Nye Farm, Mont 79.88 334 ⇑P P 03 27 10.5 +1.5
baz=80

KSCO **Kaye Shedlock'** 79.94 337 ⇓P P 03 27 10.6 +1.4
baz=80
P29A **Atwood** 79.97 339 ⇓P P 03 27 10.7 +1.4
baz=80
WUAZ **Wupatki** 79.99 329 ⇑P P 03 27 11.5 +1.9
baz=80
WUAZ **Wupatki** 79.99 329 eP P 03 27 14.2 +4.6
comp=Z,15nm,1.2s
MONP **Monument Peak,** 79.99 324 ⇑P P 03 27 10.9 +1.1
baz=80
R24A **Sanders Place,** 80.04 335 ⇓P P 03 27 11.3 +1.4
baz=80
PDMCI **Parker Dam,Lak** 80.13 327 ⇓P P 03 27 11.7 +1.5
baz=80
Q26A **Hugo** 80.14 337 ⇑P P 03 27 12.0 +1.7
baz=80
BC3 **Big Chuckawall** 80.18 325 ⇑P P 03 27 12.6 +2.0
baz=80
P28A **Saint Francis** 80.19 338 ⇓P P 03 27 12.1 +1.6
baz=80
S22A **4UR Ranch, Cre** 80.20 334 ⇓P P 03 27 12.3 +1.4
baz=80
R23A **Moffat** 80.25 335 ⇑P P 03 27 12.4 +1.3
baz=81
109C **Camp Elliot, M** 80.31 324 ⇓P P 03 27 12.4 +1.3
baz=81
MVCO **Mesa Verde** 80.34 332 ⇑P P 03 27 13.0 +1.4
baz=81
MVCO **Mesa Verde** 80.34 332 eP P 03 27 12.5 +1.0
comp=Z,44nm,1.8s
Q25A **Bedland, Calha** 80.37 336 ⇑P P 03 27 12.4 +0.7
baz=81
O29A **4D Ranch, Culb** 80.42 339 ⇑P P 03 27 13.1 +1.4
baz=81
P27A **Ficken Ranch,** 80.43 338 ⇑P P 03 27 12.3 +0.5
baz=81
IRM **Iron Mountain** 80.47 326 ⇓P P 03 27 13.4 +1.4
baz=81
PFO **Pinyon Flats O** 80.60 325 eP P 03 27 14.0 +1.1
PFO pmax pmax
comp=Z,16nm,1.3s
PFO **Pinyon Flats O** 80.60 325 P P 03 27 13.8 +0.9
comp=Z,3.1nm,0.8s,baz=136,slow=2.9,SNR=3.7
PFO **Pinyon Flats O** 80.60 325 ⇓P P 03 27 14.6 +1.7
baz=81
PFO **Pinyon Flats O** 80.60 325 eP P 03 27 13.9 +1.1
comp=Z,16nm,1.3s
JFWS **Jewell Farm** 80.63 348 eP P 03 27 12.4 -0.3
JFWS pmax pmax
comp=Z,14nm,0.9s
JFWS **Jewell Farm** 80.63 348 eP P 03 27 12.4 -0.3
comp=Z,14nm,0.9s
P26A **Davis Ranch, A** 80.67 337 ⇓P P 03 27 14.2 +1.1
baz=81
W13A **Hualapai Mount** 80.70 327 ⇑P P 03 27 14.5 +1.1
baz=81
O28A **Krutsinger Ran** 80.71 338 ⇑P P 03 27 14.5 +1.2
baz=81
SWZ **Schweizer** 80.71 117 eP P 03 27 13.6 -0.3
SWZ AMB AMB 03 27 29.9
comp=Z,72nm,3.4s
SWZ **Schweizer** 80.71 117 P P 03 27 13.6 -0.3
comp=Z,72nm,3.4s
Q24A **Divide** 80.71 335 ⇑P P 03 27 15.0 +1.4
baz=81
BELC **Belle Mtn. Jos** 80.72 325 ⇓P P 03 27 13.9 +0.4
baz=81
NEE2 **Needles Airpor** 80.74 327 ⇓P P 03 27 15.2 +1.7
baz=81
LONY **Lake Ozonia** 80.86 359 eP P 03 27 14.2 +0.3
comp=Z,20nm,1.2s
P25A **Willow Gulch B** 80.89 336 ⇓P P 03 27 15.8 +1.5
baz=81
Q23A **Hartsel** 80.89 335 ⇓P P 03 27 16.1 +1.5
baz=81
MURC **Murrieta** 80.94 324 ⇑P P 03 27 16.6 +2.0
baz=81
O27A **Beecher Island** 80.98 338 ⇓P P 03 27 16.3 +1.6
baz=81
N29A **Votaw Ranch, W** 81.01 339 ⇑P P 03 27 16.0 +1.1
baz=81
M31A **Lambtecht Ranc** 81.05 341 ⇓P P 03 27 15.9 +0.9
baz=81
SCI **San Clemente I** 81.08 323 ⇓P P 03 27 15.8 +0.5
baz=81
U15A **North Rim** 81.15 329 ⇓P P 03 27 16.7 +0.8
baz=81
N28A **Pribbeno Ranch** 81.16 339 ⇓P P 03 27 16.7 +1.1
baz=82
GMRC **Granite Mounta** 81.21 326 ⇓P P 03 27 17.1 +1.0
baz=82
LDFC **Landfair** 81.22 326 eP P 03 27 16.1 0.0
comp=Z,15nm,1.0s
O26A **Horse Wrangler** 81.28 337 ⇑P P 03 27 17.4 +1.0
baz=82
P23A **Jefferson** 81.32 335 ⇓P P 03 27 18.3 +1.5
baz=82
CIS **Catalina Islan** 81.36 323 ⇓P P 03 27 18.1 +1.3
baz=82
BBRC **Big Bear Solar** 81.36 325 ⇓P P 03 27 18.6 +1.5
baz=82
O25A **Wiggins** 81.42 337 ⇑P P 03 27 18.5 +1.4
baz=82
SMCO **Snowmass** 81.53 334 eP P 03 27 19.4 +1.3
OGNE **Ogallala** 81.54 338 ⇓P P 03 27 18.6 +0.9
baz=82
FMP **Fort Macarthur** 81.56 323 ⇓P P 03 27 18.5 +0.7
baz=82
HEC **Hector,Ludlow** 81.56 325 ⇓P P 03 27 18.4 +0.5
baz=82
N27A **Anderson Farm,** 81.56 338 ⇓P P 03 27 18.8 +1.0
baz=82
M29A **Burnside Ranch** 81.61 340 ⇑P P 03 27 19.1 +1.1
baz=82
ISCO **Idaho Springs** 81.62 335 eP P 03 27 19.1 +0.7
ISCO pmax pmax
comp=Z,8.0nm,1.1s
ISCO **Idaho Springs** 81.62 335 ⇓P P 03 27 19.1 +0.7
baz=82
ISCO **Idaho Springs** 81.62 335 eP P 03 27 19.1 +0.7
comp=Z,7.7nm,1.1s
SEK **Senekal** 81.66 119 eP P 03 27 18.8 -0.2
SEK AMB AMB 03 27 34.6
comp=Z,53nm,4.9s
SEK **Senekal** 81.66 119 P P 03 27 18.8 -0.2
comp=Z,53nm,4.9s
BFSC **Mount Baldy Ra** 81.69 324 ⇑P P 03 27 19.5 +0.8
baz=82
O24A **Longmont** 81.73 336 ⇓P P 03 27 19.7 +0.9
baz=82
M28A **Bar X Bar Ranc** 81.76 339 ⇓P P 03 27 19.6 +0.8
baz=82
N26A **Koester Ranch,** 81.79 338 ⇓P P 03 27 19.9 +0.9
baz=82
L31A **Butterfield Fa** 81.79 341 ⇓P P 03 27 19.4 +0.5
baz=82
L30A **Spencer Herefo** 81.81 340 ⇓P P 03 27 19.8 +0.7
baz=82
P22A **Eagle** 81.83 335 ⇑P P 03 27 20.5 +1.1
baz=82
RUDU **RUNDU** 81.94 106 eP P 03 27 21.8 +1.4
RUDU AMB AMB 03 27 39.5
comp=Z,40nm,1.7s
RUDU **RUNDU** 81.94 106 P P 03 27 21.8 +1.4
comp=Z,40nm,1.7s
O23A **Lake Granby, G** 82.09 335 ⇑P P 03 27 22.4 +1.6
baz=82
L29A **Maesberg Ranch** 82.13 340 ⇓P P 03 27 21.8 +1.1
baz=82
GSC **Goldstone, Bar** 82.17 325 ⇑P P 03 27 22.9 +1.8
baz=82
M27A **Reverse DX Ran** 82.18 338 ⇓P P 03 27 22.5 +1.5
baz=82
LBTB **Lobatse** 82.19 115 eP P 03 27 21.9 +0.3
LBTB AMB AMB 03 27 30.2
comp=Z,76nm,7.2s
LBTB **Lobatse** 82.19 115 P P 03 27 22.0 +0.3
LBTB pmax pmax
comp=Z,76nm,7.2s
LBTB **Lobatse** 82.19 115 P P 03 27 21.9 +0.3
comp=Z,76nm,7.2s
O22A **Kremmling** 82.26 335 ⇑P P 03 27 23.0 +1.3
baz=83
N24A **Carr** 82.31 336 ⇑P P 03 27 23.4 +1.6
baz=83
PRYS **Parys** 82.31 118 eP P 03 27 22.4 0.0
PRYS AMB AMB 03 27 27.7
comp=Z,22nm,5.4s
PRYS **Parys** 82.31 118 P P 03 27 22.4 0.0
comp=Z,22nm,5.4s
M26A **McRoberts Ranc** 82.35 338 ⇓P P 03 27 24.0 +2.1
baz=83
EDW2 **Edwards Air Fo** 82.37 324 ⇑P P 03 27 23.7 +1.6
baz=83
BSC **Santa Cruz Isl** 82.43 323 ⇓P P 03 27 23.7 +1.3
baz=83
SHPR **Sheep Range** 82.44 327 eP P 03 27 22.9 +0.4
K30A **Basset** 82.46 341 ⇓P P 03 27 23.1 +0.8
baz=83
CCUT **Cedar City** 82.56 329 eP P 03 27 24.8 +1.6
comp=Z,31nm,1.5s
M25A **Palm-Egli Farm** 82.60 337 ⇓P P 03 27 24.7 +1.4
baz=83
WDLM **Western Deep L** 82.66 117 eP P 03 27 23.7 -0.5
WDLM AMB AMB 03 27 25.6
comp=Z,26nm,1.4s
ECSD **EROS Data Cent** 82.71 343 ⇓P P 03 27 24.0 +0.4
baz=83
ECSD **EROS Data Cent** 82.71 343 eP P 03 27 23.3 -0.3
comp=Z,27nm,0.9s
N23A **Red Feather La** 82.72 336 ⇓P P 03 27 25.4 +1.3
baz=83
K29A **Lazy Trails An** 82.73 340 ⇓P P 03 27 24.9 +1.1
baz=83
ARUT **Antelope Range** 82.79 329 eP P 03 27 25.6 +1.2
ARUT pmax pmax
comp=Z,808nm,1.1s
ARUT **Antelope Range** 82.79 329 eP P 03 27 25.6 +1.2
comp=Z,808nm,1.1s
N22A **Wattenberg Ran** 82.80 335 ⇑P P 03 27 25.9 +1.4
baz=83
O20A **White River Ci** 82.83 334 ⇓P P 03 27 25.4 +0.8
baz=83
O20A **White River Ci** 82.83 334 eP P 03 27 25.5 +0.9
comp=Z,13nm,0.8s
SBC **Santa Barbara** 82.83 323 ⇑P P 03 27 25.9 +1.5
baz=83
L26A **Underwood Farm** 82.85 338 ⇓P P 03 27 26.0 +1.4
baz=83
M24A **Cheyenne** 82.87 337 ⇓P P 03 27 25.9 +1.2
baz=83
MVU **Marysvale** 82.90 330 eP P 03 27 29.9 +4.9
PHWY **Pilot Hill** 82.92 336 eP P 03 27 25.8 +0.6
ARVC **Arvin** 82.97 324 ⇓P P 03 27 26.5 +1.3
baz=83
K28A **Ten Mile Ranch** 82.97 340 ⇓P P 03 27 26.6 +1.5
baz=83
J30A **Dallas** 83.04 341 ⇑P P 03 27 26.4 +1.0
baz=83
FURC **Furnace Creek,** 83.16 326 ⇑P P 03 27 27.5 +1.5
baz=83
M23A **Laramie** 83.16 336 ⇓P P 03 27 27.5 +1.2
baz=84
TMUT **Trail Mountain** 83.19 331 eP P 03 27 26.8 +0.2
comp=Z,11nm,0.8s
CRWM **Crown Mines** 83.20 118 eP P 03 27 26.9 -0.2
CRWM AMB AMB 03 27 36.0
comp=Z,32nm,1.3s
K27A **Flueckinger Fa** 83.21 339 ⇑P P 03 27 27.8 +1.5
baz=84
ISA **Isabella, Lake** 83.23 324 eP P 03 27 28.8 +2.2
ISA **Isabella, Lake** 83.23 324 ⇑P P 03 27 28.5 +1.8
baz=84
ISA **Isabella, Lake** 83.23 324 eP P 03 27 28.8 +2.2
OBSV **Observatory** 83.27 118 eP P 03 27 27.1 -0.3
OBSV AMB AMB 03 27 28.6
comp=Z,26nm,1.2s
ERPM **east rand prop** 83.29 118 eP P 03 27 27.8 +0.3
ERPM AMB AMB 03 27 45.5
comp=Z,40nm,2.2s
ERPM **east rand prop** 83.29 118 P P 03 27 27.8 +0.3
comp=Z,40nm,2.2s
SPMN **Marine on St.** 83.33 346 ⇓P P 03 27 27.0 +0.2
baz=84
SPMN **Marine on St.** 83.33 346 eP P 03 27 26.3 -0.5
comp=Z,9.1nm,0.8s
J29A **Okreek** 83.33 341 ⇓P P 03 27 27.8 +0.9
baz=84
M22A **Cedar Creek Ra** 83.39 335 ⇓P P 03 27 28.8 +1.3
baz=84
N20A **Spence Gulch,** 83.45 334 ⇓P P 03 27 29.4 +1.6
baz=84
I30A **Oacoma** 83.57 341 ⇑P P 03 27 28.7 +0.6
baz=84
J28A **Allard Ranch,** 83.60 340 ⇑P P 03 27 29.4 +1.1
baz=84
J27A **Elkhorn Farm,** 83.65 339 ⇓P P 03 27 30.1 +1.5
baz=84
VES **Vestal, Richgr** 83.67 324 ⇑P P 03 27 30.4 +1.7
baz=84
SLR **Silverton** 83.69 117 eP P 03 27 29.3 -0.2
SLR AMB AMB 03 27 45.4
comp=Z,33nm,3.2s
SLR **Silverton** 83.69 117 P P 03 27 29.3 -0.2
SLR pmax pmax
comp=Z,33nm,3.2s
SLR **Silverton** 83.69 117 P P 03 27 29.3 -0.2
comp=Z,33nm,3.2s
L23A **Garrett** 83.73 336 ⇑P P 03 27 29.9 +0.7
baz=84
GRAC **Grapevine Rang** 83.83 326 ⇑P P 03 27 31.6 +2.0
baz=84
L22A **Ellis Ranch, M** 83.90 336 ⇑P P 03 27 31.6 +1.5
baz=84
BRSD **Miller** 83.94 342 ⇓P P 03 27 30.2 +0.2
baz=84
BRSD **Miller** 83.94 342 eP P 03 27 29.9 -0.1
comp=Z,26nm,0.8s
MPU **Maple Canyon** 83.98 331 eP P 03 27 31.5 +1.0
comp=Z,35nm,1.3s
K24A **Anderson Ranch** 84.00 337 ⇓P P 03 27 32.1 +1.6
baz=84
J26A **Sides Ranch, S** 84.02 339 ⇑P P 03 27 31.1 +0.6
baz=84
NLU **North Lily Min** 84.10 331 eP P 03 27 31.3 +0.2
I28A **Midland** 84.11 340 ⇑P P 03 27 31.4 +0.6
baz=84
R11A **Troy Canyon, C** 84.17 328 ⇓P P 03 27 32.7 +1.2
baz=84
R11A **Troy Canyon, C** 84.17 328 eP P 03 27 32.9 +1.4
K23A **Bowen Ranch, D** 84.29 337 ⇑P P 03 27 32.7 +0.8
baz=85
J25A **Sunshine Ranch** 84.30 338 ⇓P P 03 27 32.8 +0.9
baz=85
JLU **Jordanelle** 84.42 332 eP P 03 27 33.6 +0.8
comp=Z,8.1nm,0.9s
I27A **Quinn** 84.42 340 ⇑P P 03 27 33.0 +0.5
baz=85
H29A **Onida** 84.44 341 ⇓P P 03 27 33.2 +0.8
baz=85
K22A **Casper** 84.48 336 ⇓P P 03 27 33.7 +0.7
baz=85,SNR=5.9
K22A **Casper** 84.48 336 eP P 03 27 33.6 +0.7
comp=Z,24nm,1.1s
J24A **Dixon Ranch, L** 84.51 338 ⇓P P 03 27 34.0 +1.0
baz=85
DUG **Dugway, Tooele** 84.59 331 eP P 03 27 33.9 +0.4
DUG pmax pmax
comp=Z,23nm,1.3s
DUG **Dugway, Tooele** 84.59 331 ⇓P P 03 27 34.9 +1.3
baz=85
DUG **Dugway, Tooele** 84.59 331 eP P 03 27 33.9 +0.4
comp=Z,23nm,1.3s
I26A **New Underwood** 84.61 339 ⇓P P 03 27 33.8 +0.4
baz=85
G30A **Faulkton** 84.64 342 ⇓P P 03 27 34.0 +0.5
baz=85
TPH **Tonopah** 84.65 327 eP P 03 27 35.2 +1.2
TPH pmax pmax
comp=Z,36nm,1.4s
TPH **Tonopah** 84.65 327 eP P 03 27 35.2 +1.2
comp=Z,36nm,1.4s
H28A **Mission Ridge** 84.70 341 ⇓P P 03 27 34.1 +0.3
baz=85
K21A **Alcova** 84.71 336 ⇑P P 03 27 34.5 +0.4
baz=85,SNR=9.2
TCUT **Toone Canyon** 84.85 332 eP P 03 27 34.5 -0.5
comp=Z,16nm,0.9s
I25A **Rochford** 84.86 339 ⇓P P 03 27 35.4 +0.6
baz=85,SNR=9.0
G29A **Hoven** 84.89 341 ⇑P P 03 27 34.8 +0.1
baz=85
H27A **Howes** 84.94 340 ⇑P P 03 27 35.1 0.0
baz=85,SNR=7.4
I24A **Kuemmerle Ranc** 84.98 338 ⇓P P 03 27 36.9 +1.5
baz=85
MLAC **Mammoth, Mammo** 85.01 325 ⇑P P 03 27 36.9 +1.1
baz=85
RSSD **Black Hills** 85.04 338 eP P 03 27 35.6 -0.2
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD **Black Hills** 85.04 338 eP P 03 27 35.5 -0.2
comp=Z,13nm,0.9s
G28A **Parade** 85.04 341 ⇓P P 03 27 36.4 +0.9
baz=85
J22A **Midwest** 85.15 336 ⇑P P 03 27 36.5 +0.2
baz=86
F30A **Leola** 85.27 342 ⇑P P 03 27 38.3 +1.7
baz=86
BGU **Big Grassy Mou** 85.30 331 eP P 03 27 38.5 +1.4
comp=Z,9.6nm,1.4s
I23A **Meade Ranch, G** 85.33 337 ⇓P P 03 27 39.0 +1.9
baz=86
HWUT **Hardware Ranch** 85.33 332 eP P 03 27 37.8 +0.5
comp=Z,36nm,1.1s
H25A **Fruitdale** 85.37 339 ⇓P P 03 27 38.7 +1.5
baz=86,SNR=8.3
J21A **Lysite** 85.41 336 ⇑P P 03 27 38.2 +0.6
baz=86
SPUT **South Promonto** 85.41 332 eP P 03 27 37.3 -0.3
comp=Z,23nm,1.2s
NVAR **Mina Array Bea** 85.42 326 P P 03 27 38.8 +0.9
comp=Z,1.8nm,0.8s,baz=151,slow=6.4,SNR=6.8
F29A **Eureka** 85.46 342 ⇓P P 03 27 37.8 +0.2
baz=86,SNR=5.4
I22A **9 Mile Ranch,** 85.58 337 ⇓P P 03 27 38.1 -0.3
baz=86,SNR=7.0
G27A **Dupree** 85.59 340 ⇑P P 03 27 38.6 +0.3
baz=86
BW06 **Boulder Array** 85.61 334 eP P 03 27 38.1 -0.6
comp=Z,11nm,1.1s
PDAR **Pinedale Array** 85.61 334 P P 03 27 38.6 -0.1
comp=Z,4.7nm,1.0s,baz=158,slow=4.5,SNR=14
PDAR PKKPbc PKKPbc 03 45 41.4 -1.4
comp=Z,0.5nm,0.7s,baz=301,slow=0.5,SNR=4.7
J20A **Shoshoni** 85.63 335 ⇓P P 03 27 39.4 +0.7
baz=86,SNR=8.6
G26A **Maurine** 85.70 340 ⇑P P 03 27 39.1 +0.3
baz=86,SNR=9.5
F28A **McLaughlin** 85.73 341 ⇓P P 03 27 39.1 +0.2
baz=86,SNR=6.5
H24A **Dirks Ranch, A** 85.76 338 ⇓P P 03 27 39.5 +0.3
baz=86,SNR=7.2
I21A **Big Trails, Te** 85.77 336 ⇑P P 03 27 39.6 +0.2
baz=86,SNR=6.8
G25A **Newell** 85.84 339 ⇑P P 03 27 39.8 +0.2
baz=86,SNR=15
H23A **Clabaugh Cattl** 85.85 338 ⇑P P 03 27 40.1 +0.5
baz=86
E30A **Jud** 85.86 343 ⇑P P 03 27 39.8 +0.2
baz=86
J19A **Crowheart** 85.88 335 ⇓P P 03 27 40.9 +1.0
baz=86,SNR=8.2
HVU **Hansel Valley** 85.94 332 eP P 03 27 39.5 -0.7
HVU pmax pmax
comp=Z,18nm,1.0s
HVU **Hansel Valley** 85.94 332 eP P 03 27 39.5 -0.7
comp=Z,18nm,1.0s
ELK **Elko** 86.03 329 eP P 03 27 41.8 +0.9
ELK pmax pmax
comp=Z,8.0nm,1.1s
ELK **Elko** 86.03 329 eP P 03 27 41.8 +0.9
comp=Z,8.4nm,1.1s
F27A **Lemmon** 86.07 340 ⇑P P 03 27 40.8 +0.1
baz=86,SNR=13
E29A **Napoleon** 86.10 342 ⇑P P 03 27 41.1 +0.3
baz=86
TORD **Torodi Ar. Bea** 86.11 71 P P 03 27 41.5 0.0
comp=Z,14nm,0.8s,baz=236,slow=3.4,SNR=32
I20A **Worland** 86.17 336 ⇓P P 03 27 41.6 +0.4
baz=86,SNR=7.5
H22A **Clearmont** 86.17 337 ⇑P P 03 27 41.3 0.0
baz=86
F26A **Lodgepole** 86.23 340 ⇓P P 03 27 41.4 0.0
baz=87,SNR=9.6
G24A **Alzada** 86.25 339 ⇓P P 03 27 41.5 -0.1
baz=87
E28A **Huff** 86.37 341 ⇓P P 03 27 42.4 +0.3
baz=87
D30A **Buchanan** 86.40 343 ⇓P P 03 27 42.5 +0.4
baz=87,SNR=8.0
H21A **Big Horn, Sher** 86.42 337 ⇓P P 03 27 42.3 -0.2
baz=87
G23A **Biddle** 86.42 338 ⇑P P 03 27 42.5 0.0
baz=87,SNR=5.7
E27A **Carson** 86.47 341 ⇓P P 03 27 43.0 +0.4
baz=87,SNR=5.3
F25A **Bowman** 86.52 339 ⇑P P 03 27 43.1 +0.2
baz=87,SNR=6.2
I19A **Meeteetse** 86.54 335 ⇑P P 03 27 43.3 +0.1
baz=87
D29A **Pettibone, Tap** 86.55 342 ⇓P P 03 27 42.9 -0.1
baz=87
MSKU **Masuku** 86.59 90 P P 03 27 44.1 +0.1
comp=Z,9.3nm,0.7s,baz=249,slow=8.7,SNR=9.9
REDW **Red Top Meadow** 86.59 334 eP P 03 27 43.9 +0.4
H20A **Greybull** 86.61 336 ⇑P P 03 27 43.4 0.0
baz=87,SNR=7.0
G22A **Birney** 86.72 337 ⇓P P 03 27 43.4 -0.6
baz=87
LOHW **Long Hollow** 86.72 334 eP P 03 27 44.4 +0.3
comp=Z,5.7nm,0.8s
F24A **Ekalaka** 86.73 339 ⇑P P 03 27 43.7 -0.2
baz=87,SNR=8.9
TPAW **Teton Pass** 86.74 334 eP P 03 27 44.8 +0.5
E26A **Carlson Angus** 86.74 340 ⇓P P 03 27 44.1 +0.1
baz=87,SNR=12
AGMN **Agassiz Nation** 86.88 345 ⇑P P 03 27 44.5 0.0
baz=87,SNR=10
AGMN **Agassiz Nation** 86.88 345 eP P 03 27 43.4 -1.1
comp=Z,13nm,0.8s
C30A **Mose, Pekin** 86.89 343 ⇑P P 03 27 44.9 +0.3
baz=87,SNR=13
FXWY **Fox Creek** 86.90 334 eP P 03 27 45.3 +0.3
comp=Z,17nm,1.4s
F23A **Volborg** 86.90 338 ⇓P P 03 27 44.4 -0.4
baz=87,SNR=6.8
D28A **Regan** 86.92 342 ⇓P P 03 27 45.3 +0.6
baz=87,SNR=8.6
I17A **Pilgrim Ck.** 86.98 334 ⇓P P 03 27 45.7 +0.3
baz=87,SNR=8.6
G21A **Lodge Grass** 87.01 337 ⇑P P 03 27 45.6 +0.2
baz=87
MSNA **Messina** 87.02 116 eP P 03 27 46.3 +0.2
MSNA AMB AMB 03 27 48.6
comp=Z,29nm,4.5s
MSNA **Messina** 87.02 116 P P 03 27 46.3 +0.2
comp=Z,29nm,4.5s
E25A **Miller Ranch,** 87.03 340 ⇓P P 03 27 46.0 +0.6
baz=87,SNR=11
D27A **Center** 87.08 341 ⇓P P 03 27 46.1 +0.6
baz=87
IMW **Indian Meadow** 87.09 334 eP P 03 27 46.5 +0.5
comp=Z,12nm,0.9s
H19A **Powell** 87.09 335 ⇓P P 03 27 46.4 +0.6
baz=87
FLWY **Flagg Ranch** 87.17 334 eP P 03 27 47.0 +0.7
F22A **Rosebud** 87.21 338 ⇑P P 03 27 46.6 +0.3
baz=88
D26A **Manning** 87.25 341 ⇓P P 03 27 46.6 +0.3
baz=88,SNR=16
MDND **Maddock** 87.29 343 ⇓P P 03 27 46.8 +0.3
baz=88
G20A **Bridger** 87.33 336 ⇑P P 03 27 47.1 +0.2
baz=88
H18A **Shoshone NF, C** 87.33 335 ⇑P P 03 27 46.8 -0.2
baz=88,SNR=7.9
E24A **Baker** 87.34 339 ⇓P P 03 27 47.2 +0.3
baz=88
C28A **Hausauer Farms** 87.36 342 ⇑P P 03 27 47.0 +0.2
baz=88
H17A **Grant Village** 87.40 334 ⇓P P 03 27 47.0 -0.4
baz=88
F21A **Absaloka Mine,** 87.52 337 ⇑P P 03 27 47.6 -0.2
baz=88
YFT **Old Faithful** 87.54 334 eP P 03 27 52.8 +4.7
B30A **Myrvik Farm, E** 87.56 344 ⇓P P 03 27 47.7 -0.1
baz=88,SNR=23
D25A **Fairfield** 87.60 340 ⇓P P 03 27 48.4 +0.3
baz=88,SNR=7.5
C27A **Sayler Ranch,** 87.64 341 ⇓P P 03 27 48.6 +0.4
baz=88,SNR=12
E22A **Miles City** 87.71 338 ⇓P P 03 27 48.7 0.0
baz=88

YMR	Madison River	87.77	334	*e*P	P	03 27 50.2	+1.1
	comp=Z,20nm,1.0s						
B29A	Wagenman Farm,	87.81	343	⇓P	P	03 27 49.0	0.0
	baz=88,SNR=9.6						
F20A	Billings	87.82	336	⇑P	P	03 27 49.4	+0.2
	baz=88						
D24A	Glendive	87.85	339	⇓P	P	03 27 49.6	+0.3
	baz=88						
C26A	Wahner Farm, P	87.89	341	⇓P	P	03 27 49.5	+0.1
	baz=88,SNR=7.8						
A30A	Hoffart Farm,	88.01	344	⇑P	P	03 27 49.9	-0.1
	baz=88,SNR=11						
B28A	Dugan Ranch, T	88.03	342	⇑P	P	03 27 50.5	+0.4
	baz=88,SNR=11						
QLMT	Earthquake Lak	88.08	334	*e*P	P	03 27 50.4	-0.3
HLID	Hailey	88.09	331	⇓P	P	03 27 51.6	+1.0
	baz=88						
HLID	Hailey	88.09	331	*e*P	P	03 27 51.8	+1.1
	comp=Z,6.3nm,1.0s						
C25A	Freed Ranch, W	88.10	340	⇓P	P	03 27 50.2	-0.2
	baz=88						
F19A	Roth Farm, Mol	88.13	336	⇑P	P	03 27 50.5	-0.2
	baz=88						
E21A	Keefer Ranch,	88.14	337	⇓P	P	03 27 50.7	0.0
	baz=88						
D23A	Lindsay	88.15	339	⇑P	P	03 27 50.9	+0.2
	baz=88,SNR=8.0						
A29A	Manning Farm,	88.21	343	⇓P	P	03 27 50.9	0.0
	baz=89,SNR=26						
B27A	Peters Farms,	88.22	342	⇑P	P	03 27 51.2	+0.3
	baz=89						
C24A	Savage	88.25	340	⇑P	P	03 27 51.6	+0.5
	baz=89,SNR=7.8						
D22A	Cohagen	88.42	338	⇓P	P	03 27 52.7	+0.7
	baz=89						
B26A	Jensen Ranch,	88.44	341	⇓P	P	03 27 52.5	+0.5
	baz=89						
E20A	Meyer Farm, Mu	88.44	337	⇓P	P	03 27 52.4	+0.2
	baz=89						
A28A	Rude Farm, Bot	88.44	343	⇑P	P	03 27 52.1	+0.1
	baz=89,SNR=5.4						
MCMT	McKenzie Canyo	88.58	333	*e*P	P	03 27 53.5	+0.4
	comp=Z,4.7nm,0.9s						
B25A	Knox Farm, Ray	88.59	341	⇑P	P	03 27 53.3	+0.6
	baz=89						
D21A	La Casta Ranch	88.59	338	⇑P	P	03 27 52.9	+0.1
	baz=89						
E19A	Rath Farm, Rou	88.61	336	⇑P	P	03 27 53.3	+0.4
	baz=89						
C23A	Lambert	88.72	339	⇑P	P	03 27 53.7	+0.3
	baz=89						
A27A	Ledoux Ranch,	88.72	342	⇑P	P	03 27 54.0	+0.7
	baz=89						
ULM	Lac du Bonnet	88.74	346	P	P	03 27 52.4	-0.9
	comp=Z,8.7nm,0.8s,baz=186,slow=4.2,SNR=9.4						
WVOR	Wild Horse Val	88.85	328	*e*P	P	03 27 55.3	+1.0
WVOR	Wild Horse Val	88.85	328	*e*P	P	03 27 55.3	+1.0
A26A	Wade Farm, Ken	88.87	342	⇓P	P	03 27 54.8	+0.8
	baz=89						
C22A	Vida	88.87	339	⇑P	P	03 27 54.4	+0.3
	baz=89						
D20A	Manuel Ranch,	88.96	337	⇑P	P	03 27 54.8	+0.3
	baz=89						
A25A	Svangstu Ranch	89.19	341	⇑P	P	03 27 56.4	+0.9
	baz=90						
B23A	Brockton	89.26	340	⇓P	P	03 27 56.9	+1.0
	baz=90						
D19A	Cripps Ranch,	89.27	337	⇓P	P	03 27 56.5	+0.5
	baz=90						
C21A	Desert Coulee	89.30	338	⇓P	P	03 27 56.7	+0.6
	baz=90						
A24A	Westby	89.41	340	⇑P	P	03 27 56.9	+0.4
	baz=90						
C20A	Veseth Ranch,	89.48	337	⇓P	P	03 27 56.7	-0.3
	baz=90						
N02D	Trinity Center	89.48	325	⇓P	P	03 27 57.1	0.0
	baz=90						
A23A	Redstone	89.68	340	⇓P	P	03 27 57.2	-0.6
	baz=90						
M04C	Macdoel	89.72	326	⇓P	P	03 27 58.0	-0.4
	baz=90						
B21A	Ellsworth Farm	89.81	338	⇓P	P	03 27 58.7	+0.2
	baz=90						
C19A	Slack Wire Ran	89.82	337	⇑P	P	03 27 58.7	+0.1
	baz=90						
M02C	Callahan	89.88	325	⇑P	P	03 27 59.2	+0.2
	baz=90						
A22A	Carney Farms,	90.00	339	⇓P	P	03 27 59.4	0.0
	baz=90						
LSZ	Lusaka	90.00	109	P	P	03 28 01.4	+1.0
	comp=Z,6.1nm,0.8s,baz=47,slow=2.0,SNR=14						
B20A	Solberg Farm,	90.13	338	⇑P	P	03 27 60.0	0.0
	baz=90						
A21A	Bergtoll Ranch	90.29	339	⇑P	P	03 28 00.7	0.0
	baz=91						
EGMT	Eagleton	90.30	337	⇑P	P	03 28 01.2	+0.4
	baz=91						
K04D	Chiloquin, OR	90.36	327	⇑P	P	03 28 01.4	+0.1
	baz=91						
B19A	Brinkman Farms	90.43	337	⇑P	P	03 28 01.6	+0.3
	baz=91						
A20A	Cobblestone Ra	90.49	338	⇓P	P	03 28 02.1	+0.4
	baz=91						
J05D	Fort Rock, OR	90.66	327	⇑P	P	03 28 03.0	+0.3
	baz=91						
MSO	Missoula	90.69	333	⇓P	P	03 28 02.8	+0.1
	baz=91						
A19A	Klindworth Far	90.78	338	⇑P	P	03 28 02.6	-0.4
	baz=91						
J04D	Umpqua Nationa	91.01	327	⇑P	P	03 28 04.6	+0.2
	baz=91						
SCHQ	Schefferville	91.25	4	P	P	03 28 03.7	-1.3
	comp=Z,2.4nm,0.8s,baz=196,slow=6.2,SNR=4.0						
I05D	Terrebonne, OR	91.55	328	⇓P	P	03 28 07.6	+0.9
	baz=92						
I04A	Tendick Farm,	91.58	327	⇑P	P	03 28 07.7	+0.9
	baz=92						
I03D	Drain, OR	91.92	326	⇑P	P	03 28 09.0	+0.7
	baz=92						
G05D	Wamic, OR	92.26	328	⇑P	P	03 28 11.1	+1.2
	baz=92						
NEW	Newport	93.06	332	⇓P	P	03 28 14.0	+0.4
	baz=93						
G03D	McMinnville, O	93.07	327	⇑P	P	03 28 13.6	0.0
	baz=93						
F04D	Rainier, OR	93.65	328	⇓P	P	03 28 16.4	+0.1
	baz=94						
MDT	Midelt	94.28	52	P	P	03 28 20.4	+0.7
	comp=Z,2.5nm,0.8s,baz=168,slow=5.4,SNR=5.1						
TAM	Tamanrasset	94.91	65	*e*P	P	03 28 23.4	+0.6
TAM				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TAM	Tamanrasset	94.91	65	*e*P	P	03 28 23.4	+0.6
	comp=Z,9.5nm,1.1s						
FCC	Fort Churchill	96.58	349	*e*P	P	03 28 28.2	-1.1
FCC	Fort Churchill	96.58	349	*e*P	P	03 28 28.2	-1.1
ESDC	Sonseca Array	99.15	47	P	Pdif	03 28 41.5	0.0
	comp=Z,0.2nm,0.5s,baz=240,slow=2.7,SNR=4.0						
YKA	Yellowknife Ar	104.18	342	Pdiff	Pdif	03 29 02.4	-0.8
	comp=Z,0.2nm,0.8s,baz=154,slow=4.7,SNR=4.5						
YKA				PKKP	PKKPdf	03 45 03.5	+0.8
	comp=Z,0.3nm,1.0s,baz=277,slow=2.0,SNR=4.0						
GERES	GERESS Array B	114.74	47	PKP	PKPdf	03 33 39.9	-0.4
	comp=Z,1.3nm,0.7s,baz=300,slow=1.9,SNR=6.3						
ASAR	Alice Springs	114.76	208	PKKPbc	PKKPbc	03 44 18.1	+0.4
	comp=Z,0.6nm,0.7s,baz=348,slow=3.3,SNR=5.0						
ILAR	Eielson Array	116.02	333	PKP	PKPdf	03 33 45.0	+2.9
	comp=Z,0.5nm,0.9s,baz=169,slow=2.8,SNR=3.8						
MORC	Moravsky Berou	117.41	47	*e*PKIKP	PKPdf	03 33 45.3	0.0
MORC	Moravsky Berou	117.41	47	*e*PKPdf	PKPdf	03 33 45.3	0.0
VYHS	Vyhne	117.64	49	*e*PKIKP	PKPdf	03 33 45.5	-0.3
VYHS	Vyhne	117.64	49	*e*PKP	PKPdf	03 33 45.5	-0.3
WRA	Warramunga Arr	117.96	210	PKP	PKPdf	03 33 46.2	-1.2
	comp=Z,0.6nm,0.3s,baz=170,slow=1.6,SNR=5.8						
KWP	Kalwaria Pacla	120.43	49	*e*PKIKP	PKPdf	03 33 51.0	-0.1
KWP	Kalwaria Pacla	120.43	49	*e*PKP	PKPdf	03 33 50.9	-0.1
MLR	Muntele Rosu	120.91	54	PKP	PKPdf	03 33 50.7	-1.6
	comp=Z,1.1nm,0.9s,baz=229,slow=19,SNR=3.8						
MBWA	Marble Bar	121.23	194	*e*PKPdf	PKPdf	03 33 52.4	-1.3
SUW	Suwalki	122.24	44	*e*PKIKP	PKPdf	03 33 53.7	-0.7
SUW	Suwalki	122.24	44	*e*PKP	PKPdf	03 33 53.9	-0.5
SUW	Suwalki	122.24	44	*e*PKPdf	PKPdf	03 33 53.7	-0.7
MMAI	Mount Meron Ar	122.65	71	PKP	PKPdf	03 33 56.0	0.0
	comp=Z,2.3nm,0.8s,baz=316,slow=4.0,SNR=4.5						
ASF	Jabal al Asfar	123.43	72	PKhKP	PKPpre	03 33 51.8	
	comp=Z,1.1nm,0.6s,baz=270,slow=3.0,SNR=2.4						
BRTR	Keskin Array B	124.02	63	PKP	PKPdf	03 33 57.8	-0.8
	comp=Z,2.5nm,0.8s,baz=191,slow=3.6,SNR=20						
BRTR				PP	PP	03 35 44.6	+1.3
	comp=Z,1.2nm,0.9s,baz=238,slow=4.2,SNR=3.8						
KIEV	Kiev	124.72	49	⇓*e*PKIKP	PKPdf	03 33 58.0	-1.3
KIEV	Kiev	124.72	49	*e*PKPdf	PKPdf	03 33 57.9	-1.3
AKASG	Malin Array Be	124.73	49	PKP	PKPdf	03 33 58.2	-1.1
	comp=Z,2.3nm,0.7s,baz=262,slow=2.8,SNR=8.2						
AKASG				PP	PP	03 35 43.9	-3.7
	comp=Z,0.5nm,0.4s,baz=251,slow=8.7,SNR=5.0						
FINES	FINESS Array B	125.74	36	PKP	PKPdf	03 33 59.5	-1.4
	comp=Z,2.4nm,0.9s,baz=272,slow=11,SNR=5.1						
RAYN	Ar Rayn	126.31	86	*e*PKPdf	PKPdf	03 34 03.3	+0.1
OBN	Obninsk	130.06	45	⇑*e*PKIKP	PKPdf	03 34 09.4	+0.1
OBN				pmax	pmax		
	comp=Z,16nm,1.7s						
KIV	Kislovodsk	131.75	60	⇑*i*PKIKP	PKPdf	03 34 13.7	+0.7
KIV				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KIV	Kislovodsk	131.75	60	*e*PKPdf	PKPdf	03 34 12.3	-0.7
KBZ	Khabaz	131.84	61	PKP	PKPdf	03 34 14.2	+1.1
	comp=Z,1.0nm,0.7s,baz=216,slow=8.7,SNR=3.8						
KLMR	Klimovskoe	132.14	37	*e*PKIKP	PKPdf	03 34 07.7	-5.4
KLMR				pmax	pmax		
	comp=Z,17nm,1.6s						
BILL	Bilibino	134.68	333	*e*PKIKP	PKPdf	03 34 14.9	-2.8
BILL				*e*		03 36 49.1	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.5s						
BILL	Bilibino	134.68	333	*e*PKPdf	PKPdf	03 34 15.6	-2.1
PRGR	Permogore	135.07	36	*e*PKIKP	PKPdf	03 34 17.2	-1.3
PRGR				pmax	pmax		
	comp=Z,98nm,1.9s						
KAPI	Kappang	136.81	199	*e*PKPdf	PKPdf	03 34 24.6	+1.3
SEY	Seymchan	141.71	328	PKhKP	PKPpre	03 34 25.3	
	comp=Z,0.6nm,0.3s,baz=125,slow=9.2,SNR=3.8						
GEYT	Alibeck	141.71	73	PKhKP	PKPpre	03 34 25.7	
	comp=Z,3.9nm,0.8s,baz=316,slow=4.1,SNR=5.6						
ARU	Arti	142.41	43	*i* PKIKP	PKPdf	03 34 32.4	+0.2
ARU	Arti	142.41	43	*e*PKPpre	PKPpre	03 34 26.9	
ARU				*e*PKPdf	PKPdf	03 34 32.4	+0.2
PALK	Pallekele	142.42	135	*e*PKIKP	PKPdf	03 34 33.5	-0.1
PALK	Pallekele	142.42	135	*e*PKPdf	PKPdf	03 34 33.5	-0.1
AKTO	Aktyubinsk	142.81	53	PKhKP	PKPpre	03 34 28.6	
	comp=Z,0.9nm,0.7s,baz=348,slow=0.8,SNR=4.5						
AKTO				PKP	PKiKP	03 34 35.1	-1.1
	comp=Z,3.2nm,0.8s,baz=263,slow=1.3,SNR=9.7						
TIXI	Tiksi	143.05	349	*e*PKHKP	PKPpre	03 34 28.1	
TIXI				*e*		03 34 32.7	
TIXI	Tiksi	143.05	349	*e*PKPpre	PKPpre	03 34 28.1	
TIXI				*e*PKPdf	PKPdf	03 34 32.7	-0.2
SVE	Sverdlovsk	143.44	42	*e*PKIKP	PKPbc	03 34 32.1	+0.8
AB31	Akbulak array	144.11	54	*i* PKIKP	PKPab	03 34 32.8	-0.3
AB31				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ABKAR	Akbulak array	144.11	54	*e*PKPdf	PKPab	03 34 33.2	+0.1
KSM	Kuching	144.87	186	*e*PKPdf	PKPab	03 34 36.9	+0.1
PSI	Prapat	145.61	166	PKPbc	PKPdf	03 34 38.5	-0.8
	comp=Z,36nm,0.8s,baz=162,slow=2.8,SNR=28						
POO	Poona	146.04	113	⇓*i* P	PKPdf	03 34 40.0	+0.3
	comp=Z,5.0nm,1.2s						
IPM	Ipoh	147.61	170	*e*PKPbc	PKPbc	03 34 44.6	-0.6
KKM	Kota Kinabalu	148.34	198	*e*PKPbc	PKPbc	03 34 46.8	-0.5
KULM	Kulim	148.35	169	*e*PKPdf	PKPdf	03 34 42.2	-1.5
KULM				*e*PKPbc	PKPbc	03 34 46.6	-0.6
KULM				*e*PKPab	PKPab	03 34 49.9	-0.3
HYB	Hyderabad	148.69	120	⇑*i*PKP	PKPbc	03 34 47.0	-0.9
	comp=Z,60nm,1.0s						
KBL	Kabul	149.48	83	*e*PKP2	PKPbc	03 34 49.8	+0.1
KBL	Kabul	149.48	83	*e*PKPbc	PKPbc	03 34 49.8	+0.1
BRVK	Borovoye	149.83	45	⇑*e*PKIKP	PKPpre	03 34 45.8	
BRVK	Borovoye	149.83	45	*e*PKPbc	PKPbc	03 34 49.0	-0.6
BVA0	Borovoye Array	149.90	45	*i* PKHKP	PKPpre	03 34 47.4	
BVA0				pmax	pmax		
	comp=Z,17nm,1.1s						
BVAR	Borovoye Array	149.90	45	PKP	PKPdf	03 34 45.0	0.0
	comp=Z,2.5nm,1.0s,baz=298,slow=3.1,SNR=3.7						
BVAR				PKPbc	PKPbc	03 34 49.9	0.0
	comp=Z,9.3nm,0.9s,baz=285,slow=2.9,SNR=18						
YAK	Yakutsk	150.78	338	*e*PKIKP	PKPbc	03 34 49.5	-2.1
YAK				*e*		03 34 59.6	
YAK				pmax	pmax		
	comp=Z,24nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
YAK	Yakutsk	150.78	338	*e*PKPbc	PKPbc	03 34 51.4	-0.2
YAK				*e*PKPab	PKPab	03 34 58.9	+0.1
YSS	Yuzh-Sakhalins	151.38	303	*e*PKIKP	PKPbc	03 34 52.9	-0.6
YSS	Yuzh-Sakhalins	151.38	303	*e*PKPbc	PKPbc	03 34 52.9	-0.6
KK31	Karatay Array	151.68	66	*i* PKIKP	PKPbc	03 34 54.2	-0.2
KK31				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KKAR	Karatay Array	151.68	66	*e*PKIKP	PKPdf	03 34 47.9	-0.2
KKAR				*e*		03 34 54.2	
KKAR				*e*		03 35 03.1	
KKAR	Karatay Array	151.68	66	*e*PKPdf	PKPdf	03 34 47.9	-0.2
KKAR				*e*PKPbc	PKPbc	03 34 54.2	-0.2
KKAR				*e*PKPab	PKPab	03 35 03.1	-0.1
AAK	Ala-Archa	154.62	66	PKP	PKPdf	03 34 53.1	+0.5
	comp=Z,2.5nm,0.9s,baz=350,slow=4.9,SNR=5.1						
AAK				PKPbc	PKiKP	03 35 01.6	+0.5
	comp=Z,5.8nm,0.8s,baz=203,slow=5.6,SNR=13						
AAK				PKPab	PKPab	03 35 16.1	+0.1
	comp=Z,23nm,1.0s,baz=225,slow=3.6,SNR=16						
AAK	Ala-Archa	154.62	66	*e*PKPdf	PKPdf	03 34 52.9	+0.3
AAK				*e*PKPbc	PKiKP	03 35 01.5	+0.5
AAK				*e*PKPab	PKPab	03 35 16.4	+0.5
TKM2	Tokmak 2	155.41	66	*e*PKIKP	PKPdf	03 34 53.2	-0.5
TKM2				*e*		03 35 02.7	
TKM2				*e*		03 35 19.3	
TKM2	Tokmak 2	155.41	66	*e*PKPdf	PKPdf	03 34 53.2	-0.5
TKM2				*e*PKPbc	PKPbc	03 35 02.7	
TKM2				*e*PKPab	PKPab	03 35 19.3	-0.1
KURBB	Kurchatov Arra	155.48	46	PKP	PKPdf	03 34 53.1	-0.1
	comp=Z,1.0nm,0.8s,baz=292,slow=2.0,SNR=4.7						
KURBB				PKPab	PKPab	03 35 18.2	-0.8
	comp=Z,5.4nm,1.0s,baz=291,slow=4.4,SNR=8.2						
KURK	Kurchatov	155.50	46	*e*PKIKP	PKPdf	03 34 53.3	+0.1
KURK				*e*		03 35 02.3	
KURK				*e*		03 35 18.6	
KURK	Kurchatov	155.50	46	*e*PKPdf	PKPdf	03 34 53.3	+0.1
KURK				*e*PKPbc	PKPbc	03 35 02.3	
KURK				*e*PKPab	PKPab	03 35 18.6	-0.5
NVS	Novosibirsk	155.72	34	*e*PKIKP	PKPdf	03 34 52.3	-1.1
NVS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.5s						
KSH	Kashi	155.74	74	PKPbc	PKPdf	03 34 55.8	+1.7
KSH				sPKP		03 35 08.5	
KSH				PKS	PKSdf	03 38 28.4	+0.2
KSH				PP	PP	03 38 53.4	-4.9
KSH				PPMZ			
	comp=E,180nm,3.7s						
KSH				LN			
	comp=E,55nm,4.7s						
KSH				LE			
	comp=E,57nm,5.1s						
KSH				LZ			
	comp=E,220nm,19.2s						
ZALV	Zalesovo Beam	157.00	34	PKP	PKPdf	03 34 54.4	-0.7
	comp=E,5.4nm,0.8s,baz=270,slow=2.7,SNR=8.5						
ZALV				PKPab	PKPab	03 35 25.7	+0.3
	comp=E,9.2nm,0.8s,baz=297,slow=6.5,SNR=8.4						
BOD	Bodaibo	158.22	349	*e*PKP2	PKPab	03 35 17.3	-13
BOD				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MKAR	Makanchi Array	159.25	53	PKP	PKPdf	03 34 57.8	-0.3
	comp=Z,3.2nm,0.9s,baz=318,slow=1.6,SNR=11						
MKAR				PKPab	PKPab	03 35 35.0	-0.5
	comp=Z,4.9nm,0.8s,baz=316,slow=3.3,SNR=11						
CMAR	Chiang Mai Arr	160.69	157	PKPab	PKPab	03 35 41.7	-0.6
	comp=Z,0.8nm,0.3s,baz=216,slow=5.6,SNR=4.6						
WMQ	Urumqi	163.86	58	*e*PKP	PKPdf	03 35 02.3	-0.8
WMQ				pPKP	pPKPdf	03 35 13.0	+0.9
WMQ				PKPab	PKPab	03 35 56.6	+0.7
WMQ				PKS	PKSdf	03 38 34.0	-2.0
WMQ				PP	PP	03 39 43.5	+1.6
WMQ				SKS	SKSdf	03 42 01.5	-4.2
WMQ				SKKS	SKKSac	03 46 26.0	-1.6
WMQ				SS	SS	04 00 06.8	-2.4
WMQ				PPMZ			
	comp=Z,170nm,6.0s						
WMQ				LN			
	comp=Z,440nm,20.0s						
WMQ				LE			
	comp=Z,270nm,20.0s						
WMQ				LZ			
	comp=Z,330nm,25.0s						
CN2	Changchun	163.95	302	*e*PKP	PKPdf	03 35 04.4	+1.3
ZAK	Zakamensk	166.02	9	*e*PKP2	PKPab	03 36 05.0	0.0
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
KMI	Kunming	168.07	163	PKP	PKPdf	03 35 07.0	-0.3
KMI				pPKP	pPKPdf	03 35 18.8	+2.5
KMI				sPKP		03 35 22.3	
KMI				LZ			
	comp=Z,250nm,23.2s						
ULN	Ulaanbaatar	168.75	359	*e*PKP2	PKPab	03 36 17.8	+0.6
ULN	Ulaanbaatar	168.75	359	*e*PKPab	PKPab	03 36 17.8	+0.6
SONM	Songino Array	168.78	1	PKP	PKPdf	03 35 04.9	-2.0
	comp=Z,0.9nm,1.1s,baz=90,slow=1.4,SNR=3.2						
SONM				PKPab	PKPab	03 36 17.1	-0.2
	comp=Z,2.6nm,0.8s,baz=341,slow=3.9,SNR=14						
NJ2	Nanjing	168.92	249	*e*PKP	PKPdf	03 35 08.8	+1.5
GYA	Guiyang	169.88	180	*e*PKP	PKPdf	03 35 08.5	+0.3
GYA				pPKP	pPKPdf	03 35 20.0	+2.7
GYA				PKPab	PKPab	03 36 25.3	+2.6
GYA				PKS	PKSdf	03 38 39.6	-1.3
GYA				PP	PP	03 40 15.8	+4.2
GYA				SKKS		03 46 58.0	
GYA				SS	SS	04 01 08.4	+0.5
GYA				PPMZ			
	comp=Z,120nm,8.4s						
GYA				LN			
	comp=Z,120nm,24.2s						
GYA				LE			
	comp=Z,110nm,23.0s						
GYA				LZ			
	comp=Z,120nm,24.4s						
CD2	Chengdu	173.83	156	*e*PKP	PKPdf	03 35 10.1	+0.2
GTA	Gaotai	173.93	60	*e*PKP	PKPdf	03 35 09.5	-0.2
GTA				pPKP	pPKPdf	03 35 20.3	+1.5
GTA				sPKP		03 35 23.8	
GTA				PKPab	PKPab	03 36 40.9	+0.2
HHC	Hu-ho-hao-te	174.28	319	*e*PKP	PKPdf	03 35 08.9	-0.9
HHC				pPKP	pPKPdf	03 35 18.8	0.0
HHC				sPKP		03 35 25.9	
HHC				PKS	PKSdf	03 38 36.9	-5.1
HHC				PP	PP	03 40 33.6	-0.5
HHC				SKS	SKSdf	03 42 08.5	-2.5
HHC				SKKS	SKKSac	03 47 16.8	-2.0
HHC				SS	SS	04 01 50.9	-1.4
HHC				PPMZ			
	comp=Z,260nm,9.3s						
HHC				LN			
	comp=Z,180nm,22.1s						
HHC				LE			
	comp=Z,240nm,22.6s						
HHC				LZ			
	comp=Z,280nm,22.8s						
LZH	Lanzhou	177.69	102	*e*PKP	PKPdf	03 35 12.1	+1.3
LZH				pPKP	pPKPdf	03 35 24.6	+4.8
LZH				LN			
	comp=Z,450nm,17.9s						
LZH				LE			
	comp=Z,1μm,19.4s						
LZH				LZ			
	comp=Z,620nm,21.0s						

IDC ***13*** *03:19:04.5±0.4, 36°.59S×73°.21W, h0km, mb4.9/24, mb1 5.0/26, mb1mx4.9/36, mbtmp4.9/26, ML3.9/1, MS5.0/8, Ms1 4.9/8, ms1mx4.6/25, Error ellipse: s-maj=18.1km s-min=11.9km az=82.0*

GUC ***13*** *03:19:06.6±0.3, 36°.68S×73°.60W, h30km±1km, ML5.3*

ISCJB ***13*** *03:19:07.3±0.1, 36°.61S±0°.03×73°.27W±0°.04, h27km, mb5.2/89, MS5.1/9, Error ellipse: s-maj=5.6km s-min=3.7km az=147.9*

NEIC ***13*** *03:19:07.1, 36°.73S×73°.50W, h31km, mb5.3/63, After GUC.*

NEIC Felt [V] at Concepcion; [IV] at Angol, Chiguayante, Linares, Longavi, Parral, Puerto Saavedra and Retiro; [III] at Carahue, Chillan, Collipulli, Los Angeles, Talca, Talcahuano and Temuco; [II] at San Javier and Santiago. Also felt at Coronel, Lota, Penco, San Carlos, Tome and Yumbel.

GCMT ***13*** *03:19:07.1±0.4, 36°.77S×73°.77W, h24km±1km, MW5.4/59, Moment Tensor Solution. s37,c48; s59,c80; Duration: 1ŝ3 Moment tensor: Scale 10^17Nm; Mrr1.02±.08; Mθθ-0.09±.04; Mφφ-0.92±.05; Mrθ0.12±.06; Mrφ-0.07±.03; Mθφ-1.32±.11; Best double couple: M0 1.64600×10^17 NP1:φs177.00000°, δ72.00000°, λ86.00000°. NP2: φs10.00000°, δ19.00000°, λ102.00000°. Principal axes: T 1.6960, Plg63.0000°, Azm81.0000°; N -0.1010, Plg4.0000°, Azm178.0000°; P -1.5950, Plg27.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***13*** *03:19:08.3±1.1, 36°.49S×73°.28W, h33km, mb5.4/31 Error ellipse: s-maj=18.4km s-min=7.9km az=102.9*

BJI ***13*** *03:19:08.1, 36°.78S×72°.72W, h34km, mB5.4/17, Ms5.5/16, Ms7 5.2/16*

ISC 13 03:19:08.4±0.2, 36°.65S±0°.03×73°.42W±0°.05, h27km, h27km:pP-P, n786, σ1ŝ06/786, mb5.3/89, MS5.1/9, 216C-235D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.32	129	⇓*i*P	Pb	03 19 15.2	-0.6
CCSP				*i* S	Sb	03 19 21.6	+0.7
CCSP			

BDFB **Brasilia** 30.78 54 P P 03 25 20.0 -1.9
comp=Z,21nm,0.9s,baz=172,slow=4.9,SNR=6.0
BDFB LR LR 03 38 52.0
comp=Z,5µm,18.9s,baz=220,slow=39
HOPE **Hope Point** 30.86 137 *e*P P 03 25 21.1 -1.1
comp=Z,64nm,1.1s
RPN **Rapa Nui** 31.79 277 LR LR 03 35 06.0
comp=Z,2µm,18.1s,baz=140,slow=30
OTAV **Otavalo** 36.99 352 *e*P P 03 26 17.4 +1.2
PTGA **Pitinga** 37.85 22 P P 03 26 21.8 -1.2
comp=Z,33nm,1.0s,baz=200,slow=9.6,SNR=17
ROSC **El Rosal** 41.30 359 P P 03 26 53.9 +1.8
comp=Z,16nm,0.9s,baz=142,slow=5.6,SNR=9.0
ROSC **El Rosal** 41.30 359 *e*P P 03 26 55.2 +3.2
BCIP **Isla Barro Col** 45.97 351 *e*P P 03 27 28.8 -0.4
comp=Z,148nm,2.0s
RCBR **Riachuelo** 46.00 57 P P 03 27 29.2 -0.4
comp=Z,46nm,1.1s,baz=220,slow=8.1,SNR=7.7
VNA3 **Neumayer Olymp** 47.36 157 P P 03 27 40.3 +0.7
JTS **JuntasAbangare** 47.93 345⇑*e*P P 03 27 43.9 -0.7
JTS pmax pmax
comp=Z,52nm,1.8s
JTS **JuntasAbangare** 47.93 345 P P 03 27 46.2 +1.6
comp=Z,5.0nm,1.0s,baz=191,slow=5.2,SNR=2.6
JTS **JuntasAbangare** 47.93 345 *e*P P 03 27 44.2 -0.4
comp=Z,33nm,1.2s
VNA2 **Neumayer--Watz** 48.03 156 P P 03 27 45.8 +1.0
SNAA **Sanae** 49.58 157 P P 03 27 56.8 +0.1
SNAA **Sanae** 49.58 157 *e*P P 03 27 56.8 +0.1
SNAA **Sanae** 49.58 157 *c i*P P 03 27 57.0 +0.3
SNAA pmax pmax
comp=Z,120nm,1.2s
SNAA **Sanae** 49.58 157 P P 03 27 56.8 +0.1
comp=Z,23nm,1.0s,baz=282,slow=6.5,SNR=20
SNAA **Sanae** 49.58 157 *e*P P 03 27 56.6 -0.2
comp=Z,118nm,1.2s
GRGR **Grenville** 49.77 15 *e*P P 03 27 58.0 -0.6
comp=Z,320nm,0.9s
QSPA **South Pole Qui** 53.59 180 P P 03 28 27.3 +0.4
comp=Z,48nm,1.0s,baz=256,slow=0.3,SNR=22
RKT **Rikitea** 54.22 266 *e*LR LR 03 44 11.6
comp=Z,1µm,27.5s
RKT **Rikitea** 54.22 266 *e*T T 04 26 34.9
comp=Z,2.5nm,0.2s
NVL **N'lazarevskaya** 54.35 156⇑*i*P P 03 28 31.1 -1.1
NVL *e**PP pP 03 28 45.5 +5.0
NVL *e* 03 30 34.9
NVL pmax pmax
comp=Z,66nm,1.0s
OBIP **Obispado Ponce** 54.77 8 *e*P P 03 28 34.4 -1.3
comp=Z,84nm,1.0s
CELP **Cerrillos** 54.81 8 *e*P P 03 28 34.4 -1.6
LRS **Lares** 54.99 8 *e*P P 03 28 35.1 -2.3
CBYP **Canovanas** 55.09 9 *e*P P 03 28 36.0 -2.1
comp=Z,50nm,0.9s
SDDR **Presa de Saban** 55.36 2 *e*P P 03 28 39.0 -1.0
comp=Z,41nm,1.3s
GTBY **Guantanamo Bay** 56.29 358 *e*P P 03 28 44.6 -2.0
comp=Z,78nm,1.1s
SBA **Scott Base** 60.26 192 *e*P P 03 29 15.8 +2.1
SBA pmax pmax
comp=Z,357nm,3.0s
SBA **Scott Base** 60.26 192 *e*P P 03 29 15.8 +2.1
comp=Z,357nm,3.0s
ASCN **Ascension** 60.59 77 *e*P P 03 29 13.5 -3.4
comp=Z,111nm,1.0s
VNDA **Vanda** 61.29 192 P P 03 29 22.3 +1.6
comp=Z,7.7nm,1.3s,baz=148,slow=13,SNR=4.0
SYO **Syowa Base** 63.83 158⇓*e*P P 03 29 33.7 -4.1
MEH **Mehetia** 67.42 264 *e*T T 04 43 04.1
comp=Z,39nm,0.2s
936A **North Padre Is** 67.58 337 ⇑P P 03 30 04.0 +1.6
baz=68
034A **Hebbronville** 67.69 336 ⇑P P 03 30 04.7 +1.6
baz=68
934A **Benavides** 68.14 336 ⇑P P 03 30 07.0 +1.1
baz=68
933A **Laredo** 68.39 335 ⇓P P 03 30 08.5 +0.9
baz=69
TIGA **Tifton** 68.40 351 ⇓P P 03 30 07.5 0.0
baz=69
TVO **Taravao** 68.41 263 *e*T T 04 44 18.9
comp=Z,1.3nm,0.3s
835A **Beeville** 68.55 337 ⇑P P 03 30 10.5 +2.0
baz=69
TIAR **Tiarei** 68.61 264 *e*T T 04 44 33.4
comp=Z,7.4nm,0.2s
834A **Tilden** 68.63 336 ⇑P P 03 30 10.5 +1.5
baz=69
PPT2 **Papeete2** 68.78 263 *e*LR LR 03 50 57.9
comp=Z,2µm,23.8s
PPT **Papeete** 68.79 263 LR LR 03 52 29.9
comp=Z,1µm,19.3s,baz=125,slow=29
735A **Kenedy** 69.07 337 ⇓P P 03 30 14.0 +2.2
baz=69
833A **Chaparral WMA,** 69.09 336 ⇑P P 03 30 13.4 +1.5
baz=70
832A **Faith Ranch, C** 69.25 335 ⇓P P 03 30 13.7 +0.8
baz=70
734A **La Parita Cree** 69.30 337 ⇑P P 03 30 14.3 +1.1
baz=70
733A **Divot King Ran** 69.42 336 ⇑P P 03 30 15.4 +1.5
baz=70
636A **Smothers Creek** 69.43 338 ⇓P P 03 30 15.2 +1.2
baz=70
HKT **Hockley** 69.51 339 *e*P P 03 30 14.6 +0.2
HKT pmax pmax
comp=Z,31nm,1.7s
HKT **Hockley** 69.51 339 *e*P P 03 30 14.6 +0.2
comp=Z,31nm,1.7s
635A **Leesville** 69.56 337 ⇓P P 03 30 15.9 +1.2
baz=70
732A **Laxson Ranch,** 69.66 335 ⇓P P 03 30 16.2 +0.8
baz=70,SNR=13
538A **Harpers Horsep** 69.67 340 ⇓P P 03 30 16.8 +1.4
baz=70
634A **China Grove, S** 69.73 337 ⇑P P 03 30 17.5 +1.7
baz=70
537A **Green Hill Far** 69.77 339 ⇓P P 03 30 17.4 +1.4
baz=70
536A **Bastrop** 69.98 338 ⇑P P 03 30 18.9 +1.5
baz=70
633A **Saathoff Ranch** 70.07 336 ⇓P P 03 30 18.9 +1.0
baz=70
535A **Dale** 70.09 338 ⇓P P 03 30 19.0 +0.9
baz=70
438A **Sam Houston St** 70.16 340 ⇑P P 03 30 19.2 +0.7
baz=70
632A **Uvalde** 70.31 336 ⇓P P 03 30 20.0 +0.6
baz=71,SNR=5.8
GOGA **Godfrey** 70.33 351 *e*P P 03 30 18.0 -1.4
GOGA pmax pmax
comp=Z,215nm,2.3s
GOGA **Godfrey** 70.33 351 *e*P P 03 30 18.0 -1.4
comp=Z,215nm,2.3s
534A **Blanco** 70.37 337 ⇑P P 03 30 20.7 +0.9
baz=71
340A **Bronson** 70.37 341 ⇓P P 03 30 20.4 +0.7
baz=71
339A **Huntington** 70.47 341 ⇑P P 03 30 21.0 +0.7
baz=71
LRAL **Lakeview Retre** 70.47 348 *e*P P 03 30 20.7 +0.4
comp=Z,29nm,1.3s
631A **Perdido Creek** 70.49 335 ⇑P P 03 30 21.2 +0.7
baz=71,SNR=6.9
436A **Wall Ranch, Ga** 70.56 339 ⇓P P 03 30 21.9 +1.0
baz=71
533A **Kerrville** 70.59 337 ⇓P P 03 30 21.8 +0.7
baz=71,SNR=7.3
338A **Crockett** 70.69 340 ⇓P P 03 30 22.3 +0.7
baz=71
435B **Jarrell** 70.80 338 ⇓P P 03 30 23.1 +0.8
baz=71
337A **Centerville** 70.81 340 ⇑P P 03 30 23.1 +0.8
baz=71
532A **Rocksprings** 70.92 336 ⇓P P 03 30 23.7 +0.5
baz=71,SNR=13
434A **Burnet** 71.04 338 ⇑P P 03 30 24.1 +0.3
baz=71,SNR=10.0
239A **Gary** 71.09 341 ⇓P P 03 30 24.8 +0.7
baz=72
531A **Rocksprings** 71.17 335 ⇓P P 03 30 25.2 +0.5
baz=72,SNR=5.7
JCT **Junction City** 71.21 336 *e*P P 03 30 23.9 -1.0
JCT pmax pmax
comp=Z,35nm,1.0s
JCT **Junction City** 71.21 336 ⇓P P 03 30 25.6 +0.6
baz=72
JCT **Junction City** 71.21 336 *e*P P 03 30 23.9 -1.0
comp=Z,34nm,1.0s
335A **Moody** 71.22 338 ⇑P P 03 30 25.5 +0.6
baz=72
433A **Art** 71.24 337 ⇑P P 03 30 24.9 -0.1
baz=72,SNR=10
238A **Jacksonville** 71.25 341 ⇑P P 03 30 25.9 +0.8
baz=72
530A **J-C Ranch, Com** 71.42 335 ⇑P P 03 30 27.0 +0.8
baz=72,SNR=15
237A **Washetta, Mont** 71.44 340 ⇓P P 03 30 26.9 +0.8
baz=72
334A **Lometa** 71.51 338 ⇑P P 03 30 27.5 +0.8
baz=72,SNR=15
TXAR **Lajitas Array** 71.52 332 P P 03 30 27.1 +0.2
comp=Z,6.7nm,0.8s,baz=152,slow=8.1,SNR=23
432A **Menard** 71.58 336 ⇓P P 03 30 27.9 +0.8
baz=72
431A **Sonora** 71.67 335 ⇑P P 03 30 28.4 +0.7
baz=72
529A **Stev Forest Ra** 71.71 334 ⇓P P 03 30 28.5 +0.5
baz=72
333A **Richland Sprin** 71.73 337 ⇑P P 03 30 28.4 +0.4
baz=72,SNR=7.4
KMSC **Kings Mountain** 71.80 353 ⇑P P 03 30 28.6 +0.3
baz=72
KMSC **Kings Mountain** 71.80 353 *e*P P 03 30 27.9 -0.4
comp=Z,29nm,1.0s
138A **Matatall Enter** 71.86 341 ⇓P P 03 30 29.7 +1.0
baz=72
WHTX **Lake Whitney,** 71.89 339 ⇑P P 03 30 29.9 +0.9
baz=72
WHTX **Lake Whitney,** 71.89 339 *e*P P 03 30 29.1 +0.2
430A **Baggett Ranch,** 71.97 335 ⇓P P 03 30 29.9 +0.4
baz=72,SNR=14
137A **Heron Place, G** 71.98 340 ⇑P P 03 30 30.1 +0.7
baz=72
332A **Millersview** 72.03 336 ⇑P P 03 30 30.1 +0.3
baz=72,SNR=7.9
429A **Davenport Ranc** 72.05 334 ⇓P P 03 30 30.3 +0.3
baz=72
234A **Clairette** 72.11 338 ⇑P P 03 30 30.5 +0.3
baz=72,SNR=6.4
331A **San Angelo** 72.18 336 ⇑P P 03 30 30.8 +0.1
baz=73,SNR=17
OXF **Oxford** 72.35 346 *e*P P 03 30 30.2 -1.4
OXF pmax pmax
comp=Z,60nm,1.0s
OXF **Oxford** 72.35 346 *e*P P 03 30 30.2 -1.4
comp=Z,60nm,1.0s
233A **Rising Star** 72.35 337 ⇑P P 03 30 32.2 +0.5
baz=73,SNR=9.1
135A **Vickery Place,** 72.41 339 ⇓P P 03 30 32.5 +0.5
baz=73
SWET **Sewanee** 72.44 349 *e*P P 03 30 31.6 -0.6
232A **Coleman** 72.47 337 ⇓P P 03 30 33.3 +0.9
baz=73
CPCT **Cooper Cave** 72.47 351 *e*P P 03 30 31.9 -0.4
330A **Mertzon** 72.52 335 ⇓P P 03 30 32.3 -0.5
baz=73
TKL **Tuckaleechee C** 72.58 351 *e*P P 03 30 32.3 -0.7
TKL **Tuckaleechee C** 72.58 351 *e*P P 03 30 32.3 -0.7
134A **White-Moore Ra** 72.62 338 ⇑P P 03 30 33.4 +0.1
baz=73
231A **Brote** 72.72 336 ⇑P P 03 30 33.6 -0.3
baz=73,SNR=10
329A **Wagon Wheel Ra** 72.87 335 ⇑P P 03 30 35.3 +0.5
baz=73
133A **Hamilton Ranch** 72.91 338 ⇓P P 03 30 35.5 +0.5
baz=73,SNR=8.4
230A **Sterling City** 72.94 336 ⇑P P 03 30 35.3 +0.1
baz=73
Z35A **Perchaven, San** 73.09 339 ⇓P P 03 30 36.4 +0.3
baz=74,SNR=8.3
ABTX **Abilene, Hawle** 73.15 337 ⇓P P 03 30 37.1 +0.7
baz=74
ABTX **Abilene, Hawle** 73.15 337 *e*P P 03 30 35.4 -1.1
229A **Bryant Ranch,** 73.25 335 ⇑P P 03 30 37.4 +0.3
baz=74
MIAR **Mount Ida** 73.28 343 *e*P P 03 30 36.5 -0.6
MIAR pmax pmax
comp=Z,12nm,1.0s
MIAR **Mount Ida** 73.28 343 *e*P P 03 30 36.5 -0.6
comp=Z,12nm,1.0s
Z34A **Collier Ranch,** 73.32 339 ⇑P P 03 30 37.7 +0.3
baz=74
131A **Roby** 73.43 336 ⇓P P 03 30 38.4 +0.3
baz=74
Z33A **Whitaker Ranch** 73.49 338 ⇓P P 03 30 38.9 +0.5
baz=74,SNR=7.5
130A **Snyder** 73.54 336 ⇓P P 03 30 40.1 +1.3
baz=74
KOMG **Komaggas** 73.57 115 *e*P P 03 30 39.6 +0.4
KOMG AMB AMB 03 30 40.9
comp=Z,61nm,1.3s
KOMG **Komaggas** 73.57 115 P P 03 30 39.6 +0.4
comp=Z,61nm,1.3s
WVT **Waverly** 73.64 348 *e*P P 03 30 38.1 -1.1
WVT **Waverly** 73.64 348 *e*P P 03 30 38.1 -1.1
228A **UT Block 9, Go** 73.66 334 ⇓P P 03 30 40.4 +0.9
baz=74
Z32A **Haskell** 73.73 337 ⇑P P 03 30 39.9 +0.1
baz=74,SNR=10.0
Y34A **Reagan Ranch,** 73.82 339 ⇑P P 03 30 40.7 +0.3
baz=74,SNR=6.5
129A **Stewart Farms,** 73.88 335 ⇓P P 03 30 41.4 +0.7
baz=74
Z31A **Sharp Cattle R** 73.94 337 ⇑P P 03 30 41.2 +0.1
baz=74
BBTS **Babate** 73.99 57 P P 03 30 40.5 -1.1
comp=Z,62nm,1.1s,baz=194,slow=2.3,SNR=5.6
UTMT **University of** 74.02 347 *e*P P 03 30 47.2 +5.8
comp=Z,86nm,0.9s
128A **Castleberry Fa** 74.08 335 ⇓P P 03 30 42.2 +0.3
baz=74
Y33A **Hilltop Ranch,** 74.12 338 ⇑P P 03 30 43.0 +0.9
baz=74
Z30A **Sanderson Ranc** 74.23 336 ⇓P P 03 30 42.9 +0.1
baz=75,SNR=8.8
MNTX **Cornudas Mount** 74.29 332 *e*P P 03 30 42.5 -0.6
comp=Z,9.7nm,1.0s
GDL2 **Guadalupe Moun** 74.36 333 *e*P P 03 30 44.1 +0.4
Y32A **R-V Farms, Ver** 74.36 338 ⇑P P 03 30 43.8 +0.3
baz=75
Z29A **Hungry Hill Ra** 74.40 336 ⇓P P 03 30 43.5 -0.3
baz=75,SNR=10
X34A **Smith Ranch, M** 74.45 339 ⇑P P 03 30 44.5 +0.5
baz=75
PARMO **Parma** 74.50 346 *e*P P 03 30 47.1 +3.0
SUR **Sutherland** 74.54 119 P P 03 30 46.4 +1.3
comp=Z,361nm,0.9s,SNR=5.6
SUR **Sutherland** 74.54 119 *e*P P 03 30 45.8 +0.7
comp=Z,54nm,0.9s
Y31A **Rekieta Farm,** 74.58 337 ⇓P P 03 30 45.5 +0.7
baz=75
X33A **Lawton** 74.58 339 ⇓P P 03 30 45.1 +0.3
baz=75
Z28A **Tucker Farm, M** 74.65 335 ⇓P P 03 30 45.6 +0.3
baz=75
Y30A **Stafford Cattl** 74.70 337 ⇑P P 03 30 46.2 +0.7
baz=75
X32A **Elmer** 74.70 338 ⇑P P 03 30 46.0 +0.5
baz=75
WMOK **Wichita Mounta** 74.85 339 *e*P P 03 30 45.4 -0.9
WMOK pmax pmax
comp=Z,32nm,1.3s
WMOK **Wichita Mounta** 74.85 339 *e*P P 03 30 45.4 -0.9
comp=Z,32nm,1.3s
CPRX **Cap Rock** 74.93 334 *e*P P 03 30 46.0 -0.9
comp=Z,5.5nm,0.9s
Y29A **Porterfield Fa** 74.94 336 ⇓P P 03 30 47.8 +0.9
baz=75
W34A **Bridge Creek,** 75.02 340 ⇑P P 03 30 48.0 +0.7
baz=75
W34A **Bridge Creek,** 75.02 340 *e*P P 03 30 47.3 0.0
X31A **McDonald Ranch** 75.11 338 ⇑P P 03 30 48.2 +0.3
baz=76,SNR=7.9
TUL1 **Leonard** 75.13 341 ⇑P P 03 30 47.6 -0.3
baz=76,SNR=8.0
TUL1 **Leonard** 75.13 341 *e*P P 03 30 47.5 -0.3
comp=Z,31nm,0.9s
W33A **Caddo, Fort Co** 75.14 339 ⇑P P 03 30 48.7 +0.7
baz=76,SNR=8.4
Y28A **McKinney Farm,** 75.17 335 ⇓P P 03 30 48.9 +0.7
baz=76
X30A **Coker Ranch, T** 75.22 337 ⇓P P 03 30 49.4 +0.9
baz=76
W32A **Sentinel** 75.34 338 ⇓P P 03 30 49.7 +0.5
baz=76,SNR=13
USIN **University of** 75.40 348 *e*P P 03 30 48.2 -1.1
comp=Z,52nm,1.0s
MSTX **Muleshoe** 75.40 335 ⇑P P 03 30 50.5 +0.8
baz=76
MSTX **Muleshoe** 75.40 335 *e*P P 03 30 49.6 -0.1
comp=Z,19nm,1.1s
SIUC **Southern Illin** 75.42 347 *e*P P 03 30 48.2 -1.3
Y27A **Causey** 75.46 335 ⇓P P 03 30 51.2 +1.2
baz=76
X29A **Tulia** 75.48 336 ⇓P P 03 30 50.9 +0.9
baz=76
V34A **Guthrie** 75.51 340 ⇑P P 03 30 50.0 -0.1
baz=76,SNR=6.9
V34A **Guthrie** 75.51 340 *e*P P 03 30 49.1 -1.0
comp=Z,44nm,1.4s
319A **Douglas** 75.55 329 ⇑P P 03 30 51.6 +1.0
baz=76
W31A **Holland Ranch,** 75.61 338 ⇓P P 03 30 51.6 +0.9
baz=76
X28A **Dimmitt** 75.71 336 ⇓P P 03 30 52.0 +0.6
baz=76
V33A **Lossen Ranch,** 75.72 339 ⇓P P 03 30 51.8 +0.5
baz=76,SNR=7.9
V32A **Arapaho** 75.84 339 ⇑P P 03 30 53.3 +1.3
baz=76
AMTX **Amarillo** 75.88 336 ⇓P P 03 30 52.8 +0.5
baz=76
AMTX **Amarillo** 75.88 336 *e*P P 03 30 51.9 -0.4
comp=Z,41nm,1.1s
121A **Cookes Peak, D** 75.95 331 ⇑P P 03 30 54.1 +1.2
baz=76
121A **Cookes Peak, D** 75.95 331 *e*P P 03 30 53.8 +0.9
comp=Z,14nm,1.0s
U34A **Anderson Ranch** 76.08 340 ⇑P P 03 30 53.9 +0.5
baz=76
U34A **Anderson Ranch** 76.08 340 *e*P P 03 30 53.3 0.0
W29A **Amarillo** 76.08 336 ⇑P P 03 30 54.0 +0.5
baz=76
V31A **Spring Creek L** 76.13 338 ⇓P P 03 30 54.6 +0.9
baz=76
X27A **F and S Farms,** 76.13 335 ⇑P P 03 30 55.2 +1.4
baz=76
U33A **Lingo Farm, Me** 76.24 340 P P 03 30 55.4 +1.1
baz=77
Z22A **Elephant Butte** 76.27 332 ⇓P P 03 30 55.9 +1.2
baz=77
X26A **CR and CF Fran** 76.29 335 ⇑P P 03 30 55.1 +0.4
baz=77
Y24A **Capitan** 76.30 333 ⇑P P 03 30 55.6 +0.7
baz=77
V30A **Spur Ranch, Mi** 76.37 337 ⇓P P 03 30 56.4 +1.3
baz=77
W28A **Vega** 76.39 336 ⇑P P 03 30 56.7 +1.4
baz=77
BLO **Bloomington** 76.41 350 *e*P P 03 31 01.9 +6.8
BLO pmax pmax
comp=Z,21nm,0.9s
BLO **Bloomington** 76.41 350 *e*P P 03 31 01.9 +6.8
comp=Z,21nm,0.9s
U32A **Winter Ranch,** 76.44 339 ⇑P P 03 30 55.5 +0.1
baz=77
W27A **Bowe Ranch, En** 76.50 335 ⇑P P 03 30 56.5 +0.6
baz=77
SLM **Saint Louis** 76.50 347 *e*P P 03 30 55.1 -0.5
SLM **Saint Louis** 76.50 347 *e*P P 03 30 55.1 -0.5
X25A **Clemmons Ranch** 76.56 334 ⇑P P 03 30 56.7 +0.4
baz=77
LIC **Lamto** 76.67 72 *e*P P 03 30 57.2 0.0
comp=Z,170nm,1.1s
U31A **Nine Bar Ranch** 76.68 338 ⇑P P 03 30 56.9 +0.2
baz=77
V29A **Stinnett** 76.73 337 ⇓P P 03 30 57.5 +0.3
baz=77
W26A **Owens Ranch, T** 76.76 335 ⇑P P 03 30 58.0 +0.6
baz=77
V28A **Channing** 76.85 336 ⇑P P 03 30 58.3 +0.4
baz=77
X24A **Lazy VL Ranch,** 76.87 333 ⇑P P 03 30 58.8 +0.7
baz=77
T33A **Patterson Ranc** 76.89 340 ⇓P P 03 30 58.4 +0.5
baz=77
TIC **Tounodi** 76.95 71 *e*P P 03 30 58.7 -0.1
comp=Z,82nm,0.9s
KIC **Kosan Boka** 76.98 72 *e*P P 03 30 59.0 0.0
comp=Z,167nm,0.9s
Y22D **IRIS PASSCAL I** 76.98 332 ⇓P P 03 30 59.5 +0.8
baz=77
TUC **Tucson** 76.99 328 *e*P P 03 30 59.9 +1.2
TUC pmax pmax
comp=Z,48nm,1.9s
TUC **Tucson** 76.99 328 *e*P P 03 30 59.9 +1.2
comp=Z,48nm,1.9s
ACSO **Alum Creek Sta** 77.01 352 *e*P P 03 30 57.2 -1.3
comp=Z,32nm,0.9s
V27A **Dan Oppiter Fa** 77.05 336 ⇓P P 03 30 59.8 +0.8
baz=77
U30A **WK&E Inc. Balk** 77.07 338 ⇑P P 03 30 59.7 +0.7
baz=78
LPM **Los Pinos Moun** 77.09 332 *e*P P 03 31 00.5 +1.2
DBIC **Dimbokro** 77.09 72 *e*P P 03 30 58.3 -1.2
DBIC **Dimbokro** 77.09 72 *e*P P 03 30 59.1 -0.5
DBIC pmax pmax
comp=Z,68nm,0.9s
DBIC **Dimbokro** 77.09 72 P P 03 30 59.4 -0.2
comp=Z,51nm,0.9s,baz=207,slow=6.3,SNR=42
DBIC **Dimbokro** 77.09 72 *e*P P 03 30 59.1 -0.5
comp=Z,68nm,0.9s
UPI **Upington** 77.11 116 *e*P P 03 30 58.7 -1.0
UPI AMB AMB 03 31 01.2
comp=Z,57nm,0.9s
UPI **Upington** 77.11 116 P P 03 30 58.7 -1.0
comp=Z,57nm,0.9s
W25A **X Bar L Ranch,** 77.11 334 ⇓P P 03 31 00.2 +0.8
baz=78
X23A **Hourglass Bar** 77.16 333 ⇓P P 03 31 00.5 +0.7
baz=78
T32A **Huddler Ranch,** 77.17 339 ⇓P P 03 30 59.8 +0.3
baz=78
U29A **Oasis Ranch, S** 77.19 337 ⇑P P 03 31 00.5 +0.8
baz=78
WIN **Windhoek** 77.29 109 *e*P P 03 31 01.7 +0.8
WIN AMB AMB 03 31 02.2
comp=Z,16nm,1.2s
WIN **Windhoek** 77.29 109 P P 03 31 01.7 +0.8
WIN pmax pmax
comp=Z,16nm,1.2s
WIN **Windhoek** 77.29 109 P P 03 31 01.7 +0.8
comp=Z,16nm,1.2s
S33A **Kaszmaul Farm,** 77.30 340 ⇓P P 03 31 01.0 +0.8
baz=78
T31A **Randall Ranch,** 77.31 339 ⇑P P 03 31 00.9 +0.6
baz=78
CASY **Casey** 77.36 182 *e*P P 03 31 00.7 +0.5
comp=Z,65nm,1.6s
LAZ **Ladron** 77.36 332 *e*P P 03 31 01.4 +0.6
comp=Z,0.4nm,0.6s
V26A **Tequesquite Ra** 77.41 335 ⇑P P 03 31 01.9 +1.0
baz=78
U28A **Mallet** 77.42 337 ⇓P P 03 31 02.1 +1.1
baz=78
W24A **Lazy 6 Ranch,** 77.44 334 ⇓P P 03 31 02.6 +1.3
baz=78
T30A **Plains** 77.52 338 ⇓P P 03 31 02.5 +1.0
baz=78
214A **Organ Pipe Nat** 77.57 326 ⇑P P 03 31 03.5 +1.6
baz=78
214A **Organ Pipe Nat** 77.57 326 *e*P P 03 31 04.6 +2.7
comp=Z,27nm,1.4s
ANMO **Albuquerque** 77.59 333*d i*P P 03 31 02.4 +0.3
ANMO pmax pmax
comp=Z,22nm,0.8s
ANMO **Albuquerque** 77.59 333 *e*P P 03 31 02.0 -0.1
S32A **Newby Ranch, P** 77.66 340 ⇑P P 03 31 03.3 +1.1
baz=78
U27A **Thompson Grove** 77.66 336 ⇑P P 03 31 03.0 +0.6
baz=78
W23A **Werner Place,** 77.67 333 ⇓P P 03 31 03.7 +1.2
baz=78
SFIN **Lafayette** 77.68 349 ⇑P P 03 31 03.2 +1.0
baz=78
V25A **Rancho No Teng** 77.73 334 ⇑P P 03 31 03.5 +0.7
baz=78
S31A **Mullinville** 77.74 339 ⇓P P 03 31 03.9 +1.3
baz=78
T29A **Hugoton** 77.84 338 ⇑P P 03 31 04.0 +0.7
baz=78

V24A	Rampart Ranch,	77.86	334	⇑P	P	03 31 04.5 +0.8
	baz=78					
U26A	Atchley Ranch,	77.94	335	⇓P	P	03 31 04.9 +0.9
	baz=78					
GRM	Grahamstown	77.95	122	eP	P	03 31 04.2 -0.1
GRM				AMB	AMB	03 31 21.9
	comp=Z,122nm,4.1s					
GRM	Grahamstown	77.95	122	P	P	03 31 04.2 -0.1
GRM				pmax	pmax	
	comp=Z,122nm,4.1s					
GRM	Grahamstown	77.95	122	P	P	03 31 04.2 -0.1
	comp=Z,122nm,4.1s					
R33A	Olander Ranch,	77.96	340	⇓P	P	03 31 04.9 +1.1
	baz=78					
S30A	Montezuma	78.04	338	⇑P	P	03 31 05.3 +0.9
	baz=78					
T28A	Walsh	78.07	337	⇑P	P	03 31 04.8 +0.2
	baz=78					
U25A	Circle Dot Ran	78.17	335	⇓P	P	03 31 06.4 +1.1
	baz=78					
V23A	Ortiz Mt. (NFS	78.20	333	⇓P	P	03 31 06.0 +0.5
	baz=79					
T27A	Campo	78.21	336	⇓P	P	03 31 06.0 +0.6
	baz=79					
S29A	Ulysses	78.22	338	⇓P	P	03 31 05.9 +0.5
	baz=79					
R32A	Long Quarter,	78.27	340	⇑P	P	03 31 06.0 +0.4
	baz=79					
KSU1	Kansas State U	78.35	342	⇓P	P	03 31 06.3 +0.3
	baz=79					
KSU1	Kansas State U	78.35	342	eP	P	03 31 06.2 +0.3
	comp=Z,13nm,0.8s					
R31A	Burdett	78.37	339	⇑P	P	03 31 07.2 +1.0
	baz=79					
S28A	Manter	78.43	337	⇑P	P	03 31 07.8 +1.2
	baz=79					
U24A	Moreno Valley	78.47	334	⇑P	P	03 31 08.1 +1.0
	baz=79					
X18A	Snowflake	78.57	330	⇑P	P	03 31 08.9 +1.3
	baz=79					
Q33A	Connelly Farm,	78.57	341	⇓P	P	03 31 08.0 +0.7
	baz=79					
R30A	Dighton	78.58	339	⇓P	P	03 31 08.1 +0.7
	baz=79					
T26A	Comanche Natio	78.59	336	⇓P	P	03 31 08.4 +0.8
	baz=79					
V22A	San Miguel Ran	78.61	333	⇑P	P	03 31 09.1 +1.3
	baz=79,SNR=14					
113A	Mohawk Valley,	78.68	326	⇑P	P	03 31 09.0 +1.0
	baz=79					
U23A	El Rito	78.72	334	⇓P	P	03 31 09.7 +1.3
	baz=79					
Q32A	Meitler Ranch,	78.76	340	⇑P	P	03 31 08.8 +0.5
	baz=79					
Z14A	Wintersburg	78.82	327	⇑P	P	03 31 09.8 +1.0
	baz=79					
S27A	Las Animas	78.83	337	⇑P	P	03 31 09.1 +0.3
	baz=79					
T25A	Trinidad	78.83	335	⇑P	P	03 31 10.2 +1.2
	baz=79					
HVD	Gariep Dam	78.83	120	eP	P	03 31 09.7 +0.3
HVD				AMB	AMB	03 31 25.9
	comp=Z,74nm,4.6s					
HVD	Gariep Dam	78.83	120	P	P	03 31 09.7 +0.3
HVD				pmax	pmax	
	comp=Z,75nm,4.6s					
HVD	Gariep Dam	78.83	120	P	P	03 31 09.7 +0.3
	comp=Z,74nm,4.6s					
P33A	Williams Farm,	78.94	341	⇓P	P	03 31 10.0 +0.7
	baz=79					
S26A	Kim	78.96	336	⇓P	P	03 31 10.6 +1.1
	baz=79					
R29A	Marienthal	78.97	338	⇓P	P	03 31 10.9 +1.4
	baz=79					
W18A	Petrified Fore	79.00	330	⇓P	P	03 31 11.1 +1.2
	baz=79					
W18A	Petrified Fore	79.00	330	eP	P	03 31 10.2 +0.4
Q31A	Ellis	79.00	340	⇑P	P	03 31 10.8 +1.1
	baz=79					
TRY	Troy	79.00	360	eP	P	03 31 10.6 +1.2
	comp=Z,58nm,1.2s					
U22A	Llaves	79.01	333	⇓P	P	03 31 11.1 +1.2
	baz=79					
X16A	Lo Mia Camp, P	79.08	329	⇓P	P	03 31 11.5 +1.1
	baz=79					
R28A	Tribune	79.09	338	⇑P	P	03 31 10.8 +0.5
	baz=80					
T24B	San Luis	79.10	334	⇑P	P	03 31 11.7 +1.2
	baz=80					
Q30A	Quinter	79.21	339	⇑P	P	03 31 12.4 +1.6
	baz=80					
T23A	Casias Ranch,	79.30	334	⇑P	P	03 31 12.6 +1.0
	baz=80					
S25A	Robets Cordova	79.31	335	⇑P	P	03 31 12.3 +0.8
	baz=80					
Y14A	Wickenburg	79.34	327	⇑P	P	03 31 13.0 +1.4
	baz=80					
Q29A	Oakley	79.35	338	⇑P	P	03 31 12.9 +1.3
	baz=80					
R27A	Eads	79.35	337	⇑P	P	03 31 12.5 +0.9
	baz=80					
P32A	Hulting Farm,	79.36	340	⇓P	P	03 31 12.5 +0.9
	baz=80					
GLA	Glamis	79.40	326	⇓P	P	03 31 13.5 +1.5
	baz=80					
P31A	Stockton	79.48	340	⇓P	P	03 31 13.7 +1.5
	baz=80					
S24A	Houchin Ranch,	79.56	335	⇓P	P	03 31 14.0 +1.0
	baz=80					
R26A	Arlington	79.57	336	⇓P	P	03 31 13.7 +0.8
	baz=80					
R25A	Fountain Ranch	79.70	336	⇑P	P	03 31 14.4 +0.8
	baz=80					
P30A	Selden	79.74	339	⇓P	P	03 31 14.5 +0.8
	baz=80					
SWSC	Sam W. Stewart	79.75	325	⇑P	P	03 31 15.0 +1.2
	baz=80					
SDCO	Great Sand Dun	79.75	335	eP	P	03 31 14.8 +0.7
Q28A	Sharon Springs	79.76	338	⇓P	P	03 31 14.6 +0.8
	baz=80					
BOSA	Boshof	79.83	118	eP	P	03 31 14.7 -0.1
BOSA				AMB	AMB	03 31 16.0
	comp=Z,79nm,4.8s					
BOSA				AMS	AMS	03 45 03.2
	comp=Z,789nm,5.2s					
BOSA	Boshof	79.83	118	eP	P	03 31 14.4 -0.4
BOSA				pmax	pmax	
	comp=Z,77nm,1.2s					
BOSA	Boshof	79.83	118	P	P	03 31 14.3 -0.4
	comp=Z,44nm,1.0s,baz=234,slow=5.2,SNR=28					
BOSA				LR	LR	04 02 42.6
	comp=Z,572nm,19.5s,baz=196,slow=33					
BOSA	Boshof	79.83	118	eP	P	03 31 14.4 -0.4
	comp=Z,78nm,1.2s					
O32A	Brockman Farm,	79.87	341	⇓P	P	03 31 15.6 +1.3
	baz=80					
S23A	Nye Farm, Mont	79.89	334	⇓P	P	03 31 15.7 +0.9
	baz=80					
KSCO	Kaye Shedlock'	79.96	337	⇓P	P	03 31 16.0 +1.0
	baz=80					
P29A	Atwoood	79.99	339	⇓P	P	03 31 16.2 +1.1
	baz=80					
WUAZ	Wupatki	80.00	329	⇓P	P	03 31 16.7 +1.3
	baz=80					
WUAZ	Wupatki	80.00	329	eP	P	03 31 21.6 +6.3
O31A	Woolen Ranch,	80.05	340	⇓P	P	03 31 16.1 +0.8
	baz=80					
R24A	Sanders Place,	80.06	335	⇓P	P	03 31 16.8 +1.2
	baz=80,SNR=7.6					
PDMCI	Parker Dam,Lak	80.14	327	⇓P	P	03 31 17.2 +1.4
	baz=80					
Q26A	Hugo	80.16	337	⇑P	P	03 31 17.1 +1.0
	baz=80					
BC3	Big Chuckawall	80.19	325	⇓P	P	03 31 17.7 +1.4
	baz=80					
P28A	Saint Francis	80.21	338	⇓P	P	03 31 17.3 +1.1
	baz=81					
S22A	4UR Ranch, Cre	80.22	334	⇑P	P	03 31 17.6 +1.0
	baz=81					
R23A	Moffat	80.27	335	⇑P	P	03 31 17.8 +1.0
	baz=81					
MDV	Middlebury	80.27	0	eP	P	03 31 16.4 +0.1
O30A	MW Ranch, Wils	80.28	340	⇑P	P	03 31 17.9 +1.4
	baz=81					
MVCO	Mesa Verde	80.35	332	⇑P	P	03 31 18.1 +0.8
	baz=81					
MVCO	Mesa Verde	80.35	332	eP	P	03 31 18.2 +0.9
Q25A	Bedland, Calha	80.39	336	⇓P	P	03 31 18.3 +0.9
	baz=81					
O29A	4D Ranch, Culb	80.44	339	⇑P	P	03 31 18.6 +1.1
	baz=81					
P27A	Ficken Ranch,	80.44	338	⇓P	P	03 31 18.9 +1.4
	baz=81					
IRM	Iron Mountain	80.47	326	⇓P	P	03 31 19.1 +1.4
	baz=81					
LBNH	Lisbon	80.52	1	eP	P	03 31 17.5 -0.2
LBNH				pmax	pmax	
	comp=Z,21nm,1.0s					
LBNH	Lisbon	80.52	1	eP	P	03 31 17.5 -0.2
	comp=Z,21nm,1.0s					
N31A	Bailey Ranch,	80.58	341	⇑P	P	03 31 19.8 +1.7
	baz=81					
PFO	Pinyon Flats O	80.61	325	eP	P	03 31 20.1 +1.5
PFO				pmax	pmax	
	comp=Z,22nm,1.3s					
PFO	Pinyon Flats O	80.61	325	P	P	03 31 19.7 +1.1
	comp=Z,3.6nm,0.8s,baz=139,slow=4.4,SNR=4.9					
PFO	Pinyon Flats O	80.61	325	⇓P	P	03 31 19.5 +0.8
	baz=81					
PFO	Pinyon Flats O	80.61	325	eP	P	03 31 20.1 +1.5
	comp=Z,22nm,1.3s					
JFWS	Jewell Farm	80.66	348	eP	P	03 31 18.0 -0.4
JFWS				pmax	pmax	
	comp=Z,17nm,1.0s					
JFWS	Jewell Farm	80.66	348	eP	P	03 31 18.0 -0.4
	comp=Z,18nm,1.0s					
P26A	Davis Ranch, A	80.69	337	⇓P	P	03 31 19.9 +1.0
	baz=81					
W13A	Hualapai Mount	80.71	327	⇑P	P	03 31 19.9 +0.7
	baz=81					
BELC	Belle Mtn. Jos	80.73	325	⇓P	P	03 31 20.7 +1.5
	baz=81					
O28A	Krutsinger Ran	80.73	338	⇑P	P	03 31 20.1 +1.1
	baz=81					
SWZ	Schweizer	80.73	117	eP	P	03 31 17.3 -2.4
SWZ				AMB	AMB	03 31 18.0
	comp=Z,56nm,3.6s					
SWZ	Schweizer	80.73	117	P	P	03 31 17.3 -2.4
	comp=Z,56nm,3.6s					
Q24A	Divide	80.73	335	⇓P	P	03 31 20.4 +1.0
	baz=81					
N30A	Hueftle Ranch,	80.86	340	⇑P	P	03 31 21.2 +1.6
	baz=81					
LONY	Lake Ozonia	80.90	359	eP	P	03 31 19.8 +0.1
P25A	Willow Gulch B	80.91	336	⇑P	P	03 31 21.1 +1.0
	baz=81					
MURC	Murrieta	80.95	324	⇓P	P	03 31 21.7 +1.4
	baz=81					
O27A	Beecher Island	81.00	338	⇓P	P	03 31 21.6 +1.2
	baz=81					
N29A	Votaw Ranch, W	81.03	339	⇓P	P	03 31 21.2 +0.5
	baz=81					
M31A	Lambtecht Ranc	81.07	341	⇑P	P	03 31 20.6 -0.2
	baz=82					
SCI	San Clemente I	81.09	323	⇑P	P	03 31 22.3 +1.3
	baz=81					
P24A	Kohler Place,	81.15	336	⇓P	P	03 31 22.7 +1.3
	baz=82					
U15A	North Rim	81.16	329	⇓P	P	03 31 23.2 +1.5
	baz=82					
N28A	Pribbeno Ranch	81.17	339	⇓P	P	03 31 21.9 +0.5
	baz=82					
GMRC	Granite Mounta	81.22	326	⇓P	P	03 31 23.6 +1.7
	baz=82					
LDFC	Landfair	81.22	326	eP	P	03 31 30.1 +8.3
O26A	Horse Wrangler	81.30	337	⇓P	P	03 31 23.3 +1.1
	baz=82					
P23A	Jefferson	81.33	335	⇑P	P	03 31 23.4 +0.8
	baz=82					
CIS	Catalina Islan	81.37	323	⇓P	P	03 31 24.1 +1.6
	baz=82					
BBRC	Big Bear Solar	81.37	325	⇓P	P	03 31 23.0 +0.2
	baz=82					
O25A	Wiggins	81.44	337	⇓P	P	03 31 24.1 +1.2
	baz=82					
M30A	Dale-Ortello V	81.49	340	⇑P	P	03 31 24.4 +1.4
	baz=82					
SMCO	Snowmass	81.55	334	eP	P	03 31 25.0 +1.2
OGNE	Ogallala	81.56	338	⇑P	P	03 31 24.8 +1.4
	baz=82					
FMP	Fort Macarthur	81.56	324	⇓P	P	03 31 26.1 +2.7
	baz=82					
HEC	Hector,Ludlow	81.57	326	⇓P	P	03 31 25.6 +2.0
	baz=82					
N27A	Anderson Farm,	81.58	338	⇑P	P	03 31 24.5 +0.9
	baz=82					
M29A	Burnside Ranch	81.63	340	⇑P	P	03 31 25.3 +1.5
	baz=82					
ISCO	Idaho Springs	81.64	335	eP	P	03 31 24.9 +0.7
ISCO	Idaho Springs	81.64	335	⇑P	P	03 31 25.7 +1.6
	baz=82					
ISCO	Idaho Springs	81.64	335	eP	P	03 31 24.9 +0.7
SEK	Senekal	81.68	119	eP	P	03 31 23.9 -0.9
SEK				AMB	AMB	03 31 25.2
	comp=Z,45nm,1.3s					
SEK	Senekal	81.68	119	P	P	03 31 23.9 -0.9
	comp=Z,45nm,1.3s					
BFSC	Mount Baldy Ra	81.69	324	⇓P	P	03 31 26.1 +1.8
	baz=82					
O24A	Longmont	81.75	336	⇓P	P	03 31 26.2 +1.7
	baz=82					
M28A	Bar X Bar Ranc	81.78	339	⇓P	P	03 31 25.8 +1.2
	baz=82					
L31A	Butterfield Fa	81.81	341	⇓P	P	03 31 25.6 +0.9
	baz=82					
L30A	Spencer Herefo	81.83	340	⇑P	P	03 31 25.8 +1.0
	baz=82					
P22A	Eagle	81.84	335	⇑P	P	03 31 26.4 +1.2
	baz=82					
RRX	Edison Barstow	81.92	325	⇑P	P	03 31 26.5 +1.1
	baz=82					
RUDU	RUNDU	81.97	106	eP	P	03 31 26.1 -0.2
RUDU				AMB	AMB	03 31 28.5
	comp=Z,89nm,5.1s					
RUDU				AMS	AMS	03 55 32.2
	comp=Z,721nm,27.8s					
RUDU	RUNDU	81.97	106	P	P	03 31 26.1 -0.2
	comp=Z,89nm,5.1s					
DECC	Green Verdugo	82.02	324	⇓P	P	03 31 27.0 +1.1
	baz=82					
O23A	Lake Granby, G	82.11	335	⇓P	P	03 31 27.4 +0.8
	baz=82,SNR=8.0					
L29A	Maesberg Ranch	82.15	340	⇑P	P	03 31 27.3 +0.9
	baz=82					
GSC	Goldstone, Bar	82.17	325	eP	P	03 31 34.5 +7.7
GSC	Goldstone, Bar	82.17	325	⇓P	P	03 31 28.1 +1.3
	baz=82					
GSC	Goldstone, Bar	82.17	325	eP	P	03 31 34.5 +7.7
M27A	Reverse DX Ran	82.20	338	⇑P	P	03 31 27.6 +0.8
	baz=83					
LBTB	Lobatse	82.21	115	eP	P	03 31 27.3 -0.2
LBTB				AMB	AMB	03 31 27.9
	comp=Z,66nm,1.2s					
LBTB				AMS	AMS	03 45 08.2
	comp=Z,453nm,17.6s					
LBTB	Lobatse	82.21	115	eP	P	03 31 27.3 -0.2
LBTB				pmax	pmax	
	comp=Z,56nm,1.0s					
LBTB	Lobatse	82.21	115	eP	P	03 31 27.2 -0.2
	comp=Z,56nm,1.0s					
O22A	Kremmling	82.28	335	⇑P	P	03 31 28.5 +1.0
	baz=83,SNR=8.2					
N24A	Carr	82.33	336	⇑P	P	03 31 28.9 +1.3
	baz=83					
PRYS	Parys	82.33	118	eP	P	03 31 25.4 -2.8
PRYS				AMB	AMB	03 31 45.2
	comp=Z,30nm,4.2s					
PRYS	Parys	82.33	118	P	P	03 31 25.4 -2.8
	comp=Z,30nm,4.2s					
M26A	McRoberts Ranc	82.37	338	⇑P	P	03 31 28.8 +1.1
	baz=83					
EDW2	Edwards Air Fo	82.38	324	⇑P	P	03 31 29.2 +1.3
	baz=83					
L28A	Connealy Angus	82.39	339	⇑P	P	03 31 28.9 +1.2
	baz=83					
SHOC	Shoshone, Teco	82.43	326	⇑P	P	03 31 29.4 +1.4
	baz=83					
BSC	Santa Cruz Isl	82.44	323	⇑P	P	03 31 29.7 +1.6
	baz=83					
SHPR	Sheep Range	82.45	327	eP	P	03 31 29.2 +1.0
K30A	Basset	82.48	341	⇑P	P	03 31 29.1 +0.9
	baz=83					
CCUT	Cedar City	82.57	329	eP	P	03 31 29.9 +0.9
M25A	Palm-Egli Farm	82.62	337	⇑P	P	03 31 29.8 +0.8
	baz=83					
KSR	Koster	82.65	117	eP	P	03 31 29.8 -0.1
KSR				AMB	AMB	03 31 30.3
	comp=Z,22nm,1.3s					
KSR	Koster	82.65	117	P	P	03 31 29.8 -0.1
	comp=Z,22nm,1.3s					
WDLM	Western Deep L	82.68	117	eP	P	03 31 29.5 -0.5
WDLM				AMB	AMB	03 31 30.3
	comp=Z,24nm,1.2s					
L27A	T5 Ranch, Ells	82.69	339	⇑P	P	03 31 29.9 +0.6
	baz=83					
N23A	Red Feather La	82.73	336	⇓P	P	03 31 30.7 +0.8
	baz=83					
ECSD	EROS Data Cent	82.73	343	⇓P	P	03 31 29.8 +0.4
	baz=83					
ECSD	EROS Data Cent	82.73	343	eP	P	03 31 29.0 -0.4
	comp=Z,44nm,1.0s					
K29A	Lazy Trails An	82.75	340	⇓P	P	03 31 30.3 +0.8
	baz=83					
SRU	San Rafael Swe	82.78	332	eP	P	03 31 30.7 +0.7
SRU				pmax	pmax	
	comp=Z,24nm,1.2s					
SRU	San Rafael Swe	82.78	332	eP	P	03 31 30.6 +0.7
	comp=Z,24nm,1.2s					
ARUT	Antelope Range	82.80	329	eP	P	03 31 30.6 +0.5
ARUT				pmax	pmax	
	comp=Z,307nm,1.2s					
ARUT	Antelope Range	82.80	329	eP	P	03 31 30.6 +0.5
	comp=Z,307nm,1.2s					
N22A	Wattenberg Ran	82.82	335	⇑P	P	03 31 31.6 +1.3
	baz=83,SNR=5.9					
SBC	Santa Barbara	82.84	323	⇑P	P	03 31 31.3 +1.2
	baz=83					
O20A	White River Ci	82.84	334	⇑P	P	03 31 31.6 +1.3
	baz=83					
L26A	Underwood Farm	82.87	338	⇓P	P	03 31 31.4 +1.1
	baz=83					
M24A	Cheyenne	82.89	337	⇓P	P	03 31 32.0 +1.5
	baz=83					
MVU	Marysvale	82.92	330	eP	P	03 31 37.1 +6.3
PHWY	Pilot Hill	82.94	336	eP	P	03 31 30.7 -0.2
ARVC	Arvin	82.97	324	⇑P	P	03 31 31.1 +0.3
	baz=83					
K28A	Ten Mile Ranch	83.00	340	⇓P	P	03 31 32.2 +1.3
	baz=83					
J30A	Dallas	83.06	341	⇑P	P	03 31 32.0 +0.9
	baz=84					
MPMC	Manual Prospec	83.11	325	⇓P	P	03 31 32.7 +0.9
	baz=83					
M23A	Laramie	83.18	336	⇓P	P	03 31 32.6 +0.6
	baz=84					
TMUT	Trail Mountain	83.21	331	eP	P	03 31 32.6 +0.3
CRWM	Crown Mines	83.21	118	eP	P	03 31 32.2 -0.5
CRWM				AMB	AMB	03 31 40.9
	comp=Z,51nm,3.5s					
K27A	Flueckinger Fa	83.23	339	⇑P	P	03 31 33.1 +0.9
	baz=84					
ISA	Isabella, Lake	83.24	325	eP	P	03 31 36.4 +4.1
ISA	Isabella, Lake	83.24	325	⇓P	P	03 31 33.0 +0.6
	baz=84					
ISA	Isabella, Lake	83.24	325	eP	P	03 31 36.4 +4.1
L25A	Engebretsen Ra	83.25	338	⇓P	P	03 31 32.5 +0.2
	baz=84					
OBSV	Observatory	83.29	118	eP	P	03 31 32.7 -0.5
OBSV				AMB	AMB	03 31 46.6
	comp=Z,36nm,3.7s					
ERPM	east rand prop	83.31	118	eP	P	03 31 33.4 +0.1
ERPM				AMB	AMB	03 31 34.8
	comp=Z,43nm,1.7s					
ERPM	east rand prop	83.31	118	P	P	03 31 33.4 +0.1
	comp=Z,43nm,1.7s					
J29A	Okreek	83.35	341	⇓P	P	03 31 33.3 +0.7
	baz=84					
SPMN	Marine on St.	83.36	346	⇑P	P	03 31 32.9 +0.3
	baz=84					
M22A	Cedar Creek Ra	83.41	336	⇑P	P	03 31 33.9 +0.6
	baz=84					
L24A	Wheatland	83.44	337	⇓P	P	03 31 34.0 +0.7
	baz=84					
N20A	Spence Gulch,	83.47	334	⇑P	P	03 31 34.6 +1.0
	baz=84,SNR=6.3					
K26A	Motz Farm, Whi	83.51	338	⇓P	P	03 31 34.6 +1.0
	baz=84					
I30A	Oacoma	83.59	341	⇑P	P	03 31 34.4 +0.6
	baz=84					
J28A	Allard Ranch,	83.62	340	⇑P	P	03 31 35.0 +1.0
	baz=84					
K25A	Mack Ranch, Ha	83.63	338	⇓P	P	03 31 35.3 +1.1
	baz=84					
J27A	Elkhorn Farm,	83.67	339	⇓P	P	03 31 35.5 +1.2
	baz=84					
VES	Vestal, Richgr	83.67	324	⇓P	P	03 31 35.8 +1.4
	baz=84					
SMMC	Simmler	83.68	323	⇑P	P	03 31 36.9 +2.3
	baz=84					
SLR	Silverton	83.71	117	eP	P	03 31 34.8 -0.5
SLR				AMB	AMB	03 31 45.0
	comp=Z,61nm,6.3s					
SLR				AMS	AMS	03 43 25.0
	comp=Z,604nm,6.1s					
SLR	Silverton	83.71	117	P	P	03 31 34.8 -0.5
SLR				pmax	pmax	
	comp=Z,61nm,6.3s					
SLR	Silverton	83.71	117	P	P	03 31 34.8 -0.5
	comp=Z,61nm,6.3s					
L23A	Garrett	83.75	336	⇑P	P	03 31 36.0 +1.0
	baz=84					
L22A	Ellis Ranch, M	83.92	336	⇓P	P	03 31 36.9 +1.1
	baz=84					
BRSD	Miller	83.97	342	⇓P	P	03 31 37.0 +1.2
	baz=84					
BRSD	Miller	83.97	342	eP	P	03 31 34.7 -1.1
	comp=Z,28nm,0.8s					
MPU	Maple Canyon	83.99	331	eP	P	03 31 37.1 +0.9
K24A	Anderson Ranch	84.02	337	⇓P	P	03 31 37.1 +0.9
	baz=84					
J26A	Sides Ranch, S	84.04	339	⇓P	P	03 31 37.4 +1.2
	baz=84					
NLU	North Lily Min	84.11	331	eP	P	03 31 32.4 -4.5
I28A	Midland	84.13	340	⇓P	P	03 31 37.1 +0.4
	baz=84,SNR=6.3					
R11A	Troy Canyon, C	84.18	328	⇑P	P	03 31 39.0 +1.8
	baz=84					
DAU	Daniels Canyon	84.19	332	eP	P	03 31 36.1 -1.3
DAU	Daniels Canyon	84.19	332	eP	P	03 31 36.1 -1.3
K23A	Bowen Ranch, D	84.31	337	⇓P	P	03 31 38.7 +1.0
	baz=85,SNR=8.0					
J25A	Sunshine Ranch	84.32	338	⇓P	P	03 31 38.2 +0.5
	baz=85					
JLU	Jordanelle	84.43	332	eP	P	03 31 38.8 +0.3
	comp=Z,11nm,0.9s					
I27A	Quinn	84.44	340	⇓P	P	03 31 38.8 +0.6
	baz=85					
H29A	Onida	84.46	341	⇑P	P	03 31 39.2 +1.0
	baz=85					
K22A	Casper	84.50	336	⇓P	P	03 31 39.6 +0.9
	baz=85,SNR=7.5					
K22A	Casper	84.50	336	eP	P	03 31 39.1 +0.4
	comp=Z,51nm,1.5s					
J24A	Dixon Ranch, L	84.53	338	⇑P	P	03 31 39.4 +0.7
	baz=85,SNR=6.6					
DUG	Dugway, Tooele	84.61	331	eP	P	03 31 40.3 +1.0
DUG				pmax	pmax	
	comp=Z,16nm,1.0s					
DUG	Dugway, Tooele	84.61	331	⇓P	P	03 31 40.7 +1.4
	baz=85					
DUG	Dugway, Tooele	84.61	331	eP	P	03 31 40.3 +1.0
	comp=Z,16nm,1.0s					
CTU	Camp Tracy	84.62	332	eP	P	03 31 40.2 +0.9
I26A	New Underwood	84.63	339	⇓P	P	03 31 40.4 +1.2
	baz=85					
G30A	Faulkton	84.66	342	⇑P	P	03 31 39.2 0.0
	baz=85					
TPH	Tonopah	84.66	327	eP	P	03 31 40.5 +0.8
TPH				pmax	pmax	
	comp=Z,27nm,1.2s					
TPH	Tonopah	84.66	327	eP	P	03 31 40.5 +0.8
	comp=Z,27nm,1.2s					
H28A	Mission Ridge	84.72	341	⇑P	P	03 31 40.1 +0.5
	baz=85					
K21A	Alcova	84.72	336	⇓P	P	03 31 40.2 +0.3
	baz=85,SNR=10.0					
TCUT	Toone Canyon	84.86	332	eP	P	03 31 40.4 -0.2
	comp=Z,22nm,1.0s					
I25A	Rochford	84.88	339	⇑P	P	03 31 41.3 +0.7
	baz=85,SNR=7.0					
G29A	Hoven	84.91	342	⇑P	P	03 31 41.1 +0.5
	baz=85					

H27A	Howes	84.97	340	⇓P	P	03 31 40.6	-0.2
	baz=85,SNR=6.7						
I24A	Kuemmerle Ranc	85.00	338	⇓P	P	03 31 41.5	+0.4
	baz=85						
MLAC	Mammoth, Mammo	85.02	325	⇓P	P	03 31 43.9	+2.4
	baz=85						
RSSD	Black Hills	85.06	338	eP	P	03 31 40.9	-0.7
RSSD				pmax	pmax		
	comp=Z,16nm,1.0s						
RSSD	Black Hills	85.06	338	eP	P	03 31 40.9	-0.7
	comp=Z,16nm,1.0s						
G28A	Parade	85.06	341	⇑P	P	03 31 41.3	0.0
	baz=86,SNR=5.6						
J22A	Midwest	85.17	336	⇓P	P	03 31 41.7	-0.4
	baz=86,SNR=7.9						
HWUT	Hardware Ranch	85.34	332	eP	P	03 31 42.8	-0.2
H25A	Fruitdale	85.39	339	⇓P	P	03 31 43.5	+0.5
	baz=86,SNR=8.5						
SPUT	South Promonto	85.42	332	eP	P	03 31 43.7	+0.3
	comp=Z,17nm,1.1s						
J21A	Lysite	85.42	336	⇓P	P	03 31 43.8	+0.5
	baz=86						
NVAR	Mina Array Bea	85.43	326	P	P	03 31 44.6	+1.1
	comp=Z,1.8nm,0.7s,baz=162,slow=5.1,SNR=6.5						
F29A	Eureka	85.49	342	⇑P	P	03 31 43.5	+0.1
	baz=86						
I22A	9 Mile Ranch,	85.60	337	⇑P	P	03 31 44.5	+0.3
	baz=86,SNR=7.8						
G27A	Dupree	85.61	340	⇑P	P	03 31 44.2	+0.2
	baz=86,SNR=5.3						
PDAR	Pinedale Array	85.63	334	P	P	03 31 44.2	-0.2
	comp=Z,4.0nm,1.0s,baz=147,slow=4.2,SNR=13						
J20A	Shoshoni	85.64	335	⇑P	P	03 31 44.5	+0.1
	baz=86,SNR=9.2						
G26A	Maurine	85.72	340	⇑P	P	03 31 44.5	-0.1
	baz=86,SNR=9.2						
F28A	McLaughlin	85.75	341	⇓P	P	03 31 45.0	+0.3
	baz=86,SNR=7.0						
H24A	Dirks Ranch, A	85.78	338	⇓P	P	03 31 44.4	-0.5
	baz=86,SNR=9.7						
I21A	Big Trails, Te	85.79	336	⇓P	P	03 31 45.1	-0.1
	baz=86,SNR=8.5						
G25A	Newell	85.86	339	⇓P	P	03 31 45.6	+0.3
	baz=86,SNR=14						
H23A	Clabaugh Cattl	85.87	338	⇑P	P	03 31 46.2	+0.8
	baz=86						
E30A	Jud	85.89	343	⇓P	P	03 31 45.9	+0.5
	baz=86						
J19A	Crowheart	85.89	335	⇑P	P	03 31 46.1	+0.5
	baz=86						
HVU	Hansel Valley	85.95	332	eP	P	03 31 46.0	0.0
HVU				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HVU	Hansel Valley	85.95	332	eP	P	03 31 46.0	0.0
	comp=Z,10nm,0.8s						
F27A	Lemmon	86.09	340	⇓P	P	03 31 46.0	-0.4
	baz=86,SNR=21						
E29A	Napoleon	86.13	342	⇓P	P	03 31 46.3	-0.3
	baz=86						
TORD	Torodi Ar. Bea	86.16	71	P	P	03 31 46.7	-0.8
	comp=Z,28nm,1.1s,baz=238,slow=4.5,SNR=30						
TORD				PP	PP	03 35 11.7	+3.3
	comp=Z,4.3nm,1.1s,baz=231,slow=8.1,SNR=4.0						
TORD				LR	LR	04 09 21.3	
	comp=Z,1µm,18.1s,baz=240,slow=35						
I20A	Worland	86.19	336	⇓P	P	03 31 47.4	+0.3
	baz=87,SNR=12						
H22A	Clearmont	86.19	337	⇓P	P	03 31 46.8	-0.2
	baz=87						
F26A	Lodgepole	86.25	340	⇑P	P	03 31 47.0	-0.2
	baz=87,SNR=7.9						
G24A	Alzada	86.27	339	⇑P	P	03 31 47.4	0.0
	baz=87,SNR=5.8						
E28A	Huff	86.40	342	⇑P	P	03 31 48.3	+0.4
	baz=87						
D30A	Buchanan	86.42	343	⇓P	P	03 31 47.9	0.0
	baz=87,SNR=8.2						
H21A	Big Horn, Sher	86.44	337	⇓P	P	03 31 48.2	0.0
	baz=87						
G23A	Biddle	86.44	338	⇑P	P	03 31 48.6	+0.4
	baz=87,SNR=5.8						
E27A	Carson	86.49	341	⇑P	P	03 31 48.6	+0.3
	baz=87						
F25A	Bowman	86.54	340	⇑P	P	03 31 48.7	0.0
	baz=87,SNR=8.8						
I19A	Meeteetse	86.56	335	⇓P	P	03 31 49.3	+0.3
	baz=87						
D29A	Pettibone, Tap	86.58	342	⇓P	P	03 31 48.9	+0.2
	baz=87,SNR=5.3						
REDW	Red Top Meadow	86.61	334	eP	P	03 31 49.5	+0.2
H20A	Greybull	86.62	336	⇓P	P	03 31 49.0	-0.1
	baz=87,SNR=5.5						
MSKU	Masuku	86.63	90	P	P	03 31 49.4	-0.5
	comp=Z,20nm,0.9s,baz=260,slow=6.5,SNR=10						
G22A	Birney	86.73	337	⇓P	P	03 31 49.7	0.0
	baz=87						
LOHW	Long Hollow	86.74	334	eP	P	03 31 50.0	+0.1
F24A	Ekalaka	86.75	339	⇓P	P	03 31 49.6	-0.1
	baz=87,SNR=12						
E26A	Carlson Angus	86.76	340	⇓P	P	03 31 49.6	-0.1
	baz=87,SNR=12						
AGMN	Agassiz Nation	86.91	345	⇓P	P	03 31 49.7	-0.6
	baz=87,SNR=8.1						
AGMN	Agassiz Nation	86.91	345	eP	P	03 31 49.6	-0.6
	comp=Z,12nm,0.9s						
C30A	Mose, Pekin	86.91	343	⇓P	P	03 31 50.4	+0.1
	baz=87,SNR=18						
F23A	Volborg	86.92	338	⇑P	P	03 31 50.5	0.0
	baz=87,SNR=9.1						
D28A	Regan	86.94	342	⇑P	P	03 31 50.5	-0.1
	baz=87,SNR=11						
I17A	Pilgrim Ck.	87.00	334	⇓P	P	03 31 51.2	+0.1
	baz=87						
G21A	Lodge Grass	87.03	337	⇑P	P	03 31 51.6	+0.5
	baz=87						
MSNA	Messina	87.04	116	eP	P	03 31 50.7	-1.1
MSNA				AMB	AMB	03 31 51.3	
	comp=Z,34nm,3.2s						
MSNA	Messina	87.04	116	P	P	03 31 50.7	-1.1
	comp=Z,34nm,3.2s						
E25A	Miller Ranch,	87.05	340	⇓P	P	03 31 51.9	+0.8
	baz=87,SNR=10						
D27A	Center	87.10	341	⇓P	P	03 31 51.9	+0.6
	baz=88						
H19A	Powell	87.11	335	⇓P	P	03 31 52.1	+0.5
	baz=88						
F22A	Rosebud	87.23	338	⇑P	P	03 31 52.0	0.0
	baz=88						
D26A	Manning	87.27	341	⇑P	P	03 31 52.4	+0.3
	baz=88,SNR=18						
MDND	Maddock	87.31	343	⇑P	P	03 31 52.7	+0.4
	baz=88						
G20A	Bridger	87.34	336	⇓P	P	03 31 52.7	0.0
	baz=88						
H18A	Shoshone NF, C	87.35	335	⇑P	P	03 31 52.6	-0.2
	baz=88						
E24A	Baker	87.36	339	⇓P	P	03 31 53.2	+0.6
	baz=88,SNR=7.9						
C28A	Hausauer Farms	87.38	342	⇑P	P	03 31 52.6	-0.1
	baz=88						
H17A	Grant Village	87.41	334	⇓P	P	03 31 53.4	+0.2
	baz=88						
F21A	Absaloka Mine,	87.53	337	⇑P	P	03 31 53.7	+0.2
	baz=88						
B30A	Myrvik Farm, E	87.58	344	⇓P	P	03 31 53.2	-0.4
	baz=88,SNR=23						
E23A	Ismay	87.59	339	⇓P	P	03 31 53.5	-0.2
	baz=88						
D25A	Fairfield	87.62	340	⇓P	P	03 31 54.3	+0.4
	baz=88,SNR=8.4						
C27A	Sayler Ranch,	87.66	341	⇓P	P	03 31 54.1	+0.1
	baz=88,SNR=13						
E22A	Miles City	87.73	338	⇓P	P	03 31 54.9	+0.6
	baz=88						
B29A	Wagenman Farm,	87.83	343	⇑P	P	03 31 54.6	-0.2
	baz=88,SNR=12						
F20A	Billings	87.84	336	⇓P	P	03 31 55.4	+0.4
	baz=88						
D24A	Glendive	87.87	339	⇓P	P	03 31 55.5	+0.5
	baz=88						
C26A	Wahner Farm, P	87.92	341	⇓P	P	03 31 55.5	+0.2
	baz=88,SNR=7.7						
LAO	LASA Array	88.04	338	eP	P	03 31 55.0	-0.9
	comp=Z,7.5nm,0.9s						
A30A	Hoffart Farm,	88.04	344	⇓P	P	03 31 55.5	-0.2
	baz=88,SNR=8.6						
B28A	Dugan Ranch, T	88.06	342	⇓P	P	03 31 56.3	+0.5
	baz=88,SNR=11						
QLMT	Earthquake Lak	88.09	334	eP	P	03 31 56.9	+0.6
HLID	Hailey	88.10	332	⇓P	P	03 31 56.5	+0.1
	baz=88						
C25A	Freed Ranch, W	88.12	340	⇑P	P	03 31 56.2	0.0
	baz=88						
F19A	Roth Farm, Mol	88.14	336	⇓P	P	03 31 56.7	+0.3
	baz=88						
E21A	Keefer Ranch,	88.16	337	⇓P	P	03 31 56.3	-0.1
	baz=89						
D23A	Lindsay	88.17	339	⇑P	P	03 31 56.6	+0.1
	baz=89,SNR=8.1						
A29A	Manning Farm,	88.23	343	⇑P	P	03 31 56.2	-0.4
	baz=89,SNR=20						
B27A	Peters Farms,	88.24	342	⇑P	P	03 31 57.0	+0.3
	baz=89						
C24A	Savage	88.28	340	⇓P	P	03 31 57.3	+0.3
	baz=89,SNR=9.8						
D22A	Cohagen	88.44	338	⇑P	P	03 31 57.5	-0.2
	baz=89						
E20A	Meyer Farm, Mu	88.46	337	⇑P	P	03 31 58.0	+0.1
	baz=89						
B26A	Jensen Ranch,	88.46	341	⇓P	P	03 31 57.9	+0.1
	baz=89						
A28A	Rude Farm, Bot	88.46	343	⇑P	P	03 31 57.3	-0.4
	baz=89						
MCMT	McKenzie Canyo	88.60	333	eP	P	03 31 59.4	+0.6
B25A	Knox Farm, Ray	88.61	341	⇑P	P	03 31 58.6	+0.1
	baz=89,SNR=5.2						
D21A	La Casta Ranch	88.61	338	⇓P	P	03 31 58.9	+0.3
	baz=89						
E19A	Rath Farm, Rou	88.63	336	⇓P	P	03 31 59.1	+0.4
	baz=89						
C23A	Lambert	88.74	339	⇓P	P	03 31 59.6	+0.5
	baz=89						
A27A	Ledoux Ranch,	88.74	342	⇑P	P	03 31 59.3	+0.3
	baz=89						
ULM	Lac du Bonnet	88.77	346	P	P	03 31 58.2	-0.9
	comp=Z,7.7nm,0.9s,baz=149,slow=4.8,SNR=7.1						
C22A	Vida	88.89	339	⇓P	P	03 32 00.2	+0.3
	baz=89						
A26A	Wade Farm, Ken	88.89	342	⇓P	P	03 32 00.1	+0.4
	baz=89						
D20A	Manuel Ranch,	88.98	337	⇓P	P	03 32 00.2	-0.1
	baz=89						
A25A	Svangstu Ranch	89.21	341	⇑P	P	03 32 01.7	+0.5
	baz=90						
D19A	Cripps Ranch,	89.28	337	⇑P	P	03 32 01.5	-0.2
	baz=90						
B23A	Brockton	89.28	340	⇓P	P	03 32 01.6	-0.1
	baz=90						
C21A	Desert Coulee	89.32	338	⇓P	P	03 32 02.2	+0.3
	baz=90						
B22A	Reddig Ranch S	89.42	339	⇑P	P	03 32 02.1	-0.2
	baz=90						
A24A	Westby	89.43	340	⇑P	P	03 32 01.8	-0.5
	baz=90						
N02D	Trinity Center	89.48	325	⇓P	P	03 32 03.1	+0.3
	baz=90						
C20A	Veseth Ranch,	89.50	337	⇑P	P	03 32 02.2	-0.4
	baz=90						
A23A	Redstone	89.70	340	⇑P	P	03 32 04.5	+0.9
	baz=90						
M04C	Macdoel	89.73	326	⇑P	P	03 32 04.7	+0.7
	baz=90						
B21A	Ellsworth Farm	89.83	338	⇑P	P	03 32 04.3	0.0
	baz=90						
C19A	Slack Wire Ran	89.84	337	⇑P	P	03 32 04.4	+0.1
	baz=90						
M02C	Callahan	89.88	325	⇓P	P	03 32 04.3	-0.4
	baz=90						
A22A	Carney Farms,	90.02	339	⇓P	P	03 32 04.5	-0.7
	baz=90						
LSZ	Lusaka	90.03	109	P	P	03 32 07.3	+1.1
	comp=Z,9.3nm,0.9s,baz=98,slow=2.4,SNR=13						
B20A	Solberg Farm,	90.15	338	⇓P	P	03 32 05.4	-0.3
	baz=90						
A21A	Bergtoll Ranch	90.31	339	⇓P	P	03 32 06.1	-0.3
	baz=91						
EGMT	Eagleton	90.32	337	⇓P	P	03 32 06.3	-0.3
	baz=91						
K04D	Chiloquin, OR	90.37	327	⇓P	P	03 32 07.1	+0.1
	baz=91						
B19A	Brinkman Farms	90.44	337	⇓P	P	03 32 07.3	+0.2
	baz=91						
A20A	Cobblestone Ra	90.51	338	⇓P	P	03 32 07.6	+0.2
	baz=91						
J05D	Fort Rock, OR	90.67	327	⇑P	P	03 32 08.6	+0.2
	baz=91						
MSO	Missoula	90.71	334	⇓P	P	03 32 08.4	-0.1
	baz=91						
A19A	Klindworth Far	90.80	338	⇑P	P	03 32 09.0	+0.2
	baz=91						
L02D	Cave Junction,	90.83	325	⇑P	P	03 32 09.3	+0.3
	baz=91						
J04D	Umpqua Nationa	91.02	327	⇑P	P	03 32 10.3	+0.2
	baz=91						
I05D	Terrebonne, OR	91.56	328	⇑P	P	03 32 12.4	0.0
	baz=92						
I04A	Tendick Farm,	91.59	327	⇑P	P	03 32 12.5	0.0
	baz=92						
MDT	Midelt	94.34	52	P	P	03 32 25.7	+0.1
	comp=Z,6.3nm,1.0s,baz=209,slow=7.8,SNR=5.6						
TAM	Tamanrasset	94.96	65	eP	P	03 32 28.4	-0.4
TAM				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TAM	Tamanrasset	94.96	65	eP	P	03 32 28.4	-0.4
	comp=Z,7.6nm,1.4s						
EDM	Edmonton	95.97	337	eP	P	03 32 29.8	-2.7
EDM	Edmonton	95.97	337	eP	P	03 32 29.8	-2.7
FCC	Fort Churchill	96.61	349	eP	P	03 32 35.2	+0.1
FCC	Fort Churchill	96.61	349	eP	P	03 32 35.1	+0.1
	comp=Z,0.1nm,0.9s						
ESDC	Sonseca Array	99.21	47	P	Pdif	03 32 47.0	-0.4
	comp=Z,1.1nm,0.8s,baz=247,slow=4.3,SNR=5.8						
YKA	Yellowknife Ar	104.20	342	Pdiff	Pdif	03 33 09.1	+0.2
	comp=Z,0.2nm,0.8s,baz=135,slow=3.6,SNR=3.4						
YKA				PP	PP	03 37 33.5	+5.7
	comp=Z,0.7nm,1.0s,baz=137,slow=7.8,SNR=5.1						
YKA				PKKP	PKKPbc	03 49 04.3	+5.9
	comp=Z,0.3nm,0.9s,baz=311,slow=3.1,SNR=4.0						
ASAR	Alice Springs	114.70	208	PKKPbc	PKKPbc	03 48 29.4	+5.8
	comp=Z,2.0nm,1.1s,baz=351,slow=3.3,SNR=6.1						
GERES	GERESS Array B	114.80	47	PKP	PKPdf	03 37 45.0	-1.0
	comp=Z,1.2nm,0.7s,baz=188,slow=5.4,SNR=5.0						
CLL	Collm	115.54	44	ePKiKP	PKPdf	03 37 47.0	-0.2
CLL				LmV		04 21 00.0	
	comp=Z,800nm,21.4s						
CLL				LmH		04 24 00.0	
	comp=N,300nm,21.4s						
CLL				LmH		04 24 00.0	
	comp=E,600nm,20.4s						
CLL				LmH		04 24 00.0	
	comp=Z,700nm,21.0s						
ILAR	Eielson Array	116.03	333	PKP	PKPdf	03 37 49.8	+2.0
	comp=Z,0.3nm,0.8s,baz=116,slow=0.8,SNR=3.5						
ILAR				PKKPbc	PKKPbc	03 48 21.1	+1.3
	comp=Z,0.5nm,1.0s,baz=284,slow=2.8,SNR=4.3						
VRAC	Vranov	116.70	47	PKP	PKPdf	03 37 49.6	0.0
	comp=Z,1.4nm,0.7s,baz=321,slow=15,SNR=3.4						
MORC	Moravsky Berou	117.47	47	⇓PKIKP	PKPdf	03 37 50.9	-0.2
MORC	Moravsky Berou	117.47	47	⇓iP	PKPdf	03 37 50.8	-0.3
MORC	Moravsky Berou	117.47	47	ePKPdf	PKPdf	03 37 50.1	-1.0
VYHS	Vyhne	117.69	49	ePKIKP	PKPdf	03 37 51.0	-0.5
VYHS				e		03 37 58.2	
VYHS	Vyhne	117.69	49	ePKP	PKPdf	03 37 51.0	-0.5
VYHS				e		03 37 58.2	
WRAB	Tennant Creek	117.91	210	ePKIKP	PKPdf	03 37 53.2	+0.2
WRAB	Tennant Creek	117.91	210	ePKPdf	PKPdf	03 37 53.2	+0.2
BZS	Buzias	118.22	53	⇑PKIKP	PKPdf	03 37 50.4	-2.2
BZS	Buzias	118.22	53	⇑iP	PKPdf	03 37 50.4	-2.2
COEN	Coen	118.98	221	ePKPdf	PKPdf	03 37 56.1	+1.0
DRGR		119.39	52	⇓PKIKP	PKPdf	03 37 53.9	-1.0
DRGR		119.39	52	⇓iP	PKPdf	03 37 53.9	-1.0
UZH	Uzhgorod	119.85	50	ePKIKP	PKPdf	03 37 52.3	-3.3
UZH				e		03 38 00.9	
KOLS	Kolonicke sedl	119.95	49	ePKIKP	PKPdf	03 37 54.5	-1.4
KOLS				e		03 38 03.7	
KOLS	Kolonicke sedl	119.95	49	ePKP	PKPdf	03 37 54.5	-1.4
KOLS				e		03 38 03.7	
KWP	Kalwaria Pacla	120.48	49	ePKIKP	PKPdf	03 37 56.7	-0.2
KWP	Kalwaria Pacla	120.48	49	ePKP	PKPdf	03 37 56.6	-0.3
KWP	Kalwaria Pacla	120.48	49	ePKPdf	PKPdf	03 37 56.4	-0.5
EIL	Elat	120.88	74	PKP	PKPdf	03 37 57.9	-0.3
	comp=Z,3.7nm,0.9s,baz=35,slow=10,SNR=4.7						
BURAR	Bucovina Array	121.28	52	⇑iP	PKPdf	03 37 57.9	-0.7
SUW	Suwalki	122.30	44	ePKIKP	PKPdf	03 37 59.6	-0.6
SUW				e		03 38 07.4	
SUW	Suwalki	122.30	44	ePKP	PKPdf	03 37 59.5	-0.6
SUW				e		03 38 07.4	
SUW	Suwalki	122.30	44	ePKPdf	PKPdf	03 37 59.1	-1.0
MMAI	Mount Meron Ar	122.70	71	PKP	PKPdf	03 38 01.3	-0.5
	comp=Z,5.5nm,1.0s,baz=26,slow=3.7,SNR=6.5						
ASF	Jabal al Asfar	123.48	72	PP	PP	03 39 44.0	-1.4
	comp=Z,0.9nm,0.5s,baz=287,slow=3.2,SNR=3.9						
BRTR	Keskin Array B	124.07	63	PKIKP	PKPdf	03 38 03.0	-1.3
BRTR	Keskin Array B	124.07	63	PKP	PKPdf	03 38 03.0	-1.3
	comp=Z,2.7nm,0.9s,baz=196,slow=3.6,SNR=13						
TNA	Tin City	124.52	330	ePKPdf	PKPdf	03 38 05.0	+0.9
NACGM	Naroch	124.57	44	e	PKPdf	03 38 10.0	+5.5
H11S2	WAKE ISLAND Hyl	124.58	268	T	T	05 55 08.6	
	baz=118						
H11S1	WAKE ISLAND Hyl	124.59	268	T	T	05 55 11.4	
	baz=118						
H11S3	WAKE ISLAND Hyl	124.60	268	T	T	05 55 09.2	
	baz=118						
KIEV	Kiev	124.78	49	⇓ePKIKP	PKPdf	03 38 03.7	-1.3
KIEV	Kiev	124.78	49	ePKPdf	PKPdf	03 38 03.3	-1.7
AKASG	Malin Array Be	124.79	49	PKP	PKPdf	03 38 03.2	-1.8
	comp=Z,0.8nm,0.5s,baz=272,slow=2.1,SNR=6.7						
AKASG				PP	PP	03 39 48.6	-5.0
	comp=Z,0.2nm,0.3s,baz=253,slow=7.9,SNR=6.1						
H11N3	WAKE ISLAND Hyl	125.06	269	T	T	05 55 45.4	
	baz=122						
H11N1	WAKE ISLAND Hyl	125.07	269	T	T	05 55 31.4	
	baz=122						
H11N2	WAKE ISLAND Hyl	125.08	269	T	T	05 55 45.4	
	baz=122						
VSU	Vasula	125.45	39	⇑ePKIKP	PKPdf	03 38 05.7	-0.4
FINES	FINESS Array B	125.80	36	PKP	PKPdf	03 38 06.2	-0.5
	comp=Z,2.2nm,0.9s,baz=307,slow=8.0,SNR=3.3						
RAYN	Ar Rayn	126.36	86	ePKPdf	PKPdf	03 38 08.7	-0.4
ARCES	ARCESS Array B	126.88	26	PKP	PKPdf	03 38 09.5	+0.9
	comp=Z,3.0nm,0.8s,baz=278,slow=2.6,SNR=3.0						
VSR	Storozhevoye	131.02	50	⇑ePKIKP	PKPdf	03 38 17.0	+0.1
TMCR	Tamitsa	131.53	33	ePKIKP	PKPdf	03 38 25.2	+7.7
TMCR				pmax	pmax		
	comp=Z,23nm,1.1s						
KIV	Kislovodsk	131.81	60	ePKIKP	PKPdf	03 38 18.1	-0.7
KIV	Kislovodsk	131.81	60	ePKPdf	PKPdf	03 38 18.1	-0.7
KLMR	Klimovskoe	132.19	37	ePKIKP	PKPdf	03 38 14.1	-4.7
KLMR				pmax	pmax		
	comp=Z,33nm,1.4s						
IHRS	Heris	133.44	69	eP	PKPdf	03 38 18.8	-3.5
BILL	Bilibino	134.69	333	ePKIKP	PKPdf	03 38 24.2	+0.8
BILL				e		03 40 57.9	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.9s						
BILL	Bilibino	134.69	333	ePKPdf	PKPdf	03 38 24.0	+0.6
PRGR	Permogore	135.12	36	ePKIKP	PKPdf	03 38 22.7	-1.6
IPAR	Pars	135.20	83	eP	PKPdf	03 38 22.8	-3.1
IZEF	Zefreh	135.77	78	eP	PKPdf	03 38 22.1	-4.7
KAPI	Kappang	136.76	199	ePKPdf	PKPdf	03 38 29.8	+0.9
ITEG	Tejag	140.84	81	eP	PKPdf	03 38 28.5	-7.5
IKOO	Kooshah	140.89	82	eP	PKPdf	03 38 26.5	-10
PETK	Petropavlovsk-	141.13	312	PKhKP	PKPpre	03 38 32.7	
	comp=Z,1.1nm,0.3s,baz=118,slow=8.6,SNR=3.7						
ISFR	Sfrayin	141.46	74	eP	PKPdf	03 38 28.2	-9.0
SEY	Seymchan	141.72	328	PKP	PKPdf	03 38 37.4	+1.0
	comp=Z,2.8nm,0.7s,baz=98,slow=8.8,SNR=3.7						
GEYT	Alibeck	141.76	73	PKhKP	PKPpre	03 38 31.2	
	comp=Z,5.7nm,0.8s,baz=256,slow=6.0,SNR=8.1						
IPAY	Payeh	142.08	76	eP	PKPdf	03 38 37.7	-0.5
PALK	Pallekele	142.43	135	ePKIKP	PKPdf	03 38 40.5	+1.2
PALK	Pallekele	142.43	135	ePKPdf	PKPdf	03 38 40.5	+1.2
ARU	Arti	142.46	43	i PKIKP	PKPdf	03 38 48.2	+10
ARU						03 41 48.8	
ARU				SS	SS	04 00 13.8	-6.1
ARU				MLR	MLR		
	comp=Z,622nm,21.0s						
ARU	Arti	142.46	43	ePKPdf	PKPdf	03 38 39.4	+1.5
AKTO	Aktyubinsk	142.87	53	PKhKP	PKPpre	03 38 34.0	
	comp=Z,3.9nm,1.0s,baz=286,slow=3.5,SNR=5.2						
AKTO				PP	PP	03 41 47.5	-1.2
	comp=Z,4.3nm,1.0s,baz=249,slow=5.7,SNR=3.5						
IMYA	Miami	142.92	76	eP	PKPdf	03 38 34.9	-4.8
TIXI	Tiksi	143.07	348	ePKHKP	PKPpre	03 38 32.9	
TIXI				e		03 38 39.2	
TIXI	Tiksi	143.07	348	ePKPpre	PKPpre	03 38 32.9	
TIXI				ePKPdf	PKPdf	03 38 39.2	+0.7
SVE	Sverdlovsk	143.50	42	ePKIKP	PKPbc	03 38 37.7	+0.6
AB31	Akbulak array	144.17	54	i PKIKP	PKPab	03 38 38.5	-0.4
AB31				pmax	pmax		
	comp=Z,16nm,0.8s						
ABKAR	Akbulak array	144.17	54	ePKPdf	PKPab	03 38 38.5	-0.4
KSM	Kuching	144.83	186	ePKPdf	PKPab	03 38 42.3	-0.1
PSI	Prapat	145.59	166	PKPbc	PKPdf	03 38 44.1	-0.8
	comp=Z,39nm,0.9s,baz=168,slow=4.1,SNR=19						
POO	Poona	146.06	113	⇓iP	PKPdf	03 38 45.0	-0.4
	comp=Z,5.0nm,1.5s						
IPM	Ipoh	147.58	170	ePKPdf	PKPdf	03 38 47.6	-0.5
IPM				ePKPbc	PKPbc	03 38 50.1	-0.7
KKM	Kota Kinabalu	148.29	198	ePKPbc	PKPdf	03 38 51.7	+2.3
KULM	Kulim	148.32	169	ePKPbc	PKPbc	03 38 52.3	-0.4
HYB	Hyderabad	148.71	120	⇑iPKP	PKPdf	03 38 52.5	+2.6
	comp=Z,75nm,1.0s						
KBL	Kabul	149.52

KSH				PKS	**PKSdf**	**03 42 33.9**	**0.0**
KSH				PP	**PP**	**03 43 01.8**	**-2.5**
KSH				PPMZ			
	comp=E,260nm,4.4s						
KSH				LN			
	comp=E,95nm,5.4s						
KSH				LE			
	comp=E,46nm,4.9s						
KSH				LZ			
	comp=E,140nm,5.1s						
ZALV	**Zalesovo Beam**	**157.05**	**34**	PKP	**PKPdf**	**03 38 59.9**	**-0.9**
	comp=E,8.1nm,0.9s,baz=270,slow=3.0,SNR=13						
ZALV				PKPab	**PKPab**	**03 39 31.1**	**-0.2**
	comp=E,10nm,0.9s,baz=298,slow=6.2,SNR=7.6						
BOD	**Bodaibo**	**158.25**	**349**	*e*PKIKP	**PKPdf**	**03 39 06.6**	**+4.4**
BOD				*e*		03 39 32.4	
BOD				pmax	pmax		
	comp=Z,11nm,1.1s						
MKAR	**Makanchi Array**	**159.30**	**53**	PKP	**PKPdf**	**03 39 03.1**	**-0.8**
	comp=Z,4.2nm,0.9s,baz=302,slow=2.7,SNR=10.0						
MKAR				PKPab	**PKPab**	**03 39 41.0**	**-0.4**
	comp=Z,7.0nm,0.8s,baz=270,slow=2.4,SNR=8.0						
MKAR				PP	**PP**	**03 43 22.3**	**-0.7**
	comp=Z,4.4nm,0.9s,baz=287,slow=4.7,SNR=7.6						
CMAR	**Chiang Mai Arr**	**160.67**	**158**	PKP	**PKPdf**	**03 39 05.2**	**-1.0**
	comp=Z,1.9nm,0.3s,baz=246,slow=3.1,SNR=4.1						
TPUB	**Ta-pu**	**162.00**	**226**	*e*PKPab	**PKPab**	**03 39 55.3**	**+1.5**
QIZ	**Qiongzhong**	**162.22**	**190**	PKP	**PKPdf**	**03 39 07.4**	**-0.4**
QIZ				LN			
	comp=Z,180nm,15.8s						
QIZ				LZ			
	comp=Z,370nm,20.5s						
WMQ	**Urumqi**	**163.91**	**58**	*e*PKP	**PKPdf**	**03 39 08.1**	**-0.7**
WMQ				pPKP	**pPKPdf**	**03 39 19.0**	**+1.1**
WMQ				PKPab	**PKPab**	**03 40 02.3**	**+0.6**
WMQ				PKS	**PKSdf**	**03 42 40.0**	**-1.7**
WMQ				PP	**PP**	**03 43 49.0**	**+1.2**
WMQ				SKS	**SKSdf**	**03 46 07.5**	**-3.9**
WMQ				PPMZ			
	comp=Z,150nm,6.0s						
WMQ				LN			
	comp=Z,430nm,21.0s						
WMQ				LE			
	comp=Z,280nm,21.0s						
WMQ				LZ			
	comp=Z,320nm,22.0s						
CN2	**Changchun**	**163.94**	**302**	*e*PKP	**PKPdf**	**03 39 09.5**	**+0.8**
KMI	**Kunming**	**168.05**	**163**	PKP	**PKPdf**	**03 39 11.3**	**-1.6**
SONM	**Songino Array**	**168.82**	**1**	PKP	**PKPdf**	**03 39 11.6**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=136,slow=2.0,SNR=5.4						
SONM				PKPab	**PKPab**	**03 40 22.8**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=336,slow=2.9,SNR=9.6						
NJ2	**Nanjing**	**168.87**	**249**	*e*PKP	**PKPdf**	**03 39 14.6**	**+1.7**
GYA	**Guiyang**	**169.84**	**180**	*e*PKP	**PKPdf**	**03 39 13.3**	**-0.6**
GYA				pPKP	**pPKPdf**	**03 39 25.8**	**+2.9**
GYA				PKPab	**PKPab**	**03 40 30.0**	**+1.8**
GYA				PKS	**PKSdf**	**03 42 44.4**	**-2.1**
GYA				PP	**PP**	**03 44 21.9**	**+4.8**
GYA				SKKS		03 51 03.0	
GYA				PPMZ			
	comp=Z,140nm,8.9s						
GYA				LN			
	comp=Z,140nm,24.8s						
GYA				LE			
	comp=Z,120nm,23.5s						
GYA				LZ			
	comp=Z,160nm,24.3s						
CD2	**Chengdu**	**173.81**	**157**	*e*PKP	**PKPdf**	**03 39 15.8**	**+0.3**
GTA	**Gaotai**	**173.99**	**61**	*e*PKP	**PKPdf**	**03 39 14.8**	**-0.6**
GTA				pPKP	**pPKPdf**	**03 39 25.4**	**+0.9**
GTA				sPKP		03 39 28.9	
GTA				PKPab	**PKPab**	**03 40 47.0**	**+0.4**
GTA				PP	**PP**	**03 44 38.8**	**-0.2**
GTA				SKS	**SKSdf**	**03 46 12.8**	**-3.9**
GTA				SKKS	**SKKSac**	**03 51 20.8**	**-2.6**
GTA				SS	SS	04 05 49.4	-6.9
GTA				PPMZ			
	comp=Z,410nm,4.5s						
GTA				LN			
	comp=Z,510nm,19.0s						
GTA				LE			
	comp=Z,730nm,19.9s						
GTA				LZ			
	comp=Z,410nm,20.9s						
HHC	**Hu-ho-hao-te**	**174.28**	**319**	*e*PKP	**PKPdf**	**03 39 14.8**	**-0.6**
HHC				pPKP	**pPKPdf**	**03 39 23.6**	**-0.9**
HHC				sPKP		03 39 29.1	
HHC				PKS	**PKSdf**	**03 42 46.9**	**-0.8**
HHC				PP	**PP**	**03 44 39.8**	**0.0**
HHC				SKS	**SKSdf**	**03 46 13.3**	**-3.4**
HHC				PPMZ			
	comp=Z,610nm,10.1s						
HHC				LN			
	comp=Z,200nm,22.4s						
HHC				LE			
	comp=Z,200nm,22.6s						
HHC				LZ			
	comp=Z,320nm,22.7s						
LZH	**Lanzhou**	**177.72**	**103**	*e*PKP	**PKPdf**	**03 39 16.0**	**-0.5**
LZH				pPKP	**pPKPdf**	**03 39 27.6**	**+2.1**
LZH				sPKP		03 39 31.6	
LZH				PP	**PP**	**03 44 58.4**	**+1.2**
LZH				*e*SKKS		03 51 37.5	
LZH				*e*SS	**SS**	**04 06 26.3**	**-6.3**
LZH				PPMZ			
	comp=Z,380nm,9.7s						
LZH				LN			
	comp=Z,450nm,18.9s						
LZH				LE			
	comp=Z,1μm,19.4s						
LZH				LZ			
	comp=Z,620nm,20.0s						

ROM 13 03:21:24.7±0.1, 42°73N×13°41E, h15km±1km, Md1.5/4, Ml1.1/3, Error ellipse: s-maj=1.3km s-min=0.5km az=48.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.11**	**210**	Pg	Pb	03 21 28.6	-0.1
SMA1				Sg	Sb	03 21 31.1	-0.3
	46nm,0.1s						
TERO	**Teramo**	**0.18**	**126**	Pg	Pg	03 21 29.3	+0.2
TERO				Sg	Sb	03 21 32.7	-0.4
	27nm,0.1s						
CAMP	**Campotosto**	**0.19**	**180**	Pg	Pg	03 21 29.6	+0.2
CAMP				Sg	Sg	03 21 33.1	+0.5
NRCA	**Norcia**	**0.24**	**296**	Pg	Pg	03 21 30.4	+0.2
NRCA				Sg	Sg	03 21 34.5	+0.6
	16nm,0.1s						

*IDC **13** 03:35:25.6±1.0, 36°32N×21°47E, h0km, mb3.8/11, mb1 3.7/15, mb1mx3.6/52, mbtmp3.7/15, ML3.3/4, Error ellipse: s-maj=21.3km s-min=18.1km az=32.0*
*CSEM **13** 03:35:27.9±0.3, 36°21N×21°45E, h2km, MD3.6, Error ellipse: s-maj=8.2km s-min=3.4km az=48.0*
*THE **13** 03:35:28.5, 36°18N×21°47E, h2km±2km, ML3.4/4, Error ellipse: s-maj=2.9km s-min=1.9km az=232.0*
*ATH **13** 03:35:29.0, 36°27N×21°53E, h25km±2km, MD3.6/34, ML3.2*

ISC 13 03:35:27.6±1.7, 36°18N±0°05×21°44E±0°05, h10km±10km, n203, σ1§15/202, mb3.8/11, 10C-5D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.76**	**19**	P	**Pg**	**03 35 41.3**	**-1.0**
PYL				S	**Sb**	**03 35 54.7**	**+1.3**
PYL	**PYLOS**	**0.76**	**19**	*e*PB	**Pg**	**03 35 41.3**	**-1.0**
PYL	**PYLOS**	**0.76**	**19**	P	**Pg**	**03 35 41.3**	**-1.0**
PYL				S	**Sb**	**03 35 54.7**	**+1.3**
ITM	**Ithomi**	**1.08**	**21**	P	**Pg**	**03 35 47.5**	**-0.8**
ITM	**Ithomi**	**1.08**	**21**	*e*PN	**Pg**	**03 35 47.7**	**-0.6**
ITM	**Ithomi**	**1.08**	**21**	P	**Pg**	**03 35 47.5**	**-0.8**
SFD	**Strofades**	**1.12**	**343**	*e*PN	**Pg**	**03 35 49.8**	**+0.6**
SFD	**Strofades**	**1.12**	**343**	*e*Pn	**Pg**	**03 35 49.8**	**+0.6**
KYTH	**Kithira**	**1.30**	**85**	P	**Pg**	**03 35 52.8**	**+0.2**
KYTH	**Kithira**	**1.30**	**85**	*e*PN	**Pg**	**03 35 52.5**	**-0.1**
KYTH	**Kithira**	**1.30**	**85**	*e*Pn	**Pg**	**03 35 52.5**	**-0.1**
KYTH	**Kithira**	**1.30**	**85**	P	**Pg**	**03 35 52.8**	**+0.2**
VLI	**Veliai**	**1.33**	**65**	P	**Pg**	**03 35 52.5**	**-0.6**
VLI				S	**Sg**	**03 36 10.4**	**+0.1**
VLI	**Veliai**	**1.33**	**65**	*e*PN	**Pg**	**03 35 52.5**	**-0.6**
VLI	**Veliai**	**1.33**	**65**	P	**Pg**	**03 35 52.5**	**-0.6**
VLI				S	**Sg**	**03 36 10.4**	**+0.1**
AMT	**Artemida-Makis**	**1.37**	**9**	P	**Pn**	**03 35 53.0**	**+0.1**
AMT	**Artemida-Makis**	**1.37**	**9**	*e*PN	**Pn**	**03 35 53.2**	**+0.3**
AMT	**Artemida-Makis**	**1.37**	**9**	*e*Pn	**Pn**	**03 35 53.2**	**+0.3**
VLX	**Vlachokerasia**	**1.41**	**32**	P	**Pn**	**03 35 53.6**	**+0.1**
VLX				S	**Sg**	**03 36 13.6**	**+0.5**
VLX	**Vlachokerasia**	**1.41**	**32**	*e*PN	**Pn**	**03 35 53.3**	**-0.2**
VLX	**Vlachokerasia**	**1.41**	**32**	*e*Pn	**Pn**	**03 35 53.3**	**-0.2**
VLX	**Vlachokerasia**	**1.41**	**32**	P	**Pn**	**03 35 53.6**	**+0.1**
VLX				S	**Sg**	**03 36 13.6**	**+0.5**
ANKY	**Antikythira Is**	**1.54**	**101**	P	**Pb**	**03 35 57.2**	**+0.9**
ANKY	**Antikythira Is**	**1.54**	**101**	*e*PN	**Pn**	**03 35 56.9**	**+1.7**
ANKY	**Antikythira Is**	**1.54**	**101**	*e*Pn	**Pn**	**03 35 56.9**	**+1.7**
ANKY	**Antikythira Is**	**1.54**	**101**	P	**Pb**	**03 35 57.2**	**+0.9**
DRO	**Drossia**	**1.79**	**7**	P	**Pn**	**03 35 59.8**	**+1.2**
DRO	**Drossia**	**1.79**	**7**	*e*PN	**Pn**	**03 36 00.1**	**+1.5**
DRO	**Drossia**	**1.79**	**7**	P	**Pn**	**03 35 59.8**	**+1.2**
DRO	**Drossia**	**1.79**	**7**	*e*Pn	**Pn**	**03 36 00.1**	**+1.5**
RLS	**Riolos of Patr**	**1.88**	**1**	P	**Pn**	**03 36 01.0**	**+1.2**
RLS	**Riolos of Patr**	**1.88**	**1**	*e*PN	**Pn**	**03 36 00.8**	**+1.0**
RLS	**Riolos of Patr**	**1.88**	**1**	*e*Pn	**Pn**	**03 36 00.8**	**+1.0**
GUR	**Goura**	**1.90**	**22**	P	**Pn**	**03 36 02.2**	**+2.0**
GUR	**Goura**	**1.90**	**22**	*e*PN	**Pn**	**03 36 01.5**	**+1.3**
GUR	**Goura**	**1.90**	**22**	*e*Pn	**Pn**	**03 36 01.5**	**+1.3**
GUR	**Goura**	**1.90**	**22**	P	**Pn**	**03 36 02.2**	**+2.0**
KLV	**Kalavryta, Ach**	**1.95**	**17**	P	**Pn**	**03 36 02.1**	**+1.2**
KLV				S	**Sb**	**03 36 28.8**	**+1.1**
KLV	**Kalavryta, Ach**	**1.95**	**17**	*e*PN	**Pn**	**03 36 01.8**	**+0.9**
KLV	**Kalavryta, Ach**	**1.95**	**17**	*e*Pn	**Pn**	**03 36 01.8**	**+0.9**
KLV	**Kalavryta, Ach**	**1.95**	**17**	P	**Pn**	**03 36 02.1**	**+1.2**
KLV				S	**Sb**	**03 36 28.8**	**+1.1**
DID	**Didima**	**1.96**	**47**	P	**Pn**	**03 36 02.0**	**+1.0**
DID	**Didima**	**1.96**	**47**	*e*PN	**Pn**	**03 36 01.3**	**+0.3**
DID	**Didima**	**1.96**	**47**	*e*Pn	**Pn**	**03 36 01.3**	**+0.3**
DID	**Didima**	**1.96**	**47**	P	**Pn**	**03 36 02.0**	**+1.0**
VLS	**Valsamata**	**2.11**	**342**	P	**Pn**	**03 36 03.0**	**0.0**
VLS	**Valsamata**	**2.11**	**342**	*e*PB	**Pn**	**03 36 02.8**	**-0.2**
VLS	**Valsamata**	**2.11**	**342**	P	**Pn**	**03 36 03.0**	**0.0**
LTK	**Loutraki**	**2.21**	**33**	P	**Pn**	**03 36 05.5**	**+1.0**
LTK	**Loutraki**	**2.21**	**33**	*e*PB	**Pn**	**03 36 05.4**	**+1.0**
LTK	**Loutraki**	**2.21**	**33**	P	**Pn**	**03 36 05.5**	**+1.0**
EFP	**Efpalio**	**2.28**	**9**	P	**Pn**	**03 36 07.2**	**+1.9**
EFP	**Efpalio**	**2.28**	**9**	P	**Pn**	**03 36 07.2**	**+1.9**
NAIG	**Nisos Aigina**	**2.28**	**46**	*e*PN	**Pn**	**03 36 05.2**	**-0.1**
NAIG	**Nisos Aigina**	**2.28**	**46**	*e*Pn	**Pn**	**03 36 05.2**	**-0.1**
KALE	**Kalithea**	**2.28**	**14**	P	**Pn**	**03 36 07.5**	**+2.1**
KALE	**Kalithea**	**2.28**	**14**	*e*PB	**Pn**	**03 36 06.3**	**+0.9**
KALE	**Kalithea**	**2.28**	**14**	*e*Pb	**Pn**	**03 36 06.3**	**+0.9**
KALE	**Kalithea**	**2.28**	**14**	P	**Pn**	**03 36 07.5**	**+2.1**
VAM	**Vamos**	**2.38**	**108**	P	**Pn**	**03 36 07.5**	**+0.9**
VAM	**Vamos**	**2.38**	**108**	*e*PN	**Pn**	**03 36 06.4**	**-0.2**
VAM	**Vamos**	**2.38**	**108**	*e*Pn	**Pn**	**03 36 06.4**	**-0.2**
VAM	**Vamos**	**2.38**	**108**	P	**Pn**	**03 36 07.5**	**+0.9**
DSF	**Desfina**	**2.40**	**21**	P	**Pn**	**03 36 07.9**	**+0.9**
DSF	**Desfina**	**2.40**	**21**	*e*PB	**Pn**	**03 36 07.7**	**+0.7**
DSF	**Desfina**	**2.40**	**21**	P	**Pn**	**03 36 07.9**	**+0.9**
PDO	**Prodromos**	**2.43**	**355**	P	**Pn**	**03 36 08.5**	**+1.2**
PDO	**Prodromos**	**2.43**	**355**	*e*PN	**Pn**	**03 36 08.5**	**+1.2**
PDO	**Prodromos**	**2.43**	**355**	P	**Pn**	**03 36 08.5**	**+1.2**
ATH	**Athens Observa**	**2.56**	**45**	*e*PN	**Pn**	**03 36 09.9**	**+0.8**
ATH	**Athens Observa**	**2.56**	**45**	*e*Pn	**Pn**	**03 36 09.9**	**+0.8**
LKD2	**Lefkada island**	**2.68**	**347**	*e*PN	**Pn**	**03 36 12.3**	**+1.4**
LKD2	**Lefkada island**	**2.68**	**347**	*e*Pn	**Pn**	**03 36 12.3**	**+1.4**
PTL	**Penteli**	**2.70**	**45**	P	**Pn**	**03 36 11.6**	**+0.5**
PTL	**Penteli**	**2.70**	**45**	*e*PN	**Pn**	**03 36 11.6**	**+0.5**
PTL	**Penteli**	**2.70**	**45**	P	**Pn**	**03 36 11.6**	**+0.5**
EVR	**Evrytania**	**2.75**	**6**	P	**Pn**	**03 36 13.7**	**+1.8**
EVR	**Evrytania**	**2.75**	**6**	*e*PB	**Pn**	**03 36 14.4**	**+2.5**
EVR	**Evrytania**	**2.75**	**6**	P	**Pn**	**03 36 13.7**	**+1.8**
EVR	**Evrytania**	**2.75**	**6**	*e*Pb	**Pn**	**03 36 14.4**	**+2.5**
AXAR	**Agios Charalam**	**2.76**	**20**	P	**Pn**	**03 36 13.6**	**+1.6**
AXAR	**Agios Charalam**	**2.76**	**20**	*e*PN	**Pn**	**03 36 12.7**	**+0.7**
AXAR	**Agios Charalam**	**2.76**	**20**	*e*Pn	**Pn**	**03 36 12.7**	**+0.7**
AXAR	**Agios Charalam**	**2.76**	**20**	P	**Pn**	**03 36 13.6**	**+1.6**
LKR	**Lokris**	**2.77**	**26**	P	**Pn**	**03 36 12.3**	**+0.3**
LKR	**Lokris**	**2.77**	**26**	*e*PN	**Pn**	**03 36 12.2**	**+0.3**
LKR	**Lokris**	**2.77**	**26**	P	**Pn**	**03 36 12.3**	**+0.3**
MAKR	**Makrakomi, Fth**	**2.89**	**11**	P	**Pn**	**03 36 16.0**	**+2.3**
MAKR	**Makrakomi, Fth**	**2.89**	**11**	*e*PB	**Pn**	**03 36 16.0**	**+2.3**
MAKR	**Makrakomi, Fth**	**2.89**	**11**	P	**Pn**	**03 36 16.0**	**+2.3**
AGG	**Agios Georgios**	**2.93**	**14**	P	**Pn**	**03 36 16.0**	**+1.7**
AGG	**Agios Georgios**	**2.93**	**14**	*e*PN	**Pn**	**03 36 15.8**	**+1.5**
AGG	**Agios Georgios**	**2.93**	**14**	*e*Pn	**Pn**	**03 36 15.8**	**+1.5**
IDI	**Anoyia**	**2.95**	**106**	Pn	**Pn**	**03 36 15.8**	**+1.2**
	1.4nm,0.3s,baz=296,slow=14,SNR=20						
IDI				Sn	**Sn**	**03 36 52.9**	**+2.9**
	7.4nm,0.3s,baz=338,slow=22,SNR=7.5						
DSL	**Palaion Diasel**	**2.96**	**355**	P	**Pn**	**03 36 15.8**	**+1.0**
DSL	**Palaion Diasel**	**2.96**	**355**	*e*PN	**Pn**	**03 36 15.2**	**+0.4**
DSL	**Palaion Diasel**	**2.96**	**355**	*e*Pn	**Pn**	**03 36 15.2**	**+0.4**
DSL	**Palaion Diasel**	**2.96**	**355**	P	**Pn**	**03 36 15.8**	**+1.0**
SIVA	**Sivas**	**2.98**	**112**	*e*PN	**Pn**	**03 36 17.6**	**+2.6**
SIVA	**Sivas**	**2.98**	**112**	*e*Pn	**Pn**	**03 36 17.6**	**+2.6**
MRMA	**Marmari**	**3.01**	**51**	P	**Pn**	**03 36 16.9**	**+1.5**
MRMA	**Marmari**	**3.01**	**51**	P	**Pn**	**03 36 16.9**	**+1.5**
SMIA	**Simia**	**3.04**	**27**	*e*PN	**Pn**	**03 36 16.9**	**+1.0**
SMIA	**Simia**	**3.04**	**27**	*e*Pn	**Pn**	**03 36 16.9**	**+1.0**
MRKA	**Markates**	**3.05**	**33**	P	**Pn**	**03 36 16.1**	**+0.2**
MRKA	**Markates**	**3.05**	**33**	*e*PN	**Pn**	**03 36 15.3**	**-0.6**
MRKA	**Markates**	**3.05**	**33**	*e*Pn	**Pn**	**03 36 15.3**	**-0.6**
MRKA	**Markates**	**3.05**	**33**	P	**Pn**	**03 36 16.1**	**+0.2**
SANT	**Santorini**	**3.26**	**85**	*e*PN	**Pn**	**03 36 19.2**	**+0.4**
SANT	**Santorini**	**3.26**	**85**	*e*Pn	**Pn**	**03 36 19.2**	**+0.4**
APE	**Apeiranthos**	**3.41**	**74**	*e*PN	**Pn**	**03 36 21.0**	**+0.1**
APE	**Apeiranthos**	**3.41**	**74**	*e*Pn	**Pn**	**03 36 21.0**	**+0.1**
THL	**Klokotos Trika**	**3.41**	**8**	P	**Pn**	**03 36 21.9**	**+1.0**
THL	**Klokotos Trika**	**3.41**	**8**	*e*PN	**Pn**	**03 36 21.9**	**+1.0**
THL	**Klokotos Trika**	**3.41**	**8**	P	**Pn**	**03 36 21.9**	**+1.0**
NEO	**Neokhori**	**3.43**	**24**	P	**Pn**	**03 36 22.1**	**+0.9**
NEO	**Neokhori**	**3.43**	**24**	*e*PN	**Pn**	**03 36 22.1**	**+0.9**
NEO	**Neokhori**	**3.43**	**24**	P	**Pn**	**03 36 22.1**	**+0.9**
LAST	**Lasithi**	**3.44**	**106**	*e*PN	**Pn**	**03 36 22.6**	**+1.2**
LAST	**Lasithi**	**3.44**	**106**	*e*Pn	**Pn**	**03 36 22.6**	**+1.2**
IGT	**Igoumenitsa**	**3.46**	**346**	*e*PN	**Pn**	**03 36 21.6**	**0.0**
IGT	**Igoumenitsa**	**3.46**	**346**	*e*Pn	**Pn**	**03 36 21.6**	**0.0**
XOR	**Xorichti**	**3.48**	**23**	P	**Pn**	**03 36 23.6**	**+1.8**
XOR	**Xorichti**	**3.48**	**23**	*e*PN	**Pn**	**03 36 22.9**	**+1.1**
XOR	**Xorichti**	**3.48**	**23**	*e*Pn	**Pn**	**03 36 22.9**	**+1.1**
XOR	**Xorichti**	**3.48**	**23**	P	**Pn**	**03 36 23.6**	**+1.8**
JAN	**Janina**	**3.51**	**353**	*e*PN	**Pn**	**03 36 22.7**	**+0.5**
JAN	**Janina**	**3.51**	**353**	*e*Pn	**Pn**	**03 36 22.7**	**+0.5**
NPS	**Neapolis**	**3.52**	**104**	*e*PN	**Pn**	**03 36 23.9**	**+1.5**
NPS	**Neapolis**	**3.52**	**104**	*e*Pn	**Pn**	**03 36 23.9**	**+1.5**
MEV	**Metsovon**	**3.61**	**357**	P	**Pn**	**03 36 25.4**	**+1.7**
MEV	**Metsovon**	**3.61**	**357**	P	**Pn**	**03 36 25.4**	**+1.7**
LIT	**Litokhoron**	**4.01**	**12**	*e*PN	**Pn**	**03 36 30.0**	**+0.9**
LIT	**Litokhoron**	**4.01**	**12**	*e*Pn	**Pn**	**03 36 30.0**	**+0.9**
ZKR	**Zakros**	**4.04**	**104**	*e*PN	**Pn**	**03 36 31.6**	**+2.1**
ZKR	**Zakros**	**4.04**	**104**	*e*Pn	**Pn**	**03 36 31.6**	**+2.1**
KZN	**Kozani**	**4.13**	**4**	P	**Pn**	**03 36 31.6**	**+0.7**
KZN	**Kozani**	**4.13**	**4**	*e*PN	**Pn**	**03 36 31.5**	**+0.7**
KZN	**Kozani**	**4.13**	**4**	*e*Pn	**Pn**	**03 36 31.5**	**+0.7**
PAIG	**Paliouri**	**4.14**	**25**	*e*PN	**Pn**	**03 36 31.9**	**+1.0**
PAIG	**Paliouri**	**4.14**	**25**	*e*Pn	**Pn**	**03 36 31.9**	**+1.0**
NEST	**Nestorio**	**4.24**	**356**	P	**Pn**	**03 36 34.1**	**+1.7**
NEST	**Nestorio**	**4.24**	**356**	*e*PN	**Pn**	**03 36 34.2**	**+1.8**
NEST	**Nestorio**	**4.24**	**356**	P	**Pn**	**03 36 34.1**	**+1.7**
PLG	**Polygyros**	**4.48**	**20**	*e*PN	**Pn**	**03 36 35.2**	**-0.4**
PLG	**Polygyros**	**4.48**	**20**	*e*Pn	**Pn**	**03 36 35.2**	**-0.4**
FNA	**Florina**	**4.60**	**359**	P	**Pn**	**03 36 37.8**	**+0.5**
FNA	**Florina**	**4.60**	**359**	*e*PN	**Pn**	**03 36 37.9**	**+0.6**
FNA	**Florina**	**4.60**	**359**	*e*Pn	**Pn**	**03 36 37.9**	**+0.6**
HORT	**Hortiatis**	**4.61**	**16**	*e*PN	**Pn**	**03 36 37.4**	**0.0**
HORT	**Hortiatis**	**4.61**	**16**	*e*Pn	**Pn**	**03 36 37.4**	**0.0**
OUR	**Ouranopolis**	**4.61**	**25**	*e*PN	**Pn**	**03 36 37.4**	**+0.1**
OUR	**Ouranopolis**	**4.61**	**25**	*e*Pn	**Pn**	**03 36 37.4**	**+0.1**
GRG	**Griva**	**4.83**	**9**	P	**Pn**	**03 36 40.8**	**+0.4**
GRG	**Griva**	**4.83**	**9**	P	**Pn**	**03 36 40.8**	**+0.4**
SOH	**Sokhos**	**4.88**	**17**	*e*PN	**Pn**	**03 36 41.7**	**+0.6**
SOH	**Sokhos**	**4.88**	**17**	*e*Pn	**Pn**	**03 36 41.7**	**+0.6**
KNT	**Kendrikon**	**5.11**	**12**	P	**Pn**	**03 36 44.9**	**+0.7**
KNT	**Kendrikon**	**5.11**	**12**	*e*PN	**Pn**	**03 36 44.8**	**+0.6**
KNT	**Kendrikon**	**5.11**	**12**	*e*Pn	**Pn**	**03 36 44.8**	**+0.6**
VAY	**Valandovo**	**5.21**	**9**	*e*Pn	**Pn**	**03 36 45.0**	**-0.7**
VAY	**Valandovo**	**5.21**	**9**	*e*Pn	**Pn**	**03 36 44.9**	**-0.7**
SRS	**Serrai**	**5.21**	**18**	*e*PN	**Pn**	**03 36 45.9**	**+0.2**
SRS	**Serrai**	**5.21**	**18**	*e*Pn	**Pn**	**03 36 45.9**	**+0.2**
KAVA	**Kavala**	**5.38**	**26**	*e*PN	**Pn**	**03 36 48.6**	**+0.6**
KAVA	**Kavala**	**5.38**	**26**	*e*Pn	**Pn**	**03 36 48.6**	**+0.6**
NVR	**Nevrokopi**	**5.50**	**19**	*e*PN	**Pn**	**03 36 49.8**	**+0.1**
NVR	**Nevrokopi**	**5.50**	**19**	*e*Pn	**Pn**	**03 36 49.8**	**+0.1**
MMB	**Musomiste**	**5.69**	**18** ⇑	*i*P	**Pn**	**03 36 52.0**	**-0.3**
MMB	**Musomiste**	**5.69**	**18** ⇑	*i*P	**Pn**	**03 36 52.0**	**-0.3**
KDZ	**Kurdzhali**	**6.29**	**28** ⇓	*i*P	**Pn**	**03 37 00.0**	**-0.4**
KDZ	**Kurdzhali**	**6.29**	**28** ⇓	*i*P	**Pn**	**03 37 00.0**	**-0.4**
VTS	**Vitosha**	**6.55**	**12** ⇑	*i*P	**Pn**	**03 37 04.9**	**+0.7**
VTS	**Vitosha**	**6.55**	**12** ⇑	*i*P	**Pn**	**03 37 04.9**	**+0.7**
BARS	**Barje**	**6.64**	**2**	*i* Pn	**Pn**	**03 37 04.7**	**-0.5**
STON	**Ston**	**7.28**	**338**	*i* Pn	Pn	03 37 09.3	-4.7
STON				Sn	Sn	03 38 28.1	-8.7
UDBI	**Udbina**	**9.40**	**334**	*e*Pn	Pn	03 37 38.7	-4.4
UDBI				Sn	Sn	03 39 20.9	-8.0
VOIR		**9.65**	**15** ⇑	*i*P	**Pn**	**03 37 47.3**	**+0.8**
VOIR		**9.65**	**15** ⇑	*i*P	**Pn**	**03 37 47.3**	**+0.8**
NVLJ	**Novalja**	**9.76**	**331**	Sn	Sn	03 39 23.8	-14
TIRR	**Tirgusor**	**9.84**	**31** ⇑	*i*P	Pn	03 37 55.7	+6.7
MLR	**Muntele Rosu**	**9.91**	**19** ⇓	PKIKP	**Pn**	**03 37 50.1**	**-0.1**
MLR	**Muntele Rosu**	**9.91**	**19** ⇓	*i*P	**Pn**	**03 37 50.1**	**-0.1**
MLR	**Muntele Rosu**	**9.91**	**19**	Pn	**Pn**	**03 37 49.4**	**-0.8**
	0.1nm,0.3s,baz=189,slow=15,SNR=2.3						
MLR	**Muntele Rosu**	**9.91**	**19** ⇓	*i*P	**Pn**	**03 37 50.1**	**-0.1**
DOPR	**Dopca**	**10.23**	**16** ⇑	*i*P	**Pn**	**03 37 56.8**	**+2.4**
DOPR	**Dopca**	**10.23**	**16** ⇑	*i*P	**Pn**	**03 37 56.8**	**+2.4**
CFR	**Carcaliu**	**10.33**	**27** ⇑	*i*P	Pn	03 37 59.6	+3.8
MMAI	**Mount Meron Ar**	**11.93**	**101**	Pn	**Pn**	**03 38 16.5**	**-1.4**
	0.4nm,0.3s,baz=288,slow=10,SNR=4.6						
MMAI				Sn	Sn	03 40 18.6	-13
	0.9nm,0.3s,baz=290,slow=27,SNR=4.1						
EIL	**Elat**	**13.07**	**116**	Pn	**Pn**	**03 38 31.9**	**-1.4**
	0.2nm,0.3s,baz=345,slow=16,SNR=2.8						
EIL				Sn	Sn	03 40 47.1	-12
	0.2nm,0.3s,baz=352,slow=19,SNR=2.6						
KBZ	**Khabaz**	**18.07**	**59**	P	**Pn**	**03 39 39.3**	**+0.6**
	0.1nm,0.3s,baz=256,slow=4.2,SNR=2.9						
HFS	**Hagfors**	**24.49**	**351**	P	**P**	**03 40 44.1**	**-2.6**
	1.2nm,0.6s,baz=163,slow=11,SNR=6.4						
FINES	**FINESS Array B**	**25.46**	**5**	P	**P**	**03 40 53.5**	**-1.9**
	1.1nm,0.6s,baz=163,slow=10,SNR=9.

IDC ***13*** *04:53:37.3±0.5, 44°.13N×129°.38W, h0km, mb4.5/26, mb1 4.6/31, mb1mx4.6/37, mbtmp4.5/31, ML3.8/5, MS4.1/27, Ms1 4.1/27, ms1mx3.9/41, Error ellipse: s-maj=16.9km s-min=9.3km az=39.0*

BJI ***13*** *04:53:37.2, 44°.30N×129°.30W, h10km, mB5.4/20, mb5.0/30, Ms5.1/10, Ms7 4.7/10*

MOS ***13*** *04:53:38.2±0.9, 44°.22N×129°.37W, h10km, mb5.3/76, MS4.2/4, Error ellipse: s-maj=5.4km s-min=4.4km az=105.0*

ISCJB ***13*** *04:53:39.3±1.0, 44°.31N±0°.02×129°.28W±0°.03, h11km±6km, mb4.9/148, MS4.1/24, Error ellipse: s-maj=4.1km s-min=2.6km az=145.1*

GCMT ***13*** *04:53:39.8±0.2, 44°.08N×129°.45W, h12km, MW5.0/100, Moment Tensor Solution. s36,c41; s100,c166; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.98±.09; Mθθ0.47±.09; Mφφ3.51±.08; Mrθ-0.14±.34; Mθφ-1.43±.07; Mφr0.49±.32; Best double couple: M0=4.06100×10^16 NP1:φs159.00000°, δ49.00000°, λ-89.00000°. NP2: φs338.00000°, δ41.00000°, λ-91.00000°. Principal axes: T 4.1090, Plg4.0000°, Azm248.0000°; N -0.1000, Plg1.0000°, Azm338.0000°; P -4.0130, Plg86.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *04:53:39.9±0.2, 44°.22N×129°.36W, h10km, mb5.0/120 Error ellipse: s-maj=4.0km s-min=2.3km az=208.0*

NEIC Felt at Eugene, Seaside and Yachats.

ISC 13 04:53:40.4±0.5, 44°.21N±0°.05×129°.38W±0°.04, h15km±2km, h15km:pP-P, n958, σ1§07/932, mb5.0/153, MS4.0/24, 211C-217D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.90**	**108**	*e*Pn	Pn	04 54 35.6	-4.2
KEBM				*e*Sn	Sn	04 55 18.1	-7.3
KEBM				*e*TT		04 57 37.0	
COR	**Corvallis**	**4.37**	**83**	*e*P	**Pn**	**04 54 44.6**	**-1.6**
COR				*e*		04 55 34.4	
COR	**Corvallis**	**4.37**	**83**	*e*Pn	**Pn**	**04 54 44.6**	**-1.6**
COR				*e*Sn	**Sn**	**04 55 34.4**	**-2.4**
I03D	**Drain, OR**	**4.38**	**95**	⇓P	**Pn**	**04 54 45.0**	**-1.3**
	baz=4.4,SNR=171						
KMOR	**Kings Mountain**	**4.42**	**69**	P	**Pn**	**04 54 45.5**	**-1.5**
F03A	**Seaside**	**4.47**	**65**	P	**Pn**	**04 54 46.7**	**-0.8**
G03D	**McMinnville, O**	**4.47**	**75**	P	**Pn**	**04 54 46.5**	**-1.1**
	baz=4.4,SNR=70						
NLO	**Nicolai Mounta**	**4.60**	**64**	P	**Pn**	**04 54 48.8**	**-0.6**
L02D	**Cave Junction,**	**4.69**	**114**	⇓P	**Pn**	**04 54 50.0**	**-0.7**
	baz=4.7						
E03A	**Lebam**	**4.72**	**58**	*e*Pn	**Pn**	**04 54 49.6**	**-1.3**
F04D	**Rainier, OR**	**4.88**	**65**	⇓P	**Pn**	**04 54 52.4**	**-0.8**
	baz=4.8,SNR=36						
HUMO	**Hull Mountain**	**4.94**	**107**	*e*Pn	**Pn**	**04 54 51.9**	**-2.2**
HUMO				*e*Sn	**Sn**	**04 55 47.5**	**-3.5**
NLWA	**Neilton Lookou**	**5.00**	**48**	*e*Pn	**Pn**	**04 54 54.3**	**-0.6**
NLWA				*e*Sn	**Sn**	**04 55 50.8**	**-1.5**
I04A	**Tendick Farm,**	**5.04**	**92**	⇑P	**Pn**	**04 54 54.2**	**-1.3**
	baz=5.0						
RVW	**Rose Valley**	**5.08**	**65**	P	**Pn**	**04 54 55.4**	**-0.6**
H04A	**Detroit Lake**	**5.17**	**82**	*e*Pn	**Pn**	**04 54 56.2**	**-1.1**
F04A	**Amboy**	**5.22**	**68**	P	**Pn**	**04 54 57.8**	**-0.2**
FL2	**Flat Top 2**	**5.35**	**66**	P	**Pn**	**04 54 59.4**	**-0.4**
J04D	**Umpqua Nationa**	**5.36**	**98**	⇓P	**Pn**	**04 54 58.9**	**-1.1**
	baz=5.3,SNR=23						
HSR	**South Ridge**	**5.45**	**66**	P	**Pn**	**04 55 01.4**	**+0.2**
YBH	**Yreka Blue Hor**	**5.48**	**115**	*e*P	**Pn**	**04 55 01.9**	**+0.3**
YBH				*e*		04 56 04.5	
YBH				pmax	pmax		
	comp=Z,51nm,0.8s						
YBH	**Yreka Blue Hor**	**5.48**	**115**	Pn	**Pn**	**04 54 59.1**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=299,slow=13,SNR=11						
YBH				Sn	**Sn**	**04 56 01.1**	**-3.2**
	comp=Z,1.0nm,0.3s,baz=192,slow=20,SNR=2.4						
YBH				LR	LR	04 56 59.6	
	comp=Z,4μm,19.4s,baz=309,slow=37						
YBH	**Yreka Blue Hor**	**5.48**	**115**	*e*Pn	**Pn**	**04 55 01.9**	**+0.3**
	comp=Z,51nm,0.8s						
YBH				*e*Sn	**Sn**	**04 56 04.5**	**+0.2**
TDH	**Tom, Dick, Har**	**5.51**	**76**	P	**Pn**	**04 55 01.8**	**-0.3**
M02C	**Callahan**	**5.56**	**118**	⇓P	**Pn**	**04 55 02.0**	**-0.7**
	baz=5.5,SNR=6.1						
HDW	**Hoodsport**	**5.59**	**50**	P	**Pn**	**04 55 02.6**	**-0.6**
K04D	**Chiloquin, OR**	**5.77**	**103**	⇓P	**Pn**	**04 55 04.8**	**-0.8**
	baz=5.7						
I05D	**Terrebonne, OR**	**5.77**	**86**	⇓P	**Pn**	**04 55 04.7**	**-0.8**
	baz=5.7,SNR=14						
G05D	**Wamic, OR**	**5.84**	**77**	⇓P	**Pn**	**04 55 05.5**	**-0.9**
	baz=5.8,SNR=34						
N02D	**Trinity Center**	**5.89**	**121**	⇑P	**Pn**	**04 55 06.7**	**-0.4**
	baz=5.9						
LON	**Longmire**	**5.90**	**62**	*e*P	**Pn**	**04 55 06.7**	**-0.6**
LON				pmax	pmax		
	comp=Z,222nm,0.8s						
LON	**Longmire**	**5.90**	**62**	*e*Pn	**Pn**	**04 55 06.7**	**-0.6**
	comp=Z,222nm,0.8s						
J05D	**Fort Rock, OR**	**5.97**	**96**	⇑P	**Pn**	**04 55 06.8**	**-1.5**
	baz=5.9,SNR=13						
D05A	**Enumclaw**	**5.97**	**57**	*e*Pn	**Pn**	**04 55 08.0**	**-0.2**
M04C	**Macdoel**	**6.04**	**111**	⇑P	**Pn**	**04 55 08.2**	**-1.0**
	baz=6.0,SNR=11						
PGC	**Sidney**	**6.04**	**41**	*e*Pn	**Pn**	**04 55 08.1**	**-1.1**
	comp=Z,3.7nm,0.6s						
PGC				*e*Sn	**Sn**	**04 56 14.5**	**-3.5**
FMW	**Mount Fremont**	**6.06**	**61**	P	**Pn**	**04 55 09.2**	**-0.3**
PINOR	**Pine Mountain**	**6.15**	**91**	*e*Pn	**Pn**	**04 55 09.3**	**-1.3**
	comp=Z,54nm,0.5s						
WDC	**Whiskeytown Da**	**6.22**	**123**	*e*P	**Pn**	**04 55 12.6**	**+0.9**
WDC	**Whiskeytown Da**	**6.22**	**123**	*e*Pn	**Pn**	**04 55 12.6**	**+0.9**
G06A	**Carlson Farm,**	**6.31**	**78**	*e*Pn	**Pn**	**04 55 11.7**	**-1.3**
JCW	**Jim Creek**	**6.53**	**50**	P	**Pn**	**04 55 16.1**	**+0.2**
LTY	**Liberty**	**6.81**	**60**	*e*Pn	**Pn**	**04 55 20.1**	**+0.2**
A05A	**Maple Falls**	**6.94**	**44**	*e*Pn	**Pn**	**04 55 21.5**	**0.0**
B06A	**Marblemount**	**6.96**	**49**	*e*Pn	**Pn**	**04 55 21.7**	**0.0**
MOD	**Modoc Plateau**	**7.03**	**106**	*e*Pn	**Pn**	**04 55 22.2**	**-0.7**
I07A	**Izee**	**7.11**	**88**	*e*Pn	**Pn**	**04 55 23.4**	**-0.5**
E07A	**Sunnyside**	**7.11**	**67**	*e*Pn	**Pn**	**04 55 23.6**	**-0.2**
HAWA	**Hanford**	**7.28**	**69**	*e*Pn	**Pn**	**04 55 25.7**	**-0.4**
G08A	**Pilot Rock**	**7.50**	**78**	*e*Pn	**Pn**	**04 55 27.2**	**-2.1**
OHCM	**Honcut**	**7.64**	**127**	*e*Pn	**Pn**	04 55 35.5	+4.4
D08A	**Wollman Farm,**	**7.86**	**65**	*e*Pn	**Pn**	**04 55 33.8**	**-0.4**
BBB	**Bella Bella**	**8.03**	**6**	Pn	Pn	04 55 40.3	+3.9
	comp=Z,1.7nm,0.3s,baz=156,slow=2.5,SNR=27						
BBB				LR	LR	04 58 14.2	
	comp=Z,701nm,20.1s,baz=194,slow=34						
WVOR	**Wild Horse Val**	**8.03**	**99**	*e*P	**Pn**	**04 55 37.0**	**+0.4**
WVOR				*e*		04 57 06.2	
WVOR	**Wild Horse Val**	**8.03**	**99**	*e*Pn	**Pn**	**04 55 37.0**	**+0.4**
WVOR				*e*Sn	**Sn**	**04 57 06.2**	**-0.9**
B08A	**Colville Reser**	**8.10**	**56**	*e*Pn	**Pn**	**04 55 36.9**	**-0.6**
E09A	**Wood Farm, Sta**	**8.24**	**70**	*e*Pn	**Pn**	**04 55 38.8**	**-0.6**
C09A	**Chrisman Ranch**	**8.52**	**61**	*e*Pn	**Pn**	**04 55 41.6**	**-1.6**
BMO	**Blue Mountains**	**8.65**	**82**	*e*P	**Pn**	**04 55 43.8**	**-1.2**
BMO				pmax	pmax		
	comp=Z,12nm,0.4s						
BMO	**Blue Mountains**	**8.65**	**82**	*e*Pn	**Pn**	**04 55 43.8**	**-1.2**
	comp=Z,12nm,0.4s						
F10A	**Beach Ranch, E**	**8.78**	**74**	*e*Pn	**Pn**	**04 55 45.9**	**-0.9**
CMB	**Columbia Colle**	**9.16**	**129**	*e*P	**Pn**	**04 55 53.2**	**+1.1**
CMB	**Columbia Colle**	**9.16**	**129**	*e*Pn	**Pn**	**04 55 53.2**	**+1.1**
WAKR	**Walker**	**9.39**	**124**	*e*Pn	**Pn**	**04 55 58.2**	**+2.9**
NEW	**Newport**	**9.41**	**60**	*e*P	**Pn**	**04 55 54.4**	**-1.0**
NEW	**Newport**	**9.41**	**60**	Pn	**Pn**	**04 55 54.1**	**-1.3**
	comp=Z,2.7nm,0.3s,baz=239,slow=12,SNR=36						
NEW				LR	LR	04 59 24.3	
	comp=Z,2μm,21.2s,baz=254,slow=37						
NEW	**Newport**	**9.41**	**60**	⇑P	**Pn**	**04 55 54.9**	**-0.5**
	baz=9.4,SNR=31						
NEW	**Newport**	**9.41**	**60**	*e*Pn	**Pn**	**04 55 54.4**	**-1.0**
BMN	**Battle Mountai**	**9.76**	**109**	*e*P	Pn	04 56 03.7	+3.4
BMN	**Battle Mountai**	**9.76**	**109**	*e*Pn	Pn	04 56 03.7	+3.4
MFID	**Camas Ranch**	**9.83**	**90**	*e*Pn	**Pn**	**04 56 03.4**	**+2.2**
NVAR	**Mina Array Bea**	**10.13**	**121**	Pn	**Pn**	**04 56 06.3**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=285,slow=14,SNR=12						
NVAR				PcP	**PcP**	**05 02 14.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=224,slow=2.5,SNR=6.1						
BSMT	**Bassoo Peak**	**10.78**	**65**	*e*Pn	**Pn**	**04 56 13.6**	**-0.7**
HLID	**Hailey**	**10.82**	**88**	⇑P	**Pn**	**04 56 13.3**	**-1.6**
	baz=11,SNR=134						
HLID	**Hailey**	**10.82**	**88**	*e*Pn	**Pn**	**04 56 16.4**	**+1.5**
ELK	**Elko**	**11.00**	**103**	*e*P	**Pn**	**04 56 20.0**	**+2.6**
ELK	**Elko**	**11.00**	**103**	Pn	**Pn**	**04 56 18.9**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=8.3,slow=4.5,SNR=34						
ELK				LR	LR	05 00 40.0	
	comp=Z,2μm,19.0s,baz=1.5,slow=38						
ELK	**Elko**	**11.00**	**103**	*e*Pn	**Pn**	**04 56 20.0**	**+2.6**
TPH	**Tonopah**	**11.02**	**120**	*e*P	**Pn**	**04 56 19.4**	**+1.8**
TPH	**Tonopah**	**11.02**	**120**	*e*Pn	**Pn**	**04 56 19.4**	**+1.8**
JTMT	**Jette**	**11.09**	**66**	*e*Pn	**Pn**	**04 56 18.2**	**-0.2**
BLMT	**Blacktail Moun**	**11.10**	**65**	*e*Pn	**Pn**	**04 56 18.6**	**0.0**
MSO	**Missoula**	**11.15**	**71**	P	**Pn**	**04 56 19.1**	**-0.1**
	baz=11,SNR=61						
MSO	**Missoula**	**11.15**	**71**	*e*Pn	**Pn**	**04 56 18.6**	**-0.7**
SWMT	**Swartz Lake**	**11.22**	**67**	*e*Pn	**Pn**	**04 56 20.8**	**+0.5**
YBMT	**Yellow Bay**	**11.29**	**66**	*e*Pn	**Pn**	**04 56 20.9**	**-0.3**
VES	**Vestal, Richgr**	**11.48**	**133**	⇓P	**Pn**	**04 56 25.7**	**+2.0**
	baz=12						
SLMT	**Seeley Lake**	**11.51**	**69**	*e*Pn	**Pn**	**04 56 24.0**	**-0.2**
GRAC	**Grapevine Rang**	**11.62**	**124**	⇑P	Pn	04 56 30.1	+4.5
	baz=12						
CHMT	**Chamberlain Mo**	**11.63**	**71**	*e*Pn	**Pn**	**04 56 25.8**	**-0.1**
WALA	**Waterton Lakes**	**11.68**	**60**	*e*Pn	**Pn**	**04 56 25.2**	**-1.4**
MCMT	**McKenzie Canyo**	**11.82**	**81**	*e*Pn	**Pn**	**04 56 28.3**	**-0.3**
	comp=Z,13nm,0.9s						
R11A	**Troy Canyon, C**	**11.91**	**115**	⇓P	**Pn**	**04 56 30.2**	**+0.5**
	baz=12,SNR=11						
R11A	**Troy Canyon, C**	**11.91**	**115**	*e*Pn	**Pn**	**04 56 32.2**	**+2.5**
ISA	**Isabella, Lake**	**11.94**	**132**	*e*P	**Pn**	**04 56 30.9**	**+0.8**
ISA	**Isabella, Lake**	**11.94**	**132**	⇑P	**Pn**	**04 56 31.5**	**+1.4**
	baz=12						
ISA	**Isabella, Lake**	**11.94**	**132**	*e*Pn	**Pn**	**04 56 30.9**	**+0.8**
DLMT	**Dillon**	**11.98**	**79**	*e*Pn	**Pn**	**04 56 32.0**	**+1.3**
LRM	**Limekiln Ridge**	**12.09**	**76**	*e*Pn	**Pn**	**04 56 31.7**	**-0.6**
ARVC	**Arvin**	**12.16**	**135**	⇓P	**Pn**	**04 56 34.5**	**+1.4**
	baz=12						
FURC	**Furnace Creek,**	**12.27**	**125**	⇑P	Pn	04 56 38.4	+3.9
	baz=12						
HVU	**Hansel Valley**	**12.40**	**96**	*e*P	**Pn**	**04 56 37.0**	**+0.6**
HVU	**Hansel Valley**	**12.40**	**96**	*e*Pn	**Pn**	**04 56 37.0**	**+0.6**
BGU	**Big Grassy Mou**	**12.49**	**100**	*e*Pn	**Pn**	**04 56 39.0**	**+1.3**
HRY	**Holter Researc**	**12.57**	**72**	*e*Pn	**Pn**	**04 56 39.7**	**+1.0**
BOZ	**Bozeman (W)**	**12.66**	**77**	*e*P	**Pn**	**04 56 39.8**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,55nm,1.2s						
BOZ	**Bozeman (W)**	**12.66**	**77**	*e*Pn	**Pn**	**04 56 39.8**	**-0.2**
	comp=Z,56nm,1.2s						
SPUT	**South Promonto**	**12.78**	**97**	*e*Pn	**Pn**	**04 56 41.3**	**-0.3**
	comp=Z,29nm,1.4s						
EDW2	**Edwards Air Fo**	**12.79**	**133**	⇓P	**Pn**	**04 56 43.3**	**+1.6**
	baz=13						
QLMT	**Earthquake Lak**	**12.83**	**81**	*e*Pn	**Pn**	**04 56 43.5**	**+1.2**
DUG	**Dugway, Tooele**	**12.92**	**102**	*e*P	**Pn**	**04 56 44.2**	**+0.7**
DUG	**Dugway, Tooele**	**12.92**	**102**	⇑P	**Pn**	**04 56 44.5**	**+0.9**
	baz=13,SNR=10.0						
DUG	**Dugway, Tooele**	**12.92**	**102**	*e*Pn	**Pn**	**04 56 44.2**	**+0.7**
SHOC	**Shoshone, Teco**	**13.01**	**125**	⇑P	**Pn**	**04 56 46.6**	**+2.0**
	baz=13						
GSC	**Goldstone, Bar**	**13.12**	**128**	*e*P	**Pn**	**04 56 48.5**	**+2.2**
GSC	**Goldstone, Bar**	**13.12**	**128**	⇑P	**Pn**	**04 56 48.0**	**+1.7**
	baz=13						
GSC	**Goldstone, Bar**	**13.12**	**128**	*e*Pn	**Pn**	**04 56 48.5**	**+2.2**
YMR	**Madison River**	**13.17**	**82**	*e*Pn	**Pn**	**04 56 48.4**	**+1.4**
FXWY	**Fox Creek**	**13.24**	**86**	*e*Pn	**Pn**	**04 56 50.1**	**+2.0**
IMW	**Indian Meadow**	**13.27**	**85**	*e*Pn	**Pn**	**04 56 50.6**	**+2.2**
SHPR	**Sheep Range**	**13.28**	**121**	*e*Pn	**Pn**	**04 56 51.0**	**+2.5**
YFT	**Old Faithful**	**13.28**	**82**	*e*Pn	**Pn**	**04 56 50.9**	**+2.3**
HWUT	**Hardware Ranch**	**13.31**	**95**	*e*Pn	**Pn**	**04 56 49.3**	**+0.4**
TPAW	**Teton Pass**	**13.32**	**87**	*e*Pn	**Pn**	**04 56 51.2**	**+2.1**
AHID	**Auburn Hatcher**	**13.35**	**90**	*e*Pn	**Pn**	**04 56 50.8**	**+1.3**
	comp=Z,80nm,1.2s						
YNR	**Norris Junctio**	**13.37**	**81**	*e*Pn	**Pn**	**04 56 52.6**	**+2.9**
REDW	**Red Top Meadow**	**13.42**	**87**	*e*Pn	**Pn**	**04 56 52.2**	**+1.9**
FLWY	**Flagg Ranch**	**13.42**	**84**	*e*Pn	**Pn**	**04 56 53.1**	**+2.7**
BFSC	**Mount Baldy Ra**	**13.46**	**134**	⇓P	**Pn**	**04 56 52.8**	**+1.8**
	baz=14						
H17A	**Grant Village**	**13.47**	**83**	P	Pn	04 56 54.5	+3.4
	baz=13,SNR=41						
H17A	**Grant Village**	**13.47**	**83**	*e*Pn	Pn	04 56 54.6	+3.4
CTU	**Camp Tracy**	**13.48**	**99**	*e*Pn	**Pn**	**04 56 52.1**	**+0.9**
I17A	**Pilgrim Ck.**	**13.53**	**85**	P	**Pn**	**04 56 54.6**	**+2.8**
	baz=14,SNR=70						
NLU	**North Lily Min**	**13.53**	**102**	*e*Pn	**Pn**	**04 56 54.3**	**+2.3**
LOHW	**Long Hollow**	**13.55**	**86**	*e*Pn	**Pn**	**04 56 54.2**	**+2.0**
TCUT	**Toone Canyon**	**13.58**	**97**	*e*Pn	**Pn**	**04 56 54.5**	**+1.9**
	comp=Z,50nm,1.1s						
LKWY	**Lake**	**13.58**	**82**	*e*P	**Pn**	**04 56 55.3**	**+2.6**
LKWY	**Lake**	**13.58**	**82**	*e*Pn	**Pn**	**04 56 55.3**	**+2.6**
ARUT	**Antelope Range**	**13.63**	**113**	*e*P	**Pn**	**04 56 55.2**	**+2.0**
ARUT				pmax	pmax		
	comp=Z,1μm,1.1s						
ARUT	**Antelope Range**	**13.63**	**113**	*e*Pn	**Pn**	**04 56 55.2**	**+2.0**
	comp=Z,1μm,1.1s						
JLU	**Jordanelle**	**13.73**	**99**	*e*Pn	**Pn**	**04 56 54.1**	**-0.6**
HEC	**Hector,Ludlow**	**13.73**	**129**	⇑P	**Pn**	**04 56 56.5**	**+1.9**
	baz=14						
CCUT	**Cedar City**	**13.81**	**113**	*e*Pn	**Pn**	**04 56 58.3**	**+2.5**
MPU	**Maple Canyon**	**13.82**	**101**	*e*Pn	Pn	04 57 00.2	+4.3
EDM	**Edmonton**	**13.88**	**44**	*e*P	**Pn**	**04 56 56.5**	**+0.1**
EDM	**Edmonton**	**13.88**	**44**	*e*Pn	**Pn**	**04 56 56.5**	**+0.1**
DAU	**Daniels Canyon**	**13.93**	**100**	*e*P	**Pn**	**04 56 57.1**	**-0.4**
DAU	**Daniels Canyon**	**13.93**	**100**	*e*Pn	**Pn**	**04 56 57.1**	**-0.4**
GCMT	**Greycliff**	**14.04**	**77**	*e*Pn	**Pn**	**04 56 59.2**	**+0.4**
	comp=Z,82nm,1.1s						
MVU	**Marysvale**	**14.09**	**108**	*e*Pn	**Pn**	**04 57 00.9**	**+1.3**
H18A	**Shoshone NF, C**	**14.10**	**81**	⇑P	**Pn**	**04 57 00.8**	**+1.2**
	baz=14,SNR=23						
EGMT	**Eagleton**	**14.13**	**67**	⇑P	**Pn**	**04 57 00.0**	**+0.1**
	baz=14,SNR=14						
EGMT	**Eagleton**	**14.13**	**67**	*e*Pn	**Pn**	**04 56 59.0**	**-0.9**
GMRC	**Granite Mounta**	**14.15**	**127**	⇓P	**Pn**	**04 57 01.8**	**+1.5**
	baz=14,SNR=7.6						
MURC	**Murrieta**	**14.20**	**134**	⇑P	**Pn**	**04 57 01.2**	**+0.3**
	baz=14						
DLBC	**Dease Lake**	**14.26**	**359**	Pn	**P**	**04 57 07.3**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=204,slow=20,SNR=2.8						
DLBC				LR	LR	05 01 50.4	
	comp=Z,683nm,18.6s,baz=162,slow=34						
DLBC	**Dease Lake**	**14.26**	**359**	*e*Pn	**P**	**04 57 11.5**	**+2.6**
LDFC	**Landfair**	**14.26**	**125**	*e*Pn	**Pn**	**04 57 03.0**	**+1.1**
RLMT	**Red Lodge**	**14.34**	**79**	*e*Pn	**Pn**	**04 57 03.0**	**-0.1**
	comp=Z,46nm,1.1s						
TMUT	**Trail Mountain**	**14.42**	**104**	*e*Pn	**Pn**	**04 57 05.1**	**+1.0**
BW06	**Boulder Array**	**14.46**	**89**	*e*Pn	**Pn**	**04 57 05.3**	**+0.6**
	comp=Z,59nm,1.5s						
PDAR	**Pinedale Array**	**14.46**	**89**	Pn	**Pn**	**04 57 05.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=282,slow=10,SNR=38						
PDAR				LR	LR	05 02 44.3	
	comp=Z,1μm,20.8s,baz=278,slow=38						
BELC	**Belle Mtn. Jos**	**14.53**	**130**	⇓P	**Pn**	**04 57 08.2**	**+2.6**
	baz=14,SNR=12						
F19A	**Roth Farm, Mol**	**14.54**	**76**	⇑P	**Pn**	**04 57 06.5**	**+0.8**
	baz=14,SNR=16						
C19A	**Slack Wire Ran**	**14.56**	**69**	P	**Pn**	**04 57 06.5**	**+0.6**
	baz=14,SNR=73						
H19A	**Powell**	**14.58**	**81**	⇓P	**Pn**	**04 57 07.0**	**+0.9**
	baz=14,SNR=47						
PFO	**Pinyon Flats O**	**14.58**	**132**	*e*P	**Pn**	**04 57 07.7**	**+1.4**
PFO				pmax	pmax		
	comp=Z,15nm,1.2s						
PFO	**Pinyon Flats O**	**14.58**	**132**	Pn	**Pn**	**04 57 06.0**	**-0.2**
	baz=307,slow=5.1,SNR=2.6						
PFO	**Pinyon Flats O**	**14.58**	**132**	⇑P	**Pn**	**04 57 07.7**	**+1.4**
	baz=15						
PFO	**Pinyon Flats O**	**14.58**	**132**	*e*Pn	**Pn**	**04 57 07.7**	**+1.4**
	comp=Z,15nm,1.2s						
D19A	**Cripps Ranch,**	**14.63**	**71**	⇑P	**Pn**	**04 57 07.7**	**+0.9**
	baz=15,SNR=16						
I19A	**Meeteetse**	**14.64**	**84**	⇓P	**Pn**	**04 57 08.0**	**+0.8**
	baz=15,SNR=48						
E19A	**Rath Farm, Rou**	**14.66**	**74**	⇑P	**Pn**	**04 57 07.9**	**+0.7**
	baz=15,SNR=20						
J19A	**Crowheart**	**14.72**	**87**	⇑P	**Pn**	**04 57 08.4**	**+0.2**
	baz=15,SNR=24						
B19A	**Brinkman Farms**	**14.73**	**66**	⇓P	**Pn**	**04 57 08.1**	**-0.1**
	baz=15,SNR=11						
NEE2	**Needles Airpor**	**14.77**	**125**	⇓P	**Pn**	**04 57 09.5**	**+0.9**
	baz=15						
109C	**Camp Elliot, M**	**14.81**	**136**	⇓P	**Pn**	**04 57 10.7**	**+1.5**
	baz=15						
IRM	**Iron Mountain**	**14.89**	**128**	⇓P	**Pn**	**04 57 11.8**	**+1.4**
	baz=15						
A19A	**Klindworth Far**	**14.95**	**64**	⇑P	**Pn**	**04 57 10.4**	**-0.6**
	baz=15,SNR=24						
SRU	**San Rafael Swe**	**14.97**	**103**	*e*P	**Pn**	**04 57 12.8**	**+1.2**
SRU	**San Rafael Swe**	**14.97**	**103**	*e*Pn	**Pn**	**04 57 12.8**	**+1.2**
W13A	**Hualapai Mount**	**14.98**	**122**	⇓P	**Pn**	**04 57 13.1**	**+1.3**
	baz=15,SNR=8.4						
G20A	**Bridger**	**15.08**	**79**	⇑P	**Pn**	**04 57 13.1**	**+0.1**
	baz=15,SNR=9.2						
BC3	**Big Chuckawall**	**15.09**	**130**	⇓P	**Pn**	**04 57 13.6**	**+0.5**
	baz=15,SNR=14						
F20A	**Billings**	**15.10**	**76**	⇓P	**Pn**	**04 57 13.4**	**+0.2**
	baz=15,SNR=10						
E20A	**Meyer Farm, Mu**	**15.11**	**74**	⇑P	**Pn**	**04 57 13.1**	**-0.2**
	baz=15,SNR=12						
D20A	**Manuel Ranch,**	**15.13**	**72**	⇑P	**Pn**	**04 57 13.3**	**-0.1**
	baz=15,SNR=28						
U15A	**North Rim**	**15.15**	**115**	⇓P	**Pn**	**04 57 14.6**	**+0.5**
	baz=15,SNR=67						
MONP	**Monument Peak,**	**15.16**	**134**	⇓P	**Pn**	**04 57 15.1**	**+1.0**
	baz=15,SNR=12						
BAR	**Barrett**	**15.19**	**135**	*e*Pn	**P**	**04 57 19.3**	**-0.1**
	comp=Z,26nm,1.4s						
C20A	**Veseth Ranch,**	**15.26**	**69**	⇑P	**Pn**	**04 57 15.3**	**0.0**
	baz=15,SNR=15						
I20A	**Worland**	**15.28**	**84**	⇑P	**Pn**	**04 57 16.3**	**+0.8**
	baz=15,SNR=18						
H20A	**Greybull**	**15.30**	**81**	⇑P	**Pn**	**04 57 17.3**	**+1.5**
	baz=15,SNR=32						
B20A	**Solberg Farm,**	**15.34**	**66**	⇑P	**Pn**	**04 57 16.4**	**+0.2**
	baz=15						
PDMCI	**Parker Dam,Lak**	**15.38**	**125**	⇑P	**Pn**	**04 57 17.9**	**+1.2**
	baz=15						
J20A	**Shoshoni**	**15.40**	**86**	⇓P	**Pn**	**04 57 17.5**	**+0.3**
	baz=15,SNR=20						
SWSC	**Sam W. Stewart**	**15.45**	**132**	⇓P	**Pn**	**04 57 19.2**	**+1.6**
	baz=15,SNR=6.5						
A20A	**Cobblestone Ra**	**15.47**	**65**	⇓P	**Pn**	**04 57 17.7**	**-0.3**
	baz=15,SNR=16						
SKAG	**Skagway**	**15.70**	**349**	*e*Pn	**Pn**	**04 57 20.9**	**+0.1**
	comp=Z,27nm,1.0s						
G21A	**Lodge Grass**	**15.79**	**79**	⇓P	**Pn**	**04 57 22.5**	**+0.3**
	baz=16						
F21A	**Absaloka Mine,**	**15.82**	**76**	⇓P	**Pn**	**04 57 22.5**	**0.0**
	baz=16						
E21A	**Keefer Ranch,**	**15.84**	**74**	⇓P	**Pn**	**04 57 22.9**	**+0.2**
	baz=16,SNR=14						
J21A	**Lysite**	**15.86**	**85**	⇓P	**Pn**	**04 57 23.5**	**+0.3**
	baz=16,SNR=52						
C21A	**Desert Coulee**	**15.88**	**69**	⇓P	**Pn**	**04 57 24.0**	**+0.7**
	baz=16,SNR=22						
GLA	**Glamis**	**15.89**	**130**	*e*P	**Pn**	**04 57 23.6**

baz=18,SNR=8.3
I24A **Kuemmerle Ranc** 17.79 82 ⇓P Pn 04 57 47.6 +0.1
baz=18
PHWY **Pilot Hill** 17.79 91 *e*Pn Pn 04 57 46.9 -0.7
comp=Z,27nm,1.1s
O23A **Lake Granby, G** 17.82 95 ⇓P Pn 04 57 47.5 -0.4
baz=18,SNR=23
X18A **Snowflake** 17.82 116 ⇓P P 04 57 49.2 +0.5
baz=18,SNR=12
214A **Organ Pipe Nat** 17.84 128 ⇓P P 04 57 49.5 +0.9
baz=18,SNR=6.3
214A **Organ Pipe Nat** 17.84 128 *e*Pn Pn 04 57 49.0 +0.9
comp=Z,15nm,1.0s
J24A **Dixon Ranch, L** 17.86 84 ⇓P Pn 04 57 48.1 -0.3
baz=18,SNR=20
L24A **Wheatland** 17.96 88 ⇓P Pn 04 57 50.1 +0.5
baz=18
A24A **Westby** 18.04 66 ⇑P Pn 04 57 50.5 +0.1
baz=18,SNR=29
RSSD **Black Hills** 18.17 81 *e*P Pn 04 57 52.0 -0.2
RSSD pmax pmax
comp=Z,56nm,1.3s
RSSD **Black Hills** 18.17 81 *e*Pn Pn 04 57 52.0 -0.2
comp=Z,56nm,1.3s
S22A **4UR Ranch, Cre** 18.18 103 ⇓P Pn 04 57 52.6 +0.1
baz=18,SNR=26
ISCO **Idaho Springs** 18.18 96 *e*P Pn 04 57 51.6 -0.9
ISCO pmax pmax
comp=Z,22nm,0.8s
ISCO **Idaho Springs** 18.18 96 ⇑P Pn 04 57 51.8 -0.7
baz=18,SNR=25
ISCO **Idaho Springs** 18.18 96 *e*Pn Pn 04 57 51.6 -0.9
comp=Z,22nm,0.8s
P23A **Jefferson** 18.18 97 ⇑P Pn 04 57 52.6 +0.1
baz=18,SNR=19
M24A **Cheyenne** 18.20 90 ⇓P Pn 04 57 51.6 -1.0
baz=18,SNR=11
N24A **Carr** 18.35 92 ⇓P Pn 04 57 54.2 -0.3
baz=18,SNR=13
F25A **Bowman** 18.37 76 ⇓P Pn 04 57 54.4 0.0
baz=18
Q23A **Hartsel** 18.37 99 ⇑P P 04 57 54.6 -0.3
baz=18
E25A **Miller Ranch,** 18.38 74 ⇑P Pn 04 57 54.7 +0.1
baz=18,SNR=9.0
I25A **Rochford** 18.40 82 ⇑P Pn 04 57 55.5 +0.5
baz=18,SNR=30
H25A **Fruitdale** 18.40 80 ⇑P P 04 57 55.1 +0.2
baz=18,SNR=30
D25A **Fairfield** 18.42 72 ⇑P Pn 04 57 56.3 +1.2
baz=18,SNR=14
O24A **Longmont** 18.45 94 ⇑P P 04 57 55.7 +0.2
baz=18,SNR=13
G25A **Newell** 18.46 78 ⇓P Pn 04 57 56.1 +0.5
baz=18,SNR=20
J25A **Sunshine Ranch** 18.46 84 ⇓P P 04 57 55.5 -0.1
baz=18,SNR=15
C25A **Freed Ranch, W** 18.46 70 ⇓P Pn 04 57 56.6 +1.0
baz=18
B25A **Knox Farm, Ray** 18.55 68 ⇑P P 04 57 56.1 -0.3
baz=18,SNR=8.3
K25A **Mack Ranch, Ha** 18.58 86 ⇑P P 04 57 56.9 0.0
baz=18,SNR=22
A25A **Svangstu Ranch** 18.62 66 ⇑P Pn 04 57 58.1 +0.6
baz=18,SNR=17
L25A **Engebretsen Ra** 18.63 87 ⇑P Pn 04 57 58.5 +0.7
baz=19
R23A **Moffat** 18.68 101 ⇓P Pn 04 57 59.4 +0.8
baz=19
M25A **Palm-Egli Farm** 18.76 90 ⇓P Pn 04 58 00.4 +1.0
baz=19
TUC **Tucson** 18.77 123 *e*P Pn 04 58 00.3 +0.8
TUC pmax pmax
comp=Z,31nm,1.4s
TUC **Tucson** 18.77 123 *e*P Pn 04 58 00.2 +0.8
comp=Z,31nm,1.4s
S23A **Nye Farm, Mont** 18.78 102 ⇑P Pn 04 58 00.7 +0.9
baz=19,SNR=26
P24A **Kohler Place,** 18.79 96 ⇓P Pn 04 58 00.1 +0.3
baz=19
Q24A **Divide** 18.84 98 ⇓P Pn 04 58 00.8 +0.3
baz=19,SNR=5.6
U22A **Llaves** 18.84 107 ⇑P Pn 04 58 01.6 +1.2
baz=19,SNR=89
F26A **Lodgepole** 18.92 76 ⇓P Pn 04 58 01.7 +0.5
baz=19,SNR=26
N25A **Grover** 18.93 92 ⇑P P 04 58 01.3 +0.5
baz=19
H26A **Fairpoint** 18.99 79 ⇑P Pn 04 58 02.4 +0.4
baz=19,SNR=21
J26A **Sides Ranch, S** 19.00 83 ⇓P Pn 04 58 02.7 +0.5
baz=19,SNR=28
I26A **New Underwood** 19.02 81 ⇓P Pn 04 58 02.8 +0.4
baz=19,SNR=38
D26A **Manning** 19.02 72 ⇓P Pn 04 58 02.7 +0.3
baz=19,SNR=20
G26A **Maurine** 19.02 77 ⇑P Pn 04 58 03.2 +0.8
baz=19,SNR=21
E26A **Carlson Angus** 19.03 74 ⇑P Pn 04 58 02.5 +0.1
baz=19,SNR=17
V22A **San Miguel Ran** 19.05 108 ⇑P Pn 04 58 04.3 +1.3
baz=19,SNR=86
K26A **Motz Farm, Whi** 19.06 85 ⇑P Pn 04 58 03.6 +0.7
baz=19,SNR=13
T23A **Casias Ranch,** 19.07 104 ⇓P Pn 04 58 04.6 +1.3
baz=19,SNR=50
BMRM **Bremner River** 19.08 337 *e*Pn Pn 04 58 12.9 +10
comp=Z,26nm,1.1s
SDCO **Great Sand Dun** 19.11 101 *e*Pn Pn 04 58 04.2 +0.3
comp=Z,137nm,1.7s
O25A **Wiggins** 19.14 94 ⇑P Pn 04 58 04.6 +0.7
baz=19
B26A **Jensen Ranch,** 19.17 68 ⇑P Pn 04 58 04.6 +0.4
baz=19
R24A **Sanders Place,** 19.18 100 ⇑P Pn 04 58 05.1 +0.6
baz=19
C26A **Wahner Farm, P** 19.25 70 ⇑P Pn 04 58 05.4 +0.3
baz=19,SNR=22
L26A **Underwood Farm** 19.29 87 ⇓P Pn 04 58 05.6 -0.1
baz=19
U23A **El Rito** 19.32 106 ⇓P Pn 04 58 07.1 +0.9
baz=19,SNR=28
P25A **Willow Gulch B** 19.32 95 ⇑P Pn 04 58 06.8 +0.6
baz=19,SNR=30
A26A **Wade Farm, Ken** 19.33 66 ⇑P Pn 04 58 05.9 -0.1
baz=19,SNR=16
S24A **Houchin Ranch,** 19.36 101 ⇓P Pn 04 58 07.9 +1.0
baz=19,SNR=19
F27A **Lemmon** 19.37 75 ⇓P Pn 04 58 06.8 +0.2
baz=19,SNR=23
M26A **McRoberts Ranc** 19.41 89 ⇓P P 04 58 06.9 +0.9
baz=19
H27A **Howes** 19.48 79 ⇑P Pn 04 58 07.8 -0.1
baz=19,SNR=14
G27A **Dupree** 19.48 77 ⇓P Pn 04 58 07.8 -0.1
baz=19,SNR=22
Q25A **Bedland, Calha** 19.50 97 ⇓P Pn 04 58 08.8 +0.5
baz=19,SNR=23
T24B **San Luis** 19.52 103 ⇓P Pn 04 58 09.2 +0.5
baz=20,SNR=32
N26A **Koester Ranch,** 19.54 91 ⇓P Pn 04 58 08.9 +0.2
baz=20
DIV **Divide** 19.55 336 *e*P Pn 04 58 10.2 +1.5
comp=Z,31nm,1.0s
I27A **Quinn** 19.58 81 ⇓P Pn 04 58 09.3 +0.1
baz=20
V23A **Ortiz Mt. (NFS** 19.63 108 ⇑P Pn 04 58 11.0 +1.1
baz=20,SNR=39
D27A **Center** 19.64 72 ⇓P Pn 04 58 09.4 -0.4
baz=20
C27A **Sayler Ranch,** 19.65 70 ⇓P Pn 04 58 09.9 0.0
baz=20,SNR=18
E27A **Carson** 19.65 74 ⇑P Pn 04 58 10.2 +0.3
baz=20,SNR=20
O26A **Horse Wrangler** 19.67 93 ⇓P Pn 04 58 10.8 +0.5
baz=20
K27A **Flueckinger Fa** 19.73 85 ⇑P Pn 04 58 10.9 -0.1
baz=20,SNR=17
LAZ **Ladron** 19.75 112 *e*P Pn 04 58 11.8 +0.5
comp=Z,20nm,1.2s
J27A **Elkhorn Farm,** 19.77 83 ⇑P Pn 04 58 11.2 -0.3
baz=20,SNR=32
R25A **Fountain Ranch** 19.80 99 ⇓P Pn 04 58 11.9 0.0
baz=20,SNR=31
B27A **Peters Farms,** 19.82 68 ⇓P P 04 58 11.3 +1.0
baz=20
L27A **T5 Ranch, Ells** 19.83 87 ⇑P P 04 58 11.6 +1.0
baz=20

A27A **Ledoux Ranch,** 19.86 66 ⇑P Pn 04 58 12.0 -0.4
baz=20
ANMO **Albuquerque** 19.89 110 ⇑*e*P P 04 58 12.1 +0.8
ANMO pmax pmax
comp=Z,45nm,0.8s
ANMO **Albuquerque** 19.89 110 P P 04 58 11.3 0.0
comp=Z,0.1nm,0.3s,baz=314,slow=12,SNR=23
ANMO LR LR 05 06 11.6
comp=Z,1µm,20.7s,baz=308,slow=38
ANMO **Albuquerque** 19.89 110 *e*P P 04 58 12.0 +0.6
comp=Z,33nm,1.4s
P26A **Davis Ranch, A** 19.89 94 ⇑P P 04 58 12.3 +1.0
baz=20,SNR=18
S25A **Robets Cordova** 19.90 101 ⇓P Pn 04 58 13.0 -0.2
baz=20,SNR=30
U24A **Moreno Valley** 19.91 105 ⇓P Pn 04 58 14.3 +0.9
baz=20,SNR=35
W23A **Werner Place,** 19.98 109 ⇓P Pn 04 58 14.3 +0.3
baz=20,SNR=27
SEW **Seward** 19.99 330 *e*P Pn 04 58 14.3 +0.5
comp=Z,136nm,1.6s
LENM **Lemitar** 20.00 112 *e*P Pn 04 58 14.1 -0.1
Q26A **Hugo** 20.02 96 ⇓P Pn 04 58 14.2 -0.2
baz=20,SNR=30
N27A **Anderson Farm,** 20.04 90 ⇑P Pn 04 58 14.4 -0.4
baz=20
Y22D **IRIS PASSCAL I** 20.09 113 ⇓P Pn 04 58 15.9 +0.6
baz=20
LPM **Los Pinos Moun** 20.14 112 *e*P Pn 04 58 15.8 -0.2
T25A **Trinidad** 20.16 102 ⇓P P 04 58 15.7 +1.3
baz=20,SNR=42
H28A **Mission Ridge** 20.22 79 ⇑P Pn 04 58 16.2 -0.5
baz=20,SNR=17
I28A **Midland** 20.22 81 ⇑P Pn 04 58 16.6 -0.1
baz=20,SNR=24
F28A **McLaughlin** 20.22 75 ⇑P Pn 04 58 16.4 -0.3
baz=20,SNR=13
G28A **Parade** 20.23 78 ⇓P Pn 04 58 16.5 -0.4
baz=20,SNR=23
YKA **Yellowknife Ar** 20.24 20 P P 04 58 15.2 +0.6
comp=Z,10nm,0.9s,baz=209,slow=10,SNR=70
YKA PcP PcP 05 02 26.8 -1.2
comp=Z,1.4nm,0.8s,baz=200,slow=2.2,SNR=11
E28A **Huff** 20.24 73 ⇓P Pn 04 58 16.4 -0.5
baz=20,SNR=18
V24A **Rampart Ranch,** 20.27 106 ⇑P Pn 04 58 17.9 +0.2
baz=20,SNR=80
X23A **Hourglass Bar** 20.28 110 ⇓P Pn 04 58 18.3 +0.7
baz=20
J28A **Allard Ranch,** 20.29 82 ⇓P Pn 04 58 17.2 -0.3
baz=20,SNR=5.9
O27A **Beecher Island** 20.29 92 ⇑P Pn 04 58 17.2 -0.4
baz=20,SNR=20
D28A **Regan** 20.29 71 ⇑P Pn 04 58 17.1 -0.4
baz=20,SNR=15
R26A **Arlington** 20.32 98 ⇑P Pn 04 58 18.1 0.0
baz=20,SNR=19
319A **Douglas** 20.34 122 ⇑P Pn 04 58 18.5 +0.3
baz=20,SNR=18
K28A **Ten Mile Ranch** 20.35 84 ⇓P Pn 04 58 18.9 +0.6
baz=20,SNR=13
OGNE **Ogallala** 20.36 90 ⇑P Pn 04 58 18.6 +0.1
baz=20,SNR=7.2
OGNE **Ogallala** 20.36 90 *e*P Pn 04 58 18.0 -0.5
comp=Z,9nm,1.2s
C28A **Hausauer Farms** 20.40 70 ⇓P Pn 04 58 18.9 +0.2
baz=20,SNR=11
B28A **Dugan Ranch, T** 20.42 68 ⇓P Pn 04 58 19.0 +0.1
baz=20,SNR=64
L28A **Connealy Angus** 20.42 86 ⇑P P 04 58 18.2 +1.2
baz=20
P27A **Ficken Ranch,** 20.45 94 ⇓P Pn 04 58 19.0 -0.5
baz=20,SNR=11
W24A **Lazy 6 Ranch,** 20.45 108 ⇑P Pn 04 58 19.7 0.0
baz=20,SNR=105
121A **Cookes Peak, D** 20.49 117 ⇓P Pn 04 58 20.2 +0.1
baz=20,SNR=29
121A **Cookes Peak, D** 20.49 117 *e*P P 04 58 19.3 +1.5
comp=Z,116nm,1.2s
A28A **Rude Farm, Bot** 20.50 66 ⇓P Pn 04 58 19.2 -0.7
baz=20,SNR=18
U25A **Circle Dot Ran** 20.52 104 ⇓P Pn 04 58 20.0 -0.5
baz=20,SNR=59
FFC **Flin Flon** 20.55 50 P P 04 58 18.0 -0.2
comp=Z,433nm,0.9s,SNR=44
FFC **Flin Flon** 20.55 50 *e*P P 04 58 18.8 +0.6
FFC pmax pmax
comp=Z,71nm,0.9s
FFC **Flin Flon** 20.55 50 *e*P P 04 58 18.8 +0.6
comp=Z,71nm,0.9s
Z22A **Elephant Butte** 20.56 115 ⇓P Pn 04 58 20.7 -0.2
baz=20,SNR=39
S26A **Kim** 20.60 100 ⇑P P 04 58 20.3 +1.2
baz=20,SNR=22
KSCO **Kaye Shedlock'** 20.62 95 ⇑P P 04 58 20.5 +1.3
baz=20,SNR=18
KSCO **Kaye Shedlock'** 20.62 95 *e*P P 04 58 20.2 +1.0
comp=Z,69nm,1.0s
V25A **Rancho No Teng** 20.66 105 ⇑P Pn 04 58 21.8 -0.4
baz=21,SNR=52
DAWY **Dawson** 20.70 348 *e*P Pn 04 58 21.9 -0.2
M28A **Bar X Bar Ranc** 20.70 88 ⇓P P 04 58 20.8 +0.8
baz=21
T26A **Comanche Natio** 20.72 101 ⇑P P 04 58 21.6 +1.2
baz=21,SNR=56
RC01 **Rabbit Creek A** 20.79 332 *e*P Pn 04 58 22.9 -0.2
comp=Z,43nm,1.0s
H29A **Onida** 20.79 79 ⇓P P 04 58 22.2 +1.3
baz=21,SNR=34
R27A **Eads** 20.79 97 ⇓P P 04 58 22.3 +1.2
baz=21,SNR=41
N28A **Pribbeno Ranch** 20.80 90 ⇑P P 04 58 22.3 +1.2
baz=21,SNR=20
O28A **Krutsinger Ran** 20.82 92 ⇑P P 04 58 22.1 +0.8
baz=21,SNR=48
I29A **Vivian Onida** 20.83 80 ⇑P P 04 58 22.4 +1.1
baz=21,SNR=29
F29A **Eureka** 20.90 75 ⇓P P 04 58 23.3 +1.2
baz=21,SNR=6.8
G29A **Hoven** 20.91 77 ⇑P P 04 58 23.4 +1.2
baz=21
MDND **Maddock** 20.93 69 ⇓P P 04 58 23.5 +1.2
baz=21,SNR=13
MDND **Maddock** 20.93 69 *e*P P 04 58 23.5 +1.2
comp=Z,62nm,1.6s
J29A **Okreek** 20.94 82 ⇓P P 04 58 23.4 +0.8
baz=21,SNR=33
PMR **Palmer** 20.95 333 *e*P Pn 04 58 24.8 -0.2
PMR pmax pmax
comp=Z,47nm,1.0s
PMR **Palmer** 20.95 333 *e*P Pn 04 58 24.8 -0.2
comp=Z,47nm,1.0s
D29A **Pettibone, Tap** 20.96 72 ⇑P P 04 58 23.8 +1.1
baz=21,SNR=27
E29A **Napoleon** 20.96 73 ⇑P P 04 58 23.7 +0.9
baz=21,SNR=29
PAX **Paxson** 20.97 339 *e*P Pn 04 58 25.2 -0.2
PAX pmax pmax
comp=Z,11nm,0.9s
PAX **Paxson** 20.97 339 *e*P Pn 04 58 25.1 -0.2
comp=Z,11nm,0.9s
S27A **Las Animas** 20.98 99 ⇓P P 04 58 24.3 +1.2
baz=21
U26A **Atchley Ranch,** 20.99 103 ⇓P P 04 58 25.0 +1.7
baz=21,SNR=33
P28A **Saint Francis** 21.03 93 ⇑P P 04 58 24.4 +0.8
baz=21,SNR=12
K29A **Lazy Trails An** 21.09 84 ⇓P P 04 58 25.4 +1.2
baz=21,SNR=32
B29A **Wagenman Farm,** 21.09 68 ⇓P P 04 58 25.5 +1.4
baz=21,SNR=28
W25A **X Bar L Ranch,** 21.10 107 ⇓P P 04 58 26.7 +2.3
baz=21,SNR=58
L29A **Maesberg Ranch** 21.15 86 ⇓P P 04 58 25.6 +0.8
baz=21
Y24A **Capitan** 21.16 111 ⇑P P 04 58 26.7 +1.6
baz=21,SNR=24
Q28A **Sharon Springs** 21.17 94 ⇑P P 04 58 25.9 +0.8
baz=21
M29A **Burnside Ranch** 21.18 87 ⇓P P 04 58 26.1 +0.9
baz=21,SNR=24
A29A **Manning Farm,** 21.18 66 ⇑P P 04 58 26.1 +1.1
baz=21,SNR=103
DOT **Dot Lake** 21.21 342 *e*P P 04 58 27.6 +2.4
comp=Z,18nm,1.0s
V26A **Tequesquite Ra** 21.26 104 ⇑P P 04 58 28.1 +2.0
baz=21,SNR=66
X25A **Clemmons Ranch** 21.34 108 ⇑P P 04 58 28.9 +1.8
baz=21,SNR=14
T27A **Campo** 21.39 100 ⇑P P 04 58 28.8 +1.3
baz=21,SNR=32
N29A **Votaw Ranch, W** 21.41 89 ⇑P P 04 58 28.2 +0.5
baz=21
F30A **Leola** 21.46 75 ⇓P P 04 58 29.0 +1.0
baz=21
RSO **Redoubt South** 21.47 328 *e*P P 04 58 30.0 +1.8
G30A **Faulkton** 21.47 77 ⇓P P 04 58 29.0 +0.8
baz=21
E30A **Jud** 21.47 73 ⇑P P 04 58 29.0 +0.8
baz=21,SNR=17
R28A **Tribune** 21.48 96 ⇓P P 04 58 29.1 +0.7
baz=21,SNR=18
I30A **Oacoma** 21.48 80 ⇑P P 04 58 28.8 +0.5
baz=21
O29A **4D Ranch, Culb** 21.52 91 ⇓P P 04 58 29.4 +0.5
baz=21,SNR=25
D30A **Buchanan** 21.53 71 ⇓P P 04 58 29.3 +0.5
baz=21,SNR=69
J30A **Dallas** 21.55 82 ⇓P P 04 58 29.7 +0.6
baz=22,SNR=28
P29A **Atwood** 21.61 92 ⇓P P 04 58 30.3 +0.5
baz=22,SNR=23
K30A **Basset** 21.62 84 ⇓P P 04 58 30.7 +0.8
baz=22,SNR=20
U27A **Thompson Grove** 21.62 102 ⇓P P 04 58 31.3 +1.2
baz=22,SNR=38
EGAK **Eagle** 21.65 346 *e*P P 04 58 31.7 +1.8
comp=Z,28nm,1.2s
W26A **Owens Ranch, T** 21.65 106 ⇓P P 04 58 31.8 +1.5
baz=22,SNR=18
C30A **Mose, Pekin** 21.69 70 ⇑P P 04 58 31.4 +0.9
baz=22
BRSD **Miller** 21.71 79 ⇑P P 04 58 31.3 +0.5
baz=22,SNR=11
BRSD **Miller** 21.71 79 *e*P P 04 58 29.9 -0.9
comp=Z,90nm,0.9s
L30A **Spencer Herefo** 21.73 86 ⇓P P 04 58 31.6 +0.5
baz=22
S28A **Manter** 21.74 98 ⇑P P 04 58 32.0 +0.8
baz=22,SNR=21
M30A **Dale-Ortello V** 21.74 87 ⇓P P 04 58 31.9 +0.8
baz=22
B30A **Myrvik Farm, E** 21.77 68 ⇓P P 04 58 32.1 +0.7
baz=22,SNR=61
A30A **Hoffart Farm,** 21.79 66 ⇑P P 04 58 32.3 +0.7
baz=22,SNR=153
T28A **Walsh** 21.80 100 ⇓P P 04 58 33.0 +1.1
baz=22,SNR=34
N30A **Hueftle Ranch,** 21.80 89 ⇑P P 04 58 32.5 +0.6
baz=22
Q29A **Oakley** 21.85 94 ⇑P P 04 58 32.8 +0.5
baz=22,SNR=20
X26A **CR and CF Fran** 21.91 107 ⇑P P 04 58 34.5 +1.4
baz=22,SNR=40
R29A **Marienthal** 21.92 95 ⇓P P 04 58 33.9 +0.7
baz=22
V27A **Dan Oppiter Fa** 21.95 103 ⇑P P 04 58 34.9 +1.4
baz=22,SNR=11
O30A **MW Ranch, Wils** 22.04 90 ⇓P P 04 58 34.8 +0.5
baz=22,SNR=20
U28A **Mallet** 22.07 101 ⇓P P 04 58 37.2 +2.4
baz=22,SNR=13
P30A **Selden** 22.13 92 ⇓P P 04 58 36.2 +0.8
baz=22,SNR=12
W27A **Bowe Ranch, En** 22.15 105 ⇑P P 04 58 36.8 +1.1
baz=22
S29A **Ulysses** 22.28 97 ⇑P P 04 58 37.7 +0.7
baz=22
L31A **Butterfield Fa** 22.30 85 ⇑P P 04 58 37.8 +0.6
baz=22
X27A **F and S Farms,** 22.35 106 ⇓P P 04 58 39.8 +1.9
baz=22,SNR=11
Q30A **Quinter** 22.36 93 ⇑P P 04 58 38.4 +0.6
baz=22,SNR=20
T29A **Hugoton** 22.36 99 ⇑P P 04 58 38.8 +0.9
baz=22
V28A **Channing** 22.38 103 ⇑P P 04 58 39.0 +0.9
baz=22
M31A **Lambtecht Ranc** 22.44 87 ⇑P P 04 58 39.7 +1.1
baz=22
MCK **McKinley** 22.51 337 *e*P P 04 58 41.3 +2.1
MCK pmax pmax
comp=Z,45nm,1.0s
MCK **McKinley** 22.51 337 *e*P P 04 58 41.3 +2.1
comp=Z,44nm,1.0s
O31A **Woolen Ranch,** 22.57 90 ⇑P P 04 58 41.6 +1.6
baz=22
MNTX **Cornudas Mount** 22.58 115 *e*P P 04 58 41.0 +0.8
comp=Z,22nm,1.4s
R30A **Dighton** 22.60 95 ⇓P P 04 58 41.1 +0.7
baz=22,SNR=20
N31A **Bailey Ranch,** 22.61 88 ⇓P P 04 58 42.3 +1.8
baz=22
W28A **Vega** 22.64 104 ⇓P P 04 58 43.0 +2.0
baz=23,SNR=6.0
TRF **Thorofare Moun** 22.69 335 *e*P P 04 58 43.6 +2.4
comp=Z,32nm,1.1s
U29A **Oasis Ranch, S** 22.71 100 ⇑P P 04 58 43.9 +2.3
baz=23
Y27A **Causey** 22.73 108 ⇓P P 04 58 42.9 +1.0
baz=23,SNR=19
S30A **Montezuma** 22.74 97 ⇓P P 04 58 44.0 +2.2
baz=23,SNR=9.2
P31A **Stockton** 22.76 91 ⇓P P 04 58 43.9 +1.8
baz=23,SNR=12
V29A **Stinnett** 22.81 102 ⇓P P 04 58 44.1 +1.4
baz=23
ILAR **Eielson Array** 22.82 341 P P 04 58 44.1 +1.7
comp=Z,20nm,1.0s,baz=156,slow=7.7,SNR=102
ILAR PcP PcP 05 02 32.4 -0.7
comp=Z,2.0nm,0.8s,baz=192,slow=2.1,SNR=13
PPLA **Purkeypile** 22.88 333 *e*P P 04 58 45.0 +1.7
comp=Z,201nm,1.5s
Q31A **Ellis** 22.94 93 ⇑P P 04 58 45.1 +1.1
baz=23,SNR=6.3
MSTX **Muleshoe** 22.95 107 ⇓P P 04 58 45.4 +1.2
baz=23,SNR=7.6
MSTX **Muleshoe** 22.95 107 *e*P P 04 58 44.8 +0.6
comp=Z,25nm,1.1s
T30A **Plains** 22.95 98 ⇑P P 04 58 46.3 +2.2
baz=23
KTH **Kantishna Hill** 22.96 335 *e*P P 04 58 45.6 +1.6
comp=Z,133nm,2.1s
SVW2 **Sparrevohn** 22.96 327 *e*P P 04 58 45.4 +1.5
comp=Z,40nm,1.3s
X28A **Dimmitt** 23.04 106 ⇓P P 04 58 46.4 +1.3
baz=23,SNR=6.0
W29A **Amarillo** 23.11 104 ⇑P P 04 58 48.0 +2.3
baz=23
N32A **Stulken Farm,** 23.11 88 ⇑P P 04 58 46.5 +0.8
baz=23
U30A **WK&E Inc. Balk** 23.11 99 ⇓P P 04 58 46.7 +0.9
baz=23,SNR=6.5
R31A **Burdett** 23.13 94 ⇓P P 04 58 47.5 +1.5
baz=23,SNR=21
COLA **College** 23.14 340 ⇓*i*P P 04 58 47.6 +1.9
COLA pmax pmax
comp=Z,149nm,2.5s
COLA **College** 23.14 340 *e*P P 04 58 47.2 +1.5
comp=Z,17nm,1.1s
AMTX **Amarillo** 23.21 104 ⇑P P 04 58 48.3 +1.6
baz=23
AMTX **Amarillo** 23.21 104 *e*P P 04 58 47.1 +0.3
comp=Z,50nm,0.9s
CAST **Castle Rocks** 23.22 334 *e*P P 04 58 50.1 +3.5
comp=Z,81nm,1.8s
P32A **Huiting Farm,** 23.28 91 ⇑P P 04 58 48.5 +1.1
baz=23,SNR=13
O32A **Brockman Farm,** 23.29 89 ⇓P P 04 58 48.9 +1.4
baz=23
Y28A **McKinney Farm,** 23.34 107 ⇓P P 04 58 49.4 +1.3
baz=23,SNR=51
ULM **Lac du Bonnet** 23.40 63 *e*P P 04 58 48.0 -0.5
ULM pmax pmax
comp=Z,27nm,0.9s
ULM **Lac du Bonnet** 23.40 63 P P 04 58 47.2 -1.3
comp=Z,13nm,0.7s,baz=273,slow=9.3,SNR=18
ULM LR LR 05 08 00.7
comp=Z,975nm,19.0s,baz=240,slow=37
ULM **Lac du Bonnet** 23.40 63 *e*P P 04 58 48.0 -0.5
comp=Z,27nm,0.9s
AGMN **Agassiz Nation** 23.42 68 ⇓P P 04 58 50.6 +1.8
baz=23,SNR=12
AGMN **Agassiz Nation** 23.42 68 *e*P P 04 58 48.3 -0.5
comp=Z,33nm,0.9s
X29A **Tulia** 23.43 105 ⇓P P 04 58 50.8 +1.8

baz=23,SNR=20
S31A Mullinville 23.45 96 ⇓P P 04 58 50.1 +1.0
baz=23,SNR=7.1
V30A Spur Ranch, Mi 23.45 101 ⇑P P 04 58 50.8 +1.5
baz=23,SNR=6.1
ECSD EROS Data Cent 23.50 80 ⇑P P 04 58 50.2 +0.6
baz=23,SNR=41
ECSD EROS Data Cent 23.50 80 *e*P P 04 58 49.5 -0.1
comp=Z,47nm,0.9s
T31A Randall Ranch, 23.54 97 ⇓P P 04 58 50.8 +0.8
baz=24
Q32A Meitler Ranch, 23.55 92 ⇑P P 04 58 50.9 +0.9
baz=24
Z28A Tucker Farm, M 23.60 108 ⇑P P 04 58 51.9 +1.2
baz=24,SNR=9.3
R32A Long Quarter, 23.66 93 ⇓P P 04 58 53.2 +2.0
baz=24,SNR=8.1
U31A Nine Bar Ranch 23.75 99 ⇑P P 04 58 54.0 +1.9
baz=24
Y29A Porterfield Fa 23.77 106 ⇑P P 04 58 54.1 +1.8
baz=24
S32A Newby Ranch, P 23.80 95 ⇑P P 04 58 53.8 +1.2
baz=24
W30A Crocket Farms 23.82 102 ⇑P P 04 58 54.6 +1.7
baz=24
128A Castleberry Fa 23.93 110 ⇓P P 04 58 55.3 +1.4
baz=24,SNR=21
P33A Williams Farm, 24.00 90 ⇑P P 04 58 56.0 +1.6
baz=24
X30A Coker Ranch, T 24.00 104 ⇑P P 04 58 56.1 +1.6
baz=24,SNR=12
T32A Huddler Ranch, 24.04 96 ⇑P P 04 58 56.3 +1.5
baz=24
V31A Spring Creek L 24.05 100 ⇓P P 04 58 56.3 +1.4
baz=24
Q33A Connelly Farm, 24.07 91 ⇓P P 04 58 56.6 +1.6
baz=24
Z29A Hungry Hill Ra 24.09 108 ⇑P P 04 58 56.9 +1.6
baz=24,SNR=13
228A UT Block 9, Go 24.16 111 ⇑P P 04 58 57.3 +1.3
baz=24,SNR=11
R33A Olander Ranch, 24.23 93 ⇓P P 04 58 57.8 +1.2
baz=24,SNR=14
INK Inuvik 24.26 356 P **P 04 58 56.7 +0.2**
comp=Z,9.2nm,1.0s,baz=168,slow=10,SNR=30
INK LR LR 05 07 53.1
comp=Z,311nm,18.7s,baz=152,slow=35
W31A Holland Ranch, 24.27 102 ⇓P P 04 58 58.4 +1.4
baz=24,SNR=6.8
Y30A Stafford Cattl 24.30 105 ⇓P P 04 58 58.9 +1.6
baz=24
129A Stewart Farms, 24.34 109 ⇑P P 04 58 59.0 +1.3
baz=24,SNR=8.3
U32A Winter Ranch, 24.35 98 ⇓P P 04 58 59.3 +1.6
baz=24
Z30A Sanderson Ranc 24.47 107 ⇑P P 04 59 00.2 +1.4
baz=24
S33A Kaszmaul Farm, 24.52 95 ⇓P P 04 59 00.2 +1.0
baz=24
X31A McDonald Ranch 24.53 103 ⇑P P 04 59 01.3 +2.0
baz=24,SNR=16
T33A Patterson Ranc 24.57 96 ⇓P P 04 59 00.3 +0.7
baz=24
V32A Arapaho 24.64 100 ⇓P P 04 59 01.3 +1.1
baz=25,SNR=9.1
Y31A Rekieta Farm, 24.69 105 ⇓P P 04 59 02.2 +1.4
baz=25,SNR=11
W32A Sentinel 24.79 101 ⇑P P 04 59 03.0 +1.4
baz=25,SNR=11
KSU1 Kansas State U 24.91 90 ⇓P P 04 59 04.2 +1.5
baz=25
KSU1 Kansas State U 24.91 90 *e*P P 04 59 04.5 +1.8
comp=Z,59nm,0.9s
329A Wagon Wheel Ra 24.96 111 ⇓P P 04 59 04.8 +1.6
baz=25,SNR=8.2
130A Snyder 24.98 108 ⇑P P 04 59 04.5 +1.2
baz=25,SNR=12
V33A Lossen Ranch, 25.13 99 ⇑P P 04 59 05.4 +0.8
baz=25,SNR=30
X32A Elmer 25.13 103 ⇑P P 04 59 06.7 +2.0
baz=25,SNR=20
Z31A Sharp Cattle R 25.13 106 ⇑P P 04 59 06.0 +1.2
baz=25,SNR=6.0
Y32A R-V Farms, Ver 25.24 104 ⇑P P 04 59 06.6 +0.9
baz=25,SNR=9.2
TXAR Lajitas Array 25.25 117 P **P 04 59 05.9 -0.1**
comp=Z,4.3nm,0.9s,baz=299,slow=8.0,SNR=38
TXAR PcP **PcP 05 02 37.2 -1.8**
comp=Z,1.0nm,0.9s,baz=242,slow=0.5,SNR=4.4
TXAR LR LR 05 09 32.5
comp=Z,468nm,18.7s,baz=0.0,slow=38
230A Sterling City 25.30 109 ⇑P P 04 59 07.0 +0.7
baz=25,SNR=7.2
WMOK Wichita Mounta 25.32 101 *e*P P 04 59 07.9 +1.4
WMOK pmax pmax
comp=Z,72nm,1.0s
WMOK Wichita Mounta 25.32 101 *e*P P 04 59 07.8 +1.4
comp=Z,72nm,1.0s
131A Roby 25.33 107 ⇑P P 04 59 08.4 +1.8
baz=25
W33A Caddo, Fort Co 25.33 100 ⇑P P 04 59 07.7 +1.2
baz=25,SNR=13
U34A Anderson Ranch 25.37 97 ⇑P P 04 59 07.6 +0.7
baz=25,SNR=14
U34A Anderson Ranch 25.37 97 *e*P P 04 59 07.2 +0.4
comp=Z,109nm,1.4s
LPIG La Paz 25.40 136 P **P 04 59 07.2 0.0**
comp=Z,128nm,0.3s,baz=306,slow=1.6,SNR=17
330A Mertzon 25.55 110 ⇑P P 04 59 09.7 +1.1
baz=26,SNR=14
429A Davenport Ranc 25.55 113 ⇓P P 04 59 09.9 +1.3
baz=26,SNR=37
IM04 Indian Mountai 25.57 337 *e*P P 04 59 10.2 +1.8
Z32A Haskell 25.60 105 ⇓P P 04 59 10.2 +1.2
baz=26,SNR=26
X33A Lawton 25.62 102 ⇓P P 04 59 10.2 +1.1
baz=26,SNR=11
COLD Coldfoot 25.62 341 *e*P P 04 59 07.9 -0.9
comp=Z,28nm,1.4s
529A Stev Forest Ra 25.66 114 ⇓P P 04 59 10.6 +1.0
baz=26,SNR=60
V34A Guthrie 25.67 98 ⇑P P 04 59 10.6 +1.0
baz=26,SNR=22
V34A Guthrie 25.67 98 *e*P P 04 59 09.5 -0.1
comp=Z,139nm,1.3s
W34A Bridge Creek, 25.78 99 ⇓P P 04 59 11.8 +1.2
baz=26,SNR=13
W34A Bridge Creek, 25.78 99 *e*P P 04 59 11.3 +0.7
comp=Z,66nm,1.0s
231A Bronte 25.81 108 ⇓P P 04 59 11.6 +0.7
baz=26,SNR=12
Y33A Hilltop Ranch, 25.81 103 ⇑P P 04 59 12.0 +1.1
baz=26,SNR=12
ABTX Abilene, Hawle 25.87 106 ⇑P P 04 59 12.7 +1.2
baz=26,SNR=11
ABTX Abilene, Hawle 25.87 106 *e*P P 04 59 11.4 0.0
comp=Z,51nm,1.4s
SPMN Marine on St. 25.87 75 *e*P P 04 59 12.9 +1.6
comp=Z,27nm,0.9s
430A Baggett Ranch, 25.89 112 ⇓P P 04 59 12.9 +1.2
baz=26,SNR=13
FCC Fort Churchill 25.98 43 *e*P P 04 59 11.8 -0.4
FCC Fort Churchill 25.98 43 *e*P P 04 59 11.8 -0.4
X34A Smith Ranch, M 26.06 101 ⇑P P 04 59 15.9 +2.7
baz=26,SNR=7.9
Z33A Whitaker Ranch 26.11 104 ⇑P P 04 59 15.1 +1.5
baz=26,SNR=8.8
331A San Angelo 26.11 110 ⇓P P 04 59 13.3 -0.4
baz=26,SNR=25
530A J-C Ranch, Com 26.23 113 ⇑P P 04 59 15.3 +0.5
baz=26,SNR=12
232A Coleman 26.30 108 ⇑P P 04 59 16.3 +0.9
baz=26,SNR=21
EYMN Ely 26.37 68 *e*P P 04 59 17.2 +1.4
comp=Z,30nm,1.2s
431A Sonora 26.38 111 ⇓P P 04 59 16.3 +0.2
baz=26,SNR=17
133A Hamilton Ranch 26.38 106 ⇑P P 04 59 16.1 0.0
baz=26,SNR=20
Y34A Reagan Ranch, 26.45 102 ⇓P P 04 59 18.1 +1.5
baz=26,SNR=9.3
332A Millersview 26.53 109 ⇑P P 04 59 17.5 0.0
baz=26,SNR=22
Z34A Collier Ranch, 26.65 103 ⇓P P 04 59 19.6 +1.1
baz=27
233A Rising Star 26.73 107 ⇓P P 04 59 19.2 -0.1
baz=27,SNR=27
531A Rocksprings 26.74 112 ⇓P P 04 59 19.9 +0.5
baz=27,SNR=15
432A Menard 26.81 110 ⇓P P 04 59 20.3 +0.4
baz=27,SNR=16
TUL1 Leonard 26.86 96 ⇑P P 04 59 20.8 +0.5
baz=27,SNR=6.0
TUL1 Leonard 26.86 96 *e*P P 04 59 21.1 +0.7
comp=Z,64nm,1.3s
134A White-Moore Ra 26.98 105 ⇑P P 04 59 21.5 0.0
baz=27,SNR=10
JCT Junction City 27.05 110 *e*P P 04 59 21.5 -0.6
JCT pmax pmax
comp=Z,37nm,1.3s
JCT Junction City 27.05 110 ⇑P P 04 59 22.5 +0.4
baz=27,SNR=10.0
JCT Junction City 27.05 110 *e*P P 04 59 21.4 -0.6
comp=Z,37nm,1.3s
333A Richland Sprin 27.08 108 ⇓P P 04 59 22.4 0.0
baz=27,SNR=13
Z35A Perchaven, San 27.14 103 ⇓P P 04 59 22.3 -0.6
baz=27
532A Rocksprings 27.20 111 ⇑P P 04 59 23.5 0.0
baz=27,SNR=12
631A Perdido Creek 27.21 113 ⇑P P 04 59 23.5 0.0
baz=27,SNR=12
234A Clairette 27.27 106 ⇑P P 04 59 23.7 -0.4
baz=27,SNR=9.3
433A Art 27.36 109 ⇓P P 04 59 24.8 -0.1
baz=27,SNR=42
135A Vickery Place, 27.46 104 ⇑P P 04 59 25.5 -0.2
baz=27
334A Lometa 27.59 107 ⇓P P 04 59 27.0 0.0
baz=28,SNR=5.9
632A Uvalde 27.67 112 ⇓P P 04 59 27.6 -0.1
baz=28,SNR=10.0
WHTX Lake Whitney, 27.75 105 ⇓P P 04 59 28.3 0.0
baz=28
WHTX Lake Whitney, 27.75 105 *e*P P 04 59 28.6 +0.3
comp=Z,34nm,1.4s
533A Kerrville 27.82 110 ⇓P P 04 59 29.4 +0.4
baz=28
434A Burnet 27.88 108 ⇑P P 04 59 29.6 0.0
baz=28,SNR=19
732A Laxson Ranch, 28.05 114 ⇑P P 04 59 31.4 +0.3
baz=28
633A Saathoff Ranch 28.11 111 ⇓P P 04 59 32.1 +0.5
baz=28
335A Moody 28.18 106 ⇓P P 04 59 32.5 +0.3
baz=28
JFWS Jewell Farm 28.21 79 *e*P P 04 59 33.3 +0.9
JFWS pmax pmax
comp=Z,21nm,0.8s
JFWS Jewell Farm 28.21 79 *e*P P 04 59 33.2 +0.9
comp=Z,22nm,0.8s
534A Blanco 28.22 110 ⇓P P 04 59 33.2 +0.6
baz=28,SNR=9.3
832A Faith Ranch, C 28.35 114 ⇑P P 04 59 34.2 +0.5
baz=28,SNR=14
435B Jarrell 28.37 107 ⇑P P 04 59 34.8 +0.9
baz=28
733A Divot King Ran 28.51 113 ⇓P P 04 59 35.8 +0.6
baz=28
336A Riesel 28.52 106 ⇑P P 04 59 35.7 +0.4
baz=28
137A Heron Place, G 28.59 102 ⇓P P 04 59 36.6 +0.8
baz=28
833A Chaparral WMA, 28.70 113 ⇓P P 04 59 38.3 +1.5
baz=29
634A China Grove, S 28.71 111 ⇓P P 04 59 37.0 0.0
baz=29
237A Washetta, Mont 28.89 103 ⇓P P 04 59 39.5 +1.0
baz=29
734A La Parita Cree 28.92 112 ⇓P P 04 59 39.5 +0.8
baz=29
436A Wall Ranch, Ga 28.92 107 ⇑P P 04 59 39.7 +1.0
baz=29
138A Matatall Enter 29.03 102 ⇑P P 04 59 39.8 +0.1
baz=29
635A Leesville 29.10 110 ⇓P P 04 59 40.8 +0.4
baz=29
MIAR Mount Ida 29.11 97 *e*P P 04 59 41.2 +0.7
MIAR pmax pmax
comp=Z,67nm,1.2s
MIAR Mount Ida 29.11 97 *e*P P 04 59 41.2 +0.7
comp=Z,67nm,1.2s
933A Laredo 29.25 114 ⇓P P 04 59 42.2 +0.4
baz=29
834A Tilden 29.39 113 ⇑P P 04 59 43.9 +1.0
baz=29,SNR=10
636A Smothers Creek 29.53 109 ⇑P P 04 59 45.4 +1.3
baz=30
537A Green Hill Far 29.66 107 ⇓P P 04 59 47.9 +2.5
baz=30
835A Beeville 29.77 112 ⇑P P 04 59 47.6 +1.3
baz=30
438A Sam Houston St 29.84 105 ⇑P P 04 59 47.7 +0.8
baz=30,SNR=5.9
034A Hebbronville 30.01 114 ⇑P P 04 59 49.9 +1.4
baz=30
TNA Tin City 30.02 329 *e*P P 04 59 50.3 +2.2
comp=Z,11nm,1.0s
HKT Hockley 30.07 107 *e*P P 04 59 49.3 +0.4
HKT pmax pmax
comp=Z,34nm,1.4s
HKT Hockley 30.07 107 *e*P P 04 59 49.3 +0.4
comp=Z,34nm,1.4s
PBMO Poplar Bluff 30.31 91 *e*P P 04 59 51.0 -0.1
comp=Z,23nm,1.2s
SIUC Southern Illin 30.78 88 *e*P P 04 59 56.8 +1.6
comp=Z,26nm,1.0s
GAMB Gambell 30.83 324 *e*P P 04 59 56.7 +1.4
comp=Z,11nm,1.0s
OLIL Olney 31.16 86 *e*P P 04 59 58.8 +0.2
comp=Z,75nm,1.4s
SFIN Lafayette 31.26 82 ⇓P P 05 00 01.0 +1.6
baz=31
SFIN Lafayette 31.26 82 *e*P P 05 00 00.2 +0.8
comp=Z,33nm,1.2s
USIN University of 31.79 87 *e*P P 05 00 04.5 +0.4
comp=Z,35nm,0.9s
OXF Oxford 32.11 94 *e*P P 05 00 07.7 +0.8
OXF pmax pmax
comp=Z,206nm,1.0s
OXF Oxford 32.11 94 *e*P P 05 00 07.7 +0.8
comp=Z,206nm,1.0s
BLO Bloomington 32.12 84 *e*P P 05 00 07.2 +0.2
BLO pmax pmax
comp=Z,28nm,0.9s
BLO Bloomington 32.12 84 *e*P P 05 00 07.2 +0.2
comp=Z,28nm,0.9s
WVT Waverly 32.48 90 *e*P P 05 00 09.7 -0.5
WVT pmax pmax
comp=Z,15nm,0.9s
WVT Waverly 32.48 90 *e*P P 05 00 09.7 -0.5
comp=Z,15nm,0.9s
VBMS Vicksburg 32.50 98 *e*P P 05 00 11.8 +1.4
comp=Z,86nm,1.1s
WCI Wyandotte Cave 32.66 85 *e*P P 05 00 13.9 +2.1
WCI pmax pmax
comp=Z,178nm,2.9s
WCI Wyandotte Cave 32.66 85 *e*P P 05 00 13.9 +2.1
comp=Z,178nm,2.9s
RES Resolute Bay 34.17 16 P **P 05 00 25.4 +1.0**
comp=Z,17nm,0.8s,baz=227,slow=10,SNR=112
RES PcP **PcP 05 02 59.8 -1.2**
comp=Z,2.9nm,0.9s,baz=225,slow=6.7,SNR=4.4
ACSO Alum Creek Sta 34.23 80 *e*P P 05 00 25.9 +0.5
comp=Z,40nm,1.3s
LRAL Lakeview Retre 34.59 94 *e*P P 05 00 30.3 +1.7
comp=Z,25nm,1.2s
ERPA Erie 35.65 76 *e*P P 05 00 39.4 +1.8
comp=Z,25nm,1.0s
ALLY Alegheny Colle 35.71 77 *e*P P 05 00 37.7 -0.5
comp=Z,45nm,1.0s
GOGA Godfrey 36.93 91 *e*P P 05 00 48.4 -0.3
GOGA pmax pmax
comp=Z,27nm,1.0s
GOGA Godfrey 36.93 91 *e*P P 05 00 48.4 -0.3
comp=Z,26nm,1.0s
BLA Blacksburg 37.30 83 *e*P P 05 00 52.6 +0.7
BLA pmax pmax
comp=Z,23nm,0.9s
BLA Blacksburg 37.30 83 *e*P P 05 00 52.6 +0.7
comp=Z,23nm,0.9s
KMSC Kings Mountain 37.61 87 ⇑P P 05 00 55.7 +1.3
baz=38
TIGA Tifton 37.88 94 ⇑P P 05 00 56.3 -0.4
baz=38
LBNH Lisbon 40.43 69 *e*P P 05 01 17.8 -0.2
LBNH Lisbon 40.43 69 *e*P P 05 01 17.8 -0.2
BILL Bilibino 40.46 328 *d i*P **P 05 01 18.6 +0.7**
BILL *e* 05 02 51.4
BILL *e* 05 03 20.4
BILL pmax pmax
comp=Z,38nm,1.7s
BILL MLR MLR
comp=Z,225nm,18.0s
BILL Bilibino 40.46 328 *e*P **P 05 01 18.6 +0.7**
comp=Z,39nm,1.4s
SCHQ Schefferville 40.66 52 P **P 05 01 19.4 -0.3**
comp=Z,3.3nm,0.8s,baz=275,slow=7.1,SNR=7.0
SCHQ LR LR 05 18 15.1
comp=Z,651nm,18.6s,baz=283,slow=36
SCHQ Schefferville 40.66 52 *e*P **P 05 01 20.5 +0.8**
comp=Z,22nm,1.3s
SEY Seymchan 46.77 322 P **P 05 02 09.2 +0.5**
comp=Z,7.0nm,1.0s,baz=100,slow=7.6,SNR=15
SEY PcP **PcP 05 03 41.8 +0.1**
comp=Z,1.3nm,0.6s,baz=143,slow=10,SNR=2.9
PETK Petropavlovsk- 47.03 308 P **P 05 02 10.8 -0.1**
comp=Z,4.7nm,0.7s,baz=81,slow=12,SNR=9.3
PETK LR LR 05 18 34.3
comp=Z,193nm,21.9s,baz=48,slow=32
SUMG Summit 48.77 24 *e*P **P 05 02 25.4 +0.8**
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 48.77 24 *i*P **P 05 02 25.8 +1.2**
comp=Z,7.9nm,0.8s
SUMG Summit 48.77 24 *e*P **P 05 02 25.4 +0.8**
comp=Z,8.1nm,0.8s
DAG Danmarks Havn 51.86 16 *i*P **P 05 02 47.6 +0.2**
comp=Z,8.0nm,0.9s
TIXI Tiksi 52.22 337 ‖*e*P **P 05 02 50.1 0.0**
TIXI pmax pmax
comp=Z,11nm,0.8s
TIXI Tiksi 52.22 337 *e*P **P 05 02 50.1 0.0**
comp=Z,17nm,1.2s
TAOE Nuku Hiva Isla 53.70 193 *e*T T 06 00 41.9
comp=Z,138nm,0.3s
SDDR Presa de Saban 54.24 98 *e*P **P 05 03 06.3 +0.5**
comp=Z,22nm,1.0s
BCIP Isla Barro Col 55.20 114 *e*P **P 05 03 14.3 +1.7**
YAK Yakutsk 56.74 326 *e*P **P 05 03 22.0 -1.1**
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK Yakutsk 56.74 326 *e*P **P 05 03 23.6 +0.5**
H11N3 WAKE ISLAND Hy 57.78 267 T T 06 05 57.3
baz=49,slow=75,SNR=7550
H11N2 WAKE ISLAND Hy 57.79 267 T T 06 06 02.8
baz=49,slow=75,SNR=3187
H11N1 WAKE ISLAND Hy 57.80 267 T T 06 06 07.0
baz=49,slow=75,SNR=6041
H11S1 WAKE ISLAND Hy 58.72 266 T T 06 07 15.3
baz=49,slow=75,SNR=495
H11S2 WAKE ISLAND Hy 58.73 266 T T 06 07 17.7
baz=49,slow=75,SNR=265
H11S3 WAKE ISLAND Hy 58.74 266 T T 06 07 09.4
baz=49,slow=75,SNR=293
PMOR Pomariorio Ree 61.30 200 *e*T T 06 10 08.5
comp=E,46nm,0.3s
HABR Khabarovsk 61.83 311 *de*P **P 05 03 58.4 -0.1**
HABR *e**PP **pP 05 04 01.6 -1.8**
HABR *e**SP **sP 05 04 03.1 -2.1**
HABR *e* 05 04 39.5
HABR *e* 05 06 14.6
HABR *e*PPP PPP 05 07 39.8
HABR *e*S **S 05 12 22.1 +1.0**
HABR *e* 05 13 50.1
HABR *e*SS **SS 05 16 25.2 +2.9**
HABR pmax pmax
comp=Z,42nm,1.5s
HABR pmax pmax
comp=E,150nm,3.1s
HABR pmax pmax
comp=N,49nm,1.5s
HABR MLR MLR
comp=Z,227nm,18.0s
ROSC El Rosal 62.03 112 P **P 05 04 01.2 +0.5**
comp=Z,3.4nm,0.6s,baz=250,slow=3.9,SNR=5.7
ROSC LR LR 05 35 16.8
comp=Z,63nm,18.4s,baz=282,slow=40
OTAV Otavalo 62.86 119 *e*P **P 05 04 06.1 -0.2**
comp=Z,25nm,1.4s
MEH Mehetia 64.10 200 *e*T T 06 13 38.7
comp=Z,14nm,0.3s
TIAR Tiarei 64.12 201 *e*T T 06 13 39.6
comp=Z,11nm,0.3s
PPT Papeete 64.19 201 LR LR 05 26 11.7
comp=Z,29nm,20.8s,baz=9.0,slow=30
PPT2 Papeete2 64.21 201 *e*LQ LQ 05 20 18.4
comp=Z,578nm,28.2s
PPT2 *e*LR LR 05 23 07.3
comp=Z,370nm,28.2s
PPT2 Papeete2 64.21 201 *e*T T 06 13 46.2
comp=Z,13nm,0.4s
PAE Paea 64.28 201 *e*T T 06 13 51.7
comp=Z,2.8nm,0.4s
TVO Taravao 64.31 201 *e*T T 06 13 54.0
comp=Z,15nm,0.3s
ARCES ARCESS Array B 65.08 9 P **P 05 04 18.8 -0.9**
comp=Z,5.7nm,0.9s,baz=324,slow=6.0,SNR=6.7
ARCES LR LR 05 32 18.7
comp=Z,77nm,21.5s,baz=7.0,slow=36
BOD Bodaibo 65.51 328 ‖*i*P **P 05 04 21.1 -1.5**
BOD pmax pmax
comp=Z,12nm,1.3s
USRK Ussuriysk Ar. 66.10 309 P **P 05 04 26.4 -0.3**
comp=Z,2.9nm,0.8s,baz=52,slow=10,SNR=5.3
USRK LR LR 05 32 56.1
comp=Z,92nm,18.4s,baz=18,slow=36
RKT Rikitea 67.19 186 *e*T T 06 17 31.3
comp=Z,7.6nm,0.3s
MJAR Matsushiro Arr 67.20 299 P **P 05 04 32.5 -1.4**
comp=Z,5.6nm,1.1s,baz=37,slow=5.2,SNR=5.8
MAJO Matsushiro 67.20 299 *e*P **P 05 04 33.1 -0.7**
MAJO pmax pmax
comp=Z,25nm,1.2s
MAJO Matsushiro 67.20 299 *e*P **P 05 04 33.1 -0.7**
comp=Z,25nm,1.2s
LVZ Lovozero 67.57 6 *c i*P **P 05 04 36.4 +0.7**
LVZ pmax pmax
comp=Z,53nm,1.2s
LVZ Lovozero 67.57 6 *e*P **P 05 04 36.5 +0.8**
comp=Z,72nm,1.0s
TBI Tubuai 69.70 200 *e*T T 06 20 38.1
comp=Z,23nm,0.3s
CN2 Changchun 69.94 312 *e*P **P 05 04 52.6 +1.8**
NB2 NORSAR Subarra 70.33 19 P **P 05 04 53.1 +0.1**
comp=Z,12nm,1.0s,baz=333,slow=5.9
NOA NORSAR Array B 70.33 19 P **P 05 04 53.3 +0.3**
comp=Z,3.8nm,0.7s,baz=333,slow=5.7,SNR=12
NOA LR LR 05 34 29.9
comp=Z,52nm,19.3s,baz=90,slow=35
ESK Eskdalemuir 70.89 29 *e*P **P 05 04 57.1 +0.7**
ESK pmax pmax
comp=Z,228nm,1.6s
ESK Eskdalemuir 70.89 29 *e*P **P 05 04 57.1 +0.7**
comp=Z,228nm,1.6s
TMCR Tamitsa 71.52 6 *e*P **P 05 04 59.7 -0.3**
TMCR *e* 05 07 38.2
TMCR pmax pmax
comp=Z,44nm,1.4s
JOF Joensuu 72.11 9 *e*P **P 05 05 04.3 +0.7**
JOF pmax pmax
comp=Z,17nm,1.1s
JOF Joensuu 72.11 9 *e*p **P 05 05 04.3 +0.7**
comp=Z,16nm,1.1s
KAF Kangasniemi 72.24 12 *e*P **P 05 05 04.5 +0.1**
KAF Kangasniemi 72.24 12 *e*p **P 05 05 04.5 +0.1**
FINES FINESS Array B 72.84 12 P **P 05 05 08.1 +0.1**
comp=Z,16nm,1.0s,baz=5.7,slow=5.7,SNR=22
FINES LR LR 05 37 37.5
comp=Z,138nm,18.1s,baz=349,slow=36
KSRS Korea Array 72.85 306 P **P 05 05 08.2 -0.3**
comp=Z,2.8nm,0.9s,baz=69,slow=5.3,SNR=5.9
KSRS LR LR 05 34 22.3
comp=Z,50nm,20.9s,baz=80,slow=34
KSAR Wonju Array Be 72.88 306 P **P 05 05 08.2 -0.5**
KSAR Wonju Array Be 72.88 306 P **P 05 05 08.2 -0.5**
IRK Irkutsk 73.39 329 *e*P **P 05 05 11.2 -0.3**
IRK pmax pmax
comp=Z,41nm,1.6s

TLY	**Talaya**	**74.08**	**329**	P		**P**	**05 05 16.2 +0.7**
	comp=Z,78nm,1.3s,SNR=7.4						
TLY	**Talaya**	**74.08**	**329**	*e*P		**P**	**05 05 16.2 +0.7**
TLY				pmax		pmax	
	comp=Z,28nm,1.5s						
TLY	**Talaya**	**74.08**	**329**	*e*P		**P**	**05 05 16.1 +0.7**
	comp=Z,23nm,1.2s						
PRGR	**Permogore**	**74.44**	**2**	*e*P		**P**	**05 05 15.4 -1.9**
PRGR				pmax		pmax	
	comp=Z,126nm,1.3s						
KLMR	**Klimovskoe**	**74.91**	**6**	*e*P		**P**	**05 05 18.3 -1.8**
KLMR				pmax		pmax	
	comp=Z,67nm,1.4s						
ZAK	**Zakamensk**	**75.26**	**328**	*e*P		**P**	**05 05 21.7 -0.8**
ZAK				pmax		pmax	
	comp=Z,5.0nm,1.3s						
ULN	**Ulaanbaatar**	**75.76**	**325**⇊	*e*P		**P**	**05 05 25.2 -0.3**
ULN				pmax		pmax	
	comp=Z,23nm,2.5s						
ULN	**Ulaanbaatar**	**75.76**	**325**	*e*P		**P**	**05 05 24.8 -0.7**
VSU	**Vasula**	**75.79**	**13**⇑	*e*P		**P**	**05 05 25.5 +0.3**
VSU				pmax		pmax	
	comp=Z,67nm,1.2s						
SONM	**Songino Array**	**76.06**	**325**	P		**P**	**05 05 27.4 +0.3**
	comp=Z,7.1nm,0.9s,baz=41,slow=2.8,SNR=47						
SONM				LR		LR	05 38 33.4
	comp=Z,199nm,19.8s,baz=32,slow=35						
ROSF	**Rostrenen**	**76.42**	**34**	*e*P		**P**	**05 05 29.0 0.0**
ROSF	**Rostrenen**	**76.42**	**34**	*e*P		**P**	**05 05 29.0 0.0**
ROSF	**Rostrenen**	**76.42**	**34**	*e*P		**P**	**05 05 29.0 0.0**
SOKR	**Solikamsk**	**76.44**	**357**	*e*P		**P**	**05 05 28.9 +0.1**
SOKR				pmax		pmax	
	comp=Z,20nm,1.3s						
SGMF	**Saint Gilles**	**76.77**	**33**	*e*P		**P**	**05 05 31.2 +0.2**
	comp=Z,57nm,1.3s						
SGMF	**Saint Gilles**	**76.77**	**33**	*e*P		**P**	**05 05 31.2 +0.2**
SGMF				pmax		pmax	
	comp=Z,57nm,1.3s						
SGMF	**Saint Gilles**	**76.77**	**33**	*e*P		**P**	**05 05 31.2 +0.2**
	comp=Z,57nm,1.3s						
QUIF	**Quistinic**	**76.80**	**34**	*e*P		**P**	**05 05 30.5 -0.7**
QUIF	**Quistinic**	**76.80**	**34**	*e*P		**P**	**05 05 30.5 -0.7**
QUIF	**Quistinic**	**76.80**	**34**	*e*P		**P**	**05 05 30.5 -0.7**
FLN	**La Foliniere**	**77.16**	**32**	*e*P		**P**	**05 05 33.3 +0.1**
FLN				*e*R			
	comp=Z,275nm,22.8s						
FLN	**La Foliniere**	**77.16**	**32**	*e*P		**P**	**05 05 33.3 +0.1**
FLN	**La Foliniere**	**77.16**	**32**	*e*P		**P**	**05 05 33.3 +0.1**
GRR	**Gorron**	**77.33**	**32**	*e*P		**P**	**05 05 34.5 +0.4**
	comp=Z,34nm,0.9s						
GRR	**Gorron**	**77.33**	**32**	*e*P		**P**	**05 05 34.5 +0.4**
GRR				pmax		pmax	
	comp=Z,34nm,0.9s						
GRR	**Gorron**	**77.33**	**32**	*e*P		**P**	**05 05 34.5 +0.4**
	comp=Z,34nm,0.9s						
LDF	**La Druitiere**	**77.44**	**32**	*e*P		**P**	**05 05 34.8 +0.1**
	comp=Z,42nm,1.2s						
LDF	**La Druitiere**	**77.44**	**32**	*e*P		**P**	**05 05 34.8 +0.1**
LDF				pmax		pmax	
	comp=Z,42nm,1.2s						
LDF	**La Druitiere**	**77.44**	**32**	*e*P		**P**	**05 05 34.8 +0.1**
	comp=Z,42nm,1.2s						
NVS	**Novosibirsk**	**77.50**	**341**⇊	*i*P		**P**	**05 05 34.3 -0.7**
NVS				pmax		pmax	
	comp=N,21nm,1.5s						
NVS				pmax		pmax	
	comp=E,26nm,1.5s						
NVS				pmax		pmax	
	comp=Z,71nm,1.5s						
BAIF	**Baives**	**77.78**	**29**	*e*P		**P**	**05 05 36.9 +0.3**
BAIF	**Baives**	**77.78**	**29**	*e*P		**P**	**05 05 36.9 +0.3**
BAIF	**Baives**	**77.78**	**29**	*e*P		**P**	**05 05 36.9 +0.3**
BCLA	**Clavier**	**77.84**	**28**	P		**P**	**05 05 37.4 +0.4**
	comp=Z,11nm,1.7s						
DOU	**Dourbes**	**77.88**	**28**	P		**P**	**05 05 38.0 +0.8**
ZALV	**Zalesovo Beam**	**77.95**	**340**	P		**P**	**05 05 36.9 -0.6**
	comp=Z,7.0nm,0.8s,baz=17,slow=5.4,SNR=32						
ZALV				LR		LR	05 43 54.4
	comp=Z,70nm,18.6s,baz=110,slow=39						
GIVF	**Givet**	**77.95**	**28**	*e*P		**P**	**05 05 37.7 +0.1**
	comp=Z,25nm,1.0s						
GIVF	**Givet**	**77.95**	**28**	*e*P		**P**	**05 05 37.7 +0.1**
GIVF				pmax		pmax	
	comp=Z,25nm,1.0s						
GIVF	**Givet**	**77.95**	**28**	*e*P		**P**	**05 05 37.7 +0.1**
	comp=Z,25nm,1.0s						
HVS	**Khovu-Aksy**	**77.96**	**334***c*	*i*P		**P**	**05 05 38.3 +0.6**
HVS				pmax		pmax	
	comp=Z,88nm,1.7s						
WLF	**Walferdange**	**78.78**	**28**	*e*P		**P**	**05 05 43.2 +1.1**
WLF				pmax		pmax	
	comp=Z,12nm,1.2s						
WLF	**Walferdange**	**78.78**	**28**	*e*P		**P**	**05 05 43.2 +1.1**
	comp=Z,12nm,1.2s						
SVE	**Sverdlovsk**	**78.99**	**354**⇑	*e*P		**P**	**05 05 43.5 +0.3**
SVE				pmax		pmax	
	comp=Z,38nm,1.3s						
MFF	**Saint Martin d**	**79.07**	**33**	*e*P		**P**	**05 05 44.1 +0.3**
	comp=Z,24nm,1.0s						
MFF	**Saint Martin d**	**79.07**	**33**	*e*P		**P**	**05 05 44.1 +0.3**
MFF				pmax		pmax	
	comp=Z,24nm,1.0s						
MFF	**Saint Martin d**	**79.07**	**33**	*e*P		**P**	**05 05 44.1 +0.3**
	comp=Z,24nm,1.0s						
HHC	**Hu-ho-hao-te**	**79.18**	**318**	*e*P		**P**	**05 05 44.0 -0.7**
HHC				sP		**sP**	**05 05 50.1 -1.4**
HHC				PP		**PP**	**05 08 42.3 -1.2**
HHC				S		**S**	**05 15 40.0 -3.9**
HHC				SKS		**SKSac**	**05 15 56.8 -3.4**
HHC				SS		**SS**	**05 20 47.3 -1.7**
HHC				PMZ			
	comp=Z,40nm,1.3s						
HHC				PMZ			
	comp=Z,490nm,8.0s						
HHC				LN			
	comp=Z,210nm,17.9s						
HHC				LE			
	comp=Z,170nm,17.4s						
HHC				LZ			
	comp=Z,130nm,17.6s						
SUW	**Suwalki**	**79.39**	**16**	*e*P		**P**	**05 05 45.8 +0.4**
SUW	**Suwalki**	**79.39**	**16**	*e*P		**P**	**05 05 45.7 +0.4**
MEZF	**Maizieres J'vi**	**79.40**	**29**	*e*P		**P**	**05 05 45.7 +0.1**
MEZF	**Maizieres J'vi**	**79.40**	**29**	*e*P		**P**	**05 05 45.7 +0.1**
CLL	**Collm**	**79.44**	**23**	*i*P		**P**	**05 05 46.0 +0.3**
CLL				*i*			05 05 48.0
CLL				pmax		pmax	
	comp=Z,10.0nm,1.1s						
CLL	**Collm**	**79.44**	**23**	*i*P		**P**	**05 05 46.0 +0.3**
	comp=Z,10.0nm,1.1s						
CLL				*i*pP		**pP**	**05 05 48.0 -2.8**
CLL	**Collm**	**79.44**	**23**	*e*P		**P**	**05 05 46.3 +0.6**
ARU	**Arti**	**79.51**	**356**	P		**P**	**05 05 46.6 +0.6**
	comp=Z,140nm,1.1s,SNR=5.8						
ARU	**Arti**	**79.51**	**356***d*	*i*P		**P**	**05 05 45.7 -0.3**
ARU				S		**S**	**05 15 48.0 +1.4**
ARU				SS		**SS**	**05 20 51.6 -1.2**
ARU				pmax		pmax	
	comp=Z,35nm,1.2s						
ARU	**Arti**	**79.51**	**356**	*e*P		**P**	**05 05 45.8 -0.2**
	comp=Z,31nm,1.1s						
HYF	**Humbligny**	**79.58**	**31**	*e*P		**P**	**05 05 46.9 +0.3**
HYF	**Humbligny**	**79.58**	**31**	*e*P		**P**	**05 05 46.9 +0.3**
PAGF	**Fort de Pagny**	**79.58**	**28**	*e*P		**P**	**05 05 47.0 +0.4**
PAGF	**Fort de Pagny**	**79.58**	**28**	*e*P		**P**	**05 05 47.0 +0.4**
SFTF	**Sexfontaines**	**79.64**	**29**	*e*P		**P**	**05 05 46.9 0.0**
SFTF	**Sexfontaines**	**79.64**	**29**	*e*P		**P**	**05 05 46.9 0.0**
SAML	**Samuel**	**79.66**	**113**	*e*P		**P**	**05 05 45.3 -2.1**
	comp=Z,15nm,1.3s						
LOR	**Lormes**	**80.02**	**30**	*e*P		**P**	**05 05 49.1 +0.1**
	comp=Z,19nm,1.1s,baz=335						
LOR				*e*R			
	comp=Z,234nm,20.0s						
LOR	**Lormes**	**80.02**	**30**	*e*P		**P**	**05 05 49.1 +0.1**
LOR				pmax		pmax	
	comp=Z,19nm,1.1s						
LOR	**Lormes**	**80.02**	**30**	*e*P		**P**	**05 05 49.1 +0.1**
	comp=Z,19nm,1.1s						
SSF	**Saint Saulge**	**80.07**	**31**	*e*P		**P**	**05 05 49.4 +0.2**
	comp=Z,49nm,1.5s						
SSF	**Saint Saulge**	**80.07**	**31**	*e*P		**P**	**05 05 49.4 +0.2**
SSF				pmax		pmax	
	comp=Z,49nm,1.5s						
SSF	**Saint Saulge**	**80.07**	**31**	*e*P		**P**	**05 05 49.4 +0.2**
	comp=Z,49nm,1.5s						
BRG	**Berggiesshubel**	**80.09**	**23**	*e*P		**P**	**05 05 49.2 -0.1**
	comp=Z,15nm,1.3s						
BRG	**Berggiesshubel**	**80.09**	**23**	*e*P		**P**	**05 05 49.2 -0.1**
BRG				pmax		pmax	
	comp=Z,15nm,1.3s						
CDF	**Champ du Feu**	**80.23**	**28**	*e*P		**P**	**05 05 50.4 +0.2**
	comp=Z,17nm,0.9s						
CDF	**Champ du Feu**	**80.23**	**28**	*e*P		**P**	**05 05 50.4 +0.2**
CDF				pmax		pmax	
	comp=Z,17nm,0.9s						
CDF	**Champ du Feu**	**80.23**	**28**	*e*P		**P**	**05 05 50.4 +0.2**
	comp=Z,17nm,0.9s						
TCF	**Toulx Ste Croi**	**80.24**	**32**	*e*P		**P**	**05 05 50.2 0.0**
	comp=Z,33nm,1.3s						
TCF	**Toulx Ste Croi**	**80.24**	**32**	*e*P		**P**	**05 05 50.2 0.0**
TCF				pmax		pmax	
	comp=Z,33nm,1.3s						
TCF	**Toulx Ste Croi**	**80.24**	**32**	*e*P		**P**	**05 05 50.2 0.0**
	comp=Z,33nm,1.3s						
AVF	**Avril sur Loir**	**80.24**	**31**	*e*P		**P**	**05 05 50.0 -0.2**
	comp=Z,21nm,1.1s						
AVF	**Avril sur Loir**	**80.24**	**31**	*e*P		**P**	**05 05 50.0 -0.2**
AVF				pmax		pmax	
	comp=Z,21nm,1.1s						
AVF	**Avril sur Loir**	**80.24**	**31**	*e*P		**P**	**05 05 50.0 -0.2**
	comp=Z,21nm,1.1s						
BGF	**Bois d'Agland**	**80.25**	**31**	*e*P		**P**	**05 05 50.1 -0.1**
	comp=Z,17nm,1.0s						
BGF	**Bois d'Agland**	**80.25**	**31**	*e*P		**P**	**05 05 50.1 -0.1**
BGF				pmax		pmax	
	comp=Z,17nm,1.0s						
BGF	**Bois d'Agland**	**80.25**	**31**	*e*P		**P**	**05 05 50.1 -0.1**
	comp=Z,17nm,1.0s						
HAU	**Haudompre**	**80.27**	**28**	*e*P		**P**	**05 05 50.5 +0.2**
	comp=Z,16nm,1.1s						
HAU				*e*R			
	comp=Z,222nm,19.2s						
HAU	**Haudompre**	**80.27**	**28**	*e*P		**P**	**05 05 50.5 +0.2**
HAU				pmax		pmax	
	comp=Z,17nm,1.1s						
HAU	**Haudompre**	**80.27**	**28**	*e*P		**P**	**05 05 50.5 +0.2**
	comp=Z,16nm,1.1s						
OBN	**Obninsk**	**80.34**	**8**⇑	*i*P		**P**	**05 05 50.6 +0.1**
OBN				*e*			05 08 53.2
OBN				*e*PPP		PPP	05 10 41.3
OBN				pmax		pmax	
	comp=Z,72nm,1.3s						
OBN				MLR		MLR	
	comp=Z,74nm,16.0s						
SMF	**Signal de Mont**	**80.54**	**31**	*e*P		**P**	**05 05 51.5 -0.3**
SMF	**Signal de Mont**	**80.54**	**31**	*e*P		**P**	**05 05 51.5 -0.3**
SMF	**Signal de Mont**	**80.54**	**31**	*e*P		**P**	**05 05 51.5 -0.3**
PVCC	**Panska Ves**	**80.57**	**22**	*i*P		**P**	**05 05 52.8 +0.9**
PVCC	**Panska Ves**	**80.57**	**22**	*i*P		**P**	**05 05 52.8 +0.9**
HINF	**Hinteralfeld**	**80.60**	**28**	*e*P		**P**	**05 05 52.1 -0.1**
	comp=Z,12nm,0.9s						
HINF	**Hinteralfeld**	**80.60**	**28**	*e*P		**P**	**05 05 52.1 -0.1**
HINF				pmax		pmax	
	comp=Z,12nm,0.9s						
HINF	**Hinteralfeld**	**80.60**	**28**	*e*P		**P**	**05 05 52.1 -0.1**
	comp=Z,12nm,0.9s						
BFO	**Black Forest**	**80.65**	**27**	*i*P		**P**	**05 05 53.5 +1.1**
KSP	**Ksiaz**	**80.75**	**21**	*e*P		**P**	**05 05 53.0 +0.2**
KSP	**Ksiaz**	**80.75**	**21**	*e*P		**P**	**05 05 53.5 +0.7**
LFF	**La Frestale**	**80.79**	**33**	*e*P		**P**	**05 05 53.2 0.0**
LFF	**La Frestale**	**80.79**	**33**	*e*P		**P**	**05 05 53.2 0.0**
LFF	**La Frestale**	**80.79**	**33**	*e*P		**P**	**05 05 53.2 0.0**
RJF	**Les Rejaudoux**	**80.79**	**33**	*e*P		**P**	**05 05 52.8 -0.4**
	comp=Z,44nm,1.2s						
RJF				*e*R			
	comp=Z,161nm,19.0s						
RJF	**Les Rejaudoux**	**80.79**	**33**	*e*P		**P**	**05 05 52.8 -0.4**
RJF				pmax		pmax	
	comp=Z,44nm,1.2s						
RJF	**Les Rejaudoux**	**80.79**	**33**	*e*P		**P**	**05 05 52.8 -0.4**
	comp=Z,44nm,1.2s						
UPC	**Upice**	**80.98**	**22**	*i*P		**P**	**05 05 54.3 +0.2**
UPC				*e*			05 06 01.7
UPC	**Upice**	**80.98**	**22**	*i*P		**P**	**05 05 54.3 +0.2**
UPC				*e*x		x	05 06 01.7
PRU	**Pruhonice**	**81.05**	**23**	*i*P		**P**	**05 05 54.6 +0.1**
PRU				MLR		MLR	
	comp=Z,200nm,17.1s						
PRU	**Pruhonice**	**81.05**	**23**	*i*P		**P**	**05 05 54.6 +0.1**
PRU				AMS		AMS	05 44 10.0
	comp=Z,200nm,17.1s						
DPC	**Dobruska-Polom**	**81.20**	**21**	*i*P		**P**	**05 05 55.8 +0.5**
DPC				*e*			05 06 01.2
DPC	**Dobruska-Polom**	**81.20**	**21**	*i*P		**P**	**05 05 55.8 +0.5**
DPC				*e*pP		**pP**	**05 06 01.2 +0.8**
DPC	**Dobruska-Polom**	**81.20**	**21**	*e*P		**P**	**05 05 55.9 +0.5**
CAF	**Calviac**	**81.32**	**33**	*e*P		**P**	**05 05 55.8 -0.2**
	comp=Z,15nm,1.1s						
CAF	**Calviac**	**81.32**	**33**	*e*P		**P**	**05 05 55.8 -0.2**
CAF				pmax		pmax	
	comp=Z,15nm,1.1s						
CAF	**Calviac**	**81.32**	**33**	*e*P		**P**	**05 05 55.8 -0.2**
	comp=Z,15nm,1.1s						
SJPF	**Ste Jean**	**81.50**	**36**	*e*P		**P**	**05 05 56.0 -1.0**
	comp=Z,25nm,1.2s						
SJPF	**Ste Jean**	**81.50**	**36**	*e*P		**P**	**05 05 56.0 -1.0**
SJPF				pmax		pmax	
	comp=Z,25nm,1.2s						
SJPF	**Ste Jean**	**81.50**	**36**	*e*P		**P**	**05 05 56.0 -1.0**
	comp=Z,25nm,1.2s						
KHC	**Kasperske Hory**	**81.56**	**24**	*i*P		**P**	**05 05 57.5 +0.3**
KHC	**Kasperske Hory**	**81.56**	**24**	*i*P		**P**	**05 05 57.5 +0.3**
KHC	**Kasperske Hory**	**81.56**	**24**	*e*P		**P**	**05 05 57.5 +0.3**
	comp=Z,15nm,1.6s						
BRVK	**Borovoye**	**81.65**	**348**	P		**P**	**05 05 58.0 +0.4**
	comp=Z,169nm,0.8s,SNR=12						
BRVK	**Borovoye**	**81.65**	**348***d*	*i*P		**P**	**05 05 58.0 +0.4**
BRVK				pmax		pmax	
	comp=Z,51nm,1.7s						
BRVK	**Borovoye**	**81.65**	**348**	*e*P		**P**	**05 05 57.7 +0.2**
	comp=Z,25nm,0.9s						
BVA0	**Borovoye Array**	**81.67**	**348**	*i*P		**P**	**05 05 58.0 +0.3**
BVA0				pmax		pmax	
	comp=Z,18nm,0.9s						
GEC2	**GERESS Array S**	**81.85**	**24**	*e*P		**P**	**05 05 59.4 +0.5**
GEC2	**GERESS Array S**	**81.85**	**24**	*e*P		**P**	**05 05 59.4 +0.5**
GERES	**GERESS Array B**	**81.85**	**24**	P		**P**	**05 05 58.5 -0.3**
	comp=Z,1.9nm,0.7s,baz=343,slow=4.2,SNR=13						
GERES				LR		LR	05 43 27.0
	comp=Z,119nm,20.1s,baz=336,slow=36						
VOSK	**Vostochnaya**	**81.87**	**348**	P		**P**	**05 05 58.7 -0.1**
VOSK				pmax		pmax	
	comp=Z,19nm,1.1s						
NJ2	**Nanjing**	**81.92**	**307**	*e*P		**P**	**05 06 01.6 +2.2**
NJ2				PMZ			
	comp=Z,50nm,0.6s						
ETSF	**Etsaut**	**81.95**	**35**	*e*P		**P**	**05 05 59.7 +0.2**
	comp=Z,18nm,1.0s						
ETSF	**Etsaut**	**81.95**	**35**	*e*P		**P**	**05 05 59.7 +0.2**
ETSF				pmax		pmax	
	comp=Z,18nm,1.0s						
ETSF	**Etsaut**	**81.95**	**35**	*e*P		**P**	**05 05 59.7 +0.2**
	comp=Z,18nm,1.0s						
LPAZ	**La Paz**	**82.03**	**122**	*e*P		**P**	**05 05 59.2 -1.5**
LPAZ				pmax		pmax	
	comp=Z,20nm,1.0s						
LPAZ	**La Paz**	**82.03**	**122**	P		**P**	**05 05 59.3 -1.5**
	comp=Z,12nm,0.9s,baz=344,slow=4.7,SNR=37						
LPAZ	**La Paz**	**82.03**	**122**	*e*P		**P**	**05 05 59.2 -1.5**
	comp=Z,20nm,1.0s						
MORC	**Moravsky Berou**	**82.05**	**21**	*e*P		**P**	**05 05 58.8 -1.0**
MORC				pmax		pmax	
	comp=Z,7.0nm,1.4s						
MORC	**Moravsky Berou**	**82.05**	**21**	*e*P		**P**	**05 05 58.8 -1.0**
	comp=Z,6.7nm,1.4s						
OKC	**Ostrava-Krasne**	**82.14**	**21**	*i*P		**P**	**05 06 00.4 +0.2**
OKC				*e*			05 06 06.2
OKC	**Ostrava-Krasne**	**82.14**	**21**	*i*P		**P**	**05 06 00.4 +0.2**
OKC				*e*pP		**PcP**	**05 06 06.2 +0.6**
EPF	**Esparros**	**82.22**	**35**	*e*P		**P**	**05 06 00.3 -0.5**
	comp=Z,19nm,1.2s						
EPF	**Esparros**	**82.22**	**35**	*e*P		**P**	**05 06 00.3 -0.5**
EPF				pmax		pmax	
	comp=Z,19nm,1.2s						
EPF	**Esparros**	**82.22**	**35**	*e*P		**P**	**05 06 00.3 -0.5**
	comp=Z,19nm,1.2s						
KURK	**Kurchatov**	**82.38**	**342**	P		**P**	**05 06 01.2 -0.2**
	comp=Z,68nm,1.0s,SNR=17						
KURK	**Kurchatov**	**82.38**	**342**	*e*P		**P**	**05 06 01.0 -0.4**
KURK				pmax		pmax	
	comp=Z,16nm,1.1s						
KURK	**Kurchatov**	**82.38**	**342**	*e*P		**P**	**05 06 00.9 -0.4**
	comp=Z,16nm,1.1s						
LPL	**La Plagne**	**82.55**	**29**	*e*P		**P**	**05 06 02.2 -0.5**
LPL	**La Plagne**	**82.55**	**29**	*e*P		**P**	**05 06 02.2 -0.5**
LPL	**La Plagne**	**82.55**	**29**	*e*P		**P**	**05 06 02.2 -0.5**
LPG	**La Plagne**	**82.57**	**29**	*e*P		**P**	**05 06 02.9 0.0**
	comp=Z,5.1nm,0.8s						
LPG	**La Plagne**	**82.57**	**29**	*e*P		**P**	**05 06 02.9 0.0**
LPG				pmax		pmax	
	comp=Z,5.0nm,0.8s						
LPG	**La Plagne**	**82.57**	**29**	*e*P		**P**	**05 06 02.9 0.0**
	comp=Z,5.1nm,0.8s						
MTLF	**Montolieu**	**82.71**	**33**	*e*P		**P**	**05 06 03.1 -0.2**
MTLF	**Montolieu**	**82.71**	**33**	*e*P		**P**	**05 06 03.1 -0.2**
MTLF	**Montolieu**	**82.71**	**33**	*e*P		**P**	**05 06 03.1 -0.2**
FUORN	**Ofenpass-Fuorn**	**82.78**	**27**	*e*P		**P**	**05 06 05.6 +1.7**
ESDC	**Sonseca Array**	**83.10**	**39**	P		**P**	**05 06 05.0 -0.5**
	comp=Z,1.7nm,0.8s,baz=320,slow=5.2,SNR=10.0						
ESDC				LR		LR	05 41 14.3
	comp=Z,94nm,18.1s,baz=320,slow=34						
STHS	**Stebnicka Huta**	**83.29**	**19**	*e*P		**P**	**05 06 07.1 +0.9**
STHS				pmax		pmax	
	comp=Z,9.0nm,1.3s						
STHS	**Stebnicka Huta**	**83.29**	**19**	*e*P		**P**	**05 06 07.1 +0.9**
CONA	**Conrad Observa**	**83.29**	**23**⇑	*i*pP		**P**	**05 06 07.3 +0.9**
	comp=Z,11nm,1.3s,SNR=6.8						
KBA	**Koelnbreinsper**	**83.33**	**25**	*i*pP		**P**	**05 06 07.2 +0.5**
	comp=Z,13nm,1.2s,SNR=6.6						
ABTA	**Abfaltersbach**	**83.38**	**25**	*i*pP		**P**	**05 06 07.4 +0.6**
	comp=Z,8.1nm,0.9s,SNR=6.9						
LVV	**L'vov**	**83.52**	**17**	*e*P		**P**	**05 06 07.4 0.0**
VYHS	**Vyhne**	**83.56**	**21**	*e*P		**P**	**05 06 07.6 0.0**
VYHS				pmax		pmax	
	comp=Z,4.0nm,1.0s						
VYHS	**Vyhne**	**83.56**	**21**	*e*P		**P**	**05 06 07.6 0.0**
AKASG	**Malin Array Be**	**83.66**	**14**	P		**P**	**05 06 07.1 -0.9**
	comp=Z,6.9nm,0.8s,baz=341,slow=4.6,SNR=19						
AKASG				LR		LR	05 43 00.8
	comp=Z,91nm,20.5s,baz=35,slow=35						
KIEV	**Kiev**	**83.66**	**14***d*	*i*P		**P**	**05 06 07.0 -1.1**
KIEV	**Kiev**	**83.66**	**14**	*e*P		**P**	**05 06 07.8 -0.3**
	comp=Z,22nm,1.2s						
ARSA	**Arzberg**	**83.81**	**23**	*i*pP		**P**	**05 06 09.6 +0.7**
	comp=Z,9.8nm,0.8s,SNR=6.4						
KOLS	**Kolonicke sedl**	**83.98**	**18**	*e*P		**P**	**05 06 10.1 +0.3**
KOLS				pmax		pmax	
	comp=Z,12nm,1.5s						
KOLS	**Kolonicke sedl**	**83.98**	**18**	*e*P		**P**	**05 06 10.1 +0.3**
KOLS				*e*			05 14 21.1
ROBS	**Robic**	**84.13**	**25**	*i*P		**P**	**05 06 10.1 -0.5**
SOKA	**Soboth**	**84.19**	**24**	*i*pP		**P**	**05 06 11.3 +0.3**
	comp=Z,17nm,1.3s,SNR=12						
OBKA	**Obir**	**84.20**	**24**	*i*P		**P**	**05 06 11.0 -0.1**
	comp=Z,16nm,1.0s,SNR=8.7						
PERS	**Pernice**	**84.25**	**24**	*i*P		**P**	**05 06 11.2 -0.1**
UZH	**Uzhgorod**	**84.27**	**18**	*e*P		**P**	**05 06 11.3 +0.1**
UZH				*e*			05 06 14.7
LMR	**La Mourre**	**84.36**	**31**	*e*P		**P**	**05 06 11.7 -0.1**
LMR	**La Mourre**	**84.36**	**31**	*e*P		**P**	**05 06 11.7 -0.1**
LMR	**La Mourre**	**84.36**	**31**	*e*P		**P**	**05 06 11.7 -0.1**
PSZ	**Piszkesteto**	**84.36**	**20**	*e*P		**P**	**05 06 12.5 +0.7**
PSZ				pmax		pmax	
	comp=Z,45nm,1.4s						
PSZ	**Piszkesteto**	**84.36**	**20**	*e*P		**P**	**05 06 12.5 +0.7**
	comp=Z,45nm,1.4s						
VSR	**Storozhevoye**	**84.44**	**7**	*e*P		**P**	**05 06 11.0 -1.0**
VSR				pmax		pmax	
	comp=Z,20nm,1.1s						
VSR				pmax		pmax	
	comp=N,10.0nm,1.0s						
VSR				pmax		pmax	
	comp=E,5.0nm,0.9s						
VORD	**Divnogorie**	**84.70**	**7**	*e*P		**P**	**05 06 12.1 -1.2**
VORD				pmax		pmax	
	comp=Z,20nm,1.7s						
VORD				pmax		pmax	
	comp=N,60nm,0.6s						
VORD				pmax		pmax	
	comp=E,30nm,0.6s						
VRHR	**Novokhopersk**	**84.76**	**6**	*e*P		**P**	**05 06 11.5 -2.1**
VRHR				pmax		pmax	
	comp=Z,10.0nm,1.0s						
VRHR				pmax		pmax	
	comp=N,20nm,0.9s						
VRHR				pmax		pmax	
	comp=E,20nm,0.8s						
MKAR	**Makanchi Array**	**85.17**	**339**	P		**P**	**05 06 15.3 -0.5**
	comp=E,2.2nm,0.8s,baz=31,slow=5.7,SNR=23						
BOJS	**Bojanci**	**85.32**	**24**	*i*P		**P**	**05 06 16.7 +0.1**
GTA	**Gaotai**	**85.69**	**324**	*e*P		**P**	**05 06 18.9 +0.2**
GTA				pP		**PcP**	**05 06 23.5 +1.9**
GTA				sP		**sP**	**05 06 25.9 +0.3**
GTA				PMZ			
	comp=E,6.0nm,1.1s						
WMQ	**Urumqi**	**86.33**	**334**	*e*P		**P**	**05 06 21.9 +0.2**
WMQ				PMZ			
	comp=E,7.0nm,1.0s						
WMQ				PMZ			
	comp=E,170nm,5.2s						
WMQ				LN			
	comp=E,63nm,21.0s						
WMQ				LZ			
	comp=E,81nm,21.0s						
AB31	**Akbulak array**	**86.56**	**354**	*i*P		**P**	**05 06 22.7 0.0**
AB31				pmax		pmax	
	comp=Z,19nm,1.0s	

KSH PMZ
comp=Z,3.0nm,0.4s
KSH PMZ
comp=Z,79nm,5.2s
KSH LN
comp=Z,50nm,3.8s
KSH LE
comp=Z,74nm,5.6s
KSH LZ
comp=Z,190nm,5.1s
CFAA Coronel Fontan 93.79 132 P **P 05 06 54.5 -2.2**
comp=Z,0.2nm,0.8s,baz=232,slow=6.9,SNR=3.5
BDFB Brasilia 94.71 107 LR LR 05 51 39.9
comp=Z,99nm,21.9s,baz=276,slow=37
BRTR Keskin Array B 95.06 13 P **P 05 07 02.0 -0.8**
BRTR Keskin Array B 95.06 13 P **P 05 07 01.9 -0.8**
comp=Z,1.1nm,0.8s,baz=356,slow=5.0,SNR=6.3
KMI Kunming 96.14 314 P **P 05 07 10.3 +2.3**
KMI PMZ
comp=Z,7.0nm,1.2s
GEYT Alibeck 97.96 354 LR LR 05 54 56.3
comp=Z,52nm,19.4s,baz=230,slow=38
TORD Torodi Ar. Bea 107.65 50 PKKPbc PKKPbc 05 23 18.9 -0.5
comp=Z,0.5nm,1.0s,baz=127,slow=2.1,SNR=3.5
VNDA Vanda 128.43 195 PKP **PKPdf 05 12 43.4 -1.5**
comp=Z,1.2nm,0.8s,baz=128,slow=6.9,SNR=5.8
QSPA South Pole Qui 134.01 180 PKP **PKPdf 05 12 53.8 -2.0**
comp=Z,3.8nm,0.8s,baz=55,slow=0.6,SNR=6.4
KMBO Kilima Mbogo 135.49 19 PKP **PKPdf 05 12 59.5 -1.0**
comp=Z,1.0nm,0.3s,baz=58,slow=2.2,SNR=5.4
NVL N'lazarevskaya 147.28 157 *e*PKIKP **PKPdf 05 13 18.8 -0.7**
NVL pmax pmax
comp=Z,16nm,0.9s
LBTB Lobatse 152.06 55 *e*PKIKP **PKPdf 05 13 27.7 -0.9**
LBTB *e* 05 13 33.9
LBTB Lobatse 152.06 55 *e*PKPdf **PKPdf 05 13 27.7 -0.9**
LBTB *e*PKPbc **PKPbc 05 13 33.9 -1.4**
SUR Sutherland 153.94 73 *e*PKPdf **PKPdf 05 13 31.8 +0.5**
SUR *e*PKPbc **PKPbc 05 13 38.9 -0.3**
SUR *e*PKPab **PKPab 05 13 52.4 -0.2**
BOSA Boshof 154.47 61 PKIKP **PKPdf 05 13 31.0 -1.1**
BOSA *e* 05 13 33.8
BOSA *e* 05 13 53.3
BOSA Boshof 154.47 61 PKP **PKPdf 05 13 30.9 -1.1**
comp=Z,1.5nm,0.7s,baz=248,slow=5.4,SNR=2.5
BOSA Boshof 154.47 61 PKP **PKPdf 05 13 30.9 -1.1**
BOSA *e*PKPdf PKPbc 05 13 33.8 -6.6
BOSA *e*PKPbc **PKiKP 05 13 41.0 +0.5**
BOSA *e*PKPab **PKPab 05 13 53.3 -1.5**

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*IDC **13** 04:56:29.4±1.6, 34°.37S×71°.63W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.7/16, mbtmp3.5/3, Error ellipse: s-maj=63.1km s-min=35.4km az=67.0*
*GUC **13** 04:56:30.5±0.4, 34°.54S×71°.85W, h37km±2km, ML3.7*
ISC 13 04:56:30.4±2.3, 34°.53S±0°.05×71°.85W±0°.09, h11km±15km, n14, σ0°.73/20, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.70**	**133**	*i* P	**Pg**	**04 56 44.3**	**+0.4**
TALC	**Talca**	**0.89**	**169**	*i* P	**Pb**	**04 56 47.0**	**-0.9**
TACH	**Talagante**	**1.15**	**41**	*i* P9	Pn	04 56 50.2	-2.3
TACH				*i* S	**Sb**	**04 57 06.4**	**-1.0**
LNCH	**Linares**	**1.33**	**171**	*i* P	**Pn**	**04 56 54.3**	**-0.7**
LNCH				*i* S	**Sn**	**04 57 12.3**	**-0.5**
ANTU	**Antumapu**	**1.39**	**47**	*i* P	**Pn**	**04 56 55.5**	**-0.3**
ANTU				IAML		04 57 18.1	
	comp=N,2μm,0.6s						
SAN	**Santiago**	**1.46**	**43**	*i* P	**Pn**	**04 56 56.5**	**-0.2**
SAN				*i* S	**Sn**	**04 57 16.1**	**+0.3**
IHA	**Instituto Hidr**	**1.51**	**7**	*i* P	**Pn**	**04 56 57.2**	**-0.1**
IHA				*i* S	**Sn**	**04 57 17.4**	**+0.4**
LACH	**Col Las Americ**	**1.53**	**46**	*i* P	**Pn**	**04 56 57.7**	**0.0**
CLCH	**Cerro Calan**	**1.57**	**44**	⇓*i* P	**Pn**	**04 56 58.5**	**+0.2**
CLCH				*i* S	**Sb**	**04 57 19.4**	**0.0**
CLCH				IAML		04 57 24.3	
	comp=E,2μm,0.7s						
PEL	**Peldehue**	**1.69**	**35**	*e*P	**Pn**	**04 56 60.0**	**+0.1**
PEL				*e*S	**Sn**	**04 57 22.3**	**+0.8**
PEL				IAML		04 57 26.2	
	comp=N,2μm,0.7s						
COCH	**Cobquecura**	**1.78**	**205**	*i* P	**Pn**	**04 57 00.7**	**-0.3**
COCH				*i* S	**Sn**	**04 57 23.9**	**+0.2**
PLCA	**Paso Flores**	**6.28**	**171**	Pn	**Pn**	**04 58 05.1**	**+2.1**
	baz=344,slow=14						
PLCA				Lg	Lg	04 59 42.3	
	comp=N,0.3nm,0.3s,baz=270,slow=20,SNR=2.9						
TXAR	**Lajitas Array**	**70.27**	**331**	P	**P**	**05 07 44.3**	**+0.5**
	comp=N,0.3nm,0.5s,baz=158,slow=8.2,SNR=8.5						
TORD	**Torodi Ar. Bea**	**84.24**	**70**	P	**P**	**05 09 02.0**	**-0.4**
	comp=N,0.3nm,0.6s,baz=243,slow=3.6,SNR=4.1						

GUC 13 05:08:07.9±0.5, 34°.40S×72°.00W, h25km±17km, ML3.5, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.88**	**134**	⇓*i* P	Pb	05 08 24.0	-0.5
NICH				*i* S	Sb	05 08 35.8	0.0
TALC	**Talca**	**1.04**	**164**	⇑*i* P	Pn	05 08 26.4	-0.6
TALC				*e*S	Sb	05 08 40.2	-0.4
TACH	**Talagante**	**1.15**	**50**	⇑*i* P	Pn	05 08 27.9	-0.5
TACH				*i* S	Sn	05 08 43.4	0.0
ANTU	**Antumapu**	**1.40**	**54**	*i* P	Pn	05 08 32.3	+0.3
ANTU				*i* S	Sb	05 08 50.6	-0.4
ANTU				IAML		05 08 55.9	
	comp=E,1μm,0.6s						
SAN	**Santiago**	**1.45**	**50**	*i* P	Pn	05 08 33.3	+0.7
SAN				*i* S	Sb	05 08 52.2	-0.3
LNCH	**Linares**	**1.48**	**168**	*e*P	Pn	05 08 33.3	+0.2
LNCH				*e*S	Sb	05 08 53.1	-0.2
CLCH	**Cerro Calan**	**1.57**	**51**	⇑*i* P	Pn	05 08 34.9	+0.6
CLCH				*i* S	Sb	05 08 55.7	-0.2
CLCH				IAML		05 09 01.0	
	comp=E,1μm,0.7s						
PEL	**Peldehue**	**1.66**	**42**	⇑*i* P	Pn	05 08 36.5	+1.1
PEL				⇑*i* S	Sb	05 08 57.8	-0.6
PEL				IAML		05 09 02.4	
	comp=N,1μm,0.4s						

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*ISCJB **13** 05:09:24.5±0.9, 38°.09S±0°.04×73°.6W±0°.2, h22km, mb3.9/6, MS3.7/2, Error ellipse: s-maj=19.8km s-min=5.3km az=1.9*
*IDC **13** 05:09:24.0±1.1, 38°.09S×73°.10W, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.7/36, mbtmp3.8/7, ML3.8/1, MS3.8/2, Ms1 3.8/2, ms1mx3.2/26, Error ellipse: s-maj=37.2km s-min=16.0km az=73.0*
*GUC **13** 05:09:24.4±0.4, 38°.10S×73°.73W, h40km±3km, ML4.6*
*NEIC **13** 05:09:28.2±0.8, 38°.22S×73°.68W, h35km, mb4.4/3, Error ellipse: s-maj=22.4km s-min=12.8km az=77.0*
ISC 13 05:09:25.5±0.9, 38°.12S±0°.04×73°.7W±0°.1, h22km, n26, σ1.44/25, mb3.8/6, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.71**	**162**	⇓*i* P	**Pb**	**05 09 38.2**	**-1.0**
PSCH				*i* S	**Sb**	**05 09 48.6**	**-0.1**
CCSP	**San Pedro de C**	**1.35**	**19**	*e*P	**Pn**	**05 09 47.6**	**-1.4**
CCSP				*e*S1	**Sn**	**05 10 05.3**	**-0.8**
CCSP				AML	AML	05 10 11.2	
	comp=E,9μm,0.5s						
VLCH	**Valdivia**	**1.72**	**169**	⇓*i* P	**Pn**	**05 09 53.1**	**-1.0**
VLCH				*e*S	**Sn**	**05 10 15.2**	**-0.2**
VLCH				AML	AML	05 10 29.3	
	comp=N,21μm,0.3s						
COCH	**Cobquecura**	**2.10**	**20**	*e*P1	**Pn**	**05 09 58.2**	**-1.1**
OSCH	**Osorno**	**2.49**	**170**	*e*P1	**Pn**	**05 10 04.3**	**-0.4**
LNCH	**Linares**	**2.81**	**37**	*e*P	**Pn**	**05 10 08.3**	**-0.7**
TALC	**Talca**	**3.17**	**32**	⇓*i* P	**Pn**	**05 10 13.3**	**-0.7**
PLCA	**Paso Flores**	**3.56**	**138**	Pn	**Pn**	**05 10 18.8**	**-0.7**
	baz=314,slow=15						
PLCA				Lg	Lg	05 11 11.7	
	baz=234,slow=19						
PLCA	**Paso Flores**	**3.56**	**138**	*e*Pn	**Pn**	**05 10 19.9**	**+0.4**
PLCA				Lg	Lg	05 11 11.7	
CFAA	**Coronel Fontan**	**7.88**	**36**	LR	LR	05 14 36.4	
	comp=N,23nm,20.6s,baz=219,slow=41						
TRQA	**Tornquist**	**9.22**	**93**	*e*Pn	**Pn**	**05 11 39.2**	**+2.0**
LCO	**Las Campanas**	**9.41**	**16**	*e*Pn	**Pn**	**05 11 37.5**	**-2.6**
USHA	**Ushuaia**	**17.09**	**170**	Pn	**P**	**05 13 24.2**	**-0.3**
	comp=N,0.3nm,0.3s,baz=323,slow=4.0,SNR=4.1						
LPAZ	**La Paz**	**22.29**	**14**	P	**P**	**05 14 23.0**	**+1.1**
	comp=N,3.3nm,0.8s,baz=187,slow=8.2,SNR=11						
LPAZ	**La Paz**	**22.29**	**14**	*e*P	**P**	**05 14 26.0**	**+4.1**
	comp=N,3.8nm,0.8s						
SIV	**San Ignacio**	**24.68**	**30**	P	**P**	**05 14 43.0**	**-1.9**
	comp=N,1.2nm,0.6s,baz=201,slow=7.3,SNR=3.3						
PMSA	**Palmer Station**	**27.30**	**171**	LR	LR	05 24 35.4	
	comp=N,213nm,18.1s,baz=293,slow=33						
BDFB	**Brasilia**	**31.82**	**52**	LR	LR	05 30 11.2	
	comp=N,168nm,21.9s,baz=178,slow=40						
OTAV	**Otavalo**	**38.42**	**352**	*e*P	**P**	**05 16 48.2**	**+2.2**
	comp=N,10nm,1.6s						
QSPA	**South Pole Qui**	**52.13**	**180**	P	**P**	**05 18 34.0**	**+0.2**
	comp=N,1.2nm,0.7s,baz=152,slow=5.7,SNR=6.7						
QSPA	**South Pole Qui**	**52.13**	**180**	*e*P	**P**	**05 18 34.3**	**+0.4**
	comp=N,12nm,1.5s						
TXAR	**Lajitas Array**	**72.73**	**333**	P	P	05 20 57.1	+5.2
	comp=N,0.4nm,0.7s,baz=149,slow=7.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**86.83**	**71**	P	**P**	**05 22 07.8**	**-0.8**
	comp=N,0.4nm,0.9s,baz=231,slow=5.1,SNR=5.0						
ABKAR	**Akbulak array**	**145.17**	**56**	*e*PKPdf	**PKPbc**	**05 29 00.3**	**0.0**
BVAR	**Borovoye Array**	**151.12**	**47**	PKPbc	**PKPbc**	**05 29 16.5**	**+0.3**
	comp=N,0.7nm,0.6s,baz=336,slow=3.2,SNR=3.9						
MKAR	**Makanchi Array**	**160.31**	**56**	PKPab	**PKPab**	**05 30 04.1**	**+0.4**
	comp=N,0.2nm,0.6s,baz=313,slow=3.0,SNR=2.5						

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*IDC **13** 05:20:13.5±0.8, 44°.08N×129°.33W, h0km, mb4.1/17, mb1 4.2/24, mb1mx4.0/54, mbtmp4.0/24, ML3.4/7, MS3.6/15, Ms1 3.6/15, ms1mx3.3/46, Error ellipse: s-maj=22.0km s-min=10.3km az=37.0*
*ISCJB **13** 05:20:15.2±0.3, 44°.26N±0°.02×129°.33W±0°.03, h13km, mb4.2/34, MS3.6/8, Error ellipse: s-maj=3.7km s-min=2.8km az=162.7*
*BJI **13** 05:20:16.6, 45°.14N×129°.13W, h4km, mB5.2/3, mb4.6/5, Ms4.7/1, Ms7 4.2/1*
*NEIC **13** 05:20:16.0±0.4, 44°.25N×129°.46W, h10km, mb4.2/29, Error ellipse: s-maj=6.1km s-min=4.1km az=45.0*
ISC 13 05:20:16.2±0.5, 44°.15N±0°.06×129°.36W±0°.06, h13km, n491, σ1.19/483, mb4.3/34, MS3.5/8, 158C-176D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COR	**Corvallis**	**4.36**	**82**	*e*Pn	**Pn**	**05 21 20.7**	**-1.4**
I03D	**Drain, OR**	**4.36**	**94**	⇓P	**Pn**	**05 21 20.8**	**-1.3**
	baz=4.4,SNR=6.5						
G03D	**McMinnville, O**	**4.47**	**74**	⇑P	**Pn**	**05 21 22.4**	**-1.2**
	baz=4.5						
F04D	**Rainier, OR**	**4.89**	**64**	⇑P	**Pn**	**05 21 28.1**	**-1.3**
	baz=4.9						
F04D				⇓S	**Sn**	**05 22 27.1**	**+1.3**
	baz=4.9						
HUMO	**Hull Mountain**	**4.91**	**106**	*e*Pn	**Pn**	**05 21 27.9**	**-1.8**
HUMO				*e*Sn	**Sn**	**05 22 22.6**	**-3.8**
BROR	**Big Rock Looko**	**4.97**	**86**	P	**Pn**	**05 21 29.5**	**-0.9**
I04A	**Tendick Farm,**	**5.03**	**92**	⇑P	**Pn**	**05 21 30.7**	**-0.6**
	baz=5.1						
I04A				⇑S	**Sn**	**05 22 31.3**	**+2.1**
	baz=5.1						
NLWA	**Neilton Lookou**	**5.03**	**48**	*e*Pn	**Pn**	**05 21 29.6**	**-1.6**
NLWA				*e*Sn	**Sn**	**05 22 27.1**	**-2.0**
HBO	**Huckleberry Mo**	**5.09**	**91**	P	**Pn**	**05 21 32.3**	**+0.1**
H04A	**Detroit Lake**	**5.17**	**82**	*e*Pn	**Pn**	**05 21 32.5**	**-0.7**
F04A	**Amboy**	**5.23**	**68**	*e*Pn	**Pn**	**05 21 33.5**	**-0.5**
J04D	**Umpqua Nationa**	**5.33**	**97**	⇑P	**Pn**	**05 21 35.5**	**-0.2**
	baz=5.4						
ERK	**Elk Rock**	**5.41**	**64**	P	**Pn**	**05 21 36.0**	**-0.5**
YBH	**Yreka Blue Hor**	**5.44**	**114**	Pn	**Pn**	**05 21 37.6**	**+0.6**
	0.2nm,0.3s,baz=307,slow=10,SNR=4.9						
YBH				Sn	**Sn**	**05 22 36.6**	**-3.0**
	0.3nm,0.3s,baz=240,slow=20,SNR=2.6						
YBH				LR	LR	05 23 33.6	
	comp=Z,670nm,18.6s,baz=310,slow=37						
YBH	**Yreka Blue Hor**	**5.44**	**114**	*e*Pn	**Pn**	**05 21 39.5**	**+2.4**
YBH				Sn	**Sn**	**05 22 36.6**	**-3.0**
VFP	**Flag Point**	**5.74**	**75**	P	**Pn**	**05 21 41.1**	**-0.1**
K04D	**Chiloquin, OR**	**5.75**	**103**	⇑P	**Pn**	**05 21 41.5**	**+0.2**
	baz=5.8						
I05D	**Terrebonne, OR**	**5.76**	**85**	⇓P	**Pn**	**05 21 41.0**	**-0.5**
	baz=5.8						
G05D	**Wamic, OR**	**5.84**	**76**	⇑P	**Pn**	**05 21 42.0**	**-0.4**
	baz=5.9						
ASR	**Mount Adams--S**	**5.84**	**67**	P	**Pn**	**05 21 42.1**	**-0.5**
N02D	**Trinity Center**	**5.85**	**121**	⇑P	**Pn**	**05 21 43.8**	**+1.3**
	baz=5.9						
LON	**Longmire**	**5.91**	**61**	*e*Pn	**Pn**	**05 21 43.0**	**-0.5**
J05D	**Fort Rock, OR**	**5.95**	**96**	⇓P	**Pn**	**05 21 44.7**	**+0.7**
	baz=6.0						
D05A	**Enumclaw**	**5.99**	**57**	*e*Pn	**Pn**	**05 21 45.0**	**+0.6**
M04C	**Macdoel**	**6.00**	**111**	⇓P	**Pn**	**05 21 45.7**	**+1.0**
	baz=6.1						
PGC	**Sidney**	**6.08**	**40**	*e*Pn	**Pn**	**05 21 44.4**	**-1.2**
PGC				*e*Sn	**Sn**	**05 22 52.0**	**-3.0**
PINOR	**Pine Mountain**	**6.13**	**90**	*e*Pn	**Pn**	**05 21 48.4**	**+2.0**
WDC	**Whiskeytown Da**	**6.18**	**123**	*e*Pn	**Pn**	**05 21 49.0**	**+1.9**
LTY	**Liberty**	**6.83**	**60**	*e*Pn	**Pn**	**05 21 55.6**	**-0.5**
A05A	**Maple Falls**	**6.97**	**43**	*e*Pn	**Pn**	**05 21 57.4**	**-0.5**
B06A	**Marblemount**	**6.99**	**48**	*e*Pn	**Pn**	**05 21 57.7**	**-0.4**
MOD	**Modoc Plateau**	**7.00**	**106**	*e*Pn	**Pn**	**05 22 01.7**	**+3.1**
I07A	**Izee**	**7.09**	**87**	*e*Pn	**Pn**	**05 22 01.1**	**+1.4**
E07A	**Sunnyside**	**7.12**	**67**	*e*Pn	**Pn**	**05 22 00.4**	**+0.5**
HAWA	**Hanford**	**7.29**	**69**	*e*Pn	**Pn**	**05 22 02.6**	**+0.3**
G08A	**Pilot Rock**	**7.50**	**78**	*e*Pn	**Pn**	**05 22 03.9**	**-1.4**
OHCM	**Honcut**	**7.60**	**127**	*e*Pn	**Pn**	**05 22 09.1**	**+2.6**
OHCM				*e*Sg	Sg	05 24 30.0	+10
D08A	**Wollman Farm,**	**7.88**	**65**	*e*Pn	**Pn**	**05 22 09.9**	**-0.5**
BBB	**Bella Bella**	**8.09**	**5**	Pn	**Pn**	**05 22 14.1**	**+0.9**
	0.2nm,0.3s,baz=195,slow=12,SNR=3.3						
BBB				LR	LR	05 24 40.8	
	comp=Z,234nm,18.8s,baz=197,slow=33						
E09A	**Wood Farm, Sta**	**8.25**	**69**	*e*Pn	**Pn**	**05 22 16.1**	**+0.6**
C09A	**Chrisman Ranch**	**8.54**	**61**	*e*Pn	**Pn**	**05 22 19.1**	**-0.4**
BMO	**Blue Mountains**	**8.64**	**81**	*e*Pn	**Pn**	**05 22 20.5**	**-0.5**
F10A	**Beach Ranch, E**	**8.78**	**74**	*e*Pn	**Pn**	**05 22 25.0**	**+2.2**
CMB	**Columbia Colle**	**9.12**	**129**	*e*Pn	**Pn**	**05 22 28.7**	**+1.3**
WAKR	**Walker**	**9.35**	**124**	*e*Pn	**Pn**	**05 22 33.8**	**+3.1**
NEW	**Newport**	**9.43**	**60**	Pn	**Pn**	**05 22 30.8**	**-0.9**
	0.2nm,0.3s,baz=242,slow=15,SNR=13						
NEW				LR	LR	05 25 46.9	
	comp=Z,479nm,21.5s,baz=212,slow=35						
NEW	**Newport**	**9.43**	**60**	⇓P	**Pn**	**05 22 31.2**	**-0.5**
	baz=9.4,SNR=5.1						
NEW	**Newport**	**9.43**	**60**	*e*Pn	**Pn**	**05 22 32.5**	**+0.9**
BMN	**Battle Mountai**	**9.73**	**108**	*e*Pn	Pn	05 22 39.2	+3.3
NVAR	**Mina Array Bea**	**10.09**	**121**	Pn	**Pn**	**05 22 40.8**	**0.0**
	0.1nm,0.3s,baz=292,slow=14,SNR=6.8						
BSMT	**Bassoo Peak**	**10.79**	**65**	*e*Pn	**Pn**	**05 22 52.1**	**+1.7**
HLID	**Hailey**	**10.81**	**88**	⇑P	**Pn**	**05 22 53.1**	**+2.4**
	baz=11						
HLID	**Hailey**	**10.81**	**88**	*e*Pn	**Pn**	**05 22 53.2**	**+2.4**
ELK	**Elko**	**10.97**	**103**	Pn	**Pn**	**05 22 54.0**	**+1.0**
	0.1nm,0.3s,baz=179,slow=16,SNR=8.6						
ELK				LR	LR	05 26 53.8	
	comp=Z,204nm,20.7s,baz=0.0,slow=37						
ELK	**Elko**	**10.97**	**103**	*e*Pn	**Pn**	**05 22 55.7**	**+2.7**
TPH	**Tonopah**	**10.98**	**119**	*e*Pn	**Pn**	**05 22 56.0**	**+2.9**
RCTC	**Rector, Farmer**	**11.00**	**132**	⇓P	**Pn**	**05 22 54.7**	**+1.6**
	baz=11						
JTMT	**Jette**	**11.10**	**66**	*e*Pn	**Pn**	**05 22 54.7**	**+0.1**
MSO	**Missoula**	**11.15**	**71**	⇓P	**Pn**	**05 22 55.6**	**+0.3**
	baz=11						
MSO	**Missoula**	**11.15**	**71**	*e*Pn	**Pn**	**05 22 57.9**	**+2.5**
SWMT	**Swartz Lake**	**11.23**	**67**	*e*Pn	**Pn**	**05 22 56.6**	**+0.2**
YBMT	**Yellow Bay**	**11.30**	**65**	*e*Pn	**Pn**	**05 22 57.2**	**-0.1**
VES	**Vestal, Richgr**	**11.43**	**133**	⇑P	**Pn**	**05 23 00.1**	**+1.0**
	baz=12						
SLMT	**Seeley Lake**	**11.52**	**69**	*e*Pn	**Pn**	**05 23 00.5**	**+0.1**
GRAC	**Grapevine Rang**	**11.57**	**124**	⇓P	**Pn**	**05 23 03.0**	**+2.0**
	baz=12						
CHMT	**Chamberlain Mo**	**11.63**	**71**	*e*Pn	**Pn**	**05 23 03.2**	**+1.3**
	4.1nm,1.1s						
MCMT	**McKenzie Canyo**	**11.81**	**81**	*e*Pn	**Pn**	**05 23 06.0**	**+1.5**
R11A	**Troy Canyon, C**	**11.87**	**114**	*e*Pn	**Pn**	**05 23 08.3**	**+3.0**
ISA	**Isabella, Lake**	**11.89**	**132**	⇓P	**Pn**	**05 23 06.3**	**+0.9**
	baz=12						
ISA	**Isabella, Lake**	**11.89**	**132**	*e*Pn	**Pn**	**05 23 05.8**	**+0.4**
DLMT	**Dillon**	**11.98**	**78**	*e*Pn	**Pn**	**05 23 08.4**	**+1.7**
LRM	**Limekiln Ridge**	**12.09**	**76**	*e*Pn	**Pn**	**05 23 08.4**	**+0.1**
ARVC	**Arvin**	**12.11**	**134**	⇓P	**Pn**	**05 23 09.3**	**+0.9**
	baz=12						
SBC	**Santa Barbara**	**12.23**	**139**	⇓P	**Pn**	**05 23 11.0**	**+1.1**
	baz=12						
FURC	**Furnace Creek,**	**12.23**	**125**	⇓P	**Pn**	**05 23 11.2**	**+1.2**
	baz=12						
HVU	**Hansel Valley**	**12.38**	**95**	*e*Pn	**Pn**	**05 23 14.0**	**+1.8**
EDW2	**Edwards Air Fo**	**12.74**	**133**	⇓P	**Pn**	**05 23 18.4**	**+1.3**
	baz=13						
QLMT	**Earthquake Lak**	**12.82**	**81**	*e*Pn	**Pn**	**05 23 20.2**	**+1.9**
DUG	**Dugway, Tooele**	**12.89**	**102**	⇑P	**Pn**	**05 23 19.5**	**+0.3**
	baz=13						
DUG	**Dugway, Tooele**	**12.89**	**102**	*e*Pn	Pn	05 23 22.6	+3.4
SHOC	**Shoshone, Teco**	**12.96**	**125**	⇓P	**Pn**	**05 23 22.4**	**+2.4**
	baz=13						
GSC	**Goldstone, Bar**	**13.08**	**128**	⇑P	**Pn**	**05 23 23.0**	**+1.3**
	baz=13						
GSC	**Goldstone, Bar**	**13.08**	**128**	*e*Pn	**Pn**	**05 23 23.2**	**+1.5**
YMR	**Madison River**	**13.16**	**81**	*e*Pn	**Pn**	**05 23 25.1**	**+2.2**
FXWY	**Fox Creek**	**13.23**	**86**	*e*Pn	**Pn**	**05 23 26.3**	**+2.4**
SHPR	**Sheep Range**	**13.24**	**120**	*e*Pn	**Pn**	**05 23 27.0**	**+3.0**
IMW	**Indian Meadow**	**13.26**	**85**	*e*Pn	**Pn**	**05 23 26.8**	**+2.5**
YFT	**Old Faithful**	**13.27**	**82**	*e*Pn	Pn	05 23 27.7	+3.3
HWUT	**Hardware Ranch**	**13.29**	**95**	*e*Pn	**Pn**	**05 23 25.8**	**+1.1**
	12nm,1.4s						
TPAW	**Teton Pass**	**13.31**	**86**	*e*Pn	**Pn**	**05 23 27.5**	**+2.5**
REDW	**Red Top Meadow**	**13.40**	**87**	*e*Pn	**Pn**	**05 23 29.3**	**+3.1**
BFSC	**Mount Baldy Ra**	**13.41**	**134**	⇓P	**Pn**	**05 23 28.0**	**+1.8**
	baz=14						
FLWY	**Flagg Ranch**	**13.41**	**84**	*e*Pn	**Pn**	**05 23 28.7**	**+2.5**
H17A	**Grant Village**	**13.46**	**82**	⇓P	**Pn**	**05 23 26.9**	**-0.2**
	baz=14						
H17A	**Grant Village**	**13.46**	**82**	*e*Pn	Pn	05 23 30.6	+3.5
TUQ	**Turquoise Moun**	**13.49**	**126**	⇓P	**Pn**	**05 23 29.5**	**+2.2**
	baz=14						
FMP	**Fort Macarthur**	**13.50**	**137**	⇓P	**Pn**	**05 23 29.5**	**+2.1**
	baz=14						
I17A	**Pilgrim Ck.**	**13.52**	**84**	⇓P	**Pn**	**05 23 27.4**	**-0.4**
	baz=14						
LOHW	**Long Hollow**	**13.54**	**86**	*e*Pn	**Pn**	**05 23 30.4**	**+2.3**
LKWY	**Lake**	**13.57**	**82**	*e*Pn	**Pn**	**05 23 29.3**	**+0.8**
ARUT	**Antelope Range**	**13.59**	**112**	*e*Pn	**Pn**	**05 23 30.9**	**+2.1**
HEC	**Hector,Ludlow**	**13.69**	**128**	⇓P	**Pn**	**05 23 31.6**	**+1.6**
	baz=14						
CIS	**Catalina Islan**	**13.70**	**138**	⇑P	**Pn**	**05 23 31.9**	**+1.8**
	baz=14						
CCUT	**Cedar City**	**13.77**	**113**	*e*Pn	**Pn**	**05 23 33.4**	**+2.1**
SCI	**San Clemente I**	**13.98**	**139**	⇑P	**Pn**	**05 23 35.7**	**+1.8**
	baz=14						
MVU	**Marysvale**	**14.05**	**108**	*e*Pn	**Pn**	**05 23 37.2**	**+2.1**
MVU				*e*P	**P**	**05 23 45.0**	**+2.0**
H18A	**Shoshone NF, C**	**14.09**	**81**	⇓P	**Pn**	**05 23 35.3**	**-0.2**
	baz=14						
GMRC	**Granite Mounta**	**14.11**	**127**	⇑P	**Pn**	**05 23 37.1**	**+1.4**
	baz=14,SNR=6.2						
EGMT	**Eagleton**	**14.14**	**67**	⇑P	**Pn**	**05 23 35.6**	**-0.5**
	baz=14,SNR=5.0						
EGMT	**Eagleton**	**14.14**	**67**	*e*Pn	**Pn**	**05 23 35.6**	**-0.5**
EGMT				*e*P	**P**	**05 23 44.7**	**+1.0**
MURC	**Murrieta**	**14.14**	**134**	⇑P	**Pn**	**05 23 37.8**	**+1.6**
	baz=14						
LDFC	**Landfair**	**14.22**	**125**	*e*Pn	**Pn**	**05 23 40.0**	**+2.7**
LDFC				*e*P	**P**	**05 23 46.1**	**+1.4**
DLBC	**Dease Lake**	**14.32**	**359**	LR	LR	05 28 25.8	
	comp=Z,294nm,18.8s,baz=171,slow=34						
RLMT	**Red Lodge**	**14.34**	**79**	*e*Pn	**Pn**	**05 23 39.8**	**+0.9**
RLMT				*e*P	**P**	**05 23 47.5**	**+1.4**
TMUT	**Trail Mountain**	**14.39**	**103**	*e*P	**P**	**05 23 49.8**	**+3.1**
	8.3nm,0.9s						
PDAR	**Pinedale Array**	**14.45**	**89**	Pn	**Pn**	**05 23 41.9**	**+1.4**
	0.1nm,0.3s,baz=272,slow=8.9,SNR=6.8						
PDAR				LR	LR	05 29 18.2	
	comp=Z,282nm,19.9s,baz=306,slow=38						
BELC	**Belle Mtn. Jos**	**14.48**	**130**	⇑P	**Pn**	**05 23 42.3**	**+1.4**
	baz=15						
PFO	**Pinyon Flats O**	**14.53**	**132**	⇑P	**Pn**	**05 23 44.4**	**+2.8**
	baz=15						
F19A	**Roth Farm, Mol**	**14.54**	**76**	⇓P	**Pn**	**05 23 41.3**	**-0.4**
	baz=14

	baz=16					
I22A	9 Mile Ranch, baz=16,SNR=12	16.45	83	⇑P	Pn	05 24 08.2 +1.5
D22A	Cohagen baz=16	16.47	71	⇓P	Pn	05 24 07.5 +0.7
J22A	Midwest baz=16,SNR=10	16.54	85	⇓P	P	05 24 10.6 +0.2
K22A	Casper baz=17	16.66	87	⇑P	Pn	05 24 10.2 +0.8
B22A	Reddig Ranch S baz=17	16.67	67	⇑P	Pn	05 24 09.9 +0.5
C22A	Vida baz=17,SNR=8.7	16.70	69	⇓P	Pn	05 24 09.6 -0.2
PV01	Paradox Valley 2µm,1.3s	16.75	104	eP	Pn	05 24 11.1 +0.4
A22A	Carney Farms, baz=17,SNR=19	16.81	65	⇑P	Pn	05 24 10.9 -0.2
L22A	Ellis Ranch, M baz=17	16.87	89	⇑P	Pn	05 24 11.9 -0.2
X16A	Lo Mia Camp, P baz=17,SNR=9.5	16.90	119	⇓P	P	05 24 15.4 +0.8
M22A	Cedar Creek Ra baz=17	16.93	91	⇓P	Pn	05 24 12.8 -0.1
F23A	Volborg baz=17,SNR=11	17.02	76	⇑P	P	05 24 15.9 +0.2
G23A	Biddle baz=17	17.07	78	⇓P	Pn	05 24 14.5 0.0
D23A	Lindsay baz=17,SNR=7.6	17.13	71	⇑P	P	05 24 16.2 -0.7
C23A	Lambert baz=17,SNR=6.2	17.18	69	⇓P	Pn	05 24 15.3 -0.4
N22A	Wattenberg Ran baz=17,SNR=6.1	17.21	93	⇓P	Pn	05 24 16.3 -0.2
MVCO	Mesa Verde baz=17	17.25	107	⇑P	Pn	05 24 17.6 +0.7
MVCO	Mesa Verde 28nm,1.3s	17.25	107	eP	P	05 24 18.2 -0.2
K23A	Bowen Ranch, D baz=17	17.28	86	⇓P	Pn	05 24 18.0 +0.9
B23A	Brockton baz=17,SNR=7.1	17.35	67	⇓P	Pn	05 24 17.8 -0.2
O22A	Kremmling baz=17,SNR=9.3	17.36	95	⇓P	Pn	05 24 18.7 +0.3
L23A	Garrett baz=17	17.38	88	⇑P	P	05 24 19.7 -0.1
P22A	Eagle baz=18	17.42	97	⇓P	Pn	05 24 19.1 +0.1
SMCO	Snowmass 4.7nm,1.0s	17.43	99	ePn	P	05 24 22.2 +1.6
A23A	Redstone baz=17	17.48	65	⇑P	Pn	05 24 19.4 -0.1
M23A	Laramie baz=18	17.54	91	⇓P	P	05 24 22.8 +1.2
N23A	Red Feather La baz=18	17.55	93	⇑P	Pn	05 24 20.8 +0.2
W18A	Petrified Fore baz=18	17.57	114	⇓P	P	05 24 23.5 +1.6
C24A	Savage baz=18,SNR=6.1	17.68	70	⇑P	P	05 24 22.8 -0.1
F24A	Ekalaka baz=18	17.68	76	⇓P	Pn	05 24 22.1 -0.1
H24A	Dirks Ranch, A baz=18,SNR=7.1	17.71	79	⇑P	Pn	05 24 22.6 +0.1
D24A	Glendive baz=18	17.73	72	⇑P	Pn	05 24 22.3 -0.4
G24A	Alzada baz=18	17.74	77	⇑P	Pn	05 24 23.3 +0.4
E24A	Baker baz=18	17.75	73	⇓P	Pn	05 24 22.6 -0.3
PHWY	Pilot Hill 5.6nm,1.1s	17.77	91	ePn	P	05 24 25.0 +0.7
I24A	Kuemmerle Ranc baz=18	17.78	82	⇓P	Pn	05 24 23.5 +0.1
X18A	Snowflake baz=18	17.78	116	⇑P	P	05 24 26.3 +2.0
214A	Organ Pipe Nat baz=18	17.79	128	⇓P	P	05 24 25.0 +0.8
O23A	Lake Granby, G baz=18	17.80	95	⇓P	Pn	05 24 24.1 +0.3
J24A	Dixon Ranch, L baz=18	17.85	84	⇑P	P	05 24 25.4 +0.5
L24A	Wheatland baz=18	17.95	88	⇓P	Pn	05 24 23.6 -1.8
A24A	Westby baz=18,SNR=8.1	18.05	66	⇓P	Pn	05 24 26.4 -0.1
S22A	4UR Ranch, Cre baz=18	18.15	103	⇓P	P	05 24 28.8 +0.3
P23A	Jefferson baz=18	18.16	97	⇓P	P	05 24 28.8 +0.2
RSSD	Black Hills 8.0nm,1.1s	18.16	81	eP	P	05 24 29.1 +0.7
ISCO	Idaho Springs baz=18,SNR=8.9	18.16	96	⇑P	Pn	05 24 28.4 +0.2
ISCO	Idaho Springs 11nm,1.1s	18.16	96	eP	P	05 24 28.7 +0.2
M24A	Cheyenne baz=18	18.18	90	⇑P	Pn	05 24 28.5 +0.1
N24A	Carr baz=18	18.33	92	⇑P	P	05 24 32.8 +2.5
F25A	Bowman baz=18	18.37	75	⇑P	Pn	05 24 30.7 +0.1
E25A	Miller Ranch, baz=18	18.38	74	⇑P	Pn	05 24 31.1 +0.4
I25A	Rochford baz=18,SNR=7.1	18.39	81	⇓P	P	05 24 31.1 +0.2
H25A	Fruitdale baz=18	18.40	79	⇑P	Pn	05 24 31.1 +0.2
D25A	Fairfield baz=18	18.42	71	⇓P	Pn	05 24 32.5 +1.3
O24A	Longmont baz=18	18.43	94	⇑P	Pn	05 24 32.4 +1.0
J25A	Sunshine Ranch baz=18	18.45	83	⇓P	Pn	05 24 32.1 +0.5
G25A	Newell baz=18	18.46	78	⇓P	Pn	05 24 32.4 +0.8
C25A	Freed Ranch, W baz=18	18.47	70	⇓P	Pn	05 24 32.8 +1.1
B25A	Knox Farm, Ray baz=18	18.56	68	⇓P	Pn	05 24 33.5 +0.7
K25A	Mack Ranch, Ha baz=19,SNR=6.1	18.57	86	⇑P	Pn	05 24 33.8 +0.8
L25A	Engebretsen Ra baz=19	18.61	87	⇑P	Pn	05 24 34.5 +0.9
A25A	Svangstu Ranch baz=19	18.64	66	⇓P	Pn	05 24 34.3 +0.6
R23A	Moffat baz=19	18.66	100	⇑P	Pn	05 24 35.1 +0.7
TUC	Tucson 3.7nm,0.8s	18.73	123	eP	Pn	05 24 35.9 +0.9
M25A	Palm-Egli Farm baz=19	18.75	90	⇑P	P	05 24 34.9 0.0
S23A	Nye Farm, Mont baz=19	18.75	102	⇓P	Pn	05 24 36.8 +1.4
P24A	Kohler Place, baz=19	18.77	96	⇓P	Pn	05 24 36.3 +0.7
U22A	Llaves baz=19,SNR=16	18.81	107	⇑P	Pn	05 24 37.2 +1.1
Q24A	Divide baz=19,SNR=5.8	18.82	98	⇑P	Pn	05 24 37.3 +1.1
F26A	Lodgepole baz=19,SNR=7.5	18.92	75	⇑P	Pn	05 24 37.2 0.0
H26A	Fairpoint baz=19	18.98	79	⇑P	Pn	05 24 38.7 +0.7
J26A	Sides Ranch, S baz=19,SNR=6.9	18.99	83	⇓P	P	05 24 37.9 +0.5
I26A	New Underwood baz=19,SNR=6.5	19.01	81	⇓P	Pn	05 24 38.2 -0.1
V22A	San Miguel Ran baz=19,SNR=14	19.01	108	⇓P	Pn	05 24 39.1 +0.5
G26A	Maurine baz=19	19.02	77	⇑P	Pn	05 24 38.3 -0.2
D26A	Manning baz=19	19.03	72	⇓P	P	05 24 37.7 0.0
E26A	Carlson Angus baz=19	19.03	74	⇑P	Pn	05 24 38.5 -0.1
T23A	Casias Ranch, baz=19	19.04	104	⇑P	Pn	05 24 39.8 +0.8
K26A	Motz Farm, Whi baz=19	19.05	85	⇓P	Pn	05 24 38.9 +0.1
SDCO	Great Sand Dun 85nm,2.8s	19.09	101	eP	Pn	05 24 40.0 +0.5
R24A	Sanders Place, baz=19	19.15	100	⇑P	Pn	05 24 40.3 +0.1
B26A	Jensen Ranch, baz=19	19.18	68	⇓P	Pn	05 24 40.7 +0.4
C26A	Wahner Farm, P baz=19	19.26	69	⇓P	Pn	05 24 41.0 -0.3
U23A	El Rito baz=19,SNR=7.2	19.29	106	⇑P	Pn	05 24 42.4 +0.5
A26A	Wade Farm, Ken baz=19	19.34	66	⇑P	Pn	05 24 41.9 -0.3
S24A	Houchin Ranch, baz=19	19.34	101	⇓P	Pn	05 24 43.2 +0.6
F27A	Lemmon baz=19,SNR=6.7	19.37	75	⇓P	Pn	05 24 42.4 -0.3
H27A	Howes baz=20	19.47	79	⇓P	Pn	05 24 43.9 0.0
G27A	Dupree baz=20	19.48	77	⇑P	P	05 24 42.5 -0.2
T24B	San Luis baz=20	19.49	103	⇑P	Pn	05 24 44.8 +0.4
N26A	Koester Ranch, baz=20	19.53	91	⇑P	Pn	05 24 44.8 +0.2
I27A	Quinn baz=20	19.58	81	⇓P	Pn	05 24 44.8 -0.4
V23A	Ortiz Mt. (NFS baz=20,SNR=10	19.60	107	⇑P	Pn	05 24 46.5 +0.8
E27A	Carson baz=20	19.65	74	⇓P	P	05 24 45.3 +0.8
C27A	Sayler Ranch, baz=20	19.66	70	⇓P	Pn	05 24 45.5 -0.4
LAZ	Ladron 5.3nm,1.1s	19.71	112	eP	Pn	05 24 47.2 +0.3
K27A	Flueckinger Fa baz=20	19.72	85	⇓P	Pn	05 24 46.5 -0.5
J27A	Elkhorn Farm, baz=20	19.77	83	⇓P	P	05 24 46.7 +0.8
R25A	Fountain Ranch baz=20,SNR=5.6	19.77	99	⇑P	Pn	05 24 48.6 +1.0
B27A	Peters Farms, baz=20	19.83	68	⇑P	Pn	05 24 47.5 -0.5
ANMO	Albuquerque 0.1nm,0.3s,baz=305,slow=13,SNR=7.8	19.86	110	P	P	05 24 47.5 +0.4
ANMO				LR	LR	05 32 45.7
	comp=Z,161nm,20.6s,baz=320,slow=38					
ANMO	Albuquerque 4.0nm,1.0s	19.86	110	eP	P	05 24 47.8 +0.7
P26A	Davis Ranch, A baz=20	19.88	94	⇓P	Pn	05 24 49.0 +0.2
S25A	Robets Cordova baz=20	19.88	100	⇓P	Pn	05 24 49.0 +0.1
U24A	Moreno Valley baz=20	19.88	105	⇑P	Pn	05 24 49.2 +0.2
W23A	Werner Place, baz=20,SNR=8.4	19.94	109	⇓P	Pn	05 24 49.6 -0.1
LENM	Lemitar	19.96	112	eP	Pn	05 24 50.2 +0.4
Q26A	Hugo baz=20,SNR=6.8	20.00	96	⇓P	P	05 24 49.4 +0.9
N27A	Anderson Farm, baz=20	20.03	90	⇓P	P	05 24 49.4 +0.6
Y22D	IRIS PASSCAL I baz=20	20.05	112	⇓P	Pn	05 24 51.2 +0.2
LPM	Los Pinos Moun	20.10	112	eP	Pn	05 24 51.7 +0.1
T25A	Trinidad baz=20,SNR=15	20.14	102	⇓P	Pn	05 24 51.7 -0.4
I28A	Midland baz=20	20.22	81	⇓P	P	05 24 51.6 +0.8
F28A	McLaughlin baz=20	20.22	75	⇓P	P	05 24 51.7 +0.9
G28A	Parade baz=20	20.23	77	⇓P	P	05 24 51.7 +0.8
E28A	Huff baz=20	20.24	73	⇓P	P	05 24 51.9 +0.9
V24A	Rampart Ranch, baz=20,SNR=8.0	20.24	106	⇓P	Pn	05 24 53.3 0.0
O27A	Beecher Island baz=20	20.27	92	⇓P	Pn	05 24 54.1 +0.6
J28A	Allard Ranch, baz=20	20.28	82	⇑P	P	05 24 52.2 +0.8
YKA	Yellowknife Ar 5.4nm,1.0s,baz=209,slow=11,SNR=25	20.29	20	P	P	05 24 51.0 -0.3
YKA				PcP	PcP	05 29 03.2 -1.0
	0.4nm,0.8s,baz=191,slow=2.0,SNR=7.0					
319A	Douglas baz=20,SNR=5.4	20.29	122	⇓P	Pn	05 24 53.3 -0.5
D28A	Regan baz=20	20.30	71	⇓P	P	05 24 52.3 +0.8
R26A	Arlington baz=20,SNR=8.5	20.30	98	⇑P	P	05 24 52.8 +1.0
K28A	Ten Mile Ranch baz=20	20.34	84	⇑P	P	05 24 52.7 +0.5
OGNE	Ogallala baz=20	20.35	90	⇓P	Pn	05 24 54.1 -0.2
W24A	Lazy 6 Ranch, baz=20,SNR=16	20.42	108	⇓P	P	05 24 54.4 +1.2
B28A	Dugan Ranch, T baz=20,SNR=10	20.43	68	⇑P	P	05 24 53.9 +1.0
P27A	Ficken Ranch, baz=20	20.43	94	⇓P	P	05 24 54.1 +1.0
121A	Cookes Peak, D baz=20,SNR=25	20.45	117	⇑P	Pn	05 24 55.3 -0.3
121A	Cookes Peak, D 23nm,1.0s	20.45	117	eP	Pn	05 24 55.0 -0.6
U25A	Circle Dot Ran baz=20,SNR=13	20.50	104	⇑P	P	05 24 55.1 +1.1
A28A	Rude Farm, Bot baz=20	20.51	66	⇓P	P	05 24 54.4 +0.5
Z22A	Elephant Butte baz=21,SNR=15	20.52	114	⇑P	Pn	05 24 55.7 -0.8
FFC	Flin Flon 27nm,1.0s	20.58	49	eP	P	05 24 54.5 -0.1
S26A	Kim baz=21	20.58	100	⇓P	P	05 24 56.1 +1.3
KSCO	Kaye Shedlock' baz=21	20.60	95	⇓P	P	05 24 56.1 +1.1
KSCO	Kaye Shedlock' 12nm,0.9s	20.60	95	eP	P	05 24 55.9 +0.9
V25A	Rancho No Teng baz=21,SNR=9.9	20.64	105	⇑P	Pn	05 24 57.6 -0.3
T26A	Comanche Natio baz=21,SNR=6.0	20.70	101	⇓P	P	05 24 57.3 +1.1
R27A	Eads baz=21,SNR=11	20.77	97	⇑P	P	05 24 57.6 +0.7
N28A	Pribbeno Ranch baz=21	20.78	90	⇓P	P	05 24 57.3 +0.3
H29A	Onida baz=21	20.79	78	⇓P	P	05 24 58.0 +1.1
O28A	Krutsinger Ran baz=21,SNR=6.7	20.80	92	⇓P	P	05 24 57.7 +0.5
I29A	Vivian Onida baz=21	20.83	80	⇑P	P	05 24 58.3 +0.9
G29A	Hoven baz=21	20.91	77	⇓P	Pn	05 25 02.1 +1.3
J29A	Okreek baz=21	20.93	82	⇓P	P	05 24 59.0 +0.5
S27A	Las Animas baz=21	20.96	99	⇓P	P	05 25 00.0 +1.1
U26A	Atchley Ranch, baz=21	20.96	103	⇓P	Pn	05 25 00.7 -1.0
E29A	Napoleon baz=21	20.96	73	⇑P	P	05 24 59.2 +0.4
D29A	Pettibone, Tap baz=21	20.97	72	⇓P	P	05 24 59.4 +0.6
P28A	Saint Francis baz=21	21.01	93	⇑P	P	05 25 00.4 +1.0
W25A	X Bar L Ranch, baz=21	21.07	107	⇓P	P	05 25 01.8 +1.6
K29A	Lazy Trails An baz=21	21.08	84	⇑P	P	05 25 01.0 +0.8
B29A	Wagenman Farm, baz=21,SNR=7.2	21.10	68	⇑P	P	05 25 00.4 +0.2
Y24A	Capitan baz=21	21.13	111	⇑P	P	05 25 02.3 +1.4
L29A	Maesberg Ranch baz=21	21.14	86	⇑P	P	05 25 01.5 +0.6
Q28A	Sharon Springs baz=21	21.15	94	⇓P	P	05 25 01.3 +0.3
M29A	Burnside Ranch baz=21	21.16	87	⇑P	P	05 25 02.1 +1.0
A29A	Manning Farm, baz=21,SNR=14	21.19	66	⇓P	P	05 25 01.6 +0.4
V26A	Tequesquite Ra baz=21,SNR=7.5	21.24	104	⇑P	P	05 25 03.6 +1.6
X25A	Clemmons Ranch baz=21	21.31	108	⇑P	P	05 25 04.6 +1.8
T27A	Campo baz=21,SNR=5.6	21.37	100	⇓P	P	05 25 04.7 +1.4
R28A	Tribune baz=22,SNR=5.8	21.45	96	⇑P	P	05 25 04.8 +0.5
G30A	Faulkton baz=21	21.47	77	⇑P	P	05 25 04.1 -0.1
J30A	Dallas baz=22,SNR=6.3	21.55	82	⇓P	P	05 25 05.4 +0.3
P29A	Atwood baz=22	21.59	92	⇓P	P	05 25 06.4 +0.7
U27A	Thompson Grove baz=22	21.60	102	⇓P	P	05 25 06.5 +0.7
K30A	Basset baz=22	21.61	83	⇓P	P	05 25 05.6 -0.2
C30A	Mose, Pekin baz=22	21.70	70	⇑P	P	05 25 07.0 +0.4
BRSD	Miller baz=22	21.71	79	⇓P	P	05 25 06.9 +0.2
BRSD	Miller 17nm,0.9s	21.71	79	eP	P	05 25 06.4 -0.4
EGAK	Eagle 6.3nm,1.1s	21.71	346	eP	P	05 25 10.8 +4.2
S28A	Manter baz=22	21.71	98	⇑P	P	05 25 08.7 +1.7
L30A	Spencer Herefo baz=22	21.72	85	⇓P	P	05 25 07.3 +0.3
T28A	Walsh baz=22,SNR=7.2	21.77	99	⇓P	P	05 25 08.5 +0.9
B30A	Myrvik Farm, E baz=22,SNR=21	21.78	68	⇓P	P	05 25 07.5 0.0
A30A	Hoffart Farm, baz=22,SNR=34	21.80	66	⇓P	P	05 25 07.8 0.0
Q29A	Oakley baz=22	21.83	94	⇑P	P	05 25 08.6 +0.4
X26A	CR and CF Fran baz=22,SNR=6.4	21.88	107	⇓P	P	05 25 10.0 +1.1
R29A	Marienthal baz=22	21.90	95	⇓P	P	05 25 09.4 +0.4
V27A	Dan Oppiter Fa baz=22	21.92	103	⇑P	P	05 25 10.9 +1.6
O30A	MW Ranch, Wils baz=22	22.02	90	⇑P	P	05 25 10.5 +0.2
U28A	Mallet baz=22	22.04	101	⇑P	P	05 25 11.7 +1.1
P30A	Selden baz=22	22.11	92	⇑P	P	05 25 11.4 +0.2
W27A	Bowe Ranch, En baz=22	22.12	105	⇑P	P	05 25 12.1 +0.7
S29A	Ulysses baz=22	22.26	97	⇑P	P	05 25 13.8 +1.0
L31A	Butterfield Fa baz=22	22.29	84	⇑P	P	05 25 14.1 +1.0
X27A	F and S Farms, baz=22	22.32	106	⇓P	P	05 25 15.0 +1.5
Q30A	Quinter baz=22,SNR=7.4	22.34	93	⇓P	P	05 25 14.0 +0.3
V28A	Channing baz=22	22.35	103	⇓P	P	05 25 15.0 +1.1
MNTX	Cornudas Mount	22.54	115	eP	P	05 25 16.5 +0.7
MCK	McKinley	22.57	337	eP	P	05 25 19.7 +3.8
R30A	Dighton baz=23	22.58	95	⇑P	P	05 25 16.3 +0.1
Y27A	Causey baz=23	22.70	108	⇓P	P	05 25 17.6 0.0
P31A	Stockton baz=23	22.74	91	⇓P	P	05 25 17.4 -0.6
ILAR	Eielson Array 3.2nm,0.8s,baz=156,slow=8.1,SNR=39	22.88	341	P	P	05 25 20.3 +1.2
ILAR				PcP	PcP	05 29 08.3 -1.0
	0.6nm,0.9s,baz=180,slow=3.2,SNR=8.0					
MSTX	Muleshoe baz=23	22.92	107	⇓P	P	05 25 20.4 +0.5
PPLA	Purkeypile 45nm,1.7s	22.94	333	eP	P	05 25 23.2 +3.3
U30A	WK&E Inc. Balk baz=23	23.08	99	⇓P	P	05 25 22.1 +0.5
AMTX	Amarillo baz=23	23.18	104	⇓P	P	05 25 22.6 +0.1
AMTX	Amarillo 11nm,1.1s	23.18	104	eP	P	05 25 22.7 +0.1
P32A	Huiting Farm, baz=23	23.27	90	⇑P	P	05 25 23.1 -0.2
O32A	Brockman Farm, baz=23	23.27	89	⇓P	P	05 25 23.1 -0.3
Y28A	McKinney Farm, baz=23,SNR=8.1	23.31	107	⇓P	P	05 25 24.4 +0.4
X29A	Tulia baz=23	23.40	105	⇑P	P	05 25 26.0 +1.3
ULM	Lac du Bonnet 8.9nm,0.9s,baz=278,slow=11,SNR=16	23.42	63	P	P	05 25 24.3 -0.4
ULM				LR	LR	05 34 24.9
	comp=Z,175nm,20.4s,baz=309,slow=36					
V30A	Spur Ranch, Mi baz=24	23.43	101	⇑P	P	05 25 26.0 +1.0
AGMN	Agassiz Nation baz=23	23.43	68	⇓P	P	05 25 24.0 -0.8
AGMN	Agassiz Nation 11nm,1.3s	23.43	68	eP	P	05 25 23.9 -0.9
ECSD	EROS Data Cent baz=24	23.50	79	⇑P	P	05 25 25.4 -0.2
ECSD	EROS Data Cent 13nm,1.1s	23.50	79	eP	P	05 25 24.9 -0.7
T31A	Randall Ranch, baz=24	23.52	97	⇓P	P	05 25 25.3 -0.5
Q32A	Meitler Ranch, baz=24	23.53	92	⇑P	P	05 25 26.6 +0.6
Z28A	Tucker Farm, M baz=24	23.57	108	⇑P	P	05 25 26.4 -0.1
R32A	Long Quarter, baz=24	23.64	93	⇑P	P	05 25 27.2 +0.1
Y29A	Porterfield Fa baz=24	23.74	106	⇑P	P	05 25 27.9 -0.2
S32A	Newby Ranch, P baz=24	23.78	95	⇑P	P	05 25 29.6 +1.2
128A	Castleberry Fa baz=24	23.89	110	⇓P	P	05 25 30.2 +0.6
X30A	Coker Ranch, T baz=24	23.97	104	⇑P	P	05 25 31.3 +1.0
P33A	Williams Farm, baz=24	23.99	90	⇑P	P	05 25 29.5 -0.8
T32A	Huddler Ranch, baz=24	24.02	96	⇑P	P	05 25 30.8 +0.2
V31A	Spring Creek L baz=24	24.02	100	⇓P	P	05 25 30.7 0.0
Q33A	Connelly Farm, baz=24	24.05	91	⇑P	P	05 25 30.7 -0.3
Z29A	Hungry Hill Ra baz=24	24.05	107	⇓P	P	05 25 31.8 +0.7
228A	UT Block 9, Go baz=24	24.12	111	⇑P	P	05 25 32.6 +0.8
R33A	Olander Ranch, baz=24	24.21	93	⇓P	P	05 25 32.9 +0.5
W31A	Holland Ranch, baz=24	24.24	102	⇑P	P	05 25 33.7 +0.9
Y30A	Stafford Cattl baz=24	24.27	105	⇓P	P	05 25 33.1 0.0
129A	Stewart Farms, baz=24	24.31	109	⇓P	P	05 25 34.1 +0.6
INK	Inuvik 1.8nm,0.9s,baz=163,slow=11,SNR=9.1	24.32	356	P	P	05 25 33.5 +0.4
U32A	Winter Ranch, baz=24	24.33	98	⇓P	P	05 25 33.8 +0.2
Z30A	Sanderson Ranc baz=24	24.44	107	⇑P	P	05 25 34.9 +0.3
X31A	McDonald Ranch baz=24	24.50	103	⇓P	P	05 25 36.0 +0.8
Y31A	Rekieta Farm, baz=25	24.66	104	⇓P	P	05 25 36.4 -0.2
229A	Bryant Ranch, baz=25	24.74	110	⇑P	P	05 25 38.3 +0.9
W32A	Sentinel baz=25	24.77	101	⇑P	P	05 25 37.9 +0.4
KSU1	Kansas State U baz=25	24.89	90	⇓P	P	05 25 38.8 +0.2
329A	Wagon Wheel Ra baz=25	24.92	111	⇓P	P	05 25 39.5 +0.5
130A	Snyder baz=25	24.95	108	⇓P	P	05 25 39.9 +0.7
Z31A	Sharp Cattle R baz=25	25.10	106	⇑P	P	05 25 41.4 +0.8
X32A	Elmer baz=25,SNR=5.7	25.10	102	⇑P	P	05 25 40.9 +0.4
V33A	Lossen Ranch, baz=25	25.10	99	⇓P	P	05 25 40.7 +0.2
TXAR	Lajitas Array 3.9nm,0.9s,baz=297,slow=6.1,SNR=21	25.21	117	P	P	05 25 41.5 -0.2
TXAR				LR	LR	05 35 20.2
	comp=Z,90nm,18.1s,baz=0.0,slow=36					
Y32A	R-V Farms, Ver baz=25	25.21	103	⇑P	P	05 25 42.3 +0.7
230A	Sterling City baz=25	25.26	109	⇓P	P	05 25 43.8 +1.7
WMOK	Wichita Mounta 18nm,1.4s	25.29	101	eP	P	05 25 43.0 +0.7
W33A	Caddo, Fort Co baz=25	25.30	100	⇑P	P	05 25 42.9 +0.6
U34A	Anderson Ranch baz=25	25.35	97	⇓P	P	05 25 43.0 +0.3
LPIG	La Paz comp=Z,79nm,18.0s,baz=4.0,slow=35	25.35	136	LR	LR	05 35 02.8

330A	Mertzon	25.51	110	⇓P		P	05 25 44.9 +0.6
	baz=26						
429A	Davenport Ranc	25.52	113	⇑P		P	05 25 45.3 +0.9
	baz=26,SNR=9.7						
Z32A	Haskell	25.57	105	⇓P		P	05 25 45.1 +0.3
	baz=26						
X33A	Lawton	25.59	101	⇓P		P	05 25 45.6 +0.6
	baz=26						
529A	Stev Forest Ra	25.62	114	⇓P		P	05 25 46.3 +0.9
	baz=26,SNR=17						
IM04	Indian Mountai	25.63	337	eP		P	05 25 46.6 +1.6
V34A	Guthrie	25.64	98	⇓P		P	05 25 45.7 +0.3
	baz=26,SNR=5.6						
V34A	Guthrie	25.64	98	eP		P	05 25 45.1 -0.4
	10nm,0.8s						
W34A	Bridge Creek,	25.75	99	⇑P		P	05 25 46.8 +0.3
	baz=26						
W34A	Bridge Creek,	25.75	99	eP		P	05 25 46.8 +0.3
231A	Bronte	25.78	108	⇓P		P	05 25 46.8 +0.1
	baz=26						
Y33A	Hilltop Ranch,	25.78	103	⇑P		P	05 25 47.0 +0.3
	baz=26						
ABTX	Abilene, Hawle	25.84	106	⇓P		P	05 25 48.0 +0.7
	baz=26						
430A	Baggett Ranch,	25.86	112	⇑P		P	05 25 48.3 +0.8
	baz=26						
SPMN	Marine on St.	25.87	75	⇑P		P	05 25 47.9 +0.4
	baz=26						
FCC	Fort Churchill	26.01	43	eP		P	05 25 50.0 +1.5
	0.3nm,1.0s						
X34A	Smith Ranch, M	26.03	101	⇑P		P	05 25 50.0 +1.0
	baz=26						
331A	San Angelo	26.08	110	⇓P		P	05 25 50.0 +0.5
	baz=26,SNR=5.1						
530A	J-C Ranch, Com	26.19	113	⇓P		P	05 25 51.7 +1.2
	baz=26						
232A	Coleman	26.26	108	⇓P		P	05 25 51.9 +0.7
	baz=26,SNR=6.1						
431A	Sonora	26.34	111	⇑P		P	05 25 52.8 +1.0
	baz=26						
133A	Hamilton Ranch	26.35	106	⇑P		P	05 25 52.1 +0.3
	baz=26						
Y34A	Reagan Ranch,	26.42	102	⇓P		P	05 25 53.3 +0.8
	baz=26						
332A	Millersview	26.50	109	⇓P		P	05 25 53.6 +0.3
	baz=27						
233A	Rising Star	26.70	107	⇑P		P	05 25 55.3 +0.3
	baz=27						
531A	Rocksprings	26.71	112	⇓P		P	05 25 55.6 +0.5
	baz=27						
432A	Menard	26.77	110	⇓P		P	05 25 56.3 +0.6
	baz=27						
JCT	Junction City	27.01	110	⇓P		P	05 25 58.5 +0.6
	baz=27						
333A	Richland Sprin	27.05	108	⇑P		P	05 25 59.4 +1.2
	baz=27						
532A	Rocksprings	27.16	111	⇑P		P	05 25 59.8 +0.5
	baz=27						
631A	Perdido Creek	27.17	113	⇑P		P	05 25 59.6 +0.3
	baz=27						
234A	Clairette	27.24	106	⇑P		P	05 25 60.0 +0.1
	baz=27						
433A	Art	27.32	109	⇑P		P	05 26 00.8 +0.1
	baz=27,SNR=6.8						
632A	Uvalde	27.64	112	⇑P		P	05 26 04.0 +0.5
	baz=28						
434A	Burnet	27.85	108	⇓P		P	05 26 05.4 0.0
	baz=28						
438A	Sam Houston St	29.82	105	⇓P		P	05 26 23.9 +1.1
	baz=30						
034A	Hebbronville	29.97	114	⇑P		P	05 26 25.7 +1.5
	baz=30						
OXF	Oxford	32.09	94	eP		P	05 26 42.9 0.0
	42nm,1.0s						
RES	Resolute Bay	34.22	16	P		P	05 27 01.1 +0.1
	4.1nm,0.8s,baz=227,slow=9.9,SNR=29						
CMIG	Matias Romero	39.62	122	P		P	05 27 47.0 -0.5
	5.2nm,0.8s,baz=340,slow=11,SNR=3.9						
SCHQ	Schefferville	40.69	52	LR		LR	05 44 40.1
	comp=Z,212nm,18.6s,baz=339,slow=36						
SEY	Seymchan	46.83	322	P		P	05 28 44.8 -0.4
	1.8nm,0.9s,baz=75,slow=12,SNR=6.2						
PETK	Petropavlovsk-	47.07	308	P		P	05 28 46.3 -1.0
	2.7nm,0.9s,baz=74,slow=11,SNR=3.2						
H11N3	WAKE ISLAND Hy	57.80	267	T		T	06 32 35.7
	baz=49,slow=75,SNR=3301						
H11N2	WAKE ISLAND Hy	57.80	267	T		T	06 32 35.7
	baz=49,slow=75,SNR=720						
H11N1	WAKE ISLAND Hy	57.81	267	T		T	06 32 37.1
	baz=49,slow=75,SNR=913						
H11S1	WAKE ISLAND Hy	58.73	266	T		T	06 33 49.1
	baz=48,slow=75,SNR=251						
H11S2	WAKE ISLAND Hy	58.74	266	T		T	06 33 48.7
	baz=48,slow=75,SNR=153						
H11S3	WAKE ISLAND Hy	58.75	266	T		T	06 33 50.5
	baz=48,slow=75,SNR=136						
ARCES	ARCESS Array B	65.13	9	LR		LR	05 59 11.7
	comp=Z,21nm,22.0s,baz=352,slow=36						
CN2	Changchun	69.99	312	eP		P	05 31 29.3 +2.1
NB2	NORSAR Subarra	70.38	19	P		P	05 31 29.2 -0.2
	comp=Z,1.0nm,0.8s,baz=329,slow=6.5						
NOA	NORSAR Array B	70.38	19	P		P	05 31 29.2 -0.2
	comp=Z,1.4nm,0.8s,baz=330,slow=6.4,SNR=4.1						
NOA				LR		LR	06 00 56.3
	comp=Z,20nm,18.4s,baz=60,slow=35						
FINES	FINESS Array B	72.90	12	P		P	05 31 43.8 -0.6
	comp=Z,2.8nm,0.8s,baz=352,slow=3.9,SNR=6.5						
SONM	Songino Array	76.12	325	P		P	05 32 03.8 +0.2
	comp=Z,1.4nm,0.8s,baz=42,slow=6.6,SNR=11						
BAIF	Baives	77.82	29	eP		P	05 32 12.4 -0.6
	comp=Z,13nm,1.0s						
ZALV	Zalesovo Beam	78.01	340	P		P	05 32 13.8 -0.1
	comp=Z,2.2nm,0.8s,baz=24,slow=5.2,SNR=10						
HHC	Hu-ho-hao-te	79.23	318	eP		P	05 32 20.9 -0.2
HHC				sP		sP	05 32 28.5 +1.6
HHC				PP		PP	05 35 22.3 +2.3
HHC				S		S	05 42 16.8 -4.0
HHC				sS		sS	05 42 26.6 -1.3
HHC				SKS		SKSac	05 42 33.8 -3.1
HHC				SS		SS	05 47 25.8 -0.3
HHC				PMZ			
	comp=Z,30nm,1.2s						
HHC				PMZ			
	comp=Z,200nm,8.1s						
HHC				LN			
	comp=Z,150nm,17.4s						
HHC				LE			
	comp=Z,140nm,17.5s						
HHC				LZ			
	comp=Z,98nm,17.7s						
ARU	Arti	79.57	356	eP		P	05 32 22.0 -0.5
	comp=Z,4.3nm,0.9s						
PAGF	Fort de Pagny	79.63	28	eP		P	05 32 23.2 +0.3
SFTF	Sexfontaines	79.69	29	eP		P	05 32 22.6 -0.7
	comp=Z,13nm,1.1s						
CDF	Champ du Feu	80.28	28	eP		P	05 32 26.7 +0.1
	comp=Z,8.7nm,1.0s						
TCF	Toulx Ste Croi	80.28	32	eP		P	05 32 26.6 +0.1
HINF	Hinteralfeld	80.65	28	eP		P	05 32 28.5 0.0
RJF	Les Rejaudoux	80.83	33	eP		P	05 32 29.3 -0.2
BRVK	Borovoye	81.71	348	eP		P	05 32 34.0 0.0
	comp=Z,5.1nm,0.8s						
GERES	GERESS Array B	81.89	24	P		P	05 32 35.0 -0.2
	comp=Z,0.4nm,0.6s,baz=325,slow=6.3,SNR=4.1						
GERES				LR		LR	06 10 11.3
	comp=Z,51nm,18.5s,baz=4.0,slow=37						
GERES	GERESS Array B	81.89	24	P		P	05 32 35.0 -0.2
LPAZ	La Paz	81.99	122	P		P	05 32 35.0 -1.7
	comp=Z,2.8nm,0.7s,baz=346,slow=4.2,SNR=5.3						
KURK	Kurchatov	82.44	342	eP		P	05 32 36.6 -1.2
	comp=Z,1.9nm,0.8s						
MKAR	Makanchi Array	85.22	339	P		P	05 32 51.5 -0.8
	comp=Z,0.4nm,0.7s,baz=17,slow=5.1,SNR=5.0						
AKTO	Aktyubinsk	85.58	355	P		P	05 32 53.7 -0.2
	comp=Z,1.8nm,0.8s,baz=11,slow=5.2,SNR=7.3						
WMQ	Urumqi	86.39	334	eP		P	05 32 59.3 +1.2
WMQ				PMZ			
	comp=Z,3.0nm,1.0s						
WMQ				PMZ			
	comp=Z,120nm,5.6s						
ABKAR	Akbulak array	86.62	354	eP		P	05 32 59.0 -0.1
	comp=Z,1.6nm,0.9s						
TKM2	Tokmak 2	90.49	342	eP		P	05 33 17.7 -0.1
	comp=Z,2.1nm,0.9s						
URZ	Urewera	95.23	219	LR		LR	06 09 14.0
	comp=Z,45nm,19.3s,baz=103,slow=31						

NNC 13 05:21:08.2±3.9, 54°.18N×86°.98E, h0km, mb3.6, mpv3.2, 6C-5D, Error ellipse: s-maj=29.6km s-min=28.0km az=0.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	6.18	239	⇑Pn	Pn	05 22 40.9	+0.3
	2.5nm,1.3s						
KURK				⇓Sn	Sn	05 23 53.5	+1.7
	1.0nm,1.1s						
KURK				⇑Lg	Lg	05 24 23.8	
	2.5nm,0.9s						
KURBB	Kurchatov Arra	6.28	239	⇑Pn	Pn	05 22 42.2	+0.2
	2.8nm,0.8s						
KURBB				⇓Sn	Sn	05 23 55.2	+0.9
	4.7nm,0.8s						
KURBB				⇓Lg	Lg	05 24 26.2	
	9.1nm,0.8s						
MK08	Makanchi Array	8.01	204	⇓Pn	Pn	05 23 07.1	+1.3
	0.4nm,0.5s,baz=28,slow=14						
MK08				⇑Sn	Sn	05 24 37.3	+0.2
	2.3nm,1.1s						
MK08				⇑Lg	Lg	05 25 25.3	
	baz=20,slow=28						
VOSK	Vostochnaya	9.66	268	⇑Pn	Pn	05 23 26.8	-1.6
	1.9nm,1.0s						
VOSK				⇓Sn	Sn	05 25 10.3	-7.2
	2.7nm,0.9s						

*IDC **13** 05:26:08.7±1.0, 34°.38S×73°.25W, h0km, mb4.4/5, mb1 4.5/6, mb1mx4.1/28, mbtmp4.4/6, ML3.3/1, MS2.4/1, Ms1 2.4/1, ms1mx2.3/21, Error ellipse: s-maj=30.9km s-min=29.9km az=55.0*
*ISCJB **13** 05:26:09.7±1.8, 34°.11S±0°.03×73°.22W±0°.05, h15km±13km, mb4.6/13, Error ellipse: s-maj=7.5km s-min=5.8km az=178.6*
*NEIC **13** 05:26:11.4±4.1, 34°.17S×73°.24W, h14km±24km, mb4.8/9, Error ellipse: s-maj=17.8km s-min=8.0km az=84.0*
*GUC **13** 05:26:11.6±0.4, 34°.12S×73°.10W, h18km±2km, ML4.1*
ISC 13 05:26:13.8±4.1, 34°.13S±0°.04×73°.20W±0°.09, h30km±28km, n40, σ1§12/50, mb4.7/13, 5C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	1.70	50	⇑iP	Pn	05 26 39.2	-2.2
TALC	Talca	1.81	135	⇓iP	Pn	05 26 41.3	-1.5
TALC				i S	Sn	05 27 03.8	-0.9
NICH	Los Niches	1.84	119	⇑iP	Pn	05 26 42.5	-0.9
NICH				eS	Sn	05 27 05.4	-0.2
LNCH	Linares	2.16	143	⇓iP	Pn	05 26 47.0	-0.7
LNCH				i S	Sn	05 27 13.7	+0.3
ANTU	Antumapu	2.21	76	⇑iP	Pn	05 26 47.3	-1.1
ANTU				i S	Sn	05 27 14.3	-0.4
ANTU				AML	AML	05 27 15.6	
	comp=N,2μm,0.4s						
PEL	Peldehue	2.31	66	⇑iP	Pn	05 26 48.9	-1.0
PEL				i S	Sn	05 27 17.4	+0.1
PEL				AML	AML	05 27 19.9	
	comp=N,3μm,0.3s						
CLCH	Cerro Calan	2.33	72	⇓iP	Pn	05 26 49.2	-0.9
CLCH				i S	Sn	05 27 17.9	0.0
CLCH				AML	AML	05 27 23.5	
	comp=N,1μm,0.4s						
CLCH				AML	AML	05 27 27.6	
	comp=N,2μm,0.7s						
CHNG	Los Chungos	2.66	33	⇑iP	Pn	05 26 52.2	-2.3
CHNG				i S	Sn	05 27 23.9	-1.8
CFAA	Coronel Fontan	4.87	60	Pn	Pn	05 27 25.2	+0.2
	comp=N,1.2nm,0.3s,baz=228,slow=4.4,SNR=66						
CFAA				Sn	Sn	05 28 21.1	+0.6
	comp=N,1.0nm,0.3s,baz=102,slow=20,SNR=7.6						
CFAA				LR	LR	05 29 34.2	
	comp=N,42nm,21.3s,baz=230,slow=41						
LCO	Las Campanas	5.53	23	ePn	Pn	05 27 31.6	-2.7
	comp=N,40nm,0.6s						
LCO				eSn	Sn	05 28 34.4	-2.6
PLCA	Paso Flores	6.92	163	ePn	Pn	05 27 52.4	-0.8
TRQA	Tornquist	9.89	117	ePn	Pn	05 28 34.1	+0.3
LPAZ	La Paz	18.34	16	P	Pn	05 30 27.6	+1.0
	baz=197,slow=11,SNR=5.3						
LPAZ	La Paz	18.34	16	eP	Pn	05 30 27.6	+1.0
	comp=N,9.0nm,0.8s						
EFI	East Falkland	20.67	153	eP	P	05 30 49.8	-1.3
	comp=N,143nm,1.5s						
SIV	San Ignacio	21.10	34	P	P	05 30 58.0	+2.0
	comp=N,13nm,1.0s,baz=242,slow=12,SNR=18						
OTAV	Otavalo	34.54	351	eP	P	05 33 01.4	+1.3
	comp=N,3.7nm,0.9s						
QSPA	South Pole Qui	56.11	180	eP	P	05 35 50.7	+0.6
	comp=N,7.4nm,1.0s						
JCT	Junction City	69.00	336	eP	P	05 37 16.9	+0.6
	comp=N,1.8nm,0.6s						
TXAR	Lajitas Array	69.39	332	P	P	05 37 19.7	+0.9
	comp=N,1.0nm,0.7s,baz=156,slow=9.3,SNR=14						
WVT	Waverly	71.22	348	eP	P	05 37 29.4	-0.3
	comp=N,8.6nm,0.8s						
LIC	Lamto	75.73	72	eP	P	05 37 57.4	+0.6
	comp=N,52nm,1.8s						
TIC	Toumodi	75.99	72	eP	P	05 37 58.9	+0.5
	comp=N,3.9nm,0.2s						
KIC	Kosan Boka	76.04	72	eP	P	05 37 59.2	+0.6
	comp=N,19nm,0.8s						
DBIC	Dimbokro	76.13	72	P	P	05 37 59.4	+0.3
	comp=N,7.2nm,0.7s,baz=216,slow=6.3,SNR=11						
DBIC	Dimbokro	76.13	72	eP	P	05 37 59.6	+0.5
	comp=N,11nm,0.9s						
BOSA	Boshof	80.86	118	P	P	05 38 25.1	-0.2
	comp=N,5.6nm,0.9s,baz=224,slow=5.6,SNR=7.2						
BOSA	Boshof	80.86	118	eP	P	05 38 25.4	+0.1
	comp=N,17nm,1.3s						
LBTB	Lobatse	83.12	115	eP	P	05 38 37.1	-0.1
	comp=N,3.4nm,0.3s						
TORD	Torodi Ar. Bea	85.16	71	P	P	05 38 47.4	0.0
	comp=N,2.4nm,0.7s,baz=247,slow=4.8,SNR=21						
WRA	Warramunga Arr	120.17	210	PKP	PKPdf	05 45 01.0	-1.3
	comp=N,0.4nm,0.8s,baz=155,slow=1.7,SNR=3.4						
ABKAR	Akbulak array	142.52	52	ePKPdf	PKPdf	05 45 39.2	-4.1
BRVK	Borovoye	147.96	43	ePKPbc	PKPbc	05 45 56.2	+0.7
KKAR	Karatay Array	150.45	62	ePKPbc	PKPbc	05 46 02.0	-0.2
EKS2	Erkin-Say	152.89	62	ePKPbc	PKPbc	05 46 08.5	+0.6
AAK	Ala-Archa	153.41	62	ePKPbc	PKPbc	05 46 10.0	+0.8
KURK	Kurchatov	153.63	43	ePKPbc	PKPbc	05 46 09.3	+0.2
ZALV	Zalesovo Beam	154.84	31	PKP	PKPdf	05 46 02.6	-0.3
	comp=N,0.3nm,0.3s,baz=302,slow=2.7,SNR=3.5						
ZALV				PKPbc	PKPbc	05 46 11.3	-0.3
	comp=N,1.6nm,0.6s,baz=306,slow=3.4,SNR=9.5						
ZALV				PKPab	PKPab	05 46 27.0	+0.2
	comp=N,1.0nm,0.6s,baz=326,slow=2.1,SNR=4.1						
MKAR	Makanchi Array	157.57	48	PKP	PKPdf	05 46 06.4	-0.4
	comp=N,0.2nm,0.8s,baz=345,slow=4.5,SNR=3.0						
MKAR				PKPab	PKPab	05 46 38.9	0.0
	comp=N,0.8nm,0.7s,baz=306,slow=5.0,SNR=8.1						
SONM	Songino Array	166.30	1	PKPab	PKPab	05 47 18.3	+1.3
	comp=N,0.9nm,0.9s,baz=340,slow=3.4,SNR=5.0						

GUC 13 05:41:31.6±0.5, 34°.42S×71°.89W, h35km±2km, ML3.6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.80	137	eP	Pn	05 41 46.3	-0.1
NICH				eS	Sn	05 41 57.6	+0.5
TALC	Talca	1.00	168	eP1	Pn	05 41 49.6	+0.5
TALC				eS	Sn	05 42 03.4	+1.4
IHA	Instituto Hidr	1.41	9	eP1	Pn	05 41 55.9	+1.2
IHA				eS	Sn	05 42 14.5	+2.5
LNCH	Linares	1.44	171	eP1	Pn	05 41 56.8	+1.6
LNCH				eS	Sn	05 42 15.7	+2.7
LACH	Col Las Americ	1.49	50	i P	Pn	05 41 57.4	+1.4
LACH				i S	Sn	05 42 17.1	+2.9
CLCH	Cerro Calan	1.52	48	eP1	Pn	05 41 57.9	+1.4
CLCH				i S	Sn	05 42 18.1	+3.0
CLCH				IAML		05 42 24.1	
	comp=E,1μm,1.1s						
PEL	Peldehue	1.62	39	eP1	Pn	05 41 59.6	+1.9
PEL				eS	Sn	05 42 20.3	+2.8
PEL				IAML		05 42 26.4	
	comp=E,2μm,0.3s						
CHNG	Los Chungos	2.55	8	⇑iP	Pn	05 42 11.6	+1.2
CHNG				i S	Sn	05 42 42.2	+1.9

*IDC **13** 05:50:45.5±1.7, 44°.01N×129°.60W, h0km, mb3.4/7, mb1 3.6/9, mb1mx3.5/32, mbtmp3.3/9, ML3.4/2, MS3.0/1, Ms1 3.2/1, ms1mx2.5/22, Error ellipse: s-maj=44.9km s-min=18.9km az=40.0*
*ISCJB **13** 05:50:47.3±0.8, 44°.21N±0°.08×129°.17W±0°.10, h13km, mb3.6/7, MS2.9/1, Error ellipse: s-maj=13.6km s-min=7.1km az=40.3*
*NEIC **13** 05:50:48.0±0.8, 44°.18N×129°.33W, h10km, mb4.0/3, Error ellipse: s-maj=14.2km s-min=8.2km az=47.0*
ISC 13 05:50:48.8±1.1, 44°.2N±0°.1×129°.3W±0°.1, h13km, n32, σ1§17/27, mb3.7/7, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	3.84	108	ePn	Pn	05 51 45.5	-2.0
KBO	Bosley Butte	4.20	116	ePn	Pn	05 51 53.5	+0.9
COR	Corvallis	4.31	83	ePn	Pn	05 51 53.0	-1.0
HUMO	Hull Mountain	4.88	107	ePn	Pn	05 52 00.4	-1.5
HUMO				eSn	Sn	05 52 56.0	-2.2
NLWA	Neilton Lookou	4.96	48	ePn	Pn	05 52 01.9	-1.1
LON	Longmire	5.85	61	ePn	Pn	05 52 15.4	+0.2
PGC	Sidney	6.01	40	ePn	Pn	05 52 16.3	-1.0
BMO	Blue Mountains	8.59	81	ePn	Pn	05 52 53.0	+0.2
CMB	Columbia Colle	9.11	129	ePn	Pn	05 53 00.0	+0.1
NVAR	Mina Array Bea	10.07	121	Pn	Pn	05 53 13.8	+0.6
	0.1nm,0.3s,baz=290,slow=8.5,SNR=2.6						
HLID	Hailey	10.76	88	ePn	Pn	05 53 24.8	+2.1
GCMT	Greycliff	13.98	77	eP	P	05 54 16.4	+1.8
RLMT	Red Lodge	14.28	79	ePn	Pn	05 54 12.8	+1.9
PDAR	Pinedale Array	14.40	89	Pn	P	05 54 20.2	+0.8
	0.0nm,0.3s,baz=251,slow=7.7,SNR=3.6						
SRU	San Rafael Swe	14.91	103	eP	P	05 54 26.0	+0.9
	4.9nm,1.1s						
YKA	Yellowknife Ar	20.23	20	P	P	05 55 23.0	-0.2
	0.2nm,0.5s,baz=208,slow=11,SNR=4.9						
FFC	Flin Flon	20.51	49	eP	P	05 55 26.4	0.0
	3.9nm,1.0s						
ILAR	Eielson Array	22.85	341	P	P	05 55 52.5	+1.0
	0.6nm,0.8s,baz=160,slow=8.5,SNR=6.1						
ILAR				LR	LR	06 03 01.1	
	comp=Z,38nm,18.0s,baz=311,slow=32						
TXAR	Lajitas Array	25.19	117	P	P	05 56 13.7	-0.4
	0.3nm,0.7s,baz=297,slow=8.0,SNR=3.9						
JCT	Junction City	26.98	111	eP	P	05 56 29.2	-1.0
	4.5nm,0.5s						
RES	Resolute Bay	34.16	16	P	P	05 57 33.3	+0.2
	0.6nm,0.4s,baz=277,slow=8.1,SNR=9.0						
RES	Resolute Bay	34.16	16	eP	P	05 57 33.5	+0.3
	1.1nm,0.7s						
H11N3	WAKE ISLAND Hy	57.85	267	T	T	07 03 10.6	
	baz=49,slow=75,SNR=623						
H11N2	WAKE ISLAND Hy	57.85	267	T	T	07 03 08.0	
	baz=49,slow=75,SNR=301						
H11N1	WAKE ISLAND Hy	57.86	267	T	T	07 03 11.8	
	baz=49,slow=75,SNR=435						
H11S1	WAKE ISLAND Hy	58.78	266	T	T	07 04 25.7	
	baz=49,slow=75,SNR=71						
H11S2	WAKE ISLAND Hy	58.79	266	T	T	07 04 24.5	
	baz=49,slow=75,SNR=41						
H11S3	WAKE ISLAND Hy	58.80	266	T	T	07 04 23.6	
	baz=49,slow=75,SNR=57						
SONM	Songino Array	76.11	325	P	P	06 02 35.1	-1.1
	0.7nm,1.0s,baz=58,slow=5.4,SNR=3.8						
BVAR	Borovoye Array	81.69	348	P	P	06 03 06.3	-0.2
	0.4nm,0.6s,baz=20,slow=4.6,SNR=2.7						
KURK	Kurchatov	82.41	343	P	P	06 03 10.2	-0.2
KURBB	Kurchatov Arra	82.52	343	P	P	06 03 10.1	-0.7
	0.6nm,0.7s,baz=19,slow=4.8,SNR=4.9						

SJA 13 06:01:37.7±1.0, 24°.82S×65°.73W, h11km±8km, ML3.1, MW3.6, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	0.23	65	AML	AML	06 01 46.3	
	comp=Z,3μm,0.2s						
AZAP	Zapla	0.84	46	eP	Pg	06 01 54.4	+0.1
FSA	Cafayete	1.30	191	eP	Pb	06 02 02.6	+0.2
FSA				eS	Sg	06 02 20.9	+1.0
ASTB	Santa Barbara	1.43	53	eP	Pg	06 02 05.8	+0.5
ALOL	LOMAS DE OLMED	1.89	58	eP	Pb	06 02 11.9	-0.4
ALOL				eS	Sb	06 02 36.8	+0.8
AHML	Horco Molle	1.99	170	eP	Pb	06 02 14.0	-0.1
AHML				eS	Sb	06 02 40.3	+1.3

NNC 13 06:06:34.5±4.6, 54°.03N×87°.02E, h0km, mb3.8, mpv3.5, 5C-6D, Error ellipse: s-maj=35.0km s-min=31.2km az=16.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	6.12	241	⇑Pn	Pn	06 08 06.2	+0.1
	3.0nm,1.0s						
KURK				⇑Sn	Sn	06 09 16.1	-0.7
	2.2nm,0.9s						
KURK				⇓Lg	Lg	06 09 49.6	
	7.6nm,1.0s						
KURBB	Kurchatov Arra	6.22	240	⇓Pn	Pn	06 08 07.8	+0.3
	5.3nm,0.8s						
KURBB				⇓Sn	Sn	06 09 19.9	+0.7
	5.9nm,0.9s						
KURBB				⇓Lg	Lg	06 09 54.4	
	19nm,1.1s						
MK08	Makanchi Array	7.89	204	⇑Pn	Pn	06 08 32.7	+2.3
	2.3nm,0.8s,baz=24,slow=13						
MK08				⇑Sn	Sn	06 10 02.5	+2.2
	3.0nm,0.9s,baz=24,slow=25						
MK08				⇑Lg	Lg	06 10 45.2	
	9.8nm,0.9s,baz=24,slow=26						
VOSK	Vostochnaya	9.68	269	⇓Pn	Pn	06 08 53.7	-1.2
	0.8nm,0.7s						
VOSK				⇓Sn	Sn	06 10 34.5	-10
	6.6nm,0.9s						

GUC 13 06:24:50.3±0.3, 33°.93S×72°.21W, h49km±9km, ML3.8, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	1.02	28	⇑iP	Pn	06 25 09.2	+0.9
IHA				i S	Sn	06 25 24.0	+2.4
NICH	Los Niches	1.34	143	⇓iP	Pn	06 25 14.1	+1.4
NICH				i S	Sn	06 25 32.2	+2.9
ANTU	Antumapu	1.36	75	⇑iP	Pn	06 25 14.5	+1.5
ANTU				i S	Sn	06 25 33.0	+3.0
ANTU				IAML		06 25 33.5	
	comp=N,3

az=174.6
IDC ***13*** *06:46:56.2±1.4, 35.°70S×73.°27W, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.7/18, mbtmp3.5/7, ML3.1/3, MS2.8/2, Ms1 2.8/2, ms1mx2.7/21, Error ellipse: s-maj=40.1km s-min=20.7km az=78.0*
ISC 13 06:46:57.7±0.9, 35.80S±0.06×72.82W±0.07, h10km, n11, σ1§78/13, mb3.7/4, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.34**	**176**	*eP*	**Pg**	**06 47 02.6**	**-1.8**
COCH				*i S*	**Sb**	**06 47 10.8**	**-0.4**
COCH				IAML		06 47 12.1	
	comp=N,3μm,0.4s						
LNCH	**Linares**	**0.99**	**93**	⇑*iP*	**Pg**	**06 47 14.4**	**-2.4**
LNCH				*i S*	**Sn**	**06 47 32.0**	**+0.3**
TALC	**Talca**	**1.04**	**68**	⇑*iP*	Pg	06 47 13.7	-4.2
TALC				*i S*	**Sg**	**06 47 30.9**	**-0.5**
PLCA	**Paso Flores**	**5.24**	**161**	Pn	**Pn**	**06 48 17.7**	**+1.5**
	comp=N,0.1nm,0.3s,baz=340,slow=15,SNR=3.8						
PLCA				Lg	Lg	06 49 48.4	
	comp=N,1.1nm,0.3s,baz=258,slow=24,SNR=4.0						
CFAA	**Coronel Fontan**	**5.66**	**44**	Pn	**Pn**	**06 48 23.5**	**+1.6**
	comp=N,0.2nm,0.3s,baz=214,slow=10,SNR=14						
CFAA				LR	LR	06 51 13.0	
	comp=N,26nm,18.4s,baz=236,slow=44						
LPAZ	**La Paz**	**19.88**	**13**	P	**P**	**06 51 28.5**	**-1.3**
	comp=N,0.1nm,0.3s,baz=166,slow=13,SNR=2.5						
SIV	**San Ignacio**	**22.34**	**31**	P	**P**	**06 51 57.0**	**+1.2**
	comp=N,3.4nm,1.0s,baz=221,slow=10,SNR=7.5						
SIV				LR	LR	07 02 01.9	
	comp=N,74nm,18.8s,baz=235,slow=40						
TXAR	**Lajitas Array**	**71.00**	**332**	P	**P**	**06 58 14.1**	**-1.6**
	comp=N,0.2nm,0.6s,baz=156,slow=7.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**85.42**	**70**	P	**P**	**06 59 38.1**	**+2.3**
	comp=N,0.4nm,0.9s,baz=240,slow=4.4,SNR=2.6						
ULM	**Lac du Bonnet**	**88.07**	**345**	P	**P**	**06 59 46.0**	**-1.8**
	comp=N,1.2nm,0.7s,baz=165,slow=6.7,SNR=3.3						
BVAR	**Borovoye Array**	**149.02**	**45**	PKPbc	**PKPbc**	**07 06 47.3**	**+1.9**
	comp=N,0.5nm,0.6s,baz=295,slow=3.4,SNR=3.2						

IDC ***13*** *06:53:34.9±1.0, 13.°41N×142.°89E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/26, mbtmp3.9/6, MS3.6/2, Ms1 3.6/2, ms1mx2.8/33, Error ellipse: s-maj=79.1km s-min=22.8km az=104.0*
ISCJB ***13*** *06:53:38.3±0.9, 13.°3N±0.°2×143.°0E±0.°5, h33km, mb3.8/6, MS3.3/1, Error ellipse: s-maj=73.5km s-min=19.4km az=12.2*
ISC 13 06:53:40.1±1.1, 13.4N±0.2×142.9E±0.6, h35km, n8, σ0§57/6, mb3.8/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**19.15**	**317**	LR	LR	07 04 04.9	
	comp=Z,365nm,21.8s,baz=8.5,slow=33						
WRA	**Warramunga Arr**	**34.16**	**194**	P	**P**	**07 00 22.3**	**+0.1**
	0.6nm,0.6s,baz=10,slow=9.2,SNR=3.3						
ASAR	**Alice Springs**	**37.85**	**194**	P	**P**	**07 00 53.7**	**-0.1**
	0.3nm,0.7s,baz=17,slow=12,SNR=6.3						
SONM	**Songino Array**	**45.82**	**326**	LR	LR	07 20 16.9	
	comp=Z,35nm,21.0s,baz=222,slow=35						
ILAR	**Eielson Array**	**69.58**	**25**	P	**P**	**07 04 45.5**	**+0.1**
	0.6nm,0.6s,baz=248,slow=5.9,SNR=17						
YKA	**Yellowknife Ar**	**83.93**	**27**	P	**P**	**07 06 06.1**	**-0.2**
	0.1nm,0.4s,baz=286,slow=5.2,SNR=4.6						
ARCES	**ARCESS Array B**	**86.69**	**342**	P	**P**	**07 06 20.8**	**+0.7**
	5.1nm,1.1s,baz=75,slow=6.8,SNR=4.6						
FINES	**FINESS Array B**	**90.54**	**335**	P	**P**	**07 06 37.8**	**-0.6**
	2.9nm,1.1s,baz=68,slow=5.1,SNR=6.3						

IDC ***13*** *07:04:01.3±1.3, 34.°52S×72.°18W, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.6/17, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=43.3km s-min=29.7km az=96.0*
ISCJB ***13*** *07:04:03.2±1.4, 34.°44S±0.°04×72.°24W±0.°08, h19km±11km, mb3.9/4, Error ellipse: s-maj=12.2km s-min=6.4km az=20.0*
NEIC ***13*** *07:04:04.5, 34.°44S×72.°11W, h12km, mb4.1/3, ML4.0(GUC), After GUC.*
NEIC Felt [III] at Talca and [II] at Curico.
GUC ***13*** *07:04:04.5±0.4, 34.°44S×72.°11W, h12km±3km, MD3.9, ML4.0*
ISC 13 07:04:03.3±1.8, 34.43S±0.03×72.15W±0.06, h11km±11km, n28, σ0§62/42, mb4.1/4, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.77**	**52**	⇓*iP*	**Pg**	**07 04 18.2**	**0.0**
LNV	**Longovilo**	**0.77**	**52**	⇓*iP*	**Pg**	**07 04 18.2**	**0.0**
NICH	**Los Niches**	**0.95**	**127**	*i* P1	**Pb**	**07 04 21.7**	**-0.1**
NICH				*i S*	**Sb**	**07 04 33.9**	**-0.5**
NICH				AML	AML	07 04 34.6	
	comp=E,18μm,0.3s						
NICH	**Los Niches**	**0.95**	**127**	*i* P	**Pb**	**07 04 21.7**	**-0.1**
NICH				*i* S	**Sb**	**07 04 33.9**	**-0.5**
TALC	**Talca**	**1.05**	**156**	⇑*iP*	**Pb**	**07 04 23.2**	**-0.3**
TALC				*i* S1	**Sb**	**07 04 37.2**	**-0.2**
TALC	**Talca**	**1.05**	**156**	⇑*iP*	**Pb**	**07 04 23.2**	**-0.3**
TALC				*i S*	**Sb**	**07 04 37.2**	**-0.2**
CACH	**El Canelo**	**1.32**	**77**	⇑*iP*	**Pn**	**07 04 27.9**	**0.0**
CACH				*i* S1	**Sn**	**07 04 45.7**	**+0.1**
CACH	**El Canelo**	**1.32**	**77**	⇑*iP*	**Pn**	**07 04 27.9**	**0.0**
CACH				*i S*	**Sn**	**07 04 45.7**	**+0.1**
IHA	**Instituto Hidr**	**1.47**	**17**	⇑*iP*	**Pn**	**07 04 29.8**	**0.0**
IHA				*i* S1	**Sb**	**07 04 49.1**	**-0.2**
IHA	**Instituto Hidr**	**1.47**	**17**	⇑*iP*	**Pn**	**07 04 29.8**	**0.0**
IHA				*i S*	**Sb**	**07 04 49.1**	**-0.2**
ANTU	**Antumapu**	**1.52**	**56**	*e*P1	**Pn**	**07 04 30.8**	**+0.2**
ANTU				*e*S1	**Sb**	**07 04 50.4**	**-0.6**
ANTU				AML	AML	07 04 54.4	
	comp=E,3μm,0.5s						
ANTU	**Antumapu**	**1.52**	**56**	*e*P	**Pn**	**07 04 30.8**	**+0.2**
ANTU				*e*S	**Sb**	**07 04 50.4**	**-0.6**
LACH	**Col Las Americ**	**1.66**	**54**	*e*P1	**Pn**	**07 04 32.7**	**+0.2**
LACH	**Col Las Americ**	**1.66**	**54**	*e*P	**Pn**	**07 04 32.7**	**+0.2**
CLCH	**Cerro Calan**	**1.69**	**53**	*e*P1	**Pn**	**07 04 33.4**	**+0.4**
CLCH				*e*S1	**Sb**	**07 04 55.5**	**-0.3**
CLCH				AML	AML	07 05 00.8	
	comp=E,3μm,0.4s						
PEL	**Peldehue**	**1.77**	**44**	*e*P1	**Pn**	**07 04 34.5**	**+0.5**
PEL				*e*S	**Sb**	**07 04 57.4**	**-0.7**
PEL				AML	AML	07 05 00.7	
	comp=E,2μm,0.3s						
PEL	**Peldehue**	**1.77**	**44**	*e*P	**Pn**	**07 04 34.5**	**+0.5**
PEL				*e*S	**Sb**	**07 04 57.4**	**-0.7**
CFAA	**Coronel Fontan**	**4.33**	**50**	Pn	**Pn**	**07 05 11.3**	**+2.1**
	comp=E,1.0nm,0.3s,baz=230,slow=16,SNR=6.9						
CFAA				Sn	**Sb**	**07 06 10.9**	**-0.8**
	comp=E,1.1nm,0.3s,baz=74,slow=19,SNR=3.3						
LCO	**Las Campanas**	**5.54**	**13**	*e*Pn	**Pn**	**07 05 25.4**	**-0.6**
	comp=E,21nm,0.5s						
PLCA	**Paso Flores**	**6.42**	**169**	Pn	**Pn**	**07 05 38.1**	**+0.2**
	baz=342,slow=12						
LPAZ	**La Paz**	**18.43**	**12**	P	**Pn**	**07 08 20.4**	**+0.9**
	comp=E,0.1nm,0.3s,baz=194,slow=8.3,SNR=3.7						
LPAZ	**La Paz**	**18.43**	**12**	*e*P	**Pn**	**07 08 20.1**	**+0.7**
	comp=E,3.2nm,1.2s						
QSPA	**South Pole Qui**	**55.80**	**180**	*e*P	**P**	**07 13 41.3**	**+1.0**
	comp=E,4.1nm,1.0s						
TXAR	**Lajitas Array**	**70.07**	**331**	P	**P**	**07 15 16.3**	**+0.8**
	comp=E,0.1nm,0.4s,baz=159,slow=7.7,SNR=4.1						
ECSD	**EROS Data Cent**	**80.93**	**342**	*e*P	**P**	**07 16 17.6**	**+0.1**
	comp=E,2.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**84.44**	**70**	P	**P**	**07 16 35.6**	**-0.8**
	comp=E,0.7nm,0.9s,baz=239,slow=5.2,SNR=3.4						
WRA	**Warramunga Arr**	**120.34**	**209**	PKP	**PKPdf**	**07 22 54.1**	**-1.2**
	comp=E,0.2nm,0.4s,baz=154,slow=1.8,SNR=5.3						
MKAR	**Makanchi Array**	**157.11**	**50**	PKPab	**PKPab**	**07 24 28.7**	**-0.8**
	comp=E,0.1nm,0.5s,baz=289,slow=4.4,SNR=2.8						

IDC ***13*** *07:04:59.0±1.1, 1.°95N×98.°79E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/27, mbtmp3.7/7, MS3.4/1, Ms1 3.4/1, ms1mx2.6/46, Error ellipse: s-maj=30.8km s-min=11.3km az=99.0*
DJA ***13*** *07:05:02.9±0.4, 2.°N±4.°×9.°9E±.°, h10km, M3.8/6, MLv3.8/6*
ISC 13 07:05:04.4±0.8, 1.96N±0.09×98.9E±0.1, h35km, n13, σ0§99/11, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.84**	**2**	Pg	Pn	07 05 14.6	-5.3
	60nm,0.3s,baz=151,slow=17,SNR=32						
PSI				Lg	Lg	07 05 23.7	
	39nm,0.3s,baz=37,slow=20,SNR=16						
PSI				LR	LR	07 05 36.1	
	comp=Z,281nm,18.8s,baz=275,slow=49						
MNSI	**Mandailing Nat**	**1.34**	**150**	P	**Pn**	**07 05 27.6**	**+1.0**
GSI	**Gunungsitoli**	**1.48**	**244**	P	**Pn**	**07 05 28.9**	**+0.4**
KCSI	**Kotacane, Aceh**	**1.92**	**324**	P	**Pn**	**07 05 35.7**	**+1.0**
TPTI		**2.15**	**307**	P	**Pn**	**07 05 39.1**	**+1.2**
WRA	**Warramunga Arr**	**41.01**	**124**	P	**P**	**07 12 44.9**	**+0.3**
JNU	**Nakatsue**	**43.12**	**41**	LR	LR	07 32 00.6	
	comp=Z,45nm,18.4s,slow=38						
SONM	**Songino Array**	**46.16**	**7**	P	**P**	**07 13 25.0**	**-0.8**
	0.6nm,0.8s,baz=198,slow=8.9,SNR=3.9						
MKAR	**Makanchi Array**	**46.95**	**344**	P	**P**	**07 13 32.5**	**+0.7**
	0.2nm,0.5s,baz=153,slow=7.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**53.10**	**350**	P	**P**	**07 14 17.0**	**-1.4**
	0.4nm,0.4s,baz=152,slow=6.5,SNR=3.4						
BVAR	**Borovoye Array**	**56.12**	**340**	P	**P**	**07 14 39.2**	**-1.0**
	1.3nm,0.8s,baz=145,slow=9.0,SNR=4.9						
BRTR	**Keskin Array B**	**69.87**	**312**	P	**P**	**07 16 11.8**	**-0.4**
	0.8nm,0.7s,baz=132,slow=7.9,SNR=5.2						
FINES	**FINESS Array B**	**80.12**	**332**	P	**P**	**07 17 10.6**	**0.0**
	1.4nm,0.8s,baz=97,slow=7.1,SNR=5.8						

IDC ***13*** *07:12:01.8±0.6, 34.°57S×71.°75W, h0km, mb4.8/15, mb1 4.9/17, mb1mx4.9/20, mbtmp4.8/17, ML4.2/2, MS4.2/14, Ms1 4.2/14, ms1mx4.1/19, Error ellipse: s-maj=19.2km s-min=14.4km az=85.0*
ISCJB ***13*** *07:12:02.7±0.2, 34.°52S±0.°03×71.°70W±0.°04, h10km, mb5.1/121, MS4.3/13, Error ellipse: s-maj=5.0km s-min=4.3km az=171.6*
NEIC ***13*** *07:12:03.3, 34.°39S×71.°93W, h4km, mb5.2/106, ML5.2(GUC), After GUC.*
NEIC Felt [V] at Navidad, Paredones and Pichilemu; [IV] at Curico, San Fernando and Talca; [III] at Linares, Parral, Rancagua and Santiago; [II] at El Quisco, El Tabo, San Antonio and Santo Domingo. Also felt at Quilpue, Talcahuano and Villa Alemana.
GUC ***13*** *07:12:03.3±0.7, 34.°39S×71.°93W, h4km±8km, ML5.2*
GCMT ***13*** *07:12:03.3±0.3, 34.°65S×71.°97W, h19km, MW5.1/59, Moment Tensor Solution. s35,c41; s59,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.51±.24; $M_{\theta\theta}$=0.26±.16; $M_{\phi\phi}$=4.77±.18; $M_{r\theta}$=0.39±.38; $M_{\theta\phi}$=2.33±.11; $M_{\phi r}$=0.03±.35; Best double couple: M_0=5.11900×10^{16} NP1:ϕ_s=152.00000°, δ=46.00000°, λ=-99.00000°. NP2: ϕ_s=345.00000°, δ=45.00000°, λ=-81.00000°. Principal axes: T 5.6850, Plg1.0000°, Azm249.0000°; N -1.1290, Plg6.0000°, Azm158.0000°; P -4.5530, Plg84.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***13*** *07:12:06.1±0.9, 34.°53S×71.°61W, h33km, mb5.3/35 Error ellipse: s-maj=16.0km s-min=6.9km az=96.5*
BJI ***13*** *07:12:07.2, 34.°50S×71.°60W, h37km, mB5.2/11, Ms5.4/10, Ms7 5.2/10*
ISC 13 07:12:03.7±0.3, 34.46S±0.04×71.75W±0.06, h10km, n732, σ1§14/720, mb5.2/121, MS4.3/13, 221C-240D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.69**	**142**	AML	AML	07 12 29.8	
	comp=E,459μm,0.5s						
TACH	**Talagante**	**1.05**	**40**	⇓*iP*	**Pb**	**07 12 23.5**	**-0.4**
TACH	**Talagante**	**1.05**	**40**	⇓*iP*	**Pb**	**07 12 23.5**	**-0.4**
ANTU	**Antumapu**	**1.28**	**46**	⇓*iP*	**Pn**	**07 12 27.9**	**+0.2**
ANTU				AML	AML	07 12 49.8	
	comp=N,30μm,0.6s						
ANTU	**Antumapu**	**1.28**	**46**	⇓*iP*	**Pn**	**07 12 27.9**	**+0.2**
SAN	**Santiago**	**1.35**	**42**	⇓*iP*	**Pn**	**07 12 29.0**	**+0.4**
SAN				*i S*	**Sg**	**07 12 48.6**	**+1.5**
SAN	**Santiago**	**1.35**	**42**	⇓*iP*	**Pn**	**07 12 29.0**	**+0.4**
SAN				*i* S1	**Sg**	**07 12 48.6**	**+1.5**
SAN	**Santiago**	**1.35**	**42**	⇓*iP*	**Pn**	**07 12 29.0**	**+0.4**
SAN				*i S*	**Sg**	**07 12 48.6**	**+1.5**
LNCH	**Linares**	**1.39**	**175**	⇓*iP*	**Pn**	**07 12 30.3**	**+1.1**
LNCH				*i S*	**Sb**	**07 12 49.7**	**+2.0**
LNCH				AML	AML	07 12 54.5	
	comp=N,105μm,0.8s						
LNCH	**Linares**	**1.39**	**175**	⇓*iP*	**Pn**	**07 12 30.3**	**+1.1**
LNCH				*i S*	**Sb**	**07 12 49.7**	**+2.0**
FSR	**Penalolen**	**1.41**	**46**	*e*P9	**Pn**	**07 12 30.7**	**+1.2**
FSR				*i* S1	**Sg**	**07 12 51.0**	**+2.0**
FSR	**Penalolen**	**1.41**	**46**	*e*P	**Pn**	**07 12 30.7**	**+1.2**
FSR				*i S*	**Sg**	**07 12 51.0**	**+2.0**
IHA	**Instituto Hidr**	**1.43**	**4**	*e*P1	**Pn**	**07 12 28.3**	**-1.4**
IHA	**Instituto Hidr**	**1.43**	**4**	*e*P	**Pn**	**07 12 28.3**	**-1.4**
CLCH	**Cerro Calan**	**1.46**	**44**	⇑*iP*	**Pn**	**07 12 30.6**	**+0.4**
CLCH				*i* S1	**Sn**	**07 12 51.5**	**+2.0**
CLCH				AML	AML	07 13 01.3	
	comp=E,43μm,0.8s						
PEL	**Peldehue**	**1.58**	**34**	⇓*iP*	**Pn**	**07 12 32.3**	**+0.4**
PEL				S	**Sn**	**07 12 52.6**	**+0.2**
PEL	**Peldehue**	**1.58**	**34**	⇓*iP*	**Pn**	**07 12 32.3**	**+0.4**
PEL				*i* S4	**Sn**	**07 12 52.6**	**+0.2**
PEL				AML	AML	07 13 03.2	
	comp=N,58μm,0.5s						
PEL	**Peldehue**	**1.58**	**34**	⇓*iP*	**Pn**	**07 12 32.3**	**+0.4**
PEL				S	**Sn**	**07 12 52.6**	**+0.2**
CFAA	**Coronel Fontan**	**4.10**	**47**	Pn	**Pn**	**07 13 08.3**	**+1.8**
	comp=N,3.1nm,0.3s,baz=220,slow=13,SNR=172						
CFAA				Lg	Lg	07 14 14.7	
	comp=N,9.3nm,0.3s,baz=272,slow=18,SNR=6.3						
LCO	**Las Campanas**	**5.50**	**10**	*e*Pn	**Pn**	**07 13 26.2**	**+0.2**
VACH	**Vallenar**	**5.92**	**8**	⇑*iP*	**Pn**	**07 13 32.2**	**+0.7**
VACH	**Vallenar**	**5.92**	**8**	⇑*iP*	**Pn**	**07 13 32.2**	**+0.7**
PLCA	**Paso Flores**	**6.33**	**172**	*e*P	**Pn**	**07 13 38.4**	**+1.2**
PLCA	**Paso Flores**	**6.33**	**172**	Pn	**Pn**	**07 13 37.8**	**+0.5**
	baz=347,slow=12						
PLCA				Lg	Lg	07 15 15.0	
	comp=N,4.0nm,0.3s,baz=76,slow=19,SNR=3.5						
PLCA				LR	LR	07 16 19.9	
	comp=N,3μm,21.3s,baz=350,slow=42						
PLCA	**Paso Flores**	**6.33**	**172**	*e*Pn	**Pn**	**07 13 38.5**	**+1.2**
PLCA				Lg	Lg	07 15 15.0	
TRQA	**Tornquist**	**8.67**	**117**	*e*Pn	**Pn**	**07 14 11.6**	**+2.4**
LPAZ	**La Paz**	**18.38**	**11**	*e*P	**P**	**07 16 20.1**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,55nm,0.9s						
LPAZ	**La Paz**	**18.38**	**11**	P	**P**	**07 16 20.3**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=184,slow=9.6,SNR=57						
LPAZ	**La Paz**	**18.38**	**11**	*e*P	**P**	**07 16 20.1**	**+0.6**
	comp=Z,55nm,0.9s						
EFI	**East Falkland**	**19.84**	**154**	*e*P	**P**	**07 16 33.8**	**-0.8**
EFI				pmax	pmax		
	comp=Z,218nm,1.4s						
EFI	**East Falkland**	**19.84**	**154**	*e*P	**P**	**07 16 33.8**	**-0.8**
	comp=Z,218nm,1.4s						
USHA	**Ushuaia**	**20.50**	**175**	P	**P**	**07 16 39.8**	**-1.9**
	comp=Z,21nm,0.8s,baz=331,slow=8.9,SNR=18						
SIV	**San Ignacio**	**20.74**	**30**	P	**P**	**07 16 44.9**	**+0.2**
	comp=Z,26nm,0.7s,baz=219,slow=9.9,SNR=80						
NNA	**Nana**	**22.85**	**347**	*e*P	**P**	**07 17 08.5**	**+1.3**
NNA				pmax	pmax		
	comp=Z,54nm,0.8s						
NNA	**Nana**	**22.85**	**347**	P	**P**	**07 17 08.1**	**+0.9**
	comp=Z,43nm,0.8s,baz=185,slow=11,SNR=8.0						
NNA	**Nana**	**22.85**	**347**	*e*P	**P**	**07 17 08.5**	**+1.3**
	comp=Z,54nm,0.8s						
SAML	**Samuel**	**26.58**	**19**	*e*P	**P**	**07 17 42.2**	**+0.1**
	comp=Z,18nm,0.6s						
BDFB	**Brasilia**	**28.39**	**55**	P	**P**	**07 17 58.4**	**-0.1**
	comp=Z,14nm,0.9s,baz=222,slow=7.9,SNR=15						
BDFB				LR	LR	07 30 33.6	
	comp=Z,844nm,21.4s,baz=222,slow=39						
OTAV	**Otavalo**	**35.08**	**348**	*e*P	P	07 18 59.6	+2.0
	comp=Z,13nm,1.0s						
PAYG	**Puerto Ayora**	**37.82**	**329**	*e*P	P	07 19 23.1	+2.6
	comp=Z,18nm,0.8s						
ROSC	**El Rosal**	**39.18**	**356**	P	P	07 19 35.6	+3.3
	comp=Z,9.1nm,0.7s,baz=84,slow=1.9,SNR=9.0						
ROSC				LR	LR	07 35 55.4	
	comp=Z,572nm,20.3s,baz=191,slow=36						
ROSC	**El Rosal**	**39.18**	**356**	*e*P	P	07 19 36.5	+4.1
JTS	**JuntasAbangare**	**46.23**	**342**	⇓*iP*	P	07 20 33.2	+4.0
JTS				pmax	pmax		
	comp=Z,44nm,1.9s						
JTS	**JuntasAbangare**	**46.23**	**342**	P	**P**	**07 20 30.1**	**+0.9**
	comp=Z,4.7nm,0.7s,baz=149,slow=12,SNR=5.2						
JTS	**JuntasAbangare**	**46.23**	**342**	*e*P	P	07 20 33.9	+4.7
	comp=Z,83nm,2.1s						
VNA3	**Neumayer Olymp**	**48.84**	**158**	P	**P**	**07 20 49.0**	**0.0**
VNA2	**Neumayer--Watz**	**49.50**	**157**	P	**P**	**07 20 53.9**	**0.0**
	baz=282,slow=8.5						
FDF	**Fort de France**	**49.95**	**13**	*e*P	**P**	**07 20 59.2**	**+1.2**
FDF				pmax	pmax		
	comp=Z,14nm,0.5s						
FDF	**Fort de France**	**49.95**	**13**	*e*P	**P**	**07 20 59.1**	**+1.2**
	comp=Z,14nm,0.5s						
SNAA	**Sanae**	**51.07**	**158**	P	**P**	**07 21 05.7**	**-0.2**
SNAA	**Sanae**	**51.07**	**158**	*e*P	**P**	**07 21 03.6**	**-2.3**
SNAA	**Sanae**	**51.07**	**158**	⇓*iP*	**P**	**07 21 04.7**	**-1.2**
SNAA				pmax	pmax		
	comp=Z,30nm,1.2s						
SNAA	**Sanae**	**51.07**	**158**	P	**P**	**07 21 05.1**	**-0.8**
	comp=Z,5.4nm,0.9s,baz=276,slow=7.5,SNR=13						
SNAA	**Sanae**	**51.07**	**158**	*e*P	**P**	**07 21 05.3**	**-0.6**
	comp=Z,27nm,1.1s						
RKT	**Rikitea**	**55.77**	**264**	*e*T	T	08 21 25.3	
	comp=Z,4.1nm,0.3s						
NVL	**N'lazarevskaya**	**55.80**	**157**	*e*P	P	07 21 37.6	-3.0
NVL				pmax	pmax		
	comp=Z,28nm,1.0s						
SBA	**Scott Base**	**62.68**	**192**	*e*P	**P**	**07 22 29.5**	**+1.4**
SBA				pmax	pmax		
	comp=Z,49nm,1.8s						
SBA	**Scott Base**	**62.68**	**192**	*e*P	**P**	**07 22 29.5**	**+1.4**
	comp=Z,49nm,1.8s						
VNDA	**Vanda**	**63.70**	**191**	*e*P	**P**	**07 22 35.8**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
VNDA	**Vanda**	**63.70**	**191**	LR	LR	07 46 32.9	
	comp=Z,89nm,20.0s,baz=122,slow=33						
VNDA	**Vanda**	**63.70**	**191**	*e*P	**P**	**07 22 35.8**	**+1.0**
	comp=Z,4.2nm,0.7s						
SYO	**Syowa Base**	**65.35**	**158**	⇑*eP*	**P**	**07 22 43.4**	**-2.3**
SYO	**Syowa Base**	**65.35**	**158**	⇓*i*pP	**P**	**07 22 44.0**	**-1.7**
035Z	**Hargill**	**65.53**	**334**	⇓P	P	07 22 49.7	+2.4
	baz=66						
035A	**Encino**	**65.97**	**334**	⇓P	**P**	**07 22 51.8**	**+1.6**
	baz=66						
936A	**North Padre Is**	**66.13**	**335**	⇑P	P	07 22 53.3	+2.1
	baz=66						
034A	**Hebbronville**	**66.30**	**334**	⇓P	**P**	**07 22 53.9**	**+1.6**
	baz=66						
934A	**Benavides**	**66.73**	**334**	⇓P	**P**	**07 22 56.6**	**+1.6**
	baz=67						
738A	**Farr-Stevens R**	**66.89**	**337**	⇑P	**P**	**07 22 57.9**	**+1.9**
	baz=67						
933A	**Laredo**	**67.01**	**334**	⇓P	**P**	**07 22 58.3**	**+1.5**
	baz=67						
835A	**Beeville**	**67.11**	**335**	⇑P	**P**	**07 22 59.2**	**+1.7**
	baz=67						
834A	**Tilden**	**67.22**	**334**	⇓P	**P**	**07 22 59.7**	**+1.6**
	baz=67,SNR=18						
TBI	**Tubuai**	**67.45**	**257**	*e*T	T	08 36 01.4	
	comp=Z,9.2nm,0.3s						
735A	**Kenedy**	**67.62**	**335**	⇑P	**P**	**07 23 02.3**	**+1.7**
	baz=68,SNR=6.0						
833A	**Chaparral WMA,**	**67.70**	**334**	⇑P	**P**	**07 23 02.2**	**+1.1**
	baz=68,SNR=17						
734A	**La Parita Cree**	**67.88**	**335**	⇑P	**P**	**07 23 03.3**	**+1.1**
	baz=68						
832A	**Faith Ranch, C**	**67.88**	**333**	⇓P	**P**	**07 23 03.1**	**+0.8**
	baz=68,SNR=9.0						
636A	**Smothers Creek**	**67.94**	**336**	⇑P	**P**	**07 23 03.9**	**+1.2**
	baz=68,SNR=14						
HKT	**Hockley**	**67.98**	**338**	*e*P	P	07 23 05.3	+2.5
HKT				pmax	pmax		
	comp=Z,25nm,1.4s						
HKT	**Hockley**	**67.98**	**338**	*e*P	P	07 23 05.2	+2.5
	comp=Z,25nm,1.4s						
733A	**Divot King Ran**	**68.02**	**334**	⇓P	**P**	**07 23 03.9**	**+0.7**
	baz=68						
635A	**Leesville**	**68.10**	**336**	⇑P	**P**	**07 23 04.4**	**+0.7**
	baz=68						
538A	**Harpers Horsep**	**68.12**	**338**	⇓P	**P**	**07 23 05.1**	**+1.3**
	baz=68						
537A	**Green Hill Far**	**68.25**	**337**	⇓P	**P**	**07 23 05.9**	**+1.3**
	baz=68						
732A	**Laxson Ranch,**	**68.28**	**333**	⇓P	**P**	**07 23 05.7**	**+0.9**
	baz=68,SNR=27						
536A	**Bastrop**	**68.49**	**337**	⇑P	**P**	**07 23 07.0**	**+0.9**
	baz=69						
438A	**Sam Houston St**	**68.61**	**338**	⇑P	**P**	**07 23 08.1**	**+1.3**
	baz=69						
535A	**Dale**	**68.62**	**336**	⇓P	**P**	**07 23 08.0**	**+1.1**
	baz=69						
VBMS	**Vicksburg**	**68.64**	**343**	*e*P	**P**	**07 23 08.1**

WHTX	Lake Whitney,	70.39 337	⇑P	P	07 23 18.0 +0.3
	baz=71				
WHTX	Lake Whitney,	70.39 337	eP	P	07 23 18.3 +0.5
	comp=Z,24nm,0.8s				
PPT2	Papeete2	70.41 262	eS	S	07 32 30.8 -0.7
	comp=Z,184nm,23.8s				
PPT2	Papeete2	70.41 262	eLR	LR	07 44 25.8
	comp=Z,534nm,29.2s				
PPT2	Papeete2	70.41 262	eT	T	08 39 42.3
	comp=Z,2.6nm,0.2s				
137A	Heron Place, G	70.42 339	⇑P	P	07 23 19.3 +1.3
	baz=71				
PPT	Papeete	70.42 262	LR	LR	07 45 08.8
	comp=Z,212nm,19.9s,baz=132,slow=28				
CPCT	Cooper Cave	70.56 349	eP	P	07 23 21.4 +2.6
SWET	Sewanee	70.57 348	eP	P	07 23 19.0 0.0
	comp=Z,29nm,0.7s				
OXF	Oxford	70.58 345	eP	P	07 23 21.7 +2.8
OXF			pmax	pmax	
	comp=Z,52nm,1.0s				
OXF	Oxford	70.58 345	eP	P	07 23 21.7 +2.8
	comp=Z,52nm,1.0s				
332A	Millersview	70.60 335	⇑P	P	07 23 19.8 +0.7
	baz=71				
430A	Baggett Ranch,	70.60 333	⇓P	P	07 23 19.7 +0.5
	baz=71,SNR=21				
234A	Clairette	70.62 336	⇑P	P	07 23 19.9 +0.6
	baz=71,SNR=12				
429A	Davenport Ranc	70.70 333	⇑P	P	07 23 20.7 +0.9
	baz=71,SNR=17				
331A	San Angelo	70.78 334	⇑P	P	07 23 20.7 +0.4
	baz=71,SNR=25				
233A	Rising Star	70.89 336	⇑P	P	07 23 21.3 +0.4
	baz=71,SNR=18				
135A	Vickery Place,	70.89 337	⇑P	P	07 23 21.1 +0.2
	baz=71				
232A	Coleman	71.03 335	⇑P	P	07 23 22.3 +0.5
	baz=71,SNR=14				
134A	White-Moore Ra	71.12 337	⇑P	P	07 23 23.0 +0.7
	baz=71				
330A	Mertzon	71.14 334	⇓P	P	07 23 22.8 +0.3
	baz=71,SNR=14				
231A	Bronte	71.31 335	⇓P	P	07 23 23.6 +0.2
	baz=72,SNR=30				
133A	Hamilton Ranch	71.44 336	⇓P	P	07 23 24.7 +0.5
	baz=72,SNR=10				
329A	Wagon Wheel Ra	71.51 333	⇓P	P	07 23 25.1 +0.4
	baz=72,SNR=16				
230A	Sterling City	71.55 334	⇓P	P	07 23 25.6 +0.6
	baz=72				
Z35A	Perchaven, San	71.56 338	⇓P	P	07 23 25.4 +0.5
	baz=72				
MIAR	Mount Ida	71.62 341	eP	P	07 23 25.9 +0.7
MIAR			pmax	pmax	
	comp=Z,64nm,1.9s				
MIAR	Mount Ida	71.62 341	eP	P	07 23 25.9 +0.7
	comp=Z,64nm,1.9s				
ABTX	Abilene, Hawle	71.70 335	⇓P	P	07 23 26.3 +0.5
	baz=72,SNR=16				
ABTX	Abilene, Hawle	71.70 335	eP	P	07 23 26.3 +0.5
	comp=Z,152nm,1.8s				
Z34A	Collier Ranch,	71.81 337	⇓P	P	07 23 26.7 +0.3
	baz=72				
WVT	Waverly	71.81 346	eP	P	07 23 26.0 -0.3
WVT			pmax	pmax	
	comp=Z,58nm,0.7s				
WVT	Waverly	71.81 346	eP	P	07 23 26.0 -0.3
	comp=Z,58nm,0.7s				
229A	Bryant Ranch,	71.88 333	⇓P	P	07 23 27.0 +0.1
	baz=72				
131A	Roby	72.00 335	⇓P	P	07 23 28.1 +0.4
	baz=72,SNR=12				
Z33A	Whitaker Ranch	72.00 336	⇑P	P	07 23 28.0 +0.4
	baz=72,SNR=18				
JSRW	J. Sargeant Re	72.01 355	eP	P	07 23 27.2 -0.3
130A	Snyder	72.13 334	⇓P	P	07 23 28.6 +0.1
	baz=72,SNR=13				
Z32A	Haskell	72.26 336	⇑P	P	07 23 29.4 +0.2
	baz=72,SNR=13				
Y34A	Reagan Ranch,	72.30 338	⇑P	P	07 23 29.4 +0.1
	baz=72				
228A	UT Block 9, Go	72.30 333	⇑P	P	07 23 29.8 +0.3
	baz=72,SNR=12				
129A	Stewart Farms,	72.49 334	⇓P	P	07 23 30.7 +0.1
	baz=73				
Z31A	Sharp Cattle R	72.50 335	⇓P	P	07 23 30.7 +0.1
	baz=73,SNR=25				
Y33A	Hilltop Ranch,	72.62 337	⇑P	P	07 23 31.4 +0.1
	baz=73,SNR=13				
MAW	Mawson	72.67 163	P	P	07 23 30.5 -0.7
	comp=Z,53nm,1.0s,baz=217,slow=8.9,SNR=3.6				
MAW			LR	LR	07 54 31.9
	comp=Z,249nm,21.5s,baz=240,slow=35				
128A	Castleberry Fa	72.71 333	⇑P	P	07 23 32.2 +0.3
	baz=73,SNR=19				
PARMO	Parma	72.72 345	eP	P	07 23 32.2 +0.5
Z30A	Sanderson Ranc	72.82 335	⇓P	P	07 23 32.6 +0.1
	baz=73,SNR=17				
Y32A	R-V Farms, Ver	72.89 336	⇓P	P	07 23 33.2 +0.4
	baz=73,SNR=5.2				
X34A	Smith Ranch, M	72.91 338	⇓P	P	07 23 33.7 +0.7
	baz=73,SNR=8.9				
PBMO	Poplar Bluff	72.98 344	eP	P	07 23 33.0 -0.3
	comp=Z,62nm,1.1s				
Z29A	Hungry Hill Ra	73.00 334	⇓P	P	07 23 33.5 -0.1
	baz=73,SNR=12				
MNTX	Cornudas Mount	73.03 330	eP	P	07 23 33.2 -0.5
	comp=Z,10nm,0.6s				
GDL2	Guadalupe Moun	73.06 331	eP	P	07 23 34.8 +0.7
X33A	Lawton	73.07 337	⇑P	P	07 23 34.5 +0.6
	baz=73				
Y31A	Rekieta Farm,	73.13 336	⇓P	P	07 23 35.0 +0.8
	baz=73				
X32A	Elmer	73.22 336	⇑P	P	07 23 35.3 +0.5
	baz=73				
Y30A	Stafford Cattl	73.27 335	⇑P	P	07 23 35.4 +0.2
	baz=74,SNR=5.9				
Z28A	Tucker Farm, M	73.27 334	⇓P	P	07 23 35.2 0.0
	baz=74				
WMOK	Wichita Mounta	73.34 337	eP	P	07 23 34.7 -0.8
WMOK			pmax	pmax	
	comp=Z,14nm,1.2s				
WMOK	Wichita Mounta	73.34 337	eP	P	07 23 34.7 -0.8
	comp=Z,14nm,1.2s				
W34A	Bridge Creek,	73.48 338	⇑P	P	07 23 36.7 +0.3
	baz=74				
W34A	Bridge Creek,	73.48 338	eP	P	07 23 36.6 +0.3
	comp=Z,77nm,1.8s				
TUL1	Leonard	73.52 340	⇑P	P	07 23 36.5 0.0
	baz=74,SNR=11				
TUL1	Leonard	73.52 340	eP	P	07 23 36.5 0.0
	comp=Z,20nm,0.6s				
Y29A	Porterfield Fa	73.53 334	⇓P	P	07 23 36.9 +0.2
	baz=74,SNR=22				
CPRX	Cap Rock	73.60 332	eP	P	07 23 37.9 +0.7
	comp=Z,4.8nm,0.8s				
SIUC	Southern Illin	73.62 346	eP	P	07 23 36.7 -0.4
	comp=Z,21nm,0.7s				
W33A	Caddo, Fort Co	73.62 337	⇓P	P	07 23 38.1 +1.0
	baz=74,SNR=9.6				
X31A	McDonald Ranch	73.64 336	⇓P	P	07 23 38.0 +0.7
	baz=74,SNR=16				
X30A	Coker Ranch, T	73.78 335	⇓P	P	07 23 39.1 +1.0
	baz=74				
Y28A	McKinney Farm,	73.78 334	⇑P	P	07 23 38.8 +0.5
	baz=74				
W32A	Sentinel	73.85 337	⇓P	P	07 23 39.2 +0.7
	baz=74,SNR=21				
V34A	Guthrie	73.96 338	⇓P	P	07 23 39.8 +0.7
	baz=74				
V34A	Guthrie	73.96 338	eP	P	07 23 39.1 0.0
	comp=Z,21nm,0.8s				
MSTX	Muleshoe	74.03 334	⇑P	P	07 23 39.8 +0.1
	baz=74,SNR=9.7				
MSTX	Muleshoe	74.03 334	eP	P	07 23 40.0 +0.3
	comp=Z,22nm,0.7s				
X29A	Tulia	74.06 335	⇓P	P	07 23 40.2 +0.3
	baz=74,SNR=9.7				
Y27A	Causey	74.09 333	⇓P	P	07 23 39.9 -0.2
	baz=74				
W31A	Holland Ranch,	74.13 336	⇑P	P	07 23 40.2 0.0
	baz=74				
V33A	Lossen Ranch,	74.18 338	⇑P	P	07 23 40.7 +0.3
	baz=74,SNR=14				
X28A	Dimmitt	74.31 334	⇑P	P	07 23 41.7 +0.3
	baz=74				
V32A	Arapaho	74.33 337	⇑P	P	07 23 42.2 +0.9
	baz=74				
W30A	Crocket Farms	74.34 336	⇓P	P	07 23 42.2 +0.8
	baz=74				
319A	Douglas	74.42 327	⇓P	P	07 23 43.5 +1.5
	baz=75,SNR=7.7				
AMTX	Amarillo	74.45 335	⇓P	P	07 23 42.4 +0.3
	baz=75				
AMTX	Amarillo	74.45 335	eP	P	07 23 42.7 +0.5
	comp=Z,45nm,1.3s				
U34A	Anderson Ranch	74.52 339	⇑P	P	07 23 43.0 +0.6
	baz=75				
U34A	Anderson Ranch	74.52 339	eP	P	07 23 42.7 +0.3
	comp=Z,21nm,0.8s				
BLO	Bloomington	74.53 348	eP	P	07 23 43.2 +0.8
BLO			pmax	pmax	
	comp=Z,16nm,0.6s				
BLO	Bloomington	74.53 348	eP	P	07 23 43.2 +0.8
	comp=Z,16nm,0.6s				
V31A	Spring Creek L	74.64 337	⇓P	P	07 23 43.7 +0.5
	baz=75				
W29A	Amarillo	74.66 335	⇑P	P	07 23 43.7 +0.4
	baz=75,SNR=14				
LIC	Lamto	74.69 71	ePKP1	P	07 23 44.9 +1.0
	comp=Z,30nm,1.0s				
SLM	Saint Louis	74.72 345	eP	P	07 23 46.0 +2.5
SLM			pmax	pmax	
	comp=Z,13nm,0.3s				
SLM	Saint Louis	74.72 345	eP	P	07 23 46.0 +2.5
	comp=Z,13nm,0.3s				
X27A	F and S Farms,	74.75 334	⇑P	P	07 23 44.4 +0.5
	baz=75				
121A	Cookes Peak, D	74.75 329	⇑P	P	07 23 45.3 +1.2
	baz=75,SNR=10				
121A	Cookes Peak, D	74.75 329	eP	P	07 23 45.3 +1.2
	comp=Z,18nm,0.8s				
V30A	Spur Ranch, Mi	74.91 336	⇓P	P	07 23 46.0 +1.2
	baz=75				
U32A	Winter Ranch,	74.92 337	⇑P	P	07 23 45.2 +0.5
	baz=75				
X26A	CR and CF Fran	74.93 333	⇑P	P	07 23 45.8 +0.9
	baz=75,SNR=5.4				
TIC	Toumodi	74.95 71	ePKP1	P	07 23 45.2 -0.3
	comp=Z,5.9nm,0.2s				
W28A	Vega	74.97 335	⇓P	P	07 23 46.7 +1.6
	baz=75				
KIC	Kosan Boka	75.00 71	ePKP1	P	07 23 45.7 0.0
	comp=Z,33nm,0.9s				
Y24A	Capitan	75.00 331	⇑P	P	07 23 46.4 +0.9
	baz=75,SNR=9.6				
Z22A	Elephant Butte	75.03 330	⇓P	P	07 23 47.2 +1.5
	baz=75,SNR=11				
ACSO	Alum Creek Sta	75.04 351	eP	P	07 23 45.1 -0.1
	comp=Z,29nm,0.6s				
DBIC	Dimbokro	75.10 71	eP	P	07 23 46.7 +0.5
DBIC			pmax	pmax	
	comp=Z,9.0nm,0.8s				
DBIC	Dimbokro	75.10 71	P	P	07 23 46.2 -0.1
	comp=Z,4.5nm,0.7s,baz=240,slow=8.1,SNR=6.9				
DBIC			LR	LR	07 53 46.7
	comp=Z,90nm,20.6s,baz=205,slow=33				
DBIC	Dimbokro	75.10 71	eP	P	07 23 46.7 +0.5
	comp=Z,9.0nm,0.8s				
W27A	Bowe Ranch, En	75.11 334	⇑P	P	07 23 46.7 +0.7
	baz=75,SNR=20				
U31A	Nine Bar Ranch	75.18 337	⇑P	P	07 23 47.4 +1.1
	baz=75				
X25A	Clemmons Ranch	75.23 332	⇑P	P	07 23 47.4 +0.6
	baz=75				
V29A	Stinnett	75.29 335	⇓P	P	07 23 47.7 +0.8
	baz=76				
T33A	Patterson Ranc	75.33 338	⇓P	P	07 23 48.0 +1.0
	baz=76				
W26A	Owens Ranch, T	75.39 333	⇑P	P	07 23 48.5 +0.9
	baz=76,SNR=9.5				
V28A	Chaney	75.42 335	⇓P	P	07 23 48.6 +0.8
	baz=76,SNR=16				
X24A	Lazy VL Ranch,	75.56 332	⇑P	P	07 23 49.5 +0.7
	baz=76				
U30A	WK&E Inc. Balk	75.59 336	⇑P	P	07 23 49.8 +1.2
	baz=76				
T32A	Huddler Ranch,	75.63 338	⇑P	P	07 23 49.4 +0.6
	baz=76				
V27A	Dan Oppiter Fa	75.65 334	⇑P	P	07 23 49.8 +0.7
	baz=76				
U29A	Oasis Ranch, S	75.73 336	⇑P	P	07 23 50.2 +0.8
	baz=76				
S33A	Kaszmaul Farm,	75.73 339	⇓P	P	07 23 50.4 +1.1
	baz=76				
W25A	X Bar L Ranch,	75.77 333	⇑P	P	07 23 50.6 +0.8
	baz=76,SNR=7.9				
T31A	Randall Ranch,	75.79 337	⇑P	P	07 23 50.8 +1.0
	baz=76				
SFIN	Lafayette	75.80 348	⇓P	P	07 23 51.7 +2.1
	baz=76				
LPM	Los Pinos Moun	75.82 331	eP	P	07 23 51.3 +1.2
X23A	Hourglass Bar	75.87 331	⇑P	P	07 23 52.2 +1.7
	baz=76				
TUC	Tucson	75.89 327	eP	P	07 23 51.6 +1.1
TUC			pmax	pmax	
	comp=Z,22nm,1.4s				
TUC	Tucson	75.89 327	eP	P	07 23 51.5 +1.1
	comp=Z,22nm,1.4s				
U28A	Mallet	75.99 335	⇓P	P	07 23 52.3 +1.3
	baz=76				
V26A	Tequesquite Ra	76.03 334	⇑P	P	07 23 52.1 +0.9
	baz=76				
LAZ	Ladron	76.10 330	eP	P	07 23 53.0 +1.2
	comp=Z,6.1nm,1.0s				
S32A	Newby Ranch, P	76.11 338	⇑P	P	07 23 52.4 +0.9
	baz=76				
W24A	Lazy 6 Ranch,	76.12 332	⇓P	P	07 23 52.7 +0.8
	baz=76,SNR=17				
S31A	Mullville	76.21 338	⇓P	P	07 23 53.0 +0.9
	baz=76,SNR=6.0				
U27A	Thompson Grove	76.24 335	⇑P	P	07 23 53.6 +1.2
	baz=76				
ANMO	Albuquerque	76.30 331	⇓/P	P	07 23 52.6 -0.3
ANMO			pmax	pmax	
	comp=Z,36nm,1.1s				
ANMO	Albuquerque	76.30 331	eP	P	07 23 53.3 +0.4
	comp=Z,13nm,1.0s				
W23A	Werner Place,	76.37 332	⇓P	P	07 23 54.4 +1.1
	baz=77,SNR=16				
V25A	Rancho No Teng	76.37 333	⇑P	P	07 23 53.9 +0.6
	baz=77,SNR=12				
T29A	Hugoton	76.38 336	⇓P	P	07 23 54.3 +1.1
	baz=77				
R33A	Olander Ranch,	76.39 339	⇑P	P	07 23 54.4 +1.3
	baz=77				
V24A	Rampart Ranch,	76.52 332	⇓P	P	07 23 54.8 +0.6
	baz=77				
214A	Organ Pipe Nat	76.53 325	⇓P	P	07 23 55.5 +1.4
	baz=77,SNR=9.8				
214A	Organ Pipe Nat	76.53 325	eP	P	07 23 55.4 +1.4
	comp=Z,11nm,0.8s				
S30A	Montezuma	76.54 337	⇓P	P	07 23 55.0 +1.0
	baz=77				
U26A	Atchley Ranch,	76.55 334	⇓P	P	07 23 54.8 +0.6
	baz=77,SNR=6.3				
T28A	Walsh	76.62 335	⇑P	P	07 23 55.2 +0.6
	baz=77,SNR=25				
R32A	Long Quarter,	76.71 339	⇑P	P	07 23 55.6 +0.7
	baz=77,SNR=8.9				
KSU1	Kansas State U	76.73 340	⇓P	P	07 23 55.3 +0.3
	baz=77				
KSU1	Kansas State U	76.73 340	eP	P	07 23 54.5 -0.4
	comp=Z,14nm,0.6s				
S29A	Ulysses	76.74 336	⇓P	P	07 23 55.7 +0.6
	baz=77,SNR=15				
T27A	Campo	76.78 335	⇑P	P	07 23 56.1 +0.7
	baz=77,SNR=19				
U25A	Circle Dot Ran	76.79 333	⇑P	P	07 23 56.6 +1.0
	baz=77,SNR=13				
R31A	Burdett	76.84 338	⇓P	P	07 23 56.7 +1.0
	baz=77				
V23A	Ortiz Mt. (NFS	76.89 332	⇑P	P	07 23 57.7 +1.5
	baz=77				
S28A	Manter	76.97 336	⇑P	P	07 23 57.3 +0.8
	baz=77,SNR=22				
Q33A	Connelly Farm,	76.98 339	⇓P	P	07 23 57.3 +0.9
	baz=77				
R30A	Dighton	77.07 337	⇓P	P	07 23 58.1 +1.1
	baz=77				
U24A	Moreno Valley	77.13 333	⇑P	P	07 23 59.3 +1.7
	baz=77				
Q32A	Meitler Ranch,	77.19 339	⇑P	P	07 23 58.4 +0.9
	baz=77,SNR=6.1				
T26A	Comanche Natio	77.19 334	⇓P	P	07 23 58.8 +1.0
	baz=77,SNR=14				
V22A	San Miguel Ran	77.32 331	⇑P	P	07 24 00.4 +1.7
	baz=78,SNR=32				
P33A	Williams Farm,	77.35 340	⇑P	P	07 23 59.8 +1.3
	baz=78				
X18A	Snowflake	77.39 328	⇓P	P	07 24 00.5 +1.5
	baz=78,SNR=11				
S27A	Las Animas	77.40 335	⇑P	P	07 24 00.1 +1.1
	baz=78,SNR=17				
U23A	El Rito	77.41 332	⇓P	P	07 24 00.8 +1.7
	baz=78,SNR=20				
T25A	Trinidad	77.45 334	⇑P	P	07 24 00.8 +1.5
	baz=78,SNR=32				
Q31A	Ellis	77.45 338	⇑P	P	07 24 01.0 +1.9
	baz=78				
R29A	Marienthal	77.47 337	⇑P	P	07 24 00.6 +1.3
	baz=78				
S26A	Kim	77.54 335	⇓P	P	07 24 01.0 +1.2
	baz=78,SNR=26				
R28A	Tribune	77.62 336	⇑P	P	07 24 00.9 +0.7
	baz=78,SNR=22				
113A	Mohawk Valley,	77.66 325	⇓P	P	07 24 01.6 +1.3
	baz=78				
Q30A	Quinter	77.68 338	⇓P	P	07 24 01.2 +0.8
	baz=78,SNR=19				
U22A	Llaves	77.71 332	⇑P	P	07 24 02.2 +1.4
	baz=78				
T24B	San Luis	77.74 333	⇓P	P	07 24 02.7 +1.6
	baz=78,SNR=14				
Z14A	Wintersburg	77.76 326	⇑P	P	07 24 02.3 +1.4
	baz=78				
P32A	Huiting Farm,	77.78 339	⇓P	P	07 24 02.4 +1.5
	baz=78				
W18A	Petrified Fore	77.80 329	⇓P	P	07 24 02.8 +1.5
	baz=78				
W18A	Petrified Fore	77.80 329	eP	P	07 24 02.7 +1.4
	comp=Z,57nm,1.6s				
Q29A	Oakley	77.84 337	⇑P	P	07 24 01.8 +0.5
	baz=78,SNR=13				
R27A	Eads	77.90 335	⇓P	P	07 24 02.4 +0.7
	baz=78,SNR=30				
P31A	Stockton	77.92 338	⇑P	P	07 24 02.1 +0.4
	baz=78				
S25A	Robets Cordova	77.92 334	⇓P	P	07 24 02.9 +1.0
	baz=78,SNR=14				
X16A	Lo Mia Camp, P	77.95 327	⇓P	P	07 24 03.6 +1.4
	baz=78,SNR=30				
GRM	Grahamstown	77.96 122	eP	P	07 24 01.2 -1.2
GRM			AMB	AMB	07 24 06.6
	comp=Z,69nm,2.7s				
GRM	Grahamstown	77.96 122	P	P	07 24 01.2 -1.2
GRM			pmax	pmax	
	comp=Z,69nm,2.7s				
GRM	Grahamstown	77.96 122	P	P	07 24 01.2 -1.2
	comp=Z,69nm,2.7s				
T23A	Casias Ranch,	77.97 333	⇓P	P	07 24 03.5 +1.2
	baz=78,SNR=5.8				
R26A	Arlington	78.14 335	⇓P	P	07 24 03.9 +0.9
	baz=78,SNR=25				
S24A	Houchin Ranch,	78.19 333	⇓P	P	07 24 04.7 +1.1
	baz=78,SNR=27				
P30A	Selden	78.21 338	⇓P	P	07 24 04.3 +1.0
	baz=78				
Y14A	Wickenburg	78.26 326	⇑P	P	07 24 05.1 +1.4
	baz=78,SNR=11				
O32A	Brockman Farm,	78.28 340	⇑P	P	07 24 04.7 +1.0
	baz=78				
Q28A	Sharon Springs	78.28 337	⇓P	P	07 24 04.9 +1.1
	baz=78				
R25A	Fountain Ranch	78.30 334	⇓P	P	07 24 05.4 +1.4
	baz=78				
SDCO	Great Sand Dun	78.39 333	eP	P	07 24 05.6 +1.0
	comp=Z,11nm,0.8s				
GLA	Glamis	78.40 324	⇓P	P	07 24 06.0 +1.5
	baz=78				
P29A	Atwood	78.48 337	⇑P	P	07 24 06.0 +1.1
	baz=79,SNR=25				
O31A	Woolen Ranch,	78.49 339	⇓P	P	07 24 05.6 +0.8
	baz=79,SNR=5.5				
KSCO	Kaye Shedlock'	78.50 336	⇑P	P	07 24 06.3 +1.2
	baz=79,SNR=5.2				
KSCO	Kaye Shedlock'	78.50 336	eP	P	07 24 06.2 +1.2
	comp=Z,25nm,0.8s				
S23A	Nye Farm, Mont	78.54 333	⇓P	P	07 24 06.6 +1.1
	baz=79				
R24A	Sanders Place,	78.67 334	⇑P	P	07 24 07.1 +1.0
	baz=79,SNR=32				
P28A	Saint Francis	78.72 337	⇓P	P	07 24 07.3 +1.1
	baz=79,SNR=9.4				
Q26A	Hugo	78.72 335	⇓P	P	07 24 07.5 +1.2
	baz=79				
HVD	Gariep Dam	78.73 119	eP	P	07 24 06.8 0.0
HVD			AMB	AMB	07 24 08.3
	comp=Z,55nm,6.3s				
HVD	Gariep Dam	78.73 119	P	P	07 24 06.8 0.0
HVD			pmax	pmax	
	comp=Z,55nm,6.3s				
HVD	Gariep Dam	78.73 119	P	P	07 24 06.8 0.0
	comp=Z,55nm,6.3s				
O30A	MW Ranch, Wils	78.73 338	⇑P	P	07 24 07.2 +1.0
	baz=79				
N32A	Stulken Farm,	78.75 340	⇓P	P	07 24 08.0 +1.8
	baz=79				
SWSC	Sam W. Stewart	78.78 323	⇑P	P	07 24 08.5 +2.0
	baz=79				
JFWS	Jewell Farm	78.84 346	eP	P	07 24 06.5 -0.1
JFWS			pmax	pmax	
	comp=Z,95nm,1.7s				
JFWS	Jewell Farm	78.84 346	eP	P	07 24 06.5 -0.1
	comp=Z,95nm,1.7s				
WUAZ	Wupatki	78.85 328	⇓P	P	07 24 08.2 +1.2
	baz=79,SNR=9.5				
WUAZ	Wupatki	78.85 328	eP	P	07 24 08.7 +1.6
	comp=Z,17nm,1.0s				
S22A	4UR Ranch, Cre	78.89 332	⇑P	P	07 24 08.7 +1.3
	baz=79,SNR=5.0				
R23A	Moffat	78.90 333	⇓P	P	07 24 08.5 +1.0
	baz=79				
O29A	4D Ranch, Culb	78.91 338	⇓P	P	07 24 08.5 +1.3
	baz=79				
Q25A	Bedland, Calha	78.97 335	⇓P	P	07 24 09.1 +1.4
	baz=79				
P27A	Ficken Ranch,	78.97 336	⇑P	P	07 24 09.1 +1.5
	baz=79				
N31A	Bailey Ranch,	78.99 339	⇑P	P	07 24 09.1 +1.5
	baz=79				
MONP	Monument Peak,	79.05 323	⇑P	P	07 24 09.5 +1.2
	baz=79				
MVCO	Mesa Verde	79.08 331	⇓P	P	07 24 09.6 +1.2
	baz=79,SNR=13				
MVCO	Mesa Verde	79.08 331	eP	P	07 24 09.5 +1.0
	comp=Z,9.7nm,0.8s				
PDMCI	Parker Dam,Lak	79.09 325	⇓P	P	07 24 10.1 +1.9
	baz=79				
BC3	Big Chuckawall	79.19 324	⇑P	P	07 24 10.5 +1.5
	baz=79,SNR=11				
O28A	Krutsinger Ran	79.22 337	⇑P	P	07 24 10.1 +1.2
	baz=79,SNR=14				
P26A	Davis Ranch, A	79.23 336	⇓P	P	07 24 10.8 +1.7
	baz=79				
Q24A	Divide	79.34 334	⇑P	P	07 24 11.1 +1.3
	baz=80,SNR=14				
109C	Camp Elliot, M	79.39 322	⇓P	P	07 24 11.6 +1.8
	baz=80				
IRM	Iron Mountain	79.45 325	⇑P	P	07 24 11.6 +1.3
	baz=80,SNR=13				
P25A	Willow Gulch B	79.47 335	⇓P	P	07 24 12.0 +1.5
	baz=80,SNR=30				
M31A	Lambtecht Ranc	79.48 339	⇑P	P	07 24 11.9 +1.7
	baz=80,SNR=7.6				
N29A	Votaw Ranch, W	79.49 338	⇑P	P	07 24 12.1 +1.7
	baz=80,SNR=5.7				
O27A	Beecher Island	79.51 337	⇑P	P	07 24 11.7 +1.2
	baz=80,SNR=13				
CASY	Casey	79.57 181	eP	P	07 24 10.5 0.0
	comp=Z,16nm,0.7s				
W13A	Hualapai Mount	79.63 326	⇓P	P	07 24 13.0 +1.5
	baz=80,SNR=16				
BOSA	Boshof	79.64 117	eP	P	07 24 11.9 +0.1
BOSA			AMB	AMB	07 24 17.9
	comp=Z,46nm,5.8s				
BOSA	Boshof	79.64 117	eP	P	07 24 11.5 -0.3
BOSA			pmax	pmax	
	comp=Z,31nm,1.0s				
BOSA	Boshof	79.64 117	P	P	07 24 11.4 -0.3
	comp=Z,23nm,0.8s,baz=232,slow=5.4,SNR=33				
BOSA			LR	LR	07 53 36.9
	comp=Z,97nm,20.6s,baz=210,slow=31				
BOSA	Boshof	79.64 117	i P	P	07 24 11.8 +0.1

BOSA	Boshof	79.64 117	eP	P	07 24 11.5	-0.3
	comp=Z,31nm,1.0s					
PFO	Pinyon Flats O	79.64 323	P	P	07 24 13.0	+1.6
	comp=Z,105nm,0.8s,SNR=6.3					
PFO	Pinyon Flats O	79.64 323	eP	P	07 24 12.8	+1.3
PFO			pmax	pmax		
	comp=Z,14nm,0.8s					
PFO	Pinyon Flats O	79.64 323	⇓P	P	07 24 13.1	+1.7
	baz=80					
PFO	Pinyon Flats O	79.64 323	eP	P	07 24 12.8	+1.3
	comp=Z,14nm,0.8s					
N28A	Pribbeno Ranch	79.66 337	⇑P	P	07 24 12.7	+1.4
	baz=80					
NEE2	Needles Airpor	79.70 325	⇓P	P	07 24 13.5	+2.0
	baz=80					
BELC	Belle Mtn. Jos	79.73 324	⇓P	P	07 24 13.5	+1.6
	baz=80					
P24A	Kohler Place,	79.74 335	⇑P	P	07 24 13.9	+2.0
	baz=80					
O26A	Horse Wrangler	79.83 336	⇓P	P	07 24 14.3	+2.0
	baz=80					
PV01	Paradox Valley	79.91 331	eP	P	07 24 13.8	+0.9
	comp=Z,830nm,0.9s					
M30A	Dale-Ortello V	79.92 339	⇓P	P	07 24 14.5	+1.8
	baz=80					
P23A	Jefferson	79.95 334	⇑P	P	07 24 15.1	+1.9
	baz=80					
O25A	Wiggins	79.99 335	⇓P	P	07 24 15.0	+1.8
	baz=80					
MURC	Murrieta	80.01 323	⇑P	P	07 24 15.2	+2.0
	baz=80					
U15A	North Rim	80.01 328	⇓P	P	07 24 15.0	+1.5
	baz=80,SNR=17					
OGNE	Ogallala	80.05 337	⇑P	P	07 24 15.2	+1.8
	baz=80					
M29A	Burnside Ranch	80.08 338	⇓P	P	07 24 15.2	+1.7
	baz=80					
N27A	Anderson Farm,	80.09 337	⇑P	P	07 24 14.6	+1.0
	baz=80,SNR=5.9					
LDFC	Landfair	80.18 325	eP	P	07 24 16.4	+2.1
	comp=Z,94nm,1.8s					
SCI	San Clemente I	80.19 322	⇓P	P	07 24 15.9	+1.6
	baz=80					
SMCO	Snowmass	80.20 333	eP	P	07 24 16.0	+1.4
	comp=Z,19nm,0.9s					
GMRC	Granite Mounta	80.20 325	⇓P	P	07 24 15.8	+1.3
	baz=80,SNR=21					
L31A	Butterfield Fa	80.21 340	⇑P	P	07 24 15.2	+1.1
	baz=80,SNR=12					
ISCO	Idaho Springs	80.24 334	eP	P	07 24 15.7	+0.9
ISCO			pmax	pmax		
	comp=Z,9.0nm,0.8s					
ISCO	Idaho Springs	80.24 334	⇓P	P	07 24 15.5	+0.8
	baz=80,SNR=14					
ISCO	Idaho Springs	80.24 334	eP	P	07 24 15.7	+0.9
	comp=Z,9.5nm,0.8s					
M28A	Bar X Bar Ranc	80.25 338	⇑P	P	07 24 15.6	+1.2
	baz=80					
L30A	Spencer Herefo	80.25 339	⇓P	P	07 24 15.9	+1.4
	baz=80					
PV04	Paradox Valley	80.26 331	eP	P	07 24 15.8	+1.0
PV10	Paradox Valley	80.30 331	eP	P	07 24 15.2	+0.2
	comp=Z,306nm,0.7s					
N26A	Koester Ranch,	80.33 336	⇑P	P	07 24 16.9	+1.9
	baz=80					
O24A	Longmont	80.33 335	⇑P	P	07 24 16.9	+1.8
	baz=80					
BBRC	Big Bear Solar	80.40 323	⇑P	P	07 24 17.7	+2.1
	baz=80					
P22A	Eagle	80.48 333	⇑P	P	07 24 17.2	+1.2
	baz=81					
SWZ	Schweizer	80.49 116	eP	P	07 24 15.2	-1.2
SWZ			AMB	AMB	07 24 20.6	
	comp=Z,23nm,1.6s					
SWZ	Schweizer	80.49 116	P	P	07 24 15.2	-1.2
	comp=Z,23nm,1.6s					
HEC	Hector,Ludlow	80.57 324	⇑P	P	07 24 18.4	+2.0
	baz=81					
L29A	Maesberg Ranch	80.58 339	⇑P	P	07 24 18.4	+2.2
	baz=81					
FMP	Fort Macarthur	80.64 322	⇓P	P	07 24 18.7	+2.0
	baz=81					
M27A	Reverse DX Ran	80.69 337	⇓P	P	07 24 18.9	+2.0
	baz=81					
O23A	Lake Granby, G	80.72 334	⇓P	P	07 24 18.8	+1.5
	baz=81,SNR=16					
BFSC	Mount Baldy Ra	80.74 323	⇑P	P	07 24 18.8	+1.5
	baz=81					
TUQ	Turquoise Moun	80.86 325	⇓P	P	07 24 19.6	+1.7
	baz=81					
M26A	McRoberts Ranc	80.88 337	⇑P	P	07 24 20.3	+2.4
	baz=81					
K30A	Basset	80.89 340	⇓P	P	07 24 19.2	+1.3
	baz=81,SNR=11					
N24A	Carr	80.89 335	⇑P	P	07 24 19.8	+1.8
	baz=81					
O22A	Kremmling	80.90 334	⇓P	P	07 24 19.5	+1.2
	baz=81,SNR=13					
RRX	Edison Barstow	80.93 324	⇓P	P	07 24 20.1	+1.9
	baz=81					
ECSD	EROS Data Cent	81.06 342	⇑P	P	07 24 18.9	+0.3
	baz=81,SNR=31					
ECSD	EROS Data Cent	81.06 342	eP	P	07 24 18.6	0.0
	comp=Z,38nm,0.9s					
DECC	Green Verdugo	81.09 322	⇑P	P	07 24 20.9	+1.9
	baz=81					
M25A	Palm-Egli Farm	81.15 336	⇓P	P	07 24 21.2	+1.8
	baz=81					
L27A	T5 Ranch, Ells	81.17 337	⇑P	P	07 24 21.4	+2.0
	baz=81					
K29A	Lazy Trails An	81.17 339	⇓P	P	07 24 20.7	+1.3
	baz=81,SNR=9.2					
GSC	Goldstone, Bar	81.18 324	eP	P	07 24 21.2	+1.6
GSC			pmax	pmax		
	comp=Z,9.0nm,0.8s					
GSC	Goldstone, Bar	81.18 324	⇓P	P	07 24 21.1	+1.6
	baz=81					
GSC	Goldstone, Bar	81.18 324	eP	P	07 24 21.2	+1.6
	comp=Z,8.7nm,0.8s					
RUDU	RUNDU	81.26 106	eP	P	07 24 19.9	-0.7
RUDU			AMB	AMB	07 24 20.4	
	comp=Z,43nm,4.2s					
RUDU	RUNDU	81.26 106	P	P	07 24 19.9	-0.7
	comp=Z,43nm,4.2s					
N23A	Red Feather La	81.33 334	⇓P	P	07 24 21.9	+1.4
	baz=82,SNR=8.1					
L26A	Underwood Farm	81.37 337	⇑P	P	07 24 22.4	+1.9
	baz=82					
SHPR	Sheep Range	81.37 326	eP	P	07 24 21.9	+1.2
EDW2	Edwards Air Fo	81.42 323	⇑P	P	07 24 22.2	+1.4
	baz=82					
CCUT	Cedar City	81.42 328	eP	P	07 24 22.9	+1.9
	comp=Z,15nm,1.0s					
N22A	Wattenberg Ran	81.43 334	⇑P	P	07 24 22.2	+1.2
	baz=82,SNR=10					
M24A	Cheyenne	81.44 335	⇑P	P	07 24 22.4	+1.4
	baz=82					
K28A	Ten Mile Ranch	81.44 338	⇓P	P	07 24 22.7	+1.8
	baz=82					
J30A	Dallas	81.45 340	⇓P	P	07 24 21.6	+0.8
	baz=82					
O20A	White River Ci	81.51 333	⇓P	P	07 24 22.8	+1.4
	baz=82					
O20A	White River Ci	81.51 333	eP	P	07 24 22.3	+0.9
PHWY	Pilot Hill	81.52 335	eP	P	07 24 22.3	+0.8
	comp=Z,82nm,1.8s					
SRU	San Rafael Swe	81.53 330	eP	P	07 24 22.2	+0.7
SRU			pmax	pmax		
	comp=Z,14nm,0.8s					
SRU	San Rafael Swe	81.53 330	eP	P	07 24 22.1	+0.7
	comp=Z,14nm,0.8s					
SEK	Senekal	81.53 118	eP	P	07 24 21.0	-1.0
SEK			AMB	AMB	07 24 22.5	
	comp=Z,35nm,1.2s					
SEK	Senekal	81.53 118	P	P	07 24 21.0	-1.0
	comp=Z,35nm,1.2s					
SPMN	Marine on St.	81.58 345	⇓P	P	07 24 21.3	0.0
	baz=82					
SPMN	Marine on St.	81.58 345	eP	P	07 24 20.8	-0.6
	comp=Z,15nm,0.9s					
ARUT	Antelope Range	81.65 328	eP	P	07 24 23.5	+1.4
ARUT			pmax	pmax		
	comp=Z,162nm,0.9s					
ARUT	Antelope Range	81.65 328	eP	P	07 24 23.5	+1.4
	comp=Z,162nm,0.9s					
K27A	Flueckinger Fa	81.70 338	⇑P	P	07 24 23.5	+1.3
	baz=82,SNR=10					
MVU	Marysvale	81.72 329	eP	P	07 24 23.9	+1.3
	comp=Z,52nm,1.9s					
LRMC	Laurel Mtn Rad	81.75 324	⇓P	P	07 24 23.7	+1.1
	baz=82					
M23A	Laramie	81.75 335	⇓P	P	07 24 24.1	+1.4
	baz=82					
J29A	Okreek	81.77 339	⇑P	P	07 24 23.0	+0.6
	baz=82,SNR=25					
LBTB	Lobatse	81.89 115	⇓iP	P	07 24 23.8	-0.1
LBTB			AMB	AMB	07 24 27.5	
	comp=Z,39nm,4.7s					
LBTB	Lobatse	81.89 115	eP	P	07 24 23.8	-0.1
LBTB			pmax	pmax		
	comp=Z,14nm,0.7s					
LBTB	Lobatse	81.89 115	eP	P	07 24 23.8	-0.1
	comp=Z,14nm,0.7s					
TMUT	Trail Mountain	81.97 330	eP	P	07 24 25.0	+1.0
	comp=Z,11nm,0.9s					
I30A	Oacoma	81.98 340	⇑P	P	07 24 23.8	+0.3
	baz=82,SNR=15					
L24A	Wheatland	81.99 336	⇓P	P	07 24 25.5	+1.7
	baz=82					
K26A	Motz Farm, Whi	82.00 337	⇑P	P	07 24 25.7	+1.9
	baz=82					
M22A	Cedar Creek Ra	82.01 334	⇑P	P	07 24 25.8	+1.7
	baz=82					
ARVC	Arvin	82.03 323	⇑P	P	07 24 26.0	+2.0
	baz=82					
J28A	Allard Ranch,	82.05 339	⇑P	P	07 24 24.8	+0.8
	baz=82,SNR=13					
MPMC	Manual Prospec	82.12 324	⇓P	P	07 24 26.3	+1.6
	baz=82					
N20A	Spence Gulch,	82.12 333	⇑P	P	07 24 25.7	+1.1
	baz=82					
J27A	Elkhorn Farm,	82.13 338	⇑P	P	07 24 25.6	+1.2
	baz=82,SNR=19					
FURC	Furnace Creek,	82.14 325	⇓P	P	07 24 26.3	+1.8
	baz=82					
K25A	Mack Ranch, Ha	82.14 337	⇑P	P	07 24 26.6	+2.0
	baz=82					
ISA	Isabella, Lake	82.28 323	eP	P	07 24 27.1	+1.7
ISA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
ISA	Isabella, Lake	82.28 323	⇓P	P	07 24 27.3	+1.9
	baz=82					
ISA	Isabella, Lake	82.28 323	eP	P	07 24 27.1	+1.7
	comp=Z,10.0nm,0.8s					
L23A	Garrett	82.32 335	⇑P	P	07 24 26.4	+0.8
	baz=82					
I29A	Vivian Onida	82.33 340	⇓P	P	07 24 25.9	+0.6
	baz=83,SNR=9.7					
BRSD	Miller	82.34 341	⇑P	P	07 24 25.8	+0.4
	baz=83,SNR=9.8					
BRSD	Miller	82.34 341	eP	P	07 24 25.4	0.0
	comp=Z,22nm,0.6s					
L22A	Ellis Ranch, M	82.50 335	⇓P	P	07 24 28.3	+1.7
	baz=83,SNR=5.4					
J26A	Sides Ranch, S	82.52 337	⇓P	P	07 24 28.3	+1.8
	baz=83					
K24A	Anderson Ranch	82.56 336	⇓P	P	07 24 28.7	+2.0
	baz=83					
I28A	Midland	82.56 339	⇓P	P	07 24 27.6	+1.0
	baz=83,SNR=16					
VES	Vestal, Richgr	82.72 323	⇓P	P	07 24 29.5	+1.9
	baz=83					
MPU	Maple Canyon	82.75 330	eP	P	07 24 28.7	+0.8
	comp=Z,15nm,0.9s					
SMMC	Simmler	82.77 322	⇓P	P	07 24 29.9	+2.0
	baz=83					
GRAC	Grapevine Rang	82.81 325	⇑P	P	07 24 30.0	+1.9
	baz=83					
J25A	Sunshine Ranch	82.82 337	⇑P	P	07 24 29.2	+1.2
	baz=83					
H29A	Onida	82.85 340	⇑P	P	07 24 28.7	+0.6
	baz=83,SNR=25					
K23A	Bowen Ranch, D	82.86 336	⇑P	P	07 24 29.4	+1.0
	baz=83,SNR=10					
NLU	North Lily Min	82.88 330	eP	P	07 24 29.5	+0.9
	comp=Z,56nm,2.0s					
I27A	Quinn	82.89 338	⇑P	P	07 24 29.1	+0.8
	baz=83,SNR=9.4					
G30A	Faulkton	83.02 341	⇓P	P	07 24 29.4	+0.5
	baz=83,SNR=13					
J24A	Dixon Ranch, L	83.05 336	⇑P	P	07 24 30.5	+1.3
	baz=83					
R11A	Troy Canyon, C	83.07 327	⇑P	P	07 24 30.6	+1.0
	baz=83,SNR=17					
R11A	Troy Canyon, C	83.07 327	eP	P	07 24 31.1	+1.5
	comp=Z,9.2nm,0.8s					
K22A	Casper	83.08 335	⇓P	P	07 24 30.5	+1.0
	baz=83,SNR=12					
K22A	Casper	83.08 335	eP	P	07 24 30.2	+0.7
	comp=Z,18nm,0.9s					
I26A	New Underwood	83.10 338	⇑P	P	07 24 30.7	+1.2
	baz=83					
H28A	Mission Ridge	83.13 339	⇓P	P	07 24 30.0	+0.5
	baz=83,SNR=18					
JLU	Jordanelle	83.17 331	eP	P	07 24 30.8	+0.7
	comp=Z,12nm,0.7s					
RCTC	Rector, Farmer	83.17 323	⇑P	P	07 24 31.3	+1.4
	baz=83					
TIN	Tinemaha, Big	83.27 324	⇑P	P	07 24 31.7	+1.2
	baz=83					
G29A	Hoven	83.29 340	⇓P	P	07 24 31.1	+0.8
	baz=84					
K21A	Alcova	83.32 334	⇓P	P	07 24 31.6	+0.8
	baz=84,SNR=28					
I25A	Rochford	83.36 337	⇑P	P	07 24 31.6	+0.7
	baz=84,SNR=9.3					
CTU	Camp Tracy	83.37 331	eP	P	07 24 31.9	+0.9
DUG	Dugway, Tooele	83.39 330	eP	P	07 24 31.9	+0.8
DUG			pmax	pmax		
	comp=Z,101nm,1.9s					
DUG	Dugway, Tooele	83.39 330	⇓P	P	07 24 31.7	+0.6
	baz=84,SNR=15					
DUG	Dugway, Tooele	83.39 330	eP	P	07 24 31.9	+0.8
	comp=Z,101nm,1.9s					
H27A	Howes	83.40 339	⇑P	P	07 24 31.6	+0.6
	baz=84,SNR=17					
G28A	Parade	83.47 340	⇑P	P	07 24 31.8	+0.5
	baz=84,SNR=24					
SLR	Silverton	83.48 117	eP	P	07 24 31.9	-0.3
SLR			AMB	AMB	07 24 46.4	
	comp=Z,36nm,5.7s					
SLR	Silverton	83.48 117	P	P	07 24 31.9	-0.3
SLR			pmax	pmax		
	comp=Z,36nm,5.7s					
SLR	Silverton	83.48 117	P	P	07 24 31.9	-0.3
	comp=Z,36nm,5.7s					
I24A	Kuemmerle Ranc	83.51 337	⇓P	P	07 24 32.2	+0.6
	baz=84					
URZ	Urewera	83.53 228	LR	LR	07 53 13.0	
	comp=Z,196nm,19.7s,baz=174,slow=30					
RSSD	Black Hills	83.55 337	eP	P	07 24 32.4	+0.5
RSSD			pmax	pmax		
	comp=Z,15nm,1.0s					
RSSD	Black Hills	83.55 337	eP	P	07 24 32.4	+0.5
	comp=Z,15nm,1.0s					
TPH	Tonopah	83.61 326	eP	P	07 24 33.6	+1.2
TPH			pmax	pmax		
	comp=Z,14nm,0.9s					
TPH	Tonopah	83.61 326	eP	P	07 24 33.5	+1.2
	comp=Z,14nm,0.9s					
F30A	Leola	83.64 341	⇓P	P	07 24 32.5	+0.4
	baz=84					
J22A	Midwest	83.73 335	⇓P	P	07 24 33.3	+0.5
	baz=84					
F29A	Eureka	83.86 341	⇓P	P	07 24 33.4	+0.2
	baz=84,SNR=17					
H25A	Fruitdale	83.86 338	⇓P	P	07 24 34.2	+0.8
	baz=84,SNR=9.5					
I23A	Meade Ranch, G	83.87 336	⇓P	P	07 24 33.7	+0.2
	baz=84					
EYMN	Ely	83.92 347	eP	P	07 24 32.7	-0.8
	comp=Z,11nm,0.9s					
J21A	Lysite	84.01 335	⇓P	P	07 24 34.7	+0.4
	baz=84					
MLAC	Mammoth, Mammo	84.02 324	⇑P	P	07 24 35.8	+1.3
	baz=84					
G27A	Dupree	84.04 339	⇓P	P	07 24 34.6	+0.4
	baz=84,SNR=11					
HWUT	Hardware Ranch	84.07 331	eP	P	07 24 35.1	+0.5
	comp=Z,19nm,0.9s					
BGU	Big Grassy Mou	84.09 330	eP	P	07 24 35.2	+0.5
	comp=Z,25nm,1.9s					
TORD	Torodi Ar. Bea	84.14 70	P	P	07 24 35.3	-0.1
	comp=Z,9.8nm,0.8s,baz=256,slow=4.2,SNR=54					
TORD			LR	LR	08 01 35.7	
	comp=Z,186nm,18.1s,baz=220,slow=35					
F28A	McLaughlin	84.14 340	⇓P	P	07 24 35.1	+0.4
	baz=84,SNR=15					
I22A	9 Mile Ranch,	84.16 336	⇑P	P	07 24 35.1	+0.2
	baz=84					
G26A	Maurine	84.16 339	⇓P	P	07 24 35.3	+0.5
	baz=84,SNR=14					
SPUT	South Promonto	84.17 330	eP	P	07 24 35.6	+0.5
	comp=Z,18nm,0.8s					
E30A	Jud	84.23 342	⇓P	P	07 24 35.6	+0.5
	baz=84,SNR=7.6					
J20A	Shoshoni	84.25 334	⇑P	P	07 24 36.4	+1.0
	baz=84,SNR=21					
H24A	Dirks Ranch, A	84.28 337	⇓P	P	07 24 35.9	+0.4
	baz=84					
BW06	Boulder Array	84.28 333	eP	P	07 24 35.7	0.0
	comp=Z,12nm,1.1s					
PDAR	Pinedale Array	84.28 333	P	P	07 24 36.0	+0.2
	comp=Z,4.5nm,0.6s,baz=152,slow=4.1,SNR=20					
G25A	Newell	84.32 338	⇓P	P	07 24 36.1	+0.5
	baz=84,SNR=19					
I21A	Big Trails, Te	84.37 335	⇑P	P	07 24 36.4	+0.3
	baz=85,SNR=13					
H23A	Clabaugh Cattl	84.39 337	⇑P	P	07 24 36.2	+0.1
	baz=85					
NVAR	Mina Array Bea	84.40 325	P	P	07 24 37.0	+0.6
	comp=Z,5.1nm,0.7s,baz=155,slow=5.9,SNR=28					
E29A	Napoleon	84.48 341	⇓P	P	07 24 36.6	+0.2
	baz=85,SNR=7.3					
F27A	Lemmon	84.51 339	⇓P	P	07 24 37.3	+0.7
	baz=85,SNR=14					
J19A	Crowheart	84.52 334	⇓P	P	07 24 37.5	+0.6
	baz=85,SNR=21					
F26A	Lodgepole	84.69 339	⇑P	P	07 24 38.2	+0.8
	baz=85					
HVU	Hansel Valley	84.70 330	eP	P	07 24 38.1	+0.3
HVU			pmax	pmax		
	comp=Z,15nm,0.7s					
HVU	Hansel Valley	84.70 330	eP	P	07 24 38.1	+0.3
	comp=Z,15nm,0.7s					
H22A	Clearmont	84.73 336	⇓P	P	07 24 38.8	+1.0
	baz=85					
D30A	Buchanan	84.75 342	⇑P	P	07 24 38.4	+0.7
	baz=85,SNR=16					
G24A	Alzada	84.75 338	⇑P	P	07 24 38.9	+1.1
	baz=85					
E28A	Huff	84.78 340	⇓P	P	07 24 39.6	+1.7
	baz=85,SNR=5.7					
I20A	Worland	84.78 335	⇑P	P	07 24 38.6	+0.5
	baz=85,SNR=11					
ELK	Elko	84.88 328	eP	P	07 24 39.5	+0.7
ELK			pmax	pmax		
	comp=Z,7.0nm,0.8s					
ELK	Elko	84.88 328	eP	P	07 24 39.5	+0.7
	comp=Z,7.1nm,0.8s					
E27A	Carson	84.89 340	⇓P	P	07 24 39.8	+1.3
	baz=85					
D29A	Pettibone, Tap	84.92 341	⇑P	P	07 24 40.0	+1.4
	baz=85					
G23A	Biddle	84.95 337	⇑P	P	07 24 39.9	+1.1
	baz=85					
F25A	Bowman	84.99 338	⇓P	P	07 24 39.8	+0.8
	baz=85					
H21A	Big Horn, Sher	85.00 336	⇓P	P	07 24 39.7	+0.5
	baz=85					
WAKR	Walker	85.00 324	eP	P	07 24 41.2	+1.8
CMB	Columbia Colle	85.09 323	eP	P	07 24 40.5	+0.8
CMB			pmax	pmax		
	comp=Z,14nm,1.3s					
CMB	Columbia Colle	85.09 323	eP	P	07 24 40.5	+0.8
	comp=Z,14nm,1.3s					
AGMN	Agassiz Nation	85.16 344	⇑P	P	07 24 39.8	+0.1
	baz=85,SNR=14					
AGMN	Agassiz Nation	85.16 344	eP	P	07 24 39.7	-0.1
	comp=Z,12nm,0.6s					
I19A	Meeteetse	85.17 334	⇑P	P	07 24 40.5	+0.4
	baz=85,SNR=11					
E26A	Carlson Angus	85.19 339	⇓P	P	07 24 40.4	+0.5
	baz=85					
H20A	Greybull	85.20 335	⇓P	P	07 24 40.3	+0.1
	baz=85,SNR=16					
F24A	Ekalaka	85.22 338	⇓P	P	07 24 41.0	+0.8
	baz=85					
C30A	Mose, Pekin	85.23 342	⇓P	P	07 24 40.7	+0.6
	baz=86,SNR=27					
G22A	Birney	85.26 336	⇓P	P	07 24 41.2	+0.7
	baz=86					
REDW	Red Top Meadow	85.28 333	eP	P	07 24 41.0	+0.3
	comp=Z,9.8nm,0.9s					
D28A	Regan	85.31 341	⇑P	P	07 24 41.1	+0.6
	baz=86,SNR=6.0					
LOHW	Long Hollow	85.40 333	eP	P	07 24 41.7	+0.3
F23A	Volborg	85.42 337	⇓P	P	07 24 41.3	+0.1
	baz=86,SNR=15					
TPAW	Teton Pass	85.43 333	eP	P	07 24 41.9	+0.4
	comp=Z,12nm,0.8s					
E25A	Miller Ranch,	85.49 339	⇓P	P	07 24 42.3	+0.8
	baz=86					
D27A	Center	85.50 340	⇑P	P	07 24 42.3	+0.9
	baz=86					
G21A	Lodge Grass	85.58 336	⇓P	P	07 24 42.5	+0.4
	baz=86					
FXWY	Fox Creek	85.58 333	eP	P	07 24 42.6	+0.3
	comp=Z,6.1nm,0.9s					
I17A	Pilgrim Ck.	85.65 333	⇓P	P	07 24 43.5	+0.9
	baz=86,SNR=16					
MDND	Maddock	85.65 342	⇑P	P	07 24 43.2	+1.0
	baz=86					
MDND	Maddock	85.65 342	eP	P	07 24 42.7	+0.4
D26A	Manning	85.68 340	⇑P	P	07 24 42.6	+0.2
	baz=86,SNR=11					
H19A	Powell	85.71 334	⇓P	P	07 24 43.1	+0.4
	baz=86,SNR=16					
C28A	Hausauer Farms	85.74 341	⇓P	P	07 24 44.2	+1.5
	baz=86					
F22A	Rosebud	85.75 337	⇓P	P	07 24 43.5	+0.7
	baz=86,SNR=10					
IMW	Indian Meadow	85.77 333	eP	P	07 24 43.7	+0.5
	comp=Z,16nm,1.1s					
E24A	Baker	85.82 338	⇑P	P	07 24 44.0	+0.8
	baz=86					
RAO	Raoul Island	85.83 237	LR	LR	07 53 41.8	
	comp=Z,70nm,19.1s,baz=140,slow=29					
FLWY	Flagg Ranch	85.84 333	eP	P	07 24 44.4	+0.9
	comp=Z,21nm,0.6s					
B30A	Myrvik Farm, E	85.89 343	⇓P	P	07 24 43.7	+0.3
	baz=86,SNR=40					
G20A	Bridger	85.92 335	⇑P	P	07 24 43.7	-0.1
	baz=86,SNR=22					
H18A	Shoshone NF, C	85.96 334	⇓P	P	07 24 44.5	+0.3
	baz=86,SNR=41					
C27A	Sayler Ranch,	86.04 340	⇑P	P	07 24 44.9	+0.8
	baz=86					
D25A	Fairfield	86.05 339	⇑P	P	07 24 45.2	+0.9
	baz=86,SNR=8.0					
H17A	Grant Village	86.06 333	⇑P	P	07 24 45.9	+1.2
	baz=86					
H17A	Grant Village	86.06 333	eP	P	07 24 45.6	+0.9
	comp=Z,3.7nm,0.7s					
F21A	Absaloka Mine,	86.07 336	⇑P	P	07 24 44.6	+0.2
	baz=86					
E23A	Ismay	86.08 337	⇑P	P	07 24 44.2	-0.2
	baz=86					
LKWY	Lake	86.14 333	eP	P	07 24 46.0	+1.0
LKWY			pmax	pmax		
	comp=Z,12nm,1.3s					
LKWY	Lake	86.14 333	eP	P	07 24 46.0	+1.0
	comp=Z,12nm,1.3s					
B29A	Wagenman Farm,	86.16 342	⇑P	P	07 24 44.9	+0.2
	baz=86,SNR=11					
YFT	Old Faithful	86.20 333	eP	P	07 24 47.0	+1.6
RLMT	Red Lodge	86.20 334	eP	P	07 24 45.3	0.0
	comp=Z,17nm,0.8s					
E22A	Miles City	86.23 337	⇓P	P	07 24 45.7	+0.5
	baz=86					
C26A	Wahner Farm, P	86.31 340	⇓P	P	07 24 46.1	+0.6
	baz=86					
D24A	Glendive	86.32 338	⇓P	P	07 24 46.4	+0.8
	baz=86					
A30A	Hoffart Farm,	86.34 343	⇑P	P	07 24 45.8	+0.2
	baz=87,SNR=15					
F20A	Billings	86.40 335	⇑P	P	07 24 46.1	+0.1
	baz=87					
B28A	Dugan Ranch, T	86.41 341	⇑P	P	07 24 46.5	+0.6
	baz=87,SNR=12					
YMR	Madison River	86.44 333	eP	P	07 24 47.5	+1.1
	comp=Z,36nm,0.8s					
LAO	LASA Array	86.54 337	eP	P	07 24 46.6	0.0
	comp=Z,20nm,0.9

C25A	Freed Ranch, W	86.54	339	⇑P	P	07 24 46.8	+0.2
	baz=87						
A29A	Manning Farm,	86.55	342	⇑P	P	07 24 46.5	-0.2
	baz=87,SNR=11						
B27A	Peters Farms,	86.61	341	⇓P	P	07 24 47.7	+0.8
	baz=87						
D23A	Lindsay	86.64	338	⇓P	P	07 24 47.8	+0.6
	baz=87,SNR=43						
E21A	Keefer Ranch,	86.69	336	⇑P	P	07 24 47.8	+0.4
	baz=87,SNR=11						
MATP	Matopo	86.70	112	*i* P	P	07 24 47.8	-0.5
F19A	Roth Farm, Mol	86.72	335	⇑P	P	07 24 48.8	+1.2
	baz=87						
C24A	Savage	86.72	338	⇑P	P	07 24 48.5	+1.0
	baz=87,SNR=28						
MSNA	Messina	86.74	115	*e*P	P	07 24 48.1	-0.3
MSNA				AMB	AMB	07 24 50.1	
	comp=Z,35nm,6.6s						
MSNA	Messina	86.74	115	P	P	07 24 48.1	-0.3
	comp=Z,35nm,6.6s						
QLMT	Earthquake Lak	86.75	333	*e*P	P	07 24 49.1	+1.1
A28A	Rude Farm, Bot	86.80	342	⇓P	P	07 24 48.8	+0.9
	baz=87						
B26A	Jensen Ranch,	86.85	340	⇑P	P	07 24 49.5	+1.4
	baz=87						
HLID	Hailey	86.85	330	⇑P	P	07 24 49.6	+1.2
	baz=87,SNR=22						
HLID	Hailey	86.85	330	*e*P	P	07 24 49.3	+0.8
	comp=Z,18nm,1.1s						
GCMT	Greycliff	86.92	334	*e*P	P	07 24 48.5	-0.3
	comp=Z,4.5nm,0.7s						
D22A	Cohagen	86.93	337	⇓P	P	07 24 50.3	+1.7
	baz=87,SNR=12						
ULM	Lac du Bonnet	87.00	345	P	P	07 24 48.1	-0.7
	comp=Z,7.6nm,0.7s,baz=158,slow=4.4,SNR=15						
E20A	Meyer Farm, Mu	87.01	336	⇑P	P	07 24 49.8	+0.8
	baz=87,SNR=27						
B25A	Knox Farm, Ray	87.02	340	⇓P	P	07 24 50.1	+1.2
	baz=87						
MOPA	Mopani	87.08	116	*e*P	P	07 24 48.9	-1.1
MOPA				AMB	AMB	07 24 56.8	
	comp=Z,28nm,3.7s						
MOPA	Mopani	87.08	116	P	P	07 24 48.9	-1.1
	comp=Z,28nm,3.7s						
A27A	Ledoux Ranch,	87.10	341	⇑P	P	07 24 50.5	+1.2
	baz=87						
D21A	La Casta Ranch	87.12	337	⇑P	P	07 24 49.8	+0.3
	baz=87,SNR=13						
E19A	Rath Farm, Rou	87.19	335	⇑P	P	07 24 50.2	+0.3
	baz=87,SNR=25						
C23A	Lambert	87.20	338	⇓P	P	07 24 50.3	+0.4
	baz=87,SNR=23						
A26A	Wade Farm, Ken	87.27	341	⇑P	P	07 24 50.4	+0.3
	baz=88,SNR=9.7						
MCMT	McKenzie Canyo	87.29	332	*e*P	P	07 24 51.5	+0.8
	comp=Z,11nm,1.0s						
MFID	Camas Ranch	87.32	330	*e*P	P	07 24 51.2	+0.5
	comp=Z,8.0nm,0.9s						
C22A	Vida	87.36	338	⇑P	P	07 24 50.7	0.0
	baz=88,SNR=10						
D20A	Manuel Ranch,	87.52	336	⇓P	P	07 24 51.3	-0.1
	baz=88,SNR=21						
A25A	Svangstu Ranch	87.61	340	⇓P	P	07 24 52.5	+0.7
	baz=88						
DLMT	Dillon	87.64	333	*e*P	P	07 24 53.1	+0.9
	comp=Z,14nm,1.1s						
B23A	Brockton	87.73	339	⇓P	P	07 24 53.0	+0.6
	baz=88						
C21A	Desert Coulee	87.82	337	⇑P	P	07 24 52.9	+0.1
	baz=88,SNR=22						
D19A	Cripps Ranch,	87.84	336	⇓P	P	07 24 53.7	+0.7
	baz=88,SNR=11						
A24A	Westby	87.85	339	⇓P	P	07 24 53.9	+1.0
	baz=88						
B22A	Reddig Ranch S	87.89	338	⇓P	P	07 24 54.0	+0.8
	baz=88						
LRM	Limekiln Ridge	87.97	333	*e*P	P	07 24 54.7	+0.8
C20A	Veseth Ranch,	88.02	336	⇑P	P	07 24 53.6	-0.2
	baz=88,SNR=15						
MOD	Modoc Plateau	88.08	326	*e*P	P	07 24 55.2	+0.9
	comp=Z,13nm,0.8s						
A23A	Redstone	88.14	339	⇑P	P	07 24 55.1	+0.8
	baz=88						
B21A	Ellsworth Farm	88.33	337	⇑P	P	07 24 58.6	+3.4
	baz=88						
C19A	Slack Wire Ran	88.39	336	⇑P	P	07 24 58.9	+3.3
	baz=89						
A22A	Carney Farms,	88.48	338	⇑P	P	07 24 56.8	+0.8
	baz=89,SNR=14						
N02D	Trinity Center	88.50	324	⇓P	P	07 25 00.2	+4.0
	baz=89						
B20A	Solberg Farm,	88.66	337	⇓P	P	07 24 56.9	0.0
	baz=89,SNR=10						
M04C	Macdoel	88.71	325	⇑P	P	07 24 57.9	+0.6
	baz=89						
A21A	Bergtoll Ranch	88.79	338	⇓P	P	07 24 58.0	+0.5
	baz=89,SNR=5.3						
EGMT	Eagleton	88.88	336	⇑P	P	07 24 58.5	+0.6
	baz=89						
M02C	Callahan	88.89	324	⇓P	P	07 24 59.3	+1.1
	baz=89						
B19A	Brinkman Farms	88.98	336	⇑P	P	07 24 59.5	+1.2
	baz=89						
A20A	Cobblestone Ra	89.01	337	⇓P	P	07 24 59.3	+0.8
	baz=89,SNR=12						
SCHQ	Schefferville	89.03	3	P	P	07 24 58.8	+0.4
	comp=Z,1.7nm,0.5s,baz=214,slow=8.3,SNR=7.6						
SCHQ				LR	LR	08 05 29.1	
	comp=Z,67nm,20.9s,baz=80,slow=36						
K04D	Chiloquin, OR	89.32	326	⇓P	P	07 25 01.6	+1.5
	baz=90						
A19A	Klindworth Far	89.32	337	⇓P	P	07 25 00.5	+0.6
	baz=90						
MSO	Missoula	89.38	333	⇓P	P	07 25 02.0	+1.7
	baz=90						
J05D	Fort Rock, OR	89.59	326	⇑P	P	07 25 03.7	+2.2
	baz=90						
L02D	Cave Junction,	89.84	324	⇓P	P	07 25 04.2	+1.8
	baz=90						
J04D	Umpqua Nationa	89.96	326	⇑P	P	07 25 04.7	+1.5
	baz=90						
SWMT	Swartz Lake	89.97	333	*e*P	P	07 25 03.8	+0.7
	comp=Z,1.2nm,0.6s						
F10A	Beach Ranch, E	89.98	330	*e*P	P	07 25 08.1	+5.0
	comp=Z,156nm,2.8s						
I05D	Terrebonne, OR	90.45	327	⇓P	P	07 25 07.1	+1.8
	baz=91						
I04A	Tendick Farm,	90.52	326	⇑P	P	07 25 07.0	+1.3
	baz=91						
BSMT	Bassoo Peak	90.55	333	*e*P	P	07 25 05.7	-0.2
	comp=Z,5.0nm,1.1s						
I03D	Drain, OR	90.89	325	⇓P	P	07 25 08.5	+1.2
	baz=91						
G05D	Wamic, OR	91.15	327	⇓P	P	07 25 09.2	+0.7
	baz=91						
WALA	Waterton Lakes	91.22	334	*e*P	P	07 25 08.5	-0.4
	comp=Z,14nm,1.8s						
HAWA	Hanford	91.28	329	*e*P	P	07 25 08.9	-0.1
	comp=Z,46nm,1.8s						
D08A	Wollman Farm,	91.55	330	*e*P	P	07 25 11.3	+1.1
	comp=Z,15nm,1.2s						
NEW	Newport	91.79	332	⇑P	P	07 25 13.3	+1.8
	baz=92						
G03D	McMinnville, O	92.00	326	⇑P	P	07 25 13.6	+1.2
	baz=92						
FCC	Fort Churchill	94.73	349	*e*P	P	07 25 24.3	-0.3
FCC	Fort Churchill	94.73	349	*e*P	P	07 25 24.3	-0.3
	comp=Z,0.2nm,0.5s						
ESDC	Sonsee's Array	96.72	46	LR	LR	08 09 25.1	
	comp=Z,84nm,18.1s,baz=185,slow=36						
YKA	Yellowknife Ar	102.57	341	P	Pdif	07 25 59.2	-0.6
	comp=Z,0.6nm,0.6s,baz=144,slow=4.4,SNR=14						
ILAR	Eielson Array	114.71	333	PKP	PKPdf	07 30 43.0	-0.4
	comp=Z,0.3nm,0.7s,baz=159,slow=2.2,SNR=4.5						
BRTR	Keskin Array B	121.84	61	PKP	PKPdf	07 30 57.5	-0.7
	comp=Z,1.1nm,0.8s,baz=267,slow=2.9,SNR=4.9						
FINES	FINESS Array B	123.23	35	PKP	PKPdf	07 30 59.2	-0.7
	comp=Z,2.1nm,0.9s,baz=222,slow=1.9,SNR=3.3						
ARCES	ARCESS Array B	124.33	25	PKP	PKPdf	07 31 01.3	-0.5
	comp=Z,4.3nm,1.0s,baz=254,slow=3.3,SNR=4.2						
KLMR	Klimovskoe	129.63	36	*e*PKIKP	PKPdf	07 31 10.4	-1.8
KLMR				pmax	pmax		
	comp=Z,20nm,1.9s						
BILL	Bilibino	133.35	334	*e*PKIKP	PKPdf	07 31 19.0	0.0
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ISRO	Mashad	140.52	73	*e*P	PKPdf	07 31 29.5	-3.9
IMYA	Miami	141.02	73	*e*P	PKPdf	07 31 24.4	-10
POO	Poona	145.56	109	⇑*i*P	PKPdf	07 31 41.0	-1.8
	comp=Z,40nm,1.0s						
KSM	Kuching	147.13	184	*e*PKPdf	PKPbc	07 31 46.4	-1.2
BRVK	Borovoye	147.38	44	*e*PKP2	PKPbc	07 31 47.8	+0.7
BRVK	Borovoye	147.38	44	*e*PKPbc	PKPbc	07 31 47.8	+0.7
HYB	Hyderabad	148.52	115	*i* PKP	PKPbc	07 31 50.5	-0.8
YAK	Yakutsk	149.24	340	*e*PKHKP	PKPdf	07 31 49.4	+2.0
YAK				*e*		07 31 57.0	
YAK				pmax	pmax		
	comp=Z,23nm,0.9s						
IPM	Ipoh	149.43	166	*e*PKPbc	PKPbc	07 31 52.7	-1.0
KKAR	Karatay Array	149.55	62	*e*PKPdf	PKPdf	07 31 48.5	-0.1
KKAR				*e*PKPbc	PKPbc	07 31 53.0	-0.1
KULM	Kulim	150.13	165	*e*PKPbc	PKPbc	07 31 54.6	-0.9
YSS	Yuzh-Sakhalins	151.26	306	*e*PKIKP	PKPbc	07 31 57.0	-0.1
YSS	Yuzh-Sakhalins	151.26	306	*e*PKPbc	PKPbc	07 31 57.0	-0.1
EKS2	Erkin-Say	151.97	63	*e*PKIKP	PKPbc	07 31 59.5	+0.4
EKS2	Erkin-Say	151.97	63	*e*PKPbc	PKPbc	07 31 59.5	+0.4
AAK	Ala-Archa	152.50	63	*e*PKIKP	PKPbc	07 32 00.4	+0.1
AAK	Ala-Archa	152.50	63	*e*PKPbc	PKPbc	07 32 00.4	+0.1
KURK	Kurchatov	153.04	44	*e*PKIKP	PKPbc	07 32 00.8	-0.2
KURK	Kurchatov	153.04	44	*e*PKPbc	PKPbc	07 32 00.8	-0.2
NVS	Novosibirsk	153.19	33	⇑*i*PKIKP	PKPbc	07 32 00.8	-0.4
NVS				pmax	pmax		
	comp=N,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,17nm,1.0s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.6s						
KSH	Kashi	153.81	69	*e*PKPbc	PKPdf	07 31 55.3	0.0
KSH				sPKP		07 32 08.4	
KSH				PKS	PKSdf	07 35 29.4	-0.3
KSH				PP	PP	07 35 49.1	-2.1
KSH				SKS	SKSdf	07 38 59.6	-2.7
KSH				SKKS	SKKSac	07 42 38.1	-3.0
KSH				SS	SS	07 55 22.9	-5.9
KSH				PPMZ			
	comp=E,79nm,5.3s						
KSH				LN			
	comp=E,65nm,5.1s						
KSH				LE			
	comp=E,88nm,6.4s						
KSH				LZ			
	comp=E,140nm,6.1s						
ZALV	Zalesovo Beam	154.48	33	PKP	PKPdf	07 31 54.7	-0.9
	comp=E,1.7nm,0.7s,baz=302,slow=1.3,SNR=9.1						
ZALV				PKPbc	PKPbc	07 32 03.0	-1.0
	comp=E,6.6nm,0.8s,baz=324,slow=3.1,SNR=3.9						
ZALV				PKPab	PKPab	07 32 18.9	+0.5
	comp=E,3.3nm,0.6s,baz=299,slow=3.3,SNR=5.6						
BOD	Bodaibo	156.31	352	*e*PKIKP	PKPdf	07 31 53.7	-4.2
BOD				*e*		07 32 23.9	
BOD				pmax	pmax		
	comp=Z,10.0nm,1.7s						
MKAR	Makanchi Array	156.88	50	PKP	PKPdf	07 31 58.7	-0.4
	comp=Z,1.0nm,0.9s,baz=282,slow=2.4,SNR=5.4						
MKAR				PKPab	PKPab	07 32 28.1	-0.9
	comp=Z,2.9nm,1.0s,baz=292,slow=3.9,SNR=7.2						
WMQ	Urumqi	161.55	53	*e*PKP	PKPdf	07 32 04.3	-0.4
WMQ				pPKP	pPKPdf	07 32 15.0	+6.9
CMAR	Chiang Mai Arr	162.03	150	PKP	PKPdf	07 32 05.9	0.0
	comp=Z,0.5nm,0.3s,baz=225,slow=2.4,SNR=4.5						
TLY	Talaya	162.47	10	*e*PKIKP	PKPdf	07 32 08.9	+3.6
TLY				*e*		07 32 53.8	
TLY				pmax	pmax		
	comp=Z,7.0nm,2.0s						
CN2	Changchun	163.75	310	*e*PKP	PKPdf	07 32 07.3	+0.6
QIZ	Qiongzhong	164.57	186	PKP	PKPdf	07 32 08.8	+0.6
QIZ				PP	PP	07 36 49.8	+1.9
QIZ				SS	SS	07 57 21.1	+1.5
QIZ				LZ			
	comp=Z,160nm,17.1s						
SONM	Songino Array	166.56	5	PKP	PKPdf	07 32 07.8	-1.4
	comp=Z,0.6nm,0.9s,baz=318,slow=1.9,SNR=4.1						
SONM				PKPab	PKPab	07 33 12.2	+1.0
	comp=Z,1.0nm,0.9s,baz=337,slow=2.8,SNR=4.9						
KMI	Kunming	169.54	151	PKP	PKPdf	07 32 14.9	+2.8
NJ2	Nanjing	170.81	258	*e*PKP	PKPdf	07 32 16.4	+4.2
GTA	Gaotai	171.63	51	*e*PKP	PKPdf	07 32 12.8	+0.2
GTA				pPKP	pPKPdf	07 32 23.5	+7.4
GTA				sPKP		07 32 27.3	
GYA	Guiyang	171.91	170	*e*PKP	PKPdf	07 32 12.0	-1.2
GYA				pPKP	pPKPdf	07 32 24.6	+8.0
GYA				PKPab	PKPab	07 33 37.4	+2.0
GYA				PKS	PKSdf	07 35 43.3	-2.4
GYA				PP	PP	07 37 28.0	+2.5
GYA				SKKS		07 44 10.8	
GYA				SS	SS	07 58 31.3	-2.2
GYA				PPMZ			
	comp=Z,140nm,8.4s						
GYA				LN			
	comp=Z,130nm,24.4s						
GYA				LE			
	comp=Z,120nm,23.2s						
GYA				LZ			
	comp=Z,140nm,24.5s						
HHC	Hu-ho-hao-te	173.10	339	*e*PKP	PKPdf	07 32 13.6	+0.4
HHC				sPKP		07 32 25.9	
HHC				PP	PP	07 37 30.0	-1.5
HHC				SKS	SKSdf	07 39 08.9	-7.6
HHC				SKKS	SKKSac	07 44 17.0	-1.7
HHC				SS	SS	07 58 42.9	-2.6
HHC				PPMZ			
	comp=Z,230nm,7.1s						
HHC				LN			
	comp=Z,350nm,20.2s						
HHC				LE			
	comp=Z,280nm,19.8s						
HHC				LZ			
	comp=Z,250nm,18.2s						
CD2	Chengdu	174.81	132	*e*PKP	PKPdf	07 32 14.5	+0.5
LZH	Lanzhou	176.04	65	*e*PKP	PKPdf	07 32 14.9	+0.5
LZH				pPKP	pPKPdf	07 32 25.4	+7.6
LZH				sPKP		07 32 30.5	
LZH				PP	PP	07 37 50.1	+3.0
LZH				*e*SKKS		07 44 30.4	
LZH				*e*SS	SS	07 59 11.3	-4.9
LZH				PPMZ			
	comp=Z,160nm,5.5s						
LZH				LN			
	comp=Z,200nm,18.5s						
LZH				LE			
	comp=Z,260nm,18.9s						
LZH				LZ			
	comp=Z,320nm,21.0s						

CASC 13 07:17:05.7±1.4, 13°.25N×90°.68W, h18km±7km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	1.18	60	*e*P	Pn	07 17 26.9	-0.8
SBLS				*e*S	Sn	07 17 43.7	+0.2
RTR	El Retiro	1.19	57	*e*P	Pn	07 17 27.1	-0.6
RTR				*e*S	Sn	07 17 43.7	0.0
SNJE	San Jose	1.21	59	*e*P	Pn	07 17 27.4	-0.6
SNJE				*e*S	Sn	07 17 44.4	+0.3
RBDL	Robledal	1.29	48	*e*P	Pn	07 17 28.6	-0.5
RBDL				*e*S	Sb	07 17 46.5	+0.3
NBG	Las Nubes	1.37	13	*e*P	Pn	07 17 30.7	+0.4
JAT	Jato	1.42	319	*e*P	Pn	07 17 29.2	-1.4
BOQS	Boqueron	1.44	70	*e*P	Pn	07 17 31.1	-0.2
BOQS				*e*S	Sn	07 17 50.2	+0.3
LFRS	El Faro	1.61	76	*e*P	Pn	07 17 33.5	0.0
LFRS				*e*S	Sn	07 17 54.3	+0.3
LBRS	Las Brisas	1.66	73	*e*P	Pn	07 17 34.0	-0.1
MRL	Marmol	2.05	28	*e*P	Pn	07 17 41.0	+1.5

*NEIC **13** 07:23:38.7±0.2, 4°.14S×142°.94E, h35km, mb4.9/22, Error ellipse: s-maj=7.7km s-min=5.2km az=111.0*
*IDC **13** 07:23:39.2±0.7, 4°.12S×142°.89E, h36km±4km, mb4.4/21, mb1 4.5/23, mb1mx4.5/27, mbtmp4.6/23, ML4.3/1, MS3.6/15, Ms1 3.7/15, ms1mx3.6/28, Error ellipse: s-maj=18.4km s-min=11.0km az=78.0*
*ISCJB **13** 07:23:40.7±0.8, 4°.20S±0°.04×142°.85E±0°.04, h66km±7km, mb4.6/50, Error ellipse: s-maj=7.7km s-min=5.7km az=158.1*
*BJI **13** 07:23:42.0, 4°.27S×143°.18E, h97km, mB5.1/19, mb4.9/29*
*DJA **13** 07:23:45.6±0.6, 4°S±5°×14°.3E±°, h48km±5km, M5.1/32, mB5.5/13, mb5.0/32, MLv5.4/5, Mw(mB)4.9/13*

ISC 13 07:23:43.8±0.8, 4°.19S±0°.05×142°.80E±0°.06, h78km±7km, n133, σ1°.43/131, mb4.7/49, 1C, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.67	308	P	Pn	07 24 24.5	-0.3
JAY	Jayapura	2.67	308	P	Pn	07 24 23.1	-1.6
	baz=2.6,SNR=7.6						
GENI	Genyem	3.07	301	P	Pn	07 24 29.3	-0.8
GENI	Genyem	3.07	301	P	Pn	07 24 28.0	-2.1
	633nm,0.9s,23μm						
WAMI	Wamena	4.09	274	P	Sn	07 25 23.3	-7.3
	119μm12μm,0.8s						
SMPI	Sarmi	4.63	298	P	Pn	07 24 58.9	+7.5
SMPI	Sarmi	4.63	298	P	Pn	07 24 51.5	+0.1
	294nm,1.0s,6μm						
MMPI	Merauke	4.88	209	P	Pn	07 24 53.6	-1.2
PMG	Port Moresby	6.75	140	Pn	Pn	07 25 15.4	-5.0
	0.2nm,0.3s,baz=331,slow=10,SNR=2.3						
PMG				Sn	Sn	07 26 35.4	-0.5
	baz=162,slow=20,SNR=3.5						
PMG				LR	LR	07 28 30.2	
	comp=Z,504nm,20.6s,baz=350,slow=43						
PMG	Port Moresby	6.75	140	P	Pn	07 25 20.1	-0.3
	baz=6.8,SNR=7.3						
PMG	Port Moresby	6.75	140	*e*Pn	Pn	07 25 19.4	-1.0
PMG				Sn	Sn	07 26 35.4	-0.5
COEN	Coen	9.71	178	P	Pn	07 26 02.6	+1.8
	baz=9.7,SNR=5.9						
COEN	Coen	9.71	178	*e*Pn	Pn	07 25 58.6	-2.2
FAKI	Fak Fak	10.60	276	P	Pn	07 26 18.9	+5.9
FAKI	Fak Fak	10.60	276	P	Pn	07 26 13.1	+0.1
	baz=10,SNR=12						
FAKI	Fak Fak	10.60	276	*e*Pn	Pn	07 26 12.5	-0.5
KDU	Kakadu	13.24	230	P	Pn	07 26 43.9	-4.9
	baz=13,SNR=65						
MTN	Manton Dam	14.38	233	P	Pn	07 26 58.8	-4.8
	baz=14,SNR=114						
QIS	Mount Isa	16.56	191	P	Pn	07 27 31.0	-0.3
	baz=16,SNR=12						
SANI	Sanana	16.92	277	P	P	07 27 40.9	+4.4
	38nm,1.2s						
WRAB	Tennant Creek	17.68	207	*e*P	P	07 27 43.2	-1.7
	88nm,0.9s						
WB2	Warramunga Arr	17.69	207	*e*P	P	07 27 43.2	-1.9
WRA	Warramunga Arr	17.70	207	P	P	07 27 43.1	-2.0
	1.2nm,0.3s,baz=29,slow=12,SNR=51						
WRA				S	Sn	07 30 52.4	-10
	1.0nm,0.3s,baz=29,slow=23,SNR=4.3						
WRA				LR	LR	07 34 60.0	
	comp=Z,707nm,18.9s,baz=30,slow=38						
HNR	Honiara	17.80	108	LR	LR	07 34 09.4	
	comp=Z,68nm,18.1s,baz=309,slow=36						
KNRA	Kununurra	17.91	229	P	P	07 27 44.8	-2.6
	baz=18,SNR=131						
SOEI	Soe	19.20	252	P	Pn	07 28 02.9	-0.6
	192nm,0.8s,2μm						
SOEI	Soe	19.20	252	P	P	07 27 57.1	-4.7
	baz=19,SNR=11						
SOEI				S	Sn	07 31 38.0	-0.6
	baz=19,SNR=4.8						
SOEI	Soe	19.20	252	*e*P	P	07 28 01.8	0.0
	247nm,0.9s						
BATI	Baumata	19.89	251	P	Pn	07 28 10.9	-0.6
	153nm,0.7s,1μm						
BATI	Baumata	19.89	251	P	Pn	07 28 10.5	-1.1
	258nm,0.8s,baz=120,slow=2.8,SNR=13						
LUWI	Luwuk	20.24	278	S	Sn	07 32 12.8	+9.3
	baz=20,SNR=4.2						
GTOI	Gorontalo	20.34	283	P	Pn	07 28 16.3	-0.5
	142nm,0.8s,1μm						
MMRI	Maumere	20.90	257	P	P	07 28 21.5	+1.4
	76nm,0.8s,5μm						
MMRI	Maumere	20.90	257	P	P	07 28 18.5	-1.6
	76nm,0.8s,5μm						
MMRI	Maumere	20.90	257	*e*P	P	07 28 19.8	-0.3
	50nm,0.7s						
AS31	Alice Springs	21.18	203	*e*P	P	07 28 22.1	-0.9
ASAR	Alice Springs	21.18	203	P	P	07 28 22.1	-0.9
	16nm,0.8s,baz=29,slow=11,SNR=69						
ASAR				S	S	07 32 15.0	+0.6
	2.7nm,0.7s,baz=21,slow=26,SNR=3.2						
ASAR				LR	LR	07 37 10.1	
	comp=Z,668nm,19.5s,baz=8.0,slow=38						
MRSI	Marisa	21.35	282	P	P	07 28 31.3	+6.4
	68nm,0.8s						
MRSI	Marisa	21.35	282	P	P	07 28 22.2	-2.7
	68nm,0.8s						
APSI	Ampana	21.37	278	P	P	07 28 32.2	+7.1
	131nm,1.1s,1μm						
BSSI	Bau Bau, Buton	22.30	264	P	P	07 28 42.1	+7.0
	88nm,0.7s,3μm						
QLP	Quilpie	22.31	177	P	P	07 28 35.4	+0.4
	baz=22,SNR=6.6						
EIDS	Eidsvold	22.51	160	P	P	07 28 41.1	+3.8
	baz=23,SNR=4.4						
BKSI	Bulukumba	22.62	266	P	P	07 28 39.0	+0.5
	46nm,1.1s						
BKSI	Bulukumba	22.62	266	P	P	07 28 34.7	-3.8
	46nm,1.1s						
BNSI	Bone	22.63	269	P	P	07 28 39.1	+0.5
	89nm,1.0s						
BNSI	Bone	22.63	269	P	P	07 28 35.6	-3.0
	89nm,1.0s						
BASI	Baing, Sumba	22.83	254	P	P	07 28 44.3	+3.6
	346nm,1.0s,3μm						
TTSI	Tana Toraja	22.96	272	P	P	07 28 48.0	+6.0
	60nm,1.1s,1μm						
TTSI	Tana Toraja	22.96	272	P	P	07 28 33.7	-8.3
	60nm,1.1s,1μm						
SPSI	Sidrap Palu	22.97	270	P	P	07 28 43.9	+1.8
	34nm,0.9s						
KAPI	Kappang	22.98	267	*e*P	P	07 28 42.3	+0.1
	92nm,0.8s						
MPSI	Mapaga	23.32	281	P	P	07 28 56.6	+11
WRKA	Warakurna	24.98	213	P	P	07 28 59.5	-0.9
	baz=25,SNR=23						
STKA	Stephens Creek	27.57	182	P	P	07 29 23.0	-0.6
	8.5nm,0.7s,baz=351,slow=9.8,SNR=24						
STKA				LR	LR	07 41 19.4	
	comp=Z,158nm,20.9s,baz=14,slow=38						
STKA	Stephens Creek	27.57	182	P	P	07 29 23.3	-0.2
	baz=28,SNR=11						
STKA	Stephens Creek	27.57	182	*e*P	P	07 29 23.3	-0.2
	1.7nm,0.7s						
MBWA	Marble Bar	28.05	231	*e*P	P	07 29 27.8	-0.2
	6.4nm,0.5s						
DZM	Mont Dzumac	29.00	130	P	P	07 29 36.2	-0.4
	10.0nm,0.8s,baz=146,slow=21,S

KSAR Wonju Array Be 43.68 343 P **P 07 31 41.6 +0.6**
KSRS Korea Array 43.68 343 P **P 07 31 41.6 +0.6**
4.0nm,0.7s,baz=158,slow=8.6,SNR=10
KSRS LR LR 07 46 28.1
comp=Z,59nm,20.8s,baz=158,slow=31
PSI Prapat 44.39 278 P **P 07 31 46.9 -0.4**
12nm,0.7s,baz=79,slow=0.7,SNR=6.9
URZ Urewera 46.11 142 P **P 07 32 01.3 +0.9**
2.6nm,0.3s,baz=312,slow=3.2,SNR=6.9
COCO West Island 46.12 257 *e*P **P 07 32 00.6 -0.2**
68nm,0.8s
ASAJ Asahikawa 48.09 360 LR LR 07 52 34.1
comp=Z,50nm,19.8s,baz=320,slow=36
CMAR Chiang Mai Arr 48.71 299 P **P 07 32 21.6 +0.7**
1.1nm,0.4s,baz=124,slow=5.3,SNR=6.8
CMAR LR LR 07 54 43.0
comp=Z,26nm,18.1s,baz=124,slow=38
USRK Ussuriysk Ar. 49.14 350 P **P 07 32 24.2 +0.6**
15nm,0.8s,baz=176,slow=8.4,SNR=20
USRK LR LR 07 51 51.5
comp=Z,51nm,19.8s,baz=152,slow=34
BJI Beijing 50.36 333 P **P 07 32 33.3 +0.3**
BJI PMZ
22nm,0.9s
BJI LZ
70nm,21.8s
CD2 Chengdu 51.04 316 *e*P **P 07 32 39.3 +0.9**
CD2 PP **PP 07 34 38.3 +2.5**
CD2 S **S 07 39 52.3 +2.1**
CD2 SS **SS 07 43 22.8 -3.6**
CD2 PMZ
20nm,0.8s
CD2 PMZ
80nm,5.9s
CD2 LN
130nm,11.9s
CD2 LZ
140nm,11.8s
HHC Hu-ho-hao-te 53.15 331 *e*P **P 07 32 54.0 0.0**
HHC PcP **PcP 07 33 59.3 -1.9**
HHC PP **PP 07 34 56.3 +1.5**
HHC S **S 07 40 18.4 -0.5**
HHC PMZ
40nm,1.2s
HHC PMZ
140nm,6.8s
HHC LN
180nm,16.5s
HHC LE
240nm,17.0s
HHC LZ
160nm,16.3s
LZH Lanzhou 54.15 321 *e*P P 07 33 13.9 +12
LZH pP pP 07 33 18.9 -2.2
LZH sP sP 07 33 22.6 -7.3
PETK Petropavlovsk- 58.45 10 P **P 07 33 31.4 -0.1**
5.9nm,0.7s,baz=204,slow=3.2,SNR=3.9
PETK LR LR 07 53 43.7
comp=Z,27nm,21.8s,baz=193,slow=31
GTA Gaotai 58.71 322 *e*P **P 07 33 34.9 +1.2**
GTA pP **pP 07 33 54.4 +0.8**
GTA PMZ
7.0nm,1.1s
SONM Songino Array 60.84 333 P **P 07 33 48.9 +0.7**
1.5nm,0.8s,baz=157,slow=8.3,SNR=7.3
SONM LR LR 07 59 12.7
comp=Z,51nm,20.6s,baz=146,slow=35
SEY Seymchan 67.33 5 P **P 07 34 29.9 -0.3**
2.9nm,0.8s,baz=189,slow=7.1,SNR=6.5
WMQ Urumqi 68.72 320 P **P 07 34 40.3 +0.9**
WMQ PMZ
8.0nm,1.1s
WMQ PMZ
250nm,5.0s
MKAR Makanchi Array 73.46 321 P **P 07 35 08.0 0.0**
6.1nm,0.7s,baz=98,slow=7.5,SNR=29
MKAR pP **PcP 07 35 20.4 -3.3**
3.7nm,0.7s,baz=104,slow=7.9,SNR=9.0
BILL Bilibino 73.93 9 *e*P **P 07 35 09.5 -0.7**
3.0nm,0.8s
VNDA Vanda 73.98 176 P **P 07 35 11.6 +1.2**
4.2nm,0.6s,baz=321,slow=7.6,SNR=38
VNDA LR LR 08 08 33.0
comp=Z,94nm,18.1s,baz=297,slow=36
VNDA Vanda 73.98 176 *e*P **P 07 35 09.4 -1.0**
4.6nm,0.7s
KSH Kashi 75.07 313 *e*P **P 07 35 18.8 +1.2**
KSH PP **PP 07 38 07.9 +1.2**
KSH S **S 07 44 47.8 -2.1**
KSH ScS **SKSac 07 45 17.8 -2.3**
KSH SS **SS 07 49 41.3 +0.7**
KSH PMZ
3.0nm,0.8s
KSH PMZ
100nm,5.5s
KSH LN
110nm,4.7s
KSH LE
99nm,5.6s
KSH LZ
150nm,4.7s
ZALV Zalesovo Beam 75.28 329 P **P 07 35 17.4 -0.9**
2.1nm,0.6s,baz=115,slow=5.7,SNR=6.7
ZALV pP **PcP 07 35 29.6 -1.7**
1.9nm,0.6s,baz=114,slow=5.2,SNR=4.6
AAK Ala-Archa 77.11 315 *e*P **P 07 35 28.0 -1.2**
6.2nm,1.3s
KURK Kurchatov 77.28 324 *e*P **P 07 35 29.7 0.0**
2.9nm,0.9s
KURK pP **PcP 07 35 39.9 -0.2**
KURBB Kurchatov Arra 77.30 324 P **P 07 35 29.2 -0.6**
1.7nm,0.6s,baz=107,slow=4.8,SNR=9.4
KURBB pP **PcP 07 35 39.9 -0.3**
1.5nm,0.5s,baz=113,slow=5.1,SNR=3.9
EKS2 Erkin-Say 77.62 315 *e*P **P 07 35 32.3 +0.4**
3.0nm,0.7s
TNA Tin City 78.19 19 *e*P **P 07 35 34.2 -0.2**
2.7nm,0.6s
KKAR Karatay Array 80.05 315 *e*P **P 07 35 45.3 +0.2**
SVW2 Sparrevohn 80.39 26 *e*P **P 07 35 47.3 +0.8**
39nm,1.6s
BVAR Borovoye Array 82.86 325 P **P 07 35 59.6 -0.1**
6.4nm,0.8s,baz=111,slow=6.5,SNR=27
BVAR pP PcP 07 36 10.8 +6.4
4.0nm,0.7s,baz=113,slow=6.4,SNR=7.9
BRVK Borovoye 82.93 325 *e*P **P 07 36 00.0 -0.1**
9.1nm,0.9s
RC01 Rabbit Creek A 82.97 27 *e*P **P 07 35 58.9 -1.2**
17nm,0.9s
KTH Kantishna Hill 83.41 24 *e*P **P 07 36 01.4 -1.0**
19nm,1.2s
PMR Palmer 83.43 27 *e*P **P 07 36 01.6 -0.9**
17nm,1.1s
TRF Thorofare Moun 83.63 25 *e*P **P 07 36 03.9 +0.2**
9.8nm,1.1s
MCK McKinley 84.30 25 *e*P **P 07 36 05.9 -1.0**
15nm,0.9s
COLD Coldfoot 85.13 21 *e*P **P 07 36 11.6 +0.6**
12nm,1.3s
COLA College 85.15 24 *e*P **P 07 36 09.8 -1.3**
ILAR Eielson Array 85.50 24 P **P 07 36 10.7 -2.2**
8.3nm,0.8s,baz=256,slow=4.8,SNR=74
ILAR LR LR 08 10 06.3
comp=Z,60nm,21.0s,baz=150,slow=33
EGAK Eagle 87.85 25 *e*P **P 07 36 23.7 -0.6**
14nm,1.1s
DAWY Dawson 88.43 25 *e*P **P 07 36 26.9 -0.3**
SYO Syowa Base 90.83 201⇑ *e*PcP **PcP 07 36 41.0 +1.8**
YKA Yellowknife Ar 99.51 27 P **Pdif 07 37 16.3 -1.6**
0.4nm,0.8s,baz=280,slow=4.5,SNR=6.0
MDND Maddock 111.40 40 *e*Pdif **Pdif 07 38 08.8 -2.3**
GERES GERESS Array B 118.03 324 PKP **PKPdf 07 42 21.3 -0.7**
0.6nm,0.7s,baz=92,slow=2.9,SNR=3.9
EKA Eskdalemuir Ar 122.12 338 PKP **PKPdf 07 42 29.3 -0.2**
0.5nm,0.5s,baz=21,slow=2.4,SNR=3.6
PLCA Paso Flores 125.87 149 PKP **PKPdf 07 42 37.8 +0.5**
5.5nm,0.7s,baz=214,slow=2.8
TORD Torodi Ar. Bea 140.58 286 PKhKP PKPpre 07 42 57.1
0.5nm,0.6s,baz=84,slow=4.0,SNR=4.7
TORD PKP **PKPdf 07 43 06.1 +0.8**
0.9nm,0.6s,baz=70,slow=2.3,SNR=8.1
LPAZ La Paz 143.27 124 PKhKP PKPpre 07 43 08.4
4.7nm,0.6s,baz=208,slow=2.6,SNR=21
KIC Kosan Boka 147.61 275 *e*PKP1 **PKPbc 07 43 20.0 -0.4**
15nm,0.6s
DBIC Dimbokro 147.71 276 PKPbc **PKPbc 07 43 20.7 0.0**
8.2nm,0.6s,baz=77,slow=3.3,SNR=17
DBIC Dimbokro 147.71 276 *e*PKPbc **PKPbc 07 43 20.2 -0.5**
TIC Toumodi 147.87 276 *e*PKP1 **PKPbc 07 43 20.8 -0.4**
7.9nm,0.2s
LIC Lamto 147.90 275 *e*PKP1 **PKPbc 07 43 20.9 -0.3**
30nm,0.6s
SIV San Ignacio 149.02 131 PKPbc **PKPbc 07 43 24.3 +0.2**
7.6nm,0.5s,baz=246,slow=3.3,SNR=36
SAML Samuel 151.00 117 *e*PKPbc **PKPbc 07 43 28.1 -0.8**

*ISCJB **13** 07:42:24.3±0.7, 33°.49S±0°.03×71°.92W±0°.06, h46km±6km, mb4.2/9, MS3.8/3, Error ellipse: s-maj=9.1km s-min=4.8km az=3.8*
*NEIC **13** 07:42:24.6, 33°.48S×71°.86W, h41km, mb4.4/5, After GUC.*
NEIC Felt [II] at El Quisco, San Antonio, Santo Domingo and Valparaiso.
*GUC **13** 07:42:24.6±0.6, 33°.48S×71°.86W, h41km±2km, ML4.2*
*IDC **13** 07:42:25.6±4.0, 33°.57S×71°.84W, h37km±31km, mb3.8/7, mb1 3.9/10, mb1mx3.8/20, mbtmp4.0/10, ML4.0/3, MS3.8/3, Ms1 3.8/3, ms1mx3.1/25, Error ellipse: s-maj=34.6km s-min=18.7km az=98.0*
ISC 13 07:42:24.8±1.3,**33°.49S**±0°.03×**71°.88W**±0°.05,**h32**km±9km, **n43**,σ0°.76/61,**mb4.2**/9,**MS3.8**/3,**2C-9D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.50**	**23**	⇓*i*P	**Pb**	**07 42 35.3**	**-0.1**
IHA				*i* S	**Sn**	**07 42 43.5**	**+0.2**
IHA	**Instituto Hidr**	**0.50**	**23**	⇓*i*P	**Pb**	**07 42 35.3**	**-0.1**
IHA				*i* S	**Sn**	**07 42 43.5**	**+0.2**
ANTU	**Antumapu**	**1.04**	**95**	⇓*i*P	**Pn**	**07 42 42.9**	**-0.3**
ANTU				*i* S	**Sn**	**07 42 57.1**	**+0.4**
ANTU				AML	AML	07 43 02.4	
	comp=E,6μm,0.5s						
ANTU	**Antumapu**	**1.04**	**95**	⇓*i*P	**Pn**	**07 42 42.9**	**-0.3**
ANTU				*i* S	**Sn**	**07 42 57.1**	**+0.4**
CLCH	**Cerro Calan**	**1.12**	**86**	⇓*i*P	**Pn**	**07 42 44.6**	**+0.2**
CLCH				⇑*i*P	**Pb**	**07 42 45.4**	**-0.4**
CLCH				*i* S	**Sn**	**07 42 59.7**	**+0.9**
CLCH				*i* S	**Sb**	**07 43 00.9**	**+0.8**
CLCH				AML	AML	07 43 09.8	
	comp=N,8μm,0.7s						
CLCH	**Cerro Calan**	**1.12**	**86**	⇑*i*P	**Pb**	**07 42 45.4**	**-0.4**
CLCH				*i* S	**Sb**	**07 43 00.9**	**+0.8**
LACH	**Col Las Americ**	**1.13**	**88**	*e*P	**Pn**	**07 42 44.2**	**-0.2**
LACH				*i* S	**Sb**	**07 42 59.9**	**-0.3**
LACH	**Col Las Americ**	**1.13**	**88**	*e*P	**Pn**	**07 42 44.2**	**-0.2**
LACH				*i* S	**Sb**	**07 42 59.9**	**-0.3**
SJCH	**San Jose de Ma**	**1.28**	**97**	⇓*i*P	**Pn**	**07 42 45.6**	**-0.9**
SJCH				*i* S	**Sn**	**07 43 02.8**	**+0.1**
SJCH				AML	AML	07 43 09.0	
	comp=N,4μm,0.4s						
SJCH	**San Jose de Ma**	**1.28**	**97**	⇓*i*P	**Pn**	**07 42 45.6**	**-0.9**
SJCH				*i* S	**Sn**	**07 43 02.8**	**+0.1**
NICH	**Los Niches**	**1.60**	**161**	*i* P	**Pn**	**07 42 51.2**	**+0.3**
NICH				*i* S	**Sn**	**07 43 12.0**	**+1.6**
NICH				AML	AML	07 43 18.8	
	comp=N,9μm,0.5s						
NICH	**Los Niches**	**1.60**	**161**	*i* P	**Pn**	**07 42 51.2**	**+0.3**
NICH				*i* S	**Sn**	**07 43 12.0**	**+1.6**
TALC	**Talca**	**1.91**	**174**	*e*P9	**Pn**	**07 42 54.2**	**-0.9**
TALC				*i* S	**Sn**	**07 43 17.8**	**-0.3**
TALC				AML	AML	07 43 24.6	
	comp=E,6μm,0.7s						
TALC	**Talca**	**1.91**	**174**	*e*P	**Pn**	**07 42 54.2**	**-0.9**
TALC				*i* S	**Sn**	**07 43 17.8**	**-0.3**
LNCH	**Linares**	**2.36**	**175**	*i* P	**Pn**	**07 43 02.0**	**+0.7**
LNCH				*i* S	**Sn**	**07 43 30.4**	**+1.1**
LNCH				AML	AML	07 43 45.3	
	comp=N,2μm,0.6s						
LNCH	**Linares**	**2.36**	**175**	*i* P	**Pn**	**07 43 02.0**	**+0.7**
LNCH				*i* S	**Sn**	**07 43 30.4**	**+1.1**
CMCH	**Combarbala**	**2.43**	**18**	⇓*i*P	**Pn**	**07 43 02.6**	**+0.3**
CMCH				*i* S	**Sn**	**07 43 31.7**	**+0.8**
CMCH	**Combarbala**	**2.43**	**18**	⇓*i*P	**Pn**	**07 43 02.6**	**+0.3**
CMCH				*i* S	**Sn**	**07 43 31.7**	**+0.8**
CFAA	**Coronel Fontan**	**3.60**	**60**	Pn	**Pn**	**07 43 20.8**	**+2.3**
	comp=N,6.2nm,0.3s,baz=233,slow=12,SNR=120						
CFAA				Lg	Lg	07 44 11.7	
	comp=N,2.3nm,0.3s,baz=323,slow=20,SNR=3.7						
CFAA				LR	LR	07 44 45.0	
	comp=N,29nm,20.2s,baz=234,slow=39						
LCO	**Las Campanas**	**4.58**	**13**	*e*Pn	**Pn**	**07 43 32.3**	**+0.3**
PLCA	**Paso Flores**	**7.31**	**172**	Pn	**Pn**	**07 44 07.8**	**-1.5**
	comp=N,1.0nm,0.3s,baz=343,slow=14,SNR=14						
PLCA	**Paso Flores**	**7.31**	**172**	*e*Pn	**Pn**	**07 44 09.0**	**-0.3**
	comp=N,12nm,1.0s						
TRQA	**Tornquist**	**9.24**	**122**	*e*Pn	**Pn**	**07 44 36.8**	**+1.0**
	comp=N,17nm,0.8s						
LPAZ	**La Paz**	**17.46**	**12**	P	**P**	**07 46 27.2**	**-0.3**
	comp=N,0.2nm,0.3s,baz=207,slow=11,SNR=11						
LPAZ	**La Paz**	**17.46**	**12**	*e*P	**Pn**	**07 46 26.8**	**+0.3**
	comp=N,4.0nm,0.7s						
SIV	**San Ignacio**	**19.97**	**32**	P	**P**	**07 46 54.5**	**0.0**
	comp=N,1.5nm,0.6s,baz=230,slow=11,SNR=3.4						
SAML	**Samuel**	**25.71**	**20**	*e*P	**P**	**07 47 52.0**	**-0.2**
	comp=N,3.5nm,0.7s						
BDFB	**Brasília**	**27.94**	**56**	P	**P**	**07 48 12.1**	**-0.3**
	comp=N,2.4nm,0.6s,baz=227,slow=9.7,SNR=5.0						
BDFB				LR	LR	08 00 54.4	
	comp=N,255nm,19.4s,baz=174,slow=40						
RPN	**Rapa Nui**	**32.83**	**271**	LR	LR	07 58 30.8	
	comp=N,108nm,19.0s,baz=45,slow=29						
SNAA	**Sanae**	**52.01**	**158**	P	**P**	**07 51 30.3**	**-0.4**
	comp=N,2.1nm,1.1s,baz=275,slow=9.5,SNR=3.4						
QSPA	**South Pole Qui**	**56.74**	**180**	P	**P**	**07 52 05.6**	**+0.2**
	comp=N,2.0nm,1.1s,baz=107,slow=3.9,SNR=4.2						
QSPA	**South Pole Qui**	**56.74**	**180**	*e*P	**P**	**07 52 05.5**	**+0.2**
	comp=N,7.3nm,1.4s						
TXAR	**Lajitas Array**	**69.36**	**331**	P	**P**	**07 53 30.5**	**+1.2**
	comp=N,0.2nm,0.5s,baz=150,slow=6.3,SNR=6.3						
TXAR				LR	LR	08 20 13.7	
	comp=N,60nm,19.1s,baz=0.0,slow=33						
WVT	**Waverly**	**70.85**	**346**	*e*P	**P**	**07 53 38.4**	**+0.2**
	comp=N,6.4nm,1.0s						
DBIC	**Dimbokro**	**74.89**	**71**	*e*P	**P**	**07 54 01.1**	**-1.6**
	comp=N,19nm,1.5s						
BOSA	**Boshof**	**80.19**	**118**	P	**P**	**07 54 32.2**	**-0.1**
	comp=N,2.7nm,0.9s,baz=314,slow=4.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**83.91**	**70**	P	**P**	**07 54 52.1**	**+0.2**
	comp=N,2.2nm,0.7s,baz=251,slow=4.4,SNR=12						
WRA	**Warramunga Arr**	**121.27**	**209**	PKP	**PKPdf**	**08 01 13.8**	**-1.3**
	comp=N,0.5nm,0.9s,baz=169,slow=1.4,SNR=4.2						
H11S2	**WAKE ISLAND Hyl**	**25.91**	**269**	T	T	10 20 12.5	
	baz=118,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hyl**	**25.92**	**269**	T	T	10 20 16.2	
	baz=118,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hyl**	**25.93**	**269**	T	T	10 20 16.5	
	baz=118,slow=75,SNR=14						
ZALV	**Zalesovo Beam**	**153.72**	**32**	PKPbc	**PKPbc**	**08 02 19.6**	**-0.2**
	comp=N,0.9nm,0.5s,baz=323,slow=2.2,SNR=5.9						
ZALV				PKPab	**PKPab**	**08 02 32.8**	**0.0**
	comp=N,1.1nm,0.6s,baz=304,slow=4.3,SNR=4.0						
MKAR	**Makanchi Array**	**156.33**	**48**	PKP	**PKPdf**	**08 02 16.4**	**+0.6**
	comp=N,0.2nm,0.7s,baz=315,slow=2.3,SNR=2.4						
MKAR				PKPab	**PKPab**	**08 02 44.8**	**+0.5**
	comp=N,0.4nm,0.6s,baz=308,slow=3.3,SNR=5.8						

SJA 13 07:52:52.0±1.2,**30°.94S**×**68°.43W**,**h10**km±4km,**ML3.1**, **MW3.6**,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.39**	**186**	*e*P	Pg	07 53 00.2	+0.4
SJA	**San Juan**	**0.59**	**191**	*e*P	Pg	07 53 03.8	+0.2
SJA				*e*S	Sg	07 53 12.2	+0.6
CFAA	**Coronel Fontan**	**0.68**	**166**	*e*P	Pb	07 53 06.0	-0.1
CFAA				*e*S	Sb	07 53 15.1	-0.5
AVFE	**Valle Fertil**	**0.88**	**72**	*e*P	Pb	07 53 09.6	0.0
AVFE				*e*S	Sb	07 53 21.5	+0.1
RTLS	**Leoncito**	**1.14**	**221**	*e*P4	Pn	07 53 12.8	-1.6
RTLS				*e*S4	Sn	07 53 28.4	-1.8
AGUA	**GUANDACOL**	**1.45**	**358**	*e*P	Pb	07 53 19.2	-0.1
AGUA				*e*S	Sg	07 53 39.1	+0.1
AUSP	**Uspallata**	**1.52**	**212**	*e*P4	Pn	07 53 19.6	-0.1
ACHE	**Chepes**	**1.53**	**99**	*e*P	Pb	07 53 20.6	-0.1
ACHE				*e*S4	Sn	07 53 40.1	+0.4
ASAL	**Salagasta**	**1.68**	**192**	*e*P	Pb	07 53 23.1	-0.2
ASAL				*e*S	Sg	07 53 46.2	-0.2
ACAN	**Cantantal**	**1.70**	**142**	*e*P	Pb	07 53 23.7	+0.3
ACAN				*e*S	Sg	07 53 47.3	+0.5
APLL	**PUNTA DE LOS L**	**1.72**	**72**	*e*P	Pb	07 53 24.2	+0.4
APLL				*e*S	Sg	07 53 47.2	-0.4
ARCO	**CERRO ARCO**	**1.94**	**193**	*e*P	Pb	07 53 27.7	-0.1
ARCO				*e*S	Sg	07 53 54.4	-0.6
ARCO				AML	AML	07 53 56.3	
	comp=Z,145nm,0.2s						
ACLC	**CERRO LA CRUZ**	**1.98**	**41**	*e*P	Pb	07 53 28.4	+0.1
ACLC				*e*S	Sb	07 53 54.4	+1.1
AAGR	**Agrelo**	**2.17**	**189**	*e*P	Pb	07 53 30.9	-0.5
CYA	**Choya**	**3.38**	**43**	AML	AML	07 54 44.9	
	comp=Z,46nm,0.4s						

*IDC **13** 07:54:53.9±1.1, 35°.58S×72°.97W, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.9/18, mbtmp3.8/8, ML3.4/1, Error ellipse: s-maj=43.4km s-min=22.4km az=88.0*
*ISCJB **13** 07:54:54.9±0.7, 35°.51S±0°.08×72°.9W±0°.2, h17km, mb4.1/8, Error ellipse: s-maj=28.3km s-min=11.7km az=178.2*
*NEIC **13** 07:54:58.9±5.2, 35°.50S×72°.87W, h32km±38km, mb4.6/4, Error ellipse: s-maj=38.7km s-min=12.0km az=90.0*
ISC 13 07:54:56.7±0.8,**35°.50S**±0°.09×**72°.9W**±0°.2,**h17**km,**n14**, σ0°.91/14,**mb4.2**/8,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.54**	**161**	Pn	**Pn**	**07 56 18.6**	**+0.2**
	baz=342,slow=13						
PLCA				Lg	Lg	07 57 41.1	
	baz=72,slow=19						
PLCA	**Paso Flores**	**5.54**	**161**	*e*Pn	**Pn**	**07 56 19.1**	**+0.7**
	12nm,0.9s						
PLCA				Lg	Lg	07 57 41.1	
LCO	**Las Campanas**	**6.73**	**17**	*e*Pn	**Pn**	**07 56 34.2**	**-0.8**
LPAZ	**La Paz**	**19.60**	**14**	P	**Pn**	**07 59 26.9**	**+0.7**
	0.1nm,0.3s,baz=196,slow=8.4,SNR=8.8						
LPAZ	**La Paz**	**19.60**	**14**	*e*P	**Pn**	**07 59 27.0**	**+0.9**
	4.2nm,1.0s						
SIV	**San Ignacio**	**22.11**	**32**	P	**P**	**07 59 52.6**	**+1.3**
	2.2nm,0.7s,baz=226,slow=13,SNR=7.9						
QSPA	**South Pole Qui**	**54.74**	**180**	P	**P**	**08 04 24.2**	**-0.8**
	1.8nm,1.0s,baz=236,slow=5.4,SNR=5.0						
QSPA	**South Pole Qui**	**54.74**	**180**	*e*P	**P**	**08 04 25.2**	**+0.2**
	55nm,2.3s						
TXAR	**Lajitas Array**	**70.71**	**332**	P	**P**	**08 06 12.2**	**+0.4**
	0.4nm,0.6s,baz=158,slow=7.6,SNR=6.2						
WVT	**Waverly**	**72.61**	**347**	*e*P	**P**	**08 06 22.5**	**-0.4**
	5.2nm,0.8s						
ECSD	**EROS Data Cent**	**81.76**	**343**	*e*P	**P**	**08 07 13.7**	**-0.5**
	4.6nm,0.8s						
NVAR	**Mina Array Bea**	**84.72**	**326**	P	**P**	**08 07 30.9**	**+1.1**
	0.3nm,0.3s,baz=144,slow=6.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**85.37**	**70**	P	**P**	**08 07 32.5**	**-0.9**
	0.5nm,0.8s,baz=233,slow=3.9,SNR=2.8						
ULM	**Lac du Bonnet**	**87.76**	**345**	P	**P**	**08 07 42.8**	**-1.4**
	1.1nm,0.6s,baz=196,slow=3.2,SNR=4.2						

IDC 13 08:02:09.7±1.9,**29°.99S**×**177°.18W**,**h0**km,**mb3.4**/2, **mb1 3.7**/2,**mb1mx3.6**/17,**mbtmp3.4**/2,**Error ellipse: s-maj=55.0km s-min=28.3km az=57.0**,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.98**	**319**	Pn	Pg	08 02 28.7	+0.3
	397nm,0.3s,baz=36,slow=9.9,SNR=45						
RAO				Sn	Sg	08 02 37.4	-3.6
	731nm,0.3s,baz=108,slow=24,SNR=19						
ASAR	**Alice Springs**	**43.84**	**266**	P	P	08 10 17.6	-0.2
	0.2nm,0.3s,baz=104,slow=7.3,SNR=5.0						
WRA	**Warramunga Arr**	**44.79**	**271**	P	P	08 10 25.2	-0.3
	0.6nm,0.8s,baz=112,slow=7.2,SNR=4.6						
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPbc	08 21 46.8	-0.7
	4.9nm,1.2s,baz=46,slow=4.0,SNR=6.1						
TORD	**Torodi Ar. Bea**	**163.21**	**176**	PKPab	PKPab	08 23 05.5	+0.6
	0.4nm,0.4s,baz=138,slow=4.9,SNR=9.5						

*IDC **13** 08:07:39.7±0.7, 76°.99N×18°.10E, h0km, mb3.4/6, mb1 3.6/9, mb1mx3.5/30, mbtmp3.4/9, ML3.0/3, Error ellipse: s-maj=27.2km s-min=9.2km az=72.0*
*CSEM **13** 08:07:39.5±0.3, 77°.01N×18°.67E, h2km, ML3.8, Error ellipse: s-maj=10.9km s-min=6.0km az=55.0*
*ISCJB **13** 08:07:40.3±0.4, 76°.82N±0°.05×18°.3E±0°.2, h16km, mb3.4/6, Error ellipse: s-maj=8.2km s-min=4.6km az=37.2*
*NAO **13** 08:07:41.2±1.1, 77°.00N×18°.42E, h9km±10km, ML3.8*
*BER **13** 08:07:43.7±2.5, 77°.05N×18°.53E, h15km, MD2.4, ML3.6, ML3.8(NAO)*
*KOLA **13** 08:07:46.8, 76°.88N×21°.04E, h0km*
ISC 13 08:07:41.3±0.5,**76°.86N**±0°.04×**18°.14E**±0°.05,**h16**km,**n39**, σ1°.20/52,**mb3.4**/6,**Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.61**	**285**	Pg	**Pb**	**08 07 53.8**	**+0.3**
HSP				Lg	Lg	08 08 02.2	
HSP	**Hornsund**	**0.61**	**285**	*e*P	**Pb**	**08 07 53.8**	**+0.3**
HSP				*e*S	**Sg**	**08 08 01.6**	**+0.3**
HSP	**Hornsund**	**0.61**	**285**	Pg	**Pb**	**08 07 53.8**	**+0.3**
HSP				Lg	Lg	08 08 02.2	
HSPB	**Hornsund (broa**	**0.61**	**285**	*e*P	**Pg**	**08 07 53.7**	**+0.5**
HSPB				IAML		08 08 07.0	
	comp=Z,729nm,0.2s						
HSPB	**Hornsund (broa**	**0.61**	**285**	*e*P	**Pg**	**08 07 53.7**	**+0.5**
	SNR=94						
SPA0	**Spitsbergen Ar**	**1.38**	**345**	Pn	**Pn**	**08 08 04.5**	**-1.2**
	baz=147,slow=22						
SPA0				Lg	Lg	08 08 20.9	
	baz=153,slow=37						
SPA0	**Spitsbergen Ar**	**1.38**	**345**	Pn	**Pn**	**08 08 04.5**	**-1.2**
	baz=147,slow=22						
SPA0				Lg	Lg	08 08 20.9	
	baz=153,slow=37						
SPA0	**Spitsbergen Ar**	**1.38**	**345**	Pn	**Pn**	**08 08 04.6**	**-1.2**
	SNR=999						
SPA0				Lg	Lg	08 08 20.9	
	SNR=1.1						
SPITS	**Spitsbergen Ar**	**1.38**	**345**	Pg	**Pn**	**08 08 04.7**	**-1.2**
	baz=149,slow=19,SNR=5054						
SPITS				Lg	Lg	08 08 22.3	
	baz=173,slow=35,SNR=25						
SPITS				LR	LR	08 08 26.2	
	comp=Z,130nm,21.1s,baz=345,slow=37						
HOPEN	**Hopen**	**1.63**	**99**	Pn	**Pn**	**08 08 09.0**	**-0.3**
HOPEN				Sn	**Sn**	**08 08 28.5**	**-1.3**
HOPEN				Lg	Lg	08 08 31.6	
HOPEN	**Hopen**	**1.63**	**99**	*e*P	**Pn**	**08 08 08.9**	**-0.3**
HOPEN				*e*S	**Sn**	**08 08 29.1**	**-0.7**
HOPEN				IAML		08 08 34.8	
	comp=Z,2μm,0.4s						
HOPEN	**Hopen**	**1.63**	**99**	*e*P	**Pn**	**08 08 08.9**	**-0.3**
	SNR=55						
HOPEN				*e*S	**Sn**	**08 08 29.1**	**-0.7**
	SNR=55						
BJO	**Bjornoya**	**2.38**	**173**	Pn	**Pb**	**08 08 22.8**	**-0.9**
BJO				Pg	**Pg**	**08 08 26.8**	**-0.1**
BJO				Lg	Lg	08 08 59.8	
BJO	**Bjornoya**	**2.38**	**173**	Pn	**Pb**	**08 08 22.8**	**-0.9**
BJO				Pg	**Pg**	**08 08 26.8**	**-0.1**
BJO				Sg	**Sg**	**08 08 59.8**	**+2.0**
BJO	**Bjornoya**	**2.38**	**173**	Pn	**Pb**	**08 08 22.8**	**-0.9**
KBS	**Kingsbay**	**2.45**	**331**	Pn	**Pn**	**08 08 19.2**	**-1.3**
KBS				Pg	**Pb**	**08 08 25.1**	**+0.2**
KBS				Lg	Lg	08 08 54.4	
KBS	**Kingsbay**	**2.45**	**331**	*e*P	**Pn**	**08 08 19.1**	**-1.4**
KBS				*e*Pg	**Pb**	**08 08 24.9**	**+0.1**
KBS				*e*Sg	**Sb**	**08 08 54.0**	**-0.7**
KBS				IAML		08 09 02.9	
	comp=Z,2μm,0.3s						
KBS	**Kingsbay**	**2.45**	**331**	*e*

ARA0	**ARCESS Array S**	**7.66**	**160**	Pn	**Pn**	**08 09 34.7**	**+2.7**
	SNR=230						
ARCES	**ARCESS Array B**	**7.66**	**160**	Pn	**Pn**	**08 09 33.0**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=354,slow=13,SNR=54						
ARCES				Sn	**Sn**	**08 10 55.3**	**-3.0**
	comp=Z,8.4nm,0.3s,baz=358,slow=21,SNR=10						
KTK1	**Kautokeino**	**8.03**	**167**	*e*S	**Sn**	**08 11 04.7**	**-2.7**
APA0	**Apatity Array**	**10.29**	**147**	P	**Pn**	**08 10 08.0**	**0.0**
APA0				S	Sn	08 11 54.6	-8.2
FIA0	**FINESS Array S**	**15.72**	**166**	Pn	**Pn**	**08 11 21.4**	**-0.3**
	baz=0.2,slow=14						
FIA0	**FINESS Array S**	**15.72**	**166**	Pn	**Pn**	**08 11 21.4**	**-0.3**
	baz=0.2,slow=14						
FIA0	**FINESS Array S**	**15.72**	**166**	Pn	**Pn**	**08 11 21.4**	**-0.3**
	SNR=5.2						
FINES	**FINESS Array B**	**15.72**	**166**	Pn	**Pn**	**08 11 20.6**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=352,slow=12,SNR=5.4						
FINES				Sn	Sn	08 14 06.0	-9.2
	comp=Z,0.3nm,0.3s,baz=8.4,slow=20,SNR=4.3						
NB2	**NORSAR Subarra**	**16.07**	**192**	P	**Pn**	**08 11 27.7**	**+1.5**
NB2	**NORSAR Subarra**	**16.07**	**192**	Pn	**Pn**	**08 11 27.7**	**+1.5**
HFS	**Hagfors**	**16.88**	**188**	Pn	**Pn**	**08 11 36.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=21,slow=13,SNR=2.7						
YKA	**Yellowknife Ar**	**37.80**	**326**	P	**P**	**08 14 55.9**	**-0.2**
	comp=Z,0.3nm,1.0s,baz=14,slow=8.3,SNR=4.0						
YKA				PcP	**PcP**	**08 17 11.7**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=11,slow=3.1,SNR=4.7						
ILAR	**Eielson Array**	**38.29**	**350**	P	**P**	**08 15 00.5**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=359,slow=6.8,SNR=7.3						
MKAR	**Makanchi Array**	**39.13**	**101**	P	**P**	**08 15 08.5**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=344,slow=6.3,SNR=10						
SONM	**Songino Array**	**43.61**	**78**	P	**P**	**08 15 44.6**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=326,slow=6.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**64.30**	**198**	P	**P**	**08 18 15.9**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=347,slow=7.3,SNR=4.1						
TXAR	**Lajitas Array**	**68.33**	**307**	P	**P**	**08 18 41.4**	**0.0**
	comp=Z,0.2nm,0.6s,baz=33,slow=5.4,SNR=3.3						
ASAR	**Alice Springs**	**118.67**	**70**	PKP	**PKPdf**	**08 26 27.2**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=359,slow=0.8,SNR=4.4						

GUC 13 08:14:52.3±0.4, 35°.63S×73°.00W, h29km±13km, ML3.7, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.53**	**161**	⇑*i*P	Pb	08 15 02.6	-0.5
COCH				*i* S	Sb	08 15 10.3	-0.2
LNCH	**Linares**	**1.16**	**101**	*e*P	Pn	08 15 12.8	+0.3
LNCH				*e*S	Sb	08 15 28.0	-0.3
LNCH				IAML		08 15 29.9	
	comp=N,3μm,0.4s						
CCSP	**San Pedro de C**	**1.22**	**184**	*i* P	Pn	08 15 13.5	+0.2
CCSP				*i* S	Sb	08 15 29.4	-0.6
CCSP				IAML		08 15 36.4	
	comp=E,2μm,0.4s						
NICH	**Los Niches**	**1.58**	**67**	*i* P	Pn	08 15 19.5	+1.2
NICH				*i* S	Sb	08 15 39.7	-0.6
NICH				IAML		08 15 47.0	
	comp=E,2μm,0.6s						

IDC 13 08:17:38.2±2.0, 2°.84S×126°.55E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/23, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=170.2km s-min=27.4km az=65.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.62**	**156**	P	P	08 21 57.3	-0.3
	0.1nm,0.3s,baz=335,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**21.89**	**162**	P	P	08 22 33.0	-0.2
	1.4nm,0.6s,baz=343,slow=11,SNR=28						
MKAR	**Makanchi Array**	**62.89**	**327**	P	P	08 28 06.4	+0.1
	0.3nm,0.9s,baz=114,slow=6.5,SNR=3.7						

*NIED **13** 08:22:00, 30°.00N×130°.80E, h23km, Mw4.0 Best double couple: M0 1.05000×10^15 NP1:φs 197.00000°, δ18.00000°, λ73.00000°. NP2:φs 35.00000°, δ73.00000°, λ95.00000°.*
*ISCJB **13** 08:22:01.8±0.7, 30°.02N±0°.04×130°.75E±0°.08, h52km±5km, mb3.7/13, MS3.7/1, Error ellipse: s-maj=12.1km s-min=5.3km az=28.2*
*JMA **13** 08:22:01.4±0.1, 29°.99N×130°.84E, h29km±1km, M3.7*
*IDC **13** 08:22:05.0±1.9, 30°.10N×130°.64E, h63km±16km, mb3.5/13, mb1 3.6/16, mb1mx3.5/30, mbtmp3.7/16, MS3.3/5, Ms1 3.3/5, ms1mx2.8/32, Error ellipse: s-maj=22.3km s-min=13.7km az=96.0*

ISC 13 08:22:01.9±0.9, 30°.01N±0°.05×130°.81E±0°.07, h37km±1km, n28, σ1§19/32, mb3.9/13, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**0.35**	**312**	P	**Pn**	**08 22 09.6**	**-0.7**
JYAK				*e*S	**Sn**	**08 22 15.7**	**-1.4**
JTN	**Tanegashima 3**	**0.66**	**13**	P	**Pn**	**08 22 14.5**	**-0.4**
JTN				*e*S	**Sn**	**08 22 23.6**	**-0.4**
JKC	**Kuchinoerabu**	**0.70**	**311**	P	**Pn**	**08 22 15.3**	**0.0**
JKC				*e*S	**Sn**	**08 22 24.9**	**+0.1**
JNN	**Nakanoshima**	**0.83**	**259**	P	**Pn**	**08 22 17.4**	**+0.4**
JNN				*e*S	**Sn**	**08 22 29.0**	**+1.0**
JTSR	**Tashiro 2**	**1.16**	**5**	P	**Pn**	**08 22 22.4**	**+0.8**
JTSR				*e*S	**Sn**	**08 22 37.7**	**+1.5**
JSU	**Suzuyama**	**1.53**	**349**	P	**Pn**	**08 22 27.0**	**+0.4**
JSU				*e*S	**Sn**	**08 22 46.3**	**+1.1**
JNAR	**Kushima--Naru**	**1.57**	**15**	P	**Pn**	**08 22 28.3**	**+1.2**
JTAJ	**Takarajima**	**1.64**	**239**	P	**Pn**	**08 22 29.3**	**+1.2**
JNU	**Nakatsue**	**3.11**	**1**	P	**Pn**	**08 22 50.0**	**+1.6**
	3.1nm,0.3s,baz=235,slow=1.0,SNR=20						
JNU				S	**Sn**	**08 23 25.8**	**+1.5**
	3.3nm,0.3s,baz=120,slow=13,SNR=4.7						
JNU				LR	LR	08 24 19.2	
	comp=Z,203nm,19.8s,baz=208,slow=44						
JOW	**Kunigami**	**3.87**	**216**	P	**Pn**	**08 23 01.6**	**+2.8**
	0.4nm,0.3s,baz=108,slow=21,SNR=6.0						
JOW				S	**Sn**	**08 23 43.3**	**+0.2**
	0.7nm,0.3s,baz=57,slow=27,SNR=6.7						
KSRS	**Korea Array**	**7.81**	**343**	P	**Pn**	**08 23 55.0**	**+2.1**
	0.3nm,0.3s,baz=160,slow=14,SNR=4.4						
KSRS				LR	LR	08 26 51.7	
	comp=Z,75nm,19.3s,baz=145,slow=37						
MJAR	**Matsushiro Arr**	**8.99**	**42**	P	Pn	08 24 13.4	+4.3
	0.2nm,0.3s,baz=218,slow=16,SNR=3.2						
JCJ	**Chichijima**	**10.41**	**103**	LR	LR	08 28 00.6	
	comp=Z,84nm,21.3s,baz=130,slow=34						
ASAJ	**Asahikawa**	**16.91**	**30**	LR	LR	08 32 06.0	
	comp=Z,442nm,21.5s,baz=349,slow=36						
SONM	**Songino Array**	**25.86**	**320**	P	**P**	**08 27 28.9**	**-1.2**
	1.3nm,0.6s,baz=137,slow=10,SNR=13						
SEY	**Seymchan**	**35.76**	**17**	P	**P**	**08 28 57.5**	**+0.5**
	1.2nm,0.7s,baz=179,slow=4.0,SNR=7.0						
ZALV	**Zalesovo Beam**	**40.75**	**319**	P	**P**	**08 29 38.5**	**-0.5**
	0.8nm,0.4s,baz=108,slow=8.3,SNR=3.6						
MKAR	**Makanchi Array**	**40.86**	**308**	P	**P**	**08 29 40.1**	**0.0**
	2.1nm,0.5s,baz=90,slow=8.6,SNR=36						
WRA	**Warramunga Arr**	**49.77**	**176**	P	**P**	**08 30 51.8**	**+0.9**
	0.4nm,0.8s,baz=358,slow=8.2,SNR=2.8						
ASAR	**Alice Springs**	**53.45**	**176**	P	**P**	**08 31 19.3**	**+1.0**
	0.1nm,0.6s,baz=12,slow=12,SNR=4.1						
AKTO	**Aktyubinsk**	**56.86**	**313**	LR	LR	08 58 00.6	
	comp=Z,61nm,18.4s,slow=38						
ILAR	**Eielson Array**	**60.04**	**29**	P	**P**	**08 32 04.4**	**-0.2**
	0.4nm,0.8s,baz=282,slow=5.6,SNR=4.1						
KBZ	**Khabaz**	**68.55**	**309**	P	**P**	**08 33 00.5**	**-0.2**
	0.9nm,0.7s,baz=74,slow=7.1,SNR=5.5						
FINES	**FINESS Array B**	**70.71**	**331**	P	**P**	**08 33 12.3**	**-1.4**
	0.9nm,0.5s,baz=90,slow=5.3,SNR=9.6						
AKASG	**Malin Array Be**	**74.14**	**320**	P	**P**	**08 33 32.9**	**-1.4**
	0.7nm,0.5s,baz=58,slow=5.6,SNR=2.8						
YKA	**Yellowknife Ar**	**74.15**	**26**	P	**P**	**08 33 34.9**	**+0.8**
	0.3nm,0.8s,baz=302,slow=5.9,SNR=7.9						
BRTR	**Keskin Array B**	**76.51**	**308**	P	**P**	**08 33 47.1**	**-1.3**
	1.0nm,0.7s,baz=64,slow=5.6,SNR=4.7						
NOA	**NORSAR Array B**	**76.93**	**334**	P	**P**	**08 33 49.0**	**-1.1**
	1.4nm,1.0s,baz=48,slow=5.3,SNR=2.5						

GUC 13 08:36:02.7±0.3, 35°.01S×73°.00W, h12km±2km, ML3.9, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.13**	**171**	*e*P	Pb	08 36 22.8	-1.4
COCH				*i* S	Sb	08 36 37.9	-1.0
TALC	**Talca**	**1.19**	**109**	*i* P	Pn	08 36 23.6	-1.5
TALC				*i* S	Sb	08 36 39.6	-0.9
LNCH	**Linares**	**1.42**	**126**	*e*P	Pn	08 36 27.4	-0.9
LNCH				*i* S	Sn	08 36 46.0	-0.9
NICH	**Los Niches**	**1.46**	**90**	⇑*i*P	Pn	08 36 27.9	-1.0
NICH				*i* S	Sn	08 36 47.4	-0.5
CLCH	**Cerro Calan**	**2.60**	**52**	*i* P	Pn	08 36 45.8	+1.1
CLCH				*i* S	Sn	08 37 18.4	+2.0
CLCH				IAML		08 37 38.8	
	comp=E,398nm,0.7s						
PEL	**Peldehue**	**2.68**	**47**	*e*P9	Pn	08 36 45.3	-0.5
PEL				*i* S	Sn	08 37 18.8	+0.5
PEL				IAML		08 37 34.2	
	comp=N,659nm,1.3s						

*ISCJB **13** 08:46:31.4±0.9, 7°.7N±0°.1×75°.9W±0°.2, h23km, mb3.3/3, Error ellipse: s-maj=27.8km s-min=9.3km az=144.0*
*IDC **13** 08:46:37.5±2.5, 7°.31N×76°.10W, h72km±25km, mb3.0/3, mb1 3.4/5, mb1mx3.3/22, mbtmp3.5/5, MS2.7/3, Ms1 2.7/3, ms1mx2.6/14, Error ellipse: s-maj=40.3km s-min=17.7km az=43.0*

ISC 13 08:46:33.2±0.9, 7°.7N±0°.1×75°.8W±0°.2, h23km, n8, σ1§03/8, mb3.3/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.17**	**152**	P	**Pn**	**08 47 22.1**	**0.0**
	17nm,0.3s,baz=318,slow=12,SNR=52						
ROSC				S	**Sn**	**08 48 00.0**	**+0.6**
	20nm,0.3s,baz=267,slow=19,SNR=6.8						
ROSC				LR	LR	08 48 49.0	
	comp=Z,160nm,21.0s,baz=318,slow=44						
JTS	**JuntasAbangare**	**9.37**	**287**	P	**Pn**	**08 48 46.9**	**0.0**
	0.2nm,0.3s,baz=28,slow=2.6,SNR=4.3						
JTS				LR	LR	08 53 01.2	
	comp=Z,34nm,20.9s,baz=1.0,slow=42						
ATAH	**Atahualpa**	**14.92**	**190**	LR	LR	08 57 18.8	
	comp=Z,52nm,20.9s,baz=341,slow=44						
YKA	**Yellowknife Ar**	**61.56**	**341**	P	**P**	**08 56 49.2**	**+0.9**
	0.4nm,0.6s,baz=133,slow=7.0,SNR=14						
ILAR	**Eielson Array**	**75.06**	**335**	P	**P**	**08 58 13.2**	**+0.3**
	0.1nm,0.6s,baz=88,slow=3.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**76.21**	**78**	P	**P**	**08 58 19.9**	**-0.5**
	0.2nm,0.7s,baz=284,slow=6.3,SNR=2.6						
ASAR	**Alice Springs**	**147.34**	**237**	PKPbc	**PKPdf**	**09 06 11.6**	**-1.9**
	0.5nm,0.6s,baz=118,slow=3.5,SNR=10.0						
WRA	**Warramunga Arr**	**148.32**	**244**	PKPbc	**PKPdf**	**09 06 15.0**	**-0.2**
	0.4nm,0.6s,baz=108,slow=3.6,SNR=4.9						

*IDC **13** 08:53:26.7±0.9, 14°.94N×96°.19E, h0km, mb4.0/13, mb1 4.1/14, mb1mx3.9/33, mbtmp4.0/14, ML3.9/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/41, Error ellipse: s-maj=24.2km s-min=16.4km az=56.0*
*ISCJB **13** 08:53:27.2±0.6, 14°.97N±0°.09×96°.3E±0°.1, h15km, mb4.1/15, MS3.6/2, Error ellipse: s-maj=15.6km s-min=10.3km az=143.3*
*NEIC **13** 08:53:31.8±0.5, 15°.01N×96°.32E, h35km, mb4.7/4, Error ellipse: s-maj=14.8km s-min=8.8km az=55.0*

ISC 13 08:53:28.5±0.8, 14°.9N±0°.1×96°.3E±0°.1, h15km, n25, σ1§00/22, mb4.1/15, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.34**	**35**	Pn	**Pn**	**08 54 34.0**	**0.0**
	1.5nm,0.3s,baz=224,slow=15,SNR=28						
CMAR				Lg	Lg	08 55 45.5	
	1.2nm,0.3s,baz=220,slow=33,SNR=6.3						
CMAR				LR	LR	08 56 31.5	
	comp=Z,42nm,18.2s,baz=160,slow=42						
CHTO	**Chiang Mai**	**4.63**	**33**	*e*Pn	**Pn**	**08 54 37.8**	**-0.1**
PSI	**Prapat**	**12.31**	**168**	LR	LR	09 01 13.0	
	comp=Z,83nm,20.2s,baz=246,slow=37						
LSA	**Lhasa**	**15.46**	**343**	*e*P	**P**	**08 57 11.4**	**+0.4**
	116nm,0.8s						
KAPI	**Kappang**	**30.54**	**129**	*e*P	**P**	**08 59 39.7**	**-1.9**
	33nm,0.5s						
AAK	**Ala-Archa**	**33.38**	**330**	P	**P**	**09 00 07.6**	**+1.1**
	2.8nm,0.8s,baz=172,slow=6.3,SNR=7.0						
AAK	**Ala-Archa**	**33.38**	**330**	*e*P	**P**	**09 00 07.7**	**+1.1**
	6.3nm,1.4s						
MKAR	**Makanchi Array**	**33.87**	**343**	P	**P**	**09 00 10.8**	**+0.3**
	1.8nm,0.8s,baz=153,slow=8.2,SNR=7.6						
KSRS	**Korea Array**	**35.91**	**45**	LR	LR	09 17 02.9	
	comp=Z,32nm,19.5s,baz=245,slow=39						
KURBB	**Kurchatov Arra**	**38.41**	**342**	P	**P**	**09 00 49.7**	**+0.5**
	4.3nm,0.8s,baz=152,slow=8.3,SNR=5.7						
KURK	**Kurchatov**	**38.46**	**342**	*e*P	**P**	**09 00 49.7**	**0.0**
	3.4nm,0.8s						
ZALV	**Zalesovo Beam**	**39.97**	**349**	P	**P**	**09 01 02.5**	**+0.2**
	0.9nm,0.4s,baz=169,slow=8.3,SNR=13						
GEYT	**Alibeck**	**40.76**	**312**	P	**P**	**09 01 09.8**	**+0.7**
	4.3nm,0.6s,baz=134,slow=8.2,SNR=4.0						
BVAR	**Borovoye Array**	**43.19**	**337**	P	**P**	**09 01 28.7**	**0.0**
	1.1nm,0.7s,baz=127,slow=9.3,SNR=3.5						
ABKAR	**Akbulak array**	**45.30**	**327**	*e*P	**P**	**09 01 45.6**	**0.0**
AKTO	**Aktyubinsk**	**47.00**	**327**	P	**P**	**09 01 58.8**	**-0.2**
	2.2nm,0.8s,baz=78,slow=2.8,SNR=3.6						
WRA	**Warramunga Arr**	**50.98**	**132**	P	**P**	**09 02 31.4**	**+1.4**
	1.7nm,0.7s,baz=311,slow=7.9,SNR=12						
WRAB	**Tennant Creek**	**50.99**	**132**	*e*P	**P**	**09 02 31.7**	**+1.7**
WB2	**Warramunga Arr**	**50.99**	**132**	*e*P	**P**	**09 02 31.9**	**+1.9**
ASAR	**Alice Springs**	**53.12**	**136**	P	**P**	**09 02 47.3**	**+1.4**
	0.5nm,0.6s,baz=314,slow=6.8,SNR=13						
BRTR	**Keskin Array B**	**59.65**	**307**	P	**P**	**09 03 32.0**	**-0.5**
	1.1nm,0.8s,baz=115,slow=8.3,SNR=5.9						
CTA	**Charters Tower**	**60.18**	**124**	LR	LR	09 32 46.6	
	comp=Z,151nm,19.8s,slow=39						
AKASG	**Malin Array Be**	**64.09**	**319**	P	**P**	**09 04 00.8**	**-1.2**
	0.8nm,0.6s,baz=88,slow=5.5,SNR=2.9						
FINES	**FINESS Array B**	**67.57**	**331**	P	**P**	**09 04 23.8**	**-0.4**
	1.7nm,0.8s,baz=116,slow=6.3,SNR=3.6						
GERES	**GERESS Array B**	**74.08**	**317**	P	**P**	**09 05 04.0**	**-0.2**
	0.7nm,0.7s,baz=76,slow=6.2,SNR=4.4						

*IGIL **13** 08:53:27.4, 37°.04N×13°.89W, h24km, ML2.1*
*INMG **13** 08:53:29.6±1.4, 36°.83N×13°.91W, h10km, ML2.2, Error ellipse: s-maj=16.9km s-min=10.6km az=174.0*
*MDD **13** 08:53:29.6±2.5, 37°.24N×13°.46W, h0km, mb3.7/7, Error ellipse: s-maj=23.6km s-min=20.5km az=166.0, PRXIMO*
*CSEM **13** 08:53:32.4±0.5, 37°.32N×13°.23W, h10km, ML3.2/4, Error ellipse: s-maj=9.9km s-min=7.8km az=26.0*

ISC 13 08:53:29.6±3.7, 37°.26N±0°.10×13°.4W±0°.2, h10km, n56, σ1§63/95, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.64**	**91**	*e*Pn	**Pn**	**08 54 26.2**	**+0.2**
PFVI				*e*Sn	**Sn**	**08 55 08.2**	**-0.8**
PFVI				A	A	08 55 09.5	
	3.4nm,0.1s						
PFVI	**Vila Bisbo**	**3.64**	**91**	⇑P	**Pn**	**08 54 26.4**	**+0.4**
	1.4nm,0.1s,SNR=18						
PFVI				S	**Sn**	**08 55 07.3**	**-1.7**
	6.5nm,0.1s,SNR=5.8						
PFVI	**Vila Bisbo**	**3.64**	**91**	P	**Pn**	**08 54 26.4**	**+0.4**
	1.4nm,0.1s,SNR=18						
PFVI				S	**Sn**	**08 55 07.3**	**-1.7**
	6.5nm,0.1s,SNR=5.8						
PFVI				*e*Sn	**Sn**	**08 55 08.2**	**-0.8**
	3.4nm,0.1s						
PMAFR	**Mafra**	**3.65**	**61**	S	**Sn**	**08 55 09.8**	**+0.6**
	11nm,0.2s,SNR=4.0						
PMAFR	**Mafra**	**3.65**	**61**	S	**Sn**	**08 55 09.8**	**+0.6**
	11nm,0.2s,SNR=4.0						
PTEO	**Sao Teotonio**	**3.72**	**84**	*e*Sn	**Sn**	**08 55 10.6**	**-0.3**
PTEO	**Sao Teotonio**	**3.72**	**84**	S	**Sn**	**08 55 10.6**	**-0.3**
PTEO	**Sao Teotonio**	**3.72**	**84**	S	**Sn**	**08 55 10.6**	**-0.3**
MORF	**Marmelete**	**3.77**	**88**	*e*P	**Pn**	**08 54 28.4**	**+0.6**
MORF				*e*S	**Sn**	**08 55 12.2**	**-0.2**
MORF				AML	AML	08 55 13.2	
	comp=N,5.6nm,0.2s						
MORF	**Marmelete**	**3.77**	**88**	*e*Pn	**Pn**	**08 54 28.5**	**+0.6**
MORF				*e*Sn	**Sn**	**08 55 11.9**	**-0.5**
MORF				A	A	08 55 17.6	
	comp=N,5.1nm,0.4s						
MORF	**Marmelete**	**3.77**	**88**	P	**Pn**	**08 54 28.4**	**+0.6**
MORF				S	**Sn**	**08 55 12.2**	**-0.2**
	comp=N,5.6nm,0.2s						
MORF	**Marmelete**	**3.77**	**88**	*e*Pn	**Pn**	**08 54 28.5**	**+0.6**
MORF				*e*Sn	**Sn**	**08 55 11.9**	**-0.5**
	comp=N,5.1nm,0.4s						
MORF				S	**Sn**	**08 55 12.2**	**-0.2**
	comp=N,5.6nm,0.2s						
PNCL	**Nicolau / Gran**	**3.94**	**76**	*e*Pn	**Pn**	**08 54 30.9**	**+0.8**
PNCL				*e*Sn	**Sn**	**08 55 17.7**	**+1.3**
PNCL				A	A	08 55 20.6	
	comp=N,1.5nm,0.1s						
PNCL	**Nicolau / Gran**	**3.94**	**76**	*e*Pn	**Pn**	**08 54 30.9**	**+0.8**
PNCL				*e*Sn	**Sn**	**08 55 17.7**	**+1.3**
	comp=N,1.5nm,0.1s						
MESJ	**Messejana**	**4.14**	**80**	*e*P	**Pn**	**08 54 33.6**	**+0.7**
MESJ				*e*S	**Sn**	**08 55 22.5**	**+1.2**
MESJ				AML	AML	08 55 24.1	
	comp=N,2.7nm,0.3s						
MESJ	**Messejana**	**4.14**	**80**	*e*Pn	**Pn**	**08 54 33.8**	**+0.9**
MESJ				*e*Sn	**Sn**	**08 55 22.6**	**+1.2**
MESJ				A	A	08 55 24.6	
	comp=N,2.7nm,0.7s						
MESJ	**Messejana**	**4.14**	**80**	P	**Pn**	**08 54 33.6**	**+0.7**
MESJ				S	**Sn**	**08 55 22.5**	**+1.2**
	comp=N,2.7nm,0.3s						
MESJ	**Messejana**	**4.14**	**80**	*e*Pn	**Pn**	**08 54 33.8**	**+0.9**
MESJ				S	**Sn**	**08 55 22.5**	**+1.2**
	comp=N,2.7nm,0.3s						
PBDV	**Barranco-do-Ve**	**4.35**	**89**	*e*Pn	**Pn**	**08 54 37.7**	**+1.9**
PBDV				*e*Sn	**Sn**	**08 55 21.4**	**-5.1**
PBDV				A	A	08 55 29.1	
	comp=N,3.0nm,0.5s						
PBDV	**Barranco-do-Ve**	**4.35**	**89**	P	**Pn**	**08 54 37.7**	**+1.9**
PBDV				S	**Sn**	**08 55 21.4**	**-5.1**
	comp=N,3.0nm,0.5s						
PBDV	**Barranco-do-Ve**	**4.35**	**89**	P	**Pn**	**08 54 37.7**	**+1.9**
PBDV				*e*Sn	**Sn**	**08 55 21.4**	**-5.1**
	comp=N,3.0nm,0.5s						
EVO	**Evora**	**4.43**	**72**	*e*Sn	**Sn**	**08 55 28.5**	**0.0**
EVO	**Evora**	**4.43**	**72**	S	**Sn**	**08 55 28.5**	**0.0**
EVO	**Evora**	**4.43**	**72**	S	**Sn**	**08 55 28.5**	**0.0**
PMTG	**Montargil**	**4.45**	**65**	*e*Pn	**Pn**	**08 54 37.8**	**+0.7**
PMTG				*e*Sn	**Sn**	**08 55 28.3**	**-0.6**
PMTG				A	A	08 55 36.2	
	comp=N,1.1nm,0.1s						
PMTG	**Montargil**	**4.45**	**65**	*e*Pn	**Pn**	**08 54 37.8**	**+0.7**
PMTG				*e*Sn	**Sn**	**08 55 28.3**	**-0.6**
	comp=N,1.1nm,0.1s						
PVAQ	**Vaqueiros**	**4.52**	**87**	*e*Pn	**Pn**	**08 54 39.6**	**+1.6**
PVAQ				*e*Sn	**Sn**	**08 55 29.8**	**-0.8**
PVAQ				A	A	08 55 39.8	
	comp=N,1.5nm,0.2s						
PVAQ	**Vaqueiros**	**4.52**	**87**	P	**Pn**	**08 54 39.6**	**+1.6**
PVAQ				S	**Sn**	**08 55 29.8**	**-0.8**
	comp=N,1.5nm,0.2s						
PVAQ	**Vaqueiros**	**4.52**	**87**	P	**Pn**	**08 54 39.6**	**+1.6**
PVAQ				S	**Sn**	**08 55 29.8**	**-0.8**
	comp=N,1.5nm,0.2s						
EGRO	**El Granado**	**4.71**	**85**	P	**Pn**	**08 54 41.3**	**+0.7**
	comp=N,0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**08 55 34.1**	**-1.2**
	comp=N,0.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.71**	**85**	P	**Pn**	**08 54 41.3**	**+0.7**
	comp=N,0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**08 55 34.1**	**-1.2**
	comp=N,0.7nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**4.84**	**69**	*e*Pn	**Pn**	**08 54 44.4**	**+1.9**
PESTR				*e*Sn	**Sn**	**08 55 40.6**	**+1.9**
PESTR	**Estremoz**	**4.84**	**69**	*e*Pn	**Pn**	**08 54 44.4**	**+1.9**
PESTR				*e*Sn	**Sn**	**08 55 40.6**	**+1.9**
PBAR	**Barrancos**	**5.11**	**78**	*e*Sn	**Sn**	**08 55 45.8**	**+0.5**
PBAR				A	A	08 55 50.7	
	comp=N,1.7nm,0.1s						
PBAR	**Barrancos**	**5.11**	**78**	S	**Sn**	**08 55 45.8**	**+0.5**
	comp=N,1.7nm,0.1s						
PBAR	**Barrancos**	**5.11**	**78**	S	**Sn**	**08 55 45.8**	**+0.5**
	comp=N,1.7nm,0.1s						
PMRV	**Marv??o**	**5.18**	**64**	*e*Pn	**Pn**	**08 54 48.2**	**+1.0**
PMRV				*e*Sn	**Sn**	**08 55 47.9**	**+0.9**
PMRV	**Marv??o**	**5.18**	**64**	P	**Pn**	**08 54 48.2**	**+1.0**
PMRV				S	**Sn**	**08 55 47.9**	**+0.9**
PMRV	**Marv??o**	**5.18**	**64**	P	**Pn**	**08 54 48.2**	**+1.0**
PMRV				S	**Sn**	**08 55 47.9**	**+0.9**
EBAD	**Badajoz**	**5.25**	**72**	P	**Pn**	**08 54 48.8**	**+0.8**
	comp=N,0.3nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**08 55 47.3**	**-1.3**
	comp=N,0.3nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.25**	**72**	P	**Pn**	**08 54 48.8**	**+0.8**
	comp=N,0.3nm,0.1s,SNR=7.9						
EBAD				S

DANN	**Dangsing**	**9.02 274**	*e*Pn	**Pn**	**08 58 27.6**	**-1.7**
DANN			*e*Sn	Sn	09 00 06.0	-5.1
	54nm,0.4s					
KOLN	**Koldanda**	**9.18 271**	*e*Pn	**Pn**	**08 58 30.9**	**-0.6**
KOLN			*e*Sn	**Sn**	**09 00 10.4**	**-4.7**
	85nm,0.5s					
PYUN	**Piuthan**	**9.71 273**	*e*Pn	**Pn**	**08 58 37.3**	**-1.4**
PYUN			*e*Sn	Sn	09 00 21.6	-6.3
	173nm,0.5s					
MKAR	**Makanchi Array**	**20.84 337**	P	**P**	**09 01 01.8**	**+1.3**
	2.0nm,0.9s,baz=146,slow=12,SNR=4.4					
AAK	**Ala-Archa**	**21.47 318**	P	**P**	**09 01 10.6**	**+3.0**
	1.3nm,0.5s,baz=126,slow=14,SNR=3.8					
SONM	**Songino Array**	**21.99 23**	P	**P**	**09 01 11.4**	**-1.6**
	1.8nm,1.0s,baz=212,slow=9.4,SNR=8.8					
KURBB	**Kurchatov Arra**	**25.40 337**	P	**P**	**09 01 47.4**	**+1.1**
	1.4nm,0.8s,baz=148,slow=8.8,SNR=2.7					
BVAR	**Borovoye Array**	**30.44 332**	P	**P**	**09 02 33.5**	**+2.1**
	0.7nm,0.6s,baz=128,slow=9.3,SNR=3.3					
WRA	**Warramunga Arr**	**61.65 136**	P	**P**	**09 06 34.5**	**-2.5**
	1.8nm,1.0s,baz=323,slow=7.4,SNR=5.5					
NOA	**NORSAR Array B**	**62.42 327**	P	**P**	**09 06 43.2**	**+1.5**
	1.7nm,1.0s,baz=83,slow=6.4,SNR=2.8					
GERES	**GERESS Array B**	**63.26 313**	P	**P**	**09 06 48.1**	**+0.5**
	0.5nm,0.6s,baz=64,slow=4.5,SNR=3.1					
ASAR	**Alice Springs**	**64.24 139**	P	**P**	**09 06 51.9**	**-2.3**
	0.7nm,0.9s,baz=324,slow=6.2,SNR=3.3					
TORD	**Torodi Ar. Bea**	**85.90 283**	P	**P**	**09 08 58.5**	**-0.9**
	0.7nm,0.7s,baz=66,slow=4.7,SNR=3.4					

GUC 13 09:06:10.0±0.4, 36°.10S×72°.97W, h29km±2km, ML3.9, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.15**	**103**	*e*P	Pb	09 06 15.2	-0.3
COCH				*i* S	Sb	09 06 18.8	-0.5
CCSP	**San Pedro de C**	**0.75**	**188**	*i* P	Pb	09 06 23.3	-1.2
CCSP				*i* S	Sb	09 06 33.1	-1.4
CCSP				IAML		09 06 35.3	
	comp=N,7μm,0.1s						
LNCH	**Linares**	**1.14**	**78**	⇑*i*P	Pn	09 06 29.4	-0.7
LNCH				*i* S	Sn	09 06 44.2	-0.6
TALC	**Talca**	**1.29**	**58**	*i* P9	Pn	09 06 31.0	-1.1
TALC				*i* S	Sn	09 06 47.4	-1.1
NICH	**Los Niches**	**1.79**	**53**	⇑*i*P	Pn	09 06 39.5	+0.5
NICH				*i* S	Sn	09 07 02.1	+1.2
CLCH	**Cerro Calan**	**3.36**	**37**	*i* P	Pn	09 07 01.6	+0.9
CLCH				*i* S	Sn	09 07 40.9	+1.1
CLCH				IAML		09 08 01.7	
	comp=N,329nm,0.7s						

JMA 13 09:15:32.1, 23°.05N×120°.56E, h1km±1km, M3.7
TAP 13 09:15:33.5, 22°.99N×120°.62E, h18km, ML3.7, B
ISCJB 13 09:15:34.7±0.2, 22°.98N±0°.01×120°.62E±0°.02, h22km±2km, Error ellipse: s-maj=2.7km s-min=2.0km az=168.6
ISC 13 09:15:34.5±0.9, 22°.99N±0°.02×120°.60E±0°.02, h23km±5km, n70, σ0s88/126, 11C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.10**	**352**	⇑*i*P	**Pb**	**09 15 38.0**	**-0.8**
	baz=346						
SGST				*i* S	**Sb**	**09 15 40.8**	**-1.0**
	baz=346						
CHN1	**Nanshi**	**0.21**	**342**	⇓*i*P	**Pb**	**09 15 39.5**	**-0.6**
	baz=348						
CHN1				S	**Sb**	**09 15 44.2**	**+0.3**
	baz=348						
TWM1	**Shoushan**	**0.23**	**225**	*e*P	**Pb**	**09 15 40.4**	**+0.1**
	baz=220						
STYT	**Tauyuan**	**0.23**	**40**	⇑*i*P	**Pb**	**09 15 39.5**	**-0.8**
	baz=48						
STYT				S	**Sb**	**09 15 43.9**	**-0.5**
	baz=48						
CHN3	**Shinhua**	**0.23**	**293**	⇓*i*P	**Pb**	**09 15 41.0**	**+0.6**
	baz=291						
CHN3				*e*S	**Sb**	**09 15 46.8**	**+2.5**
	baz=291						
SSD	**Sandimen**	**0.24**	**172**	⇑*i*P	**Pb**	**09 15 39.7**	**-0.7**
	baz=169						
SSD				S	**Sb**	**09 15 44.0**	**-0.5**
	baz=169						
WTP	**Ta-pu**	**0.26**	**3**	⇑*i*P	**Pb**	**09 15 40.2**	**-0.6**
	baz=2.0						
WTP				S	**Sb**	**09 15 45.0**	**-0.1**
	baz=2.0						
SGLT	**Jiouru**	**0.28**	**201**	*e*P	**Pb**	**09 15 40.8**	**-0.2**
	baz=197						
TWK	**Hsinying**	**0.30**	**340**	⇓*i*P	**Pb**	**09 15 40.8**	**-0.6**
	baz=339						
TWK				*i* S	**Sb**	**09 15 46.4**	**+0.3**
	baz=339						
TAI1	**Yung-k'ang**	**0.34**	**279**	*e*P	**Pb**	**09 15 42.3**	**+0.3**
	baz=279						
TAI1				*e*S	**Sb**	**09 15 48.4**	**+1.3**
	baz=279						
CHN4	**Tsaushan**	**0.36**	**359**	⇑*i*P	**Pb**	**09 15 41.7**	**-0.7**
	baz=357						
CHN4				*i* S	**Sb**	**09 15 47.9**	**+0.2**
	baz=357						
SCLT	**Jiali**	**0.42**	**297**	*e*P	**Pb**	**09 15 43.5**	**+0.3**
	baz=296						
SCLT				*e*S	**Sn**	**09 15 51.2**	**-1.0**
	baz=296						
ELDTW	**Lidau**	**0.44**	**62**	⇑*i*P	**Pb**	**09 15 42.9**	**-0.7**
	baz=62						
ELDTW				*i* S	**Sb**	**09 15 49.6**	**-0.3**
	baz=62						
TWG	**Pinlang**	**0.47**	**110**	⇓*i*P	**Pb**	**09 15 43.7**	**-0.3**
	baz=102						
TWG				S	**Sb**	**09 15 50.7**	**+0.1**
	baz=102						
KAU	**Kaohsiung**	**0.49**	**213**	*e*P	**Pn**	**09 15 45.5**	**-0.7**
	baz=213						
KAU				*e*S	**Sn**	**09 15 54.7**	**+0.7**
	baz=213						
CHN8	**Yiju**	**0.51**	**315**	*e*P	**Pb**	**09 15 44.7**	**0.0**
	baz=328						
CHN8				*e*S	**Sn**	**09 15 53.3**	**-1.0**
	baz=328						
ECL	**Taimali**	**0.51**	**139**	⇓*i*P	**Pb**	**09 15 44.3**	**-0.4**
	baz=140						
ECL				*i* S	**Sb**	**09 15 51.8**	**+0.1**
	baz=140						
CHY	**Chiayi**	**0.54**	**343**	*e*P	**Pb**	**09 15 44.9**	**-0.3**
	baz=342						
CHY				*e*S	**Sn**	**09 15 54.1**	**-0.9**
	baz=342						
CHN2	**Minshiung**	**0.56**	**348**	*e*P	**Pb**	**09 15 45.5**	**0.0**
	baz=347						
CHN2				*e*S	**Sn**	**09 15 54.4**	**-1.2**
	baz=347						
TTN	**Taitung**	**0.56**	**114**	*e*P	**Pb**	**09 15 45.2**	**-0.3**
	baz=115						
ALS	**Alishan**	**0.56**	**20**	⇑P	**Pb**	**09 15 45.0**	**-0.8**
	baz=19						
ALS				*e*S	**Sb**	**09 15 54.0**	**+0.5**
	baz=19						
YUS	**Yu-Shan**	**0.60**	**33**	⇑*i*P	**Pb**	**09 15 46.1**	**-0.5**
	baz=42						
YUS				S	**Sb**	**09 15 54.8**	**-0.1**
	baz=42						
SCZT	**Fangliau**	**0.61**	**178**	*e*P	**Pb**	**09 15 46.0**	**-0.5**
	baz=171						
SCZT				*e*S	**Sn**	**09 15 56.5**	**-0.4**
	baz=171						
CHN5	**Tsauling**	**0.61**	**7**	⇑P	**Pb**	**09 15 45.9**	**-0.7**
	baz=6.0						
CHN5				*e*S	**Sn**	**09 15 56.1**	**-1.1**
	baz=6.0						
EAST	**Anshuo**	**0.64**	**159**	⇓P	**Pb**	**09 15 46.7**	**-0.4**
	baz=155						
EAST				*e*S	**Sb**	**09 15 56.0**	**+0.3**
	baz=155						
TWP	**Hsiaoliuchiu**	**0.67**	**199**	*e*P	**Pn**	**09 15 48.6**	**0.0**
	baz=200						
TAW	**Tawu**	**0.68**	**156**	*e*P	**Pb**	**09 15 47.0**	**-0.7**
	baz=157						
TAW				*e*S	**Sb**	**09 15 57.1**	**+0.4**
	baz=157						
WGK	**Gukeng**	**0.70**	**357**	*e*P	**Pb**	**09 15 48.3**	**+0.3**
	baz=357						
WGK				*e*S	**Sn**	**09 15 58.6**	**-0.5**
	baz=357						
CHKT	**Chengkung**	**0.72**	**81**	*e*P	**Pb**	**09 15 47.9**	**-0.4**
	baz=81						
CHKT				*e*S	**Sn**	**09 15 58.7**	**-0.9**
	baz=81						
WSF	**Szhu**	**0.74**	**332**	P	**Pb**	**09 15 48.5**	**-0.1**
	baz=332						
WSF				*e*S	**Sn**	**09 15 59.7**	**-0.4**
	baz=332						
TWF1	**Yuli**	**0.74**	**60**	⇑*i*P	**Pb**	**09 15 48.1**	**-0.6**
	baz=60						
TWF1				S	**Sb**	**09 15 58.1**	**-0.3**
	baz=60						
EHY	**Hungye**	**0.84**	**52**	⇑*i*P	**Pb**	**09 15 49.8**	**-0.7**
	baz=55						
EHY				*e*S	**Sb**	**09 16 00.8**	**-0.6**
	baz=55						
WNT	**Mingjian**	**0.89**	**5**	*e*P	**Pb**	**09 15 50.8**	**-0.5**
	baz=352						
WNT				*e*S	**Sn**	**09 16 04.1**	**+0.2**
	baz=352						
WDGT	**Dungji**	**0.91**	**288**	*e*P	**Pb**	**09 15 50.1**	**-1.4**
	baz=288						
WDGT				*e*S	**Sb**	**09 16 02.9**	**-0.3**
	baz=288						
SMLT	**Sun Moon Lake**	**0.94**	**17**	*e*P	**Pb**	**09 15 51.8**	**-0.3**
	baz=17						
SMLT				*e*S	**Sn**	**09 16 06.0**	**+0.9**
	baz=17						
TYC	**Yuchr**	**0.94**	**15**	*e*P	**Pb**	**09 15 51.6**	**-0.6**
	baz=14						
TYC				*e*S	**Sn**	**09 16 06.0**	**+0.7**
	baz=14						
HEN	**Hengchun**	**0.98**	**172**	*e*P	**Pn**	**09 15 52.8**	**-0.1**
	baz=163						
HEN				*e*S	**Sn**	**09 16 07.5**	**+1.4**
	baz=163						
TWK1	**Hengchun**	**1.05**	**169**	*e*P	**Pn**	**09 15 54.0**	**+0.1**
	baz=170						
TWK1				*e*S	**Sn**	**09 16 08.3**	**+0.4**
	baz=170						
TSEB	**Hengchuen, Pin**	**1.11**	**165**	*e*P	**Pb**	**09 15 55.1**	**0.0**
	baz=168						
TSEB				*e*S	**Sn**	**09 16 10.2**	**+0.8**
	baz=168						
PNG	**Penghu**	**1.12**	**301**	*e*P	**Pn**	**09 15 53.3**	**-1.5**
	baz=301						
PNG				*e*S	**Sb**	**09 16 07.9**	**-1.4**
	baz=301						
ESL	**Shilin**	**1.13**	**43**	P	**Pn**	**09 15 54.8**	**-0.1**
	baz=42						
ESL				*e*S	**Sn**	**09 16 09.7**	**0.0**
	baz=42						
TCU	**Taichung**	**1.16**	**4**	*e*P	**Pn**	**09 15 55.5**	**+0.1**
	baz=3.0						
TCU				*e*S	**Sn**	**09 16 11.1**	**+0.6**
	baz=3.0						
LAY	**Lan-yu**	**1.29**	**137**	*e*P	**Pn**	**09 15 56.2**	**-1.0**
	baz=137						
LAY				*e*S	**Sn**	**09 16 13.6**	**-0.2**
	baz=137						
WHF	**Hehuan Shan**	**1.31**	**28**	*e*P	**Pb**	**09 15 58.0**	**-0.6**
	baz=17						
WHF				*e*S	**Sb**	**09 16 16.7**	**+1.5**
	baz=17						
HWA	**Hwalien**	**1.35**	**43**	*e*P	**Pn**	**09 15 58.5**	**+0.5**
	baz=27						
TWQ1	**Liyutan**	**1.37**	**7**	*e*P	**Pn**	**09 15 58.5**	**+0.3**
	baz=6.0						
TWQ1				*e*S	**Sb**	**09 16 16.7**	**+0.3**
	baz=6.0						
TWT	**Tachien**	**1.37**	**23**	*e*P	**Pn**	**09 15 58.5**	**+0.1**
	baz=22						
TWT				*e*S	**Sb**	**09 16 16.6**	**-0.1**
	baz=22						
TWD	**Chiawan**	**1.42**	**40**	*e*P	**Pn**	**09 15 59.3**	**+0.3**
	baz=40						
TWD				*e*S	**Sn**	**09 16 17.5**	**+0.5**
	baz=40						
NSY	**Sanyi**	**1.43**	**6**	*e*P	**Pb**	**09 16 00.6**	**0.0**
	baz=6.0						
NSY				*e*S	**Sb**	**09 16 19.1**	**+0.7**
	baz=6.0						
NNS	**Nan Shan**	**1.61**	**26**	*e*P	**Pb**	**09 16 02.7**	**-1.0**
	baz=11						
NSTT	**Nanjuang**	**1.68**	**13**	*e*P	**Pn**	**09 16 02.4**	**-0.1**
	baz=355						
NSTT				*e*S	**Sn**	**09 16 24.3**	**+0.9**
	baz=355						
ENA	**Nanau**	**1.78**	**36**	*e*P	**Pn**	**09 16 04.8**	**+0.9**
	baz=36						
ENA				*e*S	**Sn**	**09 16 26.9**	**+1.1**
	baz=36						
NSK	**Sanguang**	**1.82**	**22**	*e*P	**Pn**	**09 16 05.3**	**+0.8**
	baz=6.0						
NSK				*e*S	**Sn**	**09 16 27.7**	**+0.8**
	baz=6.0						
ENTT	**Nioudou**	**1.87**	**28**	*e*P	**Pb**	**09 16 06.7**	**-1.3**
	baz=12						
TWC	**Suao**	**1.98**	**35**	*e*P	**Pn**	**09 16 07.4**	**+0.8**
	baz=35						
TWC				*e*S	**Sb**	**09 16 33.0**	**-1.1**
	baz=35						
TWE	**Neicheng**	**1.99**	**29**	*e*P	**Pn**	**09 16 07.9**	**+1.2**
	baz=28						
TWA	**Mucha**	**2.18**	**24**	*e*P	**Pn**	**09 16 11.2**	**+1.8**
	baz=23						
TWS1	**Kuangyinshan**	**2.24**	**19**	*e*P	**Pb**	**09 16 12.2**	**-2.0**
	baz=1.0						
NWF	**Wu-fen Shan**	**2.34**	**27**	*e*P	**Pn**	**09 16 13.0**	**+1.3**
	baz=11						
TWB1	**Santiao Chiao**	**2.38**	**32**	*e*P	**Pn**	**09 16 12.6**	**+0.4**
	baz=31						
KNM	**Kinmen**	**2.44**	**306**	*e*P	**Pn**	**09 16 15.2**	**+2.2**
	baz=304						
JYNG	**Yonaguni jima**	**2.60**	**55**	P	**Pn**	**09 16 16.2**	**+1.1**
JYNG				S	**Sn**	**09 16 48.9**	**+2.9**
YOJ	**Yonaguni jima**	**2.66**	**56**	P	**Pn**	**09 16 17.2**	**+1.3**
YOJ				*e*S	**Sn**	**09 16 49.6**	**+2.2**
YOJ	**Yonaguni jima**	**2.66**	**56**	*e*P	**Pn**	**09 16 17.2**	**+1.3**
	baz=55						
HATJ	**Hateruma jima**	**3.13**	**69**	P	**Pn**	**09 16 22.6**	**+0.1**
HATJ				S	**Sn**	**09 16 59.8**	**+0.6**
IRIF	**Iriomote-Funau**	**3.17**	**64**	P	**Pn**	**09 16 24.2**	**+1.2**
IRIF				S	**Sn**	**09 17 02.4**	**+2.3**
JKRS	**Kuro-shima**	**3.37**	**68**	P	**Pn**	**09 16 26.6**	**+0.9**
JKRS				S	**Sn**	**09 17 06.0**	**+1.0**
JIJ	**Ishigaki jima**	**3.53**	**66**	P	**Pn**	**09 16 28.0**	**+0.1**
JIJ				S	**Sn**	**09 17 07.9**	**-1.1**
JISG	**Ishigakijimahi**	**3.76**	**64**	P	**Pn**	**09 16 30.8**	**-0.3**
JISG				S	**Sn**	**09 17 14.6**	**0.0**
JTJ	**Tarama**	**4.10**	**66**	P	**Pn**	**09 16 36.3**	**+0.5**
JTJ				S	**Sn**	**09 17 22.7**	**-0.5**

MAN 13 09:17:55, 6°.39N×124°.06E, h51km, mb4.0, ML2.8, MS2.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.85**	**12**	⇓*e*P	Pn	09 18 12.4	+1.6
CTBH				*i* S	Sn	09 18 25.4	+3.1
PAGZ	**Pagadian**	**1.60**	**335**	*e*P	Pn	09 18 23.3	+2.4
PAGZ				*e*S	Sn	09 18 42.2	+1.7
BUKP	**Musuan**	**1.79**	**34**	*e*P	Pn	09 18 24.8	+1.3
BUKP				*e*S	Sn	09 18 47.3	+2.2

IDC 13 09:20:54.1±1.1, 10°.67S×165°.95E, h0km, mb3.7/8, mb1 4.0/9, mb1mx3.8/37, mbtmp3.8/9, ML4.8/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/24, Error ellipse: s-maj=40.8km s-min=20.3km az=131.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.04**	**281**	LR	LR	09 24 52.7	
	comp=Z,287nm,18.0s,baz=110,slow=40						
DZM	**Mont Dzumac**	**11.35**	**178**	Pn	Pn	09 23 37.7	+0.1
	6.6nm,0.3s,baz=358,slow=11,SNR=40						
DZM				Sn	Sn	09 25 40.0	-5.2
	0.9nm,0.3s,baz=298,slow=14,SNR=2.7						
DZM				LR	LR	09 27 51.4	
	comp=Z,288nm,18.1s,baz=326,slow=37						
CTA	**Charters Tower**	**21.15**	**241**	P	P	09 25 43.0	+2.0
	1.7nm,0.5s,baz=78,slow=19,SNR=2.6						
H11S2	**WAKE ISLAND Hy 28.99**	**1**		T	T	09 57 20.6	
	baz=181,slow=76,SNR=59						
H11S3	**WAKE ISLAND Hy 28.99**	**1**		T	T	09 57 18.6	
	baz=181,slow=76,SNR=43						
H11S1	**WAKE ISLAND Hy 29.00**	**1**		T	T	09 57 22.0	
	baz=181,slow=76,SNR=42						
H11N1	**WAKE ISLAND Hy 30.21**	**2**		T	T	09 58 52.2	
	baz=182,slow=76,SNR=54						
H11N3	**WAKE ISLAND Hy 30.21**	**2**		T	T	09 58 52.6	
	baz=182,slow=76,SNR=25						
H11N2	**WAKE ISLAND Hy 30.23**	**2**		T	T	09 58 53.5	
	baz=182,slow=76,SNR=30						
STKA	**Stephens Creek**	**30.85**	**223**	P	P	09 27 12.0	-0.1
	1.3nm,0.7s,baz=45,slow=7.1,SNR=3.5						
WRA	**Warramunga Arr**	**31.80**	**249**	P	P	09 27 20.3	-0.4
	2.2nm,0.8s,baz=81,slow=9.1,SNR=13						
ASAR	**Alice Springs**	**33.14**	**243**	P	P	09 27 31.4	-0.9
	1.3nm,0.8s,baz=66,slow=9.8,SNR=15						
SONM	**Songino Array**	**78.49**	**324**	P	P	09 32 57.9	+0.7
	0.2nm,0.6s,baz=116,slow=3.4,SNR=2.5						
ILAR	**Eielson Array**	**83.10**	**18**	P	P	09 33 21.0	-0.4
	0.2nm,0.5s,baz=226,slow=7.3,SNR=2.5						
NVAR	**Mina Array Bea**	**85.63**	**50**	P	P	09 33 35.5	+0.4
	0.2nm,0.4s,baz=251,slow=5.6,SNR=2.3						
MKAR	**Makanchi Array**	**93.39**	**317**	P	P	09 34 10.7	-0.7
	0.2nm,0.7s,baz=90,slow=4.3,SNR=3.5						

IDC 13 09:27:51.9±1.4, 37°.58S×73°.26W, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.5/17, mbtmp3.3/5, ML3.4/2, Error ellipse: s-maj=44.4km s-min=19.6km az=67.0
ISCJB 13 09:27:54.3±1.5, 37°.55S±0°.1×73°.2W±0°.3, h23km, mb3.4/3, Error ellipse: s-maj=35.7km s-min=16.0km az=171.3
ISC 13 09:27:55.6±1.3, 37°.6S±0°.1×73°.3W±0°.2, h23km, n6, σ1s18/6, mb3.5/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.82**	**147**	Pn	**Pn**	**09 28 53.4**	**+0.4**
	1.3nm,0.3s,baz=323,slow=10,SNR=29						
PLCA				Lg	Lg	09 29 52.0	
	4.6nm,0.3s,baz=236,slow=23,SNR=5.1						
CFAA	**Coronel Fontan**	**7.23**	**36**	Pn	**Pn**	**09 29 40.6**	**+0.6**
	0.2nm,0.3s,baz=196,slow=15,SNR=4.0						
LPAZ	**La Paz**	**21.66**	**13**	P	**P**	**09 32 44.1**	**-1.1**
	0.5nm,0.7s,baz=211,slow=12,SNR=2.4						
TXAR	**Lajitas Array**	**72.38**	**332**	P	**P**	**09 39 20.8**	**+1.1**
	0.4nm,0.8s,baz=158,slow=8.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**86.34**	**71**	P	**P**	**09 40 35.4**	**-0.7**
	0.3nm,0.8s,baz=213,slow=5.4,SNR=2.3						
WRA	**Warramunga Arr**	**117.18**	**209**	PKP	**PKPdf**	**09 46 38.4**	**-0.9**
	0.3nm,1.0s,baz=152,slow=1.7,SNR=4.1						

IDC 13 09:41:26.2±1.6, 37°.54S×73°.93W, h0km, mb3.8/4, mb1 3.7/6, mb1mx3.6/28, mbtmp3.7/6, ML3.7/1, MS2.8/2, Ms1 2.8/2, ms1mx2.6/17, Error ellipse: s-maj=41.4km s-min=18.6km az=83.0
ISCJB 13 09:41:29.9±1.6, 37°.52S±0°.10×73°.7W±0°.3, h33km, mb3.9/4, MS3.1/1, Error ellipse: s-maj=39.4km s-min=14.0km az=1.6
ISC 13 09:41:31.7±1.7, 37°.5S±0°.1×73°.7W±0°.3, h35km, n7, σ0s97/7, mb3.9/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.03**	**144**	Pn	**Pn**	**09 42 31.1**	**+0.1**
	1.1nm,0.3s,baz=310,slow=17,SNR=11						
PLCA				Lg	Lg	09 43 37.7	
	baz=25,slow=19						
CFAA	**Coronel Fontan**	**7.42**	**39**	Pn	**Pn**	**09 43 16.8**	**-0.8**
	baz=204,slow=12						
CFAA				LR	LR	09 46 49.2	
	comp=Z,17nm,18.5s,baz=224,slow=43						
LPAZ	**La Paz**	**21.72**	**15**	P	**P**	**09 46 20.0**	**-0.5**
	1.6nm,0.7s,baz=171,slow=10.0,SNR=7.3						
SIV	**San Ignacio**	**24.18**	**31**	P	**P**	**09 46 45.5**	**+0.6**
	2.1nm,0.7s,baz=220,slow=4.3,SNR=3.8						
SIV				LR	LR	09 57 30.2	
	comp=Z,68nm,19.9s,baz=232,slow=40						
QSPA	**South Pole Qui**	**52.72**	**180**	P	**P**	**09 50 41.9**	**-0.8**
	4.2nm,1.0s,baz=154,slow=2.6,SNR=8.9						
TORD	**Torodi Ar. Bea**	**86.66**	**71**	P	**P**	**09 54 12.5**	**+0.5**
	0.8nm,0.9s,baz=212,slow=3.8,SNR=3.5						
ZALV	**Zalesovo Beam**	**157.90**	**35**	PKPab	**PKPab**	**10 01 58.4**	**+1.3**
	0.5nm,0.3s,baz=291,slow=4.5,SNR=4.1						

CSEM 13 09:47:49.0, 41°.84N×13°.69E, h4km, MD1.7/4
ROM 13 09:47:49.0±0.2, 41°.84N×13°.69E, h4km±3km, Md1.7/4, Ml0.9/2, Error ellipse: s-maj=1.3km s-min=1.0km az=48.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VVLD	**Villa Vallelon**	**0.06**	**305**	Pg	Pg	09 47 50.5	0.0
VVLD				Sg	Sg	09 47 51.7	+0.2
	95nm,0.4s						
VVLD	**Villa Vallelon**	**0.06**	**305**	Pg	Pg	09 47 50.5	0.0
VVLD				Sg	Sg	09 47 51.7	+0.2
	95nm,0.4s						
POFI	**Posta Fibreno**	**0.12**	**172**	Pg	Pg	09 47 51.7	+0.2
POFI				Sg	Sg	09 47 54.1	+0.9
	29nm,0.4s						
POFI	**Posta Fibreno**	**0.12**	**172**	Pg	Pg	09 47 51.7	+0.2
POFI				Sg	Sg	09 47 54.1	+0.9
	29nm,0.4s						
INTR	**Introdacqua**	**0.24**	**42**	Pg	Pg	09 47 54.2	+0.4
INTR				Sg	Sg	09 47 58.6	+1.6
	27nm,0.5s						
INTR	**Introdacqua**	**0.24**	**42**	Pg	Pg	09 47 54.2	+0.4
INTR				Sg	Sg	09 47 58.6	+1.6
	27nm,0.5s						
PTQR	**Pietraquaria**	**0.28**	**311**	Pg	Pg	09 47 55.7	+1.0
PTQR				Sg	Sg	09 48 00.1	+1.6
	1.0nm,0.3s						
PTQR	**Pietraquaria**	**0.28**	**311**	Pg	Pg	09 47 55.7	+1.0
PTQR				Sg	Sg	09 48 00.1	+1.6
	1.0nm,0.3s						

BUC 13 09:49:35.5±0.8, 45°.13N×28°.26E, h5km, MD2.2/2, 10C-2D, Error ellipse: s-maj=9.3km s-min=6.4km az=16.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFR	**Carcaliu**	**0.10**	**302**	⇑*i*P	Pg	09 49 37.0	-0.6
CFR				S	Sg	09 49 39.6	+0.5
CFR	**Carcaliu**	**0.10**	**302**	⇑*i*P	Pg	09 49 37.0	-0.6
CFR				*i* S	Sg	09 49 39.6	+0.5
TLCR		**0.40**	**81**	⇓*i*P	Pg	09 49 44.0	+0.8
TLCR		**0.40**	**81**	S	Sb	09 49 50.3	-1.2
TLCR		**0.40**	**81**	⇓*i*P	Pg	09 49 44.0	+0.8
TLCR				*i* S	Sb	09 49 50.3	-1.2
TIRR	**Tirgusor**	**0.68**	**170**	⇑*i*P	Pg	09 49 48.3	-0.2
TIRR	**Tirgusor**	**0.68**	**170**	⇑*i*P	Pg	09 49 48.3	-0.2
TIRR				*i* S	Sg	09 49 57.7	+0.5
MSAB	**Monastry St. A**	**1.08**	**197**	⇑*i*P	Pg	09 49 56.3	+0.1
**MSAB

KURK ⇑Lg Lg 09 58 22.3
6.6nm,1.1s
KURBB Kurchatov Arra 6.51 239 ⇓Pn **Pn 09 56 38.5 +1.5**
1.7nm,0.4s
KURBB ⇑Sn **Sn 09 57 51.4 +1.4**
2.2nm,0.5s
KURBB ⇓Lg Lg 09 58 24.9
9.6nm,1.0s
KURBB Kurchatov Arra 6.51 239 Pn **Pn 09 56 38.8 +1.8**
0.2nm,0.3s,baz=57,slow=14,SNR=8.2
KURBB Lg Lg 09 58 27.7
0.1nm,0.3s,baz=54,slow=33,SNR=6.7
MKAR Makanchi Array 8.19 205 Pn **Pn 09 57 01.9 +1.9**
0.2nm,0.3s,baz=24,slow=15,SNR=10
MKAR Lg Lg 09 59 19.6
0.1nm,0.3s,baz=20,slow=32,SNR=4.4
MK07 Makanchi Array 8.22 205 ⇓Sn **Sn 09 58 28.6 -3.5**
2.8nm,1.4s
MK07 ⇑Lg Lg 09 59 12.0
4.5nm,1.1s,baz=21,slow=28
MK08 Makanchi Array 8.22 205 ⇓Pn **Pn 09 57 00.5 -0.1**
0.9nm,0.8s,baz=31,slow=16
VOSK Vostochnaya 9.85 267 ⇑Pn **Pn 09 57 24.0 +1.3**
1.8nm,1.2s
VOSK ⇓Sn **Sn 09 59 08.3 -3.6**
8.4nm,1.4s

*IDC **13** 09:57:38.4±1.5, 36°.51N×69°.98E, h0km, mb3.6/4, mb1 3.7/9, mb1mx3.4/32, mbtmp3.5/9, ML3.3/5, Error ellipse: s-maj=24.8km s-min=19.7km az=132.0*
*NNC **13** 09:57:46.4±5.3, 36°.75N×69°.88E, h150km, mb3.1, mpv3.7, Error ellipse: s-maj=44.1km s-min=31.5km az=174.0*
ISC 13 09:57:42.3±1.3, 36°.5N±0°.1×69°.90E±0°.08, h35km, n14, σ2°06/18, mb3.5/3, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.47**	**340**	⇑Pn	**Pn**	**09 58 23.2**	**+3.0**
DZET				⇓Sn	**Sn**	**09 58 54.2**	**+4.9**
KK31	**Karatay Array**	**6.63**	**4**	Pn	**Pn**	**09 59 18.1**	**+0.8**
4.3nm,0.5s,baz=193,slow=13,SNR=53							
KK31				⇓Sn	**Sn**	**10 00 28.6**	**-3.0**
1.0nm,0.4s,baz=180,slow=21							
AAK	**Ala-Archa**	**7.10**	**29**	⇑Pn	**Pn**	**09 59 25.1**	**+1.4**
3.2nm,0.9s							
AAK				⇓Sn	**Sn**	**10 00 43.4**	**+0.1**
3.6nm,1.0s							
AAK	**Ala-Archa**	**7.10**	**29**	Pn	**Pn**	**09 59 25.2**	**+1.4**
0.6nm,0.3s,baz=194,slow=9.6,SNR=7.7							
AAK				Sn	**Sn**	**10 00 43.3**	**+0.1**
0.0nm,0.3s,baz=345,slow=20,SNR=2.8							
AAK				Lg	Lg	10 01 23.9	
baz=309,slow=18,SNR=3.0							
GEYT	**Alibeck**	**9.51**	**282**	Pn	**Pn**	**09 59 56.2**	**-0.6**
0.3nm,0.3s,baz=94,slow=15,SNR=2.0							
GEYT				Sn	**Sn**	**10 01 42.2**	**-0.2**
0.7nm,0.3s,baz=95,slow=6.4,SNR=2.6							
MKAR	**Makanchi Array**	**13.84**	**38**	Pn	**Pn**	**10 00 55.6**	**-0.3**
0.0nm,0.3s,baz=232,slow=14,SNR=2.3							
AB31	**Akbulak array**	**14.69**	**333**	Pn	Pn	10 01 04.0	-3.4
2.6nm,0.7s,baz=268,slow=5.8,SNR=25							
AKTO	**Aktyubinsk**	**16.37**	**332**	⇑Pn	**Pn**	**10 01 27.2**	**-2.1**
4.8nm,1.0s							
AKTO	**Aktyubinsk**	**16.37**	**332**	Pn	**Pn**	**10 01 27.9**	**-1.3**
0.2nm,0.3s,baz=147,slow=8.5,SNR=8.1							
BVAR	**Borovoye Array**	**16.55**	**1**	Pn	**Pn**	**10 01 29.0**	**-2.5**
0.3nm,0.3s,baz=178,slow=12,SNR=4.7							
ZALV	**Zalesovo Beam**	**20.31**	**26**	P	**P**	**10 02 14.8**	**-0.3**
0.4nm,0.3s,baz=224,slow=10,SNR=2.9							
FINES	**FINESS Array B**	**37.01**	**326**	P	**P**	**10 04 49.3**	**+1.1**
3.2nm,1.1s,baz=129,slow=8.1,SNR=3.6							
NOA	**NORSAR Array B**	**43.86**	**323**	P	**P**	**10 05 45.5**	**+0.5**
0.5nm,0.6s,baz=102,slow=6.3,SNR=2.7							
WRA	**Warramunga Arr**	**82.74**	**121**	P	**P**	**10 10 04.4**	**+1.7**
0.3nm,0.9s,baz=323,slow=5.1,SNR=3.3							

*GRAL **13** 10:12:14.8±0.9, 34°.46N×36°.94E, h0km±26km, MD3.1*
*NSSC **13** 10:12:19.5±0.3, 34°.48N×36°.85E, h10km±25km, MD1.0, ML1.8*
CSEM 13 10:12:16.2±0.8, 34°.29N×36°.85E, h2km, ML3.1, Error ellipse: s-maj=18.2km s-min=7.7km az=115.0, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.37**	**263**	*e*P	Pg	10 12 22.9	-0.6
HWQ	**Hawqa**	**0.75**	**269**	*e*P	Pg	10 12 30.3	-0.5
HWQ				*e*S	Sg	10 12 41.2	+0.6
HWQ	**Hawqa**	**0.75**	**269**	*e*P	Pg	10 12 30.3	-0.5
HWQ				*e*S	Sg	10 12 41.2	+0.6
BHL	**Bhannes**	**1.07**	**249**	*e*P	Pg	10 12 36.7	-0.1
BHL	**Bhannes**	**1.07**	**249**	*e*P	Pg	10 12 36.7	-0.1
BRBR	**Barbar**	**1.15**	**221**	*e*P	Pn	10 12 43.0	+3.3
BRBR				*e*S	Sn	10 13 00.5	+4.3
BRBR				AML	AML	10 13 08.6	
comp=N,26nm,0.4s							
BRBR				AML	AML	10 13 12.7	
comp=E,29nm,0.4s							
RCY	**Rachaya**	**1.16**	**227**	*e*P	Pg	10 12 38.7	0.0
RCY				*e*S	Sn	10 12 56.1	0.0
ZALF	**Zalf**	**1.42**	**163**	*e*P	Pg	10 12 48.3	+4.8
ZALF				*e*S	Sn	10 13 08.5	+6.0
ZALF				AML	AML	10 13 12.4	
comp=N,24nm,0.6s							
ZALF				AML	AML	10 13 14.9	
comp=E,18nm,0.6s							
SALA	**Sala**	**1.58**	**184**	*e*P	Pg	10 12 50.5	+3.8
SALA				*e*S	Sg	10 13 12.7	+5.3
SALA				AML	AML	10 13 18.3	
comp=N,25nm,0.6s							
SALA				AML	AML	10 13 23.5	
comp=E,3.9nm,0.4s							
YAYL	**Yayladag**	**1.84**	**341**	*i* P	Pn	10 12 49.4	+0.3
YAYL				*i* S	Sn	10 13 12.8	-0.3
YAYL	**Yayladag**	**1.84**	**341**	*i* P	Pn	10 12 49.4	+0.3
YAYL				*i* S	Sn	10 13 12.8	-0.3
KUZU	**Kuzuini**	**2.48**	**4**	*i* P	Pg	10 13 06.0	+2.0
KUZU				*i* S	Sb	10 13 34.5	+1.7

*IDC **13** 10:20:42.0±0.6, 37°.28S×73°.57W, h0km, mb4.5/14, mb1 4.6/17, mb1mx4.5/23, mbtmp4.5/17, ML4.1/3, MS3.8/1, Ms1 3.7/1, ms1mx3.3/35, Error ellipse: s-maj=21.5km s-min=12.6km az=78.0*
*GUC **13** 10:20:43.8±0.6, 37°.38S×73°.85W, h20km±3km, ML5.1*
*ISCJB **13** 10:20:46.1±0.7, 37°.35S±0°.03×73°.52W±0°.07, h33km±7km, mb4.7/30, Error ellipse: s-maj=9.8km s-min=4.9km az=4.7*
*BJI **13** 10:20:46.7, 37°.67S×73°.43W, h35km, mB5.2/3, Ms5.5/2, Ms7 5.4/2*
*NEIC **13** 10:20:47.4±0.2, 37°.28S×73°.51W, h35km, mb4.8/15, Error ellipse: s-maj=8.9km s-min=5.6km az=75.0*
NEIC Felt at Chiguayante.
ISC 13 10:20:46.5±0.9, 37°.36S±0°.04×73°.56W±0°.07, h29km±6km, n433, σ1°00/456, mb4.7/30, 190C-175D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.63**	**35**	⇓*i*P	**Pb**	**10 20 58.1**	**-0.8**
CCSP				*i* S	**Sn**	**10 21 09.0**	**+0.6**
CCSP				AML	AML	10 21 11.9	
comp=E,165μm,0.6s							
AGCH	**Angol**	**0.82**	**124**	⇑*i*P	**Pn**	**10 21 02.1**	**0.0**
AGCH				*i* S	**Sn**	**10 21 14.9**	**+1.7**
PSCH	**Puerto Saavedr**	**1.45**	**175**	⇑*i*P	**Pn**	**10 21 08.9**	**-1.8**
PSCH				*i* S	**Sn**	**10 21 27.9**	**-0.7**
LNCH	**Linares**	**2.18**	**47**	⇑*i*P	**Pn**	**10 21 22.3**	**+1.6**
LNCH				*i* S	**Sb**	**10 21 52.3**	**+0.5**
VLCH	**Valdivia**	**2.46**	**174**	⇑*i*P	**Pn**	**10 21 23.6**	**-0.9**
VLCH				*e*S	**Sn**	**10 21 54.4**	**+0.8**
TALC	**Talca**	**2.50**	**39**	*e*P1	**Pn**	**10 21 26.5**	**+1.4**
TALC				*i* S	**Sb**	**10 21 59.1**	**-1.8**
NICH	**Los Niches**	**3.01**	**39**	⇑*i*P	**Pn**	**10 21 32.9**	**+0.7**
OSCH	**Osorno**	**3.23**	**174**	*e*P1	**Pn**	**10 21 34.8**	**-0.4**
CACH	**El Canelo**	**4.03**	**38**	*e*P4	**Pn**	**10 21 46.3**	**0.0**
PLCA	**Paso Flores**	**4.11**	**146**	Pn	**Pn**	**10 21 48.8**	**+1.4**
comp=E,6.4nm,0.3s,baz=325,slow=11,SNR=87							
PLCA				Lg	Lg	10 22 54.5	
comp=E,31nm,0.3s,baz=60,slow=20,SNR=6.0							
PLCA				LR	LR	10 23 43.6	
comp=E,1μm,21.9s,baz=220,slow=44							

CFAA	**Coronel Fontan**	**7.23**	**39**	Pn	**Pn**	**10 22 28.9**	**-1.3**
comp=E,1.2nm,0.3s,baz=212,slow=12,SNR=24							
CFAA				Sn	**Sn**	**10 23 51.0**	**-0.2**
comp=E,0.3nm,0.3s,baz=295,slow=18,SNR=2.2							
LCO	**Las Campanas**	**8.66**	**17**	*e*Pn	**Pn**	**10 22 47.2**	**-2.8**
LCO				*e*Sn	Sn	10 24 18.9	-8.0
TRQA	**Tornquist**	**9.21**	**98**	*e*Pn	**Pn**	**10 22 58.6**	**+1.3**
USHA	**Ushuaia**	**17.83**	**170**	P	**Pn**	**10 24 51.6**	**-0.6**
comp=E,0.3nm,0.3s,baz=313,slow=14,SNR=4.0							
LPAZ	**La Paz**	**21.53**	**14**	P	**P**	**10 25 34.3**	**+0.3**
comp=E,11nm,0.7s,baz=185,slow=5.8,SNR=44							
SIV	**San Ignacio**	**23.98**	**31**	P	**P**	**10 25 57.5**	**-1.1**
comp=E,15nm,0.8s,baz=229,slow=11,SNR=39							
NNA	**Nana**	**25.43**	**353**	P	**P**	**10 26 10.3**	**-1.5**
comp=E,4.6nm,0.4s,baz=206,slow=7.8,SNR=4.5							
SAML	**Samuel**	**29.80**	**21**	*e*P	**P**	**10 26 50.2**	**-0.6**
comp=E,5.7nm,0.6s							
BDFB	**Brasilia**	**31.29**	**53**	P	**P**	**10 27 03.0**	**-1.2**
comp=E,2.6nm,0.5s,baz=256,slow=2.2,SNR=5.8							
OTAV	**Otavalo**	**37.68**	**352**	*e*P	**P**	**10 28 00.7**	**+0.9**
comp=E,10nm,1.1s							
VNA2	**Neumayer--Watz**	**47.43**	**156**	P	**P**	**10 29 19.2**	**+1.3**
SNAA	**Sanae**	**48.98**	**157**	P	**P**	**10 29 30.8**	**+1.0**
SNAA	**Sanae**	**48.98**	**157**	P	**P**	**10 29 30.8**	**+1.0**
comp=E,5.5nm,0.9s,baz=258,slow=6.8,SNR=16							
SNAA	**Sanae**	**48.98**	**157**	*e*P	**P**	**10 29 30.7**	**+0.8**
comp=E,25nm,1.1s							
GRGR	**Grenville**	**50.48**	**15**	*e*P	**P**	**10 29 41.7**	**-0.1**
QSPA	**South Pole Qui**	**52.89**	**180**	P	**P**	**10 30 00.5**	**+1.1**
comp=E,12nm,0.9s,baz=322,slow=2.3,SNR=50							
SYO	**Syowa Base**	**63.21**	**158**	⇑*e*P	**P**	**10 31 10.5**	**-0.9**
034A	**Hebbronville**	**68.29**	**336**	⇓P	**P**	**10 31 45.8**	**+1.2**
baz=69							
933A	**Laredo**	**68.99**	**336**	⇑P	**P**	**10 31 50.4**	**+1.4**
baz=69							
834A	**Tilden**	**69.23**	**336**	⇑P	**P**	**10 31 52.1**	**+1.6**
baz=70							
735A	**Kenedy**	**69.68**	**337**	⇓P	**P**	**10 31 54.6**	**+1.4**
baz=70							
833A	**Chaparral WMA,**	**69.69**	**336**	⇓P	**P**	**10 31 54.1**	**+0.8**
baz=70							
832A	**Faith Ranch, C**	**69.84**	**335**	⇑P	**P**	**10 31 55.0**	**+0.7**
baz=70							
734A	**La Parita Cree**	**69.91**	**337**	⇑P	**P**	**10 31 55.4**	**+0.8**
baz=70							
733A	**Divot King Ran**	**70.02**	**336**	⇑P	**P**	**10 31 56.6**	**+1.2**
baz=70							
636A	**Smothers Creek**	**70.04**	**338**	⇑P	**P**	**10 31 56.8**	**+1.4**
baz=70							
635A	**Leesville**	**70.17**	**338**	⇓P	**P**	**10 31 57.1**	**+0.9**
baz=70							
732A	**Laxson Ranch,**	**70.25**	**335**	⇓P	**P**	**10 31 57.4**	**+0.6**
baz=70,SNR=5.6							
538A	**Harpers Horsep**	**70.29**	**340**	⇑P	**P**	**10 31 58.4**	**+1.4**
baz=71							
634A	**China Grove, S**	**70.34**	**337**	⇓P	**P**	**10 31 58.7**	**+1.4**
baz=71							
537A	**Green Hill Far**	**70.39**	**339**	⇓P	**P**	**10 31 59.3**	**+1.8**
baz=71							
536A	**Bastrop**	**70.60**	**338**	⇓P	**P**	**10 32 00.0**	**+1.2**
baz=71							
633A	**Saathoff Ranch**	**70.67**	**336**	⇓P	**P**	**10 32 00.4**	**+1.0**
baz=71							
535A	**Dale**	**70.71**	**338**	⇓P	**P**	**10 32 00.5**	**+1.0**
baz=71							
438A	**Sam Houston St**	**70.79**	**340**	⇑P	**P**	**10 32 01.2**	**+1.2**
baz=71							
632A	**Uvalde**	**70.91**	**336**	⇑P	**P**	**10 32 02.0**	**+1.2**
baz=71							
534A	**Blanco**	**70.98**	**337**	⇓P	**P**	**10 32 02.6**	**+1.4**
baz=71							
436A	**Wall Ranch, Ga**	**71.17**	**339**	⇑P	**P**	**10 32 03.9**	**+1.6**
baz=72							
533A	**Kerrville**	**71.19**	**337**	⇓P	**P**	**10 32 03.7**	**+1.2**
baz=72							
338A	**Crockett**	**71.32**	**340**	⇑P	**P**	**10 32 04.8**	**+1.6**
baz=72							
337A	**Centerville**	**71.44**	**340**	⇓P	**P**	**10 32 05.3**	**+1.4**
baz=72							
532A	**Rocksprings**	**71.52**	**336**	⇓P	**P**	**10 32 05.4**	**+0.9**
baz=72,SNR=7.2							
434A	**Burnet**	**71.65**	**338**	⇑P	**P**	**10 32 06.2**	**+0.9**
baz=72							
239A	**Gary**	**71.73**	**341**	⇓P	**P**	**10 32 07.1**	**+1.4**
baz=72							
531A	**Rocksprings**	**71.77**	**336**	⇓P	**P**	**10 32 06.6**	**+0.6**
baz=72,SNR=5.7							
336A	**Riesel**	**71.77**	**339**	⇑P	**P**	**10 32 06.7**	**+0.8**
baz=72							
JCT	**Junction City**	**71.81**	**336**	⇑P	**P**	**10 32 07.0**	**+0.7**
baz=72							
JCT	**Junction City**	**71.81**	**336**	*e*P	**P**	**10 32 06.6**	**+0.3**
comp=E,5.5nm,0.8s							
433A	**Art**	**71.85**	**337**	⇓P	**P**	**10 32 07.2**	**+0.8**
baz=72							
530A	**J-C Ranch, Com**	**72.02**	**335**	⇓P	**P**	**10 32 08.4**	**+0.9**
baz=72,SNR=5.8							
TXAR	**Lajitas Array**	**72.09**	**333**	P	**P**	**10 32 08.5**	**+0.5**
comp=E,1.6nm,0.7s,baz=155,slow=8.9,SNR=23							
334A	**Lometa**	**72.12**	**338**	⇑P	**P**	**10 32 08.8**	**+0.8**
baz=72							
432A	**Menard**	**72.18**	**336**	⇑P	**P**	**10 32 09.2**	**+0.7**
baz=72							
431A	**Sonora**	**72.26**	**336**	⇓P	**P**	**10 32 09.7**	**+0.7**
baz=72							
529A	**Stev Forest Ra**	**72.30**	**334**	⇑P	**P**	**10 32 10.3**	**+1.1**
baz=73							
333A	**Richland Sprin**	**72.34**	**337**	⇓P	**P**	**10 32 10.0**	**+0.6**
baz=73							
KMSC	**Kings Mountain**	**72.49**	**353**	⇓P	**P**	**10 32 11.8**	**+1.6**
baz=73							
430A	**Baggett Ranch,**	**72.57**	**335**	⇓P	**P**	**10 32 11.8**	**+1.0**
baz=73,SNR=5.9							
332A	**Millersview**	**72.63**	**337**	⇓P	**P**	**10 32 12.0**	**+0.9**
baz=73							
429A	**Davenport Ranc**	**72.64**	**335**	⇓P	**P**	**10 32 12.6**	**+1.3**
baz=73,SNR=5.0							
234A	**Clairette**	**72.72**	**338**	⇑P	**P**	**10 32 11.8**	**+0.2**
baz=73							
331A	**San Angelo**	**72.78**	**336**	⇓P	**P**	**10 32 12.1**	**+0.1**
baz=73,SNR=10							
233A	**Rising Star**	**72.96**	**338**	⇓P	**P**	**10 32 13.4**	**+0.3**
baz=73							
135A	**Vickery Place,**	**73.03**	**339**	⇓P	**P**	**10 32 13.7**	**+0.3**
baz=73							
232A	**Coleman**	**73.07**	**337**	⇑P	**P**	**10 32 13.8**	**0.0**
baz=73							
SWET	**Sewanee**	**73.11**	**349**	*e*P	**P**	**10 32 13.5**	**-0.4**
comp=E,25nm,1.0s							
330A	**Mertzon**	**73.12**	**336**	⇓P	**P**	**10 32 14.0**	**-0.1**
baz=73							
231A	**Bronte**	**73.33**	**336**	⇓P	**P**	**10 32 15.1**	**-0.1**
baz=74,SNR=5.5							
329A	**Wagon Wheel Ra**	**73.46**	**335**	⇓P	**P**	**10 32 16.0**	**-0.1**
baz=74							
133A	**Hamilton Ranch**	**73.52**	**338**	⇓P	**P**	**10 32 16.6**	**+0.3**
baz=74							
230A	**Sterling City**	**73.54**	**336**	⇑P	**P**	**10 32 16.8**	**+0.3**
baz=74							
Z35A	**Perchaven, San**	**73.71**	**339**	⇑P	**P**	**10 32 17.9**	**+0.5**
baz=74							
ABTX	**Abilene, Hawle**	**73.75**	**337**	⇓P	**P**	**10 32 17.7**	**0.0**
baz=74							
229A	**Bryant Ranch,**	**73.84**	**335**	⇑P	**P**	**10 32 18.4**	**+0.1**
baz=74							
Z34A	**Collier Ranch,**	**73.94**	**339**	⇑P	**P**	**10 32 19.0**	**+0.3**
baz=74							
131A	**Roby**	**74.03**	**337**	⇓P	**P**	**10 32 19.5**	**+0.2**
baz=74							
Z33A	**Whitaker Ranch**	**74.11**	**338**	⇓P	**P**	**10 32 19.8**	**+0.1**
baz=74							
130A	**Snyder**	**74.14**	**336**	⇓P	**P**	**10 32 20.2**	**+0.2**
baz=74							
228A	**UT Block 9, Go**	**74.24**	**335**	⇑P	**P**	**10 32 21.1**	**+0.4**
baz=74							
Z32A	**Haskell**	**74.34**	**338**	⇑P	**P**	**10 32 21.3**	**+0.2**
baz=75							
Y34A	**Reagan Ranch,**	**74.44**	**339**	⇑P	**P**	**10 32 22.3**	**+0.7**
baz=75							
129A	**Stewart Farms,**	**74.47**	**335**	⇓P	**P**	**10 32 22.6**	**+0.6**
baz=75							
Z31A	**Sharp Cattle R**	**74.55**	**337**	⇓P	**P**	**10 32 22.9**	**+0.5**
baz=75							
128A	**Castleberry Fa**	**74.67**	**335**	⇓P	**P**	**10 32 23.5**	**+0.4**
baz=75							
Y33A	**Hilltop Ranch,**	**74.74**	**339**	⇑P	**P**	**10 32 23.9**	**+0.5**
baz=75							
Z30A	**Sanderson Ranc**	**74.83**	**336**	⇑P	**P**	**10 32 24.2**	**+0.2**
baz=75							
MNTX	**Cornudas Mount**	**74.86**	**332**	*e*P	**P**	**10 32 23.1**	**-1.0**
comp=E,31nm,2.5s							
Y32A	**R-V Farms, Ver**	**74.97**	**338**	⇑P	**P**	**10 32 25.0**	**+0.2**
baz=75							
Z29A	**Hungry Hill Ra**	**75.00**	**336**	⇑P	**P**	**10 32 24.8**	**-0.2**
baz=75,SNR=6.0							
X34A	**Smith Ranch, M**	**75.07**	**339**	⇓P	**P**	**10 32 25.4**	**+0.2**
baz=75							
Y31A	**Rekieta Farm,**	**75.19**	**337**	⇓P	**P**	**10 32 26.2**	**+0.2**
baz=76							
X33A	**Lawton**	**75.20**	**339**	⇓P	**P**	**10 32 26.0**	**0.0**
baz=76							
Z28A	**Tucker Farm, M**	**75.25**	**335**	⇓P	**P**	**10 32 26.4**	**0.0**
baz=76							
Y30A	**Stafford Cattl**	**75.30**	**337**	⇑P	**P**	**10 32 26.6**	**-0.1**
baz=76							
Y29A	**Porterfield Fa**	**75.53**	**336**	⇑P	**P**	**10 32 28.2**	**+0.1**
baz=76							
W34A	**Bridge Creek,**	**75.65**	**340**	⇓P	**P**	**10 32 28.7**	**+0.1**
baz=76							
X31A	**McDonald Ranch**	**75.72**	**338**	⇑P	**P**	**10 32 29.2**	**+0.1**
baz=76							
TUL1	**Leonard**	**75.76**	**342**	⇓P	**P**	**10 32 29.4**	**+0.2**
baz=76							
W33A	**Caddo, Fort Co**	**75.76**	**339**	⇓P	**P**	**10 32 29.9**	**+0.6**
baz=76							
Y28A	**McKinney Farm,**	**75.77**	**336**	⇑P	**P**	**10 32 29.5**	**+0.1**
baz=76							
X30A	**Coker Ranch, T**	**75.82**	**337**	⇑P	**P**	**10 32 30.8**	**+1.1**
baz=76							
W32A	**Sentinel**	**75.96**	**339**	⇑P	**P**	**10 32 31.2**	**+0.8**
baz=76							
MSTX	**Muleshoe**	**76.00**	**335**	⇓P	**P**	**10 32 31.4**	**+0.7**
baz=76							
Y27A	**Causey**	**76.05**	**335**	⇑P	**P**	**10 32 31.9**	**+0.8**
baz=76							
X29A	**Tulia**	**76.08**	**336**	⇑P	**P**	**10 32 32.0**	**+0.8**
baz=76							
SIUC	**Southern Illin**	**76.09**	**347**	*e*P	**P**	**10 32 29.9**	**-1.1**
comp=E,6.3nm,0.3s							
319A	**Douglas**	**76.09**	**329**	⇓P	**P**	**10 32 31.9**	**+0.5**
baz=76							
V34A	**Guthrie**	**76.14**	**340**	⇓P	**P**	**10 32 32.3**	**+0.9**
baz=76							
W31A	**Holland Ranch,**	**76.22**	**338**	⇓P	**P**	**10 32 32.7**	**+0.7**
baz=76							
X28A	**Dimmitt**	**76.31**	**336**	⇑P	**P**	**10 32 33.1**	**+0.5**
baz=77							
V33A	**Lossen Ranch,**	**76.34**	**340**	⇓P	**P**	**10 32 33.5**	**+0.9**
baz=77							
W30A	**Crocket Farms**	**76.41**	**337**	⇓P	**P**	**10 32 33.5**	**+0.5**
baz=77							
V32A	**Arapaho**	**76.46**	**339**	⇓P	**P**	**10 32 33.9**	**+0.7**
baz=77							
AMTX	**Amarillo**	**76.48**	**337**	⇓P	**P**	**10 32 34.1**	**+0.6**
baz=77							
AMTX	**Amarillo**	**76.48**	**337**	*e*P	**P**	**10 32 33.9**	**+0.4**
comp=E,10nm,1.0s							
121A	**Cookes Peak, D**	**76.52**	**331**	⇑P	**P**	**10 32 34.2**	**+0.4**
baz=77							
W29A	**Amarillo**	**76.69**	**337**	⇓P	**P**	**10 32 35.5**	**+0.8**
baz=77							
U34A	**Anderson Ranch**	**76.71**	**340**	⇑P	**P**	**10 32 35.5**	**+0.9**
baz=77							
X27A	**F and S Farms,**	**76.72**	**335**	⇓P	**P**	**10 32 35.3**	**+0.4**
baz=77							
V31A	**Spring Creek L**	**76.74**	**338**	⇓P	**P**	**10 32 35.6**	**+0.7**
baz=77							
Z22A	**Elephant Butte**	**76.84**	**332**	⇓P	**P**	**10 32 36.0**	**+0.3**
baz=77							
X26A	**CR and CF Fran**	**76.88**	**335**	⇓P	**P**	**10 32 36.3**	**+0.5**
baz=77							
Y24A	**Capitan**	**76.88**	**333**	⇑P	**P**	**10 32 36.7**	**+0.8**
baz=77							
V30A	**Spur Ranch, Mi**	**76.98**	**338**	⇑P	**P**	**10 32 37.2**	**+0.9**
baz=77							
W28A	**Vega**	**76.99**	**336**	⇑P	**P**	**10 32 37.3**	**+0.9**
baz=77							
LIC	**Lamto**	**77.01**	**72**	*e*P	**P**	**10 32 37.3**	**+0.5**
comp=E,34nm,0.6s							
U32A	**Winter Ranch,**	**77.06**	**339**	⇓P	**P**	**10 32 37.9**	**+1.2**
baz=77							
W27A	**Bowe Ranch, En**	**77.09**	**336**	⇓P	**P**	**10 32 37.5**	**+0.6**
baz=77,SNR=5.6							
X25A	**Clemmons Ranch**	**77.15**	**334**	⇑P	**P**	**10 32 37.7**	**+0.4**
baz=77							
TIC	**Toumodi**	**77.28**	**71**	*e*P	**P**	**10 32 38.8**	**+0.4**
comp=E,12nm,0.2s							
U31A	**Nine Bar Ranch**	**77.30**	**339**	⇑P	**P**	**10 32 38.7**	**+0.7**
baz=78							
KIC	**Kosan Boka**	**77.31**	**72**	*e*P	**P**	**10 32 39.1**	**+0.5**
comp=E,78nm,1.1s							
V29A	**Stinnett**	**77.34**	**337**	⇓P	**P**	**10 32 39.0**	**+0.7**
baz=78							
W26A	**Owens Ranch, T**	**77.35**	**335**	⇑P	**P**	**10 32 38.9**	**+0.4**
baz=78							
DBIC	**Dimbokro**	**77.42**	**71**	P	**P**	**10 32 39.7**	**+0.5**
comp=E,12nm,0.6s,baz=202,slow=5.7,SNR=21							
V28A	**Channing**	**77.45**	**336**	⇑P	**P**	**10 32 39.7**	**+0.8**
baz=78							
T33A	**Patterson Ranc**	**77.51**	**340**	⇑P	**P**	**10 32 39.6**	**+0.5**
baz=78							
Y22D	**IRIS PASSCAL I**	**77.56**	**332**	⇓P	**P**	**10 32 40.2**	**+0.6**
baz=78							
V27A	**Dan Oppiter Fa**	**77.65**	**336**	⇓P	**P**	**10 32 40.7**	**+0.6**
baz=78							
U30A	**WK&E Inc. Balk**	**77.68**	**338**	⇑P	**P**	**10 32 40.8**	**+0.6**
baz=78							
W25A	**X Bar L Ranch,**	**77.70**	**335**	⇑

U24A	Moreno Valley	79.06 334	⇓P	P	10 32 48.7 +0.7
	baz=79				
X18A	Snowflake	79.12 330	⇓P	P	10 32 48.9 +0.6
	baz=79				
T26A	Comanche Natio	79.19 336	⇑P	P	10 32 49.8 +1.2
	baz=80				
V22A	San Miguel Ran	79.19 333	⇓P	P	10 32 50.2 +1.5
	baz=80				
Q33A	Connelly Farm,	79.20 341	⇑P	P	10 32 50.2 +1.8
	baz=80				
R30A	Dighton	79.20 339	⇓P	P	10 32 49.9 +1.4
	baz=80				
113A	Mohawk Valley,	79.21 326	⇓P	P	10 32 49.9 +1.3
	baz=80				
U23A	El Rito	79.31 334	⇑P	P	10 32 50.7 +1.4
	baz=80				
Q32A	Meitler Ranch,	79.39 340	⇑P	P	10 32 51.1 +1.7
	baz=80				
T25A	Trinidad	79.43 335	⇑P	P	10 32 51.3 +1.4
	baz=80,SNR=5.8				
S27A	Las Animas	79.44 337	⇓P	P	10 32 50.7 +0.8
	baz=80				
W18A	Petrified Fore	79.55 331	⇓P	P	10 32 51.6 +0.9
	baz=80				
S26A	Kim	79.56 336	⇑P	P	10 32 51.6 +1.0
	baz=80,SNR=5.7				
U22A	Llaves	79.59 333	⇓P	P	10 32 52.2 +1.3
	baz=80				
BOSA	Boshof	79.60 118 P		P	10 32 51.5 +0.2
	comp=E,6.6nm,0.8s,baz=235,slow=3.8,SNR=11				
BOSA	Boshof	79.60 118 *e*P		P	10 32 51.4 +0.1
	comp=E,14nm,1.2s				
Q31A	Ellis	79.62 340	⇑P	P	10 32 51.9 +1.1
	baz=80				
X16A	Lo Mia Camp, P	79.63 329	⇓P	P	10 32 51.7 +0.6
	baz=80				
T24B	San Luis	79.69 335	⇓P	P	10 32 52.0 +0.5
	baz=80				
R28A	Tribune	79.71 338	⇑P	P	10 32 52.0 +0.7
	baz=80				
Q30A	Quinter	79.83 339	⇑P	P	10 32 52.7 +0.8
	baz=80				
Y14A	Wickenburg	79.87 328	⇓P	P	10 32 53.1 +0.8
	baz=80				
T23A	Casias Ranch,	79.89 334	⇓P	P	10 32 52.9 +0.4
	baz=80				
S25A	Robets Cordova	79.91 336	⇑P	P	10 32 53.1 +0.6
	baz=80				
GLA	Glamis	79.92 326	⇑P	P	10 32 52.8 +0.3
	baz=80				
R27A	Eads	79.96 337	⇑P	P	10 32 53.4 +0.8
	baz=80,SNR=5.2				
Q29A	Oakley	79.97 339	⇑P	P	10 32 53.5 +0.8
	baz=80				
P32A	Huiting Farm,	79.99 341	⇓P	P	10 32 53.8 +1.1
	baz=80				
P31A	Stockton	80.10 340	⇓P	P	10 32 54.6 +1.2
	baz=80				
S24A	Houchin Ranch,	80.15 335	⇓P	P	10 32 55.2 +1.2
	baz=80				
R26A	Arlington	80.17 337	⇓P	P	10 32 55.2 +1.3
	baz=80				
SWSC	Sam W. Stewart	80.26 325	⇓P	P	10 32 54.8 +0.5
	baz=80				
R25A	Fountain Ranch	80.30 336	⇑P	P	10 32 55.1 +0.5
	baz=81				
P30A	Selden	80.36 339	⇑P	P	10 32 55.3 +0.6
	baz=81				
Q28A	Sharon Springs	80.38 338	⇓P	P	10 32 55.3 +0.4
	baz=81				
S23A	Nye Farm, Mont	80.48 334	⇓P	P	10 32 56.0 +0.3
	baz=81				
MONP	Monument Peak,	80.51 325	⇓P	P	10 32 56.0 +0.1
	baz=81				
KSCO	Kaye Shedlock'	80.57 337	⇓P	P	10 32 57.3 +1.3
	baz=81				
P29A	Atwood	80.61 339	⇓P	P	10 32 57.3 +1.2
	baz=81				
R24A	Sanders Place,	80.65 335	⇑P	P	10 32 57.8 +1.3
	baz=81,SNR=7.2				
O31A	Woolen Ranch,	80.68 340	⇑P	P	10 32 57.7 +1.3
	baz=81				
Q26A	Hugo	80.77 337	⇓P	P	10 32 58.1 +1.0
	baz=81				
S22A	4UR Ranch, Cre	80.80 334	⇑P	P	10 32 58.4 +0.9
	baz=81				
P28A	Saint Francis	80.83 338	⇓P	P	10 32 58.3 +1.1
	baz=81				
R23A	Moffat	80.86 335	⇑P	P	10 32 58.6 +0.9
	baz=81				
O30A	MW Ranch, Wils	80.90 340	⇑P	P	10 32 59.0 +1.3
	baz=81				
MVCO	Mesa Verde	80.93 332	⇓P	P	10 32 59.0 +1.0
	baz=81				
N32A	Stulken Farm,	80.98 341	⇑P	P	10 32 59.3 +1.3
	baz=81				
Q25A	Bedland, Calha	80.99 336	⇓P	P	10 32 59.3 +0.9
	baz=81				
IRM	Iron Mountain	81.00 326	⇓P	P	10 32 59.2 +0.9
	baz=81				
P27A	Ficken Ranch,	81.06 338	⇓P	P	10 32 59.6 +1.1
	baz=81				
O29A	4D Ranch, Culb	81.06 339	⇓P	P	10 32 59.8 +1.4
	baz=81				
N31A	Bailey Ranch,	81.21 341	⇓P	P	10 33 00.9 +1.7
	baz=82				
P26A	Davis Ranch, A	81.29 337	⇓P	P	10 33 01.0 +1.2
	baz=82				
Q24A	Divide	81.33 336	⇓P	P	10 33 01.0 +0.7
	baz=82				
O28A	Krutsinger Ran	81.34 338	⇓P	P	10 33 01.1 +1.1
	baz=82				
N30A	Hueftle Ranch,	81.49 340	⇑P	P	10 33 01.9 +1.1
	baz=82				
Q23A	Hartsel	81.50 335	⇑P	P	10 33 02.0 +0.8
	baz=82				
P25A	Willow Gulch B	81.51 337	⇑P	P	10 33 01.9 +0.9
	baz=82				
SCI	San Clemente I	81.58 323	⇑P	P	10 33 02.4 +1.0
	baz=82				
O27A	Beecher Island	81.61 338	⇑P	P	10 33 02.8 +1.4
	baz=82				
N29A	Votaw Ranch, W	81.66 340	⇑P	P	10 33 02.9 +1.2
	baz=82				
M31A	Lambtecht Ranc	81.70 341	⇑P	P	10 33 03.1 +1.3
	baz=82				
U15A	North Rim	81.71 329	⇑P	P	10 33 03.4 +1.1
	baz=82				
GMRC	Granite Mounta	81.74 326	⇑P	P	10 33 03.3 +1.0
	baz=82				
P24A	Kohler Place,	81.75 336	⇑P	P	10 33 03.2 +0.9
	baz=82				
N28A	Pribbeno Ranch	81.79 339	⇑P	P	10 33 03.4 +1.0
	baz=82				
CIS	Catalina Islan	81.86 323	⇓P	P	10 33 03.7 +0.8
	baz=82				
O26A	Horse Wrangler	81.91 337	⇑P	P	10 33 04.5 +1.4
	baz=82				
LBTB	Lobatse	82.01 115 *e*P		P	10 33 04.3 +0.2
	comp=E,11nm,0.6s				
O25A	Wiggins	82.04 337	⇓P	P	10 33 04.7 +0.9
	baz=82				
FMP	Fort Macarthur	82.06 324	⇓P	P	10 33 04.7 +0.9
	baz=82				
HEC	Hector,Ludlow	82.08 326	⇓P	P	10 33 05.2 +1.2
	baz=82				
OGNE	Ogallala	82.17 339	⇑P	P	10 33 05.2 +0.8
	baz=82				
N27A	Anderson Farm,	82.19 338	⇑P	P	10 33 05.3 +0.8
	baz=82				
BFSC	Mount Baldy Ra	82.20 324	⇓P	P	10 33 05.2 +0.5
	baz=82				
ISCO	Idaho Springs	82.24 336	⇓P	P	10 33 05.7 +0.7
	baz=82				
M29A	Burnside Ranch	82.25 340	⇓P	P	10 33 05.7 +1.0
	baz=82				
O24A	Longmont	82.35 336	⇓P	P	10 33 06.2 +0.8
	baz=83				
P22A	Eagle	82.44 335	⇓P	P	10 33 07.0 +1.1
	baz=83				
L31A	Butterfield Fa	82.45 341	⇓P	P	10 33 06.6 +0.9
	baz=83				
L30A	Spencer Herefo	82.46 341	⇑P	P	10 33 06.9 +1.1
	baz=83				
DECC	Green Verdugo	82.52 324	⇓P	P	10 33 07.3 +1.0
	baz=83				
O23A	Lake Granby, G	82.71 336	⇓P	P	10 33 08.6 +1.2
	baz=83				
O22A	Kremmling	82.87 335	⇑P	P	10 33 09.2 +0.9
	baz=83				
EDW2	Edwards Air Fo	82.88 325	⇓P	P	10 33 09.6 +1.4
	baz=83				
SHPR	Sheep Range	82.98 327 *e*P		P	10 33 09.8 +1.0
	comp=E,3.1nm,1.0s				
K30A	Basset	83.11 341	⇓P	P	10 33 10.4 +1.2
	baz=83				
SRU	San Rafael Swe	83.35 332 *e*P		P	10 33 11.5 +0.8
ECSD	EROS Data Cent	83.38 343	⇑P	P	10 33 10.6 +0.2
	baz=84				
O20A	White River Ci	83.43 334	⇑P	P	10 33 12.3 +1.3
	baz=84				
ARVC	Arvin	83.48 324	⇓P	P	10 33 12.7 +1.5
	baz=84				
M24A	Cheyenne	83.49 337	⇑P	P	10 33 12.6 +1.3
	baz=84				
K28A	Ten Mile Ranch	83.62 340	⇓P	P	10 33 13.2 +1.4
	baz=84				
MPMC	Manual Prospec	83.63 326	⇑P	P	10 33 13.1 +0.9
	baz=84				
FURC	Furnace Creek,	83.69 326	⇑P	P	10 33 13.8 +1.6
	baz=84				
J30A	Dallas	83.69 341	⇑P	P	10 33 14.0 +1.9
	baz=84				
ISA	Isabella, Lake	83.75 325	⇑P	P	10 33 13.9 +1.3
	baz=84				
M23A	Laramie	83.78 336	⇑P	P	10 33 13.9 +1.1
	baz=84				
L25A	Engebretsen Ra	83.86 338	⇑P	P	10 33 14.5 +1.4
	baz=84				
J29A	Okreek	83.98 341	⇑P	P	10 33 14.2 +0.6
	baz=84				
M22A	Cedar Creek Ra	84.00 336	⇓P	P	10 33 14.3 +0.2
	baz=84				
SPMN	Marine on St.	84.02 346	⇓P	P	10 33 14.5 +0.8
	baz=84				
L24A	Wheatland	84.05 337	⇑P	P	10 33 14.6 +0.4
	baz=84				
N20A	Spence Gulch,	84.06 334	⇓P	P	10 33 15.1 +0.8
	baz=84				
K26A	Motz Farm, Whi	84.12 339	⇓P	P	10 33 15.0 +0.6
	baz=84				
I30A	Oacoma	84.23 342	⇓P	P	10 33 15.4 +0.6
	baz=84				
J28A	Allard Ranch,	84.24 340	⇑P	P	10 33 15.9 +1.0
	baz=84				
K25A	Mack Ranch, Ha	84.25 338	⇑P	P	10 33 15.9 +0.9
	baz=84				
J27A	Elkhorn Farm,	84.30 340	⇓P	P	10 33 16.2 +0.9
	baz=85				
L23A	Garrett	84.36 337	⇑P	P	10 33 16.3 +0.5
	baz=85				
L22A	Ellis Ranch, M	84.52 336	⇑P	P	10 33 17.3 +0.8
	baz=85				
I29A	Vivian Onida	84.55 341	⇓P	P	10 33 17.5 +1.0
	baz=85				
BRSD	Miller	84.61 342	⇓P	P	10 33 17.8 +1.1
	baz=85				
BRSD	Miller	84.61 342 *e*P		P	10 33 16.2 -0.5
	comp=E,7.1nm,0.8s				
K24A	Anderson Ranch	84.63 337	⇑P	P	10 33 17.9 +0.9
	baz=85				
J26A	Sides Ranch, S	84.65 339	⇑P	P	10 33 18.4 +1.4
	baz=85				
R11A	Troy Canyon, C	84.72 328	⇓P	P	10 33 18.7 +1.1
	baz=85				
I28A	Midland	84.76 340	⇑P	P	10 33 18.8 +1.3
	baz=85				
K23A	Bowen Ranch, D	84.91 337	⇑P	P	10 33 19.3 +0.8
	baz=85				
J25A	Sunshine Ranch	84.94 338	⇑P	P	10 33 19.7 +1.2
	baz=85				
I27A	Quinn	85.06 340	⇓P	P	10 33 20.0 +0.9
	baz=85				
H29A	Onida	85.09 341	⇑P	P	10 33 20.5 +1.4
	baz=85				
K22A	Casper	85.10 336	⇑P	P	10 33 20.6 +1.1
	baz=85				
J24A	Dixon Ranch, L	85.14 338	⇓P	P	10 33 20.6 +1.0
	baz=85				
DUG	Dugway, Tooele	85.17 331	⇑P	P	10 33 20.3 +0.5
	baz=85				
DUG	Dugway, Tooele	85.17 331 *e*P		P	10 33 20.9 +1.1
I26A	New Underwood	85.25 339	⇓P	P	10 33 20.9 +0.9
	baz=86				
G30A	Faulkton	85.30 342	⇓P	P	10 33 20.9 +0.7
	baz=86				
K21A	Alcova	85.32 336	⇓P	P	10 33 21.3 +0.7
	baz=86				
H28A	Mission Ridge	85.35 341	⇑P	P	10 33 21.2 +0.8
	baz=86				
J23A	Dilts Ranch, B	85.48 337	⇓P	P	10 33 22.5 +1.2
	baz=86				
I25A	Rochford	85.49 339	⇑P	P	10 33 22.6 +1.2
	baz=86				
MLAC	Mammoth, Mammo	85.53 326	⇑P	P	10 33 22.6 +0.8
	baz=86				
G29A	Hoven	85.55 342	⇓P	P	10 33 22.7 +1.3
	baz=86				
H27A	Howes	85.59 340	⇑P	P	10 33 22.4 +0.7
	baz=86				
I24A	Kuemmerle Ranc	85.61 338	⇑P	P	10 33 21.2 -0.7
	baz=86				
RSSD	Black Hills	85.67 339 *e*P		P	10 33 21.2 -1.1
	comp=E,2.5nm,0.8s				
G28A	Parade	85.69 341	⇓P	P	10 33 22.8 +0.6
	baz=86				
F30A	Leola	85.93 342	⇑P	P	10 33 23.4 +0.1
	baz=86				
NVAR	Mina Array Bea	85.95 326 P		P	10 33 24.2 +0.3
	comp=E,1.5nm,0.7s,baz=157,slow=5.5,SNR=10.0				
H25A	Fruitdale	86.00 339	⇑P	P	10 33 24.2 +0.4
	baz=86				
J21A	Lysite	86.02 336	⇓P	P	10 33 24.4 +0.4
	baz=86				
F29A	Eureka	86.12 342	⇑P	P	10 33 24.3 +0.1
	baz=86				
I22A	9 Mile Ranch,	86.21 337	⇓P	P	10 33 25.0 +0.1
	baz=86				
BW06	Boulder Array	86.22 334 *e*P		P	10 33 24.7 -0.3
	comp=E,12nm,1.6s				
PDAR	Pinedale Array	86.22 334 P		P	10 33 25.0 -0.1
	comp=E,1.4nm,0.9s,baz=162,slow=5.6,SNR=8.6				
J20A	Shoshoni	86.24 336	⇑P	P	10 33 25.6 +0.6
	baz=86				
G27A	Dupree	86.24 340	⇑P	P	10 33 25.4 +0.5
	baz=86				
G26A	Maurine	86.34 340	⇑P	P	10 33 25.9 +0.5
	baz=87				
F28A	McLaughlin	86.38 341	⇓P	P	10 33 26.0 +0.5
	baz=87				
I21A	Big Trails, Te	86.39 336	⇑P	P	10 33 26.8 +1.0
	baz=87				
H24A	Dirks Ranch, A	86.40 338	⇓P	P	10 33 25.5 -0.2
	baz=87				
G25A	Newell	86.48 339	⇑P	P	10 33 26.4 +0.3
	baz=87				
J19A	Crowheart	86.48 335	⇑P	P	10 33 27.0 +0.7
	baz=87				
TORD	Torodi Ar. Bea	86.50 71 P		P	10 33 26.5 -0.3
	comp=E,3.2nm,0.8s,baz=214,slow=5.0,SNR=23				
E30A	Jud	86.53 343	⇑P	P	10 33 27.2 +1.0
	baz=87				
F27A	Lemmon	86.72 341	⇑P	P	10 33 27.5 +0.3
	baz=87,SNR=7.5				
MSKU	Masuku	86.75 90 P		P	10 33 27.9 -0.3
	comp=E,7.2nm,0.7s,baz=257,slow=7.5,SNR=4.4				
E29A	Napoleon	86.77 342	⇑P	P	10 33 27.8 +0.4
	baz=87				
I20A	Worland	86.78 336	⇓P	P	10 33 27.4 -0.3
	baz=87				
H22A	Clearmont	86.80 337	⇑P	P	10 33 28.0 +0.3
	baz=87				
F26A	Lodgepole	86.88 340	⇑P	P	10 33 27.8 -0.2
	baz=87				
E28A	Huff	87.03 342	⇑P	P	10 33 28.7 +0.1
	baz=87				
D30A	Buchanan	87.06 343	⇓P	P	10 33 28.9 +0.1
	baz=87				
E27A	Carson	87.12 341	⇓P	P	10 33 29.3 +0.2
	baz=87				
I19A	Meeteetse	87.15 335	⇑P	P	10 33 29.3 -0.3
	baz=87				
F25A	Bowman	87.16 340	⇑P	P	10 33 29.2 -0.2
	baz=88				
D29A	Pettibone, Tap	87.22 343	⇓P	P	10 33 29.9 +0.4
	baz=88				
F24A	Ekalaka	87.37 339	⇑P	P	10 33 30.3 -0.1
	baz=88				
E26A	Carlson Angus	87.39 340	⇑P	P	10 33 30.5 0.0
	baz=88				
F23A	Volborg	87.53 338	⇑P	P	10 33 31.9 +0.7
	baz=88				
C30A	Mose, Pekin	87.56 343	⇑P	P	10 33 31.6 +0.5
	baz=88,SNR=9.0				
AGMN	Agassiz Nation	87.56 345	⇑P	P	10 33 31.6 +0.4
	baz=88				
D28A	Regan	87.58 342	⇓P	P	10 33 31.8 +0.5
	baz=88				
I17A	Pilgrim Ck.	87.58 334	⇓P	P	10 33 32.0 +0.3
	baz=88				
G21A	Lodge Grass	87.63 337	⇑P	P	10 33 33.0 +1.3
	baz=88				
E25A	Miller Ranch,	87.67 340	⇑P	P	10 33 32.7 +0.9
	baz=88				
H19A	Powell	87.71 336	⇑P	P	10 33 33.2 +1.0
	baz=88				
D27A	Center	87.74 341	⇓P	P	10 33 33.2 +1.1
	baz=88				
F22A	Rosebud	87.84 338	⇓P	P	10 33 33.9 +1.2
	baz=88				
D26A	Manning	87.90 341	⇓P	P	10 33 33.5 +0.6
	baz=88				
H18A	Shoshone NF, C	87.94 335	⇑P	P	10 33 34.1 +0.7
	baz=88				
G20A	Bridger	87.95 336	⇓P	P	10 33 34.2 +0.9
	baz=88				
MDND	Maddock	87.96 343	⇑P	P	10 33 33.8 +0.8
	baz=88				
E24A	Baker	87.98 339	⇓P	P	10 33 34.7 +1.3
	baz=88				
H17A	Grant Village	88.00 334	⇓P	P	10 33 34.6 +0.8
	baz=88				
C28A	Hausauer Farms	88.02 342	⇓P	P	10 33 34.7 +1.3
	baz=88				
F21A	Absaloka Mine,	88.14 337	⇓P	P	10 33 35.4 +1.3
	baz=88				
E23A	Ismay	88.21 339	⇑P	P	10 33 35.4 +1.0
	baz=88				
B30A	Myrvik Farm, E	88.23 344	⇑P	P	10 33 34.7 +0.3
	baz=88,SNR=9.3				
D25A	Fairfield	88.25 340	⇓P	P	10 33 35.3 +0.7
	baz=88				
C27A	Sayler Ranch,	88.29 342	⇑P	P	10 33 35.7 +1.0
	baz=89				
E22A	Miles City	88.34 338	⇓P	P	10 33 36.0 +0.9
	baz=89				
F20A	Billings	88.44 337	⇑P	P	10 33 36.4 +0.9
	baz=89				
B29A	Wagenman Farm,	88.48 343	⇑P	P	10 33 36.7 +1.2
	baz=89				
D24A	Glendive	88.49 340	⇑P	P	10 33 36.7 +1.1
	baz=89				
C26A	Wahner Farm, P	88.55 341	⇓P	P	10 33 37.0 +1.1
	baz=89				
HLID	Hailey	88.67 332	⇑P	P	10 33 37.4 +0.7
	baz=89				
A30A	Hoffart Farm,	88.69 344	⇓P	P	10 33 37.4 +0.8
	baz=89				
B28A	Dugan Ranch, T	88.70 343	⇑P	P	10 33 38.3 +1.7
	baz=89,SNR=5.8				
F19A	Roth Farm, Mol	88.74 336	⇓P	P	10 33 37.9 +0.9
	baz=89				
C25A	Freed Ranch, W	88.75 340	⇓P	P	10 33 38.1 +1.2
	baz=89				
E21A	Keefer Ranch,	88.77 338	⇑P	P	10 33 38.3 +1.2
	baz=89				
D23A	Lindsay	88.79 339	⇑P	P	10 33 38.3 +1.2
	baz=89				
B27A	Peters Farms,	88.88 342	⇑P	P	10 33 38.5 +1.1
	baz=89				
A29A	Manning Farm,	88.88 343	⇓P	P	10 33 37.5 +0.1
	baz=89,SNR=7.3				
C24A	Savage	88.90 340	⇓P	P	10 33 38.3 +0.7
	baz=89				
D22A	Cohagen	89.05 338	⇑P	P	10 33 38.9 +0.6
	baz=89				
E20A	Meyer Farm, Mu	89.06 337	⇓P	P	10 33 38.7 +0.3
	baz=89				
B26A	Jensen Ranch,	89.09 341	⇑P	P	10 33 39.4 +0.9
	baz=89				
A28A	Rude Farm, Bot	89.11 343	⇑P	P	10 33 39.9 +1.4
	baz=89				
D21A	La Casta Ranch	89.22 338	⇑P	P	10 33 40.3 +1.2
	baz=90				
E19A	Rath Farm, Rou	89.23 336	⇑P	P	10 33 40.4 +1.1
	baz=90				
B25A	Knox Farm, Ray	89.24 341	⇑P	P	10 33 40.2 +1.1
	baz=90				
A27A	Ledoux Ranch,	89.38 342	⇑P	P	10 33 41.2 +1.5
	baz=90				
ULM	Lac du Bonnet	89.43 346 P		P	10 33 38.5 -1.4
	comp=E,3.8nm,1.0s,baz=169,slow=7.2,SNR=4.6				
C22A	Vida	89.51 339	⇓P	P	10 33 41.6 +1.2
	baz=90				
A26A	Wade Farm, Ken	89.53 342	⇑P	P	10 33 42.0 +1.5
	baz=90				
D20A	Manuel Ranch,	89.59 337	⇓P	P	10 33 41.9 +1.0
	baz=90				
A25A	Svangstu Ranch	89.84 341	⇓P	P	10 33 43.4 +1.4
	baz=90				
D19A	Cripps Ranch,	89.89 337	⇑P	P	10 33 43.5 +1.2
	baz=90				
B23A	Brockton	89.91 340	⇓P	P	10 33 43.0 +0.8
	baz=90				
C21A	Desert Coulee	89.93 338	⇑P	P	10 33 43.7 +1.3
	baz=90				
N02D	Trinity Center	90.00 325	⇑P	P	10 33 44.2 +1.3
	baz=90				
B22A	Reddig Ranch S	90.04 339	⇓P	P	10 33 44.1 +1.1
	baz=90				
A24A	Westby	90.06 340	⇓P	P	10 33 44.3 +1.3
	baz=90				
C20A	Veseth Ranch,	90.11 338	⇑P	P	10 33 44.3 +1.0
	baz=90				
C19A	Slack Wire Ran	90.45 337	⇑P	P	10 33 46.2 +1.4
	baz=91				
A21A	Bergtoll Ranch	90.93 339	⇓P	P	10 33 47.8 +0.7
	baz=91				
GERES	GERESS Array B	115.37 47	PKP	PKPdf	10 39 24.4 -0.5
	comp=E,0.6nm,0.7s,baz=27,slow=3.3,SNR=4.5				
WRA	Warramunga Arr	117.23 210	PKP	PKPdf	10 39 28.1 -1.2
	comp=E,0.6nm,0.7s,baz=164,slow=1.5,SNR=7.2				
BRTR	Keskin Array B	124.50 63	PKP	PKPdf	10 39 42.6 -0.2
	comp=E,1.9nm,0.7s,baz=194,slow=4.6,SNR=12				
GEYT	Alibeck	142.08 74	PKhKP	PKPpre	10 40 10.0
	comp=E,2.3nm,0.7s,baz=256,slow=4.3,SNR=4.6				
AKTO	Aktyubinsk	143.39 53	PKhKP	PKPpre	10 40 12.8
	comp=E,1.8nm,0.6s,baz=269,slow=3.0,SNR=8.2				
TIXI	Tiksi	143.74 348	*e*PKPdf	PKPab	10 40 13.6 -0.7
ABKAR	Akbulak array	144.67 55	*e*PKPdf	PKPbc	10 40 19.0 +0.3
HYB	Hyderabad	148.45 121	*i* PKP	**PKPbc**	**10 40 30.5 -0.2**
BRVK	Borovoye	150.47 46	*e*PKPdf	**PKPdf**	**10 40 29.6 +0.4**
BRVK			*e*PKPbc	**PKiKP**	**10 40 35.1 -0.2**
BVAR	Borovoye Array	150.54 46	PKPbc	**PKPbc**	**10 40 34.8 +0.1**
	comp=E,8.2nm,0.8s,baz=318,slow=2.0,SNR=4.0				
YAK	Yakutsk	151.40 337	*e*PKPdf	**PKPdf**	**10 40 30.6 +0.3**
YAK			*e*PKPbc	**PKPbc**	**10 40 36.2 -0.3**
KKAR	Karatay Array	152.12 67	*e*PKPdf	**PKPdf**	**10 40 32.2 +0.1**
KKAR			*e*PKPbc	**PKPbc**	**10 40 38.9 +0.1**
KKAR			*e*PKPab	**PKPab**	**10 40 48.1 -0.4**
EKS2	Erkin-Say	154.53 68	*e*PKPdf	**PKPdf**	**10 40 36.5 +0.7**
EKS2			*e*PKPbc	**PKiKP**	**10 40 44.6 +0.4**
EKS2			*e*PKPab	**PKPab**	**10 40 59.1 +0.2**
AAK	Ala-Archa	155.06 68	*e*PKPdf	**PKPdf**	**10 40 37.5 +0.9**
AAK			*e*PKPbc	PKPbc	10 40 46.2
AAK			*e*PKPab	**PKPab**	**10 41 01.5 +0.4**
KSH	Kashi	156.09 75	*e*PKP	**PKPdf**	**10 40 38.1 +0.1**
KSH			sPKP		10 40 51.6
KSH			PKS	**PKSdf**	**10 44 13.8 +1.8**
KSH			PP	**PP**	**10 44 42.3 -1.4**
KSH			SKS	**SKSdf**	**10 47 42.3 +0.1**
KSH			SS	**SS**	**11 04 28.3 -3.0**
KSH			PPMZ		
	comp=E,120nm,4.8s				
KSH			LN		
	comp=E,55nm,6.2s				
KSH			LE		
	comp=E,48nm,4.2s				
KSH			LZ		
	comp=E,140nm,6.4s				
ZALV	Zalesovo Beam	157.70 35	PKP	**PKPdf**	**10 40 38.7 -0.6**
	comp=E,3.3nm,0.8s,baz=267,slow=3.0,SNR=15				
ZALV			PKPab	**PKPab**	**10 41 12.2 +0.4**

comp=E,3.5nm,0.5s,baz=300,slow=5.0,SNR=8.7
MKAR Makanchi Array 159.81 55 PKP **PKPdf 10 40 41.5 -0.7**
comp=E,2.0nm,1.0s,baz=321,slow=1.7,SNR=13
MKAR PKPab **PKPab 10 41 21.1 -0.2**
comp=E,2.7nm,0.8s,baz=306,slow=4.1,SNR=12
CMAR Chiang Mai Arr 160.06 159 PKPab **PKPab 10 41 22.6 -0.3**
comp=E,0.7nm,0.4s,baz=223,slow=4.3,SNR=4.4
CN2 Changchun 164.20 300 *e*PKP **PKPdf 10 40 47.6 +0.9**
NJ2 Nanjing 168.50 246 *e*PKP **PKPdf 10 40 51.3 +0.9**
SONM Songino Array 169.53 0 PKP **PKPdf 10 40 50.5 -0.2**
comp=E,0.3nm,0.7s,baz=108,slow=0.6,SNR=3.0
SONM PKPab **PKPab 10 42 03.4 -0.6**
comp=E,1.0nm,0.9s,baz=352,slow=4.6,SNR=6.2
GTA Gaotai 174.41 66 *e*PKP **PKPdf 10 40 53.9 +0.6**
GTA pPKP **pPKPdf 10 41 04.8 +1.8**
GTA sPKP 10 41 08.3
HHC Hu-ho-hao-te 174.70 313 *e*PKP **PKPdf 10 40 51.4 -1.9**
HHC pPKP **pPKPdf 10 40 58.9 -4.1**
HHC sPKP 10 41 08.1
HHC PP **PP 10 46 22.4 +2.6**
HHC SKS **SKSdf 10 47 47.9 -6.4**
HHC SKKS **SKKSac 10 53 04.3 +0.3**
HHC SS **SS 11 07 36.4 -3.5**
HHC PPMZ
comp=E,280nm,10.0s

*IDC **13** 10:25:49.2±0.9,35°.76S×73°.25W,h0km,mb4.1/10,*
mb1 4.2/13,mb1mx4.1/20,mbtmp4.1/13,ML3.7/2,Error
ellipse: s-maj=29.3km s-min=18.5km az=89.0
*ISCJB **13** 10:25:53.0±0.6,35°.76S±0°.07×73°.2W±0°.1,h35km,*
mb4.1/13,Error ellipse: s-maj=14.3km s-min=9.0km
az=23.5
*NEIC **13** 10:25:54.5±0.5,35°.77S×73°.19W,h35km,mb4.2/4,Error*
ellipse: s-maj=14.9km s-min=9.1km az=89.0
ISC 13 10:25:54.6±0.7,35°.75S±0°.08×73°.2W±0°.1,h35km,n21,
σ0s67/21,mb4.2/13,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.41**	**158**	Pn	**Pn**	**10 27 12.9**	**+0.2**
	baz=319,slow=12						
PLCA				Lg	Lg	10 28 38.5	
	baz=252,slow=19						
PLCA	**Paso Flores**	**5.41**	**158**	*e*Pn	**Pn**	**10 27 12.8**	**+0.1**
	4.4nm,0.6s						
PLCA				Lg	Lg	10 28 38.5	
CFAA	**Coronel Fontan**	**5.86**	**47**	Pn	**Pn**	**10 27 19.2**	**+0.3**
	3.5nm,0.3s,baz=215,slow=12,SNR=36						
CFAA				Sn	**Sn**	**10 28 25.8**	**+0.9**
	0.5nm,0.3s,baz=203,slow=15,SNR=2.0						
LPAZ	**La Paz**	**19.91**	**15**	P	**Pn**	**10 30 25.1**	**-0.5**
	0.1nm,0.3s,baz=179,slow=9.4,SNR=5.0						
LPAZ	**La Paz**	**19.91**	**15**	P	**Pn**	**10 30 25.1**	**-0.5**
	5.2nm,0.8s						
SIV	**San Ignacio**	**22.47**	**32**	P	**P**	**10 30 50.5**	**-0.4**
	5.4nm,0.9s,baz=230,slow=13,SNR=4.6						
BDFB	**Brasilia**	**30.13**	**55**	P	**P**	**10 32 00.6**	**-0.7**
	3.7nm,0.7s,baz=193,slow=14,SNR=3.4						
SNAA	**Sanae**	**50.35**	**157**	P	**P**	**10 34 48.1**	**+0.5**
	1.7nm,0.8s,baz=312,slow=8.3,SNR=3.7						
QSPA	**South Pole Qui**	**54.49**	**180**	P	**P**	**10 35 18.6**	**+0.1**
	1.8nm,0.8s,baz=170,slow=2.7,SNR=5.3						
JCT	**Junction City**	**70.46**	**336**	P	**P**	**10 37 06.4**	**+1.1**
	14nm,1.9s						
TXAR	**Lajitas Array**	**70.80**	**332**	P	**P**	**10 37 07.4**	**-0.1**
	0.6nm,0.9s,baz=148,slow=8.6,SNR=5.0						
ABTX	**Abilene, Hawle**	**72.38**	**337**	*e*P	**P**	**10 37 16.9**	**0.0**
	1.6nm,0.5s						
DBIC	**Dimbokro**	**76.66**	**72**	P	**P**	**10 37 42.5**	**+0.3**
	5.0nm,0.7s,baz=222,slow=7.4,SNR=6.8						
ANMO	**Albuquerque**	**76.86**	**332**	*e*P	P	10 37 39.4	-3.7
	2.1nm,1.0s						
BOSA	**Boshof**	**80.12**	**118**	P	**P**	**10 38 00.7**	**-0.7**
	3.4nm,0.8s,baz=230,slow=7.4,SNR=6.4						
NVAR	**Mina Array Bea**	**84.77**	**326**	P	**P**	**10 38 26.0**	**+0.8**
	0.5nm,0.8s,baz=129,slow=7.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**85.72**	**71**	P	**P**	**10 38 29.8**	**-0.4**
	1.5nm,0.9s,baz=268,slow=4.9,SNR=5.8						
ULM	**Lac du Bonnet**	**87.94**	**346**	P	**P**	**10 38 39.8**	**-0.4**
	1.3nm,0.7s,baz=188,slow=7.6,SNR=3.6						
ABKAR	**Akbulak array**	**143.51**	**53**	*e*PKPdf	PKPbc	10 45 22.7	+0.4
BVAR	**Borovoye Array**	**149.21**	**44**	PKPbc	**PKPbc**	**10 45 37.3**	**-1.5**
	0.3nm,0.5s,baz=272,slow=11,SNR=3.0						
ZALV	**Zalesovo Beam**	**156.22**	**33**	PKP	**PKPdf**	**10 45 44.7**	**0.0**
	0.4nm,0.5s,baz=258,slow=6.9,SNR=2.4						
ZALV				PKPab	**PKPab**	**10 46 13.8**	**+1.1**
	0.8nm,0.5s,baz=311,slow=5.5,SNR=3.5						

MEX 13 10:26:46.2±0.5,16°.45N×94°.82W,h65km±10km,MD3.9,
Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.64**	**354**	*i*P	Pn	10 26 58.7	-1.4
CMIG				*e*S	Sn	10 27 08.6	-1.7
HUIG	**Huatulco**	**1.41**	**242**	*i*P	Pn	10 27 08.3	-1.6
HUIG				*e*S	Sn	10 27 26.2	-1.5
VHO	**Vista Hermosa**	**1.94**	**289**	*e*P	Pn	10 27 16.2	-1.0
VHO				*e*S	Sn	10 27 38.4	-2.3
PNIG	**Pinotepa**	**3.18**	**269**	*i*P	Pn	10 27 32.5	-1.4
PNIG				*i*S	Sn	10 28 08.4	-2.2

*IDC **13** 10:27:38.0±1.7,35°.77N×30°.81E,h0km,mb3.9/8,*
mb1 3.9/13,mb1mx3.8/31,mbtmp3.9/13,ML3.9/5,Error
ellipse: s-maj=32.8km s-min=16.9km az=59.0
*NIC **13** 10:27:39.5,36°.35N×30°.90E,h40km,mb4.4,ML4.2*
*DDA **13** 10:27:42.3,35°.86N×31°.04E,h11km,ML4.3*
*NEIC **13** 10:27:43.0,35°.79N×30°.97E,h12km,mb4.1/3,ML4.0(ISK),*
After ISK.
*ISK **13** 10:27:43.6,35°.79N×30°.97E,h12km,ML4.0*
*CSEM **13** 10:27:43.3±0.2,35°.70N×30°.99E,h10km,ML4.3,Error*
ellipse: s-maj=5.9km s-min=3.4km az=29.0
*HLW **13** 10:27:47.3,35°.67N×30°.88E,h31km±16km,Ml3.8*
ISC 13 10:27:42.3±0.9,35°.75N±0°.02×30°.97E±0°.02,h14km±7km,
n166,σ1s84/178,mb3.9/9,2C-1D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**1.18**	**348**	*e*PN	**Pg**	**10 28 05.9**	**+0.9**
ANTB				*e*SN	**Sn**	**10 28 22.2**	**+2.1**
ANTB	**Antalya**	**1.18**	**348**	*e*Pn	**Pg**	**10 28 05.9**	**+0.9**
ANTB				*e*Sn	**Sn**	**10 28 22.2**	**+2.1**
GAZI	**Gazipasa**	**1.20**	**66**	*i*P	**Pb**	**10 28 04.1**	**-0.6**
GAZI	**Gazipasa**	**1.20**	**66**	*i*P	**Pb**	**10 28 04.1**	**-0.6**
GAZI				*i*S	**Sb**	**10 28 17.9**	**-2.2**
AKAS	**Kas**	**1.21**	**294**	*i*P	**Pn**	**10 28 06.1**	**+1.2**
AKAS				*i*S	**Sg**	**10 28 22.2**	**+0.8**
AKAS	**Kas**	**1.21**	**294**	*i*P	**Pn**	**10 28 06.1**	**+1.2**
AKAS				*i*S	**Sg**	**10 28 22.1**	**+0.8**
ELL	**Elmali**	**1.32**	**320**	*e*PN	**Pn**	**10 28 07.5**	**+1.1**
ELL	**Elmali**	**1.32**	**320**	*e*Pn	**Pn**	**10 28 07.5**	**+1.1**
AKMC	**Akamas**	**1.32**	**122**	P	**Pn**	**10 28 07.0**	**+0.7**
	baz=315						
AKMC				S	**Sg**	**10 28 27.4**	**+2.4**
AKMC	**Akamas**	**1.32**	**122**	P	**Pn**	**10 28 07.0**	**+0.7**
AKMC				S	**Sg**	**10 28 27.4**	**+2.4**
PPCY	**Paphos**	**1.42**	**127**	P	**Pn**	**10 28 09.6**	**+2.0**
	baz=319						
PPCY	**Paphos**	**1.42**	**127**	P	**Pn**	**10 28 09.6**	**+2.0**
ALFC	**Alevga**	**1.45**	**113**	P	**Pn**	**10 28 08.7**	**+0.5**
	baz=307						
ALFC				S	**Sn**	**10 28 28.6**	**+1.6**
ALFC	**Alevga**	**1.45**	**113**	P	**Pn**	**10 28 08.7**	**+0.5**
ALFC				S	**Sn**	**10 28 28.6**	**+1.6**
LEF	**Lefka**	**1.69**	**111**	*e*PN	**Pn**	**10 28 13.3**	**+2.0**
LEF	**Lefka**	**1.69**	**111**	*e*Pn	**Pn**	**10 28 13.3**	**+2.0**
FETY	**Fethiye**	**1.77**	**301**	*e*PN	**Pn**	**10 28 14.5**	**+2.1**
FETY				*e*SN	**Sb**	**10 28 37.0**	**+0.6**
FETY	**Fethiye**	**1.77**	**301**	*e*Pn	**Pn**	**10 28 14.5**	**+2.1**
FETY				*e*Sn	**Sb**	**10 28 37.0**	**+0.6**
ERMK	**Ermenek**	**1.81**	**60**	*i*P	**Pn**	**10 28 13.8**	**+0.6**
ERMK				*i*S	**Sb**	**10 28 38.7**	**+0.8**
ERMK	**Ermenek**	**1.81**	**60**	*i*P	**Pn**	**10 28 13.8**	**+0.6**
ERMK				*i*S	**Sb**	**10 28 38.7**	**+0.8**
SZAC	**Souni-Zanaja**	**1.85**	**122**	P	**Pn**	**10 28 15.6**	**+2.0**
	baz=312						
SZAC	**Souni-Zanaja**	**1.85**	**122**	P	**Pn**	**10 28 15.6**	**+2.0**
GOLH	**Golhisar**	**1.87**	**323**	*i*P	**Pb**	**10 28 16.5**	**+0.2**
GOLH				*i*S	**Sg**	**10 28 42.1**	**-0.4**
GOLH	**Golhisar**	**1.87**	**323**	*i*P	**Pb**	**10 28 16.5**	**+0.2**
GOLH				*i*S	**Sg**	**10 28 42.1**	**-0.4**
MAMC	**Mammari**	**1.92**	**107**	P	**Pn**	**10 28 15.0**	**+0.4**
	baz=298						
MAMC	**Mammari**	**1.92**	**107**	P	**Pn**	**10 28 15.0**	**+0.4**
CSS	**Prodhromos**	**2.08**	**111**	P	**Pn**	**10 28 17.3**	**+0.5**
	baz=301						
CSS	**Prodhromos**	**2.08**	**111**	P	**Pn**	**10 28 17.2**	**+0.5**
CSS	**Prodhromos**	**2.08**	**111**	P	**Pn**	**10 28 17.3**	**+0.5**
CSS	**Prodhromos**	**2.08**	**111**	*e*Pn	**Pn**	**10 28 17.2**	**+0.5**
ISP	**Isparta**	**2.10**	**350**	P	**Pb**	**10 28 20.6**	**+0.3**
ISP	**Isparta**	**2.10**	**350**	*e*Pn	**Pn**	**10 28 19.0**	**+1.8**
ISP	**Isparta**	**2.10**	**350**	P	**Pb**	**10 28 20.6**	**+0.3**
ISP	**Isparta**	**2.10**	**350**	*e*Pn	**Pn**	**10 28 18.9**	**+1.8**
LFK	**Lefkose**	**2.14**	**102**	*e*PN	**Pn**	**10 28 20.3**	**+2.6**
LFK	**Lefkose**	**2.14**	**102**	*e*Pn	**Pn**	**10 28 20.3**	**+2.6**
DNZL	**Cakiroluk**	**2.48**	**322**	*i*P	**Pb**	**10 28 27.1**	**+0.4**
DNZL	**Cakiroluk**	**2.48**	**322**	*i*P	**Pb**	**10 28 27.1**	**+0.4**
DNZL				*i*S	**Sg**	**10 29 01.4**	**-0.6**
YER	**Yerkesik**	**2.57**	**303**	*e*PN	**Pn**	**10 28 26.1**	**+2.5**
YER	**Yerkesik**	**2.57**	**303**	*e*Pn	**Pn**	**10 28 26.1**	**+2.5**
EREN	**Erenkoy**	**2.62**	**94**	*e*PN	**Pn**	**10 28 27.3**	**+3.2**
EREN	**Erenkoy**	**2.62**	**94**	*e*Pn	**Pn**	**10 28 27.3**	**+3.2**
KHL	**Karahalli**	**2.82**	**336**	*e*PN	**Pn**	**10 28 28.8**	**+1.8**
KHL	**Karahalli**	**2.82**	**336**	*e*Pn	**Pn**	**10 28 28.8**	**+1.8**
KDHN	**Kadinhani**	**2.92**	**18**	*i*P	**Pn**	**10 28 29.7**	**+1.3**
KDHN				*i*S	**Sn**	**10 29 03.3**	**+0.1**
KDHN	**Kadinhani**	**2.92**	**18**	*i*P	**Pn**	**10 28 29.7**	**+1.3**
KDHN				*i*S	**Sn**	**10 29 03.3**	**+0.1**
KARP	**Karpathos**	**3.11**	**267**	P	**Pn**	**10 28 33.5**	**+2.6**
KARP	**Karpathos**	**3.11**	**267**	*e*PN	**Pn**	**10 28 33.6**	**+2.6**
KARP	**Karpathos**	**3.11**	**267**	P	**Pn**	**10 28 33.5**	**+2.6**
AYDN	**Tasoluk**	**3.13**	**308**	*i*P	**Pn**	**10 28 33.5**	**+2.3**
AYDN	**Tasoluk**	**3.13**	**308**	*i*P	**Pn**	**10 28 33.5**	**+2.3**
BDRM	**Kayabasi**	**3.13**	**296**	*i*P	**Pn**	**10 28 33.1**	**+1.9**
BDRM	**Kayabasi**	**3.13**	**296**	*i*P	**Pn**	**10 28 33.1**	**+1.9**
BDRM				*i*S	**Sn**	**10 29 07.5**	**-0.9**
KIZT	**Kizilcal**	**3.21**	**13**	*e*PN	**Pn**	**10 28 34.4**	**+2.0**
KIZT	**Kizilcal**	**3.21**	**13**	*e*Pn	**Pn**	**10 28 34.4**	**+2.0**
KULA	**Kula-Manisa**	**3.32**	**327**	P	**Pn**	**10 28 34.4**	**+0.5**
KULA	**Kula-Manisa**	**3.32**	**327**	*e*PN	**Pn**	**10 28 36.2**	**+2.3**
KULA	**Kula-Manisa**	**3.32**	**327**	P	**Pn**	**10 28 34.4**	**+0.5**
KULA	**Kula-Manisa**	**3.32**	**327**	*e*Pn	**Pn**	**10 28 36.2**	**+2.3**
ALT	**Altintas**	**3.37**	**349**	*e*PN	**Pn**	**10 28 37.4**	**+2.8**
ALT	**Altintas**	**3.37**	**349**	*e*Pn	**Pn**	**10 28 37.4**	**+2.8**
GULE	**Gulek**	**3.43**	**62**	*i*P	**Pn**	**10 28 38.4**	**+2.9**
GULE	**Gulek**	**3.43**	**62**	*i*P	**Pn**	**10 28 38.4**	**+2.9**
GULE				*i*S	**Sb**	**10 29 23.2**	**-1.3**
GDZ	**Gediz**	**3.54**	**341**	*i*P	**Pn**	**10 28 38.3**	**+1.3**
GDZ	**Gediz**	**3.54**	**341**	*i*P	**Pn**	**10 28 38.3**	**+1.3**
GDZ				*i*S	**Sn**	**10 29 16.6**	**-2.1**
KARA	**Karaisali**	**3.62**	**64**	*e*PN	**Pn**	**10 28 40.9**	**+2.9**
KARA	**Karaisali**	**3.62**	**64**	*e*Pn	**Pn**	**10 28 40.9**	**+2.9**
SVRH	**Sivrihisar-ESK**	**3.72**	**7**	*e*PN	**Pn**	**10 28 41.6**	**+2.2**
SVRH	**Sivrihisar-ESK**	**3.72**	**7**	*e*Pn	**Pn**	**10 28 41.6**	**+2.2**
NIG	**Nigde**	**3.75**	**50**	*e*PN	**Pn**	**10 28 42.8**	**+2.9**
NIG	**Nigde**	**3.75**	**50**	*e*Pn	**Pn**	**10 28 42.8**	**+2.9**
SMG	**Samos**	**3.85**	**302**	P	**Pn**	**10 28 42.0**	**+0.9**
SMG	**Samos**	**3.85**	**302**	*e*Pn	**Pn**	**10 28 42.0**	**+0.9**
SMG	**Samos**	**3.85**	**302**	P	**Pn**	**10 28 42.0**	**+0.9**
ZKR	**Zakros**	**3.93**	**262**	*e*PN	**Pn**	**10 28 44.6**	**+2.4**
AKS	**Akhisar**	**4.01**	**322**	*e*PN	Pn	10 28 46.7	+3.4
AKS	**Akhisar**	**4.01**	**322**	*e*Pn	Pn	10 28 46.7	+3.4
AFSR	**Af'ar-Bala (A**	**4.05**	**24**	*e*PN	**Pn**	**10 28 46.7**	**+2.7**
AFSR	**Af'ar-Bala (A**	**4.05**	**24**	*e*Pn	**Pn**	**10 28 46.7**	**+2.7**
BLCB	**Balcova**	**4.10**	**311**	*e*PN	**Pn**	**10 28 47.5**	**+3.0**
BLCB	**Balcova**	**4.10**	**311**	*e*Pn	**Pn**	**10 28 47.5**	**+3.0**
YAYL	**Yayladag**	**4.18**	**85**	*i*P	**Pn**	**10 28 46.1**	**+0.4**
YAYL				*i*S	**Sn**	**10 29 34.8**	**+0.4**
YAYL	**Yayladag**	**4.18**	**85**	*i*P	**Pn**	**10 28 46.1**	**+0.4**
YAYL				*i*S	**Sn**	**10 29 34.8**	**+0.4**
HWQ	**Hawqa**	**4.34**	**108**	*e*P	**Pn**	**10 28 49.9**	**+2.0**
HWQ	**Hawqa**	**4.34**	**108**	*e*P	**Pn**	**10 28 49.9**	**+2.0**
ANTO	**Ankara**	**4.36**	**19**	⇓*i*P	**Sn**	**10 29 39.1**	**+0.3**
ANTO	**Ankara**	**4.36**	**19**	Pn	**Pn**	**10 28 49.0**	**+0.8**
ANTO	**Ankara**	**4.36**	**19**	Pn	**Pn**	**10 28 49.0**	**+0.8**
NPS	**Neapolis**	**4.40**	**265**	P	**Pn**	**10 28 51.2**	**+2.6**
NPS	**Neapolis**	**4.40**	**265**	*e*PN	**Pn**	**10 28 51.2**	**+2.6**
NPS	**Neapolis**	**4.40**	**265**	P	**Pn**	**10 28 51.2**	**+2.6**
BRTR	**Keskin Array B**	**4.50**	**27**	Pn	**Pn**	**10 28 50.2**	**+0.1**
	3.4nm,0.3s,baz=202,slow=16,SNR=46						
BRTR				Sn	**Sn**	**10 29 43.0**	**+0.6**
	5.0nm,0.3s,baz=201,slow=26,SNR=11						
SANT	**Santorini**	**4.51**	**280**	*e*Pn	**Pn**	**10 28 51.1**	**+0.9**
SANT				*e*Sn	**Sn**	**10 29 39.8**	**-2.5**
SANT	**Santorini**	**4.51**	**280**	*e*Pn	**Pn**	**10 28 51.1**	**+0.9**
SANT				*e*Sn	**Sn**	**10 29 39.8**	**-2.5**
LAST	**Lasithi**	**4.52**	**264**	P	**Pn**	**10 28 53.4**	**+3.0**
LAST	**Lasithi**	**4.52**	**264**	*e*PN	**Pn**	**10 28 53.2**	**+2.8**
LAST	**Lasithi**	**4.52**	**264**	P	**Pn**	**10 28 53.4**	**+3.0**
CAVI	**Cavuskoy**	**4.54**	**349**	*e*PN	**Pn**	**10 28 53.7**	**+3.2**
CAVI	**Cavuskoy**	**4.54**	**349**	*e*Pn	**Pn**	**10 28 53.7**	**+3.2**
GPA	**Golpazari**	**4.56**	**354**	*e*PN	**Pn**	**10 28 53.3**	**+2.4**
GPA	**Golpazari**	**4.56**	**354**	*e*Pn	**Pn**	**10 28 53.3**	**+2.4**
MMAI	**Mount Meron Ar**	**4.57**	**125**	Pn	**Pn**	**10 28 51.5**	**+0.5**
	40nm,0.3s,baz=302,slow=12,SNR=63						
MMAI				Sn	**Sn**	**10 29 44.3**	**+0.4**
	18nm,0.3s,baz=308,slow=26,SNR=3.1						
APE	**Apeiranthos**	**4.58**	**288**	*e*PN	**Pn**	**10 28 52.0**	**+0.8**
APE	**Apeiranthos**	**4.58**	**288**	⇑*i*P	**Sn**	**10 29 46.2**	**+2.0**
RCY	**Rachaya**	**4.60**	**118**	*e*P	**Pn**	**10 28 52.9**	**+1.4**
RCY	**Rachaya**	**4.60**	**118**	*e*P	**Pn**	**10 28 52.9**	**+1.4**
GULT	**Gulveren**	**4.69**	**356**	*e*PN	**Pn**	**10 28 55.2**	**+2.5**
GULT	**Gulveren**	**4.69**	**356**	*e*Pn	**Pn**	**10 28 55.2**	**+2.5**
MDUB	**Mudurnu**	**4.72**	**2**	*e*PN	Pn	10 28 56.4	+3.3
MDUB	**Mudurnu**	**4.72**	**2**	*e*Pn	Pn	10 28 56.4	+3.3
CHOS	**Chios island**	**4.73**	**305**	*e*PN	**Pn**	**10 28 54.6**	**+1.3**
KAMA	**Osmaniye**	**4.81**	**71**	*i*P	**Pn**	**10 28 55.3**	**+0.9**
KAMA				*i*S	**Sn**	**10 29 48.9**	**-1.1**
IDI	**Anoyia**	**4.98**	**266**	Pn	**Pn**	**10 28 57.7**	**+1.0**
	7.3nm,0.3s,baz=47,slow=6.8,SNR=45						
IDI				Sn	**Sn**	**10 29 52.3**	**-1.8**
	23nm,0.3s,baz=309,slow=4.9,SNR=11						
SIVA	**Sivas**	**5.08**	**264**	*e*PN	**Pn**	**10 29 00.8**	**+2.8**
ARMT	**Armutlu**	**5.09**	**342**	*e*PN	Pn	10 29 01.5	+3.4
ARMT	**Armutlu**	**5.09**	**342**	*e*Pn	Pn	10 29 01.5	+3.4
RSH		**5.30**	**153**	P	**Pn**	**10 29 03.9**	**+2.9**
	baz=152						
SIGR	**SIGRI**	**5.34**	**312**	*e*PN	**Pn**	**10 29 02.6**	**+1.1**
VAM	**Vamos**	**5.53**	**268**	*e*PN	**Pn**	**10 29 05.5**	**+1.4**
HMAT	**Matruh**	**5.66**	**216**	S	**Sn**	**10 30 09.4**	**-1.2**
	baz=216						
GELI	**Tayfur-Gelibol**	**5.84**	**324**	*e*PN	Pn	10 29 12.5	+4.1
GELI	**Tayfur-Gelibol**	**5.84**	**324**	*e*Pn	Pn	10 29 12.5	+4.1
KOT	**Kottamia**	**5.85**	**173**	P	**Pn**	**10 29 11.3**	**+2.7**
	baz=171						
HHAG	**Hagoal**	**5.86**	**170**	P	**Pn**	**10 29 11.4**	**+2.7**
	baz=169						
HHAG				AMP		10 30 00.0	
	comp=N,140μm,0.2s,logA/T=5.8,baz=169						
HMYD	**Mayadein**	**5.94**	**181**	P	**Pn**	**10 29 12.3**	**+2.5**
	baz=181						
FYM	**Al Fayyum**	**6.04**	**179**	P	**Pn**	**10 29 13.9**	**+2.8**
	baz=178						
ASF	**Jabal al Asfar**	**6.08**	**124**	Pn	**Pn**	**10 29 11.8**	**0.0**
	comp=N,0.6nm,0.3s,baz=302,slow=1.0,SNR=3.5						
ASF				Sn	**Sn**	**10 30 24.6**	**+3.4**
	comp=N,1.4nm,0.3s,baz=82,slow=22,SNR=3.1						
SUZ		**6.09**	**165**	P	**Pn**	**10 29 14.9**	**+3.0**
	baz=163						
HNAT	**Natroun**	**6.10**	**183**	P	**Pn**	**10 29 14.4**	**+2.3**
	baz=183						
LIA	**Limnos Island**	**6.18**	**314**	*e*PN	Pn	10 29 17.1	+4.1
GLL	**Jalalah**	**6.18**	**174**	P	**Pn**	**10 29 16.1**	**+2.9**
	baz=173						
ANKY	**Antikythira Is**	**6.23**	**273**	*e*PN	**Pn**	**10 29 15.1**	**+1.3**
SLUM		**6.41**	**230**	P	**Pn**	**10 29 18.6**	**+2.4**
	baz=231						
KYTH	**Kithira**	**6.45**	**277**	P	**Pn**	**10 29 18.5**	**+1.6**
KYTH	**Kithira**	**6.45**	**277**	*e*PN	**Pn**	**10 29 19.0**	**+2.1**
KYTH	**Kithira**	**6.45**	**277**	P	**Pn**	**10 29 18.5**	**+1.6**
VLI	**Veliai**	**6.56**	**281**	*e*PN	**Pn**	**10 29 20.2**	**+1.8**
RDO	**Rodhopi**	**6.87**	**323**	*e*PN	Pn	10 29 29.3	+6.8
EIL	**Elat**	**6.92**	**150**	Pn	**Pn**	**10 29 22.3**	**-1.1**
	comp=N,5.4nm,0.3s,baz=339,slow=8.4,SNR=23						
EIL				Sn	**Sn**	**10 30 40.3**	**-1.6**
	comp=N,5.4nm,0.3s,baz=355,slow=18,SNR=6.6						
ITM	**Ithomi**	**7.43**	**284**	*e*PN	**Pn**	**10 29 32.4**	**+2.2**
KLV	**Kalavryta, Ach**	**7.43**	**291**	*e*PN	**Pn**	**10 29 31.6**	**+1.3**
NVR	**Nevrokopi**	**7.89**	**317**	*e*PN	Pn	10 29 41.0	+4.4
VLS	**Valsamata**	**8.65**	**289**	*e*PN	**Pn**	**10 29 48.9**	**+1.8**
MLR	**Muntele Rosu**	**10.45**	**340**	⇑*i*P	Pn	10 30 17.8	+6.0
KIEV	**Kiev**	**15.00**	**356**	Pn	Pn	10 31 04.0	-10
	comp=N,5.7nm,0.7s						
KIEV	**Kiev**	**15.00**	**356**	Pn	Pn	10 31 04.0	-10
	comp=N,5.7nm,0.7s						
AKASG	**Malin Array Be**	**15.00**	**356**	Pn	**Pn**	**10 31 12.2**	**-1.5**
	comp=N,0.6nm,0.3s,baz=177,slow=9.5,SNR=2.9						
MBDF	**Montbardon**	**20.48**	**303**	*e*P	**P**	**10 32 19.7**	**0.0**
	comp=N,7.0nm,0.7s						
MBDF	**Montbardon**	**20.48**	**303**	*e*P	**P**	**10 32 19.7**	**0.0**
	comp=N,7.0nm,0.7s						
MBDF	**Montbardon**	**20.48**	**303**	*e*P	**P**	**10 32 19.7**	**0.0**
	comp=N,7.0nm,0.7s						
LPG	**La Plagne**	**20.73**	**305**	*e*P	**P**	**10 32 23.5**	**+0.9**
	comp=N,8.0nm,0.8s						
LPG	**La Plagne**	**20.73**	**305**	*e*P	**P**	**10 32 23.5**	**+0.9**
	comp=N,8.0nm,0.8s						
LPG	**La Plagne**	**20.73**	**305**	*e*P	**P**	**10 32 23.5**	**+0.9**
	comp=N,8.0nm,0.8s						
HINF	**Hinteralfeld**	**21.55**	**311**	*e*P	**P**	**10 32 30.9**	**-0.3**
HINF	**Hinteralfeld**	**21.55**	**311**	*e*P	**P**	**10 32 30.9**	**-0.3**
HINF	**Hinteralfeld**	**21.55**	**311**	*e*P	**P**	**10 32 30.9**	**-0.3**
GEYT	**Alibeck**	**21.81**	**76**	P	**P**	**10 32 33.2**	**-0.8**
	comp=N,2.1nm,0.6s,baz=282,slow=14,SNR=2.3						
AKTO	**Aktyubinsk**	**24.43**	**45**	P	**P**	**10 32 58.8**	**-1.5**
	comp=N,2.1nm,0.6s,baz=240,slow=10,SNR=9.2						
ABKAR	**Akbulak array**	**25.09**	**48**	*e*P	**P**	**10 33 04.9**	**-1.3**
	comp=N,1.2nm,0.5s						
ABKAR	**Akbulak array**	**25.09**	**48**	*e*P	**P**	**10 33 04.9**	**-1.3**
	comp=N,1.2nm,0.5s						
ARCES	**ARCESS Array B**	**33.98**	**357**	P	P	10 34 22.6	-2.4
	comp=N,1.9nm,0.8s,baz=161,slow=11,SNR=4.6						
MKAR	**Makanchi Array**	**39.48**	**58**	P	**P**	**10 35 10.6**	**-1.6**
	comp=N,0.9nm,0.7s,baz=282,slow=5.9,SNR=11						
ZALV	**Zalesovo Beam**	**41.17**	**46**	P	P	10 35 23.1	-2.8
	comp=N,1.0nm,0.4s,baz=247,slow=9.3,SNR=5.4						
SPITS	**Spitsbergen Ar**	**42.99**	**356**	P	P	10 35 38.7	-1.9
	comp=N,12nm,1.0s,baz=131,slow=19,SNR=4.9						
SONM	**Songino Array**	**55.41**	**52**	P	P	10 37 14.4	-1.8
	comp=N,0.5nm,0.4s,baz=284,slow=7.2,SNR=7.7						
YKA	**Yellowknife Ar**	**78.25**	**344**	P	P	10 39 38.3	-2.9
	comp=N,0.1nm,0.6s,baz=26,slow=5.6,SNR=3.6						

*ISCJB **13** 10:30:15.9±0.3,50°.24N±0°.03×18°.69E±0°.02,h0km,Error*
ellipse: s-maj=4.3km s-min=1.9km az=9.0
*CSEM **13** 10:30:16.7±0.3,50°.27N×18°.75E,h1km

MEZ eSn **Sn** **10 31 59.2 +2.6**
MOA Molln 3.80 233 ⇓*i*Pn **Pn** **10 31 16.0 -1.3**
MOA ⇓*i*Sg **Sb** **10 32 15.0 +3.0**
12nm,0.5s
MOA Molln 3.80 233 Pn **Pn** **10 31 16.0 -1.3**
MOA Sg **Sb** **10 32 15.0 +3.0**
12nm,0.5s
CLL Collm 3.81 289 *e*Pg **Pg** **10 31 31.0 +0.5**
CLL *i* 10 32 14.3
CLL *e*Sg **Sg** **10 32 20.0 +0.2**
comp=Z,43nm,1.5s
NSLU Nyzhne Selyshc 4.26 116 *e*Pn Pn 10 31 18.7 -4.9
NSLU *e*Sn Sn 10 32 02.7 -11
DRGR 4.33 141 ⇑*i*P **Pn** **10 31 23.7 -1.0**
DRGR 4.33 141 ⇑*i*P **Pn** **10 31 23.7 -1.0**
BURAR Bucovina Array 5.00 119 ⇑*i*P **Pn** **10 31 33.3 -0.6**
BURAR Bucovina Array 5.00 119 ⇑*i*P **Pn** **10 31 33.3 -0.6**
BSD Bornholm Skovb 5.42 336 *i* P **Pn** **10 31 38.7 -0.7**
BSD *i* S Sn 10 32 35.4 -7.0
GZR Gura Zlata 5.55 149 ⇓*i*P **Pn** **10 31 41.4 0.0**
GZR Gura Zlata 5.55 149 ⇓*i*P **Pn** **10 31 41.4 0.0**

SKO 13 10:31:59.6, 40.°55N×22.°80E, h15km, M1.1, ML1.4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.79**	**347**	*i* Pg	Pg	10 32 14.2	-0.9
VAY				*i* Sg	Sg	10 32 23.2	-2.2
VAY				*e*Lg	Lg	10 32 23.4	
	comp=E,11nm,0.5s						
VAY				*e*Lg	Lg	10 32 23.4	
	comp=N,17nm,0.3s						

GUC ***13*** *10:34:35.5±0.8, 37.°56S×74.°20W, h10km±19km*
IDC ***13*** *10:34:38.0±0.4, 37.°53S×73.°58W, h0km, mb5.0/24, mb1 5.1/27, mb1mx5.1/28, mbtmp5.0/27, ML4.3/3, MS5.3/23, Ms1 5.3/23, ms1mx5.2/31, Error ellipse: s-maj=14.3km s-min=10.3km az=84.0*
ISCJB ***13*** *10:34:42.1±0.1, 37.°56S±0.°03×73.°43W±0.°04, h33km, mb5.2/112, MS5.5/171, Error ellipse: s-maj=5.5km s-min=3.6km az=148.0*
MOS ***13*** *10:34:42.1±1.1, 37.°55S×73.°47W, h33km, mb5.4/32, MS5.5/24, Error ellipse: s-maj=17.3km s-min=7.7km az=105.8*
BJI ***13*** *10:34:43.3, 37.°60S×73.°40W, h32km, mB5.5/21, Ms5.8/30, Ms7 5.6/32*
GCMT ***13*** *10:34:43.4±0.1, 37.°78S×73.°95W, h20km, MW5.8/123, Moment Tensor Solution. s108,c192; s123,c322; Duration: 1§9 Moment tensor: Scale 10^17^Nm; M_{rr}3.56±.05; $M_{\theta\theta}$0.12±.03; $M_{\phi\phi}$-3.67±.04; $M_{r\theta}$0.54±.07; $M_{\theta\phi}$-0.06±.03; $M_{\phi r}$-4.62±.13; Best double couple: $M_0$5.89200×10^17^ NP1:ϕ_s175.00000°, δ71.00000°, λ86.00000°. NP2:ϕ_s7.00000°, δ19.00000°, λ102.00000°. Principal axes: T 5.8570, Plg64.0000°, Azm78.0000°; N 0.0760, Plg4.0000°, Azm176.0000°; P -5.9270, Plg26.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***13*** *10:34:43.4±0.1, 37.°55S×73.°47W, h35km, mb5.2/78, MS5.5/130, MW5.7 Error ellipse: s-maj=6.5km s-min=3.6km az=63.0, Moment Tensor Solution. s72 Moment tensor: Scale 10^17^Nm; M_{rr}2.84; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$-2.79; $M_{r\theta}$0.06; $M_{\theta\phi}$-0.19; $M_{\phi r}$-3.03; Best double couple: $M_0$4.10000×10^17^ NP1:ϕ_s180.00000°, δ69.00000°, λ87.00000°. NP2:ϕ_s8.00000°, δ22.00000°, λ97.00000°. Principal axes: T 4.1600, Plg66.0000°, Azm85.0000°; N -0.0500, Plg2.0000°, Azm181.0000°; P -4.1200, Plg23.0000°, Azm272.0000°;*
NEIC Felt [IV] at Angol, Chiguayante, Concepcion and Temuco; [III] at Villarrica; [II] at Chillan. Also felt at Coihueco, Los Angeles, Lota, Nacimiento and Talcahuano.

ISC 13 10:34:42.9±0.7, 37.°59S±0.°04×73.°56W±0.°06, h33km±3km, h33km:pP-P, n924, σ1§19/822, mb5.2/107, MS5.5/171, 211C-223D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**2.23**	**174**	*e*P1	**Pn**	**10 35 15.0**	**-2.5**
LNCH	**Linares**	**2.35**	**43**	⇓*i*P	**Pn**	**10 35 19.5**	**+0.4**
LNCH				*i* S4	**Sb**	**10 35 56.8**	**+3.7**
LNCH				AML	AML	10 36 05.5	
TALC	**Talca**	**2.68**	**36**	⇓*i*P	**Pn**	**10 35 24.3**	**+0.6**
TALC				*e*S4	**Sb**	**10 36 02.1**	**-0.6**
TALC				AML	AML	10 36 15.0	
NICH	**Los Niches**	**3.20**	**37**	*e*P1	**Pn**	**10 35 31.5**	**+0.7**
NICH				AML	AML	10 36 38.4	
PLCA	**Paso Flores**	**3.92**	**144**	*e*P	**Pn**	**10 35 39.6**	**-1.2**
PLCA	**Paso Flores**	**3.92**	**144**	Pn	**Pn**	**10 35 41.2**	**+0.4**
	7.5nm,0.3s,baz=321,slow=10,SNR=76						
PLCA				Lg	Lg	10 36 45.4	
	baz=230,slow=18						
PLCA	**Paso Flores**	**3.92**	**144**	*e*P1	**Pn**	**10 35 41.2**	**+0.4**
HOCH	**HornopirØn**	**4.40**	**169**	*e*P1	**Pn**	**10 35 45.8**	**-1.6**
ANTU	**Antumapu**	**4.67**	**32**	*e*P1	**Pn**	**10 35 50.9**	**-0.3**
IHA	**Instituto Hidr**	**4.82**	**20**	⇓*i*P	**Pn**	**10 35 51.0**	**-2.1**
PEL	**Peldehue**	**5.02**	**29**	⇓*i*P	**Pn**	**10 35 54.8**	**-1.2**
CFAA	**Coronel Fontan**	**7.41**	**38**	Pn	**Pn**	**10 36 27.4**	**-1.4**
	1.9nm,0.3s,baz=212,slow=12,SNR=74						
CFAA				Sn	**Sn**	**10 37 53.1**	**+1.3**
	1.2nm,0.3s,baz=245,slow=14,SNR=1.4						
CFAA				Lg	Lg	10 38 32.5	
	2.4nm,0.3s,baz=315,slow=14,SNR=3.0						
CFAA				LR	LR	10 38 52.7	
	comp=Z,788nm,19.3s,baz=224,slow=34						
LCO	**Las Campanas**	**8.88**	**16**	*e*Pn	**Pn**	**10 36 46.4**	**-2.8**
TRQA	**Tornquist**	**9.18**	**96**	*e*Pn	**Pn**	**10 36 54.6**	**+1.6**
USHA	**Ushuaia**	**17.60**	**170**	P	**P**	**10 38 46.1**	**0.0**
	1.3nm,0.3s,baz=322,slow=10.0,SNR=16						
USHA				LR	LR	10 46 27.1	
	comp=Z,12μm,20.1s,baz=326,slow=40						
EFI	**East Falkland**	**17.83**	**147**	P	**P**	**10 38 49.0**	**+0.2**
	2μm,0.6s,SNR=18						
EFI	**East Falkland**	**17.83**	**147**	*e*P	**P**	**10 38 48.6**	**-0.1**
EFI	**East Falkland**	**17.83**	**147**	*e*Pn	**P**	**10 38 48.6**	**-0.1**
	958nm,1.6s						
LPAZ	**La Paz**	**21.75**	**14**	*e*P	**P**	**10 39 33.0**	**+0.7**
LPAZ	**La Paz**	**21.75**	**14**	P	**P**	**10 39 33.2**	**+0.9**
	26nm,0.7s,baz=203,slow=5.7,SNR=42						
LPAZ	**La Paz**	**21.75**	**14**	*e*P	**P**	**10 39 33.1**	**+0.7**
	75nm,0.8s						
SIV	**San Ignacio**	**24.18**	**31**	P	**P**	**10 39 55.6**	**-0.8**
	46nm,0.8s,baz=205,slow=7.3,SNR=51						
SIV				LR	LR	10 51 12.2	
	comp=Z,17μm,19.2s,baz=220,slow=41						
NNA	**Nana**	**25.66**	**353**	*e*P	**P**	**10 40 09.3**	**-0.5**
NNA	**Nana**	**25.66**	**353**	P	**P**	**10 40 09.0**	**-0.8**
	37nm,0.8s,baz=187,slow=10.0,SNR=12						
NNA				LR	LR	10 48 15.2	
	comp=Z,7μm,19.4s,baz=174,slow=32						
NNA	**Nana**	**25.66**	**353**	*e*P	**P**	**10 40 09.3**	**-0.5**
	35nm,0.7s						
PMSA	**Palmer Station**	**27.80**	**171**	P	**P**	**10 40 29.2**	**+0.6**
	16nm,0.9s,baz=176,slow=15,SNR=7.9						
PMSA				LR	LR	10 52 22.3	
	comp=Z,8μm,18.1s,baz=340,slow=38						
SAML	**Samuel**	**30.02**	**21**	*e*P	**P**	**10 40 48.0**	**-0.7**
	39nm,1.3s						
SAML				LR	LR		
	comp=Z,8μm,19.0s						
HOPE	**Hope Point**	**30.27**	**135**	P	**P**	**10 40 51.2**	**+0.6**
	comp=Z,450nm,1.1s,SNR=7.1						
HOPE	**Hope Point**	**30.27**	**135**	*e*P	**P**	**10 40 50.4**	**-0.2**
	comp=Z,55nm,1.1s						
HOPE				LR	LR		
	comp=Z,5μm,19.0s						
BDFB	**Brasilia**	**31.43**	**53**	P	**P**	**10 41 00.1**	**-1.3**
	comp=Z,11nm,0.8s,baz=223,slow=7.9,SNR=10						
BDFB				LR	LR	10 55 00.4	
	comp=Z,14μm,20.5s,baz=222,slow=39						
RPN	**Rapa Nui**	**31.80**	**279**	LR	LR	10 50 31.6	
	comp=Z,7μm,21.1s,baz=123,slow=30						
OTAV	**Otavalo**	**37.91**	**352**	*e*P	**P**	**10 41 59.2**	**+1.5**
	comp=Z,108nm,1.7s						
OTAV				LR	LR		
	comp=Z,3μm,20.0s						
PTGA	**Pitinga**	**38.76**	**22**	P	**P**	**10 42 03.2**	**-1.1**
	comp=Z,13nm,0.6s,baz=211,slow=8.7,SNR=25						
PAYG	**Puerto Ayora**	**39.84**	**333**	PFAKE		10 42 30.0	+17
PAYG				LR	LR		
	comp=Z,7μm,20.0s						
SDV	**Santo Domingo**	**46.31**	**4**	PFAKE		10 43 20.0	+14
SDV				LR	LR		
	comp=Z,7μm,19.0s						
VNA3	**Neumayer Olymp**	**46.54**	**156**	P	**P**	**10 43 07.5**	**+0.7**
RCBR	**Riachuelo**	**46.61**	**57**	P	**P**	**10 43 09.5**	**+1.4**
	comp=Z,24nm,0.8s,baz=210,slow=12,SNR=9.4						
RCBR				LR	LR	11 04 14.7	
	comp=Z,35μm,18.1s,baz=211,slow=38						
BCIP	**Isla Barro Col**	**46.88**	**351**	PFAKE		10 43 20.0	+10
BCIP				LR	LR		
	comp=Z,2μm,20.0s						
VNA2	**Neumayer--Watz**	**47.22**	**156**	P	**P**	**10 43 13.0**	**+0.8**
SNAA	**Sanae**	**48.76**	**157**	P	**P**	**10 43 24.6**	**+0.5**
SNAA	**Sanae**	**48.76**	**157**	*e*P	**P**	**10 43 24.3**	**+0.1**
SNAA	**Sanae**	**48.76**	**157**	*c i*P	**P**	**10 43 24.3**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,118nm,1.4s						
SNAA	**Sanae**	**48.76**	**157**	P	**P**	**10 43 24.5**	**+0.3**
	comp=Z,16nm,0.8s,baz=269,slow=8.9,SNR=37						
SNAA				LR	LR	11 01 21.3	
	comp=Z,720nm,21.3s,baz=287,slow=33						
SNAA	**Sanae**	**48.76**	**157**	P	**P**	**10 43 24.5**	**+0.3**
	comp=Z,4.5nm,1.1s						
JTS	**JuntasAbangare**	**48.81**	**345**	*c i*P	**P**	**10 43 25.2**	**+0.1**
JTS				pmax	pmax		
	comp=Z,31nm,1.3s						
JTS	**JuntasAbangare**	**48.81**	**345**	LR	LR	10 59 22.5	
	comp=Z,922nm,18.5s,baz=188,slow=30						
JTS	**JuntasAbangare**	**48.81**	**345**	*e*P	**P**	**10 43 26.1**	**+1.0**
	comp=Z,28nm,1.1s						
GRGR	**Grenville**	**50.71**	**15**	*e*P	**P**	**10 43 39.5**	**+0.1**
GRGR				LR	LR		
	comp=Z,5μm,19.0s						
BBGH	**Gun Hill**	**52.15**	**17**	PFAKE		10 44 00.0	+10
BBGH				LR	LR		
	comp=Z,4μm,19.0s						
QSPA	**South Pole Qui**	**52.65**	**180**	LR	LR	11 05 02.0	
	comp=Z,841nm,21.0s,baz=166,slow=35						
QSPA	**South Pole Qui**	**52.65**	**180**	*e*P	**P**	**10 43 53.9**	**+0.2**
	comp=Z,49nm,1.0s						
FDF	**Fort de France**	**53.34**	**15**	PFAKE		10 44 10.0	+11
FDF				LR	LR		
	comp=Z,5μm,20.0s						
NVL	**N'lazarevskaya**	**53.54**	**156**	⇑*i*P	**P**	**10 43 59.1**	**-0.8**
NVL				*e**PP	**pP**	**10 44 06.7**	**-3.1**
NVL				*e*PPP	PPP	10 47 05.6	
NVL				*e*S	**S**	**10 51 33.8**	**+3.5**
NVL				pmax	pmax		
	comp=Z,57nm,1.2s						
RKT	**Rikitea**	**54.05**	**267**	*e*S	**S**	**10 51 38.8**	**+0.4**
	comp=Z,3μm,26.5s						
RKT				*e*LR	LR	10 59 49.1	
	comp=Z,9μm,26.5s,baz=128						
RKT	**Rikitea**	**54.05**	**267**	*e*T	T	11 41 57.1	
	comp=Z,8.7nm,0.2s						
APG	**El Apazote**	**54.67**	**340**	P	P	10 44 05.3	-3.7
	comp=Z,16nm,0.7s,baz=190,slow=6.4,SNR=14						
MTDJ	**Mount Denham**	**55.64**	**355**	PFAKE		10 44 30.0	+14
MTDJ				LR	LR		
	comp=Z,1μm,20.0s						
LRS	**Lares**	**55.94**	**8**	P	**P**	**10 44 17.1**	**-0.8**
SDDR	**Presa de Saban**	**56.31**	**3**	PFAKE		10 44 30.0	+9.5
SDDR				LR	LR		
	comp=Z,3μm,19.0s						
GTBY	**Guantanamo Bay**	**57.23**	**358**	PFAKE		10 44 40.0	+13
GTBY				LR	LR		
	comp=Z,1μm,20.0s						
CMIG	**Matias Romero**	**57.97**	**336**	P	**P**	**10 44 32.0**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=140,slow=5.5,SNR=6.4						
GRTK	**Grand Turk**	**58.83**	**3**	PFAKE		10 44 50.0	+12
GRTK				LR	LR		
	comp=Z,2μm,20.0s						
SBA	**Scott Base**	**59.31**	**192**	*e*P	**P**	**10 44 42.6**	**+1.7**
SBA				pmax	pmax		
	comp=Z,540nm,2.8s						
SBA				MLR	MLR		
	comp=Z,3μm,20.0s						
SBA	**Scott Base**	**59.31**	**192**	*e*P	**P**	**10 44 42.6**	**+1.7**
	comp=Z,540nm,2.8s						
SBA				LR	LR		
	comp=Z,3μm,20.0s						
VNDA	**Vanda**	**60.34**	**192**	P	**P**	**10 44 49.0**	**+1.1**
	comp=Z,6.4nm,0.9s,baz=142,slow=5.5,SNR=17						
ASCN	**Ascension**	**60.91**	**77**	PFAKE		10 45 00.0	+7.2
ASCN				LR	LR		
	comp=Z,4μm,19.0s						
SHEL	**Horse Pasture**	**62.97**	**90**	PFAKE		10 45 20.0	+13
SHEL				LR	LR		
	comp=Z,3μm,20.0s						
SYO	**Syowa Base**	**62.99**	**158**	⇑*e*P	**P**	**10 45 03.2**	**-2.7**
SYO	**Syowa Base**	**62.99**	**158**	⇓*e*pP	pP	10 45 13.6	-2.4
TBI	**Tubuai**	**65.34**	**259**	*e*T	T	11 56 03.9	
	comp=Z,12nm,0.2s						
MEH	**Mehetia**	**67.20**	**265**	*e*T	T	11 58 23.4	
	comp=Z,71nm,0.2s						
035Z	**Hargill**	**67.75**	**336**	⇓P	**P**	**10 45 40.1**	**+3.0**
	baz=68						
TVO	**Taravao**	**68.19**	**264**	*e*T	T	11 59 37.7	
	comp=Z,4.5nm,0.2s						
035A	**Encino**	**68.20**	**336**	⇓P	**P**	**10 45 42.5**	**+2.5**
	baz=68,SNR=5.3						
TIAR	**Tiarei**	**68.39**	**264**	*e*P	**P**	**10 45 44.6**	**+3.0**
	comp=Z,17nm,0.9s						
TIAR	**Tiarei**	**68.39**	**264**	*e*T	T	11 59 52.6	
	comp=Z,16nm,0.3s						
034A	**Hebbronville**	**68.50**	**336**	⇑P	**P**	**10 45 44.3**	**+2.4**
	baz=69,SNR=6.7						
PAE	**Paea**	**68.52**	**264**	*e*T	T	12 00 01.9	
	comp=Z,2.6nm,0.3s						
PPT2	**Papeete2**	**68.56**	**264**	*e*P	**P**	**10 45 45.8**	**+3.1**
	comp=Z,70nm,1.3s						
PPT2				*e*S	**S**	**10 54 43.8**	**+0.7**
	comp=Z,3μm,23.5s						
PPT2	**Papeete2**	**68.56**	**264**	*e*LR	LR	11 06 36.4	
	comp=Z,6μm,25.5s,baz=119						
PPT2	**Papeete2**	**68.56**	**264**	*e*T	T	12 00 04.1	
	comp=Z,6.6nm,0.3s						
PPT	**Papeete**	**68.57**	**264**	P	**P**	**10 45 43.8**	**+1.1**
	comp=Z,35nm,0.9s,baz=138,slow=3.5,SNR=4.7						
PPT				LR	LR	11 07 59.4	
	comp=Z,3μm,19.3s,baz=99,slow=29						
934A	**Benavides**	**68.95**	**336**	⇓P	**P**	**10 45 47.1**	**+2.5**
	baz=69						
933A	**Laredo**	**69.20**	**336**	⇑P	**P**	**10 45 48.1**	**+1.9**
	baz=70,SNR=12						
835A	**Beeville**	**69.37**	**337**	⇑P	**P**	**10 45 48.9**	**+1.7**
	baz=70						
BRAL	**Brewton**	**69.40**	**348**	PFAKE		10 46 00.0	+13
BRAL				LR	LR		
	comp=Z,999nm,21.0s						
834A	**Tilden**	**69.45**	**337**	⇓P	**P**	**10 45 49.0**	**+1.3**
	baz=70,SNR=18						
735A	**Kenedy**	**69.90**	**337**	⇓P	**P**	**10 45 51.9**	**+1.5**
	baz=70,SNR=9.2						
833A	**Chaparral WMA,**	**69.90**	**336**	⇓P	**P**	**10 45 51.4**	**+0.9**
	baz=70,SNR=17						
832A	**La Parita Cree**	**70.06**	**335**	⇓P	**P**	**10 45 52.2**	**+0.7**
	baz=70,SNR=11						
BBSR	**BB Station**	**70.09**	**8**	PFAKE		10 46 00.0	+8.4
BBSR				LR	LR		
	comp=Z,869nm,19.0s						
MAW	**Mawson**	**70.09**	**164**	P	**P**	**10 45 52.0**	**+0.8**
	comp=Z,19nm,0.8s,baz=280,slow=17,SNR=2.9						
MAW				LR	LR	11 18 37.2	
	comp=Z,5μm,18.1s,baz=230,slow=38						
734A	**La Parita Cree**	**70.12**	**337**	⇓P	**P**	**10 45 53.3**	**+1.5**
	baz=70						
733A	**Divot King Ran**	**70.23**	**336**	⇓P	**P**	**10 45 53.4**	**+0.8**
	baz=71						
SACV	**Santiago Islan**	**70.24**	**52**	PFAKE		10 46 00.0	+7.1
SACV				LR	LR		
	comp=Z,6μm,20.0s						
636A	**Smothers Creek**	**70.26**	**338**	⇑P	**P**	**10 45 54.0**	**+1.3**
	baz=71,SNR=14						
HKT	**Hockley**	**70.35**	**340**	*e*P	P	10 45 57.7	+4.5
HKT				pmax	pmax		
	comp=Z,53nm,1.9s						
HKT	**Hockley**	**70.35**	**340**	*e*P	P	10 45 57.6	+4.5
	comp=Z,53nm,1.9s						
635A	**Leesville**	**70.38**	**338**	⇓P	**P**	**10 45 54.7**	**+1.3**
	baz=71						
732A	**Laxson Ranch,**	**70.46**	**336**	⇑P	**P**	**10 45 54.8**	**+0.8**
	baz=71,SNR=33						
538A	**Harpers Horsep**	**70.51**	**340**	⇓P	**P**	**10 45 55.6**	**+1.4**
	baz=71						
634A	**China Grove, S**	**70.55**	**337**	⇑P	**P**	**10 45 56.0**	**+1.6**
	baz=71						
537A	**Green Hill Far**	**70.61**	**339**	⇑P	**P**	**10 45 56.2**	**+1.4**
	baz=71						
536A	**Bastrop**	**70.82**	**339**	⇓P	**P**	**10 45 57.5**	**+1.4**
	baz=71						
633A	**Saathoff Ranch**	**70.88**	**336**	⇑P	**P**	**10 45 57.7**	**+1.1**
	baz=71,SNR=11						
535A	**Dale**	**70.92**	**338**	⇓P	**P**	**10 45 57.9**	**+1.2**
	baz=71						
438A	**Sam Houston St**	**71.01**	**340**	⇓P	**P**	**10 45 58.4**	**+1.2**
	baz=71						
632A	**Uvalde**	**71.12**	**336**	⇑P	**P**	**10 45 58.8**	**+0.8**
	baz=71,SNR=18						
534A	**Blanco**	**71.19**	**337**	⇓P	**P**	**10 45 59.3**	**+0.8**
	baz=72						
340A	**Bronson**	**71.23**	**342**	⇓P	**P**	**10 45 60.0**	**+1.4**
	baz=72						
VBMS	**Vicksburg**	**71.23**	**345**	*e*P	**P**	**10 45 59.8**	**+1.3**
	comp=Z,142nm,1.6s						
GOGA	**Godfrey**	**71.24**	**351**	*e*P	**P**	**10 45 58.1**	**-0.5**
GOGA				pmax	pmax		
	comp=Z,194nm,2.3s						
GOGA				MLR	MLR		
	comp=Z,1μm,20.0s						
GOGA	**Godfrey**	**71.24**	**351**	*e*P	**P**	**10 45 58.1**	**-0.5**
	comp=Z,194nm,2.3s						
GOGA				LR	LR		
	comp=Z,1μm,20.0s						
631A	**Perdido Creek**	**71.29**	**335**	⇑P	**P**	**10 46 01.0**	**+2.0**
	baz=72,SNR=16						
339A	**Huntington**	**71.32**	**341**	⇓P	**P**	**10 45 59.6**	**+0.6**
	baz=72						
LRAL	**Lakeview Retre**	**71.37**	**348**	*e*P	**P**	**10 45 59.5**	**+0.2**
436A	**Wall Ranch, Ga**	**71.39**	**339**	⇓P	**P**	**10 46 01.3**	**+1.8**
	baz=72						
533A	**Kerrville**	**71.41**	**337**	⇓P	**P**	**10 46 00.5**	**+0.8**
	baz=72,SNR=10.0						
338A	**Crockett**	**71.54**	**340**	⇑P	**P**	**10 46 01.7**	**+1.3**
	baz=72						
435B	**Jarrell**	**71.63**	**338**	⇓P	**P**	**10 46 02.7**	**+1.7**
	baz=72						
337A	**Centerville**	**71.65**	**340**	⇓P	**P**	**10 46 02.5**	**+1.4**
	baz=72						
532A	**Rocksprings**	**71.74**	**336**	⇑P	**P**	**10 46 02.2**	**+0.5**
	baz=72,SNR=39						
434A	**Burnet**	**71.86**	**338**	⇑P	**P**	**10 46 03.4**	**+0.9**
	baz=72,SNR=16						
239A	**Gary**	**71.95**	**341**	⇓P	**P**	**10 46 03.7**	**+0.9**
	baz=72						
531A	**Rocksprings**	**71.98**	**336**	⇑P	**P**	**10 46 04.0**	**+0.8**
	baz=72,SNR=30						
336A	**Riesel**	**71.99**	**339**	⇓P	**P**	**10 46 03.7**	**+0.6**
	baz=72,SNR=15						
JCT	**Junction City**	**72.03**	**336**	*e*P	**P**	**10 46 03.8**	**+0.4**
JCT				pmax	pmax		
	comp=Z,23nm,0.9s						
JCT				MLR	MLR		
	comp=Z,865nm,20.0s						
JCT	**Junction City**	**72.03**	**336**	⇑P	**P**	**10 46 03.5**	**0.0**
	baz=72,SNR=13						
JCT	**Junction City**	**72.03**	**336**	*e*P	**P**	**10 46 03.8**	**+0.4**
	comp=Z,23nm,0.9s						
JCT				LR	LR		
	comp=Z,865nm,20.0s						
335A	**Moody**	**72.06**	**339**	⇑P	**P**	**10 46 03.9**	**+0.4**
	baz=72						
238A	**Jacksonville**	**72.10**	**341**	⇑P	**P**	**10 46 04.8**	**+1.0**
	baz=72						
530A	**J-C Ranch, Com**	**72.23**	**335**	⇑P	**P**	**10 46 05.2**	**+0.6**
	baz=72,SNR=31						
237A	**Washetta, Mont**	**72.28**	**340**	⇑P	**P**	**10 46 05.0**	**+0.2**
	baz=73						
TXAR	**Lajitas Array**	**72.30**	**333**	P	**P**	**10 46 05.4**	**+0.2**
	comp=Z,7.1nm,0.6s,baz=151,slow=8.1,SNR=58						
TXAR				LR	LR	11 13 00.3	
	comp=Z,4μm,18.7s,baz=0.0,slow=32						
334A	**Lometa**	**72.34**	**338**	⇑P	**P**	**10 46 05.6**	**+0.4**
	baz=73,SNR=26						
432A	**Menard**	**72.39**	**337**	⇓P	**P**	**10 46 05.7**	**+0.1**
	baz=73,SNR=14						
431A	**Sonora**	**72.48**	**336**	⇓P	**P**	**10 46 06.4**	**+0.3**
	baz=73,SNR=23						
529A	**Stev Forest Ra**	**72.51**	**334**	⇑P	**P**	**10 46 06.5**	**+0.2**
	baz=73,SNR=17						
333A	**Richland Sprin**	**72.56**	**337**	⇓P	**P**	**10 46 06.7**	**+0.2**
	baz=73,SNR=13						
CNNC	**Cliffs of the**	**72.57**	**356**	PFAKE		10 46 20.0	+14
CNNC				LR	LR		
	comp=Z,1μm,19.0s						
138A	**Matatall Enter**	**72.72**	**341**	⇓P	**P**	**10 46 08.4**	**+1.0**
	baz=73						
KMSC	**Kings Mountain**	**72.72**	**353**	⇑P	**P**	**10 46 08.7**	**+1.3**
	baz=73						
KMSC	**Kings Mountain**	**72.72**	**353**	*e*P	**P**	**10 46 07.2**	**-0.3**
	comp=Z,413nm,2.8s						
WHTX	**Lake Whitney,**	**72.73**	**339**	⇑P	**P**	**10 46 08.7**	**+1.2**
	baz=73						
WHTX	**Lake Whitney,**	**72.73**	**339**	*e*P	**P**	**10 46 07.6**	**+0.1**
430A	**Baggett Ranch,**	**72.78**	**335**	⇓P	**P**	**10 46 08.5**	**+0.6**
	baz=73,SNR=24						
137A	**Heron Place, G**	**72.83**	**341**	⇓P	**P**	**10 46 09.1**	**+0.9**
	baz=73						
332A	**Millersview**	**72.85**	**337**	⇓P	**P**	**10 46 08.8**	**+0.5**
	baz=73						
429A	**Davenport Ranc**	**72.85**	**335**	⇓P	**P**	**10 46 08.8**	**+0.5**
	baz=73,SNR=37						
234A	**Clairette**	**72.94**	**338**	⇑P	**P**	**10 46 09.4**	**+0.6**
	baz=73,SNR=14						
331A	**San Angelo**	**73.00**	**336**	⇓P	**P**	**10 46 09.4**	**+0.2**
	baz=73,SNR=33						
233A	**Rising Star**	**73.18**	**338**	⇓P	**P**	**10 46 10.7**	**+0.5**
	baz=74,SNR=14						
KOMG	**Komaggas**	**73.28**	**115**	*e*P	**P**	**10 46 12.1**	**+1.0**
KOMG				AMB	AMB	10 46 22.4	
	comp=Z,76nm,2.1s						
KOMG				AMS	AMS	11 27 03.1	
	comp=Z,3μm,8.8s						
KOMG	**Komaggas**	**73.28**	**115**	P	**P**	**10 46 12.1**	**+1.0**
	comp=Z,76nm,2.1s						
232A	**Coleman**	**73.29**	**337**	⇑P	**P**	**10 46 11.4**	**+0.5**
	baz=74,SNR=35						
330A	**Mertzon**	**73.33**	**336**	⇓P	**P**	**10 46 11.2**	**0.0**
	baz=74,SNR=11						
SWET	**Sewanee**	**73.34**	**349**	*e*P	**

baz=75,SNR=14
TZTN Tazewell 74.34 352 *e*P **P 10 46 16.9 0.0**
comp=Z,123nm,1.9s
130A Snyder 74.36 336 ⇓P **P 10 46 17.6 +0.4**
baz=75,SNR=23
228A UT Block 9, Go 74.45 335 ⇓P **P 10 46 18.0 +0.2**
baz=75,SNR=7.9
WVT Waverly 74.53 348 *e*P **P 10 46 16.9 -1.1**
WVT pmax pmax
comp=Z,26nm,0.9s
WVT Waverly 74.53 348 *e*P **P 10 46 16.9 -1.1**
comp=Z,26nm,0.9s
Z32A Haskell 74.55 338 ⇑P **P 10 46 18.5 +0.3**
baz=75,SNR=12
Y34A Reagan Ranch, 74.66 339 ⇓P **P 10 46 19.4 +0.5**
baz=75
129A Stewart Farms, 74.68 335 ⇑P **P 10 46 19.3 +0.2**
baz=75,SNR=16
BLA Blacksburg 74.70 354 PFAKE 10 46 30.0 +11
BLA LR LR
comp=Z,1μm,20.0s
Z31A Sharp Cattle R 74.77 337 ⇓P **P 10 46 19.7 +0.2**
baz=75,SNR=20
128A Castleberry Fa 74.88 335 ⇓P **P 10 46 20.5 +0.3**
baz=75,SNR=17
UTMT University of 74.92 347 *e*P **P 10 46 23.2 +3.0**
comp=Z,140nm,1.4s
Y33A Hilltop Ranch, 74.95 339 ⇑P **P 10 46 21.3 +0.7**
baz=75
JSRW J. Sargeant Re 75.02 356 P **P 10 46 18.5 -2.3**
Z30A Sanderson Ranc 75.05 336 ⇑P **P 10 46 21.5 +0.3**
baz=75,SNR=20
MNTX Cornudas Mount 75.06 332 *e*P **P 10 46 20.6 -0.7**
comp=Z,5.9nm,0.9s
Y32A R-V Farms, Ver 75.19 338 ⇓P **P 10 46 22.7 +0.8**
baz=76
Z29A Hungry Hill Ra 75.21 336 ⇓P **P 10 46 22.4 +0.3**
baz=76,SNR=20
X34A Smith Ranch, M 75.28 339 ⇑P **P 10 46 23.6 +1.1**
baz=76
PARMO Parma 75.39 347 *e*P **P 10 46 24.7 +1.7**
Y31A Rekieta Farm, 75.40 337 ⇑P **P 10 46 23.4 +0.3**
baz=76,SNR=11
X33A Lawton 75.42 339 ⇓P **P 10 46 24.6 +1.4**
baz=76
Z28A Tucker Farm, M 75.46 335 ⇓P **P 10 46 24.1 +0.5**
baz=76
Y30A Stafford Cattl 75.52 337 ⇓P **P 10 46 23.9 0.0**
baz=76,SNR=14
X32A Elmer 75.53 338 ⇓P **P 10 46 24.9 +1.0**
baz=76
PBMO Poplar Bluff 75.63 346 *e*P **P 10 46 23.8 -0.5**
comp=Z,17nm,1.0s
WMOK Wichita Mounta 75.68 339 *e*P **P 10 46 23.8 -0.9**
WMOK pmax pmax
comp=Z,47nm,1.8s
WMOK MLR MLR
comp=Z,740nm,22.0s
WMOK Wichita Mounta 75.68 339 *e*P **P 10 46 23.8 -0.9**
comp=Z,47nm,1.8s
WMOK LR LR
comp=Z,740nm,22.0s
Y29A Porterfield Fa 75.75 336 ⇑P **P 10 46 25.5 +0.3**
baz=76,SNR=13
W34A Bridge Creek, 75.86 340 ⇓P **P 10 46 26.5 +0.7**
baz=76
W34A Bridge Creek, 75.86 340 *e*P **P 10 46 25.9 +0.1**
X31A McDonald Ranch 75.94 338 ⇑P **P 10 46 26.1 -0.1**
baz=76,SNR=15
Y28A McKinney Farm, 75.98 336 ⇓P **P 10 46 27.0 +0.5**
baz=76,SNR=8.7
W33A Caddo, Fort Co 75.98 339 ⇑P **P 10 46 27.8 +1.4**
baz=76
TUL1 Leonard 75.98 342 ⇑P **P 10 46 27.1 +0.8**
baz=76
TUL1 Leonard 75.98 342 *e*P **P 10 46 25.6 -0.8**
comp=Z,26nm,0.8s
X30A Coker Ranch, T 76.04 337 ⇑P **P 10 46 28.3 +1.5**
baz=76,SNR=17
W32A Sentinel 76.18 339 ⇓P **P 10 46 28.0 +0.4**
baz=76,SNR=18
MSTX Muleshoe 76.21 335 ⇑P **P 10 46 28.0 +0.1**
baz=76,SNR=8.9
MSTX Muleshoe 76.21 335 *e*P **P 10 46 27.8 -0.1**
Y27A Causey 76.26 335 ⇑P **P 10 46 28.2 0.0**
baz=77
319A Douglas 76.29 329 ⇓P **P 10 46 28.4 0.0**
baz=77
X29A Tulia 76.30 336 ⇓P **P 10 46 28.6 +0.3**
baz=77,SNR=21
USIN University of 76.30 349 *e*P **P 10 46 29.9 +1.7**
comp=Z,37nm,1.0s
SIUC Southern Illin 76.31 347 *e*P **P 10 46 28.2 0.0**
V34A Guthrie 76.36 340 ⇓P **P 10 46 28.4 -0.1**
baz=77
V34A Guthrie 76.36 340 *e*P **P 10 46 28.4 -0.1**
CASY Casey 76.41 182 *e*P **P 10 46 28.3 -0.3**
comp=Z,43nm,1.1s
CASY LR LR
comp=Z,4μm,19.0s
W31A Holland Ranch, 76.44 338 ⇓P **P 10 46 29.2 +0.2**
baz=77
X28A Dimmitt 76.52 336 ⇑P **P 10 46 29.9 +0.3**
baz=77
V33A Lossen Ranch, 76.56 340 ⇑P **P 10 46 30.4 +0.7**
baz=77
W30A Crocket Farms 76.63 338 ⇓P **P 10 46 30.8 +0.6**
baz=77
AMTX Amarillo 76.69 337 ⇓P **P 10 46 31.1 +0.5**
baz=77
AMTX Amarillo 76.69 337 *e*P **P 10 46 30.4 -0.1**
comp=Z,30nm,0.8s
121A Cookes Peak, D 76.72 331 ⇓P **P 10 46 30.7 -0.1**
baz=77
UPI Upington 76.80 116 *e*P **P 10 46 31.9 +0.3**
UPI AMB AMB 10 46 32.7
comp=Z,99nm,4.5s
UPI AMS AMS 11 19 49.2
comp=Z,4μm,12.2s
UPI Upington 76.80 116 P **P 10 46 31.9 +0.3**
comp=Z,99nm,4.5s
W29A Amarillo 76.90 337 ⇑P **P 10 46 32.2 +0.5**
baz=77,SNR=16
U34A Anderson Ranch 76.93 340 ⇓P **P 10 46 32.5 +0.8**
baz=77
U34A Anderson Ranch 76.93 340 *e*P **P 10 46 31.9 +0.2**
X27A F and S Farms, 76.94 335 ⇓P **P 10 46 32.6 +0.6**
baz=77
V31A Spring Creek L 76.96 338 ⇓P **P 10 46 33.0 +1.1**
baz=77,SNR=5.1
Z22A Elephant Butte 77.05 332 ⇑P **P 10 46 33.4 +0.7**
baz=77
LIC Lamto 77.08 72 *e*P **P 10 46 33.5 +0.3**
comp=Z,184nm,0.8s
X26A CR and CF Fran 77.09 335 ⇓P **P 10 46 33.4 +0.6**
baz=77
Y24A Capitan 77.09 333 ⇑P **P 10 46 33.7 +0.8**
baz=77,SNR=14
WIN Windhoek 77.10 109 *e*P **P 10 46 33.8 +0.3**
WIN AMB AMB 10 46 36.0
comp=Z,17nm,1.8s
WIN AMS AMS 11 19 15.0
comp=Z,1μm,14.9s
WIN Windhoek 77.10 109 P **P 10 46 33.8 +0.3**
WIN pmax pmax
comp=Z,17nm,1.8s
WIN Windhoek 77.10 109 P **P 10 46 33.8 +0.3**
comp=Z,17nm,1.8s
V30A Spur Ranch, Mi 77.20 338 ⇑P **P 10 46 34.1 +0.7**
baz=78
W28A Vega 77.20 336 ⇓P **P 10 46 34.0 +0.6**
baz=78
U32A Winter Ranch, 77.28 339 ⇑P **P 10 46 34.4 +0.6**
baz=78
W27A Bowe Ranch, En 77.30 336 ⇑P **P 10 46 34.6 +0.5**
baz=78,SNR=35
BLO Bloomington 77.31 350 *e*P **P 10 46 33.4 -0.4**
BLO pmax pmax
comp=Z,24nm,0.9s
BLO Bloomington 77.31 350 *e*P **P 10 46 33.4 -0.4**
comp=Z,24nm,0.9s
X25A Clemmons Ranch 77.36 334 ⇓P **P 10 46 34.9 +0.6**
baz=78
TIC Toumodi 77.36 71 *e*P **P 10 46 35.2 +0.5**
comp=Z,83nm,0.8s
KIC Kosan Boka 77.39 72 *e*P **P 10 46 35.2 +0.3**
comp=Z,123nm,0.8s
SLM Saint Louis 77.39 347 *e*P **P 10 46 34.6 +0.3**
SLM pmax pmax
comp=Z,40nm,0.9s
SLM Saint Louis 77.39 347 *e*P **P 10 46 34.6 +0.3**
comp=Z,40nm,0.9s
DBIC Dimbokro 77.50 71 *e*P **P 10 46 36.0 +0.5**
DBIC Dimbokro 77.50 71 *e*P **P 10 46 34.7 -0.8**
DBIC Dimbokro 77.50 71 P **P 10 46 35.9 +0.5**
comp=Z,48nm,0.7s,baz=197,slow=4.9,SNR=50
DBIC LR LR 11 18 37.7
comp=Z,2μm,18.2s,baz=215,slow=34
DBIC Dimbokro 77.50 71 *e*P **P 10 46 34.7 -0.8**
U31A Nine Bar Ranch 77.51 339 ⇓P **P 10 46 35.8 +0.7**
baz=78
GRM Grahamstown 77.54 122 *e*P **P 10 46 35.0 -0.6**
GRM AMS AMS 11 21 39.6
comp=Z,5μm,16.1s
GRM Grahamstown 77.54 122 P **P 10 46 35.1 -0.6**
GRM Grahamstown 77.54 122 P **P 10 46 35.0 -0.6**
V29A Stinnett 77.56 337 ⇑P **P 10 46 36.3 +0.9**
baz=78
W26A Owens Ranch, T 77.56 335 ⇓P **P 10 46 36.1 +0.6**
baz=78,SNR=9.1
X24A Lazy VL Ranch, 77.66 334 ⇑P **P 10 46 37.4 +1.3**
baz=78
V28A Channing 77.66 336 ⇑P **P 10 46 37.2 +1.1**
baz=78,SNR=13
T33A Patterson Ranc 77.73 340 ⇑P **P 10 46 36.9 +0.6**
baz=78
TUC Tucson 77.73 328 *e*P **P 10 46 37.6 +1.1**
TUC pmax pmax
comp=Z,11nm,1.2s
TUC MLR MLR
comp=Z,1μm,19.0s
TUC Tucson 77.73 328 *e*P **P 10 46 37.5 +1.1**
comp=Z,11nm,1.2s
TUC LR LR
comp=Z,1μm,19.0s
V27A Dan Oppiter Fa 77.86 336 ⇓P **P 10 46 38.4 +1.2**
baz=78,SNR=7.2
LPM Los Pinos Moun 77.87 332 *e*P **P 10 46 38.4 +1.1**
U30A WK&E Inc. Balk 77.90 338 ⇓P **P 10 46 38.2 +0.9**
baz=78
W25A X Bar L Ranch, 77.91 335 ⇑P **P 10 46 37.9 +0.5**
baz=78,SNR=8.0
ACSO Alum Creek Sta 77.93 353 *e*P **P 10 46 36.7 -0.6**
comp=Z,30nm,0.8s
ACSO LR LR
comp=Z,1μm,22.0s
X23A Hourglass Bar 77.95 333 ⇑P **P 10 46 38.4 +0.7**
baz=78,SNR=10
T32A Huddler Ranch, 78.01 340 ⇑P **P 10 46 38.9 +1.1**
baz=78
U29A Oasis Ranch, S 78.01 337 ⇓P **P 10 46 38.7 +0.8**
baz=78
LAZ Ladron 78.13 332 *e*P **P 10 46 39.9 +1.1**
comp=Z,36nm,1.9s
T31A Randall Ranch, 78.14 339 ⇓P **P 10 46 39.7 +1.2**
baz=78
S33A Kaszmaul Farm, 78.14 340 ⇑P **P 10 46 39.6 +1.1**
baz=78
V26A Tequesquite Ra 78.21 335 ⇑P **P 10 46 39.6 +0.5**
baz=78,SNR=6.2
W24A Lazy 6 Ranch, 78.23 334 ⇓P **P 10 46 40.1 +0.8**
baz=79,SNR=24
U28A Mallet 78.24 337 ⇑P **P 10 46 39.8 +0.6**
baz=79
214A Organ Pipe Nat 78.29 327 ⇑P **P 10 46 40.1 +0.6**
baz=79
214A Organ Pipe Nat 78.29 327 *e*P **P 10 46 40.1 +0.6**
comp=Z,12nm,0.9s
T30A Plains 78.35 338 ⇓P **P 10 46 40.7 +0.9**
baz=79
ANMO Albuquerque 78.37 333 *c i*P **P 10 46 40.6 +0.5**
ANMO pmax pmax
comp=Z,61nm,1.3s
ANMO Albuquerque 78.37 333 *e*P **P 10 46 40.6 +0.5**
ANMO LR LR
comp=Z,3μm,21.0s
W23A Werner Place, 78.45 333 ⇑P **P 10 46 41.4 +0.8**
baz=79,SNR=16
U27A Thompson Grove 78.47 336 ⇑P **P 10 46 41.3 +0.8**
baz=79,SNR=8.5
HVD Gariep Dam 78.47 120 *e*P **P 10 46 41.5 +0.5**
HVD AMS AMS 11 19 03.1
comp=Z,3μm,23.6s
HVD Gariep Dam 78.47 120 P **P 10 46 41.5 +0.5**
HVD Gariep Dam 78.47 120 P **P 10 46 41.5 +0.5**
S32A Newby Ranch, P 78.50 340 ⇓P **P 10 46 41.3 +0.8**
baz=79
V25A Rancho No Teng 78.53 335 ⇓P **P 10 46 41.5 +0.6**
baz=79,SNR=13
S31A Mullinville 78.57 339 ⇓P **P 10 46 42.0 +1.1**
baz=79
SFIN Lafayette 78.58 349 ⇓P **P 10 46 41.6 +0.8**
baz=79
V24A Rampart Ranch, 78.65 334 ⇑P **P 10 46 42.4 +0.7**
baz=79,SNR=9.3
T29A Hugoton 78.67 338 ⇓P **P 10 46 42.4 +0.9**
baz=79
U26A Atchley Ranch, 78.74 336 ⇑P **P 10 46 43.1 +1.0**
baz=79
R33A Olander Ranch, 78.81 341 ⇑P **P 10 46 43.2 +1.0**
baz=79
S30A Montezuma 78.87 339 ⇑P **P 10 46 43.4 +0.7**
baz=79
T28A Walsh 78.89 337 ⇓P **P 10 46 43.2 +0.5**
baz=79,SNR=23
U25A Circle Dot Ran 78.97 335 ⇓P **P 10 46 43.7 +0.4**
baz=79,SNR=18
V23A Ortiz Mt. (NFS 78.99 333 ⇓P **P 10 46 44.3 +0.9**
baz=79
T27A Campo 79.02 337 ⇑P **P 10 46 44.2 +0.6**
baz=79
S29A Ulysses 79.05 338 ⇓P **P 10 46 44.4 +0.8**
baz=79
R32A Long Quarter, 79.11 340 ⇑P **P 10 46 44.4 +0.5**
baz=80
KSU1 Kansas State U 79.21 342 ⇓P **P 10 46 44.7 +0.4**
baz=80
KSU1 Kansas State U 79.21 342 *e*P **P 10 46 44.2 -0.1**
KSU1 LR LR
comp=Z,697nm,19.0s
R31A Burdett 79.21 339 ⇓P **P 10 46 44.8 +0.4**
baz=80
S28A Manter 79.25 337 ⇓P **P 10 46 45.3 +0.6**
baz=80,SNR=10
U24A Moreno Valley 79.27 334 ⇑P **P 10 46 45.1 0.0**
baz=80
X18A Snowflake 79.33 330 ⇑P **P 10 46 45.4 0.0**
baz=80
113A Mohawk Valley, 79.40 326 ⇑P **P 10 46 46.4 +0.9**
baz=80
V22A San Miguel Ran 79.40 333 ⇑P **P 10 46 46.1 +0.3**
baz=80,SNR=15
T26A Comanche Natio 79.41 336 ⇑P **P 10 46 46.6 +0.9**
baz=80,SNR=13
R30A Dighton 79.42 339 ⇑P **P 10 46 46.2 +0.7**
baz=80
Q33A Connelly Farm, 79.42 341 ⇑P **P 10 46 46.2 +0.7**
baz=80
TSUM Tsumeb 79.42 106 P **P 10 46 46.8 +0.5**
comp=Z,8.3nm,0.7s,baz=213,slow=6.7,SNR=16
BINY Binghamton 79.44 358 PFAKE 10 47 00.0 +14
BINY LR LR
comp=Z,2μm,22.0s
BOSA Boshof 79.50 118 *e*P **P 10 46 46.8 +0.2**
BOSA AMB AMB 10 46 49.3
comp=Z,70nm,4.3s
BOSA AMS AMS 11 22 37.1
comp=Z,3μm,17.5s
BOSA Boshof 79.50 118 P **P 10 46 46.5 0.0**
BOSA pmax pmax
comp=Z,17nm,0.8s
BOSA Boshof 79.50 118 P **P 10 46 46.5 0.0**
comp=Z,29nm,0.8s,baz=234,slow=4.8,SNR=22
BOSA LR LR 11 22 02.2
comp=Z,3μm,18.1s,baz=234,slow=36
BOSA Boshof 79.50 118 P **P 10 46 46.5 0.0**
comp=Z,17nm,0.8s
U23A El Rito 79.52 334 ⇓P **P 10 46 47.4 +1.0**
baz=80,SNR=15
ERPA Erie 79.55 355 PFAKE 10 47 00.0 +14
ERPA LR LR
comp=Z,1μm,20.0s
Z14A Wintersburg 79.55 327 ⇑P **P 10 46 47.2 +0.9**
baz=80
Q32A Meitler Ranch, 79.61 340 ⇑P **P 10 46 47.1 +0.6**
baz=80
T25A Trinidad 79.64 335 ⇓P **P 10 46 47.9 +0.9**
baz=80,SNR=30
S27A Las Animas 79.65 337 ⇓P **P 10 46 48.2 +1.3**
baz=80
SNZO South Karori 79.75 225 PFAKE 10 47 00.0 +12
SNZO LR LR
comp=Z,2μm,20.0s
W18A Petrified Fore 79.76 331 ⇓P **P 10 46 48.4 +0.7**
baz=80
W18A Petrified Fore 79.76 331 *e*P **P 10 46 48.5 +0.9**
comp=Z,25nm,1.2s
S26A Kim 79.77 336 ⇓P **P 10 46 48.7 +1.1**
baz=80,SNR=19
U22A Llaves 79.80 333 ⇑P **P 10 46 49.2 +1.3**
baz=80,SNR=6.3
P33A Williams Farm, 79.80 341 ⇓P **P 10 46 48.8 +1.2**
baz=80
R29A Marienthal 79.80 338 ⇑P **P 10 46 48.6 +0.9**
baz=80
X16A Lo Mia Camp, P 79.83 329 ⇑P **P 10 46 49.0 +1.0**
baz=80,SNR=16
Q31A Ellis 79.84 340 ⇑P **P 10 46 49.3 +1.5**
baz=80
T24B San Luis 79.90 335 ⇑P **P 10 46 49.5 +1.0**
baz=80,SNR=12
R28A Tribune 79.92 338 ⇑P **P 10 46 49.3 +1.0**
baz=80,SNR=10
AAM Ann Arbor 80.04 352 PFAKE 10 47 00.0 +11
AAM LR LR
comp=Z,1μm,19.0s
Q30A Quinter 80.05 339 ⇓P **P 10 46 49.8 +0.8**
baz=80
Y14A Wickenburg 80.07 328 ⇑P **P 10 46 50.1 +0.9**
baz=80,SNR=8.6
T23A Casias Ranch, 80.10 334 ⇑P **P 10 46 50.3 +0.8**
baz=80,SNR=10
GLA Glamis 80.11 326 *e*P **P 10 46 50.9 +1.5**
GLA Glamis 80.11 326 ⇑P **P 10 46 50.2 +0.8**
baz=80
GLA Glamis 80.11 326 *e*P **P 10 46 50.9 +1.5**
S25A Robets Cordova 80.12 336 ⇑P **P 10 46 50.6 +1.0**
baz=80,SNR=13
R27A Eads 80.17 337 ⇓P **P 10 46 50.3 +0.6**
baz=80,SNR=20
Q29A Oakley 80.18 339 ⇓P **P 10 46 50.8 +1.1**
baz=80
P32A Huiting Farm, 80.21 341 ⇑P **P 10 46 50.7 +0.9**
baz=81
P31A Stockton 80.32 340 ⇑P **P 10 46 50.9 +0.5**
baz=81
URZ Urewera 80.35 229 LR LR 11 14 42.4
comp=Z,2μm,19.4s,baz=158,slow=30
S24A Houchin Ranch, 80.36 335 ⇓P **P 10 46 51.9 +0.9**
baz=81,SNR=12
R26A Arlington 80.39 337 ⇓P **P 10 46 52.2 +1.3**
baz=81,SNR=14
SWZ Schweizer 80.41 117 *e*P **P 10 46 51.2 -0.4**
SWZ AMB AMB 10 46 57.3
comp=Z,57nm,5.8s
SWZ Schweizer 80.41 117 P **P 10 46 51.2 -0.4**
comp=Z,57nm,5.8s
SWSC Sam W. Stewart 80.45 325 ⇓P **P 10 46 52.3 +1.1**
baz=81
R25A Fountain Ranch 80.52 336 ⇓P **P 10 46 52.3 +0.7**
baz=81
SDCO Great Sand Dun 80.55 335 *e*P **P 10 46 52.7 +0.7**
P30A Selden 80.58 339 ⇓P **P 10 46 52.7 +0.8**
baz=81
Q28A Sharon Springs 80.59 338 ⇑P **P 10 46 52.9 +1.0**
baz=81
S23A Nye Farm, Mont 80.69 334 ⇓P **P 10 46 53.6 +0.9**
baz=81
MONP Monument Peak, 80.70 325 ⇓P **P 10 46 53.6 +0.8**
baz=81
O32A Brockman Farm, 80.72 341 ⇑P **P 10 46 53.8 +1.3**
baz=81
WUAZ Wupatki 80.75 330 ⇓P **P 10 46 54.4 +1.4**
baz=81,SNR=5.4
WUAZ Wupatki 80.75 330 PFAKE 10 47 00.0 +7.0
WUAZ LR LR
comp=Z,1μm,21.0s
KSCO Kaye Shedlock' 80.78 337 ⇓P **P 10 46 54.1 +1.1**
baz=81
P29A Atwood 80.83 339 ⇑P **P 10 46 54.4 +1.2**
baz=81,SNR=8.3
R24A Sanders Place, 80.86 335 ⇓P **P 10 46 54.8 +1.3**
baz=81,SNR=20
PDMCI Parker Dam,Lak 80.86 327 ⇑P **P 10 46 54.8 +1.4**
baz=81
O31A Woolen Ranch, 80.90 340 ⇑P **P 10 46 55.3 +1.9**
baz=81
BC3 Big Chuckawall 80.90 326 ⇑P **P 10 46 54.8 +1.1**
baz=81
Q26A Hugo 80.98 337 ⇓P **P 10 46 55.3 +1.2**
baz=81,SNR=8.0
S22A 4UR Ranch, Cre 81.01 334 ⇓P **P 10 46 55.5 +1.0**
baz=81,SNR=11
P28A Saint Francis 81.04 338 ⇑P **P 10 46 55.4 +1.1**
baz=81
R23A Moffat 81.07 335 ⇑P **P 10 46 55.6 +0.9**
baz=81
O30A MW Ranch, Wils 81.12 340 ⇑P **P 10 46 55.8 +1.1**
baz=82
SCIA State Center 81.13 345 PFAKE 10 47 10.0 +15
SCIA LR LR
comp=Z,866nm,21.0s
MVCO Mesa Verde 81.13 332 ⇓P **P 10 46 55.9 +0.9**
baz=82,SNR=11
MVCO Mesa Verde 81.13 332 *e*P **P 10 46 56.1 +1.1**
MVCO LR LR
comp=Z,4μm,20.0s
NCB Newcomb 81.19 360 PFAKE 10 47 10.0 +15
NCB LR LR
comp=Z,1μm,20.0s
KSD Kokstad 81.19 122 *e*P **P 10 46 56.2 +0.5**
KSD AMB AMB 10 46 58.3
comp=Z,18nm,1.8s
KSD Kokstad 81.19 122 P **P 10 46 56.2 +0.5**
comp=Z,18nm,1.8s
IRM Iron Mountain 81.19 326 ⇓P **P 10 46 56.1 +1.0**
baz=82,SNR=8.4
N32A Stulken Farm, 81.20 341 ⇓P **P 10 46 56.5 +1.4**
baz=82
Q25A Bedland, Calha 81.20 336 ⇑P **P 10 46 56.5 +1.2**
baz=82,SNR=7.7
MDV Middlebury 81.21 0 *e*P **P 10 46 56.3 +1.4**
P27A Ficken Ranch, 81.27 338 ⇓P **P 10 46 57.0 +1.4**
baz=82
O29A 4D Ranch, Culb 81.28 339 ⇑P **P 10 46 57.0 +1.5**
baz=82
PFO Pinyon Flats O 81.31 325 *e*P **P 10 46 57.3 +1.3**
PFO pmax pmax
comp=Z,24nm,1.3s
PFO Pinyon Flats O 81.31 325 LR LR 11 16 16.7
comp=Z,1μm,18.1s,baz=150,slow=31
PFO Pinyon Flats O 81.31 325 ⇓P **P 10 46 57.3 +1.3**
baz=82
PFO Pinyon Flats O 81.31 325 *e*P **P 10 46 57.3 +1.3**
comp=Z,24nm,1.3s
SEK Senekal 81.33 119 *e*P **P 10 46 56.0 -0.5**
SEK AMB AMB 10 46 58.3
comp=Z,54nm,1.9s
SEK AMS AMS 11 18 33.3
comp=Z,3μm,20.7s
SEK Senekal 81.33 119 P **P 10 46 56.0 -0.5**
comp=Z,54nm,1.9s
BELC Belle Mtn. Jos 81.43 325 ⇑P **P 10 46 57.7 +1.1**
baz=82
W13A Hualapai Mount 81.44 328 ⇓P **P 10 46 58.1 +1.4**
baz=82,SNR=9.9
LBNH Lisbon 81.47 1 PFAKE 10 47 10.0 +14
LBNH LR LR
comp=Z,1μm,20.0s
P26A Davis Ranch, A 81.51 337 ⇓P **P 10 46 57.7 +0.8**
baz=82,SNR=7.2
Q24A Divide 81.54 336 ⇓P **P 10 46 58.2 +0.9**
baz=82
JFWS Jewell Farm 81.55 348 *e*P **P 10 46 55.6 -1.2**
JFWS pmax pmax
comp=Z,10.0nm,0.8s
JFWS MLR MLR
comp=Z,1μm,21.0s
JFWS Jewell Farm 81.55 348 *e*P **P 10 46 55.6 -1.2**
comp=Z,9.9nm,0.8s
JFWS LR LR
comp=Z,1μm,21.0s
O28A Krutsinger Ran 81.56 339 ⇑P **P 10 46 58.3 +1.3**

baz=82,SNR=6.5
MURC Murrieta 81.65 324 ⇑P P 10 46 58.9 +1.2
baz=82
N30A Hueftle Ranch, 81.71 340 ⇓P P 10 46 58.9 +1.1
baz=82
Q23A Hartsel 81.71 335 ⇓P P 10 46 59.0 +0.8
baz=82
P25A Willow Gulch B 81.72 337 ⇓P P 10 46 59.5 +1.4
baz=82,SNR=11
SCI San Clemente I 81.77 323 ⇑P P 10 46 59.1 +0.9
baz=82
O27A Beecher Island 81.83 338 ⇓P P 10 46 59.6 +1.1
baz=82
LONY Lake Ozonia 81.84 359 eP P 10 46 58.8 +0.5
LONY LR LR
comp=Z,1μm,20.0s
N29A Votaw Ranch, W 81.87 340 ⇑P P 10 47 00.2 +1.5
baz=82
LBTB Lobatse 81.91 115 eP P 10 46 59.1 -0.5
LBTB AMB AMB 10 47 04.9
comp=Z,55nm,2.4s
LBTB AMS AMS 11 23 28.9
comp=Z,3μm,17.6s
LBTB Lobatse 81.91 115 eP P 10 46 59.2 -0.3
LBTB pmax pmax
comp=Z,44nm,0.8s
LBTB Lobatse 81.91 115 eP P 10 46 59.2 -0.3
comp=Z,44nm,0.8s
U15A North Rim 81.91 329 ⇓P P 10 47 00.6 +1.3
baz=82,SNR=9.9
M31A Lambtecht Ranc 81.92 341 ⇑P P 10 47 00.4 +1.6
baz=82
GMRC Granite Mounta 81.94 326 ⇑P P 10 47 00.7 +1.5
baz=82
P24A Kohler Place, 81.96 336 ⇑P P 10 47 00.5 +1.2
baz=82
PV01 Paradox Valley 81.98 333 eP P 10 46 59.2 -0.3
comp=Z,711nm,0.9s
PRYS Parys 82.00 118 eP P 10 46 59.5 -0.5
PRYS AMB AMB 10 47 02.4
comp=Z,48nm,4.2s
PRYS Parys 82.00 118 P P 10 46 59.5 -0.5
comp=Z,48nm,4.2s
N28A Pribbeno Ranch 82.01 339 ⇑P P 10 47 01.1 +1.7
baz=82
O26A Horse Wrangler 82.12 337 ⇑P P 10 47 01.4 +1.3
baz=82,SNR=7.4
P23A Jefferson 82.14 335 ⇑P P 10 47 01.6 +1.2
baz=82
O25A Wiggins 82.25 337 ⇑P P 10 47 02.2 +1.5
baz=83
HEC Hector,Ludlow 82.28 326 ⇓P P 10 47 02.3 +1.3
baz=83
KSR Koster 82.33 117 eP P 10 47 02.0 +0.2
KSR AMB AMB 10 47 12.3
comp=Z,29nm,1.7s
KSR Koster 82.33 117 P P 10 47 02.0 +0.2
comp=Z,29nm,1.7s
M30A Dale-Ortello V 82.34 340 ⇑P P 10 47 02.8 +1.7
baz=83
WDLM Western Deep L 82.35 117 eP P 10 47 01.8 -0.1
WDLM AMB AMB 10 47 12.1
comp=Z,36nm,2.1s
BFSC Mount Baldy Ra 82.39 324 ⇑P P 10 47 02.7 +1.1
baz=83
OGNE Ogallala 82.39 339 ⇓P P 10 47 03.3 +1.9
baz=83
OGNE Ogallala 82.39 339 PFAKE 10 47 10.0 +8.6
OGNE LR LR
comp=Z,750nm,19.0s
N27A Anderson Farm, 82.41 338 ⇓P P 10 47 02.6 +1.0
baz=83
ISCO Idaho Springs 82.45 336 eP P 10 47 02.7 +0.7
ISCO MLR MLR
comp=Z,678nm,19.0s
ISCO Idaho Springs 82.45 336 ⇓P P 10 47 02.9 +0.8
baz=83,SNR=8.2
ISCO Idaho Springs 82.45 336 eP P 10 47 02.7 +0.7
ISCO LR LR
comp=Z,678nm,19.0s
M29A Burnside Ranch 82.47 340 ⇑P P 10 47 03.2 +1.4
baz=83
O24A Longmont 82.56 336 ⇑P P 10 47 03.9 +1.4
baz=83
PKME Peaks-Kenny Pk 82.57 3 PFAKE 10 47 10.0 +8.0
PKME LR LR
comp=Z,789nm,20.0s
M28A Bar X Bar Ranc 82.62 339 ⇓P P 10 47 03.8 +1.3
baz=83
N26A Koester Ranch, 82.63 338 ⇑P P 10 47 04.1 +1.4
baz=83
P22A Eagle 82.64 335 ⇑P P 10 47 04.4 +1.4
baz=83
L31A Butterfield Fa 82.67 341 ⇑P P 10 47 04.0 +1.3
baz=83
L30A Spencer Herefo 82.68 341 ⇑P P 10 47 04.4 +1.5
baz=83
GSC Goldstone, Bar 82.89 326 eP P 10 47 05.6 +1.5
GSC Goldstone, Bar 82.89 326 ⇓P P 10 47 05.2 +1.1
baz=83
GSC Goldstone, Bar 82.89 326 eP P 10 47 05.6 +1.5
O23A Lake Granby, G 82.92 336 ⇓P P 10 47 05.5 +1.0
baz=83,SNR=18
OBSV Observatory 82.96 118 eP P 10 47 04.9 -0.2
OBSV AMB AMB 10 47 07.5
comp=Z,49nm,4.2s
ERPM east rand prop 82.98 118 eP P 10 47 04.7 -0.5
ERPM AMB AMB 10 47 07.3
comp=Z,52nm,1.7s
ERPM east rand prop 82.98 118 P P 10 47 04.7 -0.5
comp=Z,52nm,1.7s
L29A Maesberg Ranch 82.99 340 ⇓P P 10 47 05.9 +1.4
baz=83
M27A Reverse DX Ran 83.03 339 ⇓P P 10 47 06.2 +1.4
baz=83
EDW2 Edwards Air Fo 83.07 325 ⇓P P 10 47 06.2 +1.1
baz=83
O22A Kremmling 83.08 335 ⇓P P 10 47 06.4 +1.1
baz=83,SNR=14
N24A Carr 83.14 337 ⇓P P 10 47 06.7 +1.3
baz=84
SHPR Sheep Range 83.17 327 eP P 10 47 07.0 +1.3
comp=Z,14nm,1.0s
CCUT Cedar City 83.31 329 eP P 10 47 07.5 +1.1
comp=Z,13nm,1.0s
K30A Basset 83.33 341 ⇑P P 10 47 06.9 +0.8
baz=84
SLR Silverton 83.38 117 eP P 10 47 06.2 -1.0
SLR AMB AMB 10 47 17.3
comp=Z,57nm,1.5s
SLR AMS AMS 11 33 07.1
comp=Z,3μm,16.7s
SLR Silverton 83.38 117 P P 10 47 06.2 -1.0
SLR pmax pmax
comp=Z,57nm,1.5s
SLR Silverton 83.38 117 P P 10 47 06.2 -1.0
comp=Z,57nm,1.5s
M25A Palm-Egli Farm 83.44 337 ⇓P P 10 47 07.3 +0.4
baz=84
SBC Santa Barbara 83.52 323 ⇓P P 10 47 07.7 +0.4
baz=84
L27A T5 Ranch, Ells 83.52 339 ⇑P P 10 47 08.5 +1.2
baz=84
N23A Red Feather La 83.55 336 ⇑P P 10 47 08.4 +0.8
baz=84,SNR=5.7
ARUT Antelope Range 83.55 329 eP P 10 47 07.7 +0.1
ARUT pmax pmax
comp=Z,251nm,1.2s
ARUT Antelope Range 83.55 329 eP P 10 47 07.7 +0.1
comp=Z,251nm,1.2s
SRU San Rafael Swe 83.56 332 eP P 10 47 07.8 +0.2
SRU pmax pmax
comp=Z,8.0nm,0.7s
SRU San Rafael Swe 83.56 332 eP P 10 47 07.8 +0.2
comp=Z,8.0nm,0.7s
K29A Lazy Trails An 83.60 341 ⇑P P 10 47 08.6 +1.0
baz=84
ECSD EROS Data Cent 83.60 343 ⇑P P 10 47 08.0 +0.5
baz=84
ECSD EROS Data Cent 83.60 343 eP P 10 47 07.0 -0.5
ECSD LR LR
comp=Z,944nm,21.0s
N22A Wattenberg Ran 83.63 335 ⇓P P 10 47 08.8 +0.8
baz=84,SNR=5.5
O20A White River Ci 83.64 334 ⇑P P 10 47 08.9 +0.9
baz=84
O20A White River Ci 83.64 334 eP P 10 47 08.1 +0.1
comp=Z,11nm,0.9s
ARVC Arvin 83.67 324 ⇑P P 10 47 09.1 +1.1
baz=84
MVU Marysvale 83.68 330 eP P 10 47 08.7 +0.4
comp=Z,32nm,0.3s
L26A Underwood Farm 83.70 338 ⇓P P 10 47 09.5 +1.3
baz=84
M24A Cheyenne 83.71 337 ⇑P P 10 47 09.7 +1.4
baz=84
K28A Ten Mile Ranch 83.84 340 ⇑P P 10 47 09.9 +1.1
baz=84
J30A Dallas 83.91 341 ⇑P P 10 47 10.6 +1.5
baz=84
ISA Isabella, Lake 83.94 325 eP P 10 47 10.8 +1.3
ISA pmax pmax
comp=Z,7.0nm,0.8s
ISA Isabella, Lake 83.94 325 ⇑P P 10 47 10.4 +0.9
baz=84
ISA Isabella, Lake 83.94 325 eP P 10 47 10.8 +1.3
comp=Z,7.4nm,0.8s
TMUT Trail Mountain 83.98 332 eP P 10 47 10.4 +0.5
comp=Z,18nm,1.0s
M23A Laramie 83.99 336 ⇓P P 10 47 10.9 +1.0
baz=84
K27A Flueckinger Fa 84.07 339 ⇓P P 10 47 11.0 +0.9
baz=84,SNR=6.6
L25A Engebretsen Ra 84.07 338 ⇑P P 10 47 11.4 +1.3
baz=84
J29A Okreek 84.20 341 ⇓P P 10 47 11.2 +0.6
baz=84,SNR=14
M22A Cedar Creek Ra 84.22 336 ⇓P P 10 47 11.7 +0.7
baz=85
SPMN Marine on St. 84.25 346 ⇑P P 10 47 11.2 +0.5
baz=85
SPMN Marine on St. 84.25 346 eP P 10 47 10.3 -0.4
comp=Z,7.3nm,0.8s
L24A Wheatland 84.27 337 ⇑P P 10 47 12.2 +1.1
baz=85
N20A Spence Gulch, 84.27 334 ⇑P P 10 47 11.8 +0.6
baz=85
K26A Motz Farm, Whi 84.34 339 ⇑P P 10 47 12.7 +1.3
baz=85
SMMC Simmler 84.36 323 ⇑P P 10 47 12.7 +1.1
baz=85
VES Vestal, Richgr 84.37 324 ⇓P P 10 47 12.8 +1.2
baz=85
I30A Oacoma 84.45 342 ⇑P P 10 47 11.8 0.0
baz=85,SNR=10
K25A Mack Ranch, Ha 84.46 338 ⇓P P 10 47 13.3 +1.3
baz=85
J28A Allard Ranch, 84.46 340 ⇑P P 10 47 12.7 +0.7
baz=85,SNR=8.9
J27A Elkhorn Farm, 84.51 340 ⇑P P 10 47 13.4 +1.1
baz=85,SNR=10
GRAC Grapevine Rang 84.55 326 ⇑P P 10 47 13.8 +1.2
baz=85
L23A Garrett 84.57 337 ⇓P P 10 47 14.0 +1.2
baz=85
L22A Ellis Ranch, M 84.73 336 ⇓P P 10 47 14.7 +1.1
baz=85
MPU Maple Canyon 84.77 332 eP P 10 47 14.3 +0.6
comp=Z,19nm,1.0s
I29A Vivian Onida 84.77 341 ⇑P P 10 47 14.8 +1.3
baz=85
RCTC Rector, Farmer 84.83 325 ⇑P P 10 47 15.0 +1.2
baz=85
BRSD Miller 84.83 342 ⇓P P 10 47 15.3 +1.6
baz=85
BRSD Miller 84.83 342 eP P 10 47 13.2 -0.6
comp=Z,27nm,0.9s
K24A Anderson Ranch 84.85 337 ⇓P P 10 47 15.8 +1.8
baz=85
J26A Sides Ranch, S 84.87 339 ⇓P P 10 47 15.3 +1.2
baz=85,SNR=8.3
R11A Troy Canyon, C 84.91 328 ⇑P P 10 47 15.9 +1.4
baz=85
R11A Troy Canyon, C 84.91 328 eP P 10 47 15.3 +0.8
comp=Z,11nm,0.9s
I28A Midland 84.98 340 ⇑P P 10 47 15.3 +0.8
baz=85,SNR=16
K23A Bowen Ranch, D 85.12 337 ⇑P P 10 47 16.4 +1.0
baz=86,SNR=8.1
JLU Jordanelle 85.21 332 eP P 10 47 16.5 +0.5
comp=Z,7.1nm,0.9s
I27A Quinn 85.28 340 ⇑P P 10 47 17.0 +1.0
baz=86,SNR=7.1
H29A Onida 85.31 341 ⇑P P 10 47 16.5 +0.4
baz=86,SNR=10.0
K22A Casper 85.31 336 ⇑P P 10 47 17.2 +0.8
baz=86,SNR=8.5
K22A Casper 85.31 336 eP P 10 47 16.8 +0.4
comp=Z,15nm,0.9s
J24A Dixon Ranch, L 85.35 338 ⇑P P 10 47 17.8 +1.3
baz=86,SNR=5.6
DUG Dugway, Tooele 85.37 331 eP P 10 47 17.4 +0.7
DUG pmax pmax
comp=Z,21nm,1.3s
DUG MLR MLR
comp=Z,1μm,19.0s
DUG Dugway, Tooele 85.37 331 ⇓P P 10 47 18.0 +1.3
baz=86
DUG Dugway, Tooele 85.37 331 eP P 10 47 17.4 +0.7
comp=Z,21nm,1.3s
DUG LR LR
comp=Z,1μm,19.0s
TPH Tonopah 85.38 327 eP P 10 47 17.5 +0.6
TPH pmax pmax
comp=Z,13nm,0.9s
TPH Tonopah 85.38 327 eP P 10 47 17.5 +0.6
comp=Z,13nm,0.9s
I26A New Underwood 85.47 339 ⇑P P 10 47 18.0 +0.9
baz=86
G30A Faulkton 85.52 342 ⇑P P 10 47 17.5 +0.4
baz=86,SNR=11
K21A Alcova 85.53 336 ⇓P P 10 47 18.5 +0.9
baz=86,SNR=12
H28A Mission Ridge 85.57 341 ⇑P P 10 47 17.7 +0.2
baz=86,SNR=12
TCUT Toone Canyon 85.64 332 eP P 10 47 18.7 +0.6
comp=Z,19nm,0.9s
I25A Rochford 85.71 339 ⇓P P 10 47 18.8 +0.4
baz=86,SNR=9.9
MLAC Mammoth, Mammo 85.73 326 ⇓P P 10 47 19.8 +1.2
baz=86
G29A Hoven 85.77 342 ⇓P P 10 47 19.1 +0.6
baz=86
H27A Howes 85.81 340 ⇓P P 10 47 18.9 +0.2
baz=86,SNR=11
I24A Kuemmerle Ranc 85.83 338 ⇓P P 10 47 20.3 +1.5
baz=86
RSSD Black Hills 85.89 339 eP P 10 47 18.4 -0.9
RSSD pmax pmax
comp=Z,13nm,0.8s
RSSD Black Hills 85.89 339 eP P 10 47 18.4 -0.9
comp=Z,12nm,0.8s
G28A Parade 85.91 341 ⇓P P 10 47 19.9 +0.7
baz=86,SNR=11
H26A Fairpoint 85.99 340 ⇓P P 10 47 20.8 +1.3
baz=86,SNR=5.2
J22A Midwest 85.99 337 ⇓P P 10 47 20.3 +0.6
baz=86
NVAR Mina Array Bea 86.15 326 P P 10 47 21.9 +1.2
comp=Z,5.4nm,0.8s,baz=150,slow=5.3,SNR=26
F30A Leola 86.15 342 ⇓P P 10 47 20.9 +0.7
baz=86,SNR=6.2
H25A Fruitdale 86.22 339 ⇓P P 10 47 21.4 +0.6
baz=87,SNR=10
J21A Lysite 86.24 336 ⇓P P 10 47 22.2 +1.2
baz=87
F29A Eureka 86.34 342 ⇓P P 10 47 21.6 +0.4
baz=87,SNR=6.4
I22A 9 Mile Ranch, 86.42 337 ⇓P P 10 47 22.5 +0.7
baz=87
BW06 Boulder Array 86.43 334 eP P 10 47 21.7 -0.3
comp=Z,17nm,1.2s
BW06 LR LR
comp=Z,4μm,19.0s
PDAR Pinedale Array 86.43 334 P P 10 47 21.9 -0.1
comp=Z,5.6nm,0.8s,baz=145,slow=5.4,SNR=24
PDAR LR LR 11 21 48.6
comp=Z,3μm,18.6s,baz=160,slow=33
J20A Shoshoni 86.45 336 ⇑P P 10 47 23.4 +1.4
baz=87,SNR=16
G27A Dupree 86.46 340 ⇑P P 10 47 22.1 +0.2
baz=87,SNR=14
G26A Maurine 86.56 340 ⇓P P 10 47 22.5 +0.2
baz=87,SNR=16
TORD Torodi Ar. Bea 86.58 71 P P 10 47 22.4 -0.7
comp=Z,14nm,0.7s,baz=222,slow=4.1,SNR=75
TORD LR LR 11 24 22.7
comp=Z,1μm,18.5s,baz=225,slow=34
F28A McLaughlin 86.60 341 ⇓P P 10 47 23.1 +0.6
baz=87,SNR=9.9
I21A Big Trails, Te 86.61 336 ⇑P P 10 47 22.9 +0.2
baz=87,SNR=11
H24A Dirks Ranch, A 86.61 338 ⇓P P 10 47 23.2 +0.5
baz=87,SNR=7.2
EYMN Ely 86.65 348 PFAKE 10 47 30.0 +7.3
EYMN LR LR
comp=Z,1μm,19.0s
J19A Crowheart 86.69 335 ⇓P P 10 47 23.7 +0.4
baz=87,SNR=26
G25A Newell 86.70 339 ⇓P P 10 47 23.6 +0.6
baz=87,SNR=13
WAKR Walker 86.71 326 eP P 10 47 24.6 +1.1
comp=Z,10nm,1.1s
HVU Hansel Valley 86.72 332 eP P 10 47 23.5 +0.1
HVU pmax pmax
comp=Z,15nm,0.9s
HVU Hansel Valley 86.72 332 eP P 10 47 23.4 +0.1
comp=Z,15nm,0.9s
MSNA Messina 86.74 116 eP P 10 47 24.4 +0.4
MSNA AMB AMB 10 47 34.9
comp=Z,55nm,2.6s
MSNA AMS AMS 11 26 02.6
comp=Z,4μm,14.1s
MSNA Messina 86.74 116 P P 10 47 24.4 +0.4
comp=Z,55nm,2.6s
E30A Jud 86.75 343 ⇑P P 10 47 23.9 +0.7
baz=87,SNR=6.7
MSKU Masuku 86.76 90 P P 10 47 24.3 +0.2
comp=Z,21nm,0.9s,baz=258,slow=6.7,SNR=16
ELK Elko 86.80 330 LR LR 11 21 15.7
comp=Z,1μm,19.0s,baz=160,slow=32
F27A Lemmon 86.94 341 ⇓P P 10 47 24.8 +0.6
baz=87,SNR=16
AHID Auburn Hatcher 86.97 333 eP P 10 47 24.2 -0.4
comp=Z,9.0nm,0.8s
AHID LR LR
comp=Z,2μm,21.0s
MOPA Mopani 86.97 117 eP P 10 47 25.3 +0.3
MOPA AMB AMB 10 47 36.1
comp=Z,58nm,1.7s
MOPA Mopani 86.97 117 P P 10 47 25.3 +0.3
comp=Z,58nm,1.7s
E29A Napoleon 86.99 342 ⇑P P 10 47 24.6 +0.2
baz=87,SNR=7.1
I20A Worland 87.00 336 ⇑P P 10 47 25.2 +0.6
baz=87
H22A Clearmont 87.01 337 ⇓P P 10 47 25.0 +0.3
baz=87
F26A Lodgepole 87.10 340 ⇑P P 10 47 25.3 +0.4
baz=87,SNR=9.8
G24A Alzada 87.10 339 ⇓P P 10 47 25.3 +0.3
baz=87
E28A Huff 87.25 342 ⇑P P 10 47 26.2 +0.5
baz=88,SNR=12
H21A Big Horn, Sher 87.26 337 ⇓P P 10 47 26.0 +0.1
baz=88
G23A Biddle 87.27 338 ⇓P P 10 47 26.1 +0.3
baz=88
D30A Buchanan 87.29 343 ⇑P P 10 47 26.5 +0.7
baz=88,SNR=12
E27A Carson 87.34 341 ⇑P P 10 47 26.8 +0.7
baz=88
I19A Meeteetse 87.36 335 ⇑P P 10 47 27.1 +0.7
baz=88
F25A Bowman 87.38 340 ⇓P P 10 47 27.3 +0.9
baz=88
H20A Greybull 87.44 336 ⇓P P 10 47 27.1 +0.4
baz=88
D29A Pettibone, Tap 87.44 343 ⇑P P 10 47 26.7 +0.1
baz=88,SNR=9.0
PMOZ Porto Moniz, M 87.55 45 ePP PP 10 50 57.9 +4.7
PMOZ Porto Moniz, M 87.55 45 eLR LR 11 21 32.0
comp=Z,3μm,20.0s
G22A Birney 87.56 338 ⇑P P 10 47 27.6 +0.3
baz=88
F24A Ekalaka 87.58 339 ⇓P P 10 47 28.4 +1.1
baz=88
E26A Carlson Angus 87.61 340 ⇓P P 10 47 27.4 0.0
baz=88,SNR=11
PAF Port-aux-Franc 87.68 157 P P 10 47 21.0 -6.9
PAF Port-aux-Franc 87.68 157 S S 10 57 52.0 -15
PAF SS SS 11 03 51.0 -1.4
PAF R 11 16 00.0
F23A Volborg 87.75 338 ⇓P P 10 47 27.7 -0.4
baz=88
C30A Mose, Pekin 87.78 343 ⇓P P 10 47 28.5 +0.3
baz=88,SNR=20
AGMN Agassiz Nation 87.79 345 ⇑P P 10 47 28.2 +0.1
baz=88,SNR=14
AGMN Agassiz Nation 87.79 345 eP P 10 47 27.9 -0.2
comp=Z,24nm,1.1s
AGMN LR LR
comp=Z,1μm,21.0s
I17A Pilgrim Ck. 87.79 334 ⇓P P 10 47 29.0 +0.4
baz=88,SNR=17
D28A Regan 87.80 342 ⇓P P 10 47 28.4 +0.1
baz=88,SNR=13
G21A Lodge Grass 87.85 337 ⇓P P 10 47 28.0 -0.7
baz=88
E25A Miller Ranch, 87.89 340 ⇓P P 10 47 28.5 -0.3
baz=88
H19A Powell 87.92 336 ⇓P P 10 47 28.8 -0.2
baz=88
D27A Center 87.96 341 ⇓P P 10 47 29.3 +0.3
baz=88
AFI Afiamalu 88.00 254 PFAKE 10 47 40.0 +10
AFI LR LR
comp=Z,2μm,19.0s
F22A Rosebud 88.05 338 ⇓P P 10 47 30.2 +0.7
baz=88
D26A Manning 88.12 341 ⇑P P 10 47 30.1 +0.3
baz=88,SNR=14
H18A Shoshone NF, C 88.15 335 ⇓P P 10 47 30.5 +0.2
baz=88,SNR=8.9
G20A Bridger 88.16 336 ⇓P P 10 47 30.2 +0.1
baz=88
MDND Maddock 88.18 343 ⇓P P 10 47 30.3 +0.3
baz=88,SNR=17
MDND Maddock 88.18 343 eP P 10 47 29.7 -0.3
comp=Z,19nm,1.1s
E24A Baker 88.20 339 ⇑P P 10 47 31.1 +0.9
baz=88
H17A Grant Village 88.21 334 ⇑P P 10 47 31.5 +0.9
baz=88
C28A Hausauer Farms 88.24 342 ⇓P P 10 47 30.9 +0.6
baz=89
LKWY Lake 88.30 335 PFAKE 10 47 40.0 +9.0
LKWY LR LR
comp=Z,4μm,19.0s
F21A Absaloka Mine, 88.36 337 ⇓P P 10 47 30.9 -0.1
baz=89
RLMT Red Lodge 88.41 336 PFAKE 10 47 40.0 +8.5
RLMT LR LR
comp=Z,2μm,19.0s
B30A Myrvik Farm, E 88.45 344 ⇑P P 10 47 31.4 +0.1
baz=89,SNR=43
D25A Fairfield 88.47 340 ⇑P P 10 47 32.0 +0.5
baz=89
C27A Sayler Ranch, 88.52 342 ⇓P P 10 47 32.2 +0.6
baz=89,SNR=8.1
YMR Madison River 88.58 334 eP P 10 47 33.0 +0.7
comp=Z,17nm,0.9s
F20A Billings 88.66 337 ⇓P P 10 47 32.7 +0.2
baz=89
B29A Wagenman Farm, 88.70 343 ⇓P P 10 47 32.8 +0.3
baz=89,SNR=17
D24A Glendive 88.71 340 ⇑P P 10 47 33.4 +0.8
baz=89
C26A Wahner Farm, P 88.77 341 ⇓P P 10 47 33.4 +0.6
baz=89
LAO LASA Array 88.87 338 PFAKE 10 47 40.0 +6.6
LAO LR LR
comp=Z,608nm,20.0s
HLID Hailey 88.87 332 ⇑P P 10 47 34.6 +1.0
baz=89,SNR=21
HLID Hailey 88.87 332 eP P 10 47 34.3 +0.7
comp=Z,36nm,1.6s
HLID LR LR
comp=Z,1μm,21.0s
QLMT Earthquake Lak 88.89 334 eP P 10 47 34.5 +0.8
comp=Z,1.0nm,0.9s
A30A Hoffart Farm, 88.91 344 ⇑P P 10 47 34.0 +0.5
baz=89,SNR=11

B28A	Dugan Ranch, T	88.92	343	⇑P		P		10 47 33.9	+0.4
	baz=89,SNR=18								
F19A	Roth Farm, Mol	88.96	336	⇓P		P		10 47 34.5	+0.6
	baz=89								
C25A	Freed Ranch, W	88.97	340	⇑P		P		10 47 34.0	+0.3
	baz=89								
E21A	Keefer Ranch,	88.99	338	⇓P		P		10 47 34.3	+0.4
	baz=89								
D23A	Lindsay	89.01	339	⇓P		P		10 47 34.4	+0.4
	baz=89								
B27A	Peters Farms,	89.10	342	⇓P		P		10 47 34.8	+0.5
	baz=89								
A29A	Manning Farm,	89.10	343	⇑P		P		10 47 34.3	-0.1
	baz=89,SNR=30								
C24A	Savage	89.12	340	⇓P		P		10 47 34.9	+0.4
	baz=90								
D22A	Cohagen	89.27	338	⇑P		P		10 47 35.7	+0.5
	baz=90								
E20A	Meyer Farm, Mu	89.28	337	⇓P		P		10 47 35.9	+0.6
	baz=90								
B26A	Jensen Ranch,	89.31	341	⇓P		P		10 47 36.2	+0.9
	baz=90								
A28A	Rude Farm, Bot	89.33	343	⇑P		P		10 47 36.3	+0.9
	baz=90,SNR=5.3								
MCMT	McKenzie Canyo	89.38	333	eP		P		10 47 37.0	+0.9
	comp=Z,4.1nm,0.8s								
D21A	La Casta Ranch	89.44	338	⇑P		P		10 47 36.5	+0.5
	baz=90								
E19A	Rath Farm, Rou	89.45	337	⇑P		P		10 47 36.9	+0.7
	baz=90								
B25A	Knox Farm, Ray	89.46	341	⇑P		P		10 47 37.2	+1.1
	baz=90								
C23A	Lambert	89.58	339	⇑P		P		10 47 37.7	+1.0
	baz=90								
A27A	Ledoux Ranch,	89.60	342	⇑P		P		10 47 37.8	+1.1
	baz=90								
WVOR	Wild Horse Val	89.60	328		PFAKE			10 47 50.0	+13
WVOR					LR	LR			
	comp=Z,1μm,21.0s								
ULM	Lac du Bonnet	89.65	346		P	P		10 47 35.9	-0.9
	comp=Z,12nm,1.1s,baz=171,slow=3.3,SNR=11								
BOZ	Bozeman (W)	89.67	334		PFAKE			10 47 50.0	+13
BOZ					LR	LR			
	comp=Z,3μm,21.0s								
C22A	Vida	89.72	339	⇓P		P		10 47 37.3	-0.1
	baz=90								
A26A	Wade Farm, Ken	89.75	342	⇓P		P		10 47 38.2	+0.8
	baz=90								
D20A	Manuel Ranch,	89.80	337	⇑P		P		10 47 38.2	+0.5
	baz=90								
A25A	Svangstu Ranch	90.06	341	⇓P		P		10 47 39.4	+0.6
	baz=90								
D19A	Cripps Ranch,	90.10	337	⇓P		P		10 47 39.6	+0.4
	baz=90								
LRM	Limekiln Ridge	90.11	334	eP		P		10 47 39.9	+0.4
	comp=Z,135nm,1.6s								
B23A	Brockton	90.12	340	⇑P		P		10 47 39.6	+0.4
	baz=90								
C21A	Desert Coulee	90.15	338	⇓P		P		10 47 39.5	+0.2
	baz=90								
N02D	Trinity Center	90.19	325	⇑P		P		10 47 40.1	+0.4
	baz=90								
B22A	Reddig Ranch S	90.26	339	⇓P		P		10 47 40.6	+0.8
	baz=91								
A24A	Westby	90.28	340	⇑P		P		10 47 40.3	+0.5
	baz=91								
C20A	Veseth Ranch,	90.32	338	⇑P		P		10 47 40.1	0.0
	baz=91								
A23A	Redstone	90.55	340	⇑P		P		10 47 41.3	+0.2
	baz=91								
B21A	Ellsworth Farm	90.67	338	⇓P		P		10 47 42.2	+0.5
	baz=91								
A22A	Carney Farms,	90.86	339	⇓P		P		10 47 43.4	+0.8
	baz=91								
B20A	Solberg Farm,	90.97	338	⇑P		P		10 47 43.7	+0.5
	baz=91								
BMO	Blue Mountains	91.08	331		PFAKE			10 48 00.0	+16
BMO					LR	LR			
	comp=Z,1μm,19.0s								
EGMT	Eagleton	91.14	337		PFAKE			10 48 00.0	+16
EGMT					LR	LR			
	comp=Z,835nm,20.0s								
A21A	Bergtoll Ranch	91.15	339	⇓P		P		10 47 44.3	+0.3
	baz=92								
B19A	Brinkman Farms	91.27	337	⇑P		P		10 47 44.9	+0.4
	baz=92								
A20A	Cobblestone Ra	91.34	338	⇓P		P		10 47 44.8	-0.1
	baz=92								
MSO	Missoula	91.50	334	⇓P		P		10 47 47.0	+1.3
	baz=92								
A19A	Klindworth Far	91.63	338	⇓P		P		10 47 46.8	+0.6
	baz=92								
TAU	Tasmania Unive	91.67	209		PFAKE			10 48 00.0	+13
TAU					LR	LR			
	comp=Z,913nm,19.0s								
SLMT	Seeley Lake	91.69	334	eP		P		10 47 46.9	+0.2
	comp=Z,3.3nm,0.9s								
SCHQ	Schefferville	92.24	4		P	P		10 47 47.0	-1.7
	comp=Z,2.2nm,0.7s,baz=224,slow=5.0,SNR=6.0								
SCHQ					LR	LR		11 30 17.7	
	comp=Z,663nm,19.3s,baz=184,slow=36								
I04A	Tendick Farm,	92.31	327	⇓P		P		10 47 50.3	+0.8
	baz=93								
HAWA	Hanford	93.23	330		PFAKE			10 48 00.0	+6.4
HAWA					LR	LR			
	comp=Z,947nm,19.0s								
WALA	Waterton Lakes	93.40	335	eP		P		10 47 54.5	+0.1
	comp=Z,0.7nm,1.4s								
WALA				eP	P	PP		10 51 39.6	+0.2
NEW	Newport	93.86	333		LR	LR		11 26 32.8	
	comp=Z,953nm,18.7s,baz=148,slow=33								
RTC	Rabat Centre	94.42	50		PFAKE			10 48 10.0	+11
RTC					LR	LR			
	comp=Z,6μm,19.0s								
FFC	Flin Flon	95.13	344		PFAKE			10 48 10.0	+7.9
FFC					LR	LR			
	comp=Z,1μm,20.0s								
PFVI	Vila Bisbo	95.40	47	ePP		PP		10 51 56.2	+1.1
TAM	Tamanrasset	95.46	66	eP		P		10 48 05.1	+0.5
TAM					pmax	pmax			
	comp=Z,4.0nm,0.7s								
TAM					MLR	MLR			
	comp=Z,2μm,20.0s								
TAM	Tamanrasset	95.46	66	eP		P		10 48 05.0	+0.5
	comp=Z,4.3nm,0.7s								
TAM					LR	LR			
	comp=Z,2μm,20.0s								
MORF	Marmelete	95.62	47	eSKS		SKKSac		10 59 03.8	+1.6
PTEO	Sao Teotonio	95.75	46	eP		P		10 48 09.4	+4.1
	comp=Z,63nm,1.6s								
NLWA	Neilton Lookou	95.80	328		PFAKE			10 48 20.0	+15
NLWA					LR	LR			
	comp=Z,1μm,20.0s								
PBDV	Barranco-do-Ve	96.00	47	ePP		PP		10 51 35.4	-24
PVAQ	Vaqueiros	96.23	47	ePP		PP		10 52 01.5	-0.1
PVAQ				eSKS		SKSac		10 58 45.0	+3.5
PVAQ	Vaqueiros	96.23	47	eLQ		LQ		11 19 56.8	
PVAQ				eLR		LR		11 23 18.7	
	comp=Z,3μm,20.0s								
PNCL	Nicolau / Gran	96.25	46	ePP		PP		10 52 02.8	+1.1
PMAFR	Mafra	96.41	45	ePP		PP		10 52 03.3	+0.4
PMAFR				eSKS		SKSac		10 58 55.2	+13
PMTG	Montargil	97.08	45	eP		Pdif		10 48 12.2	+0.7
	comp=Z,22nm,1.4s								
PMTG	Montargil	97.08	45	ePP		PP		10 52 05.2	-2.9
PBAR	Barrancos	97.15	47	eP		Pdif		10 48 28.2	+16
	comp=Z,38nm,1.3s								
PBAR	Barrancos	97.15	47	ePP		PP		10 52 09.4	+0.8
PBAR				eSKS		SKSac		10 58 58.6	+12
PESTR	Estremoz	97.30	46	ePP		PP		10 52 08.2	-1.6
PESTR				eSKS		SKSac		10 58 56.5	+10
CAN	Canberra	97.40	214		PFAKE			10 48 30.0	+17
CAN					LR	LR			
	comp=Z,1μm,19.0s								
PCAS	Casmilo, Conde	97.60	45	ePP		PP		10 52 11.6	-0.5
PCAS				eSKS		SKSac		10 59 02.7	+14
PMRV	Marv??o	97.80	46	eP		Pdif		10 48 16.9	+2.2
	comp=Z,18nm,1.4s								
PMRV	Marv??o	97.80	46	ePP		PP		10 52 13.9	+0.3
PMRV				eSKS		SKSac		10 59 08.8	+19
PMRV	Marv??o	97.80	46	eLQ		LQ		11 19 50.0	
PMRV				eLR		LR		11 23 43.8	
	comp=Z,2μm,18.0s								
DZM	Mont Dzumac	98.13	234		LR	LR		11 22 35.4	
	comp=Z,2μm,21.2s,baz=124,slow=29								
MTE	Manteigas	98.37	45	ePP		PP		10 51 49.8	-28
MTE				eSKS		SKSac		10 59 09.4	+17
MTE	Manteigas	98.37	45	eLQ		LQ		11 19 44.4	
MTE				eLR		LR		11 23 46.4	
	comp=Z,4μm,20.0s								
MTE	Manteigas	98.37	45		PFAKE			10 48 30.0	+13
MTE					LR	LR			
	comp=Z,4μm,20.0s								
POLO	Lamas de Olo	98.89	44	ePP		PP		10 52 23.9	+1.8
PGAV	Gavieira, Arco	99.03	43	ePP		PP		10 52 24.5	+1.3
PGAV	Gavieira, Arco	99.03	43	eLQ		LQ		11 21 02.0	
PGAV				eLR		LR		11 26 55.7	
	comp=Z,4μm,20.0s								
MVO	Moncorvo	99.18	45	eP		Pdif		10 48 22.8	+2.0
	comp=Z,18nm,1.4s								
MVO	Moncorvo	99.18	45	ePP		PP		10 52 26.5	+2.3
MVO	Moncorvo	99.18	45	eLQ		LQ		11 22 38.8	
MVO				eLR		LR		11 26 54.8	
	comp=Z,5μm,20.0s								
PAB	San Pablo	99.63	47		PFAKE			10 48 30.0	+7.1
PAB					LR	LR			
	comp=Z,2μm,20.0s								
PBRG	Braganca	99.77	44	ePP		PP		10 52 30.3	+1.6
ESDC	Sonseca Array	99.94	47	P		Pdif		10 48 24.4	+0.1
	comp=Z,1.7nm,0.8s,baz=202,slow=6.4,SNR=4.1								
ESDC					LR	LR		11 31 48.3	
	comp=Z,2μm,19.5s,baz=245,slow=34								
ABPO	Ambohimpanom	100.83	124		PFAKE			10 48 40.0	+11
ABPO					LR	LR			
	comp=Z,2μm,21.0s								
RER	Riviere de l'E	104.58	132		PFAKE			10 49 00.0	+14
RER					LR	LR			
	comp=Z,1μm,19.0s								
YKA	Yellowknife Ar	105.06	342		Pdiff	Pdif		10 48 46.1	-0.2
	comp=Z,0.3nm,0.7s,baz=144,slow=4.2,SNR=5.7								
KMBO	Kilima Mbogo	105.69	104		PFAKE			10 53 20.0	
KMBO					LR	LR			
	comp=Z,3μm,22.0s								
SFJD	Kangerlussuaq	105.73	9		PFAKE			10 53 10.0	
SFJD					LR	LR			
	comp=Z,864nm,22.0s								
WRAK	Wrangell Islan	106.03	330		PFAKE			10 53 10.0	
WRAK					LR	LR			
	comp=Z,908nm,19.0s								
VSL	Villasalto	108.01	54		PFAKE			10 53 20.0	
VSL					LR	LR			
	comp=Z,3μm,20.0s								
SSB	Saint Sauveur	108.33	47		PFAKE			10 53 20.0	
SSB					LR	LR			
	comp=Z,1μm,21.0s								
TARA	Tarawa	109.34	256		PFAKE			10 53 20.0	
TARA					LR	LR			
	comp=Z,3μm,19.0s								
WDD	Wield Dalam	109.44	59		PFAKE			10 53 20.0	
WDD					LR	LR			
	comp=Z,10μm,20.0s								
BNI	Bardonecchia	109.45	48		PFAKE			10 53 20.0	
BNI					LR	LR			
	comp=Z,2μm,20.0s								
BORG	Borgarnes	109.88	21		PFAKE			10 53 20.0	
BORG					LR	LR			
	comp=Z,2μm,20.0s								
ESK	Eskdalemuir	110.23	35		PFAKE			10 53 20.0	
ESK					LR	LR			
	comp=Z,2μm,19.0s								
VLC	Villacollemand	111.19	50		PFAKE			10 53 20.0	
VLC					LR	LR			
	comp=Z,2μm,20.0s								
ECH	Echery	111.46	45		PFAKE			10 53 20.0	
ECH					LR	LR			
	comp=Z,3μm,20.0s								
CTAO	Charters Tower	111.47	220		PFAKE			10 53 30.0	
CTAO					LR	LR			
	comp=Z,1μm,21.0s								
CEL	Celeste	111.63	58		PFAKE			10 53 30.0	
CEL					LR	LR			
	comp=Z,3μm,21.0s								
WLF	Walferdange	111.69	43		PFAKE			10 53 30.0	
WLF					LR	LR			
	comp=Z,4μm,20.0s								
TUE	Stuetta	111.79	48		PFAKE			10 53 30.0	
TUE					LR	LR			
	comp=Z,3μm,21.0s								
AQU	L'Aquila	112.12	53		PFAKE			10 53 30.0	
AQU					LR	LR			
	comp=Z,4μm,20.0s								
BFO	Black Forest	112.19	46		PFAKE			10 53 30.0	
BFO					LR	LR			
	comp=Z,2μm,20.0s								
CUC	Castrocucco	112.47	56		PFAKE			10 53 30.0	
CUC					LR	LR			
	comp=Z,2μm,19.0s								
TIP	Timpagrande	112.68	57		PFAKE			10 53 30.0	
TIP					LR	LR			
	comp=Z,4μm,21.0s								
ASAR	Alice Springs	113.81	208		PKiKP	PKiKP		10 53 17.8	-0.8
	comp=Z,0.4nm,0.7s,baz=140,slow=1.7,SNR=6.5								
ASAR					PKKPbc	PKKPbc		11 04 00.9	+0.8
	comp=Z,1.2nm,0.7s,baz=338,slow=2.7,SNR=6.8								
EGAK	Eagle	114.78	334		PFAKE			10 53 30.0	+11
EGAK					LR	LR			
	comp=Z,1μm,20.0s								
GERES	GERESS Array B	115.53	47		PKP	PKPdf		10 53 21.1	+0.1
	comp=Z,2.8nm,0.7s,baz=203,slow=1.5,SNR=16								
KDAK	Kodiak Island	115.59	324		PFAKE			10 53 30.0	+9.3
KDAK					LR	LR			
	comp=Z,1μm,20.0s								
KHC	Kasperske Hory	115.59	47		ePKIKP	PKPdf		10 53 24.9	+3.8
KHC					e			11 04 08.4	
KHC					e			11 05 23.2	
KHC					MLR	MLR			
	comp=Z,2μm,17.1s								
KHC	Kasperske Hory	115.59	47		ePKP	PKPdf		10 53 24.9	+3.8
KHC					ePS	PS		11 04 08.4	+3.7
KHC					ex	x		11 05 23.2	
KHC					AMS	AMS		11 44 20.0	
	comp=Z,2μm,17.1s								
CLL	Collm	116.30	44		ePKIKP	PKPdf		10 53 24.0	+1.7
CLL					e			10 54 26.0	
CLL					MLR	MLR			
	comp=Z,3μm,20.8s								
CLL	Collm	116.30	44		ePKiKP	PKPdf		10 53 24.0	+1.7
CLL					ePP	PP		10 54 26.0	-3.1
CLL					ePPP	PPP		10 57 12.0	
CLL					eSdif	Sdif		11 02 18.0	+6.1
CLL					ePS	PS		11 04 12.0	+1.1
CLL					ePPS	PPS		11 05 28.0	
CLL					eSS	SS		11 10 31.0	+0.2
CLL					eSSS	SSS		11 14 48.0	
CLL					eSSSS			11 18 30.0	
CLL					LmV			11 40 00.0	
	comp=Z,3μm,20.8s								
IDI	Anoyia	116.41	65		PKP	PKPdf		10 53 24.3	+1.2
	comp=Z,3.5nm,0.7s,baz=320,slow=3.5,SNR=3.7								
PRU	Pruhonice	116.55	46		ePS	PS		11 04 16.8	+3.5
PRU					ex	x		11 05 34.1	
PRU					AMS	AMS		11 43 50.0	
	comp=Z,2μm,20.0s								
BRG	Berggiesshubel	116.62	45		ePKP	PKPdf		10 53 25.5	+2.6
	comp=Z,2.6nm,0.7s								
BRG	Berggiesshubel	116.62	45		ePKIKP	PKPdf		10 53 25.5	+2.6
BRG					pmax	pmax			
	comp=Z,3.0nm,0.7s								
MSEY	Mahe Island	116.72	120		PFAKE			10 53 40.0	+16
MSEY					LR	LR			
	comp=Z,2μm,20.0s								
TREC	Trest	116.78	47		AMS	AMS		11 46 00.0	
	comp=Z,2μm,16.6s								
PVCC	Panska Ves	116.81	46		ePKIKP	PKPdf		10 53 24.2	+0.9
PVCC					MLR	MLR			
	comp=Z,2μm,17.3s								
PVCC	Panska Ves	116.81	46		ePKPdf	PKPdf		10 53 24.2	+0.9
PVCC					ex	x		10 53 27.9	
PVCC					AMS	AMS		11 43 40.0	
	comp=Z,2μm,17.3s								
ILAR	Eielson Array	116.81	333		PKP	PKPdf		10 53 22.0	-0.9
	comp=Z,0.9nm,0.7s,baz=160,slow=2.5,SNR=7.6								
ILAR					PKKPbc	PKKPbc		11 03 50.5	0.0
	comp=Z,0.7nm,0.8s,baz=322,slow=4.5,SNR=6.2								
WRA	Warramunga Arr	117.03	210		PKP	PKPdf		10 53 23.7	-1.2
	comp=Z,0.8nm,0.6s,baz=156,slow=1.7,SNR=20								
WRAB	Tennant Creek	117.04	210		PFAKE			10 53 40.0	+15
WRAB					LR	LR			
	comp=Z,2μm,19.0s								
COLA	College	117.22	332		PFAKE			10 53 40.0	+16
COLA					LR	LR			
	comp=Z,801nm,21.0s								
SANT	Santorini	117.33	64		PFAKE			10 53 40.0	+15
SANT					LR	LR			
	comp=Z,2μm,21.0s								
UPC	Upice	117.63	46	ePKIKP		PKPdf		10 53 25.4	+0.5
UPC	Upice	117.63	46	ePKPdf		PKPdf		10 53 25.4	+0.5
UPC				ex		x		10 53 29.0	
DPC	Dobruska-Polom	117.74	46	ePKIKP		PKPdf		10 53 25.6	+0.4
DPC				e				11 04 30.3	
DPC	Dobruska-Polom	117.74	46	ePKPdf		PKPdf		10 53 25.6	+0.4
DPC				ex		x		10 53 28.2	
DPC				ePS		PS		11 04 30.3	+6.2
DPC				AMS		AMS		11 45 10.0	
MORC	Moravsky Berou	118.19	47	ePKIKP		PKPdf		10 53 26.6	+0.5
MORC	Moravsky Berou	118.19	47	ePKPdf		PKPdf		10 53 26.6	+0.5
KONO	Kongsberg	118.38	35		PFAKE			10 53 40.0	+14
KONO					LR	LR			
	comp=Z,2μm,19.0s								
VYHS	Vyhne	118.40	49	ePKIKP		PKPdf		10 53 26.3	-0.2
VYHS	Vyhne	118.40	49	ePKP		PKPdf		10 53 26.3	-0.2
OKC	Ostrava-Krasne	118.57	47	ePKIKP		PKPdf		10 53 26.8	+0.1
OKC				e				11 05 56.5	
OKC				MLR		MLR			
	comp=Z,2μm,17.1s								
OKC	Ostrava-Krasne	118.57	47	ePKPdf		PKPdf		10 53 26.8	+0.1
OKC				ex		x		11 04 40.7	
OKC				ex		x		11 05 56.5	
OKC				AMS		AMS		11 47 10.0	
	comp=Z,2μm,17.1s								
PSZ	Piszkesteto	118.80	50		PFAKE			10 53 40.0	+13
PSZ					LR	LR			
	comp=Z,1μm,22.0s								
PMG	Port Moresby	119.70	228		PFAKE			10 53 40.0	+10
PMG					LR	LR			
	comp=Z,2μm,20.0s								
NB2	NORSAR Subarra	119.70	34		PKPdf	PKPdf		10 53 29.0	+0.4
	comp=Z,5.2nm,1.1s,baz=248,slow=1.9								
NB2	NORSAR Subarra	119.70	34		PKPdf	PKPdf		10 53 29.0	+0.4
	baz=248,slow=1.9								
NOA	NORSAR Array B	119.70	34		PKIKP	PKPdf		10 53 29.0	+0.4
NOA	NORSAR Array B	119.70	34		PKP	PKPdf		10 53 29.0	+0.4
	comp=Z,1.7nm,0.7s,baz=250,slow=2.1,SNR=5.6								
DRGR		120.06	52	⇑iP		PKPdf		10 53 30.2	+0.4
MBWA	Marble Bar	120.24	194		PFAKE			10 53 40.0	+9.0
MBWA					LR	LR			
	comp=Z,1μm,19.0s								
UZH	Uzhgorod	120.55	50	i PKIKP		PKPdf		10 53 32.4	+1.9
UZH				e				10 53 38.4	
UZH				e				10 57 32.3	
UZH				e				11 00 31.1	
UZH				eSS		SS		11 11 23.9	-2.1
KOLS	Kolonicke sedl	120.66	50	ePKIKP		PKPdf		10 53 34.0	+3.2
KOLS	Kolonicke sedl	120.66	50	ePKP		PKPdf		10 53 34.0	+3.2
VOIR		121.00	54	⇑iP		PKPdf		10 53 31.7	0.0
KWP	Kalwaria Pacla	121.19	49		PFAKE			10 53 40.0	+8.2
KWP					LR	LR			
	comp=Z,2μm,21.0s								
ISP	Isparta	121.60	64		PFAKE			10 53 40.0	+6.9
ISP					LR	LR			
	comp=Z,2μm,20.0s								
MLR	Muntele Rosu	121.60	55	⇑iP		PKPdf		10 53 32.8	-0.1
BURAR	Bucovina Array	121.96	52	⇑iP		PKPdf		10 53 33.5	0.0
VRI	Vrincioaia	122.25	54	⇑iP		PKPdf		10 53 33.7	-0.3
CSS	Prodhromos	122.42	69		PFAKE			10 53 50.0	+15
CSS					LR	LR			
	comp=Z,258nm,22.0s								
TIRR	Tirgusor	122.82	56	⇓iP		PKPdf		10 53 34.7	-0.3
CFR	Carcaliu	122.91	56	⇑iP		PKPdf		10 53 35.3	+0.1
KIS	Kishinev	124.02	54	ePP		PP		10 55 20.0	-2.2
ANTO	Ankara	124.06	63		PFAKE			10 53 50.0	+12
ANTO					LR	LR			
	comp=Z,2μm,19.0s								
BRTR	Keskin Array B	124.60	64		PKP	PKPdf		10 53 38.8	-0.1
	comp=Z,6.0nm,0.7s,baz=211,slow=3.3,SNR=20								
DGAR	Diego Garcia	125.13	137		PFAKE			10 53 50.0	+10
DGAR					LR	LR			
	comp=Z,1μm,19.0s								
TNA	Tin City	125.27	329	ePKPdf		PKPdf		10 53 39.1	+0.1
KIEV	Kiev	125.48	50	ePKIKP		PKPdf		10 53 38.9	-1.1
KIEV				MLR		MLR			
	comp=Z,1μm,20.0s								
KIEV	Kiev	125.48	50	ePKPdf		PKPdf		10 53 38.9	-1.1
KIEV				LR		LR			
	comp=Z,1μm,20.0s								
AKASG	Malin Array Be	125.49	50	PKP		PKPdf		10 53 39.0	-0.9
	comp=Z,4.0nm,0.6s,baz=259,slow=2.8,SNR=13								
KBS	Kingsbay	125.73	14		PFAKE			10 53 50.0	+10
KBS					LR	LR			
	comp=Z,678nm,19.0s								
VSU	Vasula	126.26	40	i PKIKP		PKPdf		10 53 40.9	-0.3
RAYN	Ar Rayn	126.53	87	ePKPdf		PKPdf		10 53 43.0	+0.1
FINES	FINESS Array B	126.63	36	PKP		PKPdf		10 53 42.0	+0.2
	comp=Z,3.1nm,0.8s,baz=108,slow=2.4,SNR=7.5								
SIM	Simferopol'	126.80	58	i PKHKP		PKPpre		10 53 30.2	
SIM				e				10 55 44.0	
SIM				eSS		SS		11 13 06.0	+21
SIM				pmax		pmax			
	comp=Z,100nm,18.0s								
MALT	Malatya	127.52	67	⇑iP		PKPdf		10 53 44.8	+0.4
ARCES	ARCESS Array B	127.78	26	PKP		PKPdf		10 53 43.6	-0.2
	comp=Z,4.2nm,0.8s,baz=336,slow=2.7,SNR=7.1								
KEV	Kevo	128.33	26		PFAKE			10 54 00.0	+15
KEV					LR	LR			
	comp=Z,2μm,22.0s								
ANN	Anapa	128.99	59	ePKIKP		PKPdf		10 53 46.8	0.0
ANN				MLR		MLR			
	comp=Z,1μm,23.0s								
COCO	West Island	129.67	168		PFAKE			10 54 00.0	+11
COCO					LR	LR			
	comp=Z,897nm,20.0s								
SOC	Sochi	130.20	61	i PKIKP		PKPdf		10 53 46.7	-2.5
SOC				ePPP		PPP		10 58 50.1	
SOC				e				11 00 50.0	
SOC				MLR		MLR			
	comp=Z,592nm,22.0s								
APA	Apatity	130.53	29	⇑iPKIKP		PKPdf		10 54 02.0	+13
APA				MLR		MLR			
	comp=Z,2μm,17.0s								
OBN	Obninsk	130.86	46	⇑ePKIKP		PKPdf	

comp=Z,764nm,19.0s
MAK Makhachkala 135.51 64 *i* PKIKP **PKPdf 10 53 59.2 0.0**
MAK *e* 10 56 32.9
MAK *e*PPP PPP 10 59 31.6
MAK *e*PS **PS 11 06 58.7 -1.4**
MAK pmax pmax
comp=Z,87nm,0.9s
KAPI Kappang 135.84 199 PFAKE 10 54 10.0 +9.2
KAPI LR LR
comp=Z,747nm,19.0s
PRGR Permogore 135.95 37 *e*PKIKP **PKPdf 10 53 58.8 -0.6**
PRGR pmax pmax
comp=Z,59nm,1.2s
PET Petropavlovsk 141.09 311 PFAKE 10 54 20.0 +11
PET LR LR
comp=Z,876nm,20.0s
IKRD Kardeh 142.14 76 *e*P **PKPdf 10 54 16.5 +4.5**
GEYT Alibeck 142.14 74 PKhKP PKPpre 10 54 07.0
comp=Z,11nm,0.9s,baz=264,slow=5.4,SNR=10
ISRO Mashad 142.75 77 *e*P **PKPdf 10 54 08.6 -4.2**
GSI Gunungsitoli 142.98 165 *e*PKPdf PKPdf 10 54 08.1 -5.7
ARU Arti 143.23 44 *i* PKIKP PKPbc 10 54 09.9 -0.1
ARU Arti 143.23 44 *e*PKPdf PKPbc 10 54 09.8 -0.2
ARU LR LR
comp=Z,1μm,20.0s
IMYA Miami 143.25 77 *e*P PKPbc 10 54 11.2 +0.3
KSM Kuching 143.88 187 *e*PKPdf PKPab 10 54 12.7 +0.2
KSM LR LR
comp=Z,896nm,20.0s
TIXI Tiksi 143.97 348 *i* PKIKP **PKPdf 10 54 15.1 +1.4**
TIXI Tiksi 143.97 348 *e*PKPdf PKPab 10 54 10.1 -1.0
TIXI LR LR
comp=Z,565nm,20.0s
SVE Sverdlovsk 144.28 42 *i* PKIKP PKPbc 10 54 13.1 +0.1
SVE pmax pmax
comp=Z,33nm,1.5s
SVE MLR MLR
comp=Z,2μm,20.0s
ABKAR Akbulak array 144.81 56 *e*PKPdf **PKPab 10 54 14.6 -0.3**
DAV Davao City (W) 144.99 215 PFAKE 10 54 30.0 +13
DAV LR LR
comp=Z,407nm,20.0s
POO Poona 145.78 115 ⇓*i*P **PKPdf 10 54 18.0 -0.5**
comp=Z,10.0nm,1.2s
LHMI Lhok Sumawe 146.65 163 *e*PKPdf **PKPdf 10 54 19.6 -0.5**
IPM Ipoh 146.68 170 *e*PKPbc **PKPdf 10 54 20.1 -0.1**
KKM Kota Kinabalu 147.36 198 PFAKE 10 54 30.0 +4.3
KKM LR LR
comp=Z,537nm,21.0s
KULM Kulim 147.42 169 *e*PKPbc **PKPbc 10 54 23.8 -0.1**
HYB Hyderabad 148.33 122 *i* PKP **PKPdf 10 54 24.0 +1.2**
comp=Z,75nm,1.0s
YUK Yuzh-Kuril'sk 149.69 295 *i* PKIKP **PKPdf 10 54 19.1 -5.0**
YUK *i* 10 58 02.5
YUK *i* PPP PPP 11 01 24.2
YUK *i* 11 01 30.6
YUK *i* SS SS 11 17 20.4 +4.4
KBL Kabul 149.75 84 *e*PKPdf **PKPdf 10 54 24.9 +0.1**
KBL *e*PKPbc **PKPbc 10 54 29.4 -0.2**
BRVK Borovoye 150.63 47 *e*PKIKP **PKPdf 10 54 25.1 -0.2**
BRVK *e* 10 54 31.2
BRVK MLR MLR
comp=Z,1μm,20.0s
BRVK Borovoye 150.63 47 *e*PKPdf **PKPdf 10 54 25.1 -0.2**
BRVK *e*PKPbc **PKiKP 10 54 31.2 -0.3**
BRVK LR LR
comp=Z,1μm,20.0s
BVAR Borovoye Array 150.70 47 PKP **PKPdf 10 54 25.9 +0.5**
comp=Z,3.7nm,0.8s,baz=287,slow=1.7,SNR=12
BVAR PKPbc **PKiKP 10 54 32.1 +0.5**
comp=Z,27nm,0.7s,baz=297,slow=3.1,SNR=57
AJM Ajmer 150.99 103 *e*P **PKPdf 10 54 26.0 -0.8**
ERM Erimo 151.59 291 PFAKE 10 54 40.0 -2.1
ERM LR LR
comp=Z,1μm,20.0s
YAK Yakutsk 151.62 337 *i* PKIKP **PKPbc 10 54 31.8 -1.0**
YAK *e* 10 54 40.6
YAK *e*PPP PPP 11 01 29.6
YAK pmax pmax
comp=Z,68nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,129nm,8.9s
YAK pmax pmax
comp=N,32nm,6.8s
YAK pmax pmax
comp=E,31nm,6.2s
YAK Yakutsk 151.62 337 *e*PKPdf **PKPdf 10 54 25.3 -1.2**
YAK *e*PKPbc **PKPbc 10 54 32.3 -0.5**
YAK *e*PKPab **PKPab 10 54 41.7 +0.2**
YAK LR LR
comp=Z,926nm,21.0s
KKAR Karatay Array 152.22 67 *e*PKIKP **PKPdf 10 54 25.4 -2.7**
KKAR *e* 10 54 35.0
KKAR Karatay Array 152.22 67 *e*PKPdf **PKPdf 10 54 25.4 -2.7**
KKAR *e*PKPbc **PKPbc 10 54 35.0 +0.1**
AML Almayashu 154.55 69 P **PKPdf 10 54 32.7 +0.7**
SNR=8.6
EKS2 Erkin-Say 154.62 68 P **PKPdf 10 54 32.6 +0.9**
SNR=10
EKS2 Erkin-Say 154.62 68 *e*PKIKP **PKPdf 10 54 31.8 +0.1**
EKS2 MLR MLR
comp=Z,1μm,19.0s
EKS2 Erkin-Say 154.62 68 *e*PKPdf **PKPdf 10 54 31.8 +0.1**
EKS2 *e*PKPab **PKPab 10 54 56.0 +0.9**
EKS2 LR LR
comp=Z,1μm,19.0s
MJAR Matsushiro Arr 154.69 277 PKPbc **PKPbc 10 54 41.6 +1.2**
comp=Z,1.8nm,0.7s,baz=131,slow=2.3,SNR=4.7
MJAR PKPab **PKPab 10 54 54.5 -0.9**
comp=Z,5.1nm,0.7s,baz=131,slow=3.6,SNR=9.9
MAJO Matsushiro 154.69 277 PFAKE 10 54 40.0 -0.4
MAJO LR LR
comp=Z,969nm,20.0s
AAK Ala-Archa 155.14 68 P **PKPdf 10 54 33.3 +0.8**
SNR=11
AAK Ala-Archa 155.14 68 *e*PKIKP **PKPdf 10 54 33.2 +0.7**
AAK *e* 10 54 42.1
AAK MLR MLR
comp=Z,1μm,20.0s
AAK Ala-Archa 155.14 68 *e*PKPdf **PKPdf 10 54 33.2 +0.7**
AAK *e*PKPbc PKPbc 10 54 42.1
AAK *e*PKPab **PKPab 10 54 57.8 +0.4**
AAK LR LR
comp=Z,1μm,20.0s
UCH Uchtor 155.16 69 P **PKPdf 10 54 34.0 +1.1**
SNR=16
FRU Bishkek 155.23 68 *e*PKIKP **PKPdf 10 54 32.0 -0.4**
FRU *i* 10 54 38.0
FRU *e* 10 58 32.0
TKM2 Tokmak 2 155.95 68 P **PKPdf 10 54 34.0 +0.4**
SNR=12
TKM2 Tokmak 2 155.95 68 *e*PKIKP **PKPdf 10 54 33.2 -0.4**
TKM2 *e* 10 55 01.0
TKM2 MLR MLR
comp=Z,1μm,20.0s
TKM2 Tokmak 2 155.95 68 *e*PKPdf **PKPdf 10 54 33.2 -0.4**
TKM2 *e*PKPab **PKPab 10 55 01.0 +0.1**
TKM2 LR LR
comp=Z,1μm,20.0s
KSH Kashi 156.15 76 PKP **PKPdf 10 54 34.0 +0.1**
KSH sPKP 10 54 47.8
KSH PKS **PKSdf 10 58 08.4 +0.5**
KSH PP **PP 10 58 36.3 -3.6**
KSH SS SS 11 18 25.4 -2.1
KSH PPMZ
comp=Z,180nm,7.2s
KSH LN
comp=Z,380nm,14.2s
KSH LE
comp=Z,520nm,15.6s
KSH LZ
comp=Z,1μm,23.5s
KURK Kurchatov 156.28 48 *e*PKIKP **PKPdf 10 54 32.7 -0.8**
KURK MLR MLR
comp=Z,842nm,20.0s
KURK Kurchatov 156.28 48 *e*PKPdf **PKPdf 10 54 32.7 -0.8**
KURK *e*PKPab **PKPab 10 55 02.2 +0.4**
KURK LR LR
comp=Z,842nm,20.0s
NVS Novosibirsk 156.61 35 ⇑*i*PKIKP **PKPdf 10 54 32.2 -1.6**
NVS *i* 10 58 46.8
NVS pmax pmax
comp=Z,21nm,1.5s
NVS pmax pmax
comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,12nm,1.4s
ZALV Zalesovo Beam 157.89 35 PKP **PKPdf 10 54 34.7 -0.7**
comp=E,9.4nm,1.0s,baz=273,slow=2.8,SNR=24
ZALV PKPab **PKPab 10 55 09.5 +0.9**
comp=E,16nm,0.7s,baz=299,slow=4.7,SNR=13
KOLN Koldanda 158.47 110 *e*P **PKPdf 10 54 36.6 -0.7**
DANN Dangsing 158.90 109 *e*P **PKPdf 10 54 37.3 -0.6**
BOD Bodaibo 159.15 349 *e*PKIKP **PKPdf 10 54 33.9 -2.9**
BOD *e* 10 55 11.9
BOD pmax pmax
comp=Z,19nm,1.4s
DMN Daman 159.50 113 *e*P **PKPdf 10 54 37.8 -0.8**
PKI Pulchoki 159.70 113 *e*P **PKPdf 10 54 38.1 -0.8**
CMAR Chiang Mai Arr 159.84 159 PKP **PKPdf 10 54 39.0 +0.2**
comp=Z,1.6nm,0.8s,baz=235,slow=2.6,SNR=13
CMAR PKPab **PKPab 10 55 17.4 -0.5**
comp=Z,4.1nm,1.0s,baz=221,slow=4.8,SNR=8.5
MKAR Makanchi Array 159.95 55 PKP **PKPdf 10 54 37.9 -0.2**
comp=Z,4.0nm,0.7s,baz=273,slow=2.3,SNR=4.0
MKAR PKPab **PKPab 10 55 17.7 -0.1**
comp=Z,4.5nm,1.1s,baz=321,slow=3.1,SNR=29
CHTO Chiang Mai 160.18 159 *e*PKIKP **PKPdf 10 54 39.4 +0.2**
CHTO MLR MLR
comp=Z,987nm,20.0s
CHTO Chiang Mai 160.18 159 *e*PKPdf **PKPdf 10 54 39.4 +0.2**
CHTO LR LR
comp=Z,987nm,20.0s
RAMN Ramite 160.19 117 *e*P **PKPdf 10 54 39.0 -0.4**
GUN Gumba 160.23 113 *e*P **PKPdf 10 54 38.6 -0.9**
JIRN Jiri 160.32 114 *e*P **PKPdf 10 54 38.9 -0.7**
TAPN Taplejung 161.22 118 *e*P **PKPdf 10 54 40.3 -0.2**
MDJ Mudanjiang 161.23 299 PFAKE 10 54 50.0 +10
MDJ LR LR
comp=Z,1μm,19.0s
QIZ Qiongzhong 161.27 190 PKP **PKPdf 10 54 40.8 +0.4**
QIZ LN
comp=Z,460nm,19.8s
QIZ LZ
comp=Z,690nm,21.4s
QIZ Qiongzhong 161.27 190 PFAKE 10 54 50.0 +10
QIZ LR LR
comp=Z,743nm,20.0s
YHNB Yeheng 161.88 229 PFAKE 10 54 50.0 +9.0
YHNB LR LR
comp=Z,814nm,20.0s
TATO Taipei 162.04 230 PFAKE 10 54 50.0 +9.0
TATO LR LR
comp=Z,853nm,20.0s
KSRS Korea Array 162.95 276 PKP **PKPdf 10 54 40.5 -1.0**
comp=Z,1.1nm,0.7s,baz=149,slow=2.6,SNR=4.4
KSRS PKPab **PKPab 10 55 32.0 +0.8**
comp=Z,5.1nm,1.0s,baz=95,slow=5.3,SNR=7.6
KSAR Wonju Array Be 162.98 276 PKIKP **PKPdf 10 54 40.6 -1.0**
KSAR 10 55 32.0
KSAR Wonju Array Be 162.98 276 PKP **PKPdf 10 54 40.5 -1.0**
KSAR PKPab **PKPab 10 55 32.0 +0.6**
INCN Inchon 163.98 276 PFAKE 10 54 50.0 +7.4
INCN LR LR
comp=Z,797nm,20.0s
CN2 Changchun 164.32 299 *e*PKP **PKPdf 10 54 43.8 +1.2**
CN2 LN
comp=Z,600nm,20.0s
CN2 LE
comp=Z,800nm,20.0s
CN2 LZ
comp=Z,600nm,20.0s
WMQ Urumqi 164.50 60 *e*PKP **PKPdf 10 54 41.9 -1.0**
WMQ pPKP **pPKPdf 10 54 52.9 -0.8**
WMQ PKPab **PKPab 10 55 38.3 +0.4**
WMQ PKS **PKSdf 10 58 13.6 -2.2**
WMQ PP **PP 10 59 25.1 +0.5**
WMQ SKS **SKSdf 11 01 41.0 -3.7**
WMQ SKKS **SKKSac 11 06 07.3 -2.1**
WMQ SS **SS 11 19 50.5 -4.1**
WMQ PPMZ
comp=Z,680nm,8.0s
WMQ LN
comp=Z,1μm,19.0s
WMQ LE
comp=Z,820nm,21.0s
WMQ LZ
comp=Z,1μm,20.0s
HIA Hailar 164.87 325 PFAKE 10 54 50.0 +7.0
HIA LR LR
comp=Z,1μm,21.0s
LSA Lhasa 165.04 117 PFAKE 10 55 00.0 +16
LSA LR LR
comp=Z,2μm,20.0s
TLY Talaya 165.77 7 *i* PKIKP **PKPdf 10 54 46.6 +2.9**
TLY *e* 10 55 44.1
TLY pmax pmax
comp=Z,4.0nm,1.6s
TLY Talaya 165.77 7 PFAKE 10 54 50.0 +6.3
TLY LR LR
comp=Z,2μm,20.0s
KMI Kunming 167.18 165 PKP **PKPdf 10 54 45.8 -0.1**
KMI sPKP 10 55 01.8
NJ2 Nanjing 168.40 245 *e*PKP **PKPdf 10 54 48.1 +1.9**
GYA Guiyang 168.90 181 *i* PKP **PKPdf 10 54 47.3 +0.4**
GYA pPKP **pPKPdf 10 54 58.0 +0.3**
GYA PKPab **PKPab 10 56 00.4 +2.8**
GYA PKS **PKSdf 10 58 18.6 -1.0**
GYA PP **PP 10 59 50.8 +4.8**
GYA SKKS 11 06 32.3
GYA PPMZ
comp=Z,180nm,9.2s
GYA LN
comp=Z,240nm,24.5s
GYA LE
comp=Z,190nm,23.2s
GYA LZ
comp=Z,210nm,24.6s
ULN Ulaanbaatar 169.72 358 *e*PKIKP **PKPdf 10 54 44.2 -2.5**
ULN MLR MLR
comp=Z,2μm,21.0s
ULN Ulaanbaatar 169.72 358 *e*PKPdf **PKPdf 10 54 44.2 -2.5**
ULN LR LR
comp=Z,2μm,21.0s
SONM Songino Array 169.76 0 PKP **PKPdf 10 54 45.5 -1.2**
comp=Z,1.1nm,0.9s,baz=190,slow=1.1,SNR=7.1
SONM PKPab **PKPab 10 56 01.4 +0.5**
comp=Z,2.4nm,0.7s,baz=334,slow=4.3,SNR=7.9
WHN Wuhan 170.39 225 PKP **PKPdf 10 54 44.5 -2.9**
WHN SS SS 11 20 58.1 +5.1
WHN LN
comp=Z,2μm,19.5s
WHN LE
comp=Z,1μm,16.7s
WHN LZ
comp=Z,2μm,20.8s
BJI Beijing 172.01 291 PKP **PKPdf 10 54 51.8 +3.9**
BJI PP **PP 11 00 05.3 +2.4**
BJI LN
comp=Z,170nm,37.0s
BJI LE
comp=Z,410nm,37.5s
BJI LZ
comp=Z,400nm,35.5s
BJT Baijiatuau 172.02 291 PFAKE 10 55 00.0 +12
BJT LR LR
comp=Z,1μm,21.0s
ENH Enshi 172.27 200 PFAKE 10 55 00.0 +12
ENH LR LR
comp=Z,505nm,19.0s
CD2 Chengdu 172.98 161 PKP **PKPdf 10 54 49.1 +0.3**
CD2 PKS **PKSdf 10 58 18.6 -2.5**
CD2 SKS **SKSdf 11 01 44.4 -5.2**
CD2 SKKS **SKKSac 11 06 52.0 +0.8**
CD2 PPMZ
comp=Z,590nm,11.8s
CD2 LN
comp=Z,1μm,17.8s
CD2 LE
comp=Z,700nm,20.2s
CD2 LZ
comp=Z,1μm,16.6s
GTA Gaotai 174.50 69 ⇑PKP **PKPdf 10 54 49.0 -0.2**
GTA pPKP **pPKPdf 10 54 59.8 -0.2**
GTA sPKP 10 55 03.8
GTA PKPab **PKPab 10 56 21.8 -0.7**
GTA PP **PP 11 00 17.0 +1.7**
GTA SKS **SKSdf 11 01 47.8 -2.0**
GTA SKKS **SKKSac 11 06 58.4 -0.4**
GTA SS **SS 11 21 31.3 -3.3**
GTA PPMZ
comp=Z,880nm,8.1s
GTA LN
comp=Z,630nm,19.0s
GTA LE
comp=Z,1μm,22.3s
GTA LZ
comp=Z,1μm,20.4s
HHC Hu-ho-hao-te 174.86 311 *e*PKP **PKPdf 10 54 47.9 -1.3**
HHC pPKP **pPKPdf 10 54 56.8 -3.2**
HHC sPKP 10 55 02.8
HHC PP **PP 11 00 19.3 +2.8**
HHC SKS **SKSdf 11 01 45.6 -4.2**
HHC PPMZ
comp=Z,390nm,10.2s
HHC LN
comp=Z,480nm,22.1s
HHC LE
comp=Z,990nm,22.8s
HHC LZ
comp=Z,1μm,22.7s
LZH Lanzhou 177.44 125 *e*PKP **PKPdf 10 54 50.8 +0.8**
LZH pPKP **pPKPdf 10 55 02.4 +1.6**
LZH sPKP 10 55 07.3
LZH PP **PP 11 00 32.0 +3.1**
LZH SKKS 11 07 12.3
LZH SS **SS 11 21 59.0 -3.0**
LZH PPMZ
comp=Z,520nm,7.1s
LZH LN
comp=Z,1μm,19.1s
LZH LE
comp=Z,870nm,18.6s
LZH LZ
comp=Z,1μm,20.5s

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*IDC **13** 10:39:52.9±0.7,37°.56S×73°.62W,h0km,mb4.3/9,*
mb1 4.5/12,mb1mx4.4/20,mbtmp4.3/12,ML3.8/3,Error
ellipse: s-maj=23.1km s-min=14.7km az=83.0
*ISCJB **13** 10:39:55.0±0.4,37°.56S±0°.06×73°.49W±0°.10,h23km,*
mb4.6/31,Error ellipse: s-maj=10.9km s-min=8.0km
az=8.5
*NEIC **13** 10:39:58.2±0.3,37°.55S×73°.49W,h35km,mb4.7/15,Error*
ellipse: s-maj=13.0km s-min=7.5km az=74.0
ISC 13 10:39:56.3±0.6,37°.56S±0°.08×73°.6W±0°.1,h23km,n44,
σ0°94/45,mb4.7/31,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.96**	**144**	Pn	**Pn**	**10 40 56.5**	**+0.8**
2.9nm,0.3s,baz=31,slow=12,SNR=4.9							
PLCA				Lg	Lg	10 41 58.3	
baz=72,slow=20							
CFAA	**Coronel Fontan**	**7.41**	**38**	Pn	**Pn**	**10 41 42.4**	**-0.8**
0.6nm,0.3s,baz=293,slow=2.0,SNR=6.5							
CFAA				Sn	**Sn**	**10 43 07.7**	**+1.1**
0.1nm,0.3s,baz=313,slow=18,SNR=1.5							
CFAA				Lg	Lg	10 43 49.2	
0.1nm,0.3s,baz=77,slow=18,SNR=2.1							
USHA	**Ushuaia**	**17.63**	**170**	P	**Pn**	**10 44 00.2**	**0.0**
0.2nm,0.3s,baz=272,slow=5.3,SNR=3.9							
LPAZ	**La Paz**	**21.74**	**14**	P	**P**	**10 44 48.1**	**+1.3**
6.9nm,0.8s,baz=163,slow=7.0,SNR=6.4							
SIV	**San Ignacio**	**24.18**	**31**	P	**P**	**10 45 10.3**	**-0.7**
7.5nm,0.9s,baz=234,slow=13,SNR=4.5							
OTAV	**Otavalo**	**37.88**	**352**	*e*P	**P**	**10 47 12.9**	**+0.8**
18nm,1.4s							
SNAA	**Sanae**	**48.80**	**157**	P	**P**	**10 48 39.2**	**0.0**
5.8nm,1.1s,baz=293,slow=6.4,SNR=4.5							
VNDA	**Vanda**	**60.36**	**192**	P	**P**	**10 50 03.4**	**+0.5**
2.3nm,1.1s,baz=147,slow=6.4,SNR=2.8							
JCT	**Junction City**	**71.99**	**336**	*e*P	**P**	**10 51 16.7**	**-1.3**
7.5nm,0.9s							
TXAR	**Lajitas Array**	**72.26**	**333**	P	**P**	**10 51 20.6**	**+0.8**
2.0nm,0.8s,baz=154,slow=8.5,SNR=16							
ABTX	**Abilene, Hawle**	**73.93**	**337**	*e*P	P	10 51 23.1	-6.4
6.5nm,1.2s							
WMOK	**Wichita Mounta**	**75.64**	**339**	*e*P	**P**	**10 51 39.0**	**-0.3**
1.6nm,0.8s							
TUL1	**Leonard**	**75.94**	**342**	*e*P	**P**	**10 51 40.6**	**-0.4**
4.3nm,0.6s							
AMTX	**Amarillo**	**76.65**	**337**	*e*P	**P**	**10 51 45.9**	**+0.8**
10nm,1.0s							
LIC	**Lamto**	**77.11**	**72**	*e*P	**P**	**10 51 47.3**	**-0.8**
46nm,1.2s							
MVL	**Millersville**	**77.23**	**358**	*e*P	**P**	**10 51 46.5**	**-1.6**
TIC	**Toumodi**	**77.39**	**71**	*e*P	**P**	**10 51 49.8**	**+0.1**
14nm,0.2s							
KIC	**Kosan Boka**	**77.42**	**72**	*e*P	**P**	**10 51 50.2**	**+0.3**
43nm,1.0s							
DBIC	**Dimbokro**	**77.53**	**71**	P	**P**	**10 51 50.9**	**+0.4**
9.7nm,0.9s,baz=192,slow=5.4,SNR=7.6							
ANMO	**Albuquerque**	**78.33**	**333**	*e*P	**P**	**10 51 55.0**	**+0.3**
3.2nm,1.0s							
SMCO	**Snowmass**	**82.30**	**334**	*e*P	**P**	**10 52 17.3**	**+1.1**
9.3nm,1.3s							
CCUT	**Cedar City**	**83.27**	**329**	*e*P	**P**	**10 52 22.9**	**+1.9**
5.1nm,1.1s							
ARUT	**Antelope Range**	**83.51**	**329**	*e*P	**P**	**10 52 19.5**	**-2.7**
SRU	**San Rafael Swe**	**83.52**	**332**	*e*P	**P**	**10 52 23.2**	**+0.9**
5.2nm,1.0s							
ECSD	**EROS Data Cent**	**83.57**	**343**	*e*P	**P**	**10 52 22.1**	**-0.1**
18nm,1.2s							
R11A	**Troy Canyon, C**	**84.87**	**328**	*e*P	**P**	**10 52 30.6**	**+1.5**
5.2nm,1.2s							
DUG	**Dugway, Tooele**	**85.33**	**331**	*e*P	**P**	**10 52 32.4**	**+1.1**
6.0nm,1.3s							
TPH	**Tonopah**	**85.34**	**327**	*e*P	**P**	**10 52 32.9**	**+1.4**
7.5nm,1.3s							
NVAR	**Mina Array Bea**	**86.11**	**326**	P	**P**	**10 52 35.1**	**-0.3**
0.9nm,0.7s,baz=160,slow=6.7,SNR=5.2							
PDAR	**Pinedale Array**	**86.39**	**334**	P	**P**	**10 52 36.2**	**-0.4**
1.5nm,0.9s,baz=176,slow=5.9,SNR=6.2							
TORD	**Torodi Ar. Bea**	**86.61**	**71**	P	**P**	**10 52 37.6**	**-0.5**
2.1nm,0.8s,baz=235,slow=4.0,SNR=6.6							
TPAW	**Teton Pass**	**87.51**	**334**	*e*P	**P**	**10 52 42.4**	**+0.2**
66nm,2.7s							
AGMN	**Agassiz Nation**	**87.75**	**345**	*e*P	**P**	**10 52 43.1**	**+0.2**
7.9nm,1.2s							
FLWY	**Flagg Ranch**	**87.94**	**334**	*e*P	**P**	**10 52 44.5**	**+0.4**
91nm,2.8s							
MDND	**Maddock**	**88.14**	**343**	*e*P	**P**	**10 52 44.8**	**0.0**
11nm,1.4s							
HLID	**Hailey**	**88.83**	**332**	*e*P	**P**	**10 52 49.7**	**+1.4**
7.9nm,1.4s							
BRTR	**Keskin Array B**	**124.62**	**64**	PKP	**PKPdf**	**10 58 53.6**	**-0.1**
1.3nm,0.9s,baz=174,slow=2.4,SNR=4.1							
SEY	**Seymchan**	**142.41**	**327**	PKP	**PKPdf**	**10 59 25.9**	**-0.2**
1.6nm,0.8s,baz=44,slow=5.4,SNR=4.0							
ABKAR	**Akbulak array**	**144.82**	**56**	*e*PKPdf	**PKPab**	**10 59 29.9**	**0.0**
HYB	**Hyderabad**	**148.38**	**122**	*i* PKP	**PKPbc**	**10 59 40.0**	**-1.2**
BRVK	**Borovoye**	**150.64**	**46**	*e*PKPbc	**PKPbc**	**10 59 46.2**	**+0.5**
BVAR	**Borovoye Array**	**150.71**	**47**	PKPbc	**PKPbc**	**10 59 46.6**	**+0.7**
3.8nm,0.7s,baz=286,slow=3.9,SNR=10							
ZALV	**Zalesovo Beam**	**157.89**	**35**	PKP	**PKPdf**	**10 59 49.5**	**-0.8**
3.0nm,1.0s,baz=338,slow=3.5,SNR=3.9							
ZALV				PKPab	**PKPab**	**11 00 23.9**	**+0.5**
3.3nm,0.8s,baz=305,slow=5.2,SNR=5.9							
MKAR	**Makanchi Array**	**159.97**	**55**	PKPab	**PKPab**	**11 00 32.3**	**-0.5**
1.7nm,0.8s,baz=318,slow=1.6,SNR=4.0							

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*IDC **13** 10:45:30.5±1.1,37°.31S×73°.17W,h0km,mb3.9/8,*
mb1 4.0/10,mb1mx3.9/36,mbtmp3.9/10,ML4.0/2,Error
ellipse: s-maj=35.8km s-min=16.0km az=82.0
*ISCJB **13** 10:45:34.0±0.8,37°.31S±0°.08×73°.1W±0°.2,h33km,mb4.0/9,*
Error ellipse: s-maj=25.1km s-min=11.6km az=177.9
*NEIC **13** 10:45:35.8±0.5,37°.31S×73°.11W,h35km,mb4.4/2,Error*
ellipse: s-maj=16.6km s-min=7.8km az=88.0
ISC 13 10:45:35.6±1.0,37°.31S±0°.10×73°.1W±0°.2,h33km,n14,
σ0°19/13,mb4.0/9,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.95**	**151**	Pn	**Pn**	**10 46 34.1**	**+0.1**
4.2nm,0.3s,baz=316,slow=11,SNR=5.2							
PLCA				Lg	Lg	10 47 37.6	
baz=301,slow=5.9							
CFAA	**Coronel Fontan**	**6.96**	**37**	Pn	**Pn**	**10 47 15.4**	**0.0**

0.5nm,0.3s,baz=194,slow=12,SNR=10
LPAZ La Paz 21.40 13 P **P 10 50 21.4 +0.1**
1.1nm,0.8s,baz=210,slow=8.1,SNR=2.0
LPAZ La Paz 21.40 13 P **P 10 50 21.4 +0.1**
2.4nm,0.7s
SIV San Ignacio 23.76 30 P **P 10 50 45.2 +0.1**
2.9nm,0.9s,baz=204,slow=9.2,SNR=5.0
SNAA Sanae 48.87 157 P **P 10 54 17.4 -0.3**
1.5nm,0.9s,baz=198,slow=4.3,SNR=3.5
QSPA South Pole Qui 52.93 180 P **P 10 54 48.6 +0.2**
3.4nm,0.8s,baz=325,slow=1.6,SNR=8.8
TXAR Lajitas Array 72.23 332 P **P 10 56 57.2 -0.3**
0.4nm,0.8s,baz=147,slow=7.4,SNR=4.0
ABTX Abilene, Hawle 73.86 337 *eP* **P 10 57 07.0 +0.1**
35nm,2.3s
DBIC Dimbokro 77.06 71 P **P 10 57 25.5 -0.2**
6.8nm,1.0s,baz=182,slow=7.2,SNR=4.4
BOSA Boshof 79.30 118 P **P 10 57 38.2 0.0**
1.6nm,0.6s,baz=204,slow=10.0,SNR=3.4
TORD Torodi Ar. Bea 86.14 70 P **P 10 58 13.7 +0.1**
0.3nm,0.5s,baz=225,slow=3.6,SNR=3.7
ABKAR Akbulak array 144.34 55 *e*PKPdf PKPbc 11 05 06.4 +0.2
BVAR Borovoye Array 150.24 46 PKPbc **PKPbc 11 05 22.8 +0.2**
2.1nm,1.0s,baz=300,slow=4.5,SNR=4.9

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*BJI **13** 10:49:19.9,21.′94S×179.′18W,h602km,mB5.2/17, mb4.9/25*
*ISCJB **13** 10:49:21.0±0.4,22.′32S±0.′03×179.′56W±0.′03, h608km±5km,mb4.7/113,Error ellipse: s-maj=4.8km s-min=3.5km az=141.4*
*IDC **13** 10:49:22.1±1.1,22.′09S×179.′50W,h607km±11km, mb4.1/30,mb1 4.2/31,mb1mx4.2/34,mbtmp5.0/31,Error ellipse: s-maj=11.6km s-min=9.1km az=136.0*
*NEIC **13** 10:49:23.0±0.5,22.′12S×179.′66W,h617km±6km,mb4.9/77, Error ellipse: s-maj=6.5km s-min=4.3km az=146.0*
ISC 13 10:49:20.7±0.4,**22.′25S**±0.′05×**179.′44W**±0.′05, **h598**km±3km,**h598**km;**pP-P,n711**,σ1§**16**/778,**mb4.8**/112, **169C-185D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.07**	**332**	*e*Pn	**P**	**10 50 54.8**	**+0.5**
MSVF				*e*Sn	**S**	**10 52 11.2**	**+0.8**
RAO	**Raoul Island**	**7.11**	**169**	P	P	10 51 16.3	+4.8
	325nm,0.3s,baz=78,slow=5.8,SNR=16						
RAO				S	**S**	**10 52 43.4**	**+1.2**
	60nm,0.3s,baz=101,slow=22,SNR=7.8						
NIUE	**Niue**	**9.45**	**72**	P	**P**	**10 51 34.3**	**+0.2**
	baz=9.3,SNR=4.9						
NIUE				S	S	10 53 31.2	+7.7
	baz=9.3,SNR=5.6						
DZM	**Mont Dzumac**	**13.08**	**268**	P	**P**	**10 52 10.3**	**-0.2**
	3.4nm,0.3s,baz=107,slow=20,SNR=20						
OUZ	**Omahuta**	**14.29**	**204**	PN	**P**	**10 52 25.1**	**+3.0**
OUZ	**Omahuta**	**14.29**	**204**	*e*P	P	10 52 25.5	+3.4
	186nm,0.5s						
MXZ	**Matakaoa Point**	**15.39**	**187**	PN	**P**	**10 52 31.8**	**-0.5**
MXZ				SN	**S**	**10 55 05.7**	**-2.8**
WMGZ	**Waiomatatini S**	**15.63**	**186**	PN	**P**	**10 52 34.4**	**-0.1**
HAZ	**Te Kaha**	**15.64**	**188**	PN	**P**	**10 52 34.3**	**-0.3**
PUZ	**Puketiti**	**15.90**	**187**	PN	**P**	**10 52 36.3**	**-0.8**
PUZ				*e*SN	**S**	**10 55 13.0**	**-4.1**
TWGZ	**Tauwhareparae**	**16.03**	**187**	PN	**P**	**10 52 37.8**	**-0.5**
URZ	**Urewera**	**16.23**	**190**	P	**P**	**10 52 38.4**	**-1.7**
	27nm,0.3s,baz=277,slow=2.6,SNR=154						
URZ				S	**S**	**10 55 18.3**	**-4.1**
	2.9nm,0.3s,baz=202,slow=23,SNR=14						
URZ	**Urewera**	**16.23**	**190**	PN	**P**	**10 52 38.1**	**-2.0**
URZ				SN	**S**	**10 55 17.6**	**-4.8**
URZ	**Urewera**	**16.23**	**190**	*e*P	**P**	**10 52 38.3**	**-1.7**
	77nm,0.7s						
URZ				S	**S**	**10 55 18.3**	**-4.1**
MWZ	**Matawai**	**16.24**	**189**	PN	**P**	**10 52 39.2**	**-1.0**
MWZ				SN	**S**	**10 55 19.7**	**-3.1**
RAGZ	**Rawiri**	**16.42**	**189**	PN	**P**	**10 52 41.2**	**-0.6**
TLZ	**Tolley Road**	**16.60**	**194**	PN	**P**	**10 52 45.3**	**+1.8**
KNZ	**Kokohu**	**16.90**	**188**	PN	**P**	**10 52 46.5**	**+0.4**
MHGZ	**Mahia Peninsul**	**17.00**	**187**	PN	**P**	**10 52 48.3**	**+1.2**
NMHZ	**Naumai**	**17.10**	**190**	PN	**P**	**10 52 47.6**	**-0.4**
BKZ	**Black Stump Fm**	**17.22**	**191**	PN	**P**	**10 52 47.5**	**-1.7**
BKZ				SN	**S**	**10 55 32.8**	**-5.9**
BKZ	**Black Stump Fm**	**17.22**	**191**	*e*P	**P**	**10 52 48.0**	**-1.2**
	30nm,0.6s						
ARHZ	**Aropaoanui**	**17.23**	**189**	PN	**P**	**10 52 49.3**	**+0.1**
TRVZ	**Turoa**	**17.53**	**193**	PN	**P**	**10 52 51.6**	**-0.5**
BHHZ	**Black Hill Sta**	**17.61**	**192**	PN	**P**	**10 52 50.8**	**-1.9**
PXZ	**Pawanui**	**18.00**	**189**	PN	**P**	**10 52 56.1**	**-0.1**
PXZ				SN	**S**	**10 55 48.2**	**-3.0**
TSZ	**Takapari Road**	**18.18**	**191**	PN	**P**	**10 52 56.9**	**-1.0**
BFZ	**Birch Farm**	**18.74**	**190**	*e*Pn	**P**	**10 53 03.8**	**+0.9**
	187nm,1.7s						
MRZ	**Mangatainoka R**	**18.84**	**192**	PN	**P**	**10 53 02.3**	**-1.5**
OGWZ	**Otaki Gorge**	**19.07**	**193**	PN	**P**	**10 53 04.9**	**-1.0**
KIW	**Kapiti Island**	**19.16**	**193**	PN	**P**	**10 53 06.6**	**-0.2**
CAW	**Cannon Point**	**19.37**	**193**	PN	**P**	**10 53 07.8**	**-0.8**
WEL	**Wellington**	**19.60**	**193**	PN	**P**	**10 53 10.6**	**-0.1**
TCW	**Tory Channel**	**19.64**	**194**	PN	**P**	**10 53 11.1**	**+0.1**
QRZ	**Quartz Range**	**19.73**	**198**	PN	**P**	**10 53 13.5**	**+1.7**
NNZ	**Nelson**	**19.86**	**196**	PN	**P**	**10 53 12.2**	**-0.8**
THZ	**Tophouse**	**20.49**	**197**	PN	**P**	**10 53 18.9**	**0.0**
DSZ	**Denniston Nort**	**20.79**	**199**	PN	**P**	**10 53 22.1**	**+0.7**
KHZ	**Kahutara**	**20.95**	**195**	PN	**P**	**10 53 22.4**	**-0.5**
KHZ	**Kahutara**	**20.95**	**195**	*e*P	**P**	**10 53 22.8**	**-0.1**
	46nm,0.9s						
LTZ	**Lake Taylor**	**21.61**	**197**	PN	**P**	**10 53 28.1**	**-0.7**
WVZ	**Waitaha Valley**	**22.32**	**199**	PN	**P**	**10 53 35.2**	**+0.2**
RPZ	**Rata Peaks**	**22.81**	**198**	*e*P	**P**	**10 53 39.9**	**+0.4**
FOZ	**Fox Glacier**	**23.09**	**200**	PN	**P**	**10 53 41.2**	**-0.7**
JCZ	**Jackson Bay**	**23.85**	**201**	PN	**P**	**10 53 49.6**	**+0.8**
ODZ	**Otahua Downs**	**24.15**	**197**	*e*P	**P**	**10 53 51.8**	**+0.5**
WKZ	**Wanaka**	**24.44**	**200**	PN	**P**	**10 53 53.8**	**-0.1**
WHZ	**Wether Hill Ro**	**25.73**	**201**	*e*P	**P**	**10 54 07.4**	**+2.2**
	81nm,0.6s						
ARMA	**Armidale**	**27.12**	**246**	P	**P**	**10 54 20.0**	**+2.2**
	baz=27,SNR=37						
EIDS	**Eidsvold**	**27.12**	**258**	P	**P**	**10 54 18.7**	**+1.0**
	baz=27,SNR=8.7						
EIDS	**Eidsvold**	**27.12**	**258**	*e*P	**P**	**10 54 18.8**	**+1.0**
MGCD	**Mangrove Creek**	**28.17**	**241**	P	**P**	**10 54 29.2**	**+2.5**
	baz=28,SNR=8.7						
RMQ	**Roma**	**29.23**	**255**	P	**P**	**10 54 38.0**	**+2.0**
	baz=29,SNR=7.1						
CNB	**Canberra Magne**	**30.15**	**238**	P	**P**	**10 54 45.7**	**+1.9**
	baz=30,SNR=11						
CTA	**Charters Tower**	**32.02**	**267**	P	**P**	**10 55 00.8**	**+0.8**
	17nm,0.4s,baz=91,slow=11,SNR=51						
CTA				PcP	**PcP**	**10 57 31.2**	**+0.1**
	5.8nm,0.5s,baz=344,slow=9.5,SNR=3.2						
CMSA	**Cobar Meteorol**	**32.33**	**246**	P	**P**	**10 55 03.6**	**+1.2**
	baz=32,SNR=29						
RABL	**Rabaul**	**32.84**	**299**	P	**P**	**10 55 05.1**	**-1.9**
	baz=33,SNR=3.1						
QLP	**Quilpie**	**33.28**	**255**	P	**P**	**10 55 11.4**	**+0.9**
	baz=33,SNR=15						
TOO	**Toolangi**	**33.79**	**235**	P	**P**	**10 55 16.0**	**+1.4**
	baz=34,SNR=4.5						
STKA	**Stephens Creek**	**35.84**	**246**	P	**P**	**10 55 32.9**	**+1.2**
	6.4nm,0.5s,baz=94,slow=9.6,SNR=31						
STKA				PcP	**PcP**	**10 57 42.5**	**+0.5**
	3.1nm,0.6s,baz=58,slow=1.9,SNR=3.3						
STKA				S	**S**	**11 00 29.6**	**+1.5**
	0.8nm,0.6s,baz=109,slow=18,SNR=1.8						
STKA	**Stephens Creek**	**35.84**	**246**	P	**P**	**10 55 32.9**	**+1.2**
	baz=36,SNR=21						
STKA	**Stephens Creek**	**35.84**	**246**	*e*P	**P**	**10 55 31.3**	**-0.4**
	1.5nm,0.6s						
STKA				PcP	**PcP**	**10 57 42.5**	**+0.5**
STKA				S	**S**	**11 00 29.6**	**+1.5**
COEN	**Coen**	**36.40**	**277**	P	**P**	**10 55 37.4**	**+0.9**
	baz=36,SNR=7.0						
HTT	**Hallett**	**38.24**	**244**	P	**P**	**10 55 51.9**	**+0.6**
	baz=38,SNR=6.7						
BBOO	**Buckleboo**	**40.58**	**245**	P	**P**	**10 56 10.3**	**+0.4**
	baz=41,SNR=12						
AS31	**Alice Springs**	**42.83**	**259**	*e*P	**P**	**10 56 27.8**	**0.0**
AS31				*e*PcP	**PcP**	**10 58 05.4**	**+0.4**
ASAR	**Alice Springs**	**42.84**	**259**	P	**P**	**10 56 28.1**	**+0.3**
	22nm,0.8s,baz=96,slow=8.1,SNR=266						
ASAR				PcP	**PcP**	**10 58 05.5**	**+0.6**
	6.3nm,0.5s,baz=106,slow=3.9,SNR=13						
ASAR				ScP	**ScP**	**11 01 00.3**	**+0.6**
	1.3nm,0.7s,baz=107,slow=3.5,SNR=4.9						
ASAR				S	**S**	**11 02 08.2**	**-2.1**
	5.1nm,0.8s,baz=96,slow=15,SNR=21						
WB2	**Warramunga Arr**	**43.05**	**264**	*e*P	**P**	**10 56 28.9**	**-0.6**
WB2				*e*S	**S**	**11 02 10.4**	**-2.9**
WRAB	**Tennant Creek**	**43.05**	**264**	*e*P	**P**	**10 56 28.8**	**-0.7**
	18nm,0.9s						
WRA	**Warramunga Arr**	**43.06**	**264**	P	**P**	**10 56 29.2**	**-0.4**
	7.9nm,0.3s,baz=95,slow=8.2,SNR=648						
WRA				PcP	**PcP**	**10 58 06.2**	**+0.5**
	4.3nm,0.8s,baz=98,slow=3.8,SNR=7.3						
WRA				ScP	**ScP**	**11 01 01.6**	**+0.9**
	1.5nm,0.8s,baz=95,slow=3.6,SNR=3.9						
WRA				S	**S**	**11 02 10.5**	**-2.9**
	2.7nm,0.8s,baz=101,slow=14,SNR=10						
WRA				PKiKP	**PKiKP**	**11 05 05.4**	**-1.5**
	0.5nm,0.7s,baz=79,slow=0.6,SNR=5.9						
KDU	**Kakadu**	**46.68**	**273**	P	**P**	**10 56 57.0**	**-0.2**
	baz=47,SNR=4.6						
FORT	**Forrest**	**47.38**	**248**	*e*P	**P**	**10 57 02.0**	**-0.3**
	36nm,0.8s						
WRKA	**Warakurna**	**47.72**	**256**	P	**P**	**10 57 05.0**	**+0.1**
	baz=48,SNR=82						
WRKA				S	**S**	**11 03 16.8**	**-1.6**
	baz=48,SNR=6.2						
MTN	**Manton Dam**	**47.87**	**273**	P	**P**	**10 57 05.6**	**-0.5**
	baz=48,SNR=5.6						
KNRA	**Kununurra**	**49.23**	**268**	P	**P**	**10 57 16.2**	**+0.1**
	baz=49,SNR=13						
FAKI	**Fak Fak**	**50.62**	**285**	P	**P**	**10 57 26.3**	**0.0**
	baz=51,SNR=4.4						
FITZ	**Fitzroy Crossi**	**51.49**	**264**	P	**P**	**10 57 32.8**	**+0.3**
	baz=52,SNR=16						
FITZ				S	**S**	**11 04 09.1**	**-0.3**
	baz=52,SNR=5.2						
FITZ	**Fitzroy Crossi**	**51.49**	**264**	*e*P	**P**	**10 57 31.4**	**-1.1**
	25nm,1.4s						
SOEI	**Soe**	**55.24**	**273**	P	**P**	**10 58 00.3**	**+1.1**
	112nm,0.8s,1μm						
SOEI	**Soe**	**55.24**	**273**	P	**P**	**10 58 00.7**	**+1.5**
	baz=55,SNR=12						
SOEI	**Soe**	**55.24**	**273**	*e*P	**P**	**10 58 00.4**	**+1.2**
	70nm,0.7s						
BATI	**Baumata**	**55.64**	**273**	P	P	10 58 08.1	+6.2
	28nm,0.6s						
BATI	**Baumata**	**55.64**	**273**	P	**P**	**10 58 03.6**	**+1.7**
	38nm,0.5s,baz=158,slow=3.4,SNR=10						
SBA	**Scott Base**	**56.05**	**183**	*e*P	P	10 58 07.5	+3.9
	248nm,2.9s						
VNDA	**Vanda**	**56.06**	**185**	P	**P**	**10 58 06.2**	**+2.5**
	3.5nm,0.4s,baz=3.4,slow=6.6,SNR=48						
MEEK	**Meekatharra**	**56.09**	**252**	P	**P**	**10 58 04.4**	**-0.4**
	baz=56,SNR=11						
KLBR	**Kellerberrin**	**56.11**	**246**	P	**P**	**10 58 05.0**	**+0.2**
	baz=56,SNR=13						
MBWA	**Marble Bar**	**56.18**	**259**	*e*P	**P**	**10 58 05.4**	**-0.1**
	26nm,0.7s						
MBWA				*e*PcP	**PcP**	**10 58 55.1**	**+0.7**
NWAO	**Narrogin (SRO)**	**56.40**	**244**	P	**P**	**10 58 07.0**	**+0.3**
	5.5nm,0.6s,baz=131,slow=10,SNR=6.1						
BLDU	**Ballidu**	**57.13**	**247**	P	**P**	**10 58 11.9**	**0.0**
	baz=57,SNR=25						
MORW	**Morawa**	**57.93**	**249**	P	**P**	**10 58 17.5**	**+0.2**
	baz=58,SNR=9.8						
GIRL	**Giralia**	**60.80**	**256**	P	**P**	**10 58 37.9**	**+1.5**
	baz=61,SNR=3.7						
CASY	**Casey**	**61.81**	**206**	*e*P	**P**	**10 58 43.7**	**+1.5**
	8.1nm,1.2s						
PWJI	**Pagerwojo**	**67.38**	**270**	P	P	10 59 14.9	-3.3
	39nm,0.7s						
QSPA	**South Pole Qui**	**67.83**	**180**	P	**P**	**10 59 22.4**	**+2.3**
	8.6nm,0.5s,baz=214,slow=1.9,SNR=93						
QSPA	**South Pole Qui**	**67.83**	**180**	*e*P	**P**	**10 59 22.4**	**+2.3**
	7.8nm,0.6s						
SDKM	**Sandakan**	**67.88**	**286**	⇓P	**P**	**10 59 21.0**	**-0.2**
UGM	**Wanagama**	**68.60**	**270**	P	**P**	**10 59 25.6**	**0.0**
	baz=69,SNR=8.6						
KPJI	**Karang Pucung**	**70.28**	**270**	P	**P**	**10 59 34.6**	**-1.0**
	42nm,0.7s						
MJAR	**Matsushiro Arr**	**70.84**	**325**	P	**P**	**10 59 37.8**	**-0.6**
	10nm,0.7s,baz=151,slow=6.1,SNR=26						
MAJO	**Matsushiro**	**70.84**	**325**	*e*P	**P**	**10 59 38.0**	**-0.4**
	13nm,0.7s						
MAT	**Matsushiro**	**70.84**	**325**	P	**P**	**10 59 37.8**	**-0.6**
MAT				S	**S**	**11 08 05.6**	**-1.2**
SBUM	**Sibu**	**70.99**	**281**	⇓P	P	10 59 30.9	-8.8
LEM	**Lembang**	**71.68**	**270**	P	**P**	**10 59 44.6**	**+0.6**
	88nm,1.0s						
KSM	**Kuching**	**72.34**	**279**	P	**P**	**10 59 48.1**	**+0.5**
	baz=72,SNR=9.2						
KSM	**Kuching**	**72.34**	**279**	*e*P	**P**	**10 59 47.6**	**+0.1**
	29nm,0.6s						
NACB	**Ninganchiao**	**73.56**	**305**	*e*P	**P**	**10 59 53.2**	**-1.1**
	21nm,0.6s						
TPUB	**Ta-pu**	**73.81**	**304**	*e*P	**P**	**10 59 54.6**	**-1.1**
	44nm,0.8s						
SSLB	**Suanglung**	**73.83**	**305**	*e*P	**P**	**10 59 54.9**	**-1.0**
	25nm,0.6s						
YHNB	**Yeheng**	**74.01**	**306**	*e*P	**P**	**10 59 56.4**	**-0.5**
	14nm,0.8s						
ASAJ	**Asahikawa**	**74.64**	**333**	P	**P**	**11 00 00.2**	**+0.3**
	27nm,0.8s,baz=177,slow=2.8,SNR=10						
FX1	**Attu Island--F**	**75.09**	**355**	P	**P**	**11 00 01.3**	**-0.9**
	24nm,0.6s,baz=207,slow=3.2,SNR=10						
MDSI	**Mera Dua**	**75.71**	**271**	P	**P**	**11 00 09.3**	**+2.7**
	16nm,0.8s						
UNV	**Unalaska Valle**	**76.60**	**8**	*e*P	**P**	**11 00 09.4**	**-1.1**
	14nm,0.5s						
KSRS	**Korea Array**	**77.32**	**320**	P	**P**	**11 00 15.7**	**+0.9**
	4.9nm,0.9s,baz=133,slow=5.8,SNR=11						
KSAR	**Wonju Array Be**	**77.34**	**320**	P	**P**	**11 00 15.7**	**+0.8**
PETK	**Petropavlovsk-**	**77.62**	**346**	P	**P**	**11 00 15.9**	**-0.2**
	33nm,0.7s,baz=143,slow=7.8,SNR=25						
USRK	**Ussuriysk Ar.**	**79.67**	**327**	P	**P**	**11 00 28.1**	**+1.0**
	13nm,0.9s,baz=124,slow=3.5,SNR=15						
NJ2	**Nanjing**	**79.97**	**311**	*e*P	**P**	**11 00 30.6**	**+1.6**
NJ2				PMZ			
	40nm,0.7s						
SMMC	**Simmler**	**80.29**	**46**	⇑P	**P**	**11 00 32.2**	**+1.6**
	baz=80						
DECC	**Green Verdugo**	**80.80**	**47**	⇑P	**P**	**11 00 34.5**	**+1.2**
	baz=81						
109C	**Camp Elliot, M**	**80.88**	**49**	⇓P	**P**	**11 00 34.8**	**+1.1**
	baz=81						
KMRM	**Mail Ridge**	**80.95**	**40**	*e*P	**P**	**11 00 36.7**	**+2.7**
	92nm,0.9s						
ARVC	**Arvin**	**80.97**	**46**	⇑P	**P**	**11 00 35.4**	**+1.3**
	baz=81						
MWC	**Mount Wilson**	**80.97**	**47**	*e*P	**P**	**11 00 35.2**	**+0.8**
	18nm,1.0s						
MDJ	**Mudanjiang**	**81.19**	**326**	P	**P**	**11 00 35.4**	**+0.4**
MDJ				pP	**pP**	**11 02 39.6**	**-1.4**
MDJ				sP	**sP**	**11 03 39.6**	**-1.8**
MDJ				PP	**PP**	**11 03 51.3**	**-0.8**
MDJ				S	**S**	**11 09 54.8**	**-1.8**
MDJ				sS	**sS**	**11 13 37.8**	**-3.4**
MDJ				SS	**SS**	**11 15 32.3**	**+1.6**
MDJ				PMZ			
	18nm,0.8s						
MDJ				PMZ			
	100nm,4.3s						
VES	**Vestal, Richgr**	**81.21**	**46**	⇑P	**P**	**11 00 36.7**	**+1.4**
	baz=82,SNR=6.6						
MURC	**Murrieta**	**81.21**	**48**	⇓P	**P**	**11 00 36.5**	**+1.1**
	baz=82,SNR=5.6						
BFSC	**Mount Baldy Ra**	**81.25**	**48**	⇓P	**P**	**11 00 36.8**	**+1.1**
	baz=82						
MONP	**Monument Peak,**	**81.36**	**49**	⇓P	**P**	**11 00 37.7**	**+1.2**
	baz=82,SNR=8.8						
EDW2	**Edwards Air Fo**	**81.39**	**47**	⇓P	**P**	**11 00 37.4**	**+1.1**
	baz=82,SNR=10.0						
ISA	**Isabella, Lake**	**81.51**	**46**	⇓P	**P**	**11 00 38.0**	**+1.1**
	baz=82,SNR=15						
ISA	**Isabella, Lake**	**81.51**	**46**	*e*P	**P**	**11 00 38.1**	**+1.2**
CMB	**Columbia Colle**	**81.65**	**43**	*e*P	**P**	**11 00 38.6**	**+1.0**
	22nm,0.9s						
PFO	**Pinyon Flats O**	**81.74**	**49**	P	**P**	**11 00 39.5**	**+1.2**
	3.5nm,0.6s,baz=253,slow=4.4,SNR=8.1						
PFO	**Pinyon Flats O**	**81.74**	**49**	⇓P	**P**	**11 00 39.4**	**+1.2**
	baz=82						
OHCM	**Honcut**	**81.75**	**42**	*e*P	**P**	**11 00 39.2**	**+1.2**
SWSC	**Sam W. Stewart**	**81.83**	**50**	⇓P	**P**	**11 00 39.8**	**+1.2**
	baz=82,SNR=6.5						
WDC	**Whiskeytown Da**	**81.87**	**40**	*e*P	**P**	**11 00 40.2**	**+1.6**
	27nm,1.1s						
LRMC	**Laurel Mtn Rad**	**81.93**	**47**	⇓P	**P**	**11 00 40.6**	**+1.4**
	baz=82						
MNSI	**Mandailing Nat**	**81.95**	**274**	P	**P**	**11 00 41.4**	**+1.8**
	32nm,0.6s						
N02D	**Trinity Center**	**82.02**	**40**	⇑P	**P**	**11 00 40.9**	**+1.5**
	baz=82,SNR=6.0						
M02C	**Callahan**	**82.19**	**39**	⇑P	**P**	**11 00 42.1**	**+1.8**
	baz=82,SNR=6.8						
L02D	**Cave Junction,**	**82.24**	**38**	⇑P	**P**	**11 00 41.8**	**+1.4**
	baz=82						
BELC	**Belle Mtn. Jos**	**82.27**	**49**	⇓P	**P**	**11 00 42.2**	**+1.3**
	baz=82,SNR=11						
MLAC	**Mammoth, Mammo**	**82.41**	**44**	⇑P	**P**	**11 00 42.8**	**+1.1**
	baz=83						
MTUM	**Tungsten Hills**	**82.42**	**45**	*e*P	**P**	**11 00 43.0**	**+1.3**
GSC	**Goldstone, Bar**	**82.43**	**47**	⇓P	**P**	**11 00 42.8**	**+1.1**
	baz=83,SNR=8.1						
BC3	**Big Chuckawall**	**82.46**	**49**	⇑P	**P**	**11 00 43.2**	**+1.3**
	baz=83,SNR=7.9						
TIN	**Tinemaha, Big**	**82.47**	**45**	⇑P	**P**	**11 00 42.8**	**+1.0**
	baz=83,SNR=5.7						
YBH	**Yreka Blue Hor**	**82.49**	**39**	P	**P**	**11 00 43.2**	**+1.4**
	16nm,0.8s,baz=23,slow=0.8,SNR=37						
HEC	**Hector,Ludlow**	**82.49**	**48**	⇓P	**P**	**11 00 42.9**	**+1.0**
	baz=83						
WAKR	**Walker**	**82.53**	**43**	*e*P	**P**	**11 00 43.5**	**+1.2**
GLA	**Glamis**	**82.58**	**50**	⇑P	**P**	**11 00 43.8**	**+1.4**
	baz=83,SNR=9.3						
GLA	**Glamis**	**82.58**	**50**	*e*P	**P**	**11 00 44.1**	**+1.8**
	27nm,0.9s						
HUMO	**Hull Mountain**	**82.89**	**38**	*e*P	**P**	**11 00 45.4**	**+1.7**
	51nm,1.4s						
GMRC	**Granite Mounta**	**82.93**	**48**	⇑P	**P**	**11 00 45.4**	**+1.2**
	baz=83,SNR=7.9						
IRM	**Iron Mountain**	**82.94**	**49**	⇓P	**P**	**11 00 45.6**	**+1.4**
	baz=83,SNR=12						
GRAC	**Grapevine Rang**	**83.00**	**45**	⇑P	**P**	**11 00 45.5**	**+1.1**
	baz=83,SNR=18						
M04C	**Macdoel**	**83.03**	**40**	⇑P	**P**	**11 00 46.0**	**+1.4**
	baz=83						
FURC	**Furnace Creek,**	**83.05**	**46**	⇓P	**P**	**11 00 46.1**	**+1.6**
	baz=83,SNR=6.8						
TUQ	**Turquoise Moun**	**83.11**	**47**	⇓P	**P**	**11 00 46.5**	**+1.4**
	baz=83						
SHOC	**Shoshone, Teco**	**83.12**	**47**	⇑P	**P**	**11 00 46.1**	**+1.1**
	baz=83						
113A	**Mohawk Valley,**	**83.18**	**51**	⇑P	**P**	**11 00 47.0**	**+1.7**
	baz=83						
NVAR	**Mina Array Bea**	**83.21**	**44**	P	**P**	**11 00 46.5**	**+0.8**
	14nm,0.9s,baz=225,slow=8.5,SNR=56						
I03D	**Drain, OR**	**83.36**	**37**	⇑P	**P**	**11 00 47.4**	**+1.5**
	baz=84						
214A	**Organ Pipe Nat**	**83.45**	**52**	⇓P	**P**	**11 00 48.2**	**+1.5**
	baz=84,SNR=7.7						
LDFC	**Landfair**	**83.47**	**48**	*e*P	**P**	**11 00 48.8**	**+2.0**
	39nm,0.8s						
K04D	**Chiloquin, OR**	**83.60**	**39**	⇓P	**P**	**11 00 48.6**	**+1.2**
	baz=84						
TPH	**Tonopah**	**83.71**	**45**	*e*P	**P**	**11 00 48.9**	**+0.8**
	22nm,1.1s						
PDMCI	**Parker Dam,Lak**	**83.73**	**49**	⇑P	**P**	**11 00 49.1**	**+1.1**
	baz=84,SNR=5.6						
J04D	**Umpqua Nationa**	**83.77**	**38**	⇓P	**P**	**11 00 49.6**	**+1.3**
	baz=84,SNR=7.6						
I04A	**Tendick Farm,**	**83.95**	**38**	⇑P	**P**	**11 00 50.3**	**+1.4**
	baz=84						
GSI	**Gunungsitoli**	**83.99**	**274**	*e*P	**P**	**11 00 51.0**	**+1.1**
MOD	**Modoc Plateau**	**84.02**	**40**	*e*P	**P**	**11 00 50.1**	**+0.6**
	8.9nm,0.7s						
Z14A	**Wintersburg**	**84.08**	**50**	⇓P	**P**	**11 00 51.3**	**+1.5**
	baz=84,SNR=12						
SHPR	**Sheep Range**	**84.21**	**47**	*e*P	**P**	**11 00 51.6**	**+1.0**
J05D	**Fort Rock, OR**	**84.31**	**39**	⇓P	**P**	**11 00 52.3**	**+1.5**
	baz=84,SNR=13						
W13A	**Hualapai Mount**	**84.33**	**49**	⇑P	**P**	**11 00 52.4**	**+1.1**
	baz=85,SNR=7.5						
Y14A	**Wickenburg**	**84.34**	**50**	⇓P	**P**	**11 00 52.4**	**+1.3**
	baz=85,SNR=9.3						
H04A	**Detroit Lake**	**84.63**	**37**	*e*P	**P**	**11 00 53.2**	**+1.0**
	51nm,1.3s						
I05D	**Terrebonne, OR**	**84.89**	**38**	⇓P	**P**	**11 00 55.0**	**+1.5**
	baz=85						
R11A	**Troy Canyon, C**	**84.93**	**45**	⇓P	**P**	**11 00 54.9**	**+0.8**
	baz=85						
F04D	**Rainier, OR**	**85.05**	**36**	⇑P	**P**	**11 00 55.4**	**+1.2**
	baz=85						
TUC	**Tucson**	**85.11**	**52**	*e*P	**P**	**11 00 56.5**	**+1.6**
	16n

20nm,0.9s
WTV Waterville 87.70 36 P P 11 01 07.2 +0.5
NLW Nelson Butte 87.72 35 P P 11 01 07.6 +0.6
DUG Dugway, Tooele 87.74 45 ⇓P P 11 01 08.4 +1.2
baz=88
DUG Dugway, Tooele 87.74 45 eP P 11 01 08.2 +0.9
14nm,1.7s
UTTA Uttaradit 87.75 290 P P 11 01 09.3 +1.8
3.5nm,1.0s
SEY Seymchan 87.78 348 P P 11 01 06.9 +0.3
12nm,0.8s,baz=154,slow=5.0,SNR=42
D08A Wollman Farm, 87.88 37 eP P 11 01 08.7 +1.2
28nm,0.9s
TNA Tin City 87.97 5 eP P 11 01 07.0 -0.4
9.0nm,0.8s
BGU Big Grassy Mou 87.98 44 eP P 11 01 10.0 +1.6
E09A Wood Farm, Sta 87.99 37 eP P 11 01 08.7 +0.7
19nm,0.9s
SAW Saint Andrews 88.00 36 P P 11 01 08.7 +0.6
XAN Xi'an 88.13 308 P P 11 01 09.9 +0.8
XAN PMZ
6.0nm,0.8s
F10A Beach Ranch, E 88.20 38 eP P 11 01 09.6 +0.4
24nm,0.8s
TMUT Trail Mountain 88.33 46 eP P 11 01 12.0 +1.8
Z22A Elephant Butte 88.38 53 ⇓P P 11 01 11.3 +0.9
baz=89,SNR=20
KTH Kantishna Hill 88.40 12 eP P 11 01 07.9 -1.7
27nm,0.8s
MPU Maple Canyon 88.42 45 eP P 11 01 11.7 +1.2
11nm,1.1s
B08A Colville Reser 88.43 35 eP P 11 01 10.4 +0.3
20nm,0.9s
TRF Thorofare Moun 88.44 13 eP P 11 01 08.6 -1.3
52nm,0.7s
HLID Hailey 88.52 41 ⇓P P 11 01 12.2 +1.3
baz=89,SNR=28
HVU Hansel Valley 88.59 43 eP P 11 01 12.0 +0.9
C09A Chrisman Ranch 88.67 36 eP P 11 01 11.8 +0.6
15nm,0.8s
CTU Camp Tracy 88.69 45 eP P 11 01 12.7 +1.0
15nm,1.0s
SRU San Rafael Swe 88.70 47 eP P 11 01 12.8 +1.0
LAZ Ladron 88.79 52 eP P 11 01 13.3 +1.0
5.3nm,1.1s
Y22D IRIS PASSCAL I 88.80 52 ⇑P P 11 01 13.4 +1.1
baz=89
LENM Lemitar 88.80 52 eP P 11 01 13.8 +1.5
JLU Jordanelle 88.84 45 eP P 11 01 13.6 +1.2
MNTX Cornudas Mount 88.85 55 eP P 11 01 13.8 +1.4
14nm,0.8s
DAU Daniels Canyon 88.87 45 eP P 11 01 13.9 +1.3
LAMP Lampang 88.87 290 P P 11 01 14.6 +1.8
16nm,0.8s
KMI Kunming 88.95 298 P P 11 01 14.1 +0.8
KMI PMZ
13nm,1.1s
MCK McKinley 88.97 13 eP P 11 01 11.0 -1.2
20nm,0.9s
PAYA Payao 89.00 291 P P 11 01 15.8 +2.4
8.1nm,0.7s
PAX Paxson 89.08 15 eP P 11 01 11.6 -1.2
13nm,1.2s
LPM Los Pinos Moun 89.12 52 eP P 11 01 15.2 +1.3
TXAR Lajitas Array 89.12 58 P P 11 01 15.3 +1.5
9.8nm,0.9s,baz=217,slow=6.1,SNR=77
TXAR PKKPbc PKKPbc 11 18 48.2 +0.4
0.3nm,0.5s,baz=167,slow=2.2,SNR=7.2
TCUT Toone Canyon 89.13 44 eP P 11 01 14.8 +0.9
30nm,0.9s
MVCO Mesa Verde 89.15 49 ⇑P P 11 01 14.7 +0.7
baz=89
CMAR Chiang Mai Arr 89.44 290 P P 11 01 17.2 +1.8
14nm,0.8s,baz=134,slow=2.9,SNR=48
PV04 Paradox Valley 89.44 48 eP P 11 01 16.2 +1.0
MENT Mentasta 89.47 15 eP P 11 01 14.8 +0.2
ANMO Albuquerque 89.54 52 P P 11 01 16.3 +0.5
7.8nm,0.9s,baz=222,slow=5.4,SNR=42
ANMO Albuquerque 89.54 52 eP P 11 01 16.6 +0.9
PV01 Paradox Valley 89.55 48 eP P 11 01 16.3 +0.5
522nm,0.9s
NEW Newport 89.57 36 P P 11 01 15.3 -0.1
2.3nm,0.7s,baz=249,slow=4.6,SNR=8.4
NEW Newport 89.57 36 ⇑P P 11 01 16.3 +0.9
baz=90
CHTO Chiang Mai 89.58 290 P P 11 01 17.4 +1.3
161nm,0.9s
CHTO Chiang Mai 89.58 290 eP P 11 01 17.5 +1.4
20nm,0.8s
HHC Hu-ho-hao-te 89.62 315 eP P 11 01 16.8 +0.9
HHC sP sP 11 04 29.8 +5.2
HHC PP PP 11 04 55.9 -3.4
HHC S S 11 11 16.3 -1.0
HHC sS sS 11 15 00.8 -7.1
HHC SS SS 11 17 35.6 +2.5
HHC PMZ
44nm,1.2s
HHC PMZ
410nm,8.1s
V22A San Miguel Ran 89.66 51 ⇓P P 11 01 17.3 +1.0
baz=90
Y24A Capitan 89.82 53 ⇑P P 11 01 18.1 +1.0
baz=90
GDL2 Guadalupe Moun 89.85 55 eP P 11 01 18.8 +1.6
W23A Werner Place, 89.86 52 ⇓P P 11 01 17.9 +0.6
baz=90,SNR=6.3
U22A Llaves 89.92 50 ⇓P P 11 01 18.6 +1.1
baz=90
CMAI Chiengmai2 89.94 291 P P 11 01 19.5 +1.6
20nm,1.0s
DOT Dot Lake 89.99 15 eP P 11 01 16.4 -0.5
7.7nm,0.7s
V23A Ortiz Mt. (NFS 90.11 51 ⇓P P 11 01 19.8 +1.4
baz=90,SNR=7.0
X24A Lazy VL Ranch, 90.11 52 ⇓P P 11 01 19.8 +1.4
baz=90
MCMT McKenzie Canyo 90.15 41 eP P 11 01 19.5 +1.1
6.6nm,1.1s
AHID Auburn Hatcher 90.17 43 eP P 11 01 19.2 +0.7
14nm,0.8s
DLBC Dease Lake 90.18 24 P P 11 01 17.9 -0.1
5.5nm,0.8s,baz=206,slow=4.6,SNR=11
COLA College 90.20 13 eP P 11 01 15.9 -1.9
ILAR Eielson Array 90.31 13 P P 11 01 17.2 -1.1
4.7nm,0.8s,baz=215,slow=4.7,SNR=37
ILAR PKiKP PKiKP 11 06 08.3 -0.7
0.4nm,0.7s,baz=293,slow=3.0,SNR=4.1
U23A El Rito 90.37 51 ⇑P P 11 01 20.9 +1.2
baz=91,SNR=8.9
W24A Lazy 6 Ranch, 90.43 52 ⇑P P 11 01 20.7 +0.8
baz=91,SNR=6.6
MSO Missoula 90.57 39 ⇑P P 11 01 21.0 +0.9
baz=91
MSO Missoula 90.57 39 eP P 11 01 20.1 -0.1
S22A 4UR Ranch, Cre 90.58 49 ⇓P P 11 01 21.4 +0.8
baz=91,SNR=9.1
529A Stev Forest Ra 90.60 58 ⇓P P 11 01 21.4 +0.8
baz=91,SNR=7.9
CD2 Chengdu 90.61 303 eP P 11 01 21.3 +0.7
CD2 PMZ
10.0nm,1.2s
REDW Red Top Meadow 90.63 43 eP P 11 01 21.4 +0.7
TPAW Teton Pass 90.63 43 eP P 11 01 21.6 +0.9
BILL Bilibino 90.64 355 eP P 11 01 19.5 -0.3
17nm,0.9s
BSMT Bassoo Peak 90.64 37 eP P 11 01 20.5 0.0
2.5nm,0.7s
X25A Clemmons Ranch 90.67 53 ⇓P P 11 01 21.7 +0.8
baz=91
O20A White River Ci 90.73 47 ⇑P P 11 01 22.2 +1.1
baz=91,SNR=9.1
O20A White River Ci 90.73 47 eP P 11 01 21.7 +0.5
9.4nm,0.8s
V24A Rampart Ranch, 90.76 52 ⇓P P 11 01 22.3 +0.8
baz=91,SNR=9.4
T23A Casias Ranch, 90.81 50 ⇓P P 11 01 22.5 +0.8
baz=91
LOHW Long Hollow 90.91 43 eP P 11 01 22.5 +0.6
CHMT Chamberlain Mo 91.01 39 eP P 11 01 22.3 0.0
QLMT Earthquake Lak 91.01 41 eP P 11 01 23.9 +1.6
N20A Spence Gulch, 91.06 46 ⇑P P 11 01 23.6 +0.9
baz=91,SNR=14
U24A Moreno Valley 91.06 51 ⇑P P 11 01 23.8 +0.9
baz=91
429A Davenport Ranc 91.07 57 ⇑P P 11 01 23.4 +0.7
baz=91,SNR=21
I17A Pilgrim Ck. 91.08 42 ⇑P P 11 01 23.8 +1.1
baz=91,SNR=6.0
W25A X Bar L Ranch, 91.12 52 ⇑P P 11 01 23.8 +0.7
baz=91,SNR=7.8
S23A Nye Farm, Mont 91.14 49 ⇓P P 11 01 24.6 +1.4
baz=91
PDAR Pinedale Array 91.15 44 P P 11 01 23.1 0.0
5.4nm,0.8s,baz=212,slow=2.9,SNR=34
228A UT Block 9, Go 91.17 56 ⇓P P 11 01 24.1 +0.9
baz=91
T24B San Luis 91.28 50 ⇓P P 11 01 24.9 +1.0
baz=92
V25A Rancho No Teng 91.28 52 ⇓P P 11 01 24.3 +0.5
baz=92,SNR=6.1
530A J-C Ranch, Com 91.30 58 ⇓P P 11 01 24.6 +0.8
baz=92
H17A Grant Village 91.32 42 ⇑P P 11 01 24.7 +0.9
baz=92
329A Wagon Wheel Ra 91.37 57 ⇑P P 11 01 25.3 +1.2
baz=92,SNR=5.5
128A Castleberry Fa 91.46 55 ⇓P P 11 01 25.5 +0.9
baz=92
R23A Moffat 91.48 49 ⇑P P 11 01 25.8 +1.0
baz=92
P22A Eagle 91.48 48 ⇓P P 11 01 25.6 +0.9
baz=92
Y27A Causey 91.50 54 ⇑P P 11 01 25.8 +1.0
baz=92,SNR=6.4
SDCO Great Sand Dun 91.51 50 eP P 11 01 25.7 +0.8
W26A Owens Ranch, T 91.58 53 ⇓P P 11 01 25.9 +0.8
baz=92
631A Perdido Creek 91.60 59 ⇑P P 11 01 26.1 +1.0
baz=92,SNR=24
832A Faith Ranch, C 91.61 60 ⇑P P 11 01 26.2 +1.0
baz=92,SNR=9.9
EGAK Eagle 91.64 15 eP P 11 01 24.2 -0.2
12nm,0.7s
430A Baggett Ranch, 91.65 57 ⇓P P 11 01 26.4 +0.9
baz=92
S24A Houchin Ranch, 91.67 50 ⇓P P 11 01 26.8 +1.1
baz=92,SNR=5.6
U25A Circle Dot Ran 91.69 51 ⇓P P 11 01 26.1 +0.5
baz=92,SNR=6.1
732A Laxson Ranch, 91.80 60 ⇓P P 11 01 26.9 +0.8
baz=92
Z28A Tucker Farm, M 91.82 55 ⇓P P 11 01 27.1 +0.8
baz=92
MSTX Muleshoe 91.83 54 ⇑P P 11 01 26.8 +0.5
baz=92,SNR=5.5
COLD Coldfoot 91.84 11 eP P 11 01 25.3 -0.1
2.9nm,0.8s
V26A Tequesquite Ra 91.87 52 ⇓P P 11 01 27.0 +0.5
baz=92
X27A F and S Farms, 91.88 53 ⇓P P 11 01 27.4 +0.9
baz=92
O22A Kremmling 91.89 47 ⇓P P 11 01 27.3 +0.6
baz=92,SNR=5.5
933A Laredo 91.90 61 ⇓P P 11 01 27.4 +0.8
baz=92
531A Rocksprings 91.93 58 ⇓P P 11 01 27.4 +0.7
baz=92,SNR=6.2
129A Stewart Farms, 91.94 56 ⇓P P 11 01 27.4 +0.6
baz=92
330A Mertzon 91.96 57 ⇓P P 11 01 27.4 +0.5
baz=92
R24A Sanders Place, 92.01 49 ⇓P P 11 01 27.8 +0.7
baz=92,SNR=7.0
T25A Trinidad 92.01 51 ⇑P P 11 01 27.9 +0.8
baz=92,SNR=5.6
P23A Jefferson 92.02 48 ⇓P P 11 01 28.0 +0.7
baz=92
H18A Shoshone NF, C 92.03 42 ⇓P P 11 01 27.7 +0.7
baz=92
W27A Bowe Ranch, En 92.08 53 ⇓P P 11 01 27.9 +0.5
baz=92
833A Chaparral WMA, 92.09 60 ⇓P P 11 01 28.3 +0.8
baz=92
431A Sonora 92.10 58 ⇓P P 11 01 28.1 +0.6
baz=92
I19A Meeteetse 92.13 43 ⇑P P 11 01 28.6 +1.1
baz=92
034A Hebbronville 92.16 62 ⇑P P 11 01 28.7 +0.9
baz=92
U26A Atchley Ranch, 92.16 51 ⇑P P 11 01 28.4 +0.6
baz=92,SNR=6.7
Y28A McKinney Farm, 92.19 54 ⇓P P 11 01 28.4 +0.5
baz=92
230A Sterling City 92.21 56 ⇓P P 11 01 28.5 +0.5
baz=92
S25A Robets Cordova 92.23 50 ⇓P P 11 01 28.7 +0.6
baz=92,SNR=8.6
N22A Wattenberg Ran 92.25 47 ⇑P P 11 01 29.2 +1.0
baz=92,SNR=7.3
632A Uvalde 92.26 59 ⇓P P 11 01 29.2 +0.9
baz=92,SNR=11
Q24A Divide 92.31 49 ⇑P P 11 01 29.6 +1.0
baz=92
Z29A Hungry Hill Ra 92.33 55 ⇓P P 11 01 29.7 +1.2
baz=93
733A Divot King Ran 92.33 60 ⇓P P 11 01 29.5 +0.9
baz=93
O23A Lake Granby, G 92.34 47 ⇓P P 11 01 29.7 +1.0
baz=93
ISCO Idaho Springs 92.36 48 ⇓P P 11 01 29.7 +0.8
baz=93
ISCO Idaho Springs 92.36 48 eP P 11 01 29.6 +0.8
J20A Shoshoni 92.38 44 ⇓P P 11 01 29.7 +1.1
baz=93,SNR=7.0
532A Rocksprings 92.42 59 ⇓P P 11 01 30.0 +1.0
baz=93
M22A Cedar Creek Ra 92.44 46 ⇑P P 11 01 29.7 +0.7
baz=93,SNR=5.8
H19A Powell 92.44 42 ⇓P P 11 01 30.3 +1.4
baz=93
RLMT Red Lodge 92.49 42 eP P 11 01 29.9 +0.8
3.3nm,0.9s
X28A Dimmitt 92.49 54 ⇓P P 11 01 30.0 +0.8
baz=93
331A San Angelo 92.50 57 ⇓P P 11 01 29.9 +0.6
baz=93
934A Benavides 92.51 61 ⇓P P 11 01 30.0 +0.7
baz=93
V27A Dan Oppiter Fa 92.55 52 ⇑P P 11 01 30.3 +0.8
baz=93
R25A Fountain Ranch 92.55 50 ⇑P P 11 01 30.2 +0.6
baz=93
K21A Alcova 92.58 45 ⇓P P 11 01 30.2 +0.6
baz=93
035A Encino 92.58 62 ⇑P P 11 01 30.3 +0.5
baz=93
Y29A Porterfield Fa 92.61 54 ⇑P P 11 01 30.3 +0.5
baz=93,SNR=5.5
T26A Comanche Natio 92.61 51 ⇓P P 11 01 30.3 +0.4
baz=93
130A Snyder 92.61 56 ⇓P P 11 01 30.3 +0.5
baz=93
I20A Worland 92.64 43 ⇓P P 11 01 30.3 +0.6
baz=93
JCT Junction City 92.65 58 ⇓P P 11 01 30.6 +0.6
baz=93
834A Tilden 92.69 61 ⇑P P 11 01 31.1 +0.9
baz=93
P24A Kohler Place, 92.72 48 ⇓P P 11 01 31.2 +0.9
baz=93
633A Saathoff Ranch 92.73 59 ⇓P P 11 01 31.3 +0.9
baz=93,SNR=5.7
LZH Lanzhou 92.77 308 eP P 11 01 31.6 +1.0
LZH pP pP 11 03 38.8 -1.4
LZH sP sP 11 04 41.5 +2.0
LZH PMZ
21nm,1.0s
LZH PMZ
100nm,5.0s
Z30A Sanderson Ranc 92.78 55 ⇑P P 11 01 31.5 +0.9
baz=93
J21A Lysite 92.78 44 ⇓P P 11 01 31.3 +0.8
baz=93,SNR=5.2
W28A Vega 92.80 53 ⇓P P 11 01 31.4 +0.7
baz=93
432A Menard 92.81 58 ⇓P P 11 01 31.3 +0.5
baz=93,SNR=5.4
X29A Tulia 92.83 54 ⇓P P 11 01 31.7 +0.9
baz=93
L22A Ellis Ranch, M 92.83 46 ⇑P P 11 01 31.4 +0.6
baz=93
231A Bronte 92.84 57 ⇓P P 11 01 31.5 +0.6
baz=93,SNR=16
U27A Thompson Grove 92.84 52 ⇓P P 11 01 31.4 +0.5
baz=93
O24A Longmont 92.88 48 ⇑P P 11 01 31.8 +0.8
baz=93
S26A Kim 92.90 50 ⇑P P 11 01 31.9 +0.8
baz=93,SNR=7.9
Q25A Bedland, Calha 92.91 49 ⇑P P 11 01 31.8 +0.5
baz=93
H20A Greybull 92.97 43 ⇑P P 11 01 32.2 +0.9
baz=93
734A La Parita Cree 92.98 60 ⇓P P 11 01 32.3 +0.8
baz=93
V28A Channing 93.00 53 ⇑P P 11 01 32.1 +0.6
baz=93
AMTX Amarillo 93.03 54 ⇓P P 11 01 32.5 +0.7
baz=93
F19A Roth Farm, Mol 93.04 41 ⇑P P 11 01 32.3 +0.7
baz=93
M23A Laramie 93.05 46 ⇑P P 11 01 32.6 +0.7
baz=93
K22A Casper 93.06 45 ⇑P P 11 01 32.5 +0.8
baz=93
332A Millersview 93.06 57 ⇓P P 11 01 32.4 +0.5
baz=93
533A Kerrville 93.09 59 ⇓P P 11 01 32.9 +0.8
baz=93,SNR=6.8
131A Roby 93.09 56 ⇑P P 11 01 32.5 +0.6
baz=93,SNR=5.9
I21A Big Trails, Te 93.10 44 ⇓P P 11 01 32.5 +0.5
baz=93,SNR=6.2
W29A Amarillo 93.16 53 ⇓P P 11 01 33.2 +0.9
baz=93
G20A Bridger 93.19 42 ⇑P P 11 01 32.9 +0.6
baz=93
T27A Campo 93.19 51 ⇑P P 11 01 33.2 +0.8
baz=93
Y30A Stafford Cattl 93.20 55 ⇑P P 11 01 33.1 +0.6
baz=93
R26A Arlington 93.21 50 ⇑P P 11 01 33.2 +0.7
baz=93,SNR=12
P25A Willow Gulch B 93.23 49 ⇓P P 11 01 33.0 +0.4
baz=94,SNR=5.3
U28A Mallet 93.26 52 ⇓P P 11 01 33.2 +0.5
baz=94
433A Art 93.32 58 ⇓P P 11 01 33.5 +0.4
baz=94,SNR=10
N24A Carr 93.33 47 ⇓P P 11 01 33.7 +0.7
baz=94
S27A Las Animas 93.33 51 ⇑P P 11 01 33.6 +0.5
baz=94,SNR=5.7
232A Coleman 93.34 57 ⇑P P 11 01 33.5 +0.4
baz=94,SNR=6.7
835A Beeville 93.34 61 ⇓P P 11 01 33.6 +0.4
baz=94
634A China Grove, S 93.36 60 ⇑P P 11 01 33.9 +0.7
baz=94
L23A Garrett 93.36 46 ⇓P P 11 01 33.6 +0.4
baz=94,SNR=5.2
936A North Padre Is 93.42 62 ⇓P P 11 01 34.1 +0.6
baz=94
Q26A Hugo 93.43 49 ⇑P P 11 01 34.0 +0.5
baz=94
E19A Rath Farm, Rou 93.43 41 ⇑P P 11 01 34.1 +0.8
baz=94
J22A Midwest 93.44 44 ⇑P P 11 01 34.0 +0.5
baz=94
F20A Billings 93.51 42 ⇓P P 11 01 34.3 +0.6
baz=94
534A Blanco 93.52 59 ⇓P P 11 01 34.5 +0.6
baz=94
O25A Wiggins 93.53 48 ⇓P P 11 01 34.4 +0.4
baz=94
Z31A Sharp Cattle R 93.54 56 ⇑P P 11 01 34.4 +0.4
baz=94
V29A Stinnett 93.56 53 ⇓P P 11 01 34.6 +0.5
baz=94
735A Kenedy 93.58 60 ⇑P P 11 01 34.7 +0.5
baz=94
EGMT Eagleton 93.62 39 ⇑P P 11 01 34.8 +0.7
baz=94
333A Richland Sprin 93.63 58 ⇑P P 11 01 35.2 +0.7
baz=94
ABTX Abilene, Hawle 93.64 56 ⇑P P 11 01 35.0 +0.5
baz=94
ABTX Abilene, Hawle 93.64 56 eP P 11 01 34.8 +0.3
4.8nm,0.8s
H21A Big Horn, Sher 93.64 43 ⇓P P 11 01 35.1 +0.8
baz=94
M24A Cheyenne 93.65 47 ⇑P P 11 01 35.2 +0.7
baz=94
T28A Walsh 93.66 51 ⇓P P 11 01 35.1 +0.6
baz=94
I22A 9 Mile Ranch, 93.66 44 ⇓P P 11 01 34.9 +0.5
baz=94
R27A Eads 93.66 50 ⇑P P 11 01 34.9 +0.4
baz=94,SNR=7.1
K23A Bowen Ranch, D 93.70 45 ⇓P P 11 01 35.5 +0.9
baz=94
D19A Cripps Ranch, 93.72 40 ⇓P P 11 01 35.9 +1.4
baz=94
E20A Meyer Farm, Mu 93.85 41 ⇓P P 11 01 36.3 +1.1
baz=94
C19A Slack Wire Ran 93.89 40 ⇓P P 11 01 36.4 +1.1
baz=94,SNR=6.2
233A Rising Star 93.97 57 ⇓P P 11 01 36.9 +0.9
baz=94
434A Burnet 93.99 58 ⇓P P 11 01 37.1 +1.0
baz=94
S28A Manter 94.01 51 ⇑P P 11 01 37.3 +1.2
baz=94
Z32A Haskell 94.05 56 ⇑P P 11 01 37.2 +0.9
baz=94,SNR=5.3
D20A Manuel Ranch, 94.13 40 ⇓P P 11 01 37.4 +1.0
baz=94
133A Hamilton Ranch 94.20 57 ⇓P P 11 01 37.9 +0.9
baz=94
334A Lometa 94.22 58 ⇓P P 11 01 37.8 +0.7
baz=94
535A Dale 94.23 59 ⇑P P 11 01 38.0 +0.8
baz=94
Y32A R-V Farms, Ver 94.35 55 ⇑P P 11 01 38.4 +0.8
baz=95
P27A Ficken Ranch, 94.36 49 ⇓P P 11 01 38.5 +0.8
baz=95
R28A Tribune 94.39 50 ⇑P P 11 01 38.7 +0.8
baz=95,SNR=8.1
636A Smothers Creek 94.43 60 ⇓P P 11 01 39.0 +0.9
baz=95
C20A Veseth Ranch, 94.50 40 ⇓P P 11 01 39.3 +1.3
baz=95,SNR=6.0
E21A Keefer Ranch, 94.51 41 ⇓P P 11 01 39.3 +1.2
baz=95
Z33A Whitaker Ranch 94.58 56 ⇓P P 11 01 39.5 +0.8
baz=95
S29A Ulysses 94.59 51 ⇑P P 11 01 39.6 +0.9
baz=95
A19A Klindworth Far 94.65 39 ⇓P P 11 01 39.7 +1.0
baz=95
F22A Rosebud 94.67 42 ⇑P P 11 01 39.8 +0.9
baz=95
Q28A Sharon Springs 94.68 50 ⇓P P 11 01 40.1 +0.9
baz=95
O27A Beecher Island 94.70 48 ⇓P P 11 01 40.2 +1.0
baz=95
V31A Spring Creek L 94.77 53 ⇓P P 11 01 40.8 +1.2
baz=95
M26A McRoberts Ranc 94.79 47 ⇑P P 11 01 40.6 +1.0
baz=95
D21A La Casta Ranch 94.81 41 ⇑P P 11 01 40.7 +1.3
baz=95
335A Moody 94.84 58 ⇓P P 11 01 40.9 +1.0
baz=95
P28A Saint Francis 94.94 49 ⇓P P 11 01 41.5 +1.2
baz=95
C21A Desert Coulee 95.10 40 ⇑P P 11 01 42.0 +1.2
baz=95
A20A Cobblestone Ra 95.10 39 ⇓P P 11 01 41.6 +0.8
baz=95
436A Wall Ranch, Ga 95.14 59 ⇓P P 11 01 42.2 +0.9
baz=95
E22A Miles City 95.16 42 ⇑P P 11 01 42.0 +0.9
baz=95
O28A Krutsinger Ran 95.16 49 ⇓P P 11 01 42.4 +1.1
baz=95
F23A Volborg 95.17 43 ⇓P P 11 01 41.9 +0.8
baz=95
Q29A Oakley 95.21 50 ⇑P P 11 01 42.5 +1.0
baz=95
H24A Dirks Ranch, A 95.28 44 ⇑P P 11 01 42.5 +0.8
baz=96

D22A	Cohagen	95.34	41	⇑P	P	11 01 43.0	+1.2
	baz=96						
R30A	Dighton	95.47	51	⇓P	P	11 01 43.6	+0.9
	baz=96						
I25A	Rochford	95.49	45	⇓P	P	11 01 43.6	+0.8
	baz=96						
P29A	Atwood	95.53	50	⇑P	P	11 01 43.9	+0.9
	baz=96						
W33A	Caddo, Fort Co	95.55	54	⇑P	P	11 01 43.7	+0.7
	baz=96						
N28A	Pribbeno Ranch	95.56	48	⇓P	P	11 01 43.9	+0.8
	baz=96						
E23A	Ismay	95.58	42	⇑P	P	11 01 43.9	+0.9
	baz=96						
L27A	T5 Ranch, Ells	95.61	47	⇑P	P	11 01 44.2	+0.9
	baz=96						
J26A	Sides Ranch, S	95.62	45	⇓P	P	11 01 43.9	+0.6
	baz=96						
Y34A	Reagan Ranch,	95.62	56	⇑P	P	11 01 44.0	+0.7
	baz=96						
G24A	Alzada	95.62	43	⇓P	P	11 01 44.1	+0.9
	baz=96						
U32A	Winter Ranch,	95.63	53	⇑P	P	11 01 44.2	+0.8
	baz=96						
A21A	Bergtoll Ranch	95.73	39	⇑P	P	11 01 44.5	+0.9
	baz=96						
S31A	Mullinville	95.77	52	⇓P	P	11 01 45.1	+1.0
	baz=96						
Q30A	Quinter	95.78	50	⇓P	P	11 01 44.9	+0.8
	baz=96						
C22A	Vida	95.79	41	⇑P	P	11 01 44.9	+1.1
	baz=96						
X34A	Smith Ranch, M	95.81	55	⇓P	P	11 01 45.1	+0.9
	baz=96						
F24A	Ekalaka	95.83	43	⇑P	P	11 01 45.0	+0.9
	baz=96						
H25A	Fruitdale	95.84	44	⇑P	P	11 01 45.1	+0.9
	baz=96						
O29A	4D Ranch, Culb	95.84	49	⇓P	P	11 01 45.2	+0.9
	baz=96						
K27A	Flueckinger Fa	95.92	46	⇑P	P	11 01 45.7	+1.1
	baz=96						
M28A	Bar X Bar Ranc	95.97	48	⇑P	P	11 01 45.4	+0.5
	baz=96						
B22A	Reddig Ranch S	95.97	40	⇓P	P	11 01 45.9	+1.2
	baz=96						
P30A	Selden	96.00	50	⇑P	P	11 01 46.0	+1.0
	baz=96						
R31A	Burdett	96.01	51	⇓P	P	11 01 46.4	+1.3
	baz=96						
I26A	New Underwood	96.07	45	⇑P	P	11 01 46.1	+0.9
	baz=96						
337A	Centerville	96.07	59	⇑P	P	11 01 46.5	+1.1
	baz=96						
438A	Sam Houston St	96.18	59	⇑P	P	11 01 46.8	+0.8
	baz=96						
SONM	Songino Array	96.19	319	P	P	11 01 45.2	-0.6
	0.5nm,0.4s,baz=127,slow=4.4,SNR=6.5						
S32A	Newby Ranch, P	96.20	52	⇓P	P	11 01 46.8	+0.9
	baz=96						
E24A	Baker	96.23	42	⇑P	P	11 01 46.8	+0.9
	baz=96						
C23A	Lambert	96.23	41	⇓P	P	11 01 47.0	+1.1
	baz=96						
N29A	Votaw Ranch, W	96.24	49	⇑P	P	11 01 47.0	+0.9
	baz=96						
J27A	Elkhorn Farm,	96.30	46	⇑P	P	11 01 47.8	+1.5
	baz=96						
INK	Inuvik	96.31	16	P	P	11 01 44.8	-0.8
	2.6nm,0.6s,baz=228,slow=3.1,SNR=25						
A22A	Carney Farms,	96.33	39	⇓P	P	11 01 47.3	+1.0
	baz=96						
H26A	Fairpoint	96.37	44	⇑P	P	11 01 47.5	+1.0
	baz=97						
O30A	MW Ranch, Wils	96.38	49	⇓P	P	11 01 47.6	+0.9
	baz=97						
Q31A	Ellis	96.39	51	⇑P	P	11 01 47.5	+0.8
	baz=97						
M29A	Burnside Ranch	96.45	48	⇑P	P	11 01 48.0	+1.0
	baz=97						
T33A	Patterson Ranc	96.47	53	⇑P	P	11 01 48.3	+1.1
	baz=97						
F25A	Bowman	96.49	43	⇓P	P	11 01 48.1	+1.0
	baz=97						
N30A	Hueftle Ranch,	96.60	49	⇓P	P	11 01 48.7	+1.0
	baz=97						
I27A	Quinn	96.61	45	⇓P	P	11 01 48.9	+1.3
	baz=97						
B23A	Brockton	96.64	40	⇓P	P	11 01 48.4	+0.8
	baz=97						
R32A	Long Quarter,	96.65	51	⇓P	P	11 01 48.7	+0.8
	baz=97						
E25A	Miller Ranch,	96.77	42	⇑P	P	11 01 49.3	+1.0
	baz=97						
238A	Jacksonville	96.93	58	⇓P	P	11 01 50.2	+0.9
	baz=97						
GTA	Gaotai	97.04	310	*e*P	Pdif	11 01 48.8	-1.0
GTA				pP	pP	11 03 57.9	-1.9
GTA				sP	sP	11 04 59.3	+0.2
GTA				PMZ			
	5.0nm,1.2s						
P32A	Huiting Farm,	97.19	50	⇑P	P	11 01 51.3	+1.0
	baz=97						
K29A	Lazy Trails An	97.23	47	⇓P	P	11 01 52.6	+2.1
	baz=98						
L30A	Spencer Herefo	97.32	48	⇑P	P	11 01 53.1	+2.2
	baz=98						
239A	Gary	97.45	59	⇓P	P	11 01 53.9	+2.3
	baz=98						
J29A	Okreek	97.49	46	⇑P	P	11 01 53.7	+2.1
	baz=98						
Q33A	Connelly Farm,	97.50	51	⇑P	P	11 01 53.9	+2.1
	baz=98						
H28A	Mission Ridge	97.53	45	⇑P	P	11 01 53.9	+2.2
	baz=98						
M31A	Lambtecht Ranc	97.60	49	⇑P	P	11 01 53.8	+1.7
	baz=98						
O32A	Brockman Farm,	97.67	50	⇑P	P	11 01 53.6	+1.2
	baz=98						
K30A	Basset	97.68	47	⇓P	P	11 01 54.4	+1.9
	baz=98						
340A	Bronson	97.69	59	⇓P	P	11 01 54.7	+2.0
	baz=98						
I29A	Vivian Onida	97.75	46	⇑P	P	11 01 55.0	+2.3
	baz=98						
N32A	Stulken Farm,	97.85	49	⇓P	P	11 01 55.0	+1.8
	baz=98						
TUL1	Leonard	97.85	55	⇓P	P	11 01 55.4	+2.0
	baz=98						
J30A	Dallas	98.01	47	⇑P	P	11 01 55.6	+1.7
	baz=98						
L31A	Butterfield Fa	98.01	48	⇑P	P	11 01 55.9	+1.9
	baz=98						
F28A	McLaughlin	98.15	44	⇓P	P	11 01 55.9	+1.5
	baz=98						
KSU1	Kansas State U	98.43	51	⇓P	P	11 01 57.5	+1.7
	baz=99						
YKA	Yellowknife Ar	98.66	25	P	Pdif	11 01 55.7	-0.4
	1.0nm,0.8s,baz=246,slow=4.5,SNR=21						
YKA				PKiKP	**PKiKP**	11 06 22.4	-1.2
	0.2nm,0.6s,baz=257,slow=1.8,SNR=7.1						
YKA				PKKPbc	**PKKPbc**	11 18 21.4	-2.7
	0.2nm,0.4s,baz=39,slow=2.5,SNR=9.8						
RES	Resolute Bay	109.85	16	PKiKP	**PKiKP**	11 06 42.7	-1.2
	1.1nm,0.6s,baz=282,slow=4.6,SNR=10						
ZALV	Zalesovo Beam	111.00	321	PKiKP	**PKiKP**	11 06 45.4	-1.3
	2.8nm,0.5s,baz=126,slow=0.9,SNR=12						
MKAR	Makanchi Array	111.41	313	PKiKP	**PKiKP**	11 06 46.6	-1.1
	2.1nm,0.5s,baz=304,slow=1.9,SNR=35						
MKAR				PKKPbc	**PKKPbc**	11 17 45.0	-0.3
	0.6nm,0.7s,baz=321,slow=3.1,SNR=8.0						
KURK	Kurchatov	114.36	317	PKP	PKPdf	11 06 52.0	-1.2
KURBB	Kurchatov Arra	114.41	317	PKP	PKPdf	11 06 52.0	-1.3
	4.1nm,0.6s,baz=111,slow=1.7,SNR=42						
KSH	Kashi	114.77	304	*e*PKP	PKPdf	11 06 55.0	+0.5
KSH				PP	**PP**	11 08 05.6	+1.0
KSH				PKS	**PKSdf**	11 10 32.4	+1.1
KSH				SKS	**SKSdf**	11 13 11.9	+1.2
KSH				SS	**SS**	11 23 19.1	+3.7
KSH				PPMZ			
	97nm,5.6s						
AAK	Ala-Archa	116.31	308	PKP	**PKPdf**	11 06 56.4	-1.0
	1.4nm,0.4s,baz=149,slow=5.2,SNR=6.8						
FRB	Frobisher Bay	118.96	28	PKP	**PKPdf**	11 07 00.6	-1.0
	3.8nm,0.6s,baz=306,slow=2.3,SNR=30						
KKAR	Karatay Array	119.27	308	*e*PKPdf	**PKPdf**	11 07 02.0	-1.0
BVAR	Borovoye Array	119.54	319	PKP	**PKPdf**	11 07 02.5	-0.7
	10.0nm,0.4s,baz=122,slow=1.9,SNR=52						
SCHQ	Schefferville	120.87	38	PKP	**PKPdf**	11 07 04.3	-1.3
	1.6nm,0.4s,baz=178,slow=2.4,SNR=6.1						
SPITS	Spitsbergen Ar	123.52	356	PKP	**PKPdf**	11 07 09.2	-0.9
	19nm,0.7s,baz=72,slow=5.5,SNR=24						
ILULI	Ilulissat	123.83	20	*i* P	**PKPdf**	11 07 09.9	-1.0
	11nm,0.8s						
BOSA	Boshof	124.10	206	PKP	**PKPdf**	11 07 13.0	+0.1
	2.4nm,0.7s,baz=243,slow=2.9,SNR=4.6						
DAG	Danmarks Havn	124.60	5	*i* P	**PKPdf**	11 07 10.6	-1.6
	4.4nm,0.8s						
SFJD	Kangerlussuaq	125.06	22	PKP	**PKPdf**	11 07 12.4	-0.8
	3.2nm,0.4s,baz=109,slow=2.0,SNR=6.3						
ARU	Arti	125.86	324	*e*PKPdf	**PKPdf**	11 07 14.9	-0.2
ABKAR	Akbulak array	126.41	316	*e*PKPdf	**PKPdf**	11 07 16.3	-0.1
AKTO	Aktyubinsk	127.45	317	PKP	**PKPdf**	11 07 17.9	-0.4
	5.5nm,0.6s,baz=97,slow=3.6,SNR=24						
GEYT	Alibeck	128.57	301	PKP	**PKPdf**	11 07 21.0	+0.1
	5.6nm,0.6s,baz=243,slow=0.7,SNR=10						
KEV	Kevo	129.91	348	*ep*	**PKPdf**	11 07 21.6	-0.8
ARCES	ARCESS Array B	130.38	349	PKP	**PKPdf**	11 07 22.7	-0.7
	12nm,0.6s,baz=322,slow=0.7,SNR=7.9						
ARCES				SKPbc	**SKPab**	11 09 52.7	+0.4
	6.5nm,1.1s,baz=16,slow=4.0,SNR=3.9						
JOF	Joensuu	134.35	341	*ep*	**PKPdf**	11 07 29.5	-1.5
	13nm,0.5s						
KAF	Kangasniemi	136.44	343	*ep*	**PKPdf**	11 07 35.6	+0.7
FINES	FINESS Array B	137.04	342	PKhKP	PKPpre	11 07 23.3	
	1.6nm,0.5s,baz=65,slow=3.0,SNR=12						
FINES				PKP	**PKPdf**	11 07 35.0	-1.1
	7.0nm,0.6s,baz=106,slow=2.9,SNR=13						
KBZ	Khabaz	139.09	312	PKP	**PKPdf**	11 07 40.5	+0.2
	1.2nm,0.7s,baz=149,slow=6.4,SNR=4.2						
NB2	NORSAR Subarra	140.53	352	PKP	PKPpre	11 07 35.8	
	comp=Z,2.6nm,0.4s,baz=19,slow=3.8						
NB2	NORSAR Subarra	140.53	352	PKP	PKPpre	11 07 35.8	
	baz=19,slow=3.8						
NOA	NORSAR Array B	140.53	352	PKhKP	PKPpre	11 07 35.2	
	comp=Z,0.6nm,0.5s,baz=14,slow=4.2,SNR=18						
NOA				PKP	**PKPdf**	11 07 43.4	+0.9
	comp=Z,2.4nm,0.4s,baz=14,slow=4.0,SNR=8.2						
NOA				SKPbc	**SKPbc**	11 10 22.3	-1.0
	comp=Z,2.0nm,0.8s,baz=14,slow=4.2,SNR=3.7						
HFS	Hagfors	141.03	350	PKhKP	PKPpre	11 07 37.3	
	comp=Z,13nm,0.4s,baz=62,slow=3.1,SNR=19						
HFS				SKPbc	**SKPbc**	11 10 24.3	-0.2
	comp=Z,4.4nm,0.8s,baz=325,slow=2.3,SNR=4.1						
ASK	Askoy	141.66	356	*e*P	**PKPdf**	11 07 41.2	-3.2
RUND	Rundenannen	141.72	356	*e*P	PKPdf	11 07 39.4	-5.2
KONO	Kongsberg	142.09	353	*e*P	**PKPdf**	11 07 41.4	-3.8
ODD1	Odda	142.12	355	*e*P	**PKPdf**	11 07 41.7	-3.7
BLS5	Blasjo	142.62	355	*e*P	**PKPdf**	11 07 43.3	-2.9
HOMB	Homborsund	143.56	353	*e*P	PKPab	11 07 46.6	-0.1
HOMB				IAmb	IAmb	11 07 47.5	
	comp=Z,132nm,0.9s						
SNART	Snartemo	143.63	354	*e*P	PKPbc	11 07 46.2	-0.8
SNART				IAmb	IAmb	11 07 47.4	
	comp=Z,38nm,0.8s						
AKASG	Malin Array Be	143.85	329	PKP	PKPbc	11 07 46.9	-1.1
	comp=Z,18nm,0.4s,baz=43,slow=4.1,SNR=102						
AKASG				SKPbc	**SKPbc**	11 10 31.8	+0.2
	comp=Z,1.7nm,0.7s,baz=46,slow=2.2,SNR=4.1						
KIEV	Kiev	143.86	329	*e*PKPbc	PKPbc	11 07 46.8	-1.1
MALT	Malatya	143.88	305	⇑*i*P	PKPbc	11 07 48.7	+0.1
SUW	Suwałki	143.96	337	*e*PKP	PKPbc	11 07 47.6	-0.6
MUD	Monsted U'grnd	145.25	352	*i* P	**PKPdf**	11 07 50.9	+0.1
	comp=Z,31nm,1.1s						
COP	Copenhagen	145.46	348	*i* P	**PKPbc**	11 07 52.2	-0.4
	comp=Z,17nm,0.8s						
BSD	Bornholm Skovb	145.46	345	*i* P	**PKPbc**	11 07 52.1	-0.5
	comp=Z,57nm,0.8s						
LLD	Ille Linde	145.83	348	*i* P	**PKPab**	11 07 54.7	-0.9
BEL	Belsk	146.57	337	*e*PKP	**PKPbc**	11 07 56.2	+0.4
BRTR	Keskin Array B	146.96	309	PKPbc	**PKPbc**	11 07 57.0	-0.5
	comp=Z,15nm,0.8s,baz=136,slow=4.5,SNR=58						
TLCR		147.49	321	⇑*i*P	**PKPbc**	11 07 58.6	+0.2
ANTO	Ankara	147.51	310	⇑*i*P	**PKPbc**	11 07 59.3	+0.5
ANTO	Ankara	147.51	310	*e*PKPbc	**PKPbc**	11 07 58.9	+0.1
ANTO				*e*PKPab	**PKPab**	11 08 03.5	+0.4
KWP	Kalwaria Pacla	147.56	333	*e*PKP	**PKPbc**	11 07 58.6	+0.1
KWP	Kalwaria Pacla	147.56	333	⇑*i*P	**PKPbc**	11 07 58.3	-0.2
KWP	Kalwaria Pacla	147.56	333	*e*PKPbc	**PKPbc**	11 07 58.8	+0.2
KWP				*e*PKPab	**PKPab**	11 08 03.0	+0.2
BURAR	Bucovina Array	147.87	328	⇓*i*P	**PKPbc**	11 07 59.9	+0.4
TESR	Tescani	147.88	325	⇓*i*P	**PKPbc**	11 07 59.2	-0.2
CFR	Carcaliu	147.88	322	⇑*i*P	**PKPbc**	11 07 59.6	+0.2
TIRR	Tirgusor	148.14	321	⇑*i*P	**PKPbc**	11 08 00.4	+0.3
TIRR	Tirgusor	148.14	321	*e*PKPbc	**PKPbc**	11 08 00.1	0.0
RUE	Ruedersdorf	148.15	345	*e*PKPbc	**PKPbc**	11 07 59.9	0.0
RUE				*e*PKPab	**PKPab**	11 08 05.0	-0.1
VRI	Vrincioaia	148.24	324	⇑*i*P	**PKPbc**	11 08 00.3	-0.1
OJC	Ojcow	148.25	336	*e*PKP	**PKPbc**	11 08 00.2	-0.1
KOLS	Kolonicke sedl	148.28	332	*e*PKP	**PKPbc**	11 08 00.7	+0.3
HARR	Harsova	148.28	321	⇓*i*P	**PKPbc**	11 08 00.8	+0.3
STHS	Stebnicka Huta	148.33	334	*e*PKP	**PKPbc**	11 08 00.9	+0.4
NIE	Niedzica	148.70	335	*e*PKP	**PKPbc**	11 08 02.1	+0.7
CSS	Prodhromos	148.71	301	*e*PKPbc	**PKPbc**	11 08 01.8	-0.1
CSS				*e*PKPab	**PKPab**	11 08 08.7	+0.5
PSN	Preselentsi	148.71	320	⇓*i*P	**PKPbc**	11 08 01.8	+0.2
PSN	Preselentsi	148.71	320	*e*P	**PKPbc**	11 08 01.9	+0.3
TRPA	Tarpa	148.76	331	⇓*i*P	**PKPbc**	11 08 01.0	-0.5
ISR	Istrita	148.81	323	⇓*i*P	**PKPbc**	11 08 02.3	+0.4
DOPR	Dopca	148.89	325	⇑*i*P	**PKPbc**	11 08 02.9	+0.9
MLR	Muntele Rosu	148.91	324	⇓*i*P	**PKPbc**	11 08 01.8	-0.4
KSP	Ksiaz	148.92	341	*e*PKP	**PKPbc**	11 08 02.4	+0.5
OKC	Ostrava-Krasne	149.17	338	⇑*i*PKP	**PKPbc**	11 08 02.7	+0.2
VAL	Valentia	149.21	13	⇓*i*P	**PKPbc**	11 08 02.9	+0.4
CJR	Cluj-Napoca	149.29	328	⇓*i*P	**PKPbc**	11 08 03.1	+0.1
UPC	Upice	149.30	341	⇑*e*PKP	**PKPbc**	11 08 03.1	+0.3
UPC				*ex*	x	11 08 05.3	
DPC	Dobruska-Polom	149.34	340	⇑*i*PKP	**PKPbc**	11 08 03.5	+0.5
DPC				*e*PKPAB	**PKPab**	11 08 07.7	-2.5
DPC				*ex*	x	11 08 15.2	
CLL	Collm	149.42	345	⇓*i*PKPbc	**PKPbc**	11 08 03.1	+0.1
	comp=Z,84nm,0.8s						
CLL				⇑*i*PKPab	**PKPab**	11 08 10.2	-0.2
	comp=Z,39nm,0.7s						
CLL				*ep*PKPab	**pPKPab**	11 10 24.0	+1.6
VOIR		149.42	325	⇑*i*P	**PKPbc**	11 08 03.3	-0.1
MORC	Moravsky Berou	149.43	338	⇑*i*P	**PKPbc**	11 08 03.2	0.0
MORC	Moravsky Berou	149.43	338	*e*PKPbc	**PKPbc**	11 08 03.3	+0.1
PRD	Provadia	149.46	319	*e*P	**PKPbc**	11 08 03.6	+0.2
BRG	Berggiesshubel	149.57	343	*e*PKP	**PKPdf**	11 07 58.1	0.0
	comp=Z,4.3nm,1.2s						
BRG				*i*		11 08 03.6	
	comp=Z,64nm,0.7s						
BRG				*i*		11 08 10.4	
	comp=Z,13nm,0.7s						
DRGR		149.66	329	⇓*i*P	**PKPbc**	11 08 03.7	-0.2
ARR	Arges	149.69	325	⇓*i*P	**PKPbc**	11 08 05.1	+1.1
PVCC	Panska Ves	149.71	342	⇑*i*PKP	**PKPbc**	11 08 04.1	+0.3
WTSB	Winterswijk	149.94	352	*i* P	**PKPbc**	11 08 04.2	0.0
	comp=Z,91nm,0.6s						
VYHS	Vyhne	150.03	335	*e*PKP	**PKPbc**	11 08 04.7	+0.1
VYHS				*e*		11 08 13.4	
PSZ	Piszkesteto	150.06	333	⇑*i*P	**PKPbc**	11 08 04.5	-0.3
PSZ	Piszkesteto	150.06	333	⇓*e*	**PKPbc**	11 08 04.4	-0.3
PSZ	Piszkesteto	150.06	333	*e*PKPdf	**PKPdf**	11 07 58.8	-0.3
PSZ				*e*PKPbc	**PKPbc**	11 08 04.4	-0.3
PSZ				*e*PKPab	**PKPab**	11 08 13.8	+0.4
LOT	Lotru	150.08	326	⇑*i*P	**PKPbc**	11 08 04.5	-0.5
VRAC	Vranov	150.16	339	⇑*i*P	**PKPbc**	11 08 04.5	-0.4
PRU	Pruhonice	150.20	342	⇑*i*PKP	**PKPbc**	11 08 05.0	+0.1
PRU				*e*PKPAB	**PKPab**	11 08 14.1	+0.3
TREC	Trest	150.53	340	⇑*e*PKP	**PKPbc**	11 08 05.8	+0.1
GZR	Gura Zlata	150.63	327	⇑*i*P	**PKPbc**	11 08 06.0	-0.1
BZS	Buzias	151.04	329	⇓*i*P	**PKPbc**	11 08 06.5	-0.5
HGN	Heimansgroeve	151.23	353	*e*P	**PKPbc**	11 08 06.9	-0.3
	comp=Z,21nm,1.0s						
DIM	Dimitrovgrad	151.25	319	*e*P	**PKPbc**	11 08 07.5	0.0
KHC	Kasperske Hory	151.25	342	⇑*i*PKP	**PKPbc**	11 08 07.4	0.0
KHC				*e*PKPAB	**PKPab**	11 08 18.6	+0.3
KHC	Kasperske Hory	151.25	342	*e*PKPbc	**PKPbc**	11 08 07.4	0.0
KHC				*e*PKPab	**PKPab**	11 08 18.1	-0.1
PKST	T``s	151.35	335	⇑*e*	**PKPbc**	11 08 07.0	-0.6
MEM	Membach	151.37	353	PKPbc	**PKPbc**	11 08 07.5	-0.1
GERES	GERESS Array B	151.47	342	PKP	**PKPdf**	11 08 01.4	+0.3
	comp=Z,0.5nm,0.5s,baz=318,slow=1.8,SNR=5.3						
GERES				PKPbc	**PKPbc**	11 08 07.8	-0.2
	comp=Z,7.2nm,0.4s,baz=23,slow=1.9,SNR=69						
GERES				PKPab	**PKPab**	11 08 19.1	-0.1
	comp=Z,3.8nm,0.6s,baz=18,slow=4.6,SNR=8.8						
MPEP	Malo Peshtene	151.49	323	*e*P	**PKPbc**	11 08 07.9	-0.2
SOP	Sopron	151.55	337	⇓*e*	**PKPbc**	11 08 08.1	0.0
ALN	Alexandroupoli	151.58	317	*e*P	**PKPbc**	11 08 06.8	-1.5
CONA	Conrad Observa	151.59	338	⇑*i*PKPdf	**PKPdf**	11 08 02.5	+1.2
	comp=Z,4.0nm,1.4s						
CONA				*i* PKiKP	**PKPbc**	11 08 08.4	+0.1
	comp=Z,20nm,0.7s,SNR=13						
CONA				⇑*i*PKPab	**PKPab**	11 08 20.5	+0.7
	comp=Z,18nm,1.1s						
BCLA	Clavier	151.64	354	PKPbc	**PKPbc**	11 08 07.8	-0.4
BCLA				PKPab	**PKPab**	11 08 19.2	-0.5
SNF	Seneffe	151.64	355	PKPbc	**PKPbc**	11 08 08.3	+0.2
SNF				PKPab	**PKPab**	11 08 19.4	-0.3
RDO	Rodhopi	151.76	318	*e*P	**PKPbc**	11 08 08.1	-0.6
RZN	Rozhen	151.95	319	*e*P	**PKPbc**	11 08 08.7	-0.7
DOU	Dourbes	152.03	354	PKPbc	**PKPbc**	11 08 09.2	+0.2
DOU				PKPab	**PKPab**	11 08 20.9	-0.5
SMTH	Samothraki Isl	152.14	316	*e*P	**PKPbc**	11 08 07.8	-1.8
MOA	Molln	152.19	340	⇑*i*PKPbc	**PKPbc**	11 08 08.8	-0.7
	comp=Z,6.4nm,0.5s						
MOA				⇑*i*PKPab	**PKPab**	11 08 22.8	+0.6
	comp=Z,10nm,0.9s						
VTS	Vitosha	152.28	322	⇓*i*P	**PKPbc**	11 08 09.7	-0.3
VTS	Vitosha	152.28	322	*e*P	**PKPbc**	11 08 09.5	-0.5
WLF	Walferdange	152.28	352	PKPbc	**PKPbc**	11 08 10.3	+0.7
KAVA	Kavala	152.48	318	*e*P	**PKPbc**	11 08 09.1	-1.2
MMB	Musomiste	152.60	320	⇑*i*P	**PKPbc**	11 08 10.2	-0.4
MMB	Musomiste	152.60	320	*e*P	**PKPbc**	11 08 09.8	-0.8
SMG	Samos	152.64	310	*e*P	**PKPbc**	11 08 09.8	-1.0
NVR	Nevrokopi	152.67	320	*e*P	**PKPbc**	11 08 10.1	-0.7
KKB	Krupnik	152.81	321	*e*P	**PKPbc**	11 08 10.4	-0.6
CHOS	Chios island	152.87	312	*e*P	**PKPbc**	11 08 10.9	-0.5
SOKA	Soboth	152.95	338	⇓*i*PKPbc	**PKPbc**	11 08 10.3	-1.0
	comp=Z,4.9nm,0.6s						
OUR	Ouranopolis	153.19	318	*e*P	**PKPbc**	11 08 09.2	-2.7
BFO	Black Forest	153.24	348	*e*PKPbc	**PKPbc**	11 08 11.4	-0.4
BFO				*e*PKPab	**PKPab**	11 08 26.1	-0.6
KNT	Kendrikon	153.36	320	*e*P	**PKPab**	11 08 23.3	-4.2
LEGS	Legarje	153.47	337	*i* PKPdf	**PKPdf**	11 08 03.2	-0.9
LEGS				*i* PKPbc	**PKPbc**	11 08 11.8	-0.5
LEGS				*i* PKPab	**PKPab**	11 08 27.0	-0.8
WTTA	Wattenberg	153.49	343	⇑*i*PKPdf	**PKPdf**	11 08 03.9	-0.4
	comp=Z,7.8nm,0.9s						
WTTA				⇑*i*PKiKP	**PKPbc**	11 08 12.4	-0.1
	comp=Z,12nm,0.4s						
WTTA				⇑*i*PKPab	**PKPab**	11 08 28.3	+0.3
	comp=Z,15nm,0.5s						
ABTA	Abfaltersbach	153.71	341	⇓*i*PKPdf	**PKPdf**	11 08 03.5	-1.0
	comp=Z,7.3nm,0.8s						
ABTA				⇑*i*PKPbc	**PKPbc**	11 08 12.2	-0.7
	comp=Z,11nm,0.6s						
ABTA				⇑*i*PKPab	**PKPab**	11 08 28.4	-0.5
	comp=Z,12nm,0.6s						
BOJS	Bojanci	153.88	336	*i* PKPdf	**PKPdf**	11 08 04.1	-0.5
BOJS				*i* PKPbc	**PKPbc**	11 08 13.1	-0.1
BOJS				*i* PKPab	**PKPab**	11 08 28.8	-0.7
VOJS	Vojsko	153.91	339	*i* PKPdf	**PKPdf**	11 08 03.8	-1.0
VOJS				*i* PKPbc	**PKPbc**	11 08 12.5	-0.9
VOJS				*i* PKPab	**PKPab**	11 08 28.4	-1.4
FETA	Feichten	153.95	344	⇑*i*PKPdf	**PKPdf**	11 08 04.7	-0.2
	comp=Z,9.0nm,0.9s						
FETA				⇑*i*PKPab	**PKPab**	11 08 30.0	+0.1

PRK				S	Sb	11 05 47.7	-0.6
PRK				*e*Sb	Sb	11 05 48.0	-0.3
MRMA	**Marmari**		1.05 244	P	Pn	11 05 41.3	+1.9
BLCB	**Balcova**	1.16	97	*e*PN	Pg	11 05 40.4	-0.2
BLCB				*e*SN	Sb	11 05 56.0	+0.2
BLCB	**Balcova**	1.16	97	*e*Pn	Pg	11 05 40.4	-0.2
BLCB				*e*Sn	Sb	11 05 56.0	+0.2
SMG	**Samos**		1.29 129	P	Pn	11 05 42.7	0.0
SMG				S	Sb	11 05 59.4	-0.2
SMG	**Samos**		1.29 129	*e*PB	Pn	11 05 42.0	-0.7
SMG				*e*SB	Sb	11 05 58.7	-0.9
SMG	**Samos**		1.29 129	*e*Pb	Pn	11 05 42.0	-0.7
SMG	**Samos**		1.29 129	P	Pn	11 05 42.7	0.0
SMG				*e*Sb	Sb	11 05 58.7	-0.9
SMG				S	Sb	11 05 59.4	-0.2
BOZC	**Bozcaada**	1.36	16	*i* P	Pn	11 05 42.9	-0.8
BOZC				*i* S	Sn	11 06 02.2	+0.3
LIA	**Limnos Island**		1.40 348	*e*PG	Pg	11 05 44.6	-0.5
LIA				*e*SB	Sg	11 06 05.2	+1.9
LIA	**Limnos Island**		1.40 348	*e*Pg	Pg	11 05 44.6	-0.5
LIA				*e*Sb	Sg	11 06 05.2	+1.9
EZN	**Ezine**	1.42	24	*e*PN	Pb	11 05 44.6	-0.4
EZN				*e*SN	Sg	11 06 03.8	-0.1
EZN	**Ezine**	1.42	24	*e*Pn	Pb	11 05 44.6	-0.4
EZN				*e*Sn	Sg	11 06 03.8	-0.1
APE	**Apeiranthos**		1.46 181	P	Pn	11 05 44.2	-0.8
APE				S	Sn	11 06 04.3	-0.1
APE	**Apeiranthos**		1.46 181	*e*PG	Pn	11 05 44.1	-0.9
APE				*e*SB	Sn	11 06 04.2	-0.1
APE	**Apeiranthos**		1.46 181	P	Pn	11 05 44.2	-0.8
APE				S	Sn	11 06 04.3	-0.1
MRKA	**Markates**		1.57 277	*e*PB	Pb	11 05 47.5	-0.1
MRKA	**Markates**		1.57 277	*e*Pb	Pb	11 05 47.5	-0.1
SKIA	**Skiathos**		1.76 292	*e*PN	Pb	11 05 50.1	-0.8
SKIA	**Skiathos**		1.76 292	*e*Pn	Pb	11 05 50.1	-0.8
AKS	**Akhisar**	1.79	78	*e*PN	Pb	11 05 50.9	-0.4
AKS	**Akhisar**	1.79	78	*e*Pn	Pb	11 05 50.9	-0.4
AKHS	**Akhisar**	1.79	78	*i* P	Pb	11 05 51.7	+0.4
AKHS				*i* S	Sg	11 06 15.1	-0.6
AKHS	**Akhisar**	1.79	78	*i* P	Pb	11 05 51.7	+0.4
AKHS				*i* S	Sg	11 06 15.1	-0.6
AYDB	**Zeytinkoy-Aydi**		1.92 107	*e*PN	Pn	11 05 52.3	+0.9
AYDB	**Zeytinkoy-Aydi**		1.92 107	*e*Pn	Pn	11 05 52.3	+0.9
SMTH	**Samothraki Isl**		1.94 359	*e*PN	Pb	11 05 52.9	-1.0
SMTH	**Samothraki Isl**		1.94 359	*e*Pn	Pb	11 05 52.9	-1.0
GELI	**Tayfur-Gelibol**	1.99	20	*e*PN	Pb	11 05 53.6	-1.2
GELI	**Tayfur-Gelibol**	1.99	20	*e*Pn	Pb	11 05 53.6	-1.2
BDRM	**Kayabasi**		2.08 134	*i* P	Pb	11 05 55.7	-0.6
BDRM				*i* S	Sn	11 06 20.8	+1.1
BDRM	**Kayabasi**		2.08 134	*i* P	Pb	11 05 55.7	-0.6
BDRM				*i* S	Sn	11 06 20.8	+1.1
ERIK	**Erikli-Kesan**	2.26	18	*e*PN	Pb	11 05 57.6	-1.7
ERIK	**Erikli-Kesan**	2.26	18	*e*Pn	Pb	11 05 57.6	-1.7
ALN	**Alexandroupoli**	2.39	9	*e*PN	Pb	11 05 59.7	-1.9
ALN	**Alexandroupoli**	2.39	9	*e*Pn	Pb	11 05 59.7	-1.9
KULA	**Kula-Manisa**	2.42	89	*e*PN	Pn	11 05 59.3	+1.0
KULA	**Kula-Manisa**	2.42	89	*e*Pn	Pn	11 05 59.3	+1.0
RKY	**Sarkoy-Tekirda**	2.48	29	*e*PN	Pn	11 06 00.6	+1.5
RKY	**Sarkoy-Tekirda**	2.48	29	*e*Pn	Pn	11 06 00.6	+1.5
SART	**Tekirdag**	2.49	29	*i* P	Pb	11 06 01.6	-1.7
SART				*i* S	Sb	11 06 35.6	+1.5
SART	**Tekirdag**	2.49	29	*i* P	Pb	11 06 01.6	-1.7
SART				*i* S	Sb	11 06 35.6	+1.5

*ISCJB **13** 11:15:53.9±1.0, 13°.4S±0°.2×74°.6W±0°.1, h100km, mb3.2/3, Error ellipse: s-maj=31.0km s-min=6.3km az=34.9*
*IDC **13** 11:15:55.0±1.5, 13°.34S×74°.52W, h94km±14km, mb3.0/3, mb1 3.5/6, mb1mx3.3/39, mbtmp3.7/6, Error ellipse: s-maj=44.2km s-min=11.6km az=31.0*

ISC 13 11:15:55.3±1.0, 13°.4S±0°.2×74°.6W±0°.1, h100km, n9, σ0°85/12, mb3.1/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**		2.62 303	P	Pn	11 16 35.2	-0.9
	49nm,0.3s,baz=123,slow=9.7,SNR=39						
NNA				S	Sn	11 17 07.6	+0.1
	69nm,0.3s,baz=257,slow=11,SNR=20						
LPAZ	**La Paz**		6.86 115	P	Pn	11 17 34.7	+0.8
	1.5nm,0.3s,baz=298,slow=9.1,SNR=34						
LPAZ				S	Sn	11 18 49.9	-1.0
	baz=7.8,slow=24,SNR=1.4						
ATAH	**Atahualpa**		7.29 329	P	Pn	11 17 40.0	+0.3
	2.2nm,0.3s,baz=119,slow=4.8,SNR=10.0						
ATAH				S	Sn	11 19 01.3	+0.2
	0.9nm,0.3s,baz=39,slow=18,SNR=1.8						
TXAR	**Lajitas Array**		50.95 327	P	P	11 24 46.9	0.0
	0.1nm,0.6s,baz=147,slow=7.3,SNR=1.6						
TORD	**Torodi Ar. Bea**		80.07 74	P	P	11 27 53.8	-0.8
	0.6nm,0.8s,baz=263,slow=5.5,SNR=4.0						
YKA	**Yellowknife Ar**		81.86 342	P	P	11 28 02.8	-0.3
	0.2nm,0.7s,baz=133,slow=5.8,SNR=6.5						
ASAR	**Alice Springs**		133.78 217	PKP	PKPdf	11 35 02.5	+1.1
	0.3nm,0.7s,baz=148,slow=2.6,SNR=2.4						
WRA	**Warramunga Arr**		136.29 221	PKP	PKPdf	11 35 07.5	+1.3
	0.3nm,0.8s,baz=129,slow=1.8,SNR=5.7						
SONM	**Songino Array**		145.70 359	PKPbc	PKPbc	11 35 22.8	0.0
	0.7nm,0.7s,baz=0.0,slow=0.3,SNR=5.2						

*CSEM **13** 11:15:58.1±1.0, 79°.81N×1°.26W, h10km, ML2.0, Error ellipse: s-maj=43.1km s-min=8.4km az=174.0*
*BER **13** 11:15:58.8±2.2, 80°.50N×0°.15W, h10km, MD2.2, ML2.0, ML2.7(NAO)*

ISC 13 11:16:00.7±4.5, 80°.2N±0°.3×0°.6E±0°.2, h10km, n12, σ0°58/19, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**		2.41 115	Pn	Pn	11 16 40.2	+0.1
KBS				Sn	Sn	11 17 09.4	-0.2
KBS	**Kingsbay**		2.41 115	*e*P	Pn	11 16 40.1	0.0
KBS				*e*S	Sn	11 17 09.8	+0.1
KBS				IAML		11 17 12.5	
	comp=Z,9.5nm,0.3s						
KBS	**Kingsbay**		2.41 115	Pn	Pn	11 16 40.2	+0.1
KBS				Sn	Sn	11 17 09.4	-0.2
SPA0	**Spitsbergen Ar**		3.57 116	Pn	Pn	11 16 56.7	+0.6
	baz=315,slow=9.3						
SPA0				Sn	Sn	11 17 38.4	+0.1
	baz=326,slow=111						
SPA0	**Spitsbergen Ar**		3.57 116	Pn	Pn	11 16 56.7	+0.6
	baz=315,slow=9.3						
SPA0				Sn	Sn	11 17 38.4	+0.1
	baz=326,slow=111						
SPA0				*e*S	Sb	11 17 38.5	-8.7
SPA0	**Spitsbergen Ar**		3.57 116	Pn	Pn	11 16 56.7	+0.6
	baz=315,slow=8.9,SNR=50						
SPA0				*e*S	Sn	11 17 38.5	+0.2
	SNR=49						
HSPB	**Hornsund (broa**		4.33 129	*e*P	Pn	11 17 05.8	-0.6
HSPB				*e*S	Sn	11 17 57.6	+0.8
HSPB	**Hornsund (broa**		4.33 129	*e*P	Pn	11 17 05.8	-0.6
	SNR=49						
HSPB				*e*S	Sn	11 17 57.6	+0.8
	SNR=49						
DAG	**Danmarks Havn**		5.10 238	*i* P	Pn	11 17 08.7	-8.4
DAG				*i* S	Sn	11 18 01.4	-15
HOPEN	**Hopen**		6.10 114	*e*P	Pn	11 17 30.7	-0.1
HOPEN				*e*S	Sn	11 18 39.1	-1.4
HOPEN				IAML		11 18 43.2	
	comp=Z,4.2nm,0.2s						
HOPEN	**Hopen**		6.10 114	*e*P	Pn	11 17 30.7	-0.1
	SNR=47						
SUMG	**Summit**		11.59 251	*i* P	Pn	11 18 36.5	-10

*IDC **13** 11:31:05.5±0.8, 36°.46S×73°.10W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.0/31, mbtmp4.2/8, ML3.0/1, MS4.0/3, Ms1 4.0/3, ms1mx3.5/23, Error ellipse: s-maj=29.8km s-min=20.0km az=100.0*
*ISCJB **13** 11:31:08.1±0.6, 36°.36S±0°.06×73°.1W±0°.1, h25km, mb4.2/11, MS4.0/2, Error ellipse: s-maj=12.4km s-min=9.0km az=13.7*
*NEIC **13** 11:31:10.8±0.4, 36°.37S×73°.08W, h35km, mb4.2/5, Error ellipse: s-maj=13.2km s-min=9.0km az=80.0*

ISC 13 11:31:09.5±0.7, 36°.37S±0°.08×73°.2W±0°.1, h25km, n24, σ0°90/23, mb4.3/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**		4.81 156	Pn	Pn	11 32 21.0	+0.7
	baz=308,slow=14						
PLCA				Lg	Lg	11 33 32.2	
PLCA				LR	LR	11 34 08.9	
	comp=Z,921nm,19.5s,baz=351,slow=39						
CFAA	**Coronel Fontan**		6.26 42	Pn	Pn	11 32 40.9	+0.5
	0.3nm,0.3s,baz=205,slow=14,SNR=9.0						
CFAA				Sn	Sn	11 33 52.7	+1.6
	0.3nm,0.3s,baz=192,slow=21,SNR=1.3						
LCO	**Las Campanas**		7.62 16	*e*Pn	Pn	11 32 58.4	-0.8
	28nm,0.7s						
TRQA	**Tornquist**		9.07 104	*e*Pn	Pn	11 33 18.6	-0.2
	14nm,0.8s						
LPAZ	**La Paz**		20.50 14	P	Pn	11 35 48.3	-0.4
	3.0nm,0.7s,baz=202,slow=5.3,SNR=5.8						
LPAZ	**La Paz**		20.50 14	P	P	11 35 45.7	-0.6
	4.2nm,0.8s						
NNA	**Nana**		24.51 351	LR	LR	11 43 15.2	
	comp=Z,288nm,18.3s,baz=162,slow=30						
PTGA	**Pitinga**		37.51 22	P	P	11 38 20.9	-0.5
	2.6nm,0.6s,baz=190,slow=11,SNR=3.1						
QSPA	**South Pole Qui**		53.87 180	P	P	11 40 30.6	+0.4
	4.7nm,1.0s,baz=321,slow=3.1,SNR=18						
TXAR	**Lajitas Array**		71.38 332	P	P	11 42 28.4	+1.0
	1.9nm,0.6s,baz=152,slow=8.5,SNR=29						
TXAR				LR	LR	12 07 36.8	
	comp=Z,148nm,19.4s,baz=0.0,slow=31						
ABTX	**Abilene, Hawle**		72.98 337	*e*P	P	11 42 37.1	+0.3
	4.6nm,0.7s						
MIAR	**Mount Ida**		73.08 342	*e*P	P	11 42 37.4	+0.1
	0.9nm,0.4s						
DBIC	**Dimbokro**		76.80 71	P	P	11 42 59.3	0.0
	2.1nm,0.6s,baz=255,slow=8.6,SNR=2.0						
ANMO	**Albuquerque**		77.44 332	*e*P	P	11 43 04.4	+1.8
	1.6nm,1.0s						
BOSA	**Boshof**		79.77 118	P	P	11 43 15.9	+0.1
	5.0nm,0.9s,baz=265,slow=6.9,SNR=5.8						
ECSD	**EROS Data Cent**		82.54 343	*e*P	P	11 43 29.9	+0.1
	4.5nm,0.8s						
NVAR	**Mina Array Bea**		85.32 326	P	P	11 43 45.2	+0.8
	1.2nm,0.7s,baz=149,slow=6.0,SNR=8.1						
TORD	**Torodi Ar. Bea**		85.86 71	P	P	11 43 47.0	-0.4
	0.9nm,0.8s,baz=256,slow=4.8,SNR=4.5						
ASAR	**Alice Springs**		115.05 207	PKP	PKPdf	11 49 47.4	-1.4
	0.3nm,0.9s,baz=160,slow=1.4,SNR=4.4						
WRA	**Warramunga Arr**		118.25 210	PKP	PKPdf	11 49 53.4	-1.6
	0.4nm,0.5s,baz=160,slow=1.7,SNR=13						
ABKAR	**Akbulak array**		143.83 54	*e*PKPdf	PKPab	11 50 39.2	+0.1
AAK	**Ala-Archa**		154.36 66	*e*PKPab	PKPab	11 51 22.1	+0.2
ZALV	**Zalesovo Beam**		156.70 34	PKP	PKPdf	11 51 00.8	-0.9
	0.8nm,0.7s,baz=104,slow=1.8,SNR=4.5						
MKAR	**Makanchi Array**		158.96 53	PKP	PKPdf	11 51 04.8	-0.1
	0.4nm,0.7s,baz=325,slow=1.8,SNR=3.2						
MKAR				PKPab	PKPab	11 51 40.3	-1.0
	0.3nm,0.6s,baz=260,slow=4.2,SNR=2.9						

*ISCJB **13** 11:33:09.1±0.4, 67°.53N±0°.03×30°.46E±0°.06, h0km, Error ellipse: s-maj=4.7km s-min=3.3km az=4.0*
*HEL **13** 11:33:09.2±0.2, 67°.61N×30°.71E, h0km, ML2.0, ML1.5(UPP), Explosion*
*KOLA **13** 11:33:10.7, 67°.56N×30°.38E, h0km*
*CSEM **13** 11:33:10.7±0.5, 67°.52N×30°.40E, h2km, ML2.0, Error ellipse: s-maj=10.6km s-min=4.5km az=71.0, Mining explosion.*
*UPP **13** 11:33:12.0, 67°.55N×30°.13E, h0km, ML1.5, Suspected Mining explosion.*
*NAO **13** 11:33:13.1±2.3, 67°.59N×29°.76E, ML2.1*
*BER **13** 11:33:14.3±3.6, 67°.59N×29°.85E, h0km, ML2.1(NAO), Suspected explosion*

ISC 13 11:33:10.3±0.8, 67°.58N±0°.03×30°.51E±0°.03, h0km, n47, σ0°93/68, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**		0.38 296	*e*P	Pg	11 33 17.4	-0.2
VRF				*e*S	Sg	11 33 22.5	-0.1
VRF	**Varrio**		0.38 296	P	Pg	11 33 17.4	-0.2
VRF				S	Sg	11 33 22.5	-0.1
APA0	**Apatity Array**		0.95 87	P	Pg	11 33 28.6	+0.1
APA0				S	Sg	11 33 41.7	+0.9
APA	**Apatity**		1.11 89	P	Pg	11 33 31.2	-0.4
APA				S	Sg	11 33 46.3	+0.4
SGF	**Sodankyl**		1.54 267	*e*P	Pn	11 33 38.1	-0.9
SGF				*e*SN	Sg	11 34 00.9	+1.2
SGF				MSG		11 34 00.9	
	comp=Z,18nm,0.3s						
SGF	**Sodankyl**		1.54 267	P	Pn	11 33 38.1	-0.9
SGF				Sn	Sg	11 34 00.9	+1.2
KU6	**Riekki**		1.58 189	*e*PN	Pn	11 33 39.1	-0.6
KU6				*e*SN	Sg	11 34 02.4	+1.3
KU6	**Riekki**		1.58 189	Pn	Pn	11 33 39.0	-0.6
MSF	**Maaselka**		1.78 200	*e*PG	Pn	11 33 42.3	0.0
MSF				MSG	Sn	11 34 05.2	-0.4
	comp=Z,5.3nm,0.3s						
MSF				*e*S	Sn	11 34 05.2	-0.4
MSF	**Maaselka**		1.78 200	Pg	Pn	11 33 42.3	0.0
MSF				S	Sn	11 34 05.1	-0.4
RNF	**Rovaniemi**		2.01 243	*e*P	Pn	11 33 45.9	+0.4
RNF				MSG	Sb	11 34 13.3	0.0
	comp=Z,12nm,0.3s						
RNF				*e*SG	Sb	11 34 13.3	0.0
RNF	**Rovaniemi**		2.01 243	P	Pn	11 33 45.9	+0.4
RNF				Sg	Sb	11 34 13.3	0.0
KEV	**Kevo**		2.53 331	*e*PB	Pn	11 33 53.5	+0.9
KEV				*e*SG	Sb	11 34 27.5	-0.7
ARA0	**ARCESS Array S**		2.69 319	Pn	Pn	11 33 55.1	+0.4
	baz=134,slow=16						
ARA0				Lg	Lg	11 34 31.4	
	baz=134,slow=37						
ARA0	**ARCESS Array S**		2.69 319	Pn	Pn	11 33 55.1	+0.4
	baz=134,slow=16						
ARA0				Lg	Lg	11 34 31.4	
	baz=134,slow=37						
ARA0	**ARCESS Array S**		2.69 319	Pn	Pn	11 33 55.2	+0.4
	baz=134,slow=14,SNR=50						
ARA0				Lg	Lg	11 34 31.4	
HEF	**Hetta**		2.71 291	*e*P	Pn	11 33 55.7	+0.6
HEF				*e*SB	Sb	11 34 32.5	-0.8
HEF				MSG		11 34 32.5	
	comp=Z,3.8nm,0.2s						
HEF	**Hetta**		2.71 291	P	Pn	11 33 55.7	+0.6
OUL	**Oulu**		3.12 219	*e*PG	Pb	11 34 07.6	+1.0
OUL	**Oulu**		3.12 219	Pg	Pb	11 34 07.6	+1.0
LANU	**Lannavaara**		3.27 282	*e*P	Pn	11 34 02.4	-0.3
LANU	**Lannavaara**		3.27 282	P	Pn	11 34 02.4	-0.3
LANU				S	Sn	11 34 40.0	-2.3
MASU	**Masugnsbyn**		3.27 272	*e*P	Pn	11 34 02.3	-0.5
MASU	**Masugnsbyn**		3.27 272	P	Pn	11 34 02.3	-0.5
KALU	**Kalix**		3.33 242	*e*P	Pn	11 34 02.8	-0.7
KALU	**Kalix**		3.33 242	P	Pn	11 34 02.8	-0.7
ERTU	**Ertsjaerv**		3.42 256	*e*P	Pn	11 34 04.7	-0.1
ERTU				*e*S	Sn	11 34 46.8	+0.8
ERTU	**Ertsjaerv**		3.42 256	P	Pn	11 34 04.7	-0.1
ERTU				S	Sn	11 34 46.7	+0.8
DUNU	**Dundret**		3.87 268	*e*P	Pn	11 34 10.9	-0.2
DUNU	**Dundret**		3.87 268	P	Pn	11 34 10.9	-0.2
KIF	**Kilpisjarvi**		3.88 296	*e*P	Pn	11 34 11.4	+0.3
KIF	**Kilpisjarvi**		3.88 296	P	Pn	11 34 11.4	+0.3
KUA	**Kurravaara**		3.88 280	*e*P	Pn	11 34 11.0	-0.2
KUA	**Kurravaara**		3.88 280	P	Pn	11 34 11.0	-0.2
HARU	**Harads**		4.02 254	*e*P	Pn	11 34 12.3	-0.8
HARU	**Harads**		4.02 254	P	Pn	11 34 12.3	-0.8
SJUU	**Sjulsmark**		4.12 244	*e*P	Pn	11 34 13.7	-0.8
SJUU	**Sjulsmark**		4.12 244	P	Pn	11 34 13.7	-0.8
NIKU	**Nikkaluokta**		4.38 279	*e*P	Pn	11 34 17.6	-0.4
NIKU	**Nikkaluokta**		4.38 279	P	Pn	11 34 17.6	-0.4
JOF	**Joensuu**		4.70 176	*e*S	Sn	11 35 14.4	-3.1
JOF	**Joensuu**		4.70 176	S	Sn	11 35 14.3	-3.1
BURU	**Burvik**		4.78 235	*e*P	Pn	11 34 23.1	-0.4
BURU	**Burvik**		4.78 235	P	Pn	11 34 23.1	-0.4
FIA0	**FINESS Array S**		6.45 199	Pn	Pn	11 34 47.8	+1.4
	baz=30,slow=11						
FIA0				Sn	Sn	11 35 59.3	-1.3
	baz=16,slow=22						
FIA0				Lg	Lg	11 36 28.6	
	baz=11,slow=28						
FIA0	**FINESS Array S**		6.45 199	Pn	Pn	11 34 47.8	+1.4
	baz=30,slow=11						
FIA0				Sn	Sn	11 35 59.3	-1.3
	baz=16,slow=22						
FIA0				Lg	Lg	11 36 28.6	
	baz=11,slow=28						
FIA0	**FINESS Array S**		6.45 199	Pn	Pn	11 34 47.8	+1.4
	baz=30,slow=10,SNR=50						
FIA0				Sn	Sn	11 35 59.3	-1.3
	baz=16,slow=20,SNR=50						

*ISCJB **13** 11:33:33.5±0.8, 34°.3S±0°.1×72°.3W±0°.2, h10km, mb4.0/9, Error ellipse: s-maj=20.9km s-min=16.3km az=21.1*
*IDC **13** 11:33:33.4±0.9, 34°.33S×72°.25W, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.9/31, mbtmp4.1/10, ML3.8/1, Error ellipse: s-maj=31.8km s-min=23.4km az=100.0*
*NEIC **13** 11:33:38.7±0.5, 34°.30S×72°.34W, h35km, mb4.1/1, Error ellipse: s-maj=16.3km s-min=12.2km az=120.0*

ISC 13 11:33:34.8±0.8, 34°.3S±0°.1×72°.4W±0°.2, h10km, n15, σ0°98/15, mb4.1/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**		4.44 53	Pn	Pn	11 34 44.0	+1.8
	0.8nm,0.3s,baz=230,slow=14,SNR=1.9						
CFAA				Lg	Lg	11 35 45.4	
	0.4nm,0.3s,baz=62,slow=17,SNR=5.0						
LPAZ	**La Paz**		18.37 13	P	P	11 37 50.5	+0.1
	0.1nm,0.3s,baz=182,slow=7.2,SNR=6.9						
SIV	**San Ignacio**		20.92 32	P	P	11 38 16.8	-0.8
	13nm,1.0s,baz=228,slow=13,SNR=9.3						
BDFB	**Brasilia**		28.78 56	P	P	11 39 32.0	-1.1
	4.2nm,0.7s,baz=205,slow=11,SNR=5.6						
PTGA	**Pitinga**		35.40 22	P	P	11 40 30.2	-0.7
	5.0nm,0.8s,baz=200,slow=7.1,SNR=6.6						
QSPA	**South Pole Qui**		55.91 180	P	P	11 43 13.7	+1.0
	1.9nm,1.0s,baz=184,slow=6.6,SNR=3.1						
TXAR	**Lajitas Array**		69.87 331	P	P	11 44 46.4	+0.5
	0.2nm,0.5s,baz=157,slow=7.7,SNR=4.0						
ABTX	**Abilene, Hawle**		71.35 336	*e*P	P	11 44 54.2	-0.6
	0.9nm,0.5s						
BOSA	**Boshof**		80.19 118	P	P	11 45 45.5	-0.3
	2.3nm,0.8s,baz=315,slow=5.7,SNR=2.0						
PDAR	**Pinedale Array**		83.91 333	P	P	11 46 06.0	+1.0
	0.4nm,0.8s,baz=107,slow=6.0,SNR=2.6						
NVAR	**Mina Array Bea**		83.97 325	P	P	11 46 06.2	+0.9
	0.4nm,0.6s,baz=170,slow=5.5,SNR=2.2						
TORD	**Torodi Ar. Bea**		84.61 70	P	P	11 46 08.3	-0.5
	2.6nm,0.9s,baz=258,slow=4.4,SNR=10						
WRA	**Warramunga Arr**		120.32 209	PKP	PKPdf	11 52 25.4	-1.5
	0.6nm,0.9s,baz=160,slow=1.8,SNR=5.3						
ZALV	**Zalesovo Beam**		154.67 32	PKPbc	PKPbc	11 53 35.6	+0.2
	3.2nm,0.8s,baz=311,slow=3.2,SNR=11						
MKAR	**Makanchi Array**		157.21 49	PKPab	PKPab	11 54 01.3	-0.3
	0.2nm,0.3s,baz=285,slow=2.8,SNR=5.8						

WEL 13 11:44:00.5±0.5, 44°.29S×166°.96E, h2km, ML3.5/9, Error ellipse: s-maj=4.9km s-min=3.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**		0.80 119	P*	Pb	11 44 16.6	-0.4
MSZ				SG	Sg	11 44 26.5	+0.3
MSZ				AML	AML	11 44 27.0	
DCZ	**Deep Cove**		1.20 173	P*	Pg	11 44 22.5	-0.9
DCZ				S*	Sg	11 44 38.3	-0.8
DCZ				AML	AML	11 44 46.0	
JCZ	**Jackson Bay**		1.31 81	P*	Pg	11 44 25.2	-0.7
JCZ				S*	Sn	11 44 44.1	-0.1
JCZ				AML	AML	11 44 46.1	
MLZ	**Mavora Lakes**		1.37 141	P*	Pn	11 44 26.7	0.0
MLZ				AML	AML	11 44 45.5	
MLZ				AML	AML	11 44 46.1	
WKZ	**Wanaka**		1.57 111	PN	Pn	11 44 29.8	+0.4
WKZ				AML	AML	11 44 50.7	
WKZ				AML	AML	11 44 51.0	
WHZ	**Wether Hill Ro**		1.75 157	PN	Pn	11 44 32.1	+0.2
WHZ				AML	AML	11 44 55.1	
WHZ				AML	AML	11 44 57.0	
EAZ	**Earnscleugh**		1.92 120	PN	Pb	11 44 35.5	-0.8
EAZ				AML	AML	11 45 01.8	
EAZ				AML	AML	11 45 02.4	
FOZ	**Fox Glacier**		2.10 71	PN	Pn	11 44 36.9	+0.3
FOZ				AML	AML	11 45 14.3	
FOZ				AML	AML	11 45 19.2	
LBZ	**Lake Benmore**		2.32 94	AML	AML	11 45 14.1	
LBZ				AML	AML	11 45 17.4	
TUZ	**Tuapeka**		2.52 132	PN	Pn	11 44 43.4	+0.9
ODZ	**Otahua Downs**		2.74 107	PN	Pn	11 44 45.7	+0.2
WVZ	**Waitaha Valley**		3.00 67	PN	Pn	11 44 48.2	-0.8
RPZ	**Rata Peaks**		3.01 80	PN	Pn	11 44 49.0	-0.3

**IDC 13 11:45:19.3±2.0, 37°.38S×73°.75W, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.5/21, mbtmp3.3/4, ML2.8/1, Error ellipse: s-maj=55.5km

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.07**	**254**	*e*P		**Pg**	**12 07 44.2**	**+0.3**
WDLM				*e*S		**Sg**	**12 07 45.5**	**0.0**
WDLM					AML	AML	12 07 46.6	
	comp=Z,6μm,0.5s							
KLOF	**Kloof**	**0.11**	**61⇓**	*e*P		**Pg**	**12 07 44.4**	**-0.1**
KLOF				*e*S		**Sg**	**12 07 45.4**	**-1.1**
KLOF					AML	AML	12 07 46.1	
	comp=Z,8μm,0.3s							
CRWM	**Crown Mines**	**0.49**	**70⇓**	*e*P		**Pg**	**12 07 51.4**	**+0.1**
CRWM				*e*S		**Sg**	**12 07 57.0**	**-0.8**
CRWM					AML	AML	12 07 58.3	
	comp=Z,284nm,0.2s							
PRYS	**Parys**	**0.53**	**193⇓**	*e*P		**Pb**	**12 07 53.0**	**-0.3**
PRYS				*e*S		**Sb**	**12 08 00.3**	**-0.9**
PRYS					AML	AML	12 08 05.3	
	comp=Z,859nm,0.8s							
OBSV	**Observatory**	**0.56**	**67⇓**	*e*P		**Pg**	**12 07 52.4**	**-0.2**
OBSV				*e*S		**Sg**	**12 07 59.0**	**-1.0**
OBSV					AML	AML	12 08 05.3	
	comp=Z,205nm,0.3s							
ERPM	**east rand prop**	**0.67**	**85⇓**	*e*P		**Pg**	**12 07 54.8**	**+0.2**
ERPM				*e*S		**Sg**	**12 08 02.7**	**-0.7**
ERPM					AML	AML	12 08 11.7	
	comp=Z,213nm,0.5s							
KSR	**Koster**	**0.77**	**315**	*e*P		**Pg**	**12 07 55.3**	**-1.2**
KSR				*e*S		**Sg**	**12 08 07.1**	**+0.5**
KSR					AML	AML	12 08 12.3	
	comp=Z,428nm,0.8s							
BFSD	**Buffelsfontein**	**0.79**	**234**	*e*P		Pn	12 08 13.8	+15
BFSD				*e*S		Sn	12 08 29.9	+19
BFSD					AML	AML	12 08 31.8	
	comp=Z,736nm,0.1s							
MOAB	**Moab Khotsong**	**0.85**	**227**	*e*P		**Pg**	**12 07 57.6**	**-0.5**
MOAB				*e*S		**Sg**	**12 08 09.6**	**+0.3**
MOAB					AML	AML	12 08 21.1	
	comp=Z,281nm,0.8s							
TLEK	**Tau Lekoa**	**0.93**	**233**	*e*P		**Pg**	**12 07 59.6**	**+0.1**
TLEK				*e*S		**Sb**	**12 08 13.1**	**+0.6**
TLEK					AML	AML	12 08 17.1	
	comp=Z,251nm,0.3s							
SEK	**Senekal**	**1.91**	**177⇓**	*e*P		**Pb**	**12 08 17.4**	**+0.5**
SEK				*e*S		**Sn**	**12 08 39.5**	**+0.6**
SEK					AML	AML	12 08 43.6	
	comp=Z,232nm,0.5s							
SWZ	**Schweizer**	**2.08**	**248⇓**	*e*P		**Pb**	**12 08 19.7**	**-0.1**
SWZ				*e*S		**Sn**	**12 08 45.1**	**+1.9**
SWZ					AML	AML	12 08 47.3	
	comp=Z,298nm,0.7s							
LBTB	**Lobatse**	**2.20**	**308**	*e*P		**Pn**	**12 08 20.1**	**+1.5**
LBTB				*e*S		**Sn**	**12 08 47.1**	**+1.1**
LBTB					AML	AML	12 08 50.7	
	comp=Z,349nm,0.4s							
LBTB	**Lobatse**	**2.20**	**308**	Pn		**Pn**	**12 08 20.1**	**+1.5**
LBTB				Pg		**Pb**	**12 08 21.4**	**-0.4**
LBTB				Lg		Lg	12 08 49.3	
LBTB				Rg		Rg	12 08 57.7	
BOSA	**Boshof**	**2.97**	**222⇓**	*e*P		**Pn**	**12 08 30.0**	**+0.9**
BOSA				*e*S		**Sn**	**12 09 04.4**	**-0.5**
BOSA					AML	AML	12 09 13.0	
	comp=Z,81nm,0.3s							
BOSA	**Boshof**	**2.97**	**222**	Pn		**Pn**	**12 08 29.9**	**+0.8**
	comp=Z,4.7nm,0.3s,baz=40,slow=13,SNR=19							
BOSA				Pg		**Pg**	**12 08 37.0**	**-1.6**
	comp=Z,7.9nm,0.3s,baz=44,slow=16,SNR=14							
BOSA				Sn		**Sn**	**12 09 04.4**	**-0.5**
	comp=Z,3.7nm,0.3s,baz=86,slow=9.0,SNR=2.5							
BOSA				Lg		Lg	12 09 12.5	
	comp=Z,31nm,0.3s,baz=27,slow=15,SNR=13							
BOSA	**Boshof**	**2.97**	**222**	*i* P		**Pn**	**12 08 30.1**	**+1.0**
BOSA				*i*			12 08 30.2	
	baz=43,slow=22							
BOSA				*i* S		**Sn**	**12 09 03.1**	**-1.8**
KSD	**Kokstad**	**4.45**	**158**	*e*P		**Pn**	**12 08 50.9**	**+1.3**
KSD				*e*S		**Sn**	**12 09 42.6**	**+0.9**
KSD					AML	AML	12 10 09.0	
	comp=Z,15nm,0.4s							
HVD	**Gariep Dam**	**4.54**	**202**	*e*P		**Pn**	**12 08 51.2**	**+0.4**
HVD				*e*S		**Sn**	**12 09 43.3**	**-0.5**
HVD					AML	AML	12 10 10.3	
	comp=Z,22nm,0.6s							
MOPA	**Mopani**	**4.56**	**52**	*e*P		**Pn**	**12 08 50.5**	**-0.4**
MOPA				*e*S		**Sn**	**12 09 42.0**	**-2.1**
MOPA					AML	AML	12 10 05.3	
	comp=Z,158nm,0.4s							
MSNA	**Messina**	**4.65**	**30⇓**	*e*P		**Pn**	**12 08 55.1**	**+2.9**
MSNA				*e*S		**Sn**	**12 09 44.2**	**-2.2**
MSNA					AML	AML	12 10 16.5	
	comp=Z,27nm,0.8s							
MATP	**Matopo**	**6.02**	**9**	*i* P		**Pn**	**12 09 12.1**	**+0.9**
MATP				*i*			12 09 12.1	
	baz=193,slow=16							
MATP				*i* S		Sn	12 10 02.3	-18
GRM	**Grahamstown**	**6.94**	**187**	*e*P		**Pn**	**12 09 24.9**	**+1.3**
GRM				*e*S		**Sn**	**12 10 42.4**	**-0.3**
GRM					AML	AML	12 11 28.2	
	comp=Z,16nm,0.6s							
BUFB	**Buffelsbos**	**8.08**	**196**	*e*P		**Pn**	**12 09 40.9**	**+1.7**
BUFB				*e*S		**Sn**	**12 11 06.6**	**-4.1**
BUFB					AML	AML	12 11 09.4	
	comp=Z,3.0nm,0.2s							
SUR	**Sutherland**	**8.33**	**223**	Pn		**Pn**	**12 09 44.3**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=48,slow=9.3,SNR=2.8							
SUR				Sn		**Sn**	**12 11 15.6**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=322,slow=23,SNR=1.9							
SUR				Lg		Lg	12 12 02.1	
	comp=Z,2.0nm,0.3s,baz=298,slow=20,SNR=4.2							
LSZ	**Lusaka**	**11.09**	**3**	Pn		**Pn**	**12 10 19.8**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=186,slow=17,SNR=2.4							
LSZ				Sn		Sn	12 12 17.1	-7.9
	comp=Z,0.4nm,0.3s,baz=126,slow=17,SNR=2.4							
LSZ				Lg		Lg	12 13 25.2	
	comp=Z,0.2nm,0.3s,baz=91,slow=16,SNR=2.7							
TSUM	**Tsumeb**	**11.61**	**306**	Pn		**Pn**	**12 10 27.5**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=121,slow=9.4,SNR=2.8							
TSUM				Sn		Sn	12 12 24.1	-14
	comp=Z,0.2nm,0.3s,baz=64,slow=21,SNR=1.0							
TSUM				Lg		Lg	12 13 42.7	
	comp=Z,0.2nm,0.3s,baz=83,slow=18,SNR=2.2							
TORD	**Torodi Ar. Bea**	**46.64**	**324**	P		**P**	**12 16 10.3**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=133,slow=6.6,SNR=4.9							
MKAR	**Makanchi Array**	**88.06**	**34**	P		**P**	**12 20 33.6**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=242,slow=5.1,SNR=4.9							

CSEM ***13*** *12:20:24.4±0.1, 40.°41N×21.°90E, h2km, MD3.2, Error ellipse: s-maj=2.7km s-min=2.4km az=171.0*
SKO ***13*** *12:20:24.6, 40.°35N×21.°81E, h17km, M1.7, ML2.0*
ATH ***13*** *12:20:24.9, 40.°39N×21.°89E, h6km±6km, MD3.2/16*
THE ***13*** *12:20:24.6, 40.°42N×21.°86E, h8km±1km, ML2.1/4, Error ellipse: s-maj=1.7km s-min=0.4km az=235.0*
ISC 13 12:20:24.4±0.9, 40.°42N±0.°02×21.°88E±0.°02, h6km±8km, n53, σ0.9 43/83, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KZN	**Kozani**	**0.14**	**217**	P		**Pg**	**12 20 27.2**	**-0.1**
KZN				S		**Sg**	**12 20 29.6**	**+0.2**
KZN	**Kozani**	**0.14**	**217**	*e*PG		**Pg**	**12 20 27.3**	**-0.1**
KZN	**Kozani**	**0.14**	**217**	*e*Pg		**Pg**	**12 20 27.3**	**-0.1**
KZN				S		**Sg**	**12 20 29.6**	**+0.2**
FNA	**Florina**	**0.53**	**313**	P		**Pg**	**12 20 34.6**	**-0.1**
FNA				S		**Sg**	**12 20 42.2**	**+0.6**
FNA	**Florina**	**0.53**	**313**	*e*PB		**Pg**	**12 20 34.7**	**0.0**
FNA				*e*SB		**Sb**	**12 20 43.5**	**-0.6**
FNA	**Florina**	**0.53**	**313**	*e*Pb		**Pg**	**12 20 34.7**	**0.0**
FNA				S		**Sg**	**12 20 42.2**	**+0.6**
FNA				*e*Sb		**Sb**	**12 20 43.5**	**-0.6**
LIT	**Litokhoron**	**0.56**	**124**	P		**Pg**	**12 20 35.2**	**-0.1**
LIT				S		**Sb**	**12 20 44.1**	**-0.9**
LIT	**Litokhoron**	**0.56**	**124**	*e*PB		**Pg**	**12 20 35.9**	**+0.6**
LIT				*e*SB		**Sg**	**12 20 42.9**	**+0.3**
LIT	**Litokhoron**	**0.56**	**124**	P		**Pg**	**12 20 35.2**	**-0.1**
LIT	**Litokhoron**	**0.56**	**124**	*e*Pb		**Pg**	**12 20 35.9**	**+0.6**
LIT				*e*Sb		**Sg**	**12 20 42.9**	**+0.3**
LIT				S		**Sb**	**12 20 44.1**	**-0.9**
NEST	**Nestorio**	**0.64**	**270**	*e*PB		**Pg**	**12 20 36.4**	**-0.3**
NEST				*e*SB		**Sb**	**12 20 46.9**	**-0.3**
NEST	**Nestorio**	**0.64**	**270**	*e*Pb		**Pg**	**12 20 36.4**	**-0.3**
NEST				*e*Sb		**Sb**	**12 20 46.9**	**-0.3**
GRG	**Griva**	**0.67**	**36**	P		**Pg**	**12 20 37.3**	**0.0**
GRG	**Griva**	**0.67**	**36**	P		**Pg**	**12 20 37.3**	**0.0**
THE	**Thessaloniki**	**0.85**	**75**	*e*PB		**Pb**	**12 20 41.4**	**-0.2**
THE	**Thessaloniki**	**0.85**	**75**	*e*Pb		**Pb**	**12 20 41.4**	**-0.2**
THL	**Klokotos Trika**	**0.86**	**173**	P		**Pg**	**12 20 40.8**	**-0.2**
THL				S		**Sb**	**12 20 53.3**	**-0.2**
THL	**Klokotos Trika**	**0.86**	**173**	*e*PB		**Pb**	**12 20 41.4**	**-0.4**
THL				*e*SB		**Sg**	**12 20 51.9**	**-0.2**
THL	**Klokotos Trika**	**0.86**	**173**	P		**Pg**	**12 20 40.8**	**-0.2**
THL	**Klokotos Trika**	**0.86**	**173**	*e*Pb		**Pb**	**12 20 41.4**	**-0.4**
THL				*e*Sb		**Sg**	**12 20 51.9**	**-0.2**
THL				S		**Sb**	**12 20 53.3**	**-0.2**
HORT	**Hortiatis**	**0.94**	**79**	*e*PB		**Pg**	**12 20 43.0**	**+0.4**
HORT				*e*SB		**Sb**	**12 20 56.1**	**0.0**
HORT	**Hortiatis**	**0.94**	**79**	*e*Pb		**Pg**	**12 20 43.0**	**+0.4**
HORT				*e*Sb		**Sb**	**12 20 56.1**	**0.0**
VAY	**Valandovo**	**1.04**	**30**	*i* Pg		**Pn**	**12 20 45.6**	**+0.1**
VAY				*i* Sg		**Sn**	**12 21 01.8**	**+1.4**
VAY				*i* Lg		Lg	12 21 08.6	
	comp=E,25nm,0.7s							
VAY				*i* Lg		Lg	12 21 11.4	
	comp=N,65nm,1.0s							
VAY	**Valandovo**	**1.04**	**30**	*i* Pg		**Pn**	**12 20 45.6**	**+0.1**
VAY				*i* Sg		**Sn**	**12 21 01.8**	**+1.4**
VAY				*i* Lg		Lg	12 21 08.6	
	comp=N,25nm,0.7s							
KNT	**Kendrikon**	**1.07**	**46**	*e*PG		**Pg**	**12 20 44.5**	**-0.5**
KNT				*e*SB		**Sn**	**12 21 00.5**	**-0.7**
KNT	**Kendrikon**	**1.07**	**46**	*e*Pg		**Pg**	**12 20 44.5**	**-0.5**
KNT				*e*Sb		**Sn**	**12 21 00.5**	**-0.7**
OHR	**Ohrid**	**1.07**	**310**	*i* Pg		**Pg**	**12 20 45.1**	**0.0**
OHR				*i* Sg		**Sg**	**12 20 59.1**	**0.0**
OHR				*i* Lg		Lg	12 21 10.5	
	comp=N,78nm,1.2s							
OHR				*i* Lg		Lg	12 21 18.0	
	comp=E,48nm,0.8s							
OHR	**Ohrid**	**1.07**	**310**	*i* Pg		**Pg**	**12 20 45.0**	**0.0**
OHR				*i* Sg		**Sg**	**12 20 59.0**	**0.0**
OHR				*i* Lg		Lg	12 21 10.5	
	comp=E,78nm,1.2s							
SOH	**Sokhos**	**1.19**	**70**	P		**Pb**	**12 20 46.8**	**-0.6**
SOH	**Sokhos**	**1.19**	**70**	*e*PB		**Pn**	**12 20 47.6**	**-0.1**
SOH	**Sokhos**	**1.19**	**70**	P		**Pb**	**12 20 46.8**	**-0.6**
SOH	**Sokhos**	**1.19**	**70**	*e*Pb		**Pn**	**12 20 47.6**	**-0.1**
PLG	**Polygyros**	**1.19**	**92**	*e*PG		**Pb**	**12 20 47.0**	**-0.5**
PLG				*e*SB		**Sg**	**12 21 02.4**	**-0.4**
PLG	**Polygyros**	**1.19**	**92**	*e*Pg		**Pb**	**12 20 47.0**	**-0.5**
PLG				*e*Sb		**Sg**	**12 21 02.4**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.42**	**172**	*e*PB		**Pg**	**12 20 51.6**	**0.0**
MAKR	**Makrakomi, Fth**	**1.42**	**172**	*e*Pb		**Pg**	**12 20 51.6**	**0.0**
AGG	**Agios Georgios**	**1.44**	**166**	*e*PB		**Pb**	**12 20 51.7**	**0.0**
AGG				*e*SB		**Sb**	**12 21 10.0**	**-0.2**
AGG	**Agios Georgios**	**1.44**	**166**	*e*Pb		**Pb**	**12 20 51.7**	**0.0**
AGG				*e*Sb		**Sb**	**12 21 10.0**	**-0.2**
XOR	**Xorichti**	**1.46**	**136**	*e*PB		**Pb**	**12 20 52.0**	**0.0**
XOR	**Xorichti**	**1.46**	**136**	*e*Pb		**Pb**	**12 20 52.0**	**0.0**
PAIG	**Paliouri**	**1.46**	**109**	*e*PG		**Pb**	**12 20 51.7**	**-0.3**
PAIG	**Paliouri**	**1.46**	**109**	*e*Pg		**Pb**	**12 20 51.7**	**-0.3**
SRS	**Serrai**	**1.47**	**61**	*e*PG		**Pb**	**12 20 52.5**	**+0.2**
SRS	**Serrai**	**1.47**	**61**	*e*Pg		**Pb**	**12 20 52.5**	**+0.2**
IGT	**Igoumenitsa**	**1.48**	**234**	*e*PB		**Pg**	**12 20 52.9**	**0.0**
IGT				*e*SB		**Sg**	**12 21 12.4**	**+0.2**
IGT	**Igoumenitsa**	**1.48**	**234**	*e*Pb		**Pg**	**12 20 52.9**	**0.0**
IGT				*e*Sb		**Sg**	**12 21 12.4**	**+0.2**
EVR	**Evrytania**	**1.50**	**182**	*e*PG		**Pn**	**12 20 52.3**	**+0.3**
EVR	**Evrytania**	**1.50**	**182**	*e*Pg		**Pn**	**12 20 52.3**	**+0.3**
OUR	**Ouranopolis**	**1.61**	**92**	*e*PG		**Pb**	**12 20 54.6**	**+0.1**
OUR	**Ouranopolis**	**1.61**	**92**	*e*Pg		**Pb**	**12 20 54.6**	**+0.1**
KEK	**Kerkira**	**1.75**	**247**	*e*PN		**Pg**	**12 20 58.0**	**0.0**
KEK	**Kerkira**	**1.75**	**247**	*e*Pn		**Pg**	**12 20 58.0**	**0.0**
MRKA	**Markates**	**2.16**	**142**	*e*PB		**Pn**	**12 21 01.9**	**+0.9**

KRSC ***13*** *12:21:49.4±1.3, 52.°68N×160.°79E, h16km±20km, ML3.8*
IDC ***13*** *12:21:51.4±4.2, 52.°01N×160.°30E, h47km±26km, mb3.3/4, mb1 3.5/5, mb1mx3.0/46, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=78.5km s-min=16.5km az=16.0*
ISC 13 12:21:49.8±1.0, 52.°52N±0.°07×160.°69E±0.°05, h20km±6km, n35, σ1.9 33/45, mb3.6/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
UGLR	**Uglovaya**	**1.32**	**302**	*e*P		**Pn**	**12 22 13.0**	**-0.2**
UGLR				*e*S		**Sn**	**12 22 30.0**	**-0.2**
SDLR	**Sedlovina**	**1.33**	**305**	*e*P		**Pn**	**12 22 12.8**	**-0.5**
SDLR				*e*S		**Sb**	**12 22 30.5**	**-0.2**
RUS	**Russkaya**	**1.33**	**267**	*e*P		**Pb**	**12 22 14.7**	**+0.7**
RUS				S		**Sb**	**12 22 31.8**	**+1.1**
PET	**Petropavlovsk**	**1.33**	**293**	*e*P		**Pn**	**12 22 13.3**	**+0.1**
PET				S		**Sn**	**12 22 30.2**	**-0.1**
SMAR	**Somma**	**1.36**	**304**	*e*P		**Pn**	**12 22 13.8**	**0.0**
SMAR				*e*S		**Sb**	**12 22 31.8**	**0.0**
AVH	**Avacha**	**1.40**	**303**	*e*P		**Pn**	**12 22 14.1**	**-0.1**
KRER	**Koryakskii**	**1.41**	**304**	*e*P		**Pn**	**12 22 14.4**	**-0.1**
KOK	**Koryaka**	**1.46**	**303**	*e*P		**Pn**	**12 22 15.1**	**0.0**
KRX	**Arik**	**1.49**	**305**	*e*P		**Pn**	**12 22 15.1**	**-0.4**
KRX				S		**Sn**	**12 22 32.5**	**-2.0**
MTVR	**Mutnovka**	**1.53**	**269**	*e*P		**Pb**	**12 22 18.0**	**+0.5**
MTVR				S		**Sb**	**12 22 37.4**	**+0.9**
KII	**Karymskiy**	**1.69**	**334**	*e*P		**Pn**	**12 22 18.0**	**-0.2**
KII				*e*S		**Sn**	**12 22 37.2**	**-2.0**
PETK	**Petropavlovsk-**	**1.91**	**289**	P		**Pn**	**12 22 22.2**	**+1.1**
	38nm,0.3s,baz=103,slow=18,SNR=236							
PETK				S		**Sn**	**12 22 45.5**	**+1.0**
	8.7nm,0.3s,baz=102,slow=19,SNR=5.2							
GNL	**Ganaly**	**2.03**	**306**	*e*P		**Pn**	**12 22 24.1**	**+1.2**
GNL				*e*S		**Sb**	**12 22 49.4**	**-1.4**
MKZ	**Mys Kozlova**	**2.13**	**17**	*e*P		**Pn**	**12 22 23.5**	**-0.6**
MKZ				*e*S		**Sn**	**12 22 47.8**	**-2.1**
APC	**Apacha**	**2.19**	**282**	*e*P		**Pb**	**12 22 27.6**	**-0.9**
APC				*e*S		**Sb**	**12 22 54.8**	**-0.3**
MIPR	**Malaya Ipel'ka**	**2.42**	**266**	P		**Pb**	**12 22 32.1**	**-0.5**
MIPR				*e*S		**Sb**	**12 23 02.2**	**+0.2**
TUMR	**Tumrok**	**2.78**	**354**	*e*P		**Pn**	**12 22 34.4**	**+1.1**
TUMR				*e*S		**Sn**	**12 23 06.4**	**+0.1**
KMNR	**Kamenistaya**	**3.25**	**355**	P		**Pn**	**12 22 41.8**	**+2.2**
ESO	**Esso**	**3.60**	**342**	*e*P		**Pn**	**12 22 45.5**	**+1.1**
SRDR	**Sredinnyy**	**3.84**	**352**	*e*P		**Pn**	**12 22 49.2**	**+1.4**
KBTR	**Krutoberegovo**	**3.90**	**18**	*e*P		**Pn**	**12 22 48.9**	**+0.5**
KBG	**Krutoberegovo**	**3.92**	**17**	*e*P		**Pn**	**12 22 48.5**	**-0.2**
SMKR	**Semkarok**	**4.09**	**6**	P		**Pn**	**12 22 53.5**	**+2.3**
SMKR				S		**Sn**	**12 23 39.5**	**+1.0**
SRKR	**Sorokina**	**4.15**	**4**	*e*P		**Pn**	**12 22 53.9**	**+1.9**
FX1	**Attu Island--F**	**7.59**	**82**	P		**Pn**	**12 23 41.8**	**+2.6**
	2.5nm,0.3s,baz=318,slow=5.7,SNR=19							
FX1				S		**Sn**	**12 25 01.0**	**-3.4**
	5.6nm,0.3s,baz=93,slow=13,SNR=9.2							
H11N2	**WAKE ISLAND Hy**	**33.08**	**169**	T		T	13 03 54.5	
	baz=353,slow=76,SNR=32							
H11N3	**WAKE ISLAND Hy**	**33.10**	**169**	T		T	13 03 54.7	
	baz=353,slow=76,SNR=40							
H11N1	**WAKE ISLAND Hy**	**33.10**	**169**	T		T	13 03 55.3	
	baz=353,slow=76,SNR=48							
H11S1	**WAKE ISLAND Hy**	**34.27**	**170**	T		T	13 05 15.5	
	baz=352,slow=76,SNR=6.0							
H11S3	**WAKE ISLAND Hy**	**34.28**	**170**	T		T	13 05 15.2	
	baz=352,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**34.29**	**170**	T		T	13 05 15.5	
	baz=352,slow=76,SNR=5.3							
KURBB	**Kurchatov Arra**	**48.44**	**303**	P		**P**	**12 30 28.6**	**-1.7**
	0.5nm,0.7s,baz=60,slow=7.4,SNR=5.2							
MKAR	**Makanchi Array**	**48.73**	**296**	P		**P**	**12 30 31.0**	**-1.6**
	0.3nm,0.5s,baz=54,slow=8.0,SNR=9.8							
FINES	**FINESS Array B**	**60.79**	**337**	P		**P**	**12 31 59.7**	**+0.1**
	0.7nm,0.5s,baz=34,slow=8.1,SNR=11							
TXAR	**Lajitas Array**	**70.53**	**67**	P		**P**	**12 33 05.3**	**+2.2**
	0.2nm,0.7s,baz=317,slow=6.2,SNR=3.2							

IDC ***13*** *12:33:40.7±5.0, 26.°03N×129.°13E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/32, mbtmp3.5/3, Error ellipse: s-maj=356.6km s-min=27.4km az=69.0*
JMA ***13*** *12:33:45.0±0.3, 26.°02N×128.°56E, h41km±5km, M3.1*
ISC 13 12:33:42.1±1.7, 25.°91N±0.°04×128.°62E±0.°04, h17km±11km, n18, σ1.9 72/32, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.81**	**318**	P		**Pb**	**12 33 58.1**	**+0.4**
JNTH				S		**Sg**	**12 34 07.5**	**-1.2**
JJT2	**Tamagusuku 2**	**0.82**	**286**	P		**Pn**	**12 33 59.1**	**+0.3**
JJT2				S		**Sb**	**12 34 09.8**	**+1.2**
JOW	**Kunigami**	**0.97**	**341**	P		**Pg**	**12 34 00.9**	**0.0**
JOW				S		**Sb**	**12 34 11.8**	**-1.2**
JIH	**Iheya**	**1.27**	**332**	P		**Pn**	**12 34 05.3**	**+0.3**
JIH				S		**Sb**	**12 34 20.2**	**-1.2**
JAGN	**Aguni-jima**	**1.41**	**299**	P		**Pn**	**12 34 07.3**	**+0.3**
JAGN				S		**Sn**	**12 34 24.5**	**-0.7**
JOKE	**Okinoerabujima**	**1.45**	**358**	P		**Pn**	**12 34 07.8**	**+0.3**
JOKE				*e*S		**Sn**	**12 34 24.5**	**-1.6**
JKE	**Kume jima 2**	**1.70**	**284**	P		**Pn**	**12 34 10.9**	**-0.1**
JKE				*e*S		**Sn**	**12 34 29.9**	**-2.5**
JTK	**Tokunoshima**	**1.89**	**9**	P		**Pn**	**12 34 14.1**	**+0.5**
JMZ	**Minamidaito 2**	**2.34**	**92**	P		**Pn**	**12 34 19.6**	**-0.2**
JMZ				S		**Sn**	**12 34 44.4**	**-3.7**
JAMN	**Amaminishikomi**	**2.37**	**12**	P		**Pn**	**12 34 20.7**	**+0.5**
JAMN				S		**Sn**	**12 34 47.0**	**-1.9**
JAM	**Amami Oshima**	**2.64**	**19**	P		**Pn**	**12 34 24.1**	**+0.2**
JAM				*e*S		**Sn**	**12 34 53.3**	**-2.2**
JOGS	**Gusukube**	**3.13**	**249**	P		**Pn**	**12 34 31.3**	**+0.7**
JOGS				*e*S		**Sn**	**12 35 06.4**	**-1.2**
JTJ	**Tarama**	**3.77**	**251**	P		**Pn**	**12 34 39.2**	**-0.2**
JTJ				S		**Sn**	**12 35 20.3**	**-3.1**
JISG	**Ishigakijimahi**	**4.12**	**252**	P		**Pn**	**12 34 43.5**	**-0.8**
JISG				S		**Sn**	**12 35 28.0**	**-4.1**
JKRS	**Kuro-shima**	**4.50**	**249**	P		**Pn**	**12 34 49.2**	**-0.3**
JKRS				*e*S		**Sn**	**12 35 39.6**	**-1.9**
SONM	**Songino Array**	**28.01**	**327**	P		**P**	**12 39 34.8**	**+2.5**
	0.4nm,0.4s,baz=142,slow=11,SNR=8.8							
WRA	**Warramunga Arr**	**45.92**	**173**	P		**P**	**12 42 05.3**	**+1.3**
	0.3nm,0.5s,baz=354,slow=8.6,SNR=5.0							
ASAR	**Alice Springs**	**49.55**	**174**	P		**P**	**12 42 34.3**	**+2.1**
	0.3nm,0.7s,baz=3.7,slow=15,SNR=2.4							

IDC ***13*** *12:39:59.4±0.8, 34.°50S×71.°86W, h0km, mb4.2/7, mb1 4.3/9, mb1mx4.1/24, mbtmp4.2/9, ML3.6/2, Error ellipse: s-maj=25.1km s-min=17.9km az=109.0*
ISCJB ***13*** *12:40:00.1±1.9, 34.°45S±0.°02×71.°88W±0.°05, h14km±13km, mb4.3/11, Error ellipse: s-maj=7.6km s-min=3.9km az=13.4*
GUC ***13*** *12:40:01.1±0.5, 34.°49S×71.°80W, h57km±11km, ML4.4*
NEIC ***13*** *12:40:04.8±0.5, 34.°45S×71.°86W, h35km, mb4.4/5, Error ellipse: s-maj=13.2km s-min=8.7km az=77.0*
ISC 13 12:39:59.4±1.8, 34.°45S±0.°03×71.°83W±0.°07, h0km±11km, n36, σ1.9 20/38, mb4.3/11, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
NICH	**Los Niches**	**0.74**	**138⇓**	*i*P		**Pb**	**12 40 15.2**	**0.0**
NICH				*i* S		**Sb**	**12 40 25.8**	**-0.1**
TALC	**Talca**	**0.96**	**170**	*i* P		**Pg**	**12 40 17.8**	**-0.1**
TALC				*i* S		**Sb**	**12 40 31.0**	**-1.2**
TACH	**Talagante**	**1.09**	**43⇓**	*i*P		**Pg**	**12 40 20.4**	**+0.1**
TACH				*i* S		**Sb**	**12 40 35.8**	**0.0**
ANTU	**Antumapu**	**1.33**	**49**	*e*P		**Pn**	**12 40 24.3**	**-0.9**
ANTU				*i* S		**Sg**	**12 40 41.5**	**-0.5**
ANTU				IAML			12 40 46.5	
	comp=N,9μm,0.8s							
SAN	**Santiago**	**1.39**	**45**	*e*P		**Pn**	**12 40 25.0**	**-1.1**
SAN				*i* S		**Sb**	**12 40 43.5**	**-1.1**
LNCH	**Linares**	**1.41**	**172⇓**	*i*P		**Pn**	**12 40 25.3**	**-1.0**
LNCH				*e*S		**Sb**	**12 40 42.8**	**-2.2**
STL

δ24.00000°, λ-82.00000°. Principal axes: T Plg21.0000°, Azm298.0000°; N Plg3.0000°, Azm207.0000°; P Plg69.0000°, Azm108.0000°;

JMA Felt IV J1.

NEIC **13** 12:46:26.1±0.0, 38°.02N×142°.52E, h69km, Moment Tensor Solution. s125 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.49; $M_{\theta\theta}$0.22; $M_{\phi\phi}$2.27; $M_{r\theta}$0.42; $M_{\theta\phi}$0.31; $M_{r\phi}$0.54; Best double couple: $M_0$2.50000×10^{17} NP1:ϕ_s195.00000°, δ52.00000°, λ-81.00000°. NP2:ϕ_s2.00000°, δ38.00000°, λ-100.00000°. Principal axes: T 2.3900, Plg7.0000°, Azm279.0000°; N 0.2100, Plg6.0000°, Azm10.0000°; P -2.6000, Plg80.0000°, Azm143.0000°;

IDC **13** 12:46:26.1±0.4, 37°.53N×141°.35E, h76km±2km, mb5.3/30, mb1 5.4/32, mb1mx5.4/32, mbtmp5.6/32, MS4.5/26, Ms1 4.5/26, ms1mx4.5/28 Error ellipse: s-maj=9.4km s-min=8.5km az=84.0

GCMT **13** 12:46:26.4±0.1, 37°.62N×141°.45E, h75km, MW5.5/117, Moment Tensor Solution. s102,c180; s117,c244; Duration: 1ꝑ4 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.11±.03; $M_{\theta\theta}$0.25±.03; $M_{\phi\phi}$1.86±.03; $M_{r\theta}$0.52±.02; $M_{\theta\phi}$0.79±.03; $M_{r\phi}$0.67±.03; Best double couple: $M_0$2.30800×10^{17} NP1:ϕ_s208.00000°, δ56.00000°, λ-83.00000°. NP2:ϕ_s16.00000°, δ35.00000°, λ-100.00000°. Principal axes: T 2.3340, Plg10.0000°, Azm293.0000°; N -0.0540, Plg6.0000°, Azm24.0000°; P -2.2820, Plg78.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

ISCJB **13** 12:46:26.6±0.2, 37°.61N±0°.01×141°.34E±0°.01, h89km±1km, mb5.6/459 Error ellipse: s-maj=2.5km s-min=1.7km az=153.1

ISC 13 12:46:26.4±0.2, 37°.59N±0°.03×141°.36E±0°.02, h78km±1km, h78km:pP-P, n1757, σ1°15/2132, mb5.7/470, 319C-416D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.45**	**240**	⇓P	**Pn**	**12 46 40.5**	**+1.0**
JFK				S	**Sn**	**12 46 50.7**	**+1.4**
JMM	**Marumori**	**0.53**	**302**	⇓P	**Pn**	**12 46 41.3**	**+1.1**
JMM				S	**Sn**	**12 46 51.9**	**+1.5**
ONAJ	**Iwakimizuishiy**	**0.66**	**223**	⇓P	**Pn**	**12 46 42.7**	**+1.1**
ONAJ				S	**Sn**	**12 46 53.9**	**+1.1**
JFT	**Otama**	**0.82**	**265**	⇓P	**Pn**	**12 46 44.8**	**+1.6**
JFT				*e*S	**Sn**	**12 46 57.8**	**+2.1**
JIO	**Ouri**	**0.86**	**359**	⇓P	**Pn**	**12 46 43.9**	**+0.2**
JIO				S	**Sn**	**12 46 56.3**	**-0.3**
JOU	**Okura**	**0.95**	**325**	⇓P	**Pn**	**12 46 45.6**	**+0.8**
JOU				S	**Sn**	**12 46 59.5**	**+1.0**
JHO	**Hitachi**	**1.16**	**213**	⇓P	**Pn**	**12 46 48.0**	**+0.7**
JYS	**Shiratake**	**1.20**	**302**	⇑P	**Pn**	**12 46 49.3**	**+1.5**
JYS				*e*S	**Sn**	**12 47 05.9**	**+2.0**
JSB	**Shiboa**	**1.30**	**242**	⇓P	**Pn**	**12 46 51.0**	**+1.9**
JFY	**Yanaizu**	**1.33**	**263**	⇑P	**Pn**	**12 46 51.2**	**+1.8**
JFY				*e*S	**Sn**	**12 47 09.8**	**+3.0**
JMK	**Ichinoseki**	**1.37**	**355**	⇑P	**Pn**	**12 46 50.0**	**+0.1**
JMK				S	**Sn**	**12 47 07.4**	**-0.2**
OFUJ	**Ofunato**	**1.51**	**9**	⇑P	**Pn**	**12 46 51.5**	**-0.2**
JYK	**Kaneyama**	**1.54**	**330**	⇑P	**Pn**	**12 46 53.3**	**+1.1**
JYK				S	**Sn**	**12 47 13.4**	**+1.7**
JNS	**Sasagawa**	**1.64**	**279**	⇑P	**Pn**	**12 46 55.2**	**+1.8**
JYA	**Atsumi**	**1.64**	**308**	⇑P	**Pn**	**12 46 54.9**	**+1.4**
JYA				S	**Sn**	**12 47 16.2**	**+2.2**
JKT	**Katashina**	**1.88**	**245**	⇑P	**Pn**	**12 46 59.2**	**+2.6**
JOM	**Ohasama**	**1.88**	**358**	⇑P	**Pn**	**12 46 56.7**	**+0.1**
JOM				*e*S	**Sn**	**12 47 18.8**	**-0.9**
JRG	**Rokugo**	**1.89**	**343**	⇑P	**Pn**	**12 46 57.8**	**+1.0**
JRG				*e*S	**Sn**	**12 47 20.5**	**+0.6**
JAG	**Ashikaga**	**1.92**	**233**	⇓P	**Pn**	**12 46 58.9**	**+1.8**
MIYJ	**Miyakonagasawa**	**2.02**	**10**	⇑P	**Pn**	**12 46 57.9**	**-0.5**
JTB	**Tobi-shima**	**2.14**	**319**	⇑P	**Pn**	**12 47 01.3**	**+1.2**
JYW	**Yuwa**	**2.15**	**336**	⇑P	**Pn**	**12 47 01.1**	**+0.9**
JTH	**Tanohata**	**2.38**	**9**	P	**Pn**	**12 47 03.0**	**-0.3**
JKZ	**Kuzumaki**	**2.39**	**359**	⇑P	**Pn**	**12 47 03.5**	**0.0**
JGK	**Kuni**	**2.41**	**246**	⇑P	**Pn**	**12 47 06.3**	**+2.6**
JRY	**Ryogami san**	**2.52**	**232**	⇑P	**Pn**	**12 47 07.1**	**+1.9**
JOG2	**Oga 2**	**2.63**	**333**	⇑P	**Pn**	**12 47 07.7**	**+1.1**
JAH	**Hinai**	**2.66**	**348**	⇑P	**Pn**	**12 47 08.0**	**+1.0**
MJAR	**Matsushiro Arr**	**2.73**	**248**	P	**Pn**	**12 47 10.4**	**+2.4**
MJAR				S	Sn	12 47 31.8	-8.2
MJAR	comp=Z,967nm,0.3s			pmax	pmax		
MJAR	comp=N,957nm,0.3s			smax	smax		
MJAR	comp=Z,17nm,28.6s			MLR	MLR		
MJAR	**Matsushiro Arr**	**2.73**	**248**	P	**Pn**	**12 47 10.4**	**+2.4**
MJAR	comp=Z,967nm,0.3s,baz=56,slow=10			S	Sn	12 47 31.8	-8.2
MJAR	comp=Z,957nm,0.3s,baz=29,slow=12,SNR=20			LR	LR	12 48 15.8	
MAJO	comp=Z,15μm,20.6s,baz=70,slow=41 **Matsushiro**	**2.73**	**248**	*e*P	**Pn**	**12 47 10.8**	**+2.8**
MAJO				*e*		12 47 31.8	
MAJO	**Matsushiro**	**2.73**	**248**	*e*Pn	**Pn**	**12 47 10.8**	**+2.8**
MAJO				*e*Sn	Sn	12 47 31.8	-8.3
MAT	**Matsushiro**	**2.73**	**248**	P	**Pn**	**12 47 10.9**	**+2.9**
MAT				S	Sn	12 47 46.5	+6.4
MAT	**Matsushiro**	**2.73**	**248**	P	**Pn**	**12 47 10.9**	**+2.9**
JANG	**Nango**	**2.78**	**2**	P	**Pn**	**12 47 08.2**	**-0.5**
JNG	**Nsakai**	**2.86**	**247**	⇑P	**Pn**	**12 47 12.6**	**+2.7**
JOD2	**Odawara 2**	**2.96**	**219**	⇑P	**Pn**	**12 47 12.2**	**+1.1**
JNT	**Takato**	**3.10**	**238**	⇑P	**Pn**	**12 47 15.7**	**+2.5**
JIW	**Iwasaki**	**3.18**	**341**	⇑P	**Pn**	**12 47 15.2**	**+1.1**
JTM	**Tenmabayashi**	**3.20**	**356**	⇑P	**Pn**	**12 47 14.8**	**+0.4**
JTT	**Ttatey**	**3.37**	**254**	⇑P	Pn	12 47 20.0	+3.4
JNY	**Yasuok**	**3.59**	**233**	P	**Pn**	**12 47 22.4**	**+2.6**
JJH	**Hakui**	**3.71**	**261**	⇑P	**Pn**	**12 47 23.7**	**+2.4**
JSR	**Shiriuchi**	**4.00**	**350**	⇑P	**Pn**	**12 47 25.7**	**+0.4**
JGM	**Miyama**	**4.18**	**245**	⇑P	**Pn**	**12 47 30.6**	**+2.8**
JKG	**Kaga**	**4.24**	**254**	⇑P	Pn	12 47 31.6	+3.2
JKB	**Kayabe**	**4.30**	**357**	P	**Pn**	**12 47 28.9**	**-0.4**
JYM2	**Yakumo 2**	**4.59**	**351**	P	**Pn**	**12 47 33.2**	**0.0**
ERM	**Erimo**	**4.63**	**17**	*e*P	**Pn**	**12 47 31.9**	**-1.9**
ERM				*e*		12 48 24.3	
ERM	**Erimo**	**4.63**	**17**	*e*Pn	**Pn**	**12 47 31.9**	**-1.9**
ERM				*e*Sn	**Sn**	**12 48 24.3**	**-2.0**
JHJ2	**Mitsune**	**4.64**	**196**	*e*Pn	**Pn**	**12 47 33.8**	**-0.2**
JHJ2				*e*Sn	**Sn**	**12 48 23.1**	**-3.5**
JFM	**Mihama**	**4.79**	**246**	P	**Pn**	**12 47 39.0**	**+3.0**
JNBK	**Urakawa-nobuka**	**4.81**	**12**	⇑P	**Pn**	**12 47 35.0**	**-1.2**
JBT2	**Biratori 2**	**5.24**	**8**	P	**Pn**	**12 47 40.6**	**-1.5**
JCH	**Churui**	**5.25**	**16**	P	**Pn**	**12 47 40.2**	**-2.0**
JWT	**Wachi**	**5.33**	**246**	⇑P	**Pn**	**12 47 45.9**	**+2.6**
JHE	**Heguri**	**5.45**	**239**	P	**Pn**	**12 47 46.1**	**+1.1**
JKSM	**Kasumi**	**5.75**	**252**	P	**Pn**	**12 47 51.6**	**+2.5**
JWY	**Kouya**	**5.76**	**236**	P	**Pn**	**12 47 50.0**	**+0.6**
JKS	**Kasai**	**5.87**	**246**	P	**Pn**	**12 47 52.6**	**+1.8**
JAJ2	**Tsuna**	**6.13**	**241**	⇑P	**Pn**	**12 47 55.2**	**+0.9**
JKK2	**Kamakawa 2**	**6.37**	**9**	P	**Pn**	**12 47 55.6**	**-1.9**
ASAJ	**Asahikawa**	**6.59**	**8**	P	**Pn**	**12 47 58.6**	**-1.9**
ASAJ				S	Sn	12 49 06.8	-7.3
ASAJ	comp=Z,72nm,0.3s			pmax	pmax		
ASAJ	comp=N,22nm,0.3s			smax	smax		
ASAJ	**Asahikawa**	**6.59**	**8**	P	**Pn**	**12 47 58.6**	**-1.9**
ASAJ	comp=N,72nm,0.3s,baz=217,slow=9.7,SNR=276			S	Sn	12 49 06.8	-7.3
YUK	comp=N,22nm,0.3s,baz=173,slow=26,SNR=4.0 **Yuzh-Kuril'sk**	**7.29**	**27**	⇑*i*P	**Pn**	**12 48 07.1**	**-2.9**
YUK				*i*S	Sn	12 49 22.2	-9.0
YUK	comp=N,254nm,0.3s			pmax	pmax		
YUK	comp=E,242nm,0.3s			pmax	pmax		
YUK	comp=Z,1μm,0.3s			pmax	pmax		
YUK	comp=Z,3μm,1.9s			pmax	pmax		
YUK	comp=N,6μm,2.2s			smax	smax		
YUK	comp=E,10μm,2.8s			smax	smax		
YUK	comp=Z,2μm,5.0s			MLR	MLR		
UWA2	**Uwa jima 2**	**8.36**	**241**	P	**Pn**	**12 48 26.6**	**+1.8**
KUR	**Kuril'sk**	**9.06**	**31**	⇓*i*P	**Pn**	**12 48 32.8**	**-1.5**
KUR				*i*S	Sn	12 50 06.4	-8.2
KUR	comp=Z,351nm,0.6s			pmax	pmax		
KUR	comp=N,142nm,0.6s			pmax	pmax		
KUR	comp=E,259nm,0.6s			pmax	pmax		
KUR	comp=E,847nm,0.4s			smax	smax		
KUR	comp=N,1μm,0.8s			smax	smax		
KUR	comp=E,3μm,5.0s			MLR	MLR		
KUR	comp=Z,4μm,5.0s			MLR	MLR		
KUR	comp=N,4μm,5.0s			MLR	MLR		
VLA	**Vladivostok**	**9.10**	**310**	*i*P	**Pn**	**12 48 36.9**	**+2.1**
VLA				*e*S	**Sn**	**12 50 17.4**	**+2.0**
YSS	**Yuzh-Sakhalins**	**9.42**	**6**	⇑*i*P	**Pn**	**12 48 36.3**	**-2.8**
YSS				*e*S	**Sn**	**12 50 18.0**	**-5.2**
YSS	comp=Z,390nm,0.9s			pmax	pmax		
YSS	comp=N,530nm,1.2s			smax	smax		
YSS	comp=Z,2μm,15.0s			MLR	MLR		
YSS	comp=N,2μm,17.0s			MLR	MLR		
YSS	comp=E,2μm,14.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**9.42**	**6**	*e*Pn	**Pn**	**12 48 37.2**	**-1.9**
KSULJ	**Uljin**	**9.59**	**268**	P	Pn	12 48 44.8	+3.4
JNU	SNR=13 **Nakatsue**	**9.65**	**246**	P	**Pn**	**12 48 44.2**	**+1.8**
JNU	comp=E,4.3nm,0.3s,baz=48,slow=7.8,SNR=74 **Nakatsue**	**9.65**	**246**	*e*Pn	**Pn**	**12 48 42.8**	**+0.3**
USRK	**Ussuriysk Ar.**	**9.69**	**316**	P	**Pn**	**12 48 44.1**	**+1.3**
USRK	comp=E,32nm,0.3s,baz=121,slow=13,SNR=360			LR	LR	12 52 12.4	
KSPHA	comp=E,6μm,20.4s,baz=111,slow=36 **Pohang**	**9.71**	**265**	P	Pn	12 48 46.6	+3.5
KSTBA	SNR=19 **Taebaek**	**9.89**	**271**	P	Pn	12 48 49.7	+4.0
KSJMJ	SNR=44 **Jumunjin**	**9.99**	**276**	P	**Pn**	**12 48 49.7**	**+2.8**
KSDGY	SNR=20 **Daegwallycong**	**10.06**	**274**	P	Pn	12 48 52.1	+4.0
KSSKC	SNR=15 **Sokcho**	**10.17**	**278**	P	**Pn**	**12 48 52.0**	**+2.7**
KSDAG	SNR=22 **Daegu**	**10.18**	**263**	P	Pn	12 48 52.9	+3.4
KSYOW	SNR=7.6 **Yeongwol**	**10.28**	**272**	P	Pn	12 48 54.9	+4.0
SEHB	SNR=38 **SEOHWA**	**10.38**	**278**	P	**Pn**	**12 48 55.3**	**+3.0**
CBIJ	SNR=89 **Chichi jima**	**10.48**	**176**	P	Pn	12 48 50.3	-3.5
CBIJ				*e*Sn	Sn	12 50 37.1	-12
CBIJ				S	Sn	12 50 38.1	-11
JCJ	**Chichijima**	**10.49**	**176**	P	Pn	12 48 50.3	-3.5
JCJ	comp=E,78nm,0.3s,baz=74,slow=4.1,SNR=84			S	Sn	12 50 38.1	-11
KSIJA	comp=E,212nm,0.3s,baz=3.5,slow=19,SNR=7.9 **INJE**	**10.50**	**276**	P	Pn	12 48 57.3	+3.5
KSWJU	SNR=57 **Wonju**	**10.58**	**273**	P	Pn	12 48 58.5	+3.5
KSRS	SNR=79 **Korea Array**	**10.68**	**273**	P	Pn	12 48 59.8	+3.5
KSRS	comp=E,26nm,0.3s,baz=87,slow=13,SNR=557			LR	LR	12 52 47.2	
KSRS	comp=E,6μm,20.7s,baz=100,slow=36			PcP	**PcP**	**12 54 52.6**	**+0.4**
KSCHJ	comp=E,0.1nm,0.3s,baz=207,slow=0.4,SNR=5.5 **Chungju**	**10.70**	**270**	P	Pn	12 49 00.0	+3.4
KSAR	SNR=7.1 **Wonju Array Be**	**10.71**	**273**	P	**Pn**	**12 48 59.8**	**+3.0**
KSAR	**Wonju Array Be**	**10.71**	**273**	P	**Pn**	**12 48 59.8**	**+3.0**
KSAR				PcP	**PcP**	**12 54 52.6**	**+0.3**
KSCHC	**Chuncheon**	**10.74**	**275**	P	Pn	12 49 00.9	+3.7
KSCPR	SNR=11 **CHUPUNGNYEONG**	**10.81**	**267**	P	Pn	12 49 01.4	+3.2
KSBON	SNR=21 **Boeun**	**10.89**	**268**	P	Pn	12 49 02.8	+3.5
KSCWO	SNR=15 **Cheorwon**	**10.96**	**277**	P	**Pn**	**12 49 03.0**	**+2.8**
KSICN	SNR=25 **Icheon**	**11.09**	**273**	P	Pn	12 49 05.4	+3.4
KSCEA	SNR=23 **Cheonan**	**11.28**	**270**	P	Pn	12 49 07.6	+3.2
MDJ	SNR=14 **Mudanjiang**	**11.31**	**312**	P	**Pn**	**12 49 05.4**	**+0.5**
MDJ				S	**Sn**	**12 51 09.3**	**-0.1**
MDJ				PcP	**PcP**	**12 54 51.4**	**-1.5**
MDJ				PcS	**PcS**	**12 58 27.3**	**+0.7**
MDJ				ScS	**ScS**	**13 01 52.5**	**-1.3**
MDJ	comp=E,57nm,1.0s			PMZ			
MDJ	comp=E,2μm,9.3s			PMZ			
MDJ	comp=E,5μm,13.0s			LN			
MDJ	comp=E,4μm,17.2s			LE			
MDJ	comp=E,7μm,21.8s			LZ			
MDJ	**Mudanjiang**	**11.31**	**312**	*e*Pn	**Pn**	**12 49 03.9**	**-1.0**
KSDDC	comp=E,489nm,1.0s **Dongducheon**	**11.33**	**276**	P	**Pn**	**12 49 08.2**	**+3.0**
KSJEO	SNR=11 **Jeonju**	**11.40**	**266**	P	Pn	12 49 11.3	+5.0
YNCB	SNR=11 **YEONCHEON**	**11.43**	**277**	P	**Pn**	**12 49 09.3**	**+2.8**
KSSWO	SNR=10 **Suwon**	**11.45**	**273**	P	**Pn**	**12 49 09.9**	**+3.0**
KSSEO	SNR=28 **Seoul**	**11.47**	**274**	P	Pn	12 49 11.1	+4.0
UGL	SNR=7.6 **Uglegorsk**	**11.50**	**2**	*e*P	Pn	12 49 04.0	-3.4
UGL				pmax	pmax		
UGL	comp=Z,112nm,1.0s			MLR	MLR		
UGL	comp=Z,3μm,13.0s			MLR	MLR		
UGL	comp=N,3μm,15.0s			MLR	MLR		
UGL	comp=E,6μm,15.0s			MLR	MLR		
KSMUS	**Musan**	**11.57**	**276**	P	**Pn**	**12 49 11.1**	**+2.6**
INCN	SNR=42 **Inchon**	**11.70**	**274**	Pn	Pn	12 49 13.4	+3.1
INCN	SNR=29 **Inchon**	**11.70**	**274**	Pn	**Pn**	**12 49 11.0**	**+0.8**
KSGUS	**GUNSAN**	**11.79**	**267**	P	**Pn**	**12 49 14.5**	**+3.1**
KSJEU	SNR=7.9 **Jeongeup**	**11.80**	**264**	P	Pn	12 49 15.1	+3.6
HABR	SNR=13 **Khabarovsk**	**11.81**	**339**	*ce*P	**Pn**	**12 49 08.9**	**-2.8**
HABR				*e*S	**Sn**	**12 51 17.1**	**-4.4**
HABR	comp=N,290nm,1.4s			pmax	pmax		
HABR	comp=E,156nm,1.1s			pmax	pmax		
HABR	comp=Z,555nm,1.1s			pmax	pmax		
HABR	comp=Z,3μm,17.0s			MLR	MLR		
KSGAH	**Ganghwa**	**11.83**	**275**	P	**Pn**	**12 49 14.4**	**+2.5**
KSSES	SNR=9.0 **Seosan**	**11.92**	**271**	P	Pn	12 49 16.6	+3.3
KLR	SNR=6.8 **Kul'dur**	**13.56**	**332**	*e*P	**Pn**	**12 49 38.2**	**+3.1**
KLR				pmax	pmax		
KLR	comp=N,1μm,11.0s			pmax	pmax		
KLR	comp=Z,4μm,11.0s			MLR	MLR		
KLR	comp=N,2μm,12.0s			MLR	MLR		
KLR	comp=Z,7μm,12.0s			MLR	MLR		
CN2	**Changchun**	**13.57**	**302**	⇑*i*P	**Pn**	**12 49 34.8**	**-0.5**
CN2				*es*P		12 49 56.8	
CN2				*e*S	**Sn**	**12 52 03.3**	**-1.0**
CN2	comp=Z,20nm,1.0s			PMZ			
CN2	comp=Z,200nm,5.0s			PMZ			
CN2				LN			
CN2	comp=Z,3μm,16.0s			LE			
CN2	comp=Z,3μm,16.0s			LZ			
CN2	comp=Z,3μm,16.0s						
SNY	**Shenyang**	**14.33**	**293**	⇑P	**Pn**	**12 49 45.1**	**-0.1**
SNY				S	**Sn**	**12 52 23.8**	**+1.1**
SNY	comp=Z,140nm,1.2s			PMZ			
SNY	comp=Z,1μm,4.0s			PMZ			
SNY	comp=Z,3μm,14.9s			LN			
SNY	comp=Z,6μm,17.1s			LE			
SNY	comp=Z,7μm,18.6s			LZ			
JOW	**Kunigami**	**15.40**	**230**	*e*Pn	**Pn**	**12 49 57.7**	**-1.4**
DL2	**Dalian**	**15.56**	**281**	P	**Pn**	**12 50 01.8**	**+0.7**
DL2				S	**Sn**	**12 52 53.8**	**+1.1**
DL2	comp=Z,570nm,1.0s			PMZ			
DL2	comp=Z,760nm,4.2s			PMZ			
DL2	comp=Z,1μm,10.4s			LN			
DL2	comp=Z,2μm,15.1s			LE			
DL2	comp=Z,2μm,16.8s			LZ			
OKH	**Okha**	**16.00**	**3**	*e*P	**Pn**	**12 50 05.0**	**-1.5**
SKR	**Severo-Kuril's**	**16.80**	**34**	*e*P	Pn	12 50 10.5	-5.9
SKR	comp=N,180nm,1.0s			pmax	pmax		
SKR	comp=E,180nm,1.0s			pmax	pmax		
SKR	comp=Z,400nm,1.0s			pmax	pmax		
SSE	**Sheshan**	**17.86**	**255**	P	**Pn**	**12 50 30.0**	**+0.4**
SSE				pP	**pP**	**12 50 44.3**	**-0.5**
SSE				sP	**sP**	**12 50 54.3**	**-0.3**
SSE				S	**Sn**	**12 53 44.9**	**-3.3**
SSE	comp=Z,270nm,1.0s			PMZ			
SSE	comp=Z,290nm,3.9s			PMZ			
SSE	comp=Z,2μm,18.0s			LN			
SSE	comp=Z,1μm,18.8s			LE			
SSE	comp=Z,2μm,25.5s			LZ			
PETK	**Petropavlovsk-**	**19.23**	**31**	P	**P**	**12 50 44.4**	**+0.3**
PETK				pmax	pmax		
PETK	comp=Z,2.0nm,0.3s			MLR	MLR		
PETK	comp=Z,17nm,28.6s **Petropavlovsk-**	**19.23**	**31**	P	**P**	**12 50 44.4**	**+0.3**
PETK	comp=Z,1.5nm,0.3s,baz=204,slow=5.7,SNR=43			PcP	**PcP**	**12 55 04.3**	**+0.3**
PETK	comp=Z,0.2nm,0.3s,baz=156,slow=4.0,SNR=5.6			LR	LR	12 57 47.3	
NJ2	comp=Z,804nm,21.5s,baz=212,slow=35 **Nanjing**	**19.27**	**260**	*e*P	**P**	**12 50 44.9**	**+0.2**
NJ2				pP	**pP**	**12 50 59.5**	**-0.8**
NJ2				sP	**sP**	**12 51 10.0**	**-0.2**
NJ2				S	**S**	**12 54 16.5**	**-2.3**
NJ2				sS	sS	12 54 35.5	-8.8
NJ2	comp=Z,350nm,1.2s			PMZ			
NJ2	comp=Z,2μm,7.8s			PMZ			
NJ2	comp=Z,3μm,17.4s			LN			
NJ2	comp=Z,3μm,14.6s			LE			
NJ2	comp=Z,1μm,14.5s			LZ			
TIA	**Tai'an**	**19.42**	**273**	⇑P	**P**	**12 50 45.1**	**-1.2**
TIA				pP	**pP**	**12 51 01.8**	**-0.2**
TIA				S	**S**	**12 54 16.5**	**-5.3**
TIA				SS	**SnSn**	**12 54 50.0**	**+8.8**
TIA	comp=Z,260nm,0.8s			PMZ			
TIA	comp=Z,1μm,16.0s			LN			
TIA	comp=Z,2μm,19.0s			LE			
TIA	comp=Z,3μm,16.0s			LZ			
HIA	**Hailar**	**19.49**	**314**	*e*P	**P**	**12 50 43.8**	**-3.2**
HIA				pmax	pmax		
HIA	comp=Z,146nm,1.1s **Hailar**	**19.49**	**314**	*e*P	**P**	**12 50 43.8**	**-3.2**
HIA	comp=Z,146nm,1.1s			*e*S	**Sn**	**12 54 33.6**	**+6.4**
PET	**Petropavlovsk**	**19.57**	**32**	⇓*i*P	**P**	**12 50 47.9**	**+0.2**
PET				*e*S	**S**	**12 54 25.6**	**+1.2**
PET	comp=Z,900nm,3.8s			pmax	pmax		
PET	comp=Z,200nm,12.6s			pmax	pmax		
PET	comp=Z,147nm,0.7s			pmax	pmax		
PET	comp=Z,1μm,19.0s			MLR	MLR		
PET	comp=Z,1μm,16.0s			MLR	MLR		
PET	**Petropavlovsk**	**19.57**	**32**	*e*P	**P**	**12 50 48.5**	**+0.7**
BJI	comp=Z,135nm,0.7s **Beijing**	**19.76**	**285**	P	**P**	**12 50 48.8**	**-1.1**
BJI				sP	**sP**	**12 51 12.4**	**-3.1**
BJI				S	**S**	**12 54 27.5**	**-0.9**
BJI	comp=Z,280nm,0.9s			PMZ			
BJI	comp=Z,940nm,3.6s			PMZ			
BJI	comp=Z,2μm,16.7s			LN			
BJI	comp=Z,2μm,22.7s			LE			
BJI	comp=Z,3μm,32.3s			LZ			
BJT	**Baijiatuau**	**19.77**	**285**	*e*P	**P**	**12 50 49.1**	**-0.9**
BJT				*e*S	**S**	**12 54 23.9**	**-4.7**
BJT	comp=Z,534nm,1.0s			pmax	pmax		
BJT	**Baijiatuau**	**19.77**	**285**	*e*P	**P**	**12 50 49.1**	**-0.9**
BJT	comp=Z,534nm,1.0s			*e*S	**S**	**12 54 23.9**	**-4.7**
TATO	**Taipei**	**21.08**	**239**	*e*P	**P**	**12 51 03.3**	**-0.9**
YHNB	comp=Z,587nm,2.1s **Yeheng**	**21.36**	**239**	*e*P	**P**	**12 51 06.5**	**-0.8**
YHNB	comp=Z,42nm,0.6s			*e*S	S	12 54 50.8	-9.4
NACB	**Ninganchiao**	**21.54**	**237**	*e*P	**P**	**12 51 08.5**	**-0.7**
SSLB	comp=Z,46nm,0.8s **Suanglung**	**22.23**	**238**	*e*P	**P**	**12 51 14.2**	**-2.5**
YULB	comp=Z,95nm,1.1s **Yu-li**	**22.28**	**236**	*e*P	P	12 51 10.6	-6.6
TPUB	comp=Z,62nm,0.9s **Ta-pu**	**22.78**	**237**	*e*P	**P**	**12 51 20.0**	**-2.5**
TWG	comp=Z,156nm,1.0s **Pinlang**	**22.82**	**236**	*e*P	**P**	**12 51 22.1**	**-0.8**
TIY	comp=Z,677nm,1.0s **Taiyuan**	**22.87**	**279**	*e*P	**P**	**12 51 20.5**	**-2.8**
TIY				pP	**pP**	**12 51 37.8**	**-1.7**
TIY				PP	**PnPn**	**12 51 51.6**	**+0.3**
TIY				S	**S**	**12 55 20.8**	**-6.1**
TIY				SS	**SnSn**	**12 56 09.8**	**+4.2**
TIY	comp=Z,170nm,1.1s			PMZ			
TIY	comp=Z,1μm,4.6s			PMZ			
TIY	comp=Z,540nm,7.3s			LN			
TIY	comp=Z,2μm,14.1s			LE			
TIY	comp=Z,3μm,13.2s			LZ			
HHC	**Hu-ho-hao-te**	**23.26**	**287**	⇑P	**P**	**12 51 24.1**	**-3.1**
HHC				pP	**pP**	**12 51 41.3**	**-2.4**
HHC				sP	**sP**	**12 51 49.0**	**-4.4**
HHC				PP	**PnPn**	**12 51 55.5**	**-1.1**
HHC				S	**S**	**12 55 30.8**	**-2.4**
HHC				sS	Sn	12 55 53.8	-4.0

HHC SS **SnSn** **12 56 19.3 +4.1**
HHC PMZ
comp=Z,140nm,0.8s
HHC PMZ
comp=Z,1μm,4.7s
HHC LN
comp=Z,4μm,12.9s
HHC LE
comp=Z,3μm,13.8s
HHC LZ
comp=Z,2μm,12.4s
WHN Wuhan 23.40 261 ⇓P **P** **12 51 28.8 +0.4**
WHN sP **sP** **12 51 54.5 -0.3**
WHN S S 12 55 26.8 -8.6
WHN PMZ
comp=Z,250nm,1.0s
WHN LN
comp=Z,2μm,15.3s
WHN LE
comp=Z,4μm,15.0s
WHN LZ
comp=Z,5μm,16.0s
GUMO Guam 24.11 172 *e*P P 12 51 40.9 +6.1
GUMO pmax pmax
comp=Z,739nm,1.2s
GUMO Guam 24.11 172 *e*P P 12 51 40.9 +6.1
comp=Z,740nm,1.2s
CIT Chita 24.25 315 *e*P **P** **12 51 33.1 -2.8**
CIT *e* 12 51 49.5
CIT *e* 12 51 57.9
CIT *e* 12 52 07.0
CIT *e* 12 52 18.0
CIT *e* 12 55 50.7
CIT pmax pmax
comp=Z,2μm,2.1s
BTO Baotou 24.44 287 *e*P **P** **12 51 36.1 -1.7**
YAK Yakutsk 25.52 347*c i*P **P** **12 51 46.7 -0.5**
YAK *e**PP **pP** **12 52 07.2 +1.9**
YAK *e* 12 52 28.5
YAK *e* 12 55 14.3
YAK *e*S **S** **12 56 06.2 -2.5**
YAK pmax pmax
comp=Z,369nm,0.9s
YAK pmax pmax
comp=N,176nm,1.0s
YAK pmax pmax
comp=E,67nm,1.3s
YAK pmax pmax
comp=Z,135nm,0.9s
YAK pmax pmax
comp=E,131nm,1.1s
YAK pmax pmax
comp=N,144nm,1.0s
YAK smax smax
comp=E,2μm,2.9s
YAK smax smax
comp=N,4μm,2.9s
YAK Yakutsk 25.52 347 *e*P **P** **12 51 47.1 -0.1**
comp=N,644nm,1.1s
SEY Seymchan 26.26 11 P **P** **12 51 54.7 +0.8**
SEY pmax pmax
comp=Z,82nm,1.1s
SEY Seymchan 26.26 11 P **P** **12 51 54.7 +0.8**
comp=Z,82nm,1.1s,baz=198,slow=7.3,SNR=112
XAN Xi'an 26.47 272 P **P** **12 51 55.4 -0.8**
XAN pP **pP** **12 52 12.6 -1.7**
XAN sP **sP** **12 52 22.0 -1.5**
XAN PP **PnPn** **12 52 38.6 -1.8**
XAN S **S** **12 56 17.8 -6.7**
XAN PMZ
comp=Z,59nm,0.9s
XAN LN
comp=Z,990nm,17.7s
XAN LE
comp=Z,350nm,20.7s
XAN LZ
comp=Z,380nm,18.5s
FX1 Attu Island--F 26.84 45 P **P** **12 52 00.3 +1.1**
FX1 pmax pmax
comp=Z,60nm,1.0s
FX1 Attu Island--F 26.84 45 P **P** **12 52 00.3 +1.1**
comp=Z,60nm,0.9s,baz=308,slow=8.0,SNR=5.5
FX1 Attu Island--F 26.84 45 *e*P **P** **12 51 59.8 +0.6**
ULN Ulaanbaatar 27.01 303*c i*P **P** **12 52 00.7 -0.4**
ULN pmax pmax
comp=Z,361nm,1.2s
ULN Ulaanbaatar 27.01 303 P **P** **12 52 01.1 0.0**
SNR=110
ULN Ulaanbaatar 27.01 303 *e*P **P** **12 52 00.9 -0.2**
comp=Z,439nm,1.3s
ULN *e*PcP **PcP** **12 55 20.7 +0.2**
BOD Bodaibo 27.04 327⇑*i*P **P** **12 52 00.8 -0.2**
BOD pmax pmax
comp=Z,26nm,0.9s
ENH Enshi 27.34 264 *e*P **P** **12 52 04.0 0.0**
comp=Z,264nm,0.9s
SONM Songino Array 27.44 303 P **P** **12 52 04.8 -0.1**
SONM 12 55 21.8
SONM pmax pmax
comp=Z,158nm,0.9s
SONM pmax pmax
comp=Z,14nm,0.7s
SONM MLR MLR
comp=Z,2μm,19.6s
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 27.44 303 P **P** **12 52 04.8 -0.1**
comp=Z,158nm,0.9s,baz=101,slow=8.3,SNR=508
SONM PcP **PcP** **12 55 21.8 +0.2**
comp=Z,14nm,0.7s,baz=141,slow=2.6,SNR=5.2
SONM LR LR 13 03 15.4
SONM P3KPbc 13 24 35.6
comp=Z,1.3nm,1.0s,baz=253,slow=5.4,SNR=7.2
GZH Guangzhou 28.04 247 P **P** **12 52 07.1 -3.1**
GZH S **S** **12 56 43.8 -5.4**
GZH LN
comp=Z,2μm,14.2s
GZH LE
comp=Z,3μm,14.4s
H11N2 WAKE ISLAND Hy 28.47 122 T T 13 22 33.5
baz=315,slow=75,SNR=360
H11N1 WAKE ISLAND Hy 28.48 122 T T 13 22 43.2
baz=315,slow=75,SNR=1516
H11N3 WAKE ISLAND Hy 28.49 122 T T 13 22 44.0
baz=315,slow=75,SNR=1781
H11S1 WAKE ISLAND Hy 29.20 124 T T 13 23 28.3
SNR=220
H11S3 WAKE ISLAND Hy 29.20 124 T T 13 23 36.9
baz=255,slow=74,SNR=330
H11S2 WAKE ISLAND Hy 29.21 124 T T 13 23 32.6
baz=314,slow=74,SNR=237
TGY Tagaytay City 29.61 223 P **P** **12 52 25.3 +1.0**
TGY pmax pmax
comp=Z,255nm,0.5s
TGY Tagaytay City 29.61 223 P **P** **12 52 25.3 +1.0**
comp=Z,254nm,0.5s,baz=3.7,slow=2.3,SNR=8.4
IRK Irkutsk 29.70 312⇑*i*P **P** **12 52 24.8 +0.1**
IRK *e* 12 52 43.2
IRK pmax pmax
comp=Z,176nm,1.8s
ZAK Zakamensk 29.89 308⇓*i*P **P** **12 52 26.0 -0.6**
ZAK pmax pmax
comp=Z,126nm,1.2s
LZH Lanzhou 29.94 279 ⇓P **P** **12 52 27.1 -0.1**
LZH pP **pP** **12 52 46.5 +1.0**
LZH sP **sP** **12 52 57.0 +2.4**
LZH PP **PnPn** **12 53 26.4 -0.3**
LZH PcP **PcP** **12 55 29.5 +1.5**
LZH S **S** **12 57 17.3 -1.9**
LZH sS **sS** **12 57 47.1 -3.6**
LZH SS **SnSn** **12 58 56.3 -1.6**
LZH PMZ
comp=Z,280nm,1.1s
LZH PMZ
comp=Z,480nm,4.0s
LZH LN
comp=Z,1μm,13.0s
LZH LE
comp=Z,2μm,14.8s
LZH LZ
comp=Z,3μm,15.0s
TLY Talaya 29.94 310 P **P** **12 52 27.2 +0.3**
comp=Z,793nm,0.9s,SNR=48
TLY Talaya 29.94 310*c i*P **P** **12 52 26.9 0.0**
TLY *e* 12 53 21.1
TLY *e*S **S** **12 57 20.4 +1.8**
TLY pmax pmax
comp=Z,271nm,1.6s
TLY MLR MLR
comp=Z,2μm,17.0s
TLY Talaya 29.94 310 P **P** **12 52 27.3 +0.5**
SNR=75
TLY Talaya 29.94 310 P **P** **12 52 27.5 +0.6**
comp=Z,72nm,0.8s,baz=116,slow=4.4,SNR=139
TLY Talaya 29.94 310 *e*P **P** **12 52 26.6 -0.3**
comp=Z,374nm,1.4s
TLY *e*PcP **PcP** **12 55 28.3 +0.7**
MSLP Maasin 31.12 213 *e*P **P** **12 52 39.0 +1.6**
GYA Guiyang 31.28 259⇑*i*P **P** **12 52 38.6 -0.4**
GYA pP **pP** **12 52 57.0 -0.3**
GYA sP **sP** **12 53 06.4 -0.1**
GYA PP **PnPn** **12 53 44.8 +0.7**
GYA PcP **PcP** **12 55 32.3 +0.6**
GYA S **S** **12 57 36.5 -3.7**
GYA sS **sS** **12 58 10.0 -1.7**
GYA ScP **ScP** **12 59 06.8 -0.8**
GYA SS **SnSn** **12 59 30.3 -0.3**
GYA PMZ
comp=Z,300nm,1.0s
GYA PMZ
comp=Z,170nm,7.4s
GYA LN
comp=Z,940nm,18.9s
GYA LE
comp=Z,1μm,20.0s
GYA LZ
comp=Z,2μm,20.4s
MOY Mondy 31.55 310 *e*P **P** **12 52 41.4 +0.2**
MOY pmax pmax
comp=Z,175nm,2.5s
CD2 Chengdu 31.63 269⇑*i*P **P** **12 52 41.6 -0.5**
CD2 sP **sP** **12 53 06.9 -2.6**
CD2 PP **PnPn** **12 53 49.8 +1.2**
CD2 PcP **PcP** **12 55 33.8 +1.3**
CD2 S **S** **12 57 43.8 -1.8**
CD2 sS **sS** **12 58 12.9 -4.2**
CD2 SS **SnSn** **12 59 37.3 -1.8**
CD2 ScS **ScS** **13 03 05.5 -1.4**
CD2 PMZ
comp=Z,350nm,0.8s
CD2 PMZ
comp=Z,170nm,7.1s
CD2 LN
comp=Z,1μm,16.7s
CD2 LE
comp=Z,2μm,15.5s
CD2 LZ
comp=Z,2μm,14.4s
BUTP Butuan 31.85 211 *e*P **P** **12 52 44.0 +0.1**
BUTP *e*S **pP** **12 53 03.4 +1.2**
GTA Gaotai 32.36 286 ⇑P **P** **12 52 48.5 0.0**
GTA pP **pP** **12 53 06.0 -0.8**
GTA sP **sP** **12 53 15.3 -0.7**
GTA PcP **PcP** **12 55 35.4 +1.0**
GTA S **S** **12 57 59.1 +2.1**
GTA sS **sS** **12 58 29.6 +1.1**
GTA ScP **ScP** **12 59 12.1 +1.0**
GTA PcS **PcS** **12 59 19.4 -0.2**
GTA ScS **ScS** **13 03 09.8 -0.7**
GTA PMZ
comp=Z,50nm,0.8s
GTA PMZ
comp=Z,290nm,3.9s
GTA LN
comp=Z,1μm,14.7s
GTA LE
comp=Z,1μm,20.9s
GTA LZ
comp=Z,2μm,17.1s
BUKP Musuan 33.06 211 *e*P **P** **12 52 54.3 -0.3**
QIZ Qiongzhong 33.12 245 P **P** **12 52 54.8 -0.3**
QIZ pP **pP** **12 53 11.8 -1.7**
QIZ S **S** **12 58 09.3 +0.5**
QIZ sS **sS** **12 58 39.0 -1.4**
QIZ PMZ
comp=Z,130nm,4.2s
QIZ LN
comp=Z,750nm,16.4s
QIZ LZ
comp=Z,1μm,16.4s
BILL Bilibino 33.51 17*d i*P **P** **12 52 56.9 -1.0**
BILL *e**PP **pP** **12 53 15.1 -1.2**
BILL *e**SP **sP** **12 53 24.7 -0.8**
BILL *e* 12 55 36.8
BILL pmax pmax
comp=Z,72nm,1.2s
BILL MLR MLR
comp=Z,350nm,14.0s
BILL Bilibino 33.51 17 *e*P **P** **12 52 57.2 -0.7**
comp=Z,62nm,1.2s
BILL *e*PcP **PcP** **12 55 37.3 +0.4**
PAGZ Pagadian 33.80 213 *e*P **P** **12 53 01.0 +0.1**
CTBH Cotabato--PC H 33.99 211⇓*i*P **P** **12 53 03.5 +0.9**
TIXI Tiksi 34.73 353*c i*P **P** **12 53 08.5 0.0**
TIXI pmax pmax
comp=Z,21nm,1.0s
TIXI Tiksi 34.73 353 *e*P **P** **12 53 07.7 -0.7**
comp=Z,20nm,0.7s
KMI Kunming 35.01 260 P **P** **12 53 12.8 +1.2**
KMI pP **pP** **12 53 29.5 -0.6**
KMI sP **sP** **12 53 38.1 -1.1**
KMI PP **PnPn** **12 54 29.8 -1.3**
KMI S **S** **12 58 36.3 -1.9**
KMI PMZ
comp=Z,170nm,0.9s
KMI LN
comp=Z,1μm,13.6s
KMI LE
comp=Z,1μm,18.4s
KMI LZ
comp=Z,2μm,29.1s
HVS Khovu-Aksy 36.02 308*c i*P **P** **12 53 20.7 +0.8**
HVS pmax pmax
comp=Z,2μm,1.5s
KDM Kudat 37.80 222 ⇑P **P** **12 53 36.3 +1.2**
GAMB Gambell 38.27 32 *e*P **P** **12 53 39.0 +0.5**
comp=Z,78nm,1.4s
GAMB *e*PcP **PcP** **12 55 52.1 +1.1**
SDKM Sandakan 38.68 221 ⇑P **P** **12 53 44.3 +1.6**
UBPT Khong Chiam 38.72 245 P **P** **12 53 44.5 +1.5**
comp=Z,52nm,1.0s,comp=Z,2μm
TNTI Ternate 38.84 203 P **P** **12 53 44.2 +0.3**
comp=Z,245nm,1.3s,comp=Z,4μm
TNTI Ternate 38.84 203 *e*P **P** **12 53 43.8 -0.1**
comp=Z,456nm,1.3s
KKM Kota Kinabalu 38.86 222 ⇓P **P** **12 53 46.6 +2.4**
KKM Kota Kinabalu 38.86 222 *e*P **P** **12 53 45.9 +1.7**
comp=Z,71nm,1.0s
SWI Sorong 39.38 196 P **P** **12 53 49.1 +0.7**
comp=Z,159nm,1.0s,comp=Z,2μm
CRAI Chiangrai 39.48 256 P **P** **12 53 49.3 +0.1**
comp=Z,73nm,0.9s,comp=Z,3μm
TSM Tawau 39.49 219 ⇓P **P** **12 53 50.8 +1.5**
LBMI Labuha 40.14 202 P **P** **12 53 55.5 +0.8**
comp=Z,160nm,1.0s,comp=Z,2μm
KMSI Cibinong 40.17 208 P **P** **12 53 55.8 +0.8**
comp=Z,600nm,0.8s,comp=Z,7μm
PAYA Payao 40.36 255 P P 12 54 02.7 +6.1
TNA Tin City 40.39 30 *e*P **P** **12 53 57.1 +0.9**
comp=Z,253nm,1.0s
TNA *e*PcP **PcP** **12 55 58.4 +0.6**
GTOI Gorontalo 40.48 209 P **P** **12 53 57.5 0.0**
comp=Z,336nm,0.9s,comp=Z,3μm
WMQ Urumqi 40.55 296 P **P** **12 53 59.3 +1.3**
WMQ pP **pP** **12 54 16.8 0.0**
WMQ PP **PnPn** **12 55 37.5 +0.3**
WMQ S **S** **13 00 03.4 +1.9**
WMQ sS **sS** **13 00 34.4 +0.6**
WMQ ScS **ScS** **13 03 54.3 -1.5**
WMQ PMZ
comp=Z,250nm,1.0s
WMQ PMZ
comp=Z,2μm,5.2s
WMQ LN
comp=Z,710nm,11.0s
WMQ LE
comp=Z,1μm,16.0s
WMQ LZ
comp=Z,2μm,28.0s
CMAI Chiengmai2 40.67 256 P **P** **12 54 00.7 +1.4**
comp=Z,87nm,0.9s,comp=Z,2μm
UTTA Uttaradit 40.80 252 P **P** **12 54 00.9 +0.8**
comp=Z,12nm,0.8s,comp=Z,102nm
LAMP Lampang 41.03 254 P **P** **12 54 04.0 +1.9**
comp=Z,20nm,0.9s,comp=Z,158nm
MRSI Marisa 41.05 210 P **P** **12 54 03.0 +0.8**
comp=Z,143nm,1.2s,comp=Z,5μm
FAKI Fak Fak 41.18 194 P **P** **12 54 03.6 +0.3**
comp=Z,290nm,0.8s,comp=Z,3μm
FAKI Fak Fak 41.18 194 *e*P **P** **12 54 03.5 +0.3**
comp=Z,175nm,0.8s
PBKT Sadao Pong 41.20 251 P **P** **12 54 04.0 +0.5**
comp=Z,46nm,0.9s,comp=Z,678nm
CMMT Chiang Mai 41.39 255 P **P** **12 54 05.7 +0.7**
comp=Z,38nm,0.8s,comp=Z,556nm
CHTO Chiang Mai 41.39 255 *e*P **P** **12 54 05.3 +0.3**
CHTO *e* 12 56 02.6
CHTO pmax pmax
comp=Z,21nm,0.8s
CHTO Chiang Mai 41.39 255 P **P** **12 54 05.9 +0.8**
SNR=12
CHTO Chiang Mai 41.39 255 P **P** **12 54 05.8 +0.8**
comp=Z,122nm,0.9s,comp=Z,2μm
CHTO Chiang Mai 41.39 255 *e*P **P** **12 54 05.3 +0.3**
comp=Z,21nm,0.8s
CHTO *e*PcP **PcP** **12 56 02.6 +0.7**
CHTO *e*ScP **ScP** **12 59 44.8 0.0**
ZALV Zalesovo Beam 41.51 312 P **P** **12 54 06.2 +0.6**
ZALV 12 56 01.5
ZALV pmax pmax
comp=Z,99nm,0.8s
ZALV pmax pmax
comp=Z,42nm,0.7s
ZALV MLR MLR
comp=Z,2μm,18.1s
ZALV Zalesovo Beam 41.51 312 P **P** **12 54 06.2 +0.6**
comp=Z,99nm,0.8s,baz=91,slow=6.5,SNR=380
ZALV PcP **PcP** **12 56 01.5 -0.2**
comp=Z,42nm,0.7s,baz=99,slow=2.2,SNR=6.0
ZALV LR LR 13 11 52.8
comp=Z,2μm,18.1s,baz=72,slow=37
CMAR Chiang Mai Arr 41.60 255 P **P** **12 54 07.8 +1.0**
CMAR 12 56 03.4
CMAR pmax pmax
comp=Z,10.0nm,0.7s
CMAR pmax pmax
comp=Z,19nm,1.0s
CMAR pmax pmax
comp=N,6.0nm,1.0s
CMAR MLR MLR
comp=Z,17nm,28.6s
CMAR Chiang Mai Arr 41.60 255 P **P** **12 54 07.8 +1.0**
comp=Z,9.7nm,0.7s,baz=45,slow=7.2,SNR=64
CMAR PcP **PcP** **12 56 03.4 +0.8**
comp=Z,19nm,1.0s,baz=16,slow=2.8,SNR=8.5
CMAR ScP **ScP** **12 59 46.2 +0.6**
comp=Z,5.8nm,1.0s,baz=28,slow=3.5,SNR=8.0
CMAR LR LR 13 13 33.4
comp=Z,469nm,18.8s,baz=56,slow=39
SUKH Sukhothai 41.65 253 P **P** **12 54 08.2 +1.0**
comp=Z,14nm,1.1s,comp=Z,117nm
SANI Sanana 41.93 203 P **P** **12 54 08.7 -0.7**
comp=Z,392nm,0.8s,comp=Z,3μm
MPSI Mapaga 42.02 213 P **P** **12 54 10.8 +0.6**
comp=Z,45nm,0.8s,comp=Z,787nm
LUWI Luwuk 42.11 208 *e*P **P** **12 54 09.1 -1.8**
comp=Z,163nm,0.9s
LSA Lhasa 42.12 275 *e*P **P** **12 54 13.3 +1.9**
LSA pmax pmax
comp=Z,154nm,0.8s
LSA Lhasa 42.12 275 *e*P **P** **12 54 13.3 +1.9**
comp=Z,154nm,0.8s
MSAI Masohi 42.33 199 P **P** **12 54 14.6 +1.9**
comp=Z,70nm,0.9s,comp=Z,846nm
NVS Novosibirsk 42.43 313⇑*i*P **P** **12 54 12.7 -0.3**
NVS *e* 12 56 03.6
NVS *e*S **S** **13 00 26.8 -1.9**
NVS pmax pmax
comp=Z,232nm,1.6s
NVS pmax pmax
comp=N,152nm,0.8s
NVS pmax pmax
comp=E,171nm,1.6s
NVS pmax pmax
comp=N,30nm,1.2s
NVS pmax pmax
comp=E,28nm,1.2s
NVS pmax pmax
comp=Z,43nm,1.2s
NVS smax smax
comp=N,22nm,1.7s
NVS smax smax
comp=E,139nm,2.4s
MHMT Maesarieng 42.54 255 P **P** **12 54 15.9 +1.5**
comp=E,46nm,0.8s,comp=E,373nm
NLAI Namlea 42.73 201 P **P** **12 54 17.3 +1.5**
comp=E,96nm,0.9s,comp=E,1μm
BTM Bintulu 42.93 224 ⇑P **P** **12 54 18.1 +0.6**
BNDI Bandanaira 43.23 197 P **P** **12 54 20.8 +0.9**
comp=E,868nm,1.3s,comp=E,7μm
SHL Shillong 43.37 269 *e*P **P** **12 54 21.5 +0.2**
SHL *e*S **S** **13 00 44.5 +0.8**
MKAR Makanchi Array 43.79 302 P **P** **12 54 24.8 +0.6**
MKAR S **S** **13 00 49.2 +0.2**
MKAR pmax pmax
comp=Z,154nm,0.8s
MKAR smax smax
comp=N,5.0nm,1.0s
MKAR Makanchi Array 43.79 302 P **P** **12 54 24.8 +0.6**
comp=N,154nm,0.8s,baz=84,slow=11,SNR=404
MKAR S **S** **13 00 49.2 +0.2**
comp=N,5.3nm,1.0s,baz=74,slow=18,SNR=3.7
SBUM Sibu 44.03 224 ⇓P **P** **12 54 27.8 +1.5**
KHLT Khaolaem Dam 44.09 251 P **P** **12 54 28.6 +1.7**
comp=N,20nm,0.9s,comp=N,313nm
BKB Balikpapan 44.80 216 P **P** **12 54 33.6 +1.1**
comp=N,293nm,1.0s,comp=N,3μm
TTSI Tana Toraja 45.10 211 P **P** **12 54 34.9 0.0**
comp=N,33nm,1.1s,comp=N,3μm
KURK Kurchatov 45.56 308 P **P** **12 54 38.5 +0.3**
KURK pmax pmax
comp=Z,482nm,0.8s
KURK Kurchatov 45.56 308 P **P** **12 54 38.7 +0.6**
SNR=348
KURK Kurchatov 45.56 308 *e*P **P** **12 54 38.5 +0.3**
comp=Z,538nm,0.9s
KURK *e*S **S** **13 01 11.0 -3.3**
TAPN Taplejung 45.86 273 *e*P **P** **12 54 42.6 +1.4**
comp=Z,479nm,1.1s
KSM Kuching 45.91 226 ⇑P **P** **12 54 42.8 +1.5**
KSM Kuching 45.91 226 *e*P **P** **12 54 42.4 +1.1**
comp=Z,97nm,0.8s
SPSI Sidrap Palu 45.96 211 P **P** **12 54 41.1 -0.5**
comp=Z,128nm,1.2s,comp=Z,1μm
BNSI Bone 46.22 210 P **P** **12 54 44.7 +1.0**
comp=Z,346nm,1.1s,comp=Z,3μm
ODAN Odare 46.34 273 *e*P **P** **12 54 46.2 +1.3**
comp=Z,482nm,1.0s
OHAK Old Harbor 46.38 43 *e*P **P** **12 54 44.2 -0.2**
comp=Z,144nm,1.0s
OHAK *e*PcP **PcP** **12 56 18.8 +0.6**
STKI Sintang 46.41 223 P **P** **12 54 46.7 +1.5**
comp=Z,166nm,1.0s,comp=Z,11μm
RSO Redoubt South 46.49 39 *e*P **P** **12 54 46.2 +0.6**
comp=Z,389nm,1.0s
KDAK Kodiak Island 46.72 42 *e*P **P** **12 54 46.9 -0.2**
KDAK pmax pmax
comp=Z,340nm,1.2s
KDAK Kodiak Island 46.72 42 *e*P **P** **12 54 46.9 -0.2**
comp=Z,340nm,1.2s
PPLA Purkeypile 46.74 35 *e*P **P** **12 54 48.7 +1.3**
comp=Z,168nm,1.1s
KAPI Kappang 46.92 210 P **P** **12 54 50.4 +1.3**
SNR=78
KAPI Kappang 46.92 210 *e*P **P** **12 54 50.0 +0.9**
comp=Z,2μm,1.3s
KAPI *e*PcP **PcP** **12 56 21.8 +1.1**
RAMN Ramite 46.92 274 *e*P **P** **12 54 50.8 +1.3**
comp=Z,796nm,0.9s
JIRN Jiri 46.93 275 *e*P **P** **12 54 51.2 +1.5**
comp=Z,446nm,0.7s
BKSI Bulukumba 47.05 210 P **P** **12 54 50.7 +0.5**
comp=Z,132nm,1.0s,comp=Z,1μm
GUN Gumba 47.06 275 *e*P **P** **12 54 52.1 +1.4**
PMG Port Moresby 47.06 172*de*P **P** **12 54 50.8 +0.6**
PMG pmax pmax
comp=Z,83nm,1.2s

PMG	Port Moresby	47.06 172	LR	LR	13 13 34.4	
	comp=Z,110nm,21.1s,baz=355,slow=35					
PMG	Port Moresby	47.06 172	*e*P	P	12 54 51.0	+0.8
	comp=Z,58nm,1.0s					
KTH	Kantishna Hill	47.31 34	*e*P	P	12 54 52.7	+0.9
	comp=Z,195nm,1.0s					
KTGM	Kuala Trenggan	47.36 237	⇑P	P	12 54 54.3	+1.7
PKI	Pulchoki	47.59 275	*e*P	P	12 54 55.6	+0.9
	comp=Z,250nm,0.8s					
KKN	Kakani	47.59 275	*e*P	P	12 54 56.1	+1.5
	comp=Z,805nm,0.8s					
PKIN	Phulchoki	47.59 275	*e*P	P	12 54 55.8	+1.1
	comp=Z,153nm,0.7s					
TRF	Thorofare Moun	47.60 34	*e*P	P	12 54 54.5	+0.4
	comp=Z,103nm,0.8s					
COLD	Coldfoot	47.69 29	*e*P	P	12 54 55.3	+0.7
	comp=Z,42nm,0.9s					
BBKI	Banjar Baru	47.69 217	P	P	12 54 55.8	+0.6
	comp=Z,521nm,1.0s,comp=Z,4μm					
SURT	Suratani	47.78 244	P	P	12 54 57.2	+1.3
	comp=Z,20nm,0.9s,comp=Z,363nm					
DMN	Daman	47.81 275	*e*P	P	12 54 57.5	+1.1
RC01	Rabbit Creek A	47.95 38	*e*P	P	12 54 56.8	+0.1
	comp=Z,236nm,1.0s					
RC01			*e*PcP	PcP	12 56 23.8	0.0
GKN	Gorkha	48.00 276	*e*P	P	12 54 59.0	+1.3
SEW	Seward	48.16 39	*e*P	P	12 54 58.1	-0.2
	comp=Z,123nm,1.0s					
SEW			*e*PcP	PcP	12 56 24.9	+0.5
MCK	McKinley	48.20 34	*e*P	P	12 54 58.8	+0.2
MCK			pmax	pmax		
	comp=Z,114nm,0.9s					
MCK	McKinley	48.20 34	*e*P	P	12 54 58.8	+0.2
	comp=Z,114nm,0.9s					
PMR	Palmer	48.21 37	*e*P	P	12 54 58.6	0.0
PMR			*e*		12 56 24.4	
PMR			pmax	pmax		
	comp=Z,156nm,0.9s					
PMR	Palmer	48.21 37	*e*P	P	12 54 58.6	0.0
	comp=Z,156nm,0.9s					
PMR			*e*PcP	PcP	12 56 24.4	-0.2
AAA	Alma-Ata	48.28 298	*e*P	P	12 55 01.8	+2.2
AAA			*e*S	S	13 01 55.5	+2.0
AAA			pmax	pmax		
	comp=Z,700nm,3.0s					
AAA			smax	smax		
	comp=E,1μm,11.5s					
AAA			MLR	MLR		
	comp=Z,3μm,20.0s					
DANN	Dangsing	48.54 277	*e*P	P	12 55 03.2	+1.2
	comp=Z,2μm,0.9s					
COLA	College	48.63 32	*d i*P	P	12 55 02.7	+0.9
COLA			pmax	pmax		
	comp=Z,778nm,1.9s					
COLA	College	48.63 32	*e*P	P	12 55 02.6	+0.7
	comp=Z,70nm,0.8s					
PKDT	Phuket	48.84 244	P	P	12 55 05.4	+1.3
	comp=Z,134nm,1.1s,comp=Z,2μm					
KOLN	Koldanda	48.93 276	*e*P	P	12 55 05.8	+0.9
ILAR	Eielson Array	49.05 33	P	P	12 55 05.0	-0.1
ILAR			pmax	pmax		
	comp=Z,111nm,0.8s					
ILAR	Eielson Array	49.05 33	P	P	12 55 05.0	-0.1
	comp=Z,111nm,0.8s,baz=270,slow=6.2,SNR=697					
KULM	Kulim	49.06 239	⇑P	P	12 55 07.3	+1.6
KULM	Kulim	49.06 239	*e*P	P	12 55 06.1	+0.3
	comp=Z,56nm,1.1s					
KULM			*e*PcP	PcP	12 56 29.5	+1.1
ULHL	Ulahol	49.08 297	P	P	12 55 07.1	+1.1
	SNR=22					
ULHL	Ulahol	49.08 297	*i* P	P	12 55 07.0	+1.1
TKM2	Tokmak 2	49.33 298	P	P	12 55 09.1	+1.3
	SNR=236					
TKM2	Tokmak 2	49.33 298	*e*P	P	12 55 09.2	+1.3
TKM2			*e**PP	pP	12 55 27.6	+0.4
TKM2			pmax	pmax		
	comp=Z,236nm,0.8s					
TKM2	Tokmak 2	49.33 298	*e*P	P	12 55 09.2	+1.3
	comp=Z,236nm,0.8s					
TKM2			*e*pP	pP	12 55 27.6	+0.4
MMRI	Maumere	49.34 205	P	P	12 55 08.7	+0.9
	comp=Z,228nm,1.1s,comp=Z,3μm					
MMRI	Maumere	49.34 205	*e*P	P	12 55 08.1	+0.3
	comp=Z,120nm,0.8s					
IPM	Ipoh	49.40 238	⇓P	P	12 55 09.1	+0.7
IPM	Ipoh	49.40 238	*e*P	P	12 55 08.6	+0.2
	comp=Z,89nm,0.8s					
IPM			*e*PcP	PcP	12 56 30.6	+0.8
MYKOM	Kota Tinggi	49.56 233	⇓P	P	12 55 10.9	+1.4
KGM	Kluang	49.72 234	⇓P	P	12 55 12.5	+1.7
SOEI	Soe	49.74 202	P	P	12 55 11.0	0.0
	comp=Z,230nm,1.2s,comp=Z,2μm					
SOEI	Soe	49.74 202	*e*P	P	12 55 10.8	-0.2
	comp=Z,266nm,1.0s					
TPRI	Tanjung Pinang	49.80 232	P	P	12 55 12.3	+0.9
	comp=Z,121nm,0.9s,comp=Z,8μm					
PAX	Paxson	49.80 35	*e*P	P	12 55 11.2	+0.2
PAX			*e*		12 56 31.2	
PAX			pmax	pmax		
	comp=Z,64nm,1.0s					
PAX	Paxson	49.80 35	*e*P	P	12 55 11.2	+0.2
	comp=Z,64nm,1.0s					
PAX			*e*PcP	PcP	12 56 31.2	+0.6
KZA	Kyzart	49.83 297	P	P	12 55 13.4	+1.5
	SNR=79					
KZA	Kyzart	49.83 297	*i* P	P	12 55 13.4	+1.5
DIV	Divide	49.86 37	*e*P	P	12 55 12.2	+0.8
	comp=Z,233nm,1.0s					
KBK	Karagaybulak	49.87 298	P	P	12 55 12.7	+0.9
	SNR=276					
VOSK	Vostochnaya	49.88 311	P	P	12 55 11.7	+0.1
CHMS	Chumysh	49.90 298	P	P	12 55 12.7	+0.7
	SNR=55					
CHMS	Chumysh	49.90 298	*i* P	P	12 55 12.6	+0.7
HNR	Honiara	49.91 156	LR	LR	13 12 56.5	
	comp=Z,706nm,21.9s,baz=328,slow=32					
FRIM	Kepong	49.91 237	⇑P	P	12 55 13.4	+1.2
USP	Ospenovka	49.99 299	P	P	12 55 13.5	+0.9
	SNR=83					
USP	Ospenovka	49.99 299	*i* P	P	12 55 13.5	+0.9
FRU	Bishkek	50.04 298	*e*P	P	12 55 14.0	+1.0
FRU			*i*		12 55 31.0	
FRU			*i* S	S	13 02 19.0	+0.8
FRU			pmax	pmax		
	comp=Z,323nm,1.8s					
FRU			smax	smax		
	comp=E,230nm,3.0s					
KSH	Kashi	50.14 294	P	P	12 55 18.8	+4.9
KSH			sP	sP	12 55 45.6	+3.4
KSH			PP	PP	12 57 15.8	+6.3
KSH			S	S	13 02 25.1	+5.3
KSH			sS	sS	13 02 58.1	+5.2
KSH			SS	SS	13 05 57.1	+3.5
KSH			PMZ			
	comp=E,36nm,1.3s					
KSH			LN			
	comp=E,970nm,14.1s					
KSH			LE			
	comp=E,1μm,17.8s					
KSH			LZ			
	comp=E,2μm,16.6s					
BVA0	Borovoye Array	50.17 312	*i* P	P	12 55 14.0	+0.2
BVA0			pmax	pmax		
	comp=Z,63nm,0.8s					
AAK	Ala-Archa	50.19 298	P	P	12 55 15.2	+0.8
	SNR=105					
AAK	Ala-Archa	50.19 298	*i* P	P	12 55 15.1	+0.8
AAK			pmax	pmax		
	comp=Z,265nm,1.0s					
AAK	Ala-Archa	50.19 298	P	P	12 55 15.4	+1.1
	SNR=48					
AAK	Ala-Archa	50.19 298	*e*P	P	12 55 14.9	+0.6
	comp=Z,118nm,0.9s					
BRVK	Borovoye	50.23 312	P	P	12 55 14.4	+0.2
	comp=Z,585nm,0.8s,SNR=51					
BRVK	Borovoye	50.23 312	*e*P	P	12 55 13.5	-0.6
BRVK			*e**PP	pP	12 55 32.7	-0.9
BRVK			pmax	pmax		
	comp=Z,78nm,0.8s					
BRVK	Borovoye	50.23 312	P	P	12 55 14.8	+0.7
	SNR=42					
BRVK	Borovoye	50.23 312	*e*P	P	12 55 13.5	-0.6
	comp=Z,78nm,0.8s					
BRVK			*e*pP	pP	12 55 32.7	-0.9
UCH	Uchtor	50.30 297	P	P	12 55 17.0	+1.5
	SNR=59					
UCH	Uchtor	50.30 297	*i* P	P	12 55 16.9	+1.5
BATI	Baumata	50.35 203	P	P	12 55 15.6	+0.1
	comp=Z,105nm,1.0s,comp=Z,1μm					
BATI	Baumata	50.35 203	LR	LR	13 15 05.1	
	comp=Z,173nm,21.2s,baz=58,slow=34					
DOT	Dot Lake	50.37 34	*e*P	P	12 55 15.1	-0.1
	comp=Z,87nm,0.8s					
BMRM	Bremner River	50.45 37	*e*P	P	12 55 16.6	+0.8
	comp=Z,168nm,1.0s					
BMRM			*e*PcP	PcP	12 56 33.9	+1.0
MENT	Mentasta	50.60 35	*e*P	P	12 55 18.3	+1.4
EKS2	Erkin-Say	50.69 298	P	P	12 55 18.8	+0.9
	SNR=98					
EKS2	Erkin-Say	50.69 298	*e*P	P	12 55 18.5	+0.5
EKS2			*e**PP	pP	12 55 36.8	-0.6
EKS2			*e*		12 56 34.1	
EKS2			*e*S	S	13 02 26.5	-0.7
EKS2			pmax	pmax		
	comp=Z,76nm,0.8s					
EKS2	Erkin-Say	50.69 298	*e*P	P	12 55 18.5	+0.5
	comp=Z,76nm,0.8s					
EKS2			*e*pP	pP	12 55 36.8	-0.6
EKS2			*e*PcP	PcP	12 56 34.1	-0.1
EKS2			*e*S	S	13 02 26.5	-0.7
TPI	Tanjungpandan	50.87 226	P	P	12 55 20.5	+1.1
	comp=Z,146nm,1.0s,comp=Z,2μm					
AML	Almayashu	50.91 298	P	P	12 55 21.5	+1.5
	SNR=215					
KMMI	Kalianget	51.24 216	P	P	12 55 23.1	+0.9
	comp=Z,254nm,1.1s,comp=Z,3μm					
WBSI	Waikabubak, Su	51.29 208	P	P	12 55 21.6	-1.0
	comp=Z,93nm,1.0s,comp=Z,4μm					
COEN	Coen	51.30 178	*e*P	P	12 55 23.5	+1.0
	comp=Z,2μm,1.0s					
COEN			*e*PcP	PcP	12 56 36.7	+0.2
EGAK	Eagle	51.49 32	*e*P	P	12 55 23.6	+0.1
	comp=Z,70nm,0.9s					
SRBI	Singaraja	51.59 214	P	P	12 55 25.5	+0.7
	comp=Z,244nm,0.9s,comp=Z,3μm					
ABJI	Asem Bagus	51.78 215	P	P	12 55 26.9	+0.7
	comp=Z,218nm,1.1s,comp=Z,3μm					
GRJI	Gresik	51.83 218	P	P	12 55 27.6	+1.0
	comp=Z,186nm,0.9s,comp=Z,2μm					
BLJI	Banyuglugur	52.03 216	P	P	12 55 28.1	+0.1
	comp=Z,86nm,0.8s,comp=Z,2μm					
DNP	Denpasar	52.12 214	P	P	12 55 28.9	+0.2
	comp=Z,510nm,1.0s					
IGBI	Denpasar	52.27 214	P	P	12 55 29.0	-0.8
	comp=Z,160nm,1.0s,comp=Z,2μm					
KCSI	Kotacane, Aceh	52.31 240	P	P	12 55 29.5	-0.7
	comp=Z,27nm,0.9s					
JMBI	JAMBI	52.34 231	P	P	12 55 33.4	+3.0
	comp=Z,442nm,0.9s					
DAWY	Dawson	52.36 33	*e*P	P	12 55 30.6	+0.6
JAGI	Jajag, Banyuwa	52.41 215	P	P	12 55 29.6	-1.3
	comp=Z,121nm,1.1s,comp=Z,1μm					
JAGI	Jajag, Banyuwa	52.41 215	*e*P	P	12 55 29.3	-1.5
	comp=Z,112nm,1.0s					
BKNI	Bangkinang	52.48 235	P	P	12 55 32.9	+1.5
	comp=Z,317nm,1.0s,comp=Z,3μm					
BKNI	Bangkinang	52.48 235	*e*P	P	12 55 32.0	+0.6
	comp=Z,334nm,1.0s					
SMLA	Simla	52.48 283	*i* x	P	12 55 31.6	+0.3
SMLA			AMB	AMB	12 55 39.0	
	comp=Z,917nm,0.7s					
SMLA			*i* x	S	13 02 47.5	-4.4
GMJI	Gumukmas	52.56 216	P	P	12 55 31.4	-0.6
	comp=Z,96nm,1.1s					
KK31	Karatay Array	52.81 300	*i* P	P	12 55 34.0	+0.4
KK31			pmax	pmax		
	comp=Z,28nm,0.5s					
KKAR	Karatay Array	52.81 300	*e*P	P	12 55 34.0	+0.3
KKAR			pmax	pmax		
	comp=Z,68nm,0.7s					
KKAR	Karatay Array	52.81 300	*e*P	P	12 55 34.0	+0.3
	comp=Z,68nm,0.7s					
SMRI	Semarang	52.96 220	*e*P	P	12 55 36.3	+1.3
	comp=Z,245nm,1.0s					
MNSI	Mandailing Nat	53.08 236	P	P	12 55 35.8	-0.1
	comp=Z,72nm,0.8s					
SDSI	Sungai Dareh	53.18 233	P	P	12 55 37.9	+1.3
	comp=Z,196nm,1.0s,comp=Z,6μm					
PDSI	Padang	53.79 234	P	P	12 55 40.4	-0.7
	comp=Z,30nm,0.9s					
HYT	Haines Junctio	53.88 37	*e*P	P	12 55 43.2	+1.8
HYT			*e*pP	pP	12 56 03.3	+2.4
KPJI	Karang Pucung	53.98 221	P	P	12 55 42.1	-0.3
	comp=Z,240nm,1.0s,comp=Z,2μm					
GSI	Gunungsitoli	54.05 239	P	P	12 55 43.8	+0.8
	comp=Z,358nm,1.2s,comp=Z,4μm					
GSI	Gunungsitoli	54.05 239	*e*P	P	12 55 43.0	0.0
	comp=Z,565nm,1.2s					
SNSI	Sinabang, Aceh	54.11 241	P	P	12 55 44.6	+1.2
	comp=Z,140nm,0.9s					
VIS	Vishakhapatnam	54.22 265	*i* x	pP	12 56 02.0	-1.9
KIP	Kipapa	54.29 89	*e*P	P	12 55 45.4	+0.7
KIP			pmax	pmax		
	comp=Z,80nm,0.8s					
KIP	Kipapa	54.29 89	*e*P	P	12 55 45.4	+0.7
	comp=Z,80nm,0.8s					
SVE	Sverdlovsk	54.70 318	*d i*P	P	12 55 48.6	+1.4
SVE			*e*S	S	13 03 21.7	+0.4
SVE			pmax	pmax		
	comp=Z,223nm,1.1s					
SVE			MLR	MLR		
	comp=Z,2μm,17.0s					
KASI	Kota Agung	54.93 227	P	P	12 55 48.1	-1.2
	comp=Z,94nm,0.9s,comp=Z,937nm					
SKAG	Skagway	55.28 38	*e*P	P	12 55 52.9	+1.5
	comp=Z,110nm,1.0s					
SOKR	Solikamsk	55.86 322	*e*P	P	12 55 57.0	+1.6
SOKR			S	S	13 03 37.5	+1.0
SOKR			pmax	pmax		
	comp=Z,50nm,1.3s					
SOKR			MLR	MLR		
	comp=Z,630nm,20.0s					
ARU	Arti	55.92 318	P	P	12 55 56.0	+0.1
	comp=Z,652nm,0.5s,SNR=37					
ARU	Arti	55.92 318	*d i*P	P	12 55 56.2	+0.3
ARU			*e**PP	pP	12 56 14.6	-1.1
ARU			*SP	sP	12 56 24.2	-0.3
ARU					12 56 56.4	
ARU					12 57 59.5	
ARU			S	S	13 03 37.6	+0.1
ARU			SS	SS	13 07 22.8	-0.9
ARU			pmax	pmax		
	comp=Z,88nm,1.0s					
ARU			MLR	MLR		
	comp=Z,2μm,18.0s					
ARU	Arti	55.92 318	*e*P	P	12 55 56.1	+0.3
	comp=Z,517nm,1.5s					
ARU			*e*pP	pP	12 56 15.1	-0.6
ARU			*e*S	S	13 03 37.3	-0.2
SIT	Sitka	55.99 41	*e*P	P	12 55 58.3	+1.9
SIT			pmax	pmax		
	comp=Z,119nm,1.3s					
SIT	Sitka	55.99 41	*e*P	P	12 55 58.2	+1.9
	comp=Z,119nm,1.3s					
KBL	Kabul	57.18 291	*e*P	P	12 56 05.5	0.0
KBL			pmax	pmax		
	comp=Z,97nm,1.0s					
KBL	Kabul	57.18 291	*e*P	P	12 56 05.5	0.0
	comp=Z,97nm,1.0s					
AB31	Akbulak array	57.55 310	*e*P	P	12 56 07.6	0.0
AB31			pmax	pmax		
	comp=Z,29nm,0.3s					
ABKAR	Akbulak array	57.55 310	*e*P	P	12 56 07.7	+0.1
	comp=Z,36nm,0.3s					
CTAO	Charters Tower	57.55 175	*e*P	P	12 56 05.7	-2.1
CTAO			*e**PP	pP	12 56 27.6	-0.1
CTAO			pmax	pmax		
	comp=Z,118nm,1.3s					
CTAO	Charters Tower	57.55 175	*e*P	P	12 56 05.7	-2.1
	comp=Z,118nm,1.3s					
CTAO			*e*pP	pP	12 56 27.6	-0.1
WRAB	Tennant Creek	57.59 188	P	P	12 56 08.3	+0.2
	comp=Z,3μm,0.8s					
WRAB	Tennant Creek	57.59 188	*d i*P	P	12 56 08.0	-0.1
WRAB			pmax	pmax		
	comp=Z,1μm,1.0s					
WRAB	Tennant Creek	57.59 188	*e*P	P	12 56 08.0	-0.1
	comp=Z,415nm,0.8s					
WRAB			*e*pP	pP	12 56 27.7	-0.3
WB2	Warramunga Arr	57.60 188	*e*P	P	12 56 08.0	-0.2
WRA	Warramunga Arr	57.60 188	P	P	12 56 07.7	-0.5
WRA			S	S	13 03 57.1	-3.3
WRA			pmax	pmax		
	comp=Z,389nm,0.7s					
WRA			smax	smax		
	comp=N,2.0nm,1.0s					
WRA			pmax	pmax		
	comp=Z,3.0nm,1.0s					
WRA	Warramunga Arr	57.60 188	P	P	12 56 07.7	-0.5
	comp=Z,390nm,0.7s,baz=5.9,slow=7.3,SNR=701					
WRA			S	S	13 03 57.0	-3.3
	comp=Z,2.3nm,1.0s,baz=6.5,slow=13,SNR=5.0					
WRA			LR	LR	13 20 07.1	
	comp=Z,184nm,21.4s,baz=335,slow=35					
WRA			PKPPKP	P'P'df	13 25 54.2	+4.7
	comp=Z,3.2nm,1.0s,baz=189,slow=2.3,SNR=6.3					
WRAK	Wrangell Islan	57.76 41	*e*P	P	12 56 10.0	+1.1
	comp=Z,70nm,1.0s					
HYB	Hyderabad	58.18 268	*i* P	P	12 56 11.5	-1.0
	comp=Z,60nm,1.0s					
HYB			*e*pP	pP	12 56 30.0	-2.3
HYB			*e*S	S	13 04 08.0	-0.3
DLBC	Dease Lake	58.22 38	*e*P	P	12 56 14.0	+1.8
HOPEN	Hopen	59.49 346	*e*P	P	12 56 21.6	+0.9
SPA0	Spitsbergen Ar	59.97 349	*e*P	P	12 56 24.3	+0.3
SPA0			IAmb	IAmb	12 56 24.7	
	comp=Z,55nm,1.1s					
SPA0			*e*S	S	13 04 31.1	+1.3
KBS	Kingsbay	60.10 350	*e*P	P	12 56 25.9	+1.1
KBS			*e*pP	pP	12 56 45.6	+0.8
KBS			*e*S	S	13 04 34.3	+2.8
KBS	Kingsbay	60.10 350	*e*P	P	12 56 25.7	+0.9
KBS			*e**PP	pP	12 56 44.4	-0.4
KBS			pmax	pmax		
	comp=Z,97nm,1.0s					
KBS	Kingsbay	60.10 350	*e*P	P	12 56 25.7	+0.9
	comp=Z,97nm,1.0s					
KBS			*e*pP	pP	12 56 44.4	-0.4
PRGR	Permogore	60.28 327	*e*P	P	12 56 24.0	-2.2
PRGR			*e**PP	pP	12 56 44.6	-1.6
PRGR					12 57 05.3	
PRGR			*e*		12 58 40.1	
PRGR			*e*S	S	13 04 35.8	+1.7
PRGR			pmax	pmax		
	comp=Z,151nm,1.1s					
HSP	Hornsund	60.89 348	*e*P	P	12 56 30.9	+0.7
HSPB	Hornsund (broa	60.90 348	*e*P	P	12 56 30.8	+0.6
HSPB			IAmb	IAmb	12 56 32.0	
	comp=Z,180nm,1.1s					
HSPB			*e*pP	pP	12 56 50.1	-0.1
AS31	Alice Springs	61.33 188	*e*P	P	12 56 33.9	+0.1
ASAR	Alice Springs	61.33 188	P	P	12 56 34.0	+0.2
ASAR			S	S	13 04 46.9	-1.4
ASAR			pmax	pmax		
	comp=Z,177nm,0.8s					
ASAR			smax	smax		
	comp=N,1.0nm,0.9s					
ASAR			pmax	pmax		
	comp=Z,2.0nm,1.2s					
ASAR			pmax	pmax		
	comp=Z,1.0nm,0.9s					
ASAR			pmax	pmax		
	comp=Z,1.0nm,0.9s					
ASAR	Alice Springs	61.33 188	P	P	12 56 34.0	+0.2
	comp=Z,177nm,0.8s,baz=10,slow=6.1,SNR=1142					
ASAR			S	S	13 04 46.9	-1.4
	comp=Z,0.9nm,0.9s,baz=19,slow=12,SNR=4.3					
ASAR			PKKP	PKKPdf	13 17 09.9	-21
	comp=Z,2.3nm,1.2s,baz=166,slow=2.6,SNR=4.3					
ASAR			LR	LR	13 22 09.5	
	comp=Z,117nm,19.9s,baz=358,slow=35					
ASAR			PKPPKP	P'P'df	13 25 42.2	-1.5
	comp=Z,0.9nm,0.9s,baz=153,slow=2.2,SNR=5.0					
ASAR			P4KPbc		13 33 35.2	
	comp=Z,1.0nm,0.9s,baz=23,slow=4.2,SNR=7.5					
LVZ	Lovozero	61.59 336	*i* P	P	12 56 35.5	+0.4
LVZ			pmax	pmax		
	comp=Z,97nm,2.0s					
LVZ	Lovozero	61.59 336	*e*P	P	12 56 35.5	+0.4
	comp=Z,44nm,0.7s					
LVZ			*e*pP	pP	12 56 54.4	-0.7
BJO	Bjornoya	61.88 345	*e*P	P	12 56 38.2	+1.4
BJO			*e*pP	pP	12 56 56.7	-0.2
MBWA	Marble Bar	61.88 203	P	P	12 56 38.2	+0.7
	SNR=19					
MBWA	Marble Bar	61.88 203	*e*P	P	12 56 37.7	+0.2
	comp=Z,246nm,0.8s					
APA	Apatity	62.17 336	⇑*i*P	P	12 56 39.0	+0.1
APA			*i*		12 56 53.4	
APA			*i* S	S	13 04 56.0	-1.9
APA			*i* SS	SS	13 09 00.0	-1.2
APA			pmax	pmax		
	comp=Z,52nm,1.0s					
APA			MLR	MLR		
	comp=Z,1μm,14.0s					
TMCR	Tamitsa	62.24 331	*e*P	P	12 56 39.7	+0.3
TMCR			*e*		12 57 18.7	
TMCR			*e*		12 58 58.2	
TMCR			*e*S	S	13 04 56.2	-2.7
TMCR			pmax	pmax		
	comp=Z,79nm,1.1s					
PALK	Pallekele	62.45 257	*e*P	P	12 56 41.5	-0.1
PALK			pmax	pmax		
	comp=Z,51nm,0.8s					
PALK	Pallekele	62.45 257	*e*P	P	12 56 41.5	-0.1
	comp=Z,51nm,0.8s					
IMYA	Miami	62.88 296	*e*P	P	12 56 44.8	+0.3
KEV	Kevo	62.91 339	*e*P	P	12 56 44.0	+0.2
KEV			pmax	pmax		
	comp=Z,25nm,0.8s					
KEV	Kevo	62.91 339	*e*p	P	12 56 44.0	+0.2
	comp=Z,25nm,0.8s					
KLMR	Klimovskoe	63.27 328	*e*P	P	12 56 45.3	-1.0
KLMR			*e*		12 59 03.6	
KLMR			*e*S	S	13 05 11.1	-0.7
KLMR			pmax	pmax		
	comp=Z,92nm,0.9s					
KLMR			MLR	MLR		
	comp=Z,1μm,19.0s					
EIDS	Eidsvold	63.29 170	*e*P	P	12 56 47.3	+0.5
	comp=Z,46nm,0.8s					
EIDS			*e*pP	pP	12 57 08.6	+1.7
ISRO	Mashad	63.34 297	*e*P	P	12 56 47.8	+0.4
YKA	Yellowknife Ar	63.35 30	P	P	12 56 46.7	-0.1
	comp=Z,39nm,0.8s,baz=302,slow=6.8,SNR=562					
YKA			pP	pP	12 57 07.2	+0.3
	comp=Z,16nm,0.8s,baz=298,slow=5.5,SNR=7.8					
YKA			PKPPKP	P'P'df	13 25 36.4	-11
	comp=Z,1.0nm,0.8s,baz=140,slow=2.4,SNR=11					
YKA			P4KPbc		13 33 42.4	
	comp=Z,0.1nm,0.4s,baz=312,slow=4.3,SNR=4.2					
ARCES	ARCESS Array B	63.46 339	P	P	12 56 47.3	-0.2
ARCES			*PP	pP	12 57 07.2	-0.5
ARCES					12 59 09.2	
ARCES			pmax	pmax		
	comp=Z,32nm,0.9s					
ARCES			pmax	pmax		
	comp=Z,41nm,0.8s					
ARCES			pmax	pmax		
	comp=Z,23nm,1.0s					
ARCES			MLR	MLR		
	comp=Z,337nm,21.0s					
ARCES	ARCESS Array B	63.46 339	P	P	12 56 47.3	-0.2
	comp=Z,32nm,0.9s,baz=55,slow=7.3,SNR=36					
ARCES			pP	pP	12 57 07.2	-0.5
	comp=Z,41nm,0.8s,baz=51,slow=7.9,SNR=10.0					
ARCES			PP	PP	12 59 09.2	+1.8
	comp=Z,23nm,1.0s,baz=34,slow=8.9,SNR=5.0					
ARCES			LR	LR	13 27 29.7	
	comp=Z,337nm,21.0s,baz=53,slow=39					
ARE0	ARCESS Array S	63.46 339	*e*P	P	12 56 47.7	+0.2
ARE0			IAmb	IAmb	12 56 48.2	
	comp=Z,55nm,1.0s					
ARE0			*e*S	S	13 05 14.5	+0.4
ARE0			*e*SS	SS	13 09 24.2	+2.7
ABKT	Ailbek	63.53 299	P	P	12 56 49.3	+0.8
	comp=Z,341nm,1.0s,SNR=11					
GEYT	Alibeck	63.53 299	P	P	12 56 48.9	+0.4
	comp=Z,27nm,0.8s,baz=29,slow=3.4,SNR=56					
GEYT			pP	pP	12 57 08.9	+0.2
	comp=Z,90nm,1.1s,baz=27,slow=4.0,SNR=7.9					
GEYT			LR	LR	13 26 02.0	
	comp=Z,592nm,20.4s,baz=90,slow=37					
KTK1	Kautokeino	64.42 339	*e*P	P	12 56 55.3	+1.5
IDAH	Dahanechah	64.79 293	*e*P	P	12 56 57.2	+0.1
TRO	Tromso	65

comp=Z,70nm,0.9s
JOF Joensuu 65.45 332 *e*P **P 12 57 00.4 -0.2**
JOF pmax pmax
comp=Z,8.0nm,0.4s
JOF Joensuu 65.45 332 *e*p **P 12 57 00.4 -0.2**
comp=Z,7.5nm,0.4s
ITEG Tejag 65.53 294 *e*P **P 12 57 02.3 +0.5**
VDB Vedder Mountai 66.56 45 P **P 12 57 08.2 +0.2**
HDW Hoodsport 66.72 47 P **P 12 57 10.5 +1.4**
MOS Moscow 66.78 323 *e*P **P 12 57 08.1 -1.1**
MOS *i* *PP **pP 12 57 28.5 -1.0**
MOS *e* 12 57 35.1
MOS *i* S **S 13 05 54.2 -0.8**
MOS pmax pmax
comp=Z,128nm,1.3s
MOS pmax pmax
comp=Z,300nm,2.1s
MOS smax smax
comp=N,600nm,2.4s
MBW Mount Baker 66.80 46 P **P 12 57 10.4 +0.7**
JCW Jim Creek 67.09 46 P **P 12 57 12.3 +1.0**
IGLO Ghaloghah 67.21 299 *e*P **P 12 57 12.8 +0.3**
VRHR Novokhopersk 67.25 318 *e*P **P 12 57 10.1 -2.1**
VRHR *e**PP **pP 12 57 29.6 -3.0**
VRHR *e*S **S 13 05 56.9 -3.9**
VRHR pmax pmax
comp=Z,50nm,0.7s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR smax smax
comp=E,60nm,1.2s
VRHR smax smax
comp=Z,9.0nm,0.9s
VRHR smax smax
comp=N,30nm,0.8s
STEI Steigen 67.33 341 *e*P **P 12 57 12.7 +0.3**
KULLO Kullorsuaq 67.43 5 *i* P **P 12 57 12.3 -0.7**
KULLO *i* 12 57 33.2
KULLO pmax pmax
comp=Z,30nm,1.1s
KULLO Kullorsuaq 67.43 5 *i* P **P 12 57 12.3 -0.7**
comp=Z,30nm,1.0s
KULLO *i* 12 57 33.2
IKIA Kiasar 67.46 299 *e*P **P 12 57 14.4 +0.2**
F04D Rainier, OR 67.55 49 ⇓P **P 12 57 16.1 +1.9**
baz=67
LOF Lofoten 67.62 341 *e*P **P 12 57 15.1 +0.8**
OBN Obninsk 67.63 323 *d* *i*P **P 12 57 14.5 0.0**
OBN *e*S **S 13 06 04.3 -0.9**
OBN *i* SS **SS 13 10 32.3 +5.8**
OBN pmax pmax
comp=Z,89nm,1.4s
OBN MLR MLR
comp=Z,463nm,17.0s
OBN Obninsk 67.63 323 *e*P **P 12 57 14.1 -0.4**
comp=Z,204nm,1.3s
OBN *e*pP **pP 12 57 33.7 -1.2**
IANJ Anjilo 67.68 298 *e*P **P 12 57 16.4 +0.8**
KAF Kangasniemi 67.80 333 *e*P **P 12 57 15.4 -0.1**
KAF pmax pmax
comp=Z,24nm,0.4s
KAF Kangasniemi 67.80 333 *e*p **P 12 57 15.4 -0.1**
comp=Z,24nm,0.4s,baz=55,slow=6.4
G03D McMinnville, O 67.85 49 ⇑P **P 12 57 17.9 +1.8**
baz=68
TDL Tradedollar La 67.88 48 P **P 12 57 17.6 +1.1**
FMW Mount Fremont 67.89 47 P **P 12 57 17.5 +0.9**
LON Longmire 67.91 47 *e*P **P 12 57 16.6 0.0**
LON pmax pmax
comp=Z,20nm,0.9s
LON Longmire 67.91 47 *e*P **P 12 57 16.6 0.0**
comp=Z,20nm,0.9s
NLW Nelson Butte 68.06 46 P **P 12 57 18.4 +0.8**
MAK Makhachkala 68.08 308 P **P 12 57 15.3 -2.3**
MAK *e*S **S 13 06 09.4 -1.7**
MAK pmax pmax
comp=Z,79nm,1.0s
MAK MLR MLR
comp=Z,1μm,16.0s
COR Corvallis 68.15 50 *e*P **P 12 57 18.6 +0.6**
COR pmax pmax
comp=Z,350nm,1.0s
COR Corvallis 68.15 50 *e*P **P 12 57 18.6 +0.6**
comp=Z,350nm,1.0s
VOR Voronezh 68.19 319 P **P 12 57 17.0 -1.1**
VOR pmax pmax
comp=Z,250nm,1.0s
FINES FINESS Array B 68.31 332 P **P 12 57 18.7 0.0**
FINES *PP **pP 12 57 38.4 -0.7**
FINES pmax pmax
comp=Z,65nm,0.8s
FINES pmax pmax
comp=Z,80nm,0.8s
FINES MLR MLR
comp=Z,17nm,28.6s
FINES FINESS Array B 68.31 332 P **P 12 57 18.7 0.0**
comp=Z,65nm,0.8s,baz=40,slow=7.2,SNR=165
FINES pP **pP 12 57 38.4 -0.7**
comp=Z,80nm,0.8s,baz=60,slow=7.5,SNR=13
FINES LR LR 13 29 31.0
comp=Z,603nm,18.7s,baz=58,slow=38
ETW Entiat 68.31 46 P **P 12 57 19.8 +0.6**
ARMA Armidale 68.33 170 *e*P **P 12 57 19.9 +0.7**
comp=Z,192nm,1.3s
ARMA *e*pP **pP 12 57 41.5 +1.9**
TBM Table Mountain 68.39 47 P **P 12 57 20.4 +0.8**
KEBM Edson Butte 68.41 52 *e*P **P 12 57 21.1 +1.3**
comp=Z,344nm,1.0s
WTV Waterville 68.48 46 P **P 12 57 20.4 +0.3**
VSR Storozhevoye 68.49 319 *e*P **P 12 57 19.2 -0.8**
VSR *e**PP **pP 12 57 38.3 -2.1**
VSR *e*S **S 13 06 13.4 -2.2**
VSR pmax pmax
comp=Z,60nm,0.7s
VSR pmax pmax
comp=N,50nm,0.8s
VSR pmax pmax
comp=E,50nm,0.9s
VSR smax smax
comp=E,50nm,1.1s
VSR smax smax
comp=Z,4.0nm,0.7s
VSR smax smax
comp=N,30nm,1.0s
VORD Divnogorie 68.56 318 *e*P **P 12 57 19.5 -0.9**
VORD *e**PP **pP 12 57 38.7 -2.1**
VORD *e*S S 13 06 10.3 -6.2
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=Z,30nm,0.8s
VORD pmax pmax
comp=E,20nm,1.0s
VORD smax smax
comp=E,40nm,0.8s
VORD smax smax
comp=Z,7.0nm,0.7s
VORD smax smax
comp=N,40nm,0.8s
I03D Drain, OR 68.59 51 ⇓P **P 12 57 22.4 +1.6**
baz=68,SNR=16
SAW Saint Andrews 68.79 46 P **P 12 57 22.4 +0.4**
MOR8 Moi Rana 68.83 340 ⇓*i*P **P 12 57 20.6 -1.3**
MOR8 IAmb IAmb 12 57 21.9
comp=Z,95nm,0.9s
MOR8 *e*pP **pP 12 57 40.6 -1.7**
IDMV Damavand 68.94 299 *e*P **P 12 57 24.2 +0.7**
EDM Edmonton 68.94 38 *e*P **P 12 57 23.0 +0.1**
EDM *e**PP **pP 12 57 43.8 +0.6**
EDM Edmonton 68.94 38 *e*P **P 12 57 23.0 +0.1**
EDM *e*pP **pP 12 57 43.8 +0.6**
G05D Wamic, OR 69.00 49 ⇑P **P 12 57 24.8 +1.5**
baz=69,SNR=10
STKA Stephens Creek 69.11 180 P **P 12 57 24.4 +0.4**
comp=Z,76nm,0.9s,baz=347,slow=6.5,SNR=125
STKA pP **pP 12 57 45.1 +0.8**
comp=Z,50nm,0.8s,baz=348,slow=10.0,SNR=8.9
STKA PKPPKP **P'P'df 13 25 33.2 +2.5**
comp=Z,4.3nm,0.9s,baz=208,slow=1.9,SNR=6.9
STKA LR LR 13 27 00.1
comp=Z,234nm,22.0s,baz=0.7,slow=35
I04A Tendick Farm, 69.12 50 ⇓P **P 12 57 25.6 +1.5**
baz=69,SNR=23
FORT Forrest 69.14 192 *e*P **P 12 57 24.6 +0.5**
comp=Z,437nm,0.6s
L02D Cave Junction, 69.25 52 ⇓P **P 12 57 26.6 +1.7**
baz=69,SNR=11
IMEH Mehriz 69.31 294 *e*P **P 12 57 23.6 -2.2**
HUMO Hull Mountain 69.41 52 *e*P **P 12 57 26.8 +0.9**
comp=Z,60nm,1.3s
HAWA Hanford 69.43 47 *e*P **P 12 57 26.3 +0.4**
comp=Z,58nm,1.0s
WRD Warden 69.43 46 P **P 12 57 26.0 +0.1**
IVRN Varamin 69.45 299 *e*P **P 12 57 24.4 -2.0**
I05D Terrebonne, OR 69.47 49 ⇓P **P 12 57 27.8 +1.4**
baz=69,SNR=20
J04D Umpqua Nationa 69.60 51 ⇑P **P 12 57 28.8 +1.5**
baz=69,SNR=32
IR3 Iran Long-Peri 69.69 300 *e*P **P 12 57 27.5 -0.3**
ISAD Sadrabad 69.70 295 *e*P **P 12 57 27.4 -0.8**
NEW Newport 69.76 44 *e*P **P 12 57 28.4 +0.4**
NEW *e* 12 57 49.5
NEW pmax pmax
comp=Z,90nm,0.9s
NEW Newport 69.76 44 ⇑P **P 12 57 28.7 +0.7**
baz=70,SNR=64
NEW Newport 69.76 44 *e*P **P 12 57 28.4 +0.4**
comp=Z,90nm,0.9s
NEW *e* 12 57 49.5
KHMM Horse Mountain 69.85 54 *e*P **P 12 57 30.3 +1.5**
comp=Z,115nm,1.0s
VSU Vasula 69.96 329 ⇑*i*P **P 12 57 29.8 +0.9**
VSU pmax pmax
comp=Z,234nm,1.1s
YBH Yreka Blue Hor 70.04 52 *e*P **P 12 57 31.3 +1.4**
YBH *e* 12 57 53.1
YBH pmax pmax
comp=Z,86nm,1.0s
YBH Yreka Blue Hor 70.04 52 *e*P **P 12 57 31.2 +1.4**
comp=Z,86nm,1.0s
YBH *e* 12 57 53.1
PINOR Pine Mountain 70.04 50 *e*P **P 12 57 31.3 +1.5**
comp=Z,202nm,0.9s
PINOR *e* 12 57 52.2
J05D Fort Rock, OR 70.11 50 ⇓P **P 12 57 31.9 +1.5**
baz=70,SNR=49
M02C Callahan 70.13 53 ⇓P **P 12 57 31.6 +1.2**
baz=70,SNR=19
SUMG Summit 70.13 360 ⇓*i*P **P 12 57 30.8 +0.5**
SUMG *i* *PP **pP 12 57 51.2 +0.4**
SUMG pmax pmax
comp=Z,59nm,0.9s
SUMG Summit 70.13 360 ⇓*i*P **P 12 57 30.8 +0.5**
comp=Z,59nm,0.9s
SUMG *i* pP **pP 12 57 51.2 +0.4**
SUMG Summit 70.13 360 *e*P **P 12 57 30.7 +0.5**
comp=Z,76nm,1.0s
SUMG *e* 12 57 51.3
IZEF Zefreh 70.15 297 *e*P **P 12 57 30.7 -0.3**
K04D Chiloquin, OR 70.15 51 ⇑P **P 12 57 31.5 +0.9**
baz=70,SNR=14
BBOO Buckleboo 70.21 185 *e*P **P 12 57 31.1 +0.4**
comp=Z,2μm,0.9s
DGRG David-gareji 70.23 307 P **P 12 57 30.6 -0.4**
DUS Dusheti 70.30 308 P **P 12 57 32.6 +1.1**
ZEI Tsey 70.42 309 *e*P **P 12 57 29.4 -2.9**
ZEI pmax pmax
comp=Z,56nm,1.0s
IKLH Kolahrood 70.45 297 *e*P **P 12 57 33.0 +0.3**
N02D Trinity Center 70.45 53 ⇑P **P 12 57 33.6 +1.2**
baz=70,SNR=27
TBLG Delisi 70.47 308 P **P 12 57 32.6 +0.2**
IRAZ Razeghan 70.48 300 *e*P **P 12 57 32.4 -0.5**
KBZ Khabaz 70.51 310 P **P 12 57 33.1 +0.6**
comp=Z,64nm,1.0s,baz=57,slow=4.9,SNR=100
KBZ pP **pP 12 57 52.8 -0.3**
comp=Z,91nm,0.9s,baz=39,slow=1.9,SNR=9.3
KBZ PKPPKP P'P'df 13 25 27.1 -7.9
comp=Z,3.1nm,1.1s,baz=313,slow=2.4,SNR=5.5
KBZ LR LR 13 33 37.9
comp=Z,448nm,18.1s,baz=57,slow=40
KIV Kislovodsk 70.51 311 P **P 12 57 33.1 +0.4**
comp=Z,2μm,0.9s,SNR=23
KIV Kislovodsk 70.51 311 *d* *i*P **P 12 57 33.3 +0.6**
KIV *e* 12 57 52.7
KIV *e* 13 00 12.1
KIV *e*S **S 13 06 43.1 +3.2**
KIV *e*SS **SS 13 11 09.2 -2.5**
KIV pmax pmax
comp=Z,162nm,1.1s
KIV MLR MLR
comp=Z,679nm,20.0s
KIV Kislovodsk 70.51 311 P **P 12 57 33.8 +1.0**
SNR=72
KIV Kislovodsk 70.51 311 ⇑*i*P **P 12 57 33.4 +0.6**
SNR=28
KIV Kislovodsk 70.51 311 *e*P **P 12 57 33.3 +0.6**
comp=Z,237nm,0.9s
M04C Macdoel 70.56 52 ⇑P **P 12 57 34.2 +1.1**
baz=70,SNR=49
KCPM Cahto Peak 70.59 55 *e*P **P 12 57 34.6 +1.2**
comp=Z,42nm,0.8s
NSS Namsos 70.75 339 *e*P **P 12 57 33.6 0.0**
WBK Wadi Bani Khal 70.77 284 P **P 12 57 35.7 +1.1**
SNR=38
WDC Whiskeytown Da 70.77 53 *e*P **P 12 57 34.8 +0.5**
WDC pmax pmax
comp=Z,92nm,1.1s
WDC Whiskeytown Da 70.77 53 *e*P **P 12 57 34.8 +0.5**
comp=Z,92nm,1.1s
ONI Oni 70.80 309 P **P 12 57 35.5 +1.0**
BANOM Banah 70.99 288 P **P 12 57 36.8 +0.9**
SNR=25
BANOM Banah 70.99 288 ⇓*i*P **P 12 57 36.4 +0.6**
SNR=39
WALA Waterton Lakes 71.06 42 *e*P **P 12 57 36.5 +0.5**
comp=Z,3.8nm,0.9s
SMDO Samad 71.23 285 P **P 12 57 38.5 +1.1**
SNR=28
IPAR Pars 71.27 294 *e*P **P 12 57 38.5 +0.6**
IPIR Pirpir 71.28 297 *e*P **P 12 57 36.0 -1.8**
BSMT Bassoo Peak 71.28 44 *e*P **P 12 57 38.0 +0.5**
comp=Z,2.4nm,0.9s
BLMT Blacktail Moun 71.42 43 *e*P **P 12 57 39.0 +0.7**
comp=Z,44nm,0.9s
MOD Modoc Plateau 71.45 51 *e*P **P 12 57 39.3 +0.8**
comp=Z,78nm,0.9s
ISRV Sarvestan 71.48 293 *e*P **P 12 57 38.5 -0.6**
HOQ Hoqain 71.51 286 P **P 12 57 39.6 +0.6**
SNR=20
IMRD Marand 71.51 305 *e*P **P 12 57 37.2 -1.8**
JMDO Jabal Madar 71.57 284 P **P 12 57 39.9 +0.5**
SNR=28
BMO Blue Mountains 71.58 47 *e*P **P 12 57 39.9 +0.7**
BMO pmax pmax
comp=Z,100nm,0.9s
BMO Blue Mountains 71.58 47 *e*P **P 12 57 39.9 +0.7**
comp=Z,100nm,0.9s
UOSS Wadi Hilu 71.60 288 P **P 12 57 39.0 -0.5**
comp=Z,531nm,0.8s,SNR=19
JTMT Jette 71.62 44 *e*P **P 12 57 40.2 +0.8**
comp=Z,70nm,0.9s
YBMT Yellow Bay 71.70 43 *e*P **P 12 57 40.6 +0.7**
comp=Z,66nm,1.1s
HATD Hatta, Dubai 71.72 288 ⇓*i*P **P 12 57 40.7 +0.5**
SNR=39
ASHO Ashiyiah 71.85 287 P **P 12 57 41.7 +0.6**
SNR=31
ASHO Ashiyiah 71.85 287 ⇓*i*P **P 12 57 41.5 +0.4**
SNR=38
SWMT Swartz Lake 71.92 44 *e*P **P 12 57 41.7 +0.5**
comp=Z,72nm,1.0s
NAZ Nazwa, Dubai 71.99 288 ⇓*i*P **P 12 57 42.1 +0.3**
SNR=5.5
MICGM Minsk 72.02 326 ⇓*e*P **P 12 57 40.0 -1.5**
MNK Minsk 72.04 326 ⇓*e*P **P 12 57 40.0 -1.6**
MNK pmax pmax
comp=Z,320nm,1.0s
FAQ Al Faqa, Dubai 72.17 288 ⇓*i*P **P 12 57 43.0 +0.1**
SNR=7.8
IKAZ Kazeroun 72.19 294 *e*P **P 12 57 43.1 -0.2**
NACGM Naroch 72.24 327 *e* P 12 57 39.0 -3.8
ARQ Araqi 72.25 286 P **P 12 57 44.1 +0.6**
SNR=30
MSO Missoula 72.35 44 ⇓P **P 12 57 44.2 +0.4**
baz=72,SNR=27
SLMT Seeley Lake 72.35 44 *e*P **P 12 57 44.3 +0.5**
comp=Z,87nm,0.9s
ASUD Al Ashush, Dub 72.44 288 ⇓*i*P **P 12 57 45.0 +0.5**
SNR=20
SOC Sochi 72.50 312 *e*P **P 12 57 44.7 +0.2**
SOC *i* *PP **pP 12 58 04.1 -1.0**
SOC *e**SP **sP 12 58 13.9 +0.2**
SOC *e*PPP PPP 13 02 08.8
SOC *i* S **S 13 07 01.7 -0.8**
SOC *e*SSS SSS 13 15 00.2
SOC pmax pmax
comp=Z,45nm,0.8s
SOC MLR MLR
comp=Z,631nm,17.0s
DAGI Agillar 72.60 309 *i* P **P 12 57 45.1 -0.3**
CHMT Chamberlain Mo 72.68 44 *e*P **P 12 57 45.8 -0.1**
comp=Z,22nm,1.1s
DBAD Bademkaya 72.77 309 *i* P **P 12 57 46.8 +0.4**
CAN Canberra 72.89 173 *e*P **P 12 57 47.4 +0.6**
CAN pmax pmax
comp=Z,162nm,1.2s
CAN Canberra 72.89 173 *e*P **P 12 57 47.4 +0.6**
comp=Z,162nm,1.2s
ILULI Ilulissat 73.11 5 ⇓*i*P **P 12 57 47.6 -0.1**
ILULI pmax pmax
comp=Z,24nm,0.8s
ILULI Ilulissat 73.11 5 ⇓*i*P **P 12 57 47.6 -0.1**
comp=Z,24nm,0.7s
ANN Anapa 73.12 314 *e*P **P 12 57 47.0 -1.2**
ANN *e**PP **pP 12 58 08.7 -0.1**
ANN *e*S **S 13 07 08.5 -1.0**
ANN pmax pmax
comp=Z,148nm,1.4s
ANN MLR MLR
comp=E,396nm,18.0s
ANN MLR MLR
comp=Z,573nm,18.0s
ANN MLR MLR
comp=N,532nm,18.0s
FFC Flin Flon 73.26 33 *e*P **P 12 57 48.9 0.0**
FFC pmax pmax
comp=Z,132nm,0.9s
FFC Flin Flon 73.26 33 *e*P **P 12 57 48.9 0.0**
comp=Z,132nm,0.9s
MFID Camas Ranch 73.28 48 *e*P **P 12 57 50.1 +0.7**
comp=Z,99nm,0.9s
IDHR Dehrash 73.29 301 *e*P **P 12 57 48.6 -1.1**
HAKT HAKKARI 73.46 305 *i* P **P 12 57 50.7 0.0**
FCC Fort Churchill 73.53 27 *e*P **P 12 57 50.1 -0.2**
FCC pmax pmax
comp=Z,5.0nm,1.1s
FCC Fort Churchill 73.53 27 *e*P **P 12 57 50.1 -0.2**
comp=Z,4.9nm,1.1s
HRY Holter Researc 73.58 43 *e*P **P 12 57 51.8 +0.8**
comp=Z,112nm,0.9s
CMB Columbia Colle 73.58 55 *e*P **P 12 57 51.7 +0.6**
CMB pmax pmax
comp=Z,109nm,1.0s
CMB Columbia Colle 73.58 55 *e*P **P 12 57 51.7 +0.6**
comp=Z,109nm,1.0s
SAO San Andreas Ge 73.61 56 *e*P **P 12 57 51.7 +0.4**
SAO pmax pmax
comp=Z,22nm,0.8s
SAO San Andreas Ge 73.61 56 *e*P **P 12 57 51.6 +0.4**
comp=Z,22nm,0.8s
NB2 NORSAR Subarra 73.66 337 P **P 12 57 51.0 -0.2**
comp=Z,110nm,1.0s,baz=38,slow=5.9
NB2 NORSAR Subarra 73.66 337 P **P 12 57 51.0 -0.2**
baz=38,slow=5.9
NOA NORSAR Array B 73.66 337 P **P 12 57 51.3 +0.1**
NOA *PP **pP 12 58 11.2 -0.6**
NOA pmax pmax
comp=Z,55nm,0.8s
NOA pmax pmax
comp=Z,15nm,0.8s
NOA MLR MLR
comp=Z,17nm,28.6s
NOA NORSAR Array B 73.66 337 P **P 12 57 51.2 +0.1**
comp=Z,57nm,0.8s,baz=39,slow=5.8,SNR=117
NOA pP **pP 12 58 11.2 -0.6**
comp=Z,15nm,0.8s,baz=43,slow=4.6,SNR=12
NOA LR LR 13 33 46.0
comp=Z,568nm,21.2s,baz=35,slow=38
LRM Limekiln Ridge 73.78 44 *e*P **P 12 57 53.1 +0.6**
comp=Z,1μm,0.9s
NC602 NORSAR Array S 73.80 337 *e*P **P 12 57 50.7 -1.2**
NC602 *e*S **S 13 07 16.8 +0.2**
AKASG Malin Array Be 73.83 322 P **P 12 57 52.2 -0.1**
AKASG *PP **pP 12 58 12.1 -0.8**
AKASG pmax pmax
comp=Z,21nm,0.4s
AKASG pmax pmax
comp=Z,50nm,0.5s
AKASG MLR MLR
comp=Z,17nm,28.6s
AKASG Malin Array Be 73.83 322 P **P 12 57 52.2 -0.1**
comp=Z,21nm,0.4s,baz=45,slow=6.1,SNR=96
AKASG pP **pP 12 58 12.1 -0.8**
comp=Z,50nm,0.5s,baz=45,slow=5.7,SNR=14
AKASG LR LR 13 33 22.6
comp=Z,771nm,18.2s,baz=60,slow=38
A19A Klindworth Far 73.84 40 ⇓P **P 12 57 53.2 +0.7**
baz=74,SNR=163
KIEV Kiev 73.85 322 *d* *i*P **P 12 57 52.1 -0.2**
KIEV Kiev 73.85 322 *e*P **P 12 57 52.1 -0.2**
comp=Z,129nm,0.8s
KIEV *e*pP **pP 12 58 12.0 -1.0**
EGMT Eagleton 73.88 41 ⇓P **P 12 57 53.3 +0.5**
baz=74,SNR=122
EGMT Eagleton 73.88 41 *e*P **P 12 57 53.3 +0.5**
comp=Z,182nm,1.0s
EGMT *e*pP **pP 12 58 14.4 +1.0**
WAKR Walker 73.92 54 *e*P **P 12 57 54.5 +1.1**
comp=Z,75nm,1.0s
AKN Aaknes 73.99 340 *e*P **P 12 57 53.7 +0.6**
HLID Hailey 74.03 47 ⇑P **P 12 57 55.0 +1.2**
baz=74,SNR=99
HLID Hailey 74.03 47 *e*P **P 12 57 54.7 +0.9**
comp=Z,70nm,1.0s
B19A Brinkman Farms 74.04 41 ⇑P **P 12 57 54.4 +0.8**
baz=74,SNR=146
LCCM Lewis and Clar 74.09 44 P **P 12 57 54.7 +0.6**
MCMT McKenzie Canyo 74.16 45 *e*P **P 12 57 54.6 0.0**
comp=Z,10nm,0.9s
BMN Battle Mountai 74.20 51 *e*P **P 12 57 55.8 +1.0**
BMN *e**PP **pP 12 58 17.1 +1.6**
BMN pmax pmax
comp=Z,105nm,1.0s
BMN Battle Mountai 74.20 51 *e*P **P 12 57 55.8 +1.0**
comp=Z,105nm,1.0s
BMN *e*pP **pP 12 58 17.1 +1.6**
A20A Cobblestone Ra 74.29 40 ⇑P **P 12 57 55.6 +0.5**
baz=74,SNR=51
BNGL BINGOL 74.31 307 *i* P **P 12 57 56.3 +0.8**
BOZ Bozeman (W) 74.34 44 *e*P **P 12 57 56.4 +0.8**
BOZ *e**PP **pP 12 58 17.8 +1.6**
BOZ pmax pmax
comp=Z,125nm,0.9s
BOZ Bozeman (W) 74.34 44 *e*P **P 12 57 56.4 +0.8**
comp=Z,125nm,0.9s
BOZ *e*pP **pP 12 58 17.8 +1.6**
SUW Suwalki 74.40 327 *e*P **P 12 57 55.5 -0.1**
SUW *e**PP **pP 12 58 15.1 -1.1**
SUW *e*S S 13 07 30.3 +6.6
SUW pmax pmax
comp=Z,100nm,1.1s
SUW MLR MLR
comp=Z,500nm,28.0s
SUW Suwalki 74.40 327 *e*P **P 12 57 55.4 -0.1**
SUW *e*pP **pP 12 58 15.1 -1.1**
SUW *e*S S 13 07 30.2 +6.6
SUW LMZ LR 13 30 15.3
SUW Suwalki 74.40 327 *e*P **P 12 57 55.4 -0.1**
comp=Z,119nm,1.0s
C19A Slack Wire Ran 74.44 41 ⇓P **P 12 57 57.1 +1.1**
baz=74,SNR=187
B20A Solberg Farm, 74.52 40 ⇑P **P 12 57 56.8 +0.3**
baz=74,SNR=35
NVAR Mina Array Bea 74.69 53 P **P 12 57 58.8 +1.0**
comp=Z,76nm,0.8s,baz=284,slow=6.2,SNR=151
A21A Bergtoll Ranch 74.73 39 ⇓P **P 12 57 58.3 +0.7**
baz=74,SNR=82
KELT Kelkit 74.79 309 *i* P **P 12 57 59.1 +0.8**
MLAC Mammoth, Mammo 74.82 54 ⇑P **P 12 57 59.8 +1.2**
baz=75
D19A Cripps Ranch, 74.88 42 ⇓P **P 12 57 59.2 +0.6**
baz=75,SNR=156
SIM Simferopol' 74.90 315 *e*P **P 12 57 59.4 +0.8**
SIM *e*S **S 13 07 33.0 +3.4**

SIM pmax pmax
comp=Z,60nm,0.8s
SIM MLR MLR
comp=Z,300nm,16.0s
QLMT Earthquake Lak 74.96 45 *e*P **P 12 57 59.7 +0.4**
comp=Z,12nm,1.1s
C20A Veseth Ranch, 74.99 41 ⇑P **P 12 58 00.1 +0.9**
baz=75,SNR=100
B21A Ellsworth Farm 75.04 40 ⇑P **P 12 57 59.9 +0.5**
baz=75,SNR=80
A22A Carney Farms, 75.23 39 ⇑P **P 12 58 00.8 +0.2**
baz=75,SNR=175
KONO Kongsberg 75.25 337 *e*P **P 12 58 00.8 +0.4**
KONO IAmb IAmb 12 58 01.0
comp=Z,27nm,0.8s
KONO *e*pP **pP 12 58 21.0 0.0**
KONO Kongsberg 75.25 337 *e*P **P 12 58 00.2 -0.1**
KONO *e**PP **pP 12 58 20.5 -0.5**
KONO pmax pmax
comp=Z,32nm,0.9s
KONO Kongsberg 75.25 337 *e*P **P 12 58 00.2 -0.1**
comp=Z,32nm,0.9s
KONO *e*pP **pP 12 58 20.5 -0.5**
YMR Madison River 75.32 45 *e*P **P 12 58 02.4 +1.0**
comp=Z,105nm,0.9s
D20A Manuel Ranch, 75.32 41 ⇓P **P 12 58 01.9 +0.8**
baz=75,SNR=112
RCTC Rector, Farmer 75.33 55 ⇓P **P 12 58 01.6 +0.4**
baz=75,SNR=6.3
E19A Rath Farm, Rou 75.38 42 ⇑P **P 12 58 02.2 +0.7**
baz=75,SNR=203
C21A Desert Coulee 75.39 40 ⇑P **P 12 58 01.9 +0.4**
baz=75,SNR=68
SMMC Simmler 75.41 57 ⇑P **P 12 58 02.8 +1.0**
baz=75,SNR=11
YNR Norris Junctio 75.45 44 *e*P **P 12 58 03.2 +1.2**
comp=Z,67nm,1.1s
MARD Mardin 75.50 306 *i* P **P 12 58 03.1 +0.7**
YFT Old Faithful 75.53 45 *e*P **P 12 58 04.8 +2.3**
comp=Z,100nm,0.8s
TIN Tinemaha, Big 75.55 54 ⇑P **P 12 58 03.8 +1.1**
baz=75,SNR=14
TPH Tonopah 75.59 53 *e*P **P 12 58 03.7 +0.8**
TPH pmax pmax
comp=Z,136nm,1.0s
TPH Tonopah 75.59 53 *e*P **P 12 58 03.7 +0.8**
comp=Z,136nm,1.0s
B22A Reddig Ranch S 75.64 40 ⇑P **P 12 58 03.0 +0.2**
baz=75,SNR=12
F19A Roth Farm, Mol 75.68 43 ⇑P **P 12 58 03.9 +0.7**
baz=76,SNR=82
E20A Meyer Farm, Mu 75.70 42 ⇓P **P 12 58 04.3 +1.0**
baz=76,SNR=90
VES Vestal, Richgr 75.70 56 ⇑P **P 12 58 03.2 -0.1**
baz=76,SNR=73
H17A Grant Village 75.71 45 ⇑P **P 12 58 04.7 +1.1**
baz=76,SNR=174
H17A Grant Village 75.71 45 *e*P **P 12 58 06.1 +2.5**
comp=Z,222nm,1.0s
A23A Redstone 75.77 38 ⇑P **P 12 58 03.7 +0.2**
baz=76,SNR=23
ASK Askoy 75.88 339 *e*P **P 12 58 05.7 +1.8**
ASK IAmb IAmb 12 58 05.9
comp=Z,51nm,0.9s
RUND Rundenannen 75.89 339 *e*P **P 12 58 04.0 0.0**
RUND *e*pP **pP 12 58 24.5 -0.3**
BER Bergen 75.92 339 *e*P **P 12 58 04.9 +0.8**
BER IAmb IAmb 12 58 06.0
comp=Z,64nm,0.8s
BER *e*pP **pP 12 58 25.3 +0.4**
D21A La Casta Ranch 75.94 41 ⇓P **P 12 58 05.3 +0.7**
baz=76,SNR=46
ODD1 Odda 75.94 338 *e*P **P 12 58 04.8 +0.5**
ODD1 IAmb IAmb 12 58 06.2
comp=Z,50nm,0.9s
RLMT Red Lodge 75.97 44 *e*P **P 12 58 05.8 +0.7**
comp=Z,108nm,1.2s
I17A Pilgrim Ck. 76.00 45 ⇓P **P 12 58 05.9 +0.6**
baz=76,SNR=151
H18A Shoshone NF, C 76.03 44 ⇓P **P 12 58 06.2 +0.8**
baz=76,SNR=60
B23A Brockton 76.04 39 ⇓P **P 12 58 05.5 +0.4**
baz=76,SNR=196
C22A Vida 76.06 40 ⇓P **P 12 58 05.4 +0.1**
baz=76,SNR=32
HVU Hansel Valley 76.07 48 *e*P **P 12 58 06.6 +1.0**
HVU pmax pmax
comp=Z,101nm,0.9s
HVU Hansel Valley 76.07 48 *e*P **P 12 58 06.6 +1.0**
comp=Z,101nm,0.9s
SBC Santa Barbara 76.11 57 ⇓P **P 12 58 06.8 +1.1**
baz=76
GRAC Grapevine Rang 76.13 54 ⇑P **P 12 58 07.0 +1.2**
baz=76,SNR=85
F20A Billings 76.14 42 ⇓P **P 12 58 06.2 +0.4**
baz=76,SNR=18
ISA Isabella, Lake 76.21 56 *e*P **P 12 58 06.1 -0.2**
ISA pmax pmax
comp=Z,44nm,0.9s
ISA Isabella, Lake 76.21 56 ⇓P **P 12 58 06.3 -0.1**
baz=76,SNR=29
ISA Isabella, Lake 76.21 56 *e*P **P 12 58 06.1 -0.2**
comp=Z,44nm,0.9s
A24A Westby 76.22 38 ⇑P **P 12 58 06.5 +0.3**
baz=76,SNR=29
E21A Keefer Ranch, 76.23 41 ⇑P **P 12 58 07.0 +0.7**
baz=76,SNR=23
ARVC Arvin 76.29 56 ⇓P **P 12 58 07.0 +0.3**
baz=76,SNR=22
D22A Cohagen 76.30 40 ⇓P **P 12 58 07.1 +0.4**
baz=76,SNR=89
HAVZ Havza 76.37 311 *i* P P 12 57 57.9 -9.2
C23A Lambert 76.38 40 ⇑P **P 12 58 07.5 +0.4**
baz=76,SNR=76
MALT Malatya 76.40 308 ⇑*i* P **P 12 58 08.6 +1.2**
H19A Powell 76.41 44 ⇓P **P 12 58 08.5 +1.1**
baz=76,SNR=50
BSC Santa Cruz Isl 76.42 58 ⇑P **P 12 58 08.1 +0.6**
baz=76
AHID Auburn Hatcher 76.43 46 *e*P **P 12 58 08.3 +0.7**
comp=Z,71nm,0.9s
BGU Big Grassy Mou 76.44 49 *e*P **P 12 58 08.4 +0.7**
comp=Z,21nm,1.0s
KIS Kishinev 76.44 319 *i* P **P 12 58 08.0 +0.6**
KIS *i* 12 58 16.0
KIS *i* *PP **pP 12 58 28.0 -0.1**
KIS *e*S **S 13 07 42.0 -4.5**
KIS *e*PS **ScS 13 08 18.0 +1.9**
KIS pmax pmax
comp=Z,210nm,2.0s
KIS MLR MLR
comp=N,800nm,17.0s
KIS MLR MLR
comp=E,1μm,17.0s
KIS MLR MLR
comp=Z,1μm,17.0s
KIS MLR MLR
comp=Z,2μm,18.0s
KIS Kishinev 76.44 319 *i* P **P 12 58 08.0 +0.6**
comp=Z,200nm,2.0s
KIS *i* pP **pP 12 58 28.0 -0.1**
KIS *e*S **S 13 07 42.0 -4.5**
R11A Troy Canyon, C 76.45 52 ⇑P **P 12 58 08.7 +0.9**
baz=76,SNR=121
R11A Troy Canyon, C 76.45 52 *e*P **P 12 58 08.5 +0.7**
comp=Z,112nm,1.0s
R11A *e*pP **pP 12 58 30.4 +1.9**
G20A Bridger 76.48 43 ⇓P **P 12 58 07.9 +0.1**
baz=76,SNR=51
SPUT South Promonto 76.55 48 *e*P **P 12 58 08.9 +0.6**
comp=Z,76nm,1.2s
SPUT *e*pP **pP 12 58 30.7 +1.6**
LAO LASA Array 76.58 41 *e*P **P 12 58 08.9 +0.6**
comp=Z,175nm,1.0s
LAO *e*PcP **PcP 12 58 18.4 -1.1**
LAO *e*pP **pP 12 58 30.8 +1.8**
BOYT Boyabat 76.64 312 *i* P **P 12 58 09.4 +0.7**
A25A Svangstu Ranch 76.65 38 ⇓P **P 12 58 08.9 +0.3**
baz=76,SNR=43
F21A Absaloka Mine, 76.68 42 ⇑P **P 12 58 09.4 +0.6**
baz=76,SNR=101
HOMB Homborsund 76.70 337 *e*P **P 12 58 09.0 +0.5**
FURC Furnace Creek, 76.78 54 ⇑P **P 12 58 10.3 +0.9**
baz=77,SNR=90
D23A Lindsay 76.79 40 ⇓P **P 12 58 10.2 +0.8**
baz=76,SNR=150
I19A Meeteetse 76.81 44 ⇓P **P 12 58 10.7 +0.9**
baz=77,SNR=41
LRMC Laurel Mtn Rad 76.83 55 ⇓P **P 12 58 10.5 +0.6**
baz=77,SNR=5.7
E22A Miles City 76.89 41 ⇑P **P 12 58 10.3 +0.3**
baz=77
LVV L'vov 76.91 324 *e*P **P 12 58 09.0 -0.9**
LVV *e*S **S 13 07 51.0 -0.5**
LVV MLR MLR
comp=Z,700nm,17.0s
BSD Bornholm Skovb 76.94 332 ⇓*i* P **P 12 58 09.8 -0.2**
BSD *i* *PP **pP 12 58 30.1 -0.6**
BSD pmax pmax
comp=Z,50nm,0.9s
BSD Bornholm Skovb 76.94 332 ⇓*i* P **P 12 58 09.8 -0.2**
comp=Z,50nm,0.9s
BSD *i* pP **pP 12 58 30.1 -0.6**
C24A Savage 76.95 39 ⇑P **P 12 58 10.7 +0.4**
baz=77,SNR=52
BEL Belsk 76.96 327 *e*P **P 12 58 11.0 +0.9**
BEL *e* 12 58 18.1
BEL *e**PP **pP 12 58 31.4 +0.5**
BEL pmax pmax
comp=Z,200nm,0.0s
BEL Belsk 76.96 327 *e*P **P 12 58 11.0 +0.9**
BEL *e*PcP **PcP 12 58 18.1 -2.8**
BEL *e*pP **pP 12 58 31.3 +0.4**
BEL LMZ LR 13 26 30.5
EDW2 Edwards Air Fo 76.99 56 ⇑P **P 12 58 11.5 +0.7**
baz=77,SNR=46
G21A Lodge Grass 77.02 42 ⇑P **P 12 58 11.1 +0.3**
baz=77,SNR=44
DUG Dugway, Tooele 77.03 49 *e*P **P 12 58 11.8 +0.8**
DUG pmax pmax
comp=Z,105nm,0.9s
DUG Dugway, Tooele 77.03 49 ⇓P **P 12 58 11.9 +1.0**
baz=77,SNR=132
DUG Dugway, Tooele 77.03 49 *e*P **P 12 58 11.8 +0.8**
comp=Z,105nm,0.9s
SNART Snartemo 77.05 337 *e*P **P 12 58 11.1 +0.6**
SNART IAmb IAmb 12 58 12.3
comp=Z,48nm,0.9s
H20A Greybull 77.07 43 ⇑P **P 12 58 11.4 +0.3**
baz=77,SNR=27
B25A Knox Farm, Ray 77.08 38 ⇑P **P 12 58 11.7 +0.8**
baz=77,SNR=7.6
BORG Borgarnes 77.09 352 *e*P **P 12 58 12.2 +1.6**
BORG pmax pmax
comp=Z,73nm,0.9s
BORG Borgarnes 77.09 352 *e*P **P 12 58 12.2 +1.6**
comp=Z,73nm,0.9s
DECC Green Verdugo 77.14 57 ⇓P **P 12 58 12.1 +0.5**
baz=77
F22A Rosebud 77.16 42 ⇓P **P 12 58 11.7 +0.1**
baz=77,SNR=54
E23A Ismay 77.18 41 ⇓P **P 12 58 12.4 +0.8**
baz=77,SNR=34
A26A Wade Farm, Ken 77.19 37 ⇑P **P 12 58 12.1 +0.5**
baz=77,SNR=58
CTKT Corum 77.20 312 *i* P **P 12 58 11.8 -0.1**
D24A Glendive 77.27 40 ⇓P **P 12 58 12.9 +0.8**
baz=77,SNR=39
J19A Crowheart 77.27 45 ⇑P **P 12 58 13.2 +0.9**
baz=77,SNR=156
TCUT Toone Canyon 77.28 48 *e*P **P 12 58 13.5 +0.9**
comp=Z,52nm,0.7s
PASC Pasadena Art C 77.29 57 *e*P **P 12 58 12.3 0.0**
comp=Z,114nm,1.6s
BW06 Boulder Array 77.31 46 *e*P **P 12 58 12.7 +0.1**
comp=Z,62nm,0.9s
BW06 *e*pP **pP 12 58 34.1 +0.7**
PDAR Pinedale Array 77.31 46 P **P 12 58 12.8 +0.2**
comp=Z,47nm,0.8s,baz=276,slow=2.2,SNR=302
PDAR pP **pP 12 58 34.2 +0.8**
comp=Z,31nm,0.8s,baz=290,slow=1.1,SNR=6.3
PDAR PKKPbc **PKKPbc 13 17 16.4 -0.1**
comp=Z,1.1nm,0.9s,baz=99,slow=4.7,SNR=6.9
PDAR LR LR 13 28 02.1
comp=Z,114nm,21.7s,baz=328,slow=32
MWC Mount Wilson 77.34 57 *e*P **P 12 58 12.9 0.0**
MWC pmax pmax
comp=Z,106nm,1.5s
MWC Mount Wilson 77.34 57 *e*P **P 12 58 12.9 0.0**
comp=Z,106nm,1.5s
RBK Rabkut 77.34 282 P **P 12 58 12.4 -0.5**
SNR=19
I20A Worland 77.35 44 ⇑P **P 12 58 13.6 +0.9**
baz=77,SNR=49
CTU Camp Tracy 77.35 48 *e*P **P 12 58 13.2 +0.4**
comp=Z,66nm,0.9s
C25A Freed Ranch, W 77.41 39 ⇑P **P 12 58 13.3 +0.4**
baz=77,SNR=15
GKP Gorka Klasztor 77.41 329 *e*P **P 12 58 13.0 +0.3**
GKP MLR MLR
comp=Z,500nm,25.1s
GKP Gorka Klasztor 77.41 329 *e*P **P 12 58 12.9 +0.3**
GKP LMZ LR 13 32 17.4
COP Copenhagen 77.41 333 *i* P **P 12 58 12.3 -0.3**
COP pmax pmax
comp=Z,40nm,0.9s
COP Copenhagen 77.41 333 *i* P **P 12 58 12.3 -0.3**
comp=Z,40nm,0.9s
B26A Jensen Ranch, 77.46 38 ⇑P **P 12 58 13.7 +0.6**
baz=77,SNR=9.3
SHOC Shoshone, Teco 77.49 54 ⇑P **P 12 58 14.1 +0.6**
baz=77,SNR=22
H21A Big Horn, Sher 77.50 43 ⇓P **P 12 58 14.2 +0.7**
baz=77,SNR=70
G22A Birney 77.51 42 ⇓P **P 12 58 13.8 +0.3**
baz=77,SNR=36
GSC Goldstone, Bar 77.52 55 *e*P **P 12 58 14.1 +0.4**
GSC *e**PP **pP 12 58 35.3 +0.8**
GSC pmax pmax
comp=Z,63nm,1.0s
GSC Goldstone, Bar 77.52 55 ⇓P **P 12 58 14.1 +0.4**
baz=77,SNR=29
GSC Goldstone, Bar 77.52 55 *e*P **P 12 58 14.1 +0.4**
comp=Z,63nm,1.0s
GSC *e*pP **pP 12 58 35.3 +0.8**
A27A Ledoux Ranch, 77.54 37 ⇓P **P 12 58 13.9 +0.4**
baz=77
JLU Jordanelle 77.58 48 *e*P **P 12 58 15.1 +0.9**
comp=Z,62nm,1.0s
BFSC Mount Baldy Ra 77.59 56 ⇓P **P 12 58 14.3 0.0**
baz=77,SNR=20
CIS Catalina Islan 77.60 57 ⇑P **P 12 58 14.4 +0.2**
baz=77
NLU North Lily Min 77.62 49 *e*P **P 12 58 15.3 +0.9**
comp=Z,71nm,0.9s
TLCR 77.64 318 ⇑*i* P **P 12 58 14.7 +0.6**
RRX Edison Barstow 77.64 56 ⇑P **P 12 58 14.8 +0.4**
baz=78
F23A Volborg 77.65 41 ⇓P **P 12 58 14.4 +0.1**
baz=77,SNR=100
KWP Kalwaria Pacla 77.66 324 *e*P **P 12 58 15.2 +1.1**
KWP *e* 12 58 22.2
KWP *e**PP **pP 12 58 34.7 -0.2**
KWP *e*S S 13 08 06.1 +6.5
KWP pmax pmax
comp=Z,200nm,1.2s
KWP Kalwaria Pacla 77.66 324 *e*P **P 12 58 15.1 +1.0**
KWP *e*PcP **PcP 12 58 22.2 -1.8**
KWP *e*pP **pP 12 58 34.7 -0.2**
KWP *e*S S 13 08 06.0 +6.5
KWP LMZ LR 13 27 40.0
KWP Kalwaria Pacla 77.66 324 ⇑*i* P **P 12 58 15.4 +1.3**
KWP Kalwaria Pacla 77.66 324 *e*P **P 12 58 14.9 +0.8**
comp=Z,248nm,1.1s
KWP *e*PcP **PcP 12 58 22.3 -1.7**
KWP *e*pP **pP 12 58 34.9 0.0**
E24A Baker 77.66 40 ⇓P **P 12 58 14.6 +0.3**
baz=77,SNR=18
SCI San Clemente I 77.76 58 ⇑P **P 12 58 15.7 +0.7**
baz=78
D25A Fairfield 77.76 39 ⇓P **P 12 58 15.2 +0.4**
baz=78,SNR=25
J20A Shoshoni 77.76 44 ⇑P **P 12 58 15.5 +0.5**
baz=78,SNR=72
DAU Daniels Canyon 77.82 48 *e*P **P 12 58 16.5 +0.9**
DAU pmax pmax
comp=Z,87nm,1.0s
DAU Daniels Canyon 77.82 48 *e*P **P 12 58 16.5 +0.9**
comp=Z,87nm,1.0s
SHPR Sheep Range 77.84 53 *e*P **P 12 58 16.5 +0.8**
comp=Z,113nm,1.0s
SHPR *e*pP **pP 12 58 38.4 +2.0**
MPU Maple Canyon 77.84 49 *e*P **P 12 58 16.6 +0.9**
comp=Z,122nm,0.9s
MPU *e*pP **pP 12 58 37.9 +1.5**
BURAR Bucovina Array 77.85 322 ⇑*i* P **P 12 58 16.3 +0.9**
TESR Tescani 77.88 320 ⇑*i* P **P 12 58 15.7 +0.3**
H22A Clearmont 77.89 43 ⇑P **P 12 58 15.9 +0.3**
baz=78,SNR=30
I21A Big Trails, Te 77.90 44 ⇑P **P 12 58 16.2 +0.5**
baz=78,SNR=91
C26A Wahner Farm, P 77.90 38 ⇑P **P 12 58 15.3 -0.3**
baz=78,SNR=50
B27A Peters Farms, 77.91 37 ⇑P **P 12 58 16.3 +0.7**
baz=78,SNR=9.6
MUD Monsted U'grnd 77.93 335 *i* P **P 12 58 15.1 -0.4**
MUD pmax pmax
comp=Z,33nm,0.9s
MUD Monsted U'grnd 77.93 335 *i* P **P 12 58 15.1 -0.4**
comp=Z,33nm,0.9s
RGN Rugen 77.97 332 *e*L L 13 34 27.8
comp=Z,582nm,20.8s
G23A Biddle 78.00 42 ⇑P **P 12 58 16.3 0.0**
baz=78,SNR=45
CFR Carcaliu 78.00 318 ⇑*i* P **P 12 58 16.6 +0.5**
TUQ Turquoise Moun 78.01 55 ⇓P **P 12 58 17.4 +0.9**
baz=78,SNR=10
A28A Rude Farm, Bot 78.03 36 ⇑P **P 12 58 16.8 +0.6**
baz=78,SNR=81
F24A Ekalaka 78.07 41 ⇓P **P 12 58 16.8 +0.2**
baz=78,SNR=56
BBRC Big Bear Solar 78.07 56 ⇑P **P 12 58 16.5 -0.5**
baz=78
CDAG Cicekdag 78.08 311 *i* P **P 12 58 17.2 +0.4**
HEC Hector,Ludlow 78.11 55 ⇑P **P 12 58 17.5 +0.5**
baz=78,SNR=12
PETR Petresti 78.11 319 ⇓*i* P **P 12 58 18.3 +1.6**
J21A Lysite 78.12 44 ⇓P **P 12 58 17.0 0.0**
baz=78,SNR=36
ABTO Aybut 78.13 283 P **P 12 58 16.9 -0.5**
SNR=19
DGAR Diego Garcia 78.13 251 *e*P **P 12 58 16.8 -0.4**
DGAR pmax pmax
comp=Z,149nm,1.1s
DGAR Diego Garcia 78.13 251 *e*P **P 12 58 16.8 -0.4**
comp=Z,149nm,1.1s
ARUT Antelope Range 78.14 51 *e*P **P 12 58 17.9 +0.6**
ARUT pmax pmax
comp=Z,1μm,1.1s
ARUT Antelope Range 78.14 51 *e*P **P 12 58 17.9 +0.6**
comp=Z,1μm,1.1s
E25A Miller Ranch, 78.16 40 ⇑P **P 12 58 17.6 +0.6**
baz=78,SNR=42
KUZU Kuzuini 78.19 307 *i* P **P 12 58 18.3 +0.9**
C27A Sayler Ranch, 78.27 38 ⇑P **P 12 58 18.3 +0.7**
baz=78,SNR=45
VRI Vrincioaia 78.28 320 ⇑*i* P **P 12 58 17.9 +0.2**
D26A Manning 78.28 39 ⇑P **P 12 58 18.2 +0.5**
baz=78,SNR=9.9
I22A 9 Mile Ranch, 78.28 43 ⇓P **P 12 58 18.4 +0.5**
baz=78,SNR=48
MURC Murrieta 78.28 57 ⇓P **P 12 58 18.0 +0.1**
baz=78,SNR=16
B28A Dugan Ranch, T 78.31 37 ⇑P **P 12 58 18.1 +0.4**
baz=78,SNR=78
CCUT Cedar City 78.33 52 *e*P **P 12 58 19.5 +1.1**
comp=Z,84nm,1.1s
CCUT *e*pP **pP 12 58 41.2 +2.0**
TIRR Tirgusor 78.34 318 *e*P **P 12 58 17.8 -0.2**
TIRR *e* 12 58 26.1
TIRR *e**PP **pP 12 58 37.7 -1.1**
TIRR *e* 13 01 19.0
TIRR pmax pmax
comp=Z,21nm,0.9s
TIRR Tirgusor 78.34 318 ⇑*i* P **P 12 58 18.0 0.0**
TIRR Tirgusor 78.34 318 *e*P **P 12 58 17.8 -0.2**
comp=Z,21nm,0.9s
TIRR *e*PcP **PcP 12 58 26.1 -0.9**
TIRR *e*pP **pP 12 58 37.7 -1.1**
TIRR *e*PP **PP 13 01 19.0 +3.6**
KOLS Kolonicke sedl 78.35 324 *e*P **P 12 58 18.4 +0.4**
KOLS pmax pmax
comp=Z,26nm,1.1s
KOLS Kolonicke sedl 78.35 324 *e*P **P 12 58 18.4 +0.4**
KOLS *e*pP **pP 12 58 38.1 -0.7**
KOLS *e*PP **PP 13 01 14.3 -1.0**
H23A Clabaugh Cattl 78.42 42 ⇑P **P 12 58 18.7 +0.1**
baz=78,SNR=5.8
G24A Alzada 78.43 41 ⇑P **P 12 58 18.4 -0.3**
baz=78,SNR=11
MVU Marysvale 78.44 50 *e*P **P 12 58 20.3 +1.3**
comp=Z,81nm,1.0s
MVU *e*pP **pP 12 58 41.3 +1.5**
BRTR Keskin Array B 78.45 311 P **P 12 58 19.2 +0.3**
BRTR *PP **pP 12 58 39.1 -0.7**
BRTR 13 01 18.8
BRTR pmax pmax
comp=Z,16nm,0.9s
BRTR pmax pmax
comp=Z,25nm,0.9s
BRTR pmax pmax
comp=Z,10.0nm,1.0s
BRTR pmax pmax
comp=Z,1.0nm,1.0s
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR MLR MLR
comp=Z,16nm,28.6s
BRTR Keskin Array B 78.45 311 P **P 12 58 19.2 +0.3**
comp=Z,16nm,0.9s,baz=90,slow=4.9,SNR=63
BRTR pP **pP 12 58 39.1 -0.7**
comp=Z,25nm,0.9s,baz=143,slow=4.3,SNR=8.0
BRTR PP **PP 13 01 18.8 +2.1**
comp=Z,10.0nm,1.0s,baz=76,slow=5.2,SNR=4.0
BRTR PKKPbc **PKKPbc 13 17 14.4 +0.7**
comp=Z,1.4nm,0.9s,baz=186,slow=2.5,SNR=5.1
BRTR PKPPKP **P'P'df 13 25 17.5 -3.7**
comp=Z,0.5nm,0.7s,baz=168,slow=6.3,SNR=3.6
BRTR LR LR 13 37 31.7
comp=Z,196nm,18.5s,baz=52,slow=39
STHS Stebnicka Huta 78.48 325 *e*P **P 12 58 19.9 +1.2**
STHS pmax pmax
comp=Z,32nm,1.1s
STHS Stebnicka Huta 78.48 325 *e*P **P 12 58 19.9 +1.2**
STHS *e*pP **pP 12 58 39.4 -0.2**
A29A Manning Farm, 78.51 36 ⇑P **P 12 58 19.0 +0.2**
baz=78,SNR=107
F25A Bowman 78.52 40 ⇑P **P 12 58 19.4 +0.4**
baz=78,SNR=25
TMUT Trail Mountain 78.55 49 *e*P **P 12 58 20.4 +0.8**
comp=Z,68nm,1.1s
UZH Uzhgorod 78.55 324 *e*P **P 12 58 19.1 0.0**
UZH *e* 12 58 26.5
UZH *i* 12 58 39.5
UZH *e*S **S 13 08 04.5 -4.7**
UZH MLR MLR
comp=N,600nm,16.0s
UZH MLR MLR
comp=E,1μm,16.0s
UZH MLR MLR
comp=Z,500nm,16.0s
OJC Ojcow 78.56 326 ⇓*i* P **P 12 58 19.3 +0.2**
OJC *i* 12 58 27.4
OJC *i* *PP **pP 12 58 39.6 -0.3**
OJC Ojcow 78.56 326 *i* P **P 12 58 19.3 +0.2**
OJC *i* PcP **PcP 12 58 27.4 -0.5**
OJC *i* pP **pP 12 58 39.6 -0.3**
GMRC Granite Mounta 78.58 55 ⇓P **P 12 58 20.3 +0.7**
baz=78,SNR=58
J22A Midwest 78.60 44 ⇓P **P 12 58 19.6 -0.1**
baz=78,SNR=156
E26A Carlson Angus 78.65 39 ⇑P **P 12 58 19.9 +0.1**
baz=78,SNR=32
D27A Center 78.68 38 ⇑P **P 12 58 20.5 +0.7**
baz=78,SNR=16
BCAM Yenicaga 78.68 313 *i* P **P 12 58 21.2 +1.0**
K21A Alcova 78.69 44 ⇓P **P 12 58 20.7 +0.4**
baz=78,SNR=90
H24A Dirks Ranch, A 78.75 42 ⇓P **P 12 58 20.3 -0.1**
baz=78,SNR=47
LDFC Landfair 78.75 54 *e*P **P 12 58 21.0 +0.4**
comp=Z,148nm,1.0s
LDFC *e*pP **pP 12 58 43.5 +2.0**
PFO Pinyon Flats O 78.77 56 *e*P **P 12 58 20.8 0.0**
PFO *e**PP **pP 12 58 42.6 +1.0**
PFO pmax pmax
comp=Z,90nm,1.2s
PFO Pinyon Flats O 78.77 56 LR LR 13 25 12.4
comp=Z,325nm,21.8s,baz=292,slow=30

PFO	Pinyon Flats O	78.77	56	⇑P	P	12 58 20.8	0.0
	baz=79,SNR=25						
PFO	Pinyon Flats O	78.77	56	eP	P	12 58 20.8	0.0
	comp=Z,90nm,1.2s						
PFO				epP	pP	12 58 42.6	+1.0
B29A	Wagenman Farm,	78.77	36	⇑P	P	12 58 20.8	+0.4
	baz=78,SNR=57						
109C	Camp Elliot, M	78.78	57	⇓P	P	12 58 21.4	+0.7
	baz=79,SNR=13						
TRPA	Tarpa	78.79	323	⇑iP	P	12 58 21.8	+1.4
TRPA	Tarpa	78.79	323	⇓eP	P	12 58 21.3	+0.9
I23A	Meade Ranch, G	78.79	43	⇓P	P	12 58 20.5	-0.2
	baz=79						
C28A	Hausauer Farms	78.81	37	⇑P	P	12 58 21.2	+0.7
	baz=79,SNR=28						
BELC	Belle Mtn. Jos	78.83	56	⇓P	P	12 58 21.2	+0.1
	baz=79,SNR=16						
ANTO	Ankara	78.86	312	eP	P	12 58 20.9	-0.2
ANTO				e*PP	pP	12 58 41.5	-0.4
ANTO				pmax	pmax		
	comp=Z,51nm,0.8s						
ANTO	Ankara	78.86	312	⇑iP	P	12 58 21.5	+0.4
ANTO	Ankara	78.86	312	P	P	12 58 22.1	+1.1
	SNR=8.7						
ANTO	Ankara	78.86	312	eP	P	12 58 20.9	-0.2
	comp=Z,51nm,0.8s						
ANTO				epP	pP	12 58 41.5	-0.4
BBAL	Bala	78.88	312	iP	P	12 58 20.8	-0.4
ISR	Istrita	78.88	319	⇑iP	P	12 58 22.5	+1.5
DOPR	Dopca	78.89	320	⇑iP	P	12 58 22.7	+1.6
NIE	Niedzica	78.90	325	⇓iP	P	12 58 22.1	+1.0
NIE				i		12 58 29.9	
NIE				i*PP	pP	12 58 42.1	+0.2
NIE	Niedzica	78.90	325	iP	P	12 58 22.1	+1.0
NIE				iPcP	PcP	12 58 29.9	+0.4
NIE				ipP	pP	12 58 42.1	+0.2
A30A	Hoffart Farm,	78.92	35	⇓P	P	12 58 21.2	+0.1
	baz=79,SNR=148						
MLR	Muntele Rosu	78.94	320	⇑iP	P	12 58 22.2	+0.8
F26A	Lodgepole	78.97	40	⇓P	P	12 58 21.5	0.0
	baz=79,SNR=65						
PSN	Preselentsi	78.98	317	⇑iP	P	12 58 22.4	+0.9
PSN	Preselentsi	78.98	317	iP	pP	12 58 42.2	-0.1
G25A	Newell	79.04	41	⇑P	P	12 58 21.9	-0.1
	baz=79,SNR=21						
ULM	Lac du Bonnet	79.06	33	P	P	12 58 21.4	-0.4
ULM				pmax	pmax		
	comp=Z,57nm,1.0s						
ULM	Lac du Bonnet	79.06	33	P	P	12 58 21.4	-0.4
	comp=Z,57nm,0.9s,baz=314,slow=6.1,SNR=77						
SRU	San Rafael Swe	79.08	49	eP	P	12 58 23.2	+0.8
SRU				pmax	pmax		
	comp=Z,146nm,0.9s						
SRU	San Rafael Swe	79.08	49	eP	P	12 58 23.2	+0.8
	comp=Z,146nm,0.9s						
K22A	Casper	79.08	44	⇑P	P	12 58 22.5	+0.2
	baz=79,SNR=36						
K22A	Casper	79.08	44	eP	P	12 58 22.5	+0.2
	comp=Z,90nm,1.1s						
D28A	Regan	79.09	38	⇑P	P	12 58 22.5	+0.4
	baz=79,SNR=34						
MDND	Maddock	79.09	37	⇑P	P	12 58 22.4	+0.3
	baz=79,SNR=32						
MDND	Maddock	79.09	37	eP	P	12 58 22.4	+0.3
	comp=Z,76nm,1.1s						
MDND				epP	pP	12 58 44.1	+1.2
J23A	Dilts Ranch, B	79.11	43	⇓P	P	12 58 22.4	0.0
	baz=79,SNR=6.1						
E27A	Carson	79.13	39	⇑P	P	12 58 22.7	+0.3
	baz=79,SNR=38						
BAR	Barrett	79.19	57	eP	P	12 58 23.0	0.0
	comp=Z,268nm,1.0s						
BAR				epP	pP	12 58 45.1	+1.3
MONP	Monument Peak,	79.23	57	⇓P	P	12 58 23.6	+0.2
	baz=79,SNR=19						
B30A	Myrvik Farm, E	79.26	36	⇓P	P	12 58 23.4	+0.4
	baz=79,SNR=93						
CJR	Cluj-Napoca	79.27	322	⇑iP	P	12 58 23.5	+0.4
F27A	Lemmon	79.29	39	⇑P	P	12 58 23.3	0.0
	baz=79,SNR=42						
IRM	Iron Mountain	79.29	55	⇓P	P	12 58 24.1	+0.7
	baz=79,SNR=70						
N20A	Spence Gulch,	79.30	46	⇓P	P	12 58 23.3	-0.4
	baz=79,SNR=78						
I24A	Kuemmerle Ranc	79.31	42	⇑P	P	12 58 23.2	-0.3
	baz=79,SNR=13						
H25A	Fruitdale	79.33	41	⇑P	P	12 58 23.8	+0.2
	baz=79,SNR=57						
RUE	Ruedersdorf	79.38	330	eP	P	12 58 24.0	+0.5
	comp=Z,106nm,1.4s						
RUE	Ruedersdorf	79.38	330	eP	P	12 58 23.9	+0.5
	comp=Z,42nm,1.0s						
G26A	Maurine	79.39	40	⇓P	P	12 58 24.1	+0.3
	baz=79,SNR=57						
BC3	Big Chuckawall	79.40	56	⇓P	P	12 58 24.6	+0.4
	baz=79,SNR=38						
VOIR		79.43	320	⇑iP	P	12 58 24.9	+0.8
RSSD	Black Hills	79.44	42	eP	P	12 58 24.3	-0.1
RSSD				pmax	pmax		
	comp=Z,49nm,0.9s						
RSSD	Black Hills	79.44	42	eP	P	12 58 24.3	-0.1
	comp=Z,49nm,0.9s						
BTAS	Taskesti	79.46	313	iP	P	12 58 24.1	-0.1
E28A	Huff	79.46	38	⇑P	P	12 58 24.3	+0.2
	baz=79,SNR=23						
K23A	Bowen Ranch, D	79.51	44	⇑P	P	12 58 24.5	-0.2
	baz=79,SNR=14						
W13A	Hualapai Mount	79.53	54	⇑P	P	12 58 24.9	0.0
	baz=79,SNR=50						
L22A	Ellis Ranch, M	79.54	45	⇑P	P	12 58 24.9	0.0
	baz=79,SNR=34						
BSEG	Bad Segeberg	79.55	333	eP	P	12 58 25.0	+0.6
	comp=Z,83nm,1.1s						
OKC	Ostrava-Krasne	79.56	327	⇓iP	P	12 58 25.1	+0.5
OKC				e		12 58 45.6	
OKC				eS	S	13 08 16.5	-3.4
OKC				MLR	MLR		
	comp=Z,600nm,17.5s						
OKC	Ostrava-Krasne	79.56	327	⇓iP	P	12 58 25.1	+0.5
OKC				epP	pP	12 58 45.6	+0.1
OKC				eS	S	13 08 16.5	-3.4
OKC				AMS	AMS	13 36 20.0	
	comp=Z,600nm,17.5s						
KSP	Ksiaz	79.61	328	⇓eP	P	12 58 25.4	+0.6
KSP				e*PP	pP	12 58 45.4	-0.3
KSP				eS	S	13 08 20.0	-0.4
KSP				MLR	MLR		
	comp=Z,3μm,21.0s						
KSP	Ksiaz	79.61	328	eP	P	12 58 25.5	+0.6
KSP				epP	pP	12 58 45.3	-0.4
KSP				eS	S	13 08 21.0	+0.6
KSP				LMZ	LR	13 35 58.2	
SWSC	Sam W. Stewart	79.62	56	⇑P	P	12 58 25.4	+0.2
	baz=79,SNR=22						
J24A	Dixon Ranch, L	79.64	43	⇓P	P	12 58 25.1	-0.2
	baz=79,SNR=7.3						
DRGR		79.65	322	⇑iP	P	12 58 25.4	+0.2
D29A	Pettibone, Tap	79.65	37	⇑P	P	12 58 25.2	0.0
	baz=79,SNR=22						
I25A	Rochford	79.67	42	⇓P	P	12 58 25.4	-0.1
	baz=79,SNR=37						
G27A	Dupree	79.67	40	⇑P	P	12 58 25.4	0.0
	baz=79,SNR=23						
U15A	North Rim	79.70	52	⇑P	P	12 58 26.3	+0.4
	baz=80,SNR=114						
C30A	Mose, Pekin	79.73	36	⇑P	P	12 58 25.4	-0.2
	baz=80,SNR=40						
O20A	White River Ci	79.76	47	⇑P	P	12 58 26.6	+0.5
	baz=80,SNR=42						
O20A	White River Ci	79.76	47	eP	P	12 58 26.4	+0.2
	comp=Z,94nm,1.0s						
H26A	Fairpoint	79.77	41	⇑P	P	12 58 26.1	+0.2
	baz=80,SNR=35						
PDMCI	Parker Dam,Lak	79.86	55	⇑P	P	12 58 26.9	+0.4
	baz=80,SNR=49						
M22A	Cedar Creek Ra	79.87	45	⇓P	P	12 58 27.1	+0.3
	baz=80,SNR=54						
MORC	Moravsky Berou	79.87	327	eP	P	12 58 26.9	+0.6
MORC				e*PP	PcP	12 58 35.2	+1.5
MORC				e*PP	pP	12 58 46.9	-0.3
MORC				pmax	pmax		
	comp=Z,59nm,0.9s						
MORC	Moravsky Berou	79.87	327	⇑iP	P	12 58 27.4	+1.1
MORC	Moravsky Berou	79.87	327	eP	P	12 58 26.9	+0.6
	comp=Z,59nm,0.9s						
MORC				epP	PcP	12 58 35.2	+1.5
MORC				epP	pP	12 58 46.9	-0.3
L23A	Garrett	79.89	44	⇑P	P	12 58 26.6	-0.2
	baz=80,SNR=62						
F28A	McLaughlin	79.92	39	⇑P	P	12 58 26.6	0.0
	baz=80,SNR=36						
DPC	Dobruska-Polom	79.97	328	⇓iP	P	12 58 27.7	+0.9
DPC				e		12 58 35.8	
DPC				e		12 58 48.3	
DPC				eS	S	13 08 20.4	-3.9
DPC	Dobruska-Polom	79.97	328	⇓iP	P	12 58 27.7	+0.9
DPC				ePCP	PcP	12 58 35.8	+1.7
DPC				epP	pP	12 58 48.3	+0.6
DPC				eS	S	13 08 20.4	-3.9
DPC				AMS	AMS	13 37 00.0	
K24A	Anderson Ranch	79.97	43	⇓P	P	12 58 26.6	-0.6
	baz=80,SNR=16						
E29A	Napoleon	79.98	38	⇑P	P	12 58 26.8	-0.2
	baz=80,SNR=23						
UPC	Upice	79.98	328	⇓iP	P	12 58 27.6	+0.8
UPC				e		12 58 32.7	
UPC				e		12 58 47.6	
UPC	Upice	79.98	328	⇓iP	P	12 58 27.6	+0.8
UPC				ePCP	PcP	12 58 32.7	-1.4
UPC				epP	pP	12 58 47.6	-0.1
D30A	Buchanan	80.02	37	⇓P	P	12 58 27.1	0.0
	baz=80,SNR=62						
J25A	Sunshine Ranch	80.06	42	⇓P	P	12 58 27.2	-0.4
	baz=80,SNR=10						
H27A	Howes	80.12	40	⇓P	P	12 58 28.0	+0.2
	baz=80,SNR=84						
I26A	New Underwood	80.12	41	⇓P	P	12 58 28.3	+0.4
	baz=80,SNR=37						
PSZ	Piszkesteto	80.18	324	eP	P	12 58 28.7	+0.6
PSZ				pmax	pmax		
	comp=Z,275nm,1.6s						
PSZ	Piszkesteto	80.18	324	⇑iP	P	12 58 28.7	+0.6
PSZ	Piszkesteto	80.18	324	⇓eP	P	12 58 28.8	+0.6
PSZ	Piszkesteto	80.18	324	eP	P	12 58 28.7	+0.6
	comp=Z,275nm,1.6s						
GLA	Glamis	80.19	56	eP	P	12 58 28.9	+0.5
GLA				e*PP	pP	12 58 51.0	+1.8
GLA				pmax	pmax		
	comp=Z,102nm,0.9s						
GLA	Glamis	80.19	56	⇑P	P	12 58 28.9	+0.5
	baz=80,SNR=23						
GLA	Glamis	80.19	56	eP	P	12 58 28.9	+0.5
	comp=Z,102nm,0.9s						
GLA				epP	pP	12 58 51.0	+1.8
KIZK	Mersin	80.21	309	iP	P	12 58 28.3	0.0
SEYT	Eskypehyr	80.23	313	iP	P	12 58 28.7	+0.2
VYHS	Vyhne	80.25	325	eP	P	12 58 28.9	+0.6
VYHS				pmax	pmax		
	comp=Z,23nm,1.1s						
VYHS	Vyhne	80.25	325	eP	P	12 58 28.9	+0.6
VYHS				epP	pP	12 58 49.0	-0.2
TAU	Tasmania Unive	80.30	176	eP	P	12 58 29.4	+1.1
TAU				pmax	pmax		
	comp=Z,159nm,1.6s						
TAU	Tasmania Unive	80.30	176	eP	P	12 58 29.4	+1.1
	comp=Z,159nm,1.6s						
M23A	Laramie	80.31	45	⇑P	P	12 58 29.6	+0.4
	baz=80,SNR=13						
N22A	Wattenberg Ran	80.35	45	⇓P	P	12 58 29.9	+0.5
	baz=80,SNR=46						
L24A	Wheatland	80.37	44	⇓P	P	12 58 29.6	+0.4
	baz=80,SNR=13						
E30A	Jud	80.38	37	⇑P	P	12 58 29.1	0.0
	baz=80,SNR=60						
G28A	Parade	80.40	40	⇓P	P	12 58 29.6	+0.3
	baz=80,SNR=50						
RAYN	Ar Rayn	80.41	292	eP	P	12 58 29.6	-0.1
	comp=Z,152nm,1.2s						
RAYN				ePcP	PcP	12 58 38.0	+1.5
RAYN				epP	pP	12 58 50.3	-0.2
F29A	Eureka	80.41	38	⇓P	P	12 58 29.3	0.0
	baz=80,SNR=60						
SZH	Strazhica	80.46	318	iP	pP	12 58 49.5	-1.0
AGMN	Agassiz Nation	80.50	35	⇓P	P	12 58 29.0	-0.7
	baz=80,SNR=52						
AGMN	Agassiz Nation	80.50	35	eP	P	12 58 29.1	-0.7
	comp=Z,79nm,0.9s						
AGMN				ePcP	PcP	12 58 35.5	-0.9
AGMN				epP	pP	12 58 50.0	-0.7
J26A	Sides Ranch, S	80.50	42	⇑P	P	12 58 30.1	+0.2
	baz=80,SNR=35						
PV04	Paradox Valley	80.51	49	eP	P	12 58 30.7	+0.5
PV04				epP	pP	12 58 52.8	+1.7
I27A	Quinn	80.52	41	⇑P	P	12 58 30.4	+0.5
	baz=80,SNR=44						
MVH1	Achvaich	80.55	342	eP	P	12 58 29.9	+0.2
BRG	Berggiesshubel	80.56	329	iP	P	12 58 30.0	+0.1
	comp=Z,44nm,1.0s						
BRG				pP	pP	12 58 49.0	-1.8
BRG				PP	PP	13 01 30.5	-3.0
	comp=Z,12nm,1.1s						
BRG				S	S	13 08 25.0	-5.3
BRG	Berggiesshubel	80.56	329	iP	P	12 58 30.0	+0.1
BRG				*PP	pP	12 58 49.0	-1.8
BRG						13 01 30.5	
BRG				S	S	13 08 25.0	-5.3
BRG				pmax	pmax		
	comp=Z,44nm,1.0s						
BRG				pmax	pmax		
	comp=Z,12nm,1.1s						
BRG				MLR	MLR		
	comp=N,611nm,25.0s						
BRG				MLR	MLR		
	comp=E,501nm,23.5s						
BRG				MLR	MLR		
	comp=Z,761nm,21.4s						
BRG	Berggiesshubel	80.56	329	eP	P	12 58 30.3	+0.4
	comp=Z,44nm,1.0s						
K25A	Mack Ranch, Ha	80.56	43	⇓P	P	12 58 30.2	-0.1
	baz=80,SNR=6.3						
PVCC	Panska Ves	80.56	329	⇓iP	P	12 58 30.8	+0.8
PVCC				e		12 58 51.1	
PVCC				MLR	MLR		
	comp=Z,800nm,16.6s						
PVCC	Panska Ves	80.56	329	⇓iP	P	12 58 30.8	+0.8
PVCC				ePCP	PcP	12 58 38.4	+1.8
PVCC				epP	pP	12 58 51.1	+0.2
PVCC				AMS	AMS	13 36 10.0	
	comp=Z,800nm,16.6s						
N23A	Red Feather La	80.57	45	⇑P	P	12 58 31.3	+0.7
	baz=80,SNR=72						
CLL	Collm	80.59	330	⇓iP	P	12 58 30.0	-0.1
CLL				e*PP	pP	12 58 50.0	-1.0
CLL				eS	S	13 08 30.0	-0.7
CLL				pmax	pmax		
	comp=Z,85nm,1.0s						
CLL	Collm	80.59	330	eP	P	12 58 30.2	+0.1
	comp=Z,85nm,1.0s						
CLL				esP	sP	12 58 50.5	-9.0
CLL				eL	L	13 36 30.9	
	comp=Z,467nm,20.6s						
CLL	Collm	80.59	330	⇓iP	P	12 58 30.0	-0.1
	comp=Z,85nm,1.0s						
CLL				iPcP	PcP	12 58 35.7	-1.0
CLL				i		12 58 38.6	
CLL				epP	pP	12 58 50.0	-1.0
CLL				ePP	PP	13 01 35.0	+1.2
CLL				eS	S	13 08 30.0	-0.7
CLL				esS	sS	13 09 08.0	+1.7
CLL				eSS	SS	13 13 45.0	+1.6
CLL				eSSS	SSS	13 17 30.0	
CLL				LmH		13 31 00.0	
	comp=N,400nm,20.1s						
CLL				LmH		13 31 00.0	
	comp=E,600nm,21.3s						
CLL				LmV		13 36 00.0	
	comp=Z,500nm,20.5s						
GZR	Gura Zlata	80.61	321	⇑iP	P	12 58 31.1	+0.7
H28A	Mission Ridge	80.63	40	⇑P	P	12 58 30.9	+0.4
	baz=80,SNR=181						
VRAC	Vranov	80.63	327	⇑iP	P	12 58 31.6	+1.2
JMB	Yambol	80.66	317	P	P	12 58 32.9	+2.3
JMB	Yambol	80.66	317	⇑iP	P	12 58 31.8	+1.2
JMB	Yambol	80.66	317	iP	P	12 58 32.6	+2.0
O22A	Kremmling	80.72	46	⇑P	P	12 58 31.5	+0.1
	baz=80,SNR=75						
FBE	Freiberg	80.75	330	eP	P	12 58 31.6	+0.6
	comp=Z,91nm,1.1s						
NRDL	Niedersach Rie	80.77	332	eP	P	12 58 31.2	+0.3
	comp=Z,37nm,1.0s						
F30A	Leola	80.80	38	⇑P	P	12 58 31.2	-0.2
	baz=80,SNR=22						
M24A	Cheyenne	80.81	44	⇑P	P	12 58 31.9	+0.2
	baz=81,SNR=59						
G29A	Hoven	80.82	39	⇓P	P	12 58 31.3	-0.2
	baz=81,SNR=20						
L25A	Engebretsen Ra	80.82	43	⇓P	P	12 58 32.3	+0.6
	baz=81,SNR=8.1						
Y14A	Wickenburg	80.82	54	⇑P	P	12 58 32.5	+0.8
	baz=81,SNR=56						
ASSE	Asse, Remlinge	80.85	332	eP	P	12 58 31.6	+0.2
	comp=Z,42nm,1.2s						
WUAZ	Wupatki	80.85	52	⇑P	P	12 58 33.0	+1.0
	baz=81,SNR=110						
WUAZ	Wupatki	80.85	52	eP	P	12 58 33.0	+1.0
	comp=Z,168nm,1.0s						
K26A	Motz Farm, Whi	80.87	42	⇓P	P	12 58 31.7	-0.2
	baz=81,SNR=32						
PV01	Paradox Valley	80.88	49	eP	P	12 58 32.9	+0.7
	comp=Z,9μm,1.0s						
PV01				epP	pP	12 58 52.9	-0.2
ALT	Altintas	80.97	313	P	P	12 58 32.2	-0.3
PRA	Prague	80.97	329	⇓iP	P	12 58 32.9	+0.8
PRA	Prague	80.97	329	⇓iP	P	12 58 32.9	+0.8
P22A	Eagle	80.98	47	⇑P	P	12 58 33.3	+0.6
	baz=81,SNR=129						
PRU	Pruhonice	80.99	328	⇓iP	P	12 58 32.8	+0.6
PRU				eS	S	13 08 32.0	-2.8
PRU				MLR	MLR		
	comp=Z,600nm,18.2s						
PRU	Pruhonice	80.99	328	⇓iP	P	12 58 32.8	+0.6
PRU				eS	S	13 08 32.0	-2.8
PRU				AMS	AMS	13 37 10.0	
	comp=Z,600nm,18.2s						
BZS	Buzias	81.02	322	⇑iP	P	12 58 32.6	+0.1
I28A	Midland	81.02	40	⇑P	P	12 58 32.9	+0.3
	baz=81,SNR=89						
O23A	Lake Granby, G	81.05	46	⇑P	P	12 58 33.9	+0.8
	baz=81,SNR=132						
113A	Mohawk Valley,	81.06	56	⇓P	P	12 58 33.4	+0.5
	baz=81,SNR=30						
H29A	Onida	81.07	39	⇑P	P	12 58 32.9	+0.1
	baz=81,SNR=14						
J27A	Elkhorn Farm,	81.11	41	⇓P	P	12 58 33.7	+0.5
	baz=81,SNR=42						
TREC	Trest	81.12	328	⇓iP	P	12 58 33.5	+0.5
TREC				e		12 58 53.9	
TREC				MLR	MLR		
	comp=Z,600nm,16.3s						
TREC	Trest	81.12	328	⇓iP	P	12 58 33.5	+0.5
TREC				epP	pP	12 58 53.9	0.0
TREC				AMS	AMS	13 34 10.0	
	comp=Z,600nm,16.3s						
NEUB	Neuenburg	81.16	331	eP	P	12 58 33.4	+0.3
	comp=Z,112nm,1.2s						
PKS7	Kunszentmiklos	81.16	324	⇓eP	P	12 58 33.8	+0.6
CLZ	Clausthal	81.19	332	eP	P	12 58 33.8	+0.5
	comp=Z,117nm,1.2s						
CLZ				eL	L	13 39 17.5	
	comp=Z,622nm,19.7s						
KAC	Achnashellach	81.20	343	⇓eP	P	12 58 33.5	+0.3
N24A	Carr	81.22	45	⇓P	P	12 58 34.8	+0.9
	baz=81,SNR=24						
Z14A	Wintersburg	81.22	55	⇓P	P	12 58 34.5	+0.7
	baz=81,SNR=26						
G30A	Faulkton	81.25	39	⇓P	P	12 58 33.8	+0.1
	baz=81,SNR=164						
M25A	Palm-Egli Farm	81.26	44	⇓P	P	12 58 34.9	+0.8
	baz=81						
GDZ	Gediz	81.31	313	iP	P	12 58 34.5	+0.2
K27A	Fluecklinger Fa	81.37	42	⇑P	P	12 58 34.6	+0.1
	baz=81,SNR=12						
L26A	Underwood Farm	81.38	43	⇑P	P	12 58 35.0	+0.4
	baz=81,SNR=5.1						
J28A	Allard Ranch,	81.39	41	⇓P	P	12 58 35.1	+0.5
	baz=81,SNR=22						
KPL	Plockton	81.43	343	⇓eP	P	12 58 35.0	+0.6
KPL				AMB	AMB	12 58 36.0	
	comp=Z,86nm,1.0s						
I29A	Vivian Onida	81.45	40	⇓P	P	12 58 34.8	0.0
	baz=81,SNR=54						
ISCO	Idaho Springs	81.50	46	eP	P	12 58 36.3	+0.7
ISCO				e*PP	pP	12 58 58.2	+1.7
ISCO				pmax	pmax		
	comp=Z,39nm,0.9s						
ISCO	Idaho Springs	81.50	46	⇑P	P	12 58 36.3	+0.7
	baz=81,SNR=48						
ISCO	Idaho Springs	81.50	46	eP	P	12 58 36.2	+0.7
	comp=Z,38nm,0.9s						
ISCO				epP	pP	12 58 58.2	+1.7
TANN	Tannenbergstha	81.51	330	eP	P	12 58 35.3	+0.2
	comp=Z,69nm,1.8s						
X16A	Lo Mia Camp, P	81.51	53	⇓P	P	12 58 36.6	+1.0
	baz=81,SNR=184						
PKST	T"'s	81.52	325	⇑eP	P	12 58 35.6	+0.5
MVCO	Mesa Verde	81.53	49	⇓P	P	12 58 36.5	+0.9
	baz=81,SNR=88						
MVCO	Mesa Verde	81.53	49	eP	P	12 58 36.3	+0.6
	comp=Z,117nm,1.0s						
MVCO				epP	pP	12 58 58.2	+1.6
ISP	Isparta	81.54	312	eP	P	12 58 35.4	-0.1
ISP				e*PP	pP	12 58 55.2	-1.3
ISP				pmax	pmax		
	comp=Z,24nm,0.9s						
ISP	Isparta	81.54	312	eP	P	12 58 35.4	-0.1
	comp=Z,24nm,0.9s						
ISP				epP	pP	12 58 55.2	-1.3
WERD	Werda	81.54	330	eP	P	12 58 35.6	+0.4
	comp=Z,72nm,1.7s						
WERD				esP	sP	12 58 56.1	-8.6
MPEP	Malo Peshtene	81.55	319	iP	P	12 58 36.0	+0.6
PLN	Plauen	81.57	330	eP	P	12 58 35.6	+0.3
	comp=Z,66nm,1.4s						
GTTG	Gyttingen	81.58	332	eP	P	12 58 35.7	+0.4
	comp=Z,70nm,1.1s						
GTTG				eL	L	13 39 38.1	
	comp=Z,564nm,20.2s						
O24A	Longmont	81.58	45	⇑P	P	12 58 36.5	+0.7
	baz=81,SNR=42						
GUNZ	Gunzen	81.60	330	eP	P	12 58 36.0	+0.5
	comp=Z,43nm,1.1s						
GUNZ				esP	sP	12 58 56.4	-8.6
MMAI	Mount Meron Ar	81.61	305	PP	PP	13 01 45.0	+2.1
	comp=Z,8.6nm,0.9s,baz=51,slow=11,SNR=3.7						
WERN	Wernitzgruen	81.64	330	eP	P	12 58 36.3	+0.6
P23A	Jefferson	81.65	46	⇑P	P	12 58 36.9	+0.5
	baz=81,SNR=34						
MOX	Moxa	81.66	330	eP	P	12 58 36.1	+0.3
	comp=Z,39nm,1.1s						
N25A	Grover	81.67	44	⇓P	P	12 58 37.1	+0.9
	baz=81,SNR=8.9						
CSS	Prodhromos	81.69	308	P	P	12 58 36.3	0.0
CSS	Prodhromos	81.69	308	eP	P	12 58 36.3	0.0
	comp=Z,13nm,1.0s						
M26A	McRoberts Ranc	81.74	43	⇑P	P	12 58 37.4	+0.8
	baz=82,SNR=7.4						
L27A	T5 Ranch, Ells	81.76	42	⇓P	P	12 58 36.9	+0.3
	baz=82,SNR=8.4						
IBBN	Ibbenburen	81.78	333	eP	P	12 58 36.6	+0.3
	comp=Z,129nm

KHC *e*PCP **PcP** **12 58 46.3 +3.1**
KHC *e*pP **pP** **12 58 58.6 -0.3**
KHC *e*S **S** **13 08 45.5 -0.4**
KHC AMS AMS 13 35 10.0
comp=Z,600nm,16.6s
KHC Kasperske Hory 82.05 328 *e*P **P** **12 58 38.2 +0.3**
comp=Z,55nm,0.9s
KHC *e*pP **pP** **12 58 58.6 -0.3**
P24A Kohler Place, 82.09 46 ⇓P **P** **12 58 39.4 +0.9**
baz=82,SNR=19
M27A Reverse DX Ran 82.11 43 ⇓P **P** **12 58 38.8 +0.3**
baz=82,SNR=13
ROTZ Rotzenmuhle 82.12 329 *e*P **P** **12 58 39.0 +0.8**
comp=Z,88nm,1.4s
O25A Wiggins 82.13 45 ⇑P **P** **12 58 39.3 +0.6**
baz=82,SNR=10
N26A Koester Ranch, 82.13 44 ⇓P **P** **12 58 38.9 +0.3**
baz=82,SNR=21
W18A Petrified Fore 82.13 52 ⇑P **P** **12 58 39.6 +0.8**
baz=82,SNR=12
W18A Petrified Fore 82.13 52 *e*P **P** **12 58 39.5 +0.6**
comp=Z,32nm,0.9s
W18A *e*pP **pP** **12 59 01.4 +1.6**
RDO Rodhopi 82.14 317 P **P** **12 58 39.0 +0.6**
EAB Aberfoyle 82.14 341⇓*e*P **P** **12 58 38.2 0.0**
S22A 4UR Ranch, Cre 82.17 48 ⇑P **P** **12 58 39.9 +0.9**
baz=82,SNR=94
KULA Kula-Manisa 82.17 313 P **P** **12 58 38.7 -0.1**
214A Organ Pipe Nat 82.20 56 ⇓P **P** **12 58 39.6 +0.6**
baz=82,SNR=28
214A Organ Pipe Nat 82.20 56 *e*P **P** **12 58 39.3 +0.3**
comp=Z,46nm,1.0s
RZN Rozhen 82.20 317 *i*P **P** **12 58 39.5 +0.4**
GEC2 GERESS Array S 82.22 328 *e*P **P** **12 58 39.0 +0.1**
comp=Z,36nm,1.0s
GEC2 *es*P **pP** **12 58 59.4 -0.5**
GEC2 *e*L L 13 40 13.8
comp=Z,377nm,20.3s
GERES GERESS Array B 82.22 328 P **P** **12 58 39.0 +0.1**
GERES *PP **pP** **12 58 59.4 -0.5**
GERES 13 01 44.5
GERES pmax pmax
comp=Z,16nm,0.7s
GERES pmax pmax
comp=Z,14nm,0.7s
GERES pmax pmax
comp=Z,3.0nm,0.9s
GERES pmax pmax
comp=Z,3.0nm,0.9s
GERES MLR MLR
comp=Z,17nm,28.6s
GERES GERESS Array B 82.22 328 P **P** **12 58 39.0 +0.1**
comp=Z,16nm,0.7s,baz=40,slow=4.4,SNR=76
GERES pP **pP** **12 58 59.4 -0.5**
comp=Z,14nm,0.7s,baz=31,slow=5.1,SNR=8.8
GERES PP **PP** **13 01 44.5 -3.0**
comp=Z,3.1nm,0.9s,baz=46,slow=5.8,SNR=3.9
GERES PKKPbc **PKKPbc** **13 17 05.1 -0.5**
comp=Z,2.6nm,0.9s,baz=200,slow=2.7,SNR=12
GERES LR LR 13 38 31.5
comp=Z,390nm,19.3s,baz=48,slow=38
L28A Connealy Angus 82.24 42 ⇑P **P** **12 58 39.3 +0.2**
baz=82
Q24A Divide 82.33 46 ⇑P **P** **12 58 40.3 +0.4**
baz=82,SNR=13
WET Wettzell 82.33 329 *e*P **P** **12 58 39.9 +0.5**
comp=Z,47nm,1.1s
WET *e*L L 13 37 47.7
comp=Z,670nm,18.5s
K29A Lazy Trails An 82.34 41 ⇑P **P** **12 58 39.8 +0.3**
baz=82,SNR=25
URZ Urewera 82.36 152 *e*P **P** **12 58 38.3 -1.0**
comp=Z,30nm,1.0s
J30A Dallas 82.36 40 ⇑P **P** **12 58 39.6 0.0**
baz=82,SNR=33
VTS Vitosha 82.37 319 P **P** **12 58 40.6 +0.7**
VTS Vitosha 82.37 319⇑*i*P **P** **12 58 41.1 +1.2**
VTS Vitosha 82.37 319 *i*P **P** **12 58 40.5 +0.7**
X18A Snowflake 82.38 52 ⇓P **P** **12 58 41.0 +0.9**
baz=82,SNR=24
WTSB Winterswijk 82.39 334 *i*P **P** **12 58 39.5 -0.1**
comp=Z,56nm,1.0s
WTSB *e*P **PcP** **12 58 47.4 +2.9**
comp=Z,30nm,0.8s
WTSB *e*pP **pP** **12 59 00.1 -0.4**
AKHS Akhisar 82.42 314 *i*P **P** **12 58 40.0 0.0**
R23A Moffat 82.46 47 ⇓P **P** **12 58 41.7 +1.2**
baz=82
O26A Horse Wrangler 82.49 44 ⇓P **P** **12 58 40.6 +0.1**
baz=82,SNR=17
GOLH Golhisar 82.50 312 *i*P **P** **12 58 39.9 -0.6**
P25A Willow Gulch B 82.51 45 ⇑P **P** **12 58 41.3 +0.6**
baz=82,SNR=29
PGBU Glenifferbraes 82.51 341⇓*e*P **P** **12 58 40.4 +0.2**
PGBU AMB AMB 12 58 41.3
comp=Z,86nm,1.1s
N27A Anderson Farm, 82.53 43 ⇑P **P** **12 58 41.0 +0.3**
baz=82,SNR=15
GRF Grafenberg Arr 82.57 330 *e*P **P** **12 58 41.3 +0.7**
comp=Z,107nm,1.1s
GRFO Grafenberg 82.57 330 *e*P **P** **12 58 41.4 +0.8**
GRFO pmax pmax
comp=Z,169nm,1.4s
GRFO Grafenberg 82.57 330 *e*P **P** **12 58 41.4 +0.8**
comp=Z,169nm,1.4s
ESK Eskdalemuir 82.62 340 *e*P **P** **12 58 40.3 -0.4**
ARSA Arzberg 82.66 326 *i*P **P** **12 58 41.6 +0.5**
comp=Z,48nm,1.8s,SNR=20
BUG Bochum--Univer 82.66 333 *e*P **P** **12 58 40.9 0.0**
comp=Z,50nm,1.1s
S23A Nye Farm, Mont 82.68 48 ⇑P **P** **12 58 42.8 +1.0**
baz=82,SNR=46
EYMN Ely 82.69 33 *e*P **P** **12 58 40.9 -0.4**
comp=Z,124nm,1.0s
OGNE Ogallala 82.70 43 ⇑P **P** **12 58 41.7 +0.2**
baz=82,SNR=8.7
OGNE Ogallala 82.70 43 *e*P **P** **12 58 41.3 -0.2**
comp=Z,286nm,1.5s
ECK Cauldkaine Hil 82.72 340 *e*P **P** **12 58 41.3 +0.1**
M28A Bar X Bar Ranc 82.74 42 ⇓P **P** **12 58 41.7 -0.1**
baz=82,SNR=9.3
L29A Maesberg Ranch 82.75 41 ⇓P **P** **12 58 41.6 -0.2**
baz=82,SNR=12
MOA Molln 82.75 327 *i*P **P** **12 58 42.0 +0.4**
comp=Z,42nm,1.2s,SNR=25
K30A Basset 82.76 41 ⇓P **P** **12 58 42.0 +0.2**
baz=82,SNR=52
KAVA Kavala 82.80 317 P **P** **12 58 42.2 +0.3**
KAVA Kavala 82.80 317 *e*P **P** **12 58 41.1 -0.8**
MMB Musomiste 82.80 318⇑*i*P **P** **12 58 43.0 +1.0**
MMB Musomiste 82.80 318 *i*P **P** **12 58 42.5 +0.5**
R24A Sanders Place, 82.84 47 ⇓P **P** **12 58 43.1 +0.6**
baz=83,SNR=76
Q25A Bedland, Calha 82.87 46 ⇓P **P** **12 58 42.9 +0.3**
baz=83,SNR=33
NVR Nevrokopi 82.90 318 P **P** **12 58 42.6 +0.1**
NVR Nevrokopi 82.90 318 *e*P **P** **12 58 42.8 +0.3**
DIVS Divibare 82.92 322 P **P** **12 58 43.4 +0.8**
P26A Davis Ranch, A 82.94 45 ⇑P **P** **12 58 42.8 -0.1**
baz=83,SNR=15
KOGS Kog 82.94 325 *e*P **P** **12 58 42.2 -0.3**
KKB Krupnik 82.95 318 *i*P **P** **12 58 43.2 +0.5**
O27A Beecher Island 82.98 44 ⇑P **P** **12 58 43.0 0.0**
baz=83
U22A Llaves 83.06 49 ⇓P **P** **12 58 44.5 +0.8**
baz=83,SNR=76
M29A Burnside Ranch 83.07 42 ⇑P **P** **12 58 43.3 -0.2**
baz=83,SNR=8.6
T23A Casias Ranch, 83.11 48 ⇑P **P** **12 58 45.0 +1.0**
baz=83,SNR=80
N28A Pribbeno Ranch 83.15 43 ⇓P **P** **12 58 43.6 -0.3**
baz=83,SNR=17
S24A Houchin Ranch, 83.19 47 ⇓P **P** **12 58 45.1 +0.7**
baz=83,SNR=43
SRS Serrai 83.21 318 P **P** **12 58 43.9 -0.1**
SRS Serrai 83.21 318 *e*P **P** **12 58 44.4 +0.4**
TNS Taunus Mts 83.22 332 *e*P **P** **12 58 44.2 +0.2**
comp=Z,34nm,1.0s
TNS *e*L L 13 40 48.4
comp=Z,512nm,18.9s
L30A Spencer Herefo 83.23 41 ⇑P **P** **12 58 43.7 -0.5**
baz=83,SNR=11
KESW Keswick, Cumbr 83.24 340 *e*P **P** **12 58 44.3 +0.4**
KESW AMB AMB 12 58 47.3
comp=Z,87nm,1.2s
Q26A Hugo 83.28 45 ⇑P **P** **12 58 44.8 +0.2**
baz=83,SNR=20
TUC Tucson 83.29 54 *e*P **P** **12 58 45.1 +0.4**
TUC pmax pmax
comp=Z,56nm,1.0s
TUC Tucson 83.29 54 *e*P **P** **12 58 45.1 +0.4**
comp=Z,56nm,1.0s
SIGR SIGRI 83.30 315 P **P** **12 58 43.7 -0.8**
SIGR SIGRI 83.30 315 *e*P **P** **12 58 43.5 -1.0**
PERS Pernice 83.31 326 *i*P **P** **12 58 44.6 +0.1**
PERS *e*PcP **PcP** **12 58 53.1 +4.2**
PERS *i*pP **pP** **12 59 04.9 -0.6**
PERS *e*S **S** **13 08 54.0 -4.9**
SOKA Soboth 83.31 326 *i*P **P** **12 58 44.8 +0.2**
comp=Z,97nm,1.3s,SNR=78
V22A San Miguel Ran 83.34 49 ⇑P **P** **12 58 45.9 +0.8**
baz=83,SNR=98
P27A Ficken Ranch, 83.37 44 ⇓P **P** **12 58 44.9 -0.1**
baz=83
R25A Fountain Ranch 83.38 46 ⇓P **P** **12 58 45.3 +0.1**
baz=83,SNR=43
HPK Haverah Park 83.39 339⇓*e*P **P** **12 58 44.7 0.0**
HPK AMB AMB 12 58 45.7
comp=Z,87nm,0.9s
O28A Krutsinger Ran 83.42 44 ⇓P **P** **12 58 45.1 -0.2**
baz=83,SNR=23
GAL1 Galloway 83.42 341 *e*P **P** **12 58 44.4 -0.4**
M30A Dale-Ortello V 83.44 41 ⇓P **P** **12 58 44.9 -0.4**
baz=83
RJOB Jochberg 83.46 328 *e*P **P** **12 58 45.9 +0.6**
comp=Z,68nm,1.0s
T24B San Luis 83.48 48 ⇓P **P** **12 58 47.5 +1.6**
baz=83,SNR=92
U23A El Rito 83.49 49 ⇑P **P** **12 58 47.2 +1.3**
baz=83,SNR=352
ECSD EROS Data Cent 83.51 38 ⇑P **P** **12 58 45.4 -0.1**
baz=83,SNR=54
ECSD EROS Data Cent 83.51 38 *e*P **P** **12 58 45.3 -0.3**
comp=Z,101nm,1.0s
L31A Butterfield Fa 83.52 40 ⇑P **P** **12 58 45.5 -0.1**
baz=83,SNR=43
SOH Sokhos 83.54 318 *e*P **P** **12 58 46.0 +0.2**
KNT Kendrikon 83.55 318 *e*P **P** **12 58 46.0 +0.2**
N29A Votaw Ranch, W 83.55 42 ⇑P **P** **12 58 45.5 -0.4**
baz=83,SNR=12
OUR Ouranopolis 83.55 317 P **P** **12 58 45.7 -0.1**
OUR Ouranopolis 83.55 317 *e*P **P** **12 58 46.0 +0.2**
VAY Valandovo 83.61 318 P **P** **12 58 45.9 -0.2**
VAY Valandovo 83.61 318 *i*P **P** **12 58 45.8 -0.2**
comp=Z,99nm,1.0s
S25A Robets Cordova 83.62 47 ⇑P **P** **12 58 46.3 -0.2**
baz=83,SNR=28
OBKA Obir 83.66 326 *i*P **P** **12 58 46.3 -0.1**
comp=Z,20nm,0.8s,SNR=13
HGN Heimansgroeve 83.70 333 *i*P **P** **12 58 46.0 -0.3**
comp=Z,62nm,1.2s
HGN *e*P **PcP** **12 58 54.1 +3.7**
HGN comp=Z,30nm,1.0s *e*pP **pP** **12 59 06.4 -0.9**
KSCO Kaye Shedlock' 83.72 45 ⇓P **P** **12 58 47.3 +0.4**
baz=84,SNR=11
KSCO Kaye Shedlock' 83.72 45 *e*P **P** **12 58 46.9 0.0**
comp=Z,279nm,1.8s
KSCO *e*pP **pP** **12 59 08.8 +0.9**
SKO Skopje 83.73 319 P **P** **12 58 46.8 +0.1**
SKO Skopje 83.73 319 *i*P **P** **12 58 47.0 +0.3**
comp=Z,193nm,1.5s
KBA Koelnbreinsper 83.74 327 *i*P **P** **12 58 46.8 -0.1**
comp=Z,42nm,0.8s,SNR=23
R26A Arlington 83.75 46 ⇓P **P** **12 58 47.3 +0.2**
baz=84,SNR=98
CHOS Chios island 83.75 314 P **P** **12 58 46.8 -0.2**
CHOS Chios island 83.75 314 *e*P **P** **12 58 46.8 -0.2**
FUR Furstenfeldbru 83.76 329 *e*P **P** **12 58 47.2 +0.5**
comp=Z,110nm,0.9s
FUR *e*L L 13 38 49.6
comp=Z,873nm,20.6s
BEBN Eben Emael 83.76 334 P **P** **12 58 46.6 -0.1**
SMG Samos 83.77 313 P **P** **12 58 46.8 -0.2**
SMG Samos 83.77 313 *e*P **P** **12 58 47.0 0.0**
PLE Pljevlja 83.78 321⇓*i*P **P** **12 58 47.9 +0.8**
MEM Membach 83.80 333 P **P** **12 58 46.6 -0.3**
comp=Z,26nm,1.2s
PLG Polygyros 83.81 317 P **P** **12 58 47.2 +0.1**
PLG Polygyros 83.81 317 *e*P **P** **12 58 47.3 +0.1**
P28A Saint Francis 83.81 44 ⇓P **P** **12 58 47.4 +0.1**
baz=84,SNR=41
LHO Holmfirth 83.82 339⇓*e*P **P** **12 58 46.6 -0.3**
HORT Hortiatis 83.84 318 *e*P **P** **12 58 47.0 -0.4**
N30A Hueftle Ranch, 83.85 42 ⇑P **P** **12 58 47.2 -0.2**
baz=84
BDRM Kayabasi 83.86 313 *i*P **P** **12 58 47.6 +0.1**
IVA Berane 83.86 321⇓*i*P **P** **12 58 48.2 +0.7**
THE Thessaloniki 83.89 318 *e*P **P** **12 58 47.3 -0.2**
V23A Ortiz Mt. (NFS 83.89 49 ⇑P **P** **12 58 49.3 +1.3**
baz=84,SNR=80
O29A 4D Ranch, Culb 83.95 43 ⇑P **P** **12 58 47.9 0.0**
baz=84,SNR=34
GRG Griva 83.95 318 P **P** **12 58 47.9 0.0**
MYKA Terra Mystica 83.96 327 *i*P **P** **12 58 47.3 -0.6**
comp=Z,30nm,0.9s,SNR=18
U24A Moreno Valley 83.98 48 ⇑P **P** **12 58 49.6 +1.1**
baz=84,SNR=82
T25A Trinidad 83.99 47 ⇑P **P** **12 58 49.0 +0.5**
baz=84,SNR=88
PAIG Paliouri 84.00 317 P **P** **12 58 47.8 -0.3**
PAIG Paliouri 84.00 317 *e*P **P** **12 58 48.2 +0.1**
LJU Ljubljana 84.02 326 *i*P **P** **12 58 47.8 -0.3**
LJU *i*pP **pP** **12 59 08.0 -1.2**
LJU *e* 13 09 56.5
PVY Plav 84.03 321⇓*i*P **P** **12 58 48.4 0.0**
ARG Arkhangelos 84.04 312 P **P** **12 58 48.6 +0.2**
ARG Arkhangelos 84.04 312 *e*P **P** **12 58 49.0 +0.6**
EIL Elat 84.04 303 P **P** **12 58 49.0 +0.5**
baz=359,slow=6.7
M31A Lambtecht Ranc 84.05 41 ⇓P **P** **12 58 48.0 -0.4**
baz=84,SNR=17
STU Stuttgart 84.11 330 *e*P **P** **12 58 48.6 +0.1**
STU pmax pmax
comp=Z,43nm,0.8s
STU Stuttgart 84.11 330 *e*P **P** **12 58 48.8 +0.3**
comp=Z,112nm,1.2s
STU *e*L L 13 41 00.7
comp=Z,279nm,21.0s
STU Stuttgart 84.11 330 *e*P **P** **12 58 48.6 +0.1**
comp=Z,43nm,0.8s
UPM Unac-Piva 84.11 322⇓*i*P **P** **12 58 48.3 -0.5**
BOJS Bojanci 84.11 325 *e*P **P** **12 58 48.4 -0.2**
BOJS *i*pP **pP** **12 59 08.7 -0.9**
BOJS *e*S **S** **13 09 02.8 -4.0**
Q28A Sharon Springs 84.13 44 ⇑P **P** **12 58 49.1 +0.1**
baz=84,SNR=17
R27A Eads 84.13 45 ⇑P **P** **12 58 49.2 +0.2**
baz=84,SNR=36
SPMN Marine on St. 84.20 35 ⇑P **P** **12 58 48.9 -0.1**
baz=84,SNR=18
SPMN Marine on St. 84.20 35 *e*P **P** **12 58 48.6 -0.4**
comp=Z,78nm,1.1s
BCLA Clavier 84.20 334 P **P** **12 58 48.7 -0.2**
comp=Z,36nm,1.6s
S26A Kim 84.20 46 ⇑P **P** **12 58 49.2 -0.1**
baz=84,SNR=9.2
LAZ Ladron 84.21 51 *e*P **P** **12 58 50.4 +0.8**
comp=Z,37nm,1.0s
P29A Atwood 84.25 43 ⇑P **P** **12 58 49.5 0.0**
baz=84,SNR=22
ANMO Albuquerque 84.26 50*d i*P **P** **12 58 50.6 +0.8**
ANMO pmax pmax
comp=Z,551nm,1.2s
ANMO Albuquerque 84.26 50 *e*P **P** **12 58 50.6 +0.8**
comp=Z,127nm,1.0s
ANMO *e*pP **pP** **12 59 12.3 +1.4**
W23A Werner Place, 84.30 50 ⇓P **P** **12 58 50.8 +0.7**
baz=84,SNR=74
O30A MW Ranch, Wils 84.31 43 ⇑P **P** **12 58 49.4 -0.3**
baz=84,SNR=22
WTTA Wattenberg 84.32 328 *i*P **P** **12 58 49.8 0.0**
comp=Z,26nm,1.0s,SNR=10.0
NIS1 Nisyros Isl. 84.33 312 P **P** **12 58 49.3 -0.6**
NKY Niksic 84.36 321⇓*i*P **P** **12 58 48.9 -1.1**
ABTA Abfaltersbach 84.36 327 *i*P **P** **12 58 48.9 -1.0**
comp=Z,31nm,1.2s,SNR=16
NKME Niksic 84.41 321⇓*i*P **P** **12 58 49.6 -0.6**
AOS Alonnisos 84.42 316 P **P** **12 58 50.0 -0.3**
AOS Alonnisos 84.42 316 *e*P **P** **12 58 49.9 -0.3**
N31A Bailey Ranch, 84.43 41 ⇓P **P** **12 58 49.8 -0.6**
baz=84,SNR=8.3
PMOR Pomariorio Ree 84.44 114 *e*P **P** **12 58 51.8 +1.3**
comp=Z,89nm,1.0s
PMOR *e*pP **pP** **12 59 14.0 +2.4**
comp=Z,177nm,1.3s
PMOR Pomariorio Ree 84.44 114 *e*T T 14 31 06.9
comp=Z,69nm,0.2s
T26A Comanche Natio 84.44 47 ⇓P **P** **12 58 50.8 +0.1**
baz=84,SNR=112
V24A Rampart Ranch, 84.45 49 ⇓P **P** **12 58 52.2 +1.4**
baz=84,SNR=207
LENM Lemitar 84.47 51 *e*P **P** **12 58 51.7 +0.8**
comp=Z,41nm,1.0s
LANF Langenberg 84.47 331 *e*P **P** **12 58 49.9 -0.4**
MOTA Moosalm 84.48 329⇓*i*P **P** **12 58 50.5 0.0**
comp=Z,31nm,0.9s,SNR=15
SNF Seneffe 84.49 334 P **P** **12 58 50.2 -0.2**
S27A Las Animas 84.49 46 ⇓P **P** **12 58 50.7 -0.2**
baz=84,SNR=23
U25A Circle Dot Ran 84.50 48 ⇓P **P** **12 58 51.5 +0.5**
baz=84,SNR=96
RETA Reutte 84.50 329 *i* PcP **P** **12 58 50.9 +0.3**
comp=Z,99nm,1.3s,SNR=42
TTG Podgorica 84.51 321⇓*i*P **P** **12 58 49.2 -1.4**
LIT Litokhoron 84.52 318 P **P** **12 58 50.3 -0.5**
LIT Litokhoron 84.52 318 *e*P **P** **12 58 50.4 -0.4**
WLF Walferdange 84.53 333 P **P** **12 58 50.9 +0.4**
comp=Z,46nm,1.7s
WLF Walferdange 84.53 333 *e*P **P** **12 58 50.7 +0.1**
WLF pmax pmax
comp=Z,25nm,1.1s
WLF Walferdange 84.53 333 *e*P **P** **12 58 51.0 +0.4**
comp=Z,110nm,1.6s
WLF Walferdange 84.53 333 *e*P **P** **12 58 50.6 +0.1**
comp=Z,25nm,1.1s
Y22D IRIS PASSCAL I 84.56 51 ⇑P **P** **12 58 52.5 +1.2**
baz=84,SNR=10
LPM Los Pinos Moun 84.58 50 *e*P **P** **12 58 51.9 +0.5**
comp=Z,48nm,0.9s
FNA Florina 84.62 319 P **P** **12 58 50.9 -0.4**
FNA Florina 84.62 319 *e*P **P** **12 58 50.9 -0.4**
TRI Trieste 84.62 326 *e*P **P** **12 58 50.3 -0.8**
TRI *e**PP **pP** **12 59 10.6 -1.6**
TRI pmax pmax
comp=Z,36nm,1.4s
TRI Trieste 84.62 326 *e*P **P** **12 58 50.3 -0.8**
comp=Z,36nm,1.4s
TRI *e*pP **pP** **12 59 10.6 -1.6**
GIVF Givet 84.64 334⇓*i*P **P** **12 58 50.9 -0.2**
comp=Z,68nm,1.1s
GIVF Givet 84.64 334⇓*i*P **P** **12 58 50.9 -0.2**
GIVF pmax pmax
comp=Z,69nm,1.1s
GIVF Givet 84.64 334⇓*i*P **P** **12 58 50.9 -0.2**
comp=Z,68nm,1.1s
WPM1 Penmaenmawr 84.64 340⇓*e*P **P** **12 58 51.4 +0.3**
R28A Tribune 84.64 45 ⇓P **P** **12 58 51.3 -0.3**
baz=84,SNR=20
P30A Selden 84.66 43 ⇓P **P** **12 58 51.1 -0.4**
baz=84,SNR=23
XOR Xorichti 84.66 317 P **P** **12 58 50.7 -0.8**
XOR Xorichti 84.66 317 *e*P **P** **12 58 50.1 -1.4**
OHR Ohrid 84.68 319 *i*P **P** **12 58 50.3 -1.3**
comp=Z,106nm,0.9s
NEO Neokhori 84.69 317 P **P** **12 58 50.7 -0.9**
NEO Neokhori 84.69 317 *e*P **P** **12 58 51.1 -0.5**
W24A Lazy 6 Ranch, 84.72 49 ⇓P **P** **12 58 53.2 +1.1**
baz=84,SNR=173
O31A Woolen Ranch, 84.72 42 ⇑P **P** **12 58 51.2 -0.6**
baz=84,SNR=9.9
DRME Dracevica, Mon 84.72 321⇓*i*P **P** **12 58 51.7 0.0**
Q29A Oakley 84.72 44 ⇑P **P** **12 58 51.5 -0.4**
baz=84,SNR=27
DOU Dourbes 84.73 334 P **P** **12 58 51.3 -0.2**
comp=Z,21nm,1.6s
WLF1 Llynfaes 84.75 340 *e*P **P** **12 58 51.8 +0.3**
WLF1 AMB AMB 12 58 52.5
comp=Z,72nm,1.8s
KZN Kozani 84.75 318 *e*P **P** **12 58 51.7 -0.3**
V25A Rancho No Teng 84.76 48 ⇑P **P** **12 58 53.3 +1.0**
baz=84,SNR=181
FOEL Foel Wylfa 84.78 339 *e*P **P** **12 58 52.1 +0.3**
FOEL AMB AMB 12 58 53.1
comp=Z,90nm,1.2s
BUM Brajici-Budva 84.78 321⇓*i*P **P** **12 58 51.7 -0.4**
BFO Black Forest 84.80 331 P **P** **12 58 52.9 +0.9**
comp=Z,513nm,0.9s,SNR=34
BFO Black Forest 84.80 331 *e*P **P** **12 58 51.8 -0.2**
BFO pmax pmax
comp=Z,82nm,0.9s
BFO Black Forest 84.80 331 *e*P **P** **12 58 52.2 +0.2**
comp=Z,116nm,1.1s
BFO *e*L L 13 42 11.5
comp=Z,440nm,18.2s
BFO Black Forest 84.80 331 *e*P **P** **12 58 51.8 -0.2**
comp=Z,82nm,0.9s
SCHQ Schefferville 84.82 16 P **P** **12 58 52.0 0.0**
comp=Z,32nm,0.9s,baz=350,slow=5.5,SNR=41
SCHQ pP **pP** **12 59 13.2 +0.2**
comp=Z,25nm,0.7s,baz=348,slow=7.6,SNR=8.3
SCHQ LR LR 13 38 10.1
comp=Z,206nm,21.6s,baz=354,slow=37
YLL Llanberis 84.82 340 *e*P **P** **12 58 52.0 +0.1**
N32A Stulken Farm, 84.82 41 ⇑P **P** **12 58 51.4 -0.9**
baz=85
ULC Ulcinj 84.86 321⇓*i*P **P** **12 58 52.3 -0.1**
319A Douglas 84.87 54 ⇓P **P** **12 58 53.5 +0.7**
baz=85,SNR=82
HCY Herceg Novi 84.87 321 *e*P **P** **12 58 51.6 -0.9**
FETA Feichten 84.89 329 *i* PcP **P** **12 58 52.8 +0.1**
comp=Z,36nm,0.9s,SNR=15
BAIF Baives 84.89 334⇓*i*P **P** **12 58 52.2 -0.2**
comp=Z,85nm,1.1s
BAIF *e*pP **pP** **12 59 12.5 -1.0**
BAIF Baives 84.89 334⇓*i*P **P** **12 58 52.2 -0.2**
BAIF *e**PP **pP** **12 59 12.5 -1.0**
BAIF pmax pmax
comp=Z,85nm,1.1s
BAIF Baives 84.89 334⇓*i*P **P** **12 58 52.2 -0.2**
comp=Z,85nm,1.1s
BAIF *e*pP **pP** **12 59 12.5 -1.0**
U26A Atchley Ranch, 84.89 47 ⇓P **P** **12 58 53.5 +0.6**
baz=85,SNR=87
MRKA Markates 84.91 316 *e*P **P** **12 58 52.4 -0.4**
PPT Papeete 84.92 117 P **P** **12 58 54.2 +1.3**
PPT pmax pmax
comp=Z,56nm,0.9s
PPT pmax pmax
comp=N,16nm,0.6s
PPT Papeete 84.92 117 P **P** **12 58 54.2 +1.3**
comp=N,56nm,0.9s,baz=350,slow=2.2,SNR=6.3
PPT SKKP 13 20 11.0
comp=N,16nm,0.6s,baz=137,slow=3.2,SNR=3.6
PPT2 Papeete2 84.93 117 *e*P **P** **12 58 54.5 +1.4**
comp=N,59nm,1.1s
PPT2 Papeete2 84.93 117 *e*S **S** **13 09 11.1 -4.6**
comp=N,626nm,31.8s
PPT2 Papeete2 84.93 117 *e*LR LR 13 25 18.0
comp=N,1μm,28.2s,baz=320
PPT2 Papeete2 84.93 117 *e*T T 14 31 44.0
comp=N,12nm,0.3s
R29A Marienthal 84.96 44 ⇓P **P** **12 58 52.8 -0.3**
baz=85,SNR=10.0
APE Apeiranthos 84.97 314 P **P** **12 58 51.6 -1.5**
APE Apeiranthos 84.97 314*d i*P **P** **12 58 51.6 -1.5**
APE pmax pmax
comp=Z,73nm,1.2s
APE Apeiranthos 84.97 314 *e*P **P** **12 58 52.2 -0.9**
APE Apeiranthos 84.97 314⇓*i*P **P** **12 58 52.5 -0.6**
PAE Paea 84.98 117 *e*P **P** **12 58 54.4 +1.2**
comp=Z,28nm,1.4s
ELSH Elham, Standar 85.00 336 *e*P **P** **12 58 52.8 -0.1**
ELSH AMB AMB 12 58 54.0
comp=Z,137nm,0.9s
T27A Campo 85.02 46 ⇓P **P** **12 58 53.5 0.0**
baz=85,SNR=6.0
DAVA Damuels 85.03 329 *i* PcP **P** **12 58 53.3 0.0**
comp=Z,85nm,1.0s,SNR=29
YRE Yr Eifl 85.03 340⇓*e*P **P** **12 58 53.2 +0.2**
KBN Korca 85.04 319 P **P** **12 58 53.4 -0.1**
121A Cookes Peak, D 85.06 52 ⇓P **P** **12 58 54.5 +0.7**
baz=85,SNR=70
121A Cookes Peak, D 85.06 52 *e*P **P** **12 58 54.7 +0.9**
comp=Z,132nm,0.9s
NEST Nestorio 85.06 319 P **P** **12 58 53.4 -0.2**
NEST Nestorio 85.06 319 *e*P **P** **12 58 53.2 -0.4**
KARP Karpathos 85.07 312 P **P** **12 58 53.0 -0.6**

KARP	Karpathos	85.07	312	eP	P	12 58 53.7	+0.1
Q30A	Quinter	85.08	43	⇓P	P	12 58 53.5	-0.2
baz=85,SNR=16							
TIAR	Tiarei	85.08	116	eP	P	12 58 55.2	+1.5
comp=Z,32nm,0.9s							
TIAR	Tiarei	85.08	116	eT	T	14 31 53.2	
comp=Z,12nm,0.3s							
Z22A	Elephant Butte	85.09	51	⇑P	P	12 58 54.4	+0.5
baz=85,SNR=140							
S28A	Manter	85.12	45	⇓P	P	12 58 54.1	+0.2
baz=85,SNR=46							
CDF	Champ du Feu	85.14	331	⇓iP	P	12 58 53.7	-0.1
comp=Z,168nm,1.1s							
CDF				epP	pP	12 59 14.3	-0.6
CDF	Champ du Feu	85.14	331	⇓iP	P	12 58 53.7	-0.1
CDF				e*PP	pP	12 59 14.3	-0.6
CDF				pmax	pmax		
comp=Z,168nm,1.1s							
CDF	Champ du Feu	85.14	331	⇓iP	P	12 58 53.7	-0.1
comp=Z,168nm,1.1s							
CDF				epP	pP	12 59 14.3	-0.6
X24A	Lazy VL Ranch,	85.14	50	⇑P	P	12 58 55.1	+0.9
baz=85,SNR=23							
P31A	Stockton	85.14	43	⇓P	P	12 58 53.5	-0.5
baz=85,SNR=35							
THL	Klokotos Trika	85.16	317	P	P	12 58 52.7	-1.2
THL	Klokotos Trika	85.16	317	eP	P	12 58 52.9	-1.0
O32A	Brockman Farm,	85.20	41	⇓P	P	12 58 53.2	-1.0
baz=85,SNR=5.4							
PTL	Penteli	85.22	315	eP	P	12 58 53.3	-1.0
LKR	Lokris	85.28	316	P	P	12 58 53.2	-1.3
LKR	Lokris	85.28	316	eP	P	12 58 53.7	-0.8
W25A	X Bar L Ranch,	85.28	49	⇑P	P	12 58 55.8	+1.0
baz=85,SNR=269							
V26A	Tequesquite Ra	85.28	48	⇑P	P	12 58 55.4	+0.6
baz=85,SNR=89							
TVO	Taravao	85.29	117	eP	P	12 58 56.4	+1.5
comp=Z,19nm,0.9s							
DSB	Dublin	85.31	341	eP	P	12 58 54.6	+0.2
comp=Z,35nm,0.8s							
T28A	Walsh	85.33	46	⇓P	P	12 58 54.9	-0.1
baz=85							
ECH	Echery	85.34	331	eP	P	12 58 54.4	-0.3
ECH				e*PP	pP	12 59 15.4	-0.5
ECH				pmax	pmax		
comp=Z,54nm,0.9s							
ECH	Echery	85.34	331	eP	P	12 58 54.3	-0.5
ECH	Echery	85.34	331	eP	P	12 58 54.4	-0.3
comp=Z,54nm,0.9s							
ECH				epP	pP	12 59 15.3	-0.5
AGG	Agios Georgios	85.38	317	P	P	12 58 53.4	-1.7
AGG	Agios Georgios	85.38	317	eP	P	12 58 53.7	-1.4
AXAR	Agios Charalam	85.38	317	P	P	12 58 53.9	-1.2
AXAR	Agios Charalam	85.38	317	eP	P	12 58 54.8	-0.3
U27A	Thompson Grove	85.41	47	⇑P	P	12 58 55.6	+0.1
baz=85,SNR=55							
DAVOX	Davos/Dischmat	85.43	329	P	P	12 58 54.7	-0.7
DAVOX				pmax	pmax		
comp=Z,23nm,0.9s							
DAVOX	Davos/Dischmat	85.43	329	P	P	12 58 54.7	-0.7
comp=Z,23nm,0.9s							
STRD	Stroud	85.46	338	⇓eP	P	12 58 55.3	+0.1
STRD				AMB	AMB	12 58 56.2	
comp=Z,193nm,1.0s							
P32A	Huiting Farm,	85.49	42	⇓P	P	12 58 54.7	-0.9
baz=85,SNR=35							
MAKR	Makrakomi, Fth	85.49	317	eP	P	12 58 54.8	-0.9
HMNX	Herstmonceux	85.49	336	eP	P	12 58 55.8	+0.4
HMNX				AMB	AMB	12 58 56.6	
comp=Z,184nm,0.8s							
SANT	Santorini	85.49	313	P	P	12 58 54.0	-1.8
SANT	Santorini	85.49	313	eP	P	12 58 54.4	-1.3
SANT	Santorini	85.49	313	eP	P	12 58 53.9	-1.8
comp=Z,115nm,1.1s							
SANT				epP	pP	12 59 14.6	-2.2
Q31A	Ellis	85.51	43	⇑P	P	12 58 54.8	-0.9
baz=85,SNR=5.8							
MCH1	Michaelchurch	85.51	339	⇓eP	P	12 58 55.2	-0.2
MCH1				AMB	AMB	12 58 56.4	
comp=Z,82nm,1.0s							
R30A	Dighton	85.54	44	⇑P	P	12 58 55.5	-0.5
baz=85,SNR=30							
S29A	Ulysses	85.54	45	⇓P	P	12 58 55.9	-0.1
baz=85,SNR=17							
Y24A	Capitan	85.57	50	⇑P	P	12 58 56.4	0.0
baz=85,SNR=43							
SWN1	Swindon	85.59	338	⇓eP	P	12 58 56.2	+0.4
SWN1				AMB	AMB	12 58 57.0	
comp=Z,154nm,1.1s							
WOL	Wolverton	85.59	338	eP	P	12 58 55.4	-0.4
WOL				AMB	AMB	12 58 56.4	
comp=Z,84nm,1.1s							
MONM	Monmouth	85.60	339	⇓eP	P	12 58 55.5	-0.4
MONM				AMB	AMB	12 58 56.7	
comp=Z,123nm,1.1s							
PAGF	Fort de Pagny	85.60	332	⇓iP	P	12 58 56.3	+0.3
comp=Z,46nm,1.0s							
PAGF				epP	pP	12 59 16.8	-0.3
PAGF	Fort de Pagny	85.60	332	⇓iP	P	12 58 56.3	+0.3
comp=Z,46nm,1.0s							
PAGF				epP	pP	12 59 16.8	-0.3
X25A	Clemmons Ranch	85.63	49	⇑P	P	12 58 57.3	+0.7
baz=85,SNR=59							
NAIG	Nisos Aigina	85.64	315	eP	P	12 58 54.7	-1.7
MOF	Molkenrain	85.65	331	eP	P	12 58 55.6	-0.8
OLDB	Oldbury-Upon-S	85.68	338	eP	P	12 58 55.5	-0.7
OLDB				AMB	AMB	12 58 56.8	
comp=Z,66nm,1.0s							
LPW	Lampeter	85.71	339	eP	P	12 58 56.2	-0.2
LPW				AMB	AMB	12 58 57.3	
comp=Z,81nm,1.1s							
JAN	Janina	85.71	318	eP	P	12 58 57.1	+0.4
EVR	Evrytania	85.73	317	P	P	12 58 55.8	-1.2
EVR	Evrytania	85.73	317	eP	P	12 58 56.6	-0.4
LTK	Loutraki	85.74	316	P	P	12 58 55.3	-1.6
T29A	Hugoton	85.77	45	⇑P	P	12 58 57.1	-0.1
baz=86,SNR=15							
THEF	They Montfort	85.78	332	eP	P	12 58 56.5	-0.4
W26A	Owens Ranch, T	85.78	48	⇓P	P	12 58 58.3	+1.0
baz=86,SNR=38							
U28A	Mallet	85.78	46	⇓P	P	12 58 57.2	0.0
baz=86							
HINF	Hinteralfeld	85.79	331	⇓iP	P	12 58 56.4	-0.6
comp=Z,71nm,1.1s							
HINF	Hinteralfeld	85.79	331	⇓iP	P	12 58 56.4	-0.6
HINF				pmax	pmax		
comp=Z,71nm,1.1s							
HINF	Hinteralfeld	85.79	331	⇓iP	P	12 58 56.4	-0.6
comp=Z,71nm,1.1s							
HAU	Haudompre	85.83	332	⇓iP	P	12 58 56.8	-0.3
comp=Z,77nm,0.9s							
HAU				epP	pP	12 59 17.1	-1.2
HAU				eR			
comp=Z,560nm,21.2s							
HAU	Haudompre	85.83	332	⇓iP	P	12 58 56.8	-0.3
HAU				e*PP	pP	12 59 17.1	-1.2
HAU				pmax	pmax		
comp=Z,77nm,0.9s							
HAU	Haudompre	85.83	332	⇓iP	P	12 58 56.8	-0.3
comp=Z,77nm,0.9s							
HAU				epP	pP	12 59 17.1	-1.2
V27A	Dan Oppiter Fa	85.86	47	⇑P	P	12 58 58.2	+0.5
baz=86,SNR=33							
S30A	Montezuma	85.89	45	⇑P	P	12 58 58.0	+0.3
baz=86,SNR=16							
MEZF	Maizieres J'vi	85.90	333	⇓iP	P	12 58 57.6	+0.2
comp=Z,150nm,1.1s							
MEZF	Maizieres J'vi	85.90	333	⇓iP	P	12 58 57.6	+0.2
comp=Z,150nm,1.1s							
TUE	Stuetta	85.90	329	eP	P	12 58 57.4	-0.3
comp=Z,23nm,0.8s							
ZKR	Zakros	85.92	312	P	P	12 58 58.3	+0.4
ZKR	Zakros	85.92	312	eP	P	12 58 58.2	+0.4
KALE	Kalithea	85.93	317	P	P	12 58 55.8	-2.1
KALE	Kalithea	85.93	317	eP	P	12 58 57.0	-0.9
R31A	Burdett	85.95	44	⇑P	P	12 58 57.5	-0.5
baz=86,SNR=17							
DSL	Palaion Diasel	85.96	318	P	P	12 58 57.4	-0.6
Q32A	Meitler Ranch,	85.97	43	⇑P	P	12 58 57.5	-0.6
baz=86,SNR=13							
EFP	Efpalio	86.03	317	P	P	12 58 58.3	0.0
EFP	Efpalio	86.03	317	eP	P	12 58 58.0	-0.3
IGT	Igoumenitsa	86.08	318	P	P	12 58 57.9	-0.6
IGT	Igoumenitsa	86.08	318	eP	P	12 58 57.8	-0.7
P33A	Williams Farm,	86.10	42	⇑P	P	12 58 58.2	-0.5
baz=86,SNR=6.1							
X26A	CR and CF Fran	86.12	49	⇑P	P	12 58 59.8	+0.7
baz=86,SNR=62							
GUR	Goura	86.15	316	P	P	12 58 57.7	-1.3
GUR	Goura	86.15	316	eP	P	12 58 57.9	-1.1
SFTF	Sexfontaines	86.15	332	⇓iP	P	12 58 58.7	0.0
comp=Z,240nm,1.1s							
SFTF				epP	pP	12 59 19.5	-0.3
SFTF	Sexfontaines	86.15	332	⇓iP	P	12 58 58.7	0.0
comp=Z,240nm,1.1s							
SFTF				epP	pP	12 59 19.5	-0.3
NPS	Neapolis	86.18	312	eP	P	12 58 58.4	-0.7
KLV	Kalavryta, Ach	86.18	316	P	P	12 58 57.4	-1.7
KLV	Kalavryta, Ach	86.18	316	eP	P	12 58 57.9	-1.2
LOMF	Lomont	86.18	331	eP	P	12 58 57.9	-1.1
MEH	Mehetia	86.20	116	eT	T	14 33 17.6	
comp=Z,75nm,0.2s							
W27A	Bowe Ranch, En	86.21	48	⇑P	P	12 59 00.2	+0.7
baz=86,SNR=181							
V28A	Channing	86.22	47	⇑P	P	12 58 59.9	+0.4
baz=86,SNR=13							
KEK	Kerkira	86.23	319	P	P	12 58 58.7	-0.5
KEK	Kerkira	86.23	319	eP	P	12 58 58.8	-0.5
T30A	Plains	86.28	45	⇓P	P	12 58 59.7	+0.1
baz=86,SNR=8.2							
U29A	Oasis Ranch, S	86.28	46	⇑P	P	12 58 59.7	0.0
baz=86,SNR=19							
R32A	Long Quarter,	86.30	43	⇓P	P	12 58 58.8	-0.8
baz=86,SNR=7.7							
PDO	Prodromos	86.30	317	P	P	12 58 57.6	-2.0
PDO	Prodromos	86.30	317	eP	P	12 58 59.1	-0.5
LAST	Lasithi	86.33	312	P	P	12 58 59.8	-0.1
LAST	Lasithi	86.33	312	eP	P	12 59 00.0	+0.1
Q33A	Connelly Farm,	86.35	42	⇓P	P	12 58 59.3	-0.6
baz=86,SNR=24							
LKD2	Lefkada island	86.45	318	P	P	12 58 59.5	-0.9
LKD2	Lefkada island	86.45	318	eP	P	12 58 59.5	-0.9
S31A	Mullinville	86.45	44	⇓P	P	12 59 00.2	-0.2
baz=86,SNR=23							
X27A	F and S Farms,	86.48	48	⇓P	P	12 59 01.6	+0.8
baz=86,SNR=30							
DRO	Drossia	86.48	317	eP	P	12 59 00.3	-0.3
SCIA	State Center	86.53	38	eP	P	12 59 01.1	+0.4
comp=Z,366nm,1.4s							
SCIA				epP	pP	12 59 22.6	+0.7
VLX	Vlachokerasia	86.53	316	P	P	12 58 59.2	-1.7
VLX	Vlachokerasia	86.53	316	eP	P	12 58 59.5	-1.4
RLS	Riolos of Patr	86.54	317	P	P	12 59 00.1	-0.7
RLS	Riolos of Patr	86.54	317	eP	P	12 59 00.7	-0.1
V29A	Stinnett	86.55	46	⇓P	P	12 59 01.0	0.0
baz=86,SNR=18							
HEX	Exmoor	86.57	339	⇓eP	P	12 59 00.6	-0.1
U30A	WK&E Inc. Balk	86.58	45	⇑P	P	12 59 01.2	+0.1
baz=86,SNR=19							
IDI	Anoyia	86.58	313	P	P	12 59 00.4	-0.7
comp=Z,31nm,0.7s,baz=34,slow=9.5,SNR=5.5							
W28A	Vega	86.58	47	⇑P	P	12 59 01.9	+0.7
baz=86,SNR=26							
VLI	Veliai	86.69	315	P	P	12 58 59.3	-2.3
VLI	Veliai	86.69	315	eP	P	12 58 59.5	-2.1
S32A	Newby Ranch, P	86.69	44	⇑P	P	12 59 01.3	-0.3
baz=86,SNR=19							
T31A	Randall Ranch,	86.72	44	⇑P	P	12 59 01.9	+0.1
baz=86,SNR=21							
R33A	Olander Ranch,	86.77	43	⇑P	P	12 59 01.3	-0.6
baz=86							
VAM	Vamos	86.90	313	P	P	12 59 00.5	-2.1
VAM	Vamos	86.90	313	eP	P	12 59 00.4	-2.1
ITM	Ithomi	86.92	316	P	P	12 59 01.6	-1.1
ITM	Ithomi	86.92	316	eP	P	12 59 01.6	-1.1
KSU1	Kansas State U	86.92	41	⇑P	P	12 59 02.0	-0.6
baz=87,SNR=28							
KSU1	Kansas State U	86.92	41	eP	P	12 59 02.3	-0.4
comp=Z,141nm,0.9s							
KSU1				epP	pP	12 59 23.6	-0.2
VLS	Valsamata	86.93	317	P	P	12 59 01.9	-0.8
VLS	Valsamata	86.93	317	eP	P	12 59 01.9	-0.8
KYTH	Kithira	86.94	315	eP	P	12 59 01.3	-1.5
Y27A	Causey	86.97	49	⇑P	P	12 59 03.4	+0.2
baz=87,SNR=32							
W29A	Amarillo	87.00	47	⇓P	P	12 59 03.6	+0.3
baz=87,SNR=6.4							
T32A	Huddler Ranch,	87.08	44	⇑P	P	12 59 03.7	+0.2
baz=87,SNR=19							
CABF	La Chapelle	87.08	331	⇓iP	P	12 59 03.0	-0.4
CABF				epP	pP	12 59 23.8	-0.8
CABF	La Chapelle	87.08	331	⇓iP	P	12 59 03.0	-0.4
CABF				e*PP	pP	12 59 23.8	-0.8
CABF	La Chapelle	87.08	331	⇓iP	P	12 59 03.0	-0.4
CABF				epP	pP	12 59 23.8	-0.8
ANKY	Antikythira Is	87.09	314	P	P	12 59 02.5	-1.0
ANKY	Antikythira Is	87.09	314	eP	P	12 59 02.8	-0.7
V30A	Spur Ranch, Mi	87.10	46	⇑P	P	12 59 03.8	+0.1
baz=87							
X28A	Dimmitt	87.10	48	⇑P	P	12 59 04.4	+0.7
baz=87,SNR=16							
CPRX	Cap Rock	87.14	50	eP	P	12 59 04.1	+0.1
comp=Z,6.4nm,0.9s							
U31A	Nine Bar Ranch	87.14	45	⇑P	P	12 59 04.5	+0.6
baz=87,SNR=7.5							
MSTX	Muleshoe	87.15	48	⇑P	P	12 59 03.8	-0.2
baz=87,SNR=21							
MSTX	Muleshoe	87.15	48	eP	P	12 59 03.7	-0.2
comp=Z,42nm,1.0s							
AMTX	Amarillo	87.15	47	⇑P	P	12 59 04.6	+0.6
baz=87							
AMTX	Amarillo	87.15	47	eP	P	12 59 04.4	+0.5
comp=Z,158nm,0.9s							
AMTX				epP	pP	12 59 26.3	+1.2
JFWS	Jewell Farm	87.15	35	eP	P	12 59 02.9	-0.8
JFWS				pmax	pmax		
comp=Z,52nm,0.8s							
JFWS	Jewell Farm	87.15	35	eP	P	12 59 02.9	-0.8
comp=Z,52nm,0.8s							
PYL	PYLOS	87.23	316	P	P	12 59 02.4	-1.8
PYL	PYLOS	87.23	316	eP	P	12 59 02.6	-1.6
S33A	Kaszmaul Farm,	87.28	43	⇑P	P	12 59 04.6	+0.1
baz=87,SNR=12							
LOR	Lormes	87.37	333	⇓iP	P	12 59 04.6	-0.1
comp=Z,166nm,1.1s,baz=34							
LOR				epP	pP	12 59 25.3	-0.6
LOR				eR			
comp=Z,398nm,18.2s							
LOR	Lormes	87.37	333	⇓iP	P	12 59 04.6	-0.1
LOR				e*PP	pP	12 59 25.3	-0.6
LOR				pmax	pmax		
comp=Z,166nm,1.1s							
LOR	Lormes	87.37	333	⇓iP	P	12 59 04.6	-0.1
comp=Z,166nm,1.1s							
LOR				epP	pP	12 59 25.3	-0.6
AQU	L'Aquila	87.39	324	eP	P	12 59 04.8	-0.1
AQU				e*PP	pP	12 59 26.5	+0.4
AQU				pmax	pmax		
comp=Z,33nm,0.9s							
AQU	L'Aquila	87.39	324	eP	P	12 59 04.8	-0.1
comp=Z,33nm,0.9s							
AQU				epP	pP	12 59 26.5	+0.4
GDL2	Guadalupe Moun	87.41	51	eP	P	12 59 05.5	+0.3
comp=Z,57nm,0.9s							
X29A	Tulia	87.45	48	⇓P	P	12 59 06.0	+0.6
baz=87,SNR=54							
Y28A	McKinney Farm,	87.50	48	⇑P	P	12 59 05.8	+0.2
baz=87,SNR=20							
T33A	Patterson Ranc	87.52	44	⇓P	P	12 59 05.8	+0.2
baz=87,SNR=9.4							
V31A	Spring Creek L	87.57	46	⇑P	P	12 59 06.6	+0.6
baz=87,SNR=23							
W30A	Crocket Farms	87.58	46	⇓P	P	12 59 06.8	+0.8
baz=87							
FLN	La Foliniere	87.59	336	⇓iP	P	12 59 05.4	-0.2
comp=Z,91nm,1.0s,baz=22							
FLN				eR			
comp=Z,652nm,19.8s							
FLN	La Foliniere	87.59	336	⇓iP	P	12 59 05.4	-0.2
FLN				pmax	pmax		
comp=Z,91nm,1.0s							
FLN	La Foliniere	87.59	336	⇓iP	P	12 59 05.4	-0.2
comp=Z,91nm,1.0s							
U32A	Winter Ranch,	87.61	45	⇓P	P	12 59 06.1	+0.1
baz=87,SNR=9.6							
LDF	La Druitiere	87.62	336	⇓iP	P	12 59 05.6	-0.2
comp=Z,97nm,1.1s							
LDF				epP	pP	12 59 26.4	-0.6
LDF	La Druitiere	87.62	336	⇓iP	P	12 59 05.6	-0.2
LDF				e*PP	pP	12 59 26.4	-0.6
LDF				pmax	pmax		
comp=Z,97nm,1.1s							
LDF	La Druitiere	87.62	336	⇓iP	P	12 59 05.6	-0.2
comp=Z,97nm,1.1s							
LDF				epP	pP	12 59 26.4	-0.6
RSL	Roselend	87.63	330	eP	P	12 59 05.5	-0.7
CLNB	Carlsbad	87.66	50	eP	P	12 59 06.5	+0.1
comp=Z,7.5nm,0.9s							
SSF	Saint Saulge	87.67	333	⇓iP	P	12 59 06.0	-0.1
comp=Z,94nm,1.1s							
SSF				epP	pP	12 59 26.9	-0.4
SSF	Saint Saulge	87.67	333	⇓iP	P	12 59 06.0	-0.1
SSF				e*PP	pP	12 59 26.9	-0.4
SSF				pmax	pmax		
comp=Z,94nm,1.1s							
SSF	Saint Saulge	87.67	333	⇓iP	P	12 59 06.0	-0.1
comp=Z,94nm,1.1s							
SSF				epP	pP	12 59 26.9	-0.4
LPL	La Plagne	87.73	330	⇓iP	P	12 59 06.5	-0.2
comp=Z,32nm,0.8s							
LPL	La Plagne	87.73	330	⇓iP	P	12 59 06.5	-0.2
LPL				pmax	pmax		
comp=Z,32nm,0.8s							
LPL	La Plagne	87.73	330	⇓iP	P	12 59 06.5	-0.2
comp=Z,32nm,0.8s							
LPG	La Plagne	87.74	330	⇓iP	P	12 59 06.6	-0.2
comp=Z,54nm,0.8s							
LPG	La Plagne	87.74	330	⇓iP	P	12 59 06.6	-0.2
LPG				pmax	pmax		
comp=Z,54nm,0.8s							
LPG	La Plagne	87.74	330	⇓iP	P	12 59 06.6	-0.2
comp=Z,54nm,0.8s							
HYF	Humbligny	87.81	333	⇓iP	P	12 59 07.1	+0.3
HYF	Humbligny	87.81	333	⇓iP	P	12 59 07.1	+0.3
Z28A	Tucker Farm, M	87.85	49	⇑P	P	12 59 07.5	+0.2
baz=88,SNR=22							
Y29A	Porterfield Fa	87.88	48	⇓P	P	12 59 07.8	+0.3
baz=88,SNR=25							
SMF	Signal de Mont	87.90	332	⇓iP	P	12 59 07.0	-0.2
comp=Z,140nm,1.3s							
SMF	Signal de Mont	87.90	332	⇓iP	P	12 59 07.0	-0.2
SMF				pmax	pmax		
comp=Z,140nm,1.3s							
SMF	Signal de Mont	87.90	332	⇓iP	P	12 59 07.0	-0.2
comp=Z,140nm,1.3s							
X30A	Coker Ranch, T	87.93	47	⇑P	P	12 59 07.5	-0.1
baz=88,SNR=17							
W31A	Holland Ranch,	87.94	46	⇓P	P	12 59 08.4	+0.7
baz=88,SNR=34							
AVF	Avril sur Loir	87.96	333	⇓iP	P	12 59 07.2	-0.2
comp=Z,154nm,1.1s							
AVF	Avril sur Loir	87.96	333	⇓iP	P	12 59 07.2	-0.2
AVF				pmax	pmax		
comp=Z,154nm,1.1s							
AVF	Avril sur Loir	87.96	333	⇓iP	P	12 59 07.2	-0.2
comp=Z,154nm,1.1s							
GRR	Gorron	88.04	336	⇓iP	P	12 59 07.9	+0.1
comp=Z,159nm,1.0s							
GRR	Gorron	88.04	336	⇓iP	P	12 59 07.9	+0.1
GRR				pmax	pmax		
comp=Z,159nm,1.0s							
GRR	Gorron	88.04	336	⇓iP	P	12 59 07.9	+0.1
comp=Z,159nm,1.0s							
CUC	Castrocucco	88.05	321	eP	P	12 59 07.0	-1.1
comp=Z,15nm,0.9s							
V32A	Arapaho	88.06	45	⇑P	P	12 59 09.1	+0.9
baz=88,SNR=26							
BNI	Bardonecchia	88.14	330	eP	P	12 59 08.9	+0.3
BNI				pmax	pmax		
comp=Z,18nm,1.1s							
BNI	Bardonecchia	88.14	330	eP	P	12 59 08.9	+0.3
comp=Z,18nm,1.1s							
TIP	Timpagrande	88.19	320	eP	P	12 59 08.6	-0.3
comp=Z,20nm,0.9s							
128A	Castleberry Fa	88.26	49	⇑P	P	12 59 09.5	+0.2
baz=88,SNR=20							
Z29A	Hungry Hill Ra	88.28	48	⇑P	P	12 59 09.8	+0.4
baz=88,SNR=85							
X31A	McDonald Ranch	88.31	46	⇓P	P	12 59 09.7	+0.2
baz=88,SNR=45							
Y30A	Stafford Cattl	88.32	47	⇓P	P	12 59 09.7	+0.2
baz=88,SNR=22							
BGF	Bois d'Agland	88.34	333	⇓iP	P	12 59 09.3	0.0
comp=Z,33nm,0.9s							
BGF				epP	pP	12 59 30.0	-0.5
BGF	Bois d'Agland	88.34	333	⇓iP	P	12 59 09.3	0.0
BGF				e*PP	pP	12 59 30.0	-0.5
BGF				pmax	pmax		
comp=Z,33nm,0.9s							
BGF	Bois d'Agland	88.34	333	⇓iP	P	12 59 09.3	0.0
comp=Z,33nm,0.9s							
BGF				epP	pP	12 59 30.0	-0.5
MBDF	Montbardon	88.37	329	⇓iP	P	12 59 08.7	-1.0
comp=Z,26nm,0.9s							
MBDF	Montbardon	88.37	329	⇓iP	P	12 59 08.7	-1.0
MBDF				pmax	pmax		
comp=Z,26nm,0.9s							
MBDF	Montbardon	88.37	329	⇓iP	P	12 59 08.7	-1.0
comp=Z,26nm,0.9s							
W32A	Sentinel	88.38	46	⇑P	P	12 59 10.3	+0.6
baz=88,SNR=33							
U34A	Anderson Ranch	88.38	44	⇓P	P	12 59 10.1	+0.4
baz=88,SNR=20							
U34A	Anderson Ranch	88.38	44	eP	P	12 59 09.8	+0.1
comp=Z,125nm,1.0s							
U34A				epP	pP	12 59 31.5	+0.6
V33A	Lossen Ranch,	88.42	45	⇑P	P	12 59 10.0	+0.1
baz=88,SNR=16							
228A	UT Block 9, Go	88.55	50	⇓P	P	12 59 10.7	0.0
baz=88,SNR=10							
ORIF	Oris-en-Rattie	88.57	330	⇓iP	P	12 59 10.1	-0.4
comp=Z,28nm,0.9s							
ORIF				eR			
comp=Z,731nm,21.1s							
ORIF	Oris-en-Rattie	88.57	330	⇓iP	P	12 59 10.1	-0.4
ORIF				pmax	pmax		
comp=Z,28nm,0.9s							
ORIF	Oris-en-Rattie	88.57	330	⇓iP	P	12 59 10.1	-0.4
comp=Z,28nm,0.9s							
Z30A	Sanderson Ranc	88.60	48	⇓P	P	12 59 10.9	0.0
baz=88,SNR=37							
129A	Stewart Farms,	88.62	49	⇓P	P	12 59 11.0	0.0
baz=88							
Y31A	R

ROSF *e*pP **pP** 12 59 32.8 0.0
ROSF Rostrenen 88.84 337 ⇓*i*P **P** 12 59 11.8 +0.2
ROSF *e**PP **pP** 12 59 32.8 0.0
ROSF pmax pmax
comp=Z,98nm,0.9s
ROSF Rostrenen 88.84 337 ⇓*i*P **P** 12 59 11.8 +0.2
comp=Z,98nm,0.9s
ROSF *e*pP **pP** 12 59 32.8 0.0
TBI Tubuai 88.85 121 *e*T T 14 36 34.0
comp=Z,205nm,0.3s
X32A Elmer 88.86 46 ⇑P **P** 12 59 12.2 +0.2
baz=89,SNR=26
WMOK Wichita Mounta 88.92 46 *e*P **P** 12 59 12.3 0.0
WMOK pmax pmax
comp=Z,65nm,1.2s
WMOK Wichita Mounta 88.92 46 *e*P **P** 12 59 12.3 0.0
comp=Z,65nm,1.2s
PYM Petit Puy Mans 88.97 332 *e*P **P** 12 59 11.0 -1.4
Y32A R-V Farms, Ver 89.07 46 ⇓P **P** 12 59 13.1 +0.1
baz=89,SNR=19
VIVF Saint-Julien-I 89.09 331 ⇓*i*P **P** 12 59 12.6 -0.3
comp=Z,87nm,1.6s
VIVF Saint-Julien-I 89.09 331 ⇓*i*P **P** 12 59 12.6 -0.3
VIVF pmax pmax
comp=Z,87nm,1.6s
VIVF Saint-Julien-I 89.09 331 ⇓*i*P **P** 12 59 12.6 -0.3
comp=Z,87nm,1.6s
229A Bryant Ranch, 89.12 49 ⇑P **P** 12 59 13.6 +0.2
baz=89,SNR=16
W34A Bridge Creek, 89.13 45 ⇓P **P** 12 59 13.5 +0.3
baz=89,SNR=14
W34A Bridge Creek, 89.13 45 *e*P **P** 12 59 13.5 +0.3
comp=Z,55nm,0.9s
Z31A Sharp Cattle R 89.16 47 ⇓P **P** 12 59 13.3 -0.1
baz=89,SNR=56
QUIF Quistinic 89.18 337 ⇓*i*P **P** 12 59 13.1 -0.1
comp=Z,53nm,0.8s
QUIF Quistinic 89.18 337 ⇓*i*P **P** 12 59 13.1 -0.1
QUIF pmax pmax
comp=Z,53nm,0.8s
QUIF Quistinic 89.18 337 ⇓*i*P **P** 12 59 13.1 -0.1
comp=Z,53nm,0.8s
130A Snyder 89.19 48 ⇓P **P** 12 59 13.6 0.0
baz=89,SNR=38
PGF Pioggiola 89.22 327 *e*P **P** 12 59 12.8 -0.8
comp=Z,66nm,1.2s
PGF Pioggiola 89.22 327 *e*P **P** 12 59 12.8 -0.8
PGF pmax pmax
comp=Z,66nm,1.2s
PGF Pioggiola 89.22 327 *e*P **P** 12 59 12.8 -0.8
comp=Z,66nm,1.2s
X33A Lawton 89.22 46 ⇓P **P** 12 59 13.8 +0.1
baz=89,SNR=13
LBL Lubilhac 89.32 332 *e*P **P** 12 59 13.5 -0.5
CEL Celeste 89.33 320 *e*P **P** 12 59 13.6 -0.6
comp=Z,97nm,0.9s
MFF Saint Martin d 89.36 335 ⇓*i*P **P** 12 59 14.3 +0.3
comp=Z,97nm,1.0s
MFF Saint Martin d 89.36 335 ⇓*i*P **P** 12 59 14.3 +0.3
MFF pmax pmax
comp=Z,97nm,1.0s
MFF Saint Martin d 89.36 335 ⇓*i*P **P** 12 59 14.3 +0.3
comp=Z,97nm,1.0s
329A Wagon Wheel Ra 89.36 50 ⇑P **P** 12 59 14.7 +0.2
baz=89,SNR=30
FRF La Foret Royal 89.38 329 *e*P **P** 12 59 13.2 -1.0
FRF La Foret Royal 89.38 329 *e*P **P** 12 59 13.2 -1.0
FRF La Foret Royal 89.38 329 *e*P **P** 12 59 13.2 -1.0
SMRF Simiane la Rot 89.47 330 *e*P **P** 12 59 14.4 -0.3
comp=Z,42nm,1.1s
SMRF Simiane la Rot 89.47 330 *e*P **P** 12 59 14.4 -0.3
comp=Z,42nm,1.1s
131A Roby 89.47 48 ⇓P **P** 12 59 15.2 +0.3
baz=89,SNR=43
Y33A Hilltop Ranch, 89.54 46 ⇓P **P** 12 59 15.0 -0.2
baz=89,SNR=26
Z32A Haskell 89.55 47 ⇓P **P** 12 59 15.5 +0.2
baz=89,SNR=94
X34A Smith Ranch, M 89.56 45 ⇓P **P** 12 59 15.8 +0.6
baz=89,SNR=16
230A Sterling City 89.60 49 ⇑P **P** 12 59 15.6 0.0
baz=89,SNR=74
LMR La Mourre 89.62 329 ⇓*i*P **P** 12 59 14.6 -0.8
LMR La Mourre 89.62 329 ⇓*i*P **P** 12 59 14.6 -0.8
LMR La Mourre 89.62 329 ⇓*i*P **P** 12 59 14.6 -0.8
TUL1 Leonard 89.72 43 ⇓P **P** 12 59 16.1 +0.1
baz=90,SNR=24
TUL1 Leonard 89.72 43 *e*P **P** 12 59 16.1 +0.1
comp=Z,65nm,0.8s
TXAR Lajitas Array 89.82 52 P **P** 12 59 16.9 +0.2
TXAR *PP **pP** 12 59 38.8 +0.9
TXAR pmax pmax
comp=Z,61nm,0.8s
TXAR pmax pmax
comp=Z,19nm,0.7s
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 89.82 52 P **P** 12 59 16.9 +0.2
comp=Z,61nm,0.8s,baz=296,slow=3.3,SNR=690
TXAR pP **pP** 12 59 38.8 +0.9
comp=Z,19nm,0.7s,baz=292,slow=2.5,SNR=7.0
TXAR PKKPbc **PKKPbc** 13 16 49.0 +1.7
comp=Z,0.9nm,0.7s,baz=152,slow=6.2,SNR=11
RJF Les Rejaudoux 89.89 333 ⇓*i*P **P** 12 59 16.9 +0.3
comp=Z,57nm,0.9s
RJF *e*R
comp=Z,475nm,23.0s
RJF Les Rejaudoux 89.89 333 ⇓*i*P **P** 12 59 16.9 +0.3
RJF pmax pmax
comp=Z,57nm,0.9s
RJF Les Rejaudoux 89.89 333 ⇓*i*P **P** 12 59 16.9 +0.3
comp=Z,57nm,0.9s
330A Mertzon 89.90 49 ⇓P **P** 12 59 16.7 -0.3
baz=90,SNR=38
ABTX Abilene, Hawle 89.95 48 ⇑P **P** 12 59 17.5 +0.4
baz=90,SNR=63
ABTX Abilene, Hawle 89.95 48 *e*P **P** 12 59 17.5 +0.4
comp=Z,137nm,1.0s
ABTX *e*pP **pP** 12 59 39.2 +0.9
Z33A Whitaker Ranch 89.98 47 ⇓P **P** 12 59 17.3 +0.1
baz=90,SNR=21
429A Davenport Ranc 90.02 50 ⇓P **P** 12 59 17.2 -0.4
baz=90,SNR=25
CAF Calviac 90.02 332 ⇓*i*P **P** 12 59 17.8 +0.6
comp=Z,39nm,0.9s
CAF Calviac 90.02 332 ⇓*i*P **P** 12 59 17.8 +0.6
CAF pmax pmax
comp=Z,39nm,0.9s
CAF Calviac 90.02 332 ⇓*i*P **P** 12 59 17.8 +0.6
comp=Z,39nm,0.9s
231A Bronte 90.04 48 ⇓P **P** 12 59 17.5 -0.1
baz=90,SNR=37
LASF Ste Croix 90.06 331 ⇓*i*P **P** 12 59 17.7 +0.3
LASF Ste Croix 90.06 331 ⇓*i*P **P** 12 59 17.7 +0.3
Y34A Reagan Ranch, 90.07 46 ⇓P **P** 12 59 17.4 -0.2
baz=90,SNR=18
529A Stev Forest Ra 90.17 51 ⇓P **P** 12 59 18.3 +0.1
baz=90,SNR=45
430A Baggett Ranch, 90.30 50 ⇑P **P** 12 59 18.6 -0.2
baz=90,SNR=29
133A Hamilton Ranch 90.38 47 ⇑P **P** 12 59 19.5 +0.3
baz=90,SNR=29
Z34A Collier Ranch, 90.41 46 ⇑P **P** 12 59 19.2 0.0
baz=90,SNR=23
331A San Angelo 90.42 49 ⇑P **P** 12 59 19.6 +0.2
baz=90,SNR=26
232A Coleman 90.47 48 ⇓P **P** 12 59 19.8 +0.2
baz=90,SNR=88
LFF La Frestale 90.49 333 ⇓*i*P **P** 12 59 19.9 +0.6
comp=Z,80nm,0.9s
LFF *e*pP **pP** 12 59 40.6 0.0
LFF La Frestale 90.49 333 ⇓*i*P **P** 12 59 19.9 +0.6
LFF *e**PP **pP** 12 59 40.6 0.0
LFF pmax pmax
comp=Z,80nm,0.9s
LFF La Frestale 90.49 333 ⇓*i*P **P** 12 59 19.9 +0.6
comp=Z,80nm,0.9s
LFF *e*pP **pP** 12 59 40.6 0.0
SLM Saint Louis 90.50 38 *e*P **P** 12 59 19.5 -0.1
SLM *e**PP **pP** 12 59 41.3 +0.5
SLM pmax pmax
comp=Z,107nm,1.1s
SLM Saint Louis 90.50 38 *e*P **P** 12 59 19.5 -0.1
comp=Z,107nm,1.1s
SLM *e*pP **pP** 12 59 41.3 +0.5
AAM Ann Arbor 90.53 32 *e*P **P** 12 59 20.0 +0.4
AAM pmax pmax
comp=Z,72nm,1.1s
AAM Ann Arbor 90.53 32 *e*P **P** 12 59 20.0 +0.4
comp=Z,72nm,1.1s
SFIN Lafayette 90.60 35 ⇑P **P** 12 59 20.1 +0.2
baz=90,SNR=12
SFIN Lafayette 90.60 35 *e*P **P** 12 59 19.8 -0.2
comp=Z,26nm,0.9s
SFIN *e*pP **pP** 12 59 41.4 +0.2
530A J-C Ranch, Com 90.69 50 ⇑P **P** 12 59 20.6 0.0
baz=90,SNR=72
431A Sonora 90.76 50 ⇑P **P** 12 59 20.7 -0.3
baz=90,SNR=24
332A Millersview 90.78 48 ⇓P **P** 12 59 21.2 +0.1
baz=91
Z35A Perchaven, San 90.81 46 ⇓P **P** 12 59 21.1 0.0
baz=91,SNR=33
233A Rising Star 90.82 48 ⇓P **P** 12 59 21.4 +0.2
baz=91,SNR=48
134A White-Moore Ra 90.89 47 ⇑P **P** 12 59 21.8 +0.3
baz=91,SNR=8.4
432A Menard 91.11 49 ⇑P **P** 12 59 22.5 -0.1
baz=91,SNR=44
531A Rocksprings 91.16 50 ⇑P **P** 12 59 22.8 0.0
baz=91,SNR=44
333A Richland Sprin 91.27 48 ⇑P **P** 12 59 23.6 +0.3
baz=91,SNR=99
234A Clairette 91.27 47 ⇓P **P** 12 59 23.6 +0.3
baz=91,SNR=58
135A Vickery Place, 91.29 46 ⇓P **P** 12 59 23.7 +0.3
baz=91,SNR=14
MTLF Montolieu 91.31 331 ⇓*i*P **P** 12 59 23.5 +0.3
comp=Z,62nm,1.2s
MTLF Montolieu 91.31 331 ⇓*i*P **P** 12 59 23.5 +0.3
MTLF pmax pmax
comp=Z,62nm,1.2s
MTLF Montolieu 91.31 331 ⇓*i*P **P** 12 59 23.5 +0.3
comp=Z,62nm,1.2s
JCT Junction City 91.39 49 *e*P **P** 12 59 23.9 0.0
JCT *e**PP **pP** 12 59 45.8 +0.7
JCT pmax pmax
comp=Z,71nm,0.8s
JCT Junction City 91.39 49 ⇓P **P** 12 59 23.8 0.0
baz=91,SNR=30
JCT Junction City 91.39 49 *e*P **P** 12 59 23.9 0.0
comp=Z,71nm,0.8s
JCT *e*pP **pP** 12 59 45.8 +0.7
OLIL Olney 91.45 36 *e*P **P** 12 59 24.1 +0.1
comp=Z,108nm,1.2s
OLIL *e*pP **pP** 12 59 46.2 +1.0
532A Rocksprings 91.58 49 ⇑P **P** 12 59 24.5 -0.3
baz=91,SNR=52
433A Art 91.62 49 ⇓P **P** 12 59 24.7 -0.2
baz=91,SNR=42
WHTX Lake Whitney, 91.68 47 ⇓P **P** 12 59 25.5 +0.3
baz=92,SNR=39
WHTX Lake Whitney, 91.68 47 *e*P **P** 12 59 25.5 +0.3
comp=Z,168nm,0.9s
WHTX *e*pP **pP** 12 59 47.8 +1.4
631A Perdido Creek 91.68 50 ⇑P **P** 12 59 25.1 -0.1
baz=92,SNR=15
334A Lometa 91.70 48 ⇑P **P** 12 59 25.4 +0.1
baz=92,SNR=90
SIUC Southern Illin 91.72 38 *e*P **P** 12 59 25.1 -0.1
comp=Z,64nm,0.9s
SIUC *e*pP **pP** 12 59 47.1 +0.7
MIAR Mount Ida 91.94 43 *e*P **P** 12 59 26.3 0.0
MIAR *e**PP **pP** 12 59 48.3 +0.7
MIAR pmax pmax
comp=Z,95nm,0.9s
MIAR Mount Ida 91.94 43 *e*P **P** 12 59 26.3 0.0
comp=Z,95nm,0.9s
MIAR *e*pP **pP** 12 59 48.3 +0.7
H06E1 SOCORRO T-PHAS 91.98 65 T T 14 41 42.9
SNR=7.9
H06S1 SOCORRO T 91.99 65 T T 14 41 43.3
SNR=8.5
434A Burnet 92.06 48 ⇓P **P** 12 59 26.7 -0.3
baz=92,SNR=39
632A Uvalde 92.09 50 ⇑P **P** 12 59 27.0 -0.1
baz=92,SNR=25
533A Kerrville 92.14 49 ⇑P **P** 12 59 27.3 0.0
baz=92,SNR=21
137A Heron Place, G 92.20 45 ⇓P **P** 12 59 27.5 0.0
baz=92
335A Moody 92.21 47 ⇑P **P** 12 59 27.8 +0.2
baz=92,SNR=13
EPF Esparros 92.28 333 ⇓*i*P **P** 12 59 27.5 -0.3
EPF Esparros 92.28 333 ⇓*i*P **P** 12 59 27.5 -0.3
EPF Esparros 92.28 333 ⇓*i*P **P** 12 59 27.5 -0.3
PARMO Parma 92.28 39 *e*P **P** 12 59 27.9 +0.1
PARMO *e*pP **pP** 12 59 50.2 +1.1
UALR University of 92.42 42 *e*P **P** 12 59 28.5 0.0
comp=Z,18nm,0.8s
336A Riesel 92.47 47 ⇓P **P** 12 59 29.3 +0.5
baz=92
435B Jarrell 92.48 48 ⇑P **P** 12 59 29.2 +0.3
baz=92,SNR=6.0
633A Saathoff Ranch 92.50 49 ⇓P **P** 12 59 29.2 +0.3
baz=92,SNR=20
ALLY Alegheny Colle 92.50 30 *e*P **P** 12 59 29.1 +0.3
comp=Z,69nm,1.0s
534A Blanco 92.51 49 ⇓P **P** 12 59 29.0 0.0
baz=92,SNR=50
138A Matatall Enter 92.53 45 ⇑P **P** 12 59 29.9 +0.9
baz=92
ACSO Alum Creek Sta 92.53 32 *e*P **P** 12 59 28.5 -0.4
comp=Z,45nm,0.8s
732A Laxson Ranch, 92.54 50 ⇑P **P** 12 59 29.4 +0.3
baz=92,SNR=21
237A Washetta, Mont 92.61 46 ⇓P **P** 12 59 29.2 -0.2
baz=92
HBAR Harrisburg 92.69 40 *e*P **P** 12 59 30.4 +0.7
WCI Wyandotte Cave 92.70 36 *e*P **P** 12 59 29.6 -0.2
WCI pmax pmax
comp=Z,14nm,0.8s
WCI Wyandotte Cave 92.70 36 *e*P **P** 12 59 29.6 -0.2
comp=Z,14nm,0.8s
ETSF Etsaut 92.72 333 ⇓*i*P **P** 12 59 30.4 +0.5
comp=Z,33nm,1.0s
ETSF Etsaut 92.72 333 ⇓*i*P **P** 12 59 30.4 +0.5
ETSF pmax pmax
comp=Z,33nm,1.0s
ETSF Etsaut 92.72 333 ⇓*i*P **P** 12 59 30.4 +0.5
comp=Z,33nm,1.0s
SJPF Ste Jean 92.77 334 ⇓*i*P **P** 12 59 30.4 +0.4
comp=Z,26nm,1.1s
SJPF Ste Jean 92.77 334 ⇓*i*P **P** 12 59 30.4 +0.4
SJPF pmax pmax
comp=Z,26nm,1.1s
SJPF Ste Jean 92.77 334 ⇓*i*P **P** 12 59 30.4 +0.4
comp=Z,26nm,1.1s
832A Faith Ranch, C 92.85 51 ⇓P **P** 12 59 31.5 +0.9
baz=93,SNR=14
436A Wall Ranch, Ga 92.95 47 ⇓P **P** 12 59 31.7 +0.7
baz=93,SNR=11
733A Divot King Ran 92.96 50 ⇑P **P** 12 59 31.5 +0.4
baz=93,SNR=13
238A Jacksonville 93.00 45 ⇑P **P** 12 59 31.6 +0.4
baz=93
PKME Peaks-Kenny Pk 93.01 21 *e*P **P** 12 59 31.1 +0.1
comp=Z,36nm,1.1s
535A Dale 93.04 48 ⇑P **P** 12 59 31.7 +0.2
baz=93
634A China Grove, S 93.05 49 ⇑P **P** 12 59 31.8 +0.3
baz=93
337A Centerville 93.08 46 ⇓P **P** 12 59 32.1 +0.5
baz=93
833A Chaparral WMA, 93.18 50 ⇑P **P** 12 59 32.5 +0.4
baz=93,SNR=9.6
437A Phantom Ranch, 93.29 47 ⇓P **P** 12 59 33.8 +1.3
baz=93
536A Bastrop 93.31 48 ⇓P **P** 12 59 33.3 +0.7
baz=93,SNR=7.8
734A La Parita Cree 93.31 49 ⇑P **P** 12 59 33.4 +0.7
baz=93,SNR=6.0
239A Gary 93.36 45 ⇓P **P** 12 59 33.5 +0.6
baz=93
338A Crockett 93.38 46 ⇑P **P** 12 59 33.9 +1.0
baz=93
635A Leesville 93.39 49 ⇑P **P** 12 59 33.7 +0.6
baz=93,SNR=5.4
WVT Waverly 93.65 38 *e*P **P** 12 59 33.9 -0.3
WVT pmax pmax
comp=Z,12nm,0.9s
WVT Waverly 93.65 38 *e*P **P** 12 59 33.9 -0.3
comp=Z,12nm,0.9s
438A Sam Houston St 93.73 46 ⇑P **P** 12 59 35.4 +0.8
baz=94,SNR=7.2
537A Green Hill Far 93.74 47 ⇓P **P** 12 59 35.5 +0.8
baz=94,SNR=5.6
636A Smothers Creek 93.75 48 ⇑P **P** 12 59 35.9 +1.2
baz=94,SNR=14
735A Kenedy 93.76 49 ⇓P **P** 12 59 36.0 +1.2
baz=94,SNR=8.0
933A Laredo 93.76 51 ⇓P **P** 12 59 35.9 +1.0
baz=94,SNR=48
834A Tilden 93.84 50 ⇑P **P** 12 59 36.6 +1.5
baz=94
538A Harpers Horsep 94.12 47 ⇓P **P** 12 59 37.6 +1.3
baz=94
HKT Hockley 94.12 47 *e*P **P** 12 59 36.4 +0.1
HKT pmax pmax
comp=Z,47nm,1.6s
HKT Hockley 94.12 47 *e*P **P** 12 59 36.4 +0.1
comp=Z,47nm,1.6s
340A Bronson 94.13 45 ⇓P **P** 12 59 37.6 +1.1
baz=94
OXF Oxford 94.15 40 *e*P **P** 12 59 36.3 -0.1
OXF pmax pmax
comp=Z,59nm,1.1s
OXF Oxford 94.15 40 *e*P **P** 12 59 36.3 -0.1
comp=Z,59nm,1.1s
835A Beeville 94.16 49 ⇑P **P** 12 59 38.0 +1.4
baz=94,SNR=5.0
934A Benavides 94.23 50 ⇓P **P** 12 59 38.3 +1.4
baz=94,SNR=10
034A Hebbronville 94.52 51 ⇓P **P** 12 59 39.9 +1.6
baz=94,SNR=39
KEST Kesra 94.56 323 P **P** 12 59 38.0 -0.5
comp=Z,6.3nm,1.0s,baz=239,slow=6.8,SNR=7.4
KEST LR LR 13 46 30.8
comp=Z,141nm,20.2s,baz=340,slow=38
035A Encino 94.97 51 ⇓P **P** 12 59 42.2 +1.9
baz=95,SNR=5.7
SWET Sewanee 95.31 37 *e*P **P** 12 59 40.9 -0.9
comp=Z,31nm,1.0s
035Z Hargill 95.33 51 ⇓P **P** 12 59 43.5 +1.5
baz=95,SNR=6.0
PBRG Braganca 95.79 337 *e*P **P** 12 59 43.7 -0.2
comp=Z,24nm,2.3s
PGAV Gavieira, Arco 96.11 338 *e*P **P** 12 59 46.3 +0.9
comp=Z,37nm,1.3s
MVO Moncorvo 96.46 337 *e*P **P** 12 59 46.7 -0.3
comp=Z,18nm,1.3s
POLO Lamas de Olo 96.51 337 *e*P **P** 12 59 47.3 +0.1
comp=Z,9.1nm,1.5s
ESDC Sonseca Array 96.78 334 P **P** 12 59 47.7 -0.7
comp=Z,3.8nm,0.8s,baz=13,slow=4.5,SNR=17
ESDC LR LR 13 48 02.1
comp=Z,537nm,21.1s,baz=0.0,slow=38
MTE Manteigas 97.32 337 *e*P Pdif 12 59 51.1 +0.2
comp=Z,18nm,1.5s
RKT Rikitea 99.00 112 *e*LR LR 13 32 11.9
comp=Z,924nm,26.2s
KMBO Kilima Mbogo 101.86 278 P **Pdif** 13 00 10.9 -0.9
KMBO 13 04 24.3
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 101.86 278 P **Pdif** 13 00 10.9 -0.9
comp=Z,1.6nm,0.7s,baz=90,slow=1.0,SNR=4.3
KMBO PP **PP** 13 04 24.3 +0.8
comp=Z,1.2nm,0.4s,baz=36,slow=8.5,SNR=5.7
VNDA Vanda 115.53 175 PKIKP **PKPdf** 13 04 57.1 -0.8
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 115.53 175 PKP **PKPdf** 13 04 57.1 -0.8
comp=Z,4.5nm,0.8s,baz=311,slow=5.2,SNR=14
JTS JuntasAbangare 115.61 52 PKIKP **PKPdf** 13 04 58.8 -1.2
JTS pmax pmax
comp=Z,4.0nm,0.7s
JTS JuntasAbangare 115.61 52 PKP **PKPdf** 13 04 58.8 -1.2
comp=Z,3.7nm,0.7s,baz=315,slow=1.7,SNR=4.4
SBA Scott Base 116.21 174 *e*PKIKP **PKPdf** 13 04 59.6 +0.4
SBA Scott Base 116.21 174 *e*PKPdf **PKPdf** 13 04 59.6 +0.4
TORD Torodi Ar. Bea 116.91 315 PKP **PKPdf** 13 05 01.4 -1.0
comp=Z,10nm,1.0s,baz=37,slow=2.5,SNR=41
TORD PKKPbc **PKKPbc** 13 15 28.6 +1.6
comp=Z,3.9nm,0.8s,baz=228,slow=3.3,SNR=16
LSZ Lusaka 117.43 271 PKIKP **PKPdf** 13 05 03.3 -0.2
LSZ pmax pmax
comp=Z,12nm,0.6s
LSZ Lusaka 117.43 271 PKP **PKPdf** 13 05 03.3 -0.2
comp=Z,12nm,0.6s,baz=30,slow=6.1,SNR=25
MSKU Masuku 120.24 294 PKP **PKPdf** 13 05 07.5 -1.4
comp=Z,23nm,0.7s,baz=352,slow=2.7,SNR=15
BBTS Babate 124.03 334 PKP **PKPdf** 13 05 15.9 -0.2
comp=Z,29nm,0.8s,baz=316,slow=3.0,SNR=4.3
LBTB Lobatse 124.66 263 PKIKP **PKPdf** 13 05 17.2 +0.1
LBTB pmax pmax
comp=Z,55nm,0.8s
LBTB Lobatse 124.66 263 PKP **PKPdf** 13 05 17.2 +0.1
comp=Z,55nm,0.8s
DBIC Dimbokro 125.86 317 PKIKP **PKPdf** 13 05 18.9 -0.8
DBIC pmax pmax
comp=Z,26nm,0.8s
DBIC Dimbokro 125.86 317 PKP **PKPdf** 13 05 18.9 -0.8
comp=Z,26nm,0.8s,baz=22,slow=2.1,SNR=32
TIC Toumodi 125.97 317 *e*PKIKP **PKPdf** 13 05 19.1 -0.8
comp=Z,16nm,0.2s
KIC Kosan Boka 126.05 317 *e*PKIKP **PKPdf** 13 05 19.1 -1.0
comp=Z,84nm,1.0s
ROSC El Rosal 126.29 46 PKP **PKPdf** 13 05 21.4 +0.4
comp=Z,21nm,0.7s,baz=321,slow=1.7,SNR=12
LIC Lamto 126.32 317 *e*PKIKP **PKPdf** 13 05 19.7 -0.9
comp=Z,59nm,0.9s
LIC *e*R
comp=Z,521nm,22.8s
LIC Lamto 126.32 317 *e*PKIKP **PKPdf** 13 05 19.5 -1.1
comp=Z,82nm,0.9s
LIC Lamto 126.32 317 *e*PKPdf **PKPdf** 13 05 19.7 -0.9
BOSA Boshof 126.63 260 *e*PKIKP **PKPdf** 13 05 20.7 -0.2
BOSA Boshof 126.63 260 PKP **PKPdf** 13 05 20.9 +0.1
comp=Z,27nm,0.9s,baz=93,slow=2.1,SNR=30
BOSA Boshof 126.63 260 *e*PKPdf **PKPdf** 13 05 20.7 -0.2
BOSA PKP **PKPdf** 13 05 20.9 +0.1
QSPA South Pole Qui 127.33 180 *e*PKPdf **PKPdf** 13 05 20.2 -0.7
OTAV Otavalo 127.42 54 *e*PKPdf **PKPdf** 13 05 23.0 -0.3
TSUM Tsumeb 128.02 274 PKP **PKPdf** 13 05 24.2 +0.5
comp=Z,20nm,0.9s,baz=58,slow=2.2,SNR=17
ATAH Atahualpa 132.92 60 PKP **PKPdf** 13 05 34.4 +0.8
comp=Z,24nm,1.0s,baz=320,slow=1.0,SNR=17
NNA Nana 137.41 63 PKIKP **PKPdf** 13 05 41.3 -0.2
NNA pmax pmax
comp=Z,40nm,0.8s
NNA Nana 137.41 63 PKP **PKPdf** 13 05 41.3 -0.2
comp=Z,40nm,0.8s,baz=315,slow=5.2,SNR=13
NVL N'lazarevskaya 137.78 202 *e*PKHKP PKPpre 13 05 33.6
PTGA Pitinga 138.38 33 PKP **PKPdf** 13 05 43.6 +0.3
comp=Z,11nm,0.6s,baz=331,slow=1.1,SNR=16
SNAA Sanae 141.26 197 P PKPpre 13 05 39.6
SNAA Sanae 141.26 197 *e*PKPdf PKPpre 13 05 39.7
VNA2 Neumayer--Watz 142.84 196 P **PKPdf** 13 05 45.7 -3.9
VNA3 Neumayer Olymp 143.09 195 P PKPab 13 05 45.9 +0.3
VNA1 Neumayer--Stat 143.24 196 P PKPab 13 05 46.4 +0.3
SAML Samuel 143.88 44 *e*PKPdf PKPab 13 05 50.3 0.0
LPAZ La Paz 146.45 59 PKP2 **PKPdf** 13 05 58.9 +0.7
LPAZ pmax pmax
comp=Z,82nm,0.7s
LPAZ La Paz 146.45 59 PKPbc **PKPdf** 13 05 58.9 +0.7
comp=Z,82nm,0.7s,baz=342,slow=2.7,SNR=180
RCBR Riachuelo 148.29 355 PKPbc **PKPbc** 13 06 03.5 -0.6
comp=Z,75nm,0.9s,baz=22,slow=2.2,SNR=22
SIV San Ignacio 150.75 49 PKP **PKPdf** 13 06 05.0 +0.5
comp=Z,33nm,1.1s,baz=320,slow=1.0,SNR=18
SIV PKPbc **PKPbc** 13 06 10.0 -0.1
comp=Z,119nm,0.9s,baz=306,slow=2.2,SNR=76
LCO Las Campanas 151.98 82 *e*PKPdf **PKPdf** 13 06 06.5 +0.1
LCO *e*PKPbc **PKPbc** 13 06 12.7 -0.2
CFAA Coronel Fontan 154.98 85 PKP **PKPdf** 13 06 10.0 -0.2
comp=Z,1.1nm,0.9s,baz=302,slow=3.4,SNR=13
CFAA PKPbc **PKPbc** 13 06 18.8 -0.3
comp=Z,3.0nm,0.8s,baz=300,slow=4.3,SNR=21
CFAA PKPab **PKPab** 13 06 35.4 +0.5
comp=Z,4.7nm,0.8s,baz=262,slow=5.3,SNR=16
PLCA Paso Flores 155.13 107 PKP2 **PKPab** 13 06 36.4 +1.0
PLCA pmax pmax
comp=Z,24nm,0.9s
PLCA Paso Flores 155.13 107 PKPab **PKPab** 13 06 36.4 +1.0
comp=Z,24nm,0.8s,baz=254,slow=4.0,SNR=14
BDFB Brasilia 156.62 23 PKIKP **PKPdf** 13 06 13.5 +0.6
BDFB 13 06 42.1
BDFB 13 10 16.5

BDFB				pmax	pmax				
	comp=Z,10.0nm,1.0s								
BDFB				pmax	pmax				
	comp=Z,21nm,0.8s								
BDFB				pmax	pmax				
	comp=Z,7.0nm,1.0s								
BDFB	**Brasilia**	**156.62**	**23**	PKP	**PKPdf**	**13 06 13.5**	**+0.6**		
	comp=Z,10.0nm,1.0s,baz=58,slow=2.4,SNR=5.0								
BDFB				PKPab	**PKPab**	**13 06 42.1**	**-0.1**		
	comp=Z,21nm,0.8s,baz=132,slow=4.7,SNR=3.8								
BDFB				PP	**PP**	**13 10 16.5**	**-2.9**		
	comp=Z,7.4nm,0.9s,baz=352,slow=6.5,SNR=4.4								

GUC 13 12:52:45.8±0.4,33°.94S×72°.16W,h16km±4km,ML3.6,2C,
Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.01**	**26**	↑*i*P	Pb	12 53 04.4	-0.6
IHA				*i* S	Sb	12 53 18.2	+0.3
NICH	**Los Niches**	**1.31**	**144**	*i* P	Pn	12 53 09.1	-0.3
NICH				*i* S	Sb	12 53 27.0	+0.4
ANTU	**Antumapu**	**1.33**	**74**	*i* P	Pn	12 53 09.7	-0.1
ANTU				IAML		12 53 27.6	
	comp=E,2μm,0.5s						
CLCH	**Cerro Calan**	**1.46**	**69**	*e*P	Pn	12 53 11.5	-0.1
CLCH				*i* S	Sb	12 53 31.1	0.0
CLCH				IAML		12 53 38.4	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**1.47**	**58**	↑*i*P	Pn	12 53 11.8	+0.1
PEL				*i* S	Sb	12 53 31.5	+0.2
TALC	**Talca**	**1.52**	**163**	*i* P	Pn	12 53 12.3	+0.1
TALC				*i* S	Sb	12 53 32.6	0.0
FCH	**Farellones**	**1.68**	**69**	IAML		12 53 39.0	
	comp=E,1μm,0.3s						
LNCH	**Linares**	**1.96**	**167**	*i* P	Pn	12 53 19.2	+0.9
LNCH				*e*S	Sb	12 53 44.9	-0.3

*IDC **13** 13:18:52.2±1.3,37°.11S×73°.70W,h0km,mb3.7/5,*
mb1 3.9/7,mb1mx3.6/33,mbtmp3.6/7,ML2.7/1,MS3.5/1,
Ms1 3.5/1,ms1mx2.8/22,Error ellipse: s-maj=35.2km
s-min=19.7km az=63.0
*ISCJB **13** 13:18:53.4±1.0,37°.08S±0°.09×73°.6W±0°.2,h14km,mb3.7/5,*
Error ellipse: s-maj=19.7km s-min=11.7km az=20.3
ISC 13 13:18:54.5±1.1,37°.1S±0°.1×73°.7W±0°.2,h14km,n8,σ0°82/9,
mb3.7/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.35**	**147**	Pn	**Pn**	**13 20 00.7**	**+0.5**
PLCA				Lg	Lg	13 21 12.4	
	1.7nm,0.3s,baz=179,slow=17,SNR=3.9						
PLCA				LR	LR	13 21 44.5	
	comp=Z,506nm,18.7s,baz=286,slow=39						
CFAA	**Coronel Fontan**	**7.10**	**41**	Pn	**Pn**	**13 20 38.4**	**+0.3**
	0.1nm,0.3s,baz=184,slow=9.5,SNR=6.7						
CFAA				Sn	**Sn**	**13 21 58.1**	**-0.4**
	0.1nm,0.3s,baz=240,slow=14,SNR=2.3						
LPAZ	**La Paz**	**21.32**	**15**	P	**P**	**13 23 43.0**	**+1.3**
	3.0nm,0.8s,baz=151,slow=8.7,SNR=8.6						
TXAR	**Lajitas Array**	**71.85**	**333**	P	**P**	**13 30 16.6**	**-0.3**
	0.2nm,0.6s,baz=149,slow=11,SNR=2.4						
DBIC	**Dimbokro**	**77.43**	**72**	P	**P**	**13 30 49.3**	**-0.2**
	3.1nm,1.0s,baz=200,slow=6.9,SNR=3.3						
PDAR	**Pinedale Array**	**85.97**	**334**	P	**P**	**13 31 34.4**	**+0.2**
	0.3nm,0.7s,baz=94,slow=3.7,SNR=2.4						
TORD	**Torodi Ar. Bea**	**86.50**	**71**	P	**P**	**13 31 36.8**	**-0.4**
	0.9nm,1.0s,baz=229,slow=4.1,SNR=4.1						
MKAR	**Makanchi Array**	**159.74**	**54**	PKPab	**PKPab**	**13 39 30.3**	**-1.1**
	0.6nm,0.9s,baz=270,slow=1.2,SNR=4.3						

*ATH **13** 13:19:24.3,39°.35N×27°.95E,h5km±2km,MD3.4/8*
*DDA **13** 13:19:25.8,39°.27N×27°.88E,h5km,MD3.1*
*ISK **13** 13:19:25.9,39°.25N×27°.81E,h5km,ML3.2*
*CSEM **13** 13:19:27.1±0.1,39°.26N×27°.82E,h2km,ML3.2,Error*
ellipse: s-maj=2.6km s-min=2.4km az=20.0
*THE **13** 13:19:28.0,39°.42N×28°.05E,h32km±35km,Error ellipse:*
s-maj=35.6km s-min=1.4km az=135.0
ISC 13 13:19:26.6±1.1,39°.27N±0°.02×27°.87E±0°.01,h5km±9km,
n102,σ1°00/150,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.38**	**2**	*e*PG	**Pb**	**13 19 34.9**	**-0.8**
BALB				*e*SG	**Sb**	13 19 41.0	-0.9
AKS	**Akhisar**	**0.39**	**186**	*e*PG	**Pg**	**13 19 33.9**	**-0.2**
AKS	**Akhisar**	**0.39**	**186**	*e*Pg	**Pg**	**13 19 33.9**	**-0.2**
AKHS	**Akhisar**	**0.39**	**186**	*i* P	**Pg**	**13 19 34.5**	**+0.4**
AKHS				*i* S	**Sb**	13 19 41.4	-0.8
AKHS	**Akhisar**	**0.39**	**186**	*i* P	**Pg**	**13 19 34.5**	**+0.4**
AKHS				*i* S	**Sb**	13 19 41.4	-0.8
AYVA	**Ayvalik**	**0.91**	**273**	*i* P	**Pb**	**13 19 44.5**	**-0.4**
AYVA				*i* S	**Sn**	13 19 58.9	-0.6
AYVA	**Ayvalik**	**0.91**	**273**	*i* P	**Pb**	**13 19 44.5**	**-0.4**
AYVA				*i* S	**Sn**	13 19 58.9	-0.6
MANT	**Manisa**	**0.94**	**145**	*i* P	**Pb**	**13 19 45.3**	**-0.3**
MANT				*i* S	**Sb**	13 19 57.5	-0.9
MANT	**Manisa**	**0.94**	**145**	*i* P	**Pb**	**13 19 45.3**	**-0.3**
MANT				*i* S	**Sb**	13 19 57.5	-0.9
KULA	**Kula-Manisa**	**0.97**	**140**	P	**Pb**	**13 19 45.3**	**-0.7**
KULA				S	**Sb**	13 19 58.4	-0.7
KULA	**Kula-Manisa**	**0.97**	**140**	*e*PG	**Pn**	**13 19 46.0**	**-1.0**
KULA	**Kula-Manisa**	**0.97**	**140**	P	**Pb**	**13 19 45.3**	**-0.7**
KULA	**Kula-Manisa**	**0.97**	**140**	*e*Pg	**Pn**	**13 19 46.0**	**-1.0**
KULA				S	**Sb**	13 19 58.4	-0.7
KCTX	**Karacabey (Bur**	**1.07**	**21**	*e*PN	**Pn**	**13 19 48.0**	**-0.2**
KCTX	**Karacabey (Bur**	**1.07**	**21**	*e*Pn	**Pn**	**13 19 48.0**	**-0.2**
BLCB	**Balcova**	**1.09**	**216**	*e*PG	**Pn**	**13 19 48.0**	**-0.5**
BLCB				*e*SG	**Sb**	**13 20 02.6**	**+0.3**
BLCB	**Balcova**	**1.09**	**216**	*e*Pg	**Pn**	**13 19 48.0**	**-0.5**
BNT	**Bandirma**	**1.09**	**2**	*e*PN	**Pn**	**13 19 48.0**	**-0.5**
BNT	**Bandirma**	**1.09**	**2**	*e*Pn	**Pn**	**13 19 48.0**	**-0.5**
ORLT	**Orhaneli**	**1.11**	**45**	*e*PN	**Pn**	**13 19 48.9**	**0.0**
ORLT				*e*SN	**Sn**	**13 20 07.2**	**+2.6**
ORLT	**Orhaneli**	**1.11**	**45**	*e*Pn	**Pn**	**13 19 48.9**	**0.0**
ORLT				*e*Sn	**Sn**	**13 20 07.2**	**+2.6**
KRBG	**Karabiga-Canak**	**1.21**	**339**	*e*PN	**Pn**	**13 19 50.1**	**0.0**
KRBG	**Karabiga-Canak**	**1.21**	**339**	*e*Pn	**Pn**	**13 19 50.1**	**0.0**
PRK	**Paraskevi**	**1.24**	**270**	P	**Pn**	**13 19 50.6**	**+0.1**
PRK				S	**Sn**	**13 20 08.3**	**+0.8**
PRK	**Paraskevi**	**1.24**	**270**	*e*PB	**Pg**	**13 19 49.8**	**-0.5**
PRK				*e*SB	**Sn**	**13 20 07.2**	**-0.3**
PRK	**Paraskevi**	**1.24**	**270**	*e*Pb	**Pg**	**13 19 49.8**	**-0.5**
PRK	**Paraskevi**	**1.24**	**270**	P	**Pn**	**13 19 50.6**	**+0.1**
PRK				*e*Sb	**Sn**	**13 20 07.2**	**-0.3**
PRK				S	**Sn**	**13 20 08.3**	**+0.8**
GDZ	**Gediz**	**1.27**	**97**	*i* P	**Pn**	**13 19 51.5**	**+0.4**
GDZ				*i* S	**Sn**	**13 20 08.9**	**+0.4**
GDZ	**Gediz**	**1.27**	**97**	*i* P	**Pn**	**13 19 51.5**	**+0.4**
GDZ				*i* S	**Sn**	**13 20 08.9**	**+0.4**
EZN	**Ezine**	**1.32**	**296**	*e*PN	**Pg**	**13 19 51.4**	**-0.4**
EZN				*e*SN	**Sn**	**13 20 10.6**	**+1.1**
EZN	**Ezine**	**1.32**	**296**	*e*Pn	**Pg**	**13 19 51.4**	**-0.4**
EZN				*e*Sn	**Sn**	**13 20 10.6**	**+1.1**
URLA	**Izmir**	**1.34**	**228**	*i* P	**Pn**	**13 19 50.8**	**-1.2**
URLA				*i* S	**Sn**	**13 20 10.9**	**+0.7**
URLA	**Izmir**	**1.34**	**228**	*i* P	**Pn**	**13 19 50.8**	**-1.2**
URLA				*i* S	**Sn**	**13 20 10.9**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.35**	**35**	*e*PN	**Pg**	**13 19 53.0**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.35**	**35**	*e*Pn	**Pg**	**13 19 53.1**	**+0.5**
MRMT	**Marmara Adasi**	**1.35**	**351**	*e*PN	**Pg**	**13 19 53.0**	**+0.5**
MRMT				*e*SN	**Sn**	**13 20 12.7**	**+2.1**
MRMT	**Marmara Adasi**	**1.35**	**351**	*e*Pn	**Pg**	**13 19 53.1**	**+0.5**
MRMT				*e*Sn	**Sn**	**13 20 12.7**	**+2.1**
LPK	**Lapseki**	**1.40**	**323**	*e*PN	**Pg**	**13 19 53.5**	**+0.1**
LPK				*e*SN	**Sn**	**13 20 13.1**	**+1.6**
LPK	**Lapseki**	**1.40**	**323**	*e*Pn	**Pg**	**13 19 53.5**	**+0.1**
LPK				*e*Sn	**Sn**	**13 20 13.1**	**+1.6**
ARMT	**Armutlu**	**1.51**	**30**	*e*PN	**Pg**	**13 19 55.9**	**+0.4**
ARMT				*e*SN	**Sg**	**13 20 17.1**	**+2.0**
ARMT	**Armutlu**	**1.51**	**30**	*e*Pn	**Pg**	**13 19 55.9**	**+0.4**
ARMT				*e*Sn	**Sg**	**13 20 17.1**	**+2.0**
BOZC	**Bozcaada**	**1.52**	**293**	*i* P	**Pb**	**13 19 54.4**	**-0.8**
BOZC				*i* S	**Sb**	**13 20 14.4**	**-0.2**
SART	**Tekirdag**	**1.52**	**340**	*i* P	**Pb**	**13 19 54.2**	**-1.0**
SART				*i* S	**Sg**	**13 20 15.5**	**+0.2**
SART	**Tekirdag**	**1.52**	**340**	*i* P	**Pb**	**13 19 54.2**	**-1.0**
SART				*i* S	**Sg**	**13 20 15.5**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.56**	**317**	*e*PN	**Pb**	**13 19 55.1**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.56**	**317**	*e*Pn	**Pb**	**13 19 55.1**	**-0.8**
SIGR	**SIGRI**	**1.56**	**269**	P	**Pn**	**13 19 54.9**	**-0.1**
SIGR				S	**Sb**	**13 20 15.4**	**-0.6**
SIGR	**SIGRI**	**1.56**	**269**	*e*PB	**Pn**	**13 19 54.9**	**-0.1**
SIGR				*e*SB	**Sg**	**13 20 17.2**	**+0.4**
SIGR	**SIGRI**	**1.56**	**269**	P	**Pn**	**13 19 54.9**	**-0.1**
SIGR				S	**Sb**	**13 20 15.4**	**-0.6**
SIGR				*e*Sb	**Sg**	**13 20 17.2**	**+0.4**
KHL	**Karahalli**	**1.60**	**125**	*e*PN	**Pg**	**13 19 57.6**	**+0.3**
KHL	**Karahalli**	**1.60**	**125**	*e*Pn	**Pg**	**13 19 57.6**	**+0.3**
CHOS	**Chios island**	**1.66**	**239**	P	**Pn**	**13 19 56.2**	**-0.3**
CHOS	**Chios island**	**1.66**	**239**	*e*PN	**Pg**	**13 19 57.8**	**-0.7**
CHOS				*e*SN	**Sg**	**13 20 22.1**	**+2.0**
CHOS	**Chios island**	**1.66**	**239**	P	**Pn**	**13 19 56.2**	**-0.3**
CHOS	**Chios island**	**1.66**	**239**	*e*Pn	**Pg**	**13 19 57.8**	**-0.7**
ERIK	**Erikli-Kesan**	**1.75**	**324**	*e*PN	**Pb**	**13 19 57.6**	**-1.5**
ERIK	**Erikli-Kesan**	**1.75**	**324**	*e*Pn	**Pb**	**13 19 57.6**	**-1.5**
SMG	**Samos**	**1.75**	**208**	P	**Pb**	**13 19 59.1**	**-0.1**
SMG	**Samos**	**1.75**	**208**	*e*PN	**Pb**	**13 19 59.2**	**0.0**
SMG				*e*SN	**Sg**	**13 20 25.0**	**+2.2**
SMG	**Samos**	**1.75**	**208**	P	**Pb**	**13 19 59.1**	**-0.1**
ALT	**Altintas**	**1.76**	**96**	*e*PN	**Pb**	**13 19 58.9**	**-0.5**
ALT	**Altintas**	**1.76**	**96**	*e*Pn	**Pb**	**13 19 58.9**	**-0.5**
CAVI	**Cavuskoy**	**1.79**	**58**	*e*PN	**Pg**	**13 19 59.8**	**-1.1**
CAVI				*e*SN	**Sg**	**13 20 24.6**	**+0.5**
CAVI	**Cavuskoy**	**1.79**	**58**	*e*Pn	**Pg**	**13 19 59.8**	**-1.1**
CAVI				*e*Sn	**Sg**	**13 20 24.6**	**+0.5**
ADVT	**Abdulvahap**	**1.85**	**50**	*e*PN	**Pb**	**13 20 00.6**	**-0.4**
ADVT				*e*SN	**Sg**	**13 20 26.4**	**+0.2**
ADVT	**Abdulvahap**	**1.85**	**50**	*e*Pn	**Pb**	**13 20 00.6**	**-0.4**
ADVT				*e*Sn	**Sg**	**13 20 26.4**	**+0.2**
ENEZ	**Enez**	**1.97**	**319**	*e*PN	**Pb**	**13 20 01.8**	**-1.1**
ENEZ	**Enez**	**1.97**	**319**	*e*Pn	**Pb**	**13 20 01.8**	**-1.1**
ISK	**Istanbul-Kandi**	**2.02**	**27**	*e*PN	**Pb**	**13 20 02.8**	**-0.9**
ISK	**Istanbul-Kandi**	**2.02**	**27**	*e*Pn	**Pb**	**13 20 02.8**	**-0.9**
CTKS	**Kestanelik-??a**	**2.03**	**14**	*e*PN	**Pn**	**13 20 01.8**	**+0.4**
CTKS	**Kestanelik-??a**	**2.03**	**14**	*e*Pn	**Pn**	**13 20 01.8**	**+0.4**
BORA	**Eskisehir**	**2.09**	**72**	*i* P	**Pb**	**13 20 03.3**	**-1.8**
BORA				*i* S	**Sg**	**13 20 34.0**	**+0.2**
BORA	**Eskisehir**	**2.09**	**72**	*i* P	**Pb**	**13 20 03.3**	**-1.8**
BORA				*i* S	**Sg**	**13 20 34.0**	**+0.2**
ALN	**Alexandroupoli**	**2.15**	**320**	*e*PG	**Pn**	**13 20 03.6**	**+0.6**
ALN				*e*SN	**Sb**	**13 20 31.4**	**-1.4**
ALN	**Alexandroupoli**	**2.15**	**320**	*e*Pg	**Pn**	**13 20 03.6**	**+0.6**
ALN				*e*Sn	**Sb**	**13 20 31.4**	**-1.4**
YER	**Yerkesik**	**2.15**	**171**	*e*PN	**Pn**	**13 20 03.9**	**+0.7**
YER	**Yerkesik**	**2.15**	**171**	*e*Pn	**Pn**	**13 20 03.9**	**+0.7**
SMTH	**Samothraki Isl**	**2.16**	**305**	*e*PN	**Pn**	**13 20 03.6**	**+0.3**
SMTH	**Samothraki Isl**	**2.16**	**305**	*e*Pn	**Pn**	**13 20 03.6**	**+0.3**
LIA	**Limnos Island**	**2.17**	**288**	*e*PN	**Pn**	**13 20 03.9**	**+0.6**
LIA	**Limnos Island**	**2.17**	**288**	*e*Pn	**Pn**	**13 20 03.9**	**+0.6**
KLYT	**Kilyos**	**2.18**	**24**	*e*PN	**Pb**	**13 20 05.6**	**-0.9**
KLYT	**Kilyos**	**2.18**	**24**	*e*Pn	**Pb**	**13 20 05.6**	**-0.9**
CTYL	**Yal??k??y-??at**	**2.23**	**8**	*e*PN	**Pb**	**13 20 06.0**	**-1.4**
CTYL	**Yal??k??y-??at**	**2.23**	**8**	*e*Pn	**Pb**	**13 20 06.0**	**-1.4**
SEYT	**Eskypehyr**	**2.33**	**83**	*i* P	**Pb**	**13 20 09.3**	**+0.2**
SEYT	**Eskypehyr**	**2.33**	**83**	*i* P	**Pb**	**13 20 09.3**	**+0.2**
SEYT				*i* S	**Sg**	**13 20 41.9**	**+0.6**
GULT	**Gulveren**	**2.35**	**59**	*e*PN	**Pb**	**13 20 07.7**	**-1.8**
GULT	**Gulveren**	**2.35**	**59**	*e*Pn	**Pb**	**13 20 07.7**	**-1.8**
GOLH	**Golhisar**	**2.42**	**146**	*i* P	**Pn**	**13 20 08.0**	**+1.1**
GOLH				*i* S	**Sn**	**13 20 37.3**	**+0.3**
GOLH	**Golhisar**	**2.42**	**146**	*i* P	**Pn**	**13 20 08.0**	**+1.1**
GOLH				*i* S	**Sn**	**13 20 37.3**	**+0.3**
RDO	**Rodhopi**	**2.59**	**317**	*e*PN	**Pn**	**13 20 09.9**	**+0.8**
RDO	**Rodhopi**	**2.59**	**317**	*e*Pn	**Pn**	**13 20 09.9**	**+0.8**
MDUB	**Mudurnu**	**2.83**	**64**	*e*PN	**Pb**	**13 20 14.7**	**-3.0**
MDUB	**Mudurnu**	**2.83**	**64**	*e*Pn	**Pb**	**13 20 14.7**	**-3.0**
SVRH	**Sivrihisar-ESK**	**2.84**	**85**	*e*PN	**Pb**	**13 20 15.2**	**-2.6**
SVRH	**Sivrihisar-ESK**	**2.84**	**85**	*e*Pn	**Pb**	**13 20 15.2**	**-2.6**
OUR	**Ouranopolis**	**3.18**	**291**	*e*PB	**Pn**	**13 20 17.6**	**+0.4**
OUR	**Ouranopolis**	**3.18**	**291**	*e*Pb	**Pn**	**13 20 17.6**	**+0.4**
NVR	**Nevrokopi**	**3.70**	**306**	*e*PN	**Pn**	**13 20 25.1**	**+0.7**
NVR	**Nevrokopi**	**3.70**	**306**	*e*Pn	**Pn**	**13 20 25.1**	**+0.7**

*IDC **13** 13:42:31.7±0.8,34°.30S×72°.09W,h0km,mb3.9/7,*
mb1 4.2/9,mb1mx4.0/28,mbtmp4.0/9,ML4.1/1,MS3.9/3,
Ms1 3.9/3,ms1mx3.3/20,Error ellipse: s-maj=40.4km
s-min=18.4km az=87.0
*NEIC **13** 13:42:36.7±0.5,34°.30S×72°.17W,h35km,mb4.2/3,Error*
ellipse: s-maj=19.0km s-min=9.3km az=99.0
ISC 13 13:42:33.1±0.7,34°.31S±0°.06×72°.3W±0°.2,h10km,n27,
σ0°91/21,mb4.1/7,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.35**	**53**	Pn	**Pn**	**13 43 40.6**	**+1.3**
	0.6nm,0.3s,baz=226,slow=12,SNR=18						
CFAA				Lg	Lg	13 44 43.2	
	2.3nm,0.3s,baz=131,slow=15,SNR=12						
CFAA				LR	LR	13 45 30.5	
	comp=Z,23nm,19.9s,baz=182,slow=42						
LCO	**Las Campanas**	**5.45**	**15**	*e*Pn	**Pn**	**13 43 53.5**	**-1.2**
	31nm,0.6s						
LCO				*e*Sn	**Sn**	**13 44 56.8**	**-0.8**
PLCA	**Paso Flores**	**6.57**	**168**	Pn	**Pn**	**13 44 10.6**	**+0.8**
PLCA				Lg	Lg	13 45 51.9	
PLCA				LR	LR	13 46 49.2	
	comp=Z,607nm,18.5s,baz=341,slow=39						
PLCA	**Paso Flores**	**6.57**	**168**	*e*Pn	**Pn**	**13 44 10.2**	**+0.4**
	1.2nm,0.6s						
PLCA				*e*Sn	**Sn**	**13 45 23.3**	**-1.5**
PLCA				Lg	Lg	13 45 51.9	
LPAZ	**La Paz**	**18.33**	**13**	P	**P**	**13 46 49.2**	**+0.9**
	0.3nm,0.3s,baz=187,slow=5.9,SNR=16						
LPAZ	**La Paz**	**18.33**	**13**	*e*P	**Pn**	**13 46 48.7**	**+0.5**
	13nm,1.1s						
SIV	**San Ignacio**	**20.85**	**32**	P	**P**	**13 47 14.4**	**-0.8**
	3.4nm,0.8s,baz=229,slow=10.0,SNR=7.3						
SNAA	**Sanae**	**51.39**	**158**	P	**P**	**13 51 37.3**	**-0.4**
	1.6nm,0.9s,baz=297,slow=6.8,SNR=3.0						
QSPA	**South Pole Qui**	**55.93**	**180**	P	**P**	**13 52 12.1**	**+1.0**
	4.1nm,0.9s,baz=220,slow=0.4,SNR=8.3						
QSPA	**South Pole Qui**	**55.93**	**180**	*e*P	**P**	**13 52 11.3**	**+0.1**
	1.3nm,0.7s						
TXAR	**Lajitas Array**	**69.89**	**331**	P	**P**	**13 53 45.5**	**+1.2**
	0.5nm,0.6s,baz=160,slow=9.6,SNR=6.2						
WVT	**Waverly**	**71.56**	**347**	*e*P	**P**	**13 53 54.4**	**+0.2**
	8.2nm,0.8s						
PDAR	**Pinedale Array**	**83.93**	**333**	P	**P**	**13 55 04.0**	**+0.6**
	0.7nm,0.9s,baz=158,slow=4.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**84.52**	**70**	P	**P**	**13 55 05.7**	**-1.0**
	1.3nm,1.0s,baz=243,slow=3.0,SNR=5.5						
YBH	**Yreka Blue Hor**	**88.69**	**325**	LR	LR	14 29 22.5	
	comp=Z,114nm,19.4s,baz=250,slow=32						
SCHQ	**Schefferville**	**88.90**	**3**	P	**P**	**13 55 27.5**	**+0.4**
	0.9nm,0.6s,baz=158,slow=11,SNR=2.3						
MDT	**Midelt**	**92.18**	**51**	LR	LR	14 35 20.1	
	comp=Z,43nm,18.4s,slow=34						
YKA	**Yellowknife Ar**	**102.27**	**341**	P	**Pdif**	**13 56 27.7**	**-0.1**
	0.2nm,0.8s,baz=137,slow=3.6,SNR=3.6						
WRA	**Warramunga Arr**	**120.39**	**209**	PKP	**PKPdf**	**14 01 24.1**	**-1.2**
	0.5nm,1.0s,baz=155,slow=1.8,SNR=4.8						
H11S2	**WAKE ISLAND Hyl**	**25.54**	**269**	T	T	16 19 53.1	
	baz=120,slow=75,SNR=9.1						
H11S1	**WAKE ISLAND Hyl**	**25.56**	**269**	T	T	16 19 51.8	
	baz=120,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hyl**	**25.56**	**269**	T	T	16 19 51.6	
	baz=120,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hyl**	**25.96**	**271**	T	T	16 20 22.2	
	baz=116,slow=78,SNR=7.2						
H11N1	**WAKE ISLAND Hyl**	**25.98**	**270**	T	T	16 20 23.7	
	baz=116,slow=78,SNR=17						
H11N2	**WAKE ISLAND Hyl**	**25.98**	**271**	T	T	16 20 24.2	
	baz=116,slow=78,SNR=11						
ZALV	**Zalesovo Beam**	**154.60**	**32**	PKPbc	**PKPbc**	**14 02 33.1**	**-0.5**
	1.1nm,0.8s,baz=290,slow=5.5,SNR=5.1						
MKAR	**Makanchi Array**	**157.13**	**49**	PKPab	**PKPab**	**14 02 58.6**	**-0.9**
	0.2nm,0.6s,baz=300,slow=2.8,SNR=3.7						

IDC 13 13:42:59.1±27.0,16°.39S×175°.13W,h0km,mb4.2/4,
mb1 4.4/4,mb1mx3.8/31,mbtmp4.2/4,Error ellipse:
s-maj=503.2km s-min=154.2km az=73.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.80**	**258**	P	P	13 50 09.9	+0.9
	5.2nm,1.1s,baz=108,slow=6.4,SNR=3.1						
STKA	**Stephens Creek**	**42.10**	**240**	P	P	13 50 53.2	+0.1
	1.1nm,0.5s,baz=90,slow=13,SNR=5.0						
WRA	**Warramunga Arr**	**48.00**	**258**	P	P	13 51 39.7	-0.5
	1.6nm,0.7s,baz=94,slow=7.4,SNR=52						
ASAR	**Alice Springs**	**48.22**	**253**	P	P	13 51 41.5	-0.5
	3.8nm,0.6s,baz=87,slow=8.7,SNR=69						

*ISCJB **13** 14:04:08.9±0.7,11°.23S±0°.06×166°.5E±0°.1,h146km,*
mb4.0/11,Error ellipse: s-maj=16.0km s-min=9.1km
az=178.6
*IDC **13** 14:04:09.6±1.0,11°.23S×166°.46E,h139km±8km,mb3.9/11,*
mb1 4.1/12,mb1mx3.8/37,mbtmp4.3/12,Error ellipse:
s-maj=19.9km s-min=13.9km az=110.0
ISC 13 14:04:10.2±0.7,11°.24S±0°.08×166°.5E±0°.1,h146km,n36,
σ1°10/36,mb4.2/11,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.77**	**180**	P	**Pn**	**14 06 42.0**	**+1.5**
	3.8nm,0.3s,baz=16,slow=4.5,SNR=37						
DZM				S	**Sn**	**14 08 36.7**	**-3.0**
	0.4nm,0.3s,baz=62,slow=9.1,SNR=2.9						
EIDS	**Eidsvold**	**20.26**	**224**	P	**P**	**14 08 35.8**	**+1.5**
	baz=22,SNR=7.2						
RMQ	**Roma**	**22.58**	**225**	P	**P**	**14 08 59.4**	**+1.0**
	baz=25,SNR=5.7						
ARMA	**Armidale**	**23.56**	**214**	P	**P**	**14 09 09.2**	**+1.6**
	baz=26,SNR=7.1						
URZ	**Urewera**	**28.53**	**162**	P	**P**	**14 09 52.5**	**+0.5**
	2.9nm,0.3s,baz=265,slow=4.7,SNR=16						
H11S2	**WAKE ISLAND Hy**	**29.54**	**0**	T	T	14 40 43.1	
	baz=171,slow=74,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**29.55**	**0**	T	T	14 40 44.4	
H11S1	**WAKE ISLAND Hy**	**29.56**	**0**	T	T	14 40 44.5	
	baz=158,slow=74,SNR=3.0						
H11N1	**WAKE ISLAND Hy**	**30.76**	**1**	T	T	14 42 14.9	
	SNR=3.1						
H11N3	**WAKE ISLAND Hy**	**30.77**	**1**	T	T	14 42 17.1	
H11N2	**WAKE ISLAND Hy**	**30.78**	**1**	T	T	14 42 17.1	
STKA	**Stephens Creek**	**30.82**	**224**	P	**P**	**14 10 12.9**	**+0.6**
	4.7nm,0.7s,baz=44,slow=7.9,SNR=14						
STKA	**Stephens Creek**	**30.82**	**224**	P	**P**	**14 10 13.3**	**+0.9**
	baz=33,SNR=7.4						
WRA	**Warramunga Arr**	**32.12**	**250**	P	**P**	**14 10 23.1**	**-0.8**
	2.8nm,0.5s,baz=84,slow=9.4,SNR=43						
WRA				pP	**pP**	**14 10 53.4**	**-1.7**
	3.0nm,1.1s,baz=79,slow=9.1,SNR=3.9						
WRA				PcP	**PcP**	**14 13 08.9**	**-0.9**
	0.8nm,0.8s,baz=75,slow=3.8,SNR=5.3						
TOO	**Toolangi**	**32.30**	**212**	P	**P**	**14 10 26.7**	**+1.4**
	baz=34,SNR=4.1						
KDU	**Kakadu**	**33.31**	**264**	P	**P**	**14 10 34.0**	**-0.4**
	baz=35,SNR=3.1						
ASAR	**Alice Springs**	**33.37**	**244**	P	**P**	**14 10 33.6**	**-1.2**
	1.8nm,0.8s,baz=68,slow=10,S

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.21**	**46**	⇑*P*	**Pn**	**14 20 51.3**	**-0.3**
PLOR	**Plostina**	**0.21**	**46**	⇑*P*	**Pn**	**14 20 51.3**	**-0.3**
PLOR				*i* S	**Sn**	**14 21 07.1**	**-0.5**
PLOR	**Plostina**	**0.21**	**46**	⇑*P*	**Pn**	**14 20 51.3**	**-0.3**
PLOR				*i* S	**Sn**	**14 21 07.1**	**-0.5**
VRI	**Vrincioaia**	**0.26**	**52**	⇑*P*	**Pn**	**14 20 51.6**	**-0.1**
VRI	**Vrincioaia**	**0.26**	**52**	⇑*P*	**Pn**	**14 20 51.6**	**-0.1**
VRI				*i* S	**Sn**	**14 21 07.1**	**-0.7**
VRI	**Vrincioaia**	**0.26**	**52**	⇑*P*	**Pn**	**14 20 51.6**	**-0.1**
VRI				*i* S	**Sn**	**14 21 07.1**	**-0.7**
MLR	**Muntele Rosu**	**0.40**	**238**	⇑*P*	**Pn**	**14 20 52.1**	**-0.2**
MLR	**Muntele Rosu**	**0.40**	**238**	⇑*P*	**Pn**	**14 20 52.1**	**-0.2**
MLR				*i* S	**Sn**	**14 21 08.0**	**-0.7**
MLR	**Muntele Rosu**	**0.40**	**238**	P	**Pn**	**14 20 52.1**	**-0.2**
	43nm,0.3s,baz=25,slow=0.2,SNR=1825						
MLR				S	**Sn**	**14 21 08.0**	**-0.7**
	86nm,0.3s,baz=102,slow=21,SNR=48						
ODBI	**Odobesti**	**0.44**	**82**	⇓*P*	**Pn**	**14 20 53.1**	**+0.8**
ODBI	**Odobesti**	**0.44**	**82**	⇓*P*	**Pn**	**14 20 53.1**	**+0.8**
ODBI				*i* S	**Sn**	**14 21 09.4**	**+0.7**
ODBI	**Odobesti**	**0.44**	**82**	⇓*P*	**Pn**	**14 20 53.1**	**+0.8**
ODBI				*i* S	**Sn**	**14 21 09.4**	**+0.7**
GRER		**0.50**	**130**	⇑*P*	**Pn**	**14 20 53.3**	**+0.7**
GRER		**0.50**	**130**	⇑*P*	**Pn**	**14 20 53.3**	**+0.7**
GRER		**0.50**	**130**	⇑*P*	**Pn**	**14 20 53.3**	**+0.7**
PETR	**Petresti**	**0.56**	**88**	⇑*P*	**Pn**	**14 20 53.2**	**+0.4**
PETR	**Petresti**	**0.56**	**88**	⇑*P*	**Pn**	**14 20 53.2**	**+0.4**
PETR				*i* S	**Sn**	**14 21 09.6**	**-0.1**
PETR	**Petresti**	**0.56**	**88**	⇑*P*	**Pn**	**14 20 53.2**	**+0.4**
PETR				*i* S	**Sn**	**14 21 09.6**	**-0.1**
ISR	**Istrita**	**0.59**	**172**	⇑*P*	**Pn**	**14 20 52.9**	**-0.2**
ISR	**Istrita**	**0.59**	**172**	⇑*P*	**Pn**	**14 20 52.9**	**-0.2**
ISR				*i* S	**Sn**	**14 21 10.3**	**+0.1**
ISR	**Istrita**	**0.59**	**172**	⇑*P*	**Pn**	**14 20 52.9**	**-0.2**
ISR				*i* S	**Sn**	**14 21 10.3**	**+0.1**
SECR		**0.72**	**201**	⇑*P*	**Pn**	**14 20 53.9**	**+0.1**
SECR		**0.72**	**201**	⇑*P*	**Pn**	**14 20 53.9**	**+0.1**
SECR				*i* S	**Sn**	**14 21 11.4**	**-0.1**
SECR		**0.72**	**201**	⇑*P*	**Pn**	**14 20 53.9**	**+0.1**
SECR				*i* S	**Sn**	**14 21 11.4**	**-0.1**
DOPR	**Dopca**	**0.78**	**290**	⇓*P*	**Pn**	**14 20 54.2**	**0.0**
DOPR	**Dopca**	**0.78**	**290**	⇓*P*	**Pn**	**14 20 54.2**	**0.0**
DOPR				*i* S	**Sn**	**14 21 11.6**	**-0.6**
DOPR	**Dopca**	**0.78**	**290**	⇓*P*	**Pn**	**14 20 54.2**	**0.0**
DOPR				*i* S	**Sn**	**14 21 11.6**	**-0.6**
TESR	**Tescani**	**0.82**	**10**	⇑*P*	**Pn**	**14 20 54.5**	**0.0**
TESR	**Tescani**	**0.82**	**10**	⇑*P*	**Pn**	**14 20 54.5**	**0.0**
TESR				*i* S	**Sn**	**14 21 11.8**	**-1.0**
TESR	**Tescani**	**0.82**	**10**	⇑*P*	**Pn**	**14 20 54.5**	**0.0**
TESR				*i* S	**Sn**	**14 21 11.8**	**-1.0**
PLAR	**PLOIESTI**	**0.84**	**200**	⇑*P*	**Pn**	**14 20 54.7**	**+0.1**
PLAR	**PLOIESTI**	**0.84**	**200**	⇑*P*	**Pn**	**14 20 54.7**	**+0.1**
PLAR				*i* S	**Sn**	**14 21 13.0**	**+0.1**
PLAR	**PLOIESTI**	**0.84**	**200**	⇑*P*	**Pn**	**14 20 54.7**	**+0.1**
PLAR				*i* S	**Sn**	**14 21 13.0**	**+0.1**
PGOR	**Pogoanele**	**0.89**	**154**	⇑*P*	**Pn**	**14 20 54.9**	**-0.1**
PGOR	**Pogoanele**	**0.89**	**154**	⇑*P*	**Pn**	**14 20 54.9**	**-0.1**
PGOR				*i* S	**Sn**	**14 21 13.3**	**-0.2**
PGOR	**Pogoanele**	**0.89**	**154**	⇑*P*	**Pn**	**14 20 54.9**	**-0.1**
PGOR				*i* S	**Sn**	**14 21 13.3**	**-0.2**
VOIR		**1.01**	**255**	⇑*P*	**Pn**	**14 20 55.6**	**-0.4**
VOIR		**1.01**	**255**	⇑*P*	**Pn**	**14 20 55.6**	**-0.4**
VOIR				*i* S	**Sn**	**14 21 14.3**	**-1.1**
VOIR		**1.01**	**255**	⇑*P*	**Pn**	**14 20 55.6**	**-0.4**
VOIR				*i* S	**Sn**	**14 21 14.3**	**-1.1**
SULR		**1.03**	**187**	⇑*P*	**Pn**	**14 20 56.0**	**-0.2**
SULR		**1.03**	**187**	⇑*P*	**Pn**	**14 20 56.0**	**-0.2**
SULR				*i* S	**Sn**	**14 21 15.2**	**-0.4**
SULR		**1.03**	**187**	⇑*P*	**Pn**	**14 20 56.0**	**-0.2**
SULR				*i* S	**Sn**	**14 21 15.2**	**-0.4**
MTUR	**Matau**	**1.08**	**244**	⇑*P*	**Pn**	**14 20 56.6**	**0.0**
MTUR	**Matau**	**1.08**	**244**	⇑*P*	**Pn**	**14 20 56.6**	**0.0**
MTUR	**Matau**	**1.08**	**244**	⇑*P*	**Pn**	**14 20 56.6**	**0.0**
GIUM	**Giurgiulesti**	**1.27**	**99**	⇑*P*	**Pn**	**14 20 58.3**	**+0.1**
GIUM	**Giurgiulesti**	**1.27**	**99**	⇑*P*	**Pn**	**14 20 58.3**	**+0.1**
GIUM				*i* S	**Sn**	**14 21 18.2**	**-1.1**
GIUM	**Giurgiulesti**	**1.27**	**99**	⇑*P*	**Pn**	**14 20 58.3**	**+0.1**
GIUM				*i* S	**Sn**	**14 21 18.2**	**-1.1**
AMRR	**Amara**	**1.27**	**149**	⇑*P*	**Pn**	**14 20 57.9**	**-0.3**
AMRR	**Amara**	**1.27**	**149**	⇑*P*	**Pn**	**14 20 57.9**	**-0.3**
AMRR				*i* S	**Sn**	**14 21 17.8**	**-1.5**
AMRR	**Amara**	**1.27**	**149**	⇑*P*	**Pn**	**14 20 57.9**	**-0.3**
AMRR				*i* S	**Sn**	**14 21 17.8**	**-1.5**
ARR	**Arges**	**1.31**	**256**	⇑*P*	**Pn**	**14 20 59.4**	**+0.7**
ARR	**Arges**	**1.31**	**256**	⇑*P*	**Pn**	**14 20 59.4**	**+0.7**
ARR				*i* S	**Sn**	**14 21 19.5**	**-0.7**
ARR	**Arges**	**1.31**	**256**	⇑*P*	**Pn**	**14 20 59.4**	**+0.7**
ARR				*i* S	**Sn**	**14 21 19.5**	**-0.7**
CFR	**Carcaliu**	**1.31**	**113**	⇑*P*	**Pn**	**14 20 58.0**	**-0.6**
CFR	**Carcaliu**	**1.31**	**113**	⇑*P*	**Pn**	**14 20 58.0**	**-0.6**
CFR				*i* S	**Sn**	**14 21 18.2**	**-1.8**
CFR	**Carcaliu**	**1.31**	**113**	⇑*P*	**Pn**	**14 20 58.0**	**-0.6**
CFR				*i* S	**Sn**	**14 21 18.2**	**-1.8**
BUC	**Bucharest**	**1.31**	**191**	⇓*P*	**Pn**	**14 20 58.3**	**-0.4**
BUC	**Bucharest**	**1.31**	**191**	⇓*P*	**Pn**	**14 20 58.3**	**-0.4**
BUC				*i* S	**Sn**	**14 21 18.0**	**-2.1**
BUC	**Bucharest**	**1.31**	**191**	⇓*P*	**Pn**	**14 20 58.3**	**-0.4**
BUC				*i* S	**Sn**	**14 21 18.0**	**-2.1**
BAPR	**Bucharest-Chil**	**1.32**	**190**	⇑*P*	**Pn**	**14 20 58.4**	**-0.3**
BAPR	**Bucharest-Chil**	**1.32**	**190**	⇑*P*	**Pn**	**14 20 58.4**	**-0.3**
BAPR				*i* S	**Sn**	**14 21 18.8**	**-1.4**
BAPR	**Bucharest-Chil**	**1.32**	**190**	⇑*P*	**Pn**	**14 20 58.4**	**-0.3**
BAPR				*i* S	**Sn**	**14 21 18.8**	**-1.4**
GOLR		**1.35**	**231**	⇑*P*	**Pn**	**14 20 59.1**	**0.0**
GOLR		**1.35**	**231**	⇑*P*	**Pn**	**14 20 59.1**	**0.0**
GOLR				*i* S	**Sn**	**14 21 20.4**	**-0.4**
GOLR		**1.35**	**231**	⇑*P*	**Pn**	**14 20 59.1**	**0.0**
GOLR				*i* S	**Sn**	**14 21 20.4**	**-0.4**
BUC1	**Bucharest**	**1.39**	**192**	S	**Sn**	**14 21 18.0**	**-3.4**
HARR	**Harsova**	**1.47**	**133**	⇑*P*	**Pn**	**14 20 59.7**	**-0.5**
HARR	**Harsova**	**1.47**	**133**	⇑*P*	**Pn**	**14 20 59.7**	**-0.5**
HARR	**Harsova**	**1.47**	**133**	⇑*P*	**Pn**	**14 20 59.7**	**-0.5**
LEOM	**Leova**	**1.48**	**58**	⇑*P*	**Pn**	**14 21 00.7**	**+0.4**
LEOM	**Leova**	**1.48**	**58**	⇑*P*	**Pn**	**14 21 00.7**	**+0.4**
LEOM				*i* S	**Sn**	**14 21 22.4**	**-0.7**
LEOM	**Leova**	**1.48**	**58**	⇑*P*	**Pn**	**14 21 00.7**	**+0.4**
LEOM				*i* S	**Sn**	**14 21 22.4**	**-0.7**
MDB	**Medias**	**1.50**	**288**	⇑*P*	**Pn**	**14 21 01.3**	**+0.8**
MDB	**Medias**	**1.50**	**288**	⇑*P*	**Pn**	**14 21 01.3**	**+0.8**
MDB	**Medias**	**1.50**	**288**	⇑*P*	**Pn**	**14 21 01.3**	**+0.8**
HUMR	**Humele**	**1.56**	**222**	⇑*P*	**Pn**	**14 21 00.7**	**-0.5**
HUMR	**Humele**	**1.56**	**222**	⇑*P*	**Pn**	**14 21 00.7**	**-0.5**
HUMR				*i* S	**Sn**	**14 21 22.9**	**-1.7**
HUMR	**Humele**	**1.56**	**222**	⇑*P*	**Pn**	**14 21 00.7**	**-0.5**
HUMR				*i* S	**Sn**	**14 21 22.9**	**-1.7**
PRAR	**RASCA**	**1.67**	**355**	⇓*P*	**Pn**	**14 21 03.4**	**+1.1**
PRAR	**RASCA**	**1.67**	**355**	⇓*P*	**Pn**	**14 21 03.4**	**+1.1**
PRAR	**RASCA**	**1.67**	**355**	⇓*P*	**Pn**	**14 21 03.4**	**+1.1**
IAS	**Iasi**	**1.68**	**27**	⇑*P*	**Pn**	**14 21 02.9**	**+0.4**
IAS	**Iasi**	**1.68**	**27**	⇑*P*	**Pn**	**14 21 02.9**	**+0.4**
IAS				*i* S	**Sn**	**14 21 26.0**	**-1.0**
IAS	**Iasi**	**1.68**	**27**	⇑*P*	**Pn**	**14 21 02.9**	**+0.4**
IAS				*i* S	**Sn**	**14 21 26.0**	**-1.0**
TLCR		**1.75**	**106**	⇑*P*	**Pn**	**14 21 02.8**	**-0.5**
TLCR		**1.75**	**106**	⇑*P*	**Pn**	**14 21 02.8**	**-0.5**
TLCR				*i* S	**Sn**	**14 21 26.9**	**-1.4**
TLCR		**1.75**	**106**	⇑*P*	**Pn**	**14 21 02.8**	**-0.5**
TLCR				*i* S	**Sn**	**14 21 26.9**	**-1.4**
CVD	**Cernavoda**	**1.79**	**140**	⇑*P*	**Pn**	**14 21 03.2**	**-0.5**
CVD	**Cernavoda**	**1.79**	**140**	⇑*P*	**Pn**	**14 21 03.2**	**-0.5**
CVD				*i* S	**Sn**	**14 21 26.2**	**-2.9**
CVD	**Cernavoda**	**1.79**	**140**	⇑*P*	**Pn**	**14 21 03.2**	**-0.5**
CVD				*i* S	**Sn**	**14 21 26.2**	**-2.9**
TIRR	**Tirgusor**	**1.88**	**131**	⇑*P*	**Pn**	**14 21 04.1**	**-0.5**
TIRR	**Tirgusor**	**1.88**	**131**	⇑*P*	**Pn**	**14 21 04.1**	**-0.5**
TIRR				*i* S	**Sn**	**14 21 27.9**	**-2.8**
TIRR	**Tirgusor**	**1.88**	**131**	⇑*P*	**Pn**	**14 21 04.1**	**-0.5**
TIRR				*i* S	**Sn**	**14 21 27.9**	**-2.8**
LOT	**Lotru**	**1.89**	**263**	⇓*P*	**Pn**	**14 21 05.9**	**+1.0**
LOT	**Lotru**	**1.89**	**263**	⇓*P*	**Pn**	**14 21 05.9**	**+1.0**
LOT				*i* S	**Sn**	**14 21 31.4**	**+0.2**
LOT	**Lotru**	**1.89**	**263**	⇓*P*	**Pn**	**14 21 05.9**	**+1.0**
LOT				*i* S	**Sn**	**14 21 31.4**	**+0.2**
MSAB	**Monastry St. A**	**1.89**	**148**	⇑*P*	**Pn**	**14 21 04.4**	**-0.4**
MSAB				S	**Sn**	**14 21 28.8**	**-2.3**
MSAB	**Monastry St. A**	**1.89**	**148**	⇑*P*	**Pn**	**14 21 04.4**	**-0.4**
MSAB				*i* S	**Sn**	**14 21 28.8**	**-2.3**
MSAB	**Monastry St. A**	**1.89**	**148**	⇑*P*	**Pn**	**14 21 04.4**	**-0.4**
MSAB				*i* S	**Sn**	**14 21 28.8**	**-2.3**
BURAR	**Bucovina Array**	**2.09**	**337**	⇓*P*	**Pn**	**14 21 09.1**	**+2.0**
BURAR	**Bucovina Array**	**2.09**	**337**	⇓*P*	**Pn**	**14 21 09.1**	**+2.0**
BURAR	**Bucovina Array**	**2.09**	**337**	⇓*P*	**Pn**	**14 21 09.1**	**+2.0**
KIS	**Kishinev**	**2.10**	**51**	⇑*P*	**Pn**	**14 21 07.5**	**+0.3**
KIS	**Kishinev**	**2.10**	**51**	⇑*P*	**Pn**	**14 21 07.5**	**+0.3**
KIS	**Kishinev**	**2.10**	**51**	⇑*P*	**Pn**	**14 21 07.8**	**+0.6**
	600nm,0.6s						
KIS				*i* S	**Sn**	**14 21 34.0**	**-1.3**
	3μm,0.8s						
KIS	**Kishinev**	**2.10**	**51**	⇑*P*	**Pn**	**14 21 07.5**	**+0.3**
KIS				*i* S	**Sn**	**14 21 34.0**	**-1.3**
	3μm,0.8s						
KIS	**Kishinev**	**2.10**	**51**	*i* P	**Pn**	**14 21 07.0**	**-0.2**
KIS				Pm		14 21 08.0	
KIS				*i* S	**Sn**	**14 21 34.0**	**-1.3**
KIS				Sm		14 21 35.0	
KIS				Sm		14 21 35.0	
ZIMR		**2.18**	**201**	⇓*P*	**Pn**	**14 21 07.6**	**-0.6**
ZIMR		**2.18**	**201**	⇓*P*	**Pn**	**14 21 07.6**	**-0.6**
ZIMR				*i* S	**Sn**	**14 21 34.4**	**-2.7**
CJR	**Cluj-Napoca**	**2.21**	**298**	⇓*P*	**Pn**	**14 21 09.0**	**+0.4**
CJR	**Cluj-Napoca**	**2.21**	**298**	⇓*P*	**Pn**	**14 21 09.0**	**+0.4**
CJR	**Cluj-Napoca**	**2.21**	**298**	⇓*P*	**Pn**	**14 21 09.0**	**+0.4**
EFOR	**EFORIE**	**2.25**	**135**	⇓*P*	**Pn**	**14 21 07.8**	**-1.2**
EFOR	**EFORIE**	**2.25**	**135**	⇓*P*	**Pn**	**14 21 07.8**	**-1.2**
EFOR				*i* S	**Sn**	**14 21 36.6**	**-1.9**
EFOR	**EFORIE**	**2.25**	**135**	⇓*P*	**Pn**	**14 21 07.8**	**-1.2**
EFOR				*i* S	**Sn**	**14 21 36.6**	**-1.9**
CRAR	**CRAIOVA**	**2.32**	**234**	⇓*P*	**Pn**	**14 21 09.1**	**-0.7**
CRAR	**CRAIOVA**	**2.32**	**234**	⇓*P*	**Pn**	**14 21 09.1**	**-0.7**
CRAR	**CRAIOVA**	**2.32**	**234**	⇓*P*	**Pn**	**14 21 09.1**	**-0.7**
PSN	**Preselentsi**	**2.38**	**148**	⇑*P*	**Pn**	**14 21 10.3**	**-0.2**
PSN	**Preselentsi**	**2.38**	**148**	⇑*P*	**Pn**	**14 21 10.3**	**-0.2**
PSN				*i* S	**Sn**	**14 21 39.7**	**-1.5**
PSN	**Preselentsi**	**2.38**	**148**	*i* P	**Pn**	**14 21 09.9**	**-0.6**
PSN	**Preselentsi**	**2.38**	**148**	*i* P	**Pn**	**14 21 09.9**	**-0.6**
PSN				*i* S	**Sn**	**14 21 39.7**	**-1.5**
MANR	**Mangalia**	**2.43**	**140**	⇑*P*	**Pn**	**14 21 10.8**	**-0.4**
MANR	**Mangalia**	**2.43**	**140**	⇑*P*	**Pn**	**14 21 10.8**	**-0.4**
MANR				*i* S	**Sn**	**14 21 40.1**	**-2.3**
MANR	**Mangalia**	**2.43**	**140**	⇑*P*	**Pn**	**14 21 10.8**	**-0.4**
MANR				*i* S	**Sn**	**14 21 40.1**	**-2.3**
SZH	**Strazhica**	**2.46**	**189**	*i* P	**Pn**	**14 21 10.6**	**-1.0**
SZH	**Strazhica**	**2.46**	**189**	*i* P	**Pn**	**14 21 10.6**	**-1.0**
DEV	**Deva**	**2.48**	**275**	⇓*P*	**Pn**	**14 21 12.1**	**+0.4**
DEV	**Deva**	**2.48**	**275**	⇓*P*	**Pn**	**14 21 12.1**	**+0.4**
DEV	**Deva**	**2.48**	**275**	⇓*P*	**Pn**	**14 21 12.1**	**+0.4**
SRE	**Strehaia**	**2.51**	**247**	S	**Sn**	**14 21 43.0**	**-1.1**
SRE	**Strehaia**	**2.51**	**247**	*i* S	**Sn**	**14 21 43.0**	**-1.1**
SRE	**Strehaia**	**2.51**	**247**	*i* S	**Sn**	**14 21 43.0**	**-1.1**
GZR	**Gura Zlata**	**2.59**	**264**	⇑*P*	**Pn**	**14 21 13.3**	**+0.2**
GZR	**Gura Zlata**	**2.59**	**264**	⇑*P*	**Pn**	**14 21 13.3**	**+0.2**
GZR	**Gura Zlata**	**2.59**	**264**	⇑*P*	**Pn**	**14 21 13.3**	**+0.2**
PRD	**Provadia**	**2.60**	**164**	*i* P	**Pn**	**14 21 13.2**	**0.0**
PRD	**Provadia**	**2.60**	**164**	*i* P	**Pn**	**14 21 13.2**	**0.0**
CHRU	**Chernivtsi**	**2.62**	**353**	*i* P	**Pn**	**14 21 12.2**	**-1.2**
CHRU				*e*S	**Sn**	**14 21 45.2**	**-1.3**
KSV	**Kosov**	**2.77**	**341**	*i* P	Pn	14 21 12.5	-2.8
KSV				Pm		14 21 17.3	
KSV				*e*S	**Sn**	**14 21 47.7**	**-2.3**
KSV				Sm		14 21 52.3	
NSLU	**Nyzhne Selyshc**	**2.84**	**332**	*i* P	Pn	14 21 19.9	+3.8
NSLU				*e*S	Sn	14 21 58.5	+7.1
KMPD	**K-Podol'skiy**	**2.86**	**0**	*i* P	**Pn**	**14 21 15.7**	**-0.7**
KMPD				*e*S	**Sn**	**14 21 48.2**	**-3.6**
MPEP	**Malo Peshtene**	**3.04**	**220**	*i* P	**Pn**	**14 21 18.0**	**-0.7**
JMB	**Yambol**	**3.24**	**178**	⇑*P*	**Pn**	**14 21 21.8**	**+0.6**
JMB	**Yambol**	**3.24**	**178**	⇑*P*	**Pn**	**14 21 21.8**	**+0.6**
JMB	**Yambol**	**3.24**	**178**	⇑*P*	**Pn**	**14 21 21.8**	**+0.6**
KORU	**Korolevo**	**3.34**	**319**	*i* P	**Pn**	**14 21 20.4**	**-2.0**
KORU				*e*S	**Sn**	**14 22 00.2**	**-2.4**
TRSU	**Trosnyk**	**3.38**	**316**	*e*P	Pn	14 21 20.1	-2.8
TRSU				*e*S	**Sn**	**14 22 00.9**	**-2.6**
BZS	**Buzias**	**3.38**	**270**	⇓*P*	**Pn**	**14 21 22.7**	**-0.3**
BZS	**Buzias**	**3.38**	**270**	⇓*P*	**Pn**	**14 21 22.7**	**-0.3**
BZS	**Buzias**	**3.38**	**270**	⇓*P*	**Pn**	**14 21 22.7**	**-0.3**
MEZ	**Mezhgor'ye**	**3.45**	**326**	*e*P	**Pn**	**14 21 22.0**	**-1.8**
MEZ				*e*S	**Sn**	**14 22 02.4**	**-2.7**
HORU	**Horodok**	**3.51**	**360**	*i* P	**Pn**	**14 21 22.9**	**-1.7**
HORU				*i* S	**Sn**	**14 22 04.4**	**-2.2**
TRPA	**Tarpa**	**3.61**	**314**	⇓*P*	**Pn**	**14 21 26.2**	**+0.3**
TRPA	**Tarpa**	**3.61**	**314**	⇓*P*	**Pn**	**14 21 26.2**	**+0.3**
TRPA	**Tarpa**	**3.61**	**314**	⇓*P*	**Pn**	**14 21 26.2**	**+0.3**
BERU	**Beregovo**	**3.62**	**316**	*i* P	**Pn**	**14 21 23.6**	**-2.5**
BERU				*e*S	**Sn**	**14 22 07.2**	**-1.9**
ZAPS	**Zavoj**	**3.65**	**230**	⇑*P*n	**Pn**	**14 21 26.0**	**-0.5**
MUKU	**Mukachevo**	**3.76**	**318**	*i* P	**Pn**	**14 21 26.9**	**-0.9**
MUKU				*e*S	**Sn**	**14 22 11.3**	**-0.9**
VTS	**Vitosha**	**3.88**	**218**	⇓*P*	**Pn**	**14 21 29.5**	**-0.1**
VTS	**Vitosha**	**3.88**	**218**	⇓*P*	**Pn**	**14 21 29.5**	**-0.1**
VTS	**Vitosha**	**3.88**	**218**	*i* P	**Pn**	**14 21 29.2**	**-0.4**
VTS	**Vitosha**	**3.88**	**218**	*i* P	**Pn**	**14 21 29.2**	**-0.4**
UZH	**Uzhgorod**	**4.07**	**318**	*i* P	**Pn**	**14 21 29.5**	**-2.3**
UZH				Pm		14 21 34.7	
UZH				*e*S	**Sn**	**14 22 18.1**	**-1.4**
UZH				Sm		14 22 26.1	
ONO	**Onokovtsy**	**4.07**	**318**	*i* P	**Pn**	**14 21 30.3**	**-1.6**
ONO				*e*S	**Sn**	**14 22 18.2**	**-1.4**
SHIU	**Shidnytsya**	**4.09**	**331**	*i* P	**Pn**	**14 21 29.8**	**-2.4**
SHIU				*e*S	**Sn**	**14 22 17.3**	**-2.8**
RZN	**Rozhen**	**4.20**	**198**	*i* P	**Pn**	**14 21 33.2**	**-0.7**
RZN	**Rozhen**	**4.20**	**198**	*i* P	**Pn**	**14 21 33.2**	**-0.7**
KOLS	**Kolonicke sedl**	**4.29**	**320**	*e*P	**Pn**	**14 21 35.9**	**+1.1**
KOLS	**Kolonicke sedl**	**4.29**	**320**	*e*P	**Pn**	**14 21 35.9**	**+1.1**
GRUS	**Gruza**	**4.46**	**248**	*e*Pn	**Pn**	**14 21 36.7**	**-0.3**
TRUS	**Trudelj**	**4.53**	**253**	⇓*P*n	**Pn**	**14 21 36.8**	**-1.1**
SELS	**Selova**	**4.54**	**239**	*e*Pn	**Pn**	**14 21 37.4**	**-0.7**
FGSL	**Fruska Gora**	**4.69**	**266**	*e*Pn	**Pn**	**14 21 41.4**	**+1.3**
DIVS	**Divibare**	**4.85**	**253**	*e*Pn	**Pn**	**14 21 42.2**	**0.0**
IVAS	**Ivanjica**	**4.96**	**247**	*e*Pn	**Pn**	**14 21 43.4**	**-0.3**
STHS	**Stebnicka Huta**	**5.11**	**318**	*e*P	**Pn**	**14 21 46.8**	**+1.2**
STHS	**Stebnicka Huta**	**5.11**	**318**	*e*P	**Pn**	**14 21 46.8**	**+1.2**
SEV	**Sevastopol'**	**5.25**	**100**	*e*P	**Pn**	**14 21 46.6**	**-0.8**
SEV				Pm		14 21 47.7	
SEV				*e*S	**Sn**	**14 22 45.7**	**-1.6**
SEV				Sm		14 22 48.1	
AKASG	**Malin Array Be**	**5.34**	**19**	P	**Pn**	**14 21 48.4**	**-0.1**
	5.6nm,0.3s,baz=205,slow=13,SNR=14						
AKASG				S	**Sn**	**14 22 46.6**	**-2.7**
	4.7nm,0.3s,baz=198,slow=22,SNR=11						
SIM	**Simferopol'**	**5.47**	**95**	*e*P	Pn	14 21 47.1	-3.2
SIM				*e*S	**Sn**	**14 22 50.3**	**-2.3**
SIM				Sm		14 22 52.1	
NIE	**Niedzica**	**5.56**	**314**	*e*P	**Pn**	**14 21 52.9**	**+1.3**
NIE	**Niedzica**	**5.56**	**314**	*e*Pn	**Pn**	**14 21 52.9**	**+1.3**
YAL	**Yalta**	**5.60**	**100**	*e*S	**Sn**	**14 22 54.7**	**-0.9**
YAL				Sm		14 22 55.5	
SUDU	**Sudak**	**6.10**	**95**	*e*P	**Pn**	**14 21 58.4**	**-0.2**
SUDU				Pm		14 22 00.6	
SUDU				*e*S	**Sn**	**14 23 05.0**	**-2.5**
SUDU				Sm		14 23 09.7	
VRAC	**Vranov**	**7.58**	**302**	P	**Pn**	**14 22 18.8**	**+0.5**
	0.1nm,0.3s,baz=111,slow=12,SNR=4.4						
BRTR	**Keskin Array B**	**7.99**	**136**	P	**Pn**	**14 22 23.4**	**-0.5**
	0.2nm,0.3s,baz=324,slow=12,SNR=6.1						
DAVOX	**Davos/Dischmat**	**11.52**	**281**	P	**P**	**14 23 17.0**	**-0.9**
	0.3nm,0.3s,baz=57,slow=14,SNR=5.4						
FINES	**FINESS Array B**	**15.77**	**359**	P	**P**	**14 24 05.7**	**+1.0**
	0.1nm,0.3s,baz=187,slow=9.4,SNR=5.2						
HFS	**Hagfors**	**16.32**	**337**	P	**P**	**14 24 12.3**	**+1.5**
	0.2nm,0.3s,baz=133,slow=17,SNR=2.2						
NOA	**NORSAR Array B**	**17.77**	**335**	P	**Pn**	**14 24 27.8**	**-0.4**
	0.2nm,0.3s,baz=160,slow=12,SNR=2.2						
ESDC	**Sonseca Array**	**23.05**	**266**	P	**P**	**14 25 21.6**	**-0.8**
	0.3nm,0.4s,baz=60,slow=10,SNR=5.1						
ESDC				LR	LR	14 36 10.3	
	comp=Z,39nm,19.3s,baz=115,slow=41						
ARCES	**ARCESS Array B**	**23.90**	**359**	P	**P**	**14 25 30.6**	**+0.9**
	3.8nm,1.0s,baz=184,slow=11,SNR=2.3						
GEYT	**Alibeck**	**24.74**	**97**	P	**P**	**14 25 40.1**	**+2.4**
	0.8nm,0.5s,baz=294,slow=11,SNR=2.0						
SPITS	**Spitsbergen Ar**	**32.83**	**356**	P	**P**	**14 26 50.2**	**+1.3**
	12nm,1.1s,baz=159,slow=14,SNR=6.4						
ZALV	**Zalesovo Beam**	**37.58**	**56**	P	**P**	**14 27 30.8**	**+1.0**
	0.6nm,0.3s,baz=275,slow=11,SNR=3.8						
ZALV				pP	**pP**	**14 28 03.2**	**+0.1**
	0.5nm,0.5s,baz=286,slow=8.4,SNR=2.4						
MKAR	**Makanchi Array**	**37.95**	**68**	P	**P**	**14 27 34.5**	**+1.5**
	0.1nm,0.5s,baz=255,slow=7.8,SNR=1.8						
MKAR				pP	**pP**	**14 28 06.7**	**+0.2**
	0.3nm,0.5s,baz=280,slow=7.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**38.63**	**221**	P	**P**	**14 27 39.9**	**+1.0**
	2.1nm,0.5s,baz=29,slow=8.9,SNR=31						
TORD				LR	LR	14 46 39.7	
	comp=Z,52nm,18.0s,baz=195,slow=41						
DBIC	**Dimbokro**	**47.38**	**225**	P	**P**	**14 28 49.4**	**+0.2**
	3.7nm,0.4s,baz=12,slow=6.7,SNR=22						
FRB	**Frobisher Bay**	**52.27**	**326**	LR	LR	14 53 21.9	
	comp=Z,40nm,21.0s,baz=65,slow=38						
SONM	**Songino Array**	**52.45**	**57**	P	**P**	**14 29 29.5**	**+2.2**
	0.2nm,0.4s,baz=291,slow=6.4,SNR=4.1						
SONM				pP	**pP**	**14

IGBI	**Denpasar**	**2.27 277**	P	Pn	14 50 14.5	-1.4
IGBI			S	Sn	14 50 44.7	+1.8
SRBI	**Singaraja**	**2.41 295**	P	Pn	14 50 18.8	+0.9
JAGI	**Jajag, Banyuwa**	**3.29 281**	P	Pn	14 50 26.8	-3.3
JAGI			S	Sn	14 51 10.5	+2.2
ABJI	**Asem Bagus**	**3.41 292**	P	Pn	14 50 32.0	+0.3
BLJI	**Banyuglugur**	**4.02 289**	P	Pn	14 50 40.7	+0.6
BKSI	**Bulukumba**	**4.62 36**	P	Pn	14 50 47.9	-0.4
MMRI	**Maumere**	**4.78 85**	P	Pn	14 50 50.0	-0.6

IDC ***13*** *14:58:58.7±0.4, 1°.34N×97°.13E, h0km, mb5.1/40, mb1 5.1/43, mb1mx5.1/45, mbtmp5.0/43, ML4.8/3, MS5.5/30, Ms1 5.5/30, ms1mx5.3/46, Error ellipse: s-maj=11.2km s-min=9.5km az=62.0*

KLM ***13*** *14:59:00.6, 1°.18N×96°.66E, h45km, mb5.6, ML5.9, MS6.4*

NEIC ***13*** *14:59:01.0±0.1, 1°.32N×97°.17E, h19km, mb5.5/103, ME5.5, MS5.7/140, MW5.8, MW5.8, Error ellipse: s-maj=4.1km s-min=2.8km az=211.0, Moment Tensor Solution. s75 Moment tensor: Scale 10^17^Nm; Mrr4.50; Mθθ-1.07; Mφφ-3.43; Mrθ2.87; Mrφ1.75; Mθφ-2.81; Best double couple: M0 6.00000×10^17^ NP1:φs141.00000°, δ66.00000°, λ81.00000°. NP2:φs342.00000°, δ25.00000°, λ109.00000°. Principal axes: T 6.1300, Plg67.0000°, Azm34.0000°; N -0.3100, Plg8.0000°, Azm144.0000°; P -5.8200, Plg20.0000°, Azm237.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [IV] at Gunungsitoli, Nias and [III] at Sibolga, Sumatra. Felt at Kuala Lumpur, Malaysia.

BJI ***13*** *14:59:01.2, 1°.33N×97°.29E, h31km, mB6.0/63, mb5.5/77, Ms6.2/84, Ms7 6.1/83*

SZGRF ***13*** *14:59:02.3, 0°.07N×96°.32E, h33km, mb5.3, MS5.4, Off west coast of northern Sumatera, Indonesia*

ISCJB ***13*** *14:59:02.7±0.3, 1°.38N±0°.02×97°.17E±0°.02, h40km±3km, mb5.3/210, MS5.6/192, Error ellipse: s-maj=3.7km s-min=2.5km az=44.4*

MOS ***13*** *14:59:02.0±0.9, 1°.41N×97°.21E, h33km, mb5.7/81, MS5.6/48, Error ellipse: s-maj=7.7km s-min=3.9km az=115.1*

GCMT ***13*** *14:59:03.3±0.1, 1°.16N×96°.81E, h24km, MW5.8/113, Moment Tensor Solution. s113, c215; s103, c249; Duration: 18s8 Moment tensor: Scale 10^17^Nm; Mrr3.50±.07; Mθθ-1.33±.04; Mφφ-2.17±.05; Mrθ3.48±.12; Mrφ1.89±.04; Mθφ-2.85±.10; Best double couple: M0 5.75900×10^17^ NP1:φs132.00000°, δ71.00000°, λ83.00000°. NP2:φs331.00000°, δ20.00000°, λ108.00000°. Principal axes: T 5.7160, Plg64.0000°, Azm31.0000°; N 0.0850, Plg6.0000°, Azm134.0000°; P -5.8010, Plg26.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

DJA ***13*** *14:59:04.8±0.4, 1°.N±2°.×9°.7E±°, h21km±3km, M5.5/97, mb5.5/97, mB5.8/84, MLv5.9/19, Mw(mB)5.4/84, Mwp5.9/18*

NEIC ***13*** *14:59:17.8±0.0, 0°.41N×96°.85E, h33km, Moment Tensor Solution. s102 Moment tensor: Scale 10^17^Nm; Mrr3.45; Mθθ-0.35; Mφφ-3.10; Mrθ3.38; Mrφ0.84; Mθφ-3.05; Best double couple: M0 5.60000×10^17^ NP1:φs140.00000°, δ72.00000°, λ76.00000°. NP2:φs359.00000°, δ22.00000°, λ127.00000°. Principal axes: T 6.0000, Plg60.0000°, Azm30.0000°; N -0.7100, Plg13.0000°, Azm144.0000°; P -5.2900, Plg26.0000°, Azm240.0000°;*

ISC 13 14:59:03.7±0.3, 1°.38N±0°.03×97°.17E±0°.03, h35km, h35km:pP-P,n1211,σ1s55/1224, mb5.5/209, MS5.6/201, 217C-175D, Northern Sumatera

Code	Station Name	Δ° AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.41 100**	P	**Pn**	**14 59 13.8**	**+0.5**
GSI			S	**Sn**	**14 59 20.1**	**+0.4**
GSI	**Gunungsitoli**	**0.41 100**	*e*Pn	**Pb**	**14 59 13.1**	**0.0**
GSI			*e*Sn	**Sn**	**14 59 20.4**	**+0.7**
SNSI	**Sinabang, Aceh**	**1.33 321**	P	**Pn**	**14 59 25.2**	**-0.6**
SNSI			S	**Sn**	**14 59 41.0**	**-1.3**
TPTI		**1.87 0**	P	**Pn**	**14 59 32.6**	**-0.8**
KCSI	**Kotacane, Aceh**	**2.22 16**	P	**Pn**	**14 59 38.6**	**+0.5**
PSI	**Prapat**	**2.25 51**	P	**Pn**	**14 59 39.0**	**+0.3**
PSI	**Prapat**	**2.25 51**	Pn	**Pn**	**14 59 39.0**	**+0.3**
	68nm,0.3s,baz=222,slow=4.5,SNR=229					
PSI			Sn	**Sb**	**15 00 11.8**	**+0.3**
	281nm,0.3s,baz=203,slow=9.6,SNR=7.4					
PSI	**Prapat**	**2.25 51**	⇓P	**Pn**	**14 59 39.0**	**+0.3**
	baz=2.1,SNR=328					
MNSI	**Mandailing Nat**	**2.48 103**	P	**Pn**	**14 59 42.9**	**+1.2**
TSI	**Tuntungan**	**2.53 33**	P	**Pn**	**14 59 44.2**	**+1.8**
LHMI	**Lhok Sumawe**	**3.83 357**	P	**Pn**	**15 00 02.2**	**+1.8**
LHMI	**Lhok Sumawe**	**3.83 357**	⇓P	**Pn**	**15 00 00.8**	**+0.5**
	baz=3.7,SNR=26					
LHMI	**Lhok Sumawe**	**3.83 357**	Pn	**Pn**	**14 59 58.5**	**-1.9**
LHMI			*e*Sn	**Sn**	**15 00 44.2**	**-0.1**
PDSI	**Padang**	**4.00 125**	P	**Pn**	**15 00 02.8**	**+0.1**
BKNI	**Bangkinang**	**4.01 105**	P	**Pn**	**15 00 04.5**	**+1.8**
BKNI	**Bangkinang**	**4.01 105**	⇓P	**Pn**	**15 00 03.7**	**+1.0**
	baz=4.0,SNR=17					
BKNI	**Bangkinang**	**4.01 105**	Pn	**Pn**	**15 00 01.5**	**-1.2**
FRIM	**Kepong**	**4.82 67**	⇓P	**Pn**	**15 00 16.0**	**+2.1**
SDSI	**Sungai Dareh**	**4.84 118**	P	**Pn**	**15 00 14.8**	**+0.7**
IPM	**Ipoh**	**4.93 51**	⇑P	**Pn**	**15 00 18.2**	**+2.7**
IPM	**Ipoh**	**4.93 51**	*e*Pn	**Pn**	**15 00 17.2**	**+1.7**
IPM			*e*Sn	**Sn**	**15 01 14.4**	**+2.9**
KULM	**Kulim**	**5.21 42**	⇓P	**Pn**	**15 00 20.7**	**+1.4**
KULM	**Kulim**	**5.21 42**	*e*Pn	**Pn**	**15 00 20.0**	**+0.7**
KULM			*e*Sn	**Sn**	**15 01 16.6**	**-1.7**
KGM	**Kluang**	**6.18 84**	⇑P	**Pn**	**15 00 34.8**	**+2.2**
BTDF	**Bukit Timah Da**	**6.60 90**	⇓P	**Pn**	**15 00 39.5**	**+1.1**
	baz=6.6,SNR=6.3					
MYKOM	**Kota Tinggi**	**6.69 86**	⇓P	**Pn**	**15 00 42.5**	**+2.9**
MYKOM	**Kota Tinggi**	**6.69 86**	*e*Pn	**Pn**	**15 00 39.5**	**-0.1**
MASI	**Maura Aman, Be**	**6.77 132**	P	Pn	15 00 44.8	+4.1
	823nm,0.8s,13μm12nm					
JMBI	**JAMBI**	**7.13 115**	P	Pn	15 00 49.2	+3.6
	589nm,0.7s,12μm17nm					
TPRI	**Tanjung Pinang**	**7.37 93**	P	**Pn**	**15 00 50.6**	**+1.6**
	186nm,0.7s,62μm51μm5.6nm					
DSRI	**Dabo**	**7.63 104**	P	**Pn**	**15 00 54.5**	**+1.9**
	401nm,1.0s,21μm12nm					
SURT	**Suratani**	**7.71 12**	P	**Pn**	**15 00 52.2**	**-1.4**
	74nm,0.9s,2μm0.6nm					
MNAI	**Manna**	**8.12 135**	P	**Pn**	**15 00 59.2**	**0.0**
	551nm,0.8s,12μm					
MNAI	**Manna**	**8.12 135**	*e*Pn	**Pn**	**15 00 56.3**	**-3.0**
MNAI			*e*Sn	**Sn**	**15 02 28.5**	**-1.4**
LHSI	**Lahat**	**8.19 129**	P	**Pn**	**15 01 02.4**	**+2.2**
	451nm,0.8s,5μm					
PMBI	**Palembang**	**8.72 119**	P	**Pn**	**15 01 09.1**	**+1.6**
	374nm,0.5s,9μm30μm					
MDSI	**Maura Dua**	**9.11 130**	P	**Pn**	**15 01 12.2**	**-0.6**
	268nm,0.8s,2μm					
LWLI	**Liwa**	**9.36 133**	P	**Pn**	**15 01 16.8**	**+0.3**
	272nm,0.7s,4μm					
KASI	**Kota Agung**	**10.03 133**	P	**Pn**	**15 01 25.0**	**-0.4**
	149nm,1.0s,2μm					
BLSI	**Bandar Lampung**	**10.48 130**	P	**Pn**	**15 01 32.9**	**+1.2**
	134nm,0.8s					
TPI	**Tanjungpandan**	**11.26 111**	P	**Pn**	**15 01 44.5**	**+2.2**
	117nm,1.3s,2μm24μm					
CGJI	**Cibinong**	**11.63 133**	P	Pn	15 01 52.0	+4.6
	67nm,1.0s,1μm					
SBJI	**Serang**	**11.64 130**	P	**Pn**	**15 01 50.4**	**+2.9**
	113nm,1.3s,4μm					
SKJI	**Sukabumi**	**12.53 132**	P	P	15 02 15.5	+4.6
KSM	**Kuching**	**13.14 89**	⇓P	**Pn**	**15 02 09.6**	**+1.6**
	baz=13,SNR=7.4					
KSM	**Kuching**	**13.14 89**	⇓P	Pn	15 02 11.7	+3.7
KSM	**Kuching**	**13.14 89**	Pn	**Pn**	**15 02 05.8**	**-2.2**
KSM			*e*Sn	**Sn**	**15 04 30.4**	**-2.6**
CNJI	**Cibinong**	**13.16 131**	P	**Pn**	**15 02 10.5**	**+2.2**
	141nm,1.1s,2μm7μm					
LEM	**Lembang**	**13.23 128**	P	**Pn**	**15 02 12.0**	**+2.5**
	90nm,0.9s,3μm					
KHLT	**Khaolaem Dam**	**13.41 6**	P	Pn	15 02 15.1	+3.4
	51nm,1.4s,1μm					
JCJI	**Jatiwangi**	**13.56 125**	P	**P**	**15 02 21.0**	**-1.3**
	173nm,0.9s					
CISI	**Cisompet, Garu**	**13.84 130**	P	**Pn**	**15 02 20.6**	**+3.0**
	136nm,0.8s,2μm					
CISI	**Cisompet, Garu**	**13.84 130**	*e*Pn	**Pn**	**15 02 14.8**	**-2.8**
STKI	**Sintang**	**14.37 95**	P	P	15 02 28.1	-3.2
	264nm,0.7s,17μm18μm					
KPJI	**Karang Pucung**	**14.58 127**	P	**Pn**	**15 02 26.7**	**-1.0**
	58nm,0.7s,2μm					
PBKI	**Pangkalan Bun**	**15.05 106**	P	**P**	**15 02 36.7**	**-2.3**
	290nm,1.6s,4μm					
SBUM	**Sibu**	**15.08 86**	⇓P	**P**	**15 02 36.9**	**-2.4**
SBUM	**Sibu**	**15.08 86**	*e*Pn	**Pn**	**15 02 34.7**	**+0.2**
	2μm,2.9s					
PBKT	**Sadao Pong**	**15.56 14**	P	**Pn**	**15 02 39.4**	**-1.2**
	158nm,0.8s,4μm					
SMRI	**Semarang**	**15.67 122**	*e*Pn	**Pn**	**15 02 39.8**	**-2.3**
	297nm,1.1s					
BTM	**Bintulu**	**16.00 83**	⇑P	**P**	**15 02 50.7**	**+1.1**
UBPT	**Khong Chiam**	**16.06 30**	P	**Pn**	**15 02 46.9**	**-0.2**
	188nm,1.5s					
SUKH	**Sukhothai**	**16.19 8**	P	**Pn**	**15 02 47.7**	**-1.0**
	52nm,0.9s,456nm					
UGM	**Wanagama**	**16.20 125**	*e*Pn	**Pn**	**15 02 47.2**	**-1.7**
	402nm,1.5s					
UTTA	**Uttaradit**	**16.60 11**	P	**Pn**	**15 02 53.2**	**-0.8**
	26nm,0.8s,213nm					
MHMT	**Maesarieng**	**16.71 3**	P	**P**	**15 02 56.8**	**-0.6**
	54nm,1.7s,2μm					
CMAR	**Chiang Mai Arr**	**17.07 6**	Pn	**Pn**	**15 02 58.4**	**-1.4**
	3.0nm,0.3s,baz=192,slow=12,SNR=76					
CMAR			PcP	**PcP**	**15 07 45.5**	**+1.3**
	0.1nm,0.3s,baz=219,slow=3.0,SNR=5.0					
CMAR			LR	LR	15 10 36.8	
	comp=Z,40μm,18.4s,baz=192,slow=41					
CMAR			ScP	**ScP**	**15 11 20.1**	**+3.5**
	0.1nm,0.3s,baz=216,slow=3.7,SNR=4.2					
LAMP	**Lampang**	**17.21 8**	P	**Pn**	**15 03 01.2**	**-0.4**
	30nm,0.7s,290nm					
PWJI	**Pagerwojo**	**17.32 123**	P	**Pn**	**15 03 01.4**	**-1.6**
	66nm,0.8s,2μm					
GRJI	**Gresik**	**17.36 119**	P	**P**	**15 03 06.4**	**+1.9**
	114nm,0.9s,941nm					
CHTO	**Chiang Mai**	**17.42 6**	*e*P	**Pn**	**15 03 02.8**	**-1.4**
CHTO			pmax	pmax		
	comp=Z,148nm,1.5s					
CHTO	**Chiang Mai**	**17.42 6**	Pn	**Pn**	**15 03 03.1**	**-1.1**
	SNR=36					
CHTO	**Chiang Mai**	**17.42 6**	P	**Pn**	**15 03 02.7**	**-1.4**
	comp=Z,1μm,0.7s,comp=Z,15μm					
CHTO	**Chiang Mai**	**17.42 6**	*e*Pn	**Pn**	**15 03 02.8**	**-1.4**
	comp=Z,148nm,1.5s					
CMMT	**Chiang Mai**	**17.42 6**	P	**Pn**	**15 03 02.7**	**-1.5**
	comp=Z,215nm,0.8s,comp=Z,4μm					
PALK	**Pallekele**	**17.43 290**	P	**Pn**	**15 03 04.2**	**-0.2**
PALK			pmax	pmax		
	comp=Z,13nm,1.5s					
PALK	**Pallekele**	**17.43 290**	Pn	**P**	**15 03 06.3**	**+0.9**
	SNR=7.1					
PALK	**Pallekele**	**17.43 290**	P	**Pn**	**15 03 04.2**	**-0.2**
	comp=Z,2.9nm,0.3s,baz=105,slow=14,SNR=13					
PALK			S	Sn	15 06 00.4	-17
	comp=Z,6.9nm,0.3s,baz=209,slow=16,SNR=8.3					
PALK			LR	LR	15 09 27.8	
	comp=Z,47μm,18.8s,baz=108,slow=36					
PALK	**Pallekele**	**17.43 290**	⇑*e*P	**Pn**	**15 03 03.0**	**-1.4**
	SNR=8.7					
PALK	**Pallekele**	**17.43 290**	P	**Pn**	**15 03 04.2**	**-0.2**
	comp=Z,13nm,1.5s					
PALK			S	Sn	15 06 00.4	-17
MTKI	**Muara Teweh, K**	**17.87 97**	P	**P**	**15 03 10.9**	**+0.6**
	comp=Z,227nm,1.4s,comp=Z,8μm					
PAYA	**Payao**	**18.07 8**	P	**P**	**15 03 12.7**	**+0.3**
	comp=Z,52nm,0.8s,comp=Z,518nm					
BBKI	**Banjar Baru**	**18.31 105**	P	**Pn**	**15 03 16.6**	**+1.4**
	comp=Z,192nm,1.4s,comp=Z,6μm					
CMAI	**Chiengmai2**	**18.54 6**	P	**Pn**	**15 03 19.3**	**+1.2**
	comp=Z,64nm,1.1s,comp=Z,3μm					
BLJI	**Banyuglugur**	**18.72 119**	P	**Pn**	**15 03 21.0**	**+0.8**
	comp=Z,79nm,1.0s,comp=Z,2μm					
KMMI	**Kalianget**	**18.73 117**	P	**Pn**	**15 03 20.6**	**+0.2**
	comp=Z,160nm,1.1s,comp=Z,4μmcomp=Z,23μm					
CRAI	**Chiangrai**	**19.00 9**	P	**P**	**15 03 21.4**	**-1.2**
	comp=Z,80nm,2.2s					
ABJI	**Asem Bagus**	**19.30 118**	P	**Pn**	**15 03 28.1**	**+0.9**
	comp=Z,128nm,2.0s,comp=Z,2μm					
JAGI	**Jajag, Banyuwa**	**19.55 120**	P	**P**	**15 03 29.1**	**+0.4**
	comp=Z,60nm,1.1s,comp=Z,2μm					
JAGI	**Jajag, Banyuwa**	**19.55 120**	⇑P	**P**	**15 03 27.6**	**-1.1**
	baz=20,SNR=6.5					
JAGI	**Jajag, Banyuwa**	**19.55 120**	*e*P	**P**	**15 03 27.5**	**-1.3**
	comp=Z,130nm,1.4s					
KKM	**Kota Kinabalu**	**19.56 76**	⇑P	**P**	**15 03 29.1**	**+0.2**
	baz=20,SNR=11					
KKM	**Kota Kinabalu**	**19.56 76**	⇑P	**Pn**	**15 03 30.1**	**-0.3**
KKM	**Kota Kinabalu**	**19.56 76**	Pn	**P**	**15 03 29.0**	**+0.1**
	comp=Z,172nm,1.0s					
BKB	**Balikpapan**	**19.90 97**	P	**Pn**	**15 03 35.5**	**+1.2**
	comp=Z,580nm,1.9s,comp=Z,9μmcomp=Z,57μm					
SRBI	**Singaraja**	**20.30 118**	P	Pn	15 03 41.8	+2.8
	comp=Z,168nm,0.8s,comp=Z,2μm					
KDM	**Kudat**	**20.36 74**	⇑P	Pn	15 03 38.7	-1.1
MDRS	**Chennai**	**20.39 306**	*e*P9		15 03 47.7	
MDRS			*e*S	Sn	15 07 34.2	+5.1
SDKM	**Sandakan**	**20.43 78**	⇑P	**P**	**15 03 39.5**	**+1.1**
TSM	**Tawau**	**20.88 82**	⇓P	Pn	15 03 44.5	-1.3
VIS	**Vishakhapatnam**	**21.19 321**	*i* P	**P**	**15 03 48.1**	**+1.7**
VIS			*i* x	x	15 07 32.9	
TRD	**Trivandrum**	**21.33 290**	*i* x	Sn	15 07 54.9	+3.1
QIZ	**Qiongzhong**	**21.50 34**	P	**P**	**15 03 48.3**	**-1.4**
QIZ			pP	**pP**	**15 03 59.1**	**+0.2**
QIZ			PMZ			
	comp=Z,110nm,2.0s					
QIZ			LN			
	comp=Z,24μm,14.0s					
QIZ			LZ			
	comp=Z,23μm,15.0s					
QIZ	**Qiongzhong**	**21.50 34**	*e*P	**P**	**15 03 48.6**	**-1.2**
	comp=Z,49nm,0.7s					
QIZ			LR	LR		
	comp=Z,14μm,20.0s					
MPSI	**Mapaga**	**22.75 92**	P	**P**	**15 04 03.8**	**+0.6**
	comp=Z,155nm,0.8s,comp=Z,4μmcomp=Z,22μm					
TTSI	**Tana Toraja**	**23.06 101**	P	**P**	**15 04 09.2**	**+2.7**
	comp=Z,149nm,1.4s,comp=Z,2μm					
SPSI	**Sidrap Palu**	**23.20 103**	P	**P**	**15 04 09.5**	**+1.7**
	comp=Z,81nm,0.8s,comp=Z,3μm					
KAPI	**Kappang**	**23.43 106**	P	**P**	**15 04 10.4**	**+0.3**
	SNR=17					
KAPI	**Kappang**	**23.43 106**	P	**P**	**15 04 08.7**	**-1.5**
	comp=Z,20nm,1.1s					
KAPI			LR	LR		
	comp=Z,5μm,20.5s					
BNSI	**Bone**	**23.63 104**	P	**P**	**15 04 14.6**	**+2.6**
	comp=Z,167nm,1.1s,comp=Z,4μm					
BKSI	**Bulukumba**	**23.87 106**	P	**P**	**15 04 15.1**	**+0.8**
	comp=Z,150nm,0.8s,comp=Z,3μm					
KMI	**Kunming**	**24.21 12**	P	**P**	**15 04 18.4**	**+0.8**
KMI			S	**S**	**15 08 37.4**	**+3.3**
KMI			PMZ			
	comp=Z,280nm,2.0s					
KMI			PMZ			
	comp=Z,5μm,5.1s					
KMI			LN			
	comp=Z,67μm,16.3s					
KMI			LE			
	comp=Z,38μm,13.9s					
KMI			LZ			
	comp=Z,76μm,15.3s					
HYB	**Hyderabad**	**24.27 312**	*i* P	**P**	**15 04 18.0**	**0.0**
	comp=Z,120nm,1.0s					
HYB			*e*S	**S**	**15 08 36.0**	**+1.2**
BSSI	**Bau Bau, Buton**	**24.45 108**	P	**P**	**15 04 20.4**	**+0.7**
	comp=Z,241nm,0.9s,comp=Z,7μm					
APSI	**Ampana**	**24.58 95**	P	**P**	**15 04 23.7**	**+2.8**
	comp=Z,484nm,1.8s,comp=Z,6μm					
SHL	**Shillong**	**24.59 348**	⇑*i* P	**P**	**15 04 19.3**	**-1.6**
SHL			*ex*	x	15 08 38.5	
WBSI	**Waikabubak, Su**	**24.69 117**	P	**P**	**15 04 20.5**	**-1.4**
	comp=Z,126nm,1.0s,comp=Z,5μm					
MRSI	**Marisa**	**24.78 92**	P	**P**	**15 04 22.5**	**-0.2**
	comp=Z,232nm,0.9s,comp=Z,10μm					
MNGI	**Mangalore**	**24.94 298**	*e*P	**P**	**15 04 23.6**	**-0.5**
MNGI			*ex*	x	15 08 41.8	
LUWI	**Luwuk**	**25.71 95**	P	**P**	**15 04 32.5**	**+1.4**
	comp=Z,417nm,1.8s,comp=Z,7μm					
LUWI	**Luwuk**	**25.71 95**	⇑P	**P**	**15 04 30.6**	**-0.5**
	baz=26,SNR=8.2					
LUWI	**Luwuk**	**25.71 95**	*e*P	**P**	**15 04 30.2**	**-0.9**
	comp=Z,393nm,1.0s					
GTOI	**Gorontalo**	**25.85 91**	P	**P**	**15 04 31.7**	**-0.6**
	comp=Z,184nm,0.8s,comp=Z,3μm					
BASI	**Baing, Sumba**	**25.99 117**	P	**P**	**15 04 34.4**	**+0.8**
	comp=Z,244nm,0.8s,comp=Z,3μm					
DGAR	**Diego Garcia**	**26.16 250**	*e*P	**P**	**15 04 35.6**	**+0.5**
DGAR	**Diego Garcia**	**26.16 250**	PFAKE		15 04 40.0	+4.9
DGAR			LR	LR		
	comp=Z,9μm,20.0s					
H08S2	**Diego Garcia H**	**26.19 250**	P	**P**	**15 04 34.7**	**-0.5**
	baz=43,slow=10,SNR=19					
H08S2			T	T	15 31 29.7	
	baz=71,slow=75					
H08S3	**Diego Garcia H**	**26.20 250**	P	**P**	**15 04 35.7**	**+0.5**
	baz=43,slow=10,SNR=12					
H08S3			T	T	15 31 30.1	
	baz=71,slow=75					
H08S1	**Diego Carcia H**	**26.21 250**	P	**P**	**15 04 35.8**	**+0.5**
	baz=43,slow=10,SNR=6.6					
H08S1			T	T	15 31 37.3	
	baz=71,slow=75					
NGP	**Nagpur**	**26.43 319**	*e*P	**P**	**15 04 39.2**	**+1.7**
NGP			*ex*	x	15 05 08.8	
	comp=Z,147nm,1.7s					
NGP			*e*S	**S**	**15 09 09.4**	**+0.2**
GYA	**Guiyang**	**26.56 19**	⇑*i*P	**P**	**15 04 38.3**	**-0.5**
GYA			pP	**pP**	**15 04 51.0**	**+2.3**
GYA			sP	**sP**	**15 04 57.0**	**+4.2**
GYA			PP	**PnPn**	**15 05 26.4**	**+6.4**
GYA			PcP	**PcP**	**15 08 03.3**	**+0.4**
GYA			S	**S**	**15 09 18.1**	**+6.9**
GYA			sS	**sS**	**15 09 29.3**	**+1.7**
GYA			PMZ			
	comp=Z,100nm,1.0s					
GYA			LN			
	comp=Z,40μm,15.2s					
GYA			LE			
	comp=Z,23μm,14.6s					
GYA			LZ			
	comp=Z,64μm,15.8s					
TGY	**Tagaytay City**	**26.69 61**	P	**P**	**15 04 40.3**	**+0.4**
	comp=Z,93nm,0.3s,baz=276,slow=5.9,SNR=3.3					
TGY			LR	LR	15 14 58.9	
	comp=Z,136nm,20.2s,baz=296,slow=36					
GZH	**Guangzhou**	**26.69 35**	P	P	15 04 45.4	+5.6
GZH			S	S	15 09 36.9	+24
KMSI	**Cibinong**	**26.82 91**	P	**P**	**15 04 44.3**	**+3.2**
	comp=Z,274nm,0.9s,comp=Z,3μmcomp=Z,9μm					
MMRI	**Maumere**	**26.89 112**	P	**P**	**15 04 42.4**	**+0.6**
	comp=Z,90nm,1.6s,comp=Z,1μm					
MMRI	**Maumere**	**26.89 112**	*e*P	**P**	**15 04 37.2**	**-4.6**
	comp=Z,57nm,0.8s					
ODAN	**Odare**	**27.02 340**	*e*P	**P**	**15 04 44.1**	**+1.0**
	comp=Z,265nm,0.6s					
H08N1	**Diego Carcia H**	**27.21 253**	P	**P**	**15 04 43.8**	**-0.5**
H08N2	**Diego Garcia H**	**27.22 253**	P	**P**	**15 04 43.8**	**-0.5**
H08N3	**Diego Garcia H**	**27.23 253**	P	**P**	**15 04 44.9**	**+0.4**
RCP	**Roxas**	**27.32 67**	⇑*e*P	**P**	**15 04 46.0**	**+0.4**
TAPN	**Taplejung**	**27.38 341**	*e*P	**P**	**15 04 47.7**	**+1.4**
	comp=Z,814nm,1.0s					
RAMN	**Ramite**	**27.38 339**	*e*P	**P**	**15 04 47.9**	**+1.6**
	comp=Z,439nm,0.9s					
CTBH	**Cotabato--PC H**	**27.61 77**	⇓*i*P	**P**	**15 04 47.7**	**-0.5**
JIRN	**Jiri**	**28.17 339**	*e*P	**P**	**15 04 55.0**	**+1.5**
	comp=Z,338nm,0.7s					
PKI	**Pulchoki**	**28.38 338**	*e*P	**P**	**15 04 56.3**	**+1.0**
	comp=Z,340nm,1.1s					
PKIN	**Phulchoki**	**28.39 338**	*e*P	**P**	**15 04 56.4**	**+1.1**
	comp=Z,113nm,0.8s					
GUN	**Gumba**	**28.51 339**	*e*P	**P**	**15 04 57.8**	**+1.3**
	comp=Z,508nm,0.7s					
POO	**Poona**	**28.53 308**	*e*P	**P**	**15 04 57.0**	**+0.6**
	comp=Z,97nm,1.5s					
POO			*i* PP	**PnPn**	**15 05 48.0**	**+1.1**
POO			*i* PCP	**PcP**	**15 08 08.0**	**+0.3**
POO			*i* S	**S**	**15 09 45.0**	**+2.7**
POO			*i* SCS	**ScS**	**15 15 41.0**	**+1.0**
DMN	**Daman**	**28.53 337**	*e*P	**P**	**15 04 57.7**	**+1.1**
	comp=Z,202nm,0.7s					
KKN	**Kakani**	**28.63 338**	*e*P	**P**	**15 04 58.3**	**+0.9**
	comp=Z,328nm,0.9s					
LSA	**Lhasa**	**28.75 349**	P	**P**	**15 04 56.5**	**-2.2**
LSA			sP	**sP**	**15 05 12.0**	**-0.8**
LSA			S	**S**	**15 09 47.6**	**+1.3**
LSA			PMZ			
	comp=Z,110nm,0.9s					
LSA			LN			
	comp=Z,5μm,16.0s					
LSA			LE			
	comp=Z,9μm,15.0s					
LSA	**Lhasa**	**28.75 349**	*e*P	**P**	**15 04 59.6**	**+0.9**
LSA			pmax	pmax		
	comp=Z,68nm,0.7s					
LSA			MLR	MLR		
	comp=Z,14μm,19.0s					
LSA	**Lhasa**	**28.75 349**	*e*P	**P**	**15 04 59.6**	**+0.9**
	comp=Z,68nm,0.7s					
LSA			LR	LR		
	comp=Z,14μm,19.0s					
BATI	**Baumata**	**28.77 114**	P	**P**	**15 04 58.1**	**-0.5**
	comp=Z,48nm,0.7s					
BATI	**Baumata**	**28.77 114**	P	**P**	**15 04 56.0**	**-2.6**
	comp=Z,44nm,0.7s,baz=292,slow=3.2,SNR=19					
BATI			S	**S**	**15 09 41.0**	**-5.2**
	comp=Z,9.8nm,0.6s,baz=187,slow=22,SNR=2.9					
BATI			LR	LR	15 18 39.5	
	comp=Z,30μm,19.3s,baz=296,slow=41					
DAV	**Davao City (W)**	**28.88 78**	PFAKE		15 05 10.0	+10
DAV			LR	LR		
	comp=Z,9μm,20.0s					
SANI	**Sanana**	**29.01 97**	P	**P**	**15 04 59.9**	**-0.9**
	comp=Z,43nm,0.8s,comp=Z,1μmcomp=Z,11μm					
GKN	**Gorkha**	**29.07 337**	*e*P	**P**	**15 05 02.5**	**+1.3**
	comp=Z,357nm,0.9s					
SOEI	**Soe**	**29.16 113**	P	**P**	**15

YHNB				LR	LR	
	comp=Z,12μm,20.0s					
NDI	**New Delhi**	**33.17**	**327**	*e*P	**P**	**15 05 36.0 -1.2**
NDI				*ex*	x	15 10 50.0
TATO	**Taipei**	**33.20**	**43**	PFAKE		15 05 50.0 +13
TATO				LR	LR	
	comp=Z,10μm,20.0s					
WHN	**Wuhan**	**33.27**	**28**	P	**P**	**15 05 38.1 0.0**
WHN				S	**S**	**15 10 55.3 -0.9**
WHN				LN		
	comp=Z,39μm,16.1s					
WHN				LE		
	comp=Z,37μm,13.3s					
WHN				LZ		
	comp=Z,65μm,14.8s					
FITZ	**Fitzroy Crossi**	**34.05**	**126**	*e*P	**P**	**15 05 44.1 -0.9**
XAN	**Xi'an**	**34.31**	**17**	P	**P**	**15 05 46.4 -0.7**
XAN				pP	**pP**	**15 05 55.4 -1.7**
XAN				sP	**sP**	**15 06 00.1 -1.1**
XAN				PP	**PnPn**	**15 07 02.4 +0.3**
XAN				S	**S**	**15 11 11.4 -0.8**
XAN				SS	**SnSn**	**15 13 22.3 -1.1**
XAN				PMZ		
	comp=Z,51nm,1.0s					
XAN				LN		
	comp=Z,21μm,15.1s					
XAN				LE		
	comp=Z,5μm,14.5s					
XAN				LZ		
	comp=Z,13μm,14.8s					
MEEK	**Meekatharra**	**34.69**	**145**	P	**P**	**15 05 53.5 +3.0**
	baz=35,SNR=4.2					
LZH	**Lanzhou**	**35.09**	**9**	⇑P	**P**	**15 05 54.1 +0.2**
LZH				pP	**pP**	**15 06 02.8 -1.2**
LZH				sP	**sP**	**15 06 06.5 -1.6**
LZH				PP	**PP**	**15 07 14.3 +0.3**
LZH				S	**S**	**15 11 23.3 -1.2**
LZH				sS	**sS**	**15 11 38.0 -3.0**
LZH				SS	**SnSn**	**15 13 43.0 +0.5**
LZH				PMZ		
	comp=Z,460nm,1.8s					
LZH				PMZ		
	comp=Z,2μm,4.5s					
LZH				LN		
	comp=Z,26μm,15.1s					
LZH				LE		
	comp=Z,29μm,15.9s					
LZH				LZ		
	comp=Z,35μm,17.2s					
SMLA	**Simla**	**35.13**	**329**	*i* P	**P**	**15 05 55.0 +0.8**
SMLA				AMB	AMB	15 05 55.9
	comp=Z,84nm,0.8s					
SMLA				*i* x	x	15 11 20.4
FAKI	**Fak Fak**	**35.33**	**97**	P	**P**	**15 05 54.9 -1.2**
	baz=35,SNR=5.7					
KNRA	**Kununurra**	**35.52**	**120**	P	**P**	**15 05 56.3 -1.4**
	baz=36,SNR=32					
BHK	**Bhakra**	**35.75**	**329**	*e*P	**P**	**15 06 00.6 +1.1**
MTN	**Manton Dam**	**36.54**	**114**	P	**P**	**15 06 05.3 -1.2**
	baz=37,SNR=7.6					
NJ2	**Nanjing**	**36.73**	**32**	*e*P	**P**	**15 06 06.8 -1.1**
NJ2				pP	**pP**	**15 06 18.9 +1.0**
NJ2				PP	**PnPn**	**15 07 32.6 +0.6**
NJ2				S	**S**	**15 11 52.0 +2.6**
NJ2				sS	**sS**	**15 12 05.0 -1.0**
NJ2				PMZ		
	comp=Z,90nm,0.7s					
NJ2				PMZ		
	comp=Z,3μm,8.4s					
NJ2				LZ		
	comp=Z,88μm,14.5s					
SSE	**Sheshan**	**37.29**	**35**	P	**P**	**15 06 12.8 +0.2**
SSE				PP	**PnPn**	**15 07 43.1 +4.3**
SSE				PMZ		
	comp=Z,25nm,0.6s					
SSE				PMZ		
	comp=Z,290nm,3.9s					
SSE				LN		
	comp=Z,17μm,17.3s					
SSE				LE		
	comp=Z,7μm,17.3s					
SSE				LZ		
	comp=Z,23μm,15.9s					
KDU	**Kakadu**	**37.72**	**113**	P	**P**	**15 06 15.2 -1.3**
	baz=38,SNR=12					
GTA	**Gaotai**	**37.93**	**3**	⇑P	**P**	**15 06 18.3 +0.2**
GTA				pP	**pP**	**15 06 28.5 +0.3**
GTA				sP	**sP**	**15 06 32.5 +0.1**
GTA				PP	**PnPn**	**15 07 48.9 +2.2**
GTA				PcP	**PcP**	**15 08 35.3 +1.6**
GTA				S	**S**	**15 12 06.3 -1.5**
GTA				ScP	**ScP**	**15 12 19.8 +0.9**
GTA				PcS	**PcS**	**15 12 20.8 -1.8**
GTA				sS	**sS**	**15 12 22.3 -2.1**
GTA				SS	**SnSn**	**15 14 43.1 -8.1**
GTA				ScS	**ScS**	**15 16 25.8 -2.3**
GTA				PMZ		
	comp=Z,36nm,1.2s					
GTA				PMZ		
	comp=Z,2μm,5.3s					
GTA				LN		
	comp=Z,17μm,13.8s					
GTA				LE		
	comp=Z,13μm,14.0s					
GTA				LZ		
	comp=Z,18μm,13.8s					
KLBR	**Kellerberrin**	**38.17**	**151**	⇓P	**P**	**15 06 22.4 +2.4**
	baz=38,SNR=9.8					
TIY	**Taiyuan**	**38.80**	**19**	*e*P	**P**	**15 06 24.3 -1.0**
TIY				ScS	ScS	15 16 33.1 +0.1
TIY				PMZ		
	comp=Z,1μm,4.7s					
TIY				LN		
	comp=Z,32μm,13.3s					
TIY				LE		
	comp=Z,24μm,14.1s					
TIY				LZ		
	comp=Z,42μm,14.1s					
NWAO	**Narrogin (SRO)**	**39.03**	**153**	P	**P**	**15 06 28.5 +1.2**
NWAO				MLR	MLR	
	comp=Z,1.0nm,22.0s					
NWAO	**Narrogin (SRO)**	**39.03**	**153**	P	**P**	**15 06 28.5 +1.2**
	comp=Z,12nm,1.0s,baz=339,slow=6.4,SNR=4.0					
NWAO	**Narrogin (SRO)**	**39.03**	**153**	P	**P**	**15 06 28.5 +1.2**
NWAO				LR	LR	
	comp=Z,1.0nm,22.0s					
JOW	**Kunigami**	**39.15**	**47**	P	**P**	**15 06 29.2 +0.8**
	baz=212,slow=5.8					
JOW	**Kunigami**	**39.15**	**47**	*e*P	**P**	**15 06 26.5 -1.8**
	comp=Z,44nm,0.6s					
TIA	**Tai'an**	**39.29**	**26**	⇑P	**P**	**15 06 28.9 -0.5**
TIA				PP	**PnPn**	**15 08 05.4 +2.6**
TIA				S	S	15 12 17.8 -10
TIA				PMZ		
	comp=Z,40nm,1.9s					
TIA				PMZ		
	comp=Z,1μm,6.0s					
TIA				LN		
	comp=Z,13μm,18.7s					
TIA				LE		
	comp=Z,13μm,18.7s					
TIA				LZ		
	comp=Z,22μm,19.0s					
H01W3	**Cape Leeuwin H**	**39.42**	**158**	T	T	15 48 06.9
	baz=333,slow=76,SNR=511					
H01W2	**Cape Leeuwin H**	**39.43**	**158**	T	T	15 48 07.8
	baz=333,slow=76,SNR=404					
H01W1	**Cape Leeuwin H**	**39.43**	**158**	T	T	15 48 08.1
	baz=333,slow=76,SNR=387					
WRKA	**Warakurna**	**39.98**	**133**	⇑P	**P**	**15 06 35.4 0.0**
	baz=40,SNR=97					
KMBL	**Kambalda**	**40.14**	**146**	⇓P	**P**	**15 06 38.3 +1.7**
	baz=40,SNR=4.6					
BTO	**Baotou**	**40.75**	**15**	*e*P	**P**	**15 06 41.6 0.0**
HHC	**Hu-ho-hao-te**	**41.40**	**17**	⇑P	**P**	**15 06 48.3 +1.4**
HHC				pP	**pP**	**15 06 59.1 +2.0**
HHC				sP	**sP**	**15 07 03.4 +2.2**
HHC				PP	**PnPn**	**15 08 30.9 +3.1**
HHC				ScP	**ScP**	**15 12 34.5 +2.2**
HHC				S	**S**	**15 13 03.0 +3.3**
HHC				sS	**sS**	**15 13 18.8 +2.4**
HHC				PMZ		
	comp=Z,190nm,1.2s					
HHC				PMZ		
	comp=Z,4μm,6.0s					
HHC				LN		
	comp=Z,13μm,14.1s					
HHC				LE		
	comp=Z,16μm,14.3s					
HHC				LZ		
	comp=Z,14μm,14.6s					
MSEY	**Mahe Island**	**42.08**	**262**	PFAKE		15 07 00.0 +7.1
MSEY				LR	LR	
	comp=Z,7μm,20.0s					
WB0	**Warramunga Arr**	**42.12**	**122**	⇓P	**P**	**15 06 52.4 -0.7**
	baz=42					
WRA	**Warramunga Arr**	**42.15**	**122**	P	**P**	**15 06 52.7 -0.6**
	comp=Z,26nm,0.7s,baz=301,slow=9.1,SNR=180					
WRA				ScP	**ScP**	**15 12 38.7 +3.1**
	comp=Z,2.0nm,1.1s,baz=303,slow=3.7,SNR=5.9					
WRA				S	**S**	**15 13 06.8 -4.4**
	comp=Z,6.0nm,1.2s,baz=292,slow=16,SNR=6.1					
WRA				LR	LR	15 24 54.1
	comp=Z,8μm,21.9s,baz=285,slow=37					
WRAB	**Tennant Creek**	**42.16**	**122**	*c i*P	**P**	**15 06 52.6 -0.7**
WRAB				pmax	pmax	
	comp=Z,234nm,1.7s					
WRAB	**Tennant Creek**	**42.16**	**122**	*e*P	**P**	**15 06 53.0 -0.4**
	comp=Z,33nm,0.7s					
WRAB				LR	LR	
	comp=Z,9μm,20.0s					
KBL	**Kabul**	**42.16**	**325**	*e*P	**P**	**15 06 52.4 -1.0**
KBL				pmax	pmax	
	comp=Z,19nm,0.8s					
KBL	**Kabul**	**42.16**	**325**	*e*P	**P**	**15 06 52.4 -1.0**
	comp=Z,19nm,0.8s					
WB2	**Warramunga Arr**	**42.16**	**122**	*e*P	**P**	**15 06 51.2 -2.2**
BJT	**Baijiatuau**	**42.17**	**22**	P	**P**	**15 06 52.3 -0.8**
BJT				pmax	pmax	
	comp=Z,203nm,0.6s					
BJT				MLR	MLR	
	comp=Z,8μm,19.0s					
BJT	**Baijiatuau**	**42.17**	**22**	P	**P**	**15 06 52.3 -0.8**
	comp=Z,203nm,0.6s					
BJT				LR	LR	
	comp=Z,8μm,19.0s					
BJI	**Beijing**	**42.19**	**22**	P	**P**	**15 06 54.4 +1.2**
BJI				sP	**sP**	**15 07 07.5 0.0**
BJI				PP	**PP**	**15 08 33.8 +2.4**
BJI				S	**S**	**15 13 14.8 +3.7**
BJI				sS	**sS**	**15 13 30.4 +2.6**
BJI				PMZ		
	comp=Z,240nm,0.7s					
BJI				PMZ		
	comp=Z,3μm,4.4s					
BJI				LN		
	comp=Z,12μm,16.4s					
BJI				LE		
	comp=Z,6μm,14.3s					
BJI				LZ		
	comp=Z,6μm,21.0s					
KSH	**Kashi**	**42.60**	**336**	⇑*i* P	**P**	**15 06 56.3 -0.5**
KSH				sP	**sP**	**15 07 09.0 -2.1**
KSH				PP	**PP**	**15 08 37.1 +1.1**
KSH				S	**S**	**15 13 14.8 -2.7**
KSH				sS	**sS**	**15 13 30.6 -3.7**
KSH				SS	SS	15 16 18.8 -10
KSH				PMZ		
	comp=Z,11nm,0.7s					
KSH				PMZ		
	comp=Z,850nm,3.9s					
KSH				LN		
	comp=Z,4μm,15.5s					
KSH				LE		
	comp=Z,4μm,17.5s					
KSH				LZ		
	comp=Z,5μm,16.5s					
WBK	**Wadi Bani Khal**	**42.69**	**303**	P	pP	15 07 09.7 +1.9
	SNR=10					
AIS	**Amsterdam Isla**	**42.99**	**203**	P	P	15 06 38.0 -22
AIS				S	S	15 13 10.0 -13
AIS				L	L	15 16 00.0
AIS				R		15 18 00.0
WMQ	**Urumqi**	**43.10**	**350**	P	**P**	**15 07 01.9 +1.2**
WMQ				sP	**sP**	**15 07 15.5 +0.5**
WMQ				PP	**PP**	**15 08 44.5 +3.3**
WMQ				PcP	**PcP**	**15 08 51.4 +1.2**
WMQ				S	**S**	**15 13 26.3 +1.8**
WMQ				sS	**sS**	**15 13 40.1 -1.2**
WMQ				SS	**SS**	**15 16 31.8 -6.1**
WMQ				ScS	**ScS**	**15 16 56.9 -1.7**
WMQ				PMZ		
	comp=Z,83nm,2.0s					
WMQ				PMZ		
	comp=Z,2μm,4.5s					
WMQ				LN		
	comp=Z,3μm,20.0s					
WMQ				LE		
	comp=Z,9μm,20.0s					
WMQ				LZ		
	comp=Z,6μm,26.0s					
FORT	**Forrest**	**43.43**	**140**	⇓P	**P**	**15 07 04.7 +1.2**
	baz=44,SNR=29					
FORT	**Forrest**	**43.43**	**140**	*e*P	**P**	**15 07 03.8 +0.3**
	comp=Z,120nm,0.7s					
AS31	**Alice Springs**	**43.52**	**127**	*e*P	**P**	**15 07 03.5 -0.9**
ASAR	**Alice Springs**	**43.52**	**127**	P	**P**	**15 07 04.5 0.0**
	comp=Z,17nm,0.8s,baz=303,slow=7.6,SNR=129					
ASAR				PcP	**PcP**	**15 08 53.2 +1.2**
	comp=Z,7.5nm,0.8s,baz=312,slow=2.6,SNR=6.6					
ASAR				ScP	**ScP**	**15 12 43.7 +2.6**
	comp=Z,1.7nm,0.8s,baz=301,slow=3.7,SNR=6.4					
ASAR				S	**S**	**15 13 29.6 -1.8**
	comp=Z,3.5nm,0.9s,baz=294,slow=13,SNR=12					
ASAR				LR	LR	15 27 54.5
	comp=Z,5μm,20.6s,baz=297,slow=40					
DL2	**Dalian**	**43.54**	**28**	P	**P**	**15 07 03.9 -0.3**
DL2				S	**S**	**15 13 32.4 +1.5**
DL2				PMZ		
	comp=Z,170nm,0.7s					
DL2				PMZ		
	comp=Z,1μm,5.1s					
DL2				LN		
	comp=Z,5μm,15.3s					
DL2				LE		
	comp=Z,8μm,14.5s					
AS01	**Alice Springs**	**43.56**	**127**	⇑P	**P**	**15 07 05.0 +0.2**
	baz=44					
SMDO	**Samad**	**43.64**	**303**	P	**P**	**15 07 08.2 +2.8**
	SNR=11					
TJN	**Taejon**	**44.65**	**35**	*i* P	**P**	**15 07 13.4 +0.2**
JNU	**Nakatsue**	**44.70**	**41**	P	**P**	**15 07 13.7 +0.1**
	comp=Z,69nm,0.9s,baz=229,slow=3.6,SNR=26					
JNU	**Nakatsue**	**44.70**	**41**	*e*P	**P**	**15 07 14.1 +0.5**
ULHL	**Ulahol**	**44.82**	**338**	P	**P**	**15 07 15.6 +0.9**
	SNR=21					
ULHL	**Ulahol**	**44.82**	**338**	*i* P	**P**	**15 07 15.6 +0.9**
INCN	**Inchon**	**45.02**	**34**	*e*P	**P**	**15 07 15.6 -0.5**
	comp=Z,462nm,2.0s					
INCN				LR	LR	
	comp=Z,11μm,20.0s					
ARQ	**Araqi**	**45.04**	**302**	P	P	15 07 20.3 +3.7
	SNR=7.9					
KZA	**Kyzart**	**45.06**	**337**	P	**P**	**15 07 18.1 +1.2**
	SNR=21					
KZA	**Kyzart**	**45.06**	**337**	*i* P	**P**	**15 07 18.0 +1.2**
RBK	**Rabkut**	**45.15**	**293**	P	P	15 07 21.0 +3.5
	SNR=12					
AAA	**Alma-Ata**	**45.45**	**339**	*e*P	**P**	**15 07 20.3 +0.8**
AAA				*e*S	**S**	**15 14 00.2 +1.3**
AAA				pmax	pmax	
	comp=Z,2μm,3.6s					
AAA				smax	smax	
	comp=E,4μm,8.3s					
AAA				MLR	MLR	
	comp=Z,5μm,18.0s					
UCH	**Uchtor**	**45.48**	**336**	P	**P**	**15 07 21.5 +1.3**
	SNR=36					
UCH	**Uchtor**	**45.48**	**336**	*i* P	**P**	**15 07 21.5 +1.3**
TKM2	**Tokmak 2**	**45.65**	**338**	P	**P**	**15 07 22.4 +1.2**
	SNR=23					
TKM2	**Tokmak 2**	**45.65**	**338**	*e*P	**P**	**15 07 21.9 +0.6**
TKM2				pmax	pmax	
	comp=Z,148nm,1.5s					
TKM2				MLR	MLR	
	comp=Z,7μm,21.0s					
TKM2	**Tokmak 2**	**45.65**	**338**	*e*P	**P**	**15 07 21.9 +0.6**
	comp=Z,148nm,1.5s					
TKM2				LR	LR	
	comp=Z,7μm,21.0s					
KBK	**Karagaybulak**	**45.67**	**337**	P	**P**	**15 07 23.0 +1.6**
	SNR=40					
KBK	**Karagaybulak**	**45.67**	**337**	*i* P	**P**	**15 07 23.0 +1.6**
KSAR	**Wonju Array Be**	**45.69**	**35**	P	**P**	**15 07 21.7 +0.3**
KSAR	**Wonju Array Be**	**45.69**	**35**	P	**P**	**15 07 21.7 +0.3**
KSRS	**Korea Array**	**45.72**	**35**	P	**P**	**15 07 21.7 +0.1**
	comp=Z,64nm,0.8s,baz=222,slow=9.1,SNR=103					
KSRS				LR	LR	15 26 56.3
	comp=Z,7μm,21.0s,baz=228,slow=37					
AML	**Almayashu**	**45.73**	**336**	P	**P**	**15 07 23.4 +1.3**
	SNR=35					
AML	**Almayashu**	**45.73**	**336**	*i* P	**P**	**15 07 23.5 +1.3**
AAK	**Ala-Archa**	**45.83**	**337**	P	**P**	**15 07 24.0 +1.4**
	SNR=19					
AAK	**Ala-Archa**	**45.83**	**337**	*e*P	**P**	**15 07 22.6 0.0**
AAK				pmax	pmax	
	comp=Z,71nm,1.1s					
AAK				MLR	MLR	
	comp=Z,7μm,19.0s					
AAK	**Ala-Archa**	**45.83**	**337**	P	**P**	**15 07 24.2 +1.5**
	SNR=37					
AAK	**Ala-Archa**	**45.83**	**337**	P	**P**	**15 07 23.9 +1.3**
	comp=Z,6.3nm,0.7s,baz=142,slow=8.4,SNR=35					
AAK	**Ala-Archa**	**45.83**	**337**	*e*P	**P**	**15 07 22.6 0.0**
	comp=Z,71nm,1.1s					
AAK				LR	LR	
	comp=Z,7μm,19.0s					
ABTO	**Aybut**	**45.95**	**293**	P	P	15 07 27.4 +3.6
	SNR=7.9					
FRU	**Bishkek**	**45.95**	**337**	⇑*i* P	**P**	**15 07 25.0 +1.6**
FRU				*i*		15 07 35.0
FRU				*e*S	**S**	**15 14 10.0 +4.1**
FRU				pmax	pmax	
	comp=Z,1μm,3.2s					
FRU				smax	smax	
	comp=E,1μm,6.1s					
FRU				MLR	MLR	
	comp=Z,7μm,19.0s					
CHMS	**Chumysh**	**46.04**	**337**	P	**P**	**15 07 25.1 +1.0**
	SNR=16					
CHMS	**Chumysh**	**46.04**	**337**	*i* P	**P**	**15 07 25.1 +1.0**
EKS2	**Erkin-Say**	**46.14**	**336**	P	**P**	**15 07 26.3 +1.3**
	SNR=39					
EKS2	**Erkin-Say**	**46.14**	**336**	*e*P	**P**	**15 07 25.0 -0.1**
EKS2				pmax	pmax	
	comp=Z,36nm,0.6s					
EKS2				MLR	MLR	
	comp=Z,5μm,19.0s					
EKS2	**Erkin-Say**	**46.14**	**336**	*e*P	**P**	**15 07 25.0 -0.1**
	comp=Z,36nm,0.6s					
EKS2				LR	LR	
	comp=Z,5μm,19.0s					
RER	**Riviere de l'E**	**46.28**	**239**	PFAKE		15 07 40.0 +14
RER				LR	LR	
	comp=Z,3μm,20.0s					
USP	**Ospenovka**	**46.36**	**337**	P	**P**	**15 07 27.8 +1.1**
	SNR=41					
USP	**Ospenovka**	**46.36**	**337**	*i* P	**P**	**15 07 27.8 +1.1**
FAQ	**Al Faqa, Dubai**	**46.38**	**304**	⇓P	**P**	**15 07 27.6 +0.5**
	SNR=8.4					
NAZ	**Nazwa, Dubai**	**46.42**	**304**	⇑P	**P**	**15 07 26.5 -0.9**
ASUD	**Al Ashush, Dub**	**46.55**	**303**	*i* P	**P**	**15 07 30.4 +2.0**
	SNR=12					
SNY	**Shenyang**	**46.76**	**27**	⇑P	**P**	**15 07 29.5 -0.2**
SNY				S	**S**	**15 14 18.1 +0.6**
SNY				LN		
	comp=Z,13μm,17.1s					
SNY				LE		
	comp=Z,17μm,16.0s					
SNY				LZ		
	comp=Z,21μm,15.1s					
QIS	**Mount Isa**	**46.91**	**120**	⇓P	**P**	**15 07 29.8 -1.5**
	baz=47,SNR=7.0					
IDAH	**Dahanechah**	**46.92**	**316**	*e*P	**P**	**15 07 30.4 -1.1**
SONM	**Songino Array**	**46.96**	**8**	P	**P**	**15 07 32.1 +0.7**
	comp=Z,67nm,0.9s,baz=190,slow=9.2,SNR=376					
SONM				PcP	**PcP**	**15 09 04.5 +1.0**
	comp=Z,7.9nm,0.6s,baz=187,slow=4.5,SNR=4.4					
SONM				LR	LR	15 29 46.9
	comp=Z,19μm,18.6s,baz=189,slow=39					
MKAR	**Makanchi Array**	**47.07**	**346**	P	**P**	**15 07 32.8 +0.6**
	comp=Z,44nm,0.7s,baz=156,slow=6.2,SNR=132					
MKAR				PKPPKP	**P'P'df**	**15 38 55.5 +4.9**
	comp=Z,0.5nm,0.9s,baz=2.9,slow=2.4,SNR=3.7					
ULN	**Ulaanbaatar**	**47.09**	**9**	*c i* P	**P**	**15 07 32.9 +0.4**
ULN				pmax	pmax	
	comp=Z,50nm,1.2s					
ULN	**Ulaanbaatar**	**47.09**	**9**	P	**P**	**15 07 33.2 +0.8**
	SNR=26					
ULN	**Ulaanbaatar**	**47.09**	**9**	*e*P	**P**	**15 07 32.2 -0.2**
	comp=Z,724nm,2.7s					
ULN				LR	LR	
	comp=Z,7μm,20.0s					
ITEG	**Tejag**	**47.79**	**315**	*e*P	**P**	**15 07 37.6 -0.6**
KKAR	**Karatay Array**	**47.89**	**334**	*e*P	**P**	**15 07 38.5 0.0**
KKAR	**Karatay Array**	**47.89**	**334**	*e*P	**P**	**15 07 38.5 0.0**
COEN	**Coen**	**48.05**	**110**	⇓P	**P**	**15 07 39.4 -0.8**
	baz=48,SNR=9.6					
COEN	**Coen**	**48.05**	**110**	*e*P	**P**	**15 07 39.3 -1.0**
	comp=Z,41nm,0.9s					
GUMO	**Guam**	**48.72**	**73**	PFAKE		15 07 50.0 +4.6
GUMO				LR	LR	
	comp=Z,268nm,20.0s					
IMYA	**Miami**	**48.84**	**320**	*e*P	**P**	**15 07 44.4 -1.8**
ZAK	**Zakamensk**	**49.10**	**5**	⇓*i* P	**P**	**15 07 47.9 0.0**
ZAK				pmax	pmax	
	comp=Z,27nm,1.1s					
CN2	**Changchun**	**49.16**	**27**	⇑P	**P**	**15 07 48.5 +0.2**
CN2				*es*P	**sP**	**15 08 01.8 -0.9**
CN2				*e*S	**S**	**15 14 52.0 +0.5**
CN2				PMZ		
	comp=Z,60nm,1.2s					
CN2				PMZ		
	comp=Z,200nm,4.0s					
CN2				LN		
	comp=Z,14μm,16.0s					
CN2				LE		
	comp=Z,13μm,16.0s					
CN2				LZ		
	comp=Z,15μm,16.0s					
ISRO	**Mashad**	**49.23**	**319**	*e*P	**P**	**15 07 46.2 -3.0**
IBAF	**Bafgh**	**49.43**	**312**	*e*P	**P**	**15 07 49.6 -1.2**
IPAY	**Payeh**	**49.63**	**319**	*e*P	**P**	**15 07 51.6 -0.7**
HVS	**Khovu-Aksy**	**49.67**	**357**	*c i* P	**P**	**15 07 52.4 +0.2**
HVS				pmax	pmax	
	comp=Z,429nm,1.7s					
BBOO	**Buckleboo**	**50.03**	**136**	⇑P	**P**	**15 07 54.8 -0.3**
	baz=50,SNR=25					
BBOO	**Buckleboo**	**50.03**	**136**	*e*P	**P**	**15 07 54.1 -1.0**
	comp=Z,57nm,1.1s					
IMEH	**Mehriz**	**50.05**	**311**	*e*P	**P**	**15 07 53.0 -2.7**
IKRD	**Kardeh**	**50.13**	**319**	*e*P	P	15 07 50.2 -6.0
CBIJ	**Chichi jima**	**50.15**	**55**	*e*P	**P**	**15 07 55.8 -0.4**
	comp=Z,51nm,0.8s					
JCJ	**Chichijima**	**50.15**	**55**	P	**P**	**15 07 56.0 -0.2**
	comp=Z,96nm,0.6s,baz=114,slow=21,SNR=6.6					
JCJ				LR	LR	15 27 05.3
	comp=Z,2μm,21.9s,baz=252,slow=34					
MOY	**Mondy**	**50.22**	**3**	*e*P	**P**	**15 07 57.0 +0.6**
MOY				pmax	pmax	
	comp=Z,163nm,4.0s					
ISRV	**Sarvestan**	**50.31**	**308**	*e*P	**P**	**15 07 56.5 -1.2**
TLY	**Talaya**	**50.42**	**5**	*c i* P	**P**	**15 07 58.8 +1.0**
TLY				*e*		15 09 56.1
TLY				*e*S	**S**	**15 15 11.9 +3.0**
TLY				*e*		15 15 26.1
TLY				*e*		15 17 46.1
TLY				*e*SSS	SSS	15 20 13.7
TLY				pmax	pmax	
	comp=Z,33nm,0.6s					
TLY				MLR	MLR	
	comp=Z,16μm,16.0s					
TLY	**Talaya**	**50.42**	**5**	P	**P**	**15 07 59.2 +1.4**
	SNR=23					
TLY	**Talaya**	**50.42**	**5**	P	**P**	**15 07 59.0 +1.2**
	comp=Z,28nm,0.7s,baz=209,slow=7.1,SNR=52					
TLY				LR	LR	15 31 31.9
	comp=Z,18μm,18.2s,baz=170,slow=39					
TLY	**Talaya**	**50.42**	**5**	*e*P	**P**	**15 07 57.7 -0.1**
	comp=Z,35nm,0.8s					
IPAR	**Pars**	**50.55**	**308**	*e*P	**P**	**15 07 59.9 +0.4**
PMG	**Port Moresby**	**50.92**	**103**	*c i* P	**P**	**15 08 02.4 +0.2**
PMG				pmax	pmax	
	comp=Z,27nm,0.8s					
PMG	**Port Moresby**	**50.92**	**103**	LR	LR	15 33 35.0
	comp=Z,4μm,18.6s,baz=265,slow=41					
PMG	**Port Moresby**	**50.92**	**103**	⇓P	**P**	**15 08 01.1 -1.1**

baz=51,SNR=6.9
PMG Port Moresby 50.92 103 *e*P P 15 08 01.5 -0.7
comp=Z,9.8nm,0.8s
ISAD Sadrabad 50.99 311 *e*P P 15 08 01.5 -1.3
IRK Irkutsk 51.04 6⇑*i*P P 15 08 03.0 +0.6
IRK *e* 15 10 03.6
IRK pmax pmax
comp=Z,170nm,1.8s
GEYT Alibeck 51.06 320 P **P 15 08 03.1 +0.2**
comp=Z,17nm,0.8s,baz=147,slow=8.5,SNR=40
GEYT LR LR 15 33 01.5
comp=Z,3μm,19.0s,baz=160,slow=40
IKAZ Kazeroun 51.48 308 *e*P P 15 08 05.6 -1.0
HIA Hailar 51.49 19 *e*P P 15 08 04.8 -1.1
HIA pmax pmax
comp=Z,55nm,1.0s
HIA MLR MLR
comp=Z,18μm,22.0s
HIA Hailar 51.49 19 *e*P P 15 08 04.8 -1.1
comp=Z,55nm,1.0s
HIA LR LR
comp=Z,18μm,22.0s
KURBB Kurchatov Arra 51.55 345 P **P 15 08 06.9 +0.6**
comp=Z,30nm,0.7s,baz=167,slow=6.9,SNR=239
KURBB S S 15 15 33.6 +9.1
comp=Z,0.6nm,0.5s,baz=163,slow=14,SNR=9.0
MAJO Matsushiro 51.58 42 *e*P P 15 08 06.3 -0.5
MAJO pmax pmax
comp=Z,541nm,2.7s
MAJO MLR MLR
comp=Z,7μm,22.0s
MAJO Matsushiro 51.58 42 *e*P P 15 08 06.3 -0.5
comp=Z,541nm,2.7s
MAJO LR LR
comp=Z,7μm,22.0s
MAT Matsushiro 51.58 42 P **P 15 08 05.7 -1.1**
MAT S **S 15 15 24.8 -0.7**
MJAR Matsushiro Arr 51.58 42 P **P 15 08 07.2 +0.4**
comp=Z,11nm,0.7s,baz=222,slow=6.1,SNR=24
MJAR LR LR 15 30 34.0
comp=Z,5μm,20.8s,baz=250,slow=37
KURK Kurchatov 51.62 345 P **P 15 08 06.9 +0.2**
KURK S S 15 15 33.6 +8.2
KURK MLR MLR
comp=Z,4μm,20.0s
KURK Kurchatov 51.62 345 P **P 15 08 07.7 +0.9**
SNR=41
KURK Kurchatov 51.62 345 P **P 15 08 06.9 +0.2**
KURK S S 15 15 33.6 +8.2
KURK LR LR
comp=Z,8μm,20.0s
MDJ Mudanjiang 51.73 29 P **P 15 08 08.6 +0.9**
MDJ pP **pP 15 08 17.8 -0.3**
MDJ sP **sP 15 08 21.5 -0.7**
MDJ PcP **PcP 15 09 20.8 0.0**
MDJ PP **PP 15 10 06.4 +0.7**
MDJ S **S 15 15 29.5 +2.3**
MDJ sS **sS 15 15 45.6 +1.3**
MDJ PMZ
comp=Z,59nm,1.8s
MDJ PMZ
comp=Z,1μm,6.6s
MDJ LN
comp=Z,11μm,17.0s
MDJ LE
comp=Z,9μm,17.0s
MDJ LZ
comp=Z,17μm,17.5s
MDJ Mudanjiang 51.73 29 *e*P P 15 08 07.1 -0.7
comp=Z,37nm,0.8s
MDJ LR LR
comp=Z,11μm,19.0s
VLA Vladivostok 51.84 32α *i*P P 15 08 09.3 +0.8
VLA *i* 15 09 21.5
VLA *i* 15 10 05.2
VLA S **S 15 15 31.3 +2.7**
VLA pmax pmax
comp=Z,125nm,1.1s
CIT Chita 52.31 13 *e*P P 15 08 13.4 +1.4
CIT *i* 15 08 25.6
CIT *i* 15 10 06.1
CIT *i* 15 15 38.1
CIT pmax pmax
comp=Z,375nm,1.9s
HTT Hallett 52.37 135 ⇓P **P 15 08 13.6 +0.9**
baz=52,SNR=11
IZEF Zefreh 52.46 312 *e*P P 15 08 13.0 -0.7
CTA Charters Tower 52.61 117 LR LR 15 34 53.7
comp=Z,6μm,18.1s,baz=282,slow=41
CTA Charters Tower 52.61 117 ⇓P **P 15 08 14.7 0.0**
baz=53
CTAO Charters Tower 52.61 117 *e*P P 15 08 13.7 -1.0
CTAO pmax pmax
comp=Z,34nm,1.0s
CTAO MLR MLR
comp=Z,6μm,20.0s
CTAO Charters Tower 52.61 117 *e*P P 15 08 13.7 -1.0
comp=Z,34nm,1.0s
CTAO LR LR
comp=Z,6μm,20.0s
USRK Ussuriysk Ar. 52.64 31 P **P 15 08 15.2 +0.8**
comp=Z,113nm,0.9s,baz=239,slow=5.4,SNR=54
USRK LR LR 15 32 32.4
comp=Z,14μm,19.4s,baz=213,slow=38
OPO Ambohidratompo 52.97 246 P **P 15 08 18.1 +0.5**
comp=Z,14nm,0.9s,baz=80,slow=7.1,SNR=8.0
ABPO Ambohimpanom 53.06 245 *e*P P 15 08 14.8 -3.4
ABPO pmax pmax
comp=Z,70nm,1.8s
ABPO MLR MLR
comp=Z,4μm,19.0s
ABPO Ambohimpanom 53.06 245 *e*P P 15 08 14.8 -3.4
comp=Z,70nm,1.8s
ABPO LR LR
comp=Z,4μm,19.0s
IGLO Ghaloghah 53.13 316 *e*P P 15 08 17.6 -0.9
QLP Quilpie 53.19 125 ⇑P **P 15 08 19.3 +0.5**
baz=53,SNR=38
ZALV Zalesovo Beam 53.38 351 P **P 15 08 20.3 +0.5**
comp=Z,96nm,0.6s,baz=179,slow=6.9,SNR=542
ZALV S **S 15 15 51.3 +1.9**
comp=Z,0.8nm,0.7s,baz=172,slow=14,SNR=3.5
ZALV LR LR 15 36 10.2
comp=Z,6μm,19.0s,baz=166,slow=42
IPIR Pirpir 53.45 311 *e*P P 15 08 18.5 -2.5
STKA Stephens Creek 53.50 132 *e*P P 15 08 19.9 -1.1
STKA pmax pmax
comp=Z,14nm,1.0s
STKA Stephens Creek 53.50 132 P **P 15 08 22.0 +0.9**
comp=Z,42nm,0.8s,baz=307,slow=7.6,SNR=83
STKA LR LR 15 32 58.2
comp=Z,9μm,21.9s,baz=300,slow=38
STKA Stephens Creek 53.50 132 P **P 15 08 21.9 +0.9**
baz=54,SNR=49
STKA Stephens Creek 53.50 132 *e*P P 15 08 19.9 -1.1
comp=Z,14nm,1.0s
NVS Novosibirsk 54.50 350⇑*i*P **P 15 08 27.1 -0.8**
NVS *e*S **S 15 16 00.7 -3.8**
NVS *e* 15 18 19.0
NVS pmax pmax
comp=N,31nm,0.9s
NVS pmax pmax
comp=E,24nm,0.9s
NVS pmax pmax
comp=Z,46nm,0.9s
NVS pmax pmax
comp=Z,22nm,1.3s
NVS pmax pmax
comp=N,21nm,1.8s
NVS pmax pmax
comp=E,23nm,1.5s
NVS smax smax
comp=N,64nm,3.2s
NVS smax smax
comp=E,100nm,2.1s
IR3 Iran Long-Peri 54.61 314 *e*P P 15 08 26.9 -2.3
RAYN Ar Rayn 54.65 298 *e*P P 15 08 30.1 +0.4
comp=E,13nm,0.8s
IRAZ Razeghan 55.37 313 *e*P P 15 08 33.5 -1.4
PAF Port-aux-Franc 55.62 201 P P 15 08 23.0 -13
PAF S S 15 16 03.0 -17
PAF R 15 24 00.0
PAF Port-aux-Franc 55.62 201 PFAKE 15 08 50.0 +14
PAF LR LR
comp=Z,4μm,21.0s
VOSK Vostochnaya 55.63 341 P **P 15 08 35.7 -0.4**
VOSK pmax pmax
comp=Z,50nm,0.7s
BVA0 Borovoye Array 56.08 341 *i*P P 15 08 39.1 -0.2
BVA0 pmax pmax
comp=Z,47nm,0.8s
BVAR Borovoye Array 56.08 341 P **P 15 08 39.1 -0.2**
comp=Z,44nm,0.7s,baz=143,slow=8.7,SNR=189
KLR Kul'dur 56.11 27κ *i*P P 15 08 37.0 -2.7
KLR *e*S **S 15 16 25.5 -0.8**
KLR *e*SS **SS 15 20 16.0 +2.9**
KLR pmax pmax
comp=Z,450nm,2.0s
KLR pmax pmax
comp=Z,2μm,7.0s
KLR smax smax
comp=N,2μm,9.5s
KLR smax smax
comp=E,2μm,9.5s
BRVK Borovoye 56.14 341*c* *i*P P 15 08 39.5 -0.3
BRVK pmax pmax
comp=Z,35nm,0.7s
BRVK Borovoye 56.14 341 P **P 15 08 39.9 +0.1**
SNR=17
BRVK Borovoye 56.14 341 *e*P P 15 08 39.6 -0.1
comp=Z,39nm,0.6s
BRVK LR LR
comp=Z,6μm,20.0s
CMSA Cobar Meteorol 56.43 130 ⇓P **P 15 08 43.4 +1.1**
baz=57,SNR=58
RMQ Roma 56.90 123 ⇓P **P 15 08 46.9 +1.2**
baz=57,SNR=32
HABR Khabarovsk 57.12 29*c*eP P 15 08 44.9 -1.9
HABR *e**PP **pP 15 08 55.0 -2.3**
HABR *e**SP **sP 15 08 59.2 -2.2**
HABR 15 10 52.9
HABR *e*S **S 15 16 37.9 -1.7**
HABR *e*S S 15 16 50.8 +11
HABR *e**SS **sS 15 16 55.5 -1.4**
HABR *e* 15 18 31.6
HABR *e*SS **SS 15 20 28.7 -0.2**
HABR pmax pmax
comp=E,183nm,3.2s
HABR pmax pmax
comp=N,76nm,3.2s
HABR pmax pmax
comp=Z,248nm,1.6s
HABR MLR MLR
comp=E,13μm,17.0s
HABR MLR MLR
comp=Z,11μm,15.0s
HABR MLR MLR
comp=N,8μm,15.0s
AB31 Akbulak array 57.35 332 *i*P P 15 08 48.1 -0.3
AB31 pmax pmax
comp=Z,86nm,0.7s
ABKAR Akbulak array 57.35 332 *e*P P 15 08 48.2 -0.2
ERM Erimo 57.76 39 PFAKE 15 09 00.0 +8.6
ERM LR LR
comp=Z,4μm,21.0s
BOD Bodaibo 57.84 11⇓*i*P **P 15 08 51.9 +0.2**
BOD pmax pmax
comp=Z,81nm,1.7s
EIDS Eidsvold 58.50 121 ⇑P **P 15 08 57.4 +0.5**
baz=59,SNR=18
EIDS Eidsvold 58.50 121 *e*P P 15 08 56.1 -0.9
comp=Z,68nm,0.8s
ASAJ Asahikawa 58.54 37 P **P 15 08 58.1 +1.2**
comp=Z,12nm,0.5s,baz=233,slow=5.5,SNR=11
AKTO Aktyubinsk 59.06 332 P **P 15 08 59.8 -0.6**
AKTO pmax pmax
comp=Z,55nm,0.9s
AKTO Aktyubinsk 59.06 332 P **P 15 08 59.9 -0.6**
comp=Z,32nm,0.8s,baz=124,slow=7.8,SNR=101
TOO Toolangi 59.09 136 ⇑P **P 15 09 02.3 +1.4**
baz=59,SNR=5.2
YNG Young 59.67 132 ⇑P **P 15 09 05.3 +0.3**
baz=60,SNR=9.6
KMBO Kilima Mbogo 59.96 268 P **P 15 09 07.9 +0.3**
comp=Z,1.5nm,0.6s,baz=53,slow=12,SNR=3.9
KMBO LR LR 15 34 02.1
comp=Z,3μm,18.2s,baz=88,slow=35
YSS Yuzh-Sakhalins 60.22 34⇑*e*P **P 15 09 08.8 +0.4**
YSS *e*S S 15 17 26.0 +6.0
YSS MLR MLR
comp=Z,9μm,16.0s
YSS MLR MLR
comp=N,5μm,14.0s
YSS MLR MLR
comp=E,8μm,16.0s
YSS Yuzh-Sakhalins 60.22 34 *e*P P 15 09 09.6 +1.1
comp=E,173nm,1.3s
YSS LR LR
comp=Z,1μm,20.0s
YUK Yuzh-Kuril'sk 60.50 38*c* *i*P P 15 09 03.8 -6.6
YUK *i* 15 10 00.0
YUK *i* 15 11 20.4
YUK *i* PPP PPP 15 12 52.3
YUK *i* S S 15 17 14.0 -10
YUK *i* 15 19 02.0
YUK MLR MLR
comp=N,1μm,16.0s
YUK MLR MLR
comp=E,4μm,16.0s
YUK MLR MLR
comp=Z,6μm,16.0s
CAN Canberra 60.56 132 *e*P P 15 09 09.6 -1.5
CAN pmax pmax
comp=Z,19nm,0.8s
CAN MLR MLR
comp=Z,13μm,22.0s
CAN Canberra 60.56 132 *e*P P 15 09 09.6 -1.5
comp=Z,19nm,0.8s
CAN LR LR
comp=Z,13μm,22.0s
MAK Makhachkala 60.58 320 *e*P P 15 09 09.5 -1.5
MAK *e* 15 09 50.1
MAK *e*PPP PPP 15 12 55.0
MAK *i* S **S 15 17 22.2 -2.5**
MAK *e* 15 18 53.5
MAK *e*SS **SS 15 21 26.0 +2.5**
MAK pmax pmax
comp=Z,102nm,1.1s
ARMA Armidale 60.66 126 ⇑P **P 15 09 13.2 +1.2**
baz=61,SNR=6.6
ARMA Armidale 60.66 126 *e*P P 15 09 11.6 -0.4
comp=Z,69nm,1.3s
GNI Garni 61.15 316 P **P 15 09 15.4 +0.3**
GNI MLR MLR
comp=Z,2μm,19.0s
GNI Garni 61.15 316 P **P 15 09 15.4 +0.3**
comp=Z,4.2nm,0.4s,baz=305,slow=7.3,SNR=7.0
GNI Garni 61.15 316 P **P 15 09 15.4 +0.3**
GNI LR LR
comp=Z,2μm,19.0s
DGRG David-gareji 61.28 318 P **P 15 09 17.3 +1.5**
TBLG Delisi 61.83 318 P **P 15 09 20.0 +0.5**
DUS Dusheti 62.02 318 P **P 15 09 21.2 +0.4**
CRZF Crozet Islands 62.02 214 P P 15 09 12.0 -8.7
CRZF S S 15 17 34.0 -8.9
CRZF R 15 27 00.0
SVE Sverdlovsk 62.52 338*d* *i*P P 15 09 23.7 -0.1
SVE *e*S **S 15 17 47.2 -1.6**
SVE *e* 15 19 17.6
SVE *e*SS **SS 15 21 52.6 -0.7**
SVE *e*SSS SSS 15 24 39.4
SVE pmax pmax
comp=Z,98nm,0.9s
SVE MLR MLR
comp=Z,5μm,18.0s
MOO Moorlands 62.65 140 ⇑P **P 15 09 25.9 +0.9**
baz=63
ZEI Tsey 62.85 318 *e*P P 15 09 25.6 -1.0
ZEI *e*S **S 15 17 53.9 -0.1**
ZEI pmax pmax
comp=Z,39nm,1.0s
TAU Tasmania Unive 62.97 141 PFAKE 15 09 40.0 +13
TAU LR LR
comp=Z,4μm,20.0s
ARU Arti 63.01 337*c* *i*P P 15 09 26.6 -0.5
ARU 15 10 05.2
ARU 15 11 43.2
ARU PPP PPP 15 13 14.7
ARU S **S 15 17 55.3 +0.3**
ARU 15 19 18.5
ARU SSS SSS 15 24 53.7
ARU pmax pmax
comp=Z,95nm,1.7s
ARU Arti 63.01 337 *e*P P 15 09 25.5 -1.6
comp=Z,52nm,1.0s
ARU LR LR
comp=Z,5μm,19.0s
ONI Oni 63.07 318 P **P 15 09 29.5 +1.6**
KBZ Khabaz 63.92 319 P **P 15 09 33.4 0.0**
comp=Z,28nm,0.8s,baz=121,slow=6.3,SNR=64
KIV Kislovodsk 64.16 319*c* *i*P P 15 09 35.0 -0.1
KIV *i* 15 10 06.6
KIV *e* 15 12 00.2
KIV *i*S S 15 18 01.7 -8.3
KIV *i*SS **SS 15 22 24.8 +5.1**
KIV pmax pmax
comp=Z,42nm,0.9s
KIV Kislovodsk 64.16 319 P **P 15 09 35.4 +0.3**
SNR=15
KIV Kislovodsk 64.16 319 *i*P P 15 09 34.9 -0.1
SNR=8.8
KIV Kislovodsk 64.16 319 *e*P P 15 09 34.2 -0.8
comp=Z,62nm,1.0s
KIV LR LR
comp=Z,2μm,20.0s
ASF Jabal al Asfar 64.34 305 P **P 15 09 36.7 +0.3**
comp=Z,3.9nm,0.7s,baz=58,slow=1.5,SNR=9.8
MALT Malatya 64.99 312⇑*i*P **P 15 09 40.8 +0.2**
YAK Yakutsk 65.26 16*c* *i*P P 15 09 41.4 -0.3
YAK *e**PP **pP 15 09 51.6 -0.7**
YAK *e* 15 10 11.9
YAK *e* 15 12 03.7
YAK *e*PPP PPP 15 13 37.7
YAK *e*S **S 15 18 19.8 -2.9**
YAK *e*SS **SS 15 22 29.2 -6.7**
YAK *e*SSS SSS 15 25 35.0
YAK pmax pmax
comp=Z,183nm,0.9s
YAK pmax pmax
comp=E,52nm,1.2s
YAK pmax pmax
comp=N,81nm,1.1s
YAK pmax pmax
comp=Z,260nm,3.3s
YAK pmax pmax
comp=N,108nm,2.6s
YAK pmax pmax
comp=E,216nm,3.1s
YAK smax smax
comp=N,544nm,3.5s
YAK smax smax
comp=E,184nm,2.6s
YAK MLR MLR
comp=Z,16μm,17.0s
YAK MLR MLR
comp=N,8μm,15.0s
YAK MLR MLR
comp=E,7μm,16.0s
YAK Yakutsk 65.26 16 *e*P P 15 09 41.4 -0.3
comp=E,199nm,0.9s
YAK LR LR
comp=Z,15μm,20.0s
EIL Elat 65.34 302 ⇓P **P 15 09 43.6 +0.7**
baz=65,SNR=7.4
SOKR Solikamsk 65.93 339*c* *i*P P 15 09 46.2 +0.2
SOKR 15 12 11.2
SOKR SS SS 15 22 48.6 +2.3
SOKR pmax pmax
comp=Z,110nm,1.2s
SOC Sochi 65.97 318*c* *i*P P 15 09 45.9 -0.8
SOC *e* 15 12 10.7
SOC *e*S **S 15 18 29.2 -2.8**
SOC *e*SS **SS 15 22 49.5 +1.8**
SOC pmax pmax
comp=Z,33nm,0.8s
SOC MLR MLR
comp=Z,2μm,20.0s
CSS Prodhromos 67.94 307 *e*P P 15 09 57.8 -1.7
comp=Z,14nm,1.4s
CSS LR LR
comp=Z,710nm,19.0s
ANN Anapa 67.95 318 *e*P P 15 09 55.6 -3.6
ANN *e*S **S 15 18 50.6 -5.2**
ANN pmax pmax
comp=Z,107nm,1.1s
VRHR Novokhopersk 67.97 326 *e*P P 15 09 57.3 -1.9
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=Z,70nm,0.8s
VRHR pmax pmax
comp=E,60nm,0.9s
CASY Casey 68.18 174 P **P 15 10 00.4 +0.1**
comp=E,47nm,1.3s
CASY LR LR
comp=Z,5μm,21.0s
BRTR Keskin Array B 68.97 312 P **P 15 10 05.0 -1.0**
BRTR Keskin Array B 68.97 312 P **P 15 10 05.0 -1.0**
comp=Z,8.8nm,0.7s,baz=132,slow=6.9,SNR=46
BRTR LR LR 15 43 57.1
comp=Z,924nm,18.4s,baz=106,slow=39
VORD Divnogorie 69.23 325 *e*P P 15 10 04.7 -2.4
VORD pmax pmax
comp=Z,40nm,0.9s
VORD pmax pmax
comp=N,60nm,0.8s
VORD pmax pmax
comp=E,60nm,0.8s
VORD MLR MLR
comp=Z,2μm,19.0s
VORD MLR MLR
comp=N,3μm,24.0s
VORD MLR MLR
comp=E,1μm,20.0s
VSR Storozhevoye 69.41 325 *e*P P 15 10 05.6 -2.6
VSR pmax pmax
comp=Z,40nm,0.8s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,0.5s
VSR MLR MLR
comp=Z,3μm,20.0s
VSR MLR MLR
comp=N,2μm,18.0s
VSR MLR MLR
comp=E,2μm,21.0s
SKR Severo-Kuril's 69.73 36 *e*P P 15 10 07.0 -3.2
SKR *e* 15 10 27.0
SKR *e* 15 20 10.0
SKR *e*SSS SSS 15 26 47.0
SKR pmax pmax
comp=Z,80nm,0.5s
SKR pmax pmax
comp=Z,3μm,12.0s
SKR MLR MLR
comp=N,6μm,18.0s
SKR MLR MLR
comp=E,6μm,18.0s
SKR MLR MLR
comp=Z,7μm,18.0s
WAKE Wake Island 70.20 70 PFAKE 15 10 20.0 +6.3
WAKE LR LR
comp=Z,2μm,19.0s
SIM Simferopol' 70.22 318*c*eP P 15 10 13.2 -0.1
SIM *e*S **S 15 19 19.0 -3.7**
SIM pmax pmax
comp=Z,1.0nm,0.9s
SIM MLR MLR
comp=Z,1μm,21.0s
ISP Isparta 70.83 310 P **S 15 19 28.2 -2.2**
ISP Isparta 70.83 310 PFAKE 15 10 30.0 +13
ISP LR LR
comp=Z,2μm,20.0s
ALT Altintas 71.44 311 P **P 15 10 19.9 -1.1**
ALT Altintas 71.44 311 P **P 15 10 19.9 -1.1**
PRGR Permogore 71.47 337 *e*P P 15 10 17.9 -2.6
PRGR 15 10 37.0
PRGR *e*S **S 15 19 34.5 -2.0**
PRGR pmax pmax
comp=Z,131nm,0.7s
PETK Petropavlovsk- 71.61 34 P **P 15 10 21.8 +0.1**
comp=Z,12nm,0.7s,baz=218,slow=7.4,SNR=15
PETK LR LR 15 45 24.6
comp=Z,3μm,18.5s,baz=247,slow=39
PET Petropavlovsk 72.10 34⇑*i*P **P 15 10 24.8 +0.3**
PET *e* 15 13 11.5

PET eS S 15 19 43.3 -0.9
PET pmax pmax
comp=Z,65nm,0.6s
PET pmax pmax
comp=Z,1μm,16.7s
PET pmax pmax
comp=Z,2μm,16.1s
PET pmax pmax
comp=Z,700nm,14.9s
PET MLR MLR
comp=Z,5μm,18.0s
PET Petropavlovsk 72.10 34 eP P 15 10 22.6 -2.0
comp=Z,58nm,0.8s
PET LR LR
comp=Z,3μm,22.0s
MOS Moscow 72.17 329 eP P 15 10 24.0 -0.9
MOS e 15 10 39.9
MOS e 15 13 03.5
MOS eS S 15 19 39.5 -5.3
MOS pmax pmax
comp=Z,143nm,1.3s
MOS pmax pmax
comp=Z,400nm,2.0s
MOS MLR MLR
comp=Z,3μm,21.0s
ARG Arkhangelos 72.35 308 P S 15 19 44.7 -3.0
KULA Kula-Manisa 72.42 310 P P 15 10 26.9 0.0
KULA Kula-Manisa 72.42 310 P S 15 19 45.4 -3.2
KULA Kula-Manisa 72.42 310 P P 15 10 26.9 0.0
OBN Obninsk 72.45 328⇑ eP P 15 10 26.3 -0.3
OBN e 15 10 43.1
OBN i S S 15 19 45.2 -2.9
OBN eSS SS 15 24 34.2 +7.0
OBN pmax pmax
comp=Z,177nm,2.5s
OBN Obninsk 72.45 328 eP P 15 10 25.7 -0.9
comp=Z,77nm,1.1s
OBN LR LR
comp=Z,3μm,20.0s
ISK Istanbul-Kandi 72.70 313 P S 15 19 48.6 -2.9
MAW Mawson 72.88 193 LR LR 15 38 31.6
comp=Z,3μm,18.0s,baz=36,slow=33
KARP Karpathos 72.99 307 P P 15 10 29.8 -0.5
KARP Karpathos 72.99 307 P S 15 19 52.6 -2.6
KARP Karpathos 72.99 307 P P 15 10 29.8 -0.5
TIXI Tiksi 73.02 10c iP P 15 10 28.9 -0.8
TIXI pmax pmax
comp=Z,34nm,0.8s
TIXI Tiksi 73.02 10 eP P 15 10 28.7 -1.0
comp=Z,511nm,2.3s
TIXI LR LR
comp=Z,5μm,19.0s
KLMR Klimovskoe 73.58 334 eP P 15 10 33.1 -0.1
KLMR pmax pmax
comp=Z,73nm,1.5s
SEY Seymchan 73.61 23 P P 15 10 33.7 +0.4
comp=Z,34nm,0.8s,baz=238,slow=5.3,SNR=79
ZKR Zakros 73.67 306 P P 15 10 33.8 -0.5
ZKR Zakros 73.67 306 P S 15 20 01.5 -1.3
ZKR Zakros 73.67 306 P P 15 10 33.8 -0.5
PSN Preselentsi 73.95 315⇑ iP P 15 10 35.7 0.0
TIRR Tirgusor 73.98 316 eP P 15 10 34.8 -1.0
TIRR pmax pmax
comp=Z,27nm,1.0s
TIRR Tirgusor 73.98 316⇑ iP P 15 10 35.7 -0.1
TIRR Tirgusor 73.98 316 eP P 15 10 34.8 -1.0
comp=Z,28nm,1.0s
NPS Neapolis 74.19 306 P P 15 10 37.3 0.0
NPS Neapolis 74.19 306 P S 15 20 05.8 -2.8
NPS Neapolis 74.19 306 P P 15 10 37.3 0.0
NPS Neapolis 74.19 306 P P 15 10 37.3 0.0
LAST Lasithi 74.28 306 P S 15 20 08.3 -1.5
DRV Dumont d'Urvil 74.33 164 P P 15 10 40.0 +2.6
DRV S SKiKP 15 19 45.0 -17
DRV SS SS 15 24 08.0 -47
DRV L L 15 29 00.0
DRV R 15 33 00.0
CFR Carcaliu 74.34 317⇑ iP P 15 10 38.2 +0.3
KIS Kishinev 74.35 319 eP P 15 10 38.0 +0.1
KIS eS S 15 20 07.0 -2.9
KIS ePS PnS 15 20 35.0 -12
KIS eSS SS 15 24 55.0 -1.4
KIS pmax pmax
comp=Z,600nm,11.0s
KIS pmax pmax
comp=Z,700nm,12.0s
KIS MLR MLR
comp=N,2μm,20.0s
KIS MLR MLR
comp=E,2μm,20.0s
KIS MLR MLR
comp=Z,2μm,20.0s
KIS MLR MLR
comp=Z,2μm,20.0s
KIS Kishinev 74.35 319 eP P 15 10 38.0 +0.1
comp=Z,700nm,12.0s
KIS eS S 15 20 07.0 -2.9
KIS Kishinev 74.35 319 ePS 15 20 35.0
KIS eSS SS 15 24 55.0 -1.4
KIS eL L 15 37 04.0
KIS LRM MLR 15 48 36.0
comp=Z,2μm,20.0s
PRK Paraskevi 74.39 310 P S 15 20 08.0 -2.7
CHOS Chios island 74.39 309 P P 15 10 38.4 -0.1
CHOS Chios island 74.39 309 P S 15 20 08.0 -3.0
CHOS Chios island 74.39 309 P P 15 10 38.4 -0.1
SANT Santorini 74.50 307 P S 15 20 07.6 -4.5
SANT Santorini 74.50 307 PFAKE 15 10 50.0 +11
SANT LR LR
comp=Z,2μm,20.0s
SIGR SIGRI 74.70 310 P S 15 20 10.5 -3.7
JMB Yambol 74.82 314 P S 15 20 14.4 -1.0
JMB Yambol 74.82 314 eP P 15 10 42.5 +1.7
BOSA Boshof 74.84 240 LR LR 15 38 21.1
comp=Z,3μm,21.0s,baz=66,slow=32
ALN Alexandroupoli 74.89 312 P P 15 10 34.3 -6.9
ALN Alexandroupoli 74.89 312 P S 15 20 12.6 -3.6
AKASG Malin Array Be 75.10 322 P P 15 10 41.3 -0.9
comp=Z,14nm,0.7s,baz=89,slow=4.8,SNR=35
KIEV Kiev 75.11 322c iP P 15 10 41.3 -1.0
KIEV Kiev 75.11 322 eP P 15 10 40.8 -1.4
comp=Z,38nm,1.1s
KIEV LR LR
comp=Z,2μm,21.0s
SMTH Samothraki Isl 75.19 312 P S 15 20 15.1 -4.5
RDO Rodhopi 75.31 312 P S 15 20 16.6 -4.3
VRI Vrincioaia 75.47 317⇑ iP P 15 10 45.1 +0.6
PLOR Plostina 75.52 317⇑ iP P 15 10 45.1 +0.3
TESR Tescani 75.67 318⇑ iP P 15 10 45.7 +0.1
TMCR Tamitsa 75.75 337 eP P 15 10 45.8 +0.2
TMCR e 15 10 57.1
TMCR e 15 13 35.9
TMCR eS S 15 20 26.3 +1.5
TMCR pmax pmax
comp=Z,44nm,0.7s
MLR Muntele Rosu 75.92 317⇑ iP P 15 10 47.5 +0.3
RZN Rozhen 76.02 313 eP P 15 10 47.1 -0.9
PTL Penteli 76.03 309 P S 15 20 23.0 -6.1
ANKY Antikythira Is 76.14 307 P P 15 10 48.0 -0.5
ANKY Antikythira Is 76.14 307 P P 15 10 48.0 -0.5
OUR Ouranopolis 76.33 311 P S 15 20 28.1 -4.0
DOPR Dopca 76.40 317⇑ iP P 15 10 49.6 -0.2
VOIR 76.52 316⇑ iP P 15 10 50.3 -0.3
VLI Veliai 76.56 307 P S 15 20 27.0 -7.8
LTK Loutraki 76.73 309 P S 15 20 29.5 -7.2
MMB Musomiste 76.73 312⇑ iP P 15 10 49.7 -2.1
MMB Musomiste 76.73 312 eP P 15 10 49.1 -2.7
SRS Serrai 76.75 312 P P 15 10 50.3 -1.6
SRS Serrai 76.75 312 P P 15 10 50.3 -1.6
SRS Serrai 76.75 312 P P 15 10 50.3 -1.6
BURAR Bucovina Array 76.87 319⇑ iP P 15 10 53.5 +0.9
MICGM Minsk 76.96 326 eP P 15 10 51.0 -1.8
MNK Minsk 76.99 326 eP P 15 10 51.0 -1.9
MNK eS S 15 20 33.0 -5.8
MPEP Malo Peshtene 77.04 314 eP P 15 10 53.5 0.0
KKB Krupnik 77.26 313 eP P 15 10 52.3 -2.4
VTS Vitosha 77.29 313 P P 15 10 53.8 -1.3
VTS Vitosha 77.29 313 P P 15 10 53.8 -1.3
VTS Vitosha 77.29 313⇑ iP P 15 10 53.0 -2.1
VTS Vitosha 77.29 313 eP P 15 10 54.2 -0.9
VTS Vitosha 77.29 313 P P 15 10 53.8 -1.3
LIT Litokhoron 77.41 311 P P 15 10 53.6 -2.1
LIT Litokhoron 77.41 311 P P 15 10 53.6 -2.1

LIT Litokhoron 77.41 311 P P 15 10 53.6 -2.1
PYL PYLOS 77.53 307 P S 15 20 39.9 -5.5
NACGM Naroch 77.69 326 eP P 15 10 54.0 -2.8
THL Klokotos Trika 77.69 310 P P 15 10 54.5 -2.7
DRO Drossia 77.70 308 P P 15 10 57.0 -0.3
DRO Drossia 77.70 308 P S 15 20 42.7 -4.6
JOF Joensuu 77.97 335 eP P 15 10 58.4 +0.2
JOF pmax pmax
comp=Z,1μm,4.7s
JOF Joensuu 77.97 335 ep P 15 10 58.4 +0.2
comp=Z,1μm,4.7s
GZR Gura Zlata 78.09 316⇑ iP P 15 10 59.5 +0.1
LVV L'vov 78.11 321 eP P 15 11 00.0 +0.7
PDO Prodromos 78.20 309 P P 15 10 59.1 -0.9
LKD2 Lefkada island 78.63 309 P P 15 11 01.8 -0.7
LKD2 Lefkada island 78.63 309 P P 15 11 01.8 -0.7
LVZ Lovozero 78.66 340 eP P 15 11 01.3 -0.7
LVZ pmax pmax
comp=Z,39nm,0.7s
LVZ MLR MLR
comp=Z,6μm,21.0s
LVZ Lovozero 78.66 340 eP P 15 11 01.2 -0.7
comp=Z,39nm,0.7s
LVZ LR LR
comp=Z,6μm,21.0s
VSU Vasula 78.68 330 eP P 15 11 02.3 +0.1
VSU pmax pmax
comp=Z,33nm,0.9s
TRPA Tarpa 78.74 319⇑ iP P 15 11 03.4 +0.6
TRPA Tarpa 78.74 319 eP P 15 11 03.1 +0.3
KWP Kalwaria Pacla 78.92 320 eP P 15 11 04.8 +1.0
KWP eS S 15 20 58.5 -1.4
KWP Kalwaria Pacla 78.92 320 eP P 15 11 04.8 +1.0
KWP eS S 15 20 58.5 -1.4
KWP LMZ LR 15 51 11.0
KWP Kalwaria Pacla 78.92 320 eP P 15 11 03.4 -0.4
comp=Z,95nm,1.4s
KWP LR LR
comp=Z,2μm,20.0s
BZS Buzias 78.93 316⇑ iP P 15 11 03.6 -0.3
APA Apatity 78.95 339⇓ iP P 15 11 03.4 -0.1
APA i S S 15 20 58.0 -1.5
APA i 15 21 10.0
APA i SS SS 15 26 10.0 +4.9
APA MLR MLR
comp=Z,4μm,24.0s
UZH Uzhgorod 79.00 319 eP P 15 11 05.3 +1.1
UZH e 15 11 12.9
UZH e 15 11 17.5
UZH i S S 15 21 00.0 -0.7
UZH i 15 21 49.3
KOLS Kolonicke sedl 79.06 320 eP P 15 11 05.1 +0.5
KOLS pmax pmax
comp=Z,29nm,1.0s
KOLS Kolonicke sedl 79.06 320 eP P 15 11 05.1 +0.5
SUR Sutherland 79.23 237 P P 15 11 07.1 +1.0
comp=Z,9.8nm,0.8s,baz=101,slow=14,SNR=7.4
SUR Sutherland 79.23 237 P P 15 11 07.1 +1.0
SUR LR LR
comp=Z,4μm,20.0s
SUW Suwalki 79.51 325 eP P 15 11 06.3 -0.6
SUW eS S 15 21 03.4 -2.6
SUW Suwalki 79.51 325 eP P 15 11 06.3 -0.6
SUW eS S 15 21 03.3 -2.7
SUW LMZ LR 15 52 52.0
SUW Suwalki 79.51 325 eP P 15 11 05.9 -1.0
comp=Z,106nm,1.0s
STHS Stebnicka Huta 79.81 320 eP P 15 11 10.0 +1.3
STHS pmax pmax
comp=Z,13nm,0.8s
STHS Stebnicka Huta 79.81 320 eP P 15 11 10.0 +1.3
FINESS FINESS Array B 79.83 332 P P 15 11 08.2 -0.2
comp=Z,17nm,0.8s,baz=111,slow=8.4,SNR=50
FINES LR LR 15 49 57.0
comp=Z,2μm,20.5s,baz=108,slow=38
DIVS Divibare 79.84 314 P P 15 11 06.8 -2.2
DIVS Divibare 79.84 314 P S 15 21 05.3 -4.8
KAF Kangasniemi 79.91 333 eP P 15 11 08.9 0.0
KAF pmax pmax
comp=Z,21nm,0.7s
KAF Kangasniemi 79.91 333 ep P 15 11 08.9 0.0
comp=Z,21nm,0.7s
NIE Niedzica 80.42 320 eP P 15 11 12.2 +0.3
NIE eS S 15 21 16.6 +0.8
NIE Niedzica 80.42 320 eP P 15 11 12.2 +0.3
NIE eS S 15 21 16.6 +0.8
NIE L L 15 52 24.0
comp=Z,2μm,19.6s
PSZ Piszkesteto 80.46 318 eP P 15 11 11.5 -0.8
PSZ MLR MLR
comp=Z,1μm,20.0s
PSZ Piszkesteto 80.46 318⇑ iP P 15 11 12.4 +0.1
PSZ Piszkesteto 80.46 318 eP P 15 11 12.2 -0.1
PSZ Piszkesteto 80.46 318 eP P 15 11 11.5 -0.8
PSZ LR LR
comp=Z,1μm,20.0s
FX1 Attu Island--F 80.47 37 eP P 15 11 10.1 -2.0
FX1 Attu Island--F 80.47 37 P P 15 11 12.4 +0.3
comp=Z,18nm,0.7s,baz=201,slow=1.9,SNR=6.5
FX1 Attu Island--F 80.47 37 eP P 15 11 10.1 -2.0
BEL Belsk 80.52 322 eP P 15 11 12.3 -0.1
BEL eS S 15 21 18.9 +2.3
BEL Belsk 80.52 322 eP P 15 11 12.2 -0.1
BEL eS S 15 21 18.8 +2.2
BEL LMZ LR 15 53 21.1
OJC Ojcow 80.87 321 eP P 15 11 13.4 -0.9
OJC eS S 15 21 18.4 -2.0
OJC Ojcow 80.87 321 eP P 15 11 13.4 -0.9
OJC eS S 15 21 18.4 -2.0
OJC L L 15 53 06.0
comp=Z,3μm,19.1s
BILL Bilibino 81.01 21c iP P 15 11 14.5 -0.2
BILL e 15 11 20.7
BILL e 15 14 20.7
BILL pmax pmax
comp=Z,18nm,1.4s
BILL MLR MLR
comp=Z,10μm,18.0s
BILL Bilibino 81.01 21 eP P 15 11 14.3 -0.4
comp=Z,18nm,0.6s
BILL LR LR
comp=Z,5μm,21.0s
VYHS Vyhne 81.24 319 eP P 15 11 16.6 +0.3
VYHS pmax pmax
comp=Z,60nm,2.4s
VYHS Vyhne 81.24 319 eP P 15 11 16.6 +0.3
SNZO South Karori 81.55 132 PFAKE 15 11 30.0 +12
SNZO LR LR
comp=Z,7μm,22.0s
TIP Timpagrande 81.69 309 PFAKE 15 11 30.0 +11
TIP LR LR
comp=Z,561nm,20.0s
MSVF Nonsavu 81.73 108 PFAKE 15 11 30.0 +10
MSVF LR LR
comp=Z,3μm,22.0s
OKC Ostrava-Krasne 81.87 320 eP P 15 11 19.8 +0.2
OKC e 15 21 28.6
OKC MLR MLR
comp=Z,1μm,17.2s
OKC Ostrava-Krasne 81.87 320 eP P 15 11 19.8 +0.2
OKC eS S 15 21 28.6 -2.2
OKC eSKKP 15 33 14.2
OKC AMS AMS 15 57 20.0
comp=Z,1μm,17.2s
KEV Kevo 81.93 341 eP P 15 11 19.9 +0.4
KEV Kevo 81.93 341 ep P 15 11 19.9 +0.4
KEV Kevo 81.93 341 PFAKE 15 11 30.0 +11
KEV LR LR
comp=Z,5μm,22.0s
MORC Moravsky Berou 82.25 320 eP P 15 11 19.9 -1.8
MORC pmax pmax
comp=Z,13nm,0.9s
MORC Moravsky Berou 82.25 320⇑ iP P 15 11 21.9 +0.2
MORC Moravsky Berou 82.25 320 eP P 15 11 19.9 -1.8
comp=Z,13nm,0.9s
CEL Celeste 82.30 308 eP P 15 11 21.8 -0.4
comp=Z,20nm,1.0s
CEL LR LR
comp=Z,993nm,19.0s
ARCES ARCESS Array B 82.36 340 P P 15 11 22.0 +0.2
comp=Z,20nm,0.8s,baz=99,slow=4.5,SNR=45
ARCES LR LR 15 52 26.0
comp=Z,3μm,19.9s,baz=106,slow=39
CUC Castrocucco 82.49 310 eP P 15 11 22.4 -0.7

comp=Z,7.9nm,0.9s
CUC LR LR
comp=Z,995nm,20.0s
KOGS Kog 82.74 317 eP P 15 11 24.5 +0.3
GKP Gorka Klasztor 82.88 323 eP P 15 11 25.2 +0.4
GKP Gorka Klasztor 82.88 323 eP P 15 11 25.2 +0.4
GKP LMZ LR 15 55 06.1
URZ Urewera 82.95 129 LR LR 15 49 48.7
comp=Z,4μm,20.6s,baz=288,slow=37
URZ Urewera 82.95 129 eP P 15 11 22.8 -2.7
DPC Dobruska-Polom 83.10 320 eP P 15 11 26.7 +0.6
DPC e 15 11 41.3
DPC e 15 21 43.0
DPC Dobruska-Polom 83.10 320 eP P 15 11 26.7 +0.6
DPC eSP sP 15 11 41.3 +0.3
DPC eS S 15 21 43.0 -0.4
DPC ePS PnS 15 22 45.0 +7.4
DPC AMS AMS 15 54 30.0
DPC Dobruska-Polom 83.10 320 eP P 15 11 25.7 -0.4
CONA Conrad Observa 83.15 318 i P P 15 11 26.4 -0.1
comp=Z,8.8nm,1.1s,SNR=5.1
KSP Ksiaz 83.17 321 eP P 15 11 26.9 +0.5
KSP eS S 15 21 43.0 -1.0
KSP Ksiaz 83.17 321 eP P 15 11 27.1 +0.7
KSP eS S 15 21 43.5 -0.5
KSP LMZ LR 15 54 38.0
WDD Wield Dalam 83.23 306 PFAKE 15 11 40.0 +13
WDD LR LR
comp=Z,2μm,21.0s
UPC Upice 83.31 321 eP P 15 11 27.5 +0.4
UPC e 15 11 39.7
UPC Upice 83.31 321 eP P 15 11 27.5 +0.4
UPC epP pP 15 11 39.7 +1.7
ARSA Arzberg 83.32 317⇑ iP P 15 11 27.7 +0.4
comp=Z,19nm,1.1s,SNR=10.0
LEGS Legarje 83.34 316 eP P 15 11 27.5 +0.1
BOJS Bojanci 83.35 315 eP P 15 11 27.3 -0.1
BOJS eS S 15 21 41.7 -4.3
TREC Trest 83.53 319 AMS AMS 15 59 30.0
comp=Z,2μm,21.0s
PERS Pernice 83.54 317 eP P 15 11 28.7 +0.3
PERS eS S 15 21 46.0 -2.1
MSKU Masuku 83.60 268 PFAKE 15 11 40.0 +11
MSKU LR LR
comp=Z,2.0nm,20.0s
SOKA Soboth 83.60 317 i P P 15 11 29.0 +0.2
comp=Z,19nm,1.0s,SNR=16
LJU Ljubljana 83.90 316 eP P 15 11 30.8 +0.5
OBKA Obir 83.92 316⇑ iP P 15 11 30.6 +0.2
comp=Z,12nm,1.2s,SNR=5.5
PRU Pruhonice 84.20 320 eP P 15 11 32.1 +0.4
PRU e 15 11 48.8
PRU e 15 21 53.6
PRU e 15 22 52.4
PRU MLR MLR
comp=Z,2μm,18.5s
PRU Pruhonice 84.20 320 eP P 15 11 32.1 +0.4
PRU eSP sP 15 11 48.8 +2.2
PRU eS S 15 21 53.6 -0.9
PRU ePS PnS 15 22 52.4 +1.3
PRU AMS AMS 15 55 30.0
comp=Z,2μm,18.5s
MOA Molln 84.21 318⇓ iP P 15 11 31.5 -0.4
comp=Z,6.9nm,0.8s
PVCC Panska Ves 84.23 320 eP P 15 11 32.1 +0.3
PVCC e 15 11 43.1
PVCC e 15 21 54.8
PVCC MLR MLR
comp=Z,2μm,18.1s
PVCC Panska Ves 84.23 320 eP P 15 11 32.1 +0.3
PVCC epP pP 15 11 43.1 +0.4
PVCC eS S 15 21 54.8 +0.1
PVCC AMS AMS 15 55 00.0
comp=Z,2μm,18.1s
PRA Prague 84.28 320 eP P 15 11 32.8 +0.7
PRA Prague 84.28 320 eP P 15 11 32.8 +0.7
AQU L'Aquila 84.47 312 P P 15 11 31.5 -1.8
AQU pmax pmax
comp=Z,70nm,1.1s
AQU MLR MLR
comp=Z,1μm,20.0s
AQU L'Aquila 84.47 312 P P 15 11 31.5 -1.8
comp=Z,70nm,1.1s
AQU LR LR
comp=Z,1μm,20.0s
BRG Berggiesshubel 84.66 321 eP P 15 11 34.4 +0.4
comp=Z,11nm,0.9s
BRG PP PP 15 14 50.0 0.0
BRG S S 15 21 58.0 -1.0
BRG PS PnS 15 23 00.0 +3.5
BRG SS SS 15 27 34.0 +3.3
BRG Berggiesshubel 84.66 321 eP P 15 11 34.4 +0.4
BRG 15 14 50.0
BRG S S 15 21 58.0 -1.0
BRG PS PnS 15 23 00.0 +3.5
BRG SS SS 15 27 34.0 +3.3
BRG pmax pmax
comp=Z,11nm,0.9s
BRG MLR MLR
comp=N,2μm,21.5s
BRG MLR MLR
comp=E,2μm,20.9s
BRG MLR MLR
comp=Z,2μm,19.6s
BRG Berggiesshubel 84.66 321 eP P 15 11 34.4 +0.4
comp=Z,18nm,1.1s
GEC2 GERESS Array S 84.66 319 eP P 15 11 34.2 0.0
GEC2 GERESS Array S 84.66 319 eP P 15 11 34.5 +0.3
comp=Z,37nm,1.3s
GEC2 eL L 16 00 40.5
comp=Z,2μm,20.9s
GEC2 GERESS Array S 84.66 319 eP P 15 11 34.2 0.0
GERES GERESS Array B 84.66 319 P P 15 11 34.2 0.0
comp=Z,9.8nm,0.9s,baz=93,slow=5.3,SNR=39
KHC Kasperske Hory 84.76 319 eP P 15 11 34.5 -0.1
KHC e 15 11 49.3
KHC e 15 21 59.5
KHC MLR MLR
comp=Z,2μm,17.8s
KHC Kasperske Hory 84.76 319 eP P 15 11 34.5 -0.1
KHC eSP sP 15 11 49.3 -0.2
KHC eS S 15 21 59.5 -0.7
KHC AMS AMS 16 00 10.0
comp=Z,2μm,17.8s
KHC Kasperske Hory 84.76 319 eP P 15 11 33.9 -0.7
comp=Z,8.6nm,0.9s
RJOB Jochberg 85.20 318 eP P 15 11 37.0 +0.2
comp=Z,11nm,1.0s
WET Wettzell 85.22 319 eP P 15 11 37.4 +0.5
comp=Z,19nm,1.0s
WET eL L 15 56 18.7
comp=Z,2μm,21.2s
CLL Collm 85.28 321⇓ iP P 15 11 38.0 +0.9
CLL e*PP PcP 15 11 44.0 +3.9
CLL eS S 15 22 03.0 -2.1
CLL pmax pmax
comp=Z,16nm,1.0s
CLL MLR MLR
comp=Z,1μm,19.9s
CLL Collm 85.28 321 eP P 15 11 38.0 +0.9
comp=Z,16nm,1.0s
CLL eL L 15 54 22.1
comp=Z,1μm,20.5s
CLL Collm 85.28 321⇓ iP P 15 11 38.0 +0.9
comp=Z,16nm,1.0s
CLL e 15 11 44.0
CLL epP pP 15 11 48.0 0.0
CLL ePPP PPP 15 16 48.0
CLL eS S 15 22 03.0 -2.1
CLL ePPS PPS 15 23 21.0
CLL e(SS) 15 28 12.0
CLL eSSS SSS 15 31 09.0
CLL e 15 32 06.0
CLL eSSSS 15 34 10.0
CLL LmV 15 57 00.0
comp=Z,1μm,19.9s
CLL Collm 85.28 321 eP P 15 11 36.9 -0.2
comp=Z,16nm,1.0s
ABTA Abfaltersbach 85.33 317⇑ iP P 15 11 36.7 -0.9
comp=Z,7.5nm,1.0s
TANN Tannenbergstha 85.57 320 eP P 15 11 39.5 +0.9
comp=Z,9.0nm,1.2s
ROTZ Rotzenmuhle 85.69 320 eP P 15 11 39.9 +0.7
comp=Z,96nm,2.2s

WTTA	**Wattenberg**	**85.96 317**	*i* P	**P**	**15 11 40.3**	**-0.5**
	comp=Z,14nm,0.9s,SNR=5.6					
VNDA	**Vanda**	**86.00 169**	*e*P	**P**	**15 11 39.8**	**-0.4**
VNDA			pmax	pmax		
	comp=Z,20nm,1.2s					
VNDA	**Vanda**	**86.00 169**	P	**P**	**15 11 41.2**	**+1.0**
	comp=Z,11nm,1.0s,baz=300,slow=3.7,SNR=7.1					
VNDA			LR	LR	15 47 52.4	
	comp=Z,3μm,18.1s,baz=312,slow=34					
VNDA	**Vanda**	**86.00 169**	*e*P	**P**	**15 11 39.8**	**-0.4**
	comp=Z,20nm,1.2s					
MOX	**Moxa**	**86.12 320**	*e*P	**P**	**15 11 41.5**	**+0.2**
	comp=Z,9.0nm,1.0s					
RAO	**Raoul Island**	**86.22 119**	LR	LR	15 52 08.5	
	comp=Z,298nm,21.5s,baz=290,slow=37					
FUR	**Furstenfeldbru**	**86.24 318**	*e*L	L	15 58 45.9	
	comp=Z,2μm,19.0s					
MOTA	**Moosalm**	**86.32 317**	⇑*i*P	**P**	**15 11 41.8**	**-0.7**
	comp=Z,7.8nm,0.8s,SNR=5.0					
GRF	**Grafenberg Arr**	**86.33 320**	*e*P	**P**	**15 11 43.3**	**+0.9**
	comp=Z,26nm,1.0s					
RETA	**Reutte**	**86.56 317**	⇑*i*P	**P**	**15 11 43.2**	**-0.4**
	comp=Z,11nm,0.8s,SNR=5.6					
VLC	**Villacollemand**	**86.74 314**	PFAKE		15 11 50.0	+5.5
VLC			LR	LR		
	comp=Z,2μm,22.0s					
NB2	**NORSAR Subarra**	**86.84 331**	P	**P**	**15 11 43.9**	**-0.7**
	comp=Z,14nm,0.8s,baz=95,slow=4.8					
NB2	**NORSAR Subarra**	**86.84 331**	P	**P**	**15 11 43.9**	**-0.7**
	baz=95,slow=4.8					
NOA	**NORSAR Array B**	**86.84 331**	P	**P**	**15 11 44.3**	**-0.4**
	comp=Z,9.3nm,0.8s,baz=94,slow=4.9,SNR=27					
NOA			PP	**PP**	**15 15 05.0**	**-2.5**
	comp=Z,1.6nm,0.8s,baz=104,slow=10.0,SNR=3.6					
NOA			LR	LR	15 55 32.0	
	comp=Z,1μm,19.5s,baz=95,slow=39					
FUORN	**Ofenpass-Fuorn**	**86.88 316**	*e*P	**P**	**15 11 44.6**	**-0.8**
	comp=Z,61nm,1.6s					
CLZ	**Clausthal**	**86.94 322**	*e*P	**P**	**15 11 45.8**	**+0.5**
	comp=Z,16nm,0.9s					
CLZ			*e*L	L	15 57 09.9	
	comp=Z,2μm,21.8s					
BSEG	**Bad Segeberg**	**87.04 324**	*e*P	**P**	**15 11 46.6**	**+1.0**
	comp=Z,42nm,1.2s					
SBA	**Scott Base**	**87.10 169**	P	**P**	**15 11 45.2**	**-0.3**
SBA			pmax	pmax		
	comp=Z,53nm,1.4s					
SBA			MLR	MLR		
	comp=Z,3μm,19.0s					
SBA	**Scott Base**	**87.10 169**	P	**P**	**15 11 45.2**	**-0.3**
	comp=Z,53nm,1.4s					
SBA			LR	LR		
	comp=Z,3μm,19.0s					
NRDL	**Niedersach Rie**	**87.12 322**	*e*P	**P**	**15 11 47.3**	**+1.3**
	comp=Z,48nm,1.5s					
VSL	**Villasalto**	**87.43 309**	PFAKE		15 12 00.0	+12
VSL			LR	LR		
	comp=Z,573nm,19.0s					
KEST	**Kesra**	**87.44 306**	P	**P**	**15 11 49.0**	**+0.9**
	comp=Z,5.4nm,0.8s,baz=249,slow=0.8,SNR=12					
KEST			LR	LR	15 55 17.5	
	comp=Z,453nm,18.7s,baz=20,slow=39					
KEST	**Kesra**	**87.44 306**	*e*P	**P**	**15 11 48.6**	**+0.4**
TUE	**Stuetta**	**87.51 316**	*e*P	**P**	**15 11 48.3**	**-0.1**
	comp=Z,35nm,1.6s					
TUE			LR	LR		
	comp=Z,2μm,20.0s					
KONO	**Kongsberg**	**87.59 329**	PFAKE		15 12 00.0	+12
KONO			LR	LR		
	comp=Z,3μm,19.0s					
STU	**Stuttgart**	**87.64 319**	*e*L	L	15 57 53.4	
	comp=Z,2μm,21.7s					
PGF	**Pioggiola**	**87.73 312**	*e*P	**P**	**15 11 49.1**	**-0.3**
	comp=Z,15nm,1.0s					
PGF	**Pioggiola**	**87.73 312**	*e*P	**P**	**15 11 49.1**	**-0.3**
PGF			pmax	pmax		
	comp=Z,15nm,1.0s					
PGF	**Pioggiola**	**87.73 312**	*e*P	**P**	**15 11 49.1**	**-0.3**
	comp=Z,15nm,1.0s					
KBS	**Kingsbay**	**87.74 349**	PFAKE		15 12 00.0	+11
KBS			LR	LR		
	comp=Z,4μm,22.0s					
MUD	**Monsted U'grnd**	**87.75 326**	*e*P	**P**	**15 11 48.8**	**-0.2**
MUD	**Monsted U'grnd**	**87.75 326**	*i* P	**P**	**15 11 48.8**	**-0.2**
TNS	**Taunus Mts**	**88.13 320**	*e*P	**P**	**15 11 51.8**	**+0.7**
	comp=Z,19nm,1.1s					
TNS			*e*L	L	15 58 48.1	
	comp=Z,1μm,21.3s					
BFO	**Black Forest**	**88.21 318**	*e*P	P	15 11 47.9	-3.6
BFO			pmax	pmax		
	comp=Z,5.0nm,0.8s					
BFO	**Black Forest**	**88.21 318**	*e*P	**P**	**15 11 51.3**	**-0.2**
	comp=Z,8.0nm,0.8s					
BFO			*e*L	L	15 58 02.6	
	comp=Z,2μm,21.0s					
BFO	**Black Forest**	**88.21 318**	*e*P	P	15 11 47.9	-3.6
	comp=Z,5.3nm,0.8s					
IBBN	**Ibbenburen**	**88.56 322**	*e*P	**P**	**15 11 53.9**	**+0.9**
	comp=Z,50nm,1.1s					
SBF	**Sospel**	**88.86 314**	*e*P	**P**	**15 11 54.6**	**-0.1**
	comp=Z,42nm,0.8s					
SBF	**Sospel**	**88.86 314**	*e*P	**P**	**15 11 54.6**	**-0.1**
SBF			pmax	pmax		
	comp=Z,42nm,0.8s					
SBF	**Sospel**	**88.86 314**	*e*P	**P**	**15 11 54.6**	**-0.1**
	comp=Z,42nm,0.8s					
BUG	**Bochum--Univer**	**88.87 321**	*e*P	**P**	**15 11 55.2**	**+0.7**
	comp=Z,22nm,0.9s					
CDF	**Champ du Feu**	**88.91 318**	*e*P	**P**	**15 11 55.1**	**+0.2**
CDF	**Champ du Feu**	**88.91 318**	*e*P	**P**	**15 11 55.1**	**+0.2**
CDF	**Champ du Feu**	**88.91 318**	*e*P	**P**	**15 11 55.1**	**+0.2**
SENIN	**Lac Senin/Sane**	**88.92 316**	*e*P	**P**	**15 11 52.8**	**-2.4**
ECH	**Echery**	**88.99 318**	*e*P	**P**	**15 11 53.6**	**-1.6**
ECH			pmax	pmax		
	comp=Z,5.0nm,1.0s					
ECH			MLR	MLR		
	comp=Z,2μm,19.0s					
ECH	**Echery**	**88.99 318**	*e*P	**P**	**15 11 53.6**	**-1.6**
	comp=Z,5.4nm,1.0s					
ECH			LR	LR		
	comp=Z,2μm,19.0s					
HINF	**Hinteralfeld**	**89.20 318**	*e*P	**P**	**15 11 56.2**	**0.0**
HINF	**Hinteralfeld**	**89.20 318**	*e*P	**P**	**15 11 56.2**	**0.0**
HINF	**Hinteralfeld**	**89.20 318**	*e*P	**P**	**15 11 56.2**	**0.0**
GAMB	**Gambell**	**89.28 26**	*e*P	**P**	**15 11 56.0**	**-0.1**
	comp=Z,40nm,1.5s					
LPG	**La Plagne**	**89.32 315**	*e*P	**P**	**15 11 57.1**	**0.0**
	comp=Z,28nm,0.9s					
LPG	**La Plagne**	**89.32 315**	*e*P	**P**	**15 11 57.1**	**0.0**
LPG			pmax	pmax		
	comp=Z,29nm,0.9s					
LPG	**La Plagne**	**89.32 315**	*e*P	**P**	**15 11 57.1**	**0.0**
	comp=Z,28nm,0.9s					
MBDF	**Montbardon**	**89.33 315**	*e*P	**P**	**15 11 56.2**	**-0.8**
MBDF	**Montbardon**	**89.33 315**	*e*P	**P**	**15 11 56.2**	**-0.8**
MBDF	**Montbardon**	**89.33 315**	*e*P	**P**	**15 11 56.2**	**-0.8**
LPL	**La Plagne**	**89.34 315**	*e*P	**P**	**15 11 57.1**	**0.0**
	comp=Z,20nm,0.8s					
LPL	**La Plagne**	**89.34 315**	*e*P	**P**	**15 11 57.1**	**0.0**
LPL			pmax	pmax		
	comp=Z,20nm,0.8s					
LPL	**La Plagne**	**89.34 315**	*e*P	**P**	**15 11 57.1**	**0.0**
	comp=Z,20nm,0.8s					
BNI	**Bardonecchia**	**89.38 315**	PFAKE		15 12 10.0	+13
BNI			LR	LR		
	comp=Z,1μm,20.0s					
FRF	**La Foret Royal**	**89.44 313**	*e*P	**P**	**15 11 57.5**	**+0.1**
	comp=Z,46nm,1.0s					
FRF	**La Foret Royal**	**89.44 313**	*e*P	**P**	**15 11 57.5**	**+0.1**
FRF			pmax	pmax		
	comp=Z,47nm,1.0s					
FRF	**La Foret Royal**	**89.44 313**	*e*P	**P**	**15 11 57.5**	**+0.1**
	comp=Z,46nm,1.0s					
HAU	**Haudompre**	**89.54 318**	*e*P	**P**	**15 11 57.5**	**-0.2**
	comp=Z,18nm,0.8s					
HAU			*e*R			
	comp=Z,2μm,23.0s					
HAU	**Haudompre**	**89.54 318**	*e*P	**P**	**15 11 57.5**	**-0.2**
HAU			pmax	pmax		
	comp=Z,18nm,0.8s					
HAU	**Haudompre**	**89.54 318**	*e*P	**P**	**15 11 57.5**	**-0.2**
	comp=Z,18nm,0.8s					
LMR	**La Mourre**	**89.55 313**	*e*P	**P**	**15 11 57.8**	**0.0**
	comp=Z,26nm,1.0s					
LMR	**La Mourre**	**89.55 313**	*e*P	**P**	**15 11 57.8**	**0.0**
LMR			pmax	pmax		
	comp=Z,26nm,1.0s					
LMR	**La Mourre**	**89.55 313**	*e*P	**P**	**15 11 57.8**	**0.0**
	comp=Z,26nm,1.0s					
WLF	**Walferdange**	**89.62 319**	P	**P**	**15 11 59.3**	**+1.3**
WLF	**Walferdange**	**89.62 319**	*e*P	**P**	**15 11 58.5**	**+0.5**
	comp=Z,86nm,1.9s					
WLF	**Walferdange**	**89.62 319**	PFAKE		15 12 10.0	+12
WLF			LR	LR		
	comp=Z,2μm,19.0s					
MEM	**Membach**	**89.69 320**	P	**P**	**15 11 59.4**	**+1.0**
	comp=Z,92nm,1.0s					
MEM	**Membach**	**89.69 320**	*e*P	**P**	**15 11 58.2**	**-0.1**
MEM			pmax	pmax		
	comp=Z,22nm,1.0s					
MEM	**Membach**	**89.69 320**	*e*P	**P**	**15 11 58.2**	**-0.1**
	comp=Z,22nm,1.0s					
NVL	**N'lazarevskaya**	**89.75 199**	⇓*i*P	P	15 12 06.2	+8.1
NVL			*e*		15 22 29.8	
NVL			pmax	pmax		
	comp=Z,30nm,0.7s					
CABF	**La Chapelle**	**89.76 316**	*e*P	**P**	**15 11 59.2**	**+0.3**
	comp=Z,25nm,1.0s					
CABF	**La Chapelle**	**89.76 316**	*e*P	**P**	**15 11 59.2**	**+0.3**
CABF			pmax	pmax		
	comp=Z,25nm,1.0s					
CABF	**La Chapelle**	**89.76 316**	*e*P	**P**	**15 11 59.2**	**+0.3**
	comp=Z,25nm,1.0s					
ORIF	**Oris-en-Rattie**	**89.95 315**	*e*P	**P**	**15 12 00.1**	**+0.2**
	comp=Z,22nm,1.0s					
ORIF			*e*R			
	comp=Z,2μm,19.8s					
ORIF	**Oris-en-Rattie**	**89.95 315**	*e*P	**P**	**15 12 00.1**	**+0.2**
ORIF			pmax	pmax		
	comp=Z,22nm,1.0s					
ORIF	**Oris-en-Rattie**	**89.95 315**	*e*P	**P**	**15 12 00.1**	**+0.2**
	comp=Z,22nm,1.0s					
BCLA	**Clavier**	**90.14 320**	P	**P**	**15 12 01.6**	**+1.2**
SMRF	**Simiane la Rot**	**90.21 314**	*e*P	**P**	**15 12 01.5**	**+0.5**
	comp=Z,27nm,1.0s					
SMRF	**Simiane la Rot**	**90.21 314**	*e*P	**P**	**15 12 01.5**	**+0.5**
	comp=Z,27nm,1.0s					
MEZF	**Maizieres J'vi**	**90.39 318**	*e*P	**P**	**15 12 01.9**	**+0.3**
	comp=Z,20nm,0.8s					
MEZF	**Maizieres J'vi**	**90.39 318**	*e*P	**P**	**15 12 01.9**	**+0.3**
	comp=Z,20nm,0.8s					
SFTF	**Sexfontaines**	**90.41 318**	*e*P	**P**	**15 12 01.9**	**+0.1**
	comp=Z,41nm,0.8s					
SFTF	**Sexfontaines**	**90.41 318**	*e*P	**P**	**15 12 01.9**	**+0.1**
	comp=Z,41nm,0.8s					
GIVF	**Givet**	**90.47 320**	*e*P	**P**	**15 12 02.2**	**+0.2**
	comp=Z,20nm,0.7s					
GIVF	**Givet**	**90.47 320**	*e*P	**P**	**15 12 02.2**	**+0.2**
GIVF			pmax	pmax		
	comp=Z,20nm,0.7s					
GIVF	**Givet**	**90.47 320**	*e*P	**P**	**15 12 02.2**	**+0.2**
	comp=Z,20nm,0.7s					
DOU	**Dourbes**	**90.61 320**	P	**P**	**15 12 03.3**	**+0.6**
SNF	**Seneffe**	**90.79 320**	P	**P**	**15 12 03.8**	**+0.3**
TNA	**Tin City**	**90.80 24**	*e*P	**P**	**15 12 02.9**	**-0.3**
VIVF	**Saint-Julien-l**	**90.81 315**	*e*P	**P**	**15 12 03.9**	**+0.1**
	comp=Z,12nm,0.7s					
VIVF	**Saint-Julien-l**	**90.81 315**	*e*P	**P**	**15 12 03.9**	**+0.1**
VIVF			pmax	pmax		
	comp=Z,12nm,0.7s					
VIVF	**Saint-Julien-l**	**90.81 315**	*e*P	**P**	**15 12 03.9**	**+0.1**
	comp=Z,12nm,0.7s					
BAIF	**Baives**	**90.86 320**	*e*P	**P**	**15 12 04.4**	**+0.6**
	comp=Z,66nm,0.9s					
BAIF	**Baives**	**90.86 320**	*e*P	**P**	**15 12 04.4**	**+0.6**
BAIF			pmax	pmax		
	comp=Z,66nm,0.9s					
BAIF	**Baives**	**90.86 320**	*e*P	**P**	**15 12 04.4**	**+0.6**
	comp=Z,66nm,0.9s					
SSB	**Saint Sauveur**	**90.89 315**	*e*P	**P**	**15 12 01.1**	**-3.0**
SSB			pmax	pmax		
	comp=Z,7.0nm,0.8s					
SSB			MLR	MLR		
	comp=Z,911nm,20.0s					
SSB	**Saint Sauveur**	**90.89 315**	*e*P	**P**	**15 12 01.1**	**-3.0**
	comp=Z,7.5nm,0.8s					
SSB			LR	LR		
	comp=Z,911nm,20.0s					
TAM	**Tamanrasset**	**90.99 293**	*e*P	**P**	**15 12 04.4**	**-0.8**
TAM			pmax	pmax		
	comp=Z,15nm,1.2s					
TAM			MLR	MLR		
	comp=Z,1μm,20.0s					
TAM	**Tamanrasset**	**90.99 293**	*e*P	**P**	**15 12 04.4**	**-0.8**
	comp=Z,15nm,1.2s					
TAM			LR	LR		
	comp=Z,1μm,20.0s					
LOR	**Lormes**	**91.25 317**	*e*P	**P**	**15 12 05.8**	**+0.1**
	comp=Z,48nm,0.9s					
LOR			*e*R			
	comp=Z,2μm,19.2s					
LOR	**Lormes**	**91.25 317**	*e*P	**P**	**15 12 05.8**	**+0.1**
LOR			pmax	pmax		
	comp=Z,48nm,0.9s					
LOR	**Lormes**	**91.25 317**	*e*P	**P**	**15 12 05.8**	**+0.1**
	comp=Z,48nm,0.9s					
SMF	**Signal de Mont**	**91.30 317**	*e*P	**P**	**15 12 05.9**	**-0.1**
	comp=Z,43nm,1.0s					
SMF	**Signal de Mont**	**91.30 317**	*e*P	**P**	**15 12 05.9**	**-0.1**
SMF			pmax	pmax		
	comp=Z,43nm,1.0s					
SMF	**Signal de Mont**	**91.30 317**	*e*P	**P**	**15 12 05.9**	**-0.1**
	comp=Z,43nm,1.0s					
QSPA	**South Pole Qui**	**91.32 180**	P	**P**	**15 12 06.5**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=148,slow=0.9,SNR=10					
QSPA	**South Pole Qui**	**91.32 180**	*e*P	**P**	**15 12 05.1**	**-0.6**
	comp=Z,19nm,1.0s					
QSPA			LR	LR		
	comp=Z,3μm,19.0s					
AFI	**Afiamalu**	**91.35 104**	PFAKE		15 12 20.0	+13
AFI			LR	LR		
	comp=Z,1μm,19.0s					
LASF	**Ste Croix**	**91.44 314**	*e*P	**P**	**15 12 06.9**	**+0.2**
LASF	**Ste Croix**	**91.44 314**	*e*P	**P**	**15 12 06.9**	**+0.2**
SSF	**Saint Saulge**	**91.51 317**	*e*P	**P**	**15 12 07.1**	**+0.2**
SSF	**Saint Saulge**	**91.51 317**	*e*P	**P**	**15 12 07.1**	**+0.2**
SSF	**Saint Saulge**	**91.51 317**	*e*P	**P**	**15 12 07.1**	**+0.2**
AVF	**Avril sur Loir**	**91.63 317**	*e*P	**P**	**15 12 07.5**	**+0.1**
	comp=Z,34nm,1.0s					
AVF	**Avril sur Loir**	**91.63 317**	*e*P	**P**	**15 12 07.5**	**+0.1**
AVF			pmax	pmax		
	comp=Z,34nm,1.0s					
AVF	**Avril sur Loir**	**91.63 317**	*e*P	**P**	**15 12 07.5**	**+0.1**
	comp=Z,34nm,1.0s					
BGF	**Bois d'Agland**	**91.99 316**	*e*P	**P**	**15 12 09.7**	**+0.5**
	comp=Z,55nm,1.0s					
BGF	**Bois d'Agland**	**91.99 316**	*e*P	**P**	**15 12 09.7**	**+0.5**
BGF			pmax	pmax		
	comp=Z,55nm,1.0s					
BGF	**Bois d'Agland**	**91.99 316**	*e*P	**P**	**15 12 09.7**	**+0.5**
	comp=Z,55nm,1.0s					
HYF	**Humbligny**	**92.08 317**	*e*P	**P**	**15 12 10.2**	**+0.6**
HYF	**Humbligny**	**92.08 317**	*e*P	**P**	**15 12 10.2**	**+0.6**
TCF	**Toulx Ste Croi**	**92.45 316**	*e*P	**P**	**15 12 11.6**	**+0.3**
TCF	**Toulx Ste Croi**	**92.45 316**	*e*P	**P**	**15 12 11.6**	**+0.3**
TCF	**Toulx Ste Croi**	**92.45 316**	*e*P	**P**	**15 12 11.6**	**+0.3**
CAF	**Calviac**	**92.66 315**	*e*P	**P**	**15 12 12.8**	**+0.5**
	comp=Z,7.1nm,0.8s					
CAF	**Calviac**	**92.66 315**	*e*P	**P**	**15 12 12.8**	**+0.5**
CAF			pmax	pmax		
	comp=Z,7.0nm,0.8s					
CAF	**Calviac**	**92.66 315**	*e*P	**P**	**15 12 12.8**	**+0.5**
	comp=Z,7.1nm,0.8s					
MTLF	**Montolieu**	**92.67 313**	*e*P	**P**	**15 12 12.7**	**+0.3**
	comp=Z,28nm,1.1s					
MTLF	**Montolieu**	**92.67 313**	*e*P	**P**	**15 12 12.7**	**+0.3**
MTLF			pmax	pmax		
	comp=Z,28nm,1.1s					
MTLF	**Montolieu**	**92.67 313**	*e*P	**P**	**15 12 12.7**	**+0.3**
	comp=Z,28nm,1.1s					
RJF	**Les Rejaudoux**	**93.02 315**	*e*P	**P**	**15 12 14.5**	**+0.6**
	comp=Z,8.2nm,0.7s					
RJF			*e*R			
	comp=Z,1μm,20.0s					
RJF	**Les Rejaudoux**	**93.02 315**	*e*P	**P**	**15 12 14.5**	**+0.6**
RJF			pmax	pmax		
	comp=Z,8.0nm,0.7s					
RJF	**Les Rejaudoux**	**93.02 315**	*e*P	**P**	**15 12 14.5**	**+0.6**
	comp=Z,8.2nm,0.7s					
LFF	**La Frestale**	**93.60 315**	*e*P	**P**	**15 12 17.2**	**+0.6**
LFF	**La Frestale**	**93.60 315**	*e*P	**P**	**15 12 17.2**	**+0.6**
LFF	**La Frestale**	**93.60 315**	*e*P	**P**	**15 12 17.2**	**+0.6**
LDF	**La Druitiere**	**93.81 319**	*e*P	**P**	**15 12 17.5**	**0.0**
	comp=Z,30nm,1.1s					
LDF	**La Druitiere**	**93.81 319**	*e*P	**P**	**15 12 17.5**	**0.0**
LDF			pmax	pmax		
	comp=Z,30nm,1.1s					
LDF	**La Druitiere**	**93.81 319**	*e*P	**P**	**15 12 17.5**	**0.0**
	comp=Z,30nm,1.1s					
FLN	**La Foliniere**	**94.03 319**	*e*P	**P**	**15 12 18.2**	**-0.3**
FLN			*e*R			
	comp=Z,2μm,22.0s					
FLN	**La Foliniere**	**94.03 319**	*e*P	**P**	**15 12 18.2**	**-0.3**
FLN	**La Foliniere**	**94.03 319**	*e*P	**P**	**15 12 18.2**	**-0.3**
MFF	**Saint Martin d**	**94.04 317**	*e*P	**P**	**15 12 18.7**	**+0.1**
	comp=Z,19nm,1.1s					
MFF	**Saint Martin d**	**94.04 317**	*e*P	**P**	**15 12 18.7**	**+0.1**
MFF			pmax	pmax		
	comp=Z,19nm,1.1s					
MFF	**Saint Martin d**	**94.04 317**	*e*P	**P**	**15 12 18.7**	**+0.1**
	comp=Z,19nm,1.1s					
GRR	**Gorron**	**94.32 319**	*e*P	**P**	**15 12 20.9**	**+1.1**
GRR	**Gorron**	**94.32 319**	*e*P	**P**	**15 12 20.9**	**+1.1**
GRR	**Gorron**	**94.32 319**	*e*P	**P**	**15 12 20.9**	**+1.1**
DAG	**Danmarks Havn**	**94.42 348**	*i* P	**P**	**15 12 18.1**	**-1.6**
SNAA	**Sanae**	**94.45 198**	P	P	15 12 25.8	+5.8
	comp=Z,2.4nm,0.9s,baz=69,slow=4.2,SNR=4.4					
ETSF	**Etsaut**	**94.74 313**	*e*P	**P**	**15 12 25.0**	**+3.0**
	comp=Z,20nm,0.9s					
ETSF	**Etsaut**	**94.74 313**	*e*P	**P**	**15 12 25.0**	**+3.0**
ETSF			pmax	pmax		
	comp=Z,20nm,0.9s					
ETSF	**Etsaut**	**94.74 313**	*e*P	**P**	**15 12 25.0**	**+3.0**
	comp=Z,20nm,0.9s					
ESK	**Eskdalemuir**	**94.78 326**	PFAKE		15 12 30.0	+8.2
ESK			LR	LR		
	comp=Z,2μm,21.0s					
TORD	**Torodi Ar. Bea**	**95.02 283**	P	**P**	**15 12 24.1**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=85,slow=3.8,SNR=6.4					
TORD			PP	PP	15 16 30.2	+17
	comp=Z,1.4nm,1.1s,baz=94,slow=6.1,SNR=3.5					
TORD			LR	LR	15 54 10.3	
	comp=Z,2μm,19.1s,baz=70,slow=35					
ESDC	**Sonseca Array**	**97.69 310**	P	**P**	**15 12 35.2**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=48,slow=4.7,SNR=5.5					
ESDC			PP	PP	15 16 20.9	-13
	comp=Z,0.1nm,0.3s,baz=68,slow=12,SNR=4.0					
ESDC			LR	LR	15 58 57.2	
	comp=Z,670nm,21.3s,baz=135,slow=37					
PAB	**San Pablo**	**98.00 310**	PFAKE		15 12 50.0	+13
PAB			LR	LR		
	comp=Z,1μm,19.0s					
COLA	**College**	**99.13 23**	*e*P	**Pdif**	**15 12 41.6**	**+0.4**
COLA			pmax	pmax		
	comp=Z,7.0nm,0.9s					
COLA	**College**	**99.13 23**	PFAKE		15 12 50.0	+8.8
COLA			LR	LR		
	comp=Z,2μm,20.0s					
KDAK	**Kodiak Island**	**99.51 31**	PFAKE		15 12 50.0	+7.0
KDAK			LR	LR		
	comp=Z,3μm,19.0s					
ILAR	**Eielson Array**	**99.55 23**	P	**Pdif**	**15 12 42.0**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=306,slow=4.7,SNR=9.9					
ILAR			PP	PP	15 16 30.8	-16
	comp=Z,0.9nm,0.8s,baz=299,slow=7.5,SNR=4.8					
ILAR			PKKPbc	**PKKPdf**	**15 29 13.3**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=161,slow=2.3,SNR=6.9					
MVO	**Moncorvo**	**99.76 312**	*e*SKS	**S**	**15 24 17.7**	**+1.4**
MVO	**Moncorvo**	**99.76 312**	*e*LR	LR	15 58 23.4	
	comp=Z,747nm,18.0s					
MTE	**Manteigas**	**100.28 311**	*e*SKS	x	15 24 25.5	
MTE	**Manteigas**	**100.28 311**	*e*LR	LR	15 58 39.7	
	comp=Z,944nm,18.0s					
MTE	**Manteigas**	**100.28 311**	PFAKE		15 13 00.0	+13
MTE			LR	LR		
	comp=Z,1μm,20.0s					
PBAR	**Barrancos**	**100.30 309**	*e*SKS	**Sdif**	**15 24 17.6**	**-3.1**
PMRV	**Marv??o**	**100.35 310**	*e*SKS	**Sdif**	**15 24 15.9**	**-5.2**
PMRV	**Marv??o**	**100.35 310**	*e*LR	LR	15 58 58.2	
	comp=Z,703nm,20.0s					
PVIS	**Viseu**	**100.49 312**	*e*PP	PP	15 17 03.1	+8.3
BORG	**Borgarnes**	**100.55 337**	PFAKE		15 13 00.0	+12
BORG			LR	LR		
	comp=Z,2μm,20.0s					
PESTR	**Estremoz**	**100.60 310**	*e*SKS	x	15 24 18.0	
RTC	**Rabat Centre**	**100.84 305**	PFAKE		15 13 00.0	+10
RTC			LR	LR		
	comp=Z,1μm,20.0s					
PVAQ	**Vaqueiros**	**100.96 308**	*e*SKS	x	15 24 31.8	
PVAQ	**Vaqueiros**	**100.96 308**	*e*LR	LR	15 58 26.2	
	comp=Z,820nm,22.0s					
EVO	**Evora**	**100.98 310**	*e*PP	PP	15 17 00.4	+1.9
PMTG	**Montargil**	**101.05 310**	*e*SKS	**Sdif**	**15 24 28.7**	**+1.7**
PCAS	**Casmilo, Conde**	**101.07 311**	*e*SKS	**Sdif**	**15 24 29.7**	**+2.6**
PNCL	**Nicolau / Gran**	**101.46 309**	*e*SKS	**Sdif**	**15 24 31.2**	**+0.8**
MORF	**Marmelete**	**101.71 308**	*e*PP	PP	15 17 02.5	-1.6
MORF			*e*SKS		15 24 35.4	
EGAK	**Eagle**	**101.73 22**	PFAKE		15 13 00.0	+7.2
EGAK			LR	LR		
	comp=Z,8μm,20.0s					
PMAFR	**Mafra**	**101.88 310**	*e*SKS	Sdif	15 24 22.4	-12
LIC	**Lamto**	**101.97 277**	*e*P	**Pdif**	**15 12 57.4**	**+2.4**
	comp=Z,101nm,1.7s					
LIC			*e*R			
	comp=Z,3μm,20.2s					
LIC	**Lamto**	**101.97 277**	*e*P	**Pdif**	**15 12 57.4**	**+2.4**
	comp=Z,101nm,1.7s					
INK	**Inuvik**	**102.32 17**	P	**Pdif**	**15 12 55.0**	**-0.3**
INK	**Inuvik**	**102.32 17**	P	**Pdif**	**15 12 55.0**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=322,slow=7.8,SNR=5.4					
RAR	**Rarotonga**	**102.67 111**	PFAKE		15 13 10.0	+12
RAR			LR	LR		
	comp=Z,3.0nm,21.0s					
SHEL	**Horse Pasture**	**102.79 254**	PFAKE		15 13 10.0	+11
SHEL			LR	LR		
	comp=Z,3μm,19.0s					
PMOZ	**Porto Moniz, M**	**109.54 306**	*e*LR	LR	16 01 51.2	
	comp=Z,1μm,18.0s					
WRAK	**Wrangell Islan**	**109.93 27**	PFAKE		15 17 40.0	
WRAK			LR	LR		
	comp=Z,4μm,20.0s

SCHQ PP **PP** 15 19 29.1 -1.9
comp=Z,3.8nm,0.8s,baz=18,slow=3.6,SNR=3.5
HAWA Hanford 122.52 29 *e*PKPdf **PKPdf** 15 17 55.8 -0.1
HAWA LR LR
comp=Z,2μm,21.0s
J04D Umpqua Nationa 123.32 34 ⇑PKiKP **PKPdf** 15 17 56.7 -1.0
baz=123
BSMT Bassoo Peak 123.62 25 *e*PKPdf **PKPdf** 15 17 58.4 +0.3
J05D Fort Rock, OR 123.77 33 ⇓PKiKP **PKPdf** 15 17 57.1 -1.4
baz=124
K04D Chiloquin, OR 123.92 34 ⇓PKiKP **PKPdf** 15 17 57.2 -1.6
baz=124
M04C Macdoel 124.41 35 ⇓PKiKP **PKPdf** 15 17 57.9 -1.9
baz=124
SLMT Seeley Lake 124.64 25 *e*PKPdf **PKPdf** 15 18 00.3 +0.2
BMO Blue Mountains 124.71 29 PFAKE 15 18 10.0 +10
BMO LR LR
comp=Z,3μm,20.0s
MSO Missoula 124.78 26 ⇑PKiKP **PKPdf** 15 18 00.0 -0.3
baz=125
RKT Rikitea 125.04 117 *e*LR LR 15 56 53.3
comp=Z,3μm,24.8s
A19A Klindworth Far 125.11 21 ⇑PKiKP **PKPdf** 15 18 00.9 +0.1
baz=125
MOD Modoc Plateau 125.20 34 *e*PKPdf **PKPdf** 15 18 01.7 +0.4
A20A Cobblestone Ra 125.43 20 ⇑PKiKP **PKPdf** 15 18 01.6 +0.2
baz=125
EGMT Eagleton 125.50 22 ⇑PKiKP **PKiKP** 15 18 02.1 +0.1
baz=125
EGMT Eagleton 125.50 22 *e*PKPdf **PKPdf** 15 18 01.1 -0.5
EGMT LR LR
comp=Z,3μm,19.0s
A21A Bergtoll Ranch 125.67 19 ⇓PKiKP **PKiKP** 15 18 02.2 -0.1
baz=126
WVOR Wild Horse Val 125.75 32 PFAKE 15 18 10.0 +7.7
WVOR LR LR
comp=Z,2μm,20.0s
A22A Carney Farms, 126.00 19 ⇑PKiKP **PKPdf** 15 18 02.0 -0.6
baz=126
C19A Slack Wire Ran 126.00 22 ⇓PKiKP **PKiKP** 15 18 03.3 +0.3
baz=126
A23A Redstone 126.36 18 ⇑PKiKP **PKPdf** 15 18 02.8 -0.4
baz=126
C20A Veseth Ranch, 126.40 21 ⇑PKiKP **PKPdf** 15 18 03.1 -0.3
baz=126
D19A Cripps Ranch, 126.54 22 ⇑PKiKP **PKPdf** 15 18 03.9 +0.2
baz=126
B22A Reddig Ranch S 126.58 19 ⇑PKiKP **PKPdf** 15 18 02.9 -0.8
baz=126
C21A Desert Coulee 126.62 20 ⇓PKiKP **PKiKP** 15 18 04.0 -0.2
baz=126
A24A Westby 126.65 17 ⇑PKiKP **PKiKP** 15 18 04.4 +0.2
baz=126
BOZ Bozeman (W) 126.69 25 *e*PKIKP **PKPdf** 15 18 03.9 -0.2
BOZ MLR MLR
comp=Z,3μm,20.0s
BOZ Bozeman (W) 126.69 25 *e*PKPdf **PKPdf** 15 18 03.9 -0.2
BOZ LR LR
comp=Z,2μm,20.0s
B23A Brockton 126.76 18 ⇓PKiKP **PKiKP** 15 18 04.5 0.0
baz=127
D20A Manuel Ranch, 126.88 21 ⇓PKiKP **PKiKP** 15 18 05.3 +0.6
baz=127
A25A Svangstu Ranch 126.90 17 ⇓PKiKP **PKPdf** 15 18 04.3 +0.2
baz=127
HLID Hailey 127.06 28 ⇑PKiKP **PKPdf** 15 18 04.2 -0.7
baz=127
HLID Hailey 127.06 28 PFAKE 15 18 10.0 +5.1
HLID LR LR
comp=Z,3μm,20.0s
C22A Vida 127.10 19 ⇑PKiKP **PKiKP** 15 18 05.4 +0.2
baz=127
E19A Rath Farm, Rou 127.17 22 ⇓PKiKP **PKiKP** 15 18 06.0 +0.6
baz=127
C23A Lambert 127.28 19 ⇓PKiKP **PKPdf** 15 18 05.2 +0.2
baz=127
D21A La Casta Ranch 127.31 21 ⇓PKiKP **PKPdf** 15 18 04.2 -0.9
baz=127
ULM Lac du Bonnet 127.37 11 PKP **PKPdf** 15 18 04.5 -0.6
comp=Z,7.4nm,0.9s,baz=348,slow=3.2,SNR=11
A27A Ledoux Ranch, 127.40 15 ⇑PKiKP **PKPdf** 15 18 05.1 0.0
baz=127
B25A Knox Farm, Ray 127.48 17 ⇓PKiKP **PKPdf** 15 18 04.9 -0.4
baz=127
D22A Cohagen 127.52 20 ⇓PKiKP **PKiKP** 15 18 06.6 +0.6
baz=127
F19A Roth Farm, Mol 127.61 23 ⇑PKiKP **PKiKP** 15 18 06.9 +0.6
baz=128
B26A Jensen Ranch, 127.66 16 ⇑PKiKP **PKiKP** 15 18 06.1 -0.1
baz=128
A28A Rude Farm, Bot 127.69 14 ⇓PKiKP **PKiKP** 15 18 06.4 +0.1
baz=128
E21A Keefer Ranch, 127.73 21 ⇓PKiKP **PKiKP** 15 18 07.1 +0.6
baz=128
C24A Savage 127.76 18 ⇑PKiKP **PKiKP** 15 18 06.5 +0.1
baz=128
D23A Lindsay 127.83 19 ⇑PKiKP **PKiKP** 15 18 07.1 +0.5
baz=128
LAO LASA Array 127.91 20 PFAKE 15 18 20.0 +14
LAO LR LR
comp=Z,2μm,20.0s
A29A Manning Farm, 127.93 14 ⇓PKiKP **PKiKP** 15 18 06.9 +0.2
baz=128
C25A Freed Ranch, W 127.96 17 ⇓PKiKP **PKiKP** 15 18 07.6 +0.8
baz=128
F20A Billings 127.96 22 ⇓PKiKP **PKiKP** 15 18 06.8 -0.2
baz=128
B28A Dugan Ranch, T 128.09 15 ⇓PKiKP **PKiKP** 15 18 06.8 -0.3
baz=128
RLMT Red Lodge 128.09 24 PFAKE 15 18 20.0 +13
RLMT LR LR
comp=Z,3μm,21.0s
A30A Hoffart Farm, 128.12 13 ⇓PKiKP **PKPdf** 15 18 06.6 +0.1
baz=128
H17A Grant Village 128.15 25 ⇑PKiKP **PKPdf** 15 18 06.5 -0.5
baz=128
D24A Glendive 128.16 19 ⇑PKiKP **PKPdf** 15 18 06.7 0.0
baz=128
C26A Wahner Farm, P 128.19 16 ⇑PKiKP **PKiKP** 15 18 07.5 +0.2
baz=128
E22A Miles City 128.22 20 ⇑PKiKP **PKPdf** 15 18 07.0 +0.2
baz=128
H18A Shoshone NF, C 128.30 24 ⇓PKiKP **PKiKP** 15 18 08.0 +0.1
baz=128
B29A Wagenman Farm, 128.32 14 ⇑PKiKP **PKiKP** 15 18 07.6 0.0
baz=128
F21A Absaloka Mine, 128.33 22 ⇓PKiKP **PKiKP** 15 18 07.6 -0.1
baz=128
E23A Ismay 128.38 20 ⇓PKiKP **PKPdf** 15 18 07.2 0.0
baz=128
G20A Bridger 128.43 23 ⇑PKiKP **PKPdf** 15 18 07.0 -0.4
baz=128
I17A Pilgrim Ck. 128.53 25 ⇓PKiKP **PKPdf** 15 18 07.1 -0.6
baz=129
H19A Powell 128.58 24 ⇓PKiKP **PKiKP** 15 18 09.1 +0.7
baz=128
B30A Myrvik Farm, E 128.58 13 ⇑PKiKP **PKPdf** 15 18 07.1 -0.3
baz=128
E24A Baker 128.66 19 ⇑PKiKP **PKiKP** 15 18 08.6 +0.2
baz=128
NVAR Mina Array Bea 128.66 36 PKP **PKPdf** 15 18 09.6 +1.4
comp=Z,4.5nm,0.9s,baz=260,slow=2.2,SNR=13
G21A Lodge Grass 128.80 22 ⇑PKiKP **PKPdf** 15 18 08.1 0.0
baz=129
D26A Manning 128.82 17 ⇓PKiKP **PKiKP** 15 18 08.4 -0.2
baz=129
MDND Maddock 128.84 14 ⇓PKiKP **PKiKP** 15 18 08.6 0.0
baz=129
MLAC Mammoth, Mammt 128.87 37 ⇑PKiKP **PKPdf** 15 18 08.7 +0.1
baz=129
E25A Miller Ranch, 129.00 18 ⇓PKiKP **PKiKP** 15 18 08.9 -0.2
baz=129
D27A Center 129.01 16 ⇓PKiKP **PKiKP** 15 18 08.9 -0.1
baz=129
F23A Volborg 129.03 20 ⇑PKiKP **PKiKP** 15 18 08.9 -0.2
baz=129
I19A Meeteetse 129.10 24 ⇑PKiKP **PKiKP** 15 18 09.8 +0.3
baz=129
H20A Greybull 129.12 23 ⇑PKiKP **PKPdf** 15 18 08.8 +0.1
baz=129
G22A Birney 129.15 21 ⇑PKiKP **PKiKP** 15 18 09.5 +0.1
baz=129
D28A Regan 129.19 16 ⇑PKiKP **PKPdf** 15 18 09.0 +0.3
baz=129
AHID Auburn Hatcher 129.22 27 PFAKE 15 18 20.0 +11
AHID LR LR
comp=Z,4μm,19.0s
AGMN Agassiz Nation 129.24 11 ⇑PKiKP **PKPdf** 15 18 08.2 -0.4
baz=129
AGMN Agassiz Nation 129.24 11 PFAKE 15 18 20.0 +11
AGMN LR LR
comp=Z,3μm,20.0s
F24A Ekalaka 129.24 19 ⇑PKiKP **PKPdf** 15 18 08.6 -0.2
baz=129
C30A Mose, Pekin 129.25 14 ⇑PKiKP **PKPdf** 15 18 08.5 -0.2
baz=129
E26A Carlson Angus 129.31 17 ⇑PKiKP **PKPdf** 15 18 08.9 0.0
baz=129
H21A Big Horn, Sher 129.37 22 ⇓PKiKP **PKPdf** 15 18 09.4 +0.2
baz=129
G23A Biddle 129.48 21 ⇓PKiKP **PKiKP** 15 18 11.1 +1.1
baz=129
I20A Worland 129.52 24 ⇓PKiKP **PKiKP** 15 18 09.9 -0.4
baz=129
D29A Pettibone, Tap 129.57 15 ⇓PKiKP **PKPdf** 15 18 09.0 -0.3
baz=129
E27A Carson 129.62 17 ⇑PKiKP **PKPdf** 15 18 09.5 0.0
baz=130
TIN Tinemaha, Big 129.62 37 ⇑PKiKP **PKPdf** 15 18 09.6 -0.3
baz=130
SMMC Simmler 129.63 40 ⇑PKiKP **PKiKP** 15 18 11.2 +0.6
baz=130
H22A Clearmont 129.66 22 ⇑PKiKP **PKiKP** 15 18 10.1 -0.3
baz=130
J19A Crowheart 129.71 25 ⇓PKiKP **PKPdf** 15 18 08.1 -1.8
baz=130
G24A Alzada 129.71 20 ⇓PKiKP **PKPdf** 15 18 09.8 +0.1
baz=130
D30A Buchanan 129.74 14 ⇓PKiKP **PKiKP** 15 18 10.2 -0.2
baz=130
F26A Lodgepole 129.81 18 ⇓PKiKP **PKPdf** 15 18 09.7 -0.2
baz=130
VES Vestal, Richgr 129.88 39 ⇓PKiKP **PKiKP** 15 18 11.0 0.0
baz=130
BW06 Boulder Array 129.90 26 PFAKE 15 18 20.0 +10
BW06 LR LR
comp=Z,2μm,21.0s
PDAR Pinedale Array 129.90 26 PKhKP PKPpre 15 18 06.7
comp=Z,1.9nm,0.8s,baz=168,slow=1.4,SNR=6.9
HWUT Hardware Ranch 129.91 28 PFAKE 15 18 20.0 +10
HWUT LR LR
comp=Z,3μm,19.0s
I21A Big Trails, Te 129.97 23 ⇓PKiKP **PKiKP** 15 18 11.0 -0.2
baz=130
F27A Lemmon 129.99 17 ⇑PKiKP **PKiKP** 15 18 11.7 +0.7
baz=130
J20A Shoshoni 130.03 24 ⇑PKiKP **PKiKP** 15 18 10.9 -0.4
baz=130
G25A Newell 130.16 19 ⇓PKiKP **PKPdf** 15 18 10.3 -0.2
baz=130
GRAC Grapevine Rang 130.16 36 ⇑PKiKP **PKPdf** 15 18 10.5 -0.3
baz=130
H24A Dirks Ranch, A 130.17 20 ⇑PKiKP **PKPdf** 15 18 10.1 -0.6
baz=130
I22A 9 Mile Ranch, 130.21 22 ⇓PKiKP **PKPdf** 15 18 10.4 -0.4
baz=130
E30A Jud 130.26 15 ⇓PKiKP **PKiKP** 15 18 11.8 +0.3
baz=130
R11A Troy Canyon, C 130.27 34 ⇓PKiKP **PKiKP** 15 18 11.8 -0.2
baz=130
R11A Troy Canyon, C 130.27 34 *e*PKPdf **PKPdf** 15 18 12.5 +1.3
J21A Lysite 130.30 23 ⇑PKiKP **PKPdf** 15 18 11.4 +0.4
baz=130
EYMN Ely 130.30 8 PFAKE 15 18 20.0 +9.3
EYMN LR LR
comp=Z,3μm,21.0s
G26A Maurine 130.33 18 ⇑PKiKP **PKPdf** 15 18 10.8 -0.1
baz=130
F28A McLaughlin 130.36 16 ⇓PKiKP **PKPdf** 15 18 11.1 +0.2
baz=130
ISA Isabella, Lake 130.37 39 ⇑PKiKP **PKPdf** 15 18 11.4 +0.1
baz=130
DUG Dugway, Tooele 130.39 30 *e*PKIKP **PKPdf** 15 18 11.8 +0.5
DUG MLR MLR
comp=Z,2μm,20.0s
DUG Dugway, Tooele 130.39 30 ⇓PKiKP **PKPdf** 15 18 11.3 0.0
baz=130
DUG Dugway, Tooele 130.39 30 *e*PKPdf **PKPdf** 15 18 11.8 +0.5
DUG LR LR
comp=Z,2μm,20.0s
H25A Fruitdale 130.60 19 ⇑PKiKP **PKiKP** 15 18 12.3 -0.1
baz=130
J22A Midwest 130.62 23 ⇑PKiKP **PKPdf** 15 18 11.8 +0.1
baz=130
F30A Leola 130.85 15 ⇑PKiKP **PKPdf** 15 18 11.1 -0.7
baz=131
H26A Fairpoint 130.88 19 ⇓PKiKP **PKiKP** 15 18 13.1 +0.3
baz=131
RSSD Black Hills 130.90 20 *e*PKIKP **PKPdf** 15 18 11.5 -0.8
RSSD Black Hills 130.90 20 *e*PKPdf **PKPdf** 15 18 11.4 -0.8
I24A Kuemmerle Ranc 130.92 21 ⇑PKiKP **PKPdf** 15 18 12.0 -0.2
baz=131
K21A Alcova 130.97 24 ⇑PKiKP **PKPdf** 15 18 11.9 -0.5
baz=131
J23A Dilts Ranch, B 130.98 22 ⇓PKiKP **PKiKP** 15 18 13.5 +0.3
baz=131
LRMC Laurel Mtn Rad 130.98 38 ⇓PKiKP **PKiKP** 15 18 14.5 +1.1
baz=131
G28A Parade 131.04 17 ⇓PKiKP **PKPdf** 15 18 11.7 -0.5
baz=131
H27A Howes 131.09 18 ⇑PKiKP **PKPdf** 15 18 12.3 -0.1
baz=131
I25A Rochford 131.09 20 ⇓PKiKP **PKPdf** 15 18 11.8 -0.7
baz=131
G29A Hoven 131.21 16 ⇑PKiKP **PKiKP** 15 18 13.0 -0.4
baz=131
K22A Casper 131.25 23 ⇓PKiKP **PKPdf** 15 18 13.1 +0.2
baz=131
K22A Casper 131.25 23 *e*PKPdf **PKPdf** 15 18 13.1 +0.2
DECC Green Verdugo 131.36 40 ⇓PKiKP **PKiKP** 15 18 14.9 +0.8
baz=131
J24A Dixon Ranch, L 131.37 21 ⇓PKiKP **PKiKP** 15 18 15.1 +1.2
baz=131
I26A New Underwood 131.37 19 ⇑PKiKP **PKiKP** 15 18 14.2 +0.4
baz=131
G30A Faulkton 131.48 15 ⇓PKiKP **PKiKP** 15 18 14.4 +0.4
baz=131
I27A Quinn 131.60 19 ⇑PKiKP **PKiKP** 15 18 14.3 0.0
baz=131
J25A Sunshine Ranch 131.62 20 ⇑PKiKP **PKPdf** 15 18 13.0 -0.5
baz=132
GSC Goldstone, Bar 131.64 38 ⇓PKiKP **PKPdf** 15 18 12.9 -0.9
baz=132
BFSC Mount Baldy Ra 131.80 39 ⇓PKiKP **PKPdf** 15 18 11.4 -2.7
baz=132
L22A Ellis Ranch, M 131.81 24 ⇑PKiKP **PKPdf** 15 18 14.2 +0.2
baz=132
TMUT Trail Mountain 131.87 30 *e*PKPdf **PKPdf** 15 18 14.8 +0.5
J26A Sides Ranch, S 131.94 20 ⇑PKiKP **PKPdf** 15 18 13.0 -1.0
baz=132
L23A Garrett 132.02 23 ⇑PKiKP **PKPdf** 15 18 12.8 -1.6
baz=132
PKME Peaks-Kenny Pk 132.03 347 PFAKE 15 18 20.0 +6.0
PKME LR LR
comp=Z,4μm,20.0s
N20A Spence Gulch, 132.03 26 ⇑PKiKP **PKPdf** 15 18 12.6 -1.9
baz=132
BRSD Miller 132.17 16 ⇑PKiKP **PKPdf** 15 18 14.8 +0.5
baz=132
I29A Vivian Onida 132.18 17 ⇓PKiKP **PKiKP** 15 18 15.2 -0.2
baz=132
BBRC Big Bear Solar 132.25 39 ⇑PKiKP **PKPdf** 15 18 14.2 -0.9
baz=132
M22A Cedar Creek Ra 132.27 24 ⇓PKiKP **PKPdf** 15 18 14.4 -0.6
baz=132
K25A Mack Ranch, Ha 132.28 21 ⇓PKiKP **PKPdf** 15 18 14.9 +0.1
baz=132
SRU San Rafael Swe 132.35 29 *e*PKIKP **PKPdf** 15 18 16.0 +0.9
SRU San Rafael Swe 132.35 29 *e*PKPdf **PKPdf** 15 18 16.0 +0.9
J28A Allard Ranch, 132.44 18 ⇑PKiKP **PKPdf** 15 18 15.3 +0.4
baz=132
K26A Motz Farm, Whi 132.44 20 ⇑PKiKP **PKPdf** 15 18 15.3 +0.3
baz=132
MURC Murrieta 132.50 40 ⇓PKiKP **PKPdf** 15 18 13.3 -2.0
baz=132
I30A Oacoma 132.53 16 ⇓PKiKP **PKPdf** 15 18 14.9 -0.1
baz=132
O20A White River Ci 132.61 27 ⇓PKiKP **PKPdf** 15 18 16.0 +0.4
baz=132
O20A White River Ci 132.61 27 *e*PKPdf **PKPdf** 15 18 16.4 +0.8
L25A Engebretsen Ra 132.64 21 ⇑PKiKP **PKiKP** 15 18 16.8 +0.2
baz=132
GMRC Granite Mounta 132.68 37 ⇑PKiKP **PKPdf** 15 18 15.4 -0.3
baz=133
N22A Wattenberg Ran 132.83 25 ⇓PKiKP **PKPdf** 15 18 14.8 -1.2
baz=133
M24A Cheyenne 132.91 23 ⇓PKiKP **PKiKP** 15 18 17.7 +0.5
baz=133
N23A Red Feather La 132.96 24 ⇓PKiKP **PKiKP** 15 18 18.1 +0.7
baz=133
PFO Pinyon Flats O 132.97 39 PFAKE 15 18 30.0 +14
PFO LR LR
comp=Z,2μm,21.0s
J30A Dallas 133.05 17 ⇓PKiKP **PKPdf** 15 18 16.5 +0.4
baz=133
O22A Kremmling 133.32 25 ⇓PKiKP **PKPdf** 15 18 17.1 +0.1
baz=133
IRM Iron Mountain 133.41 38 ⇓PKiKP **PKPdf** 15 18 17.3 +0.3
baz=133
ECSD EROS Data Cent 133.42 14 ⇑PKiKP **PKPdf** 15 18 17.3 +0.6
baz=133
ECSD EROS Data Cent 133.42 14 *e*PKPdf **PKPdf** 15 18 16.9 +0.1
ECSD LR LR
comp=Z,3μm,21.0s
N24A Carr 133.44 23 ⇑PKiKP **PKPdf** 15 18 15.3 -1.8
baz=133
MONP Monument Peak, 133.46 40 ⇓PKiKP **PKiKP** 15 18 18.6 0.0
baz=133
U15A North Rim 133.47 33 ⇑PKiKP **PKiKP** 15 18 18.9 +0.3
baz=133
W13A Hualapai Mount 133.52 36 ⇑PKiKP **PKPdf** 15 18 17.3 -0.2
baz=133
O23A Lake Granby, G 133.55 24 ⇓PKiKP **PKPdf** 15 18 17.1 -0.4
baz=133
LBNH Lisbon 133.55 349 PFAKE 15 18 30.0 +13
LBNH LR LR
comp=Z,2μm,20.0s
BC3 Big Chuckawall 133.56 38 ⇑PKiKP **PKiKP** 15 18 19.3 +0.7
baz=133
LONY Lake Ozonia 133.62 352 PFAKE 15 18 30.0 +13
LONY LR LR
comp=Z,2μm,19.0s
PV04 Paradox Valley 133.70 29 *e*PKPdf **PKPdf** 15 18 17.3 -0.3
P22A Eagle 133.70 26 ⇓PKiKP **PKPdf** 15 18 17.2 -0.5
baz=134
ISCO Idaho Springs 134.02 25 ⇑PKiKP **PKPdf** 15 18 18.4 0.0
baz=134
ISCO Idaho Springs 134.02 25 PFAKE 15 18 30.0 +12
ISCO LR LR
comp=Z,3μm,19.0s
N26A Koester Ranch, 134.07 22 ⇑PKiKP **PKPdf** 15 18 18.4 +0.2
baz=134
NCB Newcomb 134.20 351 PFAKE 15 18 30.0 +12
NCB LR LR
comp=Z,3μm,20.0s
L30A Spencer Herefo 134.24 18 ⇓PKiKP **PKPdf** 15 18 18.4 0.0
baz=134
OGNE Ogallala 134.40 20 PFAKE 15 18 30.0 +11
OGNE LR LR
comp=Z,3μm,19.0s
P24A Kohler Place, 134.55 24 ⇓PKiKP **PKPdf** 15 18 18.4 -0.8
baz=134
WUAZ Wupatki 134.64 33 ⇑PKiKP **PKiKP** 15 18 21.3 +0.4
baz=134
WUAZ Wupatki 134.64 33 PFAKE 15 18 30.0 +11
WUAZ LR LR
comp=Z,2μm,19.0s
MVCO Mesa Verde 134.83 29 ⇓PKiKP **PKPdf** 15 18 20.0 +0.1
baz=135
MVCO Mesa Verde 134.83 29 *e*PKPdf **PKPdf** 15 18 20.5 +0.7
MVCO LR LR
comp=Z,3μm,19.0s
Y14A Wickenburg 134.85 36 ⇑PKiKP **PKPdf** 15 18 20.4 +0.7
baz=135
M31A Lambtecht Ranc 135.02 17 ⇓PKiKP **PKPdf** 15 18 19.3 -0.5
baz=135
S22A 4UR Ranch, Cre 135.19 27 ⇑PKiKP **PKPdf** 15 18 20.0 -0.6
baz=135
JFWS Jewell Farm 135.41 8 PFAKE 15 18 30.0 +10
JFWS LR LR
comp=Z,3μm,20.0s
X16A Lo Mia Camp, P 135.41 34 ⇓PKiKP **PKPdf** 15 18 21.3 +0.3
baz=135
SCIA State Center 135.90 11 PFAKE 15 18 30.0 +8.6
SCIA LR LR
comp=Z,3μm,20.0s
S24A Houchin Ranch, 136.00 26 ⇑PKiKP **PKPdf** 15 18 22.9 +0.8
baz=136
O31A Woolen Ranch, 136.00 18 ⇓PKiKP **PKiKP** 15 18 22.6 -0.7
baz=136
Q28A Sharon Springs 136.13 21 ⇓PKiKP **PKPdf** 15 18 22.5 +0.5
baz=136
T23A Casias Ranch, 136.13 27 ⇓PKiKP **PKPdf** 15 18 22.2 -0.1
baz=136
X18A Snowflake 136.15 33 ⇓PKiKP **PKPdf** 15 18 23.1 +0.7
baz=136
R26A Arlington 136.18 24 ⇑PKiKP **PKPdf** 15 18 22.3 +0.1
baz=136
BINY Binghamton 136.19 353 PFAKE 15 18 30.0 +8.0
BINY LR LR
comp=Z,2μm,21.0s
P30A Selden 136.26 20 ⇑PKiKP **PKiKP** 15 18 23.3 -0.6
baz=136
U22A Llaves 136.29 28 ⇑PKiKP **PKPdf** 15 18 21.1 -1.5
baz=136
S25A Robets Cordova 136.32 25 ⇑PKiKP **PKPdf** 15 18 21.9 -0.6
baz=136
T24B San Luis 136.41 26 ⇓PKiKP **PKPdf** 15 18 23.1 +0.2
baz=136
AAM Ann Arbor 136.52 1 PFAKE 15 18 30.0 +7.5
AAM LR LR
comp=Z,3μm,20.0s
ERPA Erie 136.63 357 PFAKE 15 18 30.0 +7.2
ERPA LR LR
comp=Z,3μm,21.0s
V22A San Miguel Ran 136.64 29 ⇑PKiKP **PKPdf** 15 18 22.4 -0.9
baz=136
U23A El Rito 136.64 28 ⇓PKiKP **PKPdf** 15 18 23.0 -0.3
baz=136
S26A Kim 136.75 24 ⇑PKiKP **PKPdf** 15 18 23.3 0.0
baz=137
S27A Las Animas 136.93 23 ⇓PKiKP **PKPdf** 15 18 23.2 -0.4
baz=137
T26A Comanche Natio 137.08 25 ⇑PKiKP **PKPdf** 15 18 24.0 0.0
baz=137
V23A Ortiz Mt. (NFS 137.12 28 ⇑PKiKP **PKPdf** 15 18 24.3 +0.2
baz=137
TUC Tucson 137.32 36 *e*PKIKP **PKPdf** 15 18 23.8 -0.6
TUC MLR MLR
comp=Z,2μm,19.0s
TUC Tucson 137.32 36 *e*PKPdf **PKPdf** 15 18 23.8 -0.6
TUC LR LR
comp=Z,2μm,19.0s
V24A Rampart Ranch, 137.56 27 ⇑PKiKP **PKPdf** 15 18 25.6 +0.6
baz=137
ANMO Albuquerque 137.63 29 *i* PKIKP **PKPdf** 15 18 23.8 -1.3
ANMO Albuquerque 137.63 29 *e*PKPdf **PKPdf** 15 18 24.5 -0.6
ANMO LR LR
comp=Z,2μm,19.0s
U26A Atchley Ranch, 137.68 25 ⇓PKiKP **PKPdf** 15 18 25.3 +0.2
baz=138
KSU1 Kansas State U 137.78 16 ⇑PKiKP **PKiKP** 15 18 26.0 -0.9
baz=138
KSU1 Kansas State U 137.78 16 PFAKE 15 18 30.0 +5.0
KSU1 LR LR
comp=Z,4μm,19.0s
W24A Lazy 6 Ranch, 137.92 28 ⇑PKiKP **PKiKP** 15 18 26.7 -0.9
baz=138
V26A Tequesquite Ra 138.17 26 ⇓PKiKP **PKPdf** 15 18 26.3 +0.3
baz=138
U28A Mallet 138.32 24 ⇓PKiKP **PKPdf** 15 18 26.9 +0.7
baz=138
W25A X Bar L Ranch, 138.35 27 ⇑PKiKP **PKPdf** 15 18 26.9 +0.5
baz=138
X24A Lazy VL Ranch, 138.43 29 ⇓PKiKP **PKPdf** 15 18 27.4 +0.8
baz=138
ACSO Alum Creek Sta 138.59 0 PFAKE 15 18 40.0 +14
ACSO LR LR
comp=Z,3μm,20.0s
Z22A Elephant Butte 138.72 31 ⇓PKiKP **PKPdf** 15 18 27.6 +0.5
baz=139
TRQA Tornquist 138.78 205 PFAKE 15 18 40.0 +13
TRQA LR LR
comp=Z,2μm,20.0s
121A Cookes Peak, D 138.84 33 ⇓PKiKP **PKPdf** 15 18 27.8 +0.4
baz=139
Y24A Capitan 138.95 29 ⇑PKiKP **PKPdf** 15 18 27.4 -0.2
baz=139
W27A Bowe Ranch, En 139.10 26 ⇑PKiKP **PKPdf** 15 18 28.4 +0.7
baz=139
X26A CR and CF Fran 139.20 27 ⇑PKiKP **PKPdf** 15 18 28.9 +1.0
baz=139
MSTX Muleshoe 140.15 26 *e*PKPdf **PKPdf** 15 18 29.6 -0.1

V34A	Guthrie	140.53	19	ePKPdf	PKPdf	15 18 29.1	-1.0
X30A	Coker Ranch, T	140.55	24	⇑PKdiff	PKPdf	15 18 26.4	-3.9
	baz=140						
W32A	Sentinel	140.57	21	⇓PKdiff	PKPdf	15 18 26.2	-4.0
	baz=140						
Y29A	Porterfield Fa	140.72	25	⇓PKdiff	PKPdf	15 18 27.3	-3.3
	baz=141						
X31A	McDonald Ranch	140.74	23	⇑PKPdif	PKPdf	15 18 26.4	-4.2
	baz=141						
W33A	Caddo, Fort Co	140.83	20	⇑PKdiff	PKPdf	15 18 26.4	-4.3
	baz=141						
TUL1	Leonard	140.98	17	⇑PKdiff	PKPdf	15 18 27.1	-3.8
	baz=141						
W34A	Bridge Creek,	140.99	20	⇑PKdiff	PKPdf	15 18 27.0	-3.9
	baz=141						
Y30A	Stafford Cattl	141.03	24	⇓PKdiff	PKPdf	15 18 26.8	-4.4
	baz=141						
WMOK	Wichita Mounta	141.09	21	PFAKE		15 18 40.0	+8.8
WMOK				LR	LR		
	comp=Z,2μm,20.0s						
Y31A	Rekieta Farm,	141.22	23	⇑PKPdif	PKPdf	15 18 28.3	-3.1
	baz=141						
Z29A	Hungry Hill Ra	141.22	26	⇓PKdiff	PKPdf	15 18 28.0	-3.5
	baz=141						
Z30A	Sanderson Ranc	141.45	25	⇓PKPdif	PKPdf	15 18 28.0	-3.9
	baz=141						
Y32A	R-V Farms, Ver	141.50	22	⇓PKdiff	PKPdf	15 18 28.5	-3.4
	baz=141						
BLA	Blacksburg	141.54	357	PFAKE		15 18 40.0	+8.1
BLA				LR	LR		
	comp=Z,3μm,20.0s						
X34A	Smith Ranch, M	141.54	20	⇑PKdiff	PKPdf	15 18 28.9	-3.0
	baz=141						
129A	Stewart Farms,	141.69	26	⇓PKdiff	PKPdf	15 18 28.9	-3.5
	baz=142						
228A	UT Block 9, Go	141.79	28	⇑PKdiff	PKPdf	15 18 30.2	-2.4
	baz=142						
Y33A	Hilltop Ranch,	141.80	21	⇓PKdiff	PKPdf	15 18 29.9	-2.6
	baz=142						
Z31A	Sharp Cattle R	141.82	24	⇓PKPdif	PKPdf	15 18 28.3	-4.2
	baz=142						
Z32A	Haskell	142.10	23	⇑PKPdif	PKPdf	15 18 29.5	-3.5
	baz=142						
130A	Snyder	142.11	25	⇑PKdiff	PKPdf	15 18 28.8	-4.3
	baz=142						
Y34A	Reagan Ranch,	142.15	20	⇑PKPdif	PKPdf	15 18 29.0	-4.0
	baz=142						
229A	Bryant Ranch,	142.27	27	⇓PKdiff	PKPdf	15 18 29.5	-4.0
	baz=142						
131A	Roby	142.29	25	⇓PKPdif	PKPdf	15 18 30.5	-2.9
	baz=142						
BBSR	BB Station	142.30	334	PFAKE		15 18 40.0	+6.7
BBSR				LR	LR		
	comp=Z,1μm,20.0s						
Z33A	Whitaker Ranch	142.39	22	⇓PKPdif	PKPdf	15 18 30.1	-3.4
	baz=142						
WVT	Waverly	142.40	7	ePKIKP	PKPdf	15 18 33.3	-0.1
WVT	Waverly	142.40	7	ePKPdf	PKPdf	15 18 33.3	-0.1
329A	Wagon Wheel Ra	142.60	27	⇓PKdiff	PKPdf	15 18 30.5	-3.5
	baz=142						
Z34A	Collier Ranch,	142.63	21	⇓PKdiff	PKPdf	15 18 29.6	-4.3
	baz=142						
ABTX	Abilene, Hawle	142.63	24	⇑PKPdif	PKPdf	15 18 30.2	-3.8
	baz=142						
ABTX	Abilene, Hawle	142.63	24	ePKPdf	PKPdf	15 18 33.0	-1.0
230A	Sterling City	142.65	26	⇑PKPdif	PKPdf	15 18 30.9	-3.2
	baz=142						
BDFB	Brasilia	142.86	246	PKP	PKPdf	15 18 33.5	-1.4
	comp=Z,2.7nm,0.7s,baz=16,slow=4.5,SNR=3.7						
MIAR	Mount Ida	142.87	15	ePKIKP	PKPdf	15 18 34.1	-0.2
MIAR				MLR	MLR		
	comp=Z,3μm,19.0s						
MIAR	Mount Ida	142.87	15	ePKPdf	PKPdf	15 18 34.1	-0.2
MIAR				LR	LR		
	comp=Z,3μm,19.0s						
Z35A	Perchaven, San	142.90	20	⇓PKdiff	PKPdf	15 18 30.9	-3.5
	baz=143						
133A	Hamilton Ranch	142.94	23	⇓PKPdif	PKPdf	15 18 31.3	-3.2
	baz=143						
231A	Bronte	142.96	25	⇓PKPdif	PKPdf	15 18 31.0	-3.6
	baz=143						
330A	Mertzon	143.03	27	⇑PKdiff	PKPdf	15 18 31.8	-2.9
	baz=143						
232A	Coleman	143.28	24	⇑PKPdif	PKPbc	15 18 32.3	+0.1
	baz=143						
CNNC	Cliffs of the	143.28	353	PFAKE		15 18 40.0	+5.0
CNNC				LR	LR		
	comp=Z,3μm,20.0s						
134A	White-Moore Ra	143.28	22	⇑PKdiff	PKPdf	15 18 32.6	-2.5
	baz=143						
429A	Davenport Ranc	143.36	28	⇓PKPdif	PKPbc	15 18 32.4	-0.1
	baz=143						
331A	San Angelo	143.45	26	⇑PKPdif	PKPbc	15 18 32.8	+0.2
	baz=143						
233A	Rising Star	143.46	23	⇑PKPdif	PKPbc	15 18 33.0	+0.4
	baz=143						
430A	Baggett Ranch,	143.53	27	⇑PKPdif	PKPab	15 18 32.5	+0.4
	baz=143						
TXAR	Lajitas Array	143.54	32	PKP	PKPbc	15 18 33.6	+0.6
	comp=Z,7.5nm,0.8s,baz=42,slow=0.3,SNR=31						
KMSC	Kings Mountain	143.65	358	⇓PKPdif	PKPbc	15 18 32.8	-0.2
	baz=144						
332A	Millersview	143.68	25	⇑PKPdif	PKPbc	15 18 33.4	+0.1
	baz=144						
431A	Sonora	143.91	27	⇑PKPdif	PKPbc	15 18 34.3	+0.2
	baz=144						
530A	J-C Ranch, Com	144.02	28	⇑PKdiff	PKPdf	15 18 34.7	-1.8
	baz=144						
WHTX	Lake Whitney,	144.04	21	⇓Pdiff	PKPbc	15 18 34.4	+0.1
	baz=144						
333A	Richland Sprin	144.04	24	⇓PKPdif	PKPab	15 18 34.0	+0.2
	baz=144						
137A	Heron Place, G	144.07	19	⇓PKiKP	PKPbc	15 18 34.4	0.0
	baz=144						
432A	Menard	144.09	25	⇓PKPdif	PKPab	15 18 34.3	+0.1
	baz=144						
138A	Matatall Enter	144.22	18	⇓PKiKP	PKPbc	15 18 35.6	+0.7
	baz=144						
334A	Lometa	144.33	23	⇑PKPdif	PKPab	15 18 34.8	-0.2
	baz=144						
531A	Rocksprings	144.37	27	⇑PKPdif	PKPab	15 18 35.2	0.0
	baz=144						
JCT	Junction City	144.43	26	ePKIKP	PKPdf	15 18 37.0	-0.2
JCT				MLR	MLR		
	comp=Z,2μm,19.0s						
JCT	Junction City	144.43	26	⇓PKPdif	PKPbc	15 18 35.7	0.0
	baz=144						
JCT	Junction City	144.43	26	ePKPdf	PKPdf	15 18 37.0	-0.2
JCT				LR	LR		
	comp=Z,2μm,19.0s						
433A	Art	144.50	25	⇓PKPdif	PKPab	15 18 34.7	-0.9
	baz=144						
237A	Washetta, Mont	144.60	19	⇓PKiKP	PKPdf	15 18 37.2	-0.2
	baz=144						
335A	Moody	144.69	22	⇑PKiKP	PKPbc	15 18 36.6	+0.3
	baz=144						
532A	Rocksprings	144.69	26	⇑PKiKP	PKPbc	15 18 36.9	+0.4
	baz=145						
434A	Burnet	144.78	23	⇑PKPdif	PKPab	15 18 36.3	-0.3
	baz=145						
336A	Riesel	144.80	21	⇑PKPdif	PKPab	15 18 36.4	-0.2
	baz=145						
238A	Jacksonville	144.82	18	⇓PKPdif	PKPab	15 18 34.6	-2.1
	baz=145						
631A	Perdido Creek	145.00	28	⇓PKiKP	PKPdf	15 18 38.1	-0.1
	baz=145						
239A	Gary	145.00	17	⇑PKiKP	PKPbc	15 18 37.6	+0.2
	baz=145						
435B	Jarrell	145.07	23	⇑PKiKP	PKPdf	15 18 38.8	+0.5
	baz=145						
533A	Kerrville	145.11	25	⇓PKiKP	PKPdf	15 18 38.2	-0.2
	baz=145						
NATX	Nacogdoches	145.19	18	PFAKE		15 18 50.0	+12
NATX				LR	LR		
	comp=Z,3μm,19.0s						
337A	Centerville	145.20	20	⇓PKiKP	PKPdf	15 18 39.1	+0.6
	baz=145						
632A	Uvalde	145.28	27	⇓PKiKP	PKPdf	15 18 39.6	+0.9
	baz=145						
338A	Crockett	145.36	19	⇑PKiKP	PKPdf	15 18 39.8	+1.1
	baz=145						
436A	Wall Ranch, Ga	145.38	21	⇑PKiKP	PKPab	15 18 39.2	+0.4
	baz=145						
534A	Blanco	145.39	24	⇓PKiKP	PKPbc	15 18 38.4	-0.3
	baz=145						
GOGA	Godfrey	145.40	1	ePKIKP	PKPab	15 18 38.8	+0.1
GOGA				MLR	MLR		
	comp=Z,2μm,20.0s						
GOGA	Godfrey	145.40	1	ePKPbc	PKPab	15 18 38.8	+0.1
GOGA				LR	LR		
	comp=Z,2μm,20.0s						
LRAL	Lakeview Retre	145.55	6	ePKPdf	PKPdf	15 18 38.2	-0.8
437A	Phantom Ranch,	145.56	20	⇑PKiKP	PKPab	15 18 40.2	+0.7
	baz=145						
633A	Saathoff Ranch	145.59	26	⇑PKiKP	PKPab	15 18 40.5	+0.8
	baz=146						
339A	Huntington	145.62	18	⇓PKiKP	PKPab	15 18 40.8	+1.1
	baz=146						
340A	Bronson	145.74	17	⇑PKiKP	PKPab	15 18 41.0	+0.9
	baz=146						
535A	Dale	145.75	23	⇑PKiKP	PKPab	15 18 40.5	+0.3
	baz=146						
RGRS	Roger Stewart	145.81	356	ePKPbc	PKPab	15 18 40.2	0.0
732A	Laxson Ranch,	145.85	27	⇑PKiKP	PKPab	15 18 41.7	+1.1
	baz=146						
438A	Sam Houston St	145.86	20	⇓PKiKP	PKPab	15 18 41.3	+0.7
	baz=146						
536A	Bastrop	145.90	22	⇓PKiKP	PKPbc	15 18 40.5	+0.2
	baz=146						
634A	China Grove, S	146.00	25	⇓PKiKP	PKPbc	15 18 40.7	0.0
	baz=146						
733A	Divot King Ran	146.17	27	⇑PKiKP	PKPab	15 18 42.8	+1.0
	baz=146						
537A	Green Hill Far	146.18	21	⇓PKiKP	PKPab	15 18 42.6	+0.8
	baz=146						
832A	Faith Ranch, C	146.23	28	⇓PKiKP	PKPab	15 18 42.6	+0.6
	baz=146,SNR=37						
635A	Leesville	146.24	24	⇓PKiKP	PKPab	15 18 42.5	+0.5
	baz=146,SNR=9.1						
538A	Harpers Horsep	146.34	20	⇓PKiKP	PKPab	15 18 42.8	+0.5
	baz=146						
734A	La Parita Cree	146.38	25	⇑PKiKP	PKPab	15 18 43.2	+0.6
	baz=146,SNR=5.5						
636A	Smothers Creek	146.44	23	⇓PKiKP	PKPab	15 18 43.7	+0.9
	baz=146						
833A	Chaparral WMA,	146.46	27	⇑PKiKP	PKPab	15 18 43.5	+0.6
	baz=146,SNR=16						
HKT	Hockley	146.47	21	ePKP2	PKPab	15 18 42.5	-0.3
HKT	Hockley	146.47	21	ePKPab	PKPab	15 18 42.5	-0.3
735A	Kenedy	146.69	24	⇓PKiKP	PKPab	15 18 44.5	+0.7
	baz=147,SNR=18						
CFAA	Coronel Fontan	146.92	203	PKPbc	PKPbc	15 18 42.5	-0.8
	comp=Z,2.3nm,1.0s,baz=174,slow=2.4,SNR=12						
834A	Tilden	147.01	26	⇓PKiKP	PKPab	15 18 45.1	0.0
	baz=147,SNR=14						
933A	Laredo	147.12	28	⇓PKiKP	PKPab	15 18 46.0	+0.5
	baz=147,SNR=10.0						
835A	Beeville	147.18	25	⇑PKiKP	PKiKP	15 18 46.3	-0.2
	baz=147,SNR=7.1						
TIGA	Tifton	147.36	1	⇓PKiKP	PKPab	15 18 45.5	-0.8
	baz=147						
934A	Benavides	147.48	27	⇓PKiKP	PKPab	15 18 46.7	-0.2
	baz=147,SNR=12						
BRAL	Brewton	147.54	7	PFAKE		15 18 50.0	+3.0
BRAL				LR	LR		
	comp=Z,4μm,22.0s						
KVTX	Kingsville	147.80	26	PFAKE		15 18 50.0	+1.8
KVTX				LR	LR		
	comp=Z,2μm,19.0s						
034A	Hebbronville	147.86	27	⇑PKiKP	PKPbc	15 18 46.8	+0.8
	baz=148,SNR=8.9						
035A	Encino	148.24	27	⇓PKiKP	PKiKP	15 18 48.9	+0.2
	baz=148						
035Z	Hargill	148.66	27	⇑PKiKP	PKiKP	15 18 49.3	-0.2
	baz=148						
LCO	Las Campanas	150.18	202	PFAKE		15 19 00.0	+1.9
LCO				LR	LR		
	comp=Z,2μm,21.0s						
BBGH	Gun Hill	152.78	303	PFAKE		15 19 00.0	+1.8
BBGH				LR	LR		
	comp=Z,2μm,20.0s						
FDF	Fort de France	153.23	307	PFAKE		15 19 00.0	+0.8
FDF				LR	LR		
	comp=Z,1μm,22.0s						
SIV	San Ignacio	154.10	235	PKPbc	PKPbc	15 18 59.3	-1.7
	comp=Z,2.7nm,0.8s,baz=128,slow=4.5,SNR=4.7						
GRTK	Grand Turk	154.54	334	PFAKE		15 19 00.0	-1.8
GRTK				LR	LR		
	comp=Z,2μm,19.0s						
GRGR	Grenville	155.05	303	PFAKE		15 19 00.0	+5.7
GRGR				LR	LR		
	comp=Z,1μm,21.0s						
SDDR	Presa de Saban	156.81	331	PFAKE		15 19 10.0	+13
SDDR				LR	LR		
	comp=Z,3μm,20.0s						
PTGA	Pitinga	157.13	271	PKP	PKPdf	15 18 57.2	+0.1
	comp=Z,2.1nm,0.5s,baz=323,slow=4.4,SNR=4.1						
PTGA	Pitinga	157.13	271	PKP	PKPdf	15 18 57.2	+0.1
PTGA				LR	LR		
	comp=Z,2μm,20.0s						
GTBY	Guantanamo Bay	157.52	341	PFAKE		15 19 10.0	+13
GTBY				LR	LR		
	comp=Z,1μm,20.0s						
SAML	Samuel	159.05	248	PFAKE		15 19 10.0	+11
SAML				LR	LR		
	comp=Z,1μm,20.0s						
LPAZ	La Paz	159.28	224	PKIKP	PKPdf	15 19 01.0	+0.6
LPAZ	La Paz	159.28	224	PKP	PKPdf	15 19 01.0	+0.6
	comp=Z,3.9nm,1.1s,baz=315,slow=4.2,SNR=8.0						
MTDJ	Mount Denham	159.84	345	PFAKE		15 19 10.0	+10
MTDJ				LR	LR		
	comp=Z,2μm,19.0s						
SDV	Santo Domingo	164.14	310	PFAKE		15 19 10.0	+5.1
SDV				LR	LR		
	comp=Z,2μm,20.0s						
NNA	Nana	167.90	209	PFAKE		15 19 20.0	+12
NNA				LR	LR		
	comp=Z,2μm,19.0s						
JTS	JuntasAbangare	168.22	10	PFAKE		15 19 20.0	+12
JTS				LR	LR		
	comp=Z,2μm,19.0s						
BCIP	Isla Barro Col	169.11	344	PFAKE		15 19 20.0	+12
BCIP				LR	LR		
	comp=Z,2μm,19.0s						
PAYG	Puerto Ayora	172.51	85	PFAKE		15 19 20.0	+10
PAYG				LR	LR		
	comp=Z,2μm,20.0s						
OTAV	Otavalo	175.34	290	ePKPdf	PKPdf	15 19 11.5	-0.4
OTAV				LR	LR		
	comp=Z,2μm,19.0s						

*CSEM **13** 15:19:07.8, 40°.04N×30°.10E, h7km, MD2.6, Mining explosion.*

DDA 13 15:19:07.8, 40°.04N×30°.10E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORA	Eskisehir	0.32	120	iP	Pg	15 19 14.5	+0.3
BORA				iS	Sg	15 19 19.1	+0.6
BORA	Eskisehir	0.32	120	iP	Pg	15 19 14.5	+0.3
BORA				iS	Sg	15 19 19.1	+0.6
SEYT	Eskypehyr	0.78	132	iP	Pg	15 19 23.3	+0.3
SEYT	Eskypehyr	0.78	132	iP	Pg	15 19 23.3	+0.3
ALT	Altintas	0.98	179	P	Pn	15 19 35.4	+7.2
HENT	Hendek	0.99	38	iP	Pg	15 19 26.8	-0.2
HENT	Hendek	0.99	38	iP	Pg	15 19 26.8	-0.2
GDZ	Gediz	1.06	207	iP	Pn	15 19 29.7	+0.4
GDZ				iS	Sb	15 19 43.3	+0.3
GDZ	Gediz	1.06	207	iP	Pn	15 19 29.7	+0.4
GDZ				iS	Sb	15 19 43.3	+0.3

*IDC **13** 15:22:33.4±0.4, 34°.48S×71°.69W, h0km, mb4.8/17, mb1 5.0/19, mb1mx4.7/33, mbtmp4.8/19, ML4.5/1, MS4.6/9, Ms1 4.6/9, ms1mx4.4/28, Error ellipse: s-maj=20.0km s-min=13.1km az=85.0*

*GUC **13** 15:22:35.9±0.7, 34°.56S×71°.75W, h36km±6km, ML5.2*

*GCMT **13** 15:22:35.9±0.3, 34°.57S×72°.07W, h16km±1km, MW5.2/69, Moment Tensor Solution. s37,c48; s69,c101; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.70±.04; $M_{\theta\theta}$-0.06±.02; $M_{\phi\phi}$0.75±.03; $M_{r\theta}$-0.12±.08; $M_{\theta\phi}$0.01±.02; $M_{\phi r}$0.46±.07; Best double couple: $M_0$0.87200×10^{17} NP1:ϕ_s172.00000°, δ62.00000°, λ-99.00000°. NP2: ϕ_s10.00000°, δ29.00000°, λ-75.00000°. Principal axes: T 0.8950, Plg16.0000°, Azm268.0000°; N -0.0440, Plg8.0000°, Azm176.0000°; P -0.8500, Plg72.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **13** 15:22:35.9, 34°.56S×71°.75W, h36km, mb5.1/79, ML5.2(GUC), After GUC.*

NEIC Felt [V] at Pichilemu, Rancagua and Talca; [IV] at Casablanca, San Antonio, San Fernando and Santo Domingo; [III] at Santiago and Valparaiso. Also felt at Concepcion, Curico, Graneros, Quilpue and Vina del Mar.

*ISCJB **13** 15:22:37.6±0.2, 34°.51S±0°.03×71°.35W±0°.06, h35km, mb5.1/93, MS4.7/8, Error ellipse: s-maj=7.6km s-min=4.0km az=156.6*

*MOS **13** 15:22:38.3±1.1, 34°.30S×71°.70W, h36km, mb5.3/30, Error ellipse: s-maj=23.2km s-min=8.8km az=101.4*

*BJI **13** 15:22:39.2, 34°.40S×71°.40W, h35km, mB5.4/9, Ms5.6/10, Ms7 5.2/9*

ISC 13 15:22:39.4±0.3, 34°.57S±0°.04×71°.56W±0°.07, h35km, n649, σ0s89/583, mb5.1/93, MS4.7/8, 203C-204D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.51	147	⇓iP	Pn	15 22 48.2	-2.0
NICH				eS1	Sn	15 22 57.2	-0.5
NICH				AML	AML	15 23 03.5	
	comp=E,255μm,0.5s						
ANTU	Antumapu	1.26	38	eP1	Pn	15 22 59.4	-1.2
ANTU				i S1	Sn	15 23 17.6	+1.2
ANTU				AML	AML	15 23 24.9	
	comp=N,82μm,0.6s						
LNCH	Linares	1.27	181	⇑iP	Pn	15 22 58.8	-1.9
LNCH				i S1	Sn	15 23 15.3	-1.3
SAN	Santiago	1.34	34	AML	AML	15 23 27.8	
	comp=N,22μm,0.6s						
CLCH	Cerro Calan	1.45	36	⇑iP	Pn	15 23 02.1	-1.1
CLCH				i S	Sn	15 23 22.7	+1.7
CLCH				AML	AML	15 23 29.9	
	comp=N,125μm,0.7s						
IHA	Instituto Hidr	1.54	358	⇑iP	Pn	15 23 00.3	-4.1
PEL	Peldehue	1.60	27	i P9	Pn	15 23 03.3	-1.9
PEL				i S1	Sn	15 23 24.2	-0.5
PEL				AML	AML	15 23 31.9	
	comp=E,52μm,0.7s						
CMCH	Combarbala	3.42	8	eP1	Pn	15 23 28.3	-2.1
CFAA	Coronel Fontan	4.07	44	Pn	Pn	15 23 42.2	+3.0
	comp=E,6.3nm,0.3s,baz=224,slow=17,SNR=47						
CFAA				Lg	Lg	15 24 36.1	
	comp=E,9.5nm,0.3s,baz=348,slow=12,SNR=2.9						
CFAA				LR	LR	15 25 30.5	
	comp=E,1μm,19.8s,baz=228,slow=44						
LCO	Las Campanas	5.59	8	ePn	Pn	15 23 56.5	-3.8
LCO				eSn	Sn	15 24 56.5	-7.1
PLCA	Paso Flores	6.20	173	eP	Pn	15 24 07.9	-0.6
PLCA				e		15 25 18.8	
PLCA	Paso Flores	6.20	173	Pn	Pn	15 24 09.7	+1.2
	baz=339,slow=13						
PLCA				Lg	Lg	15 25 47.7	
PLCA				LR	LR	15 26 54.1	
	comp=E,3μm,19.3s,baz=0.5,slow=41						
PLCA	Paso Flores	6.20	173	ePn	Pn	15 24 07.9	-0.6
PLCA				eSn	Sn	15 25 18.8	+0.7
PLCA				Lg	Lg	15 25 47.7	
TRQA	Tornquist	8.48	117	ePn	Pn	15 24 38.8	-0.9
TRQA				eSn	Sn	15 25 13.0	-1.2
LPAZ	La Paz	18.47	10	eP	P	15 26 50.2	-2.7
LPAZ				pmax	pmax		
	comp=Z,37nm,0.9s						
LPAZ	La Paz	18.47	10	P	P	15 26 51.8	-1.1
	comp=Z,0.8nm,0.3s,baz=183,slow=8.8,SNR=43						
LPAZ	La Paz	18.47	10	ePn	P	15 26 50.2	-2.7
	comp=Z,37nm,0.9s						
USHA	Ushuaia	20.38	175	P	P	15 27 13.8	+1.0
	comp=Z,16nm,0.6s,baz=316,slow=14,SNR=8.1						
USHA				LR	LR	15 35 59.1	
	comp=Z,2μm,21.2s,baz=11,slow=39						
SIV	San Ignacio	20.77	30	P	P	15 27 16.6	-0.8
	comp=Z,33nm,0.7s,baz=225,slow=12,SNR=54						
SIV				LR	LR	15 36 60.0	
	comp=Z,1μm,19.0s,baz=235,slow=42						
NNA	Nana	22.99	347	P	P	15 27 40.1	-1.1
	comp=Z,422nm,0.8s,SNR=5.7						
NNA	Nana	22.99	347	eP	P	15 27 37.1	-4.0
NNA				pmax	pmax		
	comp=Z,53nm,0.8s						
NNA	Nana	22.99	347	P	P	15 27 40.2	-1.0
	comp=Z,48nm,0.9s,baz=185,slow=12,SNR=18						
NNA				LR	LR	15 34 47.7	
	comp=Z,785nm,20.3s,baz=140,slow=32						
NNA	Nana	22.99	347	ePn	P	15 27 37.1	-4.0
	comp=Z,53nm,0.8s						
SAML	Samuel	26.64	19	eP	P	15 28 10.9	-3.9
	comp=Z,18nm,0.7s						
ATAH	Atahualpa	28.02	345	P	P	15 28 29.7	+2.0
	comp=Z,5.4nm,0.6s,baz=206,slow=7.7,SNR=3.5						
BDFB	Brasilia	28.34	54	P	P	15 28 29.5	-0.7
	comp=Z,3.3nm,0.5s,baz=214,slow=8.8,SNR=27						
BDFB				LR	LR	15 40 22.9	
	comp=Z,1μm,18.1s,baz=256,slow=38						
OTAV	Otavalo	35.23	348	eP	P	15 29 28.8	-2.2
	comp=Z,9.0nm,0.8s						
PTGA	Pitinga	35.37	20	P	P	15 29 30.3	-1.4
	comp=Z,32nm,0.7s,baz=206,slow=10,SNR=42						
RCBR	Riachuelo	43.62	57	LR	LR	15 47 54.7	
	comp=Z,1μm,19.5s,baz=188,slow=35						
JTS	JuntasAbangare	46.39	342	eP	P	15 31 01.4	-1.1
JTS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VNA3	Neumayer Olymp	48.68	158	P	P	15 31 21.5	+1.8
VNA2	Neumayer--Watz	49.33	157	P	P	15 31 26.4	+1.7
SNAA	Sanae	50.91	158	P	P	15 31 36.6	-0.1
SNAA	Sanae	50.91	158	eP	P	15 31 35.4	-1.3
SNAA				pmax	pmax		
	comp=Z,15nm,0.9s						
SNAA	Sanae	50.91	158	P	P	15 31 36.9	+0.2
	comp=Z,3.0nm,0.9s,baz=303,slow=5.7,SNR=9.9						
SNAA	Sanae	50.91	158	eP	P	15 31 35.4	-1.3
	comp=Z,15nm,0.9s						
CRPR	Cabo Rojo, PR	52.46	5	eP	P	15 31 46.5	-2.2
	comp=Z,26nm,1.0s						
CELP	Cerrillos	52.57	6	eP	P	15 31 47.0	-2.5
ANWB	Willy Bob	52.78	12	eP	P	15 31 48.1	-2.9
	comp=Z,103nm,0.6s						
QSPA	South Pole Qui	55.66	180	eP	P	15 32 10.0	-1.8
	comp=Z,21nm,1.0s						
SBA	Scott Base	62.60	192	eP	P	15 33 00.4	+1.0
SBA				pmax	pmax		
	comp=Z,236nm,2.9s						
SBA	Scott Base	62.60	192	eP	P	15 33 00.4	+1.0
	comp=Z,236nm,2.9s						
VNDA	Vanda	63.62	191	eP	P	15 33 07.5	+1.3
VNDA				pmax	pmax		
	comp=Z,141nm,3.0s						
VNDA	Vanda	63.62	191	P	P	15 33 07.2	+

baz=69
732A **Laxson Ranch,** 68.45 333 ⇓P P 15 33 37.9 +0.1
baz=69,SNR=6.2
634A **China Grove, S** 68.46 335 ⇓P P 15 33 37.8 +0.1
baz=69
GOGA **Godfrey** 68.54 349 eP P 15 33 36.2 -2.0
GOGA pmax pmax
comp=Z,226nm,2.7s
GOGA **Godfrey** 68.54 349 eP P 15 33 36.2 -2.0
comp=Z,226nm,2.7s
536A **Bastrop** 68.66 336 ⇓P P 15 33 39.2 +0.2
baz=69
438A **Sam Houston St** 68.77 338 ⇓P P 15 33 39.8 +0.1
baz=69
535A **Dale** 68.78 336 ⇓P P 15 33 40.0 +0.1
baz=69
633A **Saathoff Ranch** 68.82 334 ⇑P P 15 33 40.1 0.0
baz=69,SNR=7.1
340A **Bronson** 68.92 340 ⇑P P 15 33 40.4 -0.2
baz=69
339A **Huntington** 69.04 339 ⇑P P 15 33 41.8 +0.5
baz=69
632A **Uvalde** 69.08 334 ⇓P P 15 33 41.8 +0.1
baz=69,SNR=14
534A **Blanco** 69.09 335 ⇑P P 15 33 41.9 +0.1
baz=69
436A **Wall Ranch, Ga** 69.21 337 ⇑P P 15 33 42.5 +0.1
baz=70
338A **Crockett** 69.29 338 ⇑P P 15 33 42.9 -0.1
baz=70
631A **Perdido Creek** 69.29 333 ⇑P P 15 33 42.4 -0.6
baz=70,SNR=8.7
533A **Kerrville** 69.33 335 ⇑P P 15 33 42.9 -0.3
baz=70,SNR=8.7
337A **Centerville** 69.43 338 ⇓P P 15 33 44.0 +0.2
baz=70
435B **Jarrell** 69.48 336 ⇑P P 15 33 44.2 +0.1
baz=70
239A **Gary** 69.66 339 ⇓P P 15 33 45.4 +0.2
baz=70
532A **Rocksprings** 69.69 334 ⇓P P 15 33 45.5 0.0
baz=70,SNR=29
434A **Burnet** 69.74 336 ⇑P P 15 33 45.3 -0.4
baz=70,SNR=7.7
336A **Riesel** 69.80 337 ⇑P P 15 33 46.0 0.0
baz=70,SNR=5.7
238A **Jacksonville** 69.83 339 ⇑P P 15 33 46.7 +0.4
baz=70
335A **Moody** 69.89 337 ⇑P P 15 33 46.6 0.0
baz=70
KMSC **Kings Mountain** 69.95 351 ⇑P P 15 33 46.5 -0.5
baz=70
531A **Rocksprings** 69.96 333 ⇓P P 15 33 47.0 -0.1
baz=70,SNR=23
433A **Art** 69.97 335 ⇓P P 15 33 46.7 -0.4
baz=70,SNR=21
JCT **Junction City** 69.97 334 eP P 15 33 45.1 -2.1
JCT pmax pmax
comp=Z,25nm,0.9s
JCT **Junction City** 69.97 334 ⇓P P 15 33 47.0 -0.2
baz=70,SNR=12
JCT **Junction City** 69.97 334 eP P 15 33 45.1 -2.1
comp=Z,25nm,0.9s
237A **Washetta, Mont** 70.04 338 ⇑P P 15 33 47.8 +0.3
baz=70
334A **Lometa** 70.20 336 ⇑P P 15 33 48.4 -0.2
baz=70,SNR=16
530A **J-C Ranch, Com** 70.24 333 ⇓P P 15 33 49.0 +0.1
baz=70,SNR=17
432A **Menard** 70.33 334 ⇑P P 15 33 50.0 +0.6
baz=71,SNR=7.1
TXAR **Lajitas Array** 70.42 330 P P 15 33 48.8 -1.3
comp=Z,7.7nm,0.6s,baz=152,slow=8.6,SNR=104
138A **Matatall Enter** 70.44 339 ⇑P P 15 33 50.0 0.0
baz=71
431A **Sonora** 70.45 334 ⇓P P 15 33 50.4 +0.3
baz=71,SNR=7.3
333A **Richland Sprin** 70.45 335 ⇓P P 15 33 49.5 -0.6
baz=71,SNR=11
WHTX **Lake Whitney,** 70.55 337 ⇓P P 15 33 50.4 -0.3
baz=71
WHTX **Lake Whitney,** 70.55 337 eP P 15 33 49.7 -0.9
529A **Stev Forest Ra** 70.55 332 ⇑P P 15 33 50.8 0.0
baz=71,SNR=12
137A **Heron Place, G** 70.58 338 ⇓P P 15 33 51.0 +0.2
baz=71
CPCT **Cooper Cave** 70.71 349 eP P 15 33 48.6 -3.0
SWET **Sewanee** 70.72 348 eP P 15 33 49.9 -1.8
comp=Z,40nm,0.7s
OXF **Oxford** 70.73 344 eP P 15 33 48.1 -3.5
OXF **Oxford** 70.73 344 eP P 15 33 48.1 -3.5
332A **Millersview** 70.77 335 ⇑P P 15 33 52.0 -0.1
baz=71,SNR=8.9
430A **Baggett Ranch,** 70.77 333 ⇓P P 15 33 51.8 -0.3
baz=71,SNR=10
234A **Clairette** 70.79 336 ⇑P P 15 33 51.8 -0.3
baz=71,SNR=6.3
TKL **Tuckaleechee C** 70.79 349 eP P 15 33 49.3 -2.8
TKL **Tuckaleechee C** 70.79 349 eP P 15 33 49.3 -2.8
429A **Davenport Ranc** 70.87 333 ⇓P P 15 33 52.4 -0.3
baz=71,SNR=12
331A **San Angelo** 70.95 334 ⇓P P 15 33 52.5 -0.7
baz=71,SNR=12
233A **Rising Star** 71.06 336 ⇓P P 15 33 53.4 -0.4
baz=71,SNR=6.7
135A **Vickery Place,** 71.06 337 ⇑P P 15 33 53.7 -0.1
baz=71
232A **Coleman** 71.19 335 ⇓P P 15 33 54.1 -0.5
baz=71,SNR=11
134A **White-Moore Ra** 71.29 337 ⇑P P 15 33 54.2 -1.0
baz=72
330A **Mertzon** 71.31 334 ⇓P P 15 33 54.4 -1.0
baz=72,SNR=9.3
231A **Bronte** 71.47 334 ⇑P P 15 33 55.5 -0.9
baz=72,SNR=28
133A **Hamilton Ranch** 71.60 336 ⇑P P 15 33 56.5 -0.5
baz=72,SNR=5.8
329A **Wagon Wheel Ra** 71.68 333 ⇓P P 15 33 57.5 -0.2
baz=72,SNR=7.4
230A **Sterling City** 71.72 334 ⇑P P 15 33 57.5 -0.3
baz=72
Z35A **Perchaven, San** 71.72 338 ⇑P P 15 33 57.5 -0.3
baz=72,SNR=5.7
MIAR **Mount Ida** 71.78 341 eP P 15 33 55.4 -2.7
MIAR pmax pmax
comp=Z,14nm,1.0s
MIAR **Mount Ida** 71.78 341 eP P 15 33 55.4 -2.7
comp=Z,14nm,1.0s
ABTX **Abilene, Hawle** 71.86 335 ⇑P P 15 33 58.2 -0.4
baz=72,SNR=12
ABTX **Abilene, Hawle** 71.86 335 eP P 15 33 57.5 -1.1
comp=Z,23nm,0.7s
WVT **Waverly** 71.96 346 eP P 15 33 57.3 -1.8
WVT pmax pmax
comp=Z,70nm,0.7s
WVT **Waverly** 71.96 346 eP P 15 33 57.3 -1.8
comp=Z,70nm,0.7s
Z34A **Collier Ranch,** 71.97 337 ⇓P P 15 33 59.0 -0.3
baz=72
229A **Bryant Ranch,** 72.05 333 ⇑P P 15 33 59.4 -0.4
baz=72
131A **Roby** 72.17 335 ⇓P P 15 34 00.1 -0.4
baz=72,SNR=8.1
Z33A **Whitaker Ranch** 72.17 336 ⇓P P 15 33 60.0 -0.5
baz=72,SNR=11
130A **Snyder** 72.30 334 ⇑P P 15 34 00.5 -0.8
baz=72,SNR=8.1
Z32A **Haskell** 72.43 336 ⇓P P 15 34 01.8 -0.2
baz=73,SNR=10.0
Y34A **Reagan Ranch,** 72.46 337 ⇓P P 15 34 02.2 0.0
baz=73
228A **UT Block 9, Go** 72.47 333 ⇓P P 15 34 02.1 -0.3
baz=73,SNR=8.4
MAW **Mawson** 72.52 163 LR LR 16 05 42.8
comp=Z,834nm,19.9s,baz=168,slow=36
129A **Stewart Farms,** 72.66 334 ⇓P P 15 34 02.7 -0.8
baz=73
Z31A **Sharp Cattle R** 72.67 335 ⇑P P 15 34 03.1 -0.3
baz=73,SNR=15
Y33A **Hilltop Ranch,** 72.79 337 ⇑P P 15 34 03.6 -0.4
baz=73,SNR=7.5
PARMO **Parma** 72.87 345 eP P 15 34 03.4 -1.1
128A **Castleberry Fa** 72.88 333 ⇓P P 15 34 04.4 -0.4
baz=73,SNR=14
Z30A **Sanderson Ranc** 72.98 334 ⇓P P 15 34 05.0 -0.3
baz=73,SNR=14
Y32A **R-V Farms, Ver** 73.05 336 ⇑P P 15 34 05.4 -0.3
baz=73,SNR=8.0

X34A **Smith Ranch, M** 73.08 338 ⇑P P 15 34 05.6 -0.2
baz=73
Z29A **Hungry Hill Ra** 73.17 334 ⇑P P 15 34 06.1 -0.4
baz=73,SNR=8.1
MNTX **Cornudas Mount** 73.20 330 eP P 15 34 04.3 -2.3
comp=Z,9.7nm,0.8s
X33A **Lawton** 73.23 337 ⇑P P 15 34 06.2 -0.6
baz=74
Y31A **Rekieta Farm,** 73.29 335 ⇓P P 15 34 06.5 -0.6
baz=74
X32A **Elmer** 73.38 336 ⇑P P 15 34 06.7 -1.0
baz=74
Y30A **Stafford Cattl** 73.44 335 ⇓P P 15 34 07.4 -0.6
baz=74,SNR=9.5
Z28A **Tucker Farm, M** 73.44 333 ⇑P P 15 34 07.4 -0.7
baz=74
WMOK **Wichita Mounta** 73.51 337 eP P 15 34 07.0 -1.4
WMOK pmax pmax
comp=Z,7.0nm,0.8s
WMOK **Wichita Mounta** 73.51 337 eP P 15 34 07.0 -1.4
comp=Z,7.1nm,0.8s
W34A **Bridge Creek,** 73.64 338 ⇓P P 15 34 08.6 -0.5
baz=74
W34A **Bridge Creek,** 73.64 338 eP P 15 34 08.0 -1.1
comp=Z,17nm,0.6s
TUL1 **Leonard** 73.68 340 ⇑P P 15 34 08.6 -0.7
baz=74,SNR=6.3
TUL1 **Leonard** 73.68 340 eP P 15 34 07.6 -1.7
comp=Z,19nm,0.6s
Y29A **Porterfield Fa** 73.69 334 ⇓P P 15 34 09.0 -0.6
baz=74
USIN **University of** 73.70 347 eP P 15 34 07.5 -1.8
comp=Z,26nm,1.0s
SIUC **Southern Illin** 73.77 345 eP P 15 34 09.0 -0.8
comp=Z,17nm,0.6s
W33A **Caddo, Fort Co** 73.78 337 ⇓P P 15 34 09.7 -0.3
baz=74,SNR=8.6
X31A **McDonald Ranch** 73.80 336 ⇑P P 15 34 09.6 -0.5
baz=74,SNR=7.0
X30A **Coker Ranch, T** 73.94 335 ⇑P P 15 34 10.5 -0.5
baz=74
Y28A **McKinney Farm,** 73.95 334 ⇑P P 15 34 11.0 -0.1
baz=74
W32A **Sentinel** 74.01 337 ⇑P P 15 34 11.1 -0.2
baz=74,SNR=17
V34A **Guthrie** 74.12 338 ⇑P P 15 34 11.8 -0.1
baz=74
V34A **Guthrie** 74.12 338 eP P 15 34 10.3 -1.6
comp=Z,19nm,0.8s
MSTX **Muleshoe** 74.19 333 ⇓P P 15 34 12.1 -0.4
baz=74,SNR=12
MSTX **Muleshoe** 74.19 333 eP P 15 34 11.2 -1.3
comp=Z,24nm,0.8s
X29A **Tulia** 74.23 334 ⇓P P 15 34 13.4 +0.7
baz=74
Y27A **Causey** 74.26 333 ⇓P P 15 34 13.2 +0.2
baz=74
W31A **Holland Ranch,** 74.30 336 ⇓P P 15 34 12.9 -0.1
baz=75
V33A **Lossen Ranch,** 74.34 338 ⇑P P 15 34 13.0 -0.2
baz=75,SNR=9.4
X28A **Dimmitt** 74.48 334 ⇓P P 15 34 14.6 +0.5
baz=75
V32A **Arapaho** 74.49 337 ⇑P P 15 34 14.1 0.0
baz=75
LIC **Lamto** 74.58 71 eP P 15 34 14.4 -0.7
comp=Z,97nm,1.8s
319A **Douglas** 74.59 327 ⇓P P 15 34 15.8 +0.9
baz=75,SNR=11
AMTX **Amarillo** 74.62 335 ⇓P P 15 34 15.7 +0.8
baz=75
AMTX **Amarillo** 74.62 335 eP P 15 34 13.9 -1.1
comp=Z,37nm,1.3s
BLO **Bloomington** 74.67 348 eP P 15 34 13.6 -1.4
BLO pmax pmax
comp=Z,18nm,0.7s
BLO **Bloomington** 74.67 348 eP P 15 34 13.6 -1.4
comp=Z,18nm,0.7s
V31A **Spring Creek L** 74.80 336 ⇑P P 15 34 16.4 +0.5
baz=75
W29A **Amarillo** 74.82 335 ⇓P P 15 34 16.3 +0.2
baz=75,SNR=7.7
TIC **Toumodi** 74.85 71 eP P 15 34 17.3 +0.6
comp=Z,16nm,0.2s
KIC **Kosan Boka** 74.89 71 eP P 15 34 17.6 +0.7
comp=Z,26nm,0.7s
121A **Cookes Peak, D** 74.93 329 ⇑P P 15 34 17.8 +0.9
baz=75,SNR=14
121A **Cookes Peak, D** 74.93 329 eP P 15 34 15.3 -1.6
comp=Z,19nm,0.8s
DBIC **Dimbokro** 74.99 71 eP P 15 34 18.4 +0.9
DBIC pmax pmax
comp=Z,10.0nm,0.7s
DBIC **Dimbokro** 74.99 71 P P 15 34 17.6 +0.1
comp=Z,7.5nm,0.6s,baz=198,slow=7.2,SNR=12
DBIC **Dimbokro** 74.99 71 eP P 15 34 18.4 +0.9
comp=Z,10nm,0.7s
V30A **Spur Ranch, Mi** 75.07 336 ⇑P P 15 34 18.6 +1.1
baz=75
U32A **Winter Ranch,** 75.08 337 ⇑P P 15 34 17.3 -0.2
baz=75,SNR=5.1
X26A **CR and CF Fran** 75.10 333 ⇑P P 15 34 17.7 -0.1
baz=75,SNR=11
W28A **Vega** 75.14 334 ⇑P P 15 34 18.1 +0.1
baz=75
Y24A **Capitan** 75.17 331 ⇓P P 15 34 18.4 +0.1
baz=75,SNR=9.8
ACSO **Alum Creek Sta** 75.18 351 eP P 15 34 16.4 -1.6
comp=Z,32nm,0.8s
Z22A **Elephant Butte** 75.21 330 ⇓P P 15 34 18.7 +0.3
baz=75,SNR=14
W27A **Bowe Ranch, En** 75.28 334 ⇓P P 15 34 18.5 -0.2
baz=76,SNR=16
U31A **Nine Bar Ranch** 75.35 337 ⇓P P 15 34 19.3 +0.2
baz=76
X25A **Clemmons Ranch** 75.40 332 ⇓P P 15 34 19.6 +0.1
baz=76
V29A **Stinnett** 75.46 335 ⇓P P 15 34 19.6 -0.2
baz=76
T33A **Patterson Ranc** 75.49 338 ⇓P P 15 34 19.6 -0.2
baz=76,SNR=17
W26A **Owens Ranch, T** 75.56 333 ⇓P P 15 34 20.5 0.0
baz=76,SNR=7.5
V28A **Channing** 75.59 335 ⇑P P 15 34 20.8 +0.2
baz=76
X24A **Lazy VL Ranch,** 75.73 332 ⇓P P 15 34 21.9 +0.4
baz=76
U30A **WK&E Inc. Balk** 75.76 336 ⇓P P 15 34 22.2 +0.8
baz=76,SNR=5.8
T32A **Huddler Ranch,** 75.79 338 ⇓P P 15 34 21.8 +0.2
baz=76
V27A **Dan Oppiter Fa** 75.82 334 ⇑P P 15 34 22.3 +0.5
baz=76
S33A **Kaszmaul Farm,** 75.89 339 ⇑P P 15 34 22.9 +0.8
baz=76
U29A **Oasis Ranch, S** 75.89 336 ⇑P P 15 34 23.0 +0.7
baz=76
W25A **X Bar L Ranch,** 75.94 333 ⇑P P 15 34 22.7 +0.1
baz=76,SNR=8.2
SFIN **Lafayette** 75.95 348 ⇓P P 15 34 20.7 -1.6
baz=76
T31A **Randall Ranch,** 75.96 337 ⇑P P 15 34 22.9 +0.4
baz=76
LPM **Los Pinos Moun** 75.99 331 eP P 15 34 22.6 -0.3
TUC **Tucson** 76.06 327 eP P 15 34 23.0 -0.3
TUC pmax pmax
comp=Z,17nm,1.3s
TUC **Tucson** 76.06 327 eP P 15 34 22.9 -0.3
comp=Z,18nm,1.3s
U28A **Mallet** 76.16 335 ⇑P P 15 34 24.2 +0.5
baz=76
T30A **Plains** 76.19 336 ⇑P P 15 34 24.7 +0.9
baz=76
V26A **Tequesquite Ra** 76.20 333 ⇑P P 15 34 24.3 +0.3
baz=76
S32A **Newby Ranch, P** 76.27 338 ⇓P P 15 34 24.9 +0.6
baz=76
LAZ **Ladron** 76.28 330 eP P 15 34 22.4 -2.2
comp=Z,5.1nm,1.0s
W24A **Lazy 6 Ranch,** 76.29 332 ⇑P P 15 34 24.6 -0.1
baz=76,SNR=11
S31A **Mullinville** 76.37 338 ⇓P P 15 34 25.1 +0.2
baz=77
U27A **Thompson Grove** 76.41 334 ⇓P P 15 34 25.3 +0.1
baz=77,SNR=8.9
ANMO **Albuquerque** 76.47 331 eP P 15 34 25.1 -0.6
ANMO pmax pmax
comp=Z,44nm,1.0s

ANMO **Albuquerque** 76.47 331 eP P 15 34 25.2 -0.4
comp=Z,9.9nm,0.9s
W23A **Werner Place,** 76.54 331 ⇑P P 15 34 26.3 +0.2
baz=77,SNR=8.6
T29A **Hugoton** 76.54 336 ⇑P P 15 34 26.2 +0.3
baz=77
V25A **Rancho No Teng** 76.54 333 ⇑P P 15 34 26.3 +0.2
baz=77,SNR=15
R33A **Olander Ranch,** 76.55 339 ⇑P P 15 34 25.6 -0.2
baz=77
V24A **Rampart Ranch,** 76.69 332 ⇑P P 15 34 27.4 +0.4
baz=77
S30A **Montezuma** 76.70 337 ⇓P P 15 34 26.8 0.0
baz=77
214A **Organ Pipe Nat** 76.71 325 ⇑P P 15 34 27.5 +0.6
baz=77,SNR=12
214A **Organ Pipe Nat** 76.71 325 P P 15 34 25.7 -1.2
comp=Z,34nm,1.3s
U26A **Atchley Ranch,** 76.71 334 ⇓P P 15 34 27.5 +0.5
baz=77
R32A **Long Quarter,** 76.87 338 ⇓P P 15 34 27.8 +0.1
baz=77
KSU1 **Kansas State U** 76.89 340 ⇑P P 15 34 27.6 -0.1
baz=77
KSU1 **Kansas State U** 76.89 340 eP P 15 34 26.8 -0.9
comp=Z,18nm,0.6s
S29A **Ulysses** 76.90 336 ⇑P P 15 34 28.1 +0.1
baz=77
T27A **Campo** 76.94 335 ⇑P P 15 34 28.3 +0.1
baz=77,SNR=7.6
U25A **Circle Dot Ran** 76.96 333 ⇑P P 15 34 28.3 -0.1
baz=77,SNR=11
R31A **Burdett** 77.00 338 ⇓P P 15 34 28.4 0.0
baz=77
V23A **Ortiz Mt. (NFS** 77.06 332 ⇓P P 15 34 29.3 +0.3
baz=77
S28A **Manter** 77.14 336 ⇑P P 15 34 28.8 -0.4
baz=77,SNR=20
Q33A **Connelly Farm,** 77.14 339 ⇓P P 15 34 29.5 +0.3
baz=77
R30A **Dighton** 77.23 337 ⇑P P 15 34 30.0 +0.3
baz=78
U24A **Moreno Valley** 77.30 333 ⇓P P 15 34 30.7 +0.2
baz=78
Q32A **Meitler Ranch,** 77.35 339 ⇓P P 15 34 30.2 -0.1
baz=78,SNR=7.8
T26A **Comanche Natio** 77.36 334 ⇑P P 15 34 30.7 +0.1
baz=78,SNR=13
V22A **San Miguel Ran** 77.50 331 ⇓P P 15 34 32.0 +0.5
baz=78,SNR=24
S27A **Las Animas** 77.56 335 ⇓P P 15 34 31.5 -0.2
baz=78,SNR=6.4
X18A **Snowflake** 77.57 328 ⇑P P 15 34 32.1 +0.2
baz=78
U23A **El Rito** 77.58 332 ⇓P P 15 34 32.6 +0.7
baz=78,SNR=10
Q31A **Ellis** 77.61 338 ⇓P P 15 34 32.0 +0.1
baz=78,SNR=7.2
T25A **Trinidad** 77.62 334 ⇓P P 15 34 32.6 +0.5
baz=78,SNR=25
R29A **Marienthal** 77.64 337 ⇓P P 15 34 32.3 +0.3
baz=78,SNR=5.8
S26A **Kim** 77.71 335 ⇓P P 15 34 32.7 +0.2
baz=78,SNR=25
R28A **Tribune** 77.79 336 ⇑P P 15 34 32.5 -0.3
baz=78,SNR=15
113A **Mohawk Valley,** 77.83 325 ⇓P P 15 34 33.2 +0.1
baz=78
Q30A **Quinter** 77.85 338 ⇓P P 15 34 33.2 +0.1
baz=78,SNR=5.9
U22A **Llaves** 77.88 332 ⇓P P 15 34 34.2 +0.6
baz=78
T24B **San Luis** 77.91 333 ⇓P P 15 34 34.4 +0.5
baz=78,SNR=11
Z14A **Wintersburg** 77.94 326 ⇑P P 15 34 34.1 +0.4
baz=78
P32A **Huiting Farm,** 77.94 339 ⇓P P 15 34 33.9 +0.2
baz=78
W18A **Petrified Fore** 77.98 329 ⇓P P 15 34 34.5 +0.4
baz=78
Q29A **Oakley** 78.01 337 ⇓P P 15 34 33.7 -0.4
baz=78,SNR=6.9
R27A **Eads** 78.07 335 ⇓P P 15 34 34.2 -0.3
baz=78,SNR=20
P31A **Stockton** 78.08 338 ⇑P P 15 34 34.8 +0.4
baz=78
S25A **Robets Cordova** 78.09 334 ⇑P P 15 34 34.8 +0.1
baz=78,SNR=11
X16A **Lo Mia Camp, P** 78.13 327 ⇑P P 15 34 35.3 +0.3
baz=78,SNR=24
T23A **Casias Ranch,** 78.14 332 ⇑P P 15 34 35.0 -0.1
baz=78
R26A **Arlington** 78.31 335 ⇑P P 15 34 35.8 0.0
baz=79,SNR=9.0
S24A **Houchin Ranch,** 78.36 333 ⇓P P 15 34 36.6 +0.3
baz=79,SNR=19
P30A **Selden** 78.37 338 ⇑P P 15 34 36.2 +0.1
baz=79
Y14A **Wickenburg** 78.44 326 ⇑P P 15 34 37.1 +0.5
baz=79,SNR=9.3
Q28A **Sharon Springs** 78.44 336 ⇓P P 15 34 36.9 +0.4
baz=79
R25A **Fountain Ranch** 78.47 334 ⇓P P 15 34 37.1 +0.4
baz=79
SDCO **Great Sand Dun** 78.56 333 eP P 15 34 36.6 -0.8
comp=Z,8.0nm,0.8s
GLA **Glamis** 78.58 324 ⇑P P 15 34 37.6 +0.3
baz=79
P29A **Atwood** 78.64 337 ⇑P P 15 34 37.4 -0.1
baz=79,SNR=9.5
O31A **Woolen Ranch,** 78.65 339 ⇑P P 15 34 38.0 +0.5
baz=79
S23A **Nye Farm, Mont** 78.71 333 ⇓P P 15 34 38.7 +0.5
baz=79
R24A **Sanders Place,** 78.84 334 ⇑P P 15 34 39.3 +0.4
baz=79,SNR=18
Q26A **Hugo** 78.89 335 ⇓P P 15 34 39.5 +0.5
baz=79,SNR=6.0
O30A **MW Ranch, Wils** 78.89 338 ⇓P P 15 34 39.0 +0.1
baz=79
SWSC **Sam W. Stewart** 78.96 323 ⇑P P 15 34 40.1 +0.8
baz=79
JFWS **Jewell Farm** 78.99 346 eP P 15 34 38.5 -0.8
JFWS pmax pmax
comp=Z,25nm,0.9s
JFWS **Jewell Farm** 78.99 346 eP P 15 34 38.5 -0.8
comp=Z,25nm,0.9s
WUAZ **Wupatki** 79.02 328 ⇓P P 15 34 40.4 +0.6
baz=79,SNR=11
WUAZ **Wupatki** 79.02 328 eP P 15 34 39.7 -0.1
comp=Z,15nm,1.0s
S22A **4UR Ranch, Cre** 79.06 332 ⇑P P 15 34 40.6 +0.4
baz=79,SNR=12
R23A **Moffat** 79.07 333 ⇓P P 15 34 40.5 +0.3
baz=79,SNR=11
O29A **4D Ranch, Culb** 79.08 338 ⇓P P 15 34 40.3 +0.4
baz=79
P27A **Ficken Ranch,** 79.14 336 ⇓P P 15 34 40.7 +0.4
baz=79
Q25A **Bedland, Calha** 79.14 335 ⇑P P 15 34 40.9 +0.4
baz=79
N31A **Bailey Ranch,** 79.15 339 ⇓P P 15 34 40.7 +0.4
baz=79
MONP **Monument Peak,** 79.23 323 ⇓P P 15 34 41.6 +0.5
baz=79
MVCO **Mesa Verde** 79.25 331 ⇓P P 15 34 41.6 +0.4
baz=80,SNR=8.0
MVCO **Mesa Verde** 79.25 331 eP P 15 34 40.8 -0.4
comp=Z,15nm,1.0s
SADO **Sadowa** 79.27 355 P P 15 34 38.4 -2.4
comp=Z,9.0nm,0.7s,baz=176,slow=6.3,SNR=8.3
BC3 **Big Chuckawall** 79.37 324 ⇑P P 15 34 42.3 +0.6
baz=80,SNR=16
O28A **Krutsinger Ran** 79.39 337 ⇓P P 15 34 42.2 +0.5
baz=80
P26A **Davis Ranch, A** 79.40 336 ⇑P P 15 34 41.6 -0.2
baz=80,SNR=5.8
BOSA **Boshof** 79.46 117 eP P 15 34 40.3 -2.3
BOSA pmax pmax
comp=Z,18nm,0.8s
BOSA **Boshof** 79.46 117 P P 15 34 42.6 +0.1
comp=Z,16nm,0.7s,baz=235,slow=3.8,SNR=36
BOSA **Boshof** 79.46 117 eP P 15 34 40.3 -2.3
comp=Z,18nm,0.8s
CASY **Casey** 79.46 181 eP P 15 34 42.3 +0.6
comp=Z,21nm,1.1s
Q24A **Divide** 79.50 334 ⇓P P 15 34 42.7 +0.1
baz=80,SNR=9.7

IRM	Iron Mountain	79.64	324	⇑P	P	15 34 43.9	+0.8
	baz=80,SNR=11						
M31A	Lambtecht Ranc	79.64	339	⇑P	P	15 34 43.3	+0.4
	baz=80						
P25A	Willow Gulch B	79.64	335	⇑P	P	15 34 44.1	+0.9
	baz=80,SNR=7.3						
N29A	Votaw Ranch, W	79.65	338	⇓P	P	15 34 43.7	+0.6
	baz=80						
O27A	Beecher Island	79.68	336	⇓P	P	15 34 44.0	+0.7
	baz=80						
W13A	Hualapai Mount	79.81	326	⇓P	P	15 34 44.8	+0.6
	baz=80						
PFO	Pinyon Flats O	79.83	323	P	P	15 34 45.2	+1.0
	comp=Z,114nm,0.8s,SNR=5.5						
PFO	Pinyon Flats O	79.83	323	P	P	15 34 41.8	-2.4
PFO				pmax	pmax		
	comp=Z,15nm,0.8s						
PFO	Pinyon Flats O	79.83	323	⇑P	P	15 34 45.2	+1.0
	baz=80						
PFO	Pinyon Flats O	79.83	323	P	P	15 34 41.8	-2.4
	comp=Z,15nm,0.8s						
P24A	Kohler Place,	79.91	334	⇓P	P	15 34 45.1	+0.5
	baz=80						
BELC	Belle Mtn. Jos	79.92	324	⇑P	P	15 34 45.3	+0.5
	baz=80						
O26A	Horse Wrangler	80.00	336	⇓P	P	15 34 45.5	+0.5
	baz=80,SNR=7.1						
PV01	Paradox Valley	80.08	331	P	P	15 34 41.4	-4.3
	comp=Z,687nm,0.9s						
P23A	Jefferson	80.12	334	⇑P	P	15 34 46.0	+0.1
	baz=80						
O25A	Wiggins	80.16	335	⇑P	P	15 34 46.6	+0.7
	baz=80						
MURC	Murrieta	80.19	323	⇓P	P	15 34 46.7	+0.6
	baz=80						
U15A	North Rim	80.19	328	⇓P	P	15 34 46.4	0.0
	baz=80,SNR=12						
OGNE	Ogallala	80.21	337	⇑P	P	15 34 46.2	+0.2
	baz=80						
M29A	Burnside Ranch	80.24	338	⇓P	P	15 34 47.0	+0.8
	baz=80						
N27A	Anderson Farm,	80.25	337	⇓P	P	15 34 46.7	+0.3
	baz=80,SNR=7.2						
SMCO	Snowmass	80.37	333	eP	P	15 34 47.5	+0.1
	comp=Z,27nm,1.0s						
L31A	Butterfield Fa	80.37	340	⇑P	P	15 34 47.4	+0.6
	baz=81						
SCI	San Clemente I	80.38	321	⇑P	P	15 34 47.4	+0.4
	baz=81						
GMRC	Granite Mounta	80.38	324	⇑P	P	15 34 47.9	+0.7
	baz=81,SNR=12						
M28A	Bar X Bar Ranc	80.41	338	⇑P	P	15 34 47.6	+0.4
	baz=81						
ISCO	Idaho Springs	80.41	334	eP	P	15 34 46.8	-0.7
ISCO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ISCO	Idaho Springs	80.41	334	⇓P	P	15 34 47.7	+0.2
	baz=81,SNR=10						
ISCO	Idaho Springs	80.41	334	eP	P	15 34 46.8	-0.7
	comp=Z,7.9nm,0.9s						
L30A	Spencer Herefo	80.41	339	⇓P	P	15 34 47.8	+0.7
	baz=81						
PV04	Paradox Valley	80.44	331	eP	P	15 34 47.6	+0.1
N26A	Koester Ranch,	80.50	336	⇑P	P	15 34 48.4	+0.7
	baz=81						
O24A	Longmont	80.50	335	⇑P	P	15 34 48.6	+0.9
	baz=81						
CIS	Catalina Islan	80.64	322	⇓P	P	15 34 48.9	+0.4
	baz=81						
P22A	Eagle	80.65	333	⇓P	P	15 34 49.1	+0.5
	baz=81,SNR=13						
L29A	Maesberg Ranch	80.75	339	⇓P	P	15 34 49.5	+0.6
	baz=81						
HEC	Hector,Ludlow	80.75	324	⇓P	P	15 34 49.8	+0.7
	baz=81						
FMP	Fort Macarthur	80.83	322	⇑P	P	15 34 49.7	+0.2
	baz=81						
M27A	Reverse DX Ran	80.85	337	⇓P	P	15 34 50.1	+0.6
	baz=81						
O23A	Lake Granby, G	80.88	334	⇑P	P	15 34 50.6	+0.6
	baz=81,SNR=20						
M26A	McRoberts Ranc	81.04	337	⇓P	P	15 34 51.0	+0.4
	baz=81						
N24A	Carr	81.06	335	⇑P	P	15 34 51.2	+0.5
	baz=81						
O22A	Kremmling	81.07	334	⇑P	P	15 34 51.0	+0.1
	baz=81,SNR=13						
RRX	Edison Barstow	81.11	324	⇓P	P	15 34 51.6	+0.6
	baz=81						
MWC	Mount Wilson	81.11	323	eP	P	15 34 52.0	+0.8
MWC				pmax	pmax		
	comp=Z,16nm,0.9s						
MWC	Mount Wilson	81.11	323	eP	P	15 34 52.0	+0.8
	comp=Z,16nm,0.9s						
ECSD	EROS Data Cent	81.21	342	eP	P	15 34 49.8	-1.5
	comp=Z,27nm,0.8s						
M25A	Palm-Egli Farm	81.32	336	⇑P	P	15 34 52.7	+0.6
	baz=82						
K29A	Lazy Trails An	81.33	339	⇑P	P	15 34 52.8	+0.8
	baz=82						
GSC	Goldstone, Bar	81.36	324	eP	P	15 34 52.5	+0.1
GSC				pmax	pmax		
	comp=Z,13nm,1.0s						
GSC	Goldstone, Bar	81.36	324	⇓P	P	15 34 52.9	+0.6
	baz=82						
GSC	Goldstone, Bar	81.36	324	eP	P	15 34 52.5	+0.1
	comp=Z,13nm,1.0s						
N23A	Red Feather La	81.50	334	⇓P	P	15 34 53.7	+0.6
	baz=82,SNR=6.4						
L26A	Underwood Farm	81.53	337	⇓P	P	15 34 53.9	+0.8
	baz=82						
SHPR	Sheep Range	81.55	326	eP	P	15 34 53.5	+0.1
SHOC	Shoshone, Teco	81.59	325	⇑P	P	15 34 54.1	+0.6
	baz=82						
N22A	Wattenberg Ran	81.60	334	⇓P	P	15 34 53.9	+0.2
	baz=82,SNR=11						
CCUT	Cedar City	81.60	328	eP	P	15 34 54.2	+0.4
	comp=Z,16nm,1.0s						
EDW2	Edwards Air Fo	81.60	323	⇑P	P	15 34 54.2	+0.6
	baz=82						
K28A	Ten Mile Ranch	81.61	338	⇓P	P	15 34 54.3	+0.8
	baz=82						
M24A	Cheyenne	81.61	335	⇓P	P	15 34 54.0	+0.3
	baz=82						
J30A	Dallas	81.61	340	⇓P	P	15 34 54.4	+1.0
	baz=82						
O20A	White River Ci	81.68	332	⇑P	P	15 34 54.5	+0.4
	baz=82						
O20A	White River Ci	81.68	332	eP	P	15 34 50.6	-3.5
	comp=Z,9.9nm,0.8s						
PHWY	Pilot Hill	81.68	335	eP	P	15 34 53.4	-0.8
	comp=Z,19nm,1.3s						
SRU	San Rafael Swe	81.70	330	eP	P	15 34 53.5	-0.7
SRU				pmax	pmax		
	comp=Z,14nm,0.8s						
SRU	San Rafael Swe	81.70	330	eP	P	15 34 53.5	-0.7
	comp=Z,14nm,0.8s						
LBTB	Lobatse	81.71	115	eP	P	15 34 53.0	-1.7
LBTB				pmax	pmax		
	comp=Z,16nm,0.6s						
LBTB	Lobatse	81.71	115	eP	P	15 34 53.0	-1.7
	comp=Z,16nm,0.6s						
SPMN	Marine on St.	81.73	345	⇑P	P	15 34 53.2	-0.7
	baz=82,SNR=6.0						
SPMN	Marine on St.	81.73	345	eP	P	15 34 52.0	-1.9
	comp=Z,16nm,0.8s						
BSC	Santa Cruz Isl	81.73	321	⇑P	P	15 34 54.5	+0.3
	baz=82						
ARUT	Antelope Range	81.83	328	eP	P	15 34 52.3	-2.6
ARUT				pmax	pmax		
	comp=Z,197nm,1.1s						
ARUT	Antelope Range	81.83	328	eP	P	15 34 52.3	-2.6
	comp=Z,197nm,1.1s						
K27A	Flueckinger Fa	81.87	338	⇓P	P	15 34 54.8	-0.1
	baz=82						
MVU	Marysvale	81.89	329	eP	P	15 34 56.2	+0.9
	comp=Z,7.4nm,0.9s						
M23A	Laramie	81.92	335	⇑P	P	15 34 55.8	+0.4
	baz=82						
J29A	Okreek	81.93	339	⇓P	P	15 34 55.2	+0.1
	baz=82,SNR=15						
L25A	Engebretsen Ra	81.93	336	⇑P	P	15 34 55.6	+0.4
	baz=82						
I30A	Oacoma	82.14	340	⇓P	P	15 34 55.7	-0.4
	baz=82,SNR=9.4						
TMUT	Trail Mountain	82.14	330	eP	P	15 34 56.6	-0.1
L24A	Wheatland	82.16	336	⇓P	P	15 34 55.8	-0.7
	baz=82						
M22A	Cedar Creek Ra	82.18	334	⇑P	P	15 34 56.5	-0.3
	baz=82						
J28A	Allard Ranch,	82.21	339	⇓P	P	15 34 56.6	0.0
	baz=82,SNR=8.9						
J27A	Elkhorn Farm,	82.29	338	⇑P	P	15 34 57.3	+0.2
	baz=83,SNR=9.6						
N20A	Spence Gulch,	82.29	333	⇑P	P	15 34 57.2	-0.1
	baz=82,SNR=8.9						
K25A	Mack Ranch, Ha	82.31	337	⇑P	P	15 34 57.6	+0.4
	baz=83						
FURC	Furnace Creek,	82.32	325	⇑P	P	15 34 57.8	+0.6
	baz=82						
ISA	Isabella, Lake	82.46	323	eP	P	15 34 58.3	+0.2
ISA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ISA	Isabella, Lake	82.46	323	⇓P	P	15 34 58.3	+0.2
	baz=83,SNR=7.3						
ISA	Isabella, Lake	82.46	323	eP	P	15 34 58.3	+0.2
	comp=Z,9.4nm,0.9s						
I29A	Vivian Onida	82.48	340	⇑P	P	15 34 58.4	+0.4
	baz=83						
L23A	Garrett	82.49	335	⇓P	P	15 34 58.5	+0.2
	baz=83						
BRSD	Miller	82.49	341	⇓P	P	15 34 58.2	+0.2
	baz=83						
L22A	Ellis Ranch, M	82.67	335	⇑P	P	15 34 59.3	0.0
	baz=83						
J26A	Sides Ranch, S	82.68	337	⇑P	P	15 34 59.8	+0.7
	baz=83						
I28A	Midland	82.72	339	⇓P	P	15 34 59.3	+0.1
	baz=83,SNR=8.1						
VES	Vestal, Richgr	82.91	323	⇑P	P	15 35 00.6	+0.2
	baz=83						
MPU	Maple Canyon	82.92	330	eP	P	15 35 00.9	+0.4
	comp=Z,15nm,0.9s						
SMMC	Simmler	82.95	322	⇑P	P	15 35 00.6	-0.1
	baz=83						
J25A	Sunshine Ranch	82.98	337	⇑P	P	15 35 00.6	-0.1
	baz=83						
GRAC	Grapevine Rang	82.99	325	⇓P	P	15 35 01.1	+0.2
	baz=83						
H29A	Onida	83.01	340	⇑P	P	15 35 00.6	-0.2
	baz=83,SNR=12						
K23A	Bowen Ranch, D	83.03	335	⇓P	P	15 35 01.4	+0.4
	baz=83,SNR=6.3						
I27A	Quinn	83.05	338	⇑P	P	15 35 01.3	+0.4
	baz=83						
NLU	North Lily Min	83.06	330	eP	P	15 35 01.9	+0.6
	comp=Z,12nm,1.1s						
G30A	Faulkton	83.18	341	⇑P	P	15 35 01.9	+0.4
	baz=84						
J24A	Dixon Ranch, L	83.21	336	⇓P	P	15 35 02.5	+0.6
	baz=84,SNR=5.5						
R11A	Troy Canyon, C	83.25	327	⇓P	P	15 35 02.6	+0.3
	baz=84,SNR=15						
R11A	Troy Canyon, C	83.25	327	P	P	15 35 01.1	-1.2
	comp=Z,9.8nm,0.9s						
I26A	New Underwood	83.26	338	⇓P	P	15 35 02.6	+0.5
	baz=84						
H28A	Mission Ridge	83.29	339	⇑P	P	15 35 02.4	+0.3
	baz=84						
JLU	Jordanelle	83.34	331	eP	P	15 35 02.6	-0.2
	comp=Z,12nm,0.8s						
TIN	Tinemaha, Big	83.45	324	⇓P	P	15 35 03.7	+0.5
	baz=84						
K21A	Alcova	83.49	334	⇓P	P	15 35 03.5	0.0
	baz=84,SNR=15						
I25A	Rochford	83.53	337	⇓P	P	15 35 04.0	+0.4
	baz=84						
CTU	Camp Tracy	83.54	330	eP	P	15 35 03.8	0.0
	comp=Z,6.0nm,0.8s						
DUG	Dugway, Tooele	83.56	329	eP	P	15 35 03.5	-0.3
DUG				pmax	pmax		
	comp=Z,35nm,1.4s						
DUG	Dugway, Tooele	83.56	329	⇓P	P	15 35 04.2	+0.3
	baz=84,SNR=16						
DUG	Dugway, Tooele	83.56	329	eP	P	15 35 03.5	-0.3
	comp=Z,35nm,1.4s						
H27A	Howes	83.57	339	⇑P	P	15 35 03.9	+0.3
	baz=84						
G28A	Parade	83.63	340	⇑P	P	15 35 03.5	-0.4
	baz=84,SNR=10						
I24A	Kuermerle Ranc	83.67	337	⇑P	P	15 35 04.2	-0.1
	baz=84						
RSSD	Black Hills	83.71	337	eP	P	15 35 03.7	-0.9
RSSD				pmax	pmax		
	comp=Z,9.0nm,0.8s						
RSSD	Black Hills	83.71	337	eP	P	15 35 03.7	-0.9
	comp=Z,8.8nm,0.8s						
F30A	Leola	83.80	341	⇓P	P	15 35 04.8	+0.1
	baz=84						
J22A	Midwest	83.90	335	⇓P	P	15 35 05.3	-0.1
	baz=84						
F29A	Eureka	84.01	341	⇓P	P	15 35 05.7	-0.2
	baz=84,SNR=7.9						
H25A	Fruitdale	84.02	338	⇓P	P	15 35 06.2	+0.3
	baz=84						
TORD	Torodi Ar. Bea	84.04	70	P	P	15 35 06.5	-0.2
	comp=Z,12nm,0.7s,baz=268,slow=4.0,SNR=62						
I23A	Meade Ranch, G	84.04	336	⇓P	P	15 35 06.9	+0.7
	baz=84						
EYMN	Ely	84.07	347	eP	P	15 35 05.2	-0.8
	comp=Z,8.1nm,0.8s						
G27A	Dupree	84.20	339	⇓P	P	15 35 07.2	+0.4
	baz=84						
HWUT	Hardware Ranch	84.24	331	eP	P	15 35 06.4	-0.9
	comp=Z,23nm,1.1s						
BGU	Big Grassy Mou	84.27	330	eP	P	15 35 07.0	-0.4
	comp=Z,9.5nm,1.5s						
F28A	McLaughlin	84.30	340	⇓P	P	15 35 07.5	+0.2
	baz=85						
G26A	Maurine	84.32	339	⇓P	P	15 35 07.1	-0.4
	baz=85,SNR=7.7						
I22A	9 Mile Ranch,	84.32	335	⇑P	P	15 35 07.0	-0.6
	baz=85,SNR=7.2						
E30A	Jud	84.38	341	⇑P	P	15 35 07.8	+0.1
	baz=85						
J20A	Shoshoni	84.42	334	⇓P	P	15 35 08.2	+0.2
	baz=85,SNR=19						
H24A	Dirks Ranch, A	84.44	337	⇑P	P	15 35 07.7	-0.4
	baz=85,SNR=7.2						
PDAR	Pinedale Array	84.45	333	P	P	15 35 07.0	-1.3
	comp=Z,7.0nm,0.8s,baz=152,slow=5.5,SNR=30						
PDAR				PKKP	PKKPdf	15 53 19.1	+5.0
	comp=Z,0.4nm,0.6s,baz=223,slow=1.9,SNR=4.3						
G25A	Newell	84.48	338	⇓P	P	15 35 07.8	-0.5
	baz=85,SNR=8.7						
I21A	Big Trails, Te	84.53	335	⇓P	P	15 35 08.1	-0.5
	baz=85,SNR=13						
NVAR	Mina Array Bea	84.58	325	P	P	15 35 08.8	-0.3
	comp=Z,5.3nm,0.7s,baz=156,slow=6.2,SNR=15						
F27A	Lemmon	84.67	339	⇓P	P	15 35 08.6	-0.6
	baz=85,SNR=16						
J19A	Crowheart	84.69	333	⇑P	P	15 35 09.4	-0.1
	baz=85,SNR=20						
F26A	Lodgepole	84.85	339	⇓P	P	15 35 10.2	+0.2
	baz=85						
HVU	Hansel Valley	84.87	330	eP	P	15 35 09.5	-1.0
HVU				pmax	pmax		
	comp=Z,16nm,0.8s						
HVU	Hansel Valley	84.87	330	eP	P	15 35 09.5	-1.0
	comp=Z,16nm,0.8s						
H22A	Clearmont	84.90	336	⇓P	P	15 35 10.8	+0.4
	baz=85						
D30A	Buchanan	84.91	342	⇑P	P	15 35 10.1	-0.1
	baz=85,SNR=5.9						
E28A	Huff	84.93	340	⇑P	P	15 35 10.5	+0.1
	baz=85						
I20A	Worland	84.95	334	⇓P	P	15 35 10.5	-0.3
	baz=85,SNR=14						
E27A	Carson	85.05	340	⇑P	P	15 35 11.1	+0.1
	baz=85						
ELK	Elko	85.06	328	eP	P	15 35 10.8	-0.7
ELK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ELK	Elko	85.06	328	eP	P	15 35 10.8	-0.7
	comp=Z,9.1nm,0.9s						
D29A	Pettibone, Tap	85.08	341	⇓P	P	15 35 10.4	-0.8
	baz=85,SNR=5.2						
G23A	Biddle	85.11	337	⇓P	P	15 35 11.3	-0.2
	baz=85						
F25A	Bowman	85.15	338	⇓P	P	15 35 11.9	+0.3
	baz=85						
H21A	Big Horn, Sher	85.16	335	⇓P	P	15 35 11.4	-0.4
	baz=85						
WAKR	Walker	85.18	324	eP	P	15 35 13.4	+1.2
CMB	Columbia Colle	85.27	323	eP	P	15 35 11.3	-1.1
CMB	Columbia Colle	85.27	323	eP	P	15 35 11.3	-1.1
AGMN	Agassiz Nation	85.31	344	⇑P	P	15 35 11.1	-1.1
	baz=86,SNR=11						
AGMN	Agassiz Nation	85.31	344	eP	P	15 35 10.6	-1.7
	comp=Z,13nm,0.6s						
I19A	Meeteetse	85.34	334	⇑P	P	15 35 12.2	-0.5
	baz=86,SNR=7.3						
H20A	Greybull	85.37	335	⇑P	P	15 35 12.4	-0.4
	baz=86,SNR=24						
C30A	Mose, Pekin	85.39	342	⇑P	P	15 35 12.5	-0.2
	baz=86,SNR=21						
F24A	Ekalaka	85.39	338	⇑P	P	15 35 12.8	-0.1
	baz=86						
G22A	Birney	85.43	336	⇑P	P	15 35 13.1	0.0
	baz=86						
REDW	Red Top Meadow	85.45	332	eP	P	15 35 12.3	-1.1
	comp=Z,9.8nm,0.9s						
D28A	Regan	85.47	341	⇓P	P	15 35 12.8	-0.3
	baz=86,SNR=7.6						
F23A	Volborg	85.58	337	⇑P	P	15 35 13.7	-0.1
	baz=86,SNR=6.5						
TPAW	Teton Pass	85.60	332	eP	P	15 35 13.6	-0.6
E25A	Miller Ranch,	85.65	339	⇑P	P	15 35 14.1	0.0
	baz=86						
G21A	Lodge Grass	85.74	336	⇓P	P	15 35 13.9	-0.7
	baz=86,SNR=10						
MDND	Maddock	85.81	341	⇑P	P	15 35 14.8	0.0
	baz=86						
I17A	Pilgrim Ck.	85.82	333	⇑P	P	15 35 15.2	0.0
	baz=86,SNR=11						
D26A	Manning	85.84	339	⇓P	P	15 35 14.6	-0.4
	baz=86,SNR=11						
H19A	Powell	85.88	334	⇑P	P	15 35 14.7	-0.7
	baz=86,SNR=9.2						
C28A	Hausauer Farms	85.90	341	⇓P	P	15 35 15.1	-0.1
	baz=86						
F22A	Rosebud	85.91	336	⇓P	P	15 35 15.1	-0.3
	baz=86,SNR=11						
IMW	Indian Meadow	85.94	333	eP	P	15 35 15.0	-0.9
	comp=Z,18nm,1.1s						
E24A	Baker	85.98	338	⇓P	P	15 35 15.7	0.0
	baz=86						
FLWY	Flagg Ranch	86.01	333	eP	P	15 35 15.6	-0.5
B30A	Myrvik Farm, E	86.04	343	⇓P	P	15 35 15.1	-0.8
	baz=86,SNR=30						
G20A	Bridger	86.08	335	⇓P	P	15 35 15.2	-1.1
	baz=86,SNR=20						
H18A	Shoshone NF, C	86.13	334	⇓P	P	15 35 15.8	-0.9
	baz=86,SNR=49						
D25A	Fairfield	86.21	339	⇓P	P	15 35 17.4	+0.6
	baz=86,SNR=7.6						
H17A	Grant Village	86.23	333	⇑P	P	15 35 17.4	+0.1
	baz=86						
F21A	Absaloka Mine,	86.24	336	⇑P	P	15 35 17.3	+0.2
	baz=86						
E23A	Ismay	86.24	337	⇓P	P	15 35 17.0	+0.1
	baz=86						
B29A	Wagenman Farm,	86.31	342	⇑P	P	15 35 17.2	-0.1
	baz=87						
YFT	Old Faithful	86.37	333	eP	P	15 35 19.3	+1.4
	comp=Z,13nm,0.8s						
RLMT	Red Lodge	86.37	334	P	P	15 35 15.4	-2.5
	comp=Z,12nm,0.8s						
E22A	Miles City	86.39	337	⇑P	P	15 35 17.6	-0.2
	baz=87						
C26A	Wahner Farm, P	86.47	340	⇓P	P	15 35 17.8	-0.3
	baz=87						
A30A	Hoffart Farm,	86.49	343	⇓P	P	15 35 17.6	-0.5
	baz=87,SNR=15						
B28A	Dugan Ranch, T	86.56	341	⇑P	P	15 35 18.6	+0.1
	baz=87						
F20A	Billings	86.57	335	⇓P	P	15 35 18.3	-0.4
	baz=87						
YMR	Madison River	86.61	333	eP	P	15 35 19.0	-0.1
	comp=Z,28nm,0.9s						
C25A	Freed Ranch, W	86.70	339	⇓P	P	15 35 19.4	+0.2
	baz=87						
LAO	LASA Array	86.70	337	eP	P	15 35 15.6	-3.7
	comp=Z,37nm,1.0s						
A29A	Manning Farm,	86.71	342	⇓P	P	15 35 19.0	-0.2
	baz=87,SNR=11						
D23A	Lindsay	86.81	338	⇓P	P	15 35 19.5	-0.3
	baz=87,SNR=11						
E21A	Keefer Ranch,	86.85	336	⇓P	P	15 35 20.8	+0.8
	baz=87						
C24A	Savage	86.89	338	⇓P	P	15 35 20.0	-0.2
	baz=87,SNR=6.8						
F19A	Roth Farm, Mol	86.89	335	⇓P	P	15 35 20.1	-0.2
	baz=87,SNR=7.6						
QLMT	Earthquake Lak	86.92	333	eP	P	15 35 20.7	+0.1
A28A	Rude Farm, Bot	86.96	342	⇑P	P	15 35 20.8	+0.3
	baz=87						
B26A	Jensen Ranch,	87.01	340	⇓P	P	15 35 20.9	+0.2
	baz=87						
HLID	Hailey	87.03	330	⇑P	P	15 35 21.1	0.0
	baz=87,SNR=20						
HLID	Hailey	87.03	330	eP	P	15 35 20.4	-0.7
	comp=Z,19nm,1.1s						
D22A	Cohagen	87.09	337	⇑P	P	15 35 21.1	0.0
	baz=87,SNR=12						
ULM	Lac du Bonnet	87.15	345	P	P	15 35 19.6	-1.6
	comp=Z,10nm,0.8s,baz=169,slow=2.3,SNR=17						
E20A	Meyer Farm, Mu	87.17	336	⇑P	P	15 35 21.4	-0.1
	baz=87,SNR=18						
B25A	Knox Farm, Ray	87.18	339	⇑P	P	15 35 21.8	+0.3
	baz=88						
D21A	La Casta Ranch	87.28	337	⇓P	P	15 35 22.0	-0.1
	baz=88						
E19A	Rath Farm, Rou	87.36	335	⇓P	P	15 35 22.5	0.0
	baz=88,SNR=22						
C23A	Lambert	87.36	338	⇑P	P	15 35 22.3	-0.1
	baz=88,SNR=14						
A26A	Wade Farm, Ken	87.43	340	⇓P	P	15 35 22.7	0.0
	baz=88,SNR=5.3						
MCMT	McKenzie Canyo	87.46	332	eP	P	15 35 22.9	-0.3
	comp=Z,13nm,1.1s						
MFID	Camas Ranch	87.49	329	eP	P	15 35 23.5	+0.3
C22A	Vida	87.53	338	⇑P	P	15 35 23.1	-0.1
	baz=88						
D20A	Manuel Ranch,	87.69	336	⇑P	P	15 35 23.9	-0.1
	baz=88,SNR=12						
A25A	Svangstu Ranch	87.77	340	⇑P	P	15 35 25.0	+0.7
	baz=88						
B23A	Brockton	87.89	338	⇓P	P	15 35 25.5	+0.6
	baz=88						
WVOR	Wild Horse Val	87.92	327	eP	P	15 35 25.9	+0.6
WVOR				pmax	pmax		
	comp=Z,22nm,1.5s						
WVOR	Wild Horse Val	87.92	327	eP	P	15 35 25.9	+0.6
	comp=Z,22nm,1.5s						
C21A	Desert Coulee	87.99	337	⇓P	P	15 35 25.4	-0.1
	baz=88,SNR=11						
D19A	Cripps Ranch,	88.00	336	⇓P	P	15 35 25.7	+0.2
	baz=88,SNR=5.4						
A24A	Westby	88.01	339	⇑P	P	15 35 25.8	+0.3
	baz=88						
B22A	Reddig Ranch S	88.06	338	⇓P	P	15 35 25.5	-0.2
	baz=88,SNR=6.9						
LRM	Limekiln Ridge	88.14	333	eP	P	15 35 25.9	-0.6
C20A	Veseth Ranch,	88.18	336	⇓P	P	15 35 26.1	-0.3
	baz=88,SNR=9.1					

comp=Z,2.2nm,0.6s,baz=177,slow=6.9,SNR=6.1
SCHQ LR LR 16 19 04.8
comp=Z,1μm,18.4s,baz=10.0,slow=38
B19A Brinkman Farms 89.14 336 ⇓P **P 15 35 30.5 -0.4**
baz=89,SNR=7.3
A20A Cobblestone Ra 89.18 337 ⇑P **P 15 35 30.8 -0.2**
baz=89,SNR=14
A19A Klindworth Far 89.48 337 ⇑P **P 15 35 32.3 -0.2**
baz=90
K04D Chiloquin, OR 89.50 325 ⇓P **P 15 35 33.2 +0.5**
baz=90
MSO Missoula 89.55 332 ⇓P **P 15 35 33.2 +0.3**
baz=90
J05D Fort Rock, OR 89.77 326 ⇑P **P 15 35 34.4 +0.3**
baz=90
L02D Cave Junction, 90.02 324 ⇑P **P 15 35 35.5 +0.5**
baz=90
J04D Umpqua Nationa 90.14 326 ⇓P **P 15 35 35.9 +0.1**
baz=90
I04A Tendick Farm, 90.70 326 ⇑P **P 15 35 37.8 -0.4**
baz=91
I03D Drain, OR 91.07 325 ⇑P **P 15 35 40.0 +0.1**
baz=91
NEW Newport 91.96 331 P P 15 35 42.4 -1.6
comp=Z,2.1nm,0.7s,baz=308,slow=1.6,SNR=4.4
NEW Newport 91.96 331 ⇓P **P 15 35 43.4 -0.6**
baz=92
YKA Yellowknife Ar 102.72 341 P **Pdif 15 36 30.4 -1.8**
comp=Z,1.2nm,0.7s,baz=143,slow=4.5,SNR=23
YKA PP **PP 15 40 46.4 -0.3**
comp=Z,0.2nm,0.8s,baz=135,slow=7.8,SNR=4.2
GERES GERESS Array B 112.28 45 PKiKP **PKiKP 15 41 10.5 -0.6**
comp=Z,0.6nm,0.6s,baz=179,slow=3.9,SNR=3.7
ILAR Eielson Array 114.88 333 PKP PKPdf 15 41 14.1 -1.3
comp=Z,0.5nm,0.9s,baz=174,slow=1.9,SNR=5.3
ASAR Alice Springs 117.23 206 PKP **PKPdf 15 41 19.4 -2.0**
comp=Z,0.7nm,0.8s,baz=132,slow=1.6,SNR=9.3
ASAR PKKPbc **PKKPbc 15 51 44.6 -0.1**
comp=Z,0.6nm,0.6s,baz=339,slow=2.7,SNR=16
WRA Warramunga Arr 120.45 208 PKP **PKPdf 15 41 25.6 -2.0**
comp=Z,1.5nm,0.6s,baz=162,slow=1.7,SNR=30
WRA PKKPbc **PKKPbc 15 51 33.7 +0.7**
comp=Z,0.4nm,0.7s,baz=342,slow=4.3,SNR=5.5
BRTR Keskin Array B 121.77 61 PKP **PKPdf 15 41 29.1 -0.6**
comp=Z,1.1nm,0.6s,baz=191,slow=2.1,SNR=5.9
KIEV Kiev 122.28 48 *i* PKIKP **PKPdf 15 41 29.4 -0.6**
AKASG Malin Array Be 122.29 48 PKP **PKPdf 15 41 28.2 -1.9**
comp=Z,0.8nm,0.5s,baz=260,slow=2.7,SNR=4.4
SPITS Spitsbergen Ar 123.13 14 PKP **PKPdf 15 41 30.1 -0.9**
comp=Z,2.8nm,0.7s,baz=165,slow=3.5,SNR=7.2
FINES FINESS Array B 123.24 35 PKP **PKPdf 15 41 30.5 -1.0**
comp=Z,2.1nm,0.9s,baz=146,slow=1.4,SNR=5.5
ARCES ARCESS Array B 124.37 25 PKP **PKPdf 15 41 33.1 -0.5**
comp=Z,1.8nm,0.6s,baz=298,slow=2.6,SNR=9.3
H11S2 WAKE ISLAND Hyl 26.15 268 T T 17 59 59.0
baz=119,slow=75,SNR=72
H11S1 WAKE ISLAND Hyl 26.17 268 T T 18 00 00.7
baz=119,slow=75,SNR=55
H11S3 WAKE ISLAND Hyl 26.17 268 T T 18 00 00.4
baz=119,slow=75,SNR=59
H11N3 WAKE ISLAND Hyl 26.58 270 T T 18 00 29.1
baz=115,slow=78,SNR=102
H11N1 WAKE ISLAND Hyl 26.59 270 T T 18 00 28.3
baz=115,slow=78,SNR=198
H11N2 WAKE ISLAND Hyl 26.60 270 T T 18 00 28.8
baz=115,slow=78,SNR=48
OBN Obninsk 127.58 44⇑ *e*PKIKP **PKPdf 15 41 37.1 -2.9**
OBN *e* 15 43 41.3
OBN pmax pmax
comp=Z,34nm,2.3s
OBN MLR MLR
comp=Z,239nm,17.0s
VSR Storozhevoye 128.53 49 *i* PKIKP **PKPdf 15 41 40.4 -1.6**
KIV Kislovodsk 129.46 59⇑ *i* PKIKP **PKPdf 15 41 43.6 -0.6**
KIV pmax pmax
comp=Z,8.0nm,1.2s
KBZ Khabaz 129.55 59 PKP **PKPdf 15 41 44.6 +0.4**
comp=Z,1.8nm,0.8s,baz=209,slow=3.8,SNR=4.2
KLMR Klimovskoe 129.63 36 *e*PKIKP PKPdf 15 41 38.7 -5.1
KLMR pmax pmax
comp=Z,25nm,1.4s
PRGR Permogore 132.56 35 PKIKP **PKPdf 15 41 47.2 -2.1**
PRGR pmax pmax
comp=Z,5.0nm,0.8s
BILL Bilibino 133.52 334 *e*PKIKP **PKPdf 15 41 50.4 -0.6**
BILL *e* 15 44 17.1
BILL pmax pmax
comp=Z,2.0nm,1.2s
GEYT Alibeck 139.68 70 PKP **PKPdf 15 42 03.8 +0.4**
comp=Z,1.5nm,0.5s,baz=235,slow=4.9,SNR=5.1
ARU Arti 139.92 41 *i* PKIKP **PKPdf 15 42 02.7 -0.5**
SEY Seymchan 140.72 330 PKP **PKPdf 15 42 02.3 -2.1**
comp=Z,4.8nm,0.9s,baz=153,slow=6.6,SNR=9.7
TIXI Tiksi 141.33 350 *i* PKIKP **PKPdf 15 42 06.9 +1.6**
POO Poona 145.38 109⇑ *i* P **PKPbc 15 42 13.0 -1.0**
comp=Z,3.0nm,1.0s
KSM Kuching 147.02 183 *e*PKPbc **PKPdf 15 42 18.9 +1.9**
PSI Prapat 147.17 162 PKPbc **PKPdf 15 42 17.7 +0.3**
comp=Z,16nm,0.9s,baz=222,slow=7.9,SNR=10
BRVK Borovoye 147.35 44 *e*PKP2 **PKPdf 15 42 19.2 +2.9**
BRVK Borovoye 147.35 44 *e*PKPab **PKPdf 15 42 19.2 +2.9**
BVA0 Borovoye Array 147.43 44 *i* PKP2 **PKPdf 15 42 18.8 +2.4**
BVA0 pmax pmax
comp=Z,12nm,0.7s
HYB Hyderabad 148.33 115 *i* PKP **PKPdf 15 42 21.0 +1.9**
IPM Ipoh 149.28 165 *e*PKPdf **PKPdf 15 42 20.3 -0.4**
IPM *e*PKPbc **PKPbc 15 42 24.8 -0.2**
YAK Yakutsk 149.40 340 *e*PKP2 **PKPdf 15 42 21.6 +2.3**
YAK pmax pmax
comp=Z,36nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK Yakutsk 149.40 340 *e*PKP2 **PKPdf 15 42 22.6 +3.3**
YAK Yakutsk 149.40 340 *e*PKPbc **PKPdf 15 42 22.6 +3.3**
KK31 Karatay Array 149.47 62 *i* PKP2 **PKPdf 15 42 24.4 +4.3**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 149.47 62 *e*PKP2 **PKPdf 15 42 24.1 +4.0**
KKAR Karatay Array 149.47 62 *e*PKPbc **PKPdf 15 42 24.1 +4.0**
KULM Kulim 149.98 164 *e*PKPbc **PKPdf 15 42 25.9 +4.1**
AML Almayashu 151.87 64 P **PKPbc 15 42 31.3 +0.4**
SNR=9.7
EKS2 Erkin-Say 151.89 63 P **PKPbc 15 42 31.1 +0.5**
SNR=9.9
USP Ospenovka 152.36 62 P **PKPbc 15 42 32.6 +1.2**
SNR=7.1
AAK Ala-Archa 152.42 63 P **PKPbc 15 42 32.4 +0.6**
SNR=11
AAK Ala-Archa 152.42 63 *e*PKIKP **PKPdf 15 42 25.0 +0.1**
AAK Ala-Archa 152.42 63 *e*PKPdf **PKPdf 15 42 25.0 +0.1**
UCH Uchtor 152.47 64 P **PKPbc 15 42 33.0 +0.7**
SNR=10
KURK Kurchatov 153.02 44 *e*PKIKP **PKPbc 15 42 32.3 -0.3**
KURK Kurchatov 153.02 44 *e*PKPbc **PKPbc 15 42 32.3 -0.3**
NVS Novosibirsk 153.21 33 *e*PKIKP **PKPbc 15 42 31.6 -1.2**
NVS pmax pmax
comp=Z,12nm,0.8s
NVS pmax pmax
comp=N,1.0nm,0.6s
NVS pmax pmax
comp=E,3.0nm,0.8s
KSH Kashi 153.71 70 PKPbc **PKPdf 15 42 27.3 +0.5**
KSH sPKP 15 42 39.3
KSH PKS **PKSdf 15 46 00.9 -0.3**
KSH PP **PP 15 46 19.1 -3.3**
KSH SKS **SKSdf 15 49 30.5 -0.6**
KSH SKKS **SKKSac 15 53 08.4 -1.1**
KSH SS SS 16 05 50.1 -6.9
KSH PPMZ
comp=E,310nm,6.3s
KSH LN
comp=E,66nm,4.6s
KSH LE
comp=E,60nm,5.0s
KSH LZ
comp=E,210nm,6.1s
ZALV Zalesovo Beam 154.49 33 PKP **PKPdf 15 42 27.0 -0.2**
comp=E,2.1nm,0.6s,baz=264,slow=3.1,SNR=12
ZALV PKPbc **PKPbc 15 42 35.6 0.0**
comp=E,5.3nm,0.7s,baz=295,slow=3.1,SNR=18
ZALV PKPab **PKPab 15 42 49.5 -0.7**
comp=E,5.5nm,0.7s,baz=307,slow=4.6,SNR=7.1
MJAR Matsushiro Arr 155.74 283 PKPab **PKPab 15 42 55.9 -0.3**
comp=E,1.7nm,0.8s,baz=92,slow=7.2,SNR=5.4

BOD Bodaibo 156.45 353 *e*PKIKP PKPdf 15 42 36.0 +6.3
BOD *e* 15 42 53.7
BOD pmax pmax
comp=Z,6.0nm,1.5s
MKAR Makanchi Array 156.83 50 PKP **PKPdf 15 42 30.8 +0.1**
comp=Z,0.8nm,0.8s,baz=315,slow=0.5,SNR=7.2
MKAR PKPab **PKPab 15 43 00.3 -0.3**
comp=Z,1.3nm,0.6s,baz=343,slow=1.3,SNR=3.8
WMQ Urumqi 161.50 54 *e*PKP **PKPdf 15 42 35.3 -1.0**
WMQ pPKP **pPKPdf 15 42 46.0 -1.8**
CMAR Chiang Mai Arr 161.86 150 PKP **PKPdf 15 42 36.1 -1.1**
comp=Z,0.4nm,0.4s,baz=215,slow=1.6,SNR=5.4
ZAK Zakamensk 163.76 12 *e*PKP2 **PKPab 15 43 27.6 -3.0**
ZAK pmax pmax
comp=Z,2.0nm,2.0s
CN2 Changchun 163.94 310 *e*PKP **PKPdf 15 42 38.4 -0.1**
KSRS Korea Array 163.97 286 PKP **PKPdf 15 42 37.5 -1.2**
comp=Z,0.9nm,0.9s,baz=37,slow=31,SNR=5.2
KSRS PKPab **PKPab 15 43 31.7 -0.3**
comp=Z,3.3nm,1.0s,baz=92,slow=4.5,SNR=6.1
KSAR Wonju Array Be 164.00 286 PKIKP **PKPdf 15 42 37.5 -1.3**
KSAR 15 43 31.7
KSAR Wonju Array Be 164.00 286 PKP **PKPdf 15 42 37.5 -1.3**
KSAR PKPab **PKPab 15 43 31.7 -0.4**
SONM Songino Array 166.66 6 PKP **PKPdf 15 42 39.3 -1.6**
comp=Z,0.6nm,0.7s,baz=333,slow=0.7,SNR=5.5
SONM PKPab **PKPab 15 43 42.9 -0.5**
comp=Z,1.1nm,0.7s,baz=0.0,slow=4.6,SNR=7.9
SONM PP **PP 15 47 32.9 +2.1**
comp=Z,0.9nm,1.3s,baz=19,slow=2.3,SNR=3.8
KMI Kunming 169.37 151 PKP **PKPdf 15 42 41.3 -2.3**
NJ2 Nanjing 170.93 257 *e*PKP **PKPdf 15 42 44.5 +0.6**
GTA Gaotai 171.58 52 *e*PKP **PKPdf 15 42 44.9 +0.7**
GTA pPKP **pPKPdf 15 42 55.8 +0.1**
GTA sPKP 15 42 59.3
GTA PKPab **PKPab 15 44 05.5 -0.2**
GYA Guiyang 171.77 169 PKP **PKPdf 15 42 43.0 -1.7**
GYA pPKP **pPKPdf 15 42 55.8 -0.4**
GYA PKPab **PKPab 15 44 08.6 +2.0**
GYA PKS PKSdf 15 46 13.3 -3.9
GYA PP **PP 15 47 59.5 +2.9**
GYA SKKS 15 54 41.0
GYA SS **SS 16 09 01.8 +0.4**
GYA PPMZ
comp=Z,120nm,9.0s
GYA LN
comp=Z,140nm,24.2s
GYA LE
comp=Z,120nm,23.0s
GYA LZ
comp=Z,130nm,24.4s
HHC Hu-ho-hao-te 173.26 339 *e*PKP **PKPdf 15 42 43.6 -1.3**
HHC pPKP **pPKPdf 15 42 54.1 -2.3**
HHC sPKP 15 42 58.8
HHC PKS **PKSdf 15 46 14.3 -2.9**
HHC PP **PP 15 48 05.8 +1.7**
HHC SKS **SKSdf 15 49 41.0 -4.4**
HHC SS **SS 16 09 17.0 +0.8**
HHC PPMZ
comp=Z,560nm,9.3s
HHC LN
comp=Z,290nm,22.7s
HHC LE
comp=Z,290nm,22.1s
HHC LZ
comp=Z,280nm,21.9s
CD2 Chengdu 174.63 132 *e*PKP **PKPdf 15 42 45.3 -0.3**
LZH Lanzhou 175.95 67 *e*PKP **PKPdf 15 42 46.0 0.0**
LZH pPKP **pPKPdf 15 42 55.9 -1.6**
LZH sPKP 15 43 01.1
LZH LN
comp=Z,530nm,16.6s
LZH LE
comp=Z,360nm,14.8s
LZH LZ
comp=Z,350nm,14.9s

IDC ***13*** *15:28:17.4±2.0,5°.18N×124°.40E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.3/42,mbtmp3.4/4,Error ellipse: s-maj=205.4km s-min=25.0km az=63.0*
ISCJB ***13*** *15:28:32.8±0.8,5°.53N±0°.06×125°.9E±0°.1,h150km, mb3.2/4,Error ellipse: s-maj=18.2km s-min=8.6km az=175.5*
MAN ***13*** *15:28:34,5°.71N×125°.84E,h148km,mb0.0,ML0.0,MS0.0*
ISC 13 15:28:33.7±1.0,5°.59N±0°.09×125°.8E±0°.1,h150km,n9, σ1§17/10,mb3.2/4,2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.42**	**18**	*e*P	**Pn**	**15 29 02.8**	**+0.4**
MATI				*e*S	**Sn**	**15 29 24.3**	**-0.1**
CTBH	**Cotabato--PC H**	**2.25**	**316**	⇓ *i*P	**Pn**	**15 29 12.4**	**+0.6**
BUKP	**Musuan**	**2.40**	**342**	*e*P	**Pn**	**15 29 14.3**	**+0.7**
BIPH	**Bislig**	**2.63**	**12**	⇓ *e*P	Px	15 29 46.0	
BIPH				*i* S	**Sn**	**15 29 50.7**	**+1.1**
PAGZ	**Pagadian**	**3.30**	**313**	*e*P	**Pn**	**15 29 26.1**	**+1.2**
WRA	**Warramunga Arr**	**26.72**	**162**	P	**P**	**15 33 59.3**	**0.0**
0.4nm,0.8s,baz=337,slow=10,SNR=1.7							
ASAR	**Alice Springs**	**30.13**	**165**	P	**P**	**15 34 29.8**	**+0.2**
0.2nm,0.5s,baz=341,slow=6.9,SNR=11							
STKA	**Stephens Creek**	**40.18**	**159**	P	**P**	**15 35 55.9**	**+0.6**
0.4nm,0.4s,baz=310,slow=7.9,SNR=3.5							
MKAR	**Makanchi Array**	**55.52**	**325**	P	**P**	**15 37 50.9**	**-2.3**
0.2nm,0.4s,baz=114,slow=7.4,SNR=6.7							

IDC ***13*** *15:50:03.4±2.1,3°.14S×130°.30E,h0km,mb3.7/2, mb1 4.0/3,mb1mx3.5/31,mbtmp3.7/3,ML3.6/1,MS4.1/1, Ms1 4.1/1,ms1mx3.2/37,Error ellipse: s-maj=114.4km s-min=27.4km az=70.0*
DJA ***13*** *15:50:06.7±0.4,3°.5±4°×13°.1E±°,h10km,M3.1/7,MLv3.1/7*
ISC 13 15:50:04.0±1.1,3°.03S±0°.06×130°.96E±0°.09,h10km,n14, σ1§52/13,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.29**	**85**	P	Pg	15 50 34.0	+5.2
FAKI	**Fak Fak**	**1.29**	**85**	P	Pg	15 50 34.0	+5.2
baz=1.7,SNR=65							
BNDI	**Bandanaira**	**1.82**	**215**	P	**Pn**	**15 50 36.2**	**+0.8**
BNDI				S	**Sg**	**15 51 05.2**	**+2.6**
MSAI	**Masohi**	**2.05**	**261**	P	**Pb**	**15 50 41.7**	**+0.3**
SWI	**Sorong**	**2.17**	**8**	P	**Pn**	**15 50 40.3**	**+0.1**
SWI	**Sorong**	**2.17**	**8**	P	**Pn**	**15 50 40.9**	**+0.7**
baz=2.3,SNR=5.7							
LBMI	**Labuha**	**4.20**	**304**	P	**Pn**	**15 51 06.5**	**-1.6**
KDU	**Kakadu**	**9.71**	**171**	P	**Pn**	**15 52 24.0**	**+0.1**
baz=9.9,SNR=3.1							
KDU				S	**Sn**	**15 54 10.8**	**-2.4**
baz=9.9,SNR=3.8							
MTN	**Manton Dam**	**9.76**	**179**	P	**Pn**	**15 52 24.6**	**+0.1**
baz=9.9,SNR=4.7							
MTN				S	**Sn**	**15 54 11.9**	**-2.2**
baz=9.9,SNR=3.5							
KNRA	**Kununurra**	**12.76**	**190**	P	Pn	15 53 03.1	-2.4
baz=13,SNR=5.9							
WRA	**Warramunga Arr**	**17.13**	**169**	P	**Pn**	**15 54 04.0**	**+0.3**
0.2nm,0.3s,baz=347,slow=11,SNR=22							
ASAR	**Alice Springs**	**20.71**	**172**	P	**P**	**15 54 45.9**	**+1.1**
4.6nm,0.4s,baz=351,slow=11,SNR=164							
JCJ	**Chichijima**	**31.85**	**19**	LR	LR	16 06 49.0	
comp=Z,326nm,21.4s,baz=327,slow=31							
MKAR	**Makanchi Array**	**65.48**	**325**	P	**P**	**16 00 46.7**	**-0.8**
0.3nm,0.8s,baz=134,slow=6.2,SNR=3.1							

CASC 13 15:52:51.4±3.2,8°.76N×83°.11W,h0km±8km,MD3.6,2C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.12**	**209**	⇑ *i*P	Pg	15 52 54.7	+0.9
ACR				*e*S	Sg	15 52 56.9	+1.5
BRU2	**Volcan**	**0.41**	**85**	⇓ *i*P	Pb	15 53 02.0	+0.2
BRU2				*e*S	Sb	15 53 10.2	+1.4
BRU	**Baru**	**0.54**	**85**	*e*P	Pb	15 53 04.5	+0.1
BUS	**Buena Vista**	**1.02**	**321**	*e*P	Pg	15 53 10.6	-1.0
QCR	**Quepos**	**1.23**	**302**	⇑ *e*P	Pg	15 53 13.3	-1.8
QCR				*e*S	Sg	15 53 31.1	-0.1
URSC	**Urasca**	**1.26**	**328**	*e*P	Pg	15 53 15.5	-0.3
URSC				*e*S	Sb	15 53 33.2	0.0
CGA2	**Cerro Gallo 2**	**1.83**	**313**	*e*P	Pn	15 53 24.5	+0.1

MAN 13 15:54:13,12°.32N×123°.79E,h1km,mb4.5,ML3.4,MS3.3, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.17**	**282**	*e*P	Pg	15 54 16.4	+0.2
MMPH				*e*S	Sg	15 54 20.5	+2.2
RCP	**Roxas**	**1.27**	**234**	⇓ *e*P	Pg	15 54 37.2	-0.3
PVCP	**Virac**	**1.31**	**16**	⇑ *i*P	Pg	15 54 38.1	-0.1
OCLP	**Ormoc**	**1.50**	**148**	*e*P	Pb	15 54 41.5	-0.1
OCLP				*e*S	Sb	15 55 01.0	-0.2
GUIM	**Jordan**	**2.06**	**215**	*e*P	Pn	15 54 49.0	+0.2

IDC ***13*** *16:05:13.6±1.8,1°.25N×96°.96E,h0km,mb3.5/5,mb1 3.6/7, mb1mx3.5/40,mbtmp3.5/7,ML3.3/2,Error ellipse: s-maj=49.9km s-min=22.1km az=60.0*
ISCJB ***13*** *16:05:15.6±1.0,1°.27N±0°.08×96°.88E±0°.07,h28km, mb3.4/5,Error ellipse: s-maj=12.9km s-min=7.4km az=40.7*
DJA ***13*** *16:05:17.3±1.0,1°.N±8°×9°.7E±°,h20km±7km,M3.7/6, MLv3.7/6*
ISC 13 16:05:17.3±1.3,1°.28N±0°.10×96°.92E±0°.09,h28km,n17, σ0§80/14,mb3.8/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.65**	**88**	P	**Pb**	**16 05 29.5**	**-0.6**
GSI				S	**Sb**	**16 05 38.8**	**-0.1**
SNSI	**Sinabang, Aceh**	**1.27**	**332**	P	**Pn**	**16 05 38.0**	**-1.1**
TPTI		**1.98**	**7**	P	Pb	16 05 57.9	+5.3
KCSI	**Kotacane, Aceh**	**2.38**	**21**	P	**Pn**	**16 05 54.6**	**+0.1**
PSI	**Prapat**	**2.50**	**53**	Pn	**Pn**	**16 05 55.3**	**-1.0**
2.2nm,0.3s,baz=252,slow=3.8,SNR=11							
MNSI	**Mandailing Nat**	**2.70**	**100**	P	**Pn**	**16 05 58.8**	**0.0**
TSI	**Tuntungan**	**2.75**	**37**	P	**Pn**	**16 05 59.7**	**+0.2**
LHMI	**Lhok Sumawe**	**3.92**	**0**	S	**Sn**	**16 07 01.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**17.18**	**7**	P	**Pn**	**16 09 14.2**	**-1.3**
0.1nm,0.3s,baz=193,slow=11,SNR=3.5							
H08S2	**Diego Garcia H**	**25.93**	**250**	T	T	16 37 55.5	
baz=70,slow=75,SNR=350							
H08S3	**Diego Garcia H**	**25.93**	**250**	T	T	16 37 55.7	
baz=70,slow=75,SNR=303							
H08S1	**Diego Carcia H**	**25.95**	**250**	T	T	16 37 51.9	
baz=70,slow=75,SNR=377							
WRA	**Warramunga Arr**	**42.31**	**122**	P	**P**	**16 13 08.9**	**-0.1**
0.2nm,0.7s,baz=301,slow=9.3,SNR=5.5							
ASAR	**Alice Springs**	**43.67**	**127**	P	**P**	**16 13 20.1**	**+0.1**
0.1nm,0.5s,baz=300,slow=8.0,SNR=4.2							
SONM	**Songino Array**	**47.09**	**9**	P	**P**	**16 13 47.3**	**+0.4**
0.7nm,0.7s,baz=194,slow=7.7,SNR=6.6							
MKAR	**Makanchi Array**	**47.09**	**346**	P	**P**	**16 13 48.0**	**+1.3**
0.7nm,0.7s,baz=166,slow=6.1,SNR=7.1							
ZALV	**Zalesovo Beam**	**53.43**	**351**	P	**P**	**16 14 35.4**	**+0.8**
1.1nm,0.5s,baz=183,slow=8.7,SNR=8.9							

IDC 13 16:06:60.0±3.1,33°.26S×178°.30W,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.7/32,mbtmp3.9/3,ML3.5/1,Error ellipse: s-maj=73.1km s-min=45.3km az=126.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.23**	**215**	Pn	Pn	16 08 32.4	-0.9
1.1nm,0.3s,baz=250,slow=4.7,SNR=11							
URZ				Sn	Sn	16 09 40.7	-4.5
5.7nm,0.3s,baz=310,slow=24,SNR=15							
ASAR	**Alice Springs**	**42.78**	**270**	P	P	16 14 59.6	0.0
1.5nm,0.7s,baz=109,slow=7.3,SNR=28							
WRA	**Warramunga Arr**	**44.03**	**275**	P	P	16 15 09.5	-0.1
0.8nm,0.5s,baz=115,slow=7.7,SNR=24							
FINES	**FINESS Array B**	**147.72**	**338**	PKPbc	PKPbc	16 26 45.1	-0.7
2.6nm,1.0s,baz=29,slow=3.2,SNR=6.0							

IDC 13 16:07:04.6±1.5,34°.39S×71°.92W,h0km,mb3.6/3, mb1 3.8/6,mb1mx3.7/31,mbtmp3.6/6,ML3.4/2,Error ellipse: s-maj=35.3km s-min=23.3km az=127.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.16**	**49**	Pn	Pn	16 08 11.2	+1.8
0.5nm,0.3s,baz=227,slow=13,SNR=9.5							
CFAA				Lg	Lg	16 09 15.9	
0.6nm,0.3s,baz=123,slow=22,SNR=12							
PLCA	**Paso Flores**	**6.43**	**171**	Pn	Pn	16 08 41.9	+1.3
LPAZ	**La Paz**	**18.34**	**12**	P	P	16 11 22.9	+1.5
0.2nm,0.3s,baz=174,slow=7.1,SNR=4.5							
SIV	**San Ignacio**	**20.75**	**31**	P	P	16 11 46.8	-0.3
2.0nm,0.6s,baz=216,slow=4.1,SNR=5.1							
TXAR	**Lajitas Array**	**70.12**	**331**	P	P	16 18 18.7	-0.2
0.3nm,0.5s,baz=165,slow=6.7,SNR=7.3							
TORD	**Torodi Ar. Bea**	**84.25**	**70**	P	P	16 19 37.4	-1.1
0.7nm,1.1s,baz=258,slow=4.3,SNR=4.3							

IDC ***13*** *16:13:44.8±2.9,0°.64S×133°.03E,h0km,mb3.8/3, mb1 4.0/4,mb1mx3.5/32,mbtmp3.8/4,ML3.8/1,Error ellipse: s-maj=180.7km s-min=25.6km az=72.0*
DJA ***13*** *16:13:50.0±0.7,1°.5±9°×13°.3E±°,h10km,M4.2/8,mb4.5/5, mB5.2/2,MLv4.0/8,Mw(mB)4.6/2*
ISC 13 16:13:51.2±1.1,0°.9S±0°.1×132°.96E±0°.05,h32km,n14, σ2§05/11,mb4.0/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.38**	**118**	P	**Pb**	**16 14 15.6**	**-0.9**
RKPI				S	**Sb**	**16 14 36.2**	**+2.4**
SWI	**Sorong**	**1.70**	**270**	P	**Pb**	**16 14 20.2**	**-1.6**
SWI				S	**Sb**	**16 14 44.9**	**+2.1**
FAKI	**Fak Fak**	**2.17**	**199**	P	**Pb**	**16 14 28.0**	**-1.8**
MSAI	**Masohi**	**4.72**	**238**	P	Pn	16 15 05.4	+5.1
LBMI	**Labuha**	**5.46**	**272**	P	**Pn**	**16 15 13.2**	**+2.8**
20nm,1.2s,0.1nm							
NLAI	**Namlea**	**6.31**	**248**	P	Pn	16 15 25.9	+3.8
29nm,0.6s							
SANI	**Sanana**	**7.07**	**260**	P	**Pn**	**16 15 34.2**	**+1.7**
WRA	**Warramunga Arr**	**19.02**	**176**	P	**Pn**	**16 18 11.2**	**-0.2**
0.3nm,0.3s,baz=353,slow=11,SNR=19							
ASAR	**Alice Springs**	**22.69**	**178**	P	**P**	**16 18 50.8**	**+0.5**
1.8nm,0.3s,baz=357,slow=11,SNR=62							
STKA	**Stephens Creek**	**31.91**	**166**	P	**P**	**16 20 13.2**	**-0.7**
0.9nm,0.3s,baz=356,slow=8.4,SNR=2.7							
H11N1	**WAKE ISLAND Hy**	**39.05**	**57**	T	T	17 02 27.8	
baz=243,slow=75,SNR=45							
H11N2	**WAKE ISLAND Hy**	**39.06**	**57**	T	T	17 02 23.7	
baz=243,slow=75,SNR=32							
H11N3	**WAKE ISLAND Hy**	**39.07**	**57**	T	T	17 02 26.5	
baz=243,slow=75,SNR=22							
MKAR	**Makanchi Array**	**64.87**	**324**	P	**P**	**16 24 25.1**	**-2.2**
0.2nm,0.4s,baz=123,slow=5.3,SNR=4.4							

ISCJB ***13*** *16:32:30.5±0.3,33°.03N±0°.01×116°.31W±0°.02,h5km±2km, Error ellipse: s-maj=2.5km s-min=2.1km az=42.9*
ECX ***13*** *16:32:32.5±0.7,33°.00N×116°.35W,h6km,MD4.2,ML4.2*
NEIC ***13*** *16:32:32.3,32°.99N×116°.36W,h6km,mb4.4/1, ML4.2(PAS),After PAS.*
NEIC Felt [IV] at Pine Valley; [III] at Campo, Descanso and Julian; [II] at Aliso Viejo, Alpine, Bonita, Bonsall, Borrego Springs, Boulevard, Chula Vista, Coronado, El Cajon, El Centro, Escondido, Fallbrook, Hemet, Imperial Beach, Jamul, La Jolla, La Mesa, Lakeside, Oceanside, Palm Desert, Pauma Valley, Poway, Ramona, San Diego, San Marcos, San Ysidro, Santee, Spring Valley, Valley Center and Vista. Felt in much of San Diego County and in parts of Imperial, Los Angeles, Orange and Riverside Counties. Felt [II] at Mexicali, Tecate and Tijuana, Baja California.
IDC ***13*** *16:32:33.3±2.4,33°.19N×116°.07W,h0km,mb1 3.5/6, mb1mx3.4/28,mbtmp3.2/6,ML3.2/6,Error ellipse: s-maj=34.8km s-min=8.6km az=34.0*
ISC 13 16:32:31.8±0.9,33°.00N±0°.02×116°.34W±0°.02,h9km±7km, n69,σ0§89/112,6C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONP	**Monument Peak,**	**0.13**	**213**	⇑ *i*P	**Pg**	**16 32 35.0**	**+0.2**
MONP	**Monument Peak,**	**0.13**	**213**	P	**Pg**	**16 32 34.6**	**-0.2**

baz=0.1
MONP S **Sg** **16 32 36.9 -0.1**
baz=0.1
CRR Carrizo Plain 0.33 109⇑ *i*P **Pg** **16 32 38.6 +0.3**
BAR Barrett 0.42 222⇑ *i*P **Pg** **16 32 40.0 0.0**
BAR *i* S **Sg** **16 32 45.8 +0.2**
BAR Barrett 0.42 222 *e*Pg **Pg** **16 32 40.1 0.0**
BAR *e*Sg **Sg** **16 32 45.8 +0.2**
EML El Monte Cty P 0.44 256⇑ *i*P **Pg** **16 32 40.1 -0.2**
EML *e*S **Sg** **16 32 45.9 -0.2**
RMX La Rumorosa 0.45 151 *e*P **Pg** **16 32 40.4 -0.1**
RMX *e*S **Sg** **16 32 46.8 +0.3**
SWSC Sam W. Stewart 0.46 97 P **Pg** **16 32 40.7 -0.1**
baz=0.5
SWSC S **Sg** **16 32 46.8 +0.1**
baz=0.5
YUH Yuha Desert 0.49 135⇓ *i*P **Pg** **16 32 41.4 0.0**
DPP Dos Picos Cty 0.51 271⇑ *i*P **Pg** **16 32 41.5 -0.2**
DPP *e*S **Sg** **16 32 48.1 -0.2**
HWB Hans Werner Br 0.52 274⇓ *i*P **Pg** **16 32 41.8 -0.2**
COK Cook Ranch 0.53 106⇓ *i*P **Pg** **16 32 42.7 +0.6**
FRD Ford Ranch, An 0.55 336⇓ *i*P **Pg** **16 32 42.4 0.0**
FRD *e*S **Sg** **16 32 49.4 -0.2**
PFO Pinyon Flats O 0.62 351 Pg **Pg** **16 32 43.5 -0.3**
330nm,0.3s,baz=166,slow=16,SNR=1937
PFO Lg Lg 16 32 51.3
364nm,0.3s,baz=272,slow=23,SNR=18
PFO Pinyon Flats O 0.62 351 P **Pg** **16 32 43.4 -0.4**
baz=0.6
SGL Mount Signal 0.62 124⇑ *i*P **Pg** **16 32 43.0 -0.8**
109C Camp Elliot, M 0.65 261 P **Pg** **16 32 43.5 -0.9**
baz=0.6
109C S **Sg** **16 32 52.4 -0.6**
baz=0.6
CPE Camp Elliot 0.65 261 *e*S **Sg** **16 32 52.4 -0.6**
CBX Cerro Bola 0.73 202 *e*P **Pg** **16 32 45.6 -0.4**
MURC Murrieta 0.94 310 P **Pg** **16 32 49.2 -0.7**
baz=0.9
MURC S **Sg** **16 33 01.5 -0.7**
baz=0.9
BC3 Big Chuckawall 0.99 48 P **Pg** **16 32 49.8 -1.1**
baz=1.0
BC3 S **Sg** **16 33 02.4 -1.3**
baz=1.0
BELC Belle Mtn. Jos 1.04 16 P **Pg** **16 32 50.9 -0.9**
baz=1.0
BELC S **Sg** **16 33 04.4 -1.0**
baz=1.0
CPBX Cerro Prieto 1.04 123 *e*P **Pg** **16 32 50.9 -0.9**
CPBX *e*S **Sg** **16 33 04.8 -0.6**
RDX Rancho Dawling 1.11 162 *i*P **Pg** **16 32 52.1 -1.1**
RDX *e*S **Sg** **16 33 06.5 -1.2**
RDX ⇓*e* 16 33 12.6
comp=N,4μm,0.5s
GLA Glamis 1.27 87 P **Pn** **16 32 53.6 -2.1**
baz=1.3
PBX Punta Banda 1.29 195 *e*P **Pn** **16 32 55.0 -1.1**
PBX *e*S **Sg** **16 33 12.5 -0.9**
ECNX Esteban Cantu 1.35 189 *e*P **Pn** **16 32 56.0 -0.9**
ECNX *e*S **Sb** **16 33 14.4 -0.4**
BBRC Big Bear Solar 1.35 339 Pg **Pn** **16 32 56.6 -0.6**
baz=1.4
BBRC Sb **Sb** **16 33 14.6 -0.4**
baz=1.4
ZAX El Zacaton 1.48 178 *e*P **Pn** **16 32 58.3 -0.4**
ZAX *e*S **Sn** **16 33 18.3 +0.1**
IRM Iron Mountain 1.53 40 P **Pn** **16 32 57.8 -1.5**
baz=1.5
IRM Sb **Sn** **16 33 19.7 +0.3**
baz=1.5
BFSC Mount Baldy Ra 1.66 319 Pb **Pn** **16 33 00.8 -0.4**
baz=1.7
BFSC Sb **Sn** **16 33 22.9 +0.2**
baz=1.7
CIS Catalina Islan 1.78 284 P **Pn** **16 33 01.7 -1.1**
baz=1.8
CIS Sb **Sn** **16 33 25.5 0.0**
baz=1.8
FMP Fort Macarthur 1.79 294 P **Pn** **16 33 01.4 -1.4**
baz=1.8
GMRC Granite Mounta 1.87 17 Sb **Sb** **16 33 30.5 +0.9**
baz=1.9
ECBX El Chinero 1.87 144 *e*P **Pb** **16 33 05.8 -0.3**
ECBX *e*S **Sb** **16 33 30.4 +0.8**
MWC Mount Wilson 1.89 311 *e*Pn **Pn** **16 33 04.4 0.0**
MWC *e*Sn **Sb** **16 33 29.6 -0.8**
PASC Pasadena Art C 1.94 308 *e*Pn **Pn** **16 33 04.4 -0.5**
PASC *e*Sn **Sn** **16 33 29.5 +0.1**
RRX Edison Barstow 1.96 344 Pg **Pb** **16 33 07.9 +0.2**
baz=2.0
DECC Green Verdugo 2.08 308 Pb **Pn** **16 33 07.6 +0.7**
baz=2.1
SPX San Pedro Mart 2.08 159 *e*PN **Pn** **16 33 08.0 +0.8**
SPX *e*S **Sb** **16 33 35.9 -0.1**
113A Mohawk Valley, 2.17 95 P **Pn** **16 33 06.4 -1.7**
baz=2.2
LDFC Landfair 2.31 26 *e*Pn **Pg** **16 33 15.0 -1.2**
LDFC *e*Sn **Sn** **16 33 38.9 0.0**
GSC Goldstone, Bar 2.33 351 *e*Pn **Pn** **16 33 09.8 -0.6**
GSC *e*Sn **Sn** **16 33 40.2 +1.0**
Z14A Wintersburg 2.87 82 P **Pn** **16 33 16.0 -1.7**
baz=2.9
214A Organ Pipe Nat 3.15 108 *e*Pn **Pn** **16 33 19.5 -2.2**
214A *e*Sn **Sn** **16 33 59.5 0.0**
ISA Isabella, Lake 3.19 327 *e*Pn **Pn** **16 33 22.0 -0.3**
ISA *e*Pg **Pg** **16 33 33.4 +0.4**
ISA *e*Sn **Sn** **16 34 01.8 +1.3**
SHPR Sheep Range 3.63 15 *e*Pn **Pn** **16 33 28.5 +0.1**
SHPR Sn **Sn** **16 34 11.7 +0.2**
TUC Tucson 4.73 97 *e*Pn **Pn** **16 33 41.9 -1.6**
TUC *e*Pg **Pg** **16 34 02.4 -0.1**
TUC *e*Sn **Sn** **16 34 39.4 +0.9**
WUAZ Wupatki 4.82 57 *e*Pn **Pn** **16 33 45.3 +0.6**
WUAZ *e*Pg **Pg** **16 34 04.6 +0.5**
WUAZ *e*Sn **Sn** **16 34 42.3 +1.6**
CCUT Cedar City 5.16 27 *e*Pn **Pn** **16 33 49.7 +0.3**
CCUT *e*Pg **Pg** **16 34 10.1 -0.4**
CCUT *e*Sn **Sn** **16 34 50.5 +1.4**
NVAR Mina Array Bea 5.65 344 Pn **Pn** **16 33 58.3 +2.1**
comp=N,0.1nm,0.3s,baz=161,slow=15,SNR=2.1
NVAR Pg Pb 16 34 14.9 +4.1
comp=N,1.8nm,0.3s,baz=162,slow=15,SNR=53
NVAR Lg Lg 16 35 38.6
comp=N,0.4nm,0.3s,baz=185,slow=34,SNR=2.6
W18A Petrified Fore 5.87 67 *e*Pn **Pn** **16 33 58.6 -0.5**
W18A *e*Pg **Pg** **16 34 24.8 +0.5**
W18A *e*Sn **Sn** **16 35 06.6 -0.2**
CMB Columbia Colle 6.01 328 *e*Pn **Pn** **16 34 01.0 0.0**
CMB *e*Pg **Pg** **16 34 27.3 +0.4**
CMB *e*Sn **Sn** **16 35 10.3 +0.3**
WAKR Walker 6.05 336 Pn **Pn** **16 34 01.4 -0.2**
WAKR *e*Pg **Pg** **16 34 28.0 +0.4**
WAKR *e*Sn **Sn** **16 35 12.0 +1.0**
121A Cookes Peak, D 7.22 91 *e*Pn **Pn** **16 34 17.6 -0.1**
comp=N,15nm,0.5s
121A *e*Sn **Sn** **16 35 41.8 +1.9**
BMN Battle Mountai 7.46 355 Pn **Pn** **16 34 22.1 +1.3**
MVCO Mesa Verde 7.68 55 Pn **Pn** **16 34 25.1 +1.1**
SRU San Rafael Swe 7.71 36 Pn **Pn** **16 34 25.3 +1.0**
comp=N,6.1nm,0.8s
ELK Elko 7.79 6 Pn **Pn** **16 34 26.4 +1.0**
comp=N,0.1nm,0.3s,baz=180,slow=8.1,SNR=1.6
ELK Pg Pg 16 34 56.4 -4.4
comp=N,0.3nm,0.3s,baz=182,slow=14,SNR=11
ELK Lg Lg 16 36 39.4
comp=N,0.3nm,0.3s,baz=0.2,slow=11,SNR=2.3
PV04 Paradox Valley 8.10 46 *e*Pn **Pn** **16 34 30.6 +1.0**
PV01 Paradox Valley 8.14 49 Pn **Pn** **16 34 31.2 +0.8**
comp=N,2μm,0.9s
ANMO Albuquerque 8.44 74 Pn **Pn** **16 34 33.2 -1.1**
comp=N,0.1nm,0.3s,baz=264,slow=12,SNR=2.9
ANMO Lg Lg 16 36 51.5
comp=N,0.1nm,0.3s,baz=16,slow=19,SNR=1.1
MNTX Cornudas Mount 9.36 95 *e*Pn **Pn** **16 34 46.6 -0.3**
PDAR Pinedale Array 11.12 27 Pn **Pn** **16 35 11.8 +0.6**
comp=N,0.0nm,0.3s,baz=222,slow=44,SNR=1.4
TXAR Lajitas Array 11.45 105 Pn **Pn** **16 35 17.1 +1.5**
comp=N,0.1nm,0.3s,baz=285,slow=14,SNR=3.9
TXAR Lg Lg 16 38 32.8
comp=N,0.1nm,0.3s,baz=284,slow=30,SNR=1.3
JTMT Jette 14.82 5 *e*Pn **Pn** **16 36 03.7 +2.1**
NEW Newport 15.27 358 Pn **P** **16 36 10.9 -1.5**
comp=N,0.1nm,0.3s,baz=167,slow=14,SNR=4.1
NEW Newport 15.27 358 *e*Pn **P** **16 36 10.5 -1.9**
comp=N,44nm,2.4s
YKA Yellowknife Ar 29.54 2 P P 16 38 40.2 +3.9
baz=185,slow=8.8,SNR=3.5

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*IDC **13** 16:33:13.6±0.6, 34°.14S×69°.67W, h0km, mb4.6/11, mb1 4.7/14, mb1mx4.4/29, mbtmp4.6/14, ML4.4/2, MS3.7/4, Ms1 3.7/4, ms1mx3.6/31, Error ellipse: s-maj=24.1km s-min=11.3km az=102.0*
*ISCJB **13** 16:33:16.4±0.3, 34°.14S±0°.04×69°.67W±0°.10, h33km, mb4.7/29, MS4.1/2, Error ellipse: s-maj=11.8km s-min=5.3km az=172.8*
*NEIC **13** 16:33:16.4±3.0, 34°.14S×69°.71W, h26km±21km, mb4.9/25, MD4.6(SJA), Error ellipse: s-maj=16.2km s-min=8.7km az=80.0*
NEIC Felt [II] at Mendoza. Also felt at San Rafael. Felt at Paine, Chile.
*BJI **13** 16:33:17.8, 34°.10S×69°.40W, h35km, mB5.4/8, Ms5.4/7, Ms7 5.2/8*
ISC 13 16:33:17.9±0.4, 34°.11S±0°.05×69°.6W±0°.1, h35km, n138, σ1°33/156, mb4.7/31, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**2.76**	**25**	Pn	Pn	**Pn**	**16 34 01.4**	**+1.8**
	2.3nm,0.3s,baz=203,slow=14,SNR=44							
CFAA				Lg	Lg		16 34 43.8	
	36nm,0.3s,baz=295,slow=13,SNR=23							
CFAA				LR	LR		16 35 23.0	
	comp=Z,196nm,18.0s,baz=204,slow=46							
LCO	**Las Campanas**	**5.16**	**349**	*e*Pn	Pn	**Pn**	**16 34 31.1**	**-1.8**
LCO				*e*Sn	Sn	**Sn**	**16 35 30.0**	**-1.5**
PLCA	**Paso Flores**	**6.65**	**186**	Pn	Pn	**Pn**	**16 34 54.3**	**+1.1**
	baz=359,slow=15							
PLCA				Lg	Lg		16 36 44.9	
	baz=300,slow=20							
PLCA				LR	LR		16 36 58.8	
	comp=Z,412nm,20.1s,baz=42,slow=34							
PLCA	**Paso Flores**	**6.65**	**186**	*e*Pn	Pn	**Pn**	**16 34 53.9**	**+0.7**
PLCA				*e*Sn	Sn	**Sn**	**16 36 07.8**	**0.0**
PLCA				Lg	Lg		16 36 44.9	
TRQA	**Tornquist**	**7.34**	**125**	*e*Pn	Pn	**Pn**	**16 35 00.8**	**-1.8**
LPAZ	**La Paz**	**17.80**	**5**	P	P	**P**	**16 37 25.1**	**+1.1**
	0.7nm,0.3s,baz=182,slow=8.1,SNR=44							
LPAZ	**La Paz**	**17.80**	**5**	P	P	**P**	**16 37 25.1**	**+1.1**
	19nm,0.8s							
SIV	**San Ignacio**	**19.61**	**25**	P	Pn	**Pn**	**16 37 44.2**	**-0.7**
	1.0nm,0.3s,baz=216,slow=12,SNR=56							
USHA	**Ushuaia**	**20.74**	**178**	P	P	**P**	**16 37 55.0**	**-0.2**
	96nm,1.0s,baz=326,slow=7.0,SNR=20							
USHA				LR	LR		16 46 41.8	
	comp=Z,870nm,21.0s,baz=358,slow=39							
SAML	**Samuel**	**25.73**	**15**	P	P	**P**	**16 38 43.7**	**-1.4**
	7.7nm,0.9s							
BDFB	**Brasilia**	**26.78**	**52**	P	P	**P**	**16 38 54.0**	**-0.7**
	6.3nm,0.8s,baz=216,slow=10,SNR=8.4							
PMSA	**Palmer Station**	**30.89**	**175**	LR	LR		16 51 56.5	
	comp=Z,468nm,19.4s,baz=309,slow=36							
VNA3	**Neumayer Olymp**	**48.51**	**158**	P	P	**P**	**16 41 58.6**	**+1.7**
VNA2	**Neumayer--Watz**	**49.14**	**157**	P	P	**P**	**16 42 02.7**	**+1.0**
SNAA	**Sanae**	**50.73**	**158**	P	P	**P**	**16 42 14.9**	**+1.0**
SNAA	**Sanae**	**50.73**	**158**	P	P	**P**	**16 42 14.4**	**+0.5**
	6.5nm,1.1s,baz=267,slow=7.4,SNR=5.8							
SNAA	**Sanae**	**50.73**	**158**	*e*P	P	**P**	**16 42 11.4**	**-2.4**
	173nm,2.5s							
APG	**El Apazote**	**52.72**	**334**	P	P		16 42 25.5	-3.9
	5.5nm,0.9s,baz=132,slow=7.0,SNR=5.5							
QSPA	**South Pole Qui**	**56.13**	**180**	P	P	**P**	**16 42 54.5**	**+0.9**
	13nm,1.0s,baz=332,slow=2.1,SNR=19							
QSPA	**South Pole Qui**	**56.13**	**180**	*e*P	P	**P**	**16 42 51.2**	**-2.5**
	379nm,3.0s							
VNDA	**Vanda**	**64.38**	**191**	P	P	**P**	**16 43 51.0**	**+1.3**
	3.2nm,1.1s,baz=139,slow=5.5,SNR=5.3							
833A	**Chaparral WMA,**	**68.19**	**332**	P	P	**P**	**16 44 15.6**	**+0.9**
	baz=68							
832A	**Faith Ranch, C**	**68.39**	**331**	P	P	**P**	**16 44 16.8**	**+0.9**
	baz=69							
732A	**Laxson Ranch,**	**68.78**	**332**	P	P	**P**	**16 44 19.1**	**+0.7**
	baz=69							
632A	**Uvalde**	**69.40**	**332**	P	P	**P**	**16 44 23.3**	**+1.1**
	baz=70							
533A	**Kerrville**	**69.62**	**333**	P	P	**P**	**16 44 24.1**	**+0.6**
	baz=70							
532A	**Rocksprings**	**70.00**	**332**	P	P	**P**	**16 44 26.6**	**+0.7**
	baz=70							
335A	**Moody**	**70.12**	**335**	P	P	**P**	**16 44 27.2**	**+0.6**
	baz=70							
433A	**Art**	**70.25**	**333**	P	P	**P**	**16 44 27.7**	**+0.3**
	baz=71							
JCT	**Junction City**	**70.27**	**333**	P	P	**P**	**16 44 28.2**	**+0.6**
	baz=71							
JCT	**Junction City**	**70.27**	**333**	P	P	**P**	**16 44 25.8**	**-1.8**
	27nm,1.5s							
334A	**Lometa**	**70.46**	**334**	P	P	**P**	**16 44 29.5**	**+0.9**
	baz=71							
530A	**J-C Ranch, Com**	**70.58**	**331**	P	P	**P**	**16 44 30.2**	**+0.7**
	baz=71							
333A	**Richland Sprin**	**70.72**	**334**	P	P	**P**	**16 44 31.1**	**+0.8**
	baz=71							
431A	**Sonora**	**70.77**	**332**	P	P	**P**	**16 44 31.2**	**+0.6**
	baz=71							
WHTX	**Lake Whitney,**	**70.78**	**335**	P	P	**P**	**16 44 31.7**	**+1.1**
	baz=71							
TXAR	**Lajitas Array**	**70.83**	**329**	P	P	**P**	**16 44 32.1**	**+1.0**
	1.9nm,0.8s,baz=154,slow=8.8,SNR=14							
234A	**Clairette**	**71.03**	**335**	P	P	**P**	**16 44 32.6**	**+0.4**
	baz=71							
332A	**Millersview**	**71.06**	**333**	P	P	**P**	**16 44 32.9**	**+0.6**
	baz=71							
430A	**Baggett Ranch,**	**71.11**	**332**	P	P	**P**	**16 44 33.3**	**+0.6**
	baz=71							
429A	**Davenport Ranc**	**71.22**	**331**	P	P	**P**	**16 44 34.0**	**+0.6**
	baz=72							
331A	**San Angelo**	**71.25**	**332**	P	P	**P**	**16 44 34.1**	**+0.6**
	baz=72							
233A	**Rising Star**	**71.32**	**334**	P	P	**P**	**16 44 34.5**	**+0.6**
	baz=72							
232A	**Coleman**	**71.48**	**333**	P	P	**P**	**16 44 34.9**	**+0.1**
	baz=72							
330A	**Mertzon**	**71.63**	**332**	P	P	**P**	**16 44 36.2**	**+0.3**
	baz=72							
231A	**Bronte**	**71.77**	**333**	P	P	**P**	**16 44 37.0**	**+0.3**
	baz=72							
WVT	**Waverly**	**71.92**	**345**	*e*P	P	**P**	**16 44 34.8**	**-2.6**
	22nm,0.8s							
Z35A	**Perchaven, San**	**71.93**	**336**	P	P	**P**	**16 44 37.7**	**+0.2**
	baz=72							
329A	**Wagon Wheel Ra**	**72.02**	**331**	P	P	**P**	**16 44 38.2**	**0.0**
	baz=72							
ABTX	**Abilene, Hawle**	**72.14**	**334**	P	P	**P**	**16 44 39.5**	**+0.7**
	baz=72							
ABTX	**Abilene, Hawle**	**72.14**	**334**	P	P	**P**	**16 44 36.5**	**-2.3**
	14nm,1.0s							
Z34A	**Collier Ranch,**	**72.19**	**335**	P	P	**P**	**16 44 39.7**	**+0.7**
	baz=72							
Z33A	**Whitaker Ranch**	**72.41**	**335**	P	P	**P**	**16 44 41.1**	**+0.7**
	baz=73							
131A	**Roby**	**72.46**	**333**	P	P	**P**	**16 44 40.9**	**+0.2**
	baz=73							
130A	**Snyder**	**72.61**	**333**	P	P	**P**	**16 44 42.0**	**+0.3**
	baz=73							
Y34A	**Reagan Ranch,**	**72.67**	**336**	P	P	**P**	**16 44 42.8**	**+0.9**
	baz=73							
Z32A	**Haskell**	**72.69**	**334**	P	P	**P**	**16 44 42.5**	**+0.5**
	baz=73							
228A	**UT Block 9, Go**	**72.82**	**331**	P	P	**P**	**16 44 43.3**	**+0.3**
	baz=73							
Z31A	**Sharp Cattle R**	**72.94**	**334**	P	P	**P**	**16 44 44.0**	**+0.5**
	baz=73							
Z30A	**Sanderson Ranc**	**73.28**	**333**	P	P	**P**	**16 44 45.8**	**+0.2**
	baz=74							
Y32A	**R-V Farms, Ver**	**73.30**	**334**	P	P	**P**	**16 44 46.4**	**+0.7**
	baz=74							
DBIC	**Dimbokro**	**73.33**	**70**	P	P	**P**	**16 44 47.9**	**+1.6**
	9.5nm,0.8s,baz=216,slow=7.0,SNR=8.7							
DBIC	**Dimbokro**	**73.33**	**70**	P	P	**P**	**16 44 47.9**	**+1.6**
	7.6nm,1.0s							
X33A	**Lawton**	**73.46**	**335**	P	P	**P**	**16 44 46.3**	**-0.3**
	baz=74							
MNTX	**Cornudas Mount**	**73.62**	**329**	*e*P	P	**P**	**16 44 46.4**	**-1.2**
	53nm,2.8s							
W32A	**Sentinel**	**74.24**	**335**	P	P	**P**	**16 44 52.0**	**+0.9**
	baz=75							
MSTX	**Muleshoe**	**74.52**	**332**	P	P	**P**	**16 44 53.5**	**+0.5**
	baz=75							
V33A	**Lossen Ranch,**	**74.55**	**336**	P	P	**P**	**16 44 53.4**	**+0.5**
	baz=75							
AMTX	**Amarillo**	**74.91**	**333**	P	P	**P**	**16 44 55.4**	**+0.3**
	baz=75							
121A	**Cookes Peak, D**	**75.38**	**327**	P	P	**P**	**16 44 56.3**	**-1.8**
	8.8nm,1.0s							
X26A	**CR and CF Fran**	**75.44**	**331**	P	P	**P**	**16 44 59.3**	**+1.0**
	baz=76							
W25A	**X Bar L Ranch,**	**76.28**	**331**	P	P	**P**	**16 45 03.6**	**+0.5**
	baz=77							
ANMO	**Albuquerque**	**76.86**	**330**	*e*P	P	**P**	**16 45 05.9**	**-0.6**
	7.3nm,1.1s							
V25A	**Rancho No Teng**	**76.88**	**331**	P	P	**P**	**16 45 07.3**	**+0.8**
	baz=77							
T27A	**Campo**	**77.23**	**333**	P	P	**P**	**16 45 08.9**	**+0.6**
	baz=78							
U25A	**Circle Dot Ran**	**77.29**	**332**	P	P	**P**	**16 45 09.6**	**+0.8**
	baz=78							
T26A	**Comanche Natio**	**77.65**	**333**	P	P	**P**	**16 45 11.0**	**+0.2**
	baz=78							
V22A	**San Miguel Ran**	**77.88**	**330**	P	P	**P**	**16 45 13.8**	**+1.7**
	baz=78							
T25A	**Trinidad**	**77.94**	**332**	P	P	**P**	**16 45 13.8**	**+1.4**
	baz=78							
S26A	**Kim**	**78.00**	**333**	P	P	**P**	**16 45 14.3**	**+1.7**
	baz=78							
BOSA	**Boshof**	**78.24**	**117**	P	P	**P**	**16 45 15.7**	**+1.3**
	6.7nm,0.6s,baz=236,slow=5.2,SNR=14							
BOSA	**Boshof**	**78.24**	**117**	P	P	**P**	**16 45 12.5**	**-1.9**
	6.2nm,0.7s							
T24B	**San Luis**	**78.25**	**331**	P	P	**P**	**16 45 15.4**	**+1.2**
	baz=79							
P31A	**Stockton**	**78.26**	**337**	P	P	**P**	**16 45 14.4**	**+0.5**
	baz=79							
S24A	**Houchin Ranch,**	**78.69**	**332**	P	P	**P**	**16 45 18.1**	**+1.5**
	baz=79							
P29A	**Atwood**	**78.85**	**336**	P	P	**P**	**16 45 18.5**	**+1.2**
	baz=79							
SDCO	**Great Sand Dun**	**78.89**	**332**	*e*P	P	**P**	**16 45 19.1**	**+1.4**
	52nm,2.8s							
R24A	**Sanders Place,**	**79.16**	**332**	P	P	**P**	**16 45 20.3**	**+1.2**
	baz=80							
BC3	**Big Chuckawall**	**79.96**	**323**	P	P	**P**	**16 45 24.0**	**+0.6**
	baz=80							
LBTB	**Lobatse**	**80.43**	**114**	*e*P	P	**P**	**16 45 27.1**	**+0.7**
	41nm,1.8s							
SMCO	**Snowmass**	**80.71**	**331**	*e*P	P	**P**	**16 45 29.2**	**+1.5**
	12nm,1.5s							
ECSD	**EROS Data Cent**	**81.29**	**341**	P	P	**P**	**16 45 30.5**	**+0.3**
	baz=82							
ECSD	**EROS Data Cent**	**81.29**	**341**	P	P	**P**	**16 45 28.6**	**-1.6**
	6.8nm,0.9s							
O22A	**Kremmling**	**81.39**	**332**	P	P	**P**	**16 45 32.0**	**+0.8**
	baz=82							
TORD	**Torodi Ar. Bea**	**82.37**	**69**	P	P	**P**	**16 45 37.8**	**+1.2**
	8.6nm,0.9s,baz=239,slow=3.9,SNR=28							
I25A	**Rochford**	**83.74**	**336**	P	P	**P**	**16 45 44.0**	**+0.9**
	baz=84							
R11A	**Troy Canyon, C**	**83.76**	**325**	P	P	**P**	**16 45 44.0**	**+0.5**
	baz=84							
R11A	**Troy Canyon, C**	**83.76**	**325**	*e*P	P	**P**	**16 45 43.2**	**-0.2**
	4.7nm,1.1s							
DUG	**Dugway, Tooele**	**84.00**	**328**	P	P	**P**	**16 45 45.1**	**+0.5**
	baz=84							
HWUT	**Hardware Ranch**	**84.63**	**330**	*e*P	P	**P**	**16 45 46.9**	**-0.9**
	82nm,2.6s							
H24A	**Dirks Ranch, A**	**84.66**	**336**	P	P	**P**	**16 45 48.2**	**+0.5**
	baz=85							
J20A	**Shoshoni**	**84.72**	**333**	P	P	**P**	**16 45 49.9**	**+1.8**
	baz=85							
BW06	**Boulder Array**	**84.78**	**332**	P	P	**P**	**16 45 47.6**	**-1.0**
	1.6nm,1.0s							
PDAR	**Pinedale Array**	**84.78**	**332**	P	P	**P**	**16 45 49.3**	**+0.7**
	1.7nm,0.9s,baz=131,slow=4.5,SNR=8.4							
F27A	**Lemmon**	**84.83**	**338**	P	P	**P**	**16 45 49.3**	**+0.8**
	baz=85							
NVAR	**Mina Array Bea**	**85.14**	**324**	P	P	**P**	**16 45 51.7**	**+1.3**
	0.8nm,0.3s,baz=157,slow=8.0,SNR=4.3							
HVU	**Hansel Valley**	**85.28**	**329**	*e*P	P	**P**	**16 45 51.4**	**+0.4**
	81nm,2.5s							
C30A	**Mose, Pekin**	**85.45**	**341**	P	P	**P**	**16 45 52.3**	**+0.8**
	baz=86							
ELK	**Elko**	**85.52**	**327**	*e*P	P	**P**	**16 45 52.1**	**-0.2**
	3.1nm,0.9s							
MDND	**Maddock**	**85.90**	**340**	P	P	**P**	**16 45 54.5**	**+0.8**
	baz=86							
TPAW	**Teton Pass**	**85.95**	**331**	*e*P	P	**P**	**16 45 54.3**	**-0.1**
	102nm,3.0s							
B30A	**Myrvik Farm, E**	**86.10**	**341**	P	P	**P**	**16 45 55.4**	**+0.7**
	baz=86							
I17A	**Pilgrim Ck.**	**86.16**	**332**	P	P	**P**	**16 45 56.6**	**+1.2**
	baz=86							
IMW	**Indian Meadow**	**86.28**	**331**	*e*P	P	**P**	**16 45 56.5**	**+0.4**
	4.9nm,1.1s							
FLWY	**Flagg Ranch**	**86.34**	**332**	*e*P	P	**P**	**16 45 56.9**	**+0.6**
	83nm,2.7s							
G20A	**Bridger**	**86.36**	**334**	P	P	**P**	**16 45 56.0**	**-0.2**
	baz=87							
H18A	**Shoshone NF, C**	**86.44**	**333**	P	P	**P**	**16 45 57.5**	**+0.7**
	baz=87							
E20A	**Meyer Farm, Mu**	**87.43**	**335**	P	P	**P**	**16 46 02.1**	**+0.8**
	baz=88							
HLID	**Hailey**	**87.43**	**329**	*e*P	P	**P**	**16 46 00.8**	**-0.8**
	83nm,3.0s							
E19A	**Rath Farm, Rou**	**87.63**	**334**	P	P	**P**	**16 46 02.3**	**0.0**
	baz=88							
D20A	**Manuel Ranch,**	**87.93**	**335**	P	P	**P**	**16 46 04.0**	**+0.3**
	baz=88							
WRA	**Warramunga Arr**	**121.60**	**207**	PKP		**PKPdf**	**16 52 08.3**	**-0.1**
	0.6nm,0.8s,baz=168,slow=1.4,SNR=4.8							
BRVK	**Borovoye**	**145.91**	**44**	*e*PKPdf		**PKPdf**	**16 52 52.2**	**-0.1**
BVAR	**Borovoye Array**	**145.98**	**44**	PKPbc		**PKPab**	**16 52 54.8**	**+0.9**
	4.2nm,0.8s,baz=303,slow=3.7,SNR=7.2							
AAK	**Ala-Archa**	**150.78**	**62**	PKPbc		**PKPbc**	**16 53 08.7**	**+2.2**
	5.4nm,0.8s,baz=305,slow=5.1,SNR=4.0							
KURBB	**Kurchatov Arra**	**151.55**	**45**	PKPbc		**PKPbc**	**16 53 09.3**	**+1.5**
	2.0nm,0.2s,baz=300,slow=2.8,SNR=7.3							
KURK	**Kurchatov**	**151.57**	**45**	PKPbc		**PKPbc**	**16 53 09.3**	**+1.5**
KSH	**Kashi**	**152.04**	**69**	*e*PKPbc		**PKPdf**	**16 53 04.4**	**+1.5**
KSH				sPKP			16 53 16.0	
KSH				PKS		**PKSdf**	**16 56 36.9**	**-0.6**
KSH				PP		**PP**	**16 56 49.0**	**-2.5**
KSH				SKS		**SKSdf**	**17 00 07.4**	**-0.2**
KSH				SKKS		**SKKSac**	**17 03 36.8**	**-2.2**
KSH				SS		**SS**	**17 16 13.9**	**-3.4**
KSH				PPMZ				
	170nm,4.7s							
KSH				LN				
	51nm,4.6s							
KSH				LE				
	42nm,4.6s							
KSH				LZ				
	89nm,5.5s							
ZALV	**Zalesovo Beam**	**153.21**	**34**	PKPbc		**PKPbc**	**16 53 12.8**	**+1.4**
	4.7nm,0.8s,baz=331,slow=2.7,SNR=5.5							
WMQ	**Urumqi**	**159.93**	**54**	*e*PKP		**PKPdf**	**16 53 11.3**	**-1.8**
CN2	**Changchun**	**164.82**	**314**	*e*PKP		**PKPdf**	**16 53 18.3**	**+0.5**

470nm,8.6s
HHC LN
190nm,22.0s
HHC LE
170nm,22.9s
HHC LZ
170nm,22.4s
CD2 Chengdu 173.57 118 *e*PKP **PKPdf 16 53 23.1 -0.7**
LZH Lanzhou 174.29 68 *e*PKP **PKPdf 16 53 25.9 +1.9**
LZH *e*PKP **pPKPdf 16 53 36.0 +0.5**
LZH sPKP 16 53 42.8
LZH PP PP 16 58 55.0 +5.9
LZH *e*SKKS 17 05 36.0
LZH PPMZ
180nm,4.4s
LZH LN
280nm,17.8s
LZH LE
330nm,17.0s
LZH LZ
400nm,20.0s

IDC ***13*** *16:34:32.8±1.1, 1°.21N×96°.91E, h0km, mb4.2/13, mb1 4.2/15, mb1mx4.0/40, mbtmp4.2/15, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.9/37, Error ellipse: s-maj=30.8km s-min=17.5km az=46.0*
ISCJB ***13*** *16:34:36.0±0.7, 1°.27N±0°.09×96°.99E±0°.07, h28km, mb4.2/13, Error ellipse: s-maj=15.1km s-min=7.9km az=32.1*
DJA ***13*** *16:34:37.7±1.1, 1°N±11°×9°7E±°, h23km±9km, M4.3/5, mb4.4/2, MLv4.2/5*
ISC 13 16:34:37.8±0.9, 1°.4N±0°.1×97°.02E±0°.09, h28km, n35, σ1°.06/33, mb4.3/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.56**	**95**	P	**Pb**	**16 34 49.2**	**+0.1**
SNSI	**Sinabang, Aceh**	**1.26**	**327**	P	**Pn**	**16 34 59.3**	**-0.2**
TPTI		**1.90**	**5**	P	**Pn**	**16 35 08.0**	**-0.4**
KCSI	**Kotacane, Aceh**	**2.28**	**19**	P	**Pn**	**16 35 13.8**	**+0.1**
PSI	**Prapat**	**2.39**	**53**	Pn	**Pn**	**16 35 14.7**	**-0.5**
	2.4nm,0.3s,baz=229,slow=4.4,SNR=56						
PSI				LR	LR	16 36 04.8	
	comp=Z,501nm,20.2s,baz=320,slow=37						
MNSI	**Mandailing Nat**	**2.62**	**102**	P	**Pn**	**16 35 18.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**17.10**	**6**	P	**Pn**	**16 38 33.7**	**-1.3**
	0.3nm,0.3s,baz=200,slow=11,SNR=22						
H08S2	**Diego Garcia H**	**26.05**	**250**	T	T	17 07 07.9	
	baz=71,slow=76,SNR=1210						
H08S3	**Diego Garcia H**	**26.05**	**250**	T	T	17 07 01.4	
	baz=71,slow=76,SNR=1954						
H08S1	**Diego Carcia H**	**26.06**	**250**	T	T	17 07 02.3	
	baz=71,slow=76,SNR=1224						
ODAN	**Odare**	**27.00**	**341**	*e*P	**P**	**16 40 19.1**	**+1.4**
	24nm,0.9s						
RAMN	**Ramite**	**27.35**	**339**	*e*P	**P**	**16 40 22.8**	**+1.9**
TAPN	**Taplejung**	**27.35**	**342**	*e*P	**P**	**16 40 22.6**	**+1.6**
	48nm,1.0s						
JIRN	**Jiri**	**28.14**	**339**	*e*P	**P**	**16 40 29.6**	**+1.4**
	18nm,0.8s						
PKI	**Pulchoki**	**28.35**	**338**	*e*P	**P**	**16 40 31.1**	**+1.2**
PKIN	**Phulchoki**	**28.36**	**338**	*e*P	**P**	**16 40 30.9**	**+1.0**
	3.7nm,0.5s						
GUN	**Gumba**	**28.48**	**339**	*e*P	**P**	**16 40 32.6**	**+1.5**
	22nm,0.8s						
DMN	**Daman**	**28.50**	**337**	*e*P	**P**	**16 40 32.7**	**+1.5**
	12nm,0.9s						
KKN	**Kakani**	**28.59**	**338**	*e*P	**P**	**16 40 33.3**	**+1.3**
GKN	**Gorkha**	**29.03**	**337**	*e*P	**P**	**16 40 37.2**	**+1.4**
	21nm,1.0s						
KOLN	**Koldanda**	**29.25**	**335**	*e*P	**P**	**16 40 39.4**	**+1.6**
	16nm,0.7s						
DANN	**Dangsing**	**29.69**	**336**	*e*P	**P**	**16 40 43.2**	**+1.4**
	9.4nm,0.6s						
WRA	**Warramunga Arr**	**42.27**	**122**	P	**P**	**16 42 28.1**	**-1.1**
	1.3nm,0.8s,baz=301,slow=9.2,SNR=8.5						
ASAR	**Alice Springs**	**43.63**	**127**	P	**P**	**16 42 39.8**	**-0.4**
	1.1nm,0.9s,baz=299,slow=8.2,SNR=9.9						
KSRS	**Korea Array**	**45.83**	**35**	P	**P**	**16 42 57.4**	**-0.1**
	5.4nm,0.9s,baz=222,slow=9.4,SNR=17						
SONM	**Songino Array**	**47.01**	**9**	P	**P**	**16 43 07.3**	**+0.6**
	3.4nm,0.8s,baz=189,slow=9.4,SNR=22						
SONM				PcP	**PcP**	**16 44 38.2**	**-0.5**
	0.5nm,0.7s,baz=211,slow=0.8,SNR=2.6						
MKAR	**Makanchi Array**	**47.05**	**346**	P	**P**	**16 43 07.8**	**+0.8**
	1.4nm,0.5s,baz=163,slow=7.8,SNR=39						
GEYT	**Alibeck**	**50.98**	**320**	P	**P**	**16 43 36.0**	**-1.3**
	1.1nm,0.6s,baz=148,slow=8.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**51.54**	**345**	P	**P**	**16 43 41.6**	**+0.5**
	1.1nm,0.5s,baz=165,slow=7.5,SNR=8.2						
USRK	**Ussuriysk Ar.**	**52.73**	**31**	P	**P**	**16 43 50.8**	**+0.6**
	8.5nm,0.8s,baz=237,slow=5.5,SNR=14						
ZALV	**Zalesovo Beam**	**53.38**	**351**	P	**P**	**16 43 55.2**	**+0.5**
	6.7nm,0.7s,baz=181,slow=6.2,SNR=45						
BVAR	**Borovoye Array**	**56.05**	**341**	P	**P**	**16 44 14.2**	**+0.1**
	2.3nm,0.8s,baz=148,slow=8.5,SNR=5.8						
AKTO	**Aktyubinsk**	**59.01**	**332**	P	**P**	**16 44 34.9**	**-0.2**
	1.7nm,0.8s,baz=110,slow=5.9,SNR=4.6						
FINES	**FINESS Array B**	**79.78**	**333**	P	**P**	**16 46 43.1**	**0.0**
	1.1nm,0.9s,baz=129,slow=5.2,SNR=5.5						
ARCES	**ARCESS Array B**	**82.33**	**340**	P	**P**	**16 46 55.8**	**-0.8**
	4.4nm,0.9s,baz=101,slow=2.6,SNR=4.2						

IDC ***13*** *16:42:54.8±1.0, 35°.89S×72°.56W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/28, mbtmp4.0/4, ML4.2/1, Error ellipse: s-maj=49.6km s-min=26.0km az=79.0*
ISCJB ***13*** *16:42:58.5±1.1, 36°.0S±0°.1×72°.7W±0°.2, h35km, mb4.0/3, Error ellipse: s-maj=26.5km s-min=10.3km az=25.1*
ISC 13 16:43:00.0±1.0, 36°.0S±0°.1×72°.8W±0°.2, h35km, n8, σ0°.98/9, mb4.2/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.08**	**160**	Pn	**Pn**	**16 44 14.2**	**+0.5**
	2.1nm,0.3s,baz=327,slow=10,SNR=23						
PLCA				Lg	Lg	16 45 30.8	
	4.2nm,0.3s,baz=48,slow=8.5,SNR=3.5						
CFAA	**Coronel Fontan**	**5.77**	**42**	Pn	**Pn**	**16 44 23.4**	**+0.2**
	0.4nm,0.3s,baz=237,slow=12,SNR=21						
CFAA				Sn	**Sn**	**16 45 28.7**	**+0.5**
	0.7nm,0.3s,baz=240,slow=21,SNR=1.9						
QSPA	**South Pole Qui**	**54.28**	**180**	P	**P**	**16 52 23.0**	**+0.6**
	2.9nm,0.9s,baz=186,slow=1.4,SNR=6.8						
TXAR	**Lajitas Array**	**71.15**	**332**	P	**P**	**16 54 16.0**	**+0.9**
	1.2nm,0.5s,baz=155,slow=8.8,SNR=22						
TORD	**Torodi Ar. Bea**	**85.46**	**70**	P	**P**	**16 55 33.1**	**-1.3**
	0.4nm,0.7s,baz=236,slow=4.9,SNR=2.7						
WRA	**Warramunga Arr**	**118.75**	**209**	PKP	**PKPdf**	**17 01 43.5**	**-1.5**
	0.4nm,0.7s,baz=158,slow=2.0,SNR=5.9						
BVAR	**Borovoye Array**	**149.12**	**45**	PKPbc	**PKPbc**	**17 02 44.1**	**+0.1**
	0.5nm,0.6s,baz=276,slow=2.8,SNR=4.0						
MKAR	**Makanchi Array**	**158.49**	**52**	PKPab	**PKPab**	**17 03 27.8**	**-0.6**
	0.2nm,0.6s,baz=291,slow=4.5,SNR=2.1						

IDC ***13*** *16:45:00.3±0.6, 34°.25N×75°.58E, h0km, mb4.3/21, mb1 4.5/26, mb1mx4.2/48, mbtmp4.4/26, ML4.3/5, MS3.5/1, Ms1 3.5/1, ms1mx2.9/37, Error ellipse: s-maj=16.6km s-min=12.6km az=35.0*
LDG ***13*** *16:45:02.7±0.2, 34°.23N×75°.51E, h33km, Mb4.5/11, Error ellipse: s-maj=7.8km s-min=5.9km az=23.0*
MOS ***13*** *16:45:03.2±1.2, 34°.20N×75°.54E, h33km, mb4.7/36, Error ellipse: s-maj=8.6km s-min=4.0km az=101.6*
ISCJB ***13*** *16:45:06.9±0.3, 34°.35N±0°.02×75°.74E±0°.03, h74km±4km, mb4.4/43, Error ellipse: s-maj=4.6km s-min=3.5km az=152.3*
NEIC ***13*** *16:45:07.0±0.9, 34°.29N×75°.71E, h57km±9km, mb4.7/16, Error ellipse: s-maj=8.7km s-min=6.7km az=214.0*
NEIC Felt at Srinagar.
NDI ***13*** *16:45:08.0±2.0, 34°.43N×75°.61E, h33km, ML4.6, mb4.7(NEIC)*
NNC ***13*** *16:45:23.7±3.3, 35°.52N×75°.10E, h107km±22km, mb4.5, mpv5.0, Error ellipse: s-maj=26.9km s-min=18.7km az=172.0*
ISC 13 16:45:07.7±0.7, 34°.35N±0°.04×75°.76E±0°.05, h65km±8km, n198, σ1°.83/217, mb4.5/43, 23C-12D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**1.79**	**204**	*e*P3	**Pn**	**16 45 39.0**	**+2.7**
JMU				*e*S	**Sn**	**16 45 59.0**	**+1.0**
DLH	**Dalhousie**	**1.81**	**175**	*e*P	**Pn**	**16 45 40.0**	**+3.0**
DLH				*e*S	**Sn**	**16 46 02.0**	**+2.9**
DHRM	**DHARAMSHALA**	**2.15**	**168**	*e*P	**Pn**	**16 45 44.4**	**+2.9**
DHRM				*e*S	**Sn**	**16 46 10.2**	**+3.0**
DHRM				AML	AML	16 46 13.5	
	comp=E,3μm,0.8s						
DHRM				AML	AML	16 46 14.2	
	comp=N,3μm,0.7s						
CHCP	**Chirah Chowk**	**2.19**	**252**	⇑P	**Pn**	**16 45 43.4**	**+1.5**
CHCP				S	**Sn**	**16 46 09.0**	**+1.1**
BHK	**Bhakra**	**2.98**	**169**	*ex*	Pn	16 45 58.0	+5.4
BHK				*e*S	**Sn**	**16 46 27.6**	**+0.4**
SDNR	**Sundarnagar**	**3.02**	**160**	*e*P	**Pn**	**16 45 55.0**	**+1.8**
SDNR				*ex*	**Sn**	**16 46 28.0**	**-0.2**
CEP	**Cherat**	**3.24**	**262**	⇑P	**Pn**	**16 45 55.9**	**-0.4**
CEP				S	**Sn**	**16 46 33.0**	**-0.8**
SMLA	**Simla**	**3.43**	**159**	⇑*i*P	Pn	16 46 02.0	+3.3
SMLA				*i* S	**Sn**	**16 46 39.3**	**+1.2**
SMLA				AML	AML	16 46 42.0	
	comp=E,5μm,0.3s						
SMLA				AML	AML	16 46 42.3	
	comp=N,4μm,0.2s						
SARP	**Sargodha**	**3.55**	**228**	P	**Pn**	**16 45 59.8**	**-0.6**
THW	**Thamme Wali**	**3.70**	**246**	P	**Pn**	**16 46 01.8**	**-0.6**
THW				S	**Sn**	**16 46 42.0**	**-2.8**
DDI	**Dehra Dun**	**4.46**	**154**	*ex*	x	16 46 21.6	
DDI				*e*S3	**Sn**	**16 47 07.0**	**+3.4**
KBL	**Kabul**	**5.55**	**274**	*e*P	**Pn**	**16 46 26.2**	**-1.8**
KBL				*e*		16 47 22.8	
KBL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KBL	**Kabul**	**5.55**	**274**	*e*Pn	**Pn**	**16 46 26.2**	**-1.8**
	comp=Z,9.5nm,0.7s						
KBL				*e*Sn	Sn	16 47 22.8	-7.8
NDI	**New Delhi**	**5.79**	**167**	*e*P	**Pn**	**16 46 32.5**	**+1.5**
NDI				*e*S	**Sn**	**16 47 33.5**	**-2.5**
LGTI	**Lohaghat**	**6.20**	**141**	*ex*	Pn	16 46 44.1	+7.5
LGTI				*ex*	**Sn**	**16 47 49.1**	**+3.0**
DZET	**Dzherino**	**7.13**	**311**	⇑P	Pn	16 46 46.1	-3.4
DZET				⇓S	Sn	16 47 58.9	-10
KZA	**Kyzart**	**7.72**	**357**	P	**Pn**	**16 47 00.0**	**+2.2**
	SNR=291						
KZA	**Kyzart**	**7.72**	**357**	*i* P	**Pn**	**16 47 00.0**	**+2.2**
ULHL	**Ulahol**	**7.89**	**3**	P	**Pn**	**16 47 02.7**	**+2.8**
	SNR=66						
ULHL	**Ulahol**	**7.89**	**3**	*i* P	**Pn**	**16 47 02.7**	**+2.8**
AJM	**Ajmer**	**7.91**	**187**	*i* P	**Pn**	**16 47 00.0**	**-0.1**
AJM				*i* x	**Sn**	**16 48 24.0**	**-4.1**
UCH	**Uchtor**	**7.92**	**353**	P	**Pn**	**16 47 02.6**	**+2.1**
	SNR=422						
UCH	**Uchtor**	**7.92**	**353**	*i* P	**Pn**	**16 47 02.6**	**+2.1**
AML	**Almayashu**	**7.93**	**349**	P	**Pn**	**16 47 02.1**	**+1.4**
	SNR=606						
AML	**Almayashu**	**7.93**	**349**	*i* P	**Pn**	**16 47 02.1**	**+1.4**
KBK	**Karagaybulak**	**8.31**	**356**	P	**Pn**	**16 47 08.2**	**+2.5**
	SNR=170						
KBK	**Karagaybulak**	**8.31**	**356**	*i* P	**Pn**	**16 47 08.2**	**+2.5**
AAK	**Ala-Archa**	**8.33**	**354**	⇑P	**Pn**	**16 47 08.0**	**+2.2**
	comp=Z,158nm,1.2s						
AAK				S	Sn	16 48 27.3	-11
AAK	**Ala-Archa**	**8.33**	**354**	P	**Pn**	**16 47 08.1**	**+2.2**
	SNR=132						
AAK	**Ala-Archa**	**8.33**	**354**	*e*P	**Pn**	**16 47 08.1**	**+2.2**
AAK				*e*		16 48 35.8	
AAK				pmax	pmax		
	comp=Z,74nm,0.7s						
AAK	**Ala-Archa**	**8.33**	**354**	Pn	**Pn**	**16 47 08.2**	**+2.3**
	comp=Z,13nm,0.3s,baz=169,slow=11,SNR=281						
AAK				Sn	**Sn**	**16 48 34.6**	**-3.8**
	comp=Z,2.1nm,0.3s,baz=185,slow=18,SNR=1.7						
AAK				LR	LR	16 50 47.3	
	comp=Z,315nm,21.6s,baz=224,slow=41						
AAK	**Ala-Archa**	**8.33**	**354**	*e*Pn	**Pn**	**16 47 08.1**	**+2.2**
	comp=Z,74nm,0.7s						
AAK				Sn	**Sn**	**16 48 34.6**	**-3.8**
AAK				*e*Sn	Sn	16 48 35.8	-2.7
EKS2	**Erkin-Say**	**8.44**	**350**	P	**Pn**	**16 47 09.2**	**+1.8**
	SNR=84						
EKS2	**Erkin-Say**	**8.44**	**350**	*i* P	**Pn**	**16 47 09.1**	**+1.8**
FRU	**Bishkek**	**8.51**	**354**	⇓*i*P	**Pn**	**16 47 10.4**	**+2.1**
FRU				pmax	pmax		
	comp=Z,290nm,2.0s						
FRU				pmax	pmax		
	comp=E,166nm,2.0s						
TKM2	**Tokmak 2**	**8.55**	**359**	⇑P	**Pn**	**16 47 11.3**	**+2.3**
	comp=E,149nm,0.8s						
TKM2				⇑S	Sn	16 48 31.7	-13
	comp=E,27nm,0.7s						
TKM2	**Tokmak 2**	**8.55**	**359**	P	**Pn**	**16 47 11.6**	**+2.6**
	SNR=189						
TKM2	**Tokmak 2**	**8.55**	**359**	*e*P	**Pn**	**16 47 11.5**	**+2.5**
TKM2				*e*		16 48 42.0	
TKM2				pmax	pmax		
	comp=Z,122nm,0.6s						
TKM2	**Tokmak 2**	**8.55**	**359**	*e*Pn	**Pn**	**16 47 11.5**	**+2.5**
	comp=Z,122nm,0.6s						
TKM2				*e*Sn	**Sn**	**16 48 42.0**	**-2.0**
CHMS	**Chumysh**	**8.67**	**355**	P	**Pn**	**16 47 12.5**	**+2.1**
	SNR=82						
CHMS	**Chumysh**	**8.67**	**355**	*i* P	**Pn**	**16 47 12.5**	**+2.1**
USP	**Ospenovka**	**8.95**	**354**	P	**Pn**	**16 47 16.3**	**+1.9**
	SNR=20						
USP	**Ospenovka**	**8.95**	**354**	*i* P	**Pn**	**16 47 16.2**	**+1.9**
DANN	**Dangsing**	**9.09**	**129**	*e*Pn	**Pn**	**16 47 17.1**	**+0.7**
DANN				*e*Sn	**Sn**	**16 48 51.7**	**-5.6**
	comp=Z,128nm,0.4s						
KOLN	**Koldanda**	**9.39**	**132**	*e*Pn	**Pn**	**16 47 21.9**	**+1.4**
KOLN				*e*Sn	**Sn**	**16 49 00.3**	**-4.3**
	comp=Z,133nm,0.5s						
PDGK	**Podgornoye**	**9.42**	**17**	⇓P	**Pn**	**16 47 23.1**	**+2.6**
PDGK				S	**Sn**	**16 48 59.6**	**-5.2**
PDGK	**Podgornoye**	**9.42**	**17**	*i* P	**Pn**	**16 47 23.1**	**+2.6**
KK31	**Karatay Array**	**9.65**	**336**	⇓P	**Pn**	**16 47 22.2**	**-1.6**
	comp=Z,6.7nm,0.2s,baz=152,slow=12						
KK31				⇑S	Sn	16 48 57.6	-13
	comp=Z,63nm,0.5s,baz=150,slow=22						
KK31	**Karatay Array**	**9.65**	**336**	P	**Pn**	**16 47 22.7**	**-1.1**
KK31				pmax	pmax		
	comp=Z,21nm,0.2s						
KKAR	**Karatay Array**	**9.65**	**336**	*e*P	**Pn**	**16 47 22.6**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KKAR	**Karatay Array**	**9.65**	**336**	*e*Pn	**Pn**	**16 47 22.6**	**-1.1**
	comp=Z,2.3nm,1.1s						
KKAR				*e*Sn	Sn	16 49 00.2	-10
GKN	**Gorkha**	**9.89**	**127**	*e*Pn	**Pn**	**16 47 28.3**	**+1.1**
GKN				*e*Sn	**Sn**	**16 49 11.1**	**-5.6**
	comp=Z,213nm,0.3s						
KKN	**Kakani**	**10.46**	**126**	*e*Pn	**Pn**	**16 47 35.2**	**+0.2**
KKN				*e*Sn	Sn	16 49 23.6	-7.1
	comp=Z,45nm,0.2s						
DMN	**Daman**	**10.46**	**127**	*e*Pn	**Pn**	**16 47 35.5**	**+0.4**
DMN				*e*Sn	Sn	16 49 23.9	-7.0
	comp=Z,220nm,0.8s						
PKIN	**Phulchoki**	**10.67**	**127**	*e*Pn	**Pn**	**16 47 38.7**	**+0.6**
PKIN				*e*Sn	**Sn**	**16 49 30.2**	**-5.9**
	comp=Z,107nm,0.3s						
PKI	**Pulchoki**	**10.69**	**127**	*e*Pn	**Pn**	**16 47 38.4**	**+0.1**
PKI				*e*Sn	Sn	16 49 29.6	-6.9
	comp=Z,130nm,0.5s						
GUN	**Gumba**	**10.78**	**124**	*e*Pn	**Pn**	**16 47 39.7**	**+0.1**
GUN				*e*Sn	Sn	16 49 31.5	-7.4
	comp=Z,53nm,0.4s						
JIRN	**Jiri**	**11.15**	**124**	*e*Pn	**Pn**	**16 47 44.9**	**+0.2**
JIRN				*e*Sn	Sn	16 49 40.7	-7.3
	comp=Z,172nm,0.4s						
BHPL	**Bhopal**	**11.17**	**172**	*e*P	**Pn**	**16 47 44.0**	**-0.6**
BHPL				*ex*	x	16 49 38.8	
RAMN	**Ramite**	**11.89**	**125**	*e*Pn	**Pn**	**16 47 53.7**	**-1.0**
RAMN				*e*Sn	Sn	16 49 57.4	-8.4
	comp=Z,208nm,0.6s						
TAPN	**Taplejung**	**12.41**	**121**	*e*Pn	**Pn**	**16 48 00.3**	**-1.5**
TAPN				*e*Sn	Sn	16 50 09.5	-8.9
	comp=Z,63nm,0.5s						
ODAN	**Odare**	**12.49**	**124**	*e*Pn	**Pn**	**16 48 01.4**	**-1.4**
ODAN				*e*Sn	Sn	16 50 11.4	-8.9
	comp=Z,128nm,0.6s						
MK08	**Makanchi Array**	**13.34**	**20**	⇓P	**Pn**	**16 48 13.3**	**-0.7**
	comp=Z,14nm,0.8s						
MK08				⇑S	Sn	16 50 31.6	-8.9
	comp=Z,17nm,0.7s						
MKAR	**Makanchi Array**	**13.37**	**20**	Pn	**Pn**	**16 48 14.6**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=208,slow=12,SNR=72						
MKAR				Sn	Sn	16 50 34.3	-7.0
	comp=Z,1.2nm,0.3s,baz=201,slow=20,SNR=6.2						
LSA	**Lhasa**	**13.85**	**105**	*e*P	**Pn**	**16 48 20.4**	**-1.0**
LSA				*e*		16 50 48.5	
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LSA	**Lhasa**	**13.85**	**105**	*e*Pn	**Pn**	**16 48 20.4**	**-1.0**
	comp=Z,8.1nm,0.8s						
LSA				*e*Sn	**Sn**	**16 50 48.5**	**-5.3**
OTUK	**Ortayu**	**14.11**	**351**	⇓P	**Pn**	**16 48 21.9**	**-2.4**
GEYT	**Alibeck**	**14.70**	**289**	Pn	Pn	16 48 28.1	-3.9
	comp=Z,0.5nm,0.3s,baz=124,slow=9.5,SNR=6.4						
GEYT				Sn	Sn	16 51 00.7	-13
	comp=Z,0.8nm,0.3s,baz=98,slow=20,SNR=5.7						
POO	**Poona**	**15.85**	**187**	*e*P	**P**	**16 48 48.0**	**-1.5**
POO				*e*PP	**PnPn**	**16 48 57.0**	**0.0**
POO				*ex*	x	16 51 29.0	
KURBB	**Kurchatov Arra**	**16.38**	**6**	⇓P	**Pn**	**16 48 52.0**	**-1.3**
	comp=Z,74nm,0.8s						
KURBB	**Kurchatov Arra**	**16.38**	**6**	Pn	**Pn**	**16 48 52.0**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=196,slow=11,SNR=153						
KURK	**Kurchatov**	**16.48**	**6**	⇓P	**Pn**	**16 48 53.1**	**-1.6**
	comp=Z,44nm,0.8s						
KURK	**Kurchatov**	**16.48**	**6**	*e*P	**Pn**	**16 48 53.0**	**-1.6**
KURK	**Kurchatov**	**16.48**	**6**	*e*Pn	**Pn**	**16 48 53.0**	**-1.6**
HYB	**Hyderabad**	**17.05**	**171**	*e*P	**Pn**	**16 49 00.0**	**-1.9**
HYB	**Hyderabad**	**17.05**	**171**	*i* P	**Pn**	**16 49 00.0**	**-1.9**
HYB				*e*S	**Sn**	**16 52 10.0**	**-0.8**
HYB	**Hyderabad**	**17.05**	**171**	*ex*	Pn	16 48 56.6	-5.3
HYB				*ex*	x	16 51 55.0	
HYB	**Hyderabad**	**17.05**	**171**	*e*P	**Pn**	**16 49 00.0**	**-1.9**
HYB				S	Sn	16 51 53.5	-17
VOSK	**Vostochnaya**	**18.68**	**351**	⇑P	**P**	**16 49 20.1**	**-0.3**
	comp=Z,15nm,0.8s						
VOSK	**Vostochnaya**	**18.68**	**351**	P	**P**	**16 49 20.1**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,15nm,0.9s						
AB31	**Akbulak array**	**18.93**	**327**	P	**P**	**16 49 22.4**	**-0.9**
	comp=Z,15nm,0.6s,baz=134,slow=11,SNR=264						
AB31				⇑S	S	16 52 36.0	-19
	comp=Z,7.9nm,0.7s,baz=138,slow=23,SNR=13						
AB31	**Akbulak array**	**18.93**	**327**	*i* P	**P**	**16 49 22.8**	**-0.4**
AB31				pmax	pmax		
	comp=Z,16nm,0.6s						
ABKAR	**Akbulak array**	**18.93**	**327**	*e*P	**P**	**16 49 22.8**	**-0.5**
	comp=Z,18nm,0.6s						
BVA0	**Borovoye Array**	**19.05**	**350**	⇑P	**P**	**16 49 25.2**	**+0.6**
	comp=Z,25nm,0.7s,baz=162,slow=11,SNR=137						
BVA0	**Borovoye Array**	**19.05**	**350**	*i* P	**P**	**16 49 25.1**	**+0.6**
BVA0				pmax	pmax		
	comp=Z,25nm,0.7s						
BVAR	**Borovoye Array**	**19.05**	**350**	P	**Pn**	**16 49 25.3**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR	**Borovoye Array**	**19.05**	**350**	P	**Pn**	**16 49 25.3**	**-0.6**
	comp=Z,1.9nm,0.3s,baz=162,slow=11,SNR=62						
BRVK	**Borovoye**	**19.10**	**350**	⇓P	**Pn**	**16 49 26.1**	**-0.3**
	comp=Z,71nm,0.9s						
BRVK	**Borovoye**	**19.10**	**350**	*d* *i*P	**Pn**	**16 49 25.8**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,56nm,1.0s						
BRVK	**Borovoye**	**19.10**	**350**	*e*P	**Pn**	**16 49 25.7**	**-0.7**
	comp=Z,41nm,0.8s						
ZALV	**Zalesovo Beam**	**20.61**	**15**	P	**P**	**16 49 41.7**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,30nm,0.7s						
ZALV	**Zalesovo Beam**	**20.61**	**15**	P	**P**	**16 49 41.6**	**+0.3**
	comp=Z,30nm,0.7s,baz=208,slow=9.2,SNR=102						
AKTO	**Aktyubinsk**	**20.65**	**326**	⇓P	**P**	**16 49 42.4**	**+0.5**
	comp=Z,49nm,0.8s						
AKTO				S	S	16 53 16.2	-13
AKTO	**Aktyubinsk**	**20.65**	**326**	P	**P**	**16 49 42.3**	**+0.4**
AKTO				S	S	16 53 17.2	-12
AKTO				pmax	pmax		
	comp=Z,44nm,0.8s						
AKTO				smax	smax		
	comp=N,4.0nm,0.9s						
AKTO	**Aktyubinsk**	**20.65**	**326**	P	**P**	**16 49 42.3**	**+0.4**
	comp=N,44nm,0.8s,baz=122,slow=9.2,SNR=176						
AKTO				S	S	16 53 17.1	-12
	comp=N,3.6nm,0.9s,baz=16,slow=12,SNR=2.7						
NVS	**Novosibirsk**	**21.14**	**12**	⇓*i*P	**P**	**16 49 45.5**	**-1.5**
NVS				*e*		16 53 33.5	
NVS				pmax	pmax		
	comp=N,36nm,1.1s						
NVS				pmax	pmax		
	comp=Z,46nm,1.1s						
NVS				pmax	pmax		
	comp=E,11nm,0.8s						
HVS	**Khovu-Aksy**	**21.23**	**32**	*c* *i*P	**P**	**16 49 50.5**	**+2.3**
HVS				pmax	pmax		
	comp=Z,50nm,0.9s						
ARU	**Arti**	**25.02**	**337**	*c* *i*P	**P**	**16 50 25.4**	**0.0**
ARU						16 51 00.9	
ARU				S	**S**	**16 54 38.4**	**-6.3**
ARU				pmax	pmax		
	comp=Z,19nm,1.7s						
ARU	**Arti**	**25.02**	**337**	*e*P	**P**	**16 50 25.3**	**-0.1**
	comp=Z,22nm,1.4s						
GNI	**Garni**	**25.28**	**292**	P	**P**	**16 50 28.7**	**+0.5**
GNI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
GNI	**Garni**	**25.28**	**292**	P	**P**	**16 50 28.7**	**+0.5**
	comp=Z,2.7nm,0.3s,baz=68,slow=5.4,SNR=2.9						
ZAK	**Zakamensk**	**25.68**	**43**	*e*

YAK pmax pmax
comp=Z,12nm,1.0s
YAK Yakutsk 43.52 34 *e*P **P 16 53 02.8 -1.7**
comp=Z,11nm,0.7s
ARCES ARCESS Array B 44.61 337 P **P 16 53 14.5 +1.4**
ARCES pmax pmax
comp=Z,9.0nm,1.0s
ARCES ARCESS Array B 44.61 337 P **P 16 53 14.5 +1.4**
comp=Z,9.0nm,1.0s,baz=109,slow=8.1,SNR=12
VRAC Vranov 45.40 308 P **P 16 53 20.5 +0.8**
VRAC pmax pmax
comp=Z,2.0nm,0.6s
VRAC Vranov 45.40 308 P **P 16 53 20.5 +0.8**
comp=Z,2.3nm,0.6s,baz=91,slow=7.6,SNR=5.7
TIXI Tiksi 46.36 20 *e*P **P 16 53 28.2 +1.3**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 46.36 20 *e*P **P 16 53 26.9 0.0**
comp=Z,4.5nm,0.8s
HFS Hagfors 47.14 323 P **P 16 53 33.8 +0.7**
HFS pmax pmax
comp=Z,4.0nm,0.5s
HFS Hagfors 47.14 323 P **P 16 53 33.8 +0.7**
comp=Z,4.0nm,0.5s,baz=96,slow=11,SNR=19
NB2 NORSAR Subarra 48.41 324 P **P 16 53 43.1 +0.1**
comp=Z,3.2nm,0.6s,baz=93,slow=7.9
NOA NORSAR Array B 48.41 324 P **P 16 53 43.4 +0.4**
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA NORSAR Array B 48.41 324 P **P 16 53 43.4 +0.4**
comp=Z,2.9nm,0.6s,baz=94,slow=7.6,SNR=9.4
DAVOX Davos/Dischmat 50.18 305 P **P 16 53 56.1 -0.8**
DAVOX pmax pmax
comp=Z,2.0nm,0.5s
DAVOX Davos/Dischmat 50.18 305 P **P 16 53 56.1 -0.8**
comp=Z,1.8nm,0.5s,baz=137,slow=9.8,SNR=5.3
KMBO Kilima Mbogo 50.48 234 P **P 16 54 01.0 +1.4**
KMBO pmax pmax
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 50.48 234 P **P 16 54 01.0 +1.4**
comp=Z,4.0nm,1.0s,baz=33,slow=11,SNR=6.1
HINF Hinterlalfeld 52.00 307 *e*P **P 16 54 10.1 -0.3**
comp=Z,5.2nm,0.7s
HINF Hinterlalfeld 52.00 307 *e*P **P 16 54 10.1 -0.3**
HINF pmax pmax
comp=Z,5.0nm,0.7s
HINF Hinterlalfeld 52.00 307 *e*P **P 16 54 10.1 -0.3**
comp=Z,5.2nm,0.7s
HAU Haudompre 52.30 307 *e*P **P 16 54 12.4 -0.1**
comp=Z,7.4nm,0.7s
HAU Haudompre 52.30 307 *e*P **P 16 54 12.4 -0.1**
HAU pmax pmax
comp=Z,7.0nm,0.7s
HAU Haudompre 52.30 307 *e*P **P 16 54 12.4 -0.1**
comp=Z,7.4nm,0.7s
LPG La Plagne 52.57 304 *e*P **P 16 54 15.2 +0.2**
comp=Z,15nm,1.0s
LPG La Plagne 52.57 304 *e*P **P 16 54 15.2 +0.2**
LPG pmax pmax
comp=Z,15nm,1.0s
LPG La Plagne 52.57 304 *e*P **P 16 54 15.2 +0.2**
comp=Z,15nm,1.0s
LPL La Plagne 52.58 304 *e*P **P 16 54 15.2 +0.3**
comp=Z,10nm,0.6s
LPL La Plagne 52.58 304 *e*P **P 16 54 15.2 +0.3**
LPL pmax pmax
comp=Z,10.0nm,0.6s
LPL La Plagne 52.58 304 *e*P **P 16 54 15.2 +0.3**
comp=Z,10nm,0.6s
PAGF Fort de Pagny 52.59 308 *e*P **P 16 54 14.1 -0.6**
PAGF Fort de Pagny 52.59 308 *e*P **P 16 54 14.1 -0.6**
CABF La Chapelle 52.77 306 *e*P **P 16 54 16.7 +0.6**
comp=Z,6.5nm,0.7s
CABF La Chapelle 52.77 306 *e*P **P 16 54 16.7 +0.6**
CABF pmax pmax
comp=Z,7.0nm,0.7s
CABF La Chapelle 52.77 306 *e*P **P 16 54 16.7 +0.6**
comp=Z,6.5nm,0.7s
BAIF Baives 53.26 310 *e*P **P 16 54 19.8 +0.3**
BAIF Baives 53.26 310 *e*P **P 16 54 19.8 +0.3**
BAIF Baives 53.26 310 *e*P **P 16 54 19.8 +0.3**
SEY Seymchan 54.05 33 *i*P **P 16 54 27.7 +2.6**
SMF Signal de Mont 54.27 306⇑*i*P **P 16 54 26.7 -0.3**
comp=Z,8.1nm,0.7s
SMF Signal de Mont 54.27 306⇑*i*P **P 16 54 26.7 -0.3**
SMF pmax pmax
comp=Z,8.0nm,0.7s
SMF Signal de Mont 54.27 306⇑*i*P **P 16 54 26.7 -0.3**
comp=Z,8.1nm,0.7s
SSF Saint Saulge 54.39 307 *e*P **P 16 54 27.5 -0.3**
SSF Saint Saulge 54.39 307 *e*P **P 16 54 27.5 -0.3**
SSF Saint Saulge 54.39 307 *e*P **P 16 54 27.5 -0.3**
AVF Avril sur Loir 54.56 306⇑*i*P **P 16 54 28.8 -0.3**
comp=Z,4.9nm,0.5s
AVF Avril sur Loir 54.56 306⇑*i*P **P 16 54 28.8 -0.3**
AVF pmax pmax
comp=Z,5.0nm,0.5s
AVF Avril sur Loir 54.56 306⇑*i*P **P 16 54 28.8 -0.3**
comp=Z,4.9nm,0.5s
TCF Toulx Ste Croi 55.45 306 *e*P **P 16 54 35.6 0.0**
comp=Z,7.2nm,0.7s
TCF Toulx Ste Croi 55.45 306 *e*P **P 16 54 35.6 0.0**
TCF pmax pmax
comp=Z,7.0nm,0.7s
TCF Toulx Ste Croi 55.45 306 *e*P **P 16 54 35.6 0.0**
comp=Z,7.2nm,0.7s
CAF Calviac 55.92 305 *e*P **P 16 54 39.2 +0.2**
comp=Z,11nm,0.8s
CAF Calviac 55.92 305 *e*P **P 16 54 39.2 +0.2**
CAF pmax pmax
comp=Z,11nm,0.8s
CAF Calviac 55.92 305 *e*P **P 16 54 39.2 +0.2**
comp=Z,11nm,0.8s
LDF La Druitiere 56.36 309 *e*P **P 16 54 43.4 +1.4**
LDF La Druitiere 56.36 309 *e*P **P 16 54 43.4 +1.4**
LDF La Druitiere 56.36 309 *e*P **P 16 54 43.4 +1.4**
GRR Gorron 56.88 309 *e*P **P 16 54 45.5 -0.2**
GRR Gorron 56.88 309 *e*P **P 16 54 45.5 -0.2**
GRR Gorron 56.88 309 *e*P **P 16 54 45.5 -0.2**
ETSF Etsaut 58.35 303 *e*P **P 16 54 56.4 +0.2**
ETSF Etsaut 58.35 303 *e*P **P 16 54 56.4 +0.2**
ETSF Etsaut 58.35 303 *e*P **P 16 54 56.4 +0.2**
BILL Bilibino 58.82 26 *e*P **P 16 55 01.3 +2.3**
BILL *e* 16 55 50.5
BILL pmax pmax
comp=Z,3.0nm,0.9s
ESDC Sonseca Array 61.90 301 P **P 16 55 19.6 -0.9**
comp=Z,0.4nm,0.4s,baz=55,slow=6.7,SNR=4.8
TORD Torodi Ar. Bea 69.62 272 P **P 16 56 09.2 -1.2**
comp=Z,5.8nm,0.9s,baz=50,slow=5.7,SNR=30
COLA College 75.39 18⇑*i*P **P 16 56 46.1 +2.2**
COLA pmax pmax
comp=Z,23nm,0.9s
ILAR Eielson Array 75.72 17 P **P 16 56 47.1 +1.3**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 75.72 17 P **P 16 56 47.0 +1.3**
comp=Z,2.4nm,0.8s,baz=314,slow=5.0,SNR=24
WRA Warramunga Arr 77.56 125 P **P 16 56 58.5 +1.6**
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 77.56 125 P **P 16 56 58.5 +1.6**
comp=Z,1.7nm,0.5s,baz=317,slow=6.5,SNR=39
ASAR Alice Springs 79.85 128 P **P 16 57 10.8 +1.4**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 79.85 128 P **P 16 57 10.8 +1.4**
comp=Z,1.5nm,0.8s,baz=310,slow=5.3,SNR=29
YKA Yellowknife Ar 83.13 5 P **P 16 57 27.3 +1.2**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 83.13 5 P **P 16 57 27.3 +1.2**
comp=Z,1.4nm,0.5s,baz=345,slow=5.4,SNR=54

NNC 13 16:54:54.0±3.0,36°.77N×70°.74E,h170km,mb2.5,mpv3.5, 4C-2D,Error ellipse: s-maj=25.4km s-min=15.2km az=166.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.54**	**324**	⇓P	Pn	16 55 36.3	-0.4
DZET				⇑S	Sn	16 56 10.4	+0.4
KK31	**Karatay Array**	**6.33**	**358**	P	Pn	16 56 26.0	+0.7
	2.1nm,0.3s,baz=184,slow=13,SNR=59						
KK31				⇑S	Sn	16 57 37.8	+0.7
	1.3nm,0.3s,baz=194,slow=24,SNR=9.9						
AAK	**Ala-Archa**	**6.54**	**25**	⇑P	Pn	16 56 28.2	+0.1
	2.3nm,0.9s						
AAK				⇓S	Sn	16 57 41.8	-0.4
	2.5nm,0.5s						
AB31	**Akbulak array**	**14.75**	**331**	⇑P	Pn	16 58 14.9	+0.7
	0.2nm,0.4s,baz=150,slow=12,SNR=11						

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*ISCJB **13** 17:05:33.0±0.6,37°.02S±0°.06×73°.3W±0°.1,h10km, mb4.3/13,Error ellipse: s-maj=13.3km s-min=8.5km az=7.8*
*IDC **13** 17:05:32.9±0.8,37°.09S×73°.25W,h0km,mb4.1/9, mb1 4.2/11,mb1mx4.2/19,mbtmp4.1/11,ML3.8/2,Error ellipse: s-maj=29.4km s-min=18.4km az=94.0*
*NEIC **13** 17:05:38.1±1.6,37°.04S×73°.29W,h36km±12km,mb4.7/4, Error ellipse: s-maj=18.5km s-min=8.3km az=85.0*
ISC 13 17:05:34.3±0.6,37°.12S±0°.06×73°.2W±0°.1,h10km,n28, σ1§13/32,mb4.2/13,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.18**	**151**	Pn	**Pn**	**17 06 40.5**	**+2.3**
	2.2nm,0.3s,baz=323,slow=9.5,SNR=40						
PLCA				Lg	Lg	17 07 46.0	
	5.9nm,0.3s,baz=248,slow=19,SNR=2.0						
PLCA	**Paso Flores**	**4.18**	**151**	Pn	**Pn**	**17 06 40.5**	**+2.3**
PLCA				*e*Sn	**Sn**	**17 07 24.3**	**-2.7**
PLCA				Lg	Lg	17 07 46.0	
PLCA				*e*Sg	**Sg**	**17 07 47.4**	**-1.0**
CFAA	**Coronel Fontan**	**6.88**	**38**	Pn	**Pn**	**17 07 15.0**	**-0.2**
	0.4nm,0.3s,baz=209,slow=13,SNR=13						
CFAA				Sn	**Sn**	**17 08 34.0**	**+0.4**
	0.2nm,0.3s,baz=245,slow=19,SNR=1.7						
LCO	**Las Campanas**	**8.36**	**15**	*e*Pn	Pn	17 07 28.4	-7.3
	19nm,0.6s						
LCO				*e*Sn	Sn	17 09 02.6	-7.7
LCO				*e*Sg	Sb	17 09 42.0	+2.8
TRQA	**Tornquist**	**8.99**	**99**	*e*Pn	Pn	17 07 46.8	+2.6
	13nm,0.6s						
LPAZ	**La Paz**	**21.23**	**14**	P	**P**	**17 10 21.7**	**+0.7**
	5.7nm,0.7s,baz=184,slow=6.2,SNR=31						
LPAZ	**La Paz**	**21.23**	**14**	P	**P**	**17 10 21.7**	**+0.7**
LPAZ				*e*Pn	**P**	**17 10 21.8**	**+0.7**
SIV	**San Ignacio**	**23.64**	**30**	P	**P**	**17 10 45.7**	**-0.1**
	5.0nm,0.7s,baz=244,slow=12,SNR=16						
NNA	**Nana**	**25.23**	**352**	Pn	**P**	**17 10 58.3**	**-2.1**
SAML	**Samuel**	**29.48**	**21**	*e*P	**P**	**17 11 37.5**	**-1.1**
	1.9nm,0.8s						
BDFB	**Brasilia**	**30.94**	**53**	P	**P**	**17 11 53.7**	**+2.0**
	2.0nm,0.6s,baz=222,slow=14,SNR=3.2						
OTAV	**Otavalo**	**37.48**	**351**	P	**P**	**17 12 48.6**	**-0.1**
	12nm,1.5s						
SNAA	**Sanae**	**49.09**	**157**	*e*P	**P**	**17 14 21.9**	**+0.4**
	12nm,1.0s						
FDF	**Fort de France**	**52.81**	**15**	*e*P	**P**	**17 14 49.3**	**-0.6**
	84nm,1.2s						
QSPA	**South Pole Qui**	**53.13**	**180**	P	**P**	**17 14 53.2**	**+1.3**
	1.9nm,0.5s,baz=152,slow=7.0,SNR=17						
TXAR	**Lajitas Array**	**72.00**	**332**	P	**P**	**17 16 58.7**	**+0.5**
	0.6nm,0.6s,baz=152,slow=8.2,SNR=7.8						
DBIC	**Dimbokro**	**77.10**	**71**	P	**P**	**17 17 27.8**	**-0.4**
	4.9nm,0.6s,baz=239,slow=3.5,SNR=6.6						
BOSA	**Boshof**	**79.49**	**118**	P	**P**	**17 17 41.1**	**-0.3**
	3.3nm,0.8s,baz=258,slow=3.7,SNR=3.8						
PDAR	**Pinedale Array**	**86.11**	**334**	P	**P**	**17 18 15.6**	**+0.2**
	0.5nm,0.9s,baz=134,slow=4.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**86.18**	**71**	P	**P**	**17 18 15.3**	**-0.8**
	0.7nm,0.7s,baz=221,slow=5.0,SNR=3.7						
TORD				PP	PP	17 21 43.4	+6.5
	0.9nm,1.1s,baz=250,slow=4.3,SNR=3.8						
WRA	**Warramunga Arr**	**117.57**	**209**	PKP	**PKPdf**	**17 24 20.0**	**-0.9**
	0.5nm,0.8s,baz=164,slow=1.8,SNR=6.5						
BRTR	**Keskin Array B**	**124.16**	**63**	PKP	**PKPdf**	**17 24 32.7**	**-0.4**
	0.8nm,0.7s,baz=259,slow=1.5,SNR=4.7						
ABKAR	**Akbulak array**	**144.32**	**55**	*e*PKPdf	PKPbc	17 25 08.0	-0.5
BRVK	**Borovoye**	**150.11**	**46**	*e*PKPbc	**PKPbc**	**17 25 24.5**	**-0.1**
AAK	**Ala-Archa**	**154.73**	**67**	*e*PKPdf	**PKPdf**	**17 25 26.9**	**-0.1**
AAK				*e*PKPbc	**PKPbc**	**17 25 35.2**	**-0.3**
ZALV	**Zalesovo Beam**	**157.36**	**35**	PKP	**PKPdf**	**17 25 28.9**	**-0.9**
	0.4nm,0.4s,baz=343,slow=1.5,SNR=5.8						
ZALV				PKPab	**PKPab**	**17 26 01.2**	**0.0**
	1.6nm,0.6s,baz=328,slow=5.3,SNR=7.1						
MKAR	**Makanchi Array**	**159.46**	**54**	PKP	**PKPdf**	**17 25 32.2**	**-0.4**
	0.3nm,0.5s,baz=17,slow=1.3,SNR=5.1						
MKAR				PKPab	**PKPab**	**17 26 10.1**	**-0.6**
	0.8nm,0.8s,baz=289,slow=3.7,SNR=8.0						
SONM	**Songino Array**	**169.28**	**1**	PKPab	**PKPab**	**17 26 54.3**	**+0.5**
	0.5nm,0.9s,baz=339,slow=4.0,SNR=4.3						

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*NIED **13** 17:28:00,28°.70N×142°.70E,h5km,Mw4.1 Best double couple: M0=1.46000×10^15 NP1:φ=151.00000°,δ32.00000°, λ63.00000°. NP2:φ=2.00000°,δ62.00000°,λ106.00000°.*
*BJI **13** 17:28:18.6,28°.36N×142°.92E,h20km,mB4.8/9,mb4.3/15, Ms4.4/5,Ms7 4.3/2*
*IDC **13** 17:28:20.4±0.6,28°.61N×142°.76E,h0km,mb4.0/24, mb1 4.1/27,mb1mx4.1/52,mbtmp4.0/27,ML3.6/3,Error ellipse: s-maj=18.5km s-min=11.4km az=92.0*
*JMA **13** 17:28:20.2±0.1,28°.70N×142°.71E,h8km,M4.5*
*ISCJB **13** 17:28:22.8±0.4,28°.72N±0°.03×142°.65E±0°.07,h25km, mb4.1/32,Error ellipse: s-maj=9.2km s-min=3.6km az=175.6*
*NEIC **13** 17:28:23.3±2.9,28°.62N×142°.77E,h19km±18km,mb4.4/10, Error ellipse: s-maj=8.7km s-min=5.0km az=92.0*
ISC 13 17:28:24.6±0.5,28°.70N±0°.05×142°.62E±0°.09,h25km,n77, σ1§34/90,mb4.1/32,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.64**	**194**	P	**Pn**	**17 28 50.0**	**-1.9**
CBIJ				*e*S	**Sn**	**17 29 11.5**	**-0.7**
CBIJ	**Chichi jima**	**1.64**	**194**	*e*Pn	**Pn**	**17 28 50.0**	**-1.9**
CBIJ				Sn	**Sn**	**17 29 11.2**	**-1.1**
JCJ	**Chichijima**	**1.64**	**194**	Pn	**Pn**	**17 28 50.1**	**-1.8**
	15nm,0.3s,baz=299,slow=19,SNR=17						
JCJ				Sn	**Sn**	**17 29 11.2**	**-1.1**
	82nm,0.3s,baz=96,slow=22,SNR=8.5						
JHJ2	**Mitsune**	**5.02**	**332**	*e*S	**Sn**	**17 30 35.6**	**+0.1**
JHJ2	**Mitsune**	**5.02**	**332**	Pn	Pn	17 29 32.5	-5.8
JHJ2				*e*Sn	**Sn**	**17 30 32.1**	**-3.4**
BSO3	**Boso 3**	**6.35**	**344**	P	**Pn**	**17 29 56.7**	**+0.4**
BSO3				*e*S	**Sn**	**17 31 07.9**	**+0.1**
JOD2	**Odawara 2**	**7.20**	**336**	P	**Pn**	**17 30 09.1**	**+0.8**
JHMK	**Hamakita**	**7.37**	**327**	P	**Pn**	**17 30 11.9**	**+1.4**
JHU	**Hanno**	**7.67**	**339**	P	**Pn**	**17 30 14.5**	**-0.3**
JHU				*e*S	**Sn**	**17 31 37.4**	**-3.5**
JRY	**Ryogami san**	**7.95**	**338**	P	**Pn**	**17 30 19.5**	**+0.9**
JRY				*e*S	**Sn**	**17 31 46.4**	**-1.3**
JAG	**Ashikaga**	**8.16**	**342**	P	**Pn**	**17 30 21.7**	**+0.3**
JAG				*e*S	**Sn**	**17 31 48.4**	**-4.4**
MJAR	**Matsushiro Arr**	**8.66**	**336**	Pn	**Pn**	**17 30 29.1**	**+0.7**
	2.1nm,0.3s,baz=141,slow=15,SNR=37						
MJAR				Sn	**Sn**	**17 32 06.6**	**+1.4**
	0.9nm,0.3s,baz=8.6,slow=24,SNR=4.5						
MAJO	**Matsushiro**	**8.66**	**336**	*e*Pn	**Pn**	**17 30 29.2**	**+0.8**
MAJO				*e*Sn	**Sn**	**17 32 04.4**	**-0.8**
MAT	**Matsushiro**	**8.66**	**336**	P	**Pn**	**17 30 29.1**	**+0.7**
MAT				*e*S	**Sn**	**17 32 03.5**	**-1.8**
KSRS	**Korea Array**	**15.09**	**309**	Pn	**Pn**	**17 31 58.7**	**+2.6**
	0.3nm,0.3s,baz=115,slow=12,SNR=10						
KSAR	**Wonju Array Be**	**15.11**	**309**	Pn	**Pn**	**17 31 58.7**	**+2.4**
USRK	**Ussuriysk Ar.**	**17.65**	**334**	P	**P**	**17 32 31.0**	**+1.4**
	0.3nm,0.3s,baz=135,slow=8.7,SNR=4.8						
MDJ	**Mudanjiang**	**18.98**	**330**	P	P	17 32 39.4	-4.8
YHNB	**Yeheng**	**19.40**	**263**	P	**P**	**17 32 48.9**	**-0.1**
	56nm,1.5s						
SSLB	**Suanglung**	**20.03**	**261**	*e*P	Pn	17 32 58.6	+0.8
	24nm,1.1s						
CN2	**Changchun**	**20.41**	**322**	*e*P	Pn	17 33 02.8	+0.9
HHC	**Hu-ho-hao-te**	**28.10**	**304**	*e*P	**P**	**17 34 14.4**	**-0.1**
HHC				sP	**sP**	**17 34 24.9**	**-0.1**
HHC				PP	**PnPn**	**17 35 05.4**	**+3.0**
HHC				PcP	**PcP**	**17 37 28.0**	**-0.4**
HHC				S	**S**	**17 38 54.5**	**-3.5**
HHC				PcS	**PcS**	**17 41 11.8**	**+1.2**
HHC				PMZ			
	22nm,0.7s						
HHC				PMZ			
	310nm,4.7s						
HHC				LN			
	320nm,12.5s						
HHC				LE			
	270nm,11.4s						
HHC				LZ			
	260nm,12.1s						
LZH	**Lanzhou**	**33.40**	**293**	*e*P	P	17 34 58.3	-3.1
LZH				PMZ			
	13nm,1.0s						
ULN	**Ulaanbaatar**	**33.45**	**315**	*e*P	**P**	**17 35 01.9**	**+0.2**
	2.9nm,1.1s						
SONM	**Songino Array**	**33.85**	**314**	P	**P**	**17 35 06.0**	**+0.9**
	0.7nm,0.5s,baz=126,slow=8.5,SNR=7.3						
SEY	**Seymchan**	**34.83**	**8**	P	**P**	**17 35 14.1**	**+0.9**
	0.3nm,0.2s,baz=189,slow=7.2,SNR=4.8						
GTA	**Gaotai**	**36.74**	**298**	*e*P	**P**	**17 35 30.1**	**0.0**
GTA				pP	**pP**	**17 35 34.5**	**-3.1**
GTA				sP	**sP**	**17 35 37.1**	**-3.6**
GTA				PMZ			
	2.0nm,1.1s						
KAPI	**Kappang**	**40.10**	**217**	*e*P	**P**	**17 35 59.5**	**+1.1**
	4.3nm,0.8s						
KSM	**Kuching**	**41.03**	**235**	P	**P**	**17 36 06.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**41.12**	**266**	P	**P**	**17 36 08.2**	**+1.4**
	0.4nm,0.3s,baz=76,slow=7.6,SNR=4.8						
BILL	**Bilibino**	**41.81**	**13**	P	**P**	**17 36 10.9**	**-1.0**
	1.3nm,0.8s						
BATI	**Baumata**	**42.80**	**208**	P	**P**	**17 36 19.5**	**-1.0**
	4.7nm,0.4s,baz=70,slow=2.5,SNR=6.6						
WMQ	**Urumqi**	**45.97**	**305**	*e*P	**P**	**17 36 46.9**	**+1.1**
WMQ				PMZ			
	3.0nm,1.4s						
WMQ				PMZ			
	61nm,4.0s						
WMQ				LN			
	78nm,22.0s						
WMQ				LE			
	56nm,22.0s						
KULM	**Kulim**	**46.04**	**248**	P	**P**	**17 36 46.4**	**-0.2**
	3.5nm,0.7s						
TAPN	**Taplejung**	**48.13**	**282**	*e*P	**P**	**17 37 03.7**	**+0.6**
	3.3nm,0.5s						
ODAN	**Odare**	**48.53**	**282**	*e*P	**P**	**17 37 06.0**	**-0.1**
	4.8nm,0.4s						
ZAA0	**Zalesovo Array**	**48.55**	**318**	*e*P	**P**	**17 37 06.6**	**+1.1**
ZALV	**Zalesovo Beam**	**48.55**	**318**	P	**P**	**17 37 06.6**	**+1.1**
	1.5nm,0.4s,baz=90,slow=8.4,SNR=11						
WRAB	**Tennant Creek**	**49.00**	**190**	*e*P	**P**	**17 37 08.2**	**-1.2**
	6.0nm,0.6s						
WB2	**Warramunga Arr**	**49.01**	**190**	*e*P	**P**	**17 37 08.1**	**-1.3**
WRA	**Warramunga Arr**	**49.01**	**190**	P	**P**	**17 37 08.3**	**-1.2**
	4.7nm,0.6s,baz=13,slow=8.6,SNR=47						
RAMN	**Ramite**	**49.19**	**282**	*e*P	**P**	**17 37 11.3**	**+0.1**
JIRN	**Jiri**	**49.35**	**283**	*e*P	**P**	**17 37 12.6**	**+0.1**
	10nm,0.6s						
GUN	**Gumba**	**49.55**	**283**	*e*P	**P**	**17 37 14.2**	**+0.2**
	12nm,0.7s						
MK01	**Makanchi Array**	**49.76**	**309**	*e*P	**P**	**17 37 15.3**	**+0.3**
MKAR	**Makanchi Array**	**49.77**	**309**	P	**P**	**17 37 15.4**	**+0.3**
	0.6nm,0.5s,baz=82,slow=8.7,SNR=9.8						
PKI	**Pulchoki**	**50.04**	**283**	*e*P	**P**	**17 37 17.4**	**-0.4**
KKN	**Kakani**	**50.09**	**284**	*e*P	**P**	**17 37 18.1**	**+0.1**
GKN	**Gorkha**	**50.59**	**284**	*e*P	**P**	**17 37 21.8**	**+0.1**
DANN	**Dangsing**	**51.24**	**285**	*e*P	**P**	**17 37 27.2**	**+0.4**
	31nm,1.1s						
KURK	**Kurchatov**	**52.15**	**314**	*e*P	**P**	**17 37 33.4**	**+0.5**
	5.8nm,1.2s						
KURBB	**Kurchatov Arra**	**52.21**	**314**	P	**P**	**17 37 34.4**	**+1.1**
	3.5nm,0.5s,baz=91,slow=7.6,SNR=23						
ASAR	**Alice Springs**	**52.73**	**190**	P	**P**	**17 37 36.0**	**-1.4**
	0.5nm,0.5s,baz=9.5,slow=5.4,SNR=13						
TKM2	**Tokmak 2**	**54.83**	**304**	P	**P**	**17 37 52.8**	**-0.2**
AAK	**Ala-Archa**	**55.67**	**304**	P	**P**	**17 37 59.7**	**+0.8**
	0.5nm,0.3s,baz=96,slow=9.2,SNR=3.8						
AAK	**Ala-Archa**	**55.67**	**304**	P	**P**	**17 37 58.5**	**-0.5**
ILAR	**Eielson Array**	**56.13**	**29**	P	**P**	**17 38 00.9**	**-0.7**
	0.6nm,0.7s,baz=258,slow=6.1,SNR=8.5						
BVAR	**Borovoye Array**	**57.14**	**317**	P	**P**	**17 38 10.0**	**+0.9**
	2.3nm,0.5s,baz=97,slow=7.5,SNR=23						
BRVK	**Borovoye**	**57.20**	**317**	*e*P	**P**	**17 38 10.4**	**+1.0**
	2.6nm,0.8s						
KKAR	**Karatay Array**	**58.47**	**305**	*e*P	**P**	**17 38 19.1**	**+0.5**
STKA	**Stephens Creek**	**60.25**	**181**	P	**P**	**17 38 31.4**	**+0.7**
	1.5nm,0.9s,baz=340,slow=12,SNR=2.3						
INK	**Inuvik**	**61.42**	**25**	P	**P**	**17 38 38.3**	**0.0**
	1.2nm,0.6s,baz=300,slow=6.2,SNR=9.2						
ABKAR	**Akbulak array**	**64.26**	**314**	*e*P	**P**	**17 38 58.5**	**+0.9**
AKTO	**Aktyubinsk**	**65.16**	**315**	P	**P**	**17 39 04.3**	**+0.9**
	2.7nm,0.6s,baz=92,slow=6.1,SNR=12						
YKA	**Yellowknife Ar**	**70.55**	**29**	P	**P**	**17 39 36.9**	**-0.2**
	0.1nm,0.3s,baz=294,slow=6.3,SNR=4.5						
FINES	**FINESS Array B**	**76.69**	**334**	P	**P**	**17 40 13.3**	**+0.1**
	0.5nm,0.4s,baz=90,slow=5.7,SNR=8.0						
KBZ	**Khabaz**	**77.20**	**313**	P	**P**	**17 40 17.1**	**+0.6**
	1.9nm,0.8s,baz=156,slow=3.1,SNR=6.3						
NVAR	**Mina Array Bea**	**79.23**	**52**	P	**P**	**17 40 28.4**	**+0.3**
	1.0nm,0.7s,baz=282,slow=8.3,SNR=3.7						
AKASG	**Malin Array Be**	**81.56**	**324**	P	**P**	**17 40 40.1**	**0.0**
	0.5nm,0.5s,baz=54,slow=5.4,SNR=1.9						
HFS	**Hagfors**	**82.11**	**337**	P	**P**	**17 40 43.0**	**+0.2**
	2.0nm,1.0s,baz=57,slow=5.3,SNR=4.0						
HFS	**Hagfors**	**82.11**	**337**	P	**P**	**17 40 43.0**	**+0.2**
NB2	**NORSAR Subarra**	**82.27**	**338**	P	**P**	**17 40 43.7**	**0.0**
	comp=Z,5.4nm,1.4s,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**82.27**	**338**	P	**P**	**17 40 43.9**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=44,slow=5.0,SNR=3.1						
RAYN	**Ar Rayn**	**84.86**	**294**	*e*P	**P**	**17 40 59.1**	**+1.4**
	comp=Z,7.7nm,0.7s						
BRTR	**Keskin Array B**	**85.20**	**313**	P	**P**	**17 40 58.6**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=86,slow=3.4,SNR=4.7						
BR231	**Keskin MP Arra**	**85.69**	**313**	*e*P	**P**	**17 41 01.4**	**-0.2**
TXAR	**Lajitas Array**	**94.34**	**53**	P	**P**	**17 41 42.5**	**0.0**
	comp=Z,0.4nm,0.8s,baz=310,slow=3.4,SNR=3.1						

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*NEIC **13** 17:29:50.0±0.7,16°.18S×69°.68W,h192km±6km,mb4.1/4, Error ellipse: s-maj=10.5km s-min=8.2km az=217.0*
*ISCJB **13** 17:29:50.1±0.5,16°.16S±0°.08×69°.63W±0°.06,h213km, mb3.9/11,Error ellipse: s-maj=12.0km s-min=7.3km az=20.1*
*IDC **13** 17:29:50.9±0.9,16°.11S×69°.61W,h197km±6km,mb3.8/11, mb1 3.9/14,mb1mx3.7/26,mbtmp4.3/14,MS3.8/2, Ms1 3.8/2,ms1mx2.9/37,Error ellipse: s-maj=24.8km s-min=11.2km az=21.0*
ISC 13 17:29:51.5±0.6,16°.15S±0°.1×69°.66W±0°.07,h213km,n29, σ1§91/34,mb4.0/11,Peru-Bolivia border region

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

3.4nm,0.5s,baz=226,slow=5.7,SNR=9.2
PDAR Pinedale Array 69.12 330 P **P 17 40 36.1 +1.2**
0.2nm,0.4s,baz=117,slow=9.3,SNR=5.0
ULM Lac du Bonnet 70.00 342 P **P 17 40 39.8 0.0**
5.4nm,0.5s,baz=150,slow=5.8,SNR=11
TORD Torodi Ar. Bea 76.29 72 P **P 17 41 17.3 -0.1**
2.3nm,0.4s,baz=267,slow=4.8,SNR=33
ESDC Sonseca Array 82.53 45 P **P 17 41 52.3 +1.7**
0.1nm,0.3s,baz=254,slow=5.2,SNR=3.1
YKA Yellowknife Ar 85.90 341 P **P 17 42 08.1 +1.2**
1.2nm,0.6s,baz=136,slow=4.7,SNR=32
INK Inuvik 95.66 340 P **P 17 42 53.5 +1.2**
0.6nm,0.6s,baz=132,slow=5.2,SNR=3.2
URZ Urewera 97.38 227 LR LR 18 18 06.5
comp=Z,72nm,20.7s,baz=7.0,slow=30
ASAR Alice Springs 134.24 211 PKP **PKPdf 17 48 45.2 +0.6**
0.2nm,0.5s,baz=124,slow=1.8,SNR=4.8
WRA Warramunga Arr 137.10 214 PKP **PKPdf 17 48 50.7 +0.6**
0.4nm,0.5s,baz=139,slow=1.6,SNR=10
WRA SKPbc **SKPbc 17 52 04.9 +1.9**
0.8nm,0.8s,baz=148,slow=2.6,SNR=6.8
ZALV Zalesovo Beam 137.33 22 PKP **PKPdf 17 48 51.2 +1.9**
0.7nm,0.6s,baz=315,slow=3.4,SNR=4.0
ZALV SKPbc **SKPbc 17 52 04.3 +1.8**
0.8nm,0.8s,baz=282,slow=2.8,SNR=2.5
MKAR Makanchi Array 141.56 31 PKP **PKPdf 17 49 00.2 +2.9**
0.1nm,0.5s,baz=108,slow=0.5,SNR=2.3
MKAR SKPbc **SKiKP 17 52 18.3 +2.2**
0.7nm,0.7s,baz=338,slow=1.3,SNR=10.0
USRK Ussuriysk Ar. 146.54 331 PKPbc **PKPab 17 49 08.9 -0.4**
2.7nm,0.6s,baz=47,slow=4.5,SNR=5.9
MJAR Matsushiro Arr 147.98 315 PKPbc **PKPab 17 49 13.8 -1.5**
0.3nm,0.3s,baz=88,slow=3.0,SNR=5.7
SONM Songino Array 148.20 5 PKPbc **PKPab 17 49 14.3 -1.6**
2.4nm,0.6s,baz=315,slow=1.9,SNR=20

*IDC **13** 17:35:58.9±0.7, 16°.81S×173°.06W, h0km, mb4.1/12, mb1 4.4/12, mb1mx4.1/40, mbtmp4.1/12, MS3.8/3, Ms1 3.8/3, ms1mx3.2/42, Error ellipse: s-maj=28.4km s-min=17.7km az=133.0*
*NEIC **13** 17:36:00.6±0.5, 16°.83S×173°.03W, h15km, mb4.8/7, Error ellipse: s-maj=21.3km s-min=12.4km az=128.0*
*ISCJB **13** 17:36:02.8±0.5, 16°.8S±0°.1×173°.1W±0°.1, h41km, mb4.3/17, MS3.7/3, Error ellipse: s-maj=20.1km s-min=12.1km az=39.1*
ISC 13 17:36:04.5±0.6, 16°.8S±0°.1×173°.1W±0°.2, h41km, n36, σ1ˢ35/32, mb4.3/17, MS3.7/3, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.14**	**24**	*e*Pn	Pn	17 36 43.7	-7.9
PPT	**Papeete**	**22.45**	**95**	LR	LR	17 47 30.9	
	comp=Z,90nm,19.1s,baz=278,slow=31						
URZ	**Urewera**	**23.05**	**200**	P	**P**	**17 41 05.8**	**-0.4**
	14nm,0.7s,baz=357,slow=13,SNR=9.2						
URZ	**Urewera**	**23.05**	**200**	*e*P	**P**	**17 41 05.0**	**-1.3**
	45nm,1.2s						
HNR	**Honiara**	**27.26**	**282**	LR	LR	17 51 02.9	
	comp=Z,199nm,18.6s,baz=102,slow=33						
STKA	**Stephens Creek**	**43.63**	**241**	P	**P**	**17 44 04.7**	**-0.5**
	2.4nm,0.9s,baz=96,slow=5.7,SNR=6.4						
WRAB	**Tennant Creek**	**49.84**	**258**	P	**P**	**17 44 53.2**	**-0.7**
	7.0nm,1.1s						
WRA	**Warramunga Arr**	**49.85**	**258**	P	**P**	**17 44 52.7**	**-1.3**
	2.2nm,0.6s,baz=95,slow=7.2,SNR=26						
AS31	**Alice Springs**	**49.99**	**253**	*e*P	**P**	**17 44 54.6**	**-0.5**
ASAR	**Alice Springs**	**49.99**	**253**	P	**P**	**17 44 54.8**	**-0.4**
	6.1nm,0.7s,baz=89,slow=8.6,SNR=64						
SBA	**Scott Base**	**61.88**	**185**	*e*P	**P**	**17 46 19.9**	**+0.7**
	2.6nm,0.8s						
MJAR	**Matsushiro Arr**	**70.22**	**320**	P	**P**	**17 47 14.4**	**+1.0**
	2.3nm,1.0s,baz=168,slow=5.3,SNR=4.5						
FX1	**Attu Island--F**	**70.42**	**351**	LR	LR	18 14 28.3	
	comp=Z,125nm,18.7s,baz=168,slow=33						
QSPA	**South Pole Qui**	**73.24**	**180**	P	**P**	**17 47 32.7**	**+1.4**
	2.2nm,0.7s,baz=42,slow=9.8,SNR=4.8						
QSPA	**South Pole Qui**	**73.24**	**180**	*e*P	**P**	**17 47 30.3**	**-1.0**
	6.0nm,1.0s						
NVAR	**Mina Array Bea**	**75.16**	**42**	P	**P**	**17 47 43.1**	**+0.1**
	0.3nm,0.3s,baz=234,slow=10,SNR=2.9						
KSRS	**Korea Array**	**77.38**	**316**	P	**P**	**17 47 57.1**	**+1.8**
	1.3nm,0.9s,baz=123,slow=4.6,SNR=5.7						
KSAR	**Wonju Array Be**	**77.40**	**316**	P	**P**	**17 47 57.1**	**+1.7**
TXAR	**Lajitas Array**	**81.13**	**56**	P	**P**	**17 48 17.5**	**+1.4**
	0.5nm,0.8s,baz=211,slow=7.0,SNR=5.5						
NEW	**Newport**	**81.69**	**34**	P	**P**	**17 48 17.2**	**-1.4**
MCK	**McKinley**	**82.44**	**11**	*e*P	**P**	**17 48 21.0**	**-1.1**
	8.6nm,1.0s						
PDAR	**Pinedale Array**	**83.10**	**42**	P	**P**	**17 48 25.0**	**-1.3**
	0.8nm,0.3s,baz=137,slow=20,SNR=6.6						
COLA	**College**	**83.68**	**11**	*e*P	**P**	**17 48 28.7**	**+0.2**
	7.7nm,1.0s						
ILAR	**Eielson Array**	**83.76**	**11**	P	**P**	**17 48 28.5**	**-0.4**
	0.5nm,0.7s,baz=230,slow=5.4,SNR=7.4						
BILL	**Bilibino**	**85.94**	**352**	P	**P**	**17 48 36.8**	**-3.0**
	11nm,1.5s						
CMAR	**Chiang Mai Arr**	**93.36**	**288**	P	**P**	**17 49 17.8**	**+1.9**
	1.3nm,1.0s,baz=108,slow=2.9,SNR=8.4						
MKAR	**Makanchi Array**	**112.04**	**314**	PKiKP	**PKiKP**	**17 54 35.6**	**+0.1**
	0.7nm,1.0s,baz=106,slow=0.9,SNR=4.1						
CLL	**Collm**	**145.24**	**353**	*e*PKPbc	**PKPbc**	**17 55 37.0**	**-0.4**
BRG	**Berggiesshubel**	**145.56**	**352**	*e*PKP	**PKPab**	**17 55 41.7**	**+3.0**
	5.4nm,1.1s						
DPC	**Dobruska-Polom**	**145.70**	**349**	*e*PKP	**PKPab**	**17 55 39.5**	**+0.2**
DPC				*ex*	x	17 55 48.2	
OKC	**Ostrava-Krasne**	**145.83**	**347**	*e*PKP	**PKPab**	**17 55 42.3**	**+2.6**
PRU	**Pruhonice**	**146.34**	**351**	*e*PKP	**PKPbc**	**17 55 40.6**	**-0.2**
KHC	**Kasperske Hory**	**147.31**	**352**	*e*PKP	**PKPab**	**17 55 45.8**	**+0.3**
BRTR	**Keskin Array B**	**147.44**	**320**	PKPbc	**PKPab**	**17 55 46.0**	**-0.5**
	3.6nm,0.9s,baz=122,slow=2.2,SNR=14						
GERES	**GERESS Array B**	**147.57**	**352**	PKPbc	**PKPbc**	**17 55 45.1**	**+0.6**
	0.5nm,0.8s,baz=54,slow=6.8,SNR=4.1						
FETA	**Feichten**	**149.71**	**355**	↑*p*PKPbc	**PKPab**	**17 55 54.1**	**-1.3**
	7.0nm,1.1s						

*IDC **13** 17:43:12.6±1.1, 37°.29S×73°.84W, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, ML3.2/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/25, Error ellipse: s-maj=36.6km s-min=17.4km az=74.0*
*ISCJB **13** 17:43:16.1±0.9, 37°.27S±0°.08×73°.7W±0°.2, h33km, mb3.9/6, MS3.4/1, Error ellipse: s-maj=20.2km s-min=11.6km az=173.6*
*NEIC **13** 17:43:17.6±0.7, 37°.29S×73°.78W, h35km, mb4.6/2, Error ellipse: s-maj=17.4km s-min=10.1km az=83.0*
ISC 13 17:43:17.7±1.0, 37°.31S±0°.09×73°.8W±0°.2, h35km, n18, σ0ˢ82/15, mb4.1/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.25**	**144**	Pn	**Pn**	**17 44 18.7**	**-1.2**
	0.6nm,0.3s,baz=308,slow=14,SNR=7.6						
PLCA				Lg	Lg	17 45 29.9	
	baz=261,slow=17						
PLCA	**Paso Flores**	**4.25**	**144**	Pn	**Pn**	**17 44 18.7**	**-1.2**
PLCA				*e*Sn	Sn	17 44 58.5	-10
PLCA				*e*Sg		17 45 25.4	
PLCA				Lg	Lg	17 45 29.9	
CFAA	**Coronel Fontan**	**7.31**	**40**	Pn	**Pn**	**17 45 00.6**	**-1.5**
	0.1nm,0.3s,baz=220,slow=14,SNR=10						
LCO	**Las Campanas**	**8.68**	**18**	Pn	Pn	17 45 15.2	-5.7
TRQA	**Tornquist**	**9.40**	**98**	Pn	**Pn**	**17 45 31.4**	**+0.8**
EFI	**East Falkland**	**18.17**	**147**	*e*Pn	**P**	**17 47 27.6**	**+0.7**
LPAZ	**La Paz**	**21.54**	**15**	P	**P**	**17 48 04.5**	**0.0**
	1.3nm,0.7s,baz=196,slow=14,SNR=5.0						
ATAH	**Atahualpa**	**30.33**	**351**	LR	LR	17 58 44.0	
	comp=Z,77nm,18.5s,baz=305,slow=31						
JTS	**JuntasAbangare**	**48.50**	**345**	P	P	17 51 52.2	-4.8
SNAA	**Sanae**	**49.09**	**157**	P	**P**	**17 52 01.6**	**+0.5**
	2.6nm,0.9s,baz=272,slow=11,SNR=3.5						
SNAA	**Sanae**	**49.09**	**157**	P	**P**	**17 52 01.4**	**+0.2**
	7.4nm,1.0s						
QSPA	**South Pole Qui**	**52.93**	**180**	P	**P**	**17 52 30.3**	**+0.1**
	1.3nm,0.9s,baz=144,slow=5.0,SNR=5.2						
QSPA	**South Pole Qui**	**52.93**	**180**	*e*P	**P**	**17 52 30.3**	**+0.1**
	5.9nm,1.0s						
TXAR	**Lajitas Array**	**71.97**	**333**	P	**P**	**17 54 38.0**	**+0.4**
	0.1nm,0.6s,baz=160,slow=6.7,SNR=2.8						
BOSA	**Boshof**	**79.79**	**118**	P	**P**	**17 55 23.6**	**+1.0**
	4.2nm,0.9s,baz=254,slow=6.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**86.67**	**71**	P	**P**	**17 55 58.1**	**+0.1**
	0.6nm,0.7s,baz=250,slow=4.6,SNR=4.4						
ABKAR	**Akbulak array**	**144.80**	**55**	*e*PKPdf	**PKPab**	**18 02 48.7**	**-0.6**
MKAR	**Makanchi Array**	**159.94**	**54**	PKPab	**PKPab**	**18 03 52.2**	**0.0**
	0.5nm,0.8s,baz=291,slow=4.8,SNR=5.9						

MAN 13 17:48:45.6±0.58N×126°.05E, h20km, mb4.7, ML3.6, MS3.5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.42**	**30**	*e*P	Pn	17 48 55.6	-0.3
MATI				*e*S	Sn	17 49 03.5	+0.4
BUKP	**Musuan**	**1.62**	**323**	*e*P	Pn	17 49 13.1	+0.5
BIPH	**Bislig**	**1.63**	**111**	↑*e*P	Pn	17 49 13.3	+0.8
BIPH				*e*S	Sb	17 49 35.2	+0.8
CTBH	**Cotabato--PC H**	**1.90**	**290**	↑*i*P	Pn	17 49 16.5	+0.2
CGP	**Cagayan de Oro**	**2.30**	**324**	*e*P	Pn	17 49 22.3	+0.5
BUTP	**Butuan**	**2.41**	**350**	*e*P	Pb	17 49 25.7	-2.1
PAGZ	**Pagadian**	**2.93**	**296**	*e*P	Pn	17 49 32.7	+2.2

*ISCJB **13** 18:01:57.3±1.3, 22°.4N±0°.1×12°.2W±0°.2, h10km, mb3.2/4, Error ellipse: s-maj=32.6km s-min=13.2km az=146.3*
*IDC **13** 18:01:57.4±1.9, 22°.46N×12°.39W, h0km, mb3.3/4, mb1 3.5/6, mb1mx3.3/28, mbtmp3.4/6, ML3.4/2, Error ellipse: s-maj=58.2km s-min=33.8km az=67.0*
ISC 13 18:01:57.7±1.5, 22°.2N±0°.2×12°.3W±0°.2, h10km, n8, σ0ˢ96/8, mb3.3/4, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.06**	**122**	Pn	**P**	**18 05 47.0**	**-0.3**
	0.1nm,0.3s,baz=311,slow=12,SNR=4.6						
TORD				Sn	**Sn**	**18 08 41.6**	**-0.5**
	0.1nm,0.3s,baz=305,slow=23,SNR=4.6						
DBIC	**Dimbokro**	**17.05**	**154**	P	**P**	**18 05 58.8**	**+0.7**
	0.2nm,0.3s,baz=329,slow=12,SNR=3.0						
I17CI	**DIMBOKRO INFRA**	**17.05**	**154**	*i*		19 51 50.0	
	baz=336,slow=316,SNR=1.1						
GERES	**GERESS Array B**	**33.61**	**31**	P	**P**	**18 08 38.1**	**-0.2**
	0.3nm,0.5s,baz=221,slow=10,SNR=2.8						
KURBB	**Kurchatov Arra**	**73.62**	**42**	P	**P**	**18 13 32.0**	**+0.7**
	0.2nm,0.6s,baz=282,slow=4.6,SNR=3.9						
YKA	**Yellowknife Ar**	**76.04**	**332**	P	**P**	**18 13 44.4**	**-0.6**
	0.1nm,0.5s,baz=66,slow=5.5,SNR=2.9						
MKAR	**Makanchi Array**	**77.11**	**45**	P	**P**	**18 13 52.9**	**+1.4**
	0.1nm,0.5s,baz=270,slow=7.2,SNR=3.1						
ASAR	**Alice Springs**	**148.84**	**99**	PKPbc	**PKPab**	**18 21 49.3**	**-1.0**
	0.4nm,0.9s,baz=282,slow=2.5,SNR=3.7						

*BKK **13** 18:02:58.2±1.1, 19°.N±9°.×9°.5E±°, h10km, M4.3/8, mb3.9/2, mB4.2/1, MLv4.5/8, Mw(mB)3.3/1*
*ISCJB **13** 18:03:01.4±0.4, 19°.10N±0°.08×95°.56E±0°.06, h13km, mb3.8/16, MS3.5/1, Error ellipse: s-maj=13.0km s-min=4.4km az=33.4*
*IDC **13** 18:03:01.9±0.8, 19°.23N×95°.69E, h0km, mb3.9/16, mb1 4.0/17, mb1mx3.8/47, mbtmp3.8/17, ML3.6/1, MS3.2/2, Ms1 3.3/2, ms1mx2.8/39, Error ellipse: s-maj=29.4km s-min=12.5km az=40.0*
ISC 13 18:03:03.7±0.6, 19°.15N±0°.08×95°.67E±0°.06, h13km, n41, σ0ˢ85/41, mb3.9/16, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHMT	**Maesarieng**	**2.36**	**114**	P	**Pn**	**18 03 42.2**	**+0.1**
MHMT				S	**Sb**	**18 04 16.9**	**+1.8**
CHTO	**Chiang Mai**	**3.12**	**96**	P	**Pn**	**18 03 52.9**	**+0.3**
CMMT	**Chiang Mai**	**3.12**	**96**	P	**Pn**	**18 03 52.7**	**0.0**
CMAR	**Chiang Mai Arr**	**3.18**	**102**	Pn	**Pn**	**18 03 53.5**	**+0.1**
	1.7nm,0.3s,baz=276,slow=14,SNR=48						
CMAR				Lg	Lg	18 04 42.9	
	22nm,0.3s,baz=272,slow=20,SNR=9.9						
CMAR				LR	LR	18 05 23.4	
	comp=Z,201nm,18.8s,baz=82,slow=45						
CMAI	**Chiengmai2**	**3.28**	**76**	P	**Pn**	**18 03 56.0**	**+1.0**
PAYA	**Payao**	**3.98**	**86**	P	**Pn**	**18 04 05.4**	**+1.0**
PAYA				S	**Sg**	**18 05 08.7**	**-2.8**
SUKH	**Sukhothai**	**4.12**	**113**	P	**Pn**	**18 04 07.0**	**+0.7**
UMPA	**Umpang Tak**	**4.23**	**133**	P	Pg	18 04 36.6	+12
PHRA	**Phrae**	**4.37**	**98**	P	Pg	18 04 36.6	+9.2
CRAI	**Chiangrai**	**4.56**	**76**	P	**Pn**	**18 04 12.1**	**-0.4**
UTTA	**Uttaradit**	**4.85**	**106**	P	**Pn**	**18 04 16.5**	**+0.2**
	9.1nm,0.9s,254nm0.1nm						
KHLT	**Khaolaem Dam**	**5.16**	**147**	P	**Pn**	**18 04 20.2**	**-0.4**
PBKT	**Sadao Pong**	**5.67**	**116**	P	**Pn**	**18 04 28.0**	**+0.4**
SRDT	**SRDT**	**5.81**	**145**	P	**Pn**	**18 04 28.7**	**-0.9**
ODAN	**Odare**	**10.81**	**317**	*e*P	**Pn**	**18 05 38.4**	**0.0**
TAPN	**Taplejung**	**10.95**	**320**	*e*P	**Pn**	**18 05 40.4**	**0.0**
JIRN	**Jiri**	**12.13**	**316**	*e*P	**Pn**	**18 05 57.1**	**+0.5**
	7.0nm,0.4s						
GUN	**Gumba**	**12.51**	**316**	*e*P	**Pn**	**18 06 01.1**	**-0.6**
	14nm,0.7s						
PKIN	**Phulchoki**	**12.61**	**314**	*e*P	**Pn**	**18 06 02.2**	**-0.9**
DMN	**Daman**	**12.83**	**313**	*e*P	**Pn**	**18 06 05.6**	**-0.5**
GKN	**Gorkha**	**13.40**	**313**	*e*P	**Pn**	**18 06 13.3**	**-0.5**
	6.0nm,0.3s						
DANN	**Dangsing**	**14.22**	**312**	*e*P	**Pn**	**18 06 24.7**	**-0.5**
	9.4nm,0.5s						
AAK	**Ala-Archa**	**29.47**	**327**	P	**P**	**18 09 08.2**	**+0.6**
	1.0nm,0.5s,baz=122,slow=5.8,SNR=5.6						
MKAR	**Makanchi Array**	**29.67**	**341**	P	**P**	**18 09 09.1**	**-0.1**
	1.3nm,0.6s,baz=152,slow=7.8,SNR=18						
SONM	**Songino Array**	**29.91**	**15**	P	**P**	**18 09 12.2**	**+0.9**
	0.7nm,0.7s,baz=204,slow=11,SNR=5.6						
KURBB	**Kurchatov Arra**	**34.23**	**341**	P	**P**	**18 09 48.5**	**-0.4**
	1.2nm,0.6s,baz=151,slow=8.3,SNR=22						
KURBB				PcP	**PcP**	**18 12 25.8**	**+0.3**
	0.3nm,0.6s,baz=159,slow=2.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**35.72**	**349**	P	**P**	**18 10 01.6**	**-0.3**
	1.6nm,0.5s,baz=168,slow=8.0,SNR=12						
GEYT	**Albeck**	**37.60**	**308**	P	**P**	**18 10 19.9**	**+1.7**
	0.6nm,0.4s,baz=150,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**54.29**	**134**	P	**P**	**18 12 30.6**	**+0.7**
	0.2nm,0.3s,baz=320,slow=7.6,SNR=6.1						
ASAR	**Alice Springs**	**56.59**	**137**	P	**P**	**18 12 47.5**	**+1.0**
	0.3nm,0.6s,baz=321,slow=7.4,SNR=7.0						
PETK	**Petropavlovsk-**	**58.17**	**39**	LR	LR	18 40 57.5	
	comp=Z,43nm,20.6s,baz=181,slow=39						
AKASG	**Malin Array Be**	**60.53**	**318**	P	**P**	**18 13 12.6**	**-0.9**
	0.4nm,0.3s,baz=85,slow=6.4,SNR=3.2						
FINES	**FINESS Array B**	**63.61**	**330**	P	**P**	**18 13 33.1**	**-1.0**
	1.5nm,0.7s,baz=120,slow=7.7,SNR=8.9						
STKA	**Stephens Creek**	**67.17**	**138**	P	**P**	**18 13 57.6**	**+0.1**
	1.0nm,0.7s,baz=16,slow=5.9,SNR=2.9						
GERES	**GERESS Array B**	**70.60**	**316**	P	**P**	**18 14 19.1**	**+0.3**
	1.3nm,0.6s,baz=78,slow=6.7,SNR=7.9						
NB2	**NORSAR Subarra**	**70.77**	**329**	P	**P**	**18 14 18.9**	**-0.7**
	comp=Z,0.1nm,0.6s,baz=86,slow=6.9						
NOA	**NORSAR Array B**	**70.77**	**329**	P	**P**	**18 14 19.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=84,slow=6.2,SNR=3.9						
ILAR	**Eielson Array**	**83.81**	**22**	P	**P**	**18 15 31.5**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=297,slow=4.7,SNR=6.8						
INK	**Inuvik**	**85.81**	**16**	P	**P**	**18 15 42.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=312,slow=3.5,SNR=4.5						
YKA	**Yellowknife Ar**	**95.18**	**14**	P	**P**	**18 16 25.9**	**-0.7**
	comp=Z,0.1nm,0.5s,baz=333,slow=3.1,SNR=3.7						
TXAR	**Lajitas Array**	**128.31**	**22**	PKP	**PKPdf**	**18 22 11.2**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=96,slow=0.9,SNR=3.8						

*IDC **13** 18:04:12.6±1.4, 11°.29S×161°.69E, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.1/23, mbtmp4.1/12, ML3.7/2, MS3.9/5, Ms1 3.9/5, ms1mx3.3/30, Error ellipse: s-maj=40.4km s-min=21.7km az=126.0*
*NEIC **13** 18:04:13.6±7.6, 11°.16S×161°.56E, h2km±45km, mb4.7/8, Error ellipse: s-maj=21.6km s-min=11.0km az=98.0*
*ISCJB **13** 18:04:16.3±0.5, 11°.13S±0°.06×161°.53E±0°.08, h28km, mb4.3/18, MS3.8/4, Error ellipse: s-maj=10.7km s-min=8.0km az=175.4*
ISC 13 18:04:18.0±0.7, 11°.07S±0°.08×161°.57E±0°.10, h28km, n38, σ1ˢ37/37, mb4.2/18, MS3.9/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.29**	**315**	Pn	**Pn**	**18 04 53.4**	**-0.4**
	26nm,0.3s,baz=222,slow=3.3,SNR=15						
HNR				Sn	**Sn**	**18 05 21.4**	**+0.3**
	91nm,0.3s,baz=190,slow=13,SNR=7.3						
PMG	**Port Moresby**	**14.28**	**275**	LR	LR	18 12 47.9	
	comp=Z,456nm,19.6s,baz=112,slow=36						
PMG	**Port Moresby**	**14.28**	**275**	*e*Pn	**Pn**	**18 07 37.8**	**-0.7**
	24nm,1.0s						
CTA	**Charters Tower**	**17.25**	**237**	P	**Pn**	**18 08 14.6**	**-2.5**
	0.1nm,0.3s,baz=53,slow=10,SNR=2.1						
COEN	**Coen**	**18.19**	**259**	P	**P**	**18 08 32.8**	**+4.1**
	baz=12,SNR=4.5						
COEN	**Coen**	**18.19**	**259**	*e*P	**Pn**	**18 08 26.3**	**-2.3**
	141nm,1.1s						
RMQ	**Roma**	**19.52**	**216**	P	**Pn**	**18 08 45.2**	**+0.5**
	baz=13,SNR=10						
QLP	**Quilpie**	**22.48**	**224**	P	**P**	**18 09 14.9**	**-0.3**
	baz=16,SNR=4.3						
CMSA	**Cobar Meteorol**	**25.11**	**213**	P	**P**	**18 09 42.0**	**+1.5**
	baz=19,SNR=4.7						
WRA	**Warramunga Arr**	**27.65**	**248**	P	**P**	**18 10 02.7**	**-0.9**
	9.0nm,1.1s,baz=78,slow=9.9,SNR=16						
STKA	**Stephens Creek**	**27.73**	**219**	P	**P**	**18 10 01.1**	**-3.0**
	2.0nm,1.0s,baz=52,slow=8.4,SNR=3.0						
STKA				LR	LR	18 20 04.6	
	comp=Z,368nm,19.9s,baz=38,slow=34						
ASAR	**Alice Springs**	**29.16**	**241**	P	**P**	**18 10 15.4**	**-1.7**
	3.7nm,1.1s,baz=74,slow=9.4,SNR=11						
ASAR				LR	LR	18 21 09.0	
	comp=Z,193nm,18.7s,baz=124,slow=35						
GUMO	**Guam**	**29.58**	**326**	P	**P**	**18 10 21.1**	**+0.4**
	532nm,1.5s						
BBOO	**Buckleboo**	**31.90**	**223**	P	**P**	**18 10 40.7**	**-0.4**
	baz=25,SNR=9.7						
KNRA	**Kununurra**	**32.22**	**258**	P	**P**	**18 10 45.9**	**+1.7**
	baz=26,SNR=5.3						
WRKA	**Warakurna**	**34.44**	**242**	P	**P**	**18 11 02.2**	**-1.2**
	baz=28,SNR=7.6						
FITZ	**Fitzroy Crossi**	**35.42**	**254**	P	**P**	**18 11 12.0**	**+0.1**
	baz=29,SNR=6.2						
BATI	**Baumata**	**37.25**	**268**	P	**P**	**18 11 28.5**	**+0.8**
	8.0nm,0.7s,baz=184,slow=3.4,SNR=4.4						
MEEK	**Meekatharra**	**43.27**	**243**	P	**P**	**18 12 18.2**	**+0.8**
	baz=36,SNR=3.6						
NWAO	**Narrogin (SRO)**	**46.08**	**235**	LR	LR	18 31 11.9	
	comp=Z,243nm,18.5s,slow=35						
KSRS	**Korea Array**	**57.67**	**329**	LR	LR	18 37 58.7	
	comp=Z,33nm,18.3s,baz=181,slow=35						
VNDA	**Vanda**	**66.43**	**180**	*e*P	**P**	**18 15 05.0**	**+0.7**
	10nm,1.5s						
SBA	**Scott Base**	**66.82**	**179**	*e*P	**P**	**18 15 05.3**	**-1.4**
	10nm,1.2s						
CMAR	**Chiang Mai Arr**	**68.39**	**295**	P	**P**	**18 15 18.8**	**+1.1**
	0.4nm,0.7s,baz=111,slow=6.8,SNR=4.0						
CHTO	**Chiang Mai**	**68.51**	**295**	P	**P**	**18 15 17.4**	**-1.0**
	2.5nm,1.1s						
ULN	**Ulaanbaatar**	**75.96**	**326**	*e*P	**P**	**18 16 03.7**	**+1.2**
	2.9nm,1.0s						
SONM	**Songino Array**	**76.31**	**325**	P	**P**	**18 16 05.3**	**+0.8**
	1.2nm,0.7s,baz=145,slow=6.5,SNR=9.3						
QSPA	**South Pole Qui**	**78.93**	**180**	*e*P	**P**	**18 16 20.6**	**+1.8**
	8.2nm,1.3s						
BILL	**Bilibino**	**78.98**	**2**	*e*P	**P**	**18 16 17.9**	**-0.8**
	2.4nm,1.0s						
MCK	**McKinley**	**83.52**	**20**	P	**P**	**18 16 43.0**	**-0.1**
	8.9nm,1.2s						
COLA	**College**	**84.63**	**19**	P	**P**	**18 16 48.2**	**-0.3**
ILAR	**Eielson Array**	**84.88**	**20**	P	**P**	**18 16 50.3**	**+0.4**
	0.5nm,0.9s,baz=222,slow=4.6,SNR=4.2						
MKAR	**Makanchi Array**	**90.76**	**318**	P	**P**	**18 17 17.9**	**-0.7**
	0.5nm,0.7s,baz=90,slow=6.1,SNR=7.1						
KURK	**Kurchatov**	**94.06**	**321**	P	**P**	**18 17 33.0**	**-0.7**
KURBB	**Kurchatov Arra**	**94.09**	**321**	P	**P**	**18 17 33.0**	**-0.9**
	0.3nm,0.2s,baz=93,slow=3.4,SNR=5.0						
YKA	**Yellowknife Ar**	**96.89**	**28**	P	**P**	**18 17 45.9**	**-0.4**
	0.2nm,0.7s,baz=261,slow=4.9,SNR=4.4						
YKA				PP	**PP**	**18 21 41.6**	**-0.3**
	0.1nm,0.4s,baz=273,slow=10,SNR=4.8						
TORD	**Torodi Ar. Bea**	**160.22**	**278**	PKPab	**PKPab**	**18 24 56.0**	**-0.3**
	0.6nm,0.9s,baz=111,slow=3.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**160.22**	**278**	PKPab	**PKPab**	**18 24 56.0**	**-0.3**

*NEIC **13** 18:07:12.6±4.8, 32°.67S×179°.27W, h68km±36km, mb4.7/2, Error ellipse: s-maj=46.9km s-min=16.3km az=48.0*
*IDC **13** 18:07:13.8±7.2, 32°.66S×179°.38W, h75km±55km, mb4.0/5, mb1 4.2/6, mb1mx3

LPAZ La Paz 20.53 15 *eP* **P 18 18 49.8 -1.6**
11nm,1.0s
SIV San Ignacio 23.09 32 P **P 18 19 19.1 +0.9**
5.1nm,0.8s,baz=227,slow=13,SNR=19
SIV LR LR 18 30 09.9
comp=Z,1μm,19.3s,baz=236,slow=42
NNA Nana 24.43 352 LR LR 18 27 12.2
comp=Z,148nm,19.5s,baz=170,slow=32
SAML Samuel 28.84 22 Pn **P 18 20 10.9 +0.3**
PMSA Palmer Station 29.03 172 LR LR 18 30 10.7
comp=Z,209nm,18.2s,baz=346,slow=33
ATAH Atahualpa 29.41 350 LR LR 18 29 45.5
comp=Z,147nm,19.1s,baz=180,slow=32
BDFB Brasilia 30.65 54 LR LR 18 33 55.1
comp=Z,806nm,20.1s,baz=222,slow=39
RPN Rapa Nui 31.69 277 LR LR 18 30 02.5
comp=Z,522nm,19.5s,baz=66,slow=30
OTAV Otavalo 36.68 352 *eP* P 18 21 25.3 +5.7
6.7nm,1.3s
QSPA South Pole Qui 53.90 180 P **P 18 23 35.6 +0.4**
1.7nm,0.9s,baz=133,slow=1.6,SNR=6.1
LPIG La Paz 69.44 324 LR LR 18 49 34.6
comp=Z,125nm,18.5s,baz=180,slow=30
TXAR Lajitas Array 71.22 332 P P 18 25 37.3 +6.2
0.5nm,0.7s,baz=161,slow=8.4,SNR=2.7
TXAR LR LR 18 52 56.3
comp=Z,156nm,18.0s,baz=0.0,slow=32
DBIC Dimbokro 77.05 72 P **P 18 26 06.2 +0.7**
3.2nm,0.9s,baz=216,slow=8.7,SNR=4.4
DBIC LR LR 18 59 01.1
comp=Z,134nm,18.2s,baz=202,slow=35
BOSA Boshof 80.03 118 LR LR 19 02 21.1
comp=Z,92nm,18.1s,baz=203,slow=36
RPZ Rata Peaks 81.10 222 P **P 18 26 27.4 +0.1**
TORD Torodi Ar. Bea 86.12 71 P **P 18 26 53.3 0.0**
0.9nm,0.8s,baz=229,slow=3.9,SNR=5.1
TORD LR LR 19 04 45.9
comp=Z,127nm,18.2s,baz=210,slow=35
MDT Midelt 94.20 52 LR LR 19 08 13.3
comp=Z,73nm,21.0s,slow=34
ABKAR Akbulak array 144.04 54 *e*PKPdf PKPbc 18 33 45.1 0.0
YAK Yakutsk 150.49 338 PKPdf **PKPdf 18 33 56.6 -0.7**
ZALV Zalesovo Beam 156.83 34 PKP **PKPdf 18 34 07.2 +0.5**
0.4nm,0.5s,baz=328,slow=1.9,SNR=2.8
ZALV PKPab **PKPab 18 34 38.0 +1.5**
1.0nm,0.7s,baz=305,slow=5.1,SNR=5.1

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*SKHL **13** 18:21:17.5±1.2, 43°.15N×147°.43E, h37km±5km, mb5.0/1*
*JMA **13** 18:21:17.6±0.2, 43°.24N×147°.38E, h40km, M3.7*
*IDC **13** 18:21:22.3±10.0, 45°.03N×146°.88E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.3/27, mbtmp3.4/5, ML3.0/1, Error ellipse: s-maj=214.0km s-min=43.3km az=144.0*
ISC 13 18:21:19.4±2.6, 43°.2N±0°.1×147°.3E±0°.1, h51km±17km, n23, σ0°76/22, mb3.3/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.72**	**331**	*eP*	Pn	18 21 32.1	-1.3
SHO				*eS*	**Sn**	**18 21 42.2**	**-1.4**
NEM2	**Nemuro 2**	**1.16**	**277**	P	Pn	18 21 38.5	-0.7
NEM2				*eS*	**Sn**	**18 21 54.4**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**1.32**	**307**	*eP*	Pn	18 21 40.4	-1.1
YUK				AMB	AMB	18 21 41.1	
	346nm,0.2s						
YUK				*eS*	**Sn**	**18 21 58.5**	**+0.5**
YUK				A	A	18 21 59.3	
	400nm,0.4s						
YUK				A	A	18 21 59.3	
	330nm,0.4s						
JRA	**Rausu**	**1.74**	**294**	P	**Pn**	**18 21 46.9**	**-0.3**
JRA				*eS*	**Sn**	**18 22 08.6**	**+0.4**
JNK	**Nakash**	**1.93**	**281**	P	Pn	18 21 49.2	-0.5
JNK				*eS*	**Sn**	**18 22 12.7**	**-0.1**
JAK	**Akkeshi**	**1.94**	**264**	P	**Pn**	**18 21 49.6**	**-0.2**
JAK				*eS*	**Sn**	**18 22 13.0**	**0.0**
JOB	**Onbets**	**2.58**	**264**	P	**Pn**	**18 21 58.8**	**+0.2**
JOB				*eS*	**Sn**	**18 22 28.8**	**+0.1**
JTKR	**Abashiri--Toko**	**2.58**	**288**	P	**Pn**	**18 21 59.3**	**+0.6**
JAR	**Ashorobuto**	**2.59**	**272**	P	**Pn**	**18 21 59.3**	**+0.4**
JAR				*eS*	**Sn**	**18 22 29.8**	**+0.6**
JCH	**Churui**	**2.97**	**259**	P	**Pn**	**18 22 03.8**	**-0.3**
JCH				*eS*	**Sn**	**18 22 38.6**	**+0.1**
JNBK	**Urakawa-nobuka**	**3.50**	**256**	P	**Pn**	**18 22 11.7**	**+0.5**
ASAJ	**Asahikawa**	**3.54**	**286**	Pn	**Pn**	**18 22 13.8**	**+2.0**
	1.2nm,0.3s,baz=150,slow=18,SNR=6.3						
JBT2	**Biratori 2**	**3.67**	**264**	P	**Pn**	**18 22 13.8**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**28.64**	**139**	T	T	18 57 54.9	
	baz=330,slow=76,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**28.65**	**139**	T	T	18 57 53.8	
	baz=330,slow=76,SNR=8.3						
H11N3	**WAKE ISLAND Hy**	**28.65**	**139**	T	T	18 57 56.6	
	baz=330,slow=76,SNR=8.3						
SONM	**Songino Array**	**28.78**	**294**	P	**P**	**18 27 13.4**	**+1.0**
	0.4nm,0.7s,baz=81,slow=7.3,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**29.60**	**140**	T	T	18 59 06.8	
	baz=331,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**29.60**	**140**	T	T	18 59 07.9	
	baz=331,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**29.61**	**140**	T	T	18 59 07.3	
	baz=331,slow=76,SNR=7.9						
MKAR	**Makanchi Array**	**44.93**	**298**	P	**P**	**18 29 29.3**	**+0.2**
	0.3nm,0.6s,baz=67,slow=8.4,SNR=5.2						
KURBB	**Kurchatov Arra**	**46.00**	**304**	P	**P**	**18 29 37.2**	**-0.2**
	0.1nm,0.3s,baz=77,slow=8.5,SNR=3.3						
NOA	**NORSAR Array B**	**70.12**	**339**	P	**P**	**18 32 25.1**	**-0.9**
	1.3nm,1.1s,baz=31,slow=6.3,SNR=3.1						

IDC 13 18:22:45.2±1.4, 17°.94N×120°.40E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.4/28, mbtmp3.7/5, Error ellipse: s-maj=143.8km s-min=19.9km az=68.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**28.16**	**173**	P	P	18 28 38.9	-0.6
	4.7nm,0.5s,baz=104,slow=8.3,SNR=3.3						
SONM	**Songino Array**	**31.94**	**342**	P	P	18 29 11.5	-1.4
	0.1nm,0.3s,baz=139,slow=6.8,SNR=2.6						
WRA	**Warramunga Arr**	**40.06**	**159**	P	P	18 30 22.2	-0.2
	0.2nm,0.8s,baz=335,slow=9.3,SNR=7.9						
ASAR	**Alice Springs**	**43.41**	**162**	P	P	18 30 50.3	+0.4
	0.8nm,0.5s,baz=336,slow=7.0,SNR=26						
KURBB	**Kurchatov Arra**	**46.56**	**324**	P	P	18 31 15.4	+0.7
	0.7nm,0.8s,baz=122,slow=8.1,SNR=8.0						

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*IDC **13** 18:26:02.3±0.9, 34°.48S×71°.88W, h0km, mb3.9/6, mb1 4.1/9, mb1mx4.0/19, mbtmp3.9/9, ML3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.8/23, Error ellipse: s-maj=32.8km s-min=20.9km az=93.0*
*ISCJB **13** 18:26:03.2±0.6, 34°.51S±0°.06×72°.02W±0°.08, h16km, mb3.9/7, Error ellipse: s-maj=11.1km s-min=5.7km az=38.9*
*NEIC **13** 18:26:07.2, 34°.39S×71°.82W, h10km, mb4.0/3, ML4.0(GUC), After GUC.*
NEIC Felt [IV] at Pichilemu. Also felt at La Ligua, San Antonio and Valparaiso.
*GUC **13** 18:26:07.2±0.4, 34°.39S×71°.82W, h10km±53km, ML4.0*
ISC 13 18:26:05.2±0.7, 34°.37S±0°.05×71°.96W±0°.07, h16km, n41, σ1°16/44, mb3.9/7, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.61**	**48**	⇑*iP*	**Pb**	**18 26 18.2**	**+0.6**
LNV	**Longovilo**	**0.61**	**48**	⇑*iP*	**Pb**	**18 26 18.2**	**+0.6**
CACH	**El Canelo**	**1.15**	**78**	*iP*	**Pb**	**18 26 26.7**	**-0.1**
CACH	**El Canelo**	**1.15**	**78**	*iP*	**Pb**	**18 26 26.7**	**-0.1**
CHCH	**Chadas Angostu**	**1.17**	**68**	⇓*iP*	**Pn**	**18 26 26.7**	**-0.2**
CHCH				*iS*	**Sb**	**18 26 41.2**	**-0.7**
CHCH	**Chadas Angostu**	**1.17**	**68**	⇓*iP*	**Pn**	**18 26 26.7**	**-0.2**
CHCH				*iS*	**Sb**	**18 26 41.2**	**-0.7**
RCDM	**Rinconada Maip**	**1.30**	**48**	*eP*	**Pn**	**18 26 28.9**	**+0.2**
RCDM				*iS*	**Sb**	**18 26 45.1**	**-0.6**
RCDM				AML	AML	18 26 49.6	
	comp=E,6μm,0.2s						
RCDM	**Rinconada Maip**	**1.30**	**48**	*eP*	**Pn**	**18 26 28.9**	**+0.2**
RCDM				*iS*	**Sb**	**18 26 45.1**	**-0.6**
CLCH	**Cerro Calan**	**1.53**	**51**	⇓*iP*	**Pb**	**18 26 32.8**	**-0.4**
PEL	**Peldehue**	**1.62**	**41**	*eP*	**Pb**	**18 26 34.2**	**-0.5**
PEL				*iS*	**Sb**	**18 26 55.2**	**+0.3**
PEL				AML	AML	18 26 57.5	
	comp=N,3μm,0.4s						
PEL	**Peldehue**	**1.62**	**41**	*eP*	**Pb**	**18 26 34.2**	**-0.5**
PEL				*iS*	**Sb**	**18 26 55.2**	**+0.3**
FCH	**Farellones**	**1.73**	**54**	*iP*9	**Pg**	**18 26 38.5**	**-0.1**
FCH				*iS*	**Sg**	**18 27 00.9**	**-0.2**
FCH				AML	AML	18 27 04.7	
	comp=E,5μm,0.2s						
FCH	**Farellones**	**1.73**	**54**	*iP*	**Pg**	**18 26 38.5**	**-0.1**
FCH				*iS*	**Sg**	**18 27 00.9**	**-0.2**
CFAA	**Coronel Fontan**	**4.17**	**50**	Pn	**Pn**	**18 27 08.3**	**+0.1**
	comp=E,0.8nm,0.3s,baz=185,slow=12,SNR=23						
CFAA				Sn	**Sn**	**18 28 01.2**	**+4.6**
	comp=E,0.9nm,0.3s,baz=225,slow=20,SNR=3.2						
LCO	**Las Campanas**	**5.45**	**12**	Pn	Pn	18 27 22.5	-3.5
	comp=E,28nm,0.5s						
PLCA	**Paso Flores**	**6.45**	**170**	Pn	**Pn**	**18 27 37.6**	**-1.9**
	comp=E,0.7nm,0.3s,baz=348,slow=11,SNR=6.1						
PLCA				Lg	Lg	18 29 20.3	
	comp=E,1.0nm,0.3s,baz=259,slow=20,SNR=2.8						
PLCA				LR	LR	18 30 22.8	
	comp=E,195nm,18.9s,baz=352,slow=41						
PLCA	**Paso Flores**	**6.45**	**170**	Pn	**Pn**	**18 27 37.6**	**-1.9**
PLCA				*eS*	**Sb**	**18 29 17.1**	**+3.2**
PLCA				Lg	Lg	18 29 20.3	
TRQA	**Tornquist**	**8.86**	**117**	Pn	**Pn**	**18 28 13.3**	**+0.7**
LPAZ	**La Paz**	**18.33**	**12**	P	**P**	**18 30 20.6**	**+1.0**
	comp=E,0.1nm,0.3s,baz=171,slow=7.4,SNR=12						
LPAZ	**La Paz**	**18.33**	**12**	*ePn*	**P**	**18 30 20.5**	**+1.0**
	comp=E,4.5nm,0.8s						
SIV	**San Ignacio**	**20.76**	**31**	P	**P**	**18 30 44.9**	**-0.5**
	comp=E,5.0nm,0.9s,baz=234,slow=9.9,SNR=7.1						
SAML	**Samuel**	**26.55**	**20**	*eP*	**P**	**18 31 41.9**	**-0.5**
	comp=E,2.3nm,0.8s						
OTAV	**Otavalo**	**34.96**	**349**	P	P	18 33 03.7	+6.6
QSPA	**South Pole Qui**	**55.87**	**180**	P	**P**	**18 35 41.4**	**-0.4**
	comp=E,1.1nm,1.1s,baz=134,slow=4.4,SNR=2.8						
TXAR	**Lajitas Array**	**70.09**	**331**	P	**P**	**18 37 17.6**	**+1.0**
	comp=E,0.2nm,0.5s,baz=157,slow=9.0,SNR=7.4						
DBIC	**Dimbokro**	**75.24**	**71**	*eP*	**P**	**18 37 47.4**	**-0.1**
BOSA	**Boshof**	**79.84**	**118**	P	**P**	**18 38 12.6**	**-0.7**
	comp=E,3.3nm,0.8s,baz=237,slow=3.3,SNR=5.4						
LBTB	**Lobatse**	**82.09**	**115**	*eP*	**P**	**18 38 24.3**	**-1.1**
	comp=E,9.4nm,1.1s						
PDAR	**Pinedale Array**	**84.12**	**333**	P	**P**	**18 38 36.2**	**+0.9**
	comp=E,0.2nm,0.6s,baz=169,slow=5.2,SNR=2.2						
TORD	**Torodi Ar. Bea**	**84.28**	**70**	P	**P**	**18 38 35.8**	**-0.7**
	comp=E,2.2nm,0.8s,baz=267,slow=6.7,SNR=14						
YKA	**Yellowknife Ar**	**102.43**	**341**	P	**Pdif**	**18 39 58.2**	**-1.4**
	comp=E,0.1nm,0.5s,baz=143,slow=4.6,SNR=2.6						
WRA	**Warramunga Arr**	**120.47**	**209**	PKP	**PKPdf**	**18 44 54.7**	**-1.8**
	comp=E,0.2nm,0.5s,baz=153,slow=1.7,SNR=5.6						
H11S2	**WAKE ISLAND Hy**	**25.83**	**269**	T	T	21 03 28.7	
	baz=119,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**25.84**	**269**	T	T	21 03 29.5	
	baz=119,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**25.85**	**269**	T	T	21 03 29.8	
	baz=119,slow=75,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**26.25**	**270**	T	T	21 03 59.9	
	baz=116,slow=78,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**26.27**	**270**	T	T	21 03 59.5	
	baz=116,slow=78,SNR=12						
H11N2	**WAKE ISLAND Hy**	**26.27**	**270**	T	T	21 04 01.1	
	baz=116,slow=78,SNR=6.0						
AAK	**Ala-Archa**	**152.62**	**62**	*e*PKPbc	**PKPbc**	**18 46 00.9**	**0.0**
ZALV	**Zalesovo Beam**	**154.50**	**33**	PKPbc	**PKPbc**	**18 46 04.1**	**-0.3**
	comp=E,0.4nm,0.5s,baz=336,slow=3.2,SNR=3.1						
ZALV				PKPab	**PKPab**	**18 46 18.8**	**-0.1**
	comp=E,0.6nm,0.5s,baz=288,slow=5.9,SNR=3.2						
MKAR	**Makanchi Array**	**156.96**	**50**	PKPab	**PKPab**	**18 46 29.2**	**-0.6**
	comp=E,0.1nm,0.5s,baz=276,slow=2.5,SNR=3.6						

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*SKHL **13** 18:26:12.4±1.0, 46°.04N×151°.19E, h145km±2km, mb5.0/3, msh5.5/3*
*ISCJB **13** 18:26:14.4±0.4, 46°.47N±0°.07×150°.51E±0°.10, h150km, mb3.7/17, Error ellipse: s-maj=12.9km s-min=4.3km az=136.2*
*MOS **13** 18:26:14.7±1.6, 46°.65N×150°.52E, h148km, mb3.8/8, Error ellipse: s-maj=17.4km s-min=9.4km az=63.5*
*JMA **13** 18:26:16.2±0.5, 45°.68N×150°.90E, h119km, M3.7*
*IDC **13** 18:26:17.0±0.8, 46°.64N×150°.48E, h151km±7km, mb3.4/16, mb1 3.6/23, mb1mx3.5/50, mbtmp3.9/23, Error ellipse: s-maj=15.9km s-min=8.9km az=144.0*
ISC 13 18:26:15.9±0.5, 46°.35N±0°.09×150°.53E±0°.08, h150km, n62, σ1°62/62, mb3.7/17, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.17**	**240**	⇑*iPN*	**Pn**	**18 26 52.9**	**-0.1**
KUR				*iS*	**Sn**	**18 27 23.9**	**+2.4**
KUR				pmax	pmax		
	comp=Z,243nm,0.9s						
KUR				pmax	pmax		
	comp=E,36nm,0.1s						
KUR				pmax	pmax		
	comp=N,60nm,0.5s						
KUR				smax	smax		
	comp=E,91nm,0.3s						
KUR				smax	smax		
	comp=N,216nm,1.3s						
KUR	**Kuril'sk**	**2.17**	**240**	*eP*	**Pn**	**18 26 52.9**	**-0.1**
KUR				AMB	AMB	18 26 53.5	
	comp=N,243nm,0.9s						
KUR				*eS*	**Sn**	**18 27 23.9**	**+2.4**
KUR				A	A	18 27 30.3	
	comp=N,216nm,0.3s						
SHO	**Shikotan**	**3.60**	**228**	*eP*	**Pn**	**18 27 09.5**	**-1.5**
SHO				AMB	AMB	18 27 22.7	
	comp=N,147nm,0.9s						
SHO				*eS*	**Sn**	**18 27 53.0**	**-0.6**
SHO				A	A	18 28 04.5	
	comp=N,1μm,1.0s						
NEM2	**Nemuro 2**	**4.52**	**230**	P	**Pn**	**18 27 21.2**	**-1.8**
NEM2				*eS*	**Sn**	**18 28 11.6**	**-3.6**
JNK	**Nakash**	**4.96**	**238**	P	**Pn**	**18 27 28.8**	**0.0**
JTKR	**Abashiri--Toko**	**5.25**	**245**	P	**Pn**	**18 27 33.8**	**+1.2**
JAK	**Akkeshi**	**5.34**	**233**	P	**Pn**	**18 27 32.5**	**-1.3**
JAR	**Ashorobuto**	**5.69**	**240**	P	**Pn**	**18 27 39.2**	**+0.7**
SKR	**Severo-Kuril's**	**5.71**	**39**	*e*PN	Pn	18 27 31.5	-7.1
SKR				*eS*	Sn	18 28 34.5	-8.8
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=Z,100nm,0.4s						
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				smax	smax		
	comp=N,80nm,0.4s						
SKR				smax	smax		
	comp=E,80nm,0.4s						
SKR	**Severo-Kuril's**	**5.71**	**39**	*e*P	Pn	18 27 35.4	-3.2
SKR				AMB	AMB	18 27 39.6	
	comp=E,242nm,0.5s						
SKR				*eS*	Sn	18 28 36.7	-6.6
SKR				A	A	18 28 37.8	
	comp=E,174nm,0.7s						
JOB	**Onbets**	**5.89**	**237**	P	**Pn**	**18 27 40.8**	**-0.2**
ASAJ	**Asahikawa**	**6.03**	**251**	PN	**Pn**	**18 27 45.2**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**6.03**	**251**	P	**Pn**	**18 27 45.1**	**+2.2**
	comp=Z,1.6nm,0.3s,baz=58,slow=14,SNR=6.9						
JKK2	**Kamakawa 2**	**6.04**	**249**	P	**Pn**	**18 27 45.3**	**+2.3**
JCH	**Churui**	**6.34**	**236**	P	**Pn**	**18 27 46.1**	**-1.0**
JCH				*eS*	**Sn**	**18 28 56.0**	**-2.4**
PAU	**Pauzhetka**	**6.59**	**37**	*eP*	Pn	18 27 47.0	-3.3
PAU				*eS*	Sn	18 28 57.7	-6.5
MYR	**Moyori**	**6.59**	**235**	*eP*	**Pn**	**18 27 49.5**	**-0.9**
MYR				*eS*	**Sn**	**18 29 01.1**	**-3.3**
JBT2	**Biratori 2**	**6.83**	**241**	P	**Pn**	**18 27 54.5**	**+0.8**
JKB	**Kayabe**	**8.15**	**240**	P	**Pn**	**18 28 09.9**	**-1.4**
JKB				*eS*	**Sn**	**18 29 36.8**	**-5.2**
PETK	**Petropavlovsk-**	**8.21**	**32**	PN	Pn	18 28 09.6	-2.3
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK	**Petropavlovsk-**	**8.21**	**32**	P	Pn	18 28 09.6	-2.3
	comp=Z,4.6nm,0.3s,baz=209,slow=15,SNR=120						
JIO	**Ouri**	**10.40**	**224**	*eS*	Sn	18 30 27.2	-8.9
USRK	**Ussuriysk Ar.**	**13.23**	**267**	P	**Pn**	**18 29 19.4**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=73,slow=11,SNR=4.2						
MJAR	**Matsushiro Arr**	**13.45**	**228**	P	**P**	**18 29 25.1**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=28,slow=7.7,SNR=7.5						
FX1	**Attu Island--F**	**16.02**	**58**	P	**Pn**	**18 29 52.8**	**+0.1**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1	**Attu Island--F**	**16.02**	**58**	P	**Pn**	**18 29 52.8**	**+0.1**
	comp=Z,2.5nm,0.3s,baz=275,slow=3.5,SNR=6.3						
SEY	**Seymchan**	**16.65**	**3**	P	**P**	**18 29 58.0**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=185,slow=10.0,SNR=4.5						
KSRS	**Korea Array**	**18.98**	**250**	P	**Pn**	**18 30 28.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=54,slow=10,SNR=7.2						
YAK	**Yakutsk**	**19.74**	**330**	*eP*	**P**	**18 30 33.1**	**-0.5**
YAK				pmax	pmax		
	comp=Z,22nm,0.8s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.0s						
JNU	**Nakatsue**	**20.00**	**236**	P	**Pn**	**18 30 39.4**	**-0.7**
	comp=N,4.4nm,0.9s,baz=56,slow=7.3						
H11N2	**WAKE ISLAND Hy**	**29.76**	**148**	T	T	19 03 56.5	
	baz=340,slow=76,SNR=108						
H11N1	**WAKE ISLAND Hy**	**29.77**	**148**	T	T	19 03 56.7	
	baz=340,slow=76,SNR=76						
H11N3	**WAKE ISLAND Hy**	**29.78**	**148**	T	T	19 03 56.9	
	baz=340,slow=76,SNR=61						
SONM	**Songino Array**	**29.78**	**289**	P	**P**	**18 32 08.6**	**+0.2**
	comp=N,0.1nm,0.4s,baz=90,slow=10,SNR=2.2						
H11S1	**WAKE ISLAND Hy**	**30.81**	**149**	T	T	19 05 25.4	
	baz=340,slow=76,SNR=43						
H11S3	**WAKE ISLAND Hy**	**30.82**	**149**	T	T	19 05 19.1	
	baz=340,slow=76,SNR=70						
H11S2	**WAKE ISLAND Hy**	**30.83**	**149**	T	T	19 05 19.8	
	baz=340,slow=76,SNR=54						
ILAR	**Eielson Array**	**37.97**	**38**	P	**P**	**18 33 17.9**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**37.97**	**38**	P	**P**	**18 33 17.9**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=266,slow=7.3,SNR=20						
TGY	**Tagaytay City**	**40.62**	**227**	P	**P**	**18 33 43.5**	**+2.4**
	comp=Z,228nm,0.4s,baz=143,slow=4.8,SNR=5.4						
ZALV	**Zalesovo Beam**	**41.39**	**305**	PcP	**PcP**	**18 35 43.0**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=58,slow=3.0,SNR=5.9						
MKAR	**Makanchi Array**	**45.53**	**297**	P	**P**	**18 34 19.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=64,slow=8.4,SNR=7.6						
MKAR				PcP	**PcP**	**18 35 56.3**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=60,slow=5.8,SNR=4.0						
KURK	**Kurchatov**	**46.09**	**303**	P	**P**	**18 34 24.3**	**-0.3**
KURK				*PP	**pP**	**18 34 58.9**	**+0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KURBB	**Kurchatov Arra**	**46.18**	**303**	P	**P**	**18 34 24.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=56,slow=5.2,SNR=7.1						
KURBB				pP	**pP**	**18 34 58.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=73,slow=9.0,SNR=4.2						
CMAR	**Chiang Mai Arr**	**50.54**	**254**	P	**P**	**18 35 01.6**	**+2.5**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**50.54**	**254**	P	**P**	**18 35 01.6**	**+2.5**
	comp=Z,1.9nm,0.8s,baz=40,slow=7.1,SNR=16						
YKA	**Yellowknife Ar**	**52.30**	**36**	P	**P**	**18 35 11.2**	**-0.3**
YKA				*PP	**pP**	**18 35 45.1**	**-0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**52.30**	**36**	P	**P**	**18 35 11.2**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=298,slow=7.0,SNR=18						
YKA				pP	**pP**	**18 35 45.1**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=299,slow=7.2,SNR=5.4						
FINES	**FINESS Array B**	**63.63**	**334**	P	**P**	**18 36 28.8**	**-1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**63.63**	**334**	P	**P**	**18 36 28.8**	**-1.5**
	comp=Z,1.2nm,0.8s,baz=51,slow=10.0,SNR=3.4						
NVAR	**Mina Array Bea**	**64.19**	**61**	P	**P**	**18 36 35.3**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=295,slow=7.2,SNR=4.9						
NVAR				pP	**pP**	**18 37 10.5**	**0.0**
	comp=Z,0.5nm,0.5s,baz=332,slow=7.4,SNR=2.3						
PDAR	**Pinedale Array**	**66.42**	**52**	P	**P**	**18 36 49.5**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=293,slow=1.5,SNR=12						
WRA	**Warramunga Arr**	**67.59**	**196**	P	**P**	**18 36 56.9**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=306,slow=7.0,SNR=5.1						
NOA	**NORSAR Array B**	**68.01**	**340**	P	**P**	**18 36 57.0**	**-1.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	**NORSAR Array B**	**68.01**	**340**	P	**P**	**18 36 57.0**	**-1.5**
	comp=Z,1.3nm,0.9s,baz=16,slow=7.8,SNR=2.9						
AKASG	**Malin Array Be**	**70.87**	**325**	P	**P**	**18 37 14.9**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=34,slow=6.8,SNR=2.6						
ASAR	**Alice Springs**	**71.29**	**196**	P	**P**	**18 37 21.5**	**+2.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**71.29**	**196**	P	**P**	**18 37 21.5**	**+2.6**
	comp=Z,0.9nm,0.7s,baz=7.1,slow=5.5,SNR=16						
SCHQ	**Schefferville**	**74.35**	**21**	P	**P**	**18 37 36.6**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=321,slow=13,SNR=3.1						
TXAR	**Lajitas Array**	**79.24**	**59**	P	**P**	**18 38 05.1**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**79.24**	**59**	P	**P**	**18 38 05.1**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=283,slow=3.1,SNR=10						
TORD	**Torodi Ar. Bea**	**114.48**	**326**	PKP	PKPdf	18 44 38.5	+0.2
	comp=Z,0.1nm,0.5s,baz=282,slow=1.3,SNR=2.5						

AS31	**Alice Springs**	**18.40 176**	*e*Pn	**Pn**	**18 49 59.8 +1.7**
AS31			*e*Sn	**Sn**	**18 53 15.7 -7.1**
ASAR	**Alice Springs**	**18.40 176**	P	**Pn**	**18 50 00.2 +2.1**
	0.6nm,0.3s,baz=352,slow=8.3,SNR=39				
ASAR			S	**Sn**	**18 53 17.2 -5.6**
	0.4nm,0.3s,baz=360,slow=24,SNR=13				
KKM	**Kota Kinabalu**	**19.82 304**	P	**P**	**18 50 12.9 -0.6**
CTA	**Charters Tower**	**19.88 139**	P	**Pn**	**18 50 19.9 +4.0**
	12nm,1.1s,baz=338,slow=12,SNR=4.8				
MBWA	**Marble Bar**	**20.20 217**	P	**P**	**18 50 17.4 -0.1**
STKA	**Stephens Creek**	**27.84 163**	P	**P**	**18 51 34.6 +2.7**
	1.9nm,0.9s,baz=309,slow=8.9,SNR=3.0				
CMAR	**Chiang Mai Arr**	**40.67 306**	P	**P**	**18 53 22.8 -0.2**
	1.0nm,0.9s,baz=138,slow=7.3,SNR=5.6				
LSA	**Lhasa**	**52.77 314**	P	**P**	**18 54 58.2 +0.1**
	2.3nm,0.8s				
ULN	**Ulaanbaatar**	**57.42 340**	*e*P	**P**	**18 55 30.2 -0.8**
	2.0nm,0.6s				
SONM	**Songino Array**	**57.62 339**	P	**P**	**18 55 32.8 +0.5**
	1.1nm,0.6s,baz=154,slow=7.8,SNR=11				
YAK	**Yakutsk**	**67.07 359**	*e*P	**P**	**18 56 35.0 -0.1**
	6.6nm,0.8s				
MKAR	**Makanchi Array**	**68.19 325**	P	**P**	**18 56 43.0 +0.5**
	1.6nm,0.4s,baz=107,slow=7.9,SNR=59				
ZALV	**Zalesovo Beam**	**71.16 332**	P	**P**	**18 57 00.3 -0.4**
	0.8nm,0.5s,baz=140,slow=4.8,SNR=5.4				
KURK	**Kurchatov**	**72.38 327**	P	**P**	**18 57 07.7 -0.3**
	0.9nm,0.8s				
GEYT	**Alibeck**	**81.06 310**	P	**P**	**18 57 57.6 +0.2**
	0.9nm,0.6s,baz=151,slow=3.4,SNR=3.8				
ILAR	**Eielson Array**	**90.62 25**	P	**P**	**18 58 44.3 +0.1**
	0.5nm,1.0s,baz=262,slow=4.0,SNR=3.8				

IDC 13 18:57:58.7±3.8, 0°46S×99°06E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.3/25, mbtmp3.3/5, ML3.2/1, MS4.0/1, Ms1 4.0/1, ms1mx2.9/16, Error ellipse: s-maj=143.1km s-min=24.1km az=61.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.80**	**360**	P	Pn	19 02 21.7	+1.3
	0.0nm,0.3s,baz=193,slow=11,SNR=4.4						
H08S2	**Diego Garcia H**	**27.43**	**254**	T	T	19 31 33.6	
	baz=75						
H08S3	**Diego Garcia H**	**27.43**	**254**	T	T	19 31 37.0	
	baz=75						
H08S1	**Diego Carcia H**	**27.45**	**254**	T	T	19 31 31.7	
	baz=75						
WRA	**Warramunga Arr**	**39.58**	**121**	P	P	19 05 31.9	-0.2
	0.7nm,1.2s,baz=306,slow=8.9,SNR=3.0						
ASAR	**Alice Springs**	**40.91**	**127**	P	P	19 05 43.0	-0.1
	0.2nm,0.6s,baz=297,slow=7.8,SNR=4.7						
SONM	**Songino Array**	**48.52**	**7**	P	P	19 06 43.5	-0.2
	0.4nm,0.7s,baz=181,slow=8.6,SNR=4.8						
MKAR	**Makanchi Array**	**49.31**	**345**	P	P	19 06 48.7	-0.9
	0.2nm,0.6s,baz=141,slow=5.9,SNR=4.4						
CTA	**Charters Tower**	**50.10**	**116**	LR	LR	19 30 11.1	
	comp=Z,157nm,18.7s,baz=203,slow=39						

*NEIC **13** 18:59:24.8±0.5, 6°84N×72°92W, h153km±5km, mb4.6/57, Error ellipse: s-maj=5.9km s-min=4.8km az=82.0*
NEIC Felt at Bogota.
*IDC **13** 18:59:24.5±1.4, 6°79N×72°96W, h149km±13km, mb3.9/12, mb1 4.1/15, mb1mx3.8/31, mbtmp4.4/15, Error ellipse: s-maj=17.3km s-min=12.8km az=55.0*
*ISCJB **13** 18:59:25.4±0.5, 6°89N±0°04×72°84W±0°03, h173km±4km, mb4.4/66, Error ellipse: s-maj=6.1km s-min=5.2km az=26.4*
*FUNV **13** 18:59:25.8, 6°88N×73°10W, h170km, MW4.3*
ISC 13 18:59:24.5±0.6, 6°76N±0°04×72°94W±0°05, h155km±5km, n479, σ0°95/504, mb4.5/66, 171C-181D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.26**	**29**	⇓*i*P	**Pn**	**18 59 54.0**	**+1.6**
CAPV				*e*S	**Sn**	**19 00 15.1**	**+1.3**
ROSC	**El Rosal**	**2.34**	**216**	P	**Pn**	**19 00 06.0**	**+1.5**
	305nm,0.3s,baz=91,slow=15,SNR=254						
ROSC				S	**Sn**	**19 00 34.4**	**-0.8**
	212nm,0.3s,baz=100,slow=14,SNR=4.0						
ROSC	**El Rosal**	**2.34**	**216**	*e*Pn	**Pn**	**19 00 05.6**	**+1.2**
ROSC				*e*Sn	**Sn**	**19 00 31.7**	**-3.5**
SOCV	**Socops**	**2.56**	**54**	⇓*i*P	**Pn**	**19 00 08.2**	**+1.5**
SOCV				*e*S	**Sn**	**19 00 39.9**	**+0.7**
VIGV	**El Vigia**	**2.59**	**37**	⇓*i*P	**Pn**	**19 00 08.6**	**+1.5**
VIGV				*e*S	**Sn**	**19 00 39.1**	**-0.8**
VIRV	**Villa del Rosa**	**3.75**	**8**	⇓*i*P	**Pn**	**19 00 20.7**	**-1.0**
VIRV				*e*S	**Sn**	**19 01 01.2**	**-5.1**
SANV	**Sanarito**	**4.33**	**51**	⇓*e*P	**Pn**	**19 00 30.4**	**+1.0**
SANV				*e*S	**Sn**	**19 01 17.4**	**-2.5**
CURV	**Curarigua**	**4.37**	**42**	*e*P	**Pn**	**19 00 30.4**	**+0.5**
CURV				⇓*i*P	**Pn**	**19 00 30.9**	**+1.0**
CURV				*e*S	**Sn**	**19 01 17.6**	**-3.2**
DABV	**Dabajuro**	**4.72**	**29**	*e*P	**Pn**	**19 00 33.6**	**-0.7**
DABV				*e*S	**Sn**	**19 01 24.6**	**-4.2**
SIQV	**Siquisique**	**4.95**	**38**	⇓*i*P	**Pn**	**19 00 37.8**	**+0.3**
SIQV				*e*S	**Sn**	**19 01 31.0**	**-3.4**
BAUV	**El Baul**	**5.31**	**66**	⇓*i*P	**Pn**	**19 00 42.2**	**0.0**
BAUV				*e*S	**Sn**	**19 01 40.4**	**-2.5**
MAPV	**Macapo**	**5.38**	**55**	⇓*i*P	**Pn**	**19 00 44.0**	**+0.8**
JACV	**Jacura**	**5.91**	**43**	*e*P	**Pn**	**19 00 49.9**	**-0.2**
MONV	**Montecano**	**5.93**	**29**	⇓*i*P	**Pn**	**19 00 49.8**	**-0.7**
TURV	**Turiamo**	**6.23**	**54**	⇓*i*P	**Pn**	**19 00 54.6**	**+0.2**
TURV				*e*S	**Sn**	**19 02 00.3**	**-4.5**
MERV	**Las Mercedes**	**7.03**	**69**	⇓*i*P	**Pn**	**19 01 05.0**	**+0.1**
FUNV	**FUNVISIS**	**7.09**	**58**	⇓*i*P	**Pn**	**19 01 05.8**	**-0.1**
BCIP	**Isla Barro Col**	**7.24**	**290**	*e*Pn	Pn	19 01 00.8	-7.0
BCIP				*e*Sn	Sn	19 02 09.8	-19
BIRV	**Birongo**	**7.56**	**60**	*e*P	**Pn**	**19 01 11.7**	**-0.3**
CUPV	**Cœpira**	**7.79**	**65**	⇓*i*P	**Pn**	**19 01 15.3**	**0.0**
ORCV	**Isla La Orchil**	**8.34**	**52**	*e*P	**Pn**	**19 01 21.6**	**-0.8**
PRGV	**PARIAGUAN**	**8.45**	**76**	*e*P	**Pn**	**19 01 24.2**	**+0.2**
OTAV	**Otavalo**	**8.50**	**221**	*e*Pn	**Pn**	**19 01 23.7**	**-1.3**
OTAV				*e*Sn	**Sn**	**19 02 56.7**	**-3.2**
YHJ	**Yallahs**	**11.59**	**343**	*i* P	P	19 02 09.2	-3.4
HOJ	**Hope**	**11.78**	**342**	*i* P	**P**	**19 02 11.5**	**-3.2**
GWJ	**Greenwich**	**11.84**	**342**	*i* P	**Pn**	**19 02 10.2**	**+1.5**
STH	**Stony Hill**	**11.86**	**342**	*i* P	**Pn**	**19 02 11.4**	**+2.4**
MCJ	**Malvern**	**12.02**	**338**	*i* P	**Pn**	**19 02 12.6**	**+1.4**
CVJ	**Coleyville**	**12.24**	**339**	*i* P	**Pn**	**19 02 16.1**	**+2.1**
MTDJ	**Mount Denham**	**12.24**	**339**	*e*Pn	**Pn**	**19 02 15.8**	**+1.9**
MTDJ				*e*Sn	Sn	19 04 13.0	-17
SDDR	**Presa de Saban**	**12.25**	**7**	*e*Pn	**Pn**	**19 02 13.3**	**-0.8**
SDDR				*e*Sn	Sn	19 04 14.8	-15
BBJ	**Bamboo Saint A**	**12.30**	**340**	*i* P	**Pn**	**19 02 16.6**	**+2.0**
JTS	**JuntasAbangare**	**12.39**	**287**	P	**P**	**19 02 22.8**	**+1.4**
	5.5nm,0.3s,baz=82,slow=2.7,SNR=22						
JTS	**JuntasAbangare**	**12.39**	**287**	*e*P	**P**	**19 02 21.8**	**+0.3**
LSP	**Las Mesas**	**12.70**	**26**	*e*Pn	**Pn**	**19 02 18.9**	**-0.9**
LSP				*e*Sn	**Sn**	**19 04 45.8**	**+5.4**
CELP	**Cerrillos**	**12.84**	**28**	*e*Pn	**Pn**	**19 02 18.6**	**-2.9**
AGPR	**Aguadilla, PR**	**12.95**	**25**	*e*P	**Pn**	**19 02 22.3**	**-0.6**
GTBY	**Guantanamo Bay**	**13.26**	**351**	Pn	**Pn**	**19 02 26.0**	**-0.9**
CBYP	**Canovanas**	**13.36**	**30**	*e*Pn	**Pn**	**19 02 27.5**	**-0.8**
	16nm,0.5s						
FDF	**Fort de France**	**14.03**	**55**	P	**Pn**	**19 02 36.4**	**-0.3**
ATAH	**Atahualpa**	**14.84**	**202**	P	**P**	**19 02 49.3**	**+0.2**
	0.8nm,0.3s,baz=5.2,slow=11,SNR=3.1						
PTGA	**Pitinga**	**14.93**	**119**	P	**P**	**19 02 49.7**	**-0.1**
	0.7nm,0.3s,baz=324,slow=19,SNR=3.3						
PTGA				S	**Sn**	**19 05 35.6**	**+1.5**
	1.2nm,0.3s,baz=16,slow=5.3,SNR=5.2						
SAML	**Samuel**	**18.39**	**148**	*e*P	**Pn**	**19 03 29.6**	**-0.1**
	9.3nm,0.6s						
SAML				*e*S	**S**	**19 06 47.8**	**-2.1**
APG	**El Apazote**	**19.05**	**297**	P	P	19 03 29.4	-5.8
	0.7nm,0.3s,baz=120,slow=5.0,SNR=12						
LPAZ	**La Paz**	**23.39**	**168**	P	**P**	**19 04 21.8**	**+1.6**
	1.1nm,0.5s,baz=334,slow=9.9,SNR=5.5						
LPAZ	**La Paz**	**23.39**	**168**	*e*P	**P**	**19 04 20.4**	**+0.2**
LPAZ				*ep*P	**pP**	**19 04 51.3**	**+1.4**
BBSR	**BB Station**	**26.61**	**16**	P	**P**	**19 04 46.7**	**-1.8**
035A	**Encino**	**31.22**	**313**	⇑P	**P**	**19 05 29.8**	**+0.3**
	baz=31						
538A	**Harpers Horsep**	**31.52**	**321**	⇑P	**P**	**19 05 31.8**	**-0.2**
	baz=32						
034A	**Hebbronville**	**31.72**	**313**	⇓P	**P**	**19 05 34.2**	**+0.3**
	baz=32,SNR=6.7						
934A	**Benavides**	**31.91**	**314**	⇑P	**P**	**19 05 36.0**	**+0.5**
	baz=32						
636A	**Smothers Creek**	**32.05**	**318**	⇑P	**P**	**19 05 37.3**	**+0.7**
	baz=32						
239A	**Gary**	**32.17**	**324**	⇓P	**P**	**19 05 37.7**	**+0.1**
	baz=32						
WVT	**Waverly**	**32.26**	**337**	*e*P	**P**	**19 05 39.0**	**+0.6**
	10nm,0.5s						
933A	**Laredo**	**32.46**	**313**	⇑P	**P**	**19 05 40.6**	**+0.3**
	baz=32						
436A	**Wall Ranch, Ga**	**32.72**	**320**	⇑P	**P**	**19 05 43.3**	**+0.8**
	baz=33						
833A	**Chaparral WMA,**	**32.96**	**314**	⇑P	**P**	**19 05 45.6**	**+1.0**
	baz=33						
435B	**Jarrell**	**33.24**	**319**	⇑P	**P**	**19 05 47.5**	**+0.5**
	baz=33						
832A	**Faith Ranch, C**	**33.35**	**313**	⇓P	**P**	**19 05 48.3**	**+0.2**
	baz=33						
335A	**Moody**	**33.46**	**320**	⇑P	**P**	**19 05 49.9**	**+0.9**
	baz=34						
633A	**Saathoff Ranch**	**33.48**	**316**	⇑P	**P**	**19 05 49.6**	**+0.5**
	baz=34						
732A	**Laxson Ranch,**	**33.61**	**314**	⇓P	**P**	**19 05 50.6**	**+0.3**
	baz=34						
434A	**Burnet**	**33.71**	**318**	⇑P	**P**	**19 05 50.9**	**-0.2**
	baz=34						
533A	**Kerrville**	**33.75**	**317**	⇓P	**P**	**19 05 51.7**	**+0.1**
	baz=34						
632A	**Uvalde**	**33.93**	**315**	⇑P	**P**	**19 05 53.1**	**+0.1**
	baz=34						
WHTX	**Lake Whitney,**	**33.96**	**321**	⇑P	**P**	**19 05 53.2**	**0.0**
	baz=34						
334A	**Lometa**	**34.02**	**319**	⇓P	**P**	**19 05 53.8**	**0.0**
	baz=34						
433A	**Art**	**34.21**	**318**	⇑P	**P**	**19 05 55.5**	**0.0**
	baz=34,SNR=20						
532A	**Rocksprings**	**34.38**	**316**	⇑P	**P**	**19 05 57.0**	**0.0**
	baz=34,SNR=10						
234A	**Clairette**	**34.40**	**320**	⇓P	**P**	**19 05 57.0**	**0.0**
	baz=34						
631A	**Perdido Creek**	**34.43**	**314**	⇓P	**P**	**19 05 57.5**	**+0.2**
	baz=34						
333A	**Richland Sprin**	**34.50**	**318**	⇑P	**P**	**19 05 57.8**	**-0.2**
	baz=34,SNR=9.3						
JCT	**Junction City**	**34.53**	**317**	⇓P	**P**	**19 05 58.2**	**0.0**
	baz=34						
432A	**Menard**	**34.76**	**317**	⇓P	**P**	**19 06 00.0**	**-0.2**
	baz=35						
531A	**Rocksprings**	**34.85**	**315**	⇑P	**P**	**19 06 01.0**	**0.0**
	baz=35,SNR=6.4						
233A	**Rising Star**	**34.89**	**319**	⇓P	**P**	**19 06 01.2**	**-0.2**
	baz=35						
332A	**Millersview**	**35.04**	**318**	⇑P	**P**	**19 06 02.7**	**+0.1**
	baz=35						
Z34A	**Collier Ranch,**	**35.18**	**322**	⇓P	**P**	**19 06 04.2**	**+0.5**
	baz=35						
431A	**Sonora**	**35.20**	**316**	⇑P	**P**	**19 06 04.0**	**-0.1**
	baz=35						
133A	**Hamilton Ranch**	**35.29**	**320**	⇓P	**P**	**19 06 04.7**	**+0.1**
	baz=35						
232A	**Coleman**	**35.30**	**319**	⇑P	**P**	**19 06 04.8**	**0.0**
	baz=35,SNR=7.2						
530A	**J-C Ranch, Com**	**35.40**	**315**	⇑P	**P**	**19 06 05.9**	**+0.3**
	baz=35,SNR=12						
331A	**San Angelo**	**35.46**	**317**	⇓P	**P**	**19 06 06.4**	**+0.2**
	baz=36						
Y34A	**Reagan Ranch,**	**35.48**	**323**	⇓P	**P**	**19 06 06.7**	**+0.3**
	baz=36						
Z33A	**Whitaker Ranch**	**35.64**	**321**	⇑P	**P**	**19 06 08.2**	**+0.5**
	baz=36,SNR=5.3						
430A	**Baggett Ranch,**	**35.70**	**316**	⇑P	**P**	**19 06 08.4**	**+0.1**
	baz=36						
ABTX	**Abilene, Hawle**	**35.76**	**320**	⇑P	**P**	**19 06 08.9**	**+0.2**
	baz=36						
ABTX	**Abilene, Hawle**	**35.76**	**320**	*e*P	**P**	**19 06 08.5**	**-0.3**
	8.9nm,0.8s						
231A	**Bronte**	**35.77**	**318**	⇓P	**P**	**19 06 08.7**	**-0.1**
	baz=36,SNR=5.7						
TUL1	**Leonard**	**35.78**	**327**	⇓P	**P**	**19 06 08.4**	**-0.4**
	baz=36						
SFIN	**Lafayette**	**35.80**	**341**	⇑P	**P**	**19 06 08.7**	**-0.2**
	baz=36,SNR=9.3						
SFIN	**Lafayette**	**35.80**	**341**	*e*P	**P**	**19 06 09.7**	**+0.8**
	29nm,0.5s						
529A	**Stev Forest Ra**	**36.01**	**314**	⇑P	**P**	**19 06 11.0**	**+0.1**
	baz=36						
330A	**Mertzon**	**36.02**	**317**	⇓P	**P**	**19 06 11.0**	**0.0**
	baz=36						
Y33A	**Hilltop Ranch,**	**36.04**	**322**	⇑P	**P**	**19 06 10.9**	**-0.1**
	baz=36						
429A	**Davenport Ranc**	**36.06**	**315**	⇓P	**P**	**19 06 11.4**	**0.0**
	baz=36						
Z32A	**Haskell**	**36.10**	**321**	⇓P	**P**	**19 06 12.1**	**+0.5**
	baz=36,SNR=10						
V35A	**Meyer Ranch, C**	**36.24**	**326**	⇑P	**P**	**19 06 13.1**	**+0.4**
	baz=36						
230A	**Sterling City**	**36.27**	**317**	⇓P	**P**	**19 06 13.5**	**+0.3**
	baz=36,SNR=5.3						
131A	**Roby**	**36.28**	**319**	⇓P	**P**	**19 06 13.1**	**-0.1**
	baz=36						
X33A	**Lawton**	**36.33**	**323**	⇓P	**P**	**19 06 13.5**	**0.0**
	baz=36,SNR=6.6						
W34A	**Bridge Creek,**	**36.39**	**325**	⇓P	**P**	**19 06 14.0**	**0.0**
	baz=36						
W34A	**Bridge Creek,**	**36.39**	**325**	*e*P	**P**	**19 06 14.1**	**0.0**
	24nm,0.9s						
Z31A	**Sharp Cattle R**	**36.53**	**320**	⇓P	**P**	**19 06 15.5**	**+0.2**
	baz=37						
Y32A	**R-V Farms, Ver**	**36.54**	**321**	⇑P	**P**	**19 06 15.5**	**+0.1**
	baz=37						
130A	**Snyder**	**36.61**	**318**	⇓P	**P**	**19 06 16.3**	**+0.3**
	baz=37						
329A	**Wagon Wheel Ra**	**36.62**	**316**	⇑P	**P**	**19 06 16.2**	**+0.1**
	baz=37,SNR=7.3						
WMOK	**Wichita Mounta**	**36.64**	**323**	*e*P	**P**	**19 06 15.7**	**-0.5**
	4.9nm,0.6s						
TXAR	**Lajitas Array**	**36.64**	**312**	P	**P**	**19 06 16.4**	**+0.1**
	3.0nm,0.4s,baz=128,slow=9.0,SNR=63						
TXAR				PcP	**PcP**	**19 08 37.7**	**+1.7**
	1.2nm,0.6s,baz=138,slow=5.9,SNR=10						
TX31	**Lajitas Ar. Si**	**36.64**	**312**	*e*P	**P**	**19 06 16.2**	**-0.1**
V34A	**Guthrie**	**36.67**	**326**	⇓P	**P**	**19 06 16.3**	**-0.1**
	baz=37						
X32A	**Elmer**	**36.73**	**322**	⇑P	**P**	**19 06 16.9**	**0.0**
	baz=37						
W33A	**Caddo, Fort Co**	**36.74**	**324**	⇑P	**P**	**19 06 17.2**	**+0.2**
	baz=37						
229A	**Bryant Ranch,**	**36.79**	**317**	⇓P	**P**	**19 06 17.8**	**+0.3**
	baz=37,SNR=6.6						
Y31A	**Rekita Farm,**	**37.02**	**321**	⇑P	**P**	**19 06 20.1**	**+0.6**
	baz=37,SNR=11						
V33A	**Lossen Ranch,**	**37.10**	**325**	⇑P	**P**	**19 06 19.7**	**-0.3**
	baz=37,SNR=6.2						
U34A	**Anderson Ranch**	**37.12**	**326**	⇓P	**P**	**19 06 20.0**	**-0.1**
	baz=37						
U34A	**Anderson Ranch**	**37.12**	**326**	*e*P	**P**	**19 06 20.1**	**-0.1**
	16nm,0.6s						
Z30A	**Sanderson Ranc**	**37.15**	**319**	⇓P	**P**	**19 06 20.6**	**+0.1**
	baz=37,SNR=7.6						
W32A	**Sentinel**	**37.18**	**323**	⇑P	**P**	**19 06 21.1**	**+0.4**
	baz=37,SNR=6.1						
X31A	**McDonald Ranch**	**37.29**	**322**	⇑P	**P**	**19 06 21.5**	**-0.2**
	baz=37						
Y30A	**Stafford Cattl**	**37.37**	**320**	⇑P	**P**	**19 06 22.6**	**+0.2**
	baz=37,SNR=6.7						
V32A	**Arapaho**	**37.47**	**324**	⇓P	**P**	**19 06 22.8**	**-0.3**
	baz=38						
Z29A	**Hungry Hill Ra**	**37.51**	**319**	⇑P	**P**	**19 06 23.7**	**+0.1**
	baz=38,SNR=8.7						
W31A	**Holland Ranch,**	**37.64**	**322**	⇓P	**P**	**19 06 24.4**	**-0.2**
	baz=38						
128A	**Castleberry Fa**	**37.64**	**317**	⇓P	**P**	**19 06 25.3**	**+0.6**
	baz=38,SNR=23						
X30A	**Coker Ranch, T**	**37.72**	**321**	⇓P	**P**	**19 06 26.1**	**+0.8**
	baz=38,SNR=6.6						
Y29A	**Porterfield Fa**	**37.86**	**319**	⇓P	**P**	**19 06 27.0**	**+0.5**
	baz=38,SNR=8.3						
U32A	**Winter Ranch,**	**37.91**	**325**	⇑P	**P**	**19 06 26.5**	**-0.3**
	baz=38						
Z28A	**Tucker Farm, M**	**37.98**	**318**	⇓P	**P**	**19 06 27.4**	**-0.1**
	baz=38						
W30A	**Crocket Farms**	**38.02**	**322**	⇑P	**P**	**19 06 27.8**	**-0.1**
	baz=38						
X29A	**Tulia**	**38.25**	**320**	⇓P	**P**	**19 06 29.9**	**+0.1**
	baz=38						
Y28A	**McKinney Farm,**	**38.27**	**319**	⇑P	**P**	**19 06 30.0**	**+0.1**
	baz=38,SNR=5.7						
T32A	**Huddler Ranch,**	**38.43**	**326**	⇑P	**P**	**19 06 31.0**	**-0.2**
	baz=38						
AMTX	**Amarillo**	**38.51**	**321**	⇓P	**P**	**19 06 32.4**	**+0.4**
	baz=38						
AMTX	**Amarillo**	**38.51**	**321**	*e*P	**P**	**19 06 32.3**	**+0.3**
	21nm,1.0s						
X28A	**Dimmitt**	**38.61**	**320**	⇓P	**P**	**19 06 33.0**	**+0.1**
	baz=39						
KSU1	**Kansas State U**	**38.63**	**330**	⇑P	**P**	**19 06 32.5**	**-0.3**
	baz=39						
KSU1	**Kansas State U**	**38.63**	**330**	*e*P	**P**	**19 06 30.1**	**-2.7**
	14nm,0.6s						
MSTX	**Muleshoe**	**38.65**	**319**	⇓P	**P**	**19 06 33.5**	**+0.4**
	baz=39,SNR=5.2						
MSTX	**Muleshoe**	**38.65**	**319**	*e*P	**P**	**19 06 32.3**	**-0.8**
	8.7nm,0.8s						
W29A	**Amarillo**	**38.65**	**321**	⇓P	**P**	**19 06 33.4**	**+0.3**
	baz=39						
S32A	**Newby Ranch, P**	**38.81**	**326**	⇓P	**P**	**19 06 34.2**	**-0.1**
	baz=39						
Y27A	**Causey**	**38.85**	**318**	⇓P	**P**	**19 06 35.5**	**+0.6**
	baz=39,SNR=8.1						
U30A	**WK&E Inc. Balk**	**38.97**	**323**	⇓P	**P**	**19 06 36.1**	**+0.3**
	baz=39						
S31A	**Mullinville**	**39.05**	**326**	⇑P	**P**	**19 06 36.6**	**+0.2**
	baz=39						
V29A	**Stinnett**	**39.06**	**322**	⇑P	**P**	**19 06 36.5**	**0.0**
	baz=39						
JFWS	**Jewell Farm**	**39.11**	**340**	*e*P	**P**	**19 06 35.9**	**-0.8**
	21nm,0.6s						
Q33A	**Connelly Farm,**	**39.17**	**329**	⇑P	**P**	**19 06 37.2**	**-0.1**
	baz=39						
R32A	**Long Quarter,**	**39.21**	**327**	⇓P	**P**	**19 06 37.4**	**-0.2**
	baz=39						
T30A	**Plains**	**39.25**	**324**	⇑P	**P**	**19 06 38.0**	**-0.1**
	baz=39						
X27A	**F and S Farms,**	**39.27**	**319**	⇑P	**P**	**19 06 39.0**	**+0.7**
	baz=39						
V28A	**Channing**	**39.41**	**321**	⇑P	**P**	**19 06 39.4**	**-0.1**
	baz=39						
P33A	**Williams Farm,**	**39.43**	**329**	⇑P	**P**	**19 06 39.6**	**+0.2**
	baz=40						
W27A	**Bowe Ranch, En**	**39.51**	**320**	⇓P	**P**	**19 06 41.2**	**+0.9**
	baz=40,SNR=6.3						
R31A	**Burdett**	**39.55**	**326**	⇑P	**P**	**19 06 41.2**	**+0.6**
	baz=40						
S30A	**Montezuma**	**39.62**	**325**	⇑P	**P**	**19 06 41.9**	**+0.7**
	baz=40						
X26A	**CR and CF Fran**	**39.68**	**318**	⇓P	**P**	**19 06 42.6**	**+0.8**
	baz=40,SNR=6.2						
T29A	**Hugoton**	**39.77**	**324**	⇓P	**P**	**19 06 43.1**	**+0.7**
	baz=40						
V27A	**Dan Oppiter Fa**	**39.80**	**321**	⇓P	**P**	**19 06 43.5**	**+0.8**
	baz=40						
U28A	**Mallet**	**39.82**	**322**	⇑P	**P**	**19 06 43.8**	**+0.9**
	baz=40						
R30A	**Dighton**	**39.97**	**326**	⇓P	**P**	**19 06 44.8**	**+0.9**
	baz=40						
W26A	**Owens Ranch, T**	**39.98**	**319**	⇓P	**P**	**19 06 45.1**	**+0.9**
	baz=40						
S29A	**Ulysses**	**39.98**	**324**	⇑P	**P**	**19 06 45.0**	**+0.8**
	baz=40						
Q31A	**Ellis**	**40.00**	**327**	⇑P	**P**	**19 06 45.0**	**+0.8**
	baz=40						
P32A	**Huiting Farm,**	**40.03**	**329**	⇓P	**P**	**19 06 45.3**	**+0.9**
	baz=40						
U27A	**Thompson Grove**	**40.21**	**322**	⇑P	**P**	**19 06 46.8**	**+0.7**
	baz=40						
X25A	**Clemmons Ranch**	**40.23**	**318**	⇑P	**P**	**19 06 47.4**	**+1.1**
	baz=40,SNR=7.4						
T28A	**Walsh**	**40.24**	**323**	⇑P	**P**	**19 06 46.7**	**+0.5**
	baz=40						
O32A	**Brockman Farm,**	**40.34**	**330**	⇓P	**P**	**19 06 47.5**	**+0.5**
	baz=40						
P31A	**Stockton**	**40.36**	**328**	⇑P	**P**	**19 06 47.9**	**+0.7**
	baz=40						
Y24A	**Capitan**	**40.41**	**316**	⇑P	**P**	**19 06 49.0**	**+1.1**
	baz=40,SNR=18						
S28A	**Manter**	**40.42**	**324**	⇓P	**P**	**19 06 48.4**	**+0.7**
	baz=40,SNR=7.3						
V26A	**Tequesquite Ra**	**40.42**	**320**	⇓P	**P**	**19 06 48.7**	**+0.8**
	baz=40,SNR=7.0						
Q30A	**Quinter**	**40.42**	**327**	⇑P	**P**	**19 06 48.6**	**+0.8**
	baz=40						
W25A	**X Bar L Ranch,**	**40.51**	**319**	⇑P	**P**	**19 06 49.4**	**+0.8**
	baz=40,SNR=10.0						
R29A	**Marienthal**	**40.55**	**325**	⇑P	**P**	**19 06 49.6**	**+0.9**
	baz=41						
T27A	**Campo**	**40.56**	**322**	⇑P	**P**	**19 06 50.0**	**+1.0**
	baz=41,SNR=5.4						

P26A	Davis Ranch, A baz=43	42.58 325 ⇑P	P	19 07 05.9	+0.5
T23A	Casias Ranch, baz=43	42.62 320 ⇑P	P	19 07 07.6	+1.7
U22A	Llaves baz=43	42.76 318 ⇓P	P	19 07 08.6	+1.6
R24A	Sanders Place, baz=43,SNR=11	42.77 322 ⇓P	P	19 07 08.2	+1.2
K30A	Basset baz=43,SNR=14	42.82 331 ⇑P	P	19 07 07.3	+0.1
O26A	Horse Wrangler baz=43	43.02 325 ⇑P	P	19 07 09.5	+0.6
P25A	Willow Gulch B baz=43	43.02 324 ⇓P	P	19 07 10.2	+1.2
R23A	Moffat baz=43,SNR=5.3	43.19 321 ⇑P	P	19 07 11.3	+0.9
K29A	Lazy Trails An baz=43	43.23 330 ⇑P	P	19 07 10.1	-0.3
J30A	Dallas baz=43	43.26 332 ⇑P	P	19 07 10.9	+0.3
M27A	Reverse DX Ran baz=43	43.40 328 ⇑P	P	19 07 12.1	+0.2
TUC	Tucson 4.3nm,0.7s	43.42 311 eP	P	19 07 12.5	+0.3
P24A	Kohler Place, baz=44	43.46 323 ⇓P	P	19 07 12.9	+0.4
S22A	4UR Ranch, Cre baz=44,SNR=7.8	43.55 320 ⇓P	P	19 07 14.3	+1.0
I30A	Oacoma baz=44,SNR=5.5	43.68 332 ⇓P	P	19 07 13.5	-0.4
J29A	Okreek baz=44,SNR=7.9	43.72 331 ⇑P	P	19 07 13.9	-0.4
K28A	Ten Mile Ranch baz=44	43.72 329 ⇓P	P	19 07 14.3	-0.1
M26A	McRoberts Ranc baz=44	43.76 327 ⇓P	P	19 07 15.0	+0.2
N25A	Grover baz=44	43.84 325 ⇓P	P	19 07 15.3	-0.2
BRSD	Miller baz=44	43.87 333 ⇓P	P	19 07 15.4	-0.1
BRSD	Miller 55nm,0.7s	43.87 333 eP	P	19 07 14.7	-0.8
X18A	Snowflake baz=44	43.89 314 ⇓P	P	19 07 16.7	+0.7
P23A	Jefferson baz=44	43.93 323 ⇓P	P	19 07 16.4	0.0
O24A	Longmont baz=44	43.95 324 ⇑P	P	19 07 16.6	+0.3
EYMN	Ely 16nm,0.6s	43.98 342 eP	P	19 07 16.1	-0.2
W18A	Petrified Fore baz=44	44.03 315 ⇓P	P	19 07 18.2	+1.0
W18A	Petrified Fore 14nm,1.0s	44.03 315 eP	P	19 07 18.6	+1.5
ISCO	Idaho Springs baz=44,SNR=8.0	44.06 323 ⇓P	P	19 07 18.2	+0.7
ISCO	Idaho Springs 7.2nm,1.0s	44.06 323 eP	P	19 07 18.1	+0.7
L26A	Underwood Farm baz=44	44.12 328 ⇓P	P	19 07 17.6	-0.1
K27A	Flueckinger Fa baz=44	44.15 329 ⇑P	P	19 07 17.9	0.0
I29A	Vivian Onida baz=44	44.17 332 ⇓P	P	19 07 17.6	-0.3
J28A	Allard Ranch, baz=44,SNR=6.0	44.17 330 ⇑P	P	19 07 17.7	-0.2
N24A	Carr baz=44	44.30 325 ⇑P	P	19 07 19.3	+0.2
MVCO	Mesa Verde baz=44	44.32 318 ⇓P	P	19 07 20.0	+0.5
MVCO	Mesa Verde 8.4nm,1.1s	44.32 318 eP	P	19 07 18.6	-0.9
J27A	Elkhorn Farm, baz=44	44.43 330 ⇓P	P	19 07 20.0	-0.1
G30A	Faulkton baz=44,SNR=8.3	44.49 334 ⇓P	P	19 07 20.4	0.0
SMCO	Snowmass 75nm,2.8s	44.50 322 eP	P	19 07 20.9	-0.1
O23A	Lake Granby, G baz=44	44.50 324 ⇑P	P	19 07 20.7	-0.2
I28A	Midland baz=45	44.57 331 ⇓P	P	19 07 20.7	-0.3
H29A	Onida baz=45,SNR=10	44.59 332 ⇓P	P	19 07 20.7	-0.5
P22A	Eagle baz=45	44.62 322 ⇓P	P	19 07 21.9	+0.1
K26A	Motz Farm, Whi baz=45	44.64 328 ⇑P	P	19 07 21.7	0.0
L25A	Engebretsen Ra baz=45	44.68 327 ⇓P	P	19 07 22.1	-0.1
M24A	Cheyenne baz=45	44.69 326 ⇓P	P	19 07 22.3	0.0
O22A	Kremmling baz=45,SNR=9.5	44.85 323 ⇑P	P	19 07 24.2	+0.6
G29A	Hoven baz=45	44.89 333 ⇑P	P	19 07 23.2	-0.4
PV01	Paradox Valley	44.89 319 eP	P	19 07 23.1	-0.9
PHWY	Pilot Hill 3.3nm,0.6s	44.94 325 eP	P	19 07 23.7	-0.7
K25A	Mack Ranch, Ha baz=45	44.95 328 ⇓P	P	19 07 24.1	-0.1
N23A	Red Feather La baz=45,SNR=6.0	44.96 324 ⇑P	P	19 07 25.4	+0.9
F30A	Leola baz=45,SNR=6.5	44.99 334 ⇓P	P	19 07 24.2	-0.1
H28A	Mission Ridge baz=45	45.00 332 ⇑P	P	19 07 24.4	-0.1
J26A	Sides Ranch, S baz=45	45.02 329 ⇓P	P	19 07 24.7	0.0
I27A	Quinn baz=45	45.05 330 ⇓P	P	19 07 24.8	-0.1
M23A	Laramie baz=45	45.20 325 ⇓P	P	19 07 25.8	-0.6
PV05	Paradox Valley	45.20 319 eP	P	19 07 27.1	+0.6
G28A	Parade baz=45	45.25 332 ⇑P	P	19 07 26.2	-0.2
F29A	Eureka baz=45	45.34 334 ⇑P	P	19 07 26.8	-0.4
WUAZ	Wupatki baz=45,SNR=6.2	45.39 315 ⇑P	P	19 07 29.2	+1.3
WUAZ	Wupatki 14nm,0.8s	45.39 315 eP	P	19 07 29.3	+1.4
I26A	New Underwood baz=46	45.42 330 ⇑P	P	19 07 27.5	-0.4
J25A	Sunshine Ranch baz=46	45.45 328 ⇓P	P	19 07 28.1	-0.1
E30A	Jud baz=46	45.47 335 ⇓P	P	19 07 27.7	-0.4
H27A	Howes baz=46,SNR=5.5	45.48 331 ⇑P	P	19 07 28.1	-0.1
Z14A	Wintersburg baz=46	45.52 311 ⇑P	P	19 07 29.3	+0.6
K24A	Anderson Ranch baz=46	45.53 327 ⇑P	P	19 07 28.6	-0.2
L23A	Garrett baz=46	45.61 326 ⇓P	P	19 07 29.3	-0.3
M22A	Cedar Creek Ra baz=46	45.66 324 ⇓P	P	19 07 29.9	-0.1
AGMN	Agassiz Nation baz=46,SNR=6.8	45.74 339 ⇑P	P	19 07 30.4	+0.2
AGMN	Agassiz Nation 8.5nm,0.6s	45.74 339 eP	P	19 07 29.8	-0.4
F28A	McLaughlin baz=46	45.79 333 ⇓P	P	19 07 30.5	-0.1
E29A	Napoleon baz=46	45.83 334 ⇓P	P	19 07 30.8	-0.2
I25A	Rochford baz=46,SNR=5.1	45.86 329 ⇓P	P	19 07 31.8	+0.4
J24A	Dixon Ranch, L baz=46	45.86 328 ⇓P	P	19 07 31.3	0.0
113A	Mohawk Valley, baz=46	45.88 310 ⇑P	P	19 07 32.0	+0.4
D30A	Buchanan baz=46	45.89 336 ⇑P	P	19 07 31.3	0.0
G27A	Dupree baz=46	45.96 332 ⇓P	P	19 07 31.9	-0.1
D29A	Pettibone, Tap baz=46,SNR=8.7	46.20 335 ⇑P	P	19 07 33.9	0.0
G26A	Maurine baz=46	46.21 331 ⇑P	P	19 07 33.9	-0.1
H25A	Fruitdale baz=46	46.22 330 ⇓P	P	19 07 33.9	-0.1
C30A	Mose, Pekin baz=46,SNR=7.5	46.25 336 ⇓P	P	19 07 34.3	+0.1
E28A	Huff baz=46	46.30 334 ⇑P	P	19 07 34.9	+0.3
F27A	Lemmon baz=46	46.37 332 ⇓P	P	19 07 35.5	+0.3
J23A	Dilts Ranch, B baz=46	46.39 327 ⇑P	P	19 07 35.6	+0.1
K22A	Casper baz=46	46.42 326 ⇓P	P	19 07 36.5	+0.6
U15A	North Rim baz=46,SNR=5.6	46.49 315 ⇑P	P	19 07 37.7	+1.1
G25A	Newell baz=47	46.54 330 ⇑P	P	19 07 36.4	-0.1
E27A	Carson baz=47	46.57 333 ⇓P	P	19 07 37.3	+0.6
F26A	Lodgepole baz=47	46.65 332 ⇓P	P	19 07 37.6	+0.1
SRU	San Rafael Swe 5.7nm,0.7s	46.70 319 eP	P	19 07 38.2	+0.1
D28A	Regan baz=47	46.72 334 ⇓P	P	19 07 38.3	+0.4
B30A	Myrvik Farm, E baz=47,SNR=6.7	46.80 337 ⇓P	P	19 07 38.4	0.0
K21A	Alcova baz=47,SNR=7.5	46.82 325 ⇓P	P	19 07 39.8	+0.8
MDND	Maddock baz=47,SNR=5.5	46.82 336 ⇑P	P	19 07 39.0	+0.4
MDND	Maddock 5.8nm,0.7s	46.82 336 eP	P	19 07 38.5	-0.2
J22A	Midwest baz=47,SNR=5.5	46.90 327 ⇑P	P	19 07 39.8	+0.3
E26A	Carlson Angus baz=47,SNR=5.7	47.02 332 ⇓P	P	19 07 40.5	+0.2
D27A	Center baz=47	47.07 333 ⇓P	P	19 07 40.6	-0.1
F25A	Bowman baz=47	47.08 331 ⇑P	P	19 07 40.9	+0.1
G24A	Alzada baz=47	47.13 330 ⇓P	P	19 07 41.2	+0.1
KNB	Kanab 11nm,0.9s	47.15 316 eP	P	19 07 42.1	+0.5
A30A	Hoffart Farm, baz=47,SNR=7.5	47.18 337 ⇓P	P	19 07 41.4	0.0
B29A	Wagenman Farm, baz=47,SNR=8.4	47.21 336 ⇑P	P	19 07 42.2	+0.5
I22A	9 Mile Ranch, baz=47	47.22 327 ⇓P	P	19 07 42.1	+0.1
J21A	Lysite baz=47,SNR=5.1	47.39 326 ⇓P	P	19 07 44.0	+0.6
ULM	Lac du Bonnet 12nm,0.5s,baz=147,slow=6.9,SNR=23	47.40 340 P	P	19 07 42.6	-0.4
ULM	Lac du Bonnet 9.3nm,0.7s	47.40 340 eP	P	19 07 42.7	-0.4
D26A	Manning baz=48,SNR=5.8	47.42 333 ⇑P	P	19 07 43.6	+0.3
E25A	Miller Ranch, baz=48	47.48 332 ⇑P	P	19 07 43.9	+0.1
MVU	Marysvale 9.8nm,0.9s	47.49 318 eP	P	19 07 45.1	+0.9
F24A	Ekalaka baz=48	47.51 330 ⇓P	P	19 07 44.0	-0.1
IRM	Iron Mountain baz=48	47.52 311 ⇑P	P	19 07 45.3	+0.9
C27A	Sayler Ranch, baz=48	47.52 334 ⇓P	P	19 07 44.1	0.0
G23A	Biddle baz=48	47.53 329 ⇑P	P	19 07 44.4	+0.1
A29A	Manning Farm, baz=48,SNR=6.2	47.53 337 ⇑P	P	19 07 44.1	0.0
I21A	Big Trails, Te baz=48,SNR=7.0	47.60 326 ⇑P	P	19 07 45.3	+0.3
B28A	Dugan Ranch, T baz=48	47.61 335 ⇓P	P	19 07 45.3	+0.6
H22A	Clearmont baz=48	47.62 328 ⇓P	P	19 07 45.3	+0.4
J20A	Shoshoni baz=48,SNR=10	47.75 325 ⇑P	P	19 07 46.9	+0.8
C26A	Wahner Farm, P baz=48	47.87 334 ⇓P	P	19 07 47.0	+0.2
F23A	Volborg baz=48	47.90 330 ⇑P	P	19 07 47.1	0.0
D25A	Fairfield baz=48	47.91 332 ⇑P	P	19 07 47.2	0.0
A28A	Rude Farm, Bot baz=48	47.93 336 ⇓P	P	19 07 47.3	0.0
B27A	Peters Farms, baz=48	47.95 335 ⇓P	P	19 07 47.5	+0.1
E24A	Baker baz=48	47.95 331 ⇓P	P	19 07 47.8	+0.3
MONP	Monument Peak, baz=48	47.97 309 ⇓P	P	19 07 48.5	+0.5
H21A	Big Horn, Sher baz=48	48.01 327 ⇓P	P	19 07 48.2	+0.2
G22A	Birney baz=48,SNR=7.9	48.01 328 ⇑P	P	19 07 48.3	+0.4
BELC	Belle Mtn. Jos baz=48	48.09 310 ⇑P	P	19 07 49.3	+0.5
GMRC	Granite Mounta baz=48	48.16 311 ⇓P	P	19 07 50.0	+0.6
NLU	North Lily Min 5.6nm,0.9s	48.17 319 eP	P	19 07 46.8	-2.7
SCHQ	Schefferville 9.6nm,0.5s,baz=192,slow=6.9,SNR=38	48.19 5 P	P	19 07 50.2	+1.2
SCHQ	ScP 2.2nm,0.8s,baz=201,slow=6.8,SNR=4.8		ScP	19 12 54.5	+0.5
BW06	Boulder Array 3.4nm,0.7s	48.23 324 eP	P	19 07 49.3	-0.6
PDAR	Pinedale Array 3.5nm,0.7s,baz=126,slow=9.2,SNR=25	48.23 324 P	P	19 07 49.9	0.0
PDAR	PcP 0.6nm,0.6s,baz=140,slow=7.1,SNR=3.1		PcP	19 09 15.0	+0.4
J19A	Crowheart baz=48,SNR=6.7	48.25 325 ⇑P	P	19 07 50.2	+0.3
C25A	Freed Ranch, W baz=48	48.30 333 ⇑P	P	19 07 50.2	+0.1
B26A	Jensen Ranch, baz=48	48.35 334 ⇓P	P	19 07 50.6	+0.2
D24A	Glendive baz=48	48.36 332 ⇑P	P	19 07 51.3	+0.7
F22A	Rosebud baz=48	48.37 329 ⇑P	P	19 07 51.0	+0.3
TCUT	Toone Canyon 18nm,0.4s	48.39 321 eP	P	19 07 51.5	+0.3
H20A	Greybull baz=48	48.43 327 ⇑P	P	19 07 51.3	0.0
G21A	Lodge Grass baz=48,SNR=7.3	48.49 328 ⇓P	P	19 07 51.9	+0.2
A26A	Wade Farm, Ken baz=49	48.66 335 ⇑P	P	19 07 53.1	+0.3
E22A	Miles City baz=49	48.67 330 ⇑P	P	19 07 53.1	+0.2
B25A	Knox Farm, Ray baz=49	48.67 333 ⇑P	P	19 07 54.3	+1.3
I19A	Meeteetse baz=49	48.69 326 ⇑P	P	19 07 54.3	+0.9
C24A	Savage baz=49	48.71 332 ⇑P	P	19 07 53.5	+0.3
HWUT	Hardware Ranch 5.1nm,0.6s	48.76 321 eP	P	19 07 53.3	-0.6
DUG	Dugway, Tooele baz=49	48.78 319 ⇓P	P	19 07 55.2	+1.2
DUG	Dugway, Tooele 3.9nm,0.8s	48.78 319 eP	P	19 07 54.6	+0.6
D23A	Lindsay baz=49	48.82 331 ⇑P	P	19 07 55.0	+0.9
F21A	Absaloka Mine, baz=49	48.84 329 ⇑P	P	19 07 54.5	+0.2
BBRC	Big Bear Solar baz=49	48.90 310 ⇑P	P	19 07 55.6	+0.5
G20A	Bridger baz=49,SNR=11	49.02 327 ⇑P	P	19 07 55.8	0.0
H19A	Powell baz=49	49.09 326 ⇑P	P	19 07 57.0	+0.7
SHOC	Shoshone, Teco baz=49	49.10 313 ⇑P	P	19 07 57.8	+1.4
AHID	Auburn Hatcher 10.0nm,0.4s	49.14 323 eP	P	19 07 56.0	-0.8
A25A	Svangstu Ranch baz=49	49.15 334 ⇑P	P	19 07 57.5	+1.0
GSC	Goldstone, Bar baz=49	49.24 312 ⇓P	P	19 07 58.6	+1.0
C23A	Lambert baz=49,SNR=5.4	49.26 332 ⇑P	P	19 07 58.4	+1.0
D22A	Cohagen baz=49,SNR=14	49.28 330 ⇓P	P	19 07 58.8	+1.2
E21A	Keefer Ranch, baz=49	49.30 329 ⇓P	P	19 07 58.3	+0.5
BGU	Big Grassy Mou 5.5nm,0.6s	49.31 320 eP	P	19 07 57.8	-0.2
REDW	Red Top Meadow 11nm,0.6s	49.35 324 eP	P	19 07 58.5	+0.1
SNOW	Snow King Moun 9.4nm,1.0s	49.35 324 eP	P	19 07 59.3	+0.8
LOHW	Long Hollow 5.2nm,0.6s	49.35 324 eP	P	19 07 58.8	+0.3
F20A	Billings baz=49,SNR=7.4	49.37 328 ⇑P	P	19 07 58.8	+0.5
BFSC	Mount Baldy Ra baz=50	49.45 310 ⇑P	P	19 08 00.2	+1.0
H18A	Shoshone NF, C baz=50	49.47 326 ⇓P	P	19 08 00.3	+1.0
TPAW	Teton Pass 5.7nm,0.6s	49.48 324 eP	P	19 08 00.1	+0.7
I17A	Pilgrim Ck. baz=50	49.52 325 ⇑P	P	19 08 00.7	+1.0
RLMT	Red Lodge 26nm,2.0s	49.53 327 eP	P	19 07 59.7	0.0
A24A	Westby baz=50,SNR=11	49.53 333 ⇓P	P	19 08 00.7	+1.3
C22A	Vida baz=50,SNR=10	49.55 331 ⇓P	P	19 08 00.5	+0.8
FXWY	Fox Creek 45nm,2.6s	49.62 324 eP	P	19 08 00.6	+0.2
D21A	La Casta Ranch baz=50,SNR=6.7	49.62 330 ⇓P	P	19 08 01.3	+1.1
B23A	Brockton baz=50,SNR=6.7	49.64 332 ⇑P	P	19 08 01.9	+1.6
CIS	Catalina Islan baz=50	49.70 309 ⇓P	P	19 08 02.2	+1.2
R11A	Troy Canyon, C baz=50	49.71 316 ⇑P	P	19 08 02.2	+1.0
IMW	Indian Meadow 6.9nm,0.6s	49.72 324 eP	P	19 08 01.6	+0.3
FURC	Furnace Creek, baz=50	49.77 313 ⇓P	P	19 08 02.6	+1.2
H17A	Grant Village baz=50	49.81 325 ⇑P	P	19 08 02.2	+0.3
E20A	Meyer Farm, Mu baz=50,SNR=18	49.82 329 ⇑P	P	19 08 02.6	+0.9
F19A	Roth Farm, Mol baz=50	49.82 327 ⇓P	P	19 08 02.2	+0.4
A23A	Redstone baz=50,SNR=12	49.95 333 ⇑P	P	19 08 04.1	+1.5
EDW2	Edwards Air Fo baz=50	49.95 311 ⇑P	P	19 08 04.0	+1.1
B22A	Reddig Ranch S baz=50,SNR=8.8	50.00 332 ⇑P	P	19 08 04.1	+1.1
E19A	Rath Farm, Rou baz=50,SNR=6.3	50.13 328 ⇑P	P	19 08 04.8	+0.7
GCMT	Greycliff	50.17 327 eP	P	19 08 05.3	+0.8
C21A	Desert Coulee baz=50	50.19 330 ⇓P	P	19 08 05.9	+1.4
YMR	Madison River 6.5nm,0.6s	50.20 325 eP	P	19 08 06.2	+1.4
D20A	Manuel Ranch, baz=50,SNR=7.6	50.21 329 ⇓P	P	19 08 05.4	+0.7
GRAC	Grapevine Rang baz=50	50.37 313 ⇑P	P	19 08 07.1	+1.1
A22A	Carney Farms, baz=50,SNR=20	50.45 332 ⇓P	P	19 08 07.6	+1.2
QLMT	Earthquake Lak	50.56 325 eP	P	19 08 09.2	+1.7
C20A	Veseth Ranch, baz=51	50.56 330 ⇓P	P	19 08 08.3	+1.0
D19A	Cripps Ranch, baz=51,SNR=9.3	50.64 329 ⇑P	P	19 08 08.7	+0.7
ARVC	Arvin baz=51	50.68 310 ⇑P	P	19 08 09.6	+1.3
A21A	Bergtoll Ranch baz=51,SNR=10	50.92 332 ⇓P	P	19 08 11.4	+1.5
B20A	Solberg Farm, baz=51,SNR=8.2	51.06 331 ⇓P	P	19 08 12.4	+1.4
C19A	Slack Wire Ran baz=51	51.10 329 ⇓P	P	19 08 12.3	+1.0
VES	Vestal, Richgr baz=51	51.15 311 ⇓P	P	19 08 13.1	+1.2
BOZ	Bozeman (W) 4.7nm,0.6s	51.16 326 eP	P	19 08 12.1	+0.2
A20A	Cobblestone Ra baz=51,SNR=13	51.32 331 ⇓P	P	19 08 14.1	+1.2
MCMT	McKenzie Canyo	51.37 324 eP	P	19 08 14.4	+0.8
B19A	Brinkman Farms baz=52	51.53 330 ⇓P	P	19 08 14.9	+0.4
HLID	Hailey baz=52,SNR=6.5	51.59 322 ⇓P	P	19 08 15.9	+0.7
HLID	Hailey 4.5nm,0.8s	51.59 322 eP	P	19 08 15.3	+0.1
SMMC	Simmler baz=52	51.64 310 ⇓P	P	19 08 16.8	+1.3
EGMT	Eagleton baz=52	51.65 329 ⇓P	P	19 08 15.9	+0.5
EGMT	Eagleton 17nm,0.9s	51.65 329 eP	P	19 08 14.7	-0.7
NV01	Mina Array Sit	51.65 315 eP	P	19 08 15.9	+0.1
NVAR	Mina Array Bea 2.3nm,0.6s,baz=115,slow=7.2,SNR=11	51.65 315 P	P	19 08 16.4	+0.6
NVAR	PcP 1.3nm,0.5s,baz=131,slow=4.1,SNR=3.8		PcP	19 09 28.1	+0.8
A19A	Klindworth Far baz=52	51.75 331 ⇓P	P	19 08 16.7	+0.6
MFID	Camas Ranch 8.3nm,0.8s	52.39 321 eP	P	19 08 21.2	+0.3
SLMT	Seeley Lake	53.15 326 eP	P	19 08 26.1	-0.5
MSO	Missoula baz=53	53.16 326 ⇑P	P	19 08 27.3	+0.8
FFC	Flin Flon 45nm,2.3s	53.21 339 eP	P	19 08 26.5	-0.1
FCC	Fort Churchill 0.1nm,0.8s	54.37 347 eP	P	19 08 34.3	-0.6
F10A	Beach Ranch, E 6.9nm,0.6s	54.58 323 eP	P	19 08 36.6	-0.2
G08A	Pilot Rock 10nm,0.6s	55.27 322 eP	P	19 08 42.1	+0.2
M04C	Macdoel baz=56	55.53 317 ⇓P	P	19 08 44.6	+0.8
NEW	Newport baz=56	55.74 326 ⇑P	P	19 08 45.7	+0.6
J05D	Fort Rock, OR baz=56	55.78 319 ⇓P	P	19 08 46.8	+1.2
PINOR	Pine Mountain 255nm,2.6s	55.78 319 eP	P	19 08 46.3	+1.0
N02D	Trinity Center baz=56	55.80 316 ⇑P	P	19 08 46.0	+0.3
M02C	Callahan baz=56	56.07 316 ⇓P	P	19 08 47.1	-0.5
C09A	Chrisman Ranch 9.9nm,0.7s	56.15 325 eP	P	19 08 48.0	0.0
J04D	Umpqua Nationa baz=56	56.34 318 ⇑P	P	19 08 50.7	+1.1
G05D	Wamic, OR baz=57	56.72 321 ⇑P	P	19 08 53.4	+1.3
EDM	Edmonton 23nm,1.0s	56.76 332 eP	P	19 08 52.0	-0.3
B08A	Colville Reser 5.8nm,0.8s	57.05 325 eP	P	19 08 54.5	+0.1
YKA	Yellowknife Ar 6.7nm,0.6s,baz=133,slow=6.8,SNR=30	63.38 340 P	P	19 09 37.3	+0.2
DBIC	Dimbokro 3.9nm,0.7s,baz=280,slow=15,SNR=4.6	67.56 86 P	P	19 10 05.2	+0.3
DBIC	Dimbokro 4.7nm,0.8s	67.56 86 eP	P	19 10 05.0	+0.2
SUMG	Summit	69.01 11 eP	P	19 10 13.1	-0.2
TORD	Torodi Ar. Bea 0.2nm,0.3s,baz=285,slow=6.5,SNR=11	73.57 78 P	P	19 10 41.0	-0.3
DOT	Dot Lake 7.2nm,0.6s	75.64 334 eP	P	19 10 52.0	-0.3
ILAR	Eielson Array 1.3nm,0.7s,baz=111,slow=4.7,SNR=15	77.09 335 P	P	19 11 00.6	+0.2
NOA	NORSAR Array B 1.0nm,0.9s,baz=270,slow=6.7,SNR=3.0	81.29 29 P	P	19 11 25.3	+1.9
ARCES	ARCESS Array B 3.3nm,1.0s,baz=273,slow=4.0,SNR=9.4	86.66 20 P	P	19 11 50.8	+0.4
ZALV	Zalesovo Beam 0.4nm,0.4s,baz=212,slow=3.0,SNR=3.4	116.68 15 PKP	PKPdf	19 17 50.6	+0.4
KURK	Kurchatov	117.70 20 PKP	PKPdf	19 17 53.0	+0.6
KURBB	Kurchatov Arra 0.1nm,0.4s,baz=312,slow=2.3,SNR=4.8	117.75 20 PKP	PKPdf	19 17 53.0	+0.5
MKAR	Makanchi Array 0.4nm,0.4s,baz=284,slow=2.5,SNR=18	122.32 20 PKP	PKPdf	19 18 01.5	+0.1
SONM	Songino Array 0.4nm,0.5s,baz=297,slow=1.4,SNR=6.8	125.64 1 PKP	PKPdf	19 18 08.5	+0.6
KSH	Kashi	125.72 29 ePKP	PKPdf	19 18 07.0	-1.3
KSH		sPKP		19 19 02.5	
KSH		PP	PP	19 19 57.9	-3.4
KSH		PKS	PKSdf	19 21 43.3	-1.7
KSH		SKS	SKSdf	19 25 05.3	-0.6
KSH	Kashi	125.72 29 SS	SS	19 36 49.8	+1.1
KSRS	Korea Array 0.3nm,0.3s,baz=78,slow=1.7,SNR=4.1	131.89 338 PKP	PKPdf	19 18 20.7	+0.9
KSAR	Wonju Array Be	131.92 338 PKP	PKPdf	19 18 20.7	+0.8
HHC	Hu-ho-hao-te	132.44 355 ePKP	PKPdf	19 18 18.1	-2.9
HHC		sPKP		19 19 16.3	

HHC				PP	PP	19 20 46.3	+1.8
HHC				PKS	PKSdf	19 21 56.4	-1.1
HHC				SKS	SKSdf	19 25 08.3	-10
HHC	Hu-ho-hao-te	132.44	355	SS	SS	19 38 08.0	-2.5
AS31	Alice Springs	149.22	234	*e*PKPdf	PKPdf	19 18 51.4	+0.1
AS31				*e*PKPbc	PKPbc	19 18 55.0	-0.7
ASAR	Alice Springs	149.22	234	PKP	PKPdf	19 18 51.5	+0.2
ASAR	3.9nm,0.6s,baz=106,slow=1.5,SNR=19			PKPbc	PKPbc	19 18 55.5	-0.2
WB2	4.4nm,0.5s,baz=118,slow=3.6,SNR=102 Warramunga Arr	150.46	241	*e*PKPbc	PKPbc	19 18 58.4	-0.3
WRAB	Tennant Creek	150.46	241	*e*PKPbc	PKPbc	19 18 58.3	-0.5
WRA	Warramunga Arr	150.47	241	PKP	PKPdf	19 18 53.9	+0.6
WRA	4.9nm,0.5s,baz=107,slow=2.6,SNR=11			PKPbc	PKPbc	19 18 58.5	-0.2
CMAR	4.7nm,0.4s,baz=107,slow=2.6,SNR=170 Chiang Mai Arr	153.69	18	PKPbc	PKPbc	19 19 06.8	+0.8
	1.0nm,0.6s,baz=316,slow=3.1,SNR=8.9						

*IDC **13** 19:14:27.7±2.5,25°.75N×128°.72E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.3/37,mbtmp3.5/4,Error ellipse: s-maj=124.1km s-min=23.1km az=71.0*
*ISCJB **13** 19:14:29.7±0.8,25°.72N±0°.07×128°.62E±0°.05,h30km, mb3.4/4,Error ellipse: s-maj=10.5km s-min=5.5km az=14.3*
*JMA **13** 19:14:29.6±0.3,25°.72N×128°.62E,h37km,M2.9*
ISC 13 19:14:30.4±1.0,25°.85N±0°.08×128°.65E±0°.04,h30km,n16, σ1°18/18,mb3.5/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.86	290	P	Pn	19 14 46.0	-0.5
JJT2				*e*S	Sn	19 14 57.8	-0.3
JNTH	Nagotoyohara	0.88	320	P	Pb	19 14 46.6	-0.5
JOW	Kunigami	1.04	341	P	Pb	19 14 49.9	+0.1
JOW	Kunigami	1.04	341	Pn	Pb	19 14 50.0	+0.2
JIH	Iheya	1.33	333	P	Pb	19 14 54.3	-0.5
JIH				*e*S	Sb	19 15 11.2	-0.3
JAGN	Aguni-jima	1.47	301	P	Pn	19 14 55.2	+0.4
JOKE	Okinoerabujima	1.51	357	P	Pb	19 14 57.2	-0.6
JKE	Kume jima 2	1.75	286	P	Pn	19 14 57.9	-0.7
JKE				*e*S	Sn	19 15 19.5	-0.4
JTK	Tokunoshima	1.95	8	P	Pb	19 15 03.3	-2.0
JMZ	Minamidaito 2	2.31	90	P	Pn	19 15 06.8	+0.3
JMZ				*e*S	Sn	19 15 33.9	0.0
JAMN	Amaminishikomi	2.43	11	P	Pn	19 15 10.1	+2.0
JAM	Amami Oshima	2.69	18	P	Pb	19 15 14.8	-3.1
SONM	Songino Array	28.08	327	P	P	19 20 23.5	+4.1
	0.6nm,0.4s,baz=144,slow=11,SNR=14						
MKAR	Makanchi Array	42.07	312	P	P	19 22 20.5	+1.0
	0.2nm,0.6s,baz=92,slow=9.9,SNR=4.2						
KURBB	Kurchatov Arra	45.39	317	P	P	19 22 49.7	+3.6
	0.2nm,0.3s,baz=108,slow=8.1,SNR=5.2						
WRA	Warramunga Arr	45.85	173	P	P	19 22 50.5	+0.5
	0.5nm,0.7s,baz=353,slow=8.1,SNR=4.9						

*IDC **13** 19:17:13.8±1.3,1°.26N×97°.09E,h0km,mb3.9/9, mb1 3.9/11,mb1mx3.7/40,mbtmp3.8/11,ML3.6/2,MS2.6/1, Ms1 2.6/1,ms1mx2.4/36,Error ellipse: s-maj=38.4km s-min=17.4km az=59.0*
*ISCJB **13** 19:17:15.3±0.7,1°.19N±0°.07×97°.01E±0°.06,h28km, mb4.0/14,Error ellipse: s-maj=11.2km s-min=6.7km az=36.9*
*NEIC **13** 19:17:18.6±2.9,1°.24N×97°.09E,h37km±22km,mb4.1/5, Error ellipse: s-maj=30.4km s-min=8.7km az=58.0*
*DJA **13** 19:17:20.5±0.6,2°.N±6°.×9°.7E±°,h10km,M3.8/7,mb3.9/1, MLv3.7/7*
ISC 13 19:17:17.8±0.9,1°.29N±0°.10×97°.03E±0°.07,h28km,n35, σ0°82/31,mb4.0/14,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.55	89	P	Pn	19 17 29.7	0.0
GSI				S	Sn	19 17 39.3	+1.3
GSI	Gunungsitoli	0.55	89	*e*Pg	Pn	19 17 29.5	-0.2
GSI				*e*Sg	Sb	19 17 36.8	+0.3
SNSI	Sinabang, Aceh	1.31	328	P	Pn	19 17 40.6	+0.3
SNSI				S	Sn	19 17 57.5	+0.6
TPTI		1.96	4	P	Pn	19 17 48.3	-0.9
KCSI	Kotacane, Aceh	2.33	18	P	Pn	19 17 54.7	+0.3
PSI	Prapat	2.41	52	Pn	Pn	19 17 54.9	-0.7
PSI	5.1nm,0.3s,baz=217,slow=4.2,SNR=19			LR	LR	19 18 44.5	
IPM	comp=Z,137nm,20.1s,baz=293,slow=39 Ipoh	5.09	51	*e*Pn	Pn	19 18 33.0	+0.6
KULM	7.8nm,0.4s Kulim	5.37	42	*e*Pn	Pn	19 18 36.3	+0.2
KSM	9.7nm,0.7s Kuching	13.28	89	*e*Pn	Pn	19 20 23.9	-0.6
CMAR	Chiang Mai Arr	17.16	6	P	Pn	19 21 14.7	-1.1
CHTO	0.2nm,0.3s,baz=201,slow=11,SNR=8.8 Chiang Mai	17.51	6	*e*Pn	Pn	19 21 20.6	+0.4
KKM	Kota Kinabalu	19.71	76	Pn	P	19 21 45.9	+0.4
H08S2	Diego Garcia H	26.04	250	T	T	19 49 42.8	
H08S3	baz=71,slow=75,SNR=1831 Diego Garcia H	26.04	250	T	T	19 49 43.1	
H08S1	baz=71,slow=75,SNR=1976 Diego Carcia H	26.05	250	T	T	19 49 44.2	
LSA	baz=71,slow=75,SNR=2246 Lhasa	28.80	349	*e*P	P	19 23 15.0	+0.9
MBWA	2.2nm,0.7s Marble Bar	31.48	136	P	P	19 23 33.6	-3.8
H01W3	16nm,1.1s Cape Leeuwin H	39.39	158	T	T	20 06 24.4	
H01W2	baz=332,slow=76,SNR=12 Cape Leeuwin H	39.41	158	T	T	20 06 26.7	
H01W1	baz=332,slow=76,SNR=13 Cape Leeuwin H	39.41	158	T	T	20 06 26.5	
WRA	baz=332,slow=76,SNR=13 Warramunga Arr	42.23	122	P	P	19 25 08.0	-0.9
ASAR	0.6nm,0.5s,baz=301,slow=9.1,SNR=7.8 Alice Springs	43.59	127	P	P	19 25 19.4	-0.5
KSAR	0.3nm,0.5s,baz=296,slow=7.9,SNR=7.3 Wonju Array Be	45.84	35	P	P	19 25 36.4	-1.2
KSRS	Korea Array	45.87	35	P	P	19 25 36.4	-1.4
EKS2	1.9nm,0.8s,baz=220,slow=7.9,SNR=6.4 Erkin-Say	46.16	336	P	P	19 25 38.8	-1.3
SONM	1.1nm,0.6s Songino Array	47.07	9	P	P	19 25 47.3	+0.1
MKAR	1.3nm,0.7s,baz=189,slow=9.8,SNR=10 Makanchi Array	47.11	346	P	P	19 25 48.7	+1.3
ULN	0.6nm,0.4s,baz=160,slow=7.8,SNR=23 Ulaanbaatar	47.20	9	P	P	19 25 48.1	-0.1
KURBB	Kurchatov Arra	51.60	345	P	P	19 26 22.6	+1.0
KURK	0.6nm,0.5s,baz=167,slow=7.0,SNR=9.4 Kurchatov	51.66	345	P	P	19 26 22.6	+0.6
ZALV	Zalesovo Beam	53.44	351	P	P	19 26 36.2	+1.0
STKA	3.0nm,0.5s,baz=180,slow=6.6,SNR=22 Stephens Creek	53.54	132	P	P	19 26 37.2	+0.9
BRVK	1.1nm,0.8s,baz=308,slow=8.4,SNR=3.6 Borovoye	56.17	341	P	P	19 26 54.6	-0.4
ABKAR	1.7nm,0.8s Akbulak array	57.35	332	*e*P	P	19 27 03.8	+0.4
FINES	2.1nm,0.8s FINESS Array B	79.84	333	P	P	19 29 23.1	-0.4
	2.5nm,1.0s,baz=151,slow=4.4,SNR=4.0						

IDC 13 19:40:55.5±10.0,28°.96S×62°.64E,h0km,mb3.6/2, mb1 3.8/2,mb1mx3.2/35,mbtmp3.6/2,Error ellipse: s-maj=596.0km s-min=51.2km az=34.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	63.23	103	P	P	19 51 26.6	+0.5
	0.5nm,0.6s,baz=245,slow=6.3,SNR=13						
WRA	Warramunga Arr	65.03	100	P	P	19 51 37.4	-0.6
	0.3nm,0.7s,baz=250,slow=5.8,SNR=3.2						
YKA	Yellowknife Ar	146.41	358	PKPbc	PKPdf	20 00 36.9	+0.4
	0.2nm,0.8s,baz=347,slow=2.9,SNR=3.5						

*IDC **13** 19:49:51.3±1.3,35°.14S×73°.01W,h0km,mb3.9/3, mb1 3.8/6,mb1mx3.6/30,mbtmp3.6/6,ML3.3/2,Error ellipse: s-maj=42.4km s-min=27.5km az=84.0*
*ISCJB **13** 19:49:54.8±1.2,35°.1S±0°.1×72°.9W±0°.3,h33km,mb3.8/3, Error ellipse: s-maj=30.1km s-min=14.6km az=1.2*
ISC 13 19:49:56.7±1.1,35°.1S±0°.1×72°.9W±0°.2,h35km,n9,σ0°38/9, mb4.0/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.22	49	Pn	Pn	19 51 12.2	-0.2
	0.3nm,0.3s,baz=221,slow=11,SNR=4.9						
CFAA				Lg	Lg	19 52 32.7	
	0.2nm,0.3s,baz=316,slow=13,SNR=4.3						
PLCA	Paso Flores	5.92	163	Pn	Pn	19 51 21.9	0.0
	baz=90,slow=20						
LPAZ	La Paz	19.21	14	P	Pn	19 54 19.4	0.0
	0.1nm,0.3s,baz=196,slow=8.2,SNR=3.2						
TXAR	Lajitas Array	70.36	332	P	P	20 01 06.8	-0.1
	0.4nm,0.7s,baz=152,slow=8.5,SNR=3.8						
BOSA	Boshof	80.18	118	P	P	20 02 03.8	0.0
	1.1nm,0.6s,baz=198,slow=5.6,SNR=3.7						
TORD	Torodi Ar. Bea	85.24	70	P	P	20 02 30.2	+0.2
	0.9nm,0.8s,baz=254,slow=3.9,SNR=5.2						
WRA	Warramunga Arr	119.46	210	PKP	PKPdf	20 08 42.8	-0.3
	0.2nm,0.6s,baz=162,slow=1.6,SNR=4.6						
ZALV	Zalesovo Beam	155.53	33	PKPab	PKPab	20 10 12.7	+0.8
	0.7nm,0.5s,baz=291,slow=4.6,SNR=3.7						
MKAR	Makanchi Array	158.01	50	PKPab	PKPab	20 10 22.7	-0.2
	0.3nm,0.8s,baz=270,slow=1.3,SNR=2.8						

*IDC **13** 19:55:07.0±0.8,45°.52S×166°.59E,h0km,mb4.1/5, mb1 4.2/6,mb1mx4.0/28,mbtmp4.1/6,ML4.2/1,MS3.9/7, Ms1 3.9/7,ms1mx3.5/26,Error ellipse: s-maj=33.8km s-min=23.8km az=50.0*
*ISCJB **13** 19:55:08.0±0.4,45°.47S±0°.05×166°.62E±0°.03,h15km, mb4.2/6,MS3.8/7,Error ellipse: s-maj=6.8km s-min=3.4km az=3.8*
*NEIC **13** 19:55:08.7,45°.50S×166°.64E,h7km,mb4.7/1, ML5.0(WEL),After WEL.*
*WEL **13** 19:55:09.2±0.4,45°.53S×166°.66E,h12km,ML4.9/22,Error ellipse: s-maj=3.5km s-min=3.1km az=90.0*
WEL Felt between Otago, Southland and Fiordland, maximum reported intensity MM 4.
ISC 13 19:55:08.7±0.5,45°.48S±0°.05×166°.70E±0°.04,h15km,n87, σ1°39/79,mb4.1/6,MS3.8/7,4C-3D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.32	89	⇑P*	Pg	19 55 16.5	+1.2
DCZ				S*	Sg	19 55 21.4	+1.5
DCZ				AML	AML	19 55 21.9	
DCZ				AML	AML	19 55 22.0	
DCZ				AML	AML	19 55 22.0	
DCZ	Deep Cove	0.32	89	Pg	Pg	19 55 16.5	+1.2
DCZ				Sg	Sg	19 55 21.4	+1.5
WHZ	Wether Hill Ro	0.97	116	P*	Pb	19 55 26.9	-0.3
WHZ				AML	AML	19 55 47.4	
WHZ				AML	AML	19 55 50.7	
WHZ	Wether Hill Ro	0.97	116	*e*Pg	Pb	19 55 26.9	-0.3
WHZ				P*	Pb	19 55 26.9	-0.3
MLZ	Mavora Lakes	1.05	83	⇑P*	Pb	19 55 27.9	-0.6
MLZ				S*	Sb	19 55 42.2	+0.1
MLZ				AML	AML	19 55 49.8	
MLZ	Mavora Lakes	1.05	83	P*	Pb	19 55 27.9	-0.6
MLZ				S*	Sb	19 55 42.2	+0.1
MSZ	Milford Sound	1.19	48	P*	Pn	19 55 29.5	-1.3
MSZ				AML	AML	19 55 51.1	
MSZ				AML	AML	19 55 51.1	
MSZ				AML	AML	19 56 02.0	
MSZ				AML	AML	19 56 02.0	
MSZ	Milford Sound	1.19	48	P*	Pn	19 55 29.5	-1.3
APZ	The Paps	1.62	147	PN	Pn	19 55 36.7	-0.1
APZ				AML	AML	19 56 00.8	
APZ				AML	AML	19 56 00.9	
APZ	The Paps	1.62	147	Pn	Pn	19 55 36.7	-0.1
WKZ	Wanaka	1.77	69	PN	Pn	19 55 40.2	+1.4
WKZ				AML	AML	19 56 08.1	
WKZ				AML	AML	19 56 08.1	
WKZ				AML	AML	19 56 13.7	
WKZ				AML	AML	19 56 13.7	
WKZ	Wanaka	1.77	69	Pn	Pn	19 55 40.2	+1.4
EAZ	Earnscleugh	1.86	83	PN	Pn	19 55 41.0	+1.0
EAZ				AML	AML	19 56 11.5	
EAZ				AML	AML	19 56 11.6	
EAZ				AML	AML	19 56 11.6	
EAZ	Earnscleugh	1.86	83	Pn	Pn	19 55 41.0	+1.0
SYZ	Scrubby Hill	2.00	123	PN	Pn	19 55 43.4	+1.5
SYZ				AML	AML	19 56 12.7	
SYZ				AML	AML	19 56 12.7	
SYZ				AML	AML	19 56 12.7	
SYZ				AML	AML	19 56 12.7	
SYZ	Scrubby Hill	2.00	123	Pn	Pn	19 55 43.5	+1.5
JCZ	Jackson Bay	2.03	47	PN	Pn	19 55 44.2	+1.7
JCZ				AML	AML	19 56 21.3	
JCZ				AML	AML	19 56 21.3	
TUZ	Tuapeka	2.11	104	PN	Pn	19 55 44.4	+1.0
TUZ	Tuapeka	2.11	104	Pn	Pn	19 55 44.4	+1.0
LBZ	Lake Benmore	2.71	67	PN	Pn	19 55 52.2	+0.5
LBZ				AML	AML	19 56 29.8	
LBZ				AML	AML	19 56 29.9	
LBZ				AML	AML	19 56 42.5	
LBZ				AML	AML	19 56 42.6	
LBZ	Lake Benmore	2.71	67	Pn	Pn	19 55 52.2	+0.5
HHSZ	Highcliff Hill	2.76	100	PN	Pn	19 55 55.2	+2.8
ODZ	Otahua Downs	2.82	82	PN	Pn	19 55 53.4	+0.2
ODZ	Otahua Downs	2.82	82	*e*Pn	Pn	19 55 53.2	0.0
FOZ	Fox Glacier	2.87	49	PN	Pn	19 55 56.8	+2.6
FOZ				AML	AML	19 56 48.4	
FOZ				AML	AML	19 56 48.4	
FOZ				AML	AML	19 56 51.4	
FOZ				AML	AML	19 56 51.4	
FOZ	Fox Glacier	2.87	49	Pn	Pn	19 55 56.6	+2.6
RPZ	Rata Peaks	3.58	62	PN	Pn	19 56 03.7	0.0
RPZ				AML	AML	19 56 51.0	
RPZ				AML	AML	19 57 08.8	
RPZ	Rata Peaks	3.58	62	*e*Pn	Pn	19 56 02.9	-0.8
RPZ				*e*Sn	Sn	19 56 46.9	+1.3
WVZ	Waitaha Valley	3.77	52	PN	Pn	19 56 07.3	+1.1
WVZ				AML	AML	19 57 15.9	
WVZ	Waitaha Valley	3.77	52	Pn	Pn	19 56 07.3	+1.1
OXZ	Oxford	4.39	62	PN	Pn	19 56 15.8	+1.0
MQZ	McQueen's Vall	4.61	69	PN	Pn	19 56 18.7	+0.9
LTZ	Lake Taylor	4.83	58	PN	Pn	19 56 21.9	+0.9
LTZ				AML	AML	19 57 31.6	
LTZ				AML	AML	19 57 32.6	
DSZ	Denniston Nort	5.26	47	PN	Pn	19 56 30.7	+3.9
KHZ	Kahutara	5.81	61	PN	Pn	19 56 36.0	+1.7
KHZ				AML	AML	19 57 48.0	
KHZ				AML	AML	19 57 50.2	
KHZ	Kahutara	5.81	61	*e*Pn	Pn	19 56 35.7	+1.4
	168nm,1.1s						
THZ	Tophouse	5.84	53	PN	Pn	19 56 35.1	+0.4
THZ				AML	AML	19 57 55.5	
THZ				AML	AML	19 57 55.8	
THZ	Tophouse	5.84	53	Pn	Pn	19 56 35.1	+0.4
QRZ	Quartz Range	6.31	45	PN	Pn	19 56 42.6	+1.4
QRZ	Quartz Range	6.31	45	Pn	Pn	19 56 42.6	+1.4
NNZ	Nelson	6.47	51	AML	AML	19 58 07.4	
NNZ				AML	AML	19 58 10.4	
TUWZ	Tuamarina	6.64	55	PN	Pn	19 56 48.4	+2.6
TUWZ				AML	AML	19 58 11.0	
TUWZ				AML	AML	19 58 15.3	
TUWZ	Tuamarina	6.64	55	Pn	Pn	19 56 48.4	+2.6
TCW	Tory Channel	6.98	55	PN	Pn	19 56 54.3	+4.0
TCW				AML	AML	19 58 18.2	
TCW				AML	AML	19 58 20.0	
TCW	Tory Channel	6.98	55	Pn	Pn	19 56 54.4	+4.0
SNZO	South Karori	7.17	57	*e*Pn	Pn	19 56 54.9	+1.9
SNZO				*e*Sn	Sn	19 58 11.6	-2.5
CAW	Cannon Point	7.51	57	PN	Pn	19 56 59.4	+1.8
CAW				AML	AML	19 58 29.1	
CAW				AML	AML	19 58 29.7	
CAW	Cannon Point	7.51	57	Pn	Pn	19 56 59.4	+1.8
KIW	Kapiti Island	7.57	55	PN	Pn	19 57 00.0	+1.5
KIW				AML	AML	19 58 31.0	
KIW	Kapiti Island	7.57	55	Pn	Pn	19 57 00.0	+1.5
KHEZ	Kahui Hut	8.21	44	PN	Pn	19 57 10.3	+2.9
TRVZ	Turoa	9.00	50	PN	Pn	19 57 22.4	+4.1
FWVZ	Far West T-bar	9.03	50	PN	Pn	19 57 23.5	+4.8
FWVZ				AML	AML	19 59 28.1	
FWVZ				AML	AML	19 59 42.3	
URZ	Urewera	10.59	51	Pn	Pn	19 57 42.4	+2.5
	1.6nm,0.3s,baz=231,slow=6.2,SNR=9.1						
URZ				Sn	Sn	19 59 32.7	-5.5
	1.4nm,0.3s,baz=76,slow=8.3,SNR=2.9						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUZ	Omahuta	11.51	30	*e*Pn	Pn	19 57 53.8	+1.2
	62nm,0.5s						
TAU	Tasmania Unive	14.14	274	*e*Pn	Pn	19 58 25.3	-3.0
	9.7nm,0.6s						
MOO	Moorlands	14.38	275	⇓P	Pn	19 58 30.9	-0.7
	baz=14,SNR=8.3						
MILA	Mila	15.63	296	⇓P	Pn	19 58 46.5	-1.9
	baz=16,SNR=24						
CNB	Canberra Magne	16.63	302	P	Pn	19 59 01.4	+0.2
	baz=17,SNR=8.5						
MGCD	Mangrove Creek	17.16	310	⇑P	P	19 59 09.2	-0.2
	baz=17,SNR=6.8						
TOO	Toolangi	17.70	289	⇑P	P	19 59 15.7	+0.2
	baz=18,SNR=34						
RAO	Raoul Island	20.24	42	LR	LR	20 07 56.7	
	comp=Z,278nm,18.4s,baz=130,slow=38						
CMSA	Cobar Meteorol	21.46	303	⇓P	P	19 59 58.7	+2.3
	baz=21,SNR=8.2						
STKA	Stephens Creek	23.73	296	P	P	20 00 21.1	+1.0
	2.7nm,0.8s,baz=119,slow=9.8,SNR=7.0						
STKA				LR	LR	20 08 51.5	
	comp=Z,244nm,18.5s,baz=123,slow=35						
VNDA	Vanda	32.20	182	LR	LR	20 12 21.3	
	comp=Z,311nm,18.7s,baz=9.5,slow=32						
AS31	Alice Springs	34.32	298	*e*P	P	20 01 55.8	+1.1
ASAR	Alice Springs	34.32	298	P	P	20 01 54.5	-0.3
	2.9nm,1.1s,baz=141,slow=7.8,SNR=11						
ASAR				PcP	PcP	20 04 32.7	+2.0
	0.5nm,0.7s,baz=134,slow=2.7,SNR=3.8						
ASAR				LR	LR	20 15 44.6	
	comp=Z,170nm,18.2s,baz=126,slow=36						
HNR	Honiara	36.39	349	LR	LR	20 16 39.2	
	comp=Z,214nm,18.2s,baz=159,slow=36						
WRA	Warramunga Arr	36.87	303	P	P	20 02 15.4	-1.1
	2.5nm,1.1s,baz=138,slow=7.4,SNR=6.5						
WRA				LR	LR	20 17 02.3	
	comp=Z,108nm,18.6s,baz=175,slow=36						
WRAB	Tennant Creek	36.87	303	*e*P	P	20 02 16.5	-0.1
	19nm,1.4s						
WRKA	Warakurna	36.95	290	P	P	20 02 18.7	+1.4
	baz=37,SNR=7.6						
H01W1	Cape Leeuwin H	40.85	266	T	T	20 46 06.6	
	baz=121,slow=75,SNR=380						
H01W2	Cape Leeuwin H	40.87	266	T	T	20 46 09.0	
	baz=121,slow=75,SNR=359						
H01W3	Cape Leeuwin H	40.87	266	T	T	20 46 09.5	
	baz=121,slow=75,SNR=355						
QSPA	South Pole Qui	44.64	180	P	P	20 03 20.6	+0.2
	4.0nm,0.9s,baz=349,slow=1.9,SNR=14						
BATI	Baumata	50.85	300	LR	LR	20 26 07.1	
	comp=Z,115nm,18.8s,baz=206,slow=37						
H08S2	Diego Garcia H	87.55	262	T	T	21 44 21.6	
	baz=136,slow=76,SNR=700						
H08S1	Diego Carcia H	87.56	262	T	T	21 44 22.7	
	baz=136,slow=76,SNR=488						
H08S3	Diego Garcia H	87.57	262	T	T	21 44 23.1	
	baz=136,slow=76,SNR=818						
CMAR	Chiang Mai Arr	88.33	298	P	P	20 08 00.8	+1.0
	1.0nm,0.8s,baz=152,slow=4.0,SNR=8.8						
YKA	Yellowknife Ar	124.43	34	PKP	PKPdf	20 14 05.3	-0.6
	0.3nm,0.9s,baz=228,slow=2.2,SNR=4.1						
TORD	Torodi Ar. Bea	145.35	206	PKPbc	PKPbc	20 14 45.5	-0.5
	11nm,0.5s,baz=147,slow=2.5,SNR=194						
BRTR	Keskin Array B	145.37	277	PKPbc	PKPab	20 14 46.4	+0.5
	2.5nm,0.9s,baz=142,slow=4.4,SNR=14						
ARCES	ARCESS Array B	149.10	335	PKPbc	PKPbc	20 14 55.1	+0.1
	1.3nm,0.5s,baz=79,slow=2.7,SNR=12						
IDI	Anoyia	149.44	264	PKPbc	PKPbc	20 14 57.6	+0.6
	1.4nm,0.5s,baz=133,slow=5.4,SNR=6.1						
AKASG	Malin Array Be	151.42	296	PKPbc	PKPbc	20 15 00.8	-0.3
	1.6nm,0.6s,baz=84,slow=1.8,SNR=4.3						
FINES	FINESS Array B	152.20	319	PKPbc	PKPbc	20 15 02.7	+0.2
	1.7nm,0.5s,baz=107,slow=4.1,SNR=32						

*IDC **13** 19:57:12.1±1.1,25°.89N×128°.32E,h0km,mb3.7/9, mb1 3.9/10,mb1mx3.7/31,mbtmp3.8/10,ML3.5/1,MS3.1/2, Ms1 3.2/2,ms1mx2.7/36,Error ellipse: s-maj=44.3km s-min=17.1km az=79.0*
*ISCJB **13** 19:57:14.5±1.1,25°.91N±0°.03×128°.56E±0°.04,h32km±7km, mb3.7/9,MS3.2/1,Error ellipse: s-maj=7.6km s-min=4.5km az=35.6*
*JMA **13** 19:57:14.7±0.3,25°.94N×128°.61E,h33km,M3.3*
ISC 13 19:57:15.1±2.2,25°.91N±0°.05×128°.55E±0°.05,h25km±15km, n41,σ1°27/51,mb3.7/9,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.76	288	P	Pn	19 57 29.8	-0.4
JJT2				*e*S	Sb	19 57 40.6	+1.0
JNTH	Nagotoyohara	0.78	322	P	Pn	19 57 29.1	-1.3
JNTH				*e*S	Sb	19 57 39.7	-0.3
JOW	Kunigami	0.96	345	P	Pn	19 57 32.1	-0.8
JOW				*e*S	Sn	19 57 43.6	-2.2
JOW	Kunigami	0.96	345	Pn	Pn	19 57 32.4	-0.5
	baz=164,slow=13						
JIH	Iheya	1.24	335	P	Pn	19 57 36.5	-0.3
JIH				*e*S	Sn	19 57 52.1	-0.7
JAGN	Aguni-jima	1.36	300	P	Pn	19 57 38.4	0.0
JOKE	Okinoerabujima	1.45	1	P	Pn	19 57 39.3	-0.4
JOKE				*e*S	Sn	19 57 56.7	-1.3
JKE	Kume jima 2	1.64	285	P	Pn	19 57 41.8	-0.5
JKE				*e*S	Sn	19 58 00.9	-1.8
JTK	Tokunoshima	1.91	11	P	Pn	19 57 45.5	-0.5
JTK				*e*S	Sn	19 58 07.0	-2.2
JAMN	Amaminishikomi	2.39	13	P	Pn	19 57 52.0	-0.7
JMZ	Minamidaito 2	2.41	91	P	Pn	19 57 51.5	-1.3
JMZ				*e*S	Sn	19 58 16.4	-5.1
JAM	Amami Oshima	2.67	20	P	Pn	19 57 55.7	-0.7
JAM				S	Sn	19 58 25.5	-2.4
JOGS	Gusukube	3.07	249	P	Pn	19 58 02.3	+0.4
JOGS				*e*S	Sn	19 58 36.8	-1.0
JIKM	Ikemajima	3.15	253	P	Pn	19 58 02.9	-0.1
JIRB	Irabujima	3.24	251	P	Pn	19 58 04.3	0.0
JIRB				*e*S	Sn	19 58 40.6	-1.5
JTJ	Tarama

Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.44**	**96**	*i* P	Pg	20 12 45.9	-0.6
PCED				*e*S	Sg	20 12 52.0	-0.2
PCED				A	A	20 12 53.3	
	448nm,0.3s						
PCED	**Cedros**	**0.44**	**96**	*i* P	Pg	20 12 45.9	-0.6
PCED				*e*S	Sg	20 12 52.0	-0.2
CALA	**Caldeira**	**0.45**	**102**	*e*P	Pg	20 12 46.5	-0.3
CALA				*e*S	Sg	20 12 52.5	-0.1
CALA	**Caldeira**	**0.45**	**102**	*e*P	Pg	20 12 46.5	-0.3
CALA				*e*S	Sg	20 12 52.5	-0.1
HOR	**Horta**	**0.51**	**106**	*e*P	Pg	20 12 47.2	-0.7
HOR				*e*S	Sg	20 12 54.2	-0.4
HOR	**Horta**	**0.51**	**106**	*e*P	Pg	20 12 47.2	-0.7
HOR				*e*S	Sg	20 12 54.2	-0.4
PCAN	**Candelaria**	**0.64**	**109**	*e*P	Pg	20 12 49.3	-1.1
PCAN				*e*S	Sg	20 12 57.4	-1.4
PCAN				A	A	20 13 01.1	
	376nm,0.3s						
PCAN	**Candelaria**	**0.64**	**109**	*e*P	Pg	20 12 49.3	-1.1
PCAN				*e*S	Sg	20 12 57.4	-1.4
PICO	**Pico**	**0.68**	**105**	*e*P	Pg	20 12 49.9	-1.3
PICO				*e*S	Sg	20 12 58.8	-1.2
PICO	**Pico**	**0.68**	**105**	*e*P	Pg	20 12 49.9	-1.3
PICO				*e*S	Sg	20 12 58.8	-1.2
ROSA	**Rosais**	**0.80**	**86**	*e*P	Pg	20 12 51.4	-2.0
ROSA				*e*S	Sg	20 13 01.3	-2.5
ROSA				A	A	20 13 05.2	
	513nm,0.6s						
ROSA	**Rosais**	**0.80**	**86**	*e*P	Pg	20 12 51.4	-2.0
ROSA				*e*S	Sg	20 13 01.3	-2.5
PMAN	**Manadas**	**0.92**	**92**	*e*S	Sg	20 13 04.6	-3.0
PMAN				A	A	20 13 10.0	
	175nm,0.3s						
PMAN	**Manadas**	**0.92**	**92**	*e*S	Sg	20 13 04.6	-3.0

ISCJB ***13*** *20:13:31.9±0.5, 41°.46N±0°.03×142°.03E±0°.05, h70km±5km, mb3.6/5, Error ellipse: s-maj=7.4km s-min=4.7km az=33.2*
JMA ***13*** *20:13:32.6±0.1, 41°.48N×142°.02E, h61km±2km, M3.1*
IDC ***13*** *20:13:34.5±2.7, 41°.46N×142°.34E, h86km±23km, mb3.3/5, mb1 3.4/7, mb1mx3.1/55, mbtmp3.6/7, Error ellipse: s-maj=31.6km s-min=19.8km az=109.0*

ISC 13 20:13:32.7±0.9, 41°.47N±0°.04×142°.02E±0°.04, h61km±10km, n21, σ0^s.96/31, mb3.7/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.74**	**264**	P	**Pn**	**20 13 47.5**	**+0.1**
JOT				S	**Sn**	**20 13 58.6**	**+0.3**
JKB	**Kayabe**	**0.85**	**300**	P	**Pn**	**20 13 48.4**	**-0.5**
JNBK	**Urakawa-nobuka**	**0.98**	**34**	P	**Pn**	**20 13 50.1**	**-0.4**
JTM	**Tenmabayashi**	**0.99**	**227**	P	**Pn**	**20 13 50.9**	**+0.3**
JTM				*e*S	**Sn**	**20 14 04.1**	**+0.2**
JEM	**Erimo**	**1.01**	**57**	P	**Pn**	**20 13 51.0**	**+0.1**
JEM				*e*S	**Sn**	**20 14 03.9**	**-0.5**
JANG	**Nango**	**1.16**	**200**	P	**Pn**	**20 13 52.8**	**0.0**
JANG				*e*S	**Sn**	**20 14 07.6**	**-0.2**
JSR	**Shiriuchi**	**1.21**	**274**	P	**Pn**	**20 13 53.7**	**+0.2**
JSR				*e*S	**Sn**	**20 14 09.2**	**+0.2**
JNB	**Noboribetsu**	**1.24**	**324**	P	**Pn**	**20 13 53.3**	**-0.6**
JNB				*e*S	**Sn**	**20 14 08.9**	**-0.9**
JBT2	**Biratori 2**	**1.34**	**11**	P	**Pn**	**20 13 55.3**	**+0.1**
JBT2				*e*S	**Sn**	**20 14 13.4**	**+1.3**
JYM2	**Yakumo 2**	**1.40**	**298**	P	**Pn**	**20 13 56.5**	**+0.5**
JEW	**Eniwo**	**1.44**	**343**	P	**Pn**	**20 13 56.7**	**+0.1**
JEW				*e*S	**Sn**	**20 14 14.8**	**+0.3**
JCH	**Churui**	**1.52**	**41**	P	**Pn**	**20 13 58.0**	**+0.3**
JAH	**Hinai**	**1.65**	**220**	P	**Pn**	**20 14 00.4**	**+0.9**
JAH				*e*S	**Sn**	**20 14 21.6**	**+1.9**
JOSM	**Okushiri--Mats**	**2.00**	**289**	P	**Pn**	**20 14 04.2**	**0.0**
JOSM				*e*S	**Sn**	**20 14 28.1**	**0.0**
ASAJ	**Asahikawa**	**2.68**	**9**	P	**Pn**	**20 14 14.2**	**+0.7**
	3.5nm,0.3s,baz=242,slow=11,SNR=7.3						
ASAJ				S	**Sn**	**20 14 47.7**	**+3.0**
	1.6nm,0.3s,baz=326,slow=31,SNR=4.3						
KSRS	**Korea Array**	**11.61**	**254**	P	Pn	20 16 21.7	+6.2
	0.2nm,0.3s,baz=62,slow=14,SNR=4.2						
ZALV	**Zalesovo Beam**	**39.40**	**308**	P	**P**	**20 20 56.2**	**+0.1**
	0.3nm,0.3s,baz=115,slow=6.7,SNR=3.7						
MKAR	**Makanchi Array**	**42.30**	**298**	P	**P**	**20 21 22.2**	**+2.0**
	0.2nm,0.5s,baz=74,slow=11,SNR=6.3						
INK	**Inuvik**	**50.26**	**29**	P	**P**	**20 22 21.5**	**-0.6**
	0.7nm,0.6s,baz=276,slow=3.3,SNR=4.6						
WRA	**Warramunga Arr**	**61.51**	**188**	P	**P**	**20 23 42.3**	**-0.8**
	0.4nm,0.9s,baz=6.1,slow=6.9,SNR=4.2						
FINES	**FINESS Array B**	**65.13**	**332**	P	**P**	**20 24 05.5**	**-1.1**
	1.6nm,0.9s,baz=29,slow=9.5,SNR=5.0						

IDC 13 20:16:05.2±1.9, 41°.35S×86°.46E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/35, mbtmp3.7/4, MS3.6/1, Ms1 3.6/1, ms1mx3.0/29, Error ellipse: s-maj=51.0km s-min=32.9km az=105.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**22.64**	**82**	T	T	20 44 37.3	
	baz=246,slow=74,SNR=7.1						
H01W3	**Cape Leeuwin H**	**22.65**	**82**	T	T	20 44 35.6	
	baz=246,slow=74,SNR=8.7						
H01W1	**Cape Leeuwin H**	**22.66**	**83**	T	T	20 44 38.5	
	baz=246,slow=74,SNR=6.1						
NWAO	**Narrogin (SRO)**	**25.83**	**81**	LR	LR	20 29 26.8	
	comp=Z,158nm,21.3s,baz=246,slow=31						
H08S2	**Diego Garcia H**	**35.78**	**336**	T	T	21 00 22.0	
	baz=162,slow=76,SNR=41						
H08S1	**Diego Carcia H**	**35.79**	**336**	T	T	21 00 21.5	
	baz=162,slow=76,SNR=26						
H08S3	**Diego Garcia H**	**35.80**	**336**	T	T	21 00 23.5	
	baz=162,slow=76,SNR=39						
ASAR	**Alice Springs**	**43.15**	**81**	P	P	20 24 06.9	-0.8
	0.8nm,0.9s,baz=230,slow=9.7,SNR=5.6						
WRA	**Warramunga Arr**	**45.71**	**77**	P	P	20 24 28.7	+0.5
	1.0nm,1.0s,baz=233,slow=8.0,SNR=3.1						
QSPA	**South Pole Qui**	**48.80**	**180**	P	P	20 24 51.8	-0.2
	3.1nm,1.0s,baz=247,slow=5.6,SNR=4.3						
CMAR	**Chiang Mai Arr**	**60.62**	**14**	P	P	20 26 17.7	-0.1
	0.2nm,0.3s,baz=200,slow=7.7,SNR=3.3						

IDC 13 20:19:57.8±21.0, 40°.31S×87°.07E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/34, mbtmp3.5/3, Error ellipse: s-maj=498.0km s-min=50.2km az=40.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**35.04**	**334**	T	T	21 04 05.8	
	baz=162,slow=76,SNR=45						
H08S1	**Diego Carcia H**	**35.05**	**334**	T	T	21 04 09.8	
	baz=162,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**35.06**	**334**	T	T	21 04 06.8	
	baz=162,slow=76,SNR=42						
ASAR	**Alice Springs**	**42.54**	**82**	P	P	20 27 54.9	-0.4
	0.4nm,0.7s,baz=228,slow=7.3,SNR=7.4						
WRA	**Warramunga Arr**	**45.04**	**78**	P	P	20 28 15.4	0.0
	0.6nm,0.7s,baz=234,slow=7.5,SNR=3.4						
CMAR	**Chiang Mai Arr**	**59.50**	**13**	P	P	20 30 02.8	+0.1
	0.6nm,0.8s,baz=202,slow=8.1,SNR=4.7						

GUC ***13*** *20:20:20.1±0.6, 36°.95S×74°.19W, h10km±5km, ML4.7*
IDC ***13*** *20:20:20.7±0.6, 36°.81S×73°.84W, h0km, mb4.5/13, mb1 4.6/14, mb1mx4.3/33, mbtmp4.5/14, ML3.3/1, MS4.6/12, Ms1 4.5/12, ms1mx4.2/28, Error ellipse: s-maj=21.4km s-min=13.4km az=89.0*
ISCJB ***13*** *20:20:24.3±0.2, 36°.95S±0°.04×73°.89W±0°.06, h33km, mb4.8/36, MS4.5/10, Error ellipse: s-maj=7.4km s-min=4.8km az=137.2*
BJI ***13*** *20:20:25.6, 36°.80S×73°.70W, h38km, mB5.0/9, Ms5.2/8, Ms7 5.1/8*
NEIC ***13*** *20:20:26.4±1.3, 36°.83S×73°.70W, h37km±10km, mb5.0/23, Error ellipse: s-maj=14.1km s-min=6.7km az=75.0*
NEIC Felt [IV] at Concepcion and [II] at Santiago. Also felt at Buin and Chiguayante.
GCMT ***13*** *20:20:26.4±0.3, 37°.11S×74°.29W, h15km, MW5.3/73, Moment Tensor Solution. s31,c41; s73,c97; Duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.42±.01; $M_{\theta\theta}$0.01±.01; $M_{\phi\phi}$-0.42±.01; $M_{r\theta}$0.04±.05; $M_{r\phi}$0.06±.01; $M_{\theta\phi}$-1.00±.04; Best double couple: $M_0$1.08700×10^{17} NP1:ϕ_s177.00000°, δ79.00000°, λ92.00000°. NP2: ϕ_s346.00000°, δ12.00000°, λ79.00000°. Principal axes: T 1.0820, Plg56.0000°, Azm90.0000°; N 0.0090, Plg2.0000°, Azm357.0000°; P -1.0920, Plg34.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 20:20:25.6±0.4, 36°.97S±0°.05×73°.90W±0°.06, h35km, n139, σ1^s.34/150, mb4.9/36, MS4.6/10, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.65**	**79**	*e*P	**Pn**	**20 20 36.5**	**-1.8**
CCSP				*e*S	**Sn**	**20 20 48.5**	**+1.1**
CCSP				AML	AML	20 20 52.7	
	comp=E,49μm,0.5s						
COCH	**Cobquecura**	**1.23**	**47**	‖*i*P	**Pn**	**20 20 44.2**	**-2.1**
AGCH	**Angol**	**1.27**	**131**	*e*P	**Pn**	**20 20 46.1**	**-0.8**
AGCH				*e*S	**Sn**	**20 21 05.1**	**+2.3**
PSCH	**Puerto Saavedr**	**1.87**	**168**	*e*P	**Pn**	**20 20 53.6**	**-1.5**
LNCH	**Linares**	**2.17**	**60**	*e*P1	**Pn**	**20 20 59.8**	**+0.5**
LNCH				*i* S	**Sn**	**20 21 30.4**	**+5.5**
TALC	**Talca**	**2.42**	**50**	‖*i*P	**Pn**	**20 21 03.2**	**+0.6**
TALC				*e*S	**Sn**	**20 21 35.3**	**+4.4**
VLCH	**Valdivia**	**2.88**	**170**	*e*P	**Pn**	**20 21 07.7**	**-1.3**
PLCA	**Paso Flores**	**4.58**	**146**	Pn	**Pn**	**20 21 32.6**	**+0.2**
	baz=346,slow=8.3						
PLCA				Lg	Lg	20 22 49.4	
	baz=40,slow=18						
PLCA				LR	LR	20 23 22.1	
	comp=E,8μm,20.6s,baz=326,slow=39						
CFAA	**Coronel Fontan**	**7.12**	**43**	Pn	**Pn**	**20 22 05.5**	**-1.8**
	comp=E,0.5nm,0.3s,baz=214,slow=12,SNR=29						
CFAA				Lg	Lg	20 24 01.2	
	comp=E,0.1nm,0.3s,baz=151,slow=5.1,SNR=4.4						
CFAA				LR	LR	20 24 59.1	
	comp=E,246nm,19.5s,baz=229,slow=40						
LCO	**Las Campanas**	**8.38**	**20**	*e*Pn	Pn	20 22 20.5	-4.4
TRQA	**Tornquist**	**9.54**	**100**	*e*Pn	**Pn**	**20 22 41.1**	**+0.7**
	comp=E,137nm,1.4s						
USHA	**Ushuaia**	**18.25**	**170**	LR	LR	20 31 34.5	
	comp=E,3μm,19.1s,baz=324,slow=37						
EFI	**East Falkland**	**18.50**	**148**	*e*P	**Pn**	**20 24 39.6**	**+0.7**
LPAZ	**La Paz**	**21.23**	**15**	P	**P**	**20 25 08.9**	**-0.2**
	comp=E,18nm,0.9s,baz=182,slow=6.5,SNR=25						
SIV	**San Ignacio**	**23.80**	**32**	P	**P**	**20 25 34.9**	**-0.3**
	comp=E,14nm,0.8s,baz=233,slow=12,SNR=32						
SIV				LR	LR	20 36 46.7	
	comp=E,3μm,19.4s,baz=222,slow=42						
NNA	**Nana**	**25.02**	**353**	LR	LR	20 32 31.9	
	comp=E,376nm,21.9s,baz=180,slow=29						
NNA	**Nana**	**25.02**	**353**	P	**P**	**20 25 46.7**	**+0.2**
	comp=E,28nm,1.1s						
SAML	**Samuel**	**29.54**	**22**	*e*P	**P**	**20 26 25.3**	**-1.7**
	comp=E,39nm,1.8s						
BDFB	**Brasilia**	**31.28**	**54**	P	**P**	**20 26 40.9**	**-1.6**
	comp=E,8.5nm,0.9s,baz=218,slow=9.0,SNR=8.4						
BDFB				LR	LR	20 39 04.7	
	comp=E,2μm,18.2s,baz=228,slow=36						
OTAV	**Otavalo**	**37.26**	**352**	*e*P	**P**	**20 27 35.8**	**+1.1**
	comp=E,16nm,1.4s						
SNAA	**Sanae**	**49.44**	**157**	P	**P**	**20 29 12.0**	**+0.3**
	comp=E,5.1nm,1.0s,baz=265,slow=8.8,SNR=6.8						
SNAA	**Sanae**	**49.44**	**157**	*e*P	**P**	**20 29 12.1**	**+0.3**
	comp=E,29nm,1.3s						
QSPA	**South Pole Qui**	**53.27**	**180**	P	**P**	**20 29 42.3**	**+1.7**
	comp=E,6.4nm,0.9s,baz=144,slow=2.3,SNR=9.0						
QSPA	**South Pole Qui**	**53.27**	**180**	*e*P	**P**	**20 29 41.9**	**+1.3**
	comp=E,327nm,3.0s						
RKT	**Rikitea**	**53.81**	**267**	*e*S	**S**	**20 37 20.5**	**+3.0**
	comp=E,358nm,27.8s						
RKT				*e*LR	LR	20 45 28.8	
	comp=E,943nm,30.0s						
APG	**El Apazote**	**54.00**	**340**	LR	LR	20 47 22.8	
	comp=E,196nm,21.6s,baz=157,slow=30						
MTDJ	**Mount Denham**	**55.01**	**356**	P	**P**	**20 29 51.5**	**-2.2**
CELP	**Cerrillos**	**55.18**	**8**	*e*P	**P**	**20 29 53.9**	**-0.9**
VNDA	**Vanda**	**60.89**	**192**	P	P	20 30 37.5	+3.3
	comp=E,1.1nm,0.7s,baz=16,slow=6.5,SNR=5.8						
PPT2	**Papeete2**	**68.35**	**264**	*e*S	**S**	**20 40 28.6**	**+5.7**
	comp=E,309nm,23.5s						
PPT2	**Papeete2**	**68.35**	**264**	*e*LR	LR	20 52 07.0	
	comp=E,946nm,25.0s						
PPT	**Papeete**	**68.36**	**264**	LR	LR	20 54 46.0	
	comp=E,554nm,18.1s,baz=156,slow=30						
832A	**Faith Ranch, C**	**69.38**	**336**	P	**P**	**20 31 29.8**	**0.0**
	baz=70						
732A	**Laxson Ranch,**	**69.79**	**336**	P	**P**	**20 31 32.8**	**+0.5**
	baz=70						
631A	**Perdido Creek**	**70.62**	**335**	P	**P**	**20 31 37.7**	**+0.3**
	baz=71						
MAW	**Mawson**	**70.76**	**164**	LR	LR	21 03 57.5	
	comp=E,1μm,18.1s,baz=232,slow=37						
532A	**Rocksprings**	**71.06**	**336**	P	**P**	**20 31 40.9**	**+0.8**
	baz=71						
434A	**Burnet**	**71.19**	**338**	P	**P**	**20 31 41.5**	**+0.7**
	baz=71						
JCT	**Junction City**	**71.36**	**337**	P	**P**	**20 31 42.7**	**+0.8**
	baz=72						
JCT	**Junction City**	**71.36**	**337**	*e*P	**P**	**20 31 42.6**	**+0.8**
	comp=E,43nm,1.8s						
433A	**Art**	**71.39**	**337**	P	**P**	**20 31 42.2**	**+0.2**
	baz=72						
530A	**J-C Ranch, Com**	**71.56**	**335**	P	**P**	**20 31 44.1**	**+1.1**
	baz=72						
TXAR	**Lajitas Array**	**71.63**	**333**	P	**P**	**20 31 42.7**	**-0.9**
	comp=E,2.0nm,0.7s,baz=154,slow=7.9,SNR=16						
TXAR				LR	LR	20 57 46.9	
	comp=E,174nm,20.1s,baz=0.0,slow=31						
334A	**Lometa**	**71.67**	**338**	P	**P**	**20 31 44.4**	**+0.7**
	baz=72						
432A	**Menard**	**71.72**	**337**	P	**P**	**20 31 44.6**	**+0.5**
	baz=72						
529A	**Stev Forest Ra**	**71.83**	**334**	P	**P**	**20 31 45.7**	**+0.9**
	baz=72						
333A	**Richland Sprin**	**71.89**	**338**	P	**P**	**20 31 45.4**	**+0.4**
	baz=72						
430A	**Baggett Ranch,**	**72.11**	**335**	P	**P**	**20 31 47.5**	**+1.1**
	baz=72						
332A	**Millersview**	**72.17**	**337**	P	**P**	**20 31 47.9**	**+1.1**
	baz=72						
429A	**Davenport Ranc**	**72.18**	**335**	P	**P**	**20 31 47.8**	**+1.0**
	baz=72						
331A	**San Angelo**	**72.32**	**336**	P	**P**	**20 31 48.2**	**+0.6**
	baz=73						
232A	**Coleman**	**72.61**	**337**	P	**P**	**20 31 49.7**	**+0.3**
	baz=73						
231A	**Bronte**	**72.87**	**337**	P	**P**	**20 31 51.3**	**+0.4**
	baz=73						
133A	**Hamilton Ranch**	**73.06**	**338**	P	**P**	**20 31 52.7**	**+0.8**
	baz=73						
ABTX	**Abilene, Hawle**	**73.30**	**338**	P	**P**	**20 31 53.8**	**+0.4**
	baz=74						
ABTX	**Abilene, Hawle**	**73.30**	**338**	*e*P	**P**	**20 31 53.6**	**+0.3**
	comp=E,28nm,1.5s						
WVT	**Waverly**	**73.88**	**348**	*e*P	**P**	**20 31 55.3**	**-1.3**
	comp=E,38nm,1.6s						
Z32A	**Haskell**	**73.88**	**338**	P	**P**	**20 31 56.8**	**0.0**
	baz=74						
129A	**Stewart Farms,**	**74.01**	**336**	P	**P**	**20 31 57.7**	**+0.1**
	baz=74						
128A	**Castleberry Fa**	**74.21**	**335**	P	**P**	**20 31 59.5**	**+0.7**
	baz=74						
Y33A	**Hilltop Ranch,**	**74.28**	**339**	P	**P**	**20 31 59.0**	**0.0**
	baz=74						
Z30A	**Sanderson Ranc**	**74.37**	**337**	P	**P**	**20 31 59.8**	**+0.1**
	baz=75						
MNTX	**Cornudas Mount**	**74.39**	**332**	*e*P	**P**	**20 31 59.8**	**0.0**
	comp=E,4.9nm,1.3s						
Z29A	**Hungry Hill Ra**	**74.53**	**336**	P	**P**	**20 32 00.5**	**-0.2**
	baz=75						
W32A	**Sentinel**	**75.50**	**339**	P	**P**	**20 32 06.5**	**+0.3**
	baz=76						
MSTX	**Muleshoe**	**75.54**	**336**	*e*P	**P**	**20 32 06.7**	**+0.3**
	comp=E,23nm,1.5s						
AMTX	**Amarillo**	**76.02**	**337**	P	**P**	**20 32 09.3**	**+0.1**
	baz=76						
AMTX	**Amarillo**	**76.02**	**337**	*e*P	**P**	**20 32 08.9**	**-0.3**
	comp=E,13nm,1.0s						
121A	**Cookes Peak, D**	**76.05**	**331**	P	**P**	**20 32 09.3**	**-0.3**
	baz=76						
Y24A	**Capitan**	**76.42**	**333**	P	**P**	**20 32 12.5**	**+0.9**
	baz=77						
V30A	**Spur Ranch, Mi**	**76.53**	**338**	P	**P**	**20 32 12.6**	**+0.6**
	baz=77						
W27A	**Bowe Ranch, En**	**76.63**	**336**	P	**P**	**20 32 13.2**	**+0.6**
	baz=77						
T33A	**Patterson Ranc**	**77.06**	**340**	P	**P**	**20 32 16.1**	**+1.2**
	baz=77						
TUC	**Tucson**	**77.06**	**329**	*e*P	**P**	**20 32 16.7**	**+1.6**
	comp=E,53nm,2.7s						
LIC	**Lamto**	**77.15**	**72**	*e*P	**P**	**20 32 16.6**	**+0.6**
	comp=E,61nm,1.2s						
TIC	**Toumodi**	**77.42**	**72**	*e*P	**P**	**20 32 18.0**	**+0.5**
	comp=E,33nm,1.0s						
KIC	**Kosan Boka**	**77.45**	**72**	*e*P	**P**	**20 32 18.4**	**+0.7**
	comp=E,108nm,1.4s						
DBIC	**Dimbokro**	**77.56**	**72**	P	**P**	**20 32 17.6**	**-0.7**
	comp=E,10nm,0.7s,baz=201,slow=5.1,SNR=14						
DBIC				LR	LR	21 03 14.6	
	comp=E,222nm,21.1s,baz=214,slow=33						
ANMO	**Albuquerque**	**77.70**	**333**	*e*P	**P**	**20 32 19.6**	**+0.8**
	comp=E,8.5nm,1.2s						
T28A	**Walsh**	**78.22**	**337**	P	**P**	**20 32 22.1**	**+0.6**
	baz=78						
V22A	**San Miguel Ran**	**78.73**	**333**	P	**P**	**20 32 26.6**	**+2.1**
	baz=79						
T26A	**Comanche Natio**	**78.73**	**336**	P	**P**	**20 32 25.7**	**+1.3**
	baz=79						
T25A	**Trinidad**	**78.97**	**336**	P	**P**	**20 32 27.1**	**+1.3**
	baz=79						
S26A	**Kim**	**79.10**	**336**	P	**P**	**20 32 27.8**	**+1.5**
	baz=79						
R28A	**Tribune**	**79.25**	**338**	P	**P**	**20 32 28.1**	**+0.9**
	baz=80						
R27A	**Eads**	**79.50**	**337**	P	**P**	**20 32 29.3**	**+0.8**
	baz=80						
S24A	**Houchin Ranch,**	**79.69**	**335**	P	**P**	**20 32 31.6**	**+1.8**
	baz=80						
R26A	**Arlington**	**79.72**	**337**	P	**P**	**20 32 30.9**	**+1.2**
	baz=80						
SDCO	**Great Sand Dun**	**79.88**	**335**	*e*P	**P**	**20 32 32.0**	**+1.1**
	comp=E,56nm,2.5s						
BOSA	**Boshof**	**80.02**	**118**	P	**P**	**20 32 33.0**	**+1.2**
	comp=E,9.1nm,1.1s,baz=187,slow=6.2,SNR=5.6						
BOSA				LR	LR	21 03 55.9	
	comp=E,272nm,19.3s,baz=204,slow=33						
R24A	**Sanders Place,**	**80.19**	**336**	P	**P**	**20 32 33.8**	**+1.4**
	baz=80						
R23A	**Moffat**	**80.39**	**335**	P	**P**	**20 32 34.5**	**+0.9**
	baz=81						
GMRC	**Granite Mounta**	**81.28**	**326**	P	**P**	**20 32 40.0**	**+1.8**
	baz=82						
ISCO	**Idaho Springs**	**81.78**	**336**	*e*P	**P**	**20 32 40.2**	**-0.7**
	comp=E,28nm,2.2s						
LBTB	**Lobatse**	**82.42**	**115**	P	**P**	**20 32 45.2**	**+0.6**
	comp=E,8.2nm,0.8s,baz=239,slow=3.4,SNR=11						
LBTB	**Lobatse**	**82.42**	**115**	*e*P	**P**	**20 32 44.8**	**+0.2**
	comp=E,14nm,0.9s						
SHPR	**Sheep Range**	**82.51**	**328**	*e*P	**P**	**20 32 45.3**	**+0.7**
SRU	**San Rafael Swe**	**82.89**	**332**	*e*P	**P**	**20 32 48.4**	**+1.8**
	comp=E,5.5nm,1.0s						
ECSD	**EROS Data Cent**	**82.94**	**344**	P	**P**	**20 32 46.9**	**+0.4**
	baz=83						
ECSD	**EROS Data Cent**	**82.94**	**344**	*e*P	**P**	**20 32 46.4**	**-0.1**
	comp=E,23nm,1.4s						
DUG	**Dugway, Tooele**	**84.70**	**331**	*e*P	**P**	**20 32 56.4**	**+0.6**
	comp=E,21nm,1.6s						
HWUT	**Hardware Ranch**	**85.45**	**333**	*e*P	**P**	**20 33 00.1**	**+0.5**
	comp=E,30nm,1.6s						
PDAR	**Pinedale Array**	**85.75**	**335**	P	**P**	**20 33 00.8**	**-0.3**
	comp=E,1.4nm,0.8s,baz=256,slow=3.1,SNR=5.2						
TORD	**Torodi Ar. Bea**	**86.63**	**71**	P	**P**	**20 33 05.9**	**+0.1**
	comp=E,2.6nm,0.8s,baz=217,slow=4.5,SNR=14						
TORD				LR	LR	21 08 48.5	
	comp=E,260nm,20.7s,baz=220,slow=34						
AGMN	**Agassiz Nation**	**87.12**	**346**	P	**P**	**20 33 07.3**	**0.0**
	baz=87						
AGMN	**Agassiz Nation**	**87.12**	**346**	*e*P	**P**	**20 33 07.8**	**+0.5**
	comp=E,38nm,1.8s						
D26A	**Manning**	**87.45**	**341**	P	**P**	**20 33 09.6**	**+0.6**
	baz=88						
MDND	**Maddock**	**87.51**	**343**	P	**P**	**20 33 10.3**	**+1.0**
	baz=88						
MDND	**Maddock**	**87.51**	**343**	*e*P	**P**	**20 33 09.4**	**+0.1**
	comp=E,21nm,1.6s						
B30A	**Myrvik Farm, E**	**87.79**	**344**	P	**P**	**20 33 10.9**	**+0.3**
	baz=88						
B29A	**Wagenman Farm,**	**88.03**	**343**	P	**P**	**20 33 12.4**	**+0.7**
	baz=88						
HLID	**Hailey**	**88.20**	**332**	*e*P	**P**	**20 33 13.5**	**+0.6**
	comp=E,18nm,1.8s						
A30A	**Hoffart Farm,**	**88.24**	**344**	P	**P**	**20 33 13.2**	**+0.4**
	baz=88						
B28A	**Dugan Ranch, T**	**88.25**	**343**	P	**P**	**20 33 13.6**	**+0.8**
	baz=88						
A29A	**Manning Farm,**	**88.43**	**344**	P	**P**	**20 33 13.8**	**+0.2**
	baz=89						
ULM	**Lac du Bonnet**	**88.99**	**346**	P	**P**	**20 33 15.3**	**-0.9**
	comp=E,2.4nm,0.7s,baz=146,slow=3.3,SNR=4.3						
VYHS	**Vyhne**	**118.20**	**49**	*e*PKP	**PKPdf**	**20 39 09.3**	**+0.8**
BRTR	**Keskin Array B**	**124.57**	**63**	PKP	**PKPdf**	**20 39 20.1**	**-1.1**
	comp=E,0.5nm,0.9s,baz=222,slow=1.9,SNR=3.4						
LVZ	**Lovozero**	**130.60**	**28**	*e*PKPdf	**PKPdf**	**20 39 30.7**	**-1.0**
GEYT	**Alibeck**	**142.23**	**74**	PKP	**PKPdf**	**20 39 54.2**	**+0.1**
	comp=E,0.4nm,0.3s,baz=293,slow=4.1,SNR=4.6						
TIXI	**Tiksi**	**143.31**	**348**	*e*PKPpre	PKPpre

HHC		sPKP			20 40 46.8	
HHC		PKS	**PKSdf**		**20 43 59.3**	**-4.3**
HHC		PP	**PP**		**20 45 57.5**	**+1.7**
HHC		SKS	**SKSdf**		**20 47 28.0**	**-3.8**
HHC		PPMZ				
	comp=E,130nm,9.7s					
HHC		LN				
	comp=E,200nm,22.1s					
HHC		LE				
	comp=E,270nm,22.6s					
HHC		LZ				
	comp=E,130nm,22.8s					
LZH	**Lanzhou 177.98 115**	*e*PKP	**PKPdf**		**20 40 33.6**	**+1.1**
LZH		pPKP	**pPKPdf**		**20 40 44.3**	**+0.3**
LZH		sPKP			20 40 48.9	
LZH		PP	**PP**		**20 46 15.0**	**+0.8**
LZH		*e*SKKS			20 52 57.0	
LZH		PPMZ				
	comp=E,180nm,4.9s					
LZH		LN				
	comp=E,310nm,17.2s					
LZH		LE				
	comp=E,440nm,17.3s					
LZH		LZ				
	comp=E,530nm,19.0s					

IDC 13 20:28:06.8±1.9, 41°.26S×86°.04E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/28, mbtmp3.9/5, MS3.9/5, Ms1 3.9/5, ms1mx3.4/28, Error ellipse: s-maj=46.9km s-min=34.0km az=101.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**22.95**	**83**	T	T	20 56 39.3	
	baz=246,slow=74,SNR=5.8						
H01W3	**Cape Leeuwin H**	**22.96**	**83**	T	T	20 56 42.1	
	baz=246,slow=74,SNR=6.1						
H01W1	**Cape Leeuwin H**	**22.97**	**83**	T	T	20 56 43.1	
	baz=246,slow=74,SNR=7.4						
MAW	**Mawson**	**29.26**	**198**	LR	LR	20 43 12.1	
	comp=Z,155nm,21.6s,baz=54,slow=31						
H08S2	**Diego Garcia H**	**35.57**	**336**	T	T	21 12 22.2	
	baz=163,slow=76,SNR=34						
H08S1	**Diego Carcia H**	**35.58**	**336**	T	T	21 12 22.5	
	baz=163,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**35.59**	**336**	T	T	21 12 27.4	
	baz=163,slow=76,SNR=37						
ASAR	**Alice Springs**	**43.45**	**81**	P	P	20 36 11.8	0.0
	0.8nm,0.8s,baz=232,slow=8.0,SNR=7.5						
ASAR				LR	LR	20 52 26.2	
	comp=Z,281nm,19.5s,baz=236,slow=34						
STKA	**Stephens Creek**	**44.93**	**97**	P	P	20 36 23.4	0.0
	1.3nm,0.7s,baz=217,slow=5.1,SNR=3.4						
PSI	**Prapat**	**45.40**	**18**	LR	LR	20 51 32.7	
	comp=Z,252nm,19.6s,baz=192,slow=31						
WRA	**Warramunga Arr**	**46.01**	**78**	P	P	20 36 31.8	-0.4
	0.7nm,0.7s,baz=233,slow=8.2,SNR=5.8						
QSPA	**South Pole Qui**	**48.90**	**180**	P	P	20 36 54.1	-0.1
	3.0nm,1.1s,baz=258,slow=2.0,SNR=3.5						
QSPA				LR	LR	20 56 03.4	
	comp=Z,230nm,18.2s,baz=268,slow=34						
CMAR	**Chiang Mai Arr**	**60.61**	**14**	P	P	20 38 19.4	0.0
	1.7nm,1.0s,baz=204,slow=6.9,SNR=7.0						
CMAR				LR	LR	21 01 44.8	
	comp=Z,31nm,19.4s,baz=144,slow=33						

IDC 13 20:44:16.5±1.9, 13°.49N×92°.73E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/45, mbtmp3.5/5, ML3.4/1, MS4.0/3, Ms1 4.0/3, ms1mx3.1/41, Error ellipse: s-maj=64.1km s-min=22.7km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.75**	**50**	Pn	Pn	20 46 10.8	0.0
	0.1nm,0.3s,baz=240,slow=15,SNR=4.5						
CMAR				Sn	Sn	20 47 34.8	-4.6
	0.4nm,0.3s,baz=241,slow=28,SNR=5.5						
MKAR	**Makanchi Array**	**34.34**	**347**	P	P	20 51 04.5	-0.4
	0.4nm,0.7s,baz=152,slow=8.2,SNR=4.7						
ZALV	**Zalesovo Beam**	**40.84**	**353**	P	P	20 52 00.1	+0.2
	0.4nm,0.4s,baz=178,slow=7.9,SNR=3.6						
WRA	**Warramunga Arr**	**52.73**	**128**	P	P	20 53 32.7	-0.7
	0.7nm,0.5s,baz=302,slow=10,SNR=25						
ASAR	**Alice Springs**	**54.63**	**132**	P	P	20 53 48.0	+0.5
	0.5nm,0.5s,baz=308,slow=6.7,SNR=12						
ASAR				LR	LR	21 21 15.3	
	comp=Z,160nm,18.2s,baz=196,slow=41						
OPO	**Ambohidratompo**	**55.05**	**236**	LR	LR	21 11 14.3	
	comp=Z,84nm,21.7s,baz=176,slow=29						
ARCES	**ARCESS Array B**	**69.55**	**340**	LR	LR	21 30 06.1	
	comp=Z,127nm,19.7s,baz=249,slow=40						

IDC 13 20:45:47.7±36.0, 40°.10S×87°.45E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/39, mbtmp3.5/3, Error ellipse: s-maj=843.4km s-min=47.2km az=40.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**21.76**	**85**	T	T	21 14 07.9	
	baz=246,slow=74,SNR=9.9						
H01W3	**Cape Leeuwin H**	**21.77**	**85**	T	T	21 14 10.7	
	baz=246,slow=74,SNR=11						
H01W1	**Cape Leeuwin H**	**21.78**	**85**	T	T	21 14 06.7	
	baz=246,slow=74,SNR=7.2						
H08S2	**Diego Garcia H**	**34.98**	**334**	T	T	21 30 00.4	
	baz=162,slow=76,SNR=30						
H08S1	**Diego Carcia H**	**34.99**	**333**	T	T	21 30 01.1	
	baz=162,slow=76,SNR=19						
H08S3	**Diego Garcia H**	**35.00**	**334**	T	T	21 30 00.6	
	baz=162,slow=76,SNR=32						
ASAR	**Alice Springs**	**42.22**	**82**	P	P	20 53 43.0	+0.4
	0.6nm,0.8s,baz=227,slow=6.9,SNR=6.1						
WRA	**Warramunga Arr**	**44.71**	**77**	P	P	20 54 02.0	-0.7
	0.7nm,0.7s,baz=234,slow=7.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**59.23**	**13**	P	P	20 55 50.8	0.0
	0.2nm,0.5s,baz=203,slow=6.7,SNR=3.2						

IDC 13 20:48:56.9±6.9, 5°.14S×153°.69E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/34, mbtmp3.4/3, MS3.8/1, Ms1 3.8/1, ms1mx2.9/13, Error ellipse: s-maj=152.3km s-min=42.9km az=95.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.89**	**230**	P	P	20 54 13.3	+0.8
	1.2nm,0.7s,baz=56,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**26.51**	**224**	P	P	20 54 35.6	-0.7
	0.2nm,0.5s,baz=56,slow=8.7,SNR=4.5						
JCJ	**Chichijima**	**33.92**	**341**	LR	LR	21 06 25.5	
	comp=Z,159nm,19.1s,baz=340,slow=31						
CMAR	**Chiang Mai Arr**	**58.82**	**295**	P	P	20 58 57.5	-0.2
	0.3nm,0.4s,baz=100,slow=4.8,SNR=3.7						

*ISCJB **13** 20:51:39.3±0.8, 41°.5S±0°.2×86°.0E±0°.2, h10km, mb4.2/7, Error ellipse: s-maj=24.3km s-min=21.6km az=165.4*
*IDC **13** 20:51:39.7±1.0, 41°.44S×86°.03E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/36, mbtmp3.9/5, Error ellipse: s-maj=35.3km s-min=27.1km az=157.0*
*NEIC **13** 20:51:40.5±0.6, 41°.54S×85°.87E, h10km, mb4.6/4, Error ellipse: s-maj=20.0km s-min=17.6km az=166.0*

ISC 13 20:51:40.9±0.8, 41°.5S±0°.2×86°.0E±0°.2, h10km, n17, σ0°93/11, mb4.4/7, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**23.03**	**83**	T	T	21 20 08.7	
	baz=246,slow=74,SNR=19						
H01W3	**Cape Leeuwin H**	**23.04**	**83**	T	T	21 20 09.5	
	baz=246,slow=74,SNR=18						
H01W1	**Cape Leeuwin H**	**23.05**	**83**	T	T	21 20 13.9	
	baz=246,slow=74,SNR=17						
H08S2	**Diego Garcia H**	**35.78**	**337**	T	T	21 36 05.9	
	baz=162,slow=76,SNR=68						
H08S1	**Diego Carcia H**	**35.78**	**337**	T	T	21 35 59.8	
	baz=162,slow=76,SNR=44						
H08S3	**Diego Garcia H**	**35.80**	**337**	T	T	21 36 06.6	
	baz=162,slow=76,SNR=82						
ASAR	**Alice Springs**	**43.54**	**81**	P	**P**	**20 59 44.6**	**-0.3**
	0.8nm,0.8s,baz=228,slow=8.1,SNR=5.1						
WRA	**Warramunga Arr**	**46.11**	**77**	P	**P**	**21 00 05.8**	**+0.3**
	1.5nm,0.9s,baz=231,slow=7.4,SNR=6.5						
QSPA	**South Pole Qui**	**48.65**	**180**	P	**P**	**21 00 25.1**	**+0.3**
	3.5nm,1.0s,baz=302,slow=5.1,SNR=4.6						
QSPA	**South Pole Qui**	**48.65**	**180**	P	**P**	**21 00 24.6**	**-0.3**
	7.6nm,1.2s						
LBTB	**Lobatse**	**52.08**	**269**	P	**P**	**21 00 52.5**	**+1.2**
	3.2nm,0.9s,baz=118,slow=8.9,SNR=4.5						
LBTB	**Lobatse**	**52.08**	**269**	P	**P**	**21 00 49.5**	**-1.8**
	6.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**60.86**	**14**	P	**P**	**21 01 52.9**	**-0.7**
	0.8nm,0.9s,baz=207,slow=7.0,SNR=4.3						
KBL	**Kabul**	**77.26**	**346**	P	**P**	**21 03 36.1**	**+0.7**
	7.0nm,1.1s						
KKAR	**Karatay Array**	**85.37**	**349**	P	**P**	**21 04 18.3**	**+0.4**
	3.8nm,1.1s						
INK	**Inuvik**	**145.93**	**25**	PKPbc	**PKPbc**	**21 11 19.1**	**-0.4**
	2.5nm,0.9s,baz=306,slow=1.3,SNR=5.3						
RES	**Resolute Bay**	**146.72**	**0**	PKPbc	**PKPdf**	**21 11 20.7**	**+0.7**
	0.8nm,0.4s,baz=12,slow=3.7,SNR=5.9						

ECX 13 20:55:08.0±0.3, 30°.62N×114°.56W, h3km, MD3.5, ML3.5, 3C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**0.89**	**299**	*e*P	Pg	20 55 23.8	-1.7
SPX				*e*S	Sg	20 55 36.2	-1.1
SPX				⇑*e*		20 55 38.4	
	comp=N,917nm,0.3s						
ECBX	**El Chinero**	**0.95**	**334**	*e*P	Pg	20 55 21.9	-4.4
ECBX				*e*S	Sg	20 55 34.8	-3.8
ECBX				⇑*e*		20 55 36.7	
	comp=E,777nm,0.7s						
ZAX	**El Zacaton**	**1.72**	**302**	*e*P	Pn	20 55 37.9	-1.1
ZAX				*e*S	Sn	20 56 01.2	-0.4
RDX	**Rancho Dawling**	**1.76**	**318**	*e*P	Pn	20 55 38.5	-1.2
RDX				*e*S	Sn	20 56 02.4	-0.4
RDX				⇓*e*		20 56 04.7	
	comp=N,233nm,0.4s						
RDX				⇑*e*		20 56 07.6	
	comp=E,470nm,0.7s						
ECNX	**Esteban Cantu**	**2.03**	**301**	*e*P	Pn	20 55 42.6	-0.7
ECNX				*e*S	Sn	20 56 09.7	+0.4
PBX	**Punta Banda**	**2.17**	**302**	*e*P	Pn	20 55 44.7	-0.3
PBX				*e*S	Sn	20 56 13.3	+0.8
CBX	**Cerro Bola**	**2.47**	**314**	*e*PN	Pn	20 55 48.9	-0.4
CBX				*e*S	Sn	20 56 20.8	+0.6

IDC 13 20:56:23.0±2.1, 33°.76S×72°.67W, h0km, mb4.1/1, mb1 3.9/3, mb1mx3.6/35, mbtmp3.8/3, ML3.5/2, Error ellipse: s-maj=76.1km s-min=54.2km az=137.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.31**	**61**	Pn	Pn	20 57 31.1	+1.3
	1.6nm,0.3s,baz=226,slow=12,SNR=44						
LPAZ	**La Paz**	**17.87**	**14**	P	Pn	21 00 32.7	-1.2
	0.1nm,0.3s,baz=182,slow=6.4,SNR=6.1						
TORD	**Torodi Ar. Bea**	**84.62**	**70**	P	P	21 08 57.2	-1.6
	1.0nm,0.8s,baz=225,slow=3.3,SNR=6.1						
BVAR	**Borovoye Array**	**147.46**	**42**	PKPbc	PKPab	21 16 09.6	-0.8
	0.6nm,0.6s,baz=259,slow=3.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**154.30**	**31**	PKPbc	PKPbc	21 16 24.0	-0.5
	0.8nm,0.6s,baz=298,slow=3.2,SNR=5.1						
MKAR	**Makanchi Array**	**157.00**	**48**	PKPab	PKPab	21 16 50.4	0.0
	0.2nm,0.5s,baz=322,slow=4.7,SNR=3.6						

*ISCJB **13** 20:57:06.2±0.9, 41°.2S±0°.2×86°.0E±0°.2, h10km, mb3.9/5, Error ellipse: s-maj=29.9km s-min=21.5km az=155.8*
*IDC **13** 20:57:06.8±1.0, 41°.31S×86°.05E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/32, mbtmp3.9/5, Error ellipse: s-maj=34.3km s-min=27.3km az=155.0*

ISC 13 20:57:08.1±1.0, 41°.3S±0°.2×86°.1E±0°.2, h10km, n13, σ0°36/7, mb3.9/5, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**22.95**	**83**	T	T	21 25 32.8	
	baz=246,slow=74,SNR=10						
H01W3	**Cape Leeuwin H**	**22.95**	**83**	T	T	21 25 33.4	
	baz=246,slow=74,SNR=12						
H01W1	**Cape Leeuwin H**	**22.96**	**83**	T	T	21 25 34.1	
	baz=246,slow=74,SNR=8.3						
H08S2	**Diego Garcia H**	**35.62**	**336**	T	T	21 41 28.6	
	baz=162,slow=76,SNR=15						
H08S1	**Diego Carcia H**	**35.62**	**336**	T	T	21 41 27.4	
	baz=162,slow=76,SNR=25						
H08S3	**Diego Garcia H**	**35.63**	**336**	T	T	21 41 30.7	
	baz=162,slow=76,SNR=24						
ASAR	**Alice Springs**	**43.45**	**81**	P	**P**	**21 05 11.1**	**-0.3**
	0.9nm,0.8s,baz=229,slow=8.1,SNR=7.7						
WRA	**Warramunga Arr**	**46.01**	**77**	P	**P**	**21 05 31.6**	**-0.1**
	1.2nm,0.9s,baz=233,slow=7.1,SNR=4.7						
QSPA	**South Pole Qui**	**48.85**	**180**	P	**P**	**21 05 53.8**	**+0.3**
	3.1nm,1.0s,baz=320,slow=7.1,SNR=4.1						
LBTB	**Lobatse**	**52.15**	**268**	P	**P**	**21 06 18.7**	**-0.2**
	2.9nm,1.1s,baz=257,slow=11,SNR=4.0						
CMAR	**Chiang Mai Arr**	**60.64**	**14**	P	**P**	**21 07 19.7**	**+0.5**
	0.3nm,0.4s,baz=203,slow=6.7,SNR=3.2						
INK	**Inuvik**	**145.72**	**25**	PKPbc	**PKPab**	**21 16 46.1**	**-0.2**
	3.1nm,1.0s,baz=295,slow=1.6,SNR=6.9						
RES	**Resolute Bay**	**146.52**	**0**	PKPbc	**PKPbc**	**21 16 48.0**	**-0.2**
	1.9nm,1.0s,baz=8.1,slow=7.1,SNR=6.0						

*ISCJB **13** 21:01:09.2±1.7, 41°.4S±0°.2×86°.1E±0°.4, h10km, mb3.8/4, Error ellipse: s-maj=46.4km s-min=27.4km az=21.5*
*IDC **13** 21:01:09.7±1.5, 41°.41S×86°.11E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/32, mbtmp3.8/4, Error ellipse: s-maj=43.7km s-min=34.6km az=104.0*

ISC 13 21:01:10.9±1.4, 41°.4S±0°.2×86°.1E±0°.3, h10km, n9, σ0°60/6, mb3.9/4, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**22.94**	**83**	T	T	21 29 40.6	
	baz=246,slow=74,SNR=9.1						
H01W3	**Cape Leeuwin H**	**22.95**	**83**	T	T	21 29 41.2	
	baz=246,slow=74,SNR=9.4						
H01W1	**Cape Leeuwin H**	**22.96**	**83**	T	T	21 29 41.9	
	baz=246,slow=74,SNR=8.2						
ASAR	**Alice Springs**	**43.45**	**81**	P	**P**	**21 09 13.8**	**-0.3**
	0.6nm,0.8s,baz=223,slow=7.0,SNR=4.0						
WRA	**Warramunga Arr**	**46.01**	**77**	P	**P**	**21 09 35.0**	**+0.3**
	1.1nm,0.8s,baz=232,slow=8.1,SNR=5.9						
QSPA	**South Pole Qui**	**48.76**	**180**	P	**P**	**21 09 55.8**	**+0.2**
	1.7nm,0.9s,baz=316,slow=7.2,SNR=3.5						
CMAR	**Chiang Mai Arr**	**60.73**	**14**	P	**P**	**21 11 23.1**	**+0.5**
	0.8nm,0.9s,baz=204,slow=6.8,SNR=4.6						
INK	**Inuvik**	**145.80**	**25**	PKPbc	**PKPab**	**21 20 48.7**	**-0.7**
	3.5nm,1.1s,baz=328,slow=0.7,SNR=6.5						
RES	**Resolute Bay**	**146.61**	**0**	PKPbc	**PKPbc**	**21 20 51.0**	**-0.3**
	0.5nm,0.3s,baz=20,slow=7.0,SNR=3.7						

IDC 13 21:03:32.8±5.4, 41°.64S×86°.35E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/32, mbtmp3.6/3, Error ellipse: s-maj=143.7km s-min=47.9km az=32.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**22.77**	**82**	T	T	21 32 04.2	
	baz=245,slow=74,SNR=6.7						
H01W3	**Cape Leeuwin H**	**22.78**	**82**	T	T	21 31 59.3	
	baz=245,slow=74,SNR=5.8						
H01W1	**Cape Leeuwin H**	**22.79**	**82**	T	T	21 32 05.6	
	baz=245,slow=74,SNR=6.2						
ASAR	**Alice Springs**	**43.28**	**81**	P	P	21 11 36.0	-0.3
	0.4nm,0.8s,baz=223,slow=7.0,SNR=5.3						
WRA	**Warramunga Arr**	**45.87**	**77**	P	P	21 11 56.9	-0.1
	0.8nm,0.9s,baz=233,slow=7.5,SNR=3.6						
CMAR	**Chiang Mai Arr**	**60.92**	**14**	P	P	21 13 47.4	0.0
	0.4nm,0.3s,baz=211,slow=8.3,SNR=5.3						
INK	**Inuvik**	**145.94**	**25**	PKPbc	PKPdf	21 23 12.2	-0.1
	1.5nm,0.9s,baz=9.9,slow=3.5,SNR=4.6						

*IDC **13** 21:07:54.6±2.2, 43°.42N×105°.31W, h0km, mb1 3.6/3, mb1mx3.3/29, mbtmp3.3/3, ML3.2/3, Error ellipse: s-maj=46.4km s-min=9.1km az=153.0*

*ISCJB **13** 21:07:55.4±0.2, 43°.74N±0°.01×105°.30W±0°.02, h0km, Error ellipse: s-maj=2.0km s-min=1.9km az=161.9*
*NEIC **13** 21:07:56.2±0.3, 43°.76N×105°.27W, h0km, ML3.1, Error ellipse: s-maj=5.0km s-min=3.6km az=164.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.

ISC 13 21:07:56.0±0.7, 43°.71N±0°.02×105°.32W±0°.02, h0km, n111, σ0°75/126, 32C-38D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.27**	**338**	P	**Pg**	**21 08 01.7**	**+0.6**
	baz=0.2,SNR=210						
J23A	**Dilts Ranch, B**	**0.35**	**208**	P	**Pb**	**21 08 04.0**	**-1.2**
	baz=0.4,SNR=90						
I24A	**Kuemmerle Ranc**	**0.53**	**74**	P	**Pg**	**21 08 06.2**	**+0.1**
	baz=0.5,SNR=440						
J24A	**Dixon Ranch, L**	**0.61**	**128**	P	**Pg**	**21 08 08.3**	**+0.5**
	baz=0.6,SNR=139						
J24A				⇑S	**Sg**	**21 08 16.2**	**+0.5**
	baz=0.6						
H23A	**Clabaugh Cattl**	**0.85**	**356**	P	**Pg**	**21 08 11.7**	**-0.6**
	baz=0.8,SNR=17						
I22A	**9 Mile Ranch,**	**0.86**	**282**	P	**Pg**	**21 08 12.7**	**+0.2**
	baz=0.9,SNR=564						
I22A				⇑S	**Sg**	**21 08 23.8**	**+0.2**
	baz=0.9						
J22A	**Midwest**	**0.89**	**251**	P	**Pg**	**21 08 13.1**	**0.0**
	baz=0.9,SNR=87						
J22A				⇓S	**Sg**	**21 08 25.2**	**+0.6**
	baz=0.9						
K23A	**Bowen Ranch, D**	**0.98**	**193**	⇑S	**Sb**	**21 08 28.4**	**-1.2**
	baz=1.0						
RSSD	**Black Hills**	**1.01**	**66**	*e*Pg	**Pg**	**21 08 14.7**	**-0.8**
RSSD				*e*Sg	**Sg**	**21 08 27.6**	**-1.0**
K24A	**Anderson Ranch**	**1.06**	**159**	P	**Pb**	**21 08 16.5**	**-0.7**
	baz=1.1,SNR=192						
K24A				⇑S	**Sb**	**21 08 30.8**	**-0.9**
	baz=1.1						
H22A	**Clearmont**	**1.15**	**320**	⇑P	**Pg**	**21 08 17.8**	**-0.2**
	baz=1.1						
H22A				⇑S	**Sg**	**21 08 32.4**	**-0.5**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.15**	**106**	P	**Pg**	**21 08 17.7**	**-0.3**
	baz=1.1,SNR=208						
H24A	**Dirks Ranch, A**	**1.17**	**28**	⇑P	**Pg**	**21 08 17.3**	**-1.1**
	baz=1.1						
H24A				⇑S	**Sg**	**21 08 33.9**	**+0.2**
	baz=1.1						
I25A	**Rochford**	**1.19**	**75**	P	**Pg**	**21 08 17.8**	**-0.9**
	baz=1.1,SNR=216						
I25A				⇓Sg	**Sb**	**21 08 35.2**	**-0.4**
	baz=1.1						
K22A	**Casper**	**1.38**	**220**	⇓P	**Pg**	**21 08 22.2**	**-0.2**
	baz=1.4,SNR=175						
K22A				⇑S	**Sn**	**21 08 41.5**	**-0.2**
	baz=1.4						
K22A	**Casper**	**1.38**	**220**	*e*Pn	**Pg**	**21 08 21.8**	**-0.6**
K22A				*e*Sg	**Sn**	**21 08 42.4**	**+0.7**
I21A	**Big Trails, Te**	**1.43**	**275**	⇑P	**Pn**	**21 08 22.2**	**-1.2**
	baz=1.5						
I21A				⇑S	**Sg**	**21 08 41.9**	**-0.1**
	baz=1.5						
G23A	**Biddle**	**1.49**	**358**	⇓P	**Pn**	**21 08 23.0**	**-1.0**
	baz=1.4						
G23A				⇓Sg	**Sn**	**21 08 44.8**	**+0.5**
	baz=1.4						
K25A	**Mack Ranch, Ha**	**1.53**	**136**	⇓Pb	**Pg**	**21 08 25.1**	**-0.2**
	baz=1.5,SNR=185						
K25A				⇑Sb	**Sn**	**21 08 46.4**	**+1.1**
	baz=1.5						
H25A	**Fruitdale**	**1.54**	**53**	⇑P	**Pn**	**21 08 24.3**	**-0.4**
	baz=1.5,SNR=24						
H25A				⇑Sg	**Sg**	**21 08 46.4**	**+1.0**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.54**	**307**	⇓P	**Pn**	**21 08 24.5**	**-0.3**
	baz=1.5,SNR=38						
H21A				⇑Sg	**Sg**	**21 08 46.6**	**+1.2**
	baz=1.5						
J21A	**Lysite**	**1.59**	**257**	P	**Pn**	**21 08 25.0**	**-0.6**
	baz=1.6,SNR=84						
J21A				⇓Sb	**Sg**	**21 08 47.3**	**+0.3**
	baz=1.6						
L23A	**Garrett**	**1.62**	**190**	⇑P	**Pb**	**21 08 26.1**	**-0.8**
	baz=1.7,SNR=492						
G22A	**Birney**	**1.66**	**336**	⇓P	**Pn**	**21 08 26.4**	**0.0**
	baz=1.6,SNR=101						
J26A	**Sides Ranch, S**	**1.68**	**103**	⇓P	**Pn**	**21 08 26.8**	**+0.1**
	baz=1.7,SNR=52						
L24A	**Wheatland**	**1.69**	**170**	⇓P	**Pb**	**21 08 27.2**	**-0.8**
	baz=1.7,SNR=14						
G24A	**Alzada**	**1.74**	**22**	⇑P	**Pn**	**21 08 27.2**	**-0.4**
	baz=1.7,SNR=97						
K21A	**Alcova**	**1.78**	**233**	P	**Pb**	**21 08 28.9**	**-0.7**
	baz=1.8,SNR=124						
I26A	**New Underwood**	**1.81**	**79**	⇑P	**Pn**	**21 08 28.8**	**+0.4**
	baz=1.8,SNR=48						
L25A	**Engebretsen Ra**	**1.85**	**147**	⇑Pb	**Pg**	**21 08 30.6**	**-0.8**
	baz=1.9,SNR=76						
K26A	**Motz Farm, Whi**	**1.87**	**122**	⇓Pb	**Pb**	**21 08 30.6**	**-0.4**
	baz=1.9,SNR=34						
L22A	**Ellis Ranch, M**	**1.87**	**206**	⇑P	**Pb**	**21 08 30.5**	**-0.7**
	baz=1.9,SNR=82						
F23A	**Volborg**	**2.01**	**358**	⇑P	**Pn**	**21 08 31.0**	**-0.2**
	baz=2.0,SNR=86						
G25A	**Newell**	**2.01**	**42**	⇑P	**Pn**	**21 08 31.7**	**+0.5**
	baz=1.9,SNR=57						
G21A	**Lodge Grass**	**2.02**	**319**	⇑P	**Pn**	**21 08 31.6**	**+0.1**
	baz=2.0,SNR=44						
I20A	**Worland**	**2.04**	**278**	P	**Pn**	**21 08 32.5**	**+0.8**
	baz=2.1,SNR=124						
H20A	**Greybull**	**2.08**	**293**	⇑P	**Pn**	**21 08 32.5**	**+0.3**
	baz=2.1,SNR=23						
F22A	**Rosebud**	**2.17**	**342**	⇓P	**Pn**	**21 08 33.2**	**-0.2**
	baz=2.1,SNR=34						
F24A	**Ekalaka**	**2.22**	**16**	⇓P	**Pn**	**21 08 35.0**	**+0.8**
	baz=2.2,SNR=70						
J27A	**Elkhorn Farm,**	**2.46**	**100**	⇓P	**Pn**	**21 08 38.9**	**+1.5**
	baz=2.4						
F21A	**Absaloka Mine,**	**2.47**	**329**	⇓P	**Pn**	**21 08 36.8**	**-0.8**
	baz=2.4,SNR=14						
K27A	**Flueckinger Fa**	**2.47**	**113**	⇓P	**Pn**	**21 08 38.6**	**+1.0**
	baz=2.4,SNR=104						
G26A	**Maurine**	**2.51**	**50**	⇑P	**Pn**	**21 08 39.1**	**+1.1**
	baz=2.4,SNR=60		

ISCO	Idaho Springs	3.92 183	*e*Pn	Pn	21 08 59.4	+1.8
YNR	Norris Junctio	3.98 286	*e*Pn	Pb	21 09 08.2	+1.1
YFT	Old Faithful	4.04 282	*e*Pn	Pg	21 09 12.2	-1.2
C22A	Vida	4.05 355	⇓P	Pn	21 09 00.0	+0.8
	baz=4.0,SNR=37					
C23A	Lambert	4.09 1	⇑P	Pn	21 09 00.3	+0.6
	baz=4.0,SNR=57					
YMR	Madison River	4.17 285	*e*Pn	Pb	21 09 10.2	-0.1
O20A	White River Ci	4.19 212	*e*Pn	Pn	21 09 02.5	+1.2
C25A	Freed Ranch, W	4.25 19	⇓P	Pn	21 09 02.8	+0.8
	baz=4.2,SNR=13					
AHID	Auburn Hatcher	4.33 259	*e*Pb	Pb	21 09 13.8	+0.8
E28A	Huff	4.35 47	P	Pn	21 09 03.7	+0.4
	baz=4.3,SNR=16					
P26A	Davis Ranch, A	4.41 160	⇓P	Pn	21 09 05.4	+1.2
	baz=4.4,SNR=19					
QLMT	Earthquake Lak	4.53 286	*e*Pn	Pb	21 09 12.7	-3.7
C26A	Wahner Farm, P	4.69 28	⇑P	Pn	21 09 08.4	+0.4
	baz=4.6,SNR=16					
B23A	Brockton	4.76 3	⇓P	Pn	21 09 09.4	+0.5
	baz=4.7					
C19A	Slack Wire Ran	4.79 328	⇑P	Pn	21 09 10.1	+0.7
	baz=4.8					
B25A	Knox Farm, Ray	4.80 18	⇓P	Pn	21 09 10.0	+0.5
	baz=4.7,SNR=18					
D28A	Regan	4.83 42	⇓P	Pn	21 09 10.5	+0.6
	baz=4.8,SNR=5.9					
BOZ	Bozeman (W)	4.89 295	*e*Pn	Pn	21 09 10.4	-0.5
P28A	Saint Francis	4.92 146	⇓P	Pn	21 09 12.0	+0.7
	baz=4.9,SNR=11					
HWUT	Hardware Ranch	5.06 248	*e*Pn	Pn	21 09 14.3	+1.1
HWUT			*e*Sg	Sg	21 10 37.9	-0.7
TCUT	Toone Canyon	5.20 242	*e*Pn	Pn	21 09 15.9	+0.7
	22nm,0.5s					
A23A	Redstone	5.26 3	⇑P	Pn	21 09 16.6	+0.9
	baz=5.2,SNR=9.6					
P29A	Atwood	5.26 140	⇓P	Pn	21 09 16.2	+0.2
	baz=5.3					
Q28A	Sharon Springs	5.34 149	⇓P	Pn	21 09 16.8	-0.2
	baz=5.4,SNR=9.5					
A21A	Bergtoll Ranch	5.39 349	⇓P	Pn	21 09 17.6	-0.1
	baz=5.4,SNR=5.9					
A25A	Svangstu Ranch	5.45 16	⇓P	Pn	21 09 18.9	+0.5
	baz=5.4					
HRY	Holter Researc	5.49 305	*e*Pn	Pn	21 09 19.4	+0.3
	6.0nm,0.4s					
LRM	Limekiln Ridge	5.50 295	*e*Pn	Pn	21 09 20.5	+1.2
	17nm,0.5s					
DAU	Daniels Canyon	5.51 235	*e*Pn	Pb	21 09 26.8	-6.4
	0.3nm,0.5s					
MCMT	McKenzie Canyo	5.52 284	*e*Pn	Pb	21 09 32.1	-1.2
R26A	Arlington	5.59 165	⇓P	Pn	21 09 20.8	+0.3
	baz=5.6,SNR=28					
R25A	Fountain Ranch	5.62 172	⇑P	Pn	21 09 21.2	+0.4
	baz=5.7					
CTU	Camp Tracy	5.65 240	*e*Pn	Pn	21 09 22.5	+1.2
	5.6nm,0.5s					
A26A	Wade Farm, Ken	5.66 23	⇑P	Pn	21 09 21.1	-0.2
	baz=5.6,SNR=8.2					
MDND	Maddock	5.75 42	*e*Pn	Pn	21 09 21.6	-1.0
	22nm,0.3s					
BGNE	Belgrade	5.78 111	*e*Pn	Pn	21 09 22.9	0.0
MPU	Maple Canyon	5.99 234	*e*Pb	Pg	21 09 46.5	-4.2
	5.6nm,0.7s					
R28A	Tribune	5.99 152	P	Pn	21 09 26.1	+0.2
	baz=6.0,SNR=18					
SRU	San Rafael Swe	6.04 222	*e*Pn	Pn	21 09 26.6	0.0
	7.4nm,0.5s					
ECSD	EROS Data Cent	6.31 87	*e*Pn	Pn	21 09 30.2	0.0
CHMT	Chamberlain Mo	6.44 303	*e*Pn	Pn	21 09 32.2	0.0
	1.9nm,0.5s					
T27A	Campo	6.94 163	⇓P	Pn	21 09 39.1	+0.1
	baz=7.0,SNR=5.7					
AGMN	Agassiz Nation	8.02 52	*e*Pn	Pn	21 09 52.0	-1.7
	6.8nm,0.5s					
I10CA	LAC DU BONNET	9.08 41	*i*		22 03 40.0	
	baz=224,slow=325,SNR=2.3					
ULM	Lac du Bonnet	9.18 41	Pn	Pn	21 10 09.3	-0.3
	1.4nm,0.3s,baz=234,slow=13,SNR=9.5					
ULM			Pg		21 10 42.7	
	0.9nm,0.3s,baz=227,slow=16,SNR=4.9					
ULM			Lg	Lg	21 12 44.5	
	0.5nm,0.3s,baz=122,slow=20,SNR=4.0					
YKA	Yellowknife Ar	19.58 347	P	P	21 12 25.5	+0.3
	0.1nm,0.3s,baz=165,slow=12,SNR=4.6					

NSSP ***13*** *21:24:47.0,39.°38N×43.°97E, h5km, Ms3.8*
TEH ***13*** *21:24:47.9,39.°86N×43.°77E, h4km, ML3.9*
IDC ***13*** *21:24:49.5±1.0,39.°60N×43.°97E, h0km, mb3.4/9, mb1 3.5/16, mb1mx3.4/43, mbtmp3.4/16, ML3.2/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=19.7km s-min=7.7km az=157.0*
DDA ***13*** *21:24:49.9,39.°40N×43.°84E, h5km, MD3.7, ML3.9*
ISK ***13*** *21:24:49.6,39.°49N×43.°94E, h5km, ML3.8*
AZER ***13*** *21:24:50.0±1.1,39.°51N×43.°97E, h2km, Error ellipse: s-maj=2.4km s-min=1.0km az=271.0*
CSEM ***13*** *21:24:51.3±0.1,39.°50N×43.°96E, h2km, ML3.9, Error ellipse: s-maj=4.3km s-min=3.2km az=167.0*
NSSC ***13*** *21:24:56.0±2.5,38.°47N×44.°62E, h38km±999km, ML2.8*
ISC 13 21:24:50.6±1.1,39.°48N±0.°02×44.°01E±0.°01, h1km±8km, n187, σ1§57/230, mb3.5/9, 17C-24D,
Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.26**	**284**	*i* P	**Pg**	**21 24 53.6**	**-1.9**
DYDN	**Diyadin**	**0.26**	**284**	*i* P	**Pg**	**21 24 53.6**	**-1.9**
DYDN				*i* S	**Sb**	**21 25 06.2**	**+3.0**
CLDR	**Caldiran**	**0.35**	**192**	PG	**Pg**	**21 24 56.7**	**-0.5**
CLDR				*e*SG	**Sg**	**21 25 03.3**	**+1.5**
CLDR	**Caldiran**	**0.35**	**192**	*i* Pg	**Pg**	**21 24 56.7**	**-0.5**
CLDR				*e*Sg	**Sg**	**21 25 03.3**	**+1.5**
ARRZ	**Ararat**	**0.65**	**55**	*e*P	Pn	21 25 11.0	+4.0
ARRZ				*e*S	**Sn**	**21 25 22.0**	**+4.1**
ERE	**Yerevan**	**0.77**	**27**	*e*P	**Pn**	**21 25 10.0**	**+1.3**
ERE				*e*S	**Sn**	**21 25 23.0**	**+2.0**
ERE	**Yerevan**	**0.77**	**27**	P	**Pn**	**21 25 10.0**	**+1.3**
AGRB	**Hanur-Agry**	**0.79**	**277**	PG	**Pg**	**21 25 04.1**	**-1.7**
AGRB				*e*SG	**Sg**	**21 25 16.0**	**0.0**
AGRB	**Hanur-Agry**	**0.79**	**277**	*i* Pg	**Pg**	**21 25 04.1**	**-1.7**
AGRB				*e*Sg	**Sg**	**21 25 16.0**	**0.0**
GNI	**Garni**	**0.87**	**40**	*i* P	**Pg**	**21 25 06.0**	**-1.3**
GNI				*i* S	**Sg**	**21 25 18.9**	**+0.2**
GNI	**Garni**	**0.87**	**40**	Pg	**Pg**	**21 25 05.0**	**-2.3**
	132nm,0.3s,baz=216,slow=1.4,SNR=194						
GNI				Lg	Lg	21 25 17.3	
	306nm,0.3s,baz=30,slow=14,SNR=20						
GNI	**Garni**	**0.87**	**40**	P	**Pg**	**21 25 06.0**	**-1.3**
GNI				S	**Sg**	**21 25 18.9**	**+0.2**
NAX	**Nakhchivan**	**1.19**	**105**	⇓Pg	**Pg**	**21 25 12.0**	**-1.5**
	SNR=162						
NAX				⇑Sg	**Sn**	**21 25 31.4**	**0.0**
NAX	**Nakhchivan**	**1.19**	**105**	Pg	**Pg**	**21 25 12.0**	**-1.5**
	SNR=162						
NAX				Sg	**Sn**	**21 25 31.4**	**0.0**
EATA	**Eleskirt**	**1.23**	**288**	*i* S	**Sg**	**21 25 29.7**	**-0.5**
EATA	**Eleskirt**	**1.23**	**288**	*i* P	Pg	21 25 11.1	-3.1
EATA				*i* S	**Sg**	**21 25 29.7**	**-0.5**
EAK	**Akyaka**	**1.24**	**346**	*i* P	**Pg**	**21 25 13.0**	**-1.4**
EAK	**Akyaka**	**1.24**	**346**	*i* P	**Pg**	**21 25 13.0**	**-1.4**
EAK				*i* S	**Sn**	**21 25 34.8**	**+2.1**
GMRZ	**Gyumri**	**1.33**	**354**	*e*P	**Pb**	**21 25 18.0**	**+1.5**
GMRZ				*e*S	**Sn**	**21 25 40.0**	**+5.1**
KARS	**Kars**	**1.35**	**328**	*e*PN	**Pg**	**21 25 15.4**	**-1.1**
KARS				*e*SN	**Sg**	**21 25 34.6**	**+0.7**
KARS	**Kars**	**1.35**	**328**	*e*Pn	**Pg**	**21 25 15.4**	**-1.1**
KARS				*e*Sn	**Sg**	**21 25 34.6**	**+0.7**
GEVA	**Gevas**	**1.38**	**213**	*i* P	Pn	21 25 15.2	**-2.0**
GEVA				*i* S	**Sn**	**21 25 40.3**	**+4.1**
VADZ	**Vardenis**	**1.50**	**62**	*e*P	**Pn**	**21 25 18.0**	**-0.9**
VADZ				*e*S	**Sg**	**21 25 40.0**	**+1.1**
VADZ	**Vardenis**	**1.50**	**62**	P	**Pn**	**21 25 18.0**	**-0.9**
VADZ				S	**Sg**	**21 25 40.0**	**+1.1**
EKAR	**Karacoban**	**1.52**	**262**	*i* P	**Pn**	**21 25 18.3**	**-0.9**
EKAR	**Karacoban**	**1.52**	**262**	*i* P	**Pn**	**21 25 18.3**	**-0.9**
STE	**Stepanavan**	**1.54**	**10**	⇓P	Pn	21 25 16.0	-3.3
STE				S	**Sg**	**21 25 41.0**	**+0.9**
STEZ	**Stepenevan**	**1.54**	**11**	⇓*i*P	Pn	21 25 16.0	-3.4
STEZ				⇓S	**Sg**	**21 25 41.0**	**+0.8**
BAW	**Bavra**	**1.64**	**354**	⇓*i*P	Pn	21 25 18.0	-2.8
KDR	**Kadzharan**	**1.66**	**101**	⇓*i*P	Pn	21 25 15.1	-5.9
KDR				⇓*i*S	**Sn**	**21 25 39.0**	**-4.0**
HOMI	**Horasan**	**1.72**	**290**	*i* P	**Pn**	**21 25 20.7**	**-1.2**
HOMI				*i* S	**Sg**	**21 25 48.9**	**+3.2**
GRS	**Goris**	**1.80**	**89**	⇑*i*P	**Pn**	**21 25 24.0**	**+1.1**
GRS				⇓*i*S	**Sg**	**21 25 51.0**	**+2.6**
GRS	**Goris**	**1.80**	**89**	⇑P	**Pn**	**21 25 24.0**	**+1.1**
GRS				S	**Sg**	**21 25 51.0**	**+2.6**
MGRZ	**Megri**	**1.83**	**108**	⇓*i*P	Pn	21 25 17.1	-6.0
MGRZ				⇓*i*S	**Sn**	**21 25 42.2**	**-4.6**
XTNZ	**Xhotanan**	**1.85**	**96**	⇓*i*P	Pn	21 25 18.4	-5.0
XTNZ				⇓*i*S	**Sn**	**21 25 42.2**	**-5.1**
QZX	**Qazax, Azerbai**	**1.89**	**33**	⇑Pg	**Pn**	**21 25 23.8**	**-0.2**
QZX				⇑Sg	**Sn**	**21 25 49.7**	**+1.3**
QZX	**Qazax, Azerbai**	**1.89**	**33**	Pg	**Pn**	**21 25 23.8**	**-0.2**
QZX				Sg	**Sn**	**21 25 49.7**	**+1.3**
HKR	**Hakkari**	**1.91**	**186**	*e*PN	**Pn**	**21 25 24.7**	**+0.2**
HKR	**Hakkari**	**1.91**	**186**	*e*Pn	**Pn**	**21 25 24.7**	**+0.2**
KZR	**Kazreti**	**1.92**	**9**	P	**Pn**	**21 25 24.6**	**+0.1**
KZR	**Kazreti**	**1.92**	**9**	P	**Pn**	**21 25 24.6**	**+0.1**
HAKT	**HAKKARI**	**1.94**	**187**	*i* P	**Pn**	**21 25 25.0**	**+0.2**
HAKT	**HAKKARI**	**1.94**	**187**	*i* P	**Pn**	**21 25 25.0**	**+0.2**
AKH	**Akhalkalaki**	**1.96**	**349**	P	**Pb**	**21 25 26.7**	**-0.6**
AKH	**Akhalkalaki**	**1.96**	**349**	P	**Pb**	**21 25 26.7**	**-0.6**
VRTB	**Varto-Mus**	**2.01**	**262**	*e*PN	**Pn**	**21 25 25.1**	**-0.7**
VRTB	**Varto-Mus**	**2.01**	**262**	*e*Pn	**Pn**	**21 25 25.1**	**-0.7**
ERZM	**Erzurum**	**2.08**	**283**	*i* P	**Pn**	**21 25 27.1**	**+0.2**
ERZM	**Erzurum**	**2.08**	**283**	*i* P	**Pn**	**21 25 27.1**	**+0.2**
ITBZ	**Tabriz**	**2.08**	**126**	*e*Pn	**Pn**	**21 25 26.7**	**-0.1**
ITBZ				*e*		21 25 36.6	
	comp=Z,5μm,0.2s						
ITBZ	**Tabriz**	**2.08**	**126**	*e*Pn	**Pn**	**21 25 26.7**	**-0.1**
EZM	**Erzurum**	**2.09**	**283**	*e*PN	**Pn**	**21 25 26.4**	**-0.5**
GANJ	**Ganja**	**2.12**	**56**	⇓Pg	**Pn**	**21 25 28.4**	**+1.2**
	SNR=30						
GANJ				⇓Sg	**Sb**	**21 25 57.4**	**+0.7**
GANJ	**Ganja**	**2.12**	**56**	Pg	**Pn**	**21 25 28.4**	**+1.2**
	SNR=30						
GANJ				Sg	**Sb**	**21 25 57.4**	**+0.7**
STKZ		**2.14**	**80**	⇓*i*P	**Pb**	**21 25 29.8**	**-0.4**
STKZ				⇑*i*S	**Sg**	**21 25 59.6**	**+0.2**
STKZ		**2.14**	**80**	⇓P	**Pb**	**21 25 29.8**	**-0.4**
STKZ				S	**Sg**	**21 25 59.6**	**+0.2**
DGRG	**David-gareji**	**2.22**	**27**	P	**Pb**	**21 25 31.6**	**0.0**
DGRG	**David-gareji**	**2.22**	**27**	P	**Pb**	**21 25 31.6**	**0.0**
DDEM	**Demirkent**	**2.23**	**310**	*i* P	**Pb**	**21 25 31.4**	**-0.4**
CUKT	**Cukurca**	**2.25**	**188**	*e*PN	**Pn**	**21 25 29.5**	**+0.4**
CUKT	**Cukurca**	**2.25**	**188**	*e*Pn	**Pn**	**21 25 29.5**	**+0.4**
DAGI	**Agillar**	**2.26**	**315**	*i* P	**Pn**	**21 25 31.1**	**+1.9**
DAGI				*i* S	**Sg**	**21 26 05.0**	**+1.8**
MTKZ	**Martakert**	**2.28**	**71**	⇓*i*P	**Pn**	**21 25 31.2**	**+1.8**
MTKZ				⇑*i*S	**Sg**	**21 26 03.6**	**-0.2**
MTKZ	**Martakert**	**2.28**	**71**	⇓P	**Pn**	**21 25 31.2**	**+1.8**
MTKZ				S	**Sg**	**21 26 03.6**	**-0.2**
BNGL	**BINGOL**	**2.28**	**257**	*i* P	**Pn**	**21 25 28.9**	**-0.7**
BNGL				*i* S	**Sn**	**21 25 59.0**	**+0.6**
TBLG	**Delisi**	**2.31**	**14**	P	**Pn**	**21 25 31.7**	**+1.9**
TBLG	**Delisi**	**2.31**	**14**	P	**Pn**	**21 25 31.7**	**+1.9**
ARTV	**Artvin**	**2.33**	**318**	*i* P	**Pb**	**21 25 33.1**	**-0.4**
ARTV				*i* S	**Sg**	**21 26 05.3**	**-0.2**
SIRT	**Sirnak**	**2.33**	**212**	*e*PN	**Pn**	**21 25 30.7**	**+0.6**
SIRT	**Sirnak**	**2.33**	**212**	*e*Pn	**Pn**	**21 25 30.7**	**+0.6**
DBAD	**Bademkaya**	**2.34**	**312**	*i* P	**Pn**	**21 25 32.3**	**+2.0**
DBAD	**Bademkaya**	**2.34**	**312**	*i* P	**Pn**	**21 25 32.3**	**+2.0**
DBAD				*i* S	**Sb**	**21 26 03.0**	**-0.1**
BTMT	**Batman**	**2.35**	**238**	*e*PN	**Pn**	**21 25 30.1**	**-0.3**
BTMT	**Batman**	**2.35**	**238**	*e*Pn	**Pn**	**21 25 30.1**	**-0.3**
SEAG	**Tbilisi Sea**	**2.36**	**15**	P	**Pb**	**21 25 33.0**	**-0.9**
SEAG	**Tbilisi Sea**	**2.36**	**15**	P	**Pb**	**21 25 33.0**	**-0.9**
IFTB	**Fath-abad**	**2.37**	**127**	*e*Pn	**Pb**	**21 25 32.9**	**-1.3**
IFTB				*e*Sn	**Sb**	**21 26 05.5**	**+1.5**
IFTB	**Fath-abad**	**2.37**	**127**	*e*Pn	**Pb**	**21 25 32.9**	**-1.3**
IFTB				*e*Sn	**Sb**	**21 26 05.5**	**+1.5**
IAZR	**Azarshahr**	**2.37**	**139**	*e*Pn	**Pb**	**21 25 34.0**	**-0.3**
IAZR				*e*		21 25 38.3	
	comp=Z,12μm,0.2s						
IAZR	**Azarshahr**	**2.37**	**139**	*e*Pn	**Pb**	**21 25 34.0**	**-0.3**
BRDA	**Brd**	**2.56**	**71**	⇓Pg	**Pb**	**21 25 36.3**	**-1.0**
	SNR=16						
BRDA				⇑Sg	**Sg**	**21 26 13.3**	**+0.4**
BRDA	**Brd**	**2.56**	**71**	Pg	**Pb**	**21 25 36.3**	**-1.0**
	SNR=16						
BRDA				Sg	**Sg**	**21 26 13.3**	**+0.4**
SVAN	**Silvan-Diyarba**	**2.57**	**240**	*e*PN	**Pn**	**21 25 33.4**	**+0.1**
BNGB	**Bing¶l**	**2.63**	**260**	*e*PN	**Pn**	**21 25 34.4**	**+0.1**
IHRS	**Heris**	**2.64**	**115**	*e*Pn	**Pn**	**21 25 35.3**	**+0.8**
IHRS				*e*		21 25 43.2	
	comp=Z,5μm,0.2s						
IHRS				*e*Sn	**Sb**	**21 26 11.1**	**-0.6**
IHRS	**Heris**	**2.64**	**115**	*e*Pn	**Pn**	**21 25 35.3**	**+0.8**
IHRS				*e*Sn	**Sb**	**21 26 11.1**	**-0.6**
DUS	**Dusheti**	**2.66**	**11**	P	**Pn**	**21 25 35.7**	**+1.1**
DUS	**Dusheti**	**2.66**	**11**	P	**Pn**	**21 25 35.7**	**+1.1**
BCA	**Borcka**	**2.67**	**318**	*e*PN	**Pn**	**21 25 34.4**	**-0.4**
BCA	**Borcka**	**2.67**	**318**	*e*Pn	**Pn**	**21 25 34.4**	**-0.4**
MNGR	**Mingechevir, A**	**2.69**	**60**	⇓Pg	**Pb**	**21 25 39.5**	**+0.1**
MNGR				⇑Sg	**Sg**	**21 26 18.3**	**+1.4**
MNGR	**Mingechevir, A**	**2.69**	**60**	Pg	**Pb**	**21 25 39.5**	**+0.1**
MNGR				Sg	**Sg**	**21 26 18.3**	**+1.4**
KOPT	**Kop Dagi**	**2.76**	**282**	*i* P	**Pb**	**21 25 39.4**	**-1.5**
BINT	**Bingol**	**2.80**	**259**	*e*Pn	**Pn**	**21 25 34.4**	**-2.3**
ZKTA	**Zakatala**	**2.93**	**42**	⇑Pn	**Pn**	**21 25 39.9**	**+1.6**
	SNR=12						
ZKTA				⇓Sg	**Sb**	**21 26 22.4**	**+2.4**
SEKA	**Sheki**	**2.98**	**54**	⇓Pn	**Pn**	**21 25 39.8**	**+0.7**
	SNR=4.0						
SEKA				⇑Sg	**Sg**	**21 26 25.0**	**-1.5**
SEKA	**Sheki**	**2.98**	**54**	Pn	**Pn**	**21 25 39.8**	**+0.7**
	SNR=4.0						
SEKA				Sg	**Sg**	**21 26 25.0**	**-1.5**
GUDG	**Gudauri**	**3.00**	**7**	P	**Pn**	**21 25 40.1**	**+0.7**
GUDG	**Gudauri**	**3.00**	**7**	P	**Pn**	**21 25 40.1**	**+0.7**
BAYT	**Ayd¯–ntepe-Bay**	**3.11**	**288**	*e*PN	**Pn**	**21 25 40.8**	**-0.1**
BAYT	**Ayd¯–ntepe-Bay**	**3.11**	**288**	*e*Pn	**Pn**	**21 25 40.8**	**-0.1**
ONI	**Oni**	**3.13**	**352**	P	**Pb**	**21 25 47.9**	**+0.8**
ISRB	**Sarab**	**3.31**	**119**	*e*Pn	**Pn**	**21 25 44.7**	**+1.0**
ISRB				*e*		21 25 56.9	
	comp=Z,2μm,0.2s						
ISRB				*e*Sn	**Sn**	**21 26 26.4**	**+2.7**
ISRB	**Sarab**	**3.31**	**119**	*e*Pn	**Pn**	**21 25 44.7**	**+1.0**
ISRB				*e*Sn	**Sn**	**21 26 26.4**	**+2.7**
ERZN	**Erzincan**	**3.32**	**273**	*e*PN	**Pn**	**21 25 44.0**	**+0.3**
DIY	**Diyarbakir**	**3.36**	**243**	*e*Pn	**Pn**	**21 25 45.6**	**+1.4**
DYBB	**Diyarbakir**	**3.39**	**244**	*e*PN	**Pn**	**21 25 45.6**	**+1.0**
GLBA	**Cilalabad**	**3.41**	**93**	⇓Pn	**Pn**	**21 25 46.8**	**+2.0**
GLBA	**Cilalabad**	**3.41**	**93**	Pn	**Pn**	**21 25 46.8**	**+2.0**
MAZI	**Mazidag**	**3.45**	**235**	*e*PN	**Pn**	**21 25 46.2**	**+0.6**
MAZI	**Mazidag**	**3.45**	**235**	*e*Pn	**Pn**	**21 25 46.2**	**+0.6**
IML	**Ismayilli**	**3.46**	**66**	⇑Pn	**Pn**	**21 25 45.7**	**+0.1**
IML	**Ismayilli**	**3.46**	**66**	Pn	**Pn**	**21 25 45.7**	**+0.1**
LRK	**Lerik**	**3.47**	**103**	⇓Pn	**Pn**	**21 25 47.1**	**+1.3**
LRK	**Lerik**	**3.47**	**103**	Pn	**Pn**	**21 25 47.2**	**+1.3**
KTUT	**Trabzon**	**3.58**	**296**	*e*PN	**Pn**	**21 25 47.2**	**0.0**
KTUT	**Trabzon**	**3.58**	**296**	*e*Pn	**Pn**	**21 25 47.2**	**0.0**
EZC	**Erzincan**	**3.61**	**276**	*e*Pn	Pn	21 25 44.0	-3.7
GUMT	**Gumushane**	**3.62**	**287**	*e*PN	**Pn**	**21 25 47.8**	**0.0**
GUMT	**Gumushane**	**3.62**	**287**	*e*Pn	**Pn**	**21 25 47.8**	**0.0**
KBSD	**Kabsdagh**	**3.69**	**229**	*e*P	**Pn**	**21 25 48.7**	**0.0**
KBSD	**Kabsdagh**	**3.69**	**229**	*e*P	**Pn**	**21 25 48.7**	**0.0**
KBSD				AML	AML	21 26 06.7	
	comp=Z,57nm,0.6s						
KBSD				*e*S	**Sn**	**21 26 27.2**	**-5.6**
KELT	**Kelkit**	**3.72**	**282**	*i* P	**Pb**	**21 25 56.9**	**-0.3**
PQL	**Pirkuli**	**3.75**	**68**	⇑Pn	**Pn**	**21 25 50.9**	**+1.2**
	SNR=7.3						
PQL				⇑Sg	**Sb**	**21 26 47.2**	**+3.6**
PQL	**Pirkuli**	**3.75**	**68**	Pn	**Pn**	**21 25 50.9**	**+1.2**
	SNR=7.3						
LKRN	**Lenkeran, Azer**	**3.79**	**100**	⇓Pn	**Pn**	**21 25 52.4**	**+2.3**
	SNR=12						
LKRN	**Lenkeran, Azer**	**3.79**	**100**	Pn	**Pn**	**21 25 52.4**	**+2.3**
	SNR=12						
SVRC	**Sivrice-ELAZID**	**3.83**	**255**	*e*PN	**Pn**	**21 25 51.5**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.83**	**255**	*e*Pn	**Pn**	**21 25 51.5**	**+0.7**
QUBA	**Quba, Azerbaij**	**3.90**	**60**	⇑Pn	**Pn**	**21 25 52.6**	**+0.9**
QUBA	**Quba, Azerbaij**	**3.90**	**60**	Pn	**Pn**	**21 25 52.6**	**+0.9**
ATGJ	**Altiaghaj**	**4.02**	**68**	⇑P	**Pn**	**21 25 55.7**	**+2.3**
ATGJ	**Altiaghaj**	**4.02**	**68**	P	**Pn**	**21 25 55.7**	**+2.3**
ILIC	**ilic-Erzincan**	**4.21**	**271**	*e*PN	**Pn**	**21 25 56.8**	**+0.8**
ILIC	**ilic-Erzincan**	**4.21**	**271**	*e*Pn	**Pn**	**21 25 56.8**	**+0.8**
ESPY	**Espiye-Giresun**	**4.29**	**291**	*e*PN	**Pn**	**21 25 57.4**	**+0.4**
ESPY	**Espiye-Giresun**	**4.29**	**291**	*e*Pn	**Pn**	**21 25 57.4**	**+0.4**
KBZ	**Khabaz**	**4.32**	**349**	Pn	**Pn**	**21 25 57.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=174,slow=10,SNR=3.2						
SFNV	**Sufian**	**4.34**	**226**	*e*P	**Pn**	**21 25 57.1**	**-0.6**
SFNV	**Sufian**	**4.34**	**226**	*e*P	**Pn**	**21 25 57.1**	**-0.6**
SFNV				AML	AML	21 26 22.1	
	comp=Z,33nm,0.6s						
SFNV				*e*S	Sn	21 26 42.7	-6.3
MZRK	**Al-Mazaregh**	**4.52**	**217**	*e*P	**Pn**	**21 25 58.9**	**-1.2**
MZRK	**Al-Mazaregh**	**4.52**	**217**	*e*P	**Pn**	**21 25 58.9**	**-1.2**
MZRK				AML	AML	21 26 22.4	
	comp=Z,54nm,0.6s						
MZRK				*e*S	Sn	21 26 39.6	-14
SUSE	**Susehri**	**4.53**	**281**	*i* P	**Pb**	**21 26 12.9**	**+1.9**
URFA	**Urfa**	**4.55**	**245**	*e*PN	**Pn**	**21 26 01.6**	**+0.9**
URFA	**Urfa**	**4.55**	**245**	*e*Pn	**Pn**	**21 26 01.6**	**+0.9**
IDHR	**Dehrash**	**5.14**	**158**	*e*Pn	**Pn**	**21 26 10.4**	**+1.6**
IDHR				*e*		21 27 48.9	
	comp=Z,552nm,0.4s						
IDHR	**Dehrash**	**5.14**	**158**	*e*Pn	**Pn**	**21 26 10.4**	**+1.6**
MNKR	**ALMNKUR**	**5.16**	**228**	*e*P	**Pn**	**21 26 07.8**	**-1.1**
MNKR	**ALMNKUR**	**5.16**	**228**	*e*P	**Pn**	**21 26 07.8**	**-1.1**
MNKR				*e*S	Sn	21 27 01.4	-7.7
DARE	**Darende-Malaty**	**5.16**	**262**	*e*PN	**Pn**	**21 26 10.7**	**+1.6**
DARE	**Darende-Malaty**	**5.16**	**262**	*e*Pn	**Pn**	**21 26 10.7**	**+1.6**
RSDY	**Resadiye-TOKAT**	**5.22**	**282**	*e*PN	**Pn**	**21 26 11.2**	**+1.5**
RSDY	**Resadiye-TOKAT**	**5.22**	**282**	*e*Pn	**Pn**	**21 26 11.3**	**+1.5**
KSRV	**Kasrt alli**	**5.37**	**229**	*e*P	Pn	21 26 16.6	+4.8
KSRV				*e*S	**Sn**	**21 27 15.8**	**+1.5**
KSRV	**Kasrt alli**	**5.37**	**229**	*e*P	Pn	21 26 16.6	+4.8
KSRV				*e*S	**Sn**	**21 27 15.8**	**+1.5**
KSRV				AML	AML	21 27 51.3	
	comp=Z,19nm,0.7s						
SVSK	**Karacayir**	**5.42**	**277**	*e*PN	**Pn**	**21 26 13.9**	**+1.4**
SVSK	**Karacayir**	**5.42**	**277**	*e*Pn	**Pn**	**21 26 13.9**	**+1.4**
KMRS	**Kahramanmaras**	**5.92**	**253**	*e*PN	**Pn**	**21 26 21.4**	**+2.0**
KMRS	**Kahramanmaras**	**5.92**	**253**	*e*Pn	**Pn**	**21 26 21.4**	**+2.0**
IRAZ	**Razeghan**	**6.22**	**129**	*e*Pn	**Pn**	**21 26 21.2**	**-2.5**
IRAZ				*e*		21 27 08.0	
	comp=Z,210nm,0.3s						
KVT	**Kavak**	**6.29**	**287**	*e*PN	**Pn**	**21 26 26.7**	**+2.1**

PETK LR LR 21 43 53.3
comp=Z,19μm,21.1s,baz=102,slow=48
GNL Ganaly 1.79 304 *i* P **Pb 21 43 10.8 +0.3**
MKZ Mys Kozlova 1.99 22 PN **Pn 21 43 10.6 -0.1**
MKZ S **Sn 21 43 35.5 +0.6**
MKZ Mys Kozlova 1.99 22 *i* P **Pn 21 43 11.0 +0.3**
MKZ S **Sn 21 43 32.5 -2.4**
APC Apacha 2.00 277 *i* P **Pb 21 43 14.0 0.0**
APC *e*S **Sb 21 43 37.8 -0.6**
MIPR Malaya Ipel'ka 2.29 260 *i* P **Pb 21 43 18.5 -0.5**
MIPR S **Sb 21 43 45.6 -1.3**
PAU Pauzhetka 2.56 242 PN **Pn 21 43 20.8 +2.2**
PAU S **Sb 21 43 53.8 -0.9**
PAU Pauzhetka 2.56 242 *e*P **Pb 21 43 21.3 -2.4**
PAU *e*S **Sn 21 43 50.4 +1.4**
TUMR Tumrok 2.57 356 *i* P **Pn 21 43 21.0 +2.2**
KMNR Kamenistaya 3.04 358 *i* P **Pn 21 43 28.0 +2.8**
BZMR Bezymyannaya 3.22 1 *e*P Pn 21 43 30.8 +3.1
BZGR Bezymyannyi-Gr 3.23 3 *e*P Pn 21 43 31.1 +3.3
KIRR Kirishev 3.24 359 *e*P **Pn 21 43 30.9 +2.9**
KIRR *e*S **Sn 21 44 06.7 +0.8**
BZWR Bezymyannyi-We 3.25 1 *e*P Pn 21 43 31.6 +3.5
ZLN Zelenaya 3.31 4 *e*P Pn 21 43 32.3 +3.4
KOZ Kozyrevsk 3.36 355 *i* P Pn 21 43 32.5 +3.0
ESO Esso 3.36 343 PN **Pn 21 43 31.6 +2.0**
ESO Esso 3.36 343 *e*P **Pn 21 43 32.1 +2.5**
KOZR Kozyr 3.36 355 PN **Pn 21 43 32.3 +2.7**
KOZR S **Sb 21 44 12.7 -5.1**
LGNR Loginova 3.37 2 *e*P Pb 21 43 33.7 -3.9
SKR Severo-Kuril's 3.37 234 *e*PN **Pn 21 43 28.4 -1.3**
SKR *i* S **Sn 21 44 07.4 -1.6**
SKR pmax pmax
comp=N,110nm,0.4s
SKR pmax pmax
comp=Z,200nm,0.4s
SKR pmax pmax
comp=Z,2μm,2.0s
SKR smax smax
comp=E,14μm,2.0s
SKR MLR MLR
comp=E,27μm,14.0s
SKR MLR MLR
comp=Z,16μm,14.0s
SKR Severo-Kuril's 3.37 234 *e*P **Pn 21 43 31.6 +1.9**
SKR *e*S **Sn 21 44 08.5 -0.5**
KRSR Krestovskiy 3.50 1 P Pn 21 43 34.8 +3.2
KRSR S **Sn 21 44 13.9 +1.6**
KLY Klyuchi 3.60 2 PN **Pn 21 43 35.3 +2.5**
KLY S **Sn 21 44 16.9 +2.4**
KLY Klyuchi 3.60 2 *e*P **Pn 21 43 35.4 +2.6**
KLY *e*S **Sn 21 44 14.5 0.0**
SRDR Sredinnyy 3.62 354 *e*P **Pn 21 43 35.9 +2.7**
KBTR Krutoberegovo 3.76 21 PN **Pn 21 43 35.9 +0.9**
KBTR S **Sn 21 44 19.8 +1.3**
KBTR Krutoberegovo 3.76 21 *e*P **Pn 21 43 35.6 +0.6**
KBTR *e*S **Sn 21 44 14.4 -4.1**
KBG Krutoberegovo 3.78 20 PN **Pn 21 43 36.6 +1.4**
KBG S **Sn 21 44 21.8 +2.9**
BDR Baidarnaya 3.88 6 *e*P Pn 21 43 40.0 +3.3
BDR *e*S **Sn 21 44 23.0 +1.4**
SMKR Semkarok 3.91 8 *e*P **Pn 21 43 39.6 +2.4**
SRKR Sorokina 3.96 6 *e*P Pn 21 43 41.2 +3.3
BKI Bering 4.11 51 PN **Pn 21 43 39.0 -0.8**
BKI Bering 4.11 51 *e*P **Pn 21 43 38.8 -1.0**
BKI *e*S **Sn 21 44 21.2 -5.9**
PALN Palana 6.39 358 P Pn 21 44 15.5 +4.5
PALN S **Sn 21 45 24.9 +1.8**
OSSR Ossora 6.71 12 P Pn 21 44 19.3 +3.9
OSSR S **Sn 21 45 29.7 -1.3**
FX1 Attu Island--F 7.72 84 *e*PN **Pn 21 44 27.5 -1.9**
FX1 Attu Island--F 7.72 84 Pn **Pn 21 44 28.2 -1.2**
comp=Z,82nm,0.3s,baz=317,slow=5.3,SNR=331
FX1 LR LR 21 47 25.5
comp=Z,4μm,21.2s,baz=299,slow=37
FX1 Attu Island--F 7.72 84 *e*Pn **Pn 21 44 27.5 -1.9**
FX1 *e*Sn **Sn 21 45 50.7 -5.4**
SMY Shemya 8.30 85 *e*PN **Pn 21 44 36.4 -0.9**
SMY Shemya 8.30 85 *e*Pn **Pn 21 44 36.4 -0.9**
SMY *e*Sn Sn 21 46 04.1 -6.2
TILK Tilichiki 8.36 20 *e*P Pn 21 44 41.8 +3.8
OKH Okha 10.55 281 *e*PN Pn 21 45 12.7 +4.6
OKH pmax pmax
comp=Z,2μm,11.0s
SEY Seymchan 11.09 341 Pn **Pn 21 45 17.0 +1.6**
comp=Z,0.3nm,0.3s,baz=144,slow=12,SNR=35
SEY LR LR 21 50 02.0
comp=Z,6μm,18.8s,baz=149,slow=41
UGL Uglegorsk 12.15 260 *e*PN P 21 45 37.5 -4.9
UGL pmax pmax
comp=Z,436nm,1.2s
UGL MLR MLR
comp=Z,6μm,18.0s
UGL MLR MLR
comp=N,3μm,14.0s
UGL MLR MLR
comp=E,8μm,16.0s
YSS Yuzh-Sakhalins 12.77 250 *e*PN Pn 21 45 42.0 +3.5
YSS *e*S Sn 21 48 08.0 +8.1
YSS pmax pmax
comp=Z,140nm,1.0s
YSS MLR MLR
comp=N,6μm,14.0s
YSS MLR MLR
comp=E,5μm,14.0s
YSS MLR MLR
comp=Z,8μm,14.0s
YSS Yuzh-Sakhalins 12.77 250 *e*Pn **Pn 21 45 40.4 +1.9**
YUK Yuzh-Kuril'sk 12.99 234 *c i*PN P 21 45 46.9 -4.9
YUK *i* S Sn 21 48 12.7 +7.4
ASAJ Asahikawa 14.61 241 P **Pn 21 46 04.2 +0.6**
ASAJ pmax pmax
comp=Z,18nm,0.3s
ASAJ MLR MLR
comp=Z,2μm,19.2s
ASAJ Asahikawa 14.61 241 Pn **Pn 21 46 04.2 +0.6**
comp=Z,18nm,0.3s,baz=79,slow=12,SNR=16
ASAJ LR LR 21 51 23.5
comp=Z,2μm,19.2s,baz=38,slow=36
ASAJ Asahikawa 14.61 241 *e*Pn **Pn 21 46 03.8 +0.2**
BILL Bilibino 15.62 8 *e*P **Pn 21 46 16.8 -0.1**
BILL pmax pmax
comp=Z,41nm,1.1s
BILL MLR MLR
comp=Z,3μm,20.0s
BILL Bilibino 15.62 8 *e*Pn **Pn 21 46 17.8 +0.9**
comp=Z,186nm,1.0s
ERM Erimo 15.82 234 Pn **Pn 21 46 17.9 -1.7**
comp=Z,834nm,0.4s,SNR=11
ERM Erimo 15.82 234 *e*P **Pn 21 46 16.6 -3.0**
ERM Erimo 15.82 234 *e*Pn **Pn 21 46 16.3 -3.3**
comp=Z,81nm,0.8s
HABR Khabarovsk 16.63 265 *de*P **Pn 21 46 27.6 -2.3**
HABR *e*S **Sn 21 49 31.4 -2.3**
HABR pmax pmax
comp=N,248nm,1.2s
HABR MLR MLR
comp=Z,6μm,18.0s
SPIA Saint Paul Isl 17.35 63 *e*Pn **Pn 21 46 38.3 -0.5**
GAMB Gambell 18.19 42 *e*Pn **P 21 46 49.3 0.0**
comp=Z,75nm,1.2s
YAK Yakutsk 18.84 312 *c i*P **P 21 46 55.2 -1.2**
YAK *e*S **S 21 50 29.4 +0.6**
YAK pmax pmax
comp=Z,358nm,0.9s
YAK pmax pmax
comp=E,195nm,1.1s
YAK pmax pmax
comp=N,83nm,1.0s
YAK MLR MLR
comp=Z,4μm,15.0s
YAK MLR MLR
comp=N,1μm,13.0s
YAK MLR MLR
comp=E,2μm,15.0s
YAK Yakutsk 18.84 312 *e*P **P 21 46 54.7 -1.7**
comp=E,396nm,1.0s
YAK *e*Sn S 21 50 36.6 +7.8
UNV Unalaska Valle 19.71 73 *e*P **Pn 21 47 08.1 +0.6**
comp=E,160nm,1.2s
TNA Tin City 20.41 39 *e*P Pn 21 47 14.8 -0.9
comp=E,175nm,1.5s
USRK Ussuriysk Ar. 20.59 257 P **P 21 47 14.8 -0.8**
comp=E,91nm,0.9s,baz=59,slow=9.9,SNR=105
USRK LR LR 21 56 00.6
comp=E,5μm,18.0s,baz=52,slow=39
VLA Vladivostok 21.28 255 ⇑*i*P **P 21 47 21.7 -1.4**
VLA *i* 21 47 41.9
VLA S **S 21 51 17.1 -1.2**
VLA pmax pmax
comp=Z,132nm,2.0s
MDJ Mudanjiang 21.79 261 P **P 21 47 28.3 -0.2**
MDJ pP **pP 21 47 33.9 -1.0**
MDJ sP **sP 21 47 36.8 -1.0**
MDJ S **S 21 51 26.4 -1.9**
MDJ ScS **ScS 21 58 49.9 +2.1**
MDJ PMZ
comp=Z,71nm,1.0s
MDJ PMZ
comp=Z,200nm,6.8s
MDJ LN
comp=Z,3μm,17.3s
MDJ LE
comp=Z,2μm,17.1s
MDJ LZ
comp=Z,3μm,19.8s
MDJ Mudanjiang 21.79 261 *e*P **P 21 47 27.5 -1.0**
comp=Z,69nm,0.9s
MAJO Matsushiro 22.48 233 *c i*P **P 21 47 36.7 +0.6**
MAJO pmax pmax
comp=Z,2μm,1.0s
MAJO Matsushiro 22.48 233 *e*P **P 21 47 37.0 +0.9**
comp=Z,282nm,0.9s
MAT Matsushiro 22.48 233 P **P 21 47 36.6 +0.5**
MAT S **S 21 51 42.0 +0.5**
MJAR Matsushiro Arr 22.48 233 P **P 21 47 37.2 +1.1**
comp=Z,155nm,1.0s,baz=7.0,slow=13,SNR=143
MJAR ScP **ScP 21 55 05.5 +0.1**
comp=Z,3.0nm,1.0s,baz=180,slow=0.5,SNR=5.9
MJAR LR LR 21 57 28.5
comp=Z,1μm,21.5s,baz=55,slow=40
TIXI Tiksi 23.50 335 *c i*P **P 21 47 44.5 -1.7**
TIXI pmax pmax
comp=Z,118nm,1.0s
TIXI Tiksi 23.50 335 *e*P **P 21 47 44.1 -2.1**
comp=Z,127nm,1.1s
TIXI *e*PcP **PcP 21 51 31.4 +0.4**
CN2 Changchun 24.73 263 ⇑*i*P **P 21 47 55.8 -2.1**
CN2 *e*pP **pP 21 48 03.0 -1.6**
CN2 *e*S **S 21 52 12.6 -5.8**
CN2 PMZ
comp=Z,60nm,1.0s
CN2 LN
comp=Z,5μm,17.0s
CN2 LE
comp=Z,4μm,17.0s
CN2 LZ
comp=Z,4μm,18.0s
SVW2 Sparrevohn 24.99 53 *e*P **P 21 48 00.8 +0.7**
comp=Z,31nm,1.1s
HIA Hailar 25.60 279 *c i*P **P 21 48 04.1 -1.6**
HIA pmax pmax
comp=Z,84nm,1.1s
HIA MLR MLR
comp=Z,3μm,15.0s
HIA Hailar 25.60 279 *e*P **P 21 48 04.3 -1.4**
comp=Z,76nm,0.7s
IM04 Indian Mountai 26.12 42 *e*P **P 21 48 10.5 +0.1**
IM04 *e*PcP **PcP 21 51 38.4 +1.4**
SII Sitkinak Islan 26.17 63 *e*P **P 21 48 11.8 +1.0**
comp=Z,226nm,1.2s
RSO Redoubt South 26.40 54 *e*P **P 21 48 13.1 0.0**
RSO *es*P **sP 21 48 23.5 +0.9**
BOD Bodaibo 26.51 300 ⇑*i*P **P 21 48 12.3 -1.5**
BOD pmax pmax
comp=Z,84nm,1.1s
OHAK Old Harbor 26.53 62 *e*P **P 21 48 14.0 -0.1**
comp=Z,78nm,0.9s
OHAK *e*pP **pP 21 48 21.1 +0.3**
PPLA Purkeypile 26.59 49 *e*P **P 21 48 16.1 +1.3**
comp=Z,100nm,1.3s
PPLA *e*PcP **PcP 21 51 39.3 +1.0**
CAST Castle Rocks 26.64 48 *e*P **P 21 48 15.9 +0.8**
comp=Z,20nm,1.1s
SNY Shenyang 26.99 261 ⇓P **P 21 48 18.8 +0.5**
SNY S **S 21 52 57.3 +3.1**
SNY PMZ
comp=Z,22nm,2.2s
SNY PMZ
comp=Z,320nm,6.5s
SNY LN
comp=Z,4μm,17.4s
SNY LE
comp=Z,2μm,19.4s
SNY LZ
comp=Z,4μm,20.6s
KTH Kantishna Hill 27.17 47 *e*P **P 21 48 20.3 +0.4**
comp=Z,45nm,1.2s
KSRS Korea Array 27.27 249 P **P 21 48 21.6 +0.7**
comp=Z,41nm,0.9s,baz=42,slow=8.4,SNR=55
KSRS PcP **PcP 21 51 40.5 +0.4**
comp=Z,6.7nm,1.0s,baz=352,slow=2.1,SNR=8.0
KSRS LR LR 22 00 02.5
comp=Z,1μm,18.8s,baz=54,slow=38
KS01 Wonju Array Si 27.27 249 *e*P **P 21 48 21.3 +0.4**
KS01 *e*PcP **PcP 21 51 41.1 +1.0**
KS01 *e*ScP **ScP 21 55 19.6 +0.7**
KSAR Wonju Array Be 27.30 249 P **P 21 48 21.6 +0.4**
KSAR 21 51 40.5
KSAR Wonju Array Be 27.30 249 P **P 21 48 21.6 +0.4**
KSAR PcP **PcP 21 51 40.5 +0.3**
TRF Thorofare Moun 27.45 48 *e*P **P 21 48 22.6 +0.1**
comp=Z,44nm,1.0s
TRF *e*PcP **PcP 21 51 41.1 +0.8**
COLD Coldfoot 27.71 39 *e*P **P 21 48 24.6 +0.1**
comp=Z,20nm,1.0s
RC01 Rabbit Creek A 27.82 53 *e*P **P 21 48 25.4 -0.2**
comp=Z,79nm,1.7s
RC01 *e*PcP **PcP 21 51 42.2 +1.1**
INCN Inchon 27.99 251 *e*P **P 21 48 26.7 -0.6**
comp=Z,68nm,1.0s
MCK McKinley 28.05 47 *e*P **P 21 48 28.1 +0.4**
MCK *e* 21 51 42.4
MCK pmax pmax
comp=Z,38nm,1.0s
MCK McKinley 28.05 47 *e*P **P 21 48 28.1 +0.4**
comp=Z,38nm,1.0s
MCK *e*PcP **PcP 21 51 42.4 +0.8**
SEW Seward 28.07 55 *e*P **P 21 48 27.6 -0.3**
comp=Z,76nm,1.2s
TJN Taejon 28.35 248 *e*P **P 21 48 31.3 +0.8**
COLA College 28.52 45 *d i*P **P 21 48 32.6 +0.8**
COLA pmax pmax
comp=Z,86nm,1.3s
COLA MLR MLR
comp=Z,2μm,18.0s
COLA College 28.52 45 *e*P **P 21 48 32.5 +0.8**
comp=Z,32nm,0.9s
JNU Nakatsue 28.87 239 P **P 21 48 36.4 +1.1**
comp=Z,32nm,0.7s,baz=29,slow=4.8,SNR=18
JNU Nakatsue 28.87 239 *e*P **P 21 48 36.2 +0.9**
comp=Z,81nm,1.0s
IL1 Eielson Array 28.93 45 *e*P **P 21 48 34.7 -0.8**
IL1 *e*PcP **PcP 21 51 43.1 -0.7**
ILAR Eielson Array 28.93 45 P **P 21 48 35.3 -0.2**
comp=Z,5.8nm,0.9s,baz=264,slow=8.8,SNR=34
ILAR PcP **PcP 21 51 42.6 -1.1**
comp=Z,3.0nm,1.0s,baz=256,slow=3.2,SNR=4.2
ILAR LR LR 22 02 10.9
comp=Z,731nm,18.5s,baz=268,slow=41
ILB Eielson Array 28.93 45 *e*P **P 21 48 35.1 -0.4**
PAX Paxson 29.66 48 *e*P **P 21 48 42.7 +0.7**
PAX pmax pmax
comp=Z,21nm,1.2s
PAX Paxson 29.66 48 *e*P **P 21 48 42.7 +0.7**
comp=Z,21nm,1.2s
DOT Dot Lake 30.23 47 *e*P **P 21 48 46.8 -0.2**
comp=Z,23nm,1.4s
BMRM Bremner River 30.32 52 *e*P **P 21 48 48.0 +0.1**
comp=Z,42nm,1.0s
MENT Mentasta 30.45 48 *e*P **P 21 48 49.8 +0.8**
EGAK Eagle 31.38 45 *e*P **P 21 48 56.4 -0.7**
comp=Z,18nm,0.8s
DAWY Dawson 32.23 46 *e*P **P 21 49 05.0 +0.3**
comp=Z,17nm,1.1s
BJI Beijing 32.53 265 P **P 21 49 06.9 -0.6**
BJI S **S 21 54 19.3 -1.9**
BJI PMZ
comp=Z,13nm,1.1s
BJI PMZ
comp=Z,120nm,4.7s
BJI LN
comp=Z,3μm,14.9s
BJI LE
comp=Z,4μm,18.0s
BJI LZ
comp=Z,3μm,19.8s
BJT Baijiatuau 32.55 265 *e*P **P 21 49 06.6 -1.0**
BJT pmax pmax
comp=Z,14nm,0.5s
BJT Baijiatuau 32.55 265 *e*P **P 21 49 06.6 -1.0**
comp=Z,14nm,0.5s
IRK Irkutsk 33.46 292 *i* P **P 21 49 14.5 -1.0**
IRK pmax pmax
comp=Z,59nm,1.3s
HYT Haines Junctio 33.74 51 *e*P **P 21 49 17.6 -0.3**
ULN Ulaanbaatar 33.78 284 *c i*P **P 21 49 17.7 -0.8**
ULN pmax pmax
comp=Z,48nm,1.0s
ULN MLR MLR
comp=Z,3μm,17.0s
ULN Ulaanbaatar 33.78 284 P **P 21 49 18.1 -0.4**
SNR=22
ULN Ulaanbaatar 33.78 284 *e*P **P 21 49 17.4 -1.1**
comp=Z,43nm,1.0s
ULN *e*PcP **PcP 21 51 58.4 +1.1**
INK Inuvik 34.04 37 *e*P **P 21 49 20.9 +0.7**
INK pmax pmax
comp=Z,30nm,1.1s
INK Inuvik 34.04 37 P **P 21 49 20.6 +0.3**
comp=Z,5.4nm,0.6s,baz=230,slow=7.6,SNR=3.4
INK Inuvik 34.04 37 *e*P **P 21 49 20.9 +0.7**
comp=Z,30nm,1.1s
TLY Talaya 34.05 292 P **P 21 49 20.2 -0.4**
comp=Z,180nm,1.1s,SNR=10
TLY Talaya 34.05 292 *c i*P **P 21 49 19.6 -1.0**
TLY *e*PPP PPP 21 50 53.8
TLY *e* 21 51 59.0
TLY *e*SS SS 21 57 23.5 +12
TLY pmax pmax
comp=Z,39nm,1.1s
TLY MLR MLR
comp=Z,1μm,14.0s
TLY Talaya 34.05 292 P **P 21 49 20.8 +0.2**
SNR=16
TLY Talaya 34.05 292 *e*P **P 21 49 20.2 -0.4**
comp=Z,40nm,1.1s
TLY *e*PcP **PcP 21 51 59.0 +1.3**
SONA1 Songino Array 34.17 284 *e*P **P 21 49 21.1 -0.8**
SONA1 *e*PcP **PcP 21 51 59.4 +1.0**
SONA1 *e*ScP **ScP 21 55 44.1 +2.4**
SONM Songino Array 34.19 284 P **P 21 49 21.4 -0.6**
comp=Z,15nm,0.8s,baz=67,slow=7.4,SNR=87
SONM PcP **PcP 21 51 59.5 +1.1**
comp=Z,24nm,0.9s,baz=75,slow=1.3,SNR=17
SONM ScP **ScP 21 55 43.9 +2.3**
comp=Z,2.7nm,1.1s,baz=48,slow=4.4,SNR=4.0
SONM LR LR 22 04 47.7
comp=Z,3μm,18.1s,baz=60,slow=39
TIA Tai'an 34.43 259 *e*P **P 21 49 23.4 -0.6**
TIA S S 21 54 58.0 +7.2
TIA PMZ
comp=Z,50nm,1.1s
TIA LN
comp=Z,2μm,16.0s
TIA LE
comp=Z,3μm,16.0s
TIA LZ
comp=Z,3μm,20.0s
H11S1 WAKE ISLAND Hy 34.50 169 T T 22 27 00.8
baz=344,slow=76,SNR=230
H11S3 WAKE ISLAND Hy 34.51 169 T T 22 27 07.5
SNR=354
H11S2 WAKE ISLAND Hy 34.52 169 T T 22 26 32.6
baz=346,slow=76,SNR=219
ZAK Zakamensk 34.82 290 *e*P **P 21 49 26.3 -1.1**
ZAK *e* 21 52 00.9
ZAK pmax pmax
comp=Z,16nm,1.3s
HHC Hu-ho-hao-te 34.84 270 *e*P **P 21 49 26.3 -1.4**
HHC pP **pP 21 49 32.3 -2.2**
HHC sP **sP 21 49 34.8 -2.5**
HHC PP **PP 21 50 48.6 +1.9**
HHC PcP **PcP 21 52 00.8 +0.4**
HHC S **S 21 54 54.8 -2.5**
HHC ScP **ScP 21 55 42.9 -1.2**
HHC PcS **PcS 21 55 45.6 -1.5**
HHC PMZ
comp=Z,22nm,0.8s
HHC LN
comp=Z,3μm,12.8s
HHC LE
comp=Z,5μm,13.3s
HHC LZ
comp=Z,5μm,13.1s
SKAG Skagway 35.17 53 *e*P **P 21 49 30.9 +0.8**
comp=Z,112nm,1.8s
JOW Kunigami 35.27 235 *e*P **P 21 49 32.0 +0.7**
comp=Z,186nm,0.9s
MOY Mondy 35.55 293 *e*P **P 21 49 33.4 -0.3**
MOY pmax pmax
comp=Z,51nm,1.3s
SSE Sheshan 35.71 248 P **P 21 49 37.8 +2.8**
SSE S **S 21 55 14.4 +4.0**
SSE PMZ
comp=Z,48nm,1.1s
SSE PMZ
comp=Z,220nm,4.9s
SSE LN
comp=Z,630nm,22.7s
SSE LE
comp=Z,270nm,22.7s
SSE LZ
comp=Z,470nm,19.4s
NJ2 Nanjing 36.33 252 *e*P **P 21 49 41.8 +1.4**
NJ2 S **S 21 55 20.5 +0.5**
NJ2 PMZ
comp=Z,240nm,1.2s
NJ2 PMZ
comp=Z,710nm,10.0s
NJ2 LN
comp=Z,430nm,14.6s
NJ2 LE
comp=Z,570nm,14.1s
NJ2 LZ
comp=Z,650nm,14.0s
DLBC Dease Lake 38.10 53 P **P 21 49 56.5 +1.3**
comp=Z,7.5nm,0.7s,baz=307,slow=7.9,SNR=7.8
DLBC Dease Lake 38.10 53 *e*P **P 21 49 57.0 +1.7**
HVS Khovu-Aksy 39.84 295 *c i*P **P 21 50 09.5 -0.4**
HVS pmax pmax
comp=Z,143nm,1.3s
WHN Wuhan 40.06 255 P **P 21 50 11.9 +0.1**
WHN S **S 21 56 19.5 +3.1**
WHN LN
comp=Z,4μm,17.4s
WHN LE
comp=Z,3μm,18.5s
WHN LZ
comp=Z,2μm,14.6s
YHNB Yeheng 40.61 242 *e*P **P 21 50 17.4 +0.9**
comp=Z,104nm,1.6s
XAN Xi'an 40.83 264 P **P 21 50 16.8 -1.5**
XAN sP **sP 21 50 24.6 -3.3**
XAN ScS **ScS 22 00 24.3 +2.5**
XAN LN
comp=Z,1μm,18.0s
XAN LE
comp=Z,380nm,15.3s
XAN LZ
comp=Z,490nm,15.5s
NACB Ninganchiao 40.89 241 *e*P **P 21 50 19.8 +1.0**
comp=Z,39nm,1.1s
SSLB Suanglung 41.55 241 *e*P **P 21 50 23.9 -0.2**
comp=Z,32nm,1.0s
YULB Yu-li 41.68 241 *e*P **P 21 50 27.2 +1.9**
comp=Z,48nm,1.1s
TPUB Ta-pu 42.11 241 *e*P **P 21 50 29.1 +0.3**
comp=Z,65nm,1.1s
TWG Pinlang 42.27 240 *e*P **P 21 50 31.2 +1.2**
comp=Z,155nm,0.7s
LZH Lanzhou 42.54 270 ⇑P **P 21 50 32.5 +0.1**
LZH pP **pP 21 50 39.3 0.0**
LZH sP **sP 21 50 42.4 +0.4**
LZH PP **PP 21 52 13.5 +2.5**
LZH PcP **PcP 21 52 26.1 +1.5**
LZH *e*S **S 21 56 51.0 -2.5**

LZH sS **sS** **21 57 02.3 -2.6**
LZH ScS **ScS** **22 00 33.0 +0.6**
LZH PMZ
comp=Z,83nm,1.4s
LZH PMZ
comp=Z,210nm,4.1s
LZH LN
comp=Z,2μm,14.0s
LZH LE
comp=Z,2μm,15.8s
LZH LZ
comp=Z,3μm,17.9s
GTA Gaotai 42.85 277 ⇑P **P** **21 50 34.4 -0.4**
GTA pP **pP** **21 50 40.4 -1.3**
GTA sP **sP** **21 50 43.3 -1.2**
GTA PP **PP** **21 52 14.4 +0.2**
GTA PcP **PcP** **21 52 27.0 +1.5**
GTA ScP **ScP** **21 56 16.8 +1.9**
GTA PcS **PcS** **21 56 18.8 +0.9**
GTA S **S** **21 56 55.3 -2.6**
GTA sS **sS** **21 57 04.8 -4.5**
GTA SS SS 21 59 58.1 -11
GTA ScS **ScS** **22 00 33.1 -1.1**
GTA PMZ
comp=Z,53nm,1.4s
GTA PMZ
comp=Z,170nm,5.6s
GTA LN
comp=Z,2μm,15.7s
GTA LE
comp=Z,2μm,13.1s
GTA LZ
comp=Z,2μm,13.3s
ENH Enshi 43.14 259 *e*P **P** **21 50 36.5 -0.6**
comp=Z,38nm,0.9s
ENH *e*PcP **PcP** **21 52 24.3 -2.2**
ZAA0 Zalesovo Array 43.15 303 *e*P **P** **21 50 35.1 -1.7**
ZAA0 *e*PcP **PcP** **21 52 25.7 -0.4**
ZAA0 *e*ScP **ScP** **21 56 16.7 +1.1**
ZALV Zalesovo Beam 43.15 303 P **P** **21 50 35.2 -1.6**
comp=Z,5.5nm,0.3s,baz=64,slow=6.8,SNR=56
ZALV PcP **PcP** **21 52 26.1 +0.1**
comp=Z,19nm,1.0s,baz=29,slow=4.2,SNR=6.6
ZALV ScP **ScP** **21 56 16.4 +0.8**
comp=Z,0.6nm,0.3s,baz=48,slow=2.2,SNR=4.1
ZALV LR LR 22 09 46.2
comp=Z,2μm,19.2s,baz=71,slow=38
YKA Yellowknife Ar 43.30 42 P **P** **21 50 38.2 +0.3**
YKA 21 52 26.0
YKA pmax pmax
comp=Z,8.0nm,0.8s
YKA Yellowknife Ar 43.30 42 P **P** **21 50 38.2 +0.3**
comp=Z,8.0nm,0.8s,baz=298,slow=8.0,SNR=83
YKA PcP **PcP** **21 52 26.0 -0.4**
comp=Z,4.1nm,1.0s,baz=295,slow=3.4,SNR=4.6
NVS Novosibirsk 43.49 305⇑*i*P **P** **21 50 37.3 -2.3**
NVS *e* 21 52 16.6
NVS *e*S S 21 56 56.7 -10
NVS pmax pmax
comp=N,36nm,1.2s
NVS pmax pmax
comp=E,108nm,1.2s
NVS pmax pmax
comp=Z,161nm,1.2s
NVS smax smax
comp=N,6.0nm,1.4s
NVS smax smax
comp=E,16nm,1.6s
RES Resolute Bay 43.59 22 *e*P **P** **21 50 40.5 +0.4**
RES *e* 21 52 27.7
RES Resolute Bay 43.59 22 *e*P **P** **21 50 40.5 +0.4**
RES *e*PP **PcP** **21 52 27.7 +0.5**
KIP Kipapa 44.58 118 *e*P **P** **21 50 48.4 -0.2**
KIP pmax pmax
comp=Z,225nm,2.5s
KIP MLR MLR
comp=Z,759nm,18.0s
CD2 Chengdu 46.14 265 *e*P **P** **21 51 00.6 -0.4**
CD2 sP **sP** **21 51 10.0 -0.7**
CD2 PcP **PcP** **21 52 36.8 0.0**
CD2 PP **PP** **21 52 49.3 +0.1**
CD2 S **S** **21 57 41.8 -3.8**
CD2 ScS **ScS** **22 00 54.8 -0.3**
CD2 SS **SS** **22 01 05.5 -5.1**
CD2 PMZ
comp=Z,70nm,1.0s
CD2 PMZ
comp=Z,200nm,7.1s
CD2 LN
comp=Z,1μm,17.8s
CD2 LE
comp=Z,1μm,16.7s
CD2 LZ
comp=Z,1μm,20.2s
PGC Sidney 46.30 63 *e*P **P** **21 51 01.5 -0.5**
comp=Z,68nm,1.2s
NLWA Neilton Lookou 46.80 65 *e*P **P** **21 51 06.4 +0.3**
comp=Z,90nm,1.5s
KBS Kingsbay 47.27 352 *e*P **P** **21 51 10.1 +0.8**
KBS IAmb IAmb 21 51 10.9
KBS IAMs_20 IAMs_20 22 11 26.8
comp=Z,122nm,1.1s
comp=Z,1μm,19.5s
KBS Kingsbay 47.27 352 *e*P **P** **21 51 10.0 +0.8**
KBS pmax pmax
comp=Z,135nm,1.1s
KBS Kingsbay 47.27 352 *e*P **P** **21 51 10.0 +0.8**
comp=Z,135nm,1.1s
WMQ Urumqi 47.29 290 P **P** **21 51 09.8 -0.1**
WMQ pP **pP** **21 51 16.3 -0.6**
WMQ PcP **PcP** **21 52 41.1 +0.4**
WMQ PP **PP** **21 53 00.3 -0.5**
WMQ S **S** **21 58 01.0 -0.8**
WMQ sS **sS** **21 58 10.1 -3.2**
WMQ ScS **ScS** **22 01 00.0 -2.3**
WMQ SS **SS** **22 01 22.0 -6.9**
WMQ PMZ
comp=Z,61nm,1.1s
WMQ PMZ
comp=Z,160nm,3.8s
WMQ LN
comp=Z,760nm,15.0s
WMQ LE
comp=Z,2μm,14.0s
WMQ LZ
comp=Z,980nm,20.0s
B06A Marblemount 47.44 62 *e*P **P** **21 51 11.1 +0.2**
comp=Z,51nm,1.4s
B06A *e*pP **pP** **21 51 17.5 -0.4**
SPA0 Spitsbergen Ar 47.53 351 *e*P **P** **21 51 11.4 +0.1**
SPA0 IAmb IAmb 21 51 13.4
comp=Z,276nm,1.0s
GYA Guiyang 47.62 258⇑*i*P **P** **21 51 12.1 -0.7**
GYA ScP **ScP** **21 56 36.0 +1.3**
GYA S **S** **21 58 07.4 +0.4**
GYA ScS **ScS** **22 01 03.3 -1.8**
GYA SS **SS** **22 01 29.8 -5.2**
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,160nm,4.9s
GYA LN
comp=Z,860nm,17.6s
GYA LE
comp=Z,630nm,18.0s
GYA LZ
comp=Z,830nm,17.8s
HOPEN Hopen 47.94 347 *e*P **P** **21 51 14.9 +0.4**
KURK Kurchatov 48.10 302 P **P** **21 51 14.4 -1.6**
comp=Z,381nm,0.9s,SNR=96
KURK Kurchatov 48.10 302 *e*P **P** **21 51 14.9 -1.1**
KURK pmax pmax
comp=Z,59nm,1.0s
KURK Kurchatov 48.10 302 P **P** **21 51 14.9 -1.1**
SNR=53
KURK Kurchatov 48.10 302 *e*P **P** **21 51 14.9 -1.1**
comp=Z,59nm,1.0s
MKAR Makanchi Array 48.50 296 P **P** **21 51 17.7 -1.5**
MKAR pmax pmax
comp=Z,14nm,0.4s
MKAR Makanchi Array 48.50 296 P **P** **21 51 17.7 -1.5**
comp=Z,14nm,0.4s,baz=51,slow=7.6,SNR=358
MK01 Makanchi Array 48.51 296 *e*P **P** **21 51 17.5 -1.7**
MK01 *e*PcP **PcP** **21 52 47.2 +2.3**
MK01 *e*ScP **ScP** **21 56 39.1 +1.1**

LTY Liberty 48.63 63 *e*P **P** **21 51 19.9 -0.4**
comp=Z,34nm,1.4s
HSPB Hornsund (broa 48.66 350 *e*P **P** **21 51 20.9 +0.9**
HSPB IAMs_20 IAMs_20 22 12 45.4
comp=Z,1μm,18.7s
B08A Colville Reser 48.68 61 *e*P **P** **21 51 20.4 -0.2**
comp=Z,58nm,1.4s
EDM Edmonton 48.83 53 *e*P **P** **21 51 21.8 +0.1**
EDM Edmonton 48.83 53 *e*P **P** **21 51 21.8 +0.1**
H04A Detroit Lake 49.38 67 *e*P **P** **21 51 27.8 +1.8**
comp=Z,54nm,1.4s
E07A Sunnyside 49.50 63 *e*P **P** **21 51 26.9 +0.1**
comp=Z,42nm,1.5s
C09A Chrisman Ranch 49.59 61 *e*P **P** **21 51 28.0 +0.5**
comp=Z,38nm,1.3s
D08A Wollman Farm, 49.70 62 *e*P **P** **21 51 28.7 +0.3**
comp=Z,179nm,2.8s
D08A *e*pP **pP** **21 51 35.4 +0.1**
HAWA Hanford 49.78 63 *e*P **P** **21 51 29.4 +0.4**
comp=Z,29nm,1.3s
NEW Newport 49.91 60 *e*P **P** **21 51 30.0 0.0**
NEW pmax pmax
comp=Z,23nm,1.2s
NEW Newport 49.91 60 *e*P **P** **21 51 30.0 0.0**
comp=Z,23nm,1.2s
E09A Wood Farm, Sta 50.45 62 *e*P **P** **21 51 34.5 +0.4**
comp=Z,31nm,1.0s
KULLO Kullorsuaq 50.51 12⇑*i*P **P** **21 51 34.1 0.0**
KULLO pmax pmax
comp=Z,79nm,1.1s
KULLO MLR MLR
comp=Z,770nm,18.0s
KULLO Kullorsuaq 50.51 12⇑*i*P **P** **21 51 34.1 0.0**
comp=Z,79nm,1.0s
PINOR Pine Mountain 50.66 67 *e*P **P** **21 51 35.5 -0.2**
comp=Z,34nm,1.2s
VOSK Vostochnaya 50.68 308 *e*P **P** **21 51 34.0 -1.8**
VOSK *e* 21 52 52.6
VOSK pmax pmax
comp=Z,18nm,0.8s
VOSK Vostochnaya 50.68 308 *e*P **P** **21 51 34.0 -1.8**
comp=Z,18nm,0.8s
VOSK *e*PcP **PcP** **21 52 52.6 -0.2**
VOSK *e*ScP **ScP** **21 56 48.3 +1.0**
DAG Danmarks Havn 50.77 360⇑*i*P **P** **21 51 35.8 -0.3**
comp=Z,53nm,0.9s
BVAR Borovoye Array 50.78 309 P **P** **21 51 34.9 -1.5**
BVAR 21 52 53.1
BVAR 21 53 33.8
BVAR pmax pmax
comp=Z,13nm,0.4s
BVAR pmax pmax
comp=N,7.0nm,1.0s
BVAR pmax pmax
comp=Z,22nm,1.0s
BVAR Borovoye Array 50.78 309 P **P** **21 51 34.9 -1.5**
comp=Z,13nm,0.4s,baz=58,slow=7.3,SNR=101
BVAR PcP **PcP** **21 52 53.1 0.0**
comp=Z,12nm,0.8s,baz=69,slow=4.9,SNR=5.5
BVAR PP **PP** **21 53 33.8 +1.5**
comp=Z,22nm,1.0s,baz=54,slow=10,SNR=5.3
BVAR ScP **ScP** **21 56 49.5 +1.9**
comp=Z,6.5nm,0.9s,baz=72,slow=4.8,SNR=6.8
G08A Pilot Rock 50.78 64 *e*P **P** **21 51 37.3 +0.6**
comp=Z,26nm,1.5s
BRVK Borovoye 50.81 309 P **P** **21 51 35.8 -0.9**
comp=Z,255nm,0.8s,SNR=14
BRVK Borovoye 50.81 309 *e*P **P** **21 51 35.1 -1.5**
BRVK *e* 21 52 52.5
BRVK pmax pmax
comp=Z,33nm,0.9s
BRVK Borovoye 50.81 309 P **P** **21 51 35.6 -1.1**
SNR=14
BRVK Borovoye 50.81 309 *e*P **P** **21 51 35.1 -1.5**
comp=Z,33nm,0.9s
BRVK *e*PcP **PcP** **21 52 52.5 -0.7**
BRVK *e*ScP **ScP** **21 56 49.4 +1.6**
YBH Yreka Blue Hor 50.96 70 *e*P **P** **21 51 39.5 +1.4**
YBH *e**PP **pP** **21 51 46.0 +0.9**
YBH pmax pmax
comp=Z,39nm,1.4s
YBH Yreka Blue Hor 50.96 70 *e*P **P** **21 51 39.5 +1.4**
comp=Z,39nm,1.4s
YBH *e*pP **pP** **21 51 46.0 +0.9**
KMI Kunming 50.96 261 P **P** **21 51 38.3 -0.1**
KMI pP **pP** **21 51 47.8 +2.3**
KMI sP **sP** **21 51 52.1 +3.9**
KMI PP **PP** **21 53 36.6 +1.8**
KMI S **S** **21 58 50.8 -3.3**
KMI sS **sS** **21 59 07.4 +1.7**
KMI SS **SS** **22 02 28.6 -0.3**
KMI PMZ
comp=Z,19nm,1.3s
KMI PMZ
comp=Z,290nm,5.2s
KMI LN
comp=Z,2μm,19.1s
KMI LE
comp=Z,650nm,17.4s
KMI LZ
comp=Z,2μm,19.7s
WALA Waterton Lakes 51.09 57 *e*P **P** **21 51 39.2 +0.2**
comp=Z,81nm,1.5s
F10A Beach Ranch, E 51.29 62 *e*P **P** **21 51 39.8 -0.7**
comp=Z,166nm,2.4s
F10A *e*PcP **PcP** **21 52 56.1 +0.9**
KMRM Mail Ridge 51.37 72 *e*P **P** **21 51 41.0 -0.2**
comp=Z,192nm,2.1s
BSMT Bassoo Peak 51.39 59 *e*P **P** **21 51 41.8 +0.5**
QIZ Qiongzhong 51.50 249 P **P** **21 51 42.3 +0.1**
QIZ sP **sP** **21 51 51.5 -0.5**
QIZ PP **PP** **21 53 41.1 +1.6**
QIZ S **S** **21 59 01.9 +0.8**
QIZ sS **sS** **21 59 13.1 +0.4**
QIZ SS **SS** **22 02 38.8 +1.7**
QIZ PMZ
comp=Z,170nm,3.7s
QIZ LN
comp=Z,590nm,15.9s
QIZ LZ
comp=Z,790nm,17.2s
QIZ Qiongzhong 51.50 249 *e*P **P** **21 51 42.6 +0.4**
comp=Z,81nm,1.2s
BLMT Blacktail Moun 51.51 59 *e*P **P** **21 51 42.3 0.0**
JTMT Jette 51.72 59 *e*P **P** **21 51 44.5 +0.8**
YBMT Yellow Bay 51.79 59 *e*P **P** **21 51 45.0 +0.8**
WDC Whiskeytown Da 51.80 71 *e*P **P** **21 51 46.3 +2.0**
WDC pmax pmax
comp=Z,26nm,1.2s
WDC Whiskeytown Da 51.80 71 *e*P **P** **21 51 46.3 +2.0**
comp=Z,26nm,1.2s
BMO Blue Mountains 51.96 63 *e*P **P** **21 51 45.5 -0.1**
comp=Z,31nm,1.4s
SWMT Swartz Lake 52.02 59 *e*P **P** **21 51 45.9 0.0**
MOD Modoc Plateau 52.21 68 *e*P **P** **21 51 48.5 +1.0**
comp=Z,42nm,1.2s
SOKR Solikamsk 52.38 321*c i*P **P** **21 51 47.4 -0.8**
SOKR pmax pmax
comp=Z,70nm,1.5s
SOKR MLR MLR
comp=Z,3μm,16.0s
SLMT Seeley Lake 52.46 59 *e*P **P** **21 51 49.8 +0.5**
MSO Missoula 52.49 60⇓P **P** **21 51 50.0 +0.5**
baz=52,SNR=7.8
MSO Missoula 52.49 60 *e*P **P** **21 51 49.9 +0.5**
comp=Z,30nm,1.1s
SVE Sverdlovsk 52.69 317⇓*i*P **P** **21 51 49.6 -1.0**
SVE *e*PPP PPP 21 55 03.0
SVE pmax pmax
comp=Z,29nm,1.2s
SVE MLR MLR
comp=Z,2μm,18.0s
CHMT Chamberlain Mo 52.80 59 *e*P **P** **21 51 51.7 -0.2**
WVOR Wild Horse Val 52.80 67 *e*P **P** **21 51 52.9 +1.1**
WVOR pmax pmax
comp=Z,35nm,1.1s
WVOR Wild Horse Val 52.80 67 *e*P **P** **21 51 52.9 +1.1**
comp=Z,36nm,1.1s
LVZ Lovozero 53.12 337 P **P** **21 51 53.2 -0.5**
comp=Z,710nm,1.0s,SNR=9.0
LVZ Lovozero 53.12 337 *e*P **P** **21 51 52.5 -1.2**
LVZ pmax pmax
comp=Z,134nm,1.0s
LVZ Lovozero 53.12 337 *e*P **P** **21 51 53.0 -0.7**
comp=Z,125nm,1.0s
FFC Flin Flon 53.13 46 P **P** **21 51 54.5 +0.6**

comp=Z,66nm,1.0s,SNR=6.8
FFC Flin Flon 53.13 46 *e*P **P** **21 51 53.9 0.0**
FFC pmax pmax
comp=Z,13nm,0.8s
FFC Flin Flon 53.13 46 *e*P **P** **21 51 53.9 0.0**
comp=Z,13nm,0.8s
KEV Kevo 53.23 342 *e*P **P** **21 51 54.0 -0.4**
KEV pmax pmax
comp=Z,634nm,2.7s
KEV Kevo 53.23 342 *e*p **P** **21 51 53.5 -0.9**
comp=Z,33nm,0.8s
KEV Kevo 53.23 342 *e*P **P** **21 51 54.0 -0.4**
comp=Z,634nm,2.7s
FCC Fort Churchill 53.64 39 *e*P **P** **21 51 58.0 +0.4**
FCC pmax pmax
comp=Z,49nm,1.2s
FCC Fort Churchill 53.64 39 *e*P **P** **21 51 58.0 +0.4**
comp=Z,49nm,1.2s
HRY Holter Researc 53.67 59 *e*P **P** **21 51 58.8 +0.6**
APA Apatity 53.67 338⇑*i*P **P** **21 51 56.6 -1.1**
APA *i* 21 53 04.6
APA *i* S **S** **21 59 26.0 -3.7**
APA *i* 22 01 40.0
APA *i* SS **SKiKP** **22 03 14.0 +3.9**
APA pmax pmax
comp=Z,65nm,1.0s
APA MLR MLR
comp=Z,200nm,15.0s
ARA0 ARCESS Array S 53.70 342 *e*P **P** **21 51 57.1 -0.8**
ARCES ARCESS Array B 53.70 342 P **P** **21 51 57.2 -0.8**
comp=Z,70nm,0.9s,baz=42,slow=5.3,SNR=68
ARCES LR LR 22 20 22.1
comp=Z,599nm,18.4s,baz=44,slow=42
ARE0 ARCESS Array S 53.70 342 *e*P **P** **21 51 56.9 -1.1**
ARE0 IAmb IAmb 21 51 59.5
comp=Z,125nm,1.1s
MFID Camas Ranch 53.71 64 *e*P **P** **21 51 58.1 -0.4**
comp=Z,41nm,1.7s
MFID *e*pP **pP** **21 52 04.8 -0.8**
A19A Klindworth Far 53.78 55⇑⇑P **P** **21 51 59.1 +0.2**
baz=54,SNR=6.5
ARU Arti 53.81 318 P **P** **21 51 57.1 -1.7**
comp=Z,313nm,0.5s,SNR=25
ARU Arti 53.81 318*c i*P **P** **21 51 57.6 -1.2**
ARU 21 53 03.9
ARU S **S** **21 59 31.0 -0.9**
ARU pmax pmax
comp=Z,74nm,1.2s
ARU MLR MLR
comp=Z,1μm,16.0s
ARU Arti 53.81 318 *e*P **P** **21 51 58.0 -0.8**
comp=Z,81nm,1.2s
EGMT Eagleton 53.87 56⇑P **P** **21 51 59.7 +0.1**
baz=54
LRM Limekiln Ridge 53.93 60 *e*P **P** **21 52 00.2 0.0**
B19A Brinkman Farms 53.99 55⇑⇑P **P** **21 52 01.0 +0.6**
baz=54,SNR=7.2
DLMT Dillon 54.16 60 *e*P **P** **21 52 01.5 -0.3**
comp=Z,17nm,1.0s
A20A Cobblestone Ra 54.22 54⇓⇓P **P** **21 52 02.5 +0.5**
baz=54,SNR=13
SUMG Summit 54.30 7⇑*i*P **P** **21 52 03.2 +0.5**
SUMG pmax pmax
comp=Z,93nm,0.9s
SUMG Summit 54.30 7⇑*i*P **P** **21 52 03.2 +0.5**
comp=Z,93nm,0.9s
SUMG Summit 54.30 7 *e*P **P** **21 52 03.2 +0.5**
comp=Z,129nm,1.0s
MCMT McKenzie Canyo 54.38 61 *e*P **P** **21 52 03.7 +0.2**
HLID Hailey 54.38 63⇓⇓P **P** **21 52 04.1 +0.6**
baz=54
HLID Hailey 54.38 63 *e*P **P** **21 52 03.5 +0.1**
comp=Z,6.3nm,0.9s
C19A Slack Wire Ran 54.42 56⇓⇓P **P** **21 52 04.3 +0.7**
baz=54,SNR=14
B20A Solberg Farm, 54.46 55⇓⇓P **P** **21 52 04.3 +0.5**
baz=54,SNR=8.3
BOZ Bozeman (W) 54.48 59 *e*P **P** **21 52 04.9 +0.8**
BOZ pmax pmax
comp=Z,46nm,1.5s
BOZ Bozeman (W) 54.48 59 *e*P **P** **21 52 04.9 +0.8**
comp=Z,46nm,1.5s
KTK1 Kautokeino 54.57 343 *e*P **P** **21 52 04.1 -0.2**
TKM2 Tokmak 2 54.63 296 P **P** **21 52 04.5 -0.8**
SNR=25
TKM2 Tokmak 2 54.63 296 *e*P **P** **21 52 04.0 -1.3**
TKM2 *e* 21 53 08.1
TKM2 pmax pmax
comp=Z,33nm,1.1s
TKM2 Tokmak 2 54.63 296 *e*P **P** **21 52 04.0 -1.3**
comp=Z,33nm,1.1s
TKM2 *e*PcP **PcP** **21 53 08.1 0.0**
A21A Bergtoll Ranch 54.64 54⇓⇓P **P** **21 52 06.3 +1.2**
baz=54,SNR=11
LSA Lhasa 54.65 274 *e*P **P** **21 52 05.9 -0.1**
LSA pmax pmax
comp=Z,18nm,0.8s
LSA Lhasa 54.65 274 *e*P **P** **21 52 05.9 -0.1**
comp=Z,18nm,0.8s
ULHL Ulahol 54.73 295 P **P** **21 52 05.3 -0.8**
SNR=34
ULHL Ulahol 54.73 295 *i* P **P** **21 52 05.2 -0.8**
CMB Columbia Colle 54.75 72 *e*P **P** **21 52 06.3 +0.2**
CMB pmax pmax
comp=Z,29nm,1.1s
CMB Columbia Colle 54.75 72 *e*P **P** **21 52 06.2 +0.2**
comp=Z,29nm,1.1s
TRO Tromso 54.77 345 *e*P **P** **21 52 05.5 -0.1**
PRGR Permogore 54.86 328 *e*P **P** **21 52 05.5 -0.9**
PRGR *e*S **S** **21 59 45.1 -0.8**
PRGR pmax pmax
comp=Z,60nm,0.8s
D19A Cripps Ranch, 54.88 57⇑⇑P **P** **21 52 07.8 +0.9**
baz=55
BMN Battle Mountai 54.93 68 *e*P **P** **21 52 08.7 +1.2**
BMN pmax pmax
comp=Z,86nm,1.5s
BMN Battle Mountai 54.93 68 *e*P **P** **21 52 08.7 +1.2**
comp=Z,86nm,1.5s
C20A Veseth Ranch, 54.96 56⇓⇓P **P** **21 52 08.2 +0.8**
baz=55,SNR=8.3
B21A Ellsworth Farm 54.97 54⇓⇓P **P** **21 52 08.2 +0.8**
baz=55
WAKR Walker 54.98 71 *e*P **P** **21 52 09.2 +1.3**
USP Ospenovka 55.00 297 P **P** **21 52 07.2 -0.6**
SNR=24
USP Ospenovka 55.00 297 *i* P **P** **21 52 07.1 -0.6**
CHMS Chumysh 55.04 297 P **P** **21 52 07.2 -0.9**
SNR=30
CHMS Chumysh 55.04 297 *i* P **P** **21 52 07.2 -0.9**
QLMT Earthquake Lak 55.13 60 *e*P **P** **21 52 09.5 +0.6**
A22A Carney Farms, 55.13 53⇑⇑P **P** **21 52 09.1 +0.5**
baz=55,SNR=16
KBK Karagaybulak 55.16 296 P **P** **21 52 08.3 -0.9**
SNR=36
KBK Karagaybulak 55.16 296 *i* P **P** **21 52 08.3 -0.9**
TMCR Tamitsa 55.20 333 *e*P **P** **21 52 08.6 -0.2**
TMCR pmax pmax
comp=Z,300nm,1.0s
FRU Bishkek 55.23 297⇑*i*P **P** **21 52 08.4 -1.0**
FRU pmax pmax
comp=Z,125nm,1.8s
C21A Desert Coulee 55.33 55⇑⇑P **P** **21 52 11.0 +0.9**
baz=55,SNR=7.0
KZA Kyzart 55.39 296 P **P** **21 52 10.5 -0.6**
SNR=16
KZA Kyzart 55.39 296 *i* P **P** **21 52 10.5 -0.6**
E19A Rath Farm, Rou 55.40 57⇑⇑P **P** **21 52 11.7 +1.0**
baz=55
AAK Ala-Archa 55.43 297 P **P** **21 52 10.0 -1.0**
comp=Z,280nm,0.9s,SNR=49
AAK Ala-Archa 55.43 297 P **P** **21 52 10.1 -1.0**
SNR=52
AAK Ala-Archa 55.43 297*c i*P **P** **21 52 09.6 -1.4**
AAK pmax pmax
comp=Z,144nm,1.4s
AAK Ala-Archa 55.43 297 P **P** **21 52 10.4 -0.6**
SNR=34
AAK Ala-Archa 55.43 297 P **P** **21 52 10.2 -0.8**
comp=Z,18nm,0.6s,baz=76,slow=5.0,SNR=103
AAK Ala-Archa 55.43 297 *e*P **P** **21 52 10.1 -0.9**
comp=Z,70nm,1.2s
YMR Madison River 55.48 60 *e*P **P** **21 52 12.3 +0.8**
comp=Z,29nm,1.1s
B22A Reddig Ranch S 55.56 54⇓⇓P **P** **21 52 12.7 +1.0**
baz=55

YNR	Norris Junctio	55.60	60	eP	P	21 52 13.4	+1.0
	comp=Z,25nm,1.3s						
YNR				epP	pP	21 52 18.9	-0.6
A23A	Redstone	55.66	53	⇓P	P	21 52 13.1	+0.7
	baz=55						
NV01	Mina Array Sit	55.68	70	eP	P	21 52 14.2	+1.2
NVAR	Mina Array Bea	55.68	70	P	P	21 52 14.4	+1.5
	comp=Z,5.0nm,0.8s,baz=303,slow=8.1,SNR=8.6						
UCH	Uchtor	55.69	296	P	P	21 52 12.5	-0.8
	SNR=20						
UCH	Uchtor	55.69	296	i P	P	21 52 12.5	-0.8
YFT	Old Faithful	55.70	60	eP	P	21 52 13.0	0.0
	comp=Z,62nm,1.5s						
E20A	Meyer Farm, Mu	55.71	57	⇓P	P	21 52 13.7	+0.9
	baz=56						
F19A	Roth Farm, Mol	55.73	58	⇓P	P	21 52 14.5	+1.4
	baz=56,SNR=11						
EKS2	Erkin-Say	55.80	297	P	P	21 52 13.1	-0.5
	SNR=23						
EKS2	Erkin-Say	55.80	297	i P	P	21 52 13.1	-0.5
EKS2	Erkin-Say	55.80	297	eP	P	21 52 12.9	-0.7
	comp=Z,57nm,1.1s						
ELK	Elko	55.82	66	eP	P	21 52 14.2	+0.2
ELK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ELK	Elko	55.82	66	eP	P	21 52 14.2	+0.2
	comp=Z,9.2nm,0.8s						
LKWY	Lake	55.85	60	eP	P	21 52 15.0	+0.9
LKWY				pmax	pmax		
	comp=Z,39nm,1.4s						
LKWY	Lake	55.85	60	eP	P	21 52 15.0	+0.9
	comp=Z,39nm,1.4s						
H17A	Grant Village	55.87	60	⇓P	P	21 52 16.7	+2.4
	baz=56,SNR=10						
H17A	Grant Village	55.87	60	eP	P	21 52 16.3	+2.0
	comp=Z,45nm,1.3s						
D21A	La Casta Ranch	55.90	56	⇓P	P	21 52 14.9	+0.6
	baz=56,SNR=7.1						
B23A	Brockton	55.94	53	⇓P	P	21 52 15.1	+0.6
	baz=56,SNR=10.0						
C22A	Vida	55.99	54	⇑P	P	21 52 15.1	+0.3
	baz=56,SNR=6.2						
IMW	Indian Meadow	56.02	61	eP	P	21 52 16.6	+1.2
	comp=Z,23nm,1.0s						
FLWY	Flagg Ranch	56.02	60	eP	P	21 52 16.9	+1.6
	comp=Z,31nm,1.0s						
RLMT	Red Lodge	56.06	59	eP	P	21 52 16.5	+0.9
	comp=Z,35nm,1.0s						
CRAI	Chiangrai	56.09	259	P	P	21 52 15.8	0.0
	comp=Z,85nm,0.7s						
A24A	Westby	56.10	52	⇑P	P	21 52 16.0	+0.4
	baz=56						
FXWY	Fox Creek	56.15	61	eP	P	21 52 17.2	+1.0
	comp=Z,13nm,1.0s						
H18A	Shoshone NF, C	56.16	59	⇓P	P	21 52 16.7	+0.4
	baz=56,SNR=7.4						
F20A	Billings	56.17	57	⇑P	P	21 52 17.0	+0.7
	baz=56						
I17A	Pilgrim Ck.	56.19	60	⇑P	P	21 52 17.2	+0.6
	baz=56						
ILULI	Ilulissat	56.19	13	i P	P	21 52 15.3	-0.6
ILULI				pmax	pmax		
	comp=Z,46nm,1.0s						
ILULI				MLR	MLR		
	comp=Z,550nm,20.0s						
ILULI	Ilulissat	56.19	13	i P	P	21 52 15.3	-0.6
	comp=Z,46nm,0.9s						
AML	Almayashu	56.20	297	P	P	21 52 16.4	-0.5
	SNR=34						
AML	Almayashu	56.20	297	i P	P	21 52 16.4	-0.5
E21A	Keefer Ranch,	56.22	56	⇑P	P	21 52 17.1	+0.6
	baz=56						
D22A	Cohagen	56.25	55	⇓P	P	21 52 17.6	+0.9
	baz=56,SNR=9.8						
TPAW	Teton Pass	56.29	61	eP	P	21 52 17.6	+0.3
	comp=Z,19nm,1.1s						
C23A	Lambert	56.30	54	⇓P	P	21 52 17.9	+0.9
	baz=56,SNR=6.4						
LOHW	Long Hollow	56.39	61	eP	P	21 52 19.0	+1.0
	comp=Z,27nm,1.2s						
SNOW	Snow King Moun	56.41	61	eP	P	21 52 19.1	+0.9
	comp=Z,21nm,1.1s						
REDW	Red Top Meadow	56.43	61	eP	P	21 52 19.2	+1.0
	comp=Z,71nm,1.7s						
HVU	Hansel Valley	56.47	64	eP	P	21 52 19.3	+0.8
HVU				pmax	pmax		
	comp=Z,30nm,1.0s						
HVU	Hansel Valley	56.47	64	eP	P	21 52 19.3	+0.8
	comp=Z,30nm,1.0s						
H19A	Powell	56.52	59	⇓P	P	21 52 19.6	+0.8
	baz=56						
A25A	Svangstu Ranch	56.52	52	⇑P	P	21 52 19.6	+1.1
	baz=56,SNR=5.4						
TPH	Tonopah	56.54	70	eP	P	21 52 19.9	+0.8
TPH				pmax	pmax		
	comp=Z,95nm,1.5s						
TPH	Tonopah	56.54	70	eP	P	21 52 19.9	+0.8
	comp=Z,96nm,1.5s						
G20A	Bridger	56.54	58	⇑P	P	21 52 19.3	+0.3
	baz=56,SNR=16						
LAO	LASA Array	56.54	55	eP	P	21 52 19.8	+0.9
	comp=Z,37nm,1.0s						
F21A	Absaloka Mine,	56.68	57	⇑P	P	21 52 20.6	+0.7
	baz=56						
AHID	Auburn Hatcher	56.70	62	eP	P	21 52 20.8	+0.6
	comp=Z,33nm,1.0s						
D23A	Lindsay	56.72	54	⇓P	P	21 52 21.1	+1.1
	baz=56						
KSH	Kashi	56.74	293	⇑i P	P	21 52 23.3	+2.9
KSH				sP	sP	21 52 32.3	+2.1
KSH				PP	PP	21 54 31.3	+5.0
KSH				S	S	22 00 12.1	+0.3
KSH				sS	sS	22 00 23.1	-0.4
KSH				ScS	ScS	22 02 05.6	-2.6
KSH				SS	SS	22 04 02.0	+2.8
KSH				PMZ			
	comp=Z,16nm,1.0s						
KSH				LN			
	comp=Z,810nm,14.1s						
KSH				LE			
	comp=Z,730nm,13.6s						
KSH				LZ			
	comp=Z,690nm,14.1s						
E22A	Miles City	56.85	56	⇓P	P	21 52 22.2	+1.2
	baz=57,SNR=7.4						
C24A	Savage	56.85	54	⇓P	P	21 52 21.9	+0.9
	baz=57						
BGU	Big Grassy Mou	56.92	65	eP	P	21 52 20.9	-0.8
I19A	Meeteetse	56.95	59	⇑P	P	21 52 23.0	+1.1
	baz=57						
B25A	Knox Farm, Ray	56.96	52	⇑P	P	21 52 22.3	+0.6
	baz=57						
LOF	Lofoten	56.97	346	eP	P	21 52 20.6	-0.8
LOF				IAmb	IAmb	21 52 21.4	
	comp=Z,782nm,1.6s						
UBPT	Khong Chiam	56.98	250	P	P	21 52 24.0	+1.8
	comp=Z,60nm,1.5s,comp=Z,1μm						
VES	Vestal, Richgr	57.02	73	⇑P	P	21 52 23.0	+0.8
	baz=57						
G21A	Lodge Grass	57.05	57	⇓P	P	21 52 23.0	+0.5
	baz=57						
PAYA	Payao	57.06	258	P	P	21 52 24.5	+1.8
	comp=Z,21nm,0.9s,comp=Z,330nm						
A26A	Wade Farm, Ken	57.06	51	⇓P	P	21 52 22.6	+0.2
	baz=57						
CMAI	Chiengmai2	57.11	260	P	P	21 52 24.9	+1.6
	comp=Z,45nm,0.7s						
F22A	Rosebud	57.15	56	⇓P	P	21 52 24.2	+1.0
	baz=57						
H20A	Greybull	57.15	58	⇓P	P	21 52 24.1	+0.9
	baz=57						
D24A	Glendive	57.19	54	⇑P	P	21 52 24.0	+0.6
	baz=57,SNR=5.7						
GRAC	Grapevine Rang	57.20	71	⇓P	P	21 52 25.1	+1.5
	baz=57						
KKAR	Karatay Array	57.24	299	eP	P	21 52 22.6	-1.2
KKAR	Karatay Array	57.24	299	eP	P	21 52 22.6	-1.2
HWUT	Hardware Ranch	57.25	63	eP	P	21 52 25.6	+1.5
	comp=Z,43nm,1.1s						
R11A	Troy Canyon, C	57.28	68	⇓P	P	21 52 24.8	+0.5
	baz=57,SNR=7.3						
R11A	Troy Canyon, C	57.28	68	eP	P	21 52 25.6	+1.3
	comp=Z,23nm,1.3s						
C25A	Freed Ranch, W	57.30	53	⇑P	P	21 52 24.4	+0.2
	baz=57						
B26A	Jensen Ranch,	57.33	52	⇓P	P	21 52 24.8	+0.5
	baz=57						
KLMR	Klimovskoe	57.37	330	eP	P	21 52 22.9	-1.5
KLMR				pmax	pmax		
	comp=Z,104nm,0.9s						
KLMR				MLR	MLR		
	comp=Z,2μm,13.0s						
A27A	Ledoux Ranch,	57.40	51	⇓P	P	21 52 25.1	+0.4
	baz=57						
J19A	Crowheart	57.45	60	⇑P	P	21 52 25.8	+0.3
	baz=57,SNR=7.7						
I20A	Worland	57.46	59	⇓P	P	21 52 26.2	+0.7
	baz=57,SNR=6.3						
G22A	Birney	57.52	57	⇑P	P	21 52 26.6	+0.7
	baz=57,SNR=6.8						
BW06	Boulder Array	57.52	61	eP	P	21 52 26.7	+0.7
	comp=Z,39nm,1.1s						
PD31	Pinedale Array	57.52	61	eP	P	21 52 27.1	+1.1
PDAR	Pinedale Array	57.52	61	P	P	21 52 27.1	+1.1
	comp=Z,12nm,0.9s,baz=311,slow=2.8,SNR=68						
PDAR				LR	LR	22 14 38.9	
	comp=Z,306nm,21.5s,baz=330,slow=33						
DUG	Dugway, Tooele	57.55	65	eP	P	21 52 27.4	+1.2
DUG				pmax	pmax		
	comp=Z,35nm,1.1s						
DUG	Dugway, Tooele	57.55	65	⇓P	P	21 52 27.3	+1.2
	baz=57,SNR=25						
DUG	Dugway, Tooele	57.55	65	eP	P	21 52 27.4	+1.2
	comp=Z,35nm,1.1s						
H21A	Big Horn, Sher	57.55	58	⇑P	P	21 52 26.5	+0.5
	baz=57						
DAC	Darwin (Calif)	57.57	71	eP	P	21 52 28.6	+2.2
DAC				pmax	pmax		
	comp=Z,28nm,1.4s						
DAC	Darwin (Calif)	57.57	71	eP	P	21 52 28.6	+2.2
	comp=Z,28nm,1.4s						
E24A	Baker	57.59	54	⇑P	P	21 52 27.3	+1.1
	baz=57						
F23A	Volborg	57.62	56	⇓P	P	21 52 27.2	+0.7
	baz=57,SNR=7.3						
D25A	Fairfield	57.66	53	⇑P	P	21 52 27.4	+0.7
	baz=57						
ARVC	Arvin	57.66	73	⇓P	P	21 52 28.0	+1.1
	baz=58						
TCUT	Toone Canyon	57.67	63	eP	P	21 52 27.3	+0.2
	comp=Z,39nm,1.3s						
B27A	Peters Farms,	57.77	51	⇑P	P	21 52 27.8	+0.4
	baz=58						
C26A	Wahner Farm, P	57.78	52	⇑P	P	21 52 28.5	+0.9
	baz=58,SNR=7.7						
CTU	Camp Tracy	57.78	64	eP	P	21 52 28.4	+0.5
	comp=Z,26nm,1.2s						
LAMP	Lampang	57.85	258	P	P	21 52 29.8	+1.5
	comp=Z,21nm,1.0s,comp=Z,188nm						
FURC	Furnace Creek,	57.86	71	⇑P	P	21 52 29.6	+1.5
	baz=58						
A28A	Rude Farm, Bot	57.88	50	⇑P	P	21 52 29.4	+1.1
	baz=58,SNR=5.5						
J20A	Shoshoni	57.90	59	⇓P	P	21 52 29.8	+1.3
	baz=58,SNR=8.6						
UTTA	Uttaradit	57.90	257	P	P	21 52 29.8	+1.1
	comp=Z,30nm,1.0s,comp=Z,218nm						
H22A	Clearmont	57.93	57	⇓P	P	21 52 29.8	+1.1
	baz=58						
JOF	Joensuu	57.99	335	eP	P	21 52 28.2	-0.5
JOF	Joensuu	57.99	335	ep	P	21 52 28.2	-0.5
I21A	Big Trails, Te	57.99	59	⇑P	P	21 52 30.2	+1.0
	baz=58,SNR=7.1						
BSC	Santa Cruz Isl	57.99	75	⇓P	P	21 52 30.2	+1.0
	baz=58						
G23A	Biddle	57.99	56	⇓P	P	21 52 30.1	+1.0
	baz=58						
JLU	Jordanelle	58.01	64	eP	P	21 52 29.4	-0.1
	comp=Z,38nm,1.5s						
F24A	Ekalaka	58.02	55	⇓P	P	21 52 30.2	+0.9
	baz=58						
CMMT	Chiang Mai	58.03	259	P	P	21 52 30.4	+0.8
	comp=Z,100nm,1.0s,comp=Z,1μm						
CHTO	Chiang Mai	58.03	259	eP	P	21 52 30.3	+0.7
CHTO				pmax	pmax		
	comp=Z,66nm,1.0s						
CHTO	Chiang Mai	58.03	259	P	P	21 52 30.9	+1.3
	SNR=31						
CHTO	Chiang Mai	58.03	259	P	P	21 52 30.4	+0.8
	comp=Z,320nm,1.1s,comp=Z,4μm						
CHTO	Chiang Mai	58.03	259	eP	P	21 52 30.3	+0.7
	comp=Z,66nm,1.0s						
E25A	Miller Ranch,	58.08	54	⇓P	P	21 52 30.7	+1.1
	baz=58,SNR=5.5						
NLU	North Lily Min	58.12	65	eP	P	21 52 30.4	+0.2
	comp=Z,30nm,1.1s						
C27A	Sayler Ranch,	58.14	52	⇓P	P	21 52 30.8	+0.7
	baz=58						
B28A	Dugan Ranch, T	58.16	51	⇓P	P	21 52 30.8	+0.6
	baz=58,SNR=12						
D26A	Manning	58.17	53	⇓P	P	21 52 31.1	+0.8
	baz=58						
ABKAR	Akbulak array	58.19	311	eP	P	21 52 28.9	-1.4
AKTO	Aktyubinsk	58.22	313	P	P	21 52 29.1	-1.4
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.4s						
AKTO	Aktyubinsk	58.22	313	P	P	21 52 29.1	-1.4
	comp=Z,5.7nm,0.4s,baz=62,slow=9.0,SNR=37						
J21A	Lysite	58.23	59	⇓P	P	21 52 31.7	+0.8
	baz=58,SNR=8.3						
DAU	Daniels Canyon	58.25	64	eP	P	21 52 33.5	+2.2
DAU	Daniels Canyon	58.25	64	eP	P	21 52 33.5	+2.2
CMAR	Chiang Mai Arr	58.31	259	P	P	21 52 32.7	+1.2
	comp=Z,38nm,1.0s,baz=23,slow=6.7,SNR=156						
CMAR				LR	LR	22 20 29.2	
	comp=Z,343nm,19.9s,baz=44,slow=39						
MPU	Maple Canyon	58.32	64	eP	P	21 52 32.8	+1.2
	comp=Z,24nm,1.0s						
EDW2	Edwards Air Fo	58.33	73	⇑P	P	21 52 32.5	+0.9
	baz=58						
SFJD	Kangerlussuaq	58.33	14	⇑i P	P	21 52 30.5	-0.5
SFJD				pmax	pmax		
	comp=Z,29nm,1.0s						
SFJD				MLR	MLR		
	comp=Z,530nm,20.0s						
SFJD	Kangerlussuaq	58.33	14	⇑i P	P	21 52 30.5	-0.5
	comp=Z,29nm,0.9s						
SFJD	Kangerlussuaq	58.33	14	eP	P	21 52 30.5	-0.5
	comp=Z,69nm,1.3s						
CM01	Chiang Mai Arr	58.33	259	eP	P	21 52 32.2	+0.5
CM01				eScP	ScP	21 57 22.9	+1.8
I22A	9 Mile Ranch,	58.35	58	⇑P	P	21 52 32.8	+1.1
	baz=58,SNR=7.7						
A29A	Manning Farm,	58.36	50	⇑P	P	21 52 32.1	+0.6
	baz=58,SNR=13						
G24A	Alzada	58.40	56	⇑P	P	21 52 33.0	+1.1
	baz=58						
H23A	Clabaugh Cattl	58.44	57	⇓P	P	21 52 33.1	+0.8
	baz=58						
TAPN	Taplejung	58.44	275	eP	P	21 52 32.2	-0.5
	comp=Z,204nm,1.0s						
F25A	Bowman	58.45	55	⇓P	P	21 52 33.4	+1.1
	baz=58						
E26A	Carlson Angus	58.56	54	⇑P	P	21 52 33.8	+0.8
	baz=58						
D27A	Center	58.56	52	⇑P	P	21 52 33.7	+0.7
	baz=58						
PBKT	Sadao Pong	58.58	255	P	P	21 52 34.4	+1.0
	comp=Z,44nm,1.3s,comp=Z,3μm						
B29A	Wagenman Farm,	58.63	50	⇓P	P	21 52 34.0	+0.6
	baz=58,SNR=9.5						
MOR8	Moi Rana	58.64	345	eP	P	21 52 31.9	-1.3
MOR8				IAmb	IAmb	21 52 32.5	
	comp=Z,93nm,1.0s						
TNTI	Ternate	58.65	220	eP	P	21 52 34.2	+0.4
	comp=Z,55nm,1.0s						
SUKH	Sukhothai	58.66	257	P	P	21 52 35.4	+1.5
	comp=Z,9.4nm,1.0s,comp=Z,86nm						
C28A	Hausauer Farms	58.67	51	⇑P	P	21 52 34.1	+0.4
	baz=58						
J22A	Midwest	58.69	58	⇑P	P	21 52 35.3	+1.2
	baz=58,SNR=19						
GSC	Goldstone, Bar	58.71	72	eP	P	21 52 35.6	+1.3
GSC	Goldstone, Bar	58.71	72	eP	P	21 52 35.6	+1.3
SWI	Sorong	58.73	215	P	P	21 52 36.4	+2.0
H24A	Dirks Ranch, A	58.73	56	⇓P	P	21 52 35.0	+0.7
	baz=58,SNR=8.6						
MWC	Mount Wilson	58.75	73	eP	P	21 52 34.8	+0.1
MWC				pmax	pmax		
	comp=Z,50nm,1.3s						
MWC	Mount Wilson	58.75	73	eP	P	21 52 34.8	+0.1
	comp=Z,50nm,1.3s						
SDKM	Sandakan	58.77	233	⇑P	P	21 52 36.1	+1.3
A30A	Hoffart Farm,	58.77	49	⇑P	P	21 52 35.2	+0.8
	baz=58,SNR=7.2						
SHPR	Sheep Range	58.81	70	eP	P	21 52 34.1	-0.9
SHPR				epP	pP	21 52 42.7	+0.5
K21A	Alcova	58.84	60	⇓P	P	21 52 35.6	+0.4
	baz=59,SNR=14						
ARUT	Antelope Range	58.88	67	eP	P	21 52 36.1	+0.6
ARUT	Antelope Range	58.88	67	eP	P	21 52 36.1	+0.6
F26A	Lodgepole	58.89	54	⇑P	P	21 52 36.2	+0.8
	baz=59,SNR=6.3						
ULM	Lac du Bonnet	58.92	47	eP	P	21 52 35.6	+0.2
ULM				pmax	pmax		
	comp=Z,26nm,1.4s						
ULM	Lac du Bonnet	58.92	47	P	P	21 52 35.1	-0.3
	comp=Z,7.8nm,0.6s,baz=320,slow=6.7,SNR=20						
ULM				LR	LR	22 18 35.6	
	comp=Z,502nm,20.3s,baz=320,slow=37						
ULM	Lac du Bonnet	58.92	47	eP	P	21 52 35.6	+0.2
	comp=Z,26nm,1.4s						
MDND	Maddock	58.95	51	eP	P	21 52 36.6	+0.9
	comp=Z,22nm,0.8s						
D28A	Regan	58.96	52	⇓P	P	21 52 36.8	+1.1
	baz=59,SNR=13						
FMP	Fort Macarthur	58.98	74	⇑P	P	21 52 37.5	+1.6
	baz=59						
G25A	Newell	58.99	55	⇓P	P	21 52 37.1	+1.1
	baz=59						
ODAN	Odare	58.99	274	eP	P	21 52 36.0	-0.5
	comp=Z,102nm,0.9s						
E27A	Carson	59.02	53	⇓P	P	21 52 37.3	+1.1
	baz=59,SNR=5.9						
TMUT	Trail Mountain	59.06	65	eP	P	21 52 37.7	+0.8
	comp=Z,27nm,0.9s						
CCUT	Cedar City	59.09	68	eP	P	21 52 37.9	+0.9
	comp=Z,22nm,1.1s						
B30A	Myrvik Farm, E	59.11	50	⇓P	P	21 52 37.5	+0.7
	baz=59,SNR=20						
TUQ	Turquoise Moun	59.13	71	⇓P	P	21 52 38.0	+0.8
	baz=59						
MHMT	Maesarieng	59.13	259	P	P	21 52 38.7	+1.5
	comp=Z,48nm,1.1s,comp=Z,444nm						
CIS	Catalina Islan	59.13	74	⇓P	P	21 52 38.5	+1.4
	baz=59						
JIRN	Jiri	59.13	276	eP	P	21 52 37.1	-0.5
	comp=Z,104nm,0.9s						
GUN	Gumba	59.14	276	eP	P	21 52 37.0	-0.6
J23A	Dilts Ranch, B	59.17	58	⇓P	P	21 52 38.4	+0.9
	baz=59						
F27A	Lemmon	59.20	54	⇓P	P	21 52 38.3	+0.9
	baz=59						
K22A	Casper	59.20	59	⇑P	P	21 52 38.4	+0.7
	baz=59						
K22A	Casper	59.20	59	eP	P	21 52 37.2	-0.4
	comp=Z,43nm,1.4s						
H25A	Fruitdale	59.30	56	⇓P	P	21 52 39.0	+0.7
	baz=59						
G26A	Maurine	59.33	55	⇑P	P	21 52 39.2	+0.9
	baz=59,SNR=16						
I24A	Kuemmerle Ranc	59.33	57	⇓P	P	21 52 39.4	+0.9
	baz=59						
E28A	Huff	59.34	52	⇓P	P	21 52 39.6	+1.2
	baz=59						
RAMN	Ramite	59.40	275	eP	P	21 52 38.7	-0.6
	comp=Z,348nm,0.9s						
RSSD	Black Hills	59.44	56	eP	P	21 52 39.9	+0.6
RSSD				pmax	pmax		
	comp=Z,50nm,0.8s						
RSSD	Black Hills	59.44	56	eP	P	21 52 39.9	+0.6
	comp=Z,50nm,0.8s						
D29A	Pettibone, Tap	59.52	51	⇓P	P	21 52 40.6	+1.0
	baz=59						
SRU	San Rafael Swe	59.56	64	eP	P	21 52 41.0	+0.8
SRU				pmax	pmax		
	comp=Z,35nm,0.9s						
SRU	San Rafael Swe	59.56	64	eP	P	21 52 41.0	+0.8
	comp=Z,35nm,0.9s						
N20A	Spence Gulch,	59.57	62	⇑P	P	21 52 41.0	+0.7
	baz=59,SNR=9.2						
C30A	Mose, Pekin	59.58	50	⇓P	P	21 52 40.5	+0.5
	baz=59						
KKN	Kakani	59.59	277	eP	P	21 52 40.2	-0.4
G27A	Dupree	59.59	54	⇓P	P	21 52 40.5	+0.3
	baz=59						
I25A	Rochford	59.67	56	⇑P	P	21 52 41.3	+0.4
	baz=59,SNR=16						
PKI	Pulchoki	59.67	277	eP	P	21 52 40.7	-0.6
	comp=Z,156nm,0.9s						
PKIN	Phulchoki	59.67	277	eP	P	21 52 40.7	-0.5
	comp=Z,139nm,1.0s						
J24A	Dixon Ranch, L	59.68	57	⇓P	P	21 52 41.8	+0.8
	baz=60						
L22A	Ellis Ranch, M	59.69	60	⇑P	P	21 52 41.8	+0.7
	baz=60,SNR=7.1						
H26A	Fairpoint	59.72	55	⇑P	P	21 52 41.7	+0.6
	baz=60						
GMRC	Granite Mounta	59.74	71	⇑P	P	21 52 42.8	+1.3
	baz=60,SNR=11						
KNB	Kanab	59.77	68	eP	P	21 52 41.5	-0.2
KNB				pmax	pmax		
	comp=Z,51nm,1.2s						
KNB	Kanab	59.77	68	eP	P	21 52 41.5	-0.2
	comp=Z,51nm,1.2s						
F28A	McLaughlin	59.81	53	⇓P	P	21 52 42.4	+0.7
	baz=60						
GKN	Gorkha	59.82	277	eP	P	21 52 41.6	-0.5
DMN	Daman	59.82	277	eP	P	21 52 42.2	-0.1
LDFC	Landfair	59.85	71	eP	P	21 52 42.7	+0.5
	comp=Z,69nm,1.1s						
E29A	Napoleon	59.85	52	⇓P	P	21 52 42.4	+0.5
	baz=60						
D30A	Buchanan	59.88	51	⇑P	P	21 52 42.7	+0.6
	baz=60						
KAF	Kangasniemi	59.91	337	eP	P	21 52 41.6	-0.4
KAF				pmax	pmax		
	comp=Z,51nm,0.5s						
KAF	Kangasniemi	59.91	337	ep	P	21 52 41.6	-0.4
	comp=Z,51nm,0.5s						
L23A	Garrett	60.01	59	⇓P	P	21 52 44.0	+0.6
	baz=60,SNR=9.2						
K24A	Anderson Ranch	60.04	58	⇑P	P	21 52 44.0	+0.6
	baz=60						
M22A	Cedar Creek Ra	60.05	60	⇑P	P	21 52 44.0	+0.4
	baz=60,SNR=11						
H27A	Howes	60.06	55	⇑P	P	21 52 44.0	+0.6
	baz=60						
O20A	White River Ci	60.08	62	⇓P	P	21 52 44.3	+0.5
	baz=60,SNR=5.9						
O20A	White River Ci	60.08	62	eP	P	21 52 43.6	-0.1
	comp=Z,26nm,0.9s						
J25A	Sunshine Ranch	60.08	57	⇓P	P	21 52 44.0	+0.4
	baz=60						
DANN	Dangsing	60.09	278	eP	P	21 52 43.6	-0.6
	comp=Z,153nm,0.8s						
I26A	New Underwood	60.10	56	⇑P	P	21 52 44.2	+0.5
	baz=60						
PFO	Pinyon Flats O	60.12	73	eP	P	21 52 44.5	+0.4
PFO				e*PP	pP	21 52 51.0	-0.2
PFO				pmax	pmax		
	comp=Z,36nm,1.7s						
PFO	Pinyon Flats O	60.12	73	eP	P	21 52 44.5	+0.4
	comp=Z,36nm,1.7s						
PFO				epP	pP	21 52 51.0	-0

FINES pmax pmax
comp=Z,62nm,0.6s
FINES MLR MLR
comp=Z,389nm,18.1s
FINES FINESS Array B 60.54 337 P **P 21 52 46.4 +0.1**
comp=Z,62nm,0.6s,baz=38,slow=6.5,SNR=278
FINES LR LR 22 23 58.7
comp=Z,389nm,18.1s,baz=32,slow=41
GTOI Gorontalo 60.54 224 P P 21 52 50.2 +3.3
comp=Z,30nm,1.1s
H28A Mission Ridge 60.55 54 ⇑P **P 21 52 47.0 +0.3**
baz=60,SNR=12
N22A Wattenberg Ran 60.55 61 ⇑P **P 21 52 47.9 +0.7**
baz=60,SNR=5.4
NSS Namsos 60.56 345 *e*P **P 21 52 46.5 +0.1**
K25A Mack Ranch, Ha 60.60 57 ⇑P **P 21 52 47.6 +0.4**
baz=60
KOLN Koldanda 60.62 278 *e*P **P 21 52 46.9 -0.7**
comp=Z,81nm,0.8s
MONP Monument Peak, 60.66 73 ⇑P **P 21 52 48.0 +0.2**
baz=60
BC3 Big Chuckawall 60.67 72 ⇑P **P 21 52 48.6 +0.8**
baz=60
F30A Leola 60.68 52 ⇓P **P 21 52 47.8 +0.3**
baz=60
G29A Hoven 60.71 53 ⇑P **P 21 52 48.3 +0.5**
baz=60,SNR=10
PHWY Pilot Hill 60.72 59 *e*P **P 21 52 47.8 -0.5**
comp=Z,6.9nm,0.9s
PHWY *e*pP **pP 21 52 55.9 +0.4**
N23A Red Feather La 60.76 60 ⇑P **P 21 52 48.6 +0.1**
baz=60,SNR=10
PV09 Paradox Valley 60.76 64 *e*P **P 21 52 48.7 +0.1**
L25A Engebretsen Ra 60.88 58 ⇑P **P 21 52 49.4 +0.3**
baz=61
K26A Motz Farm, Whi 60.89 57 ⇓P **P 21 52 49.3 +0.2**
baz=61
PV10 Paradox Valley 60.90 64 *e*P **P 21 52 48.1 -1.4**
M24A Cheyenne 60.93 59 ⇓P **P 21 52 49.7 +0.1**
baz=61
PV04 Paradox Valley 60.96 64 *e*P **P 21 52 49.5 -0.3**
PDMCI Parker Dam,Lak 60.96 71 ⇓P **P 21 52 50.9 +1.2**
baz=61
I28A Midland 60.97 55 ⇑P **P 21 52 49.8 +0.2**
baz=61,SNR=6.6
O22A Kremmling 60.97 61 ⇑P **P 21 52 50.2 +0.2**
baz=61
H29A Onida 60.98 54 ⇓P **P 21 52 49.4 -0.3**
baz=61,SNR=7.1
SWSC Sam W. Stewart 60.98 73 ⇓P **P 21 52 51.0 +1.2**
baz=61
PV05 Paradox Valley 61.08 64 *e*P **P 21 52 51.6 +0.9**
J27A Elkhorn Farm, 61.09 56 ⇓P **P 21 52 51.3 +0.9**
baz=61,SNR=5.9
G30A Faulkton 61.13 53 ⇓P **P 21 52 51.2 +0.5**
baz=61,SNR=13
MRSI Marisa 61.14 225 P **P 21 52 52.9 +1.9**
comp=Z,50nm,1.3s,comp=Z,4μm
P22A Eagle 61.26 62 ⇑P **P 21 52 52.9 +1.0**
baz=61,SNR=7.5
O23A Lake Granby, G 61.26 61 ⇑P **P 21 52 53.4 +1.4**
baz=61,SNR=9.6
PV01 Paradox Valley 61.33 64 *e*P **P 21 52 52.4 0.0**
J28A Allard Ranch, 61.35 55 ⇓P **P 21 52 53.0 +0.8**
baz=61,SNR=10
N24A Carr 61.37 60 ⇑P **P 21 52 53.0 +0.5**
baz=61
K27A Flueckinger Fa 61.37 56 ⇑P **P 21 52 52.5 0.0**
baz=61
KHLT Khaolaem Dam 61.37 256 P **P 21 52 54.5 +1.9**
comp=Z,23nm,1.3s,comp=Z,334nm
I29A Vivian Onida 61.38 54 ⇑P **P 21 52 52.8 +0.4**
baz=61
SRDT SRDT 61.41 256 P **P 21 52 54.3 +1.4**
comp=Z,82nm,1.4s
SMCO Snowmass 61.45 62 *e*P **P 21 52 52.5 -0.8**
comp=Z,17nm,0.9s
GLA Glamis 61.47 72 *e*P **P 21 52 53.8 +0.7**
GLA pmax pmax
comp=Z,42nm,1.3s
GLA Glamis 61.47 72 ⇓P **P 21 52 54.3 +1.2**
baz=61
GLA Glamis 61.47 72 *e*P **P 21 52 53.8 +0.7**
comp=Z,42nm,1.3s
WUAZ Wupatki 61.66 68 ⇓P **P 21 52 55.9 +1.3**
baz=62
WUAZ Wupatki 61.66 68 *e*P **P 21 52 55.1 +0.6**
comp=Z,32nm,1.1s
ISCO Idaho Springs 61.72 61 *e*P **P 21 52 56.5 +1.4**
ISCO pmax pmax
comp=Z,46nm,1.3s
ISCO Idaho Springs 61.72 61 ⇓P **P 21 52 56.4 +1.3**
baz=62,SNR=27
ISCO Idaho Springs 61.72 61 *e*P **P 21 52 56.5 +1.4**
comp=Z,46nm,1.3s
SANI Sanana 61.77 220 P **P 21 52 55.5 +0.3**
K28A Ten Mile Ranch 61.80 56 ⇑P **P 21 52 57.1 +1.8**
baz=62
M26A McRoberts Ranc 61.81 58 ⇓P **P 21 52 56.6 +1.2**
baz=62
J29A Okreek 61.82 55 ⇓P **P 21 52 56.0 +0.7**
baz=62,SNR=8.6
Y14A Wickenburg 61.87 70 ⇑P **P 21 52 57.3 +1.4**
baz=62
I30A Oacoma 61.89 54 ⇓P **P 21 52 56.2 +0.4**
baz=62,SNR=8.6
P23A Jefferson 61.91 61 ⇓P **P 21 52 57.3 +0.9**
baz=62
MVCO Mesa Verde 62.04 65 *e*P **P 21 52 57.8 +0.6**
comp=Z,19nm,1.0s
MOS Moscow 62.08 327 *e*P **P 21 52 56.3 -0.5**
MOS *e* 21 53 07.1
MOS *e* 21 53 32.6
MOS pmax pmax
comp=Z,400nm,1.5s
MOS pmax pmax
comp=Z,243nm,1.2s
MOS pmax pmax
comp=N,144nm,1.0s
MOS MLR MLR
comp=Z,1μm,17.0s
M27A Reverse DX Ran 62.15 57 ⇓P **P 21 52 59.0 +1.4**
baz=62
LUWI Luwuk 62.15 224 P **P 21 52 58.9 +1.1**
comp=Z,96nm,1.2s,comp=Z,1μm
LUWI Luwuk 62.15 224 *e*P **P 21 52 57.3 -0.5**
comp=Z,110nm,1.1s
MPSI Mapaga 62.17 227 P **P 21 52 59.4 +1.5**
comp=Z,24nm,1.8s,comp=Z,439nm
N26A Koester Ranch, 62.23 58 ⇓P **P 21 52 59.6 +1.4**
baz=62,SNR=6.6
L28A Connealy Angus 62.24 57 ⇑P **P 21 52 59.4 +1.1**
baz=62
Q23A Hartsel 62.25 62 ⇓P **P 21 53 00.4 +1.7**
baz=62
O25A Wiggins 62.28 60 ⇑P **P 21 53 00.1 +1.5**
baz=62
113A Mohawk Valley, 62.28 72 ⇓P **P 21 53 00.1 +1.5**
baz=62
J30A Dallas 62.29 54 ⇑P **P 21 52 58.8 +0.3**
baz=62
K29A Lazy Trails An 62.29 55 ⇑P **P 21 52 59.5 +0.9**
baz=62
P24A Kohler Place, 62.30 61 ⇓P **P 21 53 00.1 +1.2**
baz=62
X16A Lo Mia Camp, P 62.42 69 ⇓P **P 21 53 01.6 +1.9**
baz=62,SNR=5.4
APSI Ampana 62.51 225 P **P 21 53 02.3 +2.1**
comp=Z,73nm,1.1s
S22A 4UR Ranch, Cre 62.56 63 ⇑P **P 21 53 02.2 +1.5**
baz=62,SNR=9.4
EYMN Ely 62.56 46 *e*P **P 21 53 00.2 -0.1**
comp=Z,21nm,0.8s
Q24A Divide 62.58 61 ⇑P **P 21 53 02.0 +1.2**
baz=62
N27A Anderson Farm, 62.60 58 ⇑P **P 21 53 02.1 +1.4**
baz=62
O26A Horse Wrangler 62.61 59 ⇓P **P 21 53 02.0 +1.1**
baz=62
P25A Willow Gulch B 62.70 60 ⇑P **P 21 53 02.6 +1.1**
baz=62,SNR=8.2
K30A Basset 62.71 55 ⇑P **P 21 53 02.8 +1.5**
baz=62,SNR=7.9
OGNE Ogallala 62.76 58 ⇓P **P 21 53 03.6 +1.9**
baz=62
M28A Bar X Bar Ranc 62.77 57 ⇑P **P 21 53 03.3 +1.5**
baz=62
R23A Moffat 62.78 62 ⇑P **P 21 53 03.9 +1.7**
baz=63,SNR=8.1
BORG Borgarnes 62.85 1 *i*P **P 21 53 04.1 +2.2**
BORG Borgarnes 62.85 1 *e*P **P 21 53 01.4 -0.5**
comp=Z,58nm,1.1s
OBN Obninsk 62.94 328 P **P 21 53 02.6 +0.1**
comp=Z,794nm,1.2s,SNR=14
OBN Obninsk 62.94 328*c i*P **P 21 53 02.1 -0.4**
OBN *e* 21 53 41.9
OBN *e* 21 55 23.4
OBN *e*S **S 22 01 35.9 +5.1**
OBN pmax pmax
comp=Z,153nm,1.1s
OBN MLR MLR
comp=Z,1μm,23.0s
OBN Obninsk 62.94 328 *e*P **P 21 53 02.1 -0.4**
comp=Z,222nm,1.2s
VSU Vasula 62.97 335*c i*P **P 21 53 02.5 -0.2**
VSU pmax pmax
comp=Z,529nm,1.2s
S23A Nye Farm, Mont 63.04 63 ⇑P **P 21 53 05.0 +1.2**
baz=63
M29A Burnside Ranch 63.08 56 ⇑P **P 21 53 04.4 +0.6**
baz=63
O27A Beecher Island 63.08 58 ⇓P **P 21 53 04.7 +0.8**
baz=63
Q25A Bedland, Calha 63.09 61 ⇓P **P 21 53 05.1 +0.9**
baz=63
P26A Davis Ranch, A 63.09 60 ⇑P **P 21 53 05.3 +1.2**
baz=63,SNR=9.2
R24A Sanders Place, 63.13 62 ⇑P **P 21 53 05.7 +1.2**
baz=63
X18A Snowflake 63.18 68 ⇑P **P 21 53 06.0 +1.3**
baz=63
L30A Spencer Herefo 63.19 55 ⇑P **P 21 53 05.1 +0.6**
baz=63
N28A Pribbeno Ranch 63.20 58 ⇑P **P 21 53 05.7 +1.0**
baz=63
ECSD EROS Data Cent 63.39 52 ⇓P **P 21 53 06.2 +0.4**
baz=63,SNR=10
ECSD EROS Data Cent 63.39 52 *e*P **P 21 53 05.0 -0.8**
comp=Z,22nm,0.9s
214A Organ Pipe Nat 63.43 72 ⇓P **P 21 53 08.6 +2.3**
baz=63,SNR=8.5
L31A Butterfield Fa 63.46 55 ⇑P **P 21 53 07.3 +0.9**
baz=63,SNR=6.3
Q26A Hugo 63.47 60 ⇑P **P 21 53 07.7 +1.1**
baz=63,SNR=8.0
O28A Krutsinger Ran 63.49 58 ⇑P **P 21 53 07.6 +0.9**
baz=63
P27A Ficken Ranch, 63.50 59 ⇓P **P 21 53 06.8 +0.1**
baz=63
T23A Casias Ranch, 63.51 63 ⇑P **P 21 53 07.5 +0.5**
baz=63
S24A Houchin Ranch, 63.51 62 ⇑P **P 21 53 08.2 +1.1**
baz=63
AKN Aaknes 63.53 346 *e*P **P 21 53 06.8 +0.4**
AKN IAmb IAmb 21 53 08.5
comp=Z,176nm,1.4s
N29A Votaw Ranch, W 63.57 57 ⇓P **P 21 53 07.8 +0.7**
baz=63
R25A Fountain Ranch 63.63 61 ⇓P **P 21 53 08.7 +1.1**
baz=63
V22A San Miguel Ran 63.86 65 ⇓P **P 21 53 10.8 +1.5**
baz=64,SNR=5.2
KSCO Kaye Shedlock' 63.87 59 *e*P **P 21 53 09.7 +0.5**
comp=Z,115nm,1.8s
P28A Saint Francis 63.91 58 ⇓P **P 21 53 10.5 +1.1**
baz=64
S25A Robets Cordova 63.91 62 ⇓P **P 21 53 11.3 +1.7**
baz=64
NB201 NORSAR Array S 63.93 344 *e*P **P 21 53 09.0 -0.1**
U23A El Rito 63.94 64 ⇓P **P 21 53 11.1 +1.3**
baz=64,SNR=7.9
NB2 NORSAR Subarra 63.95 344 P **P 21 53 09.2 -0.1**
comp=Z,119nm,1.0s,baz=22,slow=6.9
NB2 NORSAR Subarra 63.95 344 P **P 21 53 09.2 -0.1**
baz=22,slow=6.9
NOA NORSAR Array B 63.95 344 P **P 21 53 09.1 -0.2**
NOA pmax pmax
comp=Z,75nm,1.0s
NOA MLR MLR
comp=Z,403nm,19.8s
NOA NORSAR Array B 63.95 344 P **P 21 53 09.1 -0.2**
comp=Z,75nm,1.0s,baz=21,slow=6.5,SNR=96
NOA LR LR 22 23 07.3
comp=Z,403nm,19.8s,baz=25,slow=38
R26A Arlington 63.97 61 ⇑P **P 21 53 10.8 +1.0**
baz=64,SNR=13
SBUM Sibu 63.98 236 ⇓P **P 21 53 12.8 +2.8**
SBUM Sibu 63.98 236 *e*P **P 21 53 11.6 +1.7**
comp=Z,20nm,0.8s
O29A 4D Ranch, Culb 64.00 57 ⇑P **P 21 53 11.5 +1.5**
baz=64
NBO02 NORSAR Array S 64.00 344 *e*P **P 21 53 09.2 -0.4**
M31A Lambtecht Ranc 64.01 55 ⇓P **P 21 53 10.1 +0.1**
baz=64
SPMN Marine on St. 64.05 49 ⇓P **P 21 53 10.6 +0.5**
baz=64,SNR=5.6
SPMN Marine on St. 64.05 49 *e*P **P 21 53 10.3 +0.2**
comp=Z,98nm,1.8s
KBL Kabul 64.16 294 *e*P **P 21 53 09.2 -2.1**
KBL pmax pmax
comp=Z,26nm,0.9s
KBL Kabul 64.16 294 *e*P **P 21 53 09.2 -2.1**
comp=Z,26nm,0.9s
NC602 NORSAR Array S 64.19 344 *e*P **P 21 53 10.4 -0.3**
T25A Trinidad 64.31 62 ⇓P **P 21 53 13.2 +1.0**
baz=64,SNR=5.4
P29A Atwood 64.32 58 ⇓P **P 21 53 12.5 +0.5**
baz=64
R27A Eads 64.32 60 ⇓P **P 21 53 12.3 +0.1**
baz=64
TUC Tucson 64.33 70 *e*P **P 21 53 12.5 +0.3**
TUC pmax pmax
comp=Z,11nm,1.0s
TUC Tucson 64.33 70 *e*P **P 21 53 12.5 +0.3**
comp=Z,12nm,1.0s
BGNE Belgrade 64.38 55 ⇓P **P 21 53 13.2 +0.8**
baz=64
BGNE Belgrade 64.38 55 *e*P **P 21 53 11.9 -0.5**
comp=Z,83nm,1.0s
V23A Ortiz Mt. (NFS 64.38 64 ⇑P **P 21 53 14.4 +1.8**
baz=64,SNR=7.1
N31A Bailey Ranch, 64.41 56 ⇑P **P 21 53 13.3 +0.7**
baz=64
VRHR Novokhopersk 64.45 322 *e*P **P 21 53 10.4 -2.2**
VRHR pmax pmax
comp=N,230nm,1.0s
VRHR pmax pmax
comp=Z,230nm,1.0s
VRHR pmax pmax
comp=E,160nm,0.9s
S26A Kim 64.46 61 ⇓P **P 21 53 14.3 +1.2**
baz=64
HYA Hoyanger 64.61 347 *e*P **P 21 53 14.1 +0.6**
HYA IAmb IAmb 21 53 14.6
comp=Z,99nm,1.1s
P30A Selden 64.71 58 ⇑P **P 21 53 15.2 +0.6**
baz=64
T26A Comanche Natio 64.72 61 ⇑P **P 21 53 15.2 +0.3**
baz=64,SNR=7.7
O31A Woolen Ranch, 64.73 57 ⇑P **P 21 53 15.5 +0.9**
baz=64
R28A Tribune 64.80 59 ⇓P **P 21 53 15.6 +0.4**
baz=65
ANMO Albuquerque 64.82 65*c i*P **P 21 53 16.6 +1.1**
ANMO pmax pmax
comp=Z,23nm,1.2s
ANMO Albuquerque 64.82 65 *e*P **P 21 53 16.6 +1.1**
comp=Z,16nm,1.0s
Q29A Oakley 64.82 59 ⇓P **P 21 53 15.5 +0.2**
baz=65,SNR=6.9
W23A Werner Place, 64.83 65 ⇑P **P 21 53 16.5 +0.8**
baz=65
LAZ Ladron 64.84 66 *e*P **P 21 53 17.3 +1.6**
U25A Circle Dot Ran 64.86 63 ⇓P **P 21 53 16.7 +0.9**
baz=65,SNR=9.9
V24A Rampart Ranch, 64.89 64 ⇓P **P 21 53 17.3 +1.3**
baz=65,SNR=8.6
COWI Conover 65.02 46 *e*P **P 21 53 16.0 -0.5**
OSL Oslo 65.08 344 *e*P **P 21 53 16.9 +0.4**
R29A Marienthal 65.09 59 ⇓P **P 21 53 18.1 +1.0**
baz=65
LENM Lemitar 65.11 66 *e*P **P 21 53 18.7 +1.2**
Q30A Quinter 65.15 58 ⇓P **P 21 53 18.3 +0.9**
baz=65
V25A Rancho No Teng 65.16 63 ⇓P **P 21 53 18.8 +1.1**
baz=65,SNR=7.5
P31A Stockton 65.17 57 ⇓P **P 21 53 18.2 +0.6**
baz=65
LPM Los Pinos Moun 65.19 66 *e*P **P 21 53 18.8 +0.8**
W24A Lazy 6 Ranch, 65.20 64 ⇓P **P 21 53 19.3 +1.3**
baz=65,SNR=7.9
U26A Atchley Ranch, 65.22 62 ⇓P **P 21 53 19.3 +1.2**
baz=65,SNR=10.0
VSR Storozhevoye 65.25 324 *e*P **P 21 53 16.3 -1.5**
VSR pmax pmax
comp=Z,220nm,1.1s
VSR pmax pmax
comp=N,250nm,1.0s
VSR pmax pmax
comp=E,160nm,1.0s
T27A Campo 65.27 61 ⇑P **P 21 53 19.6 +1.2**
baz=65
BNM Barren Site 65.31 66 *e*P **P 21 53 19.5 +0.7**
S28A Manter 65.31 60 ⇑P **P 21 53 19.5 +0.9**
baz=65
SAUI Saumlaki 65.37 212 *e*P **P 21 53 19.6 +0.7**
comp=E,172nm,1.0s
ASK Askoy 65.41 347 *e*P **P 21 53 18.9 +0.3**
ASK IAmb IAmb 21 53 22.2
comp=Z,115nm,1.3s
VORD Divnogorie 65.42 323 *e*P **P 21 53 17.5 -1.4**
VORD pmax pmax
comp=N,240nm,1.0s
VORD pmax pmax
comp=Z,170nm,1.0s
VORD pmax pmax
comp=E,120nm,1.1s
RUND Rundenannen 65.45 347 *e*P **P 21 53 18.1 -1.0**
BER Bergen 65.49 347 *e*P **P 21 53 20.2 +1.1**
P32A Huiting Farm, 65.49 56 ⇑P **P 21 53 20.0 +0.4**
baz=65
KONO Kongsberg 65.54 344 *e*P **P 21 53 20.1 +0.6**
KONO IAmb IAmb 21 53 21.7
comp=Z,47nm,0.9s
KONO Kongsberg 65.54 344 *e*P **P 21 53 19.4 -0.1**
KONO pmax pmax
comp=Z,98nm,1.3s
KONO Kongsberg 65.54 344 *e*P **P 21 53 19.4 -0.1**
comp=Z,98nm,1.3s
T28A Walsh 65.55 61 ⇓P **P 21 53 20.6 +0.4**
baz=65,SNR=8.0
Q31A Ellis 65.55 57 ⇑P **P 21 53 20.6 +0.5**
baz=65
R30A Dighton 65.64 58 ⇑P **P 21 53 20.7 +0.1**
baz=65,SNR=9.7
V26A Tequesquite Ra 65.64 63 ⇓P **P 21 53 21.2 +0.4**
baz=65,SNR=8.1
U27A Thompson Grove 65.69 62 ⇓P **P 21 53 21.5 +0.4**
baz=66,SNR=8.6
S29A Ulysses 65.70 60 ⇑P **P 21 53 21.7 +0.7**
baz=66
W25A X Bar L Ranch, 65.71 63 ⇓P **P 21 53 22.2 +0.9**
baz=66,SNR=8.6
ODD1 Odda 65.75 346 *e*P **P 21 53 22.4 +1.4**
ODD1 IAmb IAmb 21 53 23.5
comp=Z,78nm,1.2s
KSM Kuching 65.79 237 ⇑P **P 21 53 24.0 +2.3**
KSM Kuching 65.79 237 *e*P **P 21 53 21.8 +0.1**
comp=Z,37nm,1.0s
Z22A Elephant Butte 65.79 67 ⇑P **P 21 53 23.3 +1.5**
baz=66
121A Cookes Peak, D 65.87 68 ⇓P **P 21 53 24.3 +1.9**
baz=66
319A Douglas 65.88 70 ⇓P **P 21 53 24.7 +2.3**
baz=66,SNR=11
SCHQ Schefferville 65.88 28 P **P 21 53 21.8 -0.1**
comp=Z,32nm,0.8s,baz=349,slow=6.8,SNR=44
SCHQ LR LR 22 24 02.5
comp=Z,305nm,20.1s,baz=344,slow=38
SCHQ Schefferville 65.88 28 *e*P **P 21 53 21.8 -0.1**
comp=Z,40nm,0.8s
SURT Suratani 65.90 252 P **P 21 53 24.3 +1.8**
comp=Z,20nm,1.2s,comp=Z,295nm
T29A Hugoton 65.96 60 ⇑P **P 21 53 24.1 +1.4**
baz=66
Q32A Meitler Ranch, 65.99 57 ⇑P **P 21 53 23.4 +0.5**
baz=66
R31A Burdett 66.03 58 ⇓P **P 21 53 23.5 +0.4**
baz=66
S30A Montezuma 66.03 59 ⇓P **P 21 53 23.4 +0.2**
baz=66
U28A Mallet 66.05 61 ⇑P **P 21 53 23.8 +0.4**
baz=66
SPSI Sidrap Palu 66.06 225 P **P 21 53 24.5 +1.1**
comp=Z,35nm,1.2s
NACGM Naroch 66.08 333 *e*P P 21 53 13.0 -10
X25A Clemmons Ranch 66.12 64 ⇑P **P 21 53 24.6 +0.7**
baz=66
MICGM Minsk 66.12 332⇓*i*P **P 21 53 23.0 -0.4**
MNK Minsk 66.13 332⇓*i*P **P 21 53 23.0 -0.4**
Y24A Capitan 66.14 65 ⇓P **P 21 53 25.2 +1.1**
baz=66,SNR=11
W26A Owens Ranch, T 66.18 63 ⇑P **P 21 53 25.3 +1.0**
baz=66
V27A Dan Oppiter Fa 66.19 62 ⇓P **P 21 53 25.2 +0.9**
baz=66
BLS5 Blasjo 66.25 346 *e*P **P 21 53 25.8 +1.6**
Q33A Connelly Farm, 66.35 56 ⇑P **P 21 53 25.4 +0.2**
baz=66
SCIA State Center 66.40 51 *e*P **P 21 53 25.6 +0.2**
comp=Z,99nm,0.8s
STKI Sintang 66.40 235 P **P 21 53 27.7 +2.0**
comp=Z,39nm,1.3s
T30A Plains 66.44 60 ⇓P **P 21 53 26.7 +0.9**
baz=66
U29A Oasis Ranch, S 66.50 60 ⇑P **P 21 53 26.5 +0.3**
baz=66
V28A Channing 66.52 62 ⇑P **P 21 53 27.4 +1.0**
baz=66
S31A Mullinville 66.55 58 ⇑P **P 21 53 26.6 +0.1**
baz=66
X26A CR and CF Fran 66.56 64 ⇓P **P 21 53 27.9 +1.2**
baz=66
W27A Bowe Ranch, En 66.58 63 ⇑P **P 21 53 28.2 +1.4**
baz=66
U30A WK&E Inc. Balk 66.77 60 ⇑P **P 21 53 28.2 +0.3**
baz=66
R33A Olander Ranch, 66.80 57 ⇑P **P 21 53 28.1 +0.1**
baz=67
T31A Randall Ranch, 66.85 59 ⇓P **P 21 53 28.7 +0.4**
baz=67
X27A F and S Farms, 66.88 63 ⇑P **P 21 53 30.1 +1.4**
baz=67
KSU1 Kansas State U 66.89 56 ⇑P **P 21 53 28.2 -0.4**
baz=67
W28A Vega 66.90 62 ⇑P **P 21 53 29.4 +0.6**
baz=67
KAPI Kappang 67.01 225 P **P 21 53 30.8 +1.3**
comp=Z,109nm,1.0s,SNR=5.9
KAPI Kappang 67.01 225 P **P 21 53 31.0 +1.5**
SNR=12
KAPI Kappang 67.01 225 *e*P **P 21 53 30.0 +0.5**
comp=Z,66nm,1.4s
PKDT Phuket 67.03 252 P **P 21 53 31.6 +1.9**
comp=Z,56nm,1.1s,comp=Z,879nm
BKSI Bulukumba 67.13 224 P **P 21 53 31.6 +1.4**
comp=Z,20nm,1.0s
SNART Snartemo 67.17 345 *e*P **P 21 53 30.8 +0.8**
SNART IAmb IAmb 21 53 32.5
comp=Z,61nm,1.2s
T32A Huddler Ranch, 67.18 58 ⇑P **P 21 53 30.7 +0.2**
baz=67
V30A Spur Ranch, Mi 67.33 61 ⇓P **P 21 53 32.5 +1.1**
baz=67
S33A Kaszmaul Farm, 67.34 57 ⇓P **P 21 53 31.7 +0.2**
baz=67
Y27A Causey 67.42 64 ⇓P **P 21 53 32.9 +0.7**
baz=67,SNR=12
ABKT Ailbek 67.46 303 P **P 21 53 31.8 -0.5**
comp=Z,316nm,1.0s,SNR=13
GEYT Alibeck 67.46 303 P **P 21 53 31.9 -0.4**
comp=Z,34nm,0.9s,baz=29,slow=3.4,SNR=46
GEYT PP **PP 21 56 00.8 +0.2**
comp=Z,11nm,1.1s,baz=28,slow=6.7,SNR=3.6
GEYT LR LR 22 25 27.0
comp=Z,2μm,19.2s,baz=30,slow=38
X28A Dimmitt 67.46 62 ⇓P **P 21 53 33.4 +0.9**
baz=67
AMTX Amarillo 67.46 62 ⇓P **P 21 53 32.8 +0.4**
baz=67
AMTX Amarillo 67.46 62 *e*P **P 21 53 31.8 -0.6**
comp=Z,51nm,1.4s
MSTX Muleshoe 67.56 63 ⇓P **P 21 53 33.9 +0.8**

baz=67,SNR=8.5
MSTX Muleshoe 67.56 63 eP P 21 53 33.5 +0.5
comp=Z,44nm,1.0s
IMYA Miami 67.65 301 eP P 21 53 34.2 +0.6
U32A Winter Ranch, 67.75 59 ⇑P P 21 53 34.4 +0.4
baz=68
V31A Spring Creek L 67.77 60 ⇓P P 21 53 35.2 +1.0
baz=68
X29A Tulia 67.78 62 ⇓P P 21 53 35.5 +1.1
baz=68,SNR=7.5
KULM Kulim 67.82 248 eP P 21 53 35.1 +0.4
comp=Z,55nm,1.1s
BBKI Banjar Baru 67.84 230 P P 21 53 36.1 +1.3
comp=Z,103nm,1.2s,comp=Z,2μm
SUW Suwalki 67.84 334 eP P 21 53 33.9 -0.4
SUW Suwalki 67.84 334 eP P 21 53 33.9 -0.4
SUW Suwalki 67.84 334 eP P 21 53 33.6 -0.7
comp=Z,185nm,1.1s
Y28A McKinney Farm, 67.89 63 ⇑P P 21 53 36.6 +1.4
baz=68
ISRO Mashad 68.00 301 eP P 21 53 35.6 -0.1
COEN Coen 68.06 198 eP P 21 53 36.0 0.0
comp=Z,214nm,1.1s
IKRD Kardeh 68.14 302 eP P 21 53 34.0 -2.9
IAKL Akhelmad 68.15 302 eP P 21 53 37.0 0.0
W31A Holland Ranch, 68.16 60 ⇑P P 21 53 37.6 +0.9
baz=68
V32A Arapaho 68.22 59 ⇑P P 21 53 38.2 +1.1
baz=68
X30A Coker Ranch, T 68.23 62 ⇓P P 21 53 37.6 +0.4
baz=68
IPM Ipoh 68.27 247 eP P 21 53 37.7 +0.1
comp=Z,54nm,1.0s
Z28A Tucker Farm, M 68.29 63 ⇑P P 21 53 37.9 +0.3
baz=68
U34A Anderson Ranch 68.46 58 ⇓P P 21 53 38.9 +0.4
baz=68
U34A Anderson Ranch 68.46 58 eP P 21 53 37.9 -0.7
comp=Z,27nm,1.1s
V33A Lossen Ranch, 68.54 59 ⇓P P 21 53 39.1 +0.1
baz=68
X31A McDonald Ranch 68.56 61 ⇓P P 21 53 40.0 +0.8
baz=68,SNR=8.8
W32A Sentinel 68.58 60 ⇑P P 21 53 40.4 +1.1
baz=68,SNR=14
MAK Makhachkala 68.59 313 eP P 21 53 38.8 -0.4
MAK e 22 10 12.2
MUD Monsted U'grnd 68.65 343 *i* P **P 21 53 39.9 +0.6**
MUD pmax pmax
comp=Z,27nm,1.1s
MUD Monsted U'grnd 68.65 343 *i* P **P 21 53 39.9 +0.6**
comp=Z,27nm,1.0s
Y30A Stafford Cattl 68.65 62 ⇑P P 21 53 40.9 +1.1
baz=68
Z29A Hungry Hill Ra 68.68 63 ⇑P P 21 53 40.9 +0.9
baz=68,SNR=8.3
PBKI Pangkalan Bun 68.70 234 P P 21 53 42.5 +2.3
comp=Z,159nm,1.2s,comp=Z,2μm
128A Castleberry Fa 68.74 64 ⇑P P 21 53 41.5 +1.0
baz=68,SNR=8.9
COP Copenhagen 68.77 341 *i* P **P 21 53 40.0 -0.1**
COP pmax pmax
comp=Z,41nm,1.0s
COP Copenhagen 68.77 341 *i* P **P 21 53 40.0 -0.1**
comp=Z,41nm,0.9s
BSD Bornholm Skovb 68.80 340⇑ *i* P **P 21 53 40.2 -0.1**
BSD pmax pmax
comp=Z,56nm,1.0s
BSD Bornholm Skovb 68.80 340⇑ *i* P **P 21 53 40.2 -0.1**
comp=Z,56nm,1.0s
Y31A Rekieta Farm, 68.92 62 ⇑P P 21 53 42.2 +0.7
baz=69
MYKOM Kota Tinggi 68.93 243 eP P 21 53 43.1 +1.4
comp=Z,28nm,1.1s
V34A Guthrie 68.93 58 ⇓P P 21 53 42.1 +0.6
baz=69
V34A Guthrie 68.93 58 eP P 21 53 40.8 -0.7
comp=Z,27nm,1.1s
W33A Caddo, Fort Co 68.96 59 ⇓P P 21 53 42.9 +1.2
baz=69
Z30A Sanderson Ranc 68.97 63 ⇑P P 21 53 42.4 +0.6
baz=69,SNR=11
AKASG Malin Array Be 69.03 329 P P 21 53 41.3 -0.5
comp=Z,86nm,0.8s,baz=29,slow=6.2,SNR=169
AKASG LR LR 22 27 23.2
comp=Z,2μm,19.2s,baz=25,slow=39
KIEV Kiev 69.05 329 *c i*P **P 21 53 40.8 -1.1**
KIEV Kiev 69.05 329 *e*P **P 21 53 41.2 -0.7**
comp=Z,184nm,1.1s
228A UT Block 9, Go 69.07 64 ⇑P P 21 53 43.5 +1.1
baz=69
129A Stewart Farms, 69.07 64 ⇑P P 21 53 43.4 +0.9
baz=69
AK11 Malin Array Si 69.07 329 eP P 21 53 41.9 -0.2
X32A Elmer 69.09 61 ⇓P P 21 53 43.2 +0.7
baz=69
WMOK Wichita Mounta 69.11 60 eP P 21 53 42.7 +0.1
WMOK pmax pmax
comp=Z,43nm,1.0s
WMOK Wichita Mounta 69.11 60 eP P 21 53 42.7 +0.1
comp=Z,43nm,1.0s
MMRI Maumere 69.25 221 eP P 21 53 43.2 -0.3
comp=Z,87nm,1.5s
W34A Bridge Creek, 69.26 59 ⇓P P 21 53 44.2 +0.6
baz=69
W34A Bridge Creek, 69.26 59 eP P 21 53 43.4 -0.1
comp=Z,29nm,1.0s
Y32A R-V Farms, Ver 69.33 61 ⇑P P 21 53 44.4 +0.5
baz=69
V35A Meyer Ranch, C 69.34 58 ⇓P P 21 53 44.6 +0.6
baz=69
X33A Lawton 69.41 60 ⇓P P 21 53 45.4 +0.9
baz=69
Z31A Sharp Cattle R 69.48 62 ⇓P P 21 53 45.4 +0.5
baz=69,SNR=7.1
SOEI Soe 69.49 218 eP P 21 53 44.9 -0.3
comp=Z,58nm,1.2s
130A Snyder 69.59 63 ⇓P P 21 53 46.4 +0.7
baz=69
RGN Rugen 69.66 340 eP P 21 53 45.8 +0.2
comp=Z,341nm,1.2s
X34A Smith Ranch, M 69.72 59 ⇑P P 21 53 47.3 +0.9
baz=70
Y33A Hilltop Ranch, 69.76 60 ⇓P P 21 53 47.3 +0.7
baz=70
TUL1 Leonard 69.76 57 ⇑P P 21 53 47.1 +0.5
baz=70
TUL1 Leonard 69.76 57 eP P 21 53 46.0 -0.6
comp=Z,27nm,0.9s
131A Roby 69.84 62 ⇓P P 21 53 47.5 +0.4
baz=70,SNR=7.6
Z32A Haskell 69.84 61 ⇑P P 21 53 47.2 0.0
baz=70,SNR=8.1
KIV Kislovodsk 69.85 317 P P 21 53 47.2 +0.1
comp=Z,390nm,1.3s,SNR=16
KIV Kislovodsk 69.85 317 *i* P **P 21 53 47.0 -0.1**
KIV *i* 21 54 10.8
KIV *e* 21 56 18.5
KIV *e*S **SKiKP 22 03 30.1 -2.2**
KIV pmax pmax
comp=Z,65nm,0.8s
KIV MLR MLR
comp=Z,1μm,18.0s
KIV Kislovodsk 69.85 317 *e*P **P 21 53 47.1 +0.1**
comp=Z,89nm,1.0s
329A Wagon Wheel Ra 69.88 64 ⇓P P 21 53 48.1 +0.6
baz=70,SNR=7.8
KBZ Khabaz 69.94 317 LR LR 22 29 48.7
comp=Z,1μm,18.1s,baz=22,slow=41
LHMI Lhok Sumawe 69.98 252 P P 21 53 51.2 +3.0
comp=Z,145nm,1.2s,comp=Z,2μm
LHMI Lhok Sumawe 69.98 252 eP P 21 53 47.3 -0.8
comp=Z,198nm,1.2s
GKP Gorka Klasztor 69.99 337 eP P 21 53 48.1 +0.4
GKP Gorka Klasztor 69.99 337 eP P 21 53 48.1 +0.4
230A Sterling City 70.05 64 ⇑P P 21 53 49.2 +0.7
baz=70,SNR=8.2
Z33A Whitaker Ranch 70.24 61 ⇓P P 21 53 50.1 +0.5
baz=70
Y34A Reagan Ranch, 70.25 60 ⇑P P 21 53 50.4 +0.7
baz=70
SADO Sadowa 70.26 41 LR LR 22 26 19.9
comp=Z,458nm,21.3s,baz=330,slow=37
ABTX Abilene, Hawle 70.28 62 ⇓P P 21 53 50.2 +0.4
baz=70,SNR=10
ABTX Abilene, Hawle 70.28 62 eP P 21 53 50.3 +0.4
comp=Z,37nm,0.9s

ZEI Tsey 70.29 316 eP P 21 53 47.6 -2.4
ZEI pmax pmax
comp=Z,96nm,0.9s
GUDG Gudauri 70.31 315 P P 21 53 50.5 +0.3
SLM Saint Louis 70.37 52 eP P 21 53 49.7 -0.6
SLM pmax pmax
comp=Z,41nm,0.9s
SLM Saint Louis 70.37 52 eP P 21 53 49.7 -0.6
comp=Z,41nm,0.9s
330A Mertzon 70.39 64 ⇑P P 21 53 51.5 +1.0
baz=70
AAM Ann Arbor 70.42 45 eP P 21 53 49.9 -0.6
AAM pmax pmax
comp=Z,77nm,1.3s
AAM Ann Arbor 70.42 45 eP P 21 53 49.9 -0.6
comp=Z,77nm,1.3s
BEL Belsk 70.43 335 eP P 21 53 51.0 +0.6
BEL Belsk 70.43 335 eP P 21 53 51.0 +0.6
231A Bronte 70.45 63 ⇓P P 21 53 51.6 +0.7
baz=70
SFIN Lafayette 70.45 49 ⇓P P 21 53 51.3 +0.6
baz=70
SFIN Lafayette 70.45 49 eP P 21 53 51.4 +0.6
comp=Z,101nm,1.8s
DUS Dusheti 70.52 315 P P 21 53 51.7 +0.5
IDAH Dahanechah 70.53 299 eP P 21 53 51.4 -0.3
429A Davenport Ranc 70.59 65 ⇑P P 21 53 52.2 +0.4
baz=70,SNR=8.8
TX31 Lajitas Ar. Si 70.59 67 eP P 21 53 52.2 +0.3
TXAR Lajitas Array 70.59 67 P P 21 53 52.7 +0.8
TXAR pmax pmax
comp=Z,7.0nm,0.7s
TXAR Lajitas Array 70.59 67 P P 21 53 52.7 +0.8
comp=Z,7.0nm,0.7s,baz=299,slow=4.4,SNR=78
Z34A Collier Ranch, 70.62 60 ⇓P P 21 53 52.5 +0.6
baz=70
ONI Oni 70.64 316 P P 21 53 52.4 +0.4
133A Hamilton Ranch 70.68 62 ⇑P P 21 53 52.6 +0.3
baz=70,SNR=7.1
IGLO Ghaloghah 70.72 305 eP P 21 53 53.5 +0.7
SEAG Tbilisi Sea 70.74 314 P P 21 53 52.5 0.0
DGRG David-gareji 70.74 314 P P 21 53 52.6 0.0
TPI Tanjungpandan 70.76 237 P P 21 53 54.2 +1.4
comp=Z,24nm,1.2s,comp=Z,554nm
TBLG Delisi 70.79 314 P P 21 53 53.0 +0.2
529A Stev Forest Ra 70.79 65 ⇑P P 21 53 53.7 +0.7
baz=71,SNR=9.9
430A Baggett Ranch, 70.83 64 ⇓P P 21 53 53.7 +0.4
baz=71,SNR=13
BSEG Bad Segeberg 70.83 342 eP P 21 53 53.7 +0.9
comp=Z,104nm,1.3s
232A Coleman 70.84 63 ⇑P P 21 53 53.7 +0.4
baz=71,SNR=12
331A San Angelo 70.87 63 ⇑P P 21 53 53.9 +0.4
baz=71,SNR=9.4
Z35A Perchaven, San 71.00 60 ⇑P P 21 53 54.5 +0.3
baz=71
ITEG Tejag 71.01 299 eP P 21 53 54.2 -0.3
233A Rising Star 71.15 62 ⇑P P 21 53 56.0 +0.8
baz=71
134A White-Moore Ra 71.16 61 ⇓P P 21 53 55.3 +0.2
baz=71
332A Millersview 71.18 63 ⇓P P 21 53 55.8 +0.4
baz=71,SNR=10
KZR Kazreti 71.22 314 P P 21 53 55.6 +0.2
ANN Anapa 71.24 321 eP P 21 53 54.4 -1.0
ANN *e*S **S 22 03 11.0 -0.1**
ANN pmax pmax
comp=Z,153nm,1.3s
ANN MLR MLR
comp=N,826nm,16.0s
ANN MLR MLR
comp=Z,715nm,16.0s
ANN MLR MLR
comp=E,812nm,16.0s
431A Sonora 71.25 64 ⇑P P 21 53 56.5 +0.6
baz=71,SNR=11
530A J-C Ranch, Com 71.26 65 ⇑P P 21 53 56.8 +0.9
baz=71,SNR=15
OLIL Olney 71.31 50 eP P 21 53 56.4 +0.5
comp=E,159nm,2.0s
SOC Sochi 71.36 319 *c i*P **P 21 53 56.1 -0.1**
SOC *e*S **S 22 03 09.6 -3.0**
SOC pmax pmax
comp=Z,113nm,0.9s
SOC MLR MLR
comp=Z,1μm,17.0s
LVV L'vov 71.37 332 eP P 21 53 55.6 -0.6
LVV MLR MLR
comp=E,500nm,17.5s
LVV MLR MLR
comp=Z,300nm,17.5s
LVV MLR MLR
comp=N,1μm,17.0s
HYB Hyderabad 71.45 274⇑ *i*P **P 21 53 56.5 -0.6**
comp=N,100nm,1.0s
ESK Eskdalemuir 71.48 350 eP P 21 53 56.7 0.0
ESK pmax pmax
comp=Z,129nm,1.0s
ESK Eskdalemuir 71.48 350 eP P 21 53 56.6 0.0
comp=Z,130nm,1.0s
IANJ Anjilo 71.50 304 eP P 21 53 57.6 +0.2
RUE Ruedersdorf 71.50 339 eP P 21 53 57.5 +0.6
comp=Z,123nm,1.0s
135A Vickery Place, 71.52 61 ⇓P P 21 53 58.4 +1.0
baz=71
432A Menard 71.55 63 ⇑P P 21 53 58.2 +0.6
baz=71,SNR=7.7
234A Clairette 71.57 61 ⇑P P 21 53 58.2 +0.5
baz=71
AKH Akhalkalaki 71.59 315 P P 21 53 58.7 +0.8
SIUC Southern Illin 71.59 52 eP P 21 53 57.5 -0.2
comp=Z,28nm,0.8s
333A Richland Sprin 71.64 62 ⇑P P 21 53 58.3 +0.2
baz=71,SNR=7.7
531A Rocksprings 71.69 64 ⇑P P 21 53 59.0 +0.5
baz=72,SNR=8.6
BKNI Bangkinang 71.69 245 P P 21 54 00.7 +2.2
comp=Z,147nm,1.2s,comp=Z,1μm
BKNI Bangkinang 71.69 245 eP P 21 53 59.8 +1.3
comp=Z,138nm,1.0s
SRBI Singaraja 71.74 228 P PcP 21 54 17.9 +0.2
PBMO Poplar Bluff 71.75 53 eP P 21 53 55.6 -3.1
comp=Z,434nm,1.3s
PBMO *e*PcP **pP 21 54 05.5 -0.5**
JCT Junction City 71.85 64 eP P 21 53 59.3 -0.1
JCT pmax pmax
comp=Z,36nm,1.2s
JCT Junction City 71.85 64 ⇓P P 21 53 59.8 +0.4
baz=72,SNR=7.7
JCT Junction City 71.85 64 eP P 21 53 59.3 -0.1
comp=Z,36nm,1.2s
KWP Kalwaria Pacla 71.92 333 eP P 21 54 00.2 +0.8
KWP pmax pmax
comp=Z,285nm,1.0s
KWP Kalwaria Pacla 71.92 333 eP P 21 54 00.0 +0.5
KWP Kalwaria Pacla 71.92 333⇓ *i*P **P 21 54 00.3 +0.8**
KWP Kalwaria Pacla 71.92 333 eP P 21 54 00.2 +0.8
comp=Z,285nm,1.0s
WHTX Lake Whitney, 71.94 61 ⇓P P 21 54 00.2 +0.3
baz=72
WHTX Lake Whitney, 71.94 61 eP P 21 53 59.2 -0.7
comp=Z,24nm,1.0s
MIAR Mount Ida 71.96 57 eP P 21 53 59.6 -0.4
MIAR pmax pmax
comp=Z,28nm,1.2s
MIAR Mount Ida 71.96 57 eP P 21 53 59.5 -0.4
comp=Z,28nm,1.2s
433A Art 72.02 63 ⇑P P 21 54 00.6 +0.2
baz=72,SNR=7.8
334A Lometa 72.03 62 ⇓P P 21 54 01.0 +0.5
baz=72,SNR=8.2
PTN Potsdam (NY) 72.04 38 eP P 21 53 59.3 -1.0
PTN pmax pmax
comp=Z,348nm,2.2s
PTN Potsdam (NY) 72.04 38 eP P 21 53 59.2 -1.0
comp=Z,348nm,2.2s
532A Rocksprings 72.06 64 ⇑P P 21 54 01.2 +0.4
baz=72,SNR=10
GNI Garni 72.08 313 *c i*P **P 21 54 01.5 +0.7**
GNI pmax pmax
comp=Z,230nm,1.7s
GNI Garni 72.08 313 P P 21 54 02.4 +1.6
SNR=17
GNI Garni 72.08 313 eP P 21 54 01.5 +0.7
comp=Z,120nm,1.0s

MNSI Mandailing Nat 72.11 247 P P 21 54 00.7 -0.3
comp=Z,20nm,1.0s
ERPA Erie 72.12 43 eP P 21 54 00.6 -0.2
comp=Z,55nm,1.1s
USIN University of 72.12 50 eP P 21 54 00.3 -0.5
comp=Z,41nm,0.8s
LONY Lake Ozonia 72.15 38 eP P 21 54 00.1 -0.8
comp=Z,247nm,2.6s
OJC Ojcow 72.17 335⇑ *i*P **P 21 54 00.9 0.0**
OJC *i* *SP **sP 21 54 13.0 +2.1**
OJC MLR MLR
comp=Z,2μm,19.0s
OJC Ojcow 72.17 335 *i* P **P 21 54 00.9 0.0**
OJC *i* sP **sP 21 54 13.0 +2.1**
OJC L L 22 29 04.0
comp=Z,2μm,19.0s
OJC Ojcow 72.17 335 *e*P **P 21 54 01.4 +0.4**
comp=Z,108nm,1.1s
PARMO Parma 72.17 53 eP P 21 54 01.6 +0.4
NRDL Niedersach Rie 72.24 341 eP P 21 54 01.8 +0.6
comp=Z,51nm,1.1s
631A Perdido Creek 72.25 65 ⇑P P 21 54 02.5 +0.7
baz=72,SNR=9.3
IDMV Damavand 72.35 306 eP P 21 54 02.7 +0.1
SIM Simferopol' 72.36 323 *d i*P **P 21 54 02.1 -0.1**
SIM *e*S **S 22 03 23.0 -1.0**
SIM MLR MLR
comp=Z,2μm,18.0s
BCA Borcka 72.36 316 eP P 21 54 02.4 +0.1
137A Heron Place, G 72.36 59 ⇓P P 21 54 03.5 +1.1
baz=72
PMBI Palembang 72.40 240 eP P 21 54 04.0 +1.2
comp=Z,113nm,1.0s
ACSO Alum Creek Sta 72.41 46 eP P 21 54 02.5 -0.1
comp=Z,35nm,1.1s
KIS Kishinev 72.41 328 eP P 21 54 02.0 -0.4
KIS *i* 21 54 07.0
KIS pmax pmax
comp=Z,360nm,1.4s
KIS pmax pmax
comp=Z,400nm,1.4s
KIS MLR MLR
comp=N,1μm,18.0s
KIS MLR MLR
comp=E,500nm,18.0s
KIS MLR MLR
comp=Z,2μm,18.0s
KIS MLR MLR
comp=Z,2μm,18.0s
KIS Kishinev 72.41 328 eP P 21 54 02.0 -0.4
comp=Z,400nm,1.4s
KIS *e*L L 22 22 42.0
KIS LRM MLR 22 29 50.0
comp=Z,2μm,18.0s
434A Burnet 72.42 62 ⇓P P 21 54 03.2 +0.4
baz=72,SNR=9.1
ALLY Alegheny Colle 72.45 43 eP P 21 54 02.6 -0.2
comp=Z,121nm,1.5s
MMNY Mt. Morris Dam 72.46 41 eP P 21 54 02.5 -0.3
comp=Z,130nm,1.0s
KSP Ksiaz 72.46 337⇑ *e*P **P 21 54 03.1 +0.4**
KSP MLR MLR
comp=Z,6μm,15.9s
KSP Ksiaz 72.46 337 eP P 21 54 03.3 +0.6
335A Moody 72.51 61 ⇓P P 21 54 04.1 +0.8
baz=72
STHS Stebnicka Huta 72.51 333 eP P 21 54 04.3 +1.2
STHS pmax pmax
comp=Z,56nm,1.0s
STHS Stebnicka Huta 72.51 333 eP P 21 54 04.2 +1.2
WCI Wyandotte Cave 72.55 49 eP P 21 54 03.3 -0.2
WCI pmax pmax
comp=Z,22nm,0.9s
WCI Wyandotte Cave 72.55 49 eP P 21 54 03.3 -0.2
comp=Z,22nm,0.9s
533A Kerrville 72.58 63 ⇓P P 21 54 04.5 +0.7
baz=72
632A Uvalde 72.61 64 ⇑P P 21 54 04.8 +0.8
baz=72,SNR=16
HBAR Harrisburg 72.62 54 eP P 21 54 04.6 +0.8
SNSI Sinabang, Aceh 72.63 250 P P 21 54 06.0 +1.9
comp=Z,174nm,1.2s
KOLS Kolonicke sedl 72.67 333 eP P 21 54 04.3 +0.3
KOLS pmax pmax
comp=Z,55nm,1.1s
KOLS Kolonicke sedl 72.67 333 eP P 21 54 04.3 +0.3
RAC Raciborz 72.70 336 eP P 21 54 05.2 +1.1
RAC MLR MLR
comp=Z,1μm,22.4s
336A Riesel 72.73 61 ⇓P P 21 54 04.9 +0.3
baz=72
NIE Niedzica 72.76 334⇑ *i*P **P 21 54 04.8 +0.2**
NIE *i* *SP **sP 21 54 17.0 +2.5**
NIE MLR MLR
comp=Z,1μm,21.1s
NIE Niedzica 72.76 334 *i* P **P 21 54 04.8 +0.2**
NIE *i* sP **sP 21 54 17.0 +2.5**
NIE L L 22 29 44.0
comp=Z,1μm,21.1s
CLL Collm 72.77 339⇑ *i*P **P 21 54 04.7 +0.2**
CLL *e* 21 54 13.0
CLL pmax pmax
comp=Z,129nm,1.2s
CLL MLR MLR
comp=Z,400nm,21.4s
CLL Collm 72.77 339 *e*P **P 21 54 04.9 +0.4**
comp=Z,129nm,1.2s
CLL *e*L L 22 28 26.2
comp=Z,449nm,21.2s
CLL Collm 72.77 339⇑ *i*P **P 21 54 04.7 +0.2**
comp=Z,129nm,1.2s
CLL *e*pP **pP 21 54 13.0 +1.2**
CLL *e*(SS) 22 08 48.0
CLL *e* 22 12 18.0
CLL Lm MLR 22 29 00.0
comp=N,500nm,20.5s
CLL Lm MLR 22 29 00.0
comp=E,700nm,18.8s
CLL Lm MLR 22 29 00.0
comp=Z,400nm,21.4s
CLL Collm 72.77 339 *e*P **P 21 54 04.7 +0.2**
comp=Z,107nm,1.0s
CLZ Clausthal 72.81 341 *e*P **P 21 54 05.8 +1.0**
comp=Z,127nm,1.1s
GSI Gunungsitoli 72.82 249 P P 21 54 11.3 +6.0
comp=Z,76nm,1.4s
GSI Gunungsitoli 72.82 249 *e*P **P 21 54 06.2 +0.9**
comp=Z,210nm,1.6s
UPC Upice 72.84 337⇑ *i*P **P 21 54 05.7 +0.7**
UPC *e* 21 54 12.6
UPC Upice 72.84 337⇑ *i*P **P 21 54 05.7 +0.7**
UPC *e*pP **pP 21 54 12.6 +0.4**
IBBN Ibbenburen 72.86 343 *e*P **P 21 54 05.7 +0.7**
comp=Z,142nm,1.5s
PRAR RASCA 72.91 329⇑ *i*P **P 21 54 05.8 +0.3**
DPC Dobruska-Polom 72.91 337⇑ *i*P **P 21 54 06.3 +0.8**
DPC *e* 21 54 15.2
DPC Dobruska-Polom 72.91 337⇑ *i*P **P 21 54 06.3 +0.8**
DPC *e*pP **pP 21 54 15.2 +2.5**
DPC AMS AMS 22 32 10.0
534A Blanco 72.92 63 ⇓P P 21 54 06.3 +0.6
baz=73
UZH Uzhgorod 72.94 332 *e*P **P 21 54 04.0 -1.5**
UZH *i* 21 54 05.8
UZH *e* 21 54 27.4
UZH *e* 21 56 54.8
UZH *e*S S 22 03 24.2 -6.3
UZH MLR MLR
comp=N,700nm,16.0s
UZH MLR MLR
comp=E,600nm,16.0s
UZH MLR MLR
comp=Z,600nm,16.0s
OKC Ostrava-Krasne 72.94 336⇑ *i*P **P 21 54 06.1 +0.6**
OKC MLR MLR
comp=Z,900nm,17.0s
OKC Ostrava-Krasne 72.94 336⇑ *i*P **P 21 54 06.1 +0.6**
OKC AMS AMS 22 29 40.0
comp=Z,900nm,17.0s
IVRN Varamin 72.96 306 *e*P **P 21 54 06.1 +0.1**
BRG Berggiesshubel 72.97 339 *e*P **P 21 54 06.0 +0.3**
comp=Z,52nm,1.2s
BRG *i* 21 54 14.1
comp=Z,28nm,1.1s
BRG Berggiesshubel 72.97 339 *e*P **P 21 54 06.0 +0.3**
BRG *i* 21 54 14.1

BRG pmax pmax
comp=Z,52nm,1.2s
BRG MLR MLR
comp=N,753nm,15.8s
BRG MLR MLR
comp=E,514nm,17.8s
BRG MLR MLR
comp=Z,899nm,15.0s
BRG Bergqiesshubel 72.97 339 *e*P **P 21 54 06.0 +0.3**
comp=Z,52nm,1.2s
HALT Halls 72.98 53 *e*P **P 21 54 06.2 +0.2**
633A Saathoff Ranch 72.98 64 ⇓P **P 21 54 07.0 +0.8**
baz=73
BUR04 Bucovina Ar. S 73.00 330 *e*P **P 21 54 06.1 +0.1**
BURAR Bucovina Array 73.00 330⇑*i*P **P 21 54 06.4 +0.3**
PDSI Padang 73.03 245 P **P 21 54 07.0 +0.4**
comp=Z,16nm,1.1s
KRLC Kraliky 73.06 336⇑*i*P **P 21 54 07.1 +0.8**
KRLC Kraliky 73.06 336⇑*i*P **P 21 54 07.1 +0.8**
SMRI Semarang 73.06 233 *e*P **P 21 54 06.5 -0.2**
comp=Z,76nm,1.2s
732A Laxson Ranch, 73.11 65 ⇑P **P 21 54 08.3 +1.4**
baz=73,SNR=12
MORC Moravsky Berou 73.15 336 *e*P **P 21 54 07.3 +0.5**
MORC pmax pmax
comp=Z,69nm,1.0s
MORC Moravsky Berou 73.15 336⇑*i*P **P 21 54 07.8 +1.0**
MORC Moravsky Berou 73.15 336 *e*P **P 21 54 07.3 +0.5**
comp=Z,69nm,1.0s
PVCC Panska Ves 73.16 338⇑*i*P **P 21 54 07.3 +0.5**
PVCC MLR MLR
comp=Z,1μm,13.7s
PVCC Panska Ves 73.16 338⇑*i*P **P 21 54 07.3 +0.5**
PVCC AMS AMS 22 32 40.0
comp=Z,1μm,13.7s
CLDR Caldiran 73.27 313 *e*P **P 21 54 09.3 +1.3**
AGRB Hanur-Agry 73.32 314 *e*P **P 21 54 09.4 +1.2**
TRPA Tarpa 73.32 332⇑*i*P **P 21 54 08.5 +0.8**
TRPA Tarpa 73.32 332⇑*e*P **P 21 54 08.6 +0.8**
WTSB Winterswijk 73.35 343 *i* P **P 21 54 08.2 +0.3**
comp=Z,108nm,1.4s
DRLN Deer Lake 73.42 25 *e*P **P 21 54 08.5 +0.1**
comp=Z,46nm,1.4s
POO Poona 73.43 279⇓*i*P **P 21 54 08.0 -1.0**
comp=Z,12nm,1.0s
LBNH Lisbon 73.45 36 *e*P **P 21 54 09.1 +0.4**
LBNH pmax pmax
comp=Z,431nm,2.3s
LBNH Lisbon 73.45 36 *e*P **P 21 54 09.1 +0.4**
comp=Z,431nm,2.3s
832A Faith Ranch, C 73.46 65 ⇑P **P 21 54 10.4 +1.5**
baz=73,SNR=14
PKME Peaks-Kenny Pk 73.48 34 *e*P **P 21 54 09.3 +0.5**
comp=Z,35nm,1.1s
IRAZ Razeghan 73.51 307 *e*P **P 21 54 09.6 +0.1**
WVT Waverly 73.53 52 *e*P **P 21 54 09.3 +0.1**
WVT pmax pmax
comp=Z,18nm,0.9s
WVT Waverly 73.53 52 *e*P **P 21 54 09.3 +0.1**
comp=Z,18nm,0.9s
TESR Tescani 73.54 329⇑*i*P **P 21 54 09.0 -0.1**
ACCN Adirondack Com 73.55 38 *e*P **P 21 54 09.6 +0.3**
comp=Z,348nm,2.5s
CTAO Charters Tower 73.55 194 *e*P **P 21 54 09.5 +0.2**
CTAO pmax pmax
comp=Z,37nm,1.2s
CTAO Charters Tower 73.55 194 *e*P **P 21 54 09.5 +0.2**
comp=Z,37nm,1.2s
PRA Prague 73.62 338 *e*P **P 21 54 10.5 +1.0**
PRA Prague 73.62 338⇑*e*P **P 21 54 10.5 +1.0**
PRU Pruhonice 73.67 338⇑*i*P **P 21 54 10.4 +0.6**
PRU MLR MLR
comp=Z,1μm,14.5s
PRU Pruhonice 73.67 338⇑*i*P **P 21 54 10.4 +0.6**
PRU AMS AMS 22 32 50.0
comp=Z,1μm,14.5s
MOX Moxa 73.69 340 *e*P **P 21 54 10.7 +0.7**
comp=Z,63nm,1.3s
IBAF Bafgh 73.70 301 *e*P **P 21 54 10.3 -0.3**
TANN Tannenbergstha 73.73 339 *e*P **P 21 54 11.0 +0.7**
comp=Z,52nm,1.4s
833A Chaparral WMA, 73.75 65 ⇓P **P 21 54 11.8 +1.1**
baz=74
BUG Bochum--Univer 73.78 343 *e*P **P 21 54 11.0 +0.6**
comp=Z,67nm,1.1s
ICHK Chekchek 73.79 302 *e*P **P 21 54 11.4 +0.3**
LHSI Lahat 73.81 241 P **P 21 54 11.7 +0.6**
comp=Z,72nm,1.0s
VRAC Vranov 73.81 336⇑*i*P **P 21 54 11.5 +0.8**
DSB Dublin 73.83 352 *e*P **P 21 54 10.2 -0.5**
comp=Z,22nm,1.0s
BAYT Ayd¨ntepe-Bay 73.86 317 *e*P **P 21 54 12.2 +0.8**
GIUM Giurgiulesti 73.94 327⇑*i*P **P 21 54 12.3 +0.8**
WVL Waterville 73.97 35 *e*P **P 21 54 11.7 0.0**
comp=Z,164nm,1.6s
ESPY Espiye-Giresun 74.00 318 *e*P **P 21 54 11.7 -0.2**
VYHS Vyhne 74.00 335 *e*P **P 21 54 12.4 +0.6**
VYHS pmax pmax
comp=Z,27nm,1.0s
VYHS Vyhne 74.00 335 *e*P **P 21 54 12.4 +0.6**
MDSI Maura Dua 74.03 240 P **P 21 54 11.6 -0.7**
PETR Petresti 74.05 328⇓*i*P **P 21 54 13.3 +1.2**
OXF Oxford 74.06 54 *e*P **P 21 54 13.6 +1.2**
OXF *e**PP **pP 21 54 18.7 -1.0**
OXF pmax pmax
comp=Z,71nm,1.1s
OXF Oxford 74.06 54 *e*P **P 21 54 13.6 +1.2**
comp=Z,71nm,1.1s
OXF *ep*P **pP 21 54 18.7 -1.0**
VRI Vrincioaia 74.09 328⇑*i*P **P 21 54 12.7 +0.3**
TREC Trest 74.09 337⇑*i*P **P 21 54 13.2 +0.8**
TREC MLR MLR
comp=Z,2μm,15.4s
TREC Trest 74.09 337⇑*i*P **P 21 54 13.2 +0.8**
TREC AMS AMS 22 33 10.0
comp=Z,2μm,15.4s
PLOR Plostina 74.12 328⇑*i*P **P 21 54 13.1 +0.5**
SSPA Standing Stone 74.23 42 *e*P **P 21 54 13.2 0.0**
comp=Z,31nm,0.9s
CFR Carcaliu 74.24 327⇑*i*P **P 21 54 13.3 +0.1**
PSZ Piszkesteto 74.25 334 *e*P **P 21 54 13.4 0.0**
PSZ pmax pmax
comp=Z,65nm,1.1s
PSZ Piszkesteto 74.25 334⇑*i*P **P 21 54 14.3 +0.9**
PSZ Piszkesteto 74.25 334⇑*e*P **P 21 54 14.5 +1.1**
PSZ Piszkesteto 74.25 334 *e*P **P 21 54 13.4 0.0**
comp=Z,65nm,1.1s
LEM Lembang 74.26 235 P P 21 54 23.7 +10
CJR Cluj-Napoca 74.29 331⇑*i*P **P 21 54 14.3 +0.7**
IZEF Zefreh 74.33 304 *e*P **P 21 54 14.7 +0.3**
IMEH Mehriz 74.36 301 *e*P **P 21 54 13.9 -0.6**
834A Tilden 74.36 64 ⇓P **P 21 54 16.3 +2.1**
baz=74,SNR=10
933A Laredo 74.36 65 ⇑P **P 21 54 16.4 +2.1**
baz=74,SNR=8.5
IKLH Kolahrood 74.37 305 *e*P **P 21 54 14.8 +0.3**
ROTZ Rotzenmuhle 74.39 339 *e*P **P 21 54 15.1 +1.0**
comp=Z,56nm,1.3s
HKT Hockley 74.40 61 *e*P **P 21 54 15.0 +0.7**
HKT *e**PP **pP 21 54 22.1 +0.5**
HKT pmax pmax
comp=Z,29nm,1.6s
HKT Hockley 74.40 61 *e*P **P 21 54 15.0 +0.7**
comp=Z,29nm,1.6s
HKT *ep*P **pP 21 54 22.1 +0.5**
DOPR Dopca 74.42 329⇑*i*P **P 21 54 15.2 +0.9**
ISAD Sadrabad 74.42 302 *e*P **P 21 54 14.8 -0.1**
DRGR 74.48 331⇑*i*P **P 21 54 14.9 +0.1**
LWLI Liwa 74.54 239 P **P 21 54 14.6 -0.9**
835A Beeville 74.63 64 ⇑P **P 21 54 17.9 +2.1**
baz=74
HGN Heimansgroeve 74.66 344 *i* P **P 21 54 16.0 +0.4**
comp=Z,79nm,1.4s
MLR Muntele Rosu 74.67 329⇑*i*P **P 21 54 16.1 +0.2**
BEBN Eben Emael 74.67 344 P **P 21 54 16.1 +0.5**
GRF Grafenberg Arr 74.68 340 *e*P **P 21 54 17.0 +1.2**
comp=Z,122nm,1.3s
GRFO Grafenberg 74.68 340 *e*P **P 21 54 16.6 +0.9**
GRFO pmax pmax
comp=Z,53nm,0.8s
GRFO Grafenberg 74.68 340 *e*P **P 21 54 16.6 +0.9**
comp=Z,53nm,0.8s
KHC Kasperske Hory 74.69 338⇑*i*P **P 21 54 16.7 +0.8**
KHC *e* 21 54 25.3
KHC MLR MLR
comp=Z,1μm,14.0s
KHC Kasperske Hory 74.69 338⇑*i*P **P 21 54 16.7 +0.8**
KHC *ep*P **pP 21 54 25.3 +2.1**
KHC *ex* x 21 54 44.0
KHC AMS AMS 22 33 10.0
comp=Z,1μm,14.0s
KHC Kasperske Hory 74.69 338 *e*P **P 21 54 16.1 +0.2**
comp=Z,87nm,1.3s
TNS Taunus Mts 74.73 342 *e*P **P 21 54 16.7 +0.6**
comp=Z,79nm,1.5s
TNS *e*L L 22 30 15.0
comp=Z,638nm,21.7s
KASI Kota Agung 74.74 239 P **P 21 54 15.7 -0.8**
DIKM Dikmen 74.75 321 *e*P **P 21 54 17.4 +1.0**
TIRR Tirgusor 74.78 327 *e*P **P 21 54 16.1 -0.3**
TIRR pmax pmax
comp=Z,139nm,1.3s
TIRR Tirgusor 74.78 327⇑*i*P **P 21 54 16.7 +0.3**
TIRR Tirgusor 74.78 327 *e*P **P 21 54 16.1 -0.3**
comp=Z,139nm,1.3s
934A Benavides 74.79 65 ⇓P **P 21 54 18.9 +2.2**
baz=75
MEM Membach 74.80 343 P **P 21 54 17.1 +0.7**
comp=Z,76nm,1.1s
MEM Membach 74.80 343 *e*P **P 21 54 16.9 +0.5**
MEM pmax pmax
comp=Z,126nm,0.8s
MEM Membach 74.80 343 *e*P **P 21 54 16.9 +0.5**
comp=Z,126nm,0.8s
BNGB Bing¨ll 74.80 315 *e*P **P 21 54 18.0 +1.2**
ISR Istrita 74.81 328⇓*i*P **P 21 54 17.3 +0.6**
WET Wettzell 74.84 339 *e*P **P 21 54 17.6 +0.9**
comp=Z,68nm,1.2s
BUD Budapest 74.88 334⇑*e*P **P 21 54 18.1 +1.2**
GEC2 GERESS Array S 74.93 338 *e*P **P 21 54 17.9 +0.5**
GEC2 GERESS Array S 74.93 338 *e*P **P 21 54 17.9 +0.5**
comp=Z,48nm,1.2s
GEC2 *e*L L 22 31 02.8
comp=Z,600nm,18.7s
GEC2 GERESS Array S 74.93 338 *e*P **P 21 54 17.9 +0.5**
GERES GERESS Array B 74.93 338 P **P 21 54 17.8 +0.5**
GERES pmax pmax
comp=Z,22nm,1.1s
GERES MLR MLR
comp=Z,554nm,19.1s
GERES GERESS Array B 74.93 338 P **P 21 54 17.8 +0.5**
comp=Z,22nm,1.1s,baz=42,slow=4.2,SNR=59
GERES LR LR 22 31 22.9
comp=Z,554nm,19.1s,baz=25,slow=39
KVT Kavak 74.93 320 *e*P **P 21 54 18.7 +1.3**
GEB3 GERESS Array S 74.94 338 *e*P **P 21 54 17.2 -0.2**
CUKT Cukurca 74.97 312 *e*P **P 21 54 18.2 +0.4**
VOIR 75.00 329⇑*i*P **P 21 54 18.6 +0.8**
AMRR Amara 75.00 327⇑*i*P **P 21 54 18.9 +1.2**
RSDY Resadiye-TOKAT 75.01 319 *e*P **P 21 54 18.9 +1.0**
EFOR EFORIÉ 75.04 326⇑*i*P **P 21 54 17.4 -0.5**
CGJI Cibinong 75.05 237 P **P 21 54 16.6 -1.6**
BCLA Clavier 75.10 344 P **P 21 54 18.7 +0.5**
comp=Z,27nm,1.2s
034A Hebbronville 75.12 65 ⇑P **P 21 54 21.0 +2.4**
baz=75
PKSG 75.13 334⇓*e*P **P 21 54 20.0 +1.6**
SWET Sewanee 75.17 51 *e*P **P 21 54 19.1 +0.2**
MTUR Matau 75.18 329⇑*i*P **P 21 54 20.0 +1.1**
SNF Seneffe 75.19 345 P **P 21 54 19.0 +0.4**
ARR Arges 75.19 329⇑*i*P **P 21 54 20.0 +1.1**
PKSN Nyarlorinc 75.19 333⇓*e*P **P 21 54 20.5 +1.8**
IPIR Pirpir 75.22 305 *e*P **P 21 54 18.4 -1.1**
PKS7 Kupszentmiklos 75.25 334⇓*e*P **P 21 54 20.6 +1.6**
SIRT Sirnak 75.28 313 *e*P **P 21 54 20.0 +0.5**
CONA Conrad Observa 75.28 336 *i* P **P 21 54 20.5 +1.1**
comp=Z,69nm,1.1s,SNR=31
SVAN Silvan-Diyarba 75.28 315 *e*P **P 21 54 20.7 +1.2**
MSAB Monastry St. A 75.30 327⇓*i*P **P 21 54 19.9 +0.5**
SOP Sopron 75.33 336⇑*e*P **P 21 54 20.9 +1.4**
PKST T¨s 75.35 335⇓*e*P **P 21 54 21.0 +1.3**
738A Farr-Stevens R 75.37 62 ⇓P **P 21 54 22.3 +2.3**
baz=75
MVL Millersville 75.39 42 *e*P **P 21 54 20.3 +0.3**
comp=Z,40nm,1.0s
VAL Valentia 75.42 354 *e*P P 21 54 10.4 -9.5
GIVF Givet 75.49 344⇑*i*P **P 21 54 20.5 +0.1**
comp=Z,65nm,0.9s
GIVF Givet 75.49 344⇑*i*P **P 21 54 20.5 +0.1**
GIVF pmax pmax
comp=Z,65nm,0.9s
GIVF Givet 75.49 344⇑*i*P **P 21 54 20.5 +0.1**
comp=Z,65nm,0.9s
DOU Dourbes 75.53 344 P **P 21 54 20.8 +0.1**
comp=Z,17nm,1.4s
035A Encino 75.54 65 ⇑P **P 21 54 22.9 +1.9**
baz=75
PSN Preselentsi 75.55 326⇑*i*P **P 21 54 21.5 +0.7**
SVSK Karacayir 75.55 318 *e*P **P 21 54 22.0 +1.2**
PKS6 Bocsa 75.55 333⇓*e*P **P 21 54 21.9 +1.1**
BAIF Baives 75.63 344⇑*i*P **P 21 54 21.6 +0.4**
comp=Z,48nm,0.8s
BAIF Baives 75.63 344⇑*i*P **P 21 54 21.6 +0.4**
BAIF pmax pmax
comp=Z,48nm,0.8s
BAIF Baives 75.63 344⇑*i*P **P 21 54 21.6 +0.4**
comp=Z,48nm,0.8s
CPCT Cooper Cave 75.64 50 *e*P **P 21 54 23.3 +1.8**
WLF Walferdange 75.68 343 P **P 21 54 21.7 +0.2**
comp=Z,18nm,1.4s
WLF Walferdange 75.68 343 *e*P **P 21 54 21.3 -0.2**
WLF pmax pmax
comp=Z,32nm,1.2s
WLF Walferdange 75.68 343 *e*P **P 21 54 21.3 -0.2**
comp=Z,32nm,1.2s
GZR Gura Zlata 75.73 331⇑*i*P **P 21 54 22.0 0.0**
MOA Molin 75.73 337 *i* P **P 21 54 22.6 +0.7**
comp=Z,31nm,1.1s,SNR=15
PKS2 Kecel 75.74 333⇑*e*P **P 21 54 22.4 +0.5**
IDHR Dehrash 75.78 309 *e*P **P 21 54 21.8 -0.8**
TKL Tuckaleechee C 75.81 49 LR LR 22 29 29.7
comp=Z,568nm,19.2s,baz=333,slow=37
WRAB Tennant Creek 75.82 205 P **P 21 54 23.2 +0.7**
comp=Z,288nm,0.9s,SNR=14
WRAB Tennant Creek 75.82 205*c i*P **P 21 54 22.8 +0.3**
WRAB pmax pmax
comp=Z,183nm,1.2s
WRAB Tennant Creek 75.82 205 *e*P **P 21 54 22.7 +0.1**
comp=Z,56nm,1.0s
WRA Warramunga Arr 75.83 205 P **P 21 54 23.0 +0.4**
WRA pmax pmax
comp=Z,42nm,1.0s
WRA Warramunga Arr 75.83 205 P **P 21 54 23.0 +0.4**
comp=Z,42nm,1.0s,baz=18,slow=6.1,SNR=93
WRA LR LR 22 27 33.0
comp=Z,130nm,20.5s,baz=25,slow=36
BZS Buzias 75.87 332⇑*i*P **P 21 54 22.7 +0.1**
DYBB Diyarbakir 75.90 315 *e*P **P 21 54 24.2 +1.1**
PKS9 Tamasi 75.91 334⇓*e*P **P 21 54 23.4 +0.6**
STU Stuttgart 75.97 341 *e*P **P 21 54 23.6 +0.4**
STU pmax pmax
comp=Z,58nm,1.1s
STU Stuttgart 75.97 341 *e*P **P 21 54 23.8 +0.6**
comp=Z,64nm,1.1s
STU Stuttgart 75.97 341 *e*P **P 21 54 23.6 +0.4**
comp=Z,58nm,1.1s
ARSA Arzberg 75.99 336 *i* P **P 21 54 24.3 +0.9**
comp=Z,48nm,1.1s,SNR=31
LANF Langenberg 76.04 342⇑*e*P **P 21 54 24.3 +0.7**
FUR Furstenfeldbru 76.11 339 *e*P **P 21 54 24.8 +0.8**
comp=Z,70nm,1.3s
FUR *e*L L 22 33 49.3
comp=Z,614nm,18.5s
RJOB Jochberg 76.18 338 *e*P **P 21 54 25.5 +1.0**
comp=Z,34nm,1.3s
MAZI Mazidag 76.18 315 *e*P **P 21 54 25.4 +0.7**
PRD Provadia 76.24 327 *i* P **P 21 54 25.5 +0.7**
CORM Corum 76.26 320 *e*P **P 21 54 26.5 +1.3**
CANT Cankiri 76.28 321 *e*P **P 21 54 26.7 +1.5**
MALT Malatya 76.32 317⇑*i*P **P 21 54 26.3 +0.8**
DYA Yadsworthy 76.37 350 *e*P **P 21 54 25.7 +0.3**
comp=Z,50nm,1.0s
IPAR Pars 76.40 301 *e*P **P 21 54 26.4 +0.1**
DARE Darende-Malaty 76.49 317 *e*P **P 21 54 27.8 +1.3**
KBSD Kabsdagh 76.53 314 *e*P **P 21 54 27.4 +0.8**
BFO Black Forest 76.56 341 P **P 21 54 27.5 +0.9**
comp=Z,180nm,1.3s,SNR=16
BFO Black Forest 76.56 341 *i* P **P 21 54 27.3 +0.7**
BFO Black Forest 76.56 341 *e*P **P 21 54 27.1 +0.5**
comp=Z,74nm,1.8s
BFO *e*L L 22 31 37.0
comp=Z,460nm,20.4s
BFO Black Forest 76.56 341 *e*P **P 21 54 27.0 +0.5**
comp=Z,56nm,1.3s
KOGS Kog 76.56 335 *e*P **P 21 54 26.9 +0.3**
SOKA Soboth 76.65 336 *i* P **P 21 54 28.0 +0.8**
comp=Z,58nm,1.0s,SNR=54
SZH Strazhica 76.66 328 *i* P P 21 54 22.5 -4.7
PERS Pernice 76.67 336 *i* P **P 21 54 28.0 +0.7**
KBA Koelnbreinsper 76.67 338 *i* P **P 21 54 28.9 +1.5**
comp=Z,208nm,1.1s,SNR=117
CDF Champ du Feu 76.68 342⇑*i*P **P 21 54 27.7 +0.4**
comp=Z,122nm,1.0s
CDF Champ du Feu 76.68 342⇑*i*P **P 21 54 27.7 +0.4**
CDF pmax pmax
comp=Z,122nm,1.0s
CDF Champ du Feu 76.68 342⇑*i*P **P 21 54 27.7 +0.4**
comp=Z,122nm,1.0s
FITZ Fitzroy Crossi 76.71 214 *e*P **P 21 54 28.4 +0.9**
comp=Z,37nm,1.0s
ISRV Sarvestan 76.74 301 *e*P **P 21 54 27.9 -0.3**
PAGF Fort de Pagny 76.83 343⇑*i*P **P 21 54 28.9 +0.8**
comp=Z,57nm,1.1s,baz=16
PAGF Fort de Pagny 76.83 343⇑*i*P **P 21 54 28.9 +0.8**
comp=Z,57nm,1.1s
WATA Walderalm 76.83 339⇑*i*P **P 21 54 29.3 +1.0**
comp=Z,85nm,1.5s,SNR=16
RETA Reutte 76.86 339 *i* P **P 21 54 29.2 +0.8**
comp=Z,33nm,1.3s,SNR=15
WTTA Wattenberg 76.89 339 *i* P **P 21 54 29.8 +1.1**
comp=Z,92nm,1.3s,SNR=29
ECH Echery 76.89 342⇑*e*P **P 21 54 28.9 +0.4**
URFA Urfa 76.89 316 *e*P **P 21 54 30.1 +1.4**
BNN Bunyan 76.92 319 *e*P **P 21 54 29.6 +0.7**
OBKA Obir 76.92 337⇑*i*P **P 21 54 29.7 +1.0**
comp=Z,86nm,1.2s,SNR=46
MOTA Moosalm 76.93 339⇑*i*P **P 21 54 29.5 +0.7**
comp=Z,80nm,1.3s,SNR=37
MEZF Maizieres J'vi 77.00 343⇑*i*P **P 21 54 29.6 +0.6**
comp=Z,114nm,1.2s
MEZF Maizieres J'vi 77.00 343⇑*i*P **P 21 54 29.6 +0.6**
comp=Z,114nm,1.2s
MYKA Terra Mystica 77.03 337⇑*i*P **P 21 54 29.9 +0.6**
comp=Z,51nm,1.5s,SNR=16
BRTR Keskin Array B 77.04 321 P **P 21 54 29.6 0.0**
BRTR pmax pmax
comp=Z,54nm,1.1s
BRTR MLR MLR
comp=Z,508nm,18.5s
BRTR Keskin Array B 77.04 321 P **P 21 54 29.6 0.0**
comp=Z,54nm,1.1s,baz=46,slow=3.6,SNR=141
BRTR LR LR 22 34 24.2
comp=Z,508nm,18.5s,baz=18,slow=40
IKAZ Kazeroun 77.08 302 *e*P **P 21 54 30.9 +0.7**
THEF They Montfort 77.10 343⇑*e*P **P 21 54 30.3 +0.7**
JMB Yambol 77.16 327 P **P 21 54 32.1 +2.1**
JMB Yambol 77.16 327 *e*P **P 21 54 32.1 +2.1**
JMB Yambol 77.16 327⇑*i*P **P 21 54 30.6 +0.6**
JMB Yambol 77.16 327 *e*P **P 21 54 32.1 +2.1**
ABTA Abfaltersbach 77.18 338 *i* P **P 21 54 30.8 +0.6**
comp=Z,72nm,1.0s,SNR=44
SFNV Sufian 77.20 314 *e*P **P 21 54 30.9 +0.5**
ANTO Ankara 77.23 321 *e*P **P 21 54 30.6 0.0**
ANTO pmax pmax
comp=Z,76nm,1.0s
ANTO Ankara 77.23 321⇑*i*P **P 21 54 31.5 +0.9**
ANTO Ankara 77.23 321 P **P 21 54 31.5 +0.9**
SNR=20
ANTO Ankara 77.23 321 *e*P **P 21 54 30.6 0.0**
comp=Z,76nm,1.0s
DAVA Damuels 77.24 340⇑*i*P **P 21 54 31.4 +0.8**
comp=Z,53nm,1.1s,SNR=15
HAU Haudompre 77.25 342⇑*i*P **P 21 54 30.8 +0.4**
comp=Z,110nm,1.1s
HAU *e*R
comp=Z,788nm,23.0s
HAU Haudompre 77.25 342⇑*i*P **P 21 54 30.8 +0.4**
HAU pmax pmax
comp=Z,110nm,1.1s
HAU Haudompre 77.25 342⇑*i*P **P 21 54 30.8 +0.4**
comp=Z,110nm,1.1s
MOF Molkenrain 77.25 342⇑*e*P **P 21 54 31.0 +0.5**
BR231 Keskin MP Arra 77.27 321 *e*P **P 21 54 31.0 +0.2**
SILT Sile 77.27 324 *e*P **P 21 54 31.1 +0.5**
MPEP Malo Peshtene 77.28 329 *i* P **P 21 54 30.6 -0.1**
SFTF Sexfontaines 77.29 343⇑*i*P **P 21 54 31.0 +0.4**
comp=Z,95nm,0.8s
SFTF Sexfontaines 77.29 343⇑*i*P **P 21 54 31.0 +0.4**
comp=Z,95nm,0.8s
MDUB Mudurnu 77.31 323 *e*P **P 21 54 31.7 +0.7**
FETA Feichten 77.31 339 *i* P **P 21 54 32.1 +1.1**
comp=Z,60nm,1.1s,SNR=23
HINF Hinteralfeld 77.33 342⇑*i*P **P 21 54 31.0 0.0**
comp=Z,35nm,0.9s
HINF Hinteralfeld 77.33 342⇑*i*P **P 21 54 31.0 0.0**
HINF pmax pmax
comp=Z,35nm,0.9s
HINF Hinteralfeld 77.33 342⇑*i*P **P 21 54 31.0 0.0**
comp=Z,35nm,0.9s
KMSC Kings Mountain 77.35 48 ⇓P **P 21 54 32.0 +0.8**
baz=77
LJU Ljubljana 77.36 336 *i* P **P 21 54 31.1 -0.1**
CADS Cadrg 77.38 337 *e*P **P 21 54 30.9 -0.4**
SISC Sisak 77.44 335 P **P 21 54 32.6 +1.1**
MZRK Al-Mazaregh 77.46 314 *e*P **P 21 54 32.5 +0.6**
AFSR Af¨ar-Bala (A 77.50 321 *e*P **P 21 54 32.8 +0.7**
BGKT Bogazkoy 77.56 325 *e*P **P 21 54 32.6 +0.4**
ISK Istanbul-Kandi 77.56 324 P **P 21 54 31.7 -0.5**
ISK Istanbul-Kandi 77.56 324 *e*P **P 21 54 31.7 -0.5**
ISK Istanbul-Kandi 77.56 324 *e*P **P 21 54 31.7 -0.5**
GULT Gulveren 77.59 323 *e*P **P 21 54 33.3 +0.7**
FLN La Foliniere 77.59 347⇑*i*P **P 21 54 32.2 -0.1**
comp=Z,75nm,1.2s,baz=30
FLN *e*R
comp=Z,437nm,20.8s
FLN La Foliniere 77.59 347⇑*i*P **P 21 54 32.2 -0.1**
FLN pmax pmax
comp=Z,75nm,1.2s
FLN La Foliniere 77.59 347⇑*i*P **P 21 54 32.2 -0.1**
comp=Z,75nm,1.2s
CTKS Kestanelik-??a 77.60 325 *e*P **P 21 54 32.8 +0.4**
EDRB Edirne 77.66 326 P **P 21 54 33.0 +0.2**
EDRB Edirne 77.66 326 *e*P **P 21 54 33.4 +0.6**
EDRB Edirne 77.66 326 *e*P **P 21 54 33.0 +0.2**
BOJS Bojanci 77.69 336 *i* P **P 21 54 33.2 +0.3**
LDF La Druitiere 77.71 347⇑*i*P **P 21 54 32.8 -0.2**
comp=Z,93nm,1.3s
LDF La Druitiere 77.71 347⇑*i*P **P 21 54 32.8 -0.2**
LDF pmax pmax
comp=Z,93nm,1.3s
LDF La Druitiere 77.71 347⇑*i*P **P 21 54 32.8 -0.2**
comp=Z,93nm,1.3s
DIVS Divibare 77.72 332 P **P 21 54 33.1 -0.2**
LOMF Lomont 77.79 342⇑*e*P **P 21 54 34.3 +0.8**
FUORN Ofenpass-Fuorn 77.80 339 *e*P **P 21 54 34.7 +0.8**
comp=Z,38nm,0.8s
BANOM Banah 77.80 297 P **P 21 54 34.0 +0.1**
SNR=17
BANOM Banah 77.80 297⇓*i*P **P 21 54 33.5 -0.4**
SNR=56
TRI Trieste 77.86 337 *e*P **P 21 54 33.8 -0.1**
TRI pmax pmax
comp=Z,18nm,0.9s
TRI Trieste 77.86 337 *e*P **P 21 54 33.8 -0.1**
comp=Z,18nm,0.9s
ADVT Abdulvahap 77.87 324 *e*P **P 21 54 34.5 +0.4**
PGB Panagyurishte 77.87 328 *i* P **P 21 54 32.7 -1.4**
CRLT Corlu 77.96 325 *e*P **P 21 54 35.7 +1.2**
GRR Gorron 78.01 347⇑*i*P **P 21 54 34.8 +0.1**
comp=Z,75nm,1.0s
GRR Gorron 78.01 347⇑*i*P **P 21 54 34.8 +0.1**
GRR pmax pmax
comp=Z,75nm,1.0s
GRR Gorron 78.01 347⇑*i*P **P 21 54 34.8 +0.1**
comp=Z,75nm,1.0s
PALK Pallekele 78.03 266 P **P 21 54 35.9 +0.6**
comp=Z,247nm,1.1s,SNR=5.5
PALK Pallekele 78.03 266 *i* P **P 21 54 36.3 +1.0**
PALK Pallekele 78.03 266 *e*P **P 21 54 34.9 -0.4**
comp=Z,64nm,1.1s
CAVI Cavuskoy 78.04 324 *e*P **P 21 54 35.8 +0.8**
ARMT Armutlu 78.07 324 *e*P **P 21 54 35.3 +0.1**
SVRH Sivrihisar-ESK 78.08 322 *e*P **P 21 54 35.6 +0.3**
KOZT Kozan 78.10 318 *e*P **P 21 54 36.1 +0.8**
PLD Plovdiv 78.10 328 P **P 21 54 35.0 -0.3**

PLD	Plovdiv	78.10 328	eP	P	21 54 35.0	-0.3
PLD	Plovdiv	78.10 328	i P	P	21 54 35.3	0.0
PLD	Plovdiv	78.10 328	eP	P	21 54 35.0	-0.3
TUE	Stuetta	78.13 340	eP	P	21 54 36.8	+1.1
	comp=Z,66nm,1.0s					
VTS	Vitosha	78.14 329	P	P	21 54 35.3	-0.4
VTS	Vitosha	78.14 329	eP	P	21 54 35.3	-0.4
VTS	Vitosha	78.14 329⇑	iP	P	21 54 36.4	+0.7
VTS	Vitosha	78.14 329	i P	P	21 54 34.9	-0.8
VTS	Vitosha	78.14 329	eP	P	21 54 35.3	-0.4
KSRV	Kasrt alli	78.15 315	eP	P	21 54 36.3	+0.6
SGMF	Saint Gilles	78.36 348⇑	iP	P	21 54 36.9	+0.3
	comp=Z,146nm,1.3s					
SGMF	Saint Gilles	78.36 348⇑	iP	P	21 54 36.9	+0.3
SGMF			pmax	pmax		
	comp=Z,146nm,1.3s					
SGMF	Saint Gilles	78.36 348⇑	iP	P	21 54 36.9	+0.3
	comp=Z,146nm,1.3s					
ROSF	Rostrenen	78.36 349	eP	P	21 54 36.9	+0.3
	comp=Z,107nm,1.2s					
ROSF	Rostrenen	78.36 349	eP	P	21 54 36.9	+0.3
ROSF			pmax	pmax		
	comp=Z,107nm,1.2s					
ROSF	Rostrenen	78.36 349	eP	P	21 54 36.9	+0.3
	comp=Z,107nm,1.2s					
LOR	Lormes	78.39 344⇑	iP	P	21 54 37.1	+0.3
	comp=Z,103nm,1.1s,baz=18					
LOR			eR			
	comp=Z,875nm,21.8s					
LOR	Lormes	78.39 344⇑	iP	P	21 54 37.1	+0.3
LOR			pmax	pmax		
	comp=Z,103nm,1.1s					
LOR	Lormes	78.39 344⇑	iP	P	21 54 37.1	+0.3
	comp=Z,103nm,1.1s					
SULT	Sultanhani-AKS	78.41 320	eP	P	21 54 37.7	+0.6
RZN	Rozhen	78.47 328	i P	P	21 54 37.8	+0.2
UDBI	Udbina	78.47 335	P	P	21 54 37.3	-0.1
KCTX	Karacabey (Bur	78.51 325	eP	P	21 54 38.2	+0.6
CEYT	Ceyhan	78.54 318	eP	P	21 54 39.0	+1.3
RKY	Sarkoy-Tekirda	78.55 326	eP	P	21 54 38.4	+0.5
JHLN	Al Jahlan	78.55 315	eP	P	21 54 36.3	-1.6
HYF	Humbligny	78.59 345	eP	P	21 54 38.6	+0.7
HYF	Humbligny	78.59 345	eP	P	21 54 38.6	+0.7
KARA	Karaisali	78.60 318	eP	P	21 54 38.9	+0.7
EDC	Edincik	78.61 325	eP	P	21 54 38.8	+0.7
UOSS	Wadi Hilu	78.62 296	P	P	21 54 37.9	-0.5
	comp=Z,611nm,1.0s,SNR=57					
CABF	La Chapelle	78.64 342⇑	iP	P	21 54 39.0	+0.7
	comp=Z,84nm,1.0s					
CABF	La Chapelle	78.64 342⇑	iP	P	21 54 39.0	+0.7
CABF			pmax	pmax		
	comp=Z,84nm,1.0s					
CABF	La Chapelle	78.64 342⇑	iP	P	21 54 39.0	+0.7
	comp=Z,84nm,1.0s					
SENIN	Lac Senin/Sane	78.64 341	eP	P	21 54 38.0	-0.4
SSF	Saint Saulge	78.65 344⇑	iP	P	21 54 38.5	+0.2
	comp=Z,24nm,0.7s					
SSF	Saint Saulge	78.65 344⇑	iP	P	21 54 38.5	+0.2
SSF			pmax	pmax		
	comp=Z,24nm,0.7s					
SSF	Saint Saulge	78.65 344⇑	iP	P	21 54 38.5	+0.2
	comp=Z,24nm,0.7s					
NVLJ	Novalja	78.67 336	P	P	21 54 38.0	-0.3
RDO	Rodhopi	78.69 327	P	P	21 54 38.8	+0.3
RDO	Rodhopi	78.69 327	eP	P	21 54 38.8	+0.3
ALN	Alexandroupoli	78.75 326	P	P	21 54 38.9	+0.1
ALN	Alexandroupoli	78.75 326	eP	P	21 54 38.9	+0.1
ALN	Alexandroupoli	78.75 326	eP	P	21 54 38.9	+0.1
HATD	Hatta, Dubai	78.76 296	i P	P	21 54 38.9	-0.3
	SNR=66					
QUIF	Quistinic	78.77 349⇑	iP	P	21 54 38.9	+0.1
	comp=Z,62nm,1.0s					
QUIF	Quistinic	78.77 349⇑	iP	P	21 54 38.9	+0.1
QUIF			pmax	pmax		
	comp=Z,62nm,1.0s					
QUIF	Quistinic	78.77 349⇑	iP	P	21 54 38.9	+0.1
	comp=Z,62nm,1.0s					
KRBG	Karabiga-Canak	78.77 325	eP	P	21 54 39.6	+0.6
ERIK	Erikli-Kesan	78.79 326	eP	P	21 54 39.6	+0.5
KKB	Krupnik	78.83 329	i P	P	21 54 38.7	-0.7
TVSB	Tavsanli	78.84 323	eP	P	21 54 39.8	+0.3
ENEZ	Enez	78.85 326	eP	P	21 54 39.9	+0.5
MMB	Musomiste	78.88 328⇓	iP	P	21 54 39.9	+0.3
MMB	Musomiste	78.88 328	i P	P	21 54 40.0	+0.3
NAZ	Nazwa, Dubai	78.89 297⇑	iP	P	21 54 39.2	-0.6
	SNR=36					
ASHO	Ashiyiah	78.91 296	P	P	21 54 39.9	-0.2
	SNR=31					
ASHO	Ashiyiah	78.91 296	i P	P	21 54 39.6	-0.5
	SNR=68					
AVF	Avril sur Loir	78.94 344⇑	iP	P	21 54 40.2	+0.4
	comp=Z,58nm,0.8s					
AVF	Avril sur Loir	78.94 344⇑	iP	P	21 54 40.2	+0.4
AVF			pmax	pmax		
	comp=Z,58nm,0.8s					
AVF	Avril sur Loir	78.94 344⇑	iP	P	21 54 40.2	+0.4
	comp=Z,58nm,0.8s					
WBK	Wadi Bani Khal	78.94 293	P	P	21 54 41.1	+0.9
	SNR=49					
ALT	Altintas	78.95 323	P	P	21 54 39.9	-0.2
ALT	Altintas	78.95 323	eP	P	21 54 40.5	+0.3
ALT	Altintas	78.95 323	eP	P	21 54 39.9	-0.2
LPK	Lapseki	78.97 326	eP	P	21 54 40.8	+0.7
SMF	Signal de Mont	79.00 344⇑	iP	P	21 54 40.5	+0.3
	comp=Z,50nm,1.0s					
SMF	Signal de Mont	79.00 344⇑	iP	P	21 54 40.5	+0.3
SMF			pmax	pmax		
	comp=Z,51nm,1.0s					
SMF	Signal de Mont	79.00 344⇑	iP	P	21 54 40.5	+0.3
	comp=Z,50nm,1.0s					
GELI	Tayfur-Gelibol	79.05 326	eP	P	21 54 40.9	+0.4
NVR	Nevrokopi	79.06 328	P	P	21 54 40.6	0.0
NVR	Nevrokopi	79.06 328	eP	P	21 54 40.6	0.0
KONT	Konya--Tatoy	79.07 321	eP	P	21 54 41.2	+0.4
HOQ	Hoqain	79.10 295	P	P	21 54 40.9	-0.2
	SNR=46					
SMDO	Samad	79.11 294	P	P	21 54 41.3	0.0
	SNR=40					
FAQ	Al Faqa, Dubai	79.12 296⇓	iP	P	21 54 40.3	-0.8
	SNR=39					
KAVA	Kavala	79.16 328	P	P	21 54 41.0	-0.1
KAVA	Kavala	79.16 328	eP	P	21 54 41.0	-0.1
SHUT	Suhut-Afyon	79.23 322	eP	P	21 54 42.3	+0.6
BALB	Balikesir	79.24 325	eP	P	21 54 41.9	+0.3
SKO	Skopje	79.25 330	P	P	21 54 41.1	-0.5
SKO	Skopje	79.25 330	eP	P	21 54 41.1	-0.5
SKO	Skopje	79.25 330	i P	P	21 54 42.0	+0.4
	comp=Z,93nm,1.6s					
SKO	Skopje	79.25 330	eP	P	21 54 41.1	-0.5
BGF	Bois d'Agland	79.25 344	eP	P	21 54 41.9	+0.4
	comp=Z,36nm,0.9s					
BGF	Bois d'Agland	79.25 344	eP	P	21 54 41.9	+0.4
BGF			pmax	pmax		
	comp=Z,37nm,0.9s					
BGF	Bois d'Agland	79.25 344	eP	P	21 54 41.9	+0.4
	comp=Z,36nm,0.9s					
SRS	Serrai	79.35 328	P	P	21 54 41.9	-0.3
SRS	Serrai	79.35 328	eP	P	21 54 41.9	-0.3
SRS	Serrai	79.35 328	eP	P	21 54 41.9	-0.3
ASUD	Al Ashush, Dub	79.36 297⇓	iP	P	21 54 42.1	-0.4
	SNR=30					
RSL	Roselend	79.42 342⇑	eP	P	21 54 43.6	+0.9
PDG	Podgorica	79.47 332	P	P	21 54 42.5	-0.3
TTG	Podgorica	79.47 332	eP	P	21 54 42.5	-0.3
TTG	Podgorica	79.47 332	eP	P	21 54 42.5	-0.3
VAY	Valandovo	79.49 329	P	P	21 54 42.7	-0.2
VAY	Valandovo	79.49 329	eP	P	21 54 42.7	-0.2
VAY	Valandovo	79.49 329	i P	P	21 54 43.1	+0.2
	comp=Z,162nm,1.8s					
VAY	Valandovo	79.49 329	eP	P	21 54 42.7	-0.2
AS01	Alice Springs	79.49 205	eP	P	21 54 43.8	+0.9
STON	Ston	79.50 333	P	P	21 54 42.0	-0.9
ASAR	Alice Springs	79.51 205	P	P	21 54 44.1	+1.1
	comp=Z,18nm,0.8s,baz=16,slow=5.5,SNR=174					
ASAR			LR	LR	22 31 50.5	
	comp=Z,48nm,18.9s,baz=28,slow=37					
KNT	Kendrikon	79.53 329	P	P	21 54 43.4	+0.2
KNT	Kendrikon	79.53 329	eP	P	21 54 43.4	+0.2
KNT	Kendrikon	79.53 329	eP	P	21 54 43.4	+0.2
LPL	La Plagne	79.57 342	eP	P	21 54 44.8	+1.2
	comp=Z,192nm,1.0s					
LPL	La Plagne	79.57 342	eP	P	21 54 44.8	+1.2
LPL			pmax	pmax		
	comp=Z,192nm,1.0s					
LPL	La Plagne	79.57 342	eP	P	21 54 44.8	+1.2
	comp=Z,192nm,1.0s					
LPG	La Plagne	79.58 342	eP	P	21 54 45.1	+1.4
	comp=Z,273nm,1.1s					
LPG	La Plagne	79.58 342	eP	P	21 54 45.1	+1.4
LPG			pmax	pmax		
	comp=Z,273nm,1.1s					
LPG	La Plagne	79.58 342	eP	P	21 54 45.1	+1.4
	comp=Z,273nm,1.1s					
TCF	Toulx Ste Croi	79.62 345⇑	iP	P	21 54 44.0	+0.4
	comp=Z,68nm,1.2s					
TCF	Toulx Ste Croi	79.62 345⇑	iP	P	21 54 44.0	+0.4
TCF			pmax	pmax		
	comp=Z,68nm,1.2s					
TCF	Toulx Ste Croi	79.62 345⇑	iP	P	21 54 44.0	+0.4
	comp=Z,68nm,1.2s					
JMDO	Jabal Madar	79.62 293	P	P	21 54 44.1	+0.2
	SNR=73					
MFF	Saint Martin d	79.66 347	eP	P	21 54 44.2	+0.4
	comp=Z,66nm,1.3s					
MFF	Saint Martin d	79.66 347	eP	P	21 54 44.2	+0.4
MFF			pmax	pmax		
	comp=Z,66nm,1.3s					
MFF	Saint Martin d	79.66 347	eP	P	21 54 44.2	+0.4
	comp=Z,66nm,1.3s					
LCHF	La Chataignera	79.68 347⇑	eP	P	21 54 44.7	+0.9
PLDF	La Plantade	79.69 344⇑	eP	P	21 54 45.1	+1.0
AGO	Saint Agoulin	79.70 344⇑	eP	P	21 54 45.3	+1.3
SOH	Sokhos	79.70 328	P	P	21 54 43.7	-0.4
SOH	Sokhos	79.70 328	eP	P	21 54 43.7	-0.4
SOH	Sokhos	79.70 328	eP	P	21 54 43.7	-0.4
ARQ	Araqi	79.73 295	P	P	21 54 44.4	-0.2
	SNR=31					
PHP	Peshkopia	79.81 331	P	P	21 54 43.8	-0.9
PHP	Peshkopia	79.81 331	eP	P	21 54 43.8	-0.9
PHP	Peshkopia	79.81 331	eP	P	21 54 43.8	-0.9
GRG	Griva	79.87 329	P	P	21 54 44.6	-0.5
GRG	Griva	79.87 329	eP	P	21 54 44.6	-0.5
GRG	Griva	79.87 329	eP	P	21 54 44.6	-0.5
ISP	Isparta	79.88 322	P	P	21 54 44.5	-0.7
ISP	Isparta	79.88 322	eP	P	21 54 44.9	-0.3
ISP			pmax	pmax		
	comp=Z,128nm,1.6s					
ISP	Isparta	79.88 322	eP	P	21 54 44.9	-0.3
	comp=Z,128nm,1.6s					
LIA	Limnos Island	79.93 327	P	P	21 54 44.8	-0.5
LIA	Limnos Island	79.93 327	eP	P	21 54 44.8	-0.5
OUR	Ouranopolis	79.93 328	P	P	21 54 44.9	-0.4
OUR	Ouranopolis	79.93 328	eP	P	21 54 44.9	-0.4
OUR	Ouranopolis	79.93 328	eP	P	21 54 44.9	-0.4
KULA	Kula-Manisa	79.96 324	P	P	21 54 46.4	+0.8
KULA	Kula-Manisa	79.96 324	eP	P	21 54 45.9	+0.3
KULA	Kula-Manisa	79.96 324	eP	P	21 54 46.4	+0.8
PYM	Petit Puy Mans	80.01 344⇑	eP	P	21 54 46.9	+1.1
BIDA	Albida	80.01 316	eP	P	21 54 43.6	-2.3
BNI	Bardonecchia	80.03 341	eP	P	21 54 46.6	+0.7
BNI			pmax	pmax		
	comp=Z,33nm,0.8s					
BNI	Bardonecchia	80.03 341	eP	P	21 54 46.6	+0.7
	comp=Z,33nm,0.8s					
PLG	Polygyros	80.07 328	P	P	21 54 45.5	-0.6
PLG	Polygyros	80.07 328	eP	P	21 54 45.5	-0.6
PLG	Polygyros	80.07 328	eP	P	21 54 45.5	-0.6
VLC	Villacollemand	80.11 339	eP	P	21 54 46.9	+0.6
	comp=Z,52nm,1.1s					
RABH	Abou Rabah	80.13 315	eP	P	21 54 46.9	+0.3
PRK	Paraskevi	80.15 326	P	P	21 54 46.2	-0.3
PRK	Paraskevi	80.15 326	eP	P	21 54 46.2	-0.3
PRK	Paraskevi	80.15 326	eP	P	21 54 46.2	-0.3
SSB	Saint Sauveur	80.20 343⇑	eP	P	21 54 47.6	+0.8
OHR	Ohrid	80.23 330	i P	P	21 54 45.4	-1.5
	comp=Z,75nm,1.3s					
ORIF	Oris-en-Rattie	80.31 342	eP	P	21 54 48.7	+1.3
	comp=Z,144nm,1.0s					
ORIF			eR			
	comp=Z,499nm,22.2s					
ORIF	Oris-en-Rattie	80.31 342	eP	P	21 54 48.7	+1.3
ORIF			pmax	pmax		
	comp=Z,144nm,1.0s					
ORIF	Oris-en-Rattie	80.31 342	eP	P	21 54 48.7	+1.3
	comp=Z,144nm,1.0s					
MBDF	Montbardon	80.32 341	eP	P	21 54 48.4	+0.8
	comp=Z,93nm,0.9s					
MBDF	Montbardon	80.32 341	eP	P	21 54 48.4	+0.8
MBDF			pmax	pmax		
	comp=Z,93nm,0.9s					
MBDF	Montbardon	80.32 341	eP	P	21 54 48.4	+0.8
	comp=Z,93nm,0.9s					
SIGR	SIGRI	80.32 326	P	P	21 54 46.6	-0.8
SIGR	SIGRI	80.32 326	eP	P	21 54 46.6	-0.8
FNA	Florina	80.35 330	P	P	21 54 47.0	-0.7
FNA	Florina	80.35 330	eP	P	21 54 47.0	-0.7
FNA	Florina	80.35 330	eP	P	21 54 47.0	-0.7
HAWK	Haweek	80.40 316	eP	P	21 54 48.1	0.0
PAIG	Paliouri	80.40 328	P	P	21 54 47.2	-0.7
PAIG	Paliouri	80.40 328	eP	P	21 54 47.2	-0.7
PAIG	Paliouri	80.40 328	eP	P	21 54 47.2	-0.7
FRNF	Fournols	80.44 344⇑	eP	P	21 54 49.7	+1.7
EREN	Erenkoy	80.46 318	eP	P	21 54 48.7	+0.5
LBL	Lubilhac	80.47 344	eP	P	21 54 49.5	+1.2
VIVF	Saint-Julien-l	80.59 343	eP	P	21 54 49.9	+1.1
	comp=Z,99nm,0.9s					
VIVF	Saint-Julien-l	80.59 343	eP	P	21 54 49.9	+1.1
VIVF			pmax	pmax		
	comp=Z,99nm,0.9s					
VIVF	Saint-Julien-l	80.59 343	eP	P	21 54 49.9	+1.1
	comp=Z,99nm,0.9s					
BLCB	Balcova	80.65 325	eP	P	21 54 48.9	-0.3
RJF	Les Rejaudoux	80.69 345	eP	P	21 54 50.0	+0.7
	comp=Z,80nm,1.5s					
RJF			eR			
	comp=Z,775nm,22.0s					
RJF	Les Rejaudoux	80.69 345	eP	P	21 54 50.0	+0.7
RJF			pmax	pmax		
	comp=Z,80nm,1.5s					
RJF	Les Rejaudoux	80.69 345	eP	P	21 54 50.0	+0.7
	comp=Z,80nm,1.5s					
OG26	St.-Nazaire-De	80.74 342⇑	eP	P	21 54 51.2	+1.5
PMOR	Pomariorio Ree	80.78 130	eT	T	23 23 35.9	
	comp=Z,5.9nm,0.2s					
NEST	Nestorio	80.79 330	P	P	21 54 49.7	-0.4
MARH	Ras Al Marh	80.79 316	eP	P	21 54 47.9	-2.6
OG25	Le Caire	80.80 342⇑	eP	P	21 54 51.2	+1.1
HWQ	Hawqa	80.80 316	eP	P	21 54 49.7	-0.5
SAOF	Saorge	80.88 341⇑	eP	P	21 54 50.7	+0.3
AUTN	L'Aution	80.89 341⇑	eP	P	21 54 50.9	+0.2
TOUF	Mont Tournerai	80.91 341⇑	eP	P	21 54 51.3	+0.5
LFK	Lefkose	80.93 319	eP	P	21 54 50.9	0.0
CAF	Calviac	80.97 345	eP	P	21 54 52.0	+1.1
	comp=Z,42nm,0.9s					
CAF	Calviac	80.97 345	eP	P	21 54 52.0	+1.1
CAF			pmax	pmax		
	comp=Z,42nm,0.9s					
CAF	Calviac	80.97 345	eP	P	21 54 52.0	+1.1
	comp=Z,42nm,0.9s					
CHOS	Chios island	80.99 325	P	P	21 54 50.3	-0.9
CHOS	Chios island	80.99 325	eP	P	21 54 50.3	-0.9
SBF	Sospel	81.02 341⇑	iP	P	21 54 51.4	+0.2
	comp=Z,128nm,1.1s					
SBF	Sospel	81.02 341⇑	iP	P	21 54 51.4	+0.2
SBF			pmax	pmax		
	comp=Z,128nm,1.1s					
SBF	Sospel	81.02 341⇑	iP	P	21 54 51.4	+0.2
	comp=Z,128nm,1.1s					
MVIF	Mont Vial	81.04 341⇑	eP	P	21 54 51.8	+0.4
XOR	Xorichti	81.07 328	P	P	21 54 50.1	-1.4
XOR	Xorichti	81.07 328	eP	P	21 54 50.1	-1.4
AQU	L'Aquila	81.11 336	eP	P	21 54 52.0	+0.3
AQU			pmax	pmax		
	comp=Z,53nm,0.9s					
AQU	L'Aquila	81.11 336	eP	P	21 54 52.0	+0.3
	comp=Z,53nm,0.9s					
REVF	Revere	81.15 341	eP	P	21 54 52.4	+0.5
SKIA	Skiathos	81.16 328	P	P	21 54 50.7	-1.3
LFF	La Frestale	81.16 346	eP	P	21 54 52.8	+1.0
	comp=Z,84nm,1.2s					
LFF	La Frestale	81.16 346	eP	P	21 54 52.8	+1.0
LFF			pmax	pmax		
	comp=Z,84nm,1.2s					
LFF	La Frestale	81.16 346	eP	P	21 54 52.8	+1.0
	comp=Z,84nm,1.2s					
CALN	Calern	81.23 341⇑	eP	P	21 54 53.1	+0.7
BHL	Bhannes	81.25 316	eP	P	21 54 52.3	-0.3
SMRF	Simiane la Rot	81.27 342	eP	P	21 54 53.7	+1.2
	comp=Z,160nm,1.5s					
SMRF	Simiane la Rot	81.27 342	eP	P	21 54 53.7	+1.2
	comp=Z,160nm,1.5s					
CSS	Prodhromos	81.29 318	P	P	21 54 52.1	-0.6
CSS	Prodhromos	81.29 318	eP	P	21 54 52.8	+0.1
	comp=Z,20nm,0.9s					
MEV	Metsovon	81.31 329	P	P	21 54 53.9	+1.0
MEV	Metsovon	81.31 329	eP	P	21 54 53.9	+1.0
YER	Yerkesik	81.32 323	eP	P	21 54 53.5	+0.6
LEF	Lefka	81.33 319	eP	P	21 54 52.3	-0.6
ZALF	Zalf	81.37 315	eP	P	21 54 51.3	-2.0
DALY	Dalyan (Mu¨la	81.46 323	eP	P	21 54 53.4	-0.2
FETY	Fethiye	81.47 322	eP	P	21 54 53.5	-0.1
FRF	La Foret Royal	81.47 341	eP	P	21 54 53.8	+0.3
	comp=Z,100nm,1.2s					
FRF	La Foret Royal	81.47 341	eP	P	21 54 53.8	+0.3
FRF			pmax	pmax		
	comp=Z,100nm,1.2s					
FRF	La Foret Royal	81.47 341	eP	P	21 54 53.8	+0.3
	comp=Z,100nm,1.2s					
LASF	Ste Croix	81.49 343	eP	P	21 54 55.0	+1.4
	comp=Z,153nm,1.4s					
LASF	Ste Croix	81.49 343	eP	P	21 54 55.0	+1.4
	comp=Z,153nm,1.4s					
MRKA	Markates	81.54 327	P	P	21 54 53.0	-1.0
JAN	Janina	81.54 330	P	P	21 54 54.0	0.0
JAN	Janina	81.54 330	eP	P	21 54 54.0	0.0
JAN	Janina	81.54 330	eP	P	21 54 54.0	0.0
BRBR	Barbar	81.55 316	eP	P	21 54 53.0	-1.4
MBWA	Marble Bar	81.63 218	eP	P	21 54 54.7	+0.3
	comp=Z,37nm,1.2s					
LMR	La Mourre	81.71 341⇑	iP	P	21 54 55.4	+0.6
	comp=Z,95nm,1.1s					
LMR	La Mourre	81.71 341⇑	iP	P	21 54 55.4	+0.6
LMR			pmax	pmax		
	comp=Z,95nm,1.1s					
LMR	La Mourre	81.71 341⇑	iP	P	21 54 55.4	+0.6
	comp=Z,95nm,1.1s					
SALA	Sala	81.81 315	eP	P	21 54 53.9	-1.9
IGT	Igoumenitsa	81.81 330	P	P	21 54 54.9	-0.5
IGT	Igoumenitsa	81.81 330	eP	P	21 54 54.9	-0.5
IGT	Igoumenitsa	81.81 330	eP	P	21 54 54.9	-0.5
DSL	Palaion Diasel	81.94 329	P	P	21 54 56.1	0.0
DSL	Palaion Diasel	81.94 329	eP	P	21 54 56.1	0.0
PGF	Pioggiola	81.95 339	eP	P	21 54 56.3	+0.1
	comp=Z,32nm,0.9s					
PGF	Pioggiola	81.95 339	eP	P	21 54 56.3	+0.1
PGF			pmax	pmax		
	comp=Z,32nm,0.9s					
PGF	Pioggiola	81.95 339	eP	P	21 54 56.3	+0.1
	comp=Z,32nm,0.9s					
PTL	Penteli	82.04 327	P	P	21 54 55.4	-1.3
PTL	Penteli	82.04 327	eP	P	21 54 55.4	-1.3
ATHU	Athens Univers	82.14 327	P	P	21 54 55.6	-1.6
ATHU	Athens Univers	82.14 327	eP	P	21 54 55.6	-1.6
DSF	Desfina	82.15 328	P	P	21 54 55.2	-2.1
DSF	Desfina	82.15 328	eP	P	21 54 55.2	-2.1
ATH	Athens Observa	82.16 327	P	P	21 54 55.5	-1.7
ATH	Athens Observa	82.16 327	eP	P	21 54 55.5	-1.7
ATH	Athens Observa	82.16 327	eP	P	21 54 55.5	-1.7
TCHB	Talchebab	82.18 315	eP	P	21 54 56.4	-1.0
ARG	Arkhangelos	82.19 323	P	P	21 54 56.7	-0.7
ARG	Arkhangelos	82.19 323	eP	P	21 54 56.7	-0.7
ARG	Arkhangelos	82.19 323	eP	P	21 54 56.7	-0.7
PPT	Papeete	82.25 132	LR	LR	22 29 00.1	
	comp=Z,352nm,18.5s,baz=4.0,slow=34					
PPT2	Papeete2	82.27 132	eS	S	22 05 14.7	+2.6
	comp=Z,94nm,22.5s					
PPT2	Papeete2	82.27 132	eLR	LR	22 20 42.5	
	comp=Z,1µm,25.0s,baz=317					
LTK	Loutraki	82.36 327	P	P	21 54 56.1	-2.2
LTK	Loutraki	82.36 327	eP	P	21 54 56.1	-2.2
PDO	Prodromos	82.41 329	P	P	21 54 57.9	-0.6
MTLF	Montolieu	82.48 344	eP	P	21 55 00.1	+1.2
	comp=Z,91nm,1.3s					
MTLF	Montolieu	82.48 344	eP	P	21 55 00.1	+1.2
MTLF			pmax	pmax		
	comp=Z,91nm,1.3s					
MTLF	Montolieu	82.48 344	eP	P	21 55 00.1	+1.2
	comp=Z,91nm,1.3s					
KLV	Kalavryta, Ach	82.61 328	P	P	21 54 58.2	-1.5
KLV	Kalavryta, Ach	82.61 328	eP	P	21 54 58.2	-1.5
GUR	Goura	82.64 328	P	P	21 54 58.6	-1.3
GUR	Goura	82.64 328	eP	P	21 54 58.6	-1.3
CUC	Castrocucco	82.69 333	eP	P	21 54 59.3	-0.7
	comp=Z,20nm,1.0s					
RLS	Riolos of Patr	82.81 329	P	P	21 55 00.3	-0.3
RLS	Riolos of Patr	82.81 329	eP	P	21 55 00.3	-0.3
DRO	Drossia	82.83 328	P	P	21 55 00.3	-0.5
VLS	Valsamata	82.98 329	P	P	21 54 59.8	-1.7
VLS	Valsamata	82.98 329	eP	P	21 54 59.8	-1.7
VLS	Valsamata	82.98 329	eP	P	21 54 59.8	-1.7
EPF	Esparros	83.09 345	eP	P	21 55 02.6	+0.5
	comp=Z,75nm,1.3s					
EPF	Esparros	83.09 345	eP	P	21 55 02.6	+0.5
EPF			pmax	pmax		
	comp=Z,75nm,1.3s					
EPF	Esparros	83.09 345	eP	P	21 55 02.6	+0.5
	comp=Z,75nm,1.3s					
CARF	Carcanieres	83.11 344⇑	eP	P	21 55 02.8	+0.5
KARP	Karpathos	83.14 323	P	P	21 55 01.5	-0.9
KARP	Karpathos	83.14 323	eP	P	21 55 01.5	-0.9
VLX	Vlachokerasia	83.15 328	P	P	21 55 01.5	-1.0
VLX	Vlachokerasia	83.15 328	eP	P	21 55 01.5	-1.0
TIP	Timpagrande	83.19 332	P	P	21 55 02.8	+0.1
TIP	Timpagrande	83.19 332	P	P	21 55 02.8	+0.1
AMT	Artemida-Makis	83.22 328	P	P	21 55 02.2	-0.6
SJPF	Ste Jean	83.24 347	eP	P	21 55 03.4	+0.6
	comp=Z,44nm,1.2s					
SJPF	Ste Jean	83.24 347	eP	P	21 55 03.4	+0.6
SJPF			pmax	pmax		
	comp=Z,44nm,1.2s					
SJPF	Ste Jean	83.24 347	eP	P	21 55 03.4	+0.6
	comp=Z,44nm,1.2s					
LARF	Larrau	83.28 346⇑	eP	P	21 55 04.3	+1.3
ETSF	Etsaut	83.35 346	eP	P	21 55 04.8	+1.4
	comp=Z,88nm,1.1s					
ETSF	Etsaut	83.35 346	eP	P	21 55 04.8	+1.4
ETSF			pmax	pmax		
	comp=Z,88nm,1.1s					
ETSF	Etsaut	83.35 346	eP	P	21 55 04.8	+1.4
	comp=Z,88nm,1.1s	

MVO	Moncorvo	85.86	351	*e*P	P	21 55 17.6	+1.5
	comp=Z,55nm,1.5s						
MVO				pP	pP	21 55 25.3	+1.8
MVO	Moncorvo	85.86	351	eLR	LR	22 31 09.6	
	comp=Z,204nm,18.0s						
ABTO	Aybut	86.32	294	P	P	21 55 18.0	-0.7
	SNR=14						
PVIS	Viseu	86.39	351	*e*P	P	21 55 20.3	+1.6
	comp=Z,54nm,1.6s						
PVIS				pP	pP	21 55 25.2	-0.9
MTE	Manteigas	86.67	351	*e*P	P	21 55 21.4	+1.3
	comp=Z,28nm,0.9s						
MTE				pP	pP	21 55 29.8	+2.3
MTE	Manteigas	86.67	351	eLR	LR	22 35 11.7	
	comp=Z,255nm,20.0s						
ES19	SONSECA Array	86.95	348	*e*P	P	21 55 21.2	-0.3
ESDC	Sonseca Array	86.98	348	P	P	21 55 22.1	+0.4
	comp=Z,18nm,0.9s,baz=2.9,slow=4.7,SNR=50						
PCAS	Casmilo, Conde	87.10	352	*e*P	P	21 55 22.7	+0.5
	comp=Z,52nm,1.1s						
PAB	San Pablo	87.16	348	*e*P	P	21 55 22.1	-0.5
PAB				pmax	pmax		
	comp=Z,16nm,1.0s						
PAB	San Pablo	87.16	348	*e*P	P	21 55 22.1	-0.5
	comp=Z,16nm,1.0s						
PCBR	Castelo Branco	87.22	351	*e*P	P	21 55 23.1	+0.4
	comp=Z,24nm,1.2s						
PCBR				pP	pP	21 55 31.5	+1.4
PMRV	Marv??o	87.61	351	eLR	LR	22 33 57.6	
	comp=Z,345nm,20.0s						
BBOO	Buckleboo	87.79	200	*e*P	P	21 55 25.2	0.0
	comp=Z,92nm,1.0s						
FORT	Forrest	87.83	207	*e*P	P	21 55 26.1	+0.7
	comp=Z,41nm,0.9s						
PESTR	Estremoz	88.19	351	pP	P	21 55 28.1	+0.7
KEST	Kesra	88.38	337	P	P	21 55 28.3	-0.1
	comp=Z,7.8nm,1.0s,baz=312,slow=7.0,SNR=9.1						
KEST				LR	LR	22 38 57.6	
	comp=Z,285nm,21.4s,baz=349,slow=38						
KEST	Kesra	88.38	337	*e*P	P	21 55 27.5	-1.0
EVO	Evora	88.56	351	*e*P	P	21 55 29.1	-0.1
	comp=Z,26nm,1.4s						
EVO				pP	pP	21 55 38.1	+1.5
PBAR	Barrancos	88.82	350	*e*P	P	21 55 30.5	+0.1
	comp=Z,36nm,1.0s						
PBAR				pP	pP	21 55 40.1	+2.3
PVAQ	Vaqueiros	89.65	351	eLR	LR	22 33 09.7	
	comp=Z,320nm,20.0s						
NWAO	Narrogin (SRO)	93.24	215	LR	LR	22 33 47.5	
	comp=Z,82nm,21.7s,baz=56,slow=33						
RKT	Rikitea	94.00	124	eLR	LR	22 26 15.5	
	comp=Z,598nm,27.0s						
TOA0	Torodi Ar. Sit	111.89	338	*e*PKiKP	PKiKP	22 01 12.1	+0.3
TORD	Torodi Ar. Bea	111.89	338	Pdiff	Pdif	21 57 20.4	+5.6
	comp=Z,0.7nm,1.1s,baz=356,slow=4.6,SNR=5.9						
TORD				PKiKP	PKiKP	22 01 11.6	-0.2
	comp=Z,1.5nm,1.0s,baz=291,slow=0.3,SNR=4.8						
TORD				PP	PP	22 01 52.5	-1.3
	comp=Z,19nm,1.1s,baz=9.4,slow=7.8,SNR=15						
DBIC	Dimbokro	119.52	343	PKhKP	PKPpre	22 01 22.7	
	comp=Z,4.2nm,0.9s,baz=320,slow=5.9,SNR=3.4						
LIC	Lamto	119.99	343	*e*PKIKP	PKPdf	22 01 22.9	-4.4
	comp=Z,28nm,1.0s						
LIC	Lamto	119.99	343	*e*PKPdf	PKPdf	22 01 22.9	-4.4
MSKU	Masuku	122.12	320	PKP	PKPdf	22 01 31.4	0.0
	comp=Z,4.7nm,0.5s,baz=26,slow=3.8,SNR=3.9						
SAML	Samuel	123.90	55	*e*PKPdf	PKPdf	22 01 34.2	-0.5
LPAZ	La Paz	127.43	65	*e*PKIKP	PKPdf	22 01 41.9	-0.3
LPAZ	La Paz	127.43	65	PKP	PKPdf	22 01 42.7	+0.5
	comp=Z,4.2nm,0.8s,baz=19,slow=5.6,SNR=21						
LPAZ	La Paz	127.43	65	*e*PKPdf	PKPdf	22 01 41.9	-0.3
VNDA	Vanda	129.98	180	PKP	PKPdf	22 01 43.5	-0.9
	comp=Z,2.2nm,0.9s,baz=273,slow=5.3,SNR=3.3						
BDFB	Brasilia	136.71	42	PKIKP	PKPdf	22 01 58.4	-0.6
BDFB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BDFB	Brasilia	136.71	42	PKP	PKPdf	22 01 58.4	-0.6
	comp=Z,4.9nm,0.9s,baz=91,slow=0.5,SNR=5.3						
BDFB	Brasilia	136.71	42	*e*PKPdf	PKPdf	22 01 57.3	-1.7
BOSA	Boshof	139.24	288	PKIKP	PKPdf	22 02 00.9	-2.5
BOSA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BOSA	Boshof	139.24	288	PKP	PKPdf	22 02 00.9	-2.5
	comp=Z,4.6nm,0.9s,baz=18,slow=4.2,SNR=3.9						
PLCA	Paso Flores	143.80	92	*e*PKIKP	PKPab	22 02 08.4	+0.3
PLCA	Paso Flores	143.80	92	*e*PKPpre	PKPab	22 02 08.4	+0.3
SUR	Sutherland	144.60	289	*e*PKPdf	PKPbc	22 02 11.7	0.0
TRQA	Tornquist	147.33	80	*e*PKPbc	PKPbc	22 02 19.7	+0.1
NVL	N'lazarevskaya	157.06	206	*e*PKP2	PKPab	22 02 59.9	-1.3
NVL				pmax	pmax		
	comp=Z,15nm,0.8s						

*MOS **13** 22:06:41.3±1.2, 52°.63N×160°.74E, h10km, mb4.2/7, Error ellipse: s-maj=12.2km s-min=8.0km az=85.2*
*KRSC **13** 22:06:41.7±1.4, 52°.56N×160°.88E, h52km±22km, ML4.2*
*IDC **13** 22:06:42.1±0.7, 52°.94N×160°.37E, h0km, mb3.8/15, mb1 4.0/16, mb1mx3.8/37, mbtmp3.8/16, ML4.0/1, Error ellipse: s-maj=21.5km s-min=11.8km az=173.0*

ISC 13 22:06:41.9±1.8, 52°.58N±0°.04×160°.70E±0°.04, h8km±11km, n76, σ1°.23/93, mb3.8/14, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.66	322	PN	Pb	22 06 55.9	+0.1
SPN	Mys Shipunski	0.66	322	*e*P	Pb	22 06 55.9	+0.1
UGLR	Uglovaya	1.30	300	*e*P	Pn	22 07 06.0	-0.5
UGLR				*e*S	Sn	22 07 26.5	+2.4
SDLR	Sedlovina	1.30	303	*e*P	Pn	22 07 06.0	-0.6
SDLR				*e*S	Sn	22 07 24.6	+0.4
PET	Petropavlovsk	1.32	291	PN	Pn	22 07 06.5	-0.1
PET				S	Sn	22 07 24.3	-0.1
PET	Petropavlovsk	1.32	291	*i* P	Pn	22 07 06.5	-0.1
PET				*e*S	Sn	22 07 24.3	-0.1
SMAR	Somma	1.34	302	*e*P	Pb	22 07 07.4	0.0
RUS	Russkaya	1.35	265	PN	Pg	22 07 07.8	+0.1
RUS				S	Sn	22 07 25.7	+0.7
RUS	Russkaya	1.35	265	*e*P	Pg	22 07 07.8	+0.1
RUS				*e*S	Sn	22 07 25.7	+0.7
AVH	Avacha	1.37	301	*e*P	Pn	22 07 07.3	-0.2
KRER	Koryakskii	1.39	302	*e*P	Pn	22 07 07.5	-0.3
KOK	Koryaka	1.44	301	*e*P	Pn	22 07 08.1	-0.3
KRX	Arik	1.47	303	*e*P	Pn	22 07 08.2	-0.6
MTVR	Mutnovka	1.54	267	*e*P	Pb	22 07 10.9	+0.1
MTVR				*e*S	Sn	22 07 30.0	-0.1
KII	Karymskiy	1.64	333	*e*P	Pn	22 07 11.3	+0.1
KII				*e*S	Sn	22 07 31.1	-1.4
PETK	Petropavlovsk-	1.90	287	PN	Pn	22 07 15.4	+0.8
PETK						22 07 40.0	
PETK				pmax	pmax		
	comp=Z,95nm,0.3s						
PETK				smax	smax		
	comp=N,36nm,0.3s						
PETK	Petropavlovsk-	1.90	287	Pn	Pn	22 07 15.4	+0.8
	comp=N,95nm,0.3s,baz=103,slow=18,SNR=324						
PETK				Sn	Sb	22 07 40.0	-0.6
	comp=N,36nm,0.3s,baz=89,slow=17,SNR=13						
GNL	Ganaly	2.00	305	*e*P	Pn	22 07 17.1	+0.9
GNL				*e*S	Sn	22 07 41.4	-0.1
MKZ	Mys Kozlova	2.08	17	PN	Pn	22 07 16.9	-0.1
MKZ				S	Sn	22 07 43.4	+0.4
MKZ	Mys Kozlova	2.08	17	*e*P	Pn	22 07 16.9	-0.1
MKZ				*e*S	Sn	22 07 43.3	+0.3
APC	Apacha	2.18	281	*e*P	Pb	22 07 20.3	-1.3
APC				*e*S	Sn	22 07 46.4	+0.8
MIPR	Malaya Ipel'ka	2.43	264	*e*P	Pb	22 07 25.2	-0.7
MIPR				*e*S	Sb	22 07 54.2	-1.8
KZV	Kizimen	2.55	355	*e*P	Pn	22 07 24.1	+0.4
PAU	Pauzhetka	2.65	247	PN	Pb	22 07 28.0	-1.6
PAU				S	Sn	22 07 58.6	+1.5
PAU	Pauzhetka	2.65	247	*e*P	Pb	22 07 28.0	-1.6
PAU				*e*S	Sn	22 07 58.6	+1.5
TUMR	Tumrok	2.73	353	*i* P	Pn	22 07 27.5	+1.4
TUMR				*e*S	Sn	22 08 00.3	+0.9
KMNR	Kamenistaya	3.20	355	*e*P	Pn	22 07 33.4	+0.9
KMNR				*e*S	Sn	22 08 08.9	-1.9
SKR	Severo-Kuril's	3.43	238	*e*PN	Pn	22 07 34.9	-0.7
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR	Severo-Kuril's	3.43	238	*e*P	Pn	22 07 36.7	+1.1
SKR				*e*S	Sn	22 08 16.7	+0.3
ESO	Esso	3.55	341	PN	Pn	22 07 38.7	+1.4
ESO	Esso	3.55	341	*e*P	Pn	22 07 38.7	+1.4
SRDR	Sredinnyy	3.79	352	*e*P	Pn	22 07 42.4	+1.8
KBTR	Krutoberegovo	3.84	18	PN	Pn	22 07 41.8	+0.5
KBTR				S	Sn	22 08 26.4	-0.2
KBTR	Krutoberegovo	3.84	18	*e*P	Pn	22 07 41.8	+0.5
KBTR				*e*S	Sn	22 08 26.4	-0.2
KBG	Krutoberegovo	3.87	17	PN	Pn	22 07 41.6	0.0
KBG				S	Sn	22 08 27.5	+0.4
KBG	Krutoberegovo	3.87	17	*e*P	Pn	22 07 41.6	0.0
KBG				*e*S	Sn	22 08 27.5	+0.4
BDR	Baidarnaya	4.01	4	P	Pn	22 07 43.4	-0.3
SMKR	Semkarok	4.04	6	*e*P	Pn	22 07 46.0	+2.0
BKI	Bering	4.08	48	*e*S	Sn	22 08 28.2	-4.2
SRKR	Sorokina	4.09	4	*e*P	Pn	22 07 45.5	+0.7
FX1	Attu Island--F	7.58	83	PN	Pn	22 08 35.0	+2.5
FX1				pmax	pmax		
	comp=Z,8.0nm,0.3s						
FX1	Attu Island--F	7.58	83	Pn	Pn	22 08 35.0	+2.5
	comp=Z,7.9nm,0.3s,baz=323,slow=5.4,SNR=55						
BILL	Bilibino	15.74	8	*e*P	Pn	22 10 24.7	+1.0
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
USRK	Ussuriysk Ar.	20.72	258	P	P	22 11 23.4	+0.9
	comp=Z,1.7nm,0.7s,baz=124,slow=18,SNR=4.1						
MJAR	Matsushiro Arr	22.53	234	P	P	22 11 44.3	+2.3
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MJAR	Matsushiro Arr	22.53	234	P	P	22 11 44.3	+2.3
	comp=Z,2.5nm,0.7s,baz=19,slow=12,SNR=14						
KSRS	Korea Array	27.37	250	P	P	22 12 28.8	+1.4
	comp=Z,0.4nm,0.3s,baz=46,slow=10,SNR=3.2						
ILAR	Eielson Array	28.92	45	P	P	22 12 41.8	+0.8
	comp=Z,0.3nm,0.6s,baz=269,slow=7.3,SNR=4.3						
H11N2	WAKE ISLAND Hy	33.14	169	T	T	22 48 42.0	
	baz=353,slow=76,SNR=98						
H11N3	WAKE ISLAND Hy	33.15	169	T	T	22 48 43.0	
	baz=353,slow=76,SNR=83						
H11N1	WAKE ISLAND Hy	33.15	169	T	T	22 48 38.5	
	baz=353,slow=76,SNR=126						
H11S1	WAKE ISLAND Hy	34.32	170	T	T	22 51 10.8	
	baz=351,slow=76,SNR=5.2						
H11S3	WAKE ISLAND Hy	34.34	170	T	T	22 51 11.8	
	baz=351,slow=76,SNR=21						
H11S2	WAKE ISLAND Hy	34.34	170	T	T	22 51 12.5	
	baz=351,slow=76,SNR=4.0						
SONM	Songino Array	34.38	284	P	P	22 13 28.5	-0.8
	comp=Z,0.2nm,0.4s,baz=75,slow=6.6,SNR=3.2						
YKA	Yellowknife Ar	43.29	42	P	P	22 14 44.3	+0.8
	comp=Z,0.2nm,0.7s,baz=295,slow=7.6,SNR=3.1						
MKAR	Makanchi Array	48.71	296	P	P	22 15 24.3	-2.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	48.71	296	P	P	22 15 24.3	-2.2
	comp=Z,0.8nm,0.5s,baz=51,slow=7.8,SNR=26						
ARCES	ARCESS Array B	53.89	342	P	P	22 16 02.5	-2.5
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES	ARCESS Array B	53.89	342	P	P	22 16 02.5	-2.5
	comp=Z,3.1nm,1.0s,baz=28,slow=5.5,SNR=8.5						
JOF	Joensuu	58.19	335	*e*P	P	22 16 35.2	-0.6
JOF	Joensuu	58.19	335	*ep*	P	22 16 35.2	-0.6
JOF	Joensuu	58.19	335	*e*P	P	22 16 35.2	-0.6
KAF	Kangasniemi	60.10	337	*e*P	P	22 16 48.4	-0.7
KAF	Kangasniemi	60.10	337	*ep*	P	22 16 48.4	-0.7
FINES	FINESS Array B	60.74	337	P	P	22 16 52.3	-1.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	60.74	337	P	P	22 16 52.3	-1.1
	comp=Z,2.3nm,0.5s,baz=41,slow=7.0,SNR=34						
NOA	NORSAR Array B	64.14	344	P	P	22 17 15.2	-1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	NORSAR Array B	64.14	344	P	P	22 17 15.2	-1.1
	comp=Z,0.9nm,0.9s,baz=23,slow=6.0,SNR=3.9						
AKASG	Malin Array Be	69.25	329	P	P	22 17 47.7	-1.2
	comp=Z,1.8nm,0.6s,baz=29,slow=7.0,SNR=3.1						
KBZ	Khabaz	70.17	317	P	P	22 17 53.9	-0.8
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	Khabaz	70.17	317	P	P	22 17 53.9	-0.8
	comp=Z,2.7nm,0.9s,baz=106,slow=3.5,SNR=8.2						
TXAR	Lajitas Array	70.50	67	P	P	22 17 58.5	+1.4
	comp=Z,0.2nm,0.6s,baz=292,slow=4.8,SNR=3.0						
BRTR	Keskin Array B	77.25	321	P	P	22 18 36.6	0.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	77.25	321	P	P	22 18 36.6	0.0
	comp=Z,0.5nm,0.6s,baz=62,slow=3.2,SNR=2.9						
ASAR	Alice Springs	79.44	205	P	P	22 18 50.6	+2.1
	comp=Z,0.5nm,0.7s,baz=7.6,slow=5.4,SNR=4.4						

*CSEM **13** 22:15:04.9±0.3, 67°.16N×20°.78E, h2km, ML2.2, Error ellipse: s-maj=6.1km s-min=3.9km az=61.0, Mining explosion.*
*UPP **13** 22:15:05.2, 67°.18N×20°.70E, h0km, ML2.2, Mining explosion.*

HEL 13 22:15:05.8±0.0, 67°.18N×20°.68E, h0km, ML0.9, ML2.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.07	217	*i* P	Pg	22 15 06.9	-0.3
DUNU				*i* S	Sg	22 15 08.1	0.0
DUNU	Dundret	0.07	217	P	Pg	22 15 06.9	-0.3
DUNU				S	Sg	22 15 08.1	-0.1
DUNU	Dundret	0.07	217	P	Pg	22 15 06.9	-0.3
DUNU				S	Sg	22 15 08.1	0.0
MASU	Masugnsbyn	0.58	61	*i* P	Pg	22 15 16.2	-0.8
MASU	Masugnsbyn	0.58	61	P	Pg	22 15 16.2	-0.8
MASU	Masugnsbyn	0.58	61	P	Pg	22 15 16.2	-0.8
KUA	Kurravaara	0.79	351	*i* P	Pg	22 15 20.1	-0.9
KUA	Kurravaara	0.79	351	P	Pg	22 15 20.1	-0.9
KUA	Kurravaara	0.79	351	P	Pg	22 15 20.1	-0.9
ERTU	Ertsjaerv	0.87	136	*e*P	Pg	22 15 21.0	-1.4
ERTU				*e*S	Sg	22 15 32.6	-1.0
ERTU	Ertsjaerv	0.87	136	P	Pg	22 15 21.1	-1.3
ERTU				S	Sg	22 15 32.6	-1.0
ERTU	Ertsjaerv	0.87	136	P	Pg	22 15 21.1	-1.3
NIKU	Nikkaluokta	0.94	318	*e*P	Pg	22 15 22.8	-1.0
NIKU	Nikkaluokta	0.94	318	P	Pg	22 15 22.8	-1.0
NIKU	Nikkaluokta	0.94	318	P	Pg	22 15 22.8	-1.0
PAJU	Pajala	0.96	98	*e*P	Pg	22 15 23.0	-1.3
PAJU	Pajala	0.96	98	P	Pg	22 15 23.0	-1.3
PAJU	Pajala	0.96	98	P	Pg	22 15 23.0	-1.3
LANU	Lannavaara	1.01	29	*e*P	Pg	22 15 20.8	-4.4
LANU	Lannavaara	1.01	29	P	Pg	22 15 24.1	-1.1
LANU	Lannavaara	1.01	29	P	Pg	22 15 24.1	-1.1
HEF	Hetta	1.68	41	*e*P	Pn	22 15 35.3	-1.1
HEF	baz=224						
HEF				*e*SG	Sn	22 15 57.8	-0.7
HEF				MSG		22 15 57.8	
	comp=Z,0.3nm,0.2s						
HEF	Hetta	1.68	41	P	Pn	22 15 35.2	-1.2
HEF				Sg	Sn	22 15 57.8	-0.8
	comp=Z,0.3nm,0.2s						
KALU	Kalix	1.70	140	*e*PG	Pn	22 15 36.3	-0.4
KALU				*e*SN	Sn	22 15 59.3	+0.2
KALU	Kalix	1.70	140	Pg	Pn	22 15 36.3	-0.4
KALU				Sn	Sn	22 15 59.3	+0.1
SJUU	Sjulsmark	1.72	167	*e*P	Pn	22 15 36.3	-0.6
SJUU	Sjulsmark	1.72	167	P	Pn	22 15 36.3	-0.6
SJUU	Sjulsmark	1.72	167	P	Pn	22 15 36.3	-0.6
KIF	Kilpisjarvi	1.84	1	*e*PN	Pn	22 15 39.0	+0.5
KIF				*e*SG	Sg	22 16 04.6	-0.1
KIF				MSG		22 16 04.6	
	comp=Z,0.6nm,0.2s						
KIF	Kilpisjarvi	1.84	1	Pn	Pn	22 15 39.0	+0.5
KIF				Sg	Sg	22 16 04.6	-0.1
	comp=Z,0.6nm,0.2s						
RNF	Rovaniemi	2.18	103	*e*PB	Pn	22 15 44.0	+0.8
RNF				*e*SG	Sb	22 16 13.1	-0.5
RNF				MSG		22 16 13.1	
	comp=Z,0.7nm,0.2s						
RNF	Rovaniemi	2.18	103	Pb	Pn	22 15 44.0	+0.7
RNF				Sg	Sb	22 16 13.1	-0.5
	comp=Z,0.7nm,0.2s						
SGF	Sodankyl	2.28	81	*e*PB	Pn	22 15 45.6	+0.9
SGF	baz=264						
SGF				MSG	Sg	22 16 16.0	-3.1
	comp=Z,0.6nm,0.2s						
SGF				*e*SG	Sg	22 16 16.0	-3.1
SGF	Sodankyl	2.28	81	Pb	Pn	22 15 45.6	+0.9
SGF				Sg	Sb	22 16 16.0	-0.6
ARE0	ARCESS Array S	2.97	35	*e*P	Pn	22 15 53.8	-0.3
ARE0	ARCESS Array S	2.97	35	P	Pn	22 15 53.8	-0.3

*IDC **13** 22:19:28.7±1.2, 33°.59S×72°.36W, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.8/24, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=43.3km s-min=31.8km az=76.0*
*ISCJB **13** 22:19:29.5±0.9, 33°.57S±0°.06×72°.2W±0°.2, h12km, mb3.8/6, Error ellipse: s-maj=22.9km s-min=8.4km az=1.0*
*NEIC **13** 22:19:34.0±0.7, 33°.61S×72°.32W, h35km, mb4.0/4, Error ellipse: s-maj=22.0km s-min=10.2km az=85.0*

ISC 13 22:19:30.9±0.8, 33°.56S±0°.08×72°.4W±0°.2, h12km, n17, σ1°.07/18, mb4.0/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	4.75	18	*e*Pn	Pn	22 20 42.0	-0.5
LCO				*e*Sn	Sn	22 21 36.1	-1.7
PLCA	Paso Flores	7.30	169	Pn	Pn	22 21 17.5	+0.1
	baz=32,slow=14						
PLCA	Paso Flores	7.30	169	*e*Pn	Pn	22 21 16.2	-1.3
TRQA	Tornquist	9.55	121	*e*Pn	Pn	22 21 48.4	+0.2
LPAZ	La Paz	17.62	14	P	Pn	22 23 37.1	+0.2
	0.1nm,0.3s,baz=185,slow=7.5,SNR=12						
LPAZ	La Paz	17.62	14	*e*Pn	Pn	22 23 37.6	+0.8
	11nm,1.5s						
SAML	Samuel	25.91	21	*e*P	P	22 25 04.7	+1.7
	1.7nm,0.7s						
BDFB	Brasilia	28.31	57	P	P	22 25 24.9	+0.3
	1.3nm,0.4s,baz=151,slow=14,SNR=3.1						
QSPA	South Pole Qui	56.67	180	*e*P	P	22 29 14.2	+0.3
	2.7nm,0.8s						
TXAR	Lajitas Array	69.22	331	P	P	22 30 38.1	+0.5
	0.1nm,0.6s,baz=149,slow=5.9,SNR=2.5						
BOSA	Boshof	80.51	118	*e*P	P	22 31 43.1	-0.2
	5.6nm,1.0s						
TORD	Torodi Ar. Bea	84.31	70	P	P	22 32 03.3	+0.2
	0.5nm,0.7s,baz=246,slow=4.9,SNR=3.1						
BVAR	Borovoye Array	147.14	42	PKPbc	PKPdf	22 39 11.8	+0.6
	0.6nm,0.7s,baz=331,slow=1.8,SNR=3.4						
KURBB	Kurchatov Arra	152.73	43	PKPbc	PKPbc	22 39 25.1	-2.0
	0.2nm,0.3s,baz=302,slow=3.0,SNR=6.0						
KURK	Kurchatov	152.74	42	PKPbc	PKPbc	22 39 25.1	-2.0
ZALV	Zalesovo Beam	154.00	32	PKPbc	PKPbc	22 39 30.2	+0.5
	1.3nm,0.7s,baz=301,slow=3.8,SNR=7.5						
MKAR	Makanchi Array	156.67	48	PKPab	PKPab	22 39 55.0	0.0
	0.5nm,0.7s,baz=328,slow=4.3,SNR=6.9						

IDC 13 22:26:44.9±1.9, 3°.03N×125°.92E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/45, mbtmp3.7/4, Error ellipse: s-maj=179.3km s-min=24.1km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.28	160	P	P	22 32 03.8	-0.3
	0.8nm,0.6s,baz=339,slow=11,SNR=12						
ASAR	Alice Springs	27.65	164	P	P	22 32 34.4	-0.2
	0.2nm,0.4s,baz=354,slow=8.0,SNR=6.4						
STKA	Stephens Creek	37.77	158	P	P	22 34 03.6	+0.7
	3.0nm,0.8s,baz=348,slow=7.2,SNR=6.4						
MKAR	Makanchi Array	57.67	326	P	P	22 36 36.8	-0.5
	0.3nm,0.6s,baz=116,slow=8.2,SNR=6.6						

IDC 13 22:37:05.1±2.0, 4°.45N×127°.42E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/54, mbtmp3.6/4, Error ellipse: s-maj=159.7km s-min=24.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.17	165	P	P	22 42 32.4	0.0
	0.7nm,0.7s,baz=345,slow=11,SNR=12						
ASAR	Alice Springs	28.65	168	P	P	22 43 03.0	-0.7
	0.2nm,0.5s,baz=350,slow=7.3,SNR=6.3						
STKA	Stephens Creek	38.56	160	P	P	22 44 30.3	+0.6
	2.0nm,0.9s,baz=320,slow=7.9,SNR=3.1						
MKAR	Makanchi Array	57.37	325	P	P	22 46 55.3	-0.1
	0.3nm,0.4s,baz=121,slow=7.7,SNR=7.2						

DJA 13 22:46:29.7±0.2, 3°.3S±2°.×12°.2E±°, h10km, M4.0/15, mb4.4/2, mB4.9/1, MLv3.9/15, Mw(mB)4.2/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.74	360	P	Pn	22 47 00.3	+0.3
TTSI	Tana Toraja	1.87	258	P	Pn	22 47 01.0	-0.8
TTSI				S	Sb	22 47 28.0	+0.6
LUWI	Luwuk	1.96	35	P	Pn	22 47 02.3	-0.7
LUWI				S	Sb	22 47 29.2	-0.8
SPSI	Sidrap Palu	2.28	235	P	Pn	22 47 06.0	-1.4
BNSI	Bone	2.32	222	P	Pn	22 47 06.6	-1.3
BKSI	Bulukumba	3.05	210	P	Pn	22 47 16.7	-1.4
MRSI	Marisa	3.13	5	P	Pn	22 47 16.5	-2.6
MRSI				S	Sn

AKASG	**Malin Array Be**	**150.15 323**	PKPbc	**PKPdf**	**23 18 47.8**	**+3.7**
	comp=Z,2.2nm,0.3s,baz=47,slow=3.2,SNR=14					
BRTR	**Keskin Array B**	**151.53 300**	PKPbc	**PKPbc**	**23 18 51.9**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=148,slow=5.6,SNR=5.4					
BRTR			PKPab	**PKPab**	**23 19 00.8**	**-1.7**
	comp=Z,0.9nm,0.9s,baz=138,slow=4.6,SNR=4.4					
TORD	**Torodi Ar. Bea**	**163.72 182**	PKPab	**PKPab**	**23 19 55.7**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=178,slow=2.5,SNR=12					

DJA 13 23:07:16.4±0.9, 4°N±8°×12°6E±°, h79km±8km, M4.2/7, mb4.5/2, mB5.3/2, MLv4.0/7, Mw(mB)4.8/2, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.58**	**259**	P	Pn	23 07 32.4	+1.6
SGSI				S	Sn	23 07 44.4	+2.9
GTOI	**Gorontalo**	**4.41**	**225**	P	Pn	23 08 22.2	+1.3
LBMI	**Labuha**	**4.62**	**162**	P	Pn	23 08 23.8	-0.1
LUWI	**Luwuk**	**5.85**	**215**	P	Pn	23 08 40.1	-0.5
	42nm,0.9s,3μm0.1nm						

*IDC **13** 23:11:35.7±2.6, 43°.22N×105°.18W, h0km, mb2.5/1, mb1 3.5/3, mb1mx3.2/29, mbtmp3.2/3, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/8, Error ellipse: s-maj=51.7km s-min=9.8km az=154.0*
*NEIC **13** 23:11:36.6±0.5, 43°.36N×105°.12W, h0km, ML3.2, Error ellipse: s-maj=8.5km s-min=6.2km az=161.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] NNE of Douglas.
*ISCJB **13** 23:11:38.4±0.2, 43°.57N±0°.02×105°.30W±0°.02, h0km, Error ellipse: s-maj=2.5km s-min=2.3km az=25.6*
ISC 13 23:11:38.3±0.7, 43°.55N±0°.02×105°.25W±0°.02, h0km, n76, σ1§00/87, 24C-26D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.26**	**236**	⇓P	**Pg**	**23 11 44.2**	**+0.9**
	baz=0.3						
I23A	**Meade Ranch, G**	**0.44**	**340**	⇑P	**Pg**	**23 11 47.1**	**+0.4**
	baz=0.7						
J24A	**Dixon Ranch, L**	**0.48**	**117**	⇓P	**Pb**	**23 11 49.0**	**-0.8**
	baz=0.3						
J24A				⇓S	**Sb**	**23 11 57.3**	**-0.2**
	baz=0.3						
I24A	**Kuemmerle Ranc**	**0.55**	**55**	⇑P	**Pg**	**23 11 49.6**	**+0.7**
	baz=0.6						
K24A	**Anderson Ranch**	**0.89**	**159**	⇑P	**Pb**	**23 11 56.6**	**-0.1**
	baz=0.7						
K24A				⇑S	**Sn**	**23 12 10.2**	**-1.6**
	baz=0.7						
J22A	**Midwest**	**0.90**	**262**	⇑P	**Pg**	**23 11 55.7**	**+0.1**
	baz=1.0						
J22A				⇓S	**Sg**	**23 12 08.0**	**+0.7**
	baz=1.0						
I22A	**9 Mile Ranch,**	**0.96**	**291**	⇓P	**Pg**	**23 11 56.5**	**-0.1**
	baz=1.1						
I22A				⇑S	**Sg**	**23 12 09.2**	**+0.2**
	baz=1.1						
H23A	**Clabaugh Cattl**	**1.02**	**354**	⇑P	**Pg**	**23 11 58.1**	**+0.3**
	baz=1.2						
H23A				⇓S	**Sg**	**23 12 12.1**	**+1.1**
	baz=1.2						
RSSD	**Black Hills**	**1.05**	**57**	*e*Pg	**Pg**	**23 11 58.4**	**0.0**
RSSD				*e*Sg	**Sb**	**23 12 14.2**	**+0.4**
J25A	**Sunshine Ranch**	**1.07**	**98**	⇓P	**Pn**	**23 11 59.6**	**-1.0**
	baz=1.0						
J25A				⇑S	**Sn**	**23 12 15.7**	**-0.6**
	baz=1.0						
K22A	**Casper**	**1.29**	**226**	⇓P	**Pb**	**23 12 03.4**	**-0.2**
	baz=1.2						
K22A	**Casper**	**1.29**	**226**	*e*Pn	Pg	23 11 59.2	-3.9
H24A	**Dirks Ranch, A**	**1.30**	**23**	⇓P	**Pg**	**23 12 03.3**	**+0.1**
	baz=1.5						
H22A	**Clearmont**	**1.31**	**323**	⇑P	**Pg**	**23 12 03.1**	**-0.3**
	baz=1.5						
H22A				⇓S	**Sg**	**23 12 21.2**	**+0.8**
	baz=1.5						
K25A	**Mack Ranch, Ha**	**1.38**	**132**	⇓P	**Pb**	**23 12 05.9**	**+0.8**
	baz=1.2						
L23A	**Garrett**	**1.47**	**193**	⇓P	**Pg**	**23 12 06.2**	**-0.3**
	baz=1.3						
I21A	**Big Trails, Te**	**1.50**	**281**	⇑P	**Pn**	**23 12 05.5**	**-1.2**
	baz=1.6						
I21A				⇑S	**Sb**	**23 12 25.9**	**-1.0**
	baz=1.6						
L24A	**Wheatland**	**1.52**	**171**	⇓P	**Pg**	**23 12 07.3**	**-0.2**
	baz=1.3						
L24A				⇓S	**Sn**	**23 12 29.1**	**+1.5**
	baz=1.3						
H25A	**Fruitdale**	**1.60**	**47**	⇓P	**Pb**	**23 12 08.3**	**-0.6**
	baz=1.7						
H25A				⇑S	**Sg**	**23 12 31.0**	**+1.1**
	baz=1.7						
J26A	**Sides Ranch, S**	**1.60**	**98**	⇑P	**Pg**	**23 12 09.3**	**+0.3**
	baz=1.5						
J21A	**Lysite**	**1.61**	**263**	⇑P	**Pn**	**23 12 07.3**	**-0.9**
	baz=1.7						
J21A				⇓S	**Sn**	**23 12 29.3**	**-0.4**
	baz=1.7						
G23A	**Biddle**	**1.65**	**357**	⇑P	**Pn**	**23 12 08.9**	**+0.2**
	baz=1.9						
H21A	**Big Horn, Sher**	**1.68**	**311**	⇓P	**Pn**	**23 12 08.9**	**-0.2**
	baz=1.9						
L25A	**Engebretsen Ra**	**1.69**	**145**	⇑P	**Pg**	**23 12 11.1**	**+0.5**
	baz=1.5,SNR=18						
K21A	**Alcova**	**1.73**	**239**	P	**Pn**	**23 12 09.9**	**+0.1**
	baz=1.7,SNR=105						
K26A	**Motz Farm, Whi**	**1.74**	**118**	⇑P	**Pg**	**23 12 11.0**	**-0.6**
	baz=1.6,SNR=16						
L22A	**Ellis Ranch, M**	**1.75**	**210**	P	**Pb**	**23 12 11.0**	**-0.4**
	baz=1.6,SNR=34						
L22A				⇑S	**Sg**	**23 12 34.2**	**-0.3**
	baz=1.6						
G22A	**Birney**	**1.83**	**336**	⇓P	**Pn**	**23 12 11.0**	**-0.1**
	baz=2.0,SNR=35						
G24A	**Alzada**	**1.88**	**18**	⇑P	**Pn**	**23 12 12.2**	**+0.4**
	baz=2.0,SNR=16						
J20A	**Shoshoni**	**2.07**	**266**	⇓P	**Pb**	**23 12 16.2**	**-0.7**
	baz=2.2,SNR=47						
G25A	**Newell**	**2.11**	**38**	⇑P	**Pb**	**23 12 16.2**	**-1.2**
	baz=2.2,SNR=15						
I20A	**Worland**	**2.12**	**282**	P	**Pn**	**23 12 16.0**	**+0.9**
	baz=2.3,SNR=36						
F23A	**Volborg**	**2.17**	**357**	P	**Pn**	**23 12 15.6**	**-0.3**
	baz=2.4,SNR=37						
G21A	**Lodge Grass**	**2.18**	**321**	P	**Pn**	**23 12 16.0**	**0.0**
	baz=2.4,SNR=33						
H20A	**Greybull**	**2.19**	**296**	⇓P	**Pn**	**23 12 16.4**	**+0.3**
	baz=2.4,SNR=36						
F22A	**Rosebud**	**2.34**	**343**	⇑P	**Pn**	**23 12 17.9**	**-0.2**
	baz=2.6,SNR=25						
F25A	**Bowman**	**2.70**	**28**	P	**Pn**	**23 12 24.5**	**+1.5**
	baz=2.8,SNR=17						
F20A	**Billings**	**3.06**	**318**	P	**Pn**	**23 12 27.5**	**-0.4**
	baz=3.3,SNR=9.8						
E24A	**Baker**	**3.08**	**12**	⇓P	**Pn**	**23 12 29.4**	**+1.1**
	baz=3.3,SNR=11						
LAO	**LASA Array**	**3.21**	**348**	*e*Pn	**Pn**	**23 12 31.1**	**+1.0**
LAO				*e*Sn	**Sb**	**23 13 15.2**	**-0.8**
BW06	**Boulder Array**	**3.25**	**258**	*e*Pn	**Pn**	**23 12 31.0**	**+0.3**
BW06				*e*Sn	**Sb**	**23 13 18.6**	**+1.5**
PDAR	**Pinedale Array**	**3.25**	**258**	Pn	**Pn**	**23 12 31.1**	**+0.5**
	4.9nm,0.3s,baz=84,slow=19,SNR=48						
PDAR				Lg	Lg	23 13 17.1	
	4.3nm,0.3s,baz=70,slow=30,SNR=4.3						
RLMT	**Red Lodge**	**3.28**	**300**	*e*Pn	**Pn**	**23 12 30.8**	**-0.4**
RLMT				*e*Sn	**Sb**	**23 13 15.8**	**-2.3**
F19A	**Roth Farm, Mol**	**3.50**	**312**	⇑P	**Pn**	**23 12 34.2**	**+0.1**
	baz=3.7,SNR=30						
OGNE	**Ogallala**	**3.53**	**136**	*e*Pb	**Pn**	**23 12 35.4**	**+0.9**
D23A	**Lindsay**	**3.62**	**0**	⇓P	**Pn**	**23 12 36.1**	**+0.4**
	baz=3.8,SNR=25						
ISCO	**Idaho Springs**	**3.76**	**184**	*e*Pg	**Pn**	**23 12 40.3**	**+2.5**
LKWY	**Lake**	**3.85**	**287**	*e*Pb	**Pb**	**23 12 48.2**	**+1.1**
H17A	**Grant Village**	**3.94**	**284**	*e*Pn	**Pn**	**23 12 39.6**	**-0.6**
D26A	**Manning**	**4.01**	**29**	⇑P	**Pn**	**23 12 41.4**	**+0.4**
	baz=4.1,SNR=11						
O20A	**White River Ci**	**4.08**	**214**	*e*Pn	Pn	23 12 37.1	-4.9
C22A	**Vida**	**4.22**	**354**	⇓P	**Pn**	**23 12 45.0**	**+1.1**
	baz=4.4,SNR=15						
P26A	**Davis Ranch, A**	**4.24**	**160**	⇓P	**Pn**	**23 12 45.7**	**+1.5**
	baz=4.0,SNR=28						
C23A	**Lambert**	**4.25**	**1**	P	**Pn**	**23 12 46.0**	**+1.6**
	baz=4.4,SNR=23						
AHID	**Auburn Hatcher**	**4.35**	**262**	*e*Pn	**Pn**	**23 12 47.2**	**+1.4**
P27A	**Ficken Ranch,**	**4.47**	**152**	⇓P	**Pn**	**23 12 48.7**	**+1.3**
	baz=4.2,SNR=12						
QLMT	**Earthquake Lak**	**4.62**	**288**	*e*Pb	**Pb**	**23 13 00.4**	**0.0**
Q26A	**Hugo**	**4.80**	**164**	⇑P	**Pn**	**23 12 53.7**	**+1.7**
	baz=4.6,SNR=12						
BOZ	**Bozeman (W)**	**5.01**	**297**	*e*Pn	**Pn**	**23 12 55.6**	**+0.7**
HWUT	**Hardware Ranch**	**5.05**	**250**	*e*Pn	Pn	23 12 51.5	-3.9
TCUT	**Toone Canyon**	**5.17**	**244**	*e*Pn	**Pn**	**23 12 57.5**	**+0.3**
R26A	**Arlington**	**5.42**	**165**	P	**Pn**	**23 13 01.8**	**+1.3**
	baz=5.2,SNR=24						
JLU	**Jordanelle**	**5.47**	**240**	*e*Pn	**Pn**	**23 12 58.7**	**-2.6**
HRY	**Holter Researc**	**5.62**	**306**	*e*Pn	**Pn**	**23 13 02.8**	**-0.5**
BGNE	**Belgrade**	**5.67**	**110**	*e*Pn	Pn	23 12 59.5	-4.3
MDND	**Maddock**	**5.84**	**41**	*e*Pn	**Pn**	**23 13 05.8**	**-0.4**
SRU	**San Rafael Swe**	**5.95**	**224**	*e*Pn	**Pn**	**23 13 05.4**	**-2.4**
S26A	**Kim**	**6.08**	**167**	P	**Pn**	**23 13 10.6**	**+1.1**
	baz=5.9,SNR=23						
TMUT	**Trail Mountain**	**6.17**	**229**	*e*Pn	**Pn**	**23 13 08.7**	**-2.3**
ECSD	**EROS Data Cent**	**6.27**	**85**	*e*Pn	**Pn**	**23 13 11.5**	**-0.6**
DUG	**Dugway, Tooele**	**6.56**	**242**	*e*Pn	**Pn**	**23 13 16.9**	**+0.7**
CHMT	**Chamberlain Mo**	**6.57**	**304**	*e*Pn	**Pn**	**23 13 17.6**	**+1.2**
T27A	**Campo**	**6.76**	**163**	⇓P	**Pn**	**23 13 19.9**	**+1.0**
	baz=6.6,SNR=5.4						
I10CA	**LAC DU BONNET**	**9.17**	**40**	*i*		00 05 00.0	
	baz=222,slow=328,SNR=3.9						
ULM	**Lac du Bonnet**	**9.28**	**40**	Pn	**Pn**	**23 13 51.2**	**-2.0**
	0.8nm,0.3s,baz=235,slow=11,SNR=8.7						
ULM				Pg		23 14 28.0	
	0.4nm,0.3s,baz=228,slow=14,SNR=5.0						
ULM				Lg	Lg	23 16 28.9	
	0.6nm,0.3s,baz=134,slow=16,SNR=3.7						
ULM				LR	LR	23 17 49.9	
	comp=Z,79nm,19.9s,baz=96,slow=39						
YKA	**Yellowknife Ar**	**19.75**	**347**	P	**P**	**23 16 09.6**	**+0.1**
	0.1nm,0.4s,baz=155,slow=11,SNR=3.8						

KRSC 13 23:13:33.7±1.4, 52°.74N×160°.68E, h34km±17km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.54**	**313**	*e*S	Sb	23 13 52.3	-0.3
SDLR	**Sedlovina**	**1.21**	**297**	*e*P	Pb	23 13 55.5	-0.7
SDLR				*e*S	Sn	23 14 10.5	+0.8
UGLR	**Uglovaya**	**1.22**	**294**	*e*P	Pb	23 13 55.7	-0.6
UGLR				*e*S	Sb	23 14 10.9	-0.9
SMAR	**Somma**	**1.25**	**296**	*e*P	Pb	23 13 56.2	-0.8
SMAR				S	Sn	23 14 11.9	+1.1
PET	**Petropavlovsk**	**1.26**	**284**	*e*P	Pb	23 13 56.1	-0.7
PET				*e*S	Sn	23 14 11.4	+0.9
AVH	**Avacha**	**1.28**	**295**	*e*P	Pb	23 13 56.8	-0.6
AVH				*e*S	Sb	23 14 13.1	-0.6
KRER	**Koryakskii**	**1.29**	**297**	*e*P	Pb	23 13 57.1	-0.7
KRER				*e*S	Sb	23 14 13.2	-1.1
KOK	**Koryaka**	**1.35**	**295**	*e*P	Pb	23 13 57.7	-0.9
KOK				*e*S	Sb	23 14 14.8	-0.9
RUS	**Russkaya**	**1.35**	**258**	*e*P	Pn	23 13 57.2	+1.1
RUS				*e*S	Sn	23 14 13.9	+1.1
KRX	**Arik**	**1.37**	**298**	*e*P	Pb	23 13 57.9	-1.1
KRX				*e*S	Sn	23 14 14.5	+0.8
MTVR	**Mutnovka**	**1.54**	**262**	*e*P	Pb	23 14 00.6	-1.2
MTVR				*e*S	Sn	23 14 19.1	+1.3
GNL	**Ganaly**	**1.90**	**301**	*e*P	Pb	23 14 06.7	-1.2
GNL				*e*S	Sb	23 14 29.9	-1.5
MKZ	**Mys Kozlova**	**1.93**	**19**	*e*P	Pb	23 14 07.1	-1.0
MKZ				*e*S	Sb	23 14 30.2	-1.6
APC	**Apacha**	**2.14**	**276**	*e*P	Pb	23 14 10.4	-1.4
APC				*e*S	Sb	23 14 36.6	-1.3
MIPR	**Malaya Ipel'ka**	**2.44**	**261**	*e*P	Pb	23 14 15.0	-1.8
MIPR				S	Sb	23 14 44.7	-1.8
TUMR	**Tumrok**	**2.57**	**353**	*e*P	Pb	23 14 17.1	-2.1
TUMR				*e*S	Sb	23 14 48.2	-2.3
ESO	**Esso**	**3.40**	**341**	*e*P	Pb	23 14 29.1	-4.1
KBTR	**Krutoberegovo**	**3.70**	**19**	*e*P	Pn	23 14 32.6	+4.3
KBTR				*e*S	Sn	23 15 15.0	+4.4
BKI	**Bering**	**3.99**	**50**	S	Sn	23 15 19.8	+2.1

NNC 13 23:20:36.6±5.1, 37°.02N×71°.12E, h134km±77km, mb2.7, mpv3.6, 3C-1D, Error ellipse: s-maj=67.3km s-min=36.7km az=110.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.54**	**315**	⇓P	Pn	23 21 17.4	-0.3
DZET				⇑S	Sn	23 21 50.0	+0.8
KK31	**Karatay Array**	**6.10**	**356**	P	Pn	23 22 04.7	+0.3
	2.6nm,0.5s,baz=186,slow=14,SNR=74						
KK31				⇑S	Sn	23 23 13.3	+0.2
	0.9nm,0.5s,baz=187,slow=22,SNR=9.3						
AB31	**Akbulak array**	**14.68**	**330**	⇑P	Pn	23 23 58.1	+0.6
	0.2nm,0.4s,baz=134,slow=14,SNR=8.9						

*ISCJB **14** 00:01:41.7±0.3, 36°.51N±0°.03×70°.86E±0°.05, h188km, mb3.6/12, Error ellipse: s-maj=5.5km s-min=3.2km az=156.0*
*IDC **14** 00:01:41.3±2.5, 36°.31N×70°.95E, h188km±23km, mb3.4/13, mb1 3.5/19, mb1mx3.3/49, mbtmp4.0/19, Error ellipse: s-maj=16.9km s-min=14.5km az=173.0*
*NNC **14** 00:01:46.7±4.3, 36°.83N×70°.74E, h173km±42km, mb3.1, mpv3.9, Error ellipse: s-maj=35.4km s-min=24.6km az=18.0*
ISC 14 00:01:42.4±0.5, 36°.53N±0°.05×70°.91E±0°.05, h188km, n63, σ1§47/71, mb3.7/12, 9C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.82**	**163**	P	Pn	00 02 33.2	+3.7
CHCP	**Chirah Chowk**	**3.46**	**145**	P	Pn	00 02 40.9	+3.9
THW	**Thamme Wali**	**3.79**	**169**	⇑P	**Pn**	**00 02 44.4**	**+3.2**
THW				S	**Sn**	**00 03 29.0**	**+1.8**
SARP	**Sargodha**	**4.82**	**162**	P	**Pn**	**00 02 56.9**	**+2.6**
SARP				S	**Sn**	**00 03 50.0**	**-0.8**
DLH	**Dalhousie**	**5.77**	**132**	*e*P	**Pn**	**00 03 09.0**	**+2.3**
DLH				*ex*	**Sn**	**00 04 14.0**	**+0.9**
AML	**Almayashu**	**5.99**	**20**	P	**Pn**	**00 03 11.2**	**+1.5**
	SNR=47						
UCH	**Uchtor**	**6.34**	**25**	P	**Pn**	**00 03 15.8**	**+1.6**
	SNR=25						
KZA	**Kyzart**	**6.48**	**30**	P	**Pn**	**00 03 17.2**	**+1.1**
	SNR=11						
EKS2	**Erkin-Say**	**6.51**	**19**	P	**Pn**	**00 03 18.2**	**+2.1**
	SNR=22						
KK31	**Karatay Array**	**6.57**	**357**	⇑P	**Pn**	**00 03 17.9**	**+1.1**
	1.6nm,0.2s,baz=178,slow=14,SNR=245						
KK31				⇑S	**Sn**	**00 04 28.5**	**-3.1**
	27nm,0.5s,baz=184,slow=22,SNR=5.4						
AAK	**Ala-Archa**	**6.69**	**23**	⇑P	**Pn**	**00 03 20.9**	**+2.3**
AAK				⇑S	**Sn**	**00 04 33.7**	**-1.0**
AAK	**Ala-Archa**	**6.69**	**23**	P	**Pn**	**00 03 20.5**	**+1.9**
	SNR=28						
AAK	**Ala-Archa**	**6.69**	**23**	P	**Pn**	**00 03 20.0**	**+1.4**
	6.5nm,0.3s,baz=162,slow=4.5,SNR=74						
AAK				S	**Sn**	**00 04 32.7**	**-2.0**
	2.0nm,0.3s,baz=231,slow=14,SNR=18						
BHK	**Bhakra**	**6.85**	**137**	*ex*	Sn	00 04 26.2	-12
KBK	**Karagaybulak**	**6.87**	**26**	P	**Pn**	**00 03 23.4**	**+2.5**
	SNR=8.8						
ULHL	**Ulahol**	**7.04**	**34**	P	**Pn**	**00 03 24.7**	**+1.5**
	SNR=9.2						
SDNR	**Sundarnagar**	**7.11**	**133**	*e*P	**Pn**	**00 03 25.0**	**+1.0**
SDNR				*e*S	**Sn**	**00 04 40.0**	**-4.4**
TKM2	**Tokmak 2**	**7.33**	**28**	⇑P	**Pn**	**00 03 28.3**	**+1.3**
	6.8nm,0.6s						
TKM2				⇑S	**Sn**	**00 04 48.9**	**-1.0**
	4.4nm,0.6s						
TKM2	**Tokmak 2**	**7.33**	**28**	P	**Pn**	**00 03 28.8**	**+1.8**
	SNR=12						
SMLA	**Simla**	**7.49**	**134**	*i* P	**Pn**	**00 03 30.3**	**+1.3**
SMLA				*i* S	**Sn**	**00 04 50.8**	**-2.7**
SMLA				AML	AML	00 04 55.1	
	comp=E,215nm,0.3s						
SMLA				AML	AML	00 04 57.7	
	comp=N,184nm,0.2s						
JOSI	**Joshimath**	**9.36**	**127**	*ex*	x	00 04 17.4	
JOSI				*e*S	**Sn**	**00 05 36.6**	**-1.7**
JOSI				AML	AML	00 06 00.7	
	comp=N,139nm,0.8s						
JOSI				AML	AML	00 06 03.3	
	comp=E,147nm,0.7s						
KHET	**Khetri**	**9.39**	**152**	*e*P	**Pn**	**00 03 54.1**	**+0.1**
KHET				*e*S	Sn	00 05 30.3	-8.6
KHET				AML	AML	00 05 35.9	
	comp=N,190nm,0.3s						
KHET				AML	AML	00 05 36.1	
	comp=E,234nm,0.4s						
NDI	**New Delhi**	**9.46**	**144**	*e*P	**Pn**	**00 03 56.0**	**+1.2**
NDI				*e*S	Sn	00 05 32.0	-8.4
KUDL	**Kundal**	**9.60**	**149**	*e*P	**Pn**	**00 03 56.1**	**-0.5**
KUDL				*e*S	Sn	00 05 35.9	-7.8
KUDL				AML	AML	00 05 43.2	
	comp=N,18nm,0.4s						
KUDL				AML	AML	00 05 43.7	
	comp=E,27nm,0.6s						
SONA	**Sohna**	**9.77**	**146**	*e*P	**Pn**	**00 03 58.1**	**-0.7**
SONA				*e*S	Sn	00 05 40.2	-7.6
SONA				AML	AML	00 05 45.0	
	comp=E,39nm,0.4s						
SONA				AML	AML	00 05 46.5	
	comp=N,17nm,0.4s						
GEYT	**Alibeck**	**10.30**	**282**	P	**Pn**	**00 04 05.5**	**-0.1**
	comp=N,1.0nm,0.3s,baz=90,slow=11,SNR=11						
GEYT				S	**Sn**	**00 05 58.2**	**-2.2**
	comp=N,0.4nm,0.3s,baz=114,slow=21,SNR=2.8						
AGRA	**Agra**	**11.03**	**145**	*e*S	Sn	00 06 08.3	-10
AGRA				AML	AML	00 07 19.0	
	comp=E,80nm,0.2s						
AGRA				AML	AML	00 07 19.5	
	comp=N,64nm,0.2s						
MKAR	**Makanchi Array**	**13.31**	**36**	P	**Pn**	**00 04 44.7**	**+0.6**
	comp=N,0.2nm,0.3s,baz=210,slow=12,SNR=11						
DANN	**Dangsing**	**13.57**	**123**	*e*P	**Pn**	**00 04 47.5**	**-0.2**
	comp=N,35nm,0.4s						
KOLN	**Koldanda**	**13.84**	**126**	*e*P	**Pn**	**00 04 50.8**	**-0.2**
	comp=N,16nm,0.3s						
GKN	**Gorkha**	**14.38**	**122**	*e*P	**Pn**	**00 04 58.0**	**+0.3**
	comp=N,46nm,0.4s						
DMN	**Daman**	**14.95**	**122**	*e*P	**Pn**	**00 05 05.2**	**+0.4**
	comp=N,31nm,0.4s						
KKN	**Kakani**	**14.96**	**122**	*e*P	**Pn**	**00 05 05.0**	**+0.2**
	comp=N,69nm,0.4s						
AB31	**Akbulak array**	**15.02**	**331**	⇓P	**P**	**00 05 06.5**	**+0.4**
	comp=N,1.8nm,0.5s,baz=151,slow=12,SNR=44						
AB31				S	**Sn**	**00 07 51.6**	**-1.4**
	comp=N,2.8nm,0.8s,baz=153,slow=23,SNR=6.2						
KURBB	**Kurchatov Arra**	**15.12**	**19**	⇑P	**P**	**00 05 07.0**	**-0.1**
	comp=N,1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**15.12**	**19**	P	**P**	**00 05 07.4**	**+0.3**
	comp=N,0.1nm,0.3s,baz=214,slow=8.2,SNR=10						
PKIN	**Phulchoki**	**15.17**	**122**	*e*P	**Pn**	**00 05 07.6**	**+0.1**
	comp=N,42nm,0.4s						
PKI	**Pulchoki**	**15.18**	**122**	*e*P	**Pn**	**00 05 08.0**	**+0.3**
	comp=N,28nm,0.3s						
KURK	**Kurchatov**	**15.22**	**19**	⇓P	**Pn**	**00 05 07.5**	**-0.1**
	comp=N,1.5nm,1.1s						
GUN	**Gumba**	**15.30**	**120**	*e*P	**P**	**00 05 09.4**	**-0.3**
	comp=N,42nm,0.3s						
JIRN	**Jiri**	**15.67**	**120**	*e*P	**P**	**00 05 14.3**	**+0.5**
	comp=N,89nm,0.4s						
VOSK	**Vostochnaya**	**16.19**	**0**	⇓P	**Pn**	**00 05 19.3**	**0.0**
	comp=N,2.2nm,0.9s						
RAMN	**Ramite**	**16.39**	**121**	*e*P	**Pn**	**00 05 22.5**	**+0.2**
	comp=N,26nm,0.3s						
BVA0	**Borovoye Array**	**16.50**	**359**	⇓P	**Pn**	**00 05 24.3**	**+1.2**
	comp=N,1.6nm,0.5s,baz=161,slow=11,SNR=4.4						
BVAR	**Borovoye Array**	**16.50**	**359**	P	**Pn**	**00 05 23.3**	**+0.3**
	comp=N,1.2nm,0.3s,baz=160,slow=8.8,SNR=22						
AKTO	**Aktyubinsk**	**16.72**	**330**	⇑P	**Pn**	**00 05 26.2**	**+0.5**
	comp=N,4.2nm,0.6s						
AKTO				S	**S**	**00 08 31.3**	**+1.8**
AKTO	**Aktyubinsk**	**16.72**	**330**	P	**Pn**	**00 05 26.5**	**+0.8**
	comp=N,1.1nm,0.3s,baz=141,slow=11,SNR=16						
TAPN	**Taplejung**	**16.93**	**118**	*e*P	**Pn**	**00 05 29.7**	**+1.0**
	comp=N,24nm,0.3s						
ODAN	**Odare**	**17.00**	**120**	*e*P	**Pn**	**00 05 30.8**	**+1.3**
	comp=N,29nm,0.5s						
ZALV	**Zalesovo Beam**	**19.92**	**25**	P	**P**	**00 06 00.1**	**+0.7**
	comp=N,1.6nm,0.3s,baz=219,slow=10,SNR=17						
BRTR	**Keskin Array B**	**29.36**	**288**	P	**P**	**00 07 29.4**	**+1.5**
	comp=N,0.4nm,0.6s,baz=99,slow=7.6,SNR=3.5						
FINES	**FINESS Array B**	**37.42**	**326**	P	**P**	**00 08 37.5**	**+0.6**
	comp=N,2.3nm,0.6s,baz=124,slow=9.9,SNR=20						
ARCES	**ARCESS Array B**	**41.09**	**338**	P	**P**	**00 09 08.2**	**+1.0**
	comp=N,3.6nm,0.6s,baz=113,slow=8.2,SNR=30						
NB2	**NORSAR Subarra**	**44.31**	**323**	P	**P**	**00 09 33.5**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.31**	**323**	P	**P**	**00 09 33.3**	**0.0**
	comp=Z,2.0nm,0.7s,baz=96,slow=7.7,SNR=9.1						
ESDC	**Sonseca Array**	**57.38**	**298**	P	**P**	**00 11 10.9**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=81,slow=7.9,SNR=3.4						
**T

ISCJB 14 00:17:12.5±1.5, 34°.35S±0°.03×72°.15W±0°.05, h14km±10km, mb4.3/13, MS3.7/1, Error ellipse: s-maj=7.0km s-min=4.1km az=11.1
IDC 14 00:17:12.2±0.7, 34°.32S×72°.01W, h0km, mb4.2/12, mb1 4.3/15, mb1mx4.1/35, mbtmp4.2/15, ML3.8/2, MS3.9/1, Ms1 3.9/1, ms1mx3.0/20, Error ellipse: s-maj=26.2km s-min=14.9km az=94.0
NEIC 14 00:17:14.3, 34°.36S×72°.03W, h12km, mb4.5/8, ML4.6(GUC), After GUC.
NEIC Felt [II] at Quillota, San Antonio and Valparaiso.
GUC 14 00:17:14.3±0.7, 34°.36S×72°.03W, h12km±4km, ML4.6

ISC 14 00:17:12.8±1.6, 34°.35S±0°.03×72°.03W±0°.06, h5km±9km, n68, σ0s65/79, mb4.4/13, 8C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res ISC
LNV	**Longovilo**	**0.65**	**53**	⇓*iP*			**Pb**	**00 17 26.9**	**+0.4**
LNV	**Longovilo**	**0.65**	**53**	⇓*iP*			**Pb**	**00 17 26.9**	**+0.4**
NICH	**Los Niches**	**0.93**	**135**	⇑*iP*			**Pb**	**00 17 31.4**	**0.0**
NICH				*i* S			**Sb**	**00 17 43.7**	**-0.3**
NICH				AML			AML	00 17 44.8	
	comp=N,58μm,0.5s								
NICH	**Los Niches**	**0.93**	**135**	⇑*iP*			**Pb**	**00 17 31.4**	**0.0**
NICH				*i* S			**Sb**	**00 17 43.7**	**-0.3**
TALC	**Talca**	**1.10**	**163**	⇑*iP*			**Pg**	**00 17 33.5**	**-0.3**
TALC				*i* S			**Sg**	**00 17 48.0**	**-0.1**
TALC	**Talca**	**1.10**	**163**	⇑*iP*			**Pg**	**00 17 33.5**	**-0.3**
TALC				*i* S			**Sg**	**00 17 48.0**	**-0.1**
CACH	**El Canelo**	**1.21**	**79**	⇑*iP*			**Pb**	**00 17 36.4**	**+0.2**
CACH	**El Canelo**	**1.21**	**79**	⇑*iP*			**Pb**	**00 17 36.4**	**+0.2**
CHCH	**Chadas Angostu**	**1.22**	**71**	*eP*			**Pg**	**00 17 35.9**	**-0.2**
CHCH	**Chadas Angostu**	**1.22**	**71**	*eP*			**Pg**	**00 17 35.9**	**-0.2**
RCDM	**Rinconada Maip**	**1.33**	**50**	*eP*			**Pn**	**00 17 37.3**	**-0.7**
RCDM				*i* S			**Sb**	**00 17 55.0**	**-0.7**
RCDM				AML			AML	00 18 00.6	
	comp=N,13μm,0.6s								
RCDM	**Rinconada Maip**	**1.33**	**50**	*eP*			**Pn**	**00 17 37.3**	**-0.7**
RCDM				*i* S			**Sb**	**00 17 55.0**	**-0.7**
IHA	**Instituto Hidr**	**1.36**	**14**	⇓*iP*			**Pn**	**00 17 38.1**	**-0.3**
IHA				*i* S1			**Sb**	**00 17 56.3**	**0.0**
IHA	**Instituto Hidr**	**1.36**	**14**	⇓*iP*			**Pn**	**00 17 38.1**	**-0.3**
IHA				*i* S			**Sb**	**00 17 56.3**	**0.0**
ANTU	**Antumapu**	**1.40**	**57**	*eP*			**Pn**	**00 17 38.7**	**-0.3**
ANTU				*i* S			**Sn**	**00 17 58.0**	**+0.1**
ANTU				AML			AML	00 18 01.2	
	comp=N,17μm,0.4s								
ANTU	**Antumapu**	**1.40**	**57**	*eP*			**Pn**	**00 17 38.7**	**-0.3**
ANTU				*i* S			**Sn**	**00 17 58.0**	**+0.1**
LACH	**Col Las Americ**	**1.54**	**55**	*eP*			**Pn**	**00 17 41.0**	**+0.1**
LACH				*i* S			**Sb**	**00 18 01.4**	**-0.1**
LACH	**Col Las Americ**	**1.54**	**55**	*eP*			**Pn**	**00 17 41.0**	**+0.1**
LACH				*i* S			**Sb**	**00 18 01.4**	**-0.1**
LNCH	**Linares**	**1.54**	**167**	*eP*			**Pn**	**00 17 41.1**	**+0.2**
LNCH				*i* S			**Sn**	**00 18 00.7**	**-0.5**
LNCH				AML			AML	00 18 05.4	
	comp=N,12μm,0.6s								
LNCH	**Linares**	**1.54**	**167**	*eP*			**Pn**	**00 17 41.1**	**+0.2**
LNCH				*i* S			**Sn**	**00 18 00.7**	**-0.5**
CLCH	**Cerro Calan**	**1.56**	**53**	*eP*			**Pn**	**00 17 41.5**	**+0.2**
CLCH				*i* S			**Sn**	**00 18 02.2**	**+0.2**
CLCH				AML			AML	00 18 11.4	
	comp=E,12μm,0.7s								
PEL	**Peldehue**	**1.64**	**43**	⇑*iP*			**Pn**	**00 17 42.6**	**+0.2**
PEL				*i* S			**Sb**	**00 18 04.9**	**+0.2**
PEL				AML			AML	00 18 10.7	
	comp=N,31μm,0.4s								
PEL	**Peldehue**	**1.64**	**43**	⇑*iP*			**Pn**	**00 17 42.6**	**+0.2**
PEL				*i* S			**Sb**	**00 18 04.9**	**+0.2**
CFAA	**Coronel Fontan**	**4.20**	**50**	Pn			**Pn**	**00 18 18.7**	**+1.1**
	comp=N,1.3nm,0.3s,baz=220,slow=12,SNR=50								
CFAA				Lg			Lg	00 19 19.5	
	comp=N,2.3nm,0.3s,baz=283,slow=17,SNR=3.4								
LCO	**Las Campanas**	**5.44**	**12**	*eP*n			**Pn**	**00 18 34.3**	**-0.5**
PLCA	**Paso Flores**	**6.48**	**170**	Pn			**Pn**	**00 18 50.2**	**+1.3**
	baz=318,slow=16								
PLCA				Lg			Lg	00 20 31.9	
	baz=270,slow=19								
TRQA	**Tornquist**	**8.93**	**117**	*eP*n			**Pn**	**00 19 24.9**	**+2.5**
	comp=N,28nm,0.9s								
LVC	**Limon Verde**	**12.01**	**14**	*eP*n			Pn	00 20 00.5	-4.4
LPAZ	**La Paz**	**18.32**	**12**	P			**P**	**00 21 29.1**	**+0.5**
	comp=N,0.3nm,0.3s,baz=196,slow=8.3,SNR=23								
LPAZ	**La Paz**	**18.32**	**12**	*eP*			**P**	**00 21 29.0**	**+0.5**
	comp=N,27nm,1.4s								
EFI	**East Falkland**	**20.05**	**154**	*eP*			**P**	**00 21 47.0**	**+0.5**
	comp=N,90nm,1.1s								
USHA	**Ushuaia**	**20.64**	**174**	P			**P**	**00 21 53.5**	**+0.5**
	comp=N,1.8nm,0.9s,baz=219,slow=6.1,SNR=6.4								
SNAA	**Sanae**	**51.26**	**158**	*eP*			**P**	**00 26 17.4**	**+0.2**
QSPA	**South Pole Qui**	**55.89**	**180**	P			**P**	**00 26 52.1**	**+0.8**
	comp=N,6.1nm,0.9s,baz=166,slow=2.0,SNR=9.6								
QSPA	**South Pole Qui**	**55.89**	**180**	*eP*			**P**	**00 26 51.3**	**-0.1**
	comp=N,6.7nm,0.9s								
TXAR	**Lajitas Array**	**70.04**	**331**	P			**P**	**00 28 26.2**	**+0.4**
	comp=N,0.4nm,0.8s,baz=156,slow=6.4,SNR=4.4								
WVT	**Waverly**	**71.65**	**347**	*eP*			**P**	**00 28 34.5**	**-0.7**
	comp=N,12nm,0.8s								
DBIC	**Dimbokro**	**75.29**	**71**	P			**P**	**00 28 57.0**	**-0.3**
	comp=N,3.2nm,0.6s,baz=193,slow=2.4,SNR=6.5								
ANMO	**Albuquerque**	**76.09**	**331**	P			**P**	**00 29 02.6**	**+1.1**
	comp=N,1.2nm,0.9s,baz=120,slow=0.5,SNR=3.9								
BOSA	**Boshof**	**79.91**	**118**	P			**P**	**00 29 22.8**	**-0.3**
	comp=N,3.0nm,0.6s,baz=129,slow=2.7,SNR=4.0								
BOSA	**Boshof**	**79.91**	**118**	*eP*			**P**	**00 29 23.1**	**0.0**
	comp=N,2.6nm,0.6s								
TORD	**Torodi Ar. Bea**	**84.32**	**70**	P			**P**	**00 29 45.9**	**-0.3**
	comp=N,3.5nm,0.8s,baz=257,slow=4.1,SNR=16								
ULM	**Lac du Bonnet**	**86.83**	**345**	P			**P**	**00 29 57.6**	**-0.2**
	comp=N,1.6nm,0.7s,baz=192,slow=7.1,SNR=4.5								
YKA	**Yellowknife Ar**	**102.39**	**341**	P			**Pdif**	**00 31 06.9**	**-2.0**
	comp=N,0.2nm,0.6s,baz=144,slow=4.2,SNR=4.5								
WRA	**Warramunga Arr**	**120.46**	**209**	PKP			**PKPdf**	**00 36 04.9**	**-1.0**
	comp=N,0.3nm,0.6s,baz=157,slow=1.8,SNR=3.1								
H11S2	**WAKE ISLAND Hyl**	**25.77**	**269**	T			T	02 54 35.4	
	baz=120,slow=75,SNR=22								
H11S1	**WAKE ISLAND Hyl**	**25.78**	**269**	T			T	02 54 36.4	
	baz=120,slow=75,SNR=60								
H11S3	**WAKE ISLAND Hyl**	**25.79**	**269**	T			T	02 54 36.7	
	baz=120,slow=75,SNR=49								
H11N3	**WAKE ISLAND Hyl**	**26.19**	**270**	T			T	02 55 07.2	
	baz=115,slow=78,SNR=17								
H11N1	**WAKE ISLAND Hyl**	**26.20**	**270**	T			T	02 55 06.0	
	baz=115,slow=78,SNR=54								
H11N2	**WAKE ISLAND Hyl**	**26.21**	**270**	T			T	02 55 09.3	
	baz=115,slow=78,SNR=20								
BRVK	**Borovoye**	**147.46**	**43**	*e*PKPbc			**PKPbc**	**00 36 57.7**	**+0.4**
BVAR	**Borovoye Array**	**147.53**	**43**	PKPbc			**PKPbc**	**00 36 58.2**	**+0.7**
	comp=N,1.7nm,0.5s,baz=285,slow=5.7,SNR=9.5								
KKAR	**Karatay Array**	**149.71**	**62**	*e*PKPbc			**PKPbc**	**00 37 02.9**	**-0.6**
AAK	**Ala-Archa**	**152.66**	**62**	PKPbc			**PKPbc**	**00 37 11.5**	**+0.9**
	comp=N,1.6nm,0.7s,baz=224,slow=2.3,SNR=7.3								
AAK	**Ala-Archa**	**152.66**	**62**	*e*PKPbc			**PKPbc**	**00 37 11.1**	**+0.5**
KURBB	**Kurchatov Arra**	**153.12**	**44**	PKPbc			**PKPbc**	**00 37 10.8**	**-0.3**
	comp=N,0.6nm,0.5s,baz=298,slow=2.9,SNR=9.1								
KURK	**Kurchatov**	**153.13**	**44**	PKPbc			**PKPbc**	**00 37 10.8**	**-0.3**
ZALV	**Zalesovo Beam**	**154.51**	**33**	PKPbc			**PKPbc**	**00 37 14.0**	**0.0**
	comp=N,1.5nm,0.8s,baz=300,slow=3.3,SNR=8.3								
ZALV				PKPab			**PKPab**	**00 37 28.9**	**+0.5**
	comp=N,3.6nm,0.9s,baz=306,slow=5.1,SNR=8.2								
MKAR	**Makanchi Array**	**156.99**	**50**	PKPab			**PKPab**	**00 37 39.4**	**0.0**
	comp=N,0.7nm,0.8s,baz=306,slow=2.9,SNR=6.8								
SONM	**Songino Array**	**166.47**	**5**	PKPab			**PKPab**	**00 38 19.3**	**-1.5**
	comp=N,0.7nm,0.5s,baz=355,slow=10,SNR=2.9								

IDC 14 00:21:01.2±1.2, 16°.60S×177°.32E, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.1/20, mbtmp4.1/9, MS3.8/7, Ms1 3.8/7, ms1mx3.6/32, Error ellipse: s-maj=45.1km s-min=23.8km az=132.0
NEIC 14 00:21:02.7±0.5, 16°.70S×177°.30E, h10km, mb4.6/3, Error ellipse: s-maj=13.9km s-min=13.2km az=78.0
ISCJB 14 00:21:03.9±0.6, 16°.59S±0°.09×177°.2E±0°.1, h24km, mb4.2/12, MS3.7/5, Error ellipse: s-maj=16.4km s-min=9.9km az=138.6

ISC 14 00:21:05.1±0.6, 16°.66S±0°.1×177°.3E±0°.1, h24km, n20, σ1s26/17, mb4.3/12, MS3.7/5, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res ISC
MSVF	**Nonsavu**	**1.34**	**146**	*e*Pn			**Pn**	**00 21 26.1**	**-2.3**
MSVF				*e*Sn			**Sb**	**00 21 48.8**	**+2.3**
DZM	**Mont Dzumac**	**11.55**	**240**	LR			LR	00 27 43.1	
	comp=Z,296nm,18.1s,baz=240,slow=35								
HNR	**Honiara**	**18.30**	**291**	LR			LR	00 30 50.2	
	comp=Z,673nm,18.2s,baz=140,slow=32								
URZ	**Urewera**	**21.56**	**180**	LR			LR	00 32 37.7	
	comp=Z,211nm,19.8s,baz=17,slow=32								
PPT	**Papeete**	**31.70**	**97**	LR			LR	00 36 56.1	
	comp=Z,95nm,19.5s,baz=352,slow=30								
STKA	**Stephens Creek**	**35.69**	**238**	P			**P**	**00 28 02.0**	**+0.3**
	3.1nm,1.1s,baz=178,slow=11,SNR=2.3								
STKA				LR			LR	00 41 11.8	
	comp=Z,120nm,18.9s,baz=52,slow=34								
WRA	**Warramunga Arr**	**40.80**	**259**	P			**P**	**00 28 44.0**	**-0.9**
	1.4nm,0.8s,baz=91,slow=9.3,SNR=4.5								
WRA				LR			LR	00 44 59.4	
	comp=Z,136nm,18.1s,baz=70,slow=35								
AS31	**Alice Springs**	**41.17**	**253**	*eP*			**P**	**00 28 46.6**	**-1.4**
ASAR	**Alice Springs**	**41.17**	**253**	P			**P**	**00 28 48.2**	**+0.2**
	3.7nm,0.9s,baz=79,slow=8.8,SNR=14								
ASAR				LR			LR	00 44 49.8	
	comp=Z,210nm,18.4s,baz=88,slow=35								
FITZ	**Fitzroy Crossi**	**49.15**	**260**	*eP*			**P**	**00 29 51.4**	**0.0**
	10nm,1.2s								
QSPA	**South Pole Qui**	**73.42**	**180**	P			**P**	**00 32 35.5**	**+0.3**
	4.1nm,1.0s,baz=92,slow=1.0,SNR=2.8								
GAMB	**Gambell**	**80.60**	**5**	*eP*			**P**	**00 33 16.9**	**+1.7**
	3.2nm,1.1s								
SEY	**Seymchan**	**81.66**	**349**	P			**P**	**00 33 20.4**	**-0.4**
	0.9nm,0.3s,baz=149,slow=7.6,SNR=7.5								
CMAR	**Chiang Mai Arr**	**84.55**	**291**	P			**P**	**00 33 37.5**	**+0.7**
	0.9nm,0.3s,baz=114,slow=4.5,SNR=8.4								
ILAR	**Eielson Array**	**85.63**	**15**	P			**P**	**00 33 40.2**	**-1.0**
	2.0nm,1.0s,baz=240,slow=6.9,SNR=8.4								
ULN	**Ulaanbaatar**	**89.51**	**321**	*eP*			**P**	**00 34 00.9**	**+0.4**
	6.2nm,1.4s								
SONM	**Songino Array**	**89.90**	**320**	P			**P**	**00 34 03.8**	**+1.6**
	0.5nm,0.4s,baz=116,slow=3.4,SNR=3.2								
YKA	**Yellowknife Ar**	**94.94**	**26**	P			**P**	**00 34 24.1**	**-0.9**
	0.1nm,0.3s,baz=251,slow=4.5,SNR=4.2								
GERES	**GERESS Array B**	**145.17**	**341**	PKPbc			**PKPdf**	**00 40 41.2**	**+0.5**
	0.2nm,0.4s,baz=56,slow=2.5,SNR=4.1								
DAVOX	**Davos/Dischmat**	**148.15**	**343**	PKPbc			**PKPbc**	**00 40 48.9**	**-0.3**
	baz=7.9,slow=8.7								

ISCJB 14 00:22:24.1±0.6, 34°.76S±0°.03×71°.86W±0°.09, h60km±5km, mb4.2/13, Error ellipse: s-maj=13.1km s-min=4.5km az=9.3
GUC 14 00:22:24.5±0.6, 34°.73S×71°.83W, h38km±3km, ML4.8
IDC 14 00:22:24.7±0.7, 34°.66S×71°.81W, h45km±6km, mb4.0/10, mb1 4.1/13, mb1mx4.0/21, mbtmp4.2/13, ML4.0/2, Error ellipse: s-maj=22.0km s-min=14.0km az=88.0
NEIC 14 00:22:24.5, 34°.73S×71°.83W, h38km, mb4.4/7, After GUC.
NEIC Felt [V] at Pichilemu; [IV] at Constitucion and Talca; [III] at Curico, Quillota and San Javier; [II] at Los Andes, Rancagua, San Felipe and San Fernando.

ISC 14 00:22:24.7±0.6, 34°.75S±0°.03×71°.84W±0°.07, h46km±5km, n53, σ1s06/74, mb4.3/13, 8C-13D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res ISC
NICH	**Los Niches**	**0.56**	**117**	⇓*iP*			**Pn**	**00 22 36.3**	**-0.1**
NICH				*i* S			**Sn**	**00 22 44.8**	**0.0**
NICH				AML			AML	00 22 45.4	
	comp=E,86μm,0.3s								
NICH	**Los Niches**	**0.56**	**117**	⇓*iP*			**Pn**	**00 22 36.3**	**-0.1**
NICH				*i* S			**Sn**	**00 22 44.8**	**0.0**
TALC	**Talca**	**0.67**	**166**	⇑*iP*			**Pn**	**00 22 38.1**	**+0.2**
TALC				*i* S			**Sn**	**00 22 47.9**	**+0.6**
TALC				AML			AML	00 22 50.7	
	comp=E,102μm,0.3s								
TALC	**Talca**	**0.67**	**166**	⇑*iP*			**Pn**	**00 22 38.1**	**+0.2**
TALC				*i* S			**Sn**	**00 22 47.9**	**+0.6**
LNV	**Longovilo**	**0.87**	**24**	⇓*iP*			**Pn**	**00 22 40.4**	**-0.2**
LNV	**Longovilo**	**0.87**	**24**	⇓*iP*			**Pn**	**00 22 40.4**	**-0.2**
LNCH	**Linares**	**1.11**	**170**	⇓*iP*			**Pn**	**00 22 44.5**	**+0.7**
LNCH				*i* S			**Sn**	**00 23 00.0**	**+2.0**
LNCH				AML			AML	00 23 00.4	
	comp=N,24μm,0.3s								
LNCH	**Linares**	**1.11**	**170**	⇓*iP*			**Pn**	**00 22 44.5**	**+0.7**
LNCH				*i* S			**Sn**	**00 23 00.0**	**+2.0**
CACH	**El Canelo**	**1.20**	**58**	⇓*iP*			**Pn**	**00 22 45.5**	**+0.3**
CACH	**El Canelo**	**1.20**	**58**	⇓*iP*			**Pn**	**00 22 45.5**	**+0.3**
CHCH	**Chadas Angostu**	**1.27**	**50**	⇑*iP*			**Pn**	**00 22 46.6**	**+0.4**
CHCH	**Chadas Angostu**	**1.27**	**50**	⇑*iP*			**Pn**	**00 22 46.6**	**+0.4**
RCDM	**Rinconada Maip**	**1.52**	**34**	*eP*			**Pn**	**00 22 49.9**	**+0.4**
RCDM				*e*S			**Sn**	**00 23 09.6**	**+1.4**
RCDM	**Rinconada Maip**	**1.52**	**34**	*eP*			**Pn**	**00 22 49.9**	**+0.4**
RCDM				*e*S			**Sn**	**00 23 09.6**	**+1.4**
ANTU	**Antumapu**	**1.54**	**41**	⇓*iP*			**Pn**	**00 22 50.5**	**+0.7**
ANTU				*i* S			**Sn**	**00 23 10.4**	**+1.7**
ANTU				AML			AML	00 23 14.7	
	comp=E,16μm,0.3s								
ANTU	**Antumapu**	**1.54**	**41**	⇓*iP*			**Pn**	**00 22 50.5**	**+0.7**
ANTU				*i* S			**Sn**	**00 23 10.4**	**+1.7**
LACH	**Col Las Americ**	**1.69**	**40**	⇑*iP*			**Pn**	**00 22 52.5**	**+0.7**
LACH				*i* S			**Sn**	**00 23 13.8**	**+1.5**
LACH	**Col Las Americ**	**1.69**	**40**	⇑*iP*			**Pn**	**00 22 52.5**	**+0.7**
LACH				*i* S			**Sn**	**00 23 13.8**	**+1.5**
CLCH	**Cerro Calan**	**1.73**	**39**	⇓*iP*			**Pn**	**00 22 53.0**	**+0.6**
CLCH				*e*S			**Sn**	**00 23 14.9**	**+1.5**
CLCH				AML			AML	00 23 22.6	
	comp=N,20μm,0.6s								
IHA	**Instituto Hidr**	**1.73**	**5**	⇑*iP*			**Pn**	**00 22 52.6**	**+0.3**
IHA				*i* S1				00 23 14.9	
IHA	**Instituto Hidr**	**1.73**	**5**	⇑*iP*			**Pn**	**00 22 52.6**	**+0.3**
IHA				*i* S			**Sn**	**00 23 14.9**	**+1.7**
PEL	**Peldehue**	**1.87**	**31**	⇓*iP*			**Pn**	**00 22 55.0**	**+0.8**
PEL				*i* S			**Sn**	**00 23 18.7**	**+2.0**
PEL				AML			AML	00 23 23.0	
	comp=N,19μm,0.5s								
PEL	**Peldehue**	**1.87**	**31**	⇓*iP*			**Pn**	**00 22 55.0**	**+0.8**
PEL				*i* S			**Sn**	**00 23 18.7**	**+2.0**
CFAA	**Coronel Fontan**	**4.35**	**45**	P			**Pn**	**00 23 28.4**	**0.0**
	comp=N,1.3nm,0.3s,baz=238,slow=1.4,SNR=33								
CFAA				S			Sn	00 24 26.3	+8.4
	comp=N,5.4nm,0.3s,baz=313,slow=19,SNR=6.2								
LCO	**Las Campanas**	**5.80**	**10**	*eP*n			**Pn**	**00 23 47.5**	**-1.1**
PLCA	**Paso Flores**	**6.06**	**171**	P			**Pn**	**00 23 52.9**	**+1.2**
	baz=282,slow=20								
PLCA	**Paso Flores**	**6.06**	**171**	*e*Pn			**Pn**	**00 23 52.3**	**+0.6**
TRQA	**Tornquist**	**8.60**	**115**	*eP*n			**Pn**	**00 24 28.0**	**+1.4**
LVC	**Limon Verde**	**12.36**	**13**	*eP*n			**Pn**	**00 25 16.8**	**-1.5**
LPAZ	**La Paz**	**18.69**	**11**	P			**P**	**00 26 39.4**	**-0.4**
	comp=N,0.6nm,0.3s,baz=205,slow=6.6,SNR=17								
SIV	**San Ignacio**	**21.03**	**30**	P			**P**	**00 27 02.7**	**-2.0**
	comp=N,15nm,0.9s,baz=220,slow=11,SNR=17								
SAML	**Samuel**	**26.88**	**19**	*eP*			**P**	**00 27 59.5**	**-1.7**
	comp=N,2.2nm,0.6s								
BDFB	**Brasilia**	**28.63**	**54**	P			**P**	**00 28 17.6**	**+0.6**
	comp=N,2.1nm,0.6s,baz=248,slow=10.0,SNR=3.6								
OTAV	**Otavalo**	**35.35**	**349**	*eP*			**P**	**00 29 18.4**	**+2.0**
	comp=N,1.4nm,0.7s								
PTGA	**Pitinga**	**35.62**	**21**	*eP*			**P**	**00 29 17.1**	**-1.0**
	comp=N,14nm,0.9s								
SNAA	**Sanae**	**50.83**	**158**	P			**P**	**00 31 20.7**	**+0.5**
	comp=N,1.3nm,1.0s,baz=230,slow=6.0,SNR=6.7								
SNAA				pP			**pP**	**00 31 33.7**	**+0.7**
	comp=N,2.3nm,0.8s,baz=259,slow=8.5,SNR=3.5								
QSPA	**South Pole Qui**	**55.48**	**180**	P			**P**	**00 31 56.0**	**+1.4**
	comp=N,2.0nm,0.8s,baz=107,slow=9.9,SNR=11								
QSPA				pP			**pP**	**00 32 07.8**	**+0.2**
	comp=N,3.7nm,0.7s,baz=268,slow=1.3,SNR=6.5								
QSPA	**South Pole Qui**	**55.48**	**180**	*eP*			**P**	**00 31 55.9**	**+1.3**
	comp=N,2.9nm,0.6s								
QSPA				pP			**pP**	**00 32 07.8**	**+0.2**
TXAR	**Lajitas Array**	**70.47**	**331**	P			**P**	**00 33 35.5**	**+1.1**
	comp=N,0.6nm,0.5s,baz=154,slow=8.9,SNR=11								
TXAR				pP			**pP**	**00 33 47.6**	**-0.2**
	comp=N,0.7nm,0.5s,baz=159,slow=9.1,SNR=7.7								
DBIC	**Dimbokro**	**75.26**	**71**	P			**P**	**00 34 02.9**	**-0.2**
	comp=N,4.6nm,0.7s,baz=201,slow=6.6,SNR=7.7								
DBIC	**Dimbokro**	**75.26**	**71**	*eP*			**P**	**00 34 02.5**	**-0.5**
	comp=N,5.5nm,0.7s								
BOSA	**Boshof**	**79.57**	**117**	P			**P**	**00 34 27.4**	**+0.1**
	comp=N,6.1nm,0.8s,baz=245,slow=2.6,SNR=12								
BOSA	**Boshof**	**79.57**	**117**	*eP*			**P**	**00 34 27.4**	**+0.1**
	comp=N,4.1nm,0.6s								
PFO	**Pinyon Flats O**	**79.83**	**323**	P			**P**	**00 34 26.3**	**-2.1**
	comp=N,3.1nm,0.6s,baz=82,slow=5.4,SNR=4.7								
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P			**P**	**00 34 51.6**	**-0.5**
	comp=N,3.3nm,0.9s,baz=298,slow=6.5,SNR=15								
TORD				pP			**pP**	**00 35 04.6**	**-1.1**
	comp=N,1.3nm,0.7s,baz=251,slow=4.1,SNR=5.2								
PDAR	**Pinedale Array**	**84.51**	**333**	P			**P**	**00 34 51.9**	**-0.8**
	comp=N,0.4nm,0.6s,baz=133,slow=9.2,SNR=3.4								
WRA	**Warramunga Arr**	**120.19**	**209**	PKP			**PKPdf**	**00 41 10.5**	**-0.6**
	comp=N,0.3nm,0.6s,baz=160,slow=1.6,SNR=3.4								
KKAR	**Karatay Array**	**149.75**	**63**	*e*PKPbc			**PKPbc**	**00 42 08.9**	**-0.4**
AAK	**Ala-Archa**	**152.70**	**63**	PKPbc			**PKPbc**	**00 42 17.0**	**+0.7**
	comp=N,2.5nm,0.8s,baz=192,slow=1.2,SNR=12								
AAK	**Ala-Archa**	**152.70**	**63**	*e*PKPbc			**PKPbc**	**00 42 16.6**	**+0.3**
KURK	**Kurchatov**	**153.31**	**44**	*e*PKPbc			**PKPbc**	**00 42 17.4**	**+0.2**
ZALV	**Zalesovo Beam**	**154.77**	**33**	PKPab			**PKPab**	**00 42 34.4**	**-1.0**
	comp=N,0.8nm,0.6s,baz=302,slow=3.4,SNR=4.1								
MKAR	**Makanchi Array**	**157.12**	**50**	PKPbc			PKPdf	00 42 28.3	+13
	comp=N,0.4nm,0.8s,baz=294,slow=3.9,SNR=3.6								
MKAR				PKPab			**PKPab**	**00 42 44.2**	**-1.6**
	comp=N,0.9nm,0.8s,baz=316,slow=3.3,SNR=6.3								
MKAR				pPKPab			pPKPab	00 42 58.2	-1.4
	comp=N,0.4nm,0.7s,baz=264,slow=2.4,SNR=3.3								

KNET 14 00:29:24.0±0.8, 42°.41N×75°.63E, h14km±14km, ml1.8, Error ellipse: s-maj=4.1km s-min=2.6km az=179.0
KRNET 14 00:29:24.8±0.1, 42°.40N×75°.64E, h11km, mb3.1
NNC 14 00:29:25.8±1.2, 42°.45N×75°.58E, h0km, mb3.2, mpv2.5, Error ellipse: s-maj=8.0km s-min=3.7km az=143.0

ISC 14 00:29:25.0±0.9, 42°.41N±0°.02×75°.64E±0°.02, h15km±9km, n25, σ0s76/48, 24C-19D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res ISC
BOOM	**Boomskoye usch**	**0.24**	**71**	*eP*			**Pg**	**00 29 30.2**	**-0.2**
	baz=70								
BOOM				*e*S			**Sg**	**00 29 33.9**	**-0.2**
	baz=70								
KZA	**Kyzart**	**0.44**	**221**	P			**Pg**	**00 29 34.2**	**+0.2**
	10nm,0.1s,SNR=68								
KZA				⇓S			**Sg**	**00 29 41.0**	**+1.0**
	32nm,0.1s								
KZA	**Kyzart**	**0.44**	**221**	⇑*iP*			**Pg**	**00 29 34.1**	**+0.2**
	baz=222								
KZA				⇑*i*S			**Sg**	**00 29 40.6**	**+0.6**
	baz=222								
ULHL	**Ulahol**	**0.48**	**110**	P			**Pg**	**00 29 34.1**	**-0.5**
	8.6nm,0.1s,SNR=116								
ULHL				⇑S			**Sg**	**00 29 40.8**	**-0.4

ANTU				*i* S	Sn	00 42 41.5	+2.3
ANTU				AML	AML	00 42 49.3	
	comp=N,1μm,0.4s						
SJCH	**San Jose de Ma**	**1.53**	**58**	*e*P9	Pn	00 42 24.8	+0.7
SJCH				*e*S	Sn	00 42 45.2	+2.3
CLCH	**Cerro Calan**	**1.56**	**47**⇑	*i*P	Pn	00 42 26.0	+1.5
CLCH				*i* S	Sn	00 42 46.2	+2.6
PEL	**Peldehue**	**1.67**	**38**⇑	*i*P	Pn	00 42 27.6	+1.7
PEL				*i* S	Sn	00 42 49.1	+3.0
PEL				AML	AML	00 42 58.3	
	comp=E,2μm,0.6s						

ISCJB **14** *00:46:27.2±0.4,4˚.80N±0˚.03×126˚.96E±0˚.06,h76km, mb4.0/11, Error ellipse: s-maj=8.3km s-min=4.6km az=178.2*
MAN **14** *00:46:29,4˚.81N×126˚.64E,h78km,mb5.1,ML4.0,MS4.1*
IDC **14** *00:46:31.0±6.8,4˚.86N×127˚.12E,h93km±62km,mb3.9/11, mb1 4.1/12,mb1mx3.8/36,mbtmp4.3/12,ML4.9/1,Error ellipse: s-maj=49.4km s-min=15.5km az=68.0*
DJA **14** *00:46:37.7±0.7,4˚.N±6˚×12˚.7E±˚,h10km,M4.8/16,mB5.3/7, mb4.9/16,MLv4.7/13,Mw(mB)4.8/7*

ISC 14 00:46:29.0±0.6,**4˚.79N**±0˚.05×**126˚.92E**±0˚.08,**h76**km,**n43,** σ1º**08**/43,**mb4.0**/11,**2C,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.77**	**232**	P	**Pn**	**00 46 57.1**	**-0.6**
SGSI				S	**Sn**	**00 47 19.0**	**-0.5**
MATI	**Mati**	**2.24**	**343**	*e*P	**Pn**	**00 47 03.7**	**-0.3**
MATI				*e*S	**Sn**	**00 47 29.9**	**-0.9**
GSPH	**General Santos**	**2.35**	**303**	*e*P	Pn	00 47 00.9	-4.6
BIPH	**Bislig**	**3.42**	**351**⇑	*e*P	Pn	00 47 28.7	+8.8
BIPH				*e*S	Sn	00 48 06.7	+7.3
BUKP	**Musuan**	**3.58**	**329**	*e*P	**Pn**	**00 47 22.3**	**0.0**
CTBH	**Cotabato--PC H**	**3.59**	**312**⇑	*i*P	**Pn**	**00 47 20.6**	**-1.7**
TNTI	**Ternate**	**4.02**	**174**	P	**Pn**	**00 47 27.9**	**-0.3**
PAGZ	**Pagadian**	**4.65**	**311**	*e*P	**Pn**	**00 47 38.9**	**+2.2**
KMSI	**Cibinong**	**5.12**	**215**	P	**Pn**	**00 47 43.5**	**+0.4**
LBMI	**Labuha**	**5.42**	**174**	P	**Pn**	**00 47 47.2**	**-0.2**
GTOI	**Gorontalo**	**5.68**	**224**	P	**Pn**	**00 47 50.0**	**-0.9**
MRSI	**Marisa**	**6.56**	**229**	P	**Pn**	**00 48 03.1**	**+0.2**
	128nm,0.6s,11μm0.6nm						
MRSI				S	**Sn**	**00 49 13.9**	**-2.5**
	128nm,0.6s,11μm0.6nm						
SANI	**Sanana**	**6.86**	**188**	P	Pn	00 48 03.2	-3.8
	56nm,0.8s,1μm0.3nm						
SANI				S	Sn	00 49 13.2	-10
	56nm,0.8s,1μm0.3nm						
SWI	**Sorong**	**7.09**	**142**	P	**Pn**	**00 48 09.7**	**-0.5**
	41nm,0.9s,0.2nm						
LUWI	**Luwuk**	**7.12**	**216**	P	**Pn**	**00 48 12.1**	**+1.5**
	177nm,0.9s,2μm0.6nm						
APSI	**Ampana**	**7.74**	**223**	P	**Pn**	**00 48 20.9**	**+2.0**
	186nm,0.7s,1μm0.6nm						
NLAI	**Namlea**	**7.98**	**179**	P	**Pn**	**00 48 20.5**	**-1.8**
	81nm,0.6s,2μm0.5nm						
MPSI	**Mapaga**	**8.29**	**238**	P	Pn	00 48 30.5	+3.9
	15nm,0.7s,406nm						
TTSI	**Tana Toraja**	**10.53**	**222**	P	**Pn**	**00 48 57.5**	**+0.4**
	37nm,0.7s						
SPSI	**Sidrap Palu**	**11.26**	**220**	P	**Pn**	**00 49 06.6**	**-0.4**
	16nm,1.1s						
BNSI	**Bone**	**11.39**	**217**	P	**Pn**	**00 49 09.2**	**+0.4**
	22nm,0.7s						
BBKI	**Banjar Baru**	**14.59**	**236**	P	**Pn**	**00 49 52.8**	**+1.2**
	99nm,1.0s,9μm						
SOEI	**Soe**	**14.69**	**190**	P	**Pn**	**00 49 54.0**	**+1.0**
	39nm,0.8s						
BATI	**Baumata**	**15.25**	**192**	P	**P**	**00 50 04.4**	**+1.1**
BATI	**Baumata**	**15.25**	**192**	P	**P**	**00 50 04.2**	**+0.8**
	4.8nm,0.3s,baz=3.5,slow=2.7,SNR=10.0						
WRA	**Warramunga Arr**	**25.64**	**164**	P	**P**	**00 51 51.4**	**-0.3**
	11nm,0.5s,baz=344,slow=10.0,SNR=49						
ASAR	**Alice Springs**	**29.09**	**167**	P	**P**	**00 52 22.7**	**+0.1**
	1.6nm,0.5s,baz=347,slow=6.9,SNR=24						
ASAR				PcP	**PcP**	**00 55 29.6**	**+0.5**
	0.8nm,0.6s,baz=347,slow=2.7,SNR=5.6						
STKA	**Stephens Creek**	**39.05**	**160**	P	**P**	**00 53 49.5**	**+0.9**
	12nm,0.7s,baz=334,slow=8.3,SNR=22						
ODAN	**Odare**	**43.62**	**304**	*e*P	**P**	**00 54 25.7**	**-0.7**
	6.5nm,0.7s						
RAMN	**Ramite**	**44.30**	**304**	*e*P	**P**	**00 54 31.1**	**-0.8**
JIRN	**Jiri**	**44.91**	**305**	*e*P	**P**	**00 54 34.9**	**-2.0**
	8.1nm,0.7s						
GUN	**Gumba**	**45.27**	**305**	*e*P	**P**	**00 54 38.9**	**-0.8**
	9.2nm,0.6s						
SONM	**Songino Array**	**46.36**	**341**	P	**P**	**00 54 48.5**	**+0.8**
	1.2nm,0.7s,baz=156,slow=11,SNR=3.4						
KOLN	**Koldanda**	**47.09**	**304**	*e*P	**P**	**00 54 52.8**	**-1.0**
DANN	**Dangsing**	**47.16**	**305**	*e*P	**P**	**00 54 52.9**	**-1.6**
	13nm,0.7s						
MKAR	**Makanchi Array**	**56.80**	**325**	P	**P**	**00 56 05.2**	**-0.2**
	0.7nm,0.5s,baz=123,slow=6.3,SNR=12						
ZALV	**Zalesovo Beam**	**59.74**	**333**	P	**P**	**00 56 26.6**	**+0.9**
	0.3nm,0.4s,baz=144,slow=5.2,SNR=3.5						
ILAR	**Eielson Array**	**84.07**	**25**	P	**P**	**00 58 49.8**	**-1.3**
	0.6nm,0.6s,baz=252,slow=5.7,SNR=13						
BRTR	**Keskin Array B**	**89.49**	**310**	P	**P**	**00 59 18.6**	**+0.3**
	0.6nm,0.8s,baz=134,slow=7.1,SNR=5.6						
ARCES	**ARCESS Array B**	**89.52**	**340**	P	**P**	**00 59 18.4**	**+0.8**
	7.0nm,1.1s,baz=38,slow=4.6,SNR=5.9						
FINES	**FINESS Array B**	**90.99**	**332**	P	**P**	**00 59 24.4**	**-0.1**
	0.5nm,0.6s,baz=103,slow=4.1,SNR=6.1						
YKA	**Yellowknife Ar**	**98.46**	**24**	P	**P**	**00 59 58.4**	**-0.2**
	0.2nm,0.5s,baz=298,slow=4.4,SNR=6.3						
TORD	**Torodi Ar. Bea**	**122.76**	**289**	PKP	**PKPdf**	**01 05 16.3**	**-0.9**
	0.7nm,0.8s,baz=7.6,slow=1.7,SNR=4.0						

MEX 14 00:50:41.6±0.3,**15˚.30N**×**95˚.64W,h22**km±12km,**MD3.9, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.65**	**316**	*e*P	Pb	00 50 52.2	-2.1
HUIG				*i* S	Sb	00 51 00.4	-2.5
CMIG	**Matias Romero**	**1.92**	**22**	*i* P	Pn	00 51 10.3	-2.7
CMIG				*i* S	Sn	00 51 33.0	-3.6
VHO	**Vista Hermosa**	**2.05**	**329**	*i* P	Pn	00 51 11.9	-3.2
VHO				*i* S	Sn	00 51 36.1	-4.0
PNIG	**Pinotepa**	**2.63**	**295**	*i* P	Pn	00 51 21.0	-1.8
PNIG				*i* S	Sn	00 51 50.9	-3.2

BJI **14** *00:57:38.4,2˚.13S×128˚.58E,h50km,mB6.4/67,mb6.3/86, Ms6.1/95,Ms7 5.9/85*
MOS **14** *00:57:41.1±1.1,1˚.64S×128˚.09E,h33km,mb6.4/93, MS5.8/39,Error ellipse: s-maj=7.3km s-min=4.0km az=117.8*
NEIC **14** *00:57:44.7±0.1,1˚.69S×128˚.14E,h53km,mb6.3/133, ME6.1,MW6.4,MW6.4,Error ellipse: s-maj=4.1km s-min=3.2km az=57.0,Moment Tensor Solution. s32 Moment tensor: Scale 1018Nm; Mrr1.52; Mθθ3.48; Mφφ-5.00; Mrθ1.90; Mθφ0.32; Mφr1.17; Best double couple: M0=5.00000×1018 NP1:φs=137.00000°,δ60.00000°, λ17.00000°. NP2:φs=38.00000°,δ75.00000°,λ149.00000°. Principal axes: T 4.7200, Plg32.0000°, Azm353.0000°; N 0.4800, Plg55.0000°, Azm194.0000°; P -5.2000, Plg9.0000°, Azm90.0000°; Broadband fault plane solution: P waves. NP1:φs=139.00000°,δ67.00000°, λ22.00000°. NP2:φs=40.00000°,δ70.00000°,λ155.00000°. Principal axes: T Plg32.0000°, Azm359.0000°; N Plg0.0000°, Azm0.0000°; P Plg2.0000°, Azm90.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Labuha and [III] at Ambon and Namlea.
GCMT **14** *00:57:44.7±0.1,1˚.60S×128˚.09E,h58km,MW6.5/140, Moment Tensor Solution. s133,c337; s140,c584; Duration: 4s1 Moment tensor: Scale 1018Nm; Mrr0.10±.02; Mθθ5.35±.03; Mφφ-5.45±.03; Mrθ2.04±.03; Mθφ0.75±.02; Mφr0.87±.03; Best double couple: M0=5.86800×1018 NP1:φs=40.00000°,δ82.00000°, λ161.00000°. NP2:φs=133.00000°,δ71.00000°,λ8.00000°. Principal axes: T 6.1350, Plg19.0000°, Azm355.0000°; N -0.5330, Plg69.0000°, Azm199.0000°; P -5.6020, Plg8.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC **14** *00:57:45.0±0.0,1˚.71S×128˚.05E,h52km Best double couple: NP1:φs=39.00000°,δ79.00000°,λ155.00000°. NP2:φs=134.00000°,δ65.00000°,λ11.00000°. Principal axes: T 5.5600, Plg24.0000°, Azm355.0000°; N -0.0500, Plg63.0000°, Azm198.0000°; P -5.5000, Plg9.0000°, Azm89.0000°;*
ISCJB **14** *00:57:45.2±0.3,1˚.66S±0˚.01×128˚.17E±0˚.02,h69km±2km, mb6.0/224 Error ellipse: s-maj=2.8km s-min=2.3km az=150.3*
DJA **14** *00:57:47.8±0.2,2˚S±2˚×12˚8E±˚,h50km±5km,M6.7/45, mb6.5/45,mB6.9/45,MLv6.7/13,Mw(mB)6.8/45,Mwp6.5/31*
IDC **14** *00:57:47.1±0.4,1˚.60S×128˚.06E,h64km±3km,mb5.4/41, mb1 5.4/43,mb1mx5.4/43,mbtmp5.7/43,MS5.6/25, Ms1 5.6/25,ms1mx5.3/33,Error ellipse: s-maj=11.9km s-min=8.0km az=71.0*
KLM **14** *00:57:57.1,1˚.56S×127˚.40E,h63km,mb6.4,MS6.8*

ISC 14 00:57:46.2±0.2,**1˚.65S**±0˚.02×**128˚.08E**±0˚.03,**h64**km±1km, **h63km:pP-P,n1825,**σ1º**60**/1984,**mb6.1**/223,**289C-223D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.16**	**330**	P	**Pn**	**00 58 08.1**	**+1.6**
NLAI	**Namlea**	**1.86**	**212**	P	**Pn**	**00 58 17.0**	**+1.2**
MSAI	**Masohi**	**1.89**	**153**	P	**Pn**	**00 58 17.6**	**+1.4**
SANI	**Sanana**	**2.13**	**259**	P	**Pn**	**00 58 19.2**	**-0.3**
TNTI	**Ternate**	**2.51**	**343**	P	**Pn**	**00 58 26.4**	**+1.8**
TNTI	**Ternate**	**2.51**	**343**	*e*Pn	**Pn**	**00 58 26.1**	**+1.5**
TNTI				*e*Sn	**Sn**	**00 58 55.7**	**+1.6**
SWI	**Sorong**	**3.27**	**76**	P	**Pn**	**00 58 34.4**	**-0.6**
SWI	**Sorong**	**3.27**	**76**	⇓P	**Pn**	**00 58 34.6**	**-0.4**
	baz=3.3,SNR=1000						
BNDI	**Bandanaira**	**3.38**	**148**	P	**Pn**	**00 58 36.0**	**-0.6**
FAKI	**Fak Fak**	**4.35**	**107**	P	**Pn**	**00 58 48.8**	**-1.0**
FAKI	**Fak Fak**	**4.35**	**107**	P	**Pn**	**00 58 48.6**	**-1.3**
	baz=4.3,SNR=1000						
FAKI				⇓S	**Sn**	**00 59 36.9**	**-2.4**
	baz=4.3,SNR=11						
FAKI	**Fak Fak**	**4.35**	**107**	*e*Pn	**Pn**	**00 58 48.7**	**-1.1**
FAKI				*e*Sn	**Sn**	**00 59 36.8**	**-2.5**
KMSI	**Cibinong**	**4.66**	**298**	P	**Pn**	**00 58 54.4**	**+0.4**
LUWI	**Luwuk**	**5.34**	**276**	P	**Pn**	**00 59 04.1**	**+0.7**
LUWI	**Luwuk**	**5.34**	**276**	⇓P	**Pn**	**00 59 04.1**	**+0.7**
	baz=5.3,SNR=1000						
LUWI	**Luwuk**	**5.34**	**276**	*e*Pn	**Pn**	**00 59 03.8**	**+0.4**
LUWI				*e*Sn	**Sn**	**01 00 01.5**	**-2.2**
GTOI	**Gorontalo**	**5.55**	**294**	P	Pn	00 59 10.1	+3.8
	12μm,1.0s,507μm700μm238nm						
SGSI	**Sangihe**	**5.88**	**334**	P	**Pn**	**00 59 13.1**	**+2.3**
	7μm,0.8s,72μm49nm						
RKPI	**Ransiki, Papua**	**6.09**	**89**	P	**Pn**	**00 59 12.3**	**-1.4**
	18μm,1.5s,183μm86nm						
APSI	**Ampana**	**6.47**	**276**	P	**Pn**	**00 59 20.3**	**+1.4**
MRSI	**Marisa**	**6.49**	**289**	P	**Pn**	**00 59 19.1**	**-0.1**
SAUI	**Saumlaki**	**7.06**	**153**	P	**Pn**	**00 59 26.4**	**-0.6**
SAUI	**Saumlaki**	**7.06**	**153**	*e*Pn	**Pn**	**00 59 26.3**	**-0.7**
SAUI				*e*Sn	**Sn**	**01 00 41.9**	**-4.0**
TOLI	**Toli-Toli**	**7.79**	**291**	*e*Pn	**Pn**	**00 59 38.0**	**+1.1**
TOLI				*e*Sn	**Sn**	**01 01 02.1**	**-1.6**
SRPI	**Serui, Papua**	**8.16**	**92**	P	**Pn**	**00 59 40.7**	**-1.3**
	4μm,0.8s,46μm325μm						
GSPH	**General Santos**	**8.30**	**338**	*e*P	**Pn**	**00 59 44.7**	**+0.7**
TTSI	**Tana Toraja**	**8.37**	**260**	P	**Pn**	**00 59 46.4**	**+1.5**
MPSI	**Mapaga**	**8.42**	**283**	P	**Pn**	**00 59 47.1**	**+1.6**
	4μm,1.4s,54μm402μm						
BNSI	**Bone**	**8.42**	**251**	P	Pn	00 59 49.2	+3.7
	6μm,1.0s,71μm251μm						
SPSI	**Sidrap Palu**	**8.62**	**254**	P	Pn	00 59 52.1	+3.9
	22μm,0.8s,180μm240μm						
MATI	**Mati**	**8.73**	**348**	*e*P	**Pn**	**00 59 52.6**	**+2.8**
MATI				*e*S	Sn	01 01 34.2	+7.4
BKSI	**Bulukumba**	**8.74**	**245**	P	Pn	00 59 54.3	+4.4
	22μm,1.1s,269μm255μm						
BSSI	**Bau Bau, Buton**	**8.79**	**239**	P	Pn	00 59 54.1	+3.5
	11μm,1.2s,126μm						
SOEI	**Soe**	**8.90**	**205**	P	Pn	00 59 56.3	+4.0
SOEI	**Soe**	**8.90**	**205**	*e*Pn	Pn	00 59 55.7	+3.4
KAPI	**Kappang**	**8.96**	**248**	Pn	Pn	00 59 57.4	+4.4
	107μm,1.4s						
KAPI	**Kappang**	**8.96**	**248**	Pn	Pn	00 59 57.3	+4.4
	SNR=9100						
KAPI	**Kappang**	**8.96**	**248**	*e*Pn	Pn	00 59 57.0	+4.0
DAV	**Davao City (W)**	**9.01**	**344**⇑	*e*P	**Pn**	**00 59 54.3**	**+0.7**
DAV	**Davao City (W)**	**9.01**	**344**	Pn	**Pn**	**00 59 54.9**	**+1.2**
	SNR=137						
DAV	**Davao City (W)**	**9.01**	**344**	*e*Pn	**Pn**	**00 59 54.9**	**+1.2**
MMRI	**Maumere**	**9.06**	**220**	P	**Pn**	**00 59 57.3**	**+3.0**
	2μm,1.3s,28μm144μm						
MMRI	**Maumere**	**9.06**	**220**	*e*Pn	**Pn**	**00 59 57.0**	**+2.7**
BATI	**Baumata**	**9.57**	**207**	P	Pn	01 00 04.9	+3.6
	1μm,1.0s,23μm8μm						
BATI	**Baumata**	**9.57**	**207**	P	**Pn**	**01 00 04.0**	**+2.7**
	79nm,0.3s,baz=115,slow=1.0,SNR=97						
BATI	**Baumata**	**9.57**	**207**	*e*Pn	**Pn**	**01 00 04.0**	**+2.7**
CTBH	**Cotabato--PC H**	**9.61**	**337**⇑	*e*P	**Pn**	**01 00 02.4**	**+0.6**
BIPH	**Bislig**	**9.92**	**350**⇑	*e*P	**Pn**	**01 00 07.8**	**+1.8**
BIPH				*e*S	Px	01 00 54.6	
BUKP	**Musuan**	**9.93**	**342**	*e*P	**Pn**	**01 00 08.1**	**+1.8**
BUKP				*e*S	Sn	01 01 47.9	-8.3
PAGZ	**Pagadian**	**10.53**	**334**	*e*P	**Pn**	**01 00 14.5**	**+0.1**
SGKI	**Sangatta, Kali**	**10.54**	**276**	P	Pn	01 00 17.8	+3.3
	3μm,0.9s,32μm						
SMPI	**Sarmi**	**10.63**	**92**	P	**Pn**	**01 00 15.5**	**-0.3**
	1μm,1.3s,35μm						
BUTP	**Butuan**	**10.83**	**347**	*e*P	Pn	01 00 22.9	+4.4
IPIL	**Ipil**	**10.87**	**330**	*e*P	**Pn**	**01 00 19.4**	**+0.4**
PALU	**Palau**	**10.98**	**35**	⇑P	**Pn**	**01 00 22.6**	**+2.1**
	baz=11,SNR=31						
WSI	**Waingapu**	**11.11**	**224**	P	Pn	01 00 26.3	+4.0
	4μm,1.2s,53μm109μm						
BKB	**Balikpapan**	**11.19**	**272**	P	**Pn**	**01 00 25.6**	**+2.2**
	10μm,1.1s,117μm370μm						
BASI	**Baing, Sumba**	**11.32**	**221**	P	**Pn**	**01 00 28.1**	**+2.9**
	4μm,1.3s,41μm152μm						
MTN	**Manton Dam**	**11.53**	**165**	⇓P	**Pn**	**01 00 26.1**	**-2.0**
	baz=11,SNR=338						
SCPH	**Surigao**	**11.64**	**347**⇓	*e*P	**Pn**	**01 00 30.6**	**+0.9**
WBSI	**Waikabubak, Su**	**11.74**	**227**	P	**Pn**	**01 00 33.4**	**+2.5**
	2μm,1.1s,24μm						
GENI	**Genyem**	**12.11**	**95**	P	**Pn**	**01 00 36.2**	**+0.1**
	5μm,1.2s,80μm468μm						
MSLP	**Maasin**	**12.14**	**345**	*e*P	**Pn**	**01 00 36.3**	**0.0**
LLP	**Lapu-Lapu**	**12.57**	**341**⇑	*e*P	**Pn**	**01 00 40.7**	**-1.6**
LLP				*e*S	**S**	**01 03 24.4**	**+0.1**
JAY	**Jayapura**	**12.64**	**94**	P	**Pn**	**01 00 42.7**	**-0.6**
	1μm,1.2s,25μm						
JAY	**Jayapura**	**12.64**	**94**	⇓P	**Pn**	**01 00 42.2**	**-1.1**
	baz=13,SNR=41						
SDKM	**Sandakan**	**13.06**	**304**	⇑P	**Pn**	**01 00 51.8**	**+2.7**
OCLP	**Ormoc**	**13.08**	**345**	*e*P	**Pn**	**01 00 51.9**	**+2.7**
PLP	**Palo**	**13.10**	**346**⇑	*e*P	**Pn**	**01 00 47.5**	**-1.9**
MTKI	**Muara Teweh, K**	**13.20**	**273**	P	**Pn**	**01 00 52.8**	**+1.9**
	3μm,0.9s,35μm						
BBKI	**Banjar Baru**	**13.35**	**262**	P	Pn	01 00 56.1	+3.2
	2μm,1.6s,41μm241μm						
GUIM	**Jordan**	**13.36**	**336**	*e*P	**Pn**	**01 00 52.1**	**-0.9**
KNRA	**Kununurra**	**13.96**	**177**	⇑P	**Pn**	**01 00 58.2**	**-2.7**
	baz=14,SNR=1000						
MMPI	**Merauke**	**13.99**	**119**	P	**Pn**	**01 01 01.6**	**+0.1**
	4μm,2.0s,92μm208μm						
MMPI	**Merauke**	**13.99**	**119**	⇑P	**Pn**	**01 01 02.2**	**+0.7**
	baz=14,SNR=4.0						
KDM	**Kudat**	**14.09**	**307**	⇑P	**P**	**01 01 06.2**	**-2.3**
KKM	**Kota Kinabalu**	**14.10**	**303**	⇓P	**Pn**	**01 01 03.2**	**+0.2**
	baz=14,SNR=49						
KKM	**Kota Kinabalu**	**14.10**	**303**	⇓P	**Pn**	**01 01 04.8**	**+1.8**
KKM	**Kota Kinabalu**	**14.10**	**303**	*e*Pn	**Pn**	**01 01 02.7**	**-0.3**
KKM				*e*Sn	**Sn**	**01 03 39.2**	**+1.2**
RCP	**Roxas**	**14.15**	**338**⇑	*e*P	**Pn**	**01 01 03.1**	**-0.5**
BATP	**Bataraza**	**14.58**	**316**	*e*P	**Pn**	**01 01 10.7**	**+1.5**
KMMI	**Kalianget**	**15.06**	**249**	P	**P**	**01 01 19.6**	**+0.3**
	2μm,1.0s,80μm229μm						
ABJI	**Asem Bagus**	**15.09**	**246**	P	**Pn**	**01 01 13.7**	**-2.0**
OTRP	**Odiongan**	**15.16**	**337**	*e*P	**P**	**01 01 22.3**	**+1.8**
ENPP	**El Nido**	**15.40**	**326**	*e*P	**Pn**	**01 01 19.0**	**-0.8**
JAGI	**Jajag, Banyuwa**	**15.44**	**243**	*e*P	**P**	**01 01 23.2**	**-0.3**
	7μm,1.7s						
SJMP	**San Jose**	**15.63**	**334**	*e*P	**Pn**	**01 01 22.8**	**+0.1**
PVCP	**Virac**	**15.64**	**346**	*e*P	**Pn**	**01 01 21.0**	**-1.8**
PVCP	**Virac**	**15.64**	**346**⇑	*e*P	**P**	**01 01 27.2**	**+1.5**
BLJI	**Banyuglugur**	**15.65**	**247**	P	**P**	**01 01 25.7**	**-0.2**
	2μm,1.9s,34μm125μm						
AUQP	**San Andres**	**15.81**	**340**	*e*P	**P**	**01 01 30.3**	**+2.6**
SBUM	**Sibu**	**16.37**	**284**	*e*Pn	**Pn**	**01 01 32.0**	**0.0**
	511nm,0.9s						
GRJI	**Gresik**	**16.41**	**251**	P	**P**	**01 01 36.3**	**+2.0**
	863nm,1.1s,10μm						
GQP	**Guinayangan**	**16.43**	**340**⇓	*e*P	**Pn**	**01 01 32.9**	**+0.1**
PBKI	**Pangkalan Bun**	**16.43**	**266**	P	**P**	**01 01 35.6**	**+1.0**
	2μm,1.6s,35μm133μm						
FITZ	**Fitzroy Crossi**	**16.53**	**188**	⇓P	**Pn**	**01 01 31.1**	**-2.9**
	baz=16,SNR=600						
FITZ	**Fitzroy Crossi**	**16.53**	**188**	*e*Pn	**Pn**	**01 01 31.1**	**-2.9**
	725nm,1.0s						
STKI	**Sintang**	**16.69**	**276**	P	**P**	**01 01 38.3**	**+0.9**
	1μm,1.3s,41μm114μm						
TBJI	**Tambak Boyo**	**16.98**	**252**	P	**P**	**01 01 43.4**	**+2.8**
	3μm,1.5s,80μm144μm						
LUBP	**Lubang**	**17.14**	**333**	*e*P	**Pn**	**01 01 41.6**	**0.0**
TGY	**Tagaytay City**	**17.18**	**336**	P	**Pn**	**01 01 42.2**	**+0.1**
TGY				pmax	pmax		
	comp=Z,30nm,0.3s						
TGY	**Tagaytay City**	**17.18**	**336**	P	**Pn**	**01 01 42.2**	**+0.1**
	comp=Z,30nm,0.3s,baz=221,slow=3.7,SNR=24						
TGY	**Tagaytay City**	**17.18**	**336**	*e*Pn	**Pn**	**01 01 42.2**	**+0.1**
PWJI	**Pagerwojo**	**17.40**	**248**	P	**P**	**01 01 47.8**	**+2.5**
	comp=Z,1μm,1.0s,comp=Z,61μmcomp=Z,136μm						
UWJI	**Ujung Watu**	**17.73**	**254**	P	**P**	**01 01 52.0**	**+3.0**
	comp=Z,2μm,1.4s,comp=Z,46μmcomp=Z,125μm						
KSM	**Kuching**	**18.04**	**280**	⇑P	**Pn**	**01 01 56.3**	**+3.6**
KSM	**Kuching**	**18.04**	**280**	*e*P	**Pn**	**01 01 53.6**	**+0.9**
	comp=Z,1μm,1.0s						
WOJI	**Wonogiri, Jawa**	**18.16**	**250**	P	**Pn**	**01 01 57.5**	**+3.4**
	comp=Z,2μm,1.3s,comp=Z,72μmcomp=Z,149μm						
SMRI	**Semarang**	**18.38**	**253**	*e*P	**Pn**	**01 01 59.6**	**+2.8**
	comp=Z,6μm,1.5s						
BALP	**Baler**	**18.44**	**340**	*e*P	**Pn**	**01 01 57.1**	**-0.3**
PCPH	**Palayan**	**18.44**	**338**⇑	*e*P	**P**	**01 01 56.3**	**-0.4**
UGM	**Wanagama**	**18.56**	**250**	*e*P	**Pn**	**01 01 59.1**	**+0.1**
	comp=Z,8μm,1.7s						
WB0	**Warramunga Arr**	**19.04**	**161**	⇓P	**P**	**01 02 00.9**	**-2.4**
	baz=19						
SCZP	**Santa Cruz**	**19.11**	**335**	*e*P	**P**	**01 02 02.6**	**-1.3**
WRAB	**Tennant Creek**	**19.18**	**162**	P	**P**	**01 02 02.0**	**-2.8**
	comp=Z,5μm,0.5s						
WRAB	**Tennant Creek**	**19.18**	**162**	*e*P	**P**	**01 02 01.6**	**-3.2**
WRAB				*e*S	S	01 05 29.4	-10
WRAB				pmax	pmax		
	comp=Z,2μm,1.5s						
WRAB	**Tennant Creek**	**19.18**	**162**	*e*P	**P**	**01 02 01.6**	**-3.2**
	comp=Z,2μm,1.5s						
WRAB				*e*S	S	01 05 29.4	-10
WRA	**Warramunga Arr**	**19.18**	**162**	P	**P**	**01 02 01.5**	**-3.4**
WRA				S	S	01 05 28.1	-11
WRA				pmax	pmax		
	comp=Z,37nm,0.3s						
WRA				smax	smax		
	comp=N,18nm,0.3s						
WRA				MLR	MLR		
	comp=Z,41μm,19.0s						
WRA	**Warramunga Arr**	**19.18**	**162**	P	**P**	**01 02 01.5**	**-3.4**
	comp=Z,37nm,0.3s,baz=340,slow=12,SNR=173						
WRA				S	S	01 05 28.1	-11
	comp=Z,18nm,0.3s,baz=329,slow=23,SNR=4.8						
WRA				LR	LR	01 09 57.1	
	comp=Z,41μm,19.0s,baz=345,slow=38						
WRA				P3KPbc		01 36 32.5	
	comp=Z,0.1nm,0.3s,baz=157,slow=4.2,SNR=6.6						
WRA	**Warramunga Arr**	**19.18**	**162**	*e*P	**P**	**01 02 01.5**	**-3.4**
WRA				*e*S	S	01 05 28.1	-11
WRA				*e*ScP	**ScP**	**01 09 57.1**	**0.0**
WB2	**Warramunga Arr**	**19.19**	**162**	*e*P	**P**	**01 02 01.5**	**-3.4**
MANU	**Manus Island**	**19.28**	**91**	⇑P	**Pn**	**01 02 07.7**	**+0.1**
	baz=19,SNR=3.8						
COEN	**Coen**	**19.30**	**130**	P	**P**	**01 02 05.7**	**-0.4**
	baz=19,SNR=146						
COEN	**Coen**	**19.30**	**130**	*e*P	**P**	**01 02 06.0**	**-0.1**
	comp=Z,79μm,2.6s						
COEN				*e*S	S	01 05 23.8	-18
BCPH	**Baguio City Da**	**19.39**	**338**⇑	*i*P	**Pn**	**01 02 08.7**	**

CTA MLR MLR
comp=Z,19μm,18.3s
CTA Charters Tower 25.52 137 P P 01 03 10.1 +1.1
comp=Z,181nm,0.9s,baz=318,slow=12,SNR=47
CTA LR LR 01 15 02.6
comp=Z,19μm,18.3s,baz=320,slow=40
CTA Charters Tower 25.52 137 eP P 01 03 10.1 +1.1
CTAO Charters Tower 25.52 137 eP P 01 03 09.8 +0.8
CTAO pmax pmax
comp=Z,2μm,1.8s
CTAO Charters Tower 25.52 137 eP P 01 03 09.8 +0.8
comp=Z,2μm,1.8s
YULB Yu-li 25.75 346 eP P 01 03 09.2 -1.8
comp=Z,377nm,1.1s
TPUB Ta-pu 25.84 344 eP P 01 03 11.2 -0.6
comp=Z,828nm,0.8s
KTGM Kuala Trenggan 25.86 286 ⇓P P 01 03 18.3 +6.1
SSLB Suanglung 26.22 345 eP P 01 03 14.2 -1.0
comp=Z,493nm,0.9s
YOJ Yonaguni jima 26.42 350 eP P 01 03 17.7 +0.7
YOJ pmax pmax
comp=Z,2μm,1.2s
YOJ Yonaguni jima 26.42 350 eP P 01 03 17.7 +0.7
comp=Z,2μm,1.2s
NACB Ninganchiao 26.43 347 eP P 01 03 16.2 -0.9
comp=Z,648nm,1.3s
MEEK Meekatharra 26.46 199 P P 01 03 16.4 -1.1
baz=26,SNR=53
FRIM Kepong 26.89 280 ⇓P P 01 03 25.1 +3.7
YHNB Yeheng 26.96 346 eP P 01 03 21.4 -0.6
comp=Z,2μm,1.4s
BKNI Bangkinang 27.11 274 eP P 01 03 25.9 +2.5
comp=Z,2μm,1.3s
TATO Taipei 27.23 347 P P 01 03 23.7 -0.6
SNR=9.5
TATO Taipei 27.23 347 eP P 01 03 23.4 -0.8
comp=Z,1μm,1.4s
QIZ Qiongzhong 27.27 320 P P 01 03 25.8 +1.0
QIZ pP **pP 01 03 39.4 -0.8**
QIZ sP **sP 01 03 45.5 -2.2**
QIZ S **S 01 08 00.9 +1.2**
QIZ sS **sS 01 08 25.8 -0.4**
QIZ PMZ
comp=Z,360nm,1.5s
QIZ LN
comp=Z,21μm,15.4s
QIZ LZ
comp=Z,29μm,31.1s
QIZ Qiongzhong 27.27 320 eP P 01 03 25.6 +0.8
comp=Z,993nm,1.5s
HKC Hong Kong Obse 27.40 331 iP P 01 03 29.0 +3.1
IPM Ipoh 27.71 283 ⇑P P 01 03 31.9 +3.1
IPM Ipoh 27.71 283 eP P 01 03 30.9 +2.0
comp=Z,1μm,1.2s
UBPT Khong Chiam 27.99 308 P P 01 03 32.0 +0.8
comp=Z,267nm,1.2s,comp=Z,9μm
QZH Quanzhou 27.99 341 ⇑iP P 01 03 32.0 +0.9
QZH S **S 01 08 12.5 +1.6**
QZH PMZ
comp=Z,930nm,1.0s
QZH PMZ
comp=Z,15μm,11.0s
QZH LN
comp=Z,11μm,12.0s
QZH LE
comp=Z,18μm,16.1s
QZH LZ
comp=Z,55μm,27.3s
KULM Kulim 28.25 284 ⇑P P 01 03 36.7 +3.0
KULM Kulim 28.25 284 eP P 01 03 35.0 +1.3
comp=Z,725nm,1.3s
JOW Kunigami 28.32 0 P P 01 03 34.5 +0.5
comp=Z,13nm,0.7s,baz=147,slow=17
JOW LR LR 01 13 38.8
comp=Z,4μm,21.1s,baz=192,slow=34
JOW Kunigami 28.32 0 eP P 01 03 34.3 +0.3
comp=Z,707nm,1.2s
GZH Guangzhou 28.47 331 P P 01 03 39.5 +4.1
GZH S **S 01 08 17.5 -1.1**
GZH LN
comp=Z,32μm,20.9s
GZH LE
comp=Z,44μm,20.1s
FORT Forrest 28.97 180 P P 01 03 38.7 -1.1
baz=29,SNR=126
FORT Forrest 28.97 180 eP P 01 03 38.5 -1.3
comp=Z,902nm,0.8s
QLP Quilpie 29.25 149 P P 01 03 42.0 -0.3
baz=29,SNR=42
PSI Prapat 29.48 279 P P 01 03 46.0 +1.3
PSI pmax pmax
comp=Z,118nm,1.1s
PSI MLR MLR
comp=Z,18nm,28.6s
PSI Prapat 29.48 279 P P 01 03 46.0 +1.3
comp=Z,118nm,1.1s,baz=103,slow=7.6,SNR=52
PSI LR LR 01 17 07.0
comp=Z,15μm,18.3s,baz=97,slow=39
PSI Prapat 29.48 279 ⇑P P 01 03 46.3 +1.6
baz=30,SNR=46
PSI Prapat 29.48 279 eP P 01 03 46.0 +1.3
MORW Morawa 29.59 202 P P 01 03 45.3 0.0
baz=30,SNR=14
KMBL Kambalda 30.13 191 ⇑P P 01 03 49.5 -0.7
baz=30,SNR=42
GSI Gunungsitoli 30.64 275 eP P 01 03 55.0 +0.2
comp=Z,637nm,1.1s
BLDU Ballidu 30.76 199 ⇓P P 01 03 54.9 -0.7
baz=31,SNR=8.8
SURT Suratani 31.03 290 P P 01 03 59.9 +1.7
comp=Z,311nm,1.2s,comp=Z,3μm
PKDT Phuket 31.14 288 P P 01 04 01.4 +2.2
comp=Z,372nm,1.2s
KLBR Kellerberrin 31.34 197 ⇓P P 01 04 00.3 -0.5
baz=31,SNR=18
CBI Chichi jima 31.64 24 eP P 01 04 02.4 -1.0
CBI e 01 17 31.1
CBIJ Chichi jima 31.64 24 eP P 01 04 02.8 -0.6
comp=Z,554nm,1.0s
JCJ Chichijima 31.64 24 P P 01 04 02.4 -1.0
comp=Z,129nm,0.7s,baz=183,slow=5.1,SNR=8.7
JCJ LR LR 01 17 31.1
comp=Z,9μm,18.1s,baz=202,slow=38
RMQ Roma 31.70 143 P P 01 04 04.2 +0.3
baz=32,SNR=32
LHMI Lhok Sumawe 31.84 283 eP P 01 04 06.6 +1.2
comp=Z,819nm,0.9s
BBOO Buckleboo 31.89 167 P P 01 04 04.4 -1.1
baz=32,SNR=109
BBOO Buckleboo 31.89 167 eP P 01 04 04.5 -1.0
comp=Z,5μm,1.7s
EIDS Eidsvold 32.37 139 P P 01 04 09.8 -0.1
baz=32,SNR=5.5
EIDS Eidsvold 32.37 139 eP P 01 04 09.6 -0.3
comp=Z,251nm,1.3s
HNR Honiara 32.62 105 eP P 01 04 09.8 -2.4
HNR pmax pmax
comp=Z,585nm,0.9s
HNR Honiara 32.62 105 eP P 01 04 09.8 -2.4
comp=Z,585nm,0.9s
STKA Stephens Creek 32.66 158 P P 01 04 11.7 -0.6
STKA pmax pmax
comp=Z,172nm,0.8s
STKA MLR MLR
comp=Z,18nm,28.6s
STKA Stephens Creek 32.66 158 P P 01 04 11.7 -0.6
comp=Z,172nm,0.8s,baz=330,slow=8.6,SNR=96
STKA LR LR 01 20 20.3
comp=Z,23μm,18.2s,baz=334,slow=41
STKA Stephens Creek 32.66 158 P P 01 04 11.8 -0.6
baz=33,SNR=99
STKA Stephens Creek 32.66 158 eP P 01 04 11.5 -0.8
comp=Z,86nm,1.1s
COCO West Island 32.69 250 eP P 01 04 12.3 -0.5
COCO pmax pmax
comp=Z,523nm,1.5s
COCO West Island 32.69 250 eP P 01 04 12.3 -0.5
comp=Z,523nm,1.5s
NWAO Narrogin (SRO) 32.74 197 P P 01 04 12.8 -0.2
NWAO pmax pmax
comp=Z,78nm,0.8s
NWAO Narrogin (SRO) 32.74 197 P P 01 04 12.8 -0.2
comp=Z,78nm,0.8s,baz=19,slow=9.5,SNR=28
NWAO Narrogin (SRO) 32.74 197 eP P 01 04 11.5 -1.5
comp=Z,0.1nm,1.5s
SRDT SRDT 32.79 300 P P 01 04 15.9 +2.2
comp=Z,658nm,1.1s,comp=Z,15μm

HTT Hallett 33.21 163 P P 01 04 16.6 -0.5
baz=33,SNR=41
SSE Sheshan 33.22 349 P P 01 04 17.5 +0.4
SSE sP **sP 01 04 37.5 -2.7**
SSE S **S 01 09 32.1 -0.5**
SSE sS **sS 01 09 55.1 -4.1**
SSE PMZ
comp=Z,270nm,1.1s
SSE PMZ
comp=Z,5μm,8.3s
SSE LN
comp=Z,3μm,13.9s
SSE LE
comp=Z,10μm,13.9s
SSE LZ
comp=Z,17μm,20.4s
UTTA Uttaradit 33.27 307 P P 01 04 19.3 +1.5
comp=Z,133nm,0.9s,comp=Z,909nm
SUKH Sukhothai 33.88 305 P P 01 04 24.7 +1.6
comp=Z,197nm,0.8s,comp=Z,1μm
CMSA Cobar Meteorol 34.07 153 P P 01 04 24.6 +0.1
baz=34,SNR=95
LAMP Lampang 34.42 307 P P 01 04 29.7 +1.9
comp=Z,125nm,0.9s,comp=Z,889nm
WHN Wuhan 34.59 339 ⇑P P 01 04 30.8 +1.8
WHN S **S 01 09 55.9 +2.1**
WHN PMZ
comp=Z,3μm,1.2s
WHN LN
comp=Z,12μm,12.5s
WHN LE
comp=Z,11μm,10.2s
WHN LZ
comp=Z,30μm,21.2s
NJ2 Nanjing 34.64 346 eP P 01 04 30.1 +0.6
NJ2 pP **pP 01 04 44.9 -0.2**
NJ2 sP **sP 01 04 51.0 -1.6**
NJ2 PP **PP 01 05 50.1 +1.0**
NJ2 S **S 01 09 57.0 +2.4**
NJ2 sS **sS 01 10 22.0 +0.7**
NJ2 PMZ
comp=Z,630nm,0.8s
NJ2 PMZ
comp=Z,11μm,11.6s
NJ2 LN
comp=Z,49μm,22.7s
NJ2 LE
comp=Z,23μm,21.6s
NJ2 LZ
comp=Z,23μm,21.5s
JNU Nakatsue 34.68 4 P P 01 04 29.8 -0.1
comp=Z,547nm,1.3s,baz=182,slow=5.0,SNR=56
JNU Nakatsue 34.68 4 eP P 01 04 30.0 +0.1
comp=Z,1μm,1.6s
PAYA Payao 34.69 308 P P 01 04 31.7 +1.5
comp=Z,86nm,1.1s,comp=Z,970nm
GYA Guiyang 34.76 325 ⇑iP P 01 04 32.6 +1.8
GYA pP **pP 01 04 47.8 +1.3**
GYA sP **sP 01 04 54.3 +0.4**
GYA PP **PP 01 05 52.1 +1.4**
GYA PcP **PcP 01 07 06.0 +2.7**
GYA S **S 01 10 01.8 +4.9**
GYA sS **sS 01 10 24.3 +0.7**
GYA SS **SnSn 01 12 17.4 +1.5**
GYA PMZ
comp=Z,670nm,1.2s
GYA LN
comp=Z,15μm,17.8s
GYA LE
comp=Z,13μm,18.2s
GYA LZ
comp=Z,17μm,17.9s
CRAI Chiangrai 34.79 310 P P 01 04 31.1 +0.1
comp=Z,142nm,1.1s
CM01 Chiang Mai Arr 34.91 306 eP P 01 04 33.9 +1.8
KSJJU Jeju 34.92 358 P P 01 04 32.9 +1.0
SNR=8.8
KSJJU Jeju 34.92 358 P P 01 04 32.9 +1.0
SNR=8.8
CM31 Chiang Mai Arr 34.94 306 eP P 01 04 33.8 +1.5
CM31 eScP **ScP 01 10 46.5 +2.4**
CMAR Chiang Mai Arr 34.94 306 P P 01 04 33.8 +1.5
CMAR pmax pmax
comp=Z,147nm,1.1s
CMAR pmax pmax
comp=Z,27nm,0.9s
CMAR pmax pmax
comp=N,3.0nm,0.4s
CMAR MLR MLR
comp=Z,18nm,28.6s
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 34.94 306 P P 01 04 33.8 +1.5
comp=Z,147nm,1.1s,baz=129,slow=6.5,SNR=323
CMAR pPcP 01 07 24.5
comp=Z,27nm,0.9s,baz=160,slow=2.3,SNR=4.2
CMAR ScP **ScP 01 10 46.5 +2.4**
comp=Z,3.3nm,0.4s,baz=153,slow=2.7,SNR=4.3
CMAR LR LR 01 18 31.3
comp=Z,7μm,22.0s,baz=126,slow=36
CMAR PKPPKP **P'P'df 01 37 40.3 -4.9**
comp=Z,1.0nm,0.3s,baz=98,slow=26,SNR=4.6
CMAR Chiang Mai Arr 34.94 306 P P 01 04 33.8 +1.5
CMMT Chiang Mai 35.12 307 P P 01 04 35.2 +1.3
comp=Z,708nm,1.1s,comp=Z,10μm
CHTO Chiang Mai 35.13 307 eP P 01 04 35.2 +1.3
CHTO pmax pmax
comp=Z,475nm,1.0s
CHTO Chiang Mai 35.13 307 P P 01 04 36.0 +2.0
SNR=261
CHTO Chiang Mai 35.13 307 P P 01 04 35.2 +1.3
comp=Z,2μm,1.6s,comp=Z,30μm
CHTO Chiang Mai 35.13 307 eP P 01 04 35.2 +1.3
comp=Z,475nm,1.0s
MHMT Maesarieng 35.62 305 P P 01 04 39.8 +1.7
comp=Z,276nm,1.4s,comp=Z,5μm
CMAI Chiengmai2 35.65 308 P P 01 04 40.2 +1.6
comp=Z,464nm,1.6s,comp=Z,12μm
KSWAN Wando 35.87 358 P P 01 04 41.4 +1.4
SNR=13
KSWAN Wando 35.87 358 P P 01 04 41.4 +1.4
SNR=13
KSJDO Jindo 35.97 358 P P 01 04 42.2 +1.3
SNR=11
KSJDO Jindo 35.97 358 P P 01 04 42.2 +1.3
SNR=11
KSHAN Haenam 36.06 358 P P 01 04 42.7 +1.1
SNR=7.6
KSHAN Haenam 36.06 358 P P 01 04 42.7 +1.1
SNR=7.6
KMI Kunming 36.21 319 P P 01 04 46.0 +2.6
KMI pP **pP 01 05 00.5 +1.4**
KMI sP **sP 01 05 07.3 +0.8**
KMI S **S 01 10 23.0 +3.6**
KMI sS **ScP 01 10 47.8 -1.1**
KMI SS **SnSn 01 12 52.9 +1.7**
KMI PMZ
comp=Z,1μm,1.4s
KMI PMZ
comp=Z,7μm,6.7s
KMI LN
comp=Z,22μm,16.9s
KMI LE
comp=Z,18μm,16.9s
KMI LZ
comp=Z,19μm,29.5s
KSMOK Mokpo 36.24 358 P P 01 04 44.5 +1.3
SNR=6.2
KSMOK Mokpo 36.24 358 P P 01 04 44.5 +1.3
SNR=6.2
ARMA Armidale 36.30 144 ⇑P P 01 04 45.0 +1.1
baz=36,SNR=108
ARMA Armidale 36.30 144 eP P 01 04 45.0 +1.1
comp=Z,529nm,1.3s
JHJ2 Mitsune 36.31 17 eP P 01 04 43.6 -0.1
comp=Z,2μm,1.8s
ENH Enshi 36.36 332 eP P 01 04 45.3 +0.9
comp=Z,243nm,0.9s
KSKWJ Gwangju 36.63 359 P P 01 04 48.3 +1.8
SNR=6.5
KSBUS Busan 36.72 1 P P 01 04 48.8 +1.6
SNR=8.9
KSJEU Jeongeup 36.97 358 P P 01 04 50.6 +1.3
SNR=9.5
ARPS Mount Arapiles 37.19 162 P P 01 04 51.7 +0.5
baz=37,SNR=212
KSDAG Daegu 37.23 1 P P 01 04 53.3 +1.6
SNR=6.6
KSJEO Jeonju 37.40 359 P P 01 04 54.6 +1.5
SNR=8.9
PBA Port Blair 37.53 292 eP P 01 04 55.9 +1.4
YNG Young 37.62 152 ⇑P P 01 04 56.7 +1.8
baz=38,SNR=64
KSPHA Pohang 37.67 2 P P 01 04 56.2 +1.0
SNR=8.2
TJN Taejon 37.84 359 iP P 01 04 56.7 0.0
DGPR DIGLIPUR 37.85 294 eP P 01 04 58.9 +1.7
KSBON Boeun 37.95 360 P P 01 04 59.2 +1.5
SNR=20
MGCD Mangrove Creek 38.11 148 ⇓P P 01 05 00.9 +1.8
baz=38,SNR=18
KSULJ Uljin 38.17 2 P P 01 05 01.5 +2.0
SNR=7.3
KSCEA Cheonan 38.28 359 P P 01 05 02.1 +1.7
SNR=16
KSCHJ Chungju 38.33 360 P P 01 05 02.6 +1.7
SNR=6.8
KSTBA Taebaek 38.58 1 P P 01 05 04.3 +1.2
SNR=12
KSYOW Yeongwol 38.63 0 P P 01 05 05.0 +1.7
SNR=9.4
KSSWO Suwon 38.73 359 P P 01 05 05.5 +1.3
SNR=25
CAN Canberra 38.74 152 eP P 01 05 05.2 +0.8
CAN pmax pmax
comp=Z,129nm,0.7s
CAN Canberra 38.74 152 eP P 01 05 05.2 +0.8
comp=Z,129nm,0.7s
KSICN Icheon 38.75 359 P P 01 05 06.3 +2.0
SNR=15
KSWJU Wonju 38.85 360 P P 01 05 06.7 +1.4
SNR=14
KS15 Wonju Array Si 38.89 360 eP P 01 05 06.3 +0.7
KS15 ePcP **PcP 01 07 17.4 +2.1**
KSAR Wonju Array Be 38.89 360 P P 01 05 06.3 +0.7
KSAR Wonju Array Be 38.89 360 P P 01 05 06.3 +0.7
CNB Canberra Magne 38.91 152 P P 01 05 07.2 +1.4
baz=39,SNR=40
KSRS Korea Array 38.91 360 P P 01 05 06.3 +0.7
KSRS 01 07 17.5
KSRS pmax pmax
comp=Z,108nm,1.0s
KSRS pmax pmax
comp=Z,10.0nm,0.7s
KSRS Korea Array 38.91 360 P P 01 05 06.3 +0.7
comp=Z,108nm,1.0s,baz=181,slow=9.8,SNR=145
KSRS PcP **PcP 01 07 17.4 +2.0**
comp=Z,10nm,0.7s,baz=189,slow=2.3,SNR=4.5
KSRS LR LR 01 19 50.1
comp=Z,16μm,19.6s,baz=176,slow=34
KS01 Wonju Array Si 38.93 360 eP P 01 05 06.2 +0.3
KS01 ePcP **PcP 01 07 17.4 +1.9**
KSSEO Seoul 38.95 359 P P 01 05 07.2 +1.1
SNR=16
INCN Inchon 38.96 358 P P 01 05 07.2 +1.0
SNR=26
INCN Inchon 38.96 358 eP P 01 05 06.8 +0.7
comp=Z,656nm,1.3s
KSULL Ulleungdo 39.01 4 P P 01 05 07.6 +1.0
SNR=7.6
TIA Tai'an 39.03 346 ⇑P P 01 05 06.4 -0.3
TIA SS SS 01 13 50.8 -5.1
TIA PMZ
comp=Z,240nm,1.2s
TIA PMZ
comp=Z,6μm,9.0s
TIA LN
comp=Z,8μm,22.0s
TIA LE
comp=Z,13μm,15.0s
TIA LZ
comp=Z,13μm,26.0s
KSDGY Daegwallycong 39.15 1 P P 01 05 09.3 +1.5
SNR=10
MAJO Matsushiro 39.15 13 eP P 01 05 07.0 -0.8
MAJO e*PP **pP 01 05 25.2 +1.5**
MAJO pmax pmax
comp=Z,4μm,2.1s
MAJO Matsushiro 39.15 13 eP P 01 05 07.0 -0.8
comp=Z,4μm,2.1s
MAJO epP **pP 01 05 25.1 +1.5**
MAT Matsushiro 39.15 13 P P 01 05 07.2 -0.6
MAT S **S 01 11 03.2 0.0**
MJAR Matsushiro Arr 39.15 13 P P 01 05 07.1 -0.6
MJAR *PP **pP 01 05 25.2 +1.5**
MJAR pmax pmax
comp=Z,253nm,0.9s
MJAR pmax pmax
comp=Z,137nm,0.9s
MJAR Matsushiro Arr 39.15 13 P P 01 05 07.1 -0.6
comp=Z,253nm,0.9s,baz=186,slow=9.7,SNR=212
MJAR pP **pP 01 05 25.2 +1.5**
comp=Z,137nm,0.9s,baz=187,slow=9.8,SNR=5.2
MJAR LR LR 01 19 46.1
comp=Z,22μm,22.0s,baz=190,slow=34
MJAR Matsushiro Arr 39.15 13 P P 01 05 07.1 -0.6
MJAR pP **pP 01 05 25.2 +1.5**
TOO Toolangi 39.18 158 ⇓P P 01 05 09.4 +1.4
baz=39,SNR=104
KSGAH Ganghwa 39.19 358 P P 01 05 09.2 +1.2
SNR=7.7
KSCHC Chuncheon 39.23 360 P P 01 05 10.2 +1.8
SNR=14
KSJMJ Jumunjin 39.34 1 P P 01 05 10.9 +1.6
SNR=15
KSDDC Dongducheon 39.36 359 P P 01 05 11.2 +1.7
SNR=42
KSIJA INJE 39.44 0 P P 01 05 12.3 +2.2
SNR=47
YNCB YEONCHEON 39.51 359 P P 01 05 12.6 +2.0
SNR=40
KSCWO Cheorwon 39.54 359 P P 01 05 12.4 +1.4
SNR=29
KSBAR Backryungdo 39.55 356 P P 01 05 13.1 +2.1
SNR=16
CD2 Chengdu 39.80 326 ⇑iP P 01 05 14.3 +1.0
CD2 pP **pP 01 05 30.0 +0.8**
CD2 sP **sP 01 05 36.0 -0.6**
CD2 PP **PnPn 01 06 49.6 -0.1**
CD2 S **S 01 11 12.6 -0.6**
CD2 sS **sS 01 11 39.4 -0.9**
CD2 PMZ
comp=Z,1μm,1.4s
CD2 PMZ
comp=Z,6μm,10.7s
CD2 LN
comp=Z,23μm,15.5s
CD2 LE
comp=Z,25μm,13.1s
CD2 LZ
comp=Z,21μm,23.6s
XAN Xi'an 39.81 335 P P 01 05 13.8 +0.4
XAN PP **PP 01 06 47.6 +1.6**
XAN PMZ
comp=Z,200nm,1.2s
XAN PMZ
comp=Z,1μm,10.6s
XAN LN
comp=Z,11μm,29.3s
XAN LE
comp=Z,5μm,27.6s
XAN LZ
comp=Z,6μm,29.4s
MILA Mila 40.24 154 P P 01 05 18.4 +1.5
baz=40,SNR=16
KWAJ Kwajalein Atol 40.74 75 eP P 01 05 20.3 -1.0
KWAJ pmax pmax
comp=Z,218nm,0.9s
KWAJ Kwajalein Atol 40.74 75 eP P 01 05 20.3 -1.0
comp=Z,218nm,0.9s
DL2 Dalian 40.79 352 ⇑iP P 01 05 21.6 +0.3
DL2 S **S 01 11 26.3 -1.3**
DL2 SS **SS 01 14 29.9 -1.0**
DL2 PMZ
comp=Z,470nm,1.0s
DL2 PMZ
comp=Z,4μm,8.6s
DL2 LE
comp=Z,7μm,19.6s
DL2 LZ
comp=Z,8μm,20.6s
TIY Taiyuan 41.76 341 eP P 01 05 29.8 +0.4
TIY PP **PnPn 01 07 16.6 +4.1**

TIY			S	**S**	**01 11 47.3**	**+5.1**
TIY			SS	**SS**	**01 14 50.8**	**+0.5**
TIY			PMZ			
	comp=Z,750nm,1.3s					
TIY			PMZ			
	comp=Z,5μm,12.0s					
TIY			LN			
	comp=Z,2μm,7.3s					
TIY			LE			
	comp=Z,8μm,12.1s					
TIY			LZ			
	comp=Z,18μm,34.2s					
DZM	**Mont Dzumac**	**42.46 121**	P	**P**	**01 05 36.6**	**+1.2**
	comp=Z,100nm,1.0s,baz=327,slow=7.1,SNR=14					
DZM	**Mont Dzumac**	**42.46 121**	*e*P	**P**	**01 05 36.3**	**+0.9**
	comp=Z,577nm,1.6s					
BJT	**Baijiatuau**	**42.88 347**	*e*P	**P**	**01 05 38.3**	**0.0**
BJT			pmax	pmax		
	comp=Z,848nm,1.2s					
BJT	**Baijiatuau**	**42.88 347**	*e*P	**P**	**01 05 38.3**	**0.0**
	comp=Z,848nm,1.2s					
BJI	**Beijing**	**42.90 347**	P	**P**	**01 05 38.3**	**-0.1**
BJI			PP	**PP**	**01 07 22.4**	**+3.2**
BJI			S	**S**	**01 12 01.3**	**+2.6**
BJI			PMZ			
	comp=Z,620nm,1.2s					
BJI			PMZ			
	comp=Z,5μm,5.7s					
BJI			LN			
	comp=Z,7μm,27.8s					
BJI			LE			
	comp=Z,9μm,21.5s					
BJI			LZ			
	comp=Z,9μm,35.4s					
SNY	**Shenyang**	**43.47 355**	⇑P	**P**	**01 05 43.3**	**+0.3**
SNY			sP	**sP**	**01 06 04.9**	**-1.5**
SNY			S	**S**	**01 12 03.8**	**-3.1**
SNY			PMZ			
	comp=Z,420nm,1.2s					
SNY			PMZ			
	comp=Z,7μm,9.5s					
SNY			LN			
	comp=Z,8μm,18.0s					
SNY			LE			
	comp=Z,25μm,19.0s					
SNY			LZ			
	comp=Z,18μm,23.0s					
LZH	**Lanzhou**	**43.82 331**	⇑P	**P**	**01 05 47.8**	**+1.6**
LZH			pP	**pP**	**01 06 01.9**	**-0.4**
LZH			sP	**sP**	**01 06 07.3**	**-2.3**
LZH			PP	**PcP**	**01 07 33.0**	**+1.2**
LZH			S	**S**	**01 12 13.3**	**+0.6**
LZH			SS	**SS**	**01 15 25.5**	**-5.3**
LZH			PMZ			
	comp=Z,2μm,1.2s					
LZH			PMZ			
	comp=Z,7μm,5.3s					
LZH			LN			
	comp=Z,12μm,11.0s					
LZH			LE			
	comp=Z,11μm,11.8s					
LZH			LZ			
	comp=Z,35μm,13.0s					
MOO	**Moorlands**	**44.08 160**	P	**P**	**01 05 49.7**	**+1.7**
	baz=44,SNR=25					
SHL	**Shillong**	**44.25 310**	AMB	AMB	01 05 51.1	
	comp=Z,530nm,0.0s					
SHL			*e*P	**P**	**01 05 52.0**	**+2.1**
TAU	**Tasmania Unive**	**44.54 160**	P	**P**	**01 05 53.0**	**+1.4**
	comp=Z,450nm,0.8s,SNR=8.7					
TAU	**Tasmania Unive**	**44.54 160**	*e*P	**P**	**01 05 52.3**	**+0.7**
TAU			pmax	pmax		
	comp=Z,216nm,1.1s					
TAU	**Tasmania Unive**	**44.54 160**	*e*P	**P**	**01 05 52.3**	**+0.7**
	comp=Z,216nm,1.1s					
VLA	**Vladivostok**	**44.70 4***j*	*i*P	**P**	**01 05 54.0**	**+1.2**
VLA			*e*		01 07 38.1	
VLA			*i* S	**S**	**01 12 26.6**	**+1.8**
VLA			pmax	pmax		
	comp=Z,647nm,1.7s					
HHC	**Hu-ho-hao-te**	**44.90 342**	*e*P	**P**	**01 05 55.3**	**+0.6**
HHC			pP	**pP**	**01 06 07.3**	**-3.5**
HHC			PP	**PP**	**01 07 44.0**	**+3.3**
HHC			S	**S**	**01 12 26.4**	**-1.7**
HHC			SS	**SS**	**01 15 52.4**	**+0.9**
HHC			PMZ			
	comp=Z,670nm,1.4s					
HHC			PMZ			
	comp=Z,10μm,7.4s					
HHC			LN			
	comp=Z,17μm,18.5s					
HHC			LE			
	comp=Z,17μm,21.0s					
HHC			LZ			
	comp=Z,32μm,25.9s					
TARA	**Tarawa**	**44.94 86**	*e*P	**P**	**01 05 55.3**	**+0.1**
	comp=Z,1μm,1.7s					
BTO	**Baotou**	**45.17 341**	*e*P	**P**	**01 05 56.3**	**-0.5**
CN2	**Changchun**	**45.31 357**	⇑P	**P**	**01 05 56.1**	**-1.6**
CN2			*e*S	**S**	**01 12 33.4**	**-0.3**
CN2			PMZ			
	comp=Z,200nm,4.0s					
CN2			LN			
	comp=Z,10μm,20.0s					
CN2			LE			
	comp=Z,15μm,20.0s					
CN2			LZ			
	comp=Z,2μm,20.0s					
ERM	**Erimo**	**45.56 16**	P	**P**	**01 06 01.8**	**+2.1**
	comp=Z,1μm,1.5s,SNR=5.7					
ERM	**Erimo**	**45.56 16**	*e*P	**P**	**01 06 00.6**	**+0.9**
ERM			pmax	pmax		
	comp=Z,605nm,1.7s					
ERM			MLR	MLR		
	comp=Z,13μm,19.0s					
ERM	**Erimo**	**45.56 16**	*e*P	**P**	**01 06 00.0**	**+0.3**
	comp=Z,372nm,1.1s					
USRK	**Ussuriysk Ar.**	**45.78 4**	P	**P**	**01 06 02.2**	**+0.8**
	comp=Z,72nm,0.5s,baz=188,slow=7.2,SNR=189					
USRK			pP	**pP**	**01 06 19.1**	**+1.5**
	comp=Z,103nm,0.7s,baz=182,slow=6.1,SNR=8.1					
USRK			LR	LR	01 25 56.8	
	comp=Z,9μm,18.7s,baz=173,slow=37					
MDJ	**Mudanjiang**	**46.08 1**	P	**P**	**01 06 04.8**	**+1.0**
MDJ			pP	**pP**	**01 06 18.1**	**-1.9**
MDJ			sP	**sP**	**01 06 25.0**	**-2.3**
MDJ			PP	**PP**	**01 07 52.5**	**-0.5**
MDJ			ScP	**ScP**	**01 11 29.4**	**+2.3**
MDJ			S	**S**	**01 12 41.4**	**-3.4**
MDJ			PMZ			
	comp=Z,610nm,1.4s					
MDJ			PMZ			
	comp=Z,6μm,9.2s					
MDJ			LN			
	comp=Z,20μm,25.4s					
MDJ			LE			
	comp=Z,6μm,25.4s					
MDJ			LZ			
	comp=Z,27μm,27.8s					
MDJ	**Mudanjiang**	**46.08 1**	*e*P	**P**	**01 06 04.6**	**+0.8**
	comp=Z,2μm,1.5s					
LSA	**Lhasa**	**47.07 314**	P	**P**	**01 06 14.8**	**+2.4**
LSA			sP	**sP**	**01 06 34.8**	**-1.1**
LSA			PP	**PP**	**01 08 07.8**	**+4.1**
LSA			S	**S**	**01 12 58.8**	**-1.5**
LSA			SS	**SS**	**01 16 22.9**	**-5.3**
LSA			PMZ			
	comp=Z,480nm,1.0s					
LSA			PMZ			
	comp=Z,670nm,11.0s					
LSA			LN			
	comp=Z,9μm,36.0s					
LSA			LE			
	comp=Z,13μm,30.0s					
LSA			LZ			
	comp=Z,22μm,36.0s					
LSA	**Lhasa**	**47.07 314**	*e*P	**P**	**01 06 14.1**	**+1.7**
LSA			*e*S	**S**	**01 13 00.0**	**-0.3**
LSA			pmax	pmax		
	comp=Z,376nm,0.8s					
LSA	**Lhasa**	**47.07 314**	*e*P	**P**	**01 06 14.1**	**+1.7**
	comp=Z,376nm,0.8s					
LSA			*e*S	**S**	**01 12 60.0**	**-0.3**
ASAJ	**Asahikawa**	**47.38 14**	P	**P**	**01 06 15.5**	**+1.5**
ASAJ			pmax	pmax		
	comp=Z,441nm,0.9s					
ASAJ	**Asahikawa**	**47.38 14**	P	**P**	**01 06 15.4**	**+1.5**
	comp=Z,441nm,0.9s,baz=235,slow=14,SNR=54					
ASAJ	**Asahikawa**	**47.38 14**	*e*P	**P**	**01 06 15.0**	**+1.1**
	comp=Z,1μm,1.2s					
VIS	**Vishakhapatnam**	**48.09 296**	*e*P	**P**	**01 06 21.2**	**+1.3**
VIS			AMB	AMB	01 06 23.1	
	comp=Z,288nm,0.0s					
PALK	**Pallekele**	**48.09 281**	P	**P**	**01 06 21.0**	**+0.9**
	comp=Z,465nm,0.8s,SNR=9.8					
PALK	**Pallekele**	**48.09 281**	P	**P**	**01 06 20.9**	**+0.9**
PALK			pmax	pmax		
	comp=Z,69nm,0.7s					
PALK	**Pallekele**	**48.09 281**	P	**P**	**01 06 21.4**	**+1.3**
	SNR=8.8					
PALK	**Pallekele**	**48.09 281**	P	**P**	**01 06 20.9**	**+0.9**
	comp=Z,68nm,0.7s,baz=101,slow=7.4,SNR=25					
PALK	**Pallekele**	**48.09 281**	⇓*i*P	**P**	**01 06 20.9**	**+0.9**
	SNR=14					
PALK	**Pallekele**	**48.09 281**	*e*P	**P**	**01 06 20.1**	**0.0**
	comp=Z,576nm,1.5s					
BOK	**Bokaro**	**48.17 304**	*e*P	**P**	**01 06 22.2**	**+1.8**
BOK			AMB	AMB	01 06 24.4	
	comp=Z,232nm,1.5s					
YUK	**Yuzh-Kuril'sk**	**48.19 17***c*	*i*P	P	01 06 14.3	-5.9
YUK			*i*		01 08 07.3	
YUK			*i* S	**S**	**01 13 13.4**	**-1.3**
YUK			*i*		01 16 02.2	
YUK			*i* SSS	SSS	01 18 05.1	
YUK			pmax	pmax		
	comp=N,931nm,1.3s					
YUK			pmax	pmax		
	comp=E,516nm,1.3s					
YUK			pmax	pmax		
	comp=Z,1μm,1.3s					
YUK			pmax	pmax		
	comp=Z,3μm,1.3s					
YUK			MLR	MLR		
	comp=N,4μm,20.0s					
YUK			MLR	MLR		
	comp=E,3μm,20.0s					
YUK			MLR	MLR		
	comp=Z,5μm,20.0s					
TAPN	**Taplejung**	**48.37 310**	*e*P	**P**	**01 06 23.5**	**+1.2**
	comp=Z,1μm,1.1s					
ODAN	**Odare**	**48.38 309**	*e*P	**P**	**01 06 23.6**	**+1.3**
	comp=Z,732nm,0.7s					
GTA	**Gaotai**	**48.40 331**	⇑P	**P**	**01 06 23.1**	**+1.0**
GTA			pP	**pP**	**01 06 38.3**	**-0.1**
GTA			sP	**sP**	**01 06 45.3**	**-0.4**
GTA			PcP	**PcP**	**01 07 48.8**	**+1.1**
GTA			ScP	**ScP**	**01 11 37.9**	**+0.8**
GTA			S	**S**	**01 13 16.9**	**-1.3**
GTA			sS	**sS**	**01 13 45.8**	**0.0**
GTA			ScS	**ScS**	**01 16 09.9**	**+0.6**
GTA			SS	**SS**	**01 16 45.4**	**-3.4**
GTA			PMZ			
	comp=Z,600nm,1.3s					
GTA			PMZ			
	comp=Z,4μm,10.5s					
GTA			LN			
	comp=Z,9μm,22.3s					
GTA			LE			
	comp=Z,12μm,22.3s					
GTA			LZ			
	comp=Z,16μm,25.7s					
RAMN	**Ramite**	**49.04 308**	*e*P	**P**	**01 06 29.0**	**+1.6**
	comp=Z,941nm,0.5s					
MDRS	**Chennai**	**49.65 289**	⇑*ex*	P	01 06 39.7	+7.8
MDRS			*e*S	**S**	**01 13 41.2**	**+5.0**
JIRN	**Jiri**	**49.70 309**	*e*P	**P**	**01 06 33.7**	**+1.2**
	comp=Z,609nm,0.6s					
KUR	**Kuril'sk**	**49.88 18***d*	*i*P	**P**	**01 06 31.9**	**-1.2**
KUR			*i*		01 08 31.2	
KUR			*i* PPP	PPP	01 09 24.2	
KUR			*i* S	**S**	**01 13 38.2**	**-0.2**
KUR			pmax	pmax		
	comp=N,268nm,1.2s					
KUR			pmax	pmax		
	comp=E,169nm,1.2s					
KUR			pmax	pmax		
	comp=Z,998nm,1.2s					
GUN	**Gumba**	**50.06 309**	*e*P	**P**	**01 06 36.5**	**+1.2**
	comp=Z,711nm,0.5s					
YSS	**Yuzh-Sakhalins**	**50.09 13***α*	*i*P	**P**	**01 06 35.0**	**+0.3**
YSS			*e**PP	**pP**	**01 06 52.4**	**+1.3**
YSS			*e*		01 08 30.0	
YSS			*e*S	**S**	**01 13 38.0**	**-3.3**
YSS			pmax	pmax		
	comp=Z,1μm,1.6s					
YSS			pmax	pmax		
	comp=Z,4μm,8.0s					
YSS			pmax	pmax		
	comp=N,2μm,7.0s					
YSS	**Yuzh-Sakhalins**	**50.09 13**	*e*P	**P**	**01 06 35.3**	**+0.6**
	comp=N,2μm,1.8s					
PKI	**Pulchoki**	**50.26 309**	*e*P	**P**	**01 06 37.6**	**+0.8**
	comp=N,1μm,1.3s					
PKIN	**Phulchoki**	**50.28 309**	*e*P	**P**	**01 06 37.6**	**+0.8**
	comp=N,155nm,0.4s					
HABR	**Khabarovsk**	**50.29 6***de*P		**P**	**01 06 35.6**	**-0.5**
HABR			*e**PP	**pP**	**01 06 51.1**	**-1.4**
HABR			*e*		01 07 53.1	
HABR			*e*		01 08 31.4	
HABR			PPP	PPP	01 09 28.3	
HABR			*e*S	**S**	**01 13 44.2**	**+0.2**
HABR			*e*		01 16 20.6	
HABR			*e*SS	**SS**	**01 17 19.7**	**+1.2**
HABR			*e*SSS	SSS	01 18 50.0	
HABR			pmax	pmax		
	comp=E,368nm,3.0s					
HABR			pmax	pmax		
	comp=Z,2μm,3.0s					
HABR			pmax	pmax		
	comp=N,239nm,1.5s					
HABR			pmax	pmax		
	comp=Z,3μm,2.0s					
HABR			MLR	MLR		
	comp=Z,8μm,17.0s					
KKN	**Kakani**	**50.47 309**	*e*P	**P**	**01 06 39.2**	**+1.0**
	comp=Z,735nm,1.0s					
DMN	**Daman**	**50.52 308**	*e*P	**P**	**01 06 39.8**	**+1.2**
	comp=Z,1μm,1.2s					
KLR	**Kul'dur**	**50.78 3***κ*	*i*P	**P**	**01 06 37.3**	**-2.5**
KLR			pmax	pmax		
	comp=N,270nm,1.6s					
KLR			pmax	pmax		
	comp=E,170nm,1.6s					
KLR			pmax	pmax		
	comp=Z,1μm,1.6s					
KLR			pmax	pmax		
	comp=N,3μm,10.0s					
KLR			pmax	pmax		
	comp=Z,12μm,10.0s					
GKN	**Gorkha**	**51.07 309**	*e*P	**P**	**01 06 43.5**	**+0.8**
	comp=Z,557nm,0.6s					
HIA	**Hailar**	**51.23 353***c*	*i*P	**P**	**01 06 43.8**	**+0.6**
HIA			pmax	pmax		
	comp=Z,303nm,1.5s					
HIA	**Hailar**	**51.23 353**	*e*P	**P**	**01 06 43.6**	**+0.4**
	comp=Z,693nm,1.5s					
MSVF	**Nonsavu**	**51.58 111**	P	**P**	**01 06 48.6**	**+2.1**
	comp=Z,780nm,1.9s,SNR=7.2					
MSVF	**Nonsavu**	**51.58 111**	*e*P	**P**	**01 06 46.9**	**+0.4**
MSVF			pmax	pmax		
	comp=Z,483nm,1.4s					
MSVF	**Nonsavu**	**51.58 111**	*e*P	**P**	**01 06 46.9**	**+0.4**
	comp=Z,483nm,1.4s					
KOLN	**Koldanda**	**51.78 308**	*e*P	**P**	**01 06 49.3**	**+1.3**
	comp=Z,797nm,0.6s					
DANN	**Dangsing**	**51.92 309**	*e*P	**P**	**01 06 50.2**	**+1.1**
	comp=Z,1μm,0.6s					
TRD	**Trivandrum**	**51.95 282**	*e*P	**P**	**01 06 50.5**	**+1.3**
TRD			AMB	AMB	01 07 08.1	
	comp=Z,358nm,1.3s					
HYB	**Hyderabad**	**52.34 293**	*i* P	**P**	**01 06 51.5**	**-0.7**
	comp=Z,390nm,1.0s					
HYB			*e*pP	**pP**	**01 07 08.0**	**-0.7**
HYB			*e*S	**S**	**01 14 15.0**	**+1.5**
ULN	**Ulaanbaatar**	**52.62 342***c*	*i*P	**P**	**01 06 53.6**	**-0.2**
ULN			pmax	pmax		
	comp=Z,1μm,1.7s					
ULN			MLR	MLR		
	comp=Z,6μm,23.0s					
ULN	**Ulaanbaatar**	**52.62 342**	P	**P**	**01 06 54.8**	**+1.0**
	SNR=407					
ULN	**Ulaanbaatar**	**52.62 342**	*e*P	**P**	**01 06 54.6**	**+0.8**
	comp=Z,791nm,1.2s					
SONA0	**Songino Array**	**52.79 342**	*e*P	**P**	**01 06 55.6**	**+0.6**
SONA0			*e*pP	**pP**	**01 07 12.8**	**+1.2**
SONM	**Songino Array**	**52.79 342**	P	**P**	**01 06 55.6**	**+0.6**
SONM			*PP	**pP**	**01 07 12.8**	**+1.2**
SONM			pmax	pmax		
	comp=Z,468nm,1.2s					
SONM			pmax	pmax		
	comp=Z,102nm,1.0s					
SONM			MLR	MLR		
	comp=Z,9μm,20.9s					
SONM			pmax	pmax		
	comp=Z,1.0nm,0.6s					
SONM	**Songino Array**	**52.79 342**	P	**P**	**01 06 55.6**	**+0.6**
	comp=Z,468nm,1.2s,baz=159,slow=6.6,SNR=341					
SONM			pP	**pP**	**01 07 12.8**	**+1.2**
	comp=Z,102nm,1.0s,baz=149,slow=9.0,SNR=5.7					
SONM			LR	LR	01 30 23.6	
	comp=Z,9μm,20.9s,baz=168,slow=37					
SONM			PKPPKP	**P'P'df**	**01 37 20.2**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=22,slow=8.5,SNR=4.0					
SONM	**Songino Array**	**52.79 342**	P	**P**	**01 06 55.6**	**+0.6**
SONM			pP	**pP**	**01 07 12.8**	**+1.2**
SONA1	**Songino Array**	**52.80 342**	*e*P	**P**	**01 06 55.3**	**+0.2**
NGP	**Nagpur**	**53.02 298**	*e*P	**P**	**01 06 57.9**	**+0.8**
NGP			*ex*	x	01 07 00.3	
	comp=Z,551nm,1.5s					
NGP			*ex*	x	01 14 20.6	
OUZ	**Omahuta**	**53.85 134**	*e*P	**P**	**01 07 04.2**	**+1.3**
	comp=Z,1μm,1.3s					
LATR	**Latur**	**54.44 294**	*e*P	**P**	**01 07 09.0**	**+1.5**
MNGI	**Mangalore**	**54.79 287**	*e*P9	P	01 07 02.0	-8.0
MNGI			*e*S	**S**	**01 14 41.6**	**-5.0**
CIT	**Chita**	**54.87 349**	*e*P	**P**	**01 07 11.2**	**+1.2**
CIT			*e*		01 07 22.6	
CIT			*e*		01 08 13.4	
CIT			*e*		01 14 46.9	
CIT			*e*		01 16 54.7	
CIT			pmax	pmax		
	comp=Z,1μm,1.7s					
BHPL	**Bhopal**	**55.13 300**	*e*P	**P**	**01 07 13.0**	**+0.5**
BHPL			AMB	AMB	01 07 15.0	
	comp=Z,435nm,1.6s					
LGTI	**Lohaghat**	**55.16 308**	*e*P	P	01 07 18.1	+5.6
DCZ	**Deep Cove**	**55.51 147**	*e*P	**P**	**01 07 14.8**	**+0.1**
	comp=Z,337nm,1.1s					
H08S2	**Diego Garcia H**	**55.69 262**	P	**P**	**01 07 15.5**	**-0.7**
	baz=55,slow=11,SNR=65					
H08S3	**Diego Garcia H**	**55.70 262**	P	**P**	**01 07 15.5**	**-0.9**
	baz=55,slow=11,SNR=70					
H08S1	**Diego Carcia H**	**55.70 262**	P	**P**	**01 07 15.7**	**-0.7**
	baz=55,slow=11,SNR=7.0					
DGAR	**Diego Garcia**	**55.71 262**	*e*P	**P**	**01 07 16.9**	**+0.1**
DGAR			pmax	pmax		
	comp=Z,2μm,1.8s					
DGAR	**Diego Garcia**	**55.71 262**	P	pP	01 07 35.6	+2.2
	SNR=8.3					
DGAR	**Diego Garcia**	**55.71 262**	*e*P	**P**	**01 07 16.9**	**+0.1**
	comp=Z,2μm,1.8s					
ZAK	**Zakamensk**	**56.02 341**	⇓*i*P	**P**	**01 07 18.0**	**-0.4**
ZAK			pmax	pmax		
	comp=Z,131nm,1.4s					
WHZ	**Wether Hill Ro**	**56.20 147**	*e*P	**P**	**01 07 20.2**	**+0.5**
	comp=Z,420nm,1.1s					
GOA	**Goa**	**56.26 290**	*e*P	**P**	**01 07 21.1**	**+0.5**
RPZ	**Rata Peaks**	**56.63 144**	*e*P	**P**	**01 07 23.6**	**+0.8**
	comp=Z,494nm,1.1s					
POO	**Poona**	**56.95 293**	AMB	AMB	01 07 26.4	
	comp=Z,218nm,2.0s					
POO			*e*P	P	01 07 28.9	+3.4
POO			*i* PP	**PP**	**01 09 36.0**	**+3.2**
POO			*i* SS	**SS**	**01 19 10.0**	**+5.1**
TLY	**Talaya**	**57.03 342**	P	**P**	**01 07 26.8**	**+1.4**
	comp=Z,1μm,1.2s,SNR=68					
TLY	**Talaya**	**57.03 342***c*	*i*P	**P**	**01 07 25.6**	**+0.2**
TLY			*e*S	**S**	**01 15 15.5**	**+0.2**
TLY			pmax	pmax		
	comp=Z,282nm,1.2s					
TLY	**Talaya**	**57.03 342**	P	**P**	**01 07 26.3**	**+0.8**
	SNR=144					
TLY	**Talaya**	**57.03 342**	P	**P**	**01 07 26.3**	**+0.8**
	comp=Z,58nm,0.8s,baz=175,slow=6.4,SNR=173					
TLY	**Talaya**	**57.03 342**	*e*P	**P**	**01 07 26.0**	**+0.6**
	comp=Z,280nm,1.2s					
ODZ	**Otahua Downs**	**57.17 145**	*e*P	**P**	**01 07 26.9**	**+0.3**
	comp=Z,129nm,1.1s					
ODZ			*e*pP	**pP**	**01 07 42.1**	**-1.3**
NDI	**New Delhi**	**57.27 306**	*ex*	**P**	**01 07 26.0**	**-1.6**
NDI			*ex*	**S**	**01 15 14.5**	**-4.7**
IRK	**Irkutsk**	**57.33 343**	⇑*i*P	**P**	**01 07 28.3**	**+0.7**
IRK			*e*S	S	01 15 29.9	+11
IRK			pmax	pmax		
	comp=Z,663nm,1.4s					
SKR	**Severo-Kuril's**	**57.37 21**	*e*P	**P**	**01 07 25.4**	**-2.4**
SKR			*e*		01 09 34.0	
SKR			*e*PPP	PPP	01 10 52.0	
SKR			*e*S	**S**	**01 15 19.0**	**-0.6**
SKR			*e*SS	**SS**	**01 19 14.0**	**+3.8**
SKR			pmax	pmax		
	comp=Z,80nm,0.6s					
SKR			pmax	pmax		
	comp=Z,5μm,6.0s					
SKR			smax	smax		
	comp=N,5μm,12.0s					
SKR			smax	smax		
	comp=E,9μm,12.0s					
SKR			MLR	MLR		
	comp=N,4μm,18.0s					
SKR			MLR	MLR		
	comp=E,3μm,18.0s					
SKR			MLR	MLR		
	comp=Z,4μm,18.0s					
KHZ	**Kahutara**	**57.42 141**	*e*P	**P**	**01 07 27.9**	**-0.5**
	comp=Z,371nm,1.5s					
SNZO	**South Karori**	**57.59 140**	*e*P	**P**	**01 07 27.9**	**-1.7**
	comp=Z,315nm,1.0s					
SNZO			*e*pP	**pP**	**01 07 44.2**	**-2.1**
BKZ	**Black Stump Fm**	**57.74 137**	*e*P	**P**	**01 07 30.9**	**+0.1**
	comp=Z,208nm,0.8s					
URZ	**Urewera**	**57.75 135**	P	**P**	**01 07 30.9**	**+0.1**
	comp=Z,54nm,0.9s,baz=335,slow=3.4,SNR=15					
URZ	**Urewera**	**57.75 135**	*e*P	**P**	**01 07 30.7**	**-0.1**
	comp=Z,145nm,0.8s					
MOY	**Mondy**	**57.87 340**	*e*P	**P**	**01 07 32.2**	**+0.7**
MOY			pmax	pmax		
	comp=Z,907nm,2.2s					
WMQ	**Urumqi**	**57.90 326**	P	**P**	**01 07 32.5**	**+0.7**
WMQ			pP	**pP**	**01 07 46.8**	**-1.8**
WMQ			PcP	**PcP**	**01 08 24.5**	**+1.0**
WMQ			PP	**PP**	**01 09 42.5**	**+1.7**
WMQ			S	**S**	**01 15 26.8**	**-0.3**
WMQ			sS	**sS**	**01 15 51.3**	**-4.1**
WMQ			ScS	**ScS**	**01 17 14.5**	**-1.3**
WMQ			PMZ			
	comp=Z,790nm,1.4s					
WMQ			PMZ			
	comp=Z,5μm,5.2s					
WMQ			LN			
	comp=Z,21μm,16.0s					
WMQ			LE			
	comp=Z,9μm,16.0s					
WMQ			LZ			
	comp=Z,13μm,23.0s					
SMLA	**Simla**	**58.28 309**	*i* P	**P**	**01 07 36.0**	**+1.4**
SMLA			AMB	AMB	01 07 39.7	
	comp=Z,4μm,0.4s					
SMLA			*i* x	x	01 15 33.1	
BFZ	**Birch Farm**	**58.29 138**	*e*P	**P**	**01 07 34.2**	**-0.3**
	comp=Z,1μm,2.2s					
BFZ			*e*pP	**pP**	**01 07 49.8**	**-1.5**
CLNS	**Chul'man**	**58.35 358**	*e*P	**P**	**01 07 35.6**	**+0.9**
CLNS			*e*		01 08 24.3	
CLNS			*e*		01 09 42.8	
CLNS			*e*PPP	PPP	01 11 04.2	
CLNS			*e*S	**S**	**01 15 33.5**	**+1.0**
CLNS			*e*SSS	SSS	01 21 54.2	
CLNS			pmax	pmax		
	comp=E,64nm,1.1s					
CLNS			pmax	pmax		
	comp=Z,282nm,1.2s					
CLNS			pmax	pmax		
	comp=N,226nm,1.3s					
CLNS			pmax	pmax		
	comp=Z,41nm,1.1s					
CLNS			pmax	pmax		

comp=E,45nm,1.0s
CLNS pmax pmax
comp=N,66nm,1.1s
CLNS smax smax
comp=N,4μm,13.2s
CLNS smax smax
comp=E,2μm,10.0s
AJM Ajmer 58.60 302 *i* x **P 01 07 36.0 -1.0**
AIS Amsterdam Isla 58.60 226 P P 01 07 42.0 +5.3
AIS S S 01 15 30.0 -6.3
AIS SS SS 01 19 40.0 +10
AIS L L 01 21 00.0
AIS R 01 31 00.0
BHK Bhakra 58.99 309 *e*P **P 01 07 42.4 +2.8**
BHK *e*x x 01 08 06.6
DHRM DHARAMSHALA 59.41 309 *e*P **P 01 07 43.4 +0.7**
DHRM AMB AMB 01 07 44.8
comp=Z,1μm,1.0s
PEA0 Petropavlovsk- 59.93 20 *e*P **P 01 07 46.7 +1.2**
PETK Petropavlovsk- 59.93 20 P **P 01 07 46.6 +1.0**
PETK pmax pmax
comp=Z,136nm,0.9s
PETK pmax pmax
comp=Z,5.0nm,1.0s
PETK Petropavlovsk- 59.93 20 P **P 01 07 46.6 +1.0**
comp=Z,136nm,0.9s,baz=198,slow=3.4,SNR=56
PETK PKKP **PKKPdf 01 28 59.8 +5.1**
comp=Z,4.8nm,1.0s,baz=62,slow=6.9,SNR=7.7
PETK LR LR 01 32 17.6
comp=Z,2μm,21.7s,baz=213,slow=35
PETK Petropavlovsk- 59.93 20 P **P 01 07 46.6 +1.0**
PEA2 Petropavlovsk- 59.93 20 *e*P **P 01 07 46.6 +1.0**
PEA2 *e*PKKPdf **PKKPdf 01 28 59.8 +5.1**
PEA2 *e*PKKSdf PKKSdf 01 32 17.6 -13
HVS Khovu-Aksy 60.16 336*c i*P **P 01 07 47.8 +0.5**
HVS pmax pmax
comp=Z,3μm,1.3s
PET Petropavlovsk 60.19 21α *i*P **P 01 07 48.7 +1.4**
PET *e**PP **pP 01 08 06.5 +2.3**
PET *e*S **S 01 15 58.0 +1.8**
PET pmax pmax
comp=Z,514nm,1.4s
PET pmax pmax
comp=Z,5μm,6.8s
PET pmax pmax
comp=Z,4μm,10.8s
PET Petropavlovsk 60.19 21 *e*P **P 01 07 47.8 +0.4**
comp=Z,910nm,1.4s
BOD Bodaibo 60.35 351 *e*P **P 01 07 48.7 +0.4**
BOD pmax pmax
comp=Z,643nm,1.5s
AFI Afiamalu 60.65 105 *e*P **P 01 07 49.4 -2.0**
AFI pmax pmax
comp=Z,741nm,1.1s
AFI Afiamalu 60.65 105 *e*P **P 01 07 49.4 -2.0**
comp=Z,741nm,1.1s
BHJ Bhuj 61.96 297 *e*P **P 01 08 00.3 +0.4**
BHJ AMB AMB 01 08 01.8
comp=Z,171nm,0.3s
PDGK Podgornoye 62.43 322 *i* P **P 01 08 03.0 +0.4**
MK01 Makanchi Array 62.72 326 *e*P **P 01 08 04.7 +0.1**
MK32 Makanchi Array 62.73 326 *e*P **P 01 08 05.1 +0.4**
MK32 *e*pP **pP 01 08 22.2 +0.5**
MK32 ⇑*e* 01 37 12.1
MKAR Makanchi Array 62.73 326 P **P 01 08 05.1 +0.4**
MKAR *PP **pP 01 08 22.2 +0.5**
MKAR pmax pmax
comp=Z,65nm,0.5s
MKAR pmax pmax
comp=Z,123nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 62.73 326 P **P 01 08 05.1 +0.4**
comp=Z,65nm,0.5s,baz=118,slow=6.4,SNR=863
MKAR pP **pP 01 08 22.2 +0.5**
comp=Z,123nm,0.8s,baz=108,slow=7.8,SNR=8.2
MKAR PKP2bc 01 37 12.1
comp=Z,1.2nm,0.8s,baz=322,slow=3.4,SNR=5.3
MKAR P4KPbc 01 45 04.2
comp=Z,1.1nm,0.9s,baz=160,slow=4.6,SNR=8.6
MKAR Makanchi Array 62.73 326 P **P 01 08 05.1 +0.4**
MKAR pP **pP 01 08 22.2 +0.5**
KSH Kashi 62.82 317⇑ *i*P **P 01 08 07.0 +1.4**
KSH pP **pP 01 08 19.1 -3.4**
KSH sP **sP 01 08 25.0 -4.7**
KSH PP **PP 01 10 27.1 +2.6**
KSH S **S 01 16 27.9 -2.5**
KSH ScS **SKSac 01 17 47.8 -5.1**
KSH PMZ
comp=Z,330nm,1.2s
KSH PMZ
comp=Z,2μm,2.9s
KSH LN
comp=Z,6μm,18.3s
KSH LE
comp=Z,5μm,16.5s
KSH LZ
comp=Z,9μm,24.1s
YAK Yakutsk 63.52 1*c i*P **P 01 08 10.3 +0.7**
YAK *e* 01 08 44.5
YAK *e* 01 10 26.7
YAK *e*PPP PPP 01 12 00.3
YAK *e*S **S 01 16 38.5 +0.6**
YAK *e**SS sS 01 17 13.4 +6.8
YAK pmax pmax
comp=Z,1μm,1.3s
YAK pmax pmax
comp=N,579nm,1.4s
YAK pmax pmax
comp=E,96nm,1.4s
YAK pmax pmax
comp=Z,221nm,2.0s
YAK pmax pmax
comp=N,239nm,2.2s
YAK pmax pmax
comp=E,186nm,2.4s
YAK smax smax
comp=N,9μm,10.1s
YAK smax smax
comp=E,2μm,7.8s
YAK Yakutsk 63.52 1 *e*P **P 01 08 10.2 +0.7**
comp=E,1μm,0.9s
ULHL Ulahol 63.93 319 P **P 01 08 13.9 +0.9**
SNR=40
ULHL Ulahol 63.93 319 *i* P **P 01 08 13.8 +0.9**
AAA Alma-Ata 63.98 321 *e*P **P 01 08 14.0 +0.9**
AAA *e*S **S 01 16 44.7 +0.1**
AAA pmax pmax
comp=Z,5μm,5.9s
AAA smax smax
comp=E,7μm,12.2s
AAA MLR MLR
comp=Z,8μm,28.0s
KZA Kyzart 64.50 319 P **P 01 08 18.3 +1.3**
SNR=139
KZA Kyzart 64.50 319 *i* P **P 01 08 18.2 +1.3**
TKM2 Tokmak 2 64.67 320 P **P 01 08 18.5 +0.7**
SNR=154
TKM2 Tokmak 2 64.67 320 P **P 01 08 18.3 +0.5**
TKM2 pmax pmax
comp=Z,254nm,1.1s
TKM2 Tokmak 2 64.67 320 *e*P **P 01 08 18.2 +0.4**
comp=Z,1μm,1.8s
KBK Karagaybulak 64.97 319 P **P 01 08 20.6 +0.9**
SNR=124
KBK Karagaybulak 64.97 319 *i* P **P 01 08 20.6 +0.9**
UCH Uchtor 65.05 319 P **P 01 08 21.7 +1.1**
SNR=259
UCH Uchtor 65.05 319 *i* P **P 01 08 21.7 +1.1**
AAK Ala-Archa 65.25 319 P **P 01 08 22.0 +0.5**
comp=Z,1μm,1.5s
AAK Ala-Archa 65.25 319 P **P 01 08 22.4 +0.9**
SNR=149
AAK Ala-Archa 65.25 319 *e*P **P 01 08 22.6 +1.1**
AAK pmax pmax
comp=Z,909nm,1.8s
AAK Ala-Archa 65.25 319 P **P 01 08 22.7 +1.2**
SNR=239
AAK Ala-Archa 65.25 319 P **P 01 08 22.4 +0.9**
comp=Z,142nm,1.1s,baz=99,slow=6.0,SNR=224
AAK Ala-Archa 65.25 319 *e*P **P 01 08 22.6 +1.1**
comp=Z,909nm,1.8s
CHMS Chumysh 65.26 320 P **P 01 08 21.8 +0.4**
SNR=50
CHMS Chumysh 65.26 320 *i* P **P 01 08 21.7 +0.4**
FRU Bishkek 65.27 319 *i* P **P 01 08 21.4 0.0**
FRU pmax pmax
comp=Z,872nm,2.2s
DRV Dumont d'Urvil 65.43 175 P **P 01 08 21.0 -0.9**
DRV PP PP 01 10 54.0 +7.4
DRV S S 01 16 26.0 -35
DRV SP SKSac 01 17 54.0 -17
DRV L L 01 24 00.0
DRV R 01 29 00.0
USP Ospenovka 65.55 320 P **P 01 08 23.9 +0.6**
SNR=295
USP Ospenovka 65.55 320 *i* P **P 01 08 23.8 +0.6**
AML Almayashu 65.55 318 P **P 01 08 24.7 +0.9**
SNR=319
AML Almayashu 65.55 318 *i* P **P 01 08 24.7 +0.9**
CASY Casey 65.69 188 *e*P **P 01 08 24.8 +1.2**
comp=Z,133nm,1.0s
EKS2 Erkin-Say 65.74 319 P **P 01 08 25.7 +1.1**
SNR=240
EKS2 Erkin-Say 65.74 319 *i* P **P 01 08 25.7 +1.1**
EKS2 Erkin-Say 65.74 319 *e*P **P 01 08 25.7 +1.1**
KBL Kabul 65.90 309 *e*P **P 01 08 25.8 -0.1**
KBL pmax pmax
comp=Z,402nm,1.4s
KBL Kabul 65.90 309 P **P 01 08 26.0 +0.2**
baz=66,SNR=56
KBL Kabul 65.90 309 *e*P **P 01 08 25.8 -0.1**
comp=Z,402nm,1.4s
ZAA0 Zalesovo Array 65.97 334 *e*P **P 01 08 24.5 -1.2**
ZALV Zalesovo Beam 65.97 334 P **P 01 08 25.0 -0.7**
ZALV *PP **pP 01 08 42.5 -0.3**
ZALV S **S 01 17 06.4 -2.0**
ZALV pmax pmax
comp=Z,168nm,1.0s
ZALV pmax pmax
comp=Z,142nm,1.0s
ZALV smax smax
comp=N,3.0nm,1.0s
ZALV pmax pmax
comp=Z,3.0nm,0.9s
ZALV MLR MLR
comp=Z,18nm,28.6s
ZALV Zalesovo Beam 65.97 334 P **P 01 08 24.9 -0.7**
comp=Z,168nm,1.0s,baz=124,slow=4.5,SNR=290
ZALV pP **pP 01 08 42.5 -0.3**
comp=Z,142nm,1.0s,baz=104,slow=6.3,SNR=8.0
ZALV S **S 01 17 06.4 -2.0**
comp=Z,2.8nm,1.0s,baz=140,slow=11,SNR=3.4
ZALV PKP2bc 01 37 07.5
comp=Z,3.1nm,0.9s,baz=290,slow=4.4,SNR=5.2
ZALV LR LR 01 39 41.7
comp=Z,7μm,21.0s,baz=132,slow=38
ZALV P4KPbc 01 45 17.2
comp=Z,0.3nm,0.4s,baz=135,slow=0.4,SNR=3.7
ZALV Zalesovo Beam 65.97 334 P **P 01 08 24.9 -0.7**
ZALV pP **pP 01 08 42.5 -0.3**
ZAA1 Zalesovo Array 65.97 334 *e*P **P 01 08 24.9 -0.7**
FX1 Attu Island--F 66.11 28 *e*P **P 01 08 27.8 +1.2**
FX1 Attu Island--F 66.11 28 *e*P **P 01 08 27.8 +1.2**
SMY Shemya 66.45 29 *e*P **P 01 08 29.8 +1.0**
SMY pmax pmax
comp=Z,415nm,1.1s
SMY Shemya 66.45 29 *e*P **P 01 08 29.8 +1.0**
comp=Z,415nm,1.1s
SMY *e*pP **pP 01 08 49.8 +3.9**
KURBB Kurchatov Arra 66.98 328 PP PP 01 11 00.1 -0.5
comp=Z,180nm,1.2s,baz=128,slow=9.9,SNR=7.4
KURK Kurchatov 66.99 328 P **P 01 08 32.4 +0.2**
comp=Z,2μm,1.3s,SNR=97
KURK Kurchatov 66.99 328 *e*P **P 01 08 32.4 +0.2**
KURK pmax pmax
comp=Z,286nm,0.9s
KURK Kurchatov 66.99 328 P **P 01 08 32.2 0.0**
SNR=358
KURK Kurchatov 66.99 328 *e*P **P 01 08 32.4 +0.2**
comp=Z,286nm,0.9s
NVS Novosibirsk 67.25 334⇑ *i*P **P 01 08 32.5 -1.3**
NVS *e*S **S 01 17 18.1 -5.7**
NVS pmax pmax
comp=N,288nm,1.4s
NVS pmax pmax
comp=E,343nm,1.4s
NVS pmax pmax
comp=Z,615nm,1.4s
NVS smax smax
comp=N,133nm,2.3s
NVS smax smax
comp=E,202nm,2.3s
KK31 Karatay Array 68.09 318 P **P 01 08 39.3 -0.1**
KK31 pmax pmax
comp=Z,654nm,1.4s
KKAR Karatay Array 68.09 318 *e*P **P 01 08 39.2 -0.2**
KKAR Karatay Array 68.09 318 *e*P **P 01 08 39.2 -0.2**
AMKA Amchitka 68.28 32 *e*P **P 01 08 39.7 -0.6**
PAF Port-aux-Franc 68.33 217 P P 01 08 30.0 -11
PAF S S 01 17 26.0 -11
PAF SS **SS 01 22 00.0 -1.3**
PAF L L 01 25 00.0
PAF R 01 29 00.0
MIR Mirnyy 69.29 194 *e*P **P 01 08 47.0 +0.7**
MIR pmax pmax
comp=Z,265nm,1.5s
ADK Adak 70.68 33 *e*P **P 01 08 55.7 +0.6**
ADK pmax pmax
comp=Z,194nm,0.9s
ADK Adak 70.68 33 *e*P **P 01 08 55.7 +0.6**
comp=Z,194nm,0.9s
MRIV Mauritius Mete 71.23 249 *e*P **P 01 08 58.3 -0.9**
MRIV *e*pP **PcP 01 09 19.6 +0.8**
VOSK Vostochnaya 72.09 328 P **P 01 09 03.2 -0.5**
VOSK pmax pmax
comp=Z,479nm,1.4s
VOSK Vostochnaya 72.09 328 *e*P **P 01 09 03.1 -0.6**
comp=Z,1μm,2.0s
JMDO Jabal Madar 72.18 294 P **P 01 09 05.1 +0.2**
SNR=47
SMDO Samad 72.35 295 P **P 01 09 06.3 +0.3**
SNR=32
MSEY Mahe Island 72.53 266 *e*P **P 01 09 05.5 -1.6**
MSEY pmax pmax
comp=Z,180nm,1.4s
MSEY Mahe Island 72.53 266 *e*P **P 01 09 05.5 -1.6**
comp=Z,180nm,1.4s
BVA0 Borovoye Array 72.55 328 *i* P **P 01 09 06.3 -0.1**
BVA0 pmax pmax
comp=Z,676nm,1.5s
BVAR Borovoye Array 72.55 328 P **P 01 09 06.4 0.0**
BVAR pmax pmax
comp=Z,121nm,0.8s
BVAR Borovoye Array 72.55 328 P **P 01 09 06.4 0.0**
comp=Z,122nm,0.8s,baz=123,slow=5.5,SNR=371
BVAR Borovoye Array 72.55 328 P **P 01 09 06.4 0.0**
BRVK Borovoye 72.62 328 P **P 01 09 07.4 +0.6**
comp=Z,2μm,1.5s
BRVK Borovoye 72.62 328*c i*P **P 01 09 06.7 -0.1**
BRVK pmax pmax
comp=Z,694nm,1.2s
BRVK MLR MLR
comp=Z,7μm,28.0s
BRVK Borovoye 72.62 328 P **P 01 09 07.2 +0.4**
SNR=236
BRVK Borovoye 72.62 328 *e*P **P 01 09 07.1 +0.3**
comp=Z,1μm,1.7s
IDAH Dahanechah 72.70 305 *e*P **P 01 09 08.3 +0.2**
RAR Rarotonga 72.77 112 *e*P **P 01 09 06.9 -1.4**
RAR pmax pmax
comp=Z,2μm,2.0s
RAR Rarotonga 72.77 112 *e*P **P 01 09 06.9 -1.4**
comp=Z,2μm,2.0s
HOQ Hoqain 73.10 295 P **P 01 09 10.9 +0.6**
SNR=67
TIXI Tiksi 73.17 0*c i*P **P 01 09 09.5 -0.2**
TIXI pmax pmax
comp=Z,328nm,1.4s
TIXI MLR MLR
comp=Z,14μm,21.0s
TIXI Tiksi 73.17 0 *e*P **P 01 09 09.2 -0.4**
comp=Z,1μm,1.7s
IKOO Kooshah 73.34 304 *e*P **P 01 09 11.4 -0.5**
IMYA Miami 73.40 309 *e*P **P 01 09 12.0 0.0**
ITEG Tejag 73.66 305 *e*P **P 01 09 13.0 -0.7**
ARQ Araqi 73.78 295 P **P 01 09 14.8 +0.5**
SNR=32
ISRO Mashad 73.88 308 *e*P **P 01 09 15.1 +0.3**
IMOG Moghan 73.94 308 *e*P **P 01 09 15.2 -0.1**
UOSS Wadi Hilu 74.32 296 P **P 01 09 16.9 -0.5**
comp=Z,450nm,1.7s,SNR=29
HATD Hatta, Dubai 74.36 296 *i* P **P 01 09 17.7 0.0**
SNR=66
BILL Bilibino 74.39 14*c i*P **P 01 09 17.2 +0.3**
BILL *e* 01 09 34.1
BILL *e**PP **PP 01 12 02.7 -1.2**
BILL *i* S **SKiKP 01 18 40.2 +2.3**
BILL pmax pmax
comp=Z,46nm,1.2s
BILL Bilibino 74.39 14 *e*P **P 01 09 16.9 -0.1**
comp=Z,187nm,1.5s
IAKL Akhelmad 74.51 309 *e*P **P 01 09 18.4 -0.3**
XMAS Kiritimati 74.55 87 P **P 01 09 20.3 +1.4**
comp=Z,1μm,2.0s
IKRD Kardeh 74.74 309 *e*P P 01 09 16.0 -4.0
NAZ Nazwa, Dubai 74.81 296⇓ *i*P **P 01 09 20.0 -0.3**
SNR=12
FAQ Al Faqa, Dubai 74.84 296⇑ *i*P **P 01 09 20.3 -0.1**
SNR=7.2
ASUD Al Ashush, Dub 75.06 296⇑ *i*P **P 01 09 22.0 +0.3**
SNR=47
RBK Rabkut 75.15 288 P **P 01 09 22.4 +0.1**
SNR=24
ISFR Sfrayin 75.21 309 *e*P **P 01 09 22.8 +0.2**
ABKT Ailbek 75.33 310 P **P 01 09 23.2 +0.2**
comp=Z,966nm,1.3s,SNR=92
GEYT Alibeck 75.33 310 P **P 01 09 23.5 +0.5**
comp=Z,170nm,1.2s,baz=120,slow=2.1,SNR=188
GEYT pP **pP 01 09 41.8 +1.4**
comp=Z,98nm,0.8s,baz=134,slow=4.3,SNR=10
ISHV Shirvan 75.55 309 *e*P **P 01 09 25.6 +1.1**
HON Honolulu 75.65 68 *e*P **P 01 09 22.9 -2.2**
HON Honolulu 75.65 68 *e*P **P 01 09 22.9 -2.2**
KIP Kipapa 75.65 68 *e*P **P 01 09 26.1 +1.0**
KIP pmax pmax
comp=Z,96nm,1.3s
KIP MLR MLR
comp=Z,4μm,18.0s
KIP Kipapa 75.65 68 *e*P **P 01 09 24.1 -1.0**
comp=Z,136nm,1.0s
OPA Opana 75.69 67 *e*P **P 01 09 23.2 -2.1**
OPA Opana 75.69 67 *e*P **P 01 09 23.2 -2.1**
ABTO Aybut 75.99 288 P **P 01 09 26.8 -0.4**
SNR=20
IBAF Bafgh 76.03 303 *e*P **P 01 09 26.6 -0.7**
SPIA Saint Paul Isl 76.45 30 *e*P **P 01 09 29.5 +0.6**
comp=Z,359nm,1.3s
IMEH Mehriz 76.80 303 *e*P **P 01 09 30.2 -1.5**
UNV Unalaska Valle 77.09 34 *e*P **P 01 09 32.3 -0.3**
comp=Z,440nm,1.4s
ICHK Chekchek 77.12 303 *e*P **P 01 09 32.8 -0.7**
AB31 Akbulak array 77.16 321 P **P 01 09 32.8 -0.3**
AB31 pmax pmax
comp=Z,170nm,0.9s
ABKAR Akbulak array 77.16 321⇑ P **P 01 09 32.9 -0.2**
baz=77
ABKAR Akbulak array 77.16 321 *e*P **P 01 09 32.7 -0.3**
AKUT Akutan 77.60 33 *e*P **P 01 09 35.5 +0.1**
comp=Z,773nm,1.2s
AKUT *e*PcP **pP 01 09 56.7 +3.9**
ISAD Sadrabad 77.67 303 *e*P **P 01 09 36.1 -0.6**
ISRV Sarvestan 77.74 300 *e*P **P 01 09 36.9 -0.3**
IPAR Pars 77.87 301 *e*P **P 01 09 37.8 -0.1**
VNDA Vanda 77.96 173 P **P 01 09 37.8 +0.8**
VNDA pmax pmax
comp=Z,50nm,0.9s
VNDA Vanda 77.96 173 P **P 01 09 37.8 +0.8**
comp=Z,50nm,0.8s,baz=322,slow=6.0,SNR=82
VNDA LR LR 01 42 56.3
comp=Z,6μm,21.3s,baz=346,slow=35
VNDA Vanda 77.96 173 *e*P **P 01 09 37.2 +0.2**
comp=Z,116nm,0.8s
STCH Steam Cracks 78.10 70 *e*P **P 01 09 37.9 -1.1**
IANJ Anjilo 78.11 307 *e*P **P 01 09 37.5 -1.5**
IKIA Kiasar 78.43 307 *e*P **P 01 09 40.0 -0.7**
AKTO Aktyubinsk 78.70 322 P **P 01 09 41.6 0.0**
AKTO pmax pmax
comp=Z,436nm,1.3s
AKTO Aktyubinsk 78.70 322 P **P 01 09 41.5 -0.1**
comp=Z,78nm,0.6s,baz=102,slow=6.6,SNR=355
AKTO Aktyubinsk 78.70 322 *e*P **P 01 09 41.5 -0.1**
GAMB Gambell 78.76 23 *e*P **P 01 09 42.6 +1.0**
comp=Z,140nm,1.0s
ILAS Lasjerd 78.86 306 *e*P **P 01 09 42.2 -0.9**
SBA Scott Base 78.86 172 *e*P **P 01 09 43.7 +1.7**
SBA pmax pmax
comp=Z,1μm,2.8s
SBA Scott Base 78.86 172 *e*P **P 01 09 43.7 +1.7**
comp=Z,1μm,2.8s
IKAZ Kazeroun 78.90 301 *e*P **P 01 09 42.7 -0.9**
IZEF Zefreh 78.96 304 *e*P **P 01 09 41.3 -2.5**
IFIR Firoozkooh 79.07 307 *e*P **P 01 09 43.9 -0.4**
FALS False Pass 79.14 33 *e*P **P 01 09 43.5 -0.4**
comp=Z,180nm,1.0s
FALS *e*pP **pP 01 10 04.5 +3.1**
MAW Mawson 79.22 201 *e*P **P 01 09 44.3 +0.2**
MAW Mawson 79.22 201 P **P 01 09 46.1 +2.0**
comp=Z,66nm,0.9s,baz=27,slow=9.0,SNR=5.8
MAW LR LR 01 41 30.7
comp=Z,5μm,21.7s,baz=57,slow=33
MAW Mawson 79.22 201 *e*P **P 01 09 44.3 +0.2**
SVE Sverdlovsk 79.23 329*d i*P **P 01 09 44.5 +0.2**
SVE *e*PPP PPP 01 14 30.1
SVE *e*S **S 01 19 34.5 -4.8**
SVE *e* 01 20 08.6
SVE pmax pmax
comp=Z,418nm,1.5s
SVE pmax pmax
comp=Z,2μm,11.4s
SVE MLR MLR
comp=Z,5μm,22.0s
CRZF Crozet Islands 79.32 223 P P 01 09 34.0 -11
CRZF S S 01 19 22.0 -19
CRZF L L 01 29 00.0
CRZF R 01 34 00.0
IPRN Peran 79.50 307 *e*P **P 01 09 45.6 -0.9**
IDMV Damavand 79.64 306 *e*P **P 01 09 46.3 -1.2**
IKLH Kolahrood 79.65 304 *e*P **P 01 09 47.2 -0.3**
IVRN Varamin 79.79 306 *e*P **P 01 09 47.5 -0.5**
IPIR Pirpir 80.12 303 *e*P **P 01 09 48.0 -2.1**
ARU Arti 80.18 328 P **P 01 09 49.4 -0.1**
comp=Z,881nm,1.1s,SNR=92
ARU Arti 80.18 328*c i*P **P 01 09 49.0 -0.5**
ARU 01 12 50.2
ARU PPP PPP 01 14 40.3
ARU S **S 01 19 45.7 -3.7**
ARU pmax pmax
comp=Z,361nm,1.7s
ARU MLR MLR
comp=Z,7μm,23.0s
ARU Arti 80.18 328 *e*P **P 01 09 48.7 -0.8**
comp=Z,155nm,0.9s
IMHD Mahdasht 80.75 306 *e*P **P 01 09 52.7 -0.5**
SDPT Sand Point 80.89 33 *e*P **P 01 09 52.4 -0.9**
comp=Z,3μm,2.2s
SDPT *e*pP **pP 01 10 13.7 +2.8**
TNA Tin City 81.00 22 *e*P **P 01 09 54.0 +0.3**
comp=Z,58nm,1.0s
SOKR Solikamsk 82.04 331*c i*P **P 01 09 59.3 0.0**
SOKR 01 13 03.8
SOKR PPP PPP 01 14 59.7
SOKR S **S 01 20 03.5 -5.0**
SOKR pmax pmax
comp=Z,320nm,1.4s
SOKR MLR MLR
comp=Z,5μm,23.0s
PAE Paea 82.20 107 *e*P **P 01 10 03.5 +2.5**
comp=Z,14nm,1.0s
PAE *e*pP **pP 01 10 21.1 +2.4**
comp=Z,27nm,1.1s
PPT Papeete 82.20 107 P **P 01 10 01.2 +0.1**
PPT pmax pmax
comp=Z,33nm,0.9s
PPT MLR MLR
comp=Z,2μm,19.6s
PPT Papeete 82.20 107 P **P 01 10 01.2 +0.1**
comp=Z,33nm,0.9s,baz=330,slow=2.1,SNR=2.5
PPT LR LR 01 46 30.9
comp=Z,2μm,19.6s,baz=266,slow=36
PPT Papeete 82.20 107 *e*P **P 01 10 00.7 -0.4**
PPT2 Papeete2 82.20 107 *e*P **P 01 10 03.9 +2.7**
comp=Z,80nm,1.1s
PPT2 *e*pP **pP 01 10 21.0 +2.2**

comp=Z,126nm,1.0s
PPT2 eS S 01 20 09.3 -2.8
comp=Z,6μm,26.5s
PPT2 eSS SS 01 25 34.0 +0.7
comp=Z,9μm,29.2s
PPT2 eLQ LQ 01 32 29.1
comp=Z,36μm,40.5s
PPT2 eLR LR 01 36 01.0
comp=Z,29μm,37.0s
CHGN Chignik 82.27 33 eP P 01 09 59.3 -1.3
TBI Tubuai 82.42 113 eP P 01 10 04.4 +2.3
comp=Z,308nm,1.2s
TBI epP pP 01 10 22.2 +2.5
comp=Z,395nm,1.1s
TIAR Tiarei 82.42 107 eP P 01 10 04.8 +2.5
comp=Z,23nm,1.0s
TIAR epP pP 01 10 22.0 +2.1
comp=Z,24nm,0.9s
TVO Taravao 82.52 108 eP P 01 10 05.5 +2.7
comp=Z,15nm,1.1s
TVO epP pP 01 10 22.9 +2.5
comp=Z,37nm,1.0s
ISRB Sarab 83.43 308 eP P 01 10 07.3 -0.1
MEH Mehetia 83.65 108 eP P 01 10 10.8 +2.2
comp=Z,42nm,1.2s
MEH epP pP 01 10 28.4 +2.2
comp=Z,74nm,1.3s
PMOR Pomariorio Ree 83.81 105 eP P 01 10 11.8 +2.4
comp=Z,207nm,1.2s
PMOR epP pP 01 10 29.2 +2.2
comp=Z,454nm,1.1s
RAYN Ar Rayn 83.85 294 P P 01 10 09.6 0.0
comp=Z,404nm,1.0s,SNR=38
RAYN Ar Rayn 83.85 294 eP P 01 10 09.4 -0.2
comp=Z,192nm,1.3s
VAH Vaihoa 84.06 105 eP P 01 10 13.0 +2.3
comp=Z,68nm,1.0s
VAH epP pP 01 10 30.7 +2.3
comp=Z,171nm,1.0s
IDHR Dehrash 84.10 305 eP P 01 10 07.8 -3.0
MAK Makhachkala 84.22 313c iP P 01 10 11.3 +0.4
MAK e 01 13 28.6
MAK ePPP PPP 01 15 24.5
MAK eS S 01 20 29.6 -1.7
MAK eSS SS 01 26 04.6 +2.7
MAK pmax pmax
comp=Z,231nm,1.6s
MAK MLR MLR
comp=Z,5μm,22.0s
IFTB Fath-abad 84.46 308 eP P 01 10 12.7 +0.1
SII Sitkinak Islan 84.62 33 eP P 01 10 12.9 +0.2
comp=Z,296nm,1.0s
ITBZ Tabriz 84.67 308 eP P 01 10 12.4 -1.2
SVW2 Sparrevohn 84.85 28 eP P 01 10 14.2 +0.4
comp=Z,390nm,1.5s
OHAK Old Harbor 85.23 32 eP P 01 10 16.4 +0.7
comp=Z,242nm,1.0s
DGRG David-gareji 85.61 312 P P 01 10 19.3 +1.2
KDAK Kodiak Island 85.70 32 P P 01 10 20.5 +2.5
comp=Z,774nm,1.0s,SNR=8.2
KDAK Kodiak Island 85.70 32 eP P 01 10 18.8 +0.8
KDAK pmax pmax
comp=Z,272nm,1.2s
KDAK Kodiak Island 85.70 32 eP P 01 10 18.8 +0.8
comp=Z,272nm,1.2s
GNI Garni 85.96 310c iP P 01 10 20.6 +0.6
GNI pmax pmax
comp=Z,175nm,2.5s
GNI MLR MLR
comp=Z,4μm,29.0s
GNI Garni 85.96 310 P P 01 10 21.2 +1.2
SNR=21
GNI Garni 85.96 310 P P 01 10 21.3 +1.4
comp=Z,5.6nm,0.6s,baz=134,slow=5.2,SNR=15
GNI Garni 85.96 310⇓ iP P 01 10 20.6 +0.6
SNR=11
GNI Garni 85.96 310 eP P 01 10 19.6 -0.4
comp=Z,604nm,2.0s
SEAG Tbilisi Sea 86.07 312 P P 01 10 20.5 +0.2
RSO Redoubt South 86.08 29 eP P 01 10 19.6 -0.5
TBLG Delisi 86.11 312 P P 01 10 21.0 +0.5
DUS Dusheti 86.18 312 P P 01 10 12.7 -8.2
GUDG Gudauri 86.38 313 P P 01 10 22.8 +0.8
CLDR Caldiran 86.50 309 eP P 01 10 23.9 +1.1
IM04 Indian Mountai 86.67 24 eP P 01 10 22.9 +0.2
PPLA Purkeypile 86.78 27 eP P 01 10 23.9 +0.5
comp=Z,237nm,1.2s
ZEI Tsey 86.83 313 eP P 01 10 21.6 -2.6
ZEI eS SKSac 01 20 40.6 -5.5
ZEI pmax pmax
comp=Z,323nm,1.4s
ZEI pmax pmax
comp=N,174nm,1.6s
ZEI pmax pmax
comp=E,326nm,1.4s
ZEI pmax pmax
comp=Z,370nm,4.9s
CAST Castle Rocks 86.91 26 eP P 01 10 25.8 +1.8
comp=Z,36nm,1.0s
AKH Akhalkalaki 87.02 311 P P 01 10 26.5 +1.4
AGRB Hanur-Agry 87.25 310 eP P 01 10 27.7 +1.4
KARS Kars 87.26 311 eP P 01 10 27.9 +1.6
KTH Kantishna Hill 87.45 26 eP P 01 10 26.4 -0.2
comp=Z,78nm,1.1s
SIRT Sirnak 87.53 307 eP P 01 10 28.2 +0.6
KBZ Khabaz 87.64 314 P P 01 10 28.0 +0.2
KBZ pmax pmax
comp=Z,51nm,1.2s
KBZ Khabaz 87.64 314 P P 01 10 28.0 +0.2
comp=Z,51nm,1.2s,baz=92,slow=3.1,SNR=57
KBZ LR LR 01 54 41.1
comp=Z,2μm,20.5s,baz=84,slow=39
KBZ Khabaz 87.64 314 eP P 01 10 28.0 +0.2
RC01 Rabbit Creek A 87.64 29 eP P 01 10 27.3 -0.1
comp=Z,64nm,0.8s
SEW Seward 87.66 30 eP P 01 10 28.3 +0.8
comp=Z,281nm,1.4s
TRF Thorofare Moun 87.72 26 eP P 01 10 27.2 -0.7
comp=Z,95nm,1.3s
KIV Kislovodsk 87.81 314 P P 01 10 28.3 -0.5
comp=Z,316nm,1.8s,SNR=20
KIV Kislovodsk 87.81 314 eP P 01 10 28.2 -0.5
KIV e 01 13 55.4
KIV e 01 20 50.6
KIV eSSS SSS 01 30 29.7
KIV pmax pmax
comp=Z,42nm,1.1s
KIV pmax pmax
comp=Z,1μm,6.6s
KIV MLR MLR
comp=Z,3μm,19.0s
KIV Kislovodsk 87.81 314 P P 01 10 29.1 +0.4
SNR=32
KIV Kislovodsk 87.81 314⇑ iP P 01 10 28.7 -0.1
SNR=16
KIV Kislovodsk 87.81 314 eP P 01 10 27.5 -1.3
comp=Z,139nm,1.3s
PRGR Permogore 87.85 332⇑ iP P 01 10 26.1 -2.3
PRGR e*PP pP 01 10 43.1 -3.1
PRGR i S SKSac 01 20 47.8 -3.1
PRGR pmax pmax
comp=Z,106nm,1.2s
SYO Syowa Base 87.93 201⇓ eP P 01 10 18.8 -10
PMR Palmer 88.00 28 eP P 01 10 28.6 -0.5
PMR pmax pmax
comp=Z,77nm,1.1s
PMR Palmer 88.00 28 eP P 01 10 28.6 -0.5
comp=Z,77nm,1.1s
QSPA South Pole Qui 88.29 180 P P 01 10 31.3 +0.7
comp=Z,56nm,0.8s,baz=320,slow=2.2,SNR=72
QSPA South Pole Qui 88.29 180 eP P 01 10 31.4 +0.7
COLD Coldfoot 88.30 23 eP P 01 10 30.7 +0.3
comp=Z,84nm,1.0s
MCK McKinley 88.35 26 eP P 01 10 30.4 -0.4
MCK pmax pmax
comp=Z,104nm,1.0s
MCK McKinley 88.35 26 eP P 01 10 30.4 -0.4
comp=Z,104nm,1.0s
VRTB Varto-Mus 88.41 309 eP P 01 10 33.6 +1.8
BCA Borcka 88.42 311 eP P 01 10 32.2 +0.6
SVAN Silvan-Diyarba 88.55 308 eP P 01 10 33.2 +0.8
MZRK Al-Mazaregh 88.87 306 eP P 01 10 34.1 +0.2
COLA College 88.95 25 eP P 01 10 34.5 +1.0
COLA pmax pmax
comp=Z,55nm,0.8s
COLA MLR MLR
comp=Z,16μm,21.0s
COLA College 88.95 25 eP P 01 10 33.2 -0.3
comp=Z,92nm,1.4s
BNGB Bing¨ll 89.00 309 eP P 01 10 36.0 +1.4
KBSD Kabsdagh 89.01 307 eP P 01 10 35.8 +1.3
VRHR Novokhopersk 89.04 321 eP P 01 10 31.9 -2.3
VRHR eS S 01 21 12.4 -5.3
VRHR pmax pmax
comp=Z,170nm,1.5s
VRHR pmax pmax
comp=N,50nm,1.2s
VRHR pmax pmax
comp=E,110nm,1.1s
VRHR smax smax
comp=N,3μm,6.7s
VRHR smax smax
comp=Z,1μm,14.6s
VRHR smax smax
comp=E,2μm,4.0s
VRHR MLR MLR
comp=Z,5μm,21.0s
VRHR MLR MLR
comp=N,1μm,17.0s
VRHR MLR MLR
comp=E,4μm,23.0s
MAZI Mazidag 89.11 307 eP P 01 10 35.8 +0.7
SFNV Sufian 89.33 306 eP P 01 10 36.5 +0.5
ILAR Eielson Array 89.35 25 P P 01 10 34.5 -1.0
ILAR pmax pmax
comp=Z,10.0nm,0.7s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR MLR MLR
comp=Z,2μm,19.8s
ILAR Eielson Array 89.35 25 P P 01 10 34.5 -1.0
comp=Z,10.0nm,0.7s,baz=303,slow=3.7,SNR=45
ILAR PKKPbc PKKPbc 01 28 13.3 -0.7
comp=Z,0.9nm,0.9s,baz=116,slow=2.5,SNR=4.6
ILAR LR LR 01 49 58.5
comp=Z,2μm,19.8s,baz=270,slow=35
ILAR Eielson Array 89.35 25 P P 01 10 34.5 -1.0
ILB Eielson Array 89.35 25 eP P 01 10 35.4 -0.1
IL1 Eielson Array 89.35 25 eP P 01 10 34.2 -1.3
DYBB Diyarbakir 89.38 308 eP P 01 10 37.4 +1.1
BAYT Ayd¨–ntepe-Bay 89.48 310 eP P 01 10 38.2 +1.4
DIV Divide 89.56 29 eP P 01 10 36.1 -0.5
comp=Z,77nm,0.8s
FURI Furi 89.66 279 P P 01 10 40.1 +1.7
KTUT Trabzon 89.80 311 eP P 01 10 38.6 +0.6
PAX Paxson 89.84 27 eP P 01 10 37.5 -0.4
PAX pmax pmax
comp=Z,64nm,1.1s
PAX Paxson 89.84 27 eP P 01 10 37.5 -0.4
comp=Z,64nm,1.1s
SOC Sochi 89.94 313c iP P 01 10 37.4 -1.2
SOC e 01 14 09.6
SOC ePPP PPP 01 16 14.8
SOC e 01 21 02.6
SOC eS S 01 21 16.9 -10
SOC eSS SS 01 27 20.7 -4.8
SOC pmax pmax
comp=Z,49nm,1.0s
SOC MLR MLR
comp=Z,4μm,20.0s
MNKR ALMNKUR 89.99 306 eP P 01 10 39.8 +0.7
RAGM Ragged Mountai 90.05 30 eP P 01 10 38.5 -0.4
comp=Z,314nm,1.8s
BMRM Bremner River 90.12 29 eP P 01 10 39.5 +0.3
comp=Z,100nm,1.2s
VORD Divnogorie 90.50 321 eP P 01 10 39.5 -1.6
VORD eS S 01 21 27.0 -4.3
VORD pmax pmax
comp=N,90nm,0.7s
VORD pmax pmax
comp=Z,70nm,0.7s
VORD pmax pmax
comp=E,120nm,0.6s
VORD smax smax
comp=N,3μm,7.4s
VORD smax smax
comp=Z,580nm,5.9s
VORD smax smax
comp=E,1μm,5.3s
VORD MLR MLR
comp=Z,4μm,20.0s
VORD MLR MLR
comp=N,3μm,22.0s
VORD MLR MLR
comp=E,2μm,21.0s
DOT Dot Lake 90.51 26 eP P 01 10 41.0 0.0
comp=E,35nm,0.9s
ESPY Espiye-Giresun 90.58 311 eP P 01 10 41.3 -0.4
VSR Storozhevoye 90.59 321 eP P 01 10 39.3 -2.2
VSR eS S 01 21 25.3 -6.8
VSR pmax pmax
comp=Z,90nm,1.7s
VSR pmax pmax
comp=N,1.0nm,0.6s
VSR pmax pmax
comp=E,50nm,1.2s
VSR smax smax
comp=N,2μm,6.4s
VSR smax smax
comp=Z,320nm,4.3s
VSR smax smax
comp=E,2μm,6.3s
VSR MLR MLR
comp=Z,4μm,24.0s
VSR MLR MLR
comp=N,5μm,25.0s
VSR MLR MLR
comp=E,840nm,14.0s
MENT Mentasta 90.63 27 eP P 01 10 42.3 +0.8
KLMR Klimovskoe 90.72 331 eP P 01 10 38.2 -3.7
KLMR e 01 14 15.9
KLMR eS SKSac 01 21 07.6 -0.3
KLMR pmax pmax
comp=Z,168nm,1.4s
KLMR MLR MLR
comp=Z,5μm,17.0s
MALT Malatya 90.74 308⇑ iP P 01 10 43.4 +0.7
MALT Malatya 90.74 308⇑ iP P 01 10 43.4 +0.7
KMBO Kilima Mbogo 90.80 269 eP P 01 10 44.4 +0.8
KMBO e*PP pP 01 11 01.9 +0.4
KMBO Kilima Mbogo 90.80 269 P P 01 10 45.9 +2.3
SNR=11
KMBO Kilima Mbogo 90.80 269 P P 01 10 45.4 +1.8
comp=Z,4.4nm,0.9s,baz=79,slow=5.3,SNR=13
KMBO pP pP 01 11 01.9 +0.4
comp=Z,42nm,1.0s,baz=62,slow=6.8,SNR=20
KMBO LR LR 01 47 14.8
comp=Z,3μm,21.9s,baz=98,slow=33
KMBO Kilima Mbogo 90.80 269 eP P 01 10 44.4 +0.8
KMBO epP pP 01 11 01.9 +0.4
MAUS Longido 91.30 267 i P P 01 10 46.3 +0.4
MAUS PKP PP 01 14 24.5 +0.5
MAUS PKP 01 21 38.7
DARE Darende-Malaty 91.49 308 eP P 01 10 47.4 +1.2
TMCR Tamitsa 91.49 334 eP P 01 10 44.1 -1.3
TMCR e 01 14 18.9
TMCR pmax pmax
comp=Z,125nm,1.3s
MOS Moscow 91.61 326 eP P 01 10 44.6 -1.5
MOS e 01 14 22.5
MOS ePPP PPP 01 16 21.7
MOS i 01 21 13.3
MOS eS S 01 21 40.4 -0.7
MOS i PS PS 01 22 48.1 -10
MOS eSS SS 01 27 45.2 -3.7
MOS pmax pmax
comp=Z,183nm,1.4s
MOS MLR MLR
comp=Z,6μm,22.0s
ANN Anapa 91.61 315c iP P 01 10 44.4 -2.0
ANN e*PP pP 01 11 02.4 -1.8
ANN e 01 14 20.8
ANN i S SKSac 01 21 11.0 -2.7
ANN i *SS S 01 21 40.3 -1.3
ANN i PS PS 01 22 56.1 -2.9
ANN i SS SS 01 27 47.2 -2.3
ANN pmax pmax
comp=Z,256nm,1.5s
ANN pmax pmax
comp=N,86nm,1.5s
ANN pmax pmax
comp=E,43nm,1.5s
ANN pmax pmax
comp=E,58nm,1.9s
ANN pmax pmax
comp=Z,441nm,1.8s
ANN pmax pmax
comp=N,188nm,1.9s
ANN smax smax
comp=E,1μm,7.3s
RSDY Resadiye-TOKAT 91.63 310 eP P 01 10 47.5 +0.8
EGAK Eagle 91.81 25 eP P 01 10 46.8 -0.1
comp=E,81nm,1.1s
ASF Jabal al Asfar 91.87 302 P P 01 10 48.5 +0.5
ASF pmax pmax
comp=Z,12nm,0.8s
ASF Jabal al Asfar 91.87 302 P P 01 10 48.5 +0.5
comp=Z,12nm,0.8s,baz=101,slow=1.3,SNR=9.1
ASF Jabal al Asfar 91.87 302 eP P 01 10 48.5 +0.5
SVSK Karacayir 91.88 310 eP P 01 10 48.8 +1.0
KMRS Kahramanmaras 91.93 307 eP P 01 10 48.6 +0.5
DODT Dodoma, Tanzan 92.14 264 i P pP 01 11 03.6 -4.0
DODT PKP pS 01 22 14.8 +4.0
OBN Obninsk 92.21 325 P P 01 10 48.0 -0.9
comp=Z,731nm,1.8s,SNR=11
OBN Obninsk 92.21 325c iP P 01 10 47.8 -1.1
OBN i 01 14 25.2
OBN i S S 01 21 38.3 -8.2
OBN pmax pmax
comp=Z,110nm,1.1s
OBN MLR MLR
comp=Z,8μm,21.0s
OBN Obninsk 92.21 325 P P 01 10 48.3 -0.6
comp=Z,59nm,0.6s,baz=74,slow=2.6,SNR=30
OBN Obninsk 92.21 325 eP P 01 10 47.6 -1.3
comp=Z,458nm,1.7s
BTCH Batrach 92.27 306 eP P 01 10 49.4 -0.4
HAWK Haweek 92.31 304 eP P 01 10 48.1 -1.9
BIDA Albida 92.38 305 eP P 01 10 49.1 -1.2
DAWY Dawson 92.58 26 eP P 01 10 51.1 +0.6
KVT Kavak 92.61 311 eP P 01 10 51.8 +0.6
TCHB Talchebab 92.66 302 eP P 01 10 49.0 -2.5
BNN Bunyan 92.77 309 eP P 01 10 52.3 +0.2
KOZT Kozan 92.79 307 eP P 01 10 52.1 +0.1
LVZ Lovozero 92.81 338 P P 01 10 50.4 -1.1
comp=Z,314nm,1.5s,SNR=7.1
LVZ Lovozero 92.81 338c eP P 01 10 49.7 -1.8
LVZ pmax pmax
comp=Z,69nm,1.4s
LVZ MLR MLR
comp=Z,5μm,26.0s
LVZ Lovozero 92.81 338 eP P 01 10 50.1 -1.4
comp=Z,105nm,1.3s
CEYT Ceyhan 92.85 307 eP P 01 10 53.0 +0.7
MMAI Mount Meron Ar 93.14 303 P P 01 10 54.3 +0.5
comp=Z,34nm,1.2s,baz=50,slow=2.9,SNR=12
MMAI pP pP 01 11 11.8 +0.1
comp=Z,30nm,1.0s,baz=100,slow=4.6,SNR=7.6
MMAI Mount Meron Ar 93.14 303 P P 01 10 54.3 +0.5
MMAI pP pP 01 11 11.8 +0.1
KARA Karaisali 93.40 307 eP P 01 10 55.1 +0.3
EIL Elat 93.53 299 P P 01 10 55.6 0.0
comp=Z,5.7nm,0.8s,baz=16,slow=1.1,SNR=3.4
EIL Elat 93.53 299 eP P 01 10 55.6 0.0
HYT Haines Junctio 93.59 29 eP P 01 10 56.5 +1.1
MZM Mzuzu 93.66 259 i P P 01 10 46.3 -10
MZM PKP PP 01 14 57.6 +15
MZM PKP SKSac 01 21 16.9 -9.3
CORM Corum 93.70 310 eP P 01 10 56.8 +0.5
MERS Mersin 93.83 307 eP P 01 10 56.7 -0.2
SIM Simferopol' 93.97 315c iP P 01 10 56.0 -1.3
SIM e 01 14 47.0
SIM e 01 21 31.0
SIM eS S 01 21 58.0 -4.6
SIM pmax pmax
comp=Z,45nm,0.9s
EREN Erenkoy 94.14 305 eP P 01 10 58.7 +0.4
CANT Cankiri 94.46 310 eP P 01 10 59.7 -0.1
BR101 Keskin Array S 94.47 310 eP P 01 10 58.8 -1.2
BR101 ePP PP 01 14 44.1 -4.0
BRTR Keskin Array B 94.47 310 P P 01 10 58.8 -1.1
BRTR 01 14 44.2
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BRTR pmax pmax
comp=Z,16nm,1.1s
BRTR Keskin Array B 94.47 310 P P 01 10 58.8 -1.1
comp=Z,7.4nm,0.9s,baz=113,slow=3.2,SNR=29
BRTR PP PP 01 14 44.1 -4.0
comp=Z,16nm,1.1s,baz=105,slow=4.8,SNR=4.4
BRTR LR LR 02 01 32.6
comp=Z,1μm,20.8s,baz=80,slow=40
BRTR Keskin Array B 94.47 310 P P 01 10 58.8 -1.1
JOF Joensuu 94.55 333 eP P 01 10 59.1 -0.4
JOF pmax pmax
comp=Z,11nm,0.5s
JOF Joensuu 94.55 333 ep P 01 10 59.1 -0.4
comp=Z,11nm,0.5s
HOPEN Hopen 94.64 347 eP P 01 10 58.9 -0.8
LFK Lefkose 94.66 305 eP P 01 11 01.1 +0.3
SKAG Skagway 94.77 31 eP P 01 11 00.5 -0.1
comp=Z,63nm,1.0s
CSS Prodhromos 94.84 305 P P 01 11 02.9 +1.4
CSS Prodhromos 94.84 305 eP P 01 11 00.3 -1.2
comp=Z,9.9nm,0.9s
AFSR Af¨ar-Bala (A 94.92 309 eP P 01 11 01.6 -0.3
ANTO Ankara 95.11 310 eP P 01 11 02.0 -0.8
ANTO pmax pmax
comp=Z,138nm,2.2s
ANTO Ankara 95.11 310 P P 01 11 03.0 +0.2
SNR=6.6
ANTO Ankara 95.11 310 eP P 01 11 02.0 -0.8
comp=Z,138nm,2.2s
BR231 Keskin MP Arra 95.13 310 eP P 01 10 59.5 -3.4
LOD Lodumlu 95.14 310 eP P 01 11 02.6 -0.3
KEV Kevo 95.37 340 eP P 01 11 03.4 +0.3
KEV pmax pmax
comp=Z,9.0nm,0.6s
KEV Kevo 95.37 340 ep P 01 11 03.4 +0.3
comp=Z,9.1nm,0.6s
KEV Kevo 95.37 340 eP P 01 11 02.1 -1.0
comp=Z,584nm,2.7s
KONT Konya--Tatoy 95.53 308 eP P 01 11 04.6 -0.1
RKT Rikitea 95.75 113 eSKSac SKSac 01 21 36.9 -0.3
comp=Z,4μm,29.5s
RKT eSS SS 01 28 52.2 +2.5
comp=Z,4μm,27.8s
RKT eLQ LQ 01 38 10.4
comp=Z,5μm,44.0s
RKT eLR LR 01 42 08.4
comp=Z,6μm,27.8s
ARA0 ARCESS Array S 95.93 340 eP P 01 11 05.0 -0.8
ARCES ARCESS Array B 95.93 340 P P 01 11 05.0 -0.7
ARCES pmax pmax
comp=Z,28nm,0.9s
ARCES pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 95.93 340 P P 01 11 05.0 -0.7
comp=Z,28nm,0.9s,baz=81,slow=6.3,SNR=71
ARCES PKKPbc PKKPbc 01 27 57.0 0.0
comp=Z,4.4nm,1.0s,baz=305,slow=4.3,SNR=4.4
ARCES LR LR 01 59 09.3
comp=Z,6μm,21.0s,baz=76,slow=38
ARCES ARCESS Array B 95.93 340 P P 01 11 05.0 -0.7
ARE0 ARCESS Array S 95.93 340 eP P 01 11 04.8 -0.9
ARE0 IAMs_20 IAMs_20 01 58 50.8
comp=Z,7μm,19.2s
SPA0 Spitsbergen Ar 95.98 349 eP P 01 11 07.0 +1.2
SPA0 eSKSac SKSac 01 21 37.2 +0.9
SPA0 Spitsbergen Ar 95.98 349 eP P 01 11 04.8 -1.0
SPITS Spitsbergen Ar 95.98 349 P P 01 11 04.8 -1.0
SPITS pmax pmax
comp=Z,64nm,1.1s
SPITS Spitsbergen Ar 95.98 349 P P 01 11 04.8 -1.0
comp=Z,64nm,1.1s,baz=91,slow=7.5,SNR=27
SPITS Spitsbergen Ar 95.98 349 P P 01 11 04.8 -1.0
SVRH Sivrihisar-ESK 96.11 309 eP P 01 11 07.0 -0.4
MDUB Mudurnu 96.31 310 eP P 01 11 07.8 -0.4
KBS Kingsbay 96.50 350 eP P 01 11 08.9 +0.8
KBS eSKSac SKSac 01 21 36.8 -2.2
KBS IAMs_20 IAMs_20 01 54 29.6
comp=Z,9μm,21.5s
KBS IVMs_BB IVMs_BB 01 54 43.8
comp=Z,2μm,24.6s
KBS Kingsbay 96.50 350 eP P 01 11 07.5 -0.6
KBS pmax pmax

comp=Z,62nm,1.5s
KBS Kingsbay 96.50 350 *e*P **P 01 11 07.5 -0.6**
comp=Z,62nm,1.5s
BJO Bjornoya 96.58 345 *e*P **P 01 11 08.4 -0.2**
BJO *e*PP **PP** 01 15 05.0 +1.8
BJO *e*SKSac **SKSac** 01 21 40.1 +0.7
HSPB Hornsund (broa 96.58 348 *e*P **P 01 11 08.2 -0.3**
HSPB IVmB_BB 01 11 10.0
comp=Z,1µm,1.8s
HSPB *e*PP **PP 01 15 03.3 +0.1**
HSPB *e*SKSac **SKSac 01 21 40.0 +0.6**
KTK1 Kautokeino 96.83 339 *e*P **P 01 11 10.1 +0.3**
GULT Gulveren 96.83 310 *e*P **P 01 11 09.8 -0.8**
AKASG Malin Array Be 96.89 321 P **P 01 11 09.2 -1.3**
AKASG 01 15 08.1
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 96.89 321 P **P 01 11 09.2 -1.3**
comp=Z,1.9nm,0.5s,baz=70,slow=3.9,SNR=17
AKASG PP **PP 01 15 08.1 +1.8**
comp=Z,5.5nm,0.7s,baz=67,slow=6.9,SNR=7.3
AKASG LR LR 02 00 23.1
comp=Z,3µm,19.3s,baz=90,slow=39
AKASG Malin Array Be 96.89 321 P **P 01 11 09.2 -1.3**
AKBB Malin Array Si 96.89 321 *e*P **P 01 11 09.2 -1.3**
AKBB *e* 01 15 08.2
AKBB Malin Array Si 96.89 321 *e*P **P 01 11 09.2 -1.3**
AKBB *e*PP **PP 01 15 08.2 +1.8**
KIEV Kiev 96.90 321 *c i*P **P 01 11 09.0 -1.5**
KIEV Kiev 96.90 321 *e*P **P 01 11 08.2 -2.2**
comp=Z,32nm,1.2s
SHUT Suhut-Afyon 96.92 308 *e*P **P 01 11 10.7 -0.4**
AK11 Malin Array Si 96.93 321 *e*P **P 01 11 09.1 -1.5**
BCK Bucak 96.95 307 *e*P **P 01 11 09.9 -1.3**
KAF Kangasniemi 96.96 332 *e*P **P 01 11 09.1 -1.4**
KAF pmax pmax
comp=Z,12nm,0.5s
KAF Kangasniemi 96.96 332 *e*p **P 01 11 09.1 -1.4**
comp=Z,12nm,0.5s
SPNC Sapanca-Adapaz 96.97 311 *e*P **P 01 11 10.4 -0.7**
ISP Isparta 96.98 308 *e*P **P 01 11 09.5 -1.8**
ISP pmax pmax
comp=Z,138nm,2.0s
ISP Isparta 96.98 308 *e*P **P 01 11 09.5 -1.8**
comp=Z,138nm,2.0s
FIA0 FINESS Array S 97.18 332 *e*P **P 01 11 10.4 -1.1**
FIA0 *e* 01 15 03.5
FIA0 FINESS Array S 97.18 332 *e*P **P 01 11 10.4 -1.1**
FIA0 *e*PP **PP 01 15 03.5 -4.7**
FIA0 *e*PKKPbc **PKKPdf 01 27 55.9 +1.0**
FINES FINESS Array B 97.18 332 P **P 01 11 10.4 -1.1**
FINES 01 15 03.5
FINES pmax pmax
comp=Z,8.0nm,0.6s
FINES pmax pmax
comp=Z,17nm,1.1s
FINES pmax pmax
comp=Z,3.0nm,1.1s
FINES FINESS Array B 97.18 332 P **P 01 11 10.4 -1.1**
comp=Z,8.3nm,0.6s,baz=75,slow=4.4,SNR=60
FINES PP **PP 01 15 03.5 -4.7**
comp=Z,17nm,1.1s,baz=108,slow=9.0,SNR=5.4
FINES PKKPbc **PKKPdf 01 27 55.9 +1.0**
comp=Z,3.1nm,1.1s,baz=328,slow=6.8,SNR=4.0
FINES FINESS Array B 97.18 332 P **P 01 11 10.4 -1.1**
ALT Altintas 97.23 309 P **P 01 11 10.6 -1.8**
MICGM Minsk 97.27 325 ||*i*P **P 01 11 10.0 -2.1**
MNK Minsk 97.29 325 ||*i*P **P 01 11 10.0 -2.2**
MNK *e**PP **pP 01 11 26.0 -4.1**
MNK *e* 01 15 12.0
MNK *e*PPP PPP 01 17 19.0
MNK *e* 01 21 42.0
MNK *e*S S 01 22 22.0 -8.9
MNK *e*SS SS 01 29 18.0 +8.2
MNK *e*SSS SSS 01 33 00.0
MNK pmax pmax
comp=Z,260nm,1.0s
MNK smax smax
comp=E,14µm,7.0s
MNK MLR MLR
comp=Z,8µm,22.0s
VSU Vasula 97.34 329 *i*P **P 01 11 11.9 -0.4**
VSU pmax pmax
comp=Z,47nm,1.4s
VSU MLR MLR
comp=Z,17µm,26.0s
CAVI Cavuskoy 97.36 310 *e*P **P 01 11 12.5 -0.4**
SILT Sile 97.44 311 *e*P **P 01 11 12.6 -0.6**
KIS Kishinev 97.53 317 *e*P **P 01 11 12.0 -1.4**
KIS *e* 01 15 14.0
KIS *e*PPP PPP 01 17 20.0
KIS *e* 01 21 46.0
KIS *e*S S 01 22 24.0 -9.2
KIS *e*SS **PS 01 24 02.0 -1.9**
KIS pmax pmax
comp=Z,140nm,1.5s
KIS pmax pmax
comp=Z,600nm,12.0s
KIS pmax pmax
comp=Z,700nm,12.0s
KIS Kishinev 97.53 317 *e*P **P 01 11 12.0 -1.4**
comp=Z,100nm,1.5s
KIS Kishinev 97.53 317 *e*PP PP 01 15 14.0 +2.7
comp=Z,2µm,11.0s
KIS Kishinev 97.53 317 *e*PS **SP 01 23 50.0 -5.5**
ELL Elmali 97.54 307 *e*P **P 01 11 13.7 -0.3**
DLBC Dease Lake 97.62 31 LR LR 01 51 58.6
comp=Z,3µm,20.6s,baz=309,slow=33
DLBC Dease Lake 97.62 31 *e*P **P 01 11 13.4 -0.3**
comp=Z,163nm,2.3s
TLCR 97.70 315 ||P **P 01 11 13.8 -0.4**
TLCR 97.70 315 ||*i*P **P 01 11 13.8 -0.4**
TVSB Tavsanli 97.71 309 *e*P **P 01 11 14.1 -0.4**
NACGM Naroch 97.84 325 *e*P **P 01 11 12.0 -2.7**
KLYT Kilyos 97.89 311 *e*P **P 01 11 14.7 -0.5**
ISK Istanbul-Kandi 97.89 311 *e*P **P 01 11 14.6 -0.6**
TIRR Tirgusor 98.06 315 ||P **P 01 11 15.2 -0.7**
TIRR Tirgusor 98.06 315 ||*i*P **P 01 11 15.2 -0.7**
TIRR Tirgusor 98.06 315 *e*P **P 01 11 14.3 -1.6**
comp=Z,37nm,0.9s
ARMT Armutlu 98.08 311 *e*P **P 01 11 15.3 -0.8**
TRO Tromso 98.14 340 *e*P **P 01 11 15.3 -0.4**
TRO *e*SKSac **SKSac 01 21 47.4 -0.2**
CFR Carcaliu 98.18 315 ||P **P 01 11 15.8 -0.6**
CFR Carcaliu 98.18 315 ||*i*P **P 01 11 15.8 -0.6**
CTKS Kestanelik-??a 98.29 311 *e*P **P 01 11 16.2 -0.8**
PSN Preselentsi 98.30 314 ||P Pdif 01 11 17.3 +0.3
PSN Preselentsi 98.30 314 ||*i*P Pdif 01 11 17.3 +0.3
TLB Topalu 98.31 315 ||P **P 01 11 16.4 -0.6**
TLB Topalu 98.31 315 ||*i*P **P 01 11 16.4 -0.6**
HARR Harsova 98.38 315 ||P Pdif 01 11 17.6 +0.3
HARR Harsova 98.38 315 ||*i*P Pdif 01 11 17.5 +0.2
KULA Kula-Manisa 98.40 309 P **P 01 11 16.4 -1.3**
KULA Kula-Manisa 98.40 309 *e*P **P 01 11 17.6 -0.1**
CTYL Yal??k??y-??at 98.43 312 *e*P **P 01 11 17.0 -0.6**
KCTX Karacabey (Bur 98.49 310 *e*P **P 01 11 17.8 -0.2**
SLVT Silivri 98.51 311 *e*P **P 01 11 17.6 -0.4**
MSAB Monastry St. A 98.51 314 ||*i*P **P 01 11 17.5 -0.4**
PETR Petresti 98.75 316 ||*i*P Pdif 01 11 20.0 +1.0
YER Yerkesik 98.81 307 *e*P **P 01 11 19.1 -0.4**
CRLT Corlu 98.88 311 *e*P **P 01 11 19.4 -0.2**
BALB Balikesir 98.91 310 *e*P **P 01 11 19.3 -0.5**
GRER 98.97 316 ||*i*P **P 01 11 19.6 -0.4**
AYDB Zeytinkoy-Aydi 99.05 308 *e*P **Pdif 01 11 20.8 +0.1**
TESR Tescani 99.06 317 ||*i*P **Pdif 01 11 20.2 -0.2**
VRI Vrincioaia 99.09 316 ||P **Pdif 01 11 21.4 +0.9**
VRI Vrincioaia 99.09 316 ||*i*P **Pdif 01 11 21.4 +0.9**
LSZ Lusaka 99.11 254 *e*P **Pdif 01 11 19.3 -2.1**
LSZ pmax pmax
comp=Z,51nm,1.4s
LSZ Lusaka 99.11 254 P sP 01 11 48.1 +1.9
SNR=6.0
LSZ Lusaka 99.11 254 *e*P **Pdif 01 11 19.3 -2.1**
comp=Z,50nm,1.4s
PLOR Plostina 99.14 316 ||P **Pdif 01 11 20.9 +0.1**
PLOR Plostina 99.14 316 ||*i*P **Pdif 01 11 20.9 +0.1**
PLOR Plostina 99.14 316 ||*i*P PP 01 15 30.7 +6.9
PRAR RASCA 99.24 318 ||*i*P **Pdif 01 11 20.5 -0.6**
KRBG Karabiga-Canak 99.28 311 *e*P **Pdif 01 11 21.3 -0.1**
RKY Sarkoy-Tekirda 99.34 311 *e*P **Pdif 01 11 21.3 -0.5**
EDRB Edirne 99.55 312 P **Pdif 01 11 21.6 -1.0**
EDRB Edirne 99.55 312 *e*P **Pdif 01 11 22.3 -0.3**
JMB Yambol 99.59 313 P **Pdif 01 11 23.5 +0.7**
JMB Yambol 99.59 313 ||P **Pdif 01 11 24.5 +1.7**
JMB Yambol 99.59 313 ||*i*P **Pdif 01 11 24.5 +1.7**
BLCB Balcova 99.68 309 *e*P **Pdif 01 11 23.1 -0.2**
MLR Muntele Rosu 99.68 316 P **Pdif 01 11 23.3 0.0**
MLR 01 15 33.2
MLR pmax pmax
comp=Z,5.0nm,0.8s
MLR pmax pmax
comp=Z,29nm,1.1s
MLR Muntele Rosu 99.68 316 ||*i*P **Pdif 01 11 23.2 0.0**
MLR Muntele Rosu 99.68 316 ||*i*P **PP 01 15 29.2 +1.2**
MLR Muntele Rosu 99.68 316 P **Pdif 01 11 23.3 0.0**
comp=Z,4.6nm,0.8s,baz=33,slow=3.9,SNR=34
MLR PP PP 01 15 33.2 +5.2
comp=Z,29nm,1.1s,baz=52,slow=3.5,SNR=11
MLR Muntele Rosu 99.68 316 *e*Pdif **Pdif 01 11 23.3 0.0**
MLR *e*PP PP 01 15 33.2 +5.2
BURAR Bucovina Array 99.88 318 ||P **Pdif 01 11 24.1 0.0**
BURAR Bucovina Array 99.88 318 ||*i*P **Pdif 01 11 24.1 0.0**
BURAR Bucovina Array 99.88 318 ||*i*P PP 01 15 43.4 +14
BUR04 Bucovina Ar. S 99.89 318 *e*Pdif **Pdif 01 11 24.1 0.0**
STEI Steigen 99.97 339 *e*P **Pdif 01 11 22.3 -1.5**
SZH Strazhica 99.97 314 *i*P **Pdif 01 11 17.2 -7.3**
DOPR Dopca 100.00 316 ||*i*P **Pdif 01 11 24.6 0.0**
DOPR Dopca 100.00 316 ||*i*P **PP 01 15 33.8 +3.5**
SUW Suwalki 100.07 325 *e*P **Pdif 01 11 23.4 -1.2**
SUW *e* 01 21 54.4
SUW Suwalki 100.07 325 *e*P **Pdif 01 11 23.4 -1.2**
SUW *e*SKSac **SKSac 01 21 54.3 -3.5**
SUW LMZ LR 02 00 26.9
SUW Suwalki 100.07 325 *e*Pdif **Pdif 01 11 23.0 -1.6**
ALN Alexandroupoli 100.17 311 P **Pdif 01 11 24.1 -1.3**
PRK Paraskevi 100.19 309 P **Pdif 01 11 23.5 -2.0**
LVV L'vov 100.31 320 *e*P **Pdif 01 11 24.9 -0.9**
LVV *e* 01 15 30.1
LVV *e* 01 22 05.7
LVV *e*S **Sdif 01 22 52.9 -3.7**
LVV *e*SSS SSS 01 33 43.3
VOIR 100.31 316 ||P **Pdif 01 11 25.3 -0.7**
VOIR 100.31 316 ||*i*P **Pdif 01 11 25.3 -0.7**
MTUR Matau 100.33 316 ||P **Pdif 01 11 25.8 -0.3**
MTUR Matau 100.33 316 ||*i*P **Pdif 01 11 25.8 -0.3**
MTUR Matau 100.33 316 ||*i*P **PP 01 15 35.5 +2.6**
SNAA Sanae 100.37 194 P **Pdif 01 11 34.7 +8.9**
SNAA Sanae 100.37 194 *e*P **Pdif 01 11 24.5 -1.3**
SNAA Sanae 100.37 194 *e*Pdif **Pdif 01 11 24.4 -1.3**
PVL Pavlikeni 100.41 314 *i*P **Pdif 01 11 26.6 +0.2**
BOSA Boshof 100.46 241 P **Pdif 01 11 28.4 +1.2**
BOSA pmax pmax
comp=Z,3.0nm,0.9s
BOSA pmax pmax
comp=Z,26nm,0.9s
BOSA pmax pmax
comp=Z,4.0nm,0.9s
BOSA Boshof 100.46 241 P **Pdif 01 11 28.4 +1.2**
comp=Z,2.9nm,0.9s,baz=90,slow=7.1,SNR=2.9
BOSA pP pP 01 11 45.6 +0.5
comp=Z,26nm,0.9s,baz=113,slow=3.7,SNR=14
BOSA PKKPbc **PKKPbc 01 27 44.6 +1.4**
comp=Z,4.2nm,0.9s,baz=268,slow=4.7,SNR=4.2
BOSA Boshof 100.46 241 *e*Pdif **Pdif 01 11 24.5 -2.7**
KDZ Kurdzhali 100.55 312 ||*i*P PP 01 15 26.7 -7.9
LBTB Lobatse 100.61 244 *e*P **Pdif 01 11 24.0 -3.8**
LBTB Lobatse 100.61 244 *e*Pdif **Pdif 01 11 24.0 -3.8**
ARR Arges 100.61 316 ||*i*P **Pdif 01 11 26.8 -0.6**
MOR8 Moi Rana 100.89 338 *e*P **Pdif 01 11 26.1 -1.9**
MOR8 IAmb IAmb 01 11 27.9
comp=Z,54nm,1.3s
RZN Rozhen 101.07 312 *i*P **Pdif 01 11 28.7 -0.9**
CJR Cluj-Napoca 101.11 317 ||P **Pdif 01 11 30.4 +0.9**
CJR Cluj-Napoca 101.11 317 ||*i*P **Pdif 01 11 30.4 +0.9**
ITZ Itezhi-Tezhi 101.16 254 *i*P pP 01 11 50.2 +1.7
ITZ PKP **PKiKP 01 15 50.2 -5.1**
KWP Kalwaria Pacla 101.19 320 ||P **Pdif 01 11 29.8 0.0**
KWP Kalwaria Pacla 101.19 320 *e*P **Pdif 01 11 29.5 -0.2**
KWP LMZ LR 01 57 57.7
KWP Kalwaria Pacla 101.19 320 ||*i*P **Pdif 01 11 29.8 0.0**
KWP Kalwaria Pacla 101.19 320 *e*Pdif **Pdif 01 11 29.5 -0.2**
LOT Lotru 101.20 316 ||*i*P **Pdif 01 11 30.4 +0.4**
LAST Lasithi 101.25 305 P **Pdif 01 11 32.1 +1.6**
KONS Konsvik 101.27 338 *e*P **Pdif 01 11 30.3 +0.6**
PGB Panagyurishte 101.36 313 *i*P **Pdif 01 11 30.9 +0.2**
MPEP Malo Peshtene 101.55 314 *i*P **Pdif 01 11 31.3 -0.2**
TRPA Tarpa 101.58 319 ||*i*P **Pdif 01 11 30.8 -0.7**
KOLS Kolonicke sedl 101.60 320 *i*P **Pdif 01 11 31.7 +0.1**
KOLS Kolonicke sedl 101.60 320 PDIF **Pdif 01 11 31.7 +0.1**
UZH Uzhgorod 101.64 319 ||*i*P **Pdif 01 11 31.8 0.0**
UZH *i* 01 15 40.0
UZH *e* 01 22 03.4
UZH *i*S **Sdif 01 23 01.0 -6.8**
DRGR 101.70 317 ||P **Pdif 01 11 32.5 +0.3**
DRGR 101.70 317 ||*i*P **Pdif 01 11 32.5 +0.3**
IDI Anoyia 101.72 306 P **Pdif 01 11 32.7 +0.2**
comp=Z,3.0nm,0.8s,baz=73,slow=8.3,SNR=5.0
IDI PP **PP 01 15 39.8 -3.9**
comp=Z,16nm,0.9s,baz=66,slow=11,SNR=4.2
IDI PKKPbc **PKKPbc 01 27 42.2 +2.5**
comp=Z,5.3nm,1.0s,baz=308,slow=7.4,SNR=3.7
IDI PKKPab PKKPdf 01 27 59.7 +14
comp=Z,11nm,0.8s,baz=310,slow=3.1,SNR=8.7
IDI Anoyia 101.72 306 *e*Pdif **Pdif 01 11 32.7 +0.2**
IDI *e*PP **PP 01 15 39.8 -3.9**
IDI *e*PKKPbc **PKKPbc 01 27 42.2 +2.5**
MMB Musomiste 101.82 312 ||P **Pdif 01 11 31.7 -1.1**
MMB Musomiste 101.82 312 ||*i*P **Pdif 01 11 31.7 -1.1**
MMB Musomiste 101.82 312 *i*P **Pdif 01 11 31.7 -1.1**
GZR Gura Zlata 101.90 316 ||P **Pdif 01 11 33.0 -0.1**
GZR Gura Zlata 101.90 316 ||*i*P **Pdif 01 11 33.0 -0.1**
GZR Gura Zlata 101.90 316 ||*i*P **PKiKP 01 15 53.4 -2.4**
BEL Belsk 101.93 323 *e*P **Pdif 01 11 32.9 -0.1**
BEL *e* 01 22 07.1
BEL MLR MLR
comp=Z,6µm,23.4s
BEL Belsk 101.93 323 *e*P **Pdif 01 11 32.9 -0.1**
BEL *e*SKSac **SKSac 01 22 07.1 +0.1**
BEL LMZ LR 01 59 01.3
VNA2 Neumayer--Watz 101.97 194 P pP 01 11 48.0 -3.0
SRS Serrai 101.99 312 P **Pdif 01 11 31.7 -1.8**
VTS Vitosha 102.05 313 P **Pdif 01 11 33.2 -0.7**
VTS Vitosha 102.05 313 ||P **Pdif 01 11 33.4 -0.5**
VTS Vitosha 102.05 313 ||*i*P **Pdif 01 11 33.4 -0.5**
VTS Vitosha 102.05 313 ||*i*P PP 01 15 36.3 -10
VTS Vitosha 102.05 313 *i*P **Pdif 01 11 33.8 -0.1**
STHS Stebnicka Huta 102.17 320 *i*P **Pdif 01 11 35.2 +1.1**
STHS Stebnicka Huta 102.17 320 PDIF **Pdif 01 11 35.2 +1.1**
KKB Krupnik 102.25 312 *i*P **Pdif 01 11 34.3 -0.4**
VAM Vamos 102.26 306 P **Pdif 01 11 32.3 -2.5**
NSS Namsos 102.47 337 *e*P **Pdif 01 11 33.6 -1.4**
KNT Kendrikon 102.50 312 P **Pdif 01 11 34.2 -1.6**
BZS Buzias 102.66 316 ||P **Pdif 01 11 35.0 -1.4**
BZS Buzias 102.66 316 ||*i*P **Pdif 01 11 35.0 -1.4**
VAY Valandovo 102.72 312 P **Pdif 01 11 36.1 -0.6**
VAY Valandovo 102.72 312 *e*P **Pdif 01 11 36.2 -0.6**
comp=Z,84nm,1.4s
DAG Danmarks Havn 102.73 353 *i*P **Pdif 01 11 37.2 +1.2**
NIE Niedzica 102.76 320 *e*P **Pdif 01 11 37.3 +0.5**
NIE Niedzica 102.76 320 *e*Pdiff **Pdif 01 11 37.3 +0.5**
NIE *e*PKiKP **PKiKP 01 15 59.2 +2.0**
NIE *e*S **SKSac 01 22 14.4 +3.3**
NIE L L 02 02 52.0
comp=Z,4µm,21.7s
RES Resolute Bay 102.82 11 *e*P **Pdif 01 11 36.9 +0.5**
RES Resolute Bay 102.82 11 PKKP **PKKPdf 01 27 47.4 +2.7**
comp=Z,2.6nm,0.9s,baz=138,slow=3.1,SNR=5.1
RES Resolute Bay 102.82 11 *e*Pdif **Pdif 01 11 36.9 +0.5**
OJC Ojcow 102.91 321 *e*P **Pdif 01 11 38.1 +0.7**
OJC *e* 01 15 52.1
OJC Ojcow 102.91 321 *e*Pdiff **Pdif 01 11 38.1 +0.7**
OJC *e*PP **PP 01 15 52.1 +0.1**
OJC *e*PKiKP **PKiKP 01 15 58.8 +1.4**
OJC *e*S **SKSac 01 22 14.9 +3.2**
OJC L L 01 59 43.0
comp=Z,5µm,21.6s
OJC Ojcow 102.91 321 *e*Pdif **Pdif 01 11 36.4 -1.0**
LIT Litokhoron 102.97 311 P **Pdif 01 11 34.8 -3.1**
PSZ Piszkesteto 103.36 319 ||P **Pdif 01 11 38.7 -0.8**
PSZ Piszkesteto 103.36 319 ||*i*P **Pdif 01 11 38.7 -0.8**
PSZ Piszkesteto 103.36 319 ||*e* **Pdif 01 11 39.0 -0.5**
PSZ Piszkesteto 103.36 319 *e*Pdif **Pdif 01 11 39.5 -0.1**
HFS Hagfors 103.37 332 P **Pdif 01 11 38.1 -1.1**
HFS pmax pmax
comp=Z,4.0nm,0.6s
HFS Hagfors 103.37 332 Pdiff **Pdif 01 11 38.1 -1.1**
comp=Z,4.3nm,0.6s,baz=106,slow=5.3,SNR=20
HFS Hagfors 103.37 332 Pdif **Pdif 01 11 38.1 -1.1**
SKO Skopje 103.44 313 *e*P **Pdif 01 11 39.9 -0.1**
comp=Z,99nm,2.9s
KLV Kalavryta, Ach 103.54 309 P **Pdif 01 11 37.0 -3.6**
EVR Evrytania 103.67 310 P **Pdif 01 11 40.7 -0.5**
GKP Gorka Klasztor 103.68 325 *e*P **Pdif 01 11 40.7 0.0**
GKP *e* 01 22 15.5
GKP Gorka Klasztor 103.68 325 *e*P **Pdif 01 11 40.6 -0.1**
GKP *e*SKSac **SKSac 01 22 15.4 +0.3**
GKP LMZ LR 02 02 17.2
YKA Yellowknife Ar 103.78 25 P **Pdif 01 11 41.5 +0.6**
YKA 01 15 57.7
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA pmax pmax
comp=Z,5.0nm,1.0s
YKA Yellowknife Ar 103.78 25 Pdiff **Pdif 01 11 41.5 +0.6**
comp=Z,2.8nm,0.8s,baz=294,slow=4.6,SNR=19
YKA PP **PP 01 15 57.7 -0.4**
comp=Z,1.8nm,0.8s,baz=293,slow=7.3,SNR=7.7
YKA PKKPbc **PKKPbc 01 27 32.0 -2.4**
comp=Z,1.2nm,0.8s,baz=107,slow=2.8,SNR=8.0
YKA PKKP PKKPdf 01 27 48.8 +6.1
comp=Z,4.5nm,1.0s,baz=109,slow=2.9,SNR=11
YKA Yellowknife Ar 103.78 25 Pdif **Pdif 01 11 41.5 +0.6**
YKB5 Yellowknife Ar 103.78 25 *e*Pdif **Pdif 01 11 40.5 -0.4**
PKS6 Bocsa 103.86 318 ||*e* **Pdif 01 11 42.1 +0.4**
VYHS Vyhne 103.92 320 *i*P **Pdif 01 11 41.6 -0.4**
VYHS Vyhne 103.92 320 PDIF **Pdif 01 11 41.5 -0.4**
OKC Ostrava-Krasne 104.03 321 *e*P **Pdif 01 11 43.0 +0.6**
OKC *e* 01 16 03.1
OKC *e* 01 22 21.4
OKC *e*SP SP 01 25 12.7 +8.0
OKC MLR MLR
comp=Z,2µm,17.9s
OKC Ostrava-Krasne 104.03 321 *e*PDIFF **Pdif 01 11 43.0 +0.6**
OKC *e*sP 01 12 04.6
OKC *e*x x 01 12 14.3
OKC *e*PP **PP 01 16 03.1 +2.7**
OKC *e*SKS **SKSac 01 22 21.4 +4.5**
OKC *e*XSKS 01 22 48.3
OKC *e*PS **PS 01 25 12.7 -0.4**
OKC AMS AMS 02 01 20.0
comp=Z,2µm,17.9s
PYL PYLOS 104.04 308 P **Pdif 01 11 40.7 -2.0**
OHR Ohrid 104.07 312 *e*P **Pdif 01 11 43.1 +0.3**
comp=Z,33nm,1.2s
DIVS Divibare 104.09 315 P **Pdif 01 11 43.4 +0.5**
PKS2 Kecel 104.12 318 ||*e* **Pdif 01 11 43.5 +0.7**
NB201 NORSAR Array S 104.13 333 *e*Pdif **Pdif 01 11 41.8 -0.8**
NC602 NORSAR Array S 104.14 333 *e*PP PP 01 16 01.0 +0.2
NC602 *e*SKSac **SKSac 01 22 16.3 -0.7**
NB2 NORSAR Subarra 104.17 333 P **Pdif 01 11 41.6 -1.2**
comp=Z,28nm,1.2s,baz=68,slow=4.8
NB2 NORSAR Subarra 104.17 333 P **Pdif 01 11 41.6 -1.2**
baz=68,slow=4.8
NB200 NORSAR Array S 104.17 333 *e*Pdif **Pdif 01 11 41.8 -1.0**
NB200 *e*PP PKiKP 01 15 51.5 -7.9
NB200 *e*PKKPab **PKKPab 01 27 48.1 -2.7**
NOA NORSAR Array B 104.17 333 P **Pdif 01 11 41.8 -1.0**
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA pmax pmax
comp=Z,7.0nm,1.0s
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 104.17 333 Pdiff **Pdif 01 11 41.8 -1.0**
comp=Z,6.0nm,0.7s,baz=69,slow=4.5,SNR=17
NOA PP PKiKP 01 15 51.5 -7.9
comp=Z,6.6nm,1.0s,baz=71,slow=6.2,SNR=3.8
NOA PKKP **PKKPab 01 27 48.1 -2.7**
comp=Z,1.9nm,0.8s,baz=68,slow=2.6,SNR=4.8
NOA NORSAR Array B 104.17 333 Pdif **Pdif 01 11 41.8 -1.0**
NBO02 NORSAR Array S 104.33 333 *e*Pdif **Pdif 01 11 42.1 -1.3**
MORC Moravsky Berou 104.42 321 *e*P **Pdif 01 11 44.4 +0.2**
MORC Moravsky Berou 104.42 321 *e*Pdif **Pdif 01 11 44.4 +0.2**
BSD Bornholm Skovb 104.44 327 *e*P **Pdif 01 11 45.5 +1.5**
BSD MLR MLR
comp=Z,4µm,22.0s
BSD Bornholm Skovb 104.44 327 *i*P **Pdif 01 11 45.5 +1.5**
PKSG 104.47 319 ||*e* **Pdif 01 11 44.6 +0.3**
LKD2 Lefkada island 104.58 310 P **Pdif 01 11 41.4 -3.7**
PKST T''s 104.73 319 ||*e* **Pdif 01 11 45.7 +0.1**
KSP Ksiaz 104.91 322 *e*P **Pdif 01 11 46.4 +0.1**
KSP *e* 01 16 06.3
KSP *e* 01 22 19.0
KSP *e*S **Sdif 01 23 35.2 +0.2**
KSP *e*SP **SP 01 25 13.2 -0.6**
KSP MLR MLR
comp=Z,19µm,23.0s
KSP Ksiaz 104.91 322 *e*P **Pdif 01 11 46.4 +0.1**
KSP *e*SKSac **SKSac 01 22 19.0 -1.9**
KSP LMZ LR 01 53 04.9
DPC Dobruska-Polom 105.03 322 *e*P **Pdif 01 11 47.1 +0.2**
DPC *e* 01 16 13.0
DPC *e* 01 22 18.7
DPC *e*SP SP 01 25 11.5 -3.7
DPC Dobruska-Polom 105.03 322 *e*PDIFF **Pdif 01 11 47.1 +0.2**
DPC *e*sP 01 12 09.0
DPC *e*x x 01 12 21.4
DPC *e*PP **PP 01 16 13.0 +5.2**
DPC *e*SKS **SKSac 01 22 18.7 -2.9**
DPC *e*XSKS 01 22 52.9
DPC *e*SP **SP 01 25 11.5 -3.7**
DPC AMS AMS 02 03 10.0
VRAC Vranov 105.14 321 P **Pdif 01 11 48.2 +0.8**
VRAC 01 16 06.9
VRAC pmax pmax
comp=Z,4.0nm,1.0s
VRAC pmax pmax
comp=Z,10.0nm,1.0s
VRAC Vranov 105.14 321 ||*i*P **Pdif 01 11 47.9 +0.5**
VRAC Vranov 105.14 321 Pdiff **Pdif 01 11 48.2 +0.8**
comp=Z,3.9nm,1.0s,baz=55,slow=3.7,SNR=7.3
VRAC PP **PP 01 16 06.9 -1.7**
comp=Z,9.7nm,0.9s,baz=82,slow=9.2,SNR=3.7
VRAC Vranov 105.14 321 *e*Pdif **Pdif 01 11 48.2 +0.8**
VRAC *e*PP **PP 01 16 06.9 -1.7**
UPC Upice 105.18 322 *e*P **Pdif 01 11 45.6 -1.9**
UPC Upice 105.18 322 *e*PDIFF **Pdif 01 11 45.6 -1.9**
UPC *e*sP 01 12 08.9
JMIC Jan Mayen 105.37 346 *e*P **Pdif 01 11 38.8 -9.0**
JMIC *e*PP **PP 01 16 07.4 -2.1**
JMIC *e*SKSac **SKSac 01 22 21.2 -0.9**
KONO Kongsberg 105.47 332 *e*P **Pdif 01 11 48.7 +0.2**
KONO *e*PP **PP 01 16 13.2 +2.5**
AKN Aaknes 105.51 335 *e*PP PP 01 16 07.5 -3.4
AKN *e*SKSac **SKSac 01 22 24.7 +1.6**
TREC Trest 105.84 321 *e*PP PP 01 16 16.9 +3.1
TREC *e*SKS **SKSac 01 22 23.0 -2.2**
TREC *e*XSKS 01 22 56.1
TREC *e*SP **SP 01 25 18.7 -4.9**
TREC AMS AMS 02 02 30.0
comp=Z,4µm,20.9s
RUE Ruedersdorf 105.92 325 *e*Pdif **Pdif 01 11 49.6 -1.1**
M04C Macdoel 106.00 47 ||PKiKP **PKiKP 01 16 05.8 +2.3**
baz=106
PVCC Panska Ves 106.05 322 *e*P **Pdif 01 11 52.1 +0.8**
PVCC *e*SP SP 01 25 22.4 -3.3
PVCC MLR MLR
comp=Z,5µm,24.4s
PVCC Panska Ves 106.05 322 *e*PDIFF **Pdif 01 11 52.1 +0.8**
PVCC *e*sP 01 12 13.0
PVCC *e*PP PKiKP 01 16 09.1 +6.0
PVCC *e*SP **SP 01 25 22.4 -3.3**
PVCC AMS AMS 02 03 40.0
comp=Z,5µm,24.4s
PRU Pruhonice 106.23 322 *e*P **Pdif 01 11 52.1 -0.1**
PRU *e* 01 16 14.7
PRU *e*SP SP 01 25 25.9 -1.7
PRU MLR MLR
comp=Z,4µm,22.3s
PRU Pruhonice 106.23 322 *e*PDIFF **Pdif 01 11 52.1 -0.1**
PRU *e*sP 01 12 15.9

PRU ePP PP 01 16 14.7 -1.9
PRU eSKS SKSac 01 22 20.0 -6.8
PRU eXSKS 01 22 56.4
PRU eSP SP 01 25 25.9 -1.6
PRU AMS AMS 02 01 50.0
comp=Z,4µm,22.3s
BRG Berggiesshubel 106.33 323 ePDIF **Pdif 01 11 52.6 +0.1**
comp=Z,27nm,1.4s
BRG pPDIF 01 12 09.5
comp=Z,9.3nm,1.1s
BRG PP **PKiKP 01 16 05.0 +1.4**
BRG SKS **SKSac 01 22 32.0 +4.8**
BRG SDIF **Sdif 01 23 46.0 -0.8**
BRG SP **SP 01 25 25.0 -3.5**
BRG ePKKP **PKKPdf 01 27 36.7 -1.1**
comp=Z,15nm,1.7s
BRG Berggiesshubel 106.33 323 eP **Pdif 01 11 52.7 +0.1**
BRG 01 22 32.0
BRG SP SP 01 25 25.0 -3.5
BRG pmax pmax
comp=Z,27nm,1.5s
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG pmax pmax
comp=Z,15nm,1.7s
BRG MLR MLR
comp=N,3µm,21.9s
BRG MLR MLR
comp=E,3µm,25.6s
BRG MLR MLR
comp=Z,4µm,25.4s
BRG Berggiesshubel 106.33 323 ePdiff **Pdif 01 11 47.0 -5.5**
ARSA Arzberg 106.39 319⇑ iPdiff **Pdif 01 11 53.6 +0.7**
comp=Z,7.6nm,1.2s
HOMB Homborsund 106.56 331 ePP PP 01 16 19.7 +1.0
FOO Floro 106.60 335 ePP PP 01 16 18.3 -0.5
FOO eSKSac **SKSac 01 22 31.9 +4.0**
FOO IAMs_20 IAMs_20 01 53 54.7
comp=Z,2µm,21.1s
CLL Collm 106.75 324 eP **Pdif 01 11 55.0 +0.6**
CLL e 01 16 18.0
CLL e 01 22 30.0
CLL pmax pmax
comp=Z,19nm,1.6s
CLL pmax pmax
comp=Z,20nm,1.3s
CLL pmax pmax
comp=Z,121nm,1.7s
CLL MLR MLR
comp=Z,5µm,20.9s
CLL Collm 106.75 324 ePdiff **Pdif 01 11 48.5 -5.9**
CLL eL L 02 05 40.0
comp=Z,5µm,20.9s
CLL Collm 106.75 324 ePdif **Pdif 01 11 55.0 +0.6**
comp=Z,19nm,1.6s
CLL epPdif **pPdif 01 12 10.0 -2.3**
CLL e 01 15 22.0
CLL e 01 15 40.0
CLL ePKiKP **PKiKP 01 16 03.0 -1.4**
comp=Z,20nm,1.3s
CLL ePP **PP 01 16 18.0 -2.3**
comp=Z,121nm,1.7s
CLL e 01 16 38.0
CLL e 01 16 51.0
CLL ePPP PPP 01 18 38.0
CLL eSKSac **SKSac 01 22 30.0 +1.0**
CLL epSKSac **pSKSac 01 22 54.0 +0.1**
CLL eSdif **Sdif 01 23 49.0 -1.3**
CLL eSP **SP 01 25 30.0 -2.8**
CLL ePS **PS 01 25 42.0 +0.8**
CLL ePPS PPS 01 26 29.0
CLL eSS SS 01 31 30.0 +9.4
CLL e 01 33 12.0
CLL eSSS SSS 01 35 21.0
CLL e 01 36 48.0
CLL e 01 41 12.0
CLL Lm MLR 02 05 00.0
comp=Z,5µm,20.9s
CLL Collm 106.75 324 ePdif **Pdif 01 11 53.5 -0.9**
SOKA Soboth 106.87 319⇓ iPdiff **Pdif 01 11 55.5 +0.3**
comp=Z,8.1nm,1.4s
SUE Sulen 106.98 335 ePP PP 01 16 22.7 +1.1
SUE eSKSac **SKSac 01 22 30.7 +1.2**
MOA Molln 107.04 320⇑ iPdiff **Pdif 01 11 55.1 -0.8**
comp=Z,13nm,1.7s
BOJS Bojanci 107.04 317 i P **Pdif 01 11 56.1 +0.2**
BER Bergen 107.06 334 ePP PP 01 16 24.4 +2.2
KULLO Kullorsuaq 107.09 1 eP **Pdif 01 11 57.1 +1.7**
KULLO MLR MLR
comp=Z,6µm,24.0s
KULLO Kullorsuaq 107.09 1 i P **Pdif 01 11 57.1 +1.7**
KHC Kasperske Hory 107.09 321 eP **Pdif 01 11 55.8 -0.3**
KHC e 01 16 20.4
KHC e 01 22 26.4
KHC eSP SP 01 25 34.5 -2.0
KHC MLR MLR
comp=Z,5µm,23.1s
KHC Kasperske Hory 107.09 321 ePDIFF **Pdif 01 11 55.8 -0.3**
KHC eSP 01 12 19.7
KHC ex x 01 12 30.8
KHC ePP **PP 01 16 20.4 -2.6**
KHC eSKS **SKSac 01 22 26.4 -4.3**
KHC eXSKS 01 23 00.8
KHC eSP **SP 01 25 34.5 -2.0**
KHC AMS AMS 02 02 00.0
comp=Z,5µm,23.1s
KHC Kasperske Hory 107.09 321 ePdif **Pdif 01 11 56.0 0.0**
MOD Modoc Plateau 107.09 47 ePdif **Pdif 01 11 52.3 -4.1**
GEC2 GERESS Array S 107.10 321 ePdiff **Pdif 01 11 50.7 -5.5**
GEC2 eL L 02 12 38.2
comp=Z,5µm,21.3s
GERES GERESS Array B 107.10 321 P **Pdif 01 11 56.3 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 107.10 321 Pdiff **Pdif 01 11 56.3 +0.1**
comp=Z,1.2nm,0.8s,baz=90,slow=4.3,SNR=9.1
GERES PKiKP **PKiKP 01 16 04.4 -0.9**
comp=Z,7.5nm,1.1s,baz=73,slow=3.3,SNR=6.4
GERES PP **PP 01 16 21.6 -1.6**
comp=Z,4.1nm,0.9s,baz=72,slow=5.9,SNR=4.6
GERES PKKP **PKKPab 01 27 40.6 +2.7**
comp=Z,1.1nm,0.8s,baz=225,slow=1.3,SNR=4.2
GERES GERESS Array B 107.10 321 Pdif **Pdif 01 11 56.3 +0.1**
GERES PKiKP **PKiKP 01 16 04.4 -0.9**
GERES PP **PP 01 16 21.6 -1.6**
GEB3 GERESS Array S 107.11 321 ePdif **Pdif 01 11 56.2 0.0**
VISS Visnje 107.24 318 eP **Pdif 01 11 56.8 0.0**
TANN Tannenbergstha 107.37 323 ePdiff **Pdif 01 11 51.7 -5.6**
WET Wettzell 107.52 321 ePdiff **Pdif 01 11 52.8 -5.2**
WET eL L 02 11 55.9
comp=Z,4µm,21.2s
NEW Newport 107.54 40⇓ PKiKP **PKiKP 01 16 08.6 +2.5**
baz=108
KMY Karmoy 107.66 333 ePP PP 01 16 29.6 +2.9
KMY eSKSac **SKSac 01 22 36.7 +4.1**
JAVS Javornik 107.73 318 i P **Pdif 01 11 58.5 -0.5**
ROTZ Rotzenmuhle 107.73 322 ePdiff **Pdif 01 11 54.0 -4.9**
KBA Koelnbreinsper 107.86 319⇑ iPdiff **Pdif 01 11 57.1 -2.6**
comp=Z,4.0nm,0.9s
RJOB Jochberg 108.02 320 ePdiff **Pdif 01 11 58.7 -1.5**
NRDL Niedersach Rie 108.02 325 ePdif **Pdif 01 11 55.1 -4.8**
CLZ Clausthal 108.11 325 ePdiff **Pdif 01 11 55.5 -5.0**
WVOR Wild Horse Val 108.16 46 ePKiKP **PKiKP 01 16 08.2 +0.6**
GRF Grafenberg Arr 108.36 322 eL L 02 07 49.9
comp=Z,4µm,21.1s
ABTA Abfaltersbach 108.51 319⇑ iPdiff **Pdif 01 12 02.3 -0.2**
comp=Z,5.5nm,1.2s
SUMG Summit 108.67 356 i P **PKKPdf 01 27 37.2 +2.9**
comp=Z,7.6nm,0.9s
FUR Furstenfeldbru 108.84 321 eL L 02 08 16.3
comp=Z,3µm,20.9s
WTTA Wettenberg 108.91 320⇓ iPdiff **Pdif 01 12 04.1 -0.2**
comp=Z,13nm,1.5s
NV01 Mina Array Sit 109.40 50 ePdif **Pdif 01 12 08.6 +1.8**
NVAR Mina Array Bea 109.40 50 Pdiff **Pdif 01 12 09.0 +2.1**
comp=Z,0.2nm,0.3s,baz=258,slow=4.2,SNR=2.8
NVAR PP **PP 01 16 35.7 -4.8**
comp=Z,3.7nm,0.9s,baz=258,slow=3.9,SNR=5.1
NVAR PKKP PKKPdf 01 27 38.4 +6.2
comp=Z,2.5nm,0.7s,baz=122,slow=4.3,SNR=6.2
NVAR Mina Array Bea 109.40 50 Pdif **Pdif 01 12 09.0 +2.1**
NVAR PP **PP 01 16 35.7 -4.8**
IBBN Ibbenburen 109.42 326 ePdiff **Pdif 01 12 01.2 -5.0**
TNS Taunus Mts 109.84 324 eL L 02 07 24.2
comp=Z,4µm,21.4s
STU Stuttgart 109.93 322 eL L 02 06 11.2
comp=Z,4µm,21.9s
FUORN Ofenpass-Fuorn 110.01 320 ePdif **Pdif 01 12 08.8 -0.6**
MSO Missoula 110.04 40⇓ PKiKP **PKiKP 01 16 12.9 +2.0**
baz=110
MSO Missoula 110.04 40 ePKiKP **PKiKP 01 16 12.4 +1.5**
SLMT Seeley Lake 110.19 40 ePKiKP **PKiKP 01 16 12.0 +0.7**
DAVOX Davos/Dischmat 110.21 320 P **Pdif 01 12 11.3 +1.1**
DAVOX Davos/Dischmat 110.21 320 Pdiff **Pdif 01 12 11.3 +1.1**
baz=114,slow=10.0
DAVOX Davos/Dischmat 110.21 320 ePdif **Pdif 01 12 11.3 +1.1**
TPH Tonopah 110.31 50 ePKiKP **PKiKP 01 16 10.8 -1.0**
TPH Tonopah 110.31 50 ePKiKP **PKiKP 01 16 10.8 -1.0**
CHMT Chamberlain Mo 110.46 40 ePKiKP **PKiKP 01 16 11.9 +0.1**
EDW2 Edwards Air Fo 110.46 53⇑ PKiKP **PKiKP 01 16 13.5 +1.5**
baz=110
FMP Fort Macarthur 110.47 55⇑ PKiKP **PKiKP 01 16 13.7 +1.8**
baz=110
BFO Black Forest 110.63 322 ePdiff **Pdif 01 12 04.6 -7.2**
HLID Hailey 110.81 44⇓ PKiKP **PKiKP 01 16 14.5 +2.0**
baz=111
HLID Hailey 110.81 44 ePKiKP **PKiKP 01 16 15.5 +3.0**
BFSC Mount Baldy Ra 110.87 54⇓ PKiKP **PKiKP 01 16 14.8 +1.9**
baz=111
ELK Elko 111.07 47 PKKP PKKPdf 01 27 34.8 +5.7
comp=Z,2.8nm,0.8s,baz=145,slow=2.4,SNR=4.8
MEM Membach 111.11 325 PP PP 01 16 51.7 -0.3
BEBN Eben Emael 111.22 325 PPKiKP **pPKiKP 01 16 32.7 +1.4**
BEBN PP **PP 01 16 53.4 +0.7**
GSC Goldstone, Bar 111.31 53⇓ PKiKP **PKiKP 01 16 15.7 +2.1**
baz=111
LRM Limekiln Ridge 111.36 41 ePKiKP **PKiKP 01 16 14.1 +0.5**
ECH Echery 111.39 322 PKP pPKiKP 01 16 34.8 +3.0
WLF Walferdange 111.42 324 PPKiKP **pPKiKP 01 16 35.0 +3.3**
WLF PP **PP 01 16 54.5 +0.3**
DLMT Dillon 111.43 41 ePKiKP **PKiKP 01 16 12.7 -0.9**
MCMT McKenzie Canyo 111.45 42 ePKiKP **PKiKP 01 16 14.6 +0.8**
MOF Molkenrain 111.55 322 PKP pPKiKP 01 16 36.3 +4.1
BCLA Clavier 111.60 325 PP PP 01 16 58.4 +2.9
109C Camp Elliot, M 111.62 55⇓ PKiKP **PKiKP 01 16 14.5 +0.4**
baz=112
HINF Hinteralfeld 111.74 322 ePKIKP **PKiKP 01 16 13.9 -0.1**
comp=Z,4.6nm,0.6s
HINF Hinteralfeld 111.74 322 ePKIKP **PKiKP 01 16 13.9 -0.1**
HINF Hinteralfeld 111.74 322 ePKPdf **PKiKP 01 16 13.9 -0.1**
LOMF Lomnt 111.94 321 PKP pPKiKP 01 16 36.1 +3.2
BOZ Bozeman (W) 111.96 41 ePKIKP **PKiKP 01 16 14.7 +0.1**
BOZ Bozeman (W) 111.96 41 ePKiKP **PKiKP 01 16 14.7 +0.1**
HAU Haudompre 111.98 322 ePKIKP **PKiKP 01 16 14.7 +0.3**
HAU Haudompre 111.98 322 ePKIKP **PKiKP 01 16 14.7 +0.3**
HAU Haudompre 111.98 322 ePKPdf **PKiKP 01 16 14.7 +0.3**
UCC Uccle 111.98 325 PP PP 01 17 01.1 +3.0
PFO Pinyon Flats O 111.99 54⇑ PKiKP **PKiKP 01 16 16.0 +1.0**
baz=112
GIVF Givet 112.02 324 ePKIKP **PKiKP 01 16 15.2 +0.8**
GIVF Givet 112.02 324 ePKIKP **PKiKP 01 16 15.2 +0.8**
GIVF Givet 112.02 324 ePKPdf **PKiKP 01 16 15.2 +0.8**
MONP Monument Peak, 112.18 55⇑ PKiKP **PKiKP 01 16 16.3 +0.8**
baz=112
PGF Pioggiola 112.23 316 ePKIKP **PKiKP 01 16 16.0 +0.9**
PGF Pioggiola 112.23 316 ePKIKP **PKiKP 01 16 16.0 +0.9**
PGF Pioggiola 112.23 316 ePKPdf **PKiKP 01 16 16.0 +0.9**
BELC Belle Mtn. Jos 112.27 54⇓ PKiKP **PKiKP 01 16 16.7 +1.2**
baz=112
GMRC Granite Mounta 112.35 53⇓ PKiKP **PKiKP 01 16 16.2 +0.6**
baz=112
A19A Klindworth Far 112.47 37⇑ PKiKP **PKiKP 01 16 16.1 +0.7**
baz=112
ILULI Ilulissat 112.55 360 eP **Pdif 01 12 22.3 +2.5**
ILULI Ilulissat 112.55 360 i P **Pdif 01 12 22.3 +2.5**
MEZF Maizieres J'vi 112.56 323 ePKIKP **PKiKP 01 16 16.1 +0.7**
MEZF Maizieres J'vi 112.56 323 ePKPdf **PKiKP 01 16 16.1 +0.7**
SWSC Sam W. Stewart 112.68 55⇑ PKiKP **PKiKP 01 16 16.6 +0.5**
baz=113
CABF La Chapelle 112.69 321 ePKIKP **PKiKP 01 16 15.9 0.0**
comp=Z,11nm,0.6s
CABF La Chapelle 112.69 321 ePKIKP **PKiKP 01 16 15.9 0.0**
CABF La Chapelle 112.69 321 ePKPdf **PKiKP 01 16 15.9 0.0**
LPG La Plagne 112.70 319 ePKIKP **PKiKP 01 16 16.6 +0.4**
LPG La Plagne 112.70 319 ePKIKP **PKiKP 01 16 16.6 +0.4**
LPG La Plagne 112.70 319 ePKPdf **PKiKP 01 16 16.6 +0.4**
LPL La Plagne 112.70 319 ePKIKP **PKiKP 01 16 17.2 +1.1**
LPL La Plagne 112.70 319 ePKIKP **PKiKP 01 16 17.2 +1.1**
LPL La Plagne 112.70 319 ePKPdf **PKiKP 01 16 17.2 +1.1**
SAOF Saorge 112.72 318 PKP pPKiKP 01 16 40.3 +5.8
YMR Madison River 112.76 42 ePKiKP **PKiKP 01 16 14.1 -2.2**
YMR ePKKPdf **PKKPdf 01 27 26.7 +0.7**
C19A Slack Wire Ran 112.79 38⇓ PKiKP **PKiKP 01 16 17.0 +1.0**
baz=113
BC3 Big Chuckawall 112.79 54⇑ PKiKP **PKiKP 01 16 18.0 +1.6**
baz=113
AUTN L'Aution 112.81 318 PKP pPKiKP 01 16 40.5 +5.6
SBF Sospel 112.85 318 ePKIKP **PKiKP 01 16 16.2 0.0**
SBF Sospel 112.85 318 ePKIKP **PKiKP 01 16 16.2 0.0**
SBF Sospel 112.85 318 ePKPdf **PKiKP 01 16 16.2 0.0**
BNI Bardonecchia 112.91 319 ePKIKP **PKiKP 01 16 14.5 -1.9**
TOUF Mont Tournerai 112.92 318 PKP pPKiKP 01 16 38.9 +3.8
YFT Old Faithful 112.93 42 ePKIKP **PKiKP 01 16 17.2 +0.6**
REVF Revere 112.94 317 PKP pPKiKP 01 16 42.2 +7.3
MBDF Montbardon 112.97 319 ePKIKP **PKiKP 01 16 16.4 -0.2**
MBDF Montbardon 112.97 319 ePKIKP **PKiKP 01 16 16.4 -0.2**
MBDF Montbardon 112.97 319 ePKPdf **PKiKP 01 16 16.4 -0.2**
A20A Cobblestone Ra 112.98 36⇓ PKiKP **PKiKP 01 16 17.6 +1.3**
baz=113
DUG Dugway, Tooele 113.00 47⇑ PKiKP **PKiKP 01 16 17.2 +0.4**
baz=113
MVIF Mont Vial 113.03 318 PKP pPKiKP 01 16 42.9 +7.7
IMW Indian Meadow 113.06 42 ePKiKP **PKiKP 01 16 15.8 -1.1**
FXWY Fox Creek 113.09 43 ePKPab PKPab 01 27 11.9 +0.3
B20A Solberg Farm, 113.11 37⇓ PKiKP **PKiKP 01 16 17.8 +1.2**
baz=113
H17A Grant Village 113.12 42⇓ PKiKP **PKiKP 01 16 17.6 +0.6**
baz=113
H17A Grant Village 113.12 42 ePKiKP **PKiKP 01 16 15.7 -1.3**
D19A Cripps Ranch, 113.13 38⇓ PKiKP **PKiKP 01 16 17.2 +0.6**
baz=113
TPAW Teton Pass 113.20 43 ePKiKP **PKiKP 01 16 16.5 -0.7**
I17A Pilgrim Ck. 113.30 42⇑ PKiKP **PKiKP 01 16 18.3 +1.0**
baz=113
REDW Red Top Meadow 113.31 43 ePKiKP **PKiKP 01 16 18.3 +1.0**
SNOW Snow King Moun 113.34 43 ePKiKP **PKiKP 01 16 18.6 +1.2**
LOHW Long Hollow 113.39 43 ePKiKP **PKiKP 01 16 18.2 +0.8**
LOHW ePKKPab PKKPdf 01 27 17.8 -7.0
C20A Veseth Ranch, 113.44 38⇑ PKiKP **PKiKP 01 16 17.7 +0.5**
baz=113
HWUT Hardware Ranch 113.44 45 ePKPbc PKKPbc 01 27 03.6 +0.2
ORIF Oris-en-Rattie 113.49 319 ePKIKP **PKiKP 01 16 17.4 -0.1**
ORIF Oris-en-Rattie 113.49 319 ePKIKP **PKiKP 01 16 17.4 -0.1**
ORIF Oris-en-Rattie 113.49 319 ePKPdf **PKiKP 01 16 17.4 -0.1**
FRF La Foret Royal 113.49 317 ePKIKP **PKiKP 01 16 17.4 0.0**
FRF La Foret Royal 113.49 317 ePKIKP **PKiKP 01 16 17.4 0.0**
FRF La Foret Royal 113.49 317 ePKPdf **PKiKP 01 16 17.4 0.0**
A21A Bergtoll Ranch 113.52 36⇓ PKiKP **PKiKP 01 16 18.1 +0.8**
baz=113
EKA Eskdalemuir Ar 113.58 332 i PKIKP **PKiKP 01 16 19.5 +2.4**
EKA pmax pmax
comp=Z,1.0nm,0.4s
EKA pmax pmax
comp=Z,1.0nm,0.5s
EKA pmax pmax
comp=Z,6.0nm,0.8s
EKA Eskdalemuir Ar 113.58 332 PKiKP **PKiKP 01 16 19.5 +2.4**
comp=Z,0.5nm,0.4s,baz=22,slow=2.5,SNR=5.1
EKA PKKPbc **PKKPbc 01 27 03.4 +0.3**
comp=Z,1.2nm,0.5s,baz=234,slow=3.0,SNR=8.0
EKA PKKP PKKPdf 01 27 18.6 -5.6
comp=Z,5.8nm,0.8s,baz=246,slow=2.2,SNR=8.9
EKA Eskdalemuir Ar 113.58 332 ePKiKP **PKiKP 01 16 19.5 +2.4**
EKA ePKKPbc **PKKPbc 01 27 03.4 +0.3**
EKA ePKKPdf PKKPdf 01 27 18.6 -5.6
H18A Shoshone NF, C 113.62 41⇑ PKiKP **PKiKP 01 16 18.9 +1.0**
baz=114
D20A Manuel Ranch, 113.62 38⇓ PKiKP **PKiKP 01 16 18.8 +1.2**
baz=114
F19A Roth Farm, Mol 113.62 40⇓ PKiKP **PKiKP 01 16 18.9 +1.2**
baz=114
LMR La Mourre 113.67 317 ePKIKP **PKiKP 01 16 17.2 -0.5**
LMR La Mourre 113.67 317 ePKIKP **PKiKP 01 16 17.2 -0.5**
LMR La Mourre 113.67 317 ePKPdf **PKiKP 01 16 17.2 -0.5**
W13A Hualapai Mount 113.68 52⇓ PKiKP **PKiKP 01 16 19.2 +1.0**
baz=114
PDMCI Parker Dam,Lak 113.68 53⇓ PKiKP **PKiKP 01 16 18.9 +0.9**
baz=114
JLU Jordanelle 113.86 46 ePKKPdf PKKPdf 01 27 21.2 -2.7
SMRF Simiane la Rot 114.05 318 ePKIKP PKPdf 01 16 17.3 -1.2
SMRF Simiane la Rot 114.05 318 ePKPdf PKPdf 01 16 17.3 -1.2
KEST Kesra 114.06 309 PKP PKPdf 01 16 19.9 +1.1
comp=Z,0.9nm,0.6s,baz=160,slow=1.2,SNR=7.0
KEST PP **PP 01 17 13.3 -0.4**
comp=Z,14nm,1.0s,baz=49,slow=1.7,SNR=8.2
KEST Kesra 114.06 309 ePKiKP **PKiKP 01 16 19.9 +1.0**
H19A Powell 114.06 41⇑ PKiKP **PKiKP 01 16 19.5 +0.9**
baz=114
SMF Signal de Mont 114.09 321 ePKIKP PKPdf 01 16 19.1 +0.6
SMF Signal de Mont 114.09 321 ePKIKP PKPdf 01 16 19.1 +0.6
SMF Signal de Mont 114.09 321 ePKPdf PKPdf 01 16 19.1 +0.6
A22A Carney Farms, 114.11 36⇓ PKiKP **PKiKP 01 16 19.2 +0.8**
baz=114
SSF Saint Saulge 114.12 322 ePKIKP PKPdf 01 16 19.2 +0.7
comp=Z,10nm,0.7s
SSF Saint Saulge 114.12 322 ePKIKP PKPdf 01 16 19.2 +0.7
SSF Saint Saulge 114.12 322 ePKPdf PKPdf 01 16 19.2 +0.7
F20A Billings 114.15 40⇓ PKiKP **PKiKP 01 16 19.1 +0.4**
baz=114
FCC Fort Churchill 114.24 23 ePKIKP PKPdf 01 16 18.5 +0.2
FCC Fort Churchill 114.24 23 ePKiKP PKPdf 01 16 18.5 +0.2
VIVF Saint-Julien-l 114.30 319 ePKIKP PKPdf 01 16 19.4 +0.5
VIVF Saint-Julien-l 114.30 319 ePKIKP PKPdf 01 16 19.4 +0.5
VIVF Saint-Julien-l 114.30 319 ePKPdf PKPdf 01 16 19.4 +0.5
I19A Meeteetse 114.31 42⇓ PKiKP **PKiKP 01 16 19.8 +0.6**
baz=114
AVF Avril sur Loir 114.33 322 ePKIKP PKPdf 01 16 19.1 +0.2
comp=Z,22nm,1.2s
AVF Avril sur Loir 114.33 322 ePKIKP PKPdf 01 16 19.1 +0.2
AVF Avril sur Loir 114.33 322 ePKPdf PKPdf 01 16 19.1 +0.2
D21A La Casta Ranch 114.33 38⇑ PKiKP **PKiKP 01 16 19.6 +0.6**
baz=114
G20A Bridger 114.35 40⇑ PKiKP **PKiKP 01 16 19.7 +0.6**
baz=114
113A Mohawk Valley, 114.38 55⇑ PKiKP **PKiKP 01 16 20.1 +0.7**
baz=114
MSKU Masuku 114.40 267 ePKiKP PKPdf 01 16 17.9 -2.0
BW06 Boulder Array 114.41 43 ePKiKP **PKiKP 01 16 19.8 +0.3**
BW06 ePKKPdf **PKKPdf 01 27 22.5 -0.3**
PD31 Pinedale Array 114.41 43 ePKIKP PKPdf 01 16 18.1 -1.4
PDAR Pinedale Array 114.41 43 PKP PKPdf 01 16 20.1 +0.6
comp=Z,1.3nm,0.5s,baz=357,slow=0.9,SNR=10
PDAR PKKPbc **PKKPbc 01 26 59.4 -0.8**
comp=Z,1.4nm,0.8s,baz=118,slow=5.7,SNR=6.0
PDAR Pinedale Array 114.41 43 PKP PKPdf 01 16 20.1 +0.6
PLDF La Plantade 114.52 321 PKP pPKiKP 01 16 46.7 +8.8
U15A North Rim 114.55 50⇓ PKiKP **PKiKP 01 16 20.5 +0.5**
baz=114
J19A Crowheart 114.57 42⇑ PKiKP PKPdf 01 16 20.5 +0.8
baz=114
Y14A Wickenburg 114.69 53⇓ PKiKP **PKiKP 01 16 20.7 +0.6**
baz=115
C22A Vida 114.70 37⇓ PKiKP PKPdf 01 16 20.6 +1.0
baz=115
BGF Bois d'Agland 114.75 322 ePKIKP PKPdf 01 16 19.5 -0.2
comp=Z,20nm,0.7s
BGF Bois d'Agland 114.75 322 ePKIKP PKPdf 01 16 19.5 -0.2
BGF Bois d'Agland 114.75 322 ePKPdf PKPdf 01 16 19.5 -0.2
SFJD Kangerlussuaq 114.77 359 eP **Pdif 01 12 30.2 +0.5**
SFJD MLR MLR
comp=Z,3µm,26.0s
SFJD Kangerlussuaq 114.77 359 ePKIKP PKPdf 01 16 19.9 +0.8
SFJD Kangerlussuaq 114.77 359 i P **Pdif 01 12 30.2 +0.5**
SFJD Kangerlussuaq 114.77 359 i P PKKPdf 01 27 15.9 -6.2
comp=Z,13nm,1.0s
SFJD Kangerlussuaq 114.77 359 ePKiKP PKPdf 01 16 19.9 +0.7
H20A Greybull 114.78 41⇓ PKiKP PKPdf 01 16 21.3 +1.3
baz=115
AGO Saint Agoulin 114.79 321 PKP pPKiKP 01 16 48.4 +10
F21A Absaloka Mine, 114.79 39⇓ PKiKP PKPdf 01 16 20.8 +0.9
baz=115
D22A Cohagen 114.80 38⇓ PKiKP PKPdf 01 16 20.8 +1.0
baz=115
Z14A Wintersburg 114.89 54⇓ PKiKP PKPdf 01 16 20.7 +0.3
baz=115
B23A Brockton 114.90 36⇑ PKiKP PKPdf 01 16 20.9 +0.9
baz=115
I20A Worland 114.92 41⇑ PKiKP PKPdf 01 16 21.1 +0.8
baz=115
LAO LASA Array 114.97 38 ePKiKP PKPdf 01 16 21.0 +0.8
G21A Lodge Grass 114.99 40⇓ PKiKP PKPdf 01 16 20.8 +0.5
baz=115
PYM Petit Puy Mans 115.00 321 PKP pPKiKP 01 16 47.5 +8.7
SRU San Rafael Swe 115.03 47 ePKIKP **PKPdf 01 16 21.1 +0.4**
SRU San Rafael Swe 115.03 47 ePKiKP **PKPdf 01 16 21.1 +0.4**
LBL Lubilhac 115.07 320 PKP pPKiKP 01 16 46.2 +7.2
C23A Lambert 115.10 37⇑ PKiKP **PKPdf 01 16 21.1 +0.7**
baz=115
LASF Ste Croix 115.15 319 ePKIKP **PKPdf 01 16 21.7 +1.1**
LASF Ste Croix 115.15 319 ePKPdf **PKPdf 01 16 21.7 +1.1**
J20A Shoshoni 115.18 42⇓ PKiKP **PKPdf 01 16 21.3 +0.5**
baz=115
A24A Westby 115.25 35⇑ PKiKP **PKPdf 01 16 21.2 +0.5**
baz=115
E22A Miles City 115.26 38⇑ PKiKP **PKPdf 01 16 21.3 +0.6**
baz=115
TCF Toulx Ste Croi 115.26 322 ePKIKP **PKPdf 01 16 21.3 +0.6**
comp=Z,9.8nm,0.7s
TCF Toulx Ste Croi 115.26 322 ePKIKP **PKPdf 01 16 21.3 +0.6**
TCF Toulx Ste Croi 115.26 322 ePKPdf **PKPdf 01 16 21.3 +0.6**
H21A Big Horn, Sher 115.35 40⇓ PKiKP **PKPdf 01 16 21.5 +0.4**
baz=115
F22A Rosebud 115.36 39⇑ PKiKP **PKPdf 01 16 21.6 +0.6**
baz=115
214A Organ Pipe Nat 115.36 55⇓ PKiKP **PKPdf 01 16 21.9 +0.5**
baz=115
D23A Lindsay 115.38 37⇑ PKiKP **PKPdf 01 16 21.8 +0.8**
baz=115
I21A Big Trails, Te 115.53 41⇑ PKiKP **PKPdf 01 16 22.3 +0.8**
baz=115
WUAZ Wupatki 115.53 51⇑ PKiKP **PKPdf 01 16 22.4 +0.6**
baz=115
WUAZ Wupatki 115.53 51 ePKPdf **PKPdf 01 16 21.0 -0.8**
G22A Birney 115.58 40⇓ PKiKP **PKiKP 01 16 21.3 -0.2**
baz=116
LDF La Druitiere 115.58 325 ePKIKP **PKPdf 01 16 21.6 +0.4**
LDF La Druitiere 115.58 325 ePKIKP **PKPdf 01 16 21.6 +0.4**
LDF La Druitiere 115.58 325 ePKPdf **PKPdf 01 16 21.6 +0.4**
J21A Lysite 115.61 42⇓ PKiKP **PKPdf 01 16 21.9 +0.2**
baz=116
C24A Savage 115.68 37⇑ PKiKP **PKPdf 01 16 22.9 +1.3**
baz=116
FLN La Foliniere 115.70 325 ePKIKP **PKPdf 01 16 23.0 +1.5**
FLN La Foliniere 115.70 325 ePKIKP **PKPdf 01 16 23.0 +1.5**
FLN La Foliniere 115.70 325 ePKPdf **PKPdf 01 16 23.0 +1.5**
A25A Svangstu Ranch 115.75 35⇑ PKiKP **PKPdf 01 16 22.4 +0.8**
baz=116
X16A Lo Mia Camp, P 115.80 52⇓ PKiKP **PKiKP 01 16 22.8 +0.5**
baz=116
H22A Clearmont 115.81 40⇓ PKiKP **PKPdf 01 16 22.4 +0.4**
baz=116
F23A Volborg 115.92 39⇓ PKiKP **PKPdf 01 16 22.6 +0.5**
baz=116
D24A Glendive 115.93 37⇓ PKiKP **PKPdf 01 16 22.5 +0.4**
baz=116
CAF Calviac 115.95 320 ePKIKP **PKPdf 01 16 23.1 +1.0**
CAF Calviac 115.95 320 ePKIKP **PKPdf 01 16 23.1 +1.0**
CAF Calviac 115.95 320 ePKPdf **PKPdf 01 16 23.1 +1.0**
I22A 9 Mile Ranch, 116.02 41⇑ PKiKP **PKiKP 01 16 23.2 +0.7**
baz=116
K21A Alcova 116.03 42⇑ PKiKP **PKiKP 01 16 23.1 +0.5**
baz=116
N20A Spence Gulch, 116.04 45⇑ PKiKP **PKiKP 01 16 23.1 +0.4**
baz=116
B25A Knox Farm, Ray 116.06 35⇓ PKiKP **PKPdf 01 16 23.5 +1.2**
baz=116
GRR Gorron 116.11 325 ePKIKP **PKPdf 01 16 21.4 -0.8**
GRR Gorron 116.11 325 ePKIKP **PKPdf 01 16 21.4 -0.8**
GRR Gorron 116.11 325 ePKPdf **PKPdf 01 16 21.4 -0.8**
RJF Les Rejaudoux 116.14 321 ePKIKP **PKPdf 01 16 21.3 -1.1**
RJF Les Rejaudoux 116.14 321 ePKIKP **PKPdf 01 16 21.3 -1.1**
RJF Les Rejaudoux 116.14 321 ePKPdf **PKPdf 01 16 21.3 -1.1**
G23A Biddle 116.16 39⇑ PKiKP **PKiKP 01 16 23.3 +0.7**
baz=116
J22A Midwest 116.23 41⇓ PKiKP **PKiKP 01 16 23.6 +0.7**
baz=116
PV09 Paradox Valley 116.26 47 ePKPdf **PKPdf 01 16 22.5 -0.7**
O20A White River Ci 116.31 45⇓ PKiKP **PKiKP 01 16 23.9 +0.7**
baz=116
O20A White River Ci 116.31 45 ePKPdf **PKPdf 01 16 22.6 -0.6**
PV10 Paradox Valley 116.37 47 ePKPdf **PKPdf 01 16 24.5 +1.1**
A26A Wade Farm, Ken 116.39 34⇑ PKiKP **PKiKP 01 16 23.9 +1.1**
baz=116

PV05	Paradox Valley	116.43	48	ePKPdf	PKPdf	01 16 22.9	-0.6
H23A	Clabaugh Cattl	116.44	40	⇓PKiKP	PKiKP	01 16 24.3	+1.2
	baz=116						
RWWY	Rawlins	116.44	43	ePKPdf	PKPdf	01 16 20.4	-3.1
F24A	Ekalaka	116.46	38	⇑PKiKP	PKiKP	01 16 23.9	+0.7
	baz=116						
PV04	Paradox Valley	116.46	47	ePKPdf	PKPdf	01 16 22.8	-0.7
K22A	Casper	116.52	42	⇓PKiKP	PKiKP	01 16 24.2	+0.8
	baz=116						
K22A	Casper	116.52	42	ePKPdf	PKPdf	01 16 23.7	+0.3
D25A	Fairfield	116.52	37	⇑PKiKP	PKiKP	01 16 24.5	+1.3
	baz=116						
MTLF	Montolieu	116.54	319	ePKIKP	PKPdf	01 16 24.3	+1.0
MTLF	Montolieu	116.54	319	ePKIKP	PKPdf	01 16 24.3	+1.0
MTLF	Montolieu	116.54	319	ePKPdf	PKPdf	01 16 24.3	+1.0
MFF	Saint Martin d	116.56	323	ePKIKP	PKPdf	01 16 23.1	-0.1
	comp=Z,11nm,0.6s						
MFF	Saint Martin d	116.56	323	ePKIKP	PKPdf	01 16 23.1	-0.1
MFF	Saint Martin d	116.56	323	ePKPdf	PKPdf	01 16 23.1	-0.1
DYA	Yadsworthy	116.73	328	ePKPdf	PKPdf	01 16 23.4	0.0
E25A	Miller Ranch,	116.79	37	⇑PKiKP	PKiKP	01 16 25.2	+1.5
	baz=117						
LFF	La Frestale	116.79	321	ePKIKP	PKPdf	01 16 23.8	+0.1
LFF	La Frestale	116.79	321	ePKIKP	PKPdf	01 16 23.8	+0.1
LFF	La Frestale	116.79	321	ePKPdf	PKPdf	01 16 23.8	+0.1
PV15	Paradox Valley	116.79	47	ePKPdf	PKPdf	01 16 23.0	-1.2
PV01	Paradox Valley	116.80	48	ePKPdf	PKPdf	01 16 23.8	-0.5
FRB	Frobisher Bay	116.84	8	PKIKP	PKPdf	01 16 23.8	+0.6
FRB				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FRB				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FRB	Frobisher Bay	116.84	8	PKP	PKPdf	01 16 23.8	+0.6
	comp=Z,2.2nm,0.5s,baz=8.0,slow=1.6,SNR=9.5						
FRB				PKKPbc	PKKPbc	01 26 51.2	-0.8
	comp=Z,0.9nm,0.6s,baz=45,slow=8.6,SNR=2.7						
FRB	Frobisher Bay	116.84	8	ePKPdf	PKPdf	01 16 23.8	+0.6
FRB				ePKKPbc	PKKPbc	01 26 51.2	-0.8
H24A	Dirks Ranch, A	116.89	39	⇑PKiKP	PKiKP	01 16 24.7	+0.7
	baz=117						
C26A	Wahner Farm, P	116.90	35	⇑PKiKP	PKiKP	01 16 25.3	+1.4
	baz=117						
W18A	Petrified Fore	116.92	51	⇑PKiKP	PKiKP	01 16 24.6	+0.1
	baz=117						
W18A	Petrified Fore	116.92	51	ePKPdf	PKPdf	01 16 22.1	-2.4
TUC	Tucson	116.93	54	ePKIKP	PKPdf	01 16 24.4	0.0
TUC	Tucson	116.93	54	ePKPdf	PKPdf	01 16 24.4	0.0
X18A	Snowflake	116.94	52	⇓PKiKP	PKiKP	01 16 24.9	+0.3
	baz=117						
M22A	Cedar Creek Ra	116.97	44	⇓PKiKP	PKiKP	01 16 24.9	+0.4
	baz=117						
F25A	Bowman	117.03	38	⇓PKiKP	PKiKP	01 16 24.7	+0.5
	baz=117						
D26A	Manning	117.11	36	⇓PKiKP	PKiKP	01 16 25.0	+0.7
	baz=117						
SGMF	Saint Gilles	117.15	325	ePKIKP	PKPdf	01 16 23.6	-0.7
	comp=Z,20nm,0.7s						
SGMF	Saint Gilles	117.15	325	ePKIKP	PKPdf	01 16 23.6	-0.7
SGMF	Saint Gilles	117.15	325	ePKPdf	PKPdf	01 16 23.6	-0.7
MVCO	Mesa Verde	117.18	49	⇓PKiKP	PKiKP	01 16 26.3	+1.3
	baz=117						
MVCO	Mesa Verde	117.18	49	ePKPdf	PKPdf	01 16 24.2	-0.8
I24A	Kuemmerle Ranc	117.25	40	⇑PKiKP	PKiKP	01 16 25.2	+0.5
	baz=117						
L23A	Garrett	117.29	42	⇑PKiKP	PKPdf	01 16 24.6	-0.4
	baz=117						
C27A	Sayler Ranch,	117.30	35	⇑PKiKP	PKiKP	01 16 25.1	+0.4
	baz=117						
N22A	Wattenberg Ran	117.31	44	⇑PKiKP	PKPdf	01 16 25.2	0.0
	baz=117						
E26A	Carlson Angus	117.37	37	⇑PKiKP	PKiKP	01 16 25.3	+0.5
	baz=117						
A28A	Rude Farm, Bot	117.37	34	⇓PKiKP	PKiKP	01 16 25.5	+0.7
	baz=117						
J24A	Dixon Ranch, L	117.46	41	⇓PKiKP	PKiKP	01 16 25.5	+0.3
	baz=117						
O22A	Kremmling	117.50	45	⇑PKiKP	PKiKP	01 16 26.0	+0.4
	baz=117						
RSSD	Black Hills	117.51	40	ePKIKP	PKPdf	01 16 25.1	-0.3
RSSD	Black Hills	117.51	40	ePKPdf	PKPdf	01 16 25.1	-0.3
ROSF	Rostrenen	117.51	326	ePKIKP	PKPdf	01 16 24.1	-0.9
ROSF	Rostrenen	117.51	326	ePKIKP	PKPdf	01 16 24.1	-0.9
ROSF	Rostrenen	117.51	326	ePKPdf	PKPdf	01 16 24.1	-0.9
F26A	Lodgepole	117.55	38	⇓PKiKP	PKiKP	01 16 26.2	+1.0
	baz=117						
B28A	Dugan Ranch, T	117.57	34	⇑PKiKP	PKiKP	01 16 26.1	+1.0
	baz=117						
P22A	Eagle	117.57	45	⇑PKiKP	PKiKP	01 16 26.4	+0.7
	baz=118						
SMCO	Snowmass	117.58	46	ePKPdf	PKPdf	01 16 23.6	-2.3
K24A	Anderson Ranch	117.62	42	⇓PKiKP	PKiKP	01 16 26.0	+0.4
	baz=118						
N23A	Red Feather La	117.63	44	⇑PKiKP	PKiKP	01 16 26.3	+0.4
	baz=118						
N23A	Red Feather La	117.63	44	ePKPdf	PKPdf	01 16 23.1	-2.7
QUIF	Quistinic	117.68	325	ePKIKP	PKPdf	01 16 25.0	-0.3
	comp=Z,14nm,0.8s						
QUIF	Quistinic	117.68	325	ePKIKP	PKPdf	01 16 25.0	-0.3
QUIF	Quistinic	117.68	325	ePKPdf	PKPdf	01 16 25.0	-0.3
I25A	Rochford	117.75	40	⇑PKiKP	PKiKP	01 16 26.5	+0.6
	baz=118						
PHWY	Pilot Hill	117.80	43	ePKPdf	PKPdf	01 16 25.0	-1.1
G26A	Maurine	117.86	38	⇓PKiKP	PKiKP	01 16 26.9	+1.1
	baz=118						
EPF	Esparros	117.91	319	ePKIKP	PKPdf	01 16 26.3	+0.3
EPF	Esparros	117.91	319	ePKIKP	PKPdf	01 16 26.3	+0.3
EPF	Esparros	117.91	319	ePKPdf	PKPdf	01 16 26.3	+0.3
E27A	Carson	117.92	37	⇑PKiKP	PKiKP	01 16 26.8	+0.9
	baz=118						
O23A	Lake Granby, G	117.93	45	⇑PKiKP	PKiKP	01 16 27.2	+0.8
	baz=118						
F27A	Lemmon	117.93	37	⇑PKiKP	PKiKP	01 16 26.5	+0.6
	baz=118						
A29A	Manning Farm,	117.94	33	⇑PKiKP	PKiKP	01 16 27.0	+1.2
	baz=118						
J25A	Sunshine Ranch	117.99	41	⇑PKiKP	PKiKP	01 16 27.0	+0.8
	baz=118						
D28A	Regan	118.12	35	⇓PKiKP	PKiKP	01 16 27.9	+1.6
	baz=118						
B29A	Wagenman Farm,	118.12	34	⇓PKiKP	PKiKP	01 16 27.5	+1.3
	baz=118						
S22A	4UR Ranch, Cre	118.22	47	⇓PKiKP	PKiKP	01 16 29.1	+2.0
	baz=118						
S22A	4UR Ranch, Cre	118.22	47	ePKPdf	PKPdf	01 16 25.6	-1.4
G27A	Dupree	118.23	38	⇑PKiKP	PKiKP	01 16 27.4	+0.8
	baz=118						
K25A	Mack Ranch, Ha	118.30	41	⇓PKiKP	PKiKP	01 16 27.5	+0.6
	baz=118						
I26A	New Underwood	118.30	40	⇑PKiKP	PKiKP	01 16 27.5	+0.7
	baz=118						
ISCO	Idaho Springs	118.31	45	ePKIKP	PKPdf	01 16 26.3	-0.9
ISCO	Idaho Springs	118.31	45	⇑PKiKP	PKiKP	01 16 28.0	+0.8
	baz=118						
ISCO	Idaho Springs	118.31	45	ePKPdf	PKPdf	01 16 26.3	-0.9
P23A	Jefferson	118.32	45	⇓PKiKP	PKiKP	01 16 27.7	+0.4
	baz=118						
E28A	Huff	118.37	36	⇑PKiKP	PKiKP	01 16 27.9	+1.1
	baz=118						
319A	Douglas	118.42	55	⇑PKiKP	PKiKP	01 16 28.6	+1.1
	baz=118						
A30A	Hoffart Farm,	118.43	33	⇑PKiKP	PKiKP	01 16 27.8	+1.1
	baz=118						
J26A	Sides Ranch, S	118.50	40	⇑PKiKP	PKiKP	01 16 27.8	+0.6
	baz=118						
H27A	Howes	118.50	39	⇓PKiKP	PKiKP	01 16 27.9	+0.8
	baz=118						
ETSF	Etsaut	118.56	319	ePKIKP	PKPdf	01 16 27.2	-0.1
ETSF	Etsaut	118.56	319	ePKIKP	PKPdf	01 16 27.2	-0.1
ETSF	Etsaut	118.56	319	ePKPdf	PKPdf	01 16 27.2	-0.1
F28A	McLaughlin	118.68	37	⇑PKiKP	PKiKP	01 16 28.2	+0.8
	baz=119						
B30A	Myrvik Farm, E	118.70	33	⇓PKiKP	PKiKP	01 16 28.1	+0.8
	baz=119						
U22A	Llaves	118.71	49	⇓PKiKP	PKiKP	01 16 30.3	+2.3
	baz=119						
K26A	Motz Farm, Whi	118.71	41	⇑PKiKP	PKiKP	01 16 27.9	+0.3
	baz=119						
D29A	Pettibone, Tap	118.75	35	⇑PKiKP	PKiKP	01 16 28.3	+0.9
	baz=119						
R23A	Moffat	118.79	47	⇓PKiKP	PKiKP	01 16 28.6	+0.4
	baz=119						
I27A	Quinn	118.79	39	⇓PKiKP	PKiKP	01 16 28.2	+0.5
	baz=119						
V22A	San Miguel Ran	118.83	49	⇓PKiKP	PKiKP	01 16 30.4	+2.2
	baz=119						
SJPF	Ste Jean	118.89	320	ePKIKP	PKPdf	01 16 27.7	-0.1
SJPF	Ste Jean	118.89	320	ePKIKP	PKPdf	01 16 27.7	-0.1
SJPF	Ste Jean	118.89	320	ePKPdf	PKPdf	01 16 27.7	-0.1
ULM	Lac du Bonnet	118.94	31	PKIKP	PKPdf	01 16 28.2	+0.6
ULM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ULM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULM	Lac du Bonnet	118.94	31	PKP	PKPdf	01 16 28.2	+0.6
	comp=Z,5.4nm,0.7s,baz=297,slow=2.4,SNR=12						
ULM				PKKPbc	PKKPab	01 26 45.1	-0.2
	comp=Z,2.8nm,0.8s,baz=249,slow=3.8,SNR=3.4						
ULM	Lac du Bonnet	118.94	31	ePKPdf	PKPdf	01 16 28.2	+0.6
ULM				ePKKPbc	PKKPab	01 26 45.1	-0.2
Q24A	Divide	118.97	46	ePKPdf	PKPdf	01 16 26.5	-2.0
VAL	Valentia	118.99	332	ePP	PP	01 17 48.3	+1.2
G28A	Parade	119.00	38	⇓PKiKP	PKiKP	01 16 29.5	+1.4
	baz=119						
C30A	Mose, Pekin	119.03	34	⇓PKiKP	PKiKP	01 16 29.7	+1.8
	baz=119						
T23A	Casias Ranch,	119.07	48	⇓PKiKP	PKiKP	01 16 30.3	+1.5
	baz=119						
H28A	Mission Ridge	119.14	38	⇓PKiKP	PKiKP	01 16 28.9	+0.5
	baz=119						
LAZ	Ladron	119.18	51	ePKPdf	PKPdf	01 16 27.8	-1.1
D30A	Buchanan	119.20	35	⇑PKiKP	PKiKP	01 16 29.0	+0.6
	baz=119						
J27A	Elkhorn Farm,	119.22	40	⇑PKiKP	PKiKP	01 16 29.0	+0.4
	baz=119						
O25A	Wiggins	119.22	44	⇓PKiKP	PKiKP	01 16 29.3	+0.5
	baz=119						
U23A	El Rito	119.22	49	⇓PKiKP	PKiKP	01 16 30.4	+1.4
	baz=119						
F29A	Eureka	119.27	36	⇑PKiKP	PKiKP	01 16 30.1	+1.6
	baz=119						
121A	Cookes Peak, D	119.28	53	⇓PKiKP	PKPdf	01 16 28.6	-0.5
	baz=119						
K27A	Flueckinger Fa	119.33	41	⇑PKiKP	PKPdf	01 16 28.7	0.0
	baz=119						
I28A	Midland	119.38	39	⇑PKiKP	PKiKP	01 16 30.8	+2.0
	baz=119						
LENM	Lemitar	119.39	51	ePKPdf	PKPdf	01 16 29.2	-0.1
P25A	Willow Gulch B	119.44	45	⇑PKiKP	PKiKP	01 16 29.7	+0.4
	baz=119						
V23A	Ortiz Mt. (NFS	119.44	49	⇑PKiKP	PKiKP	01 16 31.2	+1.8
	baz=119						
E30A	Jud	119.45	35	⇑PKiKP	PKiKP	01 16 29.5	+0.7
	baz=119						
S24A	Houchin Ranch,	119.45	47	⇓PKiKP	PKiKP	01 16 29.6	+0.1
	baz=119						
ANMO	Albuquerque	119.52	50	ePKIKP	PKPdf	01 16 29.4	-0.1
ANMO	Albuquerque	119.52	50	ePKPdf	PKPdf	01 16 29.4	-0.1
LPM	Los Pinos Moun	119.60	51	ePKPdf	PKPdf	01 16 29.3	-0.3
J28A	Allard Ranch,	119.62	39	⇓PKiKP	PKiKP	01 16 30.0	+0.7
	baz=120						
Q25A	Bedland, Calha	119.63	45	⇓PKiKP	PKiKP	01 16 29.8	+0.1
	baz=120						
BNM	Barren Site	119.66	51	ePKPdf	PKPdf	01 16 30.0	+0.2
H29A	Onida	119.66	38	⇓PKiKP	PKiKP	01 16 30.0	+0.6
	baz=120						
W23A	Werner Place,	119.68	50	⇓PKiKP	PKiKP	01 16 29.9	0.0
	baz=120						
Z22A	Elephant Butte	119.70	52	⇓PKiKP	PKiKP	01 16 30.6	+0.7
	baz=120						
F30A	Leola	119.74	36	⇑PKiKP	PKiKP	01 16 30.1	+0.7
	baz=120						
I29A	Vivian Onida	119.91	38	⇑PKiKP	PKiKP	01 16 30.9	+1.1
	baz=120						
R25A	Fountain Ranch	119.92	46	⇓PKiKP	PKiKP	01 16 30.9	+0.7
	baz=120						
P26A	Davis Ranch, A	120.00	44	⇑PKiKP	PKiKP	01 16 31.3	+0.9
	baz=120						
N27A	Anderson Farm,	120.00	43	⇓PKiKP	PKiKP	01 16 31.0	+0.8
	baz=120						
S25A	Robets Cordova	120.01	47	⇓PKiKP	PKiKP	01 16 31.1	+0.6
	baz=120						
G30A	Faulkton	120.05	37	⇑PKiKP	PKiKP	01 16 30.8	+0.8
	baz=120						
AGMN	Agassiz Nation	120.12	32	⇑PKiKP	PKiKP	01 16 30.6	+0.5
	baz=120						
AGMN	Agassiz Nation	120.12	32	ePKPdf	PKPdf	01 16 29.1	-0.9
V24A	Rampart Ranch,	120.14	49	⇓PKiKP	PKiKP	01 16 32.6	+1.7
	baz=120						
Q26A	Hugo	120.14	45	⇓PKiKP	PKiKP	01 16 30.7	+0.1
	baz=120						
J29A	Okreek	120.21	39	⇑PKiKP	PKiKP	01 16 31.6	+1.2
	baz=120						
W24A	Lazy 6 Ranch,	120.22	50	⇑PKiKP	PKiKP	01 16 32.4	+1.4
	baz=120						
T25A	Trinidad	120.23	47	⇑PKiKP	PKiKP	01 16 31.0	+0.1
	baz=120						
T25A	Trinidad	120.23	47	ePKPdf	PKPdf	01 16 29.8	-1.0
R26A	Arlington	120.46	46	⇓PKiKP	PKiKP	01 16 31.7	+0.4
	baz=120						
TAM	Tamanrasset	120.49	295	ePKIKP	PKPdf	01 16 32.9	+1.3
TAM	Tamanrasset	120.49	295	ePKPdf	PKPdf	01 16 32.9	+1.3
BRSD	Miller	120.52	37	ePKPdf	PKPdf	01 16 30.9	0.0
U25A	Circle Dot Ran	120.53	48	⇓PKiKP	PKiKP	01 16 31.7	+0.2
	baz=120						
P27A	Ficken Ranch,	120.53	44	⇓PKiKP	PKiKP	01 16 31.7	+0.3
	baz=120						
K29A	Lazy Trails An	120.54	40	⇑PKiKP	PKiKP	01 16 31.4	+0.2
	baz=120						
V25A	Rancho No Teng	120.59	49	⇑PKiKP	PKiKP	01 16 33.0	+1.4
	baz=120						
Y24A	Capitan	120.67	51	⇑PKiKP	PKiKP	01 16 33.6	+1.7
	baz=121						
S26A	Kim	120.72	46	⇑PKiKP	PKiKP	01 16 32.0	+0.3
	baz=121						
N28A	Pribbeno Ranch	120.73	42	⇑PKiKP	PKiKP	01 16 31.9	+0.3
	baz=121						
KSCO	Kaye Shedlock'	120.73	45	⇓PKiKP	PKiKP	01 16 32.1	+0.3
	baz=121						
KSCO	Kaye Shedlock'	120.73	45	ePKPdf	PKPdf	01 16 29.2	-2.5
J30A	Dallas	120.78	39	⇑PKiKP	PKiKP	01 16 32.2	+0.7
	baz=121						
L29A	Maesberg Ranch	120.78	41	⇑PKiKP	PKiKP	01 16 32.1	+0.5
	baz=121						
T26A	Comanche Natio	120.82	47	⇓PKiKP	PKiKP	01 16 32.7	+0.7
	baz=121						
R27A	Eads	120.93	45	⇓PKiKP	PKiKP	01 16 33.0	+0.9
	baz=121						
M29A	Burnside Ranch	120.94	41	⇑PKiKP	PKiKP	01 16 32.1	+0.1
	baz=121						
W25A	X Bar L Ranch,	120.94	49	⇑PKiKP	PKiKP	01 16 33.8	+1.6
	baz=121						
U26A	Atchley Ranch,	121.02	48	⇓PKiKP	PKiKP	01 16 33.0	+0.5
	baz=121						
K30A	Bassett	121.03	40	⇑PKiKP	PKiKP	01 16 32.8	+0.7
	baz=121						
X25A	Clemmons Ranch	121.05	50	⇑PKiKP	PKiKP	01 16 32.9	+0.4
	baz=121						
P28A	Saint Francis	121.09	44	⇓PKiKP	PKiKP	01 16 33.4	+1.0
	baz=121						
V26A	Tequesquite Ra	121.23	48	⇓PKiKP	PKiKP	01 16 33.5	+0.7
	baz=121						
Q28A	Sharon Springs	121.27	44	⇑PKiKP	PKiKP	01 16 33.6	+0.8
	baz=121						
L30A	Spencer Herefo	121.33	40	⇓PKiKP	PKiKP	01 16 33.9	+1.2
	baz=121						
O29A	4D Ranch, Culb	121.49	43	⇑PKiKP	PKiKP	01 16 34.0	+0.9
	baz=121						
T27A	Campo	121.50	47	⇑PKiKP	PKiKP	01 16 34.0	+0.7
	baz=121						
W26A	Owens Ranch, T	121.52	49	⇑PKiKP	PKiKP	01 16 34.2	+0.8
	baz=121						
R28A	Tribune	121.60	45	⇓PKiKP	PKiKP	01 16 34.7	+1.3
	baz=122						
U27A	Thompson Grove	121.69	47	⇓PKiKP	PKiKP	01 16 34.4	+0.7
	baz=122						
X26A	CR and CF Fran	121.69	50	⇓PKiKP	PKiKP	01 16 35.0	+1.3
	baz=122						
L31A	Butterfield Fa	121.78	40	⇑PKiKP	PKiKP	01 16 34.1	+0.6
	baz=122						
S28A	Manter	121.87	46	⇓PKiKP	PKiKP	01 16 34.5	+0.5
	baz=122						
T28A	Walsh	121.92	46	⇑PKiKP	PKiKP	01 16 34.4	+0.3
	baz=122						
Q29A	Oakley	121.94	44	⇑PKiKP	PKiKP	01 16 35.6	+1.6
	baz=122						
V27A	Dan Oppiter Fa	121.95	48	⇓PKiKP	PKiKP	01 16 35.0	+0.8
	baz=122						
O30A	MW Ranch, Wils	121.97	42	⇑PKiKP	PKiKP	01 16 35.3	+1.2
	baz=122						
W27A	Bowe Ranch, En	122.06	49	⇑PKiKP	PKiKP	01 16 35.2	+0.8
	baz=122						
M31A	Lambtecht Ranc	122.11	41	⇓PKiKP	PKiKP	01 16 34.8	+0.5
	baz=122						
GDL2	Guadalupe Moun	122.12	53	ePKPdf	PKPdf	01 16 32.4	-2.1
P30A	Selden	122.14	43	⇑PKiKP	PKiKP	01 16 36.0	+1.6
	baz=122						
U28A	Mallet	122.15	47	⇑PKiKP	PKPdf	01 16 34.4	0.0
	baz=122						
ES19	SONSECA Array	122.28	317	ePKPdf	PKPdf	01 16 33.9	-0.6
ECSD	EROS Data Cent	122.33	37	⇓PKiKP	PKiKP	01 16 34.9	+0.3
	baz=122						
ECSD	EROS Data Cent	122.33	37	ePKPdf	PKPdf	01 16 34.5	+0.2
ESDC	Sonseca Array	122.33	317	PKP	PKPdf	01 16 35.5	+0.9
	comp=Z,2.7nm,0.9s,baz=21,slow=2.6,SNR=12						
ESDC				PP	PP	01 18 12.8	+2.2
	comp=Z,25nm,1.2s,baz=55,slow=7.1,SNR=8.9						
ESDC				PKKPbc	PKKPbc	01 26 31.4	+0.2
	comp=Z,0.7nm,0.8s,baz=274,slow=3.1,SNR=4.2						
ESDC	Sonseca Array	122.33	317	ePKPdf	PKPdf	01 16 35.5	+0.9
ESDC				ePP	PP	01 18 12.8	+2.2
ESDC				ePKKPbc	PKKPbc	01 26 31.4	+0.2
V28A	Channing	122.41	48	⇓PKiKP	PKiKP	01 16 36.5	+1.4
	baz=122						
S29A	Ulysses	122.41	45	⇑PKiKP	PKiKP	01 16 35.9	+0.9
	baz=122						
Y27A	Causey	122.44	50	⇓PKiKP	PKiKP	01 16 36.7	+1.5
	baz=122						
T29A	Hugoton	122.49	46	⇑PKiKP	PKiKP	01 16 36.4	+1.2
	baz=122						
BGNE	Belgrade	122.61	40	⇓PKiKP	PKiKP	01 16 35.9	+0.6
	baz=122						
BGNE	Belgrade	122.61	40	ePKPdf	PKPdf	01 16 34.2	-0.8
W28A	Vega	122.62	48	⇑PKiKP	PKPdf	01 16 35.4	+0.1
	baz=122						
EYMN	Ely	122.62	31	ePKPdf	PKPdf	01 16 34.6	-0.2
PAB	San Pablo	122.66	317	ePKIKP	PKPdf	01 16 34.6	-0.7
PAB	San Pablo	122.66	317	ePKPdf	PKPdf	01 16 34.6	-0.7
MSTX	Muleshoe	122.71	50	⇓PKiKP	PKiKP	01 16 36.5	+0.7
	baz=123						
MSTX	Muleshoe	122.71	50	ePKPdf	PKPdf	01 16 34.8	-0.8
R30A	Dighton	122.71	44	⇑PKiKP	PKiKP	01 16 37.1	+1.5
	baz=123						
P31A	Stockton	122.74	43	⇑PKiKP	PKiKP	01 16 36.1	+0.6
	baz=123						
N32A	Stulken Farm,	122.85	41	⇓PKiKP	PKiKP	01 16 36.7	+1.0
	baz=123						
S30A	Montezuma	122.87	45	⇑PKiKP	PKiKP	01 16 37.1	+1.2
	baz=123						
V29A	Stinnett	122.88	47	⇑PKiKP	PKiKP	01 16 36.9	+0.9
	baz=123						
X28A	Dimmitt	122.93	49	⇓PKiKP	PKiKP	01 16 36.8	+0.6
	baz=123						
Q31A	Ellis	122.98	43	⇓PKiKP	PKiKP	01 16 36.7	+0.6
	baz=123						
PBRG	Braganca	123.08	321	PKPdf	PKPdf	01 16 46.7	+11
PBRG	Braganca	123.08	321	ePP	PP	01 18 16.0	+0.5
PBRG	Braganca	123.08	321	eSKS	SS	01 34 57.4	+2.1
T30A	Plains	123.09	46	⇓PKiKP	PKiKP	01 16 37.7	+1.3
	baz=123						
W29A	Amarillo	123.09	48	⇑PKiKP	PKiKP	01 16 37.6	+1.1
	baz=123						
O32A	Brockman Farm,	123.11	41	⇑PKiKP	PKiKP	01 16 36.4	+0.2
	baz=123						
AMTX	Amarillo	123.17	49	⇓PKiKP	PKiKP	01 16 37.6	+1.0
	baz=123						
AMTX	Amarillo	123.17	49	ePKPdf	PKPdf	01 16 36.1	-0.3
P32A	Huiting Farm,	123.22	42	⇑PKiKP	PKiKP	01 16 37.5	+1.0
	baz=123						
R31A	Burdett	123.23	44	⇓PKiKP	PKiKP	01 16 37.4	+0.9
	baz=123						
U30A	WK&E Inc. Balk	123.23	46	⇓PKiKP	PKiKP	01 16 38.1	+1.4
	baz=123						
Z28A	Tucker Farm, M	123.27	51	⇓PKiKP	PKiKP	01 16 37.2	+0.3
	baz=123						
X29A	Tulia	123.33	49	⇑PKiKP	PKiKP	01 16 37.7	+0.7
	baz=123						
128A	Castleberry Fa	123.44	51	⇑PKiKP	PKiKP	01 16 38.6	+1.4
	baz=123						
V30A	Spur Ranch, Mi	123.53	47	⇑PKiKP	PKiKP	01 16 37.4	+0.1
	baz=123						
228A	UT Block 9, Go	123.55	52	⇓PKiKP	PKiKP	01 16 37.7	+0.3
	baz=123						
Q32A	Meitler Ranch,	123.56	43	⇓

Y31A	Rekieta Farm,	124.62	49	⇑PKiKP	PKiKP	01 16 39.7	+0.3
	baz=124						
130A	Snyder	124.64	51	⇑PKiKP	PKiKP	01 16 39.5	0.0
	baz=124						
429A	Davenport Ranc	124.66	53	⇓PKiKP	PKiKP	01 16 40.9	+1.3
	baz=124						
T33A	Patterson Ranc	124.69	45	⇑PKiKP	PKiKP	01 16 40.0	+0.5
	baz=125						
PMRV	Marv??o	124.75	319	*e*PKPdf	PKPdf	01 16 40.5	+1.3
PMRV	Marv??o	124.75	319	*e*PP	PP	01 18 16.9	-10
PMRV	Marv??o	124.75	319	*e*SKS	SS	01 35 29.2	+13
V32A	Arapaho	124.75	47	⇑PKiKP	PKiKP	01 16 39.8	+0.2
	baz=125						
230A	Sterling City	124.80	52	⇑PKiKP	PKPdf	01 16 39.7	+0.2
	baz=125						
KSU1	Kansas State U	124.81	42	⇓PKiKP	PKiKP	01 16 39.8	+0.2
	baz=125						
KSU1	Kansas State U	124.81	42	*e*PKPdf	PKPdf	01 16 37.7	-1.6
W32A	Sentinel	124.87	47	⇓PKiKP	PKPdf	01 16 39.6	0.0
	baz=125						
330A	Mertzon	124.94	52	⇓PKiKP	PKPdf	01 16 40.0	+0.2
	baz=125						
Z31A	Sharp Cattle R	124.97	50	⇓PKiKP	PKiKP	01 16 40.4	+0.3
	baz=125						
131A	Roby	125.05	50	⇓PKiKP	PKiKP	01 16 40.4	+0.1
	baz=125						
430A	Baggett Ranch,	125.12	53	⇓PKiKP	PKiKP	01 16 41.8	+1.3
	baz=125						
PCAS	Casmilo, Conde	125.14	320	PKPdf	PKPdf	01 16 46.1	+6.2
PCAS	Casmilo, Conde	125.14	320	*e*PP	PP	01 18 19.8	-10
PCAS	Casmilo, Conde	125.14	320	*e*SKS	SS	01 35 32.7	+11
X32A	Elmer	125.15	48	⇑PKiKP	PKiKP	01 16 40.5	0.0
	baz=125						
PBAR	Barrancos	125.16	317	PKPdf	PKPdf	01 16 46.2	+6.2
PBAR	Barrancos	125.16	317	*e*PP	PP	01 18 31.4	+1.8
PESTR	Estremoz	125.17	318	PKPdf	PKPdf	01 16 45.1	+5.1
PESTR	Estremoz	125.17	318	*e*PP	PP	01 18 19.5	-10
PESTR	Estremoz	125.17	318	*e*SKS	SS	01 35 14.8	-7.0
Y32A	R-V Farms, Ver	125.22	49	⇑PKiKP	PKiKP	01 16 40.6	0.0
	baz=125						
V33A	Lossen Ranch,	125.25	46	⇑PKiKP	PKiKP	01 16 40.7	+0.1
	baz=125						
530A	J-C Ranch, Com	125.28	54	⇓PKiKP	PKiKP	01 16 42.1	+1.3
	baz=125						
PTOM	Tomar	125.32	319	*e*PP	PP	01 18 28.3	-2.3
WMOK	Wichita Mounta	125.39	47	*e*PKiKP	PKPdf	01 16 41.4	+0.8
WMOK	Wichita Mounta	125.39	47	*e*PKPdf	PKPdf	01 16 41.4	+0.8
231A	Bronte	125.40	51	⇓PKiKP	PKiKP	01 16 42.1	+1.0
	baz=125						
SCIA	State Center	125.42	37	*e*PKPdf	PKPdf	01 16 39.9	-0.5
W33A	Caddo, Fort Co	125.43	47	⇑PKiKP	PKiKP	01 16 41.6	+0.6
	baz=125						
Z32A	Haskell	125.49	49	⇑PKiKP	PKiKP	01 16 42.5	+1.3
	baz=125						
PMTG	Montargil	125.49	319	PKPdf	PKPdf	01 16 44.6	+4.0
PMTG	Montargil	125.49	319	*e*PP	PP	01 18 14.2	-18
PMTG	Montargil	125.49	319	*e*SKS	SS	01 35 14.9	-11
U34A	Anderson Ranch	125.50	45	⇓PKiKP	PKiKP	01 16 41.3	+0.2
	baz=125						
U34A	Anderson Ranch	125.50	45	*e*PKPdf	PKPdf	01 16 39.1	-1.6
331A	San Angelo	125.56	52	⇓PKiKP	PKiKP	01 16 42.5	+1.1
	baz=126						
SCHQ	Schefferville	125.60	11	PKP	PKPdf	01 16 41.3	+0.9
	comp=Z,12nm,1.2s,baz=325,slow=1.3,SNR=11						
SCHQ	Schefferville	125.60	11	*e*PKPdf	PKPdf	01 16 40.6	+0.2
EVO	Evora	125.63	318	PKPdf	PKPdf	01 16 47.6	+6.7
EVO	Evora	125.63	318	*e*PP	PP	01 18 34.2	+1.5
ABTX	Abilene, Hawle	125.64	50	⇓PKiKP	PKiKP	01 16 41.7	+0.2
	baz=126						
ABTX	Abilene, Hawle	125.64	50	*e*PKPdf	PKPdf	01 16 40.9	-0.2
431A	Sonora	125.66	53	⇑PKiKP	PKiKP	01 16 42.7	+1.1
	baz=126						
X33A	Lawton	125.68	48	⇓PKiKP	PKiKP	01 16 42.0	+0.5
	baz=126						
TOA0	Torodi Ar. Sit	125.74	285	*e*PKPdf	PKPdf	01 16 41.8	+0.1
TORD	Torodi Ar. Bea	125.74	285	PKP	PKPdf	01 16 41.8	+0.1
	comp=Z,13nm,0.8s,baz=58,slow=1.7,SNR=32						
TORD				PP	PP	01 18 40.3	+5.7
	comp=Z,15nm,1.0s,baz=76,slow=5.5,SNR=4.9						
TORD				PKKPbc	PKKPbc	01 26 20.3	+3.1
	comp=Z,1.2nm,0.7s,baz=272,slow=2.0,SNR=4.2						
TORD	Torodi Ar. Bea	125.74	285	PKP	PKPdf	01 16 41.8	+0.1
V34A	Guthrie	125.80	46	⇓PKiKP	PKiKP	01 16 42.4	+0.8
	baz=126						
V34A	Guthrie	125.80	46	*e*PKPdf	PKPdf	01 16 41.9	+0.6
W34A	Bridge Creek,	125.90	46	*e*PKPdf	PKPdf	01 16 40.3	-1.2
531A	Rocksprings	125.91	53	⇓PKiKP	PKiKP	01 16 43.3	+1.2
	baz=126						
232A	Coleman	125.94	51	⇓PKiKP	PKiKP	01 16 43.0	+0.9
	baz=126						
PVAQ	Vaqueiros	126.01	317	PKPdf	PKPdf	01 16 48.7	+7.1
PVAQ	Vaqueiros	126.01	317	*e*PP	PP	01 18 37.1	+1.8
PVAQ	Vaqueiros	126.01	317	*e*SKS	SS	01 35 23.9	-8.5
Z33A	Whitaker Ranch	126.03	49	⇑PKiKP	PKiKP	01 16 42.3	+0.1
	baz=126						
332A	Millersview	126.07	52	⇓PKiKP	PKiKP	01 16 43.4	+1.0
	baz=126						
MESJ	Messejana	126.13	317	*e*P	PKPdf	01 16 43.5	+1.7
MESJ				*e*PP	PP	01 18 38.5	+2.5
MESJ				*e*SS	SS	01 35 38.2	+4.4
MESJ				AMS	AMS	02 20 12.8	
	comp=Z,2μm,20.8s						
MESJ	Messejana	126.13	317	PKPdf	PKPdf	01 16 44.9	+3.1
MESJ	Messejana	126.13	317	*e*PP	PP	01 18 32.9	-3.1
MESJ	Messejana	126.13	317	*e*PKIKP	PKPdf	01 16 43.5	+1.7
MESJ				*e*		01 18 38.5	
X34A	Smith Ranch, M	126.14	47	⇑PKiKP	PKiKP	01 16 42.5	+0.1
	baz=126						
631A	Perdido Creek	126.16	54	⇓PKiKP	PKiKP	01 16 43.7	+1.1
	baz=126						
PNCL	Nicolau / Gran	126.20	318	*e*PKPdf	PKPdf	01 16 43.6	+1.7
PNCL	Nicolau / Gran	126.20	318	*e*PP	PP	01 18 32.5	-3.9
PNCL	Nicolau / Gran	126.20	318	*e*SKS	SS	01 35 47.4	+13
133A	Hamilton Ranch	126.21	50	⇑PKiKP	PKiKP	01 16 42.8	+0.1
	baz=126						
432A	Menard	126.23	52	⇑PKiKP	PKiKP	01 16 42.9	+0.2
	baz=126						
PBDV	Barranco-do-Ve	126.24	317	PKPdf	PKPdf	01 16 46.5	+4.4
PBDV	Barranco-do-Ve	126.24	317	*e*PP	PP	01 18 39.7	+2.9
PBDV	Barranco-do-Ve	126.24	317	*e*SKS	SS	01 35 39.4	+4.1
PMAFR	Mafra	126.25	319	PKPdf	PKPdf	01 16 44.8	+2.8
PMAFR	Mafra	126.25	319	*e*PP	PP	01 18 26.9	-10
PMAFR	Mafra	126.25	319	*e*SKS		01 35 46.7	
LIS	Lisbon	126.29	319	*e*PP	PP	01 18 39.3	+2.3
LIS				*e*SS	SS	01 35 40.5	+4.9
LIS				AMS	AMS	02 20 40.1	
	comp=Z,4μm,22.4s						
LIS	Lisbon	126.29	319	*e*PP	PP	01 18 39.3	+2.3
LIS	Lisbon	126.29	319	A	A	02 20 40.1	
	comp=Z,4μm,22.4s						
JCT	Junction City	126.38	53	*e*PKIKP	PKPdf	01 16 43.5	+0.9
JCT	Junction City	126.38	53	⇑PKiKP	PKiKP	01 16 44.3	+1.3
	baz=126						
JCT	Junction City	126.38	53	*e*PKPdf	PKPdf	01 16 43.5	+0.9
532A	Rocksprings	126.43	53	⇑PKiKP	PKiKP	01 16 44.2	+1.0
	baz=126						
233A	Rising Star	126.47	51	⇑PKiKP	PKiKP	01 16 43.3	+0.1
	baz=126						
Y34A	Reagan Ranch,	126.49	48	⇓PKiKP	PKiKP	01 16 43.5	+0.4
	baz=126						
JFWS	Jewell Farm	126.55	35	*e*PKIKP	PKPdf	01 16 42.3	-0.2
JFWS	Jewell Farm	126.55	35	*e*PKPdf	PKPdf	01 16 42.2	-0.2
PTEO	Sao Teotonio	126.62	317	*e*PP	PP	01 18 47.0	+7.7
Z34A	Collier Ranch,	126.64	49	⇓PKiKP	PKiKP	01 16 43.8	+0.4
	baz=126						
333A	Richland Sprin	126.69	51	⇑PKiKP	PKiKP	01 16 44.7	+1.1
	baz=127						
MORF	Marmelete	126.70	317	*e*P	PKPdf	01 16 43.6	+0.6
MORF				*e*PP	PP	01 18 41.6	+1.7
MORF				*e*SS	SS	01 35 45.1	+4.0
MORF				AMS	AMS	02 16 18.0	
	comp=Z,3μm,23.5s						
MORF	Marmelete	126.70	317	PKPdf	PKPdf	01 16 49.6	+6.6
MORF	Marmelete	126.70	317	*e*SKS	SS	01 35 30.7	-10
MORF	Marmelete	126.70	317	*e*PKIKP	PKPdf	01 16 43.6	+0.6
MORF				*e*		01 18 41.6	
632A	Uvalde	126.77	54	⇓PKiKP	PKiKP	01 16 45.0	+1.1
	baz=127						
433A	Art	126.83	52	⇑PKiKP	PKiKP	01 16 44.6	+0.7
	baz=127						
134A	White-Moore Ra	126.86	50	⇓PKiKP	PKiKP	01 16 44.6	+0.7
	baz=127						
732A	Laxson Ranch,	126.91	55	⇑PKiKP	PKiKP	01 16 45.0	+0.9
	baz=127						
PFVI	Vila Bisbo	126.91	317	*e*PKPdf	PKPdf	01 16 46.8	+3.5
PFVI	Vila Bisbo	126.91	317	*e*PP	PP	01 18 40.9	-0.3
PFVI	Vila Bisbo	126.91	317	*e*SKS	SS	01 35 56.4	+13
TUL1	Leonard	126.99	45	⇓PKiKP	PKPdf	01 16 43.3	-0.2
	baz=127						
TUL1	Leonard	126.99	45	*e*PKPdf	PKPdf	01 16 41.0	-2.6
234A	Clairette	127.06	50	⇑PKiKP	PKiKP	01 16 45.1	+0.8
	baz=127						
832A	Faith Ranch, C	127.06	55	⇓PKiKP	PKiKP	01 16 45.4	+1.0
	baz=127						
533A	Kerrville	127.15	53	⇓PKiKP	PKiKP	01 16 44.9	+0.3
	baz=127						
Z35A	Perchaven, San	127.15	48	⇑PKiKP	PKiKP	01 16 44.9	+0.5
	baz=127						
334A	Lometa	127.27	51	⇓PKiKP	PKiKP	01 16 45.1	+0.4
	baz=127						
633A	Saathoff Ranch	127.28	54	⇓PKiKP	PKiKP	01 16 45.4	+0.6
	baz=127						
434A	Burnet	127.46	52	⇓PKiKP	PKiKP	01 16 46.1	+1.0
	baz=127						
833A	Chaparral WMA,	127.53	55	⇓PKiKP	PKiKP	01 16 46.4	+1.1
	baz=127						
WHTX	Lake Whitney,	127.59	50	⇑PKiKP	PKiKP	01 16 46.0	+0.6
	baz=128						
WHTX	Lake Whitney,	127.59	50	*e*PKPdf	PKPdf	01 16 44.3	-0.5
534A	Blanco	127.61	53	⇑PKiKP	PKiKP	01 16 46.4	+0.9
	baz=128						
933A	Laredo	127.88	56	⇓PKiKP	PKiKP	01 16 47.3	+1.3
	baz=128						
335A	Moody	127.92	51	⇓PKiKP	PKiKP	01 16 47.5	+1.5
	baz=128						
634A	China Grove, S	127.97	53	⇑PKiKP	PKiKP	01 16 48.1	+1.9
	baz=128						
435B	Jarrell	128.00	51	⇓PKiKP	PKiKP	01 16 47.7	+1.4
	baz=128						
734A	La Parita Cree	128.01	54	⇑PKiKP	PKiKP	01 16 47.7	+1.4
	baz=128						
834A	Tilden	128.29	55	⇑PKiKP	PKiKP	01 16 48.8	+2.0
	baz=128						
535A	Dale	128.33	52	⇑PKiKP	PKiKP	01 16 49.0	+2.1
	baz=128						
934A	Benavides	128.51	55	⇑PKiKP	PKiKP	01 16 48.9	+1.6
	baz=128						
034A	Hebbronville	128.57	56	⇑PKiKP	PKiKP	01 16 49.4	+1.9
	baz=128						
137A	Heron Place, G	128.60	48	⇑PKiKP	PKiKP	01 16 49.1	+1.8
	baz=128						
735A	Kenedy	128.61	54	⇑PKiKP	PKiKP	01 16 49.1	+1.6
	baz=128						
436A	Wall Ranch, Ga	128.62	51	⇑PKiKP	PKiKP	01 16 49.0	+1.5
	baz=128						
536A	Bastrop	128.71	52	⇑PKiKP	PKiKP	01 16 49.6	+2.0
	baz=129						
835A	Beeville	128.82	54	⇓PKiKP	PKiKP	01 16 49.6	+1.7
	baz=129						
636A	Smothers Creek	128.96	53	⇓PKiKP	PKiKP	01 16 49.2	+1.1
	baz=129						
138A	Matatall Enter	129.07	48	⇓PKiKP	PKiKP	01 16 49.4	+1.1
	baz=129						
337A	Centerville	129.09	50	⇓PKiKP	PKiKP	01 16 49.2	+0.8
	baz=129						
035A	Encino	129.10	56	⇑PKiKP	PKiKP	01 16 49.6	+1.1
	baz=129						
MIAR	Mount Ida	129.24	45	*e*PKIKP	PKPdf	01 16 47.3	-0.6
MIAR	Mount Ida	129.24	45	*e*PKPdf	PKPdf	01 16 47.2	-0.6
537A	Green Hill Far	129.29	52	⇑PKiKP	PKiKP	01 16 49.5	+0.7
	baz=129						
035Z	Hargill	129.30	57	⇓PKiKP	PKiKP	01 16 49.6	+0.7
	baz=129						
238A	Jacksonville	129.36	49	⇑PKiKP	PKiKP	01 16 50.1	+1.2
	baz=129						
338A	Crockett	129.51	50	⇓PKiKP	PKiKP	01 16 50.4	+1.2
	baz=129						
936A	North Padre Is	129.57	55	⇓PKiKP	PKiKP	01 16 49.2	-0.3
	baz=130						
HKT	Hockley	129.73	52	*e*PKIKP	PKPdf	01 16 48.5	-0.3
HKT	Hockley	129.73	52	*e*PKPdf	PKPdf	01 16 48.5	-0.3
SFIN	Lafayette	129.99	35	⇓PKiKP	PKiKP	01 16 50.9	+1.0
	baz=130						
SFIN	Lafayette	129.99	35	*e*PKPdf	PKPdf	01 16 47.7	-1.4
339A	Huntington	130.09	49	⇑PKiKP	PKiKP	01 16 51.1	+0.7
	baz=130						
SIUC	Southern Illin	130.39	39	*e*PKPdf	PKPdf	01 16 49.0	-1.0
OLIL	Olney	130.45	37	*e*PKPdf	PKPdf	01 16 49.6	-0.4
PARMO	Parma	130.68	41	*e*PKPdf	PKPdf	01 16 52.2	+1.7
SADO	Sadowa	130.78	25	PKP	PKPdf	01 16 53.0	+2.5
	comp=Z,11nm,1.0s,baz=9.6,slow=3.8,SNR=4.5						
SADO	Sadowa	130.78	25	*e*PKPdf	PKPdf	01 16 53.0	+2.5
USIN	University of	131.20	38	*e*PKPdf	PKPdf	01 16 51.9	+0.4
WCI	Wyandotte Cave	131.86	37	*e*PKIKP	PKPdf	01 16 52.5	-0.3
WCI	Wyandotte Cave	131.86	37	*e*PKPdf	PKPdf	01 16 52.5	-0.3
OXF	Oxford	132.15	43	*e*PKIKP	PKPdf	01 16 49.9	-3.4
OXF	Oxford	132.15	43	*e*PKPdf	PKPdf	01 16 49.9	-3.4
WVT	Waverly	132.24	40	*e*PKIKP	PKPdf	01 16 51.4	-2.1
WVT	Waverly	132.24	40	*e*PKPdf	PKPdf	01 16 51.4	-2.1
DRLN	Deer Lake	132.33	5	*e*PKPdf	PKPdf	01 16 51.8	-1.5
ACSO	Alum Creek Sta	132.37	32	*e*PKPdf	PKPdf	01 16 51.2	-2.4
KIC	Kosan Boka	132.72	277	*e*PKIKP	PKPdf	01 16 55.9	+0.9
	comp=Z,368nm,1.9s						
DBIC	Dimbokro	132.82	278	*e*PKIKP	PKPdf	01 16 53.1	-2.1
DBIC	Dimbokro	132.82	278	PKP	PKPdf	01 16 57.2	+2.0
	comp=Z,10nm,0.9s,baz=82,slow=3.2,SNR=8.4						
DBIC	Dimbokro	132.82	278	*e*PKPdf	PKPdf	01 16 53.1	-2.1
DBIC				PKP	PKPdf	01 16 57.2	+2.0
TIC	Toumodi	132.98	278	*e*PKIKP	PKPdf	01 16 56.2	+0.7
	comp=Z,17nm,0.5s						
LIC	Lamto	133.02	277	*e*PKIKP	PKPdf	01 16 56.9	+1.3
	comp=Z,24nm,0.8s						
LIC	Lamto	133.02	277	*e*PKIKP	PKPdf	01 16 55.7	+0.1
	comp=Z,128nm,1.3s						
LIC	Lamto	133.02	277	*e*PKPdf	PKPdf	01 16 56.9	+1.3
MDV	Middlebury	133.79	21	*e*PKPdf	PKPdf	01 16 55.2	-0.9
LBNH	Lisbon	134.03	20	*e*PKIKP	PKPdf	01 16 55.9	-0.7
LBNH	Lisbon	134.03	20	*e*PKPdf	PKPdf	01 16 55.9	-0.7
PLCA	Paso Flores	134.53	160	*e*PKIKP	PKPdf	01 16 57.3	-0.5
PLCA	Paso Flores	134.53	160	PKP	PKPdf	01 16 59.4	+1.6
	comp=Z,12nm,0.8s						
PLCA	Paso Flores	134.53	160	*e*PKPdf	PKPdf	01 16 57.2	-0.5
LRAL	Lakeview Retre	134.64	43	*e*PKPdf	PKPdf	01 16 59.5	+1.4
CMIG	Matias Romero	135.06	67	PKP	PKPdf	01 17 01.0	+1.7
	comp=Z,15nm,0.9s,baz=250,slow=1.7,SNR=19						
CMIG	Matias Romero	135.06	67	*e*PKPdf	PKPdf	01 17 01.0	+1.7
TKL	Tuckaleechee C	135.07	37	*e*PKIKP	PKPdf	01 16 59.2	+0.3
TKL	Tuckaleechee C	135.07	37	PKP	PKPdf	01 17 01.3	+2.4
	comp=Z,15nm,0.7s,baz=146,slow=3.8,SNR=18						
TKL	Tuckaleechee C	135.07	37	*e*PKPdf	PKPdf	01 16 59.2	+0.3
PSET	Sete Cidades	136.69	329	*e*P	PKPdf	01 17 03.1	+1.3
	comp=Z,356nm,1.7s						
PGRA	Graciosa	136.85	332	*e*P	PKPdf	01 17 02.0	-0.1
	comp=Z,89nm,0.4s						
KMSC	Kings Mountain	136.88	36	⇓PKiKP	PKiKP	01 17 03.9	-0.2
	baz=137						
KMSC	Kings Mountain	136.88	36	*e*PKPdf	PKPdf	01 17 02.0	-0.3
JSRW	J. Sargeant Re	136.91	31	*e*PKPpre	PKPpre	01 16 54.1	
PSMN	Pico do Norte,	136.97	328	*e*P	PKPdf	01 17 02.4	0.0
	comp=Z,269nm,1.2s						
ROSA	Rosais	137.22	332	*e*P	PKPdf	01 17 03.5	+0.7
	comp=Z,253nm,2.0s						
TIGA	Tifton	137.90	42	⇑PKiKP	PKiKP	01 17 05.4	-0.8
	baz=138						
TRQA	Tornquist	139.41	168	*e*PKPpre	PKPpre	01 17 02.0	
CFAA	Coronel Fontan	143.48	156	PKP	PKPdf	01 17 13.2	-1.2
	comp=Z,1.5nm,0.5s,baz=206,slow=3.7,SNR=24						
CFAA	Coronel Fontan	143.48	156	*e*PKPdf	PKPdf	01 17 13.2	-1.2
LCO	Las Campanas	144.60	151	*e*PKPdf	PKPdf	01 17 16.2	-0.5
JCR	Jicaral	146.01	75	*e*P	PKPab	01 17 21.4	+0.8
JTS	JuntasAbangare	146.07	74	*e*PKP2	PKPbc	01 17 20.0	-0.2
JTS	JuntasAbangare	146.07	74	PKPbc	PKPbc	01 17 20.2	0.0
	comp=Z,50nm,0.6s,baz=267,slow=1.7,SNR=45						
JTS	JuntasAbangare	146.07	74	*e*PKPdf	PKPbc	01 17 20.0	-0.2
CGA2	Cerro Gallo 2	146.60	74	*e*P	PKPab	01 17 24.9	+1.8
QCR	Quepos	147.01	75	*e*P	PKPab	01 17 24.2	-0.2
URSC	Urasca	147.30	74	*e*P	PKPab	01 17 25.0	-0.8
BUS	Buena Vista	147.38	75⇑	*e*P	PKPab	01 17 25.9	-0.6
ACR	Cerro Adams	148.13	76	*e*P	PKPab	01 17 27.7	-1.3
SACV	Santiago Islan	149.08	297	*e*PKPdf	PKPdf	01 17 22.8	-1.4
CVJ	Coleyville	149.95	55	*i* P	PKPbc	01 17 31.9	+1.4
MTDJ	Mount Denham	149.95	55	*e*PKPbc	PKPbc	01 17 28.2	-2.3
MCJ	Malvern	149.97	56	*i* P	PKPbc	01 17 31.6	+1.0
BBJ	Bamboo Saint A	150.09	55	*i* P	PKPbc	01 17 31.6	+0.8
STH	Stony Hill	150.62	55	*i* P	PKPbc	01 17 32.9	+0.9
GWJ	Greenwich	150.68	55	*i* P	PKPbc	01 17 34.4	+2.1
HOJ	Hope	150.70	55	*i* P	PKPbc	01 17 33.4	+1.2
LVC	Limon Verde	150.74	146	*e*PKPbc	PKPdf	01 17 29.7	+2.7
GTBY	Guantanamo Bay	150.94	50	*e*PKPdf	PKPdf	01 17 26.0	-0.9
BCIP	Isla Barro Col	151.24	74	*e*PKPdf	PKPdf	01 17 25.4	-2.2
BCIP				*e*PKPbc	PKiKP	01 17 34.2	+0.1
NNA	Nana	151.77	119	*e*PKIKP	PKPbc	01 17 34.4	-0.4
NNA	Nana	151.77	119	PKPbc	PKPbc	01 17 36.8	+1.9
	comp=Z,71nm,0.9s,baz=255,slow=9.2,SNR=3.6						
NNA	Nana	151.77	119	*e*PKPbc	PKPbc	01 17 34.4	-0.4
ATAH	Atahualpa	152.18	109	PKP	PKPdf	01 17 32.0	+2.5
	comp=Z,9.9nm,1.0s,baz=3.4,slow=1.4,SNR=5.8						
ATAH				PKPbc	PKiKP	01 17 39.3	+2.7
	comp=Z,46nm,0.8s,baz=297,slow=2.3,SNR=23						
ATAH	Atahualpa	152.18	109	*e*PKPdf	PKPdf	01 17 32.0	+2.5
ATAH				*e*PKPbc	PKiKP	01 17 39.3	+2.7
GRTK	Grand Turk	152.79	42	*e*PKPbc	PKPbc	01 17 37.4	+0.5
OTAV	Otavalo	153.44	93	*e*PKPdf	PKPdf	01 17 32.6	+1.1
SDDR	Presa de Saban	154.37	47	*e*PKPdf	PKPdf	01 17 33.4	+1.3
LPAZ	La Paz	156.04	139	*e*PKIKP	PKPdf	01 17 32.9	-2.3
LPAZ	La Paz	156.04	139	PKP	PKPdf	01 17 36.9	+1.7
	comp=Z,7.7nm,0.9s,baz=335,slow=0.9,SNR=24						
LPAZ				PKPab	PKPab	01 18 03.3	+0.8
	comp=Z,54nm,0.9s,baz=295,slow=3.6,SNR=17						
LPAZ	La Paz	156.04	139	*e*PKPdf	PKPdf	01 17 32.9	-2.3
LPAZ				*e*PKPdif	PKPdf	01 17 36.9	+1.7
LPAZ				*e*PKPab	PKPab	01 18 03.3	+0.8
ROSC	El Rosal	157.40	81	PKP	PKPdf	01 17 39.1	+2.4
	comp=Z,3.4nm,0.4s,baz=283,slow=3.3,SNR=3.5						
ROSC	El Rosal	157.40	81	*e*PKPdf	PKPdf	01 17 37.4	+0.6
LRS	Lares	157.91	41	*e*PKPdf	PKPdf	01 17 35.3	-1.5
CELP	Cerrillos	158.24	40	*e*PKPdf	PKPdf	01 17 32.6	-4.5
SDV	Santo Domingo	160.04	68	*e*PKPdf	PKPdf	01 17 39.8	+0.2
SIV	San Ignacio	160.28	153	PKP	PKPdf	01 17 41.4	+1.8
	comp=Z,11nm,0.8s,baz=206,slow=0.7,SNR=20						
SIV				pPKP	pPKPdf	01 17 58.6	+0.4
	comp=Z,23nm,1.0s,baz=234,slow=2.8,SNR=9.9						
SIV				pPKPab	pPKPab	01 18 39.0	+1.0
	comp=Z,26nm,1.1s,baz=234,slow=5.3,SNR=3.5						
SIV	San Ignacio	160.28	153	*e*PKPdf	PKPdf	01 17 41.4	+1.8
SIV				*e*PKPdif	pPKPdf	01 17 58.6	+0.4
SIV				*ep*PKPab	pPKPab	01 18 39.0	+1.0
RCBR	Riachuelo	162.37	245	pPKPab	pPKPab	01 18 48.9	+1.4
	comp=Z,50nm,1.0s,baz=113,slow=5.8,SNR=6.6						
RCBR	Riachuelo	162.37	245	*e*PKPdf	PKPdf	01 17 39.4	-2.4
RCBR				*ep*PKPab	pPKPab	01 18 48.9	+1.4
BDFB	Brasilia	162.39	193	*e*PKIKP	PKPdf	01 17 39.8	-2.1
BDFB	Brasilia	162.39	193	PKP	PKPdf	01 17 43.0	+1.1
	comp=Z,13nm,1.0s,baz=275,slow=1.7,SNR=9.8						
BDFB				pPKPab	pPKPab	01 18 48.5	+1.3
	comp=Z,26nm,0.9s,baz=19,slow=4.8,SNR=3.3						
BDFB	Brasilia

KMRS				*e*Sg	Sb	01 25 35.7	0.0
ATAB	**Bozova**	**0.64**	**78**	*i* P	Pg	01 25 30.0	-0.2
ATAB				*i* S	Sg	01 25 36.7	-2.1
ATAB	**Bozova**	**0.64**	**78**	*i* P	Pg	01 25 30.0	-0.3
ATAB				*i* S	Sg	01 25 36.7	-2.1
KUZU	**Kuzuini**	**0.67**	**212**	*i* P	Pn	01 25 35.9	+3.3
KUZU				*i* S	Sn	01 25 48.4	+5.6
KUZU	**Kuzuini**	**0.67**	**212**	*i* P	Pn	01 25 35.9	+3.3
KUZU				*i* S	Sn	01 25 48.4	+5.6
URFA	**Urfa**	**1.05**	**84**	*e*PG	Pg	01 25 38.3	+0.2
URFA				*e*SG	Sn	01 25 53.3	+0.9
URFA	**Urfa**	**1.05**	**84**	*e*Pg	Pg	01 25 38.3	+0.2
URFA				*e*Sg	Sn	01 25 53.3	+0.9
DARE	**Darende-Malaty**	**1.23**	**359**	*e*PN	Pb	01 25 40.9	+0.2
DARE	**Darende-Malaty**	**1.23**	**359**	*e*Pn	Pb	01 25 40.9	+0.2
KOZT	**Kozan**	**1.35**	**276**	*e*PN	Pb	01 25 42.5	-0.1
KOZT	**Kozan**	**1.35**	**276**	*e*Pn	Pb	01 25 42.5	-0.1
SVRC	**Sivrice-ELAZID**	**1.76**	**53**	*e*PN	Pn	01 25 48.2	+0.4
SVRC	**Sivrice-ELAZID**	**1.76**	**53**	*e*Pn	Pn	01 25 48.2	+0.4

BUC 14 01:27:17.7±0.5, 46°.30N×23°.47E, h34km±10km, MD2.5/3, 6C-4D, Error ellipse: s-maj=6.9km s-min=4.6km az=109.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRGR		**0.72**	**314**	⇓*i*P	Pb	01 27 32.0	0.0
DRGR		**0.72**	**314**	⇓*i*P	Pb	01 27 32.0	0.0
DRGR				*i* S	Sn	01 27 41.6	+0.2
GZR	**Gura Zlata**	**1.02**	**208**	⇑*i*P	Pb	01 27 36.5	-0.6
GZR	**Gura Zlata**	**1.02**	**208**	⇑*i*P	Pb	01 27 36.5	-0.6
GZR				*i* S	Sb	01 27 50.5	+0.1
ARR	**Arges**	**1.24**	**138**	⇓*i*P	Pb	01 27 40.0	-0.7
ARR	**Arges**	**1.24**	**138**	⇓*i*P	Pb	01 27 40.0	-0.7
ARR				*i* S	Sb	01 27 56.4	0.0
DOPR	**Dopca**	**1.38**	**103**	⇑*i*P	Pn	01 27 41.4	+0.9
DOPR	**Dopca**	**1.38**	**103**	⇑*i*P	Pn	01 27 41.4	+0.9
BZS	**Buzias**	**1.46**	**243**	S	Sb	01 28 01.1	-1.4
BZS	**Buzias**	**1.46**	**243**	*i* S	Sb	01 28 01.1	-1.4
BURAR	**Bucovina Array**	**1.78**	**42**	⇑*i*P	Pn	01 27 47.2	+1.0
BURAR	**Bucovina Array**	**1.78**	**42**	⇑*i*P	Pn	01 27 47.2	+1.0
BURAR				*i* S	Sn	01 28 08.5	+0.7

ISCJB ***14*** *01:40:37.9±1.8, 34°.60S±0°.02×71°.93W±0°.04, h8km±11km, mb4.8/46, Error ellipse: s-maj=6.0km s-min=4.0km az=7.8*
IDC ***14*** *01:40:37.5±0.4, 34°.66S×71°.86W, h0km, mb4.5/18, mb1 4.6/20, mb1mx4.6/26, mbtmp4.5/20, ML4.0/2, Error ellipse: s-maj=17.0km s-min=10.7km az=92.0*
NEIC ***14*** *01:40:40.1, 34°.59S×71°.86W, h30km, mb4.9/35, ML4.8(GUC), After GUC.*
NEIC Felt [IV] at Molina, Pichilemu and Talca; [II] at Quillota, Rancagua, San Antonio, San Fernando and Santiago. Also felt at San Vicente.
GUC ***14*** *01:40:40.1±0.5, 34°.59S×71°.86W, h30km±17km, ML4.8*
BJI ***14*** *01:40:43.4, 35°.33S×71°.73W, h40km, mB5.4/6, Ms5.4/3, Ms7 5.4/3*

ISC 14 01:40:42.3±0.8, 34°.62S±0°.03×71°.78W±0°.06, h28km±5km, n247, σ1$03/275, mb4.9/47, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.60**	**130**	⇑*i*P	**Pb**	**01 40 52.6**	**-1.7**
NICH				*i* S	**Sb**	**01 41 02.3**	**-0.1**
NICH				AML	AML	01 41 04.9	
	comp=E,116μm,0.6s						
NICH	**Los Niches**	**0.60**	**130**	⇑*i*P	**Pb**	**01 40 52.6**	**-1.7**
NICH				*i* S	**Sb**	**01 41 02.3**	**-0.1**
TALC	**Talca**	**0.79**	**171**	⇓*i*P	**Pb**	**01 40 54.5**	**-3.0**
TALC				*i* S	**Sb**	**01 41 05.9**	**-2.0**
TALC				AML	AML	01 41 12.7	
	comp=E,58μm,0.5s						
TALC	**Talca**	**0.79**	**171**	⇓*i*P	**Pb**	**01 40 54.5**	**-3.0**
TALC				*i* S	**Sb**	**01 41 05.9**	**-2.0**
LNCH	**Linares**	**1.24**	**173**	*e*P	**Pn**	**01 41 02.3**	**-1.5**
LNCH				AML	AML	01 41 24.1	
	comp=E,28μm,0.5s						
LNCH	**Linares**	**1.24**	**173**	*e*P	**Pn**	**01 41 02.3**	**-1.5**
RCDM	**Rinconada Maip**	**1.39**	**36**	*e*P	**Pn**	**01 41 04.0**	**-1.9**
RCDM				*i* S	**Sn**	**01 41 22.2**	**-1.0**
RCDM	**Rinconada Maip**	**1.39**	**36**	*e*P	**Pn**	**01 41 04.0**	**-1.9**
RCDM				*i* S	**Sn**	**01 41 22.2**	**-1.0**
ANTU	**Antumapu**	**1.42**	**43**	*e*P	**Pn**	**01 41 04.8**	**-1.5**
ANTU				*i* S	**Sn**	**01 41 23.8**	**-0.2**
ANTU				AML	AML	01 41 29.6	
	comp=N,17μm,0.4s						
ANTU	**Antumapu**	**1.42**	**43**	*e*P	**Pn**	**01 41 04.8**	**-1.5**
ANTU				*i* S	**Sn**	**01 41 23.8**	**-0.2**
FSR	**Penalolen**	**1.54**	**43**	*e*P1	**Pn**	**01 41 07.3**	**-0.7**
FSR				*i* S	**Sn**	**01 41 27.6**	**+0.5**
FSR	**Penalolen**	**1.54**	**43**	*e*P	**Pn**	**01 41 07.3**	**-0.7**
FSR				*i* S	**Sn**	**01 41 27.6**	**+0.5**
IHA	**Instituto Hidr**	**1.59**	**4**	⇓*i*P	**Pn**	**01 41 06.8**	**-1.8**
IHA				*i* S1	**Sn**	**01 41 27.3**	**-0.9**
IHA	**Instituto Hidr**	**1.59**	**4**	⇓*i*P	**Pn**	**01 41 06.8**	**-1.8**
IHA				*i* S	**Sn**	**01 41 27.3**	**-0.9**
PEL	**Peldehue**	**1.73**	**32**	⇓*i*P	**Pn**	**01 41 09.4**	**-1.2**
PEL				*i* S	**Sn**	**01 41 32.5**	**+0.7**
PEL				AML	AML	01 41 37.1	
	comp=N,25μm,0.5s						
PEL	**Peldehue**	**1.73**	**32**	⇓*i*P	**Pn**	**01 41 09.4**	**-1.2**
PEL				*i* S	**Sn**	**01 41 32.5**	**+0.7**
CFAA	**Coronel Fontan**	**4.23**	**46**	Pn	**Pn**	**01 41 46.2**	**+1.2**
	comp=N,1.0nm,0.3s,baz=222,slow=12,SNR=15						
CFAA				Sn	**Sb**	**01 42 41.0**	**-5.7**
	comp=N,2.2nm,0.3s,baz=320,slow=17,SNR=5.9						
CFAA				Lg	Lg	01 42 54.8	
	comp=N,4.2nm,0.3s,baz=309,slow=13,SNR=7.0						
LCO	**Las Campanas**	**5.67**	**10**	*e*Pn	**Pn**	**01 42 03.2**	**-1.6**
LCO				*e*Lg	Lg	01 43 27.8	
PLCA	**Paso Flores**	**6.18**	**171**	Pn	**Pn**	**01 42 09.8**	**-2.0**
	baz=330,slow=18						
PLCA				Lg	Lg	01 43 54.8	
	baz=292,slow=19						
PLCA	**Paso Flores**	**6.18**	**171**	*e*Pn	**Pn**	**01 42 13.7**	**+1.9**
PLCA				Lg	Lg	01 43 54.8	
TRQA	**Tornquist**	**8.62**	**116**	*e*Pn	**Pn**	**01 42 47.6**	**+2.4**
TRQA				*e*Lg	Lg	01 45 10.2	
LVC	**Limon Verde**	**12.22**	**13**	*e*Pn	**Pn**	**01 43 35.4**	**+0.6**
LPAZ	**La Paz**	**18.55**	**11**	P	**Pn**	**01 44 58.4**	**+0.6**
	comp=N,0.9nm,0.3s,baz=179,slow=4.7,SNR=27						
LPAZ	**La Paz**	**18.55**	**11**	*e*P	**P**	**01 44 57.3**	**-0.2**
	comp=N,12nm,0.8s						
EFI	**East Falkland**	**19.71**	**154**	*e*P	**P**	**01 45 08.8**	**-0.6**
	comp=N,544nm,1.8s						
USHA	**Ushuaia**	**20.35**	**174**	P	**P**	**01 45 15.0**	**-1.3**
	comp=N,17nm,0.9s,baz=56,slow=8.6,SNR=4.5						
SIV	**San Ignacio**	**20.89**	**30**	P	**P**	**01 45 20.2**	**-2.3**
	comp=N,7.6nm,0.7s,baz=204,slow=7.2,SNR=13						
NNA	**Nana**	**22.99**	**347**	P	**P**	**01 45 46.1**	**+1.1**
	comp=N,21nm,0.8s,baz=185,slow=10,SNR=12						
NNA	**Nana**	**22.99**	**347**	*e*P	**P**	**01 45 45.8**	**+0.8**
	comp=N,44nm,1.1s						
SAML	**Samuel**	**26.74**	**19**	*e*P	**P**	**01 46 20.4**	**+0.8**
	comp=N,5.3nm,1.0s						
BDFB	**Brasilia**	**28.51**	**54**	P	**P**	**01 46 36.3**	**+0.7**
	comp=N,4.9nm,0.6s,baz=212,slow=9.4,SNR=8.3						
PMSA	**Palmer Station**	**30.55**	**173**	P	**P**	**01 46 51.9**	**-1.1**
	comp=N,45nm,0.6s,baz=8.2,slow=19,SNR=32						
RPN	**Rapa Nui**	**32.94**	**273**	P	**P**	**01 47 13.1**	**-1.4**
	comp=N,81nm,0.9s,baz=112,slow=0.7,SNR=3.8						
OTAV	**Otavalo**	**35.23**	**348**	*e*P	**P**	**01 47 34.7**	**-0.2**
	comp=N,27nm,1.6s						
PTGA	**Pitinga**	**35.48**	**21**	P	**P**	**01 47 35.6**	**-0.9**
	comp=N,7.7nm,0.6s,baz=196,slow=11,SNR=12						
PTGA	**Pitinga**	**35.48**	**21**	*e*P	**P**	**01 47 35.8**	**-0.7**
	comp=N,8.0nm,0.7s						
SDV	**Santo Domingo**	**43.28**	**2**	*e*P	**P**	**01 48 43.6**	**+1.9**
	comp=N,6.5nm,0.9s						
GRGR	**Grenville**	**47.48**	**13**	*e*P	**P**	**01 49 14.9**	**+0.1**
	comp=N,274nm,1.3s						
VNA2	**Neumayer--Watz**	**49.36**	**157**	P	**P**	**01 49 29.9**	**+1.1**
SNAA	**Sanae**	**50.94**	**158**	P	**P**	**01 49 42.3**	**+1.5**
SNAA	**Sanae**	**50.94**	**158**	P	**P**	**01 49 41.0**	**+0.3**
	comp=N,4.0nm,1.1s,baz=288,slow=11,SNR=7.5						
SNAA	**Sanae**	**50.94**	**158**	*e*P	**P**	**01 49 41.1**	**+0.3**
	comp=N,23nm,1.2s						
OBIP	**Obispado Ponce**	**52.60**	**6**	*e*P	**P**	**01 49 53.4**	**-0.2**
	comp=N,27nm,1.1s						
VNDA	**Vanda**	**63.54**	**191**	P	**P**	**01 51 10.4**	**+0.8**
	comp=N,4.3nm,1.0s,baz=144,slow=5.4,SNR=11						
834A	**Tilden**	**67.34**	**334**	P	**P**	**01 51 35.9**	**+1.2**
	baz=68						
832A	**Faith Ranch, C**	**68.01**	**333**	P	**P**	**01 51 37.6**	**-1.4**
	baz=68						
732A	**Laxson Ranch,**	**68.41**	**334**	P	**P**	**01 51 41.4**	**-0.1**
	baz=69						
LRAL	**Lakeview Retre**	**68.80**	**346**	*e*P	**P**	**01 51 44.8**	**+1.0**
632A	**Uvalde**	**69.04**	**334**	P	**P**	**01 51 45.8**	**+0.4**
	baz=69						
533A	**Kerrville**	**69.29**	**335**	P	**P**	**01 51 47.0**	**+0.1**
	baz=70						
532A	**Rocksprings**	**69.65**	**334**	P	**P**	**01 51 49.2**	**0.0**
	baz=70						
434A	**Burnet**	**69.71**	**336**	P	**P**	**01 51 49.3**	**-0.2**
	baz=70						
336A	**Riesel**	**69.77**	**337**	P	**P**	**01 51 49.7**	**-0.1**
	baz=70						
531A	**Rocksprings**	**69.92**	**334**	P	**P**	**01 51 50.7**	**-0.2**
	baz=70						
433A	**Art**	**69.93**	**335**	P	**P**	**01 51 50.3**	**-0.5**
	baz=70						
JCT	**Junction City**	**69.93**	**334**	P	**P**	**01 51 50.6**	**-0.3**
	baz=70						
JCT	**Junction City**	**69.93**	**334**	*e*P	**P**	**01 51 51.1**	**+0.2**
	comp=N,7.6nm,0.7s						
334A	**Lometa**	**70.17**	**336**	P	**P**	**01 51 52.1**	**-0.3**
	baz=70						
530A	**J-C Ranch, Com**	**70.19**	**333**	P	**P**	**01 51 52.4**	**-0.1**
	baz=70						
TXAR	**Lajitas Array**	**70.38**	**331**	P	**P**	**01 51 53.8**	**+0.1**
	comp=N,2.5nm,0.5s,baz=156,slow=8.6,SNR=26						
333A	**Richland Sprin**	**70.42**	**335**	P	**P**	**01 51 53.5**	**-0.3**
	baz=71						
529A	**Stev Forest Ra**	**70.51**	**332**	P	**P**	**01 51 54.4**	**-0.1**
	baz=71						
SWET	**Sewanee**	**70.72**	**348**	*e*P	**P**	**01 51 55.4**	**-0.2**
	comp=N,15nm,0.6s						
430A	**Baggett Ranch,**	**70.73**	**333**	P	**P**	**01 51 55.6**	**-0.2**
	baz=71						
234A	**Clairette**	**70.75**	**336**	P	**P**	**01 51 55.8**	**-0.1**
	baz=71						
429A	**Davenport Ranc**	**70.83**	**333**	P	**P**	**01 51 56.5**	**0.0**
	baz=71						
331A	**San Angelo**	**70.91**	**334**	P	**P**	**01 51 56.8**	**-0.1**
	baz=71						
233A	**Rising Star**	**71.02**	**336**	P	**P**	**01 51 57.5**	**0.0**
	baz=71						
232A	**Coleman**	**71.16**	**335**	P	**P**	**01 51 58.1**	**-0.3**
	baz=71						
134A	**White-Moore Ra**	**71.26**	**337**	P	**P**	**01 51 58.6**	**-0.3**
	baz=72						
330A	**Mertzon**	**71.27**	**334**	P	**P**	**01 51 58.6**	**-0.4**
	baz=72						
231A	**Bronte**	**71.44**	**335**	P	**P**	**01 51 59.5**	**-0.5**
	baz=72						
329A	**Wagon Wheel Ra**	**71.64**	**333**	P	**P**	**01 52 00.7**	**-0.6**
	baz=72						
Z35A	**Perchaven, San**	**71.69**	**338**	P	**P**	**01 52 01.4**	**-0.1**
	baz=72						
ABTX	**Abilene, Hawle**	**71.83**	**335**	P	**P**	**01 52 02.0**	**-0.3**
	baz=72						
ABTX	**Abilene, Hawle**	**71.83**	**335**	*e*P	**P**	**01 52 02.5**	**+0.2**
	comp=N,9.2nm,0.7s						
WVT	**Waverly**	**71.96**	**346**	*e*P	**P**	**01 52 02.5**	**-0.5**
	comp=N,23nm,0.6s						
131A	**Roby**	**72.13**	**335**	P	**P**	**01 52 04.2**	**0.0**
	baz=72						
Z33A	**Whitaker Ranch**	**72.14**	**336**	P	**P**	**01 52 03.9**	**-0.3**
	baz=72						
130A	**Snyder**	**72.26**	**334**	P	**P**	**01 52 04.8**	**-0.2**
	baz=72						
Z32A	**Haskell**	**72.39**	**336**	P	**P**	**01 52 05.7**	**-0.1**
	baz=73						
Y34A	**Reagan Ranch,**	**72.43**	**338**	P	**P**	**01 52 06.4**	**+0.5**
	baz=73						
MAW	**Mawson**	**72.53**	**163**	P	**P**	**01 52 04.8**	**-1.3**
	comp=N,50nm,1.1s,baz=139,slow=6.1,SNR=3.8						
129A	**Stewart Farms,**	**72.62**	**334**	P	**P**	**01 52 07.0**	**-0.2**
	baz=73						
Z31A	**Sharp Cattle R**	**72.63**	**335**	P	**P**	**01 52 07.2**	**+0.1**
	baz=73						
Y33A	**Hilltop Ranch,**	**72.75**	**337**	P	**P**	**01 52 07.7**	**-0.1**
	baz=73						
128A	**Castleberry Fa**	**72.84**	**333**	P	**P**	**01 52 08.2**	**-0.2**
	baz=73						
Z30A	**Sanderson Ranc**	**72.95**	**335**	P	**P**	**01 52 08.8**	**-0.3**
	baz=73						
Y32A	**R-V Farms, Ver**	**73.02**	**336**	P	**P**	**01 52 09.3**	**-0.1**
	baz=73						
X34A	**Smith Ranch, M**	**73.05**	**338**	P	**P**	**01 52 09.6**	**0.0**
	baz=73						
Z29A	**Hungry Hill Ra**	**73.13**	**334**	P	**P**	**01 52 09.7**	**-0.4**
	baz=73						
MNTX	**Cornudas Mount**	**73.15**	**330**	*e*P	**P**	**01 52 09.1**	**-1.2**
	comp=N,3.2nm,0.7s						
Y29A	**Porterfield Fa**	**73.66**	**334**	P	**P**	**01 52 13.0**	**-0.2**
	baz=74						
W33A	**Caddo, Fort Co**	**73.76**	**337**	P	**P**	**01 52 13.7**	**0.0**
	baz=74						
SIUC	**Southern Illin**	**73.77**	**346**	*e*P	**P**	**01 52 15.2**	**+1.5**
X31A	**McDonald Ranch**	**73.77**	**336**	P	**P**	**01 52 13.5**	**-0.3**
	baz=74						
W32A	**Sentinel**	**73.98**	**337**	P	**P**	**01 52 14.9**	**-0.1**
	baz=74						
V34A	**Guthrie**	**74.09**	**338**	P	**P**	**01 52 14.7**	**-0.9**
	baz=74						
MSTX	**Muleshoe**	**74.15**	**334**	*e*P	**P**	**01 52 16.1**	**-0.1**
	comp=N,37nm,1.8s						
V33A	**Lossen Ranch,**	**74.32**	**338**	P	**P**	**01 52 16.7**	**-0.3**
	baz=75						
SUR	**Sutherland**	**74.35**	**119**	*e*P	**P**	**01 52 19.3**	**+1.5**
	comp=N,12nm,0.9s						
DBIC	**Dimbokro**	**75.18**	**71**	P	**P**	**01 52 23.0**	**+0.5**
	comp=N,5.3nm,0.8s,baz=207,slow=8.0,SNR=5.7						
W24A	**Lazy 6 Ranch,**	**76.25**	**332**	P	**P**	**01 52 27.9**	**-0.5**
	baz=76						
ANMO	**Albuquerque**	**76.42**	**331**	*e*P	**P**	**01 52 29.2**	**-0.1**
	comp=N,4.5nm,1.3s						
V25A	**Rancho No Teng**	**76.50**	**333**	P	**P**	**01 52 29.4**	**-0.4**
	baz=77						
V24A	**Rampart Ranch,**	**76.65**	**333**	P	**P**	**01 52 30.6**	**-0.1**
	baz=77						
S30A	**Montezuma**	**76.67**	**337**	P	**P**	**01 52 30.7**	**+0.2**
	baz=77						
U26A	**Atchley Ranch,**	**76.67**	**334**	P	**P**	**01 52 30.7**	**0.0**
	baz=77						
T28A	**Walsh**	**76.75**	**336**	P	**P**	**01 52 31.1**	**0.0**
	baz=77						
T27A	**Campo**	**76.91**	**335**	P	**P**	**01 52 31.4**	**-0.6**
	baz=77						
S28A	**Manter**	**77.10**	**336**	P	**P**	**01 52 33.1**	**+0.1**
	baz=77						
T26A	**Comanche Natio**	**77.32**	**334**	P	**P**	**01 52 34.0**	**-0.3**
	baz=78						
Q32A	**Meitler Ranch,**	**77.32**	**339**	P	**P**	**01 52 33.8**	**-0.3**
	baz=78						
V22A	**San Miguel Ran**	**77.45**	**331**	P	**P**	**01 52 35.5**	**+0.4**
	baz=78						
U23A	**El Rito**	**77.53**	**332**	P	**P**	**01 52 35.9**	**+0.3**
	baz=78						
T25A	**Trinidad**	**77.58**	**334**	P	**P**	**01 52 35.9**	**+0.1**
	baz=78						
S26A	**Kim**	**77.67**	**335**	P	**P**	**01 52 36.4**	**+0.1**
	baz=78						
R28A	**Tribune**	**77.75**	**336**	P	**P**	**01 52 36.5**	**-0.1**
	baz=78						
Q30A	**Quinter**	**77.82**	**338**	P	**P**	**01 52 36.9**	**0.0**
	baz=78						
T24B	**San Luis**	**77.87**	**333**	P	**P**	**01 52 37.5**	**0.0**
	baz=78						
Q29A	**Oakley**	**77.98**	**337**	P	**P**	**01 52 37.9**	**+0.1**
	baz=78						
R27A	**Eads**	**78.03**	**336**	P	**P**	**01 52 38.2**	**0.0**
	baz=78						
S25A	**Robets Cordova**	**78.05**	**334**	P	**P**	**01 52 38.3**	**-0.1**
	baz=78						
X16A	**Lo Mia Camp, P**	**78.07**	**327**	P	**P**	**01 52 38.9**	**+0.3**
	baz=78						
S24A	**Houchin Ranch,**	**78.32**	**333**	P	**P**	**01 52 40.1**	**+0.1**
	baz=79						
SDCO	**Great Sand Dun**	**78.52**	**333**	*e*P	**P**	**01 52 41.8**	**+0.7**
	comp=N,62nm,2.8s						
R24A	**Sanders Place,**	**78.80**	**334**	P	**P**	**01 52 42.9**	**+0.3**
	baz=79						
TSUM	**Tsumeb**	**78.84**	**106**	*e*P	**P**	**01 52 43.6**	**+0.3**
Q26A	**Hugo**	**78.86**	**335**	P	**P**	**01 52 42.8**	**0.0**
	baz=79						
SWSC	**Sam W. Stewart**	**78.89**	**323**	P	**P**	**01 52 42.3**	**-0.6**
	baz=79						
S22A	**4UR Ranch, Cre**	**79.02**	**332**	P	**P**	**01 52 43.4**	**-0.4**
	baz=79						
R23A	**Moffat**	**79.03**	**333**	P	**P**	**01 52 44.4**	**+0.5**
	baz=79						
BC3	**Big Chuckawall**	**79.30**	**324**	P	**P**	**01 52 45.7**	**+0.4**
	baz=80						
CASY	**Casey**	**79.41**	**181**	*e*P	**P**	**01 52 45.5**	**+0.2**
	comp=N,19nm,1.0s						
Q24A	**Divide**	**79.47**	**334**	P	**P**	**01 52 46.9**	**+0.6**
	baz=80						
BOSA	**Boshof**	**79.60**	**117**	P	**P**	**01 52 47.0**	**-0.3**
	comp=N,12nm,0.8s,baz=236,slow=3.8,SNR=15						
BOSA	**Boshof**	**79.60**	**117**	*e*P	**P**	**01 52 47.3**	**+0.1**
	comp=N,17nm,0.9s						
P25A	**Willow Gulch B**	**79.61**	**335**	P	**P**	**01 52 47.6**	**+0.7**
	baz=80						
SMCO	**Snowmass**	**80.32**	**333**	*e*P	**P**	**01 52 52.1**	**+1.1**
	comp=N,7.3nm,1.0s						
ISCO	**Idaho Springs**	**80.37**	**334**	*e*P	**P**	**01 52 51.4**	**+0.2**
	comp=N,36nm,2.3s						
O23A	**Lake Granby, G**	**80.84**	**334**	P	**P**	**01 52 53.9**	**+0.2**
	baz=81						
K30A	**Basset**	**81.03**	**340**	P	**P**	**01 52 54.8**	**+0.5**
	baz=81						
O22A	**Kremmling**	**81.03**	**334**	P	**P**	**01 52 54.3**	**-0.4**
	baz=81						
ECSD	**EROS Data Cent**	**81.20**	**342**	P	**P**	**01 52 54.8**	**-0.4**
	baz=82						
ECSD	**EROS Data Cent**	**81.20**	**342**	*e*P	**P**	**01 52 55.0**	**-0.2**
	comp=N,146nm,2.8s						
N23A	**Red Feather La**	**81.46**	**335**	P	**P**	**01 52 56.7**	**-0.2**
	baz=82						
SRU	**San Rafael Swe**	**81.65**	**331**	*e*P	**P**	**01 52 58.6**	**+0.8**
	comp=N,4.5nm,0.9s						
LBTB	**Lobatse**	**81.86**	**115**	*e*P	**P**	**01 53 00.1**	**+0.7**
	comp=N,136nm,2.5s						
J29A	**Okreek**	**81.91**	**339**	P	**P**	**01 52 58.8**	**-0.1**
	baz=82						
J28A	**Allard Ranch,**	**82.19**	**339**	P	**P**	**01 53 00.5**	**0.0**
	baz=82						
J26A	**Sides Ranch, S**	**82.65**	**338**	P	**P**	**01 53 03.0**	**+0.1**
	baz=83						
I28A	**Midland**	**82.69**	**339**	P	**P**	**01 53 03.3**	**+0.3**
	baz=83						
H29A	**Onida**	**82.99**	**340**	P	**P**	**01 53 04.5**	**-0.1**
	baz=83						
G30A	**Faulkton**	**83.16**	**341**	P	**P**	**01 53 05.6**	**+0.2**
	baz=84						
J24A	**Dixon Ranch, L**	**83.18**	**336**	P	**P**	**01 53 05.4**	**-0.2**
	baz=84						
R11A	**Troy Canyon, C**	**83.19**	**327**	*e*P	**P**	**01 53 07.2**	**+1.3**
	comp=N,8.1nm,1.4s						
H28A	**Mission Ridge**	**83.27**	**339**	P	**P**	**01 53 05.7**	**-0.3**
	baz=84						
K21A	**Alcova**	**83.45**	**334**	P	**P**	**01 53 06.9**	**-0.3**
	baz=84						
I25A	**Rochford**	**83.50**	**337**	P	**P**	**01 53 07.5**	**+0.2**
	baz=84						
DUG	**Dugway, Tooele**	**83.51**	**330**	P	**P**	**01 53 07.8**	**+0.3**
	baz=84						
DUG	**Dugway, Tooele**	**83.51**	**330**	*e*P	**P**	**01 53 08.2**	**+0.8**
	comp=N,13nm,1.5s						
H27A	**Howes**	**83.54**	**339**	P	**P**	**01 53 07.4**	**0.0**
	baz=84						
F29A	**Eureka**	**84.00**	**341**	P	**P**	**01 53 09.3**	**-0.3**
	baz=84						
HWUT	**Hardware Ranch**	**84.19**	**331**	*e*P	**P**	**01 53 11.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**84.22**	**70**	P	**P**	**01 53 11.8**	**+0.3**
	comp=N,4.5nm,0.9s,baz=278,slow=5.4,SNR=36						
G26A	**Maurine**	**84.30**	**339**	P	**P**	**01 53 11.0**	**-0.2**
	baz=85						
PDAR	**Pinedale Array**	**84.41**	**333**	P	**P**	**01 53 11.9**	**-0.2**
	comp=N,1.2nm,0.6s,baz=142,slow=5.3,SNR=8.1						
H24A	**Dirks Ranch, A**	**84.41**	**337**	P	**P**	**01 53 11.6**	**-0.3**
	baz=85						
I21A	**Big Trails, Te**	**84.50**	**335**	P	**P**	**01 53 12.3**	**-0.1**
	baz=85						
NVAR	**Mina Array Bea**	**84.51**	**325**	P	**P**	**01 53 13.2**	**+0.5**
	comp=N,1.1nm,0.6s,baz=151,slow=5.9,SNR=5.9						
J19A	**Crowheart**	**84.65**	**334**	P	**P**	**01 53 13.1**	**-0.1**
	baz=85						
F27A	**Lemmon**	**84.65**	**339**	P	**P**	**01 53 12.9**	**-0.1**
	baz=85						
D30A	**Buchanan**	**84.89**	**342**	P	**P**	**01 53 14.1**	**-0.1**
	baz=85						
I20A	**Worland**	**84.91**	**335**	P	**P**	**01 53 13.9**	**-0.6**
	baz=85						
ELK	**Elko**	**85.00**	**328**	P	**P**	**01 53 15.3**	**+0.2**
	comp=N,2.1nm,0.8s,baz=174,slow=4.1,SNR=4.7						
D29A	**Pettibone, Tap**	**85.06**	**341**	P	**P**	**01 53 15.0**	**-0.1**
	baz=85						
I19A	**Meeteetse**	**85.30**	**334**	P	**P**	**01 53 15.8**	**-0.7**
	baz=86						
AGMN	**Agassiz Nation**	**85.31**	**344**	P	**P**	**01 53 15.8**	**-0.4**
	baz=86						
AGMN	**Agassiz Nation**	**85.31**	**344**	*e*P	**P**	**01 53 15.8**	**-0.4**
	comp=N,5.7nm,0.7s						
H20A	**Greybull**	**85.33**	**335**	P	**P**	**01 53 16.0**	**-0.5**
	baz=86						
**C

FINES	FINESS Array B	123.38	35	PKP	PKPdf	01 59 34.4	-1.4
	comp=N,1.0nm,0.9s,baz=189,slow=8.0,SNR=2.7						
TNA	Tin City	123.43	330	*e*PKPdf	PKPdf	01 59 35.2	-0.6
ARCES	ARCESS Array B	124.48	25	PKP	PKPdf	01 59 36.4	-1.4
	comp=N,2.9nm,1.0s,baz=278,slow=2.6,SNR=3.1						
H11S2	WAKE ISLAND Hyl	25.97	269	T	T	04 18 07.5	
	baz=120						
H11S1	WAKE ISLAND Hyl	25.98	269	T	T	04 18 04.2	
	baz=120						
H11S3	WAKE ISLAND Hyl	25.99	269	T	T	04 18 06.3	
	baz=120						
H11N3	WAKE ISLAND Hyl	26.40	270	T	T	04 18 29.4	
	baz=121,slow=76,SNR=19						
H11N1	WAKE ISLAND Hyl	26.41	270	T	T	04 18 32.1	
	baz=121,slow=76,SNR=39						
H11N2	WAKE ISLAND Hyl	26.42	270	T	T	04 18 35.3	
	baz=121,slow=76,SNR=22						
GNI	Garni	130.20	64	*e*PKPdf	PKPdf	01 59 50.4	+0.6
ABKAR	Akbulak array	141.90	52	*e*PKPdf	PKPdf	02 00 05.0	-6.0
KSM	Kuching	146.97	184	*e*PKPbc	PKPbc	02 00 22.3	-0.5
PSI	Prapat	147.18	163	PKPbc	PKPdf	02 00 22.4	+1.0
	comp=N,9.7nm,0.8s,baz=212,slow=7.3,SNR=8.8						
BRVK	Borovoye	147.51	44	*e*PKPdf	PKPdf	02 00 20.5	-0.1
BRVK				*e*PKPbc	PKPbc	02 00 22.9	-0.3
BRVK				*e*PKPab	PKPab	02 00 26.3	+1.0
HYB	Hyderabad	148.48	115	*i* PKP	PKPbc	02 00 25.5	-1.3
IPM	Ipoh	149.28	166	*e*PKPbc	PKPbc	02 00 28.4	-0.6
YAK	Yakutsk	149.38	340	*e*PKPdf	PKPdf	02 00 23.5	+0.2
YAK				*e*PKPbc	PKPbc	02 00 27.7	0.0
YAK				*e*PKPab	PKPab	02 00 32.7	+0.2
KKAR	Karatay Array	149.65	62	*e*PKPdf	PKPdf	02 00 24.3	-0.1
KKAR				*e*PKPbc	PKPbc	02 00 29.1	+0.1
KKM	Kota Kinabalu	150.62	196	*e*PKPdf	PKPdf	02 00 27.3	+0.4
AAK	Ala-Archa	152.60	63	*e*PKPdf	PKPdf	02 00 29.5	+0.4
AAK				*e*PKPbc	PKiKP	02 00 36.5	+0.2
KURK	Kurchatov	153.18	44	*e*PKPbc	PKPbc	02 00 36.8	-0.1
TKM2	Tokmak 2	153.38	62	*e*PKPdf	PKPdf	02 00 31.4	+1.0
TKM2				*e*PKPbc	PKiKP	02 00 38.6	+0.6
KSH	Kashi	153.89	70	*e*PKPbc	PKPdf	02 00 32.3	+1.2
KSH				sPKP		02 00 44.9	
KSH				PKS	PKSdf	02 04 05.0	-0.4
KSH				PP	PP	02 04 26.3	-1.1
KSH				SKS	SKSdf	02 07 35.4	-0.6
KSH				SKKS	SKKSac	02 11 15.1	-0.1
KSH				SS	SS	02 24 01.8	-1.8
KSH				PPMZ			
	comp=N,200nm,5.6s						
KSH				LN			
	comp=N,76nm,5.4s						
KSH				LE			
	comp=N,36nm,4.6s						
KSH				LZ			
	comp=N,280nm,9.7s						
ZALV	Zalesovo Beam	154.63	33	PKP	PKPdf	02 00 29.9	-1.5
	comp=N,0.6nm,0.6s,baz=340,slow=2.2,SNR=4.6						
ZALV				PKPbc	PKPbc	02 00 38.4	-1.6
	comp=N,1.4nm,0.6s,baz=298,slow=3.2,SNR=9.8						
MKAR	Makanchi Array	157.00	50	PKP	PKPdf	02 00 34.5	-0.4
	comp=N,0.8nm,1.0s,baz=288,slow=1.2,SNR=4.8						
MKAR				PKPbc	PKPbc	02 00 50.9	
	comp=N,0.3nm,0.6s,baz=343,slow=1.3,SNR=3.9						
MKAR				PKPab	PKPab	02 01 05.0	-0.2
	comp=N,0.5nm,0.6s,baz=311,slow=3.2,SNR=5.7						
WMQ	Urumqi	161.67	54	*e*PKP	PKPdf	02 00 40.6	+0.2
WMQ				pPKP	pPKPdf	02 00 51.0	+1.1
WMQ				PKPab	PKPab	02 01 28.1	+2.4
CMAR	Chiang Mai Arr	161.91	150	PKPab	PKPab	02 01 26.1	-1.1
	comp=N,0.7nm,0.6s,baz=223,slow=6.3,SNR=4.2						
CN2	Changchun	163.82	310	*e*PKP	PKPdf	02 00 44.0	+1.6
ULN	Ulaanbaatar	166.74	3	*e*PKPab	PKPab	02 01 48.0	+0.3
NJ2	Nanjing	170.74	257	*e*PKP	PKPdf	02 00 49.1	+1.3
HHC	Hu-ho-hao-te	173.24	338	*e*PKP	PKPdf	02 00 48.9	0.0
HHC				PP	PP	02 06 12.8	+4.8
HHC				SKS	SKSdf	02 07 48.4	-1.7
HHC				SKKS	SKKSac	02 12 54.3	+1.3
HHC				SS	SS	02 27 20.4	-0.2
HHC				PPMZ			
	comp=N,840nm,7.4s						
HHC				LN			
	comp=N,570nm,19.7s						
HHC				LE			
	comp=N,600nm,18.5s						
HHC				LZ			
	comp=N,570nm,14.8s						
CD2	Chengdu	174.73	133	*e*PKP	PKPdf	02 00 50.5	+0.9
LZH	Lanzhou	176.14	66	*e*PKP	PKPdf	02 00 52.3	+2.3
LZH				pPKP	pPKPdf	02 01 05.1	+5.6
LZH				sPKP		02 01 11.3	

GUC 14 01:43:42.0±0.7, 34°.28S×72°.00W, h35km±9km, ML3.9, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.96	139	*e*P1	Pn	01 43 58.5	-0.5
NICH				*i* S	Sn	01 44 11.1	-0.4
TALC	Talca	1.15	165	⇑*i*P	Pn	01 44 01.4	-0.2
TALC				*i* S	Sn	01 44 16.4	+0.2
RCDM	Rinconada Maip	1.27	52	⇓*i*P	Pn	01 44 03.2	0.0
RCDM				*i* S	Sn	01 44 19.4	+0.2
RCDM				IAML		01 44 21.1	
	comp=E,3μm,0.1s						
ANTU	Antumapu	1.34	58	*e*P	Pn	01 44 04.6	+0.3
ANTU				*i* S	Sn	01 44 22.0	+1.1
ANTU				IAML		01 44 27.9	
	comp=E,4μm,0.7s						
LACH	Col Las Americ	1.47	56	*e*P	Pn	01 44 06.9	+0.8
LACH				*i* S	Sn	01 44 25.7	+1.4
LNCH	Linares	1.60	168	*e*P	Pn	01 44 08.8	+1.1
LNCH				*e*S	Sb	01 44 29.2	-1.6
CHNG	Los Chungos	2.43	10	⇑*i*P	Pn	01 44 19.9	+0.7
CHNG				*i* S	Sn	01 44 48.8	+1.2

IDC 14 01:43:57.7±5.9, 15°.26S×173°.43W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/31, mbtmp3.7/4, Error ellipse: s-maj=288.2km s-min=30.1km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.85	257	P	P	01 52 52.5	-0.6
	0.3nm,0.5s,baz=92,slow=6.9,SNR=3.6						
ASAR	Alice Springs	50.12	252	P	P	01 52 55.1	-0.1
	1.2nm,0.6s,baz=87,slow=8.2,SNR=11						
ILAR	Eielson Array	82.31	11	P	P	01 56 20.2	-0.7
	0.6nm,0.8s,baz=215,slow=5.2,SNR=6.3						
YKA	Yellowknife Ar	89.98	23	P	P	01 56 58.6	-0.1
	0.2nm,0.7s,baz=224,slow=4.5,SNR=4.3						
BRTR	Keskin Array B	146.03	321	PKPbc	PKPab	02 03 40.6	0.0
	1.0nm,0.9s,baz=54,slow=2.5,SNR=6.3						

NIED ***14*** *01:59:00.42°.00N×141°.30E, h56km, Mw4.4 Best double couple: M0=5.09000×10^15 NP1:φ1=183.00000°, δ36.00000°, λ54.00000°. NP2:φ2=45.00000°, δ62.00000°, λ113.00000°.*
BJI ***14*** *01:59:11.7, 41°.57N×142°.00E, h99km, mB4.9/2, mb4.9/6*
ISCJB ***14*** *01:59:18.0±0.2, 41°.99N±0°.02×141°.28E±0°.03, h102km±1km, mb4.3/93, Error ellipse: s-maj=4.7km s-min=3.2km az=36.8*
MOS ***14*** *01:59:18.9±0.8, 42°.11N×141°.23E, h105km, mb4.4/49, Error ellipse: s-maj=8.1km s-min=5.3km az=90.9*
IDC ***14*** *01:59:19.3±0.8, 42°.01N×141°.22E, h102km±5km, mb3.9/36, mb1 4.0/42, mb1mx4.0/44, mbtmp4.2/42, Error ellipse: s-maj=11.1km s-min=7.8km az=135.0*
JMA ***14*** *01:59:19.0±0.1, 41°.98N×141°.32E, h94km±2km, M4.3*
JMA Felt II J1.
NEIC ***14*** *01:59:19.6±0.4, 42°.02N×141°.20E, h103km±3km, mb4.5/42, MW4.4(NIED), Error ellipse: s-maj=4.4km s-min=3.3km az=131.0*
NEIC Recorded [2 JMA] in southwestern Hokkaido and [1 JMA] in southern Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate, Honshu.
SKHL ***14*** *01:59:20.1±1.6, 42°.03N×141°.42E, h109km±6km, mb5.8/2, msh6.3/2*

ISC 14 01:59:18.8±0.5, 42°.00N±0°.03×141°.29E±0°.04, h97km±4km, h96km:pP-P, n312, σ0°.92/339, mb4.4/93, 3C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	Kayabe	0.22	239	⇓P	Pn	01 59 32.4	-0.2
JKB				*e*S	Sn	01 59 42.6	-0.4
JNB	Noboribetsu	0.50	339	⇓P	Pn	01 59 34.2	-0.1
JOT	Ohata	0.64	196	P	Pn	01 59 35.3	-0.1
JOT				*e*S	Sn	01 59 47.5	-0.3
JYM2	Yakumo 2	0.69	280	⇓P	Pn	01 59 36.2	+0.4
JSR	Shiriuchi	0.80	234	P	Pn	01 59 37.1	+0.2
JSR				*e*S	Sn	01 59 50.5	+0.1
JEW	Eniwo	0.85	8	P	Pn	01 59 37.9	+0.6
JEW				*e*S	Sn	01 59 51.7	+0.4
JBT2	Biratori 2	1.11	45	⇑P	Pn	01 59 40.5	+0.3
JSH	Shimam	1.12	305	P	Pn	01 59 40.8	+0.5
JNBK	Urakawa-nobuka	1.12	75	P	Pn	01 59 40.1	-0.3
JTM	Tenmabayashi	1.23	188	P	Pn	01 59 41.4	-0.1
JOSM	Okushiri--Mats	1.35	274	P	Pn	01 59 43.2	+0.2
ERM	Erimo	1.39	89	*e*PN	Pn	01 59 44.5	+1.0
ERM				*e*		02 00 02.6	
ERM	Erimo	1.39	89	*e*P	Pn	01 59 44.3	+0.8
ERM	Erimo	1.39	89	*e*Pn	Pn	01 59 44.5	+1.0
ERM				*e*Sn	Sn	02 00 02.6	+0.4
JFR	Furan	1.51	39	P	Pn	01 59 44.9	-0.1
JANG	Nango	1.64	174	P	Pn	01 59 46.3	-0.3
JANG				*e*S	Sn	02 00 06.7	-1.0
JCH	Churui	1.66	68	P	Pn	01 59 47.0	+0.2
JHR	Hokuryu	1.77	10	P	Pn	01 59 49.6	+1.3
ASAJ	Asahikawa	2.32	24	PN	Pn	01 59 56.6	+1.2
ASAJ				S	Sn	02 00 25.2	+1.7
ASAJ				pmax	pmax		
	comp=Z,75nm,0.3s						
ASAJ				smax	smax		
	comp=N,58nm,0.3s						
ASAJ	Asahikawa	2.32	24	P	Pn	01 59 56.5	+1.2
	comp=N,75nm,0.3s,baz=229,slow=11,SNR=157						
ASAJ				S	Sn	02 00 25.2	+1.7
	comp=N,58nm,0.3s,baz=209,slow=19,SNR=6.5						
YUK	Yuzh-Kuril'sk	3.92	57	*d i* PN	Pn	02 00 17.8	+1.0
YUK				*i* S	Sn	02 01 00.1	-1.6
YUK				pmax	pmax		
	comp=N,269nm,0.3s						
YUK				pmax	pmax		
	comp=Z,644nm,0.3s						
YUK				pmax	pmax		
	comp=E,112nm,0.1s						
YUK				smax	smax		
	comp=N,3μm,0.5s						
YUK				smax	smax		
	comp=E,4μm,0.5s						
YUK	Yuzh-Kuril'sk	3.92	57	*e*P	Pn	02 00 17.8	+1.0
YUK				AMB	AMB	02 00 20.7	
	comp=E,644nm,0.3s						
YUK				*e*S	Sn	02 01 00.1	-1.6
YUK				A	A	02 01 02.4	
	comp=E,4μm,0.5s						
YUK				A	A	02 01 02.4	
	comp=E,3μm,0.5s						
SHO	Shikotan	4.48	63	*e*P	Pn	02 00 23.9	-0.4
SHO				*e*S	Sn	02 01 11.2	-4.0
YSS	Yuzh-Sakhalins	5.06	11	⇓*i*PN	Pn	02 00 33.8	+1.6
YSS				*e*S	Sn	02 01 29.0	-0.4
YSS				pmax	pmax		
	comp=Z,140nm,0.9s						
YSS				smax	smax		
	comp=E,120nm,1.2s						
YSS	Yuzh-Sakhalins	5.06	11	*e*P	Pn	02 00 33.8	+1.6
YSS				*e*S	Sn	02 01 29.0	-0.4
YSS	Yuzh-Sakhalins	5.06	11	*e*Pn	Pn	02 00 34.2	+2.0
KUR	Kuril'sk	5.76	54	⇓*i*PN	Pn	02 00 43.2	+1.4
KUR				*i* S	Sn	02 01 47.2	+0.7
KUR				pmax	pmax		
	comp=Z,79nm,0.3s						
KUR				pmax	pmax		
	comp=N,60nm,0.5s						
KUR				pmax	pmax		
	comp=E,149nm,1.0s						
KUR				smax	smax		
	comp=N,123nm,0.4s						
KUR				smax	smax		
	comp=E,264nm,0.4s						
KUR	Kuril'sk	5.76	54	*e*P	Pn	02 00 43.2	+1.4
KUR				AMB	AMB	02 00 48.0	
	comp=E,149nm,0.3s						
KUR				*e*S	Sn	02 01 47.2	+0.7
KUR				A	A	02 01 48.0	
	comp=E,123nm,0.4s						
KUR				A	A	02 01 48.0	
	comp=E,264nm,0.4s						
MAJO	Matsushiro	5.95	205	*c i* PN	Pn	02 00 47.5	+3.1
MAJO	Matsushiro	5.95	205	*e*P	Pn	02 00 47.5	+3.1
MAJO	Matsushiro	5.95	205	*e*Pn	Pn	02 00 45.8	+1.3
MAT	Matsushiro	5.95	205	P	Pn	02 00 45.3	+0.9
MAT				S	Sn	02 01 52.1	+0.9
MJAR	Matsushiro Arr	5.95	205	PN	Pn	02 00 46.4	+2.0
MJAR				pmax	pmax		
	comp=Z,26nm,0.3s						
MJAR	Matsushiro Arr	5.95	205	P	Pn	02 00 46.4	+2.0
	comp=Z,26nm,0.3s,baz=16,slow=15,SNR=261						
VLA	Vladivostok	7.03	282	*c i* PN	Pn	02 01 01.7	+2.7
VLA				pmax	pmax		
	comp=Z,132nm,1.2s						
VLA	Vladivostok	7.03	282	*e*P	Pn	02 01 01.7	+2.7
USRK	Ussuriysk Ar.	7.15	291	P	Pn	02 01 02.0	+1.4
	comp=Z,4.2nm,0.3s,baz=94,slow=14,SNR=34						
HABR	Khabarovsk	7.82	328	PN	Pn	02 01 09.4	-0.3
HABR				*e*S	Sn	02 02 36.1	-0.5
HABR				pmax	pmax		
	comp=Z,71nm,1.5s						
JHJ2	Mitsune	8.95	188	*e*Pn	Pn	02 01 25.0	-0.2
JHJ2				*e*Sn	Sn	02 03 04.8	+0.5
KSRS	Korea Array	11.25	251	P	Pn	02 01 58.1	+1.8
	comp=Z,0.2nm,0.3s,baz=53,slow=15,SNR=4.4						
KSAR	Wonju Array Be	11.28	251	PN	Pn	02 01 58.1	+1.3
KSAR	Wonju Array Be	11.28	251	P	Pn	02 01 58.1	+1.3
JNU	Nakatsue	12.11	226	P	Pn	02 02 09.3	+1.4
	comp=Z,0.4nm,0.3s,baz=74,slow=2.7,SNR=3.7						
SKR	Severo-Kuril's	13.41	45	*e*PN	Pn	02 02 21.0	-3.9
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
PETK	Petropavlovsk-	15.65	39	P	Pn	02 02 52.5	-1.1
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	Petropavlovsk-	15.65	39	P	Pn	02 02 52.5	-1.1
	comp=Z,0.7nm,0.3s,baz=212,slow=11,SNR=19						
YAK	Yakutsk	21.23	345	*e*P	P	02 03 53.0	-3.5
YAK				pmax	pmax		
	comp=Z,22nm,0.7s						
YAK	Yakutsk	21.23	345	*e*P	P	02 03 58.8	+2.3
YAK	Yakutsk	21.23	345	*e*P	P	02 03 53.0	-3.5
	comp=Z,22nm,0.7s						
SEY	Seymchan	21.96	14	P	P	02 04 02.7	-1.6
SEY				pmax	pmax		
	comp=Z,7.0nm,0.4s						
SEY	Seymchan	21.96	14	P	P	02 04 02.7	-1.6
	comp=Z,7.1nm,0.4s,baz=201,slow=7.7,SNR=26						
ULN	Ulaanbaatar	24.80	295	*e*P	P	02 04 30.2	-1.5
ULN	Ulaanbaatar	24.80	295	*e*P	P	02 04 30.2	-1.5
SONM	Songino Array	25.24	295	P	P	02 04 35.4	-0.3
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	Songino Array	25.24	295	P	P	02 04 35.4	-0.3
	comp=Z,1.4nm,0.4s,baz=94,slow=8.6,SNR=4.6						
BILL	Biiibino	29.33	19	*e*P	P	02 05 10.9	-1.0
BILL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BILL	Biiibino	29.33	19	*e*P	P	02 05 10.9	-1.0
	comp=Z,2.2nm,0.4s						
H11N2	WAKE ISLAND Hy	31.03	128	T	T	02 38 06.5	
	baz=321,slow=75,SNR=77						
H11N1	WAKE ISLAND Hy	31.04	128	T	T	02 38 05.8	
	baz=321,slow=75,SNR=81						
H11N3	WAKE ISLAND Hy	31.05	128	T	T	02 38 06.9	
	baz=321,slow=75,SNR=88						
H11S1	WAKE ISLAND Hy	31.88	130	T	T	02 39 04.3	
	baz=322,slow=76,SNR=28						
H11S3	WAKE ISLAND Hy	31.88	130	T	T	02 39 01.5	
	baz=322,slow=76,SNR=26						
H11S2	WAKE ISLAND Hy	31.89	130	T	T	02 38 58.6	
	baz=322,slow=76,SNR=26						
ZALV	Zalesovo Beam	38.64	308	P	P	02 06 31.8	-0.6
ZALV				*PP	pP	02 06 54.9	+0.2
ZALV						02 08 42.4	
ZALV						02 12 20.3	
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV				pmax	pmax		
	comp=N,1.0nm,0.5s						
ZALV	Zalesovo Beam	38.64	308	P	P	02 06 31.8	-0.6
	comp=N,3.3nm,0.3s,baz=95,slow=8.7,SNR=24						
ZALV				pP	pP	02 06 54.9	+0.2
	comp=N,3.1nm,0.6s,baz=93,slow=8.9,SNR=3.9						
ZALV				PcP	PcP	02 08 42.4	-0.2
	comp=N,2.3nm,0.6s,baz=68,slow=4.0,SNR=5.5						
ZALV				pPcP		02 09 09.1	
	comp=N,2.0nm,0.6s,baz=102,slow=2.3,SNR=5.1						
ZALV				ScP	S	02 12 20.3	-1.2
	comp=N,0.8nm,0.5s,baz=106,slow=3.2,SNR=4.7						
MKAR	Makanchi Array	41.57	297	P	P	02 06 56.5	-0.3
MKAR				*PP	pP	02 07 19.4	0.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
MKAR	Makanchi Array	41.57	297	P	P	02 06 56.5	-0.3
	comp=N,1.6nm,0.5s,baz=80,slow=9.4,SNR=26						
MKAR				pP	pP	02 07 19.4	0.0
	comp=N,1.7nm,0.9s,baz=79,slow=14,SNR=3.5						
MKAR				ScP	ScP	02 12 31.9	-1.5
	comp=N,0.6nm,0.8s,baz=66,slow=4.1,SNR=4.6						
IM04	Indian Mountai	42.48	33	*e*P	P	02 07 04.0	+0.1
KURK	Kurchatov	42.93	304	P	P	02 07 08.1	+0.4
KURK				*PP	pP	02 07 31.2	+0.8
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KURK	Kurchatov	42.93	304	*e*P	P	02 07 08.9	+1.2
KURK	Kurchatov	42.93	304	*e*P	P	02 07 06.5	-1.2
	comp=Z,5.2nm,1.1s						
KURK				pP	pP	02 07 31.2	+0.8
KURBB	Kurchatov Arra	43.01	304	P	P	02 07 08.1	-0.2
	comp=Z,2.5nm,0.5s,baz=79,slow=8.9,SNR=23						
KURBB				pP	pP	02 07 31.2	+0.2
	comp=Z,4.6nm,0.8s,baz=78,slow=8.8,SNR=4.5						
PPLA	Purkeypile	43.23	38	*e*P	P	02 07 12.4	+2.2
	comp=Z,39nm,1.6s						
KDAK	Kodiak Island	43.57	45	*i* P	P	02 07 15.4	+2.7
KTH	Kantishna Hill	43.76	37	*e*P	P	02 07 15.7	+1.4
	comp=Z,17nm,1.0s						
MCK	McKinley	44.63	36	*e*P	P	02 07 21.8	+0.6
MCK				pmax	pmax		
	comp=Z,15nm,1.1s						
MCK	McKinley	44.63	36	*e*P	P	02 07 21.8	+0.6
	comp=Z,15nm,1.1s						
COLA	College	44.99	35	⇓*i*P	P	02 07 24.8	+0.8
COLA				pmax	pmax		
	comp=Z,48nm,1.1s						
COLA	College	44.99	35	*e*P	P	02 07 24.8	+0.8
COLA	College	44.99	35	*e*P	P	02 07 25.4	+1.4
	comp=Z,12nm,0.9s						
ILAR	Eielson Array	45.41	35	P	P	02 07 28.0	+0.6
ILAR				pmax	pmax		
	comp=Z,30nm,1.3s						
ILAR	Eielson Array	45.41	35	P	P	02 07 28.0	+0.6
	comp=Z,9.4nm,1.1s,baz=266,slow=5.5,SNR=38						
JIRN	Jiri	46.67	270	*e*P	P	02 07 38.4	+0.2
RAMN	Ramite	46.76	269	*e*P	P	02 07 38.8	+0.1
	comp=Z,6.7nm,0.3s						
GUN	Gumba	46.77	271	*e*P	P	02 07 39.2	+0.3
	comp=Z,20nm,0.3s						
DOT	Dot Lake	46.79	36	*e*P	P	02 07 38.0	-0.3
	comp=Z,4.7nm,0.6s						
BMRM	Bremner River	47.04	40	*e*P	P	02 07 40.8	+0.6
	comp=Z,38nm,1.4s						
BVAR	Borovoye Array	47.26	309	P	P	02 07 41.9	-0.1
BVAR				*PP	pP	02 08 05.6	+0.6
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR	Borovoye Array	47.26	309	P	P	02 07 41.9	-0.1
	comp=Z,2.5nm,0.4s,baz=76,slow=8.9,SNR=25						
BVAR				pP	pP	02 08 05.6	+0.6
	comp=Z,2.2nm,0.4s,baz=68,slow=8.5,SNR=3.4						
KKN	Kakani	47.28	271	*e*P	P	02 07 43.1	+0.4
	comp=Z,10nm,0.5s						
BRVK	Borovoye	47.31	309	*e*P	P	02 07 42.0	-0.4
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BRVK	Borovoye	47.31	309	*e*P	P	02 07 44.2	+1.8
BRVK	Borovoye	47.31	309	*e*P	P	02 07 42.0	-0.4
	comp=Z,6.0nm,0.9s						
TKM2	Tokmak 2	47.33	294	*e*P	P	02 07 43.8	+0.9
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TKM2	Tokmak 2	47.33	294	*e*P	P	02 07 43.8	+0.9
	comp=Z,6.9nm,0.8s						
DMN	Daman	47.51	271	*e*P	P	02 07 44.8	+0.3
	comp=Z,6.6nm,0.4s						
EGAK	Eagle	47.84	34	*e*P	P	02 07 46.0	-0.2
	comp=Z,33nm,1.5s						
DANN	Dangsing	48.12	273	*e*P	P	02 07 49.5	+0.3
	comp=Z,30nm,0.4s						
AAK	Ala-Archa	48.19	295	*e*P	P	02 07 49.3	-0.2
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AAK	Ala-Archa	48.19	295	*e*P	P	02 07 49.3	-0.2
	comp=Z,2.5nm,1.0s						
KOLN	Koldanda	48.55	272	*e*P	P	02 07 52.6	+0.1
	comp=Z,12nm,0.4s						
EKS2	Erkin-Say	48.67	295	*e*P	P	02 07 52.3	-0.8
EKS2				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EKS2	Erkin-Say	48.67	295	*e*P	P	02 07 52.3	-0.8
	comp=Z,1.4nm,0.6s						
KKAR	Karatay Array	50.68	297	*e*P	P	02 08 08.0	-0.2
KKAR	Karatay Array	50.68	297	*e*P	P	02 08 08.0	-0.2
KULM	Kulim	51.37	236	*e*P	P	02 08 13.5	-0.1
	comp=Z,15nm,1.2s						
IPM	Ipoh	51.77	235	*e*P	P	02 08 16.6	-0.1
	comp=Z,11nm,0.9s						
ARU	Arti	52.65	316	*d i* P	P	02 08 21.7	-0.9
ARU				*PP	pP	02 08 45.5	-0.5
ARU						02 10 19.5	
ARU				S	S	02 15 41.2	-1.2

GEYT	Alibeck	61.43	297	P	P	02 09 23.8	-1.1
	comp=Z,1.0nm,0.6s,baz=41,slow=4.6,SNR=3.0						
FITZ	Fitzroy Crossi	61.53	197	eP	P	02 09 25.8	+0.3
	comp=Z,5.2nm,0.9s						
JOF	Joensuu	61.56	331	eP	P	02 09 25.5	+0.2
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s						
JOF	Joensuu	61.56	331	ep	P	02 09 25.5	+0.2
	comp=Z,3.0nm,0.5s						
WRAB	Tennant Creek	61.95	187	eP	P	02 09 27.0	-1.4
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WRAB	Tennant Creek	61.95	187	eP	P	02 09 27.0	-1.4
	comp=Z,7.3nm,0.9s						
WRA	Warramunga Arr	61.96	187	P	P	02 09 27.4	-1.1
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRA	Warramunga Arr	61.96	187	P	P	02 09 27.4	-1.1
	comp=Z,3.1nm,0.5s,baz=1.8,slow=6.9,SNR=22						
KAF	Kangasniemi	63.87	332	eP	P	02 09 40.3	-0.3
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	Kangasniemi	63.87	332	ep	P	02 09 40.3	-0.3
	comp=Z,1.4nm,0.4s						
FINES	FINESS Array B	64.40	331	P	P	02 09 43.8	-0.3
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES	FINESS Array B	64.40	331	P	P	02 09 43.8	-0.3
	comp=Z,3.2nm,0.5s,baz=54,slow=7.1,SNR=59						
FINES	FINESS Array B	64.40	331	eP	P	02 09 43.4	-0.7
AS31	Alice Springs	65.69	187	eP	P	02 09 52.0	-0.9
ASAR	Alice Springs	65.69	187	P	P	02 09 52.3	-0.6
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	Alice Springs	65.69	187	P	P	02 09 52.3	-0.6
	comp=Z,1.0nm,0.3s,baz=0.1,slow=6.2,SNR=21						
MBWA	Marble Bar	65.93	202	eP	P	02 09 53.5	-0.9
	comp=Z,5.7nm,0.6s						
NEW	Newport	66.68	45	eP	P	02 09 59.5	+0.4
NEW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEW	Newport	66.68	45	P	P	02 09 58.6	-0.5
	comp=Z,1.2nm,0.7s,baz=315,slow=7.5,SNR=4.4						
NEW	Newport	66.68	45	eP	P	02 09 59.5	+0.4
	comp=Z,2.6nm,0.8s						
YBH	Yreka Blue Hor	67.43	54	P	P	02 10 04.1	0.0
YBH				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YBH	Yreka Blue Hor	67.43	54	P	P	02 10 04.1	0.0
	comp=Z,1.4nm,0.6s,baz=329,slow=5.9,SNR=5.1						
KIV	Kislovodsk	67.63	309	eP	P	02 10 04.6	-0.6
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	Khabaz	67.64	309	P	P	02 10 04.7	-0.5
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KBZ	Khabaz	67.64	309	P	P	02 10 04.7	-0.5
	comp=Z,0.5nm,0.5s,baz=37,slow=5.1,SNR=2.8						
DZM	Mont Dzumac	67.87	155	eP	P	02 10 07.5	+0.7
	comp=Z,31nm,1.1s						
WVOR	Wild Horse Val	69.41	51	eP	P	02 10 17.1	+0.7
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WVOR	Wild Horse Val	69.41	51	eP	P	02 10 17.1	+0.7
	comp=Z,2.5nm,0.7s						
HFS	Hagfors	69.54	335	P	P	02 10 16.4	-0.3
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HFS	Hagfors	69.54	335	P	P	02 10 16.4	-0.3
	comp=Z,2.4nm,0.4s,baz=38,slow=5.8,SNR=29						
NB2	NORSAR Subarra	69.58	337	P	P	02 10 16.7	-0.3
	comp=Z,1.9nm,0.6s,baz=36,slow=6.5						
NOA	NORSAR Array B	69.58	337	P	P	02 10 16.8	-0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	NORSAR Array B	69.58	337	P	P	02 10 16.8	-0.2
	comp=Z,0.5nm,0.4s,baz=52,slow=7.0,SNR=11						
FFC	Flin Flon	69.60	34	eP	P	02 10 17.0	-0.2
FFC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FFC	Flin Flon	69.60	34	eP	P	02 10 18.2	+1.0
FFC	Flin Flon	69.60	34	eP	P	02 10 17.0	-0.2
	comp=Z,4.2nm,0.7s						
FCC	Fort Churchill	69.62	27	eP	P	02 10 17.1	-0.1
FCC	Fort Churchill	69.62	27	eP	P	02 10 17.1	-0.1
	comp=Z,0.1nm,0.6s						
AKASG	Malin Array Be	70.34	321	P	P	02 10 21.4	-0.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	70.34	321	P	P	02 10 21.4	-0.3
	comp=Z,0.9nm,0.4s,baz=43,slow=6.4,SNR=5.5						
KIEV	Kiev	70.35	321	eP	P	02 10 21.6	-0.2
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KIEV	Kiev	70.35	321	eP	P	02 10 21.6	-0.2
	comp=Z,2.0nm,0.6s						
HRY	Holter Researc	70.44	44	eP	P	02 10 23.9	+1.3
LRM	Limekiln Ridge	70.69	45	eP	P	02 10 24.9	+0.5
HLID	Hailey	71.10	48	eP	P	02 10 27.9	+1.2
	comp=Z,35nm,2.5s						
BOZ	Bozeman (W)	71.24	45	eP	P	02 10 28.3	+0.8
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BOZ	Bozeman (W)	71.24	45	eP	P	02 10 28.3	+0.8
	comp=Z,2.6nm,0.6s						
NVAR	Mina Array Bea	72.13	54	P	P	02 10 34.2	+1.2
	comp=Z,3.5nm,0.6s,baz=294,slow=5.8,SNR=27						
ELK	Elko	72.45	51	P	P	02 10 34.6	-0.4
ELK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ELK	Elko	72.45	51	P	P	02 10 34.6	-0.4
	comp=Z,1.7nm,0.5s,baz=0.6,slow=17,SNR=5.5						
H17A	Grant Village	72.63	46	eP	P	02 10 38.8	+2.8
	comp=Z,24nm,2.0s						
IMW	Indian Meadow	72.77	46	eP	P	02 10 38.5	+1.6
	comp=Z,2.7nm,0.8s						
FORT	Forrest	73.44	192	eP	P	02 10 40.1	-0.2
	comp=Z,15nm,0.9s						
STKA	Stephens Creek	73.52	180	P	P	02 10 41.2	+0.4
STKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
STKA	Stephens Creek	73.52	180	P	P	02 10 41.1	+0.4
	comp=Z,1.1nm,0.5s,baz=6.0,slow=6.7,SNR=5.4						
HWUT	Hardware Ranch	73.97	48	eP	P	02 10 44.2	+0.4
	comp=Z,2.0nm,0.7s						
DUG	Dugway, Tooele	74.21	50	eP	P	02 10 46.5	+1.3
	comp=Z,3.7nm,0.8s						
BW06	Boulder Array	74.28	46	eP	P	02 10 45.5	-0.2
	comp=Z,2.3nm,0.5s						
PDAR	Pinedale Array	74.28	46	P	P	02 10 46.0	+0.3
	comp=Z,2.6nm,0.5s,baz=265,slow=1.0,SNR=22						
STHS	Stebnicka Huta	74.86	324	eP	P	02 10 49.0	+0.4
STHS	Stebnicka Huta	74.86	324	eP	P	02 10 49.0	+0.4
ULM	Lac du Bonnet	75.42	34	P	P	02 10 51.1	-0.7
ULM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ULM	Lac du Bonnet	75.42	34	P	P	02 10 51.0	-0.7
	comp=Z,1.1nm,0.3s,baz=321,slow=5.0,SNR=6.9						
BRTR	Keskin Array B	75.52	311	P	P	02 10 53.0	+0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	75.52	311	P	P	02 10 53.0	+0.3
	comp=Z,0.5nm,0.6s,baz=57,slow=5.4,SNR=4.3						
RSSD	Black Hills	76.21	42	eP	P	02 10 56.7	0.0
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.5s						
RSSD	Black Hills	76.21	42	eP	P	02 10 56.7	0.0
	comp=Z,1.8nm,0.5s						
DPC	Dobruska-Polom	76.22	327	eP	P	02 10 58.1	+1.7
DPC				e		02 11 07.4	
DPC	Dobruska-Polom	76.22	327	eP	P	02 10 58.1	+1.7
DPC				ePCP	PcP	02 11 07.4	-0.6
SRU	San Rafael Swe	76.24	50	eP	P	02 10 57.8	+0.9
SRU				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SRU	San Rafael Swe	76.24	50	eP	P	02 10 57.8	+0.9
	comp=Z,5.3nm,0.9s						
VYHS	Vyhne	76.60	325	eP	P	02 10 59.2	+0.7
VYHS	Vyhne	76.60	325	eP	P	02 10 59.2	+0.7
PRU	Pruhonice	77.21	328	eP	P	02 11 03.4	+1.5
PRU	Pruhonice	77.21	328	eP	P	02 11 03.4	+1.5
SMCO	Snowmass	78.18	48	eP	P	02 11 08.9	+0.9
	comp=Z,3.0nm,0.6s						
KHC	Kasperske Hory	78.27	328	eP	P	02 11 08.0	+0.1
KHC				e		02 11 16.4	
KHC	Kasperske Hory	78.27	328	eP	P	02 11 08.0	+0.1
KHC				ePCP	PcP	02 11 16.4	-0.5
EKA	Eskdalemuir Ar	78.43	340	P	P	02 11 08.2	-0.3
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
EKA	Eskdalemuir Ar	78.43	340	P	P	02 11 08.2	-0.3
	comp=Z,0.7nm,0.4s,baz=28,slow=5.2,SNR=8.0						
GERES	GERESS Array B	78.45	328	P	P	02 11 08.9	-0.1
	comp=Z,0.4nm,0.4s,baz=40,slow=6.8,SNR=3.4						
CSS	Prodhromos	78.96	307	eP	P	02 11 12.3	+0.4
	comp=Z,1.2nm,0.9s						
SCHQ	Schefferville	80.59	16	P	P	02 11 19.7	-0.6
	comp=Z,2.6nm,0.7s,baz=333,slow=8.2,SNR=4.8						
TUC	Tucson	80.77	55	eP	P	02 11 22.2	+0.4
TUC	Tucson	80.77	55	eP	P	02 11 22.2	+0.4
CDF	Champ du Feu	81.25	331	eP	P	02 11 24.1	+0.1
CDF	Champ du Feu	81.25	331	eP	P	02 11 24.1	+0.1
CDF	Champ du Feu	81.25	331	eP	P	02 11 24.1	+0.1
ANMO	Albuquerque	81.47	50	eP	P	02 11 26.5	+0.9
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ANMO	Albuquerque	81.47	50	eP	P	02 11 26.5	+0.9
	comp=Z,2.5nm,1.0s						
FUORN	Ofenpass-Fuorn	81.62	328	eP	P	02 11 26.9	+0.6
	comp=Z,9.1nm,1.1s						
DAVOX	Davos/Dischmat	81.63	329	P	P	02 11 26.4	+0.2
DAVOX				pmax	pmax		
	comp=Z,2.0nm,0.5s						
DAVOX	Davos/Dischmat	81.63	329	P	P	02 11 26.4	+0.2
	comp=Z,2.3nm,0.5s,baz=304,slow=0.3						
PAGF	Fort de Pagny	81.68	332	eP	P	02 11 26.4	+0.2
	comp=Z,1.1nm,0.5s						
PAGF	Fort de Pagny	81.68	332	eP	P	02 11 26.4	+0.2
	comp=Z,1.1nm,0.5s						
LOR	Lormes	83.43	332	eP	P	02 11 35.1	-0.2
	comp=Z,2.4nm,0.5s						
LOR	Lormes	83.43	332	eP	P	02 11 35.1	-0.2
LOR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LOR	Lormes	83.43	332	eP	P	02 11 35.1	-0.2
	comp=Z,2.4nm,0.5s						
FLN	La Foliniere	83.54	336	eP	P	02 11 35.1	-0.7
FLN	La Foliniere	83.54	336	eP	P	02 11 35.1	-0.7
FLN	La Foliniere	83.54	336	eP	P	02 11 35.1	-0.7
IDI	Anoyia	83.55	312	P	P	02 11 35.0	-1.2
	comp=Z,2.6nm,0.4s,baz=27,slow=4.6,SNR=20						
LDF	La Druitiere	83.58	335	eP	P	02 11 35.7	-0.3
LDF	La Druitiere	83.58	335	eP	P	02 11 35.7	-0.3
LDF	La Druitiere	83.58	335	eP	P	02 11 35.7	-0.3
SSF	Saint Saulge	83.73	332	eP	P	02 11 36.7	-0.1
	comp=Z,1.8nm,0.4s						
SSF	Saint Saulge	83.73	332	eP	P	02 11 36.7	-0.1
SSF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SSF	Saint Saulge	83.73	332	eP	P	02 11 36.7	-0.1
	comp=Z,1.8nm,0.4s						
LPL	La Plagne	83.89	330	eP	P	02 11 38.2	+0.2
	comp=Z,3.6nm,0.5s						
LPL	La Plagne	83.89	330	eP	P	02 11 38.2	+0.2
LPL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LPL	La Plagne	83.89	330	eP	P	02 11 38.2	+0.2
	comp=Z,3.6nm,0.5s						
LPG	La Plagne	83.90	330	eP	P	02 11 38.4	+0.3
	comp=Z,8.4nm,0.5s						
LPG	La Plagne	83.90	330	eP	P	02 11 38.4	+0.3
LPG				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LPG	La Plagne	83.90	330	eP	P	02 11 38.4	+0.3
	comp=Z,8.4nm,0.5s						
SMF	Signal de Mont	83.98	332	eP	P	02 11 38.0	-0.1
SMF	Signal de Mont	83.98	332	eP	P	02 11 38.0	-0.1
SMF	Signal de Mont	83.98	332	eP	P	02 11 38.0	-0.1
GRR	Gorron	83.99	336	eP	P	02 11 37.3	-0.8
	comp=Z,2.9nm,0.4s						
GRR	Gorron	83.99	336	eP	P	02 11 37.3	-0.8
GRR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GRR	Gorron	83.99	336	eP	P	02 11 37.3	-0.8
	comp=Z,2.9nm,0.4s						
AVF	Avril sur Loir	84.02	332	eP	P	02 11 38.1	-0.2
	comp=Z,6.1nm,0.6s						
AVF	Avril sur Loir	84.02	332	eP	P	02 11 38.1	-0.2
AVF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AVF	Avril sur Loir	84.02	332	eP	P	02 11 38.1	-0.2
	comp=Z,6.1nm,0.6s						
AMTX	Amarillo	84.20	47	eP	P	02 11 40.6	+1.0
BNI	Bardonecchia	84.31	330	eP	P	02 11 40.4	+0.4
BNI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BNI	Bardonecchia	84.31	330	eP	P	02 11 40.4	+0.4
	comp=Z,4.1nm,0.9s						
MBDF	Montbardon	84.55	329	eP	P	02 11 40.8	-0.4
	comp=Z,6.3nm,0.5s						
MBDF	Montbardon	84.55	329	eP	P	02 11 40.8	-0.4
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MBDF	Montbardon	84.55	329	eP	P	02 11 40.8	-0.4
	comp=Z,6.3nm,0.5s						
SGMF	Saint Gilles	84.62	337	eP	P	02 11 41.3	0.0
SGMF	Saint Gilles	84.62	337	eP	P	02 11 41.3	0.0
SGMF	Saint Gilles	84.62	337	eP	P	02 11 41.3	0.0
ORIF	Oris-en-Rattie	84.72	330	eP	P	02 11 42.0	0.0
	comp=Z,7.6nm,0.7s						
ORIF	Oris-en-Rattie	84.72	330	eP	P	02 11 42.0	0.0
ORIF				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ORIF	Oris-en-Rattie	84.72	330	eP	P	02 11 42.0	0.0
	comp=Z,7.6nm,0.7s						
ROSF	Rostrenen	84.76	337	eP	P	02 11 42.1	+0.1
	comp=Z,5.1nm,0.5s						
ROSF	Rostrenen	84.76	337	eP	P	02 11 42.1	+0.1
ROSF				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ROSF	Rostrenen	84.76	337	eP	P	02 11 42.1	+0.1
	comp=Z,5.1nm,0.5s						
TIP	Timpagrande	84.77	320	eP	P	02 11 42.5	+0.2
	comp=Z,53nm,1.9s						
TCF	Toulx Ste Croi	84.85	333	eP	P	02 11 42.1	-0.4
TCF	Toulx Ste Croi	84.85	333	eP	P	02 11 42.1	-0.4
TCF	Toulx Ste Croi	84.85	333	eP	P	02 11 42.1	-0.4
SBF	Sospel	85.02	328	eP	P	02 11 43.3	-0.2
SBF	Sospel	85.02	328	eP	P	02 11 43.3	-0.2
SBF	Sospel	85.02	328	eP	P	02 11 43.3	-0.2
QUIF	Quistinic	85.11	337	eP	P	02 11 43.4	-0.3
QUIF	Quistinic	85.11	337	eP	P	02 11 43.4	-0.3
QUIF	Quistinic	85.11	337	eP	P	02 11 43.4	-0.3
VIVF	Saint-Julien-l	85.22	331	eP	P	02 11 44.2	-0.2
	comp=Z,3.5nm,0.5s						
VIVF	Saint-Julien-l	85.22	331	eP	P	02 11 44.2	-0.2
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.5s						
VIVF	Saint-Julien-l	85.22	331	eP	P	02 11 44.2	-0.2
	comp=Z,3.5nm,0.5s						
MFF	Saint Martin d	85.35	334	eP	P	02 11 45.1	+0.1
	comp=Z,5.1nm,0.5s						
MFF	Saint Martin d	85.35	334	eP	P	02 11 45.1	+0.1
MFF				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MFF	Saint Martin d	85.35	334	eP	P	02 11 45.1	+0.1
	comp=Z,5.1nm,0.5s						
LMR	La Mourre	85.83	329	eP	P	02 11 47.2	-0.2
LMR	La Mourre	85.83	329	eP	P	02 11 47.2	-0.2
LMR	La Mourre	85.83	329	eP	P	02 11 47.2	-0.2
RJF	Les Rejaudoux	85.94	333	eP	P	02 11 48.0	0.0
RJF	Les Rejaudoux	85.94	333	eP	P	02 11 48.0	0.0
RJF	Les Rejaudoux	85.94	333	eP	P	02 11 48.0	0.0
CAF	Calviac	86.09	332	eP	P	02 11 49.5	+0.8
	comp=Z,9.2nm,0.7s						
CAF	Calviac	86.09	332	eP	P	02 11 49.5	+0.8
CAF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CAF	Calviac	86.09	332	eP	P	02 11 49.5	+0.8
	comp=Z,9.2nm,0.7s						
LFF	La Frestale	86.53	333	eP	P	02 11 51.4	+0.6
LFF	La Frestale	86.53	333	eP	P	02 11 51.4	+0.6
LFF	La Frestale	86.53	333	eP	P	02 11 51.4	+0.6
TXAR	Lajitas Array	87.17	52	P	P	02 11 54.7	+0.4
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	Lajitas Array	87.17	52	P	P	02 11 54.7	+0.4
	comp=Z,0.5nm,0.5s,baz=293,slow=3.6,SNR=14						
ETSF	Etsaut	88.77	333	eP	P	02 12 02.3	+0.6
ETSF	Etsaut	88.77	333	eP	P	02 12 02.3	+0.6
ETSF	Etsaut	88.77	333	eP	P	02 12 02.3	+0.6
KEST	Kesra	91.02	323	P	P	02 12 11.7	-0.6
	comp=Z,1.3nm,1.0s,baz=23,slow=4.3,SNR=4.5						
ESDC	Sonseca Array	92.79	334	P	P	02 12 19.2	-1.2
	comp=Z,0.3nm,0.5s,baz=15,slow=4.2,SNR=5.3						
OTAV	Otavalo	124.78	51	ePKPdf	PKPdf	02 18 10.4	+2.1
SAML	Samuel	140.65	40	ePKPdf	PKPdf	02 18 37.3	-0.1
LPAZ	La Paz	144.03	53	PKP	PKPbc	02 18 42.1	-0.1
	comp=Z,0.4nm,0.4s,baz=34,slow=5.8,SNR=4.5						
LPAZ	La Paz	144.03	53	ePKPdf	PKPdf	02 18 44.5	+0.4
SNAA	Sanae	145.44	199	P	PKPbc	02 18 44.3	-0.1
SNAA	Sanae	145.44	199	ePKP2	PKPdf	02 18 44.1	-0.1
SNAA	Sanae	145.44	199	ePKPbc	PKPdf	02 18 44.1	-0.1
VNA2	Neumayer--Watz	147.03	198	P	PKPbc	02 18 49.0	0.0
LCO	Las Campanas	151.09	74	ePKPbc	PKPbc	02 19 01.1	+0.2
BDFB	Brasilia	152.53	20	PKIKP	PKPbc	02 19 04.4	+0.1
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BDFB	Brasilia	152.53	20	PKPbc	PKPbc	02 19 04.4	+0.1
	comp=Z,0.8nm,0.4s,baz=68,slow=18,SNR=2.6						
PLCA	Paso Flores	156.14	98	ePKP2	PKPab	02 19 30.6	+0.8
PLCA	Paso Flores	156.14	98	PKPab	PKPab	02 19 31.1	+1.4
	baz=328,slow=19						
PLCA	Paso Flores	156.14	98	ePKPab	PKPab	02 19 30.6	+0.8

*IDC **14** 02:06:11.6±2.2, 1°.28N×126°.98E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/28, mbtmp3.8/4, MS4.2/1, Ms1 4.2/1, ms1mx3.3/33, Error ellipse: s-maj=217.0km s-min=25.1km az=65.0*

*ISCJB **14** 02:06:19.2±1.2, 1°.3N±0°.1×126°.8E±0°.1, h72km, mb3.7/4, Error ellipse: s-maj=21.7km s-min=9.7km az=43.9*

*DJA **14** 02:06:22.3±0.8, 1°N±6°×12°7E±°, h19km±14km, M3.6/5, MLv3.6/5*

ISC 14 02:06:21.0±1.3, 1°.2N±0°.1×126°.76E±0°.09, h72km, n9, σ1§37/9, mb3.6/4, Northern Moluccan Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.73	124	P	Pn	02 06 37.6	+1.2
LBMI	Labuha	1.96	158	P	Pn	02 06 53.2	+1.0
LBMI				S	Sn	02 07 16.9	+1.1
KMSI	Cibinong	2.84	258	P	Pn	02 07 04.0	-0.1
GTOI	Gorontalo	3.79	262	P	Pn	02 07 18.9	+1.9
WRA	Warramunga Arr	22.27	161	P	P	02 11 11.5	-0.9
	6.1nm,0.3s,baz=340,slow=11,SNR=37						
ASAR	Alice Springs	25.66	165	P	P	02 11 43.7	-0.6
	0.3nm,0.4s,baz=351,slow=15,SNR=8.7						
NWAO	Narrogin (SRO)	35.10	194	LR	LR	02 29 28.3	
	comp=Z,347nm,18.6s,slow=40						
STKA	Stephens Creek	35.77	158	P	P	02 13 11.5	-1.7
	0.9nm,0.5s,baz=352,slow=9.2,SNR=3.8						
MKAR	Makanchi Array	59.66	326	P	P	02 16 18.1	+0.2
	0.1nm,0.4s,baz=114,slow=7.4,SNR=4.7						

*IDC **14** 02:17:03.2±1.5, 26°.80N×130°.39E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/39, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=76.7km s-min=22.0km az=75.0*

*ISCJB **14** 02:17:05.6±0.5, 26°.74N±0°.04×130°.21E±0°.04, h38km, mb3.6/4, Error ellipse: s-maj=5.9km s-min=4.8km az=135.6*

*JMA **14** 02:17:05.0, 26°.73N×130°.24E, h60km, M3.4*

ISC 14 02:17:07.1±1.0, 26°.76N±0°.04×130°.23E±0°.05, h38km, n17, σ1§46/25, mb3.7/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	Minamidaito 2	1.29	136	P	Pn	02 17 26.8	-1.7
JMZ				eS	Sn	02 17 43.2	-1.3
JTK	Tokunoshima	1.53	312	P	Pn	02 17 31.0	-0.9
JTK				eS	Sn	02 17 49.2	-1.4
JZK	Kikaishima	1.57	352	eS	Sn	02 17 51.8	+0.3
JOKE	Okinoerabujima	1.60	292	P	Pn	02 17 32.2	-0.6
JAM	Amami Oshima	1.74	341	P	Pn	02 17 34.0	-0.7
JAM				eS	Sn	02 17 55.0	-0.7
JOW	Kunigami	1.75	273	P	Pn	02 17 33.8	-1.1
JOW				eS	Sn	02 17 55.5	-0.5
JAMN	Amaminishikomi	1.75	328	P	Pn	02 17 33.7	-1.2
JAMN				eS	Sn	02 17 55.1	-0.9
JNTH	Nagotoyohara	1.99	264	P	Pn	02 17 36.8	-1.4
JNTH				eS	Sn	02 18 00.2	-1.7
JIH	Iheya	2.04	278	P	Pn	02 17 37.9	-1.0
JIH				eS	Sn	02 18 02.7	-0.4
JJT2	Tamagusuku 2	2.31	255	P	Pn	02 17 41.8	-0.8
JAGN	Aguni-jima	2.68	267	P	Pn	02 17 46.5	-1.2
JKE	Kume jima 2	3.12	263	P	Pn	02 17 52.0	-1.7
JKE				eS	Sn	02 18 28.7	-1.0
JNU	Nakatsue	6.37	5	Pn	Pn	02 18 38.0	-0.4
	0.3nm,0.3s,baz=211,slow=11,SNR=2.2						
JNU				Sn	Sn	02 19 46.2	-3.6
	baz=221,slow=19,SNR=2.3						
MKAR	Makanchi Array	42.53	311	P	P	02 25 01.6	+2.6
	0.3nm,0.7s,baz=95,slow=7.2,SNR=3.7						
WRA	Warramunga Arr	46.59	175	P	P	02 25 32.8	+1.3
	0.4nm,0.5s,baz=353,slow=8.5,SNR=5.1						
ASAR	Alice Springs	50.25	176	P	P	02 26 01.9	+2.2
	0.7nm,0.7s,baz=5.4,slow=8.2,SNR=8.1						
FINES	FINESS Array B	73.28	331	P	P	02 28 35.6	+1.4
	0.6nm,0.7s,baz=77,slow=6.0,SNR=5.3						

*IDC **14** 02:20:31.9±1.4, 36°.65N×21°.82E, h0km, mb3.4/4, mb1 3.4/5, mb1mx3.3/28, mbtmp3.3/5, ML2.9/1, MS3.9/1, Ms1 3.9/1, ms1mx3.3/23, Error ellipse:

GUR	Goura	1.54	16	P	Pb	02 21 03.1	-0.1
GUR	Goura	1.54	16	*e*Pn	Pb	02 21 03.5	+0.3
GUR				S	Sb	02 21 22.8	+0.3
DID	Didima	1.56	47	P	Pn	02 21 02.8	+0.8
KLV	Kalavryta, Ach	1.61	10	P	Pb	02 21 04.5	+0.1
KLV				S	Sb	02 21 25.5	+1.0
KLV	Kalavryta, Ach	1.61	10	*e*PN	Pb	02 21 04.2	-0.2
KLV	Kalavryta, Ach	1.61	10	*e*Pn	Pb	02 21 04.2	-0.2
KLV	Kalavryta, Ach	1.61	10	P	Pb	02 21 04.5	+0.1
KLV				S	Sb	02 21 25.5	+1.0
RLS	Riolos of Patr	1.62	351	P	Pb	02 21 04.6	0.0
RLS				S	Sb	02 21 25.1	+0.3
RLS	Riolos of Patr	1.62	351	*e*PN	Pb	02 21 04.5	0.0
RLS	Riolos of Patr	1.62	351	*e*Pn	Pb	02 21 04.5	0.0
RLS				S	Sb	02 21 25.1	+0.3
LTK	Loutraki	1.82	30	P	Pn	02 21 06.4	+0.7
LTK	Loutraki	1.82	30	*e*PB	Pn	02 21 06.3	+0.6
LTK	Loutraki	1.82	30	P	Pn	02 21 06.4	+0.7
KALE	Kalithea	1.95	8	P	Pn	02 21 09.0	+1.5
KALE	Kalithea	1.95	8	P	Pn	02 21 09.0	+1.5
EFP	Efpalio	1.97	2	P	Pb	02 21 10.4	-0.1
EFP	Efpalio	1.97	2	P	Pb	02 21 10.4	-0.1
VLS	Valsamata	1.97	331	P	Pn	02 21 08.2	+0.5
VLS	Valsamata	1.97	331	P	Pn	02 21 08.2	+0.5
DSF	Desfina	2.04	16	P	Pn	02 21 08.7	0.0
DSF	Desfina	2.04	16	P	Pn	02 21 08.7	0.0
PDO	Prodromos	2.20	347	P	Pb	02 21 13.6	-0.7
PDO	Prodromos	2.20	347	*e*PB	Pb	02 21 13.1	-1.2
PDO	Prodromos	2.20	347	*e*Pb	Pb	02 21 13.1	-1.2
PDO	Prodromos	2.20	347	P	Pb	02 21 13.6	-0.7
VAM	Vamos	2.21	118	P	Pn	02 21 10.9	0.0
VAM	Vamos	2.21	118	P	Pn	02 21 10.9	0.0
PTL	Penteli	2.29	45	P	Pn	02 21 12.2	+0.1
PTL	Penteli	2.29	45	P	Pn	02 21 12.2	+0.1
LKR	Lokris	2.39	23	P	Pn	02 21 13.5	+0.1
LKR	Lokris	2.39	23	P	Pn	02 21 13.5	+0.1
AXAR	Agios Charalam	2.41	16	P	Pn	02 21 14.8	+1.1
AXAR	Agios Charalam	2.41	16	P	Pn	02 21 14.8	+1.1
EVR	Evrytania	2.46	0	P	Pn	02 21 17.0	+2.5
EVR	Evrytania	2.46	0	P	Pn	02 21 17.0	+2.5
LKD2	Lefkada island	2.50	339	P	Pn	02 21 17.2	+2.2
LKD2	Lefkada island	2.50	339	P	Pn	02 21 17.2	+2.2
MAKR	Makrakomi, Fth	2.57	6	P	Pn	02 21 18.6	+2.7
MAKR	Makrakomi, Fth	2.57	6	P	Pn	02 21 18.6	+2.7
MRKA	Markates	2.66	32	P	Pn	02 21 17.3	+0.1
MRKA	Markates	2.66	32	P	Pn	02 21 17.3	+0.1
DSL	Palaion Diasel	2.73	348	P	Pn	02 21 20.0	+1.8
DSL	Palaion Diasel	2.73	348	P	Pn	02 21 20.0	+1.8
IDI	Anoyia	2.77	114	Pn	Pn	02 21 19.8	+1.1
	1.9nm,0.3s,baz=297,slow=18,SNR=35						
IDI				Sn	Sn	02 21 54.2	+2.4
	7.6nm,0.3s,baz=302,slow=19,SNR=12						
JAN	Janina	3.28	347	P	Pn	02 21 27.3	+1.5
JAN	Janina	3.28	347	P	Pn	02 21 27.3	+1.5
NPS	Neapolis	3.32	110	P	Pn	02 21 28.3	+2.1
NPS	Neapolis	3.32	110	P	Pn	02 21 28.3	+2.1
NEST	Nestorio	4.00	352	P	Pn	02 21 37.5	+1.8
NEST	Nestorio	4.00	352	P	Pn	02 21 37.5	+1.8
OHR	Ohrid	4.72	351	*i* Pn	Pn	02 21 44.1	-1.4
OHR	Ohrid	4.72	351	*i* Pn	Pn	02 21 44.1	-1.4
VAY	Valandovo	4.90	7	*i* Pn	Pn	02 21 48.4	+0.5
VAY	Valandovo	4.90	7	*i* Pn	Pn	02 21 48.4	+0.5
BARS	Barje	6.36	0	*e*Pn	Pn	02 22 07.3	-0.6
STON	Ston	7.15	335	*e*Pn	Pn	02 22 16.6	-2.1
STON				Sn	Sn	02 23 30.5	-9.1
UDBI	Udbina	9.28	332	*e*Pn	Pn	02 22 46.7	-1.4
UDBI				Sn	Sn	02 24 23.2	-9.0
NVLJ	Novalja	9.66	329	*e*Pn	Pn	02 22 51.7	-1.6
NVLJ				Sn	Sn	02 24 31.6	-10
FINES	FINESS Array B	25.16	5	P	P	02 25 56.6	-2.5
	0.5nm,0.5s,baz=165,slow=12,SNR=7.6						
NOA	NORSAR Array B	25.51	348	P	P	02 26 00.6	-1.8
	0.5nm,0.6s,baz=152,slow=7.6,SNR=3.6						
TORD	Torodi Ar. Bea	29.40	223	P	P	02 26 38.0	+0.4
	0.3nm,0.6s,baz=36,slow=9.8,SNR=3.7						
MKAR	Makanchi Array	45.35	57	P	P	02 28 49.8	-2.6
	0.1nm,0.3s,baz=264,slow=6.0,SNR=3.7						
OPO	Ambohidratompo	59.76	152	LR	LR	02 54 27.8	
	comp=Z,119nm,21.9s,baz=342,slow=34						

NIED ***14*** *02:21:00,28°.60N×143°.00E,h8km,Mw4.2 Best double couple: M0=2.35000×10^15 NP1:φs=195.00000°,δ55.00000°, λ165.00000°. NP2:φs=294.00000°,δ78.00000°,λ36.00000°.*
IDC ***14*** *02:21:03.9±0.5,28°.57N×142°.66E,h0km,mb4.3/24, mb1 4.4/27,mb1mx4.4/32,mbtmp4.3/27,ML3.5/3,Error ellipse: s-maj=16.8km s-min=11.1km az=96.0*
NEIC ***14*** *02:21:04.0±2.8,28°.57N×142°.76E,h4km±17km,mb4.8/30, MW4.2(NIED),Error ellipse: s-maj=7.7km s-min=4.4km az=92.0*
ISCJB ***14*** *02:21:05.7±0.3,28°.65N±0°.03×142°.67E±0°.06,h25km, mb4.5/50,Error ellipse: s-maj=7.9km s-min=3.6km az=178.8*
JMA ***14*** *02:21:05.1±0.2,28°.64N×142°.96E,h55km,M4.3*
BJI ***14*** *02:21:08.3,28°.63N×142°.53E,h42km,mB5.1/24,mb4.6/42, Ms4.6/15,MS7 4.4/13*
ISC 14 02:21:07.6±0.4,28°.60N±0°.04×142°.72E±0°.07,h25km,n115, σ1§52/128,mb4.6/50,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.57	198	P	Pn	02 21 33.1	-0.8
CBIJ				*e*S	Sn	02 21 53.1	-0.3
CBIJ	Chichi jima	1.57	198	*e*Pn	Pn	02 21 32.9	-1.0
CBIJ				Sn	Sn	02 21 53.2	-0.2
JCJ	Chichijima	1.57	198	Pn	Pn	02 21 32.7	-1.2
	baz=108,slow=20						
JCJ				Sn	Sn	02 21 53.2	-0.2
	baz=90,slow=20						
BSO1	Boso 1	6.22	347	P	Pn	02 22 35.9	-1.4
BSO3	Boso 3	6.47	344	P	Pn	02 22 39.3	-1.7
BSO4	Boso 4	6.69	343	P	Pn	02 22 43.5	-0.7
JOD2	Odawara 2	7.33	336	P	Pn	02 22 52.7	-0.4
HMMJ	Hamamatsu 2	7.55	327	P	Pn	02 22 56.7	+0.6
JHU	Hanno	7.80	339	P	Pn	02 22 58.8	-0.7
JRY	Ryogami san	8.07	337	P	Pn	02 23 02.1	-1.2
JRY				*e*S	Sn	02 24 30.2	-3.6
JHO	Hitachi	8.19	348	P	Pn	02 23 01.9	-3.0
JAG	Ashikaga	8.28	341	P	Pn	02 23 05.1	-1.0
JAG				*e*S	Sn	02 24 31.5	-7.3
MJAR	Matsushiro Arr	8.79	335	Pn	Pn	02 23 11.6	-1.5
	2.0nm,0.3s,baz=142,slow=16,SNR=30						
MAJO	Matsushiro	8.79	335	*e*Pn	Pn	02 23 12.0	-1.2
MAT	Matsushiro	8.79	335	P	Pn	02 23 12.3	-0.8
MAT				S	Sn	02 24 49.7	-1.7
KSRS	Korea Array	15.22	309	Pn	Pn	02 24 41.4	+0.5
	0.4nm,0.3s,baz=117,slow=12,SNR=14						
KSAR	Wonju Array Be	15.24	309	Pn	Pn	02 24 41.4	+0.3
USRK	Ussuriysk Ar.	17.78	334	P	Pn	02 25 11.0	-2.3
	0.2nm,0.3s,baz=147,slow=13,SNR=11						
MDJ	Mudanjiang	19.11	330	P	Pn	02 25 29.4	-0.1
MDJ				pP	pP	02 25 36.9	+1.5
MDJ				sP	sP	02 25 40.8	+2.2
MDJ				PMZ			
	15nm,0.9s						
MDJ				PMZ			
	210nm,5.4s						
MDJ	Mudanjiang	19.11	330	*e*Pn	P	02 25 27.5	-1.0
	7.9nm,0.8s						
YHNB	Yeheng	19.48	263	*e*P	P	02 25 32.5	-0.3
	24nm,0.8s						
YULB	Yu-li	19.93	260	*e*P	Pn	02 25 39.1	-0.4
	72nm,1.5s						
SSLB	Suanglung	20.10	261	*e*P	Pn	02 25 41.6	0.0
	35nm,0.8s						
CN2	Changchun	20.54	322	*e*P	P	02 25 38.8	-5.4
NJ2	Nanjing	20.88	285	*e*P	P	02 25 48.0	+0.1
NJ2				PMZ			
	40nm,0.7s						
H11N2	WAKE ISLAND Hy	23.72	106	T	T	02 51 16.3	
	baz=297,slow=74,SNR=8.7						
H11N1	WAKE ISLAND Hy	23.73	107	T	T	02 51 15.9	
	baz=297,slow=74,SNR=7.0						
H11N3	WAKE ISLAND Hy	23.74	106	T	T	02 51 19.8	
	baz=297,slow=74,SNR=7.9						
BJI	Beijing	24.63	305	P	P	02 26 23.9	-2.1
BJI				PMZ			
	12nm,1.2s						
WHN	Wuhan	24.73	281	P	P	02 26 27.3	+0.2
HIA	Hailar	27.11	326	*e*P	P	02 26 49.1	+0.6
	8.0nm,0.5s						
HHC	Hu-ho-hao-te	28.23	304	*e*P	P	02 26 57.3	-1.3
HHC				S	S	02 31 30.5	-13
HHC				sS	sS	02 32 00.1	+4.8
HHC				PMZ			
	22nm,1.2s						
HHC				PMZ			
	290nm,7.4s						
HHC				LN			
	490nm,17.3s						
HHC				LE			
	620nm,17.3s						
HHC				LZ			
	810nm,14.8s						
XAN	Xi'an	29.30	289	P	P	02 27 07.4	-0.8
XAN				PMZ			
	1.0nm,0.5s						
GYA	Guiyang	31.97	275	*e*P	P	02 27 33.0	+1.0
GYA				PMZ			
	10.0nm,0.8s						
LZH	Lanzhou	33.52	293	*e*P	P	02 27 46.3	+0.9
LZH				pP	pP	02 27 58.5	+5.6
LZH				sP	sP	02 28 04.1	+8.1
LZH				PMZ			
	14nm,1.0s						
ULN	Ulaanbaatar	33.58	315	*e*P	P	02 27 46.1	+0.3
	10nm,1.1s						
KKM	Kota Kinabalu	33.65	233	*e*P	P	02 27 46.3	-0.4
	11nm,0.8s						
CD2	Chengdu	33.79	284	*e*P	P	02 27 46.4	-1.4
CD2				PMZ			
	30nm,0.7s						
SONM	Songino Array	33.98	314	P	P	02 27 49.3	0.0
	2.1nm,0.6s,baz=133,slow=8.3,SNR=9.8						
SEY	Seymchan	34.92	8	P	P	02 27 57.8	+0.8
	1.7nm,0.2s,baz=210,slow=16,SNR=7.4						
KMI	Kunming	35.72	274	P	P	02 28 04.0	-0.7
KMI				PMZ			
	14nm,0.9s						
GTA	Gaotai	36.86	298	*e*P	P	02 28 13.4	-0.8
GTA				pP	pP	02 28 22.5	+0.8
GTA				sP	sP	02 28 26.8	+2.0
GTA				S	S	02 33 54.4	-3.0
GTA				sS	sS	02 34 10.6	+0.8
GTA				SS	SnSn	02 36 22.4	-7.8
GTA				PMZ			
	5.0nm,0.9s						
GTA				PMZ			
	250nm,6.4s						
GTA				LN			
	260nm,18.8s						
GTA				LE			
	250nm,16.6s						
GTA				LZ			
	480nm,14.5s						
TLY	Talaya	37.09	319	P	P	02 28 17.4	+1.5
	4.7nm,0.6s,baz=115,slow=4.5,SNR=6.3						
TLY	Talaya	37.09	319	*e*P	P	02 28 15.9	0.0
	25nm,1.3s						
KAPI	Kappang	40.07	217	*e*P	P	02 28 40.5	-0.6
	49nm,1.3s						
CHTO	Chiang Mai	41.06	266	*e*P	P	02 28 48.6	-0.8
	5.4nm,0.8s						
CMAR	Chiang Mai Arr	41.19	266	P	P	02 28 49.8	-0.7
	0.9nm,0.3s,baz=47,slow=8.4,SNR=7.4						
BILL	Bilibino	41.89	13	*e*P	P	02 28 55.4	-0.2
	5.8nm,1.1s						
COEN	Coen	42.30	179	*e*P	P	02 28 55.8	-3.7
BATI	Baumata	42.75	208	P	P	02 29 02.0	-1.1
	15nm,0.4s,baz=72,slow=4.5,SNR=5.7						
KULM	Kulim	46.08	248	*e*P	P	02 29 29.9	0.0
	17nm,1.2s						
WMQ	Urumqi	46.10	305	P	P	02 29 30.0	+0.2
WMQ				pP	pP	02 29 41.3	+3.9
WMQ				PMZ			
	10.0nm,1.1s						
WMQ				PMZ			
	380nm,6.0s						
IPM	Ipoh	46.25	247	*e*P	P	02 29 30.9	-0.3
	6.7nm,0.8s						
TAPN	Taplejung	48.23	282	*e*P	P	02 29 46.4	-0.5
	15nm,0.9s						
CTAO	Charters Tower	48.52	176	*e*P	P	02 29 47.6	-1.1
	33nm,1.3s						
ODAN	Odare	48.64	282	*e*P	P	02 29 49.5	-0.5
ZALV	Zalesovo Beam	48.68	318	P	P	02 29 49.1	-0.4
	3.0nm,0.5s,baz=100,slow=7.3,SNR=19						
ZALV				PcP	PcP	02 31 14.7	+0.1
	2.0nm,0.7s,baz=113,slow=3.4,SNR=4.9						
WRAB	Tennant Creek	48.92	190	*e*P	P	02 29 51.0	-0.7
	14nm,0.8s						
PSI	Prapat	48.92	246	P	P	02 29 52.3	+0.2
	9.9nm,0.8s,baz=57,slow=3.3,SNR=9.5						
WB2	Warramunga Arr	48.93	190	*e*P	P	02 29 51.4	-0.4
WRA	Warramunga Arr	48.93	190	P	P	02 29 51.6	-0.3
	7.5nm,0.5s,baz=12,slow=8.6,SNR=40						
RAMN	Ramite	49.29	282	*e*P	P	02 29 54.3	-0.7
	29nm,0.8s						
JIRN	Jiri	49.46	283	*e*P	P	02 29 56.1	-0.3
	45nm,0.9s						
GUN	Gumba	49.66	284	*e*P	P	02 29 57.5	-0.4
	51nm,0.8s						
MKAR	Makanchi Array	49.90	309	P	P	02 29 58.8	-0.3
	2.3nm,0.7s,baz=82,slow=8.7,SNR=24						
MKAR				ScP	ScP	02 35 18.1	+4.8
	0.4nm,0.8s,baz=70,slow=5.7,SNR=3.9						
PKI	Pulchoki	50.15	283	*e*P	P	02 30 00.5	-1.1
	16nm,0.8s						
PKIN	Phulchoki	50.16	283	*e*P	P	02 30 00.5	-1.1
	8.1nm,0.6s						
KKN	Kakani	50.20	284	*e*P	P	02 30 01.2	-0.7
	46nm,1.0s						
DMN	Daman	50.40	283	*e*P	P	02 30 02.5	-0.9
	17nm,0.8s						
GKN	Gorkha	50.69	284	*e*P	P	02 30 04.2	-1.3
	36nm,0.9s						
GSI	Gunungsitoli	50.89	246	*e*P	P	02 30 06.2	-0.7
	19nm,0.6s						
DANN	Dangsing	51.35	285	*e*P	P	02 30 10.4	-0.2
	48nm,0.8s						
KOLN	Koldanda	51.64	284	*e*P	P	02 30 12.0	-0.7
	23nm,0.7s						
KURK	Kurchatov	52.28	314	*e*P	P	02 30 16.7	-0.2
	20nm,1.1s						
AS31	Alice Springs	52.65	190	*e*P	P	02 30 19.0	-0.8
ASAR	Alice Springs	52.65	190	P	P	02 30 19.1	-0.7
	0.7nm,0.6s,baz=6.8,slow=6.6,SNR=11						
MBWA	Marble Bar	54.22	207	*e*P	P	02 30 31.1	-0.3
	39nm,1.5s						
TKM2	Tokmak 2	54.96	304	*e*P	P	02 30 37.3	+0.4
	2.7nm,0.8s						
KSH	Kashi	55.23	300	P	P	02 30 41.5	+2.7
KSH				sP	sP	02 30 55.6	+6.0
KSH				PP	PP	02 32 46.5	+4.2
KSH				S	S	02 38 21.4	+0.4
KSH				sS	sS	02 38 37.4	+3.6
KSH				ScS	ScS	02 40 22.3	-4.4
KSH				SS	SS	02 42 06.4	+1.3
KSH				PMZ			
	4.0nm,0.8s						
KSH				PMZ			
	170nm,5.7s						
KSH				LN			
	150nm,7.0s						
KSH				LE			
	63nm,5.5s						
KSH				LZ			
	170nm,6.9s						
AAK	Ala-Archa	55.80	304	*e*P	P	02 30 42.5	-0.4
	2.8nm,0.9s						
ILAR	Eielson Array	56.17	29	P	P	02 30 44.6	-0.4
	1.3nm,0.8s,baz=255,slow=5.7,SNR=9.1						
EKS2	Erkin-Say	56.32	304	*e*P	P	02 30 46.0	-0.5
	1.6nm,0.7s						
BRVK	Borovoye	57.33	317	*e*P	P	02 30 53.3	-0.1
	9.5nm,0.7s						
KKAR	Karatay Array	58.60	305	*e*P	P	02 31 02.6	+0.1
	16nm,0.6s						
STKA	Stephens Creek	60.15	181	P	P	02 31 13.3	+0.2
	1.4nm,0.7s,baz=343,slow=11,SNR=2.7						
FORT	Forrest	60.68	194	*e*P	P	02 31 16.6	-0.1
	14nm,0.8s						
PALK	Pallekele	62.02	263	*e*P	P	02 31 25.2	-1.1
	56nm,1.3s						
ARU	Arti	63.54	322	*e*P	P	02 31 35.4	-0.3
	34nm,1.5s						
ABKAR	Akbulak array	64.40	314	*e*P	P	02 31 41.4	-0.1
GEYT	Alibeck	69.09	303	P	P	02 32 11.7	-0.1
	3.3nm,0.8s,baz=46,slow=4.3,SNR=11						
RES	Resolute Bay	70.49	14	P	P	02 32 19.6	0.0
	0.9nm,0.8s,baz=316,slow=6.3,SNR=5.1						
RES	Resolute Bay	70.49	14	*e*P	P	02 32 19.1	-0.5
	1.4nm,0.7s						
YKA	Yellowknife Ar	70.60	29	P	P	02 32 20.7	+0.3
	1.0nm,0.8s,baz=291,slow=5.7,SNR=12						
ARCES	ARCESS Array B	72.28	341	P	P	02 32 30.3	-0.3
	4.4nm,0.9s,baz=93,slow=6.3,SNR=3.9						
JOF	Joensuu	73.95	334	*e*p	P	02 32 40.7	+0.2
	1.7nm,0.6s						
KAF	Kangasniemi	76.33	334	*e*p	P	02 32 53.9	-0.3
	1.6nm,0.6s						
FINES	FINESS Array B	76.81	334	P	P	02 32 56.6	-0.3
	1.2nm,0.5s,baz=92,slow=6.5,SNR=17						
KBZ	Khabaz	77.34	313	P	P	02 33 01.0	+0.8
	7.4nm,0.8s,baz=163,slow=2.0,SNR=20						
GNI	Garni	77.75	309	*e*P	P	02 33 02.2	-0.6
	20nm,1.2s						
NVAR	Mina Array Bea	79.22	52	P	P	02 33 11.8	+0.7
	1.1nm,0.7s,baz=286,slow=5.3,SNR=7.1						
AKASG	Malin Array Be	81.69	324	P	P	02 33 23.8	0.0
	1.1nm,0.5s,baz=52,slow=5.8,SNR=3.5						
KIEV	Kiev	81.70	324	*e*P	P	02 33 23.1	-0.7
NB2	NORSAR Subarra	82.39	338	P	P	02 33 26.7	-0.7
	comp=Z,1.3nm,0.5s,baz=41,slow=5.1						
NOA	NORSAR Array B	82.39	338	P	P	02 33 26.9	-0.5
	comp=Z,1.9nm,0.5s,baz=41,slow=5.2,SNR=7.9						
PDAR	Pinedale Array	82.82	45	P	P	02 33 31.4	+1.2
	comp=Z,0.7nm,0.7s,baz=224,slow=4.1,SNR=4.0						
RAYN	Ar Rayn	84.98	294	*e*P	P	02 33 42.1	+0.8
	comp=Z,21nm,0.8s						
BRTR	Keskin Array B	85.33	313	P	P	02 33 43.1	+0.2
	comp=Z,3.6nm,0.9s,baz=99,slow=3.8,SNR=20						
CSS	Prodhromos	88.18	309	*e*P	P	02 33 50.7	-6.1
	comp=Z,2.9nm,1.2s						
VYHS	Vyhne	88.31	326	*e*P	P	02 34 01.0	+3.9
TXAR	Lajitas Array	94.33	53	P	P	02 34 26.7	+1.2
	comp=Z,0.6nm,0.7s,baz=282,slow=2.4,SNR=8.9						
TORD	Torodi Ar. Bea	123.94	312	PKP	PKPdf	02 40 04.4	0.0
	comp=Z,0.5nm,0.7s,baz=42,slow=0.6,SNR=6.1						
LBTB	Lobatse	124.33	258	*e*PKPdf	PKPdf	02 40 05.3	+0.4
DBIC	Dimbokro	133.03	313	*e*PKPdf	PKPdf	02 40 21.2	-0.5
SAML	Samuel	148.77	56	*e*PKPbc	PKPbc	02 40 53.0	-0.7
LPAZ	La Paz	149.06	73	PKPbc	PKPbc	02 40 56.0	+0.9
	comp=Z,2.4nm,0.8s,baz=222,slow=2.2,SNR=10.0						

ISCJB ***14*** *02:31:54.4±0.4,43°.78N±0°.06×140°.35E±0°.07, h231km±4km,mb3.5/14,Error ellipse: s-maj=10.3km s-min=7.7km az=146.7*
JMA ***14*** *02:31:54.9±0.2,43°.78N×140°.31E,h229km±2km,M3.7*
IDC ***14*** *02:31:55.2±0.8,43°.93N×140°.22E,h217km±7km,mb3.3/15, mb1 3.5/17,mb1mx3.3/37,mbtmp3.9/17,Error ellipse: s-maj=16.8km s-min=11.8km az=162.0*
ISC 14 02:31:55.3±0.7,43°.72N±0°.06×140°.36E±0°.07,h228km±6km, n38,σ1§10/49,mb3.5/14,2C-2D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	Shakotan	0.38	167	P	Pn	02 32 25.0	-0.3
JHR	Hokuryu	0.99	88	P	Pn	02 32 28.4	+0.6
JHR				*e*S	S	02 32 54.1	+0.9
JSH	Shimam	1.11	192	⇓P	Pn	02 32 28.8	+0.2
JEW	Eniwo	1.19	138	⇓P	Pn	02 32 29.8	+0.6
JEW				*e*S	S	02 32 57.2	+1.6
JSS	Shosan	1.27	57	P	Pn	02 32 29.8	+0.2
JNB	Noboribetsu	1.35	158	P	Pn	02 32 30.5	+0.2
ASAJ	Asahikawa	1.66	76	P	Pn	02 32 32.6	-0.1
	33nm,0.3s,baz=268,slow=7.3,SNR=134						
ASAJ				S	S	02 33 01.7	-0.4
	3.5nm,0.3s,baz=300,slow=20,SNR=7.2						
JFR	Furan	1.72	108	P	Pn	02 32 33.2	-0.2
JFR				*e*S	S	02 33 02.7	-0.3
JKK2	Kamakawa 2	1.73	84	⇑P	Pn	02 32 33.7	+0.2
JKK2				*e*S	S	02 33 02.6	-0.6
JOSM	Okushiri--Mats	1.77	202	P	Pn	02 32 34.2	+0.4
JKB	Kayabe	1.90	165	P	Pn	02 32 35.2	+0.2
JWK2	Keihoku	1.93	34	P	Pn	02 32 35.4	+0.2
JSE	Soyaes	2.02	51	P	Pn	02 32 35.7	-0.3
JNBK	Urakawa-nobuka	2.27	129	*e*S	S	02 33 13.5	+1.1
JOT	Ohata	2.40	168	P	Pn	02 32 39.9	0.0
JCH	Churui	2.46	116	P	Pn	02 32 39.8	-0.7
JCH				*e*S	S	02 33 13.0	-2.8
JAR	Ashorobuto	2.52	99	P	Pn	02 32 41.3	+0.2
JAR				*e*S	S	02 33 17.6	+0.7
JTKR	Abashiri--Toko	2.58	83	⇑P	Pn	02 32 41.9	+0.2
JTKR				*e*S	S	02 33 18.1	+0.1
JAK	Akkeshi	3.24	101	P	Pn	02 32 48.3	-0.8
JAK				*e*S	S	02 33 29.0	-2.4
JRA	Rausu	3.45	85	P	Pn	02 32 52.5	+1.0
JANG	Nango	3.46	165	P	Pn	02 32 51.0	-0.7
JANG				*e*S	S	02 33 32.9	-3.1
USRK	Ussuriysk Ar.	6.06	277	P	Pn	02 33 23.1	-0.5
	0.9nm,0.3s,baz=90,slow=13,SNR=16						
MJAR	Matsushiro Arr	7.36	194	P	Pn	02 33 40.8	+0.4
	0.8nm,0.3s,baz=11,slow=14,SNR=7.9						
SEY	Seymchan	20.47	16	P	P	02 36 12.3	-3.1
	1.6nm,0.3s,baz=210,slow=7.6,SNR=9.2						
ZALV	Zalesovo Beam	37.06	306	P	P	02 38 42.1	-1.1
	0.9nm,0.3s,baz=88,slow=6.6,SNR=6.2						
ZALV				ScP	ScP	02 44 24.4	+0.9
	1.3nm,0.9s,baz=72,slow=4.7,SNR=3.9						
MKAR	Makanchi Array	40.19	295	P	P	02 39 08.7	-0.8
	0.3nm,0.6s,baz=78,slow=14,SNR=5.1						
ILAR	Eielson Array	44.40	36	P	P	02 39 42.8	-0.2
	1.2nm,0.7s,baz=279,slow=9.4,SNR=28						
RES	Resolute Bay	56.34	15	P	P	02 41 11.8	-0.2
	2.7nm,0.7s,baz=295,

baz=270
ENTT eS Sn 02 41 14.7 +0.1
baz=270
TWA Mucha 0.84 295 P Pn 02 41 01.8 -0.4
baz=286
TWA eS Sn 02 41 14.8 -0.9
baz=286
TWD Chiawan 0.94 234 P Pn 02 41 02.9 -0.3
baz=229
TWD eS Sn 02 41 16.9 -0.5
baz=229
NSK Sanguang 0.97 273⇓iP Pn 02 41 03.9 +0.2
baz=276
NSK S Sn 02 41 18.0 -0.3
baz=276
NNS Nan Shan 0.98 259 iP Pn 02 41 04.0 +0.2
baz=250
NNS S Sn 02 41 18.6 0.0
baz=250
TWY Chenhua 0.99 311 eP Pn 02 41 03.5 -0.2
baz=303
TWY eS Sn 02 41 18.2 -0.3
baz=303
TWS1 Kuangyinshan 1.03 297 eP Pn 02 41 03.8 -0.4
baz=296
TWS1 S Sn 02 41 18.8 -0.4
baz=296
WHF Hehuan Shan 1.16 246 iP Pn 02 41 06.2 0.0
baz=242
WHF S Sn 02 41 22.8 -0.1
baz=242
NCU National Centr 1.18 287 eP Pn 02 41 06.5 +0.5
baz=277
NCU eS Sn 02 41 22.5 +0.1
baz=277
TWT Tachien 1.20 252⇓iP Pn 02 41 07.1 +0.6
baz=242
TWT S Sn 02 41 23.5 +0.3
baz=242
ESL Shilin 1.22 228 ⇓P Pn 02 41 05.8 -0.7
baz=232
ESL eS Sn 02 41 22.6 -0.6
baz=232
IRIF Iriomote-Funau 1.22 104 P Pn 02 41 06.4 -0.1
IRIF eS Sn 02 41 23.6 +0.2
NSTT Nanjuang 1.30 270⇓iP Pn 02 41 07.4 -0.1
baz=267
NSTT S Sn 02 41 24.5 -0.5
baz=267
HSN Hsinchu 1.33 278 eP Pn 02 41 07.5 -0.4
baz=276
HSN eS Sn 02 41 25.3 -0.5
baz=276
HATJ Hateruma jima 1.38 114 eS Sn 02 41 27.5 +0.7
JKRS Kuro-shima 1.50 105 eS Sn 02 41 29.9 +0.5
EHY Hungye 1.51 222 eP Pn 02 41 09.4 -0.7
baz=226
NSY Sanyi 1.53 262 P Pn 02 41 10.9 +0.5
baz=259
NSY S Sn 02 41 30.8 +0.6
baz=259
TWQ1 Liyutan 1.53 260 P Pn 02 41 10.5 +0.1
baz=257
TWQ1 eS Sn 02 41 29.3 -1.0
baz=257
SMLT Sun Moon Lake 1.58 242 eP Pn 02 41 11.9 +0.8
baz=234
SMLT iS Sn 02 41 32.1 +0.6
baz=234
JIJ Ishigaki jima 1.59 99 P Pn 02 41 10.9 -0.2
JIJ eS Sn 02 41 30.7 -0.7
TYC Yuchr 1.60 244 P Pn 02 41 11.8 +0.5
baz=240
TYC S Sn 02 41 32.8 +0.9
baz=240
TWF1 Yuli 1.64 219 eP Pn 02 41 10.9 -0.9
baz=223
JISG Ishigakijimahi 1.72 91 P Pn 02 41 12.5 -0.2
JISG eS Sn 02 41 34.1 -0.3
YUS Yu-Shan 1.76 230 P Pn 02 41 14.2 +0.4
baz=220
YUS S Sn 02 41 36.1 -0.1
baz=220
ALS Alishan 1.85 233 P Pn 02 41 15.6 +0.7
baz=224
ALS eS Sn 02 41 38.7 +0.6
baz=224
CHN5 Tsauling 1.90 238 P Pn 02 41 16.0 +0.8
baz=245
CHN5 eS Sn 02 41 39.8 +1.0
baz=245
ELDTW Lidau 1.93 222 eP Pn 02 41 14.8 -0.9
baz=219
ELDTW eS Sn 02 41 38.3 -1.2
baz=219
JTJ Tarama 2.07 89 P Pn 02 41 17.6 +0.3
JTJ eS Sn 02 41 42.8 +0.1
CHN4 Tsaushan 2.11 233 P Pn 02 41 18.7 +0.9
baz=230
CHN4 S Sn 02 41 44.1 +0.6
baz=230
STYT Tauyuan 2.11 227 eP Pn 02 41 18.6 +0.6
baz=217
STYT eS Sn 02 41 44.4 +0.6
baz=217
WTP Ta-pu 2.16 231 P Pn 02 41 19.2 +0.7
baz=228
WTP S Sn 02 41 45.4 +0.6
baz=228
TWG Pinlang 2.19 215 eP Pn 02 41 18.2 -0.7
baz=212
TWG eS Sn 02 41 44.2 -1.3
baz=212
TWK Hsinying 2.23 233 eP Pn 02 41 20.2 +0.6
baz=230
CHN1 Nanshi 2.26 231 P Pn 02 41 20.5 +0.7
baz=228
CHN1 S Sn 02 41 47.9 +0.8
baz=228
LAY Lan-yu 2.70 197 eP Pn 02 41 24.5 -1.3
baz=194

IDC ***14*** *02:43:20.4±0.6, 8.˙72N×92.˙23E, h0km, mb4.4/20, mb1 4.5/23, mb1mx4.4/33, mbtmp4.4/23, ML4.4/3, MS4.1/2, Ms1 4.1/2, ms1mx3.4/35, Error ellipse: s-maj=18.7km s-min=12.5km az=51.0*
KLM ***14*** *02:43:21.9, 8.˙59N×91.˙90E, h21km, mb4.8, MS5.8*
BJI ***14*** *02:43:21.5, 8.˙41N×92.˙17E, h38km, mB5.0/23, mb4.7/47, Ms4.3/22, Ms7 4.1/21*
DJA ***14*** *02:43:23.2±1.2, 9.˚N±4.˚×9.˚2E±1.˚5, h10km, M5.2/35, mB5.8/14, mb5.1/35, MLv4.8/3, Mw(mB)5.3/14, Mwp6.5/1*
ISCJB ***14*** *02:43:24.0±1.2, 8.˙72N±0.˙03×92.˙25E±0.˙03, h33km±8km, mb4.7/64, MS4.0/1, Error ellipse: s-maj=6.2km s-min=3.3km az=143.4*
NEIC ***14*** *02:43:26.4±0.7, 8.˙76N×92.˙30E, h38km±6km, mb4.7/33, Error ellipse: s-maj=6.6km s-min=4.0km az=47.0*
ISC 14 02:43:24.7±0.5,**8.˙70N**±0.˙04×**92.˙22E**±0.˙04,**h25**km±3km, **h25**km:**pP-P,n218,**σ1$34/217,**mb4.7**/66,**15C-6D,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
CMBY	**CAMPBELL BAY**	**2.38**	**135**	*eP*	**Pb**	**02 44 04.7**		**-2.1**
CMBY				*ex*	**Sn**	**02 44 25.4**		**-5.2**
PBA	**Port Blair**	**2.98**	**10**	*eP*	Pn	02 44 10.5		+0.1
PBA				*eS*	Sn	02 44 43.1		-2.2
DGPR	**DIGLIPUR**	**4.50**	**9**	*eP*	**Pn**	**02 44 33.0**		**+1.6**
DGPR				AMB	AMB	02 44 58.8		
	comp=Z,148nm,2.6s							
DGPR				*ex*	**Sn**	**02 45 18.0**		**-4.9**
LHMI	**Lhok Sumawe**	**5.82**	**126**	P	**Pn**	**02 44 51.3**		**+1.8**
	comp=Z,408nm,1.0s,comp=Z,3µmcomp=Z,1.4nm							
LHMI	**Lhok Sumawe**	**5.82**	**126**	P	**Pn**	**02 44 51.0**		**+1.5**
	baz=5.4,SNR=4.2							
LHMI	**Lhok Sumawe**	**5.82**	**126**	*e*Pn	**Pn**	**02 44 50.6**		**+1.2**
PKDT	**Phuket**	**6.10**	**97**	P	**Pn**	**02 44 55.2**		**+1.9**
	comp=Z,134nm,1.0s,comp=Z,0.6nm							
SURT	**Suratani**	**6.50**	**87**	P	**Pn**	**02 45 00.4**		**+1.6**
	comp=Z,83nm,0.8s,comp=Z,691nmcomp=Z,0.3nm							
TPTI		**7.32**	**137**	P	**Pn**	**02 45 09.0**		**-1.0**
	comp=Z,24nm,0.6s,comp=Z,16µmcomp=Z,0.2nm							
KCSI	**Kotacane, Aceh**	**7.54**	**133**	P	**Pn**	**02 45 13.4**		**+0.3**
	comp=Z,47nm,0.9s,comp=Z,594nmcomp=Z,0.2nm							
KHLT	**Khaolaem Dam**	**8.69**	**45**	P	**Pn**	**02 45 31.1**		**+2.2**
	comp=Z,23nm,1.1s,comp=Z,335nmcomp=Z,0.1nm							
SRDT	**SRDT**	**8.78**	**50**	P	Pn	02 45 34.0		+3.8
	comp=Z,72nm,1.0s,comp=Z,6µmcomp=Z,0.3nm							
PSI	**Prapat**	**8.88**	**131**	Pn	**Pn**	**02 45 30.8**		**-0.7**
	comp=Z,2.1nm,0.3s,baz=299,slow=7.5,SNR=9.5							
PSI	**Prapat**	**8.88**	**131**	P	**Pn**	**02 45 31.6**		**+0.1**
	baz=8.6,SNR=5.3							
KULM	**Kulim**	**9.02**	**112**	⇑P	**Pn**	**02 45 33.6**		**+0.1**
KULM	**Kulim**	**9.02**	**112**	*e*Pn	**Pn**	**02 45 33.5**		**+0.1**
IPM	**Ipoh**	**9.70**	**115**	⇓P	**Pn**	**02 45 42.9**		**+0.1**
IPM	**Ipoh**	**9.70**	**115**	*e*Pn	**Pn**	**02 45 42.5**		**-0.2**
MNSI	**Mandailing Nat**	**10.74**	**137**	P	**Pn**	**02 45 54.4**		**-2.6**
	comp=Z,30nm,0.4s							
FRIM	**Kepong**	**10.81**	**120**	⇑P	**Pn**	**02 45 57.8**		**-0.1**
MHMT	**Maesarieng**	**10.93**	**30**	P	**Pn**	**02 46 01.4**		**+1.8**
	comp=Z,21nm,1.0s,comp=Z,273nm							
SUKH	**Sukhothai**	**11.32**	**39**	P	**Pn**	**02 46 06.2**		**+1.3**
	comp=Z,6.3nm,1.1s,comp=Z,66nm							
KTGM	**Kuala Trenggan**	**11.33**	**106**	⇑P	Pn	02 46 08.5		+3.3
PALK	**Pallekele**	**11.50**	**264**	Pn	**Pn**	**02 46 06.0**		**-1.4**
	comp=Z,2.4nm,0.3s,baz=101,slow=14,SNR=8.7							
PALK				Sn	Sn	02 48 01.3		-14
	comp=Z,13nm,0.3s,baz=82,slow=7.5,SNR=10							
PALK				LR	LR	02 50 27.7		
	comp=Z,1µm,19.2s,baz=21,slow=37							
PALK	**Pallekele**	**11.50**	**264**	*e*Pn	**Pn**	**02 46 08.7**		**+1.3**
PALK				Sn	Sn	02 48 01.3		-14
PBKT	**Sadao Pong**	**11.57**	**47**	P	**Pn**	**02 46 09.5**		**+1.1**
	comp=Z,35nm,1.1s,comp=Z,2µm							
CMAR	**Chiang Mai Arr**	**11.69**	**33**	Pn	**Pn**	**02 46 08.9**		**-1.0**
	comp=Z,1.4nm,0.3s,baz=224,slow=13,SNR=30							
CHTO	**Chiang Mai**	**11.98**	**32**	P	**Pn**	**02 46 15.3**		**+1.3**
	comp=Z,69nm,1.4s							
CHTO	**Chiang Mai**	**11.98**	**32**	*e*Pn	**Pn**	**02 46 13.8**		**-0.1**
CMMT	**Chiang Mai**	**11.98**	**32**	P	**Pn**	**02 46 15.3**		**+1.3**
	comp=Z,21nm,0.9s							
UTTA	**Uttaradit**	**12.10**	**41**	P	Pn	02 46 20.5		+4.9
	comp=Z,4.4nm,0.9s							
VIS	**Vishakhapatnam**	**12.46**	**317**	*e*P	**Pn**	**02 46 18.7**		**-1.8**
VIS				AMB	AMB	02 46 19.6		
	comp=Z,56nm,1.3s							
VIS				*ex*	x	02 48 22.2		
PAYA	**Payao**	**12.93**	**34**	P	**Pn**	**02 46 29.1**		**+2.1**
	comp=Z,13nm,0.9s							
CMAI	**Chiengmai2**	**12.97**	**30**	P	**Pn**	**02 46 28.2**		**+0.5**
	comp=Z,17nm,1.2s,comp=Z,742nm							
UBPT	**Khong Chiam**	**14.51**	**62**	P	**P**	**02 46 55.1**		**+0.2**
HYB	**Hyderabad**	**15.88**	**304**	*i* P	**P**	**02 47 10.0**		**-0.2**
HYB				*eS*	**Sn**	**02 50 03.0**		**+0.9**
HYB	**Hyderabad**	**15.88**	**304**	*e*P	**Pn**	**02 47 06.0**		**-0.7**
HYB				AMB	AMB	02 47 11.6		
	comp=Z,29nm,2.3s							
HYB	**Hyderabad**	**15.88**	**304**	*e*Pn	**Pn**	**02 47 04.0**		**-2.7**
BOK	**Bokaro**	**16.19**	**339**	*e*P	**Pn**	**02 47 10.4**		**-0.2**
SHL	**Shillong**	**16.78**	**359**	*e*P	**Pn**	**02 47 18.0**		**-0.2**
SHL				AMB	AMB	02 47 19.2		
	comp=Z,25nm,1.1s							
SHL				*ex*	x	02 50 10.0		
LHSI	**Lahat**	**16.79**	**137**	P	**P**	**02 47 21.2**		**+0.9**
	comp=Z,78nm,0.9s,comp=Z,3µm							
MNAI	**Manna**	**16.82**	**140**	P	**P**	**02 47 21.8**		**+1.2**
	comp=Z,231nm,0.6s,comp=Z,3µm							
MNAI	**Manna**	**16.82**	**140**	P	**P**	**02 47 21.9**		**+1.2**
	baz=16,SNR=10							
MNAI	**Manna**	**16.82**	**140**	*e*Pn	**P**	**02 47 21.3**		**+0.7**
	comp=Z,144nm,0.6s							
MDSI	**Maura Dua**	**17.71**	**137**	P	**Pn**	**02 47 29.6**		**-0.2**
	comp=Z,35nm,0.9s,comp=Z,862nm							
LWLI	**Liwa**	**18.03**	**139**	P	**P**	**02 47 35.5**		**+1.4**
	comp=Z,100nm,0.7s							
ODAN	**Odare**	**18.63**	**346**	*e*P	**Pn**	**02 47 42.0**		**+0.8**
KASI	**Kota Agung**	**18.69**	**139**	P	**Pn**	**02 47 42.8**		**+1.0**
	comp=Z,84nm,0.6s							
RAMN	**Ramite**	**18.92**	**344**	*e*P	**Pn**	**02 47 45.1**		**+0.4**
	comp=Z,71nm,0.7s							
TAPN	**Taplejung**	**19.03**	**348**	*e*P	**Pn**	**02 47 46.1**		**0.0**
	comp=Z,54nm,0.9s							
TPI	**Tanjungpandan**	**19.14**	**126**	P	**P**	**02 47 44.9**		**-1.3**
	comp=Z,26nm,1.1s							
KMI	**Kunming**	**19.16**	**30**	P	**Pn**	**02 47 48.0**		**+0.4**
KMI				pP	**pP**	**02 47 54.1**		**+0.6**
KMI				PMZ				
	comp=Z,36nm,0.9s							
KMI				LN				
	comp=Z,410nm,21.4s							
KMI				LE				
	comp=Z,400nm,21.4s							
KMI				LZ				
	comp=Z,580nm,18.3s							
GOA	**Goa**	**19.21**	**292**	*e*P	**Pn**	**02 47 48.3**		**+0.3**
KSM	**Kuching**	**19.38**	**111**	*e*P	**P**	**02 47 49.1**		**+0.2**
	comp=Z,15nm,0.8s							
JIRN	**Jiri**	**19.70**	**344**	*e*P	**P**	**02 47 53.4**		**+0.7**
PKI	**Pulchoki**	**19.84**	**342**	*e*P	**Pn**	**02 47 55.2**		**-0.7**
	comp=Z,43nm,0.6s							
PKIN	**Phulchoki**	**19.85**	**342**	*e*P	**P**	**02 47 55.0**		**+0.8**
QIZ	**Qiongzhong**	**19.93**	**57**	P	**Pn**	**02 47 55.9**		**-0.7**
QIZ				S	**S**	**02 51 38.8**		**+0.7**
QIZ				PMZ				
	comp=Z,29nm,2.2s							
QIZ				LN				
	comp=Z,780nm,14.3s							
QIZ				LZ				
	comp=Z,520nm,20.2s							
DMN	**Daman**	**19.97**	**341**	*e*P	**P**	**02 47 56.4**		**+0.9**
GUN	**Gumba**	**20.02**	**343**	*e*P	**P**	**02 47 56.6**		**+0.4**
	comp=Z,68nm,0.7s							
KKN	**Kakani**	**20.09**	**342**	*e*P	**P**	**02 47 57.5**		**+0.8**
BHPL	**Bhopal**	**20.25**	**317**	*e*P	Pn	02 48 00.3		-0.2
BHPL				AMB	AMB	02 48 08.5		
	comp=Z,24nm,0.2s							
CGJI	**Cibinong**	**20.29**	**138**	P	**P**	**02 47 54.9**		**-3.9**
	comp=Z,46nm,0.9s,comp=Z,3µm							
POO	**Poona**	**20.34**	**301**	*e*P	Pn	02 48 02.0		+0.5
	comp=Z,80nm,1.0s							
POO				*i* x	**S**	**02 51 41.0**		**-5.3**
POO				*e*SS	**SnSn**	**02 52 08.5**		**+3.7**
GKN	**Gorkha**	**20.49**	**341**	*e*P	**P**	**02 48 01.4**		**+0.3**
	comp=Z,41nm,0.4s							
KOLN	**Koldanda**	**20.64**	**338**	*e*P	**P**	**02 48 03.6**		**+0.9**
	comp=Z,48nm,0.6s							
SBUM	**Sibu**	**20.84**	**106**	⇓P	**P**	**02 48 05.1**		**+0.4**
SBUM	**Sibu**	**20.84**	**106**	*e*P	**P**	**02 48 05.3**		**+0.5**
	comp=Z,31nm,0.9s							
LSA	**Lhasa**	**20.91**	**357**	*e*P	**P**	**02 48 05.6**		**-0.4**
	comp=Z,40nm,1.0s							
STKI	**Sintang**	**21.01**	**113**	P	**P**	**02 48 06.8**		**+0.2**
	comp=Z,44nm,0.9s,comp=Z,35µm							
DANN	**Dangsing**	**21.11**	**339**	*e*P	**P**	**02 48 08.0**		**+0.1**
	comp=Z,64nm,0.7s							
GYA	**Guiyang**	**22.35**	**36**	*e*P	**P**	**02 48 22.0**		**+0.9**
GYA				PMZ				
	comp=Z,10.0nm,0.8s							
XMIS	**Christmas Isla**	**23.27**	**145**	P	**P**	**02 48 33.4**		**+2.8**
	baz=23,SNR=7.6							
KKM	**Kota Kinabalu**	**23.94**	**95**	P	**P**	**02 48 38.4**		**+1.2**
	baz=23,SNR=4.8							
KKM	**Kota Kinabalu**	**23.94**	**95**	⇓P	**P**	**02 48 37.1**		**-0.1**
KKM	**Kota Kinabalu**	**23.94**	**95**	*e*P	**P**	**02 48 37.5**		**+0.3**
	comp=Z,193nm,2.1s							
SMRI	**Semarang**	**23.97**	**130**	P	**P**	**02 48 38.3**		**+0.9**
	comp=Z,174nm,0.9s							
SMRI	**Semarang**	**23.97**	**130**	P	**P**	**02 48 39.2**		**+1.8**
	baz=24,SNR=4.6							
SMRI	**Semarang**	**23.97**	**130**	*e*P	**P**	**02 48 37.1**		**-0.3**
	comp=Z,144nm,0.9s							
NDI	**New Delhi**	**24.39**	**327**	*ex*	P	02 48 47.0		+5.9
CD2	**Chengdu**	**24.58**	**24**	*e*P	**P**	**02 48 41.5**		**-1.4**
CD2				PP	**PnPn**	**02 49 14.9**		**+0.2**
CD2				S	**S**	**02 52 59.8**		**-2.7**
CD2				PMZ				
	comp=Z,70nm,1.0s							
CD2				LE				
	comp=Z,360nm,20.2s							
CD2				LZ				
	comp=Z,680nm,15.5s							
UGM	**Wanagama**	**24.59**	**132**	P	**P**	**02 48 45.4**		**+2.2**
	baz=24,SNR=3.4							
WOJI	**Wonogiri, Jawa**	**24.84**	**131**	P	**P**	**02 48 46.2**		**+0.9**
	comp=Z,73nm,1.0s							
TBJI	**Tambak Boyo**	**24.91**	**128**	P	**P**	**02 48 47.3**		**+1.4**
	comp=Z,246nm,1.3s,comp=Z,2µm							
SDKM	**Sandakan**	**24.96**	**95**	⇑P	**P**	**02 48 46.6**		**+0.1**
H08S3	**Diego Garcia H**	**25.50**	**231**	T	T	03 15 16.7		
	baz=50,slow=75,SNR=2512							
H08S2	**Diego Garcia H**	**25.50**	**231**	T	T	03 15 16.8		
	baz=50,slow=75,SNR=2197							
H08S1	**Diego Carcia H**	**25.52**	**231**	T	T	03 15 18.0		
	baz=50,slow=75,SNR=1308							
BBKI	**Banjar Baru**	**25.58**	**117**	P	**P**	**02 48 53.4**		**+1.3**
	comp=Z,41nm,1.0s							
TSM	**Tawau**	**25.85**	**98**	⇓P	**P**	**02 48 53.8**		**-0.7**
BLJI	**Banyuglugur**	**26.84**	**127**	P	**P**	**02 49 03.6**		**+0.2**
	comp=Z,66nm,0.9s							
ENH	**Enshi**	**26.86**	**35**	*e*P	**P**	**02 49 02.0**		**-1.4**
	comp=Z,7.7nm,0.9s							
MPSI	**Mapaga**	**28.79**	**105**	P	**P**	**02 49 20.9**		**0.0**
	comp=Z,34nm,1.6s							
LZH	**Lanzhou**	**29.25**	**20**	⇑P	**P**	**02 49 24.4**		**-0.5**
LZH				pP	**pP**	**02 49 31.4**		**-1.0**
LZH				PMZ				
	comp=Z,66nm,1.4s							
LZH				PMZ				
	comp=Z,150nm,4.2s							
LZH				LN				
	comp=Z,310nm,12.0s							
LZH				LE				
	comp=Z,320nm,14.0s							
LZH				LZ				
	comp=Z,710nm,15.6s							
XAN	**Xi'an**	**29.53**	**29**	P	**P**	**02 49 24.9**		**-2.4**
XAN				PMZ				
	comp=Z,3.0nm,0.9s							
KAPI	**Kappang**	**30.64**	**115**	*e*P	**P**	**02 49 37.0**		**-0.3**
	comp=Z,21nm,1.4s							
MRSI	**Marisa**	**30.70**	**104**	P	**P**	**02 49 38.6**		**+0.7**
	comp=Z,59nm,1.0s							
APSI	**Ampana**	**30.84**	**107**	P	**P**	**02 49 41.8**		**+2.7**
	comp=Z,68nm,1.1s							
BKSI	**Bulukumba**	**31.11**	**116**	P	**P**	**02 49 41.8**		**+0.3**
	comp=Z,26nm,1.0s							
SSLB	**Suanglung**	**31.30**	**58**	*e*P	**P**	**02 49 44.7**		**+1.6**
	comp=Z,13nm,0.8s							
SSLB				*e*pP	**pP**	**02 49 52.2**		**+1.6**
GTA	**Gaotai**	**31.32**	**11**	P	**P**	**02 49 43.4**		**+0.2**
GTA				pP	**pP**	**02 49 50.8**		**+0.1**
GTA				sP	**sP**	**02 49 54.8**		**+1.0**
GTA				PcP	**PcP**	**02 52 38.1**		**+1.1**
GTA				S	**S**	**02 54 49.9**		**+1.0**
GTA				SS	**SnSn**	**02 56 39.8**		**+6.5**
GTA				PMZ				
	comp=Z,40nm,1.0s							
GTA				PMZ				
	comp=Z,180nm,6.2s							
GTA				LN				
	comp=Z,170nm,12.8s							
GTA				LE				
	comp=Z,220nm,13.5s							
GTA				LZ				
	comp=Z,380nm,17.8s							
GTOI	**Gorontalo**	**31.69**	**103**	P	**P**	**02 49 46.7**		**+0.1**
	comp=Z,166nm,1.0s,comp=Z,1µm							
LUWI	**Luwuk**	**31.94**	**106**	P	**P**	**02 49 50.7**		**+1.9**
	comp=Z,237nm,1.1s,comp=Z,5µm							
LUWI	**Luwuk**	**31.94**	**106**	P	**P**	**02 49 50.0**		**+1.2**
	baz=31,SNR=9.1							
LUWI	**Luwuk**	**31.94**	**106**	*e*P	**P**	**02 49 48.5**		**-0.3**
KMSI	**Cibinong**	**32.64**	**103**	P	**P**	**02 49 57.7**		**+2.8**
	comp=Z,321nm,0.9s							
KBL	**Kabul**	**33.38**	**324**	*e*P	**P**	**02 50 01.8**		**+0.4**
	comp=Z,2.9nm,0.4s							
NJ2	**Nanjing**	**33.92**	**43**	*e*P	**P**	**02 50 07.0**		**+1.1**
NJ2				PMZ				
	comp=Z,30nm,0.7s							
KSH	**Kashi**	**33.96**	**337**	P	**P**	**02 50 04.6**		**-1.7**
KSH				sP	**sP**	**02 50 15.8**		**-1.0**
KSH				PP	**PnPn**	**02 51 18.6**		**-1.1**
KSH				S	S	02 55 22.6		-7.3
KSH				PcS	PcS	02 56 24.6		-5.8
KSH				PMZ				
	comp=Z,3.0nm,0.7s							
KSH				PMZ				
	comp=Z,68nm,3.9s							
KSH				LN				
	comp=Z,110nm,5.7s							
KSH				LE				
	comp=Z,170nm,4.9s							
KSH				LZ				
	comp=Z,190nm,7.8s							
WMQ	**Urumqi**	**35.21**	**354**	*e*P	**P**	**02 50 17.4**		**+0.4**
WMQ				sP	**sP**	**02 50 27.0**		**-0.5**
WMQ				PMZ				
	comp=Z,5.0nm,1.0s							
WMQ				PMZ				
	comp=Z,17nm,6.0s							
BATI	**Baumata**	**36.50**	**120**	P	P	02 50 24.6		-3.8
	comp=Z,16nm,0.6s,baz=7.9,slow=1.1,SNR=6.8							
SOEI	**Soe**	**36.80**	**119**	*e*P	**P**	**02 50 34.0**		**+3.0**
	comp=Z,27nm,1.1s							
TKM2	**Tokmak 2**	**37.08**	**340**	*e*P	**P**	**02 50 33.9**		**+0.7**
	comp=Z,8.4nm,1.1s							
AAK	**Ala-Archa**	**37.22**	**338**	*e*P	**P**	**02 50 35.2**		**+1.0**
	comp=Z,13nm,1.1s							
EKS2	**Erkin-Say**	**37.51**	**337**	*e*P	**P**	**02 50 37.2**		**+0.5**
	comp=Z,8.5nm,1.0s							
BJI	**Beijing**	**37.82**	**31**	P	**P**	**02 50 38.9**		**-0.3**
BJI				PMZ				
	comp=Z,17nm,1.3s							
MKAR	**Makanchi Array**	**38.90**	**349**	P	**P**	**02 50 47.7**		**-0.5**
	comp=Z,6.1nm,0.6s,baz=169,slow=6.9,SNR=100							
MKAR				PcP	**PcP**	**02 52 58.3**		**-0.5**
	comp=Z,1.9nm,0.9s,baz=182,slow=5.6,SNR=2.8							
KKAR	**Karatay Array**	**39.19**	**335**	*e*P	**P**	**02 50 51.1**		**+0.4**
SONM	**Songino Array**	**40.81**	**15**	P	**P**	**02 51 03.8**		**-0.4**
	comp=Z,9.5nm,0.9s,baz=194,slow=8.6,SNR=24							
SONM				PcP	**PcP**	**02 53 05.0**		**0.0**
	comp=Z,2.2nm,0.7s,baz=180,slow=5.2,SNR=3.3							
ULN	**Ulaanbaatar**	**41.01**	**15**	*e*P	**P**	**02 51 04.4**		**-1.4**
	comp=Z,6.4nm,0.8s							
FAKI	**Fak Fak**	**41.54**	**104**	*e*P	**P**	**02 51 10.2**		**-0.4**
	comp=Z,34nm,1.1s							
GEYT	**Alibeck**	**42.33**	**319**	P	**P**	**02 51 17.2**		**+0.5**
	comp=Z,6.1nm,0.7s,baz=146,slow=8.4,SNR=17							
FITZ	**Fitzroy Crossi**	**42.40**	**129**	P	**P**	**02 51 16.0**		**-1.4**
	baz=42,SNR=5.8							
KSAR	**Wonju Array Be**	**43.09**	**43**	P	**P**	**02 51 22.1**		**-0.7**
KSRS	**Korea Array**	**43.12**	**43**	P	**P**	**02 51 22.1**		**-0.9**
	comp=Z,2.4nm,0.8s,baz=255,slow=9.6,SNR=7.1							
JNU	**Nakatsue**	**43.14**	**50**	P	**P**	**02 51 23.3**		**-0.1**
	comp=Z,24nm,0.9s,baz=300,slow=1.4,SNR=11							
KURK	**Kurchatov**	**43.37**	**347**	*e*P	**P**	**02 51 24.8**		**-0.2**
	comp=Z,17nm,1.4s							
MEEK	**Meekatharra**	**43.48**	**145**	P	**P**	**02 51 27.2**		**+1.0**
	baz=43,SNR=6.8							
KNRA	**Kununurra**	**43.55**	**124**	P	**P**	**02 51 26.7**		**-0.1**
	baz=43,SNR=3.2							
TLY	**Talaya**	**43.87**	**10**	*e*P	**P**	**02 51 29.5**		**+0.6**
	comp=Z,10.0nm,1.2s							
MTN	**Manton Dam**	**44.18**	**118**	P	P	02 51 27.0		-5.0
	baz=44,SNR=4.9							
ZALV	**Zalesovo Beam**	**45.51**	**354**	P	**P**	**02 51 41.3**		**-0.7**
	comp=Z,2.6nm,0.5s,baz=168,slow=7.6,SNR=27							
RAYN	**Ar Rayn**	**47.02**	**294**	*e*P	**P**	**02 51 56.0**		**+1.6**
	comp=Z,6.8nm,0.9s							
BRVK	**Borovoye**	**47.67**	**342**	*e*P	**P**	**02 51 58.0**		**-1.0**
	comp=Z,2.3nm,0.9s							
NWAO	**Narrogin (SRO)**	**47.76**	**151**	P	**P**	**02 52 00.2**		**+0.3**
	comp=Z,16nm,0.9s,baz=299,slow=6.5,SNR=7.5							
H01W3	**Cape Leeuwin H**	**48.05**	**156**	T	T	03 43 40.1		
	baz=327							
H01W2	**Cape Leeuwin H**	**48.06**	**156**	T	T	03 43 39.6		
	baz=327							
H01W1	**Cape Leeuwin H**	**48.06**	**156**	T	T	03 43 39.6		
	baz=327							
WRKA	**Warakurna**	**48.58**

AS31	Alice Springs	51.90	129	eP	P	02 52 29.8	-1.9
ASAR	Alice Springs	51.90	129	P	P	02 52 30.6	-1.0
	comp=Z,5.5nm,0.8s,baz=310,slow=7.5,SNR=63						
ASAR				PcP	PcP	02 53 44.6	+0.4
	comp=Z,2.6nm,0.7s,baz=309,slow=4.1,SNR=9.7						
FORT	Forrest	52.17	140	eP	P	02 52 34.2	+0.7
	comp=Z,23nm,0.9s						
ARU	Arti	54.40	338	eP	P	02 52 49.2	-0.2
	comp=Z,8.2nm,0.9s						
QIS	Mount Isa	54.91	123	P	P	02 52 53.3	-0.5
	baz=54,SNR=4.3						
MALT	Malatya	56.48	310	⇑iP	P	02 53 05.8	+0.8
PMG	Port Moresby	57.59	107	eP	P	02 53 13.1	+0.1
	comp=Z,20nm,0.9s						
YAK	Yakutsk	59.83	19	eP	P	02 53 26.6	-1.1
	comp=Z,19nm,0.7s						
CTAO	Charters Tower	60.37	119	eP	P	02 53 32.5	+0.4
	comp=Z,13nm,0.9s						
BRTR	Keskin Array B	60.46	311	P	P	02 53 31.4	-1.3
	comp=Z,1.2nm,0.7s,baz=122,slow=8.5,SNR=11						
QLP	Quilpie	61.44	127	P	P	02 53 40.2	+0.8
	baz=61,SNR=5.9						
STKA	Stephens Creek	62.05	133	P	P	02 53 43.2	-0.2
	comp=Z,10nm,1.1s,baz=303,slow=5.7,SNR=11						
STKA	Stephens Creek	62.05	133	P	P	02 53 43.5	+0.2
	baz=62,SNR=7.6						
STKA	Stephens Creek	62.05	133	eP	P	02 53 43.5	+0.2
	comp=Z,3.1nm,1.1s						
CMSA	Cobar Meteorol	64.89	131	P	P	02 54 02.9	+0.7
	baz=65,SNR=18						
RMQ	Roma	65.04	124	P	P	02 54 04.9	+1.6
	baz=65,SNR=8.7						
VRI	Vrincioaia	66.80	316	⇓iP	P	02 54 14.2	-0.1
TIXI	Tiksi	66.81	12	eP	P	02 54 12.8	-1.0
	comp=Z,50nm,1.2s						
PLOR	Plostina	66.84	316	⇑iP	P	02 54 09.2	-5.4
TESR	Tescani	66.98	317	⇓iP	P	02 54 14.5	-0.9
MLR	Muntele Rosu	67.26	316	⇑iP	P	02 54 17.2	-0.2
DOPR	Dopca	67.73	316	⇑iP	P	02 54 20.0	-0.2
TOO	Toolangi	67.75	137	P	P	02 54 22.2	+1.7
	baz=68,SNR=3.9						
VOIR		67.87	316	⇑iP	P	02 54 21.0	-0.2
ARR	Arges	68.14	315	⇑iP	P	02 54 22.0	-0.9
BURAR	Bucovina Array	68.16	318	⇑iP	P	02 54 16.0	-7.0
VTS	Vitosha	68.73	312	⇑iP	P	02 54 26.3	-0.4
SEY	Seymchan	68.98	25	P	P	02 54 26.2	-1.4
	comp=Z,1.2nm,0.4s,baz=246,slow=6.7,SNR=7.2						
DRGR		69.70	317	⇑iP	P	02 54 31.5	-1.0
STHS	Stebnicka Huta	71.08	319	e	P	02 54 48.0	+7.1
FINES	FINESS Array B	71.10	332	P	P	02 54 39.6	-1.0
	comp=Z,2.5nm,0.9s,baz=48,slow=2.8,SNR=5.6						
PSZ	Piszkesteto	71.76	318	eP	P	02 54 45.3	+0.2
	comp=Z,3.6nm,0.9s						
VYHS	Vyhne	72.53	318	e	P	02 54 55.5	+5.9
MORC	Moravsky Berou	73.52	319	eP	P	02 54 55.6	+0.2
	comp=Z,3.6nm,0.9s						
ARCES	ARCESS Array B	73.85	340	P	P	02 54 56.5	-0.4
	comp=Z,3.8nm,0.9s,baz=108,slow=6.0,SNR=13						
DPC	Dobruska-Polom	74.36	320	eP	P	02 55 00.5	+0.2
DPC				ex	x	02 55 07.2	
BOSA	Boshof	74.43	237	eP	P	02 55 02.7	+1.5
	comp=Z,13nm,1.0s						
PRU	Pruhonice	75.47	319	eP	P	02 55 13.3	+6.6
BRG	Berggiesshubel	75.91	320	epP	pP	02 55 15.3	-1.9
	comp=Z,6.4nm,1.3s						
GERES	GERESS Array B	75.95	318	P	P	02 55 09.5	-0.1
	comp=Z,1.4nm,0.8s,baz=90,slow=6.7,SNR=5.4						
KHC	Kasperske Hory	76.04	318	eP	P	02 55 09.6	-0.5
KHC				ex	x	02 55 16.3	
CLL	Collm	76.52	321	epP	pP	02 55 26.0	+5.3
CLL				LmV		03 23 00.0	
	comp=Z,500nm,19.1s						
FETA	Feichten	77.90	316	⇑iPcP	P	02 55 25.6	+4.8
	comp=Z,5.3nm,1.2s						
NOA	NORSAR Array B	78.08	331	P	P	02 55 19.8	-1.5
	comp=Z,1.1nm,0.8s,baz=99,slow=5.5,SNR=2.6						
HINF	Hinteralfeld	80.51	317	eP	P	02 55 35.4	+0.5
HINF	Hinteralfeld	80.51	317	eP	P	02 55 35.4	+0.5
LPG	La Plagne	80.69	315	eP	P	02 55 35.7	-0.5
	comp=Z,21nm,1.2s						
LPG	La Plagne	80.69	315	eP	P	02 55 35.7	-0.5
	comp=Z,21nm,1.2s						
LPL	La Plagne	80.70	315	eP	P	02 55 35.9	-0.3
	comp=Z,34nm,1.3s						
LPL	La Plagne	80.70	315	eP	P	02 55 35.9	-0.3
	comp=Z,34nm,1.3s						
LMR	La Mourre	80.99	313	eP	P	02 55 38.2	+0.8
	comp=Z,42nm,1.4s						
LMR	La Mourre	80.99	313	eP	P	02 55 38.2	+0.8
	comp=Z,42nm,1.4s						
CABF	La Chapelle	81.09	316	eP	P	02 55 37.9	-0.2
CABF	La Chapelle	81.09	316	eP	P	02 55 37.9	-0.2
MEZF	Maizieres J'vi	81.68	318	eP	P	02 55 40.5	-0.5
MEZF	Maizieres J'vi	81.68	318	eP	P	02 55 40.5	-0.5
BAIF	Baives	82.13	319	eP	P	02 55 42.9	-0.4
BAIF	Baives	82.13	319	eP	P	02 55 42.9	-0.4
LOR	Lormes	82.57	317	eP	P	02 55 45.0	-0.7
LOR	Lormes	82.57	317	eP	P	02 55 45.0	-0.7
SMF	Signal de Mont	82.64	316	eP	P	02 55 46.0	-0.1
SMF	Signal de Mont	82.64	316	eP	P	02 55 46.0	-0.1
BGF	Bois d'Agland	83.33	316	eP	P	02 55 49.3	-0.3
	comp=Z,6.9nm,0.9s						
BGF	Bois d'Agland	83.33	316	eP	P	02 55 49.3	-0.3
	comp=Z,6.9nm,0.9s						
TAM	Tamanrasset	83.66	292	eP	P	02 55 53.8	+1.8
	comp=Z,15nm,1.6s						
TOA0	Torodi Ar. Sit	88.56	283	P	P	02 56 24.0	+7.9
	baz=89,SNR=3.4						
TORD	Torodi Ar. Bea	88.56	283	P	P	02 56 17.2	+1.1
	comp=Z,1.1nm,0.8s,baz=90,slow=4.5,SNR=7.5						
ILAR	Eielson Array	94.69	22	P	P	02 56 42.1	-1.4
	comp=Z,0.8nm,1.0s,baz=284,slow=4.1,SNR=5.0						
PDAR	Pinedale Array	125.06	20	PKP	PKPdf	03 02 22.4	-1.2
	comp=Z,1.2nm,0.8s,baz=54,slow=2.6,SNR=4.9						
TKL	Tuckaleechee C	135.72	355	PKP	PKPdf	03 02 43.6	-0.1
	baz=357,slow=11						
TXAR	Lajitas Array	139.20	21	PKP	PKPdf	03 02 50.7	+0.3
	comp=Z,0.5nm,0.6s,baz=159,slow=0.7,SNR=4.8						

NEIC ***14*** *02:52:50.0±0.4, 12°.82N×88°.81W, h35km, mb4.7/42, MD4.6(SNET), Error ellipse: s-maj=12.0km s-min=6.0km az=52.0*

NEIC Felt [III] at San Salvador. Also felt at El Rosario and Soyapango.

ISCJB ***14*** *02:52:53.4±0.3, 12°.97N±0°.04×88°.67W±0°.04, h79km±2km, mb4.5/56, Error ellipse: s-maj=8.8km s-min=3.0km az=39.6*

IDC ***14*** *02:52:53.9±0.7, 13°.21N×88°.28W, h69km±5km, mb4.0/18, mb1 4.2/20, mb1mx4.1/29, mbtmp4.3/20, Error ellipse: s-maj=23.5km s-min=11.3km az=53.0*

CASC ***14*** *02:52:53.8±2.5, 12°.87N×88°.74W, h37km±183km, MD4.5, ML4.6, mb4.6(NEIC)*

BJI ***14*** *02:52:57.0, 13°.00N×88°.50W, h99km, mB5.0/4*

ISC 14 02:52:53.8±0.6, 12°.99N±0°.05×88°.70W±0°.05, h71km±4km, h71km:pP-P, n434, σ1°21/455, mb4.6/56, 168C-147D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES	Las Flores	0.57	324	eP	Pn	02 53 06.6	-0.8
AIES				eS	Sn	02 53 16.4	-1.0
AIES				AML	AML	02 53 18.9	
	comp=Z,28μm,0.5s						
VSM	San Miguel	0.60	44	iP	Pn	02 53 08.0	0.0
SNVI	San Vicente	0.63	348	eP	Pn	02 53 07.9	-0.3
BLLM	Bellamira	0.64	45	iP	Pn	02 53 08.0	-0.2
LFRS	El Faro	0.72	331	iP	Pn	02 53 08.5	-0.6
LBRS	Las Brisas	0.81	336	eP	Pn	02 53 10.0	-0.1
SNET	Serv Nac Est T	0.86	323	eP	Pn	02 53 10.3	-0.4
SNET				eS	Sn	02 53 22.7	-0.5
SNET				AML	AML	02 53 26.6	
	comp=Z,16μm,0.6s						
CNCH	Conchagua	0.89	71	⇓iP	Pn	02 53 11.1	0.0
CAHU	Cacacuatique	0.91	32	⇓iP	Pn	02 53 11.6	+0.1
BOQS	Boqueron	0.93	323	eP	Pn	02 53 11.6	-0.1
SBLS	San Blas	1.23	313	eP	Pn	02 53 15.6	+0.1
SNJE	San Jose	1.24	315	eP	Pn	02 53 15.4	-0.1
RTR	El Retiro	1.28	315	eP	Pn	02 53 16.5	+0.3
RBDL	Robledal	1.47	320	eP	Pn	02 53 18.6	+0.1
CNGN	Cerro Negro	2.02	104	eP	Pn	02 53 25.6	-0.1
CNGN				eS	Sn	02 53 50.5	+0.4
COPN	Copaltepe	2.21	111	eP	Pn	02 53 28.3	-0.1
NBG	Las Nubes	2.25	315	eP	Pn	02 53 31.5	+2.4
MRL	Marmol	2.27	335	⇑eP	Pn	02 53 31.4	+2.0
PCG	Pacaya	2.32	307	eP	Pn	02 53 31.6	+1.6
HUEN		2.56	104	eP	Pn	02 53 33.1	+0.2
APG	El Apazote	2.63	320	P	Pn	02 53 30.4	-3.8
	comp=Z,8.6nm,0.3s,baz=120,slow=8.0,SNR=65						
JAT	Jato	3.14	295	eP	Pn	02 53 42.5	+1.5
JTS	JuntasAbangare	4.55	126	P	Pn	02 54 01.8	+1.5
	comp=Z,8.6nm,0.3s,baz=306,slow=16,SNR=97						
JTS				S	Sn	02 54 49.1	-2.7
	comp=Z,11nm,0.3s,baz=282,slow=20,SNR=2.2						
JTS	JuntasAbangare	4.55	126	ePn	Pn	02 54 01.6	+1.3
JTS				eSn	Sn	02 54 50.2	-1.7
JCR	Jicaral	4.71	131	eP	Pn	02 54 04.1	+1.7
CGA2	Cerro Gallo 2	5.10	125	eP	Pn	02 54 10.9	+3.0
SJS	Escuela Geolog	5.47	123	eP	Pn	02 54 18.0	+5.0
QCR	Quepos	5.69	128	eP	Pn	02 54 18.3	+2.5
QCR				eS	Sn	02 55 17.5	-2.3
URSC	Urasca	5.76	122	eP	Pn	02 54 19.4	+2.5
URSC				eS	Sn	02 55 25.1	+3.4
BUS	Buena Vista	5.93	125	eP	Pn	02 54 22.4	+2.9
BUS				eS	Sn	02 55 25.7	-0.6
ACR	Cerro Adams	6.94	128	eP	Pn	02 54 35.6	+2.6
ACR				eS	Sn	02 55 47.7	-2.8
TEIG	Tepich	7.21	3	ePn	Pn	02 54 39.1	+2.6
CMIG	Matias Romero	7.23	305	P	Pn	02 54 38.8	+2.0
	comp=Z,1.7nm,0.3s,baz=149,slow=9.0,SNR=20						
CMIG				S	Sn	02 55 58.5	+1.0
	comp=Z,3.1nm,0.3s,baz=138,slow=14,SNR=2.7						
BCIP	Isla Barro Col	9.50	113	ePn	Pn	02 55 08.0	+0.2
MTDJ	Mount Denham	11.95	63	ePn	Pn	02 55 43.6	+2.2
OTAV	Otavalo	16.24	140	ePn	Pn	02 56 37.3	-0.9
	comp=Z,8.0nm,1.1s						
ROSC	El Rosal	16.33	118	P	Pn	02 56 34.8	-4.4
	comp=Z,0.5nm,0.3s,baz=253,slow=19,SNR=2.3						
035A	Encino	16.43	329	⇓P	P	02 56 43.0	+1.4
	baz=17						
034A	Hebbronville	16.84	328	⇓P	P	02 56 48.3	+2.3
	baz=17						
934A	Benavides	17.19	329	⇑P	P	02 56 52.4	+2.5
	baz=17						
835A	Beeville	17.44	332	⇑P	P	02 56 55.1	+2.5
	baz=18						
933A	Laredo	17.59	327	⇓P	P	02 56 56.5	+2.2
	baz=18						
834A	Tilden	17.64	330	⇑P	Pn	02 56 56.6	+1.8
	baz=18						
SDDR	Presa de Saban	17.77	68	ePn	Pn	02 56 56.8	+0.3
735A	Kenedy	17.91	333	⇓P	Pn	02 56 59.9	+1.7
	baz=18						
636A	Smothers Creek	18.15	336	⇑P	Pn	02 57 02.5	+1.5
	baz=18,SNR=10						
SDV	Santo Domingo	18.20	101	eP	P	02 57 01.5	+0.1
	comp=Z,21nm,0.8s						
833A	Chaparral WMA,	18.22	328	⇑P	Pn	02 57 03.5	+1.6
	baz=18,SNR=11						
734A	La Parita Cree	18.25	331	⇓P	Pn	02 57 04.0	+1.8
	baz=18						
537A	Green Hill Far	18.41	339	⇑P	Pn	02 57 06.2	+2.1
	baz=19,SNR=6.0						
832A	Faith Ranch, C	18.49	327	⇑P	Pn	02 57 06.0	+0.8
	baz=19,SNR=8.3						
733A	Divot King Ran	18.50	329	⇑P	Pn	02 57 06.5	+1.3
	baz=19,SNR=15						
438A	Sam Houston St	18.75	342	⇓P	P	02 57 08.2	+1.2
	baz=19						
535A	Dale	18.84	336	⇑P	Pn	02 57 10.4	+1.1
	baz=19						
732A	Laxson Ranch,	18.85	328	⇑P	Pn	02 57 10.0	+0.6
	baz=19						
340A	Bronson	18.95	346	⇑P	Pn	02 57 12.1	+1.5
	baz=19						
TIGA	Tifton	18.95	14	⇓P	Pn	02 57 11.9	+1.2
	baz=19						
339A	Huntington	19.03	344	⇑P	Pn	02 57 12.5	+0.9
	baz=19,SNR=9.6						
633A	Saathoff Ranch	19.05	331	⇑P	P	02 57 11.7	+1.3
	baz=19,SNR=13						
VBMS	Vicksburg	19.21	355	ePn	Pn	02 57 16.3	+2.6
	comp=Z,59nm,0.8s						
534A	Blanco	19.22	333	⇓P	Pn	02 57 15.1	+1.3
	baz=19,SNR=8.0						
338A	Crockett	19.26	343	⇓P	Pn	02 57 16.6	+2.2
	baz=20,SNR=5.5						
632A	Uvalde	19.39	330	⇑P	P	02 57 15.5	+1.4
	baz=20,SNR=6.5						
533A	Kerrville	19.50	332	⇓P	P	02 57 16.5	+1.1
	baz=20,SNR=9.4						
435B	Jarrell	19.51	337	⇑P	P	02 57 16.3	+0.9
	baz=20,SNR=5.1						
631A	Perdido Creek	19.71	328	⇑P	P	02 57 18.2	+0.7
	baz=20,SNR=9.1						
336A	Riesel	19.78	339	⇑P	P	02 57 19.6	+1.3
	baz=20						
434A	Burnet	19.81	335	⇑P	P	02 57 19.7	+1.0
	baz=20,SNR=5.9						
238A	Jacksonville	19.82	344	⇑P	P	02 57 19.5	+0.8
	baz=20						
532A	Rocksprings	19.96	330	⇑P	P	02 57 21.9	+1.6
	baz=20,SNR=13						
237A	Washetta, Mont	20.01	342	⇑P	Pn	02 57 23.2	+0.1
	baz=20,SNR=5.4						
433A	Art	20.11	333	⇓P	P	02 57 22.8	+0.9
	baz=20,SNR=9.0						
JCT	Junction City	20.20	331	⇑P	P	02 57 24.0	+1.1
	baz=20						
334A	Lometa	20.26	336	⇑P	P	02 57 24.6	+1.1
	baz=20						
531A	Rocksprings	20.30	329	⇓P	P	02 57 25.5	+1.5
	baz=20						
138A	Matatall Enter	20.43	344	⇓P	P	02 57 26.7	+1.3
	baz=21						
432A	Menard	20.53	332	⇑P	P	02 57 27.9	+1.4
	baz=21,SNR=5.0						
333A	Richland Sprin	20.56	334	⇑P	P	02 57 27.7	+1.0
	baz=21,SNR=15						
530A	J-C Ranch, Com	20.69	328	⇓P	P	02 57 30.1	+1.8
	baz=21						
431A	Sonora	20.76	330	⇓P	P	02 57 30.8	+1.8
	baz=21,SNR=13						
234A	Clairette	20.81	337	⇓P	P	02 57 31.0	+1.6
	baz=21,SNR=12						
GOGA	Godfrey	20.88	12	eP	Pn	02 57 32.3	-1.1
	comp=Z,276nm,2.6s						
332A	Millersview	20.94	333	⇓P	P	02 57 31.8	+1.0
	baz=21,SNR=14						
233A	Rising Star	21.12	335	⇑P	P	02 57 33.7	+0.8
	baz=21						
529A	Stev Forest Ra	21.15	326	⇓P	P	02 57 34.1	+0.9
	baz=21						
430A	Baggett Ranch,	21.15	329	⇑P	P	02 57 33.8	+0.6
	baz=21,SNR=11						
331A	San Angelo	21.19	331	⇑P	P	02 57 33.9	+0.3
	baz=21,SNR=8.8						
134A	White-Moore Ra	21.30	338	⇑P	P	02 57 35.6	+1.0
	baz=22,SNR=7.1						
232A	Coleman	21.33	334	⇑P	P	02 57 35.8	+0.8
	baz=22,SNR=11						
429A	Davenport Ranc	21.36	327	⇑P	P	02 57 36.3	+0.9
	baz=22,SNR=9.1						
TXAR	Lajitas Array	21.39	322	P	P	02 57 37.9	+2.1
	comp=Z,4.3nm,0.6s,baz=142,slow=9.7,SNR=54						
TXAR				PcP	PcP	03 01 38.0	+0.8
	comp=Z,0.5nm,0.6s,baz=120,slow=3.5,SNR=6.4						
TXAR				pPcP		03 01 55.9	
	comp=Z,0.6nm,0.8s,baz=116,slow=5.7,SNR=3.5						
330A	Mertzon	21.63	330	⇓P	P	02 57 38.7	+0.4
	baz=22,SNR=6.5						
133A	Hamilton Ranch	21.65	336	⇑P	P	02 57 39.3	+0.8
	baz=22						
231A	Bronte	21.66	332	⇑P	P	02 57 39.5	+0.9
	baz=22,SNR=5.4						
Z35A	Perchaven, San	21.70	340	⇓P	P	02 57 39.8	+0.9
	baz=22						
MIAR	Mount Ida	21.91	349	eP	P	02 57 42.8	+1.7
	comp=Z,14nm,0.8s						
UALR	University of	21.94	352	eP	P	02 57 43.6	+2.1
	comp=Z,52nm,1.3s						
UALR				epP	pP	02 58 02.0	+5.6
ABTX	Abilene, Hawle	21.96	335	⇑P	P	02 57 42.8	+1.0
	baz=22,SNR=6.6						
ABTX	Abilene, Hawle	21.96	335	eP	P	02 57 42.3	+0.6
	comp=Z,14nm,0.6s						
Z34A	Collier Ranch,	21.96	339	⇑P	P	02 57 42.4	+0.6
	baz=22						
230A	Sterling City	21.99	331	⇑P	P	02 57 43.0	+0.9
	baz=22,SNR=13						
329A	Wagon Wheel Ra	22.09	329	⇑P	P	02 57 44.1	+0.9
	baz=22,SNR=15						
Z33A	Whitaker Ranch	22.19	337	⇑P	P	02 57 44.7	+0.5
	baz=22,SNR=7.8						
SWET	Sewanee	22.27	6	eP	P	02 57 45.7	+0.6
	comp=Z,5.5nm,0.6s						
229A	Bryant Ranch,	22.39	330	⇑P	P	02 57 47.5	+1.0
	baz=23						
Y34A	Reagan Ranch,	22.44	340	⇓P	P	02 57 47.3	+0.4
	baz=23						
Z32A	Haskell	22.49	336	⇓P	P	02 57 47.7	+0.3
	baz=23,SNR=6.2						
130A	Snyder	22.51	332	⇑P	P	02 57 47.9	+0.1
	baz=23						
Z31A	Sharp Cattle R	22.77	335	⇓P	P	02 57 50.5	+0.1
	baz=23,SNR=6.8						
228A	UT Block 9, Go	22.91	328	⇑P	P	02 57 51.3	-0.6
	baz=23						
129A	Stewart Farms,	22.96	330	⇓P	P	02 57 52.1	-0.4
	baz=23,SNR=6.1						
TKL	Tuckaleechee C	23.00	10	P	P	02 57 51.5	-1.2
	comp=Z,11nm,0.7s,baz=182,slow=11,SNR=19						
TKL	Tuckaleechee C	23.00	10	eP	P	02 57 53.8	+1.1
TKL				epP	pP	02 58 11.7	+3.9
KMSC	Kings Mountain	23.04	16	⇓P	P	02 57 52.7	-0.4
	baz=23						
WVT	Waverly	23.05	2	eP	P	02 57 53.5	+0.3
	comp=Z,5.2nm,0.8s						
X34A	Smith Ranch, M	23.05	340	⇑P	P	02 57 53.6	+0.4
	baz=23,SNR=12						
Y32A	R-V Farms, Ver	23.09	337	⇓P	P	02 57 53.5	-0.1
	baz=23,SNR=5.4						
Z30A	Sanderson Ranc	23.17	333	⇓P	P	02 57 54.4	0.0
	baz=23,SNR=20						
X33A	Lawton	23.22	339	⇑P	P	02 57 55.2	+0.4
	baz=23,SNR=20						
128A	Castleberry Fa	23.26	329	⇓P	P	02 57 55.0	-0.3
	baz=23,SNR=12						
Y31A	Rekieta Farm,	23.38	335	⇓P	P	02 57 57.4	+1.1
	baz=24,SNR=15						
X32A	Elmer	23.40	338	⇑P	P	02 57 57.2	+0.7
	baz=24,SNR=8.9						
Z29A	Hungry Hill Ra	23.41	332	⇓P	P	02 57 57.4	+0.7
	baz=24,SNR=22						
WMOK	Wichita Mounta	23.50	339	eP	P	02 57 58.2	+0.8
	comp=Z,93nm,2.5s						
Y30A	Stafford Cattl	23.57	334	⇑P	P	02 57 59.3	+1.2
	baz=24,SNR=9.4						
W34A	Bridge Creek,	23.62	341	⇓P	P	02 57 58.9	+0.5
	baz=24,SNR=15						
W34A	Bridge Creek,	23.62	341	eP	P	02 57 59.5	+1.0
	comp=Z,43nm,0.6s						
TUL1	Leonard	23.70	346	⇓P	P	02 57 59.3	+0.1
	baz=24						
TUL1	Leonard	23.70	346	eP	P	02 58 00.2	+1.0
	comp=Z,36nm,1.3s						
Z28A	Tucker Farm, M	23.75	331	⇑P	P	02 57 59.8	-0.1
	baz=24,SNR=12						
W33A	Caddo, Fort Co	23.77	340	⇓P	P	02 58 00.2	+0.4
	baz=24						
X31A	McDonald Ranch	23.85	336	⇓P	P	02 58 01.0	+0.4
	baz=24,SNR=5.3						
Y29A	Porterfield Fa	23.89	333	⇑P	P	02 58 01.5	+0.5
	baz=24,SNR=10						
W32A	Sentinel	24.01	338	⇑P	P	02 58 02.7	+0.7
	baz=24,SNR=8.6						
X30A	Coker Ranch, T	24.05	335	⇑P	P	02 58 03.3	+0.8
	baz=24,SNR=20						
V34A	Guthrie	24.09	342	⇑P	P	02 58 02.4	-0.3
	baz=24						
MNTX	Cornudas Mount	24.12	323	eP	P	02 58 04.0	+0.9
	comp=Z,12nm,1.5s						
Y28A	McKinney Farm,	24.20	332	⇑P	P	02 58 04.3	+0.5
	baz=24,SNR=7.6						
V33A	Lossen Ranch,	24.32	341	⇑P	P	02 58 04.8	+0.1
	baz=24						
W31A	Holland Ranch,	24.32	337	⇓P	P	02 58 05.2	+0.3
	baz=24						
X29A	Tulia	24.40	333	⇓P	P	02 58 06.7	+1.0
	baz=25,SNR=22						
V32A	Arapaho	24.48	339	⇑P	P	02 58 07.9	+1.7
	baz=25						
MSTX	Muleshoe	24.49	331	⇓P	P	02 58 06.9	+0.4
	baz=25,SNR=13						
MSTX	Muleshoe	24.49	331	eP	P	02 58 07.2	+0.6
	comp=Z,24nm,0.9s						
Y27A	Causey	24.61	330	⇓P	P	02 58 08.1	+0.5
	baz=25,SNR=14						
U34A	Anderson Ranch	24.66	343	⇓P	P	02 58 08.1	+0.3
	baz=25						
U34A	Anderson Ranch	24.66	343	eP	P	02 58 08.2	+0.3
	comp=Z,21nm,0.6s						
X28A	Dimmitt	24.68	333	⇓P	P	02 58 09.1	+0.8
	baz=25,SNR=16						
AMTX	Amarillo	24.76	334	⇓P	P	02 58 10.0	+1.0
	baz=25						
AMTX	Amarillo	24.76	334	eP	P	02 58 10.8	+1.8
	comp=Z,13nm,0.7s						
V31A	Spring Creek L	24.81	338	⇑P	P	02 58 10.5	+1.1
	baz=25						
W29A	Amarillo	24.95	334	⇑P	P	02 58 11.3	+0.6
	baz=25						
U32A	Winter Ranch,	25.06	340	⇓P	P	02 58 12.0	+0.4
	baz=25						
X27A	F and S Farms,	25.20	331	⇑P	P	02 58 13.3	+0.3
	baz=25						
WCI	Wyandotte Cave	25.23	4	eP	P	02 58 12.4	-0.7
	comp=Z,85nm,1.9s						
X26A	CR and CF Fran	25.46	330	⇑P	P	02 58 16.3	+0.9
	baz=26,SNR=6.2						
W27A	Bowe Ranch, En	25

W23A	Werner Place, baz=27	27.13 327	⇓P	P	02 58 31.7 +1.2
Q33A	Connelly Farm, baz=27	27.14 344	⇓P	P	02 58 30.8 +0.5
S28A	Manter baz=27	27.18 337	⇓P	P	02 58 31.5 +0.7
R30A	Dighton baz=27	27.21 340	⇓P	P	02 58 32.2 +1.2
U25A	Circle Dot Ran baz=27	27.25 332	⇑P	P	02 58 32.7 +1.2
Q32A	Meitler Ranch, baz=28	27.33 343	⇓P	P	02 58 33.1 +1.1
Q31A	Ellis baz=28	27.59 342	⇓P	P	02 58 35.3 +1.0
V23A	Ortiz Mt. (NFS baz=28	27.60 328	⇓P	P	02 58 35.9 +1.2
R28A	Tribune baz=28	27.81 338	⇑P	P	02 58 37.1 +0.7
S26A	Kim baz=28	27.85 334	⇓P	P	02 58 37.9 +1.1
T25A	Trinidad baz=28	27.86 332	⇓P	P	02 58 37.9 +0.9
P32A	Huiting Farm, baz=28	27.93 344	⇓P	P	02 58 38.1 +0.7
Q29A	Oakley baz=28	28.00 339	⇑P	P	02 58 38.9 +0.8
U23A	El Rito baz=28,SNR=8.5	28.05 329	⇑P	P	02 58 40.3 +1.5
P31A	Stockton baz=28	28.06 342	⇓P	P	02 58 39.6 +1.1
R27A	Eads baz=28	28.14 336	⇓P	P	02 58 39.7 +0.3
T24B	San Luis baz=28	28.24 331	⇓P	P	02 58 42.3 +1.8
S25A	Robets Cordova baz=28	28.30 333	⇓P	P	02 58 42.8 +1.9
P30A	Selden baz=29	28.35 341	⇓P	P	02 58 42.4 +1.3
R26A	Arlington baz=29	28.41 335	⇑P	P	02 58 43.1 +1.3
U22A	Llaves baz=29	28.43 328	⇑P	P	02 58 43.3 +1.1
Q28A	Sharon Springs baz=29	28.45 338	⇑P	P	02 58 42.9 +0.8
T23A	Casias Ranch, baz=29	28.54 330	⇓P	P	02 58 44.3 +1.2
P29A	Atwood baz=29	28.62 340	⇑P	P	02 58 44.9 +1.3
O31A	Woolen Ranch, baz=29	28.63 343	⇑P	P	02 58 44.7 +1.1
S24A	Houchin Ranch, baz=29	28.63 332	⇓P	P	02 58 45.3 +1.3
R25A	Fountain Ranch baz=29,SNR=7.1	28.64 334	⇓P	P	02 58 45.8 +2.0
KSCO	Kaye Shedlock' baz=29	28.70 337	⇓P	P	02 58 45.6 +1.2
KSCO	Kaye Shedlock' comp=Z,10nm,0.6s	28.70 337	eP	P	02 58 45.8 +1.4
SDCO	Great Sand Dun comp=Z,27nm,2.3s	28.85 332	eP	P	02 58 47.8 +1.9
O30A	MW Ranch, Wils baz=29	28.87 342	⇓P	P	02 58 47.0 +1.3
P28A	Saint Francis baz=29	28.88 339	⇑P	P	02 58 47.1 +1.2
Q26A	Hugo baz=29	28.98 336	⇑P	P	02 58 47.5 +0.7
O29A	4D Ranch, Culb baz=29	29.05 341	⇑P	P	02 58 48.2 +0.8
R24A	Sanders Place, baz=29	29.07 333	⇓P	P	02 58 49.5 +1.8
214A	Organ Pipe Nat baz=29	29.08 314	⇓P	P	02 58 49.5 +1.8
P27A	Ficken Ranch, baz=29	29.16 338	⇑P	P	02 58 49.7 +1.3
Q25A	Bedland, Calha baz=30	29.27 335	⇑P	P	02 58 50.9 +1.4
R23A	Moffat baz=30,SNR=6.2	29.36 332	⇑P	P	02 58 52.2 +1.8
P26A	Davis Ranch, A baz=30	29.45 337	⇑P	P	02 58 51.9 +0.8
S22A	4UR Ranch, Cre baz=30,SNR=7.1	29.48 330	⇓P	P	02 58 53.2 +1.7
BGNE	Belgrade baz=30	29.49 345	⇑P	P	02 58 52.2 +1.0
M31A	Lambtecht Ranc baz=30	29.64 344	⇑P	P	02 58 53.4 +0.8
X16A	Lo Mia Camp, P baz=30	29.67 320	⇑P	P	02 58 54.8 +1.7
O27A	Beecher Island baz=30	29.68 338	⇑P	P	02 58 53.7 +0.7
Q24A	Divide baz=30	29.69 334	⇓P	P	02 58 54.4 +1.0
MVCO	Mesa Verde baz=30	29.92 327	⇓P	P	02 58 56.6 +1.3
P24A	Kohler Place, baz=30	30.05 334	⇑P	P	02 58 56.8 +0.4
M30A	Dale-Ortello V baz=30	30.06 343	⇑P	P	02 58 57.9 +1.5
M29A	Burnside Ranch baz=30	30.22 342	⇑P	P	02 58 58.6 +0.9
P23A	Jefferson baz=30,SNR=8.0	30.33 333	⇑P	P	02 59 01.1 +2.0
L31A	Butterfield Fa baz=31	30.38 345	⇑P	P	02 59 00.7 +1.5
ISCO	Idaho Springs baz=31	30.58 334	⇓P	P	02 59 02.7 +1.4
ISCO	Idaho Springs comp=Z,82nm,2.6s	30.58 334	eP	P	02 59 02.9 +1.6
O24A	Longmont baz=31	30.63 335	⇑P	P	02 59 02.8 +1.3
SMCO	Snowmass comp=Z,4.8nm,0.8s	30.69 331	eP	P	02 59 04.1 +1.8
M27A	Reverse DX Ran baz=31	30.84 340	⇑P	P	02 59 05.0 +1.8
P22A	Eagle baz=31	30.92 332	⇓P	P	02 59 05.3 +1.1
K30A	Basset baz=31,SNR=5.5	31.05 344	⇓P	P	02 59 06.0 +1.0
O23A	Lake Granby, G baz=31,SNR=8.1	31.06 334	⇑P	P	02 59 07.0 +1.7
O22A	Kremmling baz=32,SNR=5.7	31.29 333	⇑P	P	02 59 08.6 +1.1
K29A	Lazy Trails An baz=32	31.32 343	⇓P	P	02 59 08.4 +1.0
ECSD	EROS Data Cent baz=32	31.38 349	⇓P	P	02 59 08.3 +0.4
K28A	Ten Mile Ranch baz=32	31.58 342	⇑P	P	02 59 10.5 +0.8
J30A	Dallas baz=32	31.63 345	⇑P	P	02 59 10.6 +0.5
N23A	Red Feather La baz=32	31.64 335	⇑P	P	02 59 11.1 +0.7
M24A	Cheyenne baz=32	31.67 337	⇓P	P	02 59 11.7 +1.1
N22A	Wattenberg Ran baz=32,SNR=5.9	31.77 334	⇓P	P	02 59 13.3 +1.7
K27A	Flueckinger Fa baz=32	31.84 341	⇓P	P	02 59 12.9 +0.9
BC3	Big Chuckawall baz=32	31.87 315	⇑P	P	02 59 14.2 +1.7
J29A	Okreek baz=32,SNR=8.3	31.92 344	⇓P	P	02 59 13.6 +0.9
M23A	Laramie baz=32	32.02 335	⇓P	P	02 59 14.2 +0.4
O20A	White River Ci baz=32	32.04 331	⇓P	P	02 59 15.8 +1.9
O20A	White River Ci	32.04 331	eP	P	02 59 16.1 +2.1
I30A	Oacoma baz=32,SNR=14	32.16 345	⇓P	P	02 59 15.0 +0.3
J28A	Allard Ranch, baz=32	32.19 343	⇑P	P	02 59 16.1 +1.0
SPMN	Marine on St. baz=33,SNR=11	32.31 355	⇓P	P	02 59 15.8 -0.2
SPMN	Marine on St. comp=Z,28nm,0.7s	32.31 355	eP	P	02 59 15.8 -0.2
M22A	Cedar Creek Ra baz=32	32.33 334	⇑P	P	02 59 17.7 +1.1
SRU	San Rafael Swe	32.40 327	eP	P	02 59 19.1 +2.0
I29A	Vivian Onida baz=33	32.49 344	⇑P	P	02 59 17.9 +0.3
L23A	Garrett baz=33	32.56 336	⇓P	P	02 59 19.2 +0.7
N20A	Spence Gulch, baz=33	32.60 332	⇑P	P	02 59 20.2 +1.3
J26A	Sides Ranch, S baz=33	32.66 340	⇓P	P	02 59 19.8 +0.6
I28A	Midland baz=33,SNR=5.1	32.70 343	⇑P	P	02 59 20.0 +0.5
L22A	Ellis Ranch, M baz=33	32.79 335	⇑P	P	02 59 21.6 +1.2
J25A	Sunshine Ranch baz=33	32.97 340	⇑P	P	02 59 23.1 +1.2
I27A	Quinn baz=33	33.02 342	⇑P	P	02 59 21.8 -0.5
G30A	Faulkton baz=34	33.24 346	⇑P	P	02 59 23.8 -0.4
H28A	Mission Ridge baz=34,SNR=8.6	33.28 344	⇓P	P	02 59 24.9 +0.4
K22A	Casper baz=34	33.34 336	⇑P	P	02 59 25.7 +0.5
SAML	Samuel comp=Z,10nm,0.8s	33.43 129	eP	P	02 59 25.5 -0.6
G29A	Hoven baz=34	33.49 346	⇑P	P	02 59 26.6 +0.3
I25A	Rochford baz=34	33.51 340	⇑P	P	02 59 27.6 +0.9
H27A	Howes baz=34,SNR=7.0	33.54 343	⇓P	P	02 59 27.5 +0.7
K21A	Alcova baz=34	33.62 335	⇑P	P	02 59 28.7 +0.9
G28A	Parade baz=34	33.63 344	⇓P	P	02 59 28.5 +1.0
I24A	Kuemmerle Ranc baz=34	33.67 339	⇑P	P	02 59 29.6 +1.6
RSSD	Black Hills comp=Z,5.3nm,0.6s	33.70 340	eP	P	02 59 29.9 +1.5
J22A	Midwest baz=34	33.97 337	⇓P	P	02 59 32.1 +1.4
H25A	Fruitdale baz=34	34.00 341	⇓P	P	02 59 32.0 +1.2
F29A	Eureka baz=34	34.07 346	⇓P	P	02 59 31.1 -0.2
G27A	Dupree baz=34,SNR=5.2	34.19 343	⇓P	P	02 59 32.7 +0.3
J21A	Lysite baz=34,SNR=13	34.29 335	⇓P	P	02 59 34.7 +1.2
G26A	Maurine baz=34	34.30 342	⇓P	P	02 59 33.4 +0.1
F28A	McLaughlin baz=35	34.32 345	⇓P	P	02 59 33.3 -0.2
I22A	9 Mile Ranch, baz=35	34.37 337	⇑P	P	02 59 35.1 +0.9
DUG	Dugway, Tooele baz=34	34.40 326	⇑P	P	02 59 35.7 +1.3
H24A	Dirks Ranch, A baz=35,SNR=8.0	34.42 340	⇓P	P	02 59 35.4 +0.9
G25A	Newell baz=35	34.45 341	⇑P	P	02 59 36.3 +1.6
E30A	Jud baz=35	34.49 348	⇑P	P	02 59 34.4 -0.6
J20A	Shoshoni baz=35,SNR=11	34.56 335	⇓P	P	02 59 37.4 +1.6
I21A	Big Trails, Te baz=35	34.62 336	⇑P	P	02 59 36.9 +0.6
F27A	Lemmon baz=35,SNR=8.3	34.66 344	⇑P	P	02 59 37.3 +0.8
E29A	Napoleon baz=35	34.72 347	⇓P	P	02 59 37.3 +0.4
PDAR	Pinedale Array comp=Z,2.0nm,0.6s,baz=128,slow=11,SNR=18	34.73 333	P	P	02 59 38.0 +0.6
PDAR	comp=Z,0.8nm,0.5s,baz=169,slow=6.9,SNR=3.7		PcP	PcP	03 02 09.2 -0.6
HWUT	Hardware Ranch	34.78 329	eP	P	02 59 39.6 +1.8
F26A	Lodgepole baz=35,SNR=12	34.83 343	⇑P	P	02 59 38.8 +0.9
G24A	Alzada baz=35	34.89 340	⇓P	P	02 59 39.2 +0.6
J19A	Crowheart baz=35,SNR=8.1	34.90 334	⇑P	P	02 59 39.4 +0.7
H22A	Clearmont baz=35	34.92 338	⇓P	P	02 59 40.0 +1.2
E28A	Huff baz=35	34.97 346	⇑P	P	02 59 39.5 +0.4
D30A	Buchanan baz=35,SNR=7.4	35.04 348	⇑P	P	02 59 39.3 -0.4
I20A	Worland baz=35,SNR=15	35.07 335	⇓P	P	02 59 41.2 +1.1
G23A	Biddle baz=35	35.11 339	⇑P	P	02 59 40.9 +0.5
F25A	Bowman baz=35	35.13 342	⇑P	P	02 59 41.0 +0.5
D29A	Pettibone, Tap baz=35	35.17 347	⇓P	P	02 59 40.8 -0.1
H21A	Big Horn, Sher baz=35,SNR=9.3	35.21 337	⇑P	P	02 59 42.0 +0.7
E26A	Carlson Angus baz=36	35.33 343	⇑P	P	02 59 42.8 +0.5
F24A	Ekalaka baz=36,SNR=7.1	35.36 341	⇑P	P	02 59 43.3 +0.7
G22A	Birney baz=36,SNR=7.2	35.44 338	⇑P	P	02 59 44.0 +0.7
H20A	Greybull baz=36,SNR=11	35.46 336	⇑P	P	02 59 44.1 +0.6
LPAZ	La Paz comp=Z,1.8nm,0.6s,baz=337,slow=3.8,SNR=14	35.50 144	P	P	02 59 45.6 +1.0
LPAZ	comp=Z,1.6nm,0.6s,baz=290,slow=7.7,SNR=3.8		pP	pP	03 00 02.8 +1.0
I19A	Meeteetse baz=36,SNR=6.4	35.50 334	⇓P	P	02 59 44.7 +0.7
D28A	Regan baz=36,SNR=6.0	35.52 346	⇑P	P	02 59 44.0 +0.2
C30A	Mose, Pekin baz=36	35.56 349	⇓P	P	02 59 43.6 -0.5
F23A	Volborg baz=36	35.57 340	⇓P	P	02 59 44.6 +0.3
E25A	Miller Ranch, baz=36,SNR=7.0	35.63 342	⇑P	P	02 59 45.5 +0.6
D27A	Center baz=36	35.67 345	⇓P	P	02 59 45.2 0.0
AGMN	Agassiz Nation baz=36,SNR=11	35.70 352	⇑P	P	02 59 44.9 -0.3
AGMN	Agassiz Nation comp=Z,9.7nm,0.6s	35.70 352	eP	P	02 59 45.0 -0.3
G21A	Lodge Grass baz=36	35.78 337	⇑P	P	02 59 46.0 -0.1
D26A	Manning baz=36	35.84 344	⇑P	P	02 59 46.1 -0.5
F22A	Rosebud baz=36	35.91 339	⇓P	P	02 59 47.4 +0.1
MDND	Maddock baz=36	35.92 347	⇑P	P	02 59 47.4 +0.2
E24A	Baker baz=36	35.95 342	⇑P	P	02 59 48.1 +0.5
C28A	Hausauer Farms baz=36	35.97 347	⇑P	P	02 59 48.4 +0.8
H19A	Powell baz=36	36.01 335	⇓P	P	02 59 49.3 +1.0
I17A	Pilgrim Ck. baz=36	36.09 333	⇓P	P	02 59 49.7 +0.7
G20A	Bridger baz=36,SNR=5.8	36.16 336	⇑P	P	02 59 49.6 +0.2
D25A	Fairfield baz=36	36.20 343	⇓P	P	02 59 50.4 +0.8
E23A	Ismay baz=36	36.22 340	⇓P	P	02 59 50.6 +0.8
C27A	Sayler Ranch, baz=36	36.23 345	⇑P	P	02 59 50.2 +0.3
B30A	Myrvik Farm, E baz=36	36.25 349	⇑P	P	02 59 49.8 -0.2
H18A	Shoshone NF, C baz=36,SNR=38	36.30 334	⇑P	P	02 59 51.6 +0.8
E22A	Miles City baz=37	36.38 340	⇑P	P	02 59 51.7 +0.5
B29A	Wagenman Farm, baz=37,SNR=8.1	36.46 348	⇑P	P	02 59 51.9 +0.1
D24A	Glendive baz=37,SNR=6.4	36.46 342	⇑P	P	02 59 52.9 +1.0
H17A	Grant Village baz=37	36.47 333	⇓P	P	02 59 52.4 +0.2
C26A	Wahner Farm, P baz=37	36.48 345	⇑P	P	02 59 52.2 +0.1
NVAR	Mina Array Bea comp=Z,2.6nm,0.7s,baz=134,slow=7.4,SNR=18	36.49 319	P	P	02 59 54.9 +2.3
NVAR	comp=Z,3.3nm,0.6s,baz=127,slow=3.8,SNR=17		PcP	PcP	03 02 16.4 +1.3
RLMT	Red Lodge comp=Z,9.3nm,0.6s	36.50 335	eP	P	02 59 52.9 +0.4
LKWY	Lake comp=Z,4.2nm,0.6s	36.52 334	eP	P	02 59 54.5 +1.7
F20A	Billings baz=37	36.62 337	⇑P	P	02 59 53.9 +0.6
B28A	Dugan Ranch, T baz=37,SNR=5.6	36.66 347	⇓P	P	02 59 53.7 +0.3
LAO	LASA Array comp=Z,6.1nm,0.6s	36.69 340	eP	P	02 59 54.9 +1.0
C25A	Freed Ranch, W baz=37	36.69 344	⇓P	P	02 59 53.8 0.0
A30A	Hoffart Farm, baz=37	36.71 349	⇑P	P	02 59 53.6 -0.4
D23A	Lindsay baz=37,SNR=5.6	36.78 341	⇓P	P	02 59 55.5 +0.9
YMR	Madison River comp=Z,8.4nm,0.8s	36.85 333	eP	P	02 59 56.8 +1.3
E21A	Keefer Ranch, baz=37	36.85 339	⇓P	P	02 59 55.4 +0.1
C24A	Savage baz=37,SNR=5.7	36.86 342	⇑P	P	02 59 56.0 +0.8
A29A	Manning Farm, baz=37,SNR=8.1	36.87 348	⇑P	P	02 59 55.2 -0.1
F19A	Roth Farm, Mol baz=37,SNR=10.0	36.97 336	⇓P	P	02 59 56.6 +0.3
B26A	Jensen Ranch, baz=37	37.03 345	⇓P	P	02 59 56.8 +0.1
A28A	Rude Farm, Bot baz=37	37.07 347	⇓P	P	02 59 56.5 -0.5
D22A	Cohagen baz=37,SNR=9.6	37.08 340	⇑P	P	02 59 58.2 +1.1
B25A	Knox Farm, Ray baz=37	37.17 344	⇓P	P	02 59 58.5 +0.6
E20A	Meyer Farm, Mu baz=37,SNR=17	37.20 338	⇓P	P	02 59 59.1 +0.8
D21A	La Casta Ranch baz=38	37.28 339	⇑P	P	02 59 59.2 +0.3
C23A	Lambert baz=38	37.33 342	⇓P	P	02 59 59.9 +0.6
E19A	Rath Farm, Rou baz=38	37.41 337	⇑P	P	03 00 00.7 +0.7
A26A	Wade Farm, Ken baz=38	37.46 346	⇑P	P	03 00 00.6 +0.2
C22A	Vida baz=38,SNR=9.3	37.50 341	⇓P	P	03 00 01.7 +1.0
ULM	Lac du Bonnet comp=Z,9.5nm,0.6s,baz=165,slow=8.6,SNR=26	37.62 352	P	P	03 00 00.6 -1.0
HLID	Hailey baz=38	37.65 329	⇑P	P	03 00 03.1 +0.9
D20A	Manuel Ranch, baz=38,SNR=9.2	37.70 338	⇓P	P	03 00 03.4 +1.0
A25A	Svangstu Ranch baz=38	37.77 344	⇓P	P	03 00 03.9 +1.0
MCMT	McKenzie Canyo comp=Z,6.2nm,0.6s	37.83 332	eP	P	03 00 05.4 +1.6
B23A	Brockton baz=38	37.87 342	⇓P	P	03 00 05.1 +1.3
BOZ	Bozeman (W) comp=Z,8.2nm,0.7s	37.91 334	eP	P	03 00 04.8 +0.5
C21A	Desert Coulee baz=38	37.97 340	⇓P	P	03 00 05.8 +1.1
A24A	Westby baz=38	38.00 344	⇑P	P	03 00 06.1 +1.2
D19A	Cripps Ranch, baz=38,SNR=12	38.04 338	⇑P	P	03 00 06.1 +0.8
C20A	Veseth Ranch, baz=38,SNR=11	38.19 339	⇑P	P	03 00 07.5 +1.0
A23A	Redstone baz=38	38.28 343	⇓P	P	03 00 08.4 +1.2
LRM	Limekiln Ridge comp=Z,47nm,0.6s	38.41 333	eP	P	03 00 09.5 +0.9
C19A	Slack Wire Ran baz=39,SNR=21	38.58 338	⇓P	P	03 00 11.2 +1.4
A22A	Carney Farms, baz=39,SNR=6.8	38.62 342	⇓P	P	03 00 11.0 +0.9
B20A	Solberg Farm, baz=39	38.81 339	⇓P	P	03 00 13.1 +1.3
HRY	Holter Researc comp=Z,5.8nm,0.5s	38.84 334	eP	P	03 00 13.0 +0.9
A21A	Bergtoll Ranch baz=39	38.93 341	⇑P	P	03 00 14.1 +1.4
EGMT	Eagleton baz=39	39.08 338	⇑P	P	03 00 15.6 +1.5
B19A	Brinkman Farms baz=39,SNR=16	39.15 339	⇑P	P	03 00 15.6 +1.1
A20A	Cobblestone Ra baz=39,SNR=13	39.16 340	⇑P	P	03 00 15.7 +1.0
A19A	Klindworth Far baz=40	39.48 339	⇓P	P	03 00 18.3 +1.0
MSO	Missoula baz=40	39.84 333	⇓P	P	03 00 21.4 +0.9
M04C	Macdoel baz=41	40.65 321	⇓P	P	03 00 27.9 +0.7
J04D	Umpqua Nationa baz=42	41.66 323	⇑P	P	03 00 36.0 +0.4
NEW	Newport baz=42	42.35 332	⇓P	P	03 00 41.0 0.0
FFC	Flin Flon comp=Z,8.0nm,0.6s	42.92 349	eP	P	03 00 45.0 -0.3
EDM	Edmonton	44.67 339	eP	P	03 00 59.2 -0.2
SCHQ	Schefferville comp=Z,6.4nm,0.7s,baz=218,slow=6.2,SNR=17	45.13 18	P	P	03 01 00.8 -2.2
SCHQ	comp=Z,1.7nm,0.5s,baz=220,slow=6.8,SNR=4.2		PcP	PcP	03 02 40.4 -2.1
FCC	Fort Churchill comp=Z,0.2nm,0.6s	45.86 356	eP	P	03 01 07.5 -1.2
BDFB	Brasilia comp=Z,4.2nm,0.6s,baz=295,slow=13,SNR=9.7	49.29 124	P	P	03 01 34.1 -2.0
YKA	Yellowknife Ar comp=Z,6.4nm,0.6s,baz=138,slow=7.9,SNR=194	52.77 345	P	P	03 02 00.7 -0.6
YKA	comp=Z,2.1nm,0.7s,baz=150,slow=6.5,SNR=4.1		pP	pP	03 02 18.6 -0.8
YKA	comp=Z,0.8nm,0.7s,baz=143,slow=4.1,SNR=3.7		PcP	PcP	03 03 08.9 -1.0
DLBC	Dease Lake comp=Z,12nm,0.7s,baz=128,slow=5.8,SNR=24	54.90 335	P	P	03 02 17.7 +0.7
PLCA	Paso Flores comp=Z,14nm,1.1s	56.04 163	eP	P	03 02 24.4 -1.0
TRQA	Tornquist comp=Z,28nm,1.5s	56.62 155	eP	P	03 02 28.4 -1.2
RES	Resolute Bay comp=Z,3.7nm,0.5s,baz=177,slow=11,SNR=52	61.78 358	P	P	03 03 03.4 -1.2
RES	Resolute Bay comp=Z,3.9nm,0.6s	61.78 358	eP	P	03 03 02.9 -1.7
ILAR	Eielson Array comp=Z,3.7nm,0.7s,baz=173,slow=5.1,SNR=65	65.03 336	P	P	03 03 25.8 -0.5
COLA	College comp=Z,5.3nm,0.8s	65.45 336	eP	P	03 03 28.2 -0.7
MCK	McKinley comp=Z,5.1nm,0.8s	65.46 335	eP	P	03 03 28.7 -0.4
TRF	Thorofare Moun comp=Z,8.6nm,0.8s	65.92 334	eP	P	03 03 31.7 -0.6
COLD	Coldfoot comp=Z,4.9nm,0.9s	67.24 338	eP	P	03 03 40.6 +0.3
ESDC	Sonseca Array comp=Z,0.5nm,0.7s,baz=289,slow=5.5,SNR=5.2	77.82 52	P	P	03 04 41.6 -2.2
ESDC	comp=Z,0.3nm,0.5s,baz=289,slow=4.2,SNR=3.1		pP	pP	03 05 00.9 -2.1
SPITS	Spitsbergen Ar comp=Z,3.5nm,0.8s,baz=297,slow=6.3,SNR=4.1	80.43 12	P	P	03 04 56.3 -1.0
TORD	Torodi Ar. Bea comp=Z,0.2nm,0.5s,baz=294,slow=5.6,SNR=8.4	87.48 77	P	P	03 05 31.4 -3.0
FINES	FINESS Array B comp=Z,6.5nm,1.3s,baz=270,slow=3.8,SNR=3.4	90.02 26	P	P	03 05 45.8 +0.4
SEY	Seymchan comp=Z,0.8nm,0.5s,baz=89,slow=4.8,SNR=9.4	90.97 336	P	P	03 05 49.2 -0.6
BOSA	Boshof comp=Z,3.0nm,0.7s,baz=266,slow=2.5,SNR=8.2	117.03 116	PKP	PKPdf	03 11 31.5 +0.1
KSRS	Korea Array comp=Z,1.5nm,0.6s,baz=11,slow=1.5,SNR=5.2	119.16 327	PKP	PKPdf	03 11 35.4 +0.3
KSAR	Wonju Array Be	119.19 327	PKP	PKPdf	03 11 35.4 +0.2
MKAR	Makanchi Array comp=Z,0.2nm,0.4s,baz=294,slow=3.1,SNR=4.9	119.94 7	PKP	PKPdf	03 11 34.4 -2.0
TKM2	Tokmak 2	122.53 14	ePKPdf	PKPdf	03 11 41.9 +0.1
HHC	Hu-ho-hao-te	123.24 342	ePKP	PKPdf	03 11 39.3 -3.7
HHC			PP	PP	03 13 26.5 +3.9
HHC			SKS	SKSdf	03 18 39.8 -9.3
HHC			SKKS	SKKSac	03 20 07.3 -9.2
HHC			SS	SS	03 30 00.1 -2.0
HHC	comp=Z,170nm,8.6s		PPMZ		
HHC	comp=Z,490nm,18.5s		LN		
HHC	comp=Z,430nm,16.0s		LE		
HHC	comp=Z,640nm,21.0s		LZ		
WMQ	Urumqi	123.37 3	ePKP	PKPdf	03 11 42.3 -0.8
WMQ	comp=Z,170nm,6.0s		PPMZ		
KSH	Kashi	125.85 15	ePKP	PKPdf	03 11 48.8 +0.7
KSH			PP	PP	03 13 41.6 +1.5
KSH			PKS	PKSdf	03 15 25.3 +0.5
KSH			SS	SS	03 30 40.6 +5.7
KSH	comp=Z,56nm,4.3s		PPMZ		
KSH	comp=Z,17nm,5.1s		LN		

KSH LE
comp=Z,37nm,4.2s
KSH LZ
comp=Z,130nm,5.5s
WB2 Warramunga Arr 138.23 255 *e*PKPdf **PKPdf 03 12 12.7 +0.9**
WRAB Tennant Creek 138.23 255 *e*PKPdf **PKPdf 03 12 12.8 +1.1**
WRA Warramunga Arr 138.24 255 PKP **PKPdf 03 12 13.2 +1.5**
comp=Z,2.0nm,0.5s,baz=88,slow=2.2,SNR=16
WRA pPKP **pPKPdf 03 12 32.0 -0.1**
comp=Z,2.1nm,0.7s,baz=90,slow=2.4,SNR=6.6
AS31 Alice Springs 138.32 249 *e*PKPdf **PKPdf 03 12 12.7 +0.9**
ASAR Alice Springs 138.33 249 PKhKP PKPpre 03 12 04.8
comp=Z,0.3nm,0.5s,baz=112,slow=3.8,SNR=6.0
ASAR PKP **PKPdf 03 12 13.2 +1.4**
comp=Z,1.2nm,0.7s,baz=81,slow=1.7,SNR=16
ASAR pPKP pPKPdf 03 12 31.9 -0.4
comp=Z,1.2nm,0.7s,baz=98,slow=2.4,SNR=5.1
FORT Forrest 141.79 236 *e*PKPdf **PKPdf 03 12 17.7 -0.2**
SOEI Soe 147.53 272 *e*PKPbc **PKPbc 03 12 32.7 +1.7**
CMAR Chiang Mai Arr 147.85 346 PKPbc **PKPdf 03 12 28.7 0.0**
comp=Z,2.0nm,0.6s,baz=340,slow=3.3,SNR=8.9
CMAR pPKPbc **pPKPbc 03 12 49.6 -2.2**
comp=Z,0.9nm,0.6s,baz=324,slow=3.1,SNR=1.5
KKM Kota Kinabalu 148.84 306 *e*PKPdf **PKPdf 03 12 30.9 +0.4**
MBWA Marble Bar 151.67 249 *e*PKPbc **PKPbc 03 12 41.0 +0.1**
IPM Ipoh 160.13 330 *e*PKPab **PKPab 03 13 25.2 -0.9**

IDC 14 02:53:45.2±14.0, 36°.15N×72°.79E, h186km±135km, mb2.8/1, mb1 2.8/4, mb1mx2.6/29, mbtmp3.4/4, 3C-1D, Error ellipse: s-maj=241.6km s-min=68.9km az=135.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.46**	**244**	S	Sn	02 55 29.6	+7.1
	baz=34,SNR=7.7						
DZET	**Dzherino**	**4.12**	**311**	⇑Pn	Pn	02 54 40.3	-7.8
DZET				⇓Sn	Sn	02 55 15.1	-22
KK31	**Karatay Array**	**7.17**	**346**	⇑Pn	Pn	02 55 20.5	-7.0
	0.2nm,0.3s,baz=178,slow=14,SNR=5.8						
KK31				⇑Sn	Sn	02 56 24.5	-24
	0.7nm,0.3s,baz=173,slow=22,SNR=9.0						
MKAR	**Makanchi Array**	**12.79**	**31**	P	Pn	02 56 40.7	+0.2
	0.0nm,0.3s,baz=202,slow=9.1,SNR=2.5						
KURBB	**Kurchatov Arra**	**15.05**	**14**	P	Pn	02 57 07.9	-0.5
	0.1nm,0.3s,baz=203,slow=11,SNR=3.2						
ZALV	**Zalesovo Beam**	**19.68**	**21**	P	P	02 57 59.9	+0.1
	0.7nm,0.3s,baz=208,slow=10,SNR=14						
TORD	**Torodi Ar. Bea**	**67.16**	**270**	P	P	03 04 19.4	0.0
	0.3nm,0.8s,baz=64,slow=4.7,SNR=3.9						

GUC 14 03:13:56.9±0.7, 33°.78S×71°.81W, h32km±8km, ML3.7, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.38**	**118**	⇑*i*P	Pb	03 14 05.4	-0.2
LNV				*i*S1	Sn	03 14 12.1	-0.3
IHA	**Instituto Hidr**	**0.76**	**11**	⇑*i*P	Pn	03 14 11.0	-0.5
IHA				*i*S1	Sn	03 14 21.5	-0.3
RCDM	**Rinconada Maip**	**0.89**	**71**	⇑*i*P	Pn	03 14 12.7	-0.5
RCDM				*i*S	Sn	03 14 24.6	-0.4
RCDM				IAML		03 14 27.0	
	comp=N,4μm,0.3s						
CHCH	**Chadas Angostu**	**0.98**	**99**	⇑*i*P	Pn	03 14 14.8	+0.3
ANTU	**Antumapu**	**1.00**	**78**	*e*P	Pn	03 14 15.2	+0.4
ANTU				*e*S	Sn	03 14 28.4	+0.4
ANTU				IAML		03 14 31.9	
	comp=N,3μm,0.3s						
STL	**Santa Lucia**	**1.03**	**71**	*e*P9	Pn	03 14 14.9	-0.4
STL				*e*S	Sn	03 14 28.6	-0.2
CACH	**El Canelo**	**1.06**	**109**	⇑*i*P	Pb	03 14 16.8	-0.1
CACH				*i*S	Sb	03 14 31.7	+1.0
LACH	**Col Las Americ**	**1.12**	**73**	*e*P1	Pn	03 14 17.2	+0.8
LACH				*e*S	Sb	03 14 31.9	-0.2
CLCH	**Cerro Calan**	**1.13**	**71**	⇑*i*P	Pb	03 14 17.3	-0.7
CLCH				*i*S	Sb	03 14 31.9	-0.6
CLCH				IAML		03 14 35.7	
	comp=E,2μm,0.4s						
PEL	**Peldehue**	**1.13**	**56**	⇓*i*P	Pb	03 14 17.6	-0.5
PEL				*i*S1	Sb	03 14 33.0	+0.4
PEL				IAML		03 14 37.0	
	comp=E,9μm,0.4s						
SJCH	**San Jose de Ma**	**1.22**	**84**	*e*P9	Pn	03 14 17.8	-0.2
SJCH				*e*S	Sb	03 14 34.6	-0.6
NICH	**Los Niches**	**1.31**	**159**	*e*P	Pn	03 14 19.3	+0.2
NICH				*e*S	Sb	03 14 36.8	-0.8
CHNG	**Los Chungos**	**1.91**	**8**	*e*P4	Pn	03 14 26.8	-0.4
CHNG				*e*S4	Sn	03 14 49.9	-0.2

IDC 14 03:16:05.0±2.1, 53°.62N×165°.69W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.6/38, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=41.5km s-min=32.6km az=22.0
ISCJB 14 03:16:19.0±0.6, 54°.2N±0°.1×164°.3W±0°.1, h81km±6km, mb3.8/5, Error ellipse: s-maj=20.2km s-min=4.6km az=154.0
NEIC 14 03:16:19.1, 54°.15N×164°.18W, h67km, ML3.6(AEIC), After AEIC.
ISC 14 03:16:20.0±1.1, 54°.2N±0°.1×164°.21W±0°.06, h70km±10km, n36, σ0°.70/34, mb3.7/5, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.38**	**325**	P	**Pn**	**03 16 31.3**	**-0.5**
SSLW	**Shishaldin Wes**	**0.61**	**5**	P	**Pn**	**03 16 33.3**	**-0.7**
SSLN	**Shishaldin Nor**	**0.66**	**11**	P	**Pn**	**03 16 34.2**	**-0.3**
FALS	**False Pass**	**0.83**	**33**	P	**Pn**	**03 16 35.8**	**-0.5**
FALS				S	**Sn**	**03 16 48.5**	**0.0**
AKUT	**Akutan**	**0.92**	**269**	P	**Pn**	**03 16 37.1**	**-0.2**
AKUT				S	**Sn**	**03 16 50.7**	**+0.3**
HSB	**Akutan Spr's B**	**1.00**	**272**	P	**Pn**	**03 16 38.2**	**-0.3**
ZRO	**Akutan Zero**	**1.04**	**267**	P	**Pn**	**03 16 38.6**	**-0.4**
AKGG	**Akutan Green G**	**1.05**	**273**	P	**Pn**	**03 16 38.7**	**-0.3**
AKGG				S	**Sn**	**03 16 53.2**	**0.0**
AKRB	**Akutan Reef Bi**	**1.09**	**269**	P	**Pn**	**03 16 39.4**	**-0.3**
AKRB				S	**Sn**	**03 16 55.3**	**+1.0**
DRIA	**Deer Island**	**1.39**	**54**	P	**Pn**	**03 16 42.8**	**-0.6**
UNV	**Unalaska Valle**	**1.39**	**258**	P	**Pn**	**03 16 42.9**	**-0.5**
UNV				S	**Sn**	**03 17 00.4**	**-0.6**
DT1	**Dutton Round H**	**1.47**	**49**	P	**Pn**	**03 16 43.8**	**-0.6**
MTBL	**Makushin Table**	**1.47**	**263**	P	**Pn**	**03 16 44.3**	**-0.2**
MSW	**Makushin Switc**	**1.54**	**262**	P	**Pn**	**03 16 44.8**	**-0.6**
MREP	**Makushin Rep't**	**1.54**	**258**	P	**Pn**	**03 16 45.7**	**+0.3**
MCIR	**Makushin Cirqu**	**1.60**	**263**	P	**Pn**	**03 16 46.1**	**-0.1**
MGOD	**Makushin Gods**	**1.62**	**258**	P	**Pn**	**03 16 46.2**	**-0.2**
DOL	**Dolgoi Island**	**1.68**	**53**	P	**Pn**	**03 16 46.9**	**-0.4**
HAG	**Hague Volcano**	**1.77**	**48**	P	**Pn**	**03 16 48.5**	**+0.1**
PS4A	**Pavlof South-4**	**1.81**	**48**	P	**Pn**	**03 16 48.8**	**-0.2**
OKFG	**Magazine Ridge**	**2.32**	**253**	P	**Pn**	**03 16 56.0**	**+0.1**
OKFG				S	**Sn**	**03 17 23.8**	**+0.4**
SDPT	**Sand Point**	**2.47**	**60**	P	**Pn**	**03 16 57.6**	**-0.2**
NIKH	**Nikolski High**	**3.02**	**249**	P	**Pn**	**03 17 04.5**	**-0.8**
SPIA	**Saint Paul Isl**	**4.56**	**314**	P	**Pn**	**03 17 26.2**	**-0.1**
ILAR	**Eielson Array**	**13.74**	**32**	Pn	**Pn**	**03 19 32.1**	**+0.8**
	0.1nm,0.3s,baz=214,slow=11,SNR=12						
YKA	**Yellowknife Ar**	**26.71**	**52**	P	**P**	**03 21 54.4**	**+2.2**
	0.8nm,0.5s,baz=274,slow=9.8,SNR=21						
H11N2	**WAKE ISLAND Hy**	**40.85**	**224**	T	T	04 07 55.0	
	baz=26,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**40.86**	**224**	T	T	04 07 50.1	
	baz=26,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**40.87**	**224**	T	T	04 07 55.2	
	baz=26,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**42.03**	**224**	T	T	04 09 12.1	
	baz=26,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**42.04**	**224**	T	T	04 09 01.8	
	baz=26,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**42.04**	**224**	T	T	04 09 04.2	
	baz=26,slow=76,SNR=12						
TXAR	**Lajitas Array**	**49.70**	**95**	P	**P**	**03 25 04.9**	**0.0**
	0.4nm,0.5s,baz=292,slow=5.4,SNR=9.7						
ARCES	**ARCESS Array B**	**56.41**	**356**	P	P	03 25 49.9	-3.6
	7.0nm,1.1s,baz=13,slow=8.3,SNR=3.9						
FINES	**FINESS Array B**	**64.45**	**355**	P	P	03 26 44.8	-3.6
	2.0nm,1.1s,baz=26,slow=5.4,SNR=5.6						
BRTR	**Keskin Array B**	**85.23**	**346**	P	**P**	**03 28 46.8**	**-1.9**
	0.3nm,0.6s,baz=13,slow=2.8,SNR=4.2						

JMA 14 03:17:16.8, 38°.07N×138°.72E, h21km±1km, M3.5, 6D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSD	**Sado**	**0.36**	**265**	⇓P	Pb	03 17 24.5	0.0
JSD				S	Sb	03 17 29.8	+0.1
JNS	**Sasagawa**	**0.54**	**118**	⇓P	Pb	03 17 27.0	-0.5
JNS				S	Sb	03 17 34.4	-0.4
JIZZ	**Izumozaki**	**0.54**	**181**	P	Pb	03 17 27.8	+0.2
JIZZ				S	Sb	03 17 35.9	+1.0
JAW	**Awa shima**	**0.57**	**47**	⇓P	Pb	03 17 27.5	-0.6
JAW				S	Sb	03 17 35.5	-0.3
JHK	**Hiroka**	**0.85**	**164**	⇓P	Pb	03 17 31.9	-1.0
JHK				S	Sb	03 17 43.4	-0.5
JYA	**Atsumi**	**0.94**	**56**	⇓P	Pb	03 17 33.9	-0.5
JYA				S	Sb	03 17 46.7	+0.3
JFY	**Yanaizu**	**1.02**	**130**	⇓P	Pb	03 17 34.9	-1.0
JFY				S	Sb	03 17 48.3	-0.6
JYS	**Shiratake**	**1.07**	**81**	P	Pn	03 17 36.1	-0.5
JYS				S	Sb	03 17 50.5	+0.3
MAT	**Matsushiro**	**1.58**	**195**	P	Pn	03 17 43.5	-0.1
MAT				S	Sn	03 18 03.6	+0.2

IDC 14 03:21:25.9±1.0, 37°.76S×73°.80W, h0km, mb4.1/9, mb1 4.1/11, mb1mx4.0/23, mbtmp4.0/11, ML3.4/1, MS4.1/1, Ms1 4.0/1, ms1mx3.2/20, Error ellipse: s-maj=33.4km s-min=18.2km az=85.0
ISCJB 14 03:21:28.6±0.5, 37°.68S±0°.07×73°.7W±0°.1, h23km, mb4.3/21, MS4.0/1, Error ellipse: s-maj=13.8km s-min=9.1km az=155.9
NEIC 14 03:21:31.7±0.4, 37°.71S×73°.68W, h35km, mb4.6/15, Error ellipse: s-maj=11.5km s-min=7.6km az=68.0
ISC 14 03:21:29.8±0.6, 37°.76S±0°.08×73°.8W±0°.1, h23km, n38, σ1°.12/39, mb4.4/21, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.87**	**141**	Pn	**Pn**	**03 22 29.1**	**+1.1**
	baz=309,slow=11						
PLCA	**Paso Flores**	**3.87**	**141**	Pn	**Pn**	**03 22 29.1**	**+1.1**
PLCA				*e*Lg	Lg	03 23 30.2	
CFAA	**Coronel Fontan**	**7.63**	**38**	Pn	**Pn**	**03 23 18.4**	**-1.2**
	0.5nm,0.3s,baz=226,slow=9.3,SNR=31						
LCO	**Las Campanas**	**9.09**	**17**	*e*Pn	**Pn**	**03 23 38.3**	**-1.5**
	24nm,0.3s						
LCO				*e*Lg	Lg	03 25 58.6	
TRQA	**Tornquist**	**9.31**	**95**	*e*Pn	**Pn**	**03 23 43.8**	**+1.3**
	7.1nm,0.6s						
LPAZ	**La Paz**	**21.95**	**15**	P	**P**	**03 26 24.0**	**+1.4**
	5.3nm,0.9s,baz=179,slow=9.3,SNR=13						
LPAZ	**La Paz**	**21.95**	**15**	*e*P	**P**	**03 26 23.6**	**+1.0**
	10nm,0.9s						
SIV	**San Ignacio**	**24.40**	**31**	P	**P**	**03 26 46.2**	**-0.4**
	3.1nm,0.8s,baz=229,slow=9.1,SNR=6.8						
SAML	**Samuel**	**30.23**	**21**	*e*P	**P**	**03 27 38.2**	**-0.5**
	4.5nm,1.2s						
BDFB	**Brasilia**	**31.65**	**53**	P	P	03 27 55.0	+3.6
	2.0nm,0.8s,baz=173,slow=5.3,SNR=4.5						
BDFB				LR	LR	03 41 26.6	
	comp=Z,306nm,18.9s,baz=244,slow=38						
OTAV	**Otavalo**	**38.05**	**352**	*e*P	**P**	**03 28 49.1**	**+2.0**
	8.2nm,1.2s						
SNAA	**Sanae**	**48.67**	**157**	P	**P**	**03 30 12.1**	**+0.5**
	2.2nm,0.9s,baz=240,slow=8.1,SNR=3.3						
JTS	**JuntasAbangare**	**48.93**	**345**	*e*P	**P**	**03 30 15.1**	**+0.8**
QSPA	**South Pole Qui**	**52.49**	**180**	P	**P**	**03 30 40.5**	**-0.2**
	5.5nm,1.1s,baz=251,slow=1.0,SNR=5.6						
QSPA	**South Pole Qui**	**52.49**	**180**	*e*P	**P**	**03 30 41.1**	**+0.4**
	15nm,1.4s						
HKT	**Hockley**	**70.45**	**340**	*e*P	**P**	**03 32 42.7**	**+0.6**
	6.5nm,1.3s						
JCT	**Junction City**	**72.12**	**337**	*e*P	**P**	**03 32 53.0**	**+0.7**
	2.8nm,0.7s						
TXAR	**Lajitas Array**	**72.38**	**333**	P	**P**	**03 32 53.7**	**-0.2**
	0.3nm,0.7s,baz=156,slow=7.7,SNR=5.0						
SWET	**Sewanee**	**73.48**	**350**	*e*P	**P**	**03 33 00.5**	**+0.2**
	19nm,1.0s						
TUL1	**Leonard**	**76.09**	**342**	*e*P	**P**	**03 33 15.9**	**+0.6**
	12nm,1.1s						
DBIC	**Dimbokro**	**77.69**	**72**	P	**P**	**03 33 24.8**	**-0.1**
	4.2nm,0.9s,baz=222,slow=12,SNR=2.9						
DBIC	**Dimbokro**	**77.69**	**72**	*e*P	**P**	**03 33 25.5**	**+0.6**
	18nm,1.2s						
LAZ	**Ladron**	**78.21**	**332**	*e*P	**P**	**03 33 28.1**	**+0.6**
	1.4nm,1.2s						
ANMO	**Albuquerque**	**78.45**	**333**	*e*P	**P**	**03 33 29.2**	**+0.3**
	3.8nm,1.1s						
BOSA	**Boshof**	**79.55**	**118**	P	**P**	**03 33 34.0**	**-1.1**
	1.6nm,0.8s,baz=174,slow=10,SNR=2.1						
BOSA	**Boshof**	**79.55**	**118**	*e*P	**P**	**03 33 35.0**	**-0.2**
	15nm,1.2s						
LBTB	**Lobatse**	**81.97**	**115**	*e*P	**P**	**03 33 48.4**	**+0.3**
	7.1nm,0.9s						
ISCO	**Idaho Springs**	**82.54**	**336**	*e*P	**P**	**03 33 51.1**	**+0.3**
	3.7nm,1.1s						
HWUT	**Hardware Ranch**	**86.20**	**333**	*e*P	**P**	**03 34 08.6**	**-0.6**
	6.4nm,1.2s						
PDAR	**Pinedale Array**	**86.51**	**334**	P	**P**	**03 34 09.9**	**-0.8**
	1.0nm,0.9s,baz=123,slow=7.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**86.78**	**71**	P	**P**	**03 34 12.3**	**-0.1**
	1.2nm,1.0s,baz=217,slow=5.1,SNR=7.9						
BRTR	**Keskin Array B**	**124.81**	**64**	PKP	**PKPdf**	**03 40 28.0**	**+0.4**
	0.5nm,0.6s,baz=209,slow=2.5,SNR=4.4						
KIEV	**Kiev**	**125.70**	**50**	*e*PKPdf	**PKPdf**	**03 40 28.4**	**-0.3**
PALK	**Pallekele**	**141.82**	**136**	*e*PKPdf	**PKPdf**	**03 40 55.3**	**-4.9**
TIXI	**Tiksi**	**144.10**	**348**	*e*PKPdf	**PKPab**	**03 40 59.4**	**-0.5**
ABKAR	**Akbulak array**	**145.02**	**56**	*e*PKPdf	**PKPab**	**03 41 04.1**	**+0.1**
BRVK	**Borovoye**	**150.85**	**47**	*e*PKPdf	**PKPdf**	**03 41 13.9**	**-0.1**
BRVK				*e*PKPbc	**PKPbc**	**03 41 19.9**	**+0.2**
BRVK				*e*PKPab	**PKPab**	**03 41 27.2**	**+0.2**
MKAR	**Makanchi Array**	**160.16**	**55**	PKPab	**PKPab**	**03 42 06.5**	**-0.7**
	0.2nm,0.6s,baz=254,slow=2.3,SNR=5.6						

ISCJB 14 03:25:16.7±0.6, 31°.66N±0°.05×104°.52E±0°.07, h9km, mb3.6/5, Error ellipse: s-maj=8.9km s-min=5.3km az=31.4
IDC 14 03:25:16.6±1.1, 31°.65N×104°.82E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/29, mbtmp3.6/5, Error ellipse: s-maj=70.7km s-min=21.2km az=59.0
BJI 14 03:25:20.1, 31°.74N×104°.26E, h20km, ML3.2/12
ISC 14 03:25:18.1±0.8, 31°.65N±0°.04×104°.52E±0°.06, h9km, n9, σ1°.89/15, mb3.8/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.98**	**222**	Pg	**Pg**	**03 25 36.6**	**-0.3**
CD2				Sg	**Sg**	**03 25 49.9**	**+0.2**
CD2				SMN			
	1μm,0.8s						
CD2				SME			
	880nm,0.7s						
XAN	**Xi'an**	**4.41**	**56**	Pg	**Pg**	**03 26 44.0**	**+1.5**
XAN				Sn	**Sn**	**03 27 17.9**	**+1.2**
XAN				Sg	**Sg**	**03 27 37.5**	**-2.2**
XAN				SMN			
	54nm,0.7s						
XAN				SME			
	26nm,0.5s						
LZH	**Lanzhou**	**4.46**	**353**	*e*Pg	**Pg**	**03 26 44.8**	**+1.2**
LZH				Sg	**Sg**	**03 27 38.4**	**-3.1**
LZH				smax	smax		
	comp=N,35nm,0.9s						
LZH				smax	smax		
	comp=E,46nm,1.0s						
GYA	**Guiyang**	**5.50**	**159**	*e*Pn	**Pn**	**03 26 41.8**	**+1.5**
GYA				Pg	**Pg**	**03 27 01.1**	**-2.4**
GYA				Sn	**Sn**	**03 27 45.3**	**+1.5**
GYA				SMN			
	comp=E,50nm,0.8s						
GYA				SME			
	comp=E,40nm,0.8s						
MKAR	**Makanchi Array**	**22.81**	**318**	P	**P**	**03 30 20.7**	**-0.4**
	comp=E,0.2nm,0.5s,baz=110,slow=12,SNR=3.4						
FINES	**FINESS Array B**	**57.32**	**326**	P	**P**	**03 35 08.4**	**+2.4**
	comp=E,1.2nm,0.8s,baz=93,slow=7.0,SNR=4.8						
WRA	**Warramunga Arr**	**58.73**	**147**	P	**P**	**03 35 13.8**	**-2.7**
	comp=E,0.7nm,0.5s,baz=340,slow=7.5,SNR=3.6						
ASAR	**Alice Springs**	**61.77**	**149**	P	**P**	**03 35 37.5**	**+0.2**
	comp=E,0.3nm,0.5s,baz=336,slow=6.6,SNR=10						
YKA	**Yellowknife Ar**	**81.07**	**17**	P	**P**	**03 37 32.8**	**-0.4**
	comp=E,0.3nm,0.4s,baz=328,slow=5.0,SNR=11						

ISCJB 14 03:52:23.4±0.3, 25°.62S±0°.05×177°.48W±0°.06, h160km, mb4.5/27, Error ellipse: s-maj=8.0km s-min=6.3km az=41.7
IDC 14 03:52:23.2±1.9, 25°.54S×177°.45W, h145km±17km, mb4.1/11, mb1 4.4/13, mb1mx4.1/31, mbtmp4.6/13, MS3.1/1, Ms1 3.1/1, ms1mx2.9/19, Error ellipse: s-maj=16.7km s-min=13.2km az=149.0
NEIC 14 03:52:24.1±1.1, 25°.59S×177°.48W, h158km±9km, mb4.6/19, Error ellipse: s-maj=9.0km s-min=7.2km az=186.0
ISC 14 03:52:24.4±0.4, 25°.61S±0°.06×177°.39W±0°.07, h160km, n96, σ0°.87/105, mb4.5/27, 7C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.66**	**187**	P	**Pn**	**03 53 19.3**	**-1.3**
	213nm,0.3s,baz=57,slow=11,SNR=9.5						
RAO				S	**Sn**	**03 54 03.8**	**-0.5**
	356nm,0.3s,baz=106,slow=22,SNR=10						
RAO				LR	LR	03 54 13.7	
	comp=Z,232nm,18.0s,baz=50,slow=30						
MSVF	**Nonsavu**	**8.91**	**331**	*e*Pn	**Pn**	**03 54 30.7**	**+0.7**
	118nm,0.9s						
NIUE	**Niue**	**9.48**	**48**	P	**Pn**	**03 54 36.8**	**-0.7**
	baz=9.2,SNR=7.7						
AFI	**Afiamalu**	**12.78**	**25**	*e*Pn	Pn	03 55 13.4	-7.2
	584nm,0.6s						
URZ	**Urewera**	**13.45**	**199**	P	**Pn**	**03 55 29.7**	**+0.9**
	4.7nm,0.3s,baz=329,slow=2.2,SNR=22						
URZ				S	Sn	03 57 41.7	-16
	3.5nm,0.3s,baz=111,slow=20,SNR=10						
DZM	**Mont Dzumac**	**15.21**	**280**	*e*Pn	**Pn**	**03 55 49.0**	**-2.1**
EIDS	**Eidsvold**	**28.43**	**264**	P	**P**	**03 58 06.5**	**+2.2**
	baz=29,SNR=4.7						
RMQ	**Roma**	**30.38**	**261**	P	P	03 58 25.0	+3.5
	baz=31,SNR=9.5						
YNG	**Young**	**30.77**	**245**	P	**P**	**03 58 26.8**	**+1.9**
	baz=31,SNR=5.8						
CMSA	**Cobar Meteorol**	**32.85**	**251**	P	**P**	**03 58 44.1**	**+1.0**
	baz=33,SNR=8.5						
TOO	**Toolangi**	**33.59**	**240**	P	**P**	**03 58 50.2**	**+0.8**
	baz=34,SNR=4.9						
CTA	**Charters Tower**	**33.88**	**272**	P	**P**	**03 58 53.2**	**+1.1**
	7.9nm,0.8s,baz=96,slow=11,SNR=5.4						
CTAO	**Charters Tower**	**33.88**	**272**	*e*P	**P**	**03 58 53.0**	**+0.8**
	7.7nm,0.7s						
QLP	**Quilpie**	**34.40**	**260**	P	**P**	**03 58 57.1**	**+0.6**
	baz=35,SNR=21						
STKA	**Stephens Creek**	**36.34**	**250**	P	**P**	**03 59 13.1**	**0.0**
	3.0nm,0.5s,baz=114,slow=11,SNR=7.7						
STKA				PcP	**PcP**	**04 01 34.5**	**+0.3**
	1.9nm,0.4s,baz=127,slow=10,SNR=3.8						
STKA	**Stephens Creek**	**36.34**	**250**	P	**P**	**03 59 14.0**	**+0.9**
	baz=37,SNR=5.8						
PMG	**Port Moresby**	**37.30**	**289**	*e*P	**P**	**03 59 19.9**	**-1.3**
	52nm,1.4s						
HTT	**Hallett**	**38.59**	**248**	P	**P**	**03 59 31.9**	**-0.1**
	baz=39,SNR=9.6						
QIS	**Mount Isa**	**39.76**	**268**	P	**P**	**03 59 42.5**	**+0.7**
	baz=40,SNR=3.5						
BBOO	**Buckleboo**	**41.00**	**249**	P	**P**	**03 59 50.9**	**-1.0**
	baz=41,SNR=16						
AS31	**Alice Springs**	**44.12**	**262**	*e*P	**P**	**04 00 17.0**	**-0.2**
ASAR	**Alice Springs**	**44.12**	**262**	P	**P**	**04 00 16.8**	**-0.4**
	9.1nm,0.5s,baz=91,slow=7.2,SNR=102						
ASAR				S	**S**	**04 06 40.1**	**+2.0**
	0.8nm,0.9s,baz=88,slow=15,SNR=4.1						
WRAB	**Tennant Creek**	**44.67**	**267**	*e*P	**P**	**04 00 21.1**	**-0.5**
	5.3nm,0.7s						
WRA	**Warramunga Arr**	**44.68**	**267**	P	**P**	**04 00 20.3**	**-1.3**
	4.9nm,0.5s,baz=104,slow=7.9,SNR=24						
WRA				PcP	**PcP**	**04 02 01.3**	**-0.2**
	0.5nm,0.3s,baz=111,slow=2.9,SNR=4.7						
FORT	**Forrest**	**47.97**	**251**	P	**P**	**04 00 46.5**	**-0.7**
	baz=48,SNR=15						
FORT	**Forrest**	**47.97**	**251**	*e*P	**P**	**04 00 45.3**	**-1.8**
	38nm,0.6s						
WRKA	**Warakurna**	**48.80**	**258**	P	**P**	**04 00 52.3**	**-1.4**
	baz=49,SNR=82						
KDU	**Kakadu**	**48.81**	**275**	P	**P**	**04 00 54.1**	**+0.4**
	baz=49,SNR=3.4						
KNRA	**Kununurra**	**51.06**	**270**	P	**P**	**04 01 10.4**	**-0.3**
	baz=51,SNR=16						
VNDA	**Vanda**	**52.90**	**186**	P	**P**	**04 01 25.2**	**+1.8**
	2.0nm,0.7s,baz=324,slow=4.2,SNR=9.5						
VNDA	**Vanda**	**52.90**	**186**	*e*P	**P**	**04 01 24.4**	**+1.0**
	2.3nm,0.8s						
MEEK	**Meekatharra**	**56.91**	**254**	P	**P**	**04 01 51.5**	**-1.5**
	baz=57,SNR=5.9						
MBWA	**Marble Bar**	**57.42**	**260**	*e*P	**P**	**04 01 55.7**	**-1.0**
	27nm,1.3s						
BLDU	**Ballidu**	**57.61**	**249**	P	**P**	**04 01 56.4**	**-1.5**
	baz=58,SNR=13						
MORW	**Morawa**	**58.53**	**250**	P	**P**	**04 02 03.4**	**-0.9**
	baz=59,SNR=3.4						
GIRL	**Giralia**	**61.84**	**257**	P	**P**	**04 02 27.9**	**+1.0**
	baz=62,SNR=3.4						
QSPA	**South Pole Qui**	**64.48**	**180**	P	**P**	**04 02 44.8**	**+1.0**
	12nm,0.9s,baz=34,slow=1.0,SNR=37						
QSPA	**South Pole Qui**	**64.48**	**180**	*

ANTO			*e*PKPab	**PKPab**	04 12 07.2	+0.4
KWP	**Kalwaria Pacla**	**151.39 332**	*e*PKPbc	**PKPbc**	04 11 59.3	+0.3
CSS	**Prodhromos**	**151.97 297**	*e*PKPdf	**PKPdf**	04 11 54.1	-0.1
CSS			*e*PKPbc	**PKPbc**	04 12 00.5	-0.4
CSS			*e*PKPab	**PKPab**	04 12 10.7	0.0
OKC	**Ostrava-Krasne**	**152.98 338**⇑	*e*PKP	**PKPbc**	04 12 02.6	+0.1
OKC			*e*PKPAB	**PKPab**	04 12 15.5	+1.1
UPC	**Upice**	**153.08 341**⇑	*e*PKP	**PKPbc**	04 12 02.8	0.0
UPC			*e*PKPAB	**PKPab**	04 12 15.7	+0.9
UPC			*es*PKP		04 12 59.2	
DPC	**Dobruska-Polom**	**153.13 340**⇑	*e*PKP	**PKPbc**	04 12 03.6	+0.7
DPC			*e*PKPAB	**PKPab**	04 12 16.4	+1.3
DPC			*ep*PKP	pPKPdf	04 12 57.3	+20
CLL	**Collm**	**153.13 345**⇑	*i*PKPbc	**PKPbc**	04 12 03.0	+0.2
	comp=Z,9.0nm,0.9s					
MORC	**Moravsky Berou**	**153.24 338**	*e*PKPdf	**PKPdf**	04 11 55.7	+0.1
MORC			*e*PKPbc	**PKPbc**	04 12 02.4	-0.7
BRG	**Berggiesshubel**	**153.31 344**	*e*PKP	**PKPbc**	04 12 03.5	+0.3
	comp=Z,7.3nm,1.0s					
PVCC	**Panska Ves**	**153.47 343**⇑	*e*PKP	**PKPbc**	04 12 04.1	+0.5
PVCC			*ep*PKP	pPKPdf	04 12 58.0	+20
PRU	**Pruhonice**	**153.96 342**⇑	*e*PKP	**PKPbc**	04 12 05.2	+0.5
PRU			*ep*PKP	pPKPdf	04 13 01.1	+22
KHC	**Kasperske Hory**	**155.01 343**⇑	*e*PKP	PKPdf	04 12 06.8	+8.7
KHC			*e*PKPAB	**PKPab**	04 12 24.3	+1.2
KHC			*ep*PKP	pPKPdf	04 13 02.8	+22
GERES	**GERESS Array B**	**155.23 342**	PKPab	**PKPab**	04 12 24.4	+0.2
	comp=Z,0.4nm,0.6s,baz=46,slow=2.8,SNR=3.2					
LIC	**Lamto**	**159.39 158**	*e*P	**PKPab**	04 12 42.1	-0.7
	comp=Z,54nm,1.5s					
KIC	**Kosan Boka**	**159.61 159**	*e*P	**PKPab**	04 12 44.1	+0.3
	comp=Z,28nm,1.0s					
TIC	**Toumodi**	**159.78 158**	*e*P	**PKPab**	04 12 44.7	+0.2
	comp=Z,16nm,0.7s					
DBIC	**Dimbokro**	**159.86 158**	PKPab	**PKPab**	04 12 44.9	0.0
	comp=Z,3.1nm,0.7s,baz=164,slow=6.4,SNR=5.4					
DBIC	**Dimbokro**	**159.86 158**	*e*PKPab	**PKPab**	04 12 44.7	-0.2
ESDC	**Sonseca Array**	**164.93 20**	PKPab	**PKPab**	04 13 05.9	-0.6
	comp=Z,0.2nm,0.5s,baz=355,slow=3.1,SNR=4.0					
TORD	**Torodi Ar. Bea**	**167.57 176**	PKP	**PKPdf**	04 12 11.3	-0.9
	comp=Z,2.1nm,0.9s,baz=243,slow=0.4,SNR=9.3					
TORD			PKPab	**PKPab**	04 13 18.5	-0.1
	comp=Z,2.3nm,0.9s,baz=171,slow=2.7,SNR=14					
TAM	**Tamanrasset**	**176.14 224**	*e*PKPdf	**PKPdf**	04 12 16.1	-0.1

*ISCJB **14** 03:52:33.3±0.4,28°.12S±0°.03×70°.41W±0°.08, h84km±4km, mb4.2/16, Error ellipse: s-maj=12.4km s-min=5.1km az=176.5*
*NEIC **14** 03:52:34.0±0.8,28°.13S×70°.40W, h78km±7km, mb4.5/11, Error ellipse: s-maj=13.5km s-min=7.6km az=82.0*
*IDC **14** 03:52:35.1±0.7,28°.08S×70°.32W, h81km±3km, mb4.0/9, mb1 4.0/11, mb1mx3.8/25, mbtmp4.2/11, Error ellipse: s-maj=25.1km s-min=10.9km az=62.0*

ISC 14 03:52:34.4±0.4,**28°.13S**±0°.04×**70°.46W**±0°.08,**h81**km±3km, **n55**,σ0^{s}**86**/77,**mb4.3**/16,**4C-1D**,**Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.52**	**211**⇑	*i*P	**Pn**	**03 52 48.2**	**-0.1**
VACH				*i*S	**Sn**	**03 52 58.2**	**-0.6**
CPCH	**Copiapo**	**0.77**	**7**⇑	*i*P	**Pn**	**03 52 50.6**	**-0.3**
CPCH				*i*S	**Sn**	**03 53 02.9**	**-0.3**
LCO	**Las Campanas**	**0.91**	**194**	*e*Pn	**Pn**	**03 52 52.7**	**0.0**
LCO				*e*Sn	**Sn**	**03 53 05.3**	**-0.9**
CDCH	**Caldera**	**1.11**	**343**⇓	*i*P	**Pn**	**03 52 55.2**	**+0.5**
CDCH				*i*S	**Sn**	**03 53 10.3**	**+0.4**
LSCH	**La Serena**	**1.90**	**201**⇑	*i*P	**Pn**	**03 53 05.0**	**0.0**
LSCH				*i*S	**Sn**	**03 53 28.5**	**+0.3**
CMCH	**Combarbala**	**3.07**	**189**⇑	*i*P	**Pn**	**03 53 20.2**	**-0.6**
CHNG	**Los Chungos**	**3.85**	**193**	*e*P1	**Pn**	**03 53 31.0**	**-0.2**
CFAA	**Coronel Fontan**	**3.96**	**151**	P	**Pn**	**03 53 34.2**	**+1.4**
	5.2nm,0.3s,baz=328,slow=7.4,SNR=186						
CFAA				S	**Sn**	**03 54 19.2**	**+1.0**
	8.0nm,0.3s,baz=216,slow=20,SNR=12						
PEL	**Peldehue**	**5.00**	**182**	*e*P1	**Pn**	**03 53 46.7**	**-0.3**
LPAZ	**La Paz**	**11.98**	**11**	P	**Pn**	**03 55 20.7**	**-2.0**
	0.4nm,0.3s,baz=212,slow=5.7,SNR=11						
LPAZ	**La Paz**	**11.98**	**11**	*e*Pn	**Pn**	**03 55 20.2**	**-2.5**
TRQA	**Tornquist**	**12.18**	**147**	*e*Pn	**Pn**	**03 55 22.8**	**-2.0**
	190nm,2.3s						
PLCA	**Paso Flores**	**12.57**	**180**	*e*Pn	**Pn**	**03 55 29.9**	**-0.2**
SIV	**San Ignacio**	**14.88**	**38**	P	Pn	03 55 55.3	-5.2
	0.6nm,0.3s,baz=265,slow=7.9,SNR=5.2						
SAML	**Samuel**	**20.27**	**21**	*e*P	**P**	**03 57 03.5**	**0.0**
	9.4nm,0.9s						
BDFB	**Brasilia**	**24.20**	**64**	P	**P**	**03 57 43.1**	**-0.6**
	5.0nm,0.6s,baz=238,slow=11,SNR=3.1						
OBIP	**Obispado Ponce**	**46.05**	**5**	*e*P	**P**	**04 00 49.3**	**-0.8**
SNAA	**Sanae**	**56.54**	**159**	*e*P	**P**	**04 02 08.1**	**+0.1**
	8.8nm,0.9s						
QSPA	**South Pole Qui**	**62.09**	**180**	pP	pP	04 03 07.4	+0.3
	5.6nm,0.7s,baz=228,slow=1.7,SNR=3.7						
QSPA	**South Pole Qui**	**62.09**	**180**	pP	pP	04 03 07.4	+0.3
TXAR	**Lajitas Array**	**65.38**	**328**	P	**P**	**04 03 09.9**	**+1.5**
	0.1nm,0.3s,baz=144,slow=8.6,SNR=4.8						
TXAR				pP	**pP**	**04 03 31.0**	**+1.8**
	1.0nm,0.8s,baz=145,slow=7.6,SNR=7.1						
WVT	**Waverly**	**65.98**	**345**	*e*P	**P**	**04 03 11.5**	**-0.6**
	3.9nm,0.9s						
TUL1	**Leonard**	**68.03**	**338**	*e*P	**P**	**04 03 25.5**	**+0.5**
	5.3nm,0.7s						
DBIC	**Dimbokro**	**72.04**	**72**	P	**P**	**04 03 50.4**	**+0.3**
	6.9nm,0.6s,baz=219,slow=5.5,SNR=17						
DBIC				pP	**pP**	**04 04 12.2**	**+0.9**
	3.0nm,0.7s,baz=242,slow=8.6,SNR=2.2						
DBIC				sP	**sP**	**04 04 20.6**	**+0.6**
	2.2nm,0.5s,baz=227,slow=5.0,SNR=2.0						
DBIC	**Dimbokro**	**72.04**	**72**	*e*P	**P**	**04 03 50.0**	**-0.1**
	8.1nm,0.7s						
DBIC				pP	**pP**	**04 04 12.2**	**+0.9**
DBIC				sP	**sP**	**04 04 20.6**	**+0.6**
ISCO	**Idaho Springs**	**75.09**	**333**	*e*P	**P**	**04 04 08.5**	**+0.7**
	1.7nm,0.9s						
SUR	**Sutherland**	**76.50**	**120**	*e*P	**P**	**04 04 16.7**	**+0.6**
DUG	**Dugway, Tooele**	**78.56**	**328**	*e*P	**P**	**04 04 26.4**	**-0.7**
	2.1nm,0.8s						
HWUT	**Hardware Ranch**	**79.12**	**330**	*e*P	**P**	**04 04 31.2**	**+1.0**
	3.4nm,0.7s						
PDAR	**Pinedale Array**	**79.20**	**332**	P	**P**	**04 04 31.6**	**+1.0**
	0.7nm,0.6s,baz=126,slow=7.4,SNR=6.3						
TORD	**Torodi Ar. Bea**	**80.93**	**70**	P	**P**	**04 04 40.4**	**+0.1**
	3.2nm,0.5s,baz=272,slow=6.0,SNR=68						
TORD				pP	**pP**	**04 05 01.8**	**+0.1**
	3.1nm,0.6s,baz=274,slow=6.4,SNR=8.0						
TORD				sP	**sP**	**04 05 10.4**	**-0.1**
	1.8nm,0.6s,baz=267,slow=5.8,SNR=3.2						
ULM	**Lac du Bonnet**	**81.23**	**344**	P	**P**	**04 04 41.2**	**+0.2**
	1.4nm,0.4s,baz=167,slow=6.5,SNR=5.6						
BOSA	**Boshof**	**81.60**	**118**	P	**P**	**04 04 43.7**	**-0.2**
	4.1nm,0.5s,baz=255,slow=3.9,SNR=14						
BOSA				pP	**pP**	**04 05 05.5**	**+0.1**
	3.9nm,0.9s,baz=242,slow=2.1,SNR=2.5						
BOSA	**Boshof**	**81.60**	**118**	*e*P	**P**	**04 04 43.5**	**-0.5**
	5.3nm,0.7s						
BOSA				pP	**pP**	**04 05 05.5**	**+0.1**
SCHQ	**Schefferville**	**82.68**	**2**	P	**P**	**04 04 48.8**	**+0.2**
	0.7nm,0.4s,baz=207,slow=9.0,SNR=3.7						
LBTB	**Lobatse**	**83.53**	**115**	*e*P	**P**	**04 04 53.7**	**-0.3**
	6.5nm,0.6s						
FCC	**Fort Churchill**	**88.77**	**348**	*e*P	**P**	**04 05 19.1**	**+0.6**
YKA	**Yellowknife Ar**	**96.96**	**341**	P	**P**	**04 05 56.5**	**+0.3**
	0.3nm,0.6s,baz=141,slow=4.5,SNR=8.1						
YKA				pP	**pP**	**04 06 17.3**	**-0.8**
	0.2nm,0.7s,baz=144,slow=4.3,SNR=3.5						
AKASG	**Malin Array Be**	**117.16**	**45**	PKP	**PKPdf**	**04 11 09.4**	**-0.4**
	0.4nm,0.4s,baz=273,slow=3.4,SNR=2.8						
BRTR	**Keskin Array B**	**117.67**	**58**	PKP	**PKPdf**	**04 11 11.5**	**+0.2**
	0.5nm,0.6s,baz=204,slow=2.8,SNR=4.6						
ASAR	**Alice Springs**	**123.40**	**207**	PKP	**PKPdf**	**04 11 22.7**	**-0.1**
	0.7nm,0.4s,baz=125,slow=1.5,SNR=12						
ASAR				PKKPbc	**PKKPbc**	**04 21 11.7**	**-0.3**
	0.3nm,0.5s,baz=334,slow=3.0,SNR=4.3						
WB2	**Warramunga Arr**	**126.53**	**209**	*e*PKPdf	**PKPdf**	**04 11 26.6**	**-2.3**
WRAB	**Tennant Creek**	**126.53**	**209**	*e*PKPdf	**PKPdf**	**04 11 26.7**	**-2.2**
COEN	**Coen**	**126.98**	**222**	*e*PKPdf	**PKPdf**	**04 11 28.4**	**-1.4**
GEYT	**Alibeck**	**136.26**	**63**	PKP	**PKPdf**	**04 11 47.8**	**+1.1**
	1.2nm,0.5s,baz=260,slow=8.5,SNR=3.2						
ABKAR	**Abkulak array**	**136.83**	**47**	*e*PKPdf	**PKPdf**	**04 11 48.0**	**+0.8**
KKAR	**Karatay Array**	**145.26**	**54**	*e*PKPbc	**PKPbc**	**04 12 02.5**	**-0.1**
KAPI	**Kappang**	**145.61**	**198**	*e*PKPbc	**PKPab**	**04 12 05.6**	**+0.9**
KURK	**Kurchatov**	**147.53**	**37**	*e*PKPdf	**PKPdf**	**04 12 06.3**	**+0.1**
KURK				*e*PKPbc	**PKPbc**	**04 12 09.5**	**+0.6**
EKS2	**Erkin-Say**	**147.70**	**54**	*e*PKPbc	**PKPbc**	**04 12 08.9**	**-0.9**
EKS2				*e*PKPab	**PKiKP**	**04 12 11.4**	**-0.4**
YSS	**Yuzh-Sakhalins**	**147.98**	**315**	*e*PKPbc	**PKPdf**	**04 12 07.1**	**+0.1**
AAK	**Ala-Archa**	**148.22**	**54**	*e*PKPbc	**PKPbc**	**04 12 10.0**	**-1.3**
AAK				*e*PKPab	**PKiKP**	**04 12 12.8**	**-0.1**
ZALV	**Zalesovo Beam**	**148.48**	**28**	PKP	**PKPdf**	**04 12 08.7**	**+1.0**
	16nm,0.6s,baz=293,slow=2.5,SNR=51						
ZALV				PKPbc	**PKPbc**	**04 12 12.0**	**+0.7**
	16nm,0.6s,baz=301,slow=3.4,SNR=64						
ZALV				pPKPbc	**pPKPbc**	**04 12 34.0**	**+0.1**
	7.4nm,0.5s,baz=304,slow=3.5,SNR=7.7						
TKM2	**Tokmak 2**	**148.92**	**53**	*e*PKPdf	**PKPdf**	**04 12 08.8**	**-0.3**
TKM2				*e*PKPbc	**PKPbc**	**04 12 13.2**	**+0.1**
TKM2				*e*PKPab	**PKPab**	**04 12 17.6**	**+0.3**
MKAR	**Makanchi Array**	**151.67**	**42**	PKPbc	**PKPbc**	**04 12 19.9**	**+0.6**
	5.5nm,0.5s,baz=310,slow=2.5,SNR=55						
MKAR				pPKPbc	**pPKPbc**	**04 12 41.8**	**-0.2**
	3.2nm,0.6s,baz=340,slow=1.4,SNR=8.8						

*IDC **14** 04:08:11.2±2.0,7°.58S×127°.77E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.5/29, mbtmp3.7/4, ML4.1/2, Error ellipse: s-maj=282.1km s-min=29.9km az=64.0*
*ISCJB **14** 04:08:24.4±0.9,7°.51S±0°.08×129°.18E±0°.06, h150km, mb3.3/2, Error ellipse: s-maj=11.2km s-min=7.8km az=12.6*
*DJA **14** 04:08:26.1±1.1,8°.5S±5°.5×12°.9E±°, h134km±31km, M4.3/5, mb4.5/3, mB5.0/1, MLv4.3/5, Mw(mB)4.4/1*

ISC 14 04:08:25.8±1.2,**7°.7S**±0°.1×**129°.22E**±0°.06,**h150**km,**n11**, σ1^{s}**99**/14,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.09**	**99**	P	**Pn**	**04 09 02.7**	**+0.7**
SOEI	**Soe**	**5.32**	**247**	P	**Pn**	**04 09 45.2**	**+1.6**
	43nm,0.9s,0.4nm						
SOEI				S	**Sn**	**04 10 44.9**	**+0.6**
	43nm,0.9s,0.4nm						
SOEI	**Soe**	**5.32**	**247**	P	**Sn**	**04 10 44.4**	**+0.1**
	baz=6.1,SNR=3.3						
MTN	**Manton Dam**	**5.48**	**160**	P	**Pn**	**04 09 46.8**	**+1.1**
	baz=1.6,SNR=23						
KDU	**Kakadu**	**5.93**	**148**	P	**Pn**	**04 09 53.5**	**+1.8**
	baz=2.5,SNR=23						
BATI	**Baumata**	**6.04**	**245**	P	**Pn**	**04 09 54.1**	**+0.9**
BATI				S	**Sn**	**04 10 59.1**	**-2.4**
KNRA	**Kununurra**	**7.98**	**183**	P	**Pn**	**04 10 20.3**	**+1.3**
	baz=4.4,SNR=38						
WRA	**Warramunga Arr**	**13.18**	**158**	Pn	**Pn**	**04 11 27.1**	**-0.3**
	1.1nm,0.3s,baz=329,slow=13,SNR=17						
WRA				Sn	Sn	04 13 47.7	-5.6
	2.4nm,0.3s,baz=336,slow=22,SNR=14						
ASAR	**Alice Springs**	**16.54**	**165**	P	**Pn**	**04 12 12.5**	**+3.3**
	0.6nm,0.3s,baz=338,slow=9.5,SNR=32						
ASAR				S	**S**	**04 15 09.6**	**-3.5**
	0.4nm,0.3s,baz=345,slow=25,SNR=5.9						
MKAR	**Makanchi Array**	**68.36**	**327**	P	**P**	**04 19 09.5**	**-1.6**
	0.4nm,0.5s,baz=116,slow=6.7,SNR=6.8						
KURBB	**Kurchatov Arra**	**72.67**	**329**	P	**P**	**04 19 35.7**	**-1.4**
	0.2nm,0.5s,baz=125,slow=4.6,SNR=4.9						

*NNC **14** 04:19:10.4±3.3,40°.77N×83°.40E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=34.1km s-min=23.0km az=5.0*
*BJI **14** 04:19:10.1,40°.89N×83°.48E, h5km, ML4.0/10*
*ISCJB **14** 04:19:11.8±0.7,41°.14N±0°.07×83°.41E±0°.06, h10km, mb3.7/5, Error ellipse: s-maj=9.7km s-min=6.8km az=4.2*
*IDC **14** 04:19:12.1±1.1,41°.23N×83°.37E, h0km, mb3.8/5, mb1 3.9/10, mb1mx3.6/41, mbtmp3.7/10, ML3.2/5, Error ellipse: s-maj=25.1km s-min=15.4km az=58.0*

ISC 14 04:19:12.1±0.8,**41°.03N**±0°.08×**83°.36E**±0°.04,**h10**km,**n29**, σ2^{s}**48**/37,**mb3.9**/5,**13C-1D**,**Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.68**	**310**	⇑Pn	**Pn**	**04 20 11.4**	**+2.4**
PDGK				⇑Pg	**Pg**	**04 20 21.6**	**-1.1**
PDGK				⇓Sn	**Sn**	**04 20 57.8**	**+5.3**
PDGK				⇓Lg	Lg	04 21 16.2	
WMQ	**Urumqi**	**4.25**	**48**	Pn	**Pn**	**04 20 18.6**	**+1.6**
WMQ				Sn	**Sn**	**04 21 08.8**	**+2.1**
WMQ				SMN			
	230nm,1.1s						
WMQ				SME			
	120nm,1.0s						
KNDC	**Almaty**	**5.23**	**297**	⇑Pn	Pn	04 20 33.9	+3.5
KNDC				⇓Lg	Lg	04 21 59.6	
MK08	**Makanchi Array**	**5.78**	**353**	⇑Pn	**Pn**	**04 20 39.8**	**+1.9**
	2.7nm,0.5s,baz=172,slow=10						
MK08				⇓Lg	Lg	04 22 23.5	
	86nm,0.9s,baz=182,slow=26						
MKAR	**Makanchi Array**	**5.82**	**353**	Pn	**Pn**	**04 20 40.1**	**+1.7**
	1.5nm,0.3s,baz=186,slow=8.9,SNR=53						
MKAR				Sn	**Sn**	**04 21 45.2**	**+0.1**
	2.8nm,0.3s,baz=166,slow=21,SNR=5.8						
KSH	**Kashi**	**5.85**	**257**	Pn	Pb	04 20 47.1	-7.1
KSH				Sn	**Sb**	**04 21 58.3**	**-6.0**
KSH				SMN			
	190nm,0.9s						
KSH				SME			
	160nm,0.8s						
TKM2	**Tokmak 2**	**6.09**	**291**	⇓Pn	**Pn**	**04 20 43.2**	**+0.9**
	1.9nm,0.5s						
TKM2				⇓Pg	Pb	04 21 02.8	+4.5
	16nm,0.7s						
TKM2				⇓Sn	**Sn**	**04 21 57.5**	**+5.4**
	25nm,0.5s						
TKM2				⇓Lg	Lg	04 22 28.0	
	58nm,0.6s						
AAK	**Ala-Archa**	**6.81**	**287**	⇑Pg	**Pg**	**04 21 20.9**	**-1.6**
	13nm,0.8s						
AAK				⇑Lg	Lg	04 22 54.7	
	63nm,0.9s						
AAK	**Ala-Archa**	**6.81**	**287**	Pn	Pn	04 20 55.7	+3.5
	0.3nm,0.3s,baz=93,slow=12,SNR=3.1						
AAK				Lg	Lg	04 22 46.4	
	1.1nm,0.3s,baz=306,slow=19,SNR=3.5						
KK31	**Karatay Array**	**9.78**	**286**	⇓Pg	Pn	04 22 19.3	+47
	1.0nm,0.5s,baz=94,slow=16,SNR=6.1						
KK31				⇑Lg	Lg	04 24 29.4	
	8.1nm,0.7s,baz=95,slow=25,SNR=3.9						
KURBB	**Kurchatov Arra**	**10.17**	**342**	⇓Pn	**Pn**	**04 21 38.1**	**+0.1**
	4.2nm,0.6s						
KURBB				⇑Lg	Lg	04 24 43.6	
	21nm,0.8s						
KURBB	**Kurchatov Arra**	**10.17**	**342**	Pn	**Pn**	**04 21 37.4**	**-0.6**
	0.1nm,0.3s,baz=163,slow=12,SNR=11						
KURBB				Sn	**Sn**	**04 23 28.9**	**-3.2**
	0.1nm,0.3s,baz=134,slow=28,SNR=3.2						
KURBB				Lg	Lg	04 24 30.4	
	0.1nm,0.3s,baz=244,slow=41,SNR=4.8						
KURK	**Kurchatov**	**10.23**	**343**	⇑Pn	**Pn**	**04 21 38.6**	**-0.3**
	2.0nm,0.8s						
KURK				⇑Lg	Lg	04 24 43.0	
	11nm,0.9s						
OTUK	**Ortayu**	**10.66**	**316**	⇓Pn	**Pn**	**04 21 45.0**	**+0.2**
OTUK				⇓Lg	Lg	04 24 59.8	
ZALV	**Zalesovo Beam**	**12.97**	**4**	Pn	**Pn**	**04 22 15.6**	**-0.7**
	0.6nm,0.3s,baz=180,slow=12,SNR=29						
ZALV				Lg	Lg	04 26 08.7	
	0.1nm,0.3s,baz=184,slow=19,SNR=4.4						
VOSK	**Vostochnaya**	**14.41**	**328**	⇓P	**P**	**04 22 40.7**	**-2.3**
	3.7nm,0.8s						
BVA0	**Borovoye Array**	**14.88**	**328**	⇓P	**P**	**04 22 49.2**	**+1.1**
	5.1nm,0.8s,baz=128,slow=11,SNR=16						
BVAR	**Borovoye Array**	**14.88**	**328**	Pn	**Pn**	**04 22 43.8**	**+1.4**
	0.1nm,0.3s,baz=139,slow=13,SNR=3.5						
BRVK	**Borovoye**	**14.95**	**328**	⇑P	**P**	**04 22 49.6**	**+0.8**
	12nm,0.8s						
AB31	**Akbulak array**	**18.40**	**304**	⇑P	**P**	**04 23 25.5**	**-1.6**
	0.8nm,0.6s						
AKTO	**Aktyubinsk**	**19.95**	**307**	⇓P	**Pn**	**04 23 45.5**	**-0.3**
	0.9nm,0.7s						
AKTO	**Aktyubinsk**	**19.95**	**307**	P	**Pn**	**04 23 45.3**	**-0.5**
	0.1nm,0.3s,baz=98,slow=13,SNR=5.2						
HHC	**Hu-ho-hao-te**	**21.28**	**81**	*e*P	**P**	**04 23 57.3**	**-1.4**
HHC				sP	**sP**	**04 24 04.3**	**+1.5**
HHC				PP	**PnPn**	**04 24 18.8**	**+0.7**
HHC				S	**S**	**04 27 49.9**	**-5.2**
HHC				sS	**sS**	**04 27 57.0**	**-2.6**
HHC				SS	**SnSn**	**04 28 21.4**	**+4.4**
CMAR	**Chiang Mai Arr**	**26.17**	**145**	P	**P**	**04 24 50.0**	**+3.4**
	1.9nm,0.6s,baz=320,slow=9.0,SNR=12						
ARCES	**ARCESS Array B**	**41.09**	**333**	P	**P**	**04 26 56.4**	**+0.9**
	2.0nm,0.9s,baz=97,slow=7.4,SNR=4.6						
NB2	**NORSAR Subarra**	**46.83**	**321**	P	**P**	**04 27 42.3**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=80,slow=7.9						
NOA	**NORSAR Array B**	**46.83**	**321**	P	**P**	**04 27 42.6**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=80,slow=7.8,SNR=4.0						
ILAR	**Eielson Array**	**67.45**	**21**	P	**P**	**04 30 07.3**	**-0.2**
	comp=Z,0.6nm,1.1s,baz=314,slow=5.7,SNR=4.6						
YKA	**Yellowknife Ar**	**75.82**	**8**	P	**P**	**04 30 58.0**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=340,slow=5.7,SNR=8.6						

*IDC **14** 04:24:54.4±2.2,39°.28N×74°.80E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/32, mbtmp3.6/5, ML3.0/2, MS3.9/1, Ms1 3.9/1, ms1mx2.6/38, Error ellipse: s-maj=52.5km s-min=21.9km az=101.0*
*KRNET **14** 04:24:57.1±0.1,39°.26N×74°.30E, h3km, mb3.9*
*NNC **14** 04:24:58.7±3.2,39°.39N×74°.38E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=32.2km s-min=11.9km az=139.0*

ISC 14 04:24:56.0±2.1,**39°.26N**±0°.07×**74°.37E**±0°.07,**h1**km±13km, **n30**,σ1^{s}**85**/39,**mb3.6**/3,**17C-10D**,**Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.01**	**319**	*e*P	**Pg**	**04 25 13.0**	**-2.3**
	baz=321						
SFK				*e*S	**Sg**	**04 25 25.0**	**-3.4**
	baz=321						
OHH	**Osh**	**1.75**	**317**	*e*P	**Pg**	**04 25 29.8**	**+0.1**
	baz=318						
OHH				*e*S	**Sg**	**04 25 54.6**	**+2.2**
	baz=318						
DRK	**Karamyk**	**2.00**	**277**⇓	*i*P	**Pg**	**04 25 35.0**	**+0.6**
	baz=277						
DRK				⇓*e*S	**Sg**	**04 26 02.0**	**+1.7**
	baz=277						
ARSB	**Arslanbob**	**2.32**	**333**	*e*P	**Pn**	**04 25 37.5**	**+1.9**
	baz=334						
ARSB				*e*S	**Sb**	**04 26 09.0**	**+1.0**
	baz=334						
NRN	**Naryn**	**2.51**	**29**⇓	*i*P	**Pn**	**04 25 41.0**	**+2.7**
	baz=30						
KZA	**Kyzart**	**2.90**	**13**	P	**Pn**	**04 25 44.9**	**+1.1**
	SNR=7.3						
KZA	**Kyzart**	**2.90**	**13**⇑	*i*P	**Pn**	**04 25 44.7**	**+1.0**
	baz=14						
KZA				⇑*i*S	**Sb**	**04 26 24.4**	**-0.5**
	baz=14						
AML	**Almayashu**	**2.92**	**350**	P	**Pn**	**04 25 46.1**	**+2.2**
	SNR=11						
AML	**Almayashu**	**2.92**	**350**⇑	*i*P	**Pn**	**04 25 45.9**	**+1.9**
	baz=351						
AML				⇑*i*S	**Sb**	**04 26 27.0**	**+1.6**
	baz=351						
UCH	**Uchtor**	**2.97**	**2**	P	**Pn**	**04 25 46.5**	**+1.7**
	SNR=20						
UCH	**Uchtor**	**2.97**	**2**⇑	*i*P	**Pn**	**04 25 46.4**	**+1.7**
	baz=3.0						
UCH				⇑*i*S	**Sb**	**04 26 25.8**	**-1.2**
	baz=3.0						
ULHL	**Ulahol**	**3.31**	**25**⇑	*i*P	**Pn**	**04 25 50.6**	**+1.4**
	baz=26						
ULHL				⇑*i*S	**Sb**	**04 26 36.2**	**-0.3**
	baz=26						
AAK	**Ala-Archa**	**3.38**	**2**	⇓Pg	**Pb**	**04 25 58.8**	**+2.0**
	8.3nm,0.6s						
AAK				⇓Lg	Lg	04 26 40.5	
	42nm,0.8s						
AAK	**Ala-Archa**	**3.38**	**2**	Pn	**Pn**	**04 25 52.4**	**+2.3**
	1.3nm,0.3s,baz=138,slow=7.0,SNR=7.8						
AAK				Lg	Lg	04 26 40.5	
	2.3nm,0.3s,baz=308,slow=23,SNR=7.2						
AAK	**Ala-Archa**	**3.38**	**2**⇑	*i*P	**Pn**	**04 25 52.9**	**+2.8**
	baz=2.0						
AAK			

s-min=16.6km az=95.0

ISC 14 04:46:10.3±0.5, 35°03S±0°07×74°09W±0°10, h35km, n40, σ0995/48, mb4.3/15, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.97**	**57**	Pn	**Pn**	**04 47 35.5**	**-0.6**
	0.6nm,0.3s,baz=230,slow=12,SNR=34						
CFAA				Sn	**Sn**	**04 48 43.1**	**-0.2**
	0.6nm,0.3s,baz=328,slow=22,SNR=10						
PLCA	**Paso Flores**	**6.35**	**155**	Pn	**Pn**	**04 47 41.0**	**-0.4**
	baz=283,slow=19						
PLCA				LR	LR	04 50 07.6	
	comp=Z,253nm,21.0s,baz=7.0,slow=38						
PLCA	**Paso Flores**	**6.35**	**155**	*e*Pn	**Pn**	**04 47 40.4**	**-0.9**
	5.0nm,0.9s						
TRQA	**Tornquist**	**10.20**	**111**	*e*Pn	**Pn**	**04 48 34.9**	**+0.7**
LPAZ	**La Paz**	**19.41**	**17**	P	**Pn**	**04 50 36.2**	**+0.9**
	0.1nm,0.3s,baz=189,slow=8.1,SNR=8.7						
LPAZ	**La Paz**	**19.41**	**17**	*e*P	**Pn**	**04 50 35.5**	**+0.1**
	4.9nm,0.9s						
SIV	**San Ignacio**	**22.26**	**35**	P	**P**	**04 51 04.1**	**-0.2**
	2.5nm,0.8s,baz=224,slow=12,SNR=6.7						
SAML	**Samuel**	**27.81**	**24**	*e*P	**P**	**04 51 56.4**	**+0.2**
	4.9nm,1.3s						
BDFB	**Brasilia**	**30.31**	**57**	P	**P**	**04 52 18.5**	**-0.1**
	6.0nm,0.8s,baz=225,slow=8.8,SNR=7.7						
OTAV	**Otavalo**	**35.32**	**352**	*e*P	**P**	**04 53 02.8**	**+0.1**
	1.3nm,0.7s						
SNAA	**Sanae**	**51.28**	**157**	P	**P**	**04 55 11.0**	**+0.7**
	2.0nm,0.8s,baz=290,slow=7.3,SNR=7.0						
SNAA				LR	LR	05 17 10.2	
	comp=Z,20nm,18.1s,baz=212,slow=36						
SNAA	**Sanae**	**51.28**	**157**	*e*P	**P**	**04 55 10.4**	**0.0**
	18nm,1.3s						
QSPA	**South Pole Qui**	**55.21**	**180**	P	**P**	**04 55 39.9**	**+0.4**
	1.2nm,0.6s,baz=143,slow=0.9,SNR=11						
QSPA	**South Pole Qui**	**55.21**	**180**	*e*P	**P**	**04 55 39.8**	**+0.4**
	7.2nm,1.2s						
LRAL	**Lakeview Retre**	**68.78**	**348**	*e*P	**P**	**04 57 11.2**	**+0.6**
TXAR	**Lajitas Array**	**69.83**	**333**	P	**P**	**04 57 18.2**	**+0.9**
	0.6nm,0.6s,baz=158,slow=8.6,SNR=14						
TXAR				pP	**pP**	**04 57 26.1**	**-2.1**
	1.1nm,0.6s,baz=156,slow=8.2,SNR=11						
WHTX	**Lake Whitney,**	**70.19**	**339**	*e*P	**P**	**04 57 20.6**	**+1.3**
WVT	**Waverly**	**71.94**	**348**	*e*P	**P**	**04 57 30.7**	**+0.9**
	9.1nm,1.2s						
WMOK	**Wichita Mounta**	**73.14**	**339**	*e*P	**P**	**04 57 37.3**	**+0.2**
	1.8nm,0.8s						
TUL1	**Leonard**	**73.42**	**342**	*e*P	**P**	**04 57 39.2**	**+0.5**
	3.3nm,0.6s						
DBIC	**Dimbokro**	**77.11**	**72**	P	**P**	**04 58 01.4**	**+1.1**
	4.3nm,1.0s,baz=225,slow=5.7,SNR=3.1						
BOSA	**Boshof**	**81.08**	**119**	P	**P**	**04 58 22.2**	**0.0**
	3.7nm,0.8s,baz=244,slow=1.1,SNR=6.5						
BOSA	**Boshof**	**81.08**	**119**	*e*P	**P**	**04 58 22.2**	**0.0**
	29nm,1.7s						
HWUT	**Hardware Ranch**	**83.66**	**333**	*e*P	**P**	**04 58 36.2**	**+1.0**
	2.8nm,0.9s						
NVAR	**Mina Array Bea**	**83.78**	**327**	P	**P**	**04 58 37.8**	**+1.8**
	0.6nm,0.8s,baz=153,slow=6.1,SNR=3.5						
NVAR				pP	**pP**	**04 58 45.1**	**-1.9**
	0.4nm,0.6s,baz=147,slow=6.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**86.14**	**71**	P	**P**	**04 58 48.5**	**+0.4**
	1.7nm,1.0s,baz=277,slow=5.3,SNR=11						
ULM	**Lac du Bonnet**	**87.07**	**346**	pP	pP	04 58 59.9	-2.9
	1.4nm,0.6s,baz=165,slow=4.3,SNR=2.6						
FCC	**Fort Churchill**	**94.92**	**350**	*e*P	**P**	**04 59 27.9**	**-0.2**
WRA	**Warramunga Arr**	**119.03**	**211**	PKP	**PKPdf**	**05 04 55.1**	**-0.8**
	0.4nm,0.7s,baz=161,slow=1.9,SNR=4.7						
WRAB	**Tennant Creek**	**119.03**	**211**	*e*PKPdf	**PKPdf**	**05 04 55.2**	**-0.7**
BRTR	**Keskin Array B**	**123.81**	**62**	PKP	**PKPdf**	**05 05 04.7**	**+0.2**
	0.8nm,0.7s,baz=197,slow=2.9,SNR=6.8						
BRTR				pPKP	**pPKPdf**	**05 05 13.2**	**-2.8**
	0.4nm,0.7s,baz=253,slow=3.3,SNR=2.3						
ABKAR	**Akbulak array**	**143.65**	**53**	*e*PKPdf	PKPbc	05 05 39.0	+0.5
PALK	**Pallekele**	**143.95**	**134**	*e*PKPdf	**PKPdf**	**05 05 42.3**	**-0.3**
BRVK	**Borovoye**	**149.11**	**43**	*e*PKPbc	**PKPbc**	**05 05 55.2**	**+1.0**
IPM	**Ipoh**	**149.27**	**170**	*e*PKPbc	**PKPbc**	**05 05 55.7**	**-0.2**
KULM	**Kulim**	**150.01**	**169**	*e*PKPbc	**PKPbc**	**05 05 57.4**	**-0.3**
KKAR	**Karatay Array**	**151.52**	**63**	*e*PKPdf	**PKPdf**	**05 05 54.2**	**0.0**
KKAR				*e*PKPbc	**PKiKP**	**05 06 00.6**	**-0.2**
KKAR				*e*PKPab	**PKPab**	**05 06 08.8**	**-0.2**
KURK	**Kurchatov**	**154.78**	**43**	*e*PKPdf	**PKPdf**	**05 05 58.5**	**-0.1**
KURK				*e*PKPbc	**PKPbc**	**05 06 06.4**	**-0.8**
KURK				*e*PKPab	**PKPab**	**05 06 20.9**	**-1.5**
ZALV	**Zalesovo Beam**	**155.99**	**32**	PKP	**PKPdf**	**05 05 59.9**	**-0.2**
	0.2nm,0.3s,baz=340,slow=3.4,SNR=3.2						
ZALV				pPKP	**pPKPdf**	**05 06 09.5**	**-2.1**
	0.4nm,0.4s,baz=291,slow=4.6,SNR=2.6						
MKAR	**Makanchi Array**	**158.71**	**49**	PKP	**PKPdf**	**05 06 05.0**	**+1.1**
	0.6nm,0.9s,baz=0.0,slow=1.7,SNR=4.1						
MKAR				PKPab	**PKPab**	**05 06 40.2**	**+0.6**
	0.8nm,0.6s,baz=316,slow=3.3,SNR=9.5						

*IDC **14** 04:46:10.3±1.3, 34°55N×32°12E, h0km, mb3.7/8, mb1 3.8/14, mb1mx3.6/43, mbtmp3.7/14, ML3.9/6, MS2.3/1, Ms1 2.3/1, ms1mx2.0/37, Error ellipse: s-maj=27.2km s-min=16.0km az=37.0*

*ISK **14** 04:46:10.9, 34°39N×32°05E, h11km, ML3.5*

*NIC **14** 04:46:12.7, 34°46N×32°04E, h22km, ML3.6*

*NEIC **14** 04:46:12.6, 34°50N×32°00E, h22km, mb3.5/2, ML3.6(NIC), After NIC.*

NEIC Felt at Limassol.

*DDA **14** 04:46:12.8, 34°66N×32°07E, h7km, MD3.5, ML3.6*

*CSEM **14** 04:46:13.8±0.1, 34°47N×32°12E, h20km, ML3.6, Error ellipse: s-maj=4.1km s-min=2.8km az=55.0*

*ISCJB **14** 04:46:13.7±0.2, 34°44N±0°02×32°09E±0°03, h45km±5km, mb3.5/8, Error ellipse: s-maj=3.9km s-min=2.4km az=145.9*

*GII **14** 04:46:13.3±0.3, 34°48N×32°22E, h10km±1km, MD3.2/10*

*NSSC **14** 04:46:14.9±2.0, 34°53N×32°45E, h10km±69km, ML3.0*

*HLW **14** 04:46:26.4, 33°52N×32°39E, h11km±24km, Md3.9, Ml2.8*

ISC 14 04:46:14.5±1.0, 34°53N±0°03×32°20E±0°03, h32km±8km, n191, σ1°40/224, mb3.7/8, 4C-4D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.38**	**19**	⇓P	**Pb**	**04 46 22.6**	**-0.6**
	baz=211						
PPCY	**Paphos**	**0.38**	**19**	⇓P	**Pb**	**04 46 22.6**	**-0.6**
AKMC	**Akamas**	**0.51**	**12**	⇓P	**Pb**	**04 46 24.7**	**-0.6**
	baz=203						
AKMC	**Akamas**	**0.51**	**12**	⇓P	**Pb**	**04 46 24.7**	**-0.6**
SZAC	**Souni-Zanaja**	**0.61**	**68**	⇑P	**Pb**	**04 46 26.5**	**-0.3**
	baz=247						
SZAC				S	**Sn**	**04 46 37.5**	**+1.8**
SZAC	**Souni-Zanaja**	**0.61**	**68**	⇑P	**Pb**	**04 46 26.5**	**-0.3**
SZAC				S	**Sn**	**04 46 37.5**	**+1.8**
ALFC	**Alevga**	**0.71**	**28**	⇑P	**Pb**	**04 46 27.8**	**-0.7**
	baz=213						
ALFC				S	**Sn**	**04 46 39.5**	**+1.3**
ALFC	**Alevga**	**0.71**	**28**	⇑P	**Pb**	**04 46 27.8**	**-0.7**
ALFC				S	**Sn**	**04 46 39.5**	**+1.3**
LEF	**Lefka**	**0.82**	**44**	*e*PG	**Pn**	**04 46 30.0**	**+0.2**
LEF				*e*SG	**Sn**	**04 46 43.8**	**+3.0**
LEF	**Lefka**	**0.82**	**44**	*e*Pg	**Pn**	**04 46 30.0**	**+0.2**
LEF				*e*Sg	**Sn**	**04 46 43.8**	**+3.0**
CSS	**Prodhromos**	**1.03**	**65**	P	**Pn**	**04 46 32.8**	**+0.1**
	baz=245						
CSS				S	**Sb**	**04 46 47.6**	**+0.6**
CSS	**Prodhromos**	**1.03**	**65**	Pg	**Pn**	**04 46 32.3**	**-0.4**
CSS	**Prodhromos**	**1.03**	**65**	Pg	**Pn**	**04 46 32.3**	**-0.4**
CSS	**Prodhromos**	**1.03**	**65**	*e*Pn	**Pn**	**04 46 32.6**	**-0.1**
CSS	**Prodhromos**	**1.03**	**65**	P	**Pn**	**04 46 32.8**	**+0.1**
CSS				*e*Sn	**Sn**	**04 46 46.5**	**+0.5**
CSS				S	**Sb**	**04 46 47.6**	**+0.6**
CSS	**Prodhromos**	**1.03**	**65**	*e*Pn	**Pn**	**04 46 32.6**	**-0.1**
CSS				*e*Sn	**Sn**	**04 46 46.5**	**+0.5**
LFK	**Lefkose**	**1.33**	**55**	*e*PN	**Pb**	**04 46 38.7**	**-0.2**
LFK				*e*SN	**Sb**	**04 46 58.3**	**+2.7**
LFK	**Lefkose**	**1.33**	**55**	*e*Pn	**Pb**	**04 46 38.7**	**-0.2**
LFK				*e*Sn	**Sb**	**04 46 58.3**	**+2.7**
GAZI	**Gazipasa**	**1.71**	**3**	*i* P	**Pn**	**04 46 42.2**	**+0.2**
GAZI	**Gazipasa**	**1.71**	**3**	*i* P	**Pn**	**04 46 42.2**	**+0.2**
EREN	**Erenkoy**	**1.91**	**58**	*e*PN	**Pn**	**04 46 46.9**	**+2.2**
EREN	**Erenkoy**	**1.91**	**58**	*e*Pn	**Pn**	**04 46 46.9**	**+2.2**
ERMK	**Ermenek**	**2.19**	**15**	*i* P	**Pb**	**04 46 52.2**	**-1.4**
ERMK	**Ermenek**	**2.19**	**15**	*i* P	**Pb**	**04 46 52.2**	**-1.4**
KIZK	**Mersin**	**2.52**	**39**	*i* P	**Pn**	**04 46 55.8**	**+2.7**
KIZK				*i* S	**Sb**	**04 47 28.3**	**-1.2**
KIZK	**Mersin**	**2.52**	**39**	*i* P	**Pn**	**04 46 55.8**	**+2.7**
KIZK				*i* S	**Sb**	**04 47 28.3**	**-1.2**
ANTB	**Antalya**	**2.68**	**333**	*e*PN	**Pn**	**04 46 56.9**	**+1.6**
ANTB	**Antalya**	**2.68**	**333**	*e*PN	**Pn**	**04 46 56.9**	**+1.6**
AKAS	**Kas**	**2.72**	**310**	*i* P	**Pn**	**04 46 57.2**	**+1.2**
AKAS				*i* S	**Sn**	**04 47 27.1**	**-0.7**
AKAS	**Kas**	**2.72**	**310**	*i* P	**Pn**	**04 46 57.2**	**+1.2**
AKAS				*i* S	**Sn**	**04 47 27.1**	**-0.7**
NAQL	**Naqoura**	**2.82**	**119**	*e*P	**Pn**	**04 46 57.0**	**-0.3**
NAQL	**Naqoura**	**2.82**	**119**	*e*P	**Pn**	**04 46 57.0**	**-0.3**
HNTI	**Hanita**	**2.87**	**119**	Pn	**Pn**	**04 46 58.1**	**+0.2**
HNTI				Sn	**Sn**	**04 47 33.2**	**+1.9**
HNTI	**Hanita**	**2.87**	**119**	Pn	**Pn**	**04 46 58.1**	**+0.2**
HNTI				Sn	**Sn**	**04 47 33.2**	**+1.9**
ELL	**Elmali**	**2.90**	**321**	*e*PN	**Pn**	**04 46 59.0**	**+0.6**
ELL	**Elmali**	**2.90**	**321**	*e*Pn	**Pn**	**04 46 59.0**	**+0.6**
BHL	**Bhannes**	**2.93**	**101**	*e*P	Pn	04 47 02.4	+3.5
BHL	**Bhannes**	**2.93**	**101**	*e*P	Pn	04 47 02.4	+3.5
OFRI	**'Ofer**	**3.00**	**128**	Pn	**Pn**	**04 47 00.9**	**+1.1**
OFRI	**'Ofer**	**3.00**	**128**	Pn	**Pn**	**04 47 00.9**	**+1.1**
MERS	**Mersin**	**3.01**	**38**	*e*PN	**Pn**	**04 47 02.7**	**+2.8**
MERS	**Mersin**	**3.01**	**38**	*e*Pn	**Pn**	**04 47 02.7**	**+2.8**
MMA0B	**Mount Meron ar**	**3.06**	**119**	Pn	**Pn**	**04 47 01.3**	**+0.6**
MMA0B				Sn	**Sn**	**04 47 37.9**	**+1.6**
MMA0B	**Mount Meron ar**	**3.06**	**119**	Pn	**Pn**	**04 47 01.3**	**+0.6**
MMA0B				Sn	**Sn**	**04 47 37.9**	**+1.6**
MMAI	**Mount Meron Ar**	**3.06**	**119**	Pn	**Pn**	**04 47 00.6**	**-0.2**
	33nm,0.3s,baz=309,slow=13,SNR=62						
HWQ	**Hawqa**	**3.11**	**93**	*e*P	**Pn**	**04 47 03.6**	**+2.2**
HWQ	**Hawqa**	**3.11**	**93**	*e*P	**Pn**	**04 47 03.6**	**+2.2**
KSDI	**Kefar Szold**	**3.17**	**114**	Pn	**Pn**	**04 47 02.3**	**+0.2**
KSDI	**Kefar Szold**	**3.17**	**114**	Pn	**Pn**	**04 47 02.3**	**+0.2**
RCY	**Rachaya**	**3.19**	**108**	*e*P	**Pn**	**04 47 02.2**	**-0.3**
BCK	**Bucak**	**3.21**	**336**	*e*PN	**Pn**	**04 47 04.1**	**+1.4**
BCK	**Bucak**	**3.21**	**336**	*e*Pn	**Pn**	**04 47 04.1**	**+1.4**
SLTI	**Sal'it**	**3.29**	**133**	Pn	**Pn**	**04 47 03.7**	**-0.1**
SLTI				Sn	**Sn**	**04 47 43.6**	**+1.8**
SLTI	**Sal'it**	**3.29**	**133**	Pn	**Pn**	**04 47 03.7**	**-0.1**
SLTI				Sn	**Sn**	**04 47 43.6**	**+1.8**
FETY	**Fethiye**	**3.30**	**311**	*e*PN	**Pn**	**04 47 04.1**	**+0.2**
FETY	**Fethiye**	**3.30**	**311**	*e*Pn	**Pn**	**04 47 04.1**	**+0.2**
BRBR	**Barbar**	**3.31**	**109**	*e*P	**Pn**	**04 47 04.5**	**+0.3**
	SNR=47						
BRBR	**Barbar**	**3.31**	**109**	*e*P	**Pn**	**04 47 04.5**	**+0.3**
ARNB	**Al Arnab**	**3.37**	**66**	*e*P	**Pn**	**04 47 05.5**	**+0.7**
	SNR=47						
ARNB	**Al Arnab**	**3.37**	**66**	*e*P	**Pn**	**04 47 05.5**	**+0.7**
ARNB				*e*S	**Sn**	**04 47 40.3**	**-3.5**
ARNB				AML	AML	04 47 52.6	
	comp=E,84nm,0.5s						
ARNB				AML	AML	04 48 03.5	
	comp=N,51nm,0.5s						
MMLI	**Mount Malkishu**	**3.41**	**127**	Pn	**Pn**	**04 47 06.7**	**+1.4**
MMLI				Sn	**Sn**	**04 47 46.9**	**+2.3**
MMLI	**Mount Malkishu**	**3.41**	**127**	Pn	**Pn**	**04 47 06.7**	**+1.4**
MMLI				Sn	**Sn**	**04 47 46.9**	**+2.3**
KONT	**Konya--Tatoy**	**3.42**	**2**	*e*PN	**Pn**	**04 47 08.2**	**+2.8**
KONT	**Konya--Tatoy**	**3.42**	**2**	*e*Pn	**Pn**	**04 47 08.3**	**+2.8**
BIDA	**Albida**	**3.43**	**81**	*e*P	**Pn**	**04 47 05.3**	**-0.4**
	SNR=47						
BIDA				*e*S	**Sn**	**04 47 43.2**	**-2.1**
	comp=N,331nm,0.5s,SNR=49						
BIDA	**Albida**	**3.43**	**81**	*e*P	**Pn**	**04 47 05.3**	**-0.4**
BIDA				*e*S	**Sn**	**04 47 43.2**	**-2.1**
BIDA				AML	AML	04 47 54.7	
	comp=N,323nm,0.4s						
BIDA				AML	AML	04 47 55.3	
	comp=E,331nm,0.5s						
GOLH	**Golhisar**	**3.45**	**322**	*i* P	Pn	04 47 09.3	+3.3
GOLH				*i* S	**Sn**	**04 47 48.6**	**+2.8**
GOLH	**Golhisar**	**3.45**	**322**	*i* P	Pn	04 47 09.3	+3.3
GOLH				*i* S	**Sn**	**04 47 48.6**	**+2.8**
HAWK	**Haweek**	**3.47**	**89**	*e*P	**Pn**	**04 47 06.3**	**0.0**
	SNR=47						
HAWK				*e*S	**Sn**	**04 47 45.6**	**-0.8**
	comp=E,75nm,0.3s,SNR=49						
HAWK	**Haweek**	**3.47**	**89**	*e*P	**Pn**	**04 47 06.3**	**0.0**
HAWK				*e*S	**Sn**	**04 47 45.6**	**-0.8**
HAWK				AML	AML	04 47 57.0	
	comp=E,88nm,0.4s						
HAWK				AML	AML	04 47 57.8	
	comp=N,75nm,0.3s						
KARA	**Karaisali**	**3.58**	**40**	*e*PN	**Pn**	**04 47 10.8**	**+3.0**
KARA	**Karaisali**	**3.58**	**40**	*e*Pn	**Pn**	**04 47 10.8**	**+3.0**
MARH	**Ras Al Marh**	**3.58**	**97**	*e*P	**Pn**	**04 47 08.0**	**-0.1**
	SNR=47						
MARH				*e*S	**Sn**	**04 47 45.8**	**-3.6**
	comp=N,73nm,0.4s,SNR=49						
MARH	**Ras Al Marh**	**3.58**	**97**	*e*P	**Pn**	**04 47 08.0**	**-0.1**
MARH				*e*S	**Sn**	**04 47 45.8**	**-3.6**
MARH				AML	AML	04 47 59.9	
	comp=E,103nm,0.5s						
MARH				AML	AML	04 48 00.5	
	comp=N,73nm,0.4s						
HMDT	**Nahal Hemdat**	**3.59**	**128**	Pn	**Pn**	**04 47 09.2**	**+1.4**
HMDT	**Nahal Hemdat**	**3.59**	**128**	Pn	**Pn**	**04 47 09.2**	**+1.4**
WRDH	**Warideh**	**3.60**	**73**	*e*P	**Pn**	**04 47 08.6**	**+0.6**
	SNR=47						
WRDH				*e*S	**Sn**	**04 47 48.3**	**-1.1**
	comp=N,78nm,0.3s,SNR=49						
WRDH	**Warideh**	**3.60**	**73**	*e*P	**Pn**	**04 47 08.6**	**+0.6**
WRDH				*e*S	**Sn**	**04 47 48.3**	**-1.1**
WRDH				AML	AML	04 47 55.2	
	comp=E,124nm,0.5s						
WRDH				AML	AML	04 47 57.1	
	comp=N,78nm,0.3s						
TCHB	**Talchebab**	**3.65**	**119**	*e*P	**Pn**	**04 47 09.6**	**+0.9**
	SNR=47						
TCHB				*e*S	**Sn**	**04 47 49.3**	**-1.4**
	comp=N,215nm,0.5s,SNR=49						
TCHB	**Talchebab**	**3.65**	**119**	*e*P	**Pn**	**04 47 09.6**	**+0.9**
TCHB				*e*S	**Sn**	**04 47 49.3**	**-1.4**
TCHB				AML	AML	04 48 06.2	
	comp=N,231nm,0.6s						
TCHB				AML	AML	04 48 07.0	
	comp=E,215nm,0.5s						
LADK	**Ladik-KONYA**	**3.67**	**2**	*e*PN	**Pn**	**04 47 11.6**	**+2.5**
LADK	**Ladik-KONYA**	**3.67**	**2**	*e*Pn	**Pn**	**04 47 11.6**	**+2.5**
DALY	**Dalyan (Mu¨la**	**3.68**	**309**	*e*PN	**Pn**	**04 47 09.1**	**0.0**
DALY	**Dalyan (Mu¨la**	**3.68**	**309**	*e*Pn	**Pn**	**04 47 09.1**	**0.0**
RSH		**3.78**	**160**	P	**Pn**	**04 47 10.8**	**+0.3**
	baz=155						
CEYT	**Ceyhan**	**3.81**	**48**	*e*PN	Pn	04 47 14.1	+3.3
CEYT	**Ceyhan**	**3.81**	**48**	*e*Pn	Pn	04 47 14.1	+3.3
KFRA	**Kufra**	**3.85**	**78**	*e*P	**Pn**	**04 47 12.1**	**+0.7**
	SNR=47						
KFRA	**Kufra**	**3.85**	**78**	*e*P	**Pn**	**04 47 12.1**	**+0.7**
KFRA				*e*S	**Sn**	**04 47 52.4**	**-3.2**
KFRA				AML	AML	04 48 08.5	
	comp=N,121nm,0.6s						
KFRA				AML	AML	04 48 12.0	
	comp=E,188nm,0.3s						
AMAG	**Maghara**	**3.96**	**167**	P	**Pn**	**04 47 12.5**	**-0.6**
AMAG	**Maghara**	**3.96**	**167**	P	**Pn**	**04 47 12.5**	**-0.6**
	baz=166						
DSI	**Dead Sea**	**3.98**	**137**	Pn	**Pn**	**04 47 13.9**	**+0.7**
DSI				Sn	**Sn**	**04 48 00.4**	**+1.7**
DSI	**Dead Sea**	**3.98**	**137**	Pn	**Pn**	**04 47 13.9**	**+0.7**
DSI				Sn	**Sn**	**04 48 00.4**	**+1.7**
RTMI	**Retamim**	**4.05**	**148**	Pn	**Pn**	**04 47 14.7**	**+0.5**
RTMI	**Retamim**	**4.05**	**148**	Pn	**Pn**	**04 47 14.7**	**+0.5**
KZIT	**Kziot**	**4.06**	**152**	Pn	**Pn**	**04 47 14.9**	**+0.6**
KZIT				Sn	**Sn**	**04 48 02.6**	**+1.9**
KZIT	**Kziot**	**4.06**	**152**	Pn	**Pn**	**04 47 14.9**	**+0.6**
KZIT				Sn	**Sn**	**04 48 02.6**	**+1.9**
YER	**Yerkesik**	**4.11**	**310**	*e*PN	**Pn**	**04 47 15.0**	**-0.1**
YER	**Yerkesik**	**4.11**	**310**	*e*Pn	**Pn**	**04 47 15.0**	**-0.1**
RABH	**Abou Rabah**	**4.14**	**90**	*e*P	**Pn**	**04 47 16.7**	**+1.2**
	SNR=47						
RABH	**Abou Rabah**	**4.14**	**90**	*e*P	**Pn**	**04 47 16.7**	**+1.2**
RABH				AML	AML	04 47 21.1	
	comp=N,26nm,0.2s						
RABH				*e*S	**Sn**	**04 47 59.2**	**-3.6**
RABH				AML	AML	04 48 17.3	
	comp=E,52nm,0.5s						
MZDA	**Masada**	**4.17**	**139**	Pn	**Pn**	**04 47 16.5**	**+0.8**
MZDA				Sn	**Sn**	**04 48 05.1**	**+1.8**
MZDA	**Masada**	**4.17**	**139**	Pn	**Pn**	**04 47 16.5**	**+0.8**
MZDA				Sn	**Sn**	**04 48 05.1**	**+1.8**
SALA	**Sala**	**4.19**	**114**	*e*P	**Pn**	**04 47 17.1**	**+0.8**
	SNR=47						
SALA				*e*S	**Sn**	**04 48 01.4**	**-2.9**
	comp=E,8.9nm,0.4s,SNR=49						
SALA	**Sala**	**4.19**	**114**	*e*P	**Pn**	**04 47 17.1**	**+0.8**
SALA				AML	AML	04 47 21.1	
	comp=N,122nm,0.5s						
SALA				*e*S	**Sn**	**04 48 01.4**	**-2.9**
SALA				AML	AML	04 48 23.9	
	comp=E,8.9nm,0.4s						
SHUT	**Suhut-Afyon**	**4.23**	**342**	*e*PN	**Pn**	**04 47 18.7**	**+1.9**
SHUT	**Suhut-Afyon**	**4.23**	**342**	*e*Pn	**Pn**	**04 47 18.7**	**+1.9**
KHL	**Karahalli**	**4.36**	**331**	*e*PN	**Pn**	**04 47 20.0**	**+1.5**
KHL	**Karahalli**	**4.36**	**331**	*e*Pn	**Pn**	**04 47 20.0**	**+1.5**
RMNI	**Mount Ramon**	**4.48**	**150**	Pn	**Pn**	**04 47 20.5**	**+0.4**
RMNI	**Mount Ramon**	**4.48**	**150**	Pn	**Pn**	**04 47 20.5**	**+0.4**
HHAG	**Hagoal**	**4.56**	**181**	P	**Pn**	**04 47 21.6**	**+0.4**
HHAG	**Hagoal**	**4.56**	**181**	P	**Pn**	**04 47 21.6**	**+0.4**
	baz=185						
ZALF	**Zalf**	**4.57**	**109**	*e*P	**Pn**	**04 47 22.5**	**+1.1**
	SNR=47						
ZALF	**Zalf**	**4.57**	**109**	*e*P	**Pn**	**04 47 22.4**	**+1.1**
ASF	**Jabal al Asfar**	**4.58**	**120**	Pn	**Pn**	**04 47 22.8**	**+1.2**
	comp=E,2.5nm,0.3s,baz=250,slow=8.7,SNR=20						
BDRM	**Kayabasi**	**4.62**	**305**	*i* P	**Pn**	**04 47 22.7**	**+0.7**
BDRM				*i* S	**Sn**	**04 48 12.6**	**-2.0**
BDRM	**Kayabasi**	**4.62**	**305**	*i* P	**Pn**	**04 47 22.7**	**+0.7**
BDRM				*i* S	**Sn**	**04 48 12.6**	**-2.0**
ZFRI	**Zfri**	**4.69**	**147**	Pn	**Pn**	**04 47 23.7**	**+0.7**
ZFRI	**Zfri**	**4.69**	**147**	Pn	**Pn**	**04 47 23.7**	**+0.7**
SUZ		**4.70**	**173**	P	**Pn**	**04 47 23.1**	**-0.1**
SUZ		**4.70**	**173**	P	**Pn**	**04 47 23.1**	**-0.1**
	baz=174						
BODT	**Bodrum**	**4.71**	**304**	*e*PN	**Pn**	**04 47 23.3**	**+0.1**
BODT	**Bodrum**	**4.71**	**304**	*e*Pn	**Pn**	**04 47 23.3**	**+0.1**
PRNI	**Paran**	**4.79**	**150**	Pn	**Pn**	**04 47 25.2**	**+0.8**
PRNI	**Paran**	**4.79**	**150**	Pn	**Pn**	**04 47 25.2**	**+0.8**
ALT	**Altintas**	**4.82**	**340**	*e*PN	**Pn**	**04 47 26.7**	**+1.8**
ALT	**Altintas**	**4.82**	**340**	*e*Pn	**Pn**	**04 47 26.7**	**+1.8**
HNKL	**Nakhl**	**4.83**	**161**	P	**Pn**	**04 47 24.6**	**-0.3**
HNKL	**Nakhl**	**4.83**	**161**	P	**Pn**	**04 47 24.6**	**-0.3**
	baz=158						
HNKL				AMP		04 48 00.0	
	comp=E,30μm,0.6s,logA/T=4.7,baz=158						
HNKL				S	Sn	04 48 09.4	-10
	baz=158						
KMRS	**Kahramanmaras**	**4.83**	**51**	*e*PN	Pn	04 47 28.8	+3.8
KMRS	**Kahramanmaras**	**4.83**	**51**	*e*Pn	Pn	04 47 28.8	+3.8
AYDB	**Zeytinkoy-Aydi**	**4.88**	**316**	*e*PN	**Pn**	**04 47 26.7**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**4.88**	**316**	*e*Pn	**Pn**	**04 47 26.7**	**+1.1**
KRMI	**Paran Flat**	**4.89**	**153**	Pn	**Pn**	**04 47 26.9**	**+1.2**
KRMI	**Paran Flat**	**4.89**	**153**	Pn	**Pn**	**04 47 26.9**	**+1.2**
KULA	**Kula-Manisa**	**4.89**	**325**	*e*PN	**Pn**	**04 47 26.6**	**+0.7**
KULA	**Kula-Manisa**	**4.89**	**325**	*e*Pn	**Pn**	**04 47 26.6**	**+0.7**
HSAF	**As Saff**	**4.92**	**187**	P	**Pn**	**04 47 26.6**	**+0.4**
HSAF	**As Saff**	**4.92**	**187**	P	**Pn**	**04 47 26.6**	**+0.4**
	baz=191						
GLL	**Jalalah**	**4.

IDC 14 04:57:22.1±2.9, 33°36'S×72°93'W, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.5/27, mbtmp3.8/3, ML4.4/1, Error ellipse: s-maj=81.5km s-min=52.9km az=34.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**17.55**	**15**	P	Pn	05 01 28.7	-0.2
	0.5nm,0.3s,baz=188,slow=20,SNR=23						
TXAR	**Lajitas Array**	**68.82**	**331**	P	P	05 08 28.1	-0.2
	0.3nm,0.6s,baz=148,slow=7.6,SNR=4.9						
TORD	**Torodi Ar. Bea**	**84.70**	**71**	P	P	05 09 57.7	-0.5
	0.8nm,0.9s,baz=224,slow=5.4,SNR=3.9						
MKAR	**Makanchi Array**	**156.89**	**47**	PKPab	PKPab	05 17 49.6	+0.5
	0.1nm,0.5s,baz=270,slow=4.2,SNR=4.1						

*IDC **14** 05:04:29.3±0.8, 36°31'S×73°36'W, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.0/33, mbtmp4.1/14, ML3.4/1, MS3.7/4, Ms1 3.7/4, ms1mx3.3/24, Error ellipse: s-maj=25.7km s-min=17.5km az=97.0*

*ISCJB **14** 05:04:31.7±0.6, 36°30'S±0°06'×73°3'W±0°1, h27km, mb4.1/11, MS3.9/3, Error ellipse: s-maj=13.1km s-min=8.8km az=15.5*

*NEIC **14** 05:04:34.3±0.5, 36°26'S×73°35'W, h35km, mb4.1/1, Error ellipse: s-maj=14.3km s-min=9.1km az=86.0*

ISC 14 05:04:33.1±0.7, 36°28'S±0°08'×73°5'W±0°1, h27km, n23, σ0°91/22, mb4.3/11, MS3.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.00**	**154**	Pn	**Pn**	**05 05 46.0**	**-0.4**
	baz=286,slow=18						
PLCA	**Paso Flores**	**5.00**	**154**	*e*Pn	**Pn**	**05 05 46.6**	**+0.2**
CFAA	**Coronel Fontan**	**6.37**	**44**	Pn	**Pn**	**05 06 04.8**	**-0.3**
	0.9nm,0.3s,baz=231,slow=8.4,SNR=67						
CFAA				Sn	**Sn**	**05 07 18.8**	**+1.7**
	0.4nm,0.3s,baz=286,slow=15,SNR=1.6						
CFAA				LR	LR	05 08 45.2	
	comp=Z,121nm,18.5s,baz=224,slow=40						
LCO	**Las Campanas**	**7.61**	**19**	*e*Pn	**Pn**	**05 06 20.6**	**-1.8**
	20nm,0.5s						
TRQA	**Tornquist**	**9.33**	**104**	*e*Pn	**Pn**	**05 06 46.1**	**+0.3**
	36nm,0.9s						
LPAZ	**La Paz**	**20.47**	**15**	P	Pn	05 09 11.1	-0.7
	4.8nm,0.9s						
LPAZ	**La Paz**	**20.47**	**15**	P	Pn	05 09 11.1	-0.7
	4.8nm,0.9s						
SIV	**San Ignacio**	**23.02**	**32**	P	**P**	**05 09 35.3**	**-0.8**
	12nm,0.9s,baz=223,slow=11,SNR=32						
SIV				LR	LR	05 20 24.5	
	comp=Z,331nm,19.6s,baz=220,slow=42						
BDFB	**Brasilia**	**30.59**	**54**	P	**P**	**05 10 44.8**	**-0.1**
	2.3nm,0.7s,baz=173,slow=8.1,SNR=3.3						
PTGA	**Pitinga**	**37.52**	**23**	P	**P**	**05 11 44.4**	**-0.5**
	4.1nm,0.7s,baz=207,slow=6.3,SNR=6.2						
GRGR	**Grenville**	**49.42**	**15**	*e*P	**P**	**05 13 20.8**	**0.0**
SNAA	**Sanae**	**49.93**	**157**	P	**P**	**05 13 23.9**	**-0.2**
	2.4nm,0.8s,baz=333,slow=10,SNR=3.5						
QSPA	**South Pole Qui**	**53.96**	**180**	P	**P**	**05 13 54.7**	**+0.4**
	3.0nm,1.0s,baz=169,slow=5.1,SNR=4.7						
PPT	**Papeete**	**68.80**	**263**	LR	LR	05 37 55.7	
	comp=Z,89nm,19.1s,baz=102,slow=29						
TXAR	**Lajitas Array**	**71.18**	**332**	P	**P**	**05 15 51.0**	**+1.4**
	0.3nm,0.5s,baz=160,slow=7.8,SNR=5.2						
DBIC	**Dimbokro**	**77.00**	**72**	P	**P**	**05 16 24.1**	**+0.3**
	7.7nm,0.8s,baz=197,slow=7.6,SNR=8.2						
DBIC				LR	LR	05 48 41.1	
	comp=Z,63nm,19.3s,baz=212,slow=34						
NVAR	**Mina Array Bea**	**85.11**	**326**	P	**P**	**05 17 08.1**	**+1.5**
	0.2nm,0.6s,baz=157,slow=4.9,SNR=2.3						
PDAR	**Pinedale Array**	**85.29**	**334**	P	**P**	**05 17 08.0**	**+0.5**
	0.5nm,0.8s,baz=98,slow=3.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**86.07**	**71**	P	**P**	**05 17 11.2**	**-0.5**
	2.0nm,0.8s,baz=219,slow=4.1,SNR=10.0						
ULM	**Lac du Bonnet**	**88.41**	**346**	P	**P**	**05 17 21.7**	**-0.4**
	2.4nm,0.8s,baz=186,slow=1.6,SNR=5.1						
ABKAR	**Akbulak array**	**143.98**	**54**	*e*PKPdf	PKPab	05 24 03.1	+0.1
ZALV	**Zalesovo Beam**	**156.76**	**34**	PKP	**PKPdf**	**05 24 23.9**	**-1.3**
	0.5nm,0.5s,baz=270,slow=3.0,SNR=4.6						
ZALV				PKPab	**PKPab**	**05 24 55.5**	**+0.7**
	1.4nm,0.6s,baz=316,slow=4.1,SNR=7.3						
MKAR	**Makanchi Array**	**159.10**	**52**	PKP	**PKPdf**	**05 24 28.1**	**-0.2**
	0.4nm,0.8s,baz=252,slow=2.4,SNR=4.1						
MKAR				PKPab	**PKPab**	**05 25 04.5**	**-0.8**
	0.4nm,0.8s,baz=264,slow=3.4,SNR=4.2						

*IDC **14** 05:07:39.4±0.7, 38°34'S×73°58'W, h0km, mb4.2/12, mb1 4.4/14, mb1mx4.2/29, mbtmp4.2/14, ML3.2/1, MS3.9/6, Ms1 3.9/6, ms1mx3.5/24, Error ellipse: s-maj=22.6km s-min=13.8km az=75.0*

*ISCJB **14** 05:07:41.0±0.3, 38°27'S±0°05'×73°56'W±0°08, h18km, mb4.7/39, MS3.8/5, Error ellipse: s-maj=8.6km s-min=7.6km az=177.9*

*NEIC **14** 05:07:44.8±0.3, 38°35'S×73°48'W, h35km, mb4.8/11, Error ellipse: s-maj=12.1km s-min=7.5km az=77.0*

ISC 14 05:07:42.3±0.5, 38°37'S±0°07'×73°6'W±0°1, h18km, n291, σ0°68/283, mb4.8/39, MS3.8/5, 116C-115D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.34**	**136**	Pn	**Pn**	**05 08 34.0**	**+0.3**
	baz=293,slow=13						
PLCA				Lg	Lg	05 09 24.7	
	baz=54,slow=19						
CFAA	**Coronel Fontan**	**8.06**	**35**	Pn	**Pn**	**05 09 38.4**	**-0.1**
	0.3nm,0.3s,baz=210,slow=14,SNR=8.9						
CFAA				Sn	**Sn**	**05 11 10.3**	**+1.1**
	0.1nm,0.3s,baz=149,slow=12,SNR=2.3						
LCO	**Las Campanas**	**9.64**	**15**	*e*Pn	**Pn**	**05 09 59.2**	**-1.3**
LVC	**Limon Verde**	**16.21**	**16**	*e*Pn	**P**	**05 11 34.2**	**+1.7**
	61nm,1.6s						
USHA	**Ushuaia**	**16.84**	**170**	LR	LR	05 18 56.4	
	comp=Z,707nm,18.1s,baz=320,slow=40						
LPAZ	**La Paz**	**22.52**	**14**	P	**P**	**05 12 42.4**	**+0.6**
	4.9nm,1.0s,baz=179,slow=7.1,SNR=9.4						
LPAZ	**La Paz**	**22.52**	**14**	*e*P	**P**	**05 12 43.5**	**+1.7**
SIV	**San Ignacio**	**24.88**	**30**	P	**P**	**05 13 04.2**	**+0.1**
	3.9nm,0.7s,baz=233,slow=12,SNR=5.9						
NNA	**Nana**	**26.43**	**353**	LR	LR	05 21 08.0	
	comp=Z,158nm,19.2s,baz=176,slow=31						
NNA	**Nana**	**26.43**	**353**	*e*P	**P**	**05 13 20.1**	**+1.9**
	5.8nm,0.5s						
PMSA	**Palmer Station**	**27.04**	**171**	LR	LR	05 22 50.9	
	comp=Z,304nm,21.2s,baz=317,slow=34						
SAML	**Samuel**	**30.76**	**20**	*e*P	P	05 13 50.2	-6.5
	0.7nm,0.6s						
ATAH	**Atahualpa**	**31.39**	**351**	LR	LR	05 23 58.8	
	comp=Z,112nm,18.8s,baz=196,slow=31						
BDFB	**Brasilia**	**31.94**	**52**	P	P	05 14 11.6	+4.4
	6.0nm,0.8s,baz=216,slow=9.4,SNR=6.0						
OTAV	**Otavalo**	**38.68**	**352**	*e*P	**P**	**05 15 07.1**	**+1.5**
	25nm,1.6s						
PTGA	**Pitinga**	**39.50**	**22**	P	**P**	**05 15 10.0**	**-2.0**
	3.7nm,0.8s,baz=214,slow=6.4,SNR=4.3						
SDV	**Santo Domingo**	**47.09**	**4**	*e*P	**P**	**05 16 13.1**	**-0.4**
	8.9nm,0.8s						
BCIP	**Isla Barro Col**	**47.65**	**352**	*e*P	P	05 16 21.3	+3.8
	45nm,1.4s						
SNAA	**Sanae**	**48.06**	**156**	P	**P**	**05 16 20.3**	**0.0**
	2.1nm,0.9s,baz=315,slow=13,SNR=3.0						
JTS	**JuntasAbangare**	**49.55**	**345**	*e*P	**P**	**05 16 33.0**	**+0.8**
	8.4nm,1.0s						
QSPA	**South Pole Qui**	**51.87**	**180**	P	**P**	**05 16 50.5**	**+1.1**
	6.8nm,1.1s,baz=143,slow=3.0,SNR=5.5						
APG	**El Apazote**	**55.39**	**340**	P	P	05 17 11.2	-4.6
	baz=183,slow=12						
VNDA	**Vanda**	**59.57**	**192**	P	**P**	**05 17 44.2**	**0.0**
	2.2nm,1.0s,baz=156,slow=3.0,SNR=4.7						
035A	**Encino**	**68.90**	**337**	⇓P	**P**	**05 18 45.5**	**-0.4**
	baz=69						
034A	**Hebbronville**	**69.20**	**336**	⇑P	**P**	**05 18 47.6**	**-0.2**
	baz=70						
934A	**Benavides**	**69.65**	**337**	⇑P	**P**	**05 18 50.2**	**-0.3**
	baz=70						
933A	**Laredo**	**69.90**	**336**	⇓P	**P**	**05 18 52.4**	**+0.3**
	baz=70						
834A	**Tilden**	**70.14**	**337**	⇑P	**P**	**05 18 53.9**	**+0.3**
	baz=70,SNR=5.3						
833A	**Chaparral WMA,**	**70.60**	**336**	⇑P	**P**	**05 18 56.2**	**-0.1**
	baz=71						
832A	**Faith Ranch, C**	**70.75**	**335**	⇓P	**P**	**05 18 56.0**	**-1.3**
	baz=71,SNR=5.3						
734A	**La Parita Cree**	**70.82**	**337**	⇓P	**P**	**05 18 57.6**	**-0.1**
	baz=71						
733A	**Divot King Ran**	**70.93**	**336**	⇓P	**P**	**05 18 58.4**	**0.0**
	baz=71						
636A	**Smothers Creek**	**70.97**	**338**	⇓P	**P**	**05 18 58.7**	**+0.2**
	baz=71						
732A	**Laxson Ranch,**	**71.16**	**336**	⇓P	**P**	**05 18 59.2**	**-0.5**
	baz=72,SNR=6.5						
537A	**Green Hill Far**	**71.32**	**339**	⇓P	**P**	**05 19 00.7**	**0.0**
	baz=72						
536A	**Bastrop**	**71.53**	**339**	⇑P	**P**	**05 19 01.0**	**-0.9**
	baz=72						
633A	**Saathoff Ranch**	**71.58**	**337**	⇑P	**P**	**05 19 02.2**	**-0.1**
	baz=72						
438A	**Sam Houston St**	**71.73**	**340**	⇓P	**P**	**05 19 02.8**	**-0.3**
	baz=72						
632A	**Uvalde**	**71.82**	**336**	⇑P	**P**	**05 19 03.5**	**-0.3**
	baz=72,SNR=5.7						
534A	**Blanco**	**71.90**	**337**	⇓P	**P**	**05 19 04.1**	**-0.2**
	baz=72						
340A	**Bronson**	**71.96**	**342**	⇓P	**P**	**05 19 04.1**	**-0.4**
	baz=72						
631A	**Perdido Creek**	**71.99**	**335**	⇓P	**P**	**05 19 04.0**	**-0.8**
	baz=72						
339A	**Huntington**	**72.04**	**341**	⇓P	**P**	**05 19 04.6**	**-0.4**
	baz=72						
533A	**Kerrville**	**72.11**	**337**	⇓P	**P**	**05 19 04.8**	**-0.7**
	baz=72,SNR=8.4						
LRAL	**Lakeview Retre**	**72.12**	**348**	*e*P	**P**	**05 19 04.9**	**-0.6**
	160nm,2.3s						
338A	**Crockett**	**72.26**	**341**	⇑P	**P**	**05 19 06.4**	**+0.1**
	baz=73						
435B	**Jarrell**	**72.34**	**338**	⇑P	**P**	**05 19 06.8**	**-0.1**
	baz=73						
337A	**Centerville**	**72.37**	**340**	⇓P	**P**	**05 19 07.3**	**+0.3**
	baz=73						
532A	**Rocksprings**	**72.43**	**336**	⇓P	**P**	**05 19 07.6**	**+0.1**
	baz=73,SNR=12						
434A	**Burnet**	**72.57**	**338**	⇓P	**P**	**05 19 07.6**	**-0.6**
	baz=73,SNR=12						
531A	**Rocksprings**	**72.67**	**336**	⇑P	**P**	**05 19 08.8**	**-0.1**
	baz=73,SNR=6.5						
239A	**Gary**	**72.67**	**342**	⇑P	**P**	**05 19 08.3**	**-0.5**
	baz=73						
336A	**Riesel**	**72.70**	**339**	⇑P	**P**	**05 19 08.5**	**-0.4**
	baz=73						
JCT	**Junction City**	**72.73**	**336**	⇓P	**P**	**05 19 08.8**	**-0.3**
	baz=73						
JCT	**Junction City**	**72.73**	**336**	*e*P	**P**	**05 19 08.9**	**-0.3**
	18nm,0.6s						
433A	**Art**	**72.76**	**337**	⇑P	**P**	**05 19 08.8**	**-0.6**
	baz=73,SNR=6.3						
335A	**Moody**	**72.77**	**339**	⇑P	**P**	**05 19 09.3**	**0.0**
	baz=73						
238A	**Jarsonville**	**72.83**	**341**	⇓P	**P**	**05 19 08.2**	**-1.4**
	baz=73						
530A	**J-C Ranch, Com**	**72.92**	**335**	⇑P	**P**	**05 19 10.6**	**+0.3**
	baz=73,SNR=8.8						
TXAR	**Lajitas Array**	**72.98**	**333**	P	**P**	**05 19 10.8**	**+0.1**
	2.5nm,0.7s,baz=155,slow=8.7,SNR=32						
TXAR				LR	LR	05 44 57.2	
	comp=Z,81nm,21.9s,baz=0.0,slow=31						
237A	**Washetta, Mont**	**73.00**	**340**	⇓P	**P**	**05 19 10.3**	**-0.4**
	baz=73						
334A	**Lometa**	**73.05**	**338**	⇑P	**P**	**05 19 10.3**	**-0.7**
	baz=73,SNR=15						
432A	**Menard**	**73.09**	**337**	⇑P	**P**	**05 19 10.4**	**-1.0**
	baz=73						
431A	**Sonora**	**73.17**	**336**	⇑P	**P**	**05 19 11.5**	**-0.3**
	baz=74						
529A	**Stev Forest Ra**	**73.19**	**334**	⇑P	**P**	**05 19 11.6**	**-0.4**
	baz=74						
333A	**Richland Sprin**	**73.26**	**337**	⇑P	**P**	**05 19 11.4**	**-0.9**
	baz=74						
138A	**Matatall Enter**	**73.44**	**341**	⇓P	**P**	**05 19 13.5**	**+0.2**
	baz=74						
WHTX	**Lake Whitney,**	**73.44**	**339**	⇑P	**P**	**05 19 12.5**	**-0.8**
	baz=74						
430A	**Baggett Ranch,**	**73.47**	**335**	⇓P	**P**	**05 19 12.9**	**-0.7**
	baz=74,SNR=6.6						
KMSC	**Kings Mountain**	**73.49**	**353**	⇓P	**P**	**05 19 12.2**	**-1.4**
	baz=74						
429A	**Davenport Ranc**	**73.54**	**335**	⇑P	**P**	**05 19 14.0**	**0.0**
	baz=74,SNR=6.4						
332A	**Millersview**	**73.55**	**337**	⇑P	**P**	**05 19 13.4**	**-0.6**
	baz=74,SNR=5.0						
137A	**Heron Place, G**	**73.55**	**341**	⇑P	**P**	**05 19 13.2**	**-0.7**
	baz=74						
234A	**Clairette**	**73.65**	**338**	⇑P	**P**	**05 19 13.7**	**-0.9**
	baz=74						
331A	**San Angelo**	**73.69**	**336**	⇑P	**P**	**05 19 14.1**	**-0.8**
	baz=74,SNR=9.8						
233A	**Rising Star**	**73.88**	**338**	⇑P	**P**	**05 19 14.9**	**-1.0**
	baz=74						
232A	**Coleman**	**73.99**	**337**	⇓P	**P**	**05 19 15.7**	**-0.9**
	baz=74,SNR=5.6						
330A	**Mertzon**	**74.02**	**336**	⇑P	**P**	**05 19 15.9**	**-0.9**
	baz=74						
SWET	**Sewanee**	**74.10**	**350**	*e*P	**P**	**05 19 17.0**	**-0.2**
	9.7nm,0.7s						
134A	**White-Moore Ra**	**74.17**	**339**	⇓P	**P**	**05 19 17.0**	**-0.6**
	baz=74						
231A	**Bronte**	**74.24**	**337**	⇑P	**P**	**05 19 17.1**	**-1.0**
	baz=75						
329A	**Wagon Wheel Ra**	**74.36**	**335**	⇑P	**P**	**05 19 18.4**	**-0.4**
	baz=75						
133A	**Hamilton Ranch**	**74.44**	**338**	⇑P	**P**	**05 19 18.1**	**-1.1**
	baz=75						
230A	**Sterling City**	**74.45**	**336**	⇑P	**P**	**05 19 18.7**	**-0.6**
	baz=75						
Z35A	**Perchaven, San**	**74.65**	**340**	⇑P	**P**	**05 19 20.0**	**-0.4**
	baz=75						
ABTX	**Abilene, Hawle**	**74.67**	**337**	⇓P	**P**	**05 19 19.8**	**-0.7**
	baz=75						
229A	**Bryant Ranch,**	**74.75**	**335**	⇓P	**P**	**05 19 21.2**	**+0.2**
	baz=75						
Z34A	**Collier Ranch,**	**74.87**	**339**	⇓P	**P**	**05 19 21.2**	**-0.4**
	baz=75						
131A	**Roby**	**74.95**	**337**	⇓P	**P**	**05 19 21.6**	**-0.5**
	baz=75						
Z33A	**Whitaker Ranch**	**75.03**	**338**	⇑P	**P**	**05 19 21.9**	**-0.7**
	baz=75,SNR=5.1						
130A	**Snyder**	**75.05**	**336**	⇓P	**P**	**05 19 21.8**	**-1.0**
	baz=75						
228A	**UT Block 9, Go**	**75.14**	**335**	⇓P	**P**	**05 19 23.1**	**-0.3**
	baz=76						
Z32A	**Haskell**	**75.26**	**338**	⇑P	**P**	**05 19 23.4**	**-0.6**
	baz=75,SNR=5.2						
WVT	**Waverly**	**75.29**	**348**	*e*P	**P**	**05 19 22.9**	**-1.0**
	23nm,1.3s						
129A	**Stewart Farms,**	**75.38**	**336**	⇑P	**P**	**05 19 24.2**	**-0.4**
	baz=76						
Y34A	**Reagan Ranch,**	**75.38**	**339**	⇓P	**P**	**05 19 24.3**	**-0.2**
	baz=76						
Z31A	**Sharp Cattle R**	**75.47**	**337**	⇑P	**P**	**05 19 25.0**	**-0.1**
	baz=76,SNR=5.3						
128A	**Castleberry Fa**	**75.57**	**335**	⇑P	**P**	**05 19 25.6**	**-0.2**
	baz=76						
Y33A	**Hilltop Ranch,**	**75.67**	**339**	⇓P	**P**	**05 19 25.6**	**-0.6**
	baz=76						
Z30A	**Sanderson Ranc**	**75.74**	**336**	⇓P	**P**	**05 19 26.3**	**-0.4**
	baz=76						
Z29A	**Hungry Hill Ra**	**75.90**	**336**	⇑P	**P**	**05 19 26.7**	**-1.0**
	baz=76,SNR=6.6						
X34A	**Smith Ranch, M**	**76.00**	**340**	⇑P	**P**	**05 19 27.9**	**-0.3**
	baz=76						
Y31A	**Rekieta Farm,**	**76.10**	**337**	⇑P	**P**	**05 19 28.3**	**-0.4**
	baz=76						
Z28A	**Tucker Farm, M**	**76.15**	**335**	⇑P	**P**	**05 19 28.3**	**-0.8**
	baz=76						
Y29A	**Porterfield Fa**	**76.44**	**336**	⇓P	**P**	**05 19 30.5**	**-0.3**
	baz=77						
W34A	**Bridge Creek,**	**76.58**	**340**	⇓P	**P**	**05 19 31.0**	**-0.4**
	baz=77						
X31A	**Mcdonald Ranch**	**76.64**	**338**	⇓P	**P**	**05 19 31.6**	**-0.1**
	baz=77						
Y28A	**McKinney Farm,**	**76.67**	**336**	⇑P	**P**	**05 19 31.6**	**-0.5**
	baz=77						
W33A	**Caddo, Fort Co**	**76.69**	**339**	⇑P	**P**	**05 19 31.9**	**-0.2**
	baz=77,SNR=5.5						
TUL1	**Leonard**	**76.71**	**342**	⇑P	**P**	**05 19 30.8**	**-1.3**
	baz=77,SNR=6.9						
TUL1	**Leonard**	**76.71**	**342**	*e*P	**P**	**05 19 31.6**	**-0.5**
	17nm,0.8s						
X30A	**Coker Ranch, T**	**76.74**	**337**	⇓P	**P**	**05 19 32.7**	**+0.3**
	baz=77						
W32A	**Sentinel**	**76.89**	**339**	⇓P	**P**	**05 19 32.5**	**-0.7**
	baz=77,SNR=5.8						
MSTX	**Muleshoe**	**76.90**	**335**	⇓P	**P**	**05 19 33.2**	**-0.2**
	baz=77						
MSTX	**Muleshoe**	**76.90**	**335**	*e*P	**P**	**05 19 33.0**	**-0.3**
	13nm,1.2s						
319A	**Douglas**	**76.94**	**329**	⇓P	**P**	**05 19 34.5**	**+0.8**
	baz=77						
Y27A	**Causey**	**76.95**	**335**	⇓P	**P**	**05 19 33.1**	**-0.5**
	baz=77						
X29A	**Tulia**	**76.99**	**336**	⇑P	**P**	**05 19 33.7**	**-0.1**
	baz=77						
V33A	**Lossen Ranch,**	**77.27**	**340**	⇓P	**P**	**05 19 34.8**	**-0.5**
	baz=78						
LIC	**Lamto**	**77.36**	**72**	*e*P	**P**	**05 19 36.8**	**+0.5**
	67nm,1.9s						
121A	**Cookes Peak, D**	**77.38**	**331**	⇑P	**P**	**05 19 36.6**	**+0.4**
	baz=78						
V32A	**Arapaho**	**77.39**	**339**	⇓P	**P**	**05 19 35.8**	**-0.1**
	baz=78						
AMTX	**Amarillo**	**77.39**	**337**	⇓P	**P**	**05 19 35.1**	**-1.0**
	baz=78						
AMTX	**Amarillo**	**77.39**	**337**	*e*P	**P**	**05 19 35.7**	**-0.4**
	9.9nm,0.9s						
W29A	**Amarillo**	**77.60**	**337**	⇓P	**P**	**05 19 36.9**	**-0.3**
	baz=78						
X27A	**F and S Farms,**	**77.63**	**335**	⇓P	**P**	**05 19 37.1**	**-0.4**
	baz=78						
TIC	**Toumodi**	**77.65**	**71**	*e*P	**P**	**05 19 37.2**	**-0.7**
	8.7nm,0.5s						
U34A	**Anderson Ranch**	**77.65**	**340**	⇑P	**P**	**05 19 36.3**	**-1.0**
	baz=78						
KIC	**Kosan Boka**	**77.67**	**72**	*e*P	**P**	**05 19 38.5**	**+0.5**
	116nm,1.8s						
V31A	**Spring Creek L**	**77.67**	**338**	⇓P	**P**	**05 19 37.6**	**+0.1**
	baz=78						
Z22A	**Elephant Butte**	**77.72**	**332**	⇓P	**P**	**05 19 37.7**	**-0.3**
	baz=78						
Y24A	**Capitan**	**77.77**	**333**	⇓P	**P**	**05 19 38.3**	**-0.1**
	baz=78						
X26A	**CR and CF Fran**	**77.78**	**335**	⇓P	**P**	**05 19 38.1**	**-0.2**
	baz=78						
DBIC	**Dimbokro**	**77.78**	**71**	P	**P**	**05 19 38.7**	**0.0**
	3.3nm,0.6s,baz=199,slow=5.1,SNR=7.7						
U32A	**Winter Ranch,**	**77.99**	**339**	⇓P	**P**	**05 19 38.8**	**-0.5**
	baz=78						
W27A	**Bowe Ranch, En**	**78.00**	**336**	⇑P	**P**	**05 19 39.2**	**-0.3**
	baz=78						
X25A	**Clemmons Ranch**	**78.04**	**334**	⇓P	**P**	**05 19 39.6**	**-0.2**
	baz=78						
W26A	**Owens Ranch, T**	**78.25**	**335**	⇓P	**P**	**05 19 40.5**	**-0.4**
	baz=79						
W25A	**X Bar L Ranch,**	**78.60**	**335**	⇑P	**P**	**05 19 42.3**	**-0.5**
	baz=79						
W24A	**Lazy 6 Ranch,**	**78.92**	**334**	⇑P	**P**	**05 19 43.8**	**-0.9**
	baz=79						
214A	**Organ Pipe Nat**	**78.92**	**327**	⇑P	**P**	**05 19 45.8**	**+1.3**
	baz=79						
ANMO	**Albuquerque**	**79.05**	**333**	*e*P	**P**	**05 19 45.8**	**+0.4**
	5.2nm,0.9s						
W23A	**Werner Place,**	**79.13**	**333**	⇑P	**P**	**05 19 45.6**	**-0.3**
	baz=80						
BOSA	**Boshof**	**79.17**	**118**	P	**P**	**05 19 47.3**	**+1.0**
	3.9nm,1.0s,baz=193,slow=6.9,SNR=3.7						
U27A	**Thompson Grove**	**79.17**	**336**	⇓P	**P**	**05 19 45.8**	**-0.1**
	baz=80						
V25A	**Rancho No Teng**	**79.22**	**335**	⇓P	**P**	**05 19 45.7**	**-0.6**
	baz=80						
S31A	**Mullinville**	**79.29**	**339**	⇓P	**P**	**05 19 46.7**	**+0.2**
	baz=80						
V24A	**Rampart Ranch,**	**79.34**	**334**	⇑P	**P**	**05 19 47.2**	**+0.2**
	baz=80						
SFIN	**Lafayette**	**79.34**	**350**	⇑P	**P**	**05 19 46.6**	**0.0**
	baz=80						
U26A	**Atchley Ranch,**	**79.44**	**336**	⇓P	**P**	**05 19 47.7**	**+0.3**
	baz=80						
R33A	**Olander Ranch,**	**79.53**	**341**	⇑P	**P**	**05 19 47.4**	**-0.3**
	baz=80						
T28A	**Walsh**	**79.59**	**337**	⇑P	**P**	**05 19 47.6**	**-0.6**
	baz=80						
U25A	**Circle Dot Ran**	**79.66**	**335**	⇑P	**P**	**05 19 48.9**	**+0.2**
	baz=80						
X18A	**Snowflake**	**79.98**	**330**	⇑P	**P**	**05 19 50.9**	**+0.4**
	baz=80						
V22A	**San Miguel Ran**	**80.08**	**333**	⇓P	**P**	**05 19 52.2**	**+1.1**
	baz=80						
U23A	**El Rito**	**80.20**	**334**	⇓P	**P**	**05 19 52.9**	**+1.2**
	baz=81						
T25A	**Trinidad**	**80.33**	**335**	⇓P	**P**	**05 19 53.2**	**+0.8**
	baz=81						
S26A	**Kim**	**80.47**	**336**	⇓P	**P**	**05 19 53.4**	**+0.4**
	baz=81						
U22A	**Llaves**	**80.47**	**333**	⇑P	**P**	**05 19 54.1**	**+1.0**
	baz=81						
X16A	**Lo Mia Camp, P**	**80.48**	**329**	⇑P	**P**	**05 19 54.1**	**+0.9**
	baz=81						
Q31A	**Ellis**	**80.56**	**340**	⇓P	**P**	**05 19 53.5**	**+0.2**
	baz=81						
T24B	**San Luis**	**80.58**	**335**	⇓P	**P**	**05 19 54.7**	**+0.9**
	baz=81						
R28A	**Tribune**	**80.63**	**338**	⇓P	**P**	**05 19 53.5**	**-0.3**
	baz=81						
Y14A	**Wickenburg**	**80.71**	**328**	⇓P	**P**	**05 19 54.6**	**+0.3**
	baz=81						
Q30A	**Quinter**	**80.76**	**339**	⇑P	**P**	**05 19 54.8**	**+0.4**
	baz=81						

	baz=84						
GSC	Goldstone, Bar	83.51 326	⇓P	P	05 20 10.0	+1.1	
	baz=84						
O23A	Lake Granby, G	83.61 336	⇑P	P	05 20 09.7	+0.1	
	baz=84						
EDW2	Edwards Air Fo	83.69 325	⇑P	P	05 20 09.8	0.0	
	baz=84						
O22A	Kremmling	83.77 335	⇑P	P	05 20 10.6	+0.1	
	baz=84						
K30A	Basset	84.06 341	⇓P	P	05 20 11.6	+0.1	
	baz=84						
N23A	Red Feather La	84.24 336	⇓P	P	05 20 12.7	-0.1	
	baz=85						
O20A	White River Ci	84.32 334	⇑P	P	05 20 13.6	+0.5	
	baz=85						
N22A	Wattenberg Ran	84.32 336	⇑P	P	05 20 13.6	+0.4	
	baz=85						
ECSD	EROS Data Cent	84.34 343	⇓P	P	05 20 12.6	-0.2	
	baz=85						
ECSD	EROS Data Cent	84.34 343	eP	P	05 20 12.7	-0.2	
	117nm,2.5s						
M24A	Cheyenne	84.41 337	⇑P	P	05 20 13.9	+0.4	
	baz=85						
L26A	Underwood Farm	84.41 338	⇓P	P	05 20 13.1	-0.3	
	baz=85						
FURC	Furnace Creek,	84.51 326	⇑P	P	05 20 15.5	+1.6	
	baz=85						
ISA	Isabella, Lake	84.56 325	⇑P	P	05 20 15.5	+1.3	
	baz=85						
K28A	Ten Mile Ranch	84.56 340	⇑P	P	05 20 14.9	+0.8	
	baz=85						
J30A	Dallas	84.64 341	⇓P	P	05 20 13.7	-0.7	
	baz=85						
K27A	Flueckinger Fa	84.79 339	⇑P	P	05 20 15.4	+0.1	
	baz=85						
J29A	Okreek	84.93 341	⇓P	P	05 20 15.5	-0.4	
	baz=85						
N20A	Spence Gulch,	84.95 334	⇓P	P	05 20 16.6	+0.3	
	baz=85						
VES	Vestal, Richgr	84.98 324	⇓P	P	05 20 17.2	+0.9	
	baz=85						
SPMN	Marine on St.	84.99 347	⇑P	P	05 20 15.2	-0.9	
	baz=85						
I30A	Oacoma	85.17 342	⇓P	P	05 20 16.8	-0.3	
	baz=86						
J28A	Allard Ranch,	85.18 340	⇑P	P	05 20 17.7	+0.5	
	baz=86						
J27A	Elkhorn Farm,	85.23 340	⇓P	P	05 20 17.8	+0.3	
	baz=86						
I29A	Vivian Onida	85.50 341	⇑P	P	05 20 19.0	+0.3	
	baz=86						
R11A	Troy Canyon, C	85.55 328	⇑P	P	05 20 20.7	+1.3	
	baz=86						
R11A	Troy Canyon, C	85.55 328	eP	P	05 20 20.3	+1.0	
J26A	Sides Ranch, S	85.58 339	⇓P	P	05 20 19.4	+0.2	
	baz=86						
I28A	Midland	85.70 340	⇓P	P	05 20 19.5	-0.3	
	baz=86						
I27A	Quinn	86.00 340	⇑P	P	05 20 21.2	-0.1	
	baz=86						
K22A	Casper	86.01 336	⇓P	P	05 20 21.7	+0.2	
	baz=86						
TPH	Tonopah	86.01 327	eP	P	05 20 22.5	+0.8	
	7.1nm,1.1s						
DUG	Dugway, Tooele	86.03 331	⇓P	P	05 20 22.1	+0.4	
	baz=86						
H29A	Onida	86.04 341	⇓P	P	05 20 21.4	+0.1	
	baz=86						
K21A	Alcova	86.23 336	⇑P	P	05 20 22.5	-0.1	
	baz=87						
H28A	Mission Ridge	86.29 341	⇑P	P	05 20 22.3	-0.3	
	baz=87						
I25A	Rochford	86.42 339	⇓P	P	05 20 23.3	-0.2	
	baz=87						
H27A	Howes	86.53 340	⇓P	P	05 20 23.4	-0.4	
	baz=87						
G28A	Parade	86.64 341	⇑P	P	05 20 23.8	-0.5	
	baz=87						
J22A	Midwest	86.69 337	⇓P	P	05 20 24.3	-0.5	
	baz=87						
NVAR	Mina Array Bea	86.78 326	P	P	05 20 25.9	+0.5	
	0.8nm,0.7s,baz=161,slow=6.7,SNR=7.2						
HWUT	Hardware Ranch	86.80 332	eP	P	05 20 25.4	0.0	
	11nm,1.0s						
TORD	Torodi Ar. Bea	86.88 71	P	P	05 20 25.7	-0.5	
	1.4nm,0.7s,baz=226,slow=5.1,SNR=11						
H25A	Fruitdale	86.94 339	⇑P	P	05 20 25.3	-0.5	
	baz=87						
F29A	Eureka	87.07 342	⇓P	P	05 20 25.6	-0.9	
	baz=87						
PDAR	Pinedale Array	87.11 334	P	P	05 20 26.4	-0.5	
	1.7nm,0.8s,baz=152,slow=6.3,SNR=15						
PDAR			LR	LR	05 55 05.0		
	comp=Z,76nm,20.9s,baz=143,slow=33						
I22A	9 Mile Ranch,	87.12 337	⇑P	P	05 20 26.3	-0.5	
	baz=88						
J20A	Shoshoni	87.14 336	⇑P	P	05 20 27.7	+0.7	
	baz=88						
G27A	Dupree	87.18 340	⇑P	P	05 20 26.1	-0.9	
	baz=88						
G26A	Maurine	87.28 340	⇓P	P	05 20 26.9	-0.6	
	baz=88						
I21A	Big Trails, Te	87.30 336	⇑P	P	05 20 27.9	+0.1	
	baz=88						
H24A	Dirks Ranch, A	87.32 338	⇑P	P	05 20 27.4	-0.3	
	baz=88						
F28A	McLaughlin	87.33 341	⇑P	P	05 20 27.5	-0.2	
	baz=88						
J19A	Crowheart	87.38 335	⇓P	P	05 20 28.2	0.0	
	baz=88						
G25A	Newell	87.41 339	⇑P	P	05 20 27.9	-0.2	
	baz=88						
ELK	Elko	87.45 330	eP	P	05 20 29.0	+0.4	
E30A	Jud	87.48 343	⇓P	P	05 20 28.2	-0.2	
	baz=88						
F27A	Lemmon	87.66 341	⇑P	P	05 20 29.1	-0.2	
	baz=88						
F26A	Lodgepole	87.81 340	⇑P	P	05 20 30.1	+0.1	
	baz=88						
E27A	Carson	88.06 341	⇑P	P	05 20 30.9	-0.3	
	baz=88						
REDW	Red Top Meadow	88.08 334	eP	P	05 20 31.4	-0.2	
	67nm,2.7s						
H20A	Greybull	88.13 336	⇓P	P	05 20 31.9	+0.3	
	baz=88						
TPAW	Teton Pass	88.23 334	eP	P	05 20 32.3	-0.1	
	4.4nm,0.8s						
F24A	Ekalaka	88.30 339	⇑P	P	05 20 31.9	-0.5	
	baz=89						
E26A	Carlson Angus	88.33 341	⇓P	P	05 20 32.3	-0.2	
	baz=89						
F23A	Volborg	88.46 338	⇑P	P	05 20 32.1	-1.0	
	baz=89						
I17A	Pilgrim Ck.	88.48 334	⇑P	P	05 20 33.8	+0.4	
	baz=89						
C30A	Mose, Pekin	88.52 343	⇓P	P	05 20 33.3	0.0	
	baz=89						
D28A	Regan	88.53 342	⇑P	P	05 20 33.4	0.0	
	baz=89						
AGMN	Agassiz Nation	88.53 345	⇑P	P	05 20 33.2	0.0	
	baz=89						
FLWY	Flagg Ranch	88.66 334	eP	P	05 20 34.7	+0.4	
	6.4nm,0.8s						
H18A	Shoshone NF, C	88.84 335	⇓P	P	05 20 35.1	0.0	
	baz=89						
MDND	Maddock	88.91 343	⇓P	P	05 20 34.8	-0.3	
	baz=89						
B30A	Myrvik Farm, E	89.19 344	⇓P	P	05 20 36.5	+0.1	
	baz=90						
B29A	Wagenman Farm,	89.43 343	⇓P	P	05 20 37.2	-0.3	
	baz=90						
C26A	Wahner Farm, P	89.49 341	⇓P	P	05 20 37.8	-0.1	
	baz=90						
HLID	Hailey	89.54 332	⇓P	P	05 20 39.0	+0.6	
	baz=90						
A30A	Hoffart Farm,	89.65 344	⇑P	P	05 20 38.3	-0.2	
	baz=90						
B28A	Dugan Ranch, T	89.65 343	⇑P	P	05 20 38.6	0.0	
	baz=90						
A29A	Manning Farm,	89.84 343	⇓P	P	05 20 39.0	-0.4	
	baz=90						
WVOR	Wild Horse Val	90.25 328	eP	P	05 20 43.5	+1.8	
	24nm,1.9s						
D20A	Manuel Ranch,	90.51 337	⇑P	P	05 20 42.5	-0.2	
	baz=91						
A24A	Westby	91.00 341	⇑P	P	05 20 44.2	-0.7	
	baz=91						
A22A	Carney Farms,	91.58 339	⇓P	P	05 20 46.2	-1.4	
	baz=92						
A20A	Cobblestone Ra	92.05 338	⇓P	P	05 20 48.6	-1.2	
	baz=92						
WALA	Waterton Lakes	94.09 335	eP	P	05 20 59.1	-0.2	
H11S2	WAKE ISLAND Hyl	24.35 267	T	T	07 42 50.7		
	baz=126,slow=75,SNR=10.0						
H11S1	WAKE ISLAND Hyl	24.37 267	T	T	07 42 51.2		
	baz=126,slow=75,SNR=9.5						
H11S3	WAKE ISLAND Hyl	24.37 267	T	T	07 42 52.3		
	baz=126,slow=75,SNR=10						
TIXI	Tiksi	144.73 348	ePKPbc	PKPab	05 27 13.8	-1.8	
ABKAR	Akbulak array	145.27 56	ePKPbc	PKPbc	05 27 17.8	-0.3	
ZALV	Zalesovo Beam	158.55 36	PKP	PKPdf	05 27 35.9	-2.0	
	0.6nm,0.6s,baz=288,slow=0.9,SNR=4.1						
ZALV			PKPab	PKPab	05 28 13.2	+0.2	
	2.0nm,0.7s,baz=305,slow=5.2,SNR=8.3						
MKAR	Makanchi Array	160.42 57	PKP	PKPdf	05 27 39.0	-1.4	
	0.3nm,0.7s,baz=274,slow=4.7,SNR=3.8						
MKAR			PKPab	PKPab	05 28 19.9	-1.6	
	0.5nm,0.8s,baz=323,slow=1.8,SNR=4.8						

KRNET 14 05:07:55.8±0.1, 39°.38N×74°.31E, h3km, mb3.7
NNC 14 05:08:02.4±4.5, 39°.75N×74°.54E, h0km, mb3.3, mpv2.9,
Error ellipse: s-maj=41.5km s-min=25.7km az=145.0

ISC 14 05:07:55.4±1.7, 39°.35N±0°.08×74°.39E±0°.05, h10km, n20, σ2°.12/26, 11C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.95	315	eP	Pg	05 08 10.0	-3.7
	baz=316						
SFK				eS	Sg	05 08 22.4	-3.8
	baz=316						
OHH	Osh	1.70	314	eP	Pg	05 08 27.4	-0.6
	baz=315						
OHH				eS	Sg	05 08 51.0	+0.9
	baz=315						
ARSB	Arslanbob	2.25	332	eP	Pb	05 08 36.1	-0.1
	baz=333						
ARSB				eS	Sg	05 09 06.4	-1.2
	baz=333						
NRN	Naryn	2.42	30	⇓iP	Pb	05 08 38.0	-1.2
	baz=32						
NRN				⇓eS	Sb	05 09 08.6	-0.6
	baz=32						
KZA	Kyzart	2.81	13	P	Pn	05 08 42.3	+1.6
	SNR=6.3						
KZA	Kyzart	2.81	13	⇓iP	Pn	05 08 42.5	+1.8
	baz=15						
KZA				⇓iS	Sb	05 09 22.1	+1.7
	baz=15						
AML	Almayashu	2.83	350	P	Pn	05 08 43.4	+2.4
	SNR=16						
AML	Almayashu	2.83	350	⇑iP	Pn	05 08 43.1	+2.1
	baz=351						
AML				⇑iS	Sg	05 09 23.9	-2.4
	baz=351						
BTK	Batken	2.84	286	eP	Pb	05 08 46.8	+0.5
	baz=285						
UCH	Uchtor	2.88	2	P	Pn	05 08 43.7	+2.0
	SNR=10.0						
UCH	Uchtor	2.88	2	⇑iP	Pn	05 08 43.6	+1.9
	baz=3.0						
UCH				⇑iS	Sb	05 09 23.3	+0.8
	baz=3.0						
ARK	Arkit	3.07	324	eP	Pn	05 08 46.3	+2.3
	baz=324						
AAK	Ala-Archa	3.28	1	⇑Pn	Pb	05 08 51.1	-2.7
	4.3nm,0.8s						
AAK				⇑Lg	Lg	05 09 37.1	
	11nm,0.8s						
KBK	Karagaybulak	3.33	7	P	Pb	05 08 51.7	-3.0
	SNR=5.3						
EKS2	Erkin-Say	3.34	352	P	Pn	05 08 51.2	+3.4
	SNR=7.1						
TKM2	Tokmak 2	3.69	14	⇓Pn	Pn	05 08 54.0	+1.4
	4.1nm,0.5s						
TKM2				⇓Lg	Lg	05 09 49.5	
	20nm,0.8s						
TKM2	Tokmak 2	3.69	14	P	Pn	05 08 54.8	+2.2
	SNR=7.7						
DZET	Dzherino	4.36	265	⇑Pn	Pg	05 09 15.9	-3.0
DZET				⇓Lg	Lg	05 10 21.4	
KK31	Karatay Array	4.75	323	⇑Pn	Pn	05 09 08.8	+1.7
	0.7nm,0.5s,baz=131,slow=14,SNR=18						
KK31				⇑Sn	Sn	05 10 05.6	+3.3
	0.6nm,0.4s,baz=145,slow=26						
KK31				⇑Lg	Lg	05 10 25.9	
	2.3nm,0.6s,baz=133,slow=28,SNR=3.6						
PDGK	Podgornoye	5.53	42	⇑Pg	Pb	05 09 32.5	+0.6
PDGK				⇓Lg	Lg	05 10 45.4	

ATH 14 05:10:15.8, 36°.80N×21°.53E, h25km±1km, MD3.1/11
THE 14 05:10:16.5, 36°.76N×21°.53E, h11km±2km, ML2.8/2, Error ellipse: s-maj=3.7km s-min=1.3km az=31.0

CSEM 14 05:10:16.2±0.4, 36°.76N×21°.64E, h15km, MD3.2, Error ellipse: s-maj=10.6km s-min=5.1km az=52.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.16	32	P	Pb	05 10 21.2	+0.3
PYL				S	Sb	05 10 25.4	+1.3
PYL	PYLOS	0.16	32	ePB	Pb	05 10 21.3	+0.4
PYL				eSB	Sb	05 10 25.6	+1.5
PYL	PYLOS	0.16	32	ePB	Pb	05 10 21.2	+0.3
PYL				eSB	Sb	05 10 25.7	+1.6
PYL	PYLOS	0.16	32	P	Pb	05 10 21.2	+0.3
PYL				S	Sb	05 10 25.4	+1.3
ITM	Ithomi	0.48	29	P	Pg	05 10 25.9	+0.1
ITM				S	Sb	05 10 33.6	+0.3
ITM	Ithomi	0.48	29	ePB	Pg	05 10 25.9	+0.1
ITM				eSB	Sb	05 10 33.0	-0.3
ITM	Ithomi	0.48	29	ePN	Pg	05 10 25.9	+0.1
ITM	Ithomi	0.48	29	P	Pg	05 10 25.9	+0.1
ITM				S	Sb	05 10 33.6	+0.3
AMT	Artemida-Makis	0.77	4	P	Pg	05 10 30.9	-0.4
AMT	Artemida-Makis	0.77	4	ePN	Pg	05 10 30.9	-0.4
AMT	Artemida-Makis	0.77	4	ePB	Pg	05 10 30.5	-0.8
AMT	Artemida-Makis	0.77	4	ePb	Pg	05 10 30.5	-0.8
AMT	Artemida-Makis	0.77	4	P	Pg	05 10 30.9	-0.4
VLX	Vlachokerasia	0.85	44	P	Pn	05 10 34.1	+0.3
VLX	Vlachokerasia	0.85	44	ePN	Pb	05 10 32.8	-0.1
VLX				eSN	Sg	05 10 44.9	+0.7
VLX	Vlachokerasia	0.85	44	ePN	Pg	05 10 32.9	0.0
VLX	Vlachokerasia	0.85	44	ePn	Pg	05 10 32.9	0.0
VLX	Vlachokerasia	0.85	44	P	Pn	05 10 34.1	+0.3
VLI	Veliai	1.05	92	P	Pg	05 10 37.1	+0.7
VLI				S	Sn	05 10 53.9	+3.2
VLI	Veliai	1.05	92	ePN	Pg	05 10 37.2	+0.8
VLI				eSN	Sn	05 10 54.4	+3.7
VLI	Veliai	1.05	92	ePN	Pb	05 10 35.1	-0.9
VLI				eSN	Sg	05 10 50.3	+0.2
VLI	Veliai	1.05	92	ePn	Pb	05 10 35.1	-0.9
VLI	Veliai	1.05	92	P	Pg	05 10 37.1	+0.7
VLI				eSn	Sg	05 10 50.3	+0.2
VLI				S	Sn	05 10 53.9	+3.2
DRO	Drossia	1.19	3	P	Pn	05 10 38.4	0.0
DRO	Drossia	1.19	3	ePN	Pn	05 10 37.9	-0.5
DRO	Drossia	1.19	3	ePN	Pn	05 10 38.1	-0.3
DRO	Drossia	1.19	3	ePn	Pn	05 10 38.1	-0.3
DRO	Drossia	1.19	3	P	Pn	05 10 38.4	0.0
KYTH	Kithira	1.23	113	P	Pg	05 10 39.9	0.0
KYTH	Kithira	1.23	113	ePN	Pg	05 10 40.3	+0.4
KYTH	Kithira	1.23	113	ePN	Pn	05 10 38.0	-0.8
KYTH	Kithira	1.23	113	ePn	Pn	05 10 38.0	-0.8
KYTH	Kithira	1.23	113	P	Pg	05 10 39.9	0.0
GUR	Goura	1.30	25	P	Pn	05 10 40.2	+0.2
GUR	Goura	1.30	25	ePN	Pn	05 10 40.2	+0.2
GUR	Goura	1.30	25	ePN	Pn	05 10 40.2	+0.2
GUR	Goura	1.30	25	P	Pn	05 10 40.2	+0.2
RLS	Riolos of Patr	1.30	354	P	Pb	05 10 40.3	-0.1
RLS	Riolos of Patr	1.30	354	ePN	Pn	05 10 39.9	0.0
RLS	Riolos of Patr	1.30	354	ePN	Pb	05 10 40.4	0.0
RLS	Riolos of Patr	1.30	354	P	Pb	05 10 40.3	-0.1
KLV	Kalavryta, Ach	1.34	18	P	Pb	05 10 41.0	-0.2
KLV	Kalavryta, Ach	1.34	18	ePN	Pb	05 10 41.1	-0.1
KLV	Kalavryta, Ach	1.34	18	ePN	Pb	05 10 41.0	-0.2
KLV	Kalavryta, Ach	1.34	18	P	Pb	05 10 41.0	-0.2
DID	Didima	1.48	59	P	Pn	05 10 42.5	+0.1
DID	Didima	1.48	59	ePB	Pn	05 10 41.6	-0.8
DID	Didima	1.48	59	ePb	Pn	05 10 41.6	-0.8
DID	Didima	1.48	59	P	Pn	05 10 42.5	+0.1
ANKY	Antikythira Is	1.61	123	ePN	Pn	05 10 43.6	-0.5
ANKY	Antikythira Is	1.61	123	ePn	Pn	05 10 43.6	-0.5
VLS	Valsamata	1.64	330	P	Pn	05 10 43.4	-1.2
VLS	Valsamata	1.64	330	ePN	Pb	05 10 46.0	-0.2
VLS	Valsamata	1.64	330	P	Pn	05 10 43.4	-1.2
VLS	Valsamata	1.64	330	ePn	Pb	05 10 46.0	-0.2
LTK	Loutraki	1.65	40	P	Pn	05 10 45.3	+0.7
LTK	Loutraki	1.65	40	ePN	Pn	05 10 45.2	+0.6
LTK	Loutraki	1.65	40	ePn	Pn	05 10 45.2	+0.6
KALE	Kalithea	1.68	14	P	Pb	05 10 46.5	-0.4
KALE	Kalithea	1.68	14	ePN	Pn	05 10 45.7	+0.6
KALE	Kalithea	1.68	14	ePn	Pn	05 10 45.7	+0.6
KALE	Kalithea	1.68	14	P	Pb	05 10 46.5	-0.4
EFP	Efpalio	1.68	7	ePN	Pb	05 10 46.1	-0.7
EFP	Efpalio	1.68	7	ePN	Pb	05 10 46.1	-0.7
EFP	Efpalio	1.68	7	ePn	Pb	05 10 46.1	-0.7
DSF	Desfina	1.79	23	P	Pn	05 10 47.4	+0.7
DSF	Desfina	1.79	23	ePB	Pn	05 10 46.5	-0.2
DSF	Desfina	1.79	23	ePB	Pn	05 10 46.7	0.0
DSF	Desfina	1.79	23	ePb	Pn	05 10 46.7	0.0
DSF	Desfina	1.79	23	P	Pn	05 10 47.4	+0.7
PDO	Prodromos	1.87	349	ePB	Pn	05 10 48.0	+0.3
PDO	Prodromos	1.87	349	ePb	Pn	05 10 48.0	+0.3
EVR	Evrytania	2.16	4	ePB	Pn	05 10 53.3	+1.5
EVR	Evrytania	2.16	4	ePb	Pn	05 10 53.3	+1.5
AXAR	Agios Charalam	2.16	22	ePN	Pn	05 10 52.4	+0.7
AXAR	Agios Charalam	2.16	22	ePn	Pn	05 10 52.4	+0.7
LKD2	Lefkada island	2.17	339	ePN	Pn	05 10 52.2	+0.4
LKD2	Lefkada island	2.17	339	ePn	Pn	05 10 52.2	+0.4
LKR	Lokris	2.17	29	ePN	Pn	05 10 52.0	+0.1
LKR	Lokris	2.17	29	ePn	Pn	05 10 52.0	+0.1
PTL	Penteli	2.19	53	ePN	Pn	05 10 51.6	-0.6
PTL	Penteli	2.19	53	ePn	Pn	05 10 51.6	-0.6
MAKR	Makrakomi, Fth	2.28	10	ePB	Pn	05 10 54.8	+1.4
MAKR	Makrakomi, Fth	2.28	10	ePb	Pn	05 10 54.8	+1.4
AGG	Agios Georgios	2.32	13	ePN	Pn	05 10 54.6	+0.6
AGG	Agios Georgios	2.32	13	ePn	Pn	05 10 54.6	+0.6
DSL	Palaion Diasel	2.41	350	ePN	Pn	05 10 55.5	+0.4
DSL	Palaion Diasel	2.41	350	ePn	Pn	05 10 55.5	+0.4
VAM	Vamos	2.48	122	ePN	Pn	05 10 55.8	-0.2
VAM	Vamos	2.48	122	ePn	Pn	05 10 55.8	-0.2
MRKA	Markates	2.48	38	ePN	Pn	05 10 57.1	+1.0
MRKA	Markates	2.48	38	ePn	Pn	05 10 57.1	+1.0
THL	Klokotos Trika	2.82	6	ePN	Pn	05 11 01.0	+0.3
THL	Klokotos Trika	2.82	6	ePn	Pn	05 11 01.0	+0.3
LIT	Litokhoron	3.40	11	ePN	Pn	05 11 10.1	+1.3
LIT	Litokhoron	3.40	11	ePn	Pn	05 11 10.1	+1.3
LAST	Lasithi	3.50	116	ePN	Pn	05 11 10.1	-0.1
LAST	Lasithi	3.50	116	ePn	Pn	05 11 10.1	-0.1
KZN	Kozani	3.54	2	ePN	Pn	05 11 10.9	+0.1
KZN	Kozani	3.54	2	ePn	Pn	05 11 10.9	+0.1
NEST	Nestorio	3.68	353	ePN	Pn	05 11 13.0	+0.3
NEST	Nestorio	3.68	353	ePn	Pn	05 11 13.0	+0.3
SOH	Sokhos	4.27	18	ePN	Pn	05 11 21.1	+0.3
SOH	Sokhos	4.27	18	ePn	Pn	05 11 21.1	+0.3
KNT	Kendrikon	4.50	12	ePN	Pn	05 11 24.1	+0.2
KNT	Kendrikon	4.50	12	ePn	Pn	05 11 24.1	+0.2
STON	Ston	6.81	335	ePn	Pn	05 11 51.5	-4.1
STON				Sn	Sn	05 13 01.7	-11

IDC 14 05:22:59.6±2.4, 38°.22S×73°.95W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.7/15, mbtmp3.6/4, MS3.1/1, Ms1 3.0/1, ms1mx2.8/18, Error ellipse: s-maj=74.1km s-min=31.9km az=58.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.63	135	Pn	Pn	05 23 58.6	+1.5
PLCA				LR	LR	05 25 44.2	
	comp=Z,255nm,20.5s,baz=184,slow=45						
LPAZ	La Paz	22.44	15	P	P	05 28 01.6	+0.6
	1.3nm,0.7s,baz=200,slow=7.8,SNR=5.9						
TXAR	Lajitas Array	72.73	333	P	P	05 34 29.8	+0.3
	0.3nm,0.7s,baz=168,slow=6.4,SNR=3.9						
TORD	Torodi Ar. Bea	87.08	71	P	P	05 35 46.3	-1.1
	0.4nm,0.7s,baz=210,slow=5.0,SNR=3.0						

NIED 14 05:40:00, 39°.90N×142°.70E, h38km, Mw3.9 Best double couple: M0=7.13000×10^14 NP1:φ=205.00000°, δ=27.00000°, λ=99.00000°. NP2:φ=15.00000°, δ=64.00000°, λ=85.00000°.
ISCJB 14 05:40:07.7±1.2, 39°.85N±0°.04×142°.6E±0°.1, h46km±9km, mb3.8/8, MS3.3/2, Error ellipse: s-maj=15.2km s-min=7.0km az=7.0
JMA 14 05:40:07.6±0.1, 39°.87N×142°.59E, h35km±2km, M3.9
JMA Felt I J1.
IDC 14 05:40:09.5±3.1, 39°.85N×142°.76E, h53km±28km, mb3.6/8, mb1 3.7/10, mb1mx3.4/48, mbtmp3.8/10, ML3.5/2, MS3.0/4, Ms1 3.1/4, ms1mx2.7/34, Error ellipse: s-maj=36.1km s-min=17.4km az=86.0

ISC 14 05:40:07.8±1.9, 39°.87N±0°.05×142°.60E±0°.09, h30km±11km, n30, σ0°.95/28, mb4.0/8, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.57	277	⇓P	Pb	05 40 19.1	-0.2
JTH				eS	Sb	05 40 27.3	+0.1
MIYJ	Miyakonagasawa	0.67	244	⇓P	Pb	05 40 20.4	-0.5
MIYJ				eS	Sb	05 40 29.8	-0.1
JANG	Nango	0.97	301	⇓P	Pn	05 40 24.7	-0.6
JKZ	Kuzumaki	0.98	277	⇓P	Pn	05 40 25.5	0.0
JKZ				S	Sn	05 40 37.5	-0.8
OFUJ	Ofunato	1.07	223	⇓P	Pn	05 40 26.3	-0.3
OFUJ				eS	Sn	05 40 39.8	-0.6
JOM	Ohasama	1.08	249	⇓P	Pn	05 40 27.0	+0.2
JMK	Ichinoseki	1.41	230	P	Pn	05 40 31.5	+0.2
JMK				eS	Sn	05 40 49.2	+0.4
JTM	Tenmabayashi	1.48	309	⇓P	Pn	05 40 32.9	+0.6
JTM				eS	Sn	05 40 51.9	+1.2
JAH	Hinai	1.54	282	P	Pn	05 40 34.2	+1.1
JRG	Rokugo	1.59	253	P	Pn	05 40 34.4	+0.6
ASAJ	Asahikawa	4.24	0	P	Pn	05 41 11.4	+1.1
	2.2nm,0.3s,baz=196,slow=18,SNR=9.7						
ASAJ				LR	LR	05 43 17.0	
	comp=Z,117nm,21.8s,baz=94,slow=44						
MAT	Matsushiro	4.79	227	P	Pn	05

ISC 14 05:40:35.4±2.0, 39°.65N±0°.07×74°.39E±0°.05, h5km±15km, n28, σ1°43/40, 19C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.77**	**298**	*e*P	**Pg**	**05 40 48.2**	**-2.0**
	baz=299						
SFK				*e*S	**Sg**	05 40 59.4	-0.8
	baz=299						
OHH	**Osh**	**1.51**	**306**	*e*P	**Pg**	**05 41 05.0**	**+0.7**
	baz=306						
OHH				*e*S	**Sg**	**05 41 27.0**	**+3.2**
	baz=306						
ARSB	**Arslanbob**	**1.99**	**328**	*e*P	**Pg**	**05 41 14.0**	**+0.5**
	baz=329						
ARSB				*e*S	**Sg**	**05 41 42.8**	**+3.6**
	baz=329						
DRK	**Karamyk**	**2.00**	**266**	*i* P	**Pg**	**05 41 14.0**	**+0.2**
	baz=265						
DRK				*e*S	**Sg**	**05 41 41.0**	**+1.2**
	baz=265						
NRN	**Naryn**	**2.17**	**34**	*i* P	**Pb**	**05 41 15.6**	**+0.3**
	baz=36						
NRN				*e*S	**Sb**	**05 41 44.8**	**+2.2**
	baz=36						
ARLS	**Aral**	**2.21**	**359**	*i* P	**Pb**	**05 41 16.6**	**+0.7**
	baz=360						
ARLS				⇓*i*S	**Sg**	**05 41 48.0**	**+1.6**
	baz=360						
KZA	**Kyzart**	**2.51**	**15**	P	**Pb**	**05 41 22.4**	**+1.1**
	SNR=11						
KZA	**Kyzart**	**2.51**	**15**	⇑*i*P	**Pb**	**05 41 22.1**	**+0.8**
	baz=16						
KZA				⇑*i*S	**Sg**	**05 41 56.8**	**+0.6**
	baz=16						
AML	**Almayashu**	**2.54**	**348**	P	**Pb**	**05 41 21.6**	**-0.1**
	SNR=67						
AML	**Almayashu**	**2.54**	**348**	⇑*i*P	**Pb**	**05 41 21.2**	**-0.4**
	baz=349						
AML				⇑*i*S	**Sg**	**05 41 55.2**	**-1.7**
	baz=349						
UCH	**Uchtor**	**2.58**	**2**	P	**Pb**	**05 41 23.0**	**+0.6**
	SNR=25						
UCH	**Uchtor**	**2.58**	**2**	⇑*i*P	**Pb**	**05 41 22.9**	**+0.5**
	baz=3.0						
UCH				⇑*i*S	**Sg**	**05 41 57.6**	**-0.7**
	baz=3.0						
BTK	**Batken**	**2.78**	**280**	*e*P	**Pb**	**05 41 25.3**	**-0.2**
	baz=279						
ARK	**Arkit**	**2.83**	**320**	*e*P	**Pb**	**05 41 25.0**	**-1.4**
	baz=321						
ULHL	**Ulahol**	**2.95**	**28**	P	**Pb**	**05 41 30.9**	**+2.3**
	SNR=15						
ULHL	**Ulahol**	**2.95**	**28**	⇑*i*P	**Pb**	**05 41 27.9**	**-0.7**
	baz=29						
ULHL				⇑*i*S	**Sg**	**05 42 09.3**	**-0.9**
	baz=29						
AAK	**Ala-Archa**	**2.98**	**2**	⇓Pn	**Pb**	**05 41 28.8**	**-0.3**
	13nm,0.4s						
AAK				⇑Lg	Lg	05 42 10.9	
	15nm,0.4s						
AAK	**Ala-Archa**	**2.98**	**2**	P	**Pb**	**05 41 28.8**	**-0.3**
	SNR=28						
AAK	**Ala-Archa**	**2.98**	**2**	⇑*i*P	**Pb**	**05 41 28.5**	**-0.6**
	baz=2.0						
AAK				⇑*i*S	**Sg**	**05 42 08.6**	**-2.6**
	baz=2.0						
KBK	**Karagaybulak**	**3.04**	**8**	P	**Pb**	**05 41 29.8**	**-0.2**
	SNR=28						
KBK	**Karagaybulak**	**3.04**	**8**	⇑*i*P	**Pb**	**05 41 29.6**	**-0.4**
	baz=9.0						
KBK				⇑*i*S	**Sb**	**05 42 08.8**	**+1.4**
	baz=9.0						
EKS2	**Erkin-Say**	**3.04**	**352**	P	**Pb**	**05 41 29.5**	**-0.7**
	SNR=11						
EKS2	**Erkin-Say**	**3.04**	**352**	⇑*i*P	**Pb**	**05 41 29.1**	**-1.0**
	baz=352						
EKS2				⇑*i*S	**Sb**	**05 42 09.5**	**+1.8**
	baz=352						
TRKS	**Terek-Say**	**3.10**	**308**	*i* P	**Pn**	**05 41 24.0**	**-1.2**
	baz=308						
TKM2	**Tokmak 2**	**3.40**	**15**	⇑Pn	**Pb**	**05 41 34.7**	**-1.3**
	2.6nm,0.3s						
TKM2				⇑Sn	**Sb**	**05 42 16.5**	**-1.3**
	19nm,0.6s						
TKM2	**Tokmak 2**	**3.40**	**15**	P	**Pb**	**05 41 35.0**	**-1.1**
	SNR=8.9						
KK31	**Karatay Array**	**4.52**	**321**	⇑Pn	Pn	05 41 47.7	+3.3
	1.5nm,0.3s,baz=130,slow=12,SNR=74						
KK31				⇑Pg	Pg	05 41 58.3	-3.6
	3.3nm,0.5s,baz=131,slow=17,SNR=4.9						
KK31				⇓Sn	Sn	05 42 41.8	+4.4
	2.5nm,0.4s						
KK31				⇓Lg	Lg	05 42 58.3	
	3.1nm,0.4s,baz=121,slow=27,SNR=4.8						
PDGK	**Podgornoye**	**5.31**	**45**	⇓Pn	Pn	05 41 52.2	-3.0
PDGK				⇓Lg	Lg	05 43 22.1	

*THE **14** 05:42:06.7, 38°.53N×25°.66E, h2km±2km, ML3.1/3, Error ellipse: s-maj=3.1km s-min=0.6km az=251.0*
*ISK **14** 05:42:06.3, 38°.50N×25°.65E, h5km, MD3.3*
*ATH **14** 05:42:07.3, 38°.58N×25°.89E, h30km, MD3.1/11*
*CSEM **14** 05:42:08.0±0.2, 38°.55N×25°.68E, h2km, MD3.1, Error ellipse: s-maj=5.4km s-min=4.7km az=172.0*
*DDA **14** 05:42:09.9, 38°.66N×25°.72E, h26km, MD3.1*

ISC 14 05:42:06.9±1.2, 38°.56N±0°.02×25°.68E±0°.02, h0km±11km, n97, σ1°24/130, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.34**	**120**	P	**Pg**	**05 42 13.8**	**+0.3**
CHOS				S	**Sg**	**05 42 18.5**	**+0.6**
CHOS	**Chios island**	**0.34**	**120**	*e*PB	**Pg**	**05 42 13.9**	**+0.4**
CHOS				*e*SB	**Sg**	**05 42 19.0**	**+1.1**
CHOS	**Chios island**	**0.34**	**120**	*e*Pb	**Pg**	**05 42 13.9**	**+0.4**
CHOS				S	**Sg**	**05 42 18.5**	**+0.6**
CHOS				*e*Sb	**Sg**	**05 42 19.0**	**+1.1**
SIGR	**SIGRI**	**0.67**	**12**	P	**Pg**	**05 42 20.2**	**+0.5**
SIGR				S	**Sb**	**05 42 30.6**	**-0.7**
SIGR	**SIGRI**	**0.67**	**12**	*e*PN	**Pg**	**05 42 20.3**	**+0.5**
SIGR				*e*SN	**Sg**	**05 42 29.5**	**+1.1**
SIGR	**SIGRI**	**0.67**	**12**	*e*Pn	**Pg**	**05 42 20.3**	**+0.5**
SIGR				*e*Sn	**Sg**	**05 42 29.5**	**+1.1**
SIGR				S	**Sb**	**05 42 30.6**	**-0.7**
PRK	**Paraskevi**	**0.83**	**34**	P	**Pg**	**05 42 22.9**	**+0.1**
PRK				S	**Sb**	**05 42 35.1**	**-0.8**
PRK	**Paraskevi**	**0.83**	**34**	*e*PN	**Pg**	**05 42 22.2**	**-0.6**
PRK				*e*SN	**Sg**	**05 42 32.7**	**-0.9**
PRK	**Paraskevi**	**0.83**	**34**	*e*Pn	**Pg**	**05 42 22.2**	**-0.6**
PRK	**Paraskevi**	**0.83**	**34**	P	**Pg**	**05 42 22.9**	**+0.1**
PRK				*e*Sn	**Sg**	**05 42 32.7**	**-0.9**
PRK				S	**Sb**	**05 42 35.1**	**-0.8**
BLCB	**Balcova**	**1.08**	**99**	*e*PN	**Pg**	**05 42 27.7**	**0.0**
BLCB	**Balcova**	**1.08**	**99**	*e*Pn	**Pg**	**05 42 27.7**	**0.0**
AYVA	**Ayvalik**	**1.09**	**46**	*i* P	**Pg**	**05 42 28.1**	**+0.3**
AYVA				*i* S	**Sb**	**05 42 42.9**	**-0.5**
AYVA	**Ayvalik**	**1.09**	**46**	*i* P	**Pg**	**05 42 28.1**	**+0.3**
AYVA				*i* S	**Sb**	**05 42 42.9**	**-0.5**
SMG	**Samos**	**1.25**	**133**	P	**Pg**	**05 42 29.2**	**-1.6**
SMG				S	**Sb**	**05 42 47.5**	**-0.4**
SMG	**Samos**	**1.25**	**133**	*e*PN	**Pg**	**05 42 29.2**	**-1.6**
SMG				*e*SN	**Sg**	**05 42 44.5**	**-2.4**
SMG	**Samos**	**1.25**	**133**	P	**Pg**	**05 42 29.2**	**-1.6**
SMG				*e*Sn	**Sg**	**05 42 44.5**	**-2.4**
SMG				S	**Sb**	**05 42 47.5**	**-0.4**
BOZC	**Bozcaada**	**1.31**	**13**	*i* P	**Pn**	**05 42 31.6**	**-0.9**
BOZC				*i* S	**Sn**	**05 42 51.7**	**+0.9**
EZN	**Ezine**	**1.36**	**21**	*e*PN	**Pg**	**05 42 34.1**	**+1.0**
EZN	**Ezine**	**1.36**	**21**	*e*Pn	**Pg**	**05 42 34.1**	**+1.0**
LIA	**Limnos Island**	**1.39**	**344**	P	**Pn**	**05 42 32.3**	**-1.3**
LIA	**Limnos Island**	**1.39**	**344**	*e*PB	**Pn**	**05 42 32.1**	**-1.5**
LIA	**Limnos Island**	**1.39**	**344**	*e*Pb	**Pn**	**05 42 32.1**	**-1.5**
AOS	**Alonnisos**	**1.53**	**294**	*e*PB	**Pg**	**05 42 36.6**	**+0.3**
AOS	**Alonnisos**	**1.53**	**294**	*e*Pb	**Pg**	**05 42 36.6**	**+0.3**
MRKA	**Markates**	**1.65**	**276**	*e*PB	**Pb**	**05 42 38.5**	**+0.4**
MRKA				*e*SN	**Sg**	**05 43 01.9**	**+2.1**
MRKA	**Markates**	**1.65**	**276**	*e*Pb	**Pb**	**05 42 38.5**	**+0.4**
MRKA				*e*Sn	**Sg**	**05 43 01.9**	**+2.1**
AKHS	**Akhisar**	**1.70**	**78**	*i* P	**Pg**	**05 42 39.5**	**0.0**
AKHS				*i* S	**Sg**	**05 43 01.9**	**+0.3**
AKHS	**Akhisar**	**1.70**	**78**	*i* P	**Pg**	**05 42 39.5**	**0.0**
AKHS				*i* S	**Sg**	**05 43 01.9**	**+0.3**
AKS	**Akhisar**	**1.70**	**78**	*e*Pn	**Pb**	**05 42 38.9**	**-0.1**
AKS				*e*Sn	**Sg**	**05 43 02.4**	**+0.9**
AKS	**Akhisar**	**1.70**	**78**	*e*Pn	**Pb**	**05 42 38.9**	**-0.1**
AKS				*e*Sn	**Sg**	**05 43 02.4**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.84**	**109**	*e*PN	**Pn**	**05 42 40.5**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.84**	**109**	*e*Pn	**Pn**	**05 42 40.5**	**+0.6**
SMTH	**Samothraki Isl**	**1.91**	**357**	*e*PN	**Pn**	**05 42 39.7**	**-1.1**
SMTH	**Samothraki Isl**	**1.91**	**357**	*e*Pn	**Pn**	**05 42 39.7**	**-1.1**
GELI	**Tayfur-Gelibol**	**1.94**	**18**	*e*PN	**Pb**	**05 42 42.3**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.94**	**18**	*e*Pn	**Pb**	**05 42 42.3**	**-0.8**
SMIA	**Simia**	**1.96**	**280**	*e*PN	**Pb**	**05 42 42.8**	**-0.7**
SMIA	**Simia**	**1.96**	**280**	*e*Pn	**Pb**	**05 42 42.8**	**-0.7**
LPK	**Lapseki**	**2.00**	**24**	*e*PN	**Pb**	**05 42 43.4**	**-0.7**
LPK	**Lapseki**	**2.00**	**24**	*e*Pn	**Pb**	**05 42 43.4**	**-0.7**
BALB	**Balikesir**	**2.02**	**57**	*e*PN	**Pb**	**05 42 44.0**	**-0.6**
BALB	**Balikesir**	**2.02**	**57**	*e*Pn	**Pb**	**05 42 44.0**	**-0.6**
BDRM	**Kayabasi**	**2.04**	**136**	*i* P	**Pb**	**05 42 45.3**	**+0.4**
BDRM	**Kayabasi**	**2.04**	**136**	*i* P	**Pb**	**05 42 45.3**	**+0.4**
DID	**Didima**	**2.20**	**242**	*e*PN	**Pb**	**05 42 46.5**	**-1.0**
DID				*e*SN	**Sb**	**05 43 14.8**	**-0.5**
DID	**Didima**	**2.20**	**242**	*e*Pn	**Pb**	**05 42 46.5**	**-1.0**
DID				*e*Sn	**Sb**	**05 43 14.8**	**-0.5**
LTK	**Loutraki**	**2.20**	**257**	*e*PN	**Pb**	**05 42 46.5**	**-1.1**
LTK				*e*SN	**Sb**	**05 43 14.6**	**-0.8**
LTK	**Loutraki**	**2.20**	**257**	*e*Pn	**Pb**	**05 42 46.5**	**-1.1**
LTK				*e*Sn	**Sb**	**05 43 14.6**	**-0.8**
ENEZ	**Enez**	**2.21**	**9**	*e*PN	**Pb**	**05 42 46.4**	**-1.3**
ENEZ	**Enez**	**2.21**	**9**	*e*Pn	**Pb**	**05 42 46.4**	**-1.3**
ERIK	**Erikli-Kesan**	**2.21**	**17**	*e*PN	**Pb**	**05 42 46.5**	**-1.2**
ERIK				*e*SN	**Sb**	**05 43 15.8**	**+0.3**
ERIK	**Erikli-Kesan**	**2.21**	**17**	*e*Pn	**Pb**	**05 42 46.5**	**-1.2**
ERIK				*e*Sn	**Sb**	**05 43 15.8**	**+0.3**
OUR	**Ouranopolis**	**2.21**	**324**	*e*PB	**Pn**	**05 42 43.2**	**-1.6**
OUR	**Ouranopolis**	**2.21**	**324**	*e*Pb	**Pn**	**05 42 43.2**	**-1.6**
KRBG	**Karabiga-Canak**	**2.22**	**34**	*e*PN	**Pb**	**05 42 45.8**	**+0.8**
KRBG	**Karabiga-Canak**	**2.22**	**34**	*e*Pn	**Pb**	**05 42 45.8**	**+0.8**
KULA	**Kula-Manisa**	**2.34**	**90**	P	**Pn**	**05 42 45.4**	**-1.3**
KULA				S	**Sn**	**05 43 16.1**	**-0.1**
KULA	**Kula-Manisa**	**2.34**	**90**	*e*PN	**Pn**	**05 42 48.1**	**+1.4**
KULA	**Kula-Manisa**	**2.34**	**90**	P	**Pn**	**05 42 45.4**	**-1.3**
KULA	**Kula-Manisa**	**2.34**	**90**	*e*Pn	**Pn**	**05 42 48.1**	**+1.4**
KULA				S	**Sn**	**05 43 16.1**	**-0.1**
ALN	**Alexandroupoli**	**2.35**	**7**	*e*PN	**Pn**	**05 42 45.1**	**-1.7**
ALN	**Alexandroupoli**	**2.35**	**7**	*e*Pn	**Pn**	**05 42 45.1**	**-1.7**
RKY	**Sarkoy-Tekirda**	**2.42**	**28**	*e*PN	**Pb**	**05 42 49.9**	**-1.5**
RKY	**Sarkoy-Tekirda**	**2.42**	**28**	*e*Pn	**Pb**	**05 42 49.9**	**-1.5**
EDC	**Edincik**	**2.46**	**43**	*e*PN	**Pb**	**05 42 49.9**	**+1.6**
EDC	**Edincik**	**2.46**	**43**	*e*Pn	**Pn**	**05 42 49.9**	**+1.6**
DSF	**Desfina**	**2.48**	**268**	*e*PN	**Pn**	**05 42 50.0**	**+1.4**
DSF	**Desfina**	**2.48**	**268**	*e*Pn	**Pn**	**05 42 50.0**	**+1.4**
PLG	**Polygyros**	**2.51**	**317**	*e*PN	**Pn**	**05 42 49.0**	**0.0**
PLG	**Polygyros**	**2.51**	**317**	*e*Pn	**Pn**	**05 42 49.0**	**0.0**
MRMT	**Marmara Adasi**	**2.52**	**35**	*e*PN	**Pn**	**05 42 50.5**	**+1.3**
MRMT	**Marmara Adasi**	**2.52**	**35**	*e*Pn	**Pn**	**05 42 50.5**	**+1.3**
KAVA	**Kavala**	**2.60**	**340**	*e*PN	**Pn**	**05 42 48.3**	**-1.9**
KAVA	**Kavala**	**2.60**	**340**	*e*Pn	**Pn**	**05 42 48.3**	**-1.9**
KCTX	**Karacabey (Bur**	**2.69**	**50**	*e*PN	**Pb**	**05 42 54.0**	**-1.9**
KCTX	**Karacabey (Bur**	**2.69**	**50**	*e*Pn	**Pb**	**05 42 54.0**	**-1.9**
HORT	**Hortiatis**	**2.85**	**316**	*e*PN	**Pn**	**05 42 54.3**	**+0.6**
HORT	**Hortiatis**	**2.85**	**316**	*e*Pn	**Pn**	**05 42 54.3**	**+0.6**
VLX	**Vlachokerasia**	**2.87**	**247**	*e*PN	**Pn**	**05 42 55.3**	**+1.4**
VLX	**Vlachokerasia**	**2.87**	**247**	*e*Pn	**Pn**	**05 42 55.3**	**+1.4**
SOH	**Sokhos**	**2.89**	**322**	*e*PN	**Pn**	**05 42 53.0**	**-1.2**
SOH	**Sokhos**	**2.89**	**322**	*e*Pn	**Pn**	**05 42 53.0**	**-1.2**
SRS	**Serrai**	**3.02**	**329**	*e*PN	**Pn**	**05 42 54.4**	**-1.6**
SRS	**Serrai**	**3.02**	**329**	*e*Pn	**Pn**	**05 42 54.4**	**-1.6**
TVSB	**Tavsanli**	**3.08**	**72**	*e*PN	**Pn**	**05 42 59.2**	**+2.4**
TVSB	**Tavsanli**	**3.08**	**72**	*e*Pn	**Pn**	**05 42 59.3**	**+2.4**
ARMT	**Armutlu**	**3.17**	**50**	*e*PN	**Pn**	**05 43 01.0**	**+2.9**
ARMT	**Armutlu**	**3.17**	**50**	*e*Pn	**Pn**	**05 43 01.0**	**+2.9**
GEMT	**Gemlik**	**3.30**	**54**	*e*PN	**Pn**	**05 43 02.8**	**+3.0**
GEMT	**Gemlik**	**3.30**	**54**	*e*Pn	**Pn**	**05 43 02.8**	**+3.0**
KNT	**Kendrikon**	**3.37**	**321**	*e*PN	**Pn**	**05 43 00.3**	**-0.5**
KNT	**Kendrikon**	**3.37**	**321**	*e*Pn	**Pn**	**05 43 00.3**	**-0.5**
EDRB	**Edirne**	**3.38**	**14**	*e*PN	**Pn**	**05 43 03.4**	**+2.4**
EDRB	**Edirne**	**3.38**	**14**	*e*Pn	**Pn**	**05 43 03.4**	**+2.4**
LAST	**Lasithi**	**3.39**	**183**	*e*PN	**Pn**	**05 43 01.5**	**+0.3**
LAST	**Lasithi**	**3.39**	**183**	*e*Pn	**Pn**	**05 43 01.5**	**+0.3**

*ISCJB **14** 06:00:15.9±0.6, 32°.72N±0°.04×140°.23E±0°.07, h129km±4km, mb3.5/11, Error ellipse: s-maj=10.4km s-min=7.2km az=166.8*
*IDC **14** 06:00:16.4±1.8, 32°.67N×140°.10E, h118km±16km, mb3.5/11, mb1 3.7/13, mb1mx3.5/38, mbtmp3.8/13, Error ellipse: s-maj=22.9km s-min=11.7km az=79.0*
*JMA **14** 06:00:18.1±0.2, 32°.84N×140°.30E, h120km±1km, M3.6*

ISC 14 06:00:16.6±0.8, 32°.67N±0°.06×140°.28E±0°.07, h121km±7km, n30, σ1°40/40, mb3.6/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**0.57**	**315**	P	**Pn**	**06 00 35.9**	**+0.9**
JHCJ				S	**Sn**	**06 00 49.0**	**0.0**
JHJ2	**Mitsune**	**0.58**	**319**	P	**Pn**	**06 00 36.1**	**+1.0**
JHJ2				S	**Sn**	**06 00 49.8**	**+0.6**
JKO	**Kozu shima**	**1.79**	**328**	P	**Pn**	**06 00 47.9**	**+0.5**
BSO1	**Boso 1**	**2.06**	**16**	P	**Pn**	**06 00 50.5**	**+0.2**
BSO1				S	**Sn**	**06 01 16.3**	**+0.1**
BSO3	**Boso 3**	**2.13**	**5**	P	**Pn**	**06 00 51.5**	**+0.1**
BSO3				S	**Sn**	**06 01 18.1**	**-0.1**
JIM2	**Oshima 3**	**2.16**	**341**	P	**Pn**	**06 00 52.0**	**0.0**
JIM2				S	**Sn**	**06 01 17.5**	**-1.8**
JIZS	**Izushimoda**	**2.35**	**331**	P	**Pn**	**06 00 54.8**	**+0.4**
JIZS				S	**Sn**	**06 01 20.6**	**-2.9**
TK02	**Tokai 2**	**2.46**	**302**	P	**Pn**	**06 00 56.5**	**+0.9**
JOD2	**Odawara 2**	**2.77**	**339**	P	**Pn**	**06 01 00.0**	**+0.2**
JOD2				S	**Sn**	**06 01 31.6**	**-1.6**
SHZ3	**Shizuoka 3**	**2.94**	**325**	S	**Sn**	**06 01 40.9**	**+3.6**
JYN	**Shimob**	**3.16**	**333**	P	**Pn**	**06 01 05.9**	**+0.8**
JYN				S	**Sn**	**06 01 43.9**	**+1.4**
JIE	**Ise**	**3.44**	**301**	P	**Pn**	**06 01 09.1**	**+0.5**
JIE				S	**Sn**	**06 01 48.2**	**-0.7**
JRY	**Ryogami san**	**3.52**	**342**	P	**Pn**	**06 01 10.2**	**+0.4**
JRY				S	**Sn**	**06 01 50.0**	**-1.0**
MJAR	**Matsushiro Arr**	**4.22**	**337**	P	**Pn**	**06 01 19.2**	**+0.2**
	1.8nm,0.3s,baz=93,slow=28,SNR=18						
MJAR				S	**Sn**	**06 02 05.7**	**-1.9**
	3.2nm,0.3s,baz=147,slow=18,SNR=4.6						
MAT	**Matsushiro**	**4.22**	**337**	P	**Pn**	**06 01 19.4**	**+0.4**
MAT				S	**Sn**	**06 02 06.2**	**-1.4**
JCJ	**Chichijima**	**5.80**	**163**	P	**Pn**	**06 01 39.4**	**-0.9**
	4.8nm,0.3s,baz=360,slow=22,SNR=12						
JCJ				S	**Sn**	**06 02 41.1**	**-4.5**
	baz=288,slow=20						
H11N2	**WAKE ISLAND Hy**	**27.05**	**112**	T	T	06 34 52.7	
	baz=305,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**27.06**	**112**	T	T	06 34 52.3	
	baz=305,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**27.07**	**112**	T	T	06 34 53.2	
	baz=305,slow=75,SNR=9.0						
MKAR	**Makanchi Array**	**45.77**	**306**	P	**P**	**06 08 24.3**	**-1.6**
	0.7nm,0.6s,baz=88,slow=8.7,SNR=7.9						
KURBB	**Kurchatov Arra**	**48.05**	**311**	P	**P**	**06 08 42.8**	**-0.7**
	0.3nm,0.4s,baz=88,slow=7.2,SNR=5.4						
WRA	**Warramunga Arr**	**52.62**	**187**	P	**P**	**06 09 18.1**	**-0.1**
	1.6nm,0.4s,baz=5.7,slow=7.5,SNR=24						
ILAR	**Eielson Array**	**53.70**	**31**	P	**P**	**06 09 25.4**	**-0.2**
	0.6nm,0.9s,baz=276,slow=6.6,SNR=4.8						
ASAR	**Alice Springs**	**56.35**	**187**	P	**P**	**06 09 45.2**	**+0.1**
	1.0nm,0.4s,baz=0.2,slow=5.9,SNR=37						
ARCES	**ARCESS Array B**	**67.75**	**340**	P	**P**	**06 11 01.4**	**+0.7**
	3.5nm,0.9s,baz=59,slow=7.5,SNR=2.7						
YKA	**Yellowknife Ar**	**68.06**	**29**	P	**P**	**06 11 02.7**	**0.0**
	0.2nm,0.6s,baz=296,slow=6.1,SNR=6.9						
FINES	**FINESS Array B**	**72.24**	**333**	P	**P**	**06 11 27.6**	**-0.6**
	0.6nm,0.4s,baz=58,slow=4.5,SNR=12						
NOA	**NORSAR Array B**	**77.84**	**337**	P	**P**	**06 11 59.3**	**-1.1**
	0.9nm,1.0s,baz=53,slow=7.8,SNR=3.5						
NVAR	**Mina Array Bea**	**78.38**	**52**	P	**P**	**06 12 05.6**	**+1.5**
	0.2nm,0.5s,baz=289,slow=5.6,SNR=2.5						
TXAR	**Lajitas Array**	**93.53**	**52**	P	**P**	**06 13 20.4**	**+1.2**
	0.2nm,0.6s,baz=268,slow=3.3,SNR=3.4						

*IDC **14** 06:10:56.1±1.8, 33°.77S×72°.45W, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.6/28, mbtmp4.0/4, ML3.9/1, MS3.7/2, Ms1 3.6/2, ms1mx3.1/15, Error ellipse: s-maj=53.3km s-min=28.9km az=109.0*
*GUC **14** 06:11:00.9±0.5, 33°.82S×72°.03W, h37km±4km, ML3.8*

ISC 14 06:11:00.2±1.0, 33°.76S±0°.04×72°.05W±0°.07, h21km±4km, n23, σ0°59/34, 5C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.56**	**110**	⇓*i*P	**Pb**	**06 11 12.0**	**+0.4**
IHA	**Instituto Hidr**	**0.81**	**25**	⇓*i*P	**Pn**	**06 11 16.6**	**+0.1**
IHA				*i* S1	**Sn**	**06 11 28.4**	**+0.6**
RCDM	**Rinconada Maip**	**1.07**	**76**	*e*P	**Pn**	**06 11 19.9**	**-0.2**
RCDM				*e*S	**Sb**	**06 11 34.0**	**+0.3**
RCDM				IAML		06 11 37.0	
	comp=E,2μm,0.3s						
CHCH	**Chadas Angostu**	**1.18**	**99**	⇑*i*P	**Pn**	**06 11 21.6**	**+0.1**
ANTU	**Antumapu**	**1.20**	**81**	⇓*i*P	**Pb**	**06 11 22.1**	**-0.2**
ANTU				*i* S	**Sn**	**06 11 37.7**	**+0.2**
ANTU				IAML		06 11 40.4	
	comp=E,3μm,0.6s						
STL	**Santa Lucia**	**1.22**	**75**	*e*P9	**Pn**	**06 11 21.4**	**-0.7**
STL				*e*S	**Sb**	**06 11 37.9**	**-0.1**
CACH	**El Canelo**	**1.25**	**107**	⇓*i*P	**Pb**	**06 11 23.3**	**0.0**
PEL	**Peldehue**	**1.30**	**62**	⇑*i*P	**Pb**	**06 11 23.8**	**-0.2**
PEL				*i* S	**Sb**	**06 11 41.5**	**+1.4**
PEL				IAML		06 11 48.5	
	comp=N,9μm,0.6s						
LACH	**Col Las Americ**	**1.30**	**77**	⇑*i*P	**Pb**	**06 11 23.9**	**-0.2**
LACH				*i* S	**Sb**	**06 11 41.1**	**+0.7**
CLCH	**Cerro Calan**	**1.31**	**74**	*e*P	**Pn**	**06 11 23.9**	**+0.4**
CLCH				*i* S	**Sb**	**06 11 41.4**	**+0.6**
CLCH				IAML		06 11 58.0	
	comp=E,3μm,0.9s						
NICH	**Los Niches**	**1.41**	**151**	*e*P1	**Pn**	**06 11 24.1**	**-0.6**
NICH				*e*S4	**Sb**	**06 11 43.7**	**+0.4**
SJCH	**San Jose de Ma**	**1.42**	**85**	*e*P9	**Pn**	**06 11 24.4**	**-0.5**
SJCH				*i* S	**Sn**	**06 11 43.3**	**+0.3**
TALC	**Talca**	**1.67**	**168**	⇑*i*P	**Pn**	**06 11 28.2**	**+0.1**
TALC				*i* S	**Sn**	**06 11 48.7**	**-0.2**
CHNG	**Los Chungos**	**1.93**	**14**	⇑*i*P	**Pn**	**06 11 31.9**	**0.0**
CHNG				*i* S4	**Sn**	**06 11 54.9**	**-0.6**
LNCH	**Linares**	**2.11**	**170**	*e*P	**Pn**	**06 11 34.1**	**-0.2**
LNCH				*i* S4	**Sb**	**06 12 03.4**	**-0.1**
CFAA	**Coronel Fontan**	**3.87**	**57**	Pn	Pn	06 12 02.1	+3.6
	baz=238,slow=15						
CFAA				Sn	**Sb**	**06 12 52.3**	**-1.9**
	comp=E,0.4nm,0.3s,baz=270,slow=9.1,SNR=1.7						
PLCA	**Paso Flores**	**7.06**	**171**	Pn	**Pn**	**06 12 42.5**	**+0.1**
	baz=350,slow=14						
LPAZ	**La Paz**	**17.76**	**12**	P	**P**	**06 15 08.2**	**+0.7**
	comp=E,0.2nm,0.3s,baz=206,slow=9.7,SNR=13						
SIV	**San Ignacio**	**20.28**	**32**	P	**P**	**06 15 33.9**	**-0.7**
	comp=E,1.2nm,0.5s,baz=210,slow=12,SNR=3.6						
SIV				LR	LR	06 24 48.8	
	comp=E,161nm,19.1s,baz=256,slow=41						
BDFB	**Brasília**	**28.21**	**56**	LR	LR	06 28 34.0	
	comp=E,159nm,18.9s,baz=207,slow=37						
TORD	**Torodi Ar. Bea**	**84.14**	**70**	P	**P**	**06 23 30.1**	**0.0**
	comp=E,1.9nm,0.7s,baz=242,slow=3.5,SNR=10						
ZALV	**Zalesovo Beam**	**154.03**	**32**	PKPbc	**PKPbc**	**06

SIVA	Sivas	2.28	281	*e*P		Pn	06 41 03.3	+1.9
SIVA	Sivas	2.28	281	*e*P		Pn	06 41 03.3	+1.9
AKAS	Kas	2.34	46	*i* P		Pn	06 41 05.4	+3.1
AKAS				*i* S		Sn	06 41 31.0	+0.9
AKAS	Kas	2.34	46	*i* P		Pn	06 41 05.4	+3.1
AKAS				*i* S		Sn	06 41 31.0	+0.9
FETY	Fethiye	2.38	32	*e*PN		Pn	06 41 03.7	+0.9
FETY	Fethiye	2.38	32	*e*Pn		Pn	06 41 03.7	+0.9
DALY	Dalyan (Mu¨la	2.38	22	*e*PN		Pn	06 41 05.8	+3.1
DALY	Dalyan (Mu¨la	2.38	22	*e*Pn		Pn	06 41 05.8	+3.1
SANT	Santorini	2.44	317	*e*P		Pn	06 41 02.0	-1.6
SANT	Santorini	2.44	317	*e*P		Pn	06 41 02.0	-1.6
BDRM	Kayabasi	2.45	358	*i* P		Pn	06 41 03.7	0.0
BDRM				*i* S		Sn	06 41 32.9	+0.3
BDRM	Kayabasi	2.45	358	*i* P		Pn	06 41 03.7	0.0
BDRM				*i* S		Sn	06 41 32.9	+0.3
YER	Yerkesik	2.59	13	*e*PN		Pb	06 41 11.0	-0.4
VAM	Vamos	2.85	287	*e*P		Pn	06 41 09.4	+0.2
VAM	Vamos	2.85	287	*e*P		Pn	06 41 09.4	+0.2
ELL	Elmali	2.87	42	*e*PN		Pn	06 41 10.0	+0.3
ELL	Elmali	2.87	42	*e*Pn		Pn	06 41 10.0	+0.3
GOLH	Golhisar	3.09	32	*i* P		Pn	06 41 15.3	+2.7
GOLH				*i* S		Sn	06 41 51.3	+2.7
GOLH	Golhisar	3.09	32	*i* P		Pn	06 41 15.3	+2.7
GOLH				*i* S		Sn	06 41 51.3	+2.7
AYDB	Zeytinkoy-Aydi	3.34	5	*e*PN		Pb	06 41 22.6	-1.6
AYDB				*e*SN		Sn	06 41 55.7	+0.9
AYDB	Zeytinkoy-Aydi	3.34	5	*e*Sn		Sn	06 41 55.7	+0.9
BCK	Bucak	3.77	40	*e*PN		Pn	06 41 23.1	+1.2
BCK	Bucak	3.77	40	*e*Pn		Pn	06 41 23.1	+1.2
MANT	Manisa	3.96	12	*i* P		Pn	06 41 25.7	+1.1
MANT	Manisa	3.96	12	*i* P		Pn	06 41 25.7	+1.1
GAZI	Gazipasa	4.22	66	*i* P		Pn	06 41 28.1	-0.1
GAZI				*i* S		Sn	06 42 14.0	-2.5
GAZI	Gazipasa	4.22	66	*i* P		Pn	06 41 28.1	-0.1
GAZI				*i* S		Sn	06 42 14.0	-2.5
VLI	Veliai	4.29	301	*e*P		Pn	06 41 29.2	+0.1
VLI	Veliai	4.29	301	*e*P		Pn	06 41 29.2	+0.1
DID	Didima	4.52	311	*e*P		Pn	06 41 33.3	+1.0
DID	Didima	4.52	311	*e*P		Pn	06 41 33.3	+1.0
ERMK	Ermenek	4.82	64	*i* S		Sn	06 42 34.2	+2.7
ERMK	Ermenek	4.82	64	*i* S		Sn	06 42 34.2	+2.7
LFK	Lefkose	4.97	81	*e*PN		Pn	06 41 42.5	+4.1
LFK	Lefkose	4.97	81	*e*Pn		Pn	06 41 42.5	+4.1
VLX	Vlachokerasia	5.00	305	*e*P		Pn	06 41 39.6	+0.7
VLX	Vlachokerasia	5.00	305	*e*P		Pn	06 41 39.6	+0.7
LTK	Loutraki	5.02	314	*e*P		Pn	06 41 40.8	+1.8
LTK	Loutraki	5.02	314	*e*P		Pn	06 41 40.8	+1.8
KONT	Konya--Tatoy	5.12	48	*e*PN		Pn	06 41 42.1	+1.6
KONT	Konya--Tatoy	5.12	48	*e*Pn		Pn	06 41 42.1	+1.6
ITM	Ithomi	5.22	301	*e*P		Pn	06 41 43.4	+1.5
ITM	Ithomi	5.22	301	*e*P		Pn	06 41 43.4	+1.5
PYL	PYLOS	5.23	297	*e*P		Pn	06 41 41.3	-0.7
PYL	PYLOS	5.23	297	*e*P		Pn	06 41 41.3	-0.7
GUR	Goura	5.35	310	*e*P		Pn	06 41 44.1	+0.4
GUR	Goura	5.35	310	*e*P		Pn	06 41 44.1	+0.4
KDHN	Kadinhani	5.36	42	*i* P		Pn	06 41 45.6	+1.7
KDHN				*i* S		Sn	06 42 44.7	0.0
KDHN	Kadinhani	5.36	42	*i* P		Pn	06 41 45.6	+1.7
KDHN				*i* S		Sn	06 42 44.7	0.0
LKR	Lokris	5.43	319	*e*P		Pn	06 41 48.0	+3.3
LKR	Lokris	5.43	319	*e*P		Pn	06 41 48.0	+3.3
EREN	Erenkoy	5.52	79	*e*PN		Pn	06 41 49.8	+4.0
EREN	Erenkoy	5.52	79	*e*Pn		Pn	06 41 49.8	+4.0
KLV	Kalavryta, Ach	5.53	310	*e*P		Pn	06 41 46.8	+0.6
KLV	Kalavryta, Ach	5.53	310	*e*P		Pn	06 41 46.8	+0.6
DSF	Desfina	5.53	315	*e*P		Pn	06 41 47.5	+1.3
DSF	Desfina	5.53	315	*e*P		Pn	06 41 47.5	+1.3
KIZK	Mersin	5.70	69	*i* S		Sn	06 42 50.9	-1.9
KIZK	Mersin	5.70	69	*i* S		Sn	06 42 50.9	-1.9
AXAR	Agios Charalam	5.70	318	*e*P		Pn	06 41 50.7	+2.2
AXAR	Agios Charalam	5.70	318	*e*P		Pn	06 41 50.7	+2.2
BORA	Eskisehir	5.75	23	*i* S		Sn	06 42 51.5	-2.6
BORA	Eskisehir	5.75	23	*i* S		Sn	06 42 51.5	-2.6
KALE	Kalithea	5.75	312	*e*P		Pn	06 41 49.6	+0.4
KALE	Kalithea	5.75	312	*e*P		Pn	06 41 49.6	+0.4
DRO	Drossia	5.76	307	*e*P		Pn	06 41 50.2	+0.9
DRO	Drossia	5.76	307	*e*P		Pn	06 41 50.2	+0.9
EFP	Efpalio	5.92	312	*e*P		Pn	06 41 51.9	+0.5
EFP	Efpalio	5.92	312	*e*P		Pn	06 41 51.9	+0.5
AGG	Agios Georgios	6.07	318	*e*P		Pn	06 41 55.3	+1.9
AGG	Agios Georgios	6.07	318	*e*P		Pn	06 41 55.3	+1.9
PDO	Prodromos	6.47	310	*e*P		Pn	06 42 00.5	+1.5
PDO	Prodromos	6.47	310	*e*P		Pn	06 42 00.5	+1.5
MMAI	Mount Meron Ar	6.74	101	Pn		Pn	06 42 03.6	+0.9
	1.3nm,0.3s,baz=289,slow=9.0,SNR=2.5							
DSL	Palaion Diasel	6.85	313	*e*P		Pn	06 42 04.8	+0.5
DSL	Palaion Diasel	6.85	313	*e*P		Pn	06 42 04.8	+0.5
BRTR	Keskin Array B	7.05	42	Pn		Pn	06 42 08.8	+1.7
	0.1nm,0.3s,baz=203,slow=13,SNR=2.6							
BRTR				Sn		Sn	06 43 25.9	-0.5
	0.6nm,0.3s,baz=216,slow=26,SNR=11							
EIL	Elat	7.99	126	Pn		Pn	06 42 17.9	-2.0
	0.4nm,0.3s,baz=320,slow=13,SNR=3.6							
EIL				Sn		Sn	06 43 40.5	-8.7
	2.7nm,0.3s,baz=40,slow=2.4,SNR=12							
KEST	Kesra	14.92	279	LR		LR	06 50 51.1	
	comp=Z,16nm,18.5s,baz=334,slow=42							
KBZ	Khabaz	14.97	48	Pn		Pn	06 43 57.3	+2.1
	baz=152,slow=17,SNR=1.8							
GERES	GERESS Array B	17.53	328	P		Pn	06 44 26.7	-1.3
	0.1nm,0.3s,baz=137,slow=10,SNR=3.0							
ESDC	Sonseca Array	25.54	291	P		P	06 45 51.5	-0.4
	0.2nm,0.4s,baz=83,slow=10,SNR=4.0							
FINES	FINESS Array B	26.86	358	P		P	06 46 02.8	-0.8
	1.0nm,0.3s,baz=163,slow=12,SNR=24							
KAF	Kangasniemi	27.53	359	*e*p		P	06 46 08.6	-0.9
	0.5nm,0.3s							
JOF	Joensuu	28.43	4	*e*p		P	06 46 17.3	-0.2
	0.3nm,0.3s							
NOA	NORSAR Array B	28.45	343	P		P	06 46 17.5	-0.4
	1.2nm,0.9s,baz=170,slow=4.9,SNR=2.7							
EKA	Eskdalemuir Ar	29.62	324	P		P	06 46 27.2	-1.1
	0.8nm,0.5s,baz=126,slow=10,SNR=5.8							
TORD	Torodi Ar. Bea	31.69	234	P		P	06 46 47.0	+0.1
	0.9nm,0.9s,baz=47,slow=10,SNR=4.8							
ARCES	ARCESS Array B	34.99	359	P		P	06 47 14.3	-0.8
	1.9nm,0.8s,baz=170,slow=8.4,SNR=17							
KURBB	Kurchatov Arra	39.95	50	P		P	06 47 57.1	-0.2
	0.2nm,0.2s,baz=283,slow=9.3,SNR=2.1							
MKAR	Makanchi Array	42.45	56	P		P	06 48 19.4	+1.4
	0.6nm,0.8s,baz=260,slow=7.0,SNR=3.8							
NEW	Newport	91.65	337	LR		LR	07 37 08.2	
	comp=Z,116nm,19.0s,baz=198,slow=37							
ASAR	Alice Springs	116.03	102	PKP		PKPdf	06 59 07.2	+1.0
	0.3nm,0.7s,baz=306,slow=0.8,SNR=4.3							

IDC ***14*** *06:46:01.0±1.6, 34°.53N×32°.05E, h0km, mb4.0/1, mb1 3.7/7, mb1mx3.3/44, mbtmp3.6/7, ML3.6/6, Error ellipse: s-maj=41.9km s-min=18.0km az=46.0*
DDA ***14*** *06:46:02.8, 34°.55N×32°.10E, h5km, MD3.5*
ISK ***14*** *06:46:02.2, 34°.51N×32°.02E, h5km, ML3.6*
NIC ***14*** *06:46:02.2, 34°.46N×32°.04E, h21km, ML3.4*
CSEM ***14*** *06:46:03.4±0.2, 34°.47N×32°.15E, h5km, ML3.4, Error ellipse: s-maj=4.2km s-min=3.1km az=50.0*
GII ***14*** *06:46:05.2±0.2, 34°.45N×32°.28E, h10km, MD2.6/2*
NSSC ***14*** *06:46:09.8±1.6, 34°.56N×33°.25E, h0km±31km, ML2.5*

ISC 14 06:46:03.9±1.4**, 34°.53N**±0°.03×**32°.20E**±0°.03**, h17**km±10km**, n92,** σ1**953**/119**, 6C-2D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	Paphos	0.37	18	P	Pb	06 46 12.1	+0.1
	baz=210						
PPCY	Paphos	0.37	18	P	Pb	06 46 12.1	+0.1
AKMC	Akamas	0.50	12	⇑P	Pg	06 46 14.2	+0.2
	baz=202						
AKMC	Akamas	0.50	12	⇑P	Pg	06 46 14.2	+0.2
SZAC	Souni-Zanaja	0.60	68	P	Pb	06 46 16.3	+0.3
	baz=247						
SZAC				S	Sn	06 46 27.0	-0.1
SZAC	Souni-Zanaja	0.60	68	P	Pb	06 46 16.3	+0.3
SZAC				S	Sn	06 46 27.0	-0.1
ALFC	Alevga	0.70	28	⇓P	Pg	06 46 17.4	-0.3
	baz=213						
ALFC				S	Sb	06 46 29.3	+2.2
ALFC	Alevga	0.70	28	⇓P	Pg	06 46 17.4	-0.3
ALFC				S	Sb	06 46 29.3	+2.2
LEF	Lefka	0.81	44	PG	Pn	06 46 20.6	+0.1
LEF				SG	Sn	06 46 34.1	+1.9
LEF	Lefka	0.81	44	*i* Pg	Pn	06 46 20.6	+0.1
LEF				*i* Sg	Sn	06 46 34.1	+1.9
CSS	Prodhromos	1.02	65	⇑P	Pg	06 46 22.5	-1.2
	baz=245						
CSS	Prodhromos	1.02	65	Pg	Pn	06 46 23.8	+0.3
CSS				Sg	Sb	06 46 38.0	+1.7
CSS	Prodhromos	1.02	65	⇑P	Pg	06 46 22.5	-1.2
CSS	Prodhromos	1.02	65	Pg	Pn	06 46 23.8	+0.3
CSS				Sg	Sb	06 46 38.0	+1.7
MAMC	Mammari	1.05	52	⇑P	Pb	06 46 23.7	+0.1
	baz=234						
MAMC	Mammari	1.05	52	⇑P	Pb	06 46 23.7	+0.1
LFK	Lefkose	1.32	55	*e*PN	Pg	06 46 30.7	+1.3
LFK	Lefkose	1.32	55	*e*Pn	Pg	06 46 30.7	+1.3
GAZI	Gazipasa	1.70	3	*i* P	Pn	06 46 32.4	-0.4
GAZI				*i* S	Sn	06 46 55.3	+1.2
GAZI	Gazipasa	1.70	3	*i* P	Pn	06 46 32.4	-0.4
GAZI				*i* S	Sn	06 46 55.3	+1.2
EREN	Erenkoy	1.90	58	*e*PN	Pb	06 46 38.8	+0.8
EREN	Erenkoy	1.90	58	*e*Pn	Pb	06 46 38.8	+0.8
ERMK	Ermenek	2.18	15	*i* P	Pb	06 46 42.7	-0.3
ERMK	Ermenek	2.18	15	*i* P	Pb	06 46 42.7	-0.3
KIZK	Mersin	2.51	39	*i* P	Pn	06 46 46.2	+2.4
KIZK				*i* S	Sb	06 47 18.5	-0.5
KIZK	Mersin	2.51	39	*i* P	Pn	06 46 46.2	+2.4
KIZK				*i* S	Sb	06 47 18.5	-0.5
AKAS	Kas	2.72	309	*i* P	Pn	06 46 48.0	+1.2
AKAS				*i* S	Sn	06 47 19.1	-0.3
AKAS	Kas	2.72	309	*i* P	Pn	06 46 48.0	+1.2
AKAS				*i* S	Sn	06 47 19.1	-0.3
HNTI	Hanita	2.87	119	Pn	Pn	06 46 49.8	+1.0
HNTI				Sn	Sn	06 47 23.5	+0.6
HNTI	Hanita	2.87	119	Pn	Pn	06 46 49.8	+1.0
HNTI				Sn	Sn	06 47 23.5	+0.6
ELL	Elmali	2.89	320	*e*PN	Pn	06 46 50.0	+0.7
ELL	Elmali	2.89	320	*e*Pn	Pn	06 46 50.0	+0.7
MERS	Mersin	3.00	38	*e*PN	Pb	06 46 54.4	-2.5
MERS	Mersin	3.00	38	*e*Pn	Pb	06 46 54.4	-2.5
MMC7	Mount Meron ar	3.06	119	Pn	Pn	06 46 52.4	+1.0
MMC7	Mount Meron ar	3.06	119	Pn	Pn	06 46 52.4	+1.0
MMA0B	Mount Meron ar	3.07	119	Pn	Pn	06 46 52.7	+1.1
MMA0B	Mount Meron ar	3.07	119	Pn	Pn	06 46 52.7	+1.1
MMAI	Mount Meron Ar	3.07	119	Pn	Pn	06 46 51.1	-0.5
	12nm,0.3s,baz=308,slow=13,SNR=13						
MMAI				Lg	Lg	06 47 30.9	
	33nm,0.3s,baz=298,slow=22,SNR=11						
KSDI	Kefar Szold	3.17	114	Pn	Pn	06 46 53.7	+0.7
KSDI				Sn	Sn	06 47 31.1	+0.7
KSDI	Kefar Szold	3.17	114	Pn	Pn	06 46 53.7	+0.7
KSDI				Sn	Sn	06 47 31.1	+0.7
FETY	Fethiye	3.29	310	*e*PN	Pn	06 46 55.6	+0.9
FETY	Fethiye	3.29	310	*e*Pn	Pn	06 46 55.6	+0.9
BRBR	Barbar	3.31	109	*e*P	Pn	06 46 52.5	-2.6
	SNR=45						
BRBR	Barbar	3.31	109	*e*P	Pn	06 46 52.5	-2.6
BRBR				*e*S	Sn	06 47 23.6	-11
BRBR				AML	AML	06 47 40.0	
	comp=E,36nm,0.3s						
BRBR				AML	AML	06 47 40.9	
	comp=N,65nm,0.3s						
BRBR				AML	AML	06 47 41.0	
	comp=Z,70nm,0.3s						
ARNB	Al Arnab	3.36	66	*e*P	Pn	06 46 53.5	-2.1
	SNR=45						
ARNB	Al Arnab	3.36	66	*e*P	Pn	06 46 53.5	-2.1
ARNB				*e*S	Sn	06 47 24.6	-11
ARNB				AML	AML	06 47 41.1	
	comp=Z,49nm,0.3s						
ARNB				AML	AML	06 47 43.0	
	comp=N,22nm,0.5s						
ARNB				AML	AML	06 47 44.6	
	comp=E,40nm,0.5s						
KONT	Konya--Tatoy	3.41	2	*e*PN	Pn	06 46 59.0	+2.8
KONT	Konya--Tatoy	3.41	2	*e*Pn	Pn	06 46 59.1	+2.8
BIDA	Albida	3.42	81	*e*P	Pn	06 46 51.6	-4.9
BIDA				*e*S	Sn	06 47 23.9	-13
BIDA				AML	AML	06 47 40.0	
	comp=N,151nm,0.4s						
BIDA				AML	AML	06 47 40.3	
	comp=E,146nm,0.4s						
BIDA				AML	AML	06 47 40.4	
	comp=Z,50nm,0.5s						
GOLH	Golhisar	3.45	322	*i* P	Pn	06 46 59.9	+3.1
GOLH				*i* S	Sn	06 47 38.5	+1.2
GOLH	Golhisar	3.45	322	*i* P	Pn	06 46 59.9	+3.1
GOLH				*i* S	Sn	06 47 38.5	+1.2
HAWK	Haweek	3.47	89	*e*P	Pn	06 46 53.9	-3.3
	SNR=45						
HAWK	Haweek	3.47	89	*e*P	Pn	06 46 53.9	-3.3
HAWK				*e*S	Sn	06 47 25.2	-13
HAWK				AML	AML	06 47 42.1	
	comp=Z,24nm,0.3s						
HAWK				AML	AML	06 47 43.5	
	comp=N,47nm,0.3s						
HAWK				AML	AML	06 47 47.8	
	comp=E,32nm,0.3s						
WRDH	Warideh	3.59	73	*e*P	Pn	06 46 54.5	-4.3
WRDH				*e*S	Sn	06 47 28.1	-13
WRDH				AML	AML	06 47 41.0	
	comp=E,76nm,0.6s						
WRDH				AML	AML	06 47 41.4	
	comp=Z,63nm,0.4s						
WRDH				AML	AML	06 47 42.1	
	comp=N,48nm,0.3s						
HMDT	Nahal Hemdat	3.59	128	Pn	Pn	06 47 00.0	+1.2
HMDT				Sn	Sn	06 47 41.4	+0.6
HMDT	Nahal Hemdat	3.59	128	Pn	Pn	06 47 00.0	+1.2
HMDT				Sn	Sn	06 47 41.4	+0.6
DALY	Dalyan (Mu¨la	3.68	309	*e*PN	Pn	06 47 01.0	+1.1
DALY	Dalyan (Mu¨la	3.68	309	*e*Pn	Pn	06 47 01.0	+1.1
BTCH	Batrach	3.79	65	*e*P	Pn	06 46 59.0	-2.6
	SNR=45						
BTCH	Batrach	3.79	65	*e*P	Pn	06 46 59.0	-2.6
BTCH				*e*S	Sn	06 47 35.7	-10
BTCH				AML	AML	06 47 53.6	
	comp=Z,40nm,0.3s						
BTCH				AML	AML	06 47 57.0	
	comp=N,62nm,0.4s						
BTCH				AML	AML	06 48 01.9	
	comp=E,69nm,0.4s						
DSI	Dead Sea	3.98	137	Pn	Pn	06 47 04.8	+0.7
DSI				Sn	Sn	06 47 50.6	+0.2
DSI	Dead Sea	3.98	137	Pn	Pn	06 47 04.8	+0.7
DSI				Sn	Sn	06 47 50.6	+0.2
KZIT	Kziot	4.06	152	Pn	Pn	06 47 05.4	+0.2
KZIT				Sn	Sn	06 47 52.2	-0.2
KZIT	Kziot	4.06	152	Pn	Pn	06 47 05.4	+0.2
KZIT				Sn	Sn	06 47 52.2	-0.2
YER	Yerkesik	4.11	310	*e*PN	Pn	06 47 06.8	+0.9
YER	Yerkesik	4.11	310	*e*Pn	Pn	06 47 06.8	+0.9
RABH	Abou Rabah	4.13	90	*e*P	Pn	06 47 03.8	-2.5
	SNR=45						
RABH	Abou Rabah	4.13	90	*e*P	Pn	06 47 03.8	-2.5
RABH				*e*S	Sn	06 47 40.4	-14
RABH				AML	AML	06 47 56.9	
	comp=E,30nm,0.4s						
RABH				AML	AML	06 48 03.2	
	comp=N,10nm,0.4s						
RABH				AML	AML	06 48 05.8	
	comp=Z,17nm,0.4s						
MZDA	Masada	4.17	140	Pn	Pn	06 47 07.0	+0.3
MZDA				Sn	Sn	06 47 55.5	+0.5
MZDA	Masada	4.17	140	Pn	Pn	06 47 07.0	+0.3
MZDA				Sn	Sn	06 47 55.5	+0.5
KHL	Karahalli	4.36	331	*e*PN	Pn	06 47 10.9	+1.6
KHL	Karahalli	4.36	331	*e*Pn	Pn	06 47 10.9	+1.6
ASF	Jabal al Asfar	4.58	120	Pn	Pn	06 47 15.0	+2.6
	comp=Z,1.4nm,0.3s,baz=254,slow=13,SNR=5.2						
ASF				Sn	Sn	06 48 09.6	+4.3
	comp=Z,1.2nm,0.3s,baz=61,slow=19,SNR=2.4						
BDRM	Kayabasi	4.62	305	*i* P	Pn	06 47 14.0	+1.1
BDRM	Kayabasi	4.62	305	*i* P	Pn	06 47 14.0	+1.1
BDRM				*i* S	Sn	06 48 02.5	-3.6
BODT	Bodrum	4.71	304	*e*PN	Pn	06 47 15.2	+1.1
BODT	Bodrum	4.71	304	*e*Pn	Pn	06 47 15.3	+1.1
PRNI	Paran	4.79	150	Pn	Pn	06 47 16.4	+1.1
PRNI	Paran	4.79	150	Pn	Pn	06 47 16.4	+1.1
AYDB	Zeytinkoy-Aydi	4.87	316	*e*PN	Pn	06 47 17.4	+0.9
AYDB	Zeytinkoy-Aydi	4.87	316	*e*Pn	Pn	06 47 17.4	+0.9
HRFI	Mount Harif	5.09	151	Pn	Pn	06 47 20.4	+1.1
HRFI	Mount Harif	5.09	151	Pn	Pn	06 47 20.4	+1.1
BRTR	Keskin Array B	5.31	12	Pn	Pn	06 47 27.6	+5.2
	comp=Z,0.2nm,0.3s,baz=184,slow=16,SNR=4.7						
EIL	Elat	5.38	154	Pn	Pn	06 47 23.1	-0.3
	comp=Z,2.3nm,0.3s,baz=317,slow=3.0,SNR=9.2						
EIL				Sn	Sn	06 48 21.0	-3.9
	comp=Z,1.9nm,0.3s,baz=16,slow=15,SNR=6.3						
EIL	Elat	5.38	154	Pn	Pn	06 47 24.3	+0.9
EIL	Elat	5.38	154	Pn	Pn	06 47 24.3	+0.9
IDI	Anoyia	6.05	279	Pn	Pn	06 47 30.2	-2.5
	comp=Z,0.4nm,0.3s,baz=78,slow=14,SNR=4.2						
IDI				Sn	Sn	06 48 37.0	-4.6
	comp=Z,3.1nm,0.3s,baz=313,slow=16,SNR=13						
AKASG	Malin Array Be	16.30	353	Pn	Pn	06 49 51.1	-0.8
	comp=Z,0.4nm,0.3s,baz=174,slow=10,SNR=3.4						
GERES	GERESS Array B	19.81	322	P	P	06 50 33.0	-0.5
	comp=Z,0.1nm,0.3s,baz=116,slow=11,SNR=3.5						
FINES	FINESS Array B	27.21	354	P	P	06 51 44.8	-1.6
	comp=Z,2.2nm,1.0s,baz=168,slow=9.8,SNR=6.8						

MEX 14 06:48:58.3±0.6**, 15°.96N**×**96°.20W, h23**km±20km**, MD3.7, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.21	154	*i* P	Pb	06 49 02.4	-1.6
HUIG				*i* S	Sb	06 49 07.0	-0.8
VHO	Vista Hermosa	1.22	335	*i* P	Pn	06 49 17.6	-2.6
VHO				*e*S	Sn	06 49 31.5	-4.7
CMIG	Matias Romero	1.69	48	*i* P	Pn	06 49 24.1	-2.4
CMIG				*i* S	Sn	06 49 43.2	-4.2
PNIG	Pinotepa	1.90	283	*e*P	Pn	06 49 26.4	-2.9
PNIG				*i* S	Sn	06 49 49.1	-3.4

IDC ***14*** *06:50:13.2±2.5, 8°.77S×118°.25E, h0km, mb4.0/2, mb1 4.1/4, mb1mx3.7/46, mbtmp4.0/4, ML3.7/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/37, Error ellipse: s-maj=87.7km s-min=33.1km az=25.0*
ISCJB ***14*** *06:50:18.9±0.4, 8°.83S±0°.05×118°.49E±0°.03, h33km, mb4.1/1, Error ellipse: s-maj=7.1km s-min=4.3km az=20.1*
DJA ***14*** *06:50:18.5±0.2, 9°.5±3°×11°.9E±°, h10km, M4.4/19, mb4.6/6, mB5.4/1, MLv4.3/19, Mw(mB)4.9/1*

ISC 14 06:50:20.6±0.8**, 8°.89S**±0°.06×**118°.48E**±0°.05**, h35**km**, n32,** σ1**971**/34**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.17	130	P	Pn	06 50 38.4	-2.2
WBSI				S	Sn	06 50 54.3	-1.1
WSI	Waingapu	1.96	113	P	Pn	06 50 52.1	+0.7
WSI	Waingapu	1.96	113	P	Pn	06 51 00.4	+9.0
	baz=1.9,SNR=3.0						
BASI	Baing, Sumba	2.46	123	P	Pn	06 50 59.0	+0.7
DNP	Denpasar	3.23	273	P	Pn	06 51 13.5	+4.6
DNP				S	Sn	06 51 55.0	+8.8
IGBI	Denpasar	3.29	271	P	Pn	06 51 09.7	0.0
IGBI				S	Sn	06 51 50.2	+2.6
SRBI	Singaraja	3.32	284	P	Pn	06 51 09.2	-0.9
BSSI	Bau Bau, Buton	3.38	36	P	Pn	06 51 09.1	-1.8
MMRI	Maumere	3.73	86	P	Pn	06 51 16.9	+1.2
BKSI	Bulukumba	3.90	25	P	Pn	06 51 16.1	-2.0
JAGI	Jajag, Banyuwa	4.29	275	P	Pn	06 51 23.0	-0.5
JAGI	Jajag, Banyuwa	4.29	275	P	Pn	06 51 22.3	-1.2
	baz=4.3,SNR=29						
ABJI	Asem Bagus	4.33	284	P	Pn	06 51 24.2	+0.2
BNSI	Bone	4.74	20	P	Pn	06 51 29.9	+0.2
GMJI	Gumukmas	5.01	277	P	Pn	06 51 32.8	-0.6
	76nm,1.0s						
SPSI	Sidrap Palu	5.06	15	P	Pn	06 51 33.3	-0.7
BATI	Baumata	5.28	105	P	Pn	06 51 37.6	+0.5
	27nm,0.7s						
BATI	Baumata	5.28	105	Pn	Pn	06 51 38.0	+0.9
	5.0nm,0.3s,baz=276,slow=6.3,SNR=7.9						
BATI				Sn	Sn	06 52 41.0	+4.1
	2.4nm,0.3s,baz=79,slow=19,SNR=2.2						
BATI			

CHCP	**Chirah Chowk**	**3.11 312**	⇑P	**Pn**	**06 54 11.1**	**+2.7**
SONA	**Sohna**	**3.47 165**	*e*P	**Pn**	**06 54 14.8**	**+1.6**
SONA			*e*S	**Sn**	**06 54 51.7**	**-1.3**
SONA			AML	AML	06 55 13.4	
	comp=N,775nm,0.2s					
SONA			AML	AML	06 55 14.6	
	comp=E,2μm,0.3s					
KUDL	**Kundal**	**3.47 173**	*e*P	**Pn**	**06 54 14.3**	**+1.1**
KUDL			*e*S	**Sn**	**06 54 53.2**	**0.0**
KUDL			AML	AML	06 55 15.4	
	comp=N,2μm,0.2s					
KUDL			AML	AML	06 55 16.2	
	comp=E,2μm,0.6s					
KHET	**Khetri**	**3.53 183**	*e*P	**Pn**	**06 54 15.3**	**+1.2**
KHET			*e*S	**Sn**	**06 54 54.0**	**-0.6**
THW	**Thamme Wali**	**3.83 289**	P	**Pn**	**06 54 20.4**	**+2.1**
CEP	**Cherat**	**4.13 303**	⇑P	**Pn**	**06 54 23.9**	**+1.5**
LGTI	**Lohaghat**	**4.21 120**	*e*x	Pn	06 54 29.6	+6.1
LGTI			*e*x	x	06 55 23.2	
AGRA	**Agra**	**4.67 159**	*e*P	**Pn**	**06 54 30.8**	**+1.2**
AGRA			*e*S	**Sn**	**06 55 19.6**	**-3.0**
AGRA			AML	AML	06 55 53.8	
	comp=N,1μm,0.5s					
AGRA			AML	AML	06 55 55.4	
	comp=E,2μm,0.5s					
KBL	**Kabul**	**6.56 298**	*e*P	**Pn**	**06 54 57.5**	**+1.6**
KBL			*e*		06 56 05.5	
KBL	**Kabul**	**6.56 298**	*e*Pn	**Pn**	**06 54 57.5**	**+1.6**
KBL			*e*Sn	**Sn**	**06 56 05.5**	**-4.2**
PYUN	**Piuthan**	**6.97 118**	*e*Pn	**Pn**	**06 55 03.3**	**+1.7**
DANN	**Dangsing**	**7.44 114**	*e*Pn	**Pn**	**06 55 09.9**	**+1.8**
DANN			*e*Sn	**Sn**	**06 56 28.0**	**-3.4**
	comp=E,212nm,0.3s					
KOLN	**Koldanda**	**7.60 118**	*e*Pn	**Pn**	**06 55 12.2**	**+2.0**
KOLN			*e*Sn	**Sn**	**06 56 33.4**	**-1.9**
	comp=E,412nm,0.6s					
KSH	**Kashi**	**7.89 360**	P	**Pn**	**06 55 12.5**	**-1.6**
KSH			S	Sn	06 56 21.1	-21
KSH			SMN			
	comp=E,150nm,0.7s					
KSH			SME			
	comp=E,220nm,0.9s					
GKN	**Gorkha**	**8.28 114**	*e*Pn	**Pn**	**06 55 21.0**	**+1.5**
GKN			*e*Sn	**Sn**	**06 56 48.3**	**-3.7**
	comp=E,442nm,0.4s					
BHPL	**Bhopal**	**8.42 171**	*e*S	**Sn**	**06 56 50.1**	**-5.2**
DMN	**Daman**	**8.84 115**	*e*Pn	**Pn**	**06 55 28.0**	**+0.8**
DMN			*e*Sn	**Sn**	**06 57 01.8**	**-3.9**
	comp=E,259nm,0.5s					
KKN	**Kakani**	**8.89 113**	*e*Pn	**Pn**	**06 55 28.8**	**+0.9**
KKN			*e*Sn	**Sn**	**06 57 02.8**	**-4.1**
	comp=E,280nm,0.5s					
PKIN	**Phulchoki**	**9.08 114**	*e*Pn	**Pn**	**06 55 31.4**	**+0.9**
PKIN			*e*Sn	**Sn**	**06 57 07.7**	**-3.9**
	comp=E,515nm,0.5s					
PKI	**Pulchoki**	**9.09 114**	*e*Pn	**Pn**	**06 55 31.5**	**+0.7**
PKI			*e*Sn	**Sn**	**06 57 07.4**	**-4.6**
	comp=E,240nm,0.3s					
DZET	**Dzherino**	**9.29 323**	⇑P	**Pn**	**06 55 31.8**	**-1.5**
DZET			⇓S	**Sn**	**06 57 10.9**	**-5.8**
GUN	**Gumba**	**9.31 111**	*e*Pn	**Pn**	**06 55 33.8**	**+0.1**
JIRN	**Jiri**	**9.66 111**	*e*Pn	**Pn**	**06 55 39.0**	**+0.3**
JIRN			*e*Sn	**Sn**	**06 57 21.1**	**-5.1**
	comp=E,417nm,0.3s					
RAMN	**Ramite**	**10.32 114**	*e*Pn	**Pn**	**06 55 46.8**	**-0.7**
RAMN			*e*Sn	Sn	06 57 36.0	-6.0
	comp=E,354nm,0.3s					
KZA	**Kyzart**	**10.47 357**	P	**Pn**	**06 55 50.0**	**+0.3**
	SNR=12					
KZA	**Kyzart**	**10.47 357**	*i* P	**Pn**	**06 55 50.0**	**+0.3**
ULHL	**Ulahol**	**10.62 1**	P	**Pn**	**06 55 53.0**	**+1.4**
	SNR=8.1					
AML	**Almayashu**	**10.67 351**	P	**Pn**	**06 55 52.3**	**-0.1**
	SNR=47					
AML	**Almayashu**	**10.67 351**	*i* P	**Pn**	**06 55 52.3**	**-0.1**
UCH	**Uchtor**	**10.67 354**	P	**Pn**	**06 55 52.9**	**+0.5**
	SNR=27					
UCH	**Uchtor**	**10.67 354**	*i* P	**Pn**	**06 55 52.9**	**+0.5**
NGP	**Nagpur**	**10.76 165**	*e*P	**Pn**	**06 55 53.9**	**+0.6**
NGP			*e*S	Sn	06 57 45.4	-7.2
ODAN	**Odare**	**10.98 113**	*e*Pn	**Pn**	**06 55 56.6**	**+0.1**
ODAN			*e*Sn	Sn	06 57 51.1	-7.2
	comp=E,154nm,0.5s					
TAPN	**Taplejung**	**11.01 110**	*e*Pn	**Pn**	**06 55 56.2**	**-0.9**
TAPN			*e*Sn	Sn	06 57 50.6	-8.6
	comp=E,217nm,0.8s					
KBK	**Karagaybulak**	**11.06 356**	P	Pn	06 56 02.4	+4.8
	SNR=7.0					
AAK	**Ala-Archa**	**11.07 354**	⇑P	**Pn**	**06 55 58.9**	**+1.2**
	comp=E,6.0nm,0.6s					
AAK			⇑S	**Sn**	**06 57 55.3**	**-5.0**
	comp=E,36nm,0.8s					
AAK	**Ala-Archa**	**11.07 354**	P	**Pn**	**06 55 58.5**	**+0.8**
	SNR=10					
AAK	**Ala-Archa**	**11.07 354**	*e*P	**Pn**	**06 55 57.8**	**+0.1**
AAK			*e*		06 57 52.8	
AAK	**Ala-Archa**	**11.07 354**	Pn	**Pn**	**06 55 58.4**	**+0.7**
	comp=E,1.5nm,0.3s,baz=162,slow=8.5,SNR=28					
AAK			Sn	**Sn**	**06 57 56.4**	**-3.9**
	comp=E,1.8nm,0.3s,baz=231,slow=20,SNR=6.0					
AAK			LR	LR	06 59 39.6	
	comp=E,41nm,19.8s,baz=165,slow=34					
AAK	**Ala-Archa**	**11.07 354**	*e*Pn	**Pn**	**06 55 57.8**	**+0.1**
AAK			*e*Sn	Sn	06 57 52.8	-7.6
EKS2	**Erkin-Say**	**11.18 351**	P	**Pn**	**06 56 01.9**	**+2.8**
	SNR=17					
EKS2	**Erkin-Say**	**11.18 351**	P	**Pn**	**06 55 58.6**	**-0.5**
EKS2			*e*		06 57 54.7	
EKS2	**Erkin-Say**	**11.18 351**	Pn	**Pn**	**06 55 58.6**	**-0.5**
EKS2			*e*Sn	Sn	06 57 54.7	-8.2
FRU	**Bishkek**	**11.26 355**	*e*P	Pn	06 56 12.0	+12
FRU			*e*		06 58 06.0	
TKM2	**Tokmak 2**	**11.30 358**	⇓P	**Pn**	**06 56 01.1**	**+0.3**
	comp=E,10nm,0.7s					
TKM2			⇓S	**Sn**	**06 58 01.5**	**-4.4**
	comp=E,15nm,0.7s					
TKM2	**Tokmak 2**	**11.30 358**	P	**Pn**	**06 56 01.3**	**+0.5**
	SNR=18					
TKM2	**Tokmak 2**	**11.30 358**	*e*P	**Pn**	**06 56 01.3**	**+0.5**
TKM2	**Tokmak 2**	**11.30 358**	*e*Pn	**Pn**	**06 56 01.3**	**+0.5**
CHMS	**Chumysh**	**11.42 355**	P	Pn	06 56 05.5	+3.2
	SNR=9.6					
PDGK	**Podgornoye**	**12.01 12**	⇑P	**Pn**	**06 56 11.9**	**+1.5**
PDGK			⇓S	**Sn**	**06 58 18.2**	**-4.8**
PDGK	**Podgornoye**	**12.01 12**	*i* P	**Pn**	**06 56 11.8**	**+1.5**
KK31	**Karatay Array**	**12.29 341**	⇑P	**Pn**	**06 56 13.4**	**-0.7**
	comp=E,8.1nm,0.3s,baz=151,slow=13,SNR=399					
KK31			⇑S	Sn	06 58 19.4	-10
	comp=E,44nm,0.7s,baz=162,slow=23					
KK31	**Karatay Array**	**12.29 341**	*e*P	**Pn**	**06 56 13.4**	**-0.7**
KK31			S	Sn	06 58 19.8	-10
KK31			pmax	pmax		
	comp=Z,20nm,0.3s					
KK31			smax	smax		
	comp=N,24nm,0.4s					
KKAR	**Karatay Array**	**12.29 341**	*e*P	**Pn**	**06 56 13.5**	**-0.7**
KKAR	**Karatay Array**	**12.29 341**	*e*Pn	**Pn**	**06 56 13.5**	**-0.7**
KKAR			*e*Sn	Sn	06 58 17.7	-12
LSA	**Lhasa**	**13.14 94**	P	**Pn**	**06 56 25.3**	**-1.1**
LSA			pmax	pmax		
	comp=Z,9.0nm,0.8s					
LSA	**Lhasa**	**13.14 94**	Pn	**Pn**	**06 56 25.3**	**-1.1**
	comp=Z,9.1nm,0.8s					
LSA			*e*Sn	**Sn**	**06 58 45.9**	**-5.6**
POO	**Poona**	**13.17 189**	⇑*i*PS	**Pn**	**06 56 25.0**	**-1.4**
	comp=Z,40nm,1.0s					
POO			*e*PP	**P**	**06 56 36.0**	**+0.1**
HYB	**Hyderabad**	**14.31 170**	*e*P	**Pn**	**06 56 39.5**	**-2.4**
HYB	**Hyderabad**	**14.31 170**	*i* P	**Pn**	**06 56 39.5**	**-2.4**
HYB			*e*S	**Sn**	**06 59 22.0**	**+2.5**
HYB	**Hyderabad**	**14.31 170**	*e*P	**Pn**	**06 56 39.5**	**-2.4**
HYB			*e*		06 59 12.0	
HYB			*e*S	**S**	**06 59 41.0**	**+2.1**
SHL	**Shillong**	**15.15 109**	*e*P	**Pn**	**06 56 51.0**	**-2.4**
SHL			*e*x	x	06 59 27.0	
WMQ	**Urumqi**	**15.27 34**	*e*P	**P**	**06 56 58.5**	**-0.6**
WMQ			pP	**pP**	**06 57 08.8**	**+0.6**
WMQ			PP	PP	06 57 11.8	
WMQ			S	**Sn**	**06 59 42.0**	**-0.5**
WMQ			sS	**S**	**06 59 59.8**	**+1.5**
WMQ			SS	**SnSn**	**07 00 02.5**	**+7.1**
WMQ			PMZ			
	comp=Z,15nm,1.1s					
WMQ			PMZ			
	comp=Z,100nm,5.4s					
WMQ			LN			
	comp=Z,140nm,22.0s					
WMQ			LE			
	comp=Z,160nm,22.0s					
MK04	**Makanchi Array**	**15.89 16**	⇑P	**Pn**	**06 57 01.8**	**-0.8**
	comp=Z,1.9nm,0.6s					
MK04			⇑S	Sn	06 59 46.2	-11
	comp=Z,30nm,1.0s					
MKAR	**Makanchi Array**	**15.91 16**	P	**Pn**	**06 57 01.2**	**-1.7**
MKAR					06 59 47.6	
MKAR			smax	smax		
	comp=N,1.0nm,0.3s					
MKAR	**Makanchi Array**	**15.91 16**	Pn	**Pn**	**06 57 01.2**	**-1.7**
	comp=N,0.4nm,0.3s,baz=192,slow=12,SNR=16					
MKAR			Sn	Sn	06 59 47.5	-11
	comp=N,1.3nm,0.3s,baz=195,slow=19,SNR=11					
GEYT	**Alibeck**	**16.02 298**	Pn	**Pn**	**06 57 03.0**	**-1.3**
	comp=N,1.0nm,0.3s,baz=92,slow=12,SNR=5.3					
GEYT			LR	LR	07 04 23.5	
	comp=N,127nm,18.1s,baz=155,slow=41					
IBAF	**Bafgh**	**17.45 275**	*e*P	**P**	**06 57 24.7**	**+1.2**
IANJ	**Anjilo**	**18.84 288**	*e*P	**Pn**	**06 57 39.2**	**-0.3**
IGLO	**Ghaloghah**	**19.03 291**	*e*P	**Pn**	**06 57 41.6**	**-0.3**
KURBB	**Kurchatov Arra**	**19.09 5**	⇑P	**P**	**06 57 40.4**	**-0.8**
	comp=N,5.4nm,0.5s					
KURBB	**Kurchatov Arra**	**19.09 5**	P	**P**	**06 57 39.8**	**-1.3**
	comp=N,0.5nm,0.3s,baz=194,slow=10,SNR=42					
KURK	**Kurchatov**	**19.19 5**	⇓P	**P**	**06 57 40.4**	**-1.8**
	comp=N,5.1nm,0.5s					
KURK	**Kurchatov**	**19.19 5**	*e*P	**P**	**06 57 42.1**	**-0.1**
KURK			pmax	pmax		
	comp=Z,12nm,1.0s					
KURK	**Kurchatov**	**19.19 5**	*e*P	**P**	**06 57 42.1**	**-0.1**
	comp=Z,12nm,1.0s					
IALA	**Alasht**	**19.79 289**	*e*P	**Pn**	**06 57 50.8**	**-0.3**
IPAR	**Pars**	**19.84 271**	*e*P	**Pn**	**06 57 52.1**	**+0.4**
ISRV	**Sarvestan**	**19.88 270**	*e*P	**Pn**	**06 57 51.4**	**-0.8**
GTA	**Gaotai**	**20.82 61**	*e*P	**P**	**06 58 01.5**	**+1.2**
GTA			pP	pP	06 58 15.0	+5.5
GTA			sP	sP	06 58 22.9	+8.9
GTA			PMZ			
	comp=Z,11nm,0.8s					
IKAZ	**Kazeroun**	**20.89 271**	*e*P	Pn	06 58 03.9	-0.2
AB31	**Akbulak array**	**21.39 330**	⇑P	**P**	**06 58 06.6**	**+0.4**
	comp=Z,4.1nm,0.5s					
AB31	**Akbulak array**	**21.39 330**	P	**P**	**06 58 06.5**	**+0.4**
AB31			pmax	pmax		
	comp=Z,6.0nm,0.5s					
ABKAR	**Akbulak array**	**21.39 330**	*e*P	**P**	**06 58 06.5**	**+0.3**
VOSK	**Vostochnaya**	**21.42 352**	⇑P	**P**	**06 58 06.2**	**-0.3**
	comp=Z,8.5nm,0.8s					
BVA0	**Borovoye Array**	**21.79 351**	⇓P	**P**	**06 58 10.7**	**+0.3**
	comp=Z,4.8nm,0.5s					
BVA0	**Borovoye Array**	**21.79 351**	P	**P**	**06 58 10.4**	**-0.1**
BVA0			pmax	pmax		
	comp=Z,12nm,1.0s					
BVAR	**Borovoye Array**	**21.79 351**	P	**P**	**06 58 10.4**	**-0.1**
BVAR			pmax	pmax		
	comp=Z,11nm,0.6s					
BVAR			MLR	MLR		
	comp=Z,15nm,28.6s					
BVAR	**Borovoye Array**	**21.79 351**	P	**P**	**06 58 10.4**	**-0.1**
	comp=Z,11nm,0.6s,baz=162,slow=11,SNR=41					
BVAR			LR	LR	07 06 10.8	
	comp=Z,73nm,18.7s,baz=125,slow=35					
BRVK	**Borovoye**	**21.84 351**	⇓P	**P**	**06 58 11.7**	**+0.7**
	comp=Z,22nm,0.7s					
BRVK	**Borovoye**	**21.84 351**	*d i* P	**P**	**06 58 11.9**	**+0.9**
BRVK			pmax	pmax		
	comp=Z,20nm,0.8s					
BRVK	**Borovoye**	**21.84 351**	*e*P	**P**	**06 58 11.4**	**+0.5**
	comp=Z,18nm,0.7s					
AKTO	**Aktyubinsk**	**23.10 330**	⇑P	**P**	**06 58 25.1**	**+0.8**
	comp=Z,18nm,0.7s					
AKTO	**Aktyubinsk**	**23.10 330**	P	**P**	**06 58 24.9**	**+0.5**
AKTO			pmax	pmax		
	comp=Z,18nm,0.7s					
AKTO			MLR	MLR		
	comp=Z,41nm,20.2s					
AKTO	**Aktyubinsk**	**23.10 330**	P	**P**	**06 58 24.9**	**+0.5**
	comp=Z,18nm,0.7s,baz=132,slow=8.2,SNR=72					
AKTO			LR	LR	07 08 04.2	
	comp=Z,41nm,20.2s,baz=133,slow=38					
ZALV	**Zalesovo Beam**	**23.20 13**	P	**P**	**06 58 24.8**	**-0.5**
ZALV			pmax	pmax		
	comp=Z,2.0nm,0.3s					
ZALV			MLR	MLR		
	comp=Z,15nm,28.6s					
ZALV	**Zalesovo Beam**	**23.20 13**	P	**P**	**06 58 24.8**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=207,slow=11,SNR=13					
ZALV			LR	LR	07 07 16.6	
	comp=Z,31nm,19.1s,baz=250,slow=36					
HVS	**Khovu-Aksy**	**23.47 29**	*e*P	**P**	**06 58 29.5**	**+1.4**
HVS			pmax	pmax		
	comp=Z,8.0nm,0.7s					
LZH	**Lanzhou**	**23.48 71**	*e*P	P	06 58 34.0	+5.6
LZH			pP	pP	06 58 48.4	+10
LZH			sP	sP	06 58 54.3	+12
LZH			PMZ			
	comp=Z,14nm,1.2s					
NVS	**Novosibirsk**	**23.78 10**	*e*P	**P**	**06 58 31.4**	**+0.5**
NVS			*e*S	**S**	**07 02 42.9**	**-1.0**
NVS			pmax	pmax		
	comp=N,7.0nm,1.1s					
NVS			pmax	pmax		
	comp=E,8.0nm,1.1s					
NVS			pmax	pmax		
	comp=Z,9.0nm,1.1s					
NVS			smax	smax		
	comp=N,16nm,1.5s					
NVS			smax	smax		
	comp=E,7.0nm,1.5s					
CHTO	**Chiang Mai**	**24.26 116**	*e*P	**P**	**06 58 37.2**	**+1.5**
CHTO			pmax	pmax		
	comp=Z,10.0nm,1.0s					
CHTO	**Chiang Mai**	**24.26 116**	*e*P	**P**	**06 58 37.2**	**+1.5**
	comp=Z,10.0nm,1.0s					
KMI	**Kunming**	**24.33 99**	P	P	06 58 45.4	+8.9
KMI			PMZ			
	comp=Z,9.0nm,0.8s					
CMAR	**Chiang Mai Arr**	**24.47 117**	P	**P**	**06 58 38.9**	**+1.3**
CMAR			pmax	pmax		
	comp=Z,5.0nm,0.8s					
CMAR			MLR	MLR		
	comp=Z,15nm,28.6s					
CMAR	**Chiang Mai Arr**	**24.47 117**	P	**P**	**06 58 38.9**	**+1.3**
	comp=Z,4.6nm,0.8s,baz=316,slow=6.0,SNR=11					
CMAR			LR	LR	07 10 23.8	
	comp=Z,28nm,18.2s,baz=125,slow=42					
PALK	**Pallekele**	**24.60 169**	LR	LR	07 08 34.8	
	comp=Z,179nm,19.5s,baz=352,slow=37					
GNI	**Garni**	**26.65 297**	P	**P**	**06 59 01.3**	**+3.9**
GNI			pmax	pmax		
	comp=Z,14nm,1.2s					
GNI	**Garni**	**26.65 297**	LR	LR	07 11 17.7	
	comp=Z,29nm,20.1s,baz=96,slow=40					
GYA	**Guiyang**	**27.21 93**	*e*P	P	06 59 11.0	+8.5
GYA			PMZ			
	comp=Z,10.0nm,0.7s					
ZAK	**Zakamensk**	**27.59 39**	*e*P	P	06 59 13.2	+7.6
ZAK			pmax	pmax		
	comp=Z,2.0nm,1.6s					
ARU	**Arti**	**27.65 339**	*c i* P	**P**	**06 59 05.8**	**-0.2**
ARU			*PP	pP	06 59 21.5	+5.5
ARU					06 59 52.1	
ARU			S	**S**	**07 03 41.0**	**-4.4**
ARU			pmax	pmax		
	comp=Z,3.0nm,0.8s					
ARU	**Arti**	**27.65 339**	*e*P	**P**	**06 59 07.2**	**+1.3**
	comp=Z,8.9nm,0.9s					
TLY	**Talaya**	**28.49 37**	LR	LR	07 12 09.4	
	comp=Z,92nm,18.3s,baz=218,slow=40					
KBZ	**Khabaz**	**28.70 304**	P	**P**	**06 59 17.1**	**+1.7**
KBZ			pmax	pmax		
	comp=Z,2.0nm,0.8s					
KBZ	**Khabaz**	**28.70 304**	P	**P**	**06 59 17.1**	**+1.7**
	comp=Z,1.9nm,0.8s,baz=136,slow=6.9,SNR=5.5					
KIV	**Kislovodsk**	**28.90 305**	*e*P	**P**	**06 59 16.0**	**-1.4**
KIV			*e*S	S	07 03 59.5	-6.1
KIV			pmax	pmax		
	comp=Z,3.0nm,0.6s					
KIV			MLR	MLR		
	comp=Z,33nm,15.0s					
HHC	**Hu-ho-hao-te**	**29.93 62**	*e*P	P	06 59 35.0	+8.5
HHC			S	S	07 04 30.3	+8.5
HHC			PMZ			
	comp=Z,31nm,1.4s					
HHC			PMZ			
	comp=Z,180nm,8.6s					
HHC			LN			
	comp=Z,330nm,14.8s					
HHC			LE			
	comp=Z,360nm,14.8s					
HHC			LZ			
	comp=Z,210nm,13.6s					
BJI	**Beijing**	**33.38 64**	P	P	07 00 01.4	+4.7
BJI			PMZ			
	comp=Z,8.0nm,1.2s					
BJI			PMZ			
	comp=Z,140nm,3.6s					
BRTR	**Keskin Array B**	**35.13 295**	P	**P**	**07 00 13.5**	**+1.4**
BRTR			pmax	pmax		
	comp=Z,5.0nm,0.7s					
BRTR	**Keskin Array B**	**35.13 295**	P	**P**	**07 00 13.4**	**+1.4**
	comp=Z,5.1nm,0.7s,baz=113,slow=9.4,SNR=33					
PRGR	**Permogore**	**35.94 336**	P	**P**	**07 00 18.5**	**0.0**
PRGR			pmax	pmax		
	comp=Z,12nm,0.7s					
AKASG	**Malin Array Be**	**39.30 313**	P	**P**	**07 00 47.7**	**+0.5**
AKASG			pmax	pmax		
	comp=Z,3.0nm,0.4s					
AKASG	**Malin Array Be**	**39.30 313**	P	**P**	**07 00 47.6**	**+0.5**
	comp=Z,2.9nm,0.4s,baz=82,slow=7.5,SNR=9.9					
KIEV	**Kiev**	**39.31 313**	*e*P	**P**	**07 00 47.7**	**+0.5**
KIEV			pmax	pmax		
	comp=Z,6.0nm,0.5s					
KIEV	**Kiev**	**39.31 313**	*e*P	**P**	**07 00 47.7**	**+0.5**
	comp=Z,6.3nm,0.5s					
JOF	**Joensuu**	**42.17 331**	*e*P	**P**	**07 01 12.7**	**+2.1**
JOF			pmax	pmax		
	comp=Z,5.0nm,0.4s					
JOF	**Joensuu**	**42.17 331**	*e*p	**P**	**07 01 12.7**	**+2.1**
	comp=Z,4.5nm,0.4s					
LVV	**L'vov**	**42.48 311**	*e*P	**P**	**07 01 13.9**	**+0.6**
KOLS	**Kolonicke sedl**	**43.56 309**	*e*P	**P**	**07 01 24.1**	**+2.0**
KOLS	**Kolonicke sedl**	**43.56 309**	*e*P	**P**	**07 01 24.1**	**+2.0**
FINES	**FINESS Array B**	**43.85 328**	P	**P**	**07 01 25.2**	**+0.9**
FINES			*PP	**pP**	**07 01 33.7**	**-0.9**
FINES			pmax	pmax		
	comp=Z,2.0nm,0.3s					
FINES			pmax	pmax		
	comp=Z,2.0nm,0.5s					
FINES	**FINESS Array B**	**43.85 328**	P	**P**	**07 01 25.1**	**+0.9**
	comp=Z,2.1nm,0.3s,baz=129,slow=11,SNR=52					
FINES			pP	**pP**	**07 01 33.6**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=124,slow=9.6,SNR=4.2					
KAF	**Kangasniemi**	**43.98 329**	*e*P	**P**	**07 01 26.6**	**+1.4**
KAF			pmax	pmax		
	comp=Z,2.0nm,0.4s					
KAF	**Kangasniemi**	**43.98 329**	*e*p	**P**	**07 01 26.6**	**+1.4**
	comp=Z,2.2nm,0.4s					
STHS	**Stebnicka Huta**	**44.26 310**	*e*P	**P**	**07 01 29.4**	**+1.7**
STHS	**Stebnicka Huta**	**44.26 310**	*e*P	**P**	**07 01 29.4**	**+1.7**
VYHS	**Vyhne**	**45.83 309**	*e*P	**P**	**07 01 42.2**	**+2.0**
VYHS	**Vyhne**	**45.83 309**	*e*P	**P**	**07 01 42.2**	**+2.0**
KEV	**Kevo**	**46.87 339**	*e*P	**P**	**07 01 49.6**	**+1.6**
KEV			pmax	pmax		
	comp=Z,2.0nm,0.4s					
KEV	**Kevo**	**46.87 339**	*e*p	**P**	**07 01 49.6**	**+1.6**
	comp=Z,1.5nm,0.4s					
ARCES	**ARCESS Array B**	**47.24 338**	P	**P**	**07 01 52.2**	**+1.3**
ARCES			pmax	pmax		
	comp=Z,5.0nm,0.4s					
ARCES			MLR	MLR		
	comp=Z,15nm,28.6s					
ARCES	**ARCESS Array B**	**47.24 338**	P	**P**	**07 01 52.2**	**+1.3**
	comp=Z,4.8nm,0.4s,baz=114,slow=8.1,SNR=88					
ARCES			LR	LR	07 23 20.8	
	comp=Z,128nm,18.1s,baz=148,slow=38					
VRAC	**Vranov**	**47.30 310**	P	**P**	**07 01 53.8**	**+2.1**
VRAC			pmax	pmax		
	comp=Z,1.0nm,0.3s					
VRAC	**Vranov**	**47.30 310**	P	**P**	**07 01 53.8**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=103,slow=12,SNR=3.1					
DPC	**Dobruska-Polom**	**47.46 311**	*e*P	**P**	**07 01 54.5**	**+1.5**
DPC			*e*		07 02 04.7	
DPC	**Dobruska-Polom**	**47.46 311**	*e*P	**P**	**07 01 54.5**	**+1.5**
DPC			*e*pP	**pP**	**07 02 04.7**	**+1.3**
TIXI	**Tiksi**	**48.85 20**	P	**P**	**07 02 04.9**	**+1.6**
KMBO	**Kilima Mbogo**	**49.10 236**	pP	**pP**	**07 02 17.4**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=40,slow=11,SNR=5.8					
KMBO			LR	LR	07 23 22.8	
	comp=Z,42nm,18.2s,baz=76,slow=37					
GERES	**GERESS Array B**	**49.22 309**	P	**P**	**07 02 07.2**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=83,slow=8.0,SNR=3.0					
KHC	**Kasperske Hory**	**49.28 310**	*e*P	**P**	**07 02 08.0**	**+1.0**
KHC	**Kasperske Hory**	**49.28 310**	*e*P	**P**	**07 02 08.0**	**+1.0**
CISI	**Cisompet, Garu**	**49.38 137**	*e*P	P	07 02 17.9	+10
	comp=Z,31nm,0.7s					
HFS	**Hagfors**	**49.48 324**	P	**P**	**07 02 08.9**	**+0.6**
HFS			pmax	pmax		
	comp=Z,2.0nm,0.5s					
HFS	**Hagfors**	**49.48 324**	P	**P**	**07 02 08.9**	**+0.6**
	comp=Z,2.4nm,0.5s,baz=110,slow=6.8,SNR=16					
NB2	**NORSAR Subarra**	**50.78 325**	P	**P**	**07 02 18.4**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=97,slow=7.9					
NOA	**NORSAR Array B**	**50.78 325**	P	**P**	**07 02 18.6**	**+0.3**
NOA			pmax	pmax		
	comp=Z,1.0nm,0.5s					
NOA			MLR	MLR		
	comp=Z,20nm,21.7s					
NOA	**NORSAR Array B**	**50.78 325**	P	**P**	**07 02 18.6**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=102,slow=7.2,SNR=6.5					
NOA			LR	LR	07 27 41.4	
	comp=Z,20nm,21.6s,baz=95,slow=41					
SENIN	**Lac Senin/Sane**	**53.81 307**	*e*P	**P**	**07 02 41.7**	**+0.5**
HINF	**Hinteralfeld**	**53.87 309**	*e*P	**P**	**07 02 41.5**	**+0.1**
	comp=Z,2.8nm,0.6s					
HINF	**Hinteralfeld**	**53.87 309**	*e*P	**P**	**07 02 41.5**	**+0.1**
HINF			pmax	pmax		
	comp=Z,3.0nm,0.6s					
HINF	**Hinteralfeld**	**53.87 309**	*e*P	**P**	**07 02 41.5**	**+0.1**
	comp=Z,2.8nm,0.6s					
HAU	**Haudompre**	**54.18 309**	*e*P	**P**	**07 02 43.9**	**+0.3**
	comp=Z,4.6nm,0.7s					
HAU	**Haudompre**	**54.18 309**	*e*P	**P**	**07 02 43.9**	**+0.3**
HAU			pmax	pmax		
	comp=Z,5.0nm,0.7s					
HAU	**

LOR	**Lormes**	**55.97 309**	*e*P	**P**	**07 02 57.5 +1.0**
SMF	**Signal de Mont**	**56.10 308**	*e*P	**P**	**07 02 57.7 +0.2**
	comp=Z,6.6nm,0.7s				
SMF	**Signal de Mont**	**56.10 308**	*e*P	**P**	**07 02 57.7 +0.2**
SMF			pmax	pmax	
	comp=Z,7.0nm,0.7s				
SMF	**Signal de Mont**	**56.10 308**	*e*P	**P**	**07 02 57.7 +0.2**
	comp=Z,6.6nm,0.7s				
SSF	**Saint Saulge**	**56.24 308**	*e*P	**P**	**07 02 58.6 +0.2**
	comp=Z,7.4nm,0.9s				
SSF	**Saint Saulge**	**56.24 308**	*e*P	**P**	**07 02 58.6 +0.2**
SSF			pmax	pmax	
	comp=Z,7.0nm,0.9s				
SSF	**Saint Saulge**	**56.24 308**	*e*P	**P**	**07 02 58.6 +0.2**
	comp=Z,7.4nm,0.9s				
AVF	**Avril sur Loir**	**56.40 308**	*e*P	**P**	**07 02 59.7 +0.1**
	comp=Z,19nm,1.2s				
AVF	**Avril sur Loir**	**56.40 308**	*e*P	**P**	**07 02 59.7 +0.1**
AVF			pmax	pmax	
	comp=Z,19nm,1.2s				
AVF	**Avril sur Loir**	**56.40 308**	*e*P	**P**	**07 02 59.7 +0.1**
	comp=Z,19nm,1.2s				
JCJ	**Chichijima**	**57.05 76**	LR	LR	07 28 36.5
	comp=Z,85nm,21.7s,baz=5.0,slow=37				
TCF	**Toulx Ste Croi**	**57.28 308**	*e*P	**P**	**07 03 06.6 +0.7**
	comp=Z,7.8nm,0.8s				
TCF	**Toulx Ste Croi**	**57.28 308**	*e*P	**P**	**07 03 06.6 +0.7**
TCF			pmax	pmax	
	comp=Z,8.0nm,0.8s				
TCF	**Toulx Ste Croi**	**57.28 308**	*e*P	**P**	**07 03 06.6 +0.7**
	comp=Z,7.8nm,0.8s				
MFF	**Saint Martin d**	**58.79 308**	*e*P	**P**	**07 03 16.3 -0.1**
	comp=Z,8.2nm,0.9s				
MFF	**Saint Martin d**	**58.79 308**	*e*P	**P**	**07 03 16.3 -0.1**
MFF			pmax	pmax	
	comp=Z,8.0nm,0.9s				
MFF	**Saint Martin d**	**58.79 308**	*e*P	**P**	**07 03 16.3 -0.1**
	comp=Z,8.2nm,0.9s				
ETSF	**Etsaut**	**60.07 304**	*e*P	**P**	**07 03 26.1 +0.8**
	comp=Z,3.7nm,0.5s				
ETSF	**Etsaut**	**60.07 304**	*e*P	**P**	**07 03 26.1 +0.8**
ETSF			pmax	pmax	
	comp=Z,4.0nm,0.5s				
ETSF	**Etsaut**	**60.07 304**	*e*P	**P**	**07 03 26.1 +0.8**
	comp=Z,3.7nm,0.5s				
ESDC	**Sonseca Array**	**63.52 302**	P	**P**	**07 03 48.8 +0.2**
	comp=Z,0.9nm,0.5s,baz=64,slow=7.5,SNR=14				
ESDC			pP	**pP**	**07 03 59.1 -0.3**
	comp=Z,0.5nm,0.5s,baz=64,slow=6.4,SNR=3.4				
TORD	**Torodi Ar. Bea**	**70.00 273**	P	**P**	**07 04 30.2 +0.1**
	comp=Z,2.9nm,0.7s,baz=45,slow=5.3,SNR=17				
WRA	**Warramunga Arr**	**75.82 124**	pP	pP	07 05 13.7 -1.7
	comp=Z,5.9nm,0.8s,baz=318,slow=5.2,SNR=6.2				
ILAR	**Eielson Array**	**78.26 17**	P	**P**	**07 05 18.9 +1.3**
ILAR			pmax	pmax	
	comp=Z,1.0nm,1.0s				
ILAR	**Eielson Array**	**78.26 17**	P	**P**	**07 05 18.9 +1.3**
	comp=Z,0.5nm,1.0s,baz=311,slow=4.7,SNR=4.8				
LIC	**Lamto**	**79.17 271**	*e*P	**P**	**07 05 21.2 -2.3**
	comp=Z,89nm,1.6s				
LIC	**Lamto**	**79.17 271**	*e*P	**P**	**07 05 21.2 -2.3**
	comp=Z,89nm,1.6s				
YKA	**Yellowknife Ar**	**85.84 5**	P	**P**	**07 05 57.9 +0.6**
YKA			*PP	**pP**	**07 06 06.5 -1.9**
YKA			pmax	pmax	
	comp=Z,1.0nm,0.4s				
YKA			pmax	pmax	
	comp=Z,2.0nm,0.5s				
YKA	**Yellowknife Ar**	**85.84 5**	P	**P**	**07 05 57.9 +0.6**
	comp=Z,1.4nm,0.4s,baz=343,slow=5.3,SNR=47				
YKA			pP	**pP**	**07 06 06.5 -1.9**
	comp=Z,2.0nm,0.5s,baz=344,slow=5.0,SNR=19				

*IDC **14** 06:59:41.7±0.6,8°.78S×118°.41E,h0km,mb4.3/13, mb1 4.5/15,mb1mx4.2/44,mbtmp4.4/15,ML4.4/2,MS3.5/3, Ms1 3.5/3,ms1mx2.9/38,Error ellipse: s-maj=24.4km s-min=13.0km az=58.0*

*ISCJB **14** 06:59:45.9±0.3,8°.80S±0°.04×118°.47E±0°.03,h33km, mb4.3/12,MS3.3/2,Error ellipse: s-maj=5.6km s-min=3.8km az=21.6*

*DJA **14** 06:59:45.3±0.2,9°.S±3°.×11°.8E±°,h10km,M4.8/18,mb5.0/4, mB5.2/3,MLv4.8/18,Mw(mB)4.5/3*

ISC 14 06:59:47.5±0.5,8°.84S±0°.05×118°.49E±0°.04,h35km,n53, σ1§61/55,mb4.4/12,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.19**	**132**	P	**Pn**	**07 00 04.9**	**-2.8**
WBSI				S	**Sn**	**07 00 22.5**	**-0.3**
WSI	**Waingapu**	**1.96**	**115**	P	**Pn**	**07 00 19.1**	**+0.8**
WSI	**Waingapu**	**1.96**	**115**	P	**Pn**	**07 00 18.2**	**-0.1**
	baz=1.9,SNR=10						
BASI	**Baing, Sumba**	**2.47**	**124**	P	Pn	07 00 29.0	+3.7
DNP	**Denpasar**	**3.24**	**273**	P	**Pn**	**07 00 38.6**	**+2.7**
IGBI	**Denpasar**	**3.30**	**270**	P	**Pn**	**07 00 36.0**	**-0.7**
IGBI				S	**Sn**	**07 01 16.5**	**+1.7**
SRBI	**Singaraja**	**3.33**	**283**	P	**Pn**	**07 00 35.7**	**-1.4**
BSSI	**Bau Bau, Buton**	**3.34**	**37**	P	**Pn**	**07 00 35.7**	**-1.5**
MMRI	**Maumere**	**3.71**	**87**	P	**Pn**	**07 00 44.2**	**+1.8**
BKSI	**Bulukumba**	**3.86**	**25**	P	**Pn**	**07 00 42.9**	**-1.5**
JAGI	**Jajag, Banyuwa**	**4.30**	**275**	P	**Pn**	**07 00 49.4**	**-1.1**
JAGI	**Jajag, Banyuwa**	**4.30**	**275**	P	**Pn**	**07 00 49.0**	**-1.5**
	baz=4.3,SNR=61						
ABJI	**Asem Bagus**	**4.34**	**284**	P	**Pn**	**07 00 51.4**	**+0.4**
BNSI	**Bone**	**4.70**	**20**	P	**Pn**	**07 00 56.4**	**+0.5**
KMMI	**Kalianget**	**4.82**	**291**	P	**Pn**	**07 00 59.1**	**+1.5**
BLJI	**Banyuglugur**	**4.96**	**282**	P	**Pn**	**07 01 00.3**	**+0.7**
SPSI	**Sidrap Palu**	**5.01**	**15**	P	**Pn**	**07 01 00.9**	**+0.6**
GMJI	**Gumukmas**	**5.02**	**276**	P	**Pn**	**07 01 00.4**	**0.0**
	168nm,0.9s,2μm						
BATI	**Baumata**	**5.28**	**105**	P	**Pn**	**07 01 05.2**	**+1.2**
	82nm,0.6s						
BATI	**Baumata**	**5.28**	**105**	Pn	**Pn**	**07 01 05.0**	**+1.1**
	35nm,0.3s,baz=280,slow=3.3,SNR=24						
BATI				Sn	**Sn**	**07 02 06.3**	**+2.6**
	2.0nm,0.3s,baz=293,slow=15,SNR=2.8						
BATI				LR	LR	07 03 27.0	
	comp=Z,818nm,18.7s,baz=331,slow=42						
SOEI	**Soe**	**5.78**	**99**	P	Pn	07 01 15.5	+4.6
	baz=5.8,SNR=3.6						
TTSI	**Tana Toraja**	**5.91**	**13**	P	**Pn**	**07 01 12.5**	**-0.1**
UGM	**Wanagama**	**7.94**	**276**	P	**Pn**	**07 01 42.7**	**+2.2**
	baz=7.9,SNR=10						
FAKI	**Fak Fak**	**14.89**	**68**	P	**Pn**	**07 03 17.2**	**+1.5**
	baz=15,SNR=5.7						
MEEK	**Meekatharra**	**17.70**	**180**	P	**Pn**	**07 03 49.4**	**-1.9**
	baz=18,SNR=5.5						
MEEK				S	Sn	07 06 52.8	-15
	baz=18,SNR=3.4						
WRKA	**Warakurna**	**18.62**	**151**	P	**Pn**	**07 04 02.6**	**0.0**
	baz=19,SNR=97						
WRA	**Warramunga Arr**	**18.89**	**127**	P	**Pn**	**07 04 05.4**	**-0.5**
	0.8nm,0.3s,baz=304,slow=12,SNR=16						
MORW	**Morawa**	**20.25**	**186**	P	Pn	07 04 23.5	+1.5
	baz=20,SNR=8.3						
MORW				S	**S**	**07 08 00.4**	**-4.8**
	baz=20,SNR=3.3						
ASAR	**Alice Springs**	**20.85**	**137**	P	**P**	**07 04 26.5**	**0.0**
	16nm,0.8s,baz=330,slow=14,SNR=95						
ASAR				PcP	**PcP**	**07 08 33.6**	**-0.8**
	0.6nm,0.6s,baz=321,slow=1.5,SNR=6.9						
ASAR				ScP	**ScP**	**07 12 11.2**	**+2.6**
	0.6nm,0.8s,baz=339,slow=2.4,SNR=3.2						
BLDU	**Ballidu**	**21.72**	**184**	P	**P**	**07 04 37.2**	**+1.5**
	baz=22,SNR=16						
KLBR	**Kellerberrin**	**22.64**	**182**	P	**P**	**07 04 44.9**	**-0.7**
	baz=23,SNR=15						
PSI	**Prapat**	**22.68**	**300**	P	**P**	**07 04 45.0**	**-1.2**
	5.2nm,0.6s,baz=166,slow=8.0,SNR=5.7						
QIS	**Mount Isa**	**23.48**	**122**	P	**P**	**07 04 55.3**	**+1.1**
	baz=23,SNR=5.2						
NWAO	**Narrogin (SRO)**	**23.99**	**183**	P	**P**	**07 04 58.4**	**-0.6**
	9.6nm,0.7s,baz=7.6,slow=9.0,SNR=12						
COEN	**Coen**	**24.72**	**104**	P	**P**	**07 05 07.0**	**+1.3**
	baz=25,SNR=24						
BBOO	**Buckleboo**	**28.86**	**148**	P	**P**	**07 05 45.8**	**+2.9**
	baz=29,SNR=4.7						
HTT	**Hallett**	**30.89**	**145**	P	**P**	**07 06 01.8**	**+0.9**
	baz=31,SNR=7.6						
STKA	**Stephens Creek**	**31.39**	**140**	P	**P**	**07 06 05.9**	**+0.6**
	9.7nm,0.5s,baz=316,slow=8.7,SNR=61						
STKA				PcP	**PcP**	**07 08 58.6**	**+0.2**
	0.8nm,0.4s,baz=318,slow=15,SNR=3.8						
STKA				LR	LR	07 19 18.4	
	comp=Z,109nm,19.9s,baz=344,slow=37						
STKA	**Stephens Creek**	**31.39**	**140**	P	**P**	**07 06 05.8**	**+0.6**
	baz=31,SNR=43						
STKA				S	S	07 11 36.4	+26
	baz=31,SNR=4.7						
CMAR	**Chiang Mai Arr**	**33.29**	**325**	P	**P**	**07 06 22.2**	**+0.3**
	0.9nm,0.4s,baz=146,slow=7.2,SNR=6.1						
CMSA	**Cobar Meteorol**	**33.90**	**136**	P	**P**	**07 06 29.7**	**+2.5**
	baz=34,SNR=7.0						
TOO	**Toolangi**	**37.59**	**144**	P	**P**	**07 07 01.8**	**+2.9**
	baz=38,SNR=4.9						
MJAR	**Matsushiro Arr**	**48.80**	**21**	LR	LR	07 27 29.8	
	comp=Z,23nm,21.7s,baz=195,slow=34						
USRK	**Ussuriysk Ar.**	**54.19**	**12**	P	**P**	**07 09 09.6**	**+0.1**
	3.7nm,0.6s,baz=183,slow=3.9,SNR=5.2						
SONM	**Songino Array**	**57.44**	**350**	P	**P**	**07 09 32.4**	**-0.5**
	2.1nm,0.6s,baz=162,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**64.09**	**333**	P	**P**	**07 10 16.2**	**-1.9**
	0.9nm,0.8s,baz=136,slow=6.0,SNR=6.8						
ZALV	**Zalesovo Beam**	**68.72**	**339**	P	**P**	**07 10 45.0**	**-2.5**
	1.2nm,0.5s,baz=135,slow=4.9,SNR=6.8						
VNDA	**Vanda**	**72.22**	**171**	P	**P**	**07 11 09.2**	**+0.7**
	0.9nm,0.4s,baz=316,slow=6.5,SNR=17						
QSPA	**South Pole Qui**	**81.15**	**180**	P	**P**	**07 11 59.1**	**-0.2**
	3.7nm,1.0s,baz=333,slow=3.2,SNR=12						
BOSA	**Boshof**	**88.64**	**241**	P	**P**	**07 12 37.4**	**-0.3**
	3.6nm,0.9s,baz=109,slow=4.6,SNR=5.9						
LBTB	**Lobatse**	**88.91**	**245**	P	**P**	**07 12 39.3**	**+0.2**
	2.6nm,0.6s,baz=142,slow=5.3,SNR=4.5						
YKA	**Yellowknife Ar**	**114.26**	**24**	PKP	PKPdf	07 18 20.9	-2.1
	0.2nm,0.6s,baz=317,slow=2.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**117.94**	**280**	PKP	**PKPdf**	**07 18 29.4**	**-2.1**
	0.7nm,0.6s,baz=61,slow=1.7,SNR=6.9						

IDC 14 07:03:19.8±1.9,37°.74S×72°.57W,h0km,mb3.4/2, mb1 3.8/3,mb1mx3.5/27,mbtmp3.4/3,Error ellipse: s-maj=77.2km s-min=18.8km az=68.0,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.38**	**153**	Pn	Pn	07 04 13.1	-0.8
	baz=309,slow=6.5						
PLCA				Lg	Lg	07 05 09.2	
	baz=174,slow=18						
LPAZ	**La Paz**	**21.73**	**12**	P	P	07 08 15.2	+1.7
	1.5nm,0.9s,baz=199,slow=6.7,SNR=4.5						
TXAR	**Lajitas Array**	**72.80**	**332**	P	P	07 14 50.5	+0.3
	0.3nm,0.5s,baz=150,slow=9.3,SNR=4.1						
MKAR	**Makanchi Array**	**159.39**	**56**	PKPab	PKPab	07 23 55.6	-2.0
	0.3nm,0.7s,baz=298,slow=3.1,SNR=3.6						

*NIED **14** 07:04:00,33°.50N×141°.00E,h47km,Mw4.7 Best double couple: M0:1.19000×10^16 NP1:φ§199.00000°,δ46.00000°, λ121.00000°. NP2:φ§338.00000°,δ52.00000°,λ62.00000°.*

*MOS **14** 07:04:10.2±0.9,33°.38N×140°.84E,h33km,mb5.0/62,Error ellipse: s-maj=12.5km s-min=5.2km az=113.1*

*BJI **14** 07:04:13.9,33°.40N×140°.90E,h56km,mB5.0/18,mb4.6/33, Ms4.2/20,Ms7 3.9/19*

*ISCJB **14** 07:04:13.9±0.5,33°.44N±0°.03×140°.82E±0°.03,h60km±3km, mb4.8/103,Error ellipse: s-maj=4.6km s-min=3.8km az=168.2*

*JMA **14** 07:04:13.0±0.2,33°.53N×141°.01E,h56km,M4.8*

JMA Felt I J1.

*IDC **14** 07:04:14.0±1.6,33°.44N×140°.88E,h50km±14km,mb4.3/24, mb1 4.5/27,mb1mx4.4/32,mbtmp4.6/27,ML2.1/1,MS3.7/18, Ms1 3.7/18,ms1mx3.4/45,Error ellipse: s-maj=13.8km s-min=9.8km az=81.0*

*NEIC **14** 07:04:15.1±0.5,33°.42N×140°.84E,h60km±4km,mb4.8/31, MW4.7(NIED),Error ellipse: s-maj=5.0km s-min=3.8km az=93.0*

NEIC Recorded [1 JMA] on Hachijo-jima, Mikura-jima and Miyake-jima.

ISC 14 07:04:14.8±0.4,33°.47N±0°.03×140°.93E±0°.04,h59km±2km, h58km:pP-P,n562,σ1§05/604,mb4.8/104,MS3.8/16, 137C-146D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.00**	**249**	⇓P	**Pn**	**07 04 32.4**	**-0.4**
JHJ2				*e*S	**Sn**	**07 04 46.4**	**+0.3**
JHJ2	**Mitsune**	**1.00**	**249**	*e*Pn	**Pn**	**07 04 32.5**	**-0.2**
JHCJ	**Hachijojimakas**	**1.03**	**248**	⇓P	**Pn**	**07 04 32.6**	**-0.6**
JHCJ				*e*S	**Sn**	**07 04 46.4**	**-0.4**
BSO1	**Boso 1**	**1.18**	**2**	⇑P	**Pn**	**07 04 32.9**	**-1.8**
JMY	**Miyakejima3**	**1.32**	**297**	P	**Pn**	**07 04 36.5**	**-0.6**
BSO3	**Boso 3**	**1.37**	**345**	P	**Pn**	**07 04 36.3**	**-1.2**
BSO4	**Boso 4**	**1.59**	**342**	⇓P	**Pn**	**07 04 39.6**	**-1.0**
JNIO	**Niijimaoohara**	**1.63**	**303**	P	**Pn**	**07 04 40.5**	**-0.8**
JKO	**Kozu shima**	**1.65**	**296**	⇓P	**Pn**	**07 04 40.9**	**-0.7**
JKO				*e*S	**Sn**	**07 05 02.1**	**+0.3**
JIM2	**Oshima 3**	**1.76**	**315**	⇓P	**Pn**	**07 04 41.5**	**-1.5**
JIM2				*e*S	**Sn**	**07 05 03.0**	**-1.3**
I30JP	**ISUMI INFRASON**	**1.90**	**345**	P	**Pn**	**07 04 43.9**	**-1.1**
I30JP				S	**Sn**	**07 05 07.8**	**0.0**
JIZS	**Izushimoda**	**2.11**	**307**	⇓P	**Pn**	**07 04 47.2**	**-0.5**
JIZS				*e*S	**Sn**	**07 05 12.7**	**-0.1**
JOD2	**Odawara 2**	**2.35**	**320**	P	**Pn**	**07 04 49.8**	**-1.2**
JOD2				*e*S	**Sn**	**07 05 16.5**	**-2.2**
TK02	**Tokai 2**	**2.69**	**281**	⇓P	**Pn**	**07 04 56.1**	**+0.7**
TK04	**Tokai 4**	**2.70**	**291**	P	**Pn**	**07 04 56.4**	**+0.7**
SHZ3	**Shizuoka 3**	**2.76**	**306**	⇓P	**Pn**	**07 04 57.4**	**+0.8**
MJAR	**Matsushiro Arr**	**3.79**	**325**	P	**Pn**	**07 05 10.7**	**0.0**
MJAR				S	**Sn**	**07 05 54.2**	**+0.1**
MJAR				pmax	pmax		
	comp=Z,76nm,0.3s						
MJAR				smax	smax		
	comp=N,31nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,806nm,21.6s						
MJAR	**Matsushiro Arr**	**3.79**	**325**	P	**Pn**	**07 05 10.7**	**0.0**
	comp=Z,76nm,0.3s,baz=164,slow=11,SNR=509						
MJAR				S	**Sn**	**07 05 54.2**	**+0.1**
	comp=Z,31nm,0.3s,baz=139,slow=23,SNR=4.6						
MJAR				LR	LR	07 06 52.7	
	comp=Z,806nm,21.6s,baz=150,slow=42						
MAJO	**Matsushiro**	**3.79**	**325**	*e*P	**Pn**	**07 05 11.2**	**+0.4**
MAJO	**Matsushiro**	**3.79**	**325**	*e*Pn	**Pn**	**07 05 11.2**	**+0.4**
MAT	**Matsushiro**	**3.79**	**325**	P	**Pn**	**07 05 10.7**	**-0.1**
MAT				S	**Sn**	**07 05 53.8**	**-0.3**
CBIJ	**Chichi jima**	**6.45**	**170**	*e*Pn	**Pn**	**07 05 44.0**	**-3.1**
CBIJ				S	Sn	07 06 52.2	-7.2
JCJ	**Chichijima**	**6.45**	**170**	P	**Pn**	**07 05 44.1**	**-3.0**
	baz=288,slow=20						
JCJ				S	Sn	07 06 52.2	-7.2
	comp=Z,116nm,0.3s,baz=280,slow=22,SNR=7.1						
JNU	**Nakatsue**	**8.42**	**270**	P	**Pn**	**07 06 15.9**	**+1.7**
	comp=Z,2.8nm,0.3s,baz=172,slow=2.4,SNR=18						
ASAJ	**Asahikawa**	**10.71**	**6**	P	Pn	07 06 42.2	-3.1
	comp=Z,4.2nm,0.3s,baz=221,slow=9.9,SNR=14						
ASAJ				S	Sn	07 08 34.8	-8.8
	comp=Z,2.2nm,0.3s,baz=41,slow=20,SNR=3.5						
ASAJ				LR	LR	07 11 40.4	
	comp=Z,365nm,21.9s,baz=180,slow=42						
YUK	**Yuzh-Kuril'sk**	**11.22**	**19**	*e*P	Pn	07 06 42.2	-10
YUK				pmax	pmax		
	comp=N,48nm,0.2s						
YUK				pmax	pmax		
	comp=E,28nm,0.2s						
YUK				pmax	pmax		
	comp=Z,110nm,0.2s						
KSRS	**Korea Array**	**11.32**	**294**	P	Pn	07 06 57.0	+3.3
	comp=Z,0.4nm,0.3s,baz=105,slow=14,SNR=13						
KSRS				LR	LR	07 11 18.9	
	comp=Z,468nm,18.4s,baz=101,slow=38						
KSAR	**Wonju Array Be**	**11.35**	**294**	P	**Pn**	**07 06 57.1**	**+2.9**
KSAR	**Wonju Array Be**	**11.35**	**294**	P	**Pn**	**07 06 57.0**	**+2.9**
USRK	**Ussuriysk Ar.**	**12.77**	**330**	P	**Pn**	**07 07 11.2**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=154,slow=15,SNR=6.6						
USRK				LR	LR	07 11 58.3	
	comp=Z,134nm,20.2s,baz=131,slow=36						
YSS	**Yuzh-Sakhalins**	**13.54**	**5**	*e*P	**Pn**	**07 07 23.5**	**-0.4**
YSS	**Yuzh-Sakhalins**	**13.54**	**5**	*e*Pn	**Pn**	**07 07 24.8**	**+0.9**
MDJ	**Mudanjiang**	**14.18**	**325**	P	**Pn**	**07 07 32.0**	**-0.5**
MDJ				PMZ			
	comp=Z,10.0nm,0.8s						
MDJ				PMZ			
	comp=Z,170nm,5.2s						
MDJ	**Mudanjiang**	**14.18**	**325**	*e*Pn	**Pn**	**07 07 32.0**	**-0.5**
	comp=Z,9.0nm,0.8s						
HABR	**Khabarovsk**	**15.62**	**345**	P	**Pn**	**07 07 51.0**	**-0.1**
HABR				S	**Sn**	**07 10 43.8**	**+0.7**
HABR				pmax	pmax		
	comp=Z,32nm,1.4s						
HABR				MLR	MLR		
	comp=Z,231nm,17.0s						
NJ2	**Nanjing**	**18.62**	**272**	*e*P	**P**	**07 08 27.1**	**-0.4**
NJ2				pP	**pP**	**07 08 37.8**	**-2.4**
NJ2				S	**Sn**	**07 11 53.0**	**-2.8**
NJ2				PMZ			
	comp=Z,50nm,0.6s						
NJ2				LN			
	comp=Z,520nm,18.0s						
NJ2				LE			
	comp=Z,510nm,17.3s						
NJ2				LZ			
	comp=Z,520nm,17.5s						
NACB	**Ninganchiao**	**19.28**	**246**	*e*P	**P**	**07 08 30.6**	**-4.2**
SSLB	**Suanglung**	**19.98**	**246**	*e*P	**P**	**07 08 42.0**	**-0.4**
	comp=Z,36nm,1.1s						
BJI	**Beijing**	**20.85**	**295**	P	**P**	**07 08 51.6**	**-0.1**
BJI				pP	**pP**	**07 09 01.9**	**-2.7**
BJI				sP	**sP**	**07 09 09.3**	**-2.7**
BJI				S	**S**	**07 12 41.4**	**+0.4**
BJI				PMZ			
	comp=Z,6.0nm,0.6s						
BJI				LN			
	comp=Z,350nm,19.9s						
BJI				LE			
	comp=Z,280nm,25.7s						
BJI				LZ			
	comp=Z,210nm,25.0s						
HIA	**Hailar**	**22.29**	**321**	*e*P	**P**	**07 09 08.1**	**+1.0**
HIA				pmax	pmax		
	comp=Z,12nm,0.6s						
HIA	**Hailar**	**22.29**	**321**	*e*P	**P**	**07 09 08.1**	**+1.0**
	comp=Z,12nm,0.6s						
WHN	**Wuhan**	**22.71**	**270**	P	**P**	**07 09 11.4**	**-0.3**
PETK	**Petropavlovsk-**	**23.01**	**26**	LR	LR	07 19 15.5	
	comp=Z,40nm,21.1s,baz=237,slow=39						
HHC	**Hu-ho-hao-te**	**24.46**	**296**	*e*P	**P**	**07 09 29.0**	**+0.7**
HHC				S	**S**	**07 13 41.1**	**-3.2**
HHC				sS	**sS**	**07 14 06.8**	**-2.0**
HHC				SS	**SnSn**	**07 14 38.9**	**+5.6**
HHC				PMZ			
	comp=Z,30nm,1.2s						
HHC				PMZ			
	comp=Z,240nm,7.4s						
HHC				LN			
	comp=Z,380nm,13.6s						
HHC				LE			
	comp=Z,490nm,13.6s						
HHC				LZ			
	comp=Z,310nm,17.3s						
CLNS	**Chul'man**	**25.83**	**340**	*e*P	**P**	**07 09 37.2**	**-3.2**
CLNS				pmax	pmax		
	comp=E,3.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,12nm,0.9s						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**26.86**	**114**	T	T	07 38 49.5	
	baz=306,slow=75,SNR=1309						
H11N1	**WAKE ISLAND Hy**	**26.87**	**114**	T	T	07 38 48.0	
	baz=306,slow=75,SNR=286						
H11N3	**WAKE ISLAND Hy**	**26.88**	**114**	T	T	07 38 54.3	
	baz=306,slow=75,SNR=305						
H11S3	**WAKE ISLAND Hy**	**27.44**	**117**	T	T	07 39 25.1	
	baz=307,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**27.44**	**116**	T	T	07 39 35.4	
	baz=307,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**27.46**	**116**	T	T	07 39 38.0	
	baz=307,slow=76,SNR=19						
ULN	**Ulaanbaatar**	**29.18**	**310**	⇓*i*P	**P**	**07 10 11.1**	**+0.5**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ULN	**Ulaanbaatar**	**29.18**	**310**	*e*P	**P**	**07 10 11.2**	**+0.5**
	comp=Z,9.4nm,0.8s						
SONM	**Songino Array**	**29.59**	**309**	P	**P**	**07 10 15.3**	**+1.0**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,16nm,28.6s						
SONM	**Songino Array**	**29.59**	**309**	P	**P**	**07 10 15.3**	**+1.0**
	comp=Z,4.4nm,0.6s,baz=100,slow=8.8,SNR=5.0						
SONM				LR	LR	07 22 33.3	
	comp=Z,266nm,19.8s,baz=70,slow=37						
SEY	**Seymchan**	**30.36**	**10**	P	**P**	**07 10 21.4**	**+0.7**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SEY	**Seymchan**	**30.36**	**10**	P	**P**	**07 10 21.4**	**+0.7**
	comp=Z,1.6nm,0.4s,baz=210,slow=9.5,SNR=8.1						
BOD	**Bodaibo**	**30.40**	**331**	*e*P	**P**	**07 10 20.1**	**-1.0**
BOD				*e*		07 13 18.3	
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GYA	**Guiyang**	**30.40**	**266**	*e*P	**P**	**07 10 21.8**	**+0.2**
GYA				PMZ			
	comp=Z,10.0nm,0.9s						
LZH	**Lanzhou**	**30.45**	**286**	*e*P	**P**	**07 10 23.1**	**+1.0**
LZH				pP	**pP**	**07 10 37.8**	**+1.1**
LZH				sP	**sP**	**07 10 45.3**	**+1.6**
LZH				PMZ			
	comp=Z,14nm,1.0s						
QIZ	**Qiongzhong**	**31.23**	**250**	P	**P**	**07 10 28.9**	**0.0**
QIZ				S	**S**	**07 15 31.6**	**+0.4**
QIZ				LZ			
	comp=Z,230nm,21.3s						
CD2	**Chengdu**	**31.45**	**276**	*e*P	**P**	**07 10 31.3**	**+0.5**
CD2				pP	**pP**	**07 10 44.8**	**-0.7**
CD2				sP	**sP**	**07 10 50.6**	**-1.8**
CD2				PP	**Pn

TIXI Tiksi 38.78 354 *eP* **P 07 11 32.7 -0.5**
CMAR Chiang Mai Arr 40.32 259 P **P 07 11 45.9 -0.8**
CMAR 07 13 49.9
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR MLR MLR
comp=Z,16nm,28.6s
CMAR Chiang Mai Arr 40.32 259 P **P 07 11 45.9 -0.8**
comp=Z,1.3nm,0.6s,baz=46,slow=8.0,SNR=7.1
CMAR PcP **PcP 07 13 49.9 +0.6**
comp=Z,0.5nm,0.3s,baz=28,slow=1.6,SNR=5.4
CMAR LR LR 07 29 17.6
comp=Z,67nm,19.5s,baz=108,slow=37
WMQ Urumqi 42.19 300 *eP* **P 07 12 03.8 +1.9**
WMQ sP **sP 07 12 25.3 +1.5**
WMQ PP **PP 07 13 45.3 +5.0**
WMQ PcP **PcP 07 13 56.1 +1.0**
WMQ S **S 07 18 19.3 +1.5**
WMQ sS **sS 07 18 45.5 +2.3**
WMQ SS **SS 07 21 23.0 -4.3**
WMQ PMZ
comp=Z,40nm,1.0s
WMQ PMZ
comp=Z,190nm,4.0s
WMQ LN
comp=Z,63nm,21.0s
WMQ LE
comp=Z,160nm,27.0s
WMQ LZ
comp=Z,52nm,21.0s
PMG Port Moresby 43.05 171 LR LR 07 27 52.7
comp=Z,100nm,19.3s,baz=68,slow=33
KAPI Kappang 43.21 212 *eP* **P 07 12 09.8 -0.5**
comp=Z,30nm,1.7s
ZALV Zalesovo Beam 44.09 315 P **P 07 12 16.9 0.0**
ZALV 07 14 00.9
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV pmax pmax
comp=Z,11nm,0.6s
ZALV Zalesovo Beam 44.09 315 P **P 07 12 16.9 0.0**
comp=Z,3.3nm,0.6s,baz=96,slow=6.0,SNR=12
ZALV PcP **PcP 07 14 00.9 -0.3**
comp=Z,11nm,0.6s,baz=102,slow=3.3,SNR=16
NVS Novosibirsk 45.07 316 *eP* **P 07 12 23.7 -1.0**
NVS pmax pmax
comp=N,2.0nm,0.8s
NVS pmax pmax
comp=E,6.0nm,0.8s
NVS pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 45.75 305 P **P 07 12 30.2 -0.1**
comp=Z,7.0nm,0.7s,baz=83,slow=10,SNR=36
MKAR ScP **ScP 07 17 54.1 -1.0**
comp=Z,0.4nm,0.5s,baz=75,slow=4.8,SNR=3.8
TAPN Taplejung 45.89 277 *eP* **P 07 12 31.3 -0.7**
comp=Z,6.7nm,0.4s
BATI Baumata 46.44 204 P **P 07 12 35.2 -0.7**
comp=Z,15nm,0.5s,baz=109,slow=5.7,SNR=4.2
BATI PcP **PcP 07 14 09.2 -0.7**
comp=Z,24nm,0.6s,baz=344,slow=2.8,SNR=4.3
RAMN Ramite 46.96 277 *eP* **P 07 12 39.5 -0.8**
comp=Z,21nm,0.6s
JIRN Jiri 47.04 278 *eP* **P 07 12 40.7 -0.3**
comp=Z,26nm,0.6s
GUN Gumba 47.20 279 *eP* **P 07 12 42.3 0.0**
comp=Z,23nm,0.9s
COEN Coen 47.21 177 *eP* **P 07 12 42.4 +0.5**
comp=Z,186nm,0.7s
KKN Kakani 47.74 279 *eP* **P 07 12 46.3 0.0**
KURK Kurchatov 47.88 311 P **P 07 12 47.2 +0.4**
KURK 07 14 14.5
KURK pmax pmax
comp=Z,3.0nm,0.4s
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 47.88 311 *eP* **P 07 12 46.9 +0.1**
KURK PcP **PcP 07 14 14.5 -0.1**
KURBB Kurchatov Arra 47.94 311 P **P 07 12 47.2 -0.1**
comp=Z,3.4nm,0.4s,baz=88,slow=7.2,SNR=26
KURBB PcP **PcP 07 14 14.5 -0.3**
comp=Z,1.5nm,0.8s,baz=86,slow=4.1,SNR=5.0
GKN Gorkha 48.20 279 *eP* **P 07 12 49.5 -0.3**
comp=Z,9.0nm,0.4s
DANN Dangsing 48.80 280 *eP* **P 07 12 54.0 -0.5**
comp=Z,24nm,0.6s
KOLN Koldanda 49.14 280 *eP* **P 07 12 56.4 -0.6**
comp=Z,6.3nm,0.3s
PYUN Piuthan 49.52 280 *eP* **P 07 12 59.0 -1.0**
comp=Z,81nm,0.4s
PSI Prapat 49.68 241 LR LR 07 32 08.2
comp=Z,102nm,21.2s,baz=118,slow=34
TKM2 Tokmak 2 51.04 301 *eP* **P 07 13 12.2 +0.9**
TKM2 pmax pmax
comp=Z,7.0nm,0.6s
TKM2 Tokmak 2 51.04 301 *eP* **P 07 13 12.2 +0.9**
comp=Z,6.5nm,0.6s
KSH Kashi 51.57 297 *eP* **P 07 13 16.8 +1.6**
KSH sP **sP 07 13 39.8 +2.5**
KSH PP **PP 07 15 15.8 +3.0**
KSH S **S 07 20 30.4 -1.2**
KSH sS **sS 07 20 57.6 -0.1**
KSH ScS **ScS 07 22 55.4 -4.9**
KSH PMZ
comp=Z,5.0nm,0.9s
KSH PMZ
comp=Z,92nm,8.2s
KSH LN
comp=Z,79nm,7.1s
KSH LE
comp=Z,110nm,4.9s
KSH LZ
comp=Z,170nm,5.6s
GSI Gunungsitoli 51.68 241 *eP* **P 07 13 14.9 -1.2**
comp=Z,24nm,0.8s
AAK Ala-Archa 51.90 301 ⇓*iP* **P 07 13 17.2 -0.4**
AAK pmax pmax
comp=Z,7.0nm,1.1s
AAK Ala-Archa 51.90 301 *eP* **P 07 13 16.1 -1.5**
VOSK Vostochnaya 52.41 314 P **P 07 13 20.2 -0.8**
VOSK pmax pmax
comp=Z,7.0nm,0.7s
BVA0 Borovoye Array 52.72 314 *i P* **P 07 13 23.1 -0.3**
BVA0 pmax pmax
comp=Z,6.0nm,0.7s
ILAR Eielson Array 52.73 31 P **P 07 13 23.1 -0.2**
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR Eielson Array 52.73 31 P **P 07 13 23.1 -0.2**
comp=Z,1.9nm,0.7s,baz=263,slow=5.4,SNR=14
BRVK Borovoye 52.78 314 ⇑*iP* **P 07 13 24.4 +0.6**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
BRVK Borovoye 52.78 314 *eP* **P 07 13 24.2 +0.4**
comp=Z,5.9nm,0.8s
FITZ Fitzroy Crossi 53.32 198 *eP* **P 07 13 28.5 +0.4**
WRAB Tennant Creek 53.48 188*c iP* **P 07 13 28.8 -0.4**
WRAB pmax pmax
comp=Z,327nm,1.0s
WRAB Tennant Creek 53.48 188 *eP* **P 07 13 28.5 -0.7**
WB2 Warramunga Arr 53.48 188 *eP* **P 07 13 28.9 -0.4**
WRA Warramunga Arr 53.49 188 P **P 07 13 29.1 -0.2**
WRA S **S 07 20 54.4 -3.3**
WRA pmax pmax
comp=Z,112nm,0.4s
WRA smax smax
comp=N,1.0nm,0.5s
WRA Warramunga Arr 53.49 188 P **P 07 13 29.1 -0.2**
comp=N,112nm,0.4s,baz=5.5,slow=7.6,SNR=1868
WRA S **S 07 20 54.4 -3.3**
comp=N,0.5nm,0.5s,baz=11,slow=14,SNR=4.7
KKAR Karatay Array 54.62 302 *eP* **P 07 13 37.7 +0.2**
KKAR Karatay Array 54.62 302 *eP* **P 07 13 37.7 +0.2**
AS31 Alice Springs 57.21 188 *eP* **P 07 13 55.8 -0.2**
ASAR Alice Springs 57.21 188 P **P 07 13 55.8 -0.2**
ASAR S **S 07 21 49.8 +2.3**
ASAR pmax pmax
comp=Z,25nm,0.4s
ASAR smax smax
comp=N,1.0nm,1.0s
ASAR Alice Springs 57.21 188 P **P 07 13 55.8 -0.2**
comp=N,25nm,0.4s,baz=2.9,slow=6.8,SNR=667
ASAR S **S 07 21 49.8 +2.3**
comp=N,0.6nm,1.0s,baz=24,slow=11,SNR=3.4

SVE Sverdlovsk 57.59 320 ⇑*iP* **P 07 13 58.7 +0.4**
SVE pmax pmax
comp=Z,14nm,0.8s
MBWA Marble Bar 57.97 203 *eP* **P 07 14 01.4 0.0**
comp=Z,18nm,0.5s
ARU Arti 58.79 320*c iP* **P 07 14 06.3 -0.4**
ARU *PP **pP 07 14 22.0 -0.5**
ARU 07 14 54.5
ARU S **S 07 22 08.6 +1.2**
ARU SS **SS 07 26 03.0 +2.1**
ARU pmax pmax
comp=Z,27nm,1.0s
ARU Arti 58.79 320 *eP* **P 07 14 06.3 -0.4**
comp=Z,24nm,0.5s
AB31 Akbulak array 59.97 312 *i P* **P 07 14 14.3 -0.6**
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 59.97 312 *eP* **P 07 14 14.4 -0.6**
AKTO Aktyubinsk 60.79 313 P **P 07 14 19.8 -0.8**
AKTO pmax pmax
comp=Z,5.0nm,0.6s
PRGR Permogore 63.55 328 *eP* **P 07 14 37.8 -1.0**
PRGR *eP*PP **pP 07 14 54.3 -0.4**
PRGR 07 15 12.1
PRGR pmax pmax
comp=Z,5.0nm,0.5s
STKA Stephens Creek 65.00 179 P **P 07 14 48.8 +0.2**
STKA pmax pmax
comp=Z,9.0nm,0.5s
STKA Stephens Creek 65.00 179 P **P 07 14 48.8 +0.2**
comp=Z,8.8nm,0.5s,baz=336,slow=7.2,SNR=20
FORT Forrest 65.05 192 *eP* **P 07 14 49.3 +0.4**
comp=Z,147nm,0.6s
BBOO Buckleboo 66.09 184 *eP* **P 07 14 56.0 +0.4**
comp=Z,373nm,1.0s
RES Resolute Bay 66.14 14 *eP* **P 07 14 55.9 +0.4**
RES pmax pmax
comp=Z,11nm,0.8s
RES Resolute Bay 66.14 14 LR LR 07 46 27.8
comp=Z,24nm,18.2s,baz=356,slow=38
RES Resolute Bay 66.14 14 *eP* **P 07 14 55.9 +0.4**
comp=Z,11nm,0.8s
KLMR Klimovskoe 66.56 328 *eP* **P 07 14 57.5 -0.9**
KLMR pmax pmax
comp=Z,6.0nm,0.6s
KEV Kevo 66.63 340 *eP* **P 07 14 58.6 -0.1**
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 66.63 340 *ep* **P 07 14 58.6 -0.1**
comp=Z,1.6nm,0.4s
YKA Yellowknife Ar 67.09 29 P **P 07 15 01.6 -0.1**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 67.09 29 P **P 07 15 01.6 -0.1**
comp=Z,0.8nm,0.7s,baz=298,slow=6.2,SNR=15
ARCES ARCESS Array B 67.19 340 P **P 07 15 02.4 +0.2**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES MLR MLR
comp=Z,16nm,28.6s
ARCES ARCESS Array B 67.19 340 P **P 07 15 02.4 +0.2**
comp=Z,4.2nm,0.7s,baz=57,slow=7.3,SNR=19
ARCES LR LR 07 49 45.1
comp=Z,48nm,18.2s,baz=12,slow=41
JOF Joensuu 68.92 332 *eP* **P 07 15 13.5 +0.3**
JOF pmax pmax
comp=Z,2.0nm,0.3s
JOF Joensuu 68.92 332 *ep* **P 07 15 13.5 +0.3**
comp=Z,2.0nm,0.3s
DAG Danmarks Havn 69.28 355 *i P* **P 07 15 15.3 +0.1**
comp=Z,7.8nm,0.8s
NWAO Narrogin (SRO) 69.71 201 LR LR 07 43 02.9
comp=Z,38nm,21.0s,baz=216,slow=33
VRHR Novokhopersk 70.07 319 *eP* **P 07 15 18.1 -2.4**
VRHR pmax pmax
comp=Z,9.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.6s
OBN Obninsk 70.72 324 ⇑*eP* **P 07 15 23.0 -1.3**
OBN pmax pmax
comp=Z,10.0nm,0.9s
KAF Kangasniemi 71.29 333 *eP* **P 07 15 27.4 -0.3**
KAF pmax pmax
comp=Z,2.0nm,0.3s
KAF Kangasniemi 71.29 333 *ep* **P 07 15 27.4 -0.3**
comp=Z,1.6nm,0.3s
VSR Storozhevoye 71.36 319 *eP* **P 07 15 27.1 -1.2**
VSR pmax pmax
comp=Z,9.0nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,4.0nm,0.7s
VORD Divnogorie 71.42 319 *eP* **P 07 15 27.2 -1.4**
VORD pmax pmax
comp=Z,5.0nm,0.7s
VORD pmax pmax
comp=N,7.0nm,0.9s
VORD pmax pmax
comp=E,8.0nm,0.7s
FINES FINESS Array B 71.78 333 P **P 07 15 30.5 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES MLR MLR
comp=Z,54nm,18.6s
FINES FINESS Array B 71.78 333 P **P 07 15 30.5 -0.1**
comp=Z,2.8nm,0.4s,baz=72,slow=4.6,SNR=32
FINES LR LR 07 50 00.0
comp=Z,54nm,18.6s,baz=90,slow=38
I04A Tendick Farm, 72.04 49 ⇓P **P 07 15 33.4 +0.8**
baz=72
EDM Edmonton 72.40 37 *eP* **P 07 15 34.9 +0.4**
EDM Edmonton 72.40 37 *eP* **P 07 15 34.9 +0.4**
J04D Umpqua Nationa 72.50 50 ⇓P **P 07 15 36.5 +1.0**
baz=72
YBH Yreka Blue Hor 72.86 51 LR LR 07 39 49.3
comp=Z,82nm,20.3s,baz=296,slow=29
M02C Callahan 72.93 51 ⇑P **P 07 15 39.5 +1.5**
baz=73
KBZ Khabaz 72.93 311 P **P 07 15 38.6 +0.8**
KBZ pmax pmax
comp=Z,7.0nm,0.8s
KBZ MLR MLR
comp=Z,44nm,18.4s
KBZ Khabaz 72.93 311 P **P 07 15 38.5 +0.8**
comp=Z,6.8nm,0.8s,baz=84,slow=5.3,SNR=18
KBZ LR LR 07 49 06.2
comp=Z,44nm,18.4s,baz=90,slow=37
KIV Kislovodsk 72.95 312 *eP* **P 07 15 38.3 +0.2**
KIV pmax pmax
comp=Z,14nm,0.9s
KIV MLR MLR
comp=Z,49nm,18.0s
KIV Kislovodsk 72.95 312 *eP* **P 07 15 38.3 +0.2**
comp=Z,13nm,0.7s
NEW Newport 72.97 43 P **P 07 15 39.4 +1.3**
NEW pmax pmax
comp=Z,2.0nm,0.5s
NEW Newport 72.97 43 P **P 07 15 39.4 +1.3**
comp=Z,1.7nm,0.5s,baz=294,slow=5.3
NEW Newport 72.97 43 ⇑P **P 07 15 39.6 +1.5**
baz=73
J05D Fort Rock, OR 73.03 49 ⇑P **P 07 15 40.2 +1.5**
N02D Trinity Center 73.24 52 ⇓P **P 07 15 40.7 +0.9**
baz=73
M04C Macdoel 73.40 51 ⇑P **P 07 15 41.5 +0.7**
baz=73
SUMG Summit 74.24 360 *i P* **P 07 15 46.5 +1.0**
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 74.24 360 *i P* **P 07 15 46.5 +1.0**
comp=Z,8.2nm,0.8s
SUMG Summit 74.24 360 *eP* **P 07 15 46.3 +0.8**
comp=Z,8.8nm,0.8s
JTMT Jette 74.86 43 *eP* **P 07 15 50.1 +0.9**
comp=Z,3.3nm,0.8s
SWMT Swartz Lake 75.16 43 *eP* **P 07 15 52.0 +1.1**
comp=Z,4.9nm,1.0s
MSO Missoula 75.56 43 ⇑P **P 07 15 53.7 +0.4**
baz=75
SLMT Seeley Lake 75.59 43 *eP* **P 07 15 54.2 +0.7**
comp=Z,11nm,1.2s
CHMT Chamberlain Mo 75.91 43 *eP* **P 07 15 55.7 +0.3**
MFID Camas Ranch 76.33 47 *eP* **P 07 15 58.9 +1.2**

comp=Z,14nm,1.3s
HRY Holter Researc 76.83 42 *eP* **P 07 16 01.5 +1.0**
comp=Z,5.5nm,0.7s
AKASG Malin Array Be 76.87 323 P **P 07 15 59.9 -0.5**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKASG MLR MLR
comp=Z,69nm,18.1s
AKASG Malin Array Be 76.87 323 P **P 07 15 59.9 -0.5**
comp=Z,6.8nm,0.5s,baz=47,slow=6.2,SNR=26
AKASG LR LR 07 53 56.1
comp=Z,69nm,18.1s,baz=40,slow=39
KIEV Kiev 76.89 323*d iP* **P 07 16 00.2 -0.3**
KIEV Kiev 76.89 323 *eP* **P 07 16 00.1 -0.4**
comp=Z,9.0nm,0.6s
FFC Flin Flon 76.92 32 *eP* **P 07 16 00.7 +0.1**
FFC pmax pmax
comp=Z,12nm,1.0s
FFC Flin Flon 76.92 32 *eP* **P 07 16 00.7 +0.1**
comp=Z,12nm,1.0s
LRM Limekiln Ridge 76.98 43 *eP* **P 07 16 02.7 +1.2**
comp=Z,126nm,0.9s
HLID Hailey 77.10 46 ⇓P **P 07 16 03.2 +1.1**
baz=77,SNR=5.3
HLID Hailey 77.10 46 *eP* **P 07 16 03.4 +1.3**
comp=Z,3.9nm,0.9s
EGMT Eagleton 77.22 41 ⇑P **P 07 16 03.0 +0.4**
baz=77
EGMT Eagleton 77.22 41 *eP* **P 07 16 03.5 +0.9**
comp=Z,12nm,1.0s
A19A Klindworth Far 77.22 39 ⇑P **P 07 16 03.1 +0.6**
baz=77,SNR=5.8
NB2 NORSAR Subarra 77.31 337 P **P 07 16 02.5 -0.2**
comp=Z,6.0nm,0.8s,baz=41,slow=5.9
NOA NORSAR Array B 77.31 337 P **P 07 16 02.6 -0.2**
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA MLR MLR
comp=Z,16nm,28.6s
NOA NORSAR Array B 77.31 337 P **P 07 16 02.6 -0.2**
comp=Z,7.0nm,0.7s,baz=39,slow=5.7,SNR=24
NOA LR LR 07 54 59.4
comp=Z,41nm,18.7s,baz=45,slow=39
B19A Brinkman Farms 77.40 40 ⇑P **P 07 16 04.1 +0.6**
baz=77,SNR=6.1
NVAR Mina Array Bea 77.46 52 P **P 07 16 05.7 +1.4**
comp=Z,2.9nm,0.7s,baz=292,slow=5.5,SNR=22
MLAC Mammoth, Mammo 77.54 53 ⇑P **P 07 16 05.2 +0.5**
baz=77
SIM Simferopol' 77.59 316 *eP* **P 07 16 04.8 +0.2**
SIM pmax pmax
comp=Z,13nm,0.6s
A20A Cobblestone Ra 77.69 39 ⇓P **P 07 16 05.3 +0.2**
baz=78
C19A Slack Wire Ran 77.77 40 ⇑P **P 07 16 06.8 +1.2**
baz=78,SNR=7.5
B20A Solberg Farm, 77.90 39 ⇑P **P 07 16 06.2 -0.2**
baz=78
A21A Bergtoll Ranch 78.14 39 ⇑P **P 07 16 08.2 +0.6**
baz=78,SNR=6.3
QLMT Earthquake Lak 78.14 44 *eP* **P 07 16 09.3 +1.3**
comp=Z,0.1nm,0.2s
ELK Elko 78.17 49 LR LR 07 42 42.5
comp=Z,55nm,21.1s,baz=78,slow=30
D19A Cripps Ranch, 78.20 41 ⇓P **P 07 16 09.0 +0.9**
baz=78,SNR=5.5
VES Vestal, Richgr 78.33 55 ⇓P **P 07 16 09.3 +0.5**
baz=78
C20A Veseth Ranch, 78.35 40 ⇑P **P 07 16 09.5 +0.7**
baz=78,SNR=5.1
B21A Ellsworth Farm 78.44 39 ⇓P **P 07 16 09.2 0.0**
baz=78
D20A Manuel Ranch, 78.65 41 ⇑P **P 07 16 11.0 +0.4**
baz=78,SNR=5.9
A22A Carney Farms, 78.67 38 ⇑P **P 07 16 10.8 +0.3**
baz=78,SNR=8.9
E19A Rath Farm, Rou 78.68 41 ⇓P **P 07 16 11.7 +1.0**
baz=78,SNR=5.2
C21A Desert Coulee 78.77 40 ⇓P **P 07 16 11.3 +0.2**
baz=79
ISA Isabella, Lake 78.85 55 ⇓P **P 07 16 12.1 +0.3**
baz=79
H17A Grant Village 78.89 44 ⇑P **P 07 16 14.3 +2.2**
baz=79,SNR=6.8
H17A Grant Village 78.89 44 *eP* **P 07 16 15.0 +2.9**
comp=Z,19nm,1.0s
ARVC Arvin 78.89 55 ⇑P **P 07 16 12.8 +0.8**
baz=79
BSC Santa Cruz Isl 78.95 57 ⇑P **P 07 16 13.1 +0.8**
baz=79
F19A Roth Farm, Mol 78.95 42 ⇑P **P 07 16 12.6 +0.4**
baz=79
E20A Meyer Farm, Mu 79.01 41 ⇑P **P 07 16 13.2 +0.7**
baz=79
B22A Reddig Ranch S 79.05 39 ⇑P **P 07 16 13.6 +0.9**
baz=79
I17A Pilgrim Ck. 79.17 44 ⇓P **P 07 16 15.4 +1.7**
baz=79
A23A Redstone 79.22 38 ⇓P **P 07 16 14.5 +0.9**
baz=79
H18A Shoshone NF, C 79.25 43 ⇓P **P 07 16 15.0 +0.9**
baz=79
R11A Troy Canyon, C 79.28 51 ⇓P **P 07 16 15.5 +1.2**
baz=79
D21A La Casta Ranch 79.29 40 ⇓P **P 07 16 14.7 +0.7**
baz=79
F20A Billings 79.43 42 ⇑P **P 07 16 15.6 +0.7**
baz=79
C22A Vida 79.46 39 ⇑P **P 07 16 14.9 +0.1**
baz=79
SFJD Kangerlussuaq 79.46 5 *i P* **P 07 16 14.5 +0.1**
SFJD pmax pmax
comp=Z,10.0nm,0.8s
SFJD Kangerlussuaq 79.46 5 *i P* **P 07 16 14.5 +0.1**
comp=Z,9.6nm,0.7s
B23A Brockton 79.47 38 ⇑P **P 07 16 15.4 +0.4**
baz=79,SNR=8.6
FURC Furnace Creek, 79.49 53 ⇑P **P 07 16 15.5 +0.3**
baz=79
EDW2 Edwards Air Fo 79.61 55 ⇓P **P 07 16 16.6 +0.7**
baz=80
H19A Powell 79.64 43 ⇓P **P 07 16 17.0 +0.9**
baz=80
D22A Cohagen 79.67 40 ⇑P **P 07 16 17.0 +0.9**
baz=80,SNR=6.4
C23A Lambert 79.79 39 ⇓P **P 07 16 17.1 +0.4**
baz=80
HWUT Hardware Ranch 79.95 47 *eP* **P 07 16 19.4 +1.5**
comp=Z,10nm,1.6s
F21A Absaloka Mine, 79.98 41 ⇓P **P 07 16 18.7 +0.9**
baz=80
DUG Dugway, Tooele 80.00 48 *eP* **P 07 16 19.4 +1.3**
DUG pmax pmax
comp=Z,6.0nm,0.9s
DUG Dugway, Tooele 80.00 48 ⇑P **P 07 16 18.9 +0.8**
baz=80
DUG Dugway, Tooele 80.00 48 *eP* **P 07 16 19.4 +1.3**
comp=Z,6.4nm,0.9s
I19A Meeteetse 80.02 43 ⇑P **P 07 16 18.2 0.0**
baz=80
D23A Lindsay 80.17 39 ⇑P **P 07 16 19.6 +0.8**
baz=80,SNR=5.1
GSC Goldstone, Bar 80.18 54 ⇓P **P 07 16 19.6 +0.5**
baz=80
BFSC Mount Baldy Ra 80.19 56 ⇓P **P 07 16 19.2 0.0**
baz=80
E22A Miles City 80.24 40 ⇓P **P 07 16 19.7 +0.5**
baz=80
C24A Savage 80.36 39 ⇓P **P 07 16 20.7 +0.9**
baz=80
J19A Crowheart 80.45 44 ⇑P **P 07 16 21.5 +1.0**
baz=80
PDAR Pinedale Array 80.46 45 P **P 07 16 21.2 +0.6**
comp=Z,1.3nm,0.7s,baz=259,slow=3.0,SNR=6.6
F22A Rosebud 80.48 41 ⇓P **P 07 16 21.0 +0.5**
baz=80
B25A Knox Farm, Ray 80.53 38 ⇓P **P 07 16 21.6 +0.9**
baz=80
E23A Ismay 80.55 40 ⇓P **P 07 16 21.7 +0.9**
baz=80
SHPR Sheep Range 80.61 52 *eP* **P 07 16 22.6 +1.2**
comp=Z,2.0nm,0.7s
D24A Glendive 80.68 39 ⇑P **P 07 16 22.2 +0.8**
baz=80
A26A Wade Farm, Ken 80.69 37 ⇓P **P 07 16 22.0 +0.6**
baz=80
H21A Big Horn, Sher 80.77 42 ⇑P **P 07 16 22.2 0.0**
baz=81

HEC	Hector,Ludlow	80.77	54	⇓P	P	07 16 22.8	+0.5
	baz=81						
G22A	Birney	80.82	41	⇑P	P	07 16 22.9	+0.6
	baz=81						
MURC	Murrieta	80.86	56	⇑P	P	07 16 23.2	+0.5
	baz=81						
BRTR	Keskin Array B	80.92	312	P	P	07 16 22.9	-0.2
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRTR	Keskin Array B	80.92	312	P	P	07 16 22.9	-0.2
	comp=Z,5.4nm,0.9s,baz=99,slow=3.9,SNR=22						
B26A	Jensen Ranch,	80.94	37	⇑P	P	07 16 23.2	+0.4
	baz=81						
J20A	Shoshoni	80.96	44	⇓P	P	07 16 23.7	+0.5
	baz=81						
F23A	Volborg	80.98	41	⇓P	P	07 16 23.8	+0.6
	baz=81						
ARUT	Antelope Range	81.00	51	eP	P	07 16 24.9	+1.4
ARUT				pmax	pmax		
	comp=Z,99nm,1.1s						
ARUT	Antelope Range	81.00	51	eP	P	07 16 24.9	+1.4
	comp=Z,99nm,1.1s						
E24A	Baker	81.04	39	⇑P	P	07 16 24.1	+0.6
	baz=81						
I21A	Big Trails, Te	81.13	43	⇑P	P	07 16 24.7	+0.6
	baz=81						
D25A	Fairfield	81.18	38	⇑P	P	07 16 24.9	+0.7
	baz=81						
GMRC	Granite Mounta	81.25	54	⇑P	P	07 16 25.4	+0.6
	baz=81						
G23A	Biddle	81.32	41	⇓P	P	07 16 25.2	+0.2
	baz=81						
109C	Camp Elliot, M	81.32	56	⇓P	P	07 16 25.2	+0.1
	baz=81						
J21A	Lysite	81.33	43	⇑P	P	07 16 25.8	+0.6
	baz=81						
C26A	Wahner Farm, P	81.37	37	⇓P	P	07 16 25.8	+0.6
	baz=81						
PFO	Pinyon Flats O	81.37	55	⇓P	P	07 16 25.7	+0.2
	baz=81						
F24A	Ekalaka	81.42	40	⇑P	P	07 16 25.6	+0.1
	baz=81						
KOLS	Kolonicke sedl	81.47	324	eP	P	07 16 26.4	+0.8
KOLS	Kolonicke sedl	81.47	324	eP	P	07 16 26.4	+0.8
I22A	9 Mile Ranch,	81.54	42	⇓P	P	07 16 26.5	+0.3
	baz=81						
A28A	Rude Farm, Bot	81.56	36	⇑P	P	07 16 26.6	+0.5
	baz=81						
E25A	Miller Ranch,	81.56	39	⇓P	P	07 16 26.3	+0.1
	baz=81						
STHS	Stebnicka Huta	81.64	325	eP	P	07 16 27.6	+1.1
STHS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STHS	Stebnicka Huta	81.64	325	eP	P	07 16 27.6	+1.1
RAYN	Ar Rayn	81.64	293	eP	P	07 16 27.1	+0.1
	comp=Z,28nm,0.8s						
D26A	Manning	81.72	38	⇑P	P	07 16 27.5	+0.5
	baz=82						
H23A	Clabaugh Cattl	81.72	41	⇑P	P	07 16 27.8	+0.7
	baz=82						
G24A	Alzada	81.77	40	⇓P	P	07 16 27.5	+0.1
	baz=82						
MONP	Monument Peak,	81.80	56	⇓P	P	07 16 29.0	+1.1
	baz=82						
B28A	Dugan Ranch, T	81.82	36	⇑P	P	07 16 28.1	+0.7
	baz=82						
J22A	Midwest	81.84	43	⇑P	P	07 16 28.6	+0.7
	baz=82						
K21A	Alcova	81.88	44	⇓P	P	07 16 29.1	+0.9
	baz=82						
F25A	Bowman	81.90	39	⇑P	P	07 16 28.6	+0.6
	baz=82						
IRM	Iron Mountain	81.95	54	⇑P	P	07 16 29.4	+1.0
	baz=82						
BC3	Big Chuckawall	82.03	55	⇑P	P	07 16 30.1	+1.1
	baz=82						
A29A	Manning Farm,	82.05	35	⇑P	P	07 16 29.7	+1.0
	baz=82						
SRU	San Rafael Swe	82.07	48	eP	P	07 16 30.0	+0.8
SRU				pmax	pmax		
	comp=Z,12nm,0.7s						
SRU	San Rafael Swe	82.07	48	eP	P	07 16 30.0	+0.8
	comp=Z,12nm,0.7s						
E26A	Carlson Angus	82.07	39	⇑P	P	07 16 29.2	+0.4
	baz=82						
H24A	Dirks Ranch, A	82.07	41	⇓P	P	07 16 29.2	+0.2
	baz=82						
SWSC	Sam W. Stewart	82.20	56	⇑P	P	07 16 30.4	+0.7
	baz=82						
W13A	Hualapai Mount	82.26	53	⇓P	P	07 16 30.9	+0.6
	baz=82						
B29A	Wagenman Farm,	82.30	36	⇓P	P	07 16 30.7	+0.7
	baz=82						
N20A	Spence Gulch,	82.40	46	⇓P	P	07 16 31.6	+0.6
	baz=82						
A30A	Hoffart Farm,	82.49	35	⇑P	P	07 16 31.7	+0.8
	baz=82						
U15A	North Rim	82.53	51	⇓P	P	07 16 32.1	+0.4
	baz=82						
D28A	Regan	82.56	37	⇑P	P	07 16 32.1	+0.8
	baz=82						
E27A	Carson	82.56	38	⇑P	P	07 16 32.2	+0.7
	baz=82						
MDND	Maddock	82.60	36	⇓P	P	07 16 32.5	+0.9
	baz=82						
H25A	Fruitdale	82.67	41	⇑P	P	07 16 32.5	+0.5
	baz=82						
F27A	Lemmon	82.69	39	⇑P	P	07 16 32.7	+0.6
	baz=82						
L22A	Ellis Ranch, M	82.73	44	⇑P	P	07 16 32.8	+0.2
	baz=83						
K23A	Bowen Ranch, D	82.74	43	⇑P	P	07 16 33.2	+0.6
	baz=83						
G26A	Maurine	82.77	40	⇓P	P	07 16 32.6	+0.1
	baz=83						
OKC	Ostrava-Krasne	82.80	327	eP	P	07 16 33.2	+0.7
OKC	Ostrava-Krasne	82.80	327	eP	P	07 16 33.2	+0.7
B30A	Myrvik Farm, E	82.81	35	⇓P	P	07 16 32.9	+0.3
	baz=83						
O20A	White River Ci	82.84	46	⇓P	P	07 16 33.6	+0.4
	baz=83						
KSP	Ksiaz	82.92	328	eP	P	07 16 33.3	+0.2
J24A	Dixon Ranch, L	82.92	42	⇓P	P	07 16 34.2	+0.8
	baz=83						
I25A	Rochford	82.99	41	⇓P	P	07 16 34.3	+0.4
	baz=83						
M22A	Cedar Creek Ra	83.03	44	⇓P	P	07 16 34.6	+0.4
	baz=83						
G27A	Dupree	83.07	39	⇑P	P	07 16 34.6	+0.5
	baz=83						
L23A	Garrett	83.10	43	⇓P	P	07 16 35.1	+0.5
	baz=83						
PMOR	Pomariorio Ree	83.14	113	eT	T	08 48 18.9	
	comp=Z,9.3nm,0.3s						
C30A	Mose, Pekin	83.25	36	⇑P	P	07 16 35.2	+0.3
	baz=83						
DPC	Dobruska-Polom	83.26	328	eP	P	07 16 35.3	+0.3
DPC				e		07 16 41.8	
DPC	Dobruska-Polom	83.26	328	eP	P	07 16 35.3	+0.3
DPC				ePCP	PcP	07 16 41.8	+2.5
UPC	Upice	83.28	328	eP	P	07 16 36.9	+1.9
UPC	Upice	83.28	328	eP	P	07 16 36.9	+1.9
PSZ	Piszkesteto	83.32	325	eP	P	07 16 34.7	-0.7
PSZ				pmax	pmax		
	comp=Z,16nm,1.1s						
PSZ	Piszkesteto	83.32	325	eP	P	07 16 34.7	-0.7
	comp=Z,16nm,1.1s						
F28A	McLaughlin	83.35	38	⇑P	P	07 16 36.3	+0.9
	baz=83						
VYHS	Vyhne	83.43	325	eP	P	07 16 36.0	+0.2
VYHS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
VYHS	Vyhne	83.43	325	eP	P	07 16 36.0	+0.2
PPT2	Papeete2	83.43	116	eLR	LR	07 42 54.3	
	comp=Z,91nm,24.2s						
E29A	Napoleon	83.45	37	⇓P	P	07 16 36.1	+0.1
	baz=83						
I26A	New Underwood	83.46	41	⇓P	P	07 16 36.3	+0.2
	baz=83						
H27A	Howes	83.48	40	⇑P	P	07 16 36.3	+0.1
	baz=83						
N22A	Wattenberg Ran	83.49	45	⇑P	P	07 16 37.2	+0.6
	baz=83						
M23A	Laramie	83.50	44	⇓P	P	07 16 36.7	+0.1
	baz=83						
D30A	Buchanan	83.53	36	⇑P	P	07 16 36.9	+0.5
	baz=83						
Y14A	Wickenburg	83.53	54	⇓P	P	07 16 36.4	-0.2
	baz=83						
TIAR	Tiarei	83.58	116	eT	T	08 48 50.8	
	comp=Z,3.5nm,0.3s						
113A	Mohawk Valley,	83.69	55	⇓P	P	07 16 38.0	+0.5
	baz=84						
N23A	Red Feather La	83.74	45	⇓P	P	07 16 38.0	+0.1
	baz=84						
G28A	Parade	83.81	39	⇓P	P	07 16 38.3	+0.5
	baz=84						
J26A	Sides Ranch, S	83.81	41	⇑P	P	07 16 38.3	+0.3
	baz=84						
O22A	Kremmling	83.84	45	⇓P	P	07 16 38.9	+0.4
	baz=84						
F29A	Eureka	83.86	38	⇑P	P	07 16 38.5	+0.4
	baz=84						
E30A	Jud	83.87	37	⇓P	P	07 16 38.5	+0.4
	baz=84						
I27A	Quinn	83.87	40	⇑P	P	07 16 38.6	+0.3
	baz=84						
PV01	Paradox Valley	83.87	48	eP	P	07 16 39.4	+0.8
	comp=Z,861nm,1.0s						
PVCC	Panska Ves	83.90	329	eP	P	07 16 37.8	-0.3
PVCC	Panska Ves	83.90	329	eP	P	07 16 37.8	-0.3
Z14A	Wintersburg	83.91	54	⇓P	P	07 16 39.1	+0.6
	baz=84						
BRG	Berggiesshubel	83.91	329	eP	P	07 16 38.2	0.0
	comp=Z,4.4nm,0.9s						
BRG	Berggiesshubel	83.91	329	eP	P	07 16 38.2	0.0
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CLL	Collm	83.98	330	eP	P	07 16 39.0	+0.4
CLL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CLL	Collm	83.98	330	eP	P	07 16 39.0	+0.4
	comp=Z,9.0nm,1.0s						
H28A	Mission Ridge	84.02	39	⇓P	P	07 16 39.5	+0.6
	baz=84						
M24A	Cheyenne	84.02	44	⇓P	P	07 16 40.3	+1.0
	baz=84						
P22A	Eagle	84.07	46	⇓P	P	07 16 40.6	+1.0
	baz=84						
AGMN	Agassiz Nation	84.09	34	⇓P	P	07 16 39.0	-0.2
	baz=84						
K26A	Motz Farm, Whi	84.15	42	⇓P	P	07 16 40.3	+0.5
	baz=84						
O23A	Lake Granby, G	84.18	45	⇓P	P	07 16 41.5	+1.3
	baz=84						
F30A	Leola	84.27	37	⇓P	P	07 16 40.4	+0.2
	baz=84						
X16A	Lo Mia Camp, P	84.28	52	⇑P	P	07 16 42.1	+1.4
	baz=84						
PRU	Pruhonice	84.31	329	eP	P	07 16 39.8	-0.4
PRU	Pruhonice	84.31	329	eP	P	07 16 39.8	-0.4
I28A	Midland	84.39	40	⇑P	P	07 16 41.3	+0.5
	baz=84						
N24A	Carr	84.40	44	⇓P	P	07 16 41.9	+0.8
	baz=84						
J27A	Elkhorn Farm,	84.44	41	⇑P	P	07 16 42.2	+1.0
	baz=84						
H29A	Onida	84.48	39	⇓P	P	07 16 41.9	+0.6
	baz=84						
M25A	Palm-Egli Farm	84.48	43	⇓P	P	07 16 43.2	+1.7
	baz=84						
MVCO	Mesa Verde	84.49	49	⇑P	P	07 16 42.5	+0.7
	baz=84						
ISCO	Idaho Springs	84.63	45	⇑P	P	07 16 43.6	+1.1
	baz=84						
K27A	Flueckinger Fa	84.67	41	⇑P	P	07 16 42.8	+0.4
	baz=84						
G30A	Faulkton	84.69	38	⇑P	P	07 16 42.7	+0.4
	baz=84						
O24A	Longmont	84.74	45	⇓P	P	07 16 44.2	+1.3
	baz=85						
J28A	Allard Ranch,	84.74	40	⇓P	P	07 16 43.1	+0.4
	baz=85						
P23A	Jefferson	84.76	46	⇓P	P	07 16 44.2	+1.0
	baz=85						
K28A	Ten Mile Ranch	85.15	41	⇑P	P	07 16 45.3	+0.5
	baz=85						
S22A	4UR Ranch, Cre	85.19	47	⇑P	P	07 16 46.1	+0.8
	baz=85						
X18A	Snowflake	85.20	52	⇓P	P	07 16 45.6	+0.3
	baz=85						
CONA	Conrad Observa	85.22	326	⇓iPcP	P	07 16 45.6	+0.6
	comp=Z,6.5nm,0.7s						
J29A	Okreek	85.24	40	⇓P	P	07 16 45.6	+0.4
	baz=85						
BRSD	Miller	85.26	38	⇑P	P	07 16 45.6	+0.5
	baz=85						
BRSD	Miller	85.26	38	eP	P	07 16 45.2	+0.1
	comp=Z,11nm,0.8s						
BRSD				ePP	PP	07 19 57.8	-5.0
KHC	Kasperske Hory	85.36	328	eP	P	07 16 45.2	-0.4
KHC				e		07 16 51.8	
KHC				e		07 16 58.0	
KHC	Kasperske Hory	85.36	328	eP	P	07 16 45.2	-0.4
KHC				ex	x	07 16 51.8	
KHC				epP	pP	07 17 01.6	-0.6
KHC	Kasperske Hory	85.36	328	eP	P	07 16 45.4	-0.3
	comp=Z,2.8nm,0.6s						
I30A	Oacoma	85.38	39	⇑P	P	07 16 46.1	+0.3
	baz=85						
Q24A	Divide	85.44	46	⇑P	P	07 16 47.4	+0.9
	baz=85						
GERES	GERESS Array B	85.52	328	P	P	07 16 46.1	-0.4
GERES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GERES	GERESS Array B	85.52	328	P	P	07 16 46.1	-0.4
	comp=Z,2.0nm,0.5s,baz=39,slow=5,9,SNR=15						
R23A	Moffat	85.52	47	⇑P	P	07 16 48.0	+1.0
	baz=85						
P25A	Willow Gulch B	85.67	45	⇑P	P	07 16 48.4	+0.9
	baz=86						
K29A	Lazy Trails An	85.69	40	⇓P	P	07 16 47.6	+0.2
	baz=86						
S23A	Nye Farm, Mont	85.72	47	⇑P	P	07 16 49.0	+1.1
	baz=86						
J30A	Dallas	85.74	40	⇓P	P	07 16 47.8	+0.2
	baz=86						
N27A	Anderson Farm,	85.76	43	⇑P	P	07 16 47.5	-0.4
	baz=86						
R24A	Sanders Place,	85.93	46	⇓P	P	07 16 50.1	+1.2
	baz=86						
OGNE	Ogallala	85.95	43	⇓P	P	07 16 49.3	+0.5
	baz=86						
Q25A	Bedland, Calha	86.01	45	⇓P	P	07 16 49.7	+0.5
	baz=86						
P26A	Davis Ranch, A	86.11	44	⇓P	P	07 16 50.2	+0.5
	baz=86						
K30A	Basset	86.12	40	⇑P	P	07 16 49.6	0.0
	baz=86						
T23A	Casias Ranch,	86.13	48	⇓P	P	07 16 50.6	+0.7
	baz=86						
S24A	Houchin Ranch,	86.25	47	⇑P	P	07 16 51.1	+0.5
	baz=86						
Q26A	Hugo	86.43	45	⇑P	P	07 16 52.2	+0.9
	baz=86						
R25A	Fountain Ranch	86.48	46	⇑P	P	07 16 52.0	+0.4
	baz=86						
U23A	El Rito	86.48	48	⇓P	P	07 16 52.3	+0.6
	baz=86						
SOKA	Soboth	86.52	326	⇓iP	P	07 16 50.6	-0.9
	comp=Z,5.4nm,1.1s						
S25A	Robets Cordova	86.71	46	⇑P	P	07 16 51.7	-1.0
	baz=86						
R26A	Arlington	86.88	45	⇓P	P	07 16 53.5	+0.1
	baz=87						
L31A	Butterfield Fa	86.88	40	⇓P	P	07 16 53.6	+0.3
	baz=87						
KSCO	Kaye Shedlock'	86.90	44	⇓P	P	07 16 53.9	+0.4
	baz=87						
ECSD	EROS Data Cent	86.96	38	⇑P	P	07 16 53.9	+0.3
	baz=87						
U24A	Moreno Valley	87.00	48	⇓P	P	07 16 54.6	+0.4
	baz=87						
P28A	Saint Francis	87.03	43	⇓P	P	07 16 54.4	+0.3
	baz=87						
T25A	Trinidad	87.06	47	⇓P	P	07 16 54.9	+0.5
	baz=87						
ANMO	Albuquerque	87.19	49	⇑iP	P	07 16 55.3	+0.2
ANMO				pmax	pmax		
	comp=Z,15nm,2.5s						
R27A	Eads	87.28	45	⇓P	P	07 16 56.4	+1.1
	baz=87						
Q28A	Sharon Springs	87.33	44	⇑P	P	07 16 56.0	+0.5
	baz=87						
M31A	Lambtecht Ranc	87.38	41	⇓P	P	07 16 56.2	+0.5
	baz=87						
V24A	Rampart Ranch,	87.44	48	⇓P	P	07 16 56.8	+0.4
	baz=87						
U25A	Circle Dot Ran	87.54	47	⇓P	P	07 16 57.6	+0.9
	baz=87						
O30A	MW Ranch, Wils	87.58	42	⇓P	P	07 16 57.5	+0.8
	baz=87						
W24A	Lazy 6 Ranch,	87.69	49	⇓P	P	07 16 58.3	+0.8
	baz=88						
BGNE	Belgrade	87.79	40	⇓P	P	07 16 58.2	+0.5
	baz=88						
R28A	Tribune	87.82	44	⇑P	P	07 16 58.4	+0.5
	baz=88						
U26A	Atchley Ranch,	87.95	47	⇑P	P	07 16 59.2	+0.5
	baz=88						
R29A	Marienthal	88.15	44	⇑P	P	07 16 59.6	+0.1
	baz=88						
S28A	Manter	88.27	45	⇓P	P	07 17 00.5	+0.5
	baz=88						
W25A	X Bar L Ranch,	88.27	48	⇓P	P	07 17 00.5	+0.3
	baz=88						
Q30A	Quinter	88.31	43	⇓P	P	07 17 00.3	+0.1
	baz=88						
V26A	Tequesquite Ra	88.31	47	⇓P	P	07 17 00.7	+0.3
	baz=88						
Y24A	Capitan	88.49	50	⇓P	P	07 17 01.5	+0.2
	baz=88						
CDF	Champ du Feu	88.57	331	eP	P	07 17 00.7	-0.6
CDF	Champ du Feu	88.57	331	eP	P	07 17 00.7	-0.6
CDF	Champ du Feu	88.57	331	eP	P	07 17 00.7	-0.6
R30A	Dighton	88.75	44	⇓P	P	07 17 02.1	-0.1
	baz=89						
P32A	Huiting Farm,	88.78	42	⇓P	P	07 17 02.0	-0.3
	baz=89						
SCHQ	Schefferville	88.86	16	P	P	07 17 02.6	+0.2
	comp=Z,2.1nm,0.7s,baz=4.5,slow=3.4,SNR=6.0						
PAGF	Fort de Pagny	89.07	332	eP	P	07 17 03.3	-0.2
	comp=Z,1.9nm,0.7s						
PAGF	Fort de Pagny	89.07	332	eP	P	07 17 03.3	-0.2
	comp=Z,1.9nm,0.7s						
R31A	Burdett	89.17	43	⇓P	P	07 17 04.3	0.0
	baz=89						
Q32A	Meitler Ranch,	89.24	42	⇑P	P	07 17 04.8	+0.3
	baz=89						
W27A	Bowe Ranch, En	89.24	48	⇓P	P	07 17 05.3	+0.6
	baz=89						
MEZF	Maizieres J'vi	89.38	332	eP	P	07 17 05.5	+0.6
MEZF	Maizieres J'vi	89.38	332	eP	P	07 17 05.5	+0.6
Q33A	Connelly Farm,	89.64	42	⇓P	P	07 17 07.0	+0.7
	baz=90						
Y27A	Causey	89.95	48	⇓P	P	07 17 07.9	-0.2
	baz=90						
MSTX	Muleshoe	90.14	48	⇑P	P	07 17 09.6	+0.7
	baz=90						
AMTX	Amarillo	90.21	47	⇓P	P	07 17 09.9	+0.7
	baz=90						
X29A	Tulia	90.49	47	⇑P	P	07 17 11.3	+0.8
	baz=90						
T33A	Patterson Ranc	90.74	43	⇑P	P	07 17 12.1	+0.5
	baz=91						
LOR	Lormes	90.85	332	eP	P	07 17 11.4	-0.4
	comp=Z,2.3nm,0.5s						
LOR				eR			
	comp=Z,83nm,19.5s						
LOR	Lormes	90.85	332	eP	P	07 17 11.4	-0.4
LOR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LOR	Lormes	90.85	332	eP	P	07 17 11.4	-0.4
	comp=Z,2.3nm,0.5s						
LPL	La Plagne	91.11	330	eP	P	07 17 13.0	-0.3
	comp=Z,4.4nm,0.6s						
LPL	La Plagne	91.11	330	eP	P	07 17 13.0	-0.3
LPL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LPL	La Plagne	91.11	330	eP	P	07 17 13.0	-0.3
	comp=Z,4.4nm,0.6s						
LPG	La Plagne	91.11	330	eP	P	07 17 13.2	-0.3
	comp=Z,4.2nm,0.5s						
LPG	La Plagne	91.11	330	eP	P	07 17 13.2	-0.3
LPG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LPG	La Plagne	91.11	330	eP	P	07 17 13.2	-0.3
	comp=Z,4.2nm,0.5s						
SSF	Saint Saulge	91.16	332	eP	P	07 17 13.1	-0.1
	comp=Z,3.0nm,0.6s						
SSF	Saint Saulge	91.16	332	eP	P	07 17 13.1	-0.1
SSF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SSF	Saint Saulge	91.16	332	eP	P	07 17 13.1	-0.1
	comp=Z,3.0nm,0.6s						
Z29A	Hungry Hill Ra	91.28	48	⇑P	P	07 17 14.5	+0.3
	baz=91						
X31A	McDonald Ranch	91.41	46	⇑P	P	07 17 15.1	+0.4
	baz=91						
AVF	Avril sur Loir	91.44	332	eP	P	07 17 14.2	-0.3
	comp=Z,9.0nm,0.8s						
AVF	Avril sur Loir	91.44	332	eP	P	07 17 14.2	-0.3
AVF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AVF	Avril sur Loir	91.44	332	eP	P	07 17 14.2	-0.3
	comp=Z,9.0nm,0.8s						
W32A	Sentinel	91.51	45	⇑P	P	07 17 15.4	+0.2
	baz=91						
Z30A	Sanderson Ranc	91.62	48	⇑P	P	07 17 16.0	+0.2
	baz=92						
GRR	Gorron	91.64	336	eP	P	07 17 15.2	-0.2
	comp=Z,6.7nm,0.7s						
GRR	Gorron	91.64	336	eP	P	07 17 15.2	-0.2
GRR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GRR	Gorron	91.64	336	eP	P	07 17 15.2	-0.2
	comp=Z,6.7nm,0.6s						
Y31A	Rekieta Farm,	91.69	47	⇑P	P	07 17 16.8	+0.7
	baz=92						
MBDF	Montbardon	91.72	329	eP	P	07 17 15.1	-1.0
	comp=Z,6.1nm,0.6s						
MBDF	Montbardon	91.72	329	eP	P	07 17 15.1	-1.0
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MBDF	Montbardon	91.72	329	eP	P	07 17 15.1	-1.0
	comp=Z,6.1nm,0.6s						
W33A	Caddo, Fort Co	91.95	45	⇑P	P	07 17 17.7	+0.5
	baz=92						
X32A	Elmer	91.97	46	⇓P	P	07 17 17.9	+0.6
	baz=92						
V34A	Guthrie	92.03	44	⇓P	P	07 17 18.2	+0.6
	baz=92						
SBF	Sospel	92.12	328	eP	P	07 17 17.1	-0.8
SBF	Sospel	92.12	328	eP	P	07 17 17.1	-0.8
SBF	Sospel	92.12	328	eP	P	07 17 17.1	-0.8
Y32A	R-V Farms, Ver	92.16	46	⇑P	P	07 17 18.4	+0.3
	baz=92						
Z31A	Sharp Cattle R	92.20	47	⇑P	P	07 17 18.9	+0.5
	baz=92						
329A	Wagon Wheel Ra	92.28	50	⇓P	P	07 17 19.3	+0.5
	baz=92						
TCF	Toulx Ste Croi	92.30	333	eP	P	07 17 18.3	-0.3
TCF	Toulx Ste Croi	92.30	333	eP	P	07 17 18.3	-0.3
TCF	Toulx Ste Croi	92.30	333	eP	P	07 17 18.3	-0.3
W34A	Bridge Creek,	92.30	44	⇑P	P	07 17 19.3	+0.5
	baz=92						
X33A	Lawton	92.36	45	⇑P	P	07 17 19.6	+0.5
	baz=92						
131A	Roby	92.49	48	⇑P	P	07 17 20.2	+0.5
	baz=92						
VIVF	Saint-Julien-l	92.50	331	eP	P	07 17 19.2	-0.4
	comp=Z,6.9nm,0.7s						
VIVF	Saint-Julien-l	92.50	331	eP	P	07 17 19.2	-0.4
VIVF				pmax	pmax		
	comp=Z,7.0nm,0.6s						
VIVF	Saint-Julien-l	92.50	331	eP	P	07 17 19.2	-0.4
	comp=Z,6.9nm,0.6s						
230A	Sterling City	92.57	49	⇑P	P	07 17 20.6	+0.5
	baz=

comp=Z,12nm,0.9s
MFF Saint Martin d 92.91 334 *e*P **P 07 17 21.2 -0.1**
comp=Z,12nm,0.9s
TUL1 Leonard 92.97 43 ⇑P **P 07 17 22.0 +0.1**
baz=93
ABTX Abilene, Hawle 92.98 47 ⇓P **P 07 17 22.5 +0.5**
baz=93
529A Stev Forest Ra 93.04 51 ⇑P **P 07 17 22.8 +0.5**
baz=93
Z33A Whitaker Ranch 93.06 46 ⇓P **P 07 17 22.8 +0.5**
baz=93
Y34A Reagan Ranch, 93.20 45 ⇑P **P 07 17 23.0 0.0**
baz=93
430A Baggett Ranch, 93.23 50 ⇓P **P 07 17 23.0 -0.2**
baz=93
RJF Les Rejaudoux 93.39 333 *e*P **P 07 17 23.7 +0.1**
RJF *e*R
comp=Z,96nm,18.0s
RJF Les Rejaudoux 93.39 333 *e*P **P 07 17 23.7 +0.1**
RJF Les Rejaudoux 93.39 333 *e*P **P 07 17 23.7 +0.1**
331A San Angelo 93.39 49 ⇑P **P 07 17 23.6 -0.3**
baz=93
133A Hamilton Ranch 93.44 47 ⇓P **P 07 17 24.1 0.0**
baz=93
232A Coleman 93.48 48 ⇓P **P 07 17 24.3 -0.1**
baz=93
CAF Calviac 93.49 332 *e*P **P 07 17 23.8 -0.3**
comp=Z,3.8nm,0.6s
CAF Calviac 93.49 332 *e*P **P 07 17 23.8 -0.3**
CAF pmax pmax
comp=Z,4.0nm,0.6s
CAF Calviac 93.49 332 *e*P **P 07 17 23.8 -0.3**
comp=Z,3.8nm,0.6s
Z34A Collier Ranch, 93.52 46 ⇑P **P 07 17 24.5 +0.1**
baz=93
530A J-C Ranch, Com 93.59 50 ⇓P **P 07 17 25.5 +0.6**
baz=93
431A Sonora 93.70 49 ⇑P **P 07 17 25.6 +0.2**
baz=94
332A Millersview 93.77 48 ⇓P **P 07 17 26.5 +0.8**
baz=94
233A Rising Star 93.85 47 ⇓P **P 07 17 26.9 +0.8**
baz=94
Z35A Perchaven, San 93.94 45 ⇓P **P 07 17 27.0 +0.6**
baz=94
134A White-Moore Ra 93.97 47 ⇓P **P 07 17 27.3 +0.7**
baz=94
LFF La Frestale 93.99 333 *e*P **P 07 17 26.2 -0.1**
comp=Z,8.0nm,0.7s
LFF La Frestale 93.99 333 *e*P **P 07 17 26.2 -0.1**
LFF pmax pmax
comp=Z,8.0nm,0.7s
LFF La Frestale 93.99 333 *e*P **P 07 17 26.2 -0.1**
comp=Z,8.0nm,0.7s
432A Menard 94.08 49 ⇑P **P 07 17 27.3 +0.2**
baz=94
531A Rocksprings 94.08 50 ⇑P **P 07 17 27.5 +0.3**
baz=94
SFIN Lafayette 94.17 35 ⇑P **P 07 17 28.2 +0.9**
baz=94
333A Richland Sprin 94.28 48 ⇑P **P 07 17 28.3 +0.3**
baz=94
234A Clairette 94.33 47 ⇑P **P 07 17 28.3 +0.1**
baz=94
JCT Junction City 94.34 49 ⇓P **P 07 17 28.5 +0.2**
baz=94
532A Rocksprings 94.52 49 ⇑P **P 07 17 29.3 +0.2**
baz=94
631A Perdido Creek 94.57 50 ⇑P **P 07 17 30.1 +0.7**
baz=94
433A Art 94.60 48 ⇓P **P 07 17 29.8 +0.3**
baz=94
334A Lometa 94.73 48 ⇓P **P 07 17 30.1 +0.1**
baz=95
WHTX Lake Whitney, 94.75 47 ⇓P **P 07 17 30.2 +0.1**
baz=95
632A Uvalde 95.02 50 ⇑P **P 07 17 31.2 -0.2**
baz=95
434A Burnet 95.07 48 ⇓P **P 07 17 31.2 -0.4**
baz=95
633A Saathoff Ranch 95.44 49 ⇓P **P 07 17 32.5 -0.8**
baz=95
534A Blanco 95.49 49 ⇑P **P 07 17 33.7 +0.2**
baz=95
833A Chaparral WMA, 96.07 50 ⇓P **P 07 17 37.1 +1.0**
baz=96
438A Sam Houston St 96.83 46 ⇑P **P 07 17 41.1 +1.5**
baz=97
034A Hebbronville 97.39 51 ⇑P Pdif 07 17 43.3 +1.1
baz=97
738A Farr-Stevens R 98.08 48 ⇑P **P 07 17 45.2 0.0**
baz=98
TORD Torodi Ar. Bea 119.51 313 PKP **PKPdf 07 22 57.6 -0.8**
comp=Z,0.6nm,0.3s,baz=28,slow=2.2,SNR=13
QSPA South Pole Qui 123.22 180 PKP **PKPdf 07 23 03.9 -0.2**
baz=312,slow=2.0
BOSA Boshof 125.44 257 PKIKP **PKPdf 07 23 10.1 +0.5**
BOSA pmax pmax
comp=Z,3.0nm,0.7s
BOSA Boshof 125.44 257 PKP **PKPdf 07 23 10.1 +0.5**
comp=Z,2.7nm,0.7s,baz=102,slow=2.7,SNR=6.0
DBIC Dimbokro 128.55 314 PKIKP **PKPdf 07 23 18.1 +2.3**
DBIC pmax pmax
comp=Z,4.0nm,0.7s
DBIC Dimbokro 128.55 314 PKP **PKPdf 07 23 18.1 +2.3**
comp=Z,3.5nm,0.7s,baz=132,slow=2.5,SNR=2.9
SAML Samuel 146.99 48 *e*PKPbc **PKPbc 07 23 51.5 0.0**
LPAZ La Paz 148.73 64 *e*PKP2 **PKPbc 07 23 57.4 +0.6**
LPAZ La Paz 148.73 64 PKPbc **PKPbc 07 23 57.6 +0.8**
comp=Z,18nm,0.8s,baz=355,slow=2.4,SNR=46
LPAZ La Paz 148.73 64 *e*PKPbc **PKPbc 07 23 57.4 +0.6**
USHA Ushuaia 150.37 145 PKPbc **PKPbc 07 23 59.0 +0.1**
comp=Z,18nm,0.9s,baz=283,slow=11,SNR=4.4
SIV San Ignacio 153.59 54 PKPbc **PKPbc 07 24 07.9 +0.4**
comp=Z,3.2nm,0.8s,baz=283,slow=2.5,SNR=5.7
SIV PKPab **PKPab 07 24 19.6 -0.5**
comp=Z,2.2nm,0.8s,baz=281,slow=3.3,SNR=3.6

*IDC **14** 07:08:13.6±1.0, 34.°00S×72.°03W, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.9/25, mbtmp4.1/8, ML3.8/1, MS3.7/4, Ms1 3.6/4, ms1mx3.2/25, Error ellipse: s-maj=36.9km s-min=20.8km az=93.0*
*GUC **14** 07:08:16.6±0.5, 34.°02S×72.°28W, h37km±2km, ML3.9*
ISC 14 07:08:14.8±2.6, 34.°00S±0.°05×72.°3W±0.°1, h10km±14km, n24, σ0.°79/29, mb4.1/6, MS3.4/3, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.10**	**28**	⇑*i*P	**Pn**	**07 08 36.4**	**+0.2**
IHA				*i* S1	**Sn**	**07 08 51.6**	**+0.3**
RCDM	**Rinconada Maip**	**1.30**	**67**	⇓*i*P	**Pg**	**07 08 40.1**	**+0.3**
RCDM				*e*S	**Sg**	**07 08 57.1**	**+0.3**
RCDM				IAML		07 09 00.6	
comp=N,3μm,0.9s							
NICH	**Los Niches**	**1.31**	**140**	⇑*i*P	**Pg**	**07 08 39.7**	**-0.1**
NICH				*e*S	**Sg**	**07 08 56.7**	**-0.1**
ANTU	**Antumapu**	**1.41**	**73**	⇑*i*P	**Pg**	**07 08 41.8**	**0.0**
ANTU				*i* S1	**Sg**	**07 09 00.9**	**+0.7**
ANTU				IAML		07 09 07.9	
comp=E,4μm,0.5s							
STL	**Santa Lucia**	**1.45**	**68**	*e*P9	**Pb**	**07 08 41.7**	**-0.2**
STL				*e*S	**Sg**	**07 09 01.1**	**-0.4**
TALC	**Talca**	**1.48**	**160**	⇑*i*P	**Pb**	**07 08 41.9**	**-0.5**
TALC				*e*S	**Sb**	**07 09 01.2**	**0.0**
LACH	**Col Las Americ**	**1.53**	**70**	*e*P1	**Pb**	**07 08 43.1**	**-0.1**
SJCH	**San Jose de Ma**	**1.62**	**78**	*e*P	**Pb**	**07 08 44.3**	**-0.4**
SJCH				*e*S	**Sg**	**07 09 05.6**	**-1.1**
CHNG	**Los Chungos**	**2.20**	**17**	⇑*i*P	**Pn**	**07 08 51.1**	**-0.3**
CHNG				*i* S4	**Sn**	**07 09 17.0**	**-1.6**
CFAA	**Coronel Fontan**	**4.14**	**56**	Pn	**Pn**	**07 09 19.9**	**+1.9**
comp=E,0.4nm,0.3s,baz=226,slow=13,SNR=11							
CFAA				Lg	Lg	07 10 21.0	
comp=E,1.3nm,0.3s,baz=48,slow=21,SNR=6.5							
PLCA	**Paso Flores**	**6.85**	**169**	LR	LR	07 12 41.6	
comp=E,388nm,18.9s,baz=354,slow=39							
LPAZ	**La Paz**	**18.02**	**13**	P	**P**	**07 12 27.6**	**+1.1**
comp=E,0.1nm,0.3s,baz=186,slow=9.4,SNR=9.5							
SIV	**San Ignacio**	**20.57**	**32**	P	**P**	**07 12 53.6**	**-0.2**
comp=E,3.0nm,0.7s,baz=214,slow=9.6,SNR=8.7							
SIV				LR	LR	07 22 25.2	
comp=E,169nm,20.1s,baz=243,slow=42							
BDFB	**Brasilia**	**28.48**	**56**	P	**P**	**07 14 08.9**	**-1.4**
comp=E,3.7nm,0.9s,baz=200,slow=5.6,SNR=4.8							
PTGA	**Pitinga**	**35.04**	**22**	LR	LR	07 29 43.3	
comp=E,60nm,18.5s,baz=184,slow=37							
SNAA	**Sanae**	**51.65**	**158**	P	**P**	**07 17 21.7**	**+0.5**
comp=E,2.1nm,0.9s,baz=301,slow=12,SNR=2.3							
QSPA	**South Pole Qui**	**56.24**	**180**	P	**P**	**07 17 55.3**	**+0.4**
comp=E,1.8nm,1.0s,baz=117,slow=4.5,SNR=4.3							
TXAR	**Lajitas Array**	**69.65**	**331**	P	**P**	**07 19 25.6**	**+1.1**
comp=E,0.6nm,0.8s,baz=148,slow=7.4,SNR=3.4							
ANMO	**Albuquerque**	**75.70**	**332**	LR	LR	07 48 26.2	
comp=E,102nm,19.2s,baz=274,slow=32							
BOSA	**Boshof**	**80.22**	**118**	P	**P**	**07 20 25.8**	**-0.1**
comp=E,2.9nm,1.0s,baz=217,slow=2.8,SNR=3.6							
TORD	**Torodi Ar. Bea**	**84.37**	**70**	P	**P**	**07 20 47.2**	**-0.3**
comp=E,2.8nm,0.9s,baz=275,slow=4.5,SNR=10							
KURBB	**Kurchatov Arra**	**152.99**	**43**	PKPbc	**PKPbc**	**07 28 12.2**	**+0.3**
ZALV	**Zalesovo Beam**	**154.32**	**32**	PKPbc	**PKPbc**	**07 28 14.5**	**-0.1**
comp=E,1.6nm,0.6s,baz=306,slow=3.5,SNR=8.3							
MKAR	**Makanchi Array**	**156.90**	**49**	PKPab	**PKPab**	**07 28 38.9**	**-1.2**
comp=E,0.4nm,0.6s,baz=316,slow=5.1,SNR=5.3							

DJA 14 07:16:31.0±1.2, 9.°S±5.°×11.°9E±.°, h25km±17km, M3.6/5, MLv3.6/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.19**	**136**	P	Pn	07 16 50.2	-1.9
WBSI				S	Sn	07 17 06.5	-1.0
IGBI	**Denpasar**	**3.37**	**269**	P	Pn	07 17 22.6	+0.6
BKSI	**Bulukumba**	**3.78**	**24**	P	Pn	07 17 28.4	+0.6
BKSI				S	Sn	07 18 11.8	+0.3

*ISCJB **14** 07:24:07.5±1.0, 38.°00S±0.°1×73.°8W±0.°2, h18km, mb4.2/7, Error ellipse: s-maj=22.2km s-min=15.5km az=156.5*
*IDC **14** 07:24:10.2±0.9, 38.°13S×73.°71W, h21km±4km, mb4.1/6, mb1 4.2/6, mb1mx3.8/31, mbtmp4.2/6, Error ellipse: s-maj=32.8km s-min=27.3km az=49.0*
*NEIC **14** 07:24:11.6±0.7, 38.°09S×73.°82W, h35km, mb4.4/1, Error ellipse: s-maj=18.9km s-min=13.2km az=62.0*
ISC 14 07:24:09.5±0.9, 38.°2S±0.°1×73.°8W±0.°2, h18km, n16, σ1.°04/19, mb4.3/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.63**	**136**	*e*Pn	**Pn**	**07 25 05.4**	**+0.6**
TRQA	**Tornquist**	**9.35**	**93**	*e*Pn	**Pn**	**07 26 24.6**	**+1.2**
LVC	**Limon Verde**	**16.05**	**17**	*e*Pn	**P**	**07 28 00.5**	**+2.6**
SAML	**Samuel**	**30.62**	**21**	*e*P	**P**	**07 30 20.7**	**-1.9**
8.1nm,1.1s							
BDFB	**Brasilia**	**31.95**	**52**	P	**P**	**07 30 33.3**	**-1.2**
2.5nm,0.8s,baz=266,slow=15,SNR=2.5							
QSPA	**South Pole Qui**	**52.10**	**180**	P	**P**	**07 33 18.4**	**+0.2**
3.8nm,0.9s,baz=111,slow=9.7,SNR=3.2							
TXAR	**Lajitas Array**	**72.69**	**333**	P	**P**	**07 35 36.7**	**+0.4**
0.4nm,0.7s,baz=161,slow=8.4,SNR=5.7							
TXAR				pP	**pP**	**07 35 43.1**	**+0.9**
1.6nm,0.7s,baz=152,slow=8.5,SNR=13							
DBIC	**Dimbokro**	**77.89**	**72**	P	**P**	**07 36 06.2**	**-0.2**
5.1nm,0.9s,baz=208,slow=6.4,SNR=3.6							
DBIC				pP	**pP**	**07 36 13.1**	**+0.7**
7.5nm,0.8s,baz=207,slow=7.0,SNR=3.8							
BOSA	**Boshof**	**79.43**	**118**	P	**P**	**07 36 14.3**	**-0.7**
5.0nm,0.8s,baz=167,slow=6.9,SNR=5.7							
TORD	**Torodi Ar. Bea**	**86.97**	**71**	P	**P**	**07 36 53.0**	**-0.8**
1.2nm,0.8s,baz=237,slow=4.1,SNR=5.4							
TORD				pP	**pP**	**07 37 00.5**	**+0.6**
2.0nm,0.9s,baz=233,slow=3.6,SNR=6.6							
AKTO	**Aktyubinsk**	**144.03**	**54**	PKP	PKPab	07 43 40.7	-0.1
1.3nm,0.6s,baz=285,slow=3.1,SNR=8.7							
BVAR	**Borovoye Array**	**151.24**	**47**	PKPbc	**PKPbc**	**07 44 01.3**	**+0.2**
1.4nm,0.6s,baz=291,slow=4.0,SNR=11							
BVAR				pPKPbc	**PKPab**	**07 44 08.5**	**-0.6**
2.4nm,0.8s,baz=276,slow=4.0,SNR=11							
AAK	**Ala-Archa**	**155.55**	**69**	PKPab	**PKPab**	**07 44 27.6**	**-0.4**
2.4nm,0.7s,baz=208,slow=3.1,SNR=6.3							
KURBB	**Kurchatov Arra**	**156.80**	**49**	PKPab	**PKPab**	**07 44 32.8**	**0.0**
0.5nm,0.4s,baz=295,slow=5.0,SNR=5.1							
KURK	**Kurchatov**	**156.82**	**48**	PKPab	**PKPab**	**07 44 32.8**	**0.0**
ZALV	**Zalesovo Beam**	**158.47**	**36**	PKPab	**PKPab**	**07 44 40.0**	**+0.1**
1.5nm,0.8s,baz=303,slow=6.9,SNR=5.3							

*IDC **14** 07:24:53.2±0.5, 33.°92S×73.°16W, h0km, mb4.6/16, mb1 4.6/18, mb1mx4.5/34, mbtmp4.6/18, ML4.0/2, MS3.2/1, Ms1 3.2/1, ms1mx3.0/24, Error ellipse: s-maj=19.9km s-min=14.5km az=84.0*
*ISCJB **14** 07:24:57.7±0.3, 33.°82S±0.°05×72.°92W±0.°07, h33km, mb4.8/57, Error ellipse: s-maj=8.0km s-min=7.5km az=27.2*
*NEIC **14** 07:24:58.8±0.2, 33.°92S×72.°94W, h35km, mb4.8/30, Error ellipse: s-maj=8.7km s-min=6.6km az=78.0*
ISC 14 07:24:58.8±0.4, 33.°89S±0.°07×73.°10W±0.°09, h35km, n401, σ0.°92/410, mb4.8/57, 152C-160D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.69**	**62**	Pn	**Pn**	**07 26 07.4**	**+0.3**
2.5nm,0.3s,baz=229,slow=12,SNR=65							
CFAA				Sn	**Sn**	**07 27 02.0**	**+1.7**
5.8nm,0.3s,baz=150,slow=20,SNR=14							
CFAA				LR	LR	07 28 12.5	
comp=Z,254nm,20.0s,baz=237,slow=42							
LCO	**Las Campanas**	**5.28**	**23**	*e*Pn	**Pn**	**07 26 13.5**	**-2.0**
LCO				*e*Sn	**Sn**	**07 27 13.3**	**-1.9**
LPAZ	**La Paz**	**18.09**	**16**	P	**P**	**07 29 09.0**	**+0.8**
0.4nm,0.3s,baz=181,slow=7.9,SNR=31							
LPAZ	**La Paz**	**18.09**	**16**	*e*Pn	**Pn**	**07 29 07.5**	**-0.6**
34nm,1.3s							
SIV	**San Ignacio**	**20.86**	**34**	P	**P**	**07 29 37.8**	**-0.1**
14nm,0.9s,baz=223,slow=10,SNR=19							
USHA	**Ushuaia**	**21.19**	**173**	P	**P**	**07 29 41.5**	**+0.5**
29nm,1.0s,baz=348,slow=5.5,SNR=3.0							
SAML	**Samuel**	**26.45**	**22**	*e*P	**P**	**07 30 31.7**	**-0.9**
3.7nm,0.8s							
BDFB	**Brasilia**	**29.01**	**57**	P	**P**	**07 30 54.8**	**-0.9**
5.9nm,0.8s,baz=244,slow=10.0,SNR=5.7							
OTAV	**Otavalo**	**34.32**	**350**	*e*P	P	07 31 38.2	-4.5
5.8nm,1.0s							
PTGA	**Pitinga**	**35.21**	**23**	*e*P	**P**	**07 31 49.7**	**-0.1**
9.0nm,1.1s							
ROSC	**El Rosal**	**38.56**	**358**	P	**P**	**07 32 17.6**	**-1.1**
6.9nm,0.8s,baz=109,slow=20,SNR=4.2							
ROSC	**El Rosal**	**38.56**	**358**	P	**P**	**07 32 17.6**	**-1.1**
ROSC				*e*pP	**pP**	**07 32 32.1**	**+3.2**
SDV	**Santo Domingo**	**42.61**	**4**	*e*P	**P**	**07 32 52.3**	**+0.4**
7.8nm,0.8s							
APG	**El Apazote**	**51.37**	**338**	P	P	07 33 56.5	-3.9
7.6nm,0.9s,baz=130,slow=10,SNR=7.4							
SNAA	**Sanae**	**52.02**	**158**	P	**P**	**07 34 04.1**	**-0.3**
9.7nm,0.8s,baz=267,slow=7.6,SNR=16							
QSPA	**South Pole Qui**	**56.34**	**180**	P	**P**	**07 34 36.2**	**+0.1**
18nm,1.0s,baz=150,slow=4.1,SNR=16							
035A	**Encino**	**64.99**	**335**	⇑P	**P**	**07 35 36.4**	**+1.3**
baz=65							
034A	**Hebbronville**	**65.31**	**335**	⇑P	**P**	**07 35 38.7**	**+1.4**
baz=66							
934A	**Benavides**	**65.74**	**335**	⇓P	**P**	**07 35 41.8**	**+1.7**
baz=66							
933A	**Laredo**	**66.02**	**335**	⇓P	**P**	**07 35 43.6**	**+1.8**
baz=66							
835A	**Beeville**	**66.13**	**336**	⇑P	**P**	**07 35 44.7**	**+2.1**
baz=66							
834A	**Tilden**	**66.23**	**335**	⇓P	**P**	**07 35 44.9**	**+1.7**
baz=67							
735A	**Kenedy**	**66.65**	**336**	⇓P	**P**	**07 35 47.3**	**+1.5**
baz=67							
833A	**Chaparral WMA,**	**66.71**	**335**	⇑P	**P**	**07 35 47.8**	**+1.6**
baz=67,SNR=5.5							
832A	**Faith Ranch, C**	**66.88**	**334**	⇑P	**P**	**07 35 48.4**	**+1.1**
baz=67							
734A	**La Parita Cree**	**66.90**	**336**	⇑P	**P**	**07 35 48.9**	**+1.5**
baz=67							
636A	**Smothers Creek**	**66.98**	**337**	⇓P	**P**	**07 35 49.6**	**+1.7**
baz=67							
733A	**Divot King Ran**	**67.03**	**335**	⇑P	**P**	**07 35 49.3**	**+1.1**
baz=67							
732A	**Laxson Ranch,**	**67.28**	**335**	⇓P	**P**	**07 35 50.8**	**+0.9**
baz=68							
537A	**Green Hill Far**	**67.31**	**338**	⇑P	**P**	**07 35 50.5**	**+0.5**
baz=68							
634A	**China Grove, S**	**67.32**	**336**	⇓P	**P**	**07 35 51.5**	**+1.4**
baz=68							
536A	**Bastrop**	**67.54**	**338**	⇓P	**P**	**07 35 52.6**	**+1.2**
baz=68							
535A	**Dale**	**67.66**	**337**	⇑P	**P**	**07 35 53.1**	**+0.9**
baz=68							
633A	**Saathoff Ranch**	**67.67**	**336**	⇑P	**P**	**07 35 53.3**	**+1.0**
baz=68							
438A	**Sam Houston St**	**67.68**	**339**	⇑P	**P**	**07 35 53.5**	**+1.2**
baz=68							
340A	**Bronson**	**67.86**	**341**	⇓P	**P**	**07 35 54.4**	**+0.9**
baz=68							
632A	**Uvalde**	**67.92**	**335**	⇑P	**P**	**07 35 54.9**	**+1.0**
baz=68							
534A	**Blanco**	**67.95**	**336**	⇑P	**P**	**07 35 55.3**	**+1.2**
baz=68							
339A	**Huntington**	**67.96**	**340**	⇑P	**P**	**07 35 55.2**	**+1.1**
baz=68							
631A	**Perdido Creek**	**68.12**	**334**	⇑P	**P**	**07 35 56.1**	**+0.9**
baz=68							
533A	**Kerrville**	**68.18**	**336**	⇓P	**P**	**07 35 56.3**	**+0.7**
baz=69							
338A	**Crockett**	**68.20**	**340**	⇓P	**P**	**07 35 56.1**	**+0.5**
baz=69							
337A	**Centerville**	**68.33**	**339**	⇓P	**P**	**07 35 57.9**	**+1.5**
baz=69							
435B	**Jarrell**	**68.36**	**337**	⇑P	**P**	**07 35 57.6**	**+1.0**
baz=69							
532A	**Rocksprings**	**68.53**	**335**	⇓P	**P**	**07 35 59.0**	**+1.2**
baz=69,SNR=5.3							
239A	**Gary**	**68.58**	**341**	⇑P	**P**	**07 35 59.1**	**+1.1**
baz=69							
434A	**Burnet**	**68.61**	**337**	⇓P	**P**	**07 35 59.0**	**+0.8**
baz=69,SNR=6.3							
336A	**Riesel**	**68.69**	**338**	⇑P	**P**	**07 35 59.7**	**+1.1**
baz=69							
238A	**Jacksonville**	**68.75**	**340**	⇑P	**P**	**07 35 60.0**	**+1.0**
baz=69							
335A	**Moody**	**68.77**	**338**	⇑P	**P**	**07 35 59.8**	**+0.6**
baz=69							
531A	**Rocksprings**	**68.79**	**335**	⇑P	**P**	**07 36 00.2**	**+0.8**
baz=69							
JCT	**Junction City**	**68.82**	**335**	⇑P	**P**	**07 36 00.4**	**+0.9**
baz=69							
JCT	**Junction City**	**68.82**	**335**	*e*P	**P**	**07 36 00.3**	**+0.8**
18nm,1.0s							
433A	**Art**	**68.83**	**336**	⇓P	**P**	**07 36 00.4**	**+0.9**
baz=69							
237A	**Washetta, Mont**	**68.95**	**339**	⇓P	**P**	**07 36 01.1**	**+0.8**
baz=69							
530A	**J-C Ranch, Com**	**69.06**	**334**	⇓P	**P**	**07 36 02.1**	**+1.0**
baz=70							
334A	**Lometa**	**69.08**	**337**	⇓P	**P**	**07 36 02.2**	**+1.1**
baz=70,SNR=5.2							
KMSC	**Kings Mountain**	**69.11**	**353**	⇑P	**P**	**07 36 01.3**	**+0.1**
baz=70							
432A	**Menard**	**69.18**	**336**	⇓P	**P**	**07 36 02.5**	**+0.7**
baz=70							
TXAR	**Lajitas Array**	**69.22**	**332**	P	**P**	**07 36 02.5**	**+0.4**
3.2nm,0.8s,baz=149,slow=7.6,SNR=18							
431A	**Sonora**	**69.28**	**335**	⇓P	**P**	**07 36 03.2**	**+0.7**
baz=70							
333A	**Richland Sprin**	**69.31**	**336**	⇓P	**P**	**07 36 02.8**	**+0.2**
baz=70							
529A	**Stev Forest Ra**	**69.37**	**333**	⇓P	**P**	**07 36 04.0**	**+1.0**
baz=70,SNR=6.4							
WHTX	**Lake Whitney,**	**69.44**	**338**	⇑P	**P**	**07 36 03.7**	**+0.4**
baz=70							
WHTX	**Lake Whitney,**	**69.44**	**338**	*e*P	**P**	**07 36 04.5**	**+1.3**
16nm,1.0s							
137A	**Heron Place, G**	**69.49**	**340**	⇓P	**P**	**07 36 03.9**	**+0.3**
baz=70							
430A	**Baggett Ranch,**	**69.60**	**334**	⇓P	**P**	**07 36 05.2**	**+0.8**
baz=70,SNR=6.1							
332A	**Millersview**	**69.62**	**336**	⇓P	**P**	**07 36 05.0**	**+0.5**
baz=70							
234A	**Clairette**	**69.66**	**337**	⇓P	**P**	**07 36 05.2**	**+0.5**
baz=70							
429A	**Davenport Ranc**	**69.70**	**334**	⇓P	**P**	**07 36 06.1**	**+1.1**
baz=70							
331A	**San Angelo**	**69.79**	**335**	⇓P	**P**	**07 36 06.3**	**+0.7**
baz=70							
233A	**Rising Star**	**69.92**	**337**	⇓P	**P**	**07 36 07.1**	**+0.8**
baz=70							
135A	**Vickery Place,**	**69.95**	**338**	⇓P	**P**	**07 36 07.3**	**+0.9**
baz=70							
232A	**Coleman**	**70.05**	**336**	⇓P	**P**	**07 36 08.0**	**+0.8**
baz=70							
330A	**Mertzon**	**70.14**	**335**	⇓P	**P**	**07 36 08.5**	**+0.7**
baz=70							
134A	**White-Moore Ra**	**70.17**	**338**	⇑P	**P**	**07 36 08.6**	**+0.7**
baz=71							
231A	**Bronte**	**70.32**	**336**	⇓P	**P**	**07 36 09.3**	**+0.5**
baz=71							
133A	**Hamilton Ranch**	**70.47**	**337**	⇓P	**P**	**07 36 10.1**	**+0.4**
baz=71							
329A	**Wagon Wheel Ra**	**70.51**	**334**	⇑P	**P**	**07 36 10.5**	**+0.6**
baz=71							
Z35A	**Perchaven, San**	**70.62**	**339**	⇓P	**P**	**07 36 11.2**	**+0.7**
baz=71							
ABTX	**Abilene, Hawle**	**70.72**	**336**	⇑P	**P**	**07 36 11.8**	**+0.6**
baz=71							
ABTX	**Abilene, Hawle**	**70.72**	**336**	*e*P	**P**	**07 36 11.4**	**+0.2**
6.5nm,0.6s							
Z34A	**Collier Ranch,**	**70.86**	**338**	⇑P	**P**	**07 36 12.4**	**+0.4**
baz=71							
229A	**Bryant Ranch,**	**70.88**	**334**	⇑P	**P**	**07 36 12.4**	**+0.2**
baz=71							
WVT	**Waverly**	**71.01**	**347**	*e*P	**P**	**07 36 12.8**	**0.0**
36nm,1.0s							
131A	**Roby**	**71.02**	**336**	⇑P	**P**	**07 36 13.4**	**+0.3**
baz=71							
Z33A	**Whitaker Ranch**	**71.05**	**337**	⇑P	**P**	**07 36 13.7**	**+0.6**
baz=72							
130A	**Snyder**	**71.15**	**335**	⇓P	**P**	**07 36 14.8**	**+1.0**
baz=72							
228A	**UT Block 9, Go**	**71.30**	**334**	⇓P	**P**	**07 36 15.2**	**+0.4**
baz=72							
Z32A	**Haskell**	**71.30**	**337**	⇑P	**P**	**07 36 15.4**	**+0.7**
baz=72							
Y34A	**Reagan Ranch,**	**71.36**	**339**	⇑P	**P**	**07 36 15.3**	**+0.3**
baz=72							
Z31A	**Sharp Cattle R**	**71.53**	**336**	⇓P	**P**	**07 36 16.3**	**+0.3**
baz=72							
Y33A	**Hilltop Ranch,**	**71.67**	**338**	⇓P	**P**	**07 36 16.9**	**0.0**
baz=72							
128A	**Castleberry Fa**	**71.71**	**334**	⇑P	**P**	**07 36 17.4**	**+0.2**
baz=72							
Z30A	**Sanderson Ranc**	**71.83**	**336**	⇓P	**P**	**07 36 17.7**	**-0.2**
baz=72							
Y32A	**R-V Farms, Ver**	**71.93**	**337**	⇓P	**P**	**07 36 18.8**	**+0.4**
baz=72							
X34A	**Smith Ranch, M**	**71.97**	**339**	⇑P	**P**	**07 36 19.0**	**+0.3**
baz=72							
MNTX	**Cornudas Mount**	**71.99**	**331**	*e*P	**P**	**07 36 18.5**	**-0.4**
4.0nm,0.9s							
Z29A	**Hungry Hill Ra**	**72.01**	**335**	⇓P	**P**	**07 36 19.3**	**+0.3**
baz=72							
Y31A	**Rekieta Farm,**	**72.16**	**337**

Y27A	Causey baz=74	73.09 334 ⇓P	P	07 36 25.6	+0.1
W31A	Holland Ranch, baz=74	73.17 337 ⇓P	P	07 36 25.7	-0.2
V33A	Lossen Ranch, baz=74	73.24 339 ⇓P	P	07 36 26.1	-0.1
319A	Douglas baz=74	73.34 328 ⇓P	P	07 36 28.2	+1.2
V32A	Arapaho baz=74	73.38 338 ⇓P	P	07 36 27.1	+0.1
AMTX	Amarillo baz=74	73.47 336 ⇑P	P	07 36 28.6	+0.9
U34A	Anderson Ranch baz=74	73.59 340 ⇓P	P	07 36 28.7	+0.5
U34A	Anderson Ranch 6.4nm,0.8s	73.59 340 eP	P	07 36 27.8	-0.5
W29A	Amarillo baz=74	73.68 336 ⇑P	P	07 36 29.7	+0.7
V31A	Spring Creek L baz=74	73.68 338 ⇓P	P	07 36 29.6	+0.7
121A	Cookes Peak, D baz=74	73.70 330 ⇓P	P	07 36 30.2	+1.0
X26A	CR and CF Fran baz=74	73.92 334 ⇑P	P	07 36 31.4	+1.0
V30A	Spur Ranch, Mi baz=74	73.94 337 ⇓P	P	07 36 31.4	+1.0
U32A	Winter Ranch, baz=74	73.98 338 ⇓P	P	07 36 31.5	+1.0
Y24A	Capitan baz=74,SNR=5.1	73.98 332 ⇓P	P	07 36 31.6	+0.8
Z22A	Elephant Butte baz=74	73.99 331 ⇓P	P	07 36 32.0	+1.1
W27A	Bowe Ranch, En baz=74	74.12 335 ⇑P	P	07 36 32.4	+0.9
W26A	Owens Ranch, T baz=75	74.39 334 ⇓P	P	07 36 34.2	+1.1
T33A	Patterson Ranc baz=75	74.40 339 ⇓P	P	07 36 33.9	+0.9
V28A	Channing baz=75	74.44 336 ⇓P	P	07 36 34.3	+0.9
U30A	WK&E Inc. Balk baz=75	74.63 337 ⇑P	P	07 36 35.4	+1.0
T32A	Huddler Ranch, baz=75	74.69 339 ⇑P	P	07 36 35.6	+0.9
W25A	X Bar L Ranch, baz=75	74.76 334 ⇓P	P	07 36 36.2	+0.9
T31A	Randall Ranch, baz=75	74.85 338 ⇓P	P	07 36 36.4	+0.8
V26A	Tequesquite Ra baz=75	75.03 335 ⇑P	P	07 36 37.7	+0.9
LAZ	Ladron 4.6nm,1.5s	75.06 331 eP	P	07 36 37.8	+0.6
W24A	Lazy 6 Ranch, baz=76	75.11 333 ⇓P	P	07 36 37.9	+0.5
S32A	Newby Ranch, P baz=76	75.18 339 ⇑P	P	07 36 38.4	+0.9
U27A	Thompson Grove baz=76	75.26 336 ⇑P	P	07 36 38.6	+0.5
ANMO	Albuquerque 8.0nm,1.2s	75.27 332 eP	P	07 36 39.0	+0.6
V25A	Rancho No Teng baz=76	75.37 334 ⇑P	P	07 36 40.0	+1.1
T29A	Hugoton baz=76	75.41 337 ⇓P	P	07 36 39.8	+0.9
214A	Organ Pipe Nat baz=76	75.43 326 ⇑P	P	07 36 40.3	+1.3
U26A	Atchley Ranch, baz=76	75.55 335 ⇓P	P	07 36 41.0	+1.1
LIC	Lamto 26nm,0.8s	75.58 72 eP	P	07 36 40.4	+0.1
S30A	Montezuma baz=76	75.59 338 ⇓P	P	07 36 40.9	+1.0
T28A	Walsh baz=76	75.65 336 ⇓P	P	07 36 41.5	+1.2
S29A	Ulysses baz=76	75.78 337 ⇓P	P	07 36 42.0	+1.0
R32A	Long Quarter, baz=76	75.78 339 ⇓P	P	07 36 42.1	+1.1
U25A	Circle Dot Ran baz=76	75.80 334 ⇑P	P	07 36 41.7	+0.4
T27A	Campo baz=76,SNR=5.5	75.80 336 ⇑P	P	07 36 41.8	+0.6
KSU1	Kansas State U baz=76	75.83 341 ⇓P	P	07 36 41.9	+0.7
TIC	Toumodi 4.6nm,0.2s	75.83 72 eP	P	07 36 42.0	+0.2
V23A	Ortiz Mt. (NFS baz=76	75.87 333 ⇓P	P	07 36 42.3	+0.5
KIC	Kosan Boka 35nm,0.7s	75.88 72 eP	P	07 36 42.0	-0.1
R31A	Burdett baz=76	75.90 339 ⇑P	P	07 36 42.0	+0.4
DBIC	Dimbokro 14nm,0.7s,baz=214,slow=5.9,SNR=12	75.98 72 P	P	07 36 43.2	+0.6
S28A	Manter baz=76	76.00 337 ⇑P	P	07 36 43.2	+0.9
Q33A	Connelly Farm, baz=76	76.07 340 ⇑P	P	07 36 43.1	+0.6
U24A	Moreno Valley baz=76	76.12 334 ⇓P	P	07 36 44.2	+1.0
R30A	Dighton baz=76	76.12 338 ⇑P	P	07 36 43.8	+0.8
T26A	Comanche Natio baz=77	76.20 335 ⇓P	P	07 36 45.2	+1.6
Q32A	Meitler Ranch, baz=77	76.27 340 ⇓P	P	07 36 44.4	+0.8
V22A	San Miguel Ran baz=77,SNR=6.3	76.30 332 ⇓P	P	07 36 45.6	+1.4
X18A	Snowflake baz=77	76.33 329 ⇑P	P	07 36 46.2	+1.8
U23A	El Rito baz=77	76.39 333 ⇑P	P	07 36 46.3	+1.6
T25A	Trinidad baz=77	76.46 335 ⇑P	P	07 36 46.8	+1.8
Q31A	Ellis baz=77	76.52 339 ⇑P	P	07 36 46.7	+1.6
S26A	Kim baz=77,SNR=5.0	76.56 336 ⇓P	P	07 36 46.6	+1.0
R28A	Tribune baz=77	76.66 337 ⇑P	P	07 36 47.3	+1.3
U22A	Llaves baz=77	76.68 333 ⇑P	P	07 36 47.6	+1.2
T24B	San Luis baz=77	76.74 334 ⇑P	P	07 36 47.8	+1.1
Q30A	Quinter baz=77	76.74 339 ⇓P	P	07 36 47.7	+1.3
P32A	Huiting Farm, baz=77	76.86 340 ⇑P	P	07 36 48.1	+1.0
X16A	Lo Mia Camp, P baz=77	76.88 328 ⇑P	P	07 36 48.8	+1.3
Q29A	Oakley baz=77	76.90 338 ⇓P	P	07 36 48.1	+0.8
S25A	Robets Cordova baz=77	76.93 335 ⇓P	P	07 36 48.5	+0.8
R27A	Eads baz=77,SNR=5.6	76.93 336 ⇓P	P	07 36 48.4	+0.8
T23A	Casias Ranch, baz=77	76.96 333 ⇑P	P	07 36 48.9	+1.0
P31A	Stockton baz=77	76.99 339 ⇑P	P	07 36 48.7	+0.9
R26A	Arlington baz=78	77.17 336 ⇑P	P	07 36 50.1	+1.2
Y14A	Wickenburg baz=78	77.17 327 ⇓P	P	07 36 50.8	+1.9
S24A	Houchin Ranch, baz=78	77.19 334 ⇓P	P	07 36 50.6	+1.3
P30A	Selden baz=78	77.27 339 ⇑P	P	07 36 50.3	+0.9
Q28A	Sharon Springs baz=78	77.32 337 ⇑P	P	07 36 50.8	+1.1
KSCO	Kaye Shedlock' baz=78	77.53 337 ⇓P	P	07 36 52.3	+1.4
P29A	Atwood baz=78	77.53 338 ⇑P	P	07 36 52.1	+1.2
O31A	Woolen Ranch, baz=78	77.56 340 ⇓P	P	07 36 52.0	+1.0
R24A	Sanders Place, baz=78	77.68 335 ⇑P	P	07 36 53.1	+1.3
P28A	Saint Francis baz=78	77.76 338 ⇑P	P	07 36 53.7	+1.5
O30A	MW Ranch, Wils baz=78	77.80 339 ⇑P	P	07 36 53.6	+1.3
N32A	Stulken Farm, baz=78	77.84 341 ⇑P	P	07 36 54.1	+1.6
S22A	4UR Ranch, Cre baz=78	77.88 333 ⇓P	P	07 36 54.8	+1.7
R23A	Moffat baz=78	77.90 334 ⇑P	P	07 36 54.7	+1.5
Q25A	Bedland, Calha baz=78	77.99 336 ⇑P	P	07 36 54.6	+1.0
MVCO	Mesa Verde baz=78	78.05 332 ⇓P	P	07 36 55.4	+1.4
P26A	Davis Ranch, A baz=79	78.27 337 ⇓P	P	07 36 56.5	+1.5
O28A	Krutsinger Ran baz=79	78.27 338 ⇓P	P	07 36 56.3	+1.3
Q24A	Divide baz=79	78.35 335 ⇓P	P	07 36 56.5	+0.7
BGNE	Belgrade baz=79	78.40 341 ⇓P	P	07 36 55.8	+0.3
P25A	Willow Gulch B baz=79,SNR=5.4	78.50 336 ⇑P	P	07 36 58.0	+1.6
W13A	Hualapai Mount baz=79	78.54 327 ⇑P	P	07 36 58.5	+1.7
N29A	Votaw Ranch, W baz=79	78.56 339 ⇑P	P	07 36 57.2	+0.6
M31A	Lambtecht Ranc baz=79	78.57 340 ⇑P	P	07 36 57.7	+1.2
U15A	North Rim baz=79	78.95 329 ⇑P	P	07 37 00.7	+1.7
N27A	Anderson Farm, baz=80	79.13 338 ⇓P	P	07 37 01.2	+1.4
SMCO	Snowmass 20nm,1.4s	79.19 334 eP	P	07 37 02.0	+1.5
ISCO	Idaho Springs baz=80	79.25 335 ⇓P	P	07 37 01.7	+1.0
ISCO	Idaho Springs 6.2nm,1.3s	79.25 335 eP	P	07 37 01.8	+1.1
L31A	Butterfield Fa baz=80	79.30 341 ⇑P	P	07 37 01.7	+1.2
P22A	Eagle baz=80	79.48 334 ⇓P	P	07 37 03.4	+1.6
O23A	Lake Granby, G baz=80	79.73 335 ⇑P	P	07 37 04.5	+1.3
M27A	Reverse DX Ran baz=80	79.74 338 ⇓P	P	07 37 04.2	+1.2
O22A	Kremmling baz=80	79.91 335 ⇓P	P	07 37 04.7	+0.5
N24A	Carr baz=80	79.92 336 ⇑P	P	07 37 05.2	+1.1
K30A	Basset baz=80	79.98 340 ⇑P	P	07 37 04.8	+0.7
GSC	Goldstone, Bar baz=80	80.07 325 ⇓P	P	07 37 06.5	+1.5
ECSD	EROS Data Cent baz=81,SNR=6.9	80.18 343 ⇓P	P	07 37 04.8	-0.4
ECSD	EROS Data Cent 22nm,1.3s	80.18 343 eP	P	07 37 05.5	+0.2
L27A	T5 Ranch, Ells baz=81	80.23 338 ⇓P	P	07 37 06.8	+1.2
K29A	Lazy Trails An baz=81	80.26 340 ⇑P	P	07 37 06.7	+1.0
N23A	Red Feather La baz=81	80.34 335 ⇑P	P	07 37 07.8	+1.3
CCUT	Cedar City 9.1nm,1.2s	80.35 329 eP	P	07 37 08.8	+2.2
N22A	Wattenberg Ran baz=81	80.44 335 ⇓P	P	07 37 08.0	+1.0
M24A	Cheyenne baz=81	80.47 336 ⇓P	P	07 37 08.4	+1.3
SRU	San Rafael Swe 37nm,2.2s	80.49 331 eP	P	07 37 08.1	+0.8
K28A	Ten Mile Ranch baz=81	80.52 339 ⇓P	P	07 37 08.4	+1.3
J30A	Dallas baz=81	80.55 341 ⇓P	P	07 37 07.8	+0.6
SPMN	Marine on St. baz=81	80.75 346 ⇑P	P	07 37 08.0	-0.2
K27A	Flueckinger Fa baz=81	80.77 339 ⇓P	P	07 37 09.0	+0.5
M23A	Laramie baz=81	80.78 336 ⇑P	P	07 37 09.7	+1.0
J29A	Okreek baz=81,SNR=6.9	80.85 340 ⇑P	P	07 37 09.5	+0.6
BOSA	Boshof 14nm,0.9s,baz=217,slow=5.0,SNR=9.1	80.90 118 P	P	07 37 09.8	0.0
I30A	Oacoma baz=82	81.08 341 ⇑P	P	07 37 10.3	+0.3
N20A	Spence Gulch, baz=82	81.12 334 ⇓P	P	07 37 11.8	+1.2
J28A	Allard Ranch, baz=82	81.13 340 ⇓P	P	07 37 11.1	+0.8
ISA	Isabella, Lake baz=82	81.16 324 ⇑P	P	07 37 12.6	+1.8
J27A	Elkhorn Farm, baz=82,SNR=5.6	81.20 339 ⇑P	P	07 37 12.3	+1.6
I29A	Vivian Onida baz=82	81.42 341 ⇓P	P	07 37 12.6	+0.7
BRSD	Miller baz=82	81.44 342 ⇑P	P	07 37 12.6	+0.7
J26A	Sides Ranch, S baz=82	81.58 338 ⇑P	P	07 37 14.3	+1.6
VES	Vestal, Richgr baz=82	81.61 324 ⇑P	P	07 37 14.4	+1.4
I28A	Midland baz=82	81.64 340 ⇑P	P	07 37 13.9	+0.9
K23A	Bowen Ranch, D baz=82	81.89 336 ⇑P	P	07 37 15.3	+0.8
H29A	Onida baz=82,SNR=5.4	81.95 341 ⇓P	P	07 37 14.8	+0.2
I27A	Quinn baz=82	81.96 339 ⇓P	P	07 37 15.5	+0.7
R11A	Troy Canyon, C baz=82	81.99 328 ⇓P	P	07 37 17.2	+2.0
R11A	Troy Canyon, C 30nm,2.3s	81.99 328 eP	P	07 37 17.3	+2.1
J24A	Dixon Ranch, L baz=82	82.09 337 ⇓P	P	07 37 17.1	+1.6
K22A	Casper baz=82	82.10 336 ⇓P	P	07 37 17.2	+1.6
K22A	Casper 15nm,1.1s	82.10 336 eP	P	07 37 17.2	+1.6
G30A	Faulkton baz=82	82.13 342 ⇑P	P	07 37 16.3	+0.8
JLU	Jordanelle 9.9nm,1.0s	82.14 332 eP	P	07 37 16.4	+0.4
I26A	New Underwood baz=83	82.16 339 ⇓P	P	07 37 16.6	+0.7
H28A	Mission Ridge baz=83	82.22 340 ⇑P	P	07 37 16.7	+0.7
K21A	Alcova baz=83	82.33 335 ⇑P	P	07 37 18.2	+1.2
DUG	Dugway, Tooele 13nm,1.4s	82.34 330 eP	P	07 37 18.1	+1.2
I25A	Rochford baz=83,SNR=5.3	82.42 338 ⇓P	P	07 37 17.8	+0.5
H27A	Howes baz=83	82.48 340 ⇓P	P	07 37 18.1	+0.7
TPH	Tonopah 18nm,1.5s	82.51 326 eP	P	07 37 19.3	+1.4
G28A	Parade baz=83	82.56 341 ⇑P	P	07 37 18.6	+0.8
RSSD	Black Hills 6.8nm,1.1s	82.60 338 eP	P	07 37 18.9	+0.5
F30A	Leola baz=83	82.75 342 ⇑P	P	07 37 19.2	+0.4
J22A	Midwest baz=83	82.76 336 ⇓P	P	07 37 19.3	+0.3
H25A	Fruitdale baz=83	82.92 339 ⇑P	P	07 37 20.6	+0.9
F29A	Eureka baz=83	82.96 342 ⇓P	P	07 37 20.3	+0.4
HWUT	Hardware Ranch 40nm,2.0s	83.04 332 eP	P	07 37 21.1	+0.5
G27A	Dupree baz=84	83.12 340 ⇑P	P	07 37 20.9	+0.2
I22A	9 Mile Ranch, baz=84	83.19 336 ⇑P	P	07 37 22.0	+0.7
G26A	Maurine baz=84	83.23 340 ⇓P	P	07 37 21.8	+0.5
F28A	McLaughlin baz=84,SNR=5.1	83.24 341 ⇓P	P	07 37 21.7	+0.4
J20A	Shoshoni baz=84	83.26 335 ⇑P	P	07 37 22.3	+0.6
PDAR	Pinedale Array 1.8nm,1.0s,baz=150,slow=6.2,SNR=7.4	83.28 334 P	P	07 37 22.1	+0.2
NVAR	Mina Array Bea 0.8nm,0.7s,baz=116,slow=6.1,SNR=3.8	83.30 326 P	P	07 37 23.0	+0.9
H24A	Dirks Ranch, A baz=84	83.33 338 ⇑P	P	07 37 21.9	0.0
E30A	Jud baz=84	83.35 342 ⇓P	P	07 37 22.3	+0.5
G25A	Newell baz=84	83.39 339 ⇑P	P	07 37 22.5	+0.3
I21A	Big Trails, Te baz=84	83.39 336 ⇑P	P	07 37 22.6	+0.2
J19A	Crowheart baz=84,SNR=5.3	83.53 334 ⇓P	P	07 37 23.3	+0.3
E29A	Napoleon baz=84	83.59 342 ⇓P	P	07 37 23.3	+0.2
F27A	Lemmon baz=84	83.60 340 ⇓P	P	07 37 23.6	+0.4
F26A	Lodgepole baz=84	83.76 340 ⇓P	P	07 37 24.6	+0.6
I20A	Worland baz=84	83.80 335 ⇓P	P	07 37 25.1	+0.8
G24A	Alzada baz=84	83.81 338 ⇓P	P	07 37 25.0	+0.6
ELK	Elko 2.4nm,0.8s,baz=139,slow=1.3,SNR=6.4	83.82 329 P	P	07 37 24.7	0.0
D30A	Buchanan baz=84,SNR=6.8	83.87 343 ⇑P	P	07 37 24.8	+0.3
E28A	Huff baz=84	83.88 341 ⇑P	P	07 37 24.9	+0.4
E27A	Carson baz=84	83.98 341 ⇑P	P	07 37 25.5	+0.4
G23A	Biddle baz=84	84.00 338 ⇓P	P	07 37 25.2	-0.1
D29A	Pettibone, Tap baz=84	84.04 342 ⇑P	P	07 37 25.7	+0.3
F25A	Bowman baz=84	84.06 339 ⇑P	P	07 37 25.5	0.0
I19A	Meeteetse baz=85	84.18 335 ⇓P	P	07 37 27.2	+0.8
H20A	Greybull baz=85,SNR=7.1	84.22 336 ⇑P	P	07 37 26.4	-0.1
E26A	Carlson Angus baz=85	84.27 340 ⇓P	P	07 37 26.5	-0.1
G22A	Birney baz=85	84.30 337 ⇓P	P	07 37 27.2	+0.3
AGMN	Agassiz Nation baz=85,SNR=5.3	84.32 345 ⇑P	P	07 37 26.7	0.0
AGMN	Agassiz Nation 138nm,2.7s	84.32 345 eP	P	07 37 26.8	0.0
C30A	Mose, Pekin baz=85,SNR=7.2	84.36 343 ⇑P	P	07 37 27.4	+0.4
D28A	Regan baz=85	84.41 342 ⇓P	P	07 37 27.4	+0.2
F23A	Volborg baz=85	84.47 338 ⇑P	P	07 37 27.8	+0.2
E25A	Miller Ranch, baz=85	84.56 340 ⇑P	P	07 37 28.5	+0.4
G21A	Lodge Grass baz=85	84.61 337 ⇑P	P	07 37 28.4	0.0
I17A	Pilgrim Ck. baz=85	84.65 334 ⇓P	P	07 37 29.6	+0.8
H19A	Powell baz=85	84.73 335 ⇑P	P	07 37 29.1	0.0
D26A	Manning baz=85	84.77 340 ⇓P	P	07 37 29.6	+0.5
MDND	Maddock baz=85,SNR=5.8	84.77 342 ⇑P	P	07 37 29.3	+0.3
MDND	Maddock 6.6nm,0.9s	84.77 342 eP	P	07 37 29.5	+0.5
F22A	Rosebud baz=85	84.79 337 ⇓P	P	07 37 29.4	+0.2
E24A	Baker baz=85	84.89 339 ⇓P	P	07 37 30.0	+0.2
G20A	Bridger baz=85,SNR=6.2	84.94 336 ⇑P	P	07 37 30.3	+0.2
H18A	Shoshone NF, C baz=85,SNR=6.8	84.97 335 ⇑P	P	07 37 30.5	+0.1
TORD	Torodi Ar. Bea 7.4nm,0.7s,baz=256,slow=4.0,SNR=27	85.00 71 P	P	07 37 31.4	+0.4
B30A	Myrvik Farm, E baz=85,SNR=14	85.02 343 ⇑P	P	07 37 30.0	-0.3
D25A	Fairfield baz=86	85.13 340 ⇓P	P	07 37 31.8	+0.8
C27A	Sayler Ranch, baz=86	85.14 341 ⇓P	P	07 37 31.7	+0.8
B29A	Wagenman Farm, baz=86,SNR=5.4	85.28 343 ⇓P	P	07 37 31.6	0.0
C26A	Wahner Farm, P baz=86	85.41 341 ⇑P	P	07 37 32.5	+0.3
F20A	Billings baz=86	85.43 336 ⇑P	P	07 37 33.1	+0.6
YMR	Madison River 10nm,1.1s	85.43 334 eP	P	07 37 34.4	+1.7
A30A	Hoffart Farm, baz=86,SNR=5.3	85.47 344 ⇓P	P	07 37 32.8	+0.3
B28A	Dugan Ranch, T baz=86,SNR=5.3	85.52 342 ⇑P	P	07 37 33.2	+0.4
A29A	Manning Farm, baz=86	85.68 343 ⇓P	P	07 37 33.6	0.0
D23A	Lindsay baz=86,SNR=9.8	85.71 339 ⇑P	P	07 37 34.2	+0.4
E21A	Keefer Ranch, baz=86	85.73 337 ⇑P	P	07 37 34.5	+0.6
F19A	Roth Farm, Mol baz=86	85.74 336 ⇓P	P	07 37 34.7	+0.6
C24A	Savage baz=86,SNR=9.1	85.80 339 ⇓P	P	07 37 34.9	+0.7
HLID	Hailey baz=86	85.82 331 ⇑P	P	07 37 35.3	+0.7
HLID	Hailey 71nm,2.8s	85.82 331 eP	P	07 37 35.8	+1.2
A28A	Rude Farm, Bot baz=86	85.92 342 ⇑P	P	07 37 35.0	+0.2
D22A	Cohagen baz=86	85.98 338 ⇑P	P	07 37 35.6	+0.4
E20A	Meyer Farm, Mu baz=86,SNR=9.0	86.04 337 ⇑P	P	07 37 36.1	+0.6
B25A	Knox Farm, Ray baz=86	86.11 340 ⇓P	P	07 37 36.6	+0.9
D21A	La Casta Ranch baz=87	86.17 338 ⇓P	P	07 37 36.2	+0.1
ULM	Lac du Bonnet 5.3nm,0.9s,baz=173,slow=4.4,SNR=6.5	86.17 346 P	P	07 37 35.1	-0.9
A27A	Ledoux Ranch, baz=87	86.21 342 ⇑P	P	07 37 37.0	+0.8
E19A	Rath Farm, Rou baz=87,SNR=8.0	86.22 336 ⇑P	P	07 37 36.5	+0.1
C23A	Lambert baz=87,SNR=7.7	86.27 339 ⇓P	P	07 37 36.9	+0.3
MCMT	McKenzie Canyo 2.5nm,1.0s	86.27 333 eP	P	07 37 37.8	+0.9
A26A	Wade Farm, Ken baz=87	86.37 341 ⇑P	P	07 37 36.9	-0.1
C22A	Vida baz=87	86.43 339 ⇓P	P	07 37 37.7	+0.3
D20A	Manuel Ranch, baz=87,SNR=5.2	86.56 337 ⇓P	P	07 37 37.8	-0.3
DLMT	Dillon 29nm,1.8s	86.63 333 eP	P	07 37 39.3	+0.8
A25A	Svangstu Ranch baz=87	86.70 341 ⇓P	P	07 37 38.7	0.0
B23A	Brockton baz=87	86.80 339 ⇓P	P	07 37 39.4	+0.2
D19A	Cripps Ranch, baz=87	86.87 336 ⇓P	P	07 37 39.9	+0.3
C21A	Desert Coulee baz=87	86.87 338 ⇑P	P	07 37 39.4	-0.2
A24A	Westby baz=87	86.93 340 ⇓P	P	07 37 40.1	+0.3
B22A	Reddig Ranch S baz=87	86.95 339 ⇓P	P	07 37 40.5	+0.6
LRM	Limekiln Ridge 103nm,1.7s	86.96 334 eP	P	07 37 41.0	+0.7
MOD	Modoc Plateau 12nm,1.2s	86.99 327 eP	P	07 37 42.0	+1.6
C20A	Veseth Ranch, baz=88	87.06 337 ⇓P	P	07 37 40.4	0.0
A23A	Redstone baz=88	87.22 340 ⇑P	P	07 37 41.3	+0.2
N02D	Trinity Center baz=88	87.39 325 ⇓P	P	07 37 43.0	+0.8
C19A	Slack Wire Ran baz=88	87.42 337 ⇑P	P	07 37 42.8	+0.6
A22A	Carney Farms, baz=88	87.55 339 ⇓P	P	07 37 43.1	+0.3
M04C	Macdoel baz=88	87.61 326 ⇓P	P	07 37 43.8	+0.5
A21A	Bergtoll Ranch baz=88	87.85 338 ⇑P	P	07 37 44.2	0.0
EGMT	Eagleton baz=88	87.91 336 ⇑P	P	07 37 44.6	+0.1
YBH	Yreka Blue Hor 2.8nm,0.8s,baz=134,slow=6.7,SNR=3.3	87.98 325 P	P	07 37 45.1	0.0
B19A	Brinkman Farms baz=88	88.02 337 ⇑P	P	07 37 45.3	+0.3
A20A	Cobblestone Ra baz=88,SNR=5.2	88.06 338 ⇓P	P	07 37 44.8	-0.4
A19A	Klindworth Far baz=89	88.36 337 ⇑P	P	07 37 46.6	-0.1

MSO	Missoula	88.37	333	⇓P	P	07 37 46.5	-0.3
	baz=89						
J05D	Fort Rock, OR	88.50	327	⇓P	P	07 37 48.3	+0.7
	baz=89						
SCHQ	Schefferville	88.53	4	P	P	07 37 47.3	+0.1
	3.8nm,1.0s,baz=291,slow=13,SNR=3.9						
L02D	Cave Junction,	88.73	325	⇑P	P	07 37 49.7	+1.2
	baz=89						
J04D	Umpqua Nationa	88.87	327	⇑P	P	07 37 50.6	+1.3
	baz=89						
I05D	Terrebonne, OR	89.38	328	⇓P	P	07 37 52.5	+0.9
	baz=90						
LSZ	Lusaka	90.67	109	eP	P	07 37 58.8	+0.3
	15nm,1.4s						
YKA	Yellowknife Ar	101.68	342	P	Pdif	07 38 46.7	-0.3
	0.6nm,1.0s,baz=136,slow=4.5,SNR=7.2						
GERES	GERESS Array B	112.71	46	PKiKP	PKiKP	07 43 31.0	-0.3
	0.8nm,0.8s,baz=259,slow=2.7,SNR=4.8						
ASAR	Alice Springs	117.26	208	PKP	PKPdf	07 43 39.4	-1.6
	0.3nm,0.7s,baz=134,slow=3.6,SNR=4.9						
WRA	Warramunga Arr	120.42	210	PKP	PKPdf	07 43 45.9	-1.2
	1.3nm,0.8s,baz=157,slow=1.7,SNR=8.3						
BRTR	Keskin Array B	122.55	61	PKP	PKPdf	07 43 50.6	0.0
	1.4nm,0.8s,baz=174,slow=4.5,SNR=8.7						
AKASG	Malin Array Be	122.77	48	PKP	PKPdf	07 43 49.7	-0.8
	2.4nm,0.7s,baz=268,slow=2.5,SNR=7.1						
ARCES	ARCESS Array B	124.29	25	PKP	PKPdf	07 43 53.0	+0.1
	2.4nm,1.0s,baz=245,slow=3.9,SNR=6.0						
SEY	Seymchan	139.50	330	PKP	PKPdf	07 44 21.9	+0.2
	4.8nm,1.0s,baz=75,slow=3.5,SNR=5.5						
GEYT	Alibeck	140.64	70	PKP	PKPdf	07 44 25.8	+1.2
	1.1nm,0.5s,baz=292,slow=7.6,SNR=3.8						
PALK	Pallekele	144.12	132	ePKPdf	PKPbc	07 44 29.1	-0.4
BRVK	Borovoye	147.73	42	ePKPbc	PKPdf	07 44 37.3	+0.9
BRVK				ePKPab	PKiKP	07 44 40.3	-0.9
BVAR	Borovoye Array	147.80	42	PKPbc	PKPdf	07 44 37.7	+1.2
	5.6nm,0.6s,baz=306,slow=5.1,SNR=15						
SBUM	Sibu	148.33	190	ePKPab	PKPbc	07 44 41.7	-0.4
YAK	Yakutsk	148.33	340	ePKPbc	PKPbc	07 44 40.7	+0.1
HYB	Hyderabad	149.77	116	i PKP	PKPbc	07 44 44.0	-1.6
IPM	Ipoh	150.23	168	ePKPbc	PKPbc	07 44 45.6	-1.2
KKAR	Karatay Array	150.26	61	ePKPbc	PKPbc	07 44 46.0	-0.1
KULM	Kulim	150.95	167	ePKPab	PKPbc	07 44 47.3	-1.2
EKS2	Erkin-Say	152.70	62	ePKPdf	PKPdf	07 44 45.0	+0.3
EKS2				ePKPbc	PKiKP	07 44 52.6	+0.6
EKS2				ePKPab	PKPab	07 45 03.1	+0.4
AAK	Ala-Archa	153.23	61	PKPbc	PKPbc	07 44 53.1	+0.1
	5.2nm,0.8s,baz=220,slow=1.9,SNR=9.0						
KURBB	Kurchatov Arra	153.39	43	PKP	PKPdf	07 44 45.4	+0.1
	1.8nm,0.9s,baz=296,slow=2.4,SNR=5.1						
KURBB				PKPbc	PKiKP	07 44 53.1	+0.2
	5.7nm,0.8s,baz=299,slow=2.9,SNR=18						
KURK	Kurchatov	153.40	42	PKP	PKPdf	07 44 45.4	+0.1
KURK				PKPbc	PKiKP	07 44 53.1	+0.1
TKM2	Tokmak 2	153.98	60	ePKPdf	PKPdf	07 44 45.3	-1.4
TKM2				ePKPab	PKPab	07 45 08.3	+0.1
ZALV	Zalesovo Beam	154.60	31	PKP	PKPdf	07 44 46.5	-0.3
	4.1nm,0.9s,baz=282,slow=2.9,SNR=13						
ZALV				PKPbc	PKiKP	07 44 55.5	+0.1
	6.5nm,0.8s,baz=300,slow=3.3,SNR=17						
MKAR	Makanchi Array	157.35	48	PKP	PKPdf	07 44 48.3	-2.5
	1.3nm,0.7s,baz=294,slow=3.6,SNR=13						
MKAR				PKPab	PKPab	07 45 22.4	+0.1
	2.2nm,0.8s,baz=308,slow=2.9,SNR=8.4						
CMAR	Chiang Mai Arr	163.06	153	PKP	PKPdf	07 44 57.9	-0.1
	0.9nm,0.8s,baz=246,slow=3.0,SNR=8.1						
CMAR				PKPab	PKPab	07 45 45.9	-1.8
	0.6nm,0.3s,baz=220,slow=4.1,SNR=4.1						

IDC 14 07:28:25.2±3.2, 11°.38S×166°.03E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.7/45, mbtmp4.0/5, ML3.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/29, Error ellipse: s-maj=67.7km s-min=40.6km az=88.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.64	178	Pn	Pn	07 30 59.6	+0.4
	0.2nm,0.3s,baz=162,slow=20,SNR=2.7						
PMG	Port Moresby	18.66	274	LR	LR	07 39 06.6	
	comp=Z,60nm,20.1s,baz=84,slow=34						
STKA	Stephens Creek	30.40	224	P	P	07 34 38.7	-0.5
	1.0nm,0.6s,baz=44,slow=10,SNR=4.1						
WRA	Warramunga Arr	31.63	250	P	P	07 34 50.9	+0.6
	0.7nm,0.5s,baz=83,slow=9.2,SNR=4.7						
ASAR	Alice Springs	32.90	244	P	P	07 35 01.1	-0.3
	0.8nm,0.6s,baz=69,slow=9.7,SNR=15						
MKAR	Makanchi Array	93.95	317	P	P	07 41 44.9	-0.2
	0.4nm,0.5s,baz=94,slow=4.5,SNR=5.2						

*IDC **14** 07:31:19.7±0.3, 34°.25S×71°.81W, h0km, mb5.2/28, mb1 5.3/30, mb1mx5.3/32, mbtmp5.2/30, ML5.1/1, MS4.5/7, Ms1 4.5/7, ms1mx4.2/24, Error ellipse: s-maj=14.8km s-min=10.5km az=83.0*

*GUC **14** 07:31:21.5±0.4, 34°.27S×71°.99W, h30km±15km, ML5.5*

*ISCJB **14** 07:31:21.7±0.7, 34°.25S±0°.02×71°.93W±0°.04, h21km±5km, mb5.3/166, MS4.5/8, Error ellipse: s-maj=5.2km s-min=3.5km az=1.0*

*BJI **14** 07:31:23.1, 34°.03S×72°.66W, h33km, mB5.3/26, Ms5.6/4, Ms7 5.4/3*

*NEIC **14** 07:31:25.0±0.1, 34°.23S×71°.77W, h35km, mb5.4/137, ML5.5(GUC), Error ellipse: s-maj=3.8km s-min=2.7km az=66.0*

NEIC Felt [V] at Pichilemu and Talca; [III] at El Quisco, El Tabo, Rancagua, San Antonio, San Fernando and Santiago; [II] at Graneros, Quillota and Valparaiso. Also felt at Chimbarongo, Puente Alto, Quilpue, San Bernardo, San Vicente and Vina del Mar.

*MOS **14** 07:31:25.3±0.9, 34°.03S×71°.88W, h40km, mb5.5/67, Error ellipse: s-maj=12.0km s-min=7.0km az=98.7*

*GCMT **14** 07:31:25.0±0.3, 34°.42S×72°.10W, h16km±1km, MW5.2/54, Moment Tensor Solution. s31,c38; s54,c80; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.68±.04; $M_{\theta\theta}$-0.02±.02; $M_{\phi\phi}$0.70±.03; $M_{r\theta}$0.19±.07; $M_{\theta\phi}$-0.06±.02; $M_{r\phi}$0.34±.06; Best double couple: $M_0$0.79700×10^{17} NP1:ϕ_s191.00000°, δ59.00000°, λ-73.00000°. NP2: ϕ_s341.00000°, δ34.00000°, λ-116.00000°. Principal axes: T 0.7830, Plg13.0000°, Azm269.0000°; N 0.0280, Plg14.0000°, Azm3.0000°; P -0.8110, Plg71.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 14 07:31:24.8±0.6, 34°.25S±0°.03×71°.82W±0°.05, h34km±2km, h35km:pP-P, n1017, σ0°.87/1089, mb5.4/165, MS4.4/8, 271C-246D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.45	49	⇑iP	Pb	07 31 32.7	-2.1
LNV	Longovilo	0.45	49	⇑iP	Pb	07 31 32.7	-2.1
NICH	Los Niches	0.89	147	⇑iP	Pn	07 31 38.8	-2.1
NICH				i S	Sn	07 31 51.8	-0.9
NICH				AML	AML	07 31 57.4	
	comp=N,266μm,0.6s						
NICH	Los Niches	0.89	147	⇑iP	Pn	07 31 38.8	-2.1
NICH				i S	Sn	07 31 51.8	-0.9
TACH	Talagante	0.95	51	⇓iP	Pn	07 31 40.3	-1.4
TACH	Talagante	0.95	51	⇓iP	Pn	07 31 40.3	-1.4
CHCH	Chadas Angostu	1.02	72	⇓iP	Pn	07 31 42.1	-0.7
CHCH	Chadas Angostu	1.02	72	⇓iP	Pn	07 31 42.1	-0.7
CACH	El Canelo	1.02	83	⇑iP	Pn	07 31 42.5	-0.3
CACH	El Canelo	1.02	83	⇑iP	Pn	07 31 42.5	-0.3
TALC	Talca	1.15	172	⇓iP	Pn	07 31 42.0	-2.5
TALC				i S	Sn	07 31 57.3	-1.8
TALC	Talca	1.15	172	⇓iP	Pn	07 31 42.0	-2.5
TALC				i S	Sn	07 31 57.3	-1.8
ANTU	Antumapu	1.20	56	⇑iP	Pn	07 31 44.7	-0.5
ANTU				i S	Sb	07 32 01.9	-0.4
ANTU				AML	AML	07 32 08.1	
	comp=N,120μm,0.4s						
ANTU	Antumapu	1.20	56	⇑iP	Pn	07 31 44.7	-0.5
ANTU				i S	Sb	07 32 01.9	-0.4
SAN	Santiago	1.25	51	⇓iP	Pn	07 31 45.2	-0.7
SAN	Santiago	1.25	51	⇓iP	Pn	07 31 45.2	-0.7
SAN	Santiago	1.25	51	⇓iP	Pn	07 31 45.2	-0.7
FSR	Penalolen	1.33	55	eP9		07 31 47.4	
FSR				eS	Sb	07 32 06.4	+0.5
FSR	Penalolen	1.33	55	eP	Pn	07 31 47.4	+0.5
FSR				eS	Sb	07 32 06.4	+0.5
LACH	Col Las Americ	1.34	54	⇑iP	Pn	07 31 46.5	-0.6
LACH				i S	Sb	07 32 05.7	-0.6
LACH	Col Las Americ	1.34	54	⇑iP	Pn	07 31 46.5	-0.6
LACH				i S	Sb	07 32 05.7	-0.6
CLCH	Cerro Calan	1.37	52	⇑iP	Pn	07 31 47.4	-0.2
CLCH				i S	Sb	07 32 07.0	-0.2
CLCH				AML	AML	07 32 11.6	
	comp=N,87μm,0.5s						
PEL	Peldehue	1.46	41	⇓iP	Pn	07 31 48.4	-0.4
PEL				i S	Sb	07 32 08.8	-0.8
PEL	Peldehue	1.46	41	⇓iP	Pn	07 31 48.4	-0.4
PEL				i S	Sb	07 32 08.8	-0.8
PEL				AML	AML	07 32 12.8	
	comp=N,175μm,0.5s						
PEL	Peldehue	1.46	41	⇓iP	Pn	07 31 48.4	-0.4
PEL				i S	Sb	07 32 08.8	-0.8
LNCH	Linares	1.60	174	⇓iP	Pn	07 31 50.4	-0.3
LNCH				i S	Sn	07 32 11.5	+1.3
LNCH				AML	AML	07 32 13.7	
	comp=N,164μm,0.5s						
LNCH	Linares	1.60	174	⇓iP	Pn	07 31 50.4	-0.3
LNCH				i S	Sn	07 32 11.5	+1.3
CFAA	Coronel Fontan	4.01	50	Pn	Pn	07 32 26.5	+2.7
	comp=N,3.2nm,0.3s,baz=227,slow=11,SNR=40						
CFAA				Lg	Lg	07 33 21.2	
	comp=N,18nm,0.3s,baz=140,slow=23,SNR=4.2						
LCO	Las Campanas	5.31	11	ePn	Pn	07 32 40.6	-1.4
LCO				eSn	Sn	07 33 39.4	-2.7
PLCA	Paso Flores	6.55	171	Pn	Pn	07 32 58.8	+0.1
	baz=344,slow=15						
PLCA				Lg	Lg	07 34 42.2	
	baz=77,slow=19						
TRQA	Tornquist	8.82	118	ePn	Pn	07 33 32.3	+2.5
LVC	Limon Verde	11.88	13	ePn	Pn	07 34 06.6	-5.4
LPAZ	La Paz	18.19	11	eP	Pn	07 35 35.1	-0.2
LPAZ				pmax	pmax		
	comp=Z,131nm,1.1s						
LPAZ	La Paz	18.19	11	Pn	P	07 35 35.6	+0.2
	comp=Z,2.7nm,0.3s,baz=180,slow=7.2,SNR=61						
LPAZ	La Paz	18.19	11	eP	Pn	07 35 35.1	-0.2
	comp=Z,131nm,1.1s						
EFI	East Falkland	20.05	154	P	P	07 35 53.9	-1.0
	comp=Z,732nm,0.8s,SNR=6.0						
EFI	East Falkland	20.05	154	eP	P	07 35 53.8	-1.0
EFI				pmax	pmax		
	comp=Z,103nm,0.9s						
EFI	East Falkland	20.05	154	eP	P	07 35 53.8	-1.0
	comp=Z,103nm,0.9s						
SIV	San Ignacio	20.60	31	P	P	07 36 00.4	-0.6
	comp=Z,34nm,0.8s,baz=226,slow=10.0,SNR=41						
SIV				LR	LR	07 45 40.1	
	comp=Z,1μm,20.7s,baz=222,slow=42						
USHA	Ushuaia	20.71	174	P	P	07 36 02.7	+0.8
	comp=Z,170nm,0.9s,baz=321,slow=7.6,SNR=40						
USHA				LR	LR	07 44 46.0	
	comp=Z,3μm,18.6s,baz=330,slow=39						
NNA	Nana	22.63	347	eP	P	07 36 23.0	+0.1
NNA				pmax	pmax		
	comp=Z,34nm,0.9s						
NNA	Nana	22.63	347	P	P	07 36 24.3	+1.4
	comp=Z,33nm,0.8s,baz=191,slow=10,SNR=18						
NNA	Nana	22.63	347	eP	P	07 36 23.0	+0.1
	comp=Z,34nm,0.9s						
SAML	Samuel	26.41	19	eP	P	07 36 57.9	-0.4
	comp=Z,37nm,0.8s						
ATAH	Atahualpa	27.66	346	P	P	07 37 10.6	+0.7
	comp=Z,5.8nm,0.7s,baz=166,slow=7.1,SNR=7.2						
ATAH				PcP	PcP	07 40 27.6	+0.8
	comp=Z,9.4nm,0.8s,baz=145,slow=7.0,SNR=3.7						
ATAH				LR	LR	07 46 45.1	
	comp=Z,616nm,20.0s,baz=188,slow=34						
BDFB	Brasilia	28.33	55	P	P	07 37 14.9	-0.7
BDFB				pmax	pmax		
	comp=Z,17nm,0.7s						
BDFB				MLR	MLR		
	comp=Z,16nm,28.6s						
BDFB	Brasilia	28.33	55	P	P	07 37 14.9	-0.7
	comp=Z,17nm,0.7s,baz=226,slow=7.8,SNR=33						
BDFB				LR	LR	07 50 44.1	
	comp=Z,1μm,19.5s,baz=222,slow=41						
PMSA	Palmer Station	30.92	174	P	P	07 37 37.9	0.0
	comp=Z,25nm,0.8s,baz=355,slow=9.2,SNR=6.9						
HOPE	Hope Point	31.78	140	P	P	07 37 46.0	+0.4
	comp=Z,557nm,0.9s,SNR=7.7						
HOPE	Hope Point	31.78	140	eP	P	07 37 46.1	+0.4
	comp=Z,52nm,0.9s						
OTAV	Otavalo	34.87	348	eP	P	07 38 14.3	+0.9
	comp=Z,45nm,1.2s						
PTGA	Pitinga	35.15	21	P	P	07 38 14.9	-0.4
	comp=Z,47nm,0.8s,baz=204,slow=10.0,SNR=61						
PTGA				PcP	PcP	07 40 46.9	+0.6
	comp=Z,9.2nm,0.8s,baz=343,slow=20,SNR=3.1						
PTGA				LR	LR	07 54 36.4	
	comp=Z,727nm,18.6s,baz=155,slow=40						
PTGA	Pitinga	35.15	21	P	P	07 38 14.9	-0.4
	comp=Z,17nm,0.8s						
PTGA				ePcP	PcP	07 40 46.9	+0.6
PAYG	Puerto Ayora	37.61	329	eP	P	07 38 37.1	+0.7
	comp=Z,83nm,1.0s						
ROSC	El Rosal	38.97	356	P	P	07 38 49.3	+1.0
	comp=Z,15nm,0.6s,baz=153,slow=2.4,SNR=23						
ROSC				PcP	PcP	07 40 58.7	+0.4
	comp=Z,9.7nm,0.7s,baz=102,slow=17,SNR=4.5						
RCBR	Riachuelo	43.62	58	P	P	07 39 26.1	0.0
	comp=Z,14nm,0.7s,baz=218,slow=11,SNR=10.0						
RCBR				PcP	PcP	07 41 13.3	+0.1
	comp=Z,18nm,0.9s,baz=198,slow=3.9,SNR=5.0						
BCIP	Isla Barro Col	43.84	349	eP	P	07 39 28.0	+0.3
	comp=Z,46nm,0.9s						
JTS	JuntasAbangare	46.02	342	⇓iP	P	07 39 45.5	+0.4
JTS				pmax	pmax		
	comp=Z,32nm,1.0s						
JTS	JuntasAbangare	46.02	342	eP	P	07 39 45.7	+0.6
	comp=Z,29nm,0.9s						
JTS				ePcP	PcP	07 41 21.1	-0.2
VNA3	Neumayer Olymp	49.06	158	P	P	07 40 08.8	+0.7
VNA1	Neumayer--Stat	49.37	157	P	P	07 40 11.8	+1.4
VNA2	Neumayer--Watz	49.71	157	P	P	07 40 13.9	+0.8
SNAA	Sanae	51.28	158	P	P	07 40 25.8	+0.8
SNAA	Sanae	51.28	158	⇓iP	P	07 40 25.6	+0.6
SNAA				AMB	AMB	07 40 26.3	
	comp=Z,198nm,1.0s						
SNAA	Sanae	51.28	158	diP	P	07 40 25.8	+0.8
SNAA				pmax	pmax		
	comp=Z,224nm,1.1s						
SNAA	Sanae	51.28	158	P	P	07 40 25.6	+0.6
	comp=Z,68nm,0.8s,baz=281,slow=7.5,SNR=122						
SNAA	Sanae	51.28	158	eP	P	07 40 25.5	+0.5
	comp=Z,195nm,0.9s						
APG	El Apazote	52.10	337	LR	LR	07 58 06.7	
	comp=Z,305nm,20.0s,baz=120,slow=31						
CRPR	Cabo Rojo, PR	52.16	6	eP	P	07 40 31.0	-1.0
	comp=Z,77nm,0.9s						
OBIP	Obispado Ponce	52.24	6	eP	P	07 40 31.6	-0.9
	comp=Z,78nm,0.9s						
CELP	Cerrillos	52.27	6	eP	P	07 40 32.1	-0.8
LSP	Las Mesas	52.33	6	eP	P	07 40 32.4	-0.9
LRS	Lares	52.47	6	eP	P	07 40 33.0	-1.3
LRS				ePcP	PcP	07 41 44.9	+0.2
CBYP	Canovanas	52.54	7	eP	P	07 40 33.5	-1.4
	comp=Z,30nm,0.9s						
SDDR	Presa de Saban	52.94	1	eP	P	07 40 37.3	-0.5
	comp=Z,15nm,0.8s						
SDDR				ePcP	PcP	07 41 47.4	+0.9
SMN1	Samana, DR	53.20	3	eP	P	07 40 38.5	-1.3
CMIG	Matias Romero	55.58	333	LR	LR	07 59 54.3	
	comp=Z,214nm,18.7s,baz=152,slow=31						
RKT	Rikitea	55.73	264	eS	S	07 48 41.5	-1.1
RKT				eLR	LR	07 57 01.0	
	comp=Z,498nm,31.3s						
RKT	Rikitea	55.73	264	eT	T	08 40 45.4	
	comp=Z,741nm,29.5s						
RKT	Rikitea	55.73	264	eT	T	08 40 45.4	
	comp=Z,3.1nm,0.2s						
NVL	N'lazarevskaya	56.02	157	⇑iP	P	07 40 59.5	-0.1
NVL				eS	S	07 48 44.0	-1.2
NVL				pmax	pmax		
	comp=Z,167nm,0.9s						
VNDA	Vanda	63.89	191	P	P	07 41 54.9	+1.4
VNDA				pmax	pmax		
	comp=Z,20nm,1.1s						
VNDA	Vanda	63.89	191	P	P	07 41 54.9	+1.4
	comp=Z,20nm,1.1s,baz=128,slow=6.7,SNR=28						
035Z	Hargill	65.31	334	⇑P	P	07 42 04.5	+1.2
	baz=66						
SYO	Syowa Base	65.57	158	⇓iP	P	07 42 03.5	-1.0
035A	Encino	65.76	334	⇓P	P	07 42 07.3	+1.1
	baz=66,SNR=22						
034A	Hebbronville	66.08	334	⇓P	P	07 42 09.3	+1.0
	baz=66,SNR=29						
TIGA	Tifton	66.28	349	⇑P	P	07 42 10.8	+1.4
	baz=67						
934A	Benavides	66.51	334	⇓P	P	07 42 12.2	+1.2
	baz=67,SNR=12						
738A	Farr-Stevens R	66.68	337	⇓P	P	07 42 13.2	+1.2
	baz=67						
933A	Laredo	66.80	334	⇓P	P	07 42 13.5	+0.7
	baz=67,SNR=26						
835A	Beeville	66.89	335	⇑P	P	07 42 15.0	+1.5
	baz=67,SNR=9.8						
834A	Tilden	67.00	334	⇓P	P	07 42 15.3	+1.1
	baz=67,SNR=44						
735A	Kenedy	67.41	335	⇓P	P	07 42 17.8	+1.1
	baz=68,SNR=24						
TBI	Tubuai	67.43	256	eP	P	07 42 18.0	+0.8
	comp=Z,198nm,1.1s						
TBI	Tubuai	67.43	256	eT	T	08 55 22.8	
	comp=Z,11nm,0.3s						
833A	Chaparral WMA,	67.49	334	⇑P	P	07 42 17.9	+0.7
	baz=68,SNR=44						
734A	La Parita Cree	67.66	335	⇑P	P	07 42 19.0	+0.6
	baz=68,SNR=8.3						
832A	Faith Ranch, C	67.67	333	⇑P	P	07 42 18.7	+0.3
	baz=68,SNR=41						
636A	Smothers Creek	67.73	336	⇓P	P	07 42 19.9	+1.2
	baz=68,SNR=45						
HKT	Hockley	67.77	338	eP	P	07 42 19.3	+0.4
HKT				pmax	pmax		
	comp=Z,28nm,1.1s						
HKT	Hockley	67.77	338	eP	P	07 42 19.3	+0.4
	comp=Z,28nm,1.1s						
733A	Divot King Ran	67.81	334	⇑P	P	07 42 19.6	+0.4
	baz=68,SNR=13						
635A	Leesville	67.88	336	⇓P	P	07 42 19.9	+0.2
	baz=68						
538A	Harpers Horsep	67.91	338	⇓P	P	07 42 20.9	+1.0
	baz=68						
537A	Green Hill Far	68.04	337	⇓P	P	07 42 21.7	+1.0
	baz=68,SNR=19						
732A	Laxson Ranch,	68.07	333	⇓P	P	07 42 21.2	+0.3
	baz=68						
634A	China Grove, S	68.08	335	⇓P	P	07 42 21.3	+0.3
	baz=68						
GOGA	Godfrey	68.19	350	eP	P	07 42 20.6	-1.0
GOGA				pmax	pmax		
	comp=Z,25nm,1.0s						
GOGA	Godfrey	68.19	350	eP	P	07 42 20.6	-1.0
	comp=Z,25nm,1.0s						
536A	Bastrop	68.28	337	⇑P	P	07 42 22.8	+0.6
	baz=69,SNR=13						
438A	Sam Houston St	68.40	338	⇓P	P	07 42 23.7	+0.8
	baz=69,SNR=29						
535A	Dale	68.40	336	⇓P	P	07 42 23.3	+0.3
	baz=69,SNR=27						
LRAL	Lakeview Retre	68.44	346	eP	P	07 42 22.4	-0.6
	comp=Z,32nm,0.9s						
633A	Saathoff Ranch	68.44	334	⇓P	P	07 42 23.5	+0.2
	baz=69,SNR=32						
340A	Bronson	68.55	340	⇑P	P	07 42 24.3	+0.5
	baz=69,SNR=26						
339A	Huntington	68.67	339	⇑P	P	07 42 25.2	+0.6
	baz=69,SNR=15						
437A	Phantom Ranch,	68.68	338	⇓P	P	07 42 25.4	+0.7
	baz=69						
632A	Uvalde	68.70	334	⇓P	P	07 42 25.4	+0.5
	baz=69,SNR=37						
534A	Blanco	68.71	335	⇑P	P	07 42 24.6	-0.3
	baz=69,SNR=12						
436A	Wall Ranch, Ga	68.83	337	⇓P	P	07 42 26.0	+0.4
	baz=69						
631A	Perdido Creek	68.91	333	⇑P	P	07 42 26.1	-0.1
	baz=69,SNR=22						
338A	Crockett	68.91	339	⇑P	P	07 42 26.9	+0.9
	baz=69,SNR=14						
533A	Kerrville	68.95	335	⇓P	P	07 42 26.6	+0.2
	baz=69,SNR=58						
MEH	Mehetia	68.99	262	eT	T	08 57 20.2	
	comp=Z,68nm,0.2s						
337A	Centerville	69.05	338	⇑P	P	07 42 28.1	+1.2
	baz=69,SNR=15						
NATX	Nacogdoches	69.09	339	eP	P	07 42 27.7	+0.5
	comp=Z,113nm,1.1s						
435B	Jarrell	69.10	336	⇓P	P	07 42 27.9	+0.6
	baz=69,SNR=14						
239A	Gary	69.28	340	⇓P	P	07 42 28.9	+0.6
	baz=70,SNR=11						
532A	Rocksprings	69.31	334	⇑P	P	07 42 29.2	+0.6
	baz=70,SNR=86						
434A	Burnet	69.36	336	⇓P	P	07 42 29.0	+0.1
	baz=70,SNR=53						
CNNC	Cliffs of the	69.36	355	eP	P	07 42 28.9	+0.1
	comp=Z,48nm,0.9s						
336A	Riesel	69.42	337	⇑P	P	07 42 29.6	+0.4
	baz=70,SNR=27						
238A	Jacksonville	69.46	339	⇓P	P	07 42 30.0	+0.5
	baz=70						
335A	Moody	69.51	337	⇓P	P	07 42 30.4	+0.6
	baz=70,SNR=14						
531A	Rocksprings	69.58	334	⇑P	P	07 42 30.8	+0.4
	baz=70,SNR=33						
433A	Art	69.59	335	⇓P	P	07 42 30.3	-0.1
	baz=70,SNR=64						
JCT	Junction City	69.59	334	eP	P	07 42 30.3	-0.1
JCT				pmax	pmax		
	comp=Z,69nm,0.9s						
JCT	Junction City	69.59	334	⇓P	P	07 42 30.5	+0.2
	baz=70,SNR=54						
JCT	Junction City	69.59	334	eP	P	07 42 30.3	-0.1
	comp=Z,69nm,0.9s						
KMSC	Kings Mountain	69.61	352	⇑P	P	07 42 29.8	-0.5
	baz=70,SNR=6.3		

baz=71,SNR=25
430A **Baggett Ranch,** 70.39 333 ⇑P P 07 42 35.4 +0.1
baz=71,SNR=41
234A **Clairette** 70.41 336 ⇓P P 07 42 35.3 0.0
baz=71,SNR=38
TKL **Tuckaleechee C** 70.44 350 *eP* P 07 42 34.5 -1.0
TKL **Tuckaleechee C** 70.44 350 *eP* P 07 42 34.5 -1.0
429A **Davenport Ranc** 70.49 333 ⇓P P 07 42 36.2 +0.2
baz=71,SNR=31
331A **San Angelo** 70.56 334 ⇓P P 07 42 36.2 -0.1
baz=71,SNR=46
233A **Rising Star** 70.68 336 ⇑P P 07 42 36.9 -0.1
baz=71,SNR=31
135A **Vickery Place,** 70.68 337 ⇑P P 07 42 36.6 -0.4
baz=71
232A **Coleman** 70.81 335 ⇓P P 07 42 37.7 -0.2
baz=71,SNR=21
134A **White-Moore Ra** 70.91 337 ⇓P P 07 42 38.0 -0.4
baz=71
330A **Mertzon** 70.92 334 ⇑P P 07 42 38.3 -0.2
baz=71,SNR=33
231A **Bronte** 71.09 335 ⇓P P 07 42 39.2 -0.3
baz=71,SNR=33
133A **Hamilton Ranch** 71.22 336 ⇑P P 07 42 40.3 0.0
baz=72,SNR=22
329A **Wagon Wheel Ra** 71.30 333 ⇑P P 07 42 40.8 0.0
baz=72,SNR=33
UALR **University of** 71.31 342 *eP* P 07 42 39.9 -0.8
comp=Z,28nm,0.9s
230A **Sterling City** 71.34 334 ⇑P P 07 42 40.6 -0.4
baz=72,SNR=12
Z35A **Perchaven, San** 71.34 338 ⇑P P 07 42 41.1 +0.1
baz=72,SNR=34
MIAR **Mount Ida** 71.41 341 *eP* P 07 42 40.8 -0.5
MIAR pmax pmax
comp=Z,48nm,1.4s
MIAR **Mount Ida** 71.41 341 *eP* P 07 42 40.8 -0.5
comp=Z,48nm,1.4s
ABTX **Abilene, Hawle** 71.48 335 ⇑P P 07 42 42.0 +0.1
baz=72,SNR=22
ABTX **Abilene, Hawle** 71.48 335 *eP* P 07 42 41.7 -0.2
comp=Z,69nm,1.0s
Z34A **Collier Ranch,** 71.59 337 ⇑P P 07 42 42.4 -0.1
baz=72,SNR=23
WVT **Waverly** 71.60 346 *eP* P 07 42 42.1 -0.3
WVT pmax pmax
comp=Z,158nm,0.8s
WVT **Waverly** 71.60 346 *eP* P 07 42 42.1 -0.3
comp=Z,158nm,0.8s
229A **Bryant Ranch,** 71.66 333 ⇓P P 07 42 42.9 -0.2
baz=72,SNR=19
HALT **Halls** 71.69 345 *eP* P 07 42 42.4 -0.6
131A **Roby** 71.79 335 ⇑P P 07 42 43.7 -0.1
baz=72,SNR=13
Z33A **Whitaker Ranch** 71.79 336 ⇓P P 07 42 43.6 0.0
baz=72,SNR=28
JSRW **J. Sargeant Re** 71.80 355 *eP* P 07 42 44.1 +0.5
130A **Snyder** 71.92 334 ⇑P P 07 42 44.2 -0.4
baz=72,SNR=14
Z32A **Haskell** 72.05 336 ⇑P P 07 42 45.2 0.0
baz=72,SNR=27
Y34A **Reagan Ranch,** 72.08 338 ⇑P P 07 42 45.1 -0.3
baz=72,SNR=21
228A **UT Block 9, Go** 72.09 333 ⇑P P 07 42 45.3 -0.3
baz=72,SNR=24
129A **Stewart Farms,** 72.28 334 ⇑P P 07 42 46.4 -0.3
baz=73,SNR=10
Z31A **Sharp Cattle R** 72.29 335 ⇑P P 07 42 46.5 -0.1
baz=73,SNR=20
Y33A **Hilltop Ranch,** 72.41 337 ⇓P P 07 42 47.1 -0.2
baz=73,SNR=7.6
128A **Castleberry Fa** 72.50 333 ⇓P P 07 42 48.0 0.0
baz=73,SNR=21
PARMO **Parma** 72.51 345 *eP* P 07 42 48.0 +0.1
Z30A **Sanderson Ranc** 72.60 335 ⇓P P 07 42 48.2 -0.4
baz=73,SNR=22
Y32A **R-V Farms, Ver** 72.67 336 ⇑P P 07 42 48.8 -0.1
baz=73,SNR=16
X34A **Smith Ranch, M** 72.70 338 ⇓P P 07 42 48.9 -0.2
baz=73
Z29A **Hungry Hill Ra** 72.79 334 ⇓P P 07 42 49.2 -0.5
baz=73,SNR=36
X33A **Lawton** 72.86 337 ⇓P P 07 42 49.2 -0.8
baz=73,SNR=9.8
MAW **Mawson** 72.89 163 P P 07 42 49.6 -0.2
MAW pmax pmax
comp=Z,48nm,0.9s
MAW **Mawson** 72.89 163 P P 07 42 49.6 -0.2
comp=Z,48nm,0.9s,baz=221,slow=9.6,SNR=3.5
Y31A **Rekieta Farm,** 72.91 336 ⇑P P 07 42 50.3 -0.1
baz=73,SNR=22
X32A **Elmer** 73.00 337 ⇓P P 07 42 50.6 -0.3
baz=73,SNR=14
Y30A **Stafford Cattl** 73.06 335 ⇑P P 07 42 51.1 -0.2
baz=73
Z28A **Tucker Farm, M** 73.06 334 ⇓P P 07 42 51.0 -0.4
baz=73,SNR=19
WMOK **Wichita Mounta** 73.13 337 *eP* P 07 42 50.9 -0.7
WMOK pmax pmax
comp=Z,69nm,1.6s
WMOK **Wichita Mounta** 73.13 337 *eP* P 07 42 50.9 -0.7
comp=Z,69nm,1.6s
W34A **Bridge Creek,** 73.27 338 ⇑P P 07 42 51.9 -0.5
baz=74,SNR=10.0
W34A **Bridge Creek,** 73.27 338 *eP* P 07 42 52.3 -0.2
comp=Z,56nm,1.1s
TUL1 **Leonard** 73.30 340 ⇑P P 07 42 52.2 -0.5
baz=74,SNR=18
TUL1 **Leonard** 73.30 340 *eP* P 07 42 52.0 -0.6
comp=Z,60nm,1.1s
Y29A **Porterfield Fa** 73.31 334 ⇑P P 07 42 52.6 -0.3
baz=74,SNR=28
USIN **University of** 73.34 347 *eP* P 07 42 51.7 -1.1
comp=Z,89nm,1.0s
WCI **Wyandotte Cave** 73.36 348 *eP* P 07 42 51.3 -1.6
WCI pmax pmax
comp=Z,27nm,1.1s
WCI **Wyandotte Cave** 73.36 348 *eP* P 07 42 51.3 -1.6
comp=Z,27nm,1.1s
SIUC **Southern Illin** 73.41 346 *eP* P 07 42 52.8 -0.4
comp=Z,56nm,0.9s
W33A **Caddo, Fort Co** 73.41 337 ⇑P P 07 42 53.6 +0.3
baz=74,SNR=37
X31A **McDonald Ranch** 73.42 336 ⇓P P 07 42 53.3 -0.1
baz=74,SNR=29
X30A **Coker Ranch, T** 73.56 335 ⇑P P 07 42 54.0 -0.3
baz=74,SNR=13
Y28A **McKinney Farm,** 73.57 334 ⇓P P 07 42 53.8 -0.5
baz=74
W32A **Sentinel** 73.63 337 ⇑P P 07 42 54.5 -0.1
baz=74,SNR=56
V34A **Guthrie** 73.74 338 ⇑P P 07 42 54.6 -0.6
baz=74
V34A **Guthrie** 73.74 338 *eP* P 07 42 54.6 -0.6
comp=Z,84nm,1.1s
MSTX **Muleshoe** 73.81 334 ⇓P P 07 42 55.5 -0.3
baz=74,SNR=33
MSTX **Muleshoe** 73.81 334 *eP* P 07 42 55.6 -0.3
comp=Z,53nm,0.9s
X29A **Tulia** 73.85 335 ⇑P P 07 42 55.8 -0.2
baz=74,SNR=14
Y27A **Causey** 73.88 333 ⇑P P 07 42 55.6 -0.7
baz=74,SNR=12
W31A **Holland Ranch,** 73.92 336 ⇑P P 07 42 56.1 -0.2
baz=74,SNR=11
V33A **Lossen Ranch,** 73.97 338 ⇓P P 07 42 56.4 -0.1
baz=74,SNR=22
X28A **Dimmitt** 74.09 334 ⇓P P 07 42 57.5 +0.1
baz=74,SNR=6.2
V32A **Arapaho** 74.11 337 ⇓P P 07 42 57.6 +0.2
baz=74,SNR=6.9
W30A **Crocket Farms** 74.13 336 ⇓P P 07 42 57.3 -0.3
baz=74
OLIL **Olney** 74.17 347 *eP* P 07 42 56.7 -0.9
comp=Z,39nm,1.1s
319A **Douglas** 74.21 327 ⇑P P 07 42 59.2 +1.0
baz=74,SNR=25
AMTX **Amarillo** 74.24 335 ⇓P P 07 42 58.2 -0.1
baz=75
AMTX **Amarillo** 74.24 335 *eP* P 07 42 57.9 -0.4
comp=Z,71nm,1.0s
U34A **Anderson Ranch** 74.31 339 ⇑P P 07 42 58.3 -0.2
baz=75,SNR=11
U34A **Anderson Ranch** 74.31 339 *eP* P 07 42 58.3 -0.2
comp=Z,50nm,1.0s
BLO **Bloomington** 74.31 348 *eP* P 07 42 57.7 -0.8
BLO pmax pmax
comp=Z,32nm,0.9s
BLO **Bloomington** 74.31 348 *eP* P 07 42 57.7 -0.8
comp=Z,32nm,0.9s
V31A **Spring Creek L** 74.42 337 ⇑P P 07 42 59.9 +0.6
baz=75,SNR=11
W29A **Amarillo** 74.44 335 ⇓P P 07 42 59.3 -0.1
baz=75,SNR=15
SLM **Saint Louis** 74.51 345 *eP* P 07 42 59.0 -0.6
SLM pmax pmax
comp=Z,85nm,0.9s
SLM **Saint Louis** 74.51 345 *eP* P 07 42 59.0 -0.6
comp=Z,85nm,0.9s
X27A **F and S Farms,** 74.54 334 ⇑P P 07 42 59.9 -0.1
baz=75,SNR=7.3
121A **Cookes Peak, D** 74.55 329 ⇑P P 07 43 01.1 +0.9
baz=75,SNR=41
121A **Cookes Peak, D** 74.55 329 *eP* P 07 43 00.9 +0.7
comp=Z,47nm,1.0s
SUR **Sutherland** 74.55 119 P P 07 43 02.7 +2.2
comp=Z,583nm,0.8s,SNR=9.6
SUR **Sutherland** 74.55 119 *eP* P 07 43 02.0 +1.5
comp=Z,75nm,0.9s
V30A **Spur Ranch, Mi** 74.69 336 ⇓P P 07 43 01.7 +0.8
baz=75,SNR=11
U32A **Winter Ranch,** 74.70 338 ⇓P P 07 43 00.8 -0.1
baz=75,SNR=19
X26A **CR and CF Fran** 74.72 333 ⇑P P 07 43 01.3 +0.2
baz=75,SNR=38
W28A **Vega** 74.76 335 ⇑P P 07 43 01.5 +0.2
baz=75
Y24A **Capitan** 74.79 332 ⇓P P 07 43 02.1 +0.5
baz=75,SNR=21
Z22A **Elephant Butte** 74.82 330 ⇑P P 07 43 02.3 +0.6
baz=75,SNR=20
ACSO **Alum Creek Sta** 74.83 351 *eP* P 07 43 00.6 -0.8
comp=Z,67nm,1.0s
W27A **Bowe Ranch, En** 74.90 334 ⇑P P 07 43 02.0 -0.1
baz=75,SNR=16
U31A **Nine Bar Ranch** 74.97 337 ⇓P P 07 43 02.5 +0.1
baz=75
X25A **Clemmons Ranch** 75.02 332 ⇓P P 07 43 02.6 -0.3
baz=75
V29A **Stinnett** 75.08 335 ⇑P P 07 43 03.1 0.0
baz=75
DBIC **Dimbokro** 75.09 71 *eP* P 07 43 04.0 +0.5
DBIC **Dimbokro** 75.09 71 *eP* P 07 43 04.1 +0.5
DBIC pmax pmax
comp=Z,26nm,0.7s
DBIC **Dimbokro** 75.09 71 P P 07 43 04.2 +0.6
comp=Z,33nm,0.7s,baz=208,slow=5.8,SNR=46
DBIC **Dimbokro** 75.09 71 *eP* P 07 43 04.1 +0.6
comp=Z,26nm,0.7s
T33A **Patterson Ranc** 75.12 338 ⇑P P 07 43 03.4 +0.2
baz=75,SNR=32
W26A **Owens Ranch, T** 75.18 333 ⇑P P 07 43 04.0 +0.2
baz=76,SNR=21
V28A **Channing** 75.21 335 ⇑P P 07 43 04.3 +0.4
baz=76,SNR=19
U30A **WK&E Inc. Balk** 75.38 336 ⇑P P 07 43 05.1 +0.4
baz=76,SNR=12
T32A **Huddler Ranch,** 75.42 338 ⇓P P 07 43 05.2 +0.3
baz=76,SNR=8.3
V27A **Dan Oppiter Fa** 75.44 334 ⇓P P 07 43 05.6 +0.4
baz=76,SNR=11
S33A **Kaszmaul Farm,** 75.52 339 ⇓P P 07 43 05.3 -0.2
baz=76
U29A **Oasis Ranch, S** 75.52 336 ⇑P P 07 43 05.6 0.0
baz=76
Y22D **IRIS PASSCAL I** 75.52 330 ⇓P P 07 43 05.7 0.0
baz=76
W25A **X Bar L Ranch,** 75.55 333 ⇓P P 07 43 06.0 +0.1
baz=76,SNR=20
T31A **Randall Ranch,** 75.58 337 ⇓P P 07 43 05.8 -0.1
baz=76
SFIN **Lafayette** 75.59 348 ⇓P P 07 43 05.8 +0.1
baz=76
SFIN **Lafayette** 75.59 348 *eP* P 07 43 03.5 -2.2
comp=Z,22nm,0.9s
LPM **Los Pinos Moun** 75.61 331 *eP* P 07 43 06.8 +0.5
comp=Z,18nm,0.9s
LENM **Lemitar** 75.62 330 *eP* P 07 43 07.5 +1.1
comp=Z,17nm,1.2s
TUC **Tucson** 75.68 327 *eP* P 07 43 07.6 +1.0
TUC pmax pmax
comp=Z,46nm,1.5s
TUC **Tucson** 75.68 327 *eP* P 07 43 07.6 +1.0
comp=Z,46nm,1.5s
U28A **Mallet** 75.78 335 ⇑P P 07 43 07.2 0.0
baz=76
T30A **Plains** 75.81 337 ⇑P P 07 43 07.2 0.0
baz=76
V26A **Tequesquite Ra** 75.81 334 ⇑P P 07 43 07.3 -0.1
baz=76,SNR=18
LAZ **Lazo** 75.89 330 *eP* P 07 43 08.9 +1.0
comp=Z,13nm,1.0s
S32A **Newby Ranch, P** 75.90 338 ⇑P P 07 43 07.9 +0.2
baz=76,SNR=11
W24A **Lazy 6 Ranch,** 75.91 332 ⇓P P 07 43 08.2 +0.2
baz=76,SNR=21
S31A **Mullinville** 75.99 338 ⇑P P 07 43 08.3 0.0
baz=76,SNR=11
U27A **Thompson Grove** 76.03 335 ⇑P P 07 43 08.8 +0.3
baz=76,SNR=14
ANMO **Albuquerque** 76.09 331 *dP* P 07 43 09.6 +0.5
ANMO pmax pmax
comp=Z,75nm,0.8s
ANMO **Albuquerque** 76.09 331 P P 07 43 09.8 +0.8
comp=Z,30nm,1.0s,baz=159,slow=7.5,SNR=63
ANMO **Albuquerque** 76.09 331 *eP* P 07 43 09.5 +0.5
comp=Z,36nm,1.1s
W23A **Werner Place,** 76.16 332 ⇑P P 07 43 10.3 +0.8
baz=76,SNR=9.1
T29A **Hugoton** 76.16 336 ⇑P P 07 43 09.3 +0.1
baz=76,SNR=11
V25A **Rancho No Teng** 76.16 333 ⇑P P 07 43 09.7 +0.3
baz=76,SNR=21
R33A **Olander Ranch,** 76.17 339 ⇓P P 07 43 09.0 -0.2
baz=76,SNR=9.2
V24A **Rampart Ranch,** 76.31 333 ⇑P P 07 43 10.5 +0.2
baz=77,SNR=15
214A **Organ Pipe Nat** 76.33 325 ⇓P P 07 43 11.2 +0.9
baz=77,SNR=20
214A **Organ Pipe Nat** 76.33 325 *eP* P 07 43 11.3 +1.1
comp=Z,39nm,1.1s
S30A **Montezuma** 76.33 337 ⇑P P 07 43 10.4 +0.3
baz=77,SNR=8.3
U26A **Atchley Ranch,** 76.33 334 ⇓P P 07 43 10.5 +0.1
baz=77,SNR=16
ERPA **Erie** 76.37 354 *eP* P 07 43 10.0 -0.2
comp=Z,47nm,1.1s
T28A **Walsh** 76.41 335 ⇑P P 07 43 10.8 +0.1
baz=77,SNR=35
R32A **Long Quarter,** 76.49 339 ⇓P P 07 43 11.2 +0.2
baz=77,SNR=20
KSU1 **Kansas State U** 76.51 340 ⇑P P 07 43 10.7 -0.4
baz=77,SNR=10
KSU1 **Kansas State U** 76.51 340 *eP* P 07 43 10.2 -0.9
comp=Z,36nm,0.9s
S29A **Ulysses** 76.52 336 ⇓P P 07 43 11.8 +0.5
baz=77,SNR=12
T27A **Campo** 76.56 335 ⇓P P 07 43 11.7 +0.1
baz=77,SNR=27
U25A **Circle Dot Ran** 76.58 333 ⇓P P 07 43 12.3 +0.5
baz=77,SNR=20
R31A **Burdett** 76.62 338 ⇓P P 07 43 11.8 0.0
baz=77,SNR=14
V23A **Ortiz Mt. (NFS** 76.68 332 ⇑P P 07 43 13.2 +0.8
baz=77,SNR=5.8
S28A **Manter** 76.76 336 ⇑P P 07 43 12.9 +0.3
baz=77,SNR=34
Q33A **Connelly Farm,** 76.77 339 ⇑P P 07 43 12.5 0.0
baz=77,SNR=8.0
R30A **Dighton** 76.85 337 ⇑P P 07 43 13.3 +0.2
baz=77,SNR=7.2
U24A **Moreno Valley** 76.92 333 ⇑P P 07 43 14.8 +1.0
baz=77,SNR=13
UPI **Upington** 76.96 115 *eP* P 07 43 15.2 +0.9
UPI AMB AMB 07 43 15.9
comp=Z,76nm,1.1s
UPI **Upington** 76.96 115 P P 07 43 15.2 +0.9
comp=Z,76nm,1.1s
Q32A **Meitler Ranch,** 76.97 339 ⇓P P 07 43 13.8 +0.1
baz=77,SNR=17
T26A **Comanche Natio** 76.97 334 ⇓P P 07 43 14.5 +0.5
baz=77,SNR=12
V22A **San Miguel Ran** 77.11 331 ⇑P P 07 43 16.1 +1.2
baz=77,SNR=66
P33A **Williams Farm,** 77.13 340 ⇑P P 07 43 14.5 -0.1
baz=78
X18A **Snowflake** 77.18 328 ⇓P P 07 43 16.3 +1.1
baz=78,SNR=19
S27A **Las Animas** 77.18 335 ⇓P P 07 43 15.1 0.0
baz=78
U23A **El Rito** 77.19 332 ⇓P P 07 43 16.5 +1.2
baz=78,SNR=24
T25A **Trinidad** 77.24 334 ⇑P P 07 43 16.5 +1.0
baz=78,SNR=55
Q31A **Ellis** 77.24 338 ⇓P P 07 43 15.5 +0.2
baz=78,SNR=20
R29A **Marienthal** 77.26 337 ⇓P P 07 43 15.7 +0.3
baz=78,SNR=8.6
S26A **Kim** 77.33 335 ⇑P P 07 43 16.7 +0.8
baz=78,SNR=52
R28A **Tribune** 77.41 336 ⇑P P 07 43 16.5 +0.3
baz=78,SNR=24
113A **Mohawk Valley,** 77.45 325 ⇑P P 07 43 17.2 +0.7
baz=78,SNR=7.7
Q30A **Quinter** 77.47 338 ⇓P P 07 43 16.9 +0.3
baz=78,SNR=26
U22A **Llaves** 77.50 332 ⇑P P 07 43 18.2 +1.2
baz=78,SNR=22
T24B **San Luis** 77.53 333 ⇑P P 07 43 18.2 +1.0
baz=78,SNR=20
Z14A **Wintersburg** 77.55 326 ⇑P P 07 43 17.8 +0.7
baz=78
P32A **Huiting Farm,** 77.57 339 ⇑P P 07 43 17.2 +0.2
baz=78,SNR=10
W18A **Petrified Fore** 77.59 329 ⇑P P 07 43 18.4 +0.9
baz=78,SNR=15
W18A **Petrified Fore** 77.59 329 *eP* P 07 43 18.6 +1.1
comp=Z,80nm,1.2s
Q29A **Oakley** 77.63 337 ⇓P P 07 43 17.6 +0.1
baz=78,SNR=15
R27A **Eads** 77.69 336 ⇑P P 07 43 18.1 +0.2
baz=78,SNR=47
P31A **Stockton** 77.71 339 ⇓P P 07 43 18.0 +0.2
baz=78,SNR=20
S25A **Robets Cordova** 77.71 334 ⇑P P 07 43 18.7 +0.6
baz=78
X16A **Lo Mia Camp, P** 77.75 327 ⇑P P 07 43 19.4 +1.0
baz=78,SNR=56
T23A **Casias Ranch,** 77.75 333 ⇑P P 07 43 19.1 +0.6
baz=78,SNR=10
R26A **Arlington** 77.93 335 ⇓P P 07 43 19.5 +0.3
baz=78,SNR=27
S24A **Houchin Ranch,** 77.98 333 ⇓P P 07 43 20.9 +1.2
baz=78
P30A **Selden** 78.00 338 ⇑P P 07 43 19.8 +0.3
baz=78,SNR=8.1
Y14A **Wickenburg** 78.06 326 ⇑P P 07 43 20.8 +0.9
baz=78,SNR=11
O32A **Brockman Farm,** 78.06 340 ⇓P P 07 43 19.8 0.0
baz=78,SNR=10
Q28A **Sharon Springs** 78.06 337 ⇓P P 07 43 20.4 +0.5
baz=78,SNR=14
R25A **Fountain Ranch** 78.09 334 ⇓P P 07 43 20.6 +0.5
baz=78
GRM **Grahamstown** 78.13 122 *eP* P 07 43 21.4 +0.8
GRM AMB AMB 07 43 22.6
comp=Z,119nm,4.0s
GRM **Grahamstown** 78.13 122 P P 07 43 21.4 +0.8
GRM pmax pmax
comp=Z,119nm,4.0s
GRM **Grahamstown** 78.13 122 P P 07 43 21.4 +0.8
comp=Z,119nm,4.0s
GLA **Glamis** 78.19 324 *eP* P 07 43 21.6 +0.9
GLA pmax pmax
comp=Z,35nm,1.2s
GLA **Glamis** 78.19 324 ⇓P P 07 43 21.6 +0.9
baz=78
GLA **Glamis** 78.19 324 *eP* P 07 43 21.6 +0.9
comp=Z,35nm,1.2s
P29A **Atwood** 78.26 337 ⇑P P 07 43 21.4 +0.4
baz=79,SNR=9.4
O31A **Woolen Ranch,** 78.27 339 ⇑P P 07 43 21.2 +0.2
baz=79,SNR=14
KSCO **Kaye Shedlock'** 78.28 336 ⇑P P 07 43 21.8 +0.7
baz=79,SNR=10
KSCO **Kaye Shedlock'** 78.28 336 *eP* P 07 43 21.9 +0.8
comp=Z,54nm,0.9s
SCIA **State Center** 78.29 344 *eP* P 07 43 20.5 -0.5
comp=Z,58nm,0.9s
S23A **Nye Farm, Mont** 78.33 333 ⇓P P 07 43 22.4 +0.8
baz=79,SNR=8.2
R24A **Sanders Place,** 78.46 334 ⇑P P 07 43 23.2 +1.0
baz=79,SNR=52
P28A **Saint Francis** 78.50 337 ⇑P P 07 43 23.0 +0.7
baz=79,SNR=18
Q26A **Hugo** 78.51 335 ⇑P P 07 43 23.1 +0.7
baz=79,SNR=14
O30A **MW Ranch, Wils** 78.52 338 ⇓P P 07 43 22.8 +0.4
baz=79,SNR=12
N32A **Stulken Farm,** 78.53 340 ⇑P P 07 43 22.6 +0.2
baz=79
SWSC **Sam W. Stewart** 78.58 323 ⇓P P 07 43 23.9 +1.1
baz=79
JFWS **Jewell Farm** 78.62 346 *eP* P 07 43 22.3 -0.5
JFWS pmax pmax
comp=Z,53nm,1.1s
JFWS **Jewell Farm** 78.62 346 *eP* P 07 43 22.3 -0.5
comp=Z,53nm,1.1s
WUAZ **Wupatki** 78.64 328 ⇓P P 07 43 24.2 +0.9
baz=79,SNR=9.9
WUAZ **Wupatki** 78.64 328 *eP* P 07 43 24.4 +1.2
comp=Z,44nm,1.0s
S22A **4UR Ranch, Cre** 78.68 332 ⇓P P 07 43 24.2 +0.6
baz=79,SNR=20
R23A **Moffat** 78.69 333 ⇑P P 07 43 24.4 +0.8
baz=79
O29A **4D Ranch, Culb** 78.70 338 ⇓P P 07 43 23.7 +0.4
baz=79
Q25A **Bedland, Calha** 78.76 335 ⇑P P 07 43 24.4 +0.5
baz=79,SNR=6.6
P27A **Ficken Ranch,** 78.76 336 ⇑P P 07 43 24.4 +0.7
baz=79,SNR=6.1
N31A **Bailey Ranch,** 78.78 339 ⇑P P 07 43 24.2 +0.4
baz=79
MONP **Monument Peak,** 78.84 323 ⇓P P 07 43 25.2 +0.7
baz=79
MVCO **Mesa Verde** 78.87 331 ⇑P P 07 43 25.2 +0.6
baz=79,SNR=25
MVCO **Mesa Verde** 78.87 331 *eP* P 07 43 24.9 +0.3
comp=Z,41nm,1.1s
HVD **Gariep Dam** 78.88 119 *eP* P 07 43 26.0 +1.0
HVD AMB AMB 07 43 26.8
comp=Z,156nm,0.9s
HVD **Gariep Dam** 78.88 119 P P 07 43 26.0 +1.0
HVD pmax pmax
comp=Z,156nm,0.9s
HVD **Gariep Dam** 78.88 119 P P 07 43 26.0 +1.0
comp=Z,156nm,0.9s
PDMCI **Parker Dam,Lak** 78.89 325 ⇑P P 07 43 25.2 +0.8
baz=79
BC3 **Big Chuckawall** 78.99 324 ⇓P P 07 43 26.2 +1.0
baz=79,SNR=11
O28A **Krutsinger Ran** 79.01 337 ⇓P P 07 43 25.6 +0.5
baz=79,SNR=13
P26A **Davis Ranch, A** 79.02 336 ⇑P P 07 43 25.8 +0.5
baz=79,SNR=16
BGNE **Belgrade** 79.09 340 ⇑P P 07 43 25.5 0.0
baz=79,SNR=14
BGNE **Belgrade** 79.09 340 *eP* P 07 43 25.4 0.0
comp=Z,131nm,1.1s
N30A **Hueftle Ranch,** 79.09 339 ⇑P P 07 43 25.7 +0.2
baz=79
Q24A **Divide** 79.12 334 ⇓P P 07 43 26.6 +0.6
baz=79,SNR=17
IRM **Iron Mountain** 79.25 325 ⇓P P 07 43 27.5 +1.0
baz=80,SNR=17
P25A **Willow Gulch B** 79.26 335 ⇓P P 07 43 27.4 +0.8
baz=80,SNR=38
M31A **Lambtecht Ranc** 79.27 340 ⇓P P 07 43 26.9 +0.5
baz=80,SNR=15
N29A **Votaw Ranch, W** 79.28 338 ⇑P P 07 43 26.8 +0.3
baz=80
O27A **Beecher Island** 79.30 337 ⇑P P 07 43 27.5 +0.8
baz=80,SNR=9.9
Q23A **Hartsel** 79.32 334 ⇑P P 07 43 27.6 +0.4
baz=80
W13A **Hualapai Mount** 79.42 326 ⇑P P 07 43 28.6 +1.0
baz=80,SNR=26
PFO **Pinyon Flats O** 79.44 323 P P 07 43 29.9 +2.2
comp=Z,224nm,1.0s,SNR=12
PFO **Pinyon Flats O** 79.44 323 *eP* P 07 43 28.6 +0.9
PFO pmax pmax
comp=Z,41nm,0.9s
PFO **Pinyon Flats O** 79.44 323 ⇓P P 07 43 29.0 +1.3

		baz=80,SNR=14				
PFO	Pinyon Flats O	79.44 323	eP	P	07 43 28.6	+0.9
	comp=Z,41nm,0.9s					
N28A	Pribbeno Ranch	79.44 337	⇑P	P	07 43 28.0	+0.6
	baz=80,SNR=9.5					
NEE2	Needles Airpor	79.49 325	⇑P	P	07 43 28.6	+0.8
	baz=80,SNR=5.8					
P24A	Kohler Place,	79.53 335	⇑P	P	07 43 28.4	+0.4
	baz=80					
BELC	Belle Mtn. Jos	79.53 324	⇑P	P	07 43 29.2	+1.1
	baz=80					
O26A	Horse Wrangler	79.62 336	⇑P	P	07 43 29.4	+1.0
	baz=80,SNR=16					
PV01	Paradox Valley	79.70 331	eP	P	07 43 30.0	+0.9
	comp=Z,2μm,0.9s					
M30A	Dale-Ortello V	79.71 339	⇑P	P	07 43 29.1	+0.3
	baz=80					
P23A	Jefferson	79.74 334	⇓P	P	07 43 30.1	+0.7
	baz=80,SNR=11					
CASY	Casey	79.77 181	eP	P	07 43 29.6	+0.6
	comp=Z,128nm,1.4s					
O25A	Wiggins	79.78 335	⇓P	P	07 43 30.2	+0.9
	baz=80,SNR=5.1					
BOSA	Boshof	79.80 118	⇓iP	P	07 43 30.6	+0.6
BOSA			AMB	AMB	07 43 31.3	
	comp=Z,114nm,1.0s					
BOSA	Boshof	79.80 118	eP	P	07 43 30.5	+0.6
BOSA			pmax	pmax		
	comp=Z,109nm,0.9s					
BOSA	Boshof	79.80 118	P	P	07 43 30.7	+0.8
	comp=Z,91nm,0.8s,baz=238,slow=4.5,SNR=96					
BOSA	Boshof	79.80 118	eP	P	07 43 30.5	+0.6
	comp=Z,109nm,0.9s					
MURC	Murrieta	79.80 323	⇓P	P	07 43 30.5	+1.0
	baz=80,SNR=11					
U15A	North Rim	79.81 328	⇓P	P	07 43 30.6	+0.9
	baz=80,SNR=33					
OGNE	Ogallala	79.83 337	⇓P	P	07 43 30.2	+0.6
	baz=80,SNR=8.2					
OGNE	Ogallala	79.83 337	eP	P	07 43 29.7	+0.1
	comp=Z,44nm,1.2s					
OGNE			ePP	PP	07 46 31.5	-0.2
M29A	Burnside Ranch	79.87 338	⇑P	P	07 43 30.2	+0.5
	baz=80					
N27A	Anderson Farm,	79.87 337	⇑P	P	07 43 30.6	+0.8
	baz=80,SNR=11					
LDFC	Landfair	79.98 325	eP	P	07 43 31.0	+0.5
	comp=Z,27nm,0.8s					
L31A	Butterfield Fa	79.99 340	⇑P	P	07 43 30.7	+0.3
	baz=80,SNR=35					
SCI	San Clemente I	80.00 322	⇓P	P	07 43 32.3	+1.8
	baz=80					
GMRC	Granite Mounta	80.00 325	⇓P	P	07 43 31.7	+1.0
	baz=80,SNR=19					
ISCO	Idaho Springs	80.03 334	eP	P	07 43 31.3	+0.4
ISCO			pmax	pmax		
	comp=Z,24nm,1.0s					
ISCO	Idaho Springs	80.03 334	⇓P	P	07 43 31.4	+0.5
	baz=80,SNR=20					
ISCO	Idaho Springs	80.03 334	eP	P	07 43 31.3	+0.4
	comp=Z,24nm,1.0s					
M28A	Bar X Bar Ranc	80.03 338	⇑P	P	07 43 31.1	+0.4
	baz=80					
L30A	Spencer Herefo	80.04 339	⇓P	P	07 43 31.2	+0.6
	baz=80,SNR=9.5					
PV04	Paradox Valley	80.05 331	eP	P	07 43 31.4	+0.5
N26A	Koester Ranch,	80.12 336	⇑P	P	07 43 32.1	+1.0
	baz=80,SNR=11					
O24A	Longmont	80.12 335	⇑P	P	07 43 31.8	+0.6
	baz=80,SNR=9.1					
BBRC	Big Bear Solar	80.19 323	⇓P	P	07 43 32.6	+0.7
	baz=80					
CIS	Catalina Islan	80.26 322	⇑P	P	07 43 33.7	+1.7
	baz=80					
P22A	Eagle	80.27 333	⇓P	P	07 43 33.0	+0.8
	baz=81,SNR=17					
HEC	Hector,Ludlow	80.36 324	⇑P	P	07 43 33.8	+1.2
	baz=81,SNR=16					
L29A	Maesberg Ranch	80.37 339	⇑P	P	07 43 32.9	+0.5
	baz=81,SNR=6.6					
N25A	Grover	80.39 336	⇓P	P	07 43 33.5	+0.8
	baz=81					
M27A	Reverse DX Ran	80.47 337	⇑P	P	07 43 33.8	+0.8
	baz=81					
O23A	Lake Granby, G	80.50 334	⇓P	P	07 43 34.3	+0.8
	baz=81,SNR=44					
BFSC	Mount Baldy Ra	80.54 323	⇓P	P	07 43 34.5	+0.9
	baz=81,SNR=11					
SWZ	Schweizer	80.64 116	eP	P	07 43 34.6	+0.1
SWZ			AMB	AMB	07 43 35.4	
	comp=Z,61nm,1.0s					
SWZ	Schweizer	80.64 116	P	P	07 43 34.6	+0.1
	comp=Z,61nm,1.0s					
TUQ	Turquoise Moun	80.66 325	⇑P	P	07 43 35.2	+1.0
	baz=81					
K30A	Basset	80.67 340	⇑P	P	07 43 34.1	+0.1
	baz=81,SNR=35					
N24A	Carr	80.68 335	⇑P	P	07 43 35.1	+0.9
	baz=81,SNR=10					
O22A	Kremmling	80.69 334	⇑P	P	07 43 35.0	+0.5
	baz=81,SNR=27					
RRX	Edison Barstow	80.73 324	⇑P	P	07 43 35.6	+1.1
	baz=81					
MWC	Mount Wilson	80.73 323	eP	P	07 43 35.4	+0.7
MWC			pmax	pmax		
	comp=Z,31nm,1.0s					
MWC	Mount Wilson	80.73 323	eP	P	07 43 35.4	+0.7
	comp=Z,31nm,1.0s					
PASC	Pasadena Art C	80.75 323	eP	P	07 43 35.9	+1.3
	comp=Z,47nm,1.1s					
ECSD	EROS Data Cent	80.84 342	⇑P	P	07 43 34.7	-0.1
	baz=81,SNR=47					
ECSD	EROS Data Cent	80.84 342	eP	P	07 43 34.4	-0.5
	comp=Z,80nm,0.9s					
DECC	Green Verdugo	80.89 323	⇑P	P	07 43 36.5	+1.2
	baz=81,SNR=7.7					
M25A	Palm-Egli Farm	80.94 336	⇑P	P	07 43 36.3	+0.7
	baz=81					
L27A	T5 Ranch, Ells	80.95 338	⇑P	P	07 43 36.5	+0.9
	baz=81,SNR=16					
K29A	Lazy Trails An	80.96 339	⇓P	P	07 43 36.2	+0.7
	baz=81,SNR=21					
GSC	Goldstone, Bar	80.97 324	eP	P	07 43 37.0	+1.2
GSC			pmax	pmax		
	comp=Z,23nm,1.0s					
GSC	Goldstone, Bar	80.97 324	⇓P	P	07 43 37.1	+1.2
	baz=81,SNR=11					
GSC	Goldstone, Bar	80.97 324	eP	P	07 43 37.0	+1.2
	comp=Z,23nm,1.0s					
N23A	Red Feather La	81.11 335	⇑P	P	07 43 37.5	+0.8
	baz=81,SNR=12					
L26A	Underwood Farm	81.16 337	⇑P	P	07 43 37.5	+0.8
	baz=82					
SHPR	Sheep Range	81.17 326	eP	P	07 43 37.9	+1.0
	comp=Z,52nm,1.0s					
SHOC	Shoshone, Teco	81.20 325	⇑P	P	07 43 37.8	+0.9
	baz=82					
CCUT	Cedar City	81.21 328	eP	P	07 43 38.8	+1.6
	comp=Z,36nm,1.0s					
N22A	Wattenberg Ran	81.22 334	⇑P	P	07 43 38.2	+1.0
	baz=82,SNR=19					
EDW2	Edwards Air Fo	81.22 323	⇓P	P	07 43 38.0	+0.9
	baz=82,SNR=13					
M24A	Cheyenne	81.23 336	⇑P	P	07 43 38.1	+0.9
	baz=82,SNR=13					
K28A	Ten Mile Ranch	81.23 338	⇑P	P	07 43 38.1	+1.1
	baz=82,SNR=31					
J30A	Dallas	81.24 340	⇓P	P	07 43 36.9	0.0
	baz=82,SNR=22					
O20A	White River Ci	81.30 333	⇑P	P	07 43 38.1	+0.5
	baz=82,SNR=14					
O20A	White River Ci	81.30 333	eP	P	07 43 38.0	+0.4
	comp=Z,23nm,0.9s					
SRU	San Rafael Swe	81.32 331	eP	P	07 43 38.0	+0.3
SRU			pmax	pmax		
	comp=Z,26nm,0.9s					
SRU	San Rafael Swe	81.32 331	eP	P	07 43 38.0	+0.3
	comp=Z,26nm,0.9s					
BSC	Santa Cruz Isl	81.35 321	⇑P	P	07 43 38.2	+0.4
	baz=82					
SPMN	Marine on St.	81.36 345	⇓P	P	07 43 36.7	-0.8
	baz=82,SNR=14					
SPMN	Marine on St.	81.36 345	eP	P	07 43 36.6	-0.8
	comp=Z,46nm,1.0s					
ARUT	Antelope Range	81.44 328	eP	P	07 43 39.6	+1.2
ARUT			pmax	pmax		
	comp=Z,2μm,1.6s					
ARUT	Antelope Range	81.44 328	eP	P	07 43 39.6	+1.2
	comp=Z,2μm,1.6s					
K27A	Flueckinger Fa	81.49 338	⇑P	P	07 43 39.3	+0.9
	baz=82,SNR=28					
MVU	Marysvale	81.51 329	eP	P	07 43 39.8	+1.0
	comp=Z,22nm,1.1s					
M23A	Laramie	81.54 335	⇑P	P	07 43 39.4	+0.6
	baz=82,SNR=5.5					
LRMC	Laurel Mtn Rad	81.54 324	⇑P	P	07 43 39.6	+0.7
	baz=82					
J29A	Okreek	81.55 339	⇓P	P	07 43 38.9	+0.3
	baz=82,SNR=59					
L25A	Engebretsen Ra	81.55 336	⇓P	P	07 43 39.5	+0.7
	baz=82,SNR=5.3					
SEK	Senekal	81.69 118	eP	P	07 43 40.9	+0.8
SEK			AMB	AMB	07 43 41.4	
	comp=Z,104nm,1.2s					
SEK	Senekal	81.69 118	P	P	07 43 40.9	+0.8
	comp=Z,104nm,1.2s					
TMUT	Trail Mountain	81.76 330	eP	P	07 43 40.1	-0.1
	comp=Z,33nm,1.1s					
I30A	Oacoma	81.76 340	⇓P	P	07 43 39.3	-0.4
	baz=82,SNR=28					
L24A	Wheatland	81.78 336	⇑P	P	07 43 40.5	+0.5
	baz=82,SNR=11					
K26A	Motz Farm, Whi	81.79 337	⇑P	P	07 43 40.2	+0.3
	baz=82,SNR=5.5					
M22A	Cedar Creek Ra	81.80 334	⇓P	P	07 43 40.6	+0.3
	baz=82,SNR=10					
ARVC	Arvin	81.83 323	⇓P	P	07 43 41.3	+1.1
	baz=82					
J28A	Allard Ranch,	81.84 339	⇑P	P	07 43 40.4	+0.2
	baz=82,SNR=28					
N20A	Spence Gulch,	81.91 333	⇑P	P	07 43 41.2	+0.3
	baz=82,SNR=11					
J27A	Elkhorn Farm,	81.92 338	⇓P	P	07 43 41.5	+0.9
	baz=82,SNR=37					
K25A	Mack Ranch, Ha	81.93 337	⇓P	P	07 43 41.9	+1.1
	baz=82					
FURC	Furnace Creek,	81.94 325	⇓P	P	07 43 41.7	+1.0
	baz=82,SNR=6.4					
LBTB	Lobatse	82.04 115	⇓iP	P	07 43 42.5	+0.5
LBTB			AMB	AMB	07 43 43.2	
	comp=Z,85nm,1.1s					
LBTB	Lobatse	82.04 115	eP	P	07 43 42.4	+0.5
LBTB			pmax	pmax		
	comp=Z,106nm,1.0s					
LBTB	Lobatse	82.04 115	eP	P	07 43 42.4	+0.4
	comp=Z,106nm,1.0s					
ISA	Isabella, Lake	82.08 323	eP	P	07 43 42.5	+0.9
ISA			pmax	pmax		
	comp=Z,32nm,0.9s					
ISA	Isabella, Lake	82.08 323	⇓P	P	07 43 42.7	+1.1
	baz=82,SNR=23					
ISA	Isabella, Lake	82.08 323	eP	P	07 43 42.5	+0.9
	comp=Z,32nm,0.9s					
L23A	Garrett	82.11 335	⇑P	P	07 43 42.0	+0.2
	baz=82,SNR=11					
I29A	Vivian Onida	82.11 340	⇓P	P	07 43 41.4	-0.2
	baz=82,SNR=16					
BRSD	Miller	82.12 341	⇓P	P	07 43 41.3	-0.3
	baz=82,SNR=20					
BRSD	Miller	82.12 341	eP	P	07 43 41.1	-0.4
	comp=Z,85nm,0.9s					
DAC	Darwin (Calif)	82.14 324	eP	P	07 43 42.9	+0.8
DAC			pmax	pmax		
	comp=Z,32nm,1.0s					
DAC	Darwin (Calif)	82.14 324	eP	P	07 43 42.9	+0.8
	comp=Z,32nm,1.0s					
PRYS	Parys	82.28 117	eP	P	07 43 43.0	-0.2
PRYS			AMB	AMB	07 43 44.6	
	comp=Z,32nm,2.1s					
PRYS	Parys	82.28 117	P	P	07 43 43.0	-0.2
	comp=Z,32nm,2.1s					
L22A	Ellis Ranch, M	82.29 335	⇓P	P	07 43 43.5	+0.7
	baz=83,SNR=9.3					
J26A	Sides Ranch, S	82.30 338	⇑P	P	07 43 43.6	+0.9
	baz=83,SNR=25					
I28A	Midland	82.34 339	⇓P	P	07 43 43.1	+0.3
	baz=83,SNR=57					
K24A	Anderson Ranch	82.34 336	⇓P	P	07 43 43.6	+0.7
	baz=83,SNR=19					
VES	Vestal, Richgr	82.52 323	⇑P	P	07 43 44.6	+0.8
	baz=83,SNR=18					
MPU	Maple Canyon	82.54 330	eP	P	07 43 44.4	+0.3
	comp=Z,40nm,1.0s					
KSR	Koster	82.54 116	eP	P	07 43 44.8	+0.2
KSR			AMB	AMB	07 43 46.3	
	comp=Z,29nm,1.1s					
KSR	Koster	82.54 116	P	P	07 43 44.8	+0.2
	comp=Z,29nm,1.1s					
SMMC	Simmler	82.57 322	⇑P	P	07 43 45.5	+1.4
	baz=83,SNR=7.0					
J25A	Sunshine Ranch	82.61 337	⇓P	P	07 43 44.7	+0.4
	baz=83,SNR=17					
GRAC	Grapevine Rang	82.61 325	⇑P	P	07 43 45.4	+1.1
	baz=83,SNR=6.6					
WDLM	Western Deep L	82.61 117	eP	P	07 43 45.3	+0.3
WDLM			AMB	AMB	07 43 46.0	
	comp=Z,35nm,1.0s					
H29A	Onida	82.64 340	⇓P	P	07 43 44.1	-0.2
	baz=83,SNR=48					
K23A	Bowen Ranch, D	82.65 336	⇑P	P	07 43 44.9	+0.4
	baz=83,SNR=24					
I27A	Quinn	82.67 339	⇑P	P	07 43 44.8	+0.3
	baz=83,SNR=25					
NLU	North Lily Min	82.67 330	eP	P	07 43 44.7	-0.1
	comp=Z,38nm,1.4s					
DAU	Daniels Canyon	82.72 331	eP	P	07 43 45.9	+0.7
DAU			pmax	pmax		
	comp=Z,24nm,0.9s					
DAU	Daniels Canyon	82.72 331	eP	P	07 43 45.9	+0.7
	comp=Z,24nm,0.9s					
KLOF	Kloof	82.79 117	eP	P	07 43 46.4	+0.5
KLOF			AMB	AMB	07 43 47.0	
	comp=Z,54nm,0.9s					
KLOF	Kloof	82.79 117	P	P	07 43 46.4	+0.5
	comp=Z,54nm,0.9s					
G30A	Faulkton	82.81 341	⇑P	P	07 43 44.9	-0.2
	baz=83,SNR=28					
J24A	Dixon Ranch, L	82.83 336	⇓P	P	07 43 46.2	+0.7
	baz=83,SNR=15					
K22A	Casper	82.86 335	⇓P	P	07 43 46.3	+0.6
	baz=83,SNR=16					
K22A	Casper	82.86 335	eP	P	07 43 46.0	+0.3
	comp=Z,41nm,0.9s					
R11A	Troy Canyon, C	82.87 327	⇓P	P	07 43 47.2	+1.4
	baz=83,SNR=34					
R11A	Troy Canyon, C	82.87 327	eP	P	07 43 46.9	+1.1
	comp=Z,26nm,0.9s					
I26A	New Underwood	82.88 338	⇓P	P	07 43 45.9	+0.2
	baz=83,SNR=14					
H28A	Mission Ridge	82.92 339	⇓P	P	07 43 45.8	+0.1
	baz=83,SNR=45					
JLU	Jordanelle	82.96 331	eP	P	07 43 46.5	+0.2
	comp=Z,20nm,0.9s					
RCTC	Rector, Farmer	82.97 323	⇓P	P	07 43 46.4	+0.2
	baz=83,SNR=6.8					
TIN	Tinemaha, Big	83.06 324	⇑P	P	07 43 47.5	+0.7
	baz=83					
G29A	Hoven	83.08 340	⇓P	P	07 43 46.4	-0.2
	baz=83,SNR=11					
K21A	Alcova	83.11 334	⇓P	P	07 43 47.2	+0.3
	baz=83					
I25A	Rochford	83.15 337	⇑P	P	07 43 47.4	+0.2
	baz=84,SNR=27					
CRWM	Crown Mines	83.15 117	eP	P	07 43 48.3	+0.5
CRWM			AMB	AMB	07 43 49.2	
	comp=Z,61nm,2.3s					
CTU	Camp Tracy	83.16 331	eP	P	07 43 47.2	-0.1
	comp=Z,17nm,0.8s					
DUG	Dugway, Tooele	83.18 330	eP	P	07 43 47.7	+0.3
DUG			pmax	pmax		
	comp=Z,82nm,1.5s					
DUG	Dugway, Tooele	83.18 330	⇓P	P	07 43 47.9	+0.5
	baz=84,SNR=28					
DUG	Dugway, Tooele	83.18 330	eP	P	07 43 47.7	+0.3
	comp=Z,82nm,1.5s					
H27A	Howes	83.19 339	⇓P	P	07 43 47.1	0.0
	baz=84,SNR=42					
J23A	Dilts Ranch, B	83.20 336	⇑P	P	07 43 47.7	+0.4
	baz=84					
OBSV	Observatory	83.22 117	eP	P	07 43 48.6	+0.4
OBSV			AMB	AMB	07 43 49.6	
	comp=Z,49nm,4.4s					
G28A	Parade	83.25 340	⇓P	P	07 43 47.5	0.0
	baz=84,SNR=43					
ERPM	east rand prop	83.26 117	eP	P	07 43 49.1	+0.8
ERPM			AMB	AMB	07 43 54.8	
	comp=Z,38nm,7.1s					
ERPM	east rand prop	83.26 117	P	P	07 43 49.1	+0.8
	comp=Z,38nm,7.1s					
I24A	Kuemmerle Ranc	83.29 337	⇓P	P	07 43 48.1	+0.3
	baz=84,SNR=12					
RSSD	Black Hills	83.34 337	eP	P	07 43 48.0	-0.2
RSSD			pmax	pmax		
	comp=Z,33nm,0.9s					
RSSD	Black Hills	83.34 337	eP	P	07 43 48.0	-0.2
	comp=Z,32nm,0.9s					
TPH	Tonopah	83.40 326	eP	P	07 43 49.0	+0.4
TPH			pmax	pmax		
	comp=Z,46nm,1.0s					
TPH	Tonopah	83.40 326	eP	P	07 43 49.0	+0.4
	comp=Z,46nm,1.0s					
F30A	Leola	83.43 341	⇑P	P	07 43 48.2	-0.1
	baz=84					
J22A	Midwest	83.52 335	⇑P	P	07 43 48.7	-0.3
	baz=84,SNR=21					
URZ	Urewera	83.62 228	P	P	07 43 50.8	+1.0
	comp=Z,12nm,0.9s,baz=44,slow=22,SNR=4.0					
SLR	Silverton	83.64 117	eP	P	07 43 50.4	+0.1
SLR			AMB	AMB	07 43 51.1	
	comp=Z,60nm,0.9s					
SLR	Silverton	83.64 117	P	P	07 43 50.4	+0.1
SLR			pmax	pmax		
	comp=Z,60nm,0.9s					
SLR	Silverton	83.64 117	P	P	07 43 50.4	+0.1
	comp=Z,60nm,0.9s					
F29A	Eureka	83.64 341	⇓P	P	07 43 49.3	-0.2
	baz=84,SNR=50					
H25A	Fruitdale	83.65 338	⇑P	P	07 43 49.7	+0.2
	baz=84,SNR=24					
EYMN	Ely	83.70 347	eP	P	07 43 48.8	-0.8
	comp=Z,60nm,1.3s					
J21A	Lysite	83.80 335	⇑P	P	07 43 50.7	+0.1
	baz=84					
MLAC	Mammoth, Mammo	83.81 324	⇓P	P	07 43 51.9	+1.1
	baz=84,SNR=11					
G27A	Dupree	83.82 339	⇓P	P	07 43 50.3	-0.1
	baz=84,SNR=24					
HWUT	Hardware Ranch	83.86 331	eP	P	07 43 50.9	0.0
	comp=Z,54nm,1.0s					
BGU	Big Grassy Mou	83.88 330	eP	P	07 43 51.0	+0.1
	comp=Z,19nm,1.4s					
F28A	McLaughlin	83.93 340	⇓P	P	07 43 51.0	+0.1
	baz=84,SNR=35					
I22A	9 Mile Ranch,	83.94 336	⇓P	P	07 43 51.0	-0.2
	baz=84,SNR=19					
G26A	Maurine	83.94 339	⇑P	P	07 43 50.8	-0.3
	baz=84,SNR=19					
E30A	Jud	84.01 342	⇑P	P	07 43 51.3	0.0
	baz=84,SNR=27					
J20A	Shoshoni	84.03 334	⇑P	P	07 43 52.1	+0.4
	baz=84,SNR=25					
H24A	Dirks Ranch, A	84.06 337	⇑P	P	07 43 51.4	-0.3
	baz=84,SNR=19					
BW06	Boulder Array	84.07 333	eP	P	07 43 51.4	-0.5
	comp=Z,21nm,1.0s					
BW06			ePP	PP	07 47 06.7	-0.1
PDAR	Pinedale Array	84.07 333	P	P	07 43 51.5	-0.4
	comp=Z,9.9nm,0.8s,baz=165,slow=4.5,SNR=57					
PDAR			PKKPbc	PKKPbc	08 02 05.8	-1.8
	comp=Z,1.1nm,0.6s,baz=157,slow=0.4,SNR=9.4					
G25A	Newell	84.10 338	⇑P	P	07 43 52.1	+0.2
	baz=84,SNR=62					
TORD	Torodi Ar. Bea	84.13 70	P	P	07 43 53.0	+0.3
	comp=Z,49nm,0.8s,baz=253,slow=4.2,SNR=223					
I21A	Big Trails, Te	84.15 335	⇓P	P	07 43 52.0	-0.3
	baz=84,SNR=20					
H23A	Clabaugh Cattl	84.17 337	⇑P	P	07 43 51.8	-0.5
	baz=84					
NVAR	Mina Array Bea	84.19 325	P	P	07 43 53.6	+0.9
	comp=Z,15nm,0.8s,baz=157,slow=6.3,SNR=68					
NVAR			PKKPbc	PKKPbc	08 02 07.1	+0.1
	comp=Z,0.8nm,0.7s,baz=319,slow=1.8,SNR=6.6					
E29A	Napoleon	84.27 341	⇓P	P	07 43 52.4	-0.2
	baz=85,SNR=16					
F27A	Lemmon	84.30 339	⇓P	P	07 43 52.8	0.0
	baz=85,SNR=60					
J19A	Crowheart	84.31 334	⇓P	P	07 43 53.1	0.0
	baz=85,SNR=36					
F26A	Lodgepole	84.47 339	⇓P	P	07 43 53.7	0.0
	baz=85,SNR=34					
HVU	Hansel Valley	84.49 330	eP	P	07 43 54.2	+0.2
HVU			pmax	pmax		
	comp=Z,39nm,0.8s					
HVU	Hansel Valley	84.49 330	eP	P	07 43 54.2	+0.2
	comp=Z,39nm,0.8s					
H22A	Clearmont	84.52 336	⇓P	P	07 43 53.5	-0.6
	baz=85					
D30A	Buchanan	84.53 342	⇓P	P	07 43 53.9	0.0
	baz=85,SNR=40					
G24A	Alzada	84.54 338	⇑P	P	07 43 54.0	-0.1
	baz=85,SNR=11					
E28A	Huff	84.56 340	⇑P	P	07 43 54.3	+0.2
	baz=85,SNR=20					
I20A	Worland	84.57 335	⇑P	P	07 43 54.5	+0.1
	baz=85,SNR=9.7					
AHID	Auburn Hatcher	84.66 332	eP	P	07 43 55.0	+0.1
	comp=Z,19nm,0.8s					
ELK	Elko	84.67 328	P	P	07 43 55.6	+0.5
ELK			pmax	pmax		
	comp=Z,23nm,0.9s					
ELK	Elko	84.67 328	P	P	07 43 55.5	+0.5
	comp=Z,23nm,0.9s,baz=178,slow=2.1,SNR=55					
E27A	Carson	84.67 340	⇓P	P	07 43 54.8	+0.1
	baz=85,SNR=17					
D29A	Pettibone, Tap	84.71 341	⇑P	P	07 43 54.8	-0.1
	baz=85,SNR=31					
G23A	Biddle	84.74 337	⇑P	P	07 43 54.8	-0.3
	baz=85,SNR=14					
F25A	Bowman	84.78 338	⇑P	P	07 43 55.3	+0.1
	baz=85,SNR=14					
H21A	Big Horn, Sher	84.78 336	⇑P	P	07 43 54.8	-0.6
	baz=85,SNR=8.7					
WAKR	Walker	84.79 324	eP	P	07 43 57.0	+1.2
	comp=Z,29nm,1.0s					
CMB	Columbia Colle	84.89 324	eP	P	07 43 56.4	+0.4
CMB			pmax	pmax		
	comp=Z,30nm,1.2s					
CMB	Columbia Colle	84.89 324	eP	P	07 43 56.4	+0.4
	comp=Z,30nm,1.2s					
AGMN	Agassiz Nation	84.95 344	⇑P	P	07 43 55.7	-0.2
	baz=85,SNR=25					
AGMN	Agassiz Nation	84.95 344	eP	P	07 43 55.3	-0.6
	comp=Z,28nm,0.8s					
I19A	Meeteetse	84.95 334	⇓P	P	07 43 56.5	+0.1
	baz=85,SNR=13					
E26A	Carlson Angus	84.97 339	⇑P	P	07 43 56.2	0.0
	baz=85,SNR=20					
H20A	Greybull	84.99 335	⇓P	P	07 43 56.1	-0.3
	baz=85,SNR=78					
F24A	Ekalaka	85.01 338	⇑P	P	07 43 56.0	-0.5
	baz=85,SNR=16					
C30A	Mose, Pekin	85.02 342	⇑P	P	07 43 56.4	+0.1
	baz=85,SNR=59					
G22A	Birney	85.05 336	⇓P	P	07 43 56.3	-0.4
	baz=85,SNR=6.9					
D28A	Regan	85.09 341	⇑P	P	07 43 56.7	0.0
	baz=85,SNR=18					
F23A	Volborg	85.20 337	⇑P	P	07 43 57.2	-0.3
	baz=86,SNR=25					
E25A	Miller Ranch,	85.28 339	⇓P	P	07 43 58.0	+0.3
	baz=86,SNR=19					
D27A	Center	85.28 340	⇓P	P	07 43 57.6	-0.1
	baz=86					
G21A	Lodge Grass	85.36 336	⇓P	P	07 43 58.2	-0.1
	baz=86,SNR=20					
I17A	Pilgrim Ck.	85.44 333	⇓P	P	07 43 59.3	+0.5
	baz=86,SNR=38					
MDND	Maddock	85.44 342	⇑P	P	07 43 58.5	+0.1
	baz=86,SNR=34					
MDND	Maddock	85.44 342	eP	P	07 43 58.6	+0.1
	comp=Z,32nm,0.8s					
D26A	Manning	85.47 340	⇓P	P	07 43 58.8	+0.1
	baz=86,SNR=14					
H19A	Powell	85.50 334	⇓P	P	07 43 58.9	-0

baz=86,SNR=44
H18A Shoshone NF, C 85.75 334 ⇑P P 07 44 00.3 0.0
baz=86,SNR=86
C27A Sayler Ranch, 85.83 340 ⇑P P 07 44 00.6 +0.2
baz=86,SNR=13
D25A Fairfield 85.84 339 ⇑P P 07 44 01.0 +0.5
baz=86,SNR=27
H17A Grant Village 85.84 333 ⇓P P 07 44 00.8 -0.1
baz=86,SNR=8.0
H17A Grant Village 85.84 333 eP P 07 44 01.3 +0.5
comp=Z,29nm,1.3s
F21A Absaloka Mine, 85.86 336 ⇑P P 07 44 00.6 0.0
baz=86,SNR=12
E23A Ismay 85.86 338 ⇑P P 07 44 00.1 -0.5
baz=86,SNR=12
LKWY Lake 85.92 333 eP P 07 44 02.3 +1.0
LKWY pmax pmax
comp=Z,13nm,0.8s
LKWY Lake 85.92 333 eP P 07 44 02.3 +1.0
comp=Z,13nm,0.8s
B29A Wagenman Farm, 85.94 342 ⇑P P 07 44 00.8 -0.2
baz=86,SNR=26
YFT Old Faithful 85.99 333 eP P 07 44 03.1 +1.5
comp=Z,25nm,0.8s
RLMT Red Lodge 85.99 334 eP P 07 44 01.5 0.0
comp=Z,34nm,0.8s
E22A Miles City 86.01 337 ⇓P P 07 44 01.0 -0.4
baz=86
C26A Wahner Farm, P 86.09 340 ⇓P P 07 44 01.9 +0.2
baz=86,SNR=12
D24A Glendive 86.11 338 ⇑P P 07 44 02.2 +0.4
baz=86,SNR=20
A30A Hoffart Farm, 86.12 343 ⇓P P 07 44 01.5 -0.3
baz=86,SNR=43
YNR Norris Junctio 86.16 333 eP P 07 44 03.4 +1.0
comp=Z,21nm,1.1s
F20A Billings 86.19 335 ⇓P P 07 44 02.1 -0.3
baz=86,SNR=13
B28A Dugan Ranch, T 86.19 341 ⇑P P 07 44 02.3 +0.1
baz=86,SNR=33
YMR Madison River 86.22 333 eP P 07 44 03.4 +0.7
comp=Z,92nm,1.0s
LAO LASA Array 86.32 337 eP P 07 44 02.8 -0.2
comp=Z,83nm,1.1s
C25A Freed Ranch, W 86.33 339 ⇓P P 07 44 03.2 +0.3
baz=87,SNR=10
A29A Manning Farm, 86.34 342 ⇑P P 07 44 02.6 -0.3
baz=87,SNR=27
B27A Peters Farms, 86.39 341 ⇓P P 07 44 03.1 0.0
baz=87
D23A Lindsay 86.43 338 ⇓P P 07 44 03.9 +0.4
baz=87,SNR=57
E21A Keefer Ranch, 86.47 336 ⇑P P 07 44 03.6 -0.1
baz=87,SNR=10
C24A Savage 86.51 339 ⇓P P 07 44 04.2 +0.4
baz=87,SNR=68
F19A Roth Farm, Mol 86.51 335 ⇑P P 07 44 03.6 -0.4
baz=87,SNR=34
QLMT Earthquake Lak 86.53 333 eP P 07 44 04.7 +0.5
comp=Z,5.3nm,1.1s
A28A Rude Farm, Bot 86.59 342 ⇓P P 07 44 04.0 -0.2
baz=87,SNR=14
B26A Jensen Ranch, 86.63 340 ⇑P P 07 44 04.6 +0.2
baz=87,SNR=7.2
HLID Hailey 86.64 330 ⇑P P 07 44 05.8 +1.0
baz=87,SNR=40
HLID Hailey 86.64 330 eP P 07 44 05.4 +0.7
comp=Z,38nm,1.0s
HLID LR LR
comp=Z,4μm,22.0s
D22A Cohagen 86.72 337 ⇓P P 07 44 05.2 +0.4
baz=87,SNR=31
ULM Lac du Bonnet 86.79 345 P P 07 44 04.5 -0.5
ULM pmax pmax
comp=Z,23nm,0.9s
ULM Lac du Bonnet 86.79 345 P P 07 44 04.5 -0.5
comp=Z,22nm,0.9s,baz=169,slow=4.4,SNR=33
E20A Meyer Farm, Mu 86.79 336 ⇓P P 07 44 05.4 +0.1
baz=87,SNR=80
B25A Knox Farm, Ray 86.80 340 ⇑P P 07 44 05.9 +0.7
baz=87,SNR=21
MSNA Messina 86.88 115 eP P 07 44 07.8 +1.4
MSNA AMB AMB 07 44 08.3
comp=Z,45nm,1.1s
MSNA Messina 86.88 115 P P 07 44 07.8 +1.4
comp=Z,45nm,1.1s
A27A Ledoux Ranch, 86.89 341 ⇑P P 07 44 05.7 +0.2
baz=87
D21A La Casta Ranch 86.91 337 ⇓P P 07 44 05.6 -0.2
baz=87,SNR=18
E19A Rath Farm, Rou 86.98 335 ⇓P P 07 44 06.1 -0.1
baz=87,SNR=72
C23A Lambert 86.98 338 ⇓P P 07 44 06.3 +0.2
baz=87,SNR=53
A26A Wade Farm, Ken 87.05 341 ⇑P P 07 44 06.5 +0.1
baz=87,SNR=17
MCMT McKenzie Canyo 87.07 332 P P 07 44 07.7 +0.8
MFID Camas Ranch 87.11 330 eP P 07 44 07.2 +0.2
comp=Z,32nm,1.1s
C22A Vida 87.15 338 ⇑P P 07 44 06.7 -0.2
baz=88,SNR=15
MOPA Mopani 87.22 117 eP P 07 44 08.5 +0.4
MOPA AMB AMB 07 44 17.9
comp=Z,28nm,4.8s
MOPA Mopani 87.22 117 P P 07 44 08.5 +0.4
comp=Z,28nm,4.8s
BOZ Bozeman (W) 87.30 333 eP P 07 44 07.3 -0.6
BOZ pmax pmax
comp=Z,16nm,0.9s
BOZ Bozeman (W) 87.30 333 eP P 07 44 07.3 -0.6
comp=Z,16nm,0.9s
D20A Manuel Ranch, 87.31 336 ⇑P P 07 44 07.6 -0.1
baz=88,SNR=61
A25A Svangstu Ranch 87.39 340 ⇑P P 07 44 08.4 +0.4
baz=88,SNR=14
B23A Brockton 87.52 339 ⇑P P 07 44 08.7 +0.1
baz=88,SNR=20
WVOR Wild Horse Val 87.53 327 eP P 07 44 09.1 +0.1
WVOR pmax pmax
comp=Z,18nm,1.1s
WVOR Wild Horse Val 87.53 327 eP P 07 44 09.1 +0.1
comp=Z,18nm,1.1s
C21A Desert Coulee 87.61 337 ⇑P P 07 44 08.8 -0.3
baz=88,SNR=46
D19A Cripps Ranch, 87.62 336 ⇓P P 07 44 09.0 -0.3
baz=88,SNR=22
A24A Westby 87.63 339 ⇓P P 07 44 09.5 +0.3
baz=88,SNR=17
B22A Reddig Ranch S 87.68 338 ⇑P P 07 44 09.4 -0.1
baz=88,SNR=35
LRM Limekiln Ridge 87.76 333 eP P 07 44 10.3 +0.2
comp=Z,389nm,1.3s
C20A Veseth Ranch, 87.81 336 ⇑P P 07 44 09.7 -0.4
baz=88,SNR=30
MOD Modoc Plateau 87.87 326 eP P 07 44 11.3 +0.7
comp=Z,45nm,1.1s
WDC Whiskeytown Da 87.91 324 eP P 07 44 10.3 -0.4
WDC pmax pmax
comp=Z,31nm,0.9s
WDC Whiskeytown Da 87.91 324 eP P 07 44 10.3 -0.4
comp=Z,31nm,0.9s
A23A Redstone 87.92 339 ⇑P P 07 44 10.5 -0.1
baz=88,SNR=9.6
B21A Ellsworth Farm 88.11 337 ⇑P P 07 44 11.4 -0.1
baz=88,SNR=28
C19A Slack Wire Ran 88.17 336 ⇑P P 07 44 11.6 -0.3
baz=88,SNR=13
A22A Carney Farms, 88.27 338 ⇓P P 07 44 12.3 0.0
baz=89,SNR=47
HRY Holter Researc 88.28 334 eP P 07 44 12.6 +0.2
comp=Z,35nm,1.3s
N02D Trinity Center 88.30 324 ⇓P P 07 44 12.7 +0.1
baz=89,SNR=9.0
B20A Solberg Farm, 88.44 337 ⇓P P 07 44 13.1 0.0
baz=89,SNR=18
M04C Macdoel 88.50 325 ⇑P P 07 44 14.2 +0.6
baz=89,SNR=23
A21A Bergtoll Ranch 88.58 338 ⇓P P 07 44 13.2 -0.5
baz=89,SNR=19
EGMT Eagleton 88.66 336 ⇑P P 07 44 13.6 -0.5
baz=89,SNR=12
EGMT Eagleton 88.66 336 eP P 07 44 13.6 -0.5
comp=Z,29nm,1.0s
M02C Callahan 88.69 324 ⇓P P 07 44 14.8 +0.3
baz=89,SNR=9.1
B19A Brinkman Farms 88.76 336 ⇑P P 07 44 14.2 -0.4
baz=89,SNR=17
A20A Cobblestone Ra 88.80 337 ⇓P P 07 44 14.3 -0.5
baz=89,SNR=33
SCHQ Schefferville 88.83 3 P P 07 44 14.3 -0.4
comp=Z,8.3nm,1.0s,baz=190,slow=5.4,SNR=11
YBH Yreka Blue Hor 88.88 324 P P 07 44 15.5 +0.1
YBH pmax pmax
comp=Z,18nm,0.9s
YBH Yreka Blue Hor 88.88 324 P P 07 44 15.5 +0.1
comp=Z,18nm,0.9s,baz=138,slow=5.6,SNR=24
YBH Yreka Blue Hor 88.88 324 P P 07 44 15.5 +0.1
comp=Z,1.2nm,1.1s
BMO Blue Mountains 88.89 330 eP P 07 44 15.4 0.0
BMO pmax pmax
comp=Z,10.0nm,1.0s
BMO Blue Mountains 88.89 330 eP P 07 44 15.4 0.0
comp=Z,9.7nm,1.0s
CHMT Chamberlain Mo 88.98 333 P P 07 44 16.4 +0.5
A19A Klindworth Far 89.11 337 ⇓P P 07 44 15.6 -0.6
baz=89,SNR=20
K04D Chiloquin, OR 89.11 326 ⇑P P 07 44 17.0 +0.5
baz=89,SNR=5.0
MSO Missoula 89.17 333 ⇓P P 07 44 16.9 +0.3
baz=90,SNR=8.4
KTRM Thompson Ridge 89.33 324 P P 07 44 19.0 +1.4
SLMT Seeley Lake 89.34 333 eP P 07 44 17.6 +0.1
comp=Z,13nm,1.0s
J05D Fort Rock, OR 89.38 326 ⇓P P 07 44 18.6 +0.9
baz=90,SNR=14
L02D Cave Junction, 89.63 324 ⇓P P 07 44 19.4 +0.6
baz=90
J04D Umpqua Nationa 89.75 326 ⇓P P 07 44 20.2 +0.6
baz=90,SNR=7.5
SWMT Swartz Lake 89.75 333 eP P 07 44 19.4 +0.1
comp=Z,9.9nm,1.1s
YBMT Yellow Bay 90.05 333 eP P 07 44 21.1 +0.3
comp=Z,9.4nm,0.9s
JTMT Jette 90.06 333 eP P 07 44 20.6 -0.2
comp=Z,8.7nm,0.9s
I05D Terrebonne, OR 90.25 327 ⇑P P 07 44 22.7 +1.0
baz=91,SNR=7.8
BLMT Blacktail Moun 90.31 333 eP P 07 44 22.0 -0.1
comp=Z,19nm,0.9s
I04A Tendick Farm, 90.32 326 ⇓P P 07 44 21.8 -0.2
baz=91
BSMT Bassoo Peak 90.33 333 P P 07 44 22.5 +0.4
I03D Drain, OR 90.68 325 ⇓P P 07 44 23.9 +0.3
baz=91
VGB Gordon Butte 90.91 328 P P 07 44 25.8 +1.1
VGB Gordon Butte 90.91 328 P P 07 44 25.8 +1.1
G05D Wamic, OR 90.94 328 ⇓P P 07 44 25.1 +0.3
baz=91
WALA Waterton Lakes 91.01 334 eP P 07 44 25.2 +0.1
comp=Z,1.1nm,1.2s
HAWA Hanford 91.06 329 eP P 07 44 25.8 +0.4
comp=Z,36nm,1.2s
OD2 Odessa Site #2 91.52 330 P P 07 44 28.0 +0.6
NEW Newport 91.58 332 P P 07 44 27.3 -0.4
NEW pmax pmax
comp=Z,8.0nm,0.9s
NEW Newport 91.58 332 P P 07 44 27.3 -0.4
comp=Z,8.1nm,0.9s,baz=128,slow=3.0,SNR=12
NEW Newport 91.58 332 ⇓P P 07 44 28.0 +0.2
baz=92,SNR=9.4
NEW Newport 91.58 332 P P 07 44 27.3 -0.4
comp=Z,0.4nm,1.0s
DPW Davenport 91.69 331 P P 07 44 28.6 +0.3
DPW Davenport 91.69 331 P P 07 44 28.6 +0.3
G03D McMinnville, O 91.80 326 ⇓P P 07 44 29.1 +0.4
baz=92
WTV Waterville 92.27 330 P P 07 44 31.4 +0.4
LON Longmire 92.33 328 P P 07 44 31.3 0.0
LON Longmire 92.33 328 P P 07 44 31.2 0.0
FFC Flin Flon 92.34 343 eP P 07 44 30.6 -0.4
FFC pmax pmax
comp=Z,4.0nm,0.8s
FFC Flin Flon 92.34 343 eP P 07 44 30.6 -0.4
comp=Z,3.6nm,0.8s
TAM Tamanrasset 92.77 64 eP P 07 44 35.2 +1.2
TAM pmax pmax
comp=Z,23nm,1.4s
TAM Tamanrasset 92.77 64 eP P 07 44 35.2 +1.2
comp=Z,23nm,1.4s
EDM Edmonton 94.29 336 eP P 07 44 37.6 -2.5
EDM Edmonton 94.29 336 eP P 07 44 37.6 -2.5
FCC Fort Churchill 94.51 349 eP P 07 44 40.7 -0.2
FCC pmax pmax
comp=Z,1.0nm,0.8s
FCC Fort Churchill 94.51 349 eP P 07 44 40.7 -0.2
comp=Z,0.6nm,0.8s
ESDC Sonseca Array 96.62 46 P P 07 44 51.2 0.0
comp=Z,2.1nm,0.8s,baz=246,slow=3.9,SNR=9.6
BBB Bella Bella 99.12 329 P Pdif 07 45 01.2 -0.7
comp=Z,11nm,0.6s,baz=239,slow=5.9,SNR=3.1
YKA Yellowknife Ar 102.35 341 P Pdif 07 45 15.3 -0.8
YKA 07 49 27.8
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 102.35 341 P Pdif 07 45 15.3 -0.8
comp=Z,2.9nm,0.7s,baz=141,slow=4.4,SNR=50
YKA PP PP 07 49 27.8 -1.6
YKA comp=Z,1.4nm,0.9s,baz=141,slow=7.9,SNR=7.2
YKA PKKPbc PKKPbc 08 01 16.4 -3.0
comp=Z,0.4nm,0.7s,baz=328,slow=2.8,SNR=9.0
STKA Stephens Creek 107.08 209 PKKP PKKPab 08 01 18.7 -3.6
comp=Z,2.1nm,0.6s,baz=356,slow=4.7,SNR=7.1
GERES GERESS Array B 112.20 45 *i* PKIKP PKiKP 07 49 56.4 -0.1
GERES pmax pmax
comp=Z,2.0nm,0.9s
GERES GERESS Array B 112.20 45 PKiKP PKiKP 07 49 56.4 -0.1
comp=Z,2.2nm,0.9s,baz=256,slow=0.6,SNR=9.7
KHC Kasperske Hory 112.26 45 *e*PKIKP PKiKP 07 49 56.5 0.0
KHC *e* 07 50 09.9
KHC Kasperske Hory 112.26 45 *e*PKP PKiKP 07 49 56.5 0.0
KHC *ep*PKP pPKiKP 07 50 09.9 +2.2
CLL Collm 112.91 43 eP Pdif 07 46 09.0 +5.7
CLL *e* 07 49 58.0
CLL pmax pmax
comp=Z,7.0nm,1.4s
CLL Collm 112.91 43 *e*(Pdif) Pdif 07 46 09.0 +5.7
CLL *e*PKiKP PKiKP 07 49 58.0 +0.4
comp=Z,7.0nm,1.4s
CLL *e*PS PKKPbc 08 00 34.0 -12
BRG Berggiesshubel 113.25 43 eP PKiKP 07 49 58.7 +0.5
comp=Z,3.1nm,0.7s
BRG Berggiesshubel 113.25 43 *e*PKIKP PKiKP 07 49 58.7 +0.5
BRG pmax pmax
comp=Z,3.0nm,0.7s
PVCC Panska Ves 113.45 44 *e*PKIKP PKiKP 07 49 59.3 +0.7
PVCC Panska Ves 113.45 44 *e*PKP PKiKP 07 49 59.3 +0.7
DPC Dobruska-Polom 114.39 45 *e*PKIKP PKPdf 07 50 01.2 +0.7
DPC Dobruska-Polom 114.39 45 *e*PKP PKPdf 07 50 01.2 +0.7
ILAR Eielson Array 114.50 333 PKIKP PKPdf 07 49 59.7 -0.5
ILAR 07 50 59.1
ILAR 08 00 39.7
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 114.50 333 PKP PKPdf 07 49 59.6 -0.6
comp=Z,2.4nm,0.8s,baz=152,slow=2.1,SNR=25
ILAR PP PP 07 50 59.0 +1.2
comp=Z,1.7nm,0.9s,baz=128,slow=5.5,SNR=5.5
ILAR PKKPbc PKKPbc 08 00 39.7 -0.9
comp=Z,0.5nm,0.9s,baz=289,slow=3.2,SNR=4.1
COLA College 114.91 333 ⇓*i*PKIKP PKPdf 07 50 00.4 -0.6
VYHS Vyhne 115.13 47 *e*PKIKP PKPdf 07 50 02.4 +0.5
VYHS Vyhne 115.13 47 *e*PKP PKPdf 07 50 02.4 +0.5
OKC Ostrava-Krasne 115.26 46 *e*PKIKP PKPdf 07 50 02.1 0.0
OKC Ostrava-Krasne 115.26 46 *e*PKP PKPdf 07 50 02.1 0.0
BZS Buzias 115.72 51 ⇑PKIKP PKPdf 07 50 03.6 +0.4
BZS Buzias 115.72 51 ⇑*i*P PKPdf 07 50 03.5 +0.4
NOA NORSAR Array B 116.14 33 PKIKP PKPdf 07 50 03.6 +0.1
NOA 08 00 37.3
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 116.14 33 PKP PKPdf 07 50 03.6 +0.1
comp=Z,2.6nm,0.9s,baz=247,slow=2.2,SNR=5.8
NOA PKKPab PKKPab 08 00 37.3 +1.3
comp=Z,2.9nm,0.8s,baz=68,slow=4.5,SNR=7.4
DRGR 116.88 50 ⇓PKIKP PKPdf 07 50 05.6 +0.2
DRGR 116.88 50 ⇓*i*P PKPdf 07 50 05.6 +0.2
TRPA Tarpa 117.27 49 ⇑*i*P PKPdf 07 50 06.4 +0.4
KOLS Kolonicke sedl 117.40 48 *e*PKIKP PKPdf 07 50 06.5 +0.2
KOLS Kolonicke sedl 117.40 48 *e*PKP PKPdf 07 50 06.5 +0.2
ASAR Alice Springs 117.42 207 PKIKP PKPdf 07 50 06.2 -1.2
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 117.42 207 PKP PKPdf 07 50 06.2 -1.2
comp=Z,3.2nm,0.8s,baz=143,slow=2.1,SNR=29
ASAR PKKPbc PKKPbc 08 00 28.7 -0.9
comp=Z,1.3nm,0.7s,baz=338,slow=3.2,SNR=14
ARR Arges 117.58 52 ⇓*i*P PKPdf 07 50 07.4 +0.5
JMB Yambol 117.81 56 ⇑PKIKP PKPdf 07 50 09.7 +2.4
JMB Yambol 117.81 56 ⇑*i*P PKPdf 07 50 09.7 +2.4
KWP Kalwaria Pacla 117.92 47 *e*PKIKP PKPdf 07 50 07.8 +0.5
KWP Kalwaria Pacla 117.92 47 *e*PKP PKPdf 07 50 07.7 +0.5
MLR Muntele Rosu 118.49 52 ⇑*i*P PKPdf 07 50 08.2 -0.5
MLR Muntele Rosu 118.49 52 PKP PKPdf 07 50 08.2 -0.5
comp=Z,1.3nm,0.8s,baz=82,slow=4.4,SNR=6.0
BURAR Bucovina Array 118.77 50 ⇑PKIKP PKPdf 07 50 09.7 +0.6
BURAR Bucovina Array 118.77 50 ⇑*i*P PKPdf 07 50 09.7 +0.6
SUW Suwalki 119.66 43 *e*PKIKP PKPdf 07 50 10.2 -0.3
SUW Suwalki 119.66 43 *e*PKP PKPdf 07 50 10.5 +0.1
SUW Suwalki 119.66 43 *e*PKPdf PKPdf 07 50 10.2 -0.3
CFR Carcaliu 119.83 53 ⇓PKIKP PKPdf 07 50 11.1 +0.1
CFR Carcaliu 119.83 53 ⇓*i*P PKPdf 07 50 11.1 +0.1
WB2 Warramunga Arr 120.62 209 *e*PKPdf PKPdf 07 50 12.6 -0.9
WRA Warramunga Arr 120.63 209 PKIKP PKPdf 07 50 12.6 -1.0
WRA pmax pmax
comp=Z,7.0nm,0.7s
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 120.63 209 PKP PKPdf 07 50 12.6 -1.0
comp=Z,6.6nm,0.7s,baz=162,slow=1.5,SNR=42
WRA PKKPbc PKKPbc 08 00 17.5 -0.4
comp=Z,1.1nm,0.8s,baz=343,slow=4.6,SNR=7.0
WRAB Tennant Creek 120.63 209 ⇑*i*PKIKP PKPdf 07 50 13.2 -0.3
WRAB pmax pmax
comp=Z,24nm,1.2s
MMAI Mount Meron Ar 120.66 69 PKP PKPdf 07 50 13.1 -0.1
comp=Z,3.9nm,0.6s,baz=177,slow=4.2,SNR=3.9
ASF Jabal al Asfar 121.49 70 PKIKP PKPdf 07 50 14.4 -0.4
ASF pmax pmax
comp=Z,2.0nm,0.5s
ASF Jabal al Asfar 121.49 70 PKP PKPdf 07 50 14.4 -0.4
comp=Z,1.8nm,0.5s,baz=276,slow=1.8,SNR=6.9
BRTR Keskin Array B 121.80 61 PKIKP PKPdf 07 50 15.5 +0.2
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 121.80 61 PKP PKPdf 07 50 15.5 +0.2
comp=Z,6.6nm,0.8s,baz=189,slow=3.1,SNR=32
KIEV Kiev 122.22 48 ⇑*i*PKIKP PKPdf 07 50 15.1 -0.4
KIEV Kiev 122.22 48 *e*PKPdf PKPdf 07 50 14.5 -1.0
AKASG Malin Array Be 122.23 48 PKIKP PKPdf 07 50 14.9 -0.6
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 122.23 48 PKP PKPdf 07 50 14.8 -0.6
comp=Z,6.3nm,0.8s,baz=262,slow=3.0,SNR=17
VSU Vasula 122.78 38 ⇑*e*PKIKP PKPdf 07 50 16.4 +0.1
SPITS Spitsbergen Ar 122.88 14 PKIKP PKPdf 07 50 16.0 -0.1
SPITS pmax pmax
comp=Z,3.0nm,0.5s
SPITS Spitsbergen Ar 122.88 14 PKP PKPdf 07 50 16.0 -0.1
comp=Z,2.8nm,0.5s,baz=228,slow=1.0,SNR=9.5
FINES FINESS Array B 123.10 35 PKIKP PKPdf 07 50 16.6 -0.2
FINES pmax pmax
comp=Z,8.0nm,0.9s
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 123.10 35 PKP PKPdf 07 50 16.6 -0.2
comp=Z,7.6nm,0.9s,baz=129,slow=2.7,SNR=12
FINES PKKPbc PKKPab 08 00 06.8 +1.0
comp=Z,2.7nm,0.8s,baz=122,slow=5.2,SNR=6.8
TNA Tin City 123.10 330 *e*PKPdf PKPdf 07 50 17.1 +0.4
KAF Kangasniemi 123.33 34 *e*PKIKP PKPdf 07 50 16.8 -0.5
KAF pmax pmax
comp=Z,12nm,0.7s
KAF Kangasniemi 123.33 34 *ep* PKPdf 07 50 16.8 -0.5
comp=Z,12nm,0.7s
MBWA Marble Bar 123.81 193 *e*PKPdf PKPdf 07 50 18.2 -1.4
ARCES ARCESS Array B 124.17 25 PKIKP PKPdf 07 50 18.7 0.0
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARCES ARCESS Array B 124.17 25 PKP PKPdf 07 50 18.7 0.0
comp=Z,4.6nm,0.7s,baz=258,slow=2.8,SNR=15
RAYN Ar Rayn 124.84 84 *e*PKPdf PKPdf 07 50 22.3 +0.8
MALT Malatya 124.85 64 ⇑PKIKP PKPdf 07 50 22.3 +1.2
MALT Malatya 124.85 64 ⇑*i*P PKPdf 07 50 22.3 +1.2
FITZ Fitzroy Crossi 125.34 200 *e*PKPdf PKPdf 07 50 22.0 -0.6
JOF Joensuu 125.75 33 *e*PKIKP PKPdf 07 50 21.9 0.0
JOF pmax pmax
comp=Z,14nm,0.8s
JOF Joensuu 125.75 33 *ep* PKPdf 07 50 21.9 0.0
comp=Z,14nm,0.8s
H11S2 WAKE ISLAND Hyl 125.94 269 T T 10 08 41.6
baz=120,slow=76,SNR=32
H11S1 WAKE ISLAND Hyl 125.96 269 T T 10 08 41.6
baz=120,slow=76,SNR=56
H11S3 WAKE ISLAND Hyl 125.96 269 T T 10 08 42.1
baz=120,slow=76,SNR=38
H11N3 WAKE ISLAND Hyl 126.36 270 T T 10 09 10.3
baz=121,slow=75,SNR=26
H11N1 WAKE ISLAND Hyl 126.38 270 T T 10 09 18.3
baz=121,slow=75,SNR=58
H11N2 WAKE ISLAND Hyl 126.38 270 T T 10 09 13.7
baz=121,slow=75,SNR=25
LVZ Lovozero 127.41 27 ⇑*i*PKIKP PKPdf 07 50 26.4 +1.4
LVZ pmax pmax
comp=Z,40nm,1.7s
OBN Obninsk 127.50 43 *d*/*i*PKIKP PKPdf 07 50 25.9 +0.5
OBN *e* 07 52 24.2
OBN pmax pmax
comp=Z,37nm,1.3s
OBN Obninsk 127.50 43 PKP PKPdf 07 50 24.6 -0.8
comp=Z,6.9nm,0.3s,baz=69,slow=5.9,SNR=5.0
VSR Storozhevoye 128.47 49 *e*PKIKP PKPdf 07 50 28.0 +0.6
TMCR Tamitsa 128.82 32 *e*PKIKP PKPdf 07 50 27.6 -0.1
TMCR pmax pmax
comp=Z,35nm,1.3s
KIV Kislovodsk 129.47 58 *e*PKIKP PKPdf 07 50 30.8 +1.1
KIV pmax pmax
comp=Z,30nm,1.0s
KIV Kislovodsk 129.47 58 *e*PKPdf PKPdf 07 50 30.8 +1.1
KLMR Klimovskoe 129.50 36 *e*PKIKP PKPdf 07 50 27.5 -1.6
KLMR pmax pmax
comp=Z,68nm,1.2s
KBZ Khabaz 129.57 59 PKIKP PKPdf 07 50 30.8 +1.1
KBZ pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 129.57 59 PKP PKPdf 07 50 30.8 +1.1
comp=Z,8.7nm,1.0s,baz=231,slow=1.3,SNR=12
GNI Garni 130.07 64 ⇓*i*PKIKP PKPdf 07 50 32.8 +1.7
GNI pmax pmax
comp=Z,22nm,1.2s
GNI Garni 130.07 64 PKP PKPdf 07 50 32.2 +1.1
comp=Z,6.1nm,0.7s,baz=153,slow=9.0,SNR=5.4
ZEI Tsey 130.08 60 *i* PKIKP PKPdf 07 50 30.9 -0.2
ZEI pmax pmax
comp=Z,17nm,1.2s
PRGR Permogore 132.42 35 *e*PKIKP PKPdf 07 50 32.1 -2.5
PRGR pmax pmax
comp=Z,11nm,0.6s
IKAZ Kazeroun 132.53 79 eP PKPdf 07 50 37.1 +0.8
BILL Bilibino 133.14 334 ⇑*e*PKIKP PKPdf 07 50 36.6 +0.8
BILL *e* 07 57 49.2
BILL pmax pmax
comp=Z,23nm,1.1s
BILL Bilibino 133.14 334 *e*PKPdf PKPdf 07 50 35.6 -0.2
ISRV Sarvestan 133.43 80 eP PKPdf 07 50 35.9 -2.1
IPAR Pars 133.54 80 eP PKPdf 07 50 36.4 -1.8
ISAD Sadrabad 134.74 77 eP PKPdf 07 50 38.7 -1.6
IKIA Kiasar 135.94 71 eP PKPdf 07 50 42.5 +0.1
SOKR Solikamsk 138.19 37 *e*PKHKP PKPpre 07 50 38.0
SOKR pmax pmax
comp=Z,8.0nm,0.6s
CISI Cisompet, Garu 138.42 179 *e*PKPdf PKPdf 07 50 45.5 -1.9
KAPI Kappang 139.44 198 *e*PKPdf PKPdf 07 50 49.2 0.0
GEYT Alibeck 139.77 70 PKhKP PKPpre 07 50 42.6
comp=Z,2.4nm,0.7s,baz=267,slow=11,SNR=3.8
GEYT PKP PKPdf 07 50 49.9 +0.8
comp=Z,7.8nm,0.7s,baz=250,slow=4.4,SNR=6.1
ARU Arti 139.82 41 *i* PKIKP PKPdf 07 50 48.9 +0.4
ARU Arti 139.82 41 *e*PKPdf PKPdf 07 50 48.6 +0.1
SEY Seymchan 140.34 330 PKHKP PKPpre 07 50 44.0

SEY								07 50 50.0
SEY						pmax	pmax	
	comp=Z,4.0nm,0.8s							
SEY						pmax	pmax	
	comp=Z,24nm,0.8s							
SEY	**Seymchan**	**140.34**	**330**	PKhKP	PKPpre			07 50 44.0
	comp=Z,3.8nm,0.8s,baz=174,slow=3.1,SNR=10.0							
SEY					PKP		**PKPdf**	**07 50 50.0 +0.8**
	comp=Z,24nm,0.8s,baz=116,slow=3.2,SNR=44							
AKTO	**Aktyubinsk**	**140.36**	**50**	PKHKP	PKPpre			07 50 42.4
AKTO								07 50 50.1
AKTO						pmax	pmax	
	comp=Z,4.0nm,0.7s							
AKTO						pmax	pmax	
	comp=Z,6.0nm,1.0s							
AKTO	**Aktyubinsk**	**140.36**	**50**	PKhKP	PKPpre			07 50 42.4
	comp=Z,3.7nm,0.7s,baz=277,slow=3.3,SNR=12							
AKTO					PKP		**PKPdf**	**07 50 50.0 +0.3**
	comp=Z,5.9nm,1.0s,baz=285,slow=2.9,SNR=8.6							
PETK	**Petropavlovsk-**	**140.46**	**314**	PKHKP	PKPpre			07 50 42.1
PETK								07 50 48.4
PETK						pmax	pmax	
	comp=Z,6.0nm,0.8s							
PETK						pmax	pmax	
	comp=Z,9.0nm,0.8s							
PETK	**Petropavlovsk-**	**140.46**	**314**	PKhKP	PKPpre			07 50 42.1
	comp=Z,5.7nm,0.8s,baz=180,slow=5.9,SNR=4.8							
PETK					PKP		**PKPdf**	**07 50 48.4 -1.4**
	comp=Z,8.8nm,0.8s,baz=140,slow=3.5,SNR=5.7							
SVE	**Sverdlovsk**	**140.84**	**40**	*e*PKHKP	PKPpre			07 50 45.7
TIXI	**Tiksi**	**140.97**	**350**	⇓*e*PKIKP	**PKPdf**			**07 50 50.7 +0.5**
TIXI						pmax	pmax	
	comp=Z,12nm,1.2s							
TIXI	**Tiksi**	**140.97**	**350**	*e*PKPdf	PKPpre			07 50 41.6
IMYA	**Miami**	**141.02**	**73**	*e*P	PKPpre			07 50 43.6
ABKAR	**Akbulak array**	**141.70**	**52**	*e*PKPdf	PKPpre			07 50 46.0
BKNI	**Bangkinang**	**145.59**	**167**	*e*PKPbc	**PKPdf**			**07 50 59.5 -0.7**
POO	**Poona**	**145.69**	**108**	⇑*i*P	**PKPdf**			**07 51 00.0 -0.1**
	comp=Z,120nm,1.0s							
GSI	**Gunungsitoli**	**145.75**	**161**	*e*PKPbc	**PKPab**			**07 51 01.7 +0.5**
BRVK	**Borovoye**	**147.27**	**43**	⇓*i*PKIKP	**PKPdf**			**07 51 02.5 +0.8**
BRVK				*i*				07 51 05.6
BRVK	**Borovoye**	**147.27**	**43**	*e*PKPdf	**PKPdf**			**07 51 02.5 +0.8**
BRVK				*e*PKPbc	**PKPab**			**07 51 05.1 -0.8**
KSM	**Kuching**	**147.33**	**184**	⇑P	**PKPbc**			**07 51 05.8 +0.4**
KSM	**Kuching**	**147.33**	**184**	*e*PKPbc	**PKPbc**			**07 51 05.2 -0.2**
KSM				*e*PKPab	**PKiKP**			**07 51 07.8 +0.1**
BVA0	**Borovoye Array**	**147.34**	**43**	*i* PKIKP	**PKPdf**			**07 51 02.3 +0.5**
BVA0						pmax	pmax	
	comp=Z,49nm,0.7s							
BVAR	**Borovoye Array**	**147.34**	**43**	PKIKP	**PKPdf**			**07 51 02.6 +0.8**
BVAR						pmax	pmax	
	comp=Z,44nm,0.7s							
BVAR	**Borovoye Array**	**147.34**	**43**	PKPbc	**PKPdf**			**07 51 02.6 +0.8**
	comp=Z,44nm,0.7s,baz=276,slow=2.7,SNR=76							
MYKOM	**Kota Tinggi**	**147.45**	**172**	⇑P	**PKPbc**			**07 51 06.1 +0.4**
KGM	**Kluang**	**147.61**	**171**	⇓P	**PKPbc**			**07 51 06.2 0.0**
VOSK	**Vostochnaya**	**147.78**	**44**	PKP2	**PKPbc**			**07 51 04.4 -1.1**
VOSK						pmax	pmax	
	comp=Z,18nm,0.8s							
KBL	**Kabul**	**147.84**	**78**	*e*PKIKP	**PKPdf**			**07 51 04.4 +0.9**
KBL	**Kabul**	**147.84**	**78**	*e*PKPdf	**PKPdf**			**07 51 04.4 +0.9**
SBUM	**Sibu**	**148.14**	**188**	⇑P	**PKPbc**			**07 51 07.2 -0.4**
FRIM	**Kepong**	**148.54**	**167**	⇑P	**PKPbc**			**07 51 08.2 -0.4**
HYB	**Hyderabad**	**148.66**	**115**	*i* PKP	**PKPdf**			**07 51 04.5 -0.6**
BTM	**Bintulu**	**148.77**	**189**	⇑P	**PKPbc**			**07 51 07.6 -1.6**
TSM	**Tawau**	**148.86**	**199**	⇑P	**PKPbc**			**07 51 09.7 +0.3**
YAK	**Yakutsk**	**149.03**	**340**	*i* PKHKP	**PKPdf**			**07 51 02.9 -1.4**
YAK				*e*				07 51 12.4
YAK						pmax	pmax	
	comp=Z,84nm,1.0s							
YAK						pmax	pmax	
	comp=E,12nm,1.4s							
YAK						pmax	pmax	
	comp=N,13nm,1.3s							
YAK	**Yakutsk**	**149.03**	**340**	*e*PKPdf	**PKPdf**			**07 51 03.9 -0.4**
YAK				*e*PKPbc	**PKPbc**			**07 51 08.2 -0.1**
YAK				*e*PKPab	**PKPab**			**07 51 13.3 +0.7**
LHMI	**Lhok Sumawe**	**149.30**	**158**	*e*PKPdf	**PKPdf**			**07 51 06.9 +0.6**
LHMI				*e*PKPbc	**PKPbc**			**07 51 10.8 +0.2**
LHMI				*e*PKPab	**PKPab**			**07 51 14.7 -0.4**
KK31	**Karatay Array**	**149.51**	**62**	*i* PKHKP	**PKPdf**			**07 51 06.5 +0.8**
KK31						pmax	pmax	
	comp=Z,28nm,0.8s							
KKAR	**Karatay Array**	**149.51**	**62**	*e*PKHKP	**PKPdf**			**07 51 06.4 +0.7**
KKAR	**Karatay Array**	**149.51**	**62**	*e*PKPdf	**PKPdf**			**07 51 06.3 +0.7**
KKAR				*e*PKPbc	**PKPbc**			**07 51 10.3 +0.1**
IPM	**Ipoh**	**149.64**	**166**	*e*PKPdf	**PKPdf**			**07 51 06.6 -0.2**
IPM				*e*PKPbc	**PKPbc**			**07 51 11.3 -0.2**
SDKM	**Sandakan**	**150.33**	**198**	⇓P	**PKPbc**			**07 51 12.6 -0.5**
KULM	**Kulim**	**150.35**	**165**	⇑P	**PKPbc**			**07 51 13.1 -0.1**
KULM	**Kulim**	**150.35**	**165**	*e*PKPdf	**PKPdf**			**07 51 07.6 -0.3**
KULM				*e*PKPbc	**PKPbc**			**07 51 12.7 -0.5**
KULM				*e*PKPab	**PKPab**			**07 51 19.7 +0.4**
KTGM	**Kuala Trenggan**	**150.84**	**170**	⇑P	**PKPbc**			**07 51 14.3 0.0**
KKM	**Kota Kinabalu**	**150.96**	**197**	*e*PKPbc	**PKPbc**			**07 51 14.4 -0.3**
YSS	**Yuzh-Sakhalins**	**151.09**	**306**	⇓*e*PKIKP	**PKPbc**			**07 51 13.0 -0.8**
YSS				*e*				07 51 22.0
YSS						pmax	pmax	
	comp=Z,110nm,1.0s							
YSS	**Yuzh-Sakhalins**	**151.09**	**306**	*e*PKPbc	**PKPbc**			**07 51 13.7 -0.1**
ASAJ	**Asahikawa**	**151.74**	**301**	PKIKP	**PKPbc**			**07 51 15.6 +0.1**
ASAJ						pmax	pmax	
	comp=Z,66nm,0.9s							
ASAJ	**Asahikawa**	**151.74**	**301**	PKPbc	**PKPbc**			**07 51 15.6 +0.1**
	comp=Z,66nm,0.9s,baz=237,slow=5.3,SNR=15							
AML	**Almayashu**	**151.93**	**63**	P	**PKPdf**			**07 51 10.9 +0.9**
	SNR=6.1							
EKS2	**Erkin-Say**	**151.94**	**62**	P	**PKPdf**			**07 51 10.7 +1.0**
	SNR=14							
EKS2	**Erkin-Say**	**151.94**	**62**	*e*PKIKP	**PKPdf**			**07 51 10.5 +0.8**
EKS2				*e*				07 51 17.3
EKS2	**Erkin-Say**	**151.94**	**62**	*e*PKPdf	**PKPdf**			**07 51 10.5 +0.8**
EKS2				*e*PKPbc	**PKiKP**			**07 51 17.3 +0.8**
USP	**Ospenovka**	**152.39**	**61**	P	**PKPbc**			**07 51 15.3 -1.8**
	SNR=5.3							
AAK	**Ala-Archa**	**152.47**	**62**	P	**PKPbc**			**07 51 20.0 +2.6**
	SNR=16							
AAK	**Ala-Archa**	**152.47**	**62**	PKIKP	**PKPdf**			**07 51 11.3 +0.8**
AAK								07 51 18.4
AAK						pmax	pmax	
	comp=Z,3.0nm,0.7s							
AAK						pmax	pmax	
	comp=Z,48nm,0.8s							
AAK	**Ala-Archa**	**152.47**	**62**	PKP	**PKPdf**			**07 51 11.3 +0.8**
	comp=Z,3.4nm,0.7s,baz=155,slow=3.5,SNR=7.7							
AAK					PKPbc		**PKiKP**	**07 51 18.4 +0.7**
	comp=Z,48nm,0.8s,baz=199,slow=2.4,SNR=53							
AAK	**Ala-Archa**	**152.47**	**62**	*e*PKPdf	**PKPdf**			**07 51 11.3 +0.8**
AAK				*e*PKPbc	**PKiKP**			**07 51 18.2 +0.6**
AAK				PKPbc	**PKiKP**			**07 51 18.4 +0.7**
AAK				*e*PKPab	**PKPab**			**07 51 28.2 +0.4**
UCH	**Uchtor**	**152.52**	**63**	P	**PKPdf**			**07 51 12.1 +1.2**
	SNR=13							
CHMS	**Chumysh**	**152.61**	**61**	P	**PKPbc**			**07 51 18.4 +0.9**
	SNR=10							
CHMS	**Chumysh**	**152.61**	**61**	*i* PKIKP	**PKPbc**			**07 51 18.4 +0.9**
KBK	**Karagaybulak**	**152.79**	**62**	P	**PKPbc**			**07 51 19.1 +0.9**
	SNR=8.9							
KURBB	**Kurchatov Arra**	**152.93**	**44**	PKP	**PKPdf**			**07 51 11.2 +0.6**
	comp=Z,4.0nm,0.8s,baz=300,slow=2.1,SNR=5.8							
KURBB				PKPbc	**PKiKP**			**07 51 18.4 +0.3**
	comp=Z,22nm,0.7s,baz=297,slow=2.9,SNR=18							
KURK	**Kurchatov**	**152.94**	**44**	PKIKP	**PKPdf**			**07 51 11.2 +0.6**
KURK								07 51 18.4
KURK						pmax	pmax	
	comp=Z,4.0nm,0.8s							
KURK						pmax	pmax	
	comp=Z,22nm,0.7s							
KURK	**Kurchatov**	**152.94**	**44**	PKP	**PKPdf**			**07 51 11.2 +0.6**
KURK				PKPbc	**PKiKP**			**07 51 18.4 +0.3**
NVS	**Novosibirsk**	**153.06**	**33**	⇓*i*PKIKP	**PKPdf**			**07 51 09.9 -0.8**
NVS						pmax	pmax	
	comp=N,7.0nm,0.8s							
NVS						pmax	pmax	
	comp=E,15nm,0.8s							
NVS						pmax	pmax	
	comp=Z,73nm,0.8s							
KZA	**Kyzart**	**153.08**	**63**	P	**PKPbc**			**07 51 20.3 +1.2**
	SNR=8.8							
TKM2	**Tokmak 2**	**153.24**	**61**	P	**PKPdf**			**07 51 12.1 +0.5**
	SNR=7.5							
TKM2	**Tokmak 2**	**153.24**	**61**	*e*PKIKP	**PKPdf**			**07 51 11.9 +0.3**
TKM2				*e*				07 51 19.9
TKM2	**Tokmak 2**	**153.24**	**61**	*e*PKPdf	**PKPdf**			**07 51 11.9 +0.3**
TKM2				*e*PKPbc	**PKiKP**			**07 51 19.9 +0.6**
TKM2				*e*PKPab	**PKPab**			**07 51 32.1 +1.0**
KSH	**Kashi**	**153.80**	**69**	⇓*i*PKPbc	**PKPdf**			**07 51 13.1 +0.6**
KSH				sPKP				07 51 25.6
KSH				PKS	**PKSdf**			**07 54 46.4 -0.4**
KSH				SKS	**SKSdf**			**07 58 16.8 0.0**
KSH				SKKS	**SKKSac**			**08 01 55.3 -0.3**
KSH				SS	**SS**			**08 14 40.9 -2.6**
KSH				PPMZ				
	comp=Z,180nm,5.4s							
ULHL	**Ulahol**	**153.80**	**63**	P	**PKPdf**			**07 51 13.4 +0.9**
	SNR=7.0							
ZALV	**Zalesovo Beam**	**154.34**	**33**	PKIKP	**PKPdf**			**07 51 12.4 -0.1**
ZALV								07 51 21.2
ZALV						pmax	pmax	
	comp=Z,10.0nm,0.8s							
ZALV						pmax	pmax	
	comp=Z,46nm,0.7s							
ZALV						pmax	pmax	
	comp=Z,31nm,0.8s							
ZALV	**Zalesovo Beam**	**154.34**	**33**	PKP	**PKPdf**			**07 51 12.4 -0.1**
	comp=Z,9.8nm,0.8s,baz=280,slow=2.6,SNR=33							
ZALV				PKPbc	**PKiKP**			**07 51 21.2 +0.3**
	comp=Z,46nm,0.7s,baz=298,slow=3.2,SNR=60							
ZALV				PKPab	**PKPab**			**07 51 35.9 +0.8**
	comp=Z,31nm,0.8s,baz=308,slow=5.5,SNR=12							
CLNS	**Chul'man**	**154.70**	**338**	*e*PKIKP	**PKPbc**			**07 51 19.8 -1.8**
CLNS						pmax	pmax	
	comp=N,5.0nm,1.2s							
CLNS						pmax	pmax	
	comp=Z,17nm,1.0s							
CLNS						pmax	pmax	
	comp=E,4.0nm,0.9s							
MJAR	**Matsushiro Arr**	**155.46**	**284**	PKIKP	**PKPdf**			**07 51 14.8 +0.1**
MJAR								07 51 39.4
MJAR						pmax	pmax	
	comp=Z,3.0nm,1.0s							
MJAR						pmax	pmax	
	comp=Z,7.0nm,1.0s							
MJAR	**Matsushiro Arr**	**155.46**	**284**	PKP	**PKPdf**			**07 51 14.8 +0.1**
	comp=Z,3.3nm,1.0s,baz=155,slow=3.2,SNR=6.0							
MJAR				PKPab	**PKPab**			**07 51 39.4 -1.1**
	comp=Z,6.5nm,1.0s,baz=143,slow=4.0,SNR=5.5							
MAJO	**Matsushiro**	**155.46**	**284**	*e*PKIKP	**PKPdf**			**07 51 12.6 -2.1**
MAJO	**Matsushiro**	**155.46**	**284**	*e*PKPdf	**PKPdf**			**07 51 12.6 -2.1**
MAT	**Matsushiro**	**155.46**	**284**	PKP	**PKPdf**			**07 51 13.1 -1.6**
BOD	**Bodaibo**	**156.10**	**352**	*e*PKIKP	**PKPdf**			**07 51 12.2 -2.6**
BOD				*e*				07 51 41.4
BOD						pmax	pmax	
	comp=Z,35nm,1.0s							
MKAR	**Makanchi Array**	**156.79**	**50**	PKIKP	**PKPdf**			**07 51 16.4 +0.2**
MKAR								07 55 24.8
MKAR						pmax	pmax	
	comp=Z,3.0nm,0.7s							
MKAR						pmax	pmax	
	comp=Z,13nm,0.8s							
MKAR						pmax	pmax	
	comp=Z,4.0nm,1.1s							
MKAR	**Makanchi Array**	**156.79**	**50**	PKP	**PKPdf**			**07 51 16.4 +0.2**
	comp=Z,1.4nm,0.3s,baz=305,slow=5.1,SNR=3.8							
MKAR				PKPab	**PKPab**			**07 51 46.2 +0.3**
	comp=Z,13nm,0.8s,baz=316,slow=3.3,SNR=9.0							
MKAR				PP	**PP**			**07 55 24.8 +0.3**
	comp=Z,3.5nm,1.1s,baz=276,slow=4.2,SNR=4.4							
PYUN	**Piuthan**	**157.62**	**99**	*e*P	**PKPdf**			**07 51 17.9 -0.1**
	comp=Z,72nm,1.0s							
KOLN	**Koldanda**	**158.00**	**100**	*e*P	**PKPdf**			**07 51 18.3 -0.2**
	comp=Z,26nm,0.9s							
DANN	**Dangsing**	**158.35**	**99**	*e*P	**PKPdf**			**07 51 19.2 +0.2**
	comp=Z,110nm,0.9s							
GKN	**Gorkha**	**158.93**	**101**	*e*P	**PKPdf**			**07 51 19.2 -0.3**
	comp=Z,59nm,1.1s							
USRK	**Ussuriysk Ar.**	**159.11**	**305**	PKPab	**PKPab**			**07 51 56.0 0.0**
	comp=Z,5.1nm,0.8s,baz=82,slow=7.2,SNR=7.0							
DMN	**Daman**	**159.15**	**102**	*e*P	**PKPdf**			**07 51 19.8 -0.2**
	comp=Z,29nm,1.0s							
KKN	**Kakani**	**159.37**	**102**	*e*P	**PKPdf**			**07 51 20.0 -0.1**
PKI	**Pulchoki**	**159.38**	**103**	*e*P	**PKPdf**			**07 51 19.8 -0.5**
GUN	**Gumba**	**159.90**	**102**	*e*P	**PKPdf**			**07 51 20.8 -0.1**
JIRN	**Jiri**	**160.05**	**103**	*e*P	**PKPdf**			**07 51 20.9 -0.2**
RAMN	**Ramite**	**160.07**	**106**	*e*P	**PKPdf**			**07 51 21.2 +0.2**
MDJ	**Mudanjiang**	**160.54**	**308**	PKP	**PKPdf**			**07 51 19.0 -1.6**
MDJ				pPKP	**pPKPdf**			**07 51 29.5 -2.4**
MDJ				sPKP				07 51 33.1
MDJ				PKS	**PKSdf**			**07 54 53.5 -0.4**
MDJ				PP	**PP**			**07 55 41.5 -3.5**
MDJ				PPMZ				
	comp=Z,150nm,4.6s							
ODAN	**Odare**	**160.66**	**107**	*e*P	**PKPdf**			**07 51 21.7 +0.1**
TAPN	**Taplejung**	**161.14**	**106**	*e*P	**PKPdf**			**07 51 22.3 +0.1**
	comp=Z,52nm,1.3s							
PBKT	**Sadao Pong**	**161.24**	**158**	P	**PKPdf**			**07 51 22.6 +0.4**
	comp=Z,10.0nm,1.3s							
WMQ	**Urumqi**	**161.48**	**53**	PKP	**PKPdf**			**07 51 21.3 -0.5**
WMQ				pPKP	**pPKPdf**			**07 51 32.0 -1.0**
WMQ				PKPab	**PKPab**			**07 52 07.6 +1.2**
WMQ				PKS	**PKSdf**			**07 54 53.3 -1.7**
WMQ				PP	**PP**			**07 55 52.5 +2.3**
WMQ				SKS	**SKSdf**			**07 58 21.0 -3.1**
WMQ				SKKS	**SKKSac**			**08 02 35.4 -0.3**
WMQ				PPMZ				
	comp=Z,160nm,5.4s							
MHMT	**Maesarieng**	**161.56**	**148**	P	**PKPdf**			**07 51 23.2 +0.7**
SUKH	**Sukhothai**	**161.63**	**153**	P	**PKPdf**			**07 51 23.3 +0.7**
	comp=Z,4.1nm,0.9s							
UTTA	**Uttaradit**	**162.20**	**156**	P	**PKPdf**			**07 51 23.7 +0.6**
	comp=Z,5.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**162.24**	**150**	PKIKP	**PKPdf**			**07 51 23.3 +0.1**
CMAR								07 52 09.7
CMAR						pmax	pmax	
	comp=Z,5.0nm,0.8s							
CMAR						pmax	pmax	
	comp=Z,2.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**162.24**	**150**	PKP	**PKPdf**			**07 51 23.3 +0.1**
	comp=Z,5.1nm,0.8s,baz=241,slow=2.8,SNR=28							
CMAR				PKPab	**PKPab**			**07 52 09.7 -0.5**
	comp=Z,2.4nm,0.8s,baz=224,slow=5.1,SNR=6.8							
TLY	**Talaya**	**162.27**	**9**	PKP	**PKPdf**			**07 51 22.1 -0.2**
	comp=Z,1.8nm,0.5s,baz=119,slow=20,SNR=4.0							
TLY				PKPab	**PKPab**			**07 52 10.5 +1.1**
	comp=Z,5.8nm,0.8s,baz=345,slow=5.4,SNR=5.0							
CHTO	**Chiang Mai**	**162.56**	**150**	*e*PKIKP	**PKPdf**			**07 51 23.5 0.0**
CHTO	**Chiang Mai**	**162.56**	**150**	P	**PKPdf**			**07 51 23.7 +0.2**
	comp=Z,54nm,1.2s							
CHTO	**Chiang Mai**	**162.56**	**150**	*e*PKPdf	**PKPdf**			**07 51 23.5 0.0**
CMMT	**Chiang Mai**	**162.56**	**150**	P	**PKPdf**			**07 51 23.1 -0.4**
	comp=Z,16nm,1.2s							
LAMP	**Lampang**	**162.58**	**152**	P	**PKPdf**			**07 51 25.1 +1.6**
HIA	**Hailar**	**162.73**	**334**	*e*PKP2	**PKPab**			**07 52 11.2 -0.3**
HIA	**Hailar**	**162.73**	**334**	*e*PKPab	**PKPab**			**07 52 11.2 -0.3**
ZAK	**Zakamensk**	**163.49**	**11**	*e*PKIKP	**PKPdf**			**07 51 22.2 -1.4**
ZAK				*e*				07 55 55.8
ZAK						pmax	pmax	
	comp=Z,6.0nm,1.4s							
CN2	**Changchun**	**163.56**	**311**	*e*PKP	**PKPdf**			**07 51 24.8 +1.1**
CN2				PPMZ				
	comp=Z,500nm,8.0s							
KSRS	**Korea Array**	**163.68**	**287**	PKIKP	**PKPdf**			**07 51 23.4 -0.6**
KSRS								07 52 16.9
KSRS						pmax	pmax	
	comp=Z,3.0nm,0.9s							
KSRS						pmax	pmax	
	comp=Z,6.0nm,0.8s							
KSRS	**Korea Array**	**163.68**	**287**	PKP	**PKPdf**			**07 51 23.4 -0.6**
	comp=Z,2.9nm,0.9s,baz=161,slow=1.7,SNR=7.0							
KSRS				PKPab	**PKPab**			**07 52 16.9 +0.7**
	comp=Z,5.8nm,0.8s,baz=101,slow=4.1,SNR=10.0							
KSAR	**Wonju Array Be**	**163.71**	**287**	PKIKP	**PKPdf**			**07 51 23.4 -0.7**
KSAR								07 52 16.9
KSAR	**Wonju Array Be**	**163.71**	**287**	PKP	**PKPdf**			**07 51 23.4 -0.7**
KSAR				PKPab	**PKPab**			**07 52 16.9 +0.5**
LSA	**Lhasa**	**164.86**	**103**	*e*PKIKP	**PKPdf**			**07 51 26.0 0.0**
LSA	**Lhasa**	**164.86**	**103**	*e*PKPdf	**PKPdf**			**07 51 26.0 0.0**
SONM	**Songino Array**	**166.37**	**5**	PKIKP	**PKPdf**			**07 51 26.0 -0.2**
SONM						pmax	pmax	
	comp=Z,1.0nm,0.4s							
SONM						pmax	pmax	
	comp=Z,7.0nm,1.0s							
SONM	**Songino Array**	**166.37**	**5**	PKP	**PKPdf**			**07 51 26.0 -0.2**
	comp=Z,1.5nm,0.6s,baz=202,slow=2.3,SNR=2.4							
SONM				PKPab	**PKPab**			**07 52 28.5 +0.8**
	comp=Z,7.2nm,1.0s,baz=354,slow=9.3,SNR=4.9							
ULN	**Ulaanbaatar**	**166.37**	**3**	*e*PKIKP	**PKPdf**			**07 51 25.4 -0.8**
ULN	**Ulaanbaatar**	**166.37**	**3**	*e*PKPdf	**PKPdf**			**07 51 25.4 -0.8**
KMI	**Kunming**	**169.75**	**151**	PKP	**PKPdf**			**07 51 29.3 0.0**
NJ2	**Nanjing**	**170.78**	**259**	*e*PKP	**PKPdf**			**07 51 30.1 +0.7**
BJI	**Beijing**	**171.39**	**314**	PKP	**PKPdf**			**07 51 29.3 -0.1**
BJI				PP	**PP**			**07 56 43.8 +2.9**
GTA	**Gaotai**	**171.55**	**50**	PKP	**PKPdf**			**07 51 30.3 +0.6**
GTA				pPKP	**pPKPdf**			**07 51 40.5 -0.5**
GTA				sPKP				07 51 44.9
GTA				PKPab	**PKPab**			**07 52 52.0 +1.0**
GTA				PP	**PP**			**07 56 45.8 +3.7**
GTA				SKS	**SKSdf**			**07 58 30.1 -0.5**
GTA				SKKS	**SKKSac**			**08 03 27.0 +0.8**
GTA				PPMZ				
	comp=Z,140nm,7.4s							
GYA	**Guiyang**	**172.12**	**170**	*i* PKP	**PKPdf**			**07 51 30.3 -0.1**
GYA				pPKP	**pPKPdf**			**07 51 41.8 +0.1**
GYA				PKPab	**PKPab**			**07 52 55.0 +1.3**
GYA				PKS	**PKSdf**			**07 55 00.3 -2.6**
GYA				PP	**PP**			**07 56 47.6 +3.8**
GYA				SKKS				08 03 28.4
GYA				SS	**SS**			**08 17 51.0 +0.6**
GYA				PPMZ				
	comp=Z,180nm,8.9s							
HHC	**Hu-ho-hao-te**	**172.89**	**339**	*e*PKP	**PKPdf**			**07 51 30.8 +0.5**
HHC				PP	**PP**			**07 56 52.4 +4.6**
HHC				PPMZ				
	comp=Z,99nm,8.6s							
WHN	**Wuhan**	**173.60**	**236**	PKP	**PKPdf**			**07 51 31.0 +0.3**
CD2	**Chengdu**	**175.00**	**131**	*e*PKP	**PKPdf**			**07 51 31.8 +0.6**
CD2				sPKP				07 51 45.5
CD2				PKPab	**PKPab**			**07 53 04.0 -2.4**
CD2				PP	**PP**			**07 56 59.3 +0.5**
CD2				SKKS				08 03 40.3
CD2				PPMZ				
	comp=Z,200nm,5.4s							
LZH	**Lanzhou**	**176.01**	**61**	*e*PKP	**PKPdf**			**07 51 32.5 +1.0**
LZH				pPKP	**pPKPdf**			**07 51 42.8 0.0**
LZH				sPKP				07 51 47.3
LZH				PP	**PP**			**07 57 07.3 +3.1**
LZH				*e*SKKS				08 03 46.3
LZH				*e*SS	**SS**			**08 18 27.1 -3.4**
LZH				PPMZ				
	comp=Z,130nm,5.1s							
XAN	**Xi'an**	**179.35**	**251**	PKP	**PKPdf**			**07 51 31.6 -0.3**

ISCJB ***14*** *07:37:57.8±0.7, 56°.17N±0°.05×152°.03W±0°.06, h10km, mb4.0/12, MS3.0/1, Error ellipse: s-maj=7.4km s-min=4.5km az=156.4*

IDC ***14*** *07:37:57.1±2.8, 55°.59N×152°.32W, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.8/49, mbtmp3.9/13, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/58, Error ellipse: s-maj=64.7km s-min=25.6km az=158.0*

NEIC ***14*** *07:37:58.5, 56°.08N×152°.20W, h2km, ML3.8(AEIC), After AEIC.*

ISC 14 07:38:01.5±1.1, 56°.25N±0°.09×152°.29W±0°.07, h10km, n74, σ1§53/73, mb4.2/12, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**1.10**	**287**	P	**Pn**	**07 38 20.1**	**-2.9**
SII				S	**Sb**	**07 38 37.2**	**+0.3**
OHAK	**Old Harbor**	**1.12**	**331**	P	**Pn**	**07 38 20.6**	**-2.6**
KDAK	**Kodiak Island**	**1.55**	**354**	P	**Pn**	**07 38 27.6**	**-1.4**
KABR	**Katmai Barrier**	**2.39**	**323**	P	**Pn**	**07 38 38.7**	**-2.0**
KCG	**Knife Ck. Glac**	**2.57**	**325**	P	**Pn**	**07 38 42.5**	**-0.7**
PLK3	**Peulik 3**	**2.61**	**305**	P	**Pn**	**07 38 42.8**	**-0.9**
KELA	**Mount Kelaz**	**2.89**	**321**	P	**Pn**	**07 38 46.1**	**-1.5**
MCNL	**McNeil River**	**3.14**	**340**	P	**Pn**	**07 38 50.7**	**-0.3**
AUI	**Augustine Isla**	**3.15**	**349**	P	**Pn**	**07 38 51.3**	**+0.1**
AUP	**Augustine Pinn**	**3.18

comp=Z,0.2nm,0.5s,baz=345,slow=7.1,SNR=2.2

IDC ***14*** *07:38:02.1±2.9,55.°62N×152.°50W,h0km,mb4.1/12, mb1 4.2/13,mb1mx3.9/50,mbtmp4.1/13,ML4.3/1,Error ellipse: s-maj=65.7km s-min=26.3km az=159.0*

ISC 14 07:38:10.8±9.6,57.°N±2.°×152.°9W±0.°5,h10km,n13, σ0.°48/11,mb4.4/11,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**8.54**	**17**	P	Pn	07 40 16.4	+2.1
	1.1nm,0.3s,baz=202,slow=14,SNR=36						
YKA	**Yellowknife Ar**	**19.93**	**57**	P	Pn	07 42 41.8	-2.2
	1.5nm,0.9s,baz=269,slow=11,SNR=14						
RES	**Resolute Bay**	**28.07**	**29**	**P**		**07 44 02.2**	**+0.4**
	0.6nm,0.8s,baz=259,slow=9.8,SNR=6.3						
ARCES	**ARCESS Array B**	**53.99**	**1**	**P**		**07 47 34.2**	**-0.1**
	3.0nm,0.8s,baz=355,slow=7.9,SNR=4.8						
SONM	**Songino Array**	**56.79**	**308**	**P**		**07 47 55.5**	**+0.6**
	4.6nm,0.7s,baz=46,slow=8.5,SNR=5.3						
ZALV	**Zalesovo Beam**	**60.05**	**325**	P		**07 48 17.6**	**+0.3**
	2.2nm,0.8s,baz=28,slow=6.7,SNR=7.3						
NOA	**NORSAR Array B**	**61.87**	**9**	**P**		**07 48 29.7**	**0.0**
	1.9nm,0.7s,baz=350,slow=6.7,SNR=7.5						
FINES	**FINESS Array B**	**62.12**	**1**	**P**		**07 48 31.6**	**+0.3**
	2.5nm,0.8s,baz=355,slow=9.8,SNR=8.4						
BVAR	**Borovoye Array**	**64.98**	**333**	P		**07 48 50.3**	**0.0**
	3.7nm,0.7s,baz=40,slow=6.8,SNR=17						
MKAR	**Makanchi Array**	**67.03**	**322**	**P**		**07 49 03.0**	**-0.6**
	1.0nm,0.7s,baz=46,slow=8.7,SNR=8.1						
AKTO	**Aktyubinsk**	**70.15**	**340**	**P**		**07 49 22.7**	**-0.3**
	1.6nm,0.5s,baz=355,slow=3.6,SNR=9.3						
AKASG	**Malin Array Be**	**72.88**	**359**	**P**		**07 49 38.7**	**-0.8**
	2.5nm,0.7s,baz=2.5,slow=5.5,SNR=5.4						
GERES	**GERESS Array B**	**74.16**	**9**	**P**		**07 49 47.5**	**+0.4**
	0.8nm,0.7s,baz=337,slow=3.0,SNR=6.0						

NNC 14 07:48:47.7±0.5,49.°99N×78.°63E,h0km,mb3.2,mpv3.0, 16C-6D,Error ellipse: s-maj=11.3km s-min=2.2km az=82.0,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.60**	**353**	⇑P	Pg	07 48 59.5	+0.3
KUR07				⇓S	Sg	07 49 08.3	+1.3
KUR06	**Kurchatov Arra**	**0.62**	**354**	⇑P	Pg	07 48 59.8	+0.3
KUR06				⇓S	Sg	07 49 08.7	+1.1
KUR14	**Kurchatov Arra**	**0.62**	**358**	⇑P	Pg	07 48 59.7	0.0
KUR14				⇑S	Sg	07 49 08.5	+0.7
KUR15	**Kurchatov Arra**	**0.63**	**356**	⇑P	Pg	07 48 59.9	0.0
KUR15				⇓S	Sg	07 49 09.3	+1.3
KURBB	**Kurchatov Arra**	**0.64**	**354**	⇑P	Pg	07 49 00.2	+0.3
	22nm,0.2s						
KURBB				⇑S	Sg	07 49 09.1	+0.9
	48nm,0.4s						
KUR16	**Kurchatov Arra**	**0.64**	**353**	⇓P	Pg	07 49 00.5	+0.4
KUR16				⇓S	Sg	07 49 09.2	+0.8
KUR17	**Kurchatov Arra**	**0.65**	**351**	⇑P	Pg	07 49 00.7	+0.5
KUR17				⇑S	Sg	07 49 10.1	+1.4
KUR05	**Kurchatov Arra**	**0.66**	**355**	⇓P	Pg	07 49 00.5	+0.2
KUR05				⇓S	Sg	07 49 09.4	+0.6
KUR04	**Kurchatov Arra**	**0.68**	**355**	⇑P	Pg	07 49 00.8	+0.1
KUR04				⇑S	Sg	07 49 10.1	+0.7
KURK	**Kurchatov**	**0.73**	**360**	⇑P	Pg	07 49 01.5	-0.1
	7.5nm,0.4s						
KURK				⇑S	Sg	07 49 12.1	+1.0
	13nm,0.5s						
MK04	**Makanchi Array**	**4.04**	**141**	⇑Pn	Pn	07 49 52.6	+1.7
	0.8nm,0.3s						
MK04				⇑Lg	Lg	07 50 55.3	
	3.8nm,0.4s						

CASC 14 07:56:49.8±4.5,8.°23N×82.°85W,h22km±15km,MD3.5,1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.53**	**323**	⇑*i*P	Pb	07 56 59.0	-1.6
ACR				*e*S	Sb	07 57 08.4	+0.6
BRU2	**Volcan**	**0.58**	**15**	*e*P	Pb	07 57 01.0	-0.7
BRU2				*e*S	Sn	07 57 11.1	-1.0
BRU	**Baru**	**0.64**	**26**	*e*P	Pb	07 57 01.9	-1.1
BRU				*e*S	Sb	07 57 12.6	+0.6
CNI	**Changuinola**	**1.23**	**15**	*e*P	Pb	07 57 17.1	+4.8
BUS	**Buena Vista**	**1.60**	**326**	*e*P	Pn	07 57 16.4	-0.9
BUS				*e*S	Sn	07 57 37.8	0.0
CGA2	**Cerro Gallo 2**	**2.39**	**318**	*e*P	Pn	07 57 29.7	+1.8
CGA2				*e*S	Sn	07 57 58.4	+1.7

NIED ***14*** *08:08:00,37.°70N×141.°90E,h44km,Mw6.5 Best double couple: M0:6.83000×10^18 NP1:φs=199.00000°,δ21.00000°, λ,89.00000°. NP2:φs=20.00000°,δ69.00000°,λ,91.00000°.*

SZGRF ***14*** *08:08:01.8,38.°23N×142.°47E,h33km,mb6.4,MS6.9, Near east coast of eastern Honshu, Japan*

MOS ***14*** *08:08:02.2±1.0,37.°80N×141.°62E,h30km,mb6.5/187, MS6.4/103,Error ellipse: s-maj=6.1km s-min=3.8km az=98.3*

BJI ***14*** *08:08:02.6,37.°68N×141.°71E,h41km,mB6.5/67,mb6.5/68, Ms6.8/94,Ms7 6.6/84*

NEIC ***14*** *08:08:04.0±0.1,37.°75N×141.°59E,h32km,mb6.3/289, ME6.5,MS6.4/154,MW6.5,MW6.4,MW6.5,MW6.5(NIED), Error ellipse: s-maj=2.8km s-min=2.0km az=143.0, Moment Tensor Solution. s125 Moment tensor: Scale 10^18Nm; Mrr3.33; Mθθ0.40; Mφφ-3.73; Mrθ1.75; Mθφ0.28; Mφr3.56; Best double couple: M0:5.30000×10^18 NP1: φs=156.00000°,δ26.00000°,λ,51.00000°. NP2:φs=18.00000°, δ70.00000°,λ,107.00000°. Principal axes: T 5.4100, Plg61.0000°, Azm312.0000°; N -0.1600, Plg15.0000°, Azm191.0000°; P -5.2500, Plg23.0000°, Azm94.0000°; Broadband fault plane solution: P waves. NP1: φs=205.00000°,δ10.00000°,λ,90.00000°. NP2:φs=25.00000°, δ80.00000°,λ,90.00000°. Principal axes: T Plg55.0000°, Azm295.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm115.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Kitakami and Sendai; [III] at Ayase, Misawa, Tokyo, Yokohama and Yokosuka; [II] at Hamura. Widely felt on Honshu. Recorded [5L JMA] in Fukushima; [4 JMA] in Iwate, Miyagi and Tochigi; [3 JMA] in Akita, Aomori, Chiba, Gumma, Ibaraki, Kanagawa, Niigata, Saitama, Tokyo, Yamagata and Yamanashi; [2 JMA] in Nagano and Shizuoka; [1 JMA] in Aichi, Gifu, Ishikawa and Shiga. Also recorded [2 JMA] in southern and southwestern Hokkaido and [1 JMA] in central and eastern Hokkaido. Recorded [1 JMA] on Hachijo-jima, Miyake-jima, O-shima and Sadoga-shima.

NEIC ***14*** *08:08:03.0±0.0,37.°76N×141.°56E,h50km Best double couple: NP1:φs=22.00000°,δ68.00000°,λ,93.00000°. NP2:φs=193.00000°,δ22.00000°,λ,82.00000°. Principal axes: T 6.3300, Plg66.0000°, Azm297.0000°; N 0.4500, Plg3.0000°, Azm200.0000°; P -6.7700, Plg23.0000°, Azm109.0000°;*

GCMT ***14*** *08:08:04.0±0.1,37.°70N×141.°98E,h46km,MW6.5/136, Moment Tensor Solution. s132,c346; s136,c561; Duration: 4s5 Moment tensor: Scale 10^18Nm; Mrr5.55±.03; Mθθ-0.28±.03; Mφφ-5.27±.03; Mrθ1.83±.03; Mθφ-2.07±.02; Mφr4.97±.04; Best double couple: M0:7.84200×10^18 NP1:φs=20.00000°,δ66.00000°, λ,90.00000°. NP2:φs=200.00000°,δ24.00000°,λ,89.00000°. Principal axes: T 7.6090, Plg69.0000°, Azm291.0000°; N 0.4650, Plg0.0000°, Azm200.0000°; P -8.0760, Plg21.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

JMA ***14*** *08:08:04.1±0.1,37.°72N×141.°82E,h40km±2km,M6.7*

KMA ***14*** *08:08:05.7±1.9,37.°70N×141.°81E,h0km,Error ellipse: s-maj=20.2km s-min=19.9km az=50.0*

ISCJB ***14*** *08:08:05.5±0.2,37.°75N±0.°01×141.°66E±0.°01,h53km±1km, mb6.2/507,MS6.5/254,Error ellipse: s-maj=2.2km s-min=1.6km az=148.8*

IDC ***14*** *08:08:07.6±1.6,37.°75N×141.°65E,h60km±13km,mb5.7/39, mb1 5.7/45,mb1mx5.7/46,mbtmp5.9/45,MS6.4/40, Ms1 6.4/40,ms1mx6.3/45,Error ellipse: s-maj=10.1km s-min=7.8km az=112.0*

NEIC ***14*** *08:08:19.5±0.0,37.°70N×141.°87E,h40km,Moment Tensor Solution. s152 Moment tensor: Scale 10^18Nm; Mrr5.48; Mθθ-0.87; Mφφ-4.61; Mrθ2.06; Mθφ-1.29; Mφr5.60; Best double couple: M0:7.90000×10^18 NP1:φs=196.00000°, δ21.00000°,λ,87.00000°. NP2:φs=19.00000°,δ69.00000°, λ,91.00000°. Principal axes: T 8.1800, Plg65.0000°, Azm291.0000°; N -0.4800, Plg1.0000°, Azm198.0000°; P -7.7100, Plg24.0000°, Azm108.0000°;*

ISC 14 08:08:05.0±0.2,37.°78N±0.°02×141.°66E±0.°02,h40km±1km, h40km:pP-P,n2398,σ1.°30/2644,mb6.3/514,MS6.5/263, 502C-299D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.69**	**277**	P	**Pn**	**08 08 19.5**	**+1.2**
JMM				*e*S	**Sn**	**08 08 30.3**	**+2.5**
JIO	**Ouri**	**0.71**	**340**	P	**Pn**	**08 08 19.3**	**+0.7**
JIO				*e*S	**Sn**	**08 08 30.1**	**+1.7**
JFK	**Kawauchi**	**0.75**	**236**	P	**Pn**	**08 08 19.4**	**+0.3**
JFK				*e*S	**Sn**	**08 08 30.3**	**+1.0**
ONAJ	**Iwakimizuishiy**	**0.96**	**225**	P	**Pn**	**08 08 22.0**	**-0.1**
JOU	**Okura**	**0.97**	**307**	P	**Pn**	**08 08 23.8**	**+1.6**
JOU				*e*S	**Sn**	**08 08 37.9**	**+3.0**
JFT	**Otama**	**1.08**	**256**	P	**Pn**	**08 08 25.5**	**+1.8**
JFT				S	**Sn**	**08 08 40.7**	**+3.3**
JMK	**Ichinoseki**	**1.22**	**344**	P	**Pn**	**08 08 26.5**	**+1.0**
OFUJ	**Ofunato**	**1.29**	**0**	P	**Pn**	**08 08 26.6**	**0.0**
JYS	**Shiratake**	**1.33**	**290**	P	**Pn**	**08 08 28.9**	**+1.8**
JYS				*e*S	**Sn**	**08 08 47.7**	**+4.1**
JYK	**Kaneyama**	**1.52**	**318**	P	**Pn**	**08 08 31.5**	**+1.8**
JFY	**Yanaizu**	**1.59**	**257**	P	**Pn**	**08 08 32.5**	**+1.8**
JFY				*e*S	**Sn**	**08 08 53.1**	**+3.0**
JSB	**Shiboa**	**1.60**	**240**	P	**Pn**	**08 08 32.4**	**+1.5**
JOM	**Ohasama**	**1.71**	**351**	P	**Pn**	**08 08 33.4**	**+1.1**
JOM				*e*S	**Sn**	**08 08 56.0**	**+3.0**
JYA	**Atsumi**	**1.73**	**298**	P	**Pn**	**08 08 34.5**	**+1.9**
MIYJ	**Miyakonagasawa**	**1.79**	**4**	⇓P	**Pn**	**08 08 33.3**	**-0.2**
JRG	**Rokugo**	**1.80**	**334**	P	**Pn**	**08 08 35.4**	**+1.9**
JNS	**Sasagawa**	**1.85**	**272**	P	**Pn**	**08 08 36.3**	**+2.0**
JAW	**Awa shima**	**2.01**	**290**	P	**Pn**	**08 08 38.5**	**+2.0**
JYW	**Yuwa**	**2.09**	**328**	P	**Pn**	**08 08 39.2**	**+1.7**
JTH	**Tanohata**	**2.16**	**4**	P	**Pn**	**08 08 38.9**	**+0.4**
JHK	**Hiroka**	**2.16**	**257**	P	**Pn**	**08 08 40.3**	**+1.7**
JTB	**Tobi-shima**	**2.17**	**311**	P	**Pn**	**08 08 40.3**	**+1.7**
JKT	**Katashina**	**2.17**	**243**	P	**Pn**	**08 08 40.9**	**+2.2**
JKZ	**Kuzumaki**	**2.21**	**354**	P	**Pn**	**08 08 40.2**	**+0.9**
JAG	**Ashikaga**	**2.22**	**233**	P	**Pn**	**08 08 40.2**	**+0.8**
JIZZ	**Izumozaki**	**2.35**	**265**	P	Pn	08 08 44.0	+2.9
JAH	**Hinai**	**2.53**	**342**	P	**Pn**	**08 08 45.7**	**+2.1**
I30JP	**ISUMI INFRASON**	**2.70**	**204**	P	Pn	08 08 51.0	+5.2
	baz=36,slow=16,SNR=4.2						
I30JP				*i*		08 20 54.5	
	baz=18,slow=329,SNR=0.6						
JRY	**Ryogami san**	**2.83**	**232**	P	**Pn**	**08 08 48.5**	**+0.8**
JJN	**Nakama**	**2.86**	**257**	P	**Pn**	**08 08 50.5**	**+2.4**
MJAR	**Matsushiro Arr**	**3.02**	**247**	P	Pn	08 08 53.2	+2.9
	181nm,0.3s,baz=52,slow=11,SNR=862						
MJAR				S	Sn	08 09 37.5	+12
	725nm,0.3s,baz=82,slow=16,SNR=8.0						
MJAR				LR	LR	08 10 22.5	
	comp=Z,1051μm,19.4s,baz=65,slow=45						
MAJO	**Matsushiro**	**3.02**	**247**	*e*P	**Pn**	**08 08 52.9**	**+2.6**
MAJO	**Matsushiro**	**3.02**	**247**	*e*Pn	**Pn**	**08 08 52.9**	**+2.6**
MAT	**Matsushiro**	**3.02**	**247**	P	**Pn**	**08 08 52.8**	**+2.5**
MAT				S	**Sn**	**08 09 27.9**	**+2.6**
MAT	**Matsushiro**	**3.02**	**247**	P	**Pn**	**08 08 52.8**	**+2.5**
JIW	**Iwasaki**	**3.08**	**336**	P	**Pn**	**08 08 53.3**	**+2.1**
JNG	**Nsakai**	**3.16**	**245**	P	**Pn**	**08 08 54.6**	**+2.3**
JYN	**Shimob**	**3.39**	**229**	P	**Pn**	**08 08 56.8**	**+1.4**
JIZS	**Izushimoda**	**3.79**	**217**	P	**Pn**	**08 09 02.3**	**+1.3**
JGN	**Niukaw**	**3.81**	**247**	P	**Pn**	**08 09 04.0**	**+2.8**
JNY	**Yasuok**	**3.90**	**233**	P	Pn	08 09 05.3	+2.9
JGF	**Kuroka**	**4.08**	**239**	P	**Pn**	**08 09 07.7**	**+2.7**
JKO	**Kozu shima**	**4.13**	**210**	P	**Pn**	**08 09 06.1**	**+0.5**
HMMJ	**Hamamatsu 2**	**4.32**	**229**	P	**Pn**	**08 09 10.0**	**+1.9**
JAO	**Obara**	**4.34**	**236**	P	**Pn**	**08 09 11.3**	**+2.8**
ERM	**Erimo**	**4.38**	**15**	*e*P	**Pn**	**08 09 08.9**	**-0.1**
ERM				*e*		08 10 02.1	
ERM	**Erimo**	**4.38**	**15**	*e*Pn	**Pn**	**08 09 08.9**	**-0.1**
ERM				*e*Sn	**Sn**	**08 10 02.1**	**+3.4**
JHJ2	**Mitsune**	**4.90**	**198**	*e*Pn	**Pn**	**08 09 15.5**	**-0.6**
JKSM	**Kasumi**	**6.03**	**251**	P	Pn	08 09 35.3	+3.6
ASAJ	**Asahikawa**	**6.37**	**6**	P	**Pn**	**08 09 37.6**	**+1.3**
ASAJ				S	**Sn**	**08 10 51.1**	**+3.5**
ASAJ				pmax	pmax		
	comp=Z,110nm,0.3s						
ASAJ				smax	smax		
	comp=N,171nm,0.3s						
ASAJ	**Asahikawa**	**6.37**	**6**	P	**Pn**	**08 09 37.5**	**+1.3**
	comp=N,110nm,0.3s,baz=205,slow=12,SNR=141						
ASAJ				S	**Sn**	**08 10 51.1**	**+3.5**
	comp=N,171nm,0.3s,baz=287,slow=25,SNR=5.6						
ASAJ	**Asahikawa**	**6.37**	**6**	*e*Pn	**Pn**	**08 09 36.4**	**+0.2**
ASAJ				S	**Sn**	**08 10 51.1**	**+3.5**
YUK	**Yuzh-Kuril'sk**	**7.01**	**26**	*c i*P	**Pn**	**08 09 43.9**	**-1.1**
YUK				*i* S	Sn	08 10 57.6	-5.8
YUK				pmax	pmax		
	comp=N,1μm,0.6s						
YUK				pmax	pmax		
	comp=E,800nm,0.6s						
YUK				pmax	pmax		
	comp=Z,3μm,0.6s						
YUK				smax	smax		
	comp=N,48μm,2.6s						
YUK				smax	smax		
	comp=E,151μm,2.6s						
YUK				MLR	MLR		
	comp=N,170μm,18.0s						
YUK				MLR	MLR		
	comp=Z,142μm,18.0s						
KUR	**Kuril'sk**	**8.78**	**30**	⇓*i*P	**Pn**	**08 10 11.8**	**+2.5**
KUR				*i* S	**Sn**	**08 11 42.3**	**-4.6**
KUR				pmax	pmax		
	comp=Z,496nm,0.5s						
KUR				pmax	pmax		
	comp=N,2μm,1.0s						
KUR				pmax	pmax		
	comp=E,428nm,1.0s						
KUR				smax	smax		
	comp=E,4μm,0.5s						
KUR				smax	smax		
	comp=N,5μm,1.0s						
KUR				MLR	MLR		
	comp=N,84μm,19.0s						
KUR				MLR	MLR		
	comp=E,134μm,19.0s						
KUR				MLR	MLR		
	comp=Z,63μm,19.0s						
VLA	**Vladivostok**	**9.15**	**309**	*c i*P	Pn	08 10 20.1	+5.6
VLA				*e*S	Sn	08 12 03.6	+7.5
VLA				pmax	pmax		
	comp=Z,7μm,1.4s						
VLA				smax	smax		
	comp=N,9μm,1.3s						
JKI	**Kunimi**	**9.19**	**246**	P	Pn	08 10 19.5	+4.5
YSS	**Yuzh-Sakhalins**	**9.20**	**5**	*c i*P	**Pn**	**08 10 15.0**	**-0.1**
YSS				*i* S	**Sn**	**08 11 56.0**	**-1.2**
YSS				pmax	pmax		
	comp=Z,770nm,1.0s						
YSS				MLR	MLR		
	comp=Z,103μm,16.0s						
YSS				MLR	MLR		
	comp=N,86μm,17.0s						
YSS				MLR	MLR		
	comp=E,28μm,12.0s						
YSS	**Yuzh-Sakhalins**	**9.20**	**5**	*e*Pn	**Pn**	**08 10 14.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**9.71**	**314**	P	Pn	08 10 25.6	+3.5
	comp=E,30nm,0.3s,baz=122,slow=14,SNR=163						
USRK				LR	LR	08 14 01.2	
	comp=E,480μm,18.9s,baz=117,slow=36						
I45RU	**USSURIYSK INFR**	**9.72**	**314**	P	**Pn**	**08 10 23.5**	**+1.2**
	baz=124,slow=14,SNR=1.7						
JKIT	**Kitakata**	**9.80**	**241**	P	Pn	08 10 26.5	+3.1
KSULJ	**Uljin**	**9.82**	**267**	⇑P	Pn	08 10 29.3	+5.7
	SNR=21						
JNU	**Nakatsue**	**9.94**	**245**	P	Pn	08 10 28.9	+3.5
	comp=E,13nm,0.3s,baz=61,slow=9.9,SNR=100						
JNU				LR	LR	08 14 44.1	
	comp=E,439μm,20.3s,baz=58,slow=40						
JNU	**Nakatsue**	**9.94**	**245**	*e*Pn	**Pn**	**08 10 26.3**	**+0.9**
JNU				*e*Sn	Sn	08 12 22.4	+6.7
KSPHA	**Pohang**	**9.96**	**265**	⇑P	Pn	08 10 30.7	+5.2
	SNR=53						
JTSN	**Tsuno**	**9.99**	**239**	P	**Pn**	**08 10 28.4**	**+2.5**
KSJMJ	**Jumunjin**	**10.21**	**274**	⇓P	Pn	08 10 34.5	+5.6
	SNR=23						
KSDGY	**Daegwallyong**	**10.28**	**273**	⇑P	Pn	08 10 35.8	+5.8
	SNR=30						
KSSKC	**Sokcho**	**10.37**	**277**	P	Pn	08 10 37.0	+5.8
	SNR=52						
KSBUS	**Busan**	**10.41**	**260**	⇓P	Pn	08 10 37.2	+5.6
	SNR=23						
KSDAG	**Daegu**	**10.43**	**263**	⇑P	Pn	08 10 37.9	+5.9
	SNR=31						
KSYOW	**Yeongwol**	**10.51**	**271**	P	Pn	08 10 39.6	+6.6
	SNR=198						
SEHB	**SEOHWA**	**10.59**	**277**	⇓P	Pn	08 10 39.7	+5.5
	SNR=27						
CBIJ	**Chichi jima**	**10.67**	**177**	P	Pn	08 10 31.4	-3.9
CBIJ				*e*Sn	Sn	08 12 17.7	-16
CBIJ				S	Sn	08 12 20.9	-13
JCJ	**Chichijima**	**10.67**	**177**	P	Pn	08 10 31.4	-3.9
	comp=E,136nm,0.3s,baz=56,slow=10,SNR=84						
JCJ				S	Sn	08 12 20.9	-13
	comp=E,817nm,0.3s,baz=26,slow=23,SNR=9.1						
KSIJA	**INJE**	**10.71**	**275**	⇑P	Pn	08 10 41.3	+5.6
	SNR=85						
KSWJU	**Wonju**	**10.80**	**272**	P	Pn	08 10 43.2	+6.1
	SNR=98						
KSRS	**Korea Array**	**10.90**	**272**	P	Pn	08 10 42.6	+4.3
	comp=E,17nm,0.3s,baz=86,slow=13,SNR=211						
KSRS				LR	LR	08 14 39.4	
	comp=E,332μm,19.7s,baz=84,slow=36						
KSRS				PcP	**PcP**	**08 16 35.7**	**-0.2**
	comp=E,0.5nm,0.3s,baz=94,slow=0.7,SNR=4.8						
KSAR	**Wonju Array Be**	**10.93**	**272**	P	Pn	08 10 42.7	+3.9
KSAR	**Wonju Array Be**	**10.93**	**272**	P	Pn	08 10 42.6	+3.9
KSAR				PcP	**PcP**	**08 16 35.7**	**-0.3**
UGL	**Uglegorsk**	**11.29**	**1**	⇑*i*P	**Pn**	**08 10 42.0**	**-1.7**
UGL				S	**Sn**	**08 12 47.0**	**-1.5**
UGL				pmax	pmax		
	comp=N,5μm,8.0s						
UGL				pmax	pmax		
	comp=E,2μm,8.0s						
UGL				pmax	pmax		
	comp=Z,5μm,8.0s						
UGL				pmax	pmax		
	comp=Z,450nm,0.8s						
UGL				smax	smax		
	comp=N,15μm,5.0s						
UGL				smax	smax		
	comp=E,12μm,5.0s						
UGL				MLR	MLR		
	comp=N,116μm,23.0s						
UGL				MLR	MLR		
	comp=Z,132μm,23.0s						
UGL				MLR	MLR		
	comp=E,173μm,18.0s						
MDJ	**Mudanjiang**	**11.36**	**311**	P	**Pn**	**08 10 47.3**	**+2.7**
MDJ				S	Sn	08 12 56.8	+6.7
MDJ				PcP	**PcP**	**08 16 34.3**	**-2.0**
MDJ				ScP	**ScP**	**08 20 07.3**	**+1.6**
MDJ				PcS	**PcS**	**08 20 11.4**	**+1.4**
MDJ				PMZ			
	comp=E,110nm,0.9s						
MDJ				LN			
	comp=E,161μm,17.1s						
MDJ				LE			
	comp=E,211μm,17.7s						
MDJ				LZ			
	comp=E,360μm,18.9s						
MDJ	**Mudanjiang**	**11.36**	**311**	*e*Pn	Pn	08 10 48.0	+3.4
	comp=E,1μm,0.9s						
MDJ				*e*Sn	Sn	08 12 59.0	+8.9
TJN	**Taejon**	**11.50**	**267**	*i* P	Pn	08 10 49.9	+3.3
HABR	**Khabarovsk**	**11.72**	**338**	*c i*P	**Pn**	**08 10 47.9**	**-1.6**
HABR				*e*S	**Sn**	**08 12 57.9**	**-0.9**
HABR				pmax	pmax		
	comp=E,120nm,1.5s						
HABR				pmax	pmax		
	comp=Z,291nm,1.5s						
HABR				pmax	pmax		
	comp=N,154nm,1.5s						
HABR				MLR	MLR		
	comp=E,132μm,17.0s						
HABR				MLR	MLR		
	comp=Z,309μm,17.0s						
HABR				MLR	MLR		
	comp=N,189μm,17.0s						
INCN	**Inchon**	**11.92**	**273**	P	Pn	08 10 58.4	+6.1
	SNR=56						
INCN	**Inchon**	**11.92**	**273**	*e*Pn	Pn	08 10 57.7	+5.3
INCN				*e*Sn	Sn	08 13 15.9	+12
CN2	**Changchun**	**13.66**	**301**	⇑P	**Pn**	**08 11 18.1**	**+2.0**
CN2				*e*S	Sn	08 13 53.5	+7.1
SNY	**Shenyang**	**14.47**	**292**	⇑P	**Pn**	**08 11 28.3**	**+1.3**
SNY				S	**Sn**	**08 14 07.9**	**+1.9**
SNY				PMZ			
	comp=N,370nm,1.4s						
SNY				PMZ			
	comp=N,12μm,6.3s						
SNY				LN			
	comp=N,102μm,19.0s						
SNY				LE			
	comp=N,349μm,16.3s						
SNY				LZ			
	comp=N,394μm,18.1s						
JOW	**Kunigami**	**15.70**	**230**	P	**Pn**	**08 11 42.9**	**-0.4**
	comp=N,0.1nm,0.3s,baz=37,slow=13,SNR=11						
JOW	**Kunigami**	**15.70**	**230**	P	**Pn**	**08 11 42.9**	**-0.4**
	comp=N,71nm,1.3s						
DL2	**Dalian**	**15.76**	**280**	P	**P**	**08 11 46.4**	**-1.0**
DL2				S	**Sn**	**08 14 40.5**	**+3.1**
DL2				PMZ			
	comp=N,41μm,8.8s						
DL2				LE			
	comp=N,76μm,20.6s						
DL2				LZ			
	comp=N,111μm,18.6s						
OKH	**Okha**	**15.79**	**3**	*i* P	**Pn**	**08 11 42.6**	**-1.7**
OKH				*e*S	**Sn**	**08 14 39.0**	**+0.9**
OKH				pmax	pmax		
	comp=Z,11μm,11.0s						
OKH				smax	smax		
	comp=E,20μm,14.0s						
OKH				smax	smax		
	comp=N,16μm,13.0s						
SKR	**Severo-Kuril's**	**16.50**	**34**	*e*P	Pn	08 11 47.5	-5.8
SKR				*e*S	Sn	08 14 48.0	-7.3
SKR				pmax	pmax		
	comp=N,160nm,0.9s						
SKR				pmax	pmax		
	comp=E,300nm,0.9s						
SKR				pmax	pmax		
	comp=Z,390nm,0.9s						
SKR				pmax	pmax		
	comp=N,4μm,4.0s						
SKR				pmax	pmax		
	comp=E,4μm,4.0s						
SKR				pmax	pmax		
	comp=Z,6μm,4.0s						
SKR				smax	smax		
	comp=N,12μm,10.0s						
SKR				smax	smax		
	comp=E,30μm,10.0s						
SKR				smax	smax		
	comp=N,450nm,1.0s						
SKR				smax	smax		
	comp=E,800nm,1.5s						

SSE LE
comp=Z,76μm,20.8s
SSE LZ
comp=Z,146μm,22.2s
PETK Petropavlovsk- 18.94 31 P **P 08 12 22.7 +0.2**
PETK pmax pmax
comp=Z,2.0nm,0.3s
PETK MLR MLR
comp=Z,37μm,21.4s
PETK Petropavlovsk- 18.94 31 P **P 08 12 22.7 +0.2**
comp=Z,2.1nm,0.3s,baz=210,slow=9.7,SNR=33
PETK LR LR 08 19 34.8
comp=Z,37μm,21.4s,baz=221,slow=36
PET Petropavlovsk 19.28 32α *i*P **P 08 12 26.7 +0.6**
PET *e*S **S 08 15 59.0 -3.1**
PET pmax pmax
comp=Z,10μm,6.1s
PET pmax pmax
comp=Z,8μm,7.6s
PET pmax pmax
comp=Z,446nm,1.1s
PET smax smax
comp=Z,27μm,11.2s
PET smax smax
comp=E,273nm,3.1s
PET smax smax
comp=Z,25μm,8.4s
PET MLR MLR
comp=Z,126μm,23.0s
PET MLR MLR
comp=Z,86μm,20.0s
PET Petropavlovsk 19.28 32 *e*Pn **Pn 08 12 27.4 0.0**
comp=Z,2μm,1.6s
HIA Hailar 19.52 313*c i*P **P 08 12 27.0 -1.9**
HIA pmax pmax
comp=Z,121nm,1.1s
HIA MLR MLR
comp=Z,276μm,17.0s
HIA Hailar 19.52 313 *e*P **P 08 12 26.4 -2.5**
comp=Z,392nm,0.8s
HIA *e*S **S 08 16 00.5 -6.6**
NJ2 Nanjing 19.53 260 *e*P **P 08 12 28.8 -0.3**
NJ2 pP **pP 08 12 38.1 -0.9**
NJ2 sP **sP 08 12 41.9 -2.2**
NJ2 S **S 08 16 07.0 -0.5**
NJ2 sS **sS 08 16 22.0 -1.4**
NJ2 PMZ
comp=Z,2μm,1.0s
NJ2 PMZ
comp=Z,29μm,10.9s
NJ2 LN
comp=Z,256μm,15.6s
NJ2 LE
comp=Z,275μm,20.0s
NJ2 LZ
comp=Z,265μm,18.7s
TIA Tai'an 19.65 273 ⇑P **P 08 12 29.8 -0.5**
TIA PP **PnPn 08 12 46.8 +0.7**
TIA S S 08 16 01.3 -8.5
TIA SS SnSn 08 16 36.3 +10
TIA PMZ
comp=Z,910nm,1.2s
TIA PMZ
comp=Z,22μm,10.0s
TIA LN
comp=Z,80μm,17.0s
TIA LE
comp=Z,124μm,19.0s
TIA LZ
comp=Z,163μm,19.0s
BJI Beijing 19.94 284 P **P 08 12 33.4 0.0**
BJI S **S 08 16 11.8 -3.7**
BJI PMZ
comp=Z,1μm,1.6s
BJI PMZ
comp=Z,7μm,4.4s
BJI LN
comp=Z,77μm,18.6s
BJI LE
comp=Z,69μm,21.8s
BJI LZ
comp=Z,95μm,33.9s
BJT Baijiatuau 19.94 284 *e*P **P 08 12 31.8 -1.7**
BJT *e*S **S 08 16 09.4 -6.3**
BJT pmax pmax
comp=Z,2μm,0.6s
BJT Baijiatuau 19.94 284 *e*P **P 08 12 31.8 -1.7**
comp=Z,2μm,0.6s
BJT *e*S **S 08 16 09.3 -6.3**
YOJ Yonaguni jima 20.71 235 *e*P **P 08 12 42.0 +0.1**
YOJ Yonaguni jima 20.71 235 *e*P **P 08 12 42.0 +0.1**
comp=Z,158nm,1.0s
TATO Taipei 21.38 239 P **P 08 12 49.1 0.0**
SNR=13
TATO Taipei 21.38 239 *e*P **P 08 12 48.9 -0.2**
comp=Z,866nm,1.1s
TATO LR LR
comp=Z,47μm,22.0s
YHNB Yeheng 21.66 239 *e*P P 08 12 43.6 -8.6
comp=Z,609nm,1.1s
YHNB *e*S **S 08 16 45.5 -4.4**
YHNB LR LR
comp=Z,33μm,22.0s
NACB Ninganchiao 21.84 237 *e*P P 08 12 48.3 -5.8
comp=Z,136nm,0.6s
CLNS Chul'man 22.08 335 *e*P **P 08 12 56.6 +0.2**
CLNS *e**PP **pP 08 13 10.2 +3.7**
CLNS *e* 08 13 18.7
CLNS *e* 08 16 53.1
CLNS *e*S **S 08 16 54.1 -3.3**
CLNS *e*SS **SnSn 08 17 34.9 +9.5**
CLNS pmax pmax
comp=N,546nm,1.0s
CLNS pmax pmax
comp=Z,945nm,0.9s
CLNS pmax pmax
comp=E,425nm,1.1s
CLNS pmax pmax
comp=Z,186nm,0.7s
CLNS pmax pmax
comp=E,172nm,0.8s
CLNS pmax pmax
comp=N,519nm,0.8s
CLNS smax smax
comp=N,27μm,9.7s
CLNS smax smax
comp=E,29μm,10.3s
CLNS MLR MLR
comp=E,62μm,15.0s
CLNS MLR MLR
comp=N,87μm,14.0s
CLNS MLR MLR
comp=Z,174μm,19.0s
SSLB Suanglung 22.54 238 *e*P **P 08 12 58.5 -3.0**
comp=Z,534nm,1.0s
YULB Yu-li 22.58 236 *e*P P 08 12 54.7 -7.3
comp=Z,250nm,0.9s
YULB *e* 08 17 01.6
TIY Taiyuan 23.07 279 *e*P **P 08 13 04.3 -2.8**
TIY pP **pP 08 13 18.1 +0.8**
TIY PP **PnPn 08 13 38.8 +5.8**
TIY S **S 08 17 15.3 +0.1**
TIY SS **SnSn 08 17 54.5 +4.6**
TIY PMZ
comp=Z,310nm,1.0s
TIY PMZ
comp=Z,10μm,7.8s
TIY LN
comp=Z,57μm,13.8s
TIY LE
comp=Z,76μm,15.6s
TIY LZ
comp=Z,143μm,20.1s
TPUB Ta-pu 23.09 237 *e*P **P 08 13 04.5 -2.8**
comp=Z,1μm,1.1s
TWG Pinlang 23.12 236 *e*P P 08 13 03.2 -4.4
comp=Z,2μm,0.8s
TWG *e*S S 08 17 08.5 -7.6
QZH Quanzhou 23.41 244⇑*i*P **P 08 13 07.8 -2.6**
QZH S S 08 17 10.5 -10
QZH PMZ
comp=Z,540nm,1.0s
QZH PMZ
comp=Z,22μm,8.2s
QZH LN
comp=Z,85μm,14.3s
QZH LE
comp=Z,121μm,18.9s
QZH LZ
comp=Z,201μm,24.6s
HHC Hu-ho-hao-te 23.43 287⇑*i*P **P 08 13 08.0 -2.6**
HHC sP sP 08 13 21.8 -4.2
HHC PP **PnPn 08 13 39.9 +2.0**
HHC S **S 08 17 15.8 -5.3**
HHC sS sS 08 17 31.8 -7.5
HHC PMZ
comp=Z,1μm,1.2s
HHC PMZ
comp=Z,8μm,5.7s
HHC LN
comp=Z,123μm,14.8s
HHC LE
comp=Z,184μm,13.6s
HHC LZ
comp=Z,207μm,14.8s
WHN Wuhan 23.67 260⇓P **P 08 13 11.1 -1.7**
WHN S **S 08 17 21.3 -3.5**
WHN LN
comp=Z,104μm,14.4s
WHN LE
comp=Z,245μm,15.2s
WHN LZ
comp=Z,301μm,15.4s
GUMO Guam 24.27 172 *e*P **P 08 13 14.7 -3.7**
GUMO *e*S **S 08 17 37.0 +2.4**
GUMO pmax pmax
comp=Z,3μm,1.3s
GUMO MLR MLR
comp=Z,34μm,20.0s
GUMO Guam 24.27 172 *e*P **P 08 13 14.7 -3.7**
comp=Z,3μm,1.3s
GUMO *e*S **S 08 17 37.0 +2.4**
GUMO LR LR
comp=Z,34μm,20.0s
CIT Chita 24.28 315 *e*P **P 08 13 16.6 -1.8**
CIT *i* 08 13 28.3
CIT *e* 08 17 31.5
CIT pmax pmax
comp=Z,6μm,1.1s
BTO Baotou 24.61 286 *e*P **P 08 13 20.3 -1.3**
BTO LN
comp=Z,28μm,15.7s
BTO LE
comp=Z,32μm,15.2s
YAK Yakutsk 25.38 347*c i*P **P 08 13 27.5 -0.7**
YAK *e**PP **pP 08 13 39.9 +0.8**
YAK *e*S **S 08 17 50.3 -1.4**
YAK pmax pmax
comp=Z,3μm,0.9s
YAK pmax pmax
comp=N,712nm,0.9s
YAK pmax pmax
comp=E,417nm,1.1s
YAK smax smax
comp=N,10μm,2.7s
YAK smax smax
comp=E,9μm,3.4s
YAK MLR MLR
comp=Z,150μm,16.0s
YAK MLR MLR
comp=N,109μm,15.0s
YAK MLR MLR
comp=E,56μm,15.0s
YAK Yakutsk 25.38 347 *e*P **P 08 13 27.6 -0.5**
YAK LR LR
comp=Z,123μm,19.0s
SGCP Mt. Cagua 25.95 227 *e*P **P 08 13 34.4 +0.7**
SGCP *e*S **sP 08 13 53.3 +3.8**
SEY Seymchan 26.02 11 P **P 08 13 35.6 +1.7**
SEY pmax pmax
comp=Z,577nm,1.0s
SEY MLR MLR
comp=Z,36μm,18.3s
SEY Seymchan 26.02 11 P **P 08 13 35.6 +1.7**
comp=Z,577nm,1.0s,baz=199,slow=7.3,SNR=312
SEY LR LR 08 25 59.5
comp=Z,36μm,18.3s,baz=191,slow=41
FX1 Attu Island--F 26.53 45 P **P 08 13 39.7 +1.0**
FX1 pmax pmax
comp=Z,63nm,0.8s
FX1 Attu Island--F 26.53 45 P **P 08 13 39.6 +1.0**
comp=Z,63nm,0.8s,baz=260,slow=20,SNR=8.2
XAN Xi'an 26.70 272 P **P 08 13 39.8 -0.7**
XAN PP **PnPn 08 14 26.8 +4.2**
XAN S **S 08 18 11.5 -1.7**
XAN PMZ
comp=Z,280nm,1.0s
XAN PMZ
comp=Z,4μm,9.2s
XAN LN
comp=Z,40μm,22.0s
XAN LE
comp=Z,14μm,23.8s
XAN LZ
comp=Z,22μm,19.7s
APYP Conner 26.72 228 *e*P **P 08 13 38.9 -1.8**
BOD Bodaibo 27.00 327⇑*i*P **P 08 13 43.1 +0.2**
BOD pmax pmax
comp=Z,741nm,1.0s
SMY Shemya 27.01 46 *e*P **P 08 13 43.4 +0.4**
SMY pmax pmax
comp=Z,1μm,1.4s
SMY Shemya 27.01 46 *e*P **P 08 13 43.4 +0.4**
comp=Z,1μm,1.4s
ULN Ulaanbaatar 27.10 303*c i*P **P 08 13 44.8 +0.7**
ULN pmax pmax
comp=Z,520nm,0.8s
ULN MLR MLR
comp=Z,91μm,16.0s
ULN Ulaanbaatar 27.10 303 P **P 08 13 44.8 +0.7**
SNR=221
ULN Ulaanbaatar 27.10 303 *e*P **P 08 13 43.9 -0.2**
ULN LR LR
comp=Z,106μm,19.0s
ABRA Dolores 27.20 228 *e*P **P 08 13 48.3 +3.3**
SONM Songino Array 27.53 303 P **P 08 13 49.2 +1.3**
SONM pmax pmax
comp=Z,654nm,0.8s
SONM MLR MLR
comp=Z,111μm,18.0s
SONM Songino Array 27.53 303 P **P 08 13 49.2 +1.3**
comp=Z,654nm,0.8s,baz=101,slow=8.0,SNR=273
SONM LR LR 08 25 14.2
comp=Z,111μm,18.0s,baz=116,slow=37
ENH Enshi 27.59 264 *e*P **P 08 13 48.4 -0.1**
comp=Z,2μm,1.1s
ENH *e*S **S 08 18 23.4 -4.0**
ENH LR LR
comp=Z,70μm,21.0s
HKC Hong Kong Obse 28.22 245 *i*S **S 08 18 36.0 -1.2**
BALP Baler 28.23 224 *e*P **P 08 13 55.2 +1.0**
BCPH Baguio City Da 28.27 227⇑*i*P P 08 13 50.6 -4.2
GZH Guangzhou 28.33 247 P P 08 13 52.1 -3.0
GZH S S 08 18 32.4 -6.5
GZH LN
comp=Z,169μm,21.6s
GZH LE
comp=Z,115μm,20.8s
H11N2 WAKE ISLAND Hy 28.38 122 T T 08 43 23.9
baz=318,slow=74
H11N1 WAKE ISLAND Hy 28.38 122 T T 08 43 26.1
baz=318,slow=74
H11N3 WAKE ISLAND Hy 28.39 122 T T 08 43 26.8
baz=318
PCPH Palayan 28.64 225⇓*e*P **P 08 13 58.2 +0.4**
BOLP Bolinao 28.66 228 *e*P **P 08 13 57.6 -0.5**
PVCP Virac 28.69 218 *e*P **P 08 13 58.8 +0.5**
H11S1 WAKE ISLAND Hy 29.11 124 T T 08 44 22.8
baz=316,slow=74
H11S3 WAKE ISLAND Hy 29.11 124 T T 08 44 22.8
baz=316,slow=74
H11S2 WAKE ISLAND Hy 29.13 124 T T 08 44 22.9
baz=316
SCZP Santa Cruz 29.14 227 *e*P **P 08 14 01.2 -1.1**
AUQP San Andres 29.65 220 *e*P **P 08 14 09.2 +2.3**
IRK Irkutsk 29.74 311 *e*P **P 08 14 07.6 +0.2**
IRK pmax pmax
comp=Z,687nm,1.7s
TGY Tagaytay City 29.92 223 P **P 08 14 09.4 +0.1**
TGY pmax pmax
comp=Z,370nm,0.6s
TGY Tagaytay City 29.92 223 P **P 08 14 09.4 +0.1**
comp=Z,536nm,0.6s,baz=4.9,slow=5.2,SNR=14
ZAK Zakamensk 29.96 307 *e*P **P 08 14 09.5 0.0**
ZAK pmax pmax
comp=Z,423nm,1.0s
TLY Talaya 29.99 310 P **P 08 14 10.9 +1.3**
comp=Z,3μm,0.8s
TLY Talaya 29.99 310*c i*P **P 08 14 08.3 -1.3**
TLY *e* 08 15 11.4
TLY *e*PPP PPP 08 15 27.3
TLY *e* 08 17 05.4
TLY *e*S **S 08 19 03.7 -0.9**
TLY pmax pmax
comp=Z,477nm,1.0s
TLY MLR MLR
comp=Z,142μm,17.0s
TLY Talaya 29.99 310 P **P 08 14 10.6 +1.0**
SNR=207
TLY Talaya 29.99 310 P **P 08 14 10.6 +1.0**
comp=Z,250nm,0.7s,baz=113,slow=4.1,SNR=279
TLY Talaya 29.99 310 *e*P **P 08 14 10.3 +0.7**
comp=Z,347nm,0.8s
TLY LR LR
comp=Z,171μm,19.0s
LZH Lanzhou 30.14 278 ⇑P **P 08 14 11.8 +0.6**
LZH pP **pP 08 14 24.0 +1.7**
LZH sP **sP 08 14 28.3 +1.2**
LZH PP **PnPn 08 15 09.9 +0.5**
LZH S **S 08 19 06.0 -1.5**
LZH sS **sS 08 19 22.0 -3.9**
LZH SS **SnSn 08 20 41.3 -1.4**
LZH PMZ
comp=Z,750nm,1.0s
LZH PMZ
comp=Z,8μm,5.0s
LZH LN
comp=Z,52μm,13.9s
LZH LE
comp=Z,91μm,14.4s
LZH LZ
comp=Z,149μm,19.1s
PLP Palo 30.44 214⇑*e*P **P 08 14 13.5 -0.3**
LUBP Lubang 30.60 224 *e*P **P 08 14 15.1 -0.1**
OCLP Ormoc 30.70 214 *e*P sP 08 14 30.7 -1.2
RCP Roxas 31.13 218⇑*e*P **P 08 14 19.6 -0.3**
MSLP Maasin 31.41 213 *e*P **P 08 14 22.6 +0.3**
GYA Guiyang 31.54 259⇑*i*P **P 08 14 23.1 -0.5**
GYA pP **pP 08 14 35.3 +0.6**
GYA sP **sP 08 14 39.5 0.0**
GYA PP **PP 08 15 33.4 -1.9**
GYA PcP **PcP 08 17 16.3 +0.6**
GYA S **S 08 19 29.0 -0.6**
GYA sS **sS 08 19 47.0 -1.0**
GYA ScP **ScP 08 20 55.6 0.0**
GYA SS **SnSn 08 21 17.9 +0.9**
GYA PMZ
comp=Z,2μm,1.1s
GYA PMZ
comp=Z,7μm,9.3s
GYA LN
comp=Z,39μm,22.6s
GYA LE
comp=Z,66μm,25.4s
GYA LZ
comp=Z,86μm,24.5s
MOY Mondy 31.61 309 *e*P **P 08 14 24.4 +0.4**
MOY pmax pmax
comp=Z,1μm,3.6s
CD2 Chengdu 31.87 269⇑*i*P **P 08 14 26.1 -0.3**
CD2 sP **sP 08 14 39.1 -3.2**
CD2 PP **PnPn 08 15 32.4 +0.5**
CD2 S S 08 19 28.3 -6.2
CD2 sS sS 08 19 47.8 -5.1
CD2 SS **SnSn 08 21 23.9 -0.9**
CD2 PMZ
comp=Z,1μm,0.8s
CD2 PMZ
comp=Z,12μm,8.3s
CD2 LN
comp=Z,107μm,11.8s
CD2 LE
comp=Z,79μm,20.2s
CD2 LZ
comp=Z,110μm,16.7s
GUIM Jordan 32.01 217 *e*P **P 08 14 27.8 +0.2**
ADK Adak 32.26 51 *e*P **P 08 14 29.8 +0.3**
ADK pmax pmax
comp=Z,492nm,1.2s
ADK MLR MLR
comp=Z,64μm,22.0s
ADK Adak 32.26 51 *e*P **P 08 14 29.8 +0.3**
comp=Z,492nm,1.2s
ADK LR LR
comp=Z,64μm,22.0s
GTA Gaotai 32.53 286 ⇑P **P 08 14 32.3 +0.1**
GTA pP **pP 08 14 41.8 -1.5**
GTA sP **sP 08 14 45.9 -2.2**
GTA PcP **PcP 08 17 20.1 +1.9**
GTA S **S 08 19 46.3 +1.5**
GTA ScS **ScS 08 24 58.8 +0.4**
GTA PMZ
comp=Z,200nm,0.7s
GTA PMZ
comp=Z,9μm,9.0s
GTA LN
comp=Z,47μm,25.2s
GTA LE
comp=Z,103μm,19.9s
GTA LZ
comp=Z,126μm,23.8s
BIPH Bislig 32.56 209⇑*e*P P 08 14 37.1 +4.6
CGP Cagayan de Oro 32.98 212 *e*P **P 08 14 35.6 -0.5**
BILL Bilibino 33.25 17*c i*P **P 08 14 38.4 +0.4**
BILL *i*S **S 08 19 53.7 -1.4**
BILL *i*SS **SS 08 22 16.2 -3.1**
BILL pmax pmax
comp=Z,182nm,1.0s
BILL MLR MLR
comp=Z,38μm,23.0s
BILL Bilibino 33.25 17 *e*P **P 08 14 38.2 +0.1**
comp=Z,278nm,1.2s
BILL LR LR
comp=Z,32μm,20.0s
BUKP Musuan 33.35 211 *e*P **P 08 14 39.3 -0.1**
QIZ Qiongzhong 33.42 245 P **P 08 14 39.8 -0.2**
QIZ sP **sP 08 14 53.3 -2.5**
QIZ PP **PP 08 15 56.6 +0.6**
QIZ S **S 08 19 59.8 +1.2**
QIZ sS **sS 08 20 14.3 -2.7**
QIZ PMZ
comp=Z,210nm,1.5s
QIZ PMZ
comp=Z,9μm,11.9s
QIZ LN
comp=Z,60μm,17.9s
QIZ LZ
comp=Z,75μm,15.4s
QIZ Qiongzhong 33.42 245 *e*P **P 08 14 40.8 +0.8**
comp=Z,332nm,1.2s
QIZ *e*S **S 08 19 59.5 +0.9**
QIZ LR LR
comp=Z,70μm,19.0s
DAV Davao City (W) 33.88 210 *e*P **P 08 14 42.3 -1.7**
comp=Z,505nm,0.9s
DAV *e*S **S 08 20 08.7 +2.9**
DAV LR LR
comp=Z,46μm,21.0s
CTBH Cotabato--PC H 34.28 212⇑*e*P **P 08 14 47.8 +0.4**
TIXI Tiksi 34.57 353*c i*P **P 08 14 49.1 -0.3**
TIXI pmax pmax
comp=Z,162nm,1.2s
TIXI MLR MLR
comp=Z,65μm,16.0s
TIXI Tiksi 34.57 353 *e*P **P 08 14 48.0 -1.4**
TIXI LR LR
comp=Z,61μm,20.0s
KMI Kunming 35.27 260 ⇑P **P 08 14 56.3 +0.1**
KMI pP **pP 08 15 07.8 +0.4**
KMI sP **sP 08 15 12.4 +0.2**
KMI PP **PnPn 08 16 15.5 +0.5**
KMI S **S 08 20 24.4 -3.2**
KMI sS **sS 08 20 45.1 -1.0**
KMI SS **SnSn 08 22 42.4 -5.2**
KMI PMZ
comp=Z,1μm,1.2s
KMI PMZ

comp=Z,10μm,7.9s
KMI LN
comp=Z,66μm,15.0s
KMI LE
comp=Z,90μm,19.5s
KMI LZ
comp=Z,109μm,19.5s
HVS Khovu-Aksy 36.09 307 *c iP* **P 08 15 03.9 +1.1**
HVS MLR MLR
comp=Z,200μm,15.0s
GAMB Gambell 37.98 32 *e*P **P 08 15 19.2 +0.6**
comp=Z,50nm,0.9s
GAMB *e*S **S 08 21 11.2 +3.7**
KDM Kudat 38.10 222 ⇑P **P 08 15 19.9 -0.2**
MYLDM **Lahad Datu 38.71 219** ⇓P P 08 15 28.0 +2.7
SDKM Sandakan 38.98 221 ⇓P **P 08 15 27.8 +0.2**
UBPT Khong Chiam 39.02 245 P **P 08 15 29.4 +1.6**
comp=Z,491nm,1.7s,comp=Z,13μm
TNTI Ternate 39.11 203 P P 08 15 33.6 +5.0
TNTI Ternate 39.11 203 *e*P **P 08 15 27.9 -0.7**
comp=Z,2μm,1.3s
TNTI *e* 08 21 31.2
KKM Kota Kinabalu 39.16 223 ⇓P **P 08 15 31.4 +2.3**
KKM Kota Kinabalu 39.16 223 *e*P **P 08 15 26.8 -2.4**
comp=Z,2μm,1.8s
KKM *e*ScP **ScP 08 21 20.5 -2.8**
KKM LR LR
comp=Z,29μm,22.0s
SWI Sorong 39.64 196 P **P 08 15 34.7 +1.8**
SMPI Sarmi 39.67 185 P **P 08 15 34.7 +1.5**
comp=Z,387nm,1.5s,comp=Z,8μm
RKPI Ransiki, Papua 39.71 192 P P 08 15 37.1 +3.6
comp=Z,319nm,1.0s,comp=Z,10μm
CRAI Chiangrai 39.75 256 P **P 08 15 33.4 -0.6**
comp=Z,348nm,1.3s,comp=Z,8μm
SRPI Serui, Papua 39.77 188 P P 08 15 39.3 +5.2
TSM Tawau 39.79 219 ⇑P **P 08 15 34.5 +0.3**
TNA Tin City 40.11 30 *e*P **P 08 15 36.9 +0.6**
comp=Z,399nm,1.1s
GENI Genyem 40.20 182 P **P 08 15 40.1 +2.5**
comp=Z,405nm,1.2s,comp=Z,10μm
LBMI Labuha 40.41 202 P **P 08 15 41.7 +2.4**
KMSI Cibinong 40.45 208 P **P 08 15 42.1 +2.4**
comp=Z,2μm,1.2s,comp=Z,21μmcomp=Z,34μm
PAYA Payao 40.64 255 P **P 08 15 43.4 +2.1**
comp=Z,126nm,1.0s,comp=Z,1μm
WMQ Urumqi 40.68 296 P **P 08 15 42.8 +1.3**
WMQ sP **sP 08 15 56.4 -1.1**
WMQ PP **PnPn 08 17 20.5 +0.7**
WMQ PcP **PcP 08 17 46.8 +4.3**
WMQ S **S 08 21 50.3 +1.5**
WMQ sS **sS 08 22 06.0 -1.5**
WMQ SS **SS 08 24 45.5 -4.4**
WMQ PMZ
comp=Z,2μm,1.0s
WMQ PMZ
comp=Z,24μm,4.2s
WMQ LN
comp=Z,42μm,14.0s
WMQ LE
comp=Z,70μm,20.0s
WMQ LZ
comp=Z,87μm,29.0s
GTOI Gorontalo 40.76 209 P **P 08 15 43.8 +1.5**
comp=Z,771nm,1.5s,comp=Z,16μmcomp=Z,69μm
CMAI Chiengmai2 40.94 256 P **P 08 15 45.3 +1.3**
comp=Z,462nm,1.2s,comp=Z,9μm
UTTA Uttaradit 41.08 252 P **P 08 15 45.3 +0.4**
comp=Z,56nm,1.1s,comp=Z,554nm
TOLI Toli-Toli 41.23 213 *e*P **P 08 15 45.6 -0.5**
comp=Z,186nm,0.6s
LAMP Lampang 41.31 254 P **P 08 15 48.3 +1.5**
comp=Z,119nm,0.8s,comp=Z,1μm
MRSI Marisa 41.33 211 P **P 08 15 49.4 +2.4**
comp=Z,519nm,1.2s,comp=Z,42μm
FAKI Fak Fak 41.43 194 P **P 08 15 46.8 -0.9**
FAKI Fak Fak 41.43 194 *e*P **P 08 15 47.1 -0.6**
comp=Z,267nm,0.9s
PBKT Sadao Pong 41.49 251 P **P 08 15 48.6 +0.3**
comp=Z,438nm,1.1s,comp=Z,10μm
WAMI Wamena 41.55 184 P P 08 16 00.5 +12
ZALV Zalesovo Beam 41.55 312 P **P 08 15 49.6 +1.1**
comp=Z,671nm,0.8s,baz=90,slow=6.7,SNR=568
ZALV LR LR 08 33 51.5
comp=Z,129μm,18.4s,baz=86,slow=37
ZALV P3KPbc 08 45 29.4
comp=Z,0.4nm,0.6s,baz=224,slow=4.1,SNR=3.6
CMMT Chiang Mai 41.66 255 P **P 08 15 50.2 +0.4**
comp=Z,328nm,1.0s,comp=Z,11μm
CHTO Chiang Mai 41.67 255 *e*P **P 08 15 49.8 +0.1**
CHTO pmax pmax
comp=Z,449nm,1.3s
CHTO MLR MLR
comp=Z,37μm,19.0s
CHTO Chiang Mai 41.67 255 P **P 08 15 50.4 +0.7**
SNR=148
CHTO Chiang Mai 41.67 255 P **P 08 15 50.3 +0.5**
comp=Z,1μm,1.5s,comp=Z,43μm
CHTO Chiang Mai 41.67 255 *e*P **P 08 15 49.8 +0.1**
comp=Z,449nm,1.3s
CHTO LR LR
comp=Z,37μm,19.0s
CMAR Chiang Mai Arr 41.88 255 P **P 08 15 52.9 +1.4**
CMAR 08 17 31.7
CMAR 08 17 47.1
CMAR pmax pmax
comp=Z,52nm,0.9s
CMAR pmax pmax
comp=Z,57nm,1.1s
CMAR MLR MLR
comp=Z,37μm,21.7s
CMAR Chiang Mai Arr 41.88 255 P **P 08 15 52.9 +1.4**
comp=Z,38nm,0.7s,baz=45,slow=7.5,SNR=159
CMAR PP **PP 08 17 31.7 +2.9**
comp=Z,57nm,1.1s,baz=31,slow=8.2,SNR=4.2
CMAR PcP **PcP 08 17 47.0 +0.3**
comp=Z,29nm,1.0s,baz=51,slow=3.6,SNR=3.1
CMAR LR LR 08 34 09.5
comp=Z,37μm,21.7s,baz=59,slow=37
CMAR P3KP 08 47 04.2
comp=Z,1.2nm,0.3s,baz=309,slow=1.9,SNR=5.7
CMAR PKPPKP **P'P'df 08 47 59.4 +1.2**
comp=Z,0.7nm,0.3s,baz=293,slow=3.3,SNR=4.5
SANI Sanana 42.21 204 P **P 08 15 53.1 -1.0**
MPSI Mapaga 42.32 213 P **P 08 15 56.0 +1.0**
LSA Lhasa 42.34 275 P **P 08 15 58.1 +2.4**
LSA pP **pP 08 16 08.0 +1.0**
LSA sP **sP 08 16 15.8 +4.1**
LSA PP PP 08 17 39.5 +5.4
LSA S S 08 22 06.9 -7.5
LSA sS **sS 08 22 37.8 +4.6**
LSA PMZ
comp=Z,230nm,1.0s
LSA PMZ
comp=Z,6μm,7.0s
LSA LN
comp=Z,22μm,22.0s
LSA LE
comp=Z,37μm,26.0s
LSA LZ
comp=Z,61μm,26.0s
LSA Lhasa 42.34 275 *e*P **P 08 15 56.7 +1.0**
LSA pmax pmax
comp=Z,798nm,0.9s
LSA MLR MLR
comp=Z,62μm,21.0s
LSA Lhasa 42.34 275 *e*P **P 08 15 56.7 +1.0**
comp=Z,798nm,0.9s
LSA *e*ScP **ScP 08 21 35.1 -1.0**
LSA LR LR
comp=Z,62μm,21.0s
LUWI Luwuk 42.39 209 P **P 08 15 56.7 +1.1**
LUWI Luwuk 42.39 209 *e*P **P 08 15 53.4 -2.2**
comp=Z,676nm,1.0s
NVS Novosibirsk 42.47 313 ⇑ *iP* **P 08 15 55.6 -0.2**
NVS *e* 08 17 46.7
NVS pmax pmax
comp=N,138nm,1.1s
NVS pmax pmax
comp=E,605nm,1.1s
NVS pmax pmax
comp=Z,795nm,1.1s
APSI Ampana 42.71 210 P **P 08 16 00.0 +1.8**
MHMT Maesarieng 42.82 255 P **P 08 16 00.4 +1.3**
comp=Z,370nm,1.4s,comp=Z,5μm
NLAI Namlea 42.99 202 P **P 08 16 02.7 +2.2**

BTM Bintulu 43.23 224 ⇑P **P 08 16 03.2 +0.7**
BNDI Bandanaira 43.49 197 P **P 08 16 06.8 +2.3**
SHL Shillong 43.61 269 *e*P **P 08 16 04.3 -1.4**
SHL AMB AMB 08 16 07.2
comp=Z,492nm,2.9s
SHL *e*S **S 08 22 34.0 +1.4**
MKAR Makanchi Array 43.89 301 P **P 08 16 08.7 +1.2**
comp=Z,303nm,0.8s,baz=82,slow=9.1,SNR=519
MKAR P3KPbc 08 45 20.1
comp=Z,1.4nm,1.1s,baz=284,slow=4.9,SNR=3.8
MKAR P4KPbc 08 54 03.1
comp=Z,1.1nm,0.9s,baz=72,slow=4.7,SNR=6.3
SGKI Sangatta, Kali 44.12 216 P sP 08 16 25.8 +0.1
SRDT SRDT 44.27 250 P **P 08 16 12.3 +1.5**
comp=Z,990nm,1.9s,comp=Z,26μm
SBUM Sibu 44.33 225 ⇑P **P 08 16 13.0 +1.7**
KHLT Khaolaem Dam 44.38 251 P **P 08 16 13.7 +2.0**
comp=Z,229nm,1.7s,comp=Z,4μm
BKB Balikpapan 45.09 216 P **P 08 16 18.1 +0.8**
TTSI Tana Toraja 45.39 211 P **P 08 16 21.7 +2.0**
KURK Kurchatov 45.62 308 *e*P **P 08 16 21.6 +0.4**
KURK *e*S **S 08 22 56.3 -4.6**
KURK pmax pmax
comp=Z,796nm,0.8s
KURK MLR MLR
comp=Z,65μm,20.0s
KURK Kurchatov 45.62 308 P **P 08 16 21.8 +0.6**
SNR=668
KURK Kurchatov 45.62 308 *e*P **P 08 16 21.6 +0.4**
comp=Z,796nm,0.8s
KURK *e*S **S 08 22 56.3 -4.6**
KURK P'P' 08 47 53.9
KURK LR LR
comp=Z,65μm,20.0s
KURBB **Kurchatov Arra 45.70 307** PKPPKP **P'P'df 08 47 53.9 -4.3**
comp=Z,3.6nm,1.1s,baz=287,slow=2.4,SNR=4.4
MTKI Muara Teweh, K 45.78 219 P **P 08 16 24.6 +1.8**
comp=Z,865nm,1.2s,comp=Z,14μm
OHAK Old Harbor 46.08 43 *e*P **P 08 16 24.5 -0.2**
comp=Z,1μm,1.8s
RSO Redoubt South 46.20 39 *e*P **P 08 16 26.5 +0.7**
comp=Z,467nm,0.9s
KSM Kuching 46.21 226 ⇓P **P 08 16 27.2 +1.0**
KSM Kuching 46.21 226 *e*P **P 08 16 26.6 +0.5**
comp=Z,259nm,1.0s
KSM *e*S **S 08 23 06.2 -3.8**
KSM LR LR
comp=Z,9μm,21.0s
SPSI Sidrap Palu 46.24 211 P **P 08 16 27.3 +0.9**
TARA Tarawa 46.26 134 *e*P **P 08 16 26.6 +0.1**
comp=Z,3μm,1.8s
TARA LR LR
comp=Z,81μm,21.0s
KDAK Kodiak Island 46.41 42 *e*P **P 08 16 26.8 -0.5**
KDAK pmax pmax
comp=Z,572nm,1.3s
KDAK MLR MLR
comp=Z,52μm,21.0s
KDAK Kodiak Island 46.41 42 *e*P **P 08 16 26.8 -0.5**
comp=Z,572nm,1.3s
KDAK LR LR
comp=Z,52μm,21.0s
PPLA Purkeypile 46.45 35 *e*P **P 08 16 28.3 +0.6**
comp=Z,1μm,1.7s
PPLA *e*S **S 08 23 16.6 +3.9**
BNSI Bone 46.51 210 P **P 08 16 30.1 +1.6**
SAUI Saumlaki 46.55 194 P **P 08 16 31.3 +2.5**
comp=Z,862nm,1.7s,comp=Z,14μm
BBSI Bau Bau 46.57 207 P **P 08 16 31.2 +2.2**
comp=Z,612nm,1.4s,comp=Z,11μm
STKI Sintang 46.72 224 P **P 08 16 31.2 +1.0**
comp=Z,727nm,0.8s,comp=Z,17μmcomp=Z,42μm
KTH Kantishna Hill 47.02 34 *e*P **P 08 16 32.9 +0.8**
comp=Z,318nm,1.2s
KTH *e*S **S 08 23 21.2 +0.4**
KAPI Kappang 47.20 210 P **P 08 16 34.5 +0.6**
SNR=391
KAPI Kappang 47.20 210 *e*P **P 08 16 34.2 +0.2**
comp=Z,9μm,1.6s
KAPI *e*S **S 08 23 23.6 -0.5**
KAPI LR LR
comp=Z,12μm,21.0s
PMG Port Moresby 47.22 173 *e*P **P 08 16 34.3 +0.3**
PMG *e*S **S 08 23 23.5 -0.8**
PMG pmax pmax
comp=Z,404nm,1.4s
PMG MLR MLR
comp=Z,19μm,21.0s
PMG Port Moresby 47.22 173 P **P 08 16 34.8 +0.7**
comp=Z,84nm,1.0s,baz=343,slow=8.7,SNR=7.4
PMG Port Moresby 47.22 173 *e*P **P 08 16 34.3 +0.3**
comp=Z,404nm,1.4s
PMG *e*S **S 08 23 23.5 -0.8**
PMG LR LR
comp=Z,19μm,21.0s
TRF Thorofare Moun 47.31 35 *e*P **P 08 16 34.6 +0.2**
comp=Z,88nm,0.8s
TRF *e*S **S 08 23 24.3 -0.7**
BKSI Bulukumba 47.34 210 P **P 08 16 36.6 +1.6**
COLD Coldfoot 47.41 29 *e*P **P 08 16 35.7 +0.8**
comp=Z,169nm,1.7s
COLD *e*S **S 08 23 26.3 +0.3**
RC01 Rabbit Creek A 47.65 38 *e*P **P 08 16 36.8 -0.1**
comp=Z,1μm,1.7s
KTGM Kuala Trenggan 47.66 237 ⇓P **P 08 16 38.9 +1.3**
SEW Seward 47.86 39 *e*P **P 08 16 38.6 +0.1**
comp=Z,468nm,1.3s
SEW *e*PcP **PcP 08 18 07.2 +0.6**
MCK McKinley 47.90 34 *e*P **P 08 16 39.1 +0.2**
MCK *e*S **S 08 23 37.1 +3.9**
MCK pmax pmax
comp=Z,174nm,1.0s
MCK McKinley 47.90 34 *e*P **P 08 16 39.1 +0.2**
comp=Z,174nm,1.0s
MCK *e*S **S 08 23 37.1 +3.9**
PMR Palmer 47.91 37 *e*P **P 08 16 39.0 +0.1**
PMR *e*S **S 08 23 32.8 -0.4**
PMR pmax pmax
comp=Z,185nm,1.0s
PMR Palmer 47.91 37 *e*P **P 08 16 39.0 +0.1**
comp=Z,185nm,1.0s
PMR *e*S **S 08 23 32.8 -0.4**
BSSI Bau Bau, Buton 47.95 209 P **P 08 16 41.3 +1.6**
comp=Z,281nm,1.0s,comp=Z,10μm
BBKI Banjar Baru 47.99 217 P **P 08 16 40.5 +0.4**
comp=Z,1000nm,1.4s,comp=Z,17μm
SURT Suratani 48.07 245 P **P 08 16 41.9 +1.1**
comp=Z,251nm,0.8s,comp=Z,4μm
COLA College 48.34 33 *c iP* **P 08 16 43.0 +0.8**
COLA pmax pmax
comp=Z,230nm,1.5s
COLA MLR MLR
comp=Z,52μm,20.0s
COLA College 48.34 33 *e*P **P 08 16 42.9 +0.7**
comp=Z,141nm,0.8s
COLA *e*S **S 08 23 36.6 -2.6**
COLA LR LR
comp=Z,18μm,21.0s
ILAR Eielson Array 48.76 33 P **P 08 16 45.9 +0.5**
ILAR pmax pmax
comp=Z,53nm,0.9s
ILAR MLR MLR
comp=Z,21μm,21.4s
ILAR Eielson Array 48.76 33 P **P 08 16 45.9 +0.5**
comp=Z,53nm,0.9s,baz=268,slow=5.9,SNR=275
ILAR LR LR 08 38 27.2
comp=Z,21μm,21.4s,baz=270,slow=37
PBKI Pangkalan Bun 48.94 221 P **P 08 16 49.9 +2.6**
comp=Z,666nm,1.0s,comp=Z,8μmcomp=Z,45μm
PKDT Phuket 49.14 244 P **P 08 16 50.8 +1.9**
comp=Z,565nm,1.4s,comp=Z,25μm
ULHL Ulahol 49.20 297 P **P 08 16 50.3 +0.9**
SNR=200
ULHL Ulahol 49.20 297 *i* P **P 08 16 50.3 +0.9**
BOK Bokaro 49.23 270 *e*P **P 08 16 50.0 +0.4**
BOK AMB AMB 08 16 51.8
comp=Z,375nm,2.5s
KULM Kulim 49.36 239 ⇑P **P 08 16 52.1 +1.5**
KULM Kulim 49.36 239 *e*P **P 08 16 51.1 +0.5**
comp=Z,393nm,1.3s
KULM LR LR
comp=Z,37μm,20.0s
TKM2 Tokmak 2 49.45 298 P **P 08 16 52.6 +1.3**
SNR=89
TKM2 Tokmak 2 49.45 298 *e*P **P 08 16 52.6 +1.3**
TKM2 *e* 08 18 48.2

TKM2 *e*S **S 08 23 53.9 -1.9**
TKM2 pmax pmax
comp=Z,21nm,1.4s
TKM2 MLR MLR
comp=Z,104μm,21.0s
TKM2 Tokmak 2 49.45 298 *e*P **P 08 16 52.6 +1.3**
comp=Z,21nm,1.4s
TKM2 *e*PP **PP 08 18 48.2 +2.7**
TKM2 *e*S **S 08 23 53.9 -1.9**
TKM2 LR LR
comp=Z,104μm,21.0s
PAX Paxson 49.51 35 *e*P **P 08 16 51.7 +0.3**
PAX *e*S **S 08 23 56.5 +0.6**
PAX pmax pmax
comp=Z,277nm,1.6s
PAX Paxson 49.51 35 *e*P **P 08 16 51.7 +0.3**
comp=Z,277nm,1.6s
PAX *e*S **S 08 23 56.5 +0.6**
DIV Divide 49.56 37 *e*P **P 08 16 52.2 +0.5**
comp=Z,435nm,1.2s
MMRI Maumere 49.62 206 P **P 08 16 54.1 +1.6**
MMRI Maumere 49.62 206 *e*P **P 08 16 52.0 -0.6**
comp=Z,2μm,1.5s
DGPR DIGLIPUR 49.66 254 *e*P **P 08 16 53.6 +0.7**
DGPR AMB AMB 08 16 55.5
comp=Z,914nm,1.3s
IPM Ipoh 49.70 238 ⇓P **P 08 16 53.6 +0.4**
IPM Ipoh 49.70 238 *e*P **P 08 16 53.0 -0.2**
comp=Z,544nm,1.3s
IPM *e*S S 08 23 41.1 -18
MYKOM **Kota Tinggi 49.86 233** ⇑P **P 08 16 55.9 +1.5**
VOSK Vostochnaya 49.93 311 P **P 08 16 53.6 -0.9**
VOSK pmax pmax
comp=Z,640nm,1.1s
KZA Kyzart 49.95 297 P **P 08 16 57.1 +1.8**
SNR=59
KZA Kyzart 49.95 297 *i* P **P 08 16 57.1 +1.8**
KBK Karagaybulak 49.98 298 P **P 08 16 56.5 +1.2**
SNR=967
KBK Karagaybulak 49.98 298 *i* P **P 08 16 56.5 +1.2**
CHMS Chumysh 50.01 298 P **P 08 16 56.2 +0.8**
SNR=186
CHMS Chumysh 50.01 298 *i* P **P 08 16 56.2 +0.8**
SOEI Soe 50.01 203 P **P 08 16 55.7 +0.1**
comp=Z,368nm,2.0s,comp=Z,11μmcomp=Z,45μm
SOEI Soe 50.01 203 *e*P **P 08 16 54.4 -1.2**
comp=Z,933nm,1.0s
KGM Kluang 50.03 234 ⇑P **P 08 16 56.9 +1.2**
DOT Dot Lake 50.08 34 *e*PKPdf **P 08 16 54.9 -0.6**
comp=Z,90nm,0.8s
DOT *e*S **S 08 24 03.1 -0.6**
USP Ospenovka 50.11 299 P **P 08 16 56.8 +0.7**
SNR=351
USP Ospenovka 50.11 299 *i* P **P 08 16 56.8 +0.7**
TPRI Tanjung Pinang 50.11 232 P **P 08 16 57.9 +1.6**
comp=Z,364nm,1.2s,comp=Z,9μm
BMRM Bremner River 50.15 38 *e*P **P 08 16 56.8 +0.7**
comp=Z,476nm,1.2s
BMRM *e*S **S 08 24 08.2 +3.4**
FRU Bishkek 50.16 298 ⇑ *iP* **P 08 16 58.0 +1.5**
FRU *i* S **S 08 24 10.0 +4.6**
FRU pmax pmax
comp=Z,2μm,2.0s
FRU smax smax
comp=E,4μm,4.0s
FRIM Kepong 50.21 237 ⇑P **P 08 16 58.1 +1.0**
BVA0 Borovoye Array 50.21 312 *i* P **P 08 16 56.5 -0.2**
BVA0 pmax pmax
comp=Z,355nm,1.0s
BVAR Borovoye Array 50.21 312 LR LR 08 39 20.3
comp=Z,98μm,18.5s,baz=80,slow=37
BVAR PKPPKP P'P'df 08 47 44.1 -8.2
comp=Z,2.2nm,1.1s,baz=225,slow=3.5,SNR=5.0
BVAR PKP2bc 08 48 07.1
comp=Z,2.9nm,1.0s,baz=262,slow=3.9,SNR=5.1
BVAR P4KPbc 08 54 30.7
comp=Z,2.2nm,0.9s,baz=88,slow=3.3,SNR=9.6
BRVK Borovoye 50.27 312 *c iP* **P 08 16 57.4 +0.3**
BRVK pmax pmax
comp=Z,476nm,1.2s
BRVK MLR MLR
comp=Z,107μm,18.0s
BRVK Borovoye 50.27 312 P **P 08 16 57.2 +0.1**
SNR=196
BRVK Borovoye 50.27 312 *e*P **P 08 16 57.5 +0.3**
comp=Z,354nm,0.9s
BRVK *e*S **S 08 24 06.5 -0.1**
BRVK LR LR
comp=Z,100μm,19.0s
KSH Kashi 50.28 294 ⇑ *iP* P 08 17 02.3 +4.7
KSH pP pP 08 17 14.3 +5.2
KSH sP sP 08 17 20.3 +6.5
KSH PP PP 08 18 59.3 +6.3
KSH S S 08 24 14.5 +7.1
KSH sS sS 08 24 33.6 +7.1
KSH SS **SS 08 27 45.6 +4.7**
KSH PMZ
comp=Z,11μm,6.6s
KSH LN
comp=Z,27μm,15.3s
KSH LE
comp=Z,24μm,16.4s
KSH LZ
comp=Z,24μm,15.7s
AAK Ala-Archa 50.31 298 P **P 08 16 58.6 +0.8**
SNR=28
AAK Ala-Archa 50.31 298 *c iP* **P 08 16 58.5 +0.8**
AAK pmax pmax
comp=Z,1μm,1.2s
AAK MLR MLR
comp=Z,323μm,25.0s
AAK Ala-Archa 50.31 298 P **P 08 16 58.8 +1.1**
SNR=199
AAK Ala-Archa 50.31 298 P **P 08 16 58.6 +0.8**
comp=Z,263nm,0.8s,baz=105,slow=5.4,SNR=259
AAK LR LR 08 39 49.2
comp=Z,109μm,18.6s,baz=62,slow=38
AAK P4KPbc 08 54 31.1
comp=Z,2.1nm,0.9s,baz=250,slow=2.4,SNR=6.2
AAK Ala-Archa 50.31 298 *e*P **P 08 16 58.5 +0.8**
comp=Z,235nm,0.6s
AAK *e*S **S 08 24 08.6 +0.9**
AAK *e* 08 54 31.1
MENT Mentasta 50.31 35 *e*P **P 08 16 58.8 +1.5**
UCH Uchtor 50.42 297 P **P 08 16 60.0 +1.0**
SNR=253
UCH Uchtor 50.42 297 *i* P **P 08 16 59.9 +1.0**
BATI Baumata 50.62 203 P **P 08 17 01.5 +1.3**
PBA Port Blair 50.76 252 *e*P P 08 16 60.0 -1.3
EKS2 Erkin-Say 50.80 298 P **P 08 17 02.3 +0.8**
SNR=550
EKS2 Erkin-Say 50.80 298 *i* P **P 08 17 02.2 +0.8**
EKS2 Erkin-Say 50.80 298 *e*P **P 08 17 02.2 +0.8**
comp=Z,260nm,1.0s
EKS2 LR LR
comp=Z,77μm,21.0s
PTH Pithoragarh 50.99 280 *e*P **P 08 17 00.9 -2.2**
LGTI Lohaghat 51.01 280 *ex* pP 08 17 10.1 -4.5
AML Almayashu 51.03 298 P **P 08 17 04.9 +1.4**
SNR=1422
AML Almayashu 51.03 298 *i* P **P 08 17 04.9 +1.4**
DSRI Dabo 51.17 231 P **P 08 17 06.1 +1.8**
comp=Z,977nm,3.1s,comp=Z,21μm
TPI Tanjungpandan 51.17 226 P **P 08 17 04.4 +0.1**
comp=Z,311nm,1.1s,comp=Z,9μmcomp=Z,76μm
EGAK Eagle 51.20 32 *e*P **P 08 17 04.3 +0.3**
comp=Z,684nm,1.8s
EGAK LR LR
comp=Z,14μm,19.0s
COEN Coen 51.48 178 *e*P **P 08 17 06.4 -0.2**
comp=Z,1μm,0.9s
COEN *e*S **S 08 24 20.9 -3.1**
KMMI Kalianget 51.54 216 P **P 08 17 07.5 +0.5**
WBSI Waikabubak, Su 51.57 208 P **P 08 17 07.5 +0.2**
comp=Z,262nm,1.3s,comp=Z,6μm
BASI Baing, Sumba 51.67 207 P **P 08 17 09.4 +1.4**
SRBI Singaraja 51.89 214 P **P 08 17 09.7 +0.1**
LHMI Lhok Sumawe 51.97 243 P **P 08 17 12.6 +2.3**
LHMI Lhok Sumawe 51.97 243 *e*P **P 08 17 11.4 +1.0**
comp=Z,268nm,0.8s
ABJI Asem Bagus 52.07 215 P **P 08 17 12.1 +1.1**
comp=Z,634nm,1.6s,comp=Z,15μm
TSI Tuntungan 52.08 240 P **P 08 17 13.4 +2.3**
comp=Z,357nm,0.9s,comp=Z,10μm
GRJI Gresik 52.13 218 P **P 08 17 14.1 +2.7**
comp=Z,443nm,1.2s,comp=Z,5μm

BLJI Banyuglugur 52.32 216 P **P 08 17 14.9 +2.1**
comp=Z,400nm,1.2s,comp=Z,8μm
PSI Prapat 52.34 239 P **P 08 17 13.7 +0.5**
PSI pmax pmax
comp=Z,90nm,0.9s
PSI MLR MLR
comp=Z,34μm,21.6s
PSI Prapat 52.34 239 P **P 08 17 13.7 +0.5**
comp=Z,90nm,0.9s,baz=347,slow=5.2,SNR=4.5
PSI LR LR 08 39 40.6
comp=Z,34μm,21.6s,baz=25,slow=36
TBJI Tambak Boyo 52.36 219 P **P 08 17 15.6 +2.5**
comp=Z,666nm,1.9s,comp=Z,14μm
DNP Denpasar 52.41 214 P **P 08 17 15.5 +2.0**
comp=Z,1μm,1.0s,comp=Z,25μmcomp=Z,87μm
UWJI Ujung Watu 52.47 220 P **P 08 17 16.2 +2.3**
comp=Z,574nm,1.7s,comp=Z,12μmcomp=Z,37μm
IGBI Denpasar 52.57 214 P **P 08 17 15.3 +0.7**
comp=Z,1μm,1.1s,comp=Z,12μmcomp=Z,41μm
KCSI Kotacane, Aceh 52.61 241 P **P 08 17 16.3 +1.2**
JMBI JAMBI 52.65 231 P P 08 17 19.4 +4.1
SDNR Sundarnagar 52.65 284 *ex* **P 08 17 18.0 +2.7**
SMLA Simla 52.66 283⇓*iP* **P 08 17 15.7 +0.4**
SMLA AMB AMB 08 17 20.9
comp=Z,6μm,0.6s
SMLA *i*S **S 08 24 40.6 +0.4**
JAGI Jajag, Banyuwa 52.70 215 P **P 08 17 16.0 +0.3**
comp=Z,266nm,1.0s,comp=Z,7μm
JAGI Jajag, Banyuwa 52.70 215 *eP* P 08 17 12.8 -2.9
comp=Z,279nm,1.0s
JAGI *e*S **S 08 24 35.8 -5.0**
BKNI Bangkinang 52.78 235 P **P 08 17 18.4 +2.1**
comp=Z,1μm,1.2s,comp=Z,14μmcomp=Z,75μm
BKNI Bangkinang 52.78 235 *eP* **P 08 17 16.8 +0.5**
comp=Z,2μm,1.2s
DHRM DHARAMSHALA 52.85 285 *eP* **P 08 17 15.9 -1.1**
DHRM AMB AMB 08 17 20.1
comp=Z,428nm,0.0s
GMJI Gumukmas 52.86 216 P **P 08 17 16.6 -0.2**
comp=Z,309nm,1.3s,comp=Z,7μmcomp=Z,33μm
KK31 Karatay Array 52.92 300 *iP* **P 08 17 17.2 +0.1**
KK31 pmax pmax
comp=Z,1μm,1.3s
KKAR Karatay Array 52.92 300 *eP* **P 08 17 17.4 +0.3**
KKAR *e*S **S 08 24 44.1 +0.7**
KKAR pmax pmax
comp=Z,283nm,0.7s
KKAR Karatay Array 52.92 300 *eP* **P 08 17 17.4 +0.3**
comp=Z,282nm,0.7s
KKAR *e*S **S 08 24 44.1 +0.7**
DLH Dalhousie 52.98 285 *eP* **P 08 17 17.0 -0.9**
DLH *ex* x 08 17 22.0
PMBI Palembang 52.99 229 P P 08 17 21.7 +3.9
BHK Bhakra 53.12 284 *ex* **P 08 17 20.8 +2.1**
TPTI 53.21 241 P **P 08 17 18.8 -0.7**
comp=Z,130nm,0.9s
SMRI Semarang 53.26 220 P **P 08 17 21.5 +1.7**
comp=Z,944nm,1.3s,comp=Z,21μm
SMRI Semarang 53.26 220 *eP* **P 08 17 19.9 +0.1**
comp=Z,2μm,1.5s
SMRI *e*S **S 08 24 43.7 -4.7**
MNSI Mandailing Nat 53.38 237 P **P 08 17 20.5 -0.2**
comp=Z,435nm,1.1s,comp=Z,12μm
SDSI Sungai Dareh 53.49 233 P **P 08 17 23.5 +2.0**
comp=Z,646nm,1.3s,comp=Z,16μm
HYT Haines Junctio 53.58 37 *eP* **P 08 17 23.8 +2.0**
WOJI Wonogiri, Jawa 53.69 219 P **P 08 17 23.4 +0.5**
comp=Z,366nm,2.3s,comp=Z,11μm
NDI New Delhi 53.72 281 *e*PKP **P 08 17 22.0 -1.2**
UGM Wanagama 53.96 219 P **P 08 17 25.1 +0.2**
comp=Z,1μm,1.3s,comp=Z,22μmcomp=Z,54μm
KIP Kipapa 54.06 90⇓*eP* **P 08 17 27.1 +1.4**
KIP pmax pmax
comp=Z,86nm,0.9s
KIP Kipapa 54.06 90 *eP* **P 08 17 25.1 -0.5**
comp=Z,397nm,1.1s
KIP LR LR
comp=Z,12μm,20.0s
PDSI Padang 54.09 234 P **P 08 17 26.5 +0.5**
comp=Z,202nm,1.6s,comp=Z,5μm
HON Honolulu 54.12 90 *eP* **P 08 17 27.2 +1.1**
HON Honolulu 54.12 90 *eP* **P 08 17 27.2 +1.1**
KPJI Karang Pucung 54.28 221 P **P 08 17 26.7 -0.5**
comp=Z,443nm,1.3s,comp=Z,9μm
GSI Gunungsitoli 54.35 239 P **P 08 17 28.3 +0.5**
comp=Z,2μm,1.4s,comp=Z,23μm
GSI Gunungsitoli 54.35 239 *eP* **P 08 17 27.7 -0.1**
comp=Z,3μm,1.3s
SNSI Sinabang, Aceh 54.41 241 P **P 08 17 29.9 +1.7**
comp=Z,630nm,1.4s,comp=Z,16μm
LHSI Lahat 54.45 229 P **P 08 17 29.7 +1.2**
comp=Z,1μm,1.5s,comp=Z,18μmcomp=Z,49μm
VIS Vishakhapatnam 54.47 265 *eP* **P 08 17 28.6 -0.1**
LEM Lembang 54.55 223 P **P 08 17 29.9 +0.5**
comp=Z,611nm,1.8s,comp=Z,17μmcomp=Z,74μm
MDSI Maura Dua 54.59 228 P **P 08 17 29.0 -0.5**
comp=Z,802nm,1.6s,comp=Z,12μmcomp=Z,44μm
BLSI Bandar Lampung 54.68 226 P **P 08 17 31.1 +0.9**
comp=Z,608nm,0.7s,comp=Z,10μmcomp=Z,38μm
MASI Maura Aman, Be 54.69 231 P **P 08 17 32.2 +1.9**
comp=Z,1μm,1.4s,comp=Z,18μm
SVE Sverdlovsk 54.71 318*d iP* **P 08 17 31.0 +1.1**
SVE *e* 08 19 33.9
SVE *e*S **S 08 25 07.5 +0.3**
SVE pmax pmax
comp=Z,2μm,0.9s
SVE pmax pmax
comp=Z,5μm,10.2s
SVE MLR MLR
comp=Z,152μm,17.0s
SVE MLR MLR
comp=E,112μm,16.0s
SBJI Serang 54.79 225 P P 08 17 34.3 +3.4
CMJI Cimerak 54.91 222 P **P 08 17 34.2 +2.4**
comp=E,108nm,1.4s,comp=E,4μm
SKAG Skagway 54.99 38 *eP* **P 08 17 32.6 +0.7**
comp=E,250nm,1.3s
CISI Cisompet, Garu 55.06 222 P **P 08 17 32.2 -0.8**
comp=E,329nm,1.6s,comp=E,7μmcomp=E,48μm
CISI Cisompet, Garu 55.06 222 *eP* P 08 17 29.4 -3.6
comp=E,650nm,1.4s
LWLI Liwa 55.08 228 P **P 08 17 33.9 +0.7**
comp=E,266nm,0.7s,comp=E,5μm
MNAI Manna 55.21 229 P **P 08 17 35.5 +1.4**
comp=E,414nm,2.1s,comp=E,13μm
MNAI Manna 55.21 229 *eP* **P 08 17 32.3 -1.8**
comp=E,748nm,1.2s
MNAI *e*S S 08 25 08.4 -6.4
CNJI Cibinong 55.22 223 P P 08 17 44.5 +10
KASI Kota Agung 55.23 227 P **P 08 17 33.4 -0.8**
comp=E,262nm,0.8s,comp=E,5μmcomp=E,41μm
CGJI Cibinong 55.44 225 P **P 08 17 34.4 -1.2**
comp=E,226nm,1.0s,comp=E,4μmcomp=E,35μm
SIT Sitka 55.69 41 *eP* **P 08 17 37.8 +0.8**
SIT pmax pmax
comp=Z,464nm,1.4s
SIT Sitka 55.69 41 *eP* **P 08 17 37.8 +0.8**
comp=Z,464nm,1.4s
SOKR Solikamsk 55.85 322*c iP* **P 08 17 38.6 +0.6**
SOKR S **S 08 25 19.0 -3.2**
SOKR pmax pmax
comp=Z,410nm,0.8s
SOKR MLR MLR
comp=Z,47μm,18.0s
ARU Arti 55.93 318 P **P 08 17 39.9 +1.2**
comp=Z,9μm,0.8s
ARU Arti 55.93 318*c iP* **P 08 17 39.0 +0.3**
ARU 08 18 38.3
ARU 08 19 41.8
ARU S **S 08 25 24.1 +0.7**
ARU 08 27 20.1
ARU SS **SS 08 29 06.6 -2.5**
ARU pmax pmax
comp=Z,2μm,1.2s
ARU pmax pmax
comp=Z,7μm,10.9s
ARU MLR MLR
comp=Z,125μm,17.0s
ARU Arti 55.93 318 *eP* **P 08 17 39.0 +0.3**
comp=Z,1μm,0.9s
ARU *e*S S 08 25 16.3 -7.1
ARU LR LR
comp=Z,95μm,20.0s
NGP Nagpur 56.00 272 *eP* **P 08 17 40.0 +0.3**
NGP *e*S **S 08 25 25.6 +0.2**
BHPL Bhopal 56.20 275 *eP* **P 08 17 39.0 -2.3**

BHPL AMB AMB 08 17 43.5
comp=Z,447nm,1.3s
POHA Pohakuloa 56.91 90 *eP* **P 08 17 46.3 -0.2**
comp=Z,537nm,1.0s
POHA LR LR
comp=Z,23μm,22.0s
KBL Kabul 57.33 291 *eP* **P 08 17 49.1 -0.2**
KBL pmax pmax
comp=Z,753nm,1.0s
KBL Kabul 57.33 291 *eP* **P 08 17 49.1 -0.2**
comp=Z,753nm,1.0s
WRAK Wrangell Islan 57.45 41 PFAKE 08 18 00.0 +11
WRAK LR LR
comp=Z,15μm,20.0s
FITZ Fitzroy Crossi 57.59 198 *eP* **P 08 17 50.9 +0.1**
comp=Z,497nm,1.3s
FITZ *e*S **S 08 25 42.4 -3.7**
AB31 Akbulak array 57.60 310 *iP* **P 08 17 50.6 -0.1**
AB31 pmax pmax
comp=Z,684nm,1.0s
ABKAR Akbulak array 57.60 310 *eP* **P 08 17 50.8 +0.1**
comp=Z,0.1nm,0.8s
ABKAR *e*S **S 08 25 44.2 -1.6**
CTAO Charters Tower 57.73 175 *eP* **P 08 17 51.3 -0.5**
CTAO pmax pmax
comp=Z,981nm,2.0s
CTAO MLR MLR
comp=Z,11μm,21.0s
CTAO Charters Tower 57.73 175 *eP* **P 08 17 51.2 -0.5**
comp=Z,981nm,2.0s
CTAO LR LR
comp=Z,11μm,21.0s
WRAB Tennant Creek 57.82 188*c iP* **P 08 17 51.6 -0.8**
WRAB pmax pmax
comp=Z,851nm,1.0s
WRAB Tennant Creek 57.82 188 *eP* **P 08 17 51.2 -1.2**
comp=Z,456nm,1.1s
WRAB *e*S S 08 25 41.8 -7.2
WRAB LR LR
comp=Z,11μm,22.0s
WB2 Warramunga Arr 57.83 188 *eP* **P 08 17 51.4 -1.1**
WB2 *e*S S 08 25 42.8 -6.3
WRA Warramunga Arr 57.83 188 **P 08 17 51.8 -0.7**
comp=Z,269nm,0.9s,baz=5.4,slow=7.0,SNR=232
WRA S **S 08 25 46.6 -2.5**
comp=Z,4.0nm,1.1s,baz=7.0,slow=14,SNR=4.5
WRA LR LR 08 42 19.5
comp=Z,7μm,21.2s,baz=0.0,slow=36
WRA PKPPKP P'P'df 08 47 35.2 +5.2
comp=Z,6.2nm,1.1s,baz=152,slow=1.7,SNR=6.6
WRA PKP2bc 08 47 48.3
comp=Z,3.8nm,1.0s,baz=204,slow=1.9,SNR=5.5
DLBC Dease Lake 57.92 38 P **P 08 17 54.8 +1.9**
comp=Z,47nm,0.8s,baz=288,slow=6.6,SNR=36
DLBC Dease Lake 57.92 38 *eP* **P 08 17 54.8 +1.9**
DLBC *e*S **S 08 25 52.1 +2.3**
AKTO Aktyubinsk 58.32 312 P **P 08 17 56.4 +0.7**
comp=Z,408nm,0.9s,baz=70,slow=7.0,SNR=337
AKTO LR LR 08 44 18.5
comp=Z,68μm,18.4s,baz=65,slow=37
AKTO PKP2bc 08 47 44.4
comp=Z,2.8nm,1.0s,baz=200,slow=4.0,SNR=5.4
AKTO P4KPbc 08 55 04.5
comp=Z,4.2nm,0.8s,baz=20,slow=1.8,SNR=11
HYB Hyderabad 58.42 268 *iP* **P 08 17 56.0 -0.8**
comp=Z,470nm,1.0s
HYB *e*sP **sP 08 18 10.0 -3.2**
HYB *e*PP **PP 08 20 08.0 +1.6**
HYB *e*S **S 08 25 56.0 -1.3**
HYB LR LR 08 45 00.0
comp=Z,24nm,18.0s
HYB Hyderabad 58.42 268 *eP* **P 08 17 56.0 -0.8**
XMIS Christmas Isla 58.66 223 *eP* **P 08 17 56.7 -1.7**
comp=Z,2μm,1.5s
HOPEN Hopen 59.36 346⇑*iP* **P 08 18 03.1 +0.7**
HOPEN IVmB_BB 08 18 06.5
comp=Z,13μm,3.6s
HOPEN *e*S **S 08 26 07.5 -0.3**
HOPEN IVMs_BB IVMs_BB 08 46 53.6
comp=Z,21μm,14.8s
MDRS Chennai 59.57 263 *eP* **P 08 18 03.6 -1.2**
SPA0 Spitsbergen Ar 59.83 349⇑*iP* **P 08 18 06.3 +0.5**
SPA0 IVmB_BB 08 18 09.4
comp=Z,10μm,4.5s
SPA0 *e*S **S 08 26 14.2 +0.3**
SPA0 IVMs_BB IVMs_BB 08 45 55.9
comp=Z,12μm,21.8s
KBS Kingsbay 59.95 350⇑*iP* **P 08 18 07.1 +0.6**
KBS IVmB_BB 08 18 10.7
comp=Z,8μm,3.8s
KBS *e*S **S 08 26 17.1 +1.7**
KBS Kingsbay 59.95 350 *eP* **P 08 18 07.2 +0.6**
KBS *e*S **S 08 26 16.3 +0.8**
KBS pmax pmax
comp=Z,187nm,0.8s
KBS MLR MLR
comp=Z,18μm,20.0s
KBS Kingsbay 59.95 350 *eP* **P 08 18 07.2 +0.6**
comp=Z,187nm,0.8s
KBS *e*S **S 08 26 16.3 +0.8**
KBS LR LR
comp=Z,18μm,20.0s
PRGR Permogore 60.24 327⇑*iP* **P 08 18 09.1 +0.3**
PRGR *e**PP **pP 08 18 19.2 -1.3**
PRGR *e* 08 20 22.5
PRGR PPP PPP 08 21 45.3
PRGR *e*S **S 08 26 20.6 +1.0**
PRGR pmax pmax
comp=Z,842nm,1.0s
HSP Hornsund 60.75 348 *eP* **P 08 18 13.2 +1.2**
HSPB Hornsund (broa 60.75 348⇓*iP* **P 08 18 12.2 +0.1**
HSPB IVmB_BB 08 18 14.1
comp=Z,10μm,3.1s
HSPB *e*S **S 08 26 26.1 +0.4**
HSPB IAMs_20 IAMs_20 08 46 45.4
comp=Z,50μm,21.5s
HSPB IVMs_BB IVMs_BB 08 46 58.9
comp=Z,14μm,21.8s
LVZ Lovozero 61.51 336 P **P 08 18 18.3 +1.0**
comp=Z,1μm,1.1s,SNR=14
LVZ Lovozero 61.51 336*c iP* **P 08 18 17.7 +0.4**
LVZ pmax pmax
comp=Z,298nm,1.4s
LVZ MLR MLR
comp=Z,65μm,23.0s
LVZ Lovozero 61.51 336 *eP* **P 08 18 16.9 -0.4**
comp=Z,274nm,1.1s
LVZ *e*PP PP 08 20 27.6 -4.9
LVZ *e*S **S 08 26 37.4 +1.8**
LVZ LR LR
comp=Z,71μm,19.0s
POO Poona 61.53 272 *eP* **P 08 18 15.9 -2.3**
POO AMB AMB 08 18 20.3
comp=Z,455nm,0.9s
POO *e*PCP **PcP 08 19 01.0 +1.2**
POO *e*PP **PP 08 20 34.0 +0.1**
POO *i* PCS **PcS 08 23 02.0 -1.1**
POO *e*SCS **SKKSac 08 28 06.0 -0.8**
AS31 Alice Springs 61.55 188 *eP* **P 08 18 17.2 -0.9**
ASAR Alice Springs 61.56 188 P **P 08 18 17.4 -0.8**
comp=Z,127nm,0.9s,baz=11,slow=6.8,SNR=320
ASAR LR LR 08 44 47.0
comp=Z,12μm,21.3s,baz=360,slow=36
ASAR PKPPKP P'P'df 08 47 29.1 +4.8
comp=Z,4.4nm,1.1s,baz=158,slow=3.1,SNR=4.9
ASAR PKP2bc 08 47 37.4
comp=Z,8.0nm,1.0s,baz=160,slow=3.1,SNR=7.9
ASAR P4KPbc 08 55 20.1
comp=Z,2.1nm,1.1s,baz=8.5,slow=5.3,SNR=8.3
BJO Bjornoya 61.75 345⇑*iP* **P 08 18 19.2 +0.4**
BJO *e*S **S 08 26 40.5 +2.1**
BJO IVMs_BB IVMs_BB 08 48 58.0
comp=Z,28μm,13.4s
RES Resolute Bay 61.83 15 P **P 08 18 19.0 -0.3**
RES pmax pmax
comp=Z,174nm,0.9s
RES Resolute Bay 61.83 15 P **P 08 18 18.9 -0.3**
comp=Z,174nm,0.9s,baz=316,slow=7.5,SNR=323
RES PKP2bc 08 47 36.6
comp=Z,4.6nm,1.1s,baz=54,slow=0.9,SNR=5.3
APA Apatity 62.08 336⇑*iP* **P 08 18 22.2 +1.1**
APA *i* 08 20 37.0
APA *i* PPP PPP 08 22 09.0
APA *i* S **S 08 26 42.0 -0.8**
APA *i* 08 28 09.0

APA *i* SS **SS 08 30 46.0 +0.9**
APA MLR MLR
comp=Z,8μm,17.0s
MBWA Marble Bar 62.15 203 P **P 08 18 22.1 0.0**
SNR=33
MBWA Marble Bar 62.15 203 *eP* **P 08 18 21.5 -0.6**
comp=Z,450nm,1.0s
MBWA *e*S S 08 26 36.4 -8.2
MBWA LR LR
comp=Z,7μm,21.0s
TMCR Tamitsa 62.18 331 *eP* **P 08 18 22.9 +1.1**
TMCR *e* 08 20 40.8
TMCR *e*S **S 08 26 45.9 +1.8**
TMCR pmax pmax
comp=Z,586nm,1.1s
BHJ Bhuj 62.31 279 *eP* **P 08 18 21.9 -1.5**
BHJ AMB AMB 08 18 25.2
comp=Z,418nm,2.0s
PALK Pallekele 62.72 257 *eP* **P 08 18 26.4 +0.2**
PALK *e*S S 08 26 57.9 +5.5
PALK pmax pmax
comp=Z,537nm,1.3s
PALK Pallekele 62.72 257 P **P 08 18 27.9 +1.6**
SNR=19
PALK Pallekele 62.72 257 LR LR 08 48 31.1
comp=Z,40μm,20.3s,baz=46,slow=39
PALK Pallekele 62.72 257⇑*iP* **P 08 18 26.9 +0.6**
SNR=14
PALK Pallekele 62.72 257 *eP* **P 08 18 26.4 +0.2**
comp=Z,537nm,1.3s
PALK *e*S S 08 26 57.9 +5.5
KEV Kevo 62.81 339 *eP* **P 08 18 26.1 +0.1**
KEV *e* 08 20 43.3
KEV *e*S **S 08 26 52.0 +0.1**
KEV pmax pmax
comp=Z,273nm,1.1s
KEV MLR MLR
comp=Z,38μm,22.0s
KEV Kevo 62.81 339 *ep* **P 08 18 25.9 0.0**
comp=Z,305nm,1.2s
KEV Kevo 62.81 339 *eP* **P 08 18 26.1 +0.1**
comp=Z,273nm,1.1s
KEV *e*PP **PP 08 20 43.3 -0.6**
KEV *e*S **S 08 26 52.0 +0.1**
KEV LR LR
comp=Z,38μm,22.0s
IMYA Miami 63.00 296 *eP* **P 08 18 29.4 +1.3**
YKA Yellowknife Ar 63.06 30 P **P 08 18 28.1 +0.3**
comp=Z,24nm,0.6s,baz=301,slow=6.5,SNR=389
YKA PKP2bc 08 47 30.1
comp=Z,5.6nm,1.2s,baz=142,slow=2.7,SNR=12
YKA PKP2ab 08 47 41.8
comp=Z,3.8nm,1.0s,baz=128,slow=2.2,SNR=7.7
YKA P4KPbc 08 55 26.4
comp=Z,0.6nm,1.1s,baz=303,slow=4.5,SNR=6.0
KLMR Klimovskoe 63.23 328*c iP* **P 08 18 28.8 -0.1**
KLMR *e* 08 20 48.4
KLMR *i* S **S 08 26 57.5 +0.2**
KLMR SS **SS 08 30 58.8 -4.4**
KLMR pmax pmax
comp=Z,724nm,1.4s
KLMR pmax pmax
comp=Z,6μm,3.2s
KLMR MLR MLR
comp=Z,92μm,20.0s
GOA Goa 63.24 269 *eP* **P 08 18 29.1 -0.6**
GOA AMB AMB 08 18 31.5
comp=Z,633nm,1.0s
ARCES ARCESS Array B 63.36 339 P **P 08 18 30.1 +0.4**
comp=Z,92nm,0.9s,baz=57,slow=4.5,SNR=61
ARCES PKP2bc 08 47 38.2
comp=Z,9.6nm,1.0s,baz=328,slow=4.3,SNR=5.4
ARCES LR LR 08 50 14.8
comp=Z,34μm,18.7s,baz=47,slow=40
ARE0 ARCESS Array S 63.36 339⇑*iP* **P 08 18 29.7 +0.1**
ARE0 IVmB_BB 08 18 33.3
comp=Z,9μm,3.8s
ARE0 *e*S **S 08 26 58.9 0.0**
ARE0 *e*SS **SS 08 31 07.8 +2.8**
ARE0 IVMs_BB IVMs_BB 08 47 10.0
comp=Z,15μm,21.5s
EIDS Eidsvold 63.44 170 *eP* **P 08 18 30.1 -0.5**
comp=Z,394nm,1.4s
ISRO Mashad 63.47 297 *eP* **P 08 18 32.5 +1.5**
ABKT Ailbek 63.64 299 P **P 08 18 32.6 +0.5**
comp=Z,2μm,1.3s
GEYT Alibeck 63.64 299 P **P 08 18 32.6 +0.5**
comp=Z,383nm,1.1s,baz=29,slow=3.4,SNR=222
GEYT PKP2bc 08 47 30.9
comp=Z,5.1nm,1.2s,baz=256,slow=5.8,SNR=6.6
GEYT PKP2ab 08 47 40.8
comp=Z,16nm,1.3s,baz=278,slow=4.3,SNR=11
GEYT LR LR 08 48 02.0
comp=Z,36μm,20.0s,baz=55,slow=38
IMOG Moghan 63.66 296 *eP* **P 08 18 33.8 +1.3**
IAKL Akhelmad 63.83 297 *eP* **P 08 18 34.6 +0.9**
MNGI Mangalore 63.92 266 *eP*9 P 08 18 25.6 -8.5
MNGI *e*S S 08 26 54.1 -13
DZM Mont Dzumac 63.94 154 P **P 08 18 35.1 +1.0**
comp=Z,44nm,1.0s,baz=7.5,slow=5.6,SNR=8.2
DZM LR LR 08 43 49.0
comp=Z,67μm,21.1s,baz=324,slow=34
ISHV Shirvan 64.12 299 *eP* **P 08 18 36.2 +0.8**
ISFR Sfrayin 64.14 298 *eP* **P 08 18 36.9 +1.2**
KTK1 Kautokeino 64.32 339 *eP* **P 08 18 37.1 +1.2**
KTK1 *e*S **S 08 27 08.7 -2.1**
KTK1 *e*SS **SS 08 31 21.9 +1.9**
TRD Trivandrum 64.87 261 *eP* **P 08 18 38.6 -1.8**
TRD AMB AMB 08 18 41.8
comp=Z,246nm,1.4s
TRD ⇓*iP* **pP 08 18 47.9 -4.3**
TRD *e*S S 08 27 27.9 +8.9
IDAH Dahanechah 64.93 293 *eP* **P 08 18 41.2 +0.3**
MSVF Nonsavu 64.97 141 *eP* **P 08 18 43.3 +2.4**
MSVF pmax pmax
comp=Z,524nm,1.4s
MSVF MLR MLR
comp=Z,41μm,21.0s
MSVF Nonsavu 64.97 141 *eP* **P 08 18 43.3 +2.4**
comp=Z,524nm,1.4s
MSVF LR LR
comp=Z,41μm,21.0s
DAG Danmarks Havn 65.04 355⇑*iP* **P 08 18 40.2 -0.3**
comp=Z,324nm,0.9s
DAG Danmarks Havn 65.04 355 *i* P P'P'df 08 47 21.3 -8.6
comp=Z,3.3nm,1.4s
TRO Tromso 65.07 341⇑*iP* **P 08 18 40.7 -0.1**
TRO IVmB_BB 08 18 43.5
comp=Z,7μm,2.4s
TRO *e*S **S 08 27 21.7 +1.9**
TRO IVMs_BB IVMs_BB 08 52 13.9
comp=Z,23μm,17.7s
COCO West Island 65.07 229 *eP* **P 08 18 40.9 -0.6**
COCO pmax pmax
comp=Z,532nm,1.1s
COCO MLR MLR
comp=Z,10μm,20.0s
COCO West Island 65.07 229 P **P 08 18 43.7 +2.2**
SNR=7.3
COCO West Island 65.07 229 *eP* **P 08 18 40.9 -0.6**
comp=Z,532nm,1.1s
COCO LR LR
comp=Z,10μm,20.0s
JOF Joensuu 65.39 332 *eP* **P 08 18 43.4 +0.4**
JOF pmax pmax
comp=Z,350nm,1.3s
JOF Joensuu 65.39 332 *ep* **P 08 18 43.4 +0.4**
comp=Z,350nm,1.3s
ITEG Tejag 65.66 294 *eP* **P 08 18 46.2 +0.7**
PGC Sidney 65.68 46 *eP* **P 08 18 46.1 +1.0**
comp=Z,24nm,1.5s
IKOO Kooshah 65.71 293 *eP* **P 08 18 47.0 +1.0**
XMAS Kiritimati 66.00 107 *eP* **P 08 18 48.1 +0.5**
comp=Z,813nm,1.4s
XMAS LR LR
comp=Z,87μm,22.0s
NLWA Neilton Lookou 66.07 48 *eP* **P 08 18 49.5 +1.8**
comp=Z,687nm,1.4s
NLWA LR LR
comp=Z,18μm,22.0s
MBW Mount Baker 66.50 46 P **P 08 18 51.4 +0.8**
MOS Moscow 66.76 323*c iP* **P 08 18 52.9 +1.0**
MOS *i* 08 19 05.9
MOS *e* 08 19 20.8
MOS *i* 08 21 19.6
MOS *e*PPP PPP 08 22 57.9

MOS				*i* S	**S**	**08 27 41.3**	**+0.4**
MOS				*i* PS	**PnS**	**08 28 05.4**	**-0.4**
MOS				*e*		08 28 45.3	
MOS				pmax	pmax		
	comp=Z,1μm,1.4s						
MOS				pmax	pmax		
	comp=N,468nm,1.1s						
MOS				pmax	pmax		
	comp=E,394nm,1.3s						
MOS				pmax	pmax		
	comp=Z,10μm,4.1s						
MOS				pmax	pmax		
	comp=N,4μm,3.8s						
MOS				pmax	pmax		
	comp=E,5μm,4.4s						
MOS				smax	smax		
	comp=N,11μm,4.8s						
MOS				MLR	MLR		
	comp=Z,29μm,15.0s						
JCW	**Jim Creek**	**66.78**	**46**	P	**P**	**08 18 53.2**	**+1.0**
HTW	**Haystack Looko**	**67.08**	**47**	P	**P**	**08 18 55.2**	**+1.0**
C05A	**Tolt Reservoir**	**67.18**	**47**	P	**P**	**08 18 55.8**	**+1.0**
KULLO	**Kullorsuaq**	**67.21**	**5⇑**	*i* P	**P**	**08 18 53.9**	**-0.6**
KULLO				pmax	pmax		
	comp=Z,180nm,1.0s						
KULLO				MLR	MLR		
	comp=Z,19μm,25.0s						
KULLO	**Kullorsuaq**	**67.21**	**5⇑**	*i* P	**P**	**08 18 53.9**	**-0.6**
	comp=Z,184nm,0.9s						
STEI	**Steigen**	**67.22**	**341**	*e*P	**P**	**08 18 55.4**	**+0.8**
F04D	**Rainier, OR**	**67.25**	**49**	⇓P	**P**	**08 18 56.5**	**+1.3**
	baz=67						
F04D				⇑S	**S**	**08 27 47.6**	**+0.5**
	baz=67						
VRHR	**Novokhopersk**	**67.26**	**318**	*e*P	**P**	**08 18 52.4**	**-2.8**
VRHR				*e*		08 21 22.4	
VRHR				*e*S	S	08 27 40.5	-6.6
VRHR				pmax	pmax		
	comp=Z,930nm,1.0s						
VRHR				pmax	pmax		
	comp=N,110nm,0.7s						
VRHR				pmax	pmax		
	comp=E,270nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,1μm,2.7s						
VRHR				pmax	pmax		
	comp=N,900nm,2.1s						
VRHR				pmax	pmax		
	comp=E,670nm,2.3s						
VRHR				smax	smax		
	comp=N,4μm,4.5s						
VRHR				smax	smax		
	comp=Z,2μm,5.1s						
VRHR				smax	smax		
	comp=E,1μm,2.6s						
VRHR				MLR	MLR		
	comp=N,64μm,16.0s						
VRHR				MLR	MLR		
	comp=Z,113μm,16.0s						
VRHR				MLR	MLR		
	comp=E,56μm,15.0s						
IGLO	**Ghaloghah**	**67.32**	**299**	*e*P	**P**	**08 18 56.6**	**+0.5**
AFI	**Afiamalu**	**67.47**	**130**	PFAKE		08 19 10.0	+13
AFI				LR	LR		
	comp=Z,35μm,22.0s						
LOF	**Lofoten**	**67.51**	**341**	*e*P	**P**	**08 18 58.0**	**+1.5**
G03D	**McMinnville, O**	**67.55**	**50**	⇓P	**P**	**08 18 58.6**	**+1.5**
	baz=67						
IKIA	**Kiasar**	**67.57**	**299**	*e*P	**P**	**08 18 58.1**	**+0.3**
TDL	**Tradedollar La**	**67.58**	**48**	P	**P**	**08 18 58.7**	**+1.2**
LON	**Longmire**	**67.61**	**48**	*e*P	**P**	**08 18 58.6**	**+1.1**
LON				pmax	pmax		
	comp=Z,190nm,1.6s						
LON	**Longmire**	**67.61**	**48**	*e*P	**P**	**08 18 58.6**	**+1.1**
	comp=Z,190nm,1.6s						
OBN	**Obninsk**	**67.61**	**323**	P	**P**	**08 18 57.0**	**-0.3**
	comp=Z,3μm,1.1s,SNR=29						
OBN	**Obninsk**	**67.61**	**323***c*	*i* P	**P**	**08 18 57.2**	**-0.1**
OBN				*e*		08 19 23.1	
OBN				*i*		08 21 25.4	
OBN				*e*S	S	08 27 44.8	-6.3
OBN				*i* SS	**SS**	**08 32 16.5**	**+5.0**
OBN				*e*SSS	SSS	08 35 18.8	
OBN				pmax	pmax		
	comp=Z,738nm,1.5s						
OBN				MLR	MLR		
	comp=Z,47μm,21.0s						
OBN	**Obninsk**	**67.61**	**323**	P	**P**	**08 18 57.4**	**+0.1**
	comp=Z,366nm,0.9s,baz=1.5,slow=1.7,SNR=114						
OBN				LR	LR	08 51 00.6	
	comp=Z,44μm,18.3s,baz=58,slow=38						
OBN	**Obninsk**	**67.61**	**323**	*e*P	**P**	**08 18 57.3**	**+0.1**
	comp=Z,494nm,1.0s						
OBN				*e*PP	**PP**	**08 21 25.0**	**-1.1**
OBN				*e*S	**S**	**08 27 50.6**	**-0.5**
KAF	**Kangasniemi**	**67.73**	**333**	*e*P	**P**	**08 18 56.5**	**-1.4**
KAF				pmax	pmax		
	comp=Z,414nm,1.0s						
KAF	**Kangasniemi**	**67.73**	**333**	*e*p	**P**	**08 18 56.5**	**-1.4**
	comp=Z,414nm,1.0s						
NLW	**Nelson Butte**	**67.75**	**46**	P	**P**	**08 18 59.5**	**+0.9**
IANJ	**Anjilo**	**67.79**	**298**	*e*P	**P**	**08 18 59.9**	**+0.8**
COR	**Corvallis**	**67.85**	**50**	*e*P	**P**	**08 19 00.9**	**+1.9**
COR				pmax	pmax		
	comp=Z,391nm,1.1s						
COR	**Corvallis**	**67.85**	**50**	*e*P	**P**	**08 19 00.9**	**+1.9**
	comp=Z,391nm,1.1s						
ETW	**Entiat**	**68.01**	**46**	P	**P**	**08 19 00.9**	**+0.7**
ISHM	**Shahmirzad**	**68.05**	**299**	*e*P	**P**	**08 19 01.6**	**+0.8**
MNCY	**Minicoy**	**68.10**	**263**	*i* P	**PcP**	**08 19 24.0**	**-2.8**
MNCY				*i* x	x	08 22 57.0	
KEBM	**Edson Butte**	**68.11**	**52**	*e*P	**P**	**08 19 02.0**	**+1.2**
	comp=Z,402nm,1.1s						
MAK	**Makhachkala**	**68.15**	**308**	*e*P	**P**	**08 18 59.5**	**-1.4**
MAK				*e*		08 19 24.8	
MAK				*e*		08 21 33.0	
MAK				*e*PPP	PPP	08 23 14.0	
MAK				*e*S	**S**	**08 27 54.6**	**-3.3**
MAK				*e*		08 28 55.8	
MAK				*e*SS	SS	08 32 29.3	+8.9
MAK				pmax	pmax		
	comp=Z,404nm,1.2s						
MAK				pmax	pmax		
	comp=Z,11μm,5.9s						
MAK				pmax	pmax		
	comp=N,406nm,1.4s						
MAK				pmax	pmax		
	comp=E,278nm,0.9s						
MAK				smax	smax		
	comp=E,11μm,10.1s						
MAK				smax	smax		
	comp=N,8μm,11.1s						
MAK				MLR	MLR		
	comp=E,66μm,18.0s						
MAK				MLR	MLR		
	comp=N,63μm,16.0s						
MAK				MLR	MLR		
	comp=Z,51μm,15.0s						
WTV	**Waterville**	**68.17**	**46**	P	**P**	**08 19 01.6**	**+0.5**
FINES	**FINESS Array B**	**68.24**	**332**	P	**P**	**08 19 01.1**	**-0.1**
FINES				pmax	pmax		
	comp=Z,443nm,0.8s						
FINES				MLR	MLR		
	comp=Z,38μm,18.4s						
FINES	**FINESS Array B**	**68.24**	**332**	P	**P**	**08 19 01.1**	**-0.1**
	comp=Z,442nm,0.8s,baz=70,slow=6.3,SNR=287						
FINES				LR	LR	08 51 09.5	
	comp=Z,38μm,18.4s,baz=48,slow=38						
IALA	**Alasht**	**68.24**	**299**	*e*P	**P**	**08 19 03.1**	**+1.1**
EBG	**Ellensburg**	**68.25**	**47**	P	**P**	**08 19 02.6**	**+1.1**
I03D	**Drain, OR**	**68.29**	**51**	⇓P	**P**	**08 19 03.4**	**+1.7**
	baz=68,SNR=16						
IPRN	**Peran**	**68.48**	**300**	*e*P	**P**	**08 19 03.8**	**+0.5**
ARMA	**Armidale**	**68.49**	**171**	*e*P	**P**	**08 19 03.0**	**0.0**
	comp=Z,300nm,1.2s						
SAW	**Saint Andrews**	**68.49**	**46**	P	**P**	**08 19 03.5**	**+0.5**
VSR	**Storozhevoye**	**68.50**	**319***c*	*i* P	**P**	**08 19 03.1**	**+0.2**
VSR				pmax	pmax		
	comp=Z,1μm,1.0s						
VSR				MLR	MLR		
	comp=Z,186μm,20.0s						
ILAS	**Lasjerd**	**68.50**	**299**	*e*P	**P**	**08 19 04.5**	**+0.9**
IFIR	**Firoozkooh**	**68.51**	**299**	*e*P	**P**	**08 19 04.6**	**+0.9**
KBO	**Bosley Butte**	**68.52**	**53**	*e*P	**P**	**08 19 02.1**	**-1.3**
	comp=Z,249nm,1.7s						
VFP	**Flag Point**	**68.57**	**49**	P	**P**	**08 19 04.8**	**+1.1**
VORD	**Divnogorie**	**68.57**	**318**	*e*P	**P**	**08 19 02.8**	**-0.6**
VORD				*e*		08 21 35.1	
VORD				*e*S	S	08 27 56.8	-5.9
VORD				pmax	pmax		
	comp=N,250nm,1.0s						
VORD				pmax	pmax		
	comp=Z,620nm,1.0s						
VORD				pmax	pmax		
	comp=E,480nm,1.3s						
VORD				pmax	pmax		
	comp=Z,1μm,2.6s						
VORD				pmax	pmax		
	comp=N,400nm,1.3s						
VORD				pmax	pmax		
	comp=E,1μm,2.8s						
VORD				smax	smax		
	comp=N,5μm,7.1s						
VORD				smax	smax		
	comp=Z,2μm,6.2s						
VORD				smax	smax		
	comp=E,2μm,4.8s						
VORD				MLR	MLR		
	comp=E,92μm,16.0s						
VORD				MLR	MLR		
	comp=Z,113μm,16.0s						
VORD				MLR	MLR		
	comp=N,29μm,15.0s						
EDM	**Edmonton**	**68.64**	**39**	*e*P	**P**	**08 19 03.5**	**-0.4**
EDM	**Edmonton**	**68.64**	**39**	*e*P	**P**	**08 19 03.5**	**-0.4**
IBAF	**Bafgh**	**68.64**	**294**	*e*P	**P**	**08 19 04.9**	**+0.5**
G05D	**Wamic, OR**	**68.70**	**49**	⇓P	**P**	**08 19 05.3**	**+1.0**
	baz=68,SNR=10						
MOR8	**Moi Rana**	**68.73**	**340**	*e*P	**P**	**08 19 03.0**	**-1.1**
MOR8				IAmb	IAmb	08 19 05.7	
	comp=Z,237nm,0.7s						
I04A	**Tendick Farm,**	**68.81**	**51**	⇓P	**P**	**08 19 06.2**	**+1.1**
	baz=69,SNR=28						
KONS	**Konsvik**	**68.84**	**340**	*e*P	**P**	**08 19 05.5**	**+0.8**
FLOS	**Flostrand**	**68.90**	**340**	*e*P	**P**	**08 19 05.5**	**+0.4**
L02D	**Cave Junction,**	**68.94**	**53**	⇓P	**P**	**08 19 07.2**	**+1.3**
	baz=69,SNR=7.9						
STOK	**Stokkvaagen**	**68.99**	**340**	*e*P	**P**	**08 19 06.1**	**+0.3**
STOK				*e*S	**S**	**08 28 07.9**	**+0.7**
IDMV	**Damavand**	**69.05**	**299**	*e*P	**P**	**08 19 07.8**	**+0.7**
OD2	**Odessa Site #2**	**69.05**	**46**	P	**P**	**08 19 06.9**	**+0.4**
HUMO	**Hull Mountain**	**69.11**	**52**	*e*P	**P**	**08 19 07.3**	**+0.3**
	comp=Z,294nm,1.7s						
HAWA	**Hanford**	**69.12**	**47**	*e*P	**P**	**08 19 07.6**	**+0.6**
	comp=Z,314nm,1.5s						
HAWA				LR	LR		
	comp=Z,10μm,21.0s						
ICHK	**Chekchek**	**69.13**	**295**	*e*P	**P**	**08 19 08.3**	**+0.7**
I05D	**Terrebonne, OR**	**69.17**	**50**	⇑P	**P**	**08 19 08.7**	**+1.3**
	baz=69,SNR=14						
J04D	**Umpqua Nationa**	**69.29**	**51**	⇑P	**P**	**08 19 09.8**	**+1.5**
	baz=69,SNR=40						
STKA	**Stephens Creek**	**69.30**	**180**	P	**P**	**08 19 07.4**	**-0.6**
	comp=Z,27nm,0.7s,baz=356,slow=5.7,SNR=52						
STKA				PKP2bc		08 47 16.4	
	comp=Z,8.5nm,1.0s,baz=165,slow=3.8,SNR=10.0						
STKA				LR	LR	08 49 16.4	
	comp=Z,10μm,21.4s,baz=6.7,slow=36						
FORT	**Forrest**	**69.38**	**192**	*e*P	**P**	**08 19 07.9**	**-0.6**
	comp=Z,583nm,0.7s						
FORT				*e*S	**S**	**08 28 09.8**	**-2.7**
IMEH	**Mehriz**	**69.44**	**294**	*e*P	**P**	**08 19 09.2**	**-0.3**
JMIC	**Jan Mayen**	**69.44**	**350**	⇑*i*P	**P**	**08 19 09.8**	**+1.4**
JMIC				IVmB_BB		08 19 12.8	
	comp=Z,6μm,4.0s						
JMIC				*e*S	S	08 28 19.0	+6.6
NEW	**Newport**	**69.46**	**44**	*e*P	**P**	**08 19 07.7**	**-1.4**
NEW				pmax	pmax		
	comp=Z,361nm,1.4s						
NEW				MLR	MLR		
	comp=Z,14μm,22.0s						
NEW	**Newport**	**69.46**	**44**	PKP2bc	**P'P'bc**	**08 47 17.5**	**-4.1**
	comp=Z,3.1nm,1.0s,baz=46,slow=2.2,SNR=3.3						
NEW	**Newport**	**69.46**	**44**	⇑P	**P**	**08 19 09.7**	**+0.7**
	baz=69,SNR=69						
NEW	**Newport**	**69.46**	**44**	*e*P	**P**	**08 19 07.7**	**-1.4**
	comp=Z,361nm,1.4s						
NEW				⇑*e*		08 47 17.5	
NEW				LR	LR		
	comp=Z,14μm,22.0s						
KHMM	**Horse Mountain**	**69.55**	**54**	*e*P	**P**	**08 19 11.0**	**+1.2**
	comp=Z,235nm,1.3s						
IVRN	**Varamin**	**69.56**	**299**	*e*P	**P**	**08 19 10.0**	**+0.1**
YBH	**Yreka Blue Hor**	**69.73**	**53**	*e*P	**P**	**08 19 11.7**	**+0.8**
YBH				pmax	pmax		
	comp=Z,193nm,1.4s						
YBH	**Yreka Blue Hor**	**69.73**	**53**	*e*P	**P**	**08 19 11.7**	**+0.8**
	comp=Z,193nm,1.4s						
PINOR	**Pine Mountain**	**69.74**	**50**	*e*P	**P**	**08 19 12.3**	**+1.5**
	comp=Z,551nm,1.4s						
IR3	**Iran Long-Peri**	**69.79**	**300**	*e*P	**P**	**08 19 12.0**	**+0.6**
J05D	**Fort Rock, OR**	**69.81**	**51**	⇑P	**P**	**08 19 12.9**	**+1.5**
	baz=70,SNR=66						
ISAD	**Sadrabad**	**69.83**	**295**	*e*P	**P**	**08 19 12.3**	**+0.4**
M02C	**Callahan**	**69.83**	**53**	⇑P	**P**	**08 19 13.2**	**+1.7**
	baz=70,SNR=15						
K04D	**Chiloquin, OR**	**69.85**	**51**	⇓P	**P**	**08 19 12.6**	**+1.0**
	baz=70,SNR=14						
IGZV	**Ghazvin**	**69.86**	**301**	*e*P	**P**	**08 19 11.9**	**0.0**
VSU	**Vasula**	**69.91**	**329***c*	*i* P	**P**	**08 19 12.4**	**+0.9**
VSU				pmax	pmax		
	comp=Z,1μm,0.9s						
VSU				MLR	MLR		
	comp=Z,158μm,23.0s						
IMHD	**Mahdasht**	**69.93**	**300**	*e*P	**P**	**08 19 12.9**	**+0.7**
SUMG	**Summit**	**69.94**	**0**	⇑*i*P	**P**	**08 19 12.5**	**+0.5**
SUMG				pmax	pmax		
	comp=Z,220nm,0.9s						
SUMG				MLR	MLR		
	comp=Z,19μm,24.0s						
SUMG	**Summit**	**69.94**	**0**	⇑*i*P	**P**	**08 19 12.5**	**+0.5**
	comp=Z,225nm,0.9s						
SUMG	**Summit**	**69.94**	**0**	*i* P	P'P'bc	08 47 12.1	-8.7
	comp=Z,7.1nm,1.1s						
SUMG	**Summit**	**69.94**	**0**	*e*P	**P**	**08 19 12.4**	**+0.5**
	comp=Z,252nm,0.9s						
N02D	**Trinity Center**	**70.15**	**53**	⇓P	**P**	**08 19 14.9**	**+1.4**
	baz=70,SNR=28						
M04C	**Macdoel**	**70.25**	**52**	⇑P	**P**	**08 19 15.3**	**+1.1**
	baz=70,SNR=42						
IZEF	**Zefreh**	**70.27**	**297**	*e*P	**P**	**08 19 14.9**	**+0.4**
KIPM	**Iron Peak**	**70.29**	**55**	*e*P	**P**	**08 19 14.4**	**0.0**
	comp=Z,912nm,2.0s						
KCPM	**Cahto Peak**	**70.29**	**55**	*e*P	**P**	**08 19 15.2**	**+0.8**
	comp=Z,695nm,2.0s						
DGRG	**David-gareji**	**70.29**	**307**	P	**P**	**08 19 15.2**	**+0.9**
DUS	**Dusheti**	**70.36**	**308**	P	P	08 19 18.3	+3.6
BBOO	**Buckleboo**	**70.43**	**185**	*e*P	**P**	**08 19 14.4**	**-0.5**
	comp=Z,3μm,0.9s						
WDC	**Whiskeytown Da**	**70.47**	**54**	*e*P	**P**	**08 19 16.1**	**+0.8**
WDC				pmax	pmax		
	comp=Z,686nm,2.0s						
WDC	**Whiskeytown Da**	**70.47**	**54**	*e*P	**P**	**08 19 16.1**	**+0.8**
	comp=Z,686nm,2.0s						
ZEI	**Tsey**	**70.47**	**309**	*e*P	P	08 19 11.5	-4.1
ZEI				*e*PPP	PPP	08 23 33.0	
ZEI				*e*S	**S**	**08 28 24.5**	**-1.4**
ZEI				pmax	pmax		
	comp=Z,4μm,9.4s						
ZEI				pmax	pmax		
	comp=Z,384nm,1.4s						
ZEI				pmax	pmax		
	comp=N,313nm,1.4s						
ZEI				pmax	pmax		
	comp=E,321nm,0.8s						
ZEI				MLR	MLR		
	comp=Z,49μm,18.0s						
ZEI				MLR	MLR		
	comp=E,27μm,16.0s						
ZEI				MLR	MLR		
	comp=N,10μm,14.0s						
TBLG	**Delisi**	**70.54**	**308**	P	**P**	**08 19 16.1**	**+0.4**
KBZ	**Khabaz**	**70.56**	**311**	P	**P**	**08 19 16.7**	**+0.9**
	comp=N,395nm,1.0s,baz=66,slow=4.2,SNR=277						
KBZ				PKP2ab		08 47 10.2	
	comp=N,3.6nm,1.0s,baz=248,slow=8.4,SNR=8.7						
KBZ				LR	LR	08 52 54.1	
	comp=N,24μm,19.0s,baz=48,slow=38						
KIV	**Kislovodsk**	**70.56**	**311**	P	**P**	**08 19 17.8**	**+1.9**
	comp=N,7μm,1.3s						
KIV	**Kislovodsk**	**70.56**	**311***c*	*i* P	**P**	**08 19 16.7**	**+0.8**
KIV				*e*		08 19 35.8	
KIV				*e*		08 21 51.8	
KIV				*e*PPP	PPP	08 23 33.8	
KIV				*e*S	**S**	**08 28 27.3**	**+0.7**
KIV				*e*SS	**SS**	**08 33 00.8**	**+3.1**
KIV				pmax	pmax		
	comp=Z,1μm,1.0s						
KIV				pmax	pmax		
	comp=Z,4μm,4.6s						
KIV				MLR	MLR		
	comp=Z,43μm,18.0s						
KIV	**Kislovodsk**	**70.56**	**311**	P	**P**	**08 19 17.0**	**+1.1**
	SNR=304						
KIV	**Kislovodsk**	**70.56**	**311**	*i* P	**P**	**08 19 17.2**	**+1.2**
	SNR=156						
KIV	**Kislovodsk**	**70.56**	**311**	*e*P	**P**	**08 19 16.5**	**+0.5**
	comp=Z,2μm,1.1s						
KIV				*e*S	**S**	**08 28 27.6**	**+1.0**
KIV				LR	LR		
	comp=Z,40μm,19.0s						
IKLH	**Kolahrood**	**70.57**	**297**	*e*P	**P**	**08 19 16.8**	**+0.4**
IRAZ	**Razeghan**	**70.59**	**300**	*e*P	**P**	**08 19 16.9**	**+0.5**
NSS	**Namsos**	**70.65**	**339**	⇑*i*P	**P**	**08 19 16.3**	**+0.3**
NSS				*e*S	**S**	**08 28 26.3**	**-0.4**
WALA	**Waterton Lakes**	**70.75**	**42**	*e*P	**P**	**08 19 17.4**	**+0.3**
	comp=Z,14nm,1.4s						
ONI	**Oni**	**70.86**	**309**	P	**P**	**08 19 19.1**	**+1.4**
WBK	**Wadi Bani Khal**	**70.95**	**284**	P	**P**	**08 19 19.5**	**+1.0**
	SNR=93						
BSMT	**Bassoo Peak**	**70.98**	**44**	P	**P**	**08 19 19.4**	**+0.8**
HOPS	**Hopland Field**	**71.00**	**55**	*e*P	**P**	**08 19 20.2**	**+1.6**
	comp=Z,306nm,1.6s						
LBCM	**Butte Creek Ri**	**71.08**	**53**	P	**P**	**08 19 20.1**	**+0.9**
BLMT	**Blacktail Moun**	**71.12**	**44**	*e*P	**P**	**08 19 20.3**	**+0.9**
	comp=Z,422nm,1.7s						
MOD	**Modoc Plateau**	**71.14**	**51**	*e*P	**P**	**08 19 20.1**	**+0.5**
	comp=Z,257nm,1.4s						
BANOM	**Banah**	**71.15**	**288**	P	**P**	**08 19 20.6**	**+0.9**
	SNR=41						
BANOM	**Banah**	**71.15**	**288**	*i* P	**P**	**08 19 20.3**	**+0.5**
	SNR=80						
BMO	**Blue Mountains**	**71.28**	**47**	*e*P	**P**	**08 19 20.4**	**+0.1**
BMO				pmax	pmax		
	comp=Z,148nm,1.1s						
BMO				MLR	MLR		
	comp=Z,12μm,22.0s						
BMO	**Blue Mountains**	**71.28**	**47**	*e*P	**P**	**08 19 20.4**	**+0.1**
	comp=Z,148nm,1.1s						
BMO				LR	LR		
	comp=Z,12μm,22.0s						
JTMT	**Jette**	**71.32**	**44**	*e*P	**P**	**08 19 21.3**	**+0.7**
	comp=Z,216nm,1.4s						
IPIR	**Pirpir**	**71.40**	**297**	*e*P	**P**	**08 19 20.4**	**-1.1**
YBMT	**Yellow Bay**	**71.40**	**44**	*e*P	**P**	**08 19 21.9**	**+0.9**
	comp=Z,135nm,1.2s						
SMDO	**Samad**	**71.40**	**285**	P	**P**	**08 19 22.6**	**+1.2**
	SNR=132						
IPAR	**Pars**	**71.41**	**294**	*e*P	**P**	**08 19 21.4**	**-0.2**
GNI	**Garni**	**71.41**	**307***c*	*i* P	**P**	**08 19 23.1**	**+1.8**
GNI				pmax	pmax		
	comp=Z,714nm,1.5s						
GNI				MLR	MLR		
	comp=Z,31μm,16.0s						
GNI	**Garni**	**71.41**	**307**	P	**P**	**08 19 22.7**	**+1.4**
	SNR=94						
GNI	**Garni**	**71.41**	**307**	LR	LR	08 53 27.9	
	comp=Z,33μm,18.2s,baz=61,slow=38						
GNI	**Garni**	**71.41**	**307**	*i* P	**P**	**08 19 22.7**	**+1.4**
	SNR=72						
GNI	**Garni**	**71.41**	**307**	*e*P	**P**	**08 19 22.3**	**+1.0**
	comp=Z,770nm,1.3s						
GNI				*e*S	S	08 28 43.0	+6.2
AKH	**Akhalkalaki**	**71.49**	**308**	P	**P**	**08 19 22.9**	**+1.2**
ISRV	**Sarvestan**	**71.61**	**293**	*e*P	**P**	**08 19 22.9**	**+0.1**
SWMT	**Swartz Lake**	**71.61**	**44**	*e*P	**P**	**08 19 23.0**	**+0.7**
	comp=Z,354nm,1.5s						
HOQ	**Hoqain**	**71.68**	**286**	P	**P**	**08 19 23.3**	**+0.4**
	SNR=105						
JMDO	**Jabal Madar**	**71.75**	**284**	P	**P**	**08 19 23.9**	**+0.5**
	SNR=78						
UOSS	**Wadi Hilu**	**71.76**	**288**	P	**P**	**08 19 23.0**	**-0.4**
	comp=Z,2μm,0.9s,SNR=76						
EAK	**Akyaka**	**71.83**	**308**	*i* P	**P**	**08 19 25.6**	**+1.8**
EAK				*i* S	**sP**	**08 19 40.4**	**0.0**
EAK	**Akyaka**	**71.83**	**308**	*i* P	**P**	**08 19 25.6**	**+1.8**
EAK				*i* S	**sP**	**08 19 40.4**	**0.0**
WVOR	**Wild Horse Val**	**71.87**	**50**	*e*P	**P**	**08 19 24.4**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,277nm,1.4s						
WVOR				MLR	MLR		
	comp=Z,14μm,22.0s						
WVOR	**Wild Horse Val**	**71.87**	**50**	*e*P	**P**	**08 19 24.4**	**+0.5**
	comp=Z,276nm,1.4s						
WVOR				LR	LR		
	comp=Z,14μm,22.0s						
HATD	**Hatta, Dubai**	**71.88**	**288**	⇑*i*P	**P**	**08 19 24.5**	**+0.4**
	SNR=188						
MICGM	**Minsk**	**71.98**	**326**	⇑*i*P	**P**	**08 19 23.0**	**-1.2**
MNK	**Minsk**	**72.01**	**326***c*	*i* P	**P**	**08 19 23.0**	**-1.3**
ASHO	**Ashiyiah**	**72.02**	**288**	P	**P**	**08 19 25.5**	**+0.5**
	SNR=116						
ASHO	**Ashiyiah**	**72.02**	**288**	*i* P	**P**	**08 19 25.6**	**+0.7**
	SNR=99						
MSO	**Missoula**	**72.05**	**44**	⇑P	**P**	**08 19 25.1**	**+0.2**
	baz=72,SNR=61						
SLMT	**Seeley Lake**	**72.05**	**44**	*e*P	**P**	**08 19 25.2**	**+0.2**
	comp=Z,326nm,1.3s						
DIGO	**Kars**	**72.13**	**307**	*i* P	**P**	**08 19 27.2**	**+1.5**
DIGO	**Kars**	**72.13**	**307**	*i* P	**P**	**08 19 27.2**	**+1.5**
NAZ	**Nazwa, Dubai**	**72.15**	**288**	*i* P	**P**	**08 19 26.1**	**+0.4**
	SNR=78						
KARS	**Kars**	**72.19**	**308**	*e*P	**P**	**08 19 28.4**	**+2.5**
NACGM	**Naroch**	**72.21**	**327**	*e*P	P	08 19 22.0	-3.5
IKAZ	**Kazeroun**	**72.32**	**294**	*e*P	**P**	**08 19 27.3**	**+0.2**
FAQ	**Al Faqa, Dubai**	**72.34**	**288**	⇓*i*P	**P**	**08 19 26.7**	**-0.1**
	SNR=54						
CHMT	**Chamberlain Mo**	**72.38**	**44**	*e*P	**P**	**08 19 27.1**	**+0.1**
	comp=Z,95nm,1.5s						
ARQ	**Araqi**	**72.42**	**286**	P	**P**	**08 19 27.9**	**+0.6**
	SNR=121						
CLDR	**Caldiran**	**72.50**	**306**	*e*P	**P**	**08 19 30.0**	**+2.1**
SOC	**Sochi**	**72.54**	**312***c*	*i* P	**P**	**08 19 28.5**	**+0.8**
SOC				*e**PP	**pP**	**08 19 36.7**	**-3.0**
SOC				*i **SP	**sP**	**08 19 41.2**	**-3.1**
SOC				*e*		08 22 09.7	
SOC				*e*PPP	PPP	08 23 54.3	
SOC				*i* S	**S**	**08 28 48.5**	**-0.7**
SOC				*i*		08 29 30.5	
SOC				*e*SS	SS	08 33 37.2	+9.4
SOC				*i* SSS	SSS	08 36 43.6	
SOC				pmax	pmax		
	comp=Z,443nm,1.0s						
SOC				pmax	pmax		
	comp=Z,6μm,3.0s						
SOC				MLR	MLR		
	comp=N,28μm,16.0s						
SOC				MLR	MLR		
	comp=E,11μm,16.0s						
SOC				MLR	MLR		
	comp=Z,38μm,16.0s						
ARTV	**Artvin**	**72.59**	**309**	*i* P	**P**	**08 19 29.4**	**+1.0**
ARTV				*i* S	**sP**	**08 19 45.1**	**+

FFC MLR MLR
comp=Z,13μm,21.0s
FFC Flin Flon 72.97 33 *e*P **P 08 19 29.9 -0.2**
comp=Z,403nm,1.3s
FFC *e*S **S 08 28 53.7 -0.1**
FFC LR LR
comp=Z,13μm,21.0s
MFID Camas Ranch 72.98 48 *e*P **P 08 19 31.1 +0.6**
comp=Z,310nm,1.3s
CAN Canberra 73.06 174 *e*P **P 08 19 30.6 -0.1**
CAN pmax pmax
comp=Z,443nm,1.5s
CAN MLR MLR
comp=Z,11μm,21.0s
CAN Canberra 73.06 174 *e*P **P 08 19 30.6 -0.1**
comp=Z,443nm,1.5s
CAN LR LR
comp=Z,11μm,21.0s
ANN Anapa 73.15 314 *i* P **P 08 19 31.2 -0.1**
ANN *e**PP **pP 08 19 41.6 -1.7**
ANN *i* 08 19 47.9
ANN *e* 08 22 15.4
ANN *e*PPP PPP 08 23 58.0
ANN *i* S **S 08 28 56.1 0.0**
ANN *e*SS **SS 08 33 33.8 -3.2**
ANN pmax pmax
comp=N,120nm,1.3s
ANN pmax pmax
comp=Z,706nm,1.2s
ANN pmax pmax
comp=N,2μm,3.5s
ANN pmax pmax
comp=E,155nm,1.3s
ANN pmax pmax
comp=Z,7μm,3.5s
ANN pmax pmax
comp=E,1μm,3.5s
FCC Fort Churchill 73.25 27 *e*P **P 08 19 31.1 -0.5**
FCC Fort Churchill 73.25 27 *e*P **P 08 19 31.1 -0.5**
comp=E,14nm,1.3s
HRY Holter Researc 73.28 44 *e*P **P 08 19 33.1 +0.9**
comp=E,520nm,1.2s
CMB Columbia Colle 73.28 55 *e*P **P 08 19 33.0 +0.7**
CMB pmax pmax
comp=Z,746nm,1.8s
CMB Columbia Colle 73.28 55 *e*P **P 08 19 33.0 +0.7**
comp=Z,746nm,1.8s
SAO San Andreas Ge 73.31 56 *e*P **P 08 19 32.5 0.0**
SAO pmax pmax
comp=Z,183nm,1.5s
SAO San Andreas Ge 73.31 56 *e*P **P 08 19 32.5 0.0**
comp=Z,182nm,1.5s
DOMB Dombas 73.42 339 *e*P **P 08 19 34.1 +1.4**
MOL Molde 73.42 340⇑ *i*P **P 08 19 33.4 +0.9**
MOL IVmB_BB 08 19 36.3
comp=Z,7μm,6.5s
LRM Limekiln Ridge 73.48 45 *e*P **P 08 19 34.5 +1.0**
comp=Z,2μm,1.2s
HFS Hagfors 73.48 336 P **P 08 19 33.1 +0.1**
HFS pmax pmax
comp=Z,296nm,0.9s
HFS Hagfors 73.48 336 P **P 08 19 33.1 +0.1**
comp=Z,296nm,0.9s,baz=62,slow=3.8,SNR=154
HKR Hakkari 73.51 305 *e*P **P 08 19 35.7 +1.8**
A19A Klindworth Far 73.54 40⇓P **P 08 19 34.5 +0.8**
baz=73,SNR=180
NB2 NORSAR Subarra 73.57 337 P **P 08 19 33.8 +0.3**
comp=Z,374nm,1.0s,baz=38,slow=6.2
NB2 NORSAR Subarra 73.57 337 P **P 08 19 33.8 +0.3**
baz=38,slow=6.2
NOA NORSAR Array B 73.57 337 P **P 08 19 33.9 +0.3**
NOA 08 22 17.2
NOA pmax pmax
comp=Z,250nm,0.9s
NOA pmax pmax
comp=Z,26nm,1.0s
NOA NORSAR Array B 73.57 337 P **P 08 19 33.9 +0.3**
comp=Z,251nm,0.9s,baz=38,slow=5.8,SNR=262
NOA PP **PP 08 22 17.2 0.0**
comp=Z,26nm,0.9s,baz=38,slow=7.9,SNR=3.9
NOA LR LR 08 54 31.5
comp=Z,68μm,21.5s,baz=40,slow=38
EGMT Eagleton 73.58 42⇓P **P 08 19 34.5 +0.6**
baz=73,SNR=120
EGMT Eagleton 73.58 42 *e*P **P 08 19 33.4 -0.6**
comp=Z,1μm,1.5s
EGMT LR LR
comp=Z,12μm,21.0s
WAKR Walker 73.62 54 *e*P **P 08 19 35.8 +1.3**
comp=Z,569nm,1.9s
ERZM Erzurum 73.68 308 *i* P P 08 19 37.7 +2.8
ERZM *i* S sP 08 19 59.2 +7.7
ERZM Erzurum 73.68 308 *i* P P 08 19 37.7 +2.8
ERZM *i* S sP 08 19 59.2 +7.7
EZM Erzurum 73.68 308 *e*P P 08 19 37.7 +2.8
NC602 NORSAR Array S 73.71 337⇑ *i*P **P 08 19 34.5 +0.1**
NC602 IVmB_BB 08 19 37.6
comp=Z,7μm,4.1s
NC602 *e*S **S 08 29 01.8 -0.1**
NC602 IVMs_BB IVMs_BB 08 54 20.1
comp=Z,24μm,23.6s
HLID Hailey 73.72 47⇑P **P 08 19 36.1 +1.1**
baz=74,SNR=86
HLID Hailey 73.72 47 *e*P **P 08 19 35.6 +0.6**
comp=Z,231nm,1.4s
HLID LR LR
comp=Z,10μm,22.0s
B19A Brinkman Farms 73.73 41⇓P **P 08 19 35.5 +0.7**
baz=74,SNR=180
LCCM Lewis and Clar 73.79 44 P **P 08 19 36.1 +0.8**
CUKT Cukurca 73.79 305 *e*P **P 08 19 35.9 +0.5**
AKASG Malin Array Be 73.82 322 P **P 08 19 35.0 -0.1**
AKASG pmax pmax
comp=Z,141nm,0.6s
AKASG MLR MLR
comp=Z,29μm,20.0s
AKASG Malin Array Be 73.82 322 P **P 08 19 35.0 -0.1**
comp=Z,141nm,0.6s,baz=44,slow=6.1,SNR=300
AKASG LR LR 08 54 10.0
comp=Z,29μm,20.0s,baz=40,slow=37
KIEV Kiev 73.83 322 *c i*P **P 08 19 35.3 +0.1**
KIEV Kiev 73.83 322 *e*P **P 08 19 34.9 -0.4**
comp=Z,529nm,1.1s
KIEV *e*PP **PP 08 22 21.1 +1.4**
KIEV LR LR
comp=Z,29μm,20.0s
MCMT McKenzie Canyo 73.86 46 *e*P **P 08 19 36.1 +0.3**
comp=Z,28nm,1.1s
AKN Aaknes 73.89 340⇑ *i*P **P 08 19 36.5 +1.1**
AKN IVmB_BB 08 19 39.7
comp=Z,10μm,5.1s
AKN *e*S **S 08 29 05.0 +1.0**
AKN IVMs_BB IVMs_BB 08 56 58.0
comp=Z,16μm,14.4s
BMN Battle Mountai 73.89 51 *e*P **P 08 19 37.0 +1.0**
BMN pmax pmax
comp=Z,305nm,1.3s
BMN Battle Mountai 73.89 51 *e*P **P 08 19 37.0 +1.0**
comp=Z,305nm,1.3s
NWAO Narrogin (SRO) 73.94 201 LR LR 08 52 31.2
comp=Z,4μm,19.7s,baz=18,slow=36
A20A Cobblestone Ra 73.99 40⇓P **P 08 19 37.0 +0.7**
baz=74,SNR=60
KTUT Trabzon 74.03 310 *e*P **P 08 19 37.9 +1.3**
BOZ Bozeman (W) 74.04 44 *e*P **P 08 19 37.5 +0.7**
BOZ pmax pmax
comp=Z,351nm,1.4s
BOZ MLR MLR
comp=Z,9μm,22.0s
BOZ Bozeman (W) 74.04 44 *e*P **P 08 19 37.5 +0.7**
comp=Z,351nm,1.4s
BOZ LR LR
comp=Z,9μm,22.0s
VRTB Varto-Mus 74.06 307 *e*P **P 08 19 39.0 +2.0**
C19A Slack Wire Ran 74.13 41⇑P **P 08 19 38.1 +0.9**
baz=74,SNR=285
BAYT Ayd¨ntepe-Bay 74.15 309 *e*P **P 08 19 39.0 +1.4**
KOPT Kop Dagi 74.16 308 *i* P **P 08 19 40.2 +2.5**
KOPT Kop Dagi 74.16 308 *i* P **P 08 19 40.2 +2.5**
B20A Solberg Farm, 74.22 40⇓P **P 08 19 38.2 +0.6**
baz=74,SNR=54
SUW Suwalki 74.36 327⇑ *i*P **P 08 19 38.1 -0.1**
SUW *e**PP **pP 08 19 51.7 +1.4**
SUW *e* 08 22 23.0
SUW *e*S **S 08 29 07.5 -2.0**
SUW pmax pmax
comp=Z,600nm,1.1s
SUW MLR MLR
comp=Z,67μm,18.5s
SUW Suwalki 74.36 327 *i* P **P 08 19 38.1 -0.1**
SUW *e*pP **pP 08 19 51.6 +1.3**
SUW *e*PP **PP 08 22 22.9 -1.1**
SUW *e*S **S 08 29 07.4 -2.0**
SUW *e*sS **sS 08 29 25.7 -3.7**
SUW LMZ LR 08 54 50.1
SUW Suwalki 74.36 327 *e*P **P 08 19 38.2 -0.1**
comp=Z,535nm,1.0s
SUW *e*PP **PP 08 22 24.0 -0.1**
SUW *e*S **S 08 29 10.8 +1.4**
NVAR Mina Array Bea 74.39 53 P **P 08 19 40.2 +1.2**
comp=Z,61nm,0.9s,baz=287,slow=5.8,SNR=223
SIRT Sirnak 74.40 305 *e*P **P 08 19 39.7 +0.8**
A21A Bergtoll Ranch 74.43 40⇑P **P 08 19 39.3 +0.5**
baz=74,SNR=78
MLAC Mammoth, Mammo 74.51 54⇓P **P 08 19 41.0 +1.2**
baz=74,SNR=24
GUMT Gumushane 74.52 309 *e*P **P 08 19 42.2 +2.6**
D19A Cripps Ranch, 74.58 42⇑P **P 08 19 40.6 +0.8**
baz=74,SNR=183
OSL Oslo 74.59 337 *e*P **P 08 19 40.2 +0.7**
BNGB Bing¨¶l 74.65 307 *e*P **P 08 19 42.3 +1.9**
QLMT Earthquake Lak 74.65 45 *e*P **P 08 19 40.8 +0.4**
comp=Z,49nm,1.4s
C20A Veseth Ranch, 74.69 41⇓P **P 08 19 41.1 +0.7**
baz=74,SNR=92
ESPY Espiye-Giresun 74.71 310 *e*P **P 08 19 41.6 +1.0**
B21A Ellsworth Farm 74.74 40⇑P **P 08 19 40.9 +0.2**
baz=74,SNR=62
SVAN Silvan-Diyarba 74.81 307 *e*P **P 08 19 42.9 +1.6**
ERZN Erzincan 74.89 308 *e*P **P 08 19 43.8 +2.0**
FOO Floro 74.90 340⇑ *i*P **P 08 19 41.3 +0.2**
FOO IVmB_BB 08 19 45.0
comp=Z,2μm,5.3s
FOO *e*S **S 08 29 16.4 +1.3**
FOO IAMs_20 IAMs_20 08 55 56.3
comp=Z,12μm,18.5s
FOO IVMs_BB IVMs_BB 08 56 09.1
comp=Z,5μm,16.5s
SIM Simferopol' 74.93 315 *c i*P **P 08 19 41.6 -0.1**
SIM *e* 08 22 26.0
SIM *e*S **S 08 29 15.0 -1.1**
SIM pmax pmax
comp=Z,403nm,1.0s
SIM MLR MLR
comp=Z,12μm,14.6s
A22A Carney Farms, 74.93 39⇑P **P 08 19 42.0 +0.2**
baz=75,SNR=202
HYA Hoyanger 74.94 339 *e*P **P 08 19 42.5 +1.1**
HYA IAmb IAmb 08 19 43.6
comp=Z,385nm,1.2s
HYA *e*S **S 08 29 17.1 +1.5**
YMR Madison River 75.01 45 *e*P **P 08 19 43.6 +1.1**
comp=Z,742nm,1.7s
D20A Manuel Ranch, 75.02 42⇑P **P 08 19 43.4 +1.1**
baz=75,SNR=154
RCTC Rector, Farmer 75.02 56⇓P **P 08 19 42.5 +0.1**
baz=75,SNR=9.9
E19A Rath Farm, Rou 75.08 42⇑P **P 08 19 43.7 +1.1**
baz=75,SNR=188
C21A Desert Coulee 75.09 41⇓P **P 08 19 43.5 +0.8**
baz=75,SNR=89
SMMC Simmler 75.11 57⇑P **P 08 19 43.9 +0.9**
baz=75,SNR=5.8
SFJD Kangerlussuaq 75.12 5⇑ *i*P **P 08 19 42.8 +0.4**
SFJD pmax pmax
comp=Z,110nm,0.9s
SFJD MLR MLR
comp=Z,16μm,23.0s
SFJD Kangerlussuaq 75.12 5⇑ *i*P **P 08 19 42.8 +0.4**
comp=Z,112nm,0.8s
SFJD Kangerlussuaq 75.12 5 PFAKE 08 19 50.0 +7.6
SFJD LR LR
comp=Z,20μm,22.0s
YNR Norris Junctio 75.14 45 *e*P **P 08 19 44.9 +1.6**
comp=Z,369nm,1.4s
KONO Kongsberg 75.16 337⇑ *i*P **P 08 19 41.9 -0.9**
KONO IVmB_BB 08 19 46.3
comp=Z,7μm,3.9s
KONO *e*S **S 08 29 19.7 +1.5**
KONO IVMs_BB IVMs_BB 08 55 03.1
comp=Z,19μm,20.7s
KONO Kongsberg 75.16 337 *e*P **P 08 19 42.7 -0.1**
KONO *e* 08 22 28.0
KONO pmax pmax
comp=Z,157nm,1.0s
KONO MLR MLR
comp=Z,62μm,22.0s
KONO Kongsberg 75.16 337 *e*P **P 08 19 42.7 -0.1**
comp=Z,157nm,1.0s
KONO *e*PP **PP 08 22 28.0 -2.7**
KONO LR LR
comp=Z,62μm,22.0s
YFT Old Faithful 75.22 45 *e*P **P 08 19 45.8 +2.0**
comp=Z,232nm,1.0s
TIN Tinemaha, Big 75.24 55⇑P **P 08 19 45.0 +1.1**
baz=75
TPH Tonopah 75.28 53 *e*P **P 08 19 44.7 +0.6**
TPH pmax pmax
comp=Z,446nm,1.3s
TPH Tonopah 75.28 53 *e*P **P 08 19 44.7 +0.6**
comp=Z,446nm,1.3s
B22A Reddig Ranch S 75.34 40⇓P **P 08 19 44.6 +0.4**
baz=75,SNR=13
F19A Roth Farm, Mol 75.38 43⇓P **P 08 19 45.1 +0.7**
baz=75,SNR=127
LKWY Lake 75.39 45 *e*P **P 08 19 46.9 +2.1**
LKWY *e*S **S 08 29 22.4 +0.5**
LKWY pmax pmax
comp=Z,2μm,2.1s
LKWY MLR MLR
comp=Z,15μm,22.0s
LKWY Lake 75.39 45 *e*P **P 08 19 46.9 +2.1**
comp=Z,2μm,2.1s
LKWY *e*S **S 08 29 22.4 +0.5**
LKWY LR LR
comp=Z,15μm,22.0s
E20A Meyer Farm, Mu 75.40 42⇑P **P 08 19 45.3 +0.8**
baz=75,SNR=171
VES Vestal, Richgr 75.40 56⇑P **P 08 19 44.8 +0.2**
baz=75,SNR=41
H17A Grant Village 75.40 45⇓P **P 08 19 47.3 +2.5**
baz=75,SNR=214
H17A Grant Village 75.40 45 *e*P **P 08 19 46.3 +1.5**
comp=Z,350nm,1.0s
SUE Sulen 75.42 340⇑ *i*P **P 08 19 44.8 +0.6**
SUE IVmB_BB 08 19 47.9
comp=Z,8μm,6.3s
SUE *e*S **S 08 29 19.9 -1.1**
SUE IVMs_BB IVMs_BB 08 57 08.6
comp=Z,13μm,13.7s
A23A Redstone 75.47 39⇑P **P 08 19 45.3 +0.5**
baz=75,SNR=30
DYBB Diyarbakir 75.60 307 *e*P **P 08 19 47.1 +1.3**
D21A La Casta Ranch 75.64 41⇓P **P 08 19 46.3 +0.4**
baz=75,SNR=43
RLMT Red Lodge 75.67 44 *e*P **P 08 19 47.1 +0.8**
comp=Z,253nm,1.3s
RLMT LR LR
comp=Z,9μm,21.0s
ILIC ilic-Erzincan 75.69 309 *e*P P 08 19 52.8 +6.5
I17A Pilgrim Ck. 75.70 45⇓P **P 08 19 48.4 +1.9**
baz=76,SNR=172
MAZI Mazidag 75.70 306 *e*P **P 08 19 47.5 +1.0**
H18A Shoshone NF, C 75.73 44⇓P **P 08 19 47.8 +1.1**
baz=76,SNR=99
B23A Brockton 75.74 39⇓P **P 08 19 47.1 +0.7**
baz=76,SNR=223
C22A Vida 75.76 40⇑P **P 08 19 46.8 +0.2**
baz=76,SNR=54
HVU Hansel Valley 75.76 48 *e*P **P 08 19 47.8 +1.0**
HVU pmax pmax
comp=Z,307nm,1.2s
HVU Hansel Valley 75.76 48 *e*P **P 08 19 47.8 +1.0**
comp=Z,307nm,1.2s
ASK Askoy 75.78 339 *e*P **P 08 19 46.5 +0.2**
ASK IAmb IAmb 08 19 48.0
comp=Z,207nm,0.9s
ASK *e*S **S 08 29 26.6 +1.7**
RUND Rundenannen 75.79 339 *e*P **P 08 19 46.3 -0.1**
SBC Santa Barbara 75.81 57⇓P **P 08 19 47.8 +0.9**
baz=76
BER Bergen 75.82 339⇑ *i*P **P 08 19 47.1 +0.6**
BER IVmB_BB 08 19 50.6
comp=Z,8μm,4.5s
BER *e*S **S 08 29 26.6 +1.2**
BER IVMs_BB IVMs_BB 08 56 33.2
comp=Z,22μm,20.6s
GRAC Grapevine Rang 75.83 54⇑P **P 08 19 48.1 +1.0**
baz=76,SNR=78
F20A Billings 75.84 43⇓P **P 08 19 47.6 +0.5**
baz=76,SNR=35
ODD1 Odda 75.84 338 *e*P **P 08 19 47.9 +1.1**
ODD1 IAMs_20 IAMs_20 08 55 55.5
comp=Z,122μm,19.1s
ODD1 IVMs_BB IVMs_BB 08 56 11.4
comp=Z,39μm,20.7s
RSDY Resadiye-TOKAT 75.87 310 *e*P **P 08 19 48.4 +1.2**
SVRC Sivrice-ELAZID 75.87 308 *e*P **P 08 19 49.1 +1.6**
ISA Isabella, Lake 75.91 56 *e*P **P 08 19 47.4 -0.2**
ISA pmax pmax
comp=Z,124nm,1.2s
ISA Isabella, Lake 75.91 56⇑P **P 08 19 47.6 0.0**
baz=76,SNR=17
ISA Isabella, Lake 75.91 56 *e*P **P 08 19 47.4 -0.2**
comp=Z,124nm,1.2s
A24A Westby 75.93 38⇑P **P 08 19 48.0 +0.6**
baz=76,SNR=42
E21A Keefer Ranch, 75.93 42⇑P **P 08 19 48.1 +0.6**
baz=76,SNR=21
ARVC Arvin 75.99 56⇑P **P 08 19 48.6 +0.6**
baz=76,SNR=14
D22A Cohagen 76.00 41⇑P **P 08 19 48.8 +0.8**
baz=76,SNR=123
C23A Lambert 76.08 40⇓P **P 08 19 48.7 +0.3**
baz=76,SNR=135
H19A Powell 76.11 44⇓P **P 08 19 50.1 +1.4**
baz=76,SNR=65
DAC Darwin (Calif) 76.11 55 *e*P **P 08 19 48.9 0.0**
DAC pmax pmax
comp=Z,148nm,1.2s
DAC Darwin (Calif) 76.11 55 *e*P **P 08 19 48.9 0.0**
comp=Z,148nm,1.2s
BSC Santa Cruz Isl 76.12 58⇓P **P 08 19 49.2 +0.4**
baz=76
AHID Auburn Hatcher 76.13 46 *e*P **P 08 19 49.6 +0.7**
comp=Z,192nm,1.2s
AHID LR LR
comp=Z,15μm,21.0s
BGU Big Grassy Mou 76.14 49 *e*P **P 08 19 48.9 -0.1**
comp=Z,365nm,2.0s
R11A Troy Canyon, C 76.15 52⇓P **P 08 19 50.1 +1.0**
baz=76,SNR=91
R11A Troy Canyon, C 76.15 52 *e*P **P 08 19 49.7 +0.6**
comp=Z,391nm,1.4s
G20A Bridger 76.18 43⇓P **P 08 19 49.4 +0.4**
baz=76,SNR=49
KVT Kavak 76.22 311 *e*P **P 08 19 50.7 +1.4**
SPUT South Promonto 76.25 48 *e*P **P 08 19 50.6 +1.1**
comp=Z,1μm,2.1s
LAO LASA Array 76.28 41 *e*P **P 08 19 50.1 +0.5**
comp=Z,928nm,1.4s
LAO LR LR
comp=Z,14μm,20.0s
BLS5 Blasjo 76.29 338 *e*P **P 08 19 50.4 +1.1**
BLS5 IAmb IAmb 08 19 51.9
comp=Z,568nm,2.0s
BLS5 *e*S **S 08 29 30.8 +0.1**
DIKM Dikmen 76.33 312 *e*P **P 08 19 51.6 +1.8**
A25A Svangstu Ranch 76.35 38⇓P **P 08 19 50.7 +0.8**
baz=76,SNR=42
SVSK Karacayir 76.36 310 *e*P **P 08 19 51.4 +1.4**
F21A Absaloka Mine, 76.37 42⇓P **P 08 19 50.8 +0.7**
baz=76,SNR=82
KIS Kishinev 76.45 320α *i*P **P 08 19 50.0 -0.4**
KIS *i* 08 22 46.0
KIS *e*PPP PPP 08 24 26.0
KIS *i* S **S 08 29 32.0 -0.8**
KIS *e*PS **PnS 08 30 10.0 -4.1**
KIS pmax pmax
comp=Z,3μm,3.0s
KIS pmax pmax
comp=Z,9μm,11.0s
KIS pmax pmax
comp=Z,9μm,12.0s
KIS MLR MLR
comp=Z,131μm,16.0s
KIS MLR MLR
comp=Z,133μm,16.0s
KIS Kishinev 76.45 320⇓ *i*P **P 08 19 51.9 +1.5**
KIS Kishinev 76.45 320 *i* P **P 08 19 50.0 -0.4**
comp=Z,3μm,3.0s
KIS Kishinev 76.45 320 *i* PP PP 08 22 46.0 +4.1
comp=Z,3μm,9.0s
MALT Malatya 76.46 308⇓ *i*P **P 08 19 52.6 +1.8**
FURC Furnace Creek, 76.47 54⇓P **P 08 19 51.8 +1.1**
baz=76,SNR=89
D23A Lindsay 76.49 40⇓P **P 08 19 51.7 +1.1**
baz=76,SNR=147
I19A Meeteetse 76.51 44⇑P **P 08 19 52.1 +1.0**
baz=76,SNR=43
LRMC Laurel Mtn Rad 76.53 56⇓P **P 08 19 51.5 +0.3**
baz=76
SFNV Sufian 76.54 306 *e*P **P 08 19 52.8 +1.6**
MZRK Al-Mazaregh 76.55 305 *e*P **P 08 19 53.1 +2.0**
HWUT Hardware Ranch 76.58 48 *e*P **P 08 19 52.1 +0.6**
comp=Z,590nm,1.4s
HWUT LR LR
comp=Z,9μm,21.0s
E22A Miles City 76.59 41⇓P **P 08 19 52.2 +1.0**
baz=76
HOMB Homborsund 76.61 337⇑ *i*P **P 08 19 50.5 -0.5**
HOMB IVmB_BB 08 19 55.0
comp=Z,7μm,4.1s
HOMB *e*S **S 08 29 35.9 +1.8**
HOMB IVMs_BB IVMs_BB 08 56 41.4
comp=Z,27μm,19.5s
C24A Savage 76.65 40⇑P **P 08 19 52.1 +0.6**
baz=76,SNR=55
RAO Raoul Island 76.68 144 LR LR 08 47 30.3
comp=Z,13μm,21.1s,baz=353,slow=31
EDW2 Edwards Air Fo 76.69 56⇑P **P 08 19 52.9 +0.8**
baz=76,SNR=28
G21A Lodge Grass 76.72 43⇓P **P 08 19 52.4 +0.3**
baz=76,SNR=18
DUG Dugway, Tooele 76.72 49 *e*P **P 08 19 52.9 +0.6**
DUG pmax pmax
comp=Z,353nm,1.2s
DUG MLR MLR
comp=Z,13μm,22.0s
DUG Dugway, Tooele 76.72 49⇓P **P 08 19 53.4 +1.2**
baz=76,SNR=75
DUG Dugway, Tooele 76.72 49 *e*P **P 08 19 52.9 +0.6**
comp=Z,353nm,1.2s
DUG LR LR
comp=Z,13μm,22.0s
BYBT Boyabat 76.73 312 *e*P **P 08 19 54.6 +2.6**
URFA Urfa 76.75 307 *e*P **P 08 19 53.9 +1.6**
H20A Greybull 76.77 44⇑P **P 08 19 52.9 +0.5**
baz=77,SNR=47
B25A Knox Farm, Ray 76.78 38⇓P **P 08 19 52.8 +0.6**
baz=77,SNR=16
KMY Karmoy 76.82 339 *e*P **P 08 19 53.1 +0.9**
KMY *e*S **S 08 29 36.5 +0.1**
DECC Green Verdugo 76.84 57⇓P **P 08 19 53.4 +0.5**
baz=77,SNR=13
F22A Rosebud 76.86 42⇓P **P 08 19 53.5 +0.7**
baz=77,SNR=86
BZK Bozkurt 76.87 313 *e*P **P 08 19 53.7 +0.9**
BSD Bornholm Skovb 76.88 332⇑ *i*P **P 08 19 52.5 -0.1**
BSD pmax pmax
comp=Z,360nm,1.0s
BSD MLR MLR
comp=Z,27μm,20.0s
BSD Bornholm Skovb 76.88 332⇑ *i*P **P 08 19 52.5 -0.1**
comp=Z,358nm,1.0s
E23A Ismay 76.88 41⇑P **P 08 19 53.7 +0.8**
baz=77,SNR=134
LVV L'vov 76.89 324 *i* P **P 08 19 53.9 +1.1**
LVV *i* 08 22 48.5
LVV *i* PPP PPP 08 24 41.9
LVV *i* S **S 08 29 38.9 +1.4**
LVV *e*PS PnS 08 30 30.9 +11
LVV pmax pmax
comp=Z,2μm,2.0s
LVV MLR MLR
comp=N,28μm,16.0s
LVV MLR MLR
comp=E,49μm,16.0s

LVV MLR MLR
comp=Z,62µm,16.0s
DARE Darende-Malaty 76.89 309 *e*P **P 08 19 54.9 +1.7**
A26A Wade Farm, Ken 76.90 37 ⇓P **P 08 19 53.6 +0.7**
baz=77,SNR=74
BEL Belsk 76.92 327⇑*i*P **P 08 19 53.8 +0.9**
BEL *e**PP **pP 08 20 06.4 +1.4**
BEL *e* 08 22 43.7
BEL *e*S **S 08 29 36.9 -0.9**
BEL *e**SS **sS 08 29 55.8 -2.1**
BEL pmax pmax
comp=Z,1µm,1.1s
BEL MLR MLR
comp=Z,56µm,18.9s
BEL Belsk 76.92 327 *i* P **P 08 19 53.8 +0.9**
BEL *e*P **pP 08 20 06.3 +1.3**
BEL *e*PP **PP 08 22 43.6 -2.1**
BEL *e*S **S 08 29 36.8 -1.0**
BEL *e*sS **sS 08 29 55.7 -2.1**
BEL LMZ LR 08 57 30.2
BORG Borgarnes 76.93 353 *e*P **P 08 19 53.7 +1.0**
BORG pmax pmax
comp=Z,228nm,0.9s
BORG MLR MLR
comp=Z,12µm,20.0s
BORG Borgarnes 76.93 353 *e*P **P 08 19 53.7 +1.0**
comp=Z,228nm,0.9s
BORG LR LR
comp=Z,12µm,20.0s
SNART Snartemo 76.95 337 *e*P **P 08 19 53.5 +0.5**
IAS Iasi 76.96 320⇑*i*P **P 08 19 54.8 +1.6**
J19A Crowheart 76.97 45 ⇑P **P 08 19 54.6 +0.9**
baz=77,SNR=218
D24A Glendive 76.97 40 ⇓P **P 08 19 54.4 +0.9**
baz=77,SNR=99
TCUT Toone Canyon 76.98 48 *e*P **P 08 19 54.6 +0.8**
comp=Z,947nm,1.5s
PASC Pasadena Art C 76.98 57 *e*P **P 08 19 53.8 +0.1**
comp=Z,990nm,2.1s
BW06 Boulder Array 77.00 46 *e*P **P 08 19 53.8 -0.1**
comp=Z,174nm,1.1s
BW06 LR LR
comp=Z,16µm,22.0s
PDAR Pinedale Array 77.00 46 P **P 08 19 54.5 +0.6**
comp=Z,59nm,0.9s,baz=270,slow=2.6,SNR=213
PDAR PKKPbc **PKKPbc 08 39 00.8 +0.4**
comp=Z,0.8nm,0.6s,baz=151,slow=2.1,SNR=4.7
PDAR PKPPKP **P'P'df 08 47 08.3 -0.6**
comp=Z,1.6nm,1.0s,baz=151,slow=3.4,SNR=5.6
PDAR LR LR 08 50 10.7
comp=Z,11µm,21.9s,baz=329,slow=33
MWC Mount Wilson 77.04 57 *e*P **P 08 19 52.9 -1.3**
MWC pmax pmax
comp=Z,345nm,1.4s
MWC Mount Wilson 77.04 57 *e*P **P 08 19 52.9 -1.3**
comp=Z,345nm,1.4s
I20A Worland 77.04 44 ⇑P **P 08 19 55.1 +1.1**
baz=77,SNR=32
CTU Camp Tracy 77.05 48 *e*P **P 08 19 54.4 +0.3**
comp=Z,330nm,1.3s
LEOM Leova 77.09 319⇓*i*P **P 08 19 55.2 +1.2**
C25A Freed Ranch, W 77.11 39 ⇑P **P 08 19 55.0 +0.8**
baz=77,SNR=48
B26A Jensen Ranch, 77.16 38 ⇑P **P 08 19 55.5 +1.1**
baz=77,SNR=36
FMP Fort Macarthur 77.19 57 ⇑P **P 08 19 55.2 +0.5**
baz=77
SHOC Shoshone, Teco 77.19 55 ⇑P **P 08 19 55.6 +0.8**
baz=77
H21A Big Horn, Sher 77.20 43 ⇑P **P 08 19 55.6 +0.7**
baz=77,SNR=119
G22A Birney 77.21 42 ⇓P **P 08 19 55.2 +0.4**
baz=77,SNR=62
GSC Goldstone, Bar 77.21 55 *e*P **P 08 19 55.4 +0.4**
GSC pmax pmax
comp=Z,207nm,1.4s
GSC Goldstone, Bar 77.21 55 ⇓P **P 08 19 55.6 +0.6**
baz=77,SNR=24
GSC Goldstone, Bar 77.21 55 *e*P **P 08 19 55.4 +0.4**
comp=Z,207nm,1.4s
A27A Ledoux Ranch, 77.24 37 ⇑P **P 08 19 55.5 +0.7**
baz=77
JLU Jordanelle 77.28 48 *e*P **P 08 19 55.9 +0.4**
comp=Z,174nm,1.1s
BFSC Mount Baldy Ra 77.29 57 ⇑P **P 08 19 55.8 +0.3**
baz=77,SNR=12
CIS Catalina Islan 77.30 58 ⇓P **P 08 19 55.8 +0.4**
baz=77
SOFL Sornfelli, Far 77.31 345⇑*e*P **P 08 19 56.2 +1.2**
SOFL AMS AMS 08 56 53.9
comp=Z,18µm,16.2s
NLU North Lily Min 77.31 49 *e*P **P 08 19 56.3 +0.6**
comp=Z,276nm,1.4s
RRX Edison Barstow 77.34 56 ⇓P **P 08 19 56.3 +0.7**
baz=77
COP Copenhagen 77.34 333⇑*i*P **P 08 19 55.6 +0.4**
COP pmax pmax
comp=Z,360nm,0.9s
COP MLR MLR
comp=Z,19µm,18.0s
COP Copenhagen 77.34 333⇑*i*P **P 08 19 55.6 +0.4**
comp=Z,357nm,0.8s
F23A Volborg 77.35 41 ⇑P **P 08 19 55.9 +0.3**
baz=77,SNR=138
E24A Baker 77.36 40 ⇓P **P 08 19 56.0 +0.4**
baz=77,SNR=39
GKP Gorka Klasztor 77.36 329⇑*i*P **P 08 19 55.4 0.0**
GKP *e**PP **pP 08 20 07.6 +0.1**
GKP *e* 08 22 46.0
GKP *e*S **S 08 29 44.4 +1.9**
GKP *e**SS **sS 08 29 59.9 -2.7**
GKP pmax pmax
comp=Z,300nm,1.0s
GKP MLR MLR
comp=Z,83µm,20.3s
GKP Gorka Klasztor 77.36 329 *i* P **P 08 19 55.4 0.0**
GKP *e*pP **pP 08 20 07.6 +0.1**
GKP *e*PP **PP 08 22 46.0 -3.3**
GKP *e*S **S 08 29 44.4 +1.9**
GKP *e*sS **sS 08 29 59.8 -2.8**
GKP LMZ LR 08 56 27.3
MNKR ALMNKUR 77.37 306 *e*P **P 08 19 57.4 +1.6**
J20A Shoshoni 77.45 45 ⇓P **P 08 19 57.2 +0.9**
baz=77,SNR=32
SCI San Clemente I 77.45 58 ⇓P **P 08 19 56.8 +0.5**
baz=77
D25A Fairfield 77.46 39 ⇓P **P 08 19 56.8 +0.7**
baz=77,SNR=43
DAU Daniels Canyon 77.51 48 *e*P **P 08 19 58.0 +1.1**
DAU pmax pmax
comp=Z,306nm,1.1s
DAU Daniels Canyon 77.51 48 *e*P **P 08 19 58.0 +1.1**
comp=Z,306nm,1.1s
RBK Rabkut 77.53 282 P **P 08 19 56.4 -0.6**
SNR=68
MPU Maple Canyon 77.54 49 *e*P **P 08 19 57.2 +0.3**
comp=Z,296nm,1.1s
SHPR Sheep Range 77.54 53 *e*P **P 08 19 57.3 +0.3**
comp=Z,484nm,1.4s
H22A Clearmont 77.59 43 ⇑P **P 08 19 57.6 +0.6**
baz=77,SNR=35
KSRV Kasrt alli 77.59 306 *e*P **P 08 19 59.2 +2.2**
I21A Big Trails, Te 77.59 44 ⇓P **P 08 19 57.8 +0.7**
baz=77,SNR=111
C26A Wahner Farm, P 77.61 38 ⇑P **P 08 19 57.6 +0.7**
baz=77,SNR=84
B27A Peters Farms, 77.61 37 ⇓P **P 08 19 57.6 +0.7**
baz=77,SNR=15
CORM Corum 77.62 311 *e*P **P 08 19 58.6 +1.4**
KWP Kalwaria Pacla 77.63 324⇑*i*P **P 08 19 57.8 +0.8**
KWP *e**PP **pP 08 20 11.7 +2.6**
KWP *e* 08 22 52.5
KWP *e*S **S 08 29 46.7 +1.0**
KWP *e**SS **sS 08 30 03.2 -2.6**
KWP pmax pmax
comp=Z,1µm,1.2s
KWP MLR MLR
comp=Z,48µm,19.9s
KWP Kalwaria Pacla 77.63 324 *i* P **P 08 19 57.8 +0.8**
KWP *e*pP **pP 08 20 11.7 +2.6**
KWP *e*PP **PP 08 22 52.4 +0.6**
KWP *e*S **S 08 29 46.6 +0.9**
KWP *e*sS **sS 08 30 03.1 -2.7**
KWP LMZ LR 08 56 50.4
KWP Kalwaria Pacla 77.63 324⇑*i*P **P 08 19 58.7 +1.7**
KWP Kalwaria Pacla 77.63 324 *e*P **P 08 19 57.9 +0.8**
comp=Z,719nm,1.0s
KWP LR LR
comp=Z,47µm,19.0s
LLD Lille Linde 77.69 333 *i* P **P 08 19 57.8 +0.6**
LLD Lille Linde 77.69 333 *i* P **P 08 19 57.8 +0.6**
G23A Biddle 77.70 42 ⇑P **P 08 19 58.0 +0.4**
baz=78,SNR=67
TUQ Turquoise Moun 77.70 55 ⇑P **P 08 19 58.7 +0.9**
baz=78,SNR=5.5
BNN Bunyan 77.72 310 *e*P **P 08 19 59.1 +1.3**
A28A Rude Farm, Bot 77.73 37 ⇑P **P 08 19 58.3 +0.7**
baz=78,SNR=137
LRW Lerwick 77.75 342⇑*e*P **P 08 19 58.2 +0.9**
LRW AMB AMB 08 20 01.2
comp=Z,450nm,3.4s
LRW AMS AMS 08 58 13.0
comp=Z,19µm,21.0s
BBRC Big Bear Solar 77.77 56 ⇓P **P 08 19 58.6 +0.3**
baz=78
F24A Ekalaka 77.77 41 ⇓P **P 08 19 58.4 +0.5**
baz=78,SNR=116
GIUM Giurgiulesti 77.77 319⇑*i*P **P 08 20 00.2 +2.4**
HEC Hector,Ludlow 77.81 55 ⇓P **P 08 19 59.0 +0.7**
baz=78,SNR=21
J21A Lysite 77.81 44 ⇓P **P 08 19 58.8 +0.4**
baz=78,SNR=30
ARUT Antelope Range 77.83 52 *e*P **P 08 19 59.5 +1.0**
ARUT pmax pmax
comp=Z,6µm,1.2s
ARUT Antelope Range 77.83 52 *e*P **P 08 19 59.5 +1.0**
comp=Z,6µm,1.2s
BURAR Bucovina Array 77.84 322⇑*i*P **P 08 19 59.2 +0.9**
MUD Monsted U'grnd 77.86 335⇑*i*P **P 08 19 58.4 +0.4**
MUD pmax pmax
comp=Z,180nm,0.9s
MUD MLR MLR
comp=Z,60µm,20.0s
MUD Monsted U'grnd 77.86 335⇑*i*P **P 08 19 58.4 +0.4**
comp=Z,176nm,0.9s
E25A Miller Ranch, 77.86 40 ⇑P **P 08 19 59.1 +0.7**
baz=78,SNR=91
TESR Tescani 77.88 320⇓*i*P **P 08 19 59.1 +0.7**
RGN Rugen 77.90 332 *e*P **P 08 19 59.0 +0.6**
comp=Z,534nm,1.0s
KMRS Kahramanmaras 77.91 308 *e*P **P 08 20 01.1 +2.3**
CANT Cankiri 77.95 312 *e*P **P 08 20 00.5 +1.5**
C27A Sayler Ranch, 77.97 38 ⇓P **P 08 19 59.8 +0.8**
baz=78,SNR=60
MURC Murrieta 77.98 57 ⇑P **P 08 19 59.6 +0.3**
baz=78,SNR=19
I22A 9 Mile Ranch, 77.98 43 ⇑P **P 08 19 59.9 +0.7**
baz=78,SNR=59
D26A Manning 77.98 39 ⇓P **P 08 19 59.6 +0.6**
baz=78,SNR=48
B28A Dugan Ranch, T 78.01 37 ⇑P **P 08 19 59.6 +0.5**
baz=78,SNR=69
CFR Carcaliu 78.01 318⇓*i*P **P 08 19 59.8 +0.7**
CCUT Cedar City 78.03 52 *e*P **P 08 20 00.5 +0.8**
comp=Z,364nm,1.4s
SLMH Al Salmeh 78.06 307 *e*P **P 08 20 00.6 +0.9**
SAFT Safranbolu 78.09 313 *e*P **P 08 20 02.1 +2.4**
PETR Petresti 78.12 319⇑*i*P **P 08 20 02.1 +2.4**
H23A Clabaugh Cattl 78.12 42 ⇓P **P 08 20 00.1 +0.1**
baz=78
G24A Alzada 78.13 41 ⇑P **P 08 19 60.0 0.0**
baz=78,SNR=35
MVU Marysvale 78.14 50 *e*P **P 08 20 01.3 +1.0**
comp=Z,292nm,1.3s
A29A Manning Farm, 78.21 36 ⇓P **P 08 20 00.7 +0.5**
baz=78,SNR=95
F25A Bowman 78.22 40 ⇓P **P 08 20 01.2 +0.8**
baz=78,SNR=41
TMUT Trail Mountain 78.25 49 *e*P **P 08 20 01.2 +0.2**
comp=Z,312nm,1.2s
GMRC Granite Mounta 78.27 55 ⇑P **P 08 20 01.6 +0.6**
baz=78
VRI Vrincioaia 78.28 320⇓*i*P **P 08 20 01.8 +1.1**
VRI Vrincioaia 78.28 320⇑*i*P PKKSdf 08 42 25.8 +7.3
VRI Vrincioaia 78.28 320 S **SKKPbc 08 42 29.8 +2.5**
J22A Midwest 78.30 44 ⇓P **P 08 20 01.6 +0.6**
baz=78,SNR=167
ABTO Aybut 78.31 283 P **P 08 20 01.0 -0.4**
SNR=94
KOLS Kolonicke sedl 78.33 324 *e*P **P 08 20 01.4 +0.5**
KOLS pmax pmax
comp=Z,164nm,1.2s
KOLS Kolonicke sedl 78.33 324 *e*P **P 08 20 01.4 +0.5**
KOLS *e*PP **PP 08 22 58.0 +0.4**
KOLS *e*S **S 08 29 50.0 -3.2**
KOLS *e*SS SS 08 35 08.0 +13
PLOR Plostina 78.33 320⇓*i*P **P 08 20 03.0 +2.0**
PLOR Plostina 78.33 320⇑*i*P PKKSdf 08 42 24.9 +6.4
PLOR Plostina 78.33 320 S **SKKPbc 08 42 28.3 +1.1**
TIRR Tirgusor 78.35 318 *e*P **P 08 20 00.6 -0.4**
TIRR pmax pmax
comp=Z,246nm,1.2s
TIRR Tirgusor 78.35 318⇓*i*P **P 08 20 02.8 +1.8**
TIRR Tirgusor 78.35 318 *e*P **P 08 20 00.6 -0.4**
comp=Z,246nm,1.2s
E26A Carlson Angus 78.35 39 ⇓P **P 08 20 01.7 +0.5**
baz=78,SNR=32
D27A Center 78.38 38 ⇑P **P 08 20 01.9 +0.7**
baz=78,SNR=21
K21A Alcova 78.39 45 ⇑P **P 08 20 02.0 +0.4**
baz=78,SNR=58
DGAR Diego Garcia 78.42 251 *e*P **P 08 20 01.2 -0.6**
DGAR pmax pmax
comp=Z,928nm,1.3s
DGAR MLR MLR
comp=Z,15µm,22.0s
DGAR Diego Garcia 78.42 251 P **P 08 20 02.9 +1.1**
SNR=9.3
DGAR Diego Garcia 78.42 251 *e*P **P 08 20 01.2 -0.6**
comp=Z,928nm,1.3s
DGAR LR LR
comp=Z,15µm,22.0s
H24A Dirks Ranch, A 78.45 42 ⇓P **P 08 20 01.9 +0.1**
baz=78,SNR=63
LDFC Landfair 78.45 55 *e*P **P 08 20 01.8 -0.1**
comp=Z,480nm,1.4s
STHS Stebnicka Huta 78.46 325 *e*P **P 08 20 02.4 +0.8**
STHS pmax pmax
comp=Z,142nm,1.1s
STHS Stebnicka Huta 78.46 325 *e*P **P 08 20 02.4 +0.8**
PFO Pinyon Flats O 78.47 56 *e*P **P 08 20 02.3 +0.2**
PFO pmax pmax
comp=Z,998nm,1.9s
PFO MLR MLR
comp=Z,29µm,22.0s
PFO Pinyon Flats O 78.47 56 ⇓P **P 08 20 02.3 +0.2**
baz=78,SNR=21
PFO Pinyon Flats O 78.47 56 *e*P **P 08 20 02.3 +0.2**
comp=Z,998nm,1.9s
PFO LR LR
comp=Z,29µm,22.0s
109C Camp Elliot, M 78.47 57 ⇓P **P 08 20 02.6 +0.6**
baz=78,SNR=8.3
B29A Wagenman Farm, 78.48 36 ⇓P **P 08 20 02.3 +0.6**
baz=78,SNR=65
I23A Meade Ranch, G 78.49 43 ⇓P **P 08 20 01.9 -0.2**
baz=78
BRTR Keskin Array B 78.50 312 P **P 08 20 02.7 +0.5**
comp=Z,140nm,1.0s,baz=64,slow=2.9,SNR=246
BRTR PP **PP 08 23 00.8 +1.4**
comp=Z,26nm,0.8s,baz=74,slow=5.2,SNR=3.9
BRTR PKKPbc **PKKPbc 08 38 57.2 +0.1**
comp=Z,0.4nm,0.4s,baz=222,slow=1.9,SNR=2.9
BRTR PKPPKP P'P'df 08 46 55.9 -10
comp=Z,0.8nm,0.8s,baz=95,slow=1.4,SNR=3.7
BRTR LR LR 08 59 29.9
comp=Z,15µm,18.6s,baz=40,slow=39
C28A Hausauer Farms 78.51 37 ⇑P **P 08 20 02.5 +0.6**
baz=78,SNR=18
OJC Ojcow 78.52 326⇑*i*P **P 08 20 02.5 +0.6**
OJC *e**PP **PcP 08 20 09.9 -1.0**
OJC *i* 08 23 00.4
OJC *i* S **S 08 29 55.2 0.0**
OJC *i* 08 30 11.7
OJC MLR MLR
comp=Z,88µm,19.3s
OJC Ojcow 78.52 326 *i* P **P 08 20 02.5 +0.6**
OJC *e*pP **PcP 08 20 09.9 -1.0**
OJC *i* PP **PP 08 23 00.4 +1.2**
OJC *i* S **S 08 29 55.2 0.0**
OJC *i* SKSac **SKSac 08 30 11.7 -1.9**
OJC L L 08 57 32.0
comp=Z,88µm,19.3s
BELC Belle Mtn. Jos 78.53 56 ⇑P **P 08 20 02.4 0.0**
baz=78,SNR=6.9
UZH Uzhgorod 78.53 324⇓*i*P **P 08 20 02.7 +0.7**
UZH *i* 08 20 05.1
UZH *i* S **S 08 29 54.1 -1.2**
UZH MLR MLR
comp=N,30µm,16.0s
UZH MLR MLR
comp=E,39µm,16.0s
UZH MLR MLR
comp=Z,33µm,16.0s
KOZT Kozan 78.59 309 *e*P **P 08 20 03.6 +1.0**
A30A Hoffart Farm, 78.63 36 ⇑P **P 08 20 02.7 +0.2**
baz=78,SNR=82
F26A Lodgepole 78.67 40 ⇑P **P 08 20 03.4 +0.5**
baz=78,SNR=95
G25A Newell 78.74 41 ⇑P **P 08 20 03.4 +0.2**
baz=78,SNR=35
KDZE Karadeniz Ereo 78.75 314 *e*P **P 08 20 02.8 -0.6**
ULM Lac du Bonnet 78.77 34 P **P 08 20 03.0 -0.3**
ULM pmax pmax
comp=Z,58nm,1.0s
ULM MLR MLR
comp=Z,9µm,21.0s
ULM Lac du Bonnet 78.77 34 P **P 08 20 03.0 -0.3**
comp=Z,58nm,1.0s,baz=313,slow=6.2,SNR=55
ULM LR LR 08 55 54.0
comp=Z,9µm,21.0s,baz=326,slow=36
TRPA Tarpa 78.77 323⇑*i*P **P 08 20 04.6 +1.3**
TRPA Tarpa 78.77 323⇑*e*P **P 08 20 05.0 +1.7**
SRU San Rafael Swe 78.78 49 *e*P **P 08 20 03.9 +0.2**
SRU pmax pmax
comp=Z,312nm,1.1s
SRU San Rafael Swe 78.78 49 *e*P **P 08 20 03.9 +0.2**
comp=Z,312nm,1.1s
K22A Casper 78.78 44 ⇑P **P 08 20 04.0 +0.3**
baz=79,SNR=38
K22A Casper 78.78 44 *e*P **P 08 20 03.7 0.0**
comp=Z,551nm,1.4s
D28A Regan 78.79 38 ⇑P **P 08 20 03.9 +0.4**
baz=79,SNR=55
MDND Maddock 78.80 37 ⇓P **P 08 20 03.7 +0.2**
baz=79,SNR=21
MDND Maddock 78.80 37 *e*P **P 08 20 03.3 -0.1**
comp=Z,238nm,1.3s
J23A Dilts Ranch, B 78.81 43 ⇑P **P 08 20 04.2 +0.3**
baz=79,SNR=17
AMRR Amara 78.82 318⇓*i*P **P 08 20 06.1 +2.5**
E27A Carson 78.83 39 ⇓P **P 08 20 04.4 +0.7**
baz=79,SNR=70
NIE Niedzica 78.88 325⇑*i*P **P 08 20 05.0 +1.1**
NIE *e**PP **PcP 08 20 11.6 -0.9**
NIE *i* 08 23 04.2
NIE *i* S **S 08 30 00.2 +1.1**
NIE *i* 08 30 17.5
NIE MLR MLR
comp=Z,38µm,18.6s
NIE Niedzica 78.88 325 *i* P **P 08 20 05.0 +1.1**
NIE *e*pP **PcP 08 20 11.6 -0.9**
NIE *i* PP **PP 08 23 04.2 +2.0**
NIE *i* S **S 08 30 00.2 +1.1**
NIE *i* SKSac **SKKSac 08 30 17.5 0.0**
NIE L L 08 57 47.0
comp=Z,38µm,18.6s
ISR Istrita 78.88 319⇓*i*P **P 08 20 06.7 +2.6**
BAR Barrett 78.89 57 *e*P **P 08 20 04.4 +0.1**
comp=Z,5µm,2.1s
DOPR Dopca 78.89 320⇓*i*P **P 08 20 05.8 +1.7**
ANTO Ankara 78.91 312 *e*P **P 08 20 04.9 +0.6**
ANTO pmax pmax
comp=Z,286nm,0.9s
ANTO MLR MLR
comp=Z,13µm,20.0s
ANTO Ankara 78.91 312⇓*i*P **P 08 20 05.6 +1.3**
ANTO Ankara 78.91 312 P **P 08 20 05.4 +1.1**
SNR=71
ANTO Ankara 78.91 312 *e*P **P 08 20 04.9 +0.6**
comp=Z,286nm,0.9s
ANTO LR LR
comp=Z,13µm,20.0s
MSAB Monastry St. A 78.91 318⇓*i*P **P 08 20 05.3 +1.2**
LOD Lodumlu 78.91 312 *e*P **P 08 20 05.9 +1.6**
MONP Monument Peak, 78.93 57 ⇓P **P 08 20 04.9 +0.2**
baz=79,SNR=13
MLR Muntele Rosu 78.94 320⇓*i*P **P 08 20 05.4 +1.0**
CEYT Ceyhan 78.94 308 *e*P **P 08 20 06.2 +1.8**
NIG Nigde 78.94 310 *e*P **P 08 20 06.7 +1.9**
NEE2 Needles Airpor 78.96 55 ⇓P **P 08 20 05.0 +0.4**
baz=79,SNR=8.9
B30A Myrvik Farm, E 78.97 36 ⇑P **P 08 20 04.8 +0.4**
baz=79,SNR=136
F27A Lemmon 78.99 40 ⇑P **P 08 20 04.9 +0.3**
baz=79,SNR=52
IRM Iron Mountain 78.99 55 ⇑P **P 08 20 05.3 +0.5**
baz=79,SNR=38
N20A Spence Gulch, 78.99 47 ⇑P **P 08 20 05.7 +0.7**
baz=79,SNR=52
PSN Preselentsi 78.99 317⇓*i*P **P 08 20 05.9 +1.3**
PSN Preselentsi 78.99 317 *i* P **P 08 20 06.1 +1.5**
I24A Kuemmerle Ranc 79.00 42 ⇑P **P 08 20 04.5 -0.4**
baz=79,SNR=28
AFSR Af´ar-Bala (A 79.01 312 *e*P P 08 20 07.8 +2.8
H25A Fruitdale 79.03 41 ⇓P **P 08 20 05.1 +0.2**
baz=79,SNR=55
G26A Maurine 79.09 40 ⇓P **P 08 20 05.5 +0.3**
baz=79,SNR=52
BC3 Big Chuckawall 79.10 56 ⇓P **P 08 20 05.8 +0.3**
baz=79,SNR=10
BTCH Batrach 79.10 307 *e*P **P 08 20 06.4 +1.0**
RSSD Black Hills 79.14 42 *e*P **P 08 20 05.7 0.0**
RSSD pmax pmax
comp=Z,852nm,1.9s
RSSD Black Hills 79.14 42 *e*P **P 08 20 05.7 0.0**
comp=Z,852nm,1.9s
E28A Huff 79.16 38 ⇓P **P 08 20 05.7 +0.2**
baz=79,SNR=21
SECR 79.19 319⇓*i*P **P 08 20 07.0 +1.3**
K23A Bowen Ranch, D 79.20 44 ⇑P **P 08 20 06.1 +0.1**
baz=79,SNR=20
KARA Karaisali 79.21 309 *e*P **P 08 20 07.6 +1.6**
W13A Hualapai Mount 79.22 54 ⇑P **P 08 20 06.7 +0.4**
baz=79,SNR=28
L22A Ellis Ranch, M 79.24 45 ⇑P **P 08 20 07.3 +1.0**
baz=79,SNR=40
CJR Cluj-Napoca 79.26 322⇑*i*P P 08 20 09.0 +2.9
SWSC Sam W. Stewart 79.31 57 ⇑P **P 08 20 07.0 +0.5**
baz=79
RAC Raciborz 79.33 327 *e*P **P 08 20 07.6 +1.3**
RAC *e*S **S 08 30 03.4 -0.3**
RAC MLR MLR
comp=N,60µm,19.5s
RAC MLR MLR
comp=Z,70µm,18.3s
RAC MLR MLR
comp=E,57µm,18.9s
RUE Ruedersdorf 79.33 331 *e*P **P 08 20 06.6 +0.4**
comp=E,388nm,1.1s
J24A Dixon Ranch, L 79.34 43 ⇑P **P 08 20 06.6 -0.1**
baz=79,SNR=12
D29A Pettibone, Tap 79.36 38 ⇓P **P 08 20 06.6 +0.1**
baz=79,SNR=42
I25A Rochford 79.37 42 ⇑P **P 08 20 07.1 +0.1**
baz=79,SNR=47
G27A Dupree 79.37 40 ⇓P **P 08 20 07.3 +0.5**
baz=79,SNR=46
U15A North Rim 79.40 52 ⇓P **P 08 20 08.3 +1.0**
baz=79,SNR=74
VOIR 79.43 320⇓*i*P **P 08 20 08.0 +0.9**
C30A Mose, Pekin 79.43 37 ⇓P **P 08 20 07.0 +0.1**
baz=79,SNR=46
MDUB Mudurnu 79.44 313 *e*P **P 08 20 07.9 +0.6**
O20A White River Ci 79.46 47 ⇓P **P 08 20 07.7 +0.2**
baz=79,SNR=70
O20A White River Ci 79.46 47 *e*P **P 08 20 06.9 -0.6**
comp=E,264nm,1.1s
WRDH Warideh 79.47 307 *e*P **P 08 20 09.0 +1.6**
H26A Fairpoint 79.47 41 ⇓P **P 08 20 07.7 +0.4**
baz=79
ARNB Al Arnab 79.52 307 *e*P **P 08 20 09.5 +1.8**
OKC Ostrava-Krasne 79.53 327⇑*i*P **P 08 20 07.9 +0.5**
OKC *e* 08 20 19.7
OKC *e* 08 23 06.9
OKC *e*S **S 08 30 05.6 -0.3**
OKC MLR MLR
comp=Z,56µm,17.6s

OKC	Ostrava-Krasne	79.53	327	⇑	*i*P	P	08 20 07.9 +0.5
OKC					*e*pP	pP	08 20 19.7 +0.2
OKC					*e*PP	PP	08 23 06.9 -0.6
OKC					*e*S	S	08 30 05.6 -0.3
OKC					*e*x	x	08 35 26.8
OKC					*e*PKKP	PKKPbc	08 39 01.9 +7.1
OKC					*e*x	x	08 39 09.5
OKC					*e*PKPPKP	P'P'df	08 46 55.7 -8.5
OKC					*e*x	x	08 47 04.2
OKC					AMS	AMS	08 58 30.0
	comp=Z,56µm,17.6s						
SULT	Sultanhani-AKS	79.55	310		*e*P	P	08 20 08.8 +0.9
PDMCI	Parker Dam,Lak	79.56	55	⇓	P	P	08 20 08.4 +0.5
	baz=79,SNR=53						
M22A	Cedar Creek Ra	79.56	45	⇓	P	P	08 20 08.7 +0.6
	baz=79,SNR=60						
KSP	Ksiaz	79.57	328	⇑	*e*P	P	08 20 08.2 +0.6
KSP					*e**PP	pP	08 20 19.0 -0.7
KSP					*e*		08 23 07.4
KSP					*e*S	S	08 30 03.9 -2.4
KSP	Ksiaz	79.57	328		*e*P	P	08 20 08.1 +0.5
KSP					*e*pP	pP	08 20 21.3 +1.6
KSP					*e*PP	PP	08 23 07.4 -0.4
KSP					*e*S	S	08 30 07.3 +1.0
KSP					*e*sS	SKKSac	08 30 24.5 +2.0
KSP					LMZ	LR	08 58 16.1
L23A	Garrett	79.59	44	⇑	P	P	08 20 08.2 0.0
	baz=79,SNR=70						
F28A	McLaughlin	79.62	39	⇑	P	P	08 20 08.3 +0.3
	baz=79,SNR=59						
DRGR		79.64	322	⇓	*i*P	P	08 20 09.1 +0.9
K24A	Anderson Ranch	79.67	43	⇓	P	P	08 20 08.1 -0.4
	baz=80,SNR=22						
E29A	Napoleon	79.68	38	⇓	P	P	08 20 08.7 +0.3
	baz=80,SNR=27						
CIOR	Ciorogarla	79.69	319	⇓	*i*P	P	08 20 09.3 +0.9
ARR	Arges	79.69	320	⇓	*i*P	P	08 20 10.4 +1.9
D30A	Buchanan	79.72	37	⇑	P	P	08 20 08.8 +0.2
	baz=80,SNR=52						
ROOS	tl_alroos	79.74	305		*e*P	P	08 20 09.7 +0.8
J25A	Sunshine Ranch	79.76	42	⇑	P	P	08 20 09.0 0.0
	baz=80,SNR=10						
MERS	Mersin	79.79	309		*e*P	P	08 20 09.8 +0.6
H27A	Howes	79.81	41	⇓	P	P	08 20 09.6 +0.4
	baz=80,SNR=88						
I26A	New Underwood	79.82	41	⇓	P	P	08 20 10.0 +0.8
	baz=80,SNR=52						
BIDA	Albida	79.83	306		*e*P	P	08 20 10.1 +0.7
MORC	Moravsky Berou	79.84	327		*e*P	P	08 20 09.7 +0.5
MORC					*e*		08 23 11.1
MORC					pmax	pmax	
	comp=Z,296nm,1.0s						
MORC	Moravsky Berou	79.84	327	⇓	*i*P	P	08 20 10.2 +1.0
MORC	Moravsky Berou	79.84	327		*e*P	P	08 20 09.7 +0.5
	comp=Z,296nm,1.0s						
MORC					*e*PP	PP	08 23 11.1 +1.0
BIGH	Upper Bighouse	79.86	342	⇑	*e*P	P	08 20 10.1 +1.1
BIGH					AMS	AMS	08 57 15.4
	comp=Z,29µm,22.7s						
GULT	Gulveren	79.86	314		*e*P	P	08 20 10.1 +0.6
SILT	Sile	79.88	315		*e*P	P	08 20 10.8 +1.3
GLA	Glamis	79.88	56		*e*P	P	08 20 10.2 +0.5
GLA					pmax	pmax	
	comp=Z,434nm,1.4s						
GLA	Glamis	79.88	56	⇓	P	P	08 20 10.6 +0.9
	baz=80,SNR=7.5						
GLA	Glamis	79.88	56		*e*P	P	08 20 10.2 +0.5
	comp=Z,434nm,1.4s						
MLA1	Latheron	79.90	342	⇑	*e*P	P	08 20 10.3 +1.1
DPC	Dobruska-Polom	79.92	328	⇑	*i*P	P	08 20 10.4 +0.8
DPC					*e*		08 20 23.5
DPC					*e*		08 23 12.2
DPC					*e*S	S	08 30 10.9 +0.7
DPC	Dobruska-Polom	79.92	328	⇑	*i*P	P	08 20 10.4 +0.8
DPC					*e*sP	sP	08 20 23.5 -2.8
DPC					*e*PP	PP	08 23 12.2 +1.3
DPC					*e*x	x	08 24 47.0
DPC					*e*S	S	08 30 10.9 +0.7
DPC					*e*x	x	08 35 36.7
DPC					*e*PKKP	PKKPbc	08 39 00.2 +6.1
DPC					*e*x	x	08 39 06.5
DPC					*e*PKPPKP	P'P'df	08 47 00.8 -2.7
DPC					AMS	AMS	08 58 20.0
SVRH	Sivrihisar-ESK	79.92	312		*e*P	P	08 20 10.3 +0.4
UPC	Upice	79.94	328		*e*P	P	08 20 10.2 +0.6
UPC					*e*		08 20 23.2
UPC	Upice	79.94	328	⇑	*e*P	P	08 20 10.2 +0.6
UPC					*e*pP	pP	08 20 23.2 +1.4
UPC					*e*PKPPKP	P'P'df	08 46 59.9 -3.6
M23A	Laramie	80.01	45	⇑	P	P	08 20 11.1 +0.6
	baz=80,SNR=56						
N22A	Wattenberg Ran	80.04	46	⇑	P	P	08 20 11.8 +1.1
	baz=80,SNR=53						
L24A	Wheatland	80.06	44	⇓	P	P	08 20 11.2 +0.6
	baz=80,SNR=11						
LOT	Lotru	80.07	321	⇓	*i*P	P	08 20 12.4 +1.8
E30A	Jud	80.08	38	⇑	P	P	08 20 10.6 +0.1
	baz=80,SNR=68						
KIZT	Kizilcal	80.08	312		*e*P	P	08 20 11.2 +0.4
HAWK	Haweek	80.09	306		*e*P	P	08 20 11.5 +0.6
HUMR	Humele	80.10	320	⇑	*i*P	P	08 20 10.7 +0.1
G28A	Parade	80.10	40	⇓	P	P	08 20 11.0 +0.3
	baz=80,SNR=55						
F29A	Eureka	80.11	39	⇓	P	P	08 20 10.9 +0.2
	baz=80,SNR=64						
KLYT	Kilyos	80.15	315		*e*P	P	08 20 12.0 +1.1
PSZ	Piszkesteto	80.16	325		*e*P	P	08 20 11.8 +0.8
PSZ					pmax	pmax	
	comp=Z,475nm,1.1s						
PSZ					MLR	MLR	
	comp=Z,41µm,22.0s						
PSZ	Piszkesteto	80.16	325	⇓	*i*P	P	08 20 12.1 +1.1
PSZ	Piszkesteto	80.16	325	⇑	*e*P	P	08 20 12.6 +1.6
PSZ	Piszkesteto	80.16	325		*e*P	P	08 20 11.8 +0.8
	comp=Z,475nm,1.1s						
PSZ					LR	LR	
	comp=Z,41µm,22.0s						
DEV	Deva	80.19	322	⇑	*i*P	P	08 20 13.6 +2.5
J26A	Sides Ranch, S	80.20	42	⇑	P	P	08 20 11.7 +0.4
	baz=80,SNR=41						
PV04	Paradox Valley	80.20	49		*e*P	P	08 20 12.0 +0.4
AGMN	Agassiz Nation	80.21	35	⇓	P	P	08 20 10.8 -0.3
	baz=80,SNR=60						
AGMN	Agassiz Nation	80.21	35		*e*P	P	08 20 10.2 -1.0
	comp=Z,184nm,1.1s						
AGMN					LR	LR	
	comp=Z,18µm,21.0s						
VYHS	Vyhne	80.22	325		*e*P	P	08 20 11.9 +0.7
VYHS					pmax	pmax	
	comp=Z,153nm,1.2s						
VYHS	Vyhne	80.22	325		*e*P	P	08 20 11.9 +0.7
VYHS					*e*PP	PP	08 23 14.4 +1.1
VYHS					*e*S	S	08 30 09.9 -3.3
VYHS					*e*SS	SS	08 35 36.6 +13
I27A	Quinn	80.22	41	⇑	P	P	08 20 11.9 +0.5
	baz=80,SNR=95						
LADK	Ladik-KONYA	80.24	311		*e*P	P	08 20 12.0 +0.4
K25A	Mack Ranch, Ha	80.26	43	⇓	P	P	08 20 12.0 +0.3
	baz=80,SNR=16						
FKH	Fakeheh	80.26	306		*e*P	P	08 20 12.4 +0.6
ISK	Istanbul-Kandi	80.27	315		P	P	08 20 11.8 +0.2
ISK	Istanbul-Kandi	80.27	315		*e*P	P	08 20 12.5 +0.9
ISK	Istanbul-Kandi	80.27	315		P	P	08 20 11.8 +0.2
ISK	Istanbul-Kandi	80.27	315		P	P	08 20 11.8 +0.2
N23A	Red Feather La	80.27	45	⇑	P	P	08 20 13.3 +1.3
	baz=80,SNR=87						
ADVT	Abdulvahap	80.30	314		*e*P	P	08 20 12.4 +0.6
H28A	Mission Ridge	80.33	40	⇑	P	P	08 20 12.4 +0.6
	baz=80,SNR=219						
BGKT	Bogazkoy	80.35	315		*e*P	P	08 20 13.1 +1.1
CAVI	Cavuskoy	80.40	314		*e*P	P	08 20 13.0 +0.7
KONT	Konya--Tatoy	80.41	311		*e*P	P	08 20 13.2 +0.8
O22A	Kremmling	80.42	46	⇑	P	P	08 20 13.7 +0.9
	baz=80,SNR=67						
CTYL	Yal??k??y-??at	80.42	316		*e*P	P	08 20 13.6 +1.2
MVH1	Achvaich	80.43	342	⇑	*e*P	P	08 20 12.9 +0.8
CTKS	Kestanelik-??a	80.46	315		*e*P	P	08 20 12.2 -0.3
SZH	Strazhica	80.47	318		*i*P	P	08 20 12.9 +0.2
TAU	Tasmania Unive	80.48	176		*e*P	P	08 20 12.8 +0.5
TAU					pmax	pmax	
	comp=Z,491nm,1.6s						
TAU					MLR	MLR	
	comp=Z,13µm,21.0s						
TAU	Tasmania Unive	80.48	176		*e*P	P	08 20 12.8 +0.5
	comp=Z,491nm,1.6s						
TAU					LR	LR	
	comp=Z,13µm,21.0s						
ZALF	Zalf	80.49	304		*e*P	P	08 20 14.2 +1.2
F30A	Leola	80.50	38	⇑	P	P	08 20 12.9 0.0
	baz=80,SNR=25						
BRG	Berggiesshubel	80.50	329	⇑	*i*P	P	08 20 12.9 +0.2
	comp=Z,291nm,1.1s						
BRG					*i*		08 20 26.3
	comp=Z,253nm,1.3s						
BRG					*i* PP	PP	08 23 16.1 +0.6
	comp=Z,80nm,1.1s						
BRG					S	S	08 30 13.0 -3.1
BRG					SS	SS	08 35 20.0 -7.5
BRG					*e*PKKP	PKKPbc	08 38 52.6 -0.1
	comp=Z,20nm,1.8s						
BRG					*e*PKPPKP	P'P'df	08 47 04.8 +2.4
	comp=Z,131nm,2.8s						
BRG	Berggiesshubel	80.50	329	⇑	*i*P	P	08 20 12.9 +0.2
BRG					*i*		08 20 26.3
BRG					*i*		08 23 16.1
BRG					S	S	08 30 13.0 -3.1
BRG					*e*		08 38 52.7
BRG					pmax	pmax	
	comp=Z,291nm,1.1s						
BRG					pmax	pmax	
	comp=Z,80nm,1.1s						
BRG					MLR	MLR	
	comp=N,49µm,17.0s						
BRG					MLR	MLR	
	comp=E,40µm,18.9s						
BRG					MLR	MLR	
	comp=Z,84µm,19.8s						
BRG	Berggiesshubel	80.50	329		*e*P	P	08 20 12.9 +0.2
	comp=Z,291nm,1.1s						
BRG					*e*L	L	08 58 52.1
	comp=Z,85µm,19.9s						
M24A	Cheyenne	80.51	44	⇓	P	P	08 20 14.5 +1.4
	baz=80,SNR=74						
MCD	Coleburn Disti	80.51	342	⇑	*e*P	P	08 20 13.5 +0.9
Y14A	Wickenburg	80.52	54	⇓	P	P	08 20 13.9 +0.8
	baz=80,SNR=80						
L25A	Engebretsen Ra	80.52	43	⇓	P	P	08 20 13.7 +0.6
	baz=80,SNR=28						
G29A	Hoven	80.52	39	⇓	P	P	08 20 12.9 +0.1
	baz=80,SNR=14						
PVCC	Panska Ves	80.52	329		*e*P	P	08 20 13.2 +0.5
PVCC					*e*		08 20 20.3
PVCC					*e*		08 20 26.4
PVCC					*e*		08 23 15.8
PVCC					*e*S	S	08 30 15.7 -0.6
PVCC					*e*		08 38 57.7
PVCC					MLR	MLR	
	comp=Z,65µm,18.9s						
PVCC	Panska Ves	80.52	329	⇑	*e*P	P	08 20 13.2 +0.5
PVCC					*e*pP	PcP	08 20 20.3 +0.7
PVCC					*e*sP	sP	08 20 26.4 -3.1
PVCC					*e*PP	PP	08 23 15.8 +0.1
PVCC					*e*x	x	08 24 58.9
PVCC					*e*S	S	08 30 15.7 -0.6
PVCC					*e*PKKP	PKKPbc	08 38 57.7 +5.0
PVCC					*e*PKPPKP	P'P'df	08 46 59.3 -3.1
PVCC					AMS	AMS	08 58 30.0
	comp=Z,65µm,18.9s						
HWQ	Hawqa	80.54	306		*e*P	P	08 20 13.4 +0.1
CLL	Collm	80.54	330	⇑	*i*P	P	08 20 12.9 +0.1
CLL					*i*		08 20 26.2
CLL					*e*S	S	08 30 10.0 -6.5
CLL					pmax	pmax	
	comp=Z,418nm,1.0s						
CLL					MLR	MLR	
	comp=Z,54µm,18.2s						
CLL	Collm	80.54	330		*e*P	P	08 20 12.8 0.0
	comp=Z,417nm,1.0s						
CLL					*e*L	L	09 00 48.9
	comp=Z,55µm,18.2s						
CLL	Collm	80.54	330	⇑	*i*P	P	08 20 12.9 +0.1
	comp=Z,418nm,1.0s						
CLL					*e*Pmax		08 20 15.0
CLL					*i* PcP	PcP	08 20 18.1 -1.6
CLL					*i* pP	pP	08 20 21.7 -3.3
CLL					*i* sP	sP	08 20 26.2 -3.4
CLL					*e*PP	PP	08 23 15.0 -0.8
CLL					*e*PPP	PPP	08 25 06.0
CLL					*e*PPPP		08 26 36.0
CLL					*e*S	S	08 30 10.0 -6.5
CLL					*e*ScS	ScS	08 30 38.0 +2.1
CLL					*e*sSKSac	sSKSac	08 30 47.0 -1.7
CLL					*e*PS	PnS	08 31 03.0 -2.5
CLL					*e*PPS	PPS	08 31 26.0
CLL					*e*SS	SS	08 35 18.0 -10
CLL					*e*		08 36 05.0
CLL					*e*sPKKPbc		08 39 07.0
CLL					*e*PKPPKPd	P'P'df	08 47 04.0 +1.7
	comp=Z,46nm,2.1s						
CLL					*e*SKPPKPbc		08 50 19.0
CLL					Lm	MLR	09 00 00.0
	comp=Z,54µm,18.2s						
RAYN	Ar Rayn	80.55	292		*e*P	P	08 20 13.4 -0.1
	comp=Z,625nm,1.2s						
RAYN					*e*PP	PP	08 23 18.0 +1.0
WUAZ	Wupatki	80.55	52	⇓	P	P	08 20 14.6 +1.1
	baz=80,SNR=49						
WUAZ	Wupatki	80.55	52		*e*P	P	08 20 14.4 +0.9
	comp=Z,362nm,1.1s						
WUAZ					LR	LR	
	comp=Z,16µm,21.0s						
K26A	Motz Farm, Whi	80.57	43	⇑	P	P	08 20 13.4 +0.1
	baz=80,SNR=54						
PV01	Paradox Valley	80.57	49		*e*P	P	08 20 14.4 +0.8
	comp=Z,2µm,0.8s						
VRAC	Vranov	80.60	327	⇑	*i*P	P	08 20 14.8 +1.6
GZR	Gura Zlata	80.60	321	⇓	*i*P	P	08 20 14.1 +0.7
GEMT	Gemlik	80.61	314		*e*P	P	08 20 14.3 +0.9
SLVT	Silivri	80.63	315		*e*P	P	08 20 15.0 +1.5
P22A	Eagle	80.67	47	⇓	P	P	08 20 15.1 +1.0
	baz=80,SNR=120						
JMB	Yambol	80.68	317		P	P	08 20 16.7 +3.0
JMB	Yambol	80.68	317		P	P	08 20 16.7 +3.0
JMB	Yambol	80.68	317	⇓	*i*P	P	08 20 17.6 +3.9
JMB	Yambol	80.68	317		P	P	08 20 16.7 +3.0
MME1	Meikle Cairn	80.68	341	⇑	*e*P	P	08 20 14.0 +0.5
NRDL	Niedersach Rie	80.71	332		*e*P	P	08 20 13.8 +0.2
	comp=Z,231nm,1.1s						
ARMT	Armutlu	80.71	315		*e*P	P	08 20 14.4 +0.4
I28A	Midland	80.72	41	⇑	P	P	08 20 14.6 +0.6
	baz=80,SNR=146						
PHSR	Pinarhisar	80.74	316		*e*P	P	08 20 14.5 +0.4
O23A	Lake Granby, G	80.74	46	⇓	P	P	08 20 15.8 +1.3
	baz=80,SNR=105						
113A	Mohawk Valley,	80.76	56	⇓	P	P	08 20 14.9 +0.6
	baz=81,SNR=20						
H29A	Onida	80.77	40	⇑	P	P	08 20 14.7 +0.4
	baz=81,SNR=107						
QASN	Qassioun	80.80	305		*e*P	P	08 20 16.0 +1.3
TOTH	TOTAH	80.81	305		*e*P	P	08 20 16.1 +1.5
J27A	Elkhorn Farm,	80.81	42	⇓	P	P	08 20 15.1 +0.5
	baz=81,SNR=52						
PVL	Pavlikeni	80.83	318		*i*P	P	08 20 15.9 +1.4
MDNY	Mudanya-Bursa	80.83	314		*e*P	P	08 20 15.8 +1.2
EREN	Erenkoy	80.86	308		*e*P	P	08 20 15.0 +0.2
BUD	Budapest	80.88	325	⇑	*e*P	P	08 20 16.0 +1.3
MDO	Dochfour	80.91	342	⇑	*e*P	P	08 20 15.1 +0.4
N24A	Carr	80.91	45	⇓	P	P	08 20 16.3 +1.0
	baz=81,SNR=7.5						
Z14A	Wintersburg	80.92	55	⇑	P	P	08 20 15.5 +0.3
	baz=81,SNR=26						
PKSN	Nyarlorinc	80.92	324	⇓	*e*P	P	08 20 17.0 +2.1
PRA	Prague	80.92	329		*e*P	P	08 20 15.3 +0.4
PRA					*e*		08 20 28.9
PRA	Prague	80.92	329	⇑	*e*P	P	08 20 15.3 +0.4
PRA					*e*sP	sP	08 20 28.9 -2.7
PRA					*e*PKPPKP	P'P'df	08 47 03.6 +2.0
PRU	Pruhonice	80.94	329	⇑	*i*P	P	08 20 15.6 +0.6
PRU					*e*		08 20 28.5
PRU					*e*		08 23 21.9
PRU					*e*S	S	08 30 22.0 +1.3
PRU					*e*		08 38 54.7
PRU					MLR	MLR	
	comp=Z,40µm,16.5s						
PRU	Pruhonice	80.94	329	⇑	*i*P	P	08 20 15.6 +0.6
PRU					*e*pP	pP	08 20 28.5 +1.3
PRU					*e*PP	PP	08 23 21.9 +2.7
PRU					*e*x	x	08 24 56.7
PRU					*e*S	S	08 30 22.0 +1.3
PRU					*e*x	x	08 35 50.3
PRU					*e*PKKP	PKKPbc	08 38 54.7 +3.0
PRU					*e*PKPPKP	P'P'df	08 47 03.5 +1.9
PRU					AMS	AMS	08 59 10.0
	comp=Z,40µm,16.5s						
G30A	Faulkton	80.95	39	⇓	P	P	08 20 15.1 -0.1
	baz=81,SNR=189						
M25A	Palm-Egli Farm	80.96	44	⇑	P	P	08 20 16.5 +1.0
	baz=81,SNR=17						
BHL	Bhannes	80.96	306		*e*P	P	08 20 15.6 +0.1
CRLT	Corlu	80.96	316		*e*P	P	08 20 16.7 +1.4
ALT	Altintas	81.01	313		P	P	08 20 16.1 +0.4
ALT	Altintas	81.01	313		*e*P	P	08 20 16.3 +0.6
ALT	Altintas	81.01	313		P	P	08 20 16.1 +0.4
BZS	Buzias	81.01	322	⇓	*i*P	P	08 20 16.0 +0.5
EDRB	Edirne	81.02	317		P	P	08 20 16.3 +0.7
EDRB	Edirne	81.02	317		*e*P	P	08 20 16.4 +0.9
EDRB	Edirne	81.02	317		P	P	08 20 16.3 +0.7
SALA	Sala	81.02	304		*e*P	P	08 20 17.3 +1.3
K27A	Flueckinger Fa	81.07	42	⇓	P	P	08 20 16.0 0.0
	baz=81,SNR=36						
L26A	Underwood Farm	81.08	43	⇑	P	P	08 20 16.5 +0.5
	baz=81,SNR=10.0						
TREC	Trest	81.08	328		*e*P	P	08 20 16.3 +0.5
TREC					*e*		08 20 28.9
TREC					*e*		08 23 20.3
TREC					*e*S	S	08 30 23.0 +0.8
TREC					*e*SS	SS	08 35 41.8 +5.6
TREC					MLR	MLR	
	comp=Z,46µm,16.6s						
TREC	Trest	81.08	328	⇑	*e*P	P	08 20 16.3 +0.5
TREC					*e*pP	pP	08 20 28.9 +0.9
TREC					*e*PP	PP	08 23 20.3 -0.1
TREC					*e*S	S	08 30 23.0 +0.8
TREC					*e*SS	SS	08 35 41.8 +5.6
TREC					AMS	AMS	09 00 40.0
	comp=Z,46µm,16.6s						
KAC	Achnashellach	81.08	343	⇑	*e*P	P	08 20 15.7 +0.1
BRBR	Barbar	81.08	305		*e*P	P	08 20 17.7 +1.4
SHUT	Suhut-Afyon	81.08	312		*e*P	P	08 20 17.0 +0.8
J28A	Allard Ranch,	81.09	41	⇑	P	P	08 20 16.6 +0.5
	baz=81,SNR=55						
RCY	Rachaya	81.10	306		*e*P	P	08 20 16.8 +0.4
TVSB	Tavsanli	81.12	313		*e*P	P	08 20 16.9 +0.6
CLZ	Clausthal	81.13	332		*e*P	P	08 20 16.5 +0.5
	comp=Z,415nm,1.0s						
CLZ					*e*L	L	09 00 52.8
	comp=Z,43µm,19.7s						
PKS7	Kunszentmiklos	81.14	324	⇓	*e*P	P	08 20 17.9 +1.8
I29A	Vivian Onida	81.15	40	⇑	P	P	08 20 16.2 -0.1
	baz=81,SNR=101						
ISCO	Idaho Springs	81.19	46		*e*P	P	08 20 16.9 0.0
ISCO					pmax	pmax	
	comp=Z,356nm,1.6s						
ISCO					MLR	MLR	
	comp=Z,13µm,20.0s						
ISCO	Idaho Springs	81.19	46	⇑	P	P	08 20 17.8 +0.9
	baz=81,SNR=57						
ISCO	Idaho Springs	81.19	46		*e*P	P	08 20 16.9 0.0
	comp=Z,356nm,1.6s						
ISCO					LR	LR	
	comp=Z,13µm,20.0s						
KCTX	Karacabey (Bur	81.20	315		*e*P	P	08 20 17.7 +1.1
X16A	Lo Mia Camp, P	81.21	53	⇑	P	P	08 20 18.1 +1.1
	baz=81,SNR=52						
MVCO	Mesa Verde	81.22	49	⇑	P	P	08 20 17.6 +0.5
	baz=81,SNR=59						
MVCO	Mesa Verde	81.22	49		*e*P	P	08 20 17.4 +0.3
	comp=Z,378nm,1.3s						
MVCO					*e*S	S	08 30 16.0 -8.6
MVCO					LR	LR	
	comp=Z,11µm,22.0s						
PKSG		81.23	325	⇑	*e*P	P	08 20 17.5 +0.9
ASF	Jabal al Asfar	81.25	304		P	P	08 20 17.9 +0.8
ASF							08 23 22.4
ASF					pmax	pmax	
	comp=Z,91nm,0.9s						
ASF					pmax	pmax	
	comp=Z,32nm,1.0s						
ASF	Jabal al Asfar	81.25	304		P	P	08 20 17.9 +0.8
	comp=Z,91nm,0.8s,baz=358,slow=3.9,SNR=97						
ASF					PP	PP	08 23 22.4 -0.1
	comp=Z,32nm,1.0s,baz=4.9,slow=4.9,SNR=3.1						
PKS6	Bocsa	81.28	324	⇓	*e*P	P	08 20 18.4 +1.6
O24A	Longmont	81.28	45	⇑	P	P	08 20 18.3 +1.1
	baz=81,SNR=37						
KPL	Plockton	81.31	343	⇑	*e*P	P	08 20 17.6 +0.8
KPL					AMS	AMS	08 57 46.0
	comp=Z,11µm,20.0s						
P23A	Jefferson	81.35	46	⇑	P	P	08 20 19.1 +1.2
	baz=81,SNR=31						
N25A	Grover	81.36	44	⇑	P	P	08 20 18.3 +0.7
	baz=81						
KSB	Sheil Bridge	81.37	343	⇑	*e*P	P	08 20 18.1 +0.9
MRMT	Marmara Adasi	81.40	315		*e*P	P	08 20 19.0 +1.3
EDC	Edincik	81.42	315		*e*P	P	08 20 19.3 +1.5
LFK	Lefkose	81.42	308		*e*P	P	08 20 19.0 +1.1
M26A	McRoberts Ranc	81.44	43	⇑	P	P	08 20 18.8 +0.8
	baz=81,SNR=10.0						
TANN	Tannenbergstha	81.45	330		*e*P	P	08 20 18.3 +0.5
	comp=Z,190nm,1.3s						
L27A	T5 Ranch, Ells	81.46	43	⇓	P	P	08 20 18.5 +0.5
	baz=81						
PKST	T''s	81.50	325	⇓	*e*P	P	08 20 19.6 +1.6
K28A	Ten Mile Ranch	81.52	42	⇓	P	P	08 20 18.7 +0.4
	baz=81,SNR=54						
PKS2	Kecel	81.52	324	⇓	*e*P	P	08 20 19.7 +1.6
BRSD	Miller	81.53	39	⇓	P	P	08 20 18.4 +0.1
	baz=81,SNR=67						
BRSD	Miller	81.53	39		*e*P	P	08 20 17.9 -0.4
	comp=Z,475nm,1.0s						
BRSD					*e*S	S	08 30 21.8 -5.3
TCHB	Talchebab	81.54	305		*e*P	P	08 20 19.6 +1.0
MPEP	Malo Peshtene	81.56	319		*i*P	P	08 20 18.8 +0.4
RKY	Sarkoy-Tekirda	81.57	316		*e*P	P	08 20 20.2 +1.6
J29A	Okreek	81.58	41	⇑	P	P	08 20 18.9 +0.3
	baz=81,SNR=50						
ISP	Isparta	81.58	312		P	P	08 20 18.6 -0.2
ISP	Isparta	81.58	312		*e*P	P	08 20 18.4 -0.4
ISP					*e*		08 23 26.3
ISP					*e*S	S	08 30 23.8 -4.3

baz=82,SNR=109
KDZ Kurdzhali 81.87 317⇓ iP P 08 20 22.6 +2.5
PKS9 Tamasi 81.88 324⇓ eP P 08 20 21.3 +1.2
BALB Balikesir 81.89 314 eP P 08 20 20.9 +0.7
214A Organ Pipe Nat 81.89 56 ⇑P P 08 20 20.9 +0.5
baz=82,SNR=34
214A Organ Pipe Nat 81.89 56 eP P 08 20 21.1 +0.6
comp=Z,609nm,1.7s
PGB Panagyurishte 81.90 319 i P P 08 20 21.9 +1.6
LEF Lefka 81.92 308 eP P 08 20 21.1 +0.6
PLD Plovdiv 81.93 318 P P 08 20 20.9 +0.5
PLD Plovdiv 81.93 318 P P 08 20 20.9 +0.5
PLD Plovdiv 81.93 318 P P 08 20 20.9 +0.5
L28A Connealy Angus 81.93 42 ⇓P P 08 20 20.9 +0.3
baz=82
ERIK Erikli-Kesan 81.95 316 eP P 08 20 21.5 +1.0
CONA Conrad Observa 81.96 327 i P P 08 20 21.5 +0.9
comp=Z,338nm,1.2s,SNR=164
EDI Edinburgh 81.97 341 AMB AMB 08 20 10.6
comp=Z,359nm,4.4s
EDI AMS AMS 09 00 20.9
comp=Z,18μm,17.9s
KHC Kasperske Hory 82.00 329⇑ iP P 08 20 21.0 +0.3
KHC e 08 20 27.1
KHC e 08 20 34.2
KHC e 08 23 30.8
KHC eS **S 08 30 30.6 -1.3**
KHC eSS **SS 08 35 46.9 -3.1**
KHC MLR MLR
comp=Z,46μm,19.7s
KHC Kasperske Hory 82.00 329⇑ iP P 08 20 21.0 +0.3
KHC ex x 08 20 27.1
KHC epP **pP 08 20 34.2 +1.3**
KHC ex x 08 20 42.0
KHC ePP **PP 08 23 30.8 +2.8**
KHC eS **S 08 30 30.6 -1.3**
KHC eSS **SS 08 35 46.9 -3.1**
KHC ePKKP **PKKPbc 08 38 50.2 +0.8**
KHC ex x 08 39 00.0
KHC ePKPPKP P'P'df 08 46 47.3 -12
KHC ex x 08 46 58.8
KHC AMS AMS 08 59 00.0
comp=Z,46μm,19.7s
KHC Kasperske Hory 82.00 329 eP P 08 20 20.3 -0.4
comp=Z,352nm,1.0s
LPK Lapseki 82.02 316 eP P 08 20 22.3 +1.4
Q24A Divide 82.02 46 ⇑P P 08 20 21.7 +0.4
baz=82,SNR=29
EAB Aberfoyle 82.03 342⇑ eP P 08 20 20.9 +0.3
K29A Lazy Trails An 82.04 41 ⇑P P 08 20 21.2 +0.1
baz=82,SNR=63
ALN Alexandroupoli 82.05 316 P P 08 20 21.3 +0.3
ALN Alexandroupoli 82.05 316 P P 08 20 21.3 +0.3
ALN Alexandroupoli 82.05 316 eP P 08 20 22.0 +1.0
ALN Alexandroupoli 82.05 316 P P 08 20 21.3 +0.3
J30A Dallas 82.06 40 ⇓P P 08 20 21.2 0.0
baz=82,SNR=45
ROTZ Rotzenmuhle 82.07 330 eP P 08 20 21.8 +0.8
comp=Z,416nm,1.3s
EBL Broad Law 82.07 341⇑ eP P 08 20 21.9 +1.1
X18A Snowflake 82.08 52 ⇑P P 08 20 22.3 +0.7
baz=82,SNR=38
ENEZ Enez 82.10 316 eP P 08 20 22.7 +1.4
ANTB Antalya 82.12 311 eP P 08 20 19.5 -2.0
R23A Moffat 82.15 47 ⇑P P 08 20 23.3 +1.3
baz=82,SNR=92
RDO Rodhopi 82.15 317 P P 08 20 22.1 +0.5
RDO Rodhopi 82.15 317 eP P 08 20 23.0 +1.4
RDO Rodhopi 82.15 317 P P 08 20 22.1 +0.5
GELI Tayfur-Gelibol 82.16 316 eP P 08 20 22.7 +1.1
GEC2 GERESS Array S 82.18 328 eP P 08 20 21.8 +0.1
comp=Z,204nm,1.1s
GEC2 eL L 08 59 15.2
comp=Z,39μm,21.5s
GERES GERESS Array B 82.18 328 P P 08 20 21.7 +0.1
comp=Z,90nm,0.8s,baz=46,slow=5.8,SNR=230
GERES PP **PP 08 23 31.3 +1.8**
comp=Z,28nm,0.9s,baz=51,slow=7.7,SNR=4.5
GERES PKKPbc **PKKPbc 08 38 49.2 +0.2**
comp=Z,2.1nm,0.9s,baz=187,slow=2.6,SNR=5.3
GERES PKPPKP **P'P'df 08 46 59.7 +0.2**
comp=Z,1.0nm,1.0s,baz=213,slow=3.4,SNR=5.5
GERES LR LR 08 59 26.3
comp=Z,42μm,21.6s,baz=36,slow=38
O26A Horse Wrangler 82.19 44 ⇓P P 08 20 22.0 +0.1
baz=82,SNR=34
P25A Willow Gulch B 82.21 45 ⇓P P 08 20 22.9 +0.8
baz=82,SNR=15
KULA Kula-Manisa 82.21 313 P P 08 20 22.1 +0.1
KULA Kula-Manisa 82.21 313 eP P 08 20 23.0 +0.9
KULA Kula-Manisa 82.21 313 P P 08 20 22.1 +0.1
RZN Rozhen 82.22 318 i P P 08 20 22.7 +0.5
N27A Anderson Farm, 82.22 44 ⇑P P 08 20 22.5 +0.3
baz=82,SNR=15
WET Wettzell 82.28 329 eP P 08 20 22.6 +0.4
comp=Z,328nm,1.3s
WET eL L 08 59 57.0
comp=Z,78μm,19.6s
WTSB Winterswijk 82.32 334 i P P 08 20 22.3 +0.1
comp=Z,232nm,0.9s
VTS Vitosha 82.37 319 P P 08 20 23.7 +0.8
VTS Vitosha 82.37 319 P P 08 20 23.7 +0.8
VTS Vitosha 82.37 319⇑ iP P 08 20 23.7 +0.8
VTS Vitosha 82.37 319 i P P 08 20 23.6 +0.7
VTS Vitosha 82.37 319 P P 08 20 23.7 +0.8
S23A Nye Farm, Mont 82.38 48 ⇓P P 08 20 24.2 +1.1
baz=82,SNR=30
OGNE Ogallala 82.40 43 ⇓P P 08 20 23.1 +0.1
baz=82,SNR=25
OGNE Ogallala 82.40 43 eP P 08 20 22.7 -0.3
comp=Z,948nm,1.6s
OGNE LR LR
comp=Z,10μm,21.0s
PGBU Glenifferbraes 82.40 341⇑ eP P 08 20 21.9 -0.6
PGBU AMS AMS 09 00 26.0
comp=Z,20μm,20.4s
EYMN Ely 82.40 33 eP P 08 20 22.3 -0.5
comp=Z,538nm,1.4s
EYMN eS S 08 30 26.3 -10
EYMN LR LR
comp=Z,11μm,20.0s
URZ Urewera 82.42 153 LR LR 08 52 00.6
comp=Z,30μm,22.0s,baz=342,slow=32
URZ Urewera 82.42 153 eP P 08 20 21.5 -1.2
comp=Z,635nm,1.7s
M28A Bar X Bar Ranc 82.44 43 ⇓P P 08 20 23.3 +0.1
baz=82,SNR=10
L29A Maesberg Ranch 82.45 42 ⇑P P 08 20 23.2 0.0
baz=82,SNR=28
AKS Akhisar 82.45 314 eP P 08 20 23.9 +0.7
K30A Basset 82.46 41 ⇓P P 08 20 23.7 +0.4
baz=82,SNR=82
EKA Eskdalemuir Ar 82.49 341 P P 08 20 23.4 +0.4
EKA 08 23 31.5
EKA pmax pmax
comp=Z,73nm,0.9s
EKA pmax pmax
comp=Z,38nm,1.0s
EKA Eskdalemuir Ar 82.49 341 P P 08 20 23.4 +0.4
comp=Z,72nm,0.9s,baz=25,slow=4.9,SNR=49
EKA PP **PP 08 23 31.4 -0.3**
comp=Z,38nm,1.0s,baz=30,slow=7.4,SNR=4.7
ESK Eskdalemuir 82.52 341⇑ eP P 08 20 24.0 +0.8
ESK AMS AMS 09 00 49.6
comp=Z,23μm,18.9s
ESK Eskdalemuir 82.52 341 eP P 08 20 24.0 +0.8
ESK pmax pmax
comp=Z,640nm,1.1s
ESK MLR MLR
comp=Z,25μm,19.0s
ESK Eskdalemuir 82.52 341 eP P 08 20 24.0 +0.8
comp=Z,640nm,1.1s
ESK LR LR
comp=Z,25μm,19.0s
GRF Grafenberg Arr 82.52 330 eP P 08 20 24.2 +0.8
comp=Z,593nm,1.2s
GRF eL L 09 00 26.2
comp=Z,37μm,18.0s
GRFO Grafenberg 82.52 330 eP P 08 20 24.1 +0.7
GRFO pmax pmax
comp=Z,528nm,1.1s
GRFO Grafenberg 82.52 330 eP P 08 20 24.1 +0.7
comp=Z,528nm,1.1s
R24A Sanders Place, 82.54 47 ⇑P P 08 20 24.7 +0.7
baz=82,SNR=69

Q25A Bedland, Calha 82.57 46 ⇓P P 08 20 24.1 0.0
baz=82,SNR=52
BUG Bochum--Univer 82.59 333 eP P 08 20 23.7 +0.1
comp=Z,259nm,1.2s
ECK Cauldkaine Hil 82.62 341⇑ eP P 08 20 24.3 +0.6
ARSA Arzberg 82.62 326 i P P 08 20 24.5 +0.5
comp=Z,170nm,1.1s,SNR=88
SMTH Samothraki Isl 82.63 316 eP P 08 20 26.0 +1.9
P26A Davis Ranch, A 82.64 45 ⇑P P 08 20 24.5 +0.2
baz=82,SNR=23
EZN Ezine 82.64 315 eP P 08 20 25.2 +1.1
XAL Allendale 82.66 340 eP P 08 20 24.0 0.0
ELL Elmali 82.67 311 eP P 08 20 25.1 +0.5
O27A Beecher Island 82.68 44 ⇑P P 08 20 24.7 +0.2
baz=82,SNR=27
MOA Molln 82.71 327 i P P 08 20 24.8 +0.4
comp=Z,182nm,1.1s,SNR=89
U22A Llaves 82.76 49 ⇑P P 08 20 25.9 +0.8
baz=83,SNR=53
M29A Burnside Ranch 82.77 42 ⇓P P 08 20 24.4 -0.5
baz=83,SNR=24
T23A Casias Ranch, 82.81 48 ⇓P P 08 20 26.2 +0.8
baz=83,SNR=77
KAVA Kavala 82.81 317 P P 08 20 25.6 +0.6
KAVA Kavala 82.81 317 eP P 08 20 26.5 +1.5
KAVA Kavala 82.81 317 P P 08 20 25.6 +0.6
MMB Musomiste 82.81 318⇑ iP P 08 20 25.8 +0.7
MMB Musomiste 82.81 318 i P P 08 20 25.7 +0.7
N28A Pribbeno Ranch 82.85 43 ⇑P P 08 20 25.0 -0.4
baz=83,SNR=20
S24A Houchin Ranch, 82.88 47 ⇑P P 08 20 26.9 +1.0
baz=83
DIVS Divibare 82.91 322 P P 08 20 25.7 +0.1
NVR Nevrokopi 82.91 318 P P 08 20 26.0 +0.4
NVR Nevrokopi 82.91 318 eP P 08 20 26.5 +0.9
NVR Nevrokopi 82.91 318 P P 08 20 26.0 +0.4
L30A Spencer Herefo 82.92 41 ⇑P P 08 20 25.6 -0.1
baz=83,SNR=38
KKB Krupnik 82.95 319 i P P 08 20 27.0 +1.2
Q26A Hugo 82.98 46 ⇑P P 08 20 26.2 +0.1
baz=83,SNR=32
TUC Tucson 82.99 54 eP P 08 20 26.5 +0.3
TUC pmax pmax
comp=Z,737nm,1.9s
TUC MLR MLR
comp=Z,14μm,22.0s
TUC Tucson 82.99 54 eP P 08 20 26.5 +0.3
comp=Z,737nm,1.9s
TUC LR LR
comp=Z,14μm,22.0s
V22A San Miguel Ran 83.04 50 ⇓P P 08 20 27.4 +0.7
baz=83,SNR=73
AYDB Zeytinkoy-Aydi 83.04 313 eP P 08 20 27.2 +0.8
P27A Ficken Ranch, 83.07 45 ⇑P P 08 20 26.3 -0.3
baz=83,SNR=12
PRK Paraskevi 83.07 315 P P 08 20 26.7 +0.3
PRK Paraskevi 83.07 315 P P 08 20 26.7 +0.3
PRK Paraskevi 83.07 315 eP P 08 20 27.5 +1.1
PRK Paraskevi 83.07 315 P P 08 20 26.7 +0.3
R25A Fountain Ranch 83.07 46 ⇓P P 08 20 27.1 +0.5
baz=83,SNR=33
O28A Krutsinger Ran 83.11 44 ⇓P P 08 20 26.9 +0.1
baz=83,SNR=7.9
KESW Keswick, Cumbr 83.14 340⇑ eP P 08 20 26.8 +0.4
KESW AMB AMB 08 20 28.7
comp=Z,599nm,3.1s
KESW AMS AMS 09 00 47.4
comp=Z,38μm,19.9s
M30A Dale-Ortello V 83.14 42 ⇓P P 08 20 26.3 -0.5
baz=83
TNS Taunus Mts 83.16 332 eP P 08 20 26.8 +0.1
comp=Z,180nm,1.0s
TNS eL L 09 02 14.8
comp=Z,36μm,21.2s
T24B San Luis 83.17 48 ⇓P P 08 20 28.9 +1.5
baz=83,SNR=79
U23A El Rito 83.19 49 ⇑P P 08 20 28.2 +0.9
baz=83,SNR=288
ECSD EROS Data Cent 83.21 38 ⇓P P 08 20 27.1 0.0
baz=83,SNR=69
ECSD EROS Data Cent 83.21 38 eP P 08 20 26.9 -0.2
comp=Z,410nm,1.4s
ECSD LR LR
comp=Z,14μm,22.0s
LIA Limnos Island 83.22 316 P P 08 20 26.7 -0.4
LIA Limnos Island 83.22 316 eP P 08 20 28.0 +0.9
LIA Limnos Island 83.22 316 P P 08 20 26.7 -0.4
L31A Butterfield Fa 83.22 41 ⇑P P 08 20 27.3 +0.1
baz=83,SNR=118
SRS Serrai 83.22 318 P P 08 20 27.1 -0.1
SRS Serrai 83.22 318 P P 08 20 27.1 -0.1
SRS Serrai 83.22 318 eP P 08 20 27.5 +0.3
SRS Serrai 83.22 318 P P 08 20 27.1 -0.1
BLCB Balcova 83.23 314 eP P 08 20 27.7 +0.5
FETY Fethiye 83.23 312 eP P 08 20 27.4 +0.1
N29A Votaw Ranch, W 83.25 43 ⇓P P 08 20 27.0 -0.4
baz=83,SNR=31
PERS Pernice 83.28 326 i P P 08 20 27.5 +0.1
PERS ePP **PP 08 23 38.8 +0.2**
PERS eSKSac **S 08 30 44.3 -0.6**
PERS eS ScS 08 31 09.4 +11
SOKA Soboth 83.28 326 i P P 08 20 27.7 +0.3
comp=Z,577nm,1.2s,SNR=307
HPK Haverah Park 83.29 339⇑ eP P 08 20 27.6 +0.3
HPK AMS AMS 09 00 48.3
comp=Z,43μm,20.2s
GAL1 Galloway 83.31 341⇑ eP P 08 20 27.0 -0.3
GAL1 AMB AMB 08 20 29.2
comp=Z,442nm,4.2s
GAL1 AMS AMS 09 01 24.6
comp=Z,24μm,20.1s
MUKL Al Mukalla 83.31 283 eP P 08 20 29.1 +1.1
S25A Robets Cordova 83.32 47 ⇓P P 08 20 28.1 +0.1
baz=83
SIGR SIGRI 83.32 315 P P 08 20 27.3 -0.4
SIGR SIGRI 83.32 315 eP P 08 20 27.5 -0.2
SIGR SIGRI 83.32 315 P P 08 20 27.3 -0.4
LMK Market Rasen 83.35 338⇑ eP P 08 20 27.3 -0.2
LMK AMS AMS 09 00 37.3
comp=Z,50μm,21.3s
DALY Dalyan (Mu'la 83.36 312 eP P 08 20 28.6 +0.7
YER Yerkesik 83.36 312 eP P 08 20 29.0 +1.0
KSCO Kaye Shedlock' 83.42 45 ⇓P P 08 20 28.6 +0.2
baz=83,SNR=18
KSCO Kaye Shedlock' 83.42 45 eP P 08 20 28.6 +0.2
comp=Z,856nm,1.8s
RJOB Jochberg 83.42 328 eP P 08 20 28.7 +0.6
comp=Z,413nm,1.2s
R26A Arlington 83.45 46 ⇓P P 08 20 28.8 +0.2
baz=83,SNR=66
P28A Saint Francis 83.51 44 ⇑P P 08 20 28.8 0.0
baz=83,SNR=44
N30A Hueftle Ranch, 83.55 42 ⇓P P 08 20 28.5 -0.4
baz=83,SNR=16
KNT Kendrikon 83.56 318 P P 08 20 29.1 +0.2
KNT Kendrikon 83.56 318 P P 08 20 29.1 +0.2
KNT Kendrikon 83.56 318 eP P 08 20 29.5 +0.6
KNT Kendrikon 83.56 318 P P 08 20 29.1 +0.2
SOH Sokhos 83.56 318 P P 08 20 28.7 -0.2
SOH Sokhos 83.56 318 P P 08 20 28.7 -0.2
SOH Sokhos 83.56 318 eP P 08 20 29.5 +0.6
SOH Sokhos 83.56 318 P P 08 20 28.7 -0.2
OUR Ouranopolis 83.56 317 P P 08 20 29.1 +0.2
OUR Ouranopolis 83.56 317 P P 08 20 29.1 +0.2
OUR Ouranopolis 83.56 317 eP P 08 20 29.5 +0.6
OUR Ouranopolis 83.56 317 P P 08 20 29.1 +0.2
V23A Ortiz Mt. (NFS 83.59 49 ⇑P P 08 20 31.2 +1.8
baz=83,SNR=74
SISC Sisak 83.60 325 P P 08 20 30.0 +1.1
VAY Valandovo 83.61 319 P P 08 20 29.1 0.0
VAY Valandovo 83.61 319 P P 08 20 29.1 0.0
VAY Valandovo 83.61 319 i P P 08 20 29.2 0.0
VAY Valandovo 83.61 319 P P 08 20 29.1 0.0
OBKA Obir 83.62 326⇓ iP P 08 20 29.5 +0.2
comp=Z,119nm,0.9s,SNR=46
HGN Heimansgroeve 83.62 334 i P P 08 20 28.9 -0.1
comp=Z,250nm,1.0s
HGN Heimansgroeve 83.62 334 eS S 08 30 45.8 -2.3
HGN eX 08 31 10.1
HGN Heimansgroeve 83.62 334 eL L 09 00 20.9
comp=Z,45μm,21.9s
O29A 4D Ranch, Culb 83.64 43 ⇑P P 08 20 29.1 -0.4
baz=83,SNR=33
U24A Moreno Valley 83.68 48 ⇓P P 08 20 31.2 +1.3
baz=84,SNR=94

BEBN Eben Emael 83.69 334 P P 08 20 29.5 +0.2
comp=Z,78nm,1.0s
BEBN XP **sP 08 20 42.3 -3.8**
T25A Trinidad 83.69 47 ⇓P P 08 20 30.5 +0.6
baz=84,SNR=65
KBA Koelnbreinsper 83.70 327⇓ iP P 08 20 30.0 +0.3
comp=Z,223nm,0.8s,SNR=120
FUR Furstenfeldbru 83.71 329 eP P 08 20 30.1 +0.5
comp=Z,521nm,1.0s
FUR eL L 09 00 48.8
comp=Z,69μm,19.8s
MEM Membach 83.73 333 P P 08 20 29.4 -0.1
comp=Z,142nm,1.1s
MEM PP PP 08 23 28.2 -14
SKO Skopje 83.73 320 P P 08 20 30.2 +0.4
SKO Skopje 83.73 320 P P 08 20 30.2 +0.4
SKO Skopje 83.73 320 eP P 08 20 30.1 +0.3
SKO Skopje 83.73 320 P P 08 20 30.2 +0.4
M31A Lambtecht Ranc 83.75 41 ⇑P P 08 20 29.6 -0.4
baz=84,SNR=32
PLE Pljevlja 83.77 322⇑ iP P 08 20 30.5 +0.4
CHOS Chios island 83.78 315 P P 08 20 30.6 +0.4
CHOS Chios island 83.78 315 eP P 08 20 29.5 -0.7
CHOS Chios island 83.78 315 P P 08 20 30.6 +0.4
SMG Samos 83.81 314 P P 08 20 30.2 0.0
SMG Samos 83.81 314 eP P 08 20 30.5 +0.3
SMG Samos 83.81 314 P P 08 20 30.2 0.0
R27A Eads 83.83 46 ⇑P P 08 20 30.6 +0.1
baz=84,SNR=35
PLG Polygyros 83.83 317 P P 08 20 30.2 -0.1
PLG Polygyros 83.83 317 P P 08 20 30.2 -0.1
PLG Polygyros 83.83 317 eP P 08 20 30.5 +0.2
PLG Polygyros 83.83 317 P P 08 20 30.2 -0.1
Q28A Sharon Springs 83.83 44 ⇓P P 08 20 30.3 -0.1
baz=84,SNR=26
HORT Hortiatis 83.85 318 P P 08 20 30.2 -0.3
HORT Hortiatis 83.85 318 eP P 08 20 30.5 0.0
HORT Hortiatis 83.85 318 P P 08 20 30.2 -0.3
IVA Berane 83.86 321⇑ iP P 08 20 30.8 +0.3
KBI1 Birley Grange 83.88 339⇑ eP P 08 20 31.0 +0.7
THE Thessaloniki 83.90 318 P P 08 20 30.2 -0.4
THE Thessaloniki 83.90 318 P P 08 20 30.2 -0.4
THE Thessaloniki 83.90 318 eP P 08 20 30.5 -0.1
THE Thessaloniki 83.90 318 P P 08 20 30.2 -0.4
S26A Kim 83.90 46 ⇑P P 08 20 31.1 +0.2
baz=84,SNR=34
SPMN Marine on St. 83.91 35 ⇑P P 08 20 30.2 -0.3
baz=84,SNR=26
SPMN Marine on St. 83.91 35 eP P 08 20 29.8 -0.8
comp=Z,165nm,1.1s
LAZ Ladron 83.91 51 eP P 08 20 32.3 +1.3
comp=Z,227nm,1.5s
MYKA Terra Mystica 83.92 327 i P P 08 20 30.3 -0.4
comp=Z,133nm,0.8s,SNR=55
P29A Atwood 83.94 44 ⇓P P 08 20 31.1 +0.1
baz=84,SNR=16
ANMO Albuquerque 83.96 50c iP P 08 20 32.3 +1.0
ANMO pmax pmax
comp=Z,693nm,1.7s
ANMO MLR MLR
comp=Z,37μm,19.0s
ANMO Albuquerque 83.96 50 LR LR 08 53 50.9
comp=Z,10μm,20.4s,baz=336,slow=33
ANMO Albuquerque 83.96 50 eP P 08 20 31.9 +0.6
comp=Z,326nm,1.3s
GRG Griva 83.96 318 P P 08 20 31.0 0.0
GRG Griva 83.96 318 P P 08 20 31.0 0.0
GRG Griva 83.96 318 P P 08 20 31.0 0.0
BODT Bodrum 83.98 313 eP P 08 20 31.6 +0.5
LJU Ljubljana 83.99 326⇑ eP P 08 20 30.5 -0.5
LJU e 08 20 46.0
W23A Werner Place, 84.00 50 ⇑P P 08 20 32.8 +1.3
baz=84,SNR=62
O30A MW Ranch, Wils 84.01 43 ⇓P P 08 20 31.0 -0.2
baz=84,SNR=34
PAIG Paliouri 84.02 317 P P 08 20 31.4 +0.2
PAIG Paliouri 84.02 317 P P 08 20 31.4 +0.2
PAIG Paliouri 84.02 317 eP P 08 20 30.5 -0.7
PAIG Paliouri 84.02 317 P P 08 20 31.4 +0.2
PVY Plav 84.03 321⇑ iP P 08 20 31.4 0.0
VISS Visnje 84.04 326 eP P 08 20 30.8 -0.5
VISS e 08 20 45.1
VISS ePP **PP 08 23 46.3 +1.5**
VISS e 08 25 36.2
VISS eSKSac **SKSac 08 30 51.2 -0.1**
VISS eS ScS 08 31 16.1 +11
VISS eSS SS 08 37 00.1 +40
STU Stuttgart 84.05 331 eP P 08 20 31.3 +0.1
STU pmax pmax
comp=Z,396nm,1.0s
STU Stuttgart 84.05 331 eP P 08 20 31.5 +0.3
comp=Z,417nm,1.1s
STU eL L 09 01 28.2
comp=Z,42μm,18.3s
STU Stuttgart 84.05 331 eP P 08 20 31.3 +0.1
comp=Z,396nm,1.0s
ARG Arkhangelos 84.08 312 P P 08 20 31.9 +0.3
ARG Arkhangelos 84.08 312 P P 08 20 31.9 +0.3
ARG Arkhangelos 84.08 312 eP P 08 20 32.0 +0.3
ARG Arkhangelos 84.08 312 P P 08 20 31.9 +0.3
BOJS Bojanci 84.08 325 i P P 08 20 31.3 -0.2
BOJS ePP **PP 08 23 47.6 +2.6**
BOJS eSKSac **SKSac 08 30 50.0 -1.6**
UPM Unac-Piva 84.10 322⇑ iP P 08 20 31.9 0.0
BGNE Belgrade 84.13 41 ⇓P P 08 20 31.5 -0.3
baz=84,SNR=52
BGNE Belgrade 84.13 41 eP P 08 20 31.2 -0.6
comp=Z,474nm,1.0s
N31A Bailey Ranch, 84.13 42 ⇑P P 08 20 31.7 -0.2
baz=84,SNR=12
BCLA Clavier 84.13 334 P P 08 20 31.4 -0.2
comp=Z,132nm,1.3s
T26A Comanche Natio 84.14 47 ⇓P P 08 20 32.3 +0.1
baz=84,SNR=41
UCC Uccle 84.14 334 P P 08 20 32.3 +0.6
UCC XP **sP 08 20 45.3 -3.1**
V24A Rampart Ranch, 84.14 49 ⇓P P 08 20 33.8 +1.5
baz=84,SNR=191
LENM Lemitar 84.17 51 eP P 08 20 33.4 +1.0
comp=Z,149nm,1.3s
S27A Las Animas 84.19 46 ⇑P P 08 20 32.3 -0.1
baz=84
U25A Circle Dot Ran 84.20 48 ⇑P P 08 20 33.0 +0.5
baz=84,SNR=72
STNC Stoke 84.22 339⇑ eP P 08 20 30.7 -1.3
STNC AMB AMB 08 20 35.6
comp=Z,410nm,3.0s
STNC AMS AMS 09 01 15.7
comp=Z,41μm,21.2s
WATA Walderalm 84.24 328⇑ iP P 08 20 32.3 -0.2
comp=Z,66nm,0.7s,SNR=58
Y22D IRIS PASSCAL I 84.26 51 ⇑P P 08 20 33.8 +1.0
baz=84,SNR=21
WTTA Wattenberg 84.28 328 i P P 08 20 32.8 +0.1
comp=Z,130nm,0.9s,SNR=59
LPM Los Pinos Moun 84.28 51 eP P 08 20 33.7 +0.8
comp=Z,157nm,1.3s
PMOR Pomariorio Ree 84.30 114 eP P 08 20 34.3 +1.4
comp=Z,750nm,1.3s
PMOR Pomariorio Ree 84.30 114 eT T 09 52 36.5
comp=Z,125nm,0.2s
JAVS Javornik 84.31 326 i P P 08 20 31.9 -0.9
JAVS ePP **PP 08 23 48.5 +1.4**
JAVS eSKSac **SKSac 08 30 51.0 -2.2**
JAVS eS ScS 08 31 17.1 +10
SNZO South Karori 84.31 156 PFAKE 08 20 40.0 +7.7
SNZO LR LR
comp=Z,34μm,21.0s
ABTA Abfaltersbach 84.32 328 i P P 08 20 32.7 0.0
comp=Z,156nm,1.1s,SNR=78
R28A Tribune 84.34 45 ⇓P P 08 20 32.6 -0.5
baz=84,SNR=22
NKY Niksic 84.35 322⇓ iP P 08 20 33.0 0.0
P30A Selden 84.36 43 ⇑P P 08 20 32.6 -0.5
baz=84,SNR=54
NIS1 Nisyros Isl. 84.37 313 P P 08 20 36.0 +2.9
NIS1 Nisyros Isl. 84.37 313 eP P 08 20 32.5 -0.6
NIS1 Nisyros Isl. 84.37 313 P P 08 20 36.0 +2.9
NKME Niksic 84.40 321⇑ iP P 08 20 33.5 +0.3
LANF Langenberg 84.41 331⇑ eP P 08 20 34.1 +1.0
W24A Lazy 6 Ranch, 84.41 49 ⇑P P 08 20 35.0 +1.4
baz=84,SNR=140
SNF Seneffe 84.41 334 P P 08 20 33.3 +0.3
O31A Woolen Ranch, 84.42 42 ⇑P P 08 20 32.7 -0.6

baz=84,SNR=21
Q29A Oakley 84.42 44 ⇓P P 08 20 33.2 -0.2
baz=84,SNR=30
MOTA Moosalm 84.43 329⇓*i*P P 08 20 33.3 -0.1
comp=Z,168nm,0.8s,SNR=202
AOS Alonnisos 84.44 316 *e*P P 08 20 33.5 +0.1
PHP Peshkopia 84.45 320 P **P 08 20 33.3 -0.2**
PHP Peshkopia 84.45 320 P **P 08 20 33.3 -0.2**
PHP Peshkopia 84.45 320 P **P 08 20 33.3 -0.2**
RETA Reutte 84.46 329 *i* PcP **P 08 20 33.7 +0.3**
comp=Z,587nm,1.2s,SNR=266
V25A Rancho No Teng 84.46 48 ⇓P P 08 20 35.1 +1.3
baz=84,SNR=97
WLF Walferdange 84.46 333 P **P 08 20 34.3 +1.0**
comp=Z,307nm,2.5s
WLF Walferdange 84.46 333 *e*P **P 08 20 33.6 +0.3**
WLF *e* 08 23 47.8
WLF pmax pmax
comp=Z,1μm,2.0s
WLF MLR MLR
comp=Z,37μm,20.0s
WLF Walferdange 84.46 333 *e*P **P 08 20 33.7 +0.3**
comp=Z,523nm,1.7s
WLF Walferdange 84.46 333 *e*P **P 08 20 33.6 +0.3**
comp=Z,1μm,2.0s
WLF *e*PP **PP 08 23 47.8 -0.2**
WLF LR LR
comp=Z,37μm,20.0s
BIA Bitola 84.48 319 P P 08 20 30.2 -3.5
BIA Bitola 84.48 319 P P 08 20 30.2 -3.5
PDG Podgorica 84.50 321 P **P 08 20 33.8 +0.2**
TTG Podgorica 84.50 321⇑*i*P P 08 20 33.9 +0.3
TTG Podgorica 84.50 321 P **P 08 20 33.8 +0.2**
TTG Podgorica 84.50 321 P **P 08 20 33.8 +0.2**
N32A Stulken Farm, 84.52 41 ⇓P P 08 20 33.5 -0.3
baz=84,SNR=13
WME Myndd Eilian 84.52 340⇑*e*P P 08 20 34.2 +0.7
LIT Litokhoron 84.53 318 P **P 08 20 33.7 -0.2**
LIT Litokhoron 84.53 318 P **P 08 20 33.7 -0.2**
LIT Litokhoron 84.53 318 *e*P **P 08 20 33.5 -0.4**
LIT Litokhoron 84.53 318 P **P 08 20 33.7 -0.2**
WPM1 Penmaenmawr 84.54 340⇑*e*P P 08 20 33.8 +0.1
319A Douglas 84.56 54 ⇑P P 08 20 34.8 +0.5
baz=84,SNR=71
SCHQ Schefferville 84.56 16 P **P 08 20 33.6 -0.2**
comp=Z,77nm,0.8s,baz=353,slow=5.6,SNR=89
SCHQ PKKPbc **PKKPbc 08 38 44.0 +0.3**
comp=Z,2.2nm,0.7s,baz=192,slow=3.6,SNR=4.0
SCHQ PKPPKP **P'P'df 08 46 51.9 -3.2**
comp=Z,1.6nm,0.8s,baz=58,slow=6.3,SNR=3.6
SCHQ LR LR 09 00 14.2
comp=Z,13μm,21.5s,baz=341,slow=37
GIVF Givet 84.57 334 *e*P **P 08 20 33.6 -0.2**
comp=Z,580nm,1.4s
GIVF Givet 84.57 334 *e*P **P 08 20 33.6 -0.2**
GIVF pmax pmax
comp=Z,580nm,1.4s
GIVF Givet 84.57 334 *e*P **P 08 20 33.6 -0.2**
comp=Z,580nm,1.4s
TRI Trieste 84.59 326 *e*P **P 08 20 33.0 -1.0**
TRI *e* 08 23 49.7
TRI pmax pmax
comp=Z,199nm,1.1s
TRI Trieste 84.59 326 *e*P **P 08 20 33.0 -1.0**
comp=Z,199nm,1.1s
TRI *e*PP **PP 08 23 49.7 +0.6**
TRI *e*S S 08 31 12.0 +14
U26A Atchley Ranch, 84.59 47 ⇓P P 08 20 35.2 +0.8
baz=84,SNR=98
FNA Florina 84.63 319 P **P 08 20 34.1 -0.3**
FNA Florina 84.63 319 P **P 08 20 34.1 -0.3**
FNA Florina 84.63 319 *e*P **P 08 20 34.0 -0.3**
FNA Florina 84.63 319 P **P 08 20 34.1 -0.3**
WLF1 Llynfaes 84.64 340 *e*P **P 08 20 33.2 -0.9**
WLF1 AMB AMB 08 20 37.8
comp=Z,455nm,3.5s
WLF1 AMS AMS 09 01 11.2
comp=Z,33μm,21.6s
VAH Vaihoa 84.65 114 *e*P **P 08 20 35.8 +1.2**
comp=Z,355nm,1.4s
DOU Dourbes 84.65 334 P **P 08 20 34.6 +0.3**
comp=Z,116nm,2.2s
DOU PP PP 08 23 37.1 -12
R29A Marienthal 84.66 45 ⇑P P 08 20 34.4 -0.3
baz=84,SNR=28
SKIA Skiathos 84.67 317 *e*P **P 08 20 35.0 +0.4**
FOEL Foel Wylfa 84.68 339⇑*e*P P 08 20 32.1 -2.3
FOEL AMB AMB 08 20 36.6
comp=Z,536nm,3.1s
XOR Xorichti 84.68 317 P **P 08 20 32.9 -1.8**
XOR Xorichti 84.68 317 *e*P **P 08 20 35.0 +0.3**
XOR Xorichti 84.68 317 P **P 08 20 32.9 -1.8**
OHR Ohrid 84.69 319 *e*P **P 08 20 33.7 -1.0**
NEO Neokhori 84.71 317 *e*P **P 08 20 35.0 +0.2**
DRME Dracevica, Mon 84.72 321⇑*i*P P 08 20 35.0 +0.2
YLL Llanberis 84.72 340⇑*e*P P 08 20 35.4 +0.9
T27A Campo 84.72 46 ⇓P P 08 20 35.4 +0.3
baz=84,SNR=21
YRC Rhoscolyn 84.73 340⇑*e*P P 08 20 35.0 +0.4
BFO Black Forest 84.74 331 P **P 08 20 34.1 -0.7**
comp=Z,2μm,1.1s
BFO Black Forest 84.74 331 *e*P **P 08 20 34.8 0.0**
BFO *e*S **S 08 30 59.1 -0.4**
BFO pmax pmax
comp=Z,496nm,1.0s
BFO MLR MLR
comp=Z,39μm,20.0s
BFO Black Forest 84.74 331 *e*P **P 08 20 34.9 0.0**
comp=Z,482nm,1.0s
BFO *e*L L 09 01 38.4
comp=Z,41μm,19.9s
BFO Black Forest 84.74 331 *e*P **P 08 20 34.8 0.0**
comp=Z,496nm,1.0s
BFO *e*S **S 08 30 59.1 -0.4**
BFO LR LR
comp=Z,39μm,20.0s
121A Cookes Peak, D 84.75 53 ⇓P P 08 20 36.2 +0.8
baz=85,SNR=95
121A Cookes Peak, D 84.75 53 *e*P **P 08 20 35.2 -0.1**
comp=Z,468nm,1.3s
STR Strasbourg 84.75 331⇑*e*P P 08 20 36.5 +1.7
KZN Kozani 84.77 318 P **P 08 20 34.5 -0.6**
KZN Kozani 84.77 318 P **P 08 20 34.5 -0.6**
KZN Kozani 84.77 318 *e*P **P 08 20 35.0 -0.1**
KZN Kozani 84.77 318 P **P 08 20 34.5 -0.6**
Q30A Quinter 84.77 44 ⇓P P 08 20 35.0 -0.2
baz=85,SNR=50
BUM Brajici-Budva 84.78 321⇑*i*P P 08 20 35.3 +0.2
Z22A Elephant Butte 84.78 52 ⇑P P 08 20 36.2 +0.7
baz=85,SNR=55
PPT Papeete 84.80 117 LR LR 08 52 47.2
comp=Z,27μm,20.6s,baz=295,slow=32
PPT2 Papeete2 84.81 117 *e*P **P 08 20 37.0 +1.5**
comp=Z,292nm,1.3s
PPT2 Papeete2 84.81 117 *e*S **S 08 30 59.6 -1.4**
comp=Z,8μm,24.8s
PPT2 *e*SS **SS 08 36 36.3 +2.1**
comp=Z,8μm,25.0s
PPT2 Papeete2 84.81 117 *e*LR LR 08 46 58.7
comp=Z,74μm,24.8s,baz=316
PPT2 Papeete2 84.81 117 *e*T T 09 53 15.5
comp=Z,30nm,0.4s
BAIF Baives 84.82 334 *e*P **P 08 20 34.8 -0.3**
comp=Z,270nm,1.0s
BAIF Baives 84.82 334 *e*P **P 08 20 34.8 -0.3**
BAIF pmax pmax
comp=Z,270nm,1.0s
BAIF Baives 84.82 334 *e*P **P 08 20 34.8 -0.3**
comp=Z,270nm,1.0s
S28A Manter 84.82 46 ⇑P P 08 20 35.4 -0.1
baz=85,SNR=32
P31A Stockton 84.84 43 ⇓P P 08 20 35.0 -0.5
baz=85,SNR=74
FETA Feichten 84.84 329 *i* PcP **P 08 20 35.6 +0.1**
comp=Z,211nm,0.9s,SNR=125
ULC Ulcinj 84.85 321⇑*i*P P 08 20 35.7 +0.2
PAE Paea 84.86 117 *e*P **P 08 20 36.9 +1.3**
comp=Z,52nm,1.2s
PAE Paea 84.86 117 *e*T T 09 53 18.2
comp=Z,7.1nm,0.4s
HCY Herceg Novi 84.87 322⇑*i*P P 08 20 35.5 0.0
O32A Brockman Farm, 84.90 42 ⇑P P 08 20 34.9 -0.8
baz=85,SNR=11
ELSH Elham, Standar 84.91 336⇑*e*P P 08 20 35.5 0.0
ELSH AMS AMS 09 02 28.1
comp=Z,60μm,18.7s
HLM1 Long Mynd 84.92 339⇑*e*P P 08 20 33.5 -2.1
HLM1 AMB AMB 08 20 37.5
comp=Z,369nm,3.5s
YRE Yr Eifl 84.93 340⇑*e*P P 08 20 35.2 -0.4
MRKA Markates 84.94 316 P **P 08 20 34.9 -1.0**
MRKA Markates 84.94 316 *e*P **P 08 20 36.0 +0.1**
STON Ston 84.94 322 P **P 08 20 34.7 -1.1**
TIAR Tiarei 84.95 117 *e*P **P 08 20 37.5 +1.3**
comp=Z,122nm,1.1s
TIAR Tiarei 84.95 117 *e*T T 09 53 25.4
comp=Z,24nm,0.3s
W25A X Bar L Ranch, 84.97 49 ⇓P P 08 20 37.2 +0.8
baz=85,SNR=138
V26A Tequesquite Ra 84.98 48 ⇑P P 08 20 36.8 +0.5
baz=85,SNR=106
DAVA Damuels 84.98 329 *i* P **P 08 20 36.1 -0.1**
comp=Z,517nm,1.0s,SNR=184
NVLJ Novalja 84.98 325 P **P 08 20 34.8 -1.1**
APE Apeiranthos 85.00 314 P **P 08 20 34.5 -1.8**
APE Apeiranthos 85.00 314*c i*P P 08 20 35.8 -0.5
APE pmax pmax
comp=Z,241nm,1.0s
APE Apeiranthos 85.00 314 *e*P **P 08 20 36.0 -0.3**
APE Apeiranthos 85.00 314⇑*i*P P 08 20 36.1 -0.3
APE Apeiranthos 85.00 314 P **P 08 20 34.5 -1.8**
SMIA Simia 85.02 316 P P 08 20 32.8 -3.6
SMIA Simia 85.02 316 *e*P **P 08 20 36.0 -0.4**
T28A Walsh 85.03 46 ⇑P P 08 20 36.5 0.0
baz=85,SNR=14
KBN Korca 85.05 319 P **P 08 20 36.4 -0.2**
KBN Korca 85.05 319 P **P 08 20 36.4 -0.2**
KBN Korca 85.05 319 P **P 08 20 36.4 -0.2**
NEST Nestorio 85.07 319 P **P 08 20 36.4 -0.2**
NEST Nestorio 85.07 319 *e*P **P 08 20 36.5 -0.2**
CDF Champ du Feu 85.08 331 *e*P **P 08 20 36.4 -0.2**
comp=Z,671nm,1.0s
CDF Champ du Feu 85.08 331 *e*P **P 08 20 36.4 -0.2**
CDF pmax pmax
comp=Z,671nm,1.0s
CDF Champ du Feu 85.08 331 *e*P **P 08 20 36.4 -0.2**
comp=Z,671nm,1.0s
MENF Mencas 85.09 335⇑*e*P P 08 20 36.1 -0.3
U27A Thompson Grove 85.11 47 ⇓P P 08 20 36.9 0.0
baz=85,SNR=56
KARP Karpathos 85.11 312 P **P 08 20 37.0 +0.1**
KARP Karpathos 85.11 312 *e*P **P 08 20 37.0 +0.1**
KARP Karpathos 85.11 312 P **P 08 20 37.0 +0.1**
TVO Taravao 85.17 117 *e*P **P 08 20 38.8 +1.5**
comp=Z,123nm,1.2s
TVO Taravao 85.17 117 *e*T T 09 53 41.7
comp=Z,3.3nm,0.3s
THL Klokotos Trika 85.17 318 P **P 08 20 35.5 -1.6**
THL Klokotos Trika 85.17 318 *e*P **P 08 20 36.0 -1.1**
P32A Huiting Farm, 85.19 42 ⇓P P 08 20 36.4 -0.8
baz=85,SNR=64
DSB Dublin 85.20 341 *e*P **P 08 20 37.0 +0.1**
comp=Z,243nm,1.1s
DSB *e*PP **PP 08 23 55.1 +1.2**
Q31A Ellis 85.20 43 ⇓P P 08 20 37.0 -0.4
baz=85,SNR=14
R30A Dighton 85.24 44 ⇓P P 08 20 36.8 -0.7
baz=85,SNR=47
S29A Ulysses 85.24 45 ⇓P P 08 20 37.4 -0.1
baz=85,SNR=18
PTL Penteli 85.25 316 P **P 08 20 36.8 -0.7**
PTL Penteli 85.25 316 *e*P **P 08 20 36.5 -1.0**
PTL Penteli 85.25 316 P **P 08 20 36.8 -0.7**
Y24A Capitan 85.27 50 ⇑P P 08 20 38.2 +0.3
baz=85,SNR=33
ECH Echery 85.29 331 *e*P **P 08 20 37.4 -0.2**
ECH pmax pmax
comp=Z,287nm,1.0s
ECH MLR MLR
comp=Z,28μm,19.0s
ECH Echery 85.29 331⇑*e*P P 08 20 38.2 +0.7
ECH Echery 85.29 331 *e*P **P 08 20 37.4 -0.2**
comp=Z,287nm,1.0s
ECH LR LR
comp=Z,28μm,19.0s
LKR Lokris 85.30 316 P **P 08 20 36.8 -0.9**
LKR Lokris 85.30 316 *e*P **P 08 20 37.0 -0.7**
LKR Lokris 85.30 316 P **P 08 20 36.8 -0.9**
X25A Clemmons Ranch 85.33 49 ⇓P P 08 20 38.6 +0.5
baz=85,SNR=7.8
STRD Stroud 85.37 338⇑*e*P P 08 20 37.9 +0.1
STRD AMB AMB 08 20 39.8
comp=Z,735nm,1.3s
STRD AMS AMS 09 01 03.9
comp=Z,37μm,23.2s
ATH Athens Observa 85.39 316 *e*P **P 08 20 38.5 +0.3**
RPZ Rata Peaks 85.39 159 *e*P P 08 20 40.8 +3.0
comp=Z,130nm,1.2s
AGG Agios Georgios 85.39 317 P **P 08 20 36.8 -1.4**
AGG Agios Georgios 85.39 317 P **P 08 20 36.8 -1.4**
AGG Agios Georgios 85.39 317 *e*P P 08 20 34.0 -4.2
AGG Agios Georgios 85.39 317 P **P 08 20 36.8 -1.4**
AXAR Agios Charalam 85.40 317 P **P 08 20 37.6 -0.7**
AXAR Agios Charalam 85.40 317 *e*P **P 08 20 38.5 +0.2**
AXAR Agios Charalam 85.40 317 P **P 08 20 37.6 -0.7**
HMNX Herstmonceux 85.41 337⇑*e*P P 08 20 37.4 -0.6
HMNX AMB AMB 08 20 40.8
comp=Z,755nm,1.1s
HMNX AMS AMS 09 02 45.5
comp=Z,52μm,19.0s
MCH1 Michaelchurch 85.41 339⇑*e*P P 08 20 37.8 -0.2
MCH1 AMB AMB 08 20 39.9
comp=Z,503nm,3.0s
MCH1 AMS AMS 09 02 02.6
comp=Z,38μm,20.9s
T29A Hugoton 85.47 46 ⇓P P 08 20 38.5 -0.2
baz=85,SNR=23
W26A Owens Ranch, T 85.48 48 ⇓P P 08 20 40.0 +1.1
baz=85,SNR=51
U28A Mallet 85.48 47 ⇓P P 08 20 38.9 +0.1
baz=85,SNR=12
SWN1 Swindon 85.50 338⇑*e*P P 08 20 38.9 +0.5
SWN1 AMB AMB 08 20 41.2
comp=Z,766nm,1.3s
SWN1 AMS AMS 09 00 55.8
comp=Z,48μm,22.3s
MONM Monmouth 85.50 339⇑*e*P P 08 20 37.1 -1.4
MONM AMS AMS 09 02 05.3
comp=Z,36μm,20.7s
WOL Wolverton 85.50 338⇑*e*P P 08 20 38.9 +0.4
WOL AMB AMB 08 20 40.0
comp=Z,544nm,3.2s
WOL AMS AMS 09 01 19.6
comp=Z,44μm,21.8s
MAKR Makrakomi, Fth 85.51 317 P **P 08 20 38.3 -0.5**
MAKR Makrakomi, Fth 85.51 317 *e*P **P 08 20 38.5 -0.3**
MAKR Makrakomi, Fth 85.51 317 P **P 08 20 38.3 -0.5**
SANT Santorini 85.53 313 *e*P **P 08 20 37.0 -2.0**
SANT Santorini 85.53 313 *e*P **P 08 20 37.3 -1.7**
comp=Z,320nm,1.0s
SANT LR LR
comp=Z,16μm,19.0s
PAGF Fort de Pagny 85.54 332⇑*i*P P 08 20 39.0 +0.2
comp=Z,269nm,1.1s,baz=53
PAGF Fort de Pagny 85.54 332⇑*i*P P 08 20 39.0 +0.2
comp=Z,269nm,1.1s
V27A Dan Oppiter Fa 85.56 47 ⇑P P 08 20 39.6 +0.3
baz=85,SNR=19
OLDB Oldbury-Upon-S 85.58 339⇑*e*P P 08 20 37.9 -0.9
OLDB AMB AMB 08 20 40.5
comp=Z,452nm,3.2s
OLDB AMS AMS 09 01 57.3
comp=Z,44μm,21.2s
S30A Montezuma 85.59 45 ⇑P P 08 20 39.3 0.0
baz=85,SNR=45
MOF Molkenrain 85.60 331⇑*e*P P 08 20 39.9 +0.7
LPW Lampeter 85.61 340⇑*e*P P 08 20 39.0 0.0
LPW AMS AMS 09 02 10.1
comp=Z,38μm,20.1s
R31A Burdett 85.64 44 ⇓P P 08 20 38.8 -0.7
baz=85,SNR=19
NAIG Nisos Aigina 85.66 316 *e*P **P 08 20 38.0 -1.6**
Q32A Meitler Ranch, 85.66 43 ⇓P P 08 20 39.1 -0.5
baz=86,SNR=34
BATH Bath 85.71 338⇑*e*P P 08 20 38.5 -1.0
BATH AMB AMB 08 20 41.2
comp=Z,557nm,3.5s
BATH AMS AMS 09 01 14.0
comp=Z,39μm,23.0s
THEF They Montfort 85.72 332⇑*e*P P 08 20 40.1 +0.4
JAN Janina 85.72 318 P **P 08 20 39.9 0.0**
JAN Janina 85.72 318 P **P 08 20 39.9 0.0**
JAN Janina 85.72 318 *e*P **P 08 20 40.5 +0.6**
JAN Janina 85.72 318 P **P 08 20 39.9 0.0**
DSF Desfina 85.73 317 P **P 08 20 40.1 +0.2**
DSF Desfina 85.73 317 *e*P **P 08 20 38.0 -1.9**
DSF Desfina 85.73 317 P **P 08 20 40.1 +0.2**
HINF Hinteralfeld 85.73 331⇑*i*P P 08 20 39.2 -0.6
comp=Z,188nm,0.9s
HINF Hinteralfeld 85.73 331⇑*i*P P 08 20 39.2 -0.6
HINF pmax pmax
comp=Z,188nm,0.9s
HINF Hinteralfeld 85.73 331⇑*i*P P 08 20 39.2 -0.6
comp=Z,188nm,0.9s
EVR Evrytania 85.75 317 P **P 08 20 38.4 -1.7**
EVR Evrytania 85.75 317 *e*P **P 08 20 40.0 -0.1**
EVR Evrytania 85.75 317 P **P 08 20 38.4 -1.7**
LTK Loutraki 85.76 316 *e*P **P 08 20 38.0 -2.1**
HAU Haudompre 85.77 332⇑*i*P P 08 20 39.6 -0.3
comp=Z,277nm,0.8s
HAU *e*R
comp=Z,45μm,22.5s
HAU Haudompre 85.77 332⇑*i*P P 08 20 39.6 -0.3
HAU pmax pmax
comp=Z,277nm,0.8s
HAU Haudompre 85.77 332⇑*i*P P 08 20 39.6 -0.3
comp=Z,277nm,0.8s
P33A Williams Farm, 85.80 42 ⇑P P 08 20 39.6 -0.7
baz=86,SNR=23
X26A CR and CF Fran 85.82 49 ⇓P P 08 20 41.1 +0.5
baz=86,SNR=78
MEZF Maizieres J'vi 85.83 333⇑*i*P P 08 20 40.4 +0.2
comp=Z,1μm,1.4s
MEZF Maizieres J'vi 85.83 333⇑*i*P P 08 20 40.4 +0.2
comp=Z,1μm,1.4s
TUE Stuetta 85.85 329 *e*P **P 08 20 40.4 -0.2**
comp=Z,220nm,1.0s
TUE *e*PP **PP 08 23 59.3 -0.3**
TUE LR LR
comp=Z,60μm,19.0s
W27A Bowe Ranch, En 85.91 48 ⇑P P 08 20 41.5 +0.5
baz=86,SNR=132
V28A Channing 85.92 47 ⇓P P 08 20 41.1 +0.1
baz=86,SNR=30
KALE Kalithea 85.95 317 P **P 08 20 39.5 -1.6**
KALE Kalithea 85.95 317 *e*P **P 08 20 40.0 -1.1**
KALE Kalithea 85.95 317 P **P 08 20 39.5 -1.6**
ZKR Zakros 85.97 312 P **P 08 20 41.5 +0.4**
ZKR Zakros 85.97 312 *e*P **P 08 20 42.0 +0.9**
ZKR Zakros 85.97 312 P **P 08 20 41.5 +0.4**
T30A Plains 85.97 45 ⇑P P 08 20 41.2 0.0
baz=86,SNR=7.2
DSL Palaion Diasel 85.97 318 P **P 08 20 40.3 -0.8**
DSL Palaion Diasel 85.97 318 *e*P **P 08 20 41.0 -0.1**
DSL Palaion Diasel 85.97 318 P **P 08 20 40.3 -0.8**
U29A Oasis Ranch, S 85.98 46 ⇑P P 08 20 41.3 0.0
baz=86,SNR=33
DID Didima 85.98 315 P **P 08 20 39.1 -2.1**
DID Didima 85.98 315 *e*P **P 08 20 40.0 -1.2**
DID Didima 85.98 315 P **P 08 20 39.1 -2.1**
R32A Long Quarter, 85.99 43 ⇓P P 08 20 40.8 -0.5
baz=86,SNR=18
SRN Sarande 86.00 319 P **P 08 20 40.7 -0.5**
SRN Sarande 86.00 319 P **P 08 20 40.7 -0.5**
Q33A Connelly Farm, 86.05 42 ⇓P P 08 20 40.8 -0.7
baz=86,SNR=39
EFP Efpalio 86.05 317 P **P 08 20 41.1 -0.4**
EFP Efpalio 86.05 317 *e*P **P 08 20 41.5 0.0**
MEH Mehetia 86.07 116 *e*P **P 08 20 43.2 +1.5**
comp=Z,83nm,1.2s
MEH Mehetia 86.07 116 *e*T T 09 54 49.3
comp=Z,126nm,0.3s
SFTF Sexfontaines 86.08 333⇑*i*P P 08 20 41.5 0.0
comp=Z,897nm,1.0s,baz=47
SFTF Sexfontaines 86.08 333⇑*i*P P 08 20 41.5 0.0
comp=Z,897nm,1.0s
IGT Igoumenitsa 86.09 319 P **P 08 20 40.7 -0.9**
IGT Igoumenitsa 86.09 319 P **P 08 20 40.7 -0.9**
IGT Igoumenitsa 86.09 319 *e*P **P 08 20 41.0 -0.6**
IGT Igoumenitsa 86.09 319 P **P 08 20 40.7 -0.9**
LOMF Lomont 86.13 331⇑*e*P P 08 20 42.5 +0.7
S31A Mullinville 86.15 44 ⇑P P 08 20 41.8 -0.2
baz=86
TAOE Nuku Hiva Isla 86.17 104 *e*S S 08 31 07.3 -7.3
comp=Z,28μm,25.8s
TAOE Nuku Hiva Isla 86.17 104 *e*LR LR 08 47 43.2
comp=Z,76μm,25.0s,baz=316
GUR Goura 86.17 316 P **P 08 20 40.3 -1.9**
GUR Goura 86.17 316 *e*P **P 08 20 41.0 -1.2**
GUR Goura 86.17 316 P **P 08 20 40.3 -1.9**
X27A F and S Farms, 86.18 48 ⇓P P 08 20 43.3 +1.0
baz=86,SNR=53
KLV Kalavryta, Ach 86.20 316 P **P 08 20 40.7 -1.6**
KLV Kalavryta, Ach 86.20 316 *e*P **P 08 20 41.0 -1.3**
KLV Kalavryta, Ach 86.20 316 P **P 08 20 40.7 -1.6**
NPS Neapolis 86.22 313 P **P 08 20 41.9 -0.4**
NPS Neapolis 86.22 313 P **P 08 20 41.9 -0.4**
NPS Neapolis 86.22 313 *e*P **P 08 20 42.0 -0.4**
NPS Neapolis 86.22 313 P **P 08 20 41.9 -0.4**
KEK Kerkira 86.23 319 P **P 08 20 41.5 -0.8**
KEK Kerkira 86.23 319 *e*P **P 08 20 42.5 +0.2**
KEK Kerkira 86.23 319 P **P 08 20 41.5 -0.8**
SCIA State Center 86.23 38 *e*P **P 08 20 42.6 +0.3**
comp=Z,1μm,1.6s
SCIA LR LR
comp=Z,17μm,22.0s
V29A Stinnett 86.24 47 ⇓P P 08 20 42.7 +0.1
baz=86,SNR=12
U30A WK&E Inc. Balk 86.27 46 ⇓P P 08 20 42.7 0.0
baz=86,SNR=45
W28A Vega 86.28 47 ⇑P P 08 20 43.3 +0.5
baz=86,SNR=8.6
BDHA Al Bayda' 86.28 285 *e*P **P 08 20 44.4 +1.1**
BDHA AMb AMB 08 20 45.6
comp=Z,455nm,1.3s
PDO Prodromos 86.32 317 P **P 08 20 41.9 -0.8**
PDO Prodromos 86.32 317 *e*P **P 08 20 42.0 -0.8**
LAST Lasithi 86.36 313 P **P 08 20 43.0 -0.2**
LAST Lasithi 86.36 313 *e*P **P 08 20 43.0 -0.2**
LAST Lasithi 86.36 313 P **P 08 20 43.0 -0.2**
S32A Newby Ranch, P 86.39 44 ⇑P P 08 20 43.1 -0.1
baz=86,SNR=35
T31A Randall Ranch, 86.42 45 ⇑P P 08 20 43.4 0.0
baz=86,SNR=49
LKD2 Lefkada island 86.46 318 P **P 08 20 43.0 -0.5**
LKD2 Lefkada island 86.46 318 *e*P **P 08 20 44.0 +0.5**
LKD2 Lefkada island 86.46 318 P **P 08 20 43.0 -0.5**
R33A Olander Ranch, 86.47 43 ⇑P P 08 20 43.1 -0.5
baz=86,SNR=33
HEX Exmoor 86.47 339⇑*e*P P 08 20 43.0 -0.3
DRO Drossia 86.50 317 P **P 08 20 43.4 -0.3**
DRO Drossia 86.50 317 *e*P **P 08 20 44.0 +0.3**
ODZ Otahua Downs 86.50 160 *e*P **P 08 20 45.3 +2.2**
comp=Z,71nm,1.4s
VLX Vlachokerasia 86.56 316 P **P 08 20 43.0 -1.1**
VLX Vlachokerasia 86.56 316 *e*P **P 08 20 42.0 -2.1**
VLX Vlachokerasia 86.56 316 P **P 08 20 43.0 -1.1**
RLS Riolos of Patr 86.56 317 P **P 08 20 43.8 -0.2**
RLS Riolos of Patr 86.56 317 *e*P **P 08 20 44.0 0.0**
RLS Riolos of Patr 86.56 317 P **P 08 20 43.8 -0.2**
KSU1 Kansas State U 86.62 42 ⇓P P 08 20 43.8 -0.5
baz=86,SNR=58
KSU1 Kansas State U 86.62 42 *e*P **P 08 20 43.8 -0.5**
comp=Z,215nm,0.9s
KSU1 LR LR
comp=Z,12μm,20.0s
Y27A Causey 86.67 49 ⇑P P 08 20 45.0 +0.2
baz=86,SNR=42
W29A Amarillo 86.70 47 ⇑P P 08 20 45.3 +0.5
baz=86,SNR=9.7
VLI Veliai 86.72 315 *e*P **P 08 20 43.5 -1.3**
HTL Hartland 86.73 339⇑*e*P P 08 20 43.0 -1.6
HTL AMB AMB 08 20 46.5
comp=Z,442nm,3.4s
HTL AMS AMS 09 03 04.2
comp=Z,36μm,19.9s
T32A Huddler Ranch, 86.77 44 ⇑P P 08 20 45.1 0.0
baz=87,SNR=36
V30A Spur Ranch, Mi 86.80 46 ⇓P P 08 20 45.4 +0.1
baz=87
X28A Dimmitt 86.80 48 ⇓P P 08 20 45.2 -0.1
baz=87,SNR=32
AMT Artemida-Makis 86.81 316 P **P 08 20 44.6 -0.6**
AMT Artemida-Makis 86.81 316 *e*P **P 08 20 45.0 -0.2**

DHBB Dhamar BB 86.82 286 eP P 08 20 47.0 +1.1
DHBB AMb AMB 08 20 49.0
comp=Z,2µm,1.4s
CPRX Cap Rock 86.83 50 eP P 08 20 46.1 +0.5
comp=Z,46nm,1.0s
U31A Nine Bar Ranch 86.84 45 ⇓P P 08 20 45.5 0.0
baz=87,SNR=14
MSTX Muleshoe 86.84 49 ⇓P P 08 20 45.6 0.0
baz=87,SNR=21
MSTX Muleshoe 86.84 49 eP P 08 20 44.8 -0.8
comp=Z,250nm,1.3s
AMTX Amarillo 86.84 47 ⇑P P 08 20 46.1 +0.5
baz=87
AMTX Amarillo 86.84 47 eP P 08 20 45.6 +0.1
comp=Z,418nm,1.1s
SIVA Sivas 86.86 313 P P 08 20 45.2 -0.3
SIVA Sivas 86.86 313 eP P 08 20 45.0 -0.5
SIVA Sivas 86.86 313 P P 08 20 45.2 -0.3
JFWS Jewell Farm 86.86 35 eP P 08 20 44.3 -1.1
JFWS pmax pmax
comp=Z,500nm,1.6s
JFWS MLR MLR
comp=Z,21µm,22.0s
JFWS Jewell Farm 86.86 35 eP P 08 20 44.3 -1.1
comp=Z,500nm,1.6s
JFWS LR LR
comp=Z,21µm,22.0s
KFL Anninata 86.89 317 P P 08 20 45.3 -0.3
VAM Vamos 86.93 313 P P 08 20 43.0 -2.9
VAM Vamos 86.93 313 P P 08 20 43.0 -2.9
VAM Vamos 86.93 313 eP P 08 20 44.0 -1.9
VAM Vamos 86.93 313 P P 08 20 43.0 -2.9
ITM Ithomi 86.94 316 P P 08 20 45.3 -0.6
ITM Ithomi 86.94 316 eP P 08 20 45.0 -0.9
ITM Ithomi 86.94 316 P P 08 20 45.3 -0.6
VLS Valsamata 86.94 317 P P 08 20 45.0 -0.9
VLS Valsamata 86.94 317 P P 08 20 45.0 -0.9
VLS Valsamata 86.94 317 eP P 08 20 46.0 +0.1
VLS Valsamata 86.94 317 P P 08 20 45.0 -0.9
KYTH Kithira 86.97 315 eP P 08 20 45.0 -1.1
S33A Kaszmaul Farm, 86.98 43 ⇑P P 08 20 46.0 -0.1
baz=87,SNR=17
CABF La Chapelle 87.02 331⇑iP P 08 20 45.9 -0.3
comp=Z,181nm,1.0s
CABF La Chapelle 87.02 331⇑iP P 08 20 45.9 -0.3
CABF pmax pmax
comp=Z,181nm,1.0s
CABF La Chapelle 87.02 331⇑iP P 08 20 45.9 -0.3
comp=Z,181nm,1.0s
DYA Yadsworthy 87.07 339⇑eP P 08 20 45.5 -0.7
DYA AMB AMB 08 20 47.7
comp=Z,384nm,3.8s
DYA AMS AMS 09 02 52.7
comp=Z,38µm,21.3s
GDL2 Guadalupe Moun 87.10 51 eP P 08 20 47.5 +0.6
comp=Z,146nm,1.3s
ANKY Antikythira Is 87.12 314 P P 08 20 46.1 -0.6
ANKY Antikythira Is 87.12 314 eP P 08 20 46.5 -0.2
ANKY Antikythira Is 87.12 314 P P 08 20 46.1 -0.6
X29A Tulia 87.14 48 ⇓P P 08 20 47.3 +0.2
baz=87,SNR=59
Y28A McKinney Farm, 87.20 48 ⇓P P 08 20 47.2 -0.1
baz=87,SNR=33
T33A Patterson Ranc 87.22 44 ⇓P P 08 20 47.2 -0.1
baz=87,SNR=18
PYL PYLOS 87.25 316 P P 08 20 46.1 -1.3
PYL PYLOS 87.25 316 eP P 08 20 46.0 -1.3
PYL PYLOS 87.25 316 P P 08 20 46.1 -1.3
V31A Spring Creek L 87.27 46 ⇑P P 08 20 48.2 +0.7
baz=87,SNR=30
W30A Crocket Farms 87.27 47 ⇓P P 08 20 48.4 +0.8
baz=87
VLC Villacollemand 87.28 327 eP P 08 20 46.7 -0.7
comp=Z,112nm,1.1s
VLC eS S 08 31 26.4 +1.9
VLC LR LR
comp=Z,32µm,22.0s
LOR Lormes 87.30 333⇑iP P 08 20 47.0 -0.5
comp=Z,680nm,1.0s,baz=32
LOR eR
comp=Z,33µm,18.2s
LOR Lormes 87.30 333⇑iP P 08 20 47.0 -0.5
LOR pmax pmax
comp=Z,681nm,1.0s
LOR Lormes 87.30 333⇑iP P 08 20 47.0 -0.5
comp=Z,680nm,1.0s
U32A Winter Ranch, 87.31 45 ⇓P P 08 20 48.1 +0.4
baz=87,SNR=25
VAL Valentia 87.34 343⇓iP P 08 20 45.8 -1.6
VAL ePP PP 08 24 09.4 -1.7
VAL Valentia 87.34 343⇓iS S 08 31 25.2 +0.6
CLNB Carlsbad 87.36 51 eP P 08 20 48.5 +0.4
comp=Z,23nm,0.6s
AQU L'Aquila 87.37 324 eP P 08 20 47.7 -0.2
AQU eS S 08 31 25.2 -0.3
AQU pmax pmax
comp=Z,323nm,1.3s
AQU MLR MLR
comp=Z,45µm,20.0s
AQU L'Aquila 87.37 324 eP P 08 20 47.7 -0.2
comp=Z,323nm,1.3s
AQU eS S 08 31 25.2 -0.3
AQU LR LR
comp=Z,45µm,20.0s
SFD Strofades 87.39 317 eP P 08 20 46.0 -2.0
FLN La Foliniere 87.50 336 eP P 08 20 48.2 -0.1
comp=Z,335nm,1.0s,baz=28
FLN eR
comp=Z,81µm,19.8s
FLN La Foliniere 87.50 336 eP P 08 20 48.2 -0.1
FLN pmax pmax
comp=Z,335nm,1.0s
FLN La Foliniere 87.50 336 eP P 08 20 48.2 -0.1
comp=Z,335nm,1.0s
UDYN Al 'Udayn 87.51 286 eP P 08 20 50.1 +1.0
LDF La Druitiere 87.53 336 eP P 08 20 48.2 -0.3
comp=Z,280nm,1.0s
LDF La Druitiere 87.53 336 eP P 08 20 48.2 -0.3
LDF pmax pmax
comp=Z,280nm,1.0s
LDF La Druitiere 87.53 336 eP P 08 20 48.2 -0.3
comp=Z,280nm,1.0s
Z28A Tucker Farm, M 87.55 49 ⇑P P 08 20 48.9 -0.1
baz=87,SNR=25
Y29A Porterfield Fa 87.57 48 ⇑P P 08 20 49.4 +0.3
baz=87,SNR=26
SSF Saint Saulge 87.61 333⇑iP P 08 20 48.7 -0.2
comp=Z,467nm,1.0s
SSF Saint Saulge 87.61 333⇑iP P 08 20 48.7 -0.2
SSF pmax pmax
comp=Z,467nm,1.0s
SSF Saint Saulge 87.61 333⇑iP P 08 20 48.7 -0.2
comp=Z,467nm,1.0s
X30A Coker Ranch, T 87.62 47 ⇓P P 08 20 49.1 -0.2
baz=87,SNR=23
W31A Holland Ranch, 87.63 46 ⇑P P 08 20 49.6 +0.3
baz=87,SNR=49
JSA Saint Aubin 87.66 337⇑eP P 08 20 48.4 -0.7
JSA AMS AMS 09 02 15.4
comp=Z,48µm,22.5s
CCA1 Carnmenellis 87.66 339⇑eP P 08 20 48.3 -0.8
CCA1 AMB AMB 08 20 50.7
comp=Z,353nm,3.6s
CCA1 AMS AMS 09 03 32.1
comp=Z,30µm,19.5s
LPL La Plagne 87.68 330 eP P 08 20 49.5 -0.1
comp=Z,165nm,0.8s
LPL La Plagne 87.68 330 eP P 08 20 49.5 -0.1
LPL pmax pmax
comp=Z,165nm,0.8s
LPL La Plagne 87.68 330 eP P 08 20 49.5 -0.1
comp=Z,165nm,0.8s
LPG La Plagne 87.69 330 eP P 08 20 49.6 -0.1
comp=Z,181nm,0.7s
LPG La Plagne 87.69 330 eP P 08 20 49.6 -0.1
LPG pmax pmax
comp=Z,181nm,0.7s
LPG La Plagne 87.69 330 eP P 08 20 49.6 -0.1
comp=Z,181nm,0.7s
HYF Humbligny 87.74 333 eP P 08 20 49.9 +0.4
HYF Humbligny 87.74 333 eP P 08 20 49.9 +0.4
V32A Arapaho 87.76 45 ⇓P P 08 20 50.4 +0.5
baz=88,SNR=41
SMF Signal de Mont 87.84 332⇑iP P 08 20 49.9 -0.1
comp=Z,318nm,1.0s
SMF Signal de Mont 87.84 332⇑iP P 08 20 49.9 -0.1
SMF pmax pmax
comp=Z,318nm,1.0s
SMF Signal de Mont 87.84 332⇑iP P 08 20 49.9 -0.1
comp=Z,318nm,1.0s
TRBA At Turbah 87.85 285 eP P 08 20 51.9 +1.1
AVF Avril sur Loir 87.89 333⇑iP P 08 20 50.1 -0.1
comp=Z,585nm,0.9s
AVF Avril sur Loir 87.89 333⇑iP P 08 20 50.1 -0.1
AVF pmax pmax
comp=Z,585nm,0.9s
AVF Avril sur Loir 87.89 333⇑iP P 08 20 50.1 -0.1
comp=Z,585nm,0.9s
GRR Gorron 87.95 336⇑iP P 08 20 50.5 0.0
comp=Z,467nm,0.9s
GRR Gorron 87.95 336⇑iP P 08 20 50.5 0.0
GRR pmax pmax
comp=Z,467nm,0.9s
GRR Gorron 87.95 336⇑iP P 08 20 50.5 0.0
comp=Z,467nm,0.9s
128A Castleberry Fa 87.95 49 ⇑P P 08 20 51.1 +0.1
baz=88,SNR=18
Z29A Hungry Hill Ra 87.97 49 ⇓P P 08 20 51.4 +0.4
baz=88,SNR=51
X31A McDonald Ranch 88.01 47 ⇑P P 08 20 51.4 +0.3
baz=88,SNR=70
Y30A Stafford Cattl 88.01 48 ⇑P P 08 20 51.7 +0.5
baz=88,SNR=9.8
CUC Castrocucco 88.04 321 eP P 08 20 50.3 -0.9
comp=Z,69nm,1.0s
CUC eS S 08 31 35.6 +3.7
CUC LR LR
comp=Z,37µm,20.0s
W32A Sentinel 88.08 46 ⇓P P 08 20 51.6 +0.2
baz=88,SNR=62
U34A Anderson Ranch 88.08 44 ⇑P P 08 20 51.7 +0.3
baz=88,SNR=41
U34A Anderson Ranch 88.08 44 eP P 08 20 51.3 -0.1
comp=Z,646nm,1.4s
BNI Bardonecchia 88.09 330 eP P 08 20 51.2 -0.2
BNI pmax pmax
comp=Z,57nm,0.8s
BNI MLR MLR
comp=Z,48µm,19.0s
BNI Bardonecchia 88.09 330 eP P 08 20 51.2 -0.2
comp=Z,57nm,0.8s
BNI LR LR
comp=Z,48µm,19.0s
V33A Lossen Ranch, 88.11 45 ⇓P P 08 20 51.6 +0.1
baz=88,SNR=25
GDM Grand'Maison 88.18 330⇑eP P 08 20 52.4 +0.5
TIP Timpagrande 88.19 320 P P 08 20 51.1 -0.8
TIP Timpagrande 88.19 320 eP P 08 20 52.0 +0.1
comp=Z,104nm,1.1s
TIP ePP PP 08 24 16.9 -1.6
TIP eS S 08 31 24.5 -8.9
TIP LR LR
comp=Z,35µm,19.0s
228A UT Block 9, Go 88.24 50 ⇑P P 08 20 52.5 +0.1
baz=88,SNR=8.0
BGF Bois d'Agland 88.27 333 eP P 08 20 52.1 0.0
comp=Z,328nm,1.5s
BGF Bois d'Agland 88.27 333 eP P 08 20 52.1 0.0
BGF pmax pmax
comp=Z,328nm,1.5s
BGF Bois d'Agland 88.27 333 eP P 08 20 52.1 0.0
comp=Z,328nm,1.5s
GRN Grenoble 88.30 331⇑eP P 08 20 53.1 +0.8
Z30A Sanderson Ranc 88.30 48 ⇓P P 08 20 52.4 -0.1
baz=88,SNR=38
MBDF Montbardon 88.32 330 eP P 08 20 51.6 -0.9
comp=Z,128nm,0.8s
MBDF Montbardon 88.32 330 eP P 08 20 51.6 -0.9
MBDF pmax pmax
comp=Z,128nm,0.8s
MBDF Montbardon 88.32 330 eP P 08 20 51.6 -0.9
comp=Z,128nm,0.8s
129A Stewart Farms, 88.32 49 ⇑P P 08 20 52.7 0.0
baz=88,SNR=7.6
Y31A Rekieta Farm, 88.32 47 ⇓P P 08 20 52.7 +0.1
baz=88,SNR=24
PLDF La Plantade 88.49 332 eP P 08 20 52.7 -0.5
W33A Caddo, Fort Co 88.49 45 ⇓P P 08 20 54.0 +0.7
baz=88,SNR=32
SURF Saint Ours 88.50 329⇑eP P 08 20 53.9 +0.4
ORIF Oris-en-Rattie 88.51 330 eP P 08 20 53.2 -0.2
comp=Z,176nm,0.9s
ORIF eR
comp=Z,61µm,21.5s
ORIF Oris-en-Rattie 88.51 330 eP P 08 20 53.2 -0.2
ORIF pmax pmax
comp=Z,176nm,0.9s
ORIF Oris-en-Rattie 88.51 330 eP P 08 20 53.2 -0.2
comp=Z,176nm,0.9s
V34A Guthrie 88.53 44 ⇓P P 08 20 53.7 +0.1
baz=88,SNR=42
V34A Guthrie 88.53 44 eP P 08 20 53.6 +0.1
comp=Z,490nm,1.3s
X32A Elmer 88.56 46 ⇑P P 08 20 53.7 +0.1
baz=88,SNR=48
AGO Saint Agoulin 88.60 333⇑eP P 08 20 54.0 +0.3
SGMF Saint Gilles 88.61 337 eP P 08 20 53.8 +0.2
comp=Z,291nm,1.1s
SGMF Saint Gilles 88.61 337 eP P 08 20 53.8 +0.2
SGMF pmax pmax
comp=Z,291nm,1.0s
SGMF Saint Gilles 88.61 337 eP P 08 20 53.8 +0.2
comp=Z,291nm,1.0s
SAOF Saorge 88.61 329⇑eP P 08 20 53.5 -0.3
WMOK Wichita Mounta 88.62 46 eP P 08 20 53.9 -0.1
WMOK pmax pmax
comp=Z,259nm,1.3s
WMOK MLR MLR
comp=Z,10µm,22.0s
WMOK Wichita Mounta 88.62 46 eP P 08 20 53.9 -0.1
comp=Z,259nm,1.3s
WMOK LR LR
comp=Z,10µm,22.0s
AUTN L'Aution 88.66 329⇑eP P 08 20 53.9 -0.3
TOUF Mont Tournerai 88.71 329⇑eP P 08 20 54.4 -0.1
SSB Saint Sauveur 88.73 331 eP P 08 20 53.8 -0.5
SSB pmax pmax
comp=Z,59nm,0.9s
SSB MLR MLR
comp=Z,34µm,21.0s
SSB Saint Sauveur 88.73 331⇑eP P 08 20 54.9 +0.6
SSB Saint Sauveur 88.73 331 eP P 08 20 53.8 -0.5
comp=Z,59nm,0.9s
SSB LR LR
comp=Z,34µm,21.0s
TCF Toulx Ste Croi 88.73 333 eP P 08 20 54.2 -0.1
comp=Z,296nm,1.3s
TCF Toulx Ste Croi 88.73 333 eP P 08 20 54.2 -0.1
TCF pmax pmax
comp=Z,296nm,1.3s
TCF Toulx Ste Croi 88.73 333 eP P 08 20 54.2 -0.1
comp=Z,296nm,1.3s
TBI Tubuai 88.75 121 eP P 08 20 56.2 +1.7
comp=Z,981nm,1.6s
TBI Tubuai 88.75 121 eT T 09 58 10.3
comp=Z,513nm,0.3s
ROSF Rostrenen 88.75 337 eP P 08 20 54.4 +0.1
comp=Z,267nm,0.9s
ROSF Rostrenen 88.75 337 eP P 08 20 54.4 +0.1
ROSF pmax pmax
comp=Z,267nm,0.9s
ROSF Rostrenen 88.75 337 eP P 08 20 54.4 +0.1
comp=Z,267nm,0.9s
SBF Sospel 88.76 329 eP P 08 20 53.4 -1.1
comp=Z,184nm,0.8s
SBF Sospel 88.76 329 eP P 08 20 53.4 -1.1
SBF pmax pmax
comp=Z,184nm,0.8s
SBF Sospel 88.76 329 eP P 08 20 53.4 -1.1
comp=Z,184nm,0.8s
Y32A R-V Farms, Ver 88.77 47 ⇓P P 08 20 54.9 +0.2
baz=89,SNR=25
229A Bryant Ranch, 88.82 50 ⇓P P 08 20 54.9 -0.1
baz=89,SNR=9.3
W34A Bridge Creek, 88.82 45 ⇑P P 08 20 55.5 +0.5
baz=89,SNR=18
W34A Bridge Creek, 88.82 45 eP P 08 20 55.4 +0.5
comp=Z,404nm,1.3s
COLF Collangettes 88.85 332⇑eP P 08 20 55.9 +1.0
MVIF Mont Vial 88.85 329⇑eP P 08 20 54.8 -0.2
Z31A Sharp Cattle R 88.85 48 ⇓P P 08 20 55.4 +0.3
baz=89,SNR=38
130A Snyder 88.88 49 ⇑P P 08 20 55.2 -0.1
baz=89,SNR=11
REVF Revere 88.89 329⇑eP P 08 20 55.6 +0.5
PYM Petit Puy Mans 88.90 332⇑eP P 08 20 55.5 +0.3
X33A Lawton 88.92 46 ⇓P P 08 20 55.3 -0.1
baz=89,SNR=19
V35A Meyer Ranch, C 88.96 44 P P 08 20 55.7 +0.2
baz=89
VIVF Saint-Julien-l 89.03 331 eP P 08 20 55.5 -0.2
comp=Z,64nm,0.8s
VIVF Saint-Julien-l 89.03 331 eP P 08 20 55.5 -0.2
VIVF pmax pmax
comp=Z,65nm,0.8s
VIVF Saint-Julien-l 89.03 331 eP P 08 20 55.5 -0.2
comp=Z,64nm,0.8s
329A Wagon Wheel Ra 89.05 50 ⇑P P 08 20 56.2 0.0
baz=89,SNR=36
CALN Calern 89.08 329⇑eP P 08 20 56.1 0.0
QUIF Quistinic 89.09 337 eP P 08 20 55.8 -0.1
comp=Z,158nm,0.9s
QUIF Quistinic 89.09 337 eP P 08 20 55.8 -0.1
QUIF pmax pmax
comp=Z,158nm,0.9s
QUIF Quistinic 89.09 337 eP P 08 20 55.8 -0.1
comp=Z,158nm,0.9s
131A Roby 89.17 48 ⇓P P 08 20 56.8 +0.2
baz=89,SNR=9.1
PGF Pioggiola 89.18 327 eP P 08 20 55.7 -0.9
comp=Z,211nm,1.0s
PGF Pioggiola 89.18 327 eP P 08 20 55.7 -0.9
PGF pmax pmax
comp=Z,211nm,1.0s
PGF Pioggiola 89.18 327 eP P 08 20 55.7 -0.9
comp=Z,211nm,1.0s
Y33A Hilltop Ranch, 89.23 46 ⇓P P 08 20 56.8 -0.1
baz=89,SNR=37
Z32A Haskell 89.25 47 ⇓P P 08 20 57.3 +0.3
baz=89,SNR=79
X34A Smith Ranch, M 89.25 45 ⇓P P 08 20 57.1 +0.2
baz=89,SNR=24
LBL Lubilhac 89.25 332 eP P 08 20 56.8 0.0
MFF Saint Martin d 89.28 335⇑iP P 08 20 57.1 +0.3
comp=Z,292nm,0.9s
MFF Saint Martin d 89.28 335⇑iP P 08 20 57.1 +0.3
MFF pmax pmax
comp=Z,292nm,0.9s
MFF Saint Martin d 89.28 335⇑iP P 08 20 57.1 +0.3
comp=Z,292nm,0.9s
230A Sterling City 89.30 49 ⇓P P 08 20 56.9 -0.3
baz=89,SNR=14
CEL Celeste 89.33 320 eP P 08 20 56.5 -0.8
comp=Z,418nm,0.9s
CEL ePP PP 08 24 27.9 +0.2
CEL eS S 08 31 43.7 -0.5
CEL LR LR
comp=Z,41µm,19.0s
FRF La Foret Royal 89.33 329 eP P 08 20 56.2 -0.9
comp=Z,331nm,1.7s
FRF La Foret Royal 89.33 329 eP P 08 20 56.2 -0.9
FRF pmax pmax
comp=Z,331nm,1.7s
FRF La Foret Royal 89.33 329 eP P 08 20 56.2 -0.9
comp=Z,331nm,1.7s
FRNF Fournols 89.38 333⇑eP P 08 20 58.7 +1.4
TUL1 Leonard 89.42 43 ⇑P P 08 20 57.7 +0.1
baz=89,SNR=29
TUL1 Leonard 89.42 43 eP P 08 20 57.4 -0.2
comp=Z,342nm,1.4s
SMRF Simiane la Rot 89.42 330 eP P 08 20 57.2 -0.4
comp=Z,81nm,1.1s
SMRF Simiane la Rot 89.42 330 eP P 08 20 57.2 -0.4
comp=Z,81nm,1.1s
LCHF La Chataignera 89.42 335⇑eP P 08 20 58.6 +1.2
TXAR Lajitas Array 89.51 53 P P 08 20 59.4 +1.0
comp=Z,29nm,0.7s,baz=294,slow=3.4,SNR=213
TXAR PKKPbc **PKKPbc 08 38 33.0 +1.6**
comp=Z,1.2nm,0.7s,baz=150,slow=5.4,SNR=12
TXAR PKPPKP **P'P'df 08 46 45.8 +0.5**
comp=Z,0.9nm,1.0s,baz=139,slow=4.3,SNR=4.5
TXAR LR LR 08 55 12.1
comp=Z,10µm,21.4s,baz=0.0,slow=32
LMR La Mourre 89.58 329 eP P 08 20 57.6 -0.7
comp=Z,428nm,1.5s
LMR La Mourre 89.58 329 eP P 08 20 57.6 -0.7
LMR pmax pmax
comp=Z,428nm,1.5s
LMR La Mourre 89.58 329 eP P 08 20 57.6 -0.7
comp=Z,428nm,1.5s
330A Mertzon 89.60 50 ⇓P P 08 20 58.5 -0.2
baz=89,SNR=30
ABTX Abilene, Hawle 89.64 48 ⇓P P 08 20 58.9 +0.1
baz=90,SNR=36
ABTX Abilene, Hawle 89.64 48 eP P 08 20 58.7 -0.1
comp=Z,455nm,1.4s
Z33A Whitaker Ranch 89.68 47 ⇑P P 08 20 58.9 -0.1
baz=90,SNR=26
429A Davenport Ranc 89.71 51 ⇓P P 08 20 59.0 -0.2
baz=90,SNR=23
231A Bronte 89.74 49 ⇑P P 08 20 59.2 -0.1
baz=90,SNR=18
Y34A Reagan Ranch, 89.77 46 ⇓P P 08 20 59.5 +0.2
baz=90,SNR=23
MSEY Mahe Island 89.81 264 eP P 08 20 59.0 -0.9
MSEY pmax pmax
comp=Z,97nm,1.3s
MSEY MLR MLR
comp=Z,12µm,20.0s
MSEY Mahe Island 89.81 264 iP P 08 21 01.3 +1.5
SNR=7.3
MSEY Mahe Island 89.81 264 eP P 08 20 59.0 -0.9
comp=Z,97nm,1.3s
MSEY LR LR
comp=Z,12µm,20.0s
RJF Les Rejaudoux 89.83 333⇑iP P 08 20 59.7 +0.3
comp=Z,115nm,0.8s
RJF eR
comp=Z,31µm,18.0s
RJF Les Rejaudoux 89.83 333⇑iP P 08 20 59.7 +0.3
RJF pmax pmax
comp=Z,115nm,0.8s
RJF Les Rejaudoux 89.83 333⇑iP P 08 20 59.7 +0.3
comp=Z,115nm,0.8s
529A Stev Forest Ra 89.86 51 ⇓P P 08 21 00.1 +0.2
baz=90,SNR=37
CAF Calviac 89.95 333 eP P 08 21 00.5 +0.5
comp=Z,171nm,0.8s
CAF Calviac 89.95 333 eP P 08 21 00.5 +0.5
CAF pmax pmax
comp=Z,171nm,0.8s
CAF Calviac 89.95 333 eP P 08 21 00.5 +0.5
comp=Z,171nm,0.8s
430A Baggett Ranch, 90.00 50 ⇓P P 08 21 00.4 -0.2
baz=90,SNR=29
LASF Ste Croix 90.01 331 eP P 08 21 00.4 +0.1
comp=Z,92nm,1.0s
LASF Ste Croix 90.01 331 eP P 08 21 00.4 +0.1
comp=Z,92nm,1.0s
133A Hamilton Ranch 90.08 47 ⇓P P 08 21 00.8 -0.1
baz=90,SNR=37
Z34A Collier Ranch, 90.10 46 ⇓P P 08 21 00.9 -0.1
baz=90,SNR=23
331A San Angelo 90.12 49 ⇓P P 08 21 00.9 -0.2
baz=90,SNR=18
232A Coleman 90.17 48 ⇑P P 08 21 01.3 0.0
baz=90,SNR=59
SLM Saint Louis 90.20 38 eP P 08 21 00.9 -0.4
SLM pmax pmax
comp=Z,130nm,1.0s
SLM Saint Louis 90.20 38 eP P 08 21 00.9 -0.4
comp=Z,130nm,1.0s
AAM Ann Arbor 90.24 32 eP P 08 21 02.0 +0.6
AAM pmax pmax
comp=Z,348nm,1.4s
AAM MLR MLR
comp=Z,8µm,20.0s
AAM Ann Arbor 90.24 32 eP P 08 21 02.0 +0.6
comp=Z,348nm,1.4s
AAM LR LR
comp=Z,8µm,20.0s
SFIN Lafayette 90.31 35 ⇓P P 08 21 01.9 +0.2
baz=90,SNR=16
SFIN Lafayette 90.31 35 eP P 08 21 01.3 -0.4
comp=Z,774nm,1.6s
530A J-C Ranch, Com 90.39 51 ⇑P P 08 21 02.5 +0.2
baz=90,SNR=74
LFF La Frestale 90.42 333⇑iP P 08 21 02.7 +0.6
comp=Z,202nm,0.8s
LFF La Frestale 90.42 333⇑iP P 08 21 02.7 +0.6

LFF pmax pmax
comp=Z,202nm,0.8s
LFF La Frestale 90.42 333⇑iP P 08 21 02.7 +0.6
comp=Z,202nm,0.8s
431A Sonora 90.45 50 ⇓P P 08 21 02.6 -0.1
baz=90,SNR=19
332A Millersview 90.47 49 ⇓P P 08 21 02.9 +0.2
baz=90,SNR=58
Z35A Perchaven, San 90.51 46 ⇓P P 08 21 02.7 -0.1
baz=90,SNR=31
233A Rising Star 90.51 48 ⇓P P 08 21 03.1 +0.2
baz=90,SNR=84
134A White-Moore Ra 90.59 47 ⇑P P 08 21 03.5 +0.3
baz=90,SNR=20
432A Menard 90.81 49 ⇑P P 08 21 04.1 -0.2
baz=91,SNR=46
531A Rocksprings 90.86 50 ⇓P P 08 21 04.5 -0.1
baz=91,SNR=48
333A Richland Sprin 90.96 48 ⇑P P 08 21 05.0 +0.1
baz=91,SNR=60
234A Clairette 90.97 47 ⇑P P 08 21 05.2 +0.2
baz=91,SNR=94
135A Vickery Place, 90.99 46 ⇓P P 08 21 05.5 +0.4
baz=91,SNR=17
JCT Junction City 91.08 49 eP P 08 21 05.1 -0.5
JCT pmax pmax
comp=Z,262nm,1.3s
JCT MLR MLR
comp=Z,13μm,22.0s
JCT Junction City 91.08 49 ⇓P P 08 21 05.3 -0.3
baz=91,SNR=27
JCT Junction City 91.08 49 eP P 08 21 05.1 -0.5
comp=Z,262nm,1.3s
JCT LR LR
comp=Z,13μm,22.0s
OLIL Olney 91.16 37 eP P 08 21 06.0 +0.3
comp=Z,465nm,1.3s
MTLF Montolieu 91.25 332 eP P 08 21 06.3 +0.2
comp=Z,114nm,1.0s
MTLF Montolieu 91.25 332 eP P 08 21 06.3 +0.2
MTLF pmax pmax
comp=Z,114nm,1.0s
MTLF Montolieu 91.25 332 eP P 08 21 06.3 +0.2
comp=Z,114nm,1.0s
532A Rocksprings 91.27 50 ⇑P P 08 21 06.4 -0.1
baz=91,SNR=39
433A Art 91.31 49 ⇑P P 08 21 06.4 -0.2
baz=91,SNR=37
WHTX Lake Whitney, 91.37 47 ⇓P P 08 21 07.0 +0.2
baz=91,SNR=49
WHTX Lake Whitney, 91.37 47 eP P 08 21 06.7 -0.1
comp=Z,580nm,1.3s
631A Perdido Creek 91.38 51 ⇑P P 08 21 06.8 -0.1
baz=91,SNR=18
334A Lometa 91.40 48 ⇓P P 08 21 06.8 -0.2
baz=91,SNR=116
SIUC Southern Illin 91.42 38 eP P 08 21 06.6 -0.4
comp=Z,301nm,1.2s
LRDF Laroque-de-Fa 91.48 331⇑eP P 08 21 08.3 +1.2
VSL Villasalto 91.48 325 eP P 08 21 06.9 -0.4
comp=Z,42nm,1.0s
VSL ePP PP 08 24 47.2 +2.6
VSL LR LR
comp=Z,28μm,19.0s
H06N1 SOCORRO T-PHAS 91.59 65 T T 10 03 03.6
SNR=12
MIAR Mount Ida 91.64 43 eP P 08 21 07.9 -0.1
MIAR pmax pmax
comp=Z,480nm,1.4s
MIAR MLR MLR
comp=Z,11μm,20.0s
MIAR Mount Ida 91.64 43 eP P 08 21 07.9 -0.1
comp=Z,480nm,1.4s
MIAR LR LR
comp=Z,11μm,20.0s
LONY Lake Ozonia 91.68 25 eP P 08 21 08.1 0.0
comp=Z,176nm,1.4s
LONY LR LR
comp=Z,12μm,22.0s
H06E1 SOCORRO T-PHAS 91.69 65 T T 10 03 06.8
SNR=28
H06S1 SOCORRO T 91.70 65 T T 10 03 13.6
SNR=11
SJAF Saint Jean de 91.73 331⇑eP P 08 21 08.6 +0.3
434A Burnet 91.75 48 ⇑P P 08 21 08.3 -0.3
baz=92,SNR=67
632A Uvalde 91.79 50 ⇓P P 08 21 08.7 -0.2
baz=92,SNR=25
FILF Fillols 91.79 331⇑eP P 08 21 09.3 +0.6
CARF Carcanieres 91.83 331⇑eP P 08 21 09.5 +0.6
533A Kerrville 91.84 49 ⇓P P 08 21 09.0 -0.1
baz=92,SNR=15
WDD Wield Dalam 91.87 320 PFAKE 08 21 20.0 +11
WDD LR LR
comp=Z,35μm,19.0s
ERPA Erie 91.88 30 eP P 08 21 09.4 +0.4
comp=Z,532nm,1.5s
ERPA LR LR
comp=Z,9μm,19.0s
137A Heron Place, G 91.90 45 ⇓P P 08 21 09.5 +0.3
baz=92
335A Moody 91.91 47 ⇓P P 08 21 09.1 -0.2
baz=92,SNR=20
USIN University of 91.97 37 eP P 08 21 09.8 +0.4
comp=Z,378nm,1.6s
PARMO Parma 91.99 39 eP P 08 21 10.1 +0.6
UALR University of 92.12 42 eP P 08 21 10.0 -0.2
comp=Z,121nm,1.1s
VALF Valcebollere 92.14 331⇑eP P 08 21 11.4 +1.0
336A Riesel 92.17 47 ⇑P P 08 21 10.6 +0.1
baz=92,SNR=7.7
435B Jarrell 92.18 48 ⇑P P 08 21 10.5 -0.1
baz=92,SNR=17
633A Saathoff Ranch 92.19 50 ⇑P P 08 21 10.9 +0.2
baz=92,SNR=33
MELF Melles 92.20 332⇑eP P 08 21 10.9 +0.3
534A Blanco 92.20 49 ⇓P P 08 21 10.7 -0.1
baz=92,SNR=69
EPF Esparros 92.22 333 eP P 08 21 10.3 -0.3
comp=Z,65nm,1.0s
EPF Esparros 92.22 333 eP P 08 21 10.3 -0.3
EPF pmax pmax
comp=Z,65nm,1.0s
EPF Esparros 92.22 333 eP P 08 21 10.3 -0.3
comp=Z,65nm,1.0s
138A Matatall Enter 92.22 45 ⇓P P 08 21 11.2 +0.4
baz=92,SNR=9.0
732A Laxson Ranch, 92.23 51 ⇓P P 08 21 11.2 +0.4
baz=92
ACSO Alum Creek Sta 92.24 33 eP P 08 21 10.7 0.0
comp=Z,388nm,1.5s
ACSO LR LR
comp=Z,10μm,22.0s
LABF Labassere 92.30 333⇑eP P 08 21 11.4 +0.4
237A Washetta, Mont 92.31 46 ⇑P P 08 21 11.7 +0.6
baz=92
NCB Newcomb 92.37 25 eP P 08 21 11.0 -0.3
comp=Z,368nm,1.4s
NCB ePP PP 08 24 53.7 +2.3
NCB LR LR
comp=Z,12μm,19.0s
HBAR Harrisburg 92.39 40 eP P 08 21 12.4 +1.0
WCI Wyandotte Cave 92.41 36 eP P 08 21 11.7 +0.2
WCI pmax pmax
comp=Z,279nm,1.5s
WCI Wyandotte Cave 92.41 36 eP P 08 21 11.7 +0.2
comp=Z,278nm,1.5s
REYF Montagne du Re 92.45 333⇑eP P 08 21 12.1 +0.4
ORDF Ordiarp 92.51 334⇑eP P 08 21 12.4 +0.5
GLAT Glass 92.53 39 eP P 08 21 12.6 +0.5
ATE Arette 92.54 333⇑eP P 08 21 12.4 +0.3
832A Faith Ranch, C 92.55 51 ⇑P P 08 21 12.6 +0.2
baz=92,SNR=32
OSSF Osses 92.59 334⇑eP P 08 21 12.3 +0.1
436A Wall Ranch, Ga 92.65 47 ⇑P P 08 21 12.9 +0.2
baz=92,SNR=23
733A Divot King Ran 92.65 50 ⇑P P 08 21 12.8 0.0
baz=92,SNR=19
ETSF Etsaut 92.66 333⇑iP P 08 21 13.2 +0.5
comp=Z,88nm,0.9s
ETSF Etsaut 92.66 333⇑iP P 08 21 13.2 +0.5
ETSF pmax pmax
comp=Z,88nm,0.9s
ETSF Etsaut 92.66 333⇑iP P 08 21 13.2 +0.5
comp=Z,88nm,0.9s
LARF Larrau 92.69 334⇑eP P 08 21 14.0 +1.2
MDV Middlebury 92.69 24 eP P 08 21 12.9 +0.2

238A Jacksonville 92.70 45 ⇓P P 08 21 13.5 +0.5
baz=92,SNR=7.6
SJPF Ste Jean 92.70 334 eP P 08 21 13.3 +0.5
comp=Z,50nm,1.0s
SJPF Ste Jean 92.70 334 eP P 08 21 13.3 +0.5
SJPF pmax pmax
comp=Z,50nm,1.0s
SJPF Ste Jean 92.70 334 eP P 08 21 13.3 +0.5
comp=Z,50nm,1.0s
535A Dale 92.74 48 ⇑P P 08 21 13.3 +0.1
baz=93,SNR=14
634A China Grove, S 92.74 49 ⇑P P 08 21 13.3 +0.1
baz=93,SNR=5.6
PKME Peaks-Kenny Pk 92.75 21 eP P 08 21 13.2 +0.3
comp=Z,241nm,1.3s
PKME LR LR
comp=Z,9μm,20.0s
337A Centerville 92.77 46 ⇓P P 08 21 14.0 +0.7
baz=93
HALT Halls 92.78 39 eP P 08 21 13.7 +0.4
833A Chaparral WMA, 92.88 51 ⇑P P 08 21 14.1 +0.2
baz=93,SNR=21
LBNH Lisbon 92.88 23 eP P 08 21 13.8 +0.2
LBNH pmax pmax
comp=Z,81nm,1.1s
LBNH MLR MLR
comp=Z,13μm,19.0s
LBNH Lisbon 92.88 23 eP P 08 21 13.8 +0.2
comp=Z,81nm,1.1s
LBNH LR LR
comp=Z,13μm,19.0s
437A Phantom Ranch, 92.99 47 ⇑P P 08 21 15.0 +0.7
baz=93
536A Bastrop 93.00 48 ⇑P P 08 21 14.6 +0.2
baz=93,SNR=14
734A La Parita Cree 93.01 50 ⇓P P 08 21 15.0 +0.6
baz=93,SNR=9.5
239A Gary 93.05 45 ⇑P P 08 21 15.0 +0.4
baz=93
338A Crockett 93.07 46 ⇓P P 08 21 15.7 +1.0
baz=93
ACCN Adirondack Com 93.08 25 eP P 08 21 14.6 +0.1
comp=Z,276nm,1.5s
635A Leesville 93.08 49 ⇑P P 08 21 15.6 +0.8
baz=93
NATX Nacogdoches 93.14 45 eP P 08 21 15.6 +0.6
comp=Z,236nm,1.4s
NATX LR LR
comp=Z,23μm,21.0s
BINY Binghamton 93.32 27 PFAKE 08 21 30.0 +14
BINY LR LR
comp=Z,11μm,20.0s
WVT Waverly 93.36 38 eP P 08 21 15.9 0.0
WVT pmax pmax
comp=Z,135nm,1.4s
WVT Waverly 93.36 38 eP P 08 21 15.9 0.0
comp=Z,136nm,1.4s
438A Sam Houston St 93.43 46 ⇑P P 08 21 17.0 +0.7
baz=93,SNR=33
537A Green Hill Far 93.44 47 ⇑P P 08 21 16.9 +0.6
baz=93,SNR=23
636A Smothers Creek 93.44 48 ⇓P P 08 21 17.2 +0.8
baz=93,SNR=39
735A Kenedy 93.45 49 ⇓P P 08 21 17.4 +1.0
baz=93,SNR=6.7
933A Laredo 93.46 51 ⇑P P 08 21 17.5 +1.0
baz=93,SNR=60
339A Huntington 93.52 45 ⇑P P 08 21 17.3 +0.5
baz=93
834A Tilden 93.53 50 ⇓P P 08 21 18.4 +1.6
baz=93
538A Harpers Horsep 93.81 47 ⇑P P 08 21 19.5 +1.4
baz=94
HKT Hockley 93.81 47 eP P 08 21 18.1 +0.1
HKT pmax pmax
comp=Z,224nm,1.5s
HKT Hockley 93.81 47 eP P 08 21 18.1 +0.1
comp=Z,224nm,1.5s
340A Bronson 93.83 45 ⇑P P 08 21 18.7 +0.5
baz=94
OXF Oxford 93.85 40 eP P 08 21 13.1 -5.1
OXF pmax pmax
comp=Z,380nm,1.3s
OXF Oxford 93.85 40 eP P 08 21 13.1 -5.1
comp=Z,380nm,1.3s
835A Beeville 93.85 50 ⇑P P 08 21 19.4 +1.1
baz=94,SNR=6.7
934A Benavides 93.93 51 ⇑P P 08 21 20.2 +1.5
baz=94,SNR=16
SSPA Standing Stone 93.97 29 eP P 08 21 18.1 -0.6
comp=Z,124nm,1.5s
034A Hebbronville 94.22 51 ⇓P P 08 21 21.2 +1.2
baz=94,SNR=53
KVTX Kingsville 94.35 50 eP P 08 21 21.7 +1.1
comp=Z,106nm,0.9s
KEST Kesra 94.54 323 P **P 08 21 21.9 +0.5**
comp=Z,26nm,1.0s,baz=303,slow=2.9,SNR=28
KEST PP PP 08 25 10.2 +1.5
comp=Z,9.3nm,1.0s,baz=342,slow=5.5,SNR=4.4
KEST LR LR 09 09 10.7
comp=Z,18μm,19.0s,baz=340,slow=39
KEST Kesra 94.54 323 eP P 08 21 21.5 0.0
KEST PP PP 08 25 10.2 +1.5
035A Encino 94.67 51 ⇑P P 08 21 23.4 +1.3
baz=94,SNR=11
FURI Furi 94.71 285 P **P 08 21 24.2 +1.3**
FURI S PP 08 25 18.2 +6.9
CMAH Djebel Manchou 94.72 325 P **P 08 21 23.5 +1.2**
738A Farr-Stevens R 94.75 48 ⇑P P 08 21 24.2 +1.8
baz=95
CAEH 'Ain El Ouahch 94.85 325 P **P 08 21 22.4 -0.4**
SWET Sewanee 95.01 37 eP P 08 21 22.8 -0.8
comp=Z,114nm,1.2s
035Z Hargill 95.03 51 ⇓P P 08 21 25.2 +1.5
baz=95
CKFL Kef-Lekhel 95.22 325 P **P 08 21 23.8 -0.8**
CASM Ain Smara 95.44 325 P **P 08 21 24.4 -1.2**
DFRA Djebel Bou Aff 95.48 326 P **P 08 21 23.3 -2.5**
CPCT Cooper Cave 95.49 36 eP P 08 21 28.5 +2.8
AIS Amsterdam Isla 95.63 226 P **P** 08 20 57.0 -29
AIS PP **PP 08 25 14.0 -4.1**
AIS S **SKKSac 08 32 28.0 +5.5**
AIS SP SP 08 33 40.0 -18
AIS SS **SS 08 39 07.0 -3.2**
AIS R 08 53 00.0
TKL Tuckaleechee C 95.67 36 eP P 08 21 26.8 +0.3
TKL Tuckaleechee C 95.67 36 eP P 08 21 26.8 +0.3
PBRG Braganca 95.70 337 eP P 08 21 26.1 -0.5
PBRG Braganca 95.70 337 ePPP PP 08 25 20.5 +3.1
PBRG eSKS **SKKSac 08 32 28.4 +4.8**
BLA Blacksburg 95.86 33 eP P 08 21 27.7 +0.2
BLA pmax pmax
comp=Z,233nm,1.5s
BLA MLR MLR
comp=Z,15μm,22.0s
BLA Blacksburg 95.86 33 eP P 08 21 27.7 +0.2
comp=Z,233nm,1.5s
BLA LR LR
comp=Z,15μm,22.0s
SET Setif 95.98 326 P **P 08 21 29.0 +0.9**
PGAV Gavieira, Arco 96.02 338 eP P 08 21 28.4 +0.3
PGAV Gavieira, Arco 96.02 338 ePPP PP 08 25 22.7 +2.8
PGAV eSKS **SKKSac 08 32 32.0 +5.9**
PGAV Gavieira, Arco 96.02 338 eLQ LQ 08 50 12.8
PGAV eLR LR 08 57 42.1
comp=Z,23μm,22.0s
CKHR Kef el Ahmar 96.08 326 P **P 08 21 29.1 +0.5**
PCAB Cabril 96.18 338 eP P 08 21 29.0 +0.2
PCAB Cabril 96.18 338 ePPP PP 08 25 24.7 +3.6
MVO Moncorvo 96.37 337 eP P 08 21 29.5 -0.2
MVO Moncorvo 96.37 337 ePPP PP 08 25 25.7 +3.1
MVO eSKS **SKKSac 08 32 28.7 +0.1**
MVO Moncorvo 96.37 337 eLQ LQ 08 51 45.3
MVO eLR LR 08 59 55.0
comp=Z,44μm,22.0s
POLO Lamas de Olo 96.42 337 eP P 08 21 29.8 -0.1
POLO Lamas de Olo 96.42 337 ePPP PP 08 25 26.7 +3.7
POLO eSKS S 08 32 40.9 -6.4
PVRL Vila Real 96.48 337 eP P 08 21 30.4 +0.2
PVRL Vila Real 96.48 337 ePPP PP 08 25 27.3 +3.9
JSRW J. Sargeant Re 96.50 31 eP P 08 21 30.3 0.0
ESDC Sonseca Array 96.70 334 P **P 08 21 31.0 -0.2**
comp=Z,18nm,0.8s,baz=21,slow=4.0,SNR=58
ESDC PP **PP 08 25 24.7 -0.5**
comp=Z,13nm,0.8s,baz=24,slow=7.2,SNR=5.3
ESDC PKKPbc **PKKPbc 08 38 13.7 +0.5**
comp=Z,0.1nm,0.2s,baz=298,slow=2.8,SNR=4.2
ESDC LR LR 09 09 48.3
comp=Z,46μm,20.7s,baz=35,slow=38
PAB San Pablo 96.95 334 eP P 08 21 32.1 -0.3
PAB pmax pmax
comp=Z,27nm,0.9s
PAB MLR MLR
comp=Z,57μm,20.0s
PAB San Pablo 96.95 334 eP P 08 21 32.1 -0.3
comp=Z,27nm,0.9s
PAB LR LR
comp=Z,57μm,20.0s
PVIS Viseu 97.05 337 eP Pdif 08 21 33.5 +0.6
PVIS Viseu 97.05 337 ePP PP 08 25 27.1 -0.7
KMSC Kings Mountain 97.20 34 P Pdif 08 21 34.4 +0.8
baz=97
KMSC Kings Mountain 97.20 34 eP P 08 21 33.3 -0.2
comp=Z,90nm,1.3s
MTE Manteigas 97.23 337 eP P 08 21 33.8 +0.2
MTE Manteigas 97.23 337 ePP PP 08 25 27.5 -1.7
MTE eSKS **SKKSac 08 32 36.5 +1.6**
MTE Manteigas 97.23 337 eLQ LQ 08 53 59.1
MTE eLR LR 09 00 39.8
comp=Z,37μm,22.0s
MTE Manteigas 97.23 337 eP P 08 21 33.6 0.0
comp=Z,26nm,1.0s
MTE ePP **PP 08 25 27.5 -1.7**
MTE LR LR
comp=Z,38μm,22.0s
GOGA Godfrey 97.66 37 eP P 08 21 35.2 -0.3
GOGA pmax pmax
comp=Z,163nm,1.7s
GOGA MLR MLR
comp=Z,13μm,22.0s
GOGA Godfrey 97.66 37 eP P 08 21 35.2 -0.3
comp=Z,163nm,1.7s
GOGA LR LR
comp=Z,13μm,22.0s
PCBR Castelo Branco 97.72 337 eP P 08 21 35.9 +0.2
PCBR Castelo Branco 97.72 337 ePP PP 08 25 31.8 -1.1
BRAL Brewton 97.82 41 PFAKE 08 21 50.0 +14
BRAL LR LR
comp=Z,10μm,22.0s
PCAS Casmilo, Conde 97.84 337 eP P 08 21 36.1 -0.2
PCAS Casmilo, Conde 97.84 337 ePP PP 08 25 31.7 -2.1
PCAS eSKS **SKKSac 08 32 37.8 -1.4**
PMRV Marv??o 98.07 336 eP P 08 21 37.2 -0.1
PMRV Marv??o 98.07 336 ePP PP 08 25 33.1 -2.5
PMRV eSKS **SKKSac 08 32 38.9 -2.0**
PMRV Marv??o 98.07 336 eLQ LQ 08 53 56.3
PMRV eLR LR 09 01 10.4
comp=Z,41μm,22.0s
PTOM Tomar 98.21 337 eP P 08 21 38.1 +0.2
PTOM Tomar 98.21 337 ePP PP 08 25 30.4 -6.3
CNNC Cliffs of the 98.61 32 PFAKE 08 21 50.0 +10
CNNC LR LR
comp=Z,12μm,21.0s
PESTR Estremoz 98.64 336 eP P 08 21 39.9 0.0
PESTR Estremoz 98.64 336 ePP PP 08 25 42.7 +2.7
PESTR eSKS **SKKSac 08 32 41.7 -3.4**
PMTG Montargil 98.66 337 eP P 08 21 39.6 -0.3
PMTG Montargil 98.66 337 ePP PP 08 25 42.9 +2.8
PMTG eSKS **SKKSac 08 32 43.2 -1.9**
RKT Rikitea 98.86 112 ePP PP 08 25 43.6 +0.4
comp=Z,1μm,31.8s
RKT eSKSac **SKSac 08 32 16.0 0.0**
comp=Z,10μm,29.2s
RKT eSP **SP 08 34 32.7 -1.4**
comp=Z,11μm,31.5s
RKT eSS **SS 08 39 56.3 +0.1**
comp=Z,11μm,29.8s
RKT Rikitea 98.86 112 eLR LR 08 53 34.5
comp=Z,62μm,27.8s,baz=308
EVO Evora 99.08 336 eP Pdif 08 21 42.0 +0.1
EVO Evora 99.08 336 ePP PP 08 25 45.5 +2.2
PMAFR Mafra 99.09 337 eP Pdif 08 21 42.1 +0.2
PMAFR Mafra 99.09 337 ePP PP 08 25 38.3 -5.1
PMAFR eSKS **SKKSac 08 32 42.5 -5.8**
PBAR Barrancos 99.09 335 eP Pdif 08 21 41.9 0.0
PBAR Barrancos 99.09 335 ePP PP 08 25 39.7 -3.7
PBAR eSKS S 08 33 15.7 +5.7
LIS Lisbon 99.27 337 eP Pdif 08 21 42.5 -0.2
LIS eS **SKSac 08 32 18.1 +0.2**
LIS AMS AMS 09 11 01.9
comp=Z,35μm,20.6s
LIS Lisbon 99.27 337 eP Pdif 08 21 42.4 -0.2
LIS Lisbon 99.27 337 eP Pdif 08 21 42.5 -0.2
LIS Lisbon 99.27 337 ePP PP 08 25 47.6 +2.9
LIS eS **SKSac 08 32 18.1 +0.2**
LIS Lisbon 99.27 337 A A 09 11 01.9
comp=Z,35μm,20.6s
LIS Lisbon 99.27 337 eP Pdif 08 21 42.4 -0.2
LIS eS **SKSac 08 32 18.1 +0.2**
RER Riviere de l'E 99.57 251 PFAKE 08 22 00.0 +16
RER LR LR
comp=Z,5μm,19.0s
PNCL Nicolau / Gran 99.63 337 eP Pdif 08 21 44.6 +0.3
PNCL Nicolau / Gran 99.63 337 ePP PP 08 25 50.3 +2.8
PNCL eSKS **SKKSac 08 32 47.0 -5.2**
MESJ Messejana 99.78 336 eP Pdif 08 21 45.0 +0.1
MESJ ePP **PP 08 25 49.9 +1.3**
MESJ eS **SKSac 08 32 20.9 +0.4**
MESJ eSS **SS 08 40 09.6 +3.5**
MESJ AMS AMS 09 09 26.0
comp=Z,37μm,17.3s
MESJ Messejana 99.78 336 eP Pdif 08 21 45.1 +0.1
MESJ Messejana 99.78 336 ePP PP 08 25 51.6 +3.0
MESJ Messejana 99.78 336 eP Pdif 08 21 45.0 +0.1
MESJ e 08 25 49.9
MESJ eS **SKSac 08 32 20.9 +0.4**
MESJ eSS **SS 08 40 09.6 +3.5**
PVAQ Vaqueiros 100.02 336 eP Pdif 08 21 46.0 0.0
PVAQ Vaqueiros 100.02 336 ePP PP 08 25 53.4 +3.0
PVAQ eSKS 08 33 23.4
PVAQ Vaqueiros 100.02 336 eLQ LQ 08 55 01.1
PVAQ eLR LR 09 02 11.5
comp=Z,50μm,22.0s
PTEO Sao Teotonio 100.21 336 ePP PP 08 25 51.5 -0.4
PBDV Barranco-do-Ve 100.23 336 eP Pdif 08 21 47.3 +0.3
PBDV Barranco-do-Ve 100.23 336 ePP PP 08 25 54.8 +2.7
PBDV eSKS 08 32 51.7
MORF Marmelete 100.40 336 eP Pdif 08 21 47.8 -0.1
MORF ePP **PP 08 25 54.8 +1.4**
MORF eSS SS 08 40 18.2 +3.2
MORF AMS AMS 09 13 17.4
comp=Z,31μm,11.9s
MORF Marmelete 100.40 336 eP Pdif 08 21 47.5 -0.3
MORF Marmelete 100.40 336 ePP PP 08 25 56.2 +2.7
MORF eSKS 08 32 49.0
MORF Marmelete 100.40 336 eP Pdif 08 21 47.7 -0.1
MORF e 08 25 54.8
PFVI Vila Bisbo 100.62 336 eP Pdif 08 21 48.9 +0.2
PFVI Vila Bisbo 100.62 336 ePP PP 08 25 58.2 +3.2
PFVI eSKS 08 32 17.3
KMBO Kilima Mbogo 102.06 278 P **Pdif 08 21 55.8 0.0**
KMBO pmax pmax
comp=Z,9.0nm,1.1s
KMBO Kilima Mbogo 102.06 278 P **Pdif 08 21 56.4 +0.6**
SNR=6.2
KMBO Kilima Mbogo 102.06 278 P **Pdif 08 21 55.8 0.0**
comp=Z,9.3nm,1.1s,baz=12,slow=6.7,SNR=12
KMBO Kilima Mbogo 102.06 278 ePdif **Pdif 08 21 55.6 -0.2**
comp=Z,23nm,1.3s
KMBO LR LR
comp=Z,12μm,20.0s
RTC Rabat Centre 102.82 334 ePdif **Pdif 08 21 59.2 +0.7**
RTC LR LR
comp=Z,23μm,19.0s
PGRA Graciosa 102.97 352 eP Pdif 08 22 03.4 +4.3
comp=Z,188nm,1.1s
MDT Midelt 103.05 331 Pdiff **Pdif 08 21 58.7 -1.1**
comp=Z,8.9nm,1.0s,baz=17,slow=6.6,SNR=8.2
ROSA Rosais 103.30 352 eP Pdif 08 22 01.6 +0.9
comp=Z,248nm,1.3s
MAUS Longido 103.49 277 iP **PP 08 26 17.3 -1.0**
MAUS PKP 08 35 40.4
PTCN Pitcairn Islan 103.60 111 PFAKE 08 22 10.0 +8.0
PTCN LR LR
comp=Z,15μm,22.0s
PSET Sete Cidades 103.87 350 eP Pdif 08 22 04.9 +1.7
comp=Z,421nm,1.2s
DRV Dumont d'Urvil 104.13 181 Pdif **Pdif 08 21 54.0 -9.3**
DRV PP PKiKP 08 26 04.0 -16
DRV SKKS 08 32 17.0

DRV				SP	SP	08 35 11.0	-17
DRV				SS	SS	08 40 42.0	-26
DRV				L	L	08 50 00.0	
DRV				R		08 57 00.0	
PSMN	**Pico do Norte,**	**104.58**	**349**	*e*P	**Pdif**	**08 22 08.5**	**+2.1**
	comp=Z,350nm,1.5s						
ABPO	**Ambohimpanom**	**104.80**	**257**	PFAKE		08 22 20.0	+12
ABPO				LR	LR		
	comp=Z,11μm,20.0s						
BBSR	**BB Station**	**106.00**	**23**	PFAKE		08 26 40.0	
BBSR				LR	LR		
	comp=Z,6μm,22.0s						
DODT	**Dodoma, Tanzan**	**106.33**	**275**	*i* P	**PP**	**08 26 38.0**	**-1.3**
DODT				PKP	**SP**	**08 35 56.1**	**+2.6**
DODT				PKP	**SKKPdf**	**08 41 28.8**	**+0.2**
CASY	**Casey**	**106.47**	**193**	PFAKE		08 26 40.0	
CASY				LR	LR		
	comp=Z,7μm,22.0s						
PMPS	**Porto Santo**	**106.60**	**341**	*e*PP	PP	08 26 43.4	+3.9
TAM	**Tamanrasset**	**106.99**	**318**	*e*PKPdf		08 26 25.9	
TAM				LR	LR		
	comp=Z,19μm,21.0s						
PMOZ	**Porto Moniz, M**	**107.04**	**341**	*e*P	**Pdif**	**08 22 17.4**	**-0.1**
PMOZ	**Porto Moniz, M**	**107.04**	**341**	*e*PP	PP	08 26 45.9	+2.9
PMOZ				*e*SKS		08 35 51.5	
PMOZ	**Porto Moniz, M**	**107.04**	**341**	*e*LR	LR	08 59 39.0	
	comp=Z,19μm,20.0s						
PMAR	**Madeira**	**107.06**	**341**	*e*PP	PP	08 26 47.0	+3.8
FUL	**Funchal**	**107.13**	**341**	*e*PP	PP	08 26 48.3	+4.8
PAF	**Port-aux-Franc**	**107.26**	**220**	Pdif	Pdif	08 22 05.0	-13
PAF				PP	**PKiKP**	**08 26 31.0**	**+4.7**
PAF				SKKS		08 32 56.0	
PAF				SP	**SP**	**08 35 59.0**	**-2.5**
PAF				SS	**SS**	**08 41 52.0**	**+0.9**
PAF				L	L	08 52 00.0	
PAF				R		08 59 00.0	
PAF	**Port-aux-Franc**	**107.26**	**220**	R		08 35 00.0	
PAF	**Port-aux-Franc**	**107.26**	**220**	PFAKE		08 26 40.0	
PAF				LR	LR		
	comp=Z,5μm,21.0s						
MZM	**Mzuzu**	**110.83**	**272**	*i* P	PP	08 27 03.7	-8.2
MZM				PKP	**SP**	**08 36 31.1**	**-7.4**
GTBY	**Guantanamo Bay**	**112.98**	**38**	PFAKE		08 26 50.0	
GTBY				LR	LR		
	comp=Z,7μm,20.0s						
MTDJ	**Mount Denham**	**113.20**	**41**	PFAKE		08 26 50.0	
MTDJ				LR	LR		
	comp=Z,7μm,22.0s						
GRTK	**Grand Turk**	**113.44**	**33**	PFAKE		08 26 50.0	
GRTK				LR	LR		
	comp=Z,11μm,19.0s						
JTS	**JuntasAbangare**	**115.30**	**52**	PFAKE		08 26 50.0	+7.2
JTS				LR	LR		
	comp=Z,5μm,20.0s						
SDDR	**Presa de Saban**	**115.59**	**35**	PFAKE		08 26 50.0	+6.7
SDDR				LR	LR		
	comp=Z,16μm,20.0s						
VNDA	**Vanda**	**115.71**	**175**	PKP	**PKPdf**	**08 26 41.2**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=329,slow=4.8,SNR=7.4						
VNDA				PKKPab	**PKKPab**	**08 37 16.9**	**+0.5**
	comp=Z,5.7nm,1.0s,baz=300,slow=4.8,SNR=4.3						
VNDA	**Vanda**	**115.71**	**175**	*e*PKPdf	**PKPdf**	**08 26 41.0**	**-0.6**
VNDA				PKP	**PKPdf**	**08 26 41.2**	**-0.4**
VNDA				PKKPab	**PKKPab**	**08 37 16.9**	**+0.5**
CRZF	**Crozet Islands**	**116.02**	**230**	Pdif	Pdif	08 22 43.0	-14
CRZF				PP	PP	08 27 28.0	-21
CRZF				SP	SP	08 37 20.0	-4.8
CRZF				SS	SS	08 43 32.0	-16
CRZF				L	L	08 56 00.0	
SBA	**Scott Base**	**116.38**	**174**	PFAKE		08 26 50.0	+7.1
SBA				LR	LR		
	comp=Z,8μm,21.0s						
TORD	**Torodi Ar. Bea**	**116.94**	**315**	PKP	**PKPdf**	**08 26 44.8**	**-1.1**
	comp=Z,11nm,0.7s,baz=19,slow=1.6,SNR=28						
TORD				PP	**PP**	**08 27 53.9**	**-0.5**
	comp=Z,56nm,1.1s,baz=36,slow=4.5,SNR=8.9						
TORD				PKKPbc	**PKKPbc**	**08 37 11.4**	**+1.2**
	comp=Z,6.3nm,0.9s,baz=204,slow=1.3,SNR=8.9						
LSZ	**Lusaka**	**117.66**	**272**	PKIKP	**PKPdf**	**08 26 47.0**	**-0.3**
LSZ				pmax	pmax		
	comp=Z,11nm,0.6s						
LSZ	**Lusaka**	**117.66**	**272**	PKP	**PKPdf**	**08 26 47.0**	**-0.3**
	comp=Z,11nm,0.6s,baz=44,slow=4.0,SNR=4.5						
LSZ	**Lusaka**	**117.66**	**272**	PKP	**PKPdf**	**08 26 47.0**	**-0.3**
LSZ				LR	LR		
	comp=Z,12μm,21.0s						
LRS	**Lares**	**118.11**	**31**	*e*PKPdf	**PKPdf**	**08 26 46.1**	**-2.0**
STVI	**Saint Thomas**	**118.81**	**29**	*e*PKPdf	**PKPdf**	**08 26 48.4**	**-1.0**
BCIP	**Isla Barro Col**	**119.30**	**49**	*e*PKPdf	**PKPdf**	**08 26 49.8**	**-0.7**
BCIP				LR	LR		
	comp=Z,5μm,20.0s						
MOPA	**Mopani**	**119.60**	**262**	P	**PKPdf**	**08 26 50.3**	**-0.4**
ITZ	**Itezhi-Tezhi**	**119.65**	**273**	*i* P	**PP**	**08 28 12.1**	**-2.2**
ITZ				PKP	**PS**	**08 38 04.3**	**+0.8**
ITZ				PKP	**SKKSdf**	**08 44 38.8**	**-1.5**
PAYG	**Puerto Ayora**	**119.70**	**65**	PFAKE		08 27 00.0	+8.7
PAYG				LR	LR		
	comp=Z,16μm,22.0s						
MSNA	**Messina**	**120.07**	**264**	P	**PKPdf**	**08 26 51.4**	**-0.3**
MATP	**Matopo**	**120.26**	**267**	*i* P	**PKPdf**	**08 26 51.6**	**-0.6**
SLR	**Silverton**	**123.16**	**261**	PKIKP	**PKPdf**	**08 26 57.1**	**-0.6**
SLR	**Silverton**	**123.16**	**261**	P	**PKPdf**	**08 26 57.1**	**-0.6**
ERPM	**east rand prop**	**123.49**	**261**	P	**PKPdf**	**08 26 57.6**	**-0.7**
FDF	**Fort de France**	**123.54**	**27**	PFAKE		08 27 10.0	+11
FDF				LR	LR		
	comp=Z,7μm,22.0s						
KUK	**Kukurantumi**	**123.75**	**313**	*i* P	**PP**	**08 28 37.9**	**-3.3**
KSR	**Koster**	**124.30**	**262**	P	**PKPdf**	**08 26 59.7**	**-0.2**
PRYS	**Parys**	**124.46**	**261**	P	**PKPdf**	**08 26 59.7**	**-0.4**
SDV	**Santo Domingo**	**124.63**	**40**	PFAKE		08 27 10.0	+9.1
SDV				LR	LR		
	comp=Z,9μm,20.0s						
LBTB	**Lobatse**	**124.91**	**264**	PKIKP	**PKPdf**	**08 27 00.3**	**-0.7**
LBTB						08 28 50.1	
LBTB				pmax	pmax		
	comp=Z,59nm,1.0s						
LBTB				pmax	pmax		
	comp=Z,15nm,0.8s						
LBTB	**Lobatse**	**124.91**	**264**	PKP	**PKPdf**	**08 27 00.3**	**-0.7**
	comp=Z,59nm,1.0s,baz=125,slow=2.1,SNR=46						
LBTB				PP	**PP**	**08 28 50.1**	**+0.1**
	comp=Z,15nm,0.8s,baz=117,slow=2.3,SNR=3.8						
LBTB	**Lobatse**	**124.91**	**264**	PKP	**PKPdf**	**08 27 00.3**	**-0.7**
LBTB				*e*PKPdf	**PKiKP**	**08 27 00.8**	**-0.6**
LBTB				PP	**PP**	**08 28 50.1**	**+0.1**
SEK	**Senekal**	**124.92**	**259**	P	**PKPdf**	**08 27 00.2**	**-0.7**
BBGH	**Gun Hill**	**125.57**	**26**	PFAKE		08 27 10.0	+7.5
BBGH				LR	LR		
	comp=Z,6μm,20.0s						
SACV	**Santiago Islan**	**125.73**	**342**	PFAKE		08 27 10.0	+7.2
SACV				LR	LR		
	comp=Z,13μm,21.0s						
GRGR	**Grenville**	**125.75**	**28**	PFAKE		08 27 10.0	+7.2
GRGR				LR	LR		
	comp=Z,8μm,22.0s						
DBIC	**Dimbokro**	**125.87**	**317**	PKIKP	**PKPdf**	**08 27 02.4**	**-0.7**
DBIC						08 28 52.0	
DBIC				pmax	pmax		
	comp=Z,28nm,0.7s						
DBIC				pmax	pmax		
	comp=Z,55nm,1.0s						
DBIC	**Dimbokro**	**125.87**	**317**	PKP	**PKPdf**	**08 27 02.4**	**-0.7**
	comp=Z,28nm,0.7s,baz=12,slow=3.4,SNR=24						
DBIC				PP	**PP**	**08 28 52.0**	**-3.2**
	comp=Z,55nm,0.9s,baz=28,slow=8.2,SNR=6.4						
DBIC	**Dimbokro**	**125.87**	**317**	PKP	**PKPdf**	**08 27 02.4**	**-0.7**
DBIC				*e*PKPdf	**PKiKP**	**08 27 02.6**	**-0.9**
DBIC				PP	**PP**	**08 28 52.0**	**-3.2**
TIC	**Toumodi**	**125.98**	**318**	*e*PKIKP	**PKPdf**	**08 27 03.1**	**-0.2**
	comp=Z,126nm,1.2s						
ROSC	**El Rosal**	**125.98**	**46**	PKP	**PKPdf**	**08 27 04.1**	**+0.3**
	comp=Z,21nm,1.0s,baz=246,slow=0.4,SNR=20						
KIC	**Kosan Boka**	**126.07**	**317**	*e*PKIKP	**PKPdf**	**08 27 03.0**	**-0.5**
	comp=Z,274nm,1.4s						
SWZ	**Schweizer**	**126.17**	**262**	P	**PKPdf**	**08 27 02.1**	**-1.3**
LIC	**Lamto**	**126.34**	**317**	*e*PKIKP	**PKPdf**	**08 27 03.5**	**-0.5**
	comp=Z,267nm,1.6s						
LIC				*e*R			
	comp=Z,26μm,20.2s						
LIC	**Lamto**	**126.34**	**317**	*e*PKIKP	**PKPdf**	**08 27 03.5**	**-0.5**
	comp=Z,214nm,1.6s						
LIC	**Lamto**	**126.34**	**317**	*e*PKPdf	**PKPdf**	**08 27 03.5**	**-0.5**
BOSA	**Boshof**	**126.90**	**260**	PKIKP	**PKPdf**	**08 27 04.4**	**-0.3**
BOSA				pmax	pmax		
	comp=Z,30nm,0.9s						
BOSA	**Boshof**	**126.90**	**260**	PKP	**PKPdf**	**08 27 04.3**	**-0.3**
	comp=Z,30nm,0.9s,baz=74,slow=1.9,SNR=20						
BOSA	**Boshof**	**126.90**	**260**	*i* P	**PKPdf**	**08 27 05.2**	**+0.5**
OTAV	**Otavalo**	**127.12**	**54**	*e*PKPdf	**PKPdf**	**08 27 04.9**	**-1.2**
OTAV				LR	LR		
	comp=Z,8μm,22.0s						
QSPA	**South Pole Qui**	**127.53**	**180**	*e*PKPdf	**PKPdf**	**08 27 04.4**	**-0.2**
QSPA				LR	LR		
	comp=Z,6μm,22.0s						
HVD	**Gariep Dam**	**127.61**	**258**	PKIKP	**PKPdf**	**08 27 03.7**	**-2.4**
HVD	**Gariep Dam**	**127.61**	**258**	P	**PKPdf**	**08 27 03.7**	**-2.4**
GRM	**Grahamstown**	**127.98**	**254**	PKIKP	**PKPdf**	**08 27 02.2**	**-4.4**
GRM	**Grahamstown**	**127.98**	**254**	P	**PKPdf**	**08 27 02.2**	**-4.4**
TSUM	**Tsumeb**	**128.24**	**275**	PKP	**PKPdf**	**08 27 08.0**	**+0.5**
	comp=Z,23nm,0.9s,baz=82,slow=3.7,SNR=6.6						
TSUM				PP	**PP**	**08 29 13.3**	**+1.3**
	comp=Z,14nm,1.0s,baz=11,slow=3.7,SNR=3.1						
TSUM	**Tsumeb**	**128.24**	**275**	PKP	**PKPdf**	**08 27 08.0**	**+0.5**
TSUM				PP	**PP**	**08 29 13.3**	**+1.3**
TSUM				LR	LR		
	comp=Z,14μm,20.0s						
SYO	**Syowa Base**	**128.96**	**207** ‖	*e*P	**PKPdf**	**08 27 10.4**	**+3.2**
UPI	**Upington**	**129.92**	**262**	P	**PKPdf**	**08 27 09.5**	**-0.9**
SUR	**Sutherland**	**131.98**	**258**	PKP	**PKPdf**	**08 27 15.9**	**+1.5**
	comp=Z,12nm,0.8s,baz=106,slow=3.0,SNR=6.2						
SUR	**Sutherland**	**131.98**	**258**	PKP	**PKPdf**	**08 27 15.9**	**+1.5**
SUR				LR	LR		
	comp=Z,12μm,21.0s						
ATAH	**Atahualpa**	**132.62**	**60**	PKP	**PKPdf**	**08 27 17.7**	**+1.3**
	comp=Z,27nm,1.0s,baz=360,slow=2.2,SNR=25						
KOMG	**Komaggas**	**133.51**	**263**	P	**PKPdf**	**08 27 14.5**	**-2.6**
NNA	**Nana**	**137.11**	**63**	PKIKP	**PKPdf**	**08 27 20.2**	**-4.1**
NNA						08 27 25.0	
NNA				pmax	pmax		
	comp=Z,16nm,0.7s						
NNA	**Nana**	**137.11**	**63**	PKhKP	PKPpre	08 27 20.2	
	comp=Z,16nm,0.7s,baz=174,slow=0.3,SNR=3.9						
NNA				PKP	**PKPdf**	**08 27 25.0**	**+0.8**
	comp=Z,16nm,0.7s,baz=288,slow=4.7,SNR=7.1						
NNA	**Nana**	**137.11**	**63**	PKPpre	PKPpre	08 27 20.2	
NNA				*e*PKPdf	**PKPdf**	**08 27 24.4**	**+0.1**
NNA				PKP	**PKPdf**	**08 27 25.0**	**+0.8**
NNA				LR	LR		
	comp=Z,8μm,21.0s						
NVL	**N'lazarevskaya**	**138.06**	**202** ‖	*i* PKIKP	**PKPdf**	**08 27 24.9**	**+0.7**
PTGA	**Pitinga**	**138.09**	**33**	PKhKP	PKPpre	08 27 16.2	
	comp=Z,5.2nm,0.8s,baz=0.0,slow=7.1,SNR=5.0						
PTGA				PKP	**PKPdf**	**08 27 26.5**	**+0.4**
	comp=Z,15nm,0.8s,baz=311,slow=1.5,SNR=11						
PTGA				PP	**PP**	**08 30 15.1**	**+1.5**
	comp=Z,10nm,1.0s,baz=333,slow=8.3,SNR=4.3						
PTGA	**Pitinga**	**138.09**	**33**	PKPpre	PKPpre	08 27 16.2	
PTGA				*e*PKPdf	PKPpre	08 27 16.7	
PTGA				PKP	**PKPdf**	**08 27 26.5**	**+0.4**
PTGA				*e*PP	**PP**	**08 30 12.0**	**-1.7**
PTGA				PP	PP	08 30 15.1	+1.5
PTGA				LR	LR		
	comp=Z,5μm,20.0s						
SNAA	**Sanae**	**141.52**	**197**	P	PKPpre	08 27 25.3	
SNAA	**Sanae**	**141.52**	**197**	*e*PKHKP	PKPpre	08 27 22.9	
SNAA	**Sanae**	**141.52**	**197**	*e*PKPdf	PKPpre	08 27 22.9	
VNA2	**Neumayer--Watz**	**143.09**	**196**	P	PKPbc	08 27 30.6	+0.2
ASCN	**Ascension**	**143.20**	**318**	*e*PKPdf	PKPab	08 27 31.6	+0.7
ASCN				LR	LR		
	comp=Z,7μm,19.0s						
VNA3	**Neumayer Olymp**	**143.34**	**195**	P	PKPbc	08 27 31.4	+0.3
VNA1	**Neumayer--Stat**	**143.49**	**196**	P	PKPbc	08 27 32.0	+0.5
SAML	**Samuel**	**143.58**	**44**	*e*PKPdf	PKPbc	08 27 33.3	-0.1
SAML				LR	LR		
	comp=Z,7μm,22.0s						
SHEL	**Horse Pasture**	**143.98**	**298**	*e*PKIKP	PKPbc	08 27 35.7	+1.2
SHEL				MLR	MLR		
	comp=Z,10μm,20.0s						
SHEL	**Horse Pasture**	**143.98**	**298**	*e*PKPdf	PKPbc	08 27 35.7	+1.2
SHEL				LR	LR		
	comp=Z,10μm,20.0s						
LPAZ	**La Paz**	**146.15**	**59**	*e*PKP2	**PKPdf**	**08 27 41.0**	**-0.1**
LPAZ	**La Paz**	**146.15**	**59**	PKPbc	**PKPbc**	**08 27 42.0**	**0.0**
	comp=Z,116nm,0.9s,baz=347,slow=4.1,SNR=270						
LPAZ	**La Paz**	**146.15**	**59**	*e*PKPdf	**PKPdf**	**08 27 41.0**	**-0.1**
LPAZ				PKPbc	**PKPbc**	**08 27 42.0**	**0.0**
RCBR	**Riachuelo**	**148.11**	**355**	PKP	**PKPdf**	**08 27 44.5**	**+0.8**
	comp=Z,143nm,1.0s,baz=7.2,slow=1.9,SNR=26						
RCBR				PKPbc	**PKPbc**	**08 27 48.1**	**+1.2**
	comp=Z,268nm,1.1s,baz=9.4,slow=3.3,SNR=27						
RCBR	**Riachuelo**	**148.11**	**355**	PKP	**PKPdf**	**08 27 44.5**	**+0.8**
RCBR				PKPbc	**PKPbc**	**08 27 48.1**	**+1.2**
RCBR				LR	LR		
	comp=Z,7μm,20.0s						
PMSA	**Palmer Station**	**149.00**	**159**	*e*PKPdf	**PKPdf**	**08 27 39.9**	**-3.6**
PMSA				LR	LR		
	comp=Z,9μm,21.0s						
CEN1	**Los Morros**	**149.22**	**71** ‖	*i* P	**PKPdf**	**08 27 47.5**	**+2.1**
LVC	**Limon Verde**	**149.73**	**69**	PFAKE		08 28 00.0	+3.5
LVC				LR	LR		
	comp=Z,14μm,21.0s						
SIV	**San Ignacio**	**150.45**	**49**	PKP	**PKPdf**	**08 27 47.8**	**+0.5**
	comp=Z,42nm,1.0s,baz=289,slow=0.9,SNR=20						
SIV				PKPbc	**PKiKP**	**08 27 53.8**	**+0.4**
	comp=Z,92nm,1.0s,baz=318,slow=2.3,SNR=58						
LCO	**Las Campanas**	**151.72**	**82**	*e*PKPdf	**PKPdf**	**08 27 49.7**	**+0.5**
LCO				*e*PKPbc	**PKiKP**	**08 27 56.1**	**+0.1**
LCO				LR	LR		
	comp=Z,11μm,20.0s						
CHRN	**Cochrane**	**153.13**	**121** ‖	*i* P	**PKPbc**	**08 27 58.6**	**+0.8**
PEL	**Peldehue**	**153.33**	**90** ‖	*i* P	**PKPdf**	**08 27 48.4**	**-2.9**
USHA	**Ushuaia**	**153.41**	**140**	PKPbc	**PKPbc**	**08 27 59.1**	**+1.0**
	baz=142,slow=3.8						
USHA				PKPab	**PKPab**	**08 28 10.6**	**+0.1**
	baz=233,slow=2.3						
CLCH	**Cerro Calan**	**153.53**	**90** ‖	*i* P	**PKPdf**	**08 27 49.8**	**-1.8**
CFAA	**Coronel Fontan**	**154.73**	**85**	PKP	**PKPdf**	**08 27 53.4**	**+0.2**
	comp=Z,2.3nm,1.2s,baz=278,slow=1.4,SNR=13						
CFAA				PKPbc	**PKiKP**	**08 28 02.1**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=231,slow=1.4,SNR=8.3						
CFAA				PKPab	**PKPab**	**08 28 15.3**	**-1.7**
	comp=Z,12nm,1.1s,baz=300,slow=3.0,SNR=12						
PLCA	**Paso Flores**	**154.96**	**107**	*e*PKIKP	**PKPdf**	**08 27 52.7**	**-0.6**
PLCA				*e*		08 28 02.8	
PLCA						08 28 03.7	
PLCA				*e*		08 28 16.5	
PLCA	**Paso Flores**	**154.96**	**107**	PKPbc	**PKPbc**	**08 28 03.6**	**+1.5**
	baz=282,slow=6.2						
PLCA	**Paso Flores**	**154.96**	**107**	*e*PKPdf	**PKPdf**	**08 27 52.7**	**-0.6**
PLCA				*e*PKPbc	**PKiKP**	**08 28 02.8**	**+0.7**
PLCA				PKPbc	**PKPbc**	**08 28 03.6**	**+1.5**
PLCA				*e*PKPab	**PKPab**	**08 28 16.5**	**-1.3**
BDFB	**Brasilia**	**156.34**	**24**	PKIKP	**PKPdf**	**08 27 56.9**	**+0.9**
BDFB						08 31 59.7	
BDFB				pmax	pmax		
	comp=Z,53nm,0.9s						
BDFB				pmax	pmax		
	comp=Z,27nm,1.1s						
BDFB	**Brasilia**	**156.34**	**24**	PKP	**PKPdf**	**08 27 56.9**	**+0.9**
	comp=Z,16nm,1.1s,baz=358,slow=4.3,SNR=12						
BDFB				PKPab	**PKPab**	**08 28 24.0**	**-0.1**
	comp=Z,53nm,0.9s,baz=246,slow=5.2,SNR=9.8						
BDFB				PP	**PP**	**08 31 59.7**	**-1.2**
	comp=Z,27nm,1.1s,baz=354,slow=8.8,SNR=3.8						
TRIS	**Tristan da Cun**	**159.33**	**264**	PFAKE		08 28 10.0	+11
TRIS				LR	LR		
	comp=Z,6μm,21.0s						
EFI	**East Falkland**	**160.36**	**141**	PFAKE		08 28 10.0	+10
EFI				LR	LR		
	comp=Z,21μm,22.0s						
TRQA	**Tornquist**	**161.36**	**98**	PFAKE		08 28 10.0	+8.9
TRQA				LR	LR		
	comp=Z,14μm,20.0s						
HOPE	**Hope Point**	**163.45**	**184**	PFAKE		08 28 10.0	+7.4
HOPE				LR	LR		
	comp=Z,11μm,22.0s						

*DDA **14** 08:09:24.1,38'.47N×31'.83E,h7km,MD2.7*
*CSEM **14** 08:09:24.2±0.4,38'.33N×32'.02E,h15km,MD2.7, Error ellipse: s-maj=18.2km s-min=6.1km az=55.0*

ISK 14 08:09:23.7,38'.31N×31'.96E,h14km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDHN	**Kadinhani**	**0.24**	**31**	*i* P	Pg	08 09 28.6	-0.5
KDHN				*i* S	Sb	08 09 34.2	-0.1
KDHN	**Kadinhani**	**0.24**	**31**	*i* P	Pg	08 09 28.6	-0.5
KDHN				*i* S	Sb	08 09 34.2	-0.2
LADK	**Ladik-KONYA**	**0.34**	**109**	PG	Pg	08 09 31.1	+0.3
LADK	**Ladik-KONYA**	**0.34**	**109**	*i* Pg	Pg	08 09 31.1	+0.3
KONT	**Konya--Tatoy**	**0.48**	**139**	*e*PG	Pg	08 09 33.5	+0.2
KONT				*e*SG	Sb	08 09 41.1	0.0
KONT	**Konya--Tatoy**	**0.48**	**139**	*e*Pg	Pg	08 09 33.5	+0.1
KONT				*e*Sg	Sb	08 09 41.1	0.0
KIZT	**Kizilcal**	**0.57**	**354**	*e*PG	Pg	08 09 35.3	+0.2
KIZT				*e*SG	Sb	08 09 43.9	+0.1
KIZT	**Kizilcal**	**0.57**	**354**	*e*Pg	Pg	08 09 35.3	+0.2
KIZT				*e*Sg	Sb	08 09 43.9	+0.1
SVRH	**Sivrihisar-ESK**	**1.18**	**343**	*e*PN	Pb	08 09 46.4	+0.3
SVRH				*e*SN	Sg	08 10 02.9	+0.7
SVRH	**Sivrihisar-ESK**	**1.18**	**343**	*e*Pn	Pg	08 09 46.4	-0.3
SVRH				*e*Sn	Sg	08 10 02.9	+0.7
SEYT	**Eskypehyr**	**1.48**	**325**	*i* P	Pn	08 09 48.8	-1.4
SEYT				*i* S	Sn	08 10 08.8	-0.7
SEYT	**Eskypehyr**	**1.48**	**325**	*i* P	Pn	08 09 48.8	-1.3
SEYT				*i* S	Sn	08 10 08.8	-0.6
BBAL	**Bala**	**1.53**	**36**	*i* P	Pn	08 09 50.4	-0.4
BBAL	**Bala**	**1.53**	**36**	*i* P	Pn	08 09 50.4	-0.4
BBAL				*i* S	Sg	08 10 16.0	+2.7
BORA	**Eskisehir**	**1.96**	**324**	*i* P	Pb	08 09 58.7	-0.5
BORA				*i* S	Sb	08 10 23.1	-0.5
BORA	**Eskisehir**	**1.96**	**324**	*i* P	Pb	08 09 58.7	-0.5
BORA				*i* S	Sb	08 10 23.1	-0.5

ISK 14 08:10:27.1,38'.25N×31'.82E,h6km,MD2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LADK	**Ladik-KONYA**	**0.43**	**96**	*e*PG	Pg	08 10 36.0	+0.3
LADK				*e*SG	Sg	08 10 42.7	+1.2
KONT	**Konya--Tatoy**	**0.53**	**125**	*e*PG	Pg	08 10 38.0	+0.7
KONT				*e*SG	Sg	08 10 45.3	+1.1
KIZT	**Kizilcal**	**0.63**	**5**	*e*PG	Pg	08 10 39.9	+0.4
KIZT				*e*SG	Sb	08 10 49.0	-1.0

TIF 14 08:17:57.5,42'.59N×43'.55E,h20km±1km,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.07**	**269**	P	Pg	08 18 01.9	+0.5
ONI				S	Sg	08 18 04.2	+0.3

*IDC **14** 08:21:46.4±0.6,0'.82N×99'.31E,h0km,mb4.3/22, mb1 4.4/23,mb1mx4.2/59,mbtmp4.3/23,ML4.4/1, Error ellipse: s-maj=26.2km s-min=13.7km az=51.0*
*NEIC **14** 08:21:50.7±2.2,0'.93N×99'.47E,h26km±15km,mb4.8/2, Error ellipse: s-maj=11.1km s-min=7.0km az=224.0*
*DJA **14** 08:21:53.5±0.3,1'.N±5'×10'.0E±',h10km,M4.6/9,MLv4.6/9*

ISC 14 08:21:50.6±1.4,0'.95N±0'.05×99'.48E±0'.04,h25km±10km, n53,σ0°88/53,mb4.5/24,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.18**	**146**	P	Pn	08 21 55.3	-2.5
BKNI	**Bangkinang**	**1.68**	**112**	P	**Pb**	**08 22 20.9**	**0.0**
BKNI	**Bangkinang**	**1.68**	**112**	Pn	**Pn**	**08 22 18.6**	**+0.1**
BKNI				*e*Sn	**Sn**	**08 22 38.1**	**-1.1**
PSI	**Prapat**	**1.92**	**343**	Pn	Pn	08 22 20.4	-1.4
	33nm,0.3s,baz=176,slow=6.0,SNR=37						
PSI				Sn	**Sb**	**08 22 49.1**	**+0.5**
	20nm,0.3s,baz=252,slow=20,SNR=10.0						
GSI	**Gunungsitoli**	**1.93**	**281**	P	**Pb**	**08 22 26.4**	**+1.2**
GSI	**Gunungsitoli**	**1.93**	**281**	*e*Pn	**Pn**	**08 22 22.7**	**+0.8**
GSI				*e*Sn	**Sn**	**08 22 42.4**	**-3.0**
PDSI	**Padang**	**2.10**	**152**	P	**Pb**	**08 22 27.9**	**-0.1**
TSI	**Tuntungan**	**2.69**	**340**	P	**Pb**	**08 22 38.3**	**+0.2**
SDSI	**Sungai Dareh**	**2.70**	**134**	P	**Pb**	**08 22 37.4**	**-0.9**
KCSI	**Kotacane, Aceh**	**3.07**	**326**	P	**Pb**	**08 22 43.9**	**-0.7**
TPTI		**3.25**	**315**	P	**Pb**	**08 22 46.3**	**-1.2**
SNSI	**Sinabang, Aceh**	**3.47**	**295**	P	Pb	08 22 58.7	+7.4
IPM	**Ipoh**	**3.83**	**24**	*e*Pn	**Pn**	**08 22 48.4**	**+0.3**
KULM	**Kulim**	**4.47**	**15**	*e*Pn	**Pn**	**08 22 55.7**	**-1.1**
JMBI	**JAMBI**	**4.89**	**122**	P	Pb	08 23 28.0	+12
MASI	**Maura Aman, Be**	**4.91**	**146**	P	Pb	08 23 26.5	+10
TPRI	**Tanjung Pinang**	**5.05**	**90**	P	Pb	08 23 24.7	+6.4
DSRI	**Dabo**	**5.29**	**106**	P

*ISCJB **14** 08:30:02.5±0.8, 41°.2S±0°.2×85°.7E±0°.2, h10km, mb4.3/10, Error ellipse: s-maj=25.9km s-min=20.6km az=136.1*
*IDC **14** 08:30:03.0±2.7, 41°.18S×85°.77E, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/21, mbtmp4.0/7, Error ellipse: s-maj=87.4km s-min=30.7km az=25.0*
*NEIC **14** 08:30:03.8±0.7, 41°.21S×85°.64E, h10km, mb4.8/3, Error ellipse: s-maj=20.3km s-min=17.0km az=60.0*

ISC 14 08:30:04.0±1.0, 41°.25±0°.2×85°.7E±0°.2, h10km, n19, σ0°57/14, mb4.2/10, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H** baz=246,slow=74,SNR=27	**23.20**	**83**	T	T	08 58 51.0	
H01W3	**Cape Leeuwin H** baz=246,slow=74,SNR=30	**23.21**	**83**	T	T	08 58 55.8	
H01W1	**Cape Leeuwin H** baz=246,slow=74,SNR=27	**23.22**	**83**	T	T	08 58 48.2	
H08S2	**Diego Garcia H** baz=163,slow=76,SNR=134	**35.44**	**337**	T	T	09 14 03.1	
H08S1	**Diego Garcia H** baz=163,slow=76,SNR=70	**35.45**	**337**	T	T	09 14 02.9	
H08S3	**Diego Garcia H** baz=163,slow=76,SNR=162	**35.46**	**337**	T	T	09 14 04.6	
ASAR	**Alice Springs** 1.7nm,0.7s,baz=230,slow=7.3,SNR=22	**43.70**	**82**	P	**P**	**08 38 09.4**	**+0.1**
ASAR	0.6nm,0.6s,baz=222,slow=2.5,SNR=6.2			PcP	**PcP**	**08 39 56.4**	**0.0**
AS31	**Alice Springs**	**43.70**	**82**	*e*P	**P**	**08 38 09.5**	**+0.2**
WRA	**Warramunga Arr** 3.4nm,1.0s,baz=234,slow=8.6,SNR=12	**46.25**	**78**	P	**P**	**08 38 29.6**	**0.0**
QSPA	**South Pole Qui** 9.7nm,1.0s	**48.93**	**180**	*e*P	**P**	**08 38 50.2**	**+0.1**
CMAR	**Chiang Mai Arr** 0.8nm,0.5s,baz=210,slow=5.9,SNR=7.6	**60.64**	**14**	P	**P**	**08 40 15.9**	**+0.8**
GEYT	**Alibeck** 0.7nm,0.5s,baz=101,slow=4.7,SNR=4.0	**82.71**	**338**	P	**P**	**08 42 28.2**	**+0.6**
KKAR	**Karatay Array** 5.3nm,1.1s	**85.06**	**349**	*e*P	**P**	**08 42 39.0**	**-0.5**
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=160,slow=4.6,SNR=4.1	**87.69**	**358**	P	**P**	**08 42 52.0**	**-0.3**
ULN	**Ulaanbaatar** 15nm,1.8s	**90.71**	**14**	*e*P	**P**	**08 43 06.8**	**+0.1**
MJAR	**Matsushiro Arr** 1.7nm,0.8s,baz=199,slow=5.6,SNR=4.8	**91.12**	**40**	P	**P**	**08 43 07.9**	**-0.7**
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=190,slow=5.8,SNR=5.3	**91.68**	**355**	P	**P**	**08 43 10.3**	**-0.6**
KURK	**Kurchatov**	**91.77**	**356**	P	**P**	**08 43 10.3**	**-1.0**
RES	**Resolute Bay** 3.7nm,0.9s,baz=351,slow=3.1,SNR=6.7	**146.44**	**0**	PKPbc	**PKPab**	**08 49 45.4**	**+0.5**

GUC 14 08:37:36.6±0.4, 34°.28S×71°.99W, h34km±6km, ML3.6, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.96**	**139**	⇑*i*P	Pn	08 37 54.0	+0.4
NICH				*i* S	Sb	08 38 07.1	-0.1
TALC	**Talca**	**1.16**	**165**	⇑*i*P	Pn	08 37 57.0	+0.7
TALC				*i* S	Sb	08 38 12.6	-0.3
ANTU	**Antumapu**	**1.33**	**58**	⇑*i*P	Pn	08 37 59.9	+1.1
ANTU				*i* S	Sb	08 38 17.4	-0.6
ANTU	comp=E,2μm,0.4s			IAML		08 38 23.9	
STL	**Santa Lucia**	**1.40**	**54**	*e*P9	Pn	08 37 59.6	-0.2
STL				*e*S	Sn	08 38 18.0	+0.8
LACH	**Col Las Americ**	**1.47**	**56**	*e*P	Pn	08 38 01.9	+1.2
LACH				*i* S	Sb	08 38 21.3	-0.5
CLCH	**Cerro Calan**	**1.49**	**54**	⇑*i*P	Pb	08 38 02.6	-1.3
CLCH				*i* S	Sb	08 38 22.1	-0.6
CLCH	comp=E,1μm,1.2s			IAML		08 38 27.1	
SJCH	**San Jose de Ma**	**1.50**	**65**	*e*P1	Pn	08 38 02.1	+0.8
SJCH				*i* S	Sb	08 38 22.5	-0.4
PEL	**Peldehue**	**1.57**	**44**	⇓*i*P	Pb	08 38 03.7	-1.5
PEL				*i* S	Sb	08 38 24.3	-0.4
PEL	comp=N,2μm,0.7s			IAML		08 38 28.3	
LNCH	**Linares**	**1.60**	**169**	⇑*i*P	Pb	08 38 05.0	-0.5
LNCH				*i* S	Sb	08 38 25.6	+0.1

IDC 14 08:38:27.9±64.0, 20°.75S×179°.37W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/18, mbtmp3.9/3, Error ellipse: s-maj=1162.0km s-min=162.2km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.1nm,0.6s,baz=96,slow=10,SNR=4.1	**36.52**	**244**	P	P	08 45 33.8	-1.5
ASAR	**Alice Springs** 1.4nm,0.8s,baz=99,slow=7.8,SNR=12	**43.21**	**257**	P	P	08 46 31.2	+0.1
WRA	**Warramunga Arr** 1.1nm,0.7s,baz=91,slow=8.3,SNR=11	**43.29**	**263**	P	P	08 46 32.4	+0.6

*ISCJB **14** 08:46:18.6±0.4, 60°.20N±0°.03×152°.93W±0°.08, h125km±4km, mb2.8/1, Error ellipse: s-maj=7.1km s-min=4.4km az=28.7*
*NEIC **14** 08:46:20.6, 60°.19N×152°.99W, h114km, MG2.8(AEIC), After AEIC.*
*IDC **14** 08:46:24.3±7.1, 60°.57N×152°.62W, h137km±60km, mb2.5/1, mb1 3.3/4, mb1mx3.0/29, mbtmp3.5/4, Error ellipse: s-maj=64.8km s-min=44.4km az=62.0*

ISC 14 08:46:19.6±1.1, 60°.21N±0°.04×152°.96W±0°.05, h120km±6km, n57, σ0°96/66, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INE	**Iliamna NE**	**0.16**	**199**	P	**Pn**	**08 46 36.0**	**-0.4**
ILW	**Iliamna West**	**0.17**	**210**	P	**Pn**	**08 46 36.0**	**-0.4**
ILS	**Iliamna Low So**	**0.26**	**192**	P	**Pn**	**08 46 35.9**	**-0.6**
RSO	**Redoubt South**	**0.28**	**22**	*e*Pn	**Pn**	**08 46 36.3**	**-0.4**
RSO				*e*Sn	**Sn**	**08 46 49.9**	**+0.3**
RDWB	**Redoubt West**	**0.29**	**12**	P	**Pn**	**08 46 36.3**	**-0.4**
RDWB				S	**Sn**	**08 46 48.7**	**-0.9**
RDN	**Redoubt North**	**0.32**	**18**	P	**Pn**	**08 46 36.6**	**-0.2**
NCT	**North Crescent**	**0.35**	**3**	P	**Pn**	**08 46 36.7**	**-0.2**
DFR	**Drift River**	**0.41**	**20**	P	**Pn**	**08 46 36.7**	**-0.4**
OPT	**Oil Point**	**0.57**	**194**	P	**Pn**	**08 46 37.9**	**-0.2**
AUL	**Augustine Lava**	**0.86**	**196**	P	**Pn**	**08 46 40.2**	**-0.1**
HOM	**Homer**	**0.86**	**129**	P	**Pn**	**08 46 40.3**	**+0.1**
HOM				S	**Sn**	**08 46 56.3**	**+0.3**
AUP	**Augustine Pinn**	**0.88**	**195**	P	**Pn**	**08 46 40.4**	**-0.2**
AUI	**Augustine Isla**	**0.91**	**195**	P	**Pn**	**08 46 40.4**	**-0.4**
AUI				S	**Sn**	**08 46 56.0**	**-0.7**
CKL	**Chakachamna La**	**1.04**	**17**	P	**Pn**	**08 46 42.4**	**+0.3**
BGL	**Barrier Glacie**	**1.10**	**15**	P	**Pn**	**08 46 43.2**	**+0.5**
BRLK	**Bradley Lake**	**1.14**	**112**	P	**Pn**	**08 46 43.2**	**+0.2**
BRLK				S	**Sn**	**08 47 00.6**	**-0.2**
MCNL	**McNeil River**	**1.24**	**215**	P	**Pn**	**08 46 43.8**	**-0.3**
SLKM	**Skilak Lake**	**1.40**	**76**	P	**Pn**	**08 46 45.8**	**0.0**
STLK	**Strandline Lak**	**1.41**	**23**	P	**Pn**	**08 46 46.3**	**+0.3**
SVW2	**Sparrevohn**	**1.57**	**306**	P	**Pn**	**08 46 47.3**	**-0.5**
SUA	**Susitna One**	**1.66**	**40**	P	**Pn**	**08 46 49.3**	**+0.3**
FIB	**Fire Island**	**1.68**	**54**	P	**Pn**	**08 46 50.1**	**+1.1**
FIB				S	**Sn**	**08 47 13.0**	**+1.6**
SEW	**Seward**	**1.76**	**92**	*e*Pn	**Pn**	**08 46 49.0**	**-1.0**
SEW				*e*Sn	**Sn**	**08 47 11.7**	**-1.6**
RC01	**Rabbit Creek A**	**1.82**	**60**	P	**Pn**	**08 46 50.6**	**-0.2**
SKT	**Skwentna**	**1.91**	**21**	P	**Pn**	**08 46 52.8**	**+0.9**
PTE	**Portage**	**2.06**	**70**	P	**Pn**	**08 46 53.7**	**+0.1**
KVTA	**Katmai Vly 10**	**2.19**	**214**	P	**Pn**	**08 46 55.2**	**-0.2**
KAKN	**Katmai Knife C**	**2.20**	**210**	P	**Pn**	**08 46 55.3**	**-0.3**
KCE	**Katmai Mt Cerb**	**2.28**	**211**	P	**Pn**	**08 46 56.9**	**+0.4**
KABR	**Katmai Barrier**	**2.33**	**207**	P	**Pn**	**08 46 56.8**	**-0.4**
PMR	**Palmer**	**2.33**	**52**	P	**Pn**	**08 46 57.3**	**+0.2**
PMR				S	**Sn**	**08 47 24.2**	**-1.8**
KDAK	**Kodiak Island**	**2.44**	**175**	P	**Pn**	**08 46 56.9**	**-1.6**
CUT	**Chulitna**	**2.56**	**29**	P	**Pn**	**08 46 59.9**	**-0.1**
PPLA	**Purkeypile**	**2.72**	**8**	P	**Pn**	**08 47 03.4**	**+1.1**
OHAK	**Old Harbor**	**3.00**	**183**	P	**Pn**	**08 47 05.2**	**-0.6**
TT01	**Tatalina**	**3.08**	**333**	P	**Pn**	**08 47 06.6**	**-0.2**
SCM	**Sheep Creek Mo**	**3.19**	**57**	P	**Pn**	**08 47 08.4**	**0.0**
KTH	**Kantishna Hill**	**3.49**	**15**	P	**Pn**	**08 47 12.4**	**+0.1**
TRF	**Thorofare Moun**	**3.49**	**20**	P	**Pn**	**08 47 12.4**	**0.0**
KLU	**Klutina**	**3.68**	**66**	P	**Pn**	**08 47 13.5**	**-1.3**
CHUM	**Lake Minchumin**	**3.70**	**4**	P	**Pn**	**08 47 15.5**	**+0.5**
RND	**Reindeer**	**3.75**	**30**	P	**Pn**	**08 47 15.8**	**0.0**
MCK	**McKinley**	**4.01**	**27**	P	**Pn**	**08 47 20.2**	**+1.0**
PAX	**Paxson**	**4.53**	**49**	P	**Pn**	**08 47 26.1**	**-0.1**
WRH	**Wood River Hil**	**4.84**	**26**	P	**Pn**	**08 47 29.9**	**-0.3**
DDM	**Donnelly Dome**	**4.91**	**40**	P	**Pn**	**08 47 32.1**	**+0.9**
MLY	**Manley**	**4.95**	**11**	P	**Pn**	**08 47 31.4**	**-0.3**
CCB	**Clear Creek Bu**	**5.06**	**26**	P	**Pn**	**08 47 32.6**	**-0.6**
PS08	**TAPS Pump Stn8**	**5.20**	**31**	P	**Pn**	**08 47 34.8**	**-0.3**
COLA	**College** 4.3nm,0.6s	**5.25**	**25**	*e*Pn	**Pn**	**08 47 35.8**	**+0.1**
COLA				*e*Sn	**Sn**	**08 48 32.5**	**-2.4**
IL1	**Eielson Array**	**5.38**	**29**	P	**Pn**	**08 47 36.9**	**-0.5**
ILAR	**Eielson Array** 2.2nm,0.3s,baz=213,slow=14,SNR=198	**5.38**	**29**	P	**Pn**	**08 47 36.9**	**-0.5**
ILAR	1.3nm,0.3s,baz=215,slow=28,SNR=10.0			S	**Sn**	**08 48 33.5**	**-4.6**
ILB	**Eielson Array**	**5.38**	**29**	P	**Pn**	**08 47 36.9**	**-0.5**
SCRK	**Sand Creek**	**5.66**	**44**	P	**Pn**	**08 47 41.1**	**-0.2**
DLBC	**Dease Lake** 0.1nm,0.3s,baz=302,slow=5.5,SNR=6.0	**11.83**	**89**	P	Pn	08 49 08.0	+3.6
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=277,slow=9.9,SNR=17	**18.35**	**66**	P	**Pn**	**08 50 25.5**	**-0.3**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=318,slow=5.2,SNR=2.8	**45.04**	**111**	P	**P**	**08 54 25.4**	**+2.3**

*ISCJB **14** 08:49:22.8±0.9, 41°.0S±0°.2×85°.9E±0°.2, h10km, mb3.9/6, Error ellipse: s-maj=27.3km s-min=24.9km az=42.4*
*IDC **14** 08:49:22.7±1.1, 41°.02S×85°.91E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/21, mbtmp3.9/6, Error ellipse: s-maj=34.2km s-min=30.1km az=123.0*

ISC 14 08:49:24.2±1.0, 41°.05±0°.2×85°.9E±0°.2, h10km, n12, σ1°06/8, mb4.0/6, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H** baz=246,slow=74,SNR=14	**23.02**	**84**	T	T	09 18 06.7	
H01W3	**Cape Leeuwin H** baz=246,slow=74,SNR=13	**23.03**	**84**	T	T	09 18 08.5	
H01W1	**Cape Leeuwin H** baz=246,slow=74,SNR=12	**23.04**	**84**	T	T	09 18 10.1	
H08S2	**Diego Garcia H** baz=162,slow=76,SNR=78	**35.31**	**337**	T	T	09 33 24.1	
H08S1	**Diego Garcia H** baz=162,slow=76,SNR=36	**35.32**	**337**	T	T	09 33 25.2	
H08S3	**Diego Garcia H** baz=162,slow=76,SNR=144	**35.33**	**337**	T	T	09 33 25.5	
ASAR	**Alice Springs** 0.9nm,0.7s,baz=231,slow=7.5,SNR=15	**43.51**	**82**	P	**P**	**08 57 28.0**	**0.0**
ASAR	0.5nm,0.7s,baz=235,slow=2.8,SNR=6.4			PcP	**PcP**	**08 59 14.9**	**-1.0**
WRA	**Warramunga Arr** 1.9nm,1.0s,baz=230,slow=7.4,SNR=6.0	**46.05**	**78**	P	**P**	**08 57 48.4**	**+0.1**
WRA	0.3nm,0.6s,baz=237,slow=3.3,SNR=6.4			PcP	**PcP**	**08 59 23.8**	**-0.9**
QSPA	**South Pole Qui** 2.4nm,0.8s,baz=301,slow=6.8,SNR=7.8	**49.14**	**180**	P	**P**	**08 58 12.4**	**+0.6**
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=201,slow=6.7,SNR=4.4	**60.40**	**14**	P	**P**	**08 59 35.2**	**+1.5**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=162,slow=2.3,SNR=2.6	**87.49**	**358**	P	**P**	**09 02 10.5**	**-1.1**
TORD	**Torodi Ar. Bea** 0.9nm,0.9s,baz=119,slow=2.4,SNR=3.6	**94.21**	**284**	P	**P**	**09 02 43.6**	**-0.1**

*IDC **14** 08:52:44.4±1.9, 37°.46N×142°.25E, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.4/28, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=33.5km s-min=30.7km az=100.0*
*ISCJB **14** 08:52:46.0±1.2, 37°.70N±0°.04×141°.99E±0°.07, h21km±7km, mb3.6/2, Error ellipse: s-maj=9.5km s-min=5.3km az=20.0*
*JMA **14** 08:52:48.7±0.1, 37°.71N×141°.83E, h38km±2km, M3.8*
JMA Felt I J1.

ISC 14 08:52:46.1±1.8, 37°.74N±0°.04×141°.87E±0°.07, h9km±11km, n23, σ1°19/30, 4C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.83**	**330**	⇑P	**Pn**	**08 53 04.1**	**+0.1**
JIO				S	**Sb**	**08 53 14.4**	**+0.5**
JMM	**Marumori**	**0.86**	**279**	⇑P	**Pn**	**08 53 04.3**	**-0.2**
JMM				S	**Sb**	**08 53 15.1**	**+0.1**
JFK	**Kawauchi**	**0.87**	**245**	⇓P	**Pb**	**08 53 04.0**	**+0.5**
JFK				S	**Sb**	**08 53 15.1**	**-0.2**
ONAJ	**Iwakimizuishiy**	**1.06**	**234**	⇓P	**Pg**	**08 53 06.6**	**0.0**
ONAJ				S	**Sg**	**08 53 19.5**	**-0.9**
JOU	**Okura**	**1.14**	**304**	P	**Pn**	**08 53 08.9**	**+0.5**
JOU				*e*S	**Sn**	**08 53 23.6**	**-0.6**
JFT	**Otama**	**1.24**	**260**	⇑P	**Pg**	**08 53 10.2**	**+0.3**
JFT				S	**Sb**	**08 53 25.5**	**-0.3**
JMK	**Ichinoseki**	**1.32**	**337**	⇑P	**Pb**	**08 53 11.3**	**+0.3**
JMK				S	**Sb**	**08 53 27.2**	**-0.9**
JYS	**Shiratake**	**1.51**	**289**	P	**Pb**	**08 53 14.1**	**-0.2**
JYS				S	**Sg**	**08 53 33.7**	**-0.9**
JYK	**Kaneyama**	**1.68**	**315**	P	**Pn**	**08 53 16.3**	**+0.6**
JFY	**Yanaizu**	**1.75**	**260**	P	**Pb**	**08 53 18.1**	**-0.4**
JFY				S	**Sn**	**08 53 39.6**	**+0.4**
JOM	**Ohasama**	**1.79**	**346**	P	**Pn**	**08 53 18.4**	**+1.1**
JOM				S	**Sn**	**08 53 40.2**	**0.0**
MJAR	**Matsushiro Arr** 1.6nm,0.3s,baz=79,slow=16,SNR=16	**3.16**	**249**	Pn	**Pn**	**08 53 37.8**	**+1.7**
MJAR	2.3nm,0.3s,baz=77,slow=31,SNR=5.2			Sn	**Sb**	**08 54 20.3**	**-0.8**
MAT	**Matsushiro**	**3.16**	**249**	P	**Pn**	**08 53 38.8**	**+2.7**
MAT				S	**Sn**	**08 54 17.1**	**+3.1**
ASAJ	**Asahikawa** 0.5nm,0.3s,baz=231,slow=20,SNR=6.8	**6.40**	**5**	Pn	**Pn**	**08 54 22.5**	**+2.0**
ASAJ	0.2nm,0.3s,baz=12,slow=14,SNR=3.0			Sn	**Sn**	**08 55 32.9**	**-0.8**
JNU	**Nakatsue** 0.2nm,0.3s,baz=56,slow=7.3,SNR=2.8	**10.08**	**246**	Pn	**Pn**	**08 55 11.5**	**+0.4**
H11N2	**WAKE ISLAND Hy** baz=319	**28.21**	**123**	T	T	09 28 12.8	
H11N1	**WAKE ISLAND Hy** baz=313	**28.21**	**123**	T	T	09 28 13.4	
H11N3	**WAKE ISLAND Hy** baz=313	**28.22**	**123**	T	T	09 28 14.1	
H11S1	**WAKE ISLAND Hy** baz=316,slow=76,SNR=13	**28.95**	**125**	T	T	09 29 09.3	
H11S3	**WAKE ISLAND Hy** baz=316,slow=76,SNR=15	**28.95**	**125**	T	T	09 29 10.0	
H11S2	**WAKE ISLAND Hy** baz=316,slow=76,SNR=14	**28.96**	**125**	T	T	09 29 09.9	
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=5.4,slow=7.4,SNR=7.4	**57.81**	**188**	P	**P**	**09 02 36.1**	**-1.8**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=1.4,slow=3.7,SNR=4.3	**61.53**	**188**	P	**P**	**09 03 01.8**	**-1.8**

*IDC **14** 08:53:51.4±1.2, 34°.44S×71°.49W, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.9/16, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=50.3km s-min=25.8km az=63.0*
*ISCJB **14** 08:53:52.2±1.2, 34°.55S±0°.04×71°.93W±0°.08, h17km±8km, mb3.9/4, Error ellipse: s-maj=12.3km s-min=4.3km az=22.0.*
*GUC **14** 08:53:52.6±0.6, 34°.56S×71°.90W, h25km±102km, ML4.0*

ISC 14 08:53:51.9±1.4, 34°.57S±0°.03×71°.78W±0°.06, h9km±9km, n20, σ0°76/31, mb3.9/4, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.63**	**134**	⇑*i*P	**Pn**	**08 54 06.0**	**-1.1**
NICH				*i* S	**Sn**	**08 54 15.8**	**-1.5**
LNV	**Longovilo**	**0.68**	**27**	⇓*i*P	**Pb**	**08 54 06.0**	**0.0**
TALC	**Talca**	**0.84**	**172**	⇑*i*P	**Pg**	**08 54 08.3**	**+0.3**
TALC				*i* S	**Sb**	**08 54 19.7**	**-0.3**
CACH	**El Canelo**	**1.08**	**66**	⇓*i*P	**Pn**	**08 54 13.7**	**+0.3**
CACH				*i* S1	**Sn**	**08 54 29.4**	**+1.0**
CHCH	**Chadas Angostu**	**1.13**	**56**	⇑*i*P	**Pn**	**08 54 14.0**	**0.0**
LNCH	**Linares**	**1.28**	**173**	⇓*i*P	**Pn**	**08 54 16.2**	**+0.1**
LNCH				*e*S	**Sg**	**08 54 33.5**	**+0.3**
ANTU	**Antumapu**	**1.38**	**44**	⇓*i*P	**Pb**	**08 54 18.0**	**+0.1**
ANTU				*i* S	**Sg**	**08 54 36.5**	**+0.2**
ANTU	comp=E,3μm,0.4s			IAML		08 54 42.5	
STL	**Santa Lucia**	**1.47**	**40**	*e*P1	**Pn**	**08 54 18.5**	**-0.2**
STL				*e*S4	**Sn**	**08 54 38.0**	**-0.2**
SJCH	**San Jose de Ma**	**1.50**	**52**	⇑*i*P	**Pn**	**08 54 19.2**	**0.0**
SJCH				*i* S	**Sg**	**08 54 39.9**	**-0.4**
LACH	**Col Las Americ**	**1.52**	**43**	*e*P	**Pb**	**08 54 19.9**	**-0.5**
LACH				*i* S	**Sg**	**08 54 40.3**	**-0.6**
IHA	**Instituto Hidr**	**1.54**	**4**	*e*P1	**Pn**	**08 54 19.2**	**-0.4**
CLCH	**Cerro Calan**	**1.56**	**42**	⇑*i*P	**Pb**	**08 54 20.8**	**-0.2**
CLCH				*e*S	**Sg**	**08 54 41.9**	**-0.3**
CLCH	comp=N,3μm,0.9s			IAML		08 54 48.7	
PEL	**Peldehue**	**1.69**	**33**	⇑*i*P	**Pb**	**08 54 22.7**	**-0.5**
PEL				*e*S	**Sb**	**08 54 44.7**	**+0.1**
PEL	comp=N,3μm,0.6s			IAML		08 54 48.7	
COCH	**Cobquecura**	**1.76**	**208**	*e*P1	**Pn**	**08 54 21.8**	**-0.9**
COCH				*i* S	**Sn**	**08 54 44.0**	**-1.2**
PLCA	**Paso Flores** baz=270,slow=20	**6.23**	**171**	Pn	**Pn**	**08 55 26.3**	**+2.2**
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=180,slow=7.4,SNR=2.1	**18.50**	**11**	P	**P**	**08 58 08.2**	**-0.9**
TXAR	**Lajitas Array** comp=N,0.5nm,0.6s,baz=154,slow=8.9,SNR=10	**70.33**	**331**	P	**P**	**09 05 07.0**	**+0.9**
BOSA	**Boshof** comp=N,4.9nm,1.0s,baz=191,slow=5.2,SNR=2.6	**79.62**	**117**	P	**P**	**09 06 00.2**	**+0.2**
TORD	**Torodi Ar. Bea** comp=N,0.5nm,0.5s,baz=229,slow=3.4,SNR=6.8	**84.20**	**70**	P	**P**	**09 06 23.3**	**-0.8**
PDAR	**Pinedale Array** comp=N,0.4nm,0.8s,baz=140,slow=4.7,SNR=3.1	**84.36**	**333**	P	**P**	**09 06 25.4**	**+0.9**

*IDC **14** 09:01:20.7±0.5, 37°.20S×73°.67W, h0km, mb4.6/21, mb1 4.7/23, mb1mx4.6/27, mbtmp4.6/23, ML3.6/2, MS4.4/1, Ms1 4.4/1, ms1mx4.2/17, Error ellipse: s-maj=19.3km s-min=11.5km az=79.0*
*ISCJB **14** 09:01:21.9±0.2, 37°.22S±0°.04×73°.63W±0°.05, h14km, mb4.7/69, Error ellipse: s-maj=6.4km s-min=5.1km az=158.9*
*GUC **14** 09:01:21.3±0.7, 37°.29S×74°.01W, h24km±5km, ML5.4*
*BJI **14** 09:01:24.4, 37°.09S×74°.59W, h33km, Ms5.5/2, Ms7 5.2/2*
*NEIC **14** 09:01:26.6±0.9, 37°.19S×73°.49W, h37km±8km, mb4.8/45, Error ellipse: s-maj=10.4km s-min=4.9km az=77.0*
NEIC Felt at Concepcion.

ISC 14 09:01:23.0±0.4, 37°.23S±0°.05×73°.70W±0°.07, h14km, n368, σ0°96/379, mb4.8/70, 121C-135D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.60**	**51**	⇑*i*P	**Pn**	**09 01 37.0**	**-0.1**
CCSP				*i* S	**Sn**	**09 01 47.9**	**+1.2**
LNCH	**Linares**	**2.18**	**51**	⇑*i*P	**Pn**	**09 02 00.2**	**+1.4**
LNCH				*e*S1	**Sb**	**09 02 30.1**	**+1.2**
LNCH	comp=N,21μm,0.6s			AML	AML	09 02 45.0	
TALC	**Talca**	**2.47**	**43**	*e*P	**Pn**	**09 02 04.0**	**+1.3**
TALC				*e*S1	**Sb**	**09 02 37.2**	**-0.2**
TALC	comp=N,14μm,0.5s			AML	AML	09 02 51.4	
VLCH	**Valdivia**	**2.60**	**172**	⇓*i*P	**Pn**	**09 02 02.8**	**-1.7**
VLCH	comp=N,17μm,0.8s			AML	AML	09 03 00.8	
NICH	**Los Niches**	**2.98**	**43**	⇑*i*P	**Pn**	**09 02 11.1**	**+1.2**
NICH	comp=E,12μm,0.6s			AML	AML	09 03 09.8	
PLCA	**Paso Flores** baz=300,slow=18	**4.27**	**146**	Pn	**Pn**	**09 02 28.4**	**+0.7**
PLCA	baz=40,slow=18			Lg	Lg	09 03 35.8	
PLCA	comp=E,4μm,19.4s,baz=322,slow=43			LR	LR	09 04 23.7	
CFAA	**Coronel Fontan** comp=E,0.6nm,0.3s,baz=215,slow=14,SNR=42	**7.19**	**40**	Pn	**Pn**	**09 03 06.2**	**-1.5**
CFAA	comp=E,0.3nm,0.3s,baz=210,slow=18,SNR=1.8			Sn	**Sn**	**09 04 30.2**	**+0.9**
LCO	**Las Campanas**	**8.57**	**18**	*e*Pn	**Pn**	**09 03 25.5**	**-1.4**
TRQA	**Tornquist**	**9.33**	**99**	*e*Pn	**Pn**	**09 03 39.0**	**+1.9**
USHA	**Ushuaia** comp=E,0.4nm,0.3s,baz=350,slow=19,SNR=3.2	**17.98**	**170**	P	**P**	**09 05 33.3**	**+0.5**
EFI	**East Falkland** comp=E,398nm,1.6s	**18.20**	**148**	*e*P	**Pn**	**09 05 34.5**	**-0.4**
LPAZ	**La Paz** comp=E,22nm,0.8s,baz=128,slow=7.6,SNR=6.0	**21.43**	**15**	P	**P**	**09 06 11.9**	**+0.6**
LPAZ	**La Paz** comp=E,31nm,0.9s	**21.43**	**15**	*e*P	**P**	**09 06 13.0**	**+1.7**
SIV	**San Ignacio** comp=E,16nm,0.9s,baz=233,slow=11,SNR=10.0	**23.93**	**31**	P	**P**	**09 06 36.4**	**-0.2**
NNA	**Nana** comp=E,3.5nm,0.3s,baz=195,slow=16,SNR=2.9	**25.29**	**353**	P	**P**	**09 06 49.0**	**0.0**
SAML	**Samuel** comp=E,20nm,1.3s	**29.72**	**21**	*e*P	**P**	**09 07 29.2**	**+0.4**
BDFB	**Brasilia** comp=E,6.0nm,0.9s,baz=142,slow=3.3,SNR=5.9	**31.30**	**53**	P	**P**	**09 07 41.1**	**-1.8**
OTAV	**Otavalo** comp=E,23nm,1.4s	**37.54**	**352**	*e*P	**P**	**09 08 38.5**	**+1.3**
PTGA	**Pitinga** comp=E,6.0nm,0.6s,baz=199,slow=10.0,SNR=7.4	**38.47**	**22**	P	**P**	**09 08 44.0**	**-0.5**
ROSC	**El Rosal** comp=E,3.5nm,0.4s,baz=81,slow=19,SNR=4.0	**41.87**	**359**	P	**P**	**09 09 14.2**	**+1.0**
SDV	**Santo Domingo** comp=E,6.4nm,0.9s	**45.96**	**4**	*e*P	**P**	**09 09 46.2**	**+0.4**
VNA3	**Neumayer Olymp**	**46.91**	**157**	P	**P**	**09 09 52.8**	**+0.2**
VNA2	**Neumayer--Watz**	**47.59**	**156**	P	**P**	**09 09 58.5**	**+0.6**
JTS	**JuntasÅbangare** comp=E,6.8nm,1.0s,baz=76,slow=4.2,SNR=3.6	**48.43**	**345**	P	**P**	**09 10 04.4**	**-0.5**
SNAA	**Sanae**	**49.14**	**157**	P	**P**	**09 10 10.0**	**+0.1**
SNAA	**Sanae** comp=E,7.9nm,0.8s,baz=292,slow=8.3,SNR=12	**49.14**	**157**	*e*P	**P**	**09 10

237A	Washetta, Mont baz=72	71.90 340	⇑P	P	09 12 46.1 +0.6
TXAR	Lajitas Array comp=E,4.7nm,1.1s,baz=150,slow=7.8,SNR=20	71.93 333 P		P	09 12 46.5 +0.7
334A	Lometa baz=72	71.96 338	⇑P	P	09 12 46.4 +0.5
432A	Menard baz=72	72.02 337	⇓P	P	09 12 46.3 0.0
431A	Sonora baz=72,SNR=5.2	72.10 336	⇓P	P	09 12 47.1 +0.3
529A	Stev Forest Ra baz=72,SNR=6.4	72.13 334	⇓P	P	09 12 47.5 +0.5
333A	Richland Sprin baz=72	72.18 337	⇑P	P	09 12 47.5 +0.2
KMSC	Kings Mountain baz=73	72.35 353	⇑P	P	09 12 48.2 +0.1
WHTX	Lake Whitney, baz=73	72.35 339	⇑P	P	09 12 48.2 0.0
WHTX	Lake Whitney, comp=E,10nm,0.9s	72.35 339	eP	P	09 12 48.5 +0.3
430A	Baggett Ranch, baz=73,SNR=8.1	72.41 335	⇑P	P	09 12 48.8 +0.1
137A	Heron Place, G baz=73	72.45 341	⇑P	P	09 12 49.2 +0.4
332A	Millersview baz=73,SNR=7.6	72.47 337	⇓P	P	09 12 49.3 +0.3
429A	Davenport Ranc baz=73,SNR=5.8	72.48 335	⇓P	P	09 12 49.6 +0.5
234A	Clairette baz=73	72.56 338	⇓P	P	09 12 49.3 -0.1
331A	San Angelo baz=73,SNR=6.5	72.62 336	⇓P	P	09 12 49.4 -0.5
233A	Rising Star baz=73	72.80 338	⇑P	P	09 12 51.4 +0.5
232A	Coleman baz=73	72.91 337	⇑P	P	09 12 51.9 +0.3
330A	Mertzon baz=73	72.95 336	⇑P	P	09 12 52.0 +0.1
SWET	Sewanee comp=E,28nm,0.7s	72.97 350	eP	P	09 12 51.6 -0.2
134A	White-Moore Ra baz=73	73.08 339	⇑P	P	09 12 52.6 +0.1
TKL	Tuckaleechee C comp=E,6.8nm,0.9s,baz=144,slow=7.1,SNR=5.7	73.12 351 P		P	09 12 52.0 -0.7
231A	Bronte baz=74	73.16 337	⇓P	P	09 12 53.4 +0.3
329A	Wagon Wheel Ra baz=74	73.30 335	⇓P	P	09 12 53.9 0.0
133A	Hamilton Ranch baz=74	73.36 338	⇓P	P	09 12 54.0 -0.1
Z35A	Perchaven, San baz=74	73.55 340	⇓P	P	09 12 55.6 +0.3
ABTX	Abilene, Hawle baz=74	73.59 337	⇑P	P	09 12 55.8 +0.2
229A	Bryant Ranch, baz=74	73.68 335	⇑P	P	09 12 56.3 +0.1
Z34A	Collier Ranch, baz=74	73.78 339	⇑P	P	09 12 56.9 +0.3
131A	Roby baz=74	73.87 337	⇑P	P	09 12 57.4 +0.2
Z33A	Whitaker Ranch baz=74	73.94 338	⇑P	P	09 12 57.9 +0.3
130A	Snyder baz=74	73.98 336	⇓P	P	09 12 57.9 0.0
228A	UT Block 9, Go baz=74	74.08 335	⇓P	P	09 12 58.6 +0.1
WVT	Waverly comp=E,15nm,1.2s	74.16 348	eP	P	09 12 58.1 -0.7
Z32A	Haskell baz=74	74.18 338	⇑P	P	09 12 59.1 +0.1
Y34A	Reagan Ranch, baz=75	74.28 339	⇓P	P	09 12 59.6 0.0
129A	Stewart Farms, baz=75	74.31 336	⇑P	P	09 13 00.1 +0.2
Z31A	Sharp Cattle R baz=75	74.39 337	⇑P	P	09 13 00.3 +0.1
128A	Castleberry Fa baz=75,SNR=5.6	74.50 335	⇓P	P	09 13 00.7 -0.3
Y33A	Hilltop Ranch, baz=75	74.58 339	⇓P	P	09 13 00.9 -0.4
Z30A	Sanderson Ranc baz=75	74.67 336	⇓P	P	09 13 01.6 -0.3
MNTX	Cornudas Mount comp=E,4.5nm,1.1s	74.69 332	eP	P	09 13 01.4 -0.6
Y32A	R-V Farms, Ver baz=75	74.81 338	⇑P	P	09 13 02.3 -0.4
Z29A	Hungry Hill Ra baz=75,SNR=6.9	74.83 336	⇑P	P	09 13 02.5 -0.4
X34A	Smith Ranch, M baz=75	74.91 340	⇓P	P	09 13 03.0 -0.2
Y31A	Rekieta Farm, baz=75	75.02 337	⇑P	P	09 13 03.7 -0.2
Z28A	Tucker Farm, M baz=76	75.08 335	⇑P	P	09 13 03.2 -1.1
X32A	Elmer baz=76	75.16 338	⇑P	P	09 13 04.5 -0.1
Y29A	Porterfield Fa baz=76	75.37 336	⇓P	P	09 13 06.0 0.0
X31A	McDonald Ranch baz=76	75.56 338	⇑P	P	09 13 06.8 -0.1
TUL1	Leonard baz=76	75.60 342	⇓P	P	09 13 07.1 -0.1
TUL1	Leonard comp=E,9.3nm,0.8s	75.60 342	eP	P	09 13 06.6 -0.5
W33A	Caddo, Fort Co baz=76	75.60 339	⇓P	P	09 13 07.6 +0.4
Y28A	McKinney Farm, baz=76	75.61 336	⇓P	P	09 13 06.8 -0.5
X30A	Coker Ranch, T baz=76	75.66 337	⇑P	P	09 13 07.5 -0.1
W32A	Sentinel baz=76	75.80 339	⇓P	P	09 13 08.3 0.0
MSTX	Muleshoe comp=E,7.4nm,1.1s	75.83 335	eP	P	09 13 08.5 -0.1
Y27A	Causey baz=76	75.89 335	⇑P	P	09 13 09.2 +0.2
X29A	Tulia baz=76	75.92 336	⇑P	P	09 13 09.4 +0.2
319A	Douglas baz=76	75.93 329	⇓P	P	09 13 09.1 -0.2
V34A	Guthrie baz=76	75.98 340	⇓P	P	09 13 09.5 +0.2
W31A	Holland Ranch, baz=76	76.06 338	⇓P	P	09 13 09.9 +0.1
V33A	Lossen Ranch, baz=76	76.18 340	⇓P	P	09 13 10.8 +0.4
V32A	Arapaho baz=77	76.30 339	⇑P	P	09 13 11.9 +0.7
AMTX	Amarillo baz=77	76.32 337	⇓P	P	09 13 11.9 +0.5
AMTX	Amarillo comp=E,13nm,1.0s	76.32 337	eP	P	09 13 11.5 +0.2
121A	Cookes Peak, D baz=77	76.35 331	⇑P	P	09 13 11.9 +0.2
U34A	Anderson Ranch baz=77	76.55 340	⇓P	P	09 13 12.6 0.0
X27A	F and S Farms, baz=77	76.56 335	⇓P	P	09 13 13.0 +0.2
V31A	Spring Creek L baz=77	76.58 338	⇓P	P	09 13 13.5 +0.7
Z22A	Elephant Butte baz=77	76.68 332	⇓P	P	09 13 14.5 +1.0
X26A	CR and CF Fran baz=77	76.71 335	⇑P	P	09 13 14.0 +0.3
Y24A	Capitan baz=77	76.72 333	⇓P	P	09 13 14.5 +0.7
V30A	Spur Ranch, Mi baz=77	76.82 338	⇓P	P	09 13 15.8 +1.6
U32A	Winter Ranch, baz=77	76.90 339	⇓P	P	09 13 15.8 +1.2
W27A	Bowe Ranch, En baz=77	76.93 336	⇑P	P	09 13 16.1 +1.2
X25A	Clemmons Ranch baz=77	76.98 334	⇑P	P	09 13 16.5 +1.2
LIC	Lamto comp=E,39nm,0.7s	77.07 72	eP	P	09 13 16.1 +0.1
W26A	Owens Ranch, T baz=78	77.19 335	⇓P	P	09 13 17.6 +1.3
TIC	Toumodi comp=E,10nm,0.2s	77.34 72	eP	P	09 13 17.6 0.0
TUC	Tucson comp=E,3.6nm,1.3s	77.36 328	eP	P	09 13 19.1 +1.8
KIC	Kosan Boka comp=E,67nm,1.0s	77.37 72	eP	P	09 13 18.0 +0.3
DBIC	Dimbokro comp=E,14nm,0.7s,baz=202,slow=6.2,SNR=15	77.48 72 P		P	09 13 18.8 +0.4
DBIC	Dimbokro comp=E,18nm,0.8s	77.48 72	eP	P	09 13 18.8 +0.4
U30A	WK&E Inc. Balk baz=78	77.52 338	⇑P	P	09 13 19.1 +1.0
W25A	X Bar L Ranch, baz=78	77.54 335	⇓P	P	09 13 18.6 +0.3
ACSO	Alum Creek Sta comp=E,13nm,0.6s	77.55 353	eP	P	09 13 17.5 -0.6
T32A	Huddler Ranch, baz=78	77.63 340	⇓P	P	09 13 19.7 +1.1
LAZ	Ladron comp=E,2.4nm,1.1s	77.76 332	eP	P	09 13 20.5 +0.9
T31A	Randall Ranch, baz=78	77.77 339	⇑P	P	09 13 20.9 +1.5
S33A	Kaszmaul Farm, baz=78	77.77 340	⇑P	P	09 13 20.6 +1.3
V26A	Tequesquite Ra baz=78	77.84 335	⇓P	P	09 13 21.0 +1.0
W24A	Lazy 6 Ranch, baz=78	77.86 334	⇓P	P	09 13 21.5 +1.3
214A	Organ Pipe Nat baz=78	77.93 327	⇑P	P	09 13 21.5 +1.1
ANMO	Albuquerque comp=E,7.8nm,1.1s	78.00 333	eP	P	09 13 22.0 +1.1
W23A	Werner Place, baz=78	78.08 333	⇓P	P	09 13 22.2 +0.8
U27A	Thompson Grove baz=78	78.09 336	⇑P	P	09 13 22.2 +0.8
S32A	Newby Ranch, P baz=78	78.12 340	⇑P	P	09 13 22.1 +0.7
V25A	Rancho No Teng baz=78	78.16 335	⇑P	P	09 13 22.5 +0.7
S31A	Mullinville baz=79	78.20 339	⇑P	P	09 13 22.7 +1.0
SFIN	Lafayette baz=79	78.20 350	⇓P	P	09 13 22.9 +1.2
V24A	Rampart Ranch, baz=79	78.28 334	⇓P	P	09 13 23.5 +1.0
U26A	Atchley Ranch, baz=79	78.37 336	⇓P	P	09 13 23.7 +0.7
R33A	Olander Ranch, baz=79	78.43 341	⇑P	P	09 13 23.7 +0.6
S30A	Montezuma baz=79	78.50 339	⇑P	P	09 13 24.1 +0.7
T28A	Walsh baz=79	78.51 337	⇑P	P	09 13 24.6 +1.0
U25A	Circle Dot Ran baz=79	78.59 335	⇑P	P	09 13 25.0 +0.8
V23A	Ortiz Mt. (NFS baz=79	78.62 334	⇓P	P	09 13 25.1 +0.8
T27A	Campo baz=79	78.65 337	⇑P	P	09 13 25.5 +1.1
S29A	Ulysses baz=79	78.67 338	⇑P	P	09 13 25.7 +1.3
R32A	Long Quarter, baz=79	78.73 340	⇓P	P	09 13 25.7 +1.0
R31A	Burdett baz=79	78.83 340	⇑P	P	09 13 26.0 +0.7
S28A	Manter baz=79	78.88 338	⇓P	P	09 13 26.4 +0.7
U24A	Moreno Valley baz=79	78.90 334	⇓P	P	09 13 26.9 +0.9
V22A	San Miguel Ran baz=79	79.03 333	⇓P	P	09 13 27.8 +1.1
R30A	Dighton baz=79	79.04 339	⇓P	P	09 13 28.0 +1.6
Q33A	Connelly Farm, baz=79	79.04 341	⇑P	P	09 13 27.6 +1.3
U23A	El Rito baz=80	79.14 334	⇓P	P	09 13 28.8 +1.5
Q32A	Meitler Ranch, baz=80	79.23 341	⇑P	P	09 13 27.9 +0.5
T25A	Trinidad baz=80,SNR=9.4	79.27 335	⇑P	P	09 13 28.5 +0.5
S26A	Kim baz=80,SNR=5.2	79.40 336	⇓P	P	09 13 29.1 +0.5
R29A	Marienthal baz=80	79.42 338	⇑P	P	09 13 29.7 +1.1
U22A	Llaves baz=80	79.42 333	⇑P	P	09 13 30.4 +1.6
X16A	Lo Mia Camp, P baz=80	79.46 329	⇑P	P	09 13 30.3 +1.3
Q31A	Ellis baz=80	79.47 340	⇑P	P	09 13 30.1 +1.3
T24B	San Luis baz=80	79.52 335	⇓P	P	09 13 30.3 +0.9
R28A	Tribune baz=80	79.55 338	⇓P	P	09 13 30.4 +1.1
Q30A	Quinter baz=80	79.67 339	⇑P	P	09 13 31.0 +1.2
T23A	Casias Ranch, baz=80	79.72 334	⇑P	P	09 13 31.3 +0.8
S25A	Roberts Cordova baz=80	79.75 336	⇓P	P	09 13 31.3 +0.8
BOSA	Boshof comp=E,6.9nm,0.8s,baz=215,slow=3.4,SNR=9.3	79.76 118 P		P	09 13 31.0 0.0
R27A	Eads baz=80	79.80 337	⇓P	P	09 13 31.1 +0.5
Q29A	Oakley baz=80	79.81 339	⇓P	P	09 13 31.1 +0.5
P32A	Huiting Farm, baz=80	79.83 341	⇓P	P	09 13 31.7 +1.0
P31A	Stockton baz=80	79.94 340	⇑P	P	09 13 31.5 +0.2
S24A	Houchin Ranch, baz=80	79.99 335	⇑P	P	09 13 33.1 +1.2
R26A	Arlington baz=80,SNR=6.4	80.01 337	⇑P	P	09 13 32.5 +0.7
SDCO	Great Sand Dun comp=E,71nm,2.8s	80.18 335	eP	P	09 13 33.7 +0.7
P30A	Selden baz=81	80.20 339	⇓P	P	09 13 33.9 +1.2
O32A	Brockman Farm, baz=81	80.35 341	⇓P	P	09 13 34.7 +1.2
KSCO	Kaye Shedlock' baz=81	80.41 338	⇑P	P	09 13 34.7 +0.8
P29A	Atwood baz=81	80.45 339	⇓P	P	09 13 35.1 +1.0
R24A	Sanders Place, baz=81,SNR=6.9	80.49 335	⇑P	P	09 13 35.7 +1.2
O31A	Woolen Ranch, baz=81	80.52 340	⇑P	P	09 13 35.5 +1.1
Q26A	Hugo baz=81	80.60 337	⇓P	P	09 13 36.2 +1.1
S22A	4UR Ranch, Cre baz=81	80.64 334	⇓P	P	09 13 36.2 +0.8
P28A	Saint Francis baz=81	80.67 338	⇑P	P	09 13 36.2 +1.0
R23A	Moffat baz=81	80.69 335	⇑P	P	09 13 36.2 +0.6
O30A	MW Ranch, Wils baz=81	80.74 340	⇑P	P	09 13 36.5 +0.9
MVCO	Mesa Verde baz=81	80.76 333	⇓P	P	09 13 36.7 +0.7
MVCO	Mesa Verde comp=E,4.2nm,1.0s	80.76 333	eP	P	09 13 36.7 +0.7
Q25A	Bedland, Calha baz=81	80.83 336	⇑P	P	09 13 37.3 +1.0
IRM	Iron Mountain baz=81	80.83 326	⇓P	P	09 13 37.4 +1.2
PFO	Pinyon Flats O comp=E,2.4nm,0.7s,baz=80,slow=6.1,SNR=2.8	80.95 325 P		P	09 13 39.3 +2.3
PFO	Pinyon Flats O baz=81	80.95 325	⇓P	P	09 13 39.2 +2.2
P26A	Davis Ranch, A baz=82	81.13 337	⇑P	P	09 13 39.3 +1.5
Q24A	Divide baz=82	81.17 336	⇑P	P	09 13 39.5 +1.3
P25A	Willow Gulch B baz=82	81.35 337	⇓P	P	09 13 40.0 +1.0
O27A	Beecher Island baz=82	81.45 338	⇑P	P	09 13 40.5 +1.1
M31A	Lambtecht Ranc baz=82	81.55 341	⇑P	P	09 13 41.3 +1.4
U15A	North Rim baz=82	81.55 329	⇑P	P	09 13 41.5 +1.2
GMRC	Granite Mounta baz=82	81.58 326	⇓P	P	09 13 41.9 +1.6
P24A	Kohler Place, baz=82	81.58 336	⇓P	P	09 13 42.6 +2.3
PV01	Paradox Valley comp=E,469nm,1.1s	81.61 333	eP	P	09 13 41.5 +1.0
O26A	Horse Wrangler baz=82	81.75 338	⇑P	P	09 13 42.7 +1.6
PV04	Paradox Valley	81.96 333	eP	P	09 13 43.3 +1.0
SMCO	Snowmass comp=E,11nm,1.2s	81.97 334	eP	P	09 13 44.1 +1.5
PV10	Paradox Valley comp=E,88nm,0.8s	81.99 333	eP	P	09 13 43.1 +0.6
N27A	Anderson Farm, baz=82	82.03 338	⇓P	P	09 13 43.2 +0.7
ISCO	Idaho Springs baz=82	82.07 336	⇓P	P	09 13 44.0 +1.0
ISCO	Idaho Springs comp=E,3.7nm,1.3s	82.07 336	eP	P	09 13 43.8 +0.8
LBTB	Lobatse comp=E,15nm,0.8s	82.16 115	eP	P	09 13 43.5 -0.2
P22A	Eagle baz=83	82.27 335	⇑P	P	09 13 45.2 +1.2
L31A	Butterfield Fa baz=83	82.29 341	⇑P	P	09 13 45.2 +1.4
O23A	Lake Granby, G baz=83	82.55 336	⇑P	P	09 13 46.5 +1.0
O22A	Kremmling baz=83	82.71 335	⇓P	P	09 13 47.4 +1.1
EDW2	Edwards Air Fo baz=83	82.72 325	⇑P	P	09 13 47.8 +1.6
CCUT	Cedar City comp=E,7.2nm,1.1s	82.95 329	eP	P	09 13 50.1 +2.6
K30A	Basset baz=83	82.96 341	⇓P	P	09 13 48.6 +1.4
N23A	Red Feather La baz=84	83.17 336	⇓P	P	09 13 49.6 +0.9
ARUT	Antelope Range comp=E,87nm,1.1s	83.18 329	eP	P	09 13 49.1 +0.4
SRU	San Rafael Swe comp=E,4.1nm,0.9s	83.19 332	eP	P	09 13 49.5 +0.8
K29A	Lazy Trails An baz=84	83.22 341	⇓P	P	09 13 49.6 +1.0
ECSD	EROS Data Cent baz=84	83.23 343	⇓P	P	09 13 49.2 +0.7
ECSD	EROS Data Cent comp=E,14nm,0.8s	83.23 343	eP	P	09 13 48.5 -0.1
N22A	Wattenberg Ran baz=84	83.25 336	⇓P	P	09 13 50.0 +0.9
O20A	White River Ci baz=84	83.27 334	⇑P	P	09 13 50.0 +1.0
M24A	Cheyenne baz=84	83.33 337	⇓P	P	09 13 50.5 +1.2
K28A	Ten Mile Ranch baz=84	83.46 340	⇓P	P	09 13 50.6 +0.7
ISA	Isabella, Lake baz=84	83.58 325	⇑P	P	09 13 52.1 +1.4
TMUT	Trail Mountain comp=E,3.7nm,0.9s	83.61 332	eP	P	09 13 51.8 +0.9
K27A	Flueckinger Fa baz=84	83.69 339	⇓P	P	09 13 52.5 +1.4
J29A	Okreek baz=84	83.83 341	⇑P	P	09 13 52.5 +0.9
L24A	Wheatland baz=84	83.89 337	⇑P	P	09 13 53.5 +1.3
N20A	Spence Gulch, baz=84	83.89 334	⇓P	P	09 13 53.4 +1.0
I30A	Oacoma baz=84	84.07 342	⇓P	P	09 13 53.4 +0.6
J27A	Elkhorn Farm, baz=84	84.14 340	⇑P	P	09 13 54.4 +1.1
I29A	Vivian Onida baz=85	84.39 341	⇓P	P	09 13 55.0 +0.5
BRSD	Miller baz=85	84.45 342	⇑P	P	09 13 55.1 +0.3
BRSD	Miller comp=E,13nm,0.8s	84.45 342	eP	P	09 13 54.5 -0.3
J26A	Sides Ranch, S baz=85	84.49 339	⇑P	P	09 13 55.8 +0.7
R11A	Troy Canyon, C baz=85	84.55 328	⇓P	P	09 13 56.7 +1.1
R11A	Troy Canyon, C comp=E,3.4nm,1.1s	84.55 328	eP	P	09 13 57.2 +1.5
I28A	Midland baz=85,SNR=5.8	84.60 340	⇓P	P	09 13 56.0 +0.4
K23A	Bowen Ranch, D baz=85	84.75 337	⇑P	P	09 13 57.4 +0.9
J25A	Sunshine Ranch baz=85	84.78 338	⇓P	P	09 13 57.7 +1.1
I27A	Quinn baz=85	84.90 340	⇑P	P	09 13 57.8 +0.7
H29A	Onida baz=85	84.94 341	⇑P	P	09 13 57.9 +0.7
K22A	Casper baz=85	84.94 336	⇑P	P	09 13 57.9 +0.4
K22A	Casper comp=E,6.6nm,0.7s	84.94 336	eP	P	09 13 58.1 +0.7
J24A	Dixon Ranch, L baz=85	84.98 338	⇑P	P	09 13 57.8 +0.2
DUG	Dugway, Tooele baz=85	85.00 331	⇓P	P	09 13 58.5 +0.7
DUG	Dugway, Tooele comp=E,8.5nm,1.3s	85.00 331	eP	P	09 13 59.1 +1.3
TPH	Tonopah comp=E,8.0nm,1.1s	85.02 327	eP	P	09 13 59.6 +1.5
G30A	Faulkton baz=86	85.14 342	⇓P	P	09 13 59.0 +0.8
K21A	Alcova baz=86	85.16 336	⇓P	P	09 13 58.9 +0.2
H28A	Mission Ridge baz=86	85.19 341	⇓P	P	09 13 59.0 +0.5
I25A	Rochford baz=86	85.33 339	⇓P	P	09 13 60.0 +0.5
H27A	Howes baz=86	85.43 340	⇓P	P	09 14 00.3 +0.6
I24A	Kuemmerle Ranc baz=86	85.45 338	⇑P	P	09 14 00.4 +0.5
RSSD	Black Hills comp=E,5.6nm,0.9s	85.51 339	eP	P	09 14 00.5 +0.1
G28A	Parade baz=86	85.53 341	⇓P	P	09 14 00.8 +0.6
HWUT	Hardware Ranch comp=E,7.2nm,1.0s	85.75 333	eP	P	09 14 02.2 +0.6
NVAR	Mina Array Bea comp=E,1.5nm,0.9s,baz=155,slow=5.6,SNR=8.6	85.79 326 P		P	09 14 02.7 +0.8
H25A	Fruitdale baz=86,SNR=5.6	85.84 339	⇑P	P	09 14 02.4 +0.5
F29A	Eureka baz=86	85.97 342	⇑P	P	09 14 02.6 +0.3
PDAR	Pinedale Array comp=E,4.0nm,1.1s,baz=160,slow=4.7,SNR=12	86.05 334 P		P	09 14 02.8 -0.3
G27A	Dupree baz=86	86.08 340	⇑P	P	09 14 02.8 -0.2
G26A	Maurine baz=87	86.19 340	⇑P	P	09 14 03.5 +0.1
F28A	McLaughlin baz=87	86.22 341	⇓P	P	09 14 03.9 +0.2
I21A	Big Trails, Te baz=87	86.23 336	⇑P	P	09 14 03.6 -0.2
H24A	Dirks Ranch, A baz=87	86.24 339	⇓P	P	09 14 03.8 0.0
G25A	Newell baz=87,SNR=7.2	86.32 339	⇓P	P	09 14 04.1 -0.1
J19A	Crowheart baz=87	86.32 335	⇓P	P	09 14 04.6 +0.2
E30A	Jud baz=87	86.37 343	⇓P	P	09 14 04.5 +0.1
ELK	Elko comp=E,3.1nm,0.9s,baz=195,slow=2.9,SNR=8.9	86.43 330 P		P	09 14 04.1 -0.9
ELK	Elko comp=E,4.3nm,1.0s	86.43 330	eP	P	09 14 06.5 +1.5
TORD	Torodi Ar. Bea comp=E,4.1nm,0.8s,baz=219,slow=5.6,SNR=17	86.56 71 P		P	09 14 05.6 -0.4
TORD	PP comp=E,0.3nm,0.5s,baz=224,slow=7.4,SNR=2.4			PP	09 17 26.2 -1.8
F27A	Lemmon baz=87,SNR=6.9	86.56 341	⇑P	P	09 14 05.3 0.0
E29A	Napoleon baz=87	86.61 342	⇑P	P	09 14 06.0 +0.5
F26A	Lodgepole baz=87	86.72 340	⇓P	P	09 14 06.3 +0.2
G24A	Alzada baz=87	86.73 339	⇑P	P	09 14 06.3 +0.1
E28A	Huff baz=87	86.87 342	⇓P	P	09 14 07.1 +0.4
D30A	Buchanan baz=87	86.91 343	⇑P	P	09 14 07.2 +0.3
E27A	Carson baz=87	86.96 341	⇑P	P	09 14 07.4 +0.2
F25A	Bowman baz=87	87.00 340	⇑P	P	09 14 07.9 +0.4
D29A	Pettibone, Tap baz=87	87.06 343	⇓P	P	09 14 08.2 +0.5
H20A	Greybull baz=87	87.06 336	⇓P	P	09 14 08.6 +0.8
TPAW	Teton Pass comp=E,4.7nm,0.8s	87.17 334	eP	P	09 14 09.6 +0.9
G22A	Birney baz=88	87.18 338	⇑P	P	09 14 09.0 +0.6
F24A	Ekalaka baz=88	87.21 339	⇓P	P	09 14 09.2 +0.7
E26A	Carlson Angus baz=88,SNR=5.7	87.23 341	⇓P	P	09 14 08.6 0.0

FXWY	Fox Creek	87.33	334	eP	P	09 14 09.8	+0.4
	comp=E,88nm,3.0s						
F23A	Volborg	87.37	338	⇑P	P	09 14 09.3	0.0
	baz=88						
C30A	Mose, Pekin	87.40	344	⇓P	P	09 14 09.4	+0.1
	baz=88,SNR=6.8						
AGMN	Agassiz Nation	87.41	345	⇓P	P	09 14 09.3	0.0
	baz=88						
AGMN	Agassiz Nation	87.41	345	eP	P	09 14 08.9	-0.4
	comp=E,3.7nm,0.5s						
D28A	Regan	87.42	342	⇓P	P	09 14 09.7	+0.3
	baz=88						
I17A	Pilgrim Ck.	87.42	334	⇓P	P	09 14 10.1	+0.3
	baz=88						
E25A	Miller Ranch,	87.52	340	⇑P	P	09 14 10.6	+0.6
	baz=88						
IMW	Indian Meadow	87.53	334	eP	P	09 14 10.8	+0.5
	comp=E,5.9nm,1.1s						
FLWY	Flagg Ranch	87.61	334	eP	P	09 14 11.6	+1.0
	comp=E,5.7nm,0.8s						
D26A	Manning	87.74	341	⇓P	P	09 14 10.9	-0.1
	baz=88,SNR=6.5						
B30A	Myrvik Farm, E	88.08	344	⇓P	P	09 14 12.3	-0.1
	baz=88,SNR=12						
C27A	Sayler Ranch,	88.14	342	⇓P	P	09 14 13.0	+0.2
	baz=88,SNR=5.2						
YMR	Madison River	88.21	334	eP	P	09 14 14.8	+1.3
	comp=E,6.7nm,1.0s						
B29A	Wagenman Farm,	88.32	343	⇑P	P	09 14 14.5	+0.8
	baz=89						
HLID	Hailey	88.50	332	⇓P	P	09 14 15.8	+0.9
	baz=89						
HLID	Hailey	88.50	332	eP	P	09 14 15.6	+0.7
	comp=E,7.1nm,1.3s						
A30A	Hoffart Farm,	88.53	344	⇓P	P	09 14 15.1	+0.5
	baz=89						
B28A	Dugan Ranch, T	88.54	343	⇓P	P	09 14 15.4	+0.7
	baz=89						
A29A	Manning Farm,	88.72	343	⇓P	P	09 14 16.3	+0.7
	baz=89						
C24A	Savage	88.74	340	⇑P	P	09 14 16.3	+0.6
	baz=89						
MFID	Camas Ranch	88.92	331	eP	P	09 14 17.7	+0.9
	comp=E,1.7nm,0.8s						
A28A	Rude Farm, Bot	88.95	343	⇑P	P	09 14 17.2	+0.5
	baz=89						
ULM	Lac du Bonnet	89.28	346	P	P	09 14 17.1	-1.0
	comp=E,4.9nm,0.9s,baz=164,slow=4.1,SNR=4.7						
A26A	Wade Farm, Ken	89.37	342	⇓P	P	09 14 19.2	+0.6
	baz=90						
N02D	Trinity Center	89.83	325	⇑P	P	09 14 20.9	-0.2
	baz=90						
YBH	Yreka Blue Hor	90.44	326	P	P	09 14 24.1	+0.2
	comp=E,2.3nm,1.0s,baz=263,slow=8.1,SNR=3.8						
F10A	Beach Ranch, E	91.61	331	eP	P	09 14 30.6	+1.4
	comp=E,97nm,2.8s						
WALA	Waterton Lakes	93.03	335	eP	P	09 14 36.0	+0.2
	comp=E,0.2nm,1.0s						
NEW	Newport	93.49	333	P	P	09 14 36.0	-1.8
	comp=E,0.8nm,0.6s,baz=149,slow=5.9,SNR=3.6						
NEW	Newport	93.49	333	⇓P	P	09 14 37.8	0.0
	baz=94						
ASAR	Alice Springs	114.09	208	PKP	PKPdf	09 20 00.8	-1.4
	comp=E,0.6nm,0.9s,baz=128,slow=1.4,SNR=5.4						
ASAR				PKKPbc	PKKPbc	09 30 42.1	-0.1
	comp=E,0.2nm,0.4s,baz=348,slow=3.4,SNR=4.0						
GERES	GERESS Array B	115.36	47	PKP	PKPdf	09 20 02.6	-1.2
	comp=E,0.9nm,0.8s,baz=180,slow=4.0,SNR=4.9						
WRA	Warramunga Arr	117.30	210	PKP	PKPdf	09 20 07.3	-1.1
	comp=E,0.4nm,0.5s,baz=156,slow=1.7,SNR=10						
VYHS	Vyhne	118.24	49	ePKP	PKPdf	09 20 09.7	+0.5
KOLS	Kolonicke sedl	120.50	50	ePKP	PKPdf	09 20 14.0	+0.4
BRTR	Keskin Array B	124.53	63	PKP	PKPdf	09 20 21.6	-0.2
	comp=E,2.2nm,0.7s,baz=196,slow=3.3,SNR=12						
AKASG	Malin Array Be	125.34	49	PKP	PKPdf	09 20 21.9	-0.9
	comp=E,0.8nm,0.5s,baz=325,slow=1.1,SNR=3.1						
AKASG				PP	PP	09 22 10.7	-3.1
	comp=E,0.3nm,0.4s,baz=250,slow=6.6,SNR=4.5						
GEYT	Alibeck	142.14	74	PKhKP	PKPpre	09 20 49.9	
	comp=E,1.3nm,0.4s,baz=215,slow=4.9,SNR=4.7						
TIXI	Tiksi	143.59	348	ePKPdf	PKPab	09 20 52.1	-0.6
ABKAR	Abkulak array	144.69	55	ePKPdf	PKPab	09 20 57.4	0.0
IPM	Ipoh	147.05	170	ePKPdf	PKPdf	09 21 03.8	-0.2
HYB	Hyderabad	148.61	121	i PKP	PKPbc	09 21 08.5	-1.5
BRVK	Borovoye	150.45	46	ePKPbc	PKPbc	09 21 13.6	+0.2
YAK	Yakutsk	151.24	337	ePKPbc	PKPbc	09 21 14.3	-0.7
KKAR	Karatay Array	152.17	67	ePKPbc	PKPbc	09 21 17.2	-0.6
EKS2	Erkin-Say	154.57	67	ePKPdf	PKPdf	09 21 15.2	+0.5
EKS2				ePKPbc	PKiKP	09 21 23.4	+0.2
AAK	Ala-Archa	155.10	68	ePKPdf	PKPdf	09 21 15.6	+0.1
AAK				ePKPbc	PKPbc	09 21 24.9	
AAK				ePKPab	PKPab	09 21 40.4	+0.2
KSH	Kashi	156.16	75	PKP	PKPdf	09 21 16.6	-0.4
KSH				sPKP		09 21 26.8	
KSH				PKS	PKSdf	09 24 52.3	+1.3
KSH				PP	PP	09 25 21.1	-1.8
KSH				SS	SS	09 45 09.8	-2.6
KSH				PPMZ			
	comp=E,1μm,13.9s						
KSH				LN			
	comp=E,120nm,10.1s						
KSH				LE			
	comp=E,200nm,12.0s						
KSH				LZ			
	comp=E,160nm,12.8s						
ZALV	Zalesovo Beam	157.66	35	PKP	PKPdf	09 21 16.8	-1.5
	comp=E,4.0nm,0.8s,baz=264,slow=1.5,SNR=16						
ZALV				PKPab	PKPab	09 21 50.9	+0.4
	comp=E,4.8nm,0.9s,baz=286,slow=5.4,SNR=6.6						
MKAR	Makanchi Array	159.82	54	PKP	PKPdf	09 21 20.7	-0.4
	comp=E,2.5nm,1.0s,baz=320,slow=3.2,SNR=15						
MKAR				PKPab	PKPab	09 21 59.9	-0.4
	comp=E,2.3nm,0.7s,baz=305,slow=4.3,SNR=9.5						
CMAR	Chiang Mai Arr	160.22	159	PKP	PKPdf	09 21 22.2	-0.1
	comp=E,0.5nm,0.3s,baz=218,slow=3.2,SNR=5.0						
CN2	Changchun	164.04	300	ePKP	PKPdf	09 21 25.3	-0.2
BJI	Beijing	171.78	293	PKP	PKPdf	09 21 27.6	-3.3
CD2	Chengdu	173.36	161	ePKP	PKPdf	09 21 32.6	+0.6
GTA	Gaotai	174.45	65	ePKP	PKPdf	09 21 32.5	+0.3
GTA				pPKP	pPKPdf	09 21 37.1	0.0
GTA				sPKP		09 21 39.6	
HHC	Hu-ho-hao-te	174.54	313	ePKP	PKPdf	09 21 31.8	-0.4
LZH	Lanzhou	177.72	119	ePKP	PKPdf	09 21 33.8	+0.7
LZH				pPKP	pPKPdf	09 21 45.1	+7.2
LZH				sPKP		09 21 50.9	

*ISCJB **14** 09:02:38.0±0.5, 19°.78S±0°.05×69°.04W±0°.07, h102km±6km, mb4.2/13, Error ellipse: s-maj=11.6km s-min=7.1km az=164.3*
*GUC **14** 09:02:39.9±0.6, 19°.89S×69°.22W, h102km±6km, ML4.6*
*NEIC **14** 09:02:39.9±2.3, 19°.86S×69°.01W, h108km±15km, mb4.6/6, Error ellipse: s-maj=27.7km s-min=12.5km az=197.0*
*IDC **14** 09:02:42.3±4.7, 19°.90S×68°.96W, h130km±33km, mb3.8/10, mb1 4.0/12, mb1mx3.8/21, mbtmp4.2/12, MS4.3/1, Ms1 4.2/1, ms1mx3.8/19, Error ellipse: s-maj=43.7km s-min=18.0km az=28.0*

ISC 14 09:02:39.6±0.7, 19°.85S±0°.04×69°.18W±0°.07, h103km±6km, n36, σ1°90/37, mb4.4/14, 3C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	Humberstone	0.79	238	⇓iP	Pn	09 02 58.4	+0.1
HMBC				i S	Sn	09 03 12.2	-0.2
PSGC	Pisagua	0.93	286	⇓iP	Pn	09 02 60.0	+0.4
PSGC				i S	Sn	09 03 14.9	+0.2
PB01	IPOC Station P	1.22	194	⇓iP	Pn	09 03 03.2	+0.4
PB01				i S	Sn	09 03 20.7	+0.3
PB01				IAML		09 03 22.1	
	comp=N,20μm,0.3s						
PATCX	Punta Patache	1.33	223	⇓iP	Pn	09 03 04.2	+0.2
PATCX				i S	Sn	09 03 23.1	+0.5
PB07	IPOC Station P	1.98	199	⇑iP	Pn	09 03 12.3	+0.1
PB07				i S	Sn	09 03 37.6	+0.5
PB07				IAML		09 03 45.5	
	comp=E,5μm,0.7s						
PB04	IPOC Station P	2.42	187	⇑iP	Pn	09 03 21.6	+3.9
PB04				IAML		09 04 03.3	
	comp=E,2μm,0.1s						
PB06	IPOC Station P	2.86	187	⇓iP	Pn	09 03 23.8	+0.1
PB06				IAML		09 04 07.3	
	comp=E,2μm,0.3s						
CEN1	Los Morros	3.65	195	⇑iP	Pn	09 03 37.1	+3.0
CEN1				i S	Sn	09 04 21.5	+5.1
LPAZ	La Paz	3.68	16	P	Pn	09 03 38.8	+3.6
	comp=E,23nm,0.3s,baz=191,slow=7.6,SNR=388						
LPAZ				S	Sn	09 04 23.0	+5.0
	baz=306,slow=19,SNR=2.6						
LPAZ	La Paz	3.68	16	ePn	Pn	09 03 38.4	+3.2
LPAZ				S	Sn	09 04 23.0	+5.0
ARE	Arequipa	4.03	327	eP	Pn	09 03 39.0	-0.5
ARE				eS	Sn	09 04 27.0	+1.1
SIV	San Ignacio	8.62	65	P	Pn	09 04 40.1	-1.5
	comp=E,4.2nm,0.3s,baz=270,slow=10.0,SNR=50						
SAML	Samuel	12.29	29	ePn	Pn	09 05 28.7	-2.4
	comp=E,2.3nm,0.6s						
BDFB	Brasilia	20.58	82	P	P	09 07 09.0	-1.5
	comp=E,5.3nm,0.9s,baz=267,slow=17,SNR=6.4						
BDFB				LR	LR	09 16 57.7	
	comp=E,844nm,21.1s,baz=330,slow=42						
PTGA	Pitinga	21.04	26	P	P	09 07 13.2	-2.0
	comp=E,5.0nm,0.3s,baz=199,slow=18,SNR=11						
OTAV	Otavalo	21.94	334	eP	P	09 07 27.8	+2.4
	comp=E,3.1nm,0.8s						
RCBR	Riachuelo	35.21	71	P	P	09 09 23.3	-0.9
	comp=E,6.2nm,0.8s,baz=238,slow=10,SNR=5.5						
WVT	Waverly	58.41	342	eP	P	09 12 24.1	-0.3
	comp=E,3.0nm,0.6s						
MIAR	Mount Ida	58.87	337	eP	P	09 12 28.3	+0.7
	comp=E,1.9nm,0.4s						
TXAR	Lajitas Array	59.14	325	P	P	09 12 30.9	+1.2
	comp=E,0.4nm,0.8s,baz=144,slow=8.7,SNR=4.2						
BGNE	Belgrade	66.61	337	eP	P	09 13 19.9	+1.1
	comp=E,18nm,0.5s						
ECSD	EROS Data Cent	68.10	339	eP	P	09 13 28.0	-0.2
	comp=E,106nm,2.7s						
PDAR	Pinedale Array	72.57	330	P	P	09 13 55.9	+0.2
	comp=E,0.4nm,0.6s,baz=115,slow=8.0,SNR=3.0						
ULM	Lac du Bonnet	73.68	343	P	P	09 14 01.8	+0.1
	comp=E,3.3nm,0.6s,baz=162,slow=6.3,SNR=6.8						
SCHQ	Schefferville	74.41	1	P	P	09 14 04.5	-1.4
	comp=E,2.5nm,0.7s,baz=228,slow=5.3,SNR=6.0						
TORD	Torodi Ar. Bea	77.05	71	P	P	09 14 20.6	-1.2
	comp=E,2.9nm,0.4s,baz=247,slow=5.5,SNR=27						
ESDC	Sonseca Array	84.84	45	P	P	09 15 02.6	-0.2
	comp=E,0.1nm,0.3s,baz=229,slow=9.7,SNR=3.7						
YKA	Yellowknife Ar	89.56	341	P	P	09 15 26.0	+1.1
	comp=E,2.9nm,0.7s,baz=134,slow=4.7,SNR=80						
YKA				pP	pP	09 15 53.0	+1.0
	comp=E,0.9nm,0.7s,baz=135,slow=4.7,SNR=9.1						
H11S2	WAKE ISLAND Hy	27.41	278	T	T	11 41 17.7	
	baz=102,slow=74,SNR=60						
H11S1	WAKE ISLAND Hy	27.42	278	T	T	11 41 30.1	
	baz=102,slow=74,SNR=38						
H11S3	WAKE ISLAND Hy	27.42	278	T	T	11 41 22.2	
	baz=102,slow=74,SNR=36						
H11N3	WAKE ISLAND Hy	27.44	280	T	T	11 41 32.5	
	baz=101,slow=74,SNR=19						
H11N2	WAKE ISLAND Hy	27.46	280	T	T	11 41 37.4	
	baz=101,slow=74,SNR=19						
H11N1	WAKE ISLAND Hy	27.46	280	T	T	11 41 32.4	
	baz=101,slow=74,SNR=8.0						
ASAR	Alice Springs	131.24	209	PKP	PKPdf	09 21 39.2	-1.2
	comp=E,0.4nm,1.0s,baz=117,slow=1.6,SNR=4.8						
WRA	Warramunga Arr	134.23	212	PKP	PKPdf	09 21 47.0	+1.0
	comp=E,0.5nm,0.8s,baz=151,slow=1.9,SNR=3.4						

*IDC **14** 09:03:39.8±13.0, 38°.29N×142°.55E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.3/36, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=288.6km s-min=42.3km az=177.0*
*ISCJB **14** 09:03:49.3±1.6, 37°.68N±0°.05×141°.93E±0°.09, h33km±12km, mb3.7/2, Error ellipse: s-maj=11.8km s-min=8.4km az=4.1*
*JMA **14** 09:03:50.1±0.1, 37°.68N×141°.84E, h37km±2km, M3.6*

ISC 14 09:03:48.5±2.3, 37°.71N±0°.05×142°.0E±0°.1, h25km±14km, n19, σ1°34/20, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.89	327	P	Pn	09 04 05.8	+0.4
JIO				S	Sb	09 04 16.5	-0.2
JFK	Kawauchi	0.94	249	P	Pb	09 04 05.3	-0.7
JMM	Marumori	0.94	280	P	Pb	09 04 05.8	-0.4
JMM				S	Sb	09 04 16.9	-1.4
ONAJ	Iwakimizuishiy	1.11	237	P	Pn	09 04 07.7	-0.8
JOU	Okura	1.22	303	P	Pb	09 04 10.5	-0.4
JOU				S	Sn	09 04 25.1	-0.6
JFT	Otama	1.31	262	⇑P	Pn	09 04 11.6	+0.4
JFT				S	Sn	09 04 26.9	-1.0
JMK	Ichinoseki	1.37	335	P	Pb	09 04 13.3	-0.2
JMK				S	Sn	09 04 29.5	+0.1
JYK	Kaneyama	1.75	314	P	Pn	09 04 18.2	+1.0
JFY	Yanaizu	1.82	261	P	Pn	09 04 19.1	+0.8
MJAR	Matsushiro Arr	3.22	250	Pn	Pn	09 04 40.5	+3.0
	2.7nm,0.3s,baz=84,slow=16,SNR=26						
MJAR				Sn	Sb	09 05 26.9	+3.0
	1.9nm,0.3s,baz=95,slow=28,SNR=5.1						
MAT	Matsushiro	3.23	250	P	Pn	09 04 38.7	+1.2
MAT				S	Sn	09 05 13.6	-1.5
H11N2	WAKE ISLAND Hy	28.12	123	T	T	09 39 17.7	
	baz=320						
H11N1	WAKE ISLAND Hy	28.13	123	T	T	09 39 17.8	
	baz=320						
H11N3	WAKE ISLAND Hy	28.14	123	T	T	09 39 13.1	
	baz=320						
H11S1	WAKE ISLAND Hy	28.87	125	T	T	09 40 13.2	
	baz=316,slow=76,SNR=20						
H11S3	WAKE ISLAND Hy	28.87	125	T	T	09 40 08.9	
	baz=316,slow=76,SNR=18						
H11S2	WAKE ISLAND Hy	28.88	125	T	T	09 40 14.5	
	baz=316,slow=76,SNR=16						
WRA	Warramunga Arr	57.79	188	P	P	09 13 37.4	-0.2
	0.4nm,0.5s,baz=5.6,slow=7.0,SNR=9.1						
ASAR	Alice Springs	61.52	188	P	P	09 14 02.8	-0.5
	0.4nm,0.7s,baz=14,slow=6.7,SNR=6.0						

GUC 14 09:07:10.6±0.8, 34°.99S×72°.14W, h29km±7km, ML3.8, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.58	135	⇑iP	Pb	09 07 22.1	-0.2
TALC				i S	Sb	09 07 30.4	+0.1
NICH	Los Niches	0.75	91	⇓iP	Pb	09 07 24.8	-0.3
NICH				i S	Sb	09 07 34.6	-0.3
LNCH	Linares	0.96	153	⇑iP	Pn	09 07 28.0	-0.1
LNCH				i S	Sn	09 07 40.7	-0.2
COCH	Cobquecura	1.26	205	⇑iP	Pn	09 07 31.9	-0.2
COCH				i S4	Sn	09 07 47.9	-0.3
ANTU	Antumapu	1.89	42	ePn	Pb	09 07 42.8	-1.7
ANTU				eS1	Sb	09 08 06.9	-0.8
ANTU				IAML		09 08 11.6	
	comp=E,1μm,0.2s						
SJCH	San Jose de Ma	2.00	48	eP9	Pb	09 07 43.8	-2.6
SJCH				i S	Sb	09 08 09.8	-1.2
PEL	Peldehue	2.20	34	⇑iP	Pb	09 07 47.8	-2.1
PEL				i S	Sb	09 08 15.0	-1.8
PEL				IAML		09 08 22.8	
	comp=N,778nm,0.5s						

NNC 14 09:09:35.6±4.5, 37°.55N×71°.50E, h0km, mb3.7, mpv3.3, 5C, Error ellipse: s-maj=39.7km s-min=16.0km az=161.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.45	302	⇑Pn	Pn	09 10 16.5	-0.5
DZET				⇑Sn	Sn	09 10 49.4	+1.6
AAK	Ala-Archa	5.57	23	⇑Pn	Pn	09 10 59.2	-0.7
	1.0nm,0.3s						
AAK				⇑Sn	Sn	09 12 06.6	+1.8
	4.9nm,0.9s						
KK31	Karatay Array	5.60	353	Pn	Pn	09 11 00.1	0.0
	1.9nm,0.5s,baz=175,slow=13,SNR=11						
KK31				⇑Sn	Sn	09 12 04.9	-0.2
	1.8nm,0.3s,baz=176,slow=23,SNR=16						

IDC 14 09:20:13.7±3.6, 29°.63S×178°.40W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/17, mbtmp3.8/3, Error ellipse: s-maj=185.5km s-min=45.6km az=158.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.32	256	P	P	09 27 02.5	+0.5
	0.6nm,0.6s,baz=100,slow=11,SNR=4.0						
ASAR	Alice Springs	42.81	266	P	P	09 28 13.0	-0.6
	0.3nm,0.3s,baz=105,slow=7.4,SNR=13						
WRA	Warramunga Arr	43.73	272	P	P	09 28 20.9	-0.1
	1.2nm,0.3s,baz=110,slow=8.2,SNR=39						
FINES	FINESS Array B	144.31	340	PKP	PKPbc	09 39 49.6	+0.3
	0.9nm,0.3s,baz=33,slow=3.3,SNR=19						
AKASG	Malin Array Be	150.48	323	PKPbc	PKPbc	09 40 07.0	0.0
	0.5nm,0.4s,baz=45,slow=1.4,SNR=2.8						

GUC 14 09:42:43.5±0.7, 34°.55S×71°.91W, h25km±5km, ML3.9, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.72	129	⇑iP	Pb	09 42 57.3	-0.1
NICH				i S	Sb	09 43 07.0	0.0
TALC	Talca	0.88	165	⇑iP	Pb	09 42 59.7	-0.5
TALC				i S	Sb	09 43 11.2	-0.2
LNCH	Linares	1.32	169	⇑iP	Pb	09 43 07.7	+0.1
LNCH				eS	Sb	09 43 24.8	+0.6
ANTU	Antumapu	1.44	48	eP	Pn	09 43 08.8	+0.8
ANTU				i S	Sb	09 43 27.3	-0.4
ANTU				IAML		09 43 33.6	
	comp=N,3μm,0.4s						
IHA	Instituto Hidr	1.53	8	⇑iP	Pn	09 43 09.7	+0.4
CLCH	Cerro Calan	1.62	45	⇑iP	Pn	09 43 11.1	+0.5
CLCH				i S	Sb	09 43 32.6	-0.3
CLCH				IAML		09 43 38.9	
	comp=N,2μm,0.8s						
PEL	Peldehue	1.73	36	⇑iP	Pn	09 43 12.9	+0.8
PEL				i S	Sb	09 43 35.6	-0.5
PEL				IAML		09 43 40.6	
	comp=N,3μm,0.8s						

IDC 14 09:48:22.7±1.9, 2°.72N×125°.46E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/34, mbtmp3.7/4, MS4.4/2, Ms1 4.4/2, ms1mx3.7/36, Error ellipse: s-maj=181.9km s-min=24.9km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	12.97	188	LR	LR	09 57 24.1	
	comp=Z,1μm,20.3s,baz=278,slow=42						
WRA	Warramunga Arr	24.15	159	P	P	09 53 40.3	-0.4
	1.3nm,0.7s,baz=338,slow=11,SNR=25						
ASAR	Alice Springs	27.49	163	P	P	09 54 12.0	+1.1
	0.3nm,0.4s,baz=332,slow=9.9,SNR=11						
JNU	Nakatsue	30.66	9	LR	LR	10 07 18.9	
	comp=Z,1μm,20.4s,baz=350,slow=37						
STKA	Stephens Creek	37.67	157	P	P	09 55 39.4	-0.4
	1.9nm,0.6s,baz=330,slow=11,SNR=11						
MKAR	Makanchi Array	57.67	326	P	P	09 58 14.5	-0.5
	0.3nm,0.4s,baz=119,slow=7.5,SNR=4.6						

*MOS **14** 09:54:09.8±1.0, 8°.65N×126°.26E, h33km, mb5.2/38, Error ellipse: s-maj=12.0km s-min=5.6km az=111.2*
*MAN **14** 09:54:12, 8°.71N×126°.60E, h10km, mb5.6, ML4.6, MS5.0*
MAN INTENSITY IV - TANDAG SURIGAO DEL SUR; INTENSITY III - LINGIG SURIGAO DEL SUR; SAN FRANCISCO AGUSAN DEL SUR; INTENSITY II - BISLIG SURIGAO DEL SUR; BAROBO SURIGAO DEL SUR; BUTUAN CITY.
*ISCJB **14** 09:54:15.0±0.4, 8°.68N±0°.02×126°.45E±0°.03, h79km±3km, mb4.8/111, Error ellipse: s-maj=5.5km s-min=3.2km az=165.8*
*BJI **14** 09:54:15.7, 8°.59N×126°.56E, h99km, mB5.4/19, mb4.9/45*
*IDC **14** 09:54:16.3±1.9, 8°.60N×126°.21E, h75km±16km, mb4.5/29, mb1 4.7/31, mb1mx4.7/34, mbtmp4.9/31, Error ellipse: s-maj=15.9km s-min=8.8km az=82.0*
*NEIC **14** 09:54:17.6±0.7, 8°.64N×126°.34E, h86km±6km, mb4.9/56, Error ellipse: s-maj=7.0km s-min=3.8km az=82.0*
NEIC Felt [IV PIVS] at Tandag; [III PIVS] at Lingig and San Francisco; [II PIVS] at Barobo and Bislig.
*KLM **14** 09:54:18.9, 8°.60N×126°.50E, h95km, mb5.0, MS5.6*
*DJA **14** 09:54:30.2±0.9, 9°N±6°×12°6E±°, h133km±9km, M5.0/36, mB5.2/8, mb4.9/36, MLv5.6/2, Mw(mB)4.6/8*

ISC 14 09:54:16.8±0.7, 8°.63N±0°.03×126°.42E±0°.05, h79km±6km, n475, σ1°16/483, mb4.9/111, 93C-88D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.45	188	⇓eP	Pn	09 54 23.6	-6.4
BIPH				eS	Sn	09 54 30.2	-10
BUTP	Butuan	0.86	293	eP	Pn	09 54 31.5	-2.7
BUTP				eS	Sn	09 54 46.4	-0.8
SCPH	Surigao	1.47	321	⇓eP	Pn	09 54 39.8	-1.9
SCPH				eS	Sn	09 55 00.1	-0.4
BUKP	Musuan	1.54	241	eP	Pn	09 54 41.1	-1.6
BUKP				eS	Sn	09 55 07.6	+5.4
MATI	Mati	1.68	186	eP	Pn	09 54 42.2	-2.3
MATI				eS	Sn	09 55 07.5	+2.1
CGP	Cagayan de Oro	1.72	264	eP	Pn	09 54 42.8	-2.2
CGP				eS	Sn	09 55 03.3	-3.0
DAV	Davao City (W)	1.76	208	ePn	Pn	09 54 45.0	-0.6
CTBH	Cotabato--PC H	2.57	237	⇓eP	Pn	09 54 54.4	-2.0
GSPH	General Santos	2.92	210	⇑eP	Pn	09 54 59.8	-1.4
GSPH				eS	Sn	09 55 35.2	-0.1
LLP	Lapu-Lapu	2.95	305	⇓eP	Pn	09 55 00.6	-0.9
LLP				eS	Sn	09 55 35.3	-0.6
PAGZ	Pagadian	3.11	256	eP	Pn	09 55 02.7	-1.0
SNPH	Sibulan	3.23	283	⇓iP	Pn	09 54 58.7	-6.6
SNPH				i S	Sn	09 55 35.3	-7.4
GUIM	Jordan	4.27	298	eP	Pn	09 55 18.9	-0.5
SGSI	Sangihe	4.99	190	P	Pn	09 55 49.3	+20
TGY	Tagaytay City	7.65	316	P	Pn	09 56 04.4	-1.2
	27nm,0.3s,baz=164,slow=15,SNR=3.1						
TNTI	Ternate	7.86	173	P	Pn	09 56 22.4	+14
	206nm,1.0s,1.1nm						
TNTI	Ternate	7.86	173	ePn	Pn	09 56 10.5	+2.0
	88nm,0.5s						
PALU	Palau	8.07	99	S	Sn	09 57 30.0	-11
	baz=7.9,SNR=8.8					

34nm,0.7s,10μm
KSM Kuching 17.55 247 P P 09 58 18.6 +2.2
baz=18,SNR=5.7
KSM Kuching 17.55 247 *e*P **P 09 58 18.1 +1.7**
24nm,1.1s
MMRI Maumere 17.65 194 P P 09 58 27.0 +9.5
JOW Kunigami 18.19 5 P **Pn 09 58 25.7 +1.6**
baz=165,slow=12
JOW Kunigami 18.19 5 *e*P **Pn 09 58 25.4 +1.4**
20nm,0.6s
SOEI Soe 18.39 187 P Pn 09 58 31.5 +4.8
75nm,1.0s
SOEI Soe 18.39 187 P **Pn 09 58 29.8 +3.1**
baz=18,SNR=4.0
SOEI Soe 18.39 187 *e*P **Pn 09 58 28.4 +1.7**
63nm,0.9s
BATI Baumata 18.91 188 P **Pn 09 58 33.6 +0.8**
BATI Baumata 18.91 188 P **P 09 58 31.7 +0.3**
11nm,0.3s,baz=59,slow=1.5,SNR=12
BATI S **Sn 10 02 05.6 +1.2**
1.3nm,0.3s,baz=104,slow=19,SNR=3.6
QIZ Qiongzhong 19.11 304 P **P 09 58 34.3 +0.7**
QIZ pP pP 09 58 51.4 +2.0
QIZ sP sP 09 59 02.8 +3.4
QIZ S **S 10 02 07.1 +0.8**
QIZ PMZ
20nm,0.7s
QIZ LZ
940nm,19.0s
QIZ Qiongzhong 19.11 304 *e*P **P 09 58 33.8 +0.2**
43nm,1.0s
KMMI Kalianget 19.92 219 P **Pn 09 58 46.4 +1.7**
130nm,0.9s
SRBI Singaraja 20.01 214 P Pn 09 58 47.9 +2.2
76nm,0.8s,1μm
UBPT Khong Chiam 21.53 290 P **P 09 59 00.5 +0.9**
45nm,0.7s
MTN Manton Dam 21.84 168 P **P 09 59 03.4 +0.4**
baz=22,SNR=9.6
TPI Tanjungpandan 21.87 240 P **P 09 59 03.9 +0.6**
32nm,1.0s
KDU Kakadu 22.01 164 P **P 09 59 03.5 -1.3**
baz=22,SNR=8.3
KDU S **S 10 03 01.1 -2.1**
baz=22,SNR=3.7
MYKOM Kota Tinggi 23.47 254 ⇓P **P 09 59 20.9 +1.2**
KPJI Karang Pucung 23.57 228 P **P 09 59 23.9 +3.4**
37nm,1.2s,2μm
LEM Lembang 24.23 231 P **P 09 59 30.6 +4.0**
54nm,0.7s
KNRA Kununurra 24.26 175 P **P 09 59 26.4 -0.2**
baz=24,SNR=14
NJ2 Nanjing 24.34 344 *e*P **P 09 59 27.0 -0.3**
NJ2 PMZ
40nm,0.6s
JNU Nakatsue 24.72 9 P **P 09 59 30.0 -0.8**
51nm,0.8s,baz=215,slow=7.6,SNR=26
JNU Nakatsue 24.72 9 *e*P **P 09 59 29.9 -0.8**
22nm,0.8s
FRIM Kepong 25.23 259 ⇑P **P 09 59 37.4 +1.8**
IPM Ipoh 25.56 262 *e*P **P 09 59 39.0 +0.4**
63nm,1.2s
MDSI Maura Dua 25.73 240 P **P 09 59 41.8 +1.7**
43nm,1.0s
KULM Kulim 25.79 264 ⇓P **P 09 59 41.5 +0.8**
KULM Kulim 25.79 264 *e*P **P 09 59 41.3 +0.6**
78nm,1.5s
GYA Guiyang 25.80 316 *e*P **P 09 59 41.8 +1.0**
GYA pP pP 10 00 03.8 +4.7
GYA sP sP 10 00 16.3 +7.9
GYA PP **PnPn 10 00 26.9 +4.7**
GYA S S 10 04 01.0 -3.7
GYA sS sS 10 04 40.6 +4.2
GYA SS **SnSn 10 05 15.5 +7.1**
GYA PMZ
10.0nm,0.8s
GYA PMZ
90nm,4.8s
GYA LN
560nm,17.8s
GYA LE
480nm,18.0s
GYA LZ
520nm,17.6s
LHSI Lahat 25.97 242 P **P 09 59 45.9 +3.6**
40nm,0.9s
PBKT Sadao Pong 26.04 290 P **P 09 59 43.8 +0.9**
59nm,1.0s,3μm
LWLI Liwa 26.10 240 P **P 09 59 45.9 +2.3**
70nm,0.9s
FITZ Fitzroy Crossi 26.57 182 P **P 09 59 47.3 -0.3**
baz=27,SNR=22
FITZ Fitzroy Crossi 26.57 182 *e*P **P 09 59 47.2 -0.3**
16nm,0.7s
UTTA Uttaradit 26.74 292 P **P 09 59 51.5 +2.4**
8.1nm,0.8s
SRDT SRDT 27.34 285 P **P 09 59 56.9 +2.3**
64nm,0.6s
CRAI Chiangrai 27.69 297 P **P 09 59 57.0 -0.7**
14nm,0.7s
LAMP Lampang 27.80 294 P **P 09 59 59.4 +0.7**
8.9nm,0.8s,91nm
PAYA Payao 27.84 295 P **P 09 59 59.5 +0.4**
31nm,0.6s,706nm
KMI Kunming 27.89 309 P **P 10 00 01.8 +2.1**
KMI PMZ
17nm,0.6s
KHLT Khaolaem Dam 27.92 285 P **P 10 00 02.0 +2.2**
9.1nm,0.9s
COEN Coen 27.93 143 P **P 10 00 00.1 +0.3**
baz=28,SNR=4.3
COEN Coen 27.93 143 *e*P **P 10 00 01.9 +2.1**
83nm,0.8s
CMAR Chiang Mai Arr 28.41 293 P **P 10 00 04.0 -0.1**
12nm,0.8s,baz=109,slow=7.0,SNR=58
CMAR PcP **PcP 10 03 15.0 +0.1**
1.6nm,0.8s,baz=68,slow=1.4,SNR=6.4
CMMT Chiang Mai 28.50 294 P **P 10 00 05.2 +0.2**
20nm,1.0s
CHTO Chiang Mai 28.51 294 *e*P **P 10 00 05.4 +0.4**
CHTO pmax pmax
comp=Z,13nm,1.1s
CHTO Chiang Mai 28.51 294 P **P 10 00 05.3 +0.3**
comp=Z,68nm,1.0s
CHTO Chiang Mai 28.51 294 *e*P **P 10 00 05.4 +0.4**
comp=Z,13nm,1.1s
KSAR Wonju Array Be 28.71 2 P **P 10 00 06.5 -0.1**
KSAR 10 03 16.1
KSAR Wonju Array Be 28.71 2 P **P 10 00 06.5 -0.1**
KSAR PcP **PcP 10 03 16.1 +0.8**
KSRS Korea Array 28.73 2 P **P 10 00 06.5 -0.2**
comp=Z,15nm,0.7s,baz=182,slow=10.0,SNR=54
KSRS PcP **PcP 10 03 16.1 +0.8**
comp=Z,3.9nm,0.5s,baz=185,slow=2.3,SNR=14
CMAI Chiengmai2 28.76 296 P **P 10 00 07.9 +0.5**
comp=Z,25nm,0.9s,comp=Z,605nm
KCSI Kotacane, Aceh 28.93 262 P **P 10 00 09.3 +0.5**
comp=Z,32nm,0.8s
MHMT Maesariang 29.26 292 P **P 10 00 13.7 +2.1**
comp=Z,13nm,0.5s,comp=Z,451nm
WRAB Tennant Creek 29.44 165⇑*e*P **P 10 00 11.6 -1.6**
WRAB pmax pmax
comp=Z,40nm,2.3s
WRAB Tennant Creek 29.44 165 *e*P **P 10 00 11.5 -1.7**
comp=Z,6.5nm,1.0s
WRA Warramunga Arr 29.44 165 P **P 10 00 11.7 -1.6**
comp=Z,2.0nm,0.6s,baz=346,slow=9.3,SNR=22
WRA PcP **PcP 10 03 17.6 +0.2**
comp=Z,6.0nm,0.7s,baz=339,slow=3.0,SNR=13
WRA S S 10 04 54.8 -7.1
comp=Z,1.1nm,0.8s,baz=346,slow=15,SNR=8.0
WRA ScP **ScP 10 06 52.9 +0.5**
comp=Z,1.7nm,0.8s,baz=344,slow=3.3,SNR=5.8
WB2 Warramunga Arr 29.45 165 *e*P **P 10 00 11.3 -1.9**
GSI Gunungsitoli 29.63 257 P **P 10 00 16.5 +1.5**
comp=Z,25nm,0.7s
GSI Gunungsitoli 29.63 257 *e*P **P 10 00 15.1 +0.1**
comp=Z,22nm,0.9s
MBWA Marble Bar 30.32 192 *e*P **P 10 00 21.0 0.0**
comp=Z,6.4nm,0.6s
CD2 Chengdu 30.63 319 *e*P **P 10 00 24.8 +1.1**
CD2 PMZ
comp=Z,20nm,0.7s
QIS Mount Isa 31.77 156 P **P 10 00 33.0 -0.8**
baz=32,SNR=13
BJT Baijiatuau 32.57 345 *e*P **P 10 00 38.8 -1.8**
BJT pmax pmax
comp=Z,23nm,0.4s
BJT Baijiatuau 32.57 345 *e*P **P 10 00 38.8 -1.8**
comp=Z,23nm,0.4s
BJI Beijing 32.59 345 P **P 10 00 39.0 -1.7**
BJI PMZ
comp=Z,23nm,0.5s
AS31 Alice Springs 32.92 167 *e*P **P 10 00 42.4 -1.4**
ASAR Alice Springs 32.92 167 P **P 10 00 42.6 -1.2**
comp=Z,1.8nm,0.5s,baz=352,slow=7.5,SNR=40
ASAR PcP **PcP 10 03 26.9 +0.2**
comp=Z,6.7nm,0.5s,baz=349,slow=2.6,SNR=26
ASAR S S 10 05 50.8 -5.4
comp=Z,1.1nm,0.8s,baz=350,slow=19,SNR=5.6
ASAR ScP **ScP 10 07 03.7 -0.2**
comp=Z,1.2nm,0.6s,baz=341,slow=3.4,SNR=8.0
ASAR P3KPbc 10 32 01.2
comp=Z,0.4nm,0.8s,baz=167,slow=4.3,SNR=4.7
WRKA Warakurna 33.51 177 P **P 10 00 48.6 -0.3**
baz=34,SNR=56
LZH Lanzhou 34.21 326 ⇑P **P 10 00 57.9 +2.8**
LZH pP pP 10 01 20.3 +6.5
LZH sP sP 10 01 31.9 +8.9
LZH PMZ
comp=Z,24nm,1.0s
LZH PMZ
comp=Z,100nm,5.0s
VLA Vladivostok 34.69 7 P **P 10 00 58.3 -0.6**
VLA pmax pmax
comp=Z,16nm,0.8s
HHC Hu-ho-hao-te 34.70 340 *e*P **P 10 01 00.9 +1.7**
HHC PMZ
comp=Z,18nm,1.0s
CN2 Changchun 35.05 359 *e*P **P 10 01 03.8 +1.8**
CN2 PMZ
comp=Z,10.0nm,0.6s
USRK Ussuriysk Ar. 35.77 7 P **P 10 01 08.4 +0.3**
comp=Z,37nm,0.7s,baz=191,slow=8.0,SNR=98
USRK PcP **PcP 10 03 33.5 -1.0**
comp=Z,0.8nm,0.5s,baz=225,slow=3.7,SNR=2.8
MEEK Meekatharra 35.87 192 P **P 10 01 09.2 -0.1**
baz=36,SNR=22
MDJ Mudanjiang 35.96 4 P **P 10 01 10.3 +0.6**
MDJ PMZ
comp=Z,32nm,1.1s
MDJ PMZ
comp=Z,890nm,10.4s
MDJ Mudanjiang 35.96 4 *e*P **P 10 01 10.4 +0.6**
comp=Z,34nm,1.0s
ASAJ Asahikawa 38.05 19 P **P 10 01 29.0 +1.5**
comp=Z,47nm,0.6s,baz=211,slow=8.2,SNR=18
ASAJ Asahikawa 38.05 19 *e*P **P 10 01 29.2 +1.6**
comp=Z,22nm,0.7s
MORW Morawa 38.79 195 P **P 10 01 34.8 +0.9**
baz=39,SNR=5.0
GTA Gaotai 38.82 326 *e*P **P 10 01 32.8 -1.4**
GTA PMZ
comp=Z,5.0nm,1.1s
QLP Quilpie 39.04 154 P **P 10 01 34.7 -1.3**
baz=39,SNR=3.4
LSA Lhasa 39.12 307 *e*P **P 10 01 38.4 +1.1**
LSA pmax pmax
comp=Z,6.0nm,0.3s
LSA Lhasa 39.12 307 *e*P **P 10 01 38.4 +1.1**
comp=Z,6.1nm,0.3s
FORT Forrest 39.21 178 P **P 10 01 37.5 +0.2**
baz=39,SNR=86
FORT Forrest 39.21 178 *e*P **P 10 01 37.3 -0.1**
comp=Z,70nm,0.6s
KMBL Kambalda 40.01 186 P **P 10 01 44.3 +0.4**
baz=40,SNR=28
BLDU Ballidu 40.12 193 P **P 10 01 45.6 +0.7**
baz=40,SNR=7.8
H11S3 WAKE ISLAND Hy 40.27 72 T T 10 44 57.7
baz=262,slow=74,SNR=294
H11S1 WAKE ISLAND Hy 40.28 72 T T 10 44 51.9
baz=262,slow=74,SNR=177
H11S2 WAKE ISLAND Hy 40.28 72 T T 10 44 50.0
baz=262,slow=74,SNR=184
HABR Khabarovsk 40.37 9 *e*P **P 10 01 45.0 -1.8**
HABR *e* 10 03 20.0
HABR *e* 10 03 45.7
HABR PPP PPP 10 03 50.3
HABR *e*S **S 10 07 47.2 -1.8**
HABR *e*SS **SS 10 10 51.5 +0.7**
HABR *e*SSS SSS 10 11 21.1
HABR *e* 10 11 40.8
HABR pmax pmax
comp=Z,47nm,1.9s
HABR MLR MLR
comp=Z,672nm,17.0s
H11N1 WAKE ISLAND Hy 40.65 70 T T 10 45 31.4
baz=266,slow=74,SNR=113
YSS Yuzh-Sakhalins 40.66 17 *e*P **P 10 01 49.0 -0.1**
YSS Yuzh-Sakhalins 40.66 17 *e*P **P 10 01 50.0 +0.9**
comp=Z,42nm,1.0s
H11N2 WAKE ISLAND Hy 40.66 70 T T 10 45 40.8
baz=266,slow=74,SNR=76
H11N3 WAKE ISLAND Hy 40.67 70 T T 10 45 35.3
baz=266,slow=74,SNR=104
KLBR Kellerberrin 40.84 191 P **P 10 01 51.8 +0.9**
baz=41,SNR=30
HIA Hailar 40.89 353⇑*i*P **P 10 01 50.3 -0.8**
HIA pmax pmax
comp=Z,4.0nm,0.8s
TAPN Taplejung 41.03 302 *e*P **P 10 01 53.5 +0.6**
comp=Z,56nm,0.4s
ODAN Odare 41.14 301 *e*P **P 10 01 54.0 +0.3**
comp=Z,144nm,0.6s
RAMN Ramite 41.83 301 *e*P **P 10 01 59.7 +0.2**
comp=Z,48nm,0.5s
BBOO Buckleboo 42.22 168 P **P 10 02 01.9 -0.2**
baz=42,SNR=67
BBOO Buckleboo 42.22 168 *e*P **P 10 02 01.7 -0.4**
comp=Z,390nm,0.6s
NWAO Narrogin (SRO) 42.24 192 P **P 10 02 02.7 +0.4**
comp=Z,10nm,0.5s,baz=7.8,slow=6.3,SNR=20
NWAO PcP **PcP 10 03 54.9 -0.1**
comp=Z,5.3nm,0.7s,baz=347,slow=4.9,SNR=3.5
JIRN Jiri 42.40 302 *e*P **P 10 02 04.2 0.0**
comp=Z,153nm,0.5s
ULN Ulaanbaatar 42.41 341⇑*e*P **P 10 02 02.7 -1.0**
ULN pmax pmax
comp=Z,6.0nm,0.6s
ULN Ulaanbaatar 42.41 341 *e*P **P 10 02 02.5 -1.2**
comp=Z,6.6nm,0.6s
SONM Songino Array 42.60 340 P **P 10 02 04.0 -1.2**
comp=Z,2.5nm,0.6s,baz=152,slow=9.8,SNR=5.2
SONM PcP **PcP 10 03 56.1 -0.1**
comp=Z,2.5nm,0.7s,baz=172,slow=4.6,SNR=4.6
GUN Gumba 42.74 302 *e*P **P 10 02 07.2 +0.2**
comp=Z,92nm,0.4s
STKA Stephens Creek 42.81 161 *e*P **P 10 02 06.5 -0.4**
STKA 10 03 56.7
STKA pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 42.81 161 P **P 10 02 06.4 -0.6**
comp=Z,10nm,0.8s,baz=340,slow=7.7,SNR=31
STKA PcP **PcP 10 03 56.7 -0.2**
comp=Z,5.2nm,0.8s,baz=309,slow=6.5,SNR=2.9
STKA Stephens Creek 42.81 161 P **P 10 02 06.5 -0.4**
baz=43,SNR=19
STKA Stephens Creek 42.81 161 *e*P **P 10 02 06.5 -0.4**
comp=Z,2.0nm,0.9s
STKA PcP **PcP 10 03 56.7 -0.2**
PKI Pulchoki 43.03 301 *e*P **P 10 02 08.9 -0.4**
comp=Z,51nm,0.5s
PKIN Phulchoki 43.05 301 *e*P **P 10 02 09.0 -0.3**
comp=Z,38nm,0.5s
KKN Kakani 43.21 302 *e*P **P 10 02 10.2 -0.4**
comp=Z,20nm,0.4s
DMN Daman 43.30 301 *e*P **P 10 02 11.1 -0.3**
comp=Z,30nm,0.5s
HTT Hallett 43.48 165 P **P 10 02 12.8 +0.3**
baz=44,SNR=7.9
GKN Gorkha 43.82 302 *e*P **P 10 02 15.1 -0.3**
comp=Z,39nm,0.5s
CMSA Cobar Meteorol 43.99 156 P **P 10 02 16.6 +0.1**
baz=44,SNR=4.8
KOLN Koldanda 44.62 301 *e*P **P 10 02 21.8 -0.1**
comp=Z,116nm,0.4s
DANN Dangsing 44.66 302 *e*P **P 10 02 21.7 -0.6**
comp=Z,173nm,0.4s
ZAK Zakamensk 45.84 339 *e*P P 10 02 28.6 -2.5
ZAK *e* 10 04 07.2
ZAK pmax pmax
comp=Z,1.0nm,0.8s
TLY Talaya 46.82 341 *e*P **P 10 02 37.7 -0.9**
TLY pmax pmax
comp=Z,5.0nm,0.6s
TLY Talaya 46.82 341 P **P 10 02 37.7 -0.9**
comp=Z,5.0nm,0.5s,baz=26,slow=6.2,SNR=6.7
HYB Hyderabad 47.34 286 *i*P **P 10 02 42.5 -0.7**
ARPS Mount Arapiles 47.42 163 P **P 10 02 43.8 +0.4**
baz=48,SNR=17
CLNS Chul'man 48.10 359 *e*P **P 10 02 48.2 -0.3**
CLNS pmax pmax
comp=Z,19nm,0.9s
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,4.0nm,0.9s
WMQ Urumqi 48.61 323 *e*P **P 10 02 52.9 +0.3**
WMQ pP pP 10 03 16.0 +3.8
WMQ PMZ
comp=E,8.0nm,1.0s
WMQ PMZ
comp=E,260nm,7.0s
TOO Toolangi 49.30 160 P **P 10 02 58.7 +0.9**
baz=49,SNR=8.5
BOD Bodaibo 50.01 351 *e*P **P 10 03 02.0 -0.9**
BOD pmax pmax
comp=Z,10.0nm,1.1s
HVS Khovu-Aksy 50.22 334⇓*e*P **P 10 03 04.4 -0.4**
HVS pmax pmax
comp=Z,29nm,0.6s
PETK Petropavlovsk- 51.06 24 P **P 10 03 12.6 +1.6**
comp=Z,27nm,0.6s,baz=206,slow=4.1,SNR=98
PETK PcP **PcP 10 04 26.0 +0.2**
comp=Z,2.5nm,0.5s,baz=209,slow=4.0,SNR=4.1
PET Petropavlovsk 51.39 24 *e*P **P 10 03 13.9 +0.6**
PET pmax pmax
comp=Z,22nm,0.7s
PET Petropavlovsk 51.39 24 *e*P **P 10 03 13.9 +0.6**
comp=Z,22nm,0.7s
MKAR Makanchi Array 53.42 323 P **P 10 03 27.8 -0.8**
comp=Z,5.6nm,0.3s,baz=118,slow=6.7,SNR=63
MKAR PcP **PcP 10 04 34.8 -0.1**
comp=Z,5.9nm,0.7s,baz=108,slow=4.7,SNR=4.5
KSH Kashi 54.44 313 *e*P **P 10 03 39.1 +2.8**
KSH PP **PP 10 05 43.0 +3.8**
KSH S **S 10 11 08.4 -0.9**
KSH sS sS 10 11 49.3 +6.1
KSH SS **SS 10 14 52.1 -0.6**
KSH PMZ
comp=Z,860nm,12.5s
KSH LN
comp=Z,250nm,9.4s
KSH LE
comp=Z,290nm,9.1s
KSH LZ
comp=Z,420nm,11.2s
ULHL Ulahol 55.25 316 P **P 10 03 42.2 -0.1**
SNR=6.0
ULHL Ulahol 55.25 316 *i*P **P 10 03 42.1 -0.1**
KZA Kyzart 55.87 316 P **P 10 03 47.4 +0.4**
SNR=7.7
KZA Kyzart 55.87 316 *i*P **P 10 03 47.3 +0.4**
TKM2 Tokmak 2 55.95 317 P **P 10 03 46.9 -0.3**
SNR=12
TKM2 Tokmak 2 55.95 317 *e*P **P 10 03 46.9 -0.3**
TKM2 pmax pmax
comp=Z,7.0nm,0.6s
TKM2 Tokmak 2 55.95 317 *e*P **P 10 03 46.9 -0.3**
comp=Z,6.7nm,0.6s
ZALV Zalesovo Beam 56.13 332 P **P 10 03 46.2 -1.7**
comp=Z,4.3nm,0.3s,baz=131,slow=6.3,SNR=28
ZALV PcP **PcP 10 04 43.4 -1.7**
comp=Z,3.4nm,0.5s,baz=150,slow=3.8,SNR=5.2
ZALV PKP2bc 10 33 57.3
comp=Z,0.3nm,0.4s,baz=299,slow=7.4,SNR=2.6
KBK Karagaybulak 56.29 316 P **P 10 03 49.8 +0.2**
SNR=8.1
KBK Karagaybulak 56.29 316 *i*P **P 10 03 49.8 +0.2**
UCH Uchtor 56.44 315 P **P 10 03 51.1 +0.1**
SNR=18
UCH Uchtor 56.44 315 *i*P **P 10 03 51.1 +0.1**
AAK Ala-Archa 56.59 316⇑*i*P **P 10 03 51.2 -0.5**
AAK pmax pmax
comp=Z,5.0nm,0.6s
AAK Ala-Archa 56.59 316 *e*P **P 10 03 51.5 -0.2**
comp=Z,28nm,2.2s
USP Ospenovka 56.82 317 P **P 10 03 52.5 -0.7**
SNR=9.0
USP Ospenovka 56.82 317 *i*P **P 10 03 52.5 -0.7**
AML Almayashu 56.97 315 P **P 10 03 54.7 0.0**
SNR=15
AML Almayashu 56.97 315 *i*P **P 10 03 54.7 0.0**
EKS2 Erkin-Say 57.10 316 P **P 10 03 55.0 -0.2**
SNR=10
EKS2 Erkin-Say 57.10 316 *e*P **P 10 03 55.3 0.0**
EKS2 pmax pmax
comp=Z,8.0nm,0.6s
EKS2 Erkin-Say 57.10 316 *e*P **P 10 03 55.3 0.0**
comp=Z,8.3nm,0.6s
SEY Seymchan 57.37 14 P **P 10 03 58.1 +1.6**
comp=Z,3.6nm,0.5s,baz=200,slow=5.8,SNR=29
SEY PcP **PcP 10 04 50.0 +0.2**
comp=Z,4.9nm,0.7s,baz=180,slow=10,SNR=4.4
NVS Novosibirsk 57.41 332 *e*P P 10 03 54.5 -2.5
NVS *e* 10 04 47.7
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.8s
NVS pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 57.50 326 *e*P **P 10 03 56.9 -0.9**
KURK pmax pmax
comp=Z,10.0nm,0.5s
KURK Kurchatov 57.50 326 *e*P **P 10 03 56.9 -0.9**
comp=Z,9.9nm,0.5s
KURK P'P' 10 33 40.5
KURK ⇑*e* 10 33 53.7
KURBB Kurchatov Arra 57.50 326 PKPPKP P'P'df 10 33 40.5 -4.4
comp=Z,0.6nm,0.9s,baz=270,slow=3.5,SNR=4.4
KURBB PKP2bc 10 33 53.7
comp=Z,0.8nm,0.4s,baz=270,slow=3.3,SNR=14
FX1 Attu Island--F 58.05 31 *e*P **P 10 04 03.9 +2.4**
FX1 Attu Island--F 58.05 31 P **P 10 04 03.5 +2.0**
comp=Z,68nm,0.8s,baz=38,slow=2.7,SNR=8.5
FX1 Attu Island--F 58.05 31 *e*P **P 10 04 03.9 +2.4**
KBL Kabul 58.39 305 *e*P **P 10 04 04.5 -0.1**
KBL pmax pmax
comp=Z,19nm,0.5s
KBL Kabul 58.39 305 P **P 10 04 04.4 -0.1**
baz=58,SNR=3.2
KBL Kabul 58.39 305 *e*P **P 10 04 04.5 -0.1**
comp=Z,19nm,0.5s
KK31 Karatay Array 59.51 315 P **P 10 04 10.6 -1.3**
KK31 pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 59.51 315 *e*P **P 10 04 11.2 -0.7**
KKAR Karatay Array 59.51 315 *e*P **P 10 04 11.2 -0.7**
TIXI Tiksi 62.98 1⇑*i*P **P 10 04 34.2 -0.6**
TIXI pmax pmax
comp=Z,25nm,1.0s
TIXI Tiksi 62.98 1 *e*P **P 10 04 33.2 -1.6**
comp=Z,17nm,0.8s
BVA0 Borovoye Array 63.10 326 *i*P **P 10 04 35.1 -0.8**
BVA0 pmax pmax
comp=Z,11nm,0.7s
BVAR Borovoye Array 63.10 326 P **P 10 04 35.4 -0.5**
comp=Z,12nm,0.5s,baz=129,slow=7.5,SNR=78
BVAR PcP **PcP 10 05 12.1 -0.8**
comp=Z,5.7nm,0.6s,baz=123,slow=4.8,SNR=7.0
BRVK Borovoye 63.17 326⇑*i*P **P 10 04 36.0 -0.4**
BRVK pmax pmax
comp=Z,18nm,0.7s
BRVK Borovoye 63.17 326 *e*P **P 10 04 35.3 -1.1**
comp=Z,17nm,0.6s
BILL Bilibino 64.93 15⇓*e*P **P 10 04 47.8 +0.1**
BILL *e*S S 10 13 17.5 -5.4
BILL pmax pmax
comp=Z,10.0nm,0.7s
BILL MLR MLR
comp=Z,6μm,22.0s
BILL Bilibino 64.93 15 *e*P **P 10 04 47.6 0.0**
comp=Z,10nm,0.6s
IMYA Miami 65.89 306 *e*P **P 10 04 54.4 -0.3**
RPZ Rata Peaks 65.95 146 *e*P **P 10 04 55.2 +0.6**
comp=Z,33nm,0.7s
BKZ Black Stump Fm 66.44 139 *e*P **P 10 04 58.8 +0.9**
GEYT Alibeck 67.65 307 P **P 10 05 05.5 -0.1**

comp=Z,3.5nm,0.5s,baz=108,slow=4.8,SNR=12
ISHV Shirvan 67.93 307 *e*P **P 10 05 06.4 -1.2**
AB31 Akbulak array 68.21 320 P **P 10 05 07.4 -1.5**
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 68.21 320 *e*P **P 10 05 07.7 -1.3**
comp=Z,7.9nm,0.6s
UNV Unalaska Valle 69.62 36 *e*P **P 10 05 18.0 +0.5**
comp=Z,50nm,0.7s
SVE Sverdlovsk 69.67 328⇓*i*P **P 10 05 17.1 -0.7**
SVE pmax pmax
comp=Z,46nm,0.6s
AKTO Aktyubinsk 69.68 321 P **P 10 05 16.5 -1.5**
AKTO pmax pmax
comp=Z,8.0nm,0.7s
GAMB Gambell 70.08 25 *e*P **P 10 05 21.4 +1.2**
comp=Z,8.6nm,0.9s
ARU Arti 70.67 327 *e*P **P 10 05 22.2 -1.7**
ARU pmax pmax
comp=Z,44nm,0.4s
ARU Arti 70.67 327 *e*P **P 10 05 22.2 -1.7**
comp=Z,44nm,0.4s
ISAD Sadrabad 70.86 301 *e*P **P 10 05 24.4 -1.5**
ISRV Sarvestan 71.30 298 *e*P **P 10 05 27.1 -1.6**
IPAR Pars 71.36 299 *e*P **P 10 05 27.9 -1.1**
TNA Tin City 72.23 23 *e*P **P 10 05 33.7 +0.5**
comp=Z,3.7nm,0.7s
IKAZ Kazeroun 72.41 298 *e*P **P 10 05 33.7 -1.7**
KDAK Kodiak Island 77.95 33 *i*P **P 10 06 07.3 +1.2**
PRGR Permogore 78.08 331 *e*P P 10 06 04.4 -2.4
PRGR pmax pmax
comp=Z,15nm,0.8s
RAYN Ar Rayn 78.32 292 *e*P **P 10 06 08.0 -1.0**
comp=Z,42nm,0.8s
PPLA Purkeypile 78.44 28 *e*P **P 10 06 09.6 +0.6**
comp=Z,6.7nm,0.6s
ZEI Tsey 78.72 312 *e*P P 10 06 08.9 -2.1
ZEI pmax pmax
comp=Z,8.0nm,0.7s
TRF Thorofare Moun 79.33 27 *e*P **P 10 06 14.5 +0.6**
comp=Z,5.4nm,0.6s
KBZ Khabaz 79.43 313 P **P 10 06 13.7 -0.9**
comp=Z,3.2nm,0.8s,baz=92,slow=10.0,SNR=6.5
RC01 Rabbit Creek A 79.52 29 *e*P **P 10 06 14.5 -0.2**
comp=Z,17nm,0.5s
COLD Coldfoot 79.53 23 *e*P **P 10 06 16.1 +1.4**
comp=Z,10.0nm,0.5s
KIV Kislovodsk 79.57 313 *e*P **P 10 06 13.6 -1.9**
KIV pmax pmax
comp=Z,10.0nm,0.9s
PMR Palmer 79.82 29 *e*P **P 10 06 16.6 +0.3**
PMR pmax pmax
comp=Z,24nm,0.6s
PMR Palmer 79.82 29 *e*P **P 10 06 16.6 +0.3**
comp=Z,24nm,0.6s
MCK McKinley 79.94 27 *e*P **P 10 06 17.3 +0.3**
MCK pmax pmax
comp=Z,28nm,0.5s
MCK McKinley 79.94 27 *e*P **P 10 06 17.3 +0.3**
comp=Z,28nm,0.5s
COLA College 80.43 26⇓*i*P **P 10 06 19.3 -0.2**
COLA pmax pmax
comp=Z,22nm,0.8s
COLA College 80.43 26 *e*P **P 10 06 19.8 +0.3**
comp=Z,7.1nm,0.6s
ILAR Eielson Array 80.84 26 P **P 10 06 21.3 -0.5**
comp=Z,6.2nm,0.5s,baz=236,slow=5.0,SNR=86
ILAR PKKPbc **PKKPbc 10 24 59.5 -3.0**
comp=Z,0.2nm,0.4s,baz=128,slow=2.4,SNR=5.1
KLMR Klimovskoe 81.02 330 *e*P P 10 06 20.6 -2.2
KLMR pmax pmax
comp=Z,11nm,0.6s
DIV Divide 81.45 29 *e*P **P 10 06 26.1 +1.0**
comp=Z,20nm,0.6s
PAX Paxson 81.52 27 *e*P **P 10 06 26.3 +0.8**
PAX pmax pmax
comp=Z,6.0nm,0.5s
PAX Paxson 81.52 27 *e*P **P 10 06 26.3 +0.8**
comp=Z,5.9nm,0.5s
VSR Storozhevoye 81.62 321⇑*e*P **P 10 06 24.9 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
MENT Mentasta 82.32 27 *e*P **P 10 06 30.6 +1.0**
OBN Obninsk 82.91 325⇑*e*P P 10 06 28.0 -4.8
OBN *i* 10 09 38.4
OBN *e*S **S 10 16 44.0 -1.1**
OBN pmax pmax
comp=Z,24nm,2.0s
EGAK Eagle 83.29 26 *e*P **P 10 06 35.3 +0.7**
comp=Z,9.3nm,0.6s
JOF Joensuu 84.71 333 *e*P **P 10 06 41.1 -0.7**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 84.71 333 *e*p **P 10 06 41.1 -0.7**
comp=Z,5.4nm,0.5s
KEV Kevo 85.21 340 *e*P **P 10 06 43.4 -0.8**
KEV pmax pmax
comp=Z,4.0nm,0.5s
KEV Kevo 85.21 340 *e*p **P 10 06 43.4 -0.8**
comp=Z,4.1nm,0.5s
HYT Haines Junctio 85.49 29 *e*P **P 10 06 47.5 +1.6**
ARCES ARCESS Array B 85.78 340 P **P 10 06 45.9 -1.2**
comp=Z,11nm,0.7s,baz=81,slow=5.4,SNR=65
ARCES PKKPbc **PKKPbc 10 24 48.4 -2.8**
comp=Z,6.4nm,1.0s,baz=305,slow=4.3,SNR=4.2
BRTR Keskin Array B 86.68 310 P **P 10 06 50.9 -1.4**
comp=Z,1.4nm,0.5s,baz=127,slow=4.0,SNR=11
KAF Kangasniemi 87.14 332 *e*P **P 10 06 52.3 -1.5**
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 87.14 332 *e*p **P 10 06 52.3 -1.5**
comp=Z,4.9nm,0.5s
FINES FINESS Array B 87.40 332 P **P 10 06 53.9 -1.2**
comp=Z,4.7nm,0.4s,baz=86,slow=3.6,SNR=116
AKASG Malin Array Be 87.92 321 P **P 10 06 56.1 -1.7**
comp=Z,0.6nm,0.4s,baz=67,slow=5.4,SNR=4.9
VNDA Vanda 88.29 173 P **P 10 06 59.4 +0.4**
comp=Z,5.4nm,0.6s,baz=317,slow=6.5,SNR=44
VNDA PKKP **PKKPdf 10 24 43.8 +3.7**
comp=Z,0.6nm,0.4s,baz=213,slow=2.5,SNR=5.5
KMBO Kilima Mbogo 89.35 269 *e*P **P 10 07 05.6 -0.1**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 89.35 269 P **P 10 07 05.5 -0.1**
comp=Z,3.3nm,0.6s,baz=50,slow=2.3,SNR=6.0
DAG Danmarks Havn 92.39 352⇑*i*P **P 10 07 16.9 -1.2**
comp=Z,10nm,0.8s
KOLS Kolonicke sedl 92.71 320 *e*P **P 10 07 20.1 -0.2**
KOLS Kolonicke sedl 92.71 320 *e*P **P 10 07 20.1 -0.2**
RES Resolute Bay 93.08 10 *e*P **P 10 07 21.1 -0.2**
RES pmax pmax
comp=Z,10.0nm,1.0s
RES Resolute Bay 93.08 10 *e*P **P 10 07 21.1 -0.2**
comp=Z,9.6nm,1.0s
STHS Stebnicka Huta 93.22 321 *e*P **P 10 07 21.4 -1.2**
STHS Stebnicka Huta 93.22 321 *e*P **P 10 07 21.4 -1.2**
NB2 NORSAR Subarra 94.29 334 P **P 10 07 25.3 -2.0**
comp=Z,1.7nm,0.6s,baz=65,slow=4.4
NB2 NORSAR Subarra 94.29 334 P **P 10 07 25.3 -2.0**
baz=65,slow=4.4
NOA NORSAR Array B 94.29 334 P P 10 07 24.9 -2.4
comp=Z,0.6nm,0.6s,baz=74,slow=6.6,SNR=11
YKA Yellowknife Ar 95.18 24 P **P 10 07 31.6 +0.3**
comp=Z,6.0nm,0.6s,baz=300,slow=4.6,SNR=140
YKA PP **PP 10 11 21.4 -0.1**
YKA *e*P **PKiKP 10 12 11.8 -0.1**
comp=Z,0.4nm,0.8s,baz=303,slow=7.3,SNR=4.5
YKA PKiKP **PKiKP 10 12 11.8 -0.1**
comp=Z,0.3nm,0.5s,baz=303,slow=1.7,SNR=8.8
YKA PKKPbc **PKKPdf 10 24 23.7 -2.6**
comp=Z,0.4nm,0.5s,baz=122,slow=3.0,SNR=15
GERES GERESS Array B 98.07 322 P **P 10 07 43.6 -1.1**
comp=Z,0.6nm,0.7s,baz=46,slow=7.8,SNR=5.3
NEW Newport 100.57 37 ⇓PKiKP **Pdif 10 07 55.4 -0.4**
baz=100
NVAR Mina Array Bea 103.84 47 Pdiff **Pdif 10 08 13.2 +2.3**
comp=Z,0.4nm,0.6s,baz=292,slow=4.8,SNR=3.3
NVAR PKiKP **PKiKP 10 12 29.3 +0.8**
comp=Z,0.4nm,0.7s,baz=339,slow=2.2,SNR=2.8
NVAR PKKPbc **PKKPbc 10 24 01.9 -0.5**
comp=Z,0.2nm,0.6s,baz=144,slow=5.2,SNR=4.3
BOSA Boshof 103.85 243 Pdiff **Pdif 10 08 06.4 -4.6**
comp=Z,8.9nm,1.1s,baz=59,slow=3.4,SNR=4.5
H19A Powell 107.22 38 ⇑PKiKP **PKiKP 10 12 33.9 -0.5**
baz=107
PDAR Pinedale Array 107.85 40 PKiKP **PKiKP 10 12 36.4 +0.7**
comp=Z,0.4nm,0.5s,baz=323,slow=0.5,SNR=3.7
I20A Worland 108.13 38 ⇓PKiKP **PKiKP 10 12 35.7 -0.4**
baz=108
U15A North Rim 109.03 47 ⇑PKiKP **PKiKP 10 12 38.8 +0.6**
baz=109
A27A Ledoux Ranch, 109.08 31 ⇓PKiKP **PKiKP 10 12 37.6 0.0**
baz=109
C26A Wahner Farm, P 109.34 32 ⇑PKiKP **PKiKP 10 12 38.9 +0.8**
baz=109
J22A Midwest 109.42 38 ⇑PKiKP **PKiKP 10 12 38.1 -0.5**
baz=109
H24A Dirks Ranch, A 109.82 36 ⇑PKiKP **PKiKP 10 12 38.0 -1.2**
baz=110
B28A Dugan Ranch, T 109.85 31 ⇑PKiKP **PKiKP 10 12 38.9 -0.1**
baz=110
O20A White River Ci 110.04 42 ⇑PKiKP **PKiKP 10 12 40.4 +0.5**
baz=110
WUAZ Wupatki 110.10 47 ⇑PKiKP **PKiKP 10 12 40.0 -0.1**
baz=110
F26A Lodgepole 110.24 34 ⇓PKiKP **PKiKP 10 12 39.8 -0.2**
baz=110
D28A Regan 110.55 32 ⇓PKiKP **PKiKP 10 12 40.8 +0.4**
baz=110
MDND Maddock 110.63 31 ⇑PKiKP **PKiKP 10 12 40.6 +0.1**
baz=110
I25A Rochford 110.72 36 ⇓PKiKP **PKiKP 10 12 40.7 -0.4**
baz=111
E28A Huff 110.87 33 ⇑PKiKP **PKiKP 10 12 41.2 +0.1**
baz=111
G27A Dupree 110.94 34 ⇓PKiKP **PKiKP 10 12 41.2 0.0**
baz=111
C30A Mose, Pekin 111.30 31 ⇓PKiKP **PKiKP 10 12 41.6 -0.2**
baz=111
H27A Howes 111.31 35 ⇓PKiKP **PKiKP 10 12 41.8 -0.2**
baz=111
E29A Napoleon 111.44 32 ⇓PKiKP **PKiKP 10 12 42.7 +0.6**
baz=111
O23A Lake Granby, G 111.52 41 ⇓PKiKP **PKiKP 10 12 43.2 +0.4**
baz=111
G28A Parade 111.69 34 ⇓PKiKP **PKiKP 10 12 42.6 0.0**
baz=112
F29A Eureka 111.81 33 ⇑PKiKP **PKiKP 10 12 43.0 +0.1**
baz=112
K26A Motz Farm, Whi 111.82 37 ⇑PKiKP **PKiKP 10 12 42.9 -0.2**
baz=112
E30A Jud 111.86 32 ⇓PKiKP **PKiKP 10 12 43.2 +0.3**
baz=112
H28A Mission Ridge 111.88 34 ⇓PKiKP **PKiKP 10 12 43.1 +0.1**
baz=112
J27A Elkhorn Farm, 112.19 36 ⇑PKiKP **PKiKP 10 12 43.7 0.0**
baz=112
I28A Midland 112.21 35 ⇑PKiKP **PKiKP 10 12 43.9 +0.2**
baz=112
G30A Faulkton 112.63 33 ⇑PKiKP **PKiKP 10 12 44.3 -0.1**
baz=112
I29A Vivian Onida 112.69 35 ⇓PKiKP **PKiKP 10 12 44.5 -0.1**
baz=113
U22A Llaves 112.90 45 ⇓PKiKP **PKiKP 10 12 46.1 +0.6**
baz=113
P25A Willow Gulch B 113.03 40 ⇓PKiKP **PKiKP 10 12 45.6 0.0**
baz=113
J29A Okreek 113.06 35 ⇑PKiKP **PKiKP 10 12 45.5 +0.2**
baz=113
V22A San Miguel Ran 113.10 45 ⇓PKiKP **PKiKP 10 12 46.1 +0.2**
baz=113
R24A Sanders Place, 113.11 42 ⇑PKiKP **PKiKP 10 12 45.8 0.0**
baz=113
P26A Davis Ranch, A 113.53 40 ⇑PKiKP **PKiKP 10 12 47.1 +0.7**
baz=113
V23A Ortiz Mt. (NFS 113.69 45 ⇓PKiKP **PKiKP 10 12 48.1 +1.1**
baz=114
121A Cookes Peak, D 114.12 49 ⇓PKiKP PKPdf 10 12 48.2 +0.4
baz=114
T25A Trinidad 114.17 43 ⇓PKiKP PKPdf 10 12 48.4 +0.5
baz=114
V24A Rampart Ranch, 114.33 44 ⇓PKiKP PKPdf 10 12 48.9 +0.6
baz=114
Z22A Elephant Butte 114.38 48 ⇓PKiKP **PKiKP 10 12 49.6 +1.3**
baz=114
W24A Lazy 6 Ranch, 114.51 45 ⇑PKiKP PKPdf 10 12 49.4 +0.9
baz=114
P28A Saint Francis 114.52 39 ⇑PKiKP **PKiKP 10 12 47.7 -0.6**
baz=114
S26A Kim 114.53 42 ⇑PKiKP **PKiKP 10 12 48.3 -0.1**
baz=114
V25A Rancho No Teng 114.73 44 ⇑PKiKP **PKiKP 10 12 49.7 +0.8**
baz=115
Q28A Sharon Springs 114.77 40 ⇓PKiKP **PKiKP 10 12 49.3 +0.5**
baz=115
ECSD EROS Data Cent 114.91 33 ⇑PKiKP **PKiKP 10 12 48.9 +0.1**
baz=115
U26A Atchley Ranch, 115.02 43 ⇑PKiKP **PKiKP 10 12 49.8 +0.3**
baz=115
Y24A Capitan 115.15 46 ⇓PKiKP **PKiKP 10 12 50.1 +0.2**
baz=115
W25A X Bar L Ranch, 115.16 45 ⇓PKiKP **PKiKP 10 12 50.1 +0.3**
baz=115
R28A Tribune 115.20 40 ⇑PKiKP **PKiKP 10 12 49.5 -0.2**
baz=115
V26A Tequesquite Ra 115.32 44 ⇓PKiKP **PKiKP 10 12 49.7 -0.3**
baz=115
Q29A Oakley 115.41 39 ⇓PKiKP **PKiKP 10 12 49.3 -0.7**
baz=115
BGNE Belgrade 115.57 36 ⇓PKiKP **PKiKP 10 12 49.9 -0.3**
baz=115
R29A Marienthal 115.58 40 ⇓PKiKP **PKiKP 10 12 50.3 0.0**
baz=116
U27A Thompson Grove 115.63 43 ⇓PKiKP **PKiKP 10 12 50.9 +0.4**
baz=116
W26A Owens Ranch, T 115.71 44 ⇓PKiKP **PKiKP 10 12 50.6 -0.2**
baz=116
SCHQ Schefferville 115.80 8 PKP **PKPdf 10 12 50.3 +0.1**
comp=Z,1.9nm,0.4s,baz=311,slow=1.4,SNR=14
Q30A Quinter 115.83 39 ⇑PKiKP **PKiKP 10 12 50.7 -0.1**
baz=116
V27A Dan Oppiter Fa 115.99 43 ⇑PKiKP **PKiKP 10 12 51.3 0.0**
baz=116
P31A Stockton 116.02 38 ⇑PKiKP **PKiKP 10 12 51.3 +0.2**
baz=116
R30A Dighton 116.21 40 ⇑PKiKP **PKPdf 10 12 50.8 -0.8**
baz=116
O32A Brockman Farm, 116.22 37 ⇑PKiKP **PKPdf 10 12 50.5 -0.9**
baz=116
V28A Channing 116.40 43 ⇓PKiKP **PKPdf 10 12 52.1 0.0**
baz=116
P32A Huiting Farm, 116.43 38 ⇓PKiKP **PKPdf 10 12 51.9 +0.1**
baz=116
Y27A Causey 116.78 45 ⇑PKiKP **PKPdf 10 12 53.0 +0.2**
baz=117
U30A WK&E Inc. Balk 117.00 41 ⇑PKiKP **PKPdf 10 12 53.1 -0.1**
baz=117
R32A Long Quarter, 117.11 39 ⇑PKiKP **PKPdf 10 12 53.1 -0.1**
baz=117
Q33A Connelly Farm, 117.29 38 ⇓PKiKP **PKPdf 10 12 53.3 -0.2**
baz=117
S32A Newby Ranch, P 117.41 39 ⇓PKiKP **PKPdf 10 12 52.7 -1.1**
baz=117
X29A Tulia 117.49 44 ⇑PKiKP **PKPdf 10 12 54.0 -0.2**
baz=117
R33A Olander Ranch, 117.63 38 ⇓PKiKP **PKPdf 10 12 53.7 -0.5**
baz=118
Y29A Porterfield Fa 117.83 44 ⇓PKiKP **PKPdf 10 12 55.2 +0.3**
baz=118
128A Castleberry Fa 117.94 46 ⇓PKiKP **PKPdf 10 12 55.3 +0.2**
baz=118
KSU1 Kansas State U 117.95 37 ⇑PKiKP **PKPdf 10 12 54.5 -0.3**
baz=118
Z29A Hungry Hill Ra 118.14 45 ⇑PKiKP **PKPdf 10 12 55.1 -0.3**
baz=118
U32A Winter Ranch, 118.17 41 ⇓PKiKP **PKPdf 10 12 55.4 +0.1**
baz=118
T33A Patterson Ranc 118.22 40 ⇓PKiKP **PKPdf 10 12 55.8 +0.4**
baz=118
W31A Holland Ranch, 118.25 42 ⇑PKiKP **PKPdf 10 12 56.1 +0.5**
baz=118
Y30A Stafford Cattl 118.36 44 ⇓PKiKP **PKPdf 10 12 56.4 +0.6**
baz=118
129A Stewart Farms, 118.37 46 ⇑PKiKP **PKPdf 10 12 56.0 +0.1**
baz=118
Z30A Sanderson Ranc 118.53 45 ⇑PKiKP **PKPdf 10 12 56.5 +0.4**
baz=118
V32A Arapaho 118.53 41 ⇓PKiKP **PKPdf 10 12 56.5 +0.4**
baz=118
X31A McDonald Ranch 118.55 43 ⇑PKiKP **PKPdf 10 12 56.5 +0.4**
baz=118
Y31A Rekieta Farm, 118.75 44 ⇓PKiKP **PKPdf 10 12 56.9 +0.4**
baz=119
W32A Sentinel 118.75 42 ⇓PKiKP **PKPdf 10 12 56.8 +0.3**
baz=119
229A Bryant Ranch, 118.77 46 ⇑PKiKP **PKPdf 10 12 56.9 +0.2**
baz=119
TXAR Lajitas Array 118.77 50 PKP **PKPdf 10 12 57.4 +0.7**
comp=Z,1.4nm,0.6s,baz=192,slow=0.7,SNR=23
V33A Lossen Ranch, 118.96 41 ⇓PKiKP **PKPdf 10 12 57.3 +0.4**
baz=119
Z31A Sharp Cattle R 119.19 44 ⇓PKiKP **PKPdf 10 12 57.4 0.0**
baz=119
W33A Caddo, Fort Co 119.25 42 ⇑PKiKP **PKPdf 10 12 57.9 +0.4**
baz=119
Y32A R-V Farms, Ver 119.28 43 ⇑PKiKP **PKPdf 10 12 57.7 +0.2**
baz=119
WMOK Wichita Mounta 119.29 42 *e*PKiKP **PKPdf 10 12 57.7 +0.1**
WMOK Wichita Mounta 119.29 42 *e*PKPdf **PKPdf 10 12 57.6 +0.1**
131A Roby 119.39 45 ⇓PKiKP **PKPdf 10 12 57.8 0.0**
baz=119
429A Davenport Ranc 119.42 48 ⇑PKiKP **PKPdf 10 12 58.1 +0.2**
baz=119
529A Stev Forest Ra 119.45 48 ⇓PKiKP **PKPdf 10 12 58.4 +0.4**
baz=119
V34A Guthrie 119.45 40 ⇑PKiKP **PKPdf 10 12 57.9 +0.1**
baz=119
330A Mertzon 119.53 47 ⇓PKiKP **PKPdf 10 12 58.4 +0.3**
baz=119
X33A Lawton 119.59 42 ⇓PKiKP **PKPdf 10 12 58.6 +0.5**
baz=120
W34A Bridge Creek, 119.65 41 ⇑PKiKP **PKPdf 10 12 58.7 +0.5**
baz=120
Z32A Haskell 119.66 44 ⇑PKiKP **PKPdf 10 12 58.8 +0.5**
baz=120
430A Baggett Ranch, 119.82 47 ⇑PKiKP **PKPdf 10 12 59.2 +0.5**
baz=120
Y33A Hilltop Ranch, 119.82 43 ⇑PKiKP **PKPdf 10 12 58.7 +0.2**
baz=120
231A Bronte 119.85 46 ⇑PKiKP **PKPdf 10 12 58.9 +0.2**
baz=120
ABTX Abilene, Hawle 119.93 45 ⇑PKiKP **PKPdf 10 12 58.9 +0.1**
baz=120
X34A Smith Ranch, M 120.00 42 ⇓PKiKP **PKPdf 10 12 59.3 +0.4**
baz=120
530A J-C Ranch, Com 120.08 48 ⇓PKiKP **PKPdf 10 12 59.9 +0.7**
baz=120
331A San Angelo 120.12 46 ⇓PKiKP **PKPdf 10 12 58.9 -0.3**
baz=120
Z33A Whitaker Ranch 120.15 43 ⇑PKiKP **PKPdf 10 12 59.5 +0.3**
baz=120
431A Sonora 120.33 47 ⇓PKiKP **PKPdf 10 12 59.8 +0.2**
baz=120
Y34A Reagan Ranch, 120.43 42 ⇑PKiKP **PKPdf 10 12 59.8 0.0**
baz=120
133A Hamilton Ranch 120.44 44 ⇑PKiKP **PKPdf 10 12 59.8 0.0**
baz=120
TUL1 Leonard 120.50 39 ⇑PKiKP **PKPdf 10 12 59.7 -0.1**
baz=120
332A Millersview 120.56 46 ⇓PKiKP **PKPdf 10 13 00.4 +0.3**
baz=120
531A Rocksprings 120.65 47 ⇓PKiKP **PKPdf 10 13 00.5 +0.2**
baz=121
233A Rising Star 120.79 45 ⇓PKiKP **PKPdf 10 13 00.6 +0.1**
baz=121
432A Menard 120.81 46 ⇑PKiKP **PKPdf 10 13 00.7 +0.2**
baz=121
TORD Torodi Ar. Bea 121.00 291 PKP **PKPdf 10 13 00.2 -1.0**
comp=Z,1.7nm,0.5s,baz=49,slow=2.0,SNR=33
TORD PKKPbc **PKKPbc 10 23 05.5 +1.3**
comp=Z,0.8nm,0.9s,baz=254,slow=2.3,SNR=4.7
JCT Junction City 121.02 47 ⇑PKiKP **PKPdf 10 13 01.3 +0.3**
baz=121
631A Perdido Creek 121.04 48 ⇓PKiKP **PKPdf 10 13 01.4 +0.4**
baz=121
134A White-Moore Ra 121.04 44 ⇑PKiKP **PKPdf 10 13 01.5 +0.6**
baz=121
333A Richland Sprin 121.13 45 ⇑PKiKP **PKPdf 10 13 01.2 +0.1**
baz=121
532A Rocksprings 121.14 47 ⇓PKiKP **PKPdf 10 13 01.5 +0.3**
baz=121
Z35A Perchaven, San 121.15 42 ⇑PKiKP **PKPdf 10 13 01.1 0.0**
baz=121
234A Clairette 121.33 44 ⇑PKiKP **PKPdf 10 13 02.1 +0.6**
baz=121
433A Art 121.38 46 ⇓PKiKP **PKPdf 10 13 02.1 +0.4**
baz=121
135A Vickery Place, 121.50 43 ⇓PKiKP **PKPdf 10 13 02.7 +0.9**
baz=121
632A Uvalde 121.56 48 ⇑PKiKP **PKPdf 10 13 02.6 +0.5**
baz=122
334A Lometa 121.65 45 ⇓PKiKP **PKPdf 10 13 02.3 +0.2**
baz=122
WHTX Lake Whitney, 121.81 44 ⇑PKiKP **PKPdf 10 13 02.9 +0.5**
baz=122
434A Burnet 121.92 45 ⇓PKiKP **PKPdf 10 13 03.4 +0.7**
baz=122
832A Faith Ranch, C 122.08 49 ⇑PKiKP **PKPdf 10 13 03.7 +0.7**
baz=122
534A Blanco 122.22 46 ⇑PKiKP **PKPdf 10 13 03.6 +0.3**
baz=122
335A Moody 122.24 45 ⇑PKiKP **PKPdf 10 13 03.8 +0.6**
baz=122
733A Divot King Ran 122.35 48 ⇓PKiKP **PKiKP 10 13 04.7 +1.0**
baz=122
435B Jarrell 122.42 45 ⇓PKiKP **PKPdf 10 13 03.8 +0.2**
baz=122
833A Chaparral WMA, 122.49 49 ⇑PKiKP **PKPdf 10 13 04.6 +0.8**
baz=122
336A Riesel 122.58 44 ⇓PKiKP **PKPdf 10 13 04.5 +0.6**
baz=122
634A China Grove, S 122.67 47 ⇑PKiKP **PKPdf 10 13 04.8 +0.7**
baz=123
734A La Parita Cree 122.82 48 ⇑PKiKP **PKPdf 10 13 05.2 +0.8**
baz=123
535A Dale 122.87 46 ⇓PKiKP **PKPdf 10 13 05.0 +0.6**
baz=123
237A Washetta, Mont 122.92 43 ⇑PKiKP **PKPdf 10 13 05.5 +1.0**
baz=123
933A Laredo 122.96 49 ⇓PKiKP **PKiKP 10 13 06.0 +1.1**
baz=123
834A Tilden 123.22 48 ⇑PKiKP **PKiKP 10 13 06.2 +0.8**
baz=123
337A Centerville 123.28 44 ⇑PKiKP **PKiKP 10 13 06.4 +1.0**
baz=123
735A Kenedy 123.36 47 ⇓PKiKP **PKiKP 10 13 07.0 +1.3**
baz=123
238A Jacksonville 123.38 42 ⇓PKiKP **PKiKP 10 13 06.6 +1.0**
baz=123
934A Benavides 123.53 49 ⇓PKiKP **PKiKP 10 13 07.3 +1.3**
baz=124
636A Smothers Creek 123.55 46 ⇑PKiKP **PKiKP 10 13 07.3 +1.3**
baz=124
338A Crockett 123.65 43 ⇓PKiKP **PKiKP 10 13 07.4 +1.2**
baz=124
835A Beeville 123.67 48 ⇑PKiKP **PKiKP 10 13 08.0 +1.7**
baz=124
034A Hebbronville 123.70 49 ⇑PKiKP **PKiKP 10 13 08.0 +1.6**
baz=124
537A Green Hill Far 123.72 45 ⇑PKiKP **PKiKP 10 13 07.5 +1.2**
baz=124
438A Sam Houston St 123.90 44 ⇑PKiKP **PKiKP 10 13 07.9 +1.2**
baz=124
035A Encino 124.21 49 ⇓PKiKP **PKPdf 10 13 08.0 +0.9**
baz=124
340A Bronson 124.56 42 ⇑PKiKP **PKPdf 10 13 08.1 +0.4**
baz=124
738A Farr-Stevens R 124.92 46 ⇓PKiKP **PKPdf 10 13 08.0 -0.5**
baz=125
DBIC Dimbokro 129.11 286 PKP **PKPdf 10 13 16.6 -0.3**
comp=Z,2.0nm,0.5s,baz=50,slow=4.6,SNR=3.6
KMSC Kings Mountain 129.18 29 ⇓PKiKP **PKPdf 10 13 16.2 -0.3**
baz=129
JTS JuntasAbangare 143.55 60 *e*PKIKP **PKPdf 10 13 43.8 +0.3**
JTS JuntasAbangare 143.55 60 *e*PKPdf **PKPdf 10 13 43.8 +0.3**
PLCA Paso Flores 144.65 157 *e*PKIKP PKPbc 10 13 44.4 +0.7
PLCA Paso Flores 144.65 157 PKP **PKPab 10 13 44.3 +0.8**
comp=Z,8.0nm,0.8s,baz=96,slow=19
GRTK Grand Turk 145.44 30 *e*PKPdf **PKPbc 10 13 47.2 +0.5**
SDDR Presa de Saban 147.48 32 *e*PKPbc **PKPbc 10 13 53.0 +0.3**
BCIP Isla Barro Col 148.43 57 *e*PKPbc **PKPbc 10 13 55.7 +0.3**
TRQA Tornquist 149.74 167 *e*PKPdf **PKPdf 10 13 53.6 +0.3**
TRQA *e*PKPbc **PKPbc 10 13 58.6 +0.5**
LSP Las Mesas 150.21 27 *e*PKPbc **PKPbc 10 13 59.3 -0.4**
CRPR Cabo Rojo, PR 150.35 27 *e*PKPbc **PKPbc 10 13 59.5 -0.5**
CELP Cerrillos 150.52 26 *e*PKPbc **PKPbc 10 14 00.1 -0.3**
ROSC El Rosal 155.35 58 PKP **PKPdf 10 14 02.7 0.0**
comp=Z,1.8nm,0.4s,baz=114,slow=20,SNR=2.6
LPAZ La Paz 163.89 120 *e*PKIKP **PKPdf 10 14 12.8 +0.2**
LPAZ La Paz 163.89 120 PKP **PKPdf 10 14 13.3 +0.8**
comp=Z,2.9nm,0.7s,baz=234,slow=2.1,SNR=12
LPAZ PKPab **PKPab 10 15 07.2 +1.7**
comp=Z,1.0nm,0.7s,baz=240,slow=8.1,SNR=2.3
LPAZ La Paz 163.89 120 *e*PKPdf **PKPdf 10 14 12.8 +0.2**
LPAZ PKP **PKPdf 10 14 13.3 +0.8**

LPAZ PKPab **PKPab 10 15 07.2 +1.7**

*IDC **14** 09:55:56.6±1.6, 35°.75N×141°.26E, h0km, mb3.4/3, mb1 3.8/6, mb1mx3.6/29, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=35.7km s-min=31.6km az=107.0*
*ISCJB **14** 09:56:00.0±1.2, 35.86N±0.05×141.22E±0.09, h30km±7km, mb3.4/3, Error ellipse: s-maj=11.9km s-min=8.4km az=169.7*
*JMA **14** 09:56:01.1±0.1, 35.81N×141.14E, h33km±1km, M3.1*
ISC 14 09:55:59.6±1.0, 35°.83N±0°.06×141°.24E±0°.09, h20km±7km, n19, σ1§04/18, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.33**	**248**	P			**Pn**	**09 56 08.1**	**-1.2**
CHOJ				S			**Sb**	**09 56 12.9**	**+1.2**
JYT	**Yasato**	**0.93**	**296**	P			**Pb**	**09 56 16.6**	**-0.5**
JYT				S			**Sb**	**09 56 28.8**	**-0.3**
JCN	**Nagara**	**0.94**	**244**	P			**Pn**	**09 56 17.8**	**+0.2**
JHO	**Hitachi**	**0.95**	**326**	P			**Pn**	**09 56 17.7**	**-0.1**
BSO3	**Boso 3**	**1.18**	**210**	P			**Pb**	**09 56 21.3**	**+0.1**
BSO3				eS			**Sb**	**09 56 35.8**	**-0.2**
BSO1	**Boso 1**	**1.19**	**190**	P			**Pb**	**09 56 21.1**	**-0.1**
MJAR	**Matsushiro Arr**	**2.55**	**287**	Pn			**Pn**	**09 56 40.5**	**+0.7**
	2.5nm,0.3s,baz=96,slow=8.4,SNR=7.3								
MJAR				Sn			**Sb**	**09 57 15.1**	**-0.6**
	2.6nm,0.3s,baz=253,slow=33,SNR=4.4								
MAT	**Matsushiro**	**2.55**	**287**	P			**Pn**	**09 56 40.7**	**+0.8**
MAT				S			**Sn**	**09 57 09.6**	**-0.8**
ASAJ	**Asahikawa**	**8.34**	**7**	Pn			**Pn**	**09 57 58.3**	**-1.1**
	1.8nm,0.3s,baz=178,slow=3.3,SNR=10.0								
JCJ	**Chichijima**	**8.74**	**174**	Pn			**Pn**	**09 58 02.6**	**-2.4**
	baz=280,slow=18								
H11N2	**WAKE ISLAND Hy**	**27.68**	**119**	T			T	10 30 47.5	
	baz=311,slow=75,SNR=8.3								
H11N1	**WAKE ISLAND Hy**	**27.68**	**119**	T			T	10 30 49.3	
	baz=311,slow=75,SNR=5.6								
H11N3	**WAKE ISLAND Hy**	**27.69**	**119**	T			T	10 30 55.1	
	baz=311,slow=75,SNR=5.6								
H11S1	**WAKE ISLAND Hy**	**28.35**	**121**	T			T	10 31 43.4	
	baz=302								
H11S3	**WAKE ISLAND Hy**	**28.35**	**121**	T			T	10 31 43.7	
	baz=302								
H11S2	**WAKE ISLAND Hy**	**28.36**	**121**	T			T	10 31 38.3	
	baz=302								
ILAR	**Eielson Array**	**50.59**	**32**	P			**P**	**10 04 58.0**	**+1.4**
	0.4nm,0.7s,baz=266,slow=5.8,SNR=5.7								
YKA	**Yellowknife Ar**	**64.92**	**30**	P			**P**	**10 06 38.3**	**+1.0**
	0.1nm,0.7s,baz=305,slow=6.9,SNR=3.3								
NOA	**NORSAR Array B**	**75.24**	**337**	P			**P**	**10 07 40.4**	**-0.3**
	0.7nm,0.7s,baz=41,slow=5.0,SNR=3.1								

*IDC **14** 09:58:32.3±0.8, 35°.78N×141°.31E, h0km, mb3.8/13, mb1 4.0/16, mb1mx3.9/30, mbtmp3.8/16, ML4.2/3, Error ellipse: s-maj=24.8km s-min=17.4km az=74.0*
*ISCJB **14** 09:58:35.3±1.0, 35.85N±0.03×141.30E±0.06, h30km±6km, mb3.8/14, Error ellipse: s-maj=8.6km s-min=5.5km az=177.7*
*NEIC **14** 09:58:36.2±1.9, 35°.78N×141°.31E, h25km±14km, mb4.4/1, Error ellipse: s-maj=9.7km s-min=6.6km az=89.0*
*JMA **14** 09:58:37.4±0.1, 35°.81N×141°.13E, h34km±1km, M3.7*
JMA Felt I J1.
ISC 14 09:58:35.8±1.4, 35°.82N±0°.04×141°.28E±0°.07, h22km±10km, n36, σ0§91/38, mb3.8/14, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.36**	**251**	⇓P			**Pb**	**09 58 44.3**	**+0.7**
CHOJ				S			**Sb**	**09 58 49.2**	**+0.3**
I30JP	**ISUMI INFRASON**	**0.94**	**237**	Pg			**Pb**	**09 58 51.8**	**-1.6**
I30JP				Lg			Lg	09 59 06.2	
JYT	**Yasato**	**0.97**	**295**	P			**Pb**	**09 58 52.8**	**-1.1**
JYT				eS			**Sb**	**09 59 04.9**	**-1.3**
JHO	**Hitachi**	**0.97**	**324**	P			**Pb**	**09 58 53.9**	**-0.1**
JHO				eS			**Sb**	**09 59 06.8**	**+0.4**
BSO4	**Boso 4**	**1.13**	**223**	P			**Pb**	**09 58 57.0**	**+0.4**
BSO1	**Boso 1**	**1.19**	**192**	P			**Pb**	**09 58 57.1**	**-0.3**
BSO1				eS			**Sb**	**09 59 12.0**	**-0.2**
BSO3	**Boso 3**	**1.20**	**212**	P			**Pb**	**09 58 57.6**	**0.0**
BSO3				eS			**Sb**	**09 59 13.2**	**+0.7**
JAG	**Ashikaga**	**1.59**	**293**	⇓P			**Pn**	**09 59 01.8**	**-0.9**
JAG				S			**Sn**	**09 59 20.5**	**-2.1**
MJAR	**Matsushiro Arr**	**2.58**	**287**	Pn			**Pn**	**09 59 17.0**	**+0.7**
	12nm,0.3s,baz=94,slow=9.1,SNR=25								
MJAR				Sn			**Sb**	**09 59 53.5**	**+0.7**
	7.2nm,0.3s,baz=72,slow=28,SNR=5.2								
MAJO	**Matsushiro**	**2.58**	**287**	ePn			**Pn**	**09 59 17.1**	**+0.8**
MAT	**Matsushiro**	**2.58**	**287**	P			**Pn**	**09 59 17.0**	**+0.7**
MAT				S			**Sn**	**09 59 47.9**	**+0.8**
JHJ2	**Mitsune**	**2.96**	**204**	ePn			**Pn**	**09 59 22.8**	**+1.3**
ERM	**Erimo**	**6.36**	**13**	ePn			**Pn**	**10 00 09.5**	**+1.4**
ASAJ	**Asahikawa**	**8.35**	**7**	Pn			**Pn**	**10 00 35.1**	**-0.3**
	2.3nm,0.3s,baz=208,slow=11,SNR=12								
CBIJ	**Chichi jima**	**8.73**	**175**	ePn			**Pn**	**10 00 38.8**	**-2.0**
CBIJ				Sn			Sn	10 02 11.3	-7.3
JCJ	**Chichijima**	**8.73**	**175**	Pn			**Pn**	**10 00 39.0**	**-1.8**
	17nm,0.3s,baz=320,slow=18,SNR=10								
JCJ				Sn			Sn	10 02 11.3	-7.3
	4.0nm,0.3s,baz=306,slow=19,SNR=3.1								
H11N2	**WAKE ISLAND Hy**	**27.64**	**119**	T			T	10 33 26.2	
	baz=311,slow=75,SNR=18								
H11N1	**WAKE ISLAND Hy**	**27.65**	**119**	T			T	10 33 28.9	
	baz=311,slow=75,SNR=15								
H11N3	**WAKE ISLAND Hy**	**27.66**	**119**	T			T	10 33 26.4	
	baz=311,slow=75,SNR=18								
H11S1	**WAKE ISLAND Hy**	**28.32**	**121**	T			T	10 34 14.6	
	baz=312,slow=75,SNR=20								
H11S3	**WAKE ISLAND Hy**	**28.32**	**121**	T			T	10 34 14.6	
	baz=312,slow=75,SNR=17								
H11S2	**WAKE ISLAND Hy**	**28.33**	**121**	T			T	10 34 17.0	
	baz=312,slow=75,SNR=12								
SONM	**Songino Array**	**28.39**	**306**	P			**P**	**10 04 28.7**	**+0.2**
	0.6nm,0.4s,baz=101,slow=7.6,SNR=2.8								
ZALV	**Zalesovo Beam**	**42.66**	**313**	P			**P**	**10 06 30.9**	**+0.5**
	0.8nm,0.4s,baz=103,slow=8.4,SNR=3.3								
MKAR	**Makanchi Array**	**44.68**	**303**	P			**P**	**10 06 47.1**	**+0.3**
	1.4nm,0.6s,baz=83,slow=9.9,SNR=3.8								
KURK	**Kurchatov**	**46.60**	**309**	eP			**P**	**10 07 02.2**	**+0.3**
	3.3nm,0.8s								
BVAR	**Borovoye Array**	**51.31**	**313**	P			**P**	**10 07 37.6**	**-0.4**
	0.8nm,0.6s,baz=61,slow=15,SNR=4.7								
WRA	**Warramunga Arr**	**55.85**	**188**	P			**P**	**10 08 11.3**	**-0.3**
	0.8nm,0.4s,baz=4.6,slow=7.4,SNR=11								
ASAR	**Alice Springs**	**59.58**	**188**	P			**P**	**10 08 37.4**	**-0.4**
	0.6nm,0.8s,baz=1.7,slow=6.1,SNR=6.1								
YKA	**Yellowknife Ar**	**64.91**	**30**	P			**P**	**10 09 13.7**	**+0.6**
	0.4nm,0.7s,baz=304,slow=7.1,SNR=3.2								
FINES	**FINESS Array B**	**69.83**	**332**	P			**P**	**10 09 44.1**	**-0.1**
	0.8nm,0.7s,baz=77,slow=7.3,SNR=3.0								
AKASG	**Malin Array Be**	**75.19**	**322**	P			**P**	**10 10 16.6**	**+0.3**
	0.5nm,0.4s,baz=49,slow=6.3,SNR=2.5								
NOA	**NORSAR Array B**	**75.26**	**337**	P			**P**	**10 10 17.3**	**+0.6**
	0.8nm,0.7s,baz=50,slow=6.4,SNR=2.8								
NVAR	**Mina Array Bea**	**75.80**	**53**	P			**P**	**10 10 21.1**	**+0.7**
	0.4nm,0.8s,baz=284,slow=7.3,SNR=3.2								
GERES	**GERESS Array B**	**83.68**	**328**	P			**P**	**10 11 02.8**	**0.0**
	0.1nm,0.3s,baz=46,slow=5.6,SNR=2.2								
TXAR	**Lajitas Array**	**90.95**	**52**	P			**P**	**10 11 38.4**	**0.0**
	0.2nm,0.8s,baz=308,slow=4.4,SNR=2.5								

IDC 14 09:59:45.8±1.8, 2°.74N×125°.47E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/23, mbtmp3.7/4, Error ellipse: s-maj=195.3km s-min=23.8km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.16**	**159**	P			P	10 05 03.5	-0.5
	0.9nm,0.5s,baz=338,slow=10,SNR=6.3								
ASAR	**Alice Springs**	**27.50**	**163**	P			P	10 05 35.2	+1.0
	0.2nm,0.3s,baz=348,slow=8.8,SNR=4.2								
STKA	**Stephens Creek**	**37.68**	**157**	P			P	10 07 02.8	-0.2
	2.5nm,0.7s,baz=335,slow=10,SNR=6.5								
MKAR	**Makanchi Array**	**57.66**	**326**	P			P	10 09 37.7	-0.3
	0.2nm,0.4s,baz=118,slow=6.4,SNR=3.3								

MEX 14 10:18:10.1±0.8, 16°.38N×97°.91W, h9km±7km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.21**	**274**	*i* P			Pg	10 18 13.6	-1.0
PNIG				*i* S			Sg	10 18 17.6	+0.1
VHO	**Vista Hermosa**	**1.32**	**58**	*e*P			Pn	10 18 31.2	-3.7
VHO				*i* S			Sb	10 18 47.3	-5.3
HUIG	**Huatulco**	**1.83**	**109**	*e*P			Pn	10 18 38.8	-2.9
HUIG				*i* S			Sn	10 19 00.1	-4.9
CAIG	**El Cayaco**	**2.36**	**287**	*i* P			Pn	10 18 45.8	-3.2
CAIG				*e*S			Sn	10 19 14.0	-4.2
CMIG	**Matias Romero**	**2.98**	**76**	*e*P			Pn	10 18 54.2	-3.4
CMIG				*i* S			Sn	10 19 29.6	-3.9

IDC 14 10:20:39.4±1.5, 3°.10N×125°.97E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/24, mbtmp3.7/5, Error ellipse: s-maj=174.4km s-min=18.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.33**	**161**	P			P	10 25 58.5	-0.6
	1.4nm,0.5s,baz=340,slow=10,SNR=24								
ASAR	**Alice Springs**	**27.70**	**164**	P			P	10 26 29.9	+0.3
	0.2nm,0.4s,baz=343,slow=7.9,SNR=9.2								
STKA	**Stephens Creek**	**37.82**	**158**	P			P	10 27 58.1	+0.3
	4.5nm,0.6s,baz=332,slow=8.8,SNR=15								
MKAR	**Makanchi Array**	**57.64**	**326**	P			P	10 30 31.5	0.0
	0.4nm,0.8s,baz=120,slow=8.5,SNR=2.9								
KURBB	**Kurchatov Arra**	**61.86**	**328**	P			P	10 31 00.1	-0.4
	0.4nm,0.5s,baz=130,slow=6.4,SNR=6.2								

*ISCJB **14** 10:33:28.0±0.9, 7°.24S±0°.06×129°.79E±0°.07, h150km, mb3.6/2, Error ellipse: s-maj=10.1km s-min=8.7km az=161.6*
*IDC **14** 10:33:29.8±9.3, 7°.25S×129°.61E, h130km±89km, mb3.5/2, mb1 3.4/5, mb1mx3.2/21, mbtmp3.8/5, Error ellipse: s-maj=106.8km s-min=24.7km az=50.0*
ISC 14 10:33:28.4±0.7, 7°.24S±0°.06×129°.88E±0°.08, h150km, n11, σ3§61/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.90**	**29**	P			**Pn**	**10 34 38.7**	**-1.9**
	baz=5.0,SNR=9.5								
FAKI				S			**Sn**	**10 35 32.2**	**-4.5**
	baz=5.0,SNR=5.5								
KDU	**Kakadu**	**5.98**	**155**	P			**Pn**	**10 34 57.9**	**+2.9**
	baz=6.4,SNR=28								
KDU				S			**Sn**	**10 35 59.5**	**-3.2**
	baz=6.4,SNR=5.8								
SOEI	**Soe**	**6.09**	**245**	S			**Sn**	**10 36 04.2**	**-1.2**
	baz=5.8,SNR=6.6								
BATI	**Baumata**	**6.82**	**244**	P			**Pn**	**10 35 04.6**	**-1.5**
	4.2nm,0.3s,baz=87,slow=3.7,SNR=2.5								
KNRA	**Kununurra**	**8.46**	**187**	P			**Pn**	**10 35 29.0**	**+1.1**
	baz=8.7,SNR=9.1								
KNRA				S			**Sn**	**10 37 00.2**	**-1.8**
	baz=8.7,SNR=5.3								
FITZ	**Fitzroy Crossi**	**11.56**	**201**	P			**Pn**	**10 36 08.1**	**-0.9**
	baz=12,SNR=17								
FITZ				S			**Sn**	**10 38 11.2**	**-5.7**
	baz=12,SNR=4.9								
WRA	**Warramunga Arr**	**13.35**	**162**	P			**Pn**	**10 36 33.4**	**+1.2**
	0.5nm,0.3s,baz=340,slow=14,SNR=20								
WRA				S			**Sn**	**10 38 55.6**	**-4.3**
	0.7nm,0.3s,baz=336,slow=20,SNR=10								
ASAR	**Alice Springs**	**16.78**	**167**	P			**Pn**	**10 37 18.6**	**+3.8**
	0.2nm,0.3s,baz=352,slow=14,SNR=13								
ASAR				S			**S**	**10 40 17.3**	**-4.2**
	0.1nm,0.3s,baz=358,slow=27,SNR=4.3								
WRKA	**Warakurna**	**17.76**	**185**	P			**Pn**	**10 37 31.3**	**+4.8**
	baz=18,SNR=14								
STKA	**Stephens Creek**	**26.84**	**158**	P			**P**	**10 38 59.3**	**+4.3**
	2.2nm,1.1s,baz=336,slow=9.9,SNR=3.2								
STKA				pP			pP	10 39 20.2	-6.2
	1.4nm,0.6s,baz=332,slow=10,SNR=7.6								
MKAR	**Makanchi Array**	**68.36**	**327**	P			**P**	**10 44 16.1**	**+2.5**
	0.4nm,0.4s,baz=109,slow=7.0,SNR=6.1								

IDC 14 10:36:12.6±1.8, 2°.82N×125°.73E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.6/4, Error ellipse: s-maj=181.6km s-min=23.8km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.15**	**160**	P			P	10 41 30.3	-0.4
	0.9nm,0.5s,baz=338,slow=11,SNR=4.1								
ASAR	**Alice Springs**	**27.51**	**164**	P			P	10 42 02.6	+1.6
	0.4nm,0.3s,baz=342,slow=10,SNR=4.4								
STKA	**Stephens Creek**	**37.66**	**158**	P			P	10 43 29.1	-0.6
	1.3nm,0.7s,baz=349,slow=8.9,SNR=7.1								
MKAR	**Makanchi Array**	**57.73**	**326**	P			P	10 46 05.0	-0.4
	0.3nm,0.6s,baz=120,slow=5.2,SNR=2.7								

*ISCJB **14** 10:42:21.7±0.9, 24°.8S±0°.2×179°.4E±0°.2, h507km, mb3.1/5, Error ellipse: s-maj=28.6km s-min=19.9km az=135.2*
*IDC **14** 10:42:28.5±7.2, 25°.32S×179°.46E, h591km±98km, mb2.7/5, mb1 3.2/6, mb1mx2.9/18, mbtmp3.7/6, Error ellipse: s-maj=88.3km s-min=28.7km az=0.0*
ISC 14 10:42:22.1±0.9, 24°.8S±0°.2×179°.5E±0°.2, h507km, n8, σ1§46/7, mb3.1/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.56**	**188**	P			**P**	**10 45 16.9**	**0.0**
	0.2nm,0.3s,baz=0.2,slow=11,SNR=2.6								
ASAR	**Alice Springs**	**41.40**	**262**	P			**P**	**10 49 24.2**	**+0.2**
	0.5nm,0.9s,baz=92,slow=8.3,SNR=3.8								
WRA	**Warramunga Arr**	**41.86**	**267**	P			**P**	**10 49 28.3**	**+0.7**
	0.2nm,0.3s,baz=105,slow=7.8,SNR=11								
NVAR	**Mina Array Bea**	**85.75**	**44**	P			**P**	**10 54 07.6**	**0.0**
	0.3nm,0.5s,baz=212,slow=5.0,SNR=6.3								
TXAR	**Lajitas Array**	**91.33**	**58**	P			**P**	**10 54 34.8**	**+1.1**
	0.5nm,0.8s,baz=216,slow=5.6,SNR=5.9								
ILAR	**Eielson Array**	**93.03**	**14**	P			**P**	**10 54 40.5**	**0.0**
	0.1nm,0.7s,baz=202,slow=5.9,SNR=2.7								
NOA	**NORSAR Array B**	**142.90**	**351**	PKP			**PKPdf**	**11 00 54.5**	**-2.6**
	1.7nm,1.0s,baz=24,slow=2.7,SNR=3.8								
HFS	**Hagfors**	**143.33**	**348**	PKP			PKPab	11 00 56.0	+0.1
	2.4nm,0.4s,baz=64,slow=3.4,SNR=24								

*IDC **14** 10:44:55.5±1.6, 34°.46N×24°.99E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/38, mbtmp3.5/4, ML3.9/2, Error ellipse: s-maj=34.4km s-min=13.3km az=88.0*
*CSEM **14** 10:44:58.7, 34°.65N×24°.51E, h24km, MD3.6*
*ATH **14** 10:44:58.7, 34°.65N×24°.51E, h24km±2km, MD3.6/16*
*ISCJB **14** 10:44:59.5±0.9, 34°.62N±0°.07×24°.58E±0°.05, h30km, mb3.2/2, Error ellipse: s-maj=10.0km s-min=5.5km az=179.3*
ISC 14 10:45:00.1±1.1, 34°.66N±0°.08×24°.59E±0°.04, h30km, n43, σ1§36/51, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.40**	**27**	*e*PB			**Pb**	**10 45 08.4**	**-0.7**
SIVA				*e*SB			**Sb**	**10 45 14.3**	**-0.9**
SIVA	**Sivas**	**0.40**	**27**	*e*Pb			**Pb**	**10 45 08.4**	**-0.7**
SIVA				*e*Sb			**Sb**	**10 45 14.3**	**-0.9**
IDI	**Anoyia**	**0.68**	**21**	Pg			**Pb**	**10 45 12.4**	**-1.2**
	14nm,0.3s,baz=206,slow=17,SNR=69								
IDI				Lg			Lg	10 45 22.4	
	82nm,0.3s,baz=360,slow=19,SNR=25								
VAM	**Vamos**	**0.81**	**337**	*e*PB			**Pn**	**10 45 13.6**	**-2.0**
VAM				*e*SN			**Sb**	**10 45 26.0**	**-0.5**
VAM	**Vamos**	**0.81**	**337**	*e*Pb			**Pn**	**10 45 13.6**	**-2.0**
VAM				*e*Sn			**Sb**	**10 45 26.0**	**-0.5**
LAST	**Lasithi**	**0.89**	**55**	*e*PN			**Pn**	**10 45 16.4**	**-0.3**
LAST				*e*SN			**Sb**	**10 45 30.2**	**+1.6**
LAST	**Lasithi**	**0.89**	**55**	*e*Pn			**Pn**	**10 45 16.4**	**-0.3**
LAST				*e*Sn			**Sb**	**10 45 30.2**	**+1.6**
NPS	**Neapolis**	**1.04**	**54**	*e*PN			**Pb**	**10 45 19.2**	**-0.3**
NPS				*e*SN			**Sb**	**10 45 34.5**	**+1.7**
NPS	**Neapolis**	**1.04**	**54**	*e*Pn			**Pb**	**10 45 19.2**	**-0.3**
NPS				*e*Sn			**Sb**	**10 45 34.5**	**+1.7**
ZKR	**Zakros**	**1.41**	**71**	*e*PB			**Pb**	**10 45 25.1**	**-0.8**
ZKR	**Zakros**	**1.41**	**71**	*e*Pb			**Pb**	**10 45 25.1**	**-0.8**
ANKY	**Antikythira Is**	**1.60**	**319**	*e*PN			**Pn**	**10 45 27.3**	**+0.9**
ANKY	**Antikythira Is**	**1.60**	**319**	*e*Pn			**Pn**	**10 45 27.3**	**+0.9**
SANT	**Santorini**	**1.85**	**22**	*e*PN			**Pn**	**10 45 31.4**	**+1.5**
SANT	**Santorini**	**1.85**	**22**	*e*Pn			**Pn**	**10 45 31.4**	**+1.5**
KYTH	**Kithira**	**2.06**	**322**	*e*PN			**Pn**	**10 45 33.8**	**+1.1**
KYTH	**Kithira**	**2.06**	**322**	*e*Pn			**Pn**	**10 45 33.8**	**+1.1**
KARP	**Karpathos**	**2.29**	**66**	*e*PB			**Pb**	**10 45 38.7**	**-2.1**
KARP	**Karpathos**	**2.29**	**66**	*e*Pb			**Pb**	**10 45 38.7**	**-2.1**
VLI	**Velíai**	**2.46**	**327**	*e*PN			**Pn**	**10 45 39.3**	**+1.1**
VLI	**Velíai**	**2.46**	**327**	*e*Pn			**Pn**	**10 45 39.3**	**+1.1**
APE	**Apeiranthos**	**2.53**	**17**	*e*PN			**Pn**	**10 45 40.0**	**+0.8**
APE	**Apeiranthos**	**2.53**	**17**	*e*Pn			**Pn**	**10 45 40.0**	**+0.8**
DID	**Didima**	**3.05**	**339**	*e*PN			**Pn**	**10 45 47.2**	**+0.9**
DID	**Didima**	**3.05**	**339**	*e*Pn			**Pn**	**10 45 47.2**	**+0.9**
VLX	**Vlachokerasia**	**3.25**	**327**	*e*PN			**Pn**	**10 45 50.6**	**+1.5**
VLX	**Vlachokerasia**	**3.25**	**327**	*e*Pn			**Pn**	**10 45 50.6**	**+1.5**
ITM	**Ithomi**	**3.32**	**320**	*e*PN			**Pn**	**10 45 50.7**	**+0.7**
ITM	**Ithomi**	**3.32**	**320**	*e*Pn			**Pn**	**10 45 50.7**	**+0.7**
LTK	**Loutraki**	**3.61**	**339**	*e*PN			**Pn**	**10 45 55.7**	**+1.7**
LTK	**Loutraki**	**3.61**	**339**	*e*Pn			**Pn**	**10 45 55.7**	**+1.7**
KLV	**Kalavryta, Ach**	**3.91**	**330**	*e*PN			**Pn**	**10 46 00.1**	**+1.9**
KLV	**Kalavryta, Ach**	**3.91**	**330**	*e*Pn			**Pn**	**10 46 00.1**	**+1.9**
DRO	**Drossia**	**4.03**	**326**	*e*PN			**Pn**	**10 46 01.6**	**+1.8**
DRO	**Drossia**	**4.03**	**326**	*e*Pn			**Pn**	**10 46 01.6**	**+1.8**
DSF	**Desfina**	**4.10**	**337**	*e*PN			**Pn**	**10 46 02.3**	**+1.5**
DSF	**Desfina**	**4.10**	**337**	*e*Pn			**Pn**	**10 46 02.3**	**+1.5**
MAKR	**Makrakomi, Fth**	**4.78**	**336**	*e*PN			**Pn**	**10 46 12.0**	**+1.9**
MAKR	**Makrakomi, Fth**	**4.78**	**336**	*e*Pn			**Pn**	**10 46 12.0**	**+1.9**
GERES	**GERESS Array B**	**16.31**	**334**	Pn			**P**	**10 48 50.0**	**+0.3**
	0.1nm,0.3s,baz=147,slow=13,SNR=5.4								
AKASG	**Malin Array Be**	**16.39**	**10**	Pn			**Pn**	**10 48 48.5**	**+0.7**
	1.5nm,0.3s,baz=200,slow=11,SNR=4.1								
TORD	**Torodi Ar. Bea**	**29.81**	**230**	P			**P**	**10 51 05.3**	**+0.8**
	0.2nm,0.4s,baz=39,slow=8.0,SNR=4.1								
MKAR	**Makanchi Array**	**44.44**	**56**	P			**P**	**10 53 06.3**	**-2.0**
	0.3nm,0.5s,baz=282,slow=7.2,SNR=3.4								

GUC 14 11:04:51.5±0.8, 34°.38S×72°.09W, h12km±5km, ML3.8, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.95**	**132**	⇑*i*P			Pg	11 05 08.7	-1.1
NICH				*i* S			Sg	11 05 21.6	-0.5
TALC	**Talca**	**1.09**	**160**	⇑*i*P			Pb	11 05 10.4	-1.8
TALC				*i* S4			Sg	11 05 24.4	-2.3
IHA	**Instituto Hidr**	**1.40**	**16**	⇑*i*P			Pn	11 05 15.9	-0.9
IHA				*i* S1			Sn	11 05 34.4	-0.8
ANTU	**Antumapu**	**1.45**	**57**	*e*P			Pn	11 05 16.7	-1.0
ANTU				*i* S			Sn	11 05 36.2	-0.6
ANTU				IAML				11 05 42.8	
	comp=E,2μm,0.4s								
LNCH	**Linares**	**1.52**	**165**	⇑*i*P			Pn	11 05 18.4	-0.2
LNCH				*i* S			Sn	11 05 38.1	-0.3
STL	**Santa Lucia**	**1.53**	**53**	*e*P			Pn	11 05 17.8	-0.9
STL				*e*S			Sn	11 05 38.0	-0.6
LACH	**Col Las Americ**	**1.59**	**55**	*e*P1			Pb	11 05 19.1	-1.9
LACH				*i* S			Sn	11 05 39.7	-0.5
CLCH	**Cerro Calan**	**1.62**	**53**	⇑*i*P			Pn	11 05 19.4	-0.6
CLCH				*i* S			Sn	11 05 40.8	-0.1
CLCH				IAML				11 05 49.9	
	comp=N,2μm,0.6s								
PEL	**Peldehue**	**1.70**	**44**	⇓*i*P			Pn	11 05 20.5	-0.6
PEL				*i* S			Sn	11 05 43.1	+0.3
PEL				IAML				11 05 50.0	
	comp=E,2μm,0.8s								
COCH	**Cobquecura**	**1.84**	**198**	*e*P9			Pn	11 05 21.2	-1.8
COCH				*e*S			Sn	11 05 44.3	-1.9

GUC 14 11:08:02.0±0.5, 35°.96S×72°.72W, h30km±2km, ML4.1, 2C-1D, Near coast of central Chile

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

ISC 14 11:32:27.9±0.4,34°57'S±0'.04×71°.78W±0'.07,h16km,n406,σ0993/413,mb4.7/59,148C-167D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.63**	**134⇑**	*i*P	**Pg**	**11 32 39.6**	**-0.7**
NICH				*i* S	**Sb**	**11 32 49.4**	**+0.3**
NICH				AML	AML	11 32 52.9	
	comp=E,40μm,0.3s						
TALC	**Talca**	**0.84**	**172⇓**	*i*P	**Pb**	**11 32 43.0**	**-1.1**
TALC				*i* S	**Sb**	**11 32 54.8**	**-0.3**
LNCH	**Linares**	**1.28**	**173⇓**	*i*P	**Pn**	**11 32 49.6**	**-1.6**
LNCH				*i* S	**Sb**	**11 33 07.3**	**-0.7**
LNCH				AML	AML	11 33 12.6	
	comp=E,15μm,0.6s						
ANTU	**Antumapu**	**1.38**	**44**	*e*P	**Pn**	**11 32 50.9**	**-1.7**
ANTU				AML	AML	11 33 13.2	
	comp=E,25μm,0.5s						
STL	**Santa Lucia**	**1.47**	**40**	*e*P9	**Pn**	**11 32 51.5**	**-2.4**
STL				*e*S	**Sn**	**11 33 11.0**	**-1.8**
LACH	**Col Las Americ**	**1.52**	**43⇓**	*i*P	**Pn**	**11 32 53.1**	**-1.4**
LACH				AML	AML	11 33 21.2	
	comp=N,6μm,0.5s						
CLCH	**Cerro Calan**	**1.56**	**42⇑**	*i*P	**Pn**	**11 32 53.8**	**-1.3**
CLCH				AML	AML	11 33 23.3	
	comp=E,18μm,0.7s						
PEL	**Peldehue**	**1.69**	**33⇓**	*i*P	**Pn**	**11 32 55.5**	**-1.3**
PEL				AML	AML	11 33 23.8	
	comp=N,15μm,0.5s						
CFAA	**Coronel Fontan**	**4.19**	**46**	Pn	**Pn**	**11 33 33.8**	**+2.6**
	comp=N,1.9nm,0.3s,baz=218,slow=12,SNR=39						
CFAA				Lg	Lg	11 34 39.1	
	comp=N,2.6nm,0.3s,baz=300,slow=14,SNR=8.5						
CFAA				LR	LR	11 35 21.4	
	comp=N,71nm,19.0s,baz=220,slow=42						
LCO	**Las Campanas**	**5.62**	**10**	*e*Pn	**Pn**	**11 33 49.7**	**-1.3**
PLCA	**Paso Flores**	**6.23**	**171**	Pn	**Pn**	**11 33 59.1**	**-0.1**
	baz=330,slow=15						
PLCA				Lg	Lg	11 35 42.1	
	baz=253,slow=19						
PLCA	**Paso Flores**	**6.23**	**171**	*e*Pn	**Pn**	**11 34 01.0**	**+1.7**
PLCA				Lg	Lg	11 35 42.1	
TRQA	**Tornquist**	**8.64**	**117**	*e*Pn	**Pn**	**11 34 34.9**	**+2.6**
LVC	**Limon Verde**	**12.17**	**13**	*e*Pn	Pn	11 35 25.0	+4.0
LPAZ	**La Paz**	**18.50**	**11**	P	**Pn**	**11 36 44.5**	**+0.3**
	comp=N,0.4nm,0.3s,baz=184,slow=7.6,SNR=11						
LPAZ	**La Paz**	**18.50**	**11**	*e*P	**Pn**	**11 36 44.5**	**+0.3**
	comp=N,5.8nm,0.8s						
USHA	**Ushuaia**	**20.40**	**174**	P	**P**	**11 37 04.0**	**+0.1**
	comp=N,8.1nm,0.8s,baz=90,slow=2.0,SNR=3.2						
SIV	**San Ignacio**	**20.85**	**30**	P	**P**	**11 37 07.7**	**-1.5**
	comp=N,7.6nm,0.8s,baz=224,slow=10,SNR=14						
NNA	**Nana**	**22.95**	**347**	P	**P**	**11 37 31.0**	**-0.6**
	comp=N,16nm,0.8s,baz=198,slow=9.9,SNR=8.1						
NNA	**Nana**	**22.95**	**347**	*e*P	**P**	**11 37 32.9**	**+1.3**
	comp=N,20nm,0.9s						
SAML	**Samuel**	**26.69**	**19**	*e*P	**P**	**11 38 07.6**	**+1.2**
	comp=N,6.9nm,0.6s						
BDFB	**Brasilia**	**28.48**	**55**	P	**P**	**11 38 22.6**	**0.0**
	comp=N,6.0nm,0.8s,baz=231,slow=9.8,SNR=9.8						
BDFB				LR	LR	11 51 13.1	
	comp=N,175nm,19.2s,baz=329,slow=40						
OTAV	**Otavalo**	**35.18**	**348**	*e*P	**P**	**11 39 23.4**	**+1.6**
	comp=N,18nm,1.6s						
PTGA	**Pitinga**	**35.43**	**21**	*e*P	**P**	**11 39 24.2**	**+0.8**
	comp=N,10nm,0.6s						
SNAA	**Sanae**	**50.98**	**158**	P	**P**	**11 41 27.9**	**-0.5**
	comp=N,2.7nm,1.0s,baz=322,slow=12,SNR=4.8						
VNDA	**Vanda**	**63.59**	**191**	P	**P**	**11 42 57.2**	**-0.1**
	comp=N,2.0nm,0.9s,baz=126,slow=3.1,SNR=7.1						
035A	**Encino**	**66.06**	**334**	⇑P	**P**	**11 43 14.8**	**+0.9**
	baz=66						
034A	**Hebbronville**	**66.38**	**334**	⇑P	**P**	**11 43 16.6**	**+0.5**
	baz=67						
933A	**Laredo**	**67.10**	**334**	⇑P	**P**	**11 43 20.6**	**0.0**
	baz=67						
835A	**Beeville**	**67.19**	**335**	⇓P	**P**	**11 43 21.9**	**+0.7**
	baz=68						
834A	**Tilden**	**67.30**	**334**	⇓P	**P**	**11 43 22.7**	**+0.8**
	baz=68						
735A	**Kenedy**	**67.71**	**335**	⇓P	**P**	**11 43 25.5**	**+1.1**
	baz=68						
833A	**Chaparral WMA,**	**67.78**	**334**	⇓P	**P**	**11 43 25.3**	**+0.4**
	baz=68						
734A	**La Parita Cree**	**67.96**	**335**	⇑P	**P**	**11 43 26.1**	**+0.1**
	baz=68						
832A	**Faith Ranch, C**	**67.96**	**333**	⇓P	**P**	**11 43 26.4**	**+0.4**
	baz=68						
636A	**Smothers Creek**	**68.03**	**336**	⇓P	**P**	**11 43 27.3**	**+0.9**
	baz=68						
733A	**Divot King Ran**	**68.11**	**334**	⇑P	**P**	**11 43 27.2**	**+0.3**
	baz=68						
537A	**Green Hill Far**	**68.34**	**337**	⇑P	**P**	**11 43 29.2**	**+0.8**
	baz=69						
634A	**China Grove, S**	**68.38**	**335**	⇑P	**P**	**11 43 29.0**	**+0.4**
	baz=69						
633A	**Saathoff Ranch**	**68.74**	**334**	⇓P	**P**	**11 43 30.7**	**-0.2**
	baz=69						
340A	**Bronson**	**68.86**	**340**	⇑P	**P**	**11 43 32.0**	**+0.4**
	baz=69						
339A	**Huntington**	**68.97**	**339**	⇑P	**P**	**11 43 32.8**	**+0.5**
	baz=69						
632A	**Uvalde**	**69.00**	**334**	⇑P	**P**	**11 43 32.6**	**0.0**
	baz=69,SNR=6.1						
534A	**Blanco**	**69.01**	**335**	⇓P	**P**	**11 43 32.4**	**-0.2**
	baz=69						
631A	**Perdido Creek**	**69.20**	**333**	⇑P	**P**	**11 43 33.4**	**-0.3**
	baz=70						
338A	**Crockett**	**69.22**	**339**	⇑P	**P**	**11 43 34.2**	**+0.4**
	baz=70						
533A	**Kerrville**	**69.25**	**335**	⇓P	**P**	**11 43 34.1**	**+0.1**
	baz=70						
532A	**Rocksprings**	**69.61**	**334**	⇑P	**P**	**11 43 36.5**	**+0.1**
	baz=70,SNR=15						
434A	**Burnet**	**69.66**	**336**	⇑P	**P**	**11 43 36.2**	**-0.4**
	baz=70						
336A	**Riesel**	**69.72**	**337**	⇑P	**P**	**11 43 36.5**	**-0.4**
	baz=70						
531A	**Rocksprings**	**69.87**	**334**	⇓P	**P**	**11 43 38.1**	**+0.1**
	baz=70,SNR=14						
433A	**Art**	**69.89**	**335**	⇑P	**P**	**11 43 37.6**	**-0.4**
	baz=70,SNR=12						
JCT	**Junction City**	**69.89**	**334**	⇓P	**P**	**11 43 37.5**	**-0.6**
	baz=70						
JCT	**Junction City**	**69.89**	**334**	*e*P	**P**	**11 43 37.8**	**-0.2**
	comp=N,8.3nm,0.8s						
KMSC	**Kings Mountain**	**69.92**	**352**	⇑P	**P**	**11 43 36.8**	**-1.3**
	baz=70						
237A	**Washetta, Mont**	**69.97**	**338**	⇑P	**P**	**11 43 38.2**	**-0.2**
	baz=70						
334A	**Lometa**	**70.13**	**336**	⇓P	**P**	**11 43 39.1**	**-0.4**
	baz=70						
530A	**J-C Ranch, Com**	**70.15**	**333**	⇑P	**P**	**11 43 39.6**	**0.0**
	baz=70,SNR=5.5						
432A	**Menard**	**70.25**	**335**	⇑P	**P**	**11 43 39.3**	**-1.0**
	baz=71						
TXAR	**Lajitas Array**	**70.33**	**331**	P	**P**	**11 43 40.3**	**-0.6**
	comp=N,3.7nm,0.5s,baz=156,slow=8.6,SNR=45						
431A	**Sonora**	**70.36**	**334**	⇑P	**P**	**11 43 40.2**	**-0.7**
	baz=71						
333A	**Richland Sprin**	**70.37**	**335**	⇓P	**P**	**11 43 40.2**	**-0.8**
	baz=71,SNR=7.0						
529A	**Stev Forest Ra**	**70.46**	**332**	⇓P	**P**	**11 43 41.4**	**-0.2**
	baz=71,SNR=15						
WHTX	**Lake Whitney,**	**70.48**	**337**	⇑P	**P**	**11 43 41.0**	**-0.5**
	baz=71						
WHTX	**Lake Whitney,**	**70.48**	**337**	*e*P	**P**	**11 43 43.6**	**+2.1**
	comp=N,11nm,0.6s						
SWET	**Sewanee**	**70.67**	**348**	*e*P	**P**	**11 43 43.8**	**+1.1**
	comp=N,18nm,0.7s						
430A	**Baggett Ranch,**	**70.69**	**333**	⇑P	**P**	**11 43 42.2**	**-0.8**
	baz=71,SNR=5.9						
332A	**Millersview**	**70.69**	**335**	⇑P	**P**	**11 43 42.1**	**-0.8**
	baz=71						
234A	**Clairette**	**70.71**	**336**	⇓P	**P**	**11 43 42.3**	**-0.7**
	baz=71						
429A	**Davenport Ranc**	**70.79**	**333**	⇑P	**P**	**11 43 42.9**	**-0.7**
	baz=71,SNR=6.2						
331A	**San Angelo**	**70.86**	**334**	⇓P	**P**	**11 43 43.3**	**-0.7**
	baz=71,SNR=5.7						
233A	**Rising Star**	**70.98**	**336**	⇑P	**P**	**11 43 44.1**	**-0.5**
	baz=71,SNR=6.0						
232A	**Coleman**	**71.11**	**335**	⇑P	**P**	**11 43 44.5**	**-1.0**
	baz=72,SNR=5.0						
134A	**White-Moore Ra**	**71.21**	**337**	⇑P	**P**	**11 43 44.7**	**-1.3**
	baz=72						
330A	**Mertzon**	**71.22**	**334**	⇓P	**P**	**11 43 45.1**	**-1.1**
	baz=72,SNR=6.0						
231A	**Bronte**	**71.39**	**335**	⇓P	**P**	**11 43 46.5**	**-0.7**
	baz=72,SNR=15						
133A	**Hamilton Ranch**	**71.52**	**336**	⇑P	**P**	**11 43 47.3**	**-0.6**
	baz=72						
329A	**Wagon Wheel Ra**	**71.59**	**333**	⇓P	**P**	**11 43 47.7**	**-0.8**
	baz=72						
Z35A	**Perchaven, San**	**71.65**	**338**	⇑P	**P**	**11 43 48.1**	**-0.5**
	baz=72						
MIAR	**Mount Ida**	**71.72**	**341**	*e*P	**P**	**11 43 50.6**	**+1.6**
	comp=N,3.1nm,0.7s						
ABTX	**Abilene, Hawle**	**71.78**	**335**	⇑P	**P**	**11 43 49.0**	**-0.5**
	baz=72						
ABTX	**Abilene, Hawle**	**71.78**	**335**	*e*P	**P**	**11 43 51.6**	**+2.1**
	comp=N,12nm,0.8s						
Z34A	**Collier Ranch,**	**71.90**	**337**	⇓P	**P**	**11 43 49.6**	**-0.5**
	baz=72						
WVT	**Waverly**	**71.91**	**346**	*e*P	**P**	**11 43 48.2**	**-1.9**
	comp=N,31nm,0.8s						
229A	**Bryant Ranch,**	**71.96**	**333**	⇓P	**P**	**11 43 49.6**	**-1.0**
	baz=72						
131A	**Roby**	**72.09**	**335**	⇓P	**P**	**11 43 50.5**	**-0.8**
	baz=72,SNR=5.1						
Z33A	**Whitaker Ranch**	**72.09**	**336**	⇓P	**P**	**11 43 50.6**	**-0.7**
	baz=72,SNR=6.0						
130A	**Snyder**	**72.22**	**334**	⇑P	**P**	**11 43 51.3**	**-0.8**
	baz=73,SNR=5.2						
Z32A	**Haskell**	**72.35**	**336**	⇑P	**P**	**11 43 52.0**	**-0.8**
	baz=73						
228A	**UT Block 9, Go**	**72.39**	**333**	⇓P	**P**	**11 43 52.7**	**-0.5**
	baz=73						
129A	**Stewart Farms,**	**72.58**	**334**	⇑P	**P**	**11 43 53.7**	**-0.6**
	baz=73						
Z31A	**Sharp Cattle R**	**72.59**	**335**	⇓P	**P**	**11 43 53.8**	**-0.5**
	baz=73,SNR=9.1						
Y33A	**Hilltop Ranch,**	**72.71**	**337**	⇓P	**P**	**11 43 54.3**	**-0.7**
	baz=73						
128A	**Castleberry Fa**	**72.80**	**333**	⇓P	**P**	**11 43 54.9**	**-0.8**
	baz=73						
Z30A	**Sanderson Ranc**	**72.90**	**335**	⇑P	**P**	**11 43 55.5**	**-0.7**
	baz=73						
Y32A	**R-V Farms, Ver**	**72.97**	**336**	⇓P	**P**	**11 43 55.5**	**-1.1**
	baz=73,SNR=5.2						
X34A	**Smith Ranch, M**	**73.00**	**338**	⇑P	**P**	**11 43 55.8**	**-0.9**
	baz=73						
Z29A	**Hungry Hill Ra**	**73.08**	**334**	⇓P	**P**	**11 43 56.5**	**-0.9**
	baz=73,SNR=5.8						
MNTX	**Cornudas Mount**	**73.11**	**330**	*e*P	**P**	**11 43 56.2**	**-1.2**
	comp=N,4.2nm,0.6s						
X33A	**Lawton**	**73.16**	**337**	⇑P	**P**	**11 43 56.7**	**-0.9**
	baz=74						
Y31A	**Rekieta Farm,**	**73.21**	**336**	⇓P	**P**	**11 43 57.0**	**-1.0**
	baz=74						
X32A	**Elmer**	**73.31**	**337**	⇑P	**P**	**11 43 57.9**	**-0.6**
	baz=74						
Y30A	**Stafford Cattl**	**73.36**	**335**	⇓P	**P**	**11 43 58.0**	**-0.9**
	baz=74						
Z28A	**Tucker Farm, M**	**73.36**	**334**	⇑P	**P**	**11 43 57.9**	**-1.0**
	baz=74						
W34A	**Bridge Creek,**	**73.57**	**338**	⇓P	**P**	**11 43 58.8**	**-1.3**
	baz=74						
TUL1	**Leonard**	**73.61**	**340**	⇓P	**P**	**11 43 59.3**	**-0.9**
	baz=74						
TUL1	**Leonard**	**73.61**	**340**	*e*P	**P**	**11 44 01.2**	**+0.9**
	comp=N,10.0nm,0.6s						
Y29A	**Porterfield Fa**	**73.61**	**334**	⇓P	**P**	**11 43 59.7**	**-0.7**
	baz=74,SNR=6.6						
CPRX	**Cap Rock**	**73.68**	**332**	*e*P	**P**	**11 44 02.6**	**+1.6**
	comp=N,0.8nm,0.2s						
W33A	**Caddo, Fort Co**	**73.71**	**337**	⇓P	**P**	**11 44 00.5**	**-0.4**
	baz=74,SNR=7.5						
SIUC	**Southern Illin**	**73.72**	**346**	*e*P	**P**	**11 44 02.1**	**+1.3**
	comp=N,14nm,0.8s						
X31A	**McDonald Ranch**	**73.73**	**336**	⇓P	**P**	**11 44 00.3**	**-0.7**
	baz=74						
X30A	**Coker Ranch, T**	**73.86**	**335**	⇓P	**P**	**11 44 00.7**	**-1.2**
	baz=74						
Y28A	**McKinney Farm,**	**73.86**	**334**	⇑P	**P**	**11 44 00.8**	**-1.1**
	baz=74						
W32A	**Sentinel**	**73.94**	**337**	⇑P	**P**	**11 44 01.4**	**-0.8**
	baz=74,SNR=11						
V34A	**Guthrie**	**74.05**	**338**	⇓P	**P**	**11 44 02.1**	**-0.7**
	baz=74						
MSTX	**Muleshoe**	**74.11**	**334**	⇑P	**P**	**11 44 02.2**	**-1.2**
	baz=74						
MSTX	**Muleshoe**	**74.11**	**334**	*e*P	**P**	**11 44 02.8**	**-0.6**
	comp=N,9.7nm,0.8s						
X29A	**Tulia**	**74.15**	**335**	⇓P	**P**	**11 44 03.0**	**-0.6**
	baz=74						
Y27A	**Causey**	**74.18**	**333**	⇓P	**P**	**11 44 02.8**	**-0.9**
	baz=74						
W31A	**Holland Ranch,**	**74.22**	**336**	⇑P	**P**	**11 44 03.1**	**-0.9**
	baz=75						
V33A	**Lossen Ranch,**	**74.27**	**338**	⇑P	**P**	**11 44 03.3**	**-0.9**
	baz=75						
X28A	**Dimmitt**	**74.39**	**334**	⇑P	**P**	**11 44 03.8**	**-1.3**
	baz=75						
V32A	**Arapaho**	**74.42**	**337**	⇓P	**P**	**11 44 04.3**	**-0.7**
	baz=75						
319A	**Douglas**	**74.49**	**327**	⇓P	**P**	**11 44 04.0**	**-1.7**
	baz=75						
AMTX	**Amarillo**	**74.54**	**335**	⇑P	**P**	**11 44 05.1**	**-0.7**
	baz=75						
AMTX	**Amarillo**	**74.54**	**335**	*e*P	**P**	**11 44 07.5**	**+1.7**
	comp=N,8.6nm,0.6s						
V31A	**Spring Creek L**	**74.72**	**337**	⇓P	**P**	**11 44 05.6**	**-1.2**
	baz=75						
W29A	**Amarillo**	**74.74**	**335**	⇓P	**P**	**11 44 06.3**	**-0.7**
	baz=75						
121A	**Cookes Peak, D**	**74.83**	**329**	⇑P	**P**	**11 44 05.9**	**-1.8**
	baz=75						
121A	**Cookes Peak, D**	**74.83**	**329**	*e*P	**P**	**11 44 08.1**	**+0.4**
	comp=N,7.5nm,0.8s						
U32A	**Winter Ranch,**	**75.01**	**338**	⇓P	**P**	**11 44 07.9**	**-0.5**
	baz=75,SNR=5.3						
X26A	**CR and CF Fran**	**75.01**	**333**	⇑P	**P**	**11 44 08.3**	**-0.3**
	baz=75						
Y24A	**Capitan**	**75.08**	**332**	⇑P	**P**	**11 44 08.7**	**-0.5**
	baz=75						
Z22A	**Elephant Butte**	**75.11**	**330**	⇑P	**P**	**11 44 09.3**	**0.0**
	baz=76						
ACSO	**Alum Creek Sta**	**75.14**	**351**	*e*P	**P**	**11 44 10.1**	**+1.0**
	comp=N,16nm,0.6s						
DBIC	**Dimbokro**	**75.16**	**71**	P	**P**	**11 44 11.1**	**+1.3**
	comp=N,3.2nm,0.7s,baz=180,slow=8.1,SNR=3.4						
W27A	**Bowe Ranch, En**	**75.19**	**334**	⇓P	**P**	**11 44 09.2**	**-0.4**
	baz=76,SNR=6.4						
T33A	**Patterson Ranc**	**75.42**	**338**	⇑P	**P**	**11 44 10.9**	**+0.1**
	baz=76						
W26A	**Owens Ranch, T**	**75.47**	**333**	⇓P	**P**	**11 44 11.1**	**-0.2**
	baz=76						
V28A	**Channing**	**75.51**	**335**	⇑P	**P**	**11 44 11.6**	**+0.1**
	baz=76						
U30A	**WK&E Inc. Balk**	**75.68**	**336**	⇑P	**P**	**11 44 12.2**	**-0.1**
	baz=76						
T32A	**Huddler Ranch,**	**75.72**	**338**	⇑P	**P**	**11 44 12.1**	**-0.4**
	baz=76						
V27A	**Dan Oppiter Fa**	**75.73**	**334**	⇑P	**P**	**11 44 12.1**	**-0.6**
	baz=76						
W25A	**X Bar L Ranch,**	**75.85**	**333**	⇑P	**P**	**11 44 12.7**	**-0.7**
	baz=76						
TUC	**Tucson**	**75.96**	**327**	*e*P	**P**	**11 44 14.7**	**+0.6**
	comp=N,3.4nm,1.2s						
V26A	**Tequesquite Ra**	**76.11**	**334**	⇓P	**P**	**11 44 14.7**	**-0.2**
	baz=76						
W24A	**Lazy 6 Ranch,**	**76.20**	**332**	⇓P	**P**	**11 44 15.3**	**-0.2**
	baz=77,SNR=5.4						
S31A	**Mullinville**	**76.30**	**338**	⇓P	**P**	**11 44 15.9**	**+0.1**
	baz=77						
U27A	**Thompson Grove**	**76.33**	**335**	⇓P	**P**	**11 44 16.1**	**0.0**
	baz=77						
ANMO	**Albuquerque**	**76.38**	**331**	*e*P	**P**	**11 44 16.6**	**+0.1**
	comp=N,5.4nm,1.0s						
W23A	**Werner Place,**	**76.45**	**332**	⇑P	**P**	**11 44 16.8**	**-0.1**
	baz=77						
V25A	**Rancho No Teng**	**76.46**	**333**	⇑P	**P**	**11 44 16.7**	**-0.3**
	baz=77,SNR=5.3						
T29A	**Hugoton**	**76.46**	**336**	⇑P	**P**	**11 44 16.8**	**0.0**
	baz=77						
R33A	**Olander Ranch,**	**76.48**	**339**	⇓P	**P**	**11 44 16.2**	**-0.6**
	baz=77						
214A	**Organ Pipe Nat**	**76.60**	**325**	⇑P	**P**	**11 44 17.3**	**-0.4**
	baz=77						
V24A	**Rampart Ranch,**	**76.61**	**333**	⇓P	**P**	**11 44 17.7**	**-0.1**
	baz=77						
S30A	**Montezuma**	**76.63**	**337**	⇑P	**P**	**11 44 18.0**	**+0.3**
	baz=77						
U26A	**Atchley Ranch,**	**76.63**	**334**	⇑P	**P**	**11 44 17.9**	**0.0**
	baz=77						
T28A	**Walsh**	**76.71**	**335**	⇓P	**P**	**11 44 17.6**	**-0.6**
	baz=77,SNR=6.8						
R32A	**Long Quarter,**	**76.80**	**339**	⇓P	**P**	**11 44 18.0**	**-0.6**
	baz=77						
KSU1	**Kansas State U**	**76.82**	**340**	⇑P	**P**	**11 44 18.8**	**+0.1**
	baz=77						
S29A	**Ulysses**	**76.83**	**336**	⇑P	**P**	**11 44 18.6**	**-0.3**
	baz=77,SNR=5.5						
T27A	**Campo**	**76.86**	**335**	⇑P	**P**	**11 44 18.9**	**-0.3**
	baz=77						
U25A	**Circle Dot Ran**	**76.88**	**333**	⇑P	**P**	**11 44 19.0**	**-0.3**
	baz=77						
R31A	**Burdett**	**76.93**	**338**	⇓P	**P**	**11 44 18.9**	**-0.4**
	baz=77						
V23A	**Ortiz Mt. (NFS**	**76.97**	**332**	⇓P	**P**	**11 44 19.8**	**-0.1**
	baz=77						
S28A	**Manter**	**77.06**	**336**	⇑P	**P**	**11 44 20.1**	**-0.1**
	baz=77,SNR=6.6						
R30A	**Dighton**	**77.16**	**337**	⇓P	**P**	**11 44 21.1**	**+0.4**
	baz=78						
U24A	**Moreno Valley**	**77.21**	**333**	⇓P	**P**	**11 44 21.4**	**+0.1**
	baz=78						
Q32A	**Meitler Ranch,**	**77.28**	**339**	⇓P	**P**	**11 44 21.2**	**-0.1**
	baz=78						
V22A	**San Miguel Ran**	**77.41**	**331**	⇓P	**P**	**11 44 23.1**	**+0.7**
	baz=78,SNR=6.0						
X18A	**Snowflake**	**77.47**	**328**	⇓P	**P**	**11 44 22.7**	**+0.1**
	baz=78						
U23A	**El Rito**	**77.49**	**332**	⇓P	**P**	**11 44 23.4**	**+0.6**
	baz=78,SNR=5.2						
T25A	**Trinidad**	**77.53**	**334**	⇑P	**P**	**11 44 23.6**	**+0.6**
	baz=78,SNR=5.7						
Q31A	**Ellis**	**77.54**	**338**	⇑P	**P**	**11 44 22.5**	**-0.3**
	baz=78						
R29A	**Marienthal**	**77.56**	**337**	⇓P	**P**	**11 44 22.8**	**-0.1**
	baz=78						
S26A	**Kim**	**77.63**	**335**	⇑P	**P**	**11 44 23.4**	**0.0**
	baz=78,SNR=7.3						
R28A	**Tribune**	**77.71**	**336**	⇑P	**P**	**11 44 23.6**	**-0.2**
	baz=78,SNR=6.0						
113A	**Mohawk Valley,**	**77.73**	**325**	⇓P	**P**	**11 44 22.8**	**-1.1**
	baz=78						
Q30A	**Quinter**	**77.77**	**338**	⇓P	**P**	**11 44 23.8**	**-0.3**
	baz=78,SNR=6.4						
U22A	**Llaves**	**77.79**	**332**	⇑P	**P**	**11 44 23.8**	**-0.6**
	baz=78						
T24B	**San Luis**	**77.83**	**333**	⇓P	**P**	**11 44 25.2**	**+0.5**
	baz=78,SNR=5.1						
P32A	**Huiting Farm,**	**77.87**	**339**	⇑P	**P**	**11 44 24.0**	**-0.6**
	baz=78						
Q29A	**Oakley**	**77.93**	**337**	⇓P	**P**	**11 44 24.6**	**-0.4**
	baz=78,SNR=5.8						
R27A	**Eads**	**77.99**	**336**	⇓P	**P**	**11 44 25.3**	**-0.1**
	baz=78,SNR=6.7						
S25A	**Robets Cordova**	**78.01**	**334**	⇓P	**P**	**11 44 25.4**	**-0.2**
	baz=78						
P31A	**Stockton**	**78.01**	**339**	⇑P	**P**	**11 44 25.0**	**-0.4**
	baz=78						
X16A	**Lo Mia Camp, P**	**78.03**	**327**	⇑P	**P**	**11 44 25.8**	**0.0**
	baz=78						
T23A	**Casias Ranch,**	**78.05**	**333**	⇓P	**P**	**11 44 25.8**	**-0.1**
	baz=78						
R26A	**Arlington**	**78.23**	**335**	⇓P	**P**	**11 44 26.4**	**-0.4**
	baz=79						
S24A	**Houchin Ranch,**	**78.27**	**333**	⇓P	**P**	**11 44 27.6**	**+0.3**
	baz=79,SNR=5.7						
P30A	**Selden**	**78.30**	**338**	⇑P	**P**	**11 44 26.9**	**-0.1**
	baz=79						
Q28A	**Sharon Springs**	**78.37**	**337**	⇓P	**P**	**11 44 27.5**	**+0.1**
	baz=79						
O32A	**Brockman Farm,**	**78.37**	**340**	⇓P	**P**	**11 44 28.0**	**+0.6**
	baz=79						
R25A	**Fountain Ranch**	**78.39**	**334**	⇑P	**P**	**11 44 27.7**	**+0.1**
	baz=79						
SDCO	**Great Sand Dun**	**78.47**	**333**	*e*P	**P**	**11 44 28.4**	**+0.1**
	comp=N,4.2nm,0.8s						
P29A	**Atwood**	**78.57**	**337**	⇑P	**P**	**11 44 28.5**	**0.0**
	baz=79,SNR=7.3						
KSCO	**Kaye Shedlock'**	**78.59**	**336**	⇓P	**P**	**11 44 28.7**	**0.0**
	baz=79						
KSCO	**Kaye Shedlock'**	**78.59**	**336**	*e*P	**P**	**11 44 29.9**	**+1.2**
	comp=N,4.7nm,0.6s						
R24A	**Sanders Place,**	**78.76**	**334**	⇑P	**P**	**11 44 30.4**	**+0.6**
	baz=79,SNR=12						
P28A	**Saint Francis**	**78.81**	**337**	⇑P	**P**	**11 44 30.1**	**+0.2**
	baz=79						
O30A	**MW Ranch, Wils**	**78.82**	**338**	⇓P	**P**	**11 44 29.6**	**-0.3**
	baz=79						
JFWS	**Jewell Farm**	**78.94**	**346**	*e*P	**P**	**11 44 31.8**	**+1.5**
	comp=N,178nm,2.5s						
S22A	**4UR Ranch, Cre**	**78.97**	**332**	⇓P	**P**	**11 44 30.6**	**-0.4**
	baz=79						
R23A	**Moffat**	**78.99**	**333**	⇑P	**P**	**11 44 31.0**	**-0.1**
	baz=79						
Q25A	**Bedland, Calha**	**79.06**	**335**	⇑P	**P**	**11 44 30.8**	**-0.6**
	baz=79						
P27A	**Ficken Ranch,**	**79.06**	**336**	⇓P	**P**	**11 44 30.9**	**-0.3**
	baz=79						
MVCO	**Mesa Verde

M24A	Cheyenne baz=82	81.53 336	⇑P	P	11 44 44.3	-0.3
K28A	Ten Mile Ranch baz=82	81.54 338	⇑P	P	11 44 44.4	-0.1
J30A	Dallas baz=82	81.55 340	⇓P	P	11 44 44.1	-0.4
O20A	White River Ci baz=82	81.59 333	⇑P	P	11 44 44.4	-0.6
PHWY	Pilot Hill comp=N,4.5nm,0.6s	81.60 335	eP	P	11 44 47.4	+2.3
BSC	Santa Cruz Isl baz=82	81.62 321	⇓P	P	11 44 44.3	-0.8
SPMN	Marine on St. baz=82	81.67 345	⇓P	P	11 44 44.1	-0.9
SPMN	Marine on St. comp=N,7.7nm,0.7s	81.67 345	eP	P	11 44 45.9	+0.8
K27A	Flueckinger Fa baz=82	81.80 338	⇓P	P	11 44 45.7	-0.2
M23A	Laramie baz=82	81.84 335	⇓P	P	11 44 46.1	-0.2
L25A	Engebretsen Ra baz=82	81.86 336	⇓P	P	11 44 46.2	0.0
J29A	Okreek baz=82,SNR=13	81.86 339	⇑P	P	11 44 45.5	-0.7
LBTB	Lobatse comp=N,10nm,0.8s	81.87 115	eP	P	11 44 47.5	+0.6
I30A	Oacoma baz=82,SNR=5.5	82.07 340	⇓P	P	11 44 46.4	-0.7
J28A	Allard Ranch, baz=82	82.14 339	⇓P	P	11 44 47.7	0.0
N20A	Spence Gulch, baz=83	82.21 333	⇓P	P	11 44 48.1	-0.1
FURC	Furnace Creek, baz=82	82.22 325	⇓P	P	11 44 47.6	-0.4
J27A	Elkhorn Farm, baz=83	82.22 338	⇓P	P	11 44 48.3	+0.2
ISA	Isabella, Lake baz=83	82.35 323	⇓P	P	11 44 48.5	-0.4
ISA	Isabella, Lake comp=N,4.2nm,0.7s	82.35 323	eP	P	11 44 51.7	+2.8
L23A	Garrett baz=83	82.41 335	⇑P	P	11 44 48.6	-0.7
DAC	Darwin (Calif) comp=N,7.0nm,1.0s	82.41 324	eP	P	11 44 49.5	+0.1
I29A	Vivian Onida baz=83	82.42 340	⇓P	P	11 44 48.2	-0.8
BRSD	Miller baz=83	82.43 341	⇓P	P	11 44 48.4	-0.6
BRSD	Miller comp=N,12nm,0.6s	82.43 341	eP	P	11 44 48.8	-0.3
L22A	Ellis Ranch, M baz=83	82.59 335	⇑P	P	11 44 50.0	-0.2
J26A	Sides Ranch, S baz=83	82.61 338	⇓P	P	11 44 50.2	+0.1
K24A	Anderson Ranch baz=83	82.64 336	⇓P	P	11 44 50.3	-0.1
I28A	Midland baz=83	82.65 339	⇑P	P	11 44 50.3	+0.1
VES	Vestal, Richgr baz=83	82.79 323	⇓P	P	11 44 50.7	-0.4
H29A	Onida baz=83,SNR=6.7	82.95 340	⇓P	P	11 44 51.2	-0.5
I27A	Quinn baz=83	82.98 339	⇓P	P	11 44 51.5	-0.5
G30A	Faulkton baz=84	83.11 341	⇓P	P	11 44 52.7	+0.1
J24A	Dixon Ranch, L baz=84	83.14 336	⇑P	P	11 44 53.1	+0.2
R11A	Troy Canyon, C baz=84	83.15 327	⇓P	P	11 44 52.4	-0.8
R11A	Troy Canyon, C comp=N,5.0nm,0.9s	83.15 327	eP	P	11 44 53.5	+0.4
K22A	Casper baz=84	83.17 335	⇑P	P	11 44 53.1	0.0
H28A	Mission Ridge baz=84,SNR=8.2	83.22 339	⇓P	P	11 44 52.4	-0.8
RCTC	Rector, Farmer baz=84	83.24 323	⇑P	P	11 44 53.1	-0.3
JLU	Jordanelle comp=N,3.2nm,0.7s	83.25 331	eP	P	11 44 55.7	+2.0
G29A	Hoven baz=84	83.39 340	⇓P	P	11 44 54.0	0.0
K21A	Alcova baz=84,SNR=5.2	83.41 334	⇑P	P	11 44 53.7	-0.7
I25A	Rochford baz=84	83.45 337	⇓P	P	11 44 54.1	-0.4
DUG	Dugway, Tooele baz=84	83.47 330	⇑P	P	11 44 54.2	-0.5
H27A	Howes baz=84	83.50 339	⇑P	P	11 44 53.8	-0.8
J23A	Dilts Ranch, B baz=84	83.50 336	⇓P	P	11 44 53.9	-0.9
G28A	Parade baz=84,SNR=6.6	83.56 340	⇓P	P	11 44 54.4	-0.6
RSSD	Black Hills comp=N,3.7nm,0.8s	83.64 337	eP	P	11 44 54.9	-0.7
TPH	Tonopah comp=N,4.1nm,0.9s	83.68 326	eP	P	11 44 56.5	+0.6
F29A	Eureka baz=84	83.95 341	⇑P	P	11 44 56.5	-0.4
H25A	Fruitdale baz=84	83.95 338	⇓P	P	11 44 56.3	-0.7
J21A	Lysite baz=84	84.10 335	⇑P	P	11 44 57.0	-0.9
G27A	Dupree baz=84	84.13 339	⇓P	P	11 44 57.2	-0.6
HWUT	Hardware Ranch comp=N,5.5nm,0.8s	84.15 331	eP	P	11 44 57.9	-0.4
TORD	Torodi Ar. Bea comp=N,3.0nm,0.7s,baz=261,slow=3.6,SNR=14	84.20 70	P	P	11 44 57.9	-1.0
F28A	McLaughlin baz=85	84.23 340	⇓P	P	11 44 58.4	+0.1
I22A	9 Mile Ranch, baz=85	84.25 336	⇑P	P	11 44 57.8	-0.8
G26A	Maurine baz=85	84.25 339	⇓P	P	11 44 56.7	-1.7
E30A	Jud baz=85	84.32 342	⇑P	P	11 44 57.9	-0.9
J20A	Shoshoni baz=85	84.33 334	⇓P	P	11 44 57.6	-1.5
PDAR	Pinedale Array comp=N,1.2nm,0.7s,baz=159,slow=4.7,SNR=8.3	84.36 333	P	P	11 44 59.1	-0.2
H24A	Dirks Ranch, A baz=85	84.36 337	⇑P	P	11 44 58.8	-0.4
G25A	Newell baz=85,SNR=5.4	84.41 338	⇓P	P	11 44 58.6	-0.7
I21A	Big Trails, Te baz=85	84.45 335	⇓P	P	11 44 58.8	-0.9
NVAR	Mina Array Bea comp=N,1.7nm,0.6s,baz=156,slow=5.9,SNR=10	84.47 325	P	P	11 45 00.1	+0.1
E29A	Napoleon baz=85	84.58 341	⇓P	P	11 44 59.9	-0.2
F27A	Lemmon baz=85,SNR=5.6	84.61 339	⇓P	P	11 44 59.9	-0.4
J19A	Crowheart baz=85	84.61 334	⇑P	P	11 44 59.9	-0.6
F26A	Lodgepole baz=85	84.78 339	⇓P	P	11 45 00.7	-0.4
H22A	Clearmont baz=85	84.82 336	⇑P	P	11 45 00.9	-0.5
G24A	Alzada baz=85	84.84 338	⇑P	P	11 45 01.0	-0.5
D30A	Buchanan baz=85,SNR=5.2	84.84 342	⇑P	P	11 45 00.6	-0.7
I20A	Worland baz=85	84.87 335	⇑P	P	11 45 01.1	-0.6
E28A	Huff baz=85	84.87 340	⇓P	P	11 45 00.9	-0.7
ELK	Elko comp=N,2.3nm,0.7s,baz=143,slow=4.7,SNR=10	84.96 328	P	P	11 45 02.7	+0.3
E27A	Carson baz=85	84.98 340	⇓P	P	11 45 01.6	-0.5
G23A	Biddle baz=85	85.04 337	⇓P	P	11 45 01.8	-0.7
H21A	Big Horn, Sher baz=85	85.08 336	⇓P	P	11 45 02.1	-0.7
I19A	Meeteetse baz=86	85.25 334	⇑P	P	11 45 03.0	-0.7
AGMN	Agassiz Nation baz=86,SNR=5.7	85.26 344	⇓P	P	11 45 02.6	-0.8
AGMN	Agassiz Nation comp=N,6.1nm,0.6s	85.26 344	eP	P	11 45 02.4	-1.0
E26A	Carlson Angus baz=86	85.28 339	⇓P	P	11 45 03.1	-0.5
H20A	Greybull baz=86,SNR=8.3	85.29 335	⇑P	P	11 45 02.7	-1.1
F24A	Ekalaka baz=86	85.31 338	⇓P	P	11 45 03.3	-0.6
C30A	Mose, Pekin baz=86,SNR=7.5	85.33 342	⇓P	P	11 45 03.1	-0.6
D28A	Regan baz=86	85.40 341	⇓P	P	11 45 03.8	-0.4
LOHW	Long Hollow comp=N,46nm,2.7s	85.48 333	eP	P	11 45 06.8	+1.9
F23A	Volborg baz=86	85.51 337	⇑P	P	11 45 04.3	-0.5
E25A	Miller Ranch, baz=86	85.58 339	⇓P	P	11 45 04.7	-0.4
D27A	Center baz=86	85.59 340	⇑P	P	11 45 05.2	0.0
G21A	Lodge Grass baz=86	85.66 336	⇑P	P	11 45 05.5	-0.2
I17A	Pilgrim Ck. baz=86	85.73 333	⇓P	P	11 45 05.8	-0.4
MDND	Maddock baz=86	85.75 342	⇓P	P	11 45 05.8	0.0
D26A	Manning baz=86	85.78 340	⇑P	P	11 45 05.6	-0.5
H19A	Powell baz=86	85.80 334	⇓P	P	11 45 06.0	-0.4
F22A	Rosebud baz=86	85.83 337	⇑P	P	11 45 05.9	-0.5
IMW	Indian Meadow comp=N,85nm,3.0s	85.85 333	eP	P	11 45 09.2	+2.3
FLWY	Flagg Ranch	85.92 333	eP	P	11 45 06.9	-0.2
B30A	Myrvik Farm, E baz=86,SNR=18	85.98 343	⇑P	P	11 45 06.0	-1.0
H18A	Shoshone NF, C baz=86,SNR=17	86.05 334	⇓P	P	11 45 07.1	-0.7
D25A	Fairfield baz=86	86.14 339	⇑P	P	11 45 06.9	-1.0
B29A	Wagenman Farm, baz=87	86.25 342	⇓P	P	11 45 07.6	-0.8
RLMT	Red Lodge comp=N,4.5nm,0.6s	86.29 334	eP	P	11 45 08.2	-0.7
D24A	Glendive baz=87	86.41 338	⇑P	P	11 45 08.8	-0.4
A30A	Hoffart Farm, baz=87,SNR=5.9	86.43 343	⇑P	P	11 45 08.5	-0.7
B28A	Dugan Ranch, T baz=87	86.50 341	⇑P	P	11 45 09.0	-0.5
YMR	Madison River comp=N,12nm,0.9s	86.52 333	eP	P	11 45 10.9	+0.8
C25A	Freed Ranch, W baz=87	86.63 339	⇑P	P	11 45 09.6	-0.6
A29A	Manning Farm, baz=87	86.65 342	⇑P	P	11 45 09.8	-0.5
B27A	Peters Farms, baz=87	86.70 341	⇓P	P	11 45 10.5	-0.1
D23A	Lindsay baz=87,SNR=18	86.73 338	⇓P	P	11 45 10.2	-0.6
E21A	Keefer Ranch, baz=87	86.77 336	⇑P	P	11 45 10.8	-0.2
F19A	Roth Farm, Mol baz=87	86.81 335	⇑P	P	11 45 10.9	-0.4
C24A	Savage baz=87,SNR=14	86.81 339	⇑P	P	11 45 10.8	-0.4
A28A	Rude Farm, Bot baz=87	86.90 342	⇑P	P	11 45 11.2	-0.3
HLID	Hailey baz=87	86.93 330	⇑P	P	11 45 11.3	-0.7
HLID	Hailey comp=N,2.4nm,0.8s	86.93 330	eP	P	11 45 12.0	0.0
D22A	Cohagen baz=87	87.02 337	⇓P	P	11 45 11.2	-1.0
E20A	Meyer Farm, Mu baz=88,SNR=12	87.09 336	⇓P	P	11 45 12.2	-0.4
ULM	Lac du Bonnet comp=N,4.0nm,0.6s,baz=156,slow=3.9,SNR=7.7	87.10 345	P	P	11 45 11.5	-0.9
D21A	La Casta Ranch baz=88	87.21 337	⇑P	P	11 45 12.4	-0.8
E19A	Rath Farm, Rou baz=88,SNR=5.2	87.28 335	⇓P	P	11 45 12.8	-0.7
C23A	Lambert baz=88	87.29 338	⇑P	P	11 45 12.9	-0.6
A26A	Wade Farm, Ken baz=88	87.36 341	⇑P	P	11 45 13.3	-0.5
C22A	Vida baz=88	87.45 338	⇑P	P	11 45 13.6	-0.7
D20A	Manuel Ranch, baz=88,SNR=5.4	87.61 336	⇓P	P	11 45 13.9	-1.2
A25A	Svangstu Ranch baz=88	87.70 340	⇓P	P	11 45 14.9	-0.5
B23A	Brockton baz=88	87.82 339	⇓P	P	11 45 15.7	-0.3
C21A	Desert Coulee baz=88	87.91 337	⇑P	P	11 45 15.8	-0.6
A24A	Westby baz=88	87.94 339	⇓P	P	11 45 16.1	-0.4
B22A	Reddig Ranch S baz=88	87.98 338	⇓P	P	11 45 16.6	-0.2
C20A	Veseth Ranch, baz=88	88.11 336	⇑P	P	11 45 16.9	-0.5
MOD	Modoc Plateau comp=N,4.3nm,0.8s	88.15 326	eP	P	11 45 17.7	-0.2
WDC	Whiskeytown Da comp=N,5.5nm,0.7s	88.19 324	eP	P	11 45 17.2	-0.7
A23A	Redstone baz=89	88.23 339	⇓P	P	11 45 17.9	-0.1
B21A	Ellsworth Farm baz=89	88.42 337	⇓P	P	11 45 19.0	+0.1
C19A	Slack Wire Ran baz=89	88.47 336	⇑P	P	11 45 19.3	+0.2
A22A	Carney Farms, baz=89	88.57 338	⇑P	P	11 45 19.8	+0.3
M04C	Macdoel baz=89	88.78 325	⇑P	P	11 45 20.6	-0.3
A21A	Bergtoll Ranch baz=89	88.88 338	⇑P	P	11 45 20.7	-0.4
B19A	Brinkman Farms baz=89,SNR=5.7	89.06 336	⇓P	P	11 45 21.6	-0.3
A20A	Cobblestone Ra baz=90	89.10 337	⇓P	P	11 45 21.0	-1.0
SCHQ	Schefferville comp=N,1.9nm,0.9s,baz=241,slow=11,SNR=3.6	89.14 3	P	P	11 45 21.5	-0.5
YBH	Yreka Blue Hor comp=N,3.6nm,1.1s,baz=84,slow=4.9,SNR=6.0	89.15 324	P	P	11 45 23.4	+0.9
A19A	Klindworth Far baz=90	89.41 337	⇓P	P	11 45 23.0	-0.6
YKA	Yellowknife Ar comp=N,0.3nm,0.6s,baz=143,slow=4.5,SNR=7.4	102.66 341	P	Pdif	11 46 22.1	-1.2
STHS	Stebnicka Huta	117.14 47	ePKP	PKPdf	11 51 14.7	+2.9
WRA	Warramunga Arr comp=N,0.5nm,0.4s,baz=160,slow=1.8,SNR=11	120.37 209	PKP	PKPdf	11 51 16.8	-2.2
H11N3	WAKE ISLAND Hyt baz=115,slow=78,SNR=14	26.40 270	T	T	14 10 17.9	
H11N1	WAKE ISLAND Hyt baz=115,slow=78,SNR=37	26.41 270	T	T	14 10 18.2	
H11N2	WAKE ISLAND Hyt baz=115,slow=78,SNR=21	26.42 270	T	T	14 10 21.1	
SEY	Seymchan comp=N,0.6nm,0.6s,baz=70,slow=17,SNR=3.2	140.63 330	PKhKP	PKPpre	11 51 49.5	
BRVK	Borovoye	147.47 44	ePKPbc	PKPab	11 52 13.0	+0.4
KKAR	Karatay Array	149.62 62	ePKPbc	PKPbc	11 52 18.2	+1.7
EKS2	Erkin-Say	152.05 63	ePKPbc	PKPbc	11 52 22.4	+0.1
AAK	Ala-Archa	152.58 63	ePKPbc	PKPbc	11 52 23.8	+0.1
KSH	Kashi	153.88 70	ePKPbc	PKPdf	11 52 19.3	+0.7
KSH			sPKP		11 52 33.1	
KSH			PKS	PKSdf	11 55 53.8	+0.9
KSH			PP	PP	11 56 14.4	-0.3
KSH	comp=N,36nm,5.0s		PPMZ			
KSH	comp=N,33nm,5.8s		LN			
KSH	comp=N,32nm,3.1s		LE			
KSH	comp=N,81nm,4.4s		LZ			
ZALV	Zalesovo Beam comp=N,1.0nm,0.7s,baz=252,slow=0.9,SNR=4.3	154.59 33	PKP	PKPdf	11 52 17.1	-1.8
ZALV			PKPbc	PKPbc	11 52 25.8	-1.5
MKAR	Makanchi Array comp=N,0.3nm,0.7s,baz=273,slow=2.7,SNR=3.1	156.97 50	PKP	PKPdf	11 52 21.2	-1.2
WMQ	Urumqi	161.64 54	ePKP	PKPdf	11 52 27.4	-0.5
WMQ			pPKP	pPKPdf	11 52 38.3	+4.9
SONM	Songino Array comp=N,0.3nm,0.6s,baz=241,slow=1.5,SNR=4.2	166.68 5	PKP	PKPdf	11 52 32.1	-0.3
HHC	Hu-ho-hao-te	173.19 338	ePKP	PKPdf	11 52 36.6	+0.2
HHC			pPKP	pPKPdf	11 52 47.6	+5.7
HHC			PP	PP	11 57 59.6	+4.4
HHC			SKS	SKSdf	11 59 34.6	-4.4
HHC			SS	SS	12 19 08.3	-0.6
HHC	comp=N,310nm,9.9s		PPMZ			
HHC	comp=N,470nm,18.5s		LN			
HHC	comp=N,590nm,21.0s		LE			
HHC	comp=N,250nm,12.3s		LZ			
CD2	Chengdu	174.76 133	ePKP	PKPdf	11 52 37.4	+0.2

*ISCJB **14** 11:42:48.8±0.5, 67°.95N±0°.06×159°.7W±0°.1, h10km, mb3.7/7, Error ellipse: s-maj=8.8km s-min=5.3km az=17.1*
*IDC **14** 11:42:49.7±0.9, 68°.17N×159°.78W, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.6/43, mbtmp3.6/10, ML3.2/2, Error ellipse: s-maj=42.8km s-min=14.0km az=27.0*
*NEIC **14** 11:42:52.3, 67°.66N×159°.61W, h6km, ML3.2(AEIC), After AEIC.*

ISC 14 11:42:50.8±0.7, 67°.89N±0°.08×159°.67W±0°.05, h10km, n29, σ1°.26/32, mb3.7/7, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IM3	Indian Mountai	3.01	127	P	Pn	11 43 38.6	+0.1
IM3				S	Sn	11 44 15.4	+0.7
COLD	Coldfoot	3.69	96	P	Pn	11 43 49.9	+2.1
TNA	Tin City	4.02	238	P	Pn	11 43 53.6	+1.2
TNA				S	Sn	11 44 41.6	+2.1
MLY	Manley	4.58	124	P	Pn	11 44 01.1	+1.0
PS01	TAPS Pump Stn	4.62	54	P	Pn	11 44 03.5	+2.9
TT01	Tatalina	5.23	161	P	Pn	11 44 09.2	+0.3
COLA	College	5.63	117	P	Pn	11 44 14.7	+0.3
KTH	Kantishna Hill	5.65	136	P	Pn	11 44 15.8	+1.0
BM3	Burnt Mountain	5.76	88	P	Pn	11 44 17.7	+1.4
CCB	Clear Creek Bu	5.79	119	P	Pn	11 44 16.9	+0.3
WRH	Wood River Hil	5.81	121	P	Pn	11 44 17.5	+0.6
TRF	Thorofare Moun	5.90	135	P	Pn	11 44 19.2	+0.9
PPLA	Purkeypile	5.90	145	P	Pn	11 44 19.2	+0.9
IL1	Eielson Array	6.02	115	P	Pn	11 44 19.9	+0.1
ILAR	Eielson Array 0.5nm,0.3s,baz=310,slow=14,SNR=25	6.02	115	Pn	Pn	11 44 19.8	0.0
ILAR				Sn	Sn	11 45 26.1	-2.5
ILB	Eielson Array 0.1nm,0.3s,baz=318,slow=20,SNR=4.2	6.02	115	P	Pn	11 44 19.9	+0.1
MCK	McKinley	6.07	128	P	Pn	11 44 21.3	+0.8
PS08	TAPS Pump Stn8	6.18	117	P	Pn	11 44 23.4	+1.4
SVW2	Sparrevohn	7.04	164	P	Pn	11 44 33.8	0.0
STLK	Strandline Lak	7.23	149	P	Pn	11 44 36.6	+0.1
YKA	Yellowknife Ar 0.1nm,0.3s,baz=302,slow=9.8,SNR=8.2	19.28	84	P	P	11 47 15.5	+0.3
SEY	Seymchan 1.1nm,0.8s,baz=72,slow=20,SNR=3.7	20.11	279	P	P	11 47 24.8	+0.5
NVAR	Mina Array Bea 0.4nm,0.6s,baz=317,slow=7.4,SNR=2.7	37.24	121	P	P	11 50 04.0	+1.6
SONM	Songino Array 0.3nm,0.5s,baz=34,slow=5.4,SNR=2.3	48.21	296	P	P	11 51 30.5	-0.7
ZALV	Zalesovo Beam 0.4nm,0.3s,baz=16,slow=7.7,SNR=3.9	49.45	315	P	P	11 51 39.0	-1.4
TXAR	Lajitas Array 0.7nm,0.7s,baz=334,slow=6.0,SNR=9.1	50.51	110	P	P	11 51 49.5	+0.6
FINES	FINESS Array B 3.4nm,1.1s,baz=30,slow=12,SNR=2.6	50.90	356	P	P	11 51 50.3	-1.0
MKAR	Makanchi Array 0.2nm,0.5s,baz=36,slow=7.6,SNR=3.1	56.62	313	P	P	11 52 31.2	-2.2
CMAR	Chiang Mai Arr 0.6nm,0.6s,baz=6.4,slow=8.2,SNR=5.2	77.27	287	P	P	11 54 44.7	-0.4

*NEIC **14** 11:55:47.8, 45°.44S×166°.58E, h5km, ML4.1(WEL), After WEL.*

WEL 14 11:55:49.3±0.9, 45°.56S×166°.75E, h5km, ML4.1/13, 1C-2D, Error ellipse: s-maj=7.8km s-min=4.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.30	74	PG	Pg	11 55 56.0	+0.8
DCZ				SG	Sb	11 56 01.1	-1.2
DCZ				AML	AML	11 56 01.2	
DCZ				AML	AML	11 56 01.3	
DCZ				AML	AML	11 56 01.5	
DCZ	Deep Cove	0.30	74	Pg	Pg	11 55 56.0	+0.8
DCZ				Sg	Sb	11 56 01.1	-1.2
WHZ	Wether Hill Ro	0.90	112	P*	Pg	11 56 06.7	0.0
WHZ				AML	AML	11 56 27.3	
WHZ				AML	AML	11 56 28.1	
WHZ	Wether Hill Ro	0.90	112	P*	Pg	11 56 06.7	0.0
MLZ	Mavora Lakes	1.03	78	⇓P*	Pg	11 56 07.8	-1.4
MLZ				S*	Sg	11 56 21.0	-1.5
MLZ				AML	AML	11 56 23.2	
MLZ	Mavora Lakes	1.03	78	⇓P*	Pg	11 56 07.8	-1.4
MSZ	Milford Sound	1.22	44	P*	Pg	11 56 09.3	-3.4
MSZ				AML	AML	11 56 36.0	
MSZ				AML	AML	11 56 40.0	
MSZ	Milford Sound	1.22	44	P*	Pg	11 56 09.3	-3.4
APZ	The Paps	1.54	146	PN	Pn	11 56 17.0	-0.4
APZ				AML	AML	11 56 41.0	
APZ				AML	AML	11 56 41.1	
APZ	The Paps	1.54	146	Pn	Pn	11 56 17.1	-0.4
WKZ	Wanaka	1.77	66	PN	Pn	11 56 19.9	-0.7
WKZ				AML	AML	11 56 49.4	
WKZ				AML	AML	11 56 52.0	
WKZ	Wanaka	1.77	66	Pn	Pn	11 56 19.9	-0.6
EAZ	Earnscleugh	1.84	81	PN	Pn	11 56 21.4	-0.1
EAZ				AML	AML	11 56 49.8	
EAZ				AML	AML	11 56 52.5	
EAZ	Earnscleugh	1.84	81	Pn	Pn	11 56 21.4	-0.1
SYZ	Scrubby Hill	1.93	121	PN	Pb	11 56 24.0	-1.0
SYZ				AML	AML	11 56 52.3	
SYZ				AML	AML	11 57 06.5	
SYZ	Scrubby Hill	1.93	121	Pn	Pb	11 56 24.0	-1.0
TUZ	Tuapeka	2.06	102	PN	Pn	11 56 25.1	+0.6
TUZ	Tuapeka	2.06	102	Pn	Pn	11 56 25.6	+1.1
JCZ	Jackson Bay	2.07	45	PN	Pn	11 56 24.7	-0.1
JCZ				AML	AML	11 57 04.3	
JCZ				AML	AML	11 57 07.4	
JCZ	Jackson Bay	2.07	45	Pn	Pn	11 56 24.7	-0.1
LBZ	Lake Benmore	2.71	65	PN	Pn	11 56 32.8	-0.7
LBZ				AML	AML	11 57 08.2	
LBZ				AML	AML	11 57 10.6	
LBZ	Lake Benmore	2.71	65	Pn	Pn	11 56 32.8	-0.7
HHSZ	Highcliff Hill	2.72	98	PN	Pn	11 56 34.6	+1.0
ODZ	Otahua Downs	2.80	81	⇑PN	Pn	11 56 33.4	-1.3
ODZ	Otahua Downs	2.80	81	Pn	Pn	11 56 33.4	-1.3
FOZ	Fox Glacier	2.90	48	PN	Pn	11 56 36.4	+0.3
FOZ				AML	AML	11 57 30.9	
FOZ				AML	AML	11 57 30.9	
FOZ	Fox Glacier	2.90	48	Pn	Pn	11 56 36.4	+0.3
RPZ	Rata Peaks	3.59	61	PN	Pn	11 56 44.9	-0.7
RPZ				SN	Sn	11 57 29.1	+0.7
RPZ				AML	AML	11 57 31.9	
RPZ	Rata Peaks	3.59	61	Pn	Pn	11 56 45.0	-0.7
RPZ				Sn	Sn	11 57 29.1	+0.7
WVZ	Waitaha Valley	3.79	50	PN	Pn	11 56 47.9	-0.4
WVZ				AML	AML	11 57 47.0	
WVZ	Waitaha Valley	3.79	50	Pn	Pn	11 56 47.9	-0.4
OXZ	Oxford	4.40	61	PN	Pn	11 56 56.0	-0.8
MQZ	McQueen's Vall	4.61	68	PN	Pn	11 56 58.8	-0.7
MQZ	McQueen's Vall	4.61	68	Pn	Pn	11 56 58.8	-0.7
DSZ	Denniston Nort	5.29	46	PN	Pn	11 57 08.5	-0.6
DSZ	Denniston Nort	5.29	46	Pn	Pn	11 57 08.5	-0.6

*THR **14** 12:01:35.7±0.7, 29°.78N×51°.39E, h15km±12km, ML3.7*
*ISCJB **14** 12:01:36.1±0.3, 29°.79N±0°.03×51°.41E±0°.03, h15km, mb4.0/38, MS3.1/1, Error ellipse: s-maj=5.1km s-min=4.0km az=31.4*
*TEH **14** 12:01:36.8, 29°.78N×51°.42E, h3km, ML3.6*
*IDC **14** 12:01:36.1±1.9, 30°.00N×51°.34E, h0km, mb3.7/15, mb1 3.8/17, mb1mx3.7/33, mbtmp3.7/17, ML3.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/44, Error ellipse: s-maj=40.1km s-min=19.1km az=165.0*
*CSEM **14** 12:01:37.3±0.1, 29.84N×51°.45E, h10km, mb4.1/17, Error ellipse: s-maj=6.0km s-min=4.5km az=31.0*
*DSN **14** 12:02:27.4±99.0, 27°.14N×54°.08E, h30km, mb2.9/6, ML3.7/1, Error ellipse: s-maj=45.2km s-min=4.0km az=317.0*

ISC 14 12:01:37.1±0.5, 29°.81N±0°.04×51°.48E±0°.04, h15km, n130, σ1°.25/132, mb4.0/38, 7C-3D, Southern Iran

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

IKAZ	**Kazeroun**	**0.31**	**95**	*e*Pg	**Pg**	**12 01 43.5**	**-0.3**
IKAZ				*e*		12 01 52.9	
	comp=Z,67μm,0.1s						
IKAZ	**Kazeroun**	**0.31**	**95**	*e*Pg	**Pg**	**12 01 43.5**	**-0.3**
IPAR	**Pars**	**1.36**	**88**	*e*Pn	**Pn**	**12 02 01.5**	**-0.4**
IPAR				*e*		12 02 24.7	
	comp=Z,14μm,0.4s						
IPAR	**Pars**	**1.36**	**88**	*e*Pn	**Pn**	**12 02 01.5**	**-0.4**
ISRV	**Sarvestan**	**1.48**	**106**	*e*		12 02 37.0	
	comp=Z,21μm,0.4s						
ISRV				*e*Pn	**Pb**	**12 02 04.8**	**+0.2**
GHIR	**Ghir-Karzin**	**2.01**	**139**	*e*Pg	**Pb**	**12 02 12.8**	**-0.7**
GHIR				*e*Sg	**Sb**	**12 02 40.0**	**+1.7**
GHIR				AML	AML	12 02 51.6	
	comp=N,569nm,0.5s						
GHIR				AML	AML	12 02 53.2	
	comp=E,645nm,0.7s						
GHIR	**Ghir-Karzin**	**2.01**	**139**	*e*Pg	**Pb**	**12 02 12.8**	**-0.7**
GHIR				*e*Sg	**Sb**	**12 02 40.0**	**+1.7**
IGAR	**Gharneh**	**2.63**	**10**	*e*Pn	**Pn**	**12 02 21.0**	**+1.7**
IGAR				*e*		12 03 05.7	
	comp=E,289nm,0.3s						
ISAD	**Sadrabad**	**2.83**	**42**	*e*Pn	**Pn**	**12 02 24.2**	**+2.1**
ISAD				*e*		12 03 11.7	
	comp=Z,3μm,0.4s						
ISAD	**Sadrabad**	**2.83**	**42**	*e*Pn	**Pn**	**12 02 24.2**	**+2.1**
IPIR	**Pirpir**	**2.91**	**350**	*e*Pn	**Pn**	**12 02 23.4**	**+0.2**
IPIR				*e*		12 03 13.2	
	comp=Z,2μm,0.3s						
IPIR	**Pirpir**	**2.91**	**350**	*e*Pn	**Pn**	**12 02 23.4**	**+0.2**
IMEH	**Mehriz**	**3.13**	**59**	*e*Pn	**Pn**	**12 02 28.0**	**+1.8**
IMEH				*e*		12 03 26.7	
	comp=Z,1μm,0.5s						
IMEH	**Mehriz**	**3.13**	**59**	*e*Pn	**Pn**	**12 02 28.0**	**+1.8**
IZEF	**Zefreh**	**3.16**	**13**	*e*Pn	**Pn**	**12 02 28.2**	**+1.5**
IZEF				*e*		12 02 58.3	
	comp=Z,657nm,0.3s						
IZEF	**Zefreh**	**3.16**	**13**	*e*Pn	**Pn**	**12 02 28.2**	**+1.5**
NASN	**Na'in**	**3.19**	**20**	*e*Pn	**Pn**	**12 02 28.1**	**+1.0**
NASN	**Na'in**	**3.19**	**20**	*e*Pn	**Pn**	**12 02 28.1**	**+1.0**
SHGR	**Shooshtar-Gavs**	**3.25**	**316**	*e*Pn	**Pn**	**12 02 27.9**	**+0.3**
SHGR	**Shooshtar-Gavs**	**3.25**	**316**	*e*Pn	**Pn**	**12 02 27.9**	**+0.3**
ICHK	**Chekchek**	**3.49**	**45**	*e*Pn	**Pn**	**12 02 32.6**	**+1.4**
ICHK				*e*		12 03 35.7	
	comp=Z,903nm,0.3s						
ICHK	**Chekchek**	**3.49**	**45**	*e*Pn	**Pn**	**12 02 32.6**	**+1.4**
KFJS		**3.50**	**243**	P	Pb	12 02 34.0	-4.8
KFJS				S	**Sb**	**12 03 16.0**	**-5.0**
KFJS		**3.50**	**243**	P	Pb	12 02 34.3	-4.5
IKLH	**Kolahrood**	**3.50**	**1**	*e*Pn	**Pn**	**12 02 32.3**	**+1.0**
IKLH				*e*Sn	**Sn**	**12 03 12.5**	**-0.1**
IKLH				*e*		12 03 18.6	
	comp=N,2μm,0.2s						
IKLH	**Kolahrood**	**3.50**	**1**	*e*Pn	**Pn**	**12 02 32.3**	**+1.0**
IKLH				*e*Sn	**Sn**	**12 03 12.5**	**-0.1**
IBAF	**Bafgh**	**3.94**	**62**	*e*Pn	**Pn**	**12 02 38.8**	**+1.5**
IBAF				*e*		12 03 47.0	
	comp=Z,878nm,0.4s						
IBAF	**Bafgh**	**3.94**	**62**	*e*Pn	**Pn**	**12 02 38.8**	**+1.5**
BOQSS		**4.34**	**206**	P	Pn	12 02 47.0	+4.3
BOQSS		**4.34**	**206**	P	Pn	12 02 46.8	+4.1
KRBR	**Kerman**	**4.59**	**87**	*e*Pn	**Pn**	**12 02 48.2**	**+2.0**
KRBR				AML	AML	12 03 47.3	
	comp=E,44nm,1.1s						
KRBR				*e*Sg	**Sg**	**12 04 00.8**	**-3.7**
KRBR				AML	AML	12 04 18.1	
	comp=N,49nm,0.7s						
KRBR	**Kerman**	**4.59**	**87**	*e*Pn	**Pn**	**12 02 48.2**	**+2.0**
KRBR				*e*Sg	**Sg**	**12 04 00.8**	**-3.7**
SLWS		**5.04**	**189**	P	**Pn**	**12 02 54.0**	**+1.7**
SLWS		**5.04**	**189**	P	**Pn**	**12 02 54.4**	**+2.1**
BANOM	**Banah**	**5.76**	**131**	P	**Pn**	**12 03 03.4**	**+1.3**
	SNR=46						
BANOM	**Banah**	**5.76**	**131**	*e*P	**Pn**	**12 03 03.4**	**+1.3**
	SNR=46						
BTHS		**5.77**	**186**	P	Pn	12 03 05.0	+2.8
BTHS		**5.77**	**186**	P	**Pn**	**12 03 04.6**	**+2.4**
NAZ	**Nazwa, Dubai**	**6.07**	**141**	P	**Pn**	**12 03 07.5**	**+1.1**
NAZ	**Nazwa, Dubai**	**6.07**	**141**	⇓P	**Pn**	**12 03 07.5**	**+1.1**
FAQ	**Al Faqa, Dubai**	**6.23**	**143**	P	**Pn**	**12 03 09.5**	**+0.9**
FAQ	**Al Faqa, Dubai**	**6.23**	**143**	⇑P	**Pn**	**12 03 09.5**	**+0.9**
HATD	**Hatta, Dubai**	**6.46**	**139**	P	**Pn**	**12 03 12.6**	**+0.9**
HATD	**Hatta, Dubai**	**6.46**	**139**	⇑P	**Pn**	**12 03 12.6**	**+0.9**
ASHO	**Ashiyiah**	**6.53**	**140**	P	**Pn**	**12 03 13.5**	**+0.8**
	SNR=6.2						
ASHO	**Ashiyiah**	**6.53**	**140**	⇑*i*P	**Pn**	**12 03 13.5**	**+0.8**
	SNR=6.2						
ASYS		**6.68**	**252**	P	**Pn**	**12 03 15.0**	**+0.2**
ASYS		**6.68**	**252**	P	**Pn**	**12 03 15.3**	**+0.5**
ASF	**Jabal al Asfar**	**12.73**	**284**	Pn	**Pn**	**12 04 39.9**	**+2.1**
	comp=N,0.5nm,0.3s,baz=323,slow=5.1,SNR=2.8						
KBZ	**Khabaz**	**15.49**	**336**	Pn	**Pn**	**12 05 15.4**	**+0.4**
	comp=N,0.1nm,0.3s,baz=110,slow=15,SNR=3.0						
BRTR	**Keskin Array B**	**17.66**	**309**	P	**Pn**	**12 05 42.2**	**-0.5**
	comp=N,0.2nm,0.3s,baz=129,slow=13,SNR=5.2						
AKTO	**Aktyubinsk**	**21.18**	**12**	P	**P**	**12 06 21.8**	**-0.1**
	comp=N,0.6nm,0.6s,baz=180,slow=7.1,SNR=3.2						
IDI	**Anoyia**	**23.04**	**291**	P	**P**	**12 06 41.4**	**-0.5**
	comp=N,5.5nm,0.7s,baz=315,slow=16,SNR=2.7						
IDI				LR	LR	12 18 25.2	
	comp=N,73nm,21.0s,baz=321,slow=44						
MLR	**Muntele Rosu**	**25.42**	**315**	⇓*i*P	**P**	**12 07 07.0**	**+2.7**
MLR	**Muntele Rosu**	**25.42**	**315**	P	**P**	**12 07 04.5**	**+0.3**
	comp=N,1.2nm,0.6s,baz=270,slow=20,SNR=4.0						
AKASG	**Malin Array Be**	**26.72**	**328**	P	**P**	**12 07 13.9**	**-1.9**
	comp=N,0.6nm,0.4s,baz=123,slow=6.8,SNR=3.9						
BURAR	**Bucovina Array**	**26.94**	**319**	⇑*i*P	**P**	**12 07 19.0**	**+1.1**
BVAR	**Borovoye Array**	**27.02**	**26**	P	**P**	**12 07 19.1**	**+0.6**
	comp=N,0.4nm,0.4s,baz=208,slow=6.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**29.04**	**37**	P	**P**	**12 07 37.2**	**+0.7**
	comp=N,0.6nm,0.5s,baz=235,slow=9.1,SNR=8.2						
MKAR	**Makanchi Array**	**29.28**	**46**	P	**P**	**12 07 40.6**	**+1.8**
	comp=N,0.1nm,0.4s,baz=236,slow=10,SNR=3.1						
KBA	**Koelnbreinsper**	**34.08**	**311**	⇑*i*P	**P**	**12 08 21.9**	**+0.7**
	comp=N,5.2nm,0.9s						
ZALV	**Zalesovo Beam**	**34.09**	**35**	P	**P**	**12 08 20.6**	**-0.3**
	comp=N,1.3nm,0.5s,baz=251,slow=8.7,SNR=7.6						
GERES	**GERESS Array B**	**34.40**	**314**	P	**P**	**12 08 23.3**	**-0.5**
	comp=N,0.3nm,0.4s,baz=120,slow=7.4,SNR=5.7						
WTTA	**Wattenberg**	**35.25**	**311**	*i*P	**P**	**12 08 31.6**	**+0.3**
	comp=N,4.4nm,0.5s,SNR=7.7						
MOTA	**Moosalm**	**35.62**	**311**	⇑*i*P	**P**	**12 08 34.1**	**-0.4**
	comp=N,3.1nm,0.4s						
FETA	**Feichten**	**35.79**	**310**	⇓*i*P	**P**	**12 08 36.3**	**+0.4**
	comp=N,5.1nm,0.6s						
FINES	**FINESS Array B**	**35.81**	**339**	P	**P**	**12 08 34.8**	**-0.8**
	comp=N,0.6nm,0.5s,baz=148,slow=10,SNR=5.9						
RETA	**Reutte**	**35.88**	**311**	⇑*i*P	**P**	**12 08 35.8**	**-0.8**
	comp=N,3.8nm,0.6s,SNR=7.7						
PGF	**Pioggiola**	**36.21**	**302**	*e*P	**P**	**12 08 41.6**	**+2.1**
	comp=N,9.5nm,0.9s						
PGF	**Pioggiola**	**36.21**	**302**	*e*P	**P**	**12 08 41.6**	**+2.1**
	comp=N,4.8nm,0.9s						
DAVA	**Damuels**	**36.42**	**310**	*i*P	**P**	**12 08 41.3**	**0.0**
	comp=N,20nm,0.5s,SNR=11						
FRF	**La Foret Royal**	**38.03**	**304**	*e*P	**P**	**12 08 56.8**	**+2.0**
	comp=N,26nm,1.0s						
FRF	**La Foret Royal**	**38.03**	**304**	*e*P	**P**	**12 08 56.8**	**+2.0**
	comp=N,13nm,1.0s						
MBDF	**Montbardon**	**38.08**	**306**	*e*P	**P**	**12 08 55.5**	**+0.1**
	comp=N,10nm,0.8s						
MBDF	**Montbardon**	**38.08**	**306**	*e*P	**P**	**12 08 55.5**	**+0.1**
	comp=N,5.1nm,0.8s						
LPG	**La Plagne**	**38.20**	**307**	*e*P	**P**	**12 08 57.2**	**+0.6**
LPG	**La Plagne**	**38.20**	**307**	*e*P	**P**	**12 08 57.2**	**+0.6**
HINF	**Hinteralfeld**	**38.53**	**311**	*e*P	**P**	**12 08 59.0**	**0.0**
	comp=N,1.6nm,0.4s						
HINF	**Hinteralfeld**	**38.53**	**311**	*e*P	**P**	**12 08 59.0**	**0.0**
	comp=N,0.8nm,0.4s						
CABF	**La Chapelle**	**38.83**	**308**	*e*P	**P**	**12 09 01.7**	**+0.1**
	comp=N,7.5nm,0.7s						
CABF	**La Chapelle**	**38.83**	**308**	*e*P	**P**	**12 09 01.7**	**+0.1**
	comp=N,3.8nm,0.7s						
HAU	**Haudompre**	**38.90**	**311**	*e*P	**P**	**12 09 01.4**	**-0.7**
	comp=N,3.2nm,0.6s						
HAU	**Haudompre**	**38.90**	**311**	*e*P	**P**	**12 09 01.4**	**-0.7**
	comp=N,1.6nm,0.6s						
PAGF	**Fort de Pagny**	**39.42**	**311**	*e*P	**P**	**12 09 07.0**	**+0.6**
PAGF	**Fort de Pagny**	**39.42**	**311**	*e*P	**P**	**12 09 07.0**	**+0.6**
SFTF	**Sexfontaines**	**39.80**	**311**	*e*P	**P**	**12 09 08.5**	**-1.1**
	comp=N,3.3nm,0.5s						
SFTF	**Sexfontaines**	**39.80**	**311**	*e*P	**P**	**12 09 08.5**	**-1.1**
	comp=N,1.6nm,0.5s						
SMF	**Signal de Mont**	**40.37**	**308**	*e*P	**P**	**12 09 13.9**	**-0.4**
	comp=N,10nm,0.7s						
SMF	**Signal de Mont**	**40.37**	**308**	*e*P	**P**	**12 09 13.9**	**-0.4**
	comp=N,5.2nm,0.7s						
LOR	**Lormes**	**40.44**	**309**	*e*P	**P**	**12 09 14.4**	**-0.5**
	comp=N,2.9nm,0.5s						
LOR	**Lormes**	**40.44**	**309**	*e*P	**P**	**12 09 14.4**	**-0.5**
	comp=N,1.5nm,0.5s						
SSF	**Saint Saulge**	**40.65**	**309**	*e*P	**P**	**12 09 16.3**	**-0.3**
SSF	**Saint Saulge**	**40.65**	**309**	*e*P	**P**	**12 09 16.3**	**-0.3**
BAIF	**Baives**	**40.69**	**313**	*e*P	**P**	**12 09 17.4**	**+0.5**
	comp=N,1.7nm,0.4s						
BAIF	**Baives**	**40.69**	**313**	*e*P	**P**	**12 09 17.4**	**+0.5**
	comp=N,0.9nm,0.4s						
AVF	**Avril sur Loir**	**40.72**	**308**	*e*P	**P**	**12 09 17.3**	**+0.1**
	comp=N,1.3nm,0.4s						
AVF	**Avril sur Loir**	**40.72**	**308**	*e*P	**P**	**12 09 17.3**	**+0.1**
	comp=N,0.6nm,0.4s						
NOA	**NORSAR Array B**	**40.99**	**331**	P	**P**	**12 09 17.9**	**-1.4**
	comp=N,0.6nm,0.7s,baz=109,slow=9.4,SNR=2.7						
BGF	**Bois d'Agland**	**41.04**	**308**	*e*P	**P**	**12 09 20.8**	**+1.0**
BGF	**Bois d'Agland**	**41.04**	**308**	*e*P	**P**	**12 09 20.8**	**+1.0**
MTLF	**Montolieu**	**41.23**	**303**	*e*P	**P**	**12 09 23.2**	**+1.7**
MTLF	**Montolieu**	**41.23**	**303**	*e*P	**P**	**12 09 23.2**	**+1.7**
TCF	**Toulx Ste Croi**	**41.45**	**307**	*e*P	**P**	**12 09 23.8**	**+0.6**
TCF	**Toulx Ste Croi**	**41.45**	**307**	*e*P	**P**	**12 09 23.8**	**+0.6**
RJF	**Les Rejaudoux**	**41.85**	**306**	*e*P	**P**	**12 09 26.7**	**+0.2**
RJF	**Les Rejaudoux**	**41.85**	**306**	*e*P	**P**	**12 09 26.7**	**+0.2**
LFF	**La Frestale**	**42.37**	**305**	*e*P	**P**	**12 09 31.3**	**+0.5**
LFF	**La Frestale**	**42.37**	**305**	*e*P	**P**	**12 09 31.3**	**+0.5**
ARCES	**ARCESS Array B**	**42.46**	**347**	P	**P**	**12 09 30.1**	**-1.1**
	comp=N,2.2nm,0.8s,baz=153,slow=6.9,SNR=10						
MFF	**Saint Martin d**	**43.10**	**308**	*e*P	**P**	**12 09 37.0**	**+0.4**
MFF	**Saint Martin d**	**43.10**	**308**	*e*P	**P**	**12 09 37.0**	**+0.4**
ETSF	**Etsaut**	**43.26**	**302**	*e*P	**P**	**12 09 40.6**	**+2.5**
	comp=N,5.0nm,0.8s						
ETSF	**Etsaut**	**43.26**	**302**	*e*P	**P**	**12 09 40.6**	**+2.5**
	comp=N,2.5nm,0.8s						
LDF	**La Druitiere**	**43.26**	**311**	*e*P	**P**	**12 09 37.7**	**-0.2**
	comp=N,2.3nm,0.3s						
LDF	**La Druitiere**	**43.26**	**311**	*e*P	**P**	**12 09 37.7**	**-0.2**
	comp=N,1.1nm,0.3s						
FLN	**La Foliniere**	**43.52**	**311**	*e*P	**P**	**12 09 39.5**	**-0.5**
	comp=N,2.4nm,0.3s						
FLN	**La Foliniere**	**43.52**	**311**	*e*P	**P**	**12 09 39.5**	**-0.5**
	comp=N,1.2nm,0.3s						
GRR	**Gorron**	**43.73**	**310**	*e*P	**P**	**12 09 41.3**	**-0.4**
GRR	**Gorron**	**43.73**	**310**	*e*P	**P**	**12 09 41.3**	**-0.4**
SJPF	**Ste Jean**	**43.74**	**303**	*e*P	**P**	**12 09 42.5**	**+0.6**
	comp=N,4.8nm,0.5s						
SJPF	**Ste Jean**	**43.74**	**303**	*e*P	**P**	**12 09 42.5**	**+0.6**
	comp=N,2.4nm,0.5s						
SGMF	**Saint Gilles**	**44.85**	**310**	*e*P	**P**	**12 09 50.5**	**-0.1**
	comp=N,4.2nm,0.4s						
SGMF	**Saint Gilles**	**44.85**	**310**	*e*P	**P**	**12 09 50.5**	**-0.1**
	comp=N,2.1nm,0.4s						
QUIF	**Quistinic**	**45.23**	**309**	*e*P	**P**	**12 09 53.3**	**-0.4**
	comp=N,6.2nm,0.4s						
QUIF	**Quistinic**	**45.23**	**309**	*e*P	**P**	**12 09 53.3**	**-0.4**
	comp=N,3.1nm,0.4s						
ROSF	**Rostrenen**	**45.33**	**310**	*e*P	**P**	**12 09 54.8**	**+0.3**
ROSF	**Rostrenen**	**45.33**	**310**	*e*P	**P**	**12 09 54.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**48.82**	**261**	P	**P**	**12 10 22.5**	**+0.3**
	comp=N,0.5nm,0.5s,baz=56,slow=8.6,SNR=5.9						
SCHQ	**Schefferville**	**80.51**	**329**	P	**P**	**12 13 48.4**	**-0.1**
	comp=N,0.5nm,0.4s,baz=83,slow=19,SNR=4.1						
YKA	**Yellowknife Ar**	**87.34**	**354**	P	**P**	**12 14 23.5**	**+0.3**
	comp=N,0.1nm,0.4s,baz=9.8,slow=5.1,SNR=3.0						

SKHL 14 12:19:15.8±1.1, 54°.50N×142°.30E, h10km, mb3.9/3, 2C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**1.02**	**158**	⇑*i*Pg	Pg	12 19 32.9	-2.5
OKH				AMB	AMB	12 19 33.0	
	1μm,0.4s						
OKH				⇑*i*Sg	Sg	12 19 45.0	-3.7
OKH				A	A	12 19 49.0	
	2μm,0.5s						
OKH				A	A	12 19 49.0	
	2μm,0.5s						
NKL	**Nikolayevsk**	**1.66**	**216**	*e*Pg	Pg	12 19 48.5	+0.9
NKL				AMB	AMB	12 19 49.3	
	5.0nm,0.3s						
NKL				*e*Sg	Sg	12 20 12.0	+2.9
NKL				A	A	12 20 12.5	
	140nm,0.4s						
TYV	**Tymovskoe**	**3.65**	**176**	*e*Pg	Pg	12 20 28.0	+2.3
TYV				AMB	AMB	12 20 31.5	
	13nm,0.8s						
GRNR	**Gornyy**	**5.17**	**226**	*e*Pg	Pg	12 20 57.0	+2.2
GRNR				*e*Sg	Sg	12 22 07.0	+5.2
GRNR				A	A	12 22 07.5	
	10.0nm,0.4s						
BMKR	**Bomnak**	**7.82**	**277**	*e*Sg	Sg	12 23 35.0	+8.5
YASR	**Yasnyy**	**8.55**	**268**	*e*Sg	Sg	12 23 45.0	-4.8
YASR				A	A	12 24 11.5	
	3.0nm,0.5s						

GUC 14 12:24:10.8±0.8, 33°.84S×72°.51W, h37km±5km, ML3.6, 4C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.92**	**97**	⇓*i*P	Pn	12 24 27.4	+0.2
IHA	**Instituto Hidr**	**1.09**	**42**	*e*P1	Pn	12 24 30.2	+0.8
NICH	**Los Niches**	**1.57**	**138**	⇑*i*P	Pn	12 24 37.5	+1.4
NICH				*i* S	Sn	12 24 57.9	+2.8
ANTU	**Antumapu**	**1.58**	**81**	⇓*i*P	Pn	12 24 37.7	+1.3
ANTU				*i* S	Sn	12 24 57.9	+2.2
ANTU				IAML		12 25 03.2	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	**1.67**	**66**	⇓*i*P	Pn	12 24 39.6	+2.0
PEL				*i* S	Sn	12 25 00.7	+2.8
PEL				IAML		12 25 11.6	
	comp=N,2μm,0.6s						
CLCH	**Cerro Calan**	**1.70**	**75**	⇑*i*P	Pn	12 24 39.6	+1.5
CLCH				*i* S	Sn	12 25 00.9	+2.2
CLCH				IAML		12 25 09.5	
	comp=E,848nm,0.2s						
TALC	**Talca**	**1.71**	**155**	⇑*i*P	Pn	12 24 39.3	+1.3
SJCH	**San Jose de Ma**	**1.81**	**84**	*e*P9	Pn	12 24 39.7	+0.2
SJCH				*e*S	Sn	12 25 02.8	+1.6
FCH	**Farellones**	**1.92**	**75**	⇑*i*P	Pn	12 24 43.4	+2.1
FCH				*i* S	Sn	12 25 07.9	+3.3
CHNG	**Los Chungos**	**2.13**	**24**	⇓*i*P	Pn	12 24 44.9	+1.1

GUC 14 12:33:55.4±0.5, 35°.60S×72°.19W, h41km±2km, ML3.8, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.50**	**66**	⇓*i*P	Pn	12 34 06.2	0.0
TALC				*i* S	Sn	12 34 14.3	+0.5
LNCH	**Linares**	**0.54**	**117**	⇓*i*P	Pn	12 34 06.7	-0.1
LNCH				*i* S	Sn	12 34 15.2	+0.4
COCH	**Cobquecura**	**0.72**	**222**	*e*P	Pn	12 34 08.9	-0.2
COCH				*i* S	Sn	12 34 19.7	+0.8
NICH	**Los Niches**	**0.99**	**53**	⇑*i*P	Pn	12 34 13.5	+0.7
NICH				*i* S	Sn	12 34 27.3	+1.7
LNV	**Longovilo**	**1.76**	**22**	⇑*i*P	Pn	12 34 24.3	+0.8
CACH	**El Canelo**	**1.98**	**42**	*e*P1	Pn	12 34 27.4	+0.9
CHCH	**Chadas Angostu**	**2.09**	**38**	⇓*i*P	Pn	12 34 29.3	+1.3
CHCH				*i* S1	Sn	12 34 54.6	+1.7
ANTU	**Antumapu**	**2.40**	**33**	*e*P1	Pn	12 34 33.0	+0.7
ANTU				*e*S	Sn	12 35 02.0	+1.4
ANTU				IAML		12 35 19.6	
	comp=E,469nm,0.4s						
CLCH	**Cerro Calan**	**2.59**	**32**	⇑*i*P	Pn	12 34 35.8	+0.9
CLCH				*i* S	Sn	12 35 06.6	+1.3
CLCH				IAML		12 35 24.8	
	comp=N,438nm,0.3s						
PEL	**Peldehue**	**2.75**	**27**	⇑*i*P	Pn	12 34 38.2	+1.1
PEL				*e*S	Sn	12 35 10.7	+1.5
PEL				IAML		12 35 22.8	
	comp=E,482nm,0.4s						

*IDC **14** 12:38:11.4±2.0, 27°.70N×52°.12E, h0km, mb3.7/12, mb1 3.8/15, mb1mx3.7/33, mbtmp3.7/15, ML3.3/3, MS3.6/1, Ms1 3.6/1, ms1mx2.4/39, Error ellipse: s-maj=40.6km s-min=20.8km az=163.0*

*CSEM **14** 12:38:13.6±0.8, 27°.98N×52°.16E, h10km, ML3.9, Error ellipse: s-maj=23.4km s-min=14.6km az=70.0*

ISC 14 12:38:11.8±0.8, 27°.53N±0°.08×52°.20E±0°.08, h10km, n28, σ0.92/26, mb3.6/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQSS		**3.02**	**237**	P	**Pb**	**12 39 06.0**	**+0.3**
BOQSS		**3.02**	**237**	P	**Pb**	**12 39 05.9**	**+0.3**
SLWS		**3.06**	**207**	P	**Pb**	**12 39 07.0**	**+0.6**
SLWS		**3.06**	**207**	P	**Pb**	**12 39 06.9**	**+0.6**
BTHS		**3.68**	**200**	P	**Pb**	**12 39 16.0**	**-0.9**
BTHS		**3.68**	**200**	P	**Pb**	**12 39 15.6**	**-1.3**
KFJS		**3.82**	**281**	P	**Pn**	**12 39 12.0**	**+1.3**
KFJS				S	**Sn**	**12 39 55.0**	**-0.7**
KFJS		**3.82**	**281**	S	**Sn**	**12 39 54.6**	**-1.2**
KFJS		**3.82**	**281**	P	**Pn**	**12 39 12.3**	**+1.6**
ASYS		**6.98**	**272**	P	**Pn**	**12 39 54.0**	**-0.1**
GEYT	**Alibeck**	**11.50**	**24**	Pn	**Pn**	**12 40 55.8**	**-0.3**
	0.2nm,0.3s,baz=201,slow=13,SNR=3.1						
KBZ	**Khabaz**	**17.82**	**337**	P	**Pn**	**12 42 19.9**	**+0.2**
	0.1nm,0.3s,baz=183,slow=9.0,SNR=4.8						
BRTR	**Keskin Array B**	**19.62**	**313**	P	**P**	**12 42 39.0**	**-1.5**
	0.1nm,0.3s,baz=134,slow=10,SNR=4.9						
AKTO	**Aktyubinsk**	**23.30**	**9**	P	**P**	**12 43 20.8**	**+1.1**
	0.9nm,0.6s,baz=188,slow=13,SNR=5.2						
AAK	**Ala-Archa**	**23.56**	**44**	P	**P**	**12 43 23.8**	**+1.3**
	0.5nm,0.3s,baz=239,slow=5.9,SNR=2.3						
AKASG	**Malin Array Be**	**28.98**	**329**	P	**P**	**12 44 10.4**	**-1.0**
	0.6nm,0.5s,baz=128,slow=7.0,SNR=2.1						
MKAR	**Makanchi Array**	**30.46**	**43**	P	**P**	**12 44 24.9**	**+0.3**
	0.4nm,0.5s,baz=219,slow=5.6,SNR=4.3						
KURBB	**Kurchatov Arra**	**30.52**	**34**	P	**P**	**12 44 24.4**	**-0.6**
	0.2nm,0.3s,baz=233,slow=8.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**35.61**	**33**	P	**P**	**12 45 09.3**	**-0.1**
	1.7nm,0.4s,baz=238,slow=10.0,SNR=12						
FINES	**FINESS Array B**	**38.15**	**340**	P	**P**	**12 45 30.2**	**-0.7**
	1.4nm,0.7s,baz=148,slow=9.9,SNR=8.0						
HFS	**Hagfors**	**41.76**	**332**	P	**P**	**12 46 00.5**	**-0.5**
	2.0nm,0.4s,baz=120,slow=8.8,SNR=22						
NB2	**NORSAR Subarra**	**43.28**	**332**	P	P	12 46 12.3	-1.1
	comp=Z,0.6nm,0.4s,baz=121,slow=8.6						
NB2	**NORSAR Subarra**	**43.28**	**332**	P	P	12 46 12.3	-1.1
	comp=Z,0.6nm,0.4s,baz=121,slow=8.1,SNR=4.0						
NOA	**NORSAR Array B**	**43.28**	**332**	P	**P**	**12 46 12.5**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=127,slow=9.2,SNR=4.8						
ARCES	**ARCESS Array B**	**44.81**	**347**	P	**P**	**12 46 25.1**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=147,slow=7.3,SNR=6.2						
OPO	**Ambohidratompo**	**46.09**	**187**	LR	LR	13 07 11.4	
	comp=Z,64nm,19.6s,baz=180,slow=38						
TORD	**Torodi Ar. Bea**	**49.15**	**264**	P	**P**	**12 47 01.3**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=60,slow=7.9,SNR=3.5						
YKA	**Yellowknife Ar**	**89.67**	**354**	P	**P**	**12 51 10.2**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=8.6,slow=5.5,SNR=6.1						

KRSC 14 12:47:16.2±1.9, 48°.82N×156°.71E, h16km±33km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.91**	**349**	*e*P	Pn	12 47 47.8	-0.2
SKR				*e*S	Sb	12 48 13.3	-0.8
MIPR	**Malaya Ipel'ka**	**3.46**	**1**	*e*P	Pn	12 48 11.1	+1.7
MTVR	**Mutnovka**	**3.79**	**14**	*e*P	Pn	12 48 18.0	+4.0
MTVR				*

0.0nm,0.3s,baz=273,slow=13,SNR=5.4
AKTO Aktyubinsk 17.00 29 Pn **Pn 12 57 16.1 -1.0**
0.2nm,0.3s,baz=226,slow=10,SNR=6.6
BVAR Borovoye Array 24.39 38 P **P 12 58 35.7 -2.0**
0.6nm,0.7s,baz=224,slow=8.3,SNR=4.5
KURBB Kurchatov Arra 27.88 48 P **P 12 59 07.6 -1.5**
0.4nm,0.2s,baz=257,slow=8.5,SNR=2.9
FINES FINESS Array B 28.12 340 P P 12 59 08.7 -2.5
0.6nm,0.7s,baz=142,slow=16,SNR=2.8
HFS Hagfors 31.45 330 P P 12 59 37.7 -3.0
4.4nm,1.0s,baz=150,slow=10.0,SNR=4.6
ARCES ARCESS Array B 35.19 348 P P 13 00 10.4 -2.8
5.2nm,1.1s,baz=163,slow=8.5,SNR=5.4
TORD Torodi Ar. Bea 45.29 251 P P 13 01 34.2 -3.2
0.3nm,0.8s,baz=43,slow=6.5,SNR=2.7
CMAR Chiang Mai Arr 50.16 96 P **P 13 02 13.3 -2.0**
0.6nm,0.7s,baz=296,slow=9.1,SNR=4.5
BOSA Boshof 67.10 199 P **P 13 04 11.8 -1.2**
1.7nm,0.9s,baz=336,slow=5.4,SNR=4.1
YKA Yellowknife Ar 80.41 351 P P 13 05 27.4 -3.3
0.1nm,0.5s,baz=8.9,slow=4.9,SNR=3.2

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*IDC **14** 13:10:23.8±1.0,39°.50N×73°.90E,h0km,mb3.5/8,*
mb1 3.7/12,mb1mx3.6/31,mbtmp3.5/12,ML2.9/5,Error
ellipse: s-maj=18.9km s-min=14.5km az=95.0
*BJI **14** 13:10:24.2,39°.58N×73°.52E,h5km,ML3.2/4,Ms7 3.7/1*
*KRNET **14** 13:10:26.5±0.1,39°.64N×73°.70E,h3km,mb4.1*
*NNC **14** 13:10:29.0±2.2,39°.69N×73°.70E,h0km,mb3.8,mpv3.4,*
Error ellipse: s-maj=24.5km s-min=12.5km az=147.0
ISC 14 13:10:26.2±1.8,39°.61N±0°.06×73°.81E±0°.04,h13km±11km,
n47,σ1§32/54,mb3.5/8,22C-5D,Tajikistan-Xinjiang
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.47**	**330**	*e*P	Pg	13 10 32.5	-3.0
SFK	baz=338			*e*S	**Sg**	**13 10 39.0**	**-2.7**
OHH	**Osh**	**1.20**	**320**	*e*P	**Pg**	**13 10 49.4**	**0.0**
DRK	**Karamyk**	**1.56**	**266**	*e*P	**Pb**	**13 10 55.0**	**-0.1**
DRK	baz=264			*e*S	**Sg**	**13 11 17.0**	**+0.6**
KSH	**Kashi**	**1.68**	**93**	Pg	Pn	13 10 53.1	-2.3
KSH				Sg	**Sn**	**13 11 13.8**	**-3.0**
KSH				SMN			
KSH	460nm,0.6s			SME			
ARSB	**Arslanbob**	**1.82**	**340**	*e*P	**Pg**	**13 11 00.6**	**-0.6**
ARSB	baz=342			*e*S	**Sg**	**13 11 27.5**	**+2.6**
ARLS	**Aral**	**2.28**	**10**	*i*P	**Pb**	**13 11 08.0**	**+0.7**
ARLS	baz=12			*e*S	**Sg**	**13 11 41.3**	**+1.8**
BTK	**Batken**	**2.35**	**282**	*e*P	**Pb**	**13 11 07.9**	**-0.5**
BTK	baz=282			*e*S	**Sg**	**13 11 40.5**	**-1.1**
NRN	**Naryn**	**2.47**	**42**	*e*P	**Pb**	**13 11 10.5**	**-0.1**
NRN	baz=44			*e*S	**Sg**	**13 11 46.8**	**+1.2**
AML	**Almayashu**	**2.52**	**358**	P	**Pb**	**13 11 11.2**	**-0.3**
AML	SNR=60 **Almayashu**	**2.52**	**358**	⇑*i*P	**Pb**	**13 11 11.0**	**-0.5**
AML	baz=360			⇑*i*S	**Sg**	**13 11 47.9**	**+0.7**
ARK	**Arkit**	**2.60**	**328**	*e*P	**Pb**	**13 11 11.6**	**-1.1**
ARK	baz=329			*e*S	**Sg**	**13 11 47.2**	**-2.4**
UCH	**Uchtor**	**2.67**	**11**	P	**Pb**	**13 11 14.0**	**-0.1**
UCH	SNR=118 **Uchtor**	**2.67**	**11**	⇑*i*P	**Pb**	**13 11 14.0**	**-0.1**
UCH	baz=13			⇑*i*S	**Sg**	**13 11 54.0**	**+2.1**
KZA	**Kyzart**	**2.69**	**23**	P	**Pb**	**13 11 14.1**	**-0.5**
KZA	SNR=15 **Kyzart**	**2.69**	**23**	⇑*i*P	**Pb**	**13 11 14.0**	**-0.5**
KZA	baz=25			⇑*i*S	**Sg**	**13 11 54.1**	**+1.3**
EKS2	**Erkin-Say**	**3.05**	**360**	P	**Pb**	**13 11 18.9**	**-1.5**
EKS2	SNR=22 **Erkin-Say**	**3.05**	**360**	⇑*i*P	**Pb**	**13 11 18.8**	**-1.5**
EKS2	baz=1.0			⇑*i*S	**Sg**	**13 12 02.7**	**-1.4**
AAK	**Ala-Archa**	**3.06**	**10**	⇑Pn	**Pb**	**13 11 19.7**	**-1.0**
AAK	14nm,0.5s			⇑Lg	Lg	13 12 04.7	
AAK	**Ala-Archa**	**3.06**	**10**	P	**Pb**	**13 11 19.8**	**-0.9**
AAK	SNR=37 **Ala-Archa**	**3.06**	**10**	Pn	Pn	13 11 17.8	+3.3
AAK	5.2nm,0.3s,baz=191,slow=13,SNR=22			Lg	Lg	13 12 05.9	
AAK	6.6nm,0.3s,baz=343,slow=20,SNR=9.5 **Ala-Archa**	**3.06**	**10**	⇑*i*P	**Pb**	**13 11 19.5**	**-1.2**
AAK	baz=11			⇑*i*S	**Sg**	**13 12 05.1**	**+0.5**
KBK	**Karagaybulak**	**3.16**	**15**	P	**Pb**	**13 11 21.1**	**-1.2**
KBK	SNR=21 **Karagaybulak**	**3.16**	**15**	⇑*i*P	**Pb**	**13 11 21.3**	**-1.0**
KBK	baz=17			⇑*i*S	**Sg**	**13 12 07.7**	**0.0**
ULHL	**Ulahol**	**3.21**	**34**	P	**Pb**	**13 11 23.8**	**+0.5**
ULHL	SNR=9.4 **Ulahol**	**3.21**	**34**	⇑*i*P	**Pb**	**13 11 22.6**	**-0.6**
ULHL	baz=36			⇑*i*S	**Sg**	**13 12 10.3**	**+0.9**
CHMS	**Chumysh**	**3.46**	**12**	P	**Pb**	**13 11 24.9**	**-2.4**
TKM2	SNR=9.3 **Tokmak 2**	**3.57**	**22**	⇓Pn	Pb	13 11 26.4	-2.9
TKM2	12nm,0.8s			⇓Lg	Lg	13 12 21.2	
TKM2	12nm,0.5s **Tokmak 2**	**3.57**	**22**	P	Pb	13 11 26.6	-2.8
USP	SNR=9.5 **Ospenovka**	**3.69**	**8**	P	Pb	13 11 27.3	-3.9
DZET	SNR=8.2 **Dzherino**	**3.95**	**260**	⇓Pn	**Pn**	**13 11 29.0**	**+2.4**
DZET				⇑Lg	Lg	13 12 34.7	
KK31	**Karatay Array**	**4.28**	**326**	Pn	Pn	13 11 34.4	+3.3
KK31	0.9nm,0.2s,baz=144,slow=14,SNR=57			⇑Pg	**Pb**	**13 11 43.8**	**+2.5**
KK31	2.2nm,0.4s,baz=142,slow=17,SNR=9.9			⇑Lg	Lg	13 12 40.5	
PDGK	11nm,0.5s,baz=139,slow=31,SNR=6.6 **Podgornoye**	**5.65**	**47**	⇓Pn	Pn	13 11 53.8	+4.0
PDGK				⇑Pg	Pb	13 12 08.3	+3.7
PDGK				⇑Lg	Lg	13 13 30.8	
MKAR	**Makanchi Array**	**9.47**	**38**	Pn	**Pn**	**13 12 41.8**	**-0.6**
MKAR	0.1nm,0.3s,baz=225,slow=14,SNR=2.5			Lg	Lg	13 15 27.7	
KURBB	0.1nm,0.3s,baz=232,slow=20,SNR=3.3 **Kurchatov Arra**	**11.50**	**15**	Lg	Lg	13 16 35.0	
BVAR	0.0nm,0.3s,baz=208,slow=29,SNR=6.2 **Borovoye Array**	**13.62**	**351**	Pn	**Pn**	**13 13 38.7**	**-0.3**
AB31	0.0nm,0.3s,baz=159,slow=14,SNR=8.7 **Akbulak array**	**13.80**	**319**	⇓P	**Pn**	**13 13 41.5**	**+0.1**
AKTO	0.4nm,0.5s **Aktyubinsk**	**15.51**	**319**	⇑P	**Pn**	**13 14 03.9**	**-0.7**
AKTO	5.0nm,1.1s **Aktyubinsk**	**15.51**	**319**	Pn	**Pn**	**13 14 03.5**	**-1.0**
ZALV	0.1nm,0.3s,baz=122,slow=15,SNR=5.1 **Zalesovo Beam**	**16.17**	**24**	Pn	**Pn**	**13 14 13.4**	**+0.3**
SONM	0.1nm,0.3s,baz=213,slow=10,SNR=3.0 **Songino Array**	**24.80**	**60**	P	**P**	**13 15 48.7**	**+0.8**
FINES	0.4nm,0.9s,baz=268,slow=5.0,SNR=4.1 **FINESS Array B**	**36.24**	**323**	P	**P**	**13 17 29.1**	**+0.5**
ARCES	0.6nm,0.7s,baz=110,slow=16,SNR=4.2 **ARCESS Array B**	**39.18**	**335**	P	**P**	**13 17 54.4**	**+1.0**
GERES	5.6nm,0.9s,baz=115,slow=5.8,SNR=4.9 **GERESS Array B**	**43.02**	**303**	P	**P**	**13 18 27.0**	**+1.6**
	0.1nm,0.3s,baz=27,slow=3.3,SNR=2.4						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**68.00**	**269**	P	**P**	**13 21 23.5**	**-1.9**
YKA	0.2nm,0.4s,baz=99,slow=36,SNR=2.8 **Yellowknife Ar**	**78.02**	**4**	P	**P**	**13 22 23.7**	**-0.2**
WRA	0.1nm,0.4s,baz=348,slow=5.4,SNR=3.5 **Warramunga Arr**	**81.82**	**124**	P	**P**	**13 22 44.6**	**-0.5**
ASAR	0.2nm,0.6s,baz=324,slow=4.8,SNR=5.9 **Alice Springs**	**84.28**	**127**	P	**P**	**13 22 57.5**	**-0.4**
	0.3nm,0.8s,baz=318,slow=5.9,SNR=6.1						

IDC 14 13:25:01.2±11.0,41°.88S×84°.92E,h0km,mb3.7/4,
mb1 3.9/4,mb1mx3.6/32,mbtmp3.7/4,MS3.8/5,Ms1 3.7/5,
ms1mx3.3/28,Error ellipse: s-maj=279.3km
s-min=46.4km az=45.0,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**23.86**	**83**	T	T	13 53 53.4	
H01W3	baz=246,slow=74,SNR=21 **Cape Leeuwin H**	**23.87**	**83**	T	T	13 53 54.0	
H01W1	baz=246,slow=74,SNR=18 **Cape Leeuwin H**	**23.88**	**83**	T	T	13 53 54.7	
NWAO	baz=246,slow=74,SNR=16 **Narrogin (SRO)**	**27.05**	**81**	LR	LR	13 38 34.2	
MAW	comp=Z,83nm,20.5s,baz=230,slow=30 **Mawson**	**28.41**	**198**	LR	LR	13 40 02.8	
H08S2	comp=Z,181nm,21.0s,baz=56,slow=32 **Diego Garcia H**	**35.83**	**339**	T	T	14 09 17.9	
H08S1	baz=162,slow=76,SNR=14 **Diego Garcia H**	**35.83**	**339**	T	T	14 09 07.5	
H08S3	baz=162,slow=76,SNR=16 **Diego Garcia H**	**35.83**	**339**	T	T	14 09 11.1	
ASAR	baz=162,slow=76,SNR=98 **Alice Springs**	**44.37**	**82**	P	P	13 33 13.7	+0.2
ASAR	0.8nm,0.7s,baz=233,slow=7.3,SNR=10			LR	LR	13 49 49.8	
STKA	comp=Z,102nm,19.0s,baz=236,slow=34 **Stephens Creek**	**45.69**	**97**	P	P	13 33 23.6	-0.2
PSI	0.9nm,0.9s,baz=260,slow=6.1,SNR=3.0 **Prapat**	**46.26**	**20**	LR	LR	13 48 59.2	
VNDA	comp=Z,192nm,19.3s,baz=218,slow=31 **Vanda**	**46.69**	**163**	LR	LR	13 50 50.2	
WRA	comp=Z,106nm,20.4s,baz=241,slow=33 **Warramunga Arr**	**46.96**	**78**	P	P	13 33 33.4	-0.6
CMAR	1.8nm,1.1s,baz=233,slow=8.1,SNR=6.4 **Chiang Mai Arr**	**61.42**	**15**	P	P	13 35 19.2	+0.1
	0.4nm,0.4s,baz=210,slow=7.4,SNR=4.8						

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*BJI **14** 13:33:50.5,57°.09N×123°.49E,h12km,mb4.2/1,ML4.7/3*
*IDC **14** 13:33:51.5±0.6,56°.85N×123°.01E,h0km,mb3.8/17,*
mb1 4.0/19,mb1mx3.8/57,mbtmp3.8/19,ML2.7/2,MS2.9/3,
Ms1 2.9/3,ms1mx2.5/39,Error ellipse: s-maj=17.1km
s-min=13.7km az=166.0
*MOS **14** 13:33:51.9±1.2,56°.95N×123°.11E,h10km,mb4.3/12,Error*
ellipse: s-maj=15.1km s-min=10.4km az=90.0
*ISCJB **14** 13:33:52.2±0.3,56°.97N±0°.04×123°.01E±0°.05,h10km,*
mb3.9/23,MS3.0/3,Error ellipse: s-maj=5.3km
s-min=3.8km az=177.0
*YARS **14** 13:33:52.3±0.2,56°.93N±0°.01×123°.11E±0°.02,h10km,*
MSV3.7
*NEIC **14** 13:33:53.4±3.2,56°.89N×123°.03E,h11km±20km,mb4.1/4,*
Error ellipse: s-maj=11.4km s-min=5.9km az=155.0
ISC 14 13:33:53.4±0.4,56°.99N±0°.03×122°.97E±0°.02,h10km,n63,
σ1§57/66,mb4.0/23,MS3.1/3,3D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKLR	**Yuktali**	**0.83**	**242**	*e*P	**Pg**	**13 34 08.2**	**-1.1**
YKLR				Pm		13 34 08.2	
YKLR	comp=Z,56nm,0.1s			*e*S	**Sg**	**13 34 19.4**	**-0.7**
YKLR				Sm		13 34 19.4	
CLNS	comp=N,597nm,0.2s **Chul'man**	**1.06**	**97**	*e*P	**Pg**	**13 34 11.2**	**-2.7**
CLNS				*e*		13 34 23.9	
CLNS				pmax	pmax		
CLNS	comp=N,90nm,0.3s			pmax	pmax		
CLNS	comp=Z,200nm,0.3s			pmax	pmax		
CLNS	comp=E,116nm,0.3s			smax	smax		
CLNS	comp=Z,262nm,0.2s			smax	smax		
CLNS	comp=E,1μm,0.3s			smax	smax		
CLNS	comp=N,4μm,0.6s **Chul'man**	**1.06**	**97**	*e*P	**Pg**	**13 34 11.1**	**-2.8**
CLNS				Pm		13 34 11.1	
CLNS	comp=Z,72nm,0.2s			*e*S	**Sg**	**13 34 24.1**	**-3.6**
CLNS				Sm		13 34 24.1	
KHN	comp=E,504nm,0.2s **Khani**	**1.75**	**269**	*e*P	**Pb**	**13 34 24.2**	**-1.4**
KHN				Pm		13 34 24.2	
KHN	comp=Z,157nm,0.2s			*e*S	**Sb**	**13 34 46.4**	**-1.1**
KHN				Sm		13 34 46.4	
ALDR	comp=N,450nm,0.2s **Aldan**	**2.09**	**38**	*e*P	**Pb**	**13 34 30.4**	**-1.0**
ALDR				Pm		13 34 30.4	
ALDR	comp=Z,164nm,0.2s			*e*S	**Sb**	**13 34 56.1**	**-1.2**
ALDR				Sm		13 34 56.1	
TNDR	comp=E,851nm,0.4s,comp=N,2μm,0.4s **Tynda**	**2.09**	**151**	*e*P	**Pn**	**13 34 28.7**	**+0.2**
TNDR				Pm		13 34 28.7	
TNDR	comp=Z,145nm,0.5s,comp=E,1μm,0.5s			*e*S	**Sn**	**13 34 54.8**	**+0.3**
TNDR				Sm		13 34 54.8	
TUP	comp=E,453nm,0.4s,comp=N,4μm,0.4s **Tupik**	**3.08**	**215**	*e*P		13 34 41.4	
TUP				*e*P	**Pb**	**13 34 47.3**	**-1.1**
TUP				Pm		13 34 47.3	
TUP	comp=Z,221nm,0.6s			*e*S		13 35 17.7	
TUP				*e*S	**Sb**	**13 35 26.7**	**+0.7**
TUP				Sm		13 35 26.7	
BMKR	comp=E,953nm,0.2s,comp=N,1μm,0.2s **Bomnak**	**4.02**	**122**	*e*P		13 34 53.8	
BMKR				*e*P	**Pb**	**13 35 03.9**	**-0.4**
BMKR				Pm		13 35 03.9	
BMKR	comp=Z,127nm,0.5s			*e*S		13 35 39.4	
BMKR				*e*S	**Sb**	**13 35 52.1**	**-0.8**
BMKR				Sm		13 35 52.1	
CGD	comp=E,139nm,0.5s **Chagda**	**4.45**	**63**	*e*P		13 35 01.6	
CGD				*e*P	**Pb**	**13 35 11.1**	**-0.5**
CGD				Pm		13 35 11.1	
CGD	comp=Z,13nm,0.3s			*e*S		13 35 50.3	
CGD				*e*S	**Sb**	**13 36 08.7**	**+3.5**
CGD				Sm		13 36 08.7	
VTMR	comp=N,313nm,0.4s **Vitim**	**6.03**	**298**	*e*S		13 36 32.7	
VTMR				*e*S	**Sg**	**13 37 01.9**	**-5.0**
VTMR				Sm		13 37 01.9	
NBS	comp=E,178nm,0.7s **Nizhniy Bestya**	**6.08**	**32**	*e*P		13 35 23.5	
NBS				*e*P	**Pb**	**13 35 40.9**	**+1.5**
NBS				*e*S		13 36 30.2	
NBS				*e*S	Sg	13 37 00.5	-8.0
YAK	**Yakutsk**	**6.10**	**31**	*e*P	**Pn**	**13 35 23.5**	**0.0**
YAK				*e*		13 36 30.2	
YAK	comp=Z,26nm,0.6s			pmax	pmax		
YAK	comp=E,5.0nm,0.5s			pmax	pmax		
YAK	comp=N,6.0nm,0.5s			pmax	pmax		
YAK	comp=Z,35nm,0.6s			pmax	pmax		
YAK	comp=N,9.0nm,0.6s			pmax	pmax		
YAK	comp=E,13nm,0.4s			smax	smax		
YAK	comp=E,102nm,0.4s			smax	smax		
YAK	comp=N,92nm,0.9s			smax	smax		
YAK	comp=N,1μm,0.6s			smax	smax		
YAK	comp=E,671nm,0.6s			smax	smax		
YAK	comp=Z,61nm,5.5s			smax	smax		
YAK	**Yakutsk**	**6.10**	**31**	*e*P	**Pn**	**13 35 23.6**	**+0.1**
HABR	comp=Z,43nm,0.6s **Khabarovsk**	**11.22**	**134**	*e*P	**Pn**	**13 36 35.2**	**+1.5**
HABR				*e*S	**Sn**	**13 38 42.6**	**+3.5**
HABR	comp=Z,27nm,2.0s			pmax	pmax		
HABR	comp=Z,71nm,16.0s			MLR	MLR		
BTGS	**Batagay**	**11.97**	**22**	*e*S	Sn	13 38 50.6	-6.5
BTGS				*e*S		13 40 02.9	
BTGS				Sm		13 40 02.9	
SONM	comp=N,41nm,0.1s **Songino Array**	**13.62**	**235**	Pn	**Pn**	**13 37 06.3**	**-0.3**
SONM	comp=N,0.1nm,0.3s,baz=36,slow=8.4,SNR=6.1			Lg	Lg	13 41 02.1	
USRK	comp=N,0.5nm,0.3s,baz=33,slow=28,SNR=11 **Ussuriysk Ar.**	**14.01**	**152**	Pn	**Pn**	**13 37 09.1**	**-2.7**
USRK	comp=N,0.2nm,0.3s,baz=345,slow=10,SNR=2.3			Lg	Lg	13 41 14.2	
USRK	comp=N,0.1nm,0.3s,baz=315,slow=24,SNR=3.1			LR	LR	13 43 20.0	
USRK	comp=N,32nm,18.8s,baz=319,slow=41			MLR	MLR		
TIXI	**Tiksi**	**14.93**	**7**	*i*P	**Pn**	**13 37 22.5**	**-1.7**
TIXI				pmax	pmax		
TIXI	comp=Z,3.0nm,0.7s **Tiksi**	**14.93**	**7**	*e*Pn	Pn	13 37 20.1	-4.1
SEY	comp=Z,5.9nm,0.6s **Seymchan**	**15.78**	**56**	Pn	**Pn**	**13 37 35.8**	**+0.3**
SEY	comp=Z,1.3nm,0.3s,baz=261,slow=11,SNR=24			Lg	Lg	13 42 07.3	
KSRS	comp=Z,0.4nm,0.3s,baz=12,slow=16,SNR=6.4 **Korea Array**	**19.82**	**168**	LR	LR	13 47 05.5	
PETK	comp=Z,46nm,18.1s,baz=54,slow=40 **Petropavlovsk-**	**20.13**	**86**	P	**P**	**13 38 26.4**	**-0.9**
PETK				pmax	pmax		
PETK	comp=Z,6.0nm,0.9s **Petropavlovsk-**	**20.13**	**86**	P	**P**	**13 38 26.4**	**-0.9**
ZALV	comp=Z,6.4nm,0.9s,baz=312,slow=5.5,SNR=5.5 **Zalesovo Beam**	**21.65**	**278**	*e*P	P	13 38 49.1	+5.4
ZALV				pmax	pmax		
ZALV	comp=Z,3.0nm,0.7s **Zalesovo Beam**	**21.65**	**278**	P	**P**	**13 38 44.1**	**+0.4**
BILL	comp=Z,0.4nm,0.3s,baz=69,slow=7.9,SNR=3.6 **Bilibino**	**22.29**	**43**	⇓*i*P	**P**	**13 38 51.7**	**+1.2**
BILL				pmax	pmax		
BILL	comp=Z,3.0nm,0.6s			MLR	MLR		
BILL	comp=Z,47nm,14.0s **Bilibino**	**22.29**	**43**	*e*P	**P**	**13 38 50.9**	**+0.5**
MAJO	comp=Z,3.6nm,0.7s **Matsushiro**	**22.86**	**147**	*e*P	**P**	**13 38 59.5**	**+2.8**
MAJO				pmax	pmax		
MJAR	comp=Z,20nm,1.2s **Matsushiro Arr**	**22.86**	**147**	LR	LR	13 46 35.0	
KURK	comp=Z,25nm,18.9s,baz=20,slow=34 **Kurchatov**	**26.51**	**275**	P	**P**	**13 39 30.8**	**0.0**
KURK	**Kurchatov**	**26.51**	**275**	P	**P**	**13 39 30.8**	**0.0**
KURBB	**Kurchatov Arra**	**26.61**	**275**	P	**P**	**13 39 30.8**	**-0.8**
MKAR	comp=Z,0.8nm,0.8s,baz=66,slow=9.1,SNR=4.1 **Makanchi Array**	**26.71**	**265**	*e*P	P	13 39 36.9	+4.2
MKAR	**Makanchi Array**	**26.71**	**265**	P	**P**	**13 39 32.0**	**-0.7**
AAK	comp=Z,0.3nm,0.6s,baz=56,slow=9.7,SNR=3.0 **Ala-Archa**	**33.64**	**266**	⇓*i*P	**P**	**13 40 35.9**	**+1.8**
AAK	**Ala-Archa**	**33.64**	**266**	P	**P**	**13 40 35.5**	**+1.4**
ARU	comp=Z,0.5nm,0.4s,baz=18,slow=7.0,SNR=4.1 **Arti**	**34.19**	**297**	*d*P	**P**	**13 40 39.7**	**+1.2**
ARU						13 41 53.2	
ARU				S	**S**	**13 46 06.7**	**+2.1**
ARU				SS	**SnSn**	**13 48 14.5**	**+2.1**
ARU	comp=Z,4.0nm,1.2s			pmax	pmax		
KMI	**Kunming**	**35.02**	**213**	P	P	13 41 01.8	+15
KMI	comp=Z,9.0nm,0.9s			pmax	pmax		
ILAR	**Eielson Array**	**40.93**	**41**	*e*P	**P**	**13 41 36.4**	**+1.0**
ILAR				pmax	pmax		
ILAR	comp=Z,1.0nm,0.5s **Eielson Array**	**40.93**	**41**	P	**P**	**13 41 36.5**	**+1.0**
FINES	comp=Z,1.0nm,0.5s,baz=295,slow=5.5,SNR=24 **FINESS Array B**	**45.38**	**318**	*e*P	**P**	**13 42 12.8**	**+1.3**
FINES				pmax	pmax		
FINES	comp=Z,2.0nm,0.7s **FINESS Array B**	**45.38**	**318**	P	**P**	**13 42 11.1**	**-0.4**
KIV	comp=Z,2.1nm,0.7s,baz=51,slow=7.1,SNR=7.1 **Kislovodsk**	**49.79**	**291**	*e*P	**P**	**13 42 46.8**	**+0.7**
KIV				pmax	pmax		
KIV	comp=Z,6.0nm,0.9s			MLR	MLR		
AKASG	comp=Z,18nm,16.0s **Malin Array Be**	**51.46**	**306**	*e*P	**P**	**13 43 00.3**	**+1.9**
AKASG				pmax	pmax		
AKASG	comp=Z,1.0nm,0.5s **Malin Array Be**	**51.46**	**306**	P	**P**	**13 42 58.3**	**-0.1**
YKA	comp=Z,1.2nm,0.5s,baz=40,slow=8.4,SNR=4.7 **Yellowknife Ar**	**52.78**	**29**	P	**P**	**13 43 08.3**	**+0.3**
DPC	comp=Z,0.4nm,0.6s,baz=329,slow=7.0,SNR=9.1 **Dobruska-Polom**	**57.17**	**313**	*e*P	P	13 43 43.2	+3.1
DPC	**Dobruska-Polom**	**57.17**	**313**	*e*P	P	13 43 43.2	+3.1
BRTR	**Keskin Array B**	**57.48**	**294**	*e*P	P	13 43 45.0	+2.5
BRTR				pmax	pmax		
BRTR	comp=Z,1.0nm,0.9s **Keskin Array B**	**57.48**	**294**	P	**P**	**13 43 43.3**	**+0.8**
GERES	comp=Z,1.3nm,0.9s,baz=61,slow=5.8,SNR=5.4 **GERESS Array B**	**59.41**	**314**	P	**P**	**13 43 56.2**	**+0.4**
SCHQ	comp=Z,0.2nm,0.3s,baz=64,slow=7.9,SNR=2.8 **Schefferville**	**68.25**	**6**	P	**P**	**13 44 53.2**	**-0.6**
MCMT	comp=Z,3.8nm,1.1s,baz=294,slow=5.4,SNR=3.8 **McKenzie Canyo**	**68.34**	**39**	*e*P	**P**	**13 44 56.1**	**+1.3**
HLID	comp=Z,2.2nm,1.1s **Hailey**	**68.89**	**41**	*e*P	**P**	**13 44 58.2**	**0.0**
ELK	comp=Z,0.9nm,0.7s **Elko**	**71.03**	**43**	P	**P**	**13 45 12.0**	**+0.5**
ELK				pmax	pmax		
ELK	comp=Z,2.0nm,0.9s **Elko**	**71.03**	**43**	P	**P**	**13 45 11.9**	**+0.5**
PDAR	comp=Z,1.5nm,0.9s,baz=61,slow=1.3,SNR=3.1 **Pinedale Array**	**71.28**	**38**	P	**P**	**13 45 12.6**	**-0.4**
NVAR	comp=Z,0.6nm,0.7s,baz=108,slow=0.5,SNR=3.4 **Mina Array Bea**	**71.86**	**46**	P	**P**	**13 45 17.9**	**+1.5**
WRA	comp=Z,0.9nm,0.7s,baz=321,slow=3.2,SNR=8.9 **Warramunga Arr**	**77.22**	**169**	P	**P**	**13 45 46.1**	**-1.3**
WRA				pmax	pmax		
WRA	comp=Z,2.0nm,0.9s **Warramunga Arr**	**77.22**	**169**	P	**P**	**13 45 46.1**	**-1.3**
ASAR	comp=Z,1.7nm,0.9s,baz=352,slow=6.7,SNR=7.9 **Alice Springs**	**80.86**	**170**	P	**P**	**13 46 06.5**	**-0.8**
QSPA	comp=Z,0.3nm,0.7s,baz=358,slow=7.1,SNR=3.3 **South Pole Qui**	**146.74**	**180**	PKPbc	**PKPdf**	**13 53 31.4**	**-0.8**
QSPA	comp=Z,3.7nm,1.1s,baz=190,slow=1.7,SNR=10 **South Pole Qui**	**146.74**	**180**	*e*PKPdf	**PKPdf**	**13 53 30.9**	**-1.4**
QSPA				PKPbc	**PKPdf**	**13 53 31.4**	**-0.8**
QSPA				*e*PKPbc	**PKPab**	**13 53 33.0**	**-2.4**

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*IDC **14** 13:34:18.4±1.9,37°.48S×73°.72W,h0km,mb3.6/3,*
mb1 3.9/4,mb1mx3.7/23,mbtmp3.6/4,MS3.8/3,Ms1 3.7/3,
ms1mx3.2/28,Error ellipse: s-maj=67.8km s-min=20.4km
az=61.0
*ISCJB **14** 13:34:20.0±1.8,37°.5S±0°.2×74°.0W±0°.5,h23km,mb3.6/3,*
MS4.2/2,Error ellipse: s-maj=58.8km s-min=17.2km
az=155.5
ISC 14 13:34:22.1±1.7,37°.4S±0°.2×73°.7W±0°.4,h23km,n9,σ1§09/7,
mb3.5/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.12**	**144**	Pn	**Pn**	**13 35 24.2**	**+0.5**
PLCA	baz=285,slow=19			Lg	Lg	13 36 27.4	
PLCA	baz=300,slow=20			LR	LR	13 37 14.2	
LPAZ	comp=Z,222nm,19.8s,baz=251,slow=43 **La Paz**	**21.64**	**15**	P	**P**	**13 39 12.8**	**+1.2**
TXAR	1.0nm,0.6s,baz=172,slow=8.9,SNR=5.5 **Lajitas Array**	**72.10**	**333**	P	**P**	**13 45 44.6**	**-0.1**
PFO	0.4nm,0.7s,baz=148,slow=7.0,SNR=5.0 **Pinyon Flats O**	**81.11**	**325**	LR	LR	14 15 40.3	
TORD	comp=Z,165nm,21.3s,baz=218,slow=31 **Torodi Ar. Bea**	**86.67**	**71**	P	**P**	**13 47 03.0**	**-1.2**
YBH	0.6nm,0.7s,baz=233,slow=5.3,SNR=3.4 **Yreka Blue Hor**	**90.59**	**326**	LR	LR	14 18 38.5	
	comp=Z,70nm,20.0s,baz=244,slow=29						

BVAR	**Borovoye Array**	**150.70**	**46**	PKPbc	**PKPbc**	**13 54 12.3**	**+0.6**
	1.3nm,0.7s,baz=270,slow=1.5,SNR=8.1						
ZALV	**Zalesovo Beam**	**157.85**	**35**	PKPab	**PKPab**	**13 54 48.9**	**-0.2**
	0.7nm,0.6s,baz=318,slow=6.0,SNR=3.7						
MKAR	**Makanchi Array**	**159.98**	**55**	PKPab	**PKPab**	**13 54 57.6**	**-1.1**
	0.3nm,0.6s,baz=302,slow=2.3,SNR=4.0						

PGC 14 13:37:24.9±0.1, 48°.72N×129°.17W, h10km, ML3.1/9, Mw3.8, 10D, 242km west of Tofino, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.77**	**49**	⇓Pn	Pn	13 37 53.0	-2.5
FHRB	**Fair Harbour**	**1.89**	**44**	⇑Pn	Pn	13 37 54.7	-2.5
FHRB				⇓Sn	Sn	13 38 16.5	-4.5
MAYB	**Maynard**	**2.13**	**37**	⇓Pn	Pn	13 37 59.2	-1.4
TOFB	**Tofino**	**2.19**	**77**	⇑Pn	Pn	13 37 59.1	-2.2
TOFB				⇑Sn	Sn	13 38 23.9	-4.6
WOSB	**Woss**	**2.23**	**49**	⇑Pn	Pn	13 38 00.0	-1.9
WOSB				⇑Sn	Sn	13 38 26.2	-3.3
PHC	**Port Hardy**	**2.29**	**29**	⇓Pn	Pn	13 38 00.9	-1.7
PHC				⇓Sn	Sn	13 38 27.2	-3.6
GDR	**Gold River**	**2.31**	**62**	⇑Pn	Pn	13 38 00.7	-2.3
OZB	**Mount Ozzard**	**2.44**	**83**	⇓Pn	Pn	13 38 02.9	-2.0
OZB				⇓Sn	Sn	13 38 30.5	-4.3
BTB	**Buttle Lake**	**2.51**	**71**	⇑Pn	Pn	13 38 04.1	-1.9
BTB				⇑Sn	Sn	13 38 32.9	-3.9
BMSB	**Bamfield Mari**	**2.67**	**86**	⇓Pn	Pn	13 38 06.7	-1.1
ALB	**Alberni**	**2.91**	**77**	⇑Pn	Pn	13 38 10.0	-1.2
MGB	**Mount Grey**	**2.97**	**83**	⇓Pn	Pn	13 38 10.9	-1.3
MGB				⇑Sn	Sn	13 38 43.4	-4.6
PFB	**Port Renfrew**	**3.14**	**91**	⇓Sn	Sn	13 38 48.3	-3.7
YOUB	**Youbou, Lake C**	**3.25**	**85**	⇑Pn	Pn	13 38 14.9	-1.1

IDC 14 13:37:59.0±2.3, 2°.97N×126°.32E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, Error ellipse: s-maj=195.2km s-min=28.4km az=66.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.09**	**161**	P	P	13 43 16.6	+0.1
	0.4nm,0.5s,baz=340,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**27.48**	**165**	P	P	13 43 47.8	+0.5
	0.2nm,0.7s,baz=353,slow=6.9,SNR=5.7						
MKAR	**Makanchi Array**	**57.95**	**326**	P	P	13 47 52.5	-0.8
	0.2nm,0.5s,baz=130,slow=5.8,SNR=2.5						

IDC 14 13:38:27.6±1.9, 2°.36N×125°.00E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/24, mbtmp3.7/4, Error ellipse: s-maj=181.0km s-min=27.1km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.98**	**158**	P	P	13 43 44.2	+0.1
	1.3nm,0.6s,baz=336,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**27.28**	**162**	P	P	13 44 14.6	+0.6
	0.3nm,0.7s,baz=343,slow=7.3,SNR=4.2						
STKA	**Stephens Creek**	**37.52**	**156**	P	P	13 45 43.1	-0.4
	1.5nm,0.3s,baz=330,slow=6.8,SNR=2.4						
MKAR	**Makanchi Array**	**57.72**	**327**	P	P	13 48 19.7	-0.5
	0.2nm,0.4s,baz=132,slow=5.3,SNR=2.8						

GUC 14 13:48:11.2±0.6, 34°.28S×72°.46W, h32km±2km, ML3.8, 8C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.92**	**70**	⇓*i*P	Pn	13 48 28.1	+0.2
LNV				*i*S1	Sn	13 48 40.3	+0.2
NICH	**Los Niches**	**1.24**	**126**	*e*P1	Pn	13 48 33.2	+0.8
NICH				*i*S	Sb	13 48 49.4	-0.5
TALC	**Talca**	**1.31**	**149**	⇑*i*P	Pn	13 48 34.2	+1.0
TALC				*i*S	Sb	13 48 51.1	-0.6
IHA	**Instituto Hidr**	**1.42**	**29**	⇑*i*P	Pn	13 48 35.8	+1.0
IHA				*i*S	Sb	13 48 53.7	-1.2
CHCH	**Chadas Angostu**	**1.54**	**78**	⇓*i*P	Pn	13 48 37.5	+1.1
CACH	**El Canelo**	**1.55**	**85**	⇑*i*P	Pb	13 48 38.3	-1.1
ANTU	**Antumapu**	**1.67**	**66**	⇓*i*P	Pn	13 48 39.6	+1.3
ANTU				*i*S	Sb	13 49 01.2	-1.0
ANTU				IAML		13 49 07.9	
	comp=E,2μm,0.5s						
LNCH	**Linares**	**1.72**	**156**	⇑*i*P	Pb	13 48 41.0	-1.2
LNCH				*i*S	Sb	13 49 02.6	-0.7
CLCH	**Cerro Calan**	**1.82**	**62**	⇑*i*P	Pn	13 48 41.9	+1.4
CLCH				*i*S	Sb	13 49 04.9	-1.6
CLCH				IAML		13 49 13.2	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**1.86**	**53**	⇑*i*P	Pn	13 48 42.5	+1.7
PEL				*i*S	Sb	13 49 06.2	-1.4
PEL				IAML		13 49 17.3	
	comp=N,1μm,0.8s						
SJCH	**San Jose de Ma**	**1.86**	**71**	⇑*i*P	Pn	13 48 41.6	+0.7
SJCH				*e*S	Sb	13 49 05.6	-2.1
COCH	**Cobquecura**	**1.87**	**188**	*e*P	Pn	13 48 41.9	+1.0
FCH	**Farellones**	**2.04**	**63**	⇑*i*P	Pn	13 48 41.1	-2.6
FCH				*e*S1	Sn	13 49 07.1	-1.2
FCH				IAML		13 49 17.5	
	comp=N,1μm,1.2s						

*GUC **14** 13:52:16.7±0.6, 38°.47S×74°.41W, h14km±6km, ML5.7*
*IDC **14** 13:52:18.9±0.4, 38°.51S×73°.75W, h0km, mb4.8/22, mb1 4.9/25, mb1mx4.9/27, mbtmp4.8/25, ML4.0/2, MS4.9/15, Ms1 4.9/15, ms1mx4.7/20, Error ellipse: s-maj=15.8km s-min=10.2km az=77.0*
*ISCJB **14** 13:52:20.8±1.7, 38°.44S±0°.03×73°.57W±0°.07, h18km±12km, mb5.2/119, MS5.1/92, Error ellipse: s-maj=9.4km s-min=4.3km az=165.4*
*GCMT **14** 13:52:22.7±0.2, 38°.71S×73°.85W, h19km±1km, MW5.5/89, Moment Tensor Solution. s54,c70; s89,c139; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.70±.05; $M_{\theta\theta}$0.95±.03; $M_{\phi\phi}$-0.24±.04; $M_{r\theta}$-0.72±.08; $M_{\theta\phi}$0.42±.02; $M_{\phi r}$-1.49±.13; Best double couple: $M_0$1.90000×10^{17} NP1:ϕ_s35.00000°, δ79.00000°, λ-113.00000°. NP2: ϕ_s281.00000°, δ25.00000°, λ-26.00000°. Principal axes: T 1.7930, Plg31.0000°, Azm143.0000°; N 0.2140, Plg23.0000°, Azm39.0000°; P -2.0070, Plg50.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **14** 13:52:22.7±1.5, 38°.50S×73°.65W, h23km±10km, mb5.4/97, MS5.1/71, ML5.7(GUC) Error ellipse: s-maj=7.2km s-min=3.5km az=74.0*
NEIC Felt [V] at Queule; [IV] at Angol and Puerto Saavedra; [III] at Chiguayante and Temuco; [II] at Collipulli, Concepcion and Valdivia. Also felt at Chillan and Villarrica.
*MOS **14** 13:52:23.1±1.2, 38°.46S×73°.69W, h33km, mb5.5/35, MS5.1/9, Error ellipse: s-maj=19.3km s-min=7.9km az=106.7*
*BJI **14** 13:52:23.2, 38°.23S×73°.19W, h35km, mB5.3/29, Ms5.5/29, Ms7 5.2/29*

ISC 14 13:52:24.0±0.6, 38°.48S±0°.03×73°.69W±0°.06, h32km±4km, h32km:pP-P, n801, σ1§00/774, mb5.3/119, MS5.1/93, 222C-212D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.37**	**165**	⇑*i*P	**Pn**	**13 52 44.1**	**-2.7**
VLCH				*i*S	**Sb**	**13 53 04.8**	**-1.4**
VLCH	**Valdivia**	**1.37**	**165**	⇑*i*P	**Pn**	**13 52 44.1**	**-2.7**
VLCH				*i*S	**Sb**	**13 53 04.8**	**-1.4**
CCSP	**San Pedro de C**	**1.69**	**16**	*e*P1		13 52 49.4	
CCSP				*i*S	**Sn**	**13 53 13.6**	**+1.7**
CCSP	**San Pedro de C**	**1.69**	**16**	*e*P	**Pn**	**13 52 49.4**	**-1.9**
CCSP				*i*S	**Sn**	**13 53 13.6**	**+1.7**
OSCH	**Osorno**	**2.14**	**168**	*e*P	**Pn**	**13 52 55.5**	**-1.9**
OSCH				*i*S	**Sn**	**13 53 24.6**	**+1.7**
OSCH				AML	AML	13 53 38.4	
	comp=E,31μm,0.6s						
OSCH	**Osorno**	**2.14**	**168**	*e*P	**Pn**	**13 52 55.5**	**-1.9**
OSCH				*i*S	**Sn**	**13 53 24.6**	**+1.7**
LNCH	**Linares**	**3.11**	**33**	⇑*i*P	**Pn**	**13 53 10.3**	**-0.5**
LNCH				*i*S	**Sb**	**13 53 52.3**	**-3.8**
LNCH				AML	AML	13 54 21.0	
	comp=N,23μm,0.7s						
LNCH	**Linares**	**3.11**	**33**	⇑*i*P	**Pn**	**13 53 10.3**	**-0.5**
LNCH				*i*S	**Sb**	**13 53 52.3**	**-3.8**
PLCA	**Paso Flores**	**3.31**	**134**	Pn	**Pn**	**13 53 13.8**	**+0.2**
	baz=279,slow=19						
PLCA				Lg	Lg	13 54 04.3	
	baz=240,slow=18						
TALC	**Talca**	**3.49**	**29**	*e*P	**Pn**	**13 53 15.6**	**-0.4**
TALC				*e*S	**Sn**	**13 54 00.0**	**+3.9**
TALC	**Talca**	**3.49**	**29**	*e*P	**Pn**	**13 53 15.6**	**-0.4**
TALC				*e*S	**Sn**	**13 54 00.0**	**+3.9**
CFAA	**Coronel Fontan**	**8.19**	**35**	Pn	**Pn**	**13 54 17.9**	**-2.7**
	comp=N,1.2nm,0.3s,baz=207,slow=14,SNR=26						
CFAA				Sn	**Sn**	**13 55 48.4**	**-3.5**
	comp=N,0.2nm,0.3s,baz=209,slow=19,SNR=2.0						
CFAA				LR	LR	13 57 55.8	
	comp=N,1μm,21.5s,baz=223,slow=41						
TRQA	**Tornquist**	**9.22**	**91**	*e*P	Pn	13 54 36.8	+2.0
	comp=N,339nm,1.3s						
LCO	**Las Campanas**	**9.76**	**16**	*e*P	Pn	13 54 39.1	-3.3
	comp=N,161nm,0.6s						
USHA	**Ushuaia**	**16.75**	**169**	Pn	**Pn**	**13 56 15.5**	**-0.3**
	comp=N,0.9nm,0.3s,baz=301,slow=7.1,SNR=15						
USHA				LR	LR	14 03 28.0	
	comp=N,8μm,18.8s,baz=326,slow=40						
EFI	**East Falkland**	**17.15**	**145**	*e*P	**Pn**	**13 56 19.7**	**-1.3**
EFI	**East Falkland**	**17.15**	**145**	*e*P	**Pn**	**13 56 19.7**	**-1.3**
LPAZ	**La Paz**	**22.64**	**14**	*e*P	**P**	**13 57 23.5**	**+0.5**
LPAZ				pmax	pmax		
	comp=Z,71nm,1.3s						
LPAZ	**La Paz**	**22.64**	**14**	P	**P**	**13 57 24.4**	**+1.5**
	comp=Z,15nm,0.9s,baz=175,slow=6.2,SNR=37						
LPAZ	**La Paz**	**22.64**	**14**	*e*P	**P**	**13 57 23.5**	**+0.5**
	comp=Z,71nm,1.3s						
SIV	**San Ignacio**	**25.00**	**30**	P	**P**	**13 57 45.2**	**+0.3**
	comp=Z,16nm,0.8s,baz=228,slow=11,SNR=28						
SIV				LR	LR	14 09 14.8	
	comp=Z,6μm,20.9s,baz=224,slow=41						
NNA	**Nana**	**26.53**	**353**	*e*P	**P**	**13 57 58.1**	**-0.7**
NNA				pmax	pmax		
	comp=Z,11nm,0.6s						
NNA	**Nana**	**26.53**	**353**	P	**P**	**13 57 57.8**	**-1.0**
	comp=Z,7.7nm,0.6s,baz=208,slow=12,SNR=4.8						
NNA				LR	LR	14 06 08.4	
	comp=Z,3μm,19.6s,baz=166,slow=31						
NNA	**Nana**	**26.53**	**353**	*e*P	**P**	**13 57 58.0**	**-0.7**
	comp=Z,11nm,0.6s						
PMSA	**Palmer Station**	**26.94**	**171**	P	**P**	**13 58 02.2**	**+0.2**
	comp=Z,23nm,1.0s,baz=360,slow=8.9,SNR=6.3						
PMSA				LR	LR	14 07 52.2	
	comp=Z,5μm,20.4s,baz=330,slow=35						
HOPE	**Hope Point**	**29.72**	**134**	*e*P	**P**	**13 58 27.5**	**+0.6**
HOPE				LR	LR		
	comp=Z,2μm,20.0s						
SAML	**Samuel**	**30.89**	**21**	*e*P	**P**	**13 58 37.0**	**-0.5**
	comp=Z,16nm,1.3s						
SAML				LR	LR		
	comp=Z,3μm,21.0s						
ATAH	**Atahualpa**	**31.49**	**351**	P	**P**	**13 58 43.0**	**-0.3**
	comp=Z,6.8nm,0.8s,baz=165,slow=7.5,SNR=10.0						
ATAH				LR	LR	14 08 49.4	
	comp=Z,2μm,20.6s,baz=194,slow=31						
RPN	**Rapa Nui**	**31.84**	**280**	LR	LR	14 07 59.3	
	comp=Z,1μm,20.5s,baz=118,slow=30						
BDFB	**Brasilia**	**32.06**	**52**	P	**P**	**13 58 47.8**	**-0.2**
	comp=Z,3.9nm,0.7s,baz=252,slow=9.6,SNR=4.1						
BDFB				LR	LR	14 11 24.3	
	comp=Z,4μm,18.1s,baz=216,slow=36						
OTAV	**Otavalo**	**38.77**	**352**	*e*P	**P**	**13 59 47.1**	**+1.1**
	comp=Z,102nm,1.5s						
OTAV				LR	LR		
	comp=Z,1μm,21.0s						
PTGA	**Pitinga**	**39.62**	**22**	P	**P**	**13 59 52.0**	**-0.7**
	comp=Z,11nm,0.8s,baz=191,slow=9.6,SNR=10						
PTGA				LR	LR	14 17 30.3	
	comp=Z,1μm,19.5s,baz=184,slow=38						
PTGA	**Pitinga**	**39.62**	**22**	*e*P	**P**	**13 59 52.0**	**-0.7**
	comp=Z,97nm,1.8s						
PAYG	**Puerto Ayora**	**40.59**	**334**	PFAKE		14 00 10.0	+9.3
PAYG				LR	LR		
	comp=Z,2μm,19.0s						
ROSC	**El Rosal**	**43.12**	**359**	P	**P**	**14 00 22.9**	**+1.1**
	comp=Z,6.1nm,0.6s,baz=200,slow=2.4,SNR=9.7						
VNA3	**Neumayer Olymp**	**45.77**	**156**	P	**P**	**14 00 42.0**	**0.0**
VNA2	**Neumayer--Watz**	**46.46**	**155**	P	**P**	**14 00 47.7**	**+0.4**
RCBR	**Riachuelo**	**47.19**	**56**	P	**P**	**14 00 54.8**	**+1.0**
	comp=Z,11nm,1.0s,baz=243,slow=5.5,SNR=4.6						
RCBR	**Riachuelo**	**47.19**	**56**	P	**P**	**14 00 54.8**	**+1.0**
RCBR				LR	LR		
	comp=Z,4μm,21.0s						
SDV	**Santo Domingo**	**47.20**	**4**	*e*P	**P**	**14 00 53.0**	**-0.9**
	comp=Z,41nm,0.8s						
SDV				LR	LR		
	comp=Z,2μm,19.0s						
TRIS	**Tristan da Cun**	**47.73**	**108**	PFAKE		14 01 10.0	+12
TRIS				LR	LR		
	comp=Z,2μm,20.0s						
BCIP	**Isla Barro Col**	**47.74**	**352**	PFAKE		14 01 10.0	+12
BCIP				LR	LR		
	comp=Z,825nm,20.0s						
SNAA	**Sanae**	**47.99**	**156**	P	**P**	**14 00 59.7**	**+0.3**
SNAA	**Sanae**	**47.99**	**156**	*e*P	**P**	**14 00 59.3**	**-0.1**
SNAA	**Sanae**	**47.99**	**156**	⇑*i*P	**P**	**14 00 59.5**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,48nm,1.2s						
SNAA	**Sanae**	**47.99**	**156**	P	**P**	**14 00 59.0**	**-0.4**
	comp=Z,12nm,0.9s,baz=290,slow=6.5,SNR=19						
SNAA	**Sanae**	**47.99**	**156**	*e*P	**P**	**14 00 59.6**	**+0.3**
	comp=Z,202nm,1.5s						
JTS	**JuntasAbangare**	**49.64**	**345**	*d i*P	**P**	**14 01 14.0**	**+1.5**
JTS				pmax	pmax		
	comp=Z,58nm,1.6s						
JTS	**JuntasAbangare**	**49.64**	**345**	P	**P**	**14 01 12.2**	**-0.3**
	comp=Z,17nm,0.9s,baz=174,slow=1.5,SNR=8.8						
JTS	**JuntasAbangare**	**49.64**	**345**	*e*P	**P**	**14 01 13.2**	**+0.7**
	comp=Z,34nm,1.0s						
JTS				LR	LR		
	comp=Z,1μm,20.0s						
GRGR	**Grenville**	**51.59**	**15**	PFAKE		14 01 40.0	+13
GRGR				LR	LR		
	comp=Z,2μm,20.0s						
QSPA	**South Pole Qui**	**51.77**	**180**	P	**P**	**14 01 27.4**	**-0.8**
	comp=Z,20nm,0.9s,baz=132,slow=2.9,SNR=22						
NVL	**N'lazarevskaya**	**52.78**	**155**	⇓*e*P	**P**	**14 01 35.6**	**+0.2**
NVL				*e**PP	**pP**	**14 01 43.3**	**-1.9**
NVL				*e*		14 02 40.3	
NVL				*e*		14 03 37.2	
NVL				*e*PPP	PPP	14 04 40.2	
NVL				pmax	pmax		
	comp=Z,40nm,0.9s						
BBGH	**Gun Hill**	**53.03**	**17**	PFAKE		14 01 50.0	+12
BBGH				LR	LR		
	comp=Z,4μm,22.0s						
RKT	**Rikitea**	**53.90**	**268**	*e*S	**S**	**14 09 17.5**	**-0.1**
	comp=Z,311nm,24.0s						
RKT				*e*LR	LR	14 17 20.4	
	comp=Z,993nm,27.0s,baz=126						
RKT	**Rikitea**	**53.90**	**268**	*e*T	T	14 59 22.6	
	comp=Z,7.5nm,0.2s						
FDF	**Fort de France**	**54.22**	**15**	PFAKE		14 02 00.0	+13
FDF				LR	LR		
	comp=Z,2μm,20.0s						
APG	**El Apazote**	**55.47**	**340**	P	P	14 01 51.1	-4.8
	comp=Z,30nm,0.9s,baz=171,slow=6.8,SNR=34						
MTDJ	**Mount Denham**	**56.52**	**356**	PFAKE		14 02 20.0	+17
MTDJ				LR	LR		
	comp=Z,1μm,20.0s						
OBIP	**Obispado Ponce**	**56.61**	**8**	*e*P	**P**	**14 02 03.5**	**-0.2**
	comp=Z,35nm,0.9s						
CELP	**Cerrillos**	**56.65**	**8**	*e*P	**P**	**14 02 03.6**	**-0.4**
LRS	**Lares**	**56.83**	**8**	*e*P	**P**	**14 02 04.1**	**-1.2**
SDDR	**Presa de Saban**	**57.20**	**3**	PFAKE		14 02 20.0	+12
SDDR				LR	LR		
	comp=Z,750nm,20.0s						
GTBY	**Guantanamo Bay**	**58.11**	**358**	PFAKE		14 02 30.0	+16
GTBY				LR	LR		
	comp=Z,836nm,19.0s						
SBA	**Scott Base**	**58.43**	**192**	*e*P	**P**	**14 02 16.4**	**+0.5**
SBA				pmax	pmax		
	comp=Z,32nm,1.1s						
SBA	**Scott Base**	**58.43**	**192**	*e*P	**P**	**14 02 16.4**	**+0.5**
	comp=Z,32nm,1.1s						
CMIG	**Matias Romero**	**58.74**	**336**	P	**P**	**14 02 16.4**	**-2.3**
	comp=Z,6.2nm,0.8s,baz=129,slow=2.3,SNR=11						
VNDA	**Vanda**	**59.45**	**192**	*e*P	**P**	**14 02 23.6**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,40nm,1.4s						
VNDA	**Vanda**	**59.45**	**192**	P	**P**	**14 02 23.2**	**+0.2**
	comp=Z,14nm,1.0s,baz=139,slow=4.6,SNR=19						
VNDA				LR	LR	14 25 42.8	
	comp=Z,490nm,18.4s,baz=126,slow=34						
VNDA	**Vanda**	**59.45**	**192**	*e*P	**P**	**14 02 23.6**	**+0.6**
	comp=Z,40nm,1.4s						
GRTK	**Grand Turk**	**59.72**	**3**	PFAKE		14 02 40.0	+15
GRTK				LR	LR		
	comp=Z,1μm,22.0s						
ASCN	**Ascension**	**61.22**	**76**	PFAKE		14 02 50.0	+14
ASCN				LR	LR		
	comp=Z,1μm,21.0s						
SHEL	**Horse Pasture**	**63.08**	**89**	PFAKE		14 03 00.0	+12
SHEL				LR	LR		
	comp=Z,1μm,21.0s						
TBI	**Tubuai**	**65.07**	**259**	*e*T	T	15 13 20.1	
	comp=Z,16nm,0.2s						
MEH	**Mehetia**	**67.02**	**265**	*e*T	T	15 15 47.4	
	comp=Z,89nm,0.2s						
TVO	**Taravao**	**68.00**	**264**	*e*T	T	15 17 00.8	
	comp=Z,5.6nm,0.2s						
TIAR	**Tiarei**	**68.20**	**265**	*e*T	T	15 17 15.8	
	comp=Z,35nm,0.3s						
PAE	**Paea**	**68.33**	**264**	*e*T	T	15 17 25.0	
	comp=Z,2.1nm,0.2s						
PPT2	**Papeete2**	**68.36**	**264**	*e*S	**S**	**14 12 18.6**	**-3.3**
	comp=Z,308nm,22.8s						
PPT2				*e*LQ	LQ	14 20 18.6	
	comp=Z,644nm,26.2s						
PPT2				*e*LR	LR	14 24 04.2	
	comp=Z,518nm,28.2s,baz=118						
PPT2	**Papeete2**	**68.36**	**264**	*e*T	T	15 17 27.2	
	comp=Z,5.4nm,0.2s						
PPT	**Papeete**	**68.38**	**264**	LR	LR	14 26 09.1	
	comp=Z,572nm,18.3s,baz=120,slow=30						
035Z	**Hargill**	**68.52**	**337**	⇑P	**P**	**14 03 24.4**	**+1.3**
	baz=69						
035A	**Encino**	**68.97**	**337**	⇓P	**P**	**14 03 26.8**	**+0.9**
	baz=69,SNR=7.7						
034A	**Hebbronville**	**69.27**	**336**	⇑P	**P**	**14 03 28.7**	**+0.9**
	baz=70,SNR=13						
MAW	**Mawson**	**69.27**	**164**	LR	LR	14 34 59.5	
	comp=Z,2μm,18.4s,baz=226,slow=37						
934A	**Benavides**	**69.72**	**337**	⇑P	**P**	**14 03 31.9**	**+1.3**
	baz=70,SNR=6.0						
933A	**Laredo**	**69.97**	**336**	⇓P	**P**	**14 03 32.9**	**+0.8**
	baz=70						
835A	**Beeville**	**70.15**	**337**	⇓P	**P**	**14 03 35.2**	**+2.1**
	baz=71						
TIGA	**Tifton**	**70.17**	**351**	⇓P	**P**	**14 03 35.7**	**+2.5**
	baz=71						
834A	**Tilden**	**70.22**	**337**	⇓P	**P**	**14 03 34.7**	**+1.1**
	baz=71,SNR=7.8						
833A	**Chaparral WMA,**	**70.67**	**336**	⇓P	**P**	**14 03 36.5**	**+0.2**
	baz=71,SNR=12						
735A	**Kenedy**	**70.67**	**338**	⇑P	**P**	**14 03 37.5**	**+1.1**
	baz=71						
832A	**Faith Ranch, C**	**70.82**	**336**	⇓P	**P**	**14 03 37.4**	**+0.2**
	baz=71,SNR=16						
SACV	**Santiago Islan**	**70.87**	**52**	PFAKE		14 03 50.0	+12
SACV				LR	LR		
	comp=Z,1μm,21.0s						
734A	**La Parita Cree**	**70.89**	**337**	⇑P	**P**	**14 03 38.3**	**+0.6**
	baz=71						
733A	**Divot King Ran**	**71.00**	**336**	⇓P	**P**	**14 03 38.9**	**+0.6**
	baz=71						
636A	**Smothers Creek**	**71.04**	**339**	⇑P	**P**	**14 03 39.7**	**+1.1**
	baz=71,SNR=11						
HKT	**Hockley**	**71.14**	**340**	*e*P	**P**	**14 03 39.6**	**+0.5**
HKT				pmax	pmax		
	comp=Z,67nm,1.7s						
HKT	**Hockley**	**71.14**	**340**	*e*P	**P**	**14 03 39.5**	**+0.5**
	comp=Z,67nm,1.7s						
635A	**Leesville**	**71.16**	**338**	⇓P	**P**	**14 03 39.8**	**+0.5**
	baz=72						
732A	**Laxson Ranch,**	**71.23**	**336**	⇓P	**P**	**14 03 40.3**	**+0.6**
	baz=72						
538A	**Harpers Horsep**	**71.31**	**340**	⇓P	**P**	**14 03 41.3**	**+1.2**
	baz=72						
634A	**China Grove, S**	**71.33**	**337**	⇓P	**P**	**14 03 40.6**	**+0.2**
	baz=72						
537A	**Green Hill Far**	**71.40**	**339**	⇑P	**P**	**14 03 41.9**	**+1.2**
	baz=72,SNR=9.0						
536A	**Bastrop**	**71.61**	**339**	⇓P	**P**	**14 03 42.9**	**+0.9**
	baz=72						
633A	**Saathoff Ranch**	**71.66**	**337**	⇓P	**P**	**14 03 42.6**	**+0.3**
	baz=72,SNR=19						
535A	**Dale**	**71.71**	**338**	⇓P	**P**	**14 03 43.0**	**+0.4**
	baz=72						
438A	**Sam Houston St**	**71.81**	**340**	⇓P	**P**	**14 03 44.0**	**+0.8**
	baz=72,SNR=9.8						
632A	**Uvalde**	**71.89**	**336**	⇓P	**P**	**14 03 44.4**	**+0.7**
	baz=72,SNR=26						
534A	**Blanco**	**71.97**	**338**	⇓P	**P**	**14 03 44.1**	**-0.2**
	baz=72,SNR=11						
340A	**Bronson**	**72.04**	**342**	⇓P	**P**	**14 03 45.1**	**+0.6**
	baz=72,SNR=12						
DRV	**Dumont d'Urvil**	**72.05**	**193**	S	S	14 12 47.0	-16
DRV				L	L	14 23 00.0	
DRV				R		14 26 00.0	
631A	**Perdido Creek**	**72.06**	**336**	⇓P	**P**	**14 03 44.8**	**+0.1**
	baz=72,SNR=17						
437A	**Phantom Ranch,**	**72.06**	**340**	⇑P	**P**	**14 03 45.5**	**+0.8**
	baz=72						
GOGA	**Godfrey**	**72.10**	**351**	*e*P	**P**	**14 03 44.4**	**-0.4**
GOGA				pmax	pmax		
	comp=Z,99nm,1.6s						
GOGA				MLR	MLR		
	comp=Z,758nm,20.0s						
GOGA	**Godfrey**	**72.10**	**351**	*e*P	**P**	**14 03 44.4**	**-0.4**
	comp=Z,99nm,1.6s						
GOGA				LR	LR		
	comp=Z,758nm,20.0s						
339A	**Huntington**	**72.12**	**341**	⇑P	**P**	**14 03 46.0**	**+0.9**
	baz=72,SNR=6.7						
533A	**Kerrville**	**72

431A **Sonora** 73.24 336 ⇓P P 14 03 51.8 0.0
baz=74,SNR=19
529A **Stev Forest Ra** 73.26 334 ⇓P P 14 03 51.7 -0.3
baz=74,SNR=6.0
333A **Richland Sprin** 73.34 338 ⇑P P 14 03 52.5 +0.2
baz=74,SNR=19
CNNC **Cliffs of the** 73.45 356 *e*P P 14 03 53.3 +0.5
comp=Z,40nm,0.8s
CNNC LR LR
comp=Z,607nm,20.0s
WHTX **Lake Whitney,** 73.52 339 ⇑P P 14 03 53.4 0.0
baz=74,SNR=17
WHTX **Lake Whitney,** 73.52 339 *e*P P 14 03 53.1 -0.2
comp=Z,59nm,0.9s
138A **Matatall Enter** 73.52 341 ⇑P P 14 03 54.0 +0.7
baz=74,SNR=6.7
430A **Baggett Ranch,** 73.54 335 ⇑P P 14 03 53.7 +0.1
baz=74,SNR=10
KMSC **Kings Mountain** 73.59 353 ⇓P P 14 03 54.0 +0.3
baz=74,SNR=7.3
KMSC **Kings Mountain** 73.59 353 *e*P P 14 03 53.9 +0.3
comp=Z,105nm,1.5s
429A **Davenport Ranc** 73.61 335 ⇑P P 14 03 54.2 +0.2
baz=74,SNR=30
332A **Millersview** 73.62 337 ⇑P P 14 03 53.9 0.0
baz=74,SNR=34
137A **Heron Place, G** 73.63 341 ⇑P P 14 03 54.7 +0.7
baz=74
234A **Clairette** 73.72 339 ⇓P P 14 03 54.4 -0.1
baz=74,SNR=9.6
331A **San Angelo** 73.77 336 ⇓P P 14 03 55.0 +0.2
baz=74,SNR=28
SUR **Sutherland** 73.86 119 PFAKE 14 04 10.0 +14
SUR LR LR
comp=Z,2µm,20.0s
233A **Rising Star** 73.96 338 ⇑P P 14 03 56.1 +0.1
baz=74,SNR=12
135A **Vickery Place,** 74.04 339 ⇑P P 14 03 56.5 +0.2
baz=74
232A **Coleman** 74.06 337 ⇓P P 14 03 56.6 +0.1
baz=74,SNR=25
OXF **Oxford** 74.07 347 *e*P P 14 03 55.8 -0.7
OXF pmax pmax
comp=Z,48nm,1.0s
OXF **Oxford** 74.07 347 *e*P P 14 03 55.8 -0.7
comp=Z,48nm,1.0s
330A **Mertzon** 74.09 336 ⇑P P 14 03 56.7 -0.1
baz=74
SWET **Sewanee** 74.20 350 *e*P P 14 03 57.2 -0.1
comp=Z,113nm,0.9s
CPCT **Cooper Cave** 74.24 351 *e*P P 14 03 59.8 +2.4
134A **White-Moore Ra** 74.24 339 ⇑P P 14 03 57.3 -0.2
baz=75,SNR=6.2
231A **Bronte** 74.31 337 ⇓P P 14 03 57.5 -0.6
baz=75,SNR=23
TKL **Tuckaleechee C** 74.35 351 *e*P P 14 03 56.9 -1.2
TKL **Tuckaleechee C** 74.35 351 *e*P P 14 03 56.9 -1.2
329A **Wagon Wheel Ra** 74.43 335 ⇓P P 14 03 59.0 +0.2
baz=75,SNR=17
133A **Hamilton Ranch** 74.52 338 ⇑P P 14 03 59.1 -0.1
baz=75,SNR=20
230A **Sterling City** 74.52 336 ⇓P P 14 03 59.0 -0.2
baz=75,SNR=9.2
Z35A **Perchaven, San** 74.72 340 ⇓P P 14 04 00.1 -0.2
baz=75,SNR=8.1
ABTX **Abilene, Hawle** 74.75 337 ⇓P P 14 04 00.5 0.0
baz=75,SNR=11
ABTX **Abilene, Hawle** 74.75 337 *e*P P 14 04 00.3 -0.2
comp=Z,50nm,1.0s
229A **Bryant Ranch,** 74.82 335 ⇑P P 14 04 00.8 -0.2
baz=75,SNR=8.9
UALR **University of** 74.91 344 *e*P P 14 04 01.4 +0.1
comp=Z,15nm,1.0s
Z34A **Collier Ranch,** 74.95 339 ⇑P P 14 04 01.7 0.0
baz=75,SNR=5.3
MIAR **Mount Ida** 74.96 343 *e*P P 14 04 01.7 0.0
MIAR pmax pmax
comp=Z,13nm,0.9s
MIAR MLR MLR
comp=Z,306nm,22.0s
MIAR **Mount Ida** 74.96 343 *e*P P 14 04 01.7 0.0
comp=Z,13nm,0.9s
MIAR LR LR
comp=Z,306nm,22.0s
131A **Roby** 75.02 337 ⇓P P 14 04 02.2 +0.1
baz=75,SNR=7.3
Z33A **Whitaker Ranch** 75.11 338 ⇓P P 14 04 03.0 +0.4
baz=76,SNR=11
130A **Snyder** 75.13 336 ⇑P P 14 04 02.8 +0.1
baz=76,SNR=10
228A **UT Block 9, Go** 75.21 335 ⇑P P 14 04 03.2 -0.1
baz=76,SNR=11
Z32A **Haskell** 75.33 338 ⇑P P 14 04 03.8 -0.1
baz=76,SNR=18
WVT **Waverly** 75.38 348 *e*P P 14 04 03.3 -0.7
WVT pmax pmax
comp=Z,47nm,1.0s
WVT **Waverly** 75.38 348 *e*P P 14 04 03.3 -0.7
comp=Z,47nm,1.0s
129A **Stewart Farms,** 75.45 336 ⇑P P 14 04 04.9 +0.3
baz=76,SNR=5.2
Y34A **Reagan Ranch,** 75.45 340 ⇑P P 14 04 04.3 -0.2
baz=76,SNR=10
CASY **Casey** 75.52 182 PFAKE 14 04 20.0 +15
CASY LR LR
comp=Z,1µm,22.0s
Z31A **Sharp Cattle R** 75.54 337 ⇑P P 14 04 05.2 +0.1
baz=76,SNR=13
BLA **Blacksburg** 75.57 354 PFAKE 14 04 20.0 +15
BLA LR LR
comp=Z,617nm,20.0s
128A **Castleberry Fa** 75.64 335 ⇓P P 14 04 05.9 +0.1
baz=76,SNR=13
Y33A **Hilltop Ranch,** 75.74 339 ⇓P P 14 04 06.2 0.0
baz=76,SNR=9.2
Z30A **Sanderson Ranc** 75.82 337 ⇑P P 14 04 06.4 -0.3
baz=76,SNR=17
GDL2 **Guadalupe Moun** 75.89 334 *e*P P 14 04 07.8 +0.5
comp=Z,4.4nm,0.8s
JSRW **J. Sargeant Re** 75.90 357 P P 14 04 07.0 +0.1
Y32A **R-V Farms, Ver** 75.97 338 ⇓P P 14 04 07.9 +0.4
baz=76,SNR=11
Z29A **Hungry Hill Ra** 75.97 336 ⇑P P 14 04 07.0 -0.6
baz=76,SNR=26
X34A **Smith Ranch, M** 76.08 340 ⇑P P 14 04 08.3 +0.2
baz=76,SNR=9.4
Y31A **Rekieta Farm,** 76.18 337 ⇓P P 14 04 09.1 +0.4
baz=77,SNR=12
X33A **Lawton** 76.21 339 ⇓P P 14 04 08.6 -0.2
baz=77
Z28A **Tucker Farm, M** 76.22 336 ⇓P P 14 04 08.7 -0.4
baz=77
PARMO **Parma** 76.23 347 *e*P P 14 04 09.2 +0.4
Y30A **Stafford Cattl** 76.29 337 ⇓P P 14 04 09.7 +0.3
baz=77
X32A **Elmer** 76.32 338 ⇓P P 14 04 09.8 +0.3
baz=77,SNR=9.5
WMOK **Wichita Mounta** 76.47 339 *e*P P 14 04 10.4 0.0
WMOK pmax pmax
comp=Z,59nm,1.6s
WMOK MLR MLR
comp=Z,505nm,19.0s
WMOK **Wichita Mounta** 76.47 339 *e*P P 14 04 10.4 0.0
comp=Z,59nm,1.6s
WMOK LR LR
comp=Z,505nm,19.0s
CPRX **Cap Rock** 76.48 334 *e*P P 14 04 11.3 +0.8
comp=Z,3.5nm,0.9s
UPI **Upington** 76.52 115 *e*P P 14 04 10.4 -0.7
UPI AMB AMB 14 04 13.0
comp=Z,39nm,1.8s
UPI **Upington** 76.52 115 P P 14 04 10.4 -0.7
comp=Z,39nm,1.8s
Y29A **Porterfield Fa** 76.52 336 ⇓P P 14 04 10.7 0.0
baz=77,SNR=10
W34A **Bridge Creek,** 76.66 340 ⇓P P 14 04 11.2 -0.2
baz=77
W34A **Bridge Creek,** 76.66 340 *e*P P 14 04 11.2 -0.2
comp=Z,123nm,1.7s
X31A **McDonald Ranch** 76.72 338 ⇑P P 14 04 12.0 +0.3
baz=77,SNR=15
Y28A **McKinney Farm,** 76.75 336 ⇑P P 14 04 11.6 -0.4
baz=77
W33A **Caddo, Fort Co** 76.77 339 ⇑P P 14 04 13.1 +1.0
baz=77,SNR=16
TUL1 **Leonard** 76.79 342 ⇑P P 14 04 11.9 -0.1
baz=77,SNR=22
TUL1 **Leonard** 76.79 342 *e*P P 14 04 11.5 -0.5
comp=Z,63nm,0.9s
X30A **Coker Ranch, T** 76.81 337 ⇑P P 14 04 12.3 0.0
baz=77,SNR=13
W32A **Sentinel** 76.96 339 ⇓P P 14 04 13.1 0.0
baz=77,SNR=24
MSTX **Muleshoe** 76.97 336 ⇑P P 14 04 13.1 -0.2
baz=77,SNR=7.6
MSTX **Muleshoe** 76.97 336 *e*P P 14 04 12.8 -0.5
comp=Z,41nm,1.1s
319A **Douglas** 77.00 329 ⇑P P 14 04 14.9 +1.3
baz=77,SNR=18
Y27A **Causey** 77.02 335 ⇑P P 14 04 13.5 -0.1
baz=77,SNR=5.8
X29A **Tulia** 77.07 337 ⇓P P 14 04 14.2 +0.4
baz=77,SNR=7.1
USIN **University of** 77.15 349 *e*P P 14 04 13.0 -1.0
comp=Z,138nm,1.4s
GRM **Grahamstown** 77.16 122 *e*P P 14 04 14.2 -0.4
GRM AMB AMB 14 04 19.7
comp=Z,111nm,2.9s
GRM **Grahamstown** 77.16 122 P P 14 04 14.2 -0.4
GRM pmax pmax
comp=Z,111nm,2.9s
GRM **Grahamstown** 77.16 122 P P 14 04 14.2 -0.4
comp=Z,111nm,2.9s
V34A **Guthrie** 77.16 340 ⇑P P 14 04 14.1 0.0
baz=78,SNR=6.7
V34A **Guthrie** 77.16 340 *e*P P 14 04 14.5 +0.4
comp=Z,49nm,1.1s
W31A **Holland Ranch,** 77.22 338 ⇓P P 14 04 14.5 -0.1
baz=78,SNR=6.9
X28A **Dimmitt** 77.29 336 ⇑P P 14 04 15.4 +0.4
baz=78
V33A **Lossen Ranch,** 77.35 340 ⇑P P 14 04 15.6 +0.3
baz=78,SNR=11
121A **Cookes Peak, D** 77.44 331 ⇑P P 14 04 16.8 +0.8
baz=78,SNR=8.0
121A **Cookes Peak, D** 77.44 331 *e*P P 14 04 16.2 +0.1
comp=Z,9.7nm,1.0s
LIC **Lamto** 77.46 72 *e*P P 14 04 16.9 +0.5
comp=Z,55nm,0.7s
AMTX **Amarillo** 77.47 337 ⇓P P 14 04 15.7 -0.3
baz=78
AMTX **Amarillo** 77.47 337 *e*P P 14 04 16.1 +0.1
comp=Z,52nm,1.0s
V32A **Arapaho** 77.47 339 ⇓P P 14 04 16.6 +0.6
baz=78,SNR=5.1
W29A **Amarillo** 77.67 337 ⇓P P 14 04 17.1 -0.1
baz=78,SNR=11
X27A **F and S Farms,** 77.70 336 ⇓P P 14 04 17.3 0.0
baz=78
U34A **Anderson Ranch** 77.73 341 ⇑P P 14 04 17.2 -0.2
baz=78,SNR=7.6
U34A **Anderson Ranch** 77.73 341 *e*P P 14 04 16.7 -0.6
comp=Z,54nm,1.3s
TIC **Toumodi** 77.74 71 *e*P P 14 04 18.5 +0.5
comp=Z,33nm,0.7s
V31A **Spring Creek L** 77.74 338 ⇑P P 14 04 18.1 +0.6
baz=78,SNR=7.6
KIC **Kosan Boka** 77.76 72 *e*P P 14 04 18.7 +0.6
comp=Z,34nm,0.6s
Z22A **Elephant Butte** 77.78 332 ⇑P P 14 04 18.9 +1.0
baz=78,SNR=14
Y24A **Capitan** 77.83 333 ⇑P P 14 04 19.3 +1.1
baz=78,SNR=12
X26A **CR and CF Fran** 77.84 335 ⇓P P 14 04 18.6 +0.4
baz=78,SNR=8.7
DBIC **Dimbokro** 77.88 71 *e*P P 14 04 19.3 +0.6
DBIC **Dimbokro** 77.88 71 *e*P P 14 04 19.1 +0.4
DBIC pmax pmax
comp=Z,18nm,0.6s
DBIC **Dimbokro** 77.88 71 P P 14 04 19.5 +0.8
comp=Z,15nm,0.6s,baz=202,slow=5.5,SNR=28
DBIC LR LR 14 35 46.1
comp=Z,400nm,18.1s,baz=212,slow=34
DBIC **Dimbokro** 77.88 71 *e*P P 14 04 19.1 +0.4
comp=Z,18nm,0.6s
OLIL **Olney** 77.97 349 *e*P P 14 04 17.8 -0.8
comp=Z,24nm,1.2s
W28A **Vega** 77.97 336 ⇓P P 14 04 19.4 +0.5
baz=78
V30A **Spur Ranch, Mi** 77.98 338 ⇑P P 14 04 19.7 +0.8
baz=78
W27A **Bowe Ranch, En** 78.07 336 ⇑P P 14 04 19.8 +0.3
baz=78,SNR=11
U32A **Winter Ranch,** 78.07 339 ⇓P P 14 04 19.6 +0.3
baz=78
X25A **Clemmons Ranch** 78.11 334 ⇑P P 14 04 19.7 0.0
baz=78
HVD **Gariep Dam** 78.12 120 *e*P P 14 04 20.3 +0.1
HVD AMB AMB 14 04 22.9
comp=Z,46nm,1.5s
HVD **Gariep Dam** 78.12 120 P P 14 04 20.3 +0.1
HVD pmax pmax
comp=Z,47nm,1.5s
HVD **Gariep Dam** 78.12 120 P P 14 04 20.3 +0.1
comp=Z,46nm,1.5s
BLO **Bloomington** 78.17 350 *e*P P 14 04 19.2 -0.5
BLO pmax pmax
comp=Z,17nm,0.9s
BLO **Bloomington** 78.17 350 *e*P P 14 04 19.2 -0.5
comp=Z,17nm,0.9s
SLM **Saint Louis** 78.23 347 *e*P P 14 04 19.5 -0.5
SLM pmax pmax
comp=Z,52nm,0.8s
SLM **Saint Louis** 78.23 347 *e*P P 14 04 19.5 -0.5
comp=Z,52nm,0.8s
U31A **Nine Bar Ranch** 78.30 339 ⇓P P 14 04 21.6 +1.0
baz=79
W26A **Owens Ranch, T** 78.32 335 ⇓P P 14 04 21.3 +0.4
baz=79
V29A **Stinnett** 78.33 337 ⇓P P 14 04 21.7 +0.9
baz=79
TUC **Tucson** 78.43 329 *e*P P 14 04 22.3 +0.8
TUC pmax pmax
comp=Z,86nm,1.8s
TUC MLR MLR
comp=Z,1µm,19.0s
TUC **Tucson** 78.43 329 *e*P P 14 04 22.3 +0.8
comp=Z,86nm,1.8s
TUC LR LR
comp=Z,1µm,19.0s
V28A **Channing** 78.44 337 ⇑P P 14 04 22.3 +0.9
baz=79
Y22D **IRIS PASSCAL I** 78.50 332 ⇑P P 14 04 22.8 +1.0
baz=79
T33A **Patterson Ranc** 78.53 340 ⇓P P 14 04 22.5 +0.7
baz=79,SNR=17
LPM **Los Pinos Moun** 78.61 333 *e*P P 14 04 23.6 +1.1
comp=Z,36nm,1.7s
V27A **Dan Oppiter Fa** 78.63 336 ⇑P P 14 04 23.1 +0.6
baz=79
W25A **X Bar L Ranch,** 78.67 335 ⇑P P 14 04 22.9 +0.2
baz=79,SNR=10
U30A **WK&E Inc. Balk** 78.68 338 ⇑P P 14 04 23.0 +0.3
baz=79,SNR=6.5
U29A **Oasis Ranch, S** 78.79 338 ⇑P P 14 04 23.8 +0.4
baz=79
ACSO **Alum Creek Sta** 78.79 353 *e*P P 14 04 23.0 -0.2
comp=Z,119nm,1.6s
ACSO LR LR
comp=Z,516nm,20.0s
T32A **Huddler Ranch,** 78.80 340 ⇑P P 14 04 24.0 +0.6
baz=79
LAZ **Ladron** 78.87 332 *e*P P 14 04 25.6 +1.6
comp=Z,10.0nm,1.1s
T31A **Randall Ranch,** 78.93 339 ⇓P P 14 04 24.7 +0.6
baz=79
S33A **Kaszmaul Farm,** 78.94 341 ⇓P P 14 04 24.4 +0.3
baz=79
214A **Organ Pipe Nat** 78.97 327 ⇑P P 14 04 25.6 +1.2
baz=79,SNR=12
214A **Organ Pipe Nat** 78.97 327 *e*P P 14 04 25.2 +0.9
comp=Z,37nm,1.1s
V26A **Tequesquite Ra** 78.97 335 ⇓P P 14 04 26.2 +1.8
baz=79,SNR=5.5
W24A **Lazy 6 Ranch,** 78.98 334 ⇓P P 14 04 25.4 +0.8
baz=79,SNR=12
U28A **Mallet** 79.01 337 ⇑P P 14 04 25.3 +0.7
baz=79
ANMO **Albuquerque** 79.11 333 ⇑*i*P P 14 04 26.4 +1.1
ANMO pmax pmax
comp=Z,111nm,1.2s
ANMO **Albuquerque** 79.11 333 *e*P P 14 04 25.8 +0.5
comp=Z,28nm,1.0s
ANMO LR LR
comp=Z,908nm,21.0s
T30A **Plains** 79.13 338 ⇓P P 14 04 25.7 +0.6
baz=80
BOSA **Boshof** 79.17 118 ⇓*i*P P 14 04 25.9 0.0
BOSA AMB AMB 14 04 48.7
comp=Z,48nm,2.4s
BOSA **Boshof** 79.17 118 *e*P P 14 04 25.7 -0.2
BOSA pmax pmax
comp=Z,53nm,1.3s
BOSA **Boshof** 79.17 118 P P 14 04 25.9 0.0
comp=Z,15nm,0.7s,baz=238,slow=4.4,SNR=25
BOSA LR LR 14 36 34.7
comp=Z,1µm,19.1s,baz=230,slow=34
BOSA **Boshof** 79.17 118 *i*P P 14 04 23.1 -2.9
BOSA **Boshof** 79.17 118 *e*P P 14 04 25.7 -0.2
comp=Z,53nm,1.3s
W23A **Werner Place,** 79.20 333 ⇓P P 14 04 26.9 +1.2
baz=80,SNR=12
U27A **Thompson Grove** 79.24 336 ⇓P P 14 04 26.6 +0.7
baz=80,SNR=6.5
TSUM **Tsumeb** 79.28 106 PFAKE 14 04 40.0 +13
TSUM LR LR
comp=Z,1µm,20.0s
V25A **Rancho No Teng** 79.29 335 ⇑P P 14 04 26.8 +0.6
baz=80,SNR=16
S32A **Newby Ranch, P** 79.29 340 ⇑P P 14 04 26.5 +0.5
baz=80
S31A **Mullinville** 79.37 339 ⇓P P 14 04 26.8 +0.4
baz=80
V24A **Rampart Ranch,** 79.41 334 ⇓P P 14 04 27.6 +0.6
baz=80,SNR=9.8
SFIN **Lafayette** 79.43 350 ⇑P P 14 04 27.7 +1.1
baz=80
T29A **Hugoton** 79.45 338 ⇑P P 14 04 27.6 +0.7
baz=80
U26A **Atchley Ranch,** 79.51 336 ⇓P P 14 04 27.6 +0.2
baz=80
R33A **Olander Ranch,** 79.61 341 ⇓P P 14 04 27.9 +0.2
baz=80
S30A **Montezuma** 79.66 339 ⇓P P 14 04 28.6 +0.6
baz=80,SNR=5.9
T28A **Walsh** 79.67 337 ⇑P P 14 04 28.4 +0.3
baz=80,SNR=11
U25A **Circle Dot Ran** 79.73 335 ⇑P P 14 04 29.4 +0.8
baz=80,SNR=13
V23A **Ortiz Mt. (NFS** 79.74 334 ⇓P P 14 04 30.2 +1.5
baz=80,SNR=5.5
T27A **Campo** 79.80 337 ⇓P P 14 04 29.2 +0.3
baz=80
S29A **Ulysses** 79.83 338 ⇑P P 14 04 29.4 +0.4
baz=80
R32A **Long Quarter,** 79.91 340 ⇓P P 14 04 29.4 0.0
baz=80,SNR=5.2
R31A **Burdett** 80.00 340 ⇓P P 14 04 30.1 +0.3
baz=80,SNR=5.2
KSU1 **Kansas State U** 80.02 342 ⇑P P 14 04 30.6 +0.7
baz=80
KSU1 **Kansas State U** 80.02 342 *e*P P 14 04 30.1 +0.2
comp=Z,26nm,1.1s
KSU1 LR LR
comp=Z,536nm,21.0s
U24A **Moreno Valley** 80.03 335 ⇑P P 14 04 31.2 +0.8
baz=80
S28A **Manter** 80.03 338 ⇑P P 14 04 30.5 +0.4
baz=80,SNR=6.2
X18A **Snowflake** 80.04 330 ⇑P P 14 04 30.8 +0.5
baz=80,SNR=12
113A **Mohawk Valley,** 80.08 327 ⇓P P 14 04 31.4 +1.0
baz=80,SNR=6.1
SWZ **Schweizer** 80.10 117 *e*P P 14 04 30.3 -0.8
SWZ AMB AMB 14 04 37.2
comp=Z,70nm,2.5s
SWZ **Schweizer** 80.10 117 P P 14 04 30.3 -0.8
comp=Z,70nm,2.5s
V22A **San Miguel Ran** 80.14 333 ⇑P P 14 04 32.3 +1.4
baz=80,SNR=27
T26A **Comanche Natio** 80.17 336 ⇓P P 14 04 31.6 +0.6
baz=81,SNR=15
R30A **Dighton** 80.21 339 ⇓P P 14 04 31.4 +0.5
baz=81
Q33A **Connelly Farm,** 80.23 341 ⇑P P 14 04 31.2 +0.2
baz=81
Z14A **Wintersburg** 80.24 328 ⇑P P 14 04 32.2 +1.0
baz=81
U23A **El Rito** 80.27 334 ⇑P P 14 04 32.8 +1.3
baz=81,SNR=14
T25A **Trinidad** 80.40 336 ⇑P P 14 04 33.8 +1.6
baz=81,SNR=24
Q32A **Meitler Ranch,** 80.41 341 ⇑P P 14 04 32.9 +0.9
baz=81
ERPA **Erie** 80.42 355 PFAKE 14 04 40.0 +8.1
ERPA LR LR
comp=Z,708nm,19.0s
S27A **Las Animas** 80.42 337 ⇑P P 14 04 32.8 +0.6
baz=81
W18A **Petrified Fore** 80.48 331 ⇑P P 14 04 33.5 +0.9
baz=81,SNR=5.4
W18A **Petrified Fore** 80.48 331 *e*P P 14 04 34.2 +1.6
comp=Z,59nm,1.6s
X16A **Lo Mia Camp, P** 80.54 329 ⇓P P 14 04 34.0 +1.0
baz=81,SNR=20
U22A **Llaves** 80.54 333 ⇓P P 14 04 34.8 +1.8
baz=81,SNR=8.9
S26A **Kim** 80.55 336 ⇓P P 14 04 33.8 +0.9
baz=81,SNR=14
R29A **Marienthal** 80.58 338 ⇑P P 14 04 33.7 +0.7
baz=81
P33A **Williams Farm,** 80.61 341 ⇑P P 14 04 33.5 +0.4
baz=81
Q31A **Ellis** 80.64 340 ⇓P P 14 04 33.6 +0.4
baz=81
T24B **San Luis** 80.65 335 ⇑P P 14 04 34.5 +0.8
baz=81,SNR=9.8
R28A **Tribune** 80.70 338 ⇓P P 14 04 34.2 +0.5
baz=81,SNR=13
Y14A **Wickenburg** 80.76 328 ⇓P P 14 04 35.3 +1.2
baz=81,SNR=9.0
GLA **Glamis** 80.79 326 *e*P P 14 04 34.5 +0.3
GLA pmax pmax
comp=Z,14nm,0.7s
GLA **Glamis** 80.79 326 *e*P P 14 04 34.5 +0.3
comp=Z,14nm,0.7s
Q30A **Quinter** 80.84 339 ⇓P P 14 04 35.2 +0.8
baz=81
T23A **Casias Ranch,** 80.85 334 ⇑P P 14 04 35.7 +1.0
baz=81,SNR=6.0
S25A **Robets Cordova** 80.89 336 ⇑P P 14 04 35.4 +0.6
baz=81
AAM **Ann Arbor** 80.91 353 PFAKE 14 04 50.0 +15
AAM LR LR
comp=Z,830nm,20.0s
R27A **Eads** 80.95 337 ⇓P P 14 04 35.6 +0.6
baz=81,SNR=12
Q29A **Oakley** 80.97 339 ⇑P P 14 04 35.4 +0.3
baz=81
SEK **Senekal** 80.99 119 *e*P P 14 04 33.9 -1.9
SEK AMB AMB 14 05 07.0
comp=Z,65nm,4.8s
SEK **Senekal** 80.99 119 P P 14 04 33.9 -1.9
comp=Z,65nm,4.8s
P31A **Stockton** 81.12 340 ⇓P P 14 04 36.7 +0.9
baz=82
SWSC **Sam W. Stewart** 81.12 325 ⇓P P 14 04 36.8 +0.9
baz=82
S24A **Houchin Ranch,** 81.12 335 ⇓P P 14 04 37.6 +1.4
baz=82,SNR=18
R26A **Arlington** 81.16 337 ⇑P P 14 04 37.0 +0.8
baz=82,SNR=13
R25A **Fountain Ranch** 81.28 336 ⇓P P 14 04 37.4 +0.5
baz=82
MONP **Monument Peak,** 81.36 325 ⇑P P 14 04 38.1 +0.7
baz=82
P30A **Selden** 81.38 340 ⇑P P 14 04 37.7 +0.5
baz=82
Q28A **Sharon Springs** 81.38 338 ⇓P P 14 04 37.6 +0.4
baz=82
S23A **Nye Farm, Mont** 81.44 335 ⇑P P 14 04 38.6 +0.7
baz=82
WUAZ **Wupatki** 81.47 330 ⇓P P 14 04 39.1 +1.2
baz=82
WUAZ **Wupatki** 81.47 330 *e*P P 14 04 39.9 +1.9
comp=Z,17nm,1.1s
WUAZ LR LR
comp=Z,1µm,19.0s
O32A **Brockman Farm,** 81.53 341 ⇑P P 14 04 38.3 +0.4
baz=82
PDMCI **Parker Dam,Lak** 81.55 327 ⇑P P 14 04 39.6 +1.4
baz=82
KSCO **Kaye Shedlock'** 81.56 338 ⇓P P 14 04 38.9 +0.6
baz=82

BC3	Big Chuckawall	81.57 326	⇑P	P	14 04 39.6	+1.2
	baz=82					
P29A	Atwood	81.62 339	⇑P	P	14 04 39.4	+0.9
	baz=82					
R24A	Sanders Place,	81.62 335	⇑P	P	14 04 40.0	+1.3
	baz=82,SNR=22					
LBTB	Lobatse	81.63 115	eP	P	14 04 38.5	-0.6
LBTB			AMB	AMB	14 04 42.9	
	comp=Z,71nm,3.1s					
LBTB	Lobatse	81.63 115	P	P	14 04 38.5	-0.6
LBTB			pmax	pmax		
	comp=Z,71nm,3.1s					
LBTB	Lobatse	81.63 115	P	P	14 04 38.5	-0.6
	comp=Z,71nm,3.1s					
109C	Camp Elliot, M	81.67 324	⇓P	P	14 04 39.6	+0.8
	baz=82					
PRYS	Parys	81.68 118	eP	P	14 04 38.6	-0.8
PRYS			AMB	AMB	14 04 45.7	
	comp=Z,20nm,2.4s					
PRYS	Parys	81.68 118	P	P	14 04 38.6	-0.8
	comp=Z,20nm,2.4s					
O31A	Woolen Ranch,	81.70 340	⇓P	P	14 04 39.7	+0.9
	baz=82					
Q26A	Hugo	81.75 337	⇓P	P	14 04 40.5	+1.2
	baz=82,SNR=8.2					
S22A	4UR Ranch, Cre	81.76 334	⇑P	P	14 04 40.7	+1.2
	baz=82,SNR=14					
R23A	Moffat	81.82 335	⇓P	P	14 04 41.0	+1.1
	baz=82,SNR=6.0					
P28A	Saint Francis	81.83 338	⇓P	P	14 04 40.1	+0.5
	baz=82					
IRM	Iron Mountain	81.87 326	⇓P	P	14 04 41.6	+1.7
	baz=82,SNR=5.9					
MVCO	Mesa Verde	81.87 333	⇓P	P	14 04 41.2	+1.1
	baz=82,SNR=12					
MVCO	Mesa Verde	81.87 333	eP	P	14 04 40.3	+0.3
	comp=Z,28nm,1.2s					
MVCO			LR	LR		
	comp=Z,2µm,20.0s					
O30A	MW Ranch, Wils	81.92 340	⇓P	P	14 04 40.7	+0.7
	baz=82					
SCIA	State Center	81.96 345	PFAKE		14 04 50.0	+10
SCIA			LR	LR		
	comp=Z,654nm,19.0s					
Q25A	Bedland, Calha	81.97 336	⇓P	P	14 04 41.2	+0.7
	baz=82,SNR=6.8					
PFO	Pinyon Flats O	81.98 325	eP	P	14 04 42.0	+1.4
PFO			pmax	pmax		
	comp=Z,86nm,1.8s					
PFO			MLR	MLR		
	comp=Z,1µm,20.0s					
PFO	Pinyon Flats O	81.98 325	P	P	14 04 40.8	+0.2
	comp=Z,14nm,1.0s,baz=141,slow=3.4,SNR=9.0					
PFO	Pinyon Flats O	81.98 325	⇓P	P	14 04 42.0	+1.4
	baz=82,SNR=5.5					
PFO	Pinyon Flats O	81.98 325	eP	P	14 04 42.0	+1.4
	comp=Z,86nm,1.8s					
PFO			LR	LR		
	comp=Z,1µm,20.0s					
N32A	Stulken Farm,	82.01 341	⇓P	P	14 04 41.2	+0.8
	baz=82					
P27A	Ficken Ranch,	82.05 338	⇑P	P	14 04 41.7	+0.9
	baz=82					
O29A	4D Ranch, Culb	82.07 339	⇓P	P	14 04 41.5	+0.7
	baz=82					
BELC	Belle Mtn. Jos	82.11 326	⇑P	P	14 04 42.3	+1.0
	baz=82					
W13A	Hualapai Mount	82.13 328	⇑P	P	14 04 43.0	+1.5
	baz=82,SNR=7.5					
NEE2	Needles Airpor	82.16 327	⇓P	P	14 04 42.6	+1.3
	baz=82					
N31A	Bailey Ranch,	82.23 341	⇓P	P	14 04 42.3	+0.6
	baz=83					
P26A	Davis Ranch, A	82.29 337	⇑P	P	14 04 42.8	+0.7
	baz=83,SNR=5.6					
Q24A	Divide	82.31 336	⇓P	P	14 04 43.1	+0.7
	baz=83,SNR=8.9					
MURC	Murrieta	82.31 325	⇑P	P	14 04 43.3	+1.1
	baz=83					
O28A	Krutsinger Ran	82.34 339	⇓P	P	14 04 43.5	+1.2
	baz=83					
JFWS	Jewell Farm	82.40 348	PFAKE		14 04 50.0	+7.6
JFWS			LR	LR		
	comp=Z,1µm,21.0s					
SCI	San Clemente I	82.42 323	⇑P	P	14 04 43.6	+0.9
	baz=83					
CRZF	Crozet Islands	82.42 145	P	P	14 04 27.0	-16
CRZF	Crozet Islands	82.42 145	S	S	14 14 34.0	-23
CRZF			SS	SS	14 19 59.0	-18
CRZF			R		14 30 00.0	
Q23A	Hartsel	82.47 335	⇑P	P	14 04 44.0	+0.7
	baz=83					
P25A	Willow Gulch B	82.49 337	⇓P	P	14 04 44.2	+1.0
	baz=83					
CRWM	Crown Mines	82.57 118	eP	P	14 04 43.7	-0.5
CRWM			AMB	AMB	14 04 45.0	
	comp=Z,32nm,4.3s					
BGNE	Belgrade	82.58 342	⇓P	P	14 04 43.8	+0.4
	baz=83					
BGNE	Belgrade	82.58 342	eP	P	14 04 44.1	+0.7
	comp=Z,23nm,0.9s					
O27A	Beecher Island	82.61 338	⇓P	P	14 04 45.1	+1.4
	baz=83					
GMRC	Granite Mounta	82.62 326	⇑P	P	14 04 45.2	+1.3
	baz=83,SNR=5.6					
U15A	North Rim	82.62 330	⇓P	P	14 04 45.8	+1.7
	baz=83,SNR=17					
OBSV	Observatory	82.64 118	eP	P	14 04 42.5	-2.1
OBSV			AMB	AMB	14 04 50.6	
	comp=Z,53nm,3.2s					
ERPM	east rand prop	82.66 118	eP	P	14 04 44.3	-0.3
ERPM			AMB	AMB	14 04 51.1	
	comp=Z,52nm,2.9s					
ERPM	east rand prop	82.66 118	P	P	14 04 44.3	-0.3
	comp=Z,52nm,2.9s					
N29A	Votaw Ranch, W	82.67 340	⇓P	P	14 04 44.8	+0.8
	baz=83					
CIS	Catalina Islan	82.70 324	⇓P	P	14 04 45.4	+1.1
	baz=83					
PV01	Paradox Valley	82.72 333	eP	P	14 04 45.3	+0.8
	comp=Z,2µm,1.1s					
LONY	Lake Ozonia	82.72 359	eP	P	14 04 45.0	+0.9
	comp=Z,114nm,1.6s					
M31A	Lambtecht Ranc	82.73 341	⇑P	P	14 04 44.8	+0.6
	baz=83,SNR=5.4					
P24A	Kohler Place,	82.73 336	⇓P	P	14 04 45.3	+0.8
	baz=83					
BBRC	Big Bear Solar	82.74 325	⇑P	P	14 04 46.0	+1.3
	baz=83					
N28A	Pribbeno Ranch	82.80 339	⇑P	P	14 04 44.9	+0.3
	baz=83					
P23A	Jefferson	82.90 335	⇓P	P	14 04 47.2	+1.6
	baz=83					
O26A	Horse Wrangler	82.90 338	⇑P	P	14 04 46.5	+1.2
	baz=83,SNR=5.7					
FMP	Fort Macarthur	82.91 324	⇑P	P	14 04 46.3	+1.1
	baz=83					
HEC	Hector,Ludlow	82.95 326	⇓P	P	14 04 47.5	+1.9
	baz=83					
O25A	Wiggins	83.03 337	⇑P	P	14 04 46.9	+0.9
	baz=83					
BFSC	Mount Baldy Ra	83.05 325	⇑P	P	14 04 47.2	+1.0
	baz=83,SNR=5.8					
SLR	Silverton	83.07 117	eP	P	14 04 46.5	-0.2
SLR			AMB	AMB	14 04 51.5	
	comp=Z,54nm,2.4s					
SLR	Silverton	83.07 117	P	P	14 04 46.5	-0.2
SLR			pmax	pmax		
	comp=Z,54nm,2.4s					
SLR	Silverton	83.07 117	P	P	14 04 46.5	-0.2
	comp=Z,54nm,2.4s					
PV04	Paradox Valley	83.07 333	eP	P	14 04 46.8	+0.6
M30A	Dale-Ortello V	83.14 341	⇓P	P	14 04 47.3	+1.0
	baz=84					
OGNE	Ogallala	83.18 339	PFAKE		14 05 00.0	+13
OGNE			LR	LR		
	comp=Z,579nm,21.0s					
N27A	Anderson Farm,	83.19 338	⇑P	P	14 04 48.1	+1.4
	baz=84					
ISCO	Idaho Springs	83.21 336	⇑P	P	14 04 47.8	+0.7
	baz=84,SNR=9.9					
ISCO	Idaho Springs	83.21 336	PFAKE		14 05 00.0	+13
ISCO			LR	LR		
	comp=Z,627nm,21.0s					
M29A	Burnside Ranch	83.27 340	⇑P	P	14 04 48.1	+1.1
	baz=84					
TUQ	Turquoise Moun	83.28 326	⇓P	P	14 04 48.5	+1.2
	baz=84					
RRX	Edison Barstow	83.29 325	⇑P	P	14 04 48.5	+1.3
	baz=84					
O24A	Longmont	83.33 336	⇓P	P	14 04 48.4	+0.9
	baz=84					
DECC	Green Verdugo	83.37 324	⇑P	P	14 04 48.5	+0.8
	baz=84					
P22A	Eagle	83.40 335	⇓P	P	14 04 48.8	+0.8
	baz=84,SNR=8.2					
M28A	Bar X Bar Ranc	83.41 339	⇓P	P	14 04 49.0	+1.2
	baz=84					
N26A	Koester Ranch,	83.42 338	⇑P	P	14 04 48.6	+0.7
	baz=84					
PKME	Peaks-Kenny Pk	83.46 3	PFAKE		14 05 00.0	+12
PKME			LR	LR		
	comp=Z,992nm,20.0s					
L31A	Butterfield Fa	83.47 341	⇑P	P	14 04 48.4	+0.4
	baz=84,SNR=7.2					
L30A	Spencer Herefo	83.49 341	⇑P	P	14 04 48.7	+0.6
	baz=84					
GSC	Goldstone, Bar	83.56 326	⇓P	P	14 04 50.2	+1.5
	baz=84,SNR=5.0					
N25A	Grover	83.66 337	⇓P	P	14 04 50.5	+1.3
	baz=84					
O23A	Lake Granby, G	83.68 336	⇑P	P	14 04 50.8	+1.3
	baz=84,SNR=16					
EDW2	Edwards Air Fo	83.74 325	⇓P	P	14 04 50.8	+1.2
	baz=84,SNR=7.3					
BSC	Santa Cruz Isl	83.76 323	⇑P	P	14 04 50.8	+1.1
	baz=84					
L29A	Maesberg Ranch	83.79 340	⇑P	P	14 04 50.6	+0.9
	baz=84					
M27A	Reverse DX Ran	83.82 339	⇑P	P	14 04 51.0	+1.1
	baz=84					
O22A	Kremmling	83.84 335	⇑P	P	14 04 51.0	+0.7
	baz=84,SNR=12					
SHPR	Sheep Range	83.87 328	eP	P	14 04 51.4	+1.1
	comp=Z,83nm,1.8s					
N24A	Carr	83.92 337	⇑P	P	14 04 52.0	+1.5
	baz=84					
M26A	McRoberts Ranc	83.98 338	⇑P	P	14 04 51.8	+1.1
	baz=84					
L28A	Connealy Angus	84.02 340	⇓P	P	14 04 52.2	+1.3
	baz=84					
CCUT	Cedar City	84.02 329	eP	P	14 04 52.6	+1.4
	comp=Z,73nm,1.7s					
LRMC	Laurel Mtn Rad	84.10 325	⇑P	P	14 04 52.8	+1.3
	baz=84					
K30A	Basset	84.14 341	⇑P	P	14 04 52.0	+0.6
	baz=84,SNR=6.4					
SBC	Santa Barbara	84.17 323	⇓P	P	14 04 53.0	+1.3
	baz=84					
M25A	Palm-Egli Farm	84.22 338	⇓P	P	14 04 53.0	+1.0
	baz=85					
ARUT	Antelope Range	84.26 329	eP	P	14 04 53.7	+1.4
ARUT			pmax	pmax		
	comp=Z,1µm,1.8s					
ARUT	Antelope Range	84.26 329	eP	P	14 04 53.7	+1.4
	comp=Z,1µm,1.8s					
SRU	San Rafael Swe	84.29 332	eP	P	14 04 52.7	+0.2
SRU			pmax	pmax		
	comp=Z,22nm,1.0s					
SRU	San Rafael Swe	84.29 332	eP	P	14 04 52.7	+0.2
	comp=Z,22nm,1.0s					
L27A	T5 Ranch, Ells	84.31 339	⇓P	P	14 04 53.4	+1.0
	baz=85					
N23A	Red Feather La	84.31 336	⇑P	P	14 04 53.6	+1.0
	baz=85,SNR=6.6					
ARVC	Arvin	84.32 324	⇓P	P	14 04 54.0	+1.5
	baz=85					
O20A	White River Ci	84.39 334	⇓P	P	14 04 53.6	+0.6
	baz=85,SNR=6.5					
N22A	Wattenberg Ran	84.39 336	⇑P	P	14 04 53.9	+0.8
	baz=85,SNR=8.1					
MVU	Marysvale	84.40 331	eP	P	14 04 54.8	+1.7
	comp=Z,132nm,2.2s					
K29A	Lazy Trails An	84.40 341	⇓P	P	14 04 53.1	+0.3
	baz=85					
ECSD	EROS Data Cent	84.42 344	⇑P	P	14 04 52.9	+0.1
	baz=85,SNR=21					
ECSD	EROS Data Cent	84.42 344	eP	P	14 04 52.4	-0.4
	comp=Z,52nm,1.1s					
M24A	Cheyenne	84.48 337	⇓P	P	14 04 54.6	+1.2
	baz=85					
L26A	Underwood Farm	84.49 338	⇑P	P	14 04 54.1	+0.8
	baz=85					
FURC	Furnace Creek,	84.56 326	⇓P	P	14 04 55.5	+1.9
	baz=85,SNR=7.2					
ISA	Isabella, Lake	84.61 325	eP	P	14 04 55.4	+1.4
ISA			pmax	pmax		
	comp=Z,71nm,1.8s					
ISA	Isabella, Lake	84.61 325	⇑P	P	14 04 55.1	+1.1
	baz=85,SNR=9.3					
ISA	Isabella, Lake	84.61 325	eP	P	14 04 55.4	+1.4
	comp=Z,71nm,1.8s					
K28A	Ten Mile Ranch	84.64 340	⇑P	P	14 04 55.1	+1.2
	baz=85					
TMUT	Trail Mountain	84.71 332	eP	P	14 04 55.5	+0.8
	comp=Z,17nm,0.9s					
J30A	Dallas	84.72 341	⇓P	P	14 04 54.7	+0.4
	baz=85					
M23A	Laramie	84.76 336	⇓P	P	14 04 55.8	+0.9
	baz=85,SNR=6.1					
L25A	Engebretsen Ra	84.85 338	⇓P	P	14 04 56.1	+0.9
	baz=85					
K27A	Flueckinger Fa	84.86 339	⇑P	P	14 04 55.9	+0.7
	baz=85					
M22A	Cedar Creek Ra	84.98 336	⇓P	P	14 04 56.7	+0.7
	baz=85					
J29A	Okreek	85.01 341	⇓P	P	14 04 56.3	+0.5
	baz=85,SNR=10					
SMMC	Simmler	85.02 324	⇑P	P	14 04 57.7	+1.7
	baz=85,SNR=6.4					
N20A	Spence Gulch,	85.02 334	⇓P	P	14 04 56.7	+0.5
	baz=85,SNR=6.6					
VES	Vestal, Richgr	85.03 325	⇓P	P	14 04 57.5	+1.4
	baz=85,SNR=5.4					
L24A	Wheatland	85.04 337	⇑P	P	14 04 56.9	+0.8
	baz=85					
SPMN	Marine on St.	85.08 347	⇓P	P	14 04 57.9	+1.8
	baz=86,SNR=6.9					
SPMN	Marine on St.	85.08 347	eP	P	14 04 55.9	-0.2
	comp=Z,14nm,0.9s					
K26A	Motz Farm, Whi	85.13 339	⇑P	P	14 04 57.1	+0.6
	baz=86					
GRAC	Grapevine Rang	85.23 326	⇓P	P	14 04 58.8	+1.7
	baz=86,SNR=5.8					
K25A	Mack Ranch, Ha	85.24 338	⇓P	P	14 04 58.2	+1.0
	baz=86					
I30A	Ocoma	85.25 342	⇑P	P	14 04 57.3	+0.3
	baz=86					
J28A	Allard Ranch,	85.26 340	⇓P	P	14 04 58.0	+0.9
	baz=86					
J27A	Elkhorn Farm,	85.31 340	⇑P	P	14 04 58.3	+0.9
	baz=86,SNR=15					
L23A	Garrett	85.34 337	⇓P	P	14 04 58.4	+0.6
	baz=86					
RCTC	Rector, Farmer	85.49 325	⇓P	P	14 04 59.0	+0.7
	baz=86					
MPU	Maple Canyon	85.50 332	eP	P	14 04 59.3	+0.8
	comp=Z,60nm,1.5s					
L22A	Ellis Ranch, M	85.50 336	⇑P	P	14 04 59.2	+0.7
	baz=86					
I29A	Vivian Onida	85.58 341	⇑P	P	14 04 59.0	+0.4
	baz=86					
NLU	North Lily Min	85.61 331	eP	P	14 04 59.8	+0.6
	comp=Z,85nm,1.8s					
R11A	Troy Canyon, C	85.61 328	⇑P	P	14 05 00.4	+1.3
	baz=86,SNR=22					
R11A	Troy Canyon, C	85.61 328	eP	P	14 05 00.2	+1.1
	comp=Z,45nm,1.5s					
K24A	Anderson Ranch	85.62 338	⇓P	P	14 04 59.7	+0.6
	baz=86					
BRSD	Miller	85.64 342	⇑P	P	14 04 59.4	+0.5
	baz=86					
TIN	Tinemaha, Big	85.65 326	⇑P	P	14 05 00.1	+0.8
	baz=86					
J26A	Sides Ranch, S	85.66 339	⇑P	P	14 05 00.1	+1.0
	baz=86,SNR=9.7					
DAU	Daniels Canyon	85.70 332	eP	P	14 05 01.2	+1.5
DAU			pmax	pmax		
	comp=Z,17nm,1.1s					
DAU	Daniels Canyon	85.70 332	eP	P	14 05 01.2	+1.5
	comp=Z,17nm,1.1s					
I28A	Midland	85.78 340	⇓P	P	14 04 60.0	+0.3
	baz=86,SNR=10					
K23A	Bowen Ranch, D	85.90 337	⇑P	P	14 05 00.9	+0.5
	baz=86					
J25A	Sunshine Ranch	85.94 338	⇓P	P	14 05 00.9	+0.3
	baz=86,SNR=5.1					
TPH	Tonopah	86.07 327	eP	P	14 05 02.3	+0.9
TPH			pmax	pmax		
	comp=Z,27nm,1.1s					
TPH	Tonopah	86.07 327	eP	P	14 05 02.3	+0.9
	comp=Z,27nm,1.1s					
I27A	Quinn	86.08 340	⇑P	P	14 05 01.8	+0.7
	baz=86					
K22A	Casper	86.08 336	⇑P	P	14 05 01.8	+0.5
	baz=86,SNR=12					
K22A	Casper	86.08 336	eP	P	14 05 01.9	+0.6
	comp=Z,79nm,1.5s					
DUG	Dugway, Tooele	86.09 331	eP	P	14 05 01.4	0.0
DUG			pmax	pmax		
	comp=Z,37nm,1.2s					
DUG			MLR	MLR		
	comp=Z,982nm,20.0s					
DUG	Dugway, Tooele	86.09 331	⇓P	P	14 05 02.4	+1.0
	baz=86,SNR=18					
DUG	Dugway, Tooele	86.09 331	eP	P	14 05 01.4	0.0
	comp=Z,37nm,1.2s					
DUG			LR	LR		
	comp=Z,982nm,20.0s					
H29A	Onida	86.12 341	⇑P	P	14 05 01.3	0.0
	baz=86,SNR=13					
J24A	Dixon Ranch, L	86.14 338	⇑P	P	14 05 02.6	+1.0
	baz=86					
I26A	New Underwood	86.26 339	⇓P	P	14 05 02.5	+0.4
	baz=87					
K21A	Alcova	86.30 336	⇓P	P	14 05 03.0	+0.5
	baz=87,SNR=10					
G30A	Faulkton	86.33 342	⇓P	P	14 05 02.5	+0.3
	baz=87					
H28A	Mission Ridge	86.37 341	⇑P	P	14 05 03.0	+0.5
	baz=87,SNR=8.5					
TCUT	Toone Canyon	86.38 332	eP	P	14 05 02.6	-0.3
	comp=Z,80nm,1.5s					
MLAC	Mammoth, Mammo	86.40 326	⇑P	P	14 05 05.0	+1.9
	baz=87,SNR=6.6					
MSNA	Messina	86.45 116	eP	P	14 05 04.2	+0.5
MSNA			AMB	AMB	14 05 07.6	
	comp=Z,53nm,5.8s					
MSNA	Messina	86.45 116	P	P	14 05 04.2	+0.5
	comp=Z,53nm,5.8s					
J23A	Dilts Ranch, B	86.47 337	⇓P	P	14 05 03.7	+0.5
	baz=87					
I25A	Rochford	86.50 339	⇓P	P	14 05 04.1	+0.7
	baz=87,SNR=6.1					
G29A	Hoven	86.58 342	⇓P	P	14 05 03.6	+0.1
	baz=87					
MATP	Matopo	86.59 113	i P	P	14 04 59.4	-5.1
H27A	Howes	86.61 340	⇓P	P	14 05 03.3	-0.4
	baz=87,SNR=7.2					
I24A	Kuemmerle Ranc	86.61 338	⇑P	P	14 05 03.9	0.0
	baz=87					
MOPA	Mopani	86.66 117	eP	P	14 05 04.6	-0.1
MOPA			AMB	AMB	14 05 08.7	
	comp=Z,57nm,3.1s					
MOPA	Mopani	86.66 117	P	P	14 05 04.6	-0.1
	comp=Z,57nm,3.1s					
RSSD	Black Hills	86.68 339	eP	P	14 05 04.1	-0.2
RSSD			pmax	pmax		
	comp=Z,5.0nm,0.8s					
RSSD	Black Hills	86.68 339	eP	P	14 05 04.1	-0.2
	comp=Z,4.7nm,0.8s					
G28A	Parade	86.72 341	⇓P	P	14 05 03.8	-0.4
	baz=87,SNR=5.2					
J22A	Midwest	86.76 337	⇑P	P	14 05 04.4	-0.3
	baz=87					
NVAR	Mina Array Bea	86.83 326	P	P	14 05 05.9	+0.7
	comp=Z,3.1nm,0.8s,baz=153,slow=6.2,SNR=20					
HWUT	Hardware Ranch	86.86 333	eP	P	14 05 05.3	0.0
	comp=Z,60nm,1.1s					
HWUT			LR	LR		
	comp=Z,1µm,19.0s					
I23A	Meade Ranch, G	86.95 338	⇓P	P	14 05 05.5	0.0
	baz=87					
F30A	Leola	86.97 343	⇑P	P	14 05 05.4	0.0
	baz=87					
TORD	Torodi Ar. Bea	86.97 71	P	P	14 05 05.9	-0.3
	comp=Z,5.0nm,0.8s,baz=220,slow=5.0,SNR=26					
TORD			LR	LR	14 44 32.1	
	comp=Z,422nm,18.0s,baz=240,slow=36					
J21A	Lysite	87.00 336	⇓P	P	14 05 06.5	+0.6
	baz=87,SNR=6.4					
H25A	Fruitdale	87.01 339	⇑P	P	14 05 06.1	+0.4
	baz=87,SNR=6.1					
F29A	Eureka	87.16 342	⇑P	P	14 05 06.5	+0.2
	baz=88,SNR=8.1					
BW06	Boulder Array	87.18 334	eP	P	14 05 06.7	-0.2
	comp=Z,10nm,1.0s					
BW06			LR	LR		
	comp=Z,1µm,22.0s					
PDAR	Pinedale Array	87.18 334	P	P	14 05 07.0	+0.2
	comp=Z,7.6nm,0.9s,baz=150,slow=5.8,SNR=38					
I22A	9 Mile Ranch,	87.20 337	⇑P	P	14 05 06.6	-0.1
	baz=88					
J20A	Shoshoni	87.22 336	⇓P	P	14 05 07.4	+0.6
	baz=88,SNR=10					
G27A	Dupree	87.26 340	⇑P	P	14 05 06.7	-0.2
	baz=88,SNR=6.6					
G26A	Maurine	87.36 340	⇑P	P	14 05 07.1	-0.2
	baz=88,SNR=12					
I21A	Big Trails, Te	87.38 336	⇑P	P	14 05 07.7	+0.1
	baz=88,SNR=14					
WAKR	Walker	87.39 326	eP	P	14 05 09.9	+2.1
	comp=Z,76nm,1.8s					
H24A	Dirks Ranch, A	87.40 339	⇑P	P	14 05 07.4	-0.2
	baz=88					
F28A	McLaughlin	87.41 341	⇓P	P	14 05 07.7	+0.2
	baz=88					
J19A	Crowheart	87.45 335	⇑P	P	14 05 07.8	-0.2
	baz=88,SNR=24					
G25A	Newell	87.49 339	⇑P	P	14 05 07.6	-0.4
	baz=88,SNR=6.9					
E30A	Jud	87.57 343	⇑P	P	14 05 08.2	0.0
	baz=88					
AHID	Auburn Hatcher	87.71 333	PFAKE		14 05 20.0	+11
AHID			LR	LR		
	comp=Z,990nm,21.0s					
F27A	Lemmon	87.74 341	⇑P	P	14 05 08.7	-0.5
	baz=88					
I20A	Worland	87.76 336	⇑P	P	14 05 09.0	-0.4
	baz=88,SNR=10.0					
H22A	Clearmont	87.79 337	⇑P	P	14 05 09.7	+0.1
	baz=88					
E29A	Napoleon	87.80 342	⇓P	P	14 05 08.9	-0.6
	baz=88,SNR=5.4					
G24A	Alzada	87.89 339	⇑P	P	14 05 09.8	-0.2
	baz=88					
F26A	Lodgepole	87.89 340	⇑P	P	14 05 09.9	0.0
	baz=88,SNR=5.0					
E28A	Huff	88.06 342	⇓P	P	14 05 11.2	+0.6
	baz=88					
D30A	Buchanan	88.10 343	⇓P	P	14 05 10.9	+0.1
	baz=88,SNR=11					
I19A	Meeteetse	88.12 335	⇑P	P	14 05 11.6	+0.3
	baz=88,SNR=5.5					
E27A	Carson	88.14 341	⇑P	P	14 05 11.2	+0.1
	baz=88					
F25A	Bowman	88.17 340	⇓P	P	14 05 11.5	+0.2
	baz=89					
H20A	Greybull	88.20 336	⇓P	P	14 05 11.5	0.0
	baz=89,SNR=6.2					
D29A	Pettibone, Tap	88.25 343	⇓P	P	14 05 11.6	+0.1
	baz=89,SNR=7.1					
G22A	Birney	88.34 338	⇓P	P	14 05 11.7	-0.4
	baz=89					
F24A	Ekalaka	88.37 339	⇓P	P	14 05 12.2	-0.1
	baz=89					
E26A	Carlson Angus	88.41 341	⇑P	P	14 05 12.6	+0.2
	baz=89,SNR=5.1					
F23A	Volborg	88.53 338	⇓P	P	14 05 12.4	-0.6
	baz=89					
I17A	Pilgrim Ck.	88.55 334	⇓P	P	14 05 13.3	0.0
	baz=89,SNR=13					
C30A	Mose, Pekin	88.60 344	⇓P	P	14 05 13.6	+0.5
	baz=89,SNR=15					
D28A	Regan	88.61 342	⇓P	P	14 05 13.4	+0.2
	baz=89,SNR=13					
AGMN	Agassiz Nation	88.62 345	⇑P	P	14 05 13.3	+0.1
	baz=89,SNR=6.7					
AGMN	Agassiz Nation	88.62 345	eP	P	14 05 12.9	-0.3
	comp=Z,11nm,0.9s					
AGMN			LR	LR		
	comp=Z,807nm,19.0s					
G21A	Lodge Grass	88.62 337	⇑P	P	14 05 13.4	0.0

baz=89
H19A Powell 88.68 336 ⇓P P 14 05 14.1 +0.3
baz=89,SNR=5.9
E25A Miller Ranch, 88.69 340 ⇑P P 14 05 14.0 +0.4
baz=89
D27A Center 88.77 341 ⇓P P 14 05 14.1 +0.2
baz=89
F22A Rosebud 88.84 338 ⇑P P 14 05 14.3 -0.1
baz=89
H18A Shoshone NF, C 88.91 335 ⇑P P 14 05 15.3 +0.3
baz=89,SNR=16
D26A Manning 88.92 341 ⇓P P 14 05 15.1 +0.4
baz=89
H17A Grant Village 88.97 335 ⇑P P 14 05 16.5 +1.2
baz=89
E24A Baker 88.99 339 ⇑P P 14 05 15.6 +0.5
baz=89
MDND Maddock 88.99 343 ⇓P P 14 05 15.2 +0.2
baz=89,SNR=7.3
MDND Maddock 88.99 343 *e*P **P 14 05 14.8 -0.2**
comp=Z,20nm,1.1s
F21A Absaloka Mine, 89.14 337 ⇑P P 14 05 15.7 -0.1
baz=90
D25A Fairfield 89.27 340 ⇓P P 14 05 17.0 +0.6
baz=90
B30A Myrvik Farm, E 89.28 344 ⇓P P 14 05 16.2 -0.1
baz=90,SNR=28
C27A Sayler Ranch, 89.32 342 ⇑P P 14 05 17.1 +0.6
baz=90,SNR=7.6
YMR Madison River 89.34 334 *e*P **P 14 05 17.9 +0.9**
comp=Z,26nm,1.0s
F20A Billings 89.43 337 ⇑P P 14 05 18.1 +0.9
baz=90
B29A Wagenman Farm, 89.52 343 ⇓P P 14 05 17.8 +0.3
baz=90,SNR=8.2
C26A Wahner Farm, P 89.58 341 ⇓P P 14 05 18.2 +0.4
baz=90
HLID Hailey 89.60 332 ⇓P P 14 05 19.1 +0.9
baz=90,SNR=9.3
HLID Hailey 89.60 332 PFAKE 14 05 30.0 +12
HLID LR LR
comp=Z,840nm,20.0s
QLMT Earthquake Lak 89.64 334 *e*P **P 14 05 19.8 +1.5**
comp=Z,4.2nm,1.5s
LSZ Lusaka 89.64 109 *e*P **P 14 05 20.9 +1.8**
LSZ pmax pmax
comp=Z,38nm,1.6s
LSZ Lusaka 89.64 109 *e*P **P 14 05 20.9 +1.8**
comp=Z,38nm,1.6s
F19A Roth Farm, Mol 89.73 336 ⇑P P 14 05 19.2 +0.6
baz=90
A30A Hoffart Farm, 89.73 344 ⇑P P 14 05 18.8 +0.4
baz=90,SNR=9.8
B28A Dugan Ranch, T 89.73 343 ⇓P P 14 05 18.7 +0.2
baz=90,SNR=7.3
C25A Freed Ranch, W 89.77 341 ⇓P P 14 05 18.6 -0.1
baz=90
E21A Keefer Ranch, 89.77 338 ⇓P P 14 05 18.0 -0.7
baz=90
D23A Lindsay 89.80 339 ⇓P P 14 05 19.1 +0.2
baz=90
B27A Peters Farms, 89.91 342 ⇓P P 14 05 19.5 +0.2
baz=90
C24A Savage 89.91 340 ⇓P P 14 05 19.5 +0.1
baz=90
A29A Manning Farm, 89.92 343 ⇓P P 14 05 19.2 -0.1
baz=90,SNR=13
MFID Camas Ranch 90.01 331 *e*P **P 14 05 20.5 +0.5**
comp=Z,51nm,1.8s
E20A Meyer Farm, Mu 90.05 337 ⇑P P 14 05 20.2 +0.2
baz=90
D22A Cohagen 90.06 338 ⇓P P 14 05 20.9 +0.8
baz=90
MCMT McKenzie Canyo 90.13 333 *e*P **P 14 05 22.1 +1.4**
comp=Z,19nm,1.5s
A28A Rude Farm, Bot 90.14 343 ⇑P P 14 05 20.1 -0.3
baz=90
E19A Rath Farm, Rou 90.22 337 ⇑P P 14 05 20.9 0.0
baz=91,SNR=6.0
B25A Knox Farm, Ray 90.26 341 ⇑P P 14 05 21.3 +0.4
baz=91
WVOR Wild Horse Val 90.30 328 PFAKE 14 05 30.0 +8.6
WVOR LR LR
comp=Z,708nm,20.0s
C23A Lambert 90.37 339 ⇓P P 14 05 21.3 -0.1
baz=91
BOZ Bozeman (W) 90.42 334 PFAKE 14 05 30.0 +8.1
BOZ LR LR
comp=Z,1μm,20.0s
ULM Lac du Bonnet 90.49 346 P **P 14 05 22.0 +0.1**
ULM Lac du Bonnet 90.49 346 P **P 14 05 21.9 +0.1**
comp=Z,6.8nm,0.9s,baz=165,slow=3.6,SNR=9.3
C22A Vida 90.51 339 ⇑P P 14 05 22.3 +0.1
baz=91
A26A Wade Farm, Ken 90.56 342 ⇓P P 14 05 22.5 +0.2
baz=91
D20A Manuel Ranch, 90.58 337 ⇑P P 14 05 22.3 -0.2
baz=91
LRM Limekiln Ridge 90.86 334 *e*P **P 14 05 25.1 +1.0**
comp=Z,341nm,2.0s
N02D Trinity Center 90.86 325 ⇓P P 14 05 24.2 +0.3
baz=91
A25A Svangstu Ranch 90.86 341 ⇑P P 14 05 23.9 +0.2
baz=91
D19A Cripps Ranch, 90.88 337 ⇑P P 14 05 24.2 +0.3
baz=91
A24A Westby 91.08 341 ⇑P P 14 05 25.0 +0.3
baz=92
C20A Veseth Ranch, 91.10 338 ⇓P P 14 05 25.1 +0.2
baz=92
M04C Macdoel 91.13 326 ⇑P P 14 05 26.2 +1.0
baz=92
M02C Callahan 91.26 325 ⇓P P 14 05 27.1 +1.3
baz=92
C19A Slack Wire Ran 91.44 337 ⇓P P 14 05 26.9 +0.4
baz=92
A22A Carney Farms, 91.66 339 ⇓P P 14 05 27.5 +0.1
baz=92,SNR=6.8
B20A Solberg Farm, 91.76 338 ⇑P P 14 05 27.7 -0.2
baz=92
BMO Blue Mountains 91.80 331 PFAKE 14 05 40.0 +12
BMO LR LR
comp=Z,659nm,19.0s
EGMT Eagleton 91.91 337 ⇑P P 14 05 28.3 -0.4
baz=92
A21A Bergtoll Ranch 91.94 339 ⇑P P 14 05 28.3 -0.4
baz=92
CHMT Chamberlain Mo 92.08 334 *e*P **P 14 05 30.7 +1.0**
comp=Z,12nm,1.6s
L02D Cave Junction, 92.21 325 ⇑P P 14 05 29.6 -0.5
baz=93
MSO Missoula 92.24 334 ⇓P P 14 05 30.6 +0.3
baz=93
A19A Klindworth Far 92.41 338 ⇑P P 14 05 30.5 -0.5
baz=93
J04D Umpqua Nationa 92.42 327 ⇑P P 14 05 32.2 +0.9
baz=93
SLMT Seeley Lake 92.45 334 *e*P **P 14 05 32.0 +0.8**
comp=Z,4.7nm,0.8s
SWMT Swartz Lake 92.85 334 *e*P **P 14 05 33.7 +0.6**
comp=Z,10nm,1.2s
SCHQ Schefferville 93.13 4 P **P 14 05 34.2 +0.2**
comp=Z,3.8nm,1.0s,baz=150,slow=8.1,SNR=3.4
JTMT Jette 93.15 334 *e*P **P 14 05 35.2 +0.7**
comp=Z,2.9nm,0.6s
YBMT Yellow Bay 93.16 334 *e*P **P 14 05 33.9 -0.6**
comp=Z,9.1nm,1.2s
BLMT Blacktail Moun 93.41 334 *e*P **P 14 05 36.5 +0.7**
comp=Z,18nm,1.0s
BSMT Bassoo Peak 93.42 334 *e*P **P 14 05 36.3 +0.5**
comp=Z,8.4nm,1.0s
HAWA Hanford 93.94 330 PFAKE 14 05 50.0 +12
HAWA LR LR
comp=Z,759nm,20.0s
WALA Waterton Lakes 94.16 335 *e*P **P 14 05 39.4 +0.3**
comp=Z,0.7nm,0.9s
NEW Newport 94.60 333 ⇑P P 14 05 40.6 -0.4
baz=95,SNR=5.3
NEW Newport 94.60 333 PFAKE 14 05 50.0 +9.0
NEW LR LR
comp=Z,889nm,19.0s
RTC Rabat Centre 95.06 50 PFAKE 14 05 50.0 +6.6
RTC LR LR
comp=Z,2μm,20.0s
F04D Rainier, OR 95.09 328 ⇑P P 14 05 42.8 -0.5
baz=95
TAM Tamanrasset 95.92 66 PFAKE 14 06 00.0 +12
TAM LR LR
comp=Z,690nm,20.0s
FFC Flin Flon 95.96 344 PFAKE 14 06 00.0 +13
FFC LR LR
comp=Z,739nm,19.0s
NLWA Neilton Lookou 96.50 328 PFAKE 14 06 00.0 +10
NLWA LR LR
comp=Z,896nm,20.0s
CAN Canberra 96.61 214 PFAKE 14 06 00.0 +9.2
CAN LR LR
comp=Z,715nm,19.0s
EDM Edmonton 97.57 337 *e*P **P 14 05 52.5 -1.9**
EDM Edmonton 97.57 337 *e*P **P 14 05 52.5 -1.9**
PAB San Pablo 100.31 47 PFAKE 14 06 20.0 +13
PAB LR LR
comp=Z,702nm,20.0s
ABPO Ambohimpanom 100.42 124 PFAKE 14 06 20.0 +12
ABPO LR LR
comp=Z,918nm,20.0s
KMBO Kilima Mbogo 105.57 104 PFAKE 14 11 00.0
KMBO LR LR
comp=Z,1μm,20.0s
YKA Yellowknife Ar 105.87 342 Pdiff **Pdif 14 06 30.4 -0.7**
comp=Z,0.2nm,0.7s,baz=144,slow=4.8,SNR=5.2
YKA PP **PP 14 10 56.5 +1.6**
comp=Z,0.6nm,1.0s,baz=132,slow=5.4,SNR=3.9
SFJD Kangerlussuaq 106.62 9 PFAKE 14 11 00.0
SFJD LR LR
comp=Z,560nm,20.0s
VSL Villasalto 108.62 54 PFAKE 14 11 00.0
VSL LR LR
comp=Z,837nm,19.0s
TARA Tarawa 109.02 256 PFAKE 14 11 00.0
TARA LR LR
comp=Z,3μm,22.0s
ESK Eskdalemuir 111.01 35 PFAKE 14 11 00.0
ESK LR LR
comp=Z,771nm,21.0s
ECH Echery 112.16 45 PFAKE 14 11 10.0
ECH LR LR
comp=Z,523nm,20.0s
CEL Celeste 112.19 58 PFAKE 14 11 10.0
CEL LR LR
comp=Z,965nm,20.0s
BFO Black Forest 112.88 46 PFAKE 14 11 10.0
BFO LR LR
comp=Z,533nm,20.0s
ASAR Alice Springs 112.98 207 PKiKP **PKiKP 14 10 57.6 -0.6**
comp=Z,0.5nm,0.7s,baz=177,slow=1.7,SNR=5.1
ASAR PKKPbc **PKKPbc 14 21 43.2 -0.7**
comp=Z,0.5nm,0.5s,baz=336,slow=3.3,SNR=12
EGAK Eagle 115.53 334 PFAKE 14 11 10.0 +8.5
EGAK LR LR
comp=Z,615nm,19.0s
GERES GERESS Array B 116.21 47 PKP **PKPdf 14 11 03.3 -0.2**
comp=Z,1.9nm,0.9s,baz=222,slow=1.8,SNR=9.0
WRA Warramunga Arr 116.21 210 PKP **PKPdf 14 11 02.8 -1.6**
comp=Z,1.3nm,0.9s,baz=160,slow=1.7,SNR=9.3
KHC Kasperske Hory 116.28 47 AMS AMS 15 01 10.0
comp=Z,400nm,15.7s
CLL Collm 117.00 45 *e*Sdif Sdif 14 20 07.0 +8.1
CLL *e* 14 22 44.0
CLL *e*SS **SS 14 28 20.0 -1.2**
CLL Lm MLR 15 00 00.0
comp=N,400nm,20.5s
CLL Lm MLR 15 00 00.0
comp=E,600nm,21.1s
CLL Lm MLR 15 00 00.0
comp=Z,600nm,19.9s
PRU Pruhonice 117.24 47 AMS AMS 15 03 00.0
comp=Z,500nm,20.5s
TREC Trest 117.45 48 AMS AMS 15 03 00.0
comp=Z,400nm,15.6s
PVCC Panska Ves 117.51 46 AMS AMS 14 59 40.0
comp=Z,600nm,19.4s
ILAR Eielson Array 117.55 332 PKP **PKPdf 14 11 05.2 -0.2**
comp=Z,0.7nm,0.8s,baz=172,slow=2.9,SNR=7.4
ILAR PP **PP 14 12 22.1 +3.4**
comp=Z,0.6nm,0.9s,baz=115,slow=5.5,SNR=4.9
VYHS Vyhne 119.06 49 *e*PKIKP **PKPdf 14 11 09.9 +1.0**
VYHS Vyhne 119.06 49 *e*PKP **PKPdf 14 11 09.9 +1.0**
OKC Ostrava-Krasne 119.25 48 AMS AMS 15 06 10.0
comp=Z,500nm,17.0s
MBWA Marble Bar 119.36 194 PFAKE 14 11 20.0 +10
MBWA LR LR
comp=Z,637nm,19.0s
NOA NORSAR Array B 120.49 34 PKP **PKPdf 14 11 11.4 +0.1**
comp=Z,1.4nm,0.8s,baz=315,slow=16,SNR=2.8
STHS Stebnicka Huta 120.89 49 *e*PKIKP PKPdf 14 11 20.1 +7.7
STHS Stebnicka Huta 120.89 49 *e*PKP PKPdf 14 11 20.1 +7.7
HFS Hagfors 121.23 36 PKP **PKPdf 14 11 11.5 -1.2**
comp=Z,2.6nm,0.7s,baz=160,slow=10,SNR=4.0
LVV L'vov 122.71 50 *e*PKIKP **PKPdf 14 11 18.7 +2.9**
BRTR Keskin Array B 125.08 64 PKP **PKPdf 14 11 20.1 -0.8**
comp=Z,0.9nm,0.6s,baz=193,slow=3.4,SNR=5.6
KIEV Kiev 126.13 50 ⇑ *i*PKIKP **PKPdf 14 11 22.1 -0.2**
AKASG Malin Array Be 126.14 50 PKP **PKPdf 14 11 22.3 -0.1**
comp=Z,0.7nm,0.5s,baz=300,slow=1.4,SNR=4.2
GAMB Gambell 127.14 327 *e*PKPdf **PKPdf 14 11 24.5 +0.7**
FINES FINESS Array B 127.40 37 PKP **PKPdf 14 11 23.8 -0.6**
comp=Z,2.1nm,0.8s,baz=163,slow=2.0,SNR=4.0
ARCES ARCESS Array B 128.62 26 PKP **PKPdf 14 11 26.3 -0.3**
comp=Z,2.5nm,0.9s,baz=12,slow=5.0,SNR=3.7
APA Apatity 131.36 29 *e*PKIKP PKPdf 14 11 37.8 +6.0
APA MLR MLR
comp=Z,600nm,17.0s
MOS Moscow 132.25 45 *e*PKIKP PKPdf 14 11 39.8 +6.0
MOS *e* 14 13 58.4
KIV Kislovodsk 132.88 62 *i*PKIKP **PKPdf 14 11 35.7 +0.2**
KIV *e* 14 13 59.3
KIV *e*SS SS 14 31 38.6 -3.0
KIV pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 133.77 39 *e*PKIKP **PKPdf 14 11 35.0 -1.5**
KLMR pmax pmax
comp=Z,27nm,1.4s
BILL Bilibino 136.21 332 *de*PKIKP **PKPdf 14 11 42.5 +1.6**
BILL *e* 14 18 46.1
BILL pmax pmax
comp=Z,18nm,1.6s
PRGR Permogore 136.72 37 *e*PKIKP **PKPdf 14 11 38.4 -3.6**
PETK Petropavlovsk- 142.15 310 PKhKP PKPpre 14 11 46.9
comp=Z,6.1nm,0.9s,baz=92,slow=10,SNR=4.7
GEYT Alibeck 142.47 75 PKhKP PKPpre 14 11 49.3
comp=Z,2.0nm,0.6s,baz=248,slow=4.0,SNR=5.8
SEY Seymchan 143.14 327 PKhKP PKPpre 14 11 50.4
comp=Z,5.6nm,0.8s,baz=82,slow=4.7,SNR=17
ARU Arti 143.94 44 *i*PKIKP PKPbc 14 11 53.5 +0.4
ARU MLR MLR
comp=Z,725nm,20.0s
ARU Arti 143.94 44 *e*PKPpre PKPpre 14 11 52.6
AKTO Aktyubinsk 144.13 55 PKIKP PKPbc 14 11 53.9 0.0
TIXI Tiksi 144.82 348 *c*/PKIKP **PKPab 14 11 55.2 -0.2**
TIXI Tiksi 144.82 348 *e*PKP **PKPab 14 11 53.9 -1.5**
SVE Sverdlovsk 145.00 43 *i*PKIKP **PKPdf 14 11 56.9 -0.1**
SVE pmax pmax
comp=Z,76nm,1.6s
SVE MLR MLR
comp=Z,592nm,19.0s
AB31 Akbulak array 145.39 57 *i*PKIKP **PKPab 14 11 58.1 0.0**
AB31 pmax pmax
comp=Z,43nm,0.8s
ABKAR Akbulak array 145.39 57 *e*PKP **PKPdf 14 11 57.9 -0.1**
POO Poona 145.50 116 *e*P **PKPbc 14 11 58.0 -1.2**
IPM Ipoh 145.82 171 *e*PKPdf **PKPdf 14 11 59.4 -0.5**
KULM Kulim 146.57 170 *e*PKPbc **PKPbc 14 12 02.7 +0.1**
HYB Hyderabad 147.94 123 *i*PKP **PKPbc 14 12 05.0 -1.3**
BRVK Borovoye 151.31 48 *de*PKIKP **PKPdf 14 12 08.9 +1.4**
BRVK *i* 14 12 15.3
BRVK Borovoye 151.31 48 *e*PKPdf **PKPdf 14 12 08.0 +0.5**
BRVK *e*PKPbc **PKiKP 14 12 13.9 -0.1**
BVA0 Borovoye Array 151.38 48 *i*PKIKP **PKPdf 14 12 08.2 +0.6**
BVA0 pmax pmax
comp=Z,11nm,0.9s
ERM Erimo 151.79 289 ⇓ *i*PKIKP **PKPbc 14 12 17.2 +2.2**
ERM pmax pmax
comp=Z,66nm,1.0s
YSS Yuzh-Sakhalins 152.12 300 *e*PKIKP **PKPbc 14 12 16.0 +0.5**
YSS *e* 14 12 25.0
YSS Yuzh-Sakhalins 152.12 300 *e*PKPbc **PKPbc 14 12 15.5 0.0**
ASAJ Asahikawa 152.31 293 PKPbc **PKPbc 14 12 15.4 -0.6**
comp=Z,37nm,1.0s,baz=257,slow=5.8,SNR=6.8
YAK Yakutsk 152.39 336 *e*PKIKP **PKPbc 14 12 14.6 -1.1**
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK Yakutsk 152.39 336 *e*PKPbc **PKPbc 14 12 15.5 -0.1**
KK31 Karatay Array 152.64 69 *i*PKIKP **PKPdf 14 12 10.4 +0.5**
MJAR Matsushiro Arr 154.68 276 PKPbc **PKPbc 14 12 21.6 +0.1**
comp=N,1.7nm,0.9s,baz=164,slow=2.3,SNR=6.1
MJAR PKPab **PKPab 14 12 36.1 -0.5**
comp=N,4.3nm,0.9s,baz=145,slow=3.3,SNR=7.8
MAT Matsushiro 154.68 276 PKP **PKPbc 14 12 20.7 -0.8**
EKS2 Erkin-Say 155.03 70 *e*PKIKP **PKPdf 14 12 14.5 +1.1**
EKS2 Erkin-Say 155.03 70 *e*PKPdf **PKPdf 14 12 14.5 +1.1**
AAK Ala-Archa 155.56 70 *e*PKIKP **PKPdf 14 12 13.8 -0.4**
AAK Ala-Archa 155.56 70 *e*PKPdf **PKPdf 14 12 13.8 -0.4**
FRU Bishkek 155.65 70 *e*PKIKP **PKPdf 14 12 14.0 -0.1**
FRU *e* 14 16 17.0
TKM2 Tokmak 2 156.37 69 *e*PKIKP **PKPdf 14 12 15.2 -0.1**
TKM2 Tokmak 2 156.37 69 *e*PKPdf **PKPdf 14 12 15.2 -0.1**
KSH Kashi 156.45 78 PKP **PKPdf 14 12 15.6 +0.2**
KSH sPKP 14 12 29.3
KSH PKS **PKSdf 14 15 49.4 0.0**
KSH PP **PP 14 16 21.3 -1.4**
KSH PPMZ
comp=N,170nm,4.6s
KSH LN
comp=N,140nm,5.0s
KSH LE
comp=N,43nm,4.0s
KSH LZ
comp=N,130nm,5.3s
KURK Kurchatov 156.95 49 *e*PKIKP **PKPdf 14 12 16.4 +0.9**
KURK Kurchatov 156.95 49 *e*PKPdf **PKPdf 14 12 16.4 +0.9**
NVS Novosibirsk 157.39 36 *e*PKIKP **PKPdf 14 12 15.6 -0.3**
NVS *e* 14 12 45.8
NVS pmax pmax
comp=Z,41nm,2.3s
KOLN Koldanda 158.25 113 *e*P **PKPdf 14 12 18.5 +0.4**
ZALV Zalesovo Beam 158.67 37 PKP **PKPdf 14 12 17.0 -0.5**
comp=Z,2.3nm,0.7s,baz=318,slow=2.0,SNR=13
ZALV PKPab **PKPab 14 12 53.6 +0.5**
comp=Z,5.3nm,0.7s,baz=298,slow=6.2,SNR=9.9
DANN Dangsing 158.69 112 *e*P **PKPdf 14 12 18.7 -0.1**
CMAR Chiang Mai Arr 159.04 160 PKP **PKPdf 14 12 19.8 +0.7**
comp=Z,3.3nm,1.2s,baz=288,slow=2.1,SNR=5.7
CMAR PKPab **PKPab 14 12 55.5 0.0**
comp=Z,2.9nm,0.9s,baz=221,slow=4.9,SNR=11
GKN Gorkha 159.13 114 *e*P **PKPdf 14 12 19.5 +0.4**
PKIN Phulchoki 159.42 116 *e*P **PKPdf 14 12 19.8 +0.2**
PKI Pulchoki 159.42 116 *e*P **PKPdf 14 12 19.8 +0.1**
RAMN Ramite 159.87 119 *e*P **PKPdf 14 12 20.1 0.0**
USRK Ussuriysk Ar. 159.93 295 PKPab **PKPab 14 12 58.8 -0.1**
comp=Z,3.5nm,0.8s,baz=71,slow=6.6,SNR=6.2
JIRN Jiri 160.03 117 *e*P **PKPdf 14 12 20.2 -0.2**
ODAN Odare 160.35 121 *e*P **PKPdf 14 12 19.2 -1.4**
QIZ Qiongzhong 160.38 190 PKP **PKPdf 14 12 21.0 +0.4**
QIZ PP **PP 14 16 45.5 +3.0**
QIZ SS SS 14 36 54.0 +3.4
QIZ LN
comp=Z,200nm,16.5s
QIZ LZ
comp=Z,300nm,19.1s
MKAR Makanchi Array 160.53 57 PKP **PKPdf 14 12 19.7 -0.2**
comp=Z,2.7nm,1.0s,baz=29,slow=2.8,SNR=11
MKAR PKPab **PKPab 14 13 00.6 -0.9**
comp=Z,2.4nm,0.7s,baz=296,slow=4.0,SNR=7.7
MKAR PP **PP 14 16 47.0 +2.6**
comp=Z,1.0nm,0.9s,baz=335,slow=8.3,SNR=3.9
TAPN Taplejung 160.88 120 *e*P **PKPdf 14 12 18.8 -2.5**
MDJ Mudanjiang 161.55 297 PKP **PKPdf 14 12 21.3 +0.3**
MDJ PPMZ
comp=Z,120nm,5.6s
KSRS Korea Array 162.92 273 PKPab **PKPab 14 13 12.2 0.0**
comp=Z,3.9nm,0.9s,baz=114,slow=3.5,SNR=6.0
KSAR Wonju Array Be 162.95 273 PKP2 **PKPab 14 13 12.2 -0.2**
KSAR Wonju Array Be 162.95 273 PKPab **PKPab 14 13 12.2 -0.2**
CN2 Changchun 164.64 296 *e*PKP **PKPdf 14 12 24.8 +0.8**
CN2 PP **PP 14 17 04.3 -2.1**
CN2 PPMZ
comp=Z,200nm,6.0s
CN2 LN
comp=Z,300nm,20.0s
CN2 LE
comp=Z,300nm,20.0s
CN2 LZ
comp=Z,500nm,20.0s
WMQ Urumqi 165.01 63 *e*PKP **PKPdf 14 12 23.3 -1.2**
WMQ pPKP **pPKPdf 14 12 34.0 -1.2**
WMQ PKPab **PKPab 14 13 21.8 +0.5**
WMQ PKS **PKSdf 14 15 54.9 -2.4**
WMQ PP **PP 14 17 09.8 +1.4**
WMQ SKS **SKSdf 14 19 22.3 -3.9**
WMQ SKKS **SKKSac 14 23 51.8 -1.4**
WMQ SS **SS 14 37 38.5 -2.6**
WMQ PPMZ
comp=Z,300nm,5.6s
WMQ LN
comp=Z,310nm,24.0s
WMQ LE
comp=Z,280nm,24.0s
WMQ LZ
comp=Z,470nm,23.0s
KMI Kunming 166.35 166 PKP **PKPdf 14 12 27.4 +1.1**
KMI pPKP **pPKPdf 14 12 38.9 +1.8**
KMI PP **PP 14 17 15.4 +1.1**
KMI SS SS 14 37 57.0 +4.2
KMI PPMZ
comp=Z,180nm,9.4s
KMI LN
comp=Z,300nm,17.5s
KMI LE
comp=Z,140nm,20.2s
KMI LZ
comp=Z,310nm,22.1s
TLY Talaya 166.66 7 *e*PKP2 **PKPab 14 13 30.2 +2.1**
TLY *e* 14 17 16.4
TLY pmax pmax
comp=Z,13nm,1.6s
ZAK Zakamensk 167.90 9 *e*PKIKP **PKPdf 14 12 24.9 -1.6**
ZAK *e* 14 13 34.5
ZAK pmax pmax
comp=Z,3.0nm,2.3s
NJ2 Nanjing 167.91 242 *e*PKP **PKPdf 14 12 28.1 +1.1**
GYA Guiyang 168.01 182 *i*PKP **PKPdf 14 12 27.0 -0.4**
GYA pPKP **pPKPdf 14 12 38.5 +0.4**
GYA PKPab **PKPab 14 13 37.4 +2.6**
GYA PKS **PKSdf 14 15 58.3 -1.9**
GYA PP **PP 14 17 26.0 +3.4**
GYA SKKS 14 24 08.8
GYA SS **SS 14 38 10.0 +0.8**
GYA PPMZ
comp=Z,260nm,8.5s
GYA LN
comp=Z,410nm,24.2s
GYA LE
comp=Z,270nm,25.4s
GYA LZ
comp=Z,340nm,24.8s
ULN Ulaanbaatar 170.60 357 *e*PKIKP **PKPdf 14 12 26.9 -1.5**
ULN Ulaanbaatar 170.60 357 *e*PKPdf **PKPdf 14 12 26.9 -1.5**
SONM Songino Array 170.65 360 PKP **PKPdf 14 12 27.4 -0.9**
comp=Z,1.9nm,1.0s,baz=182,slow=0.6,SNR=9.0
SONM PKPab **PKPab 14 13 47.2 +1.3**
comp=Z,4.4nm,0.9s,baz=335,slow=4.5,SNR=14
SONM PP **PP 14 17 36.6 +0.7**
comp=Z,1.1nm,0.9s,baz=18,slow=3.8,SNR=5.3
CD2 Chengdu 172.16 164 *e*PKP **PKPdf 14 12 29.8 +0.3**
CD2 sPKP 14 12 44.8
CD2 PKPab **PKPab 14 13 54.5 +1.5**
CD2 PKS **PKSdf 14 16 03.3 +1.4**
CD2 SKS **SKSdf 14 19 29.3 -1.2**
CD2 SKKS **SKKSac 14 24 29.1 +0.7**
CD2 SS **SS 14 38 53.8 +3.4**
CD2 PPMZ
comp=Z,240nm,9.5s
CD2 LN
comp=Z,360nm,16.6s
CD2 LE
comp=Z,380nm,17.8s
CD2 LZ
comp=Z,490nm,20.2s
BJI Beijing 172.19 285 PKP **PKPdf 14 12 30.5 +1.4**
BJI PPMZ
comp=Z,290nm,9.6s
BJI LN

comp=Z,370nm,21.1s
BJI LE
comp=Z,250nm,18.4s
BJI LZ
comp=Z,390nm,21.1s
GTA Gaotai 174.85 78 *e*PKP **PKPdf 14 12 31.3 +0.9**
GTA pPKP **pPKPdf 14 12 41.0 -0.1**
GTA sPKP 14 12 45.5
GTA PKPab **PKPab 14 14 07.3 +2.1**
GTA PP **PP 14 18 01.8 +3.6**
GTA SKS **SKSdf 14 19 29.3 -1.7**
GTA SKKS **SKKSac 14 24 41.0 -0.7**
GTA PPMZ
comp=Z,200nm,6.4s
GTA LN
comp=Z,190nm,18.3s
GTA LE
comp=Z,170nm,14.0s
GTA LZ
comp=Z,390nm,19.0s
XAN Xi'an 175.09 206 PKP **PKPdf 14 12 31.3 +0.8**
XAN LN
comp=Z,260nm,22.4s
XAN LE
comp=Z,90nm,19.4s
XAN LZ
comp=Z,96nm,23.9s
HHC Hu-ho-hao-te 175.30 302 *e*PKP **PKPdf 14 12 31.3 +0.9**
HHC PP **PP 14 17 59.3 -0.7**
HHC SKKS 14 24 48.1
HHC SS **SS 14 39 22.3 -0.6**
HHC PPMZ
comp=Z,430nm,7.4s
HHC LN
comp=Z,620nm,17.3s
HHC LE
comp=Z,1μm,19.7s
HHC LZ
comp=Z,830nm,18.5s
LZH Lanzhou 176.91 140 *e*PKP **PKPdf 14 12 32.9 +1.9**
LZH pPKP **pPKPdf 14 12 44.3 +2.6**
LZH sPKP 14 12 49.3
LZH *e*PP PP 14 18 13.3 +6.2
LZH PPMZ
comp=Z,380nm,4.4s
LZH LN
comp=Z,490nm,19.4s
LZH LE
comp=Z,1μm,19.9s
LZH LZ
comp=Z,450nm,18.6s

IDC ***14*** *13:55:38.6±0.9, 35°.22S×73°.05W, h0km, mb4.3/7, mb1 4.4/9, mb1mx4.0/35, mbtmp4.3/9, ML4.1/1, Error ellipse: s-maj=27.9km s-min=20.8km az=135.0*
ISCJB ***14*** *13:55:42.2±1.0, 35°.1S±0°.1×73°.1W±0°.2, h33km, mb4.2/7, Error ellipse: s-maj=24.7km s-min=12.9km az=144.4*
NEIC ***14*** *13:55:44.1±0.7, 35°.13S×73°.01W, h35km, mb4.1/1, Error ellipse: s-maj=19.9km s-min=14.6km az=123.0*
ISC 14 13:55:43.9±0.9, 35°.2S±0°.2×73°.1W±0°.1, h35km, n13, σ0.92/15, mb4.2/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.41**	**50**	Pn		**Pn**		**13 57 01.7**	**-0.4**
	baz=209,slow=13,SNR=3.5								
CFAA				Sn		**Sn**		**13 58 04.7**	**+1.5**
	0.3nm,0.3s,baz=194,slow=23,SNR=1.2								
CFAA				Lg		Lg		13 58 29.9	
	0.6nm,0.3s,baz=342,slow=19,SNR=1.6								
LPAZ	**La Paz**	**19.34**	**15**	P		**Pn**		**14 00 08.3**	**+0.1**
	0.3nm,0.3s,baz=189,slow=8.9,SNR=4.2								
LPAZ	**La Paz**	**19.34**	**15**	*e*P		**P**		**14 00 07.0**	**0.0**
	9.6nm,0.8s								
SIV	**San Ignacio**	**21.94**	**32**	P		**P**		**14 00 32.4**	**-2.1**
	7.5nm,0.8s,baz=219,slow=13,SNR=4.6								
PTGA	**Pitinga**	**36.40**	**22**	P		**P**		**14 02 44.0**	**-1.1**
	7.5nm,0.8s,baz=199,slow=13,SNR=4.5								
TXAR	**Lajitas Array**	**70.36**	**332**	P		**P**		**14 06 54.4**	**+0.2**
	1.1nm,0.6s,baz=156,slow=8.7,SNR=8.2								
DBIC	**Dimbokro**	**76.38**	**72**	P		**P**		**14 07 30.1**	**+0.2**
	4.7nm,0.8s,baz=226,slow=7.5,SNR=3.0								
BOSA	**Boshof**	**80.28**	**118**	P		**P**		**14 07 51.8**	**+0.2**
	4.8nm,0.9s,baz=229,slow=2.8,SNR=3.7								
NVAR	**Mina Array Bea**	**84.37**	**326**	P		**P**		**14 08 13.7**	**+1.1**
	0.8nm,0.8s,baz=143,slow=6.2,SNR=4.4								
TORD	**Torodi Ar. Bea**	**85.43**	**71**	P		**P**		**14 08 18.1**	**0.0**
	1.1nm,0.8s,baz=253,slow=4.7,SNR=3.0								
WRA	**Warramunga Arr**	**119.30**	**210**	PKP		**PKPdf**		**14 14 29.2**	**-0.8**
	0.5nm,0.9s,baz=141,slow=2.0,SNR=3.2								
BRTR	**Keskin Array B**	**123.16**	**62**	PKP		**PKPdf**		**14 14 37.2**	**+0.4**
	1.0nm,0.8s,baz=212,slow=5.4,SNR=3.4								
ZALV	**Zalesovo Beam**	**155.69**	**33**	PKP		**PKPdf**		**14 15 33.5**	**+0.1**
	1.0nm,0.8s,baz=355,slow=3.0,SNR=2.6								
ZALV				PKPab		**PKPab**		**14 16 00.0**	**+0.2**
	1.5nm,0.6s,baz=314,slow=4.1,SNR=4.0								

GUC ***14*** *14:01:12.8±0.5, 38°.51S×74°.02W, h17km±4km, ML5.0*
IDC ***14*** *14:01:12.7±0.5, 38°.50S×73°.71W, h0km, mb4.5/15, mb1 4.7/18, mb1mx4.6/22, mbtmp4.5/18, ML3.6/2, MS3.7/2, Ms1 3.7/2, ms1mx3.6/23, Error ellipse: s-maj=16.6km s-min=11.7km az=70.0*
ISCJB ***14*** *14:01:14.5±0.2, 38°.42S±0°.03×73°.67W±0°.06, h18km, mb4.8/43, MS4.0/1, Error ellipse: s-maj=7.3km s-min=4.1km az=156.7*
BJI ***14*** *14:01:15.4, 39°.39S×73°.84W, h30km, mB5.2/11, Ms5.4/8, Ms7 5.1/9*
NEIC ***14*** *14:01:18.2±0.3, 38°.44S×73°.60W, h35km, mb5.0/25, Error ellipse: s-maj=9.9km s-min=7.4km az=61.0*
NEIC Felt at Chimbarongo, Concepcion, Santiago, Temuco and Valdivia.
ISC 14 14:01:15.3±0.3, 38°.53S±0°.04×73°.71W±0°.06, h18km, n370, σ0.99/389, mb4.9/43, 132C-137D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.36**	**137**	⇑*i*P		**Pb**		**14 01 23.6**	**+0.3**
PSCH				*i*S		**Sn**		**14 01 31.7**	**-0.7**
AGCH	**Angol**	**1.07**	**48**	*e*P		**Pb**		**14 01 35.3**	**0.0**
AGCH				*e*S		**Sg**		**14 01 52.1**	**+1.8**
VLCH	**Valdivia**	**1.32**	**164**	⇓*i*P		**Pn**		**14 01 38.0**	**-0.9**
VLCH				*i*S		**Sg**		**14 01 56.8**	**-1.3**
VLCH				AML		AML		14 02 06.8	
	comp=E,103μm,0.5s								
CCSP	**San Pedro de C**	**1.75**	**16**	*i*P		**Pn**		**14 01 43.7**	**-1.1**
CCSP				*e*S		**Sn**		**14 02 07.5**	**+1.0**
CCSP				AML		AML		14 02 18.0	
	comp=N,12μm,0.5s								
OSCH	**Osorno**	**2.09**	**168**	*e*P1				14 01 49.8	
PLCA	**Paso Flores**	**3.28**	**133**	Pn		**Pn**		**14 02 07.2**	**+1.3**
	baz=304,slow=15								
PLCA				Pg		**Pb**		**14 02 12.6**	**-0.4**
	baz=307,slow=16								
PLCA				Lg		Lg		14 02 58.0	
	baz=288,slow=20								
CFAA	**Coronel Fontan**	**8.24**	**35**	Pn		**Pn**		**14 03 11.6**	**-2.3**
	comp=N,1.0nm,0.3s,baz=181,slow=1.9,SNR=28								
CFAA				Sn		**Sn**		**14 04 45.0**	**-1.6**
	comp=N,0.2nm,0.3s,baz=286,slow=24,SNR=1.2								
CFAA				Lg		Lg		14 05 37.5	
	baz=196,slow=3.8,SNR=6.9								
CFAA				LR		LR		14 06 48.2	
	comp=N,185nm,20.9s,baz=226,slow=41								
TRQA	**Tornquist**	**9.23**	**91**	*e*P		**Pn**		**14 03 30.2**	**+2.6**
LCO	**Las Campanas**	**9.82**	**16**	*e*P		Pn		14 03 32.5	-3.3
USHA	**Ushuaia**	**16.69**	**169**	Pn		**Pn**		**14 05 06.1**	**-2.0**
	comp=N,0.1nm,0.3s,baz=356,slow=5.2,SNR=3.1								
LPAZ	**La Paz**	**22.70**	**14**	P		**P**		**14 06 17.5**	**+0.9**
	comp=N,11nm,1.1s,baz=170,slow=7.5,SNR=10								
LPAZ	**La Paz**	**22.70**	**14**	*e*P		**P**		**14 06 17.1**	**+0.5**
	comp=N,22nm,1.0s								
SIV	**San Ignacio**	**25.05**	**30**	P		**P**		**14 06 37.6**	**-1.1**
	comp=N,8.0nm,0.8s,baz=232,slow=12,SNR=11								
RPN	**Rapa Nui**	**31.84**	**280**	LR		LR		14 16 33.5	
	comp=N,292nm,18.2s,baz=106,slow=29								
BDFB	**Brasilia**	**32.10**	**52**	P		**P**		**14 07 42.4**	**+0.7**
	comp=N,4.6nm,0.7s,baz=197,slow=14,SNR=2.7								
OTAV	**Otavalo**	**38.83**	**352**	*e*P		**P**		**14 08 40.9**	**+1.1**
	comp=N,56nm,1.7s								
PTGA	**Pitinga**	**39.68**	**22**	P		**P**		**14 08 45.7**	**-0.7**
	comp=N,4.0nm,0.6s,baz=196,slow=9.8,SNR=6.0								
VNA3	**Neumayer Olymp**	**45.73**	**156**	P		**P**		**14 09 33.5**	**-1.4**
VNA2	**Neumayer--Watz**	**46.41**	**155**	P		**P**		**14 09 41.7**	**+1.4**
SDV	**Santo Domingo**	**47.26**	**4**	*e*P		**P**		**14 09 46.6**	**-1.1**
	comp=N,16nm,0.8s								
SNAA	**Sanae**	**47.95**	**156**	P		**P**		**14 09 53.7**	**+1.4**
SNAA	**Sanae**	**47.95**	**156**	P		**P**		**14 09 53.2**	**+0.8**
	comp=N,5.6nm,1.1s,baz=212,slow=8.2,SNR=5.2								
JTS	**JuntasAbangare**	**49.69**	**345**	*e*P		**P**		**14 10 06.7**	**+0.4**
	comp=N,9.6nm,1.1s								
APG	**El Apazote**	**55.52**	**340**	P		P		14 10 45.4	-4.2
	comp=N,14nm,0.9s,baz=167,slow=8.0,SNR=17								
CELP	**Cerrillos**	**56.70**	**8**	*e*P		**P**		**14 10 56.6**	**-1.1**
SBA	**Scott Base**	**58.37**	**192**	*e*P		**P**		**14 11 11.2**	**+2.3**
	comp=N,50nm,1.8s								
CMIG	**Matias Romero**	**58.79**	**336**	P		**P**		**14 11 12.4**	**0.0**
	comp=N,3.6nm,0.8s,baz=124,slow=6.2,SNR=7.1								
VNDA	**Vanda**	**59.40**	**192**	P		**P**		**14 11 17.7**	**+1.7**
	comp=N,5.7nm,1.0s,baz=145,slow=4.3,SNR=14								
035Z	**Hargill**	**68.56**	**337**	⇑P		**P**		**14 12 17.3**	**+0.5**
	baz=69								
034A	**Hebbronville**	**69.32**	**336**	⇑P		**P**		**14 12 22.1**	**+0.6**
	baz=70								
934A	**Benavides**	**69.77**	**337**	⇓P		**P**		**14 12 25.1**	**+0.8**
	baz=70								
933A	**Laredo**	**70.01**	**336**	⇑P		**P**		**14 12 26.2**	**+0.4**
	baz=70,SNR=5.4								
834A	**Tilden**	**70.26**	**337**	⇑P		**P**		**14 12 28.0**	**+0.7**
	baz=70								
833A	**Chaparral WMA,**	**70.71**	**336**	⇓P		**P**		**14 12 30.3**	**+0.2**
	baz=71,SNR=6.2								
735A	**Kenedy**	**70.72**	**338**	⇓P		**P**		**14 12 30.7**	**+0.6**
	baz=71								
832A	**Faith Ranch, C**	**70.86**	**336**	⇑P		**P**		**14 12 31.2**	**+0.2**
	baz=71,SNR=5.6								
733A	**Divot King Ran**	**71.05**	**336**	⇑P		**P**		**14 12 31.9**	**-0.2**
	baz=71								
636A	**Smothers Creek**	**71.09**	**339**	⇓P		**P**		**14 12 32.8**	**+0.5**
	baz=71,SNR=6.1								
537A	**Green Hill Far**	**71.45**	**339**	⇑P		**P**		**14 12 35.3**	**+0.9**
	baz=72								
633A	**Saathoff Ranch**	**71.70**	**337**	⇓P		**P**		**14 12 36.1**	**+0.1**
	baz=72,SNR=6.7								
535A	**Dale**	**71.75**	**338**	⇓P		**P**		**14 12 36.4**	**+0.1**
	baz=72								
438A	**Sam Houston St**	**71.85**	**340**	⇑P		**P**		**14 12 37.6**	**+0.8**
	baz=72								
632A	**Uvalde**	**71.94**	**336**	⇑P		**P**		**14 12 37.7**	**+0.2**
	baz=72,SNR=10								
534A	**Blanco**	**72.02**	**338**	⇓P		**P**		**14 12 37.5**	**-0.5**
	baz=72								
340A	**Bronson**	**72.09**	**342**	⇑P		**P**		**14 12 38.5**	**+0.3**
	baz=72,SNR=7.0								
631A	**Perdido Creek**	**72.10**	**336**	⇓P		**P**		**14 12 38.7**	**+0.3**
	baz=72								
339A	**Huntington**	**72.17**	**341**	⇓P		**P**		**14 12 39.1**	**+0.4**
	baz=72								
533A	**Kerrville**	**72.23**	**337**	⇑P		**P**		**14 12 39.2**	**0.0**
	baz=72,SNR=12								
436A	**Wall Ranch, Ga**	**72.23**	**339**	⇓P		**P**		**14 12 39.7**	**+0.6**
	baz=72								
LRAL	**Lakeview Retre**	**72.27**	**348**	*e*P		**P**		**14 12 39.3**	**0.0**
	comp=N,17nm,0.9s								
338A	**Crockett**	**72.39**	**341**	⇓P		**P**		**14 12 41.1**	**+1.0**
	baz=73,SNR=5.5								
435B	**Jarrell**	**72.47**	**339**	⇑P		**P**		**14 12 40.7**	**+0.1**
	baz=73								
337A	**Centerville**	**72.50**	**340**	⇑P		**P**		**14 12 41.1**	**+0.4**
	baz=73,SNR=5.9								
532A	**Rocksprings**	**72.55**	**336**	⇑P		**P**		**14 12 41.2**	**+0.1**
	baz=73,SNR=16								
434A	**Burnet**	**72.69**	**338**	⇑P		**P**		**14 12 41.8**	**-0.1**
	baz=73,SNR=24								
531A	**Rocksprings**	**72.79**	**336**	⇑P		**P**		**14 12 42.9**	**+0.3**
	baz=73,SNR=9.2								
239A	**Gary**	**72.80**	**342**	⇑P		**P**		**14 12 42.6**	**+0.1**
	baz=73								
336A	**Riesel**	**72.83**	**339**	⇓P		**P**		**14 12 42.7**	**+0.1**
	baz=73,SNR=7.3								
JCT	**Junction City**	**72.84**	**337**	⇑P		**P**		**14 12 42.8**	**0.0**
	baz=73,SNR=9.8								
JCT	**Junction City**	**72.84**	**337**	*e*P		**P**		**14 12 42.9**	**0.0**
	comp=N,24nm,1.0s								
433A	**Art**	**72.88**	**337**	⇓P		**P**		**14 12 43.0**	**-0.1**
	baz=73,SNR=16								
335A	**Moody**	**72.89**	**339**	⇓P		**P**		**14 12 42.9**	**-0.1**
	baz=73								
238A	**Jacksonville**	**72.95**	**341**	⇓P		**P**		**14 12 43.7**	**+0.3**
	baz=73								
530A	**J-C Ranch, Com**	**73.03**	**335**	⇓P		**P**		**14 12 44.3**	**+0.3**
	baz=73,SNR=14								
TXAR	**Lajitas Array**	**73.08**	**333**	P		**P**		**14 12 44.6**	**+0.2**
	comp=N,5.1nm,0.8s,baz=154,slow=8.1,SNR=51								
237A	**Washetta, Mont**	**73.13**	**340**	⇓P		**P**		**14 12 44.9**	**+0.4**
	baz=73								
334A	**Lometa**	**73.17**	**338**	⇓P		**P**		**14 12 44.5**	**-0.2**
	baz=74,SNR=26								
432A	**Menard**	**73.21**	**337**	⇑P		**P**		**14 12 44.8**	**-0.2**
	baz=74								
431A	**Sonora**	**73.29**	**336**	⇑P		**P**		**14 12 45.3**	**-0.2**
	baz=74,SNR=6.4								
529A	**Stev Forest Ra**	**73.30**	**334**	⇑P		**P**		**14 12 45.4**	**-0.2**
	baz=74								
333A	**Richland Sprin**	**73.38**	**338**	⇓P		**P**		**14 12 45.6**	**-0.4**
	baz=74,SNR=10								
WHTX	**Lake Whitney,**	**73.56**	**339**	⇓P		**P**		**14 12 46.9**	**-0.1**
	baz=74,SNR=8.5								
WHTX	**Lake Whitney,**	**73.56**	**339**	*e*P		**P**		**14 12 46.9**	**-0.1**
	comp=N,21nm,0.9s								
138A	**Matatall Enter**	**73.57**	**341**	⇑P		**P**		**14 12 47.1**	**0.0**
	baz=74								
430A	**Baggett Ranch,**	**73.59**	**336**	⇑P		**P**		**14 12 47.3**	**0.0**
	baz=74,SNR=11								
KMSC	**Kings Mountain**	**73.64**	**353**	⇓P		**P**		**14 12 47.0**	**-0.4**
	baz=74								
429A	**Davenport Ranc**	**73.65**	**335**	⇑P		**P**		**14 12 47.6**	**-0.1**
	baz=74,SNR=14								
332A	**Millersview**	**73.67**	**337**	⇓P		**P**		**14 12 47.6**	**-0.1**
	baz=74,SNR=16								
137A	**Heron Place, G**	**73.68**	**341**	⇑P		**P**		**14 12 47.8**	**+0.1**
	baz=74								
234A	**Clairette**	**73.77**	**339**	⇓P		**P**		**14 12 48.2**	**-0.1**
	baz=74,SNR=5.9								
331A	**San Angelo**	**73.81**	**336**	⇑P		**P**		**14 12 48.3**	**-0.2**
	baz=74,SNR=9.9								
233A	**Rising Star**	**74.00**	**338**	⇑P		**P**		**14 12 49.3**	**-0.4**
	baz=74,SNR=6.7								
232A	**Coleman**	**74.11**	**337**	⇓P		**P**		**14 12 49.8**	**-0.5**
	baz=74,SNR=9.5								
330A	**Mertzon**	**74.14**	**336**	⇑P		**P**		**14 12 50.1**	**-0.4**
	baz=74								
SWET	**Sewanee**	**74.25**	**350**	*e*P		**P**		**14 12 50.7**	**-0.3**
	comp=N,39nm,1.0s								
134A	**White-Moore Ra**	**74.29**	**339**	⇓P		**P**		**14 12 51.1**	**-0.2**
	baz=75								
231A	**Bronte**	**74.36**	**337**	⇓P		**P**		**14 12 51.2**	**-0.6**
	baz=75,SNR=8.4								
329A	**Wagon Wheel Ra**	**74.47**	**335**	⇑P		**P**		**14 12 52.2**	**-0.3**
	baz=75,SNR=7.7								
133A	**Hamilton Ranch**	**74.56**	**338**	⇓P		**P**		**14 12 52.6**	**-0.3**
	baz=75,SNR=8.7								
230A	**Sterling City**	**74.56**	**336**	⇑P		**P**		**14 12 52.4**	**-0.6**
	baz=75								
Z35A	**Perchaven, San**	**74.77**	**340**	⇑P		**P**		**14 12 53.5**	**-0.5**
	baz=75,SNR=5.5								
ABTX	**Abilene, Hawle**	**74.79**	**338**	⇓P		**P**		**14 12 53.7**	**-0.5**
	baz=75								
ABTX	**Abilene, Hawle**	**74.79**	**338**	*e*P		**P**		**14 12 54.1**	**-0.1**
	comp=N,18nm,1.1s								
229A	**Bryant Ranch,**	**74.86**	**335**	⇓P		**P**		**14 12 54.3**	**-0.4**
	baz=75,SNR=5.1								
Z34A	**Collier Ranch,**	**74.99**	**339**	⇑P		**P**		**14 12 55.1**	**-0.3**
	baz=75								
131A	**Roby**	**75.06**	**337**	⇑P		**P**		**14 12 55.5**	**-0.4**
	baz=75								
Z33A	**Whitaker Ranch**	**75.15**	**338**	⇓P		**P**		**14 12 56.1**	**-0.2**
	baz=75								
130A	**Snyder**	**75.17**	**336**	⇑P		**P**		**14 12 55.7**	**-0.7**
	baz=76								
228A	**UT Block 9, Go**	**75.26**	**335**	⇑P		**P**		**14 12 56.5**	**-0.6**
	baz=76,SNR=5.5								
Z32A	**Haskell**	**75.38**	**338**	⇑P		**P**		**14 12 57.0**	**-0.6**
	baz=76,SNR=6.9								
Y34A	**Reagan Ranch,**	**75.50**	**340**	⇓P		**P**		**14 12 57.8**	**-0.4**
	baz=76								
Z31A	**Sharp Cattle R**	**75.59**	**337**	⇓P		**P**		**14 12 58.5**	**-0.3**
	baz=76,SNR=6.3								
128A	**Castleberry Fa**	**75.68**	**335**	⇑P		**P**		**14 12 59.1**	**-0.4**
	baz=76,SNR=6.0								
Y33A	**Hilltop Ranch,**	**75.79**	**339**	⇑P		**P**		**14 12 59.6**	**-0.3**
	baz=76								
Z30A	**Sanderson Ranc**	**75.86**	**337**	⇓P		**P**		**14 12 59.8**	**-0.6**
	baz=76,SNR=8.3								
Z29A	**Hungry Hill Ra**	**76.02**	**336**	⇑P		**P**		**14 13 00.9**	**-0.4**
	baz=76,SNR=13								
Y32A	**R-V Farms, Ver**	**76.02**	**338**	⇓P		**P**		**14 13 01.1**	**-0.1**
	baz=76								
X34A	**Smith Ranch, M**	**76.13**	**340**	⇓P		**P**		**14 13 01.9**	**+0.1**
	baz=76								
Y31A	**Rekieta Farm,**	**76.22**	**338**	⇓P		**P**		**14 13 02.4**	**0.0**
	baz=76								
X33A	**Lawton**	**76.25**	**339**	⇓P		**P**		**14 13 02.5**	**0.0**
	baz=76								
Z28A	**Tucker Farm, M**	**76.26**	**336**	⇑P		**P**		**14 13 02.6**	**-0.2**
	baz=76								
Y30A	**Stafford Cattl**	**76.34**	**337**	⇑P		**P**		**14 13 03.0**	**-0.1**
	baz=77								
X32A	**Elmer**	**76.36**	**338**	⇓P		**P**		**14 13 02.9**	**-0.3**
	baz=77								
Y29A	**Porterfield Fa**	**76.56**	**336**	⇑P		**P**		**14 13 04.2**	**-0.3**
	baz=77								
W34A	**Bridge Creek,**	**76.71**	**340**	⇑P		**P**		**14 13 05.1**	**0.0**
	baz=77								
X31A	**McDonald Ranch**	**76.76**	**338**	⇓P		**P**		**14 13 05.1**	**-0.4**
	baz=77,SNR=6.0								
W33A	**Caddo, Fort Co**	**76.82**	**339**	⇑P		**P**		**14 13 05.6**	**-0.1**
	baz=77,SNR=6.9								
TUL1	**Leonard**	**76.84**	**342**	⇑P		**P**		**14 13 05.7**	**-0.1**
	baz=77								
TUL1	**Leonard**	**76.84**	**342**	*e*P		**P**		**14 13 05.3**	**-0.5**
	comp=N,26nm,1.0s								
X30A	**Coker Ranch, T**	**76.86**	**337**	⇑P		**P**		**14 13 06.0**	**0.0**
	baz=77								
W32A	**Sentinel**	**77.01**	**339**	⇓P		**P**		**14 13 07.0**	**+0.1**
	baz=77,SNR=11								
MSTX	**Muleshoe**	**77.02**	**336**	⇓P		**P**		**14 13 06.9**	**-0.1**
	baz=77								
319A	**Douglas**	**77.04**	**329**	⇓P		**P**		**14 13 07.3**	**+0.1**
	baz=77,SNR=6.2								
Y27A	**Causey**	**77.06**	**335**	⇓P		**P**		**14 13 06.9**	**-0.4**
	baz=77								
X29A	**Tulia**	**77.11**	**337**	⇓P		**P**		**14 13 07.3**	**-0.3**
	baz=77								
USIN	**University of**	**77.20**	**349**	*e*P		**P**		**14 13 06.6**	**-1.1**
V34A	**Guthrie**	**77.20**	**340**	⇓P		**P**		**14 13 07.8**	**-0.1**
	baz=78								
W31A	**Holland Ranch,**	**77.27**	**338**	⇑P		**P**		**14 13 08.2**	**-0.2**
	baz=78								
V33A	**Lossen Ranch,**	**77.40**	**340**	⇑P		**P**		**14 13 08.9**	**-0.1**
	baz=78								
121A	**Cookes Peak, D**	**77.48**	**331**	⇓P		**P**		**14 13 10.5**	**+0.7**
	baz=78								
LIC	**Lamto**	**77.49**	**72**	*e*P		**P**		**14 13 10.7**	**+0.7**
	comp=N,44nm,0.8s								
AMTX	**Amarillo**	**77.51**	**337**	⇑P		**P**		**14 13 09.7**	**0.0**
	baz=78								
AMTX	**Amarillo**	**77.51**	**337**	*e*P		**P**		**14 13 09.3**	**-0.4**
	comp=N,46nm,1.5s								
V32A	**Arapaho**	**77.51**	**339**	⇑P		**P**		**14 13 09.9**	**+0.3**
	baz=78								
W29A	**Amarillo**	**77.72**	**337**	⇓P		**P**		**14 13 10.7**	**-0.2**
	baz=78,SNR=5.2								
TIC	**Toumodi**	**77.77**	**71**	*e*P		**P**		**14 13 11.4**	**-0.2**
	comp=N,6.5nm,0.2s								
U34A	**Anderson Ranch**	**77.78**	**341**	⇑P		**P**		**14 13 10.8**	**-0.2**
	baz=78								
V31A	**Spring Creek L**	**77.79**	**339**	⇓P		**P**		**14 13 11.6**	**+0.4**
	baz=78								
KIC	**Kosan Boka**	**77.79**	**72**	*e*P		**P**		**14 13 12.5**	**+0.8**
	comp=N,21nm,0.5s								
Z22A	**Elephant Butte**	**77.82**	**332**	⇓P		**P**		**14 13 12.4**	**+0.8**
	baz=78								
Y24A	**Capitan**	**77.88**	**333**	⇓P		**P**		**14 13 12.6**	**+0.7**
	baz=78								
DBIC	**Dimbokro**	**77.91**	**71**	P		**P**		**14 13 13.2**	**+0.9**
	comp=N,9.1nm,0.6s,baz=194,slow=4.9,SNR=20								
DBIC	**Dimbokro**	**77.91**	**71**	*e*P		**P**		**14 13 12.9**	**+0.6**
	comp=N,12nm,0.7s								
W27A	**Bowe Ranch, En**	**78.11**	**336**	⇓P		**P**		**14 13 13.1**	**0.0**
	baz=78,SNR=7.0								
U32A	**Winter Ranch,**	**78.12**	**339**	⇓P		**P**		**14 13 13.7**	**+0.7**
	baz=78								
W26A	**Owens Ranch, T**	**78.37**	**335**	⇓P		**P**		**14 13 15.3**	**+0.8**
	baz=79								
TUC	**Tucson**	**78.47**	**329**	*e*P		**P**		**14 13 15.8**	**+0.7**
	comp=N,6.5nm,1.0s								
V28A	**Channing**	**78.48**	**337**	⇓P		**P**		**14 13 15.7**	**+0.6**
	baz=79								
T33A	**Patterson Ranc**	**78.57**	**340**	⇑P		**P**		**14 13 15.7**	**+0.2**
	baz=79,SNR=6.1								
LPM	**Los Pinos Moun**	**78.65**	**333**	*e*P		**P**		**14 13 16.4**	**+0.3**
	comp=N,4.6nm,1.1s								
W25A	**X Bar L Ranch,**	**78.71**	**335**	⇑P		**P**		**14 13 16.7**	**+0.2**
	baz=79								
U30A	**WK&E Inc. Balk**	**78.73**	**338**	⇓P		**P**		**14 13 17.2**	**+0.8**
	baz=79								
T32A	**Huddler Ranch,**	**78.85**	**340**	⇑P		**P**		**14 13 17.7**	**+0.7**
	baz=79								
LAZ	**Ladron**	**78.91**	**332**	*e*P		**P**		**14 13 18.7**	**+1.0**
214A	**Organ Pipe Nat**	**79.01**	**327**	⇑P		**P**		**14 13 18.9**	**+0.9**
	baz=79,SNR=5.4								
214A	**Organ Pipe Nat**	**79.01**	**327**	*e

baz=81
R28A **Tribune** 80.75 338 ⇑P P 14 13 28.1 +0.7
baz=81
Y14A **Wickenburg** 80.80 328 ⇓P P 14 13 28.5 +0.8
baz=81
Q30A **Quinter** 80.89 339 ⇓P P 14 13 28.7 +0.7
baz=81
T23A **Casias Ranch,** 80.89 334 ⇑P P 14 13 28.9 +0.5
baz=81
S25A **Robets Cordova** 80.93 336 ⇓P P 14 13 29.0 +0.5
baz=81
R27A **Eads** 80.99 337 ⇑P P 14 13 29.0 +0.2
baz=81
Q29A **Oakley** 81.02 339 ⇑P P 14 13 28.8 +0.1
baz=81
P31A **Stockton** 81.17 340 ⇑P P 14 13 29.8 +0.3
baz=82
S24A **Houchin Ranch,** 81.17 335 ⇑P P 14 13 30.4 +0.5
baz=82,SNR=7.9
R26A **Arlington** 81.21 337 ⇓P P 14 13 30.8 +0.9
baz=82,SNR=7.2
R25A **Fountain Ranch** 81.33 336 ⇑P P 14 13 31.0 +0.4
baz=82
MONP **Monument Peak,** 81.40 325 ⇓P P 14 13 31.4 +0.3
baz=82
Q28A **Sharon Springs** 81.42 338 ⇑P P 14 13 31.7 +0.7
baz=82
P30A **Selden** 81.42 340 ⇓P P 14 13 31.8 +0.9
baz=82
S23A **Nye Farm, Mont** 81.49 335 ⇑P P 14 13 32.2 +0.6
baz=82
WUAZ **Wupatki** 81.51 330 ⇓P P 14 13 33.0 +1.4
baz=82
PDMCI **Parker Dam,Lak** 81.59 327 ⇑P P 14 13 33.7 +1.8
baz=82
R24A **Sanders Place,** 81.67 336 ⇓P P 14 13 33.2 +0.8
baz=82,SNR=8.0
Q26A **Hugo** 81.80 337 ⇓P P 14 13 33.7 +0.7
baz=82
S22A **4UR Ranch, Cre** 81.81 334 ⇓P P 14 13 33.6 +0.4
baz=82,SNR=5.7
R23A **Moffat** 81.87 335 ⇑P P 14 13 34.1 +0.6
baz=82
IRM **Iron Mountain** 81.91 326 ⇑P P 14 13 34.5 +0.9
baz=82
MVCO **Mesa Verde** 81.91 333 ⇑P P 14 13 34.6 +0.8
baz=82
Q25A **Bedland, Calha** 82.02 336 ⇓P P 14 13 35.2 +1.0
baz=82
PFO **Pinyon Flats O** 82.02 325 P P 14 13 36.1 +1.9
comp=N,3.6nm,0.8s,baz=162,slow=7.6,SNR=4.4
PFO **Pinyon Flats O** 82.02 325 ⇑P P 14 13 35.4 +1.2
baz=82
W13A **Hualapai Mount** 82.17 328 ⇓P P 14 13 36.2 +1.0
baz=82
P26A **Davis Ranch, A** 82.33 337 ⇑P P 14 13 36.9 +1.1
baz=83
MURC **Murrieta** 82.35 325 ⇑P P 14 13 36.9 +1.1
baz=83
Q24A **Divide** 82.35 336 ⇑P P 14 13 37.0 +0.9
baz=83
O28A **Krutsinger Ran** 82.39 339 ⇓P P 14 13 37.3 +1.2
baz=83
GMRC **Granite Mounta** 82.66 326 ⇑P P 14 13 38.9 +1.4
baz=83
U15A **North Rim** 82.67 330 ⇑P P 14 13 38.7 +0.9
baz=83,SNR=8.6
PV01 **Paradox Valley** 82.76 333 *e*P P 14 13 39.0 +0.8
comp=N,631nm,1.1s
M31A **Lambtecht Ranc** 82.77 341 ⇓P P 14 13 39.4 +1.5
baz=83
BBRC **Big Bear Solar** 82.78 325 ⇑P P 14 13 40.0 +1.6
baz=83
O26A **Horse Wrangler** 82.95 338 ⇓P P 14 13 40.3 +1.3
baz=83
O25A **Wiggins** 83.07 337 ⇑P P 14 13 41.1 +1.5
baz=83
N27A **Anderson Farm,** 83.24 338 ⇓P P 14 13 42.0 +1.5
baz=84
ISCO **Idaho Springs** 83.26 336 ⇓P P 14 13 41.9 +1.1
baz=84
P22A **Eagle** 83.45 335 ⇓P P 14 13 42.7 +1.0
baz=84
L31A **Butterfield Fa** 83.52 341 ⇑P P 14 13 43.4 +1.6
baz=84
GSC **Goldstone, Bar** 83.60 326 ⇑P P 14 13 43.8 +1.5
baz=84
O23A **Lake Granby, G** 83.73 336 ⇓P P 14 13 44.4 +1.2
baz=84
EDW2 **Edwards Air Fo** 83.77 325 ⇑P P 14 13 44.7 +1.4
baz=84
BSC **Santa Cruz Isl** 83.80 323 ⇓P P 14 13 45.4 +2.0
baz=84
L29A **Maesberg Ranch** 83.84 340 ⇑P P 14 13 45.7 +2.3
baz=84
O22A **Kremmling** 83.89 335 ⇓P P 14 13 45.0 +1.0
baz=84
SHPR **Sheep Range** 83.91 328 *e*P P 14 13 45.1 +1.1
comp=N,17nm,1.6s
K30A **Basset** 84.19 341 ⇑P P 14 13 46.2 +1.1
baz=84
M25A **Palm-Egli Farm** 84.27 338 ⇓P P 14 13 46.6 +0.8
baz=85
N23A **Red Feather La** 84.36 336 ⇓P P 14 13 47.5 +1.1
baz=85
O20A **White River Ci** 84.43 334 ⇑P P 14 13 47.3 +0.6
baz=85
N22A **Wattenberg Ran** 84.44 336 ⇑P P 14 13 47.3 +0.5
baz=85
ECSD **EROS Data Cent** 84.47 344 ⇓P P 14 13 46.9 +0.4
baz=85
ECSD **EROS Data Cent** 84.47 344 *e*P P 14 13 46.1 -0.4
comp=N,26nm,1.4s
M24A **Cheyenne** 84.53 337 ⇑P P 14 13 47.8 +0.7
baz=85
FURC **Furnace Creek,** 84.60 326 ⇓P P 14 13 48.8 +1.5
baz=85
ISA **Isabella, Lake** 84.64 325 ⇓P P 14 13 49.0 +1.4
baz=85
TMUT **Trail Mountain** 84.75 332 *e*P P 14 13 49.2 +0.8
comp=N,8.5nm,0.9s
M23A **Laramie** 84.81 336 ⇓P P 14 13 49.6 +1.1
baz=85
K27A **Flueckinger Fa** 84.91 339 ⇑P P 14 13 50.4 +1.6
baz=85
M22A **Cedar Creek Ra** 85.03 336 ⇓P P 14 13 50.9 +1.2
baz=85
J29A **Okreek** 85.05 341 ⇑P P 14 13 50.5 +1.0
baz=85
N20A **Spence Gulch,** 85.06 334 ⇓P P 14 13 50.8 +0.9
baz=85
VES **Vestal, Richgr** 85.07 325 ⇓P P 14 13 50.8 +1.1
baz=85
J28A **Allard Ranch,** 85.31 340 ⇓P P 14 13 51.7 +0.9
baz=86
J27A **Elkhorn Farm,** 85.36 340 ⇓P P 14 13 52.4 +1.3
baz=86
L23A **Garrett** 85.39 337 ⇓P P 14 13 51.5 0.0
baz=86
R11A **Troy Canyon, C** 85.65 328 ⇓P P 14 13 53.7 +0.9
baz=86,SNR=7.5
J26A **Sides Ranch, S** 85.71 339 ⇑P P 14 13 53.4 +0.6
baz=86
I28A **Midland** 85.83 341 ⇑P P 14 13 54.0 +0.7
baz=86
K23A **Bowen Ranch, D** 85.94 337 ⇑P P 14 13 54.3 +0.2
baz=86
TPH **Tonopah** 86.11 327 *e*P P 14 13 56.1 +1.0
comp=N,8.0nm,1.0s
I27A **Quinn** 86.12 340 ⇓P P 14 13 55.5 +0.7
baz=86
K22A **Casper** 86.13 336 ⇓P P 14 13 55.5 +0.5
baz=86
DUG **Dugway, Tooele** 86.14 331 ⇓P P 14 13 55.7 +0.6
baz=86
DUG **Dugway, Tooele** 86.14 331 *e*P P 14 13 55.8 +0.6
comp=N,9.0nm,1.1s
H29A **Onida** 86.17 341 ⇑P P 14 13 55.1 +0.1
baz=86
J24A **Dixon Ranch, L** 86.18 338 ⇑P P 14 13 55.2 -0.1
baz=86
K21A **Alcova** 86.34 336 ⇓P P 14 13 56.6 +0.4
baz=87
G30A **Faulkton** 86.38 342 ⇑P P 14 13 56.2 +0.2
baz=87
H28A **Mission Ridge** 86.42 341 ⇑P P 14 13 56.4 +0.2
baz=87
I25A **Rochford** 86.54 339 ⇓P P 14 13 57.0 -0.1
baz=87
I24A **Kuemmerle Ranc** 86.65 338 ⇓P P 14 13 57.5 -0.1
baz=87
H27A **Howes** 86.66 340 ⇑P P 14 13 57.5 +0.1
baz=87
G28A **Parade** 86.76 341 ⇓P P 14 13 58.0 +0.1
baz=87
NVAR **Mina Array Bea** 86.87 326 P P 14 13 60.0 +1.1
comp=N,1.6nm,0.8s,baz=158,slow=5.9,SNR=12
HWUT **Hardware Ranch** 86.91 333 *e*P P 14 13 59.1 +0.2
comp=N,19nm,1.0s
TORD **Torodi Ar. Bea** 87.00 71 P P 14 13 59.5 -0.2
comp=N,3.5nm,0.7s,baz=218,slow=4.6,SNR=24
H25A **Fruitdale** 87.06 339 ⇓P P 14 13 59.8 +0.3
baz=87
F29A **Eureka** 87.20 342 ⇑P P 14 14 00.1 +0.1
baz=88
PDAR **Pinedale Array** 87.22 334 P P 14 14 00.5 0.0
comp=N,3.3nm,0.8s,baz=152,slow=6.1,SNR=20
J20A **Shoshoni** 87.26 336 ⇓P P 14 14 01.6 +1.0
baz=88
G27A **Dupree** 87.31 341 ⇑P P 14 14 00.4 -0.2
baz=88
G26A **Maurine** 87.41 340 ⇓P P 14 14 00.8 -0.3
baz=88
I21A **Big Trails, Te** 87.42 336 ⇑P P 14 14 01.0 -0.3
baz=88
H24A **Dirks Ranch, A** 87.44 339 ⇓P P 14 14 01.1 -0.2
baz=88
F28A **McLaughlin** 87.46 341 ⇓P P 14 14 01.4 +0.2
baz=88
J19A **Crowheart** 87.50 335 ⇑P P 14 14 02.2 +0.5
baz=88
EYMN **Ely** 87.55 348 *e*P P 14 14 01.2 -0.4
comp=N,2.4nm,0.9s
E30A **Jud** 87.62 343 ⇓P P 14 14 02.4 +0.4
baz=88
I20A **Worland** 87.81 336 ⇑P P 14 14 03.0 -0.2
baz=88
E29A **Napoleon** 87.85 342 ⇑P P 14 14 03.9 +0.8
baz=88
E28A **Huff** 88.11 342 ⇑P P 14 14 04.3 0.0
baz=88
D30A **Buchanan** 88.15 343 ⇓P P 14 14 04.6 0.0
baz=88
I19A **Meeteetse** 88.17 335 ⇓P P 14 14 04.6 -0.4
baz=88
E27A **Carson** 88.19 341 ⇑P P 14 14 04.7 0.0
baz=88
H20A **Greybull** 88.25 336 ⇓P P 14 14 05.5 +0.3
baz=88
D29A **Pettibone, Tap** 88.30 343 ⇑P P 14 14 05.3 0.0
baz=89
G22A **Birney** 88.38 338 ⇑P P 14 14 05.5 -0.3
baz=89
E26A **Carlson Angus** 88.46 341 ⇑P P 14 14 05.6 -0.5
baz=89
I17A **Pilgrim Ck.** 88.59 334 ⇓P P 14 14 07.3 +0.3
baz=89
C30A **Mose, Pekin** 88.65 344 ⇑P P 14 14 06.8 -0.1
baz=89
D28A **Regan** 88.66 342 ⇓P P 14 14 06.7 -0.2
baz=89
G21A **Lodge Grass** 88.67 337 ⇓P P 14 14 06.6 -0.5
baz=89
AGMN **Agassiz Nation** 88.67 345 ⇑P P 14 14 06.8 -0.1
baz=89
H19A **Powell** 88.73 336 ⇑P P 14 14 07.4 -0.1
baz=89
H18A **Shoshone NF, C** 88.96 335 ⇓P P 14 14 09.0 +0.3
baz=89
D26A **Manning** 88.97 341 ⇓P P 14 14 08.3 -0.1
baz=89
MDND **Maddock** 89.04 343 ⇑P P 14 14 09.2 +0.5
baz=89
MDND **Maddock** 89.04 343 *e*P P 14 14 08.5 -0.2
comp=N,1.5nm,0.7s
B30A **Myrvik Farm, E** 89.33 344 ⇓P P 14 14 10.1 0.0
baz=90
C27A **Sayler Ranch,** 89.37 342 ⇓P P 14 14 10.5 +0.2
baz=90
B29A **Wagenman Farm,** 89.57 343 ⇑P P 14 14 11.6 +0.5
baz=90
HLID **Hailey** 89.65 332 ⇑P P 14 14 12.9 +1.1
baz=90
A30A **Hoffart Farm,** 89.78 344 ⇓P P 14 14 12.3 +0.1
baz=90
D23A **Lindsay** 89.85 339 ⇑P P 14 14 12.5 -0.1
baz=90
A29A **Manning Farm,** 89.97 343 ⇓P P 14 14 13.1 +0.1
baz=90
E20A **Meyer Farm, Mu** 90.10 337 ⇓P P 14 14 13.7 -0.1
baz=90
D21A **La Casta Ranch** 90.26 338 ⇑P P 14 14 14.8 +0.3
baz=91
ULM **Lac du Bonnet** 90.54 346 P P 14 14 16.0 +0.4
comp=N,3.9nm,0.9s,baz=255,slow=0.7,SNR=4.4
B22A **Reddig Ranch S** 91.10 339 ⇓P P 14 14 18.6 +0.2
baz=91
A24A **Westby** 91.13 341 ⇑P P 14 14 18.7 +0.2
baz=91
K04D **Chiloquin, OR** 91.81 327 ⇓P P 14 14 21.4 -0.5
baz=92
EGMT **Eagleton** 91.96 337 ⇑P P 14 14 21.9 -0.4
baz=92
A21A **Bergtoll Ranch** 91.98 339 ⇓P P 14 14 21.8 -0.6
baz=92
L02D **Cave Junction,** 92.25 325 ⇑P P 14 14 21.7 -2.1
baz=92
MSO **Missoula** 92.29 334 ⇑P P 14 14 24.5 +0.5
baz=93
A19A **Klindworth Far** 92.45 338 ⇑P P 14 14 24.4 -0.2
baz=93
NEW **Newport** 94.64 333 ⇑P P 14 14 34.6 -0.1
baz=95
ASAR **Alice Springs** 112.93 207 PKKPbc PKKPbc 14 30 38.0 +0.4
comp=N,0.4nm,0.4s,baz=338,slow=3.2,SNR=20
ASAR PKKPab **PKKPab** 14 30 46.4 -2.8
comp=N,0.5nm,0.9s,baz=336,slow=5.8,SNR=4.7
WRA **Warramunga Arr** 116.16 210 PKP **PKPdf** 14 19 56.5 -1.3
comp=N,0.9nm,1.1s,baz=156,slow=1.6,SNR=5.3
GERES **GERESS Array B** 116.25 47 PKP **PKPdf** 14 19 56.8 -0.3
comp=N,0.6nm,0.6s,baz=195,slow=2.1,SNR=5.2
ILAR **Eielson Array** 117.60 332 PKP **PKPdf** 14 19 58.0 -1.1
comp=N,0.5nm,1.0s,baz=206,slow=7.9,SNR=3.3
ILAR PP **PP** 14 21 16.9 +4.5
comp=N,0.5nm,0.9s,baz=116,slow=4.7,SNR=4.1
VYHS **Vyhne** 119.10 50 *e*PKP **PKPdf** 14 20 02.7 +0.2
STHS **Stebnicka Huta** 120.93 49 *e*PKP **PKPdf** 14 20 08.0 +2.0
KOLS **Kolonicke sedl** 121.35 50 *e*PKP **PKPdf** 14 20 08.5 +1.7
H11S2 **WAKE ISLAND Hyl** 24.27 267 T T 16 36 28.7
baz=126,slow=75,SNR=15
H11S1 **WAKE ISLAND Hyl** 24.28 267 T T 16 36 29.8
baz=126,slow=75,SNR=15
H11S3 **WAKE ISLAND Hyl** 24.28 267 T T 16 36 30.0
baz=126,slow=75,SNR=12
BRTR **Keskin Array B** 125.12 64 PKP **PKPdf** 14 20 13.1 -1.4
comp=N,0.5nm,0.8s,baz=302,slow=3.2,SNR=2.9
AKASG **Malin Array Be** 126.19 50 PKP **PKPdf** 14 20 15.6 -0.4
comp=N,0.4nm,0.4s,baz=260,slow=2.9,SNR=2.8
FINES **FINESS Array B** 127.45 37 PKP **PKPdf** 14 20 18.2 +0.2
comp=N,1.0nm,0.8s,baz=250,slow=4.0,SNR=4.9
ARCES **ARCESS Array B** 128.68 26 PKP **PKPdf** 14 20 21.6 +1.3
comp=N,4.3nm,0.9s,baz=243,slow=4.0,SNR=4.3
PETK **Petropavlovsk-** 142.18 310 PKP **PKPdf** 14 20 45.0 -0.7
comp=N,3.3nm,0.8s,baz=123,slow=5.5,SNR=3.8
GEYT **Alibeck** 142.50 75 PKhKP PKPpre 14 20 42.6
comp=N,1.6nm,0.7s,baz=251,slow=4.5,SNR=4.1
SEY **Seymchan** 143.18 327 PKhKP PKPpre 14 20 43.7
comp=N,1.4nm,0.5s,baz=158,slow=1.9,SNR=12
ARU **Arti** 143.99 44 *e*PKPpre PKPpre 14 20 46.6
TIXI **Tiksi** 144.87 348 *e*PKP **PKPab** 14 20 47.5 -1.5
ABKAR **Akbulak array** 145.43 57 *e*PKP **PKPbc** 14 20 51.5 -0.1
HYB **Hyderabad** 147.92 123 *i* PKP **PKPbc** 14 20 59.0 -0.8
BRVK **Borovoye** 151.35 48 *e*PKPbc **PKPbc** 14 21 07.3 +0.1
ASAJ **Asahikawa** 152.32 293 PKPbc **PKPbc** 14 21 09.0 -0.7
comp=N,32nm,1.2s,baz=153,slow=4.5,SNR=3.7
YAK **Yakutsk** 152.44 336 PKPdf **PKPdf** 14 21 04.3 +1.9
KKAR **Karatay Array** 152.67 69 *e*PKPab **PKPab** 14 21 20.5 -0.8
MJAR **Matsushiro Arr** 154.68 275 PKPbc **PKPbc** 14 21 18.2 +3.1
comp=N,1.7nm,1.1s,baz=131,slow=4.8,SNR=3.9
MJAR PKPab **PKPab** 14 21 29.6 -0.5
comp=N,1.1nm,0.7s,baz=154,slow=3.4,SNR=5.7
AAK **Ala-Archa** 155.59 70 PKP **PKPdf** 14 21 06.2 -1.5
comp=N,0.6nm,0.4s,baz=90,slow=2.0,SNR=3.0
AAK PKPab **PKPab** 14 21 34.6 +0.6
comp=N,3.8nm,0.5s,baz=179,slow=4.1,SNR=10
AAK PP **PP** 14 25 12.3 +1.0
comp=N,0.7nm,0.5s,baz=270,slow=9.1,SNR=3.2
AAK Ala-Archa 155.59 70 PKP **PKPdf 14 21 06.2 -1.5**
AAK *e*PKPab **PKPab 14 21 34.4 +0.4**
AAK PKPab PKPab 14 21 34.6 +0.6
AAK PP **PP 14 25 12.3 +1.0**
KSH Kashi 156.47 78 *e*PKP **PKPdf 14 21 08.8 -0.2**
KSH sPKP 14 21 22.3
KSH PKS **PKSdf 14 24 42.3 -0.7**
KSH PP **PP 14 25 14.4 -1.9**
KSH SKS **SKSdf 14 28 12.3 -2.0**
KSH SKKS **SKKSac 14 32 02.9 -1.6**
KSH SS **SS 14 45 02.8 -4.2**
KSH PPMZ
comp=N,82nm,6.3s
KSH LN
comp=N,27nm,3.6s
KSH LE
comp=N,31nm,3.6s
KSH LZ
comp=N,430nm,15.0s
ZALV Zalesovo Beam 158.72 37 PKP **PKPdf 14 21 10.1 -1.1**
comp=N,1.2nm,0.7s,baz=270,slow=3.0,SNR=6.2
ZALV PKPab **PKPab 14 21 47.2 +0.5**
comp=N,3.2nm,0.9s,baz=300,slow=6.0,SNR=6.7
CMAR Chiang Mai Arr 159.00 160 PKP **PKPdf 14 21 10.7 -1.9**
comp=N,0.7nm,0.9s,baz=259,slow=1.5,SNR=3.9
CMAR PKPab **PKPab 14 21 50.0 +1.2**
comp=N,0.6nm,0.7s,baz=222,slow=5.9,SNR=5.6
MKAR Makanchi Array 160.57 57 PKP **PKPdf 14 21 13.6 0.0**
comp=N,1.4nm,1.0s,baz=289,slow=3.7,SNR=5.6
MKAR PKPab **PKPab 14 21 53.7 -1.5**
comp=N,1.3nm,0.6s,baz=277,slow=2.1,SNR=9.0
MKAR PP **PP 14 25 36.6 -1.5**
comp=N,0.5nm,0.8s,baz=282,slow=7.2,SNR=3.9
CN2 Changchun 164.65 296 *e*PKP **PKPdf 14 21 18.3 +0.7**
WMQ Urumqi 165.04 63 *e*PKP **PKPdf 14 21 18.0 -0.1**
WMQ pPKP **pPKPdf 14 21 29.0 +4.7**
WMQ PPMZ
comp=N,90nm,4.5s
WMQ LN
comp=N,120nm,19.0s
WMQ LE
comp=N,120nm,18.0s
WMQ LZ
comp=N,140nm,18.0s
NJ2 Nanjing 167.88 242 *e*PKP **PKPdf 14 21 21.1 +0.6**
GYA Guiyang 167.96 182 *e*PKP **PKPdf 14 21 20.0 -0.9**
GYA pPKP **pPKPdf 14 21 31.8 +4.7**
GYA PKS **PKSdf 14 24 51.3 -2.4**
GYA SKKS 14 33 01.0
GYA PPMZ
comp=N,120nm,8.6s
GYA LN
comp=N,120nm,24.4s
GYA LE
comp=N,110nm,25.0s
GYA LZ
comp=N,120nm,24.6s
SONM Songino Array 170.70 360 PKP **PKPdf 14 21 20.3 -1.7**
comp=N,1.2nm,1.0s,baz=150,slow=3.2,SNR=3.6
SONM PKPab **PKPab 14 22 40.3 +0.6**
comp=N,1.7nm,0.9s,baz=337,slow=3.8,SNR=7.9
CD2 Chengdu 172.12 164 *e*PKP **PKPdf 14 21 23.6 +0.5**
BJI Beijing 172.19 284 PKP **PKPdf 14 21 22.8 +0.1**
HHC Hu-ho-hao-te 175.32 301 *e*PKP **PKPdf 14 21 24.3 +0.3**
HHC PP **PP 14 26 55.9 +2.3**
HHC SKS **SKSdf 14 28 23.4 -2.7**
HHC SS **SS 14 48 16.8 -1.2**
HHC PPMZ
comp=N,180nm,7.4s
HHC LN
comp=N,620nm,17.3s
HHC LE
comp=N,1μm,17.3s
HHC LZ
comp=N,860nm,18.5s
LZH Lanzhou 176.88 141 *e*PKP **PKPdf 14 21 23.8 -0.8**
LZH pPKP **pPKPdf 14 21 34.8 +4.0**
LZH sPKP 14 21 39.5

IDC 14 14:03:18.2±7.6, 15°.90S×175°.53W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/36, mbtmp3.8/3, MS4.1/2, Ms1 4.1/2, ms1mx3.3/23, Error ellipse: s-maj=337.1km s-min=33.3km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.21**	**195**	LR	LR	14 16 02.2	
comp=Z,92nm,19.1s,baz=140,slow=33							
WRA	**Warramunga Arr**	**47.74**	**257**	P	P	14 11 57.3	0.0
0.5nm,0.5s,baz=93,slow=6.9,SNR=20							
ASAR	**Alice Springs**	**48.01**	**252**	P	P	14 11 59.7	+0.2
1.2nm,0.3s,baz=87,slow=7.9,SNR=45							
JNU	**Nakatsue**	**70.66**	**314**	LR	LR	14 42 36.2	
comp=Z,584nm,19.4s,baz=116,slow=33							
ILAR	**Eielson Array**	**83.34**	**12**	P	P	14 15 47.5	+0.9
0.8nm,1.1s,baz=204,slow=6.4,SNR=2.9							
BRTR	**Keskin Array B**	**145.21**	**319**	PKPbc	PKPbc	14 22 55.4	-2.6
0.4nm,0.7s,baz=15,slow=6.0,SNR=2.4							

IDC 14 14:04:53.0±2.1, 38°.77S×74°.16W, h0km, mb3.7/4, mb1 4.1/5, mb1mx4.0/15, mbtmp3.8/5, Error ellipse: s-maj=69.1km s-min=31.4km az=47.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.40**	**126**	Pn	Pn	14 05 49.5	+2.0
baz=306,slow=13							
PLCA				Lg	Lg	14 06 41.7	
baz=81,slow=19							
LPAZ	**La Paz**	**23.01**	**15**	P	P	14 10 01.3	+1.0
1.6nm,0.8s,baz=187,slow=12,SNR=3.3							
TXAR	**Lajitas Array**	**73.14**	**333**	P	P	14 16 25.6	+0.3
0.7nm,0.7s,baz=157,slow=9.0,SNR=5.9							
PDAR	**Pinedale Array**	**87.29**	**335**	P	P	14 17 41.6	+0.1
0.5nm,0.7s,baz=151,slow=6.0,SNR=3.9							
TORD	**Torodi Ar. Bea**	**87.41**	**71**	P	P	14 17 40.4	-2.0
0.6nm,0.8s,baz=216,slow=5.1,SNR=4.0							

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*IDC **14** 14:08:05.0±2.3, 34°.43S×179°.06W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.9/17, mbtmp4.1/3, ML4.1/1, Error ellipse: s-maj=62.5km s-min=34.4km az=127.0*
*ISCJB **14** 14:08:08.2±1.7, 34°.6S±0°.1×178°.8W±0°.3, h51km, mb3.9/2, Error ellipse: s-maj=37.1km s-min=9.9km az=24.4*
ISC 14 14:08:09.4±2.2, 34°.6S±0°.2×178°.7W±0°.3, h51km, n12, σ1908/20, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.82**	**218**	PN	**Pn**	**14 09 05.4**	**-0.3**
MXZ				SN	**Sn**	**14 09 48.4**	**-1.0**
WMGZ	**Waiomatatini S**	**3.97**	**215**	PN	**Pn**	**14 09 08.2**	**+0.4**
WMGZ				SN	**Sn**	**14 09 54.6**	**+1.6**
HAZ	**Te Kaha**	**4.24**	**221**	PN	**Pn**	**14 09 11.8**	**+0.4**
HAZ				*e*SN	**Sn**	**14 10 01.8**	**+2.1**
PUZ	**Puketiti**	**4.25**	**214**	PN	**Pn**	**14 09 11.0**	**-0.6**
PUZ				*e*SN	**Sn**	**14 09 58.4**	**-1.5**
TWGZ	**Tauwhareparae**	**4.46**	**216**	PN	**Pn**	**14 09 14.8**	**+0.2**
MWZ	**Matawai**	**4.81**	**218**	PN	**Pn**	**14 09 18.5**	**-0.8**
MWZ				*e*SN	**Sn**	**14 10 12.5**	**-1.2**
URZ	**Urewera**	**4.97**	**221**	Pn	**Pn**	**14 09 20.6**	**-0.8**
7.8nm,0.3s,baz=281,slow=3.5,SNR=94							
URZ				Sn	**Sn**	**14 10 17.5**	**-0.1**
5.7nm,0.3s,baz=121,slow=23,SNR=11							
URZ	**Urewera**	**4.97**	**221**	PN	**Pn**	**14 09 20.9**	**-0.6**
RIGZ	**Rimuhau**	**4.99**	**213**	PN	**Pn**	**14 09 22.0**	**+0.3**
ASAR	**Alice Springs**	**42.45**	**272**	P	**P**	**14 15 59.9**	**+0.3**
1.8nm,0.5s,baz=114,slow=7.8,SNR=44							
ASAR				PcP	**PcP**	**14 17 53.2**	**+1.3**
0.4nm,0.6s,baz=118,slow=3.8,SNR=4.7							
WRA	**Warramunga Arr**	**43.82**	**277**	P	**P**	**14 16 10.4**	**-0.2**
1.2nm,0.5s,baz=118,slow=7.7,SNR=35							
WRA				PcP	**PcP**	**14 17 57.6**	**+1.1**
0.2nm,0.6s,baz=122,slow=3.4,SNR=3.5							
FINES	**FINESS Array B**	**148.81**	**337**	PKPbc	**PKPab**	**14 27 52.9**	**-1.5**
1.7nm,0.7s,baz=37,slow=3.1,SNR=10							

IDC 14 14:31:13.6±1.1, 6°.71S×129°.48E, h0km, mb3.5/1, mb1 3.3/3, mb1mx3.1/32, mbtmp3.1/3, ML3.1/2, Error ellipse: s-maj=95.8km s-min=8.3km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.98**	**161**	Pn	Pn	14 34 32.3	-0.8
	0.1nm,0.3s,baz=338,slow=13,SNR=5.8						
WRA				Sn	Sn	14 36 55.9	-13
	0.1nm,0.3s,baz=335,slow=22,SNR=2.3						
ASAR	**Alice Springs**	**17.39**	**166**	Pn	Pn	14 35 18.1	+0.3
	0.1nm,0.3s,baz=344,slow=9.2,SNR=10						
ASAR				Sn	Sn	14 38 22.2	-10
	0.0nm,0.3s,baz=343,slow=27,SNR=1.9						
MKAR	**Makanchi Array**	**67.70**	**327**	P	P	14 42 12.8	0.0
	0.2nm,0.4s,baz=112,slow=8.2,SNR=3.7						

*IDC **14** 14:34:16.8±1.2, 7.°66S×144.°48E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.4/25, mbtmp3.4/6, ML3.0/3, Error ellipse: s-maj=33.9km s-min=29.5km az=60.0*
*ISCJB **14** 14:34:20.6±1.0, 7.°7S±0.°1×144.°30E±0.°09, h33km, mb3.5/3, Error ellipse: s-maj=18.1km s-min=11.3km az=26.1*
ISC 14 14:34:22.6±1.1, 7.°6S±0.°1×144.°4E±0.°1, h35km, n6, σ2°14/7, mb3.5/3, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.32**	**124**	Pn	Pn	14 35 05.7	-6.3
	3.8nm,0.3s,baz=284,slow=17,SNR=42						
PMG				Sn	**Sn**	**14 35 49.8**	**-0.5**
	11nm,0.3s,baz=131,slow=22,SNR=4.0						
WRA	**Warramunga Arr**	**15.68**	**217**	Pn	**Pn**	**14 37 58.7**	**-2.3**
	0.2nm,0.3s,baz=34,slow=13,SNR=6.2						
ASAR	**Alice Springs**	**18.90**	**211**	P	**Pn**	**14 38 40.4**	**-0.8**
	0.1nm,0.3s,baz=38,slow=9.4,SNR=6.1						
ASAR				S	**S**	**14 42 16.2**	**+2.9**
	0.0nm,0.3s,baz=28,slow=27,SNR=2.9						
CMAR	**Chiang Mai Arr**	**51.73**	**301**	P	**P**	**14 43 25.5**	**-1.4**
	0.6nm,0.7s,baz=137,slow=7.3,SNR=4.3						
MKAR	**Makanchi Array**	**77.05**	**321**	P	**P**	**14 46 13.3**	**+1.2**
	0.2nm,0.5s,baz=98,slow=4.4,SNR=2.6						
ILAR	**Eielson Array**	**87.94**	**24**	P	**P**	**14 47 09.4**	**+0.9**
	0.2nm,0.8s,baz=262,slow=5.1,SNR=3.9						

IDC 14 14:37:10.0±2.0, 16.°67S×167.°38E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/26, mbtmp3.9/4, ML4.0/1, MS3.9/2, Ms1 3.9/2, ms1mx3.3/24, Error ellipse: s-maj=55.4km s-min=29.3km az=113.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.44**	**189**	Pn	Pn	14 38 33.2	+0.6
	4.3nm,0.3s,baz=40,slow=16,SNR=66						
DZM				Sn	Sn	14 39 35.0	-1.0
	1.1nm,0.3s,baz=296,slow=23,SNR=1.1						
STKA	**Stephens Creek**	**27.86**	**232**	P	P	14 43 02.0	+0.5
	1.2nm,0.8s,baz=76,slow=7.0,SNR=4.6						
ASAR	**Alice Springs**	**32.13**	**252**	P	P	14 43 39.0	-0.5
	2.5nm,0.7s,baz=81,slow=8.8,SNR=13						
MJAR	**Matsushiro Arr**	**59.67**	**333**	LR	LR	15 09 58.6	
	comp=Z,99nm,21.6s,baz=145,slow=33						
JNU	**Nakatsue**	**60.56**	**325**	LR	LR	15 10 19.3	
	comp=Z,82nm,19.1s,baz=88,slow=33						
ILAR	**Eielson Array**	**88.33**	**18**	P	P	14 50 03.1	-0.1
	0.3nm,0.8s,baz=228,slow=4.8,SNR=4.8						

IDC 14 14:38:56.1±0.6, 37.°52S×73.°40W, h18km±2km, mb3.5/3, mb1 3.8/4, mb1mx3.7/25, mbtmp3.6/4, Error ellipse: s-maj=16.8km s-min=3.4km az=66.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.90**	**146**	Pn	Pn	14 39 57.0	+1.6
	baz=318,slow=12						
PLCA				Lg	Lg	14 40 59.5	
	baz=7.4,slow=18						
LPAZ	**La Paz**	**21.66**	**14**	P	P	14 43 46.6	+0.1
	4.7nm,0.7s,baz=209,slow=13,SNR=9.4						
LPAZ				pP	pP	14 43 51.5	+0.1
	4.7nm,0.7s,baz=205,slow=9.6,SNR=11						
TXAR	**Lajitas Array**	**72.30**	**332**	P	P	14 50 19.6	-1.0
	0.3nm,0.6s,baz=162,slow=8.5,SNR=6.0						
TXAR				pP	pP	14 50 26.5	+0.1
	0.6nm,0.5s,baz=158,slow=9.2,SNR=8.3						
TORD	**Torodi Ar. Bea**	**86.44**	**71**	P	P	14 51 37.5	-0.4
	0.2nm,0.5s,baz=232,slow=8.2,SNR=2.3						
TORD				pP	pP	14 51 43.7	-0.1
	0.8nm,1.1s,baz=232,slow=1.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**157.76**	**35**	PKPab	PKPab	14 59 22.8	-0.7
	0.3nm,0.3s,baz=298,slow=6.6,SNR=2.5						

IDC 14 14:46:29.6±0.8, 38.°30S×73.°27W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/25, mbtmp3.6/3, Error ellipse: s-maj=40.5km s-min=4.5km az=55.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.22**	**140**	Pn	Pn	14 47 22.8	+1.3
	baz=323,slow=14						
PLCA				Pg	Pb	14 47 27.9	+0.1
	baz=314,slow=15						
PLCA				Lg	Lg	14 48 11.4	
	baz=52,slow=18						
TXAR	**Lajitas Array**	**73.03**	**332**	P	P	14 58 00.8	-0.6
	0.3nm,0.8s,baz=156,slow=8.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**86.59**	**70**	P	P	14 59 15.3	+0.2
	0.5nm,0.6s,baz=239,slow=4.1,SNR=4.0						
H11S2	**WAKE ISLAND Hyl**	**24.63**	**267**	T	T	17 21 43.5	
	baz=126,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hyl**	**24.64**	**267**	T	T	17 21 44.1	
	baz=126,slow=74,SNR=11						
H11S3	**WAKE ISLAND Hyl**	**24.64**	**267**	T	T	17 21 45.0	
	baz=126,slow=74,SNR=6.0						

IDC 14 14:49:03.0±0.9, 37.°23S×73.°14W, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.5/16, mbtmp3.3/3, Error ellipse: s-maj=41.9km s-min=10.0km az=69.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.04**	**151**	Pn	Pn	14 50 06.3	+0.1
	baz=270,slow=20						
LPAZ	**La Paz**	**21.32**	**13**	P	P	14 53 51.9	-0.5
	0.9nm,0.9s,baz=206,slow=7.7,SNR=2.4						
TXAR	**Lajitas Array**	**72.14**	**332**	P	P	15 00 30.6	+1.1
	0.1nm,0.4s,baz=150,slow=8.1,SNR=4.1						
WRA	**Warramunga Arr**	**117.51**	**209**	PKP	PKPdf	15 07 49.5	-1.8
	0.5nm,1.0s,baz=152,slow=1.7,SNR=2.8						

IDC 14 14:50:41.0±0.6, 34.°81S×72.°04W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/20, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=28.5km s-min=18.6km az=103.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**18.78**	**12**	P	Pn	14 55 03.1	+0.1
	0.1nm,0.3s,baz=206,slow=10,SNR=4.2						
TXAR	**Lajitas Array**	**70.44**	**331**	P	P	15 01 56.4	-0.9
	0.1nm,0.5s,baz=145,slow=6.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**84.49**	**70**	P	P	15 03 16.0	-0.1
	0.5nm,0.7s,baz=226,slow=5.1,SNR=2.5						
WRA	**Warramunga Arr**	**120.05**	**209**	PKP	PKPdf	15 09 34.5	+0.2
	0.5nm,1.1s,baz=140,slow=2.6,SNR=3.3						
ZALV	**Zalesovo Beam**	**154.91**	**33**	PKPbc	PKPbc	15 10 43.3	-0.6
	0.6nm,0.5s,baz=345,slow=3.3,SNR=4.5						

*IDC **14** 14:59:24.0±1.6, 37.°71S×75.°75W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/15, mbtmp3.7/4, Error ellipse: s-maj=90.5km s-min=7.6km az=44.0*
*NEIC **14** 14:59:29.4, 36.°60S×72.°99W, h10km, mb4.5/1, After GUC. NEIC Felt [IV] at Concepcion and [II] at Carahue, Puerto Saavedra and Queule.*
*GUC **14** 14:59:29.4±0.3, 36.°60S×72.°99W, h10km±2km, ML5.3*
ISC 14 14:59:28.5±0.9, 36.°58S±0.°05×72.°93W±0.°07, h10km, n16, σ1°36/19, mb3.8/3, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.30**	**208**	⇓*i*P	**Pg**	**14 59 35.0**	**+0.4**
CCSP				*i* S	**Sg**	**14 59 39.2**	**+0.6**
CCSP	**San Pedro de C**	**0.30**	**208**	⇓*i*P	**Pg**	**14 59 35.0**	**+0.4**
CCSP				*i* S	**Sg**	**14 59 39.2**	**+0.6**
TALC	**Talca**	**1.58**	**42**	*e*P	**Pn**	**14 59 57.6**	**+1.0**
TALC				*i* S	**Sn**	**15 00 18.7**	**+1.7**
TALC	**Talca**	**1.58**	**42**	*e*P	**Pn**	**14 59 57.6**	**+1.0**
TALC				*i* S	**Sn**	**15 00 18.7**	**+1.7**
VLCH	**Valdivia**	**3.23**	**184**	⇑*i*P	**Pn**	**15 00 20.7**	**+1.4**
VLCH				*i* S4		15 00 39.7	
VLCH				AML	AML	15 00 42.8	
	comp=N,6μm,0.4s						
VLCH	**Valdivia**	**3.23**	**184**	⇑*i*P	**Pn**	**15 00 20.7**	**+1.4**
VLCH				S	Sn	15 00 39.7	-18
PLCA	**Paso Flores**	**4.55**	**157**	Pn	**Pn**	**15 00 40.0**	**+2.6**
	baz=305,slow=16						
PLCA				Pg	**Pg**	**15 00 55.6**	**0.0**
	baz=297,slow=18						
PLCA				Sn	**Sb**	**15 01 41.9**	**-1.4**
	baz=9.5,slow=18						
PLCA	**Paso Flores**	**4.55**	**157**	*e*P	Pn	15 00 41.1	+3.6
PLCA				Pg	**Pg**	**15 00 55.6**	**0.0**
PLCA				Sn	**Sb**	**15 01 41.9**	**-1.4**
TRQA	**Tornquist**	**8.85**	**103**	*e*P	**Pn**	**15 01 37.1**	**+0.6**
QSPA	**South Pole Qui**	**53.66**	**180**	*e*P	**P**	**15 08 48.3**	**-1.8**
	comp=N,7.5nm,1.3s						
TXAR	**Lajitas Array**	**71.64**	**332**	P	**P**	**15 10 49.2**	**-1.2**
	comp=N,0.2nm,0.7s,baz=147,slow=8.5,SNR=3.2						
TXAR	**Lajitas Array**	**71.64**	**332**	P	**P**	**15 10 49.1**	**-1.2**
BOSA	**Boshof**	**79.52**	**118**	P	P	15 11 41.9	+6.0
	comp=N,2.0nm,0.9s,baz=228,slow=7.6,SNR=3.5						
BOSA	**Boshof**	**79.52**	**118**	P	P	15 11 41.9	+6.0
TORD	**Torodi Ar. Bea**	**85.77**	**70**	P	P	15 12 16.0	+7.7
	comp=N,0.6nm,0.9s,baz=224,slow=4.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**85.77**	**70**	P	P	15 12 16.0	+7.7

IDC 14 15:01:33.7±0.6, 34.°42S×73.°73W, h24km±3km, mb3.4/2, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=24.5km s-min=8.3km az=78.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.79**	**159**	Pn	Pn	15 03 12.1	+0.1
	baz=326,slow=14						
LPAZ	**La Paz**	**18.74**	**17**	P	Pn	15 05 52.4	+0.1
	0.1nm,0.3s,baz=168,slow=4.3,SNR=3.4						
LPAZ				pP	pP	15 05 58.3	+0.2
	0.1nm,0.3s,baz=218,slow=8.7,SNR=2.5						
TXAR	**Lajitas Array**	**69.43**	**332**	P	P	15 12 39.8	-0.2
	0.4nm,0.6s,baz=148,slow=7.4,SNR=5.1						
TXAR				pP	pP	15 12 47.7	+0.1
	0.7nm,0.7s,baz=153,slow=8.6,SNR=6.9						
TORD	**Torodi Ar. Bea**	**85.67**	**71**	P	P	15 14 10.2	-0.6
	0.2nm,0.5s,baz=246,slow=2.8,SNR=2.9						
TORD				pP	pP	15 14 18.0	-0.6
	0.7nm,1.1s,baz=225,slow=3.9,SNR=2.5						
MKAR	**Makanchi Array**	**158.09**	**48**	PKPab	PKPab	15 22 01.1	-1.0
	0.2nm,0.3s,baz=324,slow=2.0,SNR=3.7						
MKAR				pPKPab	pPKPab	15 22 10.1	+0.2
	0.2nm,0.4s,baz=290,slow=4.2,SNR=2.2						

*KRSC **14** 15:10:51.7±0.6, 53.°43N×160.°15E, h74km±7km, ML4.0*
*ISCJB **14** 15:10:53.3±0.6, 53.°43N±0.°04×160.°14E±0.°08, h71km±7km, Error ellipse: s-maj=9.0km s-min=4.0km az=37.0*
*MOS **14** 15:10:54.0±0.8, 53.°53N×160.°11E, h32km, mb4.3/1, Error ellipse: s-maj=33.6km s-min=9.8km az=76.3*
ISC 14 15:10:54.4±1.3, 53.°43N±0.°04×160.°11E±0.°04, h64km±8km, n40, σ0°73/65, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.34**	**188**	PN	**Pn**	**15 11 05.1**	**-0.1**
SPN				S	**Sn**	**15 11 13.3**	**+0.3**
SPN	**Mys Shipunski**	**0.34**	**188**	*i* P	**Pn**	**15 11 05.1**	**-0.1**
SPN				*i* S	**Sn**	**15 11 13.3**	**+0.3**
NLC	**Nalytchevo**	**0.53**	**240**	PN	**Pn**	**15 11 06.5**	**-0.4**
NLC				S	**Sn**	**15 11 16.3**	**+0.3**
NLC	**Nalytchevo**	**0.53**	**240**	*i* P	**Pn**	**15 11 06.5**	**-0.4**
NLC				*i* S	**Sn**	**15 11 16.3**	**+0.3**
KII	**Karymskiy**	**0.72**	**327**	*i* P	**Pn**	**15 11 08.3**	**-0.9**
KII				*i* S	**Sn**	**15 11 19.5**	**-0.5**
SDLR	**Sedlovina**	**0.75**	**259**	*i* P	**Pn**	**15 11 09.2**	**-0.3**
SDLR				*i* S	**Sn**	**15 11 21.2**	**+0.5**
SMAR	**Somma**	**0.80**	**258**	*e*P	**Pn**	**15 11 09.9**	**-0.4**
SMAR				*e*S	**Sn**	**15 11 21.8**	**-0.1**
UGLR	**Uglovaya**	**0.80**	**254**	*i* P	**Pn**	**15 11 10.2**	**0.0**
UGLR				*i* S	**Sn**	**15 11 22.7**	**+0.9**
KRER	**Koryakskii**	**0.82**	**262**	*i* P	**Pn**	**15 11 10.4**	**-0.1**
KRER				*e*S	**Sn**	**15 11 22.8**	**+0.4**
AVH	**Avacha**	**0.84**	**259**	*e*P	**Pn**	**15 11 10.6**	**0.0**
AVH				*e*S	**Sn**	**15 11 23.3**	**+0.8**
KRX	**Arik**	**0.88**	**266**	*i* P	**Pn**	**15 11 10.7**	**-0.4**
KRX				*i* S	**Sn**	**15 11 23.3**	**-0.2**
KOK	**Koryaka**	**0.89**	**262**	*i* P	**Pn**	**15 11 11.2**	**-0.1**
KOK				*e*S	**Sn**	**15 11 24.1**	**+0.3**
PET	**Petropavlovsk**	**0.96**	**245**	⇓*i*PN	**Pn**	**15 11 12.0**	**-0.1**
PET				*e*S	**Sn**	**15 11 25.7**	**+0.5**
PET				pmax	pmax		
	comp=Z,160nm,0.5s						
PET				smax	smax		
	comp=N,619nm,0.4s						
PET				smax	smax		
	comp=E,1μm,0.4s						
PET	**Petropavlovsk**	**0.96**	**245**	*i* P	**Pn**	**15 11 11.6**	**-0.5**
PET				*i* S	**Sn**	**15 11 25.6**	**+0.4**
GNL	**Ganaly**	**1.32**	**282**	*e*P	**Pn**	**15 11 16.0**	**-0.8**
GNL				*e*S	**Sn**	**15 11 32.2**	**-1.4**
RUS	**Russkaya**	**1.39**	**225**	PN	**Pn**	**15 11 17.0**	**-0.6**
RUS				S	**Sn**	**15 11 34.6**	**-0.5**
RUS	**Russkaya**	**1.39**	**225**	*i* P	**Pn**	**15 11 17.0**	**-0.6**
RUS				*i* S	**Sn**	**15 11 34.6**	**-0.5**
MTVR	**Mutnovka**	**1.50**	**232**	*i* P	**Pn**	**15 11 19.3**	**0.0**
MTVR				*i* S	**Sn**	**15 11 38.9**	**+0.9**
KZV	**Kizimen**	**1.69**	**4**	*e*P	**Pn**	**15 11 21.5**	**-0.3**
APC	**Apacha**	**1.84**	**255**	*e*P	**Pn**	**15 11 22.8**	**-0.9**
APC				*e*S	**Sn**	**15 11 47.2**	**+1.2**
TUMR	**Tumrok**	**1.85**	**1**	*i* P	**Pn**	**15 11 24.2**	**+0.2**
KMNR	**Kamenistaya**	**2.33**	**2**	*e*P	**Pn**	**15 11 30.1**	**-0.3**
MIPR	**Malaya Ipel'ka**	**2.34**	**242**	*e*P	**Pn**	**15 11 30.1**	**-0.3**
ESO	**Esso**	**2.63**	**342**	PN	**Pn**	**15 11 33.8**	**-0.6**
ESO	**Esso**	**2.63**	**342**	*e*P	**Pn**	**15 11 33.8**	**-0.6**
KOZ	**Kozyrevsk**	**2.63**	**357**	*e*P	**Pn**	**15 11 33.9**	**-0.6**
KOZR	**Kozyr**	**2.64**	**357**	PN	**Pn**	**15 11 33.9**	**-0.7**
SRDR	**Sredinnyy**	**2.90**	**356**	*e*P	**Pn**	**15 11 38.7**	**+0.5**
KLY	**Klyuchi**	**2.91**	**6**	PN	**Pn**	**15 11 38.5**	**+0.4**
KLY	**Klyuchi**	**2.91**	**6**	*e*P	**Pn**	**15 11 38.5**	**+0.4**
KBTR	**Krutoberegovo**	**3.19**	**28**	PN	**Pn**	**15 11 41.8**	**-0.3**
KBTR				S	**Sn**	**15 12 19.8**	**+0.9**
KBTR	**Krutoberegovo**	**3.19**	**28**	*e*P	**Pn**	**15 11 41.8**	**-0.3**
KBTR				*e*S	**Sn**	**15 12 19.8**	**+0.9**
KBG	**Krutoberegovo**	**3.20**	**27**	PN	**Pn**	**15 11 41.6**	**-0.6**
KBG				S	**Sn**	**15 12 20.4**	**+1.3**
KBG	**Krutoberegovo**	**3.20**	**27**	*e*P	**Pn**	**15 11 41.5**	**-0.6**
KBG				*e*S	**Sn**	**15 12 20.4**	**+1.3**
BDR	**Baidarnaya**	**3.21**	**11**	*e*P	**Pn**	**15 11 43.5**	**+1.2**
BDR				*e*S	**Sn**	**15 12 20.2**	**+0.8**
SMKR	**Semkarok**	**3.25**	**13**	*e*P	**Pn**	**15 11 43.5**	**+0.5**
SRKR	**Sorokina**	**3.29**	**10**	*e*P	**Pn**	**15 11 43.9**	**+0.5**
SRKR				*e*S	**Sn**	**15 12 21.5**	**+0.2**
SKR	**Severo-Kuril's**	**3.69**	**223**	PN	Pn	15 11 52.8	+3.9
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
SKR	**Severo-Kuril's**	**3.69**	**223**	*e*P	**Pn**	**15 11 49.0**	**+0.1**
SKR				*e*S	**Sn**	**15 12 32.0**	**+0.9**
BKI	**Bering**	**3.87**	**60**	*e*S	**Sn**	**15 12 32.4**	**-3.0**

IDC 14 15:21:44.3±1.4, 39.°04S×74.°32W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.7/15, mbtmp3.5/4, Error ellipse: s-maj=36.1km s-min=7.7km az=48.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.36**	**121**	Pn	Pn	15 22 39.8	+1.6
	baz=304,slow=7.3						
PLCA				Pg	Pb	15 22 44.4	-0.6
	baz=304,slow=15						
LPAZ	**La Paz**	**23.30**	**15**	P	P	15 26 54.9	+0.2
	1.0nm,0.8s,baz=192,slow=7.8,SNR=4.9						
TXAR	**Lajitas Array**	**73.32**	**333**	P	P	15 33 17.2	-0.5
	0.3nm,0.8s,baz=148,slow=8.6,SNR=2.9						
PDAR	**Pinedale Array**	**87.47**	**335**	P	P	15 34 32.6	-1.1
	0.3nm,0.8s,baz=142,slow=4.6,SNR=2.7						

*IDC **14** 15:22:08.3±0.9, 38.°70S×73.°93W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.9/16, mbtmp3.8/4, Error ellipse: s-maj=23.0km s-min=3.9km az=50.0*
ISC 14 15:22:13.9±2.2, 38.°7S±0.°4×73.°7W±0.°4, h35km, n9, σ0°76/5, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.17**	**131**	Pg	Pn	15 23 09.3	+7.9
	baz=308,slow=12						
PLCA				Lg	Lg	15 23 53.1	
	baz=331,slow=10						
LPAZ	**La Paz**	**22.85**	**14**	P	**P**	**15 27 14.8**	**0.0**
	4.8nm,1.0s,baz=167,slow=6.1,SNR=9.1						
TXAR	**Lajitas Array**	**73.23**	**333**	P	**P**	**15 33 41.3**	**-0.1**
	0.9nm,0.9s,baz=144,slow=6.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**87.05**	**71**	P	**P**	**15 34 56.6**	**+0.5**
	0.4nm,0.7s,baz=270,slow=2.9,SNR=2.3						
PDAR	**Pinedale Array**	**87.37**	**334**	P	**P**	**15 34 57.4**	**+0.2**
	0.4nm,0.6s,baz=116,slow=4.1,SNR=4.0						
H11S2	**WAKE ISLAND Hyl**	**24.26**	**267**	T	T	17 57 23.9	
	baz=126,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hyl**	**24.28**	**267**	T	T	17 57 25.5	
	baz=126,slow=75,SNR=9.4						
H11S3	**WAKE ISLAND Hyl**	**24.28**	**267**	T	T	17 57 23.8	
	baz=126,slow=75,SNR=5.1						
MKAR	**Makanchi Array**	**160.65**	**58**	PKPab	**PKPab**	**15 42 50.6**	**-0.9**
	0.3nm,0.7s,baz=284,slow=5.1,SNR=2.4						

IDC 14 15:33:36.2±1.4, 31.°63N×40.°70W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/29, mbtmp3.6/3, Error ellipse: s-maj=38.8km s-min=20.3km az=14.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**42.97**	**106**	P	P	15 41 37.2	-0.1
	1.0nm,1.0s,baz=313,slow=7.3,SNR=3.9						
H10N2	**ASCENSION HYDR**	**46.55**	**143**	T	T	16 31 43.3	
	baz=329,slow=75,SNR=21						
H10N3	**ASCENSION HYDR**	**46.55**	**143**	T	T	16 31 44.6	
	baz=329,slow=75,SNR=19						
H10N1	**ASCENSION HYDR**	**46.57**	**143**	T	T	16 31 45.4	
	baz=329,slow=75,SNR=20						
H10S1	**ASCENSION HYDR**	**47.42**	**144**	T	T	16 32 51.4	
	baz=329,slow=75,SNR=14						
H10S3	**ASCENSION HYDR**	**47.42**	**144**	T	T	16 32 51.8	
	baz=329,slow=75,SNR=17						
H10S2	**ASCENSION HYDR**	**47.44**	**144**	T	T	16 32 52.6	
	baz=329,slow=75,SNR=16						
AKASG	**Malin Array Be**	**53.91**	**48**	P	P	15 43 01.2	-0.1
	0.4nm,0.4s,baz=277,slow=5.9,SNR=1.9						
PDAR	**Pinedale Array**	**54.58**	**303**	P	P	15 43 06.5	-0.1
	1.6nm,1.1s,baz=80,slow=10,SNR=3.6						
H09N1	**TRISTAN DA CUN**	**73.31**	**157**	T	T	17 05 49.5	
	SNR=13						

CASC 14 15:47:00.2±2.1, 12.°79N×87.°95W, h151km±24km, MD3.9, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLM	**Bellamira**	**0.71**	**336**	*e*P	Pn	15 47 23.1	+0.2
VSM	**San Miguel**	**0.71**	**333**	*e*P	Pn	15 47 23.5	+0.3
CAHU	**Cacacuatique**	**1.01**	**345**	*e*P	Pn	15 47 24.3	-1.1
LFRS	**El Faro**	**1.36**	**307**	*e*P	Pn	15 47 28.9	+0.3
LBRS	**Las Brisas**	**1.42**	**312**	*e*P	Pn	15 47 29.6	+0.4
SBLS	**San Blas**	**1.94**	**303**	*e*P	Pn	15 47 35.2	+0.2
SBLS				*e*S	Sn	15 48 09.8	+8.1
SNJE	**San Jose**	**1.94**	**304**	*e*P	Pn	15 47 35.0	+0.1
RBDL	**Robledal**	**2.14**	**308**	*e*P	Pn	15 47 37.1	-0.2
MRL	**Marmol**	**2.83**	**323**	*e*P	Pn	15 47 45.0	-0.6
MRL				*e*S	Sn	15 48 24.1	+3.3
JCR	**Jicaral**	**4.03**	**136**	*e*P	Pn	15 48 02.9	+1.8
JCR				*e*S	Sn	15 48 50.5	+2.2
CGA2	**Cerro Gallo 2**	**4.39**	**129**	⇑*e*P	Pn	15 48 07.6	+1.8
CGA2				*e*S	Sn	15 48 57.4	+0.6
URSC	**Urasca**	**5.03**	**125**	*e*P	Pn	15 48 17.1	+2.7
URSC				*e*S	Sn	15 49 09.8	-2.4
BUS	**Buena Vista**	**5.22**	**128**	*e*P	Pn	15 48 18.7	+1.5
BUS				*e*S	Sn	15 49 16.0	-1.2

IDC 14 15:50:43.6±1.1, 2.°79N×128.°14E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/31, mbtmp3.7/5, Error ellipse: s-maj=64.5km s-min=19.6km az=79.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.39**	**165**	P	P	15 55 54.4	+0.2
	1.6nm,0.6s,baz=344,slow=10.0,SNR=20						
ASAR	**Alice Springs**	**26.89**	**168**	P	P	15 56 25.9	-0.5
	0.5nm,0.6s,baz=353,slow=7.7,SNR=10						
MJAR	**Matsushiro Arr**	**34.85**	**14**	P	P	15 57 36.2	-0.4
	0.3nm,0.5s,baz=208,slow=7.6,SNR=3.1						
STKA	**Stephens Creek**	**36.77**	**161**	P	P	15 57 52.6	-0.4
	1.4nm,0.7s,baz=343,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**59.13**	**325**	P	P	16 00 46.9	+0.7
	0.5nm,0.5s,baz=111,slow=6.9,SNR=5.4						

**JMA 14 16:20:39.0±0.2,

QIS				S	S	16 30 29.8	+4.2
	baz=21,SNR=4.4						
RMQ	Roma	20.96 197		P	P	16 26 54.5	-0.2
	baz=21,SNR=24						
QLP	Quilpie	22.71 207		P	P	16 27 10.3	-0.4
	baz=23,SNR=37						
FAKI	Fak Fak	23.28 277		P	P	16 27 14.5	-1.6
	baz=23,SNR=5.9						
FAKI	Fak Fak	23.28 277		eP	P	16 27 14.3	-1.8
KDU	Kakadu	23.41 253		P	P	16 27 15.8	-1.3
	baz=24,SNR=7.7						
ARMA	Armidale	24.17 188		P	P	16 27 24.6	+0.6
	baz=24,SNR=5.7						
WRAB	Tennant Creek	24.45 235		eP	P	16 27 26.0	-0.5
	8.7nm,0.6s						
WB2	Warramunga Arr	24.45 235		eP	P	16 27 26.2	-0.4
WRA	Warramunga Arr	24.46 235		P	P	16 27 26.2	-0.4
	6.8nm,0.6s,baz=60,slow=9.5,SNR=98						
WRA				pP	pP	16 28 19.8	0.0
	2.0nm,0.5s,baz=60,slow=9.0,SNR=2.3						
WRA				S	S	16 31 23.6	-0.8
	5.3nm,0.8s,baz=59,slow=14,SNR=14						
SWI	Sorong	24.66 282		P	P	16 27 30.9	+2.5
	baz=25,SNR=3.0						
CMSA	Cobar Meteorol	26.61 199		P	P	16 27 45.5	-0.2
	baz=27,SNR=9.5						
AS31	Alice Springs	26.84 228		eP	P	16 27 46.9	-1.1
ASAR	Alice Springs	26.85 228		P	P	16 27 47.0	-1.0
	3.3nm,0.5s,baz=59,slow=8.7,SNR=67						
ASAR				S	S	16 32 00.1	-1.8
	3.4nm,0.7s,baz=55,slow=14,SNR=16						
ASAR				ScP	ScP	16 34 13.6	+0.1
	0.6nm,0.8s,baz=69,slow=3.1,SNR=2.7						
KNRA	Kununurra	27.66 248		P	P	16 27 53.8	-1.4
	baz=28,SNR=8.6						
LBMI	Labuha	28.37 281		P	P	16 28 03.8	+2.3
	39nm,1.0s						
STKA	Stephens Creek	28.44 205		P	P	16 28 01.3	-0.6
	3.3nm,0.6s,baz=8.4,slow=8.3,SNR=23						
STKA	Stephens Creek	28.44 205		P	P	16 28 01.5	-0.4
	baz=29,SNR=18						
HTT	Hallett	30.94 207		P	P	16 28 23.8	-0.1
	baz=31,SNR=8.6						
HTT				S	S	16 33 12.6	+6.8
	baz=31,SNR=3.5						
SOEI	Soe	30.96 262		P	P	16 28 23.7	-0.7
	baz=31,SNR=4.9						
FITZ	Fitzroy Crossi	31.23 245		P	P	16 28 25.0	-1.7
	baz=31,SNR=20						
FITZ	Fitzroy Crossi	31.23 245		eP	P	16 28 24.9	-1.7
	15nm,0.8s						
BATI	Baumata	31.58 261		P	P	16 28 29.5	-0.2
	4.4nm,0.4s,baz=73,slow=2.2,SNR=3.7						
BBOO	Buckleboo	31.84 212		P	P	16 28 31.0	-0.7
	baz=32,SNR=42						
WRKA	Warakurna	31.86 231		P	P	16 28 30.4	-1.6
	baz=32,SNR=15						
WRKA				S	S	16 33 18.9	-1.3
	baz=32,SNR=4.1						
MMRI	Maumere	32.91 264		P	P	16 28 39.9	-1.3
	41nm,0.7s						
MMRI	Maumere	32.91 264		eP	P	16 28 38.7	-2.5
	26nm,0.4s						
FORT	Forrest	35.28 223		P	P	16 29 00.8	-0.5
	baz=36,SNR=11						
KMBL	Kambalda	39.97 227		P	P	16 29 39.8	-0.5
	baz=40,SNR=4.8						
MEEK	Meekatharra	40.35 236		P	P	16 29 42.5	-1.1
	baz=40,SNR=7.6						
KLBR	Kellerberrin	43.15 230		P	P	16 30 04.8	-1.2
	baz=43,SNR=6.5						
MJAR	Matsushiro Arr	45.62 341		P	P	16 30 23.8	-1.5
	3.8nm,0.7s,baz=163,slow=7.7,SNR=23						
MAJO	Matsushiro	45.63 341		eP	P	16 30 23.6	-1.7
MAT	Matsushiro	45.63 341		P	P	16 30 23.4	-1.9
CISI	Cisompet, Garu	47.19 266		P	P	16 30 35.7	-2.2
	baz=47,SNR=3.3						
KSRS	Korea Array	50.57 332		P	P	16 31 02.8	-0.1
	5.1nm,0.8s,baz=150,slow=8.0,SNR=13						
KSAR	Wonju Array Be	50.58 332		P	P	16 31 02.8	-0.2
BJI	Beijing	58.62 325		P	P	16 31 59.6	-0.7
BJI				PMZ			
	8.0nm,0.6s						
PETK	Petropavlovsk-	59.30	2	P	P	16 32 04.9	+0.2
	3.1nm,1.0s,baz=160,slow=8.8,SNR=3.6						
CMAR	Chiang Mai Arr	60.85 295		P	P	16 32 16.1	+0.2
	2.3nm,0.6s,baz=116,slow=5.3,SNR=22						
CD2	Chengdu	61.70 310		eP	P	16 32 20.8	-0.5
CD2				PMZ			
	10.0nm,0.7s						
HHC	Hu-ho-hao-te	61.82 323		eP	P	16 32 22.8	+0.8
HHC				pP	pP	16 33 32.9	+4.7
HHC				S	S	16 40 18.8	-2.4
HHC				PMZ			
	17nm,1.1s						
HHC				PMZ			
	250nm,6.2s						
HHC				LN			
	270nm,14.8s						
HHC				LE			
	400nm,17.3s						
LZH	Lanzhou	64.14 315		eP	P	16 32 38.3	+0.9
LZH				PMZ			
	21nm,1.1s						
LZH				PMZ			
	89nm,4.0s						
GTA	Gaotai	68.54 317		eP	P	16 33 06.4	+1.3
GTA				PMZ			
	3.0nm,0.9s						
ULN	Ulaanbaatar	68.68 327		eP	P	16 33 05.7	-0.1
	13nm,1.0s						
SONM	Songino Array	69.02 327		P	P	16 33 08.1	+0.3
	12nm,0.8s,baz=138,slow=6.6,SNR=81						
SONM				PcP	PcP	16 33 28.0	-1.7
	0.9nm,0.9s,baz=132,slow=3.0,SNR=4.1						
WMQ	Urumqi	78.62 317		eP	P	16 34 01.9	-1.4
WMQ				PMZ			
	100nm,3.8s						
ILAR	Eielson Array	82.68	21	P	P	16 34 23.2	-0.9
	2.3nm,0.8s,baz=249,slow=5.5,SNR=16						
MKAR	Makanchi Array	83.19 319		P	P	16 34 27.1	0.0
	4.6nm,0.9s,baz=100,slow=6.3,SNR=30						
ZALV	Zalesovo Beam	83.88 326		P	P	16 34 29.0	-1.4
	2.5nm,0.6s,baz=102,slow=6.2,SNR=14						
KSH	Kashi	85.89 310		P	P	16 34 42.4	+1.5
KSH				PP	PP	16 38 09.0	+3.6
KSH				S	S	16 44 39.1	-10
KSH				sS	sS	16 47 03.1	+9.3
KSH				SS	SS	16 50 30.5	-3.5
KSH				PMZ			
	6.0nm,1.1s						
KSH				PMZ			
	51nm,4.4s						
KSH				LN			
	37nm,4.8s						
KSH				LE			
	35nm,3.9s						
KSH				LZ			
	160nm,4.8s						
NVAR	Mina Array Bea	91.06	52	P	P	16 35 06.7	+1.3
	1.1nm,0.9s,baz=260,slow=8.9,SNR=4.9						
YKA	Yellowknife Ar	95.63	28	P	P	16 35 25.8	+0.4
	0.6nm,0.7s,baz=267,slow=4.6,SNR=10						
AKASG	Malin Array Be	117.25 325		PKP	PKPdf	16 40 43.7	-0.2
	0.7nm,0.5s,baz=44,slow=1.6,SNR=2.2						
BRTR	Keskin Array B	118.25 312		PKP	PKPdf	16 40 46.0	-0.4
	0.5nm,0.7s,baz=130,slow=3.9,SNR=3.0						
GERES	GERESS Array B	126.72 329		PKP	PKPdf	16 41 02.6	+0.3
	1.1nm,0.7s,baz=79,slow=2.9,SNR=5.4						
ESDC	Sonseca Array	141.99 334		PKhKP	PKPpre	16 41 26.5	
	0.1nm,0.3s,baz=10.0,slow=3.0,SNR=3.5						
TORD	Torodi Ar. Bea	153.21 287		PKPbc	PKPbc	16 41 56.9	-0.7
	1.6nm,0.7s,baz=63,slow=2.4,SNR=8.2						
TORD				PKPab	PKPab	16 42 10.0	-0.6
	1.4nm,0.8s,baz=77,slow=2.9,SNR=5.6						

*ISCJB **14** 16:26:40.1±1.0,35°.55N±0°.05×16°.55W±0°.08,h10km,Error ellipse: s-maj=11.9km s-min=3.3km az=37.9*
*MDD **14** 16:26:43.0±2.1,35°.69N×17°.16W,h30km,mb4.3/2,Error ellipse: s-maj=26.7km s-min=7.3km az=119.0,PRXIMO*
*INMG **14** 16:26:47.3±1.3,35°.66N×17°.15W,h10km,ML3.0,Error ellipse: s-maj=16.5km s-min=3.2km az=117.0*
*CSEM **14** 16:26:49.1±0.9,35°.22N×16°.24W,h20km,ML3.7/5,Error ellipse: s-maj=31.6km s-min=6.0km az=129.0*

ISC 14 16:26:43.8±2.6,35°.5N±0°.1×16°.6W±0°.2,h10km,n56,
σ2911/79,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	Porto Santo	2.43	174	ePn	Pn	16 27 24.8	+1.3
PMPS				eSn	Sn	16 27 52.3	-1.0
PMPS				A	A	16 27 57.6	
	42nm,0.3s						
PMPS	Porto Santo	2.43	174	P	Pn	16 27 24.8	+1.3
PMPS				S	Sn	16 27 52.3	-1.0
	21nm,0.3s						
PMPS	Porto Santo	2.43	174	P	Pn	16 27 24.8	+1.3
PMPS				S	Sn	16 27 52.3	-1.0
	21nm,0.3s						
PMOZ	Porto Moniz, M	2.69	191	ePn	Pn	16 27 26.6	-0.7
PMOZ				eSn	Sn	16 27 57.7	-2.3
PMOZ				A	A	16 27 59.7	
	111nm,0.4s						
PMAR	Madeira	2.76	185	ePn	Pn	16 27 27.5	-0.8
PMAR				eSn	Sn	16 27 59.5	-2.3
PMAR				A	A	16 28 02.3	
	55nm,0.3s						
PMAR	Madeira	2.76	185	P	Pn	16 27 27.5	-0.8
PMAR				S	Sn	16 27 59.5	-2.3
	27nm,0.3s						
PMAR	Madeira	2.76	185	P	Pn	16 27 27.5	-0.8
PMAR				S	Sn	16 27 59.5	-2.3
	27nm,0.3s						
FUL	Funchal	2.83	185	eSn	Sn	16 28 00.9	-2.4
FUL	Funchal	2.83	185	S	Sn	16 28 00.9	-2.4
PFVI	Vila Bisbo	6.50	73	ePn	Pn	16 28 22.1	+2.6
PFVI				eSn	Sn	16 29 32.4	-1.3
PFVI				A	A	16 29 40.5	
	6.0nm,0.6s						
PFVI	Vila Bisbo	6.50	73	P	Pn	16 28 20.8	+1.3
	1.5nm,0.1s,SNR=7.9						
PFVI				S	Sn	16 29 31.9	-1.8
	13nm,0.5s,SNR=7.9						
PFVI	Vila Bisbo	6.50	73	P	Pn	16 28 20.8	+1.3
	1.5nm,0.1s,SNR=7.9						
PFVI	Vila Bisbo	6.50	73	ePn	Pn	16 28 22.1	+2.6
PFVI				S	Sn	16 29 31.9	-1.8
	13nm,0.5s,SNR=7.9						
PFVI				eSn	Sn	16 29 32.4	-1.3
	6.0nm,0.6s						
MORF	Marmelete	6.67	72	ePn	Pn	16 28 24.5	+2.6
MORF				eSn	Sn	16 29 37.4	-0.7
MORF				A	A	16 29 39.8	
	4.4nm,0.5s						
MORF	Marmelete	6.67	72	P	Pn	16 28 24.5	+2.6
MORF				S	Sn	16 29 37.4	-0.7
	4.4nm,0.5s						
MORF	Marmelete	6.67	72	P	Pn	16 28 24.5	+2.6
MORF				S	Sn	16 29 37.4	-0.7
	4.4nm,0.5s						
PTEO	Sao Teotonio	6.68	70	ePn	Pn	16 28 23.8	+1.9
PTEO				eSn	Sn	16 29 36.7	-1.3
PTEO				A	A	16 29 41.2	
	8.4nm,0.6s						
PTEO	Sao Teotonio	6.68	70	P	Pn	16 28 23.8	+1.9
PTEO				S	Sn	16 29 36.7	-1.3
	4.2nm,0.6s						
PTEO	Sao Teotonio	6.68	70	P	Pn	16 28 23.8	+1.9
PTEO				S	Sn	16 29 36.7	-1.3
	4.2nm,0.6s						
PMAFR	Mafra	6.80	57	eSn	Sn	16 29 40.2	-0.8
PMAFR				A	A	16 29 41.8	
	14nm,0.4s						
PMAFR	Mafra	6.80	57	S	Sn	16 29 36.8	-4.2
	4.4nm,0.2s,SNR=7.9						
PMAFR	Mafra	6.80	57	eSn	Sn	16 29 40.2	-0.8
	14nm,0.4s						
PNCL	Nicolau / Gran	7.00	66	ePn	Pn	16 28 28.4	+2.1
PNCL				eSn	Sn	16 29 43.1	-2.8
PNCL				A	A	16 29 48.6	
	4.5nm,0.6s						
PNCL	Nicolau / Gran	7.00	66	ePn	Pn	16 28 28.4	+2.1
PNCL				eSn	Sn	16 29 43.1	-2.8
	4.5nm,0.6s						
MESJ	Messejana	7.14	68	ePn	Pn	16 28 30.8	+2.5
MESJ				eSn	Sn	16 29 47.6	-1.9
MESJ				A	A	16 29 53.1	
	3.8nm,0.6s						
MESJ	Messejana	7.14	68	P	Pn	16 28 30.8	+2.5
MESJ				S	Sn	16 29 47.6	-1.9
	3.8nm,0.6s						
MESJ	Messejana	7.14	68	P	Pn	16 28 30.8	+2.5
MESJ				S	Sn	16 29 47.6	-1.9
	3.8nm,0.6s						
PBDV	Barranco-do-Ve	7.22	73	ePn	Pn	16 28 32.4	+3.0
PBDV				eSn	Sn	16 29 51.5	0.0
PBDV				A	A	16 30 12.1	
	3.1nm,0.7s						
PBDV	Barranco-do-Ve	7.22	73	P	Pn	16 28 32.4	+3.0
PBDV				S	Sn	16 29 51.5	0.0
	3.1nm,0.7s						
PBDV	Barranco-do-Ve	7.22	73	P	Pn	16 28 32.4	+3.0
PBDV				S	Sn	16 29 51.5	0.0
	3.1nm,0.7s						
PVAQ	Vaqueiros	7.42	72	ePn	Pn	16 28 34.8	+2.7
PVAQ				eSn	Sn	16 29 55.8	-0.6
PVAQ				A	A	16 29 59.4	
	3.1nm,0.5s						
PVAQ	Vaqueiros	7.42	72	P	Pn	16 28 34.8	+2.7
PVAQ				S	Sn	16 29 55.8	-0.6
	3.1nm,0.5s						
PVAQ	Vaqueiros	7.42	72	P	Pn	16 28 34.8	+2.7
PVAQ				S	Sn	16 29 55.8	-0.6
	3.1nm,0.5s						
EVO	Evora	7.52	64	eSn	Sn	16 29 55.8	-3.1
EVO				A	A	16 30 01.7	
	4.6nm,0.4s						
EVO	Evora	7.52	64	S	Sn	16 29 55.8	-3.1
	4.6nm,0.4s						
PMTG	Montargil	7.58	59	eSn	Sn	16 29 57.2	-3.2
PMTG				A	A	16 30 02.1	
	3.3nm,0.4s						
EGRO	El Granado	7.63	72	P	Pn	16 28 34.5	-0.5
	0.3nm,0.2s,SNR=4.0						
EGRO				S	Sn	16 29 58.9	-2.6
	2.3nm,0.6s,SNR=7.9						
EGRO	El Granado	7.63	72	P	Pn	16 28 34.5	-0.5
	0.3nm,0.2s,SNR=4.0						
EGRO				S	Sn	16 29 58.9	-2.6
	2.3nm,0.6s,SNR=7.9						
PESTR	Estremoz	7.95	62	eSn	Sn	16 30 07.2	-2.3
PESTR				A	A	16 30 12.1	
	3.0nm,0.5s						
PESTR	Estremoz	7.95	62	eSn	Sn	16 30 07.2	-2.3
	3.0nm,0.5s						
PBAR	Barrancos	8.13	68	eSn	Sn	16 30 10.9	-3.0
PBAR				A	A	16 30 24.0	
	4.6nm,0.5s						
PBAR	Barrancos	8.13	68	S	Sn	16 30 10.9	-3.0
	4.6nm,0.5s						
PBAR	Barrancos	8.13	68	S	Sn	16 30 10.9	-3.0
	4.6nm,0.5s						
EMIN	Mina Concepcio	8.31	71	P	Pn	16 28 44.9	+0.6
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	16 30 14.7	-3.5
	2.6nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	8.31	71	P	Pn	16 28 44.9	+0.6
	0.2nm,0.1s,SNR=7.9						
PMRV	Marv??o	8.32	59	ePn	Pn	16 28 50.2	+5.7
PMRV				eSn	Sn	16 30 14.3	-4.3
PMRV				A	A	16 30 22.2	
	4.7nm,0.7s						
PMRV	Marv??o	8.32	59	P	Pn	16 28 50.2	+5.7
PMRV				S	Sn	16 30 14.3	-4.3
	4.7nm,0.7s						
EBAD	Badajoz	8.33	64	S	Sn	16 30 14.3	-4.5
	2.8nm,0.3s,SNR=7.9						
ESPR	Espera	8.81	78	S	Sn	16 30 32.0	+1.5
	6.0nm,0.3s,SNR=5.7						
ELOB	Lobios	9.24	44	P	Pn	16 28 54.5	-2.5
	0.2nm,0.1s,SNR=4.0						
ELOB				S	Sn	16 30 31.3	-10
	2.4nm,0.4s,SNR=7.9						
ECAB	El Cabril	9.35	71	P	Pn	16 28 59.6	+1.0
	0.3nm,0.2s,SNR=4.0						
ECAB				S	Sn	16 30 39.9	-3.8
	3.0nm,0.4s,SNR=7.9						
ECAB	El Cabril	9.35	71	P	Pn	16 28 59.6	+1.0
	0.3nm,0.2s,SNR=4.0						
ECAB				S	Sn	16 30 39.9	-3.8
	3.0nm,0.4s,SNR=7.9						
MVO	Moncorvo	9.43	50	S	Sn	16 30 37.5	-8.4
	3.5nm,0.3s,SNR=7.9						
EPLA	Plasencia	9.51	58	S	Sn	16 30 41.1	-6.6
	1.4nm,0.3s,SNR=4.0						
EMAZ	Mazaricos	9.52	36	P	Pn	16 28 58.4	-2.5
	2.1nm,0.3s,SNR=4.0						
EMAZ				S	Sn	16 30 36.1	-12
	5.2nm,0.4s,SNR=4.8						
ECAL	Calabor	10.05	47	P	Pn	16 29 05.9	-2.4
	0.2nm,0.1s,SNR=7.9						
ECAL				S	Sn	16 30 51.6	-10
	5.5nm,0.5s,SNR=7.9						

IDC 14 16:35:16.1±0.9,45°.14N×130°.18E,h567km±11km,mb2.6/6,
mb1 2.7/7,mb1mx2.5/26,mbtmp3.6/7,Error ellipse:
s-maj=52.3km s-min=14.8km az=54.0,
Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	Ussuriysk Ar.	1.60	125	P	P	16 36 27.5	+1.7
	1.8nm,0.3s,baz=321,slow=4.0,SNR=33						
USRK				S	S	16 37 22.0	-0.5
	baz=242,slow=18,SNR=1.7						
SONM	Songino Array	16.59	288	P	P	16 38 40.3	0.0
	0.1nm,0.3s,baz=93,slow=9.6,SNR=3.9						
ZALV	Zalesovo Beam	30.26	303	P	P	16 40 41.1	-0.4
	0.3nm,0.4s,baz=67,slow=12,SNR=2.4						
MKAR	Makanchi Array	32.92	290	P	P	16 41 04.4	+0.1
	0.1nm,0.4s,baz=85,slow=12,SNR=5.0						
GEYT	Alibeck	52.78	289	P	P	16 43 38.8	-0.2
	0.9nm,0.5s,baz=18,slow=6.7,SNR=3.4						
FINES	FINESS Array B	57.54	326	P	P	16 44 11.4	-0.2
	1.0nm,0.8s,baz=74,slow=6.8,SNR=7.3						
WRA	Warramunga Arr	64.88	176	P	P	16 44 59.8	-0.2
	0.2nm,0.5s,baz=351,slow=7.7,SNR=4.3						
ASAR	Alice Springs	68.56	176	P	P	16 45 22.8	+0.1
	0.3nm,0.9s,baz=350,slow=5.2,SNR=3.8						

*ISCJB **14** 16:36:53.7±0.8,33°.5S±0°.2×78°.0E±0°.2,h10km,mb3.7/8,*
MS3.4/4,Error ellipse: s-maj=25.5km s-min=22.7km
az=44.2
*IDC **14** 16:36:53.5±0.9,33°.43S×77°.95E,h0km,mb3.7/8,*
mb1 3.8/8,mb1mx3.6/28,mbtmp3.7/8,MS3.4/4,Ms1 3.4/4,
ms1mx3.0/22,Error ellipse: s-maj=30.5km s-min=26.0km
az=54.0

ISC 14 16:36:55.1±0.9,33°.4S±0°.2×78°.0E±0°.2,h10km,n21,
σ1918/10,mb3.7/8,MS3.4/4,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	26.16	348	T	T	17 09 31.3	
	baz=170,slow=76,SNR=68						
H08S1	Diego Carcia H	26.17	348	T	T	17 09 30.9	
	baz=170,slow=76,SNR=78						
H08S3	Diego Garcia H	26.18	348	T	T	17 09 31.5	
	baz=170,slow=76,SNR=96						
H08N1	Diego Carcia H	27.73	345	T	T	17 11 33.3	
	baz=184,SNR=3.1						
H08N3	Diego Garcia H	27.73	345	T	T	17 11 32.7	
	baz=184,SNR=3.3						
H08N2	Diego Garcia H	27.75	345	T	T	17 11 46.4	
	baz=184						
H01W2	Cape Leeuwin H	29.84	103	T	T	17 14 29.2	
	baz=262,slow=74,SNR=5.6						
H01W3	Cape Leeuwin H	29.85	103	T	T	17 14 29.5	
	baz=262,slow=74,SNR=6.5						
H01W1	Cape Leeuwin H	29.86	103	T	T	17 14 30.4	
	baz=262,slow=74,SNR=6.6						
BOSA	Boshof	45.05	261	LR	LR	17 00 23.6	
	comp=Z,31nm,20.8s,baz=166,slow=31						
ASAR	Alice Springs	49.56	94	P	P	16 45 47.2	+0.6
	0.4nm,0.7s,baz=250,slow=6.1,SNR=9.4						
WRA	Warramunga Arr	51.55	90	P	P	16 46 02.3	+0.7
	0.7nm,0.6s,baz=244,slow=7.3,SNR=9.8						
STKA	Stephens Creek	52.81	107	LR	LR	17 04 06.9	
	comp=Z,67nm,21.4s,baz=22,slow=31						
CMAR	Chiang Mai Arr	55.34	24	P	P	16 46 29.7	+0.5
	0.4nm,0.7s,baz=204,slow=8.8,SNR=4.8						
CMAR				LR	LR	17 06 04.5	
	comp=Z,19nm,21.6s,baz=176,slow=32						
QSPA	South Pole Qui	56.71	180	P	P	16 46 38.5	-0.2
	1.3nm,0.9s,baz=243,slow=4.5,SNR=3.4						
H09N1	TRISTAN DA CUN	71.00	238	T	T	18 03 52.2	
	SNR=16						
BRTR	Keskin Array B	83.57	327	P	P	16 49 25.2	+1.7
	0.4nm,0.8s,baz=145,slow=5.3,SNR=2.9						
SONM	Songino Array	84.82	19	P	P	16 49 28.9	-0.7
	0.2nm,0.5s,baz=187,slow=5.8,SNR=2.5						
TORD	Torodi Ar. Bea	86.04	288	P	P	16 49 36.6	+0.2
	0.9nm,0.9s,baz=152,slow=5.1,SNR=3.5						
TORD				LR	LR	17 24 29.7	
	comp=Z,29nm,21.9s,baz=315,slow=33						
ZALV	Zalesovo Beam	87.22	4	P	P	16 49 39.9	-1.2
	0.4nm,0.4s,baz=123,slow=5.3,SNR=3.2						
YKA	Yellowknife Ar	149.84	12	PKPbc	PKPbc	16 56 42.7	-1.9
	0.3nm,0.5s,baz=323,slow=3.5,SNR=6.8						
YKA				PKPab	PKPab	16 56 50.2	+0.1
	0.6nm,0.8s,baz=334,slow=2.8,SNR=7.6						

*GUC **14** 16:42:04.9±0.5,34°.35S×72°.22W,h42km±1km,ML4.7*
*ISCJB **14** 16:42:06.3±1.1,34°.33S±0°.03×72°.12W±0°.06,h23km±7km,*
mb4.2/14,MS4.1/2,Error ellipse: s-maj=8.9km
s-min=5.4km az=17.4
*NEIC **14** 16:42:07.9±0.3,34°.33S×71°.93W,mb4.4/3,ML4.7(GUC),*
Error ellipse: s-maj=6.6km s-min=4.9km az=103.0
NEIC Felt [IV] at San Fernando, [III] at Pichilemu and [II] at
Concepcion, Puerto Saavedra, Queule, Rancagua,
Santiago and Talca.
*IDC **14** 16:42:07.9±0.6,34°.33S×71°.86W,h21km±3km,mb4.1/14,*
mb1 4.2/17,mb1mx4.1/23,mbtmp4.2/17,ML3.6/2,MS3.7/3,
Ms1 3.7/3,ms1mx3.1/20,Error ellipse: s-maj=20.8km
s-min=14.6km az=89.0

ISC 14 16:42:07.5±0.5,34°.34S±0°.03×72°.00W±0°.07,h21km±3km,
h21km:pP-P,n62,σ0990/79,mb4.2/14,6C-4D,Near coast
of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.62	52	⇑iP	Pb	16 42 19.5	-0.2
LNV				i S	Sn	16 42 30.9	+0.4
LNV	Longovilo	0.62	52	⇑iP	Pb	16 42 19.5	-0.2
LNV				i S	Sn	16 42 30.9	+0.4
NICH	Los Niches	0.92	136	⇑iP	Pb	16 42 24.0	-0.7
NICH				i S	Sn	16 42 38.0	+0.2
NICH				AML	AML	16 42 38.3	
	comp=E,49μm,0.7s						
NICH	Los Niches	0.92	136	⇑iP	Pb	16 42 24.0	-0.7
NICH				i S	Sn	16 42 38.0	+0.2
TACH	Talagante	1.12	52	i P	Pn	16 42 26.9	-1.0
TACH	Talagante	1.12	52	i P	Pn	16 42 26.9	-1.0
CACH	El Canelo	1.19	79	i P	Pn	16 42 28.8	-0.2
CACH				i S	Sn	16 42 47.5	+3.0
CACH	El Canelo	1.19	79	i P	Pn	16 42 28.8	-0.2
CACH				i S	Sn	16 42 47.5	+3.0
CHCH	Chadas Angostu	1.19	70	⇓iP	Pn	16 42 28.4	-0.6
CHCH	Chadas Angostu	1.19	70	⇓iP	Pn	16 42 28.4	-0.6
SAN	Santiago	1.43	52	eP	Pn	16 42 31.4	-0.8

CFAA Lg Lg 16 44 05.1
comp=N,2.7nm,0.3s,baz=99,slow=22,SNR=4.3
LCO Las Campanas 5.43 12 *e*Pn **Pn 16 43 27.4 0.0**
comp=N,36nm,0.4s
PLCA Paso Flores 6.48 170 Pn **Pn 16 43 43.2 +1.5**
baz=339,slow=14
PLCA Lg Lg 16 45 26.2
baz=268,slow=18
PLCA LR LR 16 46 45.9
comp=N,165nm,22.0s,baz=354,slow=43
PLCA Paso Flores 6.48 170 *e*Pn **Pn 16 43 42.8 +1.1**
PLCA Lg Lg 16 45 26.2
TRQA Tornquist 8.91 117 *e*P **Pn 16 44 16.5 +1.5**
LPAZ La Paz 18.31 12 P **P 16 46 22.4 +1.4**
comp=N,0.2nm,0.3s,baz=196,slow=7.2,SNR=11
SIV San Ignacio 20.75 31 P **P 16 46 46.4 -0.6**
comp=N,2.6nm,0.5s,baz=204,slow=14,SNR=4.7
SIV pP **pP 16 46 52.6 -0.2**
comp=N,0.9nm,0.3s,baz=231,slow=12,SNR=5.0
SAML Samuel 26.54 20 *e*P **P 16 47 43.5 -0.4**
BDFB Brasilia 28.50 55 P **P 16 48 00.1 -1.5**
comp=N,2.3nm,0.7s,baz=200,slow=7.9,SNR=3.7
BDFB LR LR 17 00 33.6
comp=N,139nm,18.6s,baz=209,slow=39
PTGA Pitinga 35.28 21 P **P 16 49 00.3 -0.7**
comp=N,3.7nm,0.6s,baz=165,slow=16,SNR=4.4
PTGA Pitinga 35.28 21 *e*P **P 16 48 59.7 -1.3**
comp=N,5.8nm,0.9s
SNAA Sanae 51.26 158 P **P 16 51 09.8 +0.4**
comp=N,3.6nm,1.2s,baz=262,slow=9.2,SNR=3.3
QSPA South Pole Qui 55.89 180 P **P 16 51 44.4 +0.8**
comp=N,2.7nm,1.0s,baz=148,slow=4.8,SNR=3.8
QSPA pP **pP 16 51 51.2 +1.1**
comp=N,4.5nm,0.9s,baz=149,slow=1.6,SNR=5.5
TXAR Lajitas Array 70.05 331 P **P 16 53 18.9 +0.9**
comp=N,0.6nm,0.6s,baz=154,slow=8.3,SNR=10.0
TXAR pP **pP 16 53 26.0 +1.4**
comp=N,0.4nm,0.6s,baz=156,slow=9.4,SNR=3.8
DBIC Dimbokro 75.26 71 P **P 16 53 49.1 0.0**
comp=N,4.3nm,0.7s,baz=220,slow=4.5,SNR=5.0
DBIC Dimbokro 75.26 71 *e*P **P 16 53 49.0 -0.2**
comp=N,4.9nm,0.8s
ANMO Albuquerque 76.10 331 *e*P **P 16 53 54.8 +1.0**
comp=N,1.4nm,0.9s
BOSA Boshof 79.89 118 P **P 16 54 15.1 -0.1**
comp=N,5.9nm,0.8s,baz=233,slow=2.6,SNR=9.4
BOSA Boshof 79.89 118 *e*P **P 16 54 15.0 -0.1**
PDAR Pinedale Array 84.08 333 P **P 16 54 36.9 +0.2**
comp=N,0.7nm,0.7s,baz=158,slow=6.0,SNR=5.9
NVAR Mina Array Bea 84.18 325 P **P 16 54 38.9 +1.6**
comp=N,1.3nm,0.8s,baz=155,slow=6.1,SNR=7.9
TORD Torodi Ar. Bea 84.30 70 P **P 16 54 38.0 -0.2**
comp=N,3.4nm,0.7s,baz=255,slow=4.3,SNR=17
ELK Elko 84.67 328 P **P 16 54 40.9 +1.1**
comp=N,1.3nm,0.7s,baz=178,slow=3.4,SNR=5.4
RAO Raoul Island 85.71 237 LR LR 17 24 23.1
comp=N,247nm,21.2s,baz=92,slow=30
ULM Lac du Bonnet 86.84 345 P **P 16 54 49.8 -0.2**
comp=N,2.0nm,0.7s,baz=170,slow=5.6,SNR=3.3
YBH Yreka Blue Hor 88.86 325 P **P 16 55 00.1 +0.1**
comp=N,1.0nm,0.7s,baz=146,slow=3.6,SNR=3.6
YKA Yellowknife Ar 102.39 341 P **Pdif 16 56 00.6 -0.3**
comp=N,0.2nm,0.6s,baz=141,slow=4.1,SNR=5.3
ILAR Eielson Array 114.51 333 PKP PKPdf 17 00 44.3 -0.6
comp=N,0.3nm,0.9s,baz=197,slow=2.8,SNR=2.8
ASAR Alice Springs 117.28 207 PKP **PKPdf 17 00 50.7 -1.1**
comp=N,0.5nm,1.0s,baz=128,slow=5.2,SNR=3.3
ASAR PKKPbc **PKKPbc 17 11 13.8 -1.1**
comp=N,0.2nm,0.7s,baz=342,slow=2.9,SNR=5.1
WRA Warramunga Arr 120.48 209 PKP **PKPdf 17 00 57.0 -1.0**
comp=N,0.3nm,0.5s,baz=169,slow=1.6,SNR=6.2
WRA pPKP **pPKPdf 17 01 04.1 -1.0**
comp=N,0.4nm,0.6s,baz=162,slow=1.6,SNR=2.8
BRTR Keskin Array B 121.97 61 PKP **PKPdf 17 00 58.6 -1.8**
comp=N,0.3nm,0.7s,baz=186,slow=1.9,SNR=2.7
H11S2 WAKE ISLAND Hyl 25.79 269 T T 19 19 35.9
baz=120
H11S1 WAKE ISLAND Hyl 25.81 269 T T 19 19 30.2
baz=120,slow=74,SNR=6.8
H11S3 WAKE ISLAND Hyl 25.81 269 T T 19 19 31.8
baz=120,slow=74,SNR=5.0
H11N3 WAKE ISLAND Hyl 26.22 270 T T 19 20 03.0
baz=118
H11N1 WAKE ISLAND Hyl 26.23 270 T T 19 19 59.7
baz=118,SNR=8.0
H11N2 WAKE ISLAND Hyl 26.23 270 T T 19 20 03.4
baz=118
BVAR Borovoye Array 147.51 43 PKP **PKPdf 17 01 47.8 +0.9**
comp=N,2.0nm,0.5s,baz=298,slow=3.2,SNR=21
BVAR PKPbc **PKPbc 17 01 50.1 +0.7**
comp=N,2.0nm,0.5s,baz=291,slow=4.0,SNR=21
KKAR Karatay Array 149.68 62 *e*PKPbc **PKPbc 17 01 55.1 -0.3**
AAK Ala-Archa 152.64 62 *e*PKPbc **PKPbc 17 02 02.8 +0.2**
KURBB Kurchatov Arra 153.10 44 PKPbc **PKPbc 17 02 02.7 -0.3**
comp=N,1.3nm,0.6s,baz=301,slow=2.8,SNR=13
KURBB pPKPbc **pPKPbc 17 02 10.1 0.0**
comp=N,0.8nm,0.6s,baz=294,slow=2.7,SNR=6.0
KURK Kurchatov 153.11 44 PKPbc **PKPbc 17 02 02.7 -0.3**
KURK pPKPbc **pPKPbc 17 02 10.1 0.0**
ZALV Zalesovo Beam 154.50 33 PKPbc **PKPbc 17 02 06.0 +0.1**
comp=N,1.7nm,0.7s,baz=300,slow=2.9,SNR=9.7
ZALV pPKPbc **pPKPbc 17 02 13.0 0.0**
comp=N,1.5nm,0.7s,baz=296,slow=4.1,SNR=5.1
ZALV PKPab **PKPab 17 02 20.6 +0.2**
comp=N,2.0nm,0.6s,baz=304,slow=4.1,SNR=7.2
MKAR Makanchi Array 156.97 50 PKP **PKPdf 17 02 01.4 +0.3**
comp=N,0.2nm,0.8s,baz=332,slow=8.2,SNR=2.5
MKAR PKPab **PKPab 17 02 29.6 -1.7**
comp=N,1.0nm,0.8s,baz=328,slow=4.3,SNR=6.2

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*ISCJB **14** 17:20:24.1±0.3, 33°.37S±0°.03×179°.26W±0°.06, h33km, mb4.8/24, MS3.6/7, Error ellipse: s-maj=7.7km s-min=3.6km az=19.2*
*NEIC **14** 17:20:24.2±2.5, 33°.34S×179°.13W, h33km±17km, mb5.1/14, Error ellipse: s-maj=11.4km s-min=9.2km az=125.0*
*IDC **14** 17:20:28.6±2.0, 33°.06S×179°.06W, h66km±16km, mb4.4/10, mb1 4.5/11, mb1mx4.2/37, mbtmp4.7/11, MS3.7/8, Ms1 3.7/8, ms1mx3.4/22, Error ellipse: s-maj=17.3km s-min=13.0km az=114.0*
*BJI **14** 17:20:31.2, 34°.20S×178°.68W, h120km, mB5.3/6, mb5.1/12*

ISC 14 17:20:25.9±0.4, 33°.33S±0°.05×178°.93W±0°.07, h48km, n164, σ1°.77/166, mb5.0/24, MS3.8/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.16**	**12**	P		**Pn**	**17 21 25.6**	**-1.3**
	98nm,0.3s,baz=198,slow=20,SNR=5.5							
RAO				S		**Sn**	**17 22 11.7**	**-2.6**
	154nm,0.3s,baz=62,slow=22,SNR=4.6							
MXZ	**Matakaoa Point**	**4.79**	**207**	PN		**Pn**	**17 21 34.9**	**-0.6**
MXZ				SN		**Sn**	**17 22 32.0**	**+2.4**
WMGZ	**Waiomatatini S**	**4.97**	**205**	PN		**Pn**	**17 21 38.2**	**+0.1**
WMGZ				SN		**Sn**	**17 22 35.9**	**+1.7**
HAZ	**Te Kaha**	**5.16**	**210**	PN		**Pn**	**17 21 40.6**	**0.0**
PUZ	**Puketiti**	**5.26**	**205**	PN		**Pn**	**17 21 40.4**	**-1.6**
PUZ				SN		**Sn**	**17 22 43.0**	**+1.7**
TWGZ	**Tauwhareparae**	**5.45**	**207**	PN		**Pn**	**17 21 43.5**	**-1.1**
KUZ	**Kuaotunu**	**5.56**	**231**	PN		**Pn**	**17 21 48.1**	**+2.1**
CNGZ	**Carnagh Statio**	**5.64**	**204**	PN		**Pn**	**17 21 46.4**	**-0.8**
TKGZ	**Te Karaka**	**5.73**	**206**	PN		**Pn**	**17 21 47.0**	**-1.4**
MWZ	**Matawai**	**5.76**	**209**	PN		**Pn**	**17 21 46.9**	**-2.1**
OPRZ	**Ohinepanea**	**5.82**	**218**	PN		**Pn**	**17 21 49.8**	**+0.2**
URZ	**Urewera**	**5.88**	**212**	P		**Pn**	**17 21 48.8**	**-1.6**
	16nm,0.3s,baz=271,slow=4.4,SNR=53							
URZ				S		**Sn**	**17 22 56.9**	**+0.4**
	24nm,0.3s,baz=323,slow=20,SNR=5.4							
URZ	**Urewera**	**5.88**	**212**	PN		**Pn**	**17 21 48.8**	**-1.6**
URZ				SN		**Sn**	**17 22 57.2**	**+0.7**
URZ	**Urewera**	**5.88**	**212**	*e*Pn		**Pn**	**17 21 47.7**	**-2.8**
URZ				*e*Sn		**Sn**	**17 22 50.9**	**-5.6**
URZ				S		**Sn**	**17 22 56.9**	**+0.4**
RIGZ	**Rimuhau**	**6.00**	**206**	PN		**Pn**	**17 21 52.0**	**-0.1**
WCZ	**Waipu Caves**	**6.13**	**243**	PN		**Pn**	**17 21 55.9**	**+2.1**
PRGZ	**Paritu Road**	**6.15**	**204**	PN		**Pn**	**17 21 52.4**	**-1.8**
SNGZ	**Shannon Statio**	**6.22**	**208**	PN		**Pn**	**17 21 54.6**	**-0.6**
KNZ	**Kokohu**	**6.31**	**205**	PN		**Pn**	**17 21 54.9**	**-1.5**
MHGZ	**Mahia Peninsul**	**6.35**	**203**	PN		**Pn**	**17 21 54.5**	**-2.4**
RAHZ	**Arahi**	**6.44**	**209**	PN		**Pn**	**17 21 58.7**	**+0.5**
OUZ	**Omahuta**	**6.47**	**251**	PN		**Pn**	**17 21 60.0**	**+1.4**
OUZ	**Omahuta**	**6.47**	**251**	*e*Pn		**Pn**	**17 22 00.2**	**+1.6**
ARHZ	**Aropaoanui**	**6.77**	**208**	PN		**Pn**	**17 22 02.5**	**-0.2**
BKZ	**Black Stump Fm**	**6.90**	**211**	*e*PN		**Pn**	**17 22 01.6**	**-2.9**
BKZ	**Black Stump Fm**	**6.90**	**211**	*e*Pn		**Pn**	**17 22 02.9**	**-1.6**
MCHZ	**McNeill Hill**	**7.04**	**209**	*e*PN		**Pn**	**17 22 04.9**	**-1.6**
KAHZ	**Kahuranaki**	**7.28**	**206**	PN		**Pn**	**17 22 06.5**	**-3.2**
NGZ	**Ngauruhoe**	**7.32**	**216**	PN		**Pn**	**17 22 09.7**	**-0.6**
KRHZ	**Kereru**	**7.35**	**210**	PN		**Pn**	**17 22 08.6**	**-2.1**
BHHZ	**Black Hill Sta**	**7.35**	**212**	PN		**Pn**	**17 22 10.1**	**-0.6**
TUVZ	**Tukino**	**7.36**	**215**	PN		**Pn**	**17 22 10.6**	**-0.3**
WPVZ	**Whakapapa**	**7.37**	**216**	PN		**Pn**	**17 22 10.7**	**-0.3**
TRVZ	**Turoa**	**7.44**	**215**	PN		**Pn**	**17 22 11.3**	**-0.7**
PXZ	**Pawanui**	**7.49**	**206**	PN		**Pn**	**17 22 10.0**	**-2.6**
PXZ				SN		**Sn**	**17 23 32.5**	**-3.7**
ANWZ	**Angora Road**	**8.01**	**206**	PN		**Pn**	**17 22 17.2**	**-2.4**
WAZ	**Wanganui**	**8.07**	**216**	PN		**Pn**	**17 22 19.0**	**-1.5**
BFZ	**Birch Farm**	**8.29**	**206**	*e*Pn		**Pn**	**17 22 21.2**	**-2.3**
MRZ	**Mangatainoka R**	**8.53**	**209**	PN		**Pn**	17 22 22.5	-4.3
HOWZ	**Holdsworth Sta**	**8.76**	**209**	PN		**Pn**	**17 22 27.0**	**-3.0**
TMWZ	**Te Maipa**	**8.79**	**207**	PN		**Pn**	**17 22 28.3**	**-2.1**
MTW	**Mount Morrison**	**8.98**	**208**	PN		Pn	17 22 29.5	-3.5
WEL	**Wellington**	**9.39**	**210**	PN		Pn	17 22 34.2	-4.4
SNZO	**South Karori**	**9.44**	**211**	*e*Pn		Pn	17 22 35.7	-3.5
SNZO				*e*Sn		Sn	17 24 13.9	-10
KHZ	**Kahutara**	**10.84**	**211**	*e*Pn		Pn	17 22 54.2	-4.2
KHZ				*e*Sn		Sn	17 24 47.8	-10
RPZ	**Rata Peaks**	**12.99**	**214**	*e*Pn		Pn	17 23 21.2	-6.5
ODZ	**Otahua Downs**	**14.20**	**212**	*e*Pn		Pn	17 23 40.4	-3.8
DZM	**Mont Dzumac**	**17.11**	**307**	LR		LR	17 29 44.2
	comp=Z,603nm,18.6s,baz=146,slow=33							
EIDS	**Eidsvold**	**27.25**	**279**	P		**P**	**17 26 07.2**	**+1.6**
	baz=28,SNR=3.9							
TBI	**Tubuai**	**27.69**	**77**	*e*T		T	17 54 36.2
	26nm,0.3s							
MOO	**Moorlands**	**28.09**	**241**	P		**P**	**17 26 14.4**	**+1.3**
	baz=28,SNR=3.3							
RMQ	**Roma**	**28.75**	**275**	P		**P**	**17 26 21.8**	**+2.7**
	baz=29,SNR=5.3							
CMSA	**Cobar Meteorol**	**29.83**	**264**	P		**P**	**17 26 29.8**	**+1.2**
	baz=30,SNR=6.5							
PAE	**Paea**	**30.60**	**67**	*e*T		T	17 58 07.7
	5.6nm,0.2s							
PPT2	**Papeete2**	**30.65**	**67**	*e*LR		LR	17 34 29.7
	181nm,26.2s							
PPT2	**Papeete2**	**30.65**	**67**	*e*T		T	17 58 11.9
	11nm,0.3s							
PPT	**Papeete**	**30.66**	**66**	LR		LR	17 37 33.9
	comp=Z,55nm,20.6s,baz=246,slow=34							
TVO	**Taravao**	**30.79**	**67**	*e*T		T	17 58 20.8
	1.4nm,0.3s							
QLP	**Quilpie**	**32.50**	**272**	P		**P**	**17 26 53.4**	**+1.3**
	baz=33,SNR=5.9							
STKA	**Stephens Creek**	**33.16**	**262**	P		**P**	**17 26 58.1**	**+0.2**
	2.3nm,0.9s,baz=120,slow=9.4,SNR=4.2							
STKA				PcP		**PcP**	**17 29 39.6**	**-0.3**
	1.7nm,0.8s,baz=105,slow=6.6,SNR=4.0							
STKA				LR		LR	17 39 19.5
	comp=Z,212nm,18.4s,baz=48,slow=34							
STKA	**Stephens Creek**	**33.16**	**262**	P		P	17 27 03.6	+5.8
	baz=33,SNR=3.7							
CTA	**Charters Tower**	**33.62**	**284**	P		**P**	**17 27 02.9**	**+0.9**
	14nm,0.6s,baz=113,slow=11,SNR=13							
CTAO	**Charters Tower**	**33.62**	**284**	*e*P		**P**	**17 27 01.3**	**-0.7**
	16nm,0.8s							
HTT	**Hallett**	**35.02**	**258**	P		**P**	**17 27 14.7**	**+0.6**
	baz=35,SNR=3.9							
MTSU	**Mount Surprise**	**36.19**	**285**	S		**S**	**17 33 02.9**	**+1.9**
	baz=37,SNR=12							
BBOO	**Buckleboo**	**37.50**	**258**	P		**P**	**17 27 34.3**	**-0.9**
	baz=38,SNR=8.8							
QIS	**Mount Isa**	**38.85**	**278**	P		**P**	**17 27 46.9**	**+0.2**
	baz=39,SNR=6.5							
PMG	**Port Moresby**	**39.26**	**300**	P		**P**	**17 27 50.2**	**+0.2**
	16nm,0.7s,baz=130,slow=8.8,SNR=8.5							
PMG				LR		LR	17 42 11.5
	comp=Z,159nm,19.6s,baz=118,slow=33							
PMG	**Port Moresby**	**39.26**	**300**	P		**P**	**17 27 50.6**	**+0.6**
	baz=40,SNR=4.4							
COEN	**Coen**	**39.43**	**290**	P		**P**	**17 27 52.3**	**+0.8**
	baz=40,SNR=11							
COEN	**Coen**	**39.43**	**290**	*e*P		**P**	**17 27 50.1**	**-1.4**
	283nm,1.5s							
RKT	**Rikitea**	**39.79**	**87**	*e*LR		LR	17 38 49.8
	256nm,28.2s							
RKT	**Rikitea**	**39.79**	**87**	*e*T		T	18 09 50.0
	2.3nm,0.3s							
AS31	**Alice Springs**	**42.26**	**271**	*e*P		**P**	**17 28 13.9**	**-0.9**
ASAR	**Alice Springs**	**42.26**	**271**	P		**P**	**17 28 14.3**	**-0.5**
	14nm,0.7s,baz=109,slow=7.2,SNR=218							
ASAR				PcP		**PcP**	**17 30 06.5**	**-1.6**
	1.0nm,0.5s,baz=118,slow=3.9,SNR=3.5							
ASAR				S		**S**	**17 34 27.8**	**-4.4**
	0.7nm,0.8s,baz=112,slow=15,SNR=6.4							
ASAR				PKiKP		**PKiKP**	**17 37 12.2**	**-1.3**
	0.3nm,0.7s,baz=60,slow=1.4,SNR=5.0							
WB2	**Warramunga Arr**	**43.50**	**276**	*e*P		**P**	**17 28 22.5**	**-2.4**
WRAB	**Tennant Creek**	**43.51**	**276**	*e*P		**P**	**17 28 24.2**	**-0.7**
	17nm,0.7s							
WRA	**Warramunga Arr**	**43.51**	**276**	P		**P**	**17 28 24.2**	**-0.8**
	12nm,0.5s,baz=114,slow=8.1,SNR=186							
FORT	**Forrest**	**44.60**	**258**	P		**P**	**17 28 33.0**	**-0.6**
	baz=45,SNR=9.8							
FORT	**Forrest**	**44.60**	**258**	*e*P		**P**	**17 28 31.7**	**-1.9**
	18nm,0.8s							
VNDA	**Vanda**	**45.11**	**186**	P		**P**	**17 28 38.9**	**+1.9**
	0.7nm,0.8s,baz=46,slow=4.7,SNR=4.1							
VNDA				PcP		**PcP**	**17 30 19.6**	**+2.9**
	1.5nm,0.8s,baz=56,slow=3.0,SNR=3.6							
WRKA	**Warakurna**	**46.40**	**266**	P		**P**	**17 28 46.5**	**-1.5**
	baz=47,SNR=44							
KDU	**Kakadu**	**48.73**	**283**	P		**P**	**17 29 04.8**	**-1.2**
	baz=49,SNR=4.9							
MTN	**Manton Dam**	**49.74**	**282**	P		**P**	**17 29 12.7**	**-1.0**
	baz=50,SNR=6.9							
KNRA	**Kununurra**	**50.22**	**277**	P		**P**	**17 29 16.7**	**-0.6**
	baz=51,SNR=17							
FITZ	**Fitzroy Crossi**	**51.63**	**273**	P		**P**	**17 29 27.4**	**-0.6**
	baz=52,SNR=14							
FITZ	**Fitzroy Crossi**	**51.63**	**273**	*e*P		**P**	**17 29 26.3**	**-1.7**
	12nm,0.8s							
KLBR	**Kellerberrin**	**52.70**	**253**	P		**P**	**17 29 34.2**	**-1.6**
	baz=53,SNR=6.1							
MEEK	**Meekatharra**	**53.82**	**260**	P		**P**	**17 29 42.0**	**-2.1**
	baz=54,SNR=8.3							
MORW	**Morawa**	**54.99**	**256**	P		**P**	**17 29 50.8**	**-1.8**
	baz=55,SNR=4.2							
QSPA	**South Pole Qui**	**56.78**	**180**	P		P	17 30 08.6	+3.6
	9.1nm,0.7s,baz=14,slow=0.9,SNR=64							
SOEI	**Soe**	**57.05**	**281**	P		**P**	**17 30 08.2**	**+0.6**
	baz=58,SNR=11							
SOEI	**Soe**	**57.05**	**281**	*e*P		**P**	**17 30 06.8**	**-0.8**
	27nm,0.9s							
BATI	**Baumata**	**57.30**	**280**	P		**P**	**17 30 09.1**	**-0.2**
	16nm,0.7s,baz=208,slow=2.3,SNR=7.7							
MMRI	**Maumere**	**59.34**	**280**	*e*P		**P**	**17 30 21.3**	**-2.1**
	60nm,1.2s							
KAPI	**Kappang**	**63.40**	**282**	*e*P		**P**	**17 30 48.5**	**-2.4**
	19nm,0.8s							
MAW	**Mawson**	**69.29**	**201**	LR		LR	18 00 50.1
	comp=Z,80nm,19.8s,baz=256,slow=35							
KSM	**Kuching**	**74.83**	**282**	*e*P		**P**	**17 31 59.6**	**-2.1**
	8.6nm,1.0s							
SNAA	**Sanae**	**75.25**	**179**	P		**P**	**17 32 05.8**	**+2.5**
VNA3	**Neumayer Olymp**	**75.44**	**176**	P		**P**	**17 32 06.2**	**+1.9**
VNA2	**Neumayer--Watz**	**75.86**	**177**	P		**P**	**17 32 09.0**	**+2.3**
MJAR	**Matsushiro Arr**	**80.22**	**326**	P		**P**	**17 32 30.7**	**-0.6**
	0.4nm,0.3s,baz=174,slow=6.8,SNR=7.7							
MJAR				LR		LR	18 04 07.7
	comp=Z,14nm,21.1s,baz=190,slow=33							
GSI	**Gunungsitoli**	**85.27**	**275**	*e*P		**P**	**17 32 56.0**	**-2.1**
	24nm,0.9s							
NJ2	**Nanjing**	**87.56**	**311**	*e*P		**P**	**17 33 10.1**	**+1.3**
NJ2				PMZ			
	30nm,0.6s							
PETK	**Petropavlovsk-**	**88.46**	**346**	P		**P**	**17 33 12.1**	**-0.4**
	3.5nm,0.8s,baz=148,slow=7.2,SNR=5.8							
PETK				LR		LR	18 14 22.3
	comp=Z,22nm,18.3s,baz=150,slow=37							
VES	**Vestal, Richgr**	**88.69**	**45**	P		**P**	**17 33 16.4**	**+2.3**
	baz=89							
ISA	**Isabella, Lake**	**88.93**	**45**	P		**P**	**17 33 17.9**	**+2.6**
	baz=90							
LRMC	**Laurel Mtn Rad**	**89.27**	**46**	P		**P**	**17 33 19.4**	**+2.4**
	baz=90							
BC3	**Big Chuckawall**	**89.42**	**48**	P		**P**	**17 33 19.8**	**+2.1**
	baz=90							
CMB	**Columbia Colle**	**89.46**	**42**	*e*P		**P**	**17 33 19.1**	**+1.5**
	7.8nm,1.0s							
GMRC	**Granite Mounta**	**90.03**	**47**	P		**P**	**17 33 23.2**	**+2.6**
	baz=90							
N02D	**Trinity Center**	**90.28**	**39**	P		**P**	**17 33 24.3**	**+2.8**
	baz=91							
M02C	**Callahan**	**90.50**	**39**	P		**P**	**17 33 25.1**	**+2.6**
	baz=91							
MDJ	**Mudanjiang**	**90.60**	**326**	P		**P**	**17 33 25.8**	**+3.0**
MDJ				PMZ			
	3.0nm,1.2s							
MDJ				PMZ			
	98nm,4.5s							
NVAR	**Mina Array Bea**	**90.92**	**43**	P		**P**	**17 33 26.9**	**+2.2**
	3.0nm,0.8s,baz=221,slow=7.4,SNR=16							
TPH	**Tonopah**	**91.30**	**44**	*e*P		**P**	**17 33 28.3**	**+1.9**
	5.0nm,0.8s							
J04D	**Umpqua Nationa**	**92.21**	**38**	P		**P**	**17 33 32.7**	**+2.2**
	baz=93							
MOD	**Modoc Plateau**	**92.21**	**40**	*e*P		**P**	**17 33 32.7**	**+2.2**
	103nm,3.0s							
GYA	**Guiyang**	**92.33**	**300**	*e*P		**P**	**17 33 32.0**	**+0.6**
GYA				PMZ			
	10.0nm,0.9s							
I04A	**Tendick Farm,**	**92.45**	**37**	P		**P**	**17 33 33.6**	**+2.2**
	baz=93							
J05D	**Fort Rock, OR**	**92.69**	**38**	P		**P**	**17 33 34.7**	**+2.0**
	baz=93							
KMI	**Kunming**	**94.44**	**297**	P		**P**	**17 33 42.3**	**+1.0**
KMI				PMZ			
	9.0nm,0.6s							
BJI	**Beijing**	**94.46**	**316**	P		**P**	**17 33 43.8**	**+3.1**
BJI				PMZ			
	6.0nm,0.9s							
TXAR	**Lajitas Array**	**94.62**	**58**	LR		LR	18 09 58.6
	comp=Z,29nm,19.7s,baz=0.0,slow=31							
MFID	**Camas Ranch**	**95.66**	**41**	*e*P		**P**	**17 33 48.1**	**+1.9**
	36nm,2.3s							
CD2	**Chengdu**	**96.98**	**302**	*e*P		**P**	**17 33 53.1**	**+0.6**
CD2				PMZ			
	10.0nm,1.3s							
HHC	**Hu-ho-hao-te**	**97.70**	**314**	*e*P		Pdif	17 34 00.8	+5.1
HHC				SKS		**SKSac**	**17 44 24.9**	**-4.1**
HHC				S		**S**	**17 45 16.5**	**-0.9**
HHC				PMZ			
	19nm,1.4s							
HHC				PMZ			
	220nm,7.4s							
PDAR	**Pinedale Array**	**98.79**	**44**	P		Pdif	17 34 01.4	+0.8
	0.4nm,0.6s,baz=256,slow=3.6,SNR=3.6							
ILAR	**Eielson Array**	**100.95**	**13**	P		**Pdif**	**17 34 09.4**	**0.0**
	1.2nm,1.0s,baz=216,slow=6.7,SNR=8.1							
YKA	**Yellowknife Ar**	**108.42**	**26**	PKiKP		**PKiKP**	**17 38 48.7**	**+0.5**
	0.2nm,0.5s,baz=262,slow=1.5,SNR=5.5							
YKA				PKKPbc		**PKKPbc**	**17 49 58.5**	**-1.8**
	0.3nm,0.6s,baz=45,slow=3.2,SNR=8.3							
YKA				PKKPab		**PKKPab**	**17 50 10.7**	**+1.4**
	0.4nm,0.7s,baz=46,slow=4.1,SNR=8.5							
BOSA	**Boshof**	**114.26**	**203**	PKP		PKPdf	17 39 01.5	+0.8
	2.4nm,0.7s,baz=225,slow=1.4,SNR=3.5							
WMQ	**Urumqi**	**114.40**	**307**	*e*PKP		PKPdf	17 38 58.5	-1.8
WMQ				PPMZ			
	130nm,5.0s							
MKAR	**Makanchi Array**	**119.03**	**309**	PKP		**PKPdf**	**17 39 07.6**	**-1.4**
	1.1nm,0.8s,baz=54,slow=2.5,SNR=8.4							
MKAR				PKKPbc		**PKKPab**	**17 49 25.4**	**+1.6**
	0.3nm,0.6s,baz=8.5,slow=2.9,SNR=3.6							
ZALV	**Zalesovo Beam**	**119.67**	**317**	PKP		**PKPdf**	**17 39 08.2**	**-1.8**
	1.0nm,0.4s,baz=130,slow=2.5,SNR=9.7							
RES	**Resolute Bay**	**120.27**	**18**	PKP		**PKPdf**	**17 39 10.2**	**-0.4**
	1.2nm,0.8s,baz=322,slow=3.3,SNR=7.1							
KSH	**Kashi**	**121.02**	**299**	*e*PKP		**PKPdf**	**17 39 13.0**	**-0.2**
KSH				sPKP			17 39 54.8
KSH				PP		**PP**	**17 40 46.1**	**+2.4**
KSH				PKS		**PKSdf**	**17 42 50.0**	**+0.1**
KSH				SS		SS	17 57 14.8	+1.8
KSH				PPMZ			
	82nm,6.2s							
KSH				LN			
	43nm,3.5s							
KSH				LE			
	39nm,6.4s							
KSH				LZ			
	90nm,7.4s							
KURK	**Kurchatov**	**122.48**	**313**	PKP		**PKPdf**	**17 39 14.1**	**-1.3**
KURBB	**Kurchatov Arra**	**122.51**	**312**	PKP		**PKPdf**	**17 39 14.1**	**-1.4**
	3.1nm,0.7s,baz=108,slow=1.9,SNR=33							
KKAR	**Karatay Array**	**126.00**	**302**	*e*PKPdf		**PKPdf**	**17 39 21.6**	**-0.9**
FRB	**Frobisher Bay**	**128.28**	**32**	PKP		**PKPdf**	**17 39 25.5**	**-0.6**
	1.1nm,0.5s,baz=188,slow=2.9,SNR=4.2							
GEYT	**Alibeck**	**134.02**	**293**	PKP		**PKPdf**	**17 39 38.0**	**+0.1**
	0.9nm,0.7s,baz=146,slow=2.8,SNR=3.5							
GEYT				SKPbc		**SKPb

SONM	Songino Array	89.32	323	P	P	17 41 27.4	+0.5
	0.4nm,0.8s,baz=134,slow=4.2,SNR=3.5						
ARCES	ARCESS Array B	127.42	345	PKP	PKPdf	17 47 33.1	-1.5
	0.6nm,0.4s,baz=98,slow=3.7,SNR=5.9						
FINES	FINESS Array B	132.89	337	PKP	PKPdf	17 47 44.1	-1.1
	1.7nm,1.0s,baz=27,slow=4.7,SNR=4.4						
BRG	Berggiesshubel	145.13	333	e(P)	PKPbc	17 48 06.4	-0.9
	2.6nm,0.6s						
GERES	GERESS Array B	146.72	331	PKPbc	PKPdf	17 48 11.4	+0.7
	1.0nm,0.5s,baz=33,slow=2.3,SNR=8.3						

IDC ***14*** *17:32:32.5±0.8, 37°.32S×73°.80W, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.2/31, mbtmp4.3/10, ML3.2/1, MS4.0/2, Ms1 3.9/2, ms1mx3.3/16, Error ellipse: s-maj=30.7km s-min=17.3km az=95.0*

ISCJB ***14*** *17:32:35.4±0.6, 37°.26S±0°.05×73°.46W±0°.09, h23km, mb4.3/11, MS4.0/2, Error ellipse: s-maj=9.8km s-min=6.6km az=2.6*

NEIC ***14*** *17:32:37.5±0.3, 37°.33S×73°.68W, h35km, mb4.5/5, Error ellipse: s-maj=10.8km s-min=6.9km az=88.0*

ISC 14 17:32:36.3±0.6, 37°.30S±0°.07×73°.65W±0°.09, h23km, n39, σ0.97/38, mb4.5/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.19	146	Pn	Pn	17 33 40.4	+1.5
	baz=318,slow=14						
PLCA				Lg	Lg	17 34 49.2	
	baz=342,slow=16						
PLCA	Paso Flores	4.19	146	Pn	Pn	17 33 37.9	-1.0
PLCA				Lg	Lg	17 34 49.2	
CFAA	Coronel Fontan	7.23	40	Pn	Pn	17 34 20.5	-0.2
	0.4nm,0.3s,baz=209,slow=13,SNR=5.2						
CFAA				Sn	Sn	17 35 41.9	-0.2
	0.4nm,0.3s,baz=12,slow=14,SNR=2.6						
LCO	Las Campanas	8.63	17	ePn	Pn	17 34 36.5	-3.6
	17nm,0.6s						
LCO				eSn	Sn	17 36 15.9	-0.9
TRQA	Tornquist	9.29	98	ePn	Pn	17 34 49.8	+1.0
	17nm,0.8s						
TRQA				eSn	Sn	17 36 32.0	-0.5
LVC	Limon Verde	15.20	17	ePn	Pn	17 36 08.9	-0.9
	9.6nm,0.7s						
LPAZ	La Paz	21.50	15	P	P	17 37 25.6	+1.4
	14nm,0.8s,baz=156,slow=9.9,SNR=18						
LPAZ	La Paz	21.50	15	eP	P	17 37 24.2	0.0
	41nm,1.3s						
SIV	San Ignacio	23.97	31	P	P	17 37 49.3	+0.1
	4.1nm,0.8s,baz=230,slow=10,SNR=6.7						
SAML	Samuel	29.78	21	eP	P	17 38 40.7	-0.7
BDFB	Brasilia	31.32	53	P	P	17 38 54.9	-0.2
	2.6nm,0.7s,baz=199,slow=10,SNR=3.8						
BDFB				LR	LR	17 51 50.4	
	comp=Z,184nm,19.9s,baz=224,slow=37						
OTAV	Otavalo	37.62	352	eP	P	17 39 50.6	+0.6
	14nm,1.4s						
VNA3	Neumayer Olymp	46.83	157	P	P	17 41 04.1	+0.1
VNA2	Neumayer--Watz	47.51	156	P	P	17 41 10.3	+1.0
	baz=277,slow=9.7						
SNAA	Sanae	49.05	157	P	P	17 41 22.6	+1.4
SNAA	Sanae	49.05	157	P	P	17 41 21.6	+0.4
	5.8nm,0.9s,baz=293,slow=9.6,SNR=9.8						
SNAA	Sanae	49.05	157	P	P	17 41 20.4	-0.8
	5.7nm,0.8s						
QSPA	South Pole Qui	52.94	180	P	P	17 41 51.2	+0.6
	7.9nm,1.0s,baz=147,slow=4.3,SNR=8.9						
QSPA	South Pole Qui	52.94	180	eP	P	17 41 50.0	-0.6
	3.1nm,1.1s						
RKT	Rikitea	53.99	267	eLR	LR	17 57 31.9	
	214nm,31.2s						
PPT2	Papeete2	68.52	264	eS	S	17 52 19.8	-19
	50nm,23.2s						
PPT2	Papeete2	68.52	264	eLR	LR	18 04 21.2	
	84nm,24.0s						
PPT	Papeete	68.53	264	LR	LR	18 06 47.4	
	comp=Z,137nm,18.1s,baz=94,slow=30						
TXAR	Lajitas Array	72.02	333	P	P	17 43 58.7	+0.3
	0.3nm,0.7s,baz=149,slow=8.8,SNR=4.7						
DBIC	Dimbokro	77.48	72	P	P	17 44 31.4	+1.2
	7.9nm,0.8s,baz=209,slow=4.9,SNR=5.4						
ANMO	Albuquerque	78.08	333	P	P	17 44 36.5	+3.1
	0.7nm,0.6s,baz=145,slow=8.8,SNR=2.2						
BOSA	Boshof	79.69	118	P	P	17 44 42.3	-0.2
	6.1nm,0.9s,baz=179,slow=3.3,SNR=6.9						
TORD	Torodi Ar. Bea	86.56	71	P	P	17 45 18.1	+0.2
	2.7nm,0.9s,baz=226,slow=4.1,SNR=8.3						
ASAR	Alice Springs	114.03	208	PKiKP	PKiKP	17 51 12.5	-1.5
	0.2nm,0.7s,baz=136,slow=1.8,SNR=3.1						
WRA	Warramunga Arr	117.25	210	PKP	PKPdf	17 51 19.0	-1.2
	0.2nm,0.6s,baz=153,slow=1.6,SNR=3.8						
BRTR	Keskin Array B	124.54	63	PKP	PKPdf	17 51 33.0	-0.7
	1.1nm,0.8s,baz=189,slow=4.7,SNR=7.9						
GEYT	Alibeck	142.13	74	PKhKP	PKPpre	17 52 01.4	
	1.4nm,0.8s,baz=305,slow=5.2,SNR=4.7						
ABKAR	Akbulak array	144.70	55	ePKPdf	PKPdf	17 52 10.2	-0.4
PSI	Prapat	144.99	167	PKP	PKPab	17 52 11.1	-0.6
	17nm,1.0s,baz=196,slow=7.4,SNR=11						
YAK	Yakutsk	151.33	337	ePKPbc	PKPbc	17 52 26.5	-0.6
KKAR	Karatay Array	152.17	67	ePKPbc	PKPbc	17 52 29.6	-0.1
ZALV	Zalesovo Beam	157.70	35	PKP	PKPdf	17 52 29.6	-0.5
	0.9nm,0.7s,baz=267,slow=3.0,SNR=5.6						
ZALV				PKPab	PKPab	17 53 02.9	+0.3
	1.4nm,0.6s,baz=305,slow=5.2,SNR=4.4						
MKAR	Makanchi Array	159.84	54	PKP	PKPdf	17 52 31.5	-1.5
	0.4nm,0.8s,baz=35,slow=3.5,SNR=3.1						
MKAR				PKPab	PKPab	17 53 12.7	+0.4
	1.2nm,0.8s,baz=336,slow=2.7,SNR=7.3						
SONM	Songino Array	169.47	360	PKPab	PKPab	17 53 54.8	+0.2
	0.5nm,0.8s,baz=5.7,slow=4.5,SNR=3.8						

IDC ***14*** *17:32:33.3±1.5, 12°.42N×87°.81W, h0km, mb3.9/7, mb1 4.1/10, mb1mx3.9/33, mbtmp3.8/10, ML3.1/3, MS3.3/2, Ms1 3.4/2, ms1mx2.7/27, Error ellipse: s-maj=50.8km s-min=23.2km az=41.0*

ISCJB ***14*** *17:32:37.7±0.6, 12°.11N±0°.06×88°.16W±0°.05, h48km±4km, mb4.2/15, MS3.3/2, Error ellipse: s-maj=12.5km s-min=3.8km az=40.6*

NEIC ***14*** *17:32:38.3±1.1, 12°.21N×88°.02W, h47km±12km, mb4.5/7, Error ellipse: s-maj=30.5km s-min=10.4km az=217.0*

CASC ***14*** *17:32:38.3±1.2, 12°.13N×88°.24W, h35km±999km, MD4.1*

ISC 14 17:32:39.1±1.3, 12°.14N±0°.08×88°.17W±0°.07, h45km±12km, n192, σ1.01/204, mb4.2/15, 84C-84D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.18	16	↑iP	Pn	17 32 59.0	-0.3
VSM	San Miguel	1.28	356	↑iP	Pn	17 33 00.3	-0.6
VSM				eS	Sn	17 33 17.8	+0.7
COPN	Copaltepe	1.55	88	↓iP	Pn	17 33 03.5	-0.7
COPN				eS	Sn	17 33 24.5	+1.4
CAHU	Cacacuatique	1.62	359	eP	Pn	17 33 05.6	+0.2
CAHU				eS	Sn	17 33 26.1	+0.9
LFRS	El Faro	1.71	330	↑iP	Pn	17 33 05.2	-1.4
LFRS				eS	Sn	17 33 26.9	-0.4
HUEN		1.97	84	eP	Pn	17 33 09.5	-0.4
SBLS	San Blas	2.20	320	↓iP	Pn	17 33 12.4	-1.0
SBLS				eS	Sn	17 33 39.5	-0.1
SNJE	San Jose	2.21	321	eP	Pn	17 33 12.1	-1.5
RTR	El Retiro	2.26	321	eP	Pn	17 33 13.2	-0.9
RBDL	Robledal	2.46	323	↑iP	Pn	17 33 16.2	-0.7
RBDL				eS	Sn	17 33 45.7	0.0
APG	El Apazote	3.62	322	Pn	Pn	17 33 32.5	-0.4
	1.0nm,0.3s,baz=148,slow=12,SNR=8.3						
JTS	JuntasAbangare	3.65	120	Pn	Pn	17 33 31.2	-1.9
	1.4nm,0.3s,baz=109,slow=23,SNR=10						
JTS				Sn	Sn	17 34 13.5	-1.6
	5.0nm,0.3s,baz=302,slow=22,SNR=5.7						
QCR	Quepos	4.77	124	↑iP	Pn	17 33 48.9	+0.4
URSC	Urasca	4.88	118	↓eP	Pn	17 33 52.4	+2.1
URSC				eS	Sn	17 34 47.2	+1.6
BUS	Buena Vista	5.04	120	eP	Pn	17 33 53.5	+1.0
BUS				eS	Sn	17 34 47.2	-2.6
CMIG	Matias Romero	8.15	308	Pn	Pn	17 34 34.7	-0.1
	0.5nm,0.3s,baz=78,slow=7.9,SNR=4.2						
CMIG				Sn	Sn	17 36 14.4	+8.7
	0.3nm,0.3s,baz=292,slow=17,SNR=2.4						
035Z	Hargill	17.02	328	↓P	P	17 36 37.3	+2.1
	baz=17						
034A	Hebbronville	17.83	328	↑P	P	17 36 45.5	+1.4
	baz=18,SNR=5.1						
934A	Benavides	18.18	329	↑P	Pn	17 36 50.0	+1.8
	baz=18						
933A	Laredo	18.58	328	↓P	Pn	17 36 53.9	+0.8
	baz=19						
834A	Tilden	18.63	330	↑P	P	17 36 53.8	+0.8
	baz=19,SNR=6.4						
833A	Chaparral WMA,	19.22	329	↑P	Pn	17 37 00.6	-0.1
	baz=19,SNR=6.2						
832A	Faith Ranch, C	19.49	327	↓P	P	17 37 03.5	+1.1
	baz=20,SNR=12						
733A	Divot King Ran	19.49	329	↑P	P	17 37 03.2	+0.8
	baz=20,SNR=30						
634A	China Grove, S	19.60	333	↑P	P	17 37 04.4	+0.8
	baz=20						
633A	Saathoff Ranch	20.05	331	↑P	P	17 37 08.7	+0.2
	baz=20,SNR=8.9						
436A	Wall Ranch, Ga	20.19	338	↑P	P	17 37 08.8	-1.2
	baz=20						
534A	Blanco	20.21	333	↓P	P	17 37 10.1	-0.1
	baz=20,SNR=8.6						
632A	Uvalde	20.38	330	↓P	P	17 37 12.8	+0.7
	baz=20						
435B	Jarrell	20.50	336	↓P	P	17 37 13.1	-0.2
	baz=21						
533A	Kerrville	20.50	332	↓P	P	17 37 13.4	0.0
	baz=21,SNR=21						
434A	Burnet	20.80	335	↑P	P	17 37 16.4	-0.3
	baz=21						
532A	Rocksprings	20.95	330	↑P	P	17 37 18.5	+0.2
	baz=21,SNR=9.1						
433A	Art	21.10	333	↑P	P	17 37 19.7	-0.2
	baz=21						
JCT	Junction City	21.19	331	↑P	P	17 37 21.4	+0.5
	baz=21						
JCT	Junction City	21.19	331	eP	P	17 37 20.0	-0.9
	7.8nm,0.7s						
334A	Lometa	21.24	336	↑P	P	17 37 21.3	0.0
	baz=21						
432A	Menard	21.52	332	↑P	P	17 37 25.0	+0.6
	baz=22,SNR=5.8						
333A	Richland Sprin	21.55	334	↓P	P	17 37 24.8	+0.2
	baz=22,SNR=8.0						
530A	J-C Ranch, Com	21.69	328	↑P	P	17 37 27.0	+0.8
	baz=22						
431A	Sonora	21.75	330	↓P	P	17 37 27.8	+1.0
	baz=22,SNR=5.1						
332A	Millersview	21.93	333	↓P	P	17 37 29.6	+0.9
	baz=22,SNR=14						
233A	Rising Star	22.11	335	↑P	P	17 37 30.5	-0.2
	baz=22						
529A	Stev Forest Ra	22.14	326	↑P	P	17 37 32.0	+0.9
	baz=22						
430A	Baggett Ranch,	22.15	329	↑P	P	17 37 32.2	+1.1
	baz=22,SNR=8.3						
331A	San Angelo	22.18	331	↑P	P	17 37 31.1	-0.4
	baz=22,SNR=8.1						
232A	Coleman	22.32	334	↓P	P	17 37 33.4	+0.5
	baz=22,SNR=11						
429A	Davenport Ranc	22.36	327	↓P	P	17 37 34.5	+1.1
	baz=22						
TXAR	Lajitas Array	22.38	322	P	P	17 37 33.8	+0.1
	2.2nm,0.8s,baz=142,slow=11,SNR=19						
330A	Mertzon	22.62	330	↑P	P	17 37 37.9	+1.7
	baz=23,SNR=5.8						
133A	Hamilton Ranch	22.64	336	↑P	P	17 37 35.6	-0.7
	baz=23						
231A	Bronte	22.65	332	↓P	P	17 37 36.1	-0.5
	baz=23						
MIAR	Mount Ida	22.84	348	P	P	17 37 37.6	-0.8
	12nm,0.8s						
Z34A	Collier Ranch,	22.94	339	↓P	P	17 37 38.5	-0.9
	baz=23						
ABTX	Abilene, Hawle	22.95	335	↓P	P	17 37 39.3	-0.3
	baz=23						
230A	Sterling City	22.98	331	↓P	P	17 37 39.8	-0.2
	baz=23						
329A	Wagon Wheel Ra	23.09	329	↑P	P	17 37 40.9	-0.1
	baz=23						
Z33A	Whitaker Ranch	23.18	337	↓P	P	17 37 41.4	-0.4
	baz=23						
131A	Roby	23.31	333	↓P	P	17 37 42.6	-0.6
	baz=23						
229A	Bryant Ranch,	23.39	330	↓P	P	17 37 44.3	+0.3
	baz=24						
Z32A	Haskell	23.47	336	↓P	P	17 37 44.3	-0.4
	baz=24,SNR=6.3						
130A	Snyder	23.50	332	↑P	P	17 37 43.9	-1.2
	baz=24						
TKL	Tuckaleechee C	23.75	9	P	P	17 37 46.6	-0.7
	6.8nm,1.0s,baz=188,slow=13,SNR=4.1						
TKL				LR	LR	17 46 42.0	
	comp=Z,49nm,18.1s,baz=84,slow=36						
Z31A	Sharp Cattle R	23.76	334	↓P	P	17 37 46.9	-0.5
	baz=24						
228A	UT Block 9, Go	23.90	329	↓P	P	17 37 48.9	+0.1
	baz=24						
129A	Stewart Farms,	23.96	331	↓P	P	17 37 49.0	-0.3
	baz=24						
Z30A	Sanderson Ranc	24.16	333	↑P	P	17 37 51.4	+0.2
	baz=24						
X33A	Lawton	24.20	339	↑P	P	17 37 51.3	-0.1
	baz=24,SNR=8.4						
128A	Castleberry Fa	24.25	329	↑P	P	17 37 52.2	+0.1
	baz=24						
Y31A	Rekieta Farm,	24.36	335	↓P	P	17 37 53.1	+0.2
	baz=24						
X32A	Elmer	24.38	337	↓P	P	17 37 53.4	+0.3
	baz=24						
Z29A	Hungry Hill Ra	24.40	332	↑P	P	17 37 53.0	-0.3
	baz=24						
Y30A	Stafford Cattl	24.56	334	↓P	P	17 37 56.1	+1.4
	baz=25						
W34A	Bridge Creek,	24.59	341	↑P	P	17 37 55.2	+0.2
	baz=25,SNR=6.0						
W34A	Bridge Creek,	24.59	341	eP	P	17 37 52.5	-2.5
	34nm,0.8s						
TUL1	Leonard	24.65	345	↓P	P	17 37 55.2	-0.3
	baz=25						
W33A	Caddo, Fort Co	24.74	340	↑P	P	17 37 56.9	+0.5
	baz=25						
X31A	McDonald Ranch	24.83	336	↑P	P	17 37 57.8	+0.6
	baz=25						
W32A	Sentinel	24.99	338	↓P	P	17 37 58.9	+0.3
	baz=25,SNR=7.7						
X30A	Coker Ranch, T	25.04	335	↑P	P	17 37 59.7	+0.6
	baz=25,SNR=12						
V34A	Guthrie	25.06	342	↑P	P	17 37 58.4	-0.9
	baz=25,SNR=6.2						
V34A	Guthrie	25.06	342	eP	P	17 37 57.0	-2.3
	22nm,0.8s						
Y28A	McKinney Farm,	25.19	332	↓P	P	17 38 01.5	+0.9
	baz=25						
V33A	Lossen Ranch,	25.29	340	↓P	P	17 38 01.0	-0.3
	baz=25						
X29A	Tulia	25.39	333	↓P	P	17 38 03.2	+0.9
	baz=26						
V32A	Arapaho	25.45	339	↑P	P	17 38 03.5	+0.6
	baz=26						
MSTX	Muleshoe	25.49	331	↑P	P	17 38 04.0	+0.7
	baz=26						
MSTX	Muleshoe	25.49	331	eP	P	17 38 02.8	-0.5
	13nm,1.0s						
Y27A	Causey	25.61	330	↑P	P	17 38 05.5	+1.1
	baz=26						
U34A	Anderson Ranch	25.62	342	↑P	P	17 38 03.8	-0.5
	baz=26						
AMTX	Amarillo	25.75	334	↓P	P	17 38 06.4	+0.8
	baz=26						
V31A	Spring Creek L	25.79	338	↓P	P	17 38 06.5	+0.6
	baz=26						
W29A	Amarillo	25.94	334	↓P	P	17 38 08.2	+0.8
	baz=26						
U32A	Winter Ranch,	26.04	340	↑P	P	17 38 08.0	-0.1
	baz=26						
X27A	F and S Farms,	26.20	331	↑P	P	17 38 10.7	+1.0
	baz=26						
W27A	Bowe Ranch, En	26.52	332	↑P	P	17 38 13.8	+1.2
	baz=27,SNR=6.0						
V28A	Channing	26.72	334	↑P	P	17 38 15.7	+1.3
	baz=27						
U30A	WK&E Inc. Balk	26.76	337	↓P	P	17 38 15.4	+0.7
	baz=27						
Y24A	Capitan	26.80	327	↑P	P	17 38 18.1	+2.8
	baz=27						
X25A	Clemmons Ranch	26.86	329	↑P	P	17 38 18.2	+2.4
	baz=27						
W26A	Owens Ranch, T	26.87	331	↓P	P	17 38 17.6	+1.7
	baz=27						
T31A	Randall Ranch,	26.91	339	↑P	P	17 38 16.3	+0.3
	baz=27						
W25A	X Bar L Ranch,	27.31	330	↑P	P	17 38 21.9	+2.2
	baz=27						
V26A	Tequesquite Ra	27.46	332	↑P	P	17 38 22.2	+1.1
	baz=28,SNR=5.1						
R33A	Olander Ranch,	27.49	343	↑P	P	17 38 21.3	+0.1
	baz=28						
U27A	Thompson Grove	27.55	334	↑P	P	17 38 23.4	+1.5
	baz=28						
T29A	Hugoton	27.56	337	↑P	P	17 38 22.9	+1.0
	baz=28						
W24A	Lazy 6 Ranch,	27.78	329	↑P	P	17 38 25.5	+1.5
	baz=28						
V25A	Rancho No Teng	27.89	331	↑P	P	17 38 26.7	+1.8
	baz=28,SNR=5.7						
U26A	Atchley Ranch,	27.93	332	↑P	P	17 38 26.5	+1.1
	baz=28						
T27A	Campo	28.05	335	↓P	P	17 38 27.1	+0.8
	baz=28						
Q33A	Connelly Farm,	28.09	344	↑P	P	17 38 26.2	-0.3
	baz=28						
V24A	Rampart Ranch,	28.11	329	↑P	P	17 38 28.7	+1.7
	baz=28						
S28A	Manter	28.17	336	↓P	P	17 38 28.0	+0.6
	baz=28						
R30A	Dighton	28.19	340	↓P	P	17 38 28.2	+0.7
	baz=28						
U25A	Circle Dot Ran	28.24	332	↑P	P	17 38 30.3	+2.2
	baz=28						
Q32A	Meitler Ranch,	28.29	343	↓P	P	17 38 28.3	-0.1
	baz=28						
Q30A	Quinter	28.80	340	↓P	P	17 38 33.6	+0.7
	baz=29						
T25A	Trinidad	28.85	332	↑P	P	17 38 34.7	+1.2
	baz=29						
U23A	El Rito	29.05	329	↓P	P	17 38 37.5	+2.1
	baz=29						
V22A	San Miguel Ran	29.10	328	↑P	P	17 38 37.1	+1.3
	baz=29						
Q25A	Bedland, Calha	30.25	335	↓P	P	17 38 46.2	+0.2
	baz=30						
M31A	Lambtecht Ranc	30.60	344	↓P	P	17 38 49.1	+0.3
	baz=31						
P23A	Jefferson	31.32	333	↑P	P	17 38 57.8	+2.2
	baz=31						
K30A	Basset	32.01	344	↑P	P	17 39 01.3	+0.2
	baz=32						
O22A	Kremmling	32.28	333	↓P	P	17 39 04.8	+0.9
	baz=32						
ECSD	EROS Data Cent	32.31	349	↑P	P	17 39 03.8	0.0
	baz=32						
N23A	Red Feather La	32.62	335	↑P	P	17 39 07.5	+0.7
	baz=33						
J29A	Okreek	32.88	344	↓P	P	17 39 09.0	+0.2
	baz=33						
I30A	Oacoma	33.12	345	↑P	P	17 39 10.6	-0.2
	baz=33						
J28A	Allard Ranch,	33.16	342	↓P	P	17 39 11.5	+0.2
	baz=33						
J27A	Elkhorn Farm,	33.23	341	↑P	P	17 39 13.0	+1.1
	baz=33						
K25A	Mack Ranch, Ha	33.29	339	↑P	P	17 39 13.6	+1.1
	baz=33						
L23A	Garrett	33.55	336	↑P	P	17 39 15.7	+0.9
	baz=34						
J25A	Sunshine Ranch	33.95	339	↓P	P	17 39 19.0	+0.8
	baz=34						
I27A	Quinn	33.99	342	↓P	P	17 39 19.4	+0.9
	baz=34						
H28A	Mission Ridge	34.24	344	↑P	P	17 39 21.5	+0.8
	baz=34						
F30A	Leola	34.83	347	↑P	P	17 39 27.1	+1.4
	baz=35						
J22A	Midwest	34.95	336	↑P	P	17 39 28.4	+1.5
	baz=35						
G26A	Maurine	35.26	342	↓P	P	17 39 29.7	+0.3
	baz=35						
J21A	Lysite	35.28	335	↓P	P	17 39 30.9	+1.1
	baz=35						
I22A	9 Mile Ranch,	35.36	337	↓P	P	17 39 30.8	+0.4
	baz=35						
H24A	Dirks Ranch, A	35.40	340	↓P	P	17 39 31.1	+0.4
	baz=36						
PDAR	Pinedale Array	35.72	333	P	P	17 39 33.6	0.0
	0.5nm,0.8s,baz=140,slow=9.5,SNR=3.4						
PDAR				PcP	PcP	17 42 02.2	+1.2
	0.2nm,0.5s,baz=157,slow=2.5,SNR=2.4						
F26A	Lodgepole	35.79	343	↑P	P	17 39 34.8	+0.8
	baz=36						
H22A	Clearmont	35.91	338	↓P	P	17 39 35.9	+0.8
	baz=36						
D30A	Buchanan	35.98	348	↓P	P	17 39 34.8	-0.8
	baz=36						
D29A	Pettibone, Tap	36.12	347	↓P	P	17 39 35.9	-0.8
	baz=36						
D28A	Regan	36.47	346	↓P	P	17 39 39.9	+0.1
	baz=36						
C30A	Mose, Pekin	36.49	348	↓P	P	17 39 39.3	-0.5
	baz=37						
AGMN	Agassiz Nation	36.62	351	↓P	P	17 39 39.4	-1.5
	baz=37,SNR=7.1						
AGMN	Agassiz Nation	36.62	351	eP	P	17 39 39.4	-1.5
	8.4nm,0.8s						
D26A	Manning	36.80	344	↑P	P	17 39 42.1	-0.4
	baz=37						
MDND	Maddock	36.86	347	↓P	P	17 39 43.1	0.0
	baz=37						
F22A	Rosebud	36.89	339	↑P	P	17 39 43.6	+0.3
	baz=37						
E24A	Baker	36.92	341	↓P	P	17 39 44.1	+0.4
	baz=37						
B30A	Myrvik Farm, E	37.18	349	↓P	P	17 39 44.8	-0.9
	baz=37						
B29A	Wagenman Farm,	37.40	348	↑P	P	17 39 47.4	-0.1
	baz=38						
D24A	Glendive	37.42	342	↓P	P	17 39 47.9	0.0
	baz=38						
NVAR	Mina Array Bea	37.48	320	P	P	17 39 50.5	+1.9
	0.9nm,0.9s,baz=122,slow=7.2,SNR=4.5						
NVAR				PcP	PcP	17 42 07.2	+0.8
	0.6nm,0.8s,baz=122,slow=4.5,SNR=3.8						
B28A	Dugan Ranch, T	37.60	347	↓P	P	17 39 48.9	-0.4
	baz=38						
A30A	Hoffart Farm,	37.64	349	↑P	P	17 39 48.8	-0.8
	baz=38						
A29A	Manning Farm,	37.81	348	↓P	P	17 39 50.6	-0.4
	baz=38						
C24A	Savage	37.83	342	↑P	P	17 39 51.2	-0.1
	baz=38						
F19A	Roth Farm, Mol	37.96	336	↑P	P	17 39 52.5	0.0
	baz=38						
B26A	Jensen Ranch,	37.98	345	↓P	P	17 39 52.3	-0.3
	baz=38						
D22A	Cohagen	38.05	340	↓P	P	17 39 53.7	+0.5
	baz=38						
B25A	Knox Farm, Ray	38.13	344	↑P	P	17 39 54.1	+0.2

A21A	Bergtoll Ranch	39.90 341	⇓P	P	17 40 09.4	+0.8
	baz=40					
EGMT	Eagleton	40.06 337	⇓P	P	17 40 11.0	+0.9
	baz=40					
B19A	Brinkman Farms	40.13 339	⇓P	P	17 40 11.3	+0.8
	baz=40					
A20A	Cobblestone Ra	40.13 340	⇓P	P	17 40 11.6	+1.0
	baz=40					
A19A	Klindworth Far	40.46 339	⇓P	P	17 40 14.3	+1.0
	baz=40					
SCHQ	Schefferville	45.78 17	P	P	17 40 54.4	-1.7
	3.2nm,0.8s,baz=228,slow=13,SNR=4.8					
YKA	Yellowknife Ar	53.73 345	P	P	17 41 55.3	-1.0
	1.1nm,0.7s,baz=138,slow=7.9,SNR=26					
YKA			PcP	PcP	17 43 02.2	+0.3
	0.4nm,0.7s,baz=146,slow=4.3,SNR=6.6					
ILAR	Eielson Array	66.02 336	P	P	17 43 19.6	-1.2
	1.1nm,1.1s,baz=132,slow=1.8,SNR=5.7					
ILAR			LR	LR	18 18 17.2	
	comp=Z,35nm,20.7s,baz=180,slow=42					
CMAR	Chiang Mai Arr	148.80 347	PKPbc	PKPdf	17 52 20.6	+1.8
	1.3nm,0.9s,baz=342,slow=3.8,SNR=7.7					

IDC 14 17:34:05.7±3.4, 1°.59S×135°.97E, h0^{km}, mb2.8/1, mb1 3.3/2, mb1mx3.1/33, mbtmp3.0/2, ML2.9/1, Error ellipse: s-maj=141.1km s-min=47.1km az=86.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.31	185	P	Pn	17 38 20.0	-1.3
	0.0nm,0.3s,baz=6.8,slow=12,SNR=3.2						
ASAR	Alice Springs	22.04	185	P	P	17 39 02.7	+0.6
	0.2nm,0.5s,baz=8.1,slow=11,SNR=7.1						
TORD	Torodi Ar. Bea	133.31	287	PKP	PKPdf	17 53 24.6	-0.3
	0.2nm,0.4s,baz=86,slow=2.3,SNR=3.2						

ISCJB 14 17:36:38.9±0.6, 2°.64N±0°.07×128°.38E±0°.08, h150^{km}, mb3.6/8, Error ellipse: s-maj=11.1km s-min=9.7km az=22.1
IDC 14 17:36:39.4±6.1, 2°.57N×128°.46E, h138^{km}±58^{km}, mb3.4/8, mb1 3.6/8, mb1mx3.3/38, mbtmp3.8/8, Error ellipse: s-maj=57.4km s-min=12.3km az=78.0
DJA 14 17:36:43.6±1.7, 3°.N±17°.×12°.8E±°, h143^{km}±14^{km}, M4.1/5, MLv4.1/5
ISC 14 17:36:40.7±0.7, 2°.62N±0°.09×128°.4E±0°.1, h150^{km}, n18, σ0°.95/19, mb3.6/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.08	208	P	Pn	17 37 18.6	+1.8
SWI	Sorong	4.52	140	P	Pn	17 37 51.6	+3.8
SWI	Sorong	4.52	140	P	Pn	17 37 51.1	+3.3
	baz=8.2,SNR=4.5						
KMSI	Cibinong	4.81	245	P	Pn	17 37 51.4	-0.3
KMSI				S	Sn	17 38 46.6	-0.4
FAKI	Fak Fak	6.74	145	P	Pn	17 38 21.1	+3.7
	baz=10.0,SNR=4.0						
FAKI				S	Sn	17 40 16.1	+43
	baz=10.0,SNR=3.7						
KDU	Kakadu	15.75	165	P	P	17 40 16.9	+1.7
	baz=20,SNR=3.8						
WRA	Warramunga Arr	23.18	166	P	P	17 41 33.2	-1.0
	2.9nm,0.6s,baz=344,slow=10,SNR=43						
ASAR	Alice Springs	26.68	169	P	P	17 42 05.0	-1.0
	0.3nm,0.4s,baz=350,slow=7.8,SNR=25						
ASAR				PcP	PcP	17 45 25.5	-0.4
	0.3nm,0.4s,baz=356,slow=2.1,SNR=9.5						
WRKA	Warakurna	27.49	180	P	P	17 42 12.0	-1.1
	baz=32,SNR=8.3						
KSRS	Korea Array	34.67	359	P	P	17 43 16.9	+1.0
	0.9nm,0.7s,baz=178,slow=9.6,SNR=3.2						
MJAR	Matsushiro Arr	34.96	14	P	P	17 43 17.4	-1.1
	1.2nm,0.9s,baz=189,slow=9.3,SNR=4.8						
BBOO	Buckleboo	35.98	169	P	P	17 43 26.5	-0.8
	baz=40,SNR=11						
STKA	Stephens Creek	36.54	161	P	P	17 43 31.3	-0.7
	2.3nm,0.3s,baz=338,slow=7.3,SNR=29						
STKA				PcP	PcP	17 45 51.9	-0.5
	0.4nm,0.4s,baz=18,slow=6.4,SNR=3.3						
STKA	Stephens Creek	36.54	161	P	P	17 43 31.6	-0.4
	baz=40,SNR=23						
HTT	Hallett	37.22	165	P	P	17 43 37.6	-0.1
	baz=41,SNR=3.1						
SONM	Songino Array	48.87	340	P	P	17 45 11.8	+0.6
	0.5nm,0.6s,baz=148,slow=9.3,SNR=4.5						
SONM				PcP	PcP	17 46 34.0	+0.5
	0.1nm,0.5s,baz=128,slow=4.0,SNR=2.5						
MKAR	Makanchi Array	59.38	325	P	P	17 46 27.7	+0.4
	0.7nm,0.5s,baz=122,slow=7.5,SNR=11						
VNDA	Vanda	82.13	173	P	P	17 48 43.5	-0.6
	0.4nm,0.5s,baz=331,slow=6.3,SNR=4.6						

IDC 14 17:51:00.3±1.9, 16°.20S×114°.99W, h0^{km}, mb3.6/4, mb1 4.0/4, mb1mx3.8/16, mbtmp3.6/4, Error ellipse: s-maj=107.4km s-min=50.2km az=105.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	Mina Array Bea	54.43	357	P	P	18 00 30.3	+0.7
	0.3nm,0.5s,baz=186,slow=7.2,SNR=3.1						
PDAR	Pinedale Array	58.88	5	P	P	18 01 01.0	-0.3
	0.8nm,0.8s,baz=140,slow=7.1,SNR=5.1						
YKA	Yellowknife Ar	78.43	0	P	P	18 03 02.3	-0.2
	0.4nm,0.8s,baz=174,slow=5.8,SNR=9.9						
ILAR	Eielson Array	84.31	347	P	P	18 03 32.9	-0.9
	0.3nm,0.8s,baz=162,slow=6.2,SNR=4.3						
H11S2	WAKE ISLAND Hy	84.41	291	T	T	19 36 12.5	
	baz=109						
H11S1	WAKE ISLAND Hy	84.42	291	T	T	19 36 13.2	
	baz=109						
H11S3	WAKE ISLAND Hy	84.43	291	T	T	19 36 14.0	
	baz=109						
BRTR	Keskin Array B	144.01	43	PKP	PKPbc	18 10 36.2	-0.1
	1.6nm,0.9s,baz=258,slow=2.5,SNR=8.6						
AKTO	Aktyubinsk	145.38	8	PKPbc	PKPbc	18 10 39.1	-0.9
	1.3nm,0.9s,baz=10.0,slow=6.3,SNR=4.4						
MKAR	Makanchi Array	146.28	338	PKPbc	PKPdf	18 10 41.7	-0.3
	0.4nm,0.7s,baz=49,slow=4.4,SNR=3.1						
KBZ	Khabaz	146.74	30	PKPbc	PKPbc	18 10 44.9	+0.5
	2.0nm,1.1s,baz=322,slow=3.2,SNR=4.2						
CMAR	Chiang Mai Arr	147.56	279	PKPbc	PKPbc	18 10 47.2	-0.2
	1.3nm,0.7s,baz=91,slow=1.2,SNR=10						

GUC 14 18:06:29.3±0.8, 34°.46S×72°.19W, h25^{km}±9^{km}, ML3.8, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.82	52	⇓iP	Pn	18 06 45.3	0.0
LNV				iS1	Sn	18 06 57.3	+0.7
NICH	Los Niches	0.96	125	⇓iP	Pb	18 06 47.8	+0.5
NICH				iS	Sn	18 07 01.4	+1.3
TALC	Talca	1.04	154	⇑iP	Pn	18 06 48.2	-0.2
TALC				eS4	Sn	18 07 02.1	0.0
CACH	El Canelo	1.36	76	eP1	Pb	18 06 54.6	+0.3
CHCH	Chadas Angostu	1.38	68	⇑iP	Pb	18 06 54.3	-0.2
CHCH				iS1	Sb	18 07 13.3	+1.6
LNCH	Linares	1.47	161	⇑iP	Pb	18 06 56.1	+0.2
LNCH				iS	Sb	18 07 15.7	+1.5
ANTU	Antumapu	1.57	56	⇑iP	Pb	18 06 57.0	-0.7
ANTU				IAML		18 07 24.0	
	comp=E,2μm,1.1s						
CLCH	Cerro Calan	1.73	53	⇑iP	Pb	18 06 59.9	-0.7
CLCH				iS	Sb	18 07 23.4	+1.3
CLCH				IAML		18 07 25.8	
	comp=N,2μm,0.5s						
PEL	Peldehue	1.81	44	⇓iP	Pb	18 07 01.7	-0.2
PEL				iS	Sb	18 07 25.5	+1.2
PEL				IAML		18 07 32.7	
	comp=N,2μm,0.4s						

ISCJB 14 18:15:15.2±1.2, 34°.01S±0°.03×72°.45W±0°.05, h12^{km}±8^{km}, mb4.3/12, MS4.0/3, Error ellipse: s-maj=6.7km s-min=4.6km az=4.5
IDC 14 18:15:15.0±0.6, 34°.03S×72°.16W, h0^{km}, mb4.3/11, mb1 4.5/12, mb1mx4.3/24, mbtmp4.3/12, ML4.1/1, MS4.0/3, Ms1 4.0/3, ms1mx3.4/28, Error ellipse: s-maj=25.4km s-min=16.7km az=99.0
NEIC 14 18:15:18.2, 34°.06S×72°.29W, h12^{km}, mb4.5/2, ML4.8(GUC), After GUC.
NEIC Felt [III] at San Antonio and [II] at La Ligua, Pichilemu and Valparaiso.
GUC 14 18:15:18.2±0.5, 34°.06S×72°.29W, h12^{km}±4^{km}, ML4.8
ISC 14 18:15:19.3±1.7, 34°.02S±0°.04×72°.26W±0°.07, h29^{km}±11^{km}, n56, σ0°.82/75, mb4.4/12, MS4.0/3, 7C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.71	85	⇓iP	Pb	18 15 32.3	-0.8
LNV	Longovilo	0.71	85	⇓iP	Pb	18 15 32.3	-0.8
IHA	Instituto Hidr	1.12	28	⇑iP	Pn	18 15 38.9	-0.1
IHA				iS	Sb	18 15 54.4	+0.2
IHA	Instituto Hidr	1.12	28	⇑iP	Pn	18 15 38.9	-0.1
IHA				iS	Sb	18 15 54.4	+0.2
NICH	Los Niches	1.30	139	⇓iP	Pn	18 15 40.9	-0.6
NICH				iS	Sn	18 15 58.2	+0.4
NICH				AML	AML	18 16 02.8	
	comp=E,40μm,0.5s						
NICH	Los Niches	1.30	139	⇓iP	Pn	18 15 40.9	-0.6
NICH				iS	Sn	18 15 58.2	+0.4
CHCH	Chadas Angostu	1.34	87	eP1	Pn	18 15 41.9	-0.1
CHCH	Chadas Angostu	1.34	87	eP	Pn	18 15 41.9	-0.1
CACH	El Canelo	1.38	94	⇓iP	Pn	18 15 43.2	+0.5
CACH	El Canelo	1.38	94	⇓iP	Pn	18 15 43.2	+0.5
ANTU	Antumapu	1.43	72	⇑iP	Pn	18 15 43.7	+0.4
ANTU				iS	Sb	18 16 03.0	-0.1
ANTU				AML	AML	18 16 10.3	
	comp=N,16μm,0.5s						
ANTU	Antumapu	1.43	72	⇑iP	Pn	18 15 43.7	+0.4
ANTU				iS	Sb	18 16 03.0	-0.1
TALC	Talca	1.47	160	eP	Pn	18 15 43.1	-0.6
TALC				iS	Sn	18 16 01.9	-0.1
TALC				AML	AML	18 16 07.4	
	comp=E,40μm,0.5s						
TALC	Talca	1.47	160	eP	Pn	18 15 43.1	-0.6
TALC				iS	Sn	18 16 01.9	-0.1
LACH	Col Las Americ	1.55	69	eP1	Pn	18 15 45.3	+0.4
LACH				iS	Sb	18 16 06.3	-0.2
LACH	Col Las Americ	1.55	69	eP	Pn	18 15 45.3	+0.4
LACH				iS	Sb	18 16 06.3	-0.2
CLCH	Cerro Calan	1.56	67	⇑iP	Pn	18 15 45.7	+0.5
CLCH				iS	Sb	18 16 07.2	+0.2
CLCH				AML	AML	18 16 16.4	
	comp=E,12μm,0.8s						
PEL	Peldehue	1.58	57	⇓iP	Pn	18 15 46.1	+0.8
PEL				iS	Sb	18 16 07.5	+0.1
PEL				AML	AML	18 16 16.6	
	comp=N,18μm,0.5s						
PEL	Peldehue	1.58	57	⇓iP	Pn	18 15 46.1	+0.8
PEL				iS	Sb	18 16 07.5	+0.1
LNCH	Linares	1.90	164	⇑iP	Pn	18 15 50.2	+0.4
LNCH				iS	Sn	18 16 14.2	+1.5
LNCH	Linares	1.90	164	⇑iP	Pn	18 15 50.2	+0.4
LNCH				iS	Sn	18 16 14.2	+1.5
CFAA	Coronel Fontan	4.15	56	Pn	Pn	18 16 19.2	-1.6
	comp=N,0.2nm,0.3s,baz=227,slow=11,SNR=22						
CFAA				Lg	Lg	18 17 20.9	
	comp=N,4.8nm,0.3s,baz=61,slow=16,SNR=7.2						
LCO	Las Campanas	5.17	15	ePn	Pn	18 16 32.9	-2.0
	comp=N,58nm,0.6s						
LCO				ePg	Pb	18 16 58.3	+9.2
LCO				eSn	Sn	18 17 34.9	+1.1
TRQA	Tornquist	9.24	119	ePn	Pn	18 17 30.6	-0.1
	comp=N,15nm,0.7s						
TRQA				eSn	Sn	18 19 13.2	-0.5
LPAZ	La Paz	18.04	13	P	P	18 19 29.0	+0.1
	comp=N,0.3nm,0.3s,baz=195,slow=6.7,SNR=16						
LPAZ	La Paz	18.04	13	eP	P	18 19 29.7	+0.8
SIV	San Ignacio	20.59	32	P	P	18 19 55.8	-0.2
	comp=N,8.5nm,0.6s,baz=223,slow=7.9,SNR=21						
SIV				LR	LR	18 29 17.6	
	comp=N,643nm,18.8s,baz=242,slow=41						
SAML	Samuel	26.31	21	eP	P	18 20 51.8	-0.8
	comp=N,12nm,0.9s						
BDFB	Brasilia	28.50	56	P	P	18 21 11.2	-1.1
	comp=N,9.4nm,0.9s,baz=214,slow=4.6,SNR=11						
PTGA	Pitinga	35.06	22	eP	P	18 22 09.9	+0.1
	comp=N,4.3nm,0.9s						
SDV	Santo Domingo	42.70	2	P	P	18 23 14.1	+0.2
VNA3	Neumayer Olymp	49.41	158	P	P	18 24 07.1	+1.1
VNA2	Neumayer--Watz	50.06	157	P	P	18 24 10.7	-0.3
	baz=311,slow=9.7						
SNAA	Sanae	51.63	158	P	P	18 24 23.7	+0.8
SNAA	Sanae	51.63	158	P	P	18 24 22.8	0.0
	comp=N,4.6nm,1.0s,baz=240,slow=5.3,SNR=5.9						
SNAA	Sanae	51.63	158	eP	P	18 24 23.3	+0.5
QSPA	South Pole Qui	56.22	180	P	P	18 24 57.0	+0.5
	comp=N,9.8nm,0.9s,baz=141,slow=3.1,SNR=16						
QSPA	South Pole Qui	56.22	180	eP	P	18 24 57.1	+0.6
VNDA	Vanda	64.05	191	P	P	18 25 50.9	+1.1
	comp=N,1.0nm,0.8s,baz=142,slow=4.8,SNR=4.5						
TXAR	Lajitas Array	69.66	331	P	P	18 26 26.9	+0.7
	comp=N,0.5nm,0.8s,baz=151,slow=6.8,SNR=5.4						
TXAR				LR	LR	18 52 15.9	
	comp=N,113nm,18.5s,baz=0.0,slow=32						
PPT2	Papeete2	70.05	262	eS	S	18 35 34.8	-3.3
	comp=N,51nm,22.8s						
PPT2	Papeete2	70.05	262	eLR	LR	18 47 46.1	
	comp=N,132nm,27.5s						
PPT	Papeete	70.06	262	LR	LR	18 50 37.9	
	comp=N,62nm,19.4s,baz=151,slow=30						
BOSA	Boshof	80.22	118	P	P	18 27 27.2	-0.3
	comp=N,3.7nm,0.7s,baz=328,slow=1.5,SNR=6.3						
PDAR	Pinedale Array	83.70	333	P	P	18 27 46.1	+0.8
	comp=N,1.2nm,1.1s,baz=169,slow=1.5,SNR=4.3						
NVAR	Mina Array Bea	83.80	325	P	P	18 27 47.4	+1.4
	comp=N,0.8nm,0.9s,baz=162,slow=5.3,SNR=4.5						
TORD	Torodi Ar. Bea	84.39	70	P	P	18 27 49.3	+0.1
	comp=N,7.7nm,0.8s,baz=248,slow=4.4,SNR=29						
ULM	Lac du Bonnet	86.47	345	P	P	18 27 57.5	-1.2
	comp=N,1.7nm,0.7s,baz=229,slow=2.5,SNR=3.8						
WRA	Warramunga Arr	120.66	209	PKP	PKPdf	18 34 07.3	-1.6
	comp=N,0.7nm,0.9s,baz=151,slow=1.7,SNR=3.2						
BRTR	Keskin Array B	122.00	61	PKP	PKPdf	18 34 10.7	-0.2
	comp=N,0.9nm,0.8s,baz=59,slow=1.6,SNR=7.0						
AKASG	Malin Array Be	122.34	48	PKP	PKPdf	18 34 10.3	-0.6
	comp=N,2.4nm,0.8s,baz=264,slow=2.8,SNR=4.3						
HYB	Hyderabad	149.09	115	iPKP	PKPbc	18 35 04.5	-0.7
ZALV	Zalesovo Beam	154.34	32	PKP	PKPdf	18 35 07.9	0.0
	comp=N,1.8nm,0.8s,baz=285,slow=2.9,SNR=4.1						
ZALV				PKPbc	PKiKP	18 35 16.8	+0.6
	comp=N,7.9nm,0.7s,baz=298,slow=3.2,SNR=18						
ZALV				PKPab	PKPab	18 35 30.9	+0.5
	comp=N,5.6nm,0.7s,baz=306,slow=5.0,SNR=8.0						
MKAR	Makanchi Array	156.91	49	PKP	PKPdf	18 35 12.7	+1.1
	comp=N,1.3nm,0.9s,baz=85,slow=1.6,SNR=2.5						
MKAR				PKPab	PKPab	18 35 41.5	-0.2
	comp=N,2.0nm,0.8s,baz=306,slow=4.3,SNR=4.7						
CMAR	Chiang Mai Arr	162.62	151	PKP	PKPdf	18 35 19.2	+0.3
	comp=N,0.6nm,0.9s,baz=232,slow=3.0,SNR=5.2						
SONM	Songino Array	166.16	4	PKP	PKPdf	18 35 21.1	-0.2
	comp=N,0.4nm,0.9s,baz=48,slow=2.1,SNR=2.5						
SONM				PKPab	PKPab	18 36 23.2	+1.2
	comp=N,1.2nm,0.9s,baz=337,slow=3.0,SNR=6.8						

IDC 14 18:16:33.7±1.3, 9°.26S×125°.28E, h0^{km}, mb3.5/3, mb1 3.7/5, mb1mx3.5/32, mbtmp3.5/5, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/22, Error ellipse: s-maj=131.8km s-min=28.4km az=63.0
ISC 14 18:16:38.1±1.1, 9°.5S±0°.3×125°.4E±0°.5, h35^{km}, n7, σ2°.41/8, mb3.5/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.48	141	Pn	Pn	18 19 49.6	+2.5
	0.4nm,0.3s,baz=315,slow=15,SNR=22						
WRA				Sn	Sn	18 22 13.5	-2.2
	0.1nm,0.3s,baz=315,slow=25,SNR=2.8						
ASAR	Alice Springs	16.25	151	Pn	P	18 20 26.5	0.0
	0.2nm,0.3s,baz=319,slow=12,SNR=23						
ASAR				Sn	Sn	18 23 20.4	-2.6
	0.1nm,0.3s,baz=316,slow=22,SNR=3.4						
MJAR	Matsushiro Arr	47.37	14	LR	LR	18 45 36.6	
	comp=Z,9.5nm,19.1s,baz=105,slow=37						
SONM	Songino Array	59.54	345	P	P	18 26 38.5	+0.4
	0.4nm,1.0s,baz=151,slow=6.6,SNR=2.3						
MKAR	Makanchi Array	67.95	330	P	P	18 27 32.0	-1.5
	0.2nm,0.5s,baz=139,slow=7.1,SNR=3.6						
ZALV	Zalesovo Beam	71.92	336	P	P	18 27 55.6	-2.1
	0.4nm,0.4s,baz=108,slow=3.3,SNR=2.9						
TORD	Torodi Ar. Bea	124.78	279	PKP	PKPdf	18 35 37.3	+2.1
	0.5nm,1.0s,baz=92,slow=2.0,SNR=2.4						

IDC 14 18:20:18.6±0.6, 34°.33S×71°.99W, h0^{km}, mb4.4/14, mb1 4.5/16, mb1mx4.4/25, mbtmp4.4/16, ML4.5/1, MS3.9/3, Ms1 3.9/3, ms1mx3.4/25, Error ellipse: s-maj=25.2km s-min=14.8km az=85.0
ISCJB 14 18:20:19.4±1.1, 34°.34S±0°.03×72°.20W±0°.06, h19^{km}±8^{km}, mb4.5/16, MS3.8/3, Error ellipse: s-maj=9.3km s-min=5.1km az=20.6
NEIC 14 18:20:20.9, 34°.36S×72°.09W, h33^{km}, mb4.8/6, ML4.7(GUC), After GUC.
NEIC Felt [V] at Pichilemu and [III] at San Antonio and San Fernando.
GUC 14 18:20:20.9±0.7, 34°.36S×72°.09W, h33^{km}±4^{km}, ML4.7
ISC 14 18:20:19.1±1.6, 34°.36S±0°.03×72°.11W±0°.06, h7^{km}±10^{km}, n58, σ0°.88/61, mb4.6/16, MS3.8/3, 8C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.71	56	⇓iP	Pb	18 20 33.9	+0.3
LNV	Longovilo	0.71	56	⇓iP	Pb	18 20 33.9	+0.3
NICH	Los Niches	0.97	132	⇑iP	Pb	18 20 38.3	+0.1
NICH				iS	Sb	18 20 51.4	+0.1
NICH				AML	AML	18 20 56.4	
	comp=N,33μm,0.6s						
NICH	Los Niches	0.97	132	⇑iP	Pb	18 20 38.3	+0.1
NICH				iS	Sb	18 20 51.4	+0.1
TALC	Talca	1.11	159	⇓iP	Pg	18 20 40.4	0.0
TALC				iS	Sg	18 20 54.7	-0.1
TALC				AML	AML	18 20 55.5	
	comp=E,36μm,0.1s						
TALC	Talca	1.11	159	⇓iP	Pg	18 20 40.4	0.0
TALC				iS	Sg	18 20 54.7	-0.1
CACH	El Canelo	1.28	80	⇑iP	Pg	18 20 43.7	+0.2
CACH	El Canelo	1.28	80	⇑iP	Pg	18 20 43.7	+0.2
CHCH	Chadas Angostu	1.28	71	⇓iP	Pn	18 20 42.9	-0.5
CHCH	Chadas Angostu	1.28	71	⇓iP	Pn	18 20 42.9	-0.5
IHA	Instituto Hidr	1.39	17	⇓iP	Pn	18 20 44.8	0.0
IHA	Instituto Hidr	1.39	17	⇓iP	Pn	18 20 44.8	0.0
ANTU	Antumapu	1.46	58	⇑iP	Pn	18 20 45.8	0.0
ANTU				iS	Sn	18 21 04.5	-0.7
ANTU				AML	AML	18 21 12.5	
	comp=E,16μm,0.6s						
ANTU	Antumapu	1.46	58	⇑iP	Pn	18 20 45.8	0.0
ANTU				iS	Sn	18 21 04.5	-0.7
LNCH	Linares	1.54	164	⇓iP	Pb	18 20 47.7	-0.3
LNCH				iS	Sb	18 20 57.5	-0.2
LNCH				AML	AML	18 21 10.2	
	comp=N,12μm,0.5s						
LNCH	Linares	1.54	164	⇓iP	Pb	18 20 47.7	-0.3
LNCH				iS	Sb	18 21 07.5	-0.2
LACH	Col Las Americ	1.60	56	eP	Pn	18 20 47.9	+0.2
LACH				iS	Sb	18 21 09.0	-0.3
LACH	Col Las Americ	1.60	56	eP	Pn	18 20 47.9	+0.2
LACH				iS	Sb	18 21 09.0	-0.3
CLCH	Cerro Calan	1.62	54	⇓iP	Pn	18 20 48.4	+0.3
CLCH				iS	Sb	18 21 10.1	0.0
CLCH				AML	AML	18 21 18.7	
	comp=E,18μm,0.7s						
PEL	Peldehue	1.70	45	⇑iP	Pn	18 20 49.6	+0.5
PEL				iS	Sn	18 21 11.0	0.0
PEL				AML	AML	18 21 17.9	
	comp=N,26μm,0.6s						
PEL	Peldehue	1.70	45	⇑iP	Pn	18 20 49.6	+0.5
PEL				iS	Sn	18 21 11.0	0.0
CFAA	Coronel Fontan	4.26	51	Pn	Pn	18 21 26.7	+2.4
	comp=N,0.9nm,0.3s,baz=201,slow=12,SNR=33						
CFAA				Lg	Lg	18 22 24.8	
	comp=N,2.7nm,0.3s,baz=59,slow=24,SNR=4.3						
PLCA	Paso Flores	6.48	169	Pn	Pn	18 21 56.7	+1.8
	baz=302,slow=17						
PLCA				Lg	Lg	18 23 37.8	
	baz=68,slow=19						
LPAZ	La Paz	18.35	12	P	P	18 24 35.9	+1.2
	comp=N,0.7nm,0.3s,baz=185,slow=5.7,SNR=36						
LPAZ	La Paz	18.35	12	ePn	Pn	18 24 32.5	-2.1
	comp=N,25nm,0.8s						
USHA	Ushuaia	20.63	174	P	Pn	18 25 00.2	-0.9
	comp=N,9.0nm,0.8s,baz=323,slow=15,SNR=3.0						
USHA				LR	LR	18 33 55.9	
	comp=N,518nm,19.0s,baz=342,slow=40						
SIV	San Ignacio	20.81	31	P	P	18 25 00.7	-0.4
	comp=N,12nm,0.8s,baz=214,slow=12,SNR=14						
NNA	Nana	22.68	348	P	P	18 25 22.8	+1.6
	comp=N,18nm,0.8s,baz=186,slow=13,SNR=9.8						
NNA				LR	LR	18 32 11.0	
	comp=N,221nm,19.7s,baz=162,slow=31						
SAML	Samuel	26.59	20	eP	P	18 25 56.2	-1.7
BDFB	Brasilia	28.59	55	P	P	18 26 15.7	-0.3
	comp=N,7.2nm,0.8s,baz=212,slow=10,SNR=9.3						
OTAV	Otavalo	34.92	349	P	P	18 27 09.1	-2.9
	comp=N,6.7nm,0.7s						
SDV	Santo Domingo	43.03	2	eP	P	18 28 15.8	-3.8
	comp=N,10nm,0.8s						
SNAA	Sanae	51.28	158	P	P	18 29 23.7	+0.5
	comp=N,4.1nm,1.0s,baz=348,slow=10,SNR=4.8						
QSPA	South Pole Qui	55.88	180	P	P	18 29 58.2	+1.1
	comp=N,10nm,0.9s,baz=156,slow=2.5,SNR=21						
QSPA	South Pole Qui	55.88	180	eP	P	18 29 53.5	-3.7
	comp=N,18nm,1.0s						
VNDA	Vanda	63.74	191	LR	LR	18 54 54.1	
	comp=N,62nm,19.1s,baz=142,slow=32						
TXAR	Lajitas Array	70.02	331	P	P	18 31 32.1	+0.6
	comp=N,0.4nm,0.5s,baz

az=169.1
NEIC ***14*** *18:23:07.5±0.7,5.18N×127.23E,h118km±6km,mb4.9/37,*
Error ellipse: s-maj=7.1km s-min=4.5km az=70.0
KLM ***14*** *18:23:07.1,5.21N×127.42E,h114km,mb4.9,ML4.8,*
MS5.8
ISC 14 18:23:08.9±0.4,5.20N±0.03×127.26E±0.05,h126km±2km,
n213,σ1§51/255,mb4.8/65,9C-16D,Philippine Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.00**	**330**	*e*P	**Pn**	**18 23 39.9**	**-2.7**
MATI				*e*S	Sn	18 23 50.7	-18
SGSI	**Sangihe**	**2.29**	**229**	P	**Pn**	**18 23 44.7**	**-1.5**
SGSI				S	**Sn**	**18 24 13.8**	**-1.0**
GSPH	**General Santos**	**2.46**	**291**	⇓*e*P	Pn	18 23 44.8	-3.7
GSPH				*e*S	**Sn**	**18 24 14.2**	**-4.7**
DAV	**Davao City (W)**	**2.50**	**318**	*e*Pn	**Pn**	**18 23 47.6**	**-1.3**
DAV				*e*Sn	**Sn**	**18 24 19.0**	**-0.6**
BUKP	**Musuan**	**3.44**	**321**	*e*P	**Pn**	**18 24 00.2**	**-1.0**
BUKP				*e*S	**Sn**	**18 24 41.7**	**+0.1**
CTBH	**Cotabato--PC H**	**3.61**	**304**	⇓*i*P	**Pn**	**18 24 01.8**	**-1.5**
BUTP	**Butuan**	**4.08**	**337**	*e*P	**Pn**	**18 24 10.0**	**+0.3**
BUTP				*e*S	**Sn**	**18 24 57.6**	**+0.8**
CGP	**Cagayan de Oro**	**4.12**	**322**	*e*P	**Pn**	**18 24 08.9**	**-1.2**
CGP				*i* S	**Sn**	**18 24 58.0**	**+0.4**
TNTI	**Ternate**	**4.40**	**179**	P	**Pn**	**18 24 13.2**	**-0.7**
TNTI				S	**Sn**	**18 25 05.9**	**+1.5**
TNTI	**Ternate**	**4.40**	**179**	Pn	**Pn**	**18 24 12.5**	**-1.4**
TNTI				*e*Sn	**Sn**	**18 25 03.2**	**-1.2**
PAGZ	**Pagadian**	**4.67**	**305**	*e*P	**Pn**	**18 24 16.1**	**-1.3**
SCPH	**Surigao**	**4.88**	**339**	⇓*e*P	**Pn**	**18 24 19.3**	**-1.0**
KMSI	**Cibinong**	**5.64**	**216**	P	**Pn**	**18 24 30.6**	**+0.1**
	2μm,0.9s,14μm6.0nm						
LBMI	**Labuha**	**5.80**	**178**	P	**Pn**	**18 24 33.7**	**+1.0**
	257nm,0.9s,3μm1.4nm						
LBMI				S	**Sn**	**18 25 38.9**	**+0.7**
	257nm,0.9s,3μm1.4nm						
GTOI	**Gorontalo**	**6.21**	**223**	P	**Pn**	**18 24 36.8**	**-1.4**
	922nm,0.6s,10μm3.7nm						
MRSI	**Marisa**	**7.08**	**229**	P	**Pn**	**18 24 49.8**	**-0.2**
	958nm,0.7s,3.2nm						
SWI	**Sorong**	**7.23**	**146**	P	**Pn**	**18 24 51.3**	**-0.6**
	47nm,0.5s,1μm0.3nm						
SWI				S	Sn	18 26 03.5	-9.1
	47nm,0.5s,1μm0.3nm						
SWI	**Sorong**	**7.23**	**146**	⇓P	**Pn**	**18 24 51.0**	**-0.9**
	baz=7.2,SNR=13						
SANI	**Sanana**	**7.31**	**190**	P	Pn	18 24 49.7	-3.4
	75nm,0.8s,2μm0.5nm						
SANI				S	Sn	18 26 06.9	-7.7
	75nm,0.8s,2μm0.5nm						
PALU	**Palau**	**7.48**	**73**	P	**Pn**	**18 24 52.4**	**-3.0**
	baz=7.4,SNR=80						
TOLI	**Toli-Toli**	**7.62**	**238**	*e*Pn	Pn	18 24 52.9	-4.3
	160nm,0.5s						
TOLI				*e*Sn	**Sn**	**18 26 19.9**	**-2.2**
LUWI	**Luwuk**	**7.65**	**216**	P	**Pn**	**18 25 00.1**	**+2.5**
	568nm,1.2s,6μm1.9nm						
LUWI	**Luwuk**	**7.65**	**216**	⇑P	**Pn**	**18 24 57.4**	**-0.3**
	baz=7.8,SNR=66						
LUWI	**Luwuk**	**7.65**	**216**	*e*Pn	**Pn**	**18 24 56.5**	**-1.1**
LUWI				*e*Sn	**Sn**	**18 26 22.6**	**-0.2**
APSI	**Ampana**	**8.26**	**223**	P	**Pn**	**18 25 07.2**	**+1.3**
	349nm,0.6s,3μm						
NLAI	**Namlea**	**8.38**	**181**	P	**Pn**	**18 25 06.2**	**-1.3**
	126nm,0.6s,2μm						
MYLDM	**Lahad Datu**	**8.72**	**270**	⇓P	**Pn**	**18 25 14.4**	**+2.3**
MYLDM	**Lahad Datu**	**8.72**	**270**	*e*Pn	**Pn**	**18 25 12.6**	**+0.4**
MPSI	**Mapaga**	**8.79**	**237**	P	**Pn**	**18 25 12.9**	**-0.2**
	56nm,0.8s,751nm						
TSM	**Tawau**	**9.40**	**265**	⇑P	**Pn**	**18 25 22.3**	**+1.1**
FAKI	**Fak Fak**	**9.48**	**148**	⇓P	**Pn**	**18 25 22.1**	**-0.3**
	baz=9.5,SNR=12						
FAKI	**Fak Fak**	**9.48**	**148**	*e*Pn	**Pn**	**18 25 21.0**	**-1.3**
SDKM	**Sandakan**	**10.03**	**273**	⇓P	**Pn**	**18 25 29.7**	**-0.1**
KDM	**Kudat**	**10.51**	**280**	⇓P	**Pn**	**18 25 34.8**	**-1.3**
KKM	**Kota Kinabalu**	**11.02**	**275**	⇓P	**Pn**	**18 25 43.3**	**+0.2**
	baz=11,SNR=3.5						
KKM	**Kota Kinabalu**	**11.02**	**275**	⇓P	**Pn**	**18 25 43.1**	**-0.1**
KKM	**Kota Kinabalu**	**11.02**	**275**	*e*Pn	**Pn**	**18 25 42.5**	**-0.7**
TTSI	**Tana Toraja**	**11.06**	**222**	P	**Pn**	**18 25 43.4**	**-0.1**
	94nm,0.7s,726nm						
SPSI	**Sidrap Palu**	**11.78**	**220**	P	**Pn**	**18 25 51.9**	**-1.2**
	100nm,0.7s,861nm						
BNSI	**Bone**	**11.91**	**217**	P	**Pn**	**18 25 53.4**	**-1.4**
	47nm,1.0s						
BKB	**Balikpapan**	**12.18**	**238**	P	**Pn**	**18 26 00.0**	**+1.7**
	259nm,1.2s,3μm						
KAPI	**Kappang**	**12.62**	**217**	Pn	**Pn**	**18 26 02.0**	**-2.0**
	421nm,0.7s,SNR=6.8						
KAPI	**Kappang**	**12.62**	**217**	*e*Pn	**Pn**	**18 26 01.8**	**-2.2**
BKSI	**Bulukumba**	**12.65**	**214**	P	**Pn**	**18 26 03.8**	**-0.6**
	25nm,0.9s						
BSSI	**Bau Bau, Buton**	**13.14**	**211**	P	**Pn**	**18 26 12.0**	**+1.2**
	85nm,0.5s,2μm						
MTKI	**Muara Teweh, K**	**13.77**	**244**	P	**P**	**18 26 23.0**	**-0.3**
	55nm,1.0s,3μm						
BTM	**Bintulu**	**14.28**	**263**	⇑P	**Pn**	**18 26 26.4**	**+1.0**
MMRI	**Maumere**	**14.63**	**200**	P	**P**	**18 26 34.7**	**+2.0**
	42nm,0.8s						
MMRI	**Maumere**	**14.63**	**200**	*e*Pn	**Pn**	**18 26 28.1**	**-1.7**
	21nm,0.6s						
EDFI	**Ende, Flores**	**14.93**	**202**	P	P	18 26 41.9	+5.7
BBKI	**Banjar Baru**	**15.10**	**236**	P	**P**	**18 26 37.1**	**-0.9**
	182nm,0.9s,2μm						
SOEI	**Soe**	**15.15**	**191**	P	**P**	**18 26 40.0**	**+1.3**
	50nm,0.9s,801nm						
SOEI	**Soe**	**15.15**	**191**	⇓P	**P**	**18 26 38.1**	**-0.6**
	baz=15,SNR=12						
SOEI	**Soe**	**15.15**	**191**	*e*Pn	**Pn**	**18 26 35.2**	**-1.3**
	38nm,0.8s						
SBUM	**Sibu**	**15.25**	**260**	⇑P	**Pn**	**18 26 38.5**	**+0.9**
SBUM	**Sibu**	**15.25**	**260**	*e*Pn	**Pn**	**18 26 37.8**	**+0.1**
	105nm,1.2s						
BATI	**Baumata**	**15.72**	**193**	P	**P**	**18 26 48.4**	**+3.5**
	51nm,0.8s						
BATI	**Baumata**	**15.72**	**193**	P	**Pn**	**18 26 43.5**	**0.0**
	0.8nm,0.3s,baz=349,slow=5.2,SNR=5.6						
BATI				S	**S**	**18 29 45.5**	**+2.8**
	0.9nm,0.3s,baz=270,slow=20,SNR=1.9						
STKI	**Sintang**	**16.56**	**253**	P	**P**	**18 26 54.8**	**+0.6**
	30nm,1.3s,3μm						
WBSI	**Waikabubak, Su**	**16.70**	**208**	P	**P**	**18 26 56.6**	**+0.9**
	72nm,0.8s,799nm						
KSM	**Kuching**	**17.32**	**258**	⇑P	**Pn**	**18 27 03.4**	**+0.3**
	baz=17,SNR=37						
KSM	**Kuching**	**17.32**	**258**	⇓P	**Pn**	**18 27 03.5**	**+0.4**
KSM	**Kuching**	**17.32**	**258**	*e*P	**P**	**18 27 02.3**	**-0.3**
	51nm,0.6s						
SRBI	**Singaraja**	**17.85**	**222**	P	**Pn**	**18 27 10.1**	**+0.7**
	33nm,0.9s						
KMMI	**Kalianget**	**18.00**	**228**	P	**Pn**	**18 27 11.8**	**+0.6**
	43nm,0.7s						
MTN	**Manton Dam**	**18.33**	**168**	⇓P	**P**	**18 27 13.2**	**-0.4**
	baz=18,SNR=16						
KDU	**Kakadu**	**18.51**	**164**	P	**P**	**18 27 15.2**	**-0.3**
	baz=19,SNR=22						
JAGI	**Jajag, Banyuwa**	**18.85**	**224**	P	Pn	18 27 26.4	+5.2
	32nm,0.8s						
JAGI	**Jajag, Banyuwa**	**18.85**	**224**	⇑P	**Pn**	**18 27 20.7**	**-0.6**
	baz=19,SNR=14						
JAGI	**Jajag, Banyuwa**	**18.85**	**224**	*e*P	**P**	**18 27 16.7**	**-2.6**
	18nm,0.4s						
TPUB	**Ta-pu**	**19.10**	**341**	*e*P	**P**	**18 27 18.7**	**-3.3**
	12nm,0.4s						
SSLB	**Suanglung**	**19.45**	**342**	*e*P	P	18 27 21.0	-4.9
DLV	**T Lat**	**19.73**	**291**	*e*P	**P**	**18 27 25.0**	**-4.0**
	28nm,1.1s						
YHNB	**Yeheng**	**20.17**	**344**	P	**P**	**18 27 31.1**	**-2.5**
	14nm,0.6s						
TPI	**Tanjungpandan**	**21.12**	**248**	P	**P**	**18 27 43.2**	**-0.6**
	17nm,0.8s						
QIZ	**Qiongzhong**	**21.85**	**310**	P	**P**	**18 27 51.0**	**-0.6**
QIZ				pP	**pP**	**18 28 13.6**	**-1.2**
QIZ				sP	**sP**	**18 28 29.4**	**-1.1**
QIZ				S	**S**	**18 31 46.4**	**+1.2**
QIZ				PMZ			
	15nm,1.8s						
QIZ				LZ			
	210nm,3.4s						
KPJI	**Karang Pucung**	**22.12**	**236**	P	**P**	**18 27 58.0**	**+3.6**
	26nm,0.9s						
LEM	**Lembang**	**22.96**	**239**	P	**P**	**18 28 04.8**	**+2.0**
	40nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.21**	**184**	*e*P	**P**	**18 28 04.8**	**-0.1**
	43nm,0.9s						
MYKOM	**Kota Tinggi**	**23.61**	**263**	⇑P	**P**	**18 28 10.0**	**+1.4**
MYKOM	**Kota Tinggi**	**23.61**	**263**	*e*P	**P**	**18 28 07.7**	**-0.9**
	20nm,0.9s						
KTGM	**Kuala Trenggan**	**24.02**	**271**	⇑P	**P**	**18 28 13.5**	**+1.2**
KGM	**Kluang**	**24.10**	**263**	⇓P	**P**	**18 28 15.3**	**+2.2**
COEN	**Coen**	**24.73**	**140**	*e*P	**P**	**18 28 17.3**	**-1.5**
	1μm,2.6s						
FRIM	**Kepong**	**25.64**	**267**	⇓P	**P**	**18 28 27.8**	**+0.8**
WRAB	**Tennant Creek**	**25.93**	**165**	P	**P**	**18 28 28.3**	**-1.3**
	320nm,0.5s						
WRAB	**Tennant Creek**	**25.93**	**165**	*e*P	**P**	**18 28 28.6**	**-1.0**
	35nm,0.4s						
WRA	**Warramunga Arr**	**25.94**	**165**	P	**P**	**18 28 28.6**	**-1.0**
	23nm,0.3s,baz=344,slow=9.9,SNR=116						
WRA				ScP	**ScP**	**18 35 26.0**	**+2.5**
	0.7nm,0.5s,baz=344,slow=2.9,SNR=6.9						
WB2	**Warramunga Arr**	**25.94**	**165**	*e*P	**P**	**18 28 28.1**	**-1.6**
CBIJ	**Chichi jima**	**26.01**	**32**	P	**P**	**18 28 30.3**	**0.0**
JCJ	**Chichijima**	**26.01**	**32**	P	**P**	**18 28 30.3**	**0.0**
	111nm,0.4s,baz=258,slow=6.7,SNR=30						
IPM	**Ipoh**	**26.15**	**270**	⇑P	**P**	**18 28 32.3**	**+0.6**
IPM	**Ipoh**	**26.15**	**270**	P	**P**	**18 28 28.0**	**-3.7**
	7.8nm,0.7s						
KULM	**Kulim**	**26.50**	**271**	⇓P	**P**	**18 28 35.3**	**+0.5**
NJ2	**Nanjing**	**27.85**	**345**	*e*P	**P**	**18 28 47.1**	**+0.5**
NJ2				PMZ			
	30nm,0.8s						
JNU	**Nakatsue**	**27.99**	**6**	P	**P**	**18 28 47.9**	**0.0**
	8.7nm,0.8s,baz=282,slow=4.4,SNR=8.3						
PSI	**Prapat**	**28.36**	**266**	P	**P**	**18 28 51.1**	**-0.5**
	2.9nm,0.4s,baz=83,slow=6.8,SNR=7.3						
PSI				PcP	**PcP**	**18 32 01.8**	**+0.3**
	1.8nm,0.4s,baz=170,slow=6.1,SNR=3.2						
GYA	**Guiyang**	**28.88**	**319**	P	**P**	**18 28 57.9**	**+1.9**
GYA				pP	**pP**	**18 29 25.4**	**+2.2**
GYA				sP	**sP**	**18 29 39.0**	**+1.3**
GYA				PP	**PnPn**	**18 29 56.5**	**+2.4**
GYA				S	**S**	**18 33 39.3**	**+2.0**
GYA				sS	**sS**	**18 34 25.4**	**+0.5**
GYA				ScS	**ScS**	**18 39 24.8**	**-1.9**
GYA				PMZ			
	20nm,0.8s						
GYA				PMZ			
	120nm,4.9s						
AS31	**Alice Springs**	**29.41**	**168**	*e*P	**P**	**18 28 58.7**	**-1.9**
ASAR	**Alice Springs**	**29.41**	**168**	P	**P**	**18 29 00.3**	**-0.3**
	2.9nm,0.4s,baz=347,slow=7.2,SNR=78						
ASAR				PcP	**PcP**	**18 32 03.7**	**0.0**
	1.4nm,0.3s,baz=356,slow=2.6,SNR=4.8						
ASAR				ScP	**ScP**	**18 35 37.3**	**+3.2**
	0.6nm,0.6s,baz=340,slow=3.0,SNR=6.4						
KCSI	**Kotacane, Aceh**	**29.45**	**268**	P	**P**	**18 29 00.1**	**-1.0**
	21nm,0.7s						
GSI	**Gunungsitoli**	**29.88**	**264**	*e*P	**P**	**18 29 03.1**	**-1.8**
	12nm,0.8s						
CRAI	**Chiangrai**	**30.11**	**302**	P	**P**	**18 29 06.3**	**-0.5**
	45nm,0.7s,8μm						
CMAR	**Chiang Mai Arr**	**30.62**	**298**	P	**P**	**18 29 11.5**	**+0.1**
	2.1nm,0.6s,baz=100,slow=7.0,SNR=21						
CMAR				PcP	**PcP**	**18 32 07.7**	**+0.7**
	1.0nm,0.9s,baz=102,slow=1.1,SNR=4.5						
CMAR				LR	LR	18 41 41.1	
	comp=Z,31nm,21.5s,baz=89,slow=36						
CMMT	**Chiang Mai**	**30.75**	**299**	P	**P**	**18 29 13.5**	**+1.0**
	7.0nm,0.6s						
KMI	**Kunming**	**30.75**	**313**	P	P	18 29 18.8	+6.1
KMI				PMZ			
	6.0nm,0.7s						
CHTO	**Chiang Mai**	**30.75**	**299**	P	**P**	**18 29 13.6**	**+1.0**
	28nm,0.8s						
CHTO	**Chiang Mai**	**30.75**	**299**	*e*P	**P**	**18 29 11.8**	**-0.7**
	3.5nm,0.6s						
CTA	**Charters Tower**	**31.31**	**144**	P	**P**	**18 29 16.9**	**-0.5**
	6.1nm,0.9s,baz=324,slow=8.7,SNR=3.7						
KSAR	**Wonju Array Be**	**32.10**	**1**	P	**P**	**18 29 24.8**	**+0.7**
KSAR				PcP	**PcP**	**18 32 10.8**	**+0.3**
KSRS	**Korea Array**	**32.11**	**1**	P	**P**	**18 29 24.8**	**+0.7**
	2.9nm,0.6s,baz=178,slow=9.7,SNR=11						
KSRS				PcP	**PcP**	**18 32 10.8**	**+0.3**
	0.8nm,0.5s,baz=182,slow=2.7,SNR=4.4						
KSRS				LR	LR	18 45 17.7	
	comp=Z,11nm,19.8s,baz=174,slow=42						
MAT	**Matsushiro**	**32.77**	**16**	P	**P**	**18 29 29.0**	**-1.0**
MJAR	**Matsushiro Arr**	**32.77**	**16**	P	**P**	**18 29 29.2**	**-0.8**
	2.7nm,0.5s,baz=184,slow=9.4,SNR=24						
MJAR				PcP	**PcP**	**18 32 13.2**	**+0.7**
	1.5nm,0.7s,baz=176,slow=4.2,SNR=5.5						
CD2	**Chengdu**	**33.80**	**322**	*e*P	**P**	**18 29 40.0**	**+1.0**
CD2				sP	**sP**	**18 30 23.8**	**+2.8**
CD2				PP	**PnPn**	**18 30 53.5**	**-2.7**
CD2				S	**S**	**18 34 58.4**	**+4.6**
CD2				sS	**sS**	**18 35 41.3**	**-0.5**
CD2				PMZ			
	10.0nm,0.8s						
CD2				PMZ			
	130nm,7.1s						
FORT	**Forrest**	**35.78**	**179**	*e*P	**P**	**18 29 55.5**	**-0.5**
	76nm,0.6s						
BJT	**Baijiatuau**	**36.08**	**345**	*e*P	**P**	**18 29 56.6**	**-1.8**
	12nm,0.4s						
BJI	**Beijing**	**36.10**	**345**	P	**P**	**18 29 59.1**	**+0.5**
BJI				pP	**pP**	**18 30 25.3**	**-1.0**
BJI				sP	**sP**	**18 30 39.4**	**-1.3**
BJI				S	**S**	**18 35 29.8**	**+1.1**
BJI				PMZ			
	10.0nm,0.9s						
LZH	**Lanzhou**	**37.53**	**328**	*e*P	**P**	**18 30 13.8**	**+2.8**
LZH				pP	**pP**	**18 30 40.3**	**+1.4**
LZH				sP	**sP**	**18 30 55.6**	**+2.4**
LZH				*e*S	**S**	**18 35 54.3**	**+3.4**
LZH				sS	sS	18 36 45.0	+5.6
LZH				SS	**SS**	**18 38 33.3**	**-7.5**
LZH				PMZ			
	25nm,1.0s						
LZH				PMZ			
	180nm,5.2s						
HHC	**Hu-ho-hao-te**	**38.19**	**341**	*e*P	**P**	**18 30 16.3**	**-0.1**
HHC				S	**S**	**18 36 02.8**	**+2.2**
HHC				PMZ			
	25nm,1.1s						
HHC				PMZ			
	320nm,7.4s						
BBOO	**Buckleboo**	**38.71**	**168**	*e*P	**P**	**18 30 19.9**	**-0.8**
	831nm,1.6s						
USRK	**Ussuriysk Ar.**	**39.06**	**5**	P	**P**	**18 30 24.1**	**+0.6**
	1.5nm,0.4s,baz=182,slow=9.2,SNR=7.2						
NWAO	**Narrogin (SRO)**	**39.09**	**193**	P	**P**	**18 30 24.7**	**+0.8**
	29nm,0.6s,baz=20,slow=8.1,SNR=31						
MDJ	**Mudanjiang**	**39.31**	**3**	P	**P**	**18 30 26.0**	**+0.4**
MDJ				PMZ			
	8.0nm,1.0s						
MDJ				PMZ			
	59nm,4.2s						
STKA	**Stephens Creek**	**39.32**	**161**	P	**P**	**18 30 25.6**	**-0.2**
	20nm,0.8s,baz=336,slow=8.0,SNR=50						
STKA	**Stephens Creek**	**39.32**	**161**	*e*P	**P**	**18 30 24.9**	**-0.8**
	3.6nm,0.7s						
SHL	**Shillong**	**39.46**	**305**	*ex*	**P**	**18 30 29.0**	**+1.7**
ASAJ	**Asahikawa**	**41.04**	**17**	LR	LR	18 46 47.5	
	comp=Z,23nm,20.6s,slow=35						
GTA	**Gaotai**	**42.13**	**328**	*e*P	**P**	**18 30 50.3**	**+1.3**
GTA				PMZ			
	7.0nm,0.5s						
ARMA	**Armidale**	**42.41**	**148**	*e*P	**P**	**18 30 49.3**	**-2.0**
	35nm,0.7s						
TAPN	**Taplejung**	**43.60**	**305**	*e*P	**P**	**18 31 00.5**	**-0.7**
	18nm,0.5s						
ODAN	**Odare**	**43.67**	**304**	*e*P	**P**	**18 31 02.0**	**+0.3**
	26nm,0.6s						
RAMN	**Ramite**	**44.36**	**304**	*e*P	**P**	**18 31 07.7**	**+0.5**
	20nm,0.6s						
JIRN	**Jiri**	**44.96**	**304**	*e*P	**P**	**18 31 12.5**	**+0.4**
	42nm,0.6s						
GUN	**Gumba**	**45.31**	**305**	*e*P	**P**	**18 31 15.2**	**+0.3**
	33nm,0.5s						
PKI	**Pulchoki**	**45.57**	**304**	*e*P	**P**	**18 31 16.6**	**-0.3**
PKIN	**Phulchoki**	**45.59**	**304**	*e*P	**P**	**18 31 16.8**	**-0.1**
	8.1nm,0.6s						
KKN	**Kakani**	**45.76**	**304**	*e*P	**P**	**18 31 17.9**	**-0.3**
DMN	**Daman**	**45.84**	**304**	*e*P	**P**	**18 31 18.5**	**-0.4**
ULN	**Ulaanbaatar**	**45.90**	**341**	*e*P	**P**	**18 31 19.5**	**+0.5**
	9.7nm,0.9s						
SONM	**Songino Array**	**46.09**	**341**	P	**P**	**18 31 21.4**	**+1.0**
	1.8nm,0.3s,baz=160,slow=9.5,SNR=32						
SONM				PcP	**PcP**	**18 32 55.1**	**+0.5**
	0.8nm,0.6s,baz=160,slow=5.2,SNR=2.7						
SONM				LR	LR	18 53 08.6	
	comp=Z,29nm,18.6s,baz=262,slow=39						
GKN	**Gorkha**	**46.37**	**304**	*e*P	**P**	**18 31 22.7**	**-0.2**
	10nm,0.5s						
DZM	**Mont Dzumac**	**46.97**	**127**	LR	LR	18 52 40.5	
	comp=Z,38nm,20.0s,baz=32,slow=38						
KOLN	**Koldanda**	**47.14**	**303**	*e*P	**P**	**18 31 29.1**	**+0.1**
	41nm,0.5s						
DANN	**Dangsing**	**47.21**	**304**	*e*P	**P**	**18 31 29.8**	**+0.1**
	58nm,0.5s						
WMQ	**Urumqi**	**51.84**	**324**	P	**P**	**18 32 05.3**	**+1.0**
WMQ				pP	**pP**	**18 32 35.1**	**+1.4**
WMQ				PMZ			
	13nm,1.5s						
WMQ				PMZ			
	87nm,4.5s						
WMQ				LZ			
	34nm,28.0s						
PETK	**Petropavlovsk-**	**53.88**	**22**	P	**P**	**18 32 20.1**	**+1.1**
	19nm,0.7s,baz=184,slow=2.9,SNR=30						
MKAR	**Makanchi Array**	**56.66**	**324**	P	**P**	**18 32 40.1**	**+1.0**
	15nm,0.3s,baz=109,slow=7.1,SNR=231						
YAK	**Yakutsk**	**56.74**	**1**	*e*P	**P**	**18 32 38.4**	**-0.8**
	38nm,0.8s						
KSH	**Kashi**	**57.39**	**314**	P	**P**	**18 32 46.8**	**+2.3**
KSH				sP	**sP**	**18 33 30.8**	**+2.5**
KSH				PP	**PP**	**18 34 57.8**	**+4.6**
KSH				S	**S**	**18 40 30.8**	**-1.0**
KSH				sS	**sS**	**18 41 22.8**	**-0.6**
KSH				ScS	**ScS**	**18 42 17.1**	**-4.9**
KSH				SS	**SS**	**18 44 24.1**	**+0.7**
KSH				PMZ			
	9.0nm,1.1s						
KSH				PMZ			
	180nm,5.9s						
KSH				LN			
	76nm,4.4s						
KSH				LE			
	50nm,5.3s						
KSH				LZ			
	77nm,6.1s						
ULHL	**Ulahol**	**58.30**	**317**	P	**P**	**18 32 52.1**	**+1.2**
	SNR=6.5						
KZA	**Kyzart**	**58.90**	**317**	P	**P**	**18 32 57.3**	**+2.0**
	SNR=8.6						
TKM2	**Tokmak 2**	**59.01**	**318**	P	**P**	**18 32 57.0**	**+1.2**
	SNR=7.2						
TKM2	**Tokmak 2**	**59.01**	**318**	*e*P	**P**	**18 32 55.8**	**0.0**
	6.9nm,0.9s						
UCH	**Uchtor**	**59.47**	**317**	P	**P**	**18 33 00.8**	**+1.5**
	SNR=17						
ZALV	**Zalesovo Beam**	**59.53**	**332**	P	**P**	**18 32 58.8**	**-0.1**
	7.3nm,0.4s,baz=124,slow=7.0,SNR=48						
AAK	**Ala-Archa**	**59.64**	**317**	*e*P	**P**	**18 33 00.2**	**+0.1**
	13nm,1.7s						
USP	**Ospenovka**	**59.88**	**318**	P	**P**	**18 33 02.4**	**+0.8**
	SNR=17						
AML	**Almayashu**	**59.99**	**316**	P	**P**	**18 33 04.1**	**+1.3**
	SNR=12						
EKS2	**Erkin-Say**	**60.14**	**317**	P	**P**	**18 33 04.4**	**+1.0**
	SNR=15						
EKS2	**Erkin-Say**	**60.14**	**317**	*e*P	**P**	**18 33 02.3**	**-1.1**
	8.7nm,0.9s						
KURK	**Kurchatov**	**60.80**	**327**	P	**P**	**18 33 08.0**	**+0.4**
	247nm,0.5s,SNR=27						
KURK	**Kurchatov**	**60.80**	**327**	*e*P	**P**	**18 33 06.7**	**-0.8**
	20nm,0.6s						
KKAR	**Karatay Array**	**62.53**	**316**	*e*P	**P**	**18 33 18.9**	**-0.5**
TIXI	**Tiksi**	**66.38**	**1**	*e*P	**P**	**18 33 43.3**	**-0.5**
	14nm,0.5s						
BRVK	**Borovoye**	**66.46**	**326**	P	**P**	**18 33 45.9**	**+1.2**
	176nm,0.9s,SNR=22						
BRVK	**Borovoye**	**66.46**	**326**	*e*P	**P**	**18 33 45.5**	**+0.8**
	21nm,0.8s						
IKOO	**Kooshah**	**68.89**	**303**	*e*P	**P**	**18 34 01.9**	**+1.1**
GEYT	**Alibeck**	**70.40**	**308**	P	**P**	**18 34 10.7**	**+1.1**
	8.2nm,1.0s,baz=134,slow=4.3,SNR=20						
ABKAR	**Akbulak array**	**71.36**	**320**	*e*P	**P**	**18 34 14.8**	**-0.3**
AKTO	**Aktyubinsk**	**72.85**	**321**	P	**P**	**18 34 24.4**	**+0.4**
	11nm,0.7s,baz=99,slow=7.3,SNR=72						
GAMB	**Gambell**	**72.85**	**24**	*e*P	**P**	**18 34 22.6**	**-1.1**
	12nm,0.7s						
ISAD	**Sadrabad**	**73.33**	**302**	*e*P	**P**	**18 34 27.5**	**-0.1**
ISRV	**Sarvestan**	**73.66**	**299**	*e*P	**P**	**18 34 30.1**	**+0.5**
IPAR	**Pars**	**73.74**	**299**	*e*P	**P**	**18 34 30.4**	**+0.3**
ARU	**Arti**	**73.99**	**327**	P	**P**	**18 34 30.5**	**0.0**
	97nm,0.6s,SNR=6.8						
ARU	**Arti**	**73.99**	**327**	*e*P	**P**	**18 34 29.3**	**-1.2**
IKAZ	**Kazeroun**	**74.78**	**299**	*e*P	**P**	**18 34 35.7**	**-0.4**
IDHR	**Dehrash**	**79.56**	**304**	*e*P	**P**	**18 35 01.7**	**-0.8**
RAYN	**Ar Rayn**	**80.40**	**293**	P	**P**	**18 35 07.6**	**+0.5**
	74nm,0.9s,SNR=9.4						
RAYN	**Ar Rayn**	**80

mb3.4/1, Error ellipse: s-maj=9.6km s-min=6.2km az=43.4
FUNV ***14*** *18:31:51.8, 7.66N×72.77W, h2km, MW3.7*
IDC ***14*** *18:32:02.8±6.4, 7.80N±74.05W, h93km±38km, mb2.9/1, mb1 3.3/2, mb1mx2.9/27, mbtmp3.4/2, Error ellipse: s-maj=437.1km s-min=31.8km az=91.0*
ISC 14 18:31:53.3±1.2, 7.73N±0.07×72.66W±0.07, h12km, n13, σ1§08/20, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.37**	**68**	*eP*	**Pg**	**18 32 01.0**	**+0.1**
CAPV				*eS*	**Sb**	**18 32 08.8**	**+1.0**
VIGV	**El Vigia**	**1.70**	**49**	*eP*	**Pn**	**18 32 23.6**	**+0.8**
VIGV				*eS*	**Sg**	**18 32 47.6**	**-0.4**
SOCV	**Socops**	**1.87**	**73**	*eP*	**Pn**	**18 32 26.3**	**+1.0**
SOCV				*eS*	**Sb**	**18 32 51.4**	**+0.5**
VIRV	**Villa del Rosa**	**2.77**	**5**	*eP*	**Pn**	**18 32 37.6**	**0.0**
VIRV				*eS*	**Sn**	**18 33 11.4**	**+0.4**
ROSC	**El Rosal**	**3.30**	**210**	P	Pn	18 32 48.6	+3.4
	12nm,0.3s,baz=282,slow=20,SNR=16						
ROSC				S	**Sn**	**18 33 23.3**	**-1.2**
	4.2nm,0.3s,baz=171,slow=6.3,SNR=3.6						
CURV	**Curarigua**	**3.50**	**49**	*eP*	**Pn**	**18 32 48.0**	**+0.3**
CURV				*eS*	**Sn**	**18 33 29.5**	**+0.2**
SIQV	**Siquisique**	**4.05**	**44**	*eP*	**Pn**	**18 32 55.5**	**+0.3**
SIQV				*eS*	**Sn**	**18 33 42.0**	**-0.5**
BAUV	**El Baul**	**4.73**	**75**	*eP*	**Pn**	**18 33 04.5**	**-0.1**
BAUV				*eS*	**Sn**	**18 33 57.8**	**-1.6**
MONV	**Montecano**	**4.97**	**32**	*eP*	**Pn**	**18 33 07.0**	**-0.9**
MONV				*eS*	**Sn**	**18 34 02.7**	**-2.6**
BIRV	**Birongo**	**6.88**	**66**	*eP*	**Pn**	**18 33 32.7**	**-1.4**
YKA	**Yellowknife Ar**	**62.58**	**340**	P	P	18 42 12.9	-4.1
	0.2nm,0.7s,baz=129,slow=6.7,SNR=3.7						
ASAR	**Alice Springs**	**150.00**	**235**	PKPbc	**PKPdf**	**18 51 39.9**	**0.0**
	0.2nm,0.7s,baz=116,slow=3.2,SNR=2.7						
WRA	**Warramunga Arr**	**151.16**	**242**	PKPbc	**PKPdf**	**18 51 43.5**	**+1.7**
	0.2nm,0.4s,baz=105,slow=2.8,SNR=6.4						

IDC 14 18:33:40.9±1.6, 5.41S×146.00E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/30, mbtmp3.6/5, ML2.9/2, MS2.7/1, Ms1 2.7/1, ms1mx2.5/24, Error ellipse: s-maj=50.9km s-min=24.6km az=103.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.13**	**164**	Pn	Pn	18 34 47.0	+1.7
	4.1nm,0.3s,baz=323,slow=15,SNR=14						
PMG				Sn	Sn	18 35 33.3	-1.1
	5.6nm,0.3s,baz=101,slow=16,SNR=4.5						
PMG				LR	LR	18 36 58.7	
	comp=Z,94nm,19.4s,baz=341,slow=48						
WRA	**Warramunga Arr**	**18.36**	**217**	P	Pn	18 37 56.0	-1.2
	0.1nm,0.3s,baz=44,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**21.57**	**212**	P	P	18 38 31.5	-0.7
	2.2nm,1.0s,baz=37,slow=12,SNR=5.3						
STKA	**Stephens Creek**	**26.65**	**188**	P	P	18 39 21.9	+0.5
	0.8nm,0.7s,baz=24,slow=12,SNR=4.6						
ILAR	**Eielson Array**	**85.34**	**23**	P	P	18 46 19.7	0.0
	0.3nm,0.7s,baz=245,slow=5.0,SNR=5.1						

IDC 14 18:34:49.3±2.6, 34.35S×73.38W, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.3/31, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=67.7km s-min=41.6km az=6.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.11**	**59**	Pn	Pn	18 36 06.9	-0.3
	0.2nm,0.3s,baz=232,slow=14,SNR=7.4						
CFAA				Sn	Sn	18 37 05.0	-2.1
	0.2nm,0.3s,baz=253,slow=19,SNR=3.5						
LPAZ	**La Paz**	**18.60**	**16**	P	P	18 39 09.0	0.0
	0.1nm,0.3s,baz=187,slow=8.5,SNR=3.8						
TXAR	**Lajitas Array**	**69.51**	**332**	P	P	18 45 59.8	0.0
	0.2nm,0.5s,baz=158,slow=6.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**85.37**	**71**	P	P	18 47 29.1	+0.3
	1.0nm,0.9s,baz=248,slow=6.1,SNR=4.5						
ZALV	**Zalesovo Beam**	**155.11**	**31**	PKPbc	PKPdf	18 54 51.8	+8.0
	0.3nm,0.3s,baz=28,slow=3.5,SNR=3.7						
ZALV				PKPab	PKPab	18 55 07.6	-0.7
	0.2nm,0.3s,baz=336,slow=3.2,SNR=2.4						

ISCJB ***14*** *18:39:31.5±1.3, 17.65±0.4×178.3W±0.3, h550km, mb3.4/7, Error ellipse: s-maj=66.8km s-min=18.4km az=148.6*
IDC ***14*** *18:39:31.4±6.5, 17.53S×178.22W, h538km±73km, mb3.0/7, mb1 3.3/7, mb1mx2.9/38, mbtmp3.8/7, Error ellipse: s-maj=67.0km s-min=26.8km az=154.0*
ISC 14 18:39:32.3±1.3, 17.5S±0.4×178.3W±0.3, h550km, n11, σ0§91/12, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.95**	**241**	P	**P**	**18 46 11.5**	**0.0**
	1.0nm,0.7s,baz=106,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**44.84**	**259**	P	**P**	**18 46 57.9**	**-0.2**
	1.2nm,0.7s,baz=95,slow=7.5,SNR=28						
ASAR	**Alice Springs**	**45.03**	**254**	P	**P**	**18 46 59.9**	**+0.3**
	5.2nm,0.6s,baz=87,slow=8.7,SNR=106						
ASAR				PcP	**PcP**	**18 48 27.9**	**-0.8**
	0.5nm,0.6s,baz=102,slow=4.0,SNR=5.8						
ILAR	**Eielson Array**	**85.47**	**13**	P	**P**	**18 51 11.6**	**-0.1**
	0.2nm,0.4s,baz=221,slow=5.2,SNR=8.8						
TXAR	**Lajitas Array**	**85.66**	**58**	P	**P**	**18 51 15.1**	**+1.6**
	0.3nm,0.6s,baz=190,slow=4.6,SNR=3.7						
PDAR	**Pinedale Array**	**86.97**	**43**	P	**P**	**18 51 18.0**	**-1.6**
	0.4nm,0.7s,baz=209,slow=1.7,SNR=3.1						
SONM	**Songino Array**	**93.34**	**319**	P	**P**	**18 51 49.9**	**+1.0**
	0.2nm,0.7s,baz=90,slow=2.9,SNR=2.6						
BRTR	**Keskin Array B**	**144.60**	**315**	PKP	**PKPab**	**18 58 07.0**	**-0.7**
	0.6nm,0.6s,baz=105,slow=4.4,SNR=5.0						
MMAI	**Mount Meron Ar**	**146.04**	**304**	PKPbc	**PKPbc**	**18 58 11.3**	**-0.2**
	1.1nm,0.5s,baz=61,slow=6.9,SNR=4.8						
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc	**PKPbc**	**18 58 14.2**	**-0.1**
	0.5nm,0.4s,baz=8.5,slow=2.7,SNR=4.6						
DAVOX	**Davos/Dischmat**	**150.04**	**349**	PKPbc	**PKPbc**	**18 58 21.5**	**+0.2**
	1.3nm,0.5s,baz=312,slow=12,SNR=3.9						

GUC 14 18:39:59.2±0.5, 35.07S×72.94W, h15km±4km, ML3.8, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.06**	**174**	↑*iP*	Pb	18 40 17.7	-1.6
COCH				*eS*	Sb	18 40 32.0	-1.1
TALC	**Talca**	**1.11**	**107**	↑*iP*	Pb	18 40 18.5	-1.7
TALC				*i* S4	Sb	18 40 32.6	-1.9
LNCH	**Linares**	**1.34**	**126**	↑*iP*	Pn	18 40 22.5	-0.8
LNCH				*i* S	Sn	18 40 39.7	-1.2
NICH	**Los Niches**	**1.40**	**88**	↓*iP*	Pn	18 40 23.3	-1.0
NICH				*i* S	Sn	18 40 41.6	-0.8
CLCH	**Cerro Calan**	**2.60**	**51**	*eP*1	Pn	18 40 42.0	+1.2
CLCH				*eS*1	Sn	18 41 14.0	+1.9
CLCH				IAML		18 41 33.1	
	comp=E,346nm,0.8s						
PEL	**Peldehue**	**2.68**	**45**	IAML		18 41 26.4	
	comp=N,524nm,0.7s						

ISCJB ***14*** *18:44:10.2±3.0, 30.1N±0.2×142.0E±0.9, h24km, mb3.4/4, Error ellipse: s-maj=114.4km s-min=7.7km az=165.2*
IDC ***14*** *18:44:10.6±3.6, 29.88N×141.58E, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.3/42, mbtmp3.3/6, ML3.0/2, Error ellipse: s-maj=143.5km s-min=18.0km az=70.0*
ISC 14 18:44:12.5±3.5, 30.1N±0.2×142.0E±0.9, h24km, n6, σ1§02/8, mb3.5/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.96**	**177**	Pn	**Pn**	**18 44 57.8**	**-0.2**
	1.9nm,0.3s,baz=351,slow=19,SNR=3.4						
JCJ				Sn	**Sn**	**18 45 32.1**	**-0.6**
	8.6nm,0.3s,baz=57,slow=24,SNR=7.0						
MJAR	**Matsushiro Arr**	**7.20**	**335**	Pn	**Pn**	**18 45 56.5**	**+0.3**
	0.3nm,0.3s,baz=159,slow=10,SNR=7.3						
MJAR				Sn	**Sn**	**18 47 15.2**	**-1.9**
	0.3nm,0.3s,baz=113,slow=24,SNR=5.1						
SONM	**Songino Array**	**32.51**	**313**	P	**P**	**18 50 42.3**	**+0.9**
	0.3nm,0.7s,baz=110,slow=7.8,SNR=3.1						
MKAR	**Makanchi Array**	**48.50**	**308**	P	**P**	**18 52 53.8**	**+0.5**
	0.4nm,0.8s,baz=92,slow=7.9,SNR=3.0						
WRA	**Warramunga Arr**	**50.26**	**189**	P	**P**	**18 53 06.7**	**-0.2**
	0.4nm,0.7s,baz=7.8,slow=7.9,SNR=4.4						
ASAR	**Alice Springs**	**53.98**	**189**	P	**P**	**18 53 34.5**	**0.0**
	0.3nm,0.8s,baz=0.6,slow=5.3,SNR=6.6						

DDA ***14*** *18:57:50.7, 35.46N×28.64E, h28km, MD3.6*
ATH ***14*** *18:57:51.7, 35.93N×29.07E, h13km±3km, MD3.6/25*
ISK ***14*** *18:57:51.4, 35.71N×28.72E, h9km, ML3.6*
IDC ***14*** *18:57:53.0±0.8, 35.95N×28.79E, h0km, mb3.7/12, mb1 3.8/19, mb1mx3.7/49, mbtmp3.7/19, ML3.5/7, MS2.8/1, Ms1 2.8/1, ms1mx2.1/44, Error ellipse: s-maj=16.9km s-min=13.8km az=169.0*
HLW ***14*** *18:57:55.9, 35.98N×28.98E, h33km±37km, Md3.9*
CSEM ***14*** *18:57:56.2±0.2, 35.85N×28.85E, h20km, mb4.0/4, Ms3.4, Error ellipse: s-maj=4.8km s-min=3.5km az=7.0*
THE ***14*** *18:57:56.8, 36.00N×28.76E, h0km±3km, Error ellipse: s-maj=5.2km s-min=1.6km az=143.0*
NIC ***14*** *18:57:59.5, 35.58N×28.97E, h49km, mb4.2, ML3.8*
ISC 14 18:57:55.3±1.2, 35.86N±0.03×28.81E±0.02, h16km±8km, n268, σ1§35/285, mb3.7/16, 2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.66**	**303**	P	**Pg**	**18 58 06.9**	**-1.4**
ARG				S	**Sb**	**18 58 18.2**	**+0.7**
ARG	**Arkhangelos**	**0.66**	**303**	*e*PG	**Pg**	**18 58 06.9**	**-1.4**
ARG				*e*SB	**Sn**	**18 58 19.0**	**-1.1**
AKAS	**Kas**	**0.74**	**60**	*i* P	**Pb**	**18 58 11.0**	**+1.0**
AKAS				*i* S	**Sn**	**18 58 25.0**	**+2.7**
AKAS	**Kas**	**0.74**	**60**	*i* P	**Pb**	**18 58 11.0**	**+1.0**
AKAS				*i* S	**Sn**	**18 58 25.0**	**+2.7**
FETY	**Fethiye**	**0.80**	**16**	PG	**Pg**	**18 58 10.4**	**-0.5**
FETY				SG	**Sn**	**18 58 24.2**	**+0.5**
FETY	**Fethiye**	**0.80**	**16**	*i* Pg	**Pg**	**18 58 10.5**	**-0.5**
FETY				*i* Sg	**Sn**	**18 58 24.2**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.96**	**352**	*e*PN	**Pg**	**18 58 13.0**	**-1.0**
DALY				*e*SN	**Sn**	**18 58 28.7**	**+1.1**
DALY	**Dalyan (Mu¨la**	**0.96**	**352**	*e*Pn	**Pg**	**18 58 13.0**	**-1.0**
DALY				*e*Sn	**Sn**	**18 58 28.7**	**+1.1**
ELL	**Elmali**	**1.25**	**45**	*e*PN	**Pb**	**18 58 19.1**	**+0.5**
ELL	**Elmali**	**1.25**	**45**	*e*Pn	**Pb**	**18 58 19.1**	**+0.5**
YER	**Yerkesik**	**1.34**	**342**	*e*PN	**Pn**	**18 58 19.1**	**-0.4**
YER	**Yerkesik**	**1.34**	**342**	*e*Pn	**Pn**	**18 58 19.1**	**-0.4**
KARP	**Karpathos**	**1.38**	**257**	P	**Pb**	**18 58 21.7**	**+0.9**
KARP	**Karpathos**	**1.38**	**257**	*e*PB	**Pb**	**18 58 22.0**	**+1.2**
KARP	**Karpathos**	**1.38**	**257**	P	**Pb**	**18 58 21.7**	**+0.9**
KARP	**Karpathos**	**1.38**	**257**	*e*Pb	**Pb**	**18 58 22.0**	**+1.2**
GOLH	**Golhisar**	**1.50**	**23**	*i* P	**Pb**	**18 58 22.8**	**-0.1**
GOLH				*i* S	**Sg**	**18 58 45.2**	**+1.4**
GOLH	**Golhisar**	**1.50**	**23**	*i* P	**Pb**	**18 58 22.8**	**-0.1**
GOLH				*i* S	**Sg**	**18 58 45.2**	**+1.4**
NIS1	**Nisyros Isl.**	**1.52**	**300**	P	**Pn**	**18 58 22.4**	**+0.6**
NIS1	**Nisyros Isl.**	**1.52**	**300**	P	**Pn**	**18 58 22.4**	**+0.6**
BDRM	**Kayabasi**	**1.63**	**318**	*i* P	**Pn**	**18 58 22.7**	**-0.7**
BDRM				*i* S	**Sg**	**18 58 48.0**	**0.0**
BDRM	**Kayabasi**	**1.63**	**318**	*i* P	**Pn**	**18 58 22.7**	**-0.7**
BDRM				*i* S	**Sg**	**18 58 48.0**	**0.0**
BODT	**Bodrum**	**1.71**	**315**	*e*PN	**Pn**	**18 58 22.6**	**-1.9**
BODT	**Bodrum**	**1.71**	**315**	*e*Pn	**Pn**	**18 58 22.6**	**-1.9**
ANTB	**Antalya**	**1.81**	**55**	*e*PN	**Pn**	**18 58 26.1**	**+0.2**
ANTB	**Antalya**	**1.81**	**55**	*e*Pn	**Pn**	**18 58 26.1**	**+0.2**
BCK	**Bucak**	**2.14**	**41**	*e*PN	**Pn**	**18 58 31.3**	**+0.8**
BCK	**Bucak**	**2.14**	**41**	*e*Pn	**Pn**	**18 58 31.3**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.21**	**341**	*e*PN	**Pn**	**18 58 30.7**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**2.21**	**341**	*e*Pn	**Pn**	**18 58 30.7**	**-0.8**
ZKR	**Zakros**	**2.25**	**251**	P	**Pn**	**18 58 34.3**	**+2.4**
ZKR	**Zakros**	**2.25**	**251**	*e*PN	**Pn**	**18 58 34.2**	**+2.4**
ZKR	**Zakros**	**2.25**	**251**	*e*Pn	**Pn**	**18 58 34.2**	**+2.4**
ISP	**Isparta**	**2.39**	**34**	P	**Pn**	**18 58 34.8**	**+0.9**
ISP	**Isparta**	**2.39**	**34**	P	**Pn**	**18 58 34.8**	**+0.9**
SMG	**Samos**	**2.43**	**320**	P	**Pn**	**18 58 34.4**	**-0.1**
SMG	**Samos**	**2.43**	**320**	*e*PB	**Pn**	**18 58 34.3**	**-0.2**
SMG	**Samos**	**2.43**	**320**	P	**Pn**	**18 58 34.4**	**-0.1**
KHL	**Karahalli**	**2.52**	**13**	*e*PN	**Pn**	**18 58 35.9**	**+0.2**
KHL	**Karahalli**	**2.52**	**13**	*e*Pn	**Pn**	**18 58 35.9**	**+0.2**
KULA	**Kula-Manisa**	**2.65**	**357**	P	**Pn**	**18 58 37.3**	**-0.2**
KULA				S	**Sn**	**18 59 09.5**	**+0.1**
KULA	**Kula-Manisa**	**2.65**	**357**	*e*PN	**Pn**	**18 58 38.3**	**+0.8**
KULA	**Kula-Manisa**	**2.65**	**357**	P	**Pn**	**18 58 37.3**	**-0.2**
KULA	**Kula-Manisa**	**2.65**	**357**	*e*Pn	**Pn**	**18 58 38.3**	**+0.8**
KULA				S	**Sn**	**18 59 09.5**	**+0.1**
NPS	**Neapolis**	**2.68**	**258**	P	**Pn**	**18 58 39.8**	**+2.0**
NPS	**Neapolis**	**2.68**	**258**	*e*PN	**Pn**	**18 58 39.9**	**+2.1**
NPS	**Neapolis**	**2.68**	**258**	P	**Pn**	**18 58 39.8**	**+2.0**
SANT	**Santorini**	**2.76**	**282**	*e*PN	**Pn**	**18 58 40.4**	**+1.4**
SANT	**Santorini**	**2.76**	**282**	*e*Pn	**Pn**	**18 58 40.4**	**+1.4**
LAST	**Lasithi**	**2.81**	**257**	P	**Pn**	**18 58 42.0**	**+2.3**
LAST	**Lasithi**	**2.81**	**257**	*e*PB	**Pn**	**18 58 42.7**	**+3.0**
LAST	**Lasithi**	**2.81**	**257**	P	**Pn**	**18 58 42.0**	**+2.3**
LAST	**Lasithi**	**2.81**	**257**	*e*Pb	**Pn**	**18 58 42.7**	**+3.0**
GAZI	**Gazipasa**	**2.86**	**81**	*i* P	**Pn**	**18 58 39.1**	**-1.2**
GAZI				*i* S	**Sn**	**18 59 13.7**	**-0.8**
GAZI	**Gazipasa**	**2.86**	**81**	*i* P	**Pn**	**18 58 39.1**	**-1.2**
GAZI				*i* S	**Sn**	**18 59 13.7**	**-0.8**
BLCB	**Balcova**	**2.89**	**331**	*e*PN	**Pn**	**18 58 40.0**	**-0.7**
BLCB	**Balcova**	**2.89**	**331**	*e*Pn	**Pn**	**18 58 40.0**	**-0.7**
APE	**Apeiranthos**	**2.91**	**295**	*e*PN	**Pn**	**18 58 41.8**	**+0.8**
APE	**Apeiranthos**	**2.91**	**295**	*e*Pn	**Pn**	**18 58 41.8**	**+0.8**
AKMC	**Akamas**	**2.99**	**105**	↓*i*P	**Pn**	**18 58 42.5**	**+0.4**
	baz=282						
AKMC	**Akamas**	**2.99**	**105**	↓*i*P	**Pn**	**18 58 42.5**	**+0.4**
SHUT	**Suhut-Afyon**	**3.02**	**27**	*e*PN	**Pn**	**18 58 42.9**	**+0.2**
SHUT	**Suhut-Afyon**	**3.02**	**27**	*e*Pn	**Pn**	**18 58 42.9**	**+0.2**
PPCY	**Paphos**	**3.04**	**108**	P	**Pn**	**18 58 43.3**	**+0.5**
	baz=284						
PPCY	**Paphos**	**3.04**	**108**	P	**Pn**	**18 58 43.3**	**+0.5**
AKS	**Akhisar**	**3.12**	**345**	*e*PN	**Pn**	**18 58 44.1**	**+0.2**
AKS	**Akhisar**	**3.12**	**345**	*e*Pn	**Pn**	**18 58 44.1**	**+0.2**
ALFC	**Alevga**	**3.17**	**102**	P	**Pn**	**18 58 44.4**	**-0.1**
	baz=279						
ALFC				S	**Sn**	**18 59 21.0**	**-1.0**
ALFC	**Alevga**	**3.17**	**102**	P	**Pn**	**18 58 44.4**	**-0.1**
ALFC				S	**Sn**	**18 59 21.0**	**-1.0**
IDI	**Anoyia**	**3.25**	**261**	Pn	**Pn**	**18 58 47.3**	**+1.6**
	3.6nm,0.3s,baz=276,slow=19,SNR=28						
IDI				Sn	**Sn**	**18 59 25.3**	**+1.2**
	3.8nm,0.3s,baz=326,slow=18,SNR=2.6						
CHOS	**Chios island**	**3.35**	**320**	*e*PN	**Pn**	**18 58 48.4**	**+1.3**
CHOS	**Chios island**	**3.35**	**320**	*e*Pn	**Pn**	**18 58 48.4**	**+1.3**
ALT	**Altintas**	**3.35**	**18**	P	**Pn**	**18 58 47.5**	**+0.4**
ALT	**Altintas**	**3.35**	**18**	*e*PN	**Pn**	**18 58 47.6**	**+0.4**
ALT	**Altintas**	**3.35**	**18**	*e*Pn	**Pn**	**18 58 47.6**	**+0.4**
SIVA	**Sivas**	**3.38**	**257**	*e*PN	**Pn**	**18 58 49.9**	**+2.5**
SIVA	**Sivas**	**3.38**	**257**	*e*Pn	**Pn**	**18 58 49.9**	**+2.5**
ERMK	**Ermenek**	**3.40**	**76**	*i* P	**Pn**	**18 58 49.4**	**+1.5**
ERMK	**Ermenek**	**3.40**	**76**	*i* P	**Pn**	**18 58 49.4**	**+1.5**
ERMK				*i* S	**Sn**	**18 59 33.6**	**+5.5**
LEF	**Lefka**	**3.41**	**101**	*e*PN	**Pn**	**18 58 46.5**	**-1.3**
LEF	**Lefka**	**3.41**	**101**	*e*Pn	**Pn**	**18 58 46.5**	**-1.3**
SZAC	**Souni-Zanaja**	**3.50**	**107**	P	**Pn**	**18 58 49.6**	**+0.4**
	baz=285						
SZAC				S	**Sn**	**18 59 28.0**	**-2.4**
SZAC	**Souni-Zanaja**	**3.50**	**107**	P	**Pn**	**18 58 49.6**	**+0.4**
SZAC				S	**Sn**	**18 59 28.0**	**-2.4**
KONT	**Konya--Tatoy**	**3.52**	**53**	*e*PN	**Pn**	**18 58 50.5**	**+1.0**
KONT	**Konya--Tatoy**	**3.52**	**53**	*e*Pn	**Pn**	**18 58 50.5**	**+1.0**
TVSB	**Tavsanli**	**3.62**	**8**	*e*PN	**Pn**	**18 58 50.7**	**-0.1**
TVSB	**Tavsanli**	**3.62**	**8**	*e*Pn	**Pn**	**18 58 50.7**	**-0.1**
MAMC	**Mammari**	**3.66**	**100**	P	**Pn**	**18 58 52.0**	**+0.7**
	baz=277						
MAMC	**Mammari**	**3.66**	**100**	P	**Pn**	**18 58 52.0**	**+0.7**
LADK	**Ladik-KONYA**	**3.68**	**50**	*e*PN	**Pn**	**18 58 52.2**	**+0.6**
LADK	**Ladik-KONYA**	**3.68**	**50**	*e*Pn	**Pn**	**18 58 52.2**	**+0.6**
VAM	**Vamos**	**3.79**	**264**	*e*PN	**Pn**	**18 58 55.2**	**+2.2**
VAM	**Vamos**	**3.79**	**264**	*e*Pn	**Pn**	**18 58 55.2**	**+2.2**
BALB	**Balikesir**	**3.84**	**349**	*e*PN	**Pn**	**18 58 55.1**	**+1.3**
BALB	**Balikesir**	**3.84**	**349**	*e*Pn	**Pn**	**18 58 55.1**	**+1.3**
KIZT	**Kizilcal**	**3.88**	**38**	*e*PN	**Pn**	**18 58 55.1**	**+0.7**
KIZT	**Kizilcal**	**3.88**	**38**	*e*Pn	**Pn**	**18 58 55.1**	**+0.7**
PRK	**Paraskevi**	**3.94**	**330**	*e*PN	**Pn**	**18 58 55.1**	**0.0**
PRK	**Paraskevi**	**3.94**	**330**	*e*Pn	**Pn**	**18 58 55.1**	**0.0**
SIGR	**SIGRI**	**4.09**	**326**	*e*PN	**Pn**	**18 58 58.6**	**+1.4**
SIGR	**SIGRI**	**4.09**	**326**	*e*Pn	**Pn**	**18 58 58.6**	**+1.4**
SVRH	**Sivrihisar-ESK**	**4.18**	**30**	*e*PN	**Pn**	**18 58 59.2**	**+0.7**
SVRH	**Sivrihisar-ESK**	**4.18**	**30**	*e*Pn	**Pn**	**18 58 59.2**	**+0.7**
EREN	**Erenkoy**	**4.37**	**93**	*e*PN	**Pn**	**18 59 01.1**	**0.0**
EREN	**Erenkoy**	**4.37**	**93**	*e*Pn	**Pn**	**18 59 01.1**	**0.0**
CAVI	**Cavuskoy**	**4.41**	**10**	*e*PN	**Pn**	**18 59 02.7**	**+1.1**
CAVI	**Cavuskoy**	**4.41**	**10**	*e*Pn	**Pn**	**18 59 02.7**	**+1.1**
KCTX	**Karacabey (Bur**	**4.41**	**355**	*e*PN	**Pn**	**18 59 02.7**	**+1.0**
KCTX	**Karacabey (Bur**	**4.41**	**355**	*e*Pn	**Pn**	**18 59 02.7**	**+1.0**
EZN	**Ezine**	**4.42**	**334**	*e*PN	**Pn**	**18 59 02.7**	**+1.0**
EZN	**Ezine**	**4.42**	**334**	*e*Pn	**Pn**	**18 59 02.7**	**+1.0**
SULT	**Sultanhani-AKS**	**4.43**	**57**	*e*PN	**Pn**	**18 59 02.7**	**+0.8**
SULT	**Sultanhani-AKS**	**4.43**	**57**	*e*Pn	**Pn**	**18 59 02.7**	**+0.8**
ANKY	**Antikythira Is**	**4.48**	**272**	*e*PN	**Pn**	**18 59 05.4**	**+2.9**
KRBG	**Karabiga-Canak**	**4.68**	**346**	*e*PN	**Pn**	**18 59 06.8**	**+1.5**
KRBG	**Karabiga-Canak**	**4.68**	**346**	*e*Pn	**Pn**	**18 59 06.8**	**+1.5**
ARMT	**Armutlu**	**4.70**	**0**	*e*PN	**Pn**	**18 59 06.8**	**+1.2**
ARMT	**Armutlu**	**4.70**	**0**	*e*Pn	**Pn**	**18 59 06.8**	**+1.2**
KYTH	**Kithira**	**4.70**	**277**	*e*PN	**Pn**	**18 59 07.2**	**+1.6**
KYTH	**Kithira**	**4.70**	**277**	*e*Pn	**Pn**	**18 59 07.2**	**+1.6**
MERS	**Mersin**	**4.71**	**76**	*e*PN	**Pn**	**18 59 06.2**	**+0.3**
MERS	**Mersin**	**4.71**	**76**	*e*Pn	**Pn**	**18 59 06.2**	**+0.3**
GULT	**Gulveren**	**4.76**	**16**	*e*PN	**Pn**	**18 59 07.9**	**+1.5**
GULT	**Gulveren**	**4.76**	**16**	*e*Pn	**Pn**	**18 59 07.9**	**+1.5**
DID	**Didima**	**4.77**	**292**	*e*PN	**Pn**	**18 59 07.7**	**+1.1**
DID	**Didima**	**4.77**	**292**	*e*Pn	**Pn**	**18 59 07.7**	**+1.1**
LPK	**Lapseki**	**4.79**	**341**	*e*PN	**Pn**	**18 59 07.4**	**+0.6**
LPK	**Lapseki**	**4.79**	**341**	*e*Pn	**Pn**	**18 59 07.4**	**+0.6**
VLI	**Veliai**	**4.82**	**282**	*e*PN	**Pn**	**18 59 09.2**	**+1.9**
VLI	**Veliai**	**4.82**	**282**	*e*Pn	**Pn**	**18 59 09.2**	**+1.9**
MRMT	**Marmara Adasi**	**4.83**	**349**	*e*PN	**Pn**	**18 59 09.1**	**+1.6**
MRMT	**Marmara Adasi**	**4.83**	**349**	*e*Pn	**Pn**	**18 59 09.1**	**+1.6**
GELI	**Tayfur-Gelibol**	**4.89**	**339**	*e*PN	**Pn**	**18 59 09.7**	**+1.5**
GELI	**Tayfur-Gelibol**	**4.89**	**339**	*e*Pn	**Pn**	**18 59 09.7**	**+1.5**
LIA	**Limnos Island**	**4.95**	**326**	*e*PN	**Pn**	**18 59 10.5**	**+1.5**
MDUB	**Mudurnu**	**4.97**	**21**	*e*PN	**Pn**	**18 59 11.4**	**+2.0**
MDUB	**Mudurnu**	**4.97**	**21**	*e*Pn	**Pn**	**18 59 11.4**	**+2.0**
RKY	**Sarkoy-Tekirda**	**4.99**	**346**	*e*PN	**Pn**	**18 59 10.3**	**+0.7**
RKY	**Sarkoy-Tekirda**	**4.99**	**346**	*e*Pn	**Pn**	**18 59 10.3**	**+0.7**
ERIK	**Erikli-Kesan**	**5.13**	**340**	*e*PN	**Pn**	**18 59 12.6**	**+1.1**
ERIK	**Erikli-Kesan**	**5.13**	**340**	*e*Pn	**Pn**	**18 59 12.6**	**+1.1**
KARA	**Karaisali**	**5.21**	**73**	*e*PN	**Pn**	**18 59 13.6**	**+0.9**
KARA

SALA				AML	AML	19 01 21.3	
	comp=N,5.4nm,0.6s						
ZALF	**Zalf**	**7.63**	**110**	*e*P	**Pn**	**18 59 45.7**	**-0.1**
ZALF				*e*S	Sn	19 00 54.1	-18
ZALF				AML	AML	19 01 22.3	
	comp=E,3.6nm,0.6s						
ZALF				AML	AML	19 01 25.5	
	comp=Z,2.8nm,0.6s						
ZALF				AML	AML	19 01 32.8	
	comp=N,3.0nm,0.7s						
ASF	**Jabal al Asfar**	**7.65**	**116**	Pn	**Pn**	**18 59 47.0**	**+0.8**
	comp=N,0.4nm,0.3s,baz=270,slow=2.0,SNR=5.2						
ASF				Sn	**Sn**	**19 01 11.4**	**-1.3**
	comp=N,0.1nm,0.3s,baz=72,slow=20,SNR=1.6						
EIL	**Elat**	**8.05**	**138**	Pn	**Pn**	**18 59 50.8**	**-0.8**
	comp=N,1.3nm,0.3s,baz=304,slow=4.1,SNR=11						
EIL				Sn	Sn	19 01 18.5	-3.8
	comp=N,0.5nm,0.3s,baz=73,slow=18,SNR=2.5						
HFRF	**Wahat Farafira**	**8.70**	**183**	P	**Pn**	**19 00 00.1**	**-0.4**
HFRF	**Wahat Farafira**	**8.70**	**183**	P	**Pn**	**19 00 00.1**	**-0.4**
	baz=184						
MLR	**Muntele Rosu**	**9.86**	**348**	Pn	**Pn**	**19 00 17.0**	**+0.4**
	comp=N,0.1nm,0.3s,baz=135,slow=20,SNR=3.1						
VYHS	**Vyhne**	**14.61**	**333**	*e*PKP		19 29 37.0	
KEST	**Kesra**	**15.80**	**275**	Pn	**P**	**19 01 41.6**	**+0.6**
	comp=N,0.1nm,0.3s,baz=35,slow=12,SNR=3.0						
GERES	**GERESS Array B**	**17.08**	**324**	Pn	**Pn**	**19 01 54.4**	**+1.0**
	comp=N,0.1nm,0.3s,baz=132,slow=11,SNR=4.8						
SBF	**Sospel**	**18.22**	**303**	*e*P	**Pn**	**19 02 08.2**	**+0.6**
	comp=N,54nm,1.1s						
SBF	**Sospel**	**18.22**	**303**	*e*P	**Pn**	**19 02 08.2**	**+0.6**
	comp=N,27nm,1.1s						
MBDF	**Montbardon**	**18.96**	**305**	*e*P	**P**	**19 02 15.1**	**-0.8**
	comp=N,9.4nm,0.8s						
MBDF	**Montbardon**	**18.96**	**305**	*e*P	**P**	**19 02 15.1**	**-0.8**
	comp=N,4.7nm,0.8s						
LPG	**La Plagne**	**19.25**	**307**	*e*P	**P**	**19 02 18.5**	**-0.8**
	comp=N,7.3nm,0.8s						
LPG	**La Plagne**	**19.25**	**307**	*e*P	**P**	**19 02 18.5**	**-0.8**
	comp=N,3.7nm,0.8s						
LPL	**La Plagne**	**19.27**	**307**	*e*P	**P**	**19 02 18.5**	**-0.9**
	comp=N,2.5nm,0.4s						
LPL	**La Plagne**	**19.27**	**307**	*e*P	**P**	**19 02 18.5**	**-0.9**
	comp=N,1.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**19.62**	**304**	*e*P	**P**	**19 02 22.9**	**-0.2**
ORIF				*e*R			
	comp=N,118nm,22.0s						
ORIF	**Oris-en-Rattie**	**19.62**	**304**	*e*P	**P**	**19 02 22.9**	**-0.2**
OBN	**Obninsk**	**19.98**	**13**	LR	LR	19 09 44.4	
	comp=N,29nm,21.1s,baz=75,slow=36						
CABF	**La Chapelle**	**20.12**	**309**	*e*P	**P**	**19 02 26.4**	**-2.1**
	comp=N,24nm,1.1s						
CABF	**La Chapelle**	**20.12**	**309**	*e*P	**P**	**19 02 26.4**	**-2.1**
	comp=N,12nm,1.1s						
CDF	**Champ du Feu**	**20.23**	**315**	*e*P	**P**	**19 02 28.9**	**-0.8**
	comp=N,4.4nm,0.8s						
CDF	**Champ du Feu**	**20.23**	**315**	*e*P	**P**	**19 02 28.9**	**-0.8**
	comp=N,2.2nm,0.8s						
VIVF	**Saint-Julien-l**	**20.41**	**303**	*e*P	**P**	**19 02 30.8**	**-0.9**
VIVF	**Saint-Julien-l**	**20.41**	**303**	*e*P	**P**	**19 02 30.8**	**-0.9**
HAU	**Haudompre**	**20.57**	**313**	*e*P	**P**	**19 02 32.4**	**-0.9**
HAU				*e*R			
	comp=N,98nm,18.5s						
HAU	**Haudompre**	**20.57**	**313**	*e*P	**P**	**19 02 32.4**	**-0.9**
SMF	**Signal de Mont**	**21.56**	**308**	*e*P	**P**	**19 02 42.0**	**-2.0**
	comp=N,6.2nm,0.6s						
SMF	**Signal de Mont**	**21.56**	**308**	*e*P	**P**	**19 02 42.0**	**-2.0**
	comp=N,3.1nm,0.6s						
AVF	**Avril sur Loir**	**21.92**	**308**	*e*P	**P**	**19 02 46.2**	**-1.7**
AVF	**Avril sur Loir**	**21.92**	**308**	*e*P	**P**	**19 02 46.2**	**-1.7**
SSF	**Saint Saulge**	**21.92**	**308**	*e*P	**P**	**19 02 46.4**	**-1.5**
	comp=N,9.5nm,0.8s						
SSF	**Saint Saulge**	**21.92**	**308**	*e*P	**P**	**19 02 46.4**	**-1.5**
	comp=N,4.8nm,0.8s						
TCF	**Toulx Ste Croi**	**22.50**	**306**	*e*P	**P**	**19 02 53.6**	**-0.5**
TCF	**Toulx Ste Croi**	**22.50**	**306**	*e*P	**P**	**19 02 53.6**	**-0.5**
GEYT	**Alibeck**	**23.49**	**76**	P	**P**	**19 03 04.6**	**+0.2**
	comp=N,0.6nm,0.5s,baz=288,slow=10,SNR=2.9						
MFF	**Saint Martin d**	**24.15**	**305**	*e*P	**P**	**19 03 09.2**	**-1.4**
	comp=N,2.5nm,0.6s						
MFF	**Saint Martin d**	**24.15**	**305**	*e*P	**P**	**19 03 09.2**	**-1.4**
	comp=N,1.2nm,0.6s						
LDF	**La Druitiere**	**24.75**	**310**	*e*P	**P**	**19 03 14.0**	**-2.1**
LDF	**La Druitiere**	**24.75**	**310**	*e*P	**P**	**19 03 14.0**	**-2.1**
FLN	**La Foliniere**	**25.04**	**310**	*e*P	**P**	**19 03 18.1**	**-0.5**
FLN				*e*R			
	comp=N,119nm,19.5s						
FLN	**La Foliniere**	**25.04**	**310**	*e*P	**P**	**19 03 18.1**	**-0.5**
GRR	**Gorron**	**25.15**	**309**	*e*P	**P**	**19 03 18.1**	**-1.5**
GRR	**Gorron**	**25.15**	**309**	*e*P	**P**	**19 03 18.1**	**-1.5**
FINES	**FINESS Array B**	**25.66**	**357**	P	**P**	**19 03 23.4**	**-0.8**
	comp=N,1.6nm,0.4s,baz=161,slow=12,SNR=20						
ESDC	**Sonseca Array**	**26.11**	**288**	P	**P**	**19 03 27.4**	**-1.1**
	comp=N,0.7nm,0.6s,baz=82,slow=9.5,SNR=6.8						
HFS	**Hagfors**	**26.18**	**343**	P	**P**	**19 03 27.2**	**-1.6**
	comp=N,2.8nm,1.0s,baz=165,slow=13,SNR=3.9						
SGMF	**Saint Gilles**	**26.19**	**308**	*e*P	**P**	**19 03 29.2**	**+0.2**
SGMF	**Saint Gilles**	**26.19**	**308**	*e*P	**P**	**19 03 29.2**	**+0.2**
QUIF	**Quistinic**	**26.49**	**307**	*e*P	**P**	**19 03 29.9**	**-1.8**
	comp=N,15nm,1.1s						
QUIF	**Quistinic**	**26.49**	**307**	*e*P	**P**	**19 03 29.9**	**-1.8**
	comp=N,7.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**33.27**	**234**	P	**P**	**19 04 32.3**	**+0.2**
	comp=N,0.6nm,0.6s,baz=32,slow=9.3,SNR=5.8						
ARCES	**ARCESS Array B**	**33.78**	**358**	P	**P**	**19 04 34.9**	**-1.1**
	comp=N,5.1nm,1.1s,baz=1.6,slow=8.5,SNR=5.7						
KURBB	**Kurchatov Arra**	**38.36**	**52**	P	**P**	**19 05 15.3**	**-0.1**
	comp=N,0.7nm,0.6s,baz=278,slow=9.0,SNR=7.1						
MKAR	**Makanchi Array**	**40.89**	**58**	P	**P**	**19 05 36.9**	**+0.3**
	comp=N,0.3nm,0.5s,baz=0.0,slow=2.7,SNR=5.2						
ZALV	**Zalesovo Beam**	**42.36**	**47**	P	**P**	**19 05 47.9**	**-0.7**
	comp=N,0.4nm,0.5s,baz=275,slow=9.6,SNR=2.9						
DBIC	**Dimbokro**	**42.37**	**235**	P	**P**	**19 05 49.9**	**+0.9**
	comp=N,3.6nm,0.9s,baz=12,slow=9.3,SNR=3.1						
SONM	**Songino Array**	**56.72**	**52**	P	**P**	**19 07 39.6**	**+1.2**
	comp=N,0.1nm,0.3s,baz=252,slow=8.0,SNR=2.6						
YKA	**Yellowknife Ar**	**77.66**	**344**	P	**P**	**19 09 49.7**	**-0.9**
	comp=N,0.2nm,0.6s,baz=30,slow=6.4,SNR=4.1						

SZGRF ***14*** *19:08:54.8, 34°.25N×75°.31E, h33km, mb5.1, MS4.6, Eastern Kashmir*
LDG ***14*** *19:08:58.8±0.2, 35°.25N×74°.46E, h10km, Mb4.9/42, Ms3.8/2, Error ellipse: s-maj=10.7km s-min=6.7km az=37.0*
IDC ***14*** *19:08:60.0±0.4, 35°.31N×74°.45E, h0km, mb4.6/30, mb1 4.7/35, mb1mx4.6/45, mbtmp4.5/35, ML3.9/6, MS4.0/20, Ms1 4.0/20, ms1mx3.8/50, Error ellipse: s-maj=12.7km s-min=9.6km az=33.0*
BJI ***14*** *19:09:03.6, 35°.31N×74°.42E, h35km, mB4.9/27, mb4.6/42, ML4.9/4, Ms4.3/22, Ms7 3.9/22*
MOS ***14*** *19:09:03.1±1.2, 35°.27N×74°.46E, h33km, mb5.2/71, MS4.1/13, Error ellipse: s-maj=6.4km s-min=3.4km az=115.0*
ISCJB ***14*** *19:09:04.6±0.4, 35°.34N±0°.02×74°.52E±0°.02, h45km±4km, mb4.9/154, MS4.1/28, Error ellipse: s-maj=3.4km s-min=3.1km az=38.8*
NEIC ***14*** *19:09:05.6±0.8, 35°.30N×74°.50E, h44km±7km, mb5.2/68, Error ellipse: s-maj=6.2km s-min=4.3km az=206.0*
NNC ***14*** *19:09:06.9±4.2, 35°.32N×73°.84E, h53km±44km, mb4.7, mpv4.6, Error ellipse: s-maj=33.2km s-min=21.3km az=169.0*
NDI ***14*** *19:09:08.5±2.8, 34°.94N×73°.85E, h33km, ML5.2, mb5.2(NEIC)*
ISC 14 19:09:06.1±0.3, 35°.28N±0°.03×74°.42E±0°.03, h40km±3km, h40km:pP-P, n501, σ1§46/500, mb5.0/155, MS4.2/35, 52C-11D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.88**	**211**	⇑P	**Pn**	**19 09 38.6**	**+2.9**
CEP	**Cherat**	**2.53**	**236**	⇓P	**Pn**	**19 09 47.5**	**+2.7**
CEP				S	Sn	19 10 26.0	+11
DLH	**Dalhousie**	**3.02**	**154**	*e*P	**Pn**	**19 09 53.0**	**+1.4**
DLH				*e*x	Sn	19 10 35.0	+8.3
THW	**Thamme Wali**	**3.33**	**223**	⇓P	**Pn**	**19 09 57.5**	**+1.8**
DHRM	**DHARAMSHALA**	**3.41**	**152**	*e*P	**Pn**	**19 09 58.5**	**+1.6**
DHRM				*e*S	**Sn**	**19 10 36.0**	**-0.2**
PONG	**Pong**	**3.56**	**159**	*e*P	**Pn**	**19 10 00.5**	**+1.8**
PONG				*e*x	x	19 11 05.0	
BHK	**Bhakra**	**4.20**	**156**	*e*P	Pn	19 10 11.4	+3.7
BHK				*e*x	x	19 11 13.4	
SDNR	**Sundarnagar**	**4.33**	**150**	*e*x	**Pn**	**19 10 08.0**	**-1.5**
SDNR				*e*S3	Sn	19 11 09.0	+10
KSH	**Kashi**	**4.40**	**16**	P	**Pn**	**19 10 08.4**	**-2.1**
KSH				SMN			
	1μm,1.3s						
KSH				SME			
	5μm,1.8s						
KBL	**Kabul**	**4.48**	**262**	*e*P	**Pn**	**19 10 12.3**	**+0.7**
KBL				*e*		19 11 01.2	
KBL	**Kabul**	**4.48**	**262**	*e*P	**Pn**	**19 10 12.3**	**+0.7**
KBL				*e*Sn	**Sn**	**19 11 01.2**	**-1.3**
SMLA	**Simla**	**4.74**	**150**	*i* P	**Pn**	**19 10 16.3**	**+1.3**
SMLA				*i* x	x	19 11 26.1	
SMLA				AML	AML	19 11 31.0	
	comp=E,7μm,0.7s						
SMLA				AML	AML	19 11 36.8	
	comp=N,6μm,0.5s						
DZET	**Dzherino**	**5.69**	**310**	⇓Pn	**Pn**	**19 10 27.1**	**-1.0**
DZET				⇑Sn	Sn	19 11 22.1	-10
DDI	**Dehra Dun**	**5.82**	**147**	*e*x	**Pn**	**19 10 31.6**	**+1.7**
DDI				*e*x	x	19 12 13.0	
KZA	**Kyzart**	**6.82**	**5**	P	**Pn**	**19 10 45.4**	**+1.5**
	SNR=15						
KZA	**Kyzart**	**6.82**	**5**	*i* P	**Pn**	**19 10 45.3**	**+1.5**
AML	**Almayashu**	**6.86**	**355**	P	**Pn**	**19 10 46.9**	**+2.4**
	SNR=14						
UCH	**Uchtor**	**6.94**	**1**	P	**Pn**	**19 10 47.0**	**+1.5**
	SNR=39						
UCH	**Uchtor**	**6.94**	**1**	*i* P	**Pn**	**19 10 47.0**	**+1.5**
NDI	**New Delhi**	**7.00**	**159**	*e*P	**Pn**	**19 10 46.0**	**0.0**
NDI				*e*x	x	19 12 44.0	
ULHL	**Ulahol**	**7.10**	**11**	P	**Pn**	**19 10 49.7**	**+2.2**
	SNR=13						
AAK	**Ala-Archa**	**7.34**	**0**	⇑Pn	**Pn**	**19 10 53.5**	**+2.6**
	comp=N,34nm,1.4s						
AAK				⇑Sn	**Sn**	**19 12 15.5**	**+2.6**
	comp=N,70nm,1.2s						
AAK	**Ala-Archa**	**7.34**	**0**	P	Pn	19 10 55.8	+5.0
	SNR=13						
AAK	**Ala-Archa**	**7.34**	**0**	*ce*P	**Pn**	**19 10 51.8**	**+1.0**
AAK				pmax	pmax		
	comp=Z,26nm,1.0s						
AAK	**Ala-Archa**	**7.34**	**0**	P	Pn	19 10 54.8	+3.9
	SNR=19						
AAK	**Ala-Archa**	**7.34**	**0**	Pn	**Pn**	**19 10 52.7**	**+1.9**
	comp=Z,1.7nm,0.3s,baz=180,slow=10,SNR=32						
AAK				Lg	Lg	19 12 56.3	
	comp=Z,0.4nm,0.3s,baz=294,slow=20,SNR=3.1						
AAK				LR	LR	19 13 56.6	
	comp=Z,2μm,21.7s,baz=171,slow=41						
AAK	**Ala-Archa**	**7.34**	**0**	Pn	**Pn**	**19 10 50.2**	**-0.6**
	comp=Z,104nm,1.3s						
AAK				*e*Sn	**Sn**	**19 12 13.3**	**+0.4**
KBK	**Karagaybulak**	**7.38**	**3**	P	**Pn**	**19 10 53.5**	**+2.2**
	SNR=11						
KBK	**Karagaybulak**	**7.38**	**3**	*i* P	**Pn**	**19 10 53.5**	**+2.2**
EKS2	**Erkin-Say**	**7.38**	**356**	P	**Pn**	**19 10 52.6**	**+1.2**
	SNR=27						
EKS2	**Erkin-Say**	**7.38**	**356**	*e*P	**Pn**	**19 10 51.6**	**+0.2**
EKS2				*e*		19 12 13.8	
EKS2				pmax	pmax		
	comp=Z,13nm,0.6s						
EKS2	**Erkin-Say**	**7.38**	**356**	*e*Pn	**Pn**	**19 10 51.6**	**+0.2**
	comp=Z,13nm,0.6s						
EKS2				*e*Sn	**Sn**	**19 12 13.8**	**-0.2**
FRU	**Bishkek**	**7.54**	**1**	*e*P	**Pn**	**19 10 56.0**	**+2.5**
FRU				pmax	pmax		
	comp=Z,160nm,1.6s						
LGTI	**Lohaghat**	**7.62**	**138**	*e*x	Pn	19 11 01.1	+6.5
TKM2	**Tokmak 2**	**7.68**	**6**	⇑Pn	**Pn**	**19 10 57.5**	**+2.0**
	comp=Z,78nm,1.4s						
TKM2				⇑Sn	**Sn**	**19 12 25.3**	**+3.9**
	comp=Z,31nm,0.9s						
TKM2	**Tokmak 2**	**7.68**	**6**	P	**Pn**	**19 10 57.7**	**+2.1**
	SNR=30						
TKM2	**Tokmak 2**	**7.68**	**6**	*e*P	**Pn**	**19 10 56.6**	**+1.0**
TKM2				*e*		19 12 24.8	
TKM2				pmax	pmax		
	comp=Z,178nm,1.6s						
TKM2	**Tokmak 2**	**7.68**	**6**	*e*P	**Pn**	**19 10 56.6**	**+1.0**
	comp=Z,178nm,1.6s						
TKM2				*e*Sn	**Sn**	**19 12 24.8**	**+3.5**
CHMS	**Chumysh**	**7.71**	**2**	P	**Pn**	**19 10 57.5**	**+1.8**
	SNR=18						
CHMS	**Chumysh**	**7.71**	**2**	*i* P	**Pn**	**19 10 57.5**	**+1.8**
KK31	**Karatay Array**	**8.38**	**340**	⇑Pn	**Pn**	**19 11 03.0**	**-1.9**
	comp=Z,18nm,0.6s,baz=165,slow=13,SNR=318						
KK31				⇑Sn	**Sn**	**19 12 34.6**	**-3.6**
	comp=Z,20nm,0.8s,baz=161,slow=22,SNR=5.3						
KK31	**Karatay Array**	**8.38**	**340**	*i* P	**Pn**	**19 11 02.9**	**-1.9**
KK31				pmax	pmax		
	comp=Z,27nm,0.7s						
KKAR	**Karatay Array**	**8.38**	**340**	*e*P	**Pn**	**19 11 03.6**	**-1.3**
KKAR				*e*		19 12 35.8	
KKAR				pmax	pmax		
	comp=Z,44nm,0.8s						
KKAR	**Karatay Array**	**8.38**	**340**	*e*P	**Pn**	**19 11 03.6**	**-1.3**
	comp=Z,44nm,0.8s						
KKAR				*e*Sn	**Sn**	**19 12 35.8**	**-2.4**
PDGK	**Podgornoye**	**8.94**	**25**	⇓Pn	**Pn**	**19 11 12.8**	**+0.2**
DANN	**Dangsing**	**10.53**	**128**	*e*P	**Pn**	**19 11 33.1**	**-1.6**
KOLN	**Koldanda**	**10.83**	**131**	*e*P	**Pn**	**19 11 37.1**	**-1.7**
	comp=Z,131nm,0.6s						
GKN	**Gorkha**	**11.33**	**127**	*e*P	**Pn**	**19 11 42.9**	**-2.6**
	comp=Z,170nm,0.5s						
IMYA	**Miami**	**11.67**	**279**	*e*P	**Pn**	**19 11 48.9**	**-1.3**
KKN	**Kakani**	**11.90**	**126**	*e*P	Pn	19 11 49.7	-3.6
	comp=Z,335nm,0.9s						
DMN	**Daman**	**11.90**	**127**	*e*P	**Pn**	**19 11 50.5**	**-2.9**
	comp=Z,450nm,1.0s						
PKIN	**Phulchoki**	**12.11**	**126**	*e*P	Pn	19 11 52.9	-3.5
	comp=Z,284nm,0.8s						
PKI	**Pulchoki**	**12.13**	**126**	*e*P	Pn	19 11 53.2	-3.4
	comp=Z,232nm,0.9s						
GUN	**Gumba**	**12.22**	**124**	*e*P	Pn	19 11 53.9	-4.0
	comp=Z,286nm,1.0s						
BHPL	**Bhopal**	**12.28**	**167**	*e*P	**Pn**	**19 11 56.0**	**-2.4**
BHPL				*e*S	Sn	19 13 59.8	-14
IPAY	**Payeh**	**12.57**	**280**	*e*P	**Pn**	**19 12 02.1**	**-0.4**
JIRN	**Jiri**	**12.59**	**124**	*e*P	Pn	19 11 58.9	-4.1
	comp=Z,170nm,0.6s						
IAKL	**Akhelmad**	**12.76**	**280**	*e*P	**Pn**	**19 12 03.3**	**-1.9**
MK04	**Makanchi Array**	**12.92**	**25**	⇑P	**Pn**	**19 12 06.8**	**-0.2**
	comp=Z,3.4nm,0.6s						
MKAR	**Makanchi Array**	**12.94**	**25**	Pn	**Pn**	**19 12 06.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=202,slow=13,SNR=9.2						
OTUK	**Ortayu**	**13.04**	**354**	⇑P	**Pn**	**19 12 06.8**	**-1.9**
IKOO	**Kooshah**	**13.12**	**262**	*e*P	**Pn**	**19 12 10.4**	**+0.3**
WMQ	**Urumqi**	**13.32**	**46**	P	**Pn**	**19 12 11.1**	**-1.4**
WMQ				pP	**P**	**19 12 19.5**	**-1.9**
WMQ				PP	**PnPn**	**19 12 22.5**	**+2.1**
WMQ				sP		19 12 26.0	
WMQ				S	**Sn**	**19 14 38.4**	**-0.8**
WMQ				sS	S	19 14 51.4	-11
WMQ				SS	**SnSn**	**19 14 54.6**	**+3.0**
WMQ				PMZ			
	comp=Z,56nm,1.5s						
WMQ				PMZ			
	comp=Z,180nm,4.5s						
WMQ				LN			
	comp=Z,1μm,5.0s						
WMQ				LE			
	comp=Z,1μm,4.0s						
WMQ				LZ			
	comp=Z,550nm,18.0s						
RAMN	**Ramite**	**13.33**	**125**	*e*P	Pn	19 12 07.6	-5.3
	comp=Z,126nm,0.9s						
GEYT	**Alibeck**	**13.36**	**286**	Pn	Pn	19 12 09.8	-3.3
	comp=Z,0.2nm,0.3s,baz=106,slow=11,SNR=10						
GEYT				Sn	**Sn**	**19 14 44.2**	**+3.9**
	comp=Z,0.3nm,0.3s,baz=62,slow=21,SNR=3.6						
GEYT				LR	LR	19 18 20.0	
	comp=Z,282nm,21.2s,baz=95,slow=42						
TAPN	**Taplejung**	**13.83**	**121**	*e*P	Pn	19 12 14.1	-5.8
ODAN	**Odare**	**13.92**	**124**	*e*P	Pn	19 12 15.3	-5.7
	comp=Z,112nm,0.7s						
NGP	**Nagpur**	**14.66**	**163**	*e*x	Pn	19 12 26.8	-3.9
NGP				*e*x	Sn	19 14 58.7	-13
LSA	**Lhasa**	**15.17**	**107**	*e*P	Pn	19 12 32.4	-5.6
LSA				pmax	pmax		
	comp=Z,32nm,0.8s						
LSA	**Lhasa**	**15.17**	**107**	*e*Pn	Pn	19 12 32.4	-5.6
	comp=Z,32nm,0.8s						
BOK	**Bokaro**	**15.17**	**136**	*e*x	Pn	19 12 32.2	-5.3
BOK				*e*x	x	19 15 07.8	
KURBB	**Kurchatov Arra**	**15.62**	**10**	⇑P	**Pn**	**19 12 42.3**	**-0.9**
	comp=Z,76nm,0.8s						
KURBB	**Kurchatov Arra**	**15.62**	**10**	Pn	**Pn**	**19 12 38.7**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=196,slow=12,SNR=17						
KURK	**Kurchatov**	**15.72**	**10**	⇑P	**Pn**	**19 12 43.8**	**-0.7**
	comp=Z,44nm,0.8s						
KURK	**Kurchatov**	**15.72**	**10**	P	Pn	19 12 38.7	-5.8
KURK	**Kurchatov**	**15.72**	**10**	P	**P**	**19 12 47.4**	**-0.6**
	SNR=39						
KURK	**Kurchatov**	**15.72**	**10**	Pn	Pn	19 12 38.7	-5.8
KURK				*e*P	P	19 12 41.0	-7.0
IBAF	**Bafgh**	**16.16**	**262**	*e*P	**Pn**	**19 12 51.3**	**+0.9**
POO	**Poona**	**16.70**	**182**	*e*P	**Pn**	**19 12 55.8**	**-1.3**
POO				*e*x	x	19 16 20.8	
IANJ	**Anjilo**	**16.73**	**277**	*e*P	**P**	**19 13 00.1**	**+0.6**
IGLO	**Ghaloghah**	**16.73**	**280**	*e*P	**P**	**19 13 00.2**	**+0.7**
ICHK	**Chekchek**	**16.91**	**265**	*e*P	**Pn**	**19 13 00.6**	**+0.6**
IMEH	**Mehriz**	**17.00**	**262**	*e*P	**P**	**19 13 03.1**	**+0.6**
ILAS	**Lasjerd**	**17.51**	**277**	*e*P	**P**	**19 13 09.4**	**+1.2**
AB31	**Akbulak array**	**17.55**	**327**	P	**Pn**	**19 13 03.2**	**-4.4**
	comp=Z,18nm,0.8s,baz=139,slow=11,SNR=205						
AB31	**Akbulak array**	**17.55**	**327**	*e*P	**Pn**	**19 13 03.1**	**-4.4**
AB31				pmax	pmax		
	comp=Z,31nm,1.0s						
ABKAR	**Akbulak array**	**17.55**	**327**	*e*Pn	**Pn**	**19 13 03.1**	**-4.4**
	comp=Z,23nm,0.9s						
ISAD	**Sadrabad**	**17.59**	**265**	*e*P	**P**	**19 13 10.4**	**+1.2**
VOSK	**Vostochnaya**	**17.61**	**353**	⇓P	**Pn**	**19 13 05.3**	**-2.9**
	comp=Z,14nm,0.9s						
BVA0	**Borovoye Array**	**17.97**	**352**	⇑P	**Pn**	**19 13 10.4**	**-2.3**
	comp=Z,22nm,0.9s,baz=164,slow=10,SNR=145						
BVA0	**Borovoye Array**	**17.97**	**352**	*i* P	**Pn**	**19 13 10.3**	**-2.3**
BVA0				pmax	pmax		
	comp=Z,30nm,1.4s						
BVAR	**Borovoye Array**	**17.97**	**352**	P	**Pn**	**19 13 09.7**	**-2.9**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,725nm,20.0s						
BVAR	**Borovoye Array**	**17.97**	**352**	P	**Pn**	**19 13 09.7**	**-2.9**
	comp=Z,2.5nm,0.3s,baz=162,slow=11,SNR=49						
BVAR				LR	LR	19 20 25.4	
	comp=Z,724nm,20.0s,baz=170,slow=38						
BRVK	**Borovoye**	**18.01**	**352**	⇑P	**Pn**	**19 13 12.6**	**-0.6**
	comp=Z,43nm,0.8s						
BRVK	**Borovoye**	**18.01**	**352**	⇑*i* P	**P**	**19 13 13.5**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,35nm,1.0s						
BRVK	**Borovoye**	**18.01**	**352**	P	**P**	**19 13 14.1**	**+0.8**
	SNR=26						
BRVK	**Borovoye**	**18.01**	**352**	*e*Pn	**Pn**	**19 13 10.8**	**-2.3**
	comp=Z,30nm,0.8s						
HYB	**Hyderabad**	**18.17**	**167**	*e*P	**P**	**19 13 13.0**	**-2.3**
HYB				*e*S	**S**	**19 16 41.0**	**-0.4**
HYB	**Hyderabad**	**18.17**	**167**	*i* P	**P**	**19 13 13.0**	**-2.3**
HYB				*e*S	**S**	**19 16 41.0**	**-0.4**
HYB	**Hyderabad**	**18.17**	**167**	*e*x	x	19 13 13.4	
HYB				*e*P	**P**	**19 13 14.2**	**-1.1**
HYB				*e*x	x	19 16 57.8	
HYB	**Hyderabad**	**18.17**	**167**	*e*P	**P**	**19 13 13.0**	**-2.3**
HYB				*e*		19 16 26.0	
HYB				*e*S	**S**	**19 16 41.0**	**-0.4**
IZEF	**Zefreh**	**18.45**	**269**	*e*P	**Pn**	**19 13 19.0**	**+0.1**
WBK	**Wadi Bani Khal**	**18.47**	**231**	P	**Pn**	**19 13 22.0**	**+3.0**
	SNR=5.6						
IVRN	**Varamin**	**18.56**	**276**	*e*P	**Pn**	**19 13 19.9**	**-0.2**
SMDO	**Samad**	**18.75**	**234**	P	**Pn**	**19 13 25.5**	**+3.1**
	SNR=7.6						
IPAR	**Pars**	**18.80**	**259**	*e*P	**Pn**	**19 13 23.0**	**-0.2**
ISRV	**Sarvestan**	**18.93**	**258**	*e*P	**Pn**	**19 13 25.1**	**+0.4**
ASHO	**Ashiyiah**	**19.06**	**241**	P	**Pn**	**19 13 28.7**	**+2.6**
	SNR=7.7						
ASHO	**Ashiyiah**	**19.06**	**241**	⇑*i* P	**Pn**	**19 13 26.8**	**+0.7**
	SNR=12						
JMDO	**Jabal Madar**	**19.20**	**232**	P	**Pn**	**19 13 29.7**	**+2.0**
	SNR=9.4						
AKTO	**Aktyubinsk**	**19.27**	**327**	⇑P	**P**	**19 13 26.5**	**-0.6**
	comp=Z,72nm,1.1s						
AKTO	**Aktyubinsk**	**19.27**	**327**	P	**P**	**19 13 26.0**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.3s						

GNI Garni 23.91 291 *ce*P **P 19 14 17.6 +1.3**
GNI pmax pmax
comp=Z,24nm,1.0s
GNI Garni 23.91 291 P **P 19 14 18.3 +2.0**
comp=Z,18nm,0.8s,baz=90,slow=1.4,SNR=11
GNI Garni 23.91 291 ⇓*i*P **P 19 14 17.2 +0.9**
SNR=6.8
TBLG Delisi 24.03 294 P **P 19 14 18.2 +1.0**
DUS Dusheti 24.09 295 P **P 19 14 21.8 +4.0**
GUDG Gudauri 24.30 296 P **P 19 14 20.2 +0.2**
ZEI Tsey 24.76 297 *e*P **P 19 14 24.6 +0.5**
ZEI pmax pmax
comp=Z,17nm,1.5s
CD2 Chengdu 24.92 92 ⇑*i*P **P 19 14 27.3 +1.8**
CD2 sP **sP 19 14 41.8 +0.6**
CD2 PP **PnPn 19 15 02.1 +2.7**
CD2 PMZ
comp=Z,30nm,1.5s
CD2 PMZ
comp=Z,130nm,6.0s
CD2 LN
comp=Z,290nm,13.1s
CD2 LE
comp=Z,230nm,15.5s
CD2 LZ
comp=Z,220nm,13.1s
ONI Oni 25.07 296 P **P 19 14 28.6 +1.8**
MOY Mondy 25.10 41 *e*P **P 19 14 29.1 +2.1**
MOY pmax pmax
comp=Z,40nm,3.5s
RBK Rabkut 25.24 231 P **P 19 14 29.9 +1.5**
SNR=7.0
KBZ Khabaz 25.62 299 P **P 19 14 32.2 +0.6**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
KBZ MLR MLR
comp=Z,250nm,18.7s
KBZ Khabaz 25.62 299 P **P 19 14 32.2 +0.6**
comp=Z,3.0nm,1.0s,baz=114,slow=6.0,SNR=4.9
KBZ LR LR 19 26 57.4
comp=Z,250nm,18.7s,baz=84,slow=42
ZAK Zakamensk 25.78 45 *e*P **P 19 14 33.1 -0.1**
ZAK *e* 19 15 19.4
ZAK pmax pmax
comp=Z,11nm,1.7s
KIV Kislovodsk 25.80 299 *e*P **P 19 14 31.8 -1.6**
KIV *e*S **S 19 19 02.3 +2.2**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,204nm,15.0s
ABTO Aybut 25.93 232 P **P 19 14 37.8 +3.1**
SNR=7.1
KMI Kunming 26.41 105 P **P 19 14 37.8 -1.4**
KMI pP **pP 19 14 50.3 +0.2**
KMI sP **sP 19 14 56.1 +1.2**
KMI S **S 19 19 11.3 +1.1**
KMI sS **sS 19 19 27.6 -0.9**
KMI SS **SnSn 19 20 20.3 +7.1**
KMI PMZ
comp=Z,8.0nm,1.2s
KMI PMZ
comp=Z,86nm,3.1s
KMI LN
comp=Z,150nm,17.6s
KMI LE
comp=Z,190nm,19.2s
KMI LZ
comp=Z,180nm,28.7s
CMAI Chiengmai2 26.55 119 P **P 19 14 43.0 +2.6**
comp=Z,53nm,0.8s
TLY Talaya 26.55 43 *e*P **P 19 14 41.0 +1.0**
TLY *e*S S 19 19 03.8 -7.9
TLY pmax pmax
comp=Z,19nm,1.8s
TLY MLR MLR
comp=Z,321nm,17.0s
TLY Talaya 26.55 43 P **P 19 14 42.5 +2.4**
SNR=6.0
TLY Talaya 26.55 43 P **P 19 14 39.1 -0.9**
comp=Z,1.4nm,0.7s,baz=243,slow=8.1,SNR=7.8
TLY LR LR 19 26 40.0
comp=Z,446nm,19.6s,baz=242,slow=40
TLY Talaya 26.55 43 P **P 19 14 38.3 -1.7**
comp=Z,2.9nm,0.8s
SONM Songino Array 26.81 52 P **P 19 14 41.9 -0.7**
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM MLR MLR
comp=Z,16nm,28.6s
SONM Songino Array 26.81 52 P **P 19 14 41.9 -0.7**
comp=Z,1.6nm,0.6s,baz=251,slow=9.3,SNR=18
SONM LR LR 19 26 45.5
comp=Z,550nm,18.3s,baz=214,slow=40
SOKR Solikamsk 26.91 340 *e*P **P 19 14 44.4 +1.3**
SOKR pmax pmax
comp=Z,20nm,1.5s
SOKR MLR MLR
comp=Z,770nm,19.0s
MHMT Maesarieng 26.93 123 P **P 19 14 46.4 +2.7**
comp=Z,30nm,1.3s,comp=Z,564nm
IRK Irkutsk 27.16 42 *e*P **P 19 14 46.2 +0.8**
IRK pmax pmax
comp=Z,36nm,2.0s
CHTO Chiang Mai 27.21 121 *e*P **P 19 14 46.4 +0.2**
CHTO pmax pmax
comp=Z,215nm,1.6s
CHTO Chiang Mai 27.21 121 P **P 19 14 49.2 +3.0**
SNR=46
CHTO Chiang Mai 27.21 121 P **P 19 14 48.2 +2.0**
comp=Z,319nm,1.7s,comp=Z,5μm
CHTO Chiang Mai 27.21 121 *e*P **P 19 14 46.4 +0.2**
comp=Z,215nm,1.6s
CMMT Chiang Mai 27.21 121 P **P 19 14 48.1 +1.9**
comp=Z,90nm,1.7s
ULN Ulaanbaatar 27.25 52 ⇑*e*P **P 19 14 47.3 +0.8**
ULN pmax pmax
comp=Z,5.0nm,1.2s
ULN Ulaanbaatar 27.25 52 P **P 19 14 45.4 -1.1**
comp=Z,5.7nm,1.1s
CRAI Chiangrai 27.32 116 P **P 19 14 47.4 +0.2**
comp=Z,656nm,1.8s,comp=Z,14μm
CMAR Chiang Mai Arr 27.44 121 P **P 19 14 49.0 +0.7**
CMAR 19 18 07.2
CMAR pmax pmax
comp=Z,38nm,1.0s
CMAR pmax pmax
comp=Z,1.0nm,1.1s
CMAR MLR MLR
comp=Z,15nm,28.6s
CMAR Chiang Mai Arr 27.44 121 P **P 19 14 49.0 +0.7**
comp=Z,38nm,1.0s,baz=307,slow=11,SNR=85
CMAR PcP **PcP 19 18 07.2 +0.9**
comp=Z,1.1nm,1.1s,baz=297,slow=4.6,SNR=5.6
CMAR LR LR 19 28 49.1
comp=Z,110nm,18.5s,baz=280,slow=43
RAYN Ar Rayn 27.68 253 P **P 19 14 49.4 -1.0**
comp=Z,27nm,1.0s
LAMP Lampang 27.89 120 P **P 19 14 56.8 +4.6**
comp=Z,6.0nm,0.8s
VRHR Novokhopersk 28.36 314 *e*P **P 19 14 56.4 +0.2**
VRHR pmax pmax
comp=Z,10.0nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,60nm,1.7s
BTO Baotou 28.45 69 *e*P **P 19 14 55.8 -1.4**
SUKH Sukhothai 28.59 122 P P 19 15 04.0 +5.6
comp=E,8.2nm,0.9s,comp=E,76nm
UTTA Uttaradit 29.05 120 P P 19 15 12.3 +10
HHC Hu-ho-hao-te 29.61 68 *e*P **P 19 15 09.5 +1.9**
HHC sP **sP 19 15 23.0 -0.4**
HHC PP **PnPn 19 16 04.9 +1.5**
HHC S **S 19 20 01.8 +1.6**
HHC SS **SnSn 19 21 34.3 +3.4**
HHC ScS **ScS 19 25 46.3 +1.2**
HHC PMZ
comp=E,17nm,1.4s
HHC PMZ
comp=E,220nm,6.2s
HHC LN
comp=E,220nm,13.6s
HHC LE
comp=E,190nm,13.6s
HHC LZ
comp=E,340nm,16.0s
ANN Anapa 29.65 300 *e*P **P 19 15 07.9 +0.3**
ANN *e**PP **pP 19 15 18.8 +0.2**
ANN *e* 19 16 04.0
ANN *e*S **S 19 20 01.9 +1.5**
ANN *e*SS **SnSn 19 21 34.5 +3.1**
ANN pmax pmax
comp=Z,49nm,1.0s
VORD Divnogorie 29.70 313 *e*P **P 19 15 05.8 -2.3**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,30nm,1.4s
KHLT Khaolaem Dam 29.78 127 P P 19 15 14.5 +5.4
comp=E,13nm,1.3s
VSR Storozhevoye 29.86 313 ⇑*e*P **P 19 15 09.8 +0.4**
VSR pmax pmax
comp=Z,28nm,0.9s
PBKT Sadao Pong 30.14 121 P P 19 15 15.5 +3.3
comp=Z,21nm,1.1s
SRDT SRDT 30.46 127 P P 19 15 22.3 +7.2
comp=Z,44nm,1.1s,comp=Z,9μm
PRGR Permogore 32.05 334 *e*P **P 19 15 27.3 -1.3**
PRGR pmax pmax
comp=Z,26nm,1.2s
MOS Moscow 32.35 321 *e*P **P 19 15 28.9 -2.5**
BRTR Keskin Array B 32.45 290 *ce*P **P 19 15 34.7 +2.1**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 32.45 290 P **P 19 15 32.7 0.0**
comp=Z,2.2nm,0.7s,baz=101,slow=8.2,SNR=18
BRTR LR LR 19 33 29.5
comp=Z,91nm,19.7s,baz=180,slow=45
OBN Obninsk 32.67 319 *ce*P **P 19 15 34.3 +0.2**
OBN *e* 19 16 46.7
OBN pmax pmax
comp=Z,29nm,1.6s
OBN MLR MLR
comp=Z,188nm,14.0s
OBN Obninsk 32.67 319 *e*P **P 19 15 32.9 -1.2**
comp=Z,25nm,0.8s
BJI Beijing 33.17 69 P **P 19 15 39.4 +0.7**
BJI PMZ
comp=Z,6.0nm,0.4s
KLMR Klimovskoe 33.91 330 *e*P **P 19 15 43.7 -1.2**
KLMR pmax pmax
comp=Z,34nm,1.5s
UBPT Khong Chiam 34.21 118 P P 19 15 51.6 +3.7
comp=Z,18nm,1.6s
SURT Suratani 34.39 134 P P 19 15 54.3 +4.8
comp=Z,10nm,1.3s
BOD Bodaibo 34.60 37 *e*P **P 19 15 49.5 -1.4**
BOD pmax pmax
comp=Z,9.0nm,1.6s
AKASG Malin Array Be 35.86 310 *ce*P **P 19 16 01.7 -0.1**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKASG Malin Array Be 35.86 310 P **P 19 16 01.4 -0.5**
comp=Z,7.7nm,0.7s,baz=83,slow=7.0,SNR=33
AKASG LR LR 19 33 52.4
comp=Z,144nm,19.1s,baz=230,slow=42
KIEV Kiev 35.87 310 *c i*P **P 19 16 02.1 +0.2**
KIEV Kiev 35.87 310 P P 19 15 57.1 -4.8
comp=Z,64nm,1.6s
CFR Carcaliu 36.25 300 ⇑P **P 19 16 06.7 +1.5**
CFR Carcaliu 36.25 300 ⇑*i*P **P 19 16 06.7 +1.5**
TMCR Tamitsa 36.34 334 *e*P **P 19 16 06.2 +0.5**
TMCR *e* 19 17 27.8
TMCR pmax pmax
comp=Z,31nm,1.4s
TESR Tescani 37.28 302 ⇑*i*P **P 19 16 15.8 +1.8**
MLR Muntele Rosu 37.79 301 ⇑P **P 19 16 20.2 +1.7**
MLR Muntele Rosu 37.79 301 ⇑*i*P **P 19 16 20.2 +1.7**
NACGM Naroch 38.02 316 *e* **P 19 16 18.0 -2.1**
TPTI 38.22 141 P P 19 16 26.7 +4.5
BURAR Bucovina Array 38.27 304 ⇑P **P 19 16 20.2 -2.3**
BURAR Bucovina Array 38.27 304 ⇑*i*P **P 19 16 20.2 -2.3**
JOF Joensuu 38.31 330 *e*P **P 19 16 22.9 +0.4**
JOF pmax pmax
comp=Z,3.0nm,0.4s
JOF Joensuu 38.31 330 *ep* **P 19 16 22.9 +0.4**
comp=Z,3.2nm,0.4s
VOIR 38.42 301 ⇓P **P 19 16 24.5 +0.7**
VOIR 38.42 301 ⇓*i*P **P 19 16 24.5 +0.7**
LVV L'vov 39.11 308 *e*P **P 19 16 28.9 -0.4**
IPM Ipoh 39.30 135 *e*P P 19 16 27.0 -4.2
comp=Z,14nm,1.0s
PSI Prapat 39.51 139 P **P 19 16 32.3 -0.9**
PSI pmax pmax
comp=Z,8.0nm,0.7s
PSI Prapat 39.51 139 P **P 19 16 32.2 -0.9**
comp=Z,8.4nm,0.7s,baz=312,slow=10,SNR=11
SUW Suwalki 39.96 314 *e*P **P 19 16 35.9 -0.4**
SUW Suwalki 39.96 314 *e*P **P 19 16 35.9 -0.4**
KWP Kalwaria Pacla 39.96 307 ⇑P **P 19 16 38.2 +1.8**
KWP Kalwaria Pacla 39.96 307 *e*P **P 19 16 38.5 +2.1**
KWP Kalwaria Pacla 39.96 307 ⇑*i*P **P 19 16 38.2 +1.8**
DRGR 39.99 303 ⇑P **P 19 16 37.8 +1.0**
DRGR 39.99 303 ⇑*i*P **P 19 16 37.8 +1.0**
FINES FINESS Array B 40.04 326 P **P 19 16 36.0 -0.9**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES MLR MLR
comp=Z,487nm,18.6s
FINES FINESS Array B 40.04 326 P **P 19 16 36.0 -0.9**
comp=Z,2.3nm,0.4s,baz=124,slow=11,SNR=26
FINES LR LR 19 34 09.6
comp=Z,487nm,18.6s,baz=104,slow=38
TRPA Tarpa 40.07 305 ⇑*i*P P 19 16 40.6 +3.3
IDI Anoyia 40.08 285 P **P 19 16 37.6 -0.2**
comp=Z,17nm,1.1s,baz=84,slow=9.2,SNR=2.9
GSI Gunungsitoli 40.09 142 P P 19 16 28.1 -10
GSI Gunungsitoli 40.09 142 P **P 19 16 39.6 +1.8**
GSI Gunungsitoli 40.09 142 *e*P **P 19 16 36.9 -1.0**
comp=Z,47nm,0.8s
UZH Uzhgorod 40.23 306 ⇑*i*P **P 19 16 39.3 +0.7**
UZH *i* 19 16 50.5
KOLS Kolonicke sedl 40.24 306 *e*P **P 19 16 39.2 +0.4**
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS Kolonicke sedl 40.24 306 *e*P **P 19 16 39.2 +0.4**
KOLS *e*PP **PnPn 19 18 13.8 -1.7**
KOLS *e* 19 29 35.6
STHS Stebnicka Huta 40.91 307 *e*P **P 19 16 44.9 +0.6**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 40.91 307 *e*P **P 19 16 44.9 +0.6**
NIE Niedzica 41.52 307 *e*P **P 19 16 50.8 +1.5**
NIE Niedzica 41.52 307 *e*P **P 19 16 50.8 +1.5**
MNSI Mandailing Nat 41.55 140 P **P 19 16 51.0 +1.1**
SSLB Suanglung 41.74 93 *e*P **P 19 16 49.6 -1.9**
comp=Z,22nm,1.1s
OJC Ojcow 41.84 308 *e*P **P 19 16 52.2 +0.3**
OJC Ojcow 41.84 308 *e*P **P 19 16 52.2 +0.3**
PSZ Piszkesteto 41.85 305 *e*P **P 19 16 52.1 0.0**
PSZ pmax pmax
comp=Z,29nm,1.7s
PSZ Piszkesteto 41.85 305 *e*P **P 19 16 52.1 0.0**
comp=Z,29nm,1.7s
VYHS Vyhne 42.53 306 *e*P **P 19 16 56.1 -1.4**
VYHS pmax pmax
comp=Z,11nm,1.5s
VYHS Vyhne 42.53 306 *e*P **P 19 16 56.1 -1.4**
OKC Ostrava-Krasne 42.91 308 *e*P **P 19 17 01.2 +0.6**
OKC *e* 19 17 11.4
OKC Ostrava-Krasne 42.91 308 *e*P **P 19 17 01.2 +0.6**
OKC *e*pP **pP 19 17 11.4 -0.5**
MORC Moravsky Berou 43.31 308 ⇑P **P 19 17 04.7 +0.8**
MORC Moravsky Berou 43.31 308 ⇑*i*P **P 19 17 04.7 +0.8**
MORC Moravsky Berou 43.31 308 *e*P **P 19 17 02.4 -1.5**
comp=Z,30nm,1.3s
ARCES ARCESS Array B 43.33 337 P **P 19 17 03.6 -0.2**
ARCES pmax pmax
comp=Z,12nm,0.8s
ARCES MLR MLR
comp=Z,506nm,20.1s
ARCES ARCESS Array B 43.33 337 P **P 19 17 03.6 -0.2**
comp=Z,12nm,0.8s,baz=112,slow=8.4,SNR=36
ARCES LR LR 19 36 21.4
comp=Z,506nm,20.1s,baz=118,slow=38
YAK Yakutsk 43.37 34 *e*P **P 19 17 02.2 -1.9**
YAK pmax pmax
comp=Z,17nm,1.0s
YAK Yakutsk 43.37 34 *e*P **P 19 17 01.7 -2.4**
comp=Z,14nm,0.8s
PDSI Padang 43.46 140 P **P 19 17 05.4 0.0**
VRAC Vranov 43.95 307 ⇑P **P 19 17 10.2 +1.1**
VRAC Vranov 43.95 307 ⇑*i*P **P 19 17 10.1 +1.1**
KSP Ksiaz 44.06 309 *e*P **P 19 17 10.1 +0.2**
KSP Ksiaz 44.06 309 *e*P **P 19 17 10.6 +0.7**
DPC Dobruska-Polom 44.07 309 *e*P **P 19 17 10.7 +0.7**
DPC *e* 19 17 20.2
DPC Dobruska-Polom 44.07 309 *e*P **P 19 17 10.7 +0.7**
DPC *e*pP **pP 19 17 20.2 -1.1**
UPC Upice 44.26 309 *e*P **P 19 17 12.3 +0.9**
UPC *e* 19 17 22.0
UPC Upice 44.26 309 *e*P **P 19 17 12.3 +0.9**
UPC *ex* x 19 17 18.4
UPC *e*pP **pP 19 17 22.0 -0.8**
USRK Ussuriysk Ar. 44.35 60 LR LR 19 36 26.4
comp=Z,131nm,18.2s,baz=234,slow=37
CONA Conrad Observa 44.55 305 *i* P **P 19 17 14.7 +0.7**
comp=Z,33nm,1.6s,SNR=11
TREC Trest 44.68 307 AMS AMS 19 40 30.0
comp=Z,200nm,14.6s
PRU Pruhonice 45.23 308 *e*P **P 19 17 19.9 +0.7**
PRU MLR MLR
comp=Z,300nm,16.6s
PRU Pruhonice 45.23 308 *e*P **P 19 17 19.9 +0.7**
PRU AMS AMS 19 40 30.0
comp=Z,300nm,16.6s
SOKA Soboth 45.26 303 ⇑*i*P **P 19 17 20.2 +0.6**
comp=Z,24nm,1.9s,SNR=10
BRG Berggiesshubel 45.55 309 *e*P **P 19 17 22.5 +0.8**
comp=Z,28nm,1.1s
BRG *e* 19 19 13.4
comp=Z,36nm,1.9s
BRG Berggiesshubel 45.55 309 *e*P **P 19 17 22.5 +0.8**
BRG *e* 19 19 13.4
BRG pmax pmax
comp=Z,28nm,1.1s
BRG pmax pmax
comp=Z,36nm,1.9s
BRG MLR MLR
comp=N,345nm,18.3s
BRG MLR MLR
comp=E,539nm,19.6s
BRG MLR MLR
comp=Z,628nm,16.6s
BRG Berggiesshubel 45.55 309 *e*P **P 19 17 22.4 +0.7**
comp=Z,28nm,1.1s
BRG *e*L L 20 17 10.6
comp=Z,623nm,22.0s
MOA Molln 45.63 305 ⇑*i*P **P 19 17 22.7 +0.2**
comp=Z,17nm,1.1s,SNR=8.4
HFS Hagfors 45.73 322 LR LR 19 37 46.4
comp=Z,179nm,20.4s,baz=100,slow=38
TIXI Tiksi 45.89 21 ⇑*i*P **P 19 17 23.7 -0.3**
TIXI pmax pmax
comp=Z,16nm,1.0s
TIXI Tiksi 45.89 21 *e*P **P 19 17 23.0 -1.0**
comp=Z,14nm,0.8s
GEC2 GERESS Array S 45.89 307 *e*P **P 19 17 25.2 +0.7**
comp=Z,10.0nm,1.3s
GEC2 *e*L L 20 18 59.9
comp=Z,476nm,20.4s
GERES GERESS Array B 45.89 307 P **P 19 17 24.4 -0.2**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES MLR MLR
comp=Z,16nm,28.6s
GERES GERESS Array B 45.89 307 P **P 19 17 24.4 -0.2**
comp=Z,1.9nm,0.8s,baz=95,slow=4.4,SNR=7.4
GERES LR LR 19 40 50.6
comp=Z,96nm,19.0s,baz=84,slow=42
CUC Castrocucco 45.93 294 P P 19 17 20.2 -4.7
comp=Z,17nm,0.8s
KHC Kasperske Hory 45.94 307 *e*P **P 19 17 25.4 +0.5**
KHC *e* 19 17 34.6
KHC MLR MLR
comp=Z,200nm,15.8s
KHC Kasperske Hory 45.94 307 *e*P **P 19 17 25.4 +0.5**
KHC *e*pP **pP 19 17 34.6 -1.6**
KHC AMS AMS 19 40 20.0
comp=Z,200nm,15.8s
KHC Kasperske Hory 45.94 307 *e*P **P 19 17 22.9 -2.0**
comp=Z,11nm,1.1s
CLL Collm 46.10 310 *e*P **P 19 17 28.0 +1.9**
CLL *e**PP **pP 19 17 36.0 -1.4**
CLL pmax pmax
comp=Z,18nm,1.3s
CLL MLR MLR
comp=Z,1μm,19.9s
CLL Collm 46.10 310 *e*P **P 19 17 26.4 +0.3**
comp=Z,17nm,1.2s
CLL *e*L L 20 17 19.7
comp=Z,762nm,20.7s
CLL Collm 46.10 310 ⇓*i*P **P 19 17 27.2 +1.1**
comp=Z,18nm,1.3s
CLL *e*pP **pP 19 17 36.0 -1.4**
CLL Lm MLR 20 17 00.0
comp=Z,800nm,20.7s
JNU Nakatsue 46.21 76 P **P 19 17 28.2 +1.0**
comp=Z,29nm,1.2s,baz=327,slow=11,SNR=3.0
WET Wettzell 46.39 307 *e*P **P 19 17 29.1 +0.7**
comp=Z,16nm,1.5s
WET *e*L L 20 31 00.4
comp=Z,489nm,19.3s
TANN Tannenbergstha 46.52 309 *e*P **P 19 17 30.3 +0.8**
RJOB Jochberg 46.63 305 *e*P **P 19 17 30.6 +0.3**
ROTZ Rotzenmuhle 46.76 308 *e*P **P 19 17 32.5 +1.3**
comp=Z,30nm,1.3s
ABTA Abfaltersbach 46.97 304 ⇑*i*P **P 19 17 31.2 -1.8**
comp=Z.6.7nm,1.0s
NB2 NORSAR Subarra 47.01 324 P **P 19 17 32.7 -0.4**
comp=Z.6nm,0.7s,baz=92,slow=7.9
NOA NORSAR Array B 47.01 324 P **P 19 17 32.6 -0.5**
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA MLR MLR
comp=Z,16nm,28.6s
NOA NORSAR Array B 47.01 324 P **P 19 17 32.5 -0.5**
comp=Z,5.5nm,0.9s,baz=95,slow=7.6,SNR=9.0
NOA LR LR 19 38 37.5
comp=Z,159nm,19.0s,baz=85,slow=38
GRF Grafenberg Arr 47.40 308 *e*P **P 19 17 37.7 +1.4**
comp=Z,29nm,1.1s
GRF *e*L L 20 15 16.4
comp=Z,519nm,20.7s
WTTA Wattenberg 47.48 305 ⇑*i*P **P 19 17 36.6 -0.5**
comp=Z,17nm,1.2s,SNR=5.6
FUR Furstenfeldbru 47.58 306 *e*P **P 19 17 38.5 +0.8**
comp=Z,75nm,1.6s
FUR *e*L L 20 16 07.5
comp=Z,466nm,19.3s
CLZ Clausthal 47.69 311 *e*P **P 19 17 38.9 +0.4**
comp=Z,33nm,1.4s
CLZ *e*L L 20 15 21.5
comp=Z,847nm,21.8s
NRDL Niedersach Rie 47.79 312 *e*P **P 19 17 40.0 +0.9**
comp=Z,38nm,1.4s
MOTA Moosalm 47.82 305 *i* P **P 19 17 38.9 -0.9**
comp=Z,7.4nm,0.9s,SNR=6.6
MDSI Maura Dua 48.44 139 P **P 19 17 43.2 -1.4**
DAVA Damuels 48.65 305 *i* P **P 19 17 45.9 -0.2**
comp=Z,33nm,0.9s,SNR=11
DAVOX Davos/Dischmat 48.74 304 LR LR 19 40 16.9
comp=Z,138nm,20.6s,baz=88,slow=38
LWLI Liwa 48.82 139 P **P 19 17 48.5 +0.8**
STU Stuttgart 48.85 307 *e*P **P 19 17 48.2 +0.7**
STU *e*L L 20 14 29.9
comp=Z,593nm,20.5s
TNS Taunus Mts 49.10 309 *e*P **P 19 17 49.9 +0.5**
comp=Z,14nm,1.2s
TNS *e*L L 20 14 56.7
comp=Z,1μm,20.8s
STKI Sintang 49.19 127 P P 19 17 57.8 +7.4
BFO Black Forest 49.49 307 *e*P **P 19 17 52.3 -0.1**
comp=Z,22nm,1.8s
BFO *e*L L 20 16 15.2
comp=Z,621nm,19.6s
KMBO Kilima Mbogo 50.16 232 *e*P **P 19 17 56.0 -2.1**
KMBO pmax pmax
comp=Z,24nm,1.5s
KMBO Kilima Mbogo 50.16 232 P **P 19 17 59.7 +1.6**
comp=Z,3.5nm,0.8s,baz=42,slow=12,SNR=11
KMBO Kilima Mbogo 50.16 232 *e*P **P 19 17 56.0 -2.1**
comp=Z,24nm,1.5s
CDF Champ du Feu 50.17 307 *e*P **P 19 17 57.2 -0.4**

comp=Z,4.5nm,0.8s
CDF Champ du Feu 50.17 307 *e*P **P 19 17 57.2 -0.4**
CDF pmax pmax
comp=Z,5.0nm,0.8s
CDF Champ du Feu 50.17 307 *e*P **P 19 17 57.2 -0.4**
comp=Z,4.5nm,0.8s
PGF Pioggiola 50.29 299 *e*P **P 19 17 58.9 +0.3**
comp=Z,48nm,1.3s
PGF Pioggiola 50.29 299 *e*P **P 19 17 58.9 +0.3**
PGF pmax pmax
comp=Z,48nm,1.3s
PGF Pioggiola 50.29 299 *e*P **P 19 17 58.9 +0.3**
comp=Z,48nm,1.3s
HINF Hinteralfeld 50.56 306 *e*P **P 19 17 59.9 -0.7**
comp=Z,33nm,1.1s
HINF Hinteralfeld 50.56 306 *e*P **P 19 17 59.9 -0.7**
HINF pmax pmax
comp=Z,33nm,1.1s
HINF Hinteralfeld 50.56 306 *e*P **P 19 17 59.9 -0.7**
comp=Z,33nm,1.1s
WLF Walferdange 50.66 309 *e*P **P 19 18 01.9 +0.7**
comp=Z,20nm,1.1s
MAJO Matsushiro 50.81 69 *e*P P 19 17 57.6 -5.0
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MAJO Matsushiro 50.81 69 *e*P P 19 17 57.6 -5.0
comp=Z,8.5nm,0.8s
MAT Matsushiro 50.81 69 P **P 19 18 01.2 -1.4**
MAT S **S 19 25 15.4 -0.3**
MJAR Matsushiro Arr 50.81 69 P **P 19 18 01.8 -0.7**
MJAR pmax pmax
comp=Z,4.0nm,0.7s
MJAR Matsushiro Arr 50.81 69 P **P 19 18 01.8 -0.7**
comp=Z,3.9nm,0.7s,baz=288,slow=9.8,SNR=18
HAU Haudompre 50.86 307 *e*P **P 19 18 02.2 -0.5**
comp=Z,37nm,1.1s
HAU Haudompre 50.86 307 *e*P **P 19 18 02.2 -0.5**
HAU pmax pmax
comp=Z,37nm,1.1s
HAU Haudompre 50.86 307 *e*P **P 19 18 02.2 -0.5**
comp=Z,37nm,1.1s
SBF Sospel 51.06 301 *e*P **P 19 18 04.0 -0.4**
comp=Z,50nm,1.1s
SBF Sospel 51.06 301 *e*P **P 19 18 04.0 -0.4**
SBF pmax pmax
comp=Z,50nm,1.1s
SBF Sospel 51.06 301 *e*P **P 19 18 04.0 -0.4**
comp=Z,50nm,1.1s
LPG La Plagne 51.14 303 *e*P **P 19 18 05.0 -0.2**
comp=Z,64nm,1.3s
LPG La Plagne 51.14 303 *e*P **P 19 18 05.0 -0.2**
LPG pmax pmax
comp=Z,64nm,1.3s
LPG La Plagne 51.14 303 *e*P **P 19 18 05.0 -0.2**
comp=Z,64nm,1.3s
LPL La Plagne 51.15 303 *e*P **P 19 18 05.0 -0.2**
comp=Z,44nm,1.1s
LPL La Plagne 51.15 303 *e*P **P 19 18 05.0 -0.2**
LPL pmax pmax
comp=Z,44nm,1.1s
LPL La Plagne 51.15 303 *e*P **P 19 18 05.0 -0.2**
comp=Z,44nm,1.1s
PAGF Fort de Pagny 51.15 307 *e*P **P 19 18 05.0 +0.1**
comp=Z,16nm,1.1s
PAGF Fort de Pagny 51.15 307 *e*P **P 19 18 05.0 +0.1**
comp=Z,16nm,1.1s
MBDF Montbardon 51.31 302 *e*P **P 19 18 05.3 -1.1**
comp=Z,21nm,1.0s
MBDF Montbardon 51.31 302 *e*P **P 19 18 05.3 -1.1**
MBDF pmax pmax
comp=Z,21nm,1.0s
MBDF Montbardon 51.31 302 *e*P **P 19 18 05.3 -1.1**
comp=Z,21nm,1.0s
CABF La Chapelle 51.33 305 *e*P **P 19 18 06.1 -0.3**
comp=Z,32nm,1.1s
CABF La Chapelle 51.33 305 *e*P **P 19 18 06.1 -0.3**
CABF pmax pmax
comp=Z,32nm,1.0s
CABF La Chapelle 51.33 305 *e*P **P 19 18 06.1 -0.3**
comp=Z,32nm,1.0s
GIVF Givet 51.42 309 *e*P **P 19 18 07.1 +0.2**
comp=Z,64nm,1.2s
GIVF Givet 51.42 309 *e*P **P 19 18 07.1 +0.2**
GIVF pmax pmax
comp=Z,64nm,1.2s
GIVF Givet 51.42 309 *e*P **P 19 18 07.1 +0.2**
comp=Z,64nm,1.2s
MEZF Maizieres J'vi 51.60 307 *e*P **P 19 18 08.2 0.0**
comp=Z,49nm,1.1s
MEZF Maizieres J'vi 51.60 307 *e*P **P 19 18 08.2 0.0**
comp=Z,49nm,1.1s
SFTF Sexfontaines 51.67 307 *e*P **P 19 18 08.4 -0.4**
comp=Z,58nm,1.2s
SFTF Sexfontaines 51.67 307 *e*P **P 19 18 08.4 -0.4**
comp=Z,58nm,1.2s
FRF La Foret Royal 51.69 301 *e*P **P 19 18 09.1 +0.1**
FRF La Foret Royal 51.69 301 *e*P **P 19 18 09.1 +0.1**
FRF La Foret Royal 51.69 301 *e*P **P 19 18 09.1 +0.1**
BAIF Baives 51.82 310 *e*P **P 19 18 10.0 +0.2**
comp=Z,61nm,1.3s
BAIF Baives 51.82 310 *e*P **P 19 18 10.0 +0.2**
BAIF pmax pmax
comp=Z,61nm,1.3s
BAIF Baives 51.82 310 *e*P **P 19 18 10.0 +0.2**
comp=Z,61nm,1.3s
ORIF Oris-en-Rattie 51.88 303 *e*P **P 19 18 10.7 +0.2**
comp=Z,37nm,1.4s
ORIF Oris-en-Rattie 51.88 303 *e*P **P 19 18 10.7 +0.2**
ORIF pmax pmax
comp=Z,37nm,1.4s
ORIF Oris-en-Rattie 51.88 303 *e*P **P 19 18 10.7 +0.2**
comp=Z,37nm,1.4s
KEST Kesra 52.06 291 P **P 19 18 12.2 +0.2**
comp=Z,6.2nm,0.8s,baz=6.7,slow=4.3,SNR=12
KEST Kesra 52.06 291 P **P 19 18 12.2 +0.2**
comp=Z,22nm,1.5s
SMRF Simiane la Rot 52.33 302 *e*P **P 19 18 14.4 +0.5**
comp=Z,28nm,1.1s
SMRF Simiane la Rot 52.33 302 *e*P **P 19 18 14.4 +0.5**
comp=Z,28nm,1.1s
LOR Lormes 52.66 306 *e*P **P 19 18 15.2 -1.0**
comp=Z,19nm,1.1s,baz=64
LOR Lormes 52.66 306 *e*P **P 19 18 15.2 -1.0**
LOR pmax pmax
comp=Z,19nm,1.1s
LOR Lormes 52.66 306 *e*P **P 19 18 15.2 -1.0**
comp=Z,19nm,1.1s
VIVF Saint-Julien-l 52.72 303 *e*P **P 19 18 16.3 -0.4**
comp=Z,46nm,1.3s
VIVF Saint-Julien-l 52.72 303 *e*P **P 19 18 16.3 -0.4**
VIVF pmax pmax
comp=Z,46nm,1.3s
VIVF Saint-Julien-l 52.72 303 *e*P **P 19 18 16.3 -0.4**
comp=Z,46nm,1.3s
SMF Signal de Mont 52.83 305 *e*P **P 19 18 16.7 -0.7**
comp=Z,59nm,1.0s
SMF Signal de Mont 52.83 305 *e*P **P 19 18 16.7 -0.7**
SMF pmax pmax
comp=Z,59nm,1.0s
SMF Signal de Mont 52.83 305 *e*P **P 19 18 16.7 -0.7**
comp=Z,59nm,1.0s
SSF Saint Saulge 52.95 306 *e*P **P 19 18 17.5 -0.8**
comp=Z,37nm,1.0s
SSF Saint Saulge 52.95 306 *e*P **P 19 18 17.5 -0.8**
SSF pmax pmax
comp=Z,37nm,1.0s
SSF Saint Saulge 52.95 306 *e*P **P 19 18 17.5 -0.8**
comp=Z,37nm,1.0s
AVF Avril sur Loir 53.12 306 *e*P **P 19 18 18.8 -0.7**
comp=Z,47nm,1.0s
AVF Avril sur Loir 53.12 306 *e*P **P 19 18 18.8 -0.7**
AVF pmax pmax
comp=Z,47nm,1.0s
AVF Avril sur Loir 53.12 306 *e*P **P 19 18 18.8 -0.7**
comp=Z,47nm,1.0s
HYF Humbligny 53.47 306 *e*P **P 19 18 21.9 -0.2**
HYF Humbligny 53.47 306 *e*P **P 19 18 21.9 -0.2**
LASF Ste Croix 53.50 302 *e*P **P 19 18 22.6 +0.2**
comp=Z,64nm,1.2s
LASF Ste Croix 53.50 302 *e*P **P 19 18 22.6 +0.2**
comp=Z,64nm,1.2s
BGF Bois d'Agland 53.51 305 *e*P **P 19 18 21.6 -0.9**
comp=Z,27nm,0.9s
BGF Bois d'Agland 53.51 305 *e*P **P 19 18 21.6 -0.9**
BGF pmax pmax
comp=Z,27nm,0.9s
BGF Bois d'Agland 53.51 305 *e*P **P 19 18 21.6 -0.9**
comp=Z,27nm,0.9s
SEY Seymchan 53.89 34 *i*P **P 19 18 25.3 +0.4**
TCF Toulx Ste Croi 54.01 305 *e*P **P 19 18 25.8 -0.3**
comp=Z,47nm,1.0s
TCF Toulx Ste Croi 54.01 305 *e*P **P 19 18 25.8 -0.3**
TCF pmax pmax
comp=Z,47nm,1.0s
TCF Toulx Ste Croi 54.01 305 *e*P **P 19 18 25.8 -0.3**
comp=Z,47nm,1.0s
CAF Calviac 54.49 304 *e*P **P 19 18 29.4 -0.2**
comp=Z,18nm,0.9s
CAF Calviac 54.49 304 *e*P **P 19 18 29.4 -0.2**
CAF pmax pmax
comp=Z,18nm,0.9s
CAF Calviac 54.49 304 *e*P **P 19 18 29.4 -0.2**
comp=Z,18nm,0.9s
RJF Les Rejaudoux 54.75 304 *e*P **P 19 18 31.4 -0.1**
comp=Z,25nm,1.1s
RJF Les Rejaudoux 54.75 304 *e*P **P 19 18 31.4 -0.1**
RJF pmax pmax
comp=Z,25nm,1.1s
RJF Les Rejaudoux 54.75 304 *e*P **P 19 18 31.4 -0.1**
comp=Z,25nm,1.1s
JMIC Jan Mayen 54.81 337 LR LR 19 42 14.0
comp=Z,305nm,18.5s,baz=79,slow=36
MTLF Montolieu 54.85 302 *e*P **P 19 18 31.6 -0.7**
comp=Z,19nm,1.0s
MTLF Montolieu 54.85 302 *e*P **P 19 18 31.6 -0.7**
MTLF pmax pmax
comp=Z,19nm,1.0s
MTLF Montolieu 54.85 302 *e*P **P 19 18 31.6 -0.7**
comp=Z,19nm,1.0s
LDF La Druitiere 54.91 309 *e*P **P 19 18 31.8 -0.8**
comp=Z,28nm,1.1s
LDF La Druitiere 54.91 309 *e*P **P 19 18 31.8 -0.8**
LDF pmax pmax
comp=Z,28nm,1.1s
LDF La Druitiere 54.91 309 *e*P **P 19 18 31.8 -0.8**
comp=Z,28nm,1.1s
EKA Eskdalemuir Ar 55.08 317 P **P 19 18 32.9 -0.8**
EKA pmax pmax
comp=Z,2.0nm,0.9s
EKA Eskdalemuir Ar 55.08 317 P **P 19 18 32.9 -0.8**
comp=Z,2.4nm,0.9s,baz=96,slow=6.6,SNR=3.3
FLN La Foliniere 55.10 309 *e*P **P 19 18 33.0 -0.9**
comp=Z,21nm,0.8s,baz=68
FLN La Foliniere 55.10 309 *e*P **P 19 18 33.0 -0.9**
FLN pmax pmax
comp=Z,21nm,0.8s
FLN La Foliniere 55.10 309 *e*P **P 19 18 33.0 -0.9**
comp=Z,21nm,0.8s
LFF La Frestale 55.38 304 *e*P **P 19 18 35.8 -0.2**
comp=Z,29nm,0.9s
LFF La Frestale 55.38 304 *e*P **P 19 18 35.8 -0.2**
LFF pmax pmax
comp=Z,29nm,0.9s
LFF La Frestale 55.38 304 *e*P **P 19 18 35.8 -0.2**
comp=Z,29nm,0.9s
GRR Gorron 55.44 308 *e*P **P 19 18 35.4 -1.0**
comp=Z,38nm,0.9s
GRR Gorron 55.44 308 *e*P **P 19 18 35.4 -1.0**
GRR pmax pmax
comp=Z,38nm,0.9s
GRR Gorron 55.44 308 *e*P **P 19 18 35.4 -1.0**
comp=Z,38nm,0.9s
MFF Saint Martin d 55.48 306 *e*P **P 19 18 35.8 -1.0**
comp=Z,23nm,1.0s
MFF Saint Martin d 55.48 306 *e*P **P 19 18 35.8 -1.0**
MFF pmax pmax
comp=Z,23nm,1.0s
MFF Saint Martin d 55.48 306 *e*P **P 19 18 35.8 -1.0**
comp=Z,23nm,1.0s
EPF Esparros 56.25 302 *e*P **P 19 18 40.8 -1.6**
comp=Z,11nm,0.9s
EPF Esparros 56.25 302 *e*P **P 19 18 40.8 -1.6**
EPF pmax pmax
comp=Z,11nm,0.9s
EPF Esparros 56.25 302 *e*P **P 19 18 40.8 -1.6**
comp=Z,11nm,0.9s
SGMF Saint Gilles 56.56 309 *e*P **P 19 18 43.8 -0.7**
comp=Z,52nm,1.0s
SGMF Saint Gilles 56.56 309 *e*P **P 19 18 43.8 -0.7**
SGMF pmax pmax
comp=Z,52nm,1.0s
SGMF Saint Gilles 56.56 309 *e*P **P 19 18 43.8 -0.7**
comp=Z,52nm,1.0s
DAG Danmarks Havn 56.67 344 *i*P **P 19 18 44.5 -0.2**
comp=Z,9.0nm,1.0s
ETSF Etsaut 56.92 302 *e*P **P 19 18 46.8 -0.4**
comp=Z,20nm,0.9s
ETSF Etsaut 56.92 302 *e*P **P 19 18 46.8 -0.4**
ETSF pmax pmax
comp=Z,20nm,0.9s
ETSF Etsaut 56.92 302 *e*P **P 19 18 46.8 -0.4**
comp=Z,20nm,0.9s
ROSF Rostrenen 57.00 309 *e*P **P 19 18 46.7 -0.8**
comp=Z,32nm,0.9s
ROSF Rostrenen 57.00 309 *e*P **P 19 18 46.7 -0.8**
ROSF pmax pmax
comp=Z,32nm,0.9s
ROSF Rostrenen 57.00 309 *e*P **P 19 18 46.7 -0.8**
comp=Z,32nm,0.9s
QUIF Quistinic 57.06 308 *e*P **P 19 18 47.0 -0.9**
comp=Z,18nm,0.8s
QUIF Quistinic 57.06 308 *e*P **P 19 18 47.0 -0.9**
QUIF pmax pmax
comp=Z,18nm,0.8s
QUIF Quistinic 57.06 308 *e*P **P 19 18 47.0 -0.9**
comp=Z,18nm,0.8s
BILL Bilibino 58.48 26 *e*P **P 19 18 58.5 +0.9**
BILL *e*S S 19 27 10.7 +13
BILL pmax pmax
comp=Z,11nm,1.2s
BILL MLR MLR
comp=Z,135nm,17.0s
PETK Petropavlovsk- 58.90 44 LR LR 19 46 50.5
comp=Z,66nm,19.7s,baz=221,slow=39
ESDC Sonseca Array 60.47 300 P **P 19 19 11.3 -0.6**
comp=Z,8.4nm,0.8s,baz=61,slow=7.1,SNR=42
MVO Moncorvo 62.03 302 *e*P **P 19 19 23.1 +0.6**
comp=Z,17nm,1.7s
MVO Moncorvo 62.03 302 *e*LR LR 20 03 33.9
comp=Z,955nm,18.0s
PGAV Gavieira, Arco 62.56 304 *e*LR LR 20 00 40.8
comp=Z,1µm,22.0s
MTE Manteigas 62.70 302 *e*P **P 19 19 27.5 +0.6**
comp=Z,17nm,1.0s
MTE Manteigas 62.70 302 *e*LR LR 20 03 18.3
comp=Z,785nm,20.0s
PVIS Viseu 62.82 302 *e*P **P 19 19 28.9 +1.2**
comp=Z,26nm,1.7s
PCBR Castelo Branco 62.89 301 *e*P **P 19 19 29.6 +1.5**
comp=Z,15nm,1.6s
PMRV Marv??o 63.00 301 *e*LR LR 20 01 18.9
comp=Z,551nm,18.0s
SUMG Summit 63.09 342 *e*P **P 19 19 28.3 -1.1**
SUMG pmax pmax
comp=Z,17nm,0.9s
SUMG Summit 63.09 342 *i*P **P 19 19 30.4 +1.0**
comp=Z,14nm,1.0s
SUMG Summit 63.09 342 *e*P **P 19 19 28.3 -1.1**
comp=Z,17nm,0.9s
PBAR Barrancos 63.27 299 *e*P **P 19 19 30.5 -0.2**
comp=Z,72nm,1.9s
PTOM Tomar 63.63 301 *e*P **P 19 19 33.8 +0.8**
comp=Z,34nm,1.6s
EVO Evora 63.81 300 *e*P **P 19 19 35.5 +1.3**
comp=Z,17nm,3.1s
PVAQ Vaqueiros 64.09 299 *e*P **P 19 19 35.3 -0.8**
comp=Z,26nm,1.7s
PVAQ Vaqueiros 64.09 299 *e*LR LR 19 59 43.7
comp=Z,1µm,20.0s
MESJ Messejana 64.26 299 *e*P **P 19 19 37.0 -0.1**
MESJ AMb AMB 19 19 43.7
comp=Z,18nm,2.3s
MESJ Messejana 64.26 299 *e*P **P 19 19 37.2 0.0**
comp=Z,18nm,1.9s
MESJ Messejana 64.26 299 *e*P **P 19 19 37.0 -0.1**
PBDV Barranco-do-Ve 64.31 299 *e*P **P 19 19 39.0 +1.4**
comp=Z,48nm,1.7s
PNCL Nicolau / Gran 64.36 300 *e*P **P 19 19 39.2 +1.4**
comp=Z,22nm,1.7s
BATI Baumata 64.88 125 P **P 19 19 40.2 -1.3**
comp=Z,9.2nm,0.6s,baz=315,slow=10.0,SNR=5.8
SOEI Soe 64.96 124 *e*P P 19 19 37.8 -4.3
comp=Z,78nm,1.1s
TORD Torodi Ar. Bea 68.49 271 P **P 19 20 02.8 -1.8**
comp=Z,6.6nm,0.9s,baz=48,slow=4.8,SNR=25
FITZ Fitzroy Crossi 71.95 129 *e*P **P 19 20 24.4 -1.2**
comp=Z,31nm,1.5s
COLD Coldfoot 72.36 17 *e*P P 19 20 23.9 -3.5
comp=Z,19nm,1.0s
PMOZ Porto Moniz, M 73.09 298 *e*LR LR 19 55 15.7
comp=Z,983nm,18.0s
COLA College 74.84 17 P **P 19 20 38.9 -3.0**
COLA pmax pmax
comp=Z,30nm,0.9s
COLA College 74.84 17 P **P 19 20 38.9 -3.0**
comp=Z,30nm,0.9s
KTH Kantishna Hill 75.13 19 *e*P **P 19 20 40.9 -2.8**
comp=Z,28nm,1.0s
ILAR Eielson Array 75.16 17 P **P 19 20 42.8 -1.0**
ILAR pmax pmax
comp=Z,8.0nm,0.8s
ILAR Eielson Array 75.16 17 P **P 19 20 42.8 -1.0**
comp=Z,7.6nm,0.8s,baz=320,slow=4.5,SNR=57
PPLA Purkeypile 75.30 20 *e*P **P 19 20 44.6 -0.2**
comp=Z,37nm,1.3s
MCK McKinley 75.51 18 *e*P **P 19 20 42.7 -3.2**
MCK pmax pmax
comp=Z,8.0nm,0.7s
MCK McKinley 75.51 18 *e*P **P 19 20 42.7 -3.2**
comp=Z,8.4nm,0.7s
EGAK Eagle 76.44 15 *e*P **P 19 20 50.5 -0.6**
comp=Z,9.0nm,1.0s
PAX Paxson 77.02 17 *e*P **P 19 20 53.8 -0.7**
PAX pmax pmax
comp=Z,29nm,1.2s
PAX Paxson 77.02 17 *e*P **P 19 20 53.8 -0.7**
comp=Z,29nm,1.2s
BOSA Boshof 78.67 223 P **P 19 21 04.0 -0.1**
BOSA pmax pmax
comp=Z,6.0nm,0.8s
BOSA Boshof 78.67 223 P **P 19 21 04.0 -0.1**
comp=Z,6.3nm,0.8s,baz=43,slow=2.2,SNR=11
NWAO Narrogin (SRO) 78.83 144 P **P 19 21 04.9 +0.1**
NWAO pmax pmax
comp=Z,10.0nm,0.9s
NWAO Narrogin (SRO) 78.83 144 P **P 19 21 04.9 +0.1**
comp=Z,10nm,0.9s,baz=295,slow=6.6,SNR=4.3
WRA Warramunga Arr 79.00 124 P **P 19 21 05.9 -0.1**
WRA pmax pmax
comp=Z,4.0nm,0.7s
WRA Warramunga Arr 79.00 124 P **P 19 21 05.9 -0.1**
comp=Z,3.6nm,0.7s,baz=306,slow=7.0,SNR=31
WRAB Tennant Creek 79.00 124 *i*P **P 19 21 05.9 -0.1**
WRAB pmax pmax
comp=Z,12nm,0.8s
WRAB Tennant Creek 79.00 124 *e*P **P 19 21 05.5 -0.5**
comp=Z,65nm,1.8s
WB2 Warramunga Arr 79.01 124 *e*P **P 19 21 03.7 -2.3**
AS31 Alice Springs 81.30 127 *e*P P 19 21 14.4 -3.9
ASAR Alice Springs 81.30 127 P **P 19 21 18.2 -0.1**
ASAR pmax pmax
comp=Z,4.0nm,0.9s
ASAR Alice Springs 81.30 127 P **P 19 21 18.2 -0.1**
comp=Z,4.2nm,0.9s,baz=322,slow=5.6,SNR=30
YKA Yellowknife Ar 82.29 4 P **P 19 21 22.5 -0.5**
YKA 19 24 31.2
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 82.29 4 P **P 19 21 22.5 -0.5**
comp=Z,4.0nm,0.7s,baz=347,slow=5.3,SNR=65
YKA PP **PP 19 24 31.2 +0.2**
comp=Z,0.6nm,0.8s,baz=357,slow=7.9,SNR=6.1
SCHQ Schefferville 84.27 339 P **P 19 21 33.2 -0.2**
comp=Z,4.1nm,0.9s,baz=41,slow=7.3,SNR=4.4
CTA Charters Tower 87.51 117 P **P 19 21 49.6 -0.3**
CTA pmax pmax
comp=Z,9.0nm,1.0s
CTA Charters Tower 87.51 117 P **P 19 21 49.6 -0.3**
comp=Z,9.1nm,0.9s,baz=333,slow=4.5,SNR=3.9
BBOO Buckleboo 89.02 132 *e*P **P 19 21 55.9 -0.8**
ULM Lac du Bonnet 94.41 354 P **P 19 22 21.3 -0.3**
ULM pmax pmax
comp=Z,4.0nm,0.9s
ULM MLR MLR
comp=Z,365nm,18.2s
ULM Lac du Bonnet 94.41 354 P **P 19 22 21.3 -0.3**
comp=Z,4.3nm,0.9s,baz=4.9,slow=3.3,SNR=6.9
ULM LR LR 20 09 41.4
comp=Z,364nm,18.2s,baz=146,slow=39
QSPA South Pole Qui 125.08 180 PKP **PKPdf 19 28 00.6 -0.5**
comp=Z,1.6nm,0.9s,baz=251,slow=3.9,SNR=2.8
SIV San Ignacio 135.94 284 PKP **PKPdf 19 28 24.8 +1.6**
comp=Z,1.8nm,0.8s,baz=74,slow=4.0,SNR=3.9
NNA Nana 145.14 305 PKIKP **PKPbc 19 28 39.0 -0.4**
NNA pmax pmax
comp=Z,11nm,0.7s
NNA Nana 145.14 305 PKPbc **PKPbc 19 28 39.0 -0.4**
comp=Z,11nm,0.7s,baz=341,slow=2.4,SNR=8.2

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*IDC **14** 19:10:40.9±0.8, 37°.91S×73°.91W, h0km, mb4.5/7, mb1 4.6/9, mb1mx4.4/24, mbtmp4.5/9, ML3.5/1, MS5.0/6, Ms1 5.0/6, ms1mx4.5/19, Error ellipse: s-maj=28.9km s-min=17.9km az=72.0*

*ISCJB **14** 19:10:42.8±0.8, 38°.0S±0°.1×73°.8W±0°.2, h18km, mb4.6/7, MS5.0/4, Error ellipse: s-maj=18.3km s-min=14.5km az=156.5*

ISC 14 19:10:43.9±0.7, 38°.0S±0°.1×73°.9W±0°.1, h18km, n33, σ0 9.91/19, mb4.7/7, MS5.1/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.79**	**138**		Pn		**Pn**	**19 11 41.2**	**-0.2**
baz=345,slow=15									
PLCA					Lg		Lg	19 12 44.2	
baz=248,slow=19									
CFAA	**Coronel Fontan**	**7.84**	**38**		LR		LR	19 15 46.7	
comp=Z,1µm,19.6s,baz=224,slow=39									
USHA	**Ushuaia**	**17.29**	**169**		P		**P**	**19 14 45.2**	**-0.3**
0.1nm,0.3s,baz=359,slow=13,SNR=4.2									
USHA					LR		LR	19 22 33.8	
comp=Z,10µm,19.5s,baz=326,slow=41									
SIV	**San Ignacio**	**24.61**	**31**		LR		LR	19 27 46.6	
comp=Z,9µm,18.5s,baz=224,slow=42									
PMSA	**Palmer Station**	**27.49**	**171**		LR		LR	19 28 02.5	
comp=Z,4µm,18.1s,baz=336,slow=38									
BDFB	**Brasilia**	**31.84**	**53**		LR		LR	19 30 50.7	
comp=Z,4µm,18.1s,baz=218,slow=38									
VNA3	**Neumayer Olymp**	**46.31**	**156**		P		**P**	**19 19 10.5**	**+2.4**
VNA2	**Neumayer--Watz**	**46.99**	**156**		P		**P**	**19 19 11.6**	**-1.9**
RCBR	**Riachuelo**	**47.01**	**57**		P		**P**	**19 19 14.0**	**-0.3**
17nm,1.0s,baz=181,slow=6.7,SNR=3.6									
SNAA	**Sanae**	**48.53**	**156**		P		**P**	**19 19 26.3**	**+0.8**
SNAA	**Sanae**	**48.53**	**156**		P		**P**	**19 19 25.3**	**-0.1**
6.1nm,1.1s,baz=341,slow=8.9,SNR=5.0									
QSPA	**South Pole Qui**	**52.30**	**180**		P		**P**	**19 19 54.2**	**+0.1**
7.8nm,0.8s,baz=145,slow=4.8,SNR=14									
RKT	**Rikitea**	**53.79**	**267**		*e*S		**S**	**19 27 39.7**	**+0.3**
829nm,26.0s									
RKT					*e*LR		LR	19 35 41.8	
3µm,26.0s,baz=125									
RKT	**Rikitea**	**53.79**	**267**		*e*T		T	20 17 36.9	
2.2nm,0.2s									
VNDA	**Vanda**	**59.94**	**192**		P		**P**	**19 20 48.6**	**+0.2**
1.6nm,1.0s,baz=184,slow=2.9,SNR=3.2									
VNDA					LR		LR	19 44 45.1	
comp=Z,484nm,18.0s,baz=128,slow=34									
TBI	**Tubuai**	**65.03**	**259**		*e*T		T	20 31 45.3	
5.6nm,0.2s									
MEH	**Mehetia**	**66.93**	**265**		*e*T		T	20 34 03.7	
32nm,0.2s									
TVO	**Taravao**	**67.92**	**264**		*e*T		T	20 35 13.7	
2.1nm,0.2s									
TIAR	**Tiarei**	**68.12**	**264**		*e*T		T	20 35 32.8	
9.3nm,0.3s									
PAE	**Paea**	**68.24**	**264**		*e*T		T	20 35 42.4	
1.2nm,0.3s									
PPT2	**Papeete2**	**68.28**	**264**		*e*S		**S**	**19 30 43.5**	**-0.8**
1µm,26.8s									
PPT2	**Papeete2**	**68.28**	**264**		*e*LR		LR	19 42 19.2	
2µm,25.8s,baz=118									
BOSA	**Boshof**	**79.54**	**118**		P		**P**	**19 22 49.9**	**-0.1**
6.1nm,0.9s,baz=246,slow=6.7,SNR=4.9									
BOSA	**Boshof**	**79.54**	**118**		*e*P		**P**	**19 22 50.0**	**+0.1**
27nm,1.1s									
PDAR	**Pinedale Array**	**86.65**	**335**		P		**P**	**19 23 26.9**	**+0.6**
2.9nm,0.9s,baz=129,slow=7.1,SNR=11									
TORD	**Torodi Ar. Bea**	**86.92**	**71**		P		**P**	**19 23 28.7**	**+0.7**

	4.0nm,0.8s,baz=214,slow=4.5,SNR=7.4								
WRA	Warramunga Arr	116.60	210	PKP	PKPdf	19 29 26.7	-0.6		
	0.5nm,1.0s,baz=187,slow=1.4,SNR=3.5								
ILAR	Eielson Array	117.02	333	PKP	PKPdf	19 29 26.4	-0.1		
	0.3nm,0.9s,baz=168,slow=0.6,SNR=3.0								
H11S2	WAKE ISLAND Hyl	24.17	267	T	T	21 45 56.5			
	baz=125								
H11S1	WAKE ISLAND Hyl	24.19	267	T	T	21 45 57.2			
	baz=125								
H11S3	WAKE ISLAND Hyl	24.19	267	T	T	21 45 59.2			
	baz=125								
ZALV	Zalesovo Beam	158.32	36	PKPab	PKPab	19 31 12.8	-0.8		
	4.5nm,0.8s,baz=304,slow=4.8,SNR=5.8								
MKAR	Makanchi Array	160.35	56	PKPab	PKPab	19 31 22.3	-0.5		
	3.0nm,0.9s,baz=340,slow=6.4,SNR=6.5								

*IDC **14** 19:10:43.2±0.7, 35°.08S×72°.41W, h0km, mb4.5/10, mb1 4.6/12, mb1mx4.5/24, mbtmp4.5/12, ML4.0/2, Error ellipse: s-maj=24.9km s-min=21.0km az=58.0*

*ISCJB **14** 19:10:46.2±0.2, 34°.90S±0°.04×72°.49W±0°.04, h18km, mb4.8/41, MS5.1/5, Error ellipse: s-maj=6.5km s-min=4.1km az=9.4*

*NEIC **14** 19:10:46.1, 34°.93S×72°.57W, h32km, mb5.0/30, ML5.2(GUC), After GUC.*

NEIC Felt [IV] at Curico, Longavi, Parral and Talca; [III] at Maipo, Melipilla, Pencahue, Rio Claro, San Fernando, San Javier and Santiago; [II] at Linares, Pichilemu and Talagante. Also felt at Concepcion, Machali, Rancagua, San Antonio and San Bernardo.

*GUC **14** 19:10:46.1±0.7, 34°.93S×72°.57W, h32km±6km, ML5.2*

*BJI **14** 19:10:51.2, 34°.60S×72°.20W, h35km, mB5.2/20, Ms5.6/12, Ms7 5.4/12*

ISC 14 19:10:46.7±0.4, 34°.89S±0°.04×72°.34W±0°.05, h18km, n321, σ1°58/324, mb5.0/41, MS5.2/5, 113C-114D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	Talca	0.77	132	⇓iP	Pn	19 11 02.8	0.0
TALC				eS1	Sn	19 11 14.0	+0.2
TALC				AML	AML	19 11 16.5	
	comp=E,95μm,0.3s						
TALC	Talca	0.77	132	⇓iP	Pn	19 11 02.8	0.0
TALC				eS	Sn	19 11 14.0	+0.2
NICH	Los Niches	0.92	98	⇓iP	Pn	19 11 05.9	+1.1
NICH				i S	Sn	19 11 20.4	+2.8
NICH				AML	AML	19 11 26.9	
	comp=E,160μm,0.7s						
NICH	Los Niches	0.92	98	⇓iP	Pn	19 11 05.9	+1.1
NICH				i S	Sn	19 11 20.4	+2.8
LNV	Longovilo	1.21	40	⇑iP	Pb	19 11 09.7	+0.7
LNV	Longovilo	1.21	40	⇑iP	Pb	19 11 09.7	+0.7
CACH	El Canelo	1.63	62	⇓iP	Pb	19 11 17.3	+0.9
CACH	El Canelo	1.63	62	⇓iP	Pb	19 11 17.3	+0.9
CHCH	Chadas Angostu	1.69	56	eP1	Pb	19 11 17.5	+0.2
CHCH	Chadas Angostu	1.69	56	eP	Pb	19 11 17.5	+0.2
TACH	Talagante	1.69	44	⇓iP	Pb	19 11 16.8	-0.6
TACH	Talagante	1.69	44	⇓iP	Pb	19 11 16.8	-0.6
IHA	Instituto Hidr	1.94	18	⇑iP	Pn	19 11 19.3	+0.4
IHA	Instituto Hidr	1.94	18	⇑iP	Pn	19 11 19.3	+0.4
SAN	Santiago	2.00	45	eP1	Pb	19 11 21.4	-1.1
SAN				eS	Sb	19 11 48.2	+1.1
SAN				AML	AML	19 11 54.9	
	comp=E,19μm,0.5s						
SAN	Santiago	2.00	45	eP	Pb	19 11 21.4	-1.1
SAN				eS	Sb	19 11 48.2	+1.1
PEL	Peldehue	2.22	39	⇓iP	Pn	19 11 24.3	+1.7
PEL				eS1	Sb	19 11 53.3	-0.2
PEL				AML	AML	19 12 02.6	
	comp=E,31μm,0.6s						
PEL	Peldehue	2.22	39	⇓iP	Pn	19 11 24.3	+1.7
PEL				eS	Sb	19 11 53.3	-0.2
CFAA	Coronel Fontan	4.75	48	Pn	Pn	19 11 59.6	+2.2
	comp=E,2.0nm,0.3s,baz=230,slow=3.2,SNR=138						
CFAA				Lg	Lg	19 13 08.7	
	comp=E,12nm,0.3s,baz=10.0,slow=17,SNR=14						
LCO	Las Campanas	6.02	14	eP	Pn	19 12 14.7	-0.5
	comp=E,87nm,0.5s						
LCO				eSn	Sn	19 13 22.9	-0.9
TRQA	Tornquist	8.93	114	eP	Pn	19 12 55.3	+0.5
	comp=E,68nm,0.8s						
TRQA				eSn	Sn	19 14 34.2	-0.6
LVC	Limon Verde	12.59	15	Pn	Pn	19 13 43.5	-1.7
	comp=E,12nm,1.1s						
LVC				eSn	Sn	19 16 02.3	-2.9
LPAZ	La Paz	18.90	13	P	Pn	19 15 08.7	+1.0
	comp=E,0.5nm,0.3s,baz=188,slow=9.5,SNR=33						
LPAZ	La Paz	18.90	13	eP	P	19 15 06.1	-0.9
	comp=E,43nm,1.0s						
NNA	Nana	23.16	349	P	P	19 15 54.2	+1.9
	comp=E,2.8nm,0.4s,baz=222,slow=16,SNR=1.8						
SAML	Samuel	27.15	20	P	P	19 16 25.1	-3.9
	comp=E,9.8nm,1.0s						
BDFB	Brasilia	29.04	55	P	P	19 16 45.1	-1.0
	comp=E,9.1nm,1.0s,baz=232,slow=11,SNR=7.1						
OTAV	Otavalo	35.41	349	eP	P	19 17 38.6	-3.6
	comp=E,30nm,1.3s						
PTGA	Pitinga	35.89	21	eP	P	19 17 41.9	-4.0
	comp=E,22nm,1.2s						
SDV	Santo Domingo	43.56	2	P	P	19 18 46.9	-3.0
	comp=E,22nm,1.0s						
QSPA	South Pole Qui	55.35	180	P	P	19 20 15.7	-3.6
	comp=E,9.3nm,0.8s						
SYO	Syowa Base	65.14	158	⇑eP	P	19 21 35.4	+9.4
035A	Encino	66.15	335	⇑P	P	19 21 34.8	+1.9
	baz=66						
034A	Hebbronville	66.47	334	⇓P	P	19 21 37.4	+2.3
	baz=67						
934A	Benavides	66.90	335	⇑P	P	19 21 40.9	+3.1
	baz=67						
738A	Farr-Stevens R	67.10	338	⇑P	P	19 21 42.0	+3.0
	baz=67						
933A	Laredo	67.18	334	⇓P	P	19 21 41.9	+2.3
	baz=67						
735A	Kenedy	67.81	336	⇑P	P	19 21 45.4	+1.9
	baz=68						
833A	Chaparral WMA,	67.87	334	⇑P	P	19 21 45.8	+1.9
	baz=68						
832A	Faith Ranch, C	68.04	334	⇑P	P	19 21 46.4	+1.4
	baz=68						
636A	Smothers Creek	68.14	337	⇑P	P	19 21 47.3	+1.7
	baz=68						
536A	Bastrop	68.69	337	⇑P	P	19 21 51.1	+2.1
	baz=69						
633A	Saathoff Ranch	68.83	335	⇓P	P	19 21 51.1	+1.1
	baz=69						
632A	Uvalde	69.09	335	⇓P	P	19 21 52.2	+0.6
	baz=69						
534A	Blanco	69.11	336	⇑P	P	19 21 54.5	+2.7
	baz=69						
631A	Perdido Creek	69.28	334	⇑P	P	19 21 54.5	+1.8
	baz=69						
533A	Kerrville	69.34	335	⇓P	P	19 21 54.1	+1.0
	baz=70						
337A	Centerville	69.48	339	⇑P	P	19 21 56.4	+2.5
	baz=70						
532A	Rocksprings	69.69	335	⇑P	P	19 21 56.3	+1.0
	baz=70,SNR=8.0						
434A	Burnet	69.77	336	⇑P	P	19 21 56.4	+0.7
	baz=70						
531A	Rocksprings	69.95	334	⇓P	P	19 21 57.5	+0.6
	baz=70						
JCT	Junction City	69.98	335	⇓P	P	19 21 58.2	+1.1
	baz=70						
433A	Art	69.98	336	⇑P	P	19 21 57.5	+0.4
	baz=70						
530A	J-C Ranch, Com	70.23	334	⇓P	P	19 21 59.7	+1.1
	baz=70,SNR=7.0						
334A	Lometa	70.23	337	⇓P	P	19 21 59.4	+0.8
	baz=70						
432A	Menard	70.34	335	⇓P	P	19 22 00.1	+0.9
	baz=70						
TXAR	Lajitas Array	70.39	331	P	P	19 21 59.8	+0.1
	comp=E,1.4nm,0.6s,baz=154,slow=7.9,SNR=22						
431A	Sonora	70.45	334	⇑P	P	19 22 01.2	+1.2
	baz=71						
333A	Richland Sprin	70.47	336	⇓P	P	19 22 00.4	+0.3
	baz=71						
529A	Stev Forest Ra	70.53	333	⇑P	P	19 22 01.5	+1.0
	baz=71						
WHTX	Lake Whitney,	70.59	338	⇑P	P	19 22 01.7	+1.0
	baz=71						
430A	Baggett Ranch,	70.77	334	⇑P	P	19 22 02.3	+0.4
	baz=71,SNR=6.3						
332A	Millersview	70.78	335	⇑P	P	19 22 02.4	+0.4
	baz=71						
234A	Clairette	70.82	337	⇓P	P	19 22 02.4	+0.2
	baz=71						
429A	Davenport Ranc	70.86	333	⇑P	P	19 22 03.3	+0.8
	baz=71						
SWET	Sewanee	70.89	348	P	P	19 21 59.9	-2.6
	comp=E,45nm,1.0s						
331A	San Angelo	70.95	335	⇑P	P	19 22 03.5	+0.5
	baz=71						
233A	Rising Star	71.08	336	⇑P	P	19 22 03.9	+0.2
	baz=71						
232A	Coleman	71.21	336	⇑P	P	19 22 04.7	+0.2
	baz=71						
330A	Mertzon	71.31	334	⇓P	P	19 22 05.3	+0.1
	baz=71						
231A	Bronte	71.48	335	⇑P	P	19 22 05.9	-0.3
	baz=72,SNR=5.5						
133A	Hamilton Ranch	71.63	337	⇓P	P	19 22 07.9	+0.8
	baz=72						
329A	Wagon Wheel Ra	71.67	334	⇓P	P	19 22 07.7	+0.4
	baz=72						
230A	Sterling City	71.72	334	⇓P	P	19 22 08.3	+0.6
	baz=72						
ABTX	Abilene, Hawle	71.88	336	⇓P	P	19 22 08.7	+0.1
	baz=72						
Z34A	Collier Ranch,	72.01	338	⇑P	P	19 22 09.9	+0.6
	baz=72						
229A	Bryant Ranch,	72.04	334	⇓P	P	19 22 10.6	+1.0
	baz=72						
WVT	Waverly	72.11	347	eP	P	19 22 06.4	-3.4
	comp=E,29nm,1.1s						
131A	Roby	72.18	335	⇓P	P	19 22 10.6	+0.2
	baz=72						
Z33A	Whitaker Ranch	72.20	337	⇓P	P	19 22 11.1	+0.6
	baz=72						
130A	Snyder	72.31	335	⇓P	P	19 22 11.6	+0.4
	baz=72						
Z32A	Haskell	72.45	336	⇑P	P	19 22 12.2	+0.2
	baz=73						
228A	UT Block 9, Go	72.46	333	⇓P	P	19 22 12.9	+0.8
	baz=73						
Y34A	Reagan Ranch,	72.51	338	⇓P	P	19 22 12.9	+0.6
	baz=73						
129A	Stewart Farms,	72.66	334	⇓P	P	19 22 13.5	+0.3
	baz=73						
Z31A	Sharp Cattle R	72.69	336	⇓P	P	19 22 13.7	+0.3
	baz=73						
Y33A	Hilltop Ranch,	72.82	337	⇑P	P	19 22 14.5	+0.4
	baz=73						
128A	Castleberry Fa	72.88	334	⇑P	P	19 22 14.9	+0.4
	baz=73						
Z30A	Sanderson Ranc	72.99	335	⇑P	P	19 22 15.0	-0.3
	baz=73						
Y32A	R-V Farms, Ver	73.08	337	⇑P	P	19 22 16.2	+0.5
	baz=73						
X34A	Smith Ranch, M	73.13	338	⇑P	P	19 22 16.8	+0.9
	baz=73						
Z29A	Hungry Hill Ra	73.17	335	⇑P	P	19 22 16.3	0.0
	baz=73,SNR=5.7						
Y31A	Rekieta Farm,	73.31	336	⇓P	P	19 22 17.8	+0.7
	baz=73						
Z28A	Tucker Farm, M	73.44	334	⇑P	P	19 22 18.5	+0.6
	baz=74						
W34A	Bridge Creek,	73.70	339	⇓P	P	19 22 20.2	+0.9
	baz=74						
Y29A	Porterfield Fa	73.70	335	⇑P	P	19 22 19.7	+0.2
	baz=74						
TUL1	Leonard	73.75	340	⇓P	P	19 22 20.3	+0.7
	baz=74						
TUL1	Leonard	73.75	340	eP	P	19 22 16.1	-3.5
	comp=E,13nm,1.0s						
W33A	Caddo, Fort Co	73.83	338	⇑P	P	19 22 20.8	+0.8
	baz=74						
X31A	McDonald Ranch	73.83	337	⇑P	P	19 22 21.1	+1.0
	baz=74						
V35A	Meyer Ranch, C	73.91	339	⇑P	P	19 22 21.2	+0.7
	baz=74						
W32A	Sentinel	74.05	337	⇑P	P	19 22 22.2	+0.9
	baz=74						
MSTX	Muleshoe	74.19	334	⇓P	P	19 22 22.4	0.0
	baz=74						
X29A	Tulia	74.24	335	⇓P	P	19 22 23.2	+0.6
	baz=74						
Y27A	Causey	74.26	334	⇓P	P	19 22 23.4	+0.7
	baz=74						
W31A	Holland Ranch,	74.33	337	⇓P	P	19 22 23.6	+0.6
	baz=74						
V33A	Lossen Ranch,	74.39	338	⇑P	P	19 22 24.4	+1.0
	baz=74						
319A	Douglas	74.51	328	⇓P	P	19 22 25.9	+1.6
	baz=75						
V32A	Arapaho	74.53	338	⇑P	P	19 22 25.1	+0.9
	baz=75						
AMTX	Amarillo	74.63	335	⇑P	P	19 22 25.3	+0.4
	baz=75						
V31A	Spring Creek L	74.83	337	⇑P	P	19 22 27.6	+1.6
	baz=75						
W29A	Amarillo	74.84	335	⇓P	P	19 22 26.8	+0.8
	baz=75						
X26A	CR and CF Fran	75.09	334	⇓P	P	19 22 28.6	+1.0
	baz=75						
V30A	Spur Ranch, Mi	75.10	336	⇑P	P	19 22 28.8	+1.3
	baz=75						
Y24A	Capitan	75.15	332	⇑P	P	19 22 28.6	+0.6
	baz=75						
Z22A	Elephant Butte	75.16	330	⇓P	P	19 22 29.3	+1.3
	baz=75						
W27A	Bowe Ranch, En	75.28	334	⇑P	P	19 22 29.4	+0.7
	baz=75,SNR=5.8						
LIC	Lamto	75.29	72	eP	P	19 22 29.4	+0.3
	comp=E,116nm,1.4s						
ACSO	Alum Creek Sta	75.39	352	eP	P	19 22 26.1	-2.9
T33A	Patterson Ranc	75.55	339	⇓P	P	19 22 30.9	+0.9
	baz=76						
W26A	Owens Ranch, T	75.56	334	⇑P	P	19 22 30.8	+0.6
	baz=76						
TIC	Toumodi	75.56	71	eP	P	19 22 30.8	+0.2
	comp=E,38nm,1.0s						
KIC	Kosan Boka	75.60	72	eP	P	19 22 31.2	+0.4
	comp=E,137nm,1.6s						
DBIC	Dimbokro	75.70	71	P	P	19 22 31.4	0.0
	comp=E,12nm,0.8s,baz=204,slow=5.8,SNR=10						
U30A	WK&E Inc. Balk	75.79	337	⇑P	P	19 22 33.0	+1.6
	baz=76						
T32A	Huddler Ranch,	75.84	338	⇑P	P	19 22 34.0	+2.3
	baz=76						
W25A	X Bar L Ranch,	75.92	333	⇑P	P	19 22 33.3	+1.0
	baz=76						
TUC	Tucson	75.97	327	P	P	19 22 29.1	-3.5
	comp=E,16nm,1.2s						
V26A	Tequesquite Ra	76.19	334	⇑P	P	19 22 34.5	+0.6
	baz=76						
W24A	Lazy 6 Ranch,	76.27	333	⇑P	P	19 22 36.2	+1.8
	baz=76						
S31A	Mullinville	76.42	338	⇑P	P	19 22 36.5	+1.5
	baz=77						
ANMO	Albuquerque	76.44	332	P	P	19 22 30.5	-4.8
	comp=E,17nm,1.0s						
V25A	Rancho No Teng	76.53	334	⇓P	P	19 22 36.1	+0.2
	baz=77						
T29A	Hugoton	76.57	337	⇑P	P	19 22 37.8	+2.0
	baz=77						
214A	Organ Pipe Nat	76.60	325	⇑P	P	19 22 38.4	+2.2
	baz=77						
214A	Organ Pipe Nat	76.60	325	eP	P	19 22 33.1	-3.0
	comp=E,23nm,1.1s						
V24A	Rampart Ranch,	76.68	333	⇓P	P	19 22 38.2	+1.4
	baz=77						
U26A	Atchley Ranch,	76.72	334	⇓P	P	19 22 38.3	+1.4
	baz=77						
S30A	Montezuma	76.74	337	⇓P	P	19 22 38.0	+1.1
	baz=77						
T28A	Walsh	76.81	336	⇑P	P	19 22 38.1	+0.8
	baz=77,SNR=6.4						
R32A	Long Quarter,	76.93	339	⇓P	P	19 22 38.6	+0.8
	baz=77						
S29A	Ulysses	76.93	337	⇑P	P	19 22 38.8	+0.8
	baz=77						
U25A	Circle Dot Ran	76.96	334	⇓P	P	19 22 39.2	+0.9
	baz=77						
KSU1	Kansas State U	76.97	341	⇑P	P	19 22 39.3	+1.4
	baz=77						
V23A	Ortiz Mt. (NFS	77.04	332	⇑P	P	19 22 40.2	+1.5
	baz=77						
R31A	Burdett	77.05	338	⇓P	P	19 22 39.9	+1.4
	baz=77						
S28A	Manter	77.16	336	⇓P	P	19 22 39.9	+0.7
	baz=77						
Q33A	Connelly Farm,	77.21	340	⇑P	P	19 22 40.0	+0.6
	baz=77						
T26A	Comanche Natio	77.36	335	⇓P	P	19 22 41.3	+0.8
	baz=78						
V22A	San Miguel Ran	77.47	332	⇓P	P	19 22 42.7	+1.6
	baz=78						
X18A	Snowflake	77.50	329	⇑P	P	19 22 42.9	+1.6
	baz=78						
U23A	El Rito	77.56	333	⇑P	P	19 22 43.6	+1.9
	baz=78						
T25A	Trinidad	77.62	334	⇓P	P	19 22 43.4	+1.4
	baz=78,SNR=10						
S26A	Kim	77.72	335	⇓P	P	19 22 43.1	+0.6
	baz=78,SNR=6.2						
R28A	Tribune	77.82	337	⇓P	P	19 22 43.6	+0.7
	baz=78						
U22A	Llaves	77.85	332	⇓P	P	19 22 44.6	+1.3
	baz=78						
X16A	Lo Mia Camp, P	78.05	328	⇑P	P	19 22 45.9	+1.5
	baz=78						
R27A	Eads	78.09	336	⇑P	P	19 22 45.2	+0.8
	baz=78						
S25A	Robets Cordova	78.09	334	⇑P	P	19 22 45.5	+0.9
	baz=78						
R26A	Arlington	78.32	335	⇑P	P	19 22 47.1	+1.4
	baz=78						
Y14A	Wickenburg	78.34	326	⇓P	P	19 22 47.7	+1.9
	baz=78						
S24A	Houchin Ranch,	78.35	334	⇓P	P	19 22 47.3	+1.2
	baz=78,SNR=6.4						
R25A	Fountain Ranch	78.48	335	⇓P	P	19 22 48.2	+1.6
	baz=79						
KSCO	Kaye Shedlock'	78.69	336	⇑P	P	19 22 50.0	+2.3
	baz=79						
R24A	Sanders Place,	78.84	334	⇓P	P	19 22 49.7	+1.0
	baz=79,SNR=7.2						
WUAZ	Wupatki	78.95	328	⇑P	P	19 22 51.6	+2.3
	baz=79						
S22A	4UR Ranch, Cre	79.04	333	⇑P	P	19 22 51.8	+1.9
	baz=79						
R23A	Moffat	79.06	334	⇑P	P	19 22 52.5	+2.4
	baz=79						
Q25A	Bedland, Calha	79.15	335	⇑P	P	19 22 52.4	+2.0
	baz=79						
MVCO	Mesa Verde	79.22	331	⇓P	P	19 22 53.3	+2.5
	baz=79						
MVCO	Mesa Verde	79.22	331	P	P	19 22 45.9	-5.0
	comp=E,13nm,1.1s						
BC3	Big Chuckawall	79.25	325	⇓P	P	19 22 52.8	+1.9
	baz=79						
P26A	Davis Ranch, A	79.42	336	⇓P	P	19 22 54.3	+2.5
	baz=80						
Q24A	Divide	79.51	335	⇑P	P	19 22 52.9	+0.4
	baz=80						
P25A	Willow Gulch B	79.66	336	⇓P	P	19 22 53.7	+0.6
	baz=80,SNR=5.7						
PFO	Pinyon Flats O	79.70	324	⇓P	P	19 22 55.1	+1.8
	baz=80						
PFO	Pinyon Flats O	79.70	324	eP	P	19 22 49.8	-3.6
	comp=E,19nm,0.3s						
W13A	Hualapai Mount	79.71	326	⇑P	P	19 22 55.5	+1.9
	baz=80						
BOSA	Boshof	79.88	118	P	P	19 22 54.7	0.0
	comp=E,14nm,0.8s,baz=231,slow=6.5,SNR=9.7						
U15A	North Rim	80.12	328	⇑P	P	19 22 57.4	+1.6
	baz=80						
GMRC	Granite Mounta	80.27	325	⇓P	P	19 22 58.2	+1.8
	baz=80						
ISCO	Idaho Springs	80.42	335	⇑P	P	19 22 59.0	+1.7
	baz=81						
HEC	Hector,Ludlow	80.63	325	⇓P	P	19 23 00.7	+2.3
	baz=81						
O23A	Lake Granby, G	80.89	335	⇑P	P	19 23 01.7	+1.8
	baz=81						
O22A	Kremmling	81.07	334	⇓P	P	19 23 02.5	+1.7
	baz=81						
N24A	Carr	81.08	336	⇑P	P	19 23 02.8	+2.1
	baz=81						
K30A	Basset	81.12	340	⇓P	P	19 23 03.1	+2.4
	baz=81						
ECSD	EROS Data Cent	81.31	342	⇑P	P	19 23 02.2	+0.5
	baz=82						
ECSD	EROS Data Cent	81.31	342	eP	P	19 22 58.2	-3.5
	comp=E,36nm,0.9s						
SHPR	Sheep Range	81.45	326	eP	P	19 22 59.2	-3.6
	comp=E,24nm,2.1s						
N23A	Red Feather La	81.50	335	⇓P	P	19 23 04.7	+1.6
	baz=82						
L26A	Underwood Farm	81.57	337	⇓P	P	19 23 06.4	+3.2
	baz=82						
N22A	Wattenberg Ran	81.60	335	⇑P	P	19 23 05.4	+1.8
	baz=82						
SRU	San Rafael Swe	81.66	331	eP	P	19 22 59.9	-3.9
	comp=E,2.5nm,0.9s						
LRMC	Laurel Mtn Rad	81.80	324	⇓P	P	19 23 06.2	+1.6
	baz=82						
J29A	Okreek	82.00	340	⇑P	P	19 23 07.0	+1.7
	baz=82						
LBTB	Lobatse	82.16	115	eP	P	19 23 01.1	-5.8
	comp=E,50nm,1.4s						
J28A	Allard Ranch,	82.28	339	⇓P	P	19 23 08.8	+2.0
	baz=82						
ISA	Isabella, Lake	82.33	324	⇑P	P	19 23 09.6	+2.3
	baz=82						
ISA	Isabella, Lake	82.33	324	eP	P	19 23 03.7	-3.6
	comp=E,11nm,1.0s						
J27A	Elkhorn Farm,	82.35	339	⇑P	P	19 23 09.3	+2.1
	baz=82						
J26A	Sides Ranch, S	82.73	338	⇑P	P	19 23 11.3	+2.1
	baz=83						
I28A	Midland	82.78	339	⇓P	P	19 23 11.5	+2.1
	baz=83						
K23A	Bowen Ranch, D	83.05	336	⇓P	P	19 23 12.8	+1.9
	baz=83						
H29A	Onida	83.09	340	⇓P	P	19 23 11.4	+0.5
	baz=83						
I27A	Quinn	83.11	339	⇑P	P	19 23 12.1	+1.0
	baz=83						
R11A	Troy Canyon, C	83.16	327	⇓P	P	19 23 12.9	+1.2
	baz=83						
R11A	Troy Canyon, C	83.16	327	eP	P	19 23 07.3	-4.4
	comp=E,8.8nm,1.1s						
J24A	Dixon Ranch, L	83.25	337	⇓P	P	19 23 13.4	+1.4
	baz=83						
K22A	Casper	83.26	335	⇓P	P	19 23 13.3	+1.2
	baz=83						
G30A	Faulkton	83.27	341	⇑P	P	19 23 13.1	+1.2
	baz=83						
H28A	Mission Ridge	83.36	340	⇓P	P	19 23 13.4	+1.1
	baz=84						
K21A	Alcova	83.50	335	⇓P	P	19 23 13.9	+0.6
	baz=84						
DUG	Dugway, Tooele	83.51	330	⇑P	P	19 23 14.3	+0.9
	baz=84						
DUG	Dugway, Tooele	83.51	330	eP	P	19 23 10.1	-3.3
	comp=E,16nm,1.1s						
I25A	Rochford	83.57	338	⇑P	P	19 23 14.4	+0.7
	baz=84						
H27A	Howes	83.63	339	⇑P	P	19 23 14.7	+0.9
	baz=84						
TPH	Tonopah	83.68	326	eP	P	19 23 10.4	-4.0
	comp=E,18nm,1.0s						
G28A	Parade	83.70	340	⇓P	P	19 23 15.3	+1.2
	baz=84						
RSSD	Black Hills	83.76	338	eP	P	19 23 10.6	-4.1
	comp=E,8.4nm,0.9s						
F29A	E

J19A	Crowheart	84.69	334	⇓P		P	19 23 20.4	+1.1
	baz=85							
F27A	Lemmon	84.74	340	⇓P		P	19 23 20.7	+1.3
	baz=85							
TORD	Torodi Ar. Bea	84.75	70	P		P	19 23 19.9	-0.2
	comp=E,9.2nm,0.9s,baz=249,slow=3.8,SNR=29							
I20A	Worland	84.96	335	⇓P		P	19 23 21.9	+1.3
	baz=85							
D30A	Buchanan	85.00	342	⇓P		P	19 23 22.1	+1.5
	baz=85							
D29A	Pettibone, Tap	85.17	342	⇓P		P	19 23 22.7	+1.2
	baz=85							
G22A	Birney	85.46	337	⇓P		P	19 23 23.4	+0.3
	baz=86							
C30A	Mose, Pekin	85.49	343	⇓P		P	19 23 23.9	+0.9
	baz=86							
F23A	Volborg	85.62	337	⇓P		P	19 23 23.8	-0.1
	baz=86							
G21A	Lodge Grass	85.77	336	⇑P		P	19 23 24.6	-0.1
	baz=86							
I17A	Pilgrim Ck.	85.81	333	⇓P		P	19 23 26.0	+1.0
	baz=86							
H19A	Powell	85.89	335	⇓P		P	19 23 25.9	+0.6
	baz=86							
MDND	Maddock	85.91	342	⇓P		P	19 23 26.5	+1.3
	baz=86							
MDND	Maddock	85.91	342	eP		P	19 23 20.6	-4.5
	comp=E,2.6nm,0.9s							
D26A	Manning	85.92	340	⇓P		P	19 23 26.5	+1.3
	baz=86							
F22A	Rosebud	85.94	337	⇑P		P	19 23 26.2	+0.8
	baz=86							
H18A	Shoshone NF, C	86.13	334	⇑P		P	19 23 27.0	+0.3
	baz=86							
B30A	Myrvik Farm, E	86.15	343	⇓P		P	19 23 27.8	+1.5
	baz=86							
D25A	Fairfield	86.28	339	⇓P		P	19 23 28.4	+1.4
	baz=86							
C27A	Sayler Ranch,	86.28	341	⇑P		P	19 23 28.4	+1.4
	baz=86							
B29A	Wagenman Farm,	86.42	342	⇓P		P	19 23 28.8	+1.2
	baz=87							
D24A	Glendive	86.54	339	⇑P		P	19 23 28.4	+0.1
	baz=87							
B28A	Dugan Ranch, T	86.66	342	⇑P		P	19 23 30.5	+1.7
	baz=87							
A29A	Manning Farm,	86.81	343	⇓P		P	19 23 30.4	+0.8
	baz=87							
D23A	Lindsay	86.86	338	⇑P		P	19 23 30.2	+0.3
	baz=87,SNR=5.5							
C24A	Savage	86.94	339	⇑P		P	19 23 30.7	+0.4
	baz=87,SNR=8.6							
HLID	Hailey	86.98	331	⇓P		P	19 23 32.3	+1.5
	baz=87							
D22A	Cohagen	87.14	338	⇓P		P	19 23 31.1	-0.1
	baz=87							
E20A	Meyer Farm, Mu	87.20	336	⇓P		P	19 23 32.4	+0.8
	baz=87							
ULM	Lac du Bonnet	87.29	345	P		P	19 23 31.4	-0.4
	comp=E,6.1nm,1.0s,baz=155,slow=1.8,SNR=5.0							
D21A	La Casta Ranch	87.32	337	⇑P		P	19 23 32.6	+0.5
	baz=88							
E19A	Rath Farm, Rou	87.38	336	⇑P		P	19 23 32.7	+0.2
	baz=88							
C23A	Lambert	87.42	339	⇑P		P	19 23 32.4	-0.2
	baz=88,SNR=5.2							
MCMT	McKenzie Canyo	87.44	332	eP		P	19 23 31.2	-1.8
	comp=E,3.4nm,1.1s							
A26A	Wade Farm, Ken	87.51	341	⇓P		P	19 23 33.6	+0.7
	baz=88							
D20A	Manuel Ranch,	87.71	336	⇑P		P	19 23 35.1	+1.1
	baz=88							
A25A	Svangstu Ranch	87.84	340	⇓P		P	19 23 35.3	+0.8
	baz=88							
B22A	Reddig Ranch S	88.11	338	⇑P		P	19 23 35.8	-0.1
	baz=88							
LRM	Limekiln Ridge	88.13	333	eP		P	19 23 34.1	-2.2
	comp=E,41nm,1.1s							
C20A	Veseth Ranch,	88.22	337	⇓P		P	19 23 37.0	+0.6
	baz=88							
A22A	Carney Farms,	88.70	339	⇓P		P	19 23 38.9	+0.2
	baz=89							
M04C	Macdoel	88.78	325	⇑P		P	19 23 40.6	+1.3
	baz=89							
B20A	Solberg Farm,	88.86	337	⇑P		P	19 23 40.3	+0.8
	baz=89							
A20A	Cobblestone Ra	89.22	337	⇑P		P	19 23 42.2	+1.1
	baz=89							
A19A	Klindworth Far	89.52	337	⇑P		P	19 23 43.7	+1.2
	baz=90							
MSO	Missoula	89.53	333	⇓P		P	19 23 45.3	+2.6
	baz=90							
LSZ	Lusaka	89.77	108	eP		P	19 23 42.8	-1.9
	comp=E,29nm,1.6s							
TAM	Tamanrasset	93.43	65	eP		P	19 23 60.0	-1.4
	comp=E,3.3nm,0.9s							
ESDC	Sonseca Array	97.37	46	P		P	19 24 18.8	-0.1
	comp=E,0.1nm,0.3s,baz=262,slow=5.5,SNR=4.1							
KHC	Kasperske Hory	113.01	45	AMS	AMS		20 18 40.0	
	comp=E,600nm,20.8s							
PRU	Pruhonice	113.95	45	AMS	AMS		20 22 20.0	
	comp=E,600nm,21.3s							
TREC	Trest	114.20	46	AMS	AMS		20 19 20.0	
	comp=E,400nm,18.6s							
PVCC	Panska Ves	114.21	44	AMS	AMS		20 19 50.0	
	comp=E,700nm,16.3s							
DPC	Dobruska-Polom	115.14	45	AMS	AMS		20 19 00.0	
OKC	Ostrava-Krasne	116.00	46	AMS	AMS		20 25 00.0	
	comp=E,400nm,22.0s							
ASAR	Alice Springs	116.67	207	PKP	PKPdf		19 29 27.9	-2.4
	comp=E,0.6nm,0.9s,baz=161,slow=1.6,SNR=6.0							
WRA	Warramunga Arr	119.87	209	PKP	PKPdf		19 29 34.7	-1.8
	comp=E,0.8nm,0.8s,baz=158,slow=1.8,SNR=6.5							
BRTR	Keskin Array B	122.48	62	PKP	PKPdf		19 29 40.8	-0.3
	comp=E,1.1nm,0.9s,baz=202,slow=5.3,SNR=6.6							
H11S2	WAKE ISLAND Hyl	25.50	269	T	T		21 47 57.2	
	baz=122							
H11S1	WAKE ISLAND Hyl	25.52	269	T	T		21 47 56.9	
	baz=122							
H11S3	WAKE ISLAND Hyl	25.52	269	T	T		21 47 49.6	
	baz=122							
H11N3	WAKE ISLAND Hyl	25.94	270	T	T		21 48 18.6	
	baz=122,slow=76,SNR=8.1							
H11N1	WAKE ISLAND Hyl	25.95	270	T	T		21 48 20.7	
	baz=122,slow=76,SNR=15							
H11N2	WAKE ISLAND Hyl	25.96	270	T	T		21 48 21.0	
	baz=122,slow=76,SNR=8.5							
GEYT	Alibeck	140.38	71	PKhKP	PKPpre		19 30 08.9	
	comp=E,2.9nm,0.9s,baz=298,slow=3.2,SNR=5.6							
ARU	Arti	140.57	41	ePKPdf	PKPdf		19 30 11.2	-3.1
TIXI	Tiksi	141.52	349	ePKPdf	PKPdf		19 30 14.3	-1.3
ABKAR	Akbulak array	142.42	53	ePKPdf	PKPdf		19 30 16.1	-1.8
KSM	Kuching	146.67	185	ePKPdf	PKPdf		19 30 22.2	-4.2
BRVK	Borovoye	148.02	44	ePKPbc	PKPdf		19 30 28.2	+0.8
HYB	Hyderabad	148.78	116	i PKP	PKPdf		19 30 29.0	-0.7
KULM	Kulim	149.84	166	ePKPdf	PKPdf		19 30 28.1	-3.4
KKAR	Karatay Array	150.18	63	ePKPbc	PKPbc		19 30 35.6	-0.8
EKS2	Erkin-Say	152.61	63	ePKPbc	PKPbc		19 30 39.8	-2.3
EKS2				ePKPab	PKPab		19 30 50.9	-1.8
AAK	Ala-Archa	153.13	63	ePKPbc	PKPbc		19 30 40.5	-2.8
TKM2	Tokmak 2	153.91	62	ePKPdf	PKPdf		19 30 34.1	-3.0
KSH	Kashi	154.42	70	PKPbc	PKPdf		19 30 38.3	+0.5
KSH				sPKP			19 30 52.1	
KSH				PKS	PKSdf		19 34 13.3	+1.3
KSH				PP	PP		19 34 35.3	-1.0
KSH				SKS	SKSdf		19 37 43.9	+0.2
KSH				SKKS	SKKSac		19 41 24.9	-0.2
KSH				SS	SS		19 54 12.6	-3.6
KSH				PPMZ				
	comp=E,100nm,5.2s							
KSH				LN				
	comp=E,61nm,4.9s							
KSH				LE				
	comp=E,68nm,6.8s							
KSH				LZ				
	comp=E,130nm,6.3s							
ZALV	Zalesovo Beam	155.10	33	PKP	PKPdf		19 30 37.6	-0.4
	comp=E,2.3nm,0.9s,baz=300,slow=2.9,SNR=13							
ZALV				PKPab	PKPab		19 31 03.6	+0.9
	comp=E,6.4nm,0.9s,baz=310,slow=4.5,SNR=8.8							
MJAR	Matsushiro Arr	155.19	283	PKP	PKPdf		19 30 37.1	-1.7
	comp=E,1.4nm,1.0s,baz=160,slow=3.9,SNR=3.6							
MKAR	Makanchi Array	157.53	50	PKP	PKPdf		19 30 41.4	-0.2
	comp=E,1.3nm,1.1s,baz=11,slow=2.5,SNR=6.2							
MKAR				PKPab	PKPab		19 31 13.0	-0.4
	comp=E,3.9nm,0.9s,baz=308,slow=4.0,SNR=12							
MDJ	Mudanjiang	160.59	307	PKP	PKPdf		19 30 46.3	+1.2
MDJ				PPMZ				
	comp=E,140nm,4.7s							
CMAR	Chiang Mai Arr	161.89	152	PKP	PKPdf		19 30 47.1	-0.2
	comp=E,0.9nm,0.8s,baz=266,slow=3.1,SNR=5.5							
CMAR				PKPab	PKPab		19 31 32.3	-0.7
	comp=E,1.5nm,0.9s,baz=215,slow=5.2,SNR=7.9							
WMQ	Urumqi	162.20	54	ePKP	PKPdf		19 30 46.8	-0.2
WMQ				pPKP	pPKPdf		19 30 57.5	+4.3
WMQ				PKPab	PKPab		19 31 35.3	+1.3
WMQ				PKS	PKSdf		19 34 18.8	-1.3
WMQ				PP	PP		19 35 19.8	+1.4
WMQ				SKS	SKSdf		19 37 46.5	-4.4
WMQ				SKKS	SKKSac		19 42 03.3	-2.2
WMQ				PPMZ				
	comp=E,380nm,5.0s							
WMQ				LN				
	comp=E,120nm,19.0s							
WMQ				LE				
	comp=E,120nm,18.0s							
WMQ				LZ				
	comp=E,140nm,18.0s							
CN2	Changchun	163.64	308	ePKP	PKPdf		19 30 51.4	+3.2
SONM	Songino Array	167.03	4	PKP	PKPdf		19 30 49.7	-1.5
	comp=E,0.6nm,0.9s,baz=262,slow=3.0,SNR=3.7							
SONM				PKPab	PKPab		19 31 54.2	-0.8
	comp=E,1.7nm,1.0s,baz=337,slow=3.4,SNR=8.2							
BJI	Beijing	171.50	310	PKP	PKPdf		19 30 55.9	+2.0
BJI				PP	PP		19 36 09.4	+3.4
BJI				PPMZ				
	comp=E,240nm,4.6s							
GYA	Guiyang	171.56	174	ePKP	PKPdf		19 30 55.0	+0.4
GYA				pPKP	pPKPdf		19 31 07.3	+6.5
GYA				PKPab	PKPab		19 32 19.6	+4.1
GYA				PKS	PKSdf		19 34 26.5	-0.6
GYA				PP	PP		19 36 11.0	+5.6
GYA				SKKS			19 42 52.8	
GYA				SS	SS		19 57 13.6	+2.9
GYA				PPMZ				
	comp=E,120nm,8.4s							
GYA				LN				
	comp=E,120nm,24.8s							
GYA				LE				
	comp=E,110nm,25.4s							
GYA				LZ				
	comp=E,120nm,24.9s							
GTA	Gaotai	172.28	52	ePKP	PKPdf		19 30 55.6	+1.1
GTA				pPKP	pPKPdf		19 31 06.0	+5.2
GTA				sPKP			19 31 10.3	
GTA				PKPab	PKPab		19 32 19.6	+0.9
HHC	Hu-ho-hao-te	173.29	334	ePKP	PKPdf		19 30 56.5	+1.6
HHC				PP	PP		19 36 20.8	+6.5
HHC				SKS	SKSdf		19 37 55.1	-2.1
HHC				SKKS	SKKSac		19 42 58.0	-2.3
HHC				SS	SS		19 57 30.3	+2.0
HHC				PPMZ				
	comp=E,190nm,9.9s							
HHC				LN				
	comp=E,4μm,21.0s							
HHC				LE				
	comp=E,5μm,17.3s							
HHC				LZ				
	comp=E,3μm,21.0s							
CD2	Chengdu	174.85	139	ePKP	PKPdf		19 30 57.5	+1.8
LZH	Lanzhou	176.66	68	ePKP	PKPdf		19 30 59.9	+3.8
LZH				pPKP	pPKPdf		19 31 12.3	+10
LZH				PP	PP		19 36 37.0	+5.2
LZH				eSKKS			19 43 17.9	
LZH				eSS	SS		19 58 01.3	-1.7
LZH				PPMZ				
	comp=E,120nm,5.5s							

*IDC **14** 19:23:25.2±0.5, 38.°00S×73.°68W, h0km, mb4.4/13, mb1 4.5/16, mb1mx4.4/27, mbtmp4.3/16, ML3.4/2, MS4.2/3, Ms1 4.2/3, ms1mx3.8/23, Error ellipse: s-maj=22.7km s-min=14.4km az=90.0*

*GUC **14** 19:23:25.3±0.8, 37.°93S×74.°26W, h36km±6km, ML4.3*

*ISCJB **14** 19:23:27.3±0.3, 37.°94S±0.°04×73.°63W±0.°07, h22km, mb4.7/36, MS4.5/2, Error ellipse: s-maj=7.9km s-min=5.3km az=178.2*

*NEIC **14** 19:23:30.7±0.3, 37.°85S×73.°55W, h35km, mb4.8/23, Error ellipse: s-maj=10.5km s-min=6.4km az=82.0*

*BJI **14** 19:23:31.6, 37.°80S×73.°50W, h35km, mB5.2/7, Ms5.3/6, Ms7 5.1/6*

ISC 14 19:23:28.8±0.4, 37.°93S±0.°04×73.°64W±0.°07, h22km, n86, σ1°74/100, mb4.8/36, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	Puerto Saavedr	0.89	167	⇑iP	Pb	19 23 45.0	-0.4
PSCH				i S	Sn	19 23 59.2	+1.1
CCSP	San Pedro de C	1.17	21	eP	Pn	19 23 49.5	-0.3
CCSP				eS	Sn	19 24 07.6	+2.7
CCSP				AML	AML	19 24 19.0	
	comp=E,8μm,0.6s						
VLCH	Valdivia	1.90	171	⇓iP	Pn	19 23 58.2	-1.6
COCH	Cobquecura	1.92	21	⇓iP	Pn	19 23 59.9	-0.2
COCH				i S4	Sb	19 24 25.6	-1.0
LNCH	Linares	2.65	39	eP	Pn	19 24 12.3	+2.2
LNCH				i S	Sb	19 24 47.1	-0.3
PLCA	Paso Flores	3.68	140	Pn	Pn	19 24 24.9	+0.4
	baz=291,slow=16						
PLCA				Lg	Lg	19 25 25.7	
	baz=18,slow=20						
CFAA	Coronel Fontan	7.72	37	Pn	Pn	19 25 19.5	-0.3
	comp=E,0.5nm,0.3s,baz=11,slow=3.8,SNR=27						
CFAA				Sn	Sn	19 26 49.4	+2.8
	comp=E,0.2nm,0.3s,baz=131,slow=20,SNR=3.2						
CFAA				LR	LR	19 29 01.3	
	comp=E,324nm,19.1s,baz=225,slow=43						
TRQA	Tornquist	9.21	94	ePn	Pn	19 25 41.0	+0.7
TRQA				eSn	Sn	19 27 23.1	-0.1
LCO	Las Campanas	9.23	16	eSn	Sn	19 27 19.6	-4.5
USHA	Ushuaia	17.27	170	P	Pn	19 27 27.3	-1.1
	comp=E,0.1nm,0.3s,baz=315,slow=11,SNR=2.9						
EFI	East Falkland	17.58	146	ePn	P	19 27 34.5	+1.3
LPAZ	La Paz	22.10	14	P	P	19 28 24.9	+1.6
	comp=E,10nm,0.8s,baz=177,slow=8.3,SNR=19						
LPAZ	La Paz	22.10	14	P	P	19 28 22.2	-1.1
	comp=E,53nm,1.4s						
SIV	San Ignacio	24.51	30	P	P	19 28 46.9	+0.3
	comp=E,5.5nm,0.9s,baz=217,slow=11,SNR=7.1						
SIV				LR	LR	19 40 20.7	
	comp=E,1μm,20.0s,baz=197,slow=41						
SAML	Samuel	30.36	21	eP	P	19 29 38.5	-0.5
	comp=E,6.3nm,1.0s						
BDFB	Brasilia	31.69	52	P	P	19 29 51.0	+0.1
	comp=E,11nm,1.1s,baz=247,slow=4.6,SNR=4.9						
OTAV	Otavalo	38.24	352	eP	P	19 30 47.3	-0.5
	comp=E,11nm,1.1s						
PTGA	Pitinga	39.10	22	LR	LR	19 49 46.9	
	comp=E,934nm,21.2s,baz=186,slow=40						
PTGA	Pitinga	39.10	22	eP	P	19 30 53.3	-1.2
	comp=E,14nm,1.2s						
VNA3	Neumayer Olymp	46.25	156	P	P	19 31 56.5	+4.5
SDV	Santo Domingo	46.66	4	P	P	19 31 53.0	-3.0
	comp=E,9.0nm,1.0s						
VNA2	Neumayer--Watz	46.93	156	P	P	19 31 57.5	+0.2
SNAA	Sanae	48.47	156	P	P	19 32 07.6	-1.7
SNAA	Sanae	48.47	156	P	P	19 32 08.2	-1.1
	comp=E,3.4nm,1.0s,baz=249,slow=8.8,SNR=3.7						
SNAA	Sanae	48.47	156	eP	P	19 32 10.4	+1.1
	comp=E,60nm,1.4s						
QSPA	South Pole Qui	52.31	180	P	P	19 32 37.6	-0.8
	comp=E,10nm,1.0s,baz=142,slow=2.9,SNR=12						
QSPA	South Pole Qui	52.31	180	eP	P	19 32 37.7	-0.8
	comp=E,24nm,1.0s						
RKT	Rikitea	53.97	267	eLR	LR	19 48 26.3	
	comp=E,536nm,26.8s						
RKT	Rikitea	53.97	267	eT	T	20 30 23.9	
	comp=E,0.9nm,0.2s						
VNDA	Vanda	60.00	192	P	P	19 33 33.5	+0.5
	comp=E,0.9nm,0.8s,baz=120,slow=8.5,SNR=2.9						
TBI	Tubuai	65.21	259	eT	T	20 44 24.5	
	comp=E,4.0nm,0.2s						
MEH	Mehetia	67.11	265	eT	T	20 46 48.4	
	comp=E,13nm,0.2s						
TVO	Taravao	68.10	264	eT	T	20 47 56.5	
	comp=E,1.3nm,0.2s						
TIAR	Tiarei	68.30	264	eT	T	20 48 16.9	
	comp=E,4.5nm,0.3s						
PAE	Paea	68.42	264	eT	T	20 48 26.1	
	comp=E,0.8nm,0.2s						
PPT2	Papeete2	68.46	264	eLR	LR	19 55 10.2	
	comp=E,385nm,25.0s						
JCT	Junction City	72.32	336	eP	P	19 34 52.8	+0.2
	comp=E,10.0nm,0.9s						
TXAR	Lajitas Array	72.58	333	P	P	19 34 54.1	-0.2
	comp=E,1.7nm,0.7s,baz=156,slow=7.7,SNR=15						
ABTX	Abilene, Hawle	74.26	337	eP	P	19 35 03.5	-0.5
	comp=E,32nm,1.5s						
TUL1	Leonard	76.29	342	eP	P	19 35 14.9	-0.6
	comp=E,23nm,1.3s						
MSTX	Muleshoe	76.49	335	eP	P	19 35 16.2	-0.7
	comp=E,11nm,1.1s						
V34A	Guthrie	76.66	340	P	P	19 35 15.3	-2.3
LIC	Lamto	77.25	72	ePKP1	P	19 35 22.9	+1.4
	comp=E,50nm,1.3s						
TIC	Toumodi	77.53	71	ePKP1	P	19 35 24.2	+1.1
	comp=E,18nm,0.8s						
KIC	Kosan Boka	77.55	72	ePKP1	P	19 35 23.6	+0.4
	comp=E,52nm,1.1s						
DBIC	Dimbokro	77.66	71	P	P	19 35 23.9	0.0
	comp=E,6.6nm,0.9s,baz=197,slow=10.0,SNR=3.9						
TUC	Tucson	77.99	328	eP	P	19 35 25.7	+0.4
	comp=E,7.0nm,1.1s						
214A	Organ Pipe Nat	78.54	327	eP	P	19 35 28.4	0.0
	comp=E,15nm,1.1s						
ANMO	Albuquerque	78.65	333	eP	P	19 35 29.4	+0.3
	comp=E,11nm,1.2s						
BOSA	Boshof	79.39	118	P	P	19 35 33.6	+0.2
	comp=E,7.4nm,0.9s,baz=230,slow=5.2,SNR=7.0						
MVCO	Mesa Verde	81.41	333	eP	P	19 35 45.1	+1.1
	comp=E,16nm,1.3s						
SRU	San Rafael Swe	83.83	332	eP	P	19 35 56.7	+0.2
	comp=E,8.2nm,1.1s						
ECSD	EROS Data Cent	83.91	343	eP	P	19 35 56.6	+0.1
	comp=E,24nm,1.1s						
R11A	Troy Canyon, C	85.17	328	eP	P	19 36 04.3	+1.1
	comp=E,47nm,2.4s						
K22A	Casper	85.60	336	eP	P	19 36 05.3	0.0
	comp=E,29nm,1.5s						
RSSD	Black Hills	86.19	339	eP	P	19 36 06.8	-1.4
	comp=E,4.1nm,0.9s						
HWUT	Hardware Ranch	86.40	332	eP	P	19 36 09.8	+0.6
	comp=E,16nm,1.1s						
NVAR	Mina Array Bea	86.40	326	P	P	19 36 10.3	+0.9
	comp=E,1.1nm,0.8s,baz=149,slow=4.6,SNR=6.2						
PDAR	Pinedale Array	86.71	334	P	P	19 36 10.8	0.0
	comp=E,1.8nm,0.9s,baz=122,slow=7.2,SNR=7.3						
TORD	Torodi Ar. Bea	86.75	71	P	P	19 36 11.9	+0.5
	comp=E,4.5nm,0.9s,baz=236,slow=4.4,SNR=18						
ELK	Elko	87.06	330	eP	P	19 36 13.4	+0.8
	comp=E,4.7nm,0.9s						
MDND	Maddock	88.49	343	eP	P	19 36 19.5	+0.6
	comp=E,5.1nm,1.1s						
ULM	Lac du Bonnet	89.97	346	P	P	19 36 27.0	+1.2
	comp=E,3.2nm,0.9s,baz=70,slow=1.8,SNR=3.9						
BRTR	Keskin Array B	124.81	64	PKP	PKPdf		19 42 26.1	-0.6
	comp=E,0.6nm,0.8s,baz=172,slow=3.6,SNR=6.1						
GEYT	Alibeck	142.29	75	PKhKP	PKPpre		19 42 55.0	
	comp=E,1.6nm,0.8s,baz=270,slow=5.9,SNR=5.8						
KSM	Kuching	143.54	187	ePKPdf	PKPdf		19 43 04.0	+1.7
AKTO	Aktyubinsk	143.78	54	PKP	PKPbc		19 42 59.2	0.0
	comp=E,3.9nm,0.9s,baz=257,slow=4.2,SNR=14							
PSI	Prapat	144.38	167	PKP	PKPab		19 43 01.2	-0.8
	comp=E,9.5nm,0.8s,baz=358,slow=3.0,SNR=14							
ABKAR	Akbulak array	145.05	56	ePKPdf	PKPab		19 43 03.5	+0.2
HYB	Hyderabad	148.20	122	i PKP	PKPbc		19 43 12.0	-1.4
BRVK	Borovoye	150.90	47	ePKPbc	PKPbc		19 43 19.5	+0.5
BVAR	Borovoye Array	150.97	47	PKPbc	PKPbc		19 43 19.5	+0.4
	comp=E,3.1nm,0.8s,baz=290,slow=4.3,SNR=24							
KKAR	Karatay Array	152.40	68	ePKPbc	PKPbc		19 43 23.1	+0.3
MJAR	Matsushiro Arr	154.67	277	PKP	PKPdf		19 43 21.0	+1.6
	comp=E,2.5nm,1.1s,baz=150,slow=2.7,SNR=4.4							
MJAR				PKPab	PKPab		19 43 41.8	-1.0
	comp=E,0.9nm,0.8s,baz=141,slow=3.5,SNR=2.9							
AAK	Ala-Archa	155.32	69	ePKPab	PKPab		19 43 46.7	+1.0
TKM2	Tokmak 2	156.13	68	ePKPdf	PKPdf		19 43 21.2	-0.2
TKM2				ePKPab	PKPab		19 43 49.5	+0.3
KSH	Kashi	156.29	77	PKP	PKPdf		19 43 22.5	+0.9
KSH				sPKP			19 43 35.9	
KSH				PKS	PKSdf		19 46 56.8	+1.2
KSH				PP	PP		19 47 27.1	-1.0
KSH				SKS	SKSdf		19 50 26.5	0.0
KSH				SS	SS		20 07 14.1	-3.4
KSH				PPMZ				
	comp=E,130nm,5.3s							
KSH				LN				
	comp=E,30nm,4.6s							
KSH				LE				
	comp=E,23nm,5.6s							
KSH				LZ				
	comp=E,170nm,12.0s							
ZALV	Zalesovo Beam	158.21	36	PKP	PKPdf		19 43 21.2	-2.1
	comp=E,0.2nm,0.4s,baz=300,slow=2.8,SNR=2.4							
ZALV				PKPab	PKPab		19 43 58.0	+0.6
	comp=E,1.3nm,0.6s,baz=331,slow=5.3,SNR=6.3							
CMAR	Chiang Mai Arr	159.54	159	PKPab	PKPab		19 44 03.1	-0.9
	comp=E,1.2nm,1.0s,baz=212,slow=3.2,SNR=3.1							
MKAR	Makanchi Array	160.19	56	PKP	PKPdf		19 43 24.8	-1.1
	comp=E,0.3nm,0.8s,baz=358,slow=3.6,SNR=3.8							
MKAR				PKPab	PKPab		19 44 06.7	+0.3
	comp=E,2.2nm,0.9s,baz=291,slow=3.4,SNR=12							
CN2	Changchun	164.43	298	ePKP	PKPdf		19 43 32.0	+1.7
WMQ	Urumqi	164.72	61	ePKP	PKPdf		19 43 30.4	-0.2
WMQ				pPKP	pPKPdf		19 43 41.4	+3.3
WMQ				PKPab	PKPab		19 44 27.5	+1.1
WMQ				PKS	PKSdf		19 47 02.4	-1.1
WMQ				PP	PP		19 48 15.4	+2.2
WMQ				SKS	SKSdf		19 50 29.4	-4.1
WMQ				SKKS	SKKSac		19 54 57.3	-1.9
WMQ				SS	SS		20 08 42.4	-3.0

KDU S **Sn** **19 37 54.2 +2.7**
baz=6.1,SNR=7.6
BATI Baumata 6.45 243 Pn **Pn** **19 36 51.3 +2.1**
39nm,0.3s,baz=70,slow=7.1,SNR=100
BATI Sn **Sn** **19 38 00.0 -1.4**
16nm,0.3s,baz=100,slow=3.5,SNR=12
SWI Sorong 6.67 15 P **Pn** **19 36 52.5 +0.2**
baz=6.8,SNR=10
KNRA Kununurra 8.31 185 P **Pn** **19 37 15.9 +1.3**
baz=8.3,SNR=48
KNRA S **Sn** **19 38 43.7 -3.1**
baz=8.3,SNR=16
WSI Waingapu 9.41 255 S **Sn** **19 39 12.6 -1.2**
baz=9.3,SNR=4.3
WRA Warramunga Arr 13.36 160 Pn **Pn** **19 38 20.9 -2.4**
1.5nm,0.3s,baz=343,slow=14,SNR=65
WRA Sn Sn 19 40 42.2 -7.9
3.0nm,0.3s,baz=334,slow=23,SNR=9.2
COEN Coen 14.93 117 P **Pn** **19 38 44.0 +0.2**
baz=15,SNR=12
QIS Mount Isa 16.36 144 P **P** **19 39 02.4 -0.9**
baz=16,SNR=5.7
ASAR Alice Springs 16.76 166 P **Pn** **19 39 06.2 -0.5**
0.5nm,0.3s,baz=343,slow=13,SNR=37
ASAR S Sn 19 42 02.7 -10
0.7nm,0.3s,baz=345,slow=25,SNR=10
WRKA Warakurna 17.63 184 P **P** **19 39 16.6 -0.7**
baz=18,SNR=22
WRKA S Sn 19 42 20.7 -13
baz=18,SNR=3.9
QLP Quilpie 23.70 146 P **P** **19 40 22.5 +0.9**
baz=24,SNR=4.4
CMSA Cobar Meteorol 28.41 150 P **P** **19 41 03.9 -0.1**
baz=28,SNR=6.0
DZM Mont Dzumac 38.46 116 LR LR 19 58 23.5
comp=Z,257nm,20.6s,baz=181,slow=37
MKAR Makanchi Array 68.26 327 P P 19 46 05.0 -4.3
0.4nm,0.4s,baz=120,slow=7.6,SNR=6.3
KURBB Kurchatov Arra 72.56 329 P P 19 46 30.8 -4.6
0.3nm,0.3s,baz=124,slow=5.0,SNR=3.6

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*ISCJB **14** 19:40:23.9±0.7,24°.17S±0°.07×67°.14W±0°.08, h181km, mb3.6/2, Error ellipse: s-maj=12.5km s-min=6.9km az=138.0*
*IDC **14** 19:40:23.5±2.2,24°.19S×66°.94W, h161km±21km, mb3.7/2, mb1 3.6/5, mb1mx3.2/27, mbtmp4.0/5, Error ellipse: s-maj=37.4km s-min=21.5km az=107.0*
*SJA **14** 19:40:23.4±0.5,24°.16S×67°.14W, h192km±7km, ML4.4, MW5.1*

ISC 14 19:40:23.4±0.9, 24°.22S±0°.07×67°.0W±0°.2, h181km, n13, σ2s45/10, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.41**	**112**	*eP*		19 40 58.3	
SLA				*eS*		19 41 23.7	
AZAP	**Zapla**	**1.71**	**91**	*eP*		19 41 01.2	
ASTB	**Santa Barbara**	**2.26**	**84**	*eP*		19 41 07.2	
LVC	**Limon Verde**	**2.40**	**311**	*eP*		19 41 04.8	
LVC				*eS*		19 41 35.9	
LVC				AML		19 41 37.2	
	comp=Z,1μm,0.3s						
ALOL	**LOMAS DE OLMED**	**2.74**	**83**	*eP*		19 41 12.4	
CFAA	**Coronel Fontan**	**7.44**	**188**	P	**Pn**	**19 42 09.9**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=354,slow=9.2,SNR=2.6						
CFAA				S	**Sn**	**19 43 28.9**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=270,slow=19,SNR=3.6						
LPAZ	**La Paz**	**7.96**	**352**	P	**Pn**	**19 42 17.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=156,slow=7.1,SNR=18						
LPAZ				S	**Sn**	**19 43 44.2**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=107,slow=18,SNR=4.2						
SIV	**San Ignacio**	**9.90**	**35**	P	**Pn**	**19 42 40.5**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=227,slow=6.3,SNR=5.1						
BDFB	**Brasilia**	**19.77**	**68**	P	**Pn**	**19 44 41.6**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=251,slow=11,SNR=8.4						
TORD	**Torodi Ar. Bea**	**76.65**	**69**	P	**P**	**19 51 56.2**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=265,slow=5.6,SNR=13						
BOSA	**Boshof**	**80.63**	**117**	P	**P**	**19 52 18.8**	**+2.3**
	comp=Z,2.3nm,0.8s,baz=298,slow=5.1,SNR=5.4						
WRA	**Warramunga Arr**	**131.43**	**207**	PKP	**PKPdf**	**19 59 16.9**	**+1.8**
	comp=Z,0.4nm,0.8s,baz=146,slow=1.5,SNR=4.6						
MKAR	**Makanchi Array**	**146.69**	**40**	PKPbc	**PKPab**	**19 59 46.0**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=270,slow=2.4,SNR=7.5						

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*ISCJB **14** 19:44:50.1±0.5, 8°.95S±0°.07×120°.46E±0°.04, h150km, Error ellipse: s-maj=9.8km s-min=4.8km az=10.3*
*DJA **14** 19:44:50.8±0.5, 9°.S±6°.×12°.0E±°, h134km±8km, M3.9/10, mb4.5/1, mB5.2/1, MLv3.6/10, Mw(mB)4.5/1*
*AUST **14** 19:45:00.4, 10°.00S×120°.98E, h15km*

ISC 14 19:44:50.2±0.9, 9°.05S±0°.08×120°.51E±0°.05, h150km, n20, σ1s97/18, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**0.65**	**199**	P	**Pn**	**19 45 10.8**	**-1.6**
BASI	**Baing, Sumba**	**1.16**	**177**	P	**Pn**	**19 45 15.7**	**-0.8**
EDFI	**Ende, Flores**	**1.21**	**76**	P	**Pn**	**19 45 16.6**	**-0.4**
WBSI	**Waikabubak, Su**	**1.25**	**242**	P	**Pn**	**19 45 17.6**	**+0.3**
MMRI	**Maumere**	**1.76**	**77**	P	**Pn**	**19 45 22.6**	**0.0**
BATI	**Baumata**	**3.32**	**111**	P	Pn	19 45 45.0	+3.3
SOEI	**Soe**	**3.78**	**101**	P	**Pn**	**19 45 50.7**	**+3.0**
SOEI				S	**Sn**	**19 46 30.7**	**-1.6**
BNSI	**Bone**	**4.64**	**355**	P	**Pn**	**19 45 57.7**	**-1.2**
IGBI	**Denpasar**	**5.30**	**272**	P	**Pn**	**19 46 10.3**	**+2.6**
IGBI				S	**Sn**	**19 47 10.4**	**+2.3**
SRBI	**Singaraja**	**5.32**	**280**	S	**Sn**	**19 47 08.0**	**-0.6**
JAGI	**Jajag, Banyuwa**	**6.31**	**275**	S	**Sn**	**19 47 30.5**	**-1.7**
GMJI	**Gumukmas**	**7.03**	**276**	S	**Sn**	**19 47 47.0**	**-2.4**
FITZ	**Fitzroy Crossi**	**10.29**	**152**	S	Sn	19 49 01.5	-6.5
	baz=9.3,SNR=4.1						
KNRA	**Kununurra**	**10.41**	**130**	P	**Pn**	**19 47 17.9**	**+2.2**
	baz=9.5,SNR=5.2						
KNRA				S	Sn	19 49 06.3	-4.6
	baz=9.5,SNR=6.6						
MTN	**Manton Dam**	**11.09**	**111**	P	**Pn**	**19 47 27.4**	**+2.7**
	baz=10,SNR=5.8						
MTN				S	Sn	19 49 21.4	-6.1
	baz=10,SNR=6.5						
KDU	**Kakadu**	**12.29**	**108**	P	**P**	**19 47 45.0**	**-1.4**
	baz=12,SNR=4.8						
WRKA	**Warakurna**	**17.55**	**156**	P	Pn	19 48 52.8	+7.1
	baz=17,SNR=7.1						
MEEK	**Meekatharra**	**17.59**	**186**	P	Pn	19 48 54.7	+8.6
	baz=17,SNR=6.0						
MEEK				S	**S**	**19 51 58.1**	**-2.2**
	baz=17,SNR=9.3						
MORW	**Morawa**	**20.35**	**191**	P	Pn	19 49 30.6	+12
	baz=20,SNR=3.3						
MTSU	**Mount Surprise**	**24.82**	**114**	S	**S**	**19 54 09.2**	**-1.3**
	baz=24,SNR=8.2						

IDC 14 19:46:10.8±1.2, 2°.73N×125°.41E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/44, mbtmp3.4/5, Error ellipse: s-maj=141.0km s-min=19.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.18**	**159**	P	P	19 51 29.2	+0.1
	0.6nm,0.5s,baz=336,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**27.51**	**163**	P	P	19 51 59.5	+0.2
	0.2nm,0.5s,baz=348,slow=7.5,SNR=4.4						
STKA	**Stephens Creek**	**37.70**	**157**	P	P	19 53 28.2	+0.1
	0.6nm,0.4s,baz=336,slow=10,SNR=4.7						
SONM	**Songino Array**	**47.83**	**343**	P	P	19 54 48.9	-1.5
	0.2nm,0.6s,baz=165,slow=6.3,SNR=2.8						
MKAR	**Makanchi Array**	**57.63**	**326**	P	P	19 56 03.5	+0.7
	0.3nm,0.6s,baz=134,slow=6.2,SNR=3.8						

GUC 14 19:46:34.0±0.6, 36°.27S×73°.19W, h15km±9km, ML3.4, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.35**	**66**	⇑*iP*		Pg 19 46 41.3	+0.1
COCH				*i* S		Sg 19 46 46.6	+0.5
COCH				IAML		19 46 46.8	
	comp=N,5μm,0.4s						
CCSP	**San Pedro de C**	**0.57**	**174**	⇑*iP*		Pg 19 46 44.8	-0.5
CCSP				*i* S		Sg 19 46 53.0	0.0
CCSP				IAML		19 46 53.6	
	comp=E,6μm,0.5s						

LNCH Linares 1.35 72 ⇑*iP* Pn 19 46 57.2 -1.1
LNCH *eS* Sn 19 47 15.3 -0.8
TALC Talca 1.54 56 ⇑*iP* Pn 19 47 00.1 -0.8
TALC *i* S Sn 19 47 19.6 -0.9
NICH Los Niches 2.04 52 ⇑*iP* Pn 19 47 08.5 +0.7

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*IDC **14** 19:46:56.6±1.9, 37°.74S×73°.55W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.8/19, mbtmp3.6/4, Error ellipse: s-maj=64.6km s-min=42.3km az=33.0*

ISC 14 19:46:59.4±1.8, 37°.7S±0°.4×73°.5W±0°.3, h18km, n7, σ0s95/7, mb3.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**21.89**	**14**	P	**P**	**19 51 52.1**	**0.0**
	1.3nm,0.8s,baz=170,slow=9.4,SNR=4.0						
TXAR	**Lajitas Array**	**72.45**	**333**	P	**P**	**19 58 24.7**	**-0.1**
	0.3nm,0.6s,baz=145,slow=7.6,SNR=3.9						
NVAR	**Mina Array Bea**	**86.30**	**326**	P	**P**	**19 59 39.8**	**-0.4**
	0.2nm,0.4s,baz=141,slow=6.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**86.59**	**71**	P	**P**	**19 59 41.3**	**-0.5**
	0.6nm,0.9s,baz=237,slow=6.7,SNR=3.7						
BVAR	**Borovoye Array**	**150.77**	**47**	PKPbc	**PKPbc**	**20 06 51.3**	**+1.4**
	0.7nm,0.6s,baz=291,slow=3.8,SNR=7.9						
AAK	**Ala-Archa**	**155.16**	**69**	PKPab	**PKPab**	**20 07 15.5**	**-0.7**
	0.6nm,0.6s,baz=194,slow=4.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**157.99**	**36**	PKPab	**PKPab**	**20 07 28.6**	**+0.9**
	0.5nm,0.4s,baz=293,slow=5.6,SNR=2.6						

GUC 14 19:53:21.9±0.7, 34°.38S×72°.02W, h38km±2km, ML3.9, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.66**	**50**	⇓*iP*	Pn	19 53 34.7	-0.2
NICH	**Los Niches**	**0.90**	**134**	⇓*iP*	Pn	19 53 38.5	+0.4
NICH				*i* S	Sn	19 53 51.1	+1.2
TALC	**Talca**	**1.07**	**163**	⇑*iP*	Pn	19 53 40.9	+0.6
TALC				*i* S	Sn	19 53 55.0	+1.2
TACH	**Talagante**	**1.16**	**52**	*iP*	Pn	19 53 42.3	+0.7
CACH	**El Canelo**	**1.21**	**78**	*eP*1	Pn	19 53 44.1	+1.7
CHCH	**Chadas Angostu**	**1.22**	**69**	*eP*1	Pn	19 53 43.5	+1.0
IHA	**Instituto Hidr**	**1.39**	**13**	*eP*1	Pn	19 53 46.1	+1.4
ANTU	**Antumapu**	**1.41**	**55**	*eP*1	Pn	19 53 46.6	+1.5
ANTU				*i* S	Sn	19 54 05.0	+2.6
ANTU				IAML		19 54 10.1	
	comp=E,3μm,0.6s						
STL	**Santa Lucia**	**1.48**	**51**	*eP*9	Pn	19 53 46.9	+0.8
STL				*eS*	Sn	19 54 05.8	+1.5
LNCH	**Linares**	**1.50**	**167**	*eP*1	Pn	19 53 48.0	+1.7
LNCH				*i* S	Sn	19 54 07.4	+2.7
LACH	**Col Las Americ**	**1.55**	**54**	*eP*1	Pn	19 53 48.1	+1.1
LACH				*eS*	Sn	19 54 08.4	+2.6
SJCH	**San Jose de Ma**	**1.57**	**62**	*eP*	Pn	19 53 48.8	+1.4
SJCH				*i* S	Sn	19 54 08.7	+2.2
CLCH	**Cerro Calan**	**1.58**	**52**	⇑*iP*	Pn	19 53 49.1	+1.7
CLCH				*i* S	Sn	19 54 09.3	+2.6
CLCH				IAML		19 54 16.6	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**1.66**	**42**	⇑*iP*	Pn	19 53 50.4	+1.8
PEL				*eS*	Sn	19 54 11.1	+2.4
PEL				IAML		19 54 18.4	
	comp=N,6μm,0.6s						
FCH	**Farellones**	**1.78**	**54**	*eP*9	Pn	19 53 47.5	-3.1
FCH				*i* S	Sn	19 54 10.3	-1.9
FCH				IAML		19 54 16.7	
	comp=N,1μm,0.8s						
COCH	**Cobquecura**	**1.86**	**199**	*eP*	Pn	19 53 52.0	+0.8
COCH				*i* S	Sn	19 54 15.6	+2.2
CHNG	**Los Chungos**	**2.53**	**10**	⇓*iP*	Pn	19 54 01.4	+1.0
CHNG				*eS*	Sn	19 54 31.5	+1.6

IDC 14 19:57:28.5±8.4, 19°.19S×168°.85E, h149km±54km, mb3.2/3, mb1 3.4/4, mb1mx3.1/36, mbtmp3.6/4, Error ellipse: s-maj=128.0km s-min=70.4km az=120.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.65**	**218**	P	Pn	19 58 24.2	0.0
	1.1nm,0.3s,baz=75,slow=20,SNR=6.5						
DZM				S	Sn	19 59 07.9	+0.3
	3.2nm,0.3s,baz=308,slow=20,SNR=8.4						
STKA	**Stephens Creek**	**27.57**	**237**	P	P	20 03 02.1	+0.4
	0.6nm,0.7s,baz=79,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**32.50**	**263**	P	P	20 03 44.7	-0.6
	0.3nm,0.7s,baz=98,slow=8.8,SNR=4.6						
ASAR	**Alice Springs**	**32.79**	**256**	P	P	20 03 47.9	+0.1
	1.1nm,0.5s,baz=84,slow=8.9,SNR=27						

SJA 14 19:58:05.7±1.0, 33°.13S×69°.00W, h23km±2km, ML3.1, MW4.2, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAGR	**Agrelo**	**0.15**	**73**	*eP*	Pb	19 58 11.5	+0.7
ARCO	**CERRO ARCO**	**0.29**	**11**	*eP*	Pb	19 58 12.9	+0.2
ARCO				*eS*	Sb	19 58 18.2	+0.8
ARCO				AML	AML	19 58 19.5	
	comp=Z,3μm,0.2s						
ASAL	**Salagasta**	**0.55**	**14**	*eP*	Pb	19 58 17.3	+0.4
AUSP	**Uspallata**	**0.96**	**340**	*eP*	Pn	19 58 24.3	+0.2
RTLS	**Leoncito**	**1.35**	**349**	*eP*	Pb	19 58 31.7	+1.0
RTLS				*eS*	Sb	19 58 51.7	+4.0
CFAA	**Coronel Fontan**	**1.65**	**23**	*eP*	Pb	19 58 34.9	-0.6
ACAN	**Cantantal**	**1.75**	**61**	*eP*	Pb	19 58 36.9	-0.3
ACAN				*eS*	Sb	19 58 59.6	+0.9
RTLL	**Cerro Villicun**	**1.85**	**14**	*eP*	Pb	19 58 38.8	-0.1
RTLL				*eS*	Sb	19 59 02.3	+0.7
AMOG	**MOGNA**	**2.22**	**11**	*eP*	Pb	19 58 43.6	-1.8
AMOG				*eS*4	Sb	19 59 14.2	+1.6
AVFE	**Valle Fertil**	**2.79**	**28**	*eP*	Pn	19 58 51.2	+2.2
AVFE				AML	AML	19 59 32.0	
	comp=Z,57nm,0.2s						

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*IDC **14** 19:58:20.5±1.4, 35°.93N×141°.24E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/53, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=33.9km s-min=17.6km az=39.0*
*ISCJB **14** 19:58:22.9±0.9, 35°.78N±0°.05×141°.23E±0°.10, h31km, mb3.6/5, Error ellipse: s-maj=11.4km s-min=7.0km az=171.7*
*JMA **14** 19:58:23.8±0.2, 35°.80N×141°.15E, h34km±1km*

ISC 14 19:58:24.5±0.9, 35°.76N±0°.05×141°.13E±0°.07, h31km, n20, σ1s55/18, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.23**	**255**	P	**Pn**	**19 58 31.0**	**-0.7**
CHOJ				*eS*	**Sn**	**19 58 36.0**	**-0.3**
JYT	**Yasato**	**0.89**	**302**	*eS*	**Sn**	**19 58 51.5**	**-1.1**
JHO	**Hitachi**	**0.96**	**332**	P	**Pn**	**19 58 40.7**	**-1.1**
BSO2	**Boso 2**	**1.05**	**197**	*eS*	**Sn**	**19 58 55.9**	**-0.4**
BSO3	**Boso 3**	**1.08**	**208**	P	**Pb**	**19 58 44.0**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.36**	**349**	P	**Pn**	**19 58 46.8**	**-0.6**
MJAR	**Matsushiro Arr**	**2.48**	**289**	Pn	**Pn**	**19 59 03.7**	**+0.9**
	2.6nm,0.3s,baz=99,slow=9.3,SNR=36						
MJAR				Pg	**Pb**	**19 59 07.2**	**-1.3**
	2.6nm,0.3s,baz=99,slow=12,SNR=36						
MJAR				Lg	Lg	19 59 38.4	
	2.0nm,0.3s,baz=76,slow=26,SNR=4.9						
MAT	**Matsushiro**	**2.49**	**289**	P	**Pb**	**19 59 07.6**	**-0.9**
MAT				S	**Sb**	**19 59 38.7**	**0.0**
JCJ	**Chichijima**	**8.69**	**174**	Pn	**Pn**	**20 00 28.4**	**+0.3**
	4.7nm,0.3s,baz=18,slow=20,SNR=3.3						
JCJ				Sn	**Sn**	**20 02 00.2**	**-4.7**
	2.5nm,0.3s,baz=131,slow=19,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**27.72**	**118**	T	T	20 33 25.2	
	baz=310						
H11N1	**WAKE ISLAND Hy**	**27.73**	**118**	T	T	20 33 14.3	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**27.74**	**118**	T	T	20 33 22.1	
	baz=310						
SONM	**Songino Array**	**28.32**	**306**	P	**P**	**20 04 16.9**	**+1.5**
	0.3nm,0.8s,baz=121,slow=10,SNR=2.7						
H11S1	**WAKE ISLAND Hy**	**28.39**	**121**	T	T	20 34 07.8	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.39**	**121**	T	T	20 34 07.8	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.41**	**121**	T	T	20 34 09.8	
	baz=316						
ZALV	**Zalesovo Beam**	**42.61**	**313**	P	**P**	**20 06 17.2**	**-0.3**
	0.3nm,0.3s,baz=72,slow=9.3,SNR=2.9						
MKAR	**Makanchi Array**	**44.61**	**303**	P	**P**	**20 06 33.8**	**0.0**
	1.1nm,0.7s,baz=86,slow=7.4,SNR=12						
KURBB	**Kurchatov Arra**	**46.61**	**309**	P	**P**	**20 06 49.3**	**-0.2**
	0.7nm,0.4s,baz=85,slow=7.9,SNR=5.0						
WRA	**Warramunga Arr**	**55.77**	**188**	P	**P**	**20 08 00.7**	**+2.2**
	0.3nm,0.5s,baz=3.5,slow=7.4,SNR=6.3						

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*GUC **14** 20:04:51.1±0.6, 38°.52S×74°.28W, h32km±4km, ML5.9*
*GCMT **14** 20:04:51.1±0.2, 38°.68S×73°.85W, h13km, MW5.4/103, Moment Tensor Solution. s72,c104; s103,c194; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.16±.04; $M_{\theta\theta}$0.35±.02; $M_{\phi\phi}$0.81±.03; $M_{r\theta}$-0.21±.06; $M_{\theta\phi}$0.53±.02; $M_{\phi r}$-1.37±.10; Best double couple: $M_0$1.80500×10^{17} NP1:ϕ_s15.00000°, δ71.00000°, λ-102.00000°. NP2:ϕ_s228.00000°, δ23.00000°, λ-60.00000°. Principal axes: T 1.7470, Plg25.0000°, Azm115.0000°; N 0.1160, Plg11.0000°, Azm19.0000°; P -1.8630, Plg63.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **14** 20:04:52.3±0.3, 38°.53S×73°.77W, h0km, mb5.0/18, mb1 5.0/21, mb1mx5.0/23, mbtmp4.9/21, ML4.3/2, MS5.1/15, Ms1 5.1/15, ms1mx4.9/27 Error ellipse: s-maj=14.8km s-min=11.4km az=77.0*
*NEIC **14** 20:04:54.5±0.1, 38°.53S×73°.53W, h13km, mb5.5/124, MS5.4/117, MW5.6, ML5.9(GUC), Error ellipse: s-maj=5.7km s-min=3.4km az=71.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^{17}Nm; M_{rr}1.31; $M_{\theta\theta}$1.21; $M_{\phi\phi}$-2.51; $M_{r\theta}$1.08; $M_{\theta\phi}$1.54; $M_{\phi r}$-0.72; Best double couple: $M_0$3.00000×10^{17} NP1:ϕ_s20.00000°, δ52.00000°, λ158.00000°. NP2:ϕ_s124.00000°, δ73.00000°, λ40.00000°. Principal axes: T 2.4200, Plg39.0000°, Azm349.0000°; N 0.9000, Plg47.0000°, Azm143.0000°; P -3.3100, Plg13.0000°, Azm248.0000°;*
NEIC Felt [V] at Queule and Tolten; [IV] at Carahue, Puerto Saavedra and Temuco; [II] at Corral, Lanco and Valdivia. Also felt at Angol, Chillan, Chimbarongo, Villarrica, Vina del Mar and Yumbel.
*ISCJB **14** 20:04:54.2±0.1, 38°.47S±0°.02×73°.45W±0°.05, h18km, mb5.4/142, MS5.4/139 Error ellipse: s-maj=5.7km s-min=3.2km az=162.5*
*BJI **14** 20:04:57.0, 38°.80S×72°.57W, h35km, mB5.5/36, Ms5.8/32, Ms7 5.5/34*
*MOS **14** 20:04:57.2±1.0, 38°.47S×73°.76W, h33km, mb5.7/42, MS5.4/17, Error ellipse: s-maj=17.9km s-min=7.8km az=105.3*

ISC 14 20:04:56.1±0.2, 38°.53S±0°.03×73°.55W±0°.06, h18km, n921, σ1s08/794, mb5.5/142, MS5.4/140, 209C-214D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.29**	**170**	⇑*iP*	Pn	20 05 17.3	-1.9
VLCH				*i* S	**Sn**	**20 05 36.4**	**+0.4**
VLCH	**Valdivia**	**1.29**	**170**	⇑*iP*	Pn	20 05 17.3	-1.9
VLCH				*i* S	**Sn**	**20 05 36.4**	**+0.4**
CCSP	**San Pedro de C**	**1.72**	**12**	*eP*1	Pn	20 05 22.7	-2.4
CCSP	**San Pedro de C**	**1.72**	**12**	*eP*	Pn	20 05 22.7	-2.4
OSCH	**Osorno**	**2.06**	**171**	*eP*1	Pn	20 05 27.2	-2.6
OSCH				AML	AML	20 06 15.3	
	comp=E,95μm,0.7s						
OSCH	**Osorno**	**2.06**	**171**	*eP*	Pn	20 05 27.2	-2.6
LNCH	**Linares**	**3.10**	**31**	⇓*iP*	**Pn**	**20 05 43.2**	**-0.9**
LNCH				AML	AML	20 06 52.6	
	comp=N,16μm,0.6s						
LNCH	**Linares**	**3.10**	**31**	⇓*iP*	**Pn**	**20 05 43.2**	**-0.9**
PLCA	**Paso Flores**	**3.19**	**134**	Pn	**Pn**	**20 05 46.2**	**+0.8**
	baz=293,slow=12						
PLCA				Lg	Lg	20 06 39.6	
	baz=228,slow=15						
HOCH	**HornopirØn**	**3.48**	**166**	*eP*	Pn	20 05 47.2	-2.1
HOCH				*eS*	**Sn**	**20 06 29.2**	**-0.8**
HOCH	**HornopirØn**	**3.48**	**166**	*eP*	Pn	20 05 47.2	-2.1
HOCH				*eS*	**Sn**	**20 06 29.2**	**-0.8**
TALC	**Talca**	**3.48**	**27**	*eP*	Pn	20 05 48.1	-1.2
TALC				*i* S4		20 06 42.6	
TALC	**Talca**	**3.48**	**27**	*eP*	Pn	20 05 48.1	-1.2
TALC				S	**Sb**	**20 06 42.6**	**+3.4**
NICH	**Los Niches**	**3.98**	**29**	*eP*	Pn	20 05 55.2	-1.1
NICH				*eS*	**Sn**	**20 06 44.5**	**+2.1**
NICH	**Los Niches**	**3.98**	**29**	*eP*	Pn	20 05 55.2	-1.1
NICH				*eS*	**Sn**	**20 06 44.5**	**+2.1**
CFAA	**Coronel Fontan**	**8.17**	**34**	Pn	Pn	20 06 52.4	-1.3
	comp=N,2.1nm,0.3s,baz=204,slow=12,SNR=40						
CFAA				Sn	**Sn**	**20 08 24.1**	**-1.5**
	comp=N,1.1nm,0.3s,baz=207,slow=16,SNR=3.0						
CFAA				LR	LR	20 10 29.8	
	comp=N,2μm,19.9s,baz=224,slow=41						
TRQA	**Tornquist**	**9.11**	**91**	*ePn*	**Pn**	**20 07 06.9**	**+0.3**
LCO	**Las Campanas**	**9.79**	**15**	*ePn*	Pn	20 07 11.8	-4.4
LVC	**Limon Verde**	**16.36**	**15**	*ePn*	Pn	20 08 42.1	-3.0
	comp=N,41nm,0.8s						
USHA	**Ushuaia**	**16.67**	**170**	Pn	**Pn**	**20 08 49.2**	**+0.7**
	comp=N,1.6nm,0.3s,baz=313,slow=8.8,SNR=7.9						
USHA				LR	LR	20 14 53.2	
	comp=N,8μm,20.1s,baz=326,slow=36						
EFI	**East Falkland**	**17.04**	**145**	Pn	**P**	**20 08 56.8**	**+1.9**
	comp=N,895nm,0.8s,SNR=7.4						
EFI	**East Falkland**	**17.04**	**145**	P	**Pn**	**20 08 51.9**	**-1.3**
EFI				pmax	pmax		
	comp=Z,248nm,1.2s						
EFI	**East Falkland**	**17.04**	**145**	Pn	**Pn**	**20 08 51.9**	**-1.3**
	comp=Z,248nm,1.2s						
LPAZ	**La Paz**	**22.67**	**14**	P	**P**	**20 09 57.7**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,45nm,0.9s						
LPAZ	**La Paz**	**22.67**	**14**	P	**P**	**20 09 57.7**	**+0.6**
	comp=Z,29nm,1.1s,baz=140,slow=6.8,SNR=27						
LPAZ	**La Paz**	**22.67**	**14**	P	**P**	**20 09 57.7**	**+0.6**
	comp=Z,45nm,0.9s						
SIV

comp=Z,123nm,1.8s
SNAA Sanae 47.89 156 P **P 20 13 33.0 +0.2**
SNAA Sanae 47.89 156 *e*P **P 20 13 32.5 -0.2**
SNAA Sanae 47.89 156 P **P 20 13 32.9 +0.2**
SNAA pmax pmax
comp=Z,8.0nm,1.6s
SNAA Sanae 47.89 156 P **P 20 13 32.9 +0.2**
comp=Z,55nm,1.2s,baz=261,slow=8.7,SNR=15
SNAA LR LR 20 34 50.6
comp=Z,424nm,18.1s,baz=292,slow=38
SNAA Sanae 47.89 156 P **P 20 13 32.9 +0.2**
comp=Z,7.6nm,1.6s
JTS JuntasAbangare 49.73 345*d* *i*P **P 20 13 47.2 -0.1**
JTS pmax pmax
comp=Z,69nm,1.8s
GRGR Grenville 51.61 15 PFAKE 20 14 10.0 +8.5
GRGR LR LR
comp=Z,2µm,20.0s
QSPA South Pole Qui 51.71 180 *e*P **P 20 14 01.4 -0.5**
comp=Z,166nm,1.5s
QSPA LR LR
comp=Z,2µm,20.0s
NVL N'lazarevskaya 52.68 155⇑ *i*P **P 20 14 11.2 +2.4**
NVL *e*S **S 20 21 33.6 -1.6**
BBGH Gun Hill 53.05 17 PFAKE 20 14 20.0 +7.9
BBGH LR LR
comp=Z,5µm,22.0s
RKT Rikitea 54.02 268 *e*S **S 20 21 58.3 +3.7**
comp=Z,777nm,24.8s
RKT *e*LR LR 20 30 03.1
comp=Z,3µm,26.2s,baz=122
RKT Rikitea 54.02 268 *e*T T 21 11 57.6
comp=Z,12nm,0.2s
FDF Fort de France 54.24 15 PFAKE 20 14 30.0 +9.1
FDF LR LR
comp=Z,2µm,19.0s
CRPR Cabo Rojo, PR 56.56 7 *e*P P 20 14 34.8 -2.7
MTDJ Mount Denham 56.58 355 PFAKE 20 14 50.0 +12
MTDJ LR LR
comp=Z,1µm,20.0s
CELP Cerrillos 56.69 8 *e*P P 20 14 34.3 -4.1
SDDR Presa de Saban 57.25 3 PFAKE 20 14 50.0 +7.5
SDDR LR LR
comp=Z,2µm,20.0s
GTBY Guantanamo Bay 58.17 358 *e*P P 20 14 47.1 -1.8
comp=Z,22nm,0.5s
SBA Scott Base 58.40 192 *e*P **P 20 14 50.1 +0.3**
SBA pmax pmax
comp=Z,43nm,1.1s
SBA Scott Base 58.40 192 *e*P **P 20 14 50.1 +0.3**
comp=Z,43nm,1.1s
VNDA Vanda 59.42 192 *e*P **P 20 14 56.6 -0.3**
VNDA pmax pmax
comp=Z,46nm,1.2s
VNDA Vanda 59.42 192 P **P 20 14 56.8 -0.2**
comp=Z,15nm,1.0s,baz=135,slow=4.9,SNR=44
VNDA Vanda 59.42 192 *e*P **P 20 14 56.6 -0.3**
comp=Z,46nm,1.2s
GRTK Grand Turk 59.77 3 PFAKE 20 15 10.0 +10
GRTK LR LR
comp=Z,2µm,20.0s
TEIG Tepich 60.06 344 *e*P **P 20 15 00.8 -1.2**
comp=Z,31nm,0.9s
ASCN Ascension 61.12 76 PFAKE 20 15 20.0 +11
ASCN LR LR
comp=Z,2µm,20.0s
SHEL Horse Pasture 62.96 89 PFAKE 20 15 30.0 +8.1
SHEL LR LR
comp=Z,2µm,20.0s
TBI Tubuai 65.17 259 *e*T T 21 25 57.4
comp=Z,12nm,0.3s
MEH Mehetia 67.13 265 *e*T T 21 28 22.5
comp=Z,114nm,0.2s
TVO Taravao 68.11 264 *e*T T 21 29 35.5
comp=Z,5.2nm,0.2s
TIAR Tiarei 68.31 264 *e*T T 21 29 51.1
comp=Z,42nm,0.2s
PAE Paea 68.44 264 *e*T T 21 29 59.7
comp=Z,3.2nm,0.3s
PPT2 Papeete2 68.47 264 *e*S **S 20 25 01.0 +2.2**
comp=Z,813nm,23.5s
PPT2 Papeete2 68.47 264 *e*LR LR 20 36 36.8
comp=Z,1µm,26.0s,baz=118
PPT2 Papeete2 68.47 264 *e*T T 21 30 00.7
comp=Z,7.1nm,0.3s
PPT Papeete 68.49 264 P **P 20 15 56.3 -1.1**
comp=Z,39nm,0.8s,baz=181,slow=5.8,SNR=3.2
PPT LR LR 20 38 28.4
comp=Z,1µm,18.7s,baz=146,slow=30
035Z Hargill 68.62 336⇑P **P 20 15 57.7 -0.1**
baz=69
035A Encino 69.07 337⇑P **P 20 16 00.7 0.0**
baz=69,SNR=8.1
034A Hebbronville 69.37 336⇑P **P 20 16 02.4 -0.1**
baz=70,SNR=16
KVTX Kingsville 69.57 337 PFAKE 20 16 20.0 +16
KVTX LR LR
comp=Z,1µm,19.0s
934A Benavides 69.82 336⇓P **P 20 16 05.3 0.0**
baz=70,SNR=6.2
933A Laredo 70.07 336⇓P **P 20 16 06.4 -0.5**
baz=70,SNR=6.2
738A Farr-Stevens R 70.14 339⇑P **P 20 16 08.4 +1.2**
baz=70
TIGA Tifton 70.24 351⇑P **P 20 16 10.3 +2.4**
baz=71
835A Beeville 70.25 337⇓P **P 20 16 08.6 +0.7**
baz=71
834A Tilden 70.32 337⇑P **P 20 16 08.3 -0.1**
baz=71,SNR=11
BRAL Brewton 70.33 348 PFAKE 20 16 20.0 +12
BRAL LR LR
comp=Z,1µm,19.0s
833A Chaparral WMA, 70.77 336⇑P **P 20 16 10.8 -0.4**
baz=71,SNR=19
735A Kenedy 70.77 338⇓P **P 20 16 10.7 -0.5**
baz=71
SACV Santiago Islan 70.81 52 PFAKE 20 16 20.0 +8.3
SACV LR LR
comp=Z,2µm,20.0s
832A Faith Ranch, C 70.92 335⇓P **P 20 16 11.3 -0.7**
baz=71,SNR=14
734A La Parita Cree 70.99 337⇓P **P 20 16 12.0 -0.5**
baz=71
733A Divot King Ran 71.10 336⇓P **P 20 16 12.1 -1.1**
baz=71,SNR=9.2
636A Smothers Creek 71.14 338⇓P **P 20 16 13.3 -0.1**
baz=72,SNR=8.2
HKT Hockley 71.24 340 *e*P P 20 16 12.0 -1.8
HKT pmax pmax
comp=Z,90nm,1.8s
HKT Hockley 71.24 340 *e*P P 20 16 12.0 -1.8
comp=Z,90nm,1.8s
635A Leesville 71.26 338⇑P **P 20 16 13.3 -0.8**
baz=72
732A Laxson Ranch, 71.33 336⇓P **P 20 16 13.8 -0.7**
baz=72,SNR=13
538A Harpers Horsep 71.40 340⇑P **P 20 16 15.2 +0.3**
baz=72
634A China Grove, S 71.43 337⇑P **P 20 16 14.3 -0.8**
baz=72
537A Green Hill Far 71.49 339⇓P **P 20 16 15.4 -0.1**
baz=72,SNR=6.2
536A Bastrop 71.70 339⇓P **P 20 16 16.4 -0.3**
baz=72
633A Saathoff Ranch 71.75 337⇓P **P 20 16 16.4 -0.7**
baz=72,SNR=19
535A Dale 71.80 338⇓P **P 20 16 16.7 -0.7**
baz=72
438A Sam Houston St 71.90 340⇑P **P 20 16 17.6 -0.3**
baz=72
632A Uvalde 71.99 336⇓P **P 20 16 18.2 -0.4**
baz=72,SNR=18
DRV Dumont d'Urvil 72.02 193 S S 20 25 27.0 -12
DRV L L 20 35 00.0
DRV R 20 40 00.0
534A Blanco 72.07 337⇓P **P 20 16 17.9 -1.1**
baz=72,SNR=10
340A Bronson 72.13 342⇓P **P 20 16 18.5 -0.8**
baz=72,SNR=8.2
VBMS Vicksburg 72.14 345 *e*P **P 20 16 18.7 -0.7**
comp=Z,159nm,1.4s
437A Phantom Ranch, 72.15 340⇑P **P 20 16 19.5 +0.1**
baz=72
631A Perdido Creek 72.16 335⇓P **P 20 16 18.4 -1.1**
baz=72,SNR=13
GOGA Godfrey 72.17 351 *e*P P 20 16 17.1 -2.4
GOGA pmax pmax
comp=Z,169nm,2.0s
GOGA Godfrey 72.17 351 *e*P P 20 16 17.1 -2.4
comp=Z,169nm,2.0s
339A Huntington 72.22 341⇓P **P 20 16 19.1 -0.6**
baz=73,SNR=7.5
436A Wall Ranch, Ga 72.28 339⇑P **P 20 16 20.1 0.0**
baz=73
533A Kerrville 72.28 337⇑P **P 20 16 19.4 -0.9**
baz=73,SNR=17
LRAL Lakeview Retre 72.30 348 *e*P P 20 16 18.2 -2.0
comp=Z,32nm,0.8s
338A Crockett 72.43 341⇑P **P 20 16 20.8 -0.3**
baz=73
435B Jarrell 72.51 338⇑P **P 20 16 20.9 -0.7**
baz=73,SNR=5.9
337A Centerville 72.55 340⇓P **P 20 16 21.7 0.0**
baz=73,SNR=14
532A Rocksprings 72.60 336⇓P **P 20 16 21.7 -0.5**
baz=73,SNR=36
434A Burnet 72.74 338⇓P **P 20 16 22.2 -0.8**
baz=73,SNR=38
531A Rocksprings 72.84 336⇓P **P 20 16 23.0 -0.7**
baz=73,SNR=32
239A Gary 72.85 341⇑P **P 20 16 23.4 -0.1**
baz=73
KOMG Komaggas 72.87 115 *e*P **P 20 16 24.4 +0.3**
KOMG AMB AMB 20 16 32.5
comp=Z,66nm,1.3s
KOMG Komaggas 72.87 115 P **P 20 16 24.4 +0.3**
comp=Z,66nm,1.3s
336A Riesel 72.87 339⇑P **P 20 16 22.9 -0.8**
baz=73,SNR=7.0
JCT Junction City 72.90 336 *e*P **P 20 16 22.5 -1.5**
JCT pmax pmax
comp=Z,65nm,1.1s
JCT MLR MLR
comp=Z,428nm,19.0s
JCT Junction City 72.90 336⇑P **P 20 16 23.2 -0.8**
baz=73,SNR=22
JCT Junction City 72.90 336 *e*P **P 20 16 22.5 -1.5**
comp=Z,65nm,1.1s
JCT LR LR
comp=Z,428nm,19.0s
433A Art 72.93 337⇑P **P 20 16 23.2 -1.0**
baz=73,SNR=16
335A Moody 72.94 339⇑P **P 20 16 22.9 -1.2**
baz=73,SNR=9.3
238A Jacksonville 73.00 341⇑P **P 20 16 24.4 0.0**
baz=73
530A J-C Ranch, Com 73.09 335⇓P **P 20 16 24.1 -1.0**
baz=73,SNR=26
TXAR Lajitas Array 73.15 333 P **P 20 16 23.9 -1.6**
comp=Z,6.9nm,0.6s,baz=156,slow=6.9,SNR=87
TXAR LR LR 20 43 31.7
comp=Z,1µm,18.2s,baz=0,0,slow=32
237A Washetta, Mont 73.17 340⇑P **P 20 16 24.8 -0.6**
baz=74,SNR=7.2
334A Lometa 73.22 338⇑P **P 20 16 24.5 -1.3**
baz=74,SNR=44
432A Menard 73.26 337⇑P **P 20 16 25.0 -1.1**
baz=74,SNR=10
431A Sonora 73.34 336⇓P **P 20 16 25.6 -1.0**
baz=74,SNR=16
529A Stev Forest Ra 73.36 334⇓P **P 20 16 26.1 -0.7**
baz=74,SNR=18
333A Richland Sprin 73.43 337⇑P **P 20 16 25.7 -1.3**
baz=74,SNR=18
CNNC Cliffs of the 73.52 356 PFAKE 20 16 40.0 +13
CNNC LR LR
comp=Z,1µm,20.0s
138A Matatall Enter 73.61 341⇓P **P 20 16 27.6 -0.5**
baz=74,SNR=6.7
WHTX Lake Whitney, 73.61 339⇓P **P 20 16 26.9 -1.2**
baz=74,SNR=13
WHTX Lake Whitney, 73.61 339 *e*P **P 20 16 27.5 -0.5**
comp=Z,53nm,1.0s
430A Baggett Ranch, 73.64 335⇑P **P 20 16 27.6 -0.8**
baz=74,SNR=18
KMSC Kings Mountain 73.66 353 *e*P **P 20 16 27.7 -0.6**
comp=Z,260nm,0.4s
429A Davenport Ranc 73.71 335⇓P **P 20 16 28.0 -0.8**
baz=74,SNR=20
332A Millersview 73.72 337⇑P **P 20 16 27.7 -1.1**
baz=74,SNR=30
137A Heron Place, G 73.72 341⇓P **P 20 16 28.2 -0.5**
baz=74
234A Clairette 73.82 338⇓P **P 20 16 28.1 -1.2**
baz=74,SNR=18
331A San Angelo 73.86 336⇑P **P 20 16 28.5 -1.1**
baz=74,SNR=25
233A Rising Star 74.06 338⇓P **P 20 16 29.6 -1.1**
baz=74,SNR=10.0
135A Vickery Place, 74.13 339⇓P **P 20 16 30.5 -0.7**
baz=74
OXF Oxford 74.15 346 *e*P **P 20 16 30.2 -1.0**
OXF pmax pmax
comp=Z,74nm,1.1s
OXF Oxford 74.15 346 *e*P **P 20 16 30.2 -1.0**
comp=Z,74nm,1.1s
232A Coleman 74.16 337⇑P **P 20 16 30.4 -1.0**
baz=74,SNR=26
330A Mertzon 74.19 336⇓P **P 20 16 30.6 -1.0**
baz=74,SNR=8.6
RAR Rarotonga 74.26 255 PFAKE 20 16 40.0 +7.7
RAR LR LR
comp=Z,2.0nm,20.0s
CPCT Cooper Cave 74.31 351 *e*P **P 20 16 33.5 +1.4**
134A White-Moore Ra 74.34 339⇓P **P 20 16 31.5 -0.8**
baz=75,SNR=6.2
231A Bronte 74.41 337⇓P **P 20 16 31.8 -1.0**
baz=75,SNR=22
TKL Tuckaleechee C 74.43 351 *e*P **P 20 16 31.7 -1.1**
TKL Tuckaleechee C 74.43 351 *e*P **P 20 16 31.7 -1.1**
329A Wagon Wheel Ra 74.53 335⇓P **P 20 16 32.9 -0.7**
baz=75,SNR=12
133A Hamilton Ranch 74.61 338⇑P **P 20 16 33.0 -0.9**
baz=75,SNR=16
230A Sterling City 74.62 336⇑P **P 20 16 32.9 -1.1**
baz=75,SNR=9.1
Z35A Perchaven, San 74.82 340⇓P **P 20 16 34.2 -0.9**
baz=75,SNR=7.9
ABTX Abilene, Hawle 74.84 337⇓P **P 20 16 34.5 -0.8**
baz=75,SNR=9.5
ABTX Abilene, Hawle 74.84 337 *e*P **P 20 16 33.7 -1.6**
comp=Z,311nm,2.1s
229A Bryant Ranch, 74.92 335⇑P **P 20 16 34.3 -1.5**
baz=75,SNR=7.7
UALR University of 75.00 344 *e*P **P 20 16 35.0 -1.1**
comp=Z,15nm,0.8s
Z34A Collier Ranch, 75.04 339⇓P **P 20 16 35.4 -1.0**
baz=75,SNR=7.6
MIAR Mount Ida 75.05 343 *e*P **P 20 16 35.1 -1.3**
MIAR pmax pmax
comp=Z,40nm,1.4s
MIAR MLR MLR
comp=Z,852nm,22.0s
MIAR Mount Ida 75.05 343 *e*P **P 20 16 35.1 -1.3**
comp=Z,40nm,1.4s
MIAR LR LR
comp=Z,852nm,22.0s
131A Roby 75.12 337⇑P **P 20 16 35.9 -1.0**
baz=75,SNR=8.8
Z33A Whitaker Ranch 75.20 338⇓P **P 20 16 36.2 -1.2**
baz=76,SNR=14
130A Snyder 75.23 336⇑P **P 20 16 36.3 -1.2**
baz=76,SNR=8.0
TZTN Tazewell 75.28 352 *e*P P 20 16 36.1 -1.5
comp=Z,148nm,1.8s
228A UT Block 9, Go 75.31 335⇑P **P 20 16 37.2 -0.9**
baz=76,SNR=8.3
Z32A Haskell 75.43 338⇑P **P 20 16 37.8 -0.8**
baz=76,SNR=21
WVT Waverly 75.46 348 *e*P **P 20 16 37.7 -1.0**
WVT pmax pmax
comp=Z,149nm,1.8s
WVT Waverly 75.46 348 *e*P **P 20 16 37.7 -1.0**
comp=Z,149nm,1.8s
CASY Casey 75.47 182 PFAKE 20 16 50.0 +11
CASY LR LR
comp=Z,2µm,20.0s
129A Stewart Farms, 75.55 336⇓P **P 20 16 38.3 -1.1**
baz=76
Y34A Reagan Ranch, 75.55 339⇑P **P 20 16 38.1 -1.1**
baz=76,SNR=9.3
BLA Blacksburg 75.64 354 PFAKE 20 16 50.0 +10
BLA LR LR
comp=Z,607nm,20.0s
Z31A Sharp Cattle R 75.64 337⇑P **P 20 16 39.2 -0.7**
baz=76,SNR=13
128A Castleberry Fa 75.74 335⇓P **P 20 16 39.5 -1.0**
baz=76,SNR=13
Y33A Hilltop Ranch, 75.84 339⇑P **P 20 16 39.8 -1.1**
baz=76
MNTX Cornudas Mount 75.91 332 *e*P P 20 16 38.8 -2.6
comp=Z,4.9nm,0.8s
Z30A Sanderson Ranc 75.92 336⇓P **P 20 16 40.2 -1.2**
baz=76
JSRW J. Sargeant Re 75.96 356 *e*P **P 20 16 41.4 -0.1**
GDL2 Guadalupe Moun 76.00 333 *e*P **P 20 16 41.5 -0.5**
Y32A R-V Farms, Ver 76.07 338⇓P **P 20 16 41.6 -0.7**
baz=76
Z29A Hungry Hill Ra 76.07 336⇓P **P 20 16 41.0 -1.4**
baz=76,SNR=13
X34A Smith Ranch, M 76.17 340⇓P **P 20 16 42.2 -0.6**
baz=76
Y31A Rekieta Farm, 76.28 337⇓P **P 20 16 42.9 -0.6**
baz=77
X33A Lawton 76.30 339⇓P **P 20 16 42.7 -0.9**
baz=77
PARMO Parma 76.31 347 *e*P **P 20 16 42.8 -0.7**
Z28A Tucker Farm, M 76.32 335⇑P **P 20 16 42.5 -1.3**
baz=77
UPI Upington 76.39 115 *e*P **P 20 16 44.4 -0.2**
UPI AMB AMB 20 16 49.9
comp=Z,39nm,2.5s
UPI Upington 76.39 115 P **P 20 16 44.4 -0.2**
comp=Z,39nm,2.5s
Y30A Stafford Cattl 76.39 337⇑P **P 20 16 43.3 -0.9**
baz=77
X32A Elmer 76.42 338⇓P **P 20 16 43.3 -0.9**
baz=77
WMOK Wichita Mounta 76.57 339 *e*P **P 20 16 44.0 -1.1**
WMOK pmax pmax
comp=Z,36nm,1.3s
WMOK MLR MLR
comp=Z,971nm,19.0s
WMOK Wichita Mounta 76.57 339 *e*P **P 20 16 44.0 -1.1**
comp=Z,36nm,1.3s
WMOK LR LR
comp=Z,971nm,19.0s
Y29A Porterfield Fa 76.62 336⇓P **P 20 16 44.7 -0.8**
baz=77
W34A Bridge Creek, 76.75 340⇓P **P 20 16 45.6 -0.5**
baz=77
W34A Bridge Creek, 76.75 340 *e*P **P 20 16 45.1 -1.0**
comp=Z,58nm,1.2s
X31A McDonald Ranch 76.81 338⇑P **P 20 16 45.6 -0.9**
baz=77,SNR=8.7
Y28A McKinney Farm, 76.84 336⇑P **P 20 16 45.5 -1.3**
baz=77
W33A Caddo, Fort Co 76.87 339⇑P **P 20 16 46.5 -0.3**
baz=77,SNR=8.4
TUL1 Leonard 76.88 342⇓P **P 20 16 45.8 -1.0**
baz=77
TUL1 Leonard 76.88 342 *e*P **P 20 16 45.4 -1.4**
comp=Z,44nm,0.7s
X30A Coker Ranch, T 76.91 337⇑P **P 20 16 46.1 -1.0**
baz=77,SNR=5.2
V35A Meyer Ranch, C 77.00 341⇓P **P 20 16 46.3 -1.2**
baz=77
W32A Sentinel 77.06 339⇑P **P 20 16 47.0 -0.9**
baz=77,SNR=12
MSTX Muleshoe 77.07 335⇓P **P 20 16 46.9 -1.2**
baz=77,SNR=7.0
MSTX Muleshoe 77.07 335 *e*P **P 20 16 46.8 -1.2**
comp=Z,38nm,1.1s
319A Douglas 77.11 329⇑P **P 20 16 48.6 +0.2**
baz=77
Y27A Causey 77.12 335⇑P **P 20 16 47.3 -1.1**
baz=78
X29A Tulia 77.17 336⇑P **P 20 16 47.9 -0.6**
baz=78,SNR=7.2
USIN University of 77.23 349 *e*P **P 20 16 47.2 -1.5**
comp=Z,72nm,1.3s
SIUC Southern Illin 77.24 347 *e*P P 20 16 46.4 -2.4
comp=Z,14nm,0.7s
V34A Guthrie 77.25 340⇓P **P 20 16 47.7 -1.2**
baz=78
V34A Guthrie 77.25 340 *e*P **P 20 16 47.6 -1.2**
comp=Z,260nm,2.1s
WCI Wyandotte Cave 77.28 350 *e*P P 20 16 45.9 -3.1
WCI pmax pmax
comp=Z,10.0nm,0.8s
WCI Wyandotte Cave 77.28 350 *e*P P 20 16 45.9 -3.1
comp=Z,9.6nm,0.8s
W31A Holland Ranch, 77.32 338⇑P **P 20 16 48.0 -1.3**
baz=78
LIC Lamto 77.37 71 *e*P **P 20 16 49.9 -0.2**
comp=Z,186nm,1.3s
X28A Dimmitt 77.39 336⇓P **P 20 16 49.1 -0.8**
baz=78
V33A Lossen Ranch, 77.44 340⇑P **P 20 16 48.9 -1.1**
baz=78,SNR=8.4
W30A Crocket Farms 77.50 338⇓P **P 20 16 49.7 -0.7**
baz=78
121A Cookes Peak, D 77.55 331⇑P **P 20 16 50.9 0.0**
baz=78
121A Cookes Peak, D 77.55 331 *e*P **P 20 16 49.4 -1.5**
comp=Z,58nm,1.7s
V32A Arapaho 77.56 339⇓P **P 20 16 50.3 -0.4**
baz=78
AMTX Amarillo 77.56 337⇓P **P 20 16 50.0 -0.8**
baz=78
AMTX Amarillo 77.56 337 *e*P **P 20 16 50.0 -0.8**
comp=Z,351nm,2.1s
TIC Toumodi 77.65 71 *e*P **P 20 16 52.1 +0.4**
comp=Z,54nm,0.8s
KIC Kosan Boka 77.67 72 *e*P **P 20 16 52.4 +0.6**
comp=Z,94nm,0.9s
W29A Amarillo 77.77 337⇑P **P 20 16 51.1 -0.9**
baz=78,SNR=10
DBIC Dimbokro 77.79 71 *e*P **P 20 16 52.3 -0.1**
DBIC Dimbokro 77.79 71 *e*P **P 20 16 52.5 +0.1**
DBIC Dimbokro 77.79 71 P **P 20 16 52.3 -0.1**
comp=Z,22nm,0.7s,baz=194,slow=5.4,SNR=37
DBIC LR LR 20 48 04.3
comp=Z,612nm,18.6s,baz=208,slow=33
DBIC Dimbokro 77.79 71 *e*P **P 20 16 52.5 +0.1**
X27A F and S Farms, 77.80 335⇑P **P 20 16 51.3 -0.8**
baz=78
U34A Anderson Ranch 77.82 340⇑P **P 20 16 51.1 -1.0**
baz=78
U34A Anderson Ranch 77.82 340 *e*P **P 20 16 51.1 -1.0**
comp=Z,64nm,1.4s
V31A Spring Creek L 77.84 338⇓P **P 20 16 52.2 -0.1**
baz=78
Z22A Elephant Butte 77.89 332⇓P **P 20 16 52.2 -0.5**
baz=78
Y24A Capitan 77.94 333⇓P **P 20 16 52.5 -0.6**
baz=78,SNR=15
X26A CR and CF Fran 77.95 335⇑P **P 20 16 52.4 -0.6**
baz=78,SNR=8.2
U33A Lingo Farm, Me 77.97 340⇓P **P 20 16 51.9 -1.0**
baz=78
HVD Gariep Dam 77.99 119 *e*P **P 20 16 54.5 +0.8**
HVD AMB AMB 20 16 58.8
comp=Z,58nm,1.5s
HVD Gariep Dam 77.99 119 P **P 20 16 54.5 +0.8**
HVD pmax pmax
comp=Z,58nm,1.5s
HVD Gariep Dam 77.99 119 P **P 20 16 54.5 +0.8**
comp=Z,58nm,1.5s
OLIL Olney 78.05 348 *e*P **P 20 16 51.9 -1.3**
comp=Z,83nm,1.7s
W28A Vega 78.07 336⇓P **P 20 16 53.2 -0.4**
baz=78
V30A Spur Ranch, Mi 78.08 338⇑P **P 20 16 53.5 -0.1**
baz=78
U32A Winter Ranch, 78.17 339⇑P **P 20 16 53.4 -0.7**
baz=78
W27A Bowe Ranch, En 78.17 336⇓P **P 20 16 53.6 -0.6**
baz=78,SNR=11
X25A Clemmons Ranch 78.21 334⇓P **P 20 16 53.7 -0.7**
baz=78
BLO Bloomington 78.24 350 *e*P **P 20 16 53.1 -1.2**
BLO pmax pmax
comp=Z,42nm,1.3s
BLO Bloomington 78.24 350 *e*P **P 20 16 53.1 -1.2**
comp=Z,42nm,1.3s
SLM Saint Louis 78.31 347 *e*P **P 20 16 53.4 -1.3**
SLM pmax pmax
comp=Z,38nm,0.7s
SLM Saint Louis 78.31 347 *e*P **P 20 16 53.4 -1.3**
comp=Z,38nm,0.7s
U31A Nine Bar Ranch 78.40 339⇑P **P 20 16 55.4 +0.1**

	baz=79						
W26A	Owens Ranch, T	78.42	335	⇑P	P	20 16 55.1	-0.5
	baz=79						
V29A	Stinnett	78.43	337	⇓P	P	20 16 54.9	-0.6
	baz=79						
V28A	Channing	78.53	337	⇓P	P	20 16 56.0	-0.2
	baz=79						
TUC	Tucson	78.54	328	eP	P	20 16 55.9	-0.4
TUC				pmax	pmax		
	comp=Z,104nm,2.0s						
TUC				MLR	MLR		
	comp=Z,1μm,20.0s						
TUC	Tucson	78.54	328	eP	P	20 16 55.9	-0.4
	comp=Z,104nm,2.0s						
TUC				LR	LR		
	comp=Z,1μm,20.0s						
Y22D	IRIS PASSCAL I	78.60	332	⇑P	P	20 16 57.1	+0.5
	baz=79						
T33A	Patterson Ranc	78.62	340	⇑P	P	20 16 56.2	-0.2
	baz=79						
LENM	Lemitar	78.70	332	eP	P	20 16 57.9	+0.6
LPM	Los Pinos Moun	78.71	333	eP	P	20 16 57.3	0.0
V27A	Dan Oppiter Fa	78.73	336	⇓P	P	20 16 56.9	-0.4
	baz=79						
W25A	X Bar L Ranch,	78.77	335	⇑P	P	20 16 56.8	-0.7
	baz=79,SNR=7.3						
U30A	WK&E Inc. Balk	78.78	338	⇑P	P	20 16 57.1	-0.3
	baz=79						
ACSO	Alum Creek Sta	78.86	353	PFAKE		20 17 10.0	+12
ACSO				LR	LR		
	comp=Z,921nm,20.0s						
U29A	Oasis Ranch, S	78.89	338	⇓P	P	20 16 57.7	-0.4
	baz=79						
T32A	Huddler Ranch,	78.89	340	⇓P	P	20 16 57.8	-0.3
	baz=79						
LAZ	Ladron	78.97	332	eP	P	20 16 56.4	-2.3
	comp=Z,31nm,1.6s						
T31A	Randall Ranch,	79.03	339	⇓P	P	20 16 58.6	-0.2
	baz=79						
S33A	Kaszmaul Farm,	79.04	340	⇓P	P	20 16 58.2	-0.6
	baz=79						
BOSA	Boshof	79.04	118	eP	P	20 16 59.0	-0.4
BOSA				AMB	AMB	20 17 16.5	
	comp=Z,42nm,1.9s						
BOSA				AMS	AMS	20 56 51.4	
	comp=Z,1μm,17.5s						
BOSA	Boshof	79.04	118	eP	P	20 16 57.5	-1.9
BOSA				pmax	pmax		
	comp=Z,69nm,1.2s						
BOSA	Boshof	79.04	118	P	P	20 16 58.6	-0.9
	comp=Z,22nm,0.8s,baz=229,slow=4.1,SNR=17						
BOSA	Boshof	79.04	118	eP	P	20 16 57.5	-1.9
	comp=Z,69nm,1.2s						
V26A	Tequesquite Ra	79.08	335	⇓P	P	20 16 58.0	-1.2
	baz=79,SNR=6.7						
214A	Organ Pipe Nat	79.08	327	⇓P	P	20 16 59.5	+0.3
	baz=79						
214A	Organ Pipe Nat	79.08	327	eP	P	20 16 57.6	-1.6
	comp=Z,52nm,1.4s						
W24A	Lazy 6 Ranch,	79.09	334	⇑P	P	20 16 59.1	-0.3
	baz=79,SNR=20						
U28A	Mallet	79.11	337	⇓P	P	20 16 58.8	-0.5
	baz=80						
TSUM	Tsumeb	79.15	106	PFAKE		20 17 10.0	+10
TSUM				LR	LR		
	comp=Z,2μm,20.0s						
ANMO	Albuquerque	79.22	333	dP	P	20 17 00.0	-0.1
ANMO				pmax	pmax		
	comp=Z,68nm,1.1s						
ANMO	Albuquerque	79.22	333	eP	P	20 16 59.1	-0.9
	comp=Z,29nm,1.1s						
ANMO				LR	LR		
	comp=Z,1μm,22.0s						
T30A	Plains	79.23	338	⇓P	P	20 16 59.2	-0.7
	baz=80						
U27A	Thompson Grove	79.34	336	⇓P	P	20 16 59.9	-0.7
	baz=80						
S32A	Newby Ranch, P	79.39	340	⇑P	P	20 17 00.3	-0.4
	baz=80						
V25A	Rancho No Teng	79.39	335	⇓P	P	20 17 00.3	-0.7
	baz=80,SNR=13						
S31A	Mullinville	79.46	339	⇑P	P	20 17 00.8	-0.3
	baz=80						
V24A	Rampart Ranch,	79.51	334	⇑P	P	20 17 01.6	-0.1
	baz=80						
SFIN	Lafayette	79.51	350	⇑P	P	20 17 00.2	-1.0
	baz=80						
T29A	Hugoton	79.55	338	⇑P	P	20 17 01.2	-0.5
	baz=80						
U26A	Atchley Ranch,	79.61	336	⇓P	P	20 17 01.3	-0.9
	baz=80						
R33A	Olander Ranch,	79.70	341	⇑P	P	20 17 01.9	-0.5
	baz=80						
URZ	Urewera	79.74	229	P	P	20 17 00.2	-2.7
	comp=Z,6.3nm,0.9s,baz=77,slow=12,SNR=2.3						
S30A	Montezuma	79.76	339	⇑P	P	20 17 02.3	-0.5
	baz=80						
T28A	Walsh	79.76	337	⇑P	P	20 17 02.3	-0.5
	baz=80,SNR=14						
U25A	Circle Dot Ran	79.83	335	⇑P	P	20 17 03.2	-0.2
	baz=80,SNR=10						
V23A	Ortiz Mt. (NFS	79.84	334	⇓P	P	20 17 03.9	+0.4
	baz=80,SNR=7.1						
T27A	Campo	79.89	337	⇓P	P	20 17 03.1	-0.6
	baz=80,SNR=5.7						
S29A	Ulysses	79.93	338	⇓P	P	20 17 03.6	-0.1
	baz=80						
SWZ	Schweizer	79.97	117	eP	P	20 17 03.7	-0.9
SWZ				AMB	AMB	20 17 08.9	
	comp=Z,69nm,7.7s						
SWZ	Schweizer	79.97	117	P	P	20 17 03.7	-0.9
	comp=Z,69nm,7.7s						
R32A	Long Quarter,	80.00	340	⇑P	P	20 17 04.0	0.0
	baz=80						
R31A	Burdett	80.10	340	⇓P	P	20 17 04.5	0.0
	baz=80						
KSU1	Kansas State U	80.11	342	⇓P	P	20 17 04.6	0.0
	baz=80						
S28A	Manter	80.13	337	⇑P	P	20 17 04.5	-0.4
	baz=80						
X18A	Snowflake	80.15	330	⇑P	P	20 17 05.5	+0.4
	baz=80,SNR=11						
113A	Mohawk Valley,	80.19	326	⇑P	P	20 17 05.6	+0.5
	baz=80						
V22A	San Miguel Ran	80.25	333	⇓P	P	20 17 06.4	+0.7
	baz=81,SNR=27						
T26A	Comanche Natio	80.27	336	⇑P	P	20 17 05.3	-0.4
	baz=81,SNR=6.6						
R30A	Dighton	80.30	339	⇓P	P	20 17 05.6	-0.1
	baz=81						
Q33A	Connelly Farm,	80.32	341	⇑P	P	20 17 05.7	0.0
	baz=81						
Z14A	Wintersburg	80.35	327	⇓P	P	20 17 06.6	+0.6
	baz=81						
U23A	El Rito	80.37	334	⇑P	P	20 17 06.7	+0.4
	baz=81,SNR=9.4						
BINY	Binghamton	80.39	358	PFAKE		20 17 20.0	+14
BINY				LR	LR		
	comp=Z,1μm,19.0s						
ERPA	Erie	80.49	355	PFAKE		20 17 20.0	+13
ERPA				LR	LR		
	comp=Z,601nm,19.0s						
Q32A	Meitler Ranch,	80.50	340	⇑P	P	20 17 06.7	0.0
	baz=81						
T25A	Trinidad	80.50	335	⇓P	P	20 17 07.3	+0.3
	baz=81,SNR=22						
S27A	Las Animas	80.52	337	⇓P	P	20 17 07.5	+0.5
	baz=81						
W18A	Petrified Fore	80.58	331	⇑P	P	20 17 07.7	+0.3
	baz=81						
W18A	Petrified Fore	80.58	331	eP	P	20 17 06.8	-0.7
	comp=Z,142nm,1.9s						
S26A	Kim	80.64	336	⇑P	P	20 17 07.4	-0.2
	baz=81,SNR=19						
U22A	Llaves	80.64	333	⇑P	P	20 17 08.6	+0.8
	baz=81,SNR=9.7						
X16A	Lo Mia Camp, P	80.64	329	⇑P	P	20 17 08.2	+0.4
	baz=81,SNR=18						
R29A	Marienthal	80.68	338	⇓P	P	20 17 08.0	+0.3
	baz=81						
Q31A	Ellis	80.73	340	⇑P	P	20 17 08.5	+0.6
	baz=81						
T24B	San Luis	80.75	335	⇓P	P	20 17 09.0	+0.6
	baz=81						
R28A	Tribune	80.80	338	⇑P	P	20 17 08.2	-0.3
	baz=81,SNR=12						
SEK	Senekal	80.86	119	eP	P	20 17 09.7	+0.4
SEK				AMB	AMB	20 17 14.7	
	comp=Z,72nm,2.0s						
SEK	Senekal	80.86	119	P	P	20 17 09.7	+0.4
	comp=Z,72nm,2.0s						
Y14A	Wickenburg	80.87	328	⇑P	P	20 17 09.5	+0.6
	baz=81						
GLA	Glamis	80.90	326	eP	P	20 17 08.5	-0.5
GLA				pmax	pmax		
	comp=Z,118nm,1.9s						
GLA	Glamis	80.90	326	⇑P	P	20 17 09.8	+0.7
	baz=81						
GLA	Glamis	80.90	326	eP	P	20 17 08.5	-0.5
	comp=Z,118nm,1.9s						
Q30A	Quinter	80.93	339	⇑P	P	20 17 09.2	+0.2
	baz=81						
T23A	Casias Ranch,	80.95	334	⇓P	P	20 17 09.6	+0.1
	baz=81,SNR=9.1						
AAM	Ann Arbor	80.98	352	PFAKE		20 17 20.0	+11
AAM				LR	LR		
	comp=Z,765nm,21.0s						
S25A	Robets Cordova	80.99	336	⇑P	P	20 17 09.6	+0.1
	baz=81,SNR=12						
R27A	Eads	81.05	337	⇓P	P	20 17 09.0	-0.8
	baz=81,SNR=8.9						
Q29A	Oakley	81.07	339	⇑P	P	20 17 09.6	-0.2
	baz=81						
P32A	Huiting Farm,	81.10	341	⇓P	P	20 17 09.6	-0.3
	baz=82						
P31A	Stockton	81.21	340	⇓P	P	20 17 10.7	+0.2
	baz=82						
S24A	Houchin Ranch,	81.22	335	⇓P	P	20 17 11.1	+0.2
	baz=82,SNR=14						
SWSC	Sam W. Stewart	81.23	325	⇑P	P	20 17 11.2	+0.4
	baz=82						
R26A	Arlington	81.26	337	⇑P	P	20 17 10.8	-0.1
	baz=82,SNR=16						
R25A	Fountain Ranch	81.38	336	⇑P	P	20 17 11.9	+0.3
	baz=82						
BAR	Barrett	81.41	324	eP	P	20 17 11.5	-0.3
	comp=Z,95nm,2.0s						
SDCO	Great Sand Dun	81.41	335	eP	P	20 17 11.4	-0.5
	comp=Z,14nm,1.2s						
P30A	Selden	81.47	339	⇑P	P	20 17 12.3	+0.4
	baz=82						
Q28A	Sharon Springs	81.47	338	⇓P	P	20 17 13.0	+1.0
	baz=82						
MONP	Monument Peak,	81.47	325	⇓P	P	20 17 12.9	+0.6
	baz=82						
LBTB	Lobatse	81.50	115	eP	P	20 17 13.3	+0.6
LBTB				AMB	AMB	20 17 17.4	
	comp=Z,67nm,1.8s						
LBTB				AMS	AMS	20 48 34.6	
	comp=Z,1μm,17.0s						
LBTB	Lobatse	81.50	115	eP	P	20 17 13.2	+0.5
LBTB				pmax	pmax		
	comp=Z,58nm,1.0s						
LBTB	Lobatse	81.50	115	LR	LR	20 49 02.6	
	comp=Z,1μm,20.2s,baz=240,slow=32						
LBTB	Lobatse	81.50	115	eP	P	20 17 13.2	+0.5
	comp=Z,58nm,1.0s						
PRYS	Parys	81.55	118	eP	P	20 17 12.6	-0.4
PRYS				AMB	AMB	20 17 13.9	
	comp=Z,22nm,3.7s						
PRYS	Parys	81.55	118	P	P	20 17 12.6	-0.4
	comp=Z,22nm,3.7s						
WUAZ	Wupatki	81.58	330	⇑P	P	20 17 13.0	+0.3
	baz=82,SNR=9.0						
WUAZ	Wupatki	81.58	330	eP	P	20 17 11.9	-0.8
	comp=Z,158nm,2.3s						
WUAZ				LR	LR		
	comp=Z,1μm,19.0s						
KSCO	Kaye Shedlock'	81.66	337	⇑P	P	20 17 12.8	-0.2
	baz=82,SNR=5.8						
KSCO	Kaye Shedlock'	81.66	337	eP	P	20 17 12.1	-0.9
	comp=Z,251nm,2.1s						
BC3	Big Chuckawall	81.69	326	⇑P	P	20 17 13.7	+0.4
	baz=82,SNR=9.4						
P29A	Atwood	81.72	339	⇓P	P	20 17 13.6	+0.4
	baz=82						
R24A	Sanders Place,	81.72	335	⇑P	P	20 17 13.7	+0.2
	baz=82,SNR=20						
109C	Camp Elliot, M	81.79	324	⇑P	P	20 17 13.9	+0.3
	baz=82						
Q26A	Hugo	81.85	337	⇑P	P	20 17 14.5	+0.4
	baz=82						
S22A	4UR Ranch, Cre	81.86	334	⇑P	P	20 17 13.9	-0.4
	baz=82,SNR=16						
KSR	Koster	81.89	116	eP	P	20 17 13.2	-1.7
KSR				AMB	AMB	20 17 19.6	
	comp=Z,26nm,4.0s						
KSR	Koster	81.89	116	P	P	20 17 13.2	-1.7
	comp=Z,26nm,4.0s						
WDLM	Western Deep L	81.91	117	eP	P	20 17 14.8	-0.2
WDLM				AMB	AMB	20 17 57.4	
	comp=Z,30nm,4.1s						
P28A	Saint Francis	81.92	338	⇑P	P	20 17 14.6	+0.2
	baz=82						
R23A	Moffat	81.93	335	⇓P	P	20 17 15.0	+0.3
	baz=82,SNR=5.8						
MVCO	Mesa Verde	81.97	332	⇑P	P	20 17 14.7	-0.2
	baz=82,SNR=11						
MVCO	Mesa Verde	81.97	332	eP	P	20 17 14.7	-0.2
	comp=Z,124nm,2.0s						
MVCO				LR	LR		
	comp=Z,1μm,19.0s						
IRM	Iron Mountain	81.98	326	⇓P	P	20 17 14.8	+0.1
	baz=82,SNR=9.5						
O30A	MW Ranch, Wils	82.01	340	⇓P	P	20 17 14.4	-0.3
	baz=82						
SCIA	State Center	82.04	345	PFAKE		20 17 30.0	+15
SCIA				LR	LR		
	comp=Z,956nm,20.0s						
Q25A	Bedland, Calha	82.07	336	⇓P	P	20 17 15.2	-0.1
	baz=82						
KLOF	Kloof	82.08	117	eP	P	20 17 13.4	-2.4
KLOF				AMB	AMB	20 17 26.6	
	comp=Z,44nm,4.2s						
KLOF	Kloof	82.08	117	P	P	20 17 13.4	-2.4
	comp=Z,44nm,4.2s						
PFO	Pinyon Flats O	82.09	325	P	P	20 17 16.2	+0.8
	comp=Z,125nm,2.1s,SNR=5.9						
PFO	Pinyon Flats O	82.09	325	eP	P	20 17 14.8	-0.6
PFO				pmax	pmax		
	comp=Z,47nm,1.4s						
PFO				MLR	MLR		
	comp=Z,2μm,20.0s						
PFO	Pinyon Flats O	82.09	325	⇓P	P	20 17 16.3	+0.9
	baz=82,SNR=9.5						
PFO	Pinyon Flats O	82.09	325	eP	P	20 17 14.8	-0.6
	comp=Z,47nm,1.4s						
PFO				LR	LR		
	comp=Z,2μm,20.0s						
N32A	Stulken Farm,	82.10	341	⇑P	P	20 17 15.8	+0.6
	baz=82						
NCB	Newcomb	82.13	360	PFAKE		20 17 30.0	+15
NCB				LR	LR		
	comp=Z,1μm,19.0s						
P27A	Ficken Ranch,	82.15	338	⇑P	P	20 17 16.0	+0.4
	baz=82						
O29A	4D Ranch, Culb	82.16	339	⇑P	P	20 17 16.0	+0.4
	baz=82						
W13A	Hualapai Mount	82.24	328	⇑P	P	20 17 16.9	+0.7
	baz=83						
P26A	Davis Ranch, A	82.38	337	⇑P	P	20 17 18.0	+1.1
	baz=83,SNR=5.4						
Q24A	Divide	82.40	336	⇑P	P	20 17 17.0	-0.2
	baz=83,SNR=6.6						
MURC	Murrieta	82.42	324	⇑P	P	20 17 17.0	0.0
	baz=83,SNR=5.7						
CRWM	Crown Mines	82.44	117	eP	P	20 17 15.8	-1.9
CRWM				AMB	AMB	20 17 26.1	
	comp=Z,34nm,2.3s						
O28A	Krutsinger Ran	82.44	339	⇑P	P	20 17 16.9	-0.1
	baz=83,SNR=7.0						
JFWS	Jewell Farm	82.48	348	PFAKE		20 17 30.0	+13
JFWS				LR	LR		
	comp=Z,1μm,22.0s						
OBSV	Observatory	82.51	117	eP	P	20 17 16.6	-1.6
OBSV				AMB	AMB	20 17 29.4	
	comp=Z,41nm,3.7s						
ERPM	east rand prop	82.53	118	eP	P	20 17 16.7	-1.4
ERPM				AMB	AMB	20 17 24.1	
	comp=Z,40nm,4.3s						
ERPM	east rand prop	82.53	118	P	P	20 17 16.7	-1.4
	comp=Z,40nm,4.3s						
P25A	Willow Gulch B	82.59	337	⇑P	P	20 17 18.3	+0.4
	baz=83,SNR=8.6						
BGNE	Belgrade	82.67	342	⇑P	P	20 17 18.6	+0.5
	baz=83						
BGNE	Belgrade	82.67	342	eP	P	20 17 17.4	-0.8
	comp=Z,62nm,1.4s						
O27A	Beecher Island	82.70	338	⇑P	P	20 17 19.4	+1.0
	baz=83						
GMRC	Granite Mounta	82.73	326	⇑P	P	20 17 19.4	+0.7
	baz=83,SNR=8.2						
U15A	North Rim	82.73	329	⇓P	P	20 17 19.3	+0.4
	baz=83,SNR=13						
LONY	Lake Ozonia	82.78	359	eP	P	20 17 17.9	-0.7
	comp=Z,64nm,1.3s						
LONY				LR	LR		
	comp=Z,1μm,21.0s						
M31A	Lambtecht Ranc	82.82	341	⇓P	P	20 17 19.6	+0.7
	baz=83						
PV01	Paradox Valley	82.82	333	eP	P	20 17 18.6	-0.6
	comp=Z,1μm,1.0s						
SLR	Silverton	82.94	117	eP	P	20 17 19.8	-0.5
SLR				AMB	AMB	20 17 36.7	
	comp=Z,67nm,2.7s						
SLR				AMS	AMS	20 54 57.5	
	comp=Z,2μm,15.9s						
SLR	Silverton	82.94	117	P	P	20 17 19.8	-0.5
SLR				pmax	pmax		
	comp=Z,67nm,2.7s						
SLR	Silverton	82.94	117	P	P	20 17 19.8	-0.5
	comp=Z,67nm,2.7s						
P23A	Jefferson	83.00	335	⇑P	P	20 17 20.5	+0.3
	baz=83,SNR=6.7						
HEC	Hector,Ludlow	83.06	326	⇑P	P	20 17 20.8	+0.5
	baz=83,SNR=6.7						
O25A	Wiggins	83.13	337	⇑P	P	20 17 21.1	+0.4
	baz=84						
BFSC	Mount Baldy Ra	83.17	324	⇓P	P	20 17 21.3	+0.3
	baz=84						
PV04	Paradox Valley	83.17	333	eP	P	20 17 20.2	-0.8
SMCO	Snowmass	83.20	334	eP	P	20 17 20.8	-0.6
	comp=Z,50nm,1.2s						
M30A	Dale-Ortello V	83.23	340	⇓P	P	20 17 22.0	+0.9
	baz=84						
OGNE	Ogallala	83.27	339	⇓P	P	20 17 22.1	+0.7
	baz=84						
OGNE	Ogallala	83.27	339	PFAKE		20 17 30.0	+8.7
OGNE				LR	LR		
	comp=Z,546nm,20.0s						
N27A	Anderson Farm,	83.29	338	⇑P	P	20 17 21.2	-0.3
	baz=84,SNR=5.1						
ISCO	Idaho Springs	83.31	336	eP	P	20 17 21.4	-0.5
ISCO				pmax	pmax		
	comp=Z,14nm,1.1s						
ISCO				MLR	MLR		
	comp=Z,658nm,19.0s						
ISCO	Idaho Springs	83.31	336	⇑P	P	20 17 22.0	+0.2
	baz=84,SNR=11						
ISCO	Idaho Springs	83.31	336	eP	P	20 17 21.4	-0.5
	comp=Z,14nm,1.1s						
ISCO				LR	LR		
	comp=Z,658nm,19.0s						
MWC	Mount Wilson	83.33	324	eP	P	20 17 22.2	+0.2
MWC				pmax	pmax		
	comp=Z,143nm,2.0s						
MWC	Mount Wilson	83.33	324	eP	P	20 17 22.1	+0.2
	comp=Z,143nm,2.0s						
O24A	Longmont	83.43	336	⇑P	P	20 17 23.0	+0.8
	baz=84						
DECC	Green Verdugo	83.48	324	⇓P	P	20 17 23.1	+0.6
	baz=84						
M28A	Bar X Bar Ranc	83.50	339	⇑P	P	20 17 22.8	+0.2
	baz=84						
PKME	Peaks-Kenny Pk	83.51	3	PFAKE		20 17 30.0	+7.7
PKME				LR	LR		
	comp=Z,1μm,19.0s						
L31A	Butterfield Fa	83.57	341	⇑P	P	20 17 23.2	+0.5
	baz=84						
L30A	Spencer Herefo	83.58	341	⇓P	P	20 17 23.3	+0.4
	baz=84						
GSC	Goldstone, Bar	83.67	326	eP	P	20 17 24.4	+0.9
GSC				pmax	pmax		
	comp=Z,122nm,2.0s						
GSC	Goldstone, Bar	83.67	326	⇑P	P	20 17 23.9	+0.4
	baz=84,SNR=8.1						
GSC	Goldstone, Bar	83.67	326	eP	P	20 17 24.4	+0.9
	comp=Z,122nm,2.0s						
O23A	Lake Granby, G	83.78	336	⇑P	P	20 17 23.9	-0.3
	baz=84,SNR=13						
EDW2	Edwards Air Fo	83.85	325	⇓P	P	20 17 24.2	-0.2
	baz=84,SNR=7.0						
L29A	Maesberg Ranch	83.89	340	⇑P	P	20 17 24.7	+0.3
	baz=84						
O22A	Kremmling	83.94	335	⇓P	P	20 17 24.9	-0.2
	baz=84,SNR=13						
SHPR	Sheep Range	83.98	327	eP	P	20 17 25.4	+0.2
N24A	Carr	84.02	337	⇓P	P	20 17 25.2	0.0
	baz=84						
CCUT	Cedar City	84.13	329	eP	P	20 17 26.6	+0.6
	comp=Z,23nm,1.0s						
CCUT				ePP	PP	20 20 48.4	+7.6
LRMC	Laurel Mtn Rad	84.21	325	⇓P	P	20 17 26.7	+0.4
	baz=84,SNR=11						
K30A	Basset	84.23	341	⇓P	P	20 17 26.2	+0.1
	baz=85						
M25A	Palm-Egli Farm	84.32	337	⇑P	P	20 17 27.3	+0.5
	baz=85						
ARUT	Antelope Range	84.37	329	eP	P	20 17 26.9	-0.2
ARUT				pmax	pmax		
	comp=Z,145nm,0.6s						
ARUT	Antelope Range	84.37	329	eP	P	20 17 26.9	-0.2
	comp=Z,145nm,0.6s						
SRU	San Rafael Swe	84.40	332	eP	P	20 17 26.5	-0.8
SRU				pmax	pmax		
	comp=Z,141nm,2.0s						
SRU	San Rafael Swe	84.40	332	eP	P	20 17 26.4	-0.8
	comp=Z,140nm,2.0s						
N23A	Red Feather La	84.41	336	⇓P	P	20 17 27.5	+0.1
	baz=85,SNR=7.8						
O20A	White River Ci	84.49	334	⇓P	P	20 17 27.6	-0.1
	baz=85						
O20A	White River Ci	84.49	334	eP	P	20 17 27.2	-0.5
	comp=Z,113nm,1.9s						
K29A	Lazy Trails An	84.49	341	⇓P	P	20 17 27.3	-0.2
	baz=85						
N22A	Wattenberg Ran	84.49	336	⇓P	P	20 17 28.0	+0.2
	baz=85,SNR=7.0						
ECSD	EROS Data Cent	84.51	343	⇓P	P	20 17 27.0	-0.5
	baz=85						
ECSD	EROS Data Cent	84.51	343	eP	P	20 17 25.9	-1.6
	comp=Z,177nm,1.9s						
ECSD				LR	LR		
	comp=Z,720nm,19.0s						
M24A	Cheyenne	84.58	337	⇑P	P	20 17 28.2	+0.1
	baz=85,SNR=6.8						
PHWY	Pilot Hill	84.63	336	eP	P	20 17 27.7	-0.8
	comp=Z,231nm,2.9s						
FURC	Furnace Creek,	84.68	326	⇑P	P	20 17 29.1	+0.7
	baz=85						
ISA	Isabella, Lake	84.72	325	eP	P	20 17 30.0	+1.2
ISA				pmax	pmax		
	comp=Z,117nm,2.0s						
ISA	Isabella, Lake	84.72	325	⇓P	P	20 17 29.4	+0.5
	baz=85,SNR=15						
ISA	Isabella, Lake	84.72	325	eP	P	20 17 30.0	+1.2
	comp=Z,117nm,2.0s						
K28A	Ten Mile Ranch	84.73	340	⇓P	P	20 17 28.9	+0.2
	baz=85						
J30A	Dallas	84.81	341	⇑P	P	20 17 28.9	-0.2
	baz=85						
TMUT	Trail Mountain	84.81	332	eP	P	20 17 29.2	-0.3
	comp=Z,261nm,2.4s						
DAC	Darwin (Calif)	84.84	326	eP	P	20 17 29.0	-0.6
DAC				pmax	pmax		
	comp=Z,138nm,2.1s						
DAC	Darwin (Calif)	84.84	326	eP	P	20 17 28.9	-0.6
	comp=Z,138nm,2.1s						
M23A	Laramie	84.86	336	⇑P	P	20 17 29.7	+0.1
	baz=85						
L25A	Engebretsen Ra	84.95	338	⇓P	P	20 17 30.2	+0.3
	baz=85						
K27A	Flueckinger Fa	84.96	339	⇑P	P	20 17 29.7	-0.2
	baz=85,SNR=6.2						
M22A	Cedar Creek Ra	85.08	336	⇑P	P	20 17 30.3	-0.4

SPMN	Marine on St.	85.17	346	eP	P	20 17 28.8	-1.9
	comp=Z,19nm,1.0s						
K26A	Motz Farm, Whi	85.22	339	⇓P	P	20 17 31.2	0.0
	baz=86						
K25A	Mack Ranch, Ha	85.34	338	⇓P	P	20 17 31.9	0.0
	baz=86,SNR=6.2						
I30A	Oacoma	85.35	342	⇑P	P	20 17 31.4	-0.3
	baz=86						
J28A	Allard Ranch,	85.35	340	⇓P	P	20 17 31.4	-0.3
	baz=86,SNR=6.4						
J27A	Elkhorn Farm,	85.40	340	⇓P	P	20 17 32.1	0.0
	baz=86,SNR=11						
COWI	Conover	85.41	349	eP	P	20 17 30.4	-1.5
	comp=Z,11nm,0.9s						
COWI				LR	LR		
	comp=Z,734nm,20.0s						
L23A	Garrett	85.44	337	⇑P	P	20 17 31.8	-0.7
	baz=86,SNR=6.2						
L22A	Ellis Ranch, M	85.60	336	⇓P	P	20 17 33.4	+0.2
	baz=86						
MPU	Maple Canyon	85.60	332	eP	P	20 17 33.1	-0.2
	comp=Z,71nm,1.5s						
I29A	Vivian Onida	85.67	341	⇑P	P	20 17 33.4	+0.1
	baz=86						
NLU	North Lily Min	85.71	331	eP	P	20 17 33.9	+0.1
	comp=Z,96nm,1.8s						
R11A	Troy Canyon, C	85.72	328	⇑P	P	20 17 34.2	+0.3
	baz=86						
R11A	Troy Canyon, C	85.72	328	eP	P	20 17 33.4	-0.5
	comp=Z,108nm,1.9s						
J26A	Sides Ranch, S	85.76	339	⇓P	P	20 17 33.2	-0.6
	baz=86,SNR=12						
DAU	Daniels Canyon	85.81	332	eP	P	20 17 34.6	+0.1
DAU	Daniels Canyon	85.81	332	eP	P	20 17 34.6	+0.1
I28A	Midland	85.87	340	⇓P	P	20 17 33.8	-0.6
	baz=86,SNR=9.9						
K23A	Bowen Ranch, D	86.00	337	⇓P	P	20 17 34.6	-0.5
	baz=86,SNR=5.4						
J25A	Sunshine Ranch	86.03	338	⇓P	P	20 17 34.7	-0.6
	baz=86,SNR=8.6						
I27A	Quinn	86.17	340	⇓P	P	20 17 35.1	-0.7
	baz=86,SNR=5.1						
TPH	Tonopah	86.18	327	eP	P	20 17 36.1	-0.1
TPH				pmax	pmax		
	comp=Z,20nm,1.0s						
TPH	Tonopah	86.18	327	eP	P	20 17 36.1	-0.1
	comp=Z,20nm,1.0s						
K22A	Casper	86.18	336	⇓P	P	20 17 35.3	-0.8
	baz=86,SNR=12						
K22A	Casper	86.18	336	eP	P	20 17 35.4	-0.8
	comp=Z,111nm,1.6s						
DUG	Dugway, Tooele	86.20	331	eP	P	20 17 35.6	-0.6
DUG				pmax	pmax		
	comp=Z,145nm,1.9s						
DUG				MLR	MLR		
	comp=Z,739nm,20.0s						
DUG	Dugway, Tooele	86.20	331	⇑P	P	20 17 35.9	-0.3
	baz=86						
DUG	Dugway, Tooele	86.20	331	eP	P	20 17 35.6	-0.6
	comp=Z,145nm,1.9s						
DUG				LR	LR		
	comp=Z,739nm,20.0s						
H29A	Onida	86.21	341	⇑P	P	20 17 35.0	-0.9
	baz=87,SNR=7.3						
J24A	Dixon Ranch, L	86.23	338	⇑P	P	20 17 35.9	-0.3
	baz=87						
CTU	Camp Tracy	86.24	332	eP	P	20 17 36.5	+0.1
	comp=Z,97nm,2.5s						
MSNA	Messina	86.32	116	eP	P	20 17 37.6	+0.4
MSNA				AMB	AMB	20 17 42.1	
	comp=Z,35nm,1.3s						
MSNA	Messina	86.32	116	P	P	20 17 37.6	+0.4
	comp=Z,35nm,1.3s						
I26A	New Underwood	86.36	339	⇓P	P	20 17 36.5	-0.3
	baz=87						
K21A	Alcova	86.40	336	⇓P	P	20 17 36.2	-1.0
	baz=87,SNR=12						
G30A	Faulkton	86.42	342	⇓P	P	20 17 36.4	-0.5
	baz=87						
H28A	Mission Ridge	86.46	341	⇑P	P	20 17 36.0	-1.2
	baz=87,SNR=6.1						
TCUT	Toone Canyon	86.48	332	eP	P	20 17 36.4	-1.3
	comp=Z,88nm,1.4s						
MLAC	Mammoth, Mammo	86.51	326	⇓P	P	20 17 38.0	+0.1
	baz=87						
I25A	Rochford	86.59	339	⇑P	P	20 17 37.2	-0.9
	baz=87,SNR=8.4						
G29A	Hoven	86.67	342	⇑P	P	20 17 37.8	-0.4
	baz=87						
H27A	Howes	86.70	340	⇑P	P	20 17 37.2	-1.2
	baz=87,SNR=8.9						
I24A	Kuemmerle Ranc	86.70	338	⇓P	P	20 17 37.8	-0.7
	baz=87						
MSKU	Masuku	86.75	90	PFAKE		20 17 50.0	+11
MSKU				LR	LR		
	comp=Z,3.0nm,22.0s						
RSSD	Black Hills	86.77	339	eP	P	20 17 38.3	-0.7
RSSD				pmax	pmax		
	comp=Z,74nm,2.0s						
RSSD	Black Hills	86.77	339	eP	P	20 17 38.3	-0.7
	comp=Z,74nm,2.0s						
PAF	Port-aux-Franc	86.81	157	PFAKE		20 17 50.0	+11
PAF				LR	LR		
	comp=Z,3μm,21.0s						
G28A	Parade	86.81	341	⇓P	P	20 17 38.3	-0.6
	baz=87,SNR=10						
J22A	Midwest	86.86	337	⇑P	P	20 17 38.6	-0.8
	baz=87						
TORD	Torodi Ar. Bea	86.88	71	P	P	20 17 39.6	-0.3
	comp=Z,7.9nm,0.8s,baz=226,slow=4.9,SNR=56						
BGU	Big Grassy Mou	86.92	331	eP	P	20 17 39.7	0.0
	comp=Z,7.6nm,1.1s						
NVAR	Mina Array Bea	86.94	326	P	P	20 17 39.4	-0.6
	comp=Z,4.4nm,0.7s,baz=156,slow=6.2,SNR=26						
HWUT	Hardware Ranch	86.97	332	eP	P	20 17 39.1	-0.8
HWUT				LR	LR		
	comp=Z,863nm,20.0s						
F30A	Leola	87.06	342	⇑P	P	20 17 39.8	-0.3
	baz=87						
J21A	Lysite	87.10	336	⇓P	P	20 17 39.8	-0.8
	baz=87,SNR=6.1						
H25A	Fruitdale	87.11	339	⇓P	P	20 17 39.5	-0.9
	baz=88,SNR=7.0						
BW06	Boulder Array	87.28	334	P	P	20 17 36.6	-4.9
	comp=Z,31nm,1.3s						
PDAR	Pinedale Array	87.28	334	P	P	20 17 40.1	-1.4
	comp=Z,8.5nm,0.7s,baz=141,slow=5.8,SNR=42						
PDAR				LR	LR	20 52 29.0	
	comp=Z,1μm,18.7s,baz=140,slow=33						
I22A	9 Mile Ranch,	87.29	337	⇑P	P	20 17 40.3	-1.1
	baz=88,SNR=5.7						
J20A	Shoshoni	87.31	336	⇓P	P	20 17 41.3	-0.3
	baz=88,SNR=30						
G27A	Dupree	87.35	340	⇑P	P	20 17 40.6	-1.0
	baz=88,SNR=7.7						
G26A	Maurine	87.45	340	⇓P	P	20 17 41.1	-1.0
	baz=88,SNR=12						
I21A	Big Trails, Te	87.47	336	⇓P	P	20 17 41.3	-1.1
	baz=88,SNR=14						
H24A	Dirks Ranch, A	87.50	338	⇓P	P	20 17 41.3	-1.1
	baz=88						
F28A	McLaughlin	87.50	341	⇑P	P	20 17 41.3	-1.0
	baz=88						
WAKR	Walker	87.50	326	eP	P	20 17 43.2	+0.5
CMB	Columbia Colle	87.54	325	eP	P	20 17 42.2	-0.4
CMB				pmax	pmax		
	comp=Z,28nm,1.5s						
CMB	Columbia Colle	87.54	325	eP	P	20 17 42.2	-0.4
	comp=Z,28nm,1.5s						
J19A	Crowheart	87.56	335	⇑P	P	20 17 41.7	-1.1
	baz=88,SNR=19						
HVU	Hansel Valley	87.56	332	eP	P	20 17 42.7	-0.1
HVU				pmax	pmax		
	comp=Z,32nm,1.1s						
HVU	Hansel Valley	87.56	332	eP	P	20 17 42.7	-0.1
	comp=Z,32nm,1.1s						
EYMN	Ely	87.57	348	eP	P	20 17 41.8	-0.7
	comp=Z,80nm,2.1s						
EYMN				LR	LR		
	comp=Z,644nm,19.0s						
G25A	Newell	87.58	339	⇑P	P	20 17 41.7	-1.0
	baz=88,SNR=5.4						
ELK	Elko	87.62	330	eP	P	20 17 42.5	-0.7
ELK				pmax	pmax		
	comp=Z,18nm,1.1s						
ELK	Elko	87.62	330	eP	P	20 17 42.5	-0.7
	comp=Z,18nm,1.1s						
E30A	Jud	87.66	343	⇓P	P	20 17 42.5	-0.4
	baz=88						
AHID	Auburn Hatcher	87.81	333	PFAKE		20 17 50.0	+5.9
AHID				LR	LR		
	comp=Z,984nm,19.0s						
F27A	Lemmon	87.84	341	⇓P	P	20 17 42.9	-1.0
	baz=88,SNR=11						
I20A	Worland	87.86	336	⇓P	P	20 17 43.2	-0.9
	baz=88,SNR=9.0						
E29A	Napoleon	87.89	342	⇑P	P	20 17 43.4	-0.7
	baz=88						
F26A	Lodgepole	87.99	340	⇑P	P	20 17 43.6	-1.0
	baz=88,SNR=7.6						
G24A	Alzada	87.99	339	⇓P	P	20 17 44.0	-0.7
	baz=88						
H21A	Big Horn, Sher	88.13	337	⇑P	P	20 17 44.3	-1.1
	baz=88						
E28A	Huff	88.15	342	⇑P	P	20 17 44.5	-0.8
	baz=88,SNR=5.3						
G23A	Biddle	88.15	338	⇓P	P	20 17 44.1	-1.3
	baz=88						
D30A	Buchanan	88.19	343	⇑P	P	20 17 44.4	-1.1
	baz=88,SNR=12						
I19A	Meeteetse	88.22	335	⇓P	P	20 17 45.2	-0.8
	baz=89,SNR=8.3						
E27A	Carson	88.23	341	⇓P	P	20 17 45.1	-0.6
	baz=89						
REDW	Red Top Meadow	88.25	334	eP	P	20 17 45.8	-0.4
	comp=Z,108nm,1.9s						
F25A	Bowman	88.27	340	⇓P	P	20 17 45.3	-0.7
	baz=89						
H20A	Greybull	88.30	336	⇑P	P	20 17 44.7	-1.5
	baz=89,SNR=11						
D29A	Pettibone, Tap	88.34	343	⇑P	P	20 17 45.4	-0.8
	baz=89,SNR=7.8						
LOHW	Long Hollow	88.39	334	eP	P	20 17 45.7	-1.1
	comp=Z,8.9nm,0.7s						
TPAW	Teton Pass	88.40	334	eP	P	20 17 45.5	-1.4
	comp=Z,276nm,2.6s						
G22A	Birney	88.44	338	⇑P	P	20 17 45.8	-1.0
	baz=89						
F24A	Ekalaka	88.47	339	⇓P	P	20 17 46.5	-0.5
	baz=89						
E26A	Carlson Angus	88.51	340	⇓P	P	20 17 46.0	-1.0
	baz=89,SNR=5.5						
FXWY	Fox Creek	88.56	334	eP	P	20 17 47.4	-0.2
	comp=Z,24nm,1.4s						
I17A	Pilgrim Ck.	88.65	334	⇑P	P	20 17 48.1	+0.1
	baz=89						
C30A	Mose, Pekin	88.69	343	⇑P	P	20 17 46.9	-0.9
	baz=89,SNR=16						
D28A	Regan	88.70	342	⇓P	P	20 17 47.2	-0.7
	baz=89,SNR=11						
AGMN	Agassiz Nation	88.70	345	⇑P	P	20 17 47.2	-0.7
	baz=89						
AGMN	Agassiz Nation	88.70	345	eP	P	20 17 47.4	-0.4
	comp=Z,115nm,2.0s						
AGMN				LR	LR		
	comp=Z,860nm,20.0s						
G21A	Lodge Grass	88.72	337	⇑P	P	20 17 47.6	-0.5
	baz=89						
IMW	Indian Meadow	88.75	334	eP	P	20 17 47.3	-1.3
	comp=Z,110nm,2.0s						
H19A	Powell	88.78	336	⇓P	P	20 17 47.7	-0.8
	baz=89,SNR=6.5						
FLWY	Flagg Ranch	88.83	334	eP	P	20 17 48.3	-0.6
	comp=Z,20nm,0.8s						
H18A	Shoshone NF, C	89.01	335	⇑P	P	20 17 48.9	-0.8
	baz=89,SNR=16						
D26A	Manning	89.02	341	⇓P	P	20 17 48.7	-0.7
	baz=89,SNR=9.8						
H17A	Grant Village	89.07	334	⇓P	P	20 17 50.1	+0.1
	baz=89						
H17A	Grant Village	89.07	334	eP	P	20 17 51.0	+1.0
	comp=Z,23nm,1.6s						
MDND	Maddock	89.08	343	⇓P	P	20 17 48.7	-0.9
	baz=89,SNR=12						
MDND	Maddock	89.08	343	eP	P	20 17 49.3	-0.3
	comp=Z,30nm,1.4s						
OHCM	Honcut	89.10	325	eP	P	20 17 50.3	+0.4
YFT	Old Faithful	89.20	334	eP	P	20 17 52.0	+1.4
	comp=Z,21nm,1.1s						
RLMT	Red Lodge	89.28	336	eP	P	20 17 48.7	-2.2
RLMT				LR	LR		
	comp=Z,856nm,20.0s						
D25A	Fairfield	89.36	340	⇓P	P	20 17 50.8	-0.3
	baz=90						
B30A	Myrvik Farm, E	89.36	344	⇓P	P	20 17 49.7	-1.3
	baz=90,SNR=15						
C27A	Sayler Ranch,	89.41	342	⇑P	P	20 17 50.5	-0.7
	baz=90,SNR=8.0						
YMR	Madison River	89.44	334	eP	P	20 17 52.3	+0.6
	comp=Z,35nm,1.1s						
LSZ	Lusaka	89.51	109	PFAKE		20 18 00.0	+7.3
LSZ				LR	LR		
	comp=Z,2μm,19.0s						
D24A	Glendive	89.60	340	⇑P	P	20 17 51.8	-0.4
	baz=90						
B29A	Wagenman Farm,	89.61	343	⇓P	P	20 17 51.0	-1.1
	baz=90,SNR=7.5						
C26A	Wahner Farm, P	89.67	341	⇑P	P	20 17 52.2	-0.2
	baz=90						
HLID	Hailey	89.71	332	⇑P	P	20 17 52.8	-0.2
	baz=90						
HLID	Hailey	89.71	332	eP	P	20 17 52.5	-0.5
	comp=Z,50nm,1.4s						
HLID				LR	LR		
	comp=Z,627nm,21.0s						
QLMT	Earthquake Lak	89.74	334	eP	P	20 17 53.8	+0.7
A30A	Hoffart Farm,	89.82	344	⇓P	P	20 17 51.8	-1.3
	baz=90,SNR=7.6						
B28A	Dugan Ranch, T	89.82	343	⇑P	P	20 17 53.0	-0.1
	baz=90						
F19A	Roth Farm, Mol	89.83	336	⇓P	P	20 17 51.8	-1.5
	baz=90,SNR=5.0						
D23A	Lindsay	89.90	339	⇓P	P	20 17 53.3	-0.3
	baz=90						
B27A	Peters Farms,	90.00	342	⇑P	P	20 17 53.7	-0.2
	baz=90						
C24A	Savage	90.01	340	⇓P	P	20 17 53.5	-0.5
	baz=90						
A29A	Manning Farm,	90.01	343	⇑P	P	20 17 52.8	-1.2
	baz=90,SNR=12						
MFID	Camas Ranch	90.12	331	eP	P	20 17 54.2	-0.6
	comp=Z,73nm,1.9s						
E20A	Meyer Farm, Mu	90.15	337	⇓P	P	20 17 53.5	-1.3
	baz=90,SNR=5.4						
A28A	Rude Farm, Bot	90.23	343	⇓P	P	20 17 54.7	-0.3
	baz=91						
MCMT	McKenzie Canyo	90.23	333	eP	P	20 17 53.0	-2.4
	comp=Z,23nm,1.4s						
D21A	La Casta Ranch	90.31	338	⇓P	P	20 17 55.2	-0.3
	baz=91						
E19A	Rath Farm, Rou	90.32	336	⇓P	P	20 17 55.3	-0.2
	baz=91						
KIPM	Iron Peak	90.39	324	eP	P	20 17 55.5	-0.7
	comp=Z,82nm,1.6s						
WVOR	Wild Horse Val	90.41	328	eP	P	20 17 56.2	0.0
WVOR				pmax	pmax		
	comp=Z,42nm,1.6s						
WVOR				MLR	MLR		
	comp=Z,936nm,20.0s						
WVOR	Wild Horse Val	90.41	328	eP	P	20 17 56.2	0.0
	comp=Z,42nm,1.6s						
WVOR				LR	LR		
	comp=Z,936nm,20.0s						
C23A	Lambert	90.46	339	⇓P	P	20 17 55.5	-0.6
	baz=91						
BOZ	Bozeman (W)	90.52	334	PFAKE		20 18 10.0	+13
BOZ				LR	LR		
	comp=Z,1μm,22.0s						
ULM	Lac du Bonnet	90.57	346	P	P	20 17 55.6	-0.9
	comp=Z,3.9nm,0.6s,baz=208,slow=4.3,SNR=9.1						
WDC	Whiskeytown Da	90.58	325	eP	P	20 17 56.4	-0.4
WDC				pmax	pmax		
	comp=Z,64nm,2.0s						
WDC	Whiskeytown Da	90.58	325	eP	P	20 17 56.4	-0.4
	comp=Z,64nm,2.0s						
C22A	Vida	90.61	339	⇑P	P	20 17 56.3	-0.5
	baz=91						
DLMT	Dillon	90.61	334	eP	P	20 17 57.5	+0.4
	comp=Z,81nm,1.9s						
A26A	Wade Farm, Ken	90.65	342	⇓P	P	20 17 56.6	-0.3
	baz=91						
MOD	Modoc Plateau	90.67	327	eP	P	20 17 57.9	+0.5
	comp=Z,29nm,1.7s						
D20A	Manuel Ranch,	90.68	337	⇑P	P	20 17 56.3	-0.9
	baz=91						
KMRM	Mail Ridge	90.82	324	eP	P	20 17 59.7	+1.6
	comp=Z,186nm,2.1s						
TAU	Tasmania Unive	90.85	209	PFAKE		20 18 10.0	+12
TAU				LR	LR		
	comp=Z,2μm,19.0s						
A25A	Svangstu Ranch	90.95	341	⇑P	P	20 17 58.0	-0.3
	baz=91						
LRM	Limekiln Ridge	90.96	334	eP	P	20 17 59.2	+0.4
N02D	Trinity Center	90.97	325	⇑P	P	20 17 59.0	+0.2
	baz=91						
D19A	Cripps Ranch,	90.97	337	⇓P	P	20 17 58.6	0.0
	baz=91						
B22A	Reddig Ranch S	91.14	339	⇑P	P	20 17 59.2	-0.2
	baz=92						
A24A	Westby	91.17	340	⇑P	P	20 17 58.9	-0.5
	baz=92						
C20A	Veseth Ranch,	91.20	338	⇑P	P	20 17 59.0	-0.5
	baz=92						
M04C	Macdoel	91.24	326	⇑P	P	20 18 00.6	+0.6
	baz=92						
M02C	Callahan	91.37	325	⇑P	P	20 18 01.0	+0.4
	baz=92						
HRY	Holter Researc	91.52	335	eP	P	20 18 01.5	+0.3
HRY				ePP	PP	20 21 47.0	+7.1
C19A	Slack Wire Ran	91.53	337	⇓P	P	20 18 01.1	-0.1
	baz=92						
A22A	Carney Farms,	91.75	339	⇑P	P	20 18 01.5	-0.7
	baz=92						
B20A	Solberg Farm,	91.85	338	⇑P	P	20 18 01.5	-1.2
	baz=92						
BMO	Blue Mountains	91.90	331	PFAKE		20 18 10.0	+7.0
BMO				LR	LR		
	comp=Z,556nm,22.0s						
EGMT	Eagleton	92.01	337	PFAKE		20 18 10.0	+6.6
EGMT				LR	LR		
	comp=Z,455nm,20.0s						
A21A	Bergtoll Ranch	92.03	339	⇑P	P	20 18 02.1	-1.3
	baz=92,SNR=5.8						
I07A	Izee	92.13	329	eP	P	20 18 04.7	+0.6
	comp=Z,16nm,1.5s						
B19A	Brinkman Farms	92.14	337	⇓P	P	20 18 02.5	-1.4
	baz=92,SNR=5.5						
CHMT	Chamberlain Mo	92.18	334	eP	P	20 18 04.5	+0.1
J05D	Fort Rock, OR	92.20	327	⇑P	P	20 18 04.7	+0.2
	baz=92						
A20A	Cobblestone Ra	92.22	338	⇓P	P	20 18 03.6	-0.7
	baz=93,SNR=6.0						
MSO	Missoula	92.35	334	⇑P	P	20 18 05.0	0.0
	baz=93						
MSO	Missoula	92.35	334	eP	P	20 18 05.4	+0.4
	comp=Z,34nm,1.8s						
A19A	Klindworth Far	92.50	338	⇑P	P	20 18 04.7	-0.9
	baz=93						
J04D	Umpqua Nationa	92.53	327	⇓P	P	20 18 06.3	+0.2
	baz=93						
SLMT	Seeley Lake	92.55	334	eP	P	20 18 06.0	0.0
F10A	Beach Ranch, E	92.81	331	eP	P	20 18 06.7	-0.5
	comp=Z,49nm,1.7s						
G08A	Pilot Rock	92.91	330	eP	P	20 18 07.9	+0.2
	comp=Z,17nm,1.3s						
SWMT	Swartz Lake	92.95	334	eP	P	20 18 07.9	+0.1
SCHQ	Schefferville	93.18	4	P	P	20 18 06.2	-2.3
	comp=Z,3.3nm,1.0s,baz=209,slow=4.4,SNR=3.7						
JTMT	Jette	93.25	334	eP	P	20 18 09.3	+0.1
YBMT	Yellow Bay	93.26	334	eP	P	20 18 08.5	-0.8
	comp=Z,6.5nm,0.8s						
BLMT	Blacktail Moun	93.51	334	eP	P	20 18 10.2	-0.3
BSMT	Bassoo Peak	93.52	334	eP	P	20 18 10.3	-0.2
HAWA	Hanford	94.05	330	eP	P	20 18 13.0	+0.3
	comp=Z,43nm,1.7s						
HAWA				LR	LR		
	comp=Z,942nm,19.0s						
D08A	Wollman Farm,	94.36	331	eP	P	20 18 14.2	0.0
	comp=Z,38nm,1.9s						
NEW	Newport	94.70	332	eP	P	20 18 14.9	-0.8
NEW				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NEW	Newport	94.70	332	⇑P	P	20 18 15.2	-0.5
	baz=95						
NEW	Newport	94.70	332	eP	P	20 18 14.9	-0.8
	comp=Z,8.2nm,0.9s						
RTC	Rabat Centre	95.01	50	PFAKE		20 18 30.0	+13
RTC				LR	LR		
	comp=Z,3μm,20.0s						
LON	Longmire	95.25	329	eP	P	20 18 17.8	-0.5
LON				pmax	pmax		
	comp=Z,40nm,2.0s						
LON	Longmire	95.25	329	eP	P	20 18 17.8	-0.5
	comp=Z,40nm,2.0s						
TAM	Tamanrasset	95.84	66	eP	P	20 18 18.9	-2.8
TAM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TAM				MLR	MLR		
	comp=Z,1μm,21.0s						
TAM	Tamanrasset	95.84	66	eP	P	20 18 18.9	-2.8
	comp=Z,2.8nm,0.9s						
TAM				LR	LR		
	comp=Z,1μm,21.0s						
FFC	Flin Flon	96.04	344	PFAKE		20 18 30.0	+8.4
FFC				LR	LR		
	comp=Z,1μm,19.0s						
CAN	Canberra	96.63	214	PFAKE		20 18 40.0	+15
CAN				LR	LR		
	comp=Z,3μm,20.0s						
DZM	Mont Dzumac	97.59	234	LR	LR	20 52 48.6	
	comp=Z,471nm,21.2s,baz=141,slow=30						
MTE	Manteigas	99.03	45	PFAKE		20 18 50.0	+14
MTE				LR	LR		
	comp=Z,2μm,20.0s						
ABPO	Ambohimpanom	100.29	124	PFAKE		20 18 50.0	+8.0
ABPO				LR	LR		
	comp=Z,2μm,20.0s						
RER	Riviere de l'E	103.94	132	PFAKE		20 19 10.0	+12
RER				LR	LR		
	comp=Z,805nm,20.0s						
KMBO	Kilima Mbogo	105.44	104	PFAKE		20 23 30.0	
KMBO				LR	LR		
	comp=Z,2μm,19.0s						
YKA	Yellowknife Ar	105.96	342	Pdiff	Pdif	20 19 04.4	-1.3
	comp=Z,0.2nm,0.5s,baz=148,slow=4.8,SNR=8.1						
YKA				PKiKP	PKiKP	20 23 23.6	+5.8
	comp=Z,0.4nm,0.8s,baz=156,slow=2.2,SNR=5.2						
NWAO	Narrogin (SRO)	108.20	190	PFAKE		20 23 30.0	
NWAO				LR	LR		
	comp=Z,1.0nm,21.0s						
VSL	Villasalto	108.56	54	PFAKE		20 23 30.0	
VSL				LR	LR		
	comp=Z,2μm,19.0s						
SSB	Saint Sauveur	108.97	47	PFAKE		20 23 30.0	
SSB				LR	LR		
	comp=Z,2μm,20.0s						
TARA	Tarawa	109.12	256	PFAKE		20 23 40.0	
TARA				LR	LR		
	comp=Z,3μm,22.0s						
WDD	Wield Dalam	109.90	60	PFAKE		20 23 40.0	
WDD				LR	LR		
	comp=Z,3μm,19.0s						
BNI	Bardonecchia	110.07	48	PFAKE		20 23 40.0	
BNI				LR	LR		
	comp=Z,2μm,19.0s						
BORG	Borgarnes	110.75	21	PFAKE		20 23 40.0	
BORG				LR	LR		
	comp=Z,2μm,21.0s						
CTAO	Charters Tower	110.76	220	PFAKE		20 23 40.0	
CTAO				LR	LR		
	comp=Z,4μm,21.0s						
ESK	Eskdalemuir	110.99	35	PFAKE		20 23 40.0	
ESK				LR	LR		
	comp=Z,2μm,20.0s						
HNR	Honiara	111.06	238	PFAKE		20 23 40.0	
HNR				LR	LR		
	comp=Z,89nm,20.0s						
VLC	Villacollemand	111.78	50	PFAKE		20 23 40.0	
VLC				LR	LR		
	comp=Z,2μm,22.0s						
ECH	Echery	112.12	45	PFAKE		20 23 40.0	
ECH				LR	LR		
	comp=Z,1

AQU L'Aquila 112.67 53 PFAKE 20 23 40.0
AQU LR LR
comp=Z,2μm,19.0s
BFO Black Forest 112.84 46 PFAKE 20 23 40.0
BFO LR LR
comp=Z,1μm,20.0s
CUC Castrocucco 112.98 57 PFAKE 20 23 40.0
CUC LR LR
comp=Z,2μm,20.0s
ASAR Alice Springs 112.98 207 PKiKP **PKiKP 20 23 30.1 -2.4**
comp=Z,0.6nm,0.7s,baz=128,slow=1.4,SNR=9.5
ASAR PKKPbc **PKKPbc 20 34 17.3 -0.9**
comp=Z,0.8nm,0.5s,baz=342,slow=3.1,SNR=19
ASAR PKKP **PKKPdf 20 34 36.6 -1.0**
comp=Z,0.6nm,1.0s,baz=320,slow=2.8,SNR=4.5
TIP Timpagrande 113.18 58 PFAKE 20 23 40.0
TIP LR LR
comp=Z,1μm,20.0s
EGAK Eagle 115.63 334 PFAKE 20 23 50.0 +14
EGAK LR LR
comp=Z,810nm,20.0s
GERES GERESS Array B 116.16 47 PKP **PKPdf 20 23 36.9 -0.8**
comp=Z,1.2nm,0.6s,baz=225,slow=1.5,SNR=5.6
WRA Warramunga Arr 116.22 209 PKP **PKPdf 20 23 35.7 -3.0**
comp=Z,1.3nm,0.7s,baz=154,slow=1.6,SNR=18
WRA PKKPbc **PKKPbc 20 34 07.2 +0.1**
comp=Z,0.6nm,0.6s,baz=344,slow=3.8,SNR=11
WRAB Tennant Creek 116.22 209 PFAKE 20 23 50.0 +11
WRAB LR LR
comp=Z,2μm,20.0s
KHC Kasperske Hory 116.23 47 *e*PKIKP **PKPdf 20 23 37.3 -0.4**
KHC Kasperske Hory 116.23 47 *e*PKP **PKPdf 20 23 37.3 -0.4**
MSEY Mahe Island 116.23 120 PFAKE 20 23 50.0 +11
MSEY LR LR
comp=Z,11μm,20.0s
CLL Collm 116.96 45 *e*SKSac **SKSac 20 30 30.0 +0.5**
CLL *e*PS PKKPdf 20 34 27.0 -5.5
CLL *e*SS SS 20 40 46.0 -10
CLL Lm MLR 21 10 00.0
comp=Z,1μm,19.9s
PVCC Panska Ves 117.46 46 *e*PKIKP **PKPdf 20 23 40.7 +0.7**
PVCC Panska Ves 117.46 46 *e*PKP **PKPdf 20 23 40.7 +0.7**
ILAR Eielson Array 117.66 332 PKP **PKPdf 20 23 39.0 -0.9**
comp=Z,0.6nm,0.6s,baz=145,slow=2.2,SNR=5.9
ILAR PP **PP 20 24 52.6 -0.9**
comp=Z,0.7nm,0.8s,baz=163,slow=3.4,SNR=3.8
SANT Santorini 117.73 64 PFAKE 20 23 50.0 +9.0
SANT LR LR
comp=Z,1μm,19.0s
COLA College 118.06 332 PFAKE 20 23 50.0 +9.3
COLA LR LR
comp=Z,694nm,19.0s
DPC Dobruska-Polom 118.37 47 *e*PKIKP **PKPdf 20 23 42.2 +0.4**
DPC Dobruska-Polom 118.37 47 *e*PKP **PKPdf 20 23 42.2 +0.4**
DPC *ex* x 20 24 01.3
MORC Moravsky Berou 118.82 48 ⇓*i*P **PKPdf 20 23 42.8 +0.1**
MORC Moravsky Berou 118.82 48 ⇓*i*P **PKPdf 20 23 42.8 +0.1**
VYHS Vyhne 119.01 49 *e*PKIKP **PKPdf 20 23 43.1 0.0**
VYHS Vyhne 119.01 49 *e*PKP **PKPdf 20 23 43.1 0.0**
PMG Port Moresby 119.07 227 PFAKE 20 24 00.0 +16
PMG LR LR
comp=Z,1μm,20.0s
VTS Vitosha 119.11 57 ⇑PKIKP **PKPdf 20 23 43.3 -0.3**
VTS Vitosha 119.11 57 ⇑*i*P **PKPdf 20 23 43.3 -0.3**
KONO Kongsberg 119.14 35 PFAKE 20 23 50.0 +7.1
KONO LR LR
comp=Z,3μm,19.0s
OKC Ostrava-Krasne 119.20 48 *e*PKIKP **PKPdf 20 23 43.0 -0.4**
OKC Ostrava-Krasne 119.20 48 *e*PKP **PKPdf 20 23 43.0 -0.4**
MBWA Marble Bar 119.33 194 PFAKE 20 24 00.0 +15
MBWA LR LR
comp=Z,981nm,20.0s
PSZ Piszkesteto 119.39 50 PFAKE 20 23 50.0 +6.1
PSZ LR LR
comp=Z,2μm,21.0s
BZS Buzias 119.44 53 ⇑PKIKP **PKPdf 20 23 44.1 +0.1**
BZS Buzias 119.44 53 ⇑*i*P **PKPdf 20 23 44.1 +0.1**
NB2 NORSAR Subarra120.47 34 PKPdf **PKPdf 20 23 45.0 -0.5**
comp=Z,3.5nm,1.2s,baz=248,slow=1.9
NOA NORSAR Array B 120.47 34 PKP **PKPdf 20 23 44.1 -1.4**
comp=Z,1.2nm,0.7s,baz=251,slow=2.2,SNR=4.4
DRGR 120.63 53 ⇓PKIKP **PKPdf 20 23 46.7 +0.4**
DRGR 120.63 53 ⇓*i*P **PKPdf 20 23 46.7 +0.4**
STHS Stebnicka Huta 120.84 49 *e*PKIKP **PKPdf 20 23 46.8 +0.2**
STHS Stebnicka Huta 120.84 49 *e*PKP **PKPdf 20 23 46.8 +0.2**
TRPA Tarpa 121.08 51 ⇓*i*P **PKPdf 20 23 47.6 +0.6**
VOIR 121.54 55 ⇑PKIKP **PKPdf 20 23 47.5 -0.6**
VOIR 121.54 55 ⇑*i*P **PKPdf 20 23 47.5 -0.6**
KWP Kalwaria Pacla 121.80 50 ⇓PKIKP **PKPdf 20 23 49.0 +0.6**
KWP Kalwaria Pacla 121.80 50 *e*PKP **PKPdf 20 23 49.6 +1.2**
KWP Kalwaria Pacla 121.80 50 ⇓*i*P **PKPdf 20 23 49.0 +0.6**
KWP Kalwaria Pacla 121.80 50 PFAKE 20 24 00.0 +12
KWP LR LR
comp=Z,2μm,19.0s
ISP Isparta 121.99 65 PFAKE 20 24 00.0 +11
ISP LR LR
comp=Z,6μm,19.0s
MLR Muntele Rosu 122.14 55 ⇓PKIKP **PKPdf 20 23 49.2 -0.1**
MLR Muntele Rosu 122.14 55 ⇓*i*P **PKPdf 20 23 49.2 -0.1**
MLR Muntele Rosu 122.14 55 PKP **PKPdf 20 23 48.4 -1.0**
comp=Z,0.5nm,0.6s,baz=92,slow=3.4,SNR=3.2
BURAR Bucovina Array 122.53 52 ⇓PKIKP **PKPdf 20 23 50.7 +0.7**
BURAR Bucovina Array 122.53 52 ⇓*i*P **PKPdf 20 23 50.7 +0.7**
CSS Prodhromos 122.75 69 PFAKE 20 24 00.0 +9.3
CSS LR LR
comp=Z,2μm,20.0s
VRI Vrincioaia 122.79 55 ⇓PKIKP **PKPdf 20 23 50.1 -0.3**
VRI Vrincioaia 122.79 55 ⇓*i*P **PKPdf 20 23 50.1 -0.3**
TESR Tescani 122.99 54 ⇑*i*P **PKPdf 20 23 50.6 -0.2**
CFR Carcaliu 123.43 56 ⇓PKIKP **PKPdf 20 23 51.9 +0.3**
CFR Carcaliu 123.43 56 ⇓*i*P **PKPdf 20 23 51.9 +0.3**
SUW Suwalki 123.71 45 *e*PKIKP **PKPdf 20 23 51.6 -0.3**
SUW Suwalki 123.71 45 *e*PKP **PKPdf 20 23 51.5 -0.4**
SUW Suwalki 123.71 45 *e*PKPdf **PKPdf 20 23 51.6 -0.3**
H11S2 WAKE ISLAND Hyl24.40 267 T T 22 40 13.5
baz=126,slow=75,SNR=155
H11S1 WAKE ISLAND Hyl24.41 267 T T 22 40 13.7
baz=126,slow=75,SNR=189
H11S3 WAKE ISLAND Hyl24.41 267 T T 22 40 11.1
baz=126,slow=75,SNR=65
DGAR Diego Garcia 124.42 138 PFAKE 20 24 10.0 +15
DGAR LR LR
comp=Z,34μm,21.0s
ANTO Ankara 124.47 64 PFAKE 20 24 00.0 +6.1
ANTO LR LR
comp=Z,2μm,21.0s
BRTR Keskin Array B 125.00 64 PKP **PKPdf 20 23 54.6 -0.5**
comp=Z,0.9nm,0.8s,baz=213,slow=3.1,SNR=6.3
KIEV Kiev 126.08 50 ⇓PKIKP **PKPdf 20 23 56.3 -0.2**
KIEV Kiev 126.08 50 *e*PKPdf **PKPdf 20 23 55.5 -1.0**
KIEV LR LR
comp=Z,2μm,20.0s
AKASG Malin Array Be 126.09 50 PKP **PKPdf 20 23 55.5 -1.1**
comp=Z,0.7nm,0.5s,baz=273,slow=1.8,SNR=5.6
SPITS Spitsbergen Ar 127.36 15 PKP **PKPdf 20 23 56.7 -1.6**
comp=Z,9.0nm,1.0s,baz=151,slow=3.3,SNR=3.7
FINES FINESS Array B 127.38 37 PKP **PKPdf 20 23 58.0 -0.6**
comp=Z,2.7nm,0.9s,baz=197,slow=1.5,SNR=5.6
ARCES ARCESS Array B 128.62 26 PKP **PKPdf 20 23 59.5 -1.4**
comp=Z,3.2nm,0.8s,baz=238,slow=2.3,SNR=7.5
COCO West Island 128.75 168 PFAKE 20 24 10.0 +7.2
COCO LR LR
comp=Z,2μm,21.0s
KEV Kevo 129.17 26 PFAKE 20 24 10.0 +8.1
KEV LR LR
comp=Z,4μm,20.0s
APA Apatity 131.35 29 *i* PKIKP **PKPdf 20 24 08.0 +1.9**
APA MLR MLR
comp=Z,2μm,19.0s
OBN Obninsk 131.51 46 ⇓*e*PKIKP **PKPdf 20 24 06.9 +0.2**
OBN *e* 20 26 31.4
OBN *e*SS SS 20 43 53.9 -5.6
OBN pmax pmax
comp=Z,40nm,2.0s
OBN MLR MLR
comp=Z,2μm,17.0s
OBN Obninsk 131.51 46 PKP **PKPdf 20 24 05.9 -0.8**
comp=Z,6.4nm,0.4s,baz=285,slow=7.1,SNR=4.5
OBN Obninsk 131.51 46 PKP **PKPdf 20 24 05.9 -0.8**
OBN LR LR
comp=Z,3μm,21.0s
LVZ Lovozero 131.83 29 PFAKE 20 24 20.0 +13
LVZ LR LR
comp=Z,4μm,20.0s

KIV Kislovodsk 132.80 62 *e*PKIKP **PKPdf 20 24 08.6 -1.1**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 132.80 62 PFAKE 20 24 20.0 +10
KIV LR LR
comp=Z,869nm,19.0s
KBZ Khabaz 132.88 62 PKP **PKPdf 20 24 09.1 -0.6**
comp=Z,1.3nm,0.8s,baz=339,slow=8.3,SNR=3.7
GNI Garni 133.10 68 PFAKE 20 24 20.0 +10
GNI LR LR
comp=Z,3μm,22.0s
KLMR Klimovskoe 133.74 39 *e*PKIKP **PKPdf 20 24 09.2 -1.5**
KLMR pmax pmax
comp=Z,38nm,1.9s
KAPI Kappang 134.95 199 PFAKE 20 24 30.0 +15
KAPI LR LR
comp=Z,2μm,20.0s
MAK Makhachkala 135.91 65 *i* PKIKP **PKPdf 20 24 15.3 -0.1**
MAK *e* 20 26 54.3
MAK *e*SSS SSS 20 49 56.9
MAK pmax pmax
comp=Z,19nm,0.4s
BILL Bilibino 136.32 332 *ce*PKIKP **PKPdf 20 24 15.4 0.0**
BILL pmax pmax
comp=Z,17nm,1.9s
BILL Bilibino 136.32 332 *e*PKPdf **PKPdf 20 24 14.9 -0.5**
BILL LR LR
comp=Z,1μm,20.0s
PRGR Permogore 136.69 37 *e*PKIKP **PKPdf 20 24 15.8 -0.4**
PRGR pmax pmax
comp=Z,97nm,1.7s
PET Petropavlovsk 141.70 310 PFAKE 20 24 40.0 +14
PET LR LR
comp=Z,2μm,20.0s
PETK Petropavlovsk- 142.28 310 PKhKP PKPpre 20 24 22.7
comp=Z,8.8nm,1.0s,baz=272,slow=6.6,SNR=3.8
PETK PKP **PKPdf 20 24 26.2 -0.6**
comp=Z,6.4nm,0.8s,baz=141,slow=7.3,SNR=4.4
GEYT Alibeck 142.38 75 PKhKP PKPpre 20 24 22.7
comp=Z,4.2nm,0.8s,baz=266,slow=4.5,SNR=10
KSM Kuching 142.95 186 ⇓P PKPdf 20 24 20.7 -8.5
KSM Kuching 142.95 186 *e*PKPdf **PKPdf 20 24 28.5 -0.7**
KSM LR LR
comp=Z,2μm,19.0s
MYKOM Kota Tinggi 143.35 176 ⇑P PKPab 20 24 24.4 -1.4
KGM Kluang 143.54 175 ⇑P PKPab 20 24 26.1 -0.5
SBUM Sibu 143.70 190 ⇓P PKPab 20 24 27.3 +0.1
ARU Arti 143.90 44 *e*PKIKP PKPab 20 24 26.9 +0.2
ARU Arti 143.90 44 *e*PKPdf PKPab 20 24 27.3 +0.6
ARU LR LR
comp=Z,3μm,19.0s
AKTO Aktyubinsk 144.07 55 PKP **PKPab 20 24 27.7 +0.2**
comp=Z,14nm,0.9s,baz=202,slow=2.0,SNR=46
DAV Davao City (W) 144.22 214 PFAKE 20 24 40.0 +8.6
DAV LR LR
comp=Z,1μm,22.0s
BTM Bintulu 144.31 191 ⇓P **PKPab 20 24 30.4 +0.9**
TSM Tawau 144.37 200 ⇑P **PKPdf 20 24 33.6 +1.9**
FRIM Kepong 144.59 172 ⇓P **PKPab 20 24 29.5 -1.0**
TIXI Tiksi 144.90 348 *e*PKIKP **PKPab 20 24 28.2 -1.7**
TIXI MLR MLR
comp=Z,2μm,21.0s
TIXI Tiksi 144.90 348 *e*PKPdf **PKPab 20 24 28.2 -1.7**
TIXI LR LR
comp=Z,2μm,21.0s
MYLDM Lahad Datu 145.04 201 ⇓P **PKPab 20 24 31.8 -0.3**
ABKAR Akbulak array 145.32 57 *e*PKPbc **PKPbc 20 24 32.2 +0.2**
MDRS Chennai 145.59 130 *e*P **PKPab 20 24 39.2 +5.1**
LHMI Lhok Sumawe 145.74 163 *e*PKPdf **PKPdf 20 24 33.5 -0.5**
IPM Ipoh 145.74 170 ⇑P **PKPdf 20 24 33.3 -0.7**
IPM Ipoh 145.74 170 *e*PKPdf **PKPdf 20 24 33.1 -1.0**
SDKM Sandakan 145.84 199 ⇓P **PKPdf 20 24 32.4 -1.8**
KKM Kota Kinabalu 146.47 198 ⇓P **PKPdf 20 24 35.6 +0.2**
KKM Kota Kinabalu 146.47 198 *e*PKPdf **PKPdf 20 24 34.5 -0.9**
KKM LR LR
comp=Z,2μm,22.0s
KULM Kulim 146.49 169 ⇓P **PKPdf 20 24 35.9 +0.6**
KULM Kulim 146.49 169 *e*PKPdf **PKPdf 20 24 34.5 -0.7**
KULM LR LR
comp=Z,2μm,22.0s
KTGM Kuala Trenggan 146.81 174 ⇑P **PKPdf 20 24 37.3 +1.5**
KDM Kudat 147.15 199 ⇓P **PKPdf 20 24 38.4 +2.1**
HYB Hyderabad 147.81 123 *i* PKP **PKPdf 20 24 39.5 +2.1**
PKDT Phuket 148.62 164 PKP **PKPdf 20 24 42.1 +3.3**
SURT Suratani 149.76 165 PKP **PKPbc 20 24 44.9 -0.4**
BRVK Borovoye 151.26 48 *c i* PKIKP **PKPbc 20 24 50.2 +2.5**
BRVK pmax pmax
comp=Z,17nm,2.5s
BVAR Borovoye Array 151.33 48 PKP **PKPdf 20 24 42.2 +0.4**
comp=Z,2.9nm,0.8s,baz=318,slow=2.0,SNR=12
BVAR PKPbc **PKPbc 20 24 48.3 +0.4**
comp=Z,10nm,0.7s,baz=289,slow=2.6,SNR=32
ERM Erimo 151.92 289 PFAKE 20 24 50.0 +0.4
ERM LR LR
comp=Z,1μm,20.0s
YSS Yuzh-Sakhalins 152.25 299 *e*PKIKP **PKPbc 20 24 49.9 -0.2**
YSS *e* 20 24 56.1
ASAJ Asahikawa 152.44 293 PKPbc **PKPdf 20 24 48.8 +5.0**
comp=Z,21nm,0.7s,baz=213,slow=2.7,SNR=9.2
YAK Yakutsk 152.49 336 *e*PKIKP **PKPdf 20 24 46.8 +3.5**
YAK *e* 20 24 59.6
YAK pmax pmax
comp=Z,34nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK Yakutsk 152.49 336 *e*PKPbc **PKPbc 20 24 49.2 -1.0**
YAK LR LR
comp=Z,2μm,20.0s
KKAR Karatay Array 152.56 69 *e*PKIKP **PKPdf 20 24 43.3 -0.8**
KKAR Karatay Array 152.56 69 *e*PKPdf **PKPdf 20 24 43.2 -0.8**
MJAR Matsushiro Arr 154.80 275 PKP **PKPdf 20 24 45.9 -1.6**
comp=Z,0.8nm,0.8s,baz=264,slow=4.2,SNR=4.7
MJAR PKPbc **PKPbc 20 24 54.4 -1.7**
comp=Z,1.9nm,0.9s,baz=134,slow=2.5,SNR=5.1
MJAR PKPab **PKPab 20 25 10.0 -1.3**
comp=Z,5.3nm,0.8s,baz=138,slow=3.6,SNR=13
MAJO Matsushiro 154.81 275 PFAKE 20 25 00.0 +3.9
MAJO LR LR
comp=Z,724nm,19.0s
MAT Matsushiro 154.81 275 PKP **PKPdf 20 24 52.6 +5.1**
EKS2 Erkin-Say 154.94 70 *e*PKIKP **PKPdf 20 24 47.5 -0.1**
EKS2 MLR MLR
comp=Z,1μm,20.0s
EKS2 Erkin-Say 154.94 70 *e*PKPdf **PKPdf 20 24 47.5 -0.1**
EKS2 LR LR
comp=Z,1μm,20.0s
AAK Ala-Archa 155.47 70 *e*PKIKP **PKPdf 20 24 47.9 -0.5**
AAK MLR MLR
comp=Z,831nm,21.0s
AAK Ala-Archa 155.47 70 *e*PKPdf **PKPdf 20 24 47.9 -0.5**
AAK LR LR
comp=Z,831nm,21.0s
FRU Bishkek 155.56 70 *e*PKIKP **PKPdf 20 24 48.0 -0.3**
FRU *e* 20 28 54.0
TKM2 Tokmak 2 156.28 69 *e*PKIKP **PKPdf 20 24 48.1 -1.4**
TKM2 MLR MLR
comp=Z,2μm,21.0s
TKM2 Tokmak 2 156.28 69 *e*PKPdf **PKPdf 20 24 48.1 -1.4**
TKM2 LR LR
comp=Z,2μm,21.0s
KSH Kashi 156.35 78 PKP **PKPdf 20 24 49.4 -0.2**
KSH sPKP 20 25 03.0
KSH PKS **PKSdf 20 28 23.6 0.0**
KSH PP PP 20 28 51.3 -5.0
KSH PPMZ
comp=Z,130nm,4.9s
KSH LN
comp=Z,100nm,4.5s
KSH LE
comp=Z,64nm,4.4s
KSH LZ
comp=Z,420nm,14.9s
UBPT Khong Chiam 156.82 178 PKP PKPdf 20 24 57.7 +7.0
KURBB Kurchatov Arra 156.88 49 PKP **PKPdf 20 24 49.6 -0.1**
comp=Z,2.6nm,0.7s,baz=291,slow=1.8,SNR=17
KURK Kurchatov 156.90 49 PKIKP **PKPdf 20 24 49.6 -0.1**
KURK MLR MLR
comp=Z,1μm,22.0s
KURK Kurchatov 156.90 49 PKP **PKPdf 20 24 49.6 -0.1**
KURK LR LR
comp=Z,1μm,22.0s
NVS Novosibirsk 157.37 36 *e*PKIKP **PKPdf 20 24 48.5 -1.7**

NVS pmax pmax
comp=Z,38nm,2.0s
NVS pmax pmax
comp=E,6.0nm,1.5s
PBKT Sadao Pong 157.59 166 PKP **PKPdf 20 24 56.2 +4.6**
DANN Dangsing 158.56 112 *e*P **PKPdf 20 24 52.1 -0.8**
ZALV Zalesovo Beam 158.65 37 PKP **PKPdf 20 24 50.9 -0.9**
comp=E,3.6nm,0.7s,baz=265,slow=2.1,SNR=17
ZALV PKPab **PKPab 20 25 27.6 +0.4**
comp=E,4.8nm,0.7s,baz=303,slow=3.7,SNR=6.7
CMAR Chiang Mai Arr 158.95 160 PKP **PKPdf 20 24 52.4 -0.9**
comp=E,1.1nm,0.9s,baz=245,slow=3.1,SNR=7.4
CMAR PKPab **PKPab 20 25 28.1 -1.3**
comp=E,6.3nm,1.2s,baz=214,slow=4.1,SNR=7.8
KLR Kul'dur 158.96 309 *e*PKIKP PKPdf 20 24 45.3 -7.0
GKN Gorkha 159.00 114 *e*P **PKPdf 20 24 51.9 -1.4**
DMN Daman 159.10 115 *e*P **PKPdf 20 24 52.5 -1.1**
PKIN Phulchoki 159.29 116 *e*P **PKPdf 20 24 52.6 -1.2**
CHTO Chiang Mai 159.29 160 PKP PKPdf 20 25 01.6 +7.9
CHTO Chiang Mai 159.29 160 PFAKE 20 25 00.0 +6.3
CHTO LR LR
comp=Z,625nm,20.0s
CMMT Chiang Mai 159.29 160 PKP PKPdf 20 25 01.6 +7.9
PKI Pulchoki 159.29 116 *e*P **PKPdf 20 24 51.8 -2.1**
KKN Kakani 159.33 115 *e*P **PKPdf 20 24 52.4 -1.4**
comp=Z,29nm,1.5s
RAMN Ramite 159.74 119 *e*P **PKPdf 20 24 53.7 -0.6**
GUN Gumba 159.83 116 *e*P **PKPdf 20 24 53.8 -0.7**
JIRN Jiri 159.90 117 *e*P **PKPdf 20 24 53.6 -1.0**
USRK Ussuriysk Ar. 160.06 295 PKPab **PKPab 20 25 32.6 -1.2**
comp=Z,3.4nm,0.8s,baz=132,slow=5.8,SNR=6.7
BOD Bodaibo 160.08 348 *e*PKIKP PKPdf 20 25 02.6 +9.3
BOD *e* 20 25 31.4
BOD pmax pmax
comp=Z,11nm,1.5s
ODAN Odare 160.22 120 *e*P **PKPdf 20 24 54.3 -0.5**
QIZ Qiongzhong 160.34 190 PKP **PKPdf 20 24 52.8 -2.1**
QIZ PP **PP 20 29 16.8 +0.3**
QIZ PPMZ
comp=Z,90nm,4.7s
QIZ LZ
comp=Z,940nm,15.8s
QIZ Qiongzhong 160.34 190 PFAKE 20 25 00.0 +5.1
QIZ LR LR
comp=Z,702nm,20.0s
MKAR Makanchi Array 160.46 57 PKP **PKPdf 20 24 54.0 -0.2**
comp=Z,1.4nm,0.7s,baz=0.0,slow=1.2,SNR=13
MKAR PKPab **PKPab 20 25 34.4 -1.1**
comp=Z,2.2nm,0.7s,baz=283,slow=3.1,SNR=10
MKAR PP **PP 20 29 17.8 -0.5**
comp=Z,2.6nm,1.0s,baz=305,slow=5.1,SNR=3.8
TAPN Taplejung 160.75 120 *e*P **PKPdf 20 24 54.7 -0.8**
CRAI Chiangrai 161.01 162 PKP **PKPdf 20 24 57.9 +2.3**
YHNB Yeheng 161.26 227 PFAKE 20 25 10.0 +14
YHNB LR LR
comp=Z,697nm,20.0s
TATO Taipei 161.43 228 PFAKE 20 25 10.0 +14
TATO LR LR
comp=Z,654nm,19.0s
MDJ Mudanjiang 161.68 297 P **PKPab 20 25 40.1 -0.7**
MDJ pmax pmax
comp=Z,21nm,1.0s
MDJ pmax pmax
comp=Z,220nm,4.9s
MDJ Mudanjiang 161.68 297 PKP **PKPdf 20 24 57.0 +1.5**
MDJ pPKP **pPKPdf 20 25 05.8 +4.1**
MDJ sPKP 20 25 09.0
MDJ PKS **PKSdf 20 28 29.1 +0.5**
MDJ PPMZ
comp=Z,300nm,10.7s
MDJ LN
comp=Z,1μm,21.9s
MDJ LE
comp=Z,600nm,22.9s
MDJ LZ
comp=Z,1μm,17.4s
MDJ Mudanjiang 161.68 297 PFAKE 20 25 10.0 +14
MDJ LR LR
comp=Z,566nm,20.0s
QZH Quanzhou 162.99 221 *i* PKP **PKPdf 20 24 57.0 -0.4**
QZH PP **PP 20 29 31.3 0.0**
QZH LZ
comp=Z,1μm,14.3s
KSRS Korea Array 163.04 273 PKP **PKPdf 20 24 57.3 +0.2**
comp=Z,0.8nm,0.7s,baz=128,slow=2.0,SNR=3.3
KSRS PKPab **PKPab 20 25 45.0 -2.1**
comp=Z,3.6nm,0.8s,baz=116,slow=3.9,SNR=8.7
KSAR Wonju Array Be 163.07 273 PKIKP **PKPdf 20 24 57.3 +0.2**
KSAR 20 25 45.0
KSAR Wonju Array Be 163.07 273 PKP **PKPdf 20 24 57.3 +0.2**
KSAR PKPab **PKPab 20 25 45.0 -2.2**
INCN Inchon 164.06 272 PFAKE 20 25 10.0 +12
INCN LR LR
comp=Z,840nm,19.0s
LSA Lhasa 164.58 120 *e*PKIKP **PKPdf 20 24 58.4 -1.0**
LSA MLR MLR
comp=Z,2μm,22.0s
LSA Lhasa 164.58 120 *e*PKPdf **PKPdf 20 24 58.4 -1.0**
LSA LR LR
comp=Z,2μm,22.0s
CN2 Changchun 164.77 296 *e*PKP **PKPdf 20 24 59.5 +1.0**
CN2 PPMZ
comp=Z,400nm,8.0s
CN2 LN
comp=Z,300nm,20.0s
CN2 LE
comp=Z,400nm,20.0s
CN2 LZ
comp=Z,400nm,20.0s
WMQ Urumqi 164.93 64 PKP **PKPdf 20 24 58.0 -0.7**
WMQ pPKP **pPKPdf 20 25 09.0 +4.1**
WMQ PKPab **PKPab 20 25 57.5 +2.3**
WMQ PKS **PKSdf 20 28 29.6 -1.9**
WMQ PP **PP 20 29 43.6 +1.4**
WMQ SKS **SKSdf 20 31 57.0 -5.0**
WMQ SKKS **SKKSac 20 36 25.8 -2.8**
WMQ SS **SS 20 50 11.8 -4.1**
WMQ PPMZ
comp=Z,390nm,6.0s
WMQ LN
comp=Z,2μm,21.0s
WMQ LE
comp=Z,1μm,20.0s
WMQ LZ
comp=Z,2μm,17.0s
HIA Hailar 165.64 323 PFAKE 20 25 10.0 +11
HIA LR LR
comp=Z,866nm,20.0s
KMI Kunming 166.26 166 PKP **PKPdf 20 24 59.8 -0.8**
KMI PPMZ
comp=Z,200nm,7.2s
KMI LN
comp=Z,460nm,17.4s
KMI LE
comp=Z,770nm,17.4s
KMI LZ
comp=Z,800nm,20.6s
TLY Talaya 166.71 8 *e*PKIKP **PKPdf 20 24 59.7 -0.1**
TLY *e* 20 26 03.0
TLY *e* 20 29 49.4
TLY pmax pmax
comp=Z,8.0nm,1.5s
TLY Talaya 166.71 8 PFAKE 20 25 10.0 +10
TLY LR LR
comp=Z,903nm,20.0s
ZAK Zakamensk 167.94 10 *e*PKIKP **PKPdf 20 25 03.3 +2.4**
ZAK *e* 20 26 07.6
ZAK *e* 20 30 01.9
ZAK pmax pmax
comp=Z,3.0nm,1.9s
GYA Guiyang 167.96 181 *i* PKP **PKPdf 20 25 01.3 -0.4**
GYA pPKP **pPKPdf 20 25 12.6 +4.7**
GYA PKPab **PKPab 20 26 11.0 +2.2**
GYA PKS **PKSdf 20 28 32.8 -1.7**
GYA PP **PP 20 30 01.4 +4.8**
GYA SKKS 20 36 43.5
GYA PPMZ
comp=Z,260nm,8.3s
GYA LN
comp=Z,460nm,24.8s
GYA LE
comp=Z,340nm,25.5s
GYA LZ
comp=Z,380nm,24.6s
NJ2 Nanjing 167.99 241 *e*PKP **PKPdf 20 25 02.1 +0.8**

DL2	**Dalian**	**168.14**	**277**	PKP	**PKPdf**	**20 25 05.3**	**+4.1**
DL2				LE			
	comp=Z,930nm,17.7s						
DL2				LZ			
	comp=Z,770nm,20.6s						
ULN	**Ulaanbaatar**	**170.66**	**358**	*e*PKIKP	**PKPdf**	**20 25 01.1**	**-1.6**
ULN				MLR	MLR		
	comp=Z,1μm,22.0s						
ULN	**Ulaanbaatar**	**170.66**	**358**	*e*PKPdf	**PKPdf**	**20 25 01.1**	**-1.6**
ULN				LR	LR		
	comp=Z,1μm,22.0s						
SONM	**Songino Array**	**170.70**	**0**	PKP	**PKPdf**	**20 25 00.9**	**-1.8**
	comp=Z,1.8nm,1.0s,baz=185,slow=1.0,SNR=12						
SONM				PKPab	**PKPab**	**20 26 20.9**	**+0.5**
	comp=Z,5.2nm,1.1s,baz=356,slow=2.9,SNR=7.2						
SONM				PP	PP	20 30 03.9	-6.6
	comp=Z,0.5nm,0.8s,baz=341,slow=3.1,SNR=3.3						
ENH	**Enshi**	**171.39**	**198**	PFAKE		20 25 10.0	+6.5
ENH				LR	LR		
	comp=Z,378nm,19.0s						
CD2	**Chengdu**	**172.08**	**163**	*e*PKP	**PKPdf**	**20 25 03.8**	**0.0**
CD2				pPKP	**pPKPdf**	**20 25 16.8**	**+6.8**
CD2				PKPab	**PKPab**	**20 26 27.6**	**+0.7**
CD2				PKS	**PKSdf**	**20 28 35.5**	**-0.7**
CD2				PP	**PP**	**20 30 17.8**	**+0.5**
CD2				SKS	SKSdf	20 32 00.4	-5.9
CD2				SKKS	**SKKSac**	**20 37 03.3**	**-0.5**
CD2				PPMZ			
	comp=Z,310nm,11.8s						
BJI	**Beijing**	**172.31**	**284**	PKP	**PKPdf**	**20 25 02.3**	**-1.2**
BJI				PPMZ			
	comp=Z,500nm,7.5s						
BJI				LN			
	comp=Z,650nm,19.2s						
BJI				LE			
	comp=Z,930nm,17.6s						
BJI				LZ			
	comp=Z,720nm,20.0s						
BJT	**Baijiatuau**	**172.32**	**284**	PFAKE		20 25 10.0	+6.4
BJT				LR	LR		
	comp=Z,1μm,20.0s						
GTA	**Gaotai**	**174.75**	**78**	*e*PKP	**PKPdf**	**20 25 04.9**	**+0.2**
GTA				pPKP	**pPKPdf**	**20 25 15.8**	**+4.9**
GTA				sPKP		20 25 19.8	
HHC	**Hu-ho-hao-te**	**175.43**	**302**	*e*PKP	**PKPdf**	**20 25 03.8**	**-1.0**
HHC				sPKP		20 25 17.4	
HHC				PKPab	**PKPab**	**20 26 42.3**	**+0.4**
HHC				SKKS		20 37 18.5	
HHC				PPMZ			
	comp=Z,730nm,7.4s						
HHC				LN			
	comp=Z,4μm,22.2s						
HHC				LE			
	comp=Z,5μm,19.7s						
HHC				LZ			
	comp=Z,3μm,22.2s						
LZH	**Lanzhou**	**176.79**	**139**	*e*PKP	**PKPdf**	**20 25 06.0**	**+0.7**
LZH				pPKP	**pPKPdf**	**20 25 17.8**	**+6.3**
LZH				sPKP		20 25 22.8	
LZH				*e*SKKS		20 37 25.0	
LZH				PPMZ			
	comp=Z,380nm,4.7s						
LZH				LN			
	comp=Z,850nm,16.8s						
LZH				LE			
	comp=Z,1μm,16.5s						
LZH				LZ			
	comp=Z,750nm,19.2s						

IDC 14 20:05:56.6±2.9, 5°.54S×153°.93E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, ML2.6/1, Error ellipse: s-maj=103.2km s-min=34.6km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.74**	**240**	Pn	Pn	20 07 52.0	+1.4
	0.5nm,0.3s,baz=25,slow=14,SNR=2.5						
PMG				Sn	Sn	20 09 15.4	-3.7
	0.6nm,0.3s,baz=318,slow=16,SNR=2.7						
WRA	**Warramunga Arr**	**23.84**	**231**	P	P	20 11 11.7	0.0
	0.7nm,1.0s,baz=55,slow=9.9,SNR=5.4						
ASAR	**Alice Springs**	**26.40**	**225**	P	P	20 11 34.6	-0.4
	0.5nm,0.9s,baz=56,slow=9.1,SNR=6.0						
MKAR	**Makanchi Array**	**81.62**	**319**	P	P	20 18 17.2	+0.5
	0.3nm,0.8s,baz=115,slow=7.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**151.60**	**287**	PKPbc	PKPbc	20 25 53.4	-0.6
	0.2nm,0.5s,baz=86,slow=2.4,SNR=5.0						

*IDC **14** 20:13:23.7±0.8, 38°.43S×73°.86W, h0km, mb4.1/11, mb1 4.2/14, mb1mx4.1/27, mbtmp4.1/14, ML3.4/2, MS4.7/1, Ms1 4.7/1, ms1mx3.7/25, Error ellipse: s-maj=27.8km s-min=16.1km az=92.0*

*ISCJB **14** 20:13:27.0±0.7, 38°.38S±0°.07×73°.8W±0°.2, h33km, mb4.2/12, MS4.6/1, Error ellipse: s-maj=19.3km s-min=9.5km az=179.6*

*NEIC **14** 20:13:29.0±0.5, 38°.40S×73°.74W, h35km, mb4.8/3, Error ellipse: s-maj=16.9km s-min=7.8km az=91.0*

ISC 14 20:13:28.9±0.7, 38°.40S±0°.08×73°.8W±0°.2, h35km, n26, σ0°.93/22, mb4.2/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.41**	**134**	Pn	**Pn**	**20 14 19.2**	**-0.5**
	baz=279,slow=19						
CFAA	**Coronel Fontan**	**8.15**	**35**	Pn	**Pn**	**20 15 23.8**	**-1.0**
	0.3nm,0.3s,baz=217,slow=14,SNR=9.2						
LCO	**Las Campanas**	**9.71**	**16**	*e*Pn	**Pn**	**20 15 44.2**	**-2.1**
USHA	**Ushuaia**	**16.83**	**169**	Pn	**Pn**	**20 17 21.9**	**+0.3**
	0.2nm,0.3s,baz=21,slow=8.6,SNR=2.5						
LPAZ	**La Paz**	**22.58**	**14**	P	**P**	**20 18 28.3**	**+1.4**
	1.9nm,1.0s,baz=194,slow=6.6,SNR=3.3						
SIV	**San Ignacio**	**24.96**	**30**	P	**P**	**20 18 49.0**	**-0.2**
	2.6nm,0.6s,baz=232,slow=7.3,SNR=4.0						
ATAH	**Atahualpa**	**31.41**	**351**	LR	LR	20 29 25.8	
	comp=Z,1μm,18.9s,baz=141,slow=31						
BDFB	**Brasilia**	**32.05**	**52**	P	**P**	**20 19 54.2**	**+1.6**
	1.3nm,0.4s,baz=127,slow=20,SNR=1.9						
BCIP	**Isla Barro Col**	**47.66**	**352**	P	**P**	**20 22 01.6**	**-0.2**
	41nm,0.4s						
SNAA	**Sanae**	**48.09**	**156**	P	**P**	**20 22 03.9**	**-0.8**
	1.6nm,0.9s,baz=278,slow=15,SNR=2.5						
SNAA	**Sanae**	**48.09**	**156**	P	**P**	**20 22 03.7**	**-1.0**
	10nm,1.2s						
QSPA	**South Pole Qui**	**51.84**	**180**	P	**P**	**20 22 33.5**	**+0.1**
	2.4nm,1.0s,baz=168,slow=4.3,SNR=3.8						
QSPA	**South Pole Qui**	**51.84**	**180**	*e*P	**P**	**20 22 32.6**	**-0.8**
	3.0nm,1.1s						
VNDA	**Vanda**	**59.52**	**192**	P	**P**	**20 23 28.5**	**+0.4**
	2.2nm,1.1s,baz=159,slow=4.8,SNR=4.3						
TXAR	**Lajitas Array**	**72.95**	**333**	P	**P**	**20 24 54.0**	**-0.7**
	0.5nm,0.8s,baz=204,slow=0.9,SNR=2.9						
DBIC	**Dimbokro**	**77.91**	**71**	P	**P**	**20 25 24.1**	**+0.6**
	4.8nm,0.6s,baz=189,slow=7.5,SNR=10						
BOSA	**Boshof**	**79.26**	**118**	P	**P**	**20 25 30.6**	**-0.4**
	5.2nm,1.1s,baz=230,slow=9.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**87.00**	**71**	P	**P**	**20 26 10.9**	**+0.1**
	2.3nm,0.9s,baz=228,slow=5.4,SNR=15						
PDAR	**Pinedale Array**	**87.09**	**334**	P	**P**	**20 26 11.7**	**+0.8**
	0.4nm,0.7s,baz=180,slow=5.0,SNR=3.4						
H11S2	**WAKE ISLAND Hyl**	**24.23**	**267**	T	T	22 48 42.9	
	baz=126						
H11S1	**WAKE ISLAND Hyl**	**24.24**	**267**	T	T	22 48 41.1	
	baz=126						
H11S3	**WAKE ISLAND Hyl**	**24.24**	**267**	T	T	22 48 44.9	
	baz=126						
AKASG	**Malin Array Be**	**126.14**	**50**	PKP	**PKPdf**	**20 32 26.5**	**-0.4**
	0.2nm,0.3s,baz=258,slow=3.1,SNR=1.8						
BVAR	**Borovoye Array**	**151.37**	**48**	PKPbc	**PKPbc**	**20 33 19.4**	**+1.2**
	1.9nm,0.7s,baz=270,slow=3.4,SNR=9.1						
ZALV	**Zalesovo Beam**	**158.64**	**36**	PKPab	**PKPab**	**20 33 58.1**	**+0.6**
	0.5nm,0.4s,baz=289,slow=4.4,SNR=4.5						
MKAR	**Makanchi Array**	**160.54**	**57**	PKPab	**PKPab**	**20 34 06.2**	**+0.1**
	0.3nm,0.4s,baz=271,slow=3.1,SNR=4.0						

*IDC **14** 20:14:19.4±0.6, 38°.47S×73°.73W, h0km, mb4.3/14, mb1 4.5/17, mb1mx4.4/20, mbtmp4.4/17, ML3.4/2, Error ellipse: s-maj=20.0km s-min=13.4km az=73.0*

*NEIC **14** 20:14:20.4±4.5, 38°.44S×73°.59W, h6km±27km, mb4.9/29, Error ellipse: s-maj=16.4km s-min=7.7km az=81.0*

NEIC Felt at Temuco.

*ISCJB **14** 20:14:21.4±0.3, 38°.40S±0°.05×73°.46W±0°.08, h18km, mb4.7/42, Error ellipse: s-maj=9.1km s-min=6.6km az=2.6*

*BJI **14** 20:14:21.7, 39°.31S×72°.82W, h30km, mB5.2/5, Ms5.5/4, Ms7 5.4/4*

ISC 14 20:14:22.1±0.5, 38°.46S±0°.06×73°.7W±0°.1, h18km, n259, σ1°.18/257, mb4.8/42, 90C-94D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.30**	**134**	Pn	**Pn**	**20 15 12.0**	**-0.9**
	baz=255,slow=18						
PLCA				Lg	Lg	20 16 06.2	
	baz=219,slow=17						
CFAA	**Coronel Fontan**	**8.15**	**35**	Pn	**Pn**	**20 16 20.4**	**+0.7**
	0.3nm,0.3s,baz=64,slow=3.9,SNR=12						
CFAA				Sn	**Sn**	**20 17 53.5**	**+2.2**
	0.2nm,0.3s,baz=302,slow=19,SNR=2.7						
LCO	**Las Campanas**	**9.74**	**15**	*e*Pn	**Pn**	**20 16 40.3**	**-1.3**
LCO				*e*Sn	**Sn**	**20 18 29.0**	**-1.7**
USHA	**Ushuaia**	**16.75**	**169**	Pn	**Pn**	**20 18 15.8**	**+0.1**
	0.2nm,0.3s,baz=9.5,slow=12,SNR=1.9						
LPAZ	**La Paz**	**22.62**	**14**	P	**P**	**20 19 22.9**	**+0.3**
	14nm,0.9s,baz=173,slow=7.6,SNR=3.9						
LPAZ	**La Paz**	**22.62**	**14**	*e*P	**P**	**20 19 19.6**	**-3.1**
	16nm,0.9s						
SIV	**San Ignacio**	**24.97**	**30**	P	**P**	**20 19 44.3**	**-0.4**
	6.6nm,0.9s,baz=216,slow=16,SNR=5.0						
BDFB	**Brasilia**	**32.02**	**52**	P	**P**	**20 20 48.3**	**+0.5**
	4.5nm,0.9s,baz=270,slow=18,SNR=1.9						
OTAV	**Otavalo**	**38.76**	**352**	*e*P	**P**	**20 21 47.0**	**+0.9**
	16nm,1.3s						
ROSC	**El Rosal**	**43.10**	**359**	P	**P**	**20 22 21.6**	**-0.1**
	1.6nm,0.3s,baz=90,slow=20,SNR=2.1						
SDV	**Santo Domingo**	**47.19**	**4**	*e*P	**P**	**20 22 51.7**	**-2.3**
	11nm,0.8s						
SNAA	**Sanae**	**47.99**	**156**	P	**P**	**20 23 00.5**	**+1.0**
	2.8nm,1.1s,baz=283,slow=9.9,SNR=2.7						
QSPA	**South Pole Qui**	**51.78**	**180**	P	**P**	**20 23 29.3**	**+0.8**
	7.0nm,1.1s,baz=172,slow=7.8,SNR=3.9						
RKT	**Rikitea**	**53.94**	**268**	*e*LR	LR	20 39 15.5	
	291nm,26.5s						
RKT	**Rikitea**	**53.94**	**268**	*e*T	T	21 21 22.6	
	4.8nm,0.2s						
VNDA	**Vanda**	**59.48**	**192**	P	**P**	**20 24 23.0**	**-0.3**
	2.2nm,0.9s,baz=160,slow=3.8,SNR=5.1						
TBI	**Tubuai**	**65.10**	**259**	*e*T	T	21 35 25.2	
	6.2nm,0.3s						
MEH	**Mehetia**	**67.06**	**265**	*e*T	T	21 37 47.5	
	54nm,0.3s						
TVO	**Taravao**	**68.03**	**264**	*e*T	T	21 39 01.4	
	1.9nm,0.2s						
TIAR	**Tiarei**	**68.24**	**264**	*e*T	T	21 39 16.4	
	12nm,0.2s						
PAE	**Paea**	**68.36**	**264**	*e*T	T	21 39 25.7	
	1.6nm,0.3s						
PPT2	**Papeete2**	**68.40**	**264**	*e*LR	LR	20 46 07.0	
	306nm,23.2s						
035A	**Encino**	**68.97**	**337**	⇓P	**P**	**20 25 27.9**	**+1.7**
	baz=69						
034A	**Hebbronville**	**69.27**	**336**	⇓P	**P**	**20 25 29.7**	**+1.7**
	baz=70						
934A	**Benavides**	**69.72**	**337**	⇓P	**P**	**20 25 33.0**	**+2.2**
	baz=70						
933A	**Laredo**	**69.97**	**336**	⇑P	**P**	**20 25 33.8**	**+1.5**
	baz=70						
834A	**Tilden**	**70.22**	**337**	⇓P	**P**	**20 25 35.9**	**+2.1**
	baz=70						
833A	**Chaparral WMA,**	**70.67**	**336**	⇑P	**P**	**20 25 37.6**	**+1.0**
	baz=71,SNR=5.8						
832A	**Faith Ranch, C**	**70.82**	**336**	⇑P	**P**	**20 25 38.4**	**+0.9**
	baz=71						
733A	**Divot King Ran**	**71.00**	**336**	⇓P	**P**	**20 25 39.7**	**+1.1**
	baz=71						
636A	**Smothers Creek**	**71.04**	**339**	⇑P	**P**	**20 25 40.0**	**+1.2**
	baz=71						
634A	**China Grove, S**	**71.33**	**337**	⇓P	**P**	**20 25 41.9**	**+1.3**
	baz=72						
537A	**Green Hill Far**	**71.40**	**339**	⇓P	**P**	**20 25 42.6**	**+1.6**
	baz=72						
633A	**Saathoff Ranch**	**71.66**	**337**	⇓P	**P**	**20 25 44.0**	**+1.4**
	baz=72						
632A	**Uvalde**	**71.89**	**336**	⇑P	**P**	**20 25 44.8**	**+0.8**
	baz=72,SNR=5.4						
534A	**Blanco**	**71.97**	**337**	⇑P	**P**	**20 25 45.0**	**+0.5**
	baz=72						
340A	**Bronson**	**72.04**	**342**	⇓P	**P**	**20 25 45.9**	**+1.1**
	baz=72						
631A	**Perdido Creek**	**72.06**	**335**	⇑P	**P**	**20 25 45.6**	**+0.6**
	baz=72						
339A	**Huntington**	**72.12**	**341**	⇓P	**P**	**20 25 46.3**	**+1.0**
	baz=72						
533A	**Kerrville**	**72.18**	**337**	⇑P	**P**	**20 25 46.5**	**+0.7**
	baz=72,SNR=6.0						
LRAL	**Lakeview Retre**	**72.21**	**348**	*e*P	**P**	**20 25 43.1**	**-2.6**
	14nm,0.8s						
338A	**Crockett**	**72.34**	**341**	⇑P	**P**	**20 25 47.9**	**+1.3**
	baz=73						
337A	**Centerville**	**72.45**	**340**	⇑P	**P**	**20 25 48.9**	**+1.7**
	baz=73						
532A	**Rocksprings**	**72.50**	**336**	⇑P	**P**	**20 25 48.2**	**+0.5**
	baz=73,SNR=10						
434A	**Burnet**	**72.65**	**338**	⇑P	**P**	**20 25 48.8**	**+0.4**
	baz=73,SNR=11						
531A	**Rocksprings**	**72.74**	**336**	⇑P	**P**	**20 25 50.0**	**+0.9**
	baz=73,SNR=6.1						
239A	**Gary**	**72.75**	**342**	⇑P	**P**	**20 25 49.8**	**+0.8**
	baz=73						
336A	**Riesel**	**72.78**	**339**	⇑P	**P**	**20 25 50.1**	**+0.9**
	baz=73						
JCT	**Junction City**	**72.80**	**337**	⇑P	**P**	**20 25 50.3**	**+0.9**
	baz=73						
JCT	**Junction City**	**72.80**	**337**	*e*P	**P**	**20 25 49.1**	**-0.4**
	18nm,1.0s						
433A	**Art**	**72.84**	**337**	⇓P	**P**	**20 25 50.0**	**+0.4**
	baz=73,SNR=6.0						
335A	**Moody**	**72.84**	**339**	⇑P	**P**	**20 25 50.5**	**+0.9**
	baz=73						
530A	**J-C Ranch, Com**	**72.99**	**335**	⇓P	**P**	**20 25 51.1**	**+0.5**
	baz=73,SNR=9.0						
TXAR	**Lajitas Array**	**73.04**	**333**	P	**P**	**20 25 51.5**	**+0.6**
	4.0nm,0.9s,baz=152,slow=7.8,SNR=16						
334A	**Lometa**	**73.12**	**338**	⇑P	**P**	**20 25 51.9**	**+0.6**
	baz=74,SNR=14						
432A	**Menard**	**73.17**	**337**	⇓P	**P**	**20 25 51.8**	**+0.2**
	baz=74						
431A	**Sonora**	**73.24**	**336**	⇓P	**P**	**20 25 52.8**	**+0.7**
	baz=74						
529A	**Stev Forest Ra**	**73.26**	**334**	⇓P	**P**	**20 25 53.0**	**+0.8**
	baz=74						
333A	**Richland Sprin**	**73.34**	**338**	⇑P	**P**	**20 25 52.8**	**+0.2**
	baz=74,SNR=5.7						
WHTX	**Lake Whitney,**	**73.52**	**339**	⇑P	**P**	**20 25 54.2**	**+0.6**
	baz=74						
WHTX	**Lake Whitney,**	**73.52**	**339**	*e*P	**P**	**20 25 54.3**	**+0.8**
	16nm,0.9s						
138A	**Matatall Enter**	**73.52**	**341**	⇓P	**P**	**20 25 54.6**	**+1.0**
	baz=74						
430A	**Baggett Ranch,**	**73.54**	**335**	⇑P	**P**	**20 25 54.0**	**+0.1**
	baz=74,SNR=7.2						
429A	**Davenport Ranc**	**73.61**	**335**	⇓P	**P**	**20 25 54.9**	**+0.6**
	baz=74,SNR=6.7						
332A	**Millersview**	**73.62**	**337**	⇑P	**P**	**20 25 54.5**	**+0.2**
	baz=74,SNR=9.7						
234A	**Clairette**	**73.72**	**338**	⇓P	**P**	**20 25 55.2**	**+0.3**
	baz=74						
331A	**San Angelo**	**73.77**	**336**	⇑P	**P**	**20 25 55.2**	**+0.1**
	baz=74,SNR=7.0						
233A	**Rising Star**	**73.96**	**338**	⇓P	**P**	**20 25 56.6**	**+0.3**
	baz=74						
232A	**Coleman**	**74.06**	**337**	⇓P	**P**	**20 25 56.8**	**0.0**
	baz=74,SNR=7.0						
330A	**Mertzon**	**74.09**	**336**	⇓P	**P**	**20 25 57.5**	**+0.5**
	baz=74						
134A	**White-Moore Ra**	**74.24**	**339**	⇑P	**P**	**20 25 58.5**	**+0.7**
	baz=75						
231A	**Bronte**	**74.31**	**337**	⇑P	**P**	**20 25 58.7**	**+0.4**
	baz=75						
329A	**Wagon Wheel Ra**	**74.43**	**335**	⇓P	**P**	**20 25 59.7**	**+0.6**
	baz=75						
133A	**Hamilton Ranch**	**74.52**	**338**	⇑P	**P**	**20 25 59.9**	**+0.5**
	baz=75						
230A	**Sterling City**	**74.52**	**336**	⇓P	**P**	**20 26 00.2**	**+0.7**
	baz=75						
Z35A	**Perchaven, San**	**74.72**	**340**	⇑P	**P**	**20 26 01.2**	**+0.6**
	baz=75						
ABTX	**Abilene, Hawle**	**74.75**	**337**	⇓P	**P**	**20 26 01.3**	**+0.5**
	baz=75						
ABTX	**Abilene, Hawle**	**74.75**	**337**	*e*P	**P**	**20 26 01.4**	**+0.7**
	11nm,1.0s						
229A	**Bryant Ranch,**	**74.82**	**335**	⇑P	**P**	**20 26 01.6**	**+0.4**
	baz=75						
Z34A	**Collier Ranch,**	**74.94**	**339**	⇓P	**P**	**20 26 02.3**	**+0.4**
	baz=75						
131A	**Roby**	**75.02**	**337**	⇑P	**P**	**20 26 03.0**	**+0.6**
	baz=75						
Z33A	**Whitaker Ranch**	**75.11**	**338**	⇓P	**P**	**20 26 03.3**	**+0.5**
	baz=75						
228A	**UT Block 9, Go**	**75.21**	**335**	⇓P	**P**	**20 26 04.2**	**+0.6**
	baz=76						
Z32A	**Haskell**	**75.33**	**338**	⇓P	**P**	**20 26 04.4**	**+0.2**
	baz=76						
WVT	**Waverly**	**75.37**	**348**	*e*P	**P**	**20 26 04.2**	**0.0**
	7.6nm,0.8s						
129A	**Stewart Farms,**	**75.45**	**336**	⇑P	**P**	**20 26 05.3**	**+0.5**
	baz=76						
Y34A	**Reagan Ranch,**	**75.45**	**339**	⇓P	**P**	**20 26 04.7**	**-0.1**
	baz=76						
Z31A	**Sharp Cattle R**	**75.54**	**337**	⇑P	**P**	**20 26 05.7**	**+0.3**
	baz=76						
128A	**Castleberry Fa**	**75.64**	**335**	⇓P	**P**	**20 26 06.3**	**+0.3**
	baz=76						
Y33A	**Hilltop Ranch,**	**75.74**	**339**	⇓P	**P**	**20 26 07.0**	**+0.6**
	baz=76						
Z30A	**Sanderson Ranc**	**75.82**	**337**	⇓P	**P**	**20 26 06.8**	**-0.2**
	baz=76,SNR=5.8						
Y32A	**R-V Farms, Ver**	**75.97**	**338**	⇓P	**P**	**20 26 08.5**	**+0.7**
	baz=76						
Z29A	**Hungry Hill Ra**	**75.97**	**336**	⇓P	**P**	**20 26 07.8**	**-0.1**
	baz=76,SNR=8.4						
X34A	**Smith Ranch, M**	**76.08**	**340**	⇓P	**P**	**20 26 09.0**	**+0.7**
	baz=76						
Y31A	**Rekieta Farm,**	**76.18**	**337**	⇓P	**P**	**20 26 09.7**	**+0.7**
	baz=76						
X31A	**McDonald Ranch**	**76.72**	**338**	⇓P	**P**	**20 26 12.7**	**+0.7**
	baz=77						
W33A	**Caddo, Fort Co**	**76.77**	**339**	⇓P	**P**	**20 26 12.7**	**+0.4**
	baz=77						
TUL1	**Leonard**	**76.79**	**342**	⇑P	**P**	**20 26 12.3**	**0.0**
	baz=77,SNR=5.5						
TUL1	**Leonard**	**76.79**	**342**	*e*P	**P**	**20 26 12.5**	**+0.1**
	23nm,1.0s						
X30A	**Coker Ranch, T**	**76.81**	**337**	⇑P	**P**	**20 26 13.8**	**+1.2**
	baz=77						
V35A	**Meyer Ranch, C**	**76.91**	**341**	⇑P	**P**	**20 26 13.5**	**+0.5**
	baz=77						
W32A	**Sentinel**	**76.96**	**339**	⇑P	**P**	**20 26 13.5**	**+0.2**
	baz=77,SNR=5.1						
MSTX	**Muleshoe**	**76.97**	**335**	⇓P	**P**	**20 26 14.3**	**+0.8**
	baz=77						
V34A	**Guthrie**	**77.16**	**340**	⇑P	**P**	**20 26 14.8**	**+0.4**
	baz=78						
V34A	**Guthrie**	**77.16**	**340**	*e*P	**P**	**20 26 14.2**	**-0.2**
	9.7nm,0.8s						
W31A	**Holland Ranch,**	**77.22**	**338**	⇑P	**P**	**20 26 15.5**	**+0.6**
	baz=78						
V33A	**Lossen Ranch,**	**77.35**	**340**	⇓P	**P**	**20 26 16.0**	**+0.5**
	baz=78						
V32A	**Arapaho**	**77.46**	**339**	⇑P	**P**	**20 26 17.2**	**+1.0**
	baz=78						
AMTX	**Amarillo**	**77.47**	**337**	⇑P	**P**	**20 26 17.2**	**+0.9**
	baz=78						
W29A	**Amarillo**	**77.67**	**337**	⇑P	**P**	**20 26 18.4**	**+1.0**
	baz=78						
U34A	**Anderson Ranch**	**77.73**	**340**	⇓P	**P**	**20 26 18.3**	**+0.7**
	baz=78						
V31A	**Spring Creek L**	**77.74**	**338**	⇓P	**P**	**20 26 19.2**	**+1.5**
	baz=78						
Y24A	**Capitan**	**77.83**	**333**	⇓P	**P**	**20 26 19.2**	**+0.7**
	baz=78						
DBIC	**Dimbokro**	**77.84**	**71**	P	**P**	**20 26 19.1**	**+0.4**
	3.7nm,0.6s,baz=189,slow=5.4,SNR=5.8						
X26A	**CR and CF Fran**	**77.84**	**335**	⇑P	**P**	**20 26 19.2**	**+0.7**
	baz=78						
W27A	**Bowe Ranch, En**	**78.07**	**336**	⇑P	**P**	**20 26 20.5**	**+0.8**
	baz=78						
W26A	**Owens Ranch, T**	**78.32**	**335**	⇑P	**P**	**20 26 22.0**	**+0.8**
	baz=79						
TUC	**Tucson**	**78.44**	**329**	*e*P	**P**	**20 26 21.9**	**+0.1**
W25A	**X Bar L Ranch,**	**78.67**	**335**	⇑P	**P**	**20 26 23.8**	**+0.7**
	baz=79						
214A	**Organ Pipe Nat**	**78.98**	**327**	⇓P	**P**	**20 26 26.4**	**+1.7**
	baz=79						
W24A	**Lazy 6 Ranch,**	**78.99**	**334**	⇑P	**P**	**20 26 26.2**	**+1.4**
	baz=79						
BOSA	**Boshof**	**79.15**	**118**	P	**P**	**20 26 27.3**	**+1.3**
	4.9nm,1.0s,baz=154,slow=16,SNR=3.1						
U27A	**Thompson Grove**	**79.24**	**336**	⇓P	**P**	**20 26 27.3**	**+1.2**
	baz=80						
V25A	**Rancho No Teng**	**79.29**	**335**	⇓P	**P**	**20 26 27.4**	**+0.9**
	baz=80						
S30A	**Montezuma**	**79.66**	**339**	⇓P	**P**	**20 26 29.2**	**+0.9**
	baz=80						
T28A	**Walsh**	**79.66**	**337**	⇑P	**P**	**20 26 29.3**	**+0.9**
	baz=80						
U25A	**Circle Dot Ran**	**79.73**	**335**	⇑P	**P**	**20 26 30.2**	**+1.3**
	baz=80						
V23A	**Ortiz Mt. (NFS**	**79.74**	**334**	⇑P	**P**	**20 26 30.8**	**+1.9**
	baz=80						
T27A	**Campo**	**79.80**	**337**	⇑P	**P**	**20 26 30.4**	**+1.3**
	baz=80						
R32A	**Long Quarter,**	**79.91**	**340**	⇓P	**P**	**20 26 30.6**	**+1.0**
	baz=80						
X18A	**Snowflake**	**80.05**	**330**	⇑P	**P**	**20 26 32.1**	**+1.5**
	baz=80						
113A	**Mohawk Valley,**	**80.09**	**327**	⇓P	**P**	**20 26 32.3**	**+1.7**
	baz=80						
V22A	**San Miguel Ran**	**80.14**	**333**	⇓P	**P**	**20 26 33.0**	**+1.8**
	baz=80						
T26A	**Comanche Natio**	**80.17**	**336**	⇑P	**P**	**20 26 33.1**	**+1.8**
	baz=80						
T25A	**Trinidad**	**80.40**	**336**	⇑P	**P**	**20 26 34.3**	**+1.8**
	baz=81						
**W

baz=84
O23A Lake Granby, G 83.68 336 ⇓P **P 20 26 51.2 +1.4**
baz=84
O22A Kremmling 83.84 335 ⇑P **P 20 26 52.1 +1.4**
baz=84
CCUT Cedar City 84.03 329 *e*P **P 20 26 52.8 +1.2**
5.6nm,1.0s
LRMC Laurel Mtn Rad 84.11 325 ⇑P **P 20 26 53.7 +1.8**
baz=84
SRU San Rafael Swe 84.30 332 *e*P **P 20 26 52.9 +0.1**
5.4nm,0.9s
N23A Red Feather La 84.31 336 ⇑P **P 20 26 54.3 +1.3**
baz=85
O20A White River Ci 84.39 334 ⇓P **P 20 26 54.4 +1.1**
baz=85
N22A Wattenberg Ran 84.39 336 ⇓P **P 20 26 54.7 +1.3**
baz=85
K29A Lazy Trails An 84.40 341 ⇓P **P 20 26 54.6 +1.6**
baz=85
ECSD EROS Data Cent 84.42 343 ⇑P **P 20 26 53.8 +0.7**
baz=85
ECSD EROS Data Cent 84.42 343 *e*P **P 20 26 53.6 +0.6**
9.2nm,0.9s
M24A Cheyenne 84.48 337 ⇑P **P 20 26 55.1 +1.4**
baz=85
ISA Isabella, Lake 84.61 325 ⇑P **P 20 26 56.1 +1.8**
baz=85
K28A Ten Mile Ranch 84.63 340 ⇑P **P 20 26 55.6 +1.3**
baz=85
TMUT Trail Mountain 84.71 332 *e*P **P 20 26 56.6 +1.5**
7.2nm,1.0s
DAC Darwin (Calif) 84.73 326 *e*P **P 20 26 55.8 +0.7**
38nm,2.2s
M23A Laramie 84.76 336 ⇓P **P 20 26 56.4 +1.2**
baz=85
K27A Flueckinger Fa 84.86 339 ⇑P **P 20 26 56.6 +1.2**
baz=85
J29A Okreek 85.00 341 ⇓P **P 20 26 57.7 +1.6**
baz=85
SPMN Marine on St. 85.08 347 ⇓P **P 20 26 56.4 +0.1**
baz=85
K25A Mack Ranch, Ha 85.24 338 ⇑P **P 20 26 59.0 +1.5**
baz=86
J28A Allard Ranch, 85.26 340 ⇓P **P 20 26 58.9 +1.6**
baz=86
J27A Elkhorn Farm, 85.31 340 ⇓P **P 20 26 59.2 +1.5**
baz=86
MPU Maple Canyon 85.50 332 *e*P **P 20 27 00.3 +1.4**
9.2nm,1.1s
R11A Troy Canyon, C 85.62 328 ⇓P **P 20 27 01.2 +1.8**
baz=86
R11A Troy Canyon, C 85.62 328 *e*P **P 20 27 01.3 +1.8**
J26A Sides Ranch, S 85.66 339 ⇑P **P 20 27 00.7 +1.3**
baz=86
I28A Midland 85.78 340 ⇓P **P 20 27 01.2 +1.3**
baz=86
TPH Tonopah 86.07 327 *e*P **P 20 27 03.5 +1.7**
7.3nm,0.9s
K22A Casper 86.08 336 ⇑P **P 20 27 02.8 +1.1**
baz=86
DUG Dugway, Tooele 86.10 331 ⇓P **P 20 27 03.8 +2.0**
baz=86
DUG Dugway, Tooele 86.10 331 P **P 20 26 59.8 -1.9**
12nm,1.1s
H29A Onida 86.12 341 ⇓P **P 20 27 03.0 +1.4**
baz=86
K21A Alcova 86.30 336 ⇓P **P 20 27 04.2 +1.5**
baz=87
I25A Rochford 86.50 339 ⇑P **P 20 27 04.7 +1.0**
baz=87
G28A Parade 86.71 341 ⇓P **P 20 27 05.3 +0.8**
baz=87
J22A Midwest 86.76 337 ⇓P **P 20 27 06.2 +1.2**
baz=87
NVAR Mina Array Bea 86.84 326 P **P 20 27 06.2 +0.7**
1.3nm,0.8s,baz=155,slow=6.3,SNR=7.1
HWUT Hardware Ranch 86.86 333 *e*P **P 20 27 05.2 -0.3**
13nm,0.9s
TORD Torodi Ar. Bea 86.94 71 P **P 20 27 05.9 -0.3**
2.0nm,0.9s,baz=227,slow=4.7,SNR=8.0
H25A Fruitdale 87.01 339 ⇓P **P 20 27 06.7 +0.6**
baz=87
PDAR Pinedale Array 87.18 334 P **P 20 27 07.3 +0.2**
2.7nm,0.8s,baz=146,slow=6.0,SNR=16
J20A Shoshoni 87.22 336 ⇓P **P 20 27 08.4 +1.2**
baz=88
G26A Maurine 87.36 340 ⇓P **P 20 27 08.1 +0.5**
baz=88
I21A Big Trails, Te 87.38 336 ⇑P **P 20 27 08.6 +0.7**
baz=88
J19A Crowheart 87.45 335 ⇓P **P 20 27 08.8 +0.4**
baz=88
ELK Elko 87.51 330 *e*P **P 20 27 09.9 +1.1**
5.5nm,1.0s
F27A Lemmon 87.74 341 ⇓P **P 20 27 10.2 +0.7**
baz=88
I20A Worland 87.76 336 ⇑P **P 20 27 10.8 +1.1**
baz=88
D30A Buchanan 88.10 343 ⇑P **P 20 27 12.0 +0.9**
baz=88
I19A Meeteetse 88.12 335 ⇑P **P 20 27 12.4 +0.9**
baz=88
D29A Pettibone, Tap 88.25 343 ⇓P **P 20 27 12.6 +0.8**
baz=89
LOHW Long Hollow 88.29 334 *e*P **P 20 27 13.0 +0.7**
54nm,2.9s
TPAW Teton Pass 88.30 334 *e*P **P 20 27 13.2 +0.7**
7.3nm,0.9s
E26A Carlson Angus 88.41 341 ⇑P **P 20 27 13.2 +0.6**
baz=89
I17A Pilgrim Ck. 88.55 334 ⇓P **P 20 27 14.3 +0.7**
baz=89
C30A Mose, Pekin 88.60 344 ⇑P **P 20 27 13.8 +0.4**
baz=89
D28A Regan 88.61 342 ⇓P **P 20 27 14.4 +0.9**
baz=89
AGMN Agassiz Nation 88.61 345 ⇑P **P 20 27 13.6 +0.1**
baz=89
IMW Indian Meadow 88.65 334 *e*P **P 20 27 15.0 +0.8**
6.7nm,1.1s
FLWY Flagg Ranch 88.73 334 *e*P **P 20 27 15.5 +1.1**
7.6nm,0.9s
H18A Shoshone NF, C 88.91 335 ⇑P **P 20 27 15.7 +0.5**
baz=89
D26A Manning 88.92 341 ⇓P **P 20 27 16.1 +1.1**
baz=89
E24A Baker 88.99 339 ⇑P **P 20 27 16.2 +0.8**
baz=89
MDND Maddock 88.99 343 ⇓P **P 20 27 15.8 +0.5**
baz=89
B30A Myrvik Farm, E 89.27 344 ⇑P **P 20 27 17.1 +0.5**
baz=90
YMR Madison River 89.34 334 *e*P **P 20 27 18.4 +1.1**
8.6nm,1.0s
B29A Wagenman Farm, 89.51 343 ⇓P **P 20 27 18.7 +1.0**
baz=90
HLID Hailey 89.61 332 ⇓P **P 20 27 19.6 +1.1**
baz=90
HLID Hailey 89.61 332 *e*P **P 20 27 20.1 +1.6**
5.4nm,1.1s
A30A Hoffart Farm, 89.73 344 ⇑P **P 20 27 19.5 +0.8**
baz=90
A29A Manning Farm, 89.92 343 ⇑P **P 20 27 20.2 +0.6**
baz=90
E19A Rath Farm, Rou 90.22 337 ⇑P **P 20 27 21.6 +0.5**
baz=91
WVOR Wild Horse Val 90.31 328 *e*P **P 20 27 22.8 +1.0**
19nm,1.8s
ULM Lac du Bonnet 90.48 346 P **P 20 27 21.6 -0.6**
2.9nm,1.0s,baz=168,slow=7.2,SNR=3.8
D20A Manuel Ranch, 90.58 337 ⇑P **P 20 27 23.4 +0.6**
baz=91
C20A Veseth Ranch, 91.10 338 ⇓P **P 20 27 25.4 +0.2**
baz=91
A21A Bergtoll Ranch 91.94 339 ⇑P **P 20 27 28.9 -0.2**
baz=92
A20A Cobblestone Ra 92.12 338 ⇑P **P 20 27 29.9 0.0**
baz=92
WALA Waterton Lakes 94.16 335 *e*P **P 20 27 39.0 -0.4**
GERES GERESS Array B 116.17 47 PKP **PKPdf 20 33 04.5 +0.7**
0.6nm,0.6s,baz=160,slow=6.0,SNR=3.6
WRA Warramunga Arr 116.24 209 PKP **PKPdf 20 33 03.4 -1.4**
0.4nm,0.6s,baz=160,slow=1.7,SNR=4.8
VYHS Vyhne 119.02 49 *e*PKP **PKPdf 20 33 09.7 +0.5**
H11S2 WAKE ISLAND Hyl 24.33 267 T T 22 49 30.7
baz=126,slow=75,SNR=9.7
H11S1 WAKE ISLAND Hyl 24.33 267 T T 22 49 34.6
baz=126,slow=75,SNR=12
H11S3 WAKE ISLAND Hyl 24.33 267 T T 22 49 32.3
baz=126,slow=75,SNR=11
HYB Hyderabad 147.92 123 *i* PKP **PKPbc 20 34 06.0 -0.6**
BVAR Borovoye Array 151.34 48 PKPbc **PKPbc 20 34 14.7 +0.7**
1.6nm,0.7s,baz=316,slow=3.2,SNR=5.5
MJAR Matsushiro Arr 154.71 276 PKPab **PKPab 20 34 35.6 -1.4**
1.2nm,0.8s,baz=156,slow=3.3,SNR=4.8
KSH Kashi 156.41 78 *e*PKP **PKPdf 20 34 13.8 -1.9**
KSH PKS **PKSdf 20 37 47.8 -1.9**
KSH PP PP 20 38 17.0 -5.8
KSH SKS **SKSdf 20 41 18.3 -2.8**
KSH PPMZ
160nm,5.0s
KSH LN
110nm,8.4s
KSH LE
170nm,9.5s
ZALV Zalesovo Beam 158.64 37 PKP **PKPdf 20 34 17.1 -0.7**
2.0nm,1.0s,baz=297,slow=6.3,SNR=2.7
ZALV PKPab **PKPab 20 34 54.1 +0.9**
3.0nm,0.9s,baz=299,slow=6.1,SNR=6.2
MKAR Makanchi Array 160.49 57 PKP **PKPdf 20 34 19.9 -0.4**
1.2nm,1.0s,baz=298,slow=3.1,SNR=4.0
MKAR PKPab **PKPab 20 35 00.6 -1.0**
0.6nm,0.6s,baz=293,slow=3.4,SNR=3.7
CN2 Changchun 164.66 296 *e*PKP **PKPdf 20 34 23.8 -0.6**
SONM Songino Array 170.63 360 PKP **PKPdf 20 34 27.0 -1.7**
1.6nm,1.1s,baz=6.8,slow=1.0,SNR=3.8
SONM PKPab **PKPab 20 35 47.1 +0.9**
1.7nm,0.9s,baz=332,slow=2.5,SNR=7.6
CD2 Chengdu 172.17 163 *e*PKP **PKPdf 20 34 28.8 -1.1**
HHC Hu-ho-hao-te 175.32 302 *e*PKP **PKPdf 20 34 30.8 0.0**
HHC PP PP 20 40 06.3 +5.9
HHC SKS SKSdf 20 41 24.0 -9.0
HHC SS **SS 21 01 26.3 +1.5**
HHC PPMZ
200nm,8.6s
HHC LZ
2μm,19.7s
LZH Lanzhou 176.90 139 *e*PKP **PKPdf 20 34 30.6 -0.8**
LZH pPKP **pPKPdf 20 34 41.1 +3.5**
LZH sPKP 20 34 44.3

IDC 14 20:17:34.2±1.4, 36°.14S×72°.23W, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.9/17, mbtmp3.9/7, ML2.6/1, Error ellipse: s-maj=42.6km s-min=30.9km az=93.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.61**	**37**	Pn	Pn	20 18 59.7	+0.7
	0.2nm,0.3s,baz=233,slow=10,SNR=8.1						
CFAA				Sn	Sn	20 20 01.0	-3.1
	0.2nm,0.3s,baz=335,slow=17,SNR=1.9						
LPAZ	**La Paz**	**20.10**	**12**	P	P	20 22 10.5	+0.2
	1.6nm,0.5s,baz=196,slow=6.6,SNR=6.7						
SIV	**San Ignacio**	**22.39**	**29**	P	P	20 22 34.0	-0.3
	1.9nm,0.5s,baz=215,slow=12,SNR=3.9						
TXAR	**Lajitas Array**	**71.53**	**331**	P	P	20 28 56.6	-0.3
	0.2nm,0.5s,baz=147,slow=8.6,SNR=3.2						
DBIC	**Dimbokro**	**76.02**	**71**	P	P	20 29 23.5	-0.1
	11nm,1.2s,baz=207,slow=5.8,SNR=3.1						
BOSA	**Boshof**	**79.22**	**117**	P	P	20 29 41.8	+0.2
	2.1nm,0.7s,baz=219,slow=4.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**85.08**	**70**	P	P	20 30 11.4	-0.9
	0.3nm,0.9s,baz=225,slow=5.7,SNR=3.6						
WRA	**Warramunga Arr**	**118.82**	**209**	PKP	PKPdf	20 36 25.1	+0.1
	0.3nm,1.0s,baz=161,slow=1.6,SNR=2.5						
BVAR	**Borovoye Array**	**148.92**	**45**	PKPbc	PKPbc	20 37 23.6	+0.2
	0.3nm,0.4s,baz=286,slow=3.5,SNR=4.3						

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*IDC **14** 20:21:17.6±0.8, 38°.42S×73°.81W, h0km, mb4.1/12, mb1 4.3/15, mb1mx4.2/22, mbtmp4.1/15, ML3.5/2, Error ellipse: s-maj=29.5km s-min=16.0km az=81.0*
*ISCJB **14** 20:21:18.7±0.6, 38°.37S±0°.06×73°.7W±0°.2, h18km, mb4.1/14, Error ellipse: s-maj=18.7km s-min=8.9km az=175.8*
*NEIC **14** 20:21:22.8±0.6, 38°.37S×73°.69W, h35km, mb4.6/1, Error ellipse: s-maj=19.6km s-min=9.1km az=86.0*
ISC 14 20:21:20.5±0.7, 38°.38S±0°.08×73°.8W±0°.2, h18km, n23, σ1ş00/17, mb4.2/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.41**	**135**	Pn	Pn	20 22 12.5	-0.4
	baz=299,slow=14						
CFAA	**Coronel Fontan**	**8.13**	**35**	Pn	Pn	20 23 17.6	-0.1
	0.3nm,0.3s,baz=121,slow=1.0,SNR=20						
LCO	**Las Campanas**	**9.68**	**16**	*e*Pn	Pn	20 23 38.3	-0.9
	28nm,0.8s						
USHA	**Ushuaia**	**16.85**	**169**	Pn	Pn	20 25 15.2	-0.1
	0.4nm,0.3s,baz=316,slow=17,SNR=4.4						
LPAZ	**La Paz**	**22.55**	**14**	P	P	20 26 20.8	+0.5
	3.1nm,1.0s,baz=166,slow=6.4,SNR=6.4						
SIV	**San Ignacio**	**24.94**	**30**	P	P	20 26 42.9	0.0
	5.1nm,1.0s,baz=207,slow=2.6,SNR=5.4						
OTAV	**Otavalo**	**38.67**	**352**	*e*P	P	20 28 42.7	-1.0
	15nm,1.4s						
SNAA	**Sanae**	**48.10**	**156**	P	P	20 29 56.7	-2.0
	2.7nm,1.0s,baz=353,slow=17,SNR=3.1						
JTS	**JuntasAbangare**	**49.53**	**345**	P	P	20 30 08.7	-1.6
	4.0nm,0.9s,baz=276,slow=18,SNR=2.1						
QSPA	**South Pole Qui**	**51.87**	**180**	P	P	20 30 26.6	-1.0
	3.0nm,1.0s,baz=103,slow=2.1,SNR=4.3						
QSPA	**South Pole Qui**	**51.87**	**180**	*e*P	P	20 30 26.9	-0.7
APG	**El Apazote**	**55.37**	**340**	P	P	20 30 49.8	-3.9
	5.0nm,1.0s,baz=158,slow=11,SNR=5.0						
VNDA	**Vanda**	**59.54**	**192**	P	P	20 31 22.0	-0.3
	1.2nm,1.0s,baz=132,slow=3.7,SNR=2.8						
TXAR	**Lajitas Array**	**72.93**	**333**	P	P	20 32 49.6	+0.8
	1.3nm,0.9s,baz=156,slow=8.1,SNR=10						
BOSA	**Boshof**	**79.26**	**118**	P	P	20 33 27.3	+2.2
	4.8nm,0.9s,baz=151,slow=9.3,SNR=3.0						
LBTB	**Lobatse**	**81.71**	**115**	P	P	20 33 39.7	+1.4
	2.0nm,0.7s,baz=189,slow=13,SNR=2.2						
NVAR	**Mina Array Bea**	**86.72**	**327**	P	P	20 34 04.7	+1.3
	0.4nm,0.7s,baz=128,slow=6.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**86.98**	**71**	P	P	20 34 04.3	-0.6
	0.5nm,0.8s,baz=231,slow=4.6,SNR=5.0						
PDAR	**Pinedale Array**	**87.07**	**334**	P	P	20 34 05.1	+0.1
	1.4nm,1.0s,baz=153,slow=6.1,SNR=6.3						
H11S2	**WAKE ISLAND Hyl**	**24.24**	**267**	T	T	22 56 33.1	
	baz=128						
H11S1	**WAKE ISLAND Hyl**	**24.26**	**267**	T	T	22 56 33.2	
	baz=129						
H11S3	**WAKE ISLAND Hyl**	**24.26**	**267**	T	T	22 56 34.1	
	baz=128						
BVAR	**Borovoye Array**	**151.34**	**48**	PKPbc	PKPbc	20 41 11.5	-0.9
	0.5nm,0.7s,baz=332,slow=5.7,SNR=4.2						

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*IDC **14** 20:22:08.4±0.8, 38°.81S×73°.74W, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.3/18, mbtmp4.2/11, ML3.3/1, Error ellipse: s-maj=32.1km s-min=19.3km az=97.0*
*ISCJB **14** 20:22:11.8±0.7, 38°.8S±0°.1×73°.6W±0°.2, h33km, mb4.2/11, Error ellipse: s-maj=25.8km s-min=13.9km az=12.4*
ISC 14 20:22:13.8±0.8, 38°.8S±0°.1×73°.6W±0°.2, h35km, n19, σ1ş03/15, mb4.2/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**8.42**	**33**	Pn	Pn	20 24 12.0	-1.3
	0.4nm,0.3s,baz=198,slow=12,SNR=5.6						
LPAZ	**La Paz**	**22.93**	**14**	P	P	20 27 15.3	-0.2
	6.8nm,1.2s,baz=203,slow=13,SNR=2.6						
SIV	**San Ignacio**	**25.25**	**29**	P	P	20 27 34.9	-1.8
	5.3nm,0.9s,baz=239,slow=12,SNR=4.9						
PMSA	**Palmer Station**	**26.63**	**171**	P	P	20 27 48.0	-0.7
	14nm,0.7s,baz=336,slow=20,SNR=15						
BDFB	**Brasilia**	**32.21**	**51**	P	P	20 28 39.8	+1.0
	4.0nm,0.8s,baz=125,slow=16,SNR=2.6						
QSPA	**South Pole Qui**	**51.46**	**180**	P	P	20 31 14.3	-1.0
	3.9nm,1.1s,baz=159,slow=4.9,SNR=3.1						
APG	**El Apazote**	**55.78**	**340**	P	P	20 31 42.7	-4.9
	3.6nm,0.7s,baz=192,slow=11,SNR=4.0						
TXAR	**Lajitas Array**	**73.33**	**333**	P	P	20 33 42.0	+0.1
	2.1nm,1.0s,baz=153,slow=8.4,SNR=7.9						
DBIC	**Dimbokro**	**77.94**	**71**	P	P	20 34 09.4	+0.9
	8.8nm,1.1s,baz=167,slow=7.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**87.03**	**71**	P	P	20 34 56.4	+0.5
	1.5nm,0.8s,baz=231,slow=4.9,SNR=5.5						
NVAR	**Mina Array Bea**	**87.11**	**326**	P	P	20 34 56.4	+0.5
	0.5nm,0.7s,baz=161,slow=5.7,SNR=3.5						
PDAR	**Pinedale Array**	**87.48**	**334**	P	P	20 34 56.9	-0.7
	1.0nm,0.8s,baz=152,slow=4.1,SNR=6.8						
H11S2	**WAKE ISLAND Hyl**	**24.31**	**267**	T	T	22 57 25.3	
	baz=126,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hyl**	**24.32**	**267**	T	T	22 57 22.3	
	baz=126,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hyl**	**24.33**	**267**	T	T	22 57 30.3	
	baz=126,slow=75,SNR=9.2						
AKTO	**Aktyubinsk**	**144.27**	**55**	PKP	PKPbc	20 41 44.5	+0.7
	3.1nm,1.0s,baz=273,slow=1.9,SNR=5.9						
BVAR	**Borovoye Array**	**151.55**	**48**	PKP	**PKPdf**	**20 41 58.8**	**+1.5**
	0.9nm,0.8s,baz=325,slow=4.0,SNR=4.0						
BVAR				PKPbc	**PKiKP**	**20 42 04.1**	**+0.2**
	1.4nm,0.7s,baz=226,slow=3.9,SNR=6.8						
ZALV	**Zalesovo Beam**	**158.89**	**37**	PKPab	**PKPab**	**20 42 44.4**	**+1.0**
	0.8nm,0.4s,baz=308,slow=5.3,SNR=5.9						
SONM	**Songino Array**	**170.96**	**360**	PKP	**PKPdf**	**20 42 17.7**	**-0.2**
	0.5nm,0.9s,baz=183,slow=2.5,SNR=3.8						

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*IDC **14** 20:28:45.8±1.1, 38°.24S×73°.09W, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.8/16, mbtmp3.6/7, ML2.3/1, Error ellipse: s-maj=37.6km s-min=16.7km az=64.0*
*ISCJB **14** 20:28:49.4±0.8, 38°.3S±0°.1×72°.9W±0°.3, h33km, mb3.6/6, Error ellipse: s-maj=31.7km s-min=14.6km az=163.7*
ISC 14 20:28:50.7±1.0, 38°.2S±0°.1×72°.8W±0°.2, h33km, n8, σ1ş23/8, mb3.7/6, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.04**	**146**	Pn	**Pn**	**20 29 36.1**	**-0.4**
	baz=90,slow=20						
PLCA				Lg	Lg	20 30 27.7	
	baz=7.6,slow=15						
CFAA	**Coronel Fontan**	**7.59**	**31**	Pn	**Pn**	**20 30 38.0**	**-1.1**
	0.1nm,0.3s,baz=70,slow=0.7,SNR=6.5						
LPAZ	**La Paz**	**22.24**	**12**	P	**P**	**20 33 45.6**	**+0.3**
	0.4nm,0.6s,baz=204,slow=16,SNR=2.5						
QSPA	**South Pole Qui**	**52.01**	**180**	P	**P**	**20 37 56.0**	**-0.6**
	1.5nm,1.0s,baz=172,slow=4.7,SNR=3.5						
TXAR	**Lajitas Array**	**73.15**	**332**	P	**P**	**20 40 17.4**	**-0.6**
	0.9nm,1.0s,baz=148,slow=8.6,SNR=5.8						
TORD	**Torodi Ar. Bea**	**86.22**	**70**	P	**P**	**20 41 31.3**	**+2.2**
	0.6nm,0.9s,baz=231,slow=4.6,SNR=3.6						
NVAR	**Mina Array Bea**	**87.02**	**326**	P	**P**	**20 41 33.4**	**+0.7**
	0.2nm,0.5s,baz=134,slow=5.2,SNR=2.6						
PDAR	**Pinedale Array**	**87.27**	**334**	P	**P**	**20 41 33.7**	**-0.2**
	0.4nm,0.9s,baz=144,slow=3.4,SNR=3.2						

IDC 14 20:31:44.7±2.8, 3°.79N×95°.37E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.2/46, mbtmp3.3/5, ML3.1/1, Error ellipse: s-maj=92.1km s-min=24.0km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.68**	**105**	Pn	Pn	20 32 45.0	+1.9
	1.4nm,0.3s,baz=293,slow=13,SNR=4.3						
MKAR	**Makanchi Array**	**44.32**	**347**	P	P	20 39 57.1	+0.6
	0.1nm,0.3s,baz=163,slow=7.7,SNR=4.6						
SONM	**Songino Array**	**44.89**	**11**	P	P	20 40 00.4	-0.9
	0.5nm,0.7s,baz=187,slow=9.7,SNR=4.3						
WRA	**Warramunga Arr**	**44.96**	**123**	P	P	20 40 01.2	-0.8
	0.4nm,0.4s,baz=302,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**46.41**	**128**	P	P	20 40 13.4	0.0
	0.2nm,0.5s,baz=303,slow=8.4,SNR=3.6						

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*BJI **14** 20:33:02.2, 3°.65S×83°.42E, h10km, mB5.6/59, mb5.4/71, Ms5.5/79, Ms7 5.2/73*
*ISCJB **14** 20:33:09.8±0.1, 2°.74S±0°.02×83°.65E±0°.01, h11km, mb5.5/310, MS5.4/201, Error ellipse: s-maj=3.3km s-min=2.0km az=13.4*
*IDC **14** 20:33:09.6±0.3, 2°.73S×83°.73E, h0km, mb5.3/41, mb1 5.4/42, mb1mx5.4/43, mbtmp5.3/42, ML5.3/2, MS5.1/28, Ms1 5.1/28, ms1mx5.0/34, Error ellipse: s-maj=10.1km s-min=9.3km az=178.0*
*MOS **14** 20:33:09.9±1.0, 2°.65S×83°.67E, h10km, mb5.9/127, MS5.3/72, Error ellipse: s-maj=6.7km s-min=4.0km az=115.0*
*NEIC **14** 20:33:13.7±0.1, 2°.75S×83°.70E, h28km, mb5.7/155, ME5.3, MS5.5/137, MW5.7, MW5.8, Error ellipse: s-maj=4.0km s-min=2.7km az=193.0, Moment Tensor Solution. s45 Moment tensor: Scale 10^17^Nm; M_{rr}3.23; $M_{\theta\theta}$-2.77; $M_{\phi\phi}$-0.46; $M_{r\theta}$1.36; $M_{\theta\phi}$-1.76; $M_{\phi r}$0.25; Best double couple: $M_0$3.80000×10^17^ NP1:ϕ_s233.00000°, δ35.00000°, λ77.00000°. NP2:ϕ_s69.00000°, δ56.00000°, λ99.00000°. Principal axes: T 3.5300, Plg77.0000°, Azm9.0000°; N 0.4300, Plg7.0000°, Azm244.0000°; P -3.9600, Plg10.0000°, Azm152.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s250.00000°, δ35.00000°, λ90.00000°. NP2:ϕ_s70.00000°, δ55.00000°, λ90.00000°. Principal axes: T Plg80.0000°, Azm340.0000°; N Plg0.0000°, Azm0.0000°; P Plg10.0000°, Azm160.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*GCMT **14** 20:33:15.5±0.1, 2°.69S×83°.68E, h42km, MW5.7/121, Moment Tensor Solution. s103, c210; s121, c328; Duration: 1s8 Moment tensor: Scale 10^17^Nm; M_{rr}4.21±.06; $M_{\theta\theta}$-4.55±.04; $M_{\phi\phi}$0.34±.05; $M_{r\theta}$1.44±.05; $M_{\theta\phi}$-2.03±.04; $M_{\phi r}$0.25±.05; Best double couple: $M_0$4.96900×10^17^ NP1:ϕ_s74.00000°, δ54.00000°, λ95.00000°. NP2:ϕ_s246.00000°, δ37.00000°, λ83.00000°. Principal axes: T 4.4420, Plg81.0000°, Azm7.0000°; N 1.0550, Plg4.0000°, Azm251.0000°; P -5.4970, Plg8.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*SZGRF **14** 20:33:23.6, 2°.86S×81°.13E, h42km, mb5.6, MS5.3, South Indian Ocean*
*NEIC **14** 20:33:27.6±0.0, 2°.76S×83°.77E, h47km, Moment Tensor Solution. s149 Moment tensor: Scale 10^17^Nm; M_{rr}5.35; $M_{\theta\theta}$-4.81; $M_{\phi\phi}$-0.54; $M_{r\theta}$1.49; $M_{\theta\phi}$-2.22; $M_{\phi r}$0.63; Best double couple: $M_0$5.80000×10^17^ NP1:ϕ_s247.00000°, δ37.00000°, λ90.00000°. NP2:ϕ_s67.00000°, δ53.00000°, λ90.00000°. Principal axes: T 5.5800, Plg81.0000°, Azm337.0000°; N 0.4000, Plg0.0000°, Azm246.0000°; P -5.9900, Plg8.0000°, Azm156.0000°;*
ISC 14 20:33:11.7±0.3, 2°.75S±0°.03×83°.68E±0°.03, h15km±1km, h15km:pP-P, n1687, σ1ş24/1720, mb5.6/310, MS5.4/205, 333C-241D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.39**	**343**	P	**Pn**	**20 35 38.0**	**-2.3**
PALK				pmax	pmax		
	comp=Z,92nm,0.3s						
PALK				MLR	MLR		
	comp=Z,18nm,28.6s						
PALK	**Pallekele**	**10.39**	**343**	Pn	**Pn**	**20 35 39.2**	**-1.1**
	SNR=102						
PALK	**Pallekele**	**10.39**	**343**	Pn	**Pn**	**20 35 38.0**	**-2.3**
	comp=Z,92nm,0.3s,baz=156,slow=13,SNR=260						
PALK				Sn	Sn	20 37 26.9	-10
	comp=Z,1μm,0.3s,baz=72,slow=20,SNR=18						
PALK				LR	LR	20 39 11.7	
	comp=Z,55μm,21.3s,baz=185,slow=35						
PALK	**Pallekele**	**10.39**	**343**	⇑*i*P	**Pn**	**20 35 39.0**	**-1.3**
	SNR=406						
PALK	**Pallekele**	**10.39**	**343**	*e*Pn	**Pn**	**20 35 38.0**	**-2.3**
PALK				*e*Sn	Sn	20 37 28.2	-8.4
DGAR	**Diego Garcia**	**12.10**	**247**	*e*P	**Pn**	**20 36 02.7**	**-1.0**
DGAR	**Diego Garcia**	**12.10**	**247**	Pn	**Pn**	**20 36 04.4**	**+0.6**
	SNR=20						
DGAR	**Diego Garcia**	**12.10**	**247**	*e*Pn	**Pn**	**20 36 02.7**	**-1.0**
DGAR				*e*Sn	Sn	20 38 11.9	-6.7
H08S2	**Diego Garcia H**	**12.15**	**246**	Pn	**Pn**	**20 36 02.7**	**-1.5**
	baz=52,slow=16,SNR=3591						
H08S2				T	T	20 48 06.8	
	baz=67,slow=75,SNR=852						
H08S3	**Diego Garcia H**	**12.15**	**246**	Pn	**Pn**	**20 36 02.1**	**-2.1**
	baz=52,slow=16,SNR=6719						
H08S3				T	T	20 48 01.2	
	baz=67,slow=75,SNR=638						
H08S1	**Diego Garcia H**	**12.17**	**246**	Pn	**Pn**	**20 36 03.1**	**-1.3**
	baz=52,slow=16,SNR=1075						
H08S1				T	T	20 48 03.1	
	baz=67,slow=75,SNR=1141						
TRD	**Trivandrum**	**13.04**	**329**	⇓*i*P	**P**	**20 36 28.9**	**+2.0**

TRD				*i* S	S	20 38 54.9	-12
H08N1	**Diego Carcia H**	**13.12**	**254**	Pn	**Pn**	**20 36 19.8**	**+2.5**
	baz=80,slow=11						
H08N1				T	T	20 50 09.1	
	baz=133,slow=74,SNR=13						
H08N2	**Diego Garcia H**	**13.13**	**254**	Pn	**Pn**	**20 36 20.0**	**+2.5**
	baz=80,slow=11						
H08N2				T	T	20 50 09.6	
	baz=133,slow=74,SNR=14						
H08N3	**Diego Garcia H**	**13.14**	**254**	Pn	**Pn**	**20 36 20.1**	**+2.5**
	baz=80,slow=11						
H08N3				T	T	20 50 11.9	
	baz=133,slow=74,SNR=11						
SNSI	**Sinabang, Aceh**	**13.64**	**68**	P	**Pn**	**20 36 26.5**	**+1.7**
	comp=Z,1µm,0.6s,comp=Z,14µm						
GSI	**Gunungsitoli**	**14.46**	**74**	P	**Pn**	**20 36 37.4**	**+1.3**
	comp=Z,347nm,1.0s,comp=Z,4µm						
GSI	**Gunungsitoli**	**14.46**	**74**	*e*Pn	**Pn**	**20 36 37.8**	**+1.7**
GSI				*e*Sn	**Sn**	**20 39 15.7**	**-0.7**
TPTI		**14.76**	**66**	P	**Pn**	**20 36 42.1**	**+2.1**
	comp=Z,110nm,0.7s,comp=Z,25µm						
MNCY	**Minicoy**	**15.25**	**316**	*i* P9	S	20 39 44.0	-8.0
MNCY				*i* S	x	20 41 46.0	
KCSI	**Kotacane, Aceh**	**15.40**	**66**	P	**Pn**	**20 36 50.0**	**+1.3**
	comp=Z,605nm,0.8s,comp=Z,6µm						
LHMI	**Lhok Sumawe**	**15.44**	**59**	P	**P**	**20 36 52.2**	**-1.4**
	comp=Z,742nm,0.7s,comp=Z,8µm						
LHMI	**Lhok Sumawe**	**15.44**	**59**	P	**P**	**20 36 52.4**	**-1.3**
	baz=16,SNR=15						
LHMI	**Lhok Sumawe**	**15.44**	**59**	Pn	**Pn**	**20 36 47.9**	**-1.2**
	comp=Z,531nm,0.7s						
COCO	**West Island**	**16.06**	**126**	*e*P	**Pn**	**20 36 53.5**	**-3.6**
COCO				pmax	pmax		
	comp=Z,202nm,0.9s						
COCO	**West Island**	**16.06**	**126**	*e*Pn	**Pn**	**20 36 53.5**	**-3.6**
	comp=Z,202nm,0.9s						
MDRS	**Chennai**	**16.08**	**348⇓**	*ex*	**P**	**20 37 00.9**	**+0.2**
MDRS				*ex*	Sn	20 39 44.4	-11
TSI	**Tuntungan**	**16.12**	**67**	P	P	20 37 08.9	+7.7
PSI	**Prapat**	**16.21**	**70**	P	**Pn**	**20 36 58.7**	**-0.5**
PSI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,12µm,18.4s						
PSI	**Prapat**	**16.21**	**70**	Pn	**Pn**	**20 36 58.7**	**-0.5**
	comp=Z,2.6nm,0.3s,baz=258,slow=8.1,SNR=12						
PSI				PcP	**PcP**	**20 41 54.5**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=259,slow=10,SNR=3.4						
PSI				LR	LR	20 42 55.8	
	comp=Z,12µm,18.4s,baz=277,slow=36						
PSI	**Prapat**	**16.21**	**70**	P	**Pn**	**20 36 59.3**	**+0.1**
	baz=16,SNR=13						
MNSI	**Mandailing Nat**	**16.28**	**78**	P	**P**	**20 37 03.6**	**+0.6**
	comp=Z,303nm,0.9s,comp=Z,4µm						
PDSI	**Padang**	**16.87**	**84**	P	**P**	**20 37 08.9**	**-0.7**
	comp=Z,270nm,1.1s,comp=Z,3µm						
BKNI	**Bangkinang**	**17.62**	**80**	P	**P**	**20 37 20.9**	**+3.1**
	comp=Z,301nm,1.0s,comp=Z,5µm						
BKNI	**Bangkinang**	**17.62**	**80**	*e*Pn	**Pn**	**20 37 16.8**	**-0.1**
	comp=Z,290nm,1.0s						
SDSI	**Sungai Dareh**	**17.83**	**85**	P	P	20 37 36.3	+16
PKDT	**Phuket**	**18.04**	**54**	P	**P**	**20 37 24.4**	**+1.9**
	comp=Z,162nm,0.8s,comp=Z,3µm						
KULM	**Kulim**	**18.74**	**65**	⇓P	**Pn**	**20 37 31.0**	**+0.4**
KULM	**Kulim**	**18.74**	**65**	*e*P	**P**	**20 37 29.6**	**-0.5**
	comp=Z,90nm,0.9s						
IPM	**Ipoh**	**18.76**	**68**	⇓P	**Pn**	**20 37 31.7**	**+0.8**
IPM	**Ipoh**	**18.76**	**68**	*e*P	**P**	**20 37 29.8**	**-0.6**
	comp=Z,151nm,0.8s						
FRIM	**Kepong**	**18.90**	**72**	⇓P	**Pn**	**20 37 34.1**	**+1.5**
SURT	**Suratani**	**19.03**	**52**	P	**Pn**	**20 37 35.3**	**+1.2**
	comp=Z,47nm,0.7s,comp=Z,2µm						
MNAI	**Manna**	**19.31**	**95**	P	**Pn**	**20 37 38.8**	**+1.3**
	comp=Z,456nm,1.0s,comp=Z,5µm						
MNAI	**Manna**	**19.31**	**95**	P	**Pn**	**20 37 39.6**	**+2.1**
	baz=19,SNR=7.4						
MNAI	**Manna**	**19.31**	**95**	*e*P	**P**	**20 37 34.0**	**-2.4**
	comp=Z,439nm,1.0s						
LHSI	**Lahat**	**19.84**	**94**	P	**Pn**	**20 37 44.3**	**+0.5**
	comp=Z,417nm,1.1s,comp=Z,5µm						
JMBI	**JAMBI**	**19.98**	**87**	P	**Pn**	**20 37 47.1**	**+1.6**
	comp=Z,939nm,0.8s,comp=Z,12µm						
KGM	**Kluang**	**20.20**	**77**	⇑P	Pn	20 37 49.3	+1.2
VIS	**Vishakhapatnam**	**20.34**	**359**	*i* P	**P**	**20 37 47.9**	**+0.3**
VIS				*i* x	x	20 41 20.5	
VIS				*ex*	x	20 41 25.3	
	comp=E,332nm,0.5s						
VIS				*ex*	x	20 41 26.7	
	comp=N,214nm,0.6s						
LWLI	**Liwa**	**20.46**	**97**	P	Pn	20 37 51.9	+0.6
	comp=N,445nm,0.9s,comp=N,7µm						
BTDF	**Bukit Timah Da**	**20.50**	**79**	P	Pn	20 37 52.8	+1.2
	baz=21,SNR=13						
MDSI	**Maura Dua**	**20.53**	**95**	P	Pn	20 37 52.3	+0.3
	comp=N,369nm,0.9s,comp=N,3µm						
MYKOM	**Kota Tinggi**	**20.66**	**78**	⇓P	Pn	20 37 53.7	+0.1
MYKOM	**Kota Tinggi**	**20.66**	**78**	*e*Pn	Pn	20 37 53.7	+0.2
	comp=N,337nm,0.8s						
HYB	**Hyderabad**	**20.66**	**346**	*e*P	Pn	20 37 52.5	-1.0
HYB				*e*S	**S**	**20 41 40.0**	**-1.8**
HYB	**Hyderabad**	**20.66**	**346**	*i* P	Pn	20 37 52.5	-1.0
HYB				*e*S	**S**	**20 41 42.0**	**+0.2**
HYB				LR	LR	20 44 00.0	
	comp=N,9.3nm,24.0s						
HYB	**Hyderabad**	**20.66**	**346**	*e*P	Pn	20 37 52.5	-1.0
HYB				*e*S	**S**	**20 41 40.0**	**-1.8**
	comp=N,58nm,1.0s,comp=N,1µm						
KASI	**Kota Agung**	**20.94**	**98**	P	Pn	20 37 56.8	0.0
	comp=N,404nm,1.0s,comp=N,4µm						
KTGM	**Kuala Trenggan**	**21.02**	**68**	⇑P	**P**	**20 37 56.8**	**+1.7**
PMBI	**Palembang**	**21.07**	**91**	P	**P**	**20 37 57.7**	**+2.1**
	comp=N,880nm,1.0s,comp=N,7µm						
PMBI	**Palembang**	**21.07**	**91**	P	**P**	**20 37 57.8**	**+2.2**
	baz=21,SNR=5.6						
TPRI	**Tanjung Pinang**	**21.16**	**80**	P	**P**	**20 37 59.3**	**+2.8**
	comp=N,210nm,0.9s,comp=N,4µm						
BLSI	**Bandar Lampung**	**21.67**	**98**	P	**P**	**20 38 04.7**	**+2.7**
	comp=N,219nm,1.2s,comp=N,2µm						
LATR	**Latur**	**22.17**	**342**	*ex*	**P**	**20 38 12.0**	**+4.7**
KHLT	**Khaolaem Dam**	**22.85**	**40**	P	**P**	**20 38 16.4**	**+1.8**
	comp=N,58nm,1.0s,comp=N,1µm						
SRDT	**SRDT**	**22.86**	**42**	P	**P**	**20 38 17.9**	**+3.1**
	comp=N,134nm,1.3s,comp=N,8µm						
XMIS	**Christmas Isla**	**23.12**	**110**	P	**P**	**20 38 19.9**	**+2.4**
	baz=23,SNR=4.1						
XMIS	**Christmas Isla**	**23.12**	**110**	*e*P	**P**	**20 38 17.8**	**+0.2**
	comp=N,214nm,1.0s						
XMI	**Christmas Isla**	**23.15**	**110**	P	**P**	**20 38 20.3**	**+2.6**
	baz=23,SNR=3.6						
POO	**Poona**	**23.25**	**336**	*i* SCS		20 49 32.5	
CNJI	**Cibinong**	**23.79**	**102**	P	**P**	**20 38 26.6**	**+2.5**
	comp=N,361nm,1.1s,comp=N,5µm						
TPI	**Tanjungpandan**	**23.95**	**91**	P	**P**	**20 38 26.6**	**+1.0**
	comp=N,172nm,0.9s,comp=N,2µm						
NGP	**Nagpur**	**24.18**	**349**	*ex*	x	20 38 39.8	
NGP				*ex*	x	20 38 53.4	
	comp=Z,261nm,1.0s						
NGP				*e*S	**S**	**20 42 47.6**	**+2.1**
LEM	**Lembang**	**24.19**	**101**	P	**P**	**20 38 31.3**	**+3.2**
	comp=Z,248nm,0.9s,comp=Z,7µm						
CISI	**Cisompet, Garu**	**24.50**	**102**	P	**P**	**20 38 32.9**	**+2.1**
	comp=Z,405nm,0.8s,comp=Z,4µm						
CISI	**Cisompet, Garu**	**24.50**	**102**	P	**P**	**20 38 32.5**	**+1.7**
	baz=25,SNR=22						
CISI	**Cisompet, Garu**	**24.50**	**102**	P	**P**	**20 38 30.3**	**-0.5**
	comp=Z,258nm,0.8s						
JCJI	**Jatiwangi**	**24.79**	**99**	P	**P**	**20 38 35.8**	**+2.5**
	comp=Z,289nm,0.9s,comp=Z,6µm						
MHMT	**Maesarieng**	**25.09**	**34**	P	**P**	**20 38 38.1**	**+2.1**
	comp=Z,128nm,1.1s,comp=Z,1µm						
CMJI	**Cimerak**	**25.16**	**102**	P	**P**	**20 38 38.7**	**+2.0**
	comp=Z,189nm,1.2s,comp=Z,3µm						
SUKH	**Sukhothai**	**25.53**	**37**	P	**P**	**20 38 41.6**	**+1.7**
	comp=Z,67nm,0.7s,comp=Z,502nm						
KPJI	**Karang Pucung**	**25.56**	**101**	P	**P**	**20 38 43.2**	**+2.9**
	comp=Z,247nm,0.9s,comp=Z,3µm						
PBKT	**Sadao Pong**	**25.70**	**41**	P	**P**	**20 38 42.6**	**+1.2**
	comp=Z,224nm,1.0s,comp=Z,3µm						
CMAR	**Chiang Mai Arr**	**25.88**	**35**	P	**P**	**20 38 44.6**	**+1.4**
CMAR						20 42 13.4	
CMAR				pmax	pmax		
	comp=Z,37nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,20nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,18nm,28.6s						
CMAR	**Chiang Mai Arr**	**25.88**	**35**	P	**P**	**20 38 44.6**	**+1.4**
	comp=Z,37nm,0.8s,baz=228,slow=10,SNR=159						
CMAR				PcP	**PcP**	**20 42 13.4**	**+1.0**
	comp=Z,20nm,0.8s,baz=231,slow=4.1,SNR=9.3						
CMAR				LR	LR	20 49 56.2	
	comp=Z,1µm,18.5s,baz=231,slow=39						
CMAR				P3KPbc		21 11 37.3	
	comp=Z,1.8nm,1.0s,baz=15,slow=4.5,SNR=8.3						
CHTO	**Chiang Mai**	**26.17**	**34**	*e*P	**P**	**20 38 47.0**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,68nm,1.0s						
CHTO				MLR	MLR		
	comp=Z,3µm,22.0s						
CHTO	**Chiang Mai**	**26.17**	**34**	P	**P**	**20 38 47.3**	**+1.5**
	SNR=29						
CHTO	**Chiang Mai**	**26.17**	**34**	P	**P**	**20 38 47.1**	**+1.3**
	comp=Z,300nm,1.8s,comp=Z,7µm						
CHTO	**Chiang Mai**	**26.17**	**34**	*e*P	**P**	**20 38 47.0**	**+1.3**
	comp=Z,68nm,1.0s						
CHTO				LR	LR		
	comp=Z,3µm,22.0s						
CMMT	**Chiang Mai**	**26.17**	**34**	P	**P**	**20 38 47.0**	**+1.2**
	comp=Z,98nm,1.1s,comp=Z,2µm						
UTTA	**Uttaradit**	**26.30**	**39**	P	**P**	**20 38 48.7**	**+1.8**
	comp=Z,45nm,0.8s,comp=Z,325nm						
LAMP	**Lampang**	**26.33**	**36**	P	**P**	**20 38 49.9**	**+2.6**
	comp=Z,26nm,0.9s,comp=Z,239nm						
KSM	**Kuching**	**26.95**	**81**	P	**P**	**20 38 54.0**	**+1.1**
	baz=27,SNR=6.3						
KSM	**Kuching**	**26.95**	**81**	⇑P	**P**	**20 38 54.5**	**+1.6**
KSM	**Kuching**	**26.95**	**81**	*e*P	**P**	**20 38 53.0**	**+0.1**
	comp=Z,61nm,0.8s						
KSM				LR	LR		
	comp=Z,3µm,19.0s						
SMRI	**Semarang**	**27.00**	**100**	P	**P**	**20 38 55.6**	**+2.3**
	comp=Z,311nm,1.0s						
SMRI	**Semarang**	**27.00**	**100**	P	**P**	**20 38 55.6**	**+2.3**
	baz=27,SNR=4.2						
SMRI	**Semarang**	**27.00**	**100**	*e*P	**P**	**20 38 53.8**	**+0.4**
	comp=Z,264nm,0.9s						
CMAI	**Chiengmai2**	**27.12**	**33**	P	**P**	**20 38 56.6**	**+2.0**
	comp=Z,103nm,0.9s						
UGM	**Wanagama**	**27.21**	**102**	P	**P**	**20 38 57.0**	**+1.7**
	comp=Z,337nm,1.1s						
UGM	**Wanagama**	**27.21**	**102**	P	**P**	**20 38 56.4**	**+1.1**
	baz=27,SNR=10						
UGM	**Wanagama**	**27.21**	**102**	*e*P	**P**	**20 38 56.4**	**+1.1**
	comp=Z,319nm,1.0s						
WOJI	**Wonogiri, Jawa**	**27.59**	**102**	P	**P**	**20 38 59.4**	**+0.8**
	comp=Z,559nm,1.1s,comp=Z,4µm						
STKI	**Sintang**	**27.93**	**85**	P	**P**	**20 39 03.3**	**+1.6**
	comp=Z,57nm,1.0s						
PBKI	**Pangkalan Bun**	**27.96**	**91**	P	**P**	**20 39 03.9**	**+1.9**
	comp=Z,193nm,1.1s,comp=Z,2µm						
UBPT	**Khong Chiam**	**28.04**	**50**	P	**P**	**20 39 03.8**	**+1.2**
	comp=Z,143nm,1.5s,comp=Z,2µm						
CRAI	**Chiangrai**	**28.10**	**35**	P	**P**	**20 39 03.7**	**+0.5**
	comp=Z,68nm,1.2s						
MSEY	**Mahe Island**	**28.20**	**265**	P	**P**	**20 39 02.8**	**-1.4**
MSEY				pmax	pmax		
	comp=Z,119nm,1.1s						
MSEY				MLR	MLR		
	comp=Z,3µm,21.0s						
MSEY	**Mahe Island**	**28.20**	**265**	⇑P	**P**	**20 39 05.2**	**+1.0**
	SNR=9.6						
MSEY	**Mahe Island**	**28.20**	**265**	P	**P**	**20 39 02.8**	**-1.4**
	comp=Z,119nm,1.1s						
MSEY				LR	LR		
	comp=Z,3µm,21.0s						
PWJI	**Pagerwojo**	**28.48**	**102**	P	**P**	**20 39 06.6**	**0.0**
DLV	**T Lat**	**28.66**	**59**	*e*P	**P**	**20 39 07.7**	**-0.7**
	comp=Z,62nm,0.9s						
SBUM	**Sibu**	**29.00**	**80**	⇑P	**P**	**20 39 11.4**	**+0.2**
ODAN	**Odare**	**29.65**	**7**	*e*P	**P**	**20 39 19.4**	**+2.3**
	comp=Z,237nm,0.9s						
RAMN	**Ramite**	**29.66**	**5**	*e*P	**P**	**20 39 19.8**	**+2.6**
	comp=Z,76nm,0.7s						
BTM	**Bintulu**	**29.98**	**79**	⇑P	**P**	**20 39 21.2**	**+1.2**
TAPN	**Taplejung**	**30.17**	**7**	*e*P	**P**	**20 39 23.7**	**+1.9**
	comp=Z,174nm,1.0s						
PKI	**Pulchoki**	**30.19**	**3**	*e*P	**P**	**20 39 23.8**	**+1.8**
	comp=Z,82nm,1.0s						
PKIN	**Phulchoki**	**30.19**	**3**	*e*P	**P**	**20 39 23.7**	**+1.8**
	comp=Z,63nm,1.0s						
DMN	**Daman**	**30.21**	**3**	*e*P	**P**	**20 39 24.2**	**+2.1**
	comp=Z,31nm,0.7s						
JIRN	**Jiri**	**30.33**	**4**	*e*P	**P**	**20 39 25.3**	**+2.1**
KOLN	**Koldanda**	**30.34**	**360**	*e*P	**P**	**20 39 25.7**	**+2.5**
	comp=Z,194nm,0.7s						
KKN	**Kakani**	**30.40**	**3**	*e*P	**P**	**20 39 25.7**	**+2.0**
	comp=Z,33nm,0.9s						
GUN	**Gumba**	**30.55**	**4**	*e*P	**P**	**20 39 27.4**	**+2.2**
	comp=Z,66nm,0.7s						
GKN	**Gorkha**	**30.59**	**2**	*e*P	**P**	**20 39 27.4**	**+2.1**
	comp=Z,43nm,0.8s						
JAGI	**Jajag, Banyuwa**	**30.84**	**102**	*e*P	**P**	**20 39 25.1**	**-2.5**
	comp=Z,118nm,0.8s						
DANN	**Dangsing**	**30.92**	**0**	*e*P	**P**	**20 39 30.5**	**+2.1**
	comp=Z,74nm,0.8s						
SLVN	**Son La**	**31.06**	**39**	*e*P	**P**	**20 39 28.8**	**-0.7**
	comp=Z,38nm,0.8s						
NDI	**New Delhi**	**31.86**	**349**	*e*P	**P**	**20 39 37.0**	**+0.7**
NDI				*ex*	x	20 45 58.0	
LGTI	**Lohaghat**	**32.18**	**354**	*ex*	P	20 39 47.2	+8.1
RER	**Riviere de l'E**	**32.77**	**234**	PFAKE		20 39 50.0	+5.4
RER				LR	LR		
	comp=Z,2µm,20.0s						
LSA	**Lhasa**	**33.05**	**12**	P	**P**	**20 39 49.6**	**+2.3**
LSA				PMZ			
	comp=Z,10.0nm,0.8s						
LSA				PMZ			
	comp=Z,350nm,10.0s						
LSA				LN			
	comp=Z,3µm,22.0s						
LSA				LE			
	comp=Z,5µm,22.0s						
LSA				LZ			
	comp=Z,6µm,21.0s						
LSA	**Lhasa**	**33.05**	**12**	*e*P	**P**	**20 39 49.3**	**+2.1**
LSA				pmax	pmax		
	comp=Z,81nm,0.8s						
LSA				MLR	MLR		
	comp=Z,7µm,21.0s						
LSA	**Lhasa**	**33.05**	**12**	*e*P	**P**	**20 39 49.3**	**+2.1**
	comp=Z,81nm,0.8s						
LSA				LR	LR		
	comp=Z,7µm,21.0s						
KMI	**Kunming**	**33.31**	**33**	P	**P**	**20 39 50.8**	**+1.5**
KMI				PP	**PnPn**	**20 41 01.3**	**+1.3**
KMI				S	**S**	**20 45 10.0**	**+0.3**
KMI				sS	sS	20 45 28.8	+11
KMI				SS	**SS**	**20 47 23.9**	**-10**
KMI				PMZ			
	comp=Z,24nm,1.8s						
KMI				PMZ			
	comp=Z,470nm,7.0s						
KMI				LN			
	comp=Z,3µm,23.1s						
KMI				LE			
	comp=Z,1µm,24.9s						
KMI				LZ			
	comp=Z,5µm,22.1s						
QIZ	**Qiongzhong**	**33.62**	**49**	P	**P**	**20 39 52.5**	**+0.6**
QIZ				pP	**pP**	**20 39 55.3**	**-1.2**
QIZ				S	**S**	**20 45 16.4**	**+2.1**
QIZ				PMZ			
	comp=Z,33nm,2.0s						
QIZ				PMZ			
	comp=Z,500nm,7.9s						
QIZ				LN			
	comp=Z,4µm,18.9s						
QIZ				LZ			
	comp=Z,3µm,19.4s						
QIZ	**Qiongzhong**	**33.62**	**49**	*e*P	**P**	**20 39 51.6**	**-0.3**
	comp=Z,33nm,0.9s						
QIZ				LR	LR		
	comp=Z,3µm,20.0s						
KKM	**Kota Kinabalu**	**33.64**	**75**	P	**P**	**20 39 53.8**	**+1.5**
	baz=34,SNR=18						
KKM	**Kota Kinabalu**	**33.64**	**75**	⇑P	**P**	**20 39 51.7**	**-0.6**
KKM	**Kota Kinabalu**	**33.64**	**75**	*e*P	**P**	**20 39 52.8**	**+0.5**
	comp=Z,59nm,0.7s						
KKM				LR	LR		
	comp=Z,2µm,20.0s						
SMLA	**Simla**	**34.25**	**350**	*i* P	**P**	**20 39 57.6**	**+0.5**
SDKM	**Sandakan**	**34.50**	**76**	⇓P	**P**	**20 40 00.9**	**+1.3**
SDNR	**Sundarnagar**	**34.65**	**350**	*e*P	**P**	**20 40 01.0**	**+0.3**
BHK	**Bhakra**	**34.67**	**349**	*e*P	**P**	**20 40 00.2**	**-0.6**
WBK	**Wadi Bani Khal**	**34.88**	**318**	P	**P**	**20 40 05.0**	**+2.2**
	SNR=26						
PONG	**Pong**	**35.28**	**349**	*ex*	P	20 39 55.1	-11
PONG				*ex*	x	20 41 39.6	
JMDO	**Jabal Madar**	**35.32**	**316**	P	P	20 40 18.9	+12
	SNR=6.8						
AIS	**Amsterdam Isla**	**35.33**	**188**	S	**S**	**20 45 35.0**	**-5.1**
AIS				SS	SnSn	20 47 46.0	-13
AIS				R		20 49 00.0	
RBK	**Rabkut**	**35.35**	**306**	P	**P**	**20 40 09.3**	**+2.4**
	SNR=29						
GIRL	**Giralia**	**35.62**	**126**	⇑P	**P**	**20 40 11.7**	**+2.5**
	baz=36,SNR=5.1						
MYLDM	**Lahad Datu**	**35.67**	**77**	⇓P	**P**	**20 40 12.3**	**+2.7**
MYLDM	**Lahad Datu**	**35.67**	**77**	*e*P	**P**	**20 40 11.7**	**+2.1**
	comp=Z,100nm,1.0s						
SMDO	**Samad**	**35.81**	**317**	P	**P**	**20 40 12.9**	**+2.0**
	SNR=12						
ABTO	**Aybut**	**36.02**	**305**	P	**P**	**20 40 14.6**	**+2.0**
	SNR=12						
KAPI	**Kappang**	**36.06**	**95**	*e*P	**P**	**20 40 12.1**	**-1.0**
	comp=Z,7.7nm,0.9s						
KAPI				LR	LR		
	comp=Z,3µm,20.0s						
GYA	**Guiyang**	**36.56**	**36⇑**	*i* P	**P**	**20 40 17.8**	**+0.5**
GYA				PP	**PP**	**20 41 43.0**	**+2.4**
GYA				PcP	**PcP**	**20 42 41.5**	**+0.8**
GYA				S	**S**	**20 45 56.3**	**-3.3**
GYA				ScP	**ScP**	**20 46 27.0**	**-0.1**
GYA				PMZ			
	comp=Z,60nm,0.9s						
GYA				PMZ			
	comp=Z,690nm,7.4s						
GYA				LN			
	comp=Z,2µm,19.0s						
GYA				LE			
	comp=Z,2µm,20.9s						
GYA				LZ			
	comp=Z,2µm,20.5s						
HOQ	**Hoqain**	**36.66**	**317**	P	**P**	**20 40 20.7**	**+2.6**
	SNR=28						
ARQ	**Araqi**	**37.05**	**316**	P	**P**	**20 40 23.8**	**+2.5**
	SNR=15						
ASHO	**Ashiyiah**	**38.25**	**317**	P	**P**	**20 40 33.5**	**+2.0**
	SNR=14						
ASHO	**Ashiyiah**	**38.25**	**317⇑**	*e*P	**P**	**20 40 33.1**	**+1.6**
	SNR=9.9						
HATD	**Hatta, Dubai**	**38.29**	**317**	*e*P	**P**	**20 40 33.3**	**+1.4**
CD2	**Chengdu**	**38.56**	**28⇑**	*i* P	**P**	**20 40 34.1**	**+0.1**
CD2				sP	**sP**	**20 40 41.6**	**+1.0**
CD2				PP	**PnPn**	**20 42 10.8**	**+6.4**
CD2				PcP	**PcP**	**20 42 45.3**	**-1.4**
CD2				S	**S**	**20 46 26.5**	**-3.2**
CD2				sS	sS	20 46 44.4	+7.1
CD2				PMZ			
	comp=Z,100nm,1.0s						
CD2				PMZ			
	comp=Z,820nm,8.3s						
CD2				LN			
	comp=Z,3µm,19.0s						
CD2				LE			
	comp=Z,2µm,17.8s						
CD2				LZ			
	comp=Z,3µm,22.6s						
FAQ	**Al Faqa, Dubai**	**38.61**	**317⇑**	*i* P	**P**	**20 40 35.8**	**+1.3**
GZH	**Guangzhou**	**38.68**	**47**	P	P	20 40 40.8	+5.7
GZH				PP	PnPn	20 42 16.0	+10
GZH				S	S	20 46 40.8	+9.3
GZH				SS	SS	20 49 44.5	+22
ASUD	**Al Ashush, Dub**	**38.71**	**316⇑**	*e*P	**P**	**20 40 36.7**	**+1.3**
NAZ	**Nazwa, Dubai**	**38.72**	**317⇑**	*i* P	**P**	**20 40 36.9**	**+1.4**
MMRI	**Maumere**	**38.79**	**100**	*e*P	P	20 40 31.8	-4.4
	comp=Z,152nm,0.9s						
BANOM	**Banah**	**38.92**	**319⇑**	*e*P	**P**	**20 40 38.6**	**+1.4**
OPO	**Ambohidratompo**	**39.03**	**244**	P	**P**	**20 40 40.0**	**+1.6**
	comp=Z,51nm,1.2s,baz=59,slow=7.8,SNR=15						
LUWI	**Luwuk**	**39.11**	**88**	P	**P**	**20 40 37.9**	**-1.0**
	baz=39,SNR=12						
LUWI	**Luwuk**	**39.11**	**88**	*e*P	**P**	**20 40 37.9**	**-1.0**
	comp=Z,353nm,1.0s						
ABPO	**Ambohimpanom**	**39.14**	**243**	*e*P	**P**	**20 40 39.2**	**-0.1**
ABPO				pmax	pmax		
	comp=Z,152nm,1.3s						
ABPO				MLR	MLR		
	comp=Z,2µm,20.0s						
ABPO	**Ambohimpanom**	**39.14**	**243**	*e*P	**P**	**20 40 39.2**	**-0.1**
	comp=Z,152nm,1.3s						
ABPO				LR	LR		
	comp=Z,2µm,20.0s						
KBL	**Kabul**	**39.56**	**341**	*e*P	**P**	**20 40 43.1**	**+0.5**
KBL				pmax	pmax		
	comp=Z,49nm,1.1s						
KBL	**Kabul**	**39.56**	**341**	P	**P**	**20 40 43.3**	**+0.7**
	baz=40,SNR=6.1						
KBL	**Kabul**	**39.56**	**341**	*e*P	**P**	**20 40 43.1**	**+0.5**
	comp=Z,49nm,1.1s						
MBWA	**Marble Bar**	**39.57**	**120**	P	**P**	**20 40 44.0**	**+1.3**
	SNR=5.4						
MBWA	**Marble Bar**	**39.57**	**120**	*e*P	**P**	**20 40 42.8**	**+0.2**
	comp=Z,58nm,0.7s						
MBWA				LR	LR		
	comp=Z,3µm,20.0s						
BATI	**Baumata**	**40.38**	**102**	P	**P**	**20 40 48.5**	**-1.0**
	comp=Z,150nm,0.9s,baz=256,slow=1.1,SNR=68						
BATI				PcP	**PcP**	**20 42 53.7**	**+0.9**
	comp=Z,22nm,0.6s,baz=175,slow=1.4,SNR=4.2						
MORW	**Morawa**	**40.39**	**134**	⇓P	**P**	**20 40 50.6**	**+1.2**
	baz=41,SNR=8.9						
TGY	**Tagaytay City**	**40.55**	**65**	P	**P**	**20 40 51.7**	**+0.8**
TGY	

comp=Z,2μm,16.3s
KLBR Kellerberrin 43.04 136 P P 20 41 11.7 +0.7
baz=43,SNR=21
NWAO Narrogin (SRO) 43.46 137 P P 20 41 14.7 +0.3
NWAO pmax pmax
comp=Z,31nm,0.6s
NWAO MLR MLR
comp=Z,17nm,28.6s
NWAO Narrogin (SRO) 43.46 137 P P 20 41 14.7 +0.3
comp=Z,31nm,0.6s,baz=305,slow=7.4,SNR=31
NWAO LR LR 20 55 11.4
comp=Z,1μm,21.2s,slow=30
XAN Xi'an 43.64 31 P P 20 41 14.8 -1.0
XAN PP **PcP 20 43 04.5 +1.4**
XAN PMZ
comp=Z,10.0nm,0.9s
XAN PMZ
comp=Z,170nm,7.1s
XAN LN
comp=Z,2μm,18.8s
XAN LE
comp=Z,500nm,16.5s
QZH Quanzhou 43.65 49⇑ iP P 20 41 17.4 +1.4
QZH S **S 20 47 43.4 -2.0**
QZH PMZ
comp=Z,1μm,8.3s
QZH LN
comp=Z,2μm,15.2s
QZH LE
comp=Z,3μm,15.5s
QZH LZ
comp=Z,6μm,17.4s
TNTI Ternate 43.81 86 eP P 20 41 16.0 -1.6
comp=Z,173nm,0.9s
FITZ Fitzroy Crossi 43.85 113 P P 20 41 18.8 +1.0
baz=44,SNR=84
FITZ Fitzroy Crossi 43.85 113 eP P 20 41 18.9 +1.2
comp=Z,72nm,1.0s
WHN Wuhan 44.18 39 P P 20 41 21.4 +1.2
WHN S **S 20 47 52.8 -0.3**
WHN LN
comp=Z,3μm,13.8s
WHN LE
comp=Z,2μm,16.6s
WHN LZ
comp=Z,4μm,20.3s
TPUB Ta-pu 44.34 52 eP P 20 41 21.0 -0.6
comp=Z,44nm,1.0s
TWG Pinlang 44.45 53 P P 20 41 20.5 -2.0
comp=Z,144nm,0.7s
GTA Gaotai 44.50 18 P P 20 41 23.9 +1.1
GTA pP **pP 20 41 28.1 +0.6**
GTA sP **sP 20 41 31.3 +2.0**
GTA S **S 20 47 57.6 -0.2**
GTA PMZ
comp=Z,23nm,0.9s
GTA PMZ
comp=Z,780nm,5.5s
GTA LN
comp=Z,2μm,22.6s
GTA LE
comp=Z,2μm,17.8s
GTA LZ
comp=Z,3μm,24.5s
SSLB Suanglung 44.85 52 eP P 20 41 25.6 -0.1
comp=Z,59nm,0.8s
YULB Yu-li 44.92 53 eP P 20 41 26.9 +0.7
comp=Z,137nm,0.6s
KZA Kyzart 45.27 351 P P 20 41 31.0 +1.8
SNR=8.6
ULHL Ulahol 45.29 352 P P 20 41 30.6 +1.5
SNR=28
ULHL Ulahol 45.29 352 i P P 20 41 30.6 +1.5
RAYN Ar Rayn 45.42 307 eP P 20 41 30.9 +0.6
comp=Z,44nm,1.3s
UCH Uchtor 45.53 350 P P 20 41 33.0 +1.7
SNR=30
UCH Uchtor 45.53 350 i P P 20 41 33.0 +1.7
AML Almayashu 45.58 350 P P 20 41 33.4 +1.8
SNR=36
YHNB Yeheng 45.63 51 eP P 20 41 32.6 +0.7
comp=Z,31nm,0.8s
YHNB LR LR
comp=Z,4μm,21.0s
TATO Taipei 45.88 51 eP P 20 41 34.3 +0.5
comp=Z,2μm,2.8s
TATO LR LR
comp=Z,3μm,22.0s
KBK Karagaybulak 45.88 351 P P 20 41 35.8 +2.1
SNR=24
KMBL Kambalda 45.89 133 P P 20 41 34.7 +0.9
baz=46,SNR=29
AAK Ala-Archa 45.93 351 P P 20 41 35.9 +1.8
SNR=27
AAK Ala-Archa 45.93 351 c iP P 20 41 36.1 +1.9
AAK pmax pmax
comp=Z,76nm,1.0s
AAK Ala-Archa 45.93 351 P P 20 41 36.4 +2.2
SNR=18
AAK Ala-Archa 45.93 351 P P 20 41 36.0 +1.9
comp=Z,15nm,0.8s,baz=154,slow=6.3,SNR=47
AAK PcP **PcP 20 43 11.7 +0.7**
comp=Z,23nm,0.8s,baz=161,slow=5.3,SNR=4.9
AAK Ala-Archa 45.93 351 eP P 20 41 35.3 +1.2
comp=Z,77nm,1.0s
AAK PcP **PcP 20 43 11.7 +0.7**
AAK LR LR
comp=Z,7μm,20.0s
TKM2 Tokmak 2 46.04 352 P P 20 41 36.4 +1.3
SNR=28
TKM2 Tokmak 2 46.04 352 i P P 20 41 36.4 +1.3
TKM2 Tokmak 2 46.04 352 eP P 20 41 36.4 +1.3
comp=Z,49nm,1.0s
TKM2 LR LR
comp=Z,3μm,20.0s
EKS2 Erkin-Say 46.08 350 P P 20 41 37.1 +1.9
SNR=36
EKS2 Erkin-Say 46.08 350 eP P 20 41 37.3 +2.0
EKS2 pmax pmax
comp=Z,49nm,0.9s
EKS2 MLR MLR
comp=Z,5μm,20.0s
EKS2 Erkin-Say 46.08 350 eP P 20 41 37.3 +2.0
comp=Z,49nm,0.9s
EKS2 LR LR
comp=Z,5μm,20.0s
FRU Bishkek 46.10 351 eP P 20 41 36.0 +0.7
FRU pmax pmax
comp=Z,80nm,2.0s
KNRA Kununurra 46.20 109 P P 20 41 36.9 +0.5
baz=46,SNR=69
CHMS Chumysh 46.24 351 P P 20 41 37.6 +1.1
SNR=9.3
KMBO Kilima Mbogo 46.42 271 eP P 20 41 40.1 +1.5
KMBO 20 43 15.3
KMBO pmax pmax
comp=Z,53nm,1.1s
KMBO MLR MLR
comp=Z,2μm,19.0s
KMBO Kilima Mbogo 46.42 271 P P 20 41 40.7 +2.1
SNR=12
KMBO Kilima Mbogo 46.42 271 P P 20 41 40.3 +1.7
comp=Z,34nm,0.9s,baz=56,slow=8.9,SNR=52
KMBO PcP **PcP 20 43 15.3 +1.8**
comp=Z,16nm,0.9s,baz=29,slow=4.9,SNR=4.5
KMBO Kilima Mbogo 46.42 271 eP P 20 41 40.1 +1.5
comp=Z,13nm,1.1s
KMBO PcP **PcP 20 43 15.3 +1.8**
KMBO LR LR
comp=Z,2μm,19.0s
WMQ Urumqi 46.50 4 P P 20 41 40.3 +1.8
WMQ pP **pP 20 41 43.6 +0.4**
WMQ PP **PP 20 43 28.5 +0.6**
WMQ S **S 20 48 27.0 +0.7**
WMQ ScS **ScS 20 51 32.3 -1.0**
WMQ PMZ
comp=Z,42nm,1.1s
WMQ PMZ
comp=Z,1μm,3.6s
WMQ LN
comp=Z,5μm,23.0s
WMQ LE
comp=Z,1μm,21.0s
WMQ LZ
comp=Z,5μm,26.0s
USP Ospenovka 46.55 351 P P 20 41 40.1 +1.3
SNR=16

USP Ospenovka 46.55 351 i P P 20 41 40.1 +1.3
GEYT Alibeck 46.89 332 P P 20 41 43.1 +1.5
comp=Z,47nm,0.7s,baz=156,slow=7.8,SNR=70
GEYT LR LR 21 01 15.0
comp=Z,7μm,21.1s,baz=175,slow=36
KKAR Karatay Array 47.16 347 eP P 20 41 44.6 +1.0
KKAR Karatay Array 47.16 347 eP P 20 41 44.6 +1.0
SWI Sorong 47.59 89 P P 20 41 46.7 -0.7
baz=48,SNR=6.3
SAUI Saumlaki 47.67 98 eP P 20 41 48.2 +0.2
comp=Z,313nm,0.9s
PAF Port-aux-Franc 47.84 192 S S 20 48 36.0 -9.0
PAF L L 20 52 00.0
PAF R 20 54 00.0
PAF Port-aux-Franc 47.84 192 PFAKE 20 42 00.0 +11
PAF LR LR
comp=Z,3μm,21.0s
MTN Manton Dam 47.99 105 P P 20 41 50.5 0.0
baz=48,SNR=4.2
NJ2 Nanjing 48.07 41 eP P 20 41 51.9 +1.1
NJ2 pP **pP 20 41 54.4 -1.2**
NJ2 sP **sP 20 41 55.6 -1.8**
NJ2 S **S 20 48 50.0 +1.0**
NJ2 PMZ
comp=Z,120nm,0.8s
NJ2 PMZ
comp=Z,2μm,5.0s
NJ2 LN
comp=Z,3μm,26.6s
NJ2 LE
comp=Z,3μm,22.8s
NJ2 LZ
comp=Z,3μm,22.7s
WRKA Warakurna 48.32 121 P P 20 41 54.0 +1.0
baz=48,SNR=74
FAKI Fak Fak 48.51 91 P P 20 41 53.9 -0.6
baz=49,SNR=16
FAKI Fak Fak 48.51 91 eP P 20 41 54.2 -0.3
comp=Z,121nm,0.9s
SSE Sheshan 49.06 44 P P 20 41 59.8 +1.3
SSE PP **PP 20 43 50.5 -1.7**
SSE S **S 20 49 02.8 -0.1**
SSE sS **sS 20 49 15.1 +4.4**
SSE PMZ
comp=Z,76nm,0.8s
SSE PMZ
comp=Z,460nm,5.1s
SSE LN
comp=Z,1μm,27.1s
SSE LE
comp=Z,350nm,27.6s
SSE LZ
comp=Z,2μm,23.7s
KDU Kakadu 49.27 104 P P 20 42 00.6 +0.2
baz=49,SNR=38
MKAR Makanchi Array 49.35 359 P P 20 42 01.1 +0.7
MKAR 20 43 21.6
MKAR pmax pmax
comp=Z,41nm,0.7s
MKAR pmax pmax
comp=Z,13nm,0.9s
MKAR Makanchi Array 49.35 359 P P 20 42 01.1 +0.7
comp=Z,41nm,0.7s,baz=189,slow=6.1,SNR=138
MKAR PcP **PcP 20 43 21.6 -1.3**
comp=Z,13nm,0.9s,baz=134,slow=6.2,SNR=3.7
MKAR P3KPbc 21 09 57.7
comp=Z,0.6nm,0.9s,baz=8.7,slow=1.9,SNR=3.9
BTO Baotou 49.41 26 eP P 20 41 59.4 -1.7
TIA Tai'an 49.76 36 eP P 20 42 06.1 +2.4
TIA S **S 20 49 12.5 -0.1**
TIA PMZ
comp=Z,50nm,0.8s
TIA PMZ
comp=Z,1μm,7.0s
TIA LN
comp=Z,2μm,19.0s
TIA LE
comp=Z,2μm,15.5s
TIA LZ
comp=Z,2μm,19.6s
HHC Hu-ho-hao-te 50.30 27 eP P 20 42 08.8 +0.9
HHC PP **PP 20 44 04.4 +0.9**
HHC S **S 20 49 21.3 +1.0**
HHC ScS **ScS 20 51 59.3 +0.4**
HHC SS **SS 20 52 54.8 +0.6**
HHC PMZ
comp=Z,84nm,1.4s
HHC PMZ
comp=Z,1μm,9.9s
HHC LN
comp=Z,4μm,23.4s
HHC LE
comp=Z,5μm,18.5s
HHC LZ
comp=Z,2μm,18.5s
FORT Forrest 50.31 129 P P 20 42 09.2 +1.2
baz=50,SNR=35
FORT Forrest 50.31 129 eP P 20 42 09.0 +1.0
comp=Z,201nm,0.7s
BJT Baijiatuau 51.94 32 eP P 20 42 20.2 +0.2
BJT pmax pmax
comp=Z,89nm,0.6s
BJT MLR MLR
comp=Z,3μm,21.0s
BJT Baijiatuau 51.94 32 eP P 20 42 20.2 +0.2
comp=Z,88nm,0.6s
BJT LR LR
comp=Z,3μm,21.0s
BJI Beijing 51.96 32 P P 20 42 20.8 +0.6
BJI PP **PP 20 44 17.9 -0.5**
BJI S **S 20 49 38.5 -4.4**
BJI SS **SS 20 53 25.0 +4.9**
BJI PMZ
comp=Z,130nm,0.6s
BJI PMZ
comp=Z,590nm,3.2s
BJI LN
comp=Z,3μm,24.2s
BJI LE
comp=Z,3μm,20.3s
BJI LZ
comp=Z,3μm,26.2s
JOW Kunigami 52.11 53 P P 20 42 21.9 +0.3
comp=Z,8.0nm,0.4s,baz=242,slow=8.4,SNR=18
JOW Kunigami 52.11 53 eP P 20 42 22.1 +0.5
WRA Warramunga Arr 52.28 113 P P 20 42 23.4 +0.4
WRA 20 43 34.1
WRA pmax pmax
comp=Z,88nm,0.8s
WRA pmax pmax
comp=Z,27nm,1.0s
WRA MLR MLR
comp=Z,17nm,28.6s
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 52.28 113 P P 20 42 23.4 +0.4
comp=Z,88nm,0.8s,baz=286,slow=7.9,SNR=346
WRA PcP **PcP 20 43 34.1 -0.3**
comp=Z,27nm,1.0s,baz=301,slow=2.7,SNR=5.0
WRA LR LR 21 05 05.8
comp=Z,2μm,18.2s,baz=185,slow=37
WRA PKPPKP P'P'df 21 12 42.0 -16
comp=Z,1.4nm,0.8s,baz=134,slow=2.4,SNR=7.0
WRAB Tennant Creek 52.29 113 c iP P 20 42 23.4 +0.3
WRAB pmax pmax
comp=Z,313nm,1.0s
WRAB Tennant Creek 52.29 113 eP P 20 42 23.4 +0.3
comp=Z,109nm,0.8s
WRAB LR LR
comp=Z,2μm,20.0s
WB2 Warramunga Arr 52.29 113 eP P 20 42 23.5 +0.4
ASAR Alice Springs 52.78 118 P P 20 42 26.9 +0.2
ASAR 20 43 35.3
ASAR pmax pmax
comp=Z,61nm,1.0s
ASAR pmax pmax
comp=Z,35nm,0.8s
ASAR MLR MLR
comp=Z,18nm,28.6s
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 52.78 118 P P 20 42 26.9 +0.2
comp=Z,61nm,1.0s,baz=292,slow=6.7,SNR=287
ASAR PcP **PcP 20 43 35.3 -0.9**

comp=Z,35nm,0.8s,baz=294,slow=4.1,SNR=8.1
ASAR LR LR 21 03 45.5
comp=Z,3μm,19.8s,baz=282,slow=35
ASAR PKPPKP **P'P'df 21 12 54.1 -2.6**
comp=Z,1.3nm,0.9s,baz=105,slow=2.6,SNR=4.5
ASAR P4KPbc 21 19 53.2
comp=Z,0.6nm,0.9s,baz=299,slow=4.3,SNR=5.1
AS31 Alice Springs 52.78 118 eP P 20 42 25.8 -0.9
MBAR Mbarara 52.96 271 P P 20 42 30.1 +1.8
comp=Z,84nm,1.0s,SNR=8.2
KURBB Kurchatov Arra 53.35 356 P P 20 42 30.9 +0.6
comp=Z,38nm,0.7s,baz=184,slow=7.0,SNR=164
KURBB PcP **PcP 20 43 38.3 +0.7**
comp=Z,26nm,1.0s,baz=192,slow=3.7,SNR=6.4
KURK Kurchatov 53.43 356 eP P 20 42 31.6 +0.7
KURK 20 43 38.3
KURK MLR MLR
comp=Z,2μm,22.0s
KURK Kurchatov 53.43 356 P P 20 42 31.8 +0.9
SNR=20
KURK Kurchatov 53.43 356 eP P 20 42 31.6 +0.7
KURK PcP **PcP 20 43 38.3 +0.3**
KURK LR LR
comp=Z,3μm,22.0s
SONM Songino Array 54.16 19 P P 20 42 36.8 +0.3
SONM 20 43 42.4
SONM pmax pmax
comp=Z,26nm,0.7s
SONM pmax pmax
comp=Z,10.0nm,0.7s
SONM MLR MLR
comp=Z,2μm,18.4s
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 54.16 19 P P 20 42 36.8 +0.3
comp=Z,26nm,0.7s,baz=202,slow=7.2,SNR=173
SONM PcP **PcP 20 43 42.4 +1.4**
comp=Z,9.9nm,0.7s,baz=200,slow=5.8,SNR=2.4
SONM LR LR 21 09 07.7
comp=Z,2μm,18.4s,baz=212,slow=40
SONM PKPPKP P'P'df 21 12 28.8 -22
comp=Z,0.6nm,1.0s,baz=48,slow=2.1,SNR=4.0
SONM P4KPbc 21 19 57.1
comp=Z,0.6nm,0.8s,baz=217,slow=5.6,SNR=5.2
DL2 Dalian 54.21 36 P P 20 42 35.6 -1.3
DL2 S **S 20 50 10.5 -3.2**
DL2 PMZ
comp=Z,59nm,1.6s
DL2 PMZ
comp=Z,460nm,5.3s
DL2 LN
comp=Z,950nm,19.1s
DL2 LZ
comp=Z,770nm,18.1s
HVS Khovu-Aksy 54.36 8 c iP P 20 42 38.4 +0.6
HVS pmax pmax
comp=Z,165nm,1.2s
ULN Ulaanbaatar 54.40 19 c eP P 20 42 38.1 -0.1
ULN pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 54.40 19 P P 20 42 38.5 +0.3
SNR=11
ULN Ulaanbaatar 54.40 19 eP P 20 42 38.1 -0.1
comp=Z,227nm,2.5s
ULN LR LR
comp=Z,2μm,20.0s
SIRT Sirnak 55.35 320 eP P 20 42 46.3 +1.0
VANB Van 55.43 322 eP P 20 42 46.6 +0.7
CLDR Caldiran 55.45 323 eP P 20 42 47.4 +1.3
ZAK Zakamensk 55.54 15 eP P 20 42 45.6 -0.8
ZAK e 20 43 46.8
ZAK pmax pmax
comp=Z,14nm,2.0s
MZRK Al-Mazaregh 55.55 318 eP P 20 42 48.5 +1.9
GNI Garni 55.60 324 c iP P 20 42 48.4 +1.3
GNI pmax pmax
comp=Z,76nm,1.0s
GNI Garni 55.60 324 P P 20 42 49.1 +2.0
SNR=11
GNI Garni 55.60 324⇑ eP P 20 42 48.4 +1.3
SNR=8.3
GNI Garni 55.60 324 eP P 20 42 48.3 +1.1
comp=Z,144nm,1.0s
GNI LR LR
comp=Z,3μm,22.0s
ABKAR Akbulak array 55.73 341 eP P 20 42 48.5 +0.8
MAK Makhachkala 55.97 328 eP P 20 42 47.3 -2.2
MAK ePPP PPP 20 46 13.7
MAK eS **S 20 50 36.0 -1.2**
MAK eSS **SS 20 54 18.1 -5.4**
MAK pmax pmax
comp=Z,115nm,1.0s
MAK MLR MLR
comp=Z,2μm,17.0s
LSZ Lusaka 56.04 254 eP P 20 42 50.8 +0.1
LSZ pmax pmax
comp=Z,58nm,1.1s
LSZ MLR MLR
comp=Z,2μm,19.0s
LSZ Lusaka 56.04 254 eP P 20 42 50.8 +0.1
comp=Z,58nm,1.1s
LSZ LR LR
comp=Z,2μm,19.0s
DGRG David-gareji 56.09 326 P P 20 42 51.0 +0.5
MOY Mondy 56.18 13 eP P 20 42 51.8 +0.8
MOY pmax pmax
comp=Z,55nm,2.5s
AGRB Hanur-Agry 56.28 323 eP P 20 42 53.6 +1.6
ZALF Zalf 56.34 313 eP P 20 42 51.8 -0.7
INCN Inchon 56.45 41 PFAKE 20 43 00.0 +6.9
INCN LR LR
comp=Z,2μm,20.0s
ZALV Zalesovo Beam 56.50 1 P P 20 42 53.2 +0.1
ZALV pmax pmax
comp=Z,101nm,0.6s
ZALV MLR MLR
comp=Z,17nm,28.6s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 56.50 1 P P 20 42 53.2 +0.1
comp=Z,101nm,0.6s,baz=192,slow=7.9,SNR=195
ZALV LR LR 21 08 30.3
comp=Z,3μm,21.4s,baz=212,slow=38
ZALV PKPPKP **P'P'df 21 12 52.0 +5.0**
comp=Z,0.6nm,0.5s,baz=320,slow=4.3,SNR=3.6
KZR Kazreti 56.59 325 P P 20 42 55.1 +1.0
TBLG Delisi 56.64 326 P P 20 42 54.7 +0.4
SALA Sala 56.68 313 eP P 20 42 55.4 +0.3
BVAR Borovoye Array 56.68 350 P P 20 42 54.1 -0.3
BVAR 20 43 51.3
BVAR pmax pmax
comp=Z,10.0nm,0.8s
BVAR pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 56.68 350 P P 20 42 54.1 -0.3
comp=Z,9.5nm,0.8s,baz=160,slow=8.2,SNR=34
BVAR PcP **PcP 20 43 51.3 +0.8**
comp=Z,5.3nm,0.6s,baz=174,slow=6.5,SNR=5.3
BRVK Borovoye 56.73 350 c iP P 20 42 54.6 -0.2
BRVK pmax pmax
comp=Z,14nm,0.7s
BRVK MLR MLR
comp=Z,4μm,18.0s
BRVK Borovoye 56.73 350 P P 20 42 55.0 +0.3
SNR=7.0
BRVK Borovoye 56.73 350 eP P 20 42 54.0 -0.7
comp=Z,37nm,1.0s
BRVK LR LR
comp=Z,4μm,20.0s
TLY Talaya 56.82 15 c iP P 20 42 56.4 +1.0
TLY e 20 43 51.0
TLY e 20 45 07.4
TLY eS **S 20 50 44.1 -4.1**
TLY eSSS SSS 20 56 41.5
TLY pmax pmax
comp=Z,23nm,1.6s
TLY MLR MLR
comp=Z,4μm,20.0s
TLY Talaya 56.82 15 P P 20 42 57.2 +1.7
SNR=12
TLY Talaya 56.82 15 P P 20 42 56.2 +0.8
comp=Z,7.8nm,0.8s,baz=202,slow=6.0,SNR=20
TLY Talaya 56.82 15 eP P 20 42 56.8 +1.4
TLY LR LR

comp=Z,5μm,22.0s
DUS Dusheti 56.90 326 P P 20 42 59.1 +2.9
JAY Jayapura 56.96 91 P P 20 42 56.9 -0.3
baz=57,SNR=5.8
VRTB Varto-Mus 56.97 321 *e*P **P 20 42 58.9 +2.0**
JHLN Al Jahlan 56.97 316 *e*P P 20 42 52.0 -4.8
JNU Nakatsue 57.07 47 P **P 20 42 57.5 -0.1**
comp=Z,58nm,0.7s,baz=248,slow=1.9,SNR=28
JNU LR LR 21 08 15.7
comp=Z,2μm,20.3s,baz=243,slow=37
JNU Nakatsue 57.07 47 *e*P **P 20 42 57.7 +0.2**
DYBB Diyarbakir 57.10 320 *e*P **P 20 42 59.8 +2.1**
TOTH TOTAH 57.22 313 *e*P **P 20 42 57.3 -1.4**
TCHB Talchebab 57.23 312 *e*P **P 20 42 57.9 -0.8**
KSAR Wonju Array Be 57.24 41 P **P 20 42 58.9 +0.2**
KSAR Wonju Array Be 57.24 41 P **P 20 42 58.9 +0.2**
KSAR P'P' 21 12 47.2
QIS Mount Isa 57.25 113 P **P 20 42 59.4 +0.4**
baz=57,SNR=73
KSRS Korea Array 57.27 41 P **P 20 42 58.9 0.0**
KSRS pmax pmax
comp=Z,14nm,0.8s
KSRS MLR MLR
comp=Z,17nm,28.6s
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSRS Korea Array 57.27 41 P **P 20 42 58.9 0.0**
comp=Z,14nm,0.8s,baz=218,slow=7.7,SNR=31
KSRS LR LR 21 08 44.5
comp=Z,1μm,19.7s,baz=246,slow=37
KSRS PKPPKP **P'P'df 21 12 47.2 -0.5**
comp=Z,1.9nm,0.9s,baz=52,slow=2.2,SNR=3.6
BNGB Bing˜ll 57.35 321 *e*P **P 20 43 01.2 +1.6**
AKTO Aktyubinsk 57.37 341 P **P 20 42 59.7 +0.3**
AKTO 20 43 53.3
AKTO pmax pmax
comp=Z,18nm,0.8s
AKTO pmax pmax
comp=Z,30nm,0.8s
AKTO Aktyubinsk 57.37 341 P **P 20 42 59.6 +0.3**
comp=Z,18nm,0.8s,baz=150,slow=8.0,SNR=38
AKTO PcP **PcP 20 43 53.3 +0.1**
comp=Z,30nm,0.8s,baz=203,slow=1.0,SNR=4.8
BBOO Buckleboo 57.38 128 P **P 20 42 59.3 -0.5**
baz=58,SNR=53
BBOO Buckleboo 57.38 128 *e*P **P 20 42 59.7 0.0**
comp=Z,99nm,1.1s
NVS Novosibirsk 57.39 360⇑*i*P **P 20 42 58.4 -0.9**
NVS *e*S S 20 50 48.9 -6.6
NVS pmax pmax
comp=Z,48nm,0.7s
NVS pmax pmax
comp=N,44nm,0.7s
NVS pmax pmax
comp=E,20nm,0.7s
NVS smax smax
comp=E,104nm,3.1s
IRK Irkutsk 57.49 15 *e*P **P 20 43 00.7 +0.5**
IRK pmax pmax
comp=Z,93nm,2.4s
MARH Ras Al Marh 57.51 314 *e*P P 20 42 54.5 -6.6
BRBR Barbar 57.60 313 *e*P **P 20 42 59.6 -1.9**
SLMH Al Salmeh 57.61 317 *e*P P 20 42 58.1 -3.3
ZEI Tsey 57.80 326 *e*P **P 20 43 03.2 +0.4**
ZEI *e*S **S 20 51 04.6 +2.8**
ZEI pmax pmax
comp=Z,47nm,1.3s
HAWK Haweek 57.81 314 *e*P P 20 42 59.1 -3.8
KFRA Kufra 57.88 315 *e*P P 20 42 57.9 -5.4
ONI Oni 57.92 326 P **P 20 43 04.5 +1.1**
BIDA Albida 58.12 315 *e*P **P 20 43 02.4 -2.6**
BCA Borcka 58.25 324 *e*P **P 20 43 06.9 +1.2**
WRDH Warideh 58.30 315 *e*P **P 20 43 06.7 +0.4**
MALT Malatya 58.41 319⇑*i*P **P 20 43 08.7 +1.7**
BAYT Ayd¨–ntepe-Bay 58.51 322 *e*P **P 20 43 09.3 +1.5**
BTCH Batrach 58.53 316 *e*P **P 20 43 09.2 +1.3**
ARNB Al Arnab 58.79 315 *e*P **P 20 43 09.9 +0.2**
KBZ Khabaz 58.97 326 P **P 20 43 11.7 +1.1**
KBZ 20 44 00.5
KBZ pmax pmax
comp=Z,56nm,0.9s
KBZ pmax pmax
comp=Z,49nm,0.8s
KBZ Khabaz 58.97 326 P **P 20 43 11.7 +1.1**
comp=Z,56nm,0.9s,baz=133,slow=5.3,SNR=83
KBZ PcP **PcP 20 44 00.5 +0.9**
comp=Z,49nm,0.8s,baz=134,slow=4.1,SNR=6.7
KBZ PKP2bc 21 12 56.5
comp=Z,2.2nm,1.0s,baz=53,slow=15,SNR=3.7
KIV Kislovodsk 59.23 327 *e*P **P 20 43 13.6 +1.0**
KIV *e* 20 45 24.2
KIV *e*PPP PPP 20 46 46.7
KIV *e*S **S 20 51 20.9 +0.7**
KIV *e*SS **SS 20 55 17.5 +2.5**
KIV pmax pmax
comp=Z,131nm,1.0s
KIV pmax pmax
comp=Z,125nm,3.5s
KIV Kislovodsk 59.23 327 P **P 20 43 13.9 +1.3**
SNR=29
KIV Kislovodsk 59.23 327⇑*e*P **P 20 43 13.6 +1.0**
SNR=49
KIV Kislovodsk 59.23 327 *e*P **P 20 43 13.4 +0.8**
comp=Z,206nm,1.1s
KIV LR LR
comp=Z,1μm,22.0s
CEYT Ceyhan 59.52 316 *e*P **P 20 43 16.6 +2.0**
CN2 Changchun 59.56 34 *e*P **P 20 43 15.3 +0.5**
CN2 PcP **PcP 20 44 01.5 -0.5**
CN2 *e*S **S 20 51 19.8 -4.5**
CN2 PMZ
comp=Z,30nm,0.8s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,1μm,19.0s
CN2 LE
comp=Z,2μm,19.0s
CN2 LZ
comp=Z,500nm,20.0s
ESPY Espiye-Giresun 59.69 322 *e*P **P 20 43 16.2 +0.5**
KOZT Kozan 59.71 317 *e*P **P 20 43 17.6 +1.6**
COEN Coen 59.76 104 P **P 20 43 16.8 +0.1**
baz=60,SNR=30
COEN Coen 59.76 104 *e*P **P 20 43 16.6 -0.1**
comp=Z,43nm,0.8s
HTT Hallett 59.85 127 P **P 20 43 16.9 -0.1**
baz=60,SNR=13
EREN Erenkoy 59.90 314 *e*P **P 20 43 18.7 +1.5**
LBTB Lobatse 60.05 243 P **P 20 43 19.3 +0.6**
LBTB pmax pmax
comp=Z,52nm,0.9s
LBTB Lobatse 60.05 243 P **P 20 43 19.3 +0.6**
comp=Z,52nm,0.9s,baz=97,slow=7.2,SNR=35
LBTB Lobatse 60.05 243 *e*P **P 20 43 18.7 0.0**
comp=Z,92nm,1.1s
KARA Karaisali 60.13 316 *e*P **P 20 43 20.3 +1.5**
CIT Chita 60.15 21 *e*P **P 20 43 18.8 +0.1**
CIT *e* 20 44 01.8
CIT pmax pmax
comp=Z,123nm,2.7s
SVSK Karacayir 60.22 320 *e*P **P 20 43 20.9 +1.5**
CSS Prodhromos 60.24 313 P **P 20 43 19.9 +0.3**
CSS Prodhromos 60.24 313 *e*P **P 20 43 19.7 +0.1**
comp=Z,36nm,1.2s
CSS LR LR
comp=Z,2μm,20.0s
LFK Lefkose 60.24 314 *e*P **P 20 43 21.4 +1.7**
RSDY Resadiye-TOKAT 60.28 320 *e*P **P 20 43 21.3 +1.5**
MERS Mersin 60.30 316 *e*P **P 20 43 21.2 +1.1**
HIA Hailar 60.47 26*c i*P **P 20 43 21.2 +0.3**
HIA pmax pmax
comp=Z,124nm,2.0s
HIA Hailar 60.47 26 *e*P **P 20 43 19.7 -1.2**
comp=Z,46nm,0.9s
HIA LR LR
comp=Z,2μm,19.0s
LEF Lefka 60.63 313 *e*P **P 20 43 23.4 +1.2**
SOC Sochi 60.67 325*c i*P **P 20 43 22.0 -0.4**
SOC *e* 20 44 12.7
SOC *e* 20 45 35.8
SOC *i*S **S 20 51 36.6 -1.9**
SOC *e*SS **SS 20 55 38.4 +1.0**
SOC pmax pmax
comp=Z,54nm,0.9s

SOC MLR MLR
comp=Z,2μm,21.0s
BOSA Boshof 61.15 239 P **P 20 43 26.3 +0.2**
BOSA 20 44 10.0
BOSA pmax pmax
comp=Z,38nm,1.1s
BOSA pmax pmax
comp=Z,39nm,0.9s
BOSA MLR MLR
comp=Z,17nm,28.6s
BOSA Boshof 61.15 239 P **P 20 43 26.3 +0.2**
comp=Z,38nm,1.1s,baz=84,slow=4.7,SNR=24
BOSA PcP **PcP 20 44 10.0 +1.0**
comp=Z,39nm,0.9s,baz=104,slow=4.5,SNR=7.5
BOSA LR LR 21 08 22.9
comp=Z,1μm,18.1s,baz=74,slow=34
GRM Grahamstown 61.35 233 *i*P **P 20 43 28.6 +1.3**
KVT Kavak 61.47 321 *e*P **P 20 43 28.8 +1.0**
STKA Stephens Creek 61.55 125 P **P 20 43 28.9 +0.3**
STKA pmax pmax
comp=Z,34nm,0.8s
STKA MLR MLR
comp=Z,17nm,28.6s
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA pmax pmax
comp=Z,4.0nm,0.9s
STKA Stephens Creek 61.55 125 P **P 20 43 28.9 +0.3**
comp=Z,34nm,0.8s,baz=296,slow=5.7,SNR=141
STKA LR LR 21 08 53.2
comp=Z,3μm,19.4s,baz=271,slow=35
STKA PKPPKP **P'P'df 21 12 40.1 -2.9**
comp=Z,1.8nm,0.8s,baz=126,slow=5.4,SNR=3.9
STKA PKP2bc 21 12 51.0
comp=Z,3.9nm,0.9s,baz=126,slow=1.8,SNR=6.1
STKA Stephens Creek 61.55 125 P **P 20 43 28.4 -0.2**
baz=62,SNR=79
STKA Stephens Creek 61.55 125 *e*P **P 20 43 28.2 -0.4**
comp=Z,6.8nm,0.7s
STKA P'P' 21 12 40.1
STKA ⇑*e* 21 12 51.0
SULT Sultanhani-AKS 61.65 317 *e*P **P 20 43 30.4 +1.2**
CORM Corum 61.90 319 *e*P **P 20 43 31.4 +0.5**
SVE Sverdlovsk 62.26 346*d i*P **P 20 43 33.3 +0.5**
SVE *e* 20 45 55.3
SVE *e*PPP PPP 20 47 29.5
SVE *e*S S 20 51 49.9 -8.2
SVE *e*SS **SS 20 55 54.6 -7.1**
SVE pmax pmax
comp=Z,126nm,0.9s
SVE MLR MLR
comp=Z,3μm,21.0s
DIKM Dikmen 62.27 321 *e*P **P 20 43 33.9 +0.6**
BRTR Keskin Array B 62.33 318 P **P 20 43 33.7 -0.2**
BRTR pmax pmax
comp=Z,25nm,0.9s
BRTR MLR MLR
comp=Z,2μm,19.8s
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 62.33 318 P **P 20 43 33.6 -0.2**
comp=Z,25nm,0.9s,baz=130,slow=5.5,SNR=90
BRTR LR LR 21 10 52.2
comp=Z,2μm,19.8s,baz=136,slow=36
BRTR PKP2bc 21 12 53.7
comp=Z,0.9nm,0.9s,baz=270,slow=1.4,SNR=3.9
KONT Konya--Tatoy 62.33 316 *e*P **P 20 43 35.4 +1.7**
MDJ Mudanjiang 62.42 35 P **P 20 43 34.5 +0.3**
MDJ pP **pP 20 43 37.9 -1.1**
MDJ sP **sP 20 43 39.3 -1.5**
MDJ PcP **PcP 20 44 13.9 +0.4**
MDJ PP **PP 20 45 50.8 -0.9**
MDJ S **S 20 52 00.3 -0.4**
MDJ ScS **SKSac 20 53 24.6 -1.5**
MDJ PMZ
comp=Z,32nm,1.2s
MDJ PMZ
comp=Z,530nm,8.5s
MDJ LN
comp=Z,1μm,20.1s
MDJ LE
comp=Z,600nm,25.4s
MDJ LZ
comp=Z,1μm,16.7s
MDJ Mudanjiang 62.42 35 *e*P **P 20 43 31.1 -3.0**
comp=Z,14nm,0.9s
ARU Arti 62.43 345*c i*P **P 20 43 34.0 0.0**
ARU 20 44 13.3
ARU 20 45 50.7
ARU PPP PPP 20 47 23.2
ARU S **S 20 52 03.2 +2.9**
ARU pmax pmax
comp=Z,76nm,0.7s
ARU MLR MLR
comp=Z,3μm,18.0s
ARU Arti 62.43 345 *e*P **P 20 43 34.0 0.0**
comp=Z,72nm,0.7s
ARU LR LR
comp=Z,3μm,19.0s
LADK Ladik-KONYA 62.45 316 *e*P **P 20 43 35.7 +1.1**
QLP Quilpie 62.55 119 P **P 20 43 36.3 +0.8**
baz=63,SNR=29
AFSR Af´ar-Bala (A 62.57 318 *e*P **P 20 43 35.9 +0.5**
ANN Anapa 62.72 325*c i*P **P 20 43 34.6 -1.5**
ANN *e**PP **pP 20 43 37.7 -3.3**
ANN *e* 20 44 13.7
ANN *e* 20 45 51.6
ANN *e*S **S 20 52 03.7 -0.7**
ANN pmax pmax
comp=Z,97nm,1.6s
ANN MLR MLR
comp=E,893nm,19.0s
ANN MLR MLR
comp=N,1μm,19.0s
ANN MLR MLR
comp=Z,849nm,19.0s
CANT Cankiri 62.78 319 *e*P **P 20 43 37.3 +0.5**
VLA Vladivostok 62.94 38⇑*i*P **P 20 43 36.6 -1.0**
VLA 20 44 14.0
VLA pmax pmax
comp=Z,33nm,0.8s
ANTO Ankara 62.96 318 *e*P **P 20 43 38.3 +0.3**
ANTO pmax pmax
comp=Z,43nm,1.1s
ANTO MLR MLR
comp=Z,2μm,21.0s
ANTO Ankara 62.96 318⇑*i*P **P 20 43 40.2 +2.2**
ANTO Ankara 62.96 318 P **P 20 43 38.5 +0.5**
SNR=8.8
ANTO Ankara 62.96 318 *e*P **P 20 43 38.3 +0.3**
comp=Z,43nm,1.1s
ANTO LR LR
comp=Z,2μm,21.0s
KIZT Kizilcal 63.10 317 *e*P **P 20 43 40.8 +1.8**
BZK Bozkurt 63.23 320 *e*P **P 20 43 40.1 +0.5**
CTAO Charters Tower 63.34 111 *e*P **P 20 43 40.3 -0.5**
CTAO pmax pmax
comp=Z,221nm,1.0s
CTAO MLR MLR
comp=Z,4μm,21.0s
CTAO Charters Tower 63.34 111 *e*P **P 20 43 40.3 -0.5**
comp=Z,221nm,1.0s
CTAO LR LR
comp=Z,4μm,21.0s
PMG Port Moresby 63.40 99*d i*P **P 20 43 42.1 +0.9**
PMG pmax pmax
comp=Z,243nm,1.0s
PMG Port Moresby 63.40 99 P **P 20 43 42.1 +0.9**
baz=64,SNR=15
PMG Port Moresby 63.40 99 *e*P **P 20 43 42.2 +0.9**
comp=Z,48nm,0.8s
PMG LR LR
comp=Z,1μm,20.0s
ELL Elmali 63.52 314 *e*P **P 20 43 42.7 +0.8**
ISP Isparta 63.56 315 P **P 20 43 40.9 -1.1**
ISP Isparta 63.56 315 *e*P **P 20 43 41.3 -0.8**
ISP pmax pmax
comp=Z,49nm,0.9s
ISP MLR MLR
comp=Z,6μm,19.0s
ISP Isparta 63.56 315‖*i*P **P 20 43 41.9 -0.1**
ISP Isparta 63.56 315 *e*P **P 20 43 41.3 -0.8**
comp=Z,49nm,0.9s
ISP LR LR
comp=Z,6μm,19.0s
USRK Ussuriysk Ar. 63.59 37 P **P 20 43 42.2 +0.3**

comp=Z,12nm,0.6s,baz=240,slow=5.4,SNR=37
USRK LR LR 21 14 32.3
comp=Z,766nm,18.0s,baz=235,slow=39
SVRH Sivrihisar-ESK 63.62 317 *e*P **P 20 43 42.8 +0.4**
CBIJ Chichi jima 63.66 58 P **P 20 43 42.0 -0.7**
JCJ Chichijima 63.66 58 P **P 20 43 42.0 -0.7**
comp=Z,87nm,0.7s,baz=130,slow=9.7,SNR=5.7
JCJ LR LR 21 08 41.6
comp=Z,505nm,21.8s,baz=184,slow=34
SHUT Suhut-Afyon 63.87 316 *e*P **P 20 43 44.9 +0.8**
MAJO Matsushiro 63.99 47*c i*P **P 20 43 44.0 -0.8**
MAJO pmax pmax
comp=Z,244nm,1.0s
MAJO Matsushiro 63.99 47 *e*P **P 20 43 44.1 -0.6**
comp=Z,34nm,0.8s
MAJO LR LR
comp=Z,2μm,22.0s
MAT Matsushiro 63.99 47 P **P 20 43 44.0 -0.8**
MAT S **S 20 52 18.8 -1.8**
MJAR Matsushiro Arr 63.99 47 P **P 20 43 44.5 -0.3**
comp=Z,28nm,0.8s,baz=240,slow=7.5,SNR=108
MJAR PKP2bc 21 12 42.0
comp=Z,2.8nm,1.0s,baz=68,slow=0.7,SNR=6.4
MJAR LR LR 21 13 03.1
comp=Z,1μm,20.0s,baz=245,slow=37
MDUB Mudurnu 64.32 318 *e*P **P 20 43 47.4 +0.4**
ALT Altintas 64.41 316 P **P 20 43 47.7 +0.1**
ALT Altintas 64.41 316 *e*P **P 20 43 48.2 +0.6**
DALY Dalyan (Mu¨la 64.47 313 *e*P **P 20 43 48.5 +0.6**
VRHR Novokhopersk 64.49 332 *e*P **P 20 43 47.6 -0.1**
VRHR *e*S **S 20 52 23.1 -3.1**
VRHR pmax pmax
comp=N,50nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.9s
VRHR pmax pmax
comp=Z,150nm,0.9s
VRHR smax smax
comp=N,330nm,3.3s
VRHR smax smax
comp=E,290nm,3.3s
VRHR smax smax
comp=Z,330nm,3.3s
VRHR MLR MLR
comp=N,750nm,25.0s
VRHR MLR MLR
comp=E,2μm,25.0s
VRHR MLR MLR
comp=Z,3μm,25.0s
ARG Arkhangelos 64.60 312 *e*P **P 20 43 50.0 +1.2**
SIM Simferopol' 64.75 323*c i*P **P 20 43 48.0 -1.6**
SIM *e*S **S 20 52 26.0 -3.7**
SIM pmax pmax
comp=Z,69nm,0.8s
GULT Gulveren 64.76 318 *e*P **P 20 43 49.9 +0.1**
CMSA Cobar Meteorol 64.85 124 P **P 20 43 50.5 0.0**
baz=65,SNR=103
TVSB Tavsanli 65.03 316 *e*P **P 20 43 52.3 +0.7**
KARP Karpathos 65.05 311 P **P 20 43 51.8 0.0**
KARP Karpathos 65.05 311 *e*P **P 20 43 53.0 +1.2**
BOD Bodaibo 65.09 17⇑*i*P **P 20 43 51.7 +0.2**
BOD pmax pmax
comp=Z,69nm,0.8s
CAVI Cavuskoy 65.11 317 *e*P **P 20 43 52.8 +0.8**
KULA Kula-Manisa 65.18 315 P **P 20 43 53.1 +0.5**
KULA Kula-Manisa 65.18 315 *e*P **P 20 43 53.5 +0.9**
AYDB Zeytinkoy-Aydi 65.49 314 *e*P **P 20 43 55.4 +0.7**
VORD Divnogorie 65.51 331 *e*P **P 20 43 53.9 -0.5**
VORD *e*S **S 20 52 33.3 -5.5**
VORD pmax pmax
comp=N,70nm,0.8s
VORD pmax pmax
comp=E,30nm,0.8s
VORD pmax pmax
comp=Z,70nm,0.8s
VORD smax smax
comp=N,500nm,3.8s
VORD smax smax
comp=E,460nm,3.8s
VORD smax smax
comp=Z,290nm,3.8s
VORD MLR MLR
comp=N,1μm,23.0s
VORD MLR MLR
comp=E,2μm,23.0s
VORD MLR MLR
comp=Z,3μm,23.0s
ZKR Zakros 65.59 311 *e*P **P 20 43 54.5 -0.8**
SOKR Solikamsk 65.66 345*c i*P **P 20 43 55.8 +0.7**
SOKR S S 20 52 33.7 -6.5
SOKR pmax pmax
comp=Z,90nm,0.9s
SOKR MLR MLR
comp=Z,3μm,20.0s
GEMT Gemlik 65.66 317 *e*P **P 20 43 55.8 +0.3**
VSR Storozhevoye 65.73 331 *e*P **P 20 43 55.3 -0.5**
VSR *e*S **S 20 52 36.8 -4.7**
VSR *e*SS **SS 20 56 53.9 -2.3**
VSR pmax pmax
comp=N,40nm,0.7s
VSR pmax pmax
comp=E,40nm,0.7s
VSR pmax pmax
comp=Z,90nm,0.7s
VSR smax smax
comp=N,230nm,4.0s
VSR smax smax
comp=E,400nm,4.0s
VSR smax smax
comp=Z,320nm,4.0s
VSR MLR MLR
comp=N,530nm,20.0s
VSR MLR MLR
comp=E,2μm,20.0s
VSR MLR MLR
comp=Z,3μm,20.0s
SUR Sutherland 65.74 236 *e*P **P 20 43 56.6 0.0**
comp=Z,30nm,1.0s
SUR LR LR
comp=Z,2μm,20.0s
ARMT Armutlu 65.95 317 *e*P **P 20 43 57.2 -0.2**
ISK Istanbul-Kandi 66.04 318 *e*P **P 20 43 57.9 -0.1**
VOR Voronezh 66.05 332 *e*P **P 20 43 58.0 +0.2**
VOR pmax pmax
comp=Z,250nm,1.6s
NPS Neapolis 66.11 311 *e*P **P 20 44 00.0 +1.4**
KLYT Kilyos 66.13 318 *e*P **P 20 43 58.8 +0.3**
SMG Samos 66.15 313 *e*P **P 20 44 00.0 +1.2**
KCTX Karacabey (Bur 66.16 317 *e*P **P 20 43 59.0 +0.2**
CASY Casey 66.17 168 PFAKE 20 44 10.0 +12
CASY LR LR
comp=Z,1μm,22.0s
LAST Lasithi 66.17 310 P **P 20 43 58.8 -0.3**
LAST Lasithi 66.17 310 *e*P **P 20 43 59.5 +0.4**
TOO Toolangi 66.18 130 P **P 20 44 00.5 +1.5**
baz=66,SNR=10
BALB Balikesir 66.22 316 *e*P **P 20 43 60.0 +0.8**
BGKT Bogazkoy 66.28 318 *e*P **P 20 43 59.5 0.0**
MAW Mawson 66.31 189 LR LR 21 08 32.3
comp=Z,896nm,18.1s,baz=28,slow=32
KLR Kul'dur 66.32 32 *e*P P 20 43 56.2 -3.4
KLR pmax pmax
comp=E,70nm,1.8s
KLR pmax pmax
comp=Z,170nm,1.8s
CTKS Kestanelik-??a 66.49 318 *e*P **P 20 44 00.9 0.0**
RMQ Roma 66.53 118 P **P 20 44 02.9 +1.5**
baz=67,SNR=18
TSUM Tsumeb 66.54 250 PFAKE 20 44 10.0 +8.2
TSUM LR LR
comp=Z,2μm,22.0s
SIVA Sivas 66.63 310 P **P 20 44 02.1 +0.2**
SIVA Sivas 66.63 310 *e*P **P 20 44 02.0 +0.2**
SANT Santorini 66.64 312 *e*P **P 20 44 01.5 -0.5**
SANT Santorini 66.64 312 *e*P **P 20 43 59.3 -2.7**
comp=Z,171nm,1.2s
SANT LR LR
comp=Z,1μm,19.0s
SLVT Silivri 66.68 317 *e*P **P 20 44 02.5 +0.4**
CTYL Yal??k??y-??at 66.74 318 *e*P **P 20 44 02.7 +0.3**
APE Apeiranthos 66.86 312‖*e*P **P 20 44 03.9 +0.5**
APE pmax pmax
comp=Z,73nm,1.0s
APE Apeiranthos 66.86 312 *e*P **P 20 44 03.0 -0.4**
APE Apeiranthos 66.86 312‖*i*P **P 20 44 03.4 0.0**

CHOS Chios island 66.99 314 *e*P **P 20 44 05.5 +1.3**
RKY Sarkoy-Tekirda 67.15 317 *e*P **P 20 44 05.1 -0.1**
PRK Paraskevi 67.18 315 P **P 20 44 06.1 +0.8**
PRK Paraskevi 67.18 315 *e*P **P 20 44 06.5 +1.2**
VAM Vamos 67.24 310 *e*P **P 20 44 04.5 -1.3**
PHSR Pinarhisar 67.32 318 *e*P **P 20 44 06.6 +0.4**
SIGR SIGRI 67.46 315 *e*P **P 20 44 08.5 +1.4**
GELI Tayfur-Gelibol 67.52 316 *e*P **P 20 44 08.0 +0.6**
ERIK Erikli-Kesan 67.60 316 *e*P **P 20 44 08.6 +0.6**
MANR Mangalia 67.61 320⇑*i*P **P 20 44 08.3 +0.4**
YNG Young 67.67 126 P **P 20 44 09.1 +0.4**
baz=68,SNR=20
HABR Khabarovsk 67.70 34*de*P **P 20 44 06.5 -1.9**
HABR *e**SP **sP 20 44 11.0 -4.1**
HABR *e* 20 46 35.4
HABR PPP PPP 20 48 12.4
HABR *e*S **S 20 53 04.5 -0.9**
HABR *e* 20 54 04.6
HABR *e*SS **SS 20 57 26.4 -0.4**
HABR pmax pmax
comp=N,41nm,2.9s
HABR pmax pmax
comp=E,101nm,2.9s
HABR pmax pmax
comp=Z,110nm,2.9s
HABR MLR MLR
comp=Z,2μm,20.0s
PSN Preselentsi 67.81 320⇓*i*P **P 20 44 09.4 +0.2**
PSN Preselentsi 67.81 320 P **P 20 44 10.7 +1.5**
ENEZ Enez 67.88 316 *e*P **P 20 44 10.2 +0.5**
EDRB Edirne 67.94 318 P **P 20 44 11.6 +1.5**
EDRB Edirne 67.94 318 *e*P **P 20 44 10.4 +0.3**
TIRR Tirgusor 68.02 321 *e*P **P 20 44 10.1 -0.4**
TIRR pmax pmax
comp=Z,43nm,0.9s
TIRR Tirgusor 68.02 321⇓*i*P **P 20 44 10.6 +0.1**
TIRR Tirgusor 68.02 321 *e*P **P 20 44 10.1 -0.4**
comp=Z,43nm,0.9s
ALN Alexandroupoli 68.02 316 P **P 20 44 10.2 -0.4**
ALN Alexandroupoli 68.02 316 *e*P **P 20 44 11.0 +0.4**
ANKY Antikythira Is 68.08 310 *e*P **P 20 44 12.0 +0.9**
PRD Provadia 68.10 319 P **P 20 44 10.9 -0.1**
TLCR 68.11 321⇓*i*P **P 20 44 12.5 +1.5**
SMTH Samothraki Isl 68.20 316 P **P 20 44 11.8 0.0**
SMTH Samothraki Isl 68.20 316 *e*P **P 20 44 12.0 +0.2**
LIA Limnos Island 68.22 315 *e*P **P 20 44 12.0 +0.2**
MSAB Monastry St. A 68.22 320⇑*i*P **P 20 44 11.7 -0.1**
JMB Yambol 68.32 318⇑*i*P **P 20 44 13.9 +1.5**
CAN Canberra 68.38 127 *e*P **P 20 44 12.2 -0.9**
CAN pmax pmax
comp=Z,54nm,0.9s
CAN MLR MLR
comp=Z,3μm,20.0s
CAN Canberra 68.38 127 *e*P **P 20 44 12.2 -0.9**
comp=Z,54nm,0.9s
CAN LR LR
comp=Z,3μm,20.0s
HARR Harsova 68.43 321⇓*i*P **P 20 44 13.2 +0.1**
EIDS Eidsvold 68.44 116 P **P 20 44 13.8 +0.3**
baz=69,SNR=10
EIDS Eidsvold 68.44 116 *e*P **P 20 44 14.0 +0.4**
comp=Z,66nm,1.0s
PTL Penteli 68.45 313 *e*P **P 20 44 13.5 +0.1**
RDO Rodhopi 68.47 316 P **P 20 44 13.3 -0.1**
RDO Rodhopi 68.47 316 *e*P **P 20 44 12.5 -0.9**
CFR Carcaliu 68.53 321⇓*i*P **P 20 44 14.0 +0.3**
ATH Athens Observa 68.53 313 *e*P **P 20 44 14.5 +0.6**
NAIG Nisos Aigina 68.62 312 *e*P **P 20 44 13.5 -0.9**
VLI Veliai 68.66 311 *e*P **P 20 44 14.5 -0.2**
CNB Canberra Magne 68.67 127 P **P 20 44 15.3 +0.4**
baz=69,SNR=13
DID Didima 68.72 312 P **P 20 44 13.8 -1.3**
DID Didima 68.72 312 *e*P **P 20 44 14.5 -0.6**
KDZ Kurdzhali 68.76 317⇓*i*P **P 20 44 15.7 +0.4**
KDZ Kurdzhali 68.76 317 P **P 20 44 15.3 0.0**
MOO Moorlands 68.79 135 P **P 20 44 17.0 +1.5**
baz=69,SNR=6.4
DIM Dimitrovgrad 68.85 317 P **P 20 44 15.7 0.0**
MILA Mila 68.88 129 P **P 20 44 17.3 +1.1**
baz=69,SNR=6.4
MRKA Markates 68.90 313 *e*P **P 20 44 16.0 -0.2**
KIS Kishinev 68.97 323 *e*P **P 20 44 16.0 -0.4**
KIS *e*S **S 20 53 18.0 -2.7**
KIS pmax pmax
comp=Z,220nm,1.7s
KIS pmax pmax
comp=Z,700nm,5.0s
KIS MLR MLR
comp=Z,2μm,18.0s
KIS MLR MLR
comp=N,1μm,19.0s
KIS MLR MLR
comp=E,1μm,18.0s
KIS MLR MLR
comp=Z,2μm,18.0s
KIS Kishinev 68.97 323⇑*i*P **P 20 44 17.3 +0.9**
KIS Kishinev 68.97 323 *e*P **P 20 44 16.0 -0.4**
comp=Z,200nm,1.7s
KIS Kishinev 68.97 323 *e*PP PP 20 47 04.0 +15
KIS *e*S **S 20 53 18.0 -2.7**
TAU Tasmania Unive 69.01 135 *e*P **P 20 44 18.2 +1.4**
TAU pmax pmax
comp=Z,132nm,1.2s
TAU MLR MLR
comp=Z,2μm,19.0s
TAU Tasmania Unive 69.01 135 *e*P **P 20 44 18.1 +1.4**
comp=Z,132nm,1.2s
TAU LR LR
comp=Z,2μm,19.0s
SZH Strazhica 69.09 319 P **P 20 44 18.1 +0.8**
LTK Loutraki 69.10 312 *e*P **P 20 44 16.0 -1.5**
KAVA Kavala 69.12 316 P **P 20 44 17.6 +0.1**
KAVA Kavala 69.12 316 *e*P **P 20 44 18.0 +0.5**
SKIA Skiathos 69.16 314 *e*P **P 20 44 17.0 -0.8**
OUR Ouranopolis 69.23 315 P **P 20 44 18.0 -0.2**
OUR Ouranopolis 69.23 315 *e*P **P 20 44 18.0 -0.2**
SMIA Simia 69.24 313 *e*P **P 20 44 18.5 +0.2**
PAIG Paliouri 69.29 315 P **P 20 44 18.2 -0.3**
PAIG Paliouri 69.29 315 *e*P **P 20 44 18.5 0.0**
LKR Lokris 69.31 313 *e*P **P 20 44 18.5 -0.2**
VLX Vlachokerasia 69.31 312 P **P 20 44 18.5 -0.3**
VLX Vlachokerasia 69.31 312 *e*P **P 20 44 19.0 +0.2**
MOS Moscow 69.34 334 *e*P **P 20 44 17.6 -0.9**
MOS *e* 20 44 49.1
MOS pmax pmax
comp=Z,169nm,0.8s
PETR Petresti 69.34 321⇓*i*P **P 20 44 20.2 +1.5**
GRER 69.35 321⇑*i*P **P 20 44 21.1 +2.3**
NEO Neokhori 69.38 314 *e*P **P 20 44 18.5 -0.7**
OBN Obninsk 69.42 333*c i*P **P 20 44 18.8 -0.1**
OBN pmax pmax
comp=Z,105nm,0.8s
OBN MLR MLR
comp=Z,3μm,23.0s
OBN Obninsk 69.42 333 *e*P **P 20 44 18.6 -0.3**
comp=Z,91nm,0.6s
OBN LR LR
comp=Z,3μm,21.0s
XOR Xorichti 69.43 314 *e*P **P 20 44 18.5 -1.0**
PLD Plovdiv 69.43 317 P **P 20 44 19.2 -0.2**
ISR Istrita 69.50 321⇑*i*P **P 20 44 21.2 +1.4**
DSF Desfina 69.56 313 *e*P **P 20 44 20.0 -0.4**
ITM Ithomi 69.58 311 *e*P **P 20 44 20.0 -0.4**
AXAR Agios Charalam 69.60 313 *e*P **P 20 44 20.0 -0.5**
PYL PYLOS 69.62 311 *e*P **P 20 44 20.5 -0.2**
PLG Polygyros 69.63 315 *e*P **P 20 44 20.5 -0.2**
ARMA Armidale 69.64 121 P **P 20 44 22.2 +1.2**
baz=70,SNR=14
ARMA Armidale 69.64 121 *e*P **P 20 44 22.3 +1.2**
comp=Z,77nm,1.1s
MGCD Mangrove Creek 69.67 124 P **P 20 44 22.1 +1.0**
baz=70,SNR=16
NVR Nevrokopi 69.71 316 P **P 20 44 20.7 -0.5**
NVR Nevrokopi 69.71 316 *e*P **P 20 44 21.0 -0.2**
KLV Kalavryta, Ach 69.71 312 *e*P **P 20 44 20.5 -0.8**
VRI Vrincioaia 69.72 321⇓*i*P **P 20 44 22.4 +1.3**
ERM Erimo 69.74 43 PFAKE 20 44 30.0 +8.7
ERM LR LR
comp=Z,1μm,20.0s
PLOR Plostina 69.76 321⇓*i*P **P 20 44 22.7 +1.3**
SECR 69.77 320⇑*i*P **P 20 44 23.1 +1.7**
SRS Serrai 69.81 316 P **P 20 44 21.1 -0.7**
SRS Serrai 69.81 316 *e*P **P 20 44 21.0 -0.7**

IAS Iasi 69.82 323⇑*i*P **P 20 44 22.3 +0.6**
KALE Kalithea 69.84 313 *e*P **P 20 44 21.0 -1.1**
AMT Artemida-Makis 69.86 312 *e*P **P 20 44 23.0 +0.8**
SOH Sokhos 69.86 315 P **P 20 44 21.0 -1.1**
SOH Sokhos 69.86 315 *e*P **P 20 44 22.0 -0.1**
MMB Musomiste 69.90 316⇑*i*P **P 20 44 21.7 -0.6**
AGG Agios Georgios 69.93 313 P **P 20 44 21.4 -1.1**
AGG Agios Georgios 69.93 313 *e*P **P 20 44 21.5 -1.1**
HORT Hortiatis 69.96 315 P **P 20 44 21.8 -1.0**
HORT Hortiatis 69.96 315 *e*P **P 20 44 22.0 -0.8**
PGB Panagyurishte 69.98 317 P **P 20 44 21.9 -0.9**
DRO Drossia 70.01 312 P **P 20 44 23.5 +0.5**
DRO Drossia 70.01 312 *e*P **P 20 44 23.5 +0.5**
EFP Efpalio 70.03 313 *e*P **P 20 44 21.5 -1.6**
MLR Muntele Rosu 70.05 321⇓*i*P **P 20 44 24.4 +1.1**
TESR Tescani 70.06 322⇓*i*P **P 20 44 23.7 +0.5**
THE Thessaloniki 70.06 315 P **P 20 44 22.2 -1.1**
THE Thessaloniki 70.06 315 *e*P **P 20 44 23.0 -0.3**
MAKR Makrakomi, Fth 70.07 313 P **P 20 44 22.6 -0.8**
MAKR Makrakomi, Fth 70.07 313 *e*P **P 20 44 23.0 -0.4**
LIT Litokhoron 70.20 314 *e*P **P 20 44 23.0 -1.2**
ASAJ Asahikawa 70.22 41 P **P 20 44 23.3 -0.9**
ASAJ pmax pmax
comp=Z,17nm,0.7s
ASAJ MLR MLR
comp=Z,595nm,21.5s
ASAJ Asahikawa 70.22 41 P **P 20 44 23.3 -0.9**
comp=Z,17nm,0.7s,baz=227,slow=7.3,SNR=9.8
ASAJ LR LR 21 15 30.0
comp=Z,595nm,21.5s,baz=234,slow=36
RLS Riolos of Patr 70.22 312 *e*P **P 20 44 24.0 -0.3**
HUMR Humele 70.25 320⇓*i*P **P 20 44 24.7 +0.3**
EVR Evrytania 70.27 313 *e*P **P 20 44 24.0 -0.7**
KNT Kendrikon 70.31 316 P **P 20 44 24.1 -0.8**
KNT Kendrikon 70.31 316 *e*P **P 20 44 24.0 -0.8**
THL Klokotos Trika 70.35 314 P **P 20 44 23.8 -1.3**
THL Klokotos Trika 70.35 314 *e*P **P 20 44 24.0 -1.1**
KKB Krupnik 70.45 316 P **P 20 44 24.8 -0.9**
MTUR Matau 70.49 320⇓*i*P **P 20 44 26.0 0.0**
PRGR Permogore 70.50 342⇓*i*P **P 20 44 24.2 -1.3**
PRGR *e**PP **pP 20 44 27.4 -3.0**
PRGR 20 44 46.1
PRGR *e*S **S 20 53 35.6 -2.4**
PRGR pmax pmax
comp=Z,97nm,1.2s
AKASG Malin Array Be 70.58 327 P **P 20 44 25.8 -0.4**
comp=Z,41nm,0.6s,baz=113,slow=4.6,SNR=73
AKASG LR LR 21 19 22.0
comp=Z,2μm,19.7s,baz=125,slow=39
GRG Griva 70.58 315 P **P 20 44 25.6 -0.9**
KIEV Kiev 70.58 327*c i*P **P 20 44 25.9 -0.4**
KIEV Kiev 70.58 327 *e*P **P 20 44 25.9 -0.4**
comp=Z,66nm,0.9s
KIEV LR LR
comp=Z,2μm,20.0s
MPEP Malo Peshtene 70.59 318 P **P 20 44 26.0 -0.5**
VOIR 70.59 320⇑*i*P **P 20 44 28.1 +1.5**
VAY Valandovo 70.60 316 P **P 20 44 25.3 -1.3**
VAY Valandovo 70.60 316 *e*P **P 20 44 27.2 +0.7**
DOPR Dopca 70.61 321⇓*i*P **P 20 44 26.7 +0.1**
PDO Prodromos 70.62 313 P **P 20 44 26.6 -0.1**
PDO Prodromos 70.62 313 *e*P **P 20 44 27.0 +0.3**
VTS Vitosha 70.64 317 P **P 20 44 26.4 -0.6**
VTS Vitosha 70.64 317⇓*i*P **P 20 44 27.0 0.0**
VTS Vitosha 70.64 317 P **P 20 44 26.4 -0.6**
KZN Kozani 70.79 314 *e*P **P 20 44 27.0 -0.9**
ARR Arges 70.83 320⇓*i*P **P 20 44 27.9 -0.1**
DSL Palaion Diasel 70.86 313 P **P 20 44 30.1 +1.8**
DSL Palaion Diasel 70.86 313 *e*P **P 20 44 28.5 +0.2**
VLS Valsamata 70.91 312 *e*P **P 20 44 28.0 -0.6**
LKD2 Lefkada island 71.07 313 *e*P **P 20 44 30.0 +0.5**
JAN Janina 71.22 313 P **P 20 44 30.6 +0.1**
JAN Janina 71.22 313 *e*P **P 20 44 31.0 +0.5**
FNA Florina 71.24 315 *e*P **P 20 44 30.0 -0.6**
MDB Medias 71.31 321⇓*i*P **P 20 44 32.6 +1.8**
NEST Nestorio 71.34 314 *e*P **P 20 44 31.0 -0.3**
LOT Lotru 71.42 320⇑*i*P **P 20 44 30.9 -0.7**
BURAR Bucovina Array 71.43 323⇑*i*P **P 20 44 33.2 +1.6**
YSS Yuzh-Sakhalins 71.52 38 *e*P **P 20 44 31.5 -0.5**
YSS *e* 20 54 31.0
YSS pmax pmax
comp=Z,50nm,0.9s
YSS Yuzh-Sakhalins 71.52 38 *e*P **P 20 44 31.7 -0.3**
comp=Z,51nm,0.9s
YSS LR LR
comp=Z,486nm,19.0s
IGT Igoumenitsa 71.56 313 P **P 20 44 32.2 -0.2**
IGT Igoumenitsa 71.56 313 *e*P **P 20 44 32.0 -0.4**
SKO Skopje 71.63 316 *e*P **P 20 44 32.9 +0.1**
OHR Ohrid 71.77 315 *e*P **P 20 44 32.9 -0.9**
KLMR Klimovskoe 71.98 339 *e*P **P 20 44 33.0 -1.5**
KLMR pmax pmax
comp=Z,53nm,0.8s
KEK Kerkira 72.01 313 *e*P **P 20 44 32.0 -3.1**
GZR Gura Zlata 72.03 320⇓*i*P **P 20 44 35.8 +0.6**
CJR Cluj-Napoca 72.05 321⇓*i*P **P 20 44 35.1 -0.2**
DEV Deva 72.15 320⇓*i*P **P 20 44 36.7 +0.9**
PHP Peshkopia 72.22 315 P **P 20 44 35.2 -1.2**
YUK Yuzh-Kuril'sk 72.35 42*c i*P P 20 44 29.4 -7.6
YUK *i* 20 47 16.0
YUK *i* PPP PPP 20 48 55.0
YUK *i* 20 54 38.7
YUK *e*SS SS 20 58 34.5 -4.0
YUK MLR MLR
comp=N,2μm,20.0s
YUK MLR MLR
comp=Z,1μm,20.0s
SYO Syowa Base 72.36 195⇑*e*P **P 20 44 34.8 -1.9**
SYO Syowa Base 72.36 195⇓*e*P **PcP 20 44 52.0 -2.5**
DRGR 72.63 321⇓*i*P **P 20 44 39.3 +0.5**
BZS Buzias 72.87 320⇓*i*P **P 20 44 39.9 -0.2**
LVV L'vov 73.10 324 *e*P **P 20 44 40.1 -1.3**
LVV *e*S **S 20 54 04.9 -3.6**
MICGM Minsk 73.21 330⇓*e*P **P 20 44 39.0 -3.0**
MNK Minsk 73.24 330⇓*e*P **P 20 44 39.0 -3.1**
MNK pmax pmax
comp=Z,450nm,0.8s
MNK MLR MLR
comp=Z,4μm,20.0s
TRPA Tarpa 73.28 322⇑*i*P **P 20 44 42.9 +0.4**
TRPA Tarpa 73.28 322⇑*e*P **P 20 44 42.6 +0.1**
DIVS Divibare 73.38 318 P **P 20 44 43.0 -0.3**
YAK Yakutsk 73.43 21 *e*P **P 20 44 42.4 -0.7**
YAK *e* 20 44 58.6
YAK *e* 20 47 27.0
YAK *e*S **S 20 54 11.2 -0.5**
YAK *e*SS **SS 20 59 00.9 +6.5**
YAK pmax pmax
comp=Z,96nm,0.8s
YAK pmax pmax
comp=E,18nm,1.0s
YAK pmax pmax
comp=N,19nm,1.0s
YAK pmax pmax
comp=Z,22nm,1.1s
YAK pmax pmax
comp=E,39nm,1.9s
YAK pmax pmax
comp=N,31nm,1.6s
YAK smax smax
comp=N,85nm,4.3s
YAK smax smax
comp=E,182nm,4.8s
YAK MLR MLR
comp=Z,2μm,22.0s
YAK MLR MLR
comp=N,1μm,19.0s
YAK MLR MLR
comp=E,1μm,18.0s
YAK Yakutsk 73.43 21 *e*P **P 20 44 42.7 -0.4**
comp=E,150nm,0.7s
YAK LR LR
comp=Z,2μm,20.0s
UZH Uzhgorod 73.64 323⇓*i*P **P 20 44 43.7 -0.9**
UZH *i* 20 44 51.7
UZH *i* 20 44 58.3
UZH *i* 20 47 24.1
UZH *i*S **SKiKP 20 54 10.3 -4.2**
UZH MLR MLR
comp=N,700nm,18.0s
UZH MLR MLR
comp=E,800nm,18.0s
UZH MLR MLR

comp=Z,600nm,18.0s
KOLS Kolonicke sedl 73.77 323 *e*P **P 20 44 45.9 +0.5**
KOLS pmax pmax
comp=Z,42nm,1.1s
KOLS Kolonicke sedl 73.77 323 *e*P **P 20 44 45.9 +0.5**
KWP Kalwaria Pacla 73.80 324 *e*P **P 20 44 46.0 +0.5**
KWP *e**PP **pP 20 44 48.7 -1.8**
KWP *e* 20 44 57.0
KWP pmax pmax
comp=Z,100nm,1.4s
KWP MLR MLR
comp=Z,2μm,23.8s
KWP Kalwaria Pacla 73.80 324 *e*P **P 20 44 46.0 +0.5**
KWP *e*pP **pP 20 44 48.6 -1.9**
KWP *e*PcP **PcP 20 44 57.0 -4.1**
KWP *e*S SKiKP 20 54 03.0 -12
KWP LMZ LR 21 17 30.5
KWP Kalwaria Pacla 73.80 324⇑*i*P **P 20 44 46.1 +0.5**
KWP Kalwaria Pacla 73.80 324 *e*P **P 20 44 45.1 -0.5**
comp=Z,62nm,0.9s
KWP LR LR
comp=Z,2μm,19.0s
NACGM Naroch 73.97 330 *e*P P 20 44 43.0 -3.4
TIP Timpagrande 74.08 312 *e*P **P 20 44 48.0 +0.6**
comp=Z,13nm,0.9s
TIP LR LR
comp=Z,1μm,20.0s
IDID Didziasalis 74.19 330 *e*P **P 20 44 47.4 -0.3**
IDID AMB AMB 20 45 07.0
comp=Z,32nm,1.1s
CEL Celeste 74.46 311 *e*P **P 20 44 47.7 -2.1**
comp=Z,54nm,1.0s
CEL LR LR
comp=Z,2μm,21.0s
IIGN Ignalina 74.47 330 *e*P **P 20 44 48.9 -0.4**
IIGN AMB AMB 20 45 07.0
comp=Z,35nm,1.1s
PKSN Nyarlorinc 74.48 320⇓*e*P **P 20 44 49.9 +0.4**
STON Ston 74.53 316 P **P 20 44 48.9 -1.0**
PKS6 Bocsa 74.56 320⇓*e*P **P 20 44 51.0 +1.0**
STHS Stebnicka Huta 74.58 323 *e*P **P 20 44 50.1 -0.1**
STHS pmax pmax
comp=Z,13nm,0.9s
STHS Stebnicka Huta 74.58 323 *e*P **P 20 44 50.1 -0.1**
ISAL Salakas 74.62 330 *e*P **P 20 44 49.8 -0.4**
ISAL AMB AMB 20 45 08.4
comp=Z,36nm,1.1s
DRV Dumont d'Urvil 74.68 160 S S 20 54 38.0 +12
DRV SS SS 20 58 50.0 -23
DRV L L 21 04 00.0
DRV R 21 08 00.0
TMCR Tamitsa 74.74 341 *e*P **P 20 44 50.9 +0.2**
TMCR *e* 20 45 03.1
TMCR *e* 20 47 37.5
TMCR *e*S **S 20 54 25.7 -0.6**
TMCR pmax pmax
comp=Z,77nm,0.8s
PKS2 Kecel 74.75 320⇓*e*P **P 20 44 51.3 +0.2**
PSZ Piszkesteto 74.84 321 *e*P **P 20 44 50.3 -1.4**
PSZ pmax pmax
comp=Z,21nm,0.8s
PSZ MLR MLR
comp=Z,2μm,21.0s
PSZ Piszkesteto 74.84 321⇓*i*P **P 20 44 51.6 -0.1**
PSZ Piszkesteto 74.84 321⇓*e*P **P 20 44 52.3 +0.6**
PSZ Piszkesteto 74.84 321 *e*P **P 20 44 50.3 -1.4**
comp=Z,21nm,0.8s
PSZ LR LR
comp=Z,2μm,21.0s
WDD Wield Dalam 74.88 308 PFAKE 20 45 00.0 +7.9
WDD LR LR
comp=Z,3μm,19.0s
PKS7 Kunszentmiklos 74.98 320⇓*e*P **P 20 44 52.5 0.0**
CUC Castrocucco 75.01 313 *e*P **P 20 44 53.1 +0.2**
comp=Z,16nm,0.8s
CUC LR LR
comp=Z,2μm,20.0s
NIE Niedzica 75.15 323 *e*P **P 20 44 53.2 -0.2**
NIE Niedzica 75.15 323 *e*P **P 20 44 53.2 -0.2**
PKS9 Tamasi 75.39 320⇑*e*P **P 20 44 55.7 +0.9**
SUW Suwalki 75.41 328 *e*P **P 20 44 54.5 -0.3**
SUW *e* 20 45 05.1
SUW *e*S **S 20 54 30.2 -4.0**
SUW MLR MLR
comp=Z,2μm,24.1s
SUW Suwalki 75.41 328 *e*P **P 20 44 54.4 -0.3**
SUW *e*PcP **PcP 20 45 05.1 -2.8**
SUW *e*S **S 20 54 30.1 -4.1**
SUW LMZ LR 21 17 23.6
SUW Suwalki 75.41 328 *e*P **P 20 44 54.5 -0.3**
comp=Z,355nm,1.1s
VYHS Vyhne 75.71 322 *e*P **P 20 44 56.5 -0.1**
VYHS pmax pmax
comp=Z,31nm,1.2s
VYHS Vyhne 75.71 322 *e*P **P 20 44 56.5 -0.1**
VYHS *e*S S 20 54 30.5 -7.3
OJC Ojcow 75.76 323 *e*P **P 20 44 56.8 -0.1**
OJC Ojcow 75.76 323 *e*P **P 20 44 56.8 -0.1**
VSU Vasula 75.77 333*d i*P **P 20 44 56.7 0.0**
VSU pmax pmax
comp=Z,180nm,0.7s
PKST T''s 75.78 320⇓*e*P **P 20 44 56.8 -0.3**
BEL Belsk 75.81 325 *e*P **P 20 44 57.6 +0.5**
BEL *e**PP **pP 20 45 00.4 -1.7**
BEL *e* 20 45 10.3
BEL *e*S **S 20 54 40.6 +1.9**
BEL pmax pmax
comp=Z,200nm,1.0s
BEL MLR MLR
comp=Z,2μm,25.9s
BEL Belsk 75.81 325 *e*P **P 20 44 57.6 +0.5**
BEL *e*pP **pP 20 45 00.3 -1.8**
BEL *e*PcP **PcP 20 45 10.3 +0.6**
BEL *e*S **S 20 54 40.6 +1.9**
BEL LMZ LR 21 18 26.9
HNR Honiara 76.01 99 PFAKE 20 45 10.0 +11
HNR LR LR
comp=Z,10.0nm,20.0s
LHI Lord Howe Isla 76.11 122 P **P 20 45 00.3 +1.0**
baz=76,SNR=3.8
JOF Joensuu 76.30 338 *e*P **P 20 44 59.1 -0.6**
JOF pmax pmax
comp=Z,43nm,0.6s
JOF Joensuu 76.30 338 *e*p **P 20 44 59.1 -0.6**
comp=Z,42nm,0.6s
OKC Ostrava-Krasne 76.61 323 *e*P **P 20 45 01.5 -0.2**
OKC *e* 20 45 07.4
OKC *e* 20 45 13.2
OKC MLR MLR
comp=Z,2μm,20.6s
OKC Ostrava-Krasne 76.61 323 *e*P **P 20 45 01.5 -0.2**
OKC *e*pP **pP 20 45 07.4 +0.7**
OKC *e*PCP **PcP 20 45 13.2 0.0**
OKC *e*x x 20 45 17.8
OKC AMS AMS 21 20 10.0
comp=Z,2μm,20.6s
SOP Sopron 76.86 320⇓*e*P **P 20 45 04.0 +0.8**
MORC Moravsky Berou 76.95 323 *e*P **P 20 45 01.8 -2.0**
MORC pmax pmax
comp=Z,24nm,0.8s
MORC Moravsky Berou 76.95 323⇓*i*P **P 20 45 04.0 +0.2**
MORC Moravsky Berou 76.95 323 *e*P **P 20 45 01.8 -2.0**
comp=Z,24nm,0.8s
BOJS Bojanci 77.03 318 *i* P **P 20 45 03.6 -0.6**
BOJS *e* 20 45 16.1
VRAC Vranov 77.38 322⇓*i*P **P 20 45 06.7 +0.6**
CONA Conrad Observa 77.39 320⇑*i*P **P 20 45 06.0 -0.3**
comp=Z,44nm,1.4s,SNR=16
ARSA Arzberg 77.39 320 *i* P **P 20 45 06.2 0.0**
comp=Z,27nm,0.8s,SNR=20
VISS Visnje 77.40 318 *e*P **P 20 45 05.6 -0.7**
VISS *i* 20 45 16.4
VISS *e* 20 45 21.8
AQU L'Aquila 77.41 314 *e*P **P 20 45 05.1 -1.4**
AQU pmax pmax
comp=Z,142nm,0.9s
AQU MLR MLR
comp=Z,2μm,19.0s
AQU L'Aquila 77.41 314 *e*P **P 20 45 05.1 -1.4**
comp=Z,142nm,0.9s
AQU LR LR
comp=Z,2μm,19.0s
PERS Pernice 77.46 319 *e*P **P 20 45 06.1 -0.6**
PERS *e* 20 45 23.3

SOKA Soboth 77.53 319 *i* P **P 20 45 06.6 -0.5**
comp=Z,34nm,0.8s,SNR=23
FINES FINESS Array B 77.56 335 P **P 20 45 06.4 -0.4**
FINES pmax pmax
comp=Z,35nm,0.6s
FINES MLR MLR
comp=Z,18nm,28.6s
FINES FINESS Array B 77.56 335 P **P 20 45 06.4 -0.4**
comp=Z,35nm,0.6s,baz=124,slow=4.9,SNR=134
FINES LR LR 21 22 33.6
comp=Z,2μm,20.3s,baz=116,slow=38
KAF Kangasniemi 77.81 336 *e*P **P 20 45 07.9 -0.3**
KAF Kangasniemi 77.81 336 *e*p **P 20 45 07.9 -0.3**
DPC Dobruska-Polom 77.89 323 *e*P **P 20 45 09.3 +0.3**
DPC *e* 20 45 26.4
DPC Dobruska-Polom 77.89 323 *e*P **P 20 45 09.3 +0.3**
DPC *ex* x 20 45 26.4
DPC AMS AMS 21 22 20.0
DPC Dobruska-Polom 77.89 323 *e*P **P 20 45 09.2 +0.2**
JAVS Javornik 77.94 318 *i* P **P 20 45 08.0 -1.4**
JAVS *e* 20 45 22.3
TREC Trest 78.06 322 *e*P **P 20 45 10.3 +0.4**
TREC MLR MLR
comp=Z,2μm,18.8s
TREC Trest 78.06 322 *e*P **P 20 45 10.3 +0.4**
TREC AMS AMS 21 22 20.0
comp=Z,2μm,18.8s
KSP Ksiaz 78.07 323⇑*e*P **P 20 45 10.7 +0.8**
KSP *e* 20 45 20.8
KSP *e*S **S 20 54 59.7 -3.8**
KSP MLR MLR
comp=Z,9μm,22.3s
KSP Ksiaz 78.07 323 *e*P **P 20 45 10.7 +0.8**
KSP *e*PcP **PcP 20 45 22.2 +2.7**
KSP *e*S **S 20 55 00.1 -3.4**
KSP LMZ LR 21 17 38.5
UPC Upice 78.13 323 *e*P **P 20 45 10.9 +0.7**
UPC *e* 20 45 26.5
UPC Upice 78.13 323 *e*P **P 20 45 10.9 +0.7**
UPC *ex* x 20 45 26.5
LVZ Lovozero 78.24 343⇑*e*P **P 20 45 11.7 +1.1**
LVZ pmax pmax
comp=Z,67nm,2.5s
LVZ Lovozero 78.24 343 *e*P **P 20 45 11.7 +1.1**
comp=Z,56nm,1.1s
LVZ LR LR
comp=Z,4μm,20.0s
GKP Gorka Klasztor 78.36 326 *e*P **P 20 45 12.3 +0.9**
GKP *e* 20 45 22.0
GKP *e*S **S 20 55 06.0 -0.5**
GKP MLR MLR
comp=Z,3μm,21.5s
GKP Gorka Klasztor 78.36 326 *e*P **P 20 45 12.3 +0.9**
GKP *e*PcP **PcP 20 45 22.0 +1.3**
GKP *e*S **S 20 55 06.0 -0.5**
GKP LMZ LR 21 17 00.2
MOA Molln 78.38 320 *i* P **P 20 45 11.2 -0.5**
comp=Z,18nm,0.8s,SNR=8.9
APA Apatity 78.40 342⇓*i*P **P 20 45 12.0 +0.6**
APA *i* 20 48 09.0
APA *i* S **S 20 55 08.0 +1.6**
APA MLR MLR
comp=Z,3μm,20.0s
MYKA Terra Mystica 78.43 319⇑*i*P **P 20 45 11.6 -0.5**
comp=Z,22nm,1.0s,SNR=7.2
KBA Koelnbreinsper 78.76 319 *i* P **P 20 45 13.4 -0.6**
comp=Z,37nm,0.8s,SNR=26
PRU Pruhonice 78.86 322 *e*P **P 20 45 14.4 +0.1**
PRU *e* 20 45 27.2
PRU MLR MLR
comp=Z,2μm,21.6s
PRU Pruhonice 78.86 322 *e*P **P 20 45 14.4 +0.1**
PRU *ex* x 20 45 27.2
PRU *ex* x 20 45 30.9
PRU AMS AMS 21 23 00.0
comp=Z,2μm,21.6s
KEST Kesra 78.94 307 P **P 20 45 16.5 +1.3**
comp=Z,58nm,0.8s,baz=342,slow=1.6,SNR=75
KEST PKPPKP **P'P'df 21 12 11.0 -1.3**
comp=Z,2.0nm,1.0s,baz=312,slow=0.2,SNR=3.8
PRA Prague 78.95 322 *e*P **P 20 45 16.8 +2.0**
PRA Prague 78.95 322 *e*P **P 20 45 16.8 +2.0**
PRA *ex* x 20 45 31.9
PVCC Panska Ves 79.01 323 *e*P **P 20 45 15.5 +0.4**
PVCC *e* 20 45 23.6
PVCC MLR MLR
comp=Z,2μm,19.5s
PVCC Panska Ves 79.01 323 *e*P **P 20 45 15.5 +0.4**
PVCC *e*PCP **PcP 20 45 23.6 0.0**
PVCC *ex* x 20 45 31.0
PVCC AMS AMS 21 25 00.0
comp=Z,2μm,19.5s
GEC2 GERESS Array S 79.04 321 *e*P **P 20 45 15.0 -0.3**
GEC2 GERESS Array S 79.04 321 *e*P **P 20 45 15.1 -0.3**
comp=Z,40nm,1.1s
GEC2 *es*P sP 20 45 32.1 +10
GEC2 *e*L L 21 23 33.0
comp=Z,2μm,18.8s
GEC2 GERESS Array S 79.04 321 *e*P **P 20 45 15.0 -0.4**
GERES GERESS Array B 79.04 321 P **P 20 45 15.1 -0.3**
GERES pmax pmax
comp=Z,18nm,0.9s
GERES MLR MLR
comp=Z,641nm,18.0s
GERES GERESS Array B 79.04 321 P **P 20 45 15.1 -0.3**
comp=Z,18nm,0.9s,baz=123,slow=6.6,SNR=46
GERES LR LR 21 22 58.7
comp=Z,641nm,18.0s,baz=134,slow=38
KHC Kasperske Hory 79.20 321 *e*P **P 20 45 15.8 -0.4**
KHC *e* 20 45 26.5
KHC MLR MLR
comp=Z,2μm,18.9s
KHC Kasperske Hory 79.20 321 *e*P **P 20 45 15.8 -0.4**
KHC *e*PCP **PcP 20 45 26.5 +2.0**
KHC *ex* x 20 45 31.2
KHC AMS AMS 21 25 40.0
comp=Z,2μm,18.9s
KHC Kasperske Hory 79.20 321 *e*P **P 20 45 15.7 -0.5**
comp=Z,67nm,0.9s
ABTA Abfaltersbach 79.21 319 *i* P **P 20 45 16.1 -0.3**
comp=Z,53nm,0.9s,SNR=27
RJOB Jochberg 79.30 320 *e*P **P 20 45 16.1 -0.7**
comp=Z,59nm,0.9s
BRG Berggiesshubel 79.49 323 *e*P **P 20 45 18.4 +0.7**
comp=Z,42nm,0.9s
BRG *e* 20 45 33.5
comp=Z,28nm,0.9s
BRG PP **PP 20 48 20.0 +1.8**
BRG S **S 20 55 19.0 +0.3**
BRG Berggiesshubel 79.49 323 *e*P **P 20 45 18.4 +0.7**
BRG *e* 20 45 33.5
BRG 20 48 20.0
BRG S **S 20 55 19.0 +0.3**
BRG pmax pmax
comp=Z,42nm,0.9s
BRG pmax pmax
comp=Z,28nm,0.9s
BRG MLR MLR
comp=N,1μm,24.1s
BRG MLR MLR
comp=E,1μm,19.2s
BRG MLR MLR
comp=Z,2μm,20.1s
BRG Berggiesshubel 79.49 323 *e*P **P 20 45 18.5 +0.7**
comp=Z,42nm,0.9s
WET Wettzell 79.64 321 *e*P **P 20 45 18.4 -0.2**
comp=Z,35nm,1.1s
WET *e*L L 21 22 29.7
comp=Z,2μm,21.7s
VSL Villasalto 79.69 311 *e*P P 20 45 15.1 -4.0
comp=Z,32nm,1.0s
TIXI Tiksi 79.76 13*c i*P **P 20 45 18.0 -0.7**
TIXI pmax pmax
comp=Z,146nm,0.7s
TIXI MLR MLR
comp=Z,2μm,20.0s
TIXI Tiksi 79.76 13 *e*P **P 20 45 17.9 -0.7**
comp=Z,150nm,0.7s
TIXI LR LR
comp=Z,2μm,21.0s
WTTA Wattenberg 79.93 319 *i* P **P 20 45 19.7 -0.7**
comp=Z,45nm,0.9s,SNR=21
WATA Walderalm 79.99 319⇑*i*P **P 20 45 19.8 -0.9**
comp=Z,20nm,0.7s,SNR=19
VLC Villacollemand 80.00 316 PFAKE 20 45 30.0 +9.3
VLC LR LR
comp=Z,2μm,22.0s
RUE Ruedersdorf 80.08 324 *e*P **P 20 45 18.9 -1.9**
comp=Z,160nm,0.9s
TAM Tamanrasset 80.16 294 *e*P **P 20 45 21.6 -0.6**
TAM pmax pmax
comp=Z,49nm,1.0s
TAM MLR MLR
comp=Z,1μm,19.0s
TAM Tamanrasset 80.16 294 *e*P **P 20 45 21.6 -0.6**
comp=Z,50nm,1.0s
TAM LR LR
comp=Z,1μm,19.0s
CLL Collm 80.19 323⇑*i*P **P 20 45 21.9 +0.4**
CLL *e*S **S 20 55 25.0 -1.0**
CLL pmax pmax
comp=Z,69nm,0.9s
CLL MLR MLR
comp=Z,1μm,21.3s
CLL Collm 80.19 323 *e*P **P 20 45 22.2 +0.7**
comp=Z,69nm,0.9s
CLL *e*L L 21 16 50.9
comp=Z,1μm,21.7s
CLL Collm 80.19 323⇑*i*P **P 20 45 21.9 +0.4**
comp=Z,69nm,0.9s
CLL *e*Plp 20 45 25.0
comp=Z,500nm,21.3s
CLL *e* 20 45 32.0
CLL *i* 20 45 35.0
CLL *i* 20 45 38.6
CLL *e*PP PP 20 48 31.0 +7.0
CLL *e*S **S 20 55 25.0 -1.0**
CLL *e*ScS **SKKSac 20 55 43.0 +2.5**
CLL *e*PPS PPS 20 56 30.0
CLL *e*SS **SS 21 00 30.0 -6.9**
CLL *e*(SSS) 21 04 10.0
CLL *e*(SSSS) 21 06 36.0
CLL LmV 21 23 00.0
comp=Z,1μm,21.3s
CLL Collm 80.19 323 *e*P **P 20 45 22.0 +0.4**
comp=Z,140nm,1.2s
ROTZ Rotzenmuhle 80.24 321 *e*P **P 20 45 22.5 +0.7**
comp=Z,33nm,1.0s
ROTZ *es*P sP 20 45 39.3 +11
TANN Tannenbergstha 80.26 322 *e*P **P 20 45 22.4 +0.4**
comp=Z,101nm,2.3s
BSD Bornholm Skovb 80.28 327 *i* P **P 20 45 21.1 -0.7**
BSD pmax pmax
comp=Z,59nm,0.8s
BSD MLR MLR
comp=Z,2μm,22.0s
BSD Bornholm Skovb 80.28 327 *i* P **P 20 45 21.1 -0.7**
comp=Z,59nm,0.8s
BSD *e* 20 45 36.9
MOTA Moosalm 80.30 319⇑*i*P **P 20 45 21.5 -0.9**
comp=Z,40nm,0.8s,SNR=46
FUR Furstenfeldbru 80.40 320 *e*P **P 20 45 22.3 -0.4**
comp=Z,43nm,0.8s
FUR *es*P sP 20 45 39.0 +10
FUR *e*L L 21 20 42.3
comp=Z,1μm,21.7s
FETA Feichten 80.47 318 *i* P **P 20 45 23.2 -0.1**
comp=Z,62nm,0.9s,SNR=42
ABSA Djebel Ababsia 80.53 307 P **P 20 45 26.0 +2.2**
RETA Reutte 80.56 319 *i* P **P 20 45 23.3 -0.4**
comp=Z,24nm,0.9s,SNR=11
PGF Pioggiola 80.62 314⇑*i*P **P 20 45 23.8 -0.4**
comp=Z,60nm,1.1s
PGF Pioggiola 80.62 314⇑*i*P **P 20 45 23.8 -0.4**
PGF pmax pmax
comp=Z,60nm,1.0s
PGF Pioggiola 80.62 314⇑*i*P **P 20 45 23.8 -0.4**
comp=Z,60nm,1.0s
CMAH Djebel Manchou 80.64 308 P **P 20 45 26.6 +2.2**
FUORN Ofenpass-Fuorn 80.68 318 *e*P **P 20 45 24.7 +0.1**
comp=Z,43nm,0.8s
GRF Grafenberg Arr 80.83 321 *e*P **P 20 45 25.8 +0.8**
comp=Z,80nm,1.0s
GRF *e*L L 21 22 05.6
comp=Z,1μm,21.5s
GRFO Grafenberg 80.83 321 *e*P **P 20 45 25.5 +0.5**
GRFO pmax pmax
comp=Z,132nm,1.2s
GRFO Grafenberg 80.83 321 *e*P **P 20 45 25.5 +0.5**
comp=Z,132nm,1.2s
MOX Moxa 80.84 322 *e*P **P 20 45 25.8 +0.8**
comp=Z,52nm,0.9s
DAVA Damuels 81.09 319 *i* P **P 20 45 26.8 +0.1**
comp=Z,70nm,0.8s,SNR=38
CKFL Kef-Lekhel 81.16 307 P **P 20 45 28.3 +1.1**
TUE Stuetta 81.25 318 *e*P **P 20 45 27.1 -0.5**
comp=Z,67nm,1.3s
TUE LR LR
comp=Z,2μm,20.0s
CASM Ain Smara 81.32 307 P **P 20 45 28.8 +0.9**
NVL N'lazarevskaya 81.48 199⇓*i*P **P 20 45 29.7 +1.7**
NVL *e*S **S 20 55 33.7 -5.1**
NVL pmax pmax
comp=Z,117nm,1.0s
KEV Kevo 81.58 343 *e*P **P 20 45 28.6 +0.1**
KEV pmax pmax
comp=Z,21nm,0.6s
KEV Kevo 81.58 343 *e*p **P 20 45 28.6 +0.1**
comp=Z,21nm,0.6s
KEV Kevo 81.58 343 *e*P **P 20 45 28.3 -0.2**
comp=Z,38nm,0.9s
KEV LR LR
comp=Z,4μm,20.0s
COP Copenhagen 81.80 327 *i* P **P 20 45 31.1 +1.2**
COP pmax pmax
comp=Z,61nm,0.8s
COP MLR MLR
comp=Z,1μm,20.0s
COP Copenhagen 81.80 327 *i* P **P 20 45 31.1 +1.2**
comp=Z,61nm,0.8s
COP *i* pP PcP 20 45 43.8 +8.2
LLD Lille Linde 81.81 327 *i* P **P 20 45 31.6 +1.6**
LLD Lille Linde 81.81 327 *i* P **P 20 45 31.6 +1.6**
STU Stuttgart 81.89 320 *e*P **P 20 45 30.5 -0.1**
STU pmax pmax
comp=Z,72nm,1.2s
STU Stuttgart 81.89 320 *e*P **P 20 45 30.5 -0.1**
comp=Z,48nm,1.0s
STU *e*L L 21 23 36.5
comp=Z,2μm,21.1s
STU Stuttgart 81.89 320 *e*P **P 20 45 30.5 -0.1**
comp=Z,72nm,1.2s
ARCES ARCESS Array B 81.91 342 P **P 20 45 30.5 +0.2**
ARCES pmax pmax
comp=Z,16nm,0.6s
ARCES MLR MLR
comp=Z,3μm,19.5s
ARCES ARCESS Array B 81.91 342 P **P 20 45 30.5 +0.2**
comp=Z,16nm,0.6s,baz=123,slow=4.3,SNR=87
ARCES LR LR 21 24 14.6
comp=Z,3μm,19.5s,baz=137,slow=37
ARE0 ARCESS Array S 81.91 342 *e*P **P 20 45 30.6 +0.3**
CLZ Clausthal 81.91 323 *e*P **P 20 45 31.5 +0.8**
comp=Z,75nm,0.9s
SAOF Saorge 81.95 315 *e*P **P 20 45 30.9 -0.2**
SBF Sospel 82.01 315⇑*i*P **P 20 45 31.3 -0.2**
comp=Z,126nm,0.8s
SBF Sospel 82.01 315⇑*i*P **P 20 45 31.3 -0.2**
SBF pmax pmax
comp=Z,126nm,0.8s
SBF Sospel 82.01 315⇑*i*P **P 20 45 31.3 -0.2**
comp=Z,126nm,0.8s
REVF Revere 82.04 315 *e*P **P 20 45 31.4 -0.2**
AUTN L'Aution 82.05 315 *e*P **P 20 45 31.9 +0.1**
TOUF Mont Tournerai 82.18 315 *e*P **P 20 45 32.5 0.0**
MVIF Mont Vial 82.22 315 *e*P **P 20 45 32.8 +0.1**
NRDL Niedersach Rie 82.24 324 *e*P **P 20 45 33.3 +1.0**
comp=Z,79nm,1.0s
DZM Mont Dzumac 82.27 112 P **P 20 45 32.8 -0.5**
comp=Z,46nm,0.8s,baz=240,slow=2.0,SNR=9.6
BFO Black Forest 82.35 319 *e*P **P 20 45 33.1 0.0**
BFO pmax pmax
comp=Z,62nm,1.1s
BFO MLR MLR
comp=Z,1μm,20.0s
BFO Black Forest 82.35 319 *e*P **P 20 45 33.0 0.0**
comp=Z,52nm,0.9s
BFO *e*L L 21 23 04.2
comp=Z,1μm,22.0s
BFO Black Forest 82.35 319 *e*P **P 20 45 33.1 0.0**
comp=Z,62nm,1.1s
BFO LR LR
comp=Z,1μm,20.0s
KTK1 Kautokeino 82.35 342 *e*P **P 20 45 32.9 +0.3**
CALN Calern 82.38 315 *e*P **P 20 45 33.7 +0.2**
BSEG Bad Segeberg 82.49 325 *e*P **P 20 45 34.3 +0.7**
comp=Z,82nm,0.9s
BSEG *es*P sP 20 45 51.3 +11
FRF La Foret Royal 82.52 314⇑*i*P **P 20 45 34.0 0.0**
comp=Z,98nm,0.9s
FRF La Foret Royal 82.52 314⇑*i*P **P 20 45 34.0 0.0**
FRF pmax pmax
comp=Z,98nm,0.9s
FRF La Foret Royal 82.52 314⇑*i*P **P 20 45 34.0 0.0**
comp=Z,98nm,0.9s
LMR La Mourre 82.57 314⇑*i*P **P 20 45 34.2 -0.1**
comp=Z,111nm,1.1s
LMR La Mourre 82.57 314⇑*i*P **P 20 45 34.2 -0.1**
LMR pmax pmax
comp=Z,111nm,1.1s
LMR La Mourre 82.57 314⇑*i*P **P 20 45 34.2 -0.1**
comp=Z,111nm,1.1s
SENIN Lac Senin/Sane 82.61 317 *e*P **P 20 45 34.9 +0.1**
MBDF Montbardon 82.65 316⇑*i*P **P 20 45 35.0 +0.1**
comp=Z,59nm,0.8s
MBDF Montbardon 82.65 316⇑*i*P **P 20 45 35.0 +0.1**
MBDF pmax pmax
comp=Z,59nm,0.8s
MBDF Montbardon 82.65 316⇑*i*P **P 20 45 35.0 +0.1**
comp=Z,59nm,0.8s
PETK Petropavlovsk- 82.66 36 P **P 20 45 33.5 -1.1**
comp=Z,14nm,0.7s,baz=192,slow=4.0,SNR=18
PETK LR LR 21 26 22.4
comp=Z,537nm,18.4s,baz=255,slow=39
TNS Taunus Mts 82.70 321 *e*P **P 20 45 35.8 +0.9**
comp=Z,86nm,0.9s
BNI Bardonecchia 82.78 316 *e*P **P 20 45 34.3 -1.3**
BNI pmax pmax
comp=Z,37nm,0.7s
BNI MLR MLR
comp=Z,2μm,19.0s
BNI Bardonecchia 82.78 316 *e*P **P 20 45 34.3 -1.3**
comp=Z,37nm,0.7s
BNI LR LR
comp=Z,2μm,19.0s
LPG La Plagne 82.82 316⇑*i*P **P 20 45 35.4 -0.5**
comp=Z,65nm,0.8s
LPG La Plagne 82.82 316⇑*i*P **P 20 45 35.4 -0.5**
LPG pmax pmax
comp=Z,65nm,0.8s
LPG La Plagne 82.82 316⇑*i*P **P 20 45 35.4 -0.5**
comp=Z,65nm,0.8s
TOA0 Torodi Ar. Sit 82.82 284 P **P 20 45 36.5 +0.3**
baz=83,SNR=26
TORD Torodi Ar. Bea 82.82 284 P **P 20 45 36.1 -0.1**
comp=Z,17nm,0.8s,baz=87,slow=1.4,SNR=93
TORD PKiKP **PKiKP 20 50 56.1 0.0**
comp=Z,1.0nm,0.9s,baz=93,slow=0.4,SNR=5.0
TORD PKKPbc **PKKPbc 21 03 59.9 +0.1**
comp=Z,2.4nm,0.8s,baz=305,slow=2.2,SNR=10
TORD LR LR 21 20 59.1
comp=Z,1μm,19.1s,baz=80,slow=35
LANF Langenberg 82.83 320 *e*P **P 20 45 35.8 +0.2**
LPL La Plagne 82.83 316⇑*i*P **P 20 45 35.4 -0.5**
comp=Z,64nm,0.8s
LPL La Plagne 82.83 316⇑*i*P **P 20 45 35.4 -0.5**
LPL pmax pmax
comp=Z,64nm,0.8s
LPL La Plagne 82.83 316⇑*i*P **P 20 45 35.4 -0.5**
comp=Z,64nm,0.8s
SEY Seymchan 82.90 25 PKKPbc PKKPbc 21 03 58.6 -2.9
comp=Z,0.7nm,0.4s,baz=124,slow=5.9,SNR=4.6
OG01 Vacheresse 83.03 317 *e*P **P 20 45 36.9 +0.2**
MOF Molkenrain 83.03 319 *e*P **P 20 45 36.5 -0.2**
CDF Champ du Feu 83.05 319 *e*P **P 20 45 36.6 -0.2**
comp=Z,95nm,1.1s
CDF Champ du Feu 83.05 319 *e*P **P 20 45 36.6 -0.2**
CDF pmax pmax
comp=Z,95nm,1.1s
CDF Champ du Feu 83.05 319 *e*P **P 20 45 36.6 -0.2**
comp=Z,95nm,1.1s
ECH Echery 83.09 319 *e*P **P 20 45 36.5 -0.4**
ECH pmax pmax
comp=Z,81nm,0.9s
ECH MLR MLR
comp=Z,1μm,20.0s
ECH Echery 83.09 319 *e*P **P 20 45 36.9 0.0**
ECH Echery 83.09 319 *e*P **P 20 45 36.5 -0.4**
comp=Z,81nm,0.9s
ECH LR LR
comp=Z,1μm,20.0s
LOMF Lomont 83.13 318 *e*P **P 20 45 37.3 +0.1**
LEPF PUYLOUBIER 83.18 314 *e*P **P 20 45 37.5 0.0**
PET Petropavlovsk 83.20 36 *e*P **P 20 45 37.1 -0.2**
PET *e*S **S 20 55 56.6 -0.3**
PET *e*SS **SS 21 01 21.7 +0.1**
PET pmax pmax
comp=Z,102nm,0.9s
PET MLR MLR
comp=Z,2μm,16.0s
PET MLR MLR
comp=Z,2μm,19.0s
PET Petropavlovsk 83.20 36 *e*P **P 20 45 36.3 -1.0**
comp=Z,84nm,1.0s
PET LR LR
comp=Z,2μm,20.0s
HINF Hinteralfeld 83.21 319 *e*P **P 20 45 36.9 -0.7**
comp=Z,40nm,1.0s
HINF Hinteralfeld 83.21 319 *e*P **P 20 45 36.9 -0.7**
HINF pmax pmax
comp=Z,40nm,1.0s
HINF Hinteralfeld 83.21 319 *e*P **P 20 45 36.9 -0.7**
comp=Z,40nm,1.0s
ORIF Oris-en-Rattie 83.31 316⇑*i*P **P 20 45 38.5 +0.3**
comp=Z,53nm,0.7s
ORIF *e*R
comp=Z,2μm,19.8s
ORIF Oris-en-Rattie 83.31 316⇑*i*P **P 20 45 38.5 +0.3**
ORIF pmax pmax
comp=Z,53nm,0.7s
ORIF Oris-en-Rattie 83.31 316⇑*i*P **P 20 45 38.5 +0.3**
comp=Z,53nm,0.7s
SMRF Simiane la Rot 83.36 315⇑*i*P **P 20 45 39.0 +0.6**
comp=Z,93nm,1.0s
SMRF Simiane la Rot 83.36 315⇑*i*P **P 20 45 39.0 +0.6**
comp=Z,93nm,1.0s
AKET Djebel Ketaf 83.37 307 P P 20 45 42.5 +3.7
CABF La Chapelle 83.48 317 *e*P **P 20 45 39.4 +0.3**
comp=Z,119nm,0.9s
CABF La Chapelle 83.48 317 *e*P **P 20 45 39.4 +0.3**
CABF pmax pmax
comp=Z,119nm,0.9s
CABF La Chapelle 83.48 317 *e*P **P 20 45 39.4 +0.3**
comp=Z,119nm,0.9s
HAU Haudompre 83.58 319 *e*P **P 20 45 39.2 -0.3**
comp=Z,65nm,0.9s
HAU *e*R
comp=Z,2μm,21.0s
HAU Haudompre 83.58 319 *e*P **P 20 45 39.2 -0.3**
HAU pmax pmax
comp=Z,65nm,0.9s
HAU Haudompre 83.58 319 *e*P **P 20 45 39.2 -0.3**
comp=Z,65nm,0.9s
IBBN Ibbenburen 83.59 323 *e*P **P 20 45 40.4 +1.0**
BUG Bochum--Univer 83.70 322 *e*P **P 20 45 40.8 +0.9**
NC602 NORSAR Array S 83.74 332 *e*P **P 20 45 39.5 -0.5**
MUD Monsted U'grnd 83.77 327 *i* P **P 20 45 41.1 +1.0**
MUD pmax pmax
comp=Z,31nm,0.9s
MUD MLR MLR
comp=Z,2μm,16.0s
MUD Monsted U'grnd 83.77 327 *i* P **P 20 45 41.1 +1.0**
comp=Z,31nm,0.9s
MUD *i* 20 45 58.5
THEF They Montfort 83.86 319 *e*P **P 20 45 40.8 -0.1**
OSL Oslo 83.90 331 *e*P **P 20 45 41.5 +0.7**
NB2 NORSAR Subarra 83.98 332 P **P 20 45 40.7 -0.5**
comp=Z,60nm,1.1s,baz=103,slow=5.3
NB2 NORSAR Subarra 83.98 332 P **P 20 45 40.7 -0.5**
baz=103,slow=5.3
NOA NORSAR Array B 83.98 332 P **P 20 45 40.6 -0.7**
comp=Z,15nm,0.8s,baz=108,slow=5.6,SNR=31
NOA LR LR 21 26 13.2
comp=Z,1μm,19.8s,baz=105,slow=38
TRO Tromso 84.00 341 *e*P **P 20 45 41.9 +0.8**
TRO *e*SKSac **SKSac 20 56 02.9 -0.6**
WLF Walferdange 84.03 320 P **P 20 45 42.5 +0.7**

comp=Z,66nm,1.2s
WLF Walferdange 84.03 320 *e*P **P 20 45 41.8 +0.1**
WLF pmax pmax
comp=Z,108nm,1.1s
WLF MLR MLR
comp=Z,3μm,19.0s
WLF Walferdange 84.03 320 *e*P **P 20 45 42.4 +0.7**
WLF *e*sP sP 20 45 59.6 +11
WLF Walferdange 84.03 320 *e*P **P 20 45 41.8 +0.1**
comp=Z,108nm,1.1s
WLF LR LR
comp=Z,3μm,19.0s
PAGF Fort de Pagny 84.09 319⇑ *i*P **P 20 45 42.2 +0.1**
comp=Z,25nm,1.0s,baz=95
PAGF Fort de Pagny 84.09 319⇑ *i*P **P 20 45 42.2 +0.1**
comp=Z,25nm,1.0s
WTSB Winterswijk 84.10 323 *e*P **P 20 45 42.6 +0.6**
comp=Z,157nm,1.6s
EMHD Djebel Mahouad 84.13 307 P **P 20 45 43.0 +0.3**
VIVF Saint-Julien-l 84.14 315 *e*P **P 20 45 42.5 +0.1**
comp=Z,85nm,1.0s
VIVF Saint-Julien-l 84.14 315 *e*P **P 20 45 42.5 +0.1**
VIVF pmax pmax
comp=Z,85nm,1.0s
VIVF Saint-Julien-l 84.14 315 *e*P **P 20 45 42.5 +0.1**
comp=Z,85nm,1.0s
MOR8 Moi Rana 84.24 338 *e*P **P 20 45 42.3 -0.2**
MOR8 IAmb IAmb 20 45 43.5
comp=Z,46nm,0.8s
MEM Membach 84.31 321 P **P 20 45 43.5 +0.4**
comp=Z,64nm,1.2s
MEM Membach 84.31 321 *e*P **P 20 45 44.2 +1.1**
MEM pmax pmax
comp=Z,145nm,1.2s
MEM Membach 84.31 321 *e*P **P 20 45 44.2 +1.1**
comp=Z,145nm,1.2s
SSB Saint Sauveur 84.31 316 *e*P **P 20 45 42.5 -0.8**
SSB pmax pmax
comp=Z,69nm,1.1s
SSB MLR MLR
comp=Z,1μm,21.0s
SSB Saint Sauveur 84.31 316 *e*P **P 20 45 43.3 0.0**
SSB Saint Sauveur 84.31 316 *e*P **P 20 45 42.5 -0.8**
comp=Z,69nm,1.1s
SSB LR LR
comp=Z,1μm,21.0s
KONO Kongsberg 84.37 331 *e*P **P 20 45 43.3 +0.1**
KONO *e*SS SS 21 01 45.7 +7.1
KONO Kongsberg 84.37 331 *e*P **P 20 45 44.4 +1.2**
KONO pmax pmax
comp=Z,82nm,1.1s
KONO MLR MLR
comp=Z,3μm,19.0s
KONO Kongsberg 84.37 331 *e*P **P 20 45 44.4 +1.2**
comp=Z,82nm,1.1s
KONO LR LR
comp=Z,3μm,19.0s
HGN Heimansgroeve 84.39 321 *e*P **P 20 45 43.7 +0.2**
comp=Z,288nm,2.6s
SFTF Sexfontaines 84.48 319⇑ *i*P **P 20 45 44.2 +0.2**
comp=Z,216nm,0.9s,baz=111
SFTF Sexfontaines 84.48 319⇑ *i*P **P 20 45 44.2 +0.2**
comp=Z,216nm,0.9s
MEZF Maizieres J'vi 84.52 319 *e*P **P 20 45 44.6 +0.4**
comp=Z,184nm,1.0s
MEZF Maizieres J'vi 84.52 319 *e*P **P 20 45 44.6 +0.4**
comp=Z,184nm,1.0s
BEBN Eben Emael 84.55 321 P **P 20 45 44.8 +0.5**
comp=Z,16nm,1.1s
HOMB Homborsund 84.57 329 *e*P **P 20 45 45.0 +0.9**
STEI Steigen 84.57 339 *e*P **P 20 45 44.6 +0.7**
LASF Ste Croix 84.59 315⇑ *i*P **P 20 45 45.1 +0.4**
comp=Z,70nm,1.1s
LASF Ste Croix 84.59 315⇑ *i*P **P 20 45 45.1 +0.4**
comp=Z,70nm,1.1s
NSS Namsos 84.69 336 *e*P **P 20 45 44.9 +0.2**
BCLA Clavier 84.71 321 P **P 20 45 45.5 +0.4**
comp=Z,39nm,1.4s
VNDA Vanda 84.78 168 P **P 20 45 45.3 +0.3**
comp=Z,9.2nm,0.9s,baz=282,slow=7.0,SNR=16
VNDA LR LR 21 19 05.9
comp=Z,2μm,20.4s,baz=288,slow=32
KONS Konsvik 84.85 338 *e*P **P 20 45 46.3 +0.9**
COLF Collangettes 84.94 316 *e*P **P 20 45 46.8 +0.3**
GIVF Givet 84.96 321 *e*P **P 20 45 46.8 +0.4**
comp=Z,66nm,1.1s
GIVF Givet 84.96 321 *e*P **P 20 45 46.8 +0.4**
GIVF pmax pmax
comp=Z,66nm,1.1s
GIVF Givet 84.96 321 *e*P **P 20 45 46.8 +0.4**
comp=Z,66nm,1.1s
SMF Signal de Mont 85.01 317 *e*P **P 20 45 46.5 -0.3**
comp=Z,72nm,0.9s
SMF Signal de Mont 85.01 317 *e*P **P 20 45 46.5 -0.3**
SMF pmax pmax
comp=Z,72nm,0.9s
SMF Signal de Mont 85.01 317 *e*P **P 20 45 46.5 -0.3**
comp=Z,72nm,0.9s
PLDF La Plantade 85.06 316 *e*P **P 20 45 46.7 -0.4**
DOU Dourbes 85.10 321 P **P 20 45 47.7 +0.6**
comp=Z,39nm,1.3s
LOR Lormes 85.10 318⇑ *i*P **P 20 45 47.3 +0.1**
LOR *e*R
comp=Z,2μm,21.2s
LOR Lormes 85.10 318⇑ *i*P **P 20 45 47.3 +0.1**
LOR pmax pmax
comp=Z,198nm,0.9s
LOR Lormes 85.10 318⇑ *i*P **P 20 45 47.3 +0.1**
comp=Z,198nm,0.9s
LBL Lubilhac 85.20 316 *e*P **P 20 45 47.8 0.0**
SNART Snartemo 85.25 329 *e*P **P 20 45 49.2 +1.5**
EBNR Beni Rached 85.29 307 P P 20 45 52.0 +3.6
SSF Saint Saulge 85.31 317⇑ *i*P **P 20 45 48.5 +0.3**
comp=Z,140nm,0.9s
SSF Saint Saulge 85.31 317⇑ *i*P **P 20 45 48.5 +0.3**
SSF pmax pmax
comp=Z,140nm,0.9s
SSF Saint Saulge 85.31 317⇑ *i*P **P 20 45 48.5 +0.3**
comp=Z,140nm,0.9s
BAIF Baives 85.34 321 *e*P **P 20 45 49.0 +0.7**
comp=Z,173nm,1.0s
BAIF Baives 85.34 321 *e*P **P 20 45 49.0 +0.7**
BAIF pmax pmax
comp=Z,173nm,1.0s
BAIF Baives 85.34 321 *e*P **P 20 45 49.0 +0.7**
comp=Z,173nm,1.0s
ETRT Tiaret 85.37 306 P **P 20 45 49.5 +0.6**
AVF Avril sur Loir 85.37 317 *e*P **P 20 45 48.4 -0.1**
comp=Z,59nm,1.1s
AVF Avril sur Loir 85.37 317 *e*P **P 20 45 48.4 -0.1**
AVF pmax pmax
comp=Z,59nm,1.1s
AVF Avril sur Loir 85.37 317 *e*P **P 20 45 48.4 -0.1**
comp=Z,59nm,1.1s
SNF Seneffe 85.37 321 P **P 20 45 48.8 +0.4**
UCC Uccle 85.37 321 P **P 20 45 49.7 +1.3**
comp=Z,60nm,1.5s
ECHA Ech Chlef 85.40 306 P **P 20 45 51.0 +2.1**
AGO Saint Agoulin 85.41 316 *e*P **P 20 45 48.3 -0.5**
PYM Petit Puy Mans 85.45 316 *e*P **P 20 45 48.9 -0.1**
EANR 'Ain N'Sour 85.59 306 P **P 20 45 51.3 +1.3**
MTLF Montolieu 85.66 314⇑ *i*P **P 20 45 50.5 +0.4**
comp=Z,63nm,1.2s
MTLF Montolieu 85.66 314⇑ *i*P **P 20 45 50.5 +0.4**
MTLF pmax pmax
comp=Z,63nm,1.2s
MTLF Montolieu 85.66 314⇑ *i*P **P 20 45 50.5 +0.4**
comp=Z,63nm,1.2s
BGF Bois d'Agland 85.68 317⇑ *i*P **P 20 45 50.6 +0.5**
comp=Z,197nm,0.8s
BGF Bois d'Agland 85.68 317⇑ *i*P **P 20 45 50.6 +0.5**
BGF pmax pmax
comp=Z,197nm,0.8s
BGF Bois d'Agland 85.68 317⇑ *i*P **P 20 45 50.6 +0.5**
comp=Z,197nm,0.8s
SBA Scott Base 85.87 168 *e*P **P 20 45 52.4 +2.0**
SBA pmax pmax
comp=Z,33nm,1.1s
SBA MLR MLR
comp=Z,2μm,19.0s
SBA Scott Base 85.87 168 *e*P **P 20 45 52.4 +2.0**
comp=Z,33nm,1.1s
SBA LR LR
comp=Z,2μm,19.0s
BLS5 Blasjo 85.87 330 *e*P **P 20 45 51.9 +1.1**

ODD1 Odda 85.89 331 *e*P **P 20 45 52.0 +1.1**
HYF Humbligny 85.92 318 *e*P **P 20 45 52.0 +0.7**
HYF Humbligny 85.92 318 *e*P **P 20 45 52.0 +0.7**
CAF Calviac 85.99 315 *e*P **P 20 45 52.1 +0.4**
comp=Z,35nm,1.1s
CAF Calviac 85.99 315 *e*P **P 20 45 52.1 +0.4**
CAF pmax pmax
comp=Z,35nm,1.1s
CAF Calviac 85.99 315 *e*P **P 20 45 52.1 +0.4**
comp=Z,35nm,1.1s
TCF Toulx Ste Croi 86.08 317 *e*P **P 20 45 52.8 +0.7**
comp=Z,33nm,1.0s
TCF Toulx Ste Croi 86.08 317 *e*P **P 20 45 52.8 +0.7**
TCF pmax pmax
comp=Z,33nm,1.0s
TCF Toulx Ste Croi 86.08 317 *e*P **P 20 45 52.8 +0.7**
comp=Z,33nm,1.0s
RPZ Rata Peaks 86.22 133 *e*P **P 20 45 52.7 -0.2**
comp=Z,77nm,0.9s
AKN Aaknes 86.22 333 *e*P **P 20 45 53.8 +1.3**
SNAA Sanae 86.31 198 P **P 20 45 54.2 +1.4**
SNAA Sanae 86.31 198⇓ *i*P **P 20 45 54.1 +1.4**
SNAA pmax pmax
comp=Z,66nm,0.8s
SNAA Sanae 86.31 198 PKKPbc PKKPbc 21 03 49.5 -4.1
comp=Z,1.9nm,1.1s,baz=321,slow=9.0,SNR=3.9
SNAA Sanae 86.31 198 *e*P **P 20 45 54.2 +1.4**
comp=Z,96nm,1.0s
SNAA PKKPbc **PKKPdf 21 03 49.5 +3.2**
HYA Hoyanger 86.38 332 *e*P **P 20 45 54.0 +0.9**
RJF Les Rejaudoux 86.42 316⇑ *i*P **P 20 45 54.5 +0.7**
comp=Z,129nm,1.1s
RJF *e*R
comp=Z,2μm,21.8s
RJF Les Rejaudoux 86.42 316⇑ *i*P **P 20 45 54.5 +0.7**
RJF pmax pmax
comp=Z,129nm,1.1s
RJF Les Rejaudoux 86.42 316⇑ *i*P **P 20 45 54.5 +0.7**
comp=Z,129nm,1.1s
RUND Rundenannen 86.61 331 *e*P **P 20 45 55.7 +1.3**
BER Bergen 86.62 331 *e*SS SS 21 02 14.5 +2.8
LFF La Frestale 86.92 315 *e*P **P 20 45 57.0 +0.8**
comp=Z,120nm,1.0s
LFF La Frestale 86.92 315 *e*P **P 20 45 57.0 +0.8**
LFF pmax pmax
comp=Z,120nm,1.0s
LFF La Frestale 86.92 315 *e*P **P 20 45 57.0 +0.8**
comp=Z,120nm,1.0s
EPF Esparros 86.99 313 *e*P **P 20 45 56.4 -0.3**
comp=Z,10nm,0.8s
EPF Esparros 86.99 313 *e*P **P 20 45 56.4 -0.3**
EPF pmax pmax
comp=Z,10.0nm,0.8s
EPF Esparros 86.99 313 *e*P **P 20 45 56.4 -0.3**
comp=Z,10nm,0.8s
VIEF Viey 87.20 313 *e*P **P 20 45 58.7 +0.9**
QSPA South Pole Qui 87.24 180 PKKPbc PKKPbc 21 03 47.7 -4.3
comp=Z,5.1nm,1.1s,baz=114,slow=0.7,SNR=5.9
QSPA South Pole Qui 87.24 180 *e*P **P 20 45 57.5 0.0**
comp=Z,68nm,1.1s
QSPA PKKPbc **PKKPdf 21 03 47.7 +2.5**
QSPA LR LR
comp=Z,3μm,21.0s
REYF Montagne du Re 87.52 313 *e*P **P 20 46 00.0 +0.7**
ETSF Etsaut 87.63 313⇑ *i*P **P 20 46 00.6 +0.8**
comp=Z,68nm,1.1s
ETSF Etsaut 87.63 313⇑ *i*P **P 20 46 00.6 +0.8**
ETSF pmax pmax
comp=Z,68nm,1.1s
ETSF Etsaut 87.63 313⇑ *i*P **P 20 46 00.6 +0.8**
comp=Z,68nm,1.1s
MFF Saint Martin d 87.73 317⇑ *i*P **P 20 46 00.4 +0.3**
comp=Z,100nm,1.1s
MFF Saint Martin d 87.73 317⇑ *i*P **P 20 46 00.4 +0.3**
MFF pmax pmax
comp=Z,100nm,1.1s
MFF Saint Martin d 87.73 317⇑ *i*P **P 20 46 00.4 +0.3**
comp=Z,100nm,1.1s
ATE Arette 87.75 313 *e*P **P 20 46 00.9 +0.6**
VNA2 Neumayer--Watz 87.77 199 P **P 20 46 01.1 +1.3**
HSPB Hornsund (broa 87.83 348 *e*P **P 20 46 00.4 +0.5**
LDF La Druitiere 87.94 319 *e*P **P 20 46 01.3 +0.3**
comp=Z,136nm,1.3s
LDF La Druitiere 87.94 319 *e*P **P 20 46 01.3 +0.3**
LDF pmax pmax
comp=Z,136nm,1.3s
LDF La Druitiere 87.94 319 *e*P **P 20 46 01.3 +0.3**
comp=Z,136nm,1.3s
LARF Larrau 87.95 313 *e*P **P 20 46 02.3 +1.0**
VNA1 Neumayer--Stat 88.07 199 P **P 20 46 03.2 +2.0**
SPA0 Spitsbergen Ar 88.12 349 *e*P **P 20 46 01.7 +0.4**
SJPF Ste Jean 88.14 313⇑ *i*P **P 20 46 03.2 +1.1**
comp=Z,104nm,1.1s
SJPF Ste Jean 88.14 313⇑ *i*P **P 20 46 03.2 +1.1**
SJPF pmax pmax
comp=Z,104nm,1.1s
SJPF Ste Jean 88.14 313⇑ *i*P **P 20 46 03.2 +1.1**
comp=Z,104nm,1.1s
FLN La Foliniere 88.19 319 *e*P **P 20 46 02.4 +0.2**
comp=Z,82nm,0.9s,baz=108
FLN *e*R
comp=Z,2μm,22.0s
FLN La Foliniere 88.19 319 *e*P **P 20 46 02.4 +0.2**
FLN pmax pmax
comp=Z,82nm,0.9s
FLN La Foliniere 88.19 319 *e*P **P 20 46 02.4 +0.2**
comp=Z,82nm,0.9s
GRR Gorron 88.40 318 *e*P **P 20 46 03.5 +0.3**
comp=Z,71nm,1.0s
GRR Gorron 88.40 318 *e*P **P 20 46 03.5 +0.3**
GRR pmax pmax
comp=Z,71nm,1.0s
GRR Gorron 88.40 318 *e*P **P 20 46 03.5 +0.3**
comp=Z,71nm,1.0s
VNA3 Neumayer Olymp 88.50 199 P **P 20 46 04.7 +1.4**
LMK Market Rasen 88.61 323 *e*P **P 20 46 05.1 +1.0**
LMK AMB AMB 20 46 08.4
comp=Z,130nm,1.4s
LMK AMS AMS 21 31 30.2
comp=Z,2μm,22.6s
SHEL Horse Pasture 88.70 254 PFAKE 20 46 20.0 +15
SHEL LR LR
comp=Z,2μm,22.0s
KIC Kosan Boka 88.73 276 *e*PKP2 **P 20 46 05.9 +0.3**
comp=Z,67nm,0.9s
DBIC Dimbokro 88.86 277 P **P 20 46 06.5 +0.3**
comp=Z,15nm,0.7s,baz=81,slow=4.3,SNR=15
SNZO South Karori 88.98 131 PFAKE 20 46 20.0 +14
SNZO LR LR
comp=Z,2μm,22.0s
LIC Lamto 89.01 276⇑ *i*P **P 20 46 07.0 +0.1**
comp=Z,37nm,0.9s,baz=78
LIC *e*R
comp=Z,914nm,19.2s
LIC Lamto 89.01 276 *e*PKP2 **P 20 46 06.8 -0.1**
comp=Z,73nm,1.2s
LIC Lamto 89.01 276⇑ *i*P **P 20 46 07.0 +0.1**
comp=Z,37nm,0.9s
TIC Toumodi 89.02 277 *e*PKP2 **P 20 46 07.2 +0.3**
comp=Z,26nm,0.7s
KBS Kingsbay 89.21 349 *e*SKSac **SKSac 20 56 40.8 +5.3**
KBS Kingsbay 89.21 349 PFAKE 20 46 20.0 +14
KBS LR LR
comp=Z,2μm,20.0s
KBI1 Birley Grange 89.31 323 *e*P **P 20 46 08.1 +0.7**
SWN1 Swindon 89.31 321 *e*P **P 20 46 09.3 +1.8**
SWN1 AMB AMB 20 46 09.8
comp=Z,118nm,1.7s
SWN1 AMS AMS 21 25 51.2
comp=Z,1μm,27.3s
HPK Haverah Park 89.43 324 *e*P **P 20 46 08.7 +0.8**
HPK AMS AMS 21 30 17.3
comp=Z,1μm,21.9s
SGMF Saint Gilles 89.52 318 *e*P **P 20 46 08.5 0.0**
comp=Z,80nm,1.2s
SGMF Saint Gilles 89.52 318 *e*P **P 20 46 08.5 0.0**
SGMF pmax pmax
comp=Z,80nm,1.2s
SGMF Saint Gilles 89.52 318 *e*P **P 20 46 08.5 0.0**
comp=Z,80nm,1.2s
LHO Holmfirth 89.53 323 *e*P **P 20 46 09.4 +0.9**
STRD Stroud 89.56 322 *e*P **P 20 46 09.2 +0.6**
STRD AMB AMB 20 46 09.3
comp=Z,72nm,2.4s
STRD AMS AMS 21 29 52.4
comp=Z,1μm,18.6s

BILL Bilibino 89.75 22⇑ *i*P **P 20 46 10.0 +0.8**
BILL *e*S **S 20 57 02.8 +2.6**
BILL pmax pmax
comp=Z,46nm,2.5s
BILL MLR MLR
comp=Z,1μm,19.0s
BILL Bilibino 89.75 22 *e*P **P 20 46 07.5 -1.7**
comp=Z,23nm,1.2s
BILL LR LR
comp=Z,1μm,20.0s
LRW Lerwick 89.79 330 *e*P **P 20 46 10.2 +0.7**
LRW AMB AMB 20 46 19.1
comp=Z,214nm,3.0s
LRW AMS AMS 21 27 12.7
comp=Z,2μm,28.2s
QUIF Quistinic 89.90 318 *e*P **P 20 46 10.1 -0.2**
comp=Z,26nm,0.8s
QUIF Quistinic 89.90 318 *e*P **P 20 46 10.1 -0.2**
QUIF pmax pmax
comp=Z,26nm,0.8s
QUIF Quistinic 89.90 318 *e*P **P 20 46 10.1 -0.2**
comp=Z,26nm,0.8s
ESDC Sonseca Array 89.92 310 P **P 20 46 11.1 +0.5**
comp=Z,18nm,0.9s,baz=75,slow=3.9,SNR=59
ESDC PP **PP 20 49 47.7 +4.2**
comp=Z,1.1nm,0.7s,baz=83,slow=8.1,SNR=4.4
ESDC PKKPbc **PKKPdf 21 03 41.2 +1.5**
comp=Z,0.1nm,0.3s,baz=280,slow=4.3,SNR=4.2
ESDC LR LR 21 31 09.3
comp=Z,271nm,18.3s,baz=140,slow=39
MONM Monmouth 89.96 322 *e*P **P 20 46 10.4 0.0**
MONM AMB AMB 20 46 11.2
comp=Z,50nm,2.2s
MONM AMS AMS 21 30 14.4
comp=Z,2μm,19.8s
ROSF Rostrenen 90.00 318⇑ *i*P **P 20 46 10.8 0.0**
comp=Z,60nm,1.2s
ROSF Rostrenen 90.00 318⇑ *i*P **P 20 46 10.8 0.0**
ROSF pmax pmax
comp=Z,61nm,1.2s
ROSF Rostrenen 90.00 318⇑ *i*P **P 20 46 10.8 0.0**
comp=Z,60nm,1.2s
HLM1 Long Mynd 90.06 322 *e*P **P 20 46 10.7 -0.3**
MCH1 Michaelchurch 90.09 322 *e*P **P 20 46 10.8 -0.3**
MCH1 AMB AMB 20 46 18.0
comp=Z,40nm,4.5s
MCH1 AMS AMS 21 30 27.3
comp=Z,2μm,22.0s
EBL Broad Law 90.40 326 *e*P **P 20 46 13.6 +1.1**
ECK Cauldkaine Hil 90.41 325 *e*P **P 20 46 13.2 +0.7**
ESK Eskdalemuir 90.46 325 *e*P **P 20 46 12.6 -0.2**
ESK AMS AMS 21 32 19.6
comp=Z,2μm,18.7s
ESK Eskdalemuir 90.46 325 PFAKE 20 46 20.0 +7.3
ESK LR LR
comp=Z,2μm,19.0s
BKZ Black Stump Fm 90.47 129 *e*P **P 20 46 12.6 -0.7**
comp=Z,48nm,1.0s
MME1 Meikle Cairn 90.47 327 *e*P **P 20 46 13.7 +0.9**
HEX Exmoor 90.53 321 *e*P **P 20 46 14.3 +1.1**
DYA Yadsworthy 90.57 320 *e*P **P 20 46 14.1 +0.8**
DYA AMB AMB 20 46 14.4
comp=Z,55nm,2.4s
DYA AMS AMS 21 10 49.4
comp=Z,1μm,16.3s
WPM1 Penmaenmawr 90.73 323 *e*P **P 20 46 14.3 +0.2**
URZ Urewera 91.01 128 *e*P **P 20 46 14.1 -1.6**
comp=Z,101nm,1.2s
WLF1 Llynfaes 91.03 323 *e*P **P 20 46 15.6 +0.2**
WLF1 AMB AMB 20 46 17.0
comp=Z,60nm,1.9s
WLF1 AMS AMS 21 31 20.2
comp=Z,2μm,20.6s
BIGH Upper Bighouse 91.06 328 *e*P **P 20 46 16.4 +1.0**
BIGH AMB AMB 20 46 20.3
comp=Z,250nm,1.8s
MVH1 Achvaich 91.17 328 *e*P **P 20 46 16.1 +0.1**
MDO Dochfour 91.24 327 *e*P **P 20 46 17.7 +1.4**
GAL1 Galloway 91.30 325 *e*P **P 20 46 18.5 +1.9**
GAL1 AMS AMS 21 31 36.8
comp=Z,2μm,21.7s
KAC Achnashellach 91.75 327 *e*P **P 20 46 19.2 +0.5**
KSB Sheil Bridge 91.80 327 *e*P **P 20 46 19.4 +0.5**
KPL Plockton 91.93 327 *e*P **P 20 46 20.9 +1.4**
RTC Rabat Centre 91.96 304 PFAKE 20 46 30.0 +10
RTC LR LR
comp=Z,783nm,19.0s
PBRG Braganca 92.13 312 *e*P **P 20 46 22.2 +1.3**
comp=Z,32nm,1.7s
PBRG *i*P x 20 46 38.9
DSB Dublin 92.21 323 *e*P **P 20 46 19.7 -1.3**
comp=Z,42nm,1.3s
PBAR Barrancos 92.25 308 *e*P **P 20 46 22.3 +0.9**
comp=Z,101nm,1.3s
PBAR *i*P x 20 46 39.3
MVO Moncorvo 92.32 311 *e*P **P 20 46 23.9 +2.1**
comp=Z,27nm,1.2s
MVO *i*P x 20 46 40.2
MVO *e*LR LR 20 55 18.0
comp=Z,1μm,20.0s
PMRV Marv??o 92.56 309 *e*P **P 20 46 24.7 +1.8**
comp=Z,29nm,1.4s
PMRV *i*P x 20 46 41.3
PMRV *e*LQ LQ 20 50 52.3
PMRV *e*LR LR 20 55 44.6
comp=Z,1μm,20.0s
PCBR Castelo Branco 92.63 310 *e*P **P 20 46 25.4 +2.2**
comp=Z,24nm,1.5s
PCBR *i*P x 20 46 41.8
MTE Manteigas 92.69 310 *e*P **P 20 46 25.8 +2.3**
comp=Z,32nm,1.0s
MTE Manteigas 92.69 310 *e*LR LR 20 56 27.1
comp=Z,2μm,20.0s
MTE Manteigas 92.69 310 PFAKE 20 46 30.0 +6.4
MTE LR LR
comp=Z,688nm,20.0s
PESTR Estremoz 92.69 309 *e*P **P 20 46 25.0 +1.5**
comp=Z,21nm,1.4s
PESTR *i*P x 20 46 41.7
PVRL Vila Real 92.84 311 *e*P **P 20 46 26.7 +2.5**
comp=Z,25nm,1.8s
POLO Lamas de Olo 92.91 311 *e*P **P 20 46 26.6 +2.1**
comp=Z,12nm,1.2s
PVIS Viseu 92.97 310 *e*P **P 20 46 27.0 +2.2**
comp=Z,30nm,1.5s
EVO Evora 93.02 308 *e*P **P 20 46 27.2 +2.2**
comp=Z,20nm,1.5s
PCAB Cabril 93.08 311 *e*P **P 20 46 26.8 +1.5**
comp=Z,27nm,1.1s
MESJ Messejana 93.17 308 *e*P **P 20 46 25.6 -0.1**
MESJ AMb AMB 20 46 29.9
comp=Z,20nm,1.5s
MESJ *e*PP **PP 20 50 09.0 -0.1**
MESJ Messejana 93.17 308 *e*P **P 20 46 26.7 +1.0**
comp=Z,21nm,1.6s
MESJ Messejana 93.17 308 *e*P **P 20 46 25.6 -0.1**
MESJ *e* 20 50 09.0
PMTG Montargil 93.19 309 *e*P **P 20 46 27.8 +2.0**
comp=Z,3.0nm,0.6s
PGAV Gavieira, Arco 93.27 312 *e*P **P 20 46 28.1 +1.9**
comp=Z,30nm,1.7s
PGAV *e*LQ LQ 20 51 29.9
PGAV *e*LR LR 20 55 27.9
comp=Z,1μm,18.0s
PTOM Tomar 93.35 309 *e*P **P 20 46 27.5 +1.0**
comp=Z,25nm,2.1s
PTOM *i*P x 20 46 45.0
PCAS Casmilo, Conde 93.42 310 *e*P **P 20 46 29.5 +2.7**
comp=Z,26nm,1.9s
MORF Marmelete 93.50 307 *e*P **P 20 46 27.4 +0.1**
MORF *e*PP **PP 20 50 11.9 0.0**
MORF Marmelete 93.50 307 *e*P **P 20 46 27.4 +0.1**
MORF *e* 20 50 11.9
PTO Porto 93.51 311 *e*P **P 20 46 29.7 +2.5**
VAL Valentia 94.57 322 *e*P **P 20 46 31.7 -0.1**
DAG Danmarks Havn 95.48 347 *i*P **P 20 46 35.3 -0.1**
comp=Z,7.6nm,0.9s
BORG Borgarnes 98.86 335 PFAKE 20 47 00.0 +9.1
BORG LR LR
comp=Z,3μm,19.0s
GAMB Gambell 98.90 26 *e*P Pdif 20 46 52.5 +1.4
comp=Z,15nm,0.8s
PMOZ Porto Moniz, M 100.62 303 *e*LR LR 20 54 29.6
comp=Z,1μm,18.0s
SUMG Summit 101.86 345 *e*P **Pdif 20 47 05.3 +0.6**
SUMG pmax pmax

comp=Z,3.0nm,1.0s
SUMG Summit 101.86 345 *i* P **Pdif 20 47 05.3 +0.6**
comp=Z,3.0nm,1.0s
SACV Santiago Islan 107.40 285 PFAKE 20 51 50.0
SACV LR LR
comp=Z,1μm,20.0s
COLA College 107.96 21 PFAKE 20 51 50.0
COLA LR LR
comp=Z,2μm,21.0s
RES Resolute Bay 108.14 360 PKKPbc PKKPbc 21 02 49.9 -3.4
comp=Z,2.9nm,1.0s,baz=187,slow=7.8,SNR=9.8
ILAR Eielson Array 108.36 20 Pdiff **Pdif 20 47 32.1 -1.1**
comp=Z,0.7nm,0.7s,baz=306,slow=4.2,SNR=9.3
ILAR PKiKP **PKiKP 20 51 39.5 +0.2**
comp=Z,2.8nm,0.8s,baz=281,slow=4.2,SNR=11
ILAR PKKPbc **PKKPbc 21 02 49.5 -2.9**
comp=Z,2.0nm,0.9s,baz=157,slow=3.3,SNR=13
ILAR PKKPab **PKKPab 21 03 00.4 -3.4**
comp=Z,2.0nm,0.9s,baz=148,slow=3.0,SNR=7.7
PMSA Palmer Station 108.60 194 PFAKE 20 51 50.0
PMSA LR LR
comp=Z,2μm,20.0s
KDAK Kodiak Island 109.72 28 PFAKE 20 51 50.0
KDAK LR LR
comp=Z,2μm,20.0s
EGAK Eagle 110.28 19 PFAKE 20 51 50.0
EGAK LR LR
comp=Z,1μm,19.0s
SKAG Skagway 115.93 21 *e*PKPdf **PKPdf 20 51 54.1 +0.4**
DLBC Dease Lake 118.53 19 PKKPbc PKKPbc 21 02 16.6 -1.3
comp=Z,6.1nm,1.0s,baz=260,slow=19,SNR=4.5
YKA Yellowknife Ar 118.85 10 PKP **PKPdf 20 51 57.8 -1.4**
comp=Z,12nm,0.8s,baz=340,slow=2.3,SNR=101
YKA PKKPbc **PKKPbc 21 02 13.0 -3.8**
comp=Z,1.5nm,0.9s,baz=151,slow=3.6,SNR=14
SCHQ Schefferville 122.81 340 PKP **PKPdf 20 52 06.3 -0.9**
comp=Z,10nm,0.6s,baz=13,slow=3.7,SNR=21
PPT2 Papeete2 123.76 113 *e*PP PP 20 53 44.6 -8.1
comp=Z,187nm,23.8s
PPT2 Papeete2 123.76 113 *e*SS SS 21 10 41.5 -0.1
comp=Z,1μm,28.8s
PPT2 Papeete2 123.76 113 *e*LR LR 21 30 31.0
comp=Z,944nm,24.0s
PPT Papeete 123.76 113 PKP **PKPdf 20 52 10.4 +0.3**
comp=Z,29nm,0.8s,baz=117,slow=2.3,SNR=3.0
EDM Edmonton 127.76 13 *e*PKiKP **PKPdf 20 52 16.9 +0.2**
EDM Edmonton 127.76 13 *e*PKPdf **PKPdf 20 52 16.9 +0.2**
FFC Flin Flon 127.98 4 *e*PKiKP **PKPdf 20 52 17.1 +0.1**
FFC MLR MLR
comp=Z,2μm,22.0s
FFC Flin Flon 127.98 4 *e*PKPdf **PKPdf 20 52 17.1 +0.1**
FFC LR LR
comp=Z,1μm,22.0s
TRQA Tornquist 128.45 215 PFAKE 20 52 30.0 +11
TRQA LR LR
comp=Z,1μm,19.0s
BDFB Brasilia 128.85 247 PKP **PKPdf 20 52 20.3 +0.4**
comp=Z,40nm,0.9s,baz=156,slow=2.0,SNR=38
NLWA Neilton Lookou 129.54 24 PFAKE 20 52 30.0 +10
NLWA LR LR
comp=Z,1μm,19.0s
JCW Jim Creek 129.65 22 P **PKPdf 20 52 21.8 +1.3**
HTW Haystack Looko 130.03 22 P **PKPdf 20 52 22.4 +1.2**
PLCA Paso Flores 130.74 206 PKP **PKPdf 20 52 24.2 +1.3**
comp=Z,11nm,1.0s,baz=90,slow=20
LON Longmire 130.89 23 *e*PKiKP **PKPdf 20 52 24.3 +1.4**
LON Longmire 130.89 23 *e*PKPdf **PKPdf 20 52 24.3 +1.4**
F04D Rainier, OR 130.95 24 ⇓PKiKP **PKiKP 20 52 24.4 +0.5**
baz=131
TDL Tradedollar La 131.05 24 P **PKPdf 20 52 24.4 +1.0**
NEW Newport 131.25 18 ⇓PKiKP **PKiKP 20 52 24.9 +0.4**
baz=131
NEW Newport 131.25 18 PFAKE 20 52 30.0 +6.5
NEW LR LR
comp=Z,1μm,21.0s
PKME Peaks-Kenny Pk 131.46 335 PFAKE 20 52 30.0 +6.1
PKME LR LR
comp=Z,1μm,20.0s
OD2 Odessa Site #2 131.49 20 P **PKPdf 20 52 24.5 +0.5**
G03D McMinnville, O 131.54 25 ⇓PKiKP **PKiKP 20 52 25.3 +0.2**
baz=131
GBB Gable Butte 131.83 21 P **PKPdf 20 52 25.7 +1.1**
VLL Laurance Lake 132.00 24 P **PKPdf 20 52 25.6 +0.5**
HAWA Hanford 132.05 22 *e*PKPdf **PKPdf 20 52 25.4 +0.3**
HAWA LR LR
comp=Z,1μm,20.0s
VFP Flag Point 132.20 24 P **PKPdf 20 52 26.4 +0.9**
G05D Wamic, OR 132.32 24 ⇓PKiKP **PKiKP 20 52 26.6 -0.1**
baz=132
BSMT Bassoo Peak 132.32 17 *e*PKPdf **PKPdf 20 52 26.7 +0.9**
YBMT Yellow Bay 132.53 16 *e*PKPdf **PKPdf 20 52 26.2 +0.1**
BROR Big Rock Looko 132.64 25 P **PKPdf 20 52 27.2 +1.0**
ULM Lac du Bonnet 132.67 360 PKP **PKPdf 20 52 25.5 -0.5**
comp=Z,9.8nm,0.8s,baz=6.9,slow=2.8,SNR=17
I03D Drain, OR 132.70 27 ⇓PKiKP **PKiKP 20 52 27.7 +0.2**
baz=133
A19A Klindworth Far 132.78 11 ⇓PKiKP **PKPdf 20 52 26.9 +0.4**
baz=133
SWMT Swartz Lake 132.86 16 *e*PKPdf **PKPdf 20 52 27.0 +0.3**
A20A Cobblestone Ra 132.98 10 ⇑PKiKP **PKPdf 20 52 27.3 +0.5**
baz=133
I04A Tendick Farm, 133.04 26 ⇑PKiKP **PKiKP 20 52 27.9 -0.3**
baz=133
A21A Bergtoll Ranch 133.04 10 ⇓PKiKP **PKiKP 20 52 27.5 -0.5**
baz=133
I05D Terrebonne, OR 133.05 25 ⇓PKiKP **PKiKP 20 52 28.0 -0.2**
baz=133
B19A Brinkman Farms 133.19 12 ⇑PKiKP **PKiKP 20 52 28.1 -0.3**
baz=133
A22A Carney Farms, 133.20 9 ⇑PKiKP **PKiKP 20 52 28.0 -0.4**
baz=133
SLMT Seeley Lake 133.24 16 *e*PKPdf **PKPdf 20 52 27.3 -0.2**
A23A Redstone 133.38 8 ⇓PKiKP **PKiKP 20 52 28.3 -0.5**
baz=133
B20A Solberg Farm, 133.38 11 ⇑PKiKP **PKiKP 20 52 28.3 -0.5**
baz=133
EGMT Eagleton 133.43 12 ⇑PKiKP **PKiKP 20 52 28.4 -0.6**
baz=133
EGMT Eagleton 133.43 12 *e*PKPdf **PKPdf 20 52 27.4 -0.3**
EGMT LR LR
comp=Z,1μm,20.0s
MSO Missoula 133.49 17 ⇑PKiKP **PKPdf 20 52 28.4 +0.5**
baz=133
A24A Westby 133.53 7 ⇑PKiKP **PKiKP 20 52 28.9 -0.2**
baz=133
B21A Ellsworth Farm 133.57 10 ⇓PKiKP **PKiKP 20 52 28.8 -0.4**
baz=133
CHMT Chamberlain Mo 133.61 16 P **PKPdf 20 52 28.6 +0.4**
J04D Umpqua Nationa 133.61 26 ⇓PKiKP **PKiKP 20 52 29.1 -0.5**
baz=134
A25A Svangstu Ranch 133.62 6 ⇑PKiKP **PKiKP 20 52 28.7 -0.5**
baz=133
HUMO Hull Mountain 133.73 27 *e*PKPdf **PKPdf 20 52 29.7 +1.4**
A26A Wade Farm, Ken 133.76 5 ⇑PKiKP **PKiKP 20 52 29.0 -0.5**
baz=134
A27A Ledoux Ranch, 133.77 4 ⇓PKiKP **PKiKP 20 52 29.0 -0.5**
baz=134
L02D Cave Junction, 133.78 28 ⇓PKiKP **PKiKP 20 52 29.5 -0.2**
baz=134
B23A Brockton 133.85 8 ⇑PKiKP **PKiKP 20 52 29.2 -0.5**
baz=134
C19A Slack Wire Ran 133.85 12 ⇑PKiKP **PKiKP 20 52 29.2 -0.6**
baz=134
B22A Reddig Ranch S 133.86 9 ⇓PKiKP **PKiKP 20 52 29.3 -0.4**
baz=134
A28A Rude Farm, Bot 133.89 4 ⇓PKiKP **PKPdf 20 52 29.1 +0.6**
baz=134
A29A Manning Farm, 133.93 3 ⇓PKiKP **PKPdf 20 52 29.2 +0.7**
baz=134
A30A Hoffart Farm, 133.95 2 ⇓PKiKP **PKPdf 20 52 29.0 +0.5**
baz=134
J05D Fort Rock, OR 133.95 25 ⇓PKiKP **PKiKP 20 52 30.1 -0.1**
baz=134
C20A Veseth Ranch, 134.08 11 ⇓PKiKP **PKiKP 20 52 29.9 -0.3**
baz=134
LONY Lake Ozonia 134.10 338 PFAKE 20 52 40.0 +11
LONY LR LR
comp=Z,644nm,19.0s
BMO Blue Mountains 134.17 21 PFAKE 20 52 40.0 +11
BMO LR LR
comp=Z,1μm,20.0s
K04D Chiloquin, OR 134.26 26 ⇑PKiKP **PKiKP 20 52 30.4 -0.5**
baz=134
B25A Knox Farm, Ray 134.27 6 ⇑PKiKP **PKiKP 20 52 30.4 -0.2**
baz=134
B28A Dugan Ranch, T 134.34 4 ⇓PKiKP **PKiKP 20 52 30.2 -0.5**
baz=134
B29A Wagenman Farm, 134.38 3 ⇑PKiKP **PKiKP 20 52 30.2 -0.6**
baz=134
RKT Rikitea 134.39 126 *e*LR LR 21 35 22.8
comp=Z,2μm,23.2s
C22A Vida 134.42 9 ⇑PKiKP **PKiKP 20 52 30.4 -0.5**
baz=134
D19A Cripps Ranch, 134.43 12 ⇑PKiKP **PKiKP 20 52 30.6 -0.4**
baz=134
B30A Myrvik Farm, E 134.44 2 ⇑PKiKP **PKiKP 20 52 30.4 -0.5**
baz=134
C23A Lambert 134.47 8 ⇓PKiKP **PKiKP 20 52 30.6 -0.4**
baz=134
NCB Newcomb 134.52 338 PFAKE 20 52 40.0 +10
NCB LR LR
comp=Z,2μm,21.0s
AGMN Agassiz Nation 134.62 360 ⇓PKiKP **PKiKP 20 52 30.6 -0.6**
baz=134
AGMN Agassiz Nation 134.62 360 *e*PKPdf **PKPdf 20 52 29.8 0.0**
AGMN LR LR
comp=Z,1μm,20.0s
D20A Manuel Ranch, 134.65 11 ⇓PKiKP **PKiKP 20 52 31.0 -0.5**
baz=134
M02C Callahan 134.73 28 ⇓PKiKP **PKiKP 20 52 31.4 -0.3**
baz=135
EYMN Ely 134.78 355 *e*PKPdf **PKPdf 20 52 29.8 -0.3**
EYMN LR LR
comp=Z,1μm,19.0s
C25A Freed Ranch, W 134.81 7 ⇑PKiKP **PKiKP 20 52 31.5 -0.2**
baz=135
C26A Wahner Farm, P 134.82 5 ⇑PKiKP **PKiKP 20 52 31.4 -0.3**
baz=135
LRM Limekiln Ridge 134.83 16 *e*PKPdf **PKPdf 20 52 30.6 -0.1**
C24A Savage 134.84 8 ⇑PKiKP **PKPdf 20 52 30.8 +0.5**
baz=135
D21A La Casta Ranch 134.89 10 ⇓PKiKP **PKiKP 20 52 31.7 -0.2**
baz=135
M04C Macdoel 134.89 27 ⇓PKiKP **PKiKP 20 52 31.5 -0.7**
baz=135
D22A Cohagen 134.95 10 ⇑PKiKP **PKiKP 20 52 31.5 -0.5**
baz=135
C27A Sayler Ranch, 134.98 5 ⇓PKiKP **PKiKP 20 52 31.7 -0.4**
baz=135
MDND Maddock 134.98 3 ⇑PKiKP **PKiKP 20 52 31.3 -0.7**
baz=135
MDND Maddock 134.98 3 *e*PKPdf **PKPdf 20 52 30.3 -0.2**
D23A Lindsay 135.08 9 ⇓PKiKP **PKiKP 20 52 32.0 -0.3**
baz=135
E19A Rath Farm, Rou 135.12 12 ⇑PKiKP **PKiKP 20 52 32.1 -0.3**
baz=135
N02D Trinity Center 135.12 28 ⇑PKiKP **PKiKP 20 52 32.1 -0.5**
baz=135
C30A Mose, Pekin 135.18 2 ⇓PKiKP **PKiKP 20 52 31.8 -0.6**
baz=135
BOZ Bozeman (W) 135.22 15 *e*PKIKP **PKPdf 20 52 30.7 -0.5**
BOZ MLR MLR
comp=Z,987nm,21.0s
BOZ Bozeman (W) 135.22 15 *e*PKPdf **PKPdf 20 52 30.7 -0.5**
BOZ LR LR
comp=Z,723nm,21.0s
E20A Meyer Farm, Mu 135.22 12 ⇑PKiKP **PKiKP 20 52 32.3 -0.3**
baz=135
D24A Glendive 135.26 8 ⇑PKiKP **PKiKP 20 52 32.3 -0.3**
baz=135
D25A Fairfield 135.35 7 ⇑PKiKP **PKiKP 20 52 32.5 -0.3**
baz=135
E21A Keefer Ranch, 135.38 11 ⇓PKiKP **PKiKP 20 52 32.7 -0.2**
baz=135
LAO LASA Array 135.39 10 *e*PKPdf **PKPdf 20 52 32.4 +1.0**
LAO LR LR
comp=Z,1μm,20.0s
MOD Modoc Plateau 135.48 26 *e*PKPdf **PKPdf 20 52 32.9 +1.0**
D26A Manning 135.57 6 ⇑PKiKP **PKiKP 20 52 33.0 -0.3**
baz=135
D28A Regan 135.57 4 ⇓PKiKP **PKiKP 20 52 32.7 -0.6**
baz=135
D27A Center 135.58 5 ⇑PKiKP **PKiKP 20 52 32.9 -0.3**
baz=135
MCMT McKenzie Canyo 135.63 17 *e*PKPdf **PKPdf 20 52 32.5 +0.3**
F19A Roth Farm, Mol 135.67 13 ⇑PKiKP **PKiKP 20 52 33.3 -0.3**
baz=136
E22A Miles City 135.68 10 ⇑PKiKP **PKiKP 20 52 33.0 -0.5**
baz=136
E23A Ismay 135.72 9 ⇓PKiKP **PKiKP 20 52 33.5 -0.1**
baz=136
WVOR Wild Horse Val 135.73 24 *e*PKIKP **PKPdf 20 52 32.9 +0.6**
WVOR MLR MLR
comp=Z,845nm,20.0s
WVOR Wild Horse Val 135.73 24 *e*PKPdf **PKPdf 20 52 32.9 +0.6**
WVOR LR LR
comp=Z,845nm,20.0s
D30A Buchanan 135.76 2 ⇑PKiKP **PKiKP 20 52 32.9 -0.7**
baz=136
D29A Pettibone, Tap 135.77 3 ⇓PKiKP **PKiKP 20 52 33.0 -0.6**
baz=136
E24A Baker 135.81 8 ⇑PKiKP **PKiKP 20 52 33.3 -0.5**
baz=136
F20A Billings 135.89 12 ⇓PKiKP **PKiKP 20 52 33.3 -0.7**
baz=136
MFID Camas Ranch 135.95 20 *e*PKPdf **PKPdf 20 52 33.1 +0.5**
E25A Miller Ranch, 135.99 7 ⇓PKiKP **PKiKP 20 52 33.9 -0.3**
baz=136
F21A Absaloka Mine, 136.07 11 ⇓PKiKP **PKiKP 20 52 34.1 -0.3**
baz=136
E26A Carlson Angus 136.12 6 ⇓PKiKP **PKiKP 20 52 33.9 -0.5**
baz=136
E28A Huff 136.18 4 ⇓PKiKP **PKiKP 20 52 33.9 -0.5**
baz=136
E29A Napoleon 136.26 3 ⇑PKiKP **PKiKP 20 52 34.3 -0.4**
baz=136
F22A Rosebud 136.27 10 ⇑PKiKP **PKiKP 20 52 34.5 -0.3**
baz=136
RLMT Red Lodge 136.29 13 PFAKE 20 52 40.0 +6.7
RLMT LR LR
comp=Z,2μm,20.0s
HLID Hailey 136.29 19 ⇓PKiKP **PKiKP 20 52 34.5 -0.6**
baz=136
HLID Hailey 136.29 19 *e*PKPdf **PKPdf 20 52 32.6 -0.7**
HLID LR LR
comp=Z,923nm,19.0s
YMR Madison River 136.30 15 *e*PKPdf **PKPdf 20 52 33.7 +0.4**
E30A Jud 136.36 3 ⇑PKiKP **PKiKP 20 52 34.5 -0.4**
baz=136
COWI Conover 136.37 353 *e*PKPdf **PKPdf 20 52 33.3 +0.2**
COWI LR LR
comp=Z,1μm,21.0s
F23A Volborg 136.47 9 ⇑PKiKP **PKiKP 20 52 34.6 -0.6**
baz=136
YFT Old Faithful 136.53 15 *e*PKPdf **PKPdf 20 52 33.2 -0.6**
LKWY Lake 136.54 15 *e*PKIKP **PKPdf 20 52 35.0 +1.1**
LKWY Lake 136.54 15 *e*PKPdf **PKPdf 20 52 35.0 +1.1**
G21A Lodge Grass 136.63 11 ⇑PKiKP **PKiKP 20 52 35.2 -0.3**
baz=136
CFAA Coronel Fontan 136.64 216 PKP **PKPdf 20 52 34.5 +0.3**
comp=Z,2.6nm,0.8s,baz=252,slow=1.1
F26A Lodgepole 136.71 6 ⇓PKiKP **PKiKP 20 52 35.3 -0.4**
baz=136
F27A Lemmon 136.76 6 ⇓PKiKP **PKiKP 20 52 35.3 -0.4**
baz=137
H19A Powell 136.78 13 ⇑PKiKP **PKiKP 20 52 35.4 -0.5**
baz=137
G22A Birney 136.80 10 ⇑PKiKP **PKPdf 20 52 34.8 +0.6**
baz=137
F28A McLaughlin 136.89 5 ⇓PKiKP **PKiKP 20 52 35.5 -0.5**
baz=137
G23A Biddle 136.97 9 ⇓PKiKP **PKiKP 20 52 35.6 -0.6**
baz=137
F29A Eureka 136.98 4 ⇑PKiKP **PKiKP 20 52 35.5 -0.6**
baz=137
G24A Alzada 137.00 8 ⇓PKiKP **PKiKP 20 52 35.6 -0.7**
baz=137
F30A Leola 137.02 3 ⇑PKiKP **PKiKP 20 52 35.7 -0.6**
baz=137
I17A Pilgrim Ck. 137.10 15 ⇑PKiKP **PKiKP 20 52 36.0 -0.7**
baz=137
G27A Dupree 137.26 6 ⇑PKiKP **PKiKP 20 52 36.2 -0.6**
baz=137
G25A Newell 137.27 7 ⇑PKiKP **PKiKP 20 52 36.2 -0.6**
baz=137
G26A Maurine 137.27 7 ⇓PKiKP **PKiKP 20 52 36.2 -0.6**
baz=137
H24A Dirks Ranch, A 137.55 9 ⇑PKiKP **PKiKP 20 52 36.6 -0.8**
baz=137
SPMN Marine on St. 137.58 356 ⇓PKiKP **PKiKP 20 52 36.9 -0.4**
baz=137
G28A Parade 137.65 5 ⇑PKiKP **PKiKP 20 52 36.7 -0.8**
baz=138
I20A Worland 137.66 13 ⇓PKiKP **PKiKP 20 52 37.1 -0.6**
baz=138
G30A Faulkton 137.72 3 ⇑PKiKP **PKPdf 20 52 36.6 +0.9**
baz=138
H26A Fairpoint 137.92 7 ⇑PKiKP **PKiKP 20 52 37.8 -0.3**
baz=138
I21A Big Trails, Te 137.97 12 ⇑PKiKP **PKPdf 20 52 37.4 +1.0**
baz=138
AHID Auburn Hatcher 138.03 16 PFAKE 20 52 50.0 +13
AHID LR LR
comp=Z,1μm,21.0s
H28A Mission Ridge 138.04 5 ⇑PKiKP **PKiKP 20 52 37.5 -0.8**
baz=138
J19A Crowheart 138.09 14 ⇓PKiKP **PKiKP 20 52 38.0 -0.7**
baz=138
H29A Onida 138.15 4 ⇑PKiKP **PKiKP 20 52 37.6 -1.0**
baz=138
ERPA Erie 138.16 342 *e*PKPdf **PKPdf 20 52 36.9 +0.3**
ERPA LR LR
comp=Z,1μm,21.0s
J20A Shoshoni 138.24 13 ⇑PKiKP **PKiKP 20 52 38.0 -0.9**
baz=138
J21A Lysite 138.38 12 ⇑PKiKP **PKiKP 20 52 38.6 -0.7**
baz=138
BRSD Miller 138.41 3 ⇑PKiKP **PKiKP 20 52 38.3 -0.8**
baz=138
BRSD Miller 138.41 3 *e*PKPdf **PKPdf 20 52 37.0 -0.1**
BW06 Boulder Array 138.44 15 PFAKE 20 52 50.0 +13
BW06 LR LR
comp=Z,2μm,22.0s
PDAR Pinedale Array 138.44 15 PKhKP PKPpre 20 52 29.1
comp=Z,3.4nm,0.7s,baz=66,slow=3.7,SNR=4.9
PDAR PKP **PKPdf 20 52 37.6 +0.2**
comp=Z,23nm,0.8s,baz=318,slow=2.0,SNR=19
I27A Quinn 138.54 6 ⇑PKiKP **PKiKP 20 52 38.8 -0.6**
baz=138
WAKR Walker 138.62 28 *e*PKPdf **PKPdf 20 52 38.4 +0.6**
I28A Midland 138.70 5 ⇓PKiKP **PKiKP 20 52 38.9 -0.8**
baz=138
I29A Vivian Onida 138.75 4 ⇓PKiKP **PKiKP 20 52 39.0 -0.8**
baz=139
I30A Oacoma 138.91 3 ⇑PKiKP **PKiKP 20 52 39.4 -0.8**
baz=139
HWUT Hardware Ranch 138.96 17 *e*PKPdf **PKPdf 20 52 38.4 +0.1**
HWUT LR LR
comp=Z,1μm,20.0s
AAM Ann Arbor 139.02 346 PFAKE 20 52 50.0 +12
AAM LR LR
comp=Z,1μm,21.0s
K21A Alcova 139.10 12 ⇓PKiKP **PKiKP 20 52 39.7 -1.1**
baz=139
J26A Sides Ranch, S 139.16 8 ⇑PKiKP **PKiKP 20 52 39.8 -0.9**
baz=139
ECSD EROS Data Cent 139.19 0 ⇓PKiKP **PKiKP 20 52 39.7 -1.0**
baz=139
ECSD EROS Data Cent 139.19 0 *e*PKPdf **PKPdf 20 52 38.4 -0.1**
ECSD LR LR
comp=Z,1μm,20.0s
NVAR Mina Array Bea 139.20 27 PKhKP PKPpre 20 52 29.8
comp=Z,2.6nm,0.7s,baz=285,slow=3.8,SNR=12
NVAR PKP **PKiKP 20 52 40.9 -0.3**
comp=Z,21nm,0.8s,baz=304,slow=1.8,SNR=32
J28A Allard Ranch, 139.26 5 ⇑PKiKP **PKiKP 20 52 40.0 -0.9**
baz=139
K23A Bowen Ranch, D 139.31 11 ⇑PKiKP **PKiKP 20 52 40.1 -1.1**
baz=139
J27A Elkhorn Farm, 139.35 6 ⇑PKiKP **PKiKP 20 52 40.3 -0.8**
baz=139
J29A Okreek 139.36 4 ⇓PKiKP **PKiKP 20 52 40.0 -1.1**
baz=139
TCUT Toone Canyon 139.45 18 *e*PKPdf **PKPdf 20 52 39.4 +0.1**
J30A Dallas 139.50 4 ⇓PKiKP **PKiKP 20 52 40.3 -1.0**
baz=139
JFWS Jewell Farm 139.64 353 PFAKE 20 52 50.0 +11
JFWS LR LR
comp=Z,1μm,20.0s
CTU Camp Tracy 139.74 18 *e*PKPdf **PKPdf 20 52 40.3 +0.6**
K26A Motz Farm, Whi 139.75 8 ⇓PKiKP **PKPdf 20 52 40.8 +1.2**
baz=140
DUG Dugway, Tooele 139.84 20 *e*PKiKP **PKPdf 20 52 40.5 +0.6**
DUG MLR MLR
comp=Z,1μm,21.0s
DUG Dugway, Tooele 139.84 20 ⇓PKiKP **PKiKP 20 52 41.6 -0.7**
baz=140
DUG Dugway, Tooele 139.84 20 *e*PKPdf **PKPdf 20 52 40.5 +0.6**
DUG LR LR
comp=Z,1μm,21.0s
K27A Fluecknger Fa 139.87 7 ⇑PKiKP **PKiKP 20 52 41.7 -0.5**
baz=140
K28A Ten Mile Ranch 139.95 6 ⇑PKiKP **PKiKP 20 52 41.3 -1.0**
baz=140
TPH Tonopah 139.97 26 *e*PKiKP **PKPdf 20 52 39.7 -0.6**
TPH Tonopah 139.97 26 *e*PKPdf **PKPdf 20 52 39.7 -0.6**
LCO Las Campanas 139.99 216 PFAKE 20 52 50.0 +9.3
LCO LR LR
comp=Z,982nm,19.0s
K29A Lazy Trails An 140.00 5 ⇑PKiKP **PKiKP 20 52 41.5 -0.9**
baz=140
L24A Wheatland 140.12 10 ⇓PKiKP **PKiKP 20 52 41.8 -1.0**
baz=140
K30A Basset 140.14 4 ⇓PKiKP **PKiKP 20 52 41.9 -0.8**
baz=140
L25A Engebretsen Ra 140.17 9 ⇑PKiKP **PKiKP 20 52 41.9 -1.0**
baz=140
NLU North Lily Min 140.30 19 *e*PKPdf **PKPdf 20 52 40.0 -0.8**
R11A Troy Canyon, C 140.43 24 ⇓PKiKP **PKiKP 20 52 42.6 -1.1**
baz=140
R11A Troy Canyon, C 140.43 24 *e*PKPdf **PKPdf 20 52 41.2 +0.1**
SIV San Ignacio 140.49 241 PKhKP PKPpre 20 52 33.7
comp=Z,15nm,0.9s,baz=100,slow=4.0,SNR=9.8
SIV PKP **PKPdf 20 52 41.0 -0.6**
comp=Z,12nm,0.8s,baz=120,slow=2.8,SNR=16
M23A Laramie 140.53 11 ⇓PKiKP **PKiKP 20 52 42.7 -1.1**
baz=140
N20A Spence Gulch, 140.58 14 ⇓PKiKP **PKiKP 20 52 43.0 -0.9**
baz=140
L29A Maesberg Ranch 140.68 5 ⇓PKiKP **PKiKP 20 52 43.2 -0.7**
baz=140
L31A Butterfield Fa 140.68 3 ⇑PKiKP **PKiKP 20 52 43.6 -0.3**
baz=140
M24A Cheyenne 140.70 10 ⇑PKiKP **PKiKP 20 52 43.5 -0.6**
baz=140
ACSO Alum Creek Sta 140.78 344 *e*PKPdf **PKPdf 20 52 41.6 +0.2**
ACSO LR LR
comp=Z,1μm,20.0s
L30A Spencer Herefo 140.85 4 ⇑PKiKP **PKiKP 20 52 44.3 +0.1**
baz=141
M25A Palm-Egli Farm 140.86 9 ⇑PKiKP **PKiKP 20 52 43.9 -0.5**
baz=141
VES Vestal, Richgr 140.91 30 ⇑PKiKP **PKiKP 20 52 44.0 -0.4**
baz=141
SCIA State Center 140.91 356 PFAKE 20 52 50.0 +8.4
SCIA LR LR
comp=Z,2μm,21.0s
N22A Wattenberg Ran 141.03 12 ⇑PKiKP **PKiKP 20 52 43.7 -1.2**
baz=141
N23A Red Feather La 141.04 12 ⇓PKiKP **PKiKP 20 52 44.2 -0.8**
baz=141
O20A White River Ci 141.25 15 *e*PKPdf **PKPdf 20 52 42.0 -0.5**
BGNE Belgrade 141.48 2 ⇑PKiKP **PKiKP 20 52 45.0 -0.5**
baz=141
BGNE Belgrade 141.48 2 *e*PKPdf **PKPdf 20 52 42.7 0.0**
M31A Lambtecht Ranc 141.50 3 ⇑PKiKP **PKiKP 20 52 45.2 -0.3**
baz=141
MVU Marysvale 141.56 20 *e*PKPdf **PKPdf 20 52 43.3 +0.1**
SRU San Rafael Swe 141.56 18 *e*PKIKP **PKPdf 20 52 43.9 +0.8**
SRU San Rafael Swe 141.56 18 *e*PKPdf **PKPdf 20 52 43.9 +0.8**
N26A Koester Ranch, 141.58 8 ⇓PKiKP **PKiKP 20 52 45.3 -0.5**
baz=141
ARVC Arvin 141.60 30 ⇓PKiKP **PKiKP 20 52 45.0 -0.9**
baz=142
SFIN Lafayette 141.62 349 ⇓PKiKP **PKiKP 20 52 45.4 -0.3**
baz=142
OGNE Ogallala 141.63 7 PFAKE 20 52 50.0 +7.0
OGNE LR LR
comp=Z,1μm,20.0s
O23A Lake Granby, G 141.71 12 ⇑PKiKP **PKiKP 20 52 45.3 -1.0**
baz=142
LRMC Laurel Mtn Rad 141.88 29 ⇑PKiKP **PKiKP 20 52 45.3 -1.3**
baz=142
N28A Pribbeno Ranch 141.94 6 ⇓PKiKP **PKPdf 20 52 45.0 +1.4**
baz=142
O24A Longmont 141.96 11 ⇓PKiKP **PKiKP 20 52 45.6 -1.1**
baz=142
N31A Bailey Ranch, 142.02 3 ⇓PKiKP **PKiKP 20 52 46.1 -0.5**
baz=142
N32A Stulken Farm, 142.11 2 ⇓PKiKP **PKiKP 20 52 46.2 -0.6**
baz=142

ISCO	Idaho Springs	142.16	12	PFAKE		20 52 50.0	+5.7
ISCO				LR	LR		
	comp=Z,2μm,22.0s						
SHOC	Shoshone, Teco	142.19	27	⇓PKPdf	PKPdf	20 52 41.1	-3.0
	baz=142						
EDW2	Edwards Air Fo	142.21	30	⇓PKPdf	PKPdf	20 52 41.2	-3.1
	baz=142						
O27A	Beecher Island	142.31	8	⇑PKPdf	PKPdf	20 52 41.6	-2.7
	baz=142						
GSC	Goldstone, Bar	142.44	28	*e*PKIKP	PKPdf	20 52 45.0	+0.3
GSC	Goldstone, Bar	142.44	28	⇓PKPdf	PKPdf	20 52 42.0	-2.7
	baz=142						
GSC	Goldstone, Bar	142.44	28	*e*PKPdf	PKPdf	20 52 45.0	+0.3
O28A	Krutsinger Ran	142.47	7	⇓PKPdf	PKPdf	20 52 41.5	-3.0
	baz=142						
P23A	Jefferson	142.53	12	⇑PKPdf	PKPdf	20 52 42.3	-2.8
	baz=142						
DECC	Green Verdugo	142.54	31	⇑PKPdf	PKPdf	20 52 42.4	-2.4
	baz=142						
O29A	4D Ranch, Culb	142.57	6	⇓PKPdf	PKPdf	20 52 42.1	-2.6
	baz=142						
P24A	Kohler Place,	142.58	11	⇑PKPdf	PKPdf	20 52 42.5	-2.4
	baz=142						
O30A	MW Ranch, Wils	142.59	5	⇑PKPdf	PKPdf	20 52 42.5	-2.2
	baz=142						
O32A	Brockman Farm,	142.62	2	⇓PKPdf	PKPdf	20 52 42.7	-2.0
	baz=142						
BLO	Bloomington	142.66	347	*e*PKIKP	PKPdf	20 52 45.1	+0.3
BLO	Bloomington	142.66	347	*e*PKPdf	PKPdf	20 52 45.1	+0.3
O31A	Woolen Ranch,	142.67	4	⇓PKPdf	PKPdf	20 52 42.7	-2.1
	baz=142						
RRX	Edison Barstow	142.69	29	⇓PKPdf	PKPdf	20 52 43.3	-1.7
	baz=143						
PV04	Paradox Valley	142.70	16	*e*PKPdf	PKPdf	20 52 46.9	+1.7
BLA	Blacksburg	142.71	339	PFAKE		20 52 50.0	+5.0
BLA				LR	LR		
	comp=Z,2μm,21.0s						
P25A	Willow Gulch B	142.72	10	⇓PKPdf	PKPdf	20 52 43.1	-2.1
	baz=143						
P26A	Davis Ranch, A	142.81	9	⇑PKPdf	PKPdf	20 52 43.1	-2.2
	baz=143						
BFSC	Mount Baldy Ra	142.89	30	⇓PKPdf	PKPdf	20 52 43.0	-2.5
	baz=143						
P27A	Ficken Ranch,	142.92	8	⇓PKPdf	PKPdf	20 52 43.0	-2.4
	baz=143						
P28A	Saint Francis	143.01	7	⇑PKPdf	PKPbc	20 52 43.4	+1.2
	baz=143						
PV01	Paradox Valley	143.04	16	*e*PKPdf	PKPdf	20 52 45.9	+0.1
HEC	Hector,Ludlow	143.05	28	⇓PKPdf	PKPbc	20 52 43.5	+1.0
	baz=143						
Q24A	Divide	143.06	11	⇓PKPdf	PKPbc	20 52 43.6	+0.9
	baz=143						
P29A	Atwood	143.08	6	⇑PKPdf	PKPbc	20 52 43.2	+0.8
	baz=143						
CIS	Catalina Islan	143.16	32	⇑PKPdf	PKPbc	20 52 43.7	+0.9
	baz=143						
P30A	Selden	143.20	5	⇓PKPdf	PKPbc	20 52 43.7	+1.0
	baz=143						
BBRC	Big Bear Solar	143.23	29	⇓PKiKP	PKiKP	20 52 48.6	-1.0
	baz=143						
P32A	Huiting Farm,	143.24	3	⇑PKPdf	PKPbc	20 52 43.7	+1.0
	baz=143						
ZAM	Aeronautique	143.25	291	*e*P	PKPbc	20 52 43.4	0.0
Q25A	Bedland, Calha	143.28	10	⇓PKPdf	PKPbc	20 52 43.9	+0.8
	baz=143						
TRMF	Trois Ilets	143.28	291	*e*P	PKPbc	20 52 43.2	-0.3
P31A	Stockton	143.29	4	⇓PKPdf	PKPbc	20 52 44.0	+1.1
	baz=143						
FDF	Fort de France	143.32	291	*e*PKIKP	PKPdf	20 52 46.8	+0.1
FDF				MLR	MLR		
	comp=Z,475nm,20.0s						
FDF	Fort de France	143.32	291	*e*P	PKPab	20 52 39.7	-2.9
FDF	Fort de France	143.32	291	*e*PKPdf	PKPdf	20 52 46.8	+0.1
FDF				LR	LR		
	comp=Z,475nm,20.0s						
U15A	North Rim	143.38	22	⇓PKPdf	PKPbc	20 52 44.8	+1.2
	baz=143						
Q26A	Hugo	143.40	9	⇑PKPdf	PKPbc	20 52 44.2	+0.8
	baz=143						
GMRC	Granite Mounta	143.40	27	⇑PKPdf	PKPbc	20 52 44.5	+1.0
	baz=143						
OLIL	Olney	143.40	349	*e*PKPdf	PKPdf	20 52 46.7	+0.6
SCI	San Clemente I	143.42	32	⇑PKPdf	PKPbc	20 52 44.0	+0.5
	baz=143						
CNNC	Cliffs of the	143.42	334	PFAKE		20 53 00.0	+14
CNNC				LR	LR		
	comp=Z,1μm,22.0s						
KSCO	Kaye Shedlock'	143.45	8	⇑PKPdf	PKPbc	20 52 43.6	+0.1
	baz=143						
P33A	Williams Farm,	143.46	2	⇓PKPdf	PKPbc	20 52 44.1	+0.7
	baz=143						
PTGA	Pitinga	143.49	265	PKP	PKPbc	20 52 44.8	+0.5
	comp=Z,106nm,0.9s,baz=97,slow=4.1,SNR=79						
PTGA	Pitinga	143.49	265	PKP	PKPbc	20 52 44.8	+0.5
PTGA				*e*PKPdf	PKPdf	20 52 47.8	+0.8
PTGA				LR	LR		
	comp=Z,575nm,20.0s						
Q28A	Sharon Springs	143.51	7	⇓PKPdf	PKPbc	20 52 44.2	+0.6
	baz=143						
WCI	Wyandotte Cave	143.51	347	*e*PKIKP	PKPdf	20 52 46.7	+0.3
WCI	Wyandotte Cave	143.51	347	*e*PKPdf	PKPdf	20 52 46.7	+0.3
MURC	Murrieta	143.63	30	⇑PKPdf	PKPbc	20 52 44.9	+0.9
	baz=144						
R23A	Moffat	143.67	13	⇑PKPdf	PKPbc	20 52 44.7	+0.3
	baz=144						
Q30A	Quinter	143.76	5	⇓PKPdf	PKPbc	20 52 44.4	+0.1
	baz=144						
Q29A	Oakley	143.78	6	⇓PKPdf	PKPbc	20 52 44.6	+0.2
	baz=144						
R24A	Sanders Place,	143.78	12	⇓PKPdf	PKPbc	20 52 44.7	+0.1
	baz=144						
Q31A	Ellis	143.80	4	⇑PKPdf	PKPbc	20 52 44.5	0.0
	baz=144						
KSU1	Kansas State U	143.82	0	⇓PKPdf	PKPbc	20 52 44.9	+0.5
	baz=144						
KSU1	Kansas State U	143.82	0	*e*PKPdf	PKPdf	20 52 47.2	+0.3
KSU1				LR	LR		
	comp=Z,1μm,19.0s						
S22A	4UR Ranch, Cre	143.86	14	⇑PKPdf	PKPbc	20 52 45.2	+0.2
	baz=144						
Q32A	Meitler Ranch,	143.87	3	⇑PKPdf	PKPbc	20 52 44.8	+0.2
	baz=144						
NEE2	Needles Airpor	143.88	26	⇑PKPdf	PKPbc	20 52 45.4	+0.7
	baz=144						
BELC	Belle Mtn. Jos	143.89	28	⇓PKPdf	PKPbc	20 52 45.4	+0.4
	baz=144						
Q33A	Connelly Farm,	143.89	2	⇓PKPdf	PKPbc	20 52 45.3	+0.6
	baz=144						
W13A	Hualapai Mount	143.91	25	⇑PKPdf	PKPbc	20 52 45.6	+0.5
	baz=144						
MVCO	Mesa Verde	143.92	17	⇑PKPdf	PKPbc	20 52 45.5	+0.4
	baz=144						
MVCO	Mesa Verde	143.92	17	*e*PKPdf	PKPdf	20 52 46.5	-0.9
PFO	Pinyon Flats O	143.99	29	⇓PKPdf	PKPbc	20 52 45.6	+0.3
	baz=144						
PFO	Pinyon Flats O	143.99	29	PFAKE		20 53 00.0	+13
PFO				LR	LR		
	comp=Z,746nm,21.0s						
R26A	Arlington	144.02	10	⇓PKPdf	PKPbc	20 52 45.7	+0.5
	baz=144						
R25A	Fountain Ranch	144.02	11	⇓PKPdf	PKPbc	20 52 45.5	+0.3
	baz=144						
USIN	University of	144.06	348	*e*PKPdf	PKPdf	20 52 47.0	-0.3
S23A	Nye Farm, Mont	144.09	13	⇓PKPdf	PKPbc	20 52 45.7	0.0
	baz=144						
R27A	Eads	144.14	9	⇑PKPdf	PKPbc	20 52 45.4	-0.2
	baz=144						
IRM	Iron Mountain	144.15	27	⇓PKPdf	PKPbc	20 52 46.1	+0.4
	baz=144						
R28A	Tribune	144.22	7	⇓PKPdf	PKPab	20 52 45.4	0.0
	baz=144						
R29A	Marienthal	144.22	6	⇓PKPdf	PKPab	20 52 45.5	+0.1
	baz=144						
109C	Camp Elliot, M	144.24	31	⇓PKPdf	PKPbc	20 52 46.2	+0.3
	baz=144						
S24A	Houchin Ranch,	144.33	12	⇓PKPdf	PKPab	20 52 46.2	+0.1
	baz=144						
GRGR	Grenville	144.43	287	*e*PKPdf	PKPdf	20 52 48.6	0.0
GRGR				LR	LR		
	comp=Z,449nm,20.0s						
R32A	Long Quarter,	144.43	3	⇓PKPdf	PKPab	20 52 46.2	+0.1
	baz=144						
BC3	Big Chuckawall	144.43	28	⇑PKPdf	PKPbc	20 52 47.0	+0.4
	baz=144						
R30A	Dighton	144.45	5	⇓PKPdf	PKPab	20 52 46.1	-0.1
	baz=144						
S25A	Robets Cordova	144.47	11	⇓PKPdf	PKPab	20 52 46.2	-0.3
	baz=144						
PDMCI	Parker Dam,Lak	144.49	26	⇑PKPdf	PKPbc	20 52 46.9	+0.3
	baz=144						
R31A	Burdett	144.51	4	⇑PKPdf	PKPab	20 52 46.3	-0.1
	baz=144						
WUAZ	Wupatki	144.53	21	⇑PKPdf	PKPbc	20 52 47.2	+0.2
	baz=144						
WUAZ	Wupatki	144.53	21	*e*PKPdf	PKPdf	20 52 48.4	0.0
R33A	Olander Ranch,	144.58	2	⇑PKPdf	PKPab	20 52 46.5	-0.2
	baz=144						
MONP	Monument Peak,	144.59	30	⇓PKPdf	PKPbc	20 52 47.6	+0.3
	baz=144						
SIUC	Southern Illin	144.59	350	*e*PKPdf	PKPbc	20 52 47.2	+0.4
BAR	Barrett	144.63	30	*e*PKPdf	PKPdf	20 52 48.1	-0.4
S26A	Kim	144.68	10	⇑PKPdf	PKPab	20 52 47.3	+0.1
	baz=144						
S27A	Las Animas	144.71	9	⇓PKPdf	PKPab	20 52 46.5	-0.9
	baz=144						
T23A	Casias Ranch,	144.72	14	⇑PKPdf	PKPab	20 52 47.5	-0.1
	baz=145						
T24B	San Luis	144.85	13	⇓PKPdf	PKPab	20 52 47.3	-0.7
	baz=145						
SWSC	Sam W. Stewart	144.85	29	⇑PKPdf	PKPbc	20 52 48.0	+0.2
	baz=145						
KMSC	Kings Mountain	144.89	338	⇓PKPdf	PKPab	20 52 47.2	-0.7
	baz=145						
S28A	Manter	144.95	8	⇑PKPdf	PKPab	20 52 48.1	0.0
	baz=145						
T25A	Trinidad	144.97	11	⇓PKPdf	PKPab	20 52 48.2	-0.2
	baz=145						
SAML	Samuel	144.99	250	*e*PKPdf	PKPab	20 52 48.5	-0.3
SAML				LR	LR		
	comp=Z,610nm,20.0s						
S29A	Ulysses	145.02	7	⇓PKPdf	PKPab	20 52 48.2	-0.2
	baz=145						
S30A	Montezuma	145.07	6	⇓PKPdf	PKPbc	20 52 48.2	-0.3
	baz=145						
T26A	Comanche Natio	145.09	10	⇑PKPdf	PKPbc	20 52 48.4	-0.4
	baz=145						
S32A	Newby Ranch, P	145.13	4	⇓PKPdf	PKPbc	20 52 48.4	-0.3
	baz=145						
U22A	Llaves	145.15	15	⇑PKPdf	PKPbc	20 52 48.9	-0.1
	baz=145						
S31A	Mullinville	145.18	4	⇑PKPdf	PKPbc	20 52 48.7	-0.2
	baz=145						
GLA	Glamis	145.22	28	*e*PKIKP	PKPdf	20 52 49.6	+0.1
GLA	Glamis	145.22	28	⇓PKPdf	PKPab	20 52 49.3	+0.1
	baz=145						
GLA	Glamis	145.22	28	*e*PKPdf	PKPdf	20 52 49.6	+0.1
TKL	Tuckaleechee C	145.25	342	*e*PKP2	PKPbc	20 52 47.9	-1.2
TKL	Tuckaleechee C	145.25	342	*e*PKPdf	PKPbc	20 52 47.9	-1.2
Y14A	Wickenburg	145.28	25	⇓PKPdf	PKPbc	20 52 49.3	0.0
	baz=145						
S33A	Kaszmaul Farm,	145.29	2	⇑PKPdf	PKPbc	20 52 48.7	-0.4
	baz=145						
T27A	Campo	145.35	9	⇓PKPdf	PKPbc	20 52 49.2	-0.4
	baz=145						
U23A	El Rito	145.36	14	⇓PKPdf	PKPbc	20 52 49.6	-0.1
	baz=145						
T28A	Walsh	145.38	8	⇓PKPdf	PKPbc	20 52 49.1	-0.5
	baz=145						
T29A	Hugoton	145.45	7	⇓PKPdf	PKPbc	20 52 49.6	-0.2
	baz=145						
W18A	Petrified Fore	145.47	20	⇓PKPdf	PKPab	20 52 50.3	+0.1
	baz=145						
W18A	Petrified Fore	145.47	20	*e*PKPdf	PKPbc	20 52 50.0	0.0
X16A	Lo Mia Camp, P	145.48	22	⇑PKPdf	PKPbc	20 52 49.5	-0.6
	baz=145						
U24A	Moreno Valley	145.50	13	⇓PKPdf	PKPdf	20 52 50.3	0.0
	baz=145						
V22A	San Miguel Ran	145.57	15	⇑PKPdf	PKPdf	20 52 50.0	-0.3
	baz=145						
T30A	Plains	145.64	6	⇑PKPdf	PKPab	20 52 50.5	-0.1
	baz=146						
T32A	Huddler Ranch,	145.65	4	⇑PKPdf	PKPbc	20 52 50.3	-0.1
	baz=146						
T31A	Randall Ranch,	145.68	5	⇑PKPdf	PKPdf	20 52 50.2	0.0
	baz=146						
U25A	Circle Dot Ran	145.69	12	⇓PKPdf	PKPdf	20 52 50.5	0.0
	baz=146						
PARMO	Parma	145.71	351	*e*PKPdf	PKPdf	20 52 49.6	-0.6
T33A	Patterson Ranc	145.79	3	⇑PKPdf	PKPbc	20 52 50.6	-0.1
	baz=146						
Z14A	Wintersburg	145.80	25	⇑PKPdf	PKPab	20 52 51.2	0.0
	baz=146						
U26A	Atchley Ranch,	145.82	11	⇑PKPdf	PKPdf	20 52 50.8	+0.1
	baz=146						
WVT	Waverly	145.87	348	*e*PKP2	PKPdf	20 52 49.8	-0.7
WVT	Waverly	145.87	348	*e*PKPdf	PKPdf	20 52 49.8	-0.7
V23A	Ortiz Mt. (NFS	145.92	14	⇑PKPdf	PKPdf	20 52 51.0	+0.1
	baz=146						
X18A	Snowflake	145.93	20	⇓PKPdf	PKPbc	20 52 51.2	-0.3
	baz=146						
113A	Mohawk Valley,	145.94	27	⇑PKPdf	PKPbc	20 52 51.3	-0.1
	baz=146						
U27A	Thompson Grove	145.96	9	⇑PKPdf	PKPdf	20 52 50.6	-0.2
	baz=146						
U28A	Mallet	146.09	9	⇓PKPdf	PKPdf	20 52 51.0	-0.1
	baz=146						
U30A	WK&E Inc. Balk	146.15	6	⇑PKPdf	PKPbc	20 52 51.6	-0.4
	baz=146						
U29A	Oasis Ranch, S	146.15	7	⇑PKPdf	PKPdf	20 52 51.0	-0.1
	baz=146						
V24A	Rampart Ranch,	146.15	13	⇑PKPdf	PKPdf	20 52 51.6	+0.3
	baz=146						
V25A	Rancho No Teng	146.19	12	⇑PKPdf	PKPdf	20 52 51.5	+0.1
	baz=146						
SWET	Sewanee	146.28	345	*e*PKPdf	PKPdf	20 52 50.7	-0.6
LPAZ	La Paz	146.33	235	PKPbc	PKPdf	20 52 52.7	+0.1
	comp=Z,71nm,0.9s,baz=89,slow=2.9,SNR=157						
U31A	Nine Bar Ranch	146.38	5	⇓PKPdf	PKPdf	20 52 51.5	+0.1
	baz=146						
V26A	Tequesquite Ra	146.40	11	⇓PKPdf	PKPdf	20 52 51.6	+0.1
	baz=146						
CBYP	Canovanas	146.40	299	*e*PKPdf	PKPdf	20 52 51.5	-0.4
U33A	Lingo Farm, Me	146.44	3	PKPdf	PKPdf	20 52 51.6	+0.1
	baz=146						
U32A	Winter Ranch,	146.44	4	⇑PKPdf	PKPdf	20 52 51.9	+0.4
	baz=146						
U34A	Anderson Ranch	146.46	2	⇓PKPdf	PKPdf	20 52 51.7	+0.2
	baz=146						
U34A	Anderson Ranch	146.46	2	*e*PKPdf	PKPdf	20 52 51.7	+0.2
V27A	Dan Oppiter Fa	146.60	10	⇑PKPdf	PKPdf	20 52 52.2	+0.3
	baz=146						
ANMO	Albuquerque	146.61	15	*e*PKP2	PKPdf	20 52 52.6	+0.5
ANMO				MLR	MLR		
	comp=Z,1μm,22.0s						
ANMO	Albuquerque	146.61	15	*e*PKPdf	PKPdf	20 52 52.6	+0.5
ANMO				*e*PKPab	PKPab	20 52 55.2	+0.7
ANMO				LR	LR		
	comp=Z,1μm,22.0s						
W24A	Lazy 6 Ranch,	146.62	14	⇓PKPdf	PKPdf	20 52 52.4	+0.3
	baz=146						
V29A	Stinnett	146.69	8	⇓PKPdf	PKPdf	20 52 52.5	+0.5
	baz=146						
V28A	Channing	146.71	9	⇑PKPdf	PKPdf	20 52 52.6	+0.5
	baz=146						
W25A	X Bar L Ranch,	146.82	12	⇓PKPdf	PKPdf	20 52 52.9	+0.5
	baz=147						
V30A	Spur Ranch, Mi	146.90	7	⇑PKPdf	PKPdf	20 52 53.1	+0.7
	baz=147						
LAZ	Ladron	146.93	17	*e*PKPdf	PKPdf	20 52 53.0	+0.4
V31A	Spring Creek L	146.98	5	⇑PKPdf	PKPbc	20 52 53.5	-0.9
	baz=147						
TUL1	Leonard	147.00	359	⇓PKPdf	PKPdf	20 52 53.1	+0.7
	baz=147						
TUL1	Leonard	147.00	359	*e*PKPdf	PKPdf	20 52 52.1	-0.3
TUL1				*e*PKPbc	PKPbc	20 52 54.1	-0.2
V33A	Lossen Ranch,	147.04	3	⇑PKPdf	PKPdf	20 52 53.4	+0.9
	baz=147						
V34A	Guthrie	147.06	2	⇑PKPdf	PKPdf	20 52 53.3	+0.8
	baz=147						
V34A	Guthrie	147.06	2	*e*PKPdf	PKPdf	20 52 52.6	+0.1
214A	Organ Pipe Nat	147.06	26	⇑PKiKP	PKPbc	20 52 54.8	+0.1
	baz=147						
214A	Organ Pipe Nat	147.06	26	*e*PKPbc	PKPbc	20 52 55.3	+0.6
W26A	Owens Ranch, T	147.09	11	⇑PKPdf	PKPdf	20 52 53.6	+0.9
	baz=147						
V32A	Arapaho	147.09	4	⇑PKPdf	PKPdf	20 52 53.7	+1.0
	baz=147						
CELP	Cerrillos	147.11	300	*e*PKPdf	PKPdf	20 52 53.4	+0.4
CELP				*e*PKPbc	PKPbc	20 52 55.5	+0.4
OBIP	Obispado Ponce	147.15	300	*e*PKPdf	PKPdf	20 52 52.9	-0.2
OBIP				*e*PKPbc	PKPbc	20 52 55.5	+0.3
V35A	Meyer Ranch, C	147.15	1	⇑PKPdf	PKPdf	20 52 53.7	+1.1
	baz=147						
LPM	Los Pinos Moun	147.16	16	*e*PKPdf	PKPdf	20 52 52.9	-0.1
LPM				*e*PKPbc	PKPbc	20 52 55.6	+0.5
W28A	Vega	147.19	9	⇑PKiKP	PKPbc	20 52 54.9	-0.1
	baz=147						
LENM	Lemitar	147.20	16	*e*PKPdf	PKPdf	20 52 53.7	+0.6
LENM				*e*PKPbc	PKPbc	20 52 55.7	+0.5
GOGA	Godfrey	147.21	340	*e*PKIKP	PKPdf	20 52 53.1	+0.3
GOGA				MLR	MLR		
	comp=Z,1μm,20.0s						
GOGA	Godfrey	147.21	340	*e*PKPdf	PKPdf	20 52 53.1	+0.3
GOGA				LR	LR		
	comp=Z,1μm,20.0s						
W27A	Bowe Ranch, En	147.24	10	⇓PKiKP	PKPbc	20 52 55.5	+0.3
	baz=147						
Y22D	IRIS PASSCAL I	147.30	16	⇑PKiKP	PKPbc	20 52 55.8	+0.3
	baz=147						
W29A	Amarillo	147.41	8	⇑PKiKP	PKPbc	20 52 55.4	-0.3
	baz=147						
X25A	Clemmons Ranch	147.44	13	⇓PKiKP	PKPbc	20 52 55.6	-0.2
	baz=147						
W30A	Crocket Farms	147.49	6	⇓PKiKP	PKPbc	20 52 55.8	-0.1
	baz=147						
W31A	Holland Ranch,	147.55	6	⇑PKiKP	PKPbc	20 52 56.0	0.0
	baz=147						
CRPR	Cabo Rojo, PR	147.60	300	*e*PKPdf	PKPdf	20 52 53.2	-0.6
X26A	CR and CF Fran	147.60	12	⇓PKiKP	PKPbc	20 52 55.9	-0.4
	baz=147						
TUC	Tucson	147.60	23	*e*PKIKP	PKPdf	20 52 53.8	+0.2
TUC				*e*		20 52 56.9	
TUC				MLR	MLR		
	comp=Z,1μm,20.0s						
TUC	Tucson	147.60	23	*e*PKPdf	PKPdf	20 52 53.8	+0.2
TUC				*e*PKPbc	PKPbc	20 52 56.9	+0.6
TUC				LR	LR		
	comp=Z,1μm,20.0s						
AMTX	Amarillo	147.64	8	⇑PKiKP	PKPbc	20 52 55.4	-0.9
	baz=148						
AMTX	Amarillo	147.64	8	*e*PKPdf	PKPdf	20 52 54.0	+0.4
X27A	F and S Farms,	147.64	10	⇑PKiKP	PKPbc	20 52 55.6	-0.8
	baz=148						
W34A	Bridge Creek,	147.65	2	⇓PKiKP	PKPbc	20 52 55.8	-0.5
	baz=148						
W34A	Bridge Creek,	147.65	2	*e*PKPdf	PKPdf	20 52 53.8	+0.2
W34A				*e*PKPbc	PKPbc	20 52 55.9	-0.3
W32A	Sentinel	147.67	4	⇑PKiKP	PKPbc	20 52 55.5	-0.8
	baz=148						
W33A	Caddo, Fort Co	147.70	3	⇓PKiKP	PKPbc	20 52 55.8	-0.6
	baz=148						
OXF	Oxford	147.75	349	*e*PKIKP	PKPdf	20 52 53.8	+0.1
OXF	Oxford	147.75	349	*e*PKPdf	PKPdf	20 52 53.8	+0.1
Y24A	Capitan	147.84	14	⇑PKiKP	PKPbc	20 52 56.6	-0.4
	baz=148						
UALR	University of	147.92	354	*e*PKPdf	PKPdf	20 52 53.8	-0.2
UALR				*e*PKPbc	PKPbc	20 52 56.6	-0.3
X28A	Dimmitt	147.92	9	⇓PKiKP	PKPbc	20 52 56.4	-0.7
	baz=148						
Z22A	Elephant Butte	148.06	17	⇑PKiKP	PKPbc	20 52 57.2	-0.3
	baz=148						
X29A	Tulia	148.07	8	⇑PKiKP	PKPbc	20 52 56.3	-1.2
	baz=148						
WMOK	Wichita Mounta	148.09	4	*e*PKIKP	PKPdf	20 52 54.3	0.0
WMOK				*e*		20 52 57.3	
WMOK				MLR	MLR		
	comp=Z,1μm,19.0s						
WMOK	Wichita Mounta	148.09	4	*e*PKPdf	PKPdf	20 52 54.3	0.0
WMOK				*e*PKPbc	PKPbc	20 52 57.3	-0.2
WMOK				LR	LR		
	comp=Z,1μm,19.0s						
X31A	McDonald Ranch	148.10	6	⇑PKiKP	PKPbc	20 52 56.8	-0.7
	baz=148						
X30A	Coker Ranch, T	148.18	7	⇑PKiKP	PKPbc	20 52 56.9	-0.8
	baz=148						
MIAR	Mount Ida	148.26	356	*e*PKIKP	PKPdf	20 52 54.3	-0.3
MIAR				*e*		20 52 57.8	
MIAR				MLR	MLR		
	comp=Z,1μm,20.0s						
MIAR	Mount Ida	148.26	356	*e*PKPdf	PKPdf	20 52 54.3	-0.3
MIAR				*e*PKPbc	PKPbc	20 52 57.8	0.0
MIAR				LR	LR		
	comp=Z,1μm,20.0s						
X34A	Smith Ranch, M	148.28	2	⇑PKiKP	PKPbc	20 52 57.0	-0.9
	baz=148						
X33A	Lawton	148.30	3	⇑PKiKP	PKPbc	20 52 56.9	-1.1
	baz=148						
MSTX	Muleshoe	148.36	10	⇓PKiKP	PKPbc	20 52 57.0	-1.3
	baz=148						
MSTX	Muleshoe	148.36	10	*e*PKPdf	PKPdf	20 52 54.3	-0.6
MSTX				*e*PKPbc	PKPbc	20 52 57.8	-0.4
X32A	Elmer	148.37	5	⇓PKiKP	PKPbc	20 52 57.4	-0.8
	baz=148						
Y27A	Causey	148.37	11	⇓PKiKP	PKPbc	20 52 57.5	-0.8
	baz=148						
121A	Cookes Peak, D	148.47	19	⇓PKiKP	PKPbc	20 52 57.8	-0.9
	baz=148						
121A	Cookes Peak, D	148.47	19	*e*PKPdf	PKPdf	20 52 56.1	+1.0
121A				*e*PKPbc	PKPbc	20 52 59.1	+0.4

comp=Z,2μm,19.0s
230A Sterling City 150.66 8 ⇑PKiKP **PKPbc 20 53 03.2 -0.8**
baz=150
SDDR Presa de Saban 150.67 305 *e*PKPbc **PKPbc 20 53 04.2 -0.1**
SDDR LR LR
comp=Z,805nm,21.0s
231A Bronte 150.72 7 ⇓PKiKP **PKPbc 20 53 03.1 -1.0**
baz=151
233A Rising Star 150.78 4 ⇑PKiKP **PKPbc 20 53 03.5 -0.7**
baz=151
239A Gary 150.83 357 ⇑PKiKP **PKPbc 20 53 03.7 -0.6**
baz=151
232A Coleman 150.84 6 ⇑PKiKP **PKPbc 20 53 03.8 -0.6**
baz=151
234A Clairette 150.85 3 ⇑PKiKP **PKPbc 20 53 03.7 -0.7**
baz=151
238A Jacksonville 150.88 358 ⇑PKiKP **PKPbc 20 53 04.0 -0.4**
baz=151
WHTX Lake Whitney, 150.89 2 ⇓PKiKP **PKPbc 20 53 03.8 -0.7**
baz=151
WHTX Lake Whitney, 150.89 2 *e*PKPdf **PKPdf 20 52 59.1 +0.3**
WHTX *e*PKPbc **PKPbc 20 53 03.9 -0.6**
237A Washetta, Mont 150.90 359 ⇓PKiKP **PKPbc 20 53 03.9 -0.6**
baz=151
329A Wagon Wheel Ra 150.92 10 ⇑PKiKP **PKPbc 20 53 04.0 -0.6**
baz=151
330A Mertzon 151.13 9 ⇑PKiKP **PKPbc 20 53 04.1 -1.0**
baz=151
331A San Angelo 151.33 7 ⇓PKiKP **PKPbc 20 53 04.5 -1.0**
baz=151
332A Millersview 151.34 6 ⇑PKiKP **PKPbc 20 53 04.6 -0.9**
baz=151
340A Bronson 151.39 356 ⇓PKiKP **PKPbc 20 53 05.0 -0.6**
baz=151
333A Richland Sprin 151.46 5 ⇑PKiKP **PKPbc 20 53 05.0 -0.9**
baz=151
336A Riesel 151.51 1 ⇑PKiKP **PKPbc 20 53 05.3 -0.6**
baz=151
334A Lometa 151.51 3 ⇑PKiKP **PKPbc 20 53 05.1 -0.9**
baz=151
339A Huntington 151.52 357 ⇑PKiKP **PKPbc 20 53 05.4 -0.5**
baz=151
338A Crockett 151.53 358 ⇓PKiKP **PKPbc 20 53 05.3 -0.6**
baz=151
337A Centerville 151.58 359 ⇑PKiKP **PKPbc 20 53 05.7 -0.4**
baz=151
335A Moody 151.60 2 ⇑PKiKP **PKPbc 20 53 05.4 -0.8**
baz=151
430A Baggett Ranch, 151.73 9 ⇓PKiKP **PKPbc 20 53 05.7 -0.8**
baz=152
429A Davenport Ranc 151.78 10 ⇓PKiKP **PKPbc 20 53 05.9 -0.7**
baz=152
432A Menard 151.83 6 ⇓PKiKP **PKPbc 20 53 05.8 -0.9**
baz=152
431A Sonora 151.92 8 ⇓PKiKP **PKPbc 20 53 06.2 -0.8**
baz=152
433A Art 152.02 5 ⇑PKiKP **PKPbc 20 53 06.1 -1.0**
baz=152
434A Burnet 152.02 4 ⇓PKiKP **PKPbc 20 53 06.3 -0.8**
baz=152
437A Phantom Ranch, 152.07 360 ⇑PKiKP **PKPbc 20 53 06.8 -0.3**
baz=152
435B Jarrell 152.09 2 ⇓PKiKP **PKPbc 20 53 06.7 -0.6**
baz=152
436A Wall Ranch, Ga 152.12 1 ⇑PKiKP **PKPbc 20 53 06.9 -0.4**
baz=152
438A Sam Houston St 152.14 358 ⇑PKiKP **PKPbc 20 53 07.0 -0.3**
baz=152
529A Stev Forest Ra 152.20 11 ⇑PKiKP **PKPbc 20 53 07.4 -0.2**
baz=152
JCT Junction City 152.22 6 *e*PKIKP **PKPdf 20 53 00.7 -0.2**
JCT *e* 20 53 07.4
JCT *e* 20 53 16.8
JCT MLR MLR
comp=Z,2μm,21.0s
JCT Junction City 152.22 6 ⇑PKiKP **PKPbc 20 53 07.2 -0.5**
baz=152
JCT Junction City 152.22 6 *e*PKPdf **PKPdf 20 53 00.7 -0.2**
JCT *e*PKPbc **PKPbc 20 53 07.4 -0.2**
JCT *e*PKPab **PKPab 20 53 16.8 -0.4**
JCT LR LR
comp=Z,2μm,21.0s
530A J-C Ranch, Com 152.34 9 ⇑PKiKP **PKPbc 20 53 07.8 0.0**
baz=152
531A Rocksprings 152.44 8 ⇑PKiKP **PKPbc 20 53 07.9 -0.2**
baz=152
532A Rocksprings 152.56 7 ⇑PKiKP **PKPbc 20 53 08.1 -0.3**
baz=152
TXAR Lajitas Array 152.65 14 PKP **PKPdf 20 53 01.8 +0.1**
comp=Z,10nm,0.9s,baz=224,slow=0.9,SNR=72
TXAR PKPbc **PKPbc 20 53 08.3 -0.4**
comp=Z,87nm,0.8s,baz=302,slow=1.0,SNR=107
538A Harpers Horsep 152.66 358 ⇑PKiKP **PKPbc 20 53 08.2 -0.3**
baz=152
533A Kerrville 152.70 5 ⇑PKiKP **PKPbc 20 53 08.0 -0.7**
baz=153
534A Blanco 152.79 4 ⇓PKiKP **PKPbc 20 53 08.3 -0.5**
baz=153
536A Bastrop 152.81 1 ⇓PKiKP **PKPbc 20 53 08.3 -0.6**
baz=153
537A Green Hill Far 152.82 360 ⇑PKiKP **PKPbc 20 53 08.8 -0.1**
baz=153
535A Dale 152.84 2 ⇑PKiKP **PKPbc 20 53 08.8 -0.2**
baz=153
HKT Hockley 152.94 359 *e*PKIKP **PKPdf 20 53 01.8 0.0**
HKT *e* 20 53 19.9
HKT Hockley 152.94 359 *e*PKPdf **PKPdf 20 53 01.8 0.0**
HKT *e*PKPab **PKPab 20 53 19.9 -0.1**
GTBY Guantanamo Bay 153.16 311 PFAKE 20 53 10.0 +0.1
GTBY LR LR
comp=Z,772nm,22.0s
631A Perdido Creek 153.18 8 ⇓PKiKP **PKPbc 20 53 09.1 -0.6**
baz=153
632A Uvalde 153.18 7 ⇓PKiKP **PKPbc 20 53 09.1 -0.7**
baz=153
633A Saathoff Ranch 153.30 6 ⇑PKiKP **PKPbc 20 53 09.8 -0.2**
baz=153
636A Smothers Creek 153.40 1 ⇓PKiKP **PKPbc 20 53 10.2 0.0**
baz=153
634A China Grove, S 153.44 4 ⇑PKiKP **PKPbc 20 53 10.0 -0.3**
baz=153
635A Leesville 153.47 3 ⇑PKiKP **PKPbc 20 53 10.1 -0.2**
baz=153
SDV Santo Domingo 153.74 285 *e*PKPdf **PKPdf 20 53 02.9 -0.8**
SDV LR LR
comp=Z,638nm,20.0s
732A Laxson Ranch, 153.93 7 ⇓PKiKP **PKPbc 20 53 10.7 -0.7**
baz=154
734A La Parita Cree 153.96 4 ⇑PKiKP **PKPbc 20 53 10.9 -0.5**
baz=154
733A Divot King Ran 154.02 6 ⇑PKiKP **PKPbc 20 53 11.1 -0.4**
baz=154
832A Faith Ranch, C 154.37 7 ⇓PKiKP **PKPbc 20 53 12.0 -0.3**
baz=154
833A Chaparral WMA, 154.40 6 ⇓PKiKP **PKPbc 20 53 11.9 -0.5**
baz=154
835A Beeville 154.56 3 ⇓PKiKP **PKPbc 20 53 12.7 0.0**
baz=154
834A Tilden 154.67 5 ⇑PKiKP **PKPbc 20 53 12.8 -0.2**
baz=154
933A Laredo 155.11 6 ⇓PKiKP PKPdf 20 53 13.3 +8.2
baz=155
934A Benavides 155.20 5 ⇓PKiKP PKPdf 20 53 14.3 +9.1
baz=155
KVTX Kingsville 155.29 3 PFAKE 20 53 20.0 -10
KVTX LR LR
comp=Z,1μm,19.0s
034A Hebbronville 155.72 5 ⇓PKPdf **PKPdf 20 53 05.9 0.0**
baz=156
NNA Nana 155.73 233 PKIKP **PKPdf 20 53 07.2 +0.9**
NNA MLR MLR
comp=Z,707nm,20.0s
NNA Nana 155.73 233 PKP **PKPdf 20 53 07.2 +0.9**
comp=Z,30nm,0.9s,baz=72,slow=1.7,SNR=12
NNA Nana 155.73 233 PKP **PKPdf 20 53 07.2 +0.9**
NNA LR LR
comp=Z,707nm,20.0s
035A Encino 155.89 4 ⇑PKPdf **PKPdf 20 53 05.5 -0.6**
baz=156
MTDJ Mount Denham 156.01 311 PFAKE 20 53 20.0 +13
MTDJ LR LR
comp=Z,848nm,19.0s
035Z Hargill 156.36 4 ⇑PKPdf **PKPdf 20 53 06.5 -0.2**
baz=156
ROSC El Rosal 157.96 276 PKP **PKPdf 20 53 10.0 +0.4**
comp=Z,13nm,0.8s,baz=107,slow=2.6,SNR=15
ROSC PKPab **PKPab 20 53 43.1 +0.3**
comp=Z,12nm,0.7s,baz=60,slow=1.2,SNR=6.7
ATAH Atahualpa 159.59 241 PKP **PKPdf 20 53 13.3 +1.7**
comp=Z,11nm,0.9s,baz=359,slow=0.4,SNR=6.0
ATAH PKPab **PKPab 20 53 51.2 +1.5**
comp=Z,16nm,0.9s,baz=113,slow=7.4,SNR=6.1
OTAV Otavalo 161.96 262 *e*PKPdf **PKPdf 20 53 13.8 -0.4**
OTAV LR LR
comp=Z,742nm,21.0s
BCIP Isla Barro Col 162.42 292 PFAKE 20 53 20.0 +5.9
BCIP LR LR
comp=Z,632nm,22.0s
JTS JuntasAbangare 166.45 304 PFAKE 20 53 30.0 +12
JTS LR LR
comp=Z,794nm,22.0s
PAYG Puerto Ayora 173.07 241 PFAKE 20 53 30.0 +8.4
PAYG LR LR
comp=Z,1μm,21.0s

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*CSEM **14** 20:55:32.5, 46°.29N×7°.24E, h6km, ML0.6/5*
ZUR 14 20:55:32.5, 46°.29N×7°.24E, h6km±2km, ML0.6/5, 8C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENIN	**Lac Senin/Sane**	**0.08**	**27**	⇑*i*Pg	Pg	20 55 34.9	+0.1
SENIN				*i* Sg	Sg	20 55 36.5	+0.1
SENIN	**Lac Senin/Sane**	**0.08**	**27**	⇑*i*Pg	Pg	20 55 34.9	+0.1
SENIN				*i* Sg	Sg	20 55 36.5	+0.1
GRYON	**Gryon**	**0.10**	**247**	⇑*i*Pg	Pg	20 55 35.0	+0.1
GRYON	76nm,0.2s						
				i Sg	Sg	20 55 36.6	0.0
	76nm,0.2s						
GRYON	**Gryon**	**0.10**	**247**	⇑*i*Pg	Pg	20 55 35.0	+0.1
GRYON	76nm,0.2s						
				i Sg	Sg	20 55 36.6	0.0
	76nm,0.2s						
SALAN	**Lac Salanfe**	**0.24**	**232**	⇑*i*Pg	Pg	20 55 37.5	0.0
	4.5nm,1.1s						
SALAN	**Lac Salanfe**	**0.24**	**232**	⇑*i*Pg	Pg	20 55 37.5	0.0
	4.5nm,1.1s						
LKBD	**Leukerbad**	**0.28**	**70**	⇓*i*Pg	Pg	20 55 38.4	+0.1
	4.5nm,0.3s						
LKBD	**Leukerbad**	**0.28**	**70**	⇓*i*Pg	Pg	20 55 38.4	+0.1
	4.5nm,0.3s						
LKBD2	**Leukerbad 2**	**0.29**	**73**	*e*Pg	Pg	20 55 38.5	0.0
	4.6nm,0.1s						
LKBD2	**Leukerbad 2**	**0.29**	**73**	*e*Pg	Pg	20 55 38.5	0.0
	4.6nm,0.1s						
EMV	**Vieux Emosson**	**0.33**	**227**	⇑*i*Pg	Pg	20 55 39.1	-0.2
	8.9nm,0.8s						
EMV	**Vieux Emosson**	**0.33**	**227**	⇑*i*Pg	Pg	20 55 39.1	-0.2
	8.9nm,0.8s						
WIMIS	**Wimmis**	**0.46**	**35**	*e*Pg	Pg	20 55 41.8	+0.3
	8.9nm,1.1s						
WIMIS	**Wimmis**	**0.46**	**35**	*e*Pg	Pg	20 55 41.8	+0.3
	8.9nm,1.1s						

LJU 14 20:55:52.8, 45°.78N×14°.20E, h15km, ML0.7, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVS	**Javornik**	**0.15**	**321**	⇑*i*Pg	Pg	20 55 56.8	-0.1
JAVS				*i* Sg	Sg	20 55 59.8	+0.2
	comp=Z,8.0nm,0.1s						
CEY	**Cerknica**	**0.16**	**103**	⇑*i*Pg	Pg	20 55 56.9	0.0
CEY				*i* Sg	Sg	20 55 59.9	+0.2
	comp=Z,3.0nm,0.1s						
SKDS	**Skadanscina**	**0.26**	**210**	*i* Pg	Pg	20 55 58.4	-0.1
SKDS				*i* Sg	Sg	20 56 02.8	+0.4
	comp=Z,1.0nm,0.0s						

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*BJI **14** 20:56:07.0, 45°.00N×148°.80E, h70km, mb4.2/5, Ms4.3/3, Ms7 4.3/3*
*IDC **14** 20:56:09.7±2.8, 45°.09N×148°.46E, h82km±25km, mb3.7/21, mb1 3.8/25, mb1mx3.8/30, mbtmp4.0/25, Error ellipse: s-maj=18.0km s-min=12.0km az=146.0*
*MOS **14** 20:56:09.1±0.9, 45°.01N×148°.67E, h91km, mb4.1/14, Error ellipse: s-maj=11.8km s-min=9.5km az=96.0*
*JMA **14** 20:56:09.2±0.5, 45°.03N×148°.72E, h30km, M5.0*
*SKHL **14** 20:56:10.5±1.0, 44°.97N×148°.64E, h85km±3km, mb5.2/3, msh6.5/3*
*ISCJB **14** 20:56:12.3±0.3, 44°.64N±0°.04×148°.43E±0°.05, h132km, mb3.8/29, Error ellipse: s-maj=6.9km s-min=3.1km az=140.3*
ISC 14 20:56:13.1±0.5, 44°.62N±0°.06×148°.45E±0°.06, h132km, n116, σ1§59/124, mb4.0/29, 4C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.74**	**326**	⇓*i*PN	Pn	20 56 25.3	-8.6
KUR				*i* S	Sn	20 56 37.2	-13
KUR				pmax	pmax		
	comp=N,687nm,0.4s						
KUR				pmax	pmax		
	comp=Z,5μm,0.4s						
KUR				pmax	pmax		
	comp=E,512nm,0.2s						
KUR				smax	smax		
	comp=E,6μm,0.2s						
KUR				smax	smax		
	comp=N,12μm,0.3s						
KUR	**Kuril'sk**	**0.74**	**326**	*e*P	Pn	20 56 25.3	-8.6
KUR				AMB	AMB	20 56 25.7	
	comp=N,500nm,0.4s						
KUR				*e*S	Sn	20 56 37.2	-13
KUR				A	A	20 56 38.2	
	comp=N,6μm,0.2s						
KUR				A	A	20 56 38.2	
	comp=N,12μm,0.2s						
SHO	**Shikotan**	**1.39**	**238**	*e*P	**Pn**	**20 56 37.6**	**-2.4**
SHO				*e*S	**Sn**	**20 56 57.3**	**-3.2**
YUK	**Yuzh-Kuril'sk**	**1.95**	**253**	*c i*PN	**Pn**	**20 56 45.4**	**-1.1**
YUK				*i* S	**Sn**	**20 57 11.4**	**-0.6**
YUK				pmax	pmax		
	comp=N,249nm,0.2s						
YUK				pmax	pmax		
	comp=E,337nm,0.2s						
YUK				pmax	pmax		
	comp=Z,778nm,0.2s						
YUK				smax	smax		
	comp=N,369nm,0.4s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.95**	**253**	*e*P	**Pn**	**20 56 45.4**	**-1.1**
YUK				AMB	AMB	20 56 48.5	
	comp=E,778nm,0.2s						
YUK				*e*S	**Sn**	**20 57 11.4**	**-0.6**
YUK				A	A	20 57 14.6	
	comp=E,2μm,0.4s						
YUK				A	A	20 57 14.6	
	comp=E,4μm,0.4s						
NEM2	**Nemuro 2**	**2.32**	**238**	P	**Pn**	**20 56 49.9**	**-1.2**
NEM2				*e*S	**Sn**	**20 57 19.6**	**-0.6**
JRA	**Rausu**	**2.49**	**255**	P	**Pn**	**20 56 53.1**	**0.0**
JNK	**Nakash**	**2.88**	**250**	⇑P	**Pn**	**20 56 58.5**	**+0.3**
JNK				*e*S	**Sn**	**20 57 34.4**	**+1.4**
JAK	**Akkeshi**	**3.17**	**240**	⇑P	**Pn**	**20 57 01.4**	**-0.5**
JAK				*e*S	**Sn**	**20 57 39.6**	**+0.1**
JTKR	**Abashiri--Toko**	**3.33**	**260**	P	**Pn**	**20 57 04.4**	**+0.5**
JAR	**Ashorobuto**	**3.63**	**250**	P	**Pn**	**20 57 09.0**	**+1.0**
JAR				*e*S	**Sn**	**20 57 53.7**	**+3.3**
JMP	**Maruseppu**	**3.71**	**262**	P	**Pn**	**20 57 09.6**	**+0.6**
JOB	**Onbets**	**3.76**	**244**	P	**Pn**	**20 57 10.0**	**+0.4**
JOB				*e*S	**Sn**	**20 57 54.9**	**+1.4**
JKK2	**Kamakawa 2**	**4.17**	**262**	P	**Pn**	**20 57 16.3**	**+1.2**
JSE	**Soyaes**	**4.19**	**277**	P	**Pn**	**20 57 15.2**	**-0.1**
JCH	**Churui**	**4.20**	**243**	P	**Pn**	**20 57 15.5**	**0.0**
JCH				*e*S	**Sn**	**20 58 05.3**	**+1.3**
ASAJ	**Asahikawa**	**4.23**	**265**	PN	**Pn**	**20 57 16.4**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ	**Asahikawa**	**4.23**	**265**	P	**Pn**	**20 57 16.9**	**+1.0**
ASAJ	**Asahikawa**	**4.23**	**265**	P	**Pn**	**20 57 16.4**	**+0.5**
	comp=Z,5.2nm,0.3s,baz=71,slow=24,SNR=41						
JFR	**Furan**	**4.48**	**253**	P	**Pn**	**20 57 20.9**	**+1.7**
YSS	**Yuzh-Sakhalins**	**4.62**	**302**	*e*PN	Pn	20 57 17.2	-3.8
YSS				*e*S	**Sn**	**20 58 09.6**	**-4.3**
YSS				smax	smax		
	comp=N,190nm,1.0s						
YSS				smax	smax		
	comp=E,190nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.62**	**302**	*e*P	Pn	20 57 17.2	-3.8
YSS				*e*S	**Sn**	**20 58 09.6**	**-4.3**
JAB	**Ashibetsu**	**4.63**	**258**	P	**Pn**	**20 57 23.4**	**+2.3**
JEM	**Erimo**	**4.66**	**238**	P	**Pn**	**20 57 22.1**	**+0.5**
JEM				*e*S	**Sn**	**20 58 15.6**	**+0.8**
ERM	**Erimo**	**4.66**	**238**	⇑*i*PN	**Pn**	**20 57 23.4**	**+1.9**
ERM				pmax	pmax		
	comp=Z,77nm,0.6s						
ERM	**Erimo**	**4.66**	**238**	*e*P	**Pn**	**20 57 23.5**	**+1.9**
JWK2	**Keihoku**	**4.70**	**281**	P	**Pn**	**20 57 23.1**	**+0.9**
JNBK	**Urakawa-nobuka**	**4.76**	**243**	P	**Pn**	**20 57 22.7**	**-0.3**
JNBK				*e*S	**Sn**	**20 58 18.0**	**+0.7**
JBT2	**Biratori 2**	**4.78**	**250**	P	**Pn**	**20 57 23.8**	**+0.6**
JBT2				*e*S	**Sn**	**20 58 20.1**	**+2.3**
JNB	**Noboribetsu**	**5.80**	**251**	P	**Pn**	**20 57 37.3**	**+0.4**
JNB				*e*S	**Sn**	**20 58 44.0**	**+1.7**
JKB	**Kayabe**	**6.07**	**246**	P	**Pn**	**20 57 40.6**	**+0.2**
JKB				*e*S	**Sn**	**20 58 47.5**	**-1.1**
UGL	**Uglegorsk**	**6.25**	**318**	*e*PN	**Pn**	**20 57 40.0**	**-2.8**
UGL				S	**Sn**	**20 58 51.0**	**-2.0**
UGL				pmax	pmax		
	comp=Z,56nm,0.7s						
UGL				smax	smax		
	comp=N,49nm,0.4s						
UGL				smax	smax		
	comp=E,100nm,0.4s						
UGL				smax	smax		
	comp=Z,40nm,0.6s						
UGL	**Uglegorsk**	**6.25**	**318**	*e*P	**Pn**	**20 57 40.0**	**-2.8**
UGL				AMB	AMB	20 57 41.0	
	comp=Z,56nm,0.7s						
UGL				*e*S	**Sn**	**20 58 51.0**	**-2.0**
UGL				A	A	20 58 54.0	
	comp=Z,100nm,0.4s						
UGL				A	A	20 58 54.0	
	comp=Z,490nm,0.4s						
JYM2	**Yakumo 2**	**6.40**	**250**	P	**Pn**	**20 57 45.3**	**+0.4**
JSH	**Shimam**	**6.41**	**255**	P	**Pn**	**20 57 46.4**	**+1.3**
JSR	**Shiriuchi**	**6.64**	**245**	P	**Pn**	**20 57 48.3**	**+0.1**
JSR				*e*S	**Sn**	**20 59 01.8**	**-0.8**
JTM	**Tenmabayashi**	**6.65**	**237**	P	**Pn**	**20 57 47.6**	**-0.7**
JTM				*e*S	**Sn**	**20 58 59.8**	**-3.0**
JANG	**Nango**	**6.65**	**233**	P	**Pn**	**20 57 46.9**	**-1.5**
JANG				*e*S	**Sn**	**20 58 59.6**	**-3.2**
JTH	**Tanohata**	**6.76**	**229**	P	**Pn**	**20 57 47.8**	**-2.0**
JTH				*e*S	**Sn**	**20 59 01.7**	**-3.8**
JOSM	**Okushiri--Mats**	**7.02**	**252**	P	**Pn**	**20 57 53.7**	**+0.5**
OFUJ	**Ofunato**	**7.50**	**225**	P	**Pn**	**20 57 58.6**	**-1.1**
OFUJ				*e*S	**Sn**	**20 59 20.7**	**-2.6**
JRG	**Rokugo**	**7.82**	**231**	P	**Pn**	**20 58 03.7**	**-0.3**
JRG				*e*S	**Sn**	**20 59 29.9**	**-1.0**
JIO	**Ouri**	**8.14**	**223**	P	**Pn**	**20 58 06.6**	**-1.8**
JIO				*e*S	Sn	20 59 33.1	-5.7
JYA	**Atsumi**	**8.89**	**230**	P	**Pn**	**20 58 18.3**	**-0.1**
JFK	**Kawauchi**	**9.23**	**221**	*e*S	**Sn**	**21 00 01.5**	**-3.8**
JFY	**Yanaizu**	**9.77**	**226**	P	**Pn**	**20 58 30.5**	**+0.2**
HABR	**Khabarovsk**	**10.00**	**297**	PN	**Pn**	**20 58 31.8**	**-1.5**
HABR				*e*S	**Sn**	**21 00 23.1**	**-0.6**
HABR				pmax	pmax		
	comp=Z,15nm,1.4s						
HABR				MLR	MLR		
	comp=Z,375nm,17.0s						
PETK	**Petropavlovsk-**	**10.45**	**32**	PN	Pn	20 58 31.8	-7.4
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**10.45**	**32**	P	Pn	20 58 31.8	-7.4
	comp=Z,0.7nm,0.3s,baz=204,slow=17,SNR=7.2						
MJAR	**Matsushiro Arr**	**11.21**	**227**	P	**Pn**	**20 58 49.4**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=29,slow=13,SNR=8.0						
KSRS	**Korea Array**	**17.04**	**252**	*e*P	Pn	21 00 09.6	+6.4
KSRS	**Korea Array**	**17.04**	**252**	P	**Pn**	**21 00 05.9**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=56,slow=11,SNR=4.4						
SEY	**Seymchan**	**18.49**	**6**	P	**P**	**21 00 14.3**	**-4.3**
	comp=Z,0.2nm,0.3s,baz=186,slow=8.6,SNR=17						
YAK	**Yakutsk**	**20.59**	**334**	*e*P	**P**	**21 00 40.1**	**-1.2**
YAK				pmax	pmax		
	comp=Z,32nm,0.9s						
YAK				pmax	pmax		
	comp=E,13nm,1.5s						
YAK				pmax	pmax		
	comp=N,17nm,1.3s						
SONM	**Songino Array**	**29.01**	**291**	P	**P**	**21 02 01.8**	**+1.4**
	comp=N,0.6nm,0.8s,baz=74,slow=7.7,SNR=5.1						
SONM				PcP	**PcP**	**21 05 07.2**	**+1.7**
	comp=N,0.5nm,0.9s,baz=82,slow=2.1,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**29.18**	**142**	T	T	21 33 05.2	
	baz=334,slow=76,SNR=602						
H11N1	**WAKE ISLAND Hy**	**29.19**	**142**	T	T	21 33 05.4	
	baz=334,slow=76,SNR=533						
H11N3	**WAKE ISLAND Hy**	**29.20**	**142**	T	T	21 33 05.7	
	baz=334,slow=76,SNR=550						
H11S1	**WAKE ISLAND Hy**	**30.18**	**144**	T	T	21 34 25.2	
	baz=334,slow=76,SNR=655						
H11S3	**WAKE ISLAND Hy**	**30.18**	**144**	T	T	21 34 14.7	
	baz=334,slow=76,SNR=468						
H11S2	**WAKE ISLAND Hy**	**30.20**	**144**	T	T	21 34 19.8	
	baz=334,slow=76,SNR=510						
GTA	**Gaotai**	**36.08**	**279**	*e*P	P	21 03 05.3	+3.3
GTA				PMZ			
	comp=N,4.0nm,1.0s						
ILAR	**Eielson Array**	**40.23**	**37**	P	**P**	**21 03 34.8**	**-1.5**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**40.23**	**37**	P	**P**	**21 03 34.8**	**-1.5**
	comp=Z,1.8nm,0.7s,baz=281,slow=8.8,SNR=18						
ILAR	**Eielson Array**	**40.23**	**37**	*e*P	**P**	**21 03 36.6**	**+0.3**
ZALV	**Zalesovo Beam**	**41.23**	**307**	PcP	**PcP**	**21 05 43.1**	**+2.2**
	comp=Z,2.1nm,0.6s,baz=106,slow=2.4,SNR=10						
MKAR	**Makanchi Array**	**45.02**	**297**	P	**P**	**21 04 15.2**	**0.0**
MKAR						21 05 56.3	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**45.02**	**297**	P	**P**	**21 04 15.2**	**0.0**
	comp=Z,1.2nm,0.6s,baz=74,slow=8.9,SNR=12						
MKAR				PcP	**PcP**	**21 05 56.3**	**+2.4**
	comp=Z,1.2nm,0.6s,baz=64,slow=5.5,SNR=9.4						
CMAR	**Chiang Mai Arr**	**48.67**	**254**	P	P	21 04 47.5	+3.6
	comp=Z,0.7nm,0.5s,baz=38,slow=7.1,SNR=6.3						
RES	**Resolute Bay**	**53.86**	**17**	P	**P**	**21 05 19.7**	**-2.1**
RES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
RES	**Resolute Bay**	**53.86**	**17**	P	**P**	**21 05 19.7**	**-2.1**
	comp=Z,3.8nm,0.8s,baz=342,slow=8.4,SNR=15						
YKA	**Yellowknife Ar**	**54.56**	**34**	P	**P**	**21 05 25.9**	**-1.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**54.56**	**34**	P	**P**	**21 05 25.9**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=301,slow=6.8,SNR=20						
YKA	**Yellowknife Ar**	**54.56**	**34**	*e*P	**P**	**21 05 26.4**	**-0.6**
ARCES	**ARCESS Array B**	**58.76**	**340**	P	**P**	**21 05 56.5**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**58.76**	**340**	P	**P**	**21 05 56.5**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=49,slow=6.1,SNR=2.2						
FFC	**Flin Flon**	**64.44**	**37**	*e*P	**P**	**21 06 36.0**	**+1.1**
FINES	**FINESS Array B**	**64.52**	**333**	P	**P**	**21 06 33.2**	**-2.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.52**	**333**	P	**P**	**21 06 33.2**	**-2.1**
	comp=Z,1.2nm,0.5s,baz=42,slow=6.9,SNR=12						
GEYT	**Alibeck**	**64.84**	**299**	P	**P**	**21 06 37.3**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=54,slow=7.3,SNR=2.7						
WRA	**Warramunga Arr**	**65.53**	**195**	*e*P	P	21 06 46.4	+4.1
WRA	**Warramunga Arr**	**65.53**	**195**	P	P	21 06 46.3	+4.0
	comp=Z,0.7nm,0.8s,baz=13,slow=6.7,SNR=5.6						
NVAR	**Mina Array Bea**	**66.33**	**59**	P	**P**	**21 06 48.2**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=293,slow=7.0,SNR=9.4						
ELK	**Elko**	**66.70**	**55**	P	**P**	**21 06 50.7**	**+0.7**
ELK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ELK	**Elko**	**66.70**	**55**	P	**P**	**21 06 50.7**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=108,slow=20,SNR=3.5						
PDAR	**Pinedale Array**	**68.63**	**51**	P	**P**	**21 07 02.8**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=282,slow=2.1,SNR=16						
NB2	**NORSAR Subarra**	**69.13**	**339**	P	**P**	**21 07 04.4**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.13**	**339**	P	**P**	**21 07 03.8**	**-0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**69.13

AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.43 324 P P 21 07 18.6 0.0
comp=Z,0.7nm,0.4s,baz=37,slow=6.0,SNR=2.8
ANMO Albuquerque 75.73 55 P P 21 07 46.8 +2.4
ANMO pmax pmax
comp=Z,4.0nm,1.0s
SCHQ Schefferville 76.49 20 P P 21 07 46.1 -1.9
comp=Z,1.9nm,0.7s,baz=9.5,slow=12,SNR=3.1
BRTR Keskin Array B 77.62 314 P P 21 07 55.5 +0.7
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 77.62 314 P P 21 07 55.5 +0.7
comp=Z,1.0nm,0.7s,baz=73,slow=3.2,SNR=7.2
KHC Kasperske Hory 78.65 332 *eP* **P 21 08 01.1 +0.9**
KHC *e* 21 08 09.8
KHC Kasperske Hory 78.65 332 *eP* **P 21 08 01.1 +0.9**
KHC *e*PCP **PcP 21 08 09.8 +1.1**
GERES GERESS Array B 78.85 331 P **P 21 08 01.9 +0.5**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 78.85 331 P **P 21 08 01.9 +0.5**
comp=Z,0.6nm,0.5s,baz=43,slow=5.9,SNR=3.3
BFO Black Forest 81.05 334 *i* P P 21 08 19.2 +6.1
TXAR Lajitas Array 81.39 57 P **P 21 08 17.0 +1.7**
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 81.39 57 P **P 21 08 17.0 +1.7**
comp=Z,1.9nm,0.6s,baz=299,slow=4.3,SNR=24
PAGF Fort de Pagny 81.63 336 *eP* **P 21 08 16.6 +0.5**
comp=Z,1.5nm,0.6s
SFTF Sexfontaines 82.14 336 *eP* **P 21 08 20.9 +2.1**
comp=Z,5.8nm,0.7s
GRR Gorron 83.54 340 *eP* **P 21 08 26.5 +0.5**
comp=Z,6.5nm,0.7s
SMF Signal de Mont 83.90 336 *eP* **P 21 08 28.7 +0.8**
comp=Z,2.9nm,0.7s
LPL La Plagne 84.05 334 *eP* **P 21 08 29.7 +0.7**
LPG La Plagne 84.06 334 *eP* **P 21 08 30.0 +0.9**
ROSF Rostrenen 84.16 341 *eP* **P 21 08 29.8 +0.6**
comp=Z,5.1nm,0.7s
TCF Toulx Ste Croi 84.69 337 *eP* **P 21 08 32.8 +0.9**
MBDF Montbardon 84.75 334 *eP* **P 21 08 32.9 +0.5**
comp=Z,7.3nm,0.8s
ORIF Oris-en-Rattie 84.86 334 *eP* **P 21 08 33.7 +0.8**
comp=Z,5.1nm,0.7s
MFF Saint Martin d 85.03 339 *eP* **P 21 08 34.6 +1.1**
comp=Z,7.5nm,0.8s
ESDC Sonseca Array 92.49 339 P **P 21 09 09.7 +0.5**
comp=Z,0.2nm,0.5s,baz=29,slow=3.7,SNR=3.4
TORD Torodi Ar. Bea 115.06 324 PKP PKPdf 21 14 40.0 +1.2
comp=Z,0.1nm,0.3s,baz=17,slow=1.6,SNR=7.8

PRU 14 20:56:25.6, 49°.84N×18°.56E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.27**	**270**	*e*PG	Pg	20 56 31.3	+0.5
OKC				*e*SG	Sg	20 56 34.1	-0.1
	comp=Z,5.3nm,0.5s						
DPC	**Dobruska-Polom**	**1.53**	**290**	*e*PG	Pn	20 56 53.7	-0.6
DPC				*e*SG	Sb	20 57 14.3	-0.6

IDC ***14*** *20:56:59.2±0.6, 33°.90S×71°.84W, h0km, mb4.3/13, mb1 4.5/16, mb1mx4.3/24, mbtmp4.3/16, ML3.9/2, Error ellipse: s-maj=23.6km s-min=16.2km az=76.0*
GUC ***14*** *20:57:02.9±0.6, 33°.87S×71°.92W, h8km±4km, ML4.6*
NEIC ***14*** *20:57:02.9, 33°.87S×71°.92W, h8km, mb4.8/17, ML4.6(GUC), After GUC.*
NEIC Felt [III] at San Antonio and Valparaiso; [II] at La Ligua, Quillota, San Fernando and Santiago. Also felt at Tome.
BJI ***14*** *20:57:03.3, 33°.77S×71°.49W, h35km, mB5.4/5, Ms5.1/4, Ms7 5.4/3*
ISCJB ***14*** *20:57:04.6±0.8, 33°.79S±0°.04×71°.91W±0°.08, h45km±7km, mb4.6/28, MS5.4/1, Error ellipse: s-maj=11.3km s-min=5.8km az=4.9*

ISC 14 20:57:03.4±1.0, 33°.89S±0°.03×71°.90W±0°.06, h30km±6km, n69, σ1.9±05/83, mb4.6/28, 6C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.89**	**14**	⇓*iP*	**Pn**	**20 57 19.5**	**-0.3**
IHA				*i* S	**Sb**	**20 57 31.4**	**-0.3**
IHA	**Instituto Hidr**	**0.89**	**14**	⇓*iP*	**Pn**	**20 57 19.5**	**-0.3**
IHA				*i* S	**Sb**	**20 57 31.4**	**-0.3**
ANTU	**Antumapu**	**1.10**	**74**	⇑*iP*	**Pn**	**20 57 23.3**	**+0.5**
ANTU	**Antumapu**	**1.10**	**74**	⇑*iP*	**Pn**	**20 57 23.3**	**+0.5**
LACH	**Col Las Americ**	**1.22**	**69**	*eP*	**Pn**	**20 57 25.0**	**+0.6**
LACH				*i* S	**Sb**	**20 57 41.6**	**+0.4**
LACH	**Col Las Americ**	**1.22**	**69**	*eP*	**Pn**	**20 57 25.0**	**+0.6**
LACH				*i* S	**Sb**	**20 57 41.6**	**+0.4**
CLCH	**Cerro Calan**	**1.23**	**67**	⇓*iP*	**Pn**	**20 57 25.4**	**+0.7**
CLCH				*i* S	**Sb**	**20 57 42.4**	**+0.7**
NICH	**Los Niches**	**1.24**	**154**	*eP*	**Pn**	**20 57 25.1**	**+0.3**
NICH	**Los Niches**	**1.24**	**154**	*eP*	**Pn**	**20 57 25.1**	**+0.3**
PEL	**Peldehue**	**1.25**	**54**	⇑*iP*	**Pn**	**20 57 25.7**	**+0.7**
PEL				*e*S	**Sb**	**20 57 42.9**	**+0.6**
PEL				AML	AML	20 57 48.1	
	comp=N,45μm,0.5s						
PEL	**Peldehue**	**1.25**	**54**	⇑*iP*	**Pn**	**20 57 25.7**	**+0.7**
PEL				*e*S	**Sb**	**20 57 42.9**	**+0.6**
FCH	**Farellones**	**1.45**	**68**	⇑*iP*	Pn	20 57 16.6	-12
FCH				*i* S	Sn	20 57 37.0	-9.1
FCH				AML	AML	20 57 41.2	
	comp=E,12μm,0.3s						
FCH	**Farellones**	**1.45**	**68**	⇑*iP*	Pn	20 57 16.6	-12
FCH				*i* S	Sn	20 57 37.0	-9.1
LNCH	**Linares**	**1.97**	**173**	*eP*	**Pb**	**20 57 37.2**	**-1.4**
LNCH				*i* S	**Sb**	**20 58 02.9**	**+0.2**
LNCH				AML	AML	20 58 19.2	
	comp=N,4μm,0.6s						
LNCH	**Linares**	**1.97**	**173**	*eP*	**Pb**	**20 57 37.2**	**-1.4**
LNCH				*i* S	**Sb**	**20 58 02.9**	**+0.2**
CFAA	**Coronel Fontan**	**3.83**	**55**	Pn	**Pn**	**20 58 00.4**	**0.0**
	comp=N,1.3nm,0.3s,baz=224,slow=20,SNR=30						
CFAA				Lg	Lg	20 58 55.7	
	comp=N,7.8nm,0.3s,baz=42,slow=16,SNR=8.4						
LCO	**Las Campanas**	**4.97**	**12**	*e*Pn	**Pn**	**20 58 15.5**	**-0.7**
LCO				*e*Sn	**Sn**	**20 59 13.1**	**+0.2**
PLCA	**Paso Flores**	**6.92**	**171**	Pn	**Pn**	**20 58 42.4**	**-0.4**
	baz=270,slow=20						
PLCA				Lg	Lg	21 00 39.2	
	baz=270,slow=20						
LVC	**Limon Verde**	**11.54**	**14**	Pn	**Pn**	**20 59 44.9**	**-1.5**
	comp=N,7.5nm,0.6s						
LVC				*e*Sn	**Sn**	**21 01 53.1**	**-1.3**
LPAZ	**La Paz**	**17.85**	**12**	P	**P**	**21 01 10.6**	**-0.1**
	comp=N,0.6nm,0.3s,baz=190,slow=7.1,SNR=30						
LPAZ	**La Paz**	**17.85**	**12**	*eP*	**P**	**21 01 10.8**	**0.0**
SIV	**San Ignacio**	**20.32**	**31**	P	**P**	**21 01 36.6**	**-0.5**
	comp=N,3.9nm,0.6s,baz=216,slow=10,SNR=8.5						
NNA	**Nana**	**22.26**	**347**	P	**P**	**21 01 59.5**	**+1.3**
	comp=N,6.6nm,0.7s,baz=192,slow=8.4,SNR=2.8						
SAML	**Samuel**	**26.08**	**20**	*eP*	**P**	**21 02 34.0**	**-0.5**
	comp=N,15nm,0.8s						
BDFB	**Brasilia**	**28.17**	**56**	P	**P**	**21 02 52.4**	**-1.1**
	comp=N,3.6nm,0.8s,baz=220,slow=8.7,SNR=5.5						
SNAA	**Sanae**	**51.64**	**158**	P	**P**	**21 06 07.8**	**+0.8**
	comp=N,4.3nm,1.1s,baz=265,slow=3.3,SNR=3.8						
TEIG	**Tepich**	**56.03**	**341**	*eP*	**P**	**21 06 39.4**	**-0.1**
	comp=N,20nm,0.7s						
JCT	**Junction City**	**69.24**	**334**	*eP*	**P**	**21 08 08.3**	**+0.8**
	comp=N,9.1nm,0.9s						
TXAR	**Lajitas Array**	**69.69**	**331**	P	**P**	**21 08 11.5**	**+1.1**
	comp=N,1.0nm,0.6s,baz=153,slow=7.9,SNR=13						
TKL	**Tuckaleechee C**	**70.07**	**350**	P	**P**	**21 08 12.2**	**-0.2**
	comp=N,4.1nm,0.7s,baz=174,slow=7.9,SNR=4.7						
ABTX	**Abilene, Hawle**	**71.13**	**335**	*eP*	**P**	**21 08 19.7**	**+0.7**
	comp=N,6.8nm,0.8s						
WVT	**Waverly**	**71.23**	**346**	*eP*	**P**	**21 08 19.2**	**-0.3**
	comp=N,18nm,0.8s						
ANMO	**Albuquerque**	**75.74**	**331**	P	**P**	**21 08 47.6**	**+1.2**
	comp=N,2.0nm,0.9s,baz=180,slow=9.5,SNR=5.6						
ANMO	**Albuquerque**	**75.74**	**331**	*eP*	**P**	**21 08 47.0**	**+0.7**
	comp=N,4.0nm,1.1s						
PFO	**Pinyon Flats O**	**79.11**	**323**	P	**P**	**21 09 06.5**	**+1.4**
	comp=N,4.8nm,0.9s,baz=163,slow=5.1,SNR=3.8						
SMCO	**Snowmass**	**79.63**	**333**	*eP*	**P**	**21 09 10.2**	**+2.0**
	comp=N,5.5nm,0.9s						
ISCO	**Idaho Springs**	**79.68**	**334**	*eP*	**P**	**21 09 09.2**	**+0.9**
	comp=N,3.4nm,0.9s						
ECSD	**EROS Data Cent**	**80.48**	**342**	*eP*	**P**	**21 09 12.3**	**+0.2**
	comp=N,107nm,2.4s						
SRU	**San Rafael Swe**	**80.97**	**331**	*eP*	**P**	**21 09 16.0**	**+0.9**
	comp=N,4.2nm,0.8s						
HWUT	**Hardware Ranch**	**83.51**	**331**	*eP*	**P**	**21 09 29.1**	**+0.8**
PDAR	**Pinedale Array**	**83.72**	**333**	P	**P**	**21 09 29.8**	**+0.3**
	comp=N,1.6nm,0.9s,baz=151,slow=5.1,SNR=8.7						
NVAR	**Mina Array Bea**	**83.86**	**325**	P	**P**	**21 09 31.3**	**+1.0**
	comp=N,1.6nm,0.8s,baz=147,slow=5.6,SNR=9.6						
TORD	**Torodi Ar. Bea**	**84.06**	**70**	P	**P**	**21 09 32.1**	**+0.5**
	comp=N,5.0nm,0.8s,baz=255,slow=4.5,SNR=21						
ELK	**Elko**	**84.33**	**328**	*eP*	**P**	**21 09 33.6**	**+0.9**
	comp=N,4.0nm,1.0s						
AGMN	**Agassiz Nation**	**84.58**	**344**	*eP*	**P**	**21 09 33.4**	**0.0**
	comp=N,35nm,1.9s						
MDND	**Maddock**	**85.07**	**342**	*eP*	**P**	**21 09 35.5**	**-0.4**
	comp=N,4.3nm,0.8s						
IMW	**Indian Meadow**	**85.20**	**333**	*eP*	**P**	**21 09 37.8**	**+0.7**
	comp=N,60nm,2.9s						
YMR	**Madison River**	**85.87**	**333**	*eP*	**P**	**21 09 40.6**	**+0.3**
	comp=N,12nm,0.9s						
HLID	**Hailey**	**86.30**	**331**	*eP*	**P**	**21 09 42.4**	**0.0**
	comp=N,9.0nm,1.4s						
ULM	**Lac du Bonnet**	**86.42**	**345**	P	**P**	**21 09 42.4**	**-0.2**
	comp=N,2.8nm,0.8s,baz=140,slow=4.4,SNR=5.0						
MCMT	**McKenzie Canyo**	**86.72**	**332**	*eP*	**P**	**21 09 44.2**	**-0.3**
	comp=N,1.2nm,0.7s						
YBH	**Yreka Blue Hor**	**88.55**	**325**	P	**P**	**21 09 53.3**	**+0.2**
	comp=N,2.5nm,0.7s,baz=162,slow=9.6,SNR=8.7						
YKA	**Yellowknife Ar**	**101.99**	**341**	P	**Pdif**	**21 10 53.7**	**-0.1**
	comp=N,0.3nm,0.6s,baz=139,slow=4.6,SNR=7.6						
OLDB	**Oldbury-Upon-S**	**104.56**	**37**	AMS	AMS	21 26 18.2	
	comp=Z,2μm,25.7s						
WRA	**Warramunga Arr**	**120.92**	**209**	PKP	**PKPdf**	**21 15 53.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=168,slow=1.6,SNR=7.3						
BRTR	**Keskin Array B**	**121.67**	**61**	PKP	**PKPdf**	**21 15 54.3**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=199,slow=2.2,SNR=4.5						
AKASG	**Malin Array Be**	**122.03**	**47**	PKP	**PKPdf**	**21 15 53.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=260,slow=2.4,SNR=1.9						
ARCES	**ARCESS Array B**	**123.86**	**25**	PKP	**PKPdf**	**21 15 57.3**	**-0.1**
	comp=Z,2.3nm,1.0s,baz=231,slow=4.3,SNR=4.2						
H11S2	**WAKE ISLAND Hyl**	**25.89**	**269**	T	T	23 35 03.1	
	baz=118,slow=74,SNR=26						
H11S1	**WAKE ISLAND Hyl**	**25.91**	**269**	T	T	23 35 03.9	
	baz=118,slow=74,SNR=21						
H11S3	**WAKE ISLAND Hyl**	**25.91**	**269**	T	T	23 35 04.8	
	baz=118,slow=74,SNR=17						
AAK	**Ala-Archa**	**152.35**	**62**	*e*PKPbc	**PKPbc**	**21 16 57.5**	**+1.1**
KSH	**Kashi**	**153.72**	**68**	PKPbc	**PKPdf**	**21 16 51.1**	**-0.6**
KSH				sPKP		21 17 05.1	
KSH				PKS	**PKSdf**	**21 20 25.6**	**-0.5**
KSH				PP	**PP**	**21 20 47.3**	**0.0**
KSH				SKS	**SKSdf**	**21 23 56.1**	**-0.5**
KSH				SS	**SS**	**21 40 16.3**	**-6.1**
KSH				PPMZ			
	comp=Z,160nm,6.1s						
KSH				LN			
	comp=Z,28nm,5.3s						
KSH				LE			
	comp=Z,21nm,4.9s						
KSH				LZ			
	comp=Z,140nm,5.4s						
ZALV	**Zalesovo Beam**	**154.07**	**32**	PKP	**PKPdf**	**21 16 51.9**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=256,slow=3.1,SNR=5.0						
ZALV				PKPbc	**PKiKP**	**21 17 00.1**	**+0.4**
	comp=Z,4.5nm,0.7s,baz=304,slow=3.4,SNR=14						
MKAR	**Makanchi Array**	**156.60**	**49**	PKP	**PKPdf**	**21 16 55.8**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=129,slow=1.7,SNR=4.6						
MKAR				PKPab	**PKPab**	**21 17 24.8**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=305,slow=4.3,SNR=8.7						
WMQ	**Urumqi**	**161.31**	**52**	*e*PKP	**PKPdf**	**21 17 00.0**	**-0.9**
WMQ				pPKP	**pPKPdf**	**21 17 11.0**	**+0.2**
WMQ				PPMZ			
	comp=Z,330nm,9.0s						
WMQ				LN			
	comp=Z,47nm,16.0s						
WMQ				LE			
	comp=Z,40nm,19.0s						
WMQ				LZ			
	comp=Z,65nm,22.0s						
SONM	**Songino Array**	**166.01**	**5**	PKPab	**PKPab**	**21 18 05.8**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=346,slow=1.6,SNR=3.5						
HHC	**Hu-ho-hao-te**	**172.53**	**339**	*e*PKP	**PKPdf**	**21 17 09.3**	**-0.2**
HHC				PP	**PP**	**21 22 28.5**	**+3.2**
HHC				SKKS		21 29 10.4	
HHC				SS	**SS**	**21 43 35.3**	**+0.9**
HHC				PPMZ			
	comp=Z,520nm,11.1s						
HHC				LN			
	comp=Z,1μm,16.0s						
HHC				LE			
	comp=Z,1μm,18.5s						
XAN	**Xi'an**	**179.31**	**283**	PKP	**PKPdf**	**21 17 12.0**	**+0.8**
XAN				PPMZ			
	comp=Z,2.0nm,3.0s						

KRNET 14 20:59:23.4±0.1, 39°.96N×77°.06E, h3km, mb3.7, 2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOOM	**Boomskoye usch**	**2.67**	**342**	*eP*	Pn	21 00 09.0	+1.5
	baz=342						
BOOM				*e*S	Sb	21 00 44.6	-0.7
	baz=342						
ARLS	**Aral**	**2.81**	**313**	*i* P	Pn	21 00 11.2	+1.7
	baz=313						
ARLS				*e*S	Sb	21 00 47.5	-2.0
	baz=313						
ANVS	**Anan'yevo**	**2.86**	**9**	⇓*iP*	Pb	21 00 14.0	-1.3
	baz=9.0						
ANVS				⇓*e*S	Sb	21 00 51.3	+0.5
	baz=9.0						
KBK	**Karagaybulak**	**3.13**	**330**	*eP*	Pn	21 00 10.0	-3.8
	baz=21						
KBK				*e*S	Sn	21 00 45.0	-6.9
	baz=21						
ARSB	**Arslanbob**	**3.39**	**295**	*eP*	Pb	21 00 22.4	-1.9
	baz=295						

BJI ***14*** *21:17:12.8, 7°.39S×67°.68E, h10km, mB5.3/45, mb5.0/55, Ms5.2/48, Ms7 4.9/48*
ISCJB ***14*** *21:17:15.5±1.2, 7°.07S±0°.04×67°.93E±0°.02, h4km±7km, mb5.1/216, MS4.9/75, Error ellipse: s-maj=6.0km s-min=3.7km az=8.5*
IDC ***14*** *21:17:16.3±0.4, 7°.10S×68°.01E, h0km, mb4.7/37, mb1 4.8/38, mb1mx4.7/43, mbtmp4.7/38, ML4.4/1, MS4.9/22, Ms1 4.8/22, ms1mx4.6/34, Error ellipse: s-maj=12.8km s-min=11.0km az=175.0*
MOS ***14*** *21:17:17.4±1.0, 6°.88S×67°.94E, h12km, mb5.5/77, MS4.7/16, Error ellipse: s-maj=7.4km s-min=4.0km az=113.5*
NEIC ***14*** *21:17:18.0±0.1, 7°.09S×67°.98E, h10km, mb5.3/83, MS4.9/49, Error ellipse: s-maj=4.5km s-min=3.3km az=11.0*
GCMT ***14*** *21:17:18.0±0.1, 7°.15S×67°.94E, h12km, MW5.4/123, Moment Tensor Solution. s76,c110; s123,c234; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.12±.03; $M_{\theta\theta}$-1.60±.02; $M_{\phi\phi}$1.72±.02; $M_{r\theta}$-0.09±.07; $M_{\theta\phi}$0.37±.02; $M_{\phi r}$0.17±.06; Best double couple: $M_0$1.71100×10^{17} NP1:ϕ_s321.00000°, δ89.00000°, λ174.00000°. NP2:ϕ_s51.00000°, δ84.00000°, λ1.00000°. Principal axes: T 1.7730, Plg5.0000°, Azm276.0000°; N -0.1260, Plg84.0000°, Azm137.0000°; P -1.6480, Plg4.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***14*** *21:17:37.1, 5°.50S×65°.17E, h33km, mb5.4, MS4.4, South Indian Ocean*

ISC 14 21:17:18.5±0.4, 7°.10S±0°.05×68°.00E±0°.04, h13km±1km, h13km:pP-P, n911, σ1.9±07/908, mb5.3/217, MS4.9/78, 49C-43D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**3.07**	**76**	Pn	Pn	21 18 02.5	-3.9
H08N3				T	T	21 21 11.1	
	baz=254,slow=75						
H08N2	**Diego Garcia H**	**3.08**	**76**	Pn	Pn	21 18 02.3	-4.3
H08N2				T	T	21 21 02.8	
	baz=254,slow=75,SNR=625						
H08N1	**Diego Garcia H**	**3.09**	**76**	Pn	Pn	21 18 02.5	-4.2
H08N1				T	T	21 21 12.8	
	baz=254,slow=75,SNR=689						
DGAR	**Diego Garcia**	**4.43**	**94**	Pn	Pn	21 18 21.5	-3.9
	8μm,0.6s,SNR=51						
DGAR	**Diego Garcia**	**4.43**	**94**	*e*P	Pn	21 18 21.6	-3.9
DGAR				*e*		21 19 14.4	
DGAR	**Diego Garcia**	**4.43**	**94**	P	Pn	21 18 21.6	-3.9
	SNR=21						
DGAR	**Diego Garcia**	**4.43**	**94**	*e*Pn	Pn	21 18 21.6	-3.9
DGAR				*e*Sn	**Sn**	**21 19 14.4**	**-2.5**
H08S1	**Diego Garcia H**	**4.47**	**97**	Pn	Pn	21 18 20.7	-5.2
	baz=300,slow=15,SNR=559						
H08S1				Sn	**Sn**	**21 19 14.9**	**-2.8**
H08S1				T	T	21 23 20.5	
	baz=256,slow=74						
H08S3	**Diego Garcia H**	**4.48**	**97**	Pn	Pn	21 18 20.6	-5.3
	baz=300,slow=15,SNR=799						
H08S3				Sn	**Sn**	**21 19 14.9**	**-3.0**
H08S3				T	T	21 23 18.4	
	baz=256,slow=74						
H08S2	**Diego Garcia H**	**4.49**	**97**	Pn	Pn	21 18 20.9	-5.2
	baz=300,slow=15,SNR=728						
H08S2				Sn	**Sn**	**21 19 14.9**	**-3.3**
H08S2				T	T	21 23 36.7	
	baz=256						
MSEY	**Mahe Island**	**12.68**	**280**	Pn	**Pn**	**21 20 18.4**	**-0.4**
	2μm,1.2s,SNR=28						
MSEY	**Mahe Island**	**12.68**	**280**	*e*P	**Pn**	**21 20 17.3**	**-1.5**
MSEY	**Mahe Island**	**12.68**	**280**	P	**Pn**	**21 20 18.7**	**-0.1**
	SNR=13						
MSEY	**Mahe Island**	**12.68**	**280**	⇑*iP*	**Pn**	**21 20 18.3**	**-0.5**
	SNR=6.7						
MSEY	**Mahe Island**	**12.68**	**280**	*e*Pn	**Pn**	**21 20 17.3**	**-1.5**
MSEY				*e*Sn	Sn	21 22 28.2	-12
MRIV	**Mauritius Mete**	**16.61**	**217**	*e*Pn	**Pn**	**21 21 09.1**	**-2.1**
PALK	**Pallekele**	**19.09**	**42**	P	**Pn**	**21 21 41.7**	**-0.2**
	222nm,0.9s,SNR=8.1						
PALK	**Pallekele**	**19.09**	**42**	P	**Pn**	**21 21 43.9**	**+2.0**
	SNR=6.4						
PALK	**Pallekele**	**19.09**	**42**	P	**P**	**21 21 41.4**	**+0.3**
	1.2nm,0.3s,baz=231,slow=9.3,SNR=12						
PALK				LR	LR	21 26 32.7	
	comp=Z,2μm,18.7s,baz=220,slow=29						
PALK	**Pallekele**	**19.09**	**42**	⇓*iP*	**Pn**	**21 21 42.7**	**+0.7**
	SNR=9.0						
PALK	**Pallekele**	**19.09**	**42**	P	**P**	**21 21 41.4**	**+0.3**
PALK				*e*Pn	**Pn**	**21 21 41.5**	**-0.4**
OPO	**Ambohidratompo**	**23.24**	**239**	P	**P**	**21 22 26.8**	**+0.9**
	8.8nm,1.0s,baz=59,slow=9.0,SNR=9.3						
OPO				LR	LR	21 29 11.4	
	comp=Z,4μm,21.1s,baz=64,slow=31						
ABPO	**Ambohimpanom**	**23.41**	**238**	*eP*	**P**	**21 22 27.5**	**-0.2**
ABPO				pmax	pmax		
	comp=Z,124nm,1.1s						
ABPO	**Ambohimpanom**	**23.41**	**238**	*eP*	**P**	**21 22 27.5**	**-0.2**
	comp=Z,124nm,1.1s						
MDRS	**Chennai**	**23.44**	**31**	⇓*eP*	**P**	**21 22 31.7**	**+4.0**
MDRS				*e*S	Sn	21 26 56.2	-4.0
HYB	**Hyderabad**	**26.50**	**23**	*i* P	**P**	**21 22 55.0**	**-0.9**
RBK	**Rabkut**	**27.98**	**331**	P	**P**	**21 23 10.7**	**+1.5**
	SNR=6.2						
ABTO	**Aybut**	**28.31**	**329**	P	**P**	**21 23 13.7**	**+1.6**
	SNR=6.6						
COCO	**West Island**	**28.86**	**102**	PFAKE		21 23 30.0	+13
COCO				LR	LR		
	comp=Z,2μm,21.0s						
NGP	**Nagpur**	**30.09**	**21**	*eP*	**P**	**21 23 30.5**	**+2.5**
NGP				*e*S	**S**	**21 28 31.0**	**+4.6**
WBK	**Wadi Bani Khal**	**30.82**	**344**	P	**P**	**21 23 35.2**	**+0.8**
	SNR=7.4						
JMDO	**Jabal Madar**	**30.85**	**342**	P	**P**	**21 23 35.5**	**+0.9**
	SNR=5.5						
KMBO	**Kilima Mbogo**	**31.22**	**280**	P	**P**	**21 23 39.3**	**+1.0**
	SNR=12						
KMBO	**Kilima Mbogo**	**31.22**	**280**	P	**P**	**21 23 38.6**	**+0.3**
	comp=Z,7.1nm,1.0s,baz=98,slow=7.8,SNR=14						
KMBO				LR	LR	21 33 41.1	
	comp=Z,4μm,20.8s,baz=104,slow=32						
KMBO	**Kilima Mbogo**	**31.22**	**280**	P	**P**	**21 23 38.6**	**+0.3**
	comp=Z,7.6nm,2.9s						
KMBO				LR	LR		
	comp=Z,3μm,20.0s						
SMDO	**Samad**	**31.51**	**342**	P	**P**	**21 23 41.0**	**+0.5**
	SNR=9.5						
KCSI	**Kotacane, Aceh**	**31.53**	**71**	P	**P**	**21 23 42.3**	**+1.5**
	comp=Z,40nm,1.0s,comp=Z,777nm						
HOQ	**Hoqain**	**32.23**	**341**	P	**P**	**21 23 47.6**	**+0.9**
	SNR=28						
ARQ	**Araqi**	**32.26**	**340**	P	**P**	**21 23 48.3**	**+1.3**
	SNR=11						
PSI	**Prapat**	**32.40**	**73**	LR	LR	21 35 42.6	
	comp=Z,5μm,18.8s,baz=250,slow=34						
MNSI	**Mandailing Nat**	**32.47**	**77**	P	P	21 23 52.4	+3.4
	comp=Z,30nm,1.3s						
ASHO	**Ashiyiah**	**33.66**	**340**	P	**P**	**21 24 00.1**	**+0.9**
	SNR=24						
ASHO	**Ashiyiah**	**33.66**	**340**	*i* P	**P**	**21 23 59.8**	**+0.5**
	SNR=35						
PKDT	**Phuket**	**33.72**	**64**	P	**P**	**21 24 02.6**	**+2.7**
	comp=Z,68nm,1.2s						
HATD	**Hatta, Dubai**	**33.77**	**340**	⇑P	**P**	**21 24 00.3**	**+0.1**
BKNI	**Bangkinang**	**33.77**	**79**	*eP*	**P**	**21 24 01.7**	**+1.3**
	comp=Z,182nm,0.4s						
UOSS	**Wadi Hilu**	**33.86**	**341**	P	**P**	**21 24 00.1**	**-0.8**
	comp=Z,262nm,1.3s,SNR=9.1						
FAQ	**Al Faqa, Dubai**	**33.88**	**339**	⇓*iP*	**P**	**21 24 01.2**	**+0.1**
	SNR=10						
NAZ	**Nazwa, Dubai**	**34.08**	**340**	⇓*iP*	**P**	**21 24 03.2**	**+0.3**
	SNR=11						
SURT	**Suratani**	**34.59**	**63**	P	P	21 24 11.3	+3.9
	comp=Z,9.4nm,1.7s						
BANOM	**Banah**	**34.73**	**341**	⇑*iP*	**P**	**21 24 07.9**	**-0.6**
	SNR=6.3						
KULM	**Kulim**	**34.83**	**70**	*eP*	**P**	**21 24 10.2**	**+0.7**
	comp=Z,36nm,1.0s						
KULM				LR	LR		
	comp=Z

comp=Z,63nm,1.0s
LEM Lembang 39.32 92 P **P 21 24 49.9 +1.9**
comp=Z,116nm,1.1s
CISI Cisompet, Garu 39.49 93 P P 21 25 04.2 +15
CMAR Chiang Mai Arr 39.71 50 P **P 21 24 50.7 -0.2**
comp=Z,111nm,0.7s,baz=242,slow=9.2,SNR=98
CMAR PcP **PcP 21 26 57.5 -0.1**
comp=Z,3.2nm,0.9s,baz=234,slow=4.6,SNR=6.0
TPI Tanjungpandan 39.73 86 P **P 21 24 50.4 -0.8**
comp=Z,28nm,1.2s
LSZ Lusaka 39.83 255 *e*P **P 21 24 51.3 -0.8**
LSZ pmax pmax
comp=Z,90nm,1.0s
LSZ MLR MLR
comp=Z,2μm,22.0s
LSZ Lusaka 39.83 255 P **P 21 24 51.1 -1.1**
comp=Z,20nm,0.8s,baz=68,slow=9.3,SNR=37
LSZ Lusaka 39.83 255 *e*P **P 21 24 51.3 -0.8**
comp=Z,90nm,1.0s
LSZ LR LR
comp=Z,2μm,22.0s
CHTO Chiang Mai 39.92 49 *e*P **P 21 24 52.6 -0.1**
CHTO pmax pmax
comp=Z,33nm,1.2s
CHTO MLR MLR
comp=Z,625nm,20.0s
CHTO Chiang Mai 39.92 49 P **P 21 24 53.3 +0.6**
SNR=10.0
CHTO Chiang Mai 39.92 49 P **P 21 24 53.1 +0.4**
comp=Z,86nm,1.0s
CHTO Chiang Mai 39.92 49 *e*P **P 21 24 52.5 -0.1**
comp=Z,32nm,1.2s
CHTO LR LR
comp=Z,625nm,20.0s
CMMT Chiang Mai 39.92 49 P **P 21 24 53.0 +0.3**
comp=Z,42nm,0.8s
PBKT Sadao Pong 40.21 54 P **P 21 24 56.1 +1.0**
comp=Z,29nm,1.3s,comp=Z,771nm
LAMP Lampang 40.27 50 P **P 21 24 57.6 +2.0**
comp=Z,4.8nm,0.8s
UTTA Uttaradit 40.53 52 P **P 21 25 00.3 +2.6**
comp=Z,5.8nm,1.0s,comp=Z,51nm
CMAI Chiengmai2 40.68 48 P **P 21 25 01.1 +2.0**
comp=Z,35nm,1.3s
KBL Kabul 41.42 1 *e*P **P 21 25 06.3 +1.2**
KBL pmax pmax
comp=Z,124nm,1.8s
KBL Kabul 41.42 1 *e*P **P 21 25 06.3 +1.2**
comp=Z,124nm,1.8s
WOJI Wonogiri, Jawa 42.56 94 P **P 21 25 16.8 +2.4**
comp=Z,110nm,1.3s
LSA Lhasa 42.82 30 *e*P **P 21 25 16.8 -0.1**
LSA pmax pmax
comp=Z,46nm,1.3s
LSA MLR MLR
comp=Z,2μm,22.0s
LSA Lhasa 42.82 30 *e*P **P 21 25 16.8 -0.1**
comp=Z,46nm,1.3s
LSA LR LR
comp=Z,2μm,22.0s
KSM Kuching 43.07 80 *e*P **P 21 25 19.7 +1.1**
comp=Z,35nm,1.2s
KSM LR LR
comp=Z,2μm,19.0s
UBPT Khong Chiam 43.28 59 P **P 21 25 21.8 +1.6**
comp=Z,30nm,1.5s
PWJI Pagerwojo 43.42 94 P P 21 25 29.8 +8.3
STKI Sintang 43.95 83 P **P 21 25 28.8 +3.1**
comp=Z,19nm,1.2s
DLV T Lat 44.49 65 *e*P P 21 25 23.5 -6.7
comp=Z,78nm,1.4s
DLV *e*PcP **PcP 21 27 13.4 -0.3**
SBUM Sibu 45.14 79 ⇓P **P 21 25 35.9 +0.6**
SBUM Sibu 45.14 79 *e*P **P 21 25 34.7 -0.6**
comp=Z,44nm,1.3s
SLVN Son La 45.17 50 *e*P **P 21 25 34.9 -0.5**
comp=Z,31nm,1.0s
KMMI Kalianget 45.60 93 P **P 21 25 40.1 +1.2**
comp=Z,87nm,1.5s,comp=Z,1μm
BOSA Boshof 45.63 237 *e*P **P 21 25 39.2 +0.1**
BOSA pmax pmax
comp=Z,26nm,1.0s
BOSA Boshof 45.63 237 P **P 21 25 37.9 -1.2**
comp=Z,12nm,0.9s,baz=80,slow=9.4,SNR=11
BOSA LR LR 21 43 03.6
comp=Z,829nm,18.7s,baz=78,slow=34
BOSA Boshof 45.63 237 *e*P **P 21 25 39.2 +0.1**
comp=Z,26nm,1.0s
ABKT Ailbek 45.73 349 P **P 21 25 39.7 +0.1**
comp=Z,87nm,1.4s,SNR=10
GEYT Alibeck 45.73 349 P **P 21 25 39.4 -0.2**
comp=Z,15nm,1.2s,baz=159,slow=4.6,SNR=30
GEYT PcP **PcP 21 27 16.1 -1.3**
comp=Z,1.9nm,0.8s,baz=204,slow=3.2,SNR=2.3
GEYT LR LR 21 42 37.4
comp=Z,2μm,21.2s,baz=210,slow=33
JAGI Jajag, Banyuwa 45.73 95 P **P 21 25 39.5 -0.4**
comp=Z,50nm,1.0s,comp=Z,992nm
JAGI Jajag, Banyuwa 45.73 95 *e*P **P 21 25 39.2 -0.7**
comp=Z,46nm,1.0s
ABJI Asem Bagus 45.84 94 P **P 21 25 43.3 +2.6**
comp=Z,91nm,1.1s
KMI Kunming 46.57 45 P **P 21 25 47.8 +1.2**
KMI PMZ
comp=Z,12nm,1.1s
IGBI Denpasar 46.70 95 P **P 21 25 50.6 +3.0**
comp=Z,150nm,1.4s,comp=Z,2μm
BBKI Banjar Baru 46.77 88 P **P 21 25 50.4 +2.3**
comp=Z,68nm,1.1s
SRBI Singaraja 46.79 94 P **P 21 25 49.6 +1.3**
comp=Z,74nm,1.8s,comp=Z,1μm
KSH Kashi 46.96 8 P P 21 25 45.5 -3.8
KSH sP sP 21 25 52.1 -2.9
KSH PP **PP 21 27 35.5 -4.5**
KSH S S 21 32 31.1 -9.3
KSH ScS ScS 21 35 34.3 -10
KSH SS SS 21 35 50.3 -17
KSH PMZ
comp=Z,27nm,0.8s
KSH LN
comp=Z,1μm,15.1s
KSH LE
comp=Z,1μm,14.2s
KSH LZ
comp=Z,2μm,16.9s
MTKI Muara Teweh, K 47.15 85 P P 21 25 54.5 +3.4
comp=Z,63nm,1.2s,comp=Z,3μm
EIL Elat 48.43 321 P **P 21 26 01.1 +0.4**
comp=Z,11nm,1.0s,baz=134,slow=9.1,SNR=4.2
QIZ Qiongzhong 48.73 57 P **P 21 26 03.3 +0.1**
QIZ sP **sP 21 26 07.4 -1.5**
QIZ S **S 21 33 05.9 0.0**
QIZ SS **SS 21 36 39.3 +2.7**
QIZ PMZ
comp=Z,14nm,2.6s
QIZ LN
comp=Z,560nm,23.0s
QIZ LZ
comp=Z,660nm,20.2s
QIZ Qiongzhong 48.73 57 PFAKE 21 26 20.0 +17
QIZ LR LR
comp=Z,702nm,20.0s
ASF Jabal al Asfar 49.03 325 P **P 21 26 06.3 +0.9**
comp=Z,7.0nm,1.0s,baz=125,slow=1.4,SNR=11
AML Almayashu 49.27 6 P **P 21 26 07.9 +0.5**
SNR=30
KZA Kyzart 49.38 7 P **P 21 26 08.8 +0.5**
SNR=34
UCH Uchtor 49.45 6 P **P 21 26 09.5 +0.6**
SNR=12
CUKT Cukurca 49.66 334 *e*P **P 21 26 11.1 +0.9**
ULHL Ulahol 49.68 8 P **P 21 26 10.6 +0.2**
SNR=28
EKS2 Erkin-Say 49.80 6 P **P 21 26 11.8 +0.5**
SNR=27
EKS2 Erkin-Say 49.80 6 *e*P **P 21 26 11.7 +0.5**
EKS2 pmax pmax
comp=Z,184nm,2.2s
EKS2 MLR MLR
comp=Z,1μm,20.0s
EKS2 Erkin-Say 49.80 6 *e*P **P 21 26 11.7 +0.5**
comp=Z,184nm,2.2s
EKS2 LR LR
comp=Z,1μm,20.0s
MZRK Al-Mazaregh 49.84 331 *e*P **P 21 26 14.4 +2.9**
AAK Ala-Archa 49.84 6 P **P 21 26 12.6 +1.1**
comp=Z,132nm,1.1s,SNR=18
AAK Ala-Archa 49.84 6 P **P 21 26 12.3 +0.8**
SNR=17
AAK Ala-Archa 49.84 6 *d*/P **P 21 26 12.1 +0.5**
AAK pmax pmax
comp=Z,47nm,1.1s
AAK MLR MLR
comp=Z,3μm,18.0s
AAK Ala-Archa 49.84 6 P **P 21 26 12.1 +0.5**
SNR=20
AAK Ala-Archa 49.84 6 P **P 21 26 12.0 +0.5**
comp=Z,13nm,1.1s,baz=184,slow=7.2,SNR=29
AAK Ala-Archa 49.84 6 *e*P **P 21 26 11.8 +0.2**
comp=Z,35nm,1.2s
AAK LR LR
comp=Z,831nm,21.0s
KKM Kota Kinabalu 49.85 76 PFAKE 21 26 20.0 +8.0
KKM LR LR
comp=Z,2μm,22.0s
KBK Karagaybulak 49.92 7 P **P 21 26 12.9 +0.8**
SNR=14
TCHB Talchebab 49.93 324 *e*P **P 21 26 13.3 +1.1**
KKAR Karatay Array 50.01 2 *e*P **P 21 26 12.9 +0.3**
KKAR Karatay Array 50.01 2 *e*P **P 21 26 12.9 +0.3**
FRU Bishkek 50.05 6 *e*P **P 21 26 14.0 +1.0**
FRU pmax pmax
comp=Z,100nm,2.0s
GYA Guiyang 50.19 47⇑*i*P **P 21 26 12.8 -1.6**
GYA PP **PP 21 28 12.6 +2.8**
GYA ScP **ScP 21 31 30.4 +0.9**
GYA S **S 21 33 27.0 +0.6**
GYA SS **SS 21 36 57.3 -2.8**
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,130nm,5.0s
GYA LN
comp=Z,640nm,19.5s
GYA LE
comp=Z,540nm,20.2s
GYA LZ
comp=Z,580nm,20.8s
CHMS Chumysh 50.23 6 P **P 21 26 15.6 +1.3**
SNR=6.1
TKM2 Tokmak 2 50.26 7 P **P 21 26 14.9 +0.2**
SNR=28
TKM2 Tokmak 2 50.26 7 *e*P **P 21 26 14.3 -0.4**
TKM2 pmax pmax
comp=Z,23nm,0.9s
TKM2 MLR MLR
comp=Z,2μm,21.0s
TKM2 Tokmak 2 50.26 7 *e*P **P 21 26 14.3 -0.4**
comp=Z,23nm,0.9s
TKM2 LR LR
comp=Z,2μm,21.0s
TSUM Tsumeb 50.37 251 *e*P **P 21 26 17.3 +1.4**
comp=Z,37nm,1.3s
TSUM LR LR
comp=Z,2μm,19.0s
SIRT Sirnak 50.38 334 *e*P **P 21 26 16.9 +1.3**
USP Ospenovka 50.47 6 P **P 21 26 16.2 +0.1**
SNR=7.6
BRBR Barbar 50.48 325 *e*P **P 21 26 18.1 +1.5**
SUR Sutherland 50.50 234 *e*P **P 21 26 17.0 +0.2**
comp=Z,593nm,3.0s
SUR LR LR
comp=Z,747nm,19.0s
MMAI Mount Meron Ar 50.51 324 P **P 21 26 17.2 +0.5**
comp=Z,16nm,1.0s,baz=115,slow=9.3,SNR=18
H01W3 Cape Leeuwin H 50.56 130 T T 22 20 34.6
baz=292,slow=75,SNR=34
H01W2 Cape Leeuwin H 50.57 130 T T 22 20 34.5
baz=292,slow=75,SNR=28
SFNV Sufian 50.58 331 *e*P **P 21 26 17.9 +0.8**
H01W1 Cape Leeuwin H 50.58 130 T T 22 20 35.4
baz=292,slow=75,SNR=34
MNKR ALMNKUR 50.62 330 *e*P **P 21 26 14.4 -3.0**
KSRV Kasrt alli 50.69 329 *e*P **P 21 26 18.6 +0.8**
KBSD Kabsdagh 50.84 332 *e*P P 21 26 15.6 -3.4
VANB Van 50.89 335 *e*P **P 21 26 20.6 +1.2**
CD2 Chengdu 50.99 40⇓*i*P **P 21 26 20.3 0.0**
CD2 PP **PP 21 28 16.4 -0.6**
CD2 S S 21 33 31.0 -6.3
CD2 SS **SS 21 37 06.8 -5.8**
CD2 PMZ
comp=Z,60nm,1.1s
CD2 PMZ
comp=Z,140nm,8.3s
CD2 LN
comp=Z,840nm,15.5s
CD2 LE
comp=Z,880nm,15.5s
CD2 LZ
comp=Z,1μm,16.6s
HAWK Haweek 51.04 326 *e*P **P 21 26 20.3 -0.4**
BIDA Albida 51.45 327 *e*P **P 21 26 25.0 +1.3**
KAPI Kappang 51.49 91 *e*P **P 21 26 26.4 +2.1**
comp=Z,38nm,1.5s
KAPI LR LR
comp=Z,2μm,20.0s
SLMH Al Salmeh 51.51 329 *e*P **P 21 26 25.1 +1.0**
GNI Garni 51.68 337 *e*P **P 21 26 26.3 +0.9**
GNI MLR MLR
comp=Z,652nm,20.0s
GNI Garni 51.68 337 P **P 21 26 27.1 +1.7**
SNR=16
GNI Garni 51.68 337 P **P 21 26 25.9 +0.5**
comp=Z,3.2nm,0.5s,baz=167,slow=1.8,SNR=18
GNI Garni 51.68 337⇓*i*P **P 21 26 25.7 +0.3**
SNR=15
GNI Garni 51.68 337 *e*P **P 21 26 26.3 +0.9**
GNI LR LR
comp=Z,652nm,20.0s
DYBB Diyarbakir 51.80 332 *e*P **P 21 26 28.1 +1.9**
MBWA Marble Bar 51.85 111 PFAKE 21 26 40.0 +13
MBWA LR LR
comp=Z,2μm,22.0s
AGRB Hanur-Agry 51.88 335 *e*P **P 21 26 28.7 +1.7**
BTCH Batrach 52.14 328 *e*P **P 21 26 30.2 +1.3**
VRTB Varto-Mus 52.19 334 *e*P **P 21 26 31.7 +2.5**
ARNB Al Arnab 52.27 327 *e*P **P 21 26 27.8 -2.0**
NWAO Narrogin (SRO) 52.31 126 LR LR 21 43 33.3
comp=Z,2μm,21.3s,baz=291,slow=30
BNGB Bing¶ll 52.39 333 *e*P **P 21 26 32.7 +2.0**
DGRG David-gareji 52.58 339 P **P 21 26 29.6 -2.4**
MALT Malatya 52.90 331 ⇓P **P 21 26 35.5 +1.1**
MALT Malatya 52.90 331⇓*i*P **P 21 26 35.5 +1.1**
KMRS Kahramanmaras 53.03 329 *e*P **P 21 26 37.0 +1.6**
TBLG Delisi 53.05 338 P **P 21 26 33.3 -2.1**
CSS Prodhromos 53.10 324 *e*P **P 21 26 36.9 +1.0**
DUS Dusheti 53.38 338 P **P 21 26 38.6 +0.7**
DARE Darende-Malaty 53.56 330 *e*P **P 21 26 41.0 +1.7**
MMRI Maumere 53.72 95 *e*P **P 21 26 39.8 -1.1**
comp=Z,100nm,1.2s
WMQ Urumqi 53.73 18 P **P 21 26 40.8 +0.4**
WMQ sP **sP 21 26 47.0 +0.8**
WMQ PP **PP 21 28 42.8 +1.3**
WMQ S **S 21 34 12.0 -2.4**
WMQ ScS **ScS 21 36 25.4 -4.4**
WMQ SS **SKiKP 21 37 51.0 -4.1**
WMQ PMZ
comp=Z,25nm,1.9s
WMQ PMZ
comp=Z,410nm,4.8s
WMQ LN
comp=Z,3μm,18.0s
WMQ LE
comp=Z,1μm,17.0s
WMQ LZ
comp=Z,2μm,17.0s
GUDG Gudauri 53.79 339 P **P 21 26 40.9 -0.2**
KARA Karaisali 53.81 327 *e*P **P 21 26 42.4 +1.4**
BCA Borcka 54.02 336 *e*P **P 21 26 43.7 +1.2**
ONI Oni 54.27 338 P **P 21 26 45.0 +0.5**
ZEI Tsey 54.28 338 *e*P **P 21 26 43.3 -1.3**
ZEI pmax pmax
comp=Z,38nm,1.5s
ENH Enshi 54.44 45 *e*P **P 21 26 45.8 -0.1**
comp=Z,18nm,1.0s
ENH LR LR
comp=Z,357nm,21.0s
MSKU Masuku 54.46 273 P **P 21 26 46.0 -0.3**
comp=Z,39nm,1.1s,baz=74,slow=6.7,SNR=11
LZH Lanzhou 54.57 36 *e*P **P 21 26 48.6 +1.7**
LZH pP **pP 21 26 52.8 +1.8**
LZH sP **sP 21 26 56.6 +4.0**
LZH PP **PP 21 28 53.0 +3.6**
LZH S **S 21 34 27.0 +0.7**
LZH sS **sS 21 34 34.0 +0.8**
LZH SS **SS 21 38 06.1 -3.2**
LZH PMZ
comp=Z,28nm,1.2s
LZH PMZ
comp=Z,210nm,5.6s
LZH LN
comp=Z,820nm,15.5s
LZH LE
comp=Z,1μm,16.5s
LZH LZ
comp=Z,960nm,16.8s
SVSK Karacayir 54.84 331 *e*P **P 21 26 50.0 +1.5**
GTA Gaotai 54.85 30 *e*P **P 21 26 48.9 +0.1**
GTA pP **pP 21 26 53.3 +0.4**
GTA sP **sP 21 26 56.1 +1.6**
GTA PMZ
comp=Z,21nm,1.5s
MKAR Makanchi Array 55.14 12 P **P 21 26 49.0 -1.5**
comp=Z,13nm,0.8s,baz=199,slow=7.1,SNR=101
MKAR PcP **PcP 21 27 53.1 +1.4**
comp=Z,3.5nm,0.9s,baz=191,slow=5.3,SNR=3.5
SULT Sultanhani-AKS 55.32 327 *e*P **P 21 26 53.2 +1.0**
KBZ Khabaz 55.46 338 P **P 21 26 53.0 +0.1**
comp=Z,25nm,1.0s,baz=164,slow=3.7,SNR=22
SOEI Soe 55.68 97 *e*P **P 21 26 55.5 +0.4**
comp=Z,239nm,1.1s
KIV Kislovodsk 55.73 338 P **P 21 26 55.5 +0.5**
comp=Z,101nm,1.7s,SNR=5.7
KIV Kislovodsk 55.73 338 *e*P **P 21 26 55.2 +0.2**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,286nm,16.0s
KIV Kislovodsk 55.73 338 P **P 21 26 55.9 +0.9**
SNR=11
KIV Kislovodsk 55.73 338⇓*i*P **P 21 26 55.2 +0.2**
SNR=8.6
KIV Kislovodsk 55.73 338 *e*P **P 21 26 54.9 -0.1**
KIV LR LR
comp=Z,381nm,20.0s
KONT Konya--Tatoy 55.77 326 *e*P **P 21 26 56.6 +1.3**
LADK Ladik-KONYA 55.95 326 *e*P **P 21 26 57.8 +1.1**
CORM Corum 56.21 330 *e*P **P 21 26 59.6 +1.1**
XAN Xi'an 56.34 41 P **P 21 26 58.5 -1.0**
XAN S S 21 34 41.8 -7.9
XAN PMZ
comp=Z,6.0nm,1.0s
XAN PMZ
comp=Z,35nm,4.0s
XAN LN
comp=Z,340nm,18.7s
XAN LE
comp=Z,170nm,17.6s
XAN LZ
comp=Z,250nm,18.2s
BRTR Keskin Array B 56.38 328 P **P 21 26 59.3 -0.4**
comp=Z,11nm,1.0s,baz=145,slow=8.9,SNR=59
BRTR LR LR 21 51 51.8
comp=Z,564nm,18.3s,baz=138,slow=37
AFSR Af'ar-Bala (A 56.47 328 *e*P **P 21 27 01.0 +0.7**
ABKAR Akbulak array 56.56 354 *e*P **P 21 26 59.6 -1.1**
SOC Sochi 56.58 336 *e*P **P 21 27 00.4 -0.5**
SOC *e*S **S 21 34 54.6 +2.2**
SOC pmax pmax
comp=Z,22nm,0.7s
ISP Isparta 56.72 325 ⇓P **P 21 27 01.3 -0.9**
ISP Isparta 56.72 325⇓*i*P **P 21 27 01.3 -0.9**
ISP Isparta 56.72 325 *e*P **P 21 27 00.3 -1.8**
comp=Z,16nm,1.0s
ISP LR LR
comp=Z,451nm,22.0s
ANTO Ankara 56.92 328 ⇓P **P 21 27 03.4 -0.1**
ANTO Ankara 56.92 328⇓*i*P **P 21 27 03.4 -0.1**
ANTO Ankara 56.92 328 P **P 21 27 03.6 0.0**
SNR=8.7
ANTO Ankara 56.92 328 *e*P **P 21 27 03.5 0.0**
ANTO LR LR
comp=Z,493nm,22.0s
CANT Cankiri 57.04 329 *e*P **P 21 27 05.0 +0.6**
FITZ Fitzroy Crossi 57.10 107 *e*P **P 21 27 05.8 +0.6**
comp=Z,73nm,1.8s
ALT Altintas 57.80 326 *e*P **P 21 27 10.2 +0.4**
WHN Wuhan 58.07 47 P **P 21 27 13.5 +1.8**
WHN LZ
comp=Z,2μm,18.0s
KURBB Kurchatov Arra 58.20 8 P **P 21 27 11.6 -0.7**
comp=Z,12nm,1.0s,baz=206,slow=7.4,SNR=58
KURK Kurchatov 58.31 8 P **P 21 27 12.6 -0.4**
comp=Z,110nm,0.9s,SNR=24
KURK Kurchatov 58.31 8 *e*P **P 21 27 11.3 -1.6**
KURK pmax pmax
comp=Z,16nm,0.9s
KURK MLR MLR
comp=Z,1μm,22.0s
KURK Kurchatov 58.31 8 P **P 21 27 12.5 -0.4**
SNR=15
KURK Kurchatov 58.31 8 *e*P **P 21 27 11.3 -1.6**
comp=Z,16nm,0.9s
KURK LR LR
comp=Z,1μm,22.0s
AYDB Zeytinkoy-Aydi 58.33 323 *e*P **P 21 27 12.0 -1.6**
TVSB Tavsanli 58.44 326 *e*P **P 21 27 15.2 +0.9**
SANT Santorini 58.82 320 PFAKE 21 27 30.0 +13
SANT LR LR
comp=Z,402nm,19.0s
ADVT Abdulvahap 58.97 327 *e*P **P 21 27 18.3 +0.6**
DAV Davao City (W) 59.13 77 PFAKE 21 27 30.0 +11
DAV LR LR
comp=Z,1μm,22.0s
GEMT Gemlik 59.27 326 *e*P **P 21 27 20.4 +0.5**
BALB Balikesir 59.47 325 *e*P **P 21 27 22.2 +0.9**
TNTI Ternate 59.74 85 *e*P **P 21 27 23.2 -0.4**
KLYT Kilyos 59.91 327 *e*P **P 21 27 24.5 +0.2**
BVAR Borovoye Array 59.92 2 P **P 21 27 23.7 -0.5**
comp=Z,6.7nm,0.9s,baz=156,slow=7.5,SNR=35
BRVK Borovoye 59.95 2 P **P 21 27 24.9 +0.6**
comp=Z,122nm,1.2s,SNR=12
BRVK Borovoye 59.95 2*d*/P **P 21 27 24.2 -0.1**
BRVK pmax pmax
comp=Z,33nm,1.2s
BRVK Borovoye 59.95 2 P **P 21 27 24.4 +0.1**
SNR=12
BRVK Borovoye 59.95 2 *e*P **P 21 27 23.4 -0.9**
comp=Z,32nm,1.2s
BRVK LR LR
comp=Z,998nm,19.0s
SIM Simferopol' 60.09 333 *e*P **P 21 27 24.0 -1.4**
SIM pmax pmax
comp=Z,20nm,1.2s
CTKS Kestanelik-??a 60.20 326 *e*P **P 21 27 28.6 +2.4**
YULB Yu-li 60.23 58 *e*P **P 21 27 26.2 -0.7**
comp=Z,21nm,1.0s
MAW Mawson 60.52 182 LR LR 21 47 28.6
comp=Z,618nm,21.2s,baz=28,slow=30
BTO Baotou 61.20 36 *e*P **P 21 27 31.9 -1.4**
EDRB Edirne 61.58 326 P **P 21 27 37.1 +1.4**
EDRB Edirne 61.58 326 P **P 21 27 37.1 +1.4**
PSN Preselentsi 62.06 328 P **P 21 27 37.8 -1.0**
JMB Yambol 62.09 326 P **P 21 27 39.8 +0.8**
JMB Yambol 62.09 326 ⇓P **P 21 27 37.9 -1.1**
JMB Yambol 62.09 326⇓*i*P **P 21 27 37.9 -1.1**
JMB Yambol 62.09 326 P **P 21 27 39.9 +0.9**
JMB Yambol 62.09 326 P **P 21 27 39.8 +0.8**
HVS Khovu-Aksy 62.09 18⇑*i*P **P 21 27 38.8 -0.2**
HVS pmax pmax
comp=Z,97nm,1.4s
PRD Provadia 62.14 327 P **P 21 27 38.7 -0.7**
NJ2 Nanjing 62.15 48 *e*P **P 21 27 39.1 -0.6**
NJ2 S **S 21 36 05.5 +0.6**
NJ2 sS **sS 21 36 11.5 -0.4**
NJ2 PMZ
comp=Z,40nm,0.8s
NJ2 PMZ
comp=Z,240nm,8.8s
NJ2 LN
comp=Z,900nm,17.5s
NJ2 LE
comp=Z,2μm,21.1s
NJ2 LZ
comp=Z,2μm,22.9s
KDZ Kurdzhali 62.20 325⇑P **P 21 27 39.5 -0.4**
KDZ Kurdzhali 62.20 325⇑*i*P **P 21 27 39.5 -0.4**

KDZ	Kurdzhali	62.20	325	P	P	21 27 39.9	0.0
HHC	Hu-ho-hao-te	62.25	36	eP	P	21 27 41.3	+0.9
HHC				sP	sP	21 27 47.3	+1.1
HHC				S	S	21 36 05.6	-0.6
HHC				sS	sS	21 36 13.3	+0.1
HHC				ScS	SKSac	21 37 31.3	-1.2
HHC				PMZ			
	comp=Z,46nm,1.7s						
HHC				PMZ			
	comp=Z,330nm,4.9s						
HHC				LN			
	comp=Z,1μm,17.3s						
HHC				LE			
	comp=Z,1μm,16.0s						
HHC				LZ			
	comp=Z,2μm,16.0s						
VRHR	Novokhopersk	62.26	342	eP	P	21 27 39.3	-0.7
VRHR				pmax	pmax		
	comp=N,30nm,0.9s						
VRHR				pmax	pmax		
	comp=E,20nm,0.9s						
VRHR				pmax	pmax		
	comp=Z,30nm,0.9s						
ZALV	Zalesovo Beam	62.45	11	P	P	21 27 40.2	-1.0
	comp=Z,14nm,0.7s,baz=208,slow=6.5,SNR=56						
ZALV				LR	LR	21 55 30.7	
	comp=Z,1μm,18.3s,baz=247,slow=37						
TIRR	Tirgusor	62.48	329	⇓P	P	21 27 41.2	-0.4
TIRR	Tirgusor	62.48	329	⇓iP	P	21 27 41.2	-0.4
TIRR	Tirgusor	62.48	329	eP	P	21 27 40.2	-1.4
	comp=Z,29nm,1.4s						
RZN	Rozhen	62.62	325	P	P	21 27 42.7	-0.2
PLD	Plovdiv	62.90	325	P	P	21 27 44.3	-0.2
NVR	Nevrokopi	62.90	324	P	P	21 27 43.8	-0.8
NVR	Nevrokopi	62.90	324	P	P	21 27 43.8	-0.8
VORD	Divnogorie	62.91	340	eP	P	21 27 43.1	-1.3
VORD				pmax	pmax		
	comp=N,20nm,0.9s						
VORD				pmax	pmax		
	comp=E,20nm,0.9s						
VORD				pmax	pmax		
	comp=Z,30nm,0.9s						
SRS	Serrai	62.91	324	P	P	21 27 43.8	-0.9
SRS	Serrai	62.91	324	P	P	21 27 43.8	-0.9
SRS	Serrai	62.91	324	P	P	21 27 43.8	-0.9
SZH	Strazhica	62.97	327	P	P	21 27 44.3	-0.7
NVS	Novosibirsk	63.01	10	⇓iP	P	21 27 43.5	-1.5
NVS				pmax	pmax		
	comp=N,34nm,1.7s						
CFR	Carcaliu	63.12	329	⇑P	P	21 27 45.4	-0.5
CFR	Carcaliu	63.12	329	⇑iP	P	21 27 45.4	-0.5
MMB	Musomiste	63.13	324	⇓P	P	21 27 47.7	+1.6
MMB	Musomiste	63.13	324	⇑iP	P	21 27 45.0	-1.1
MMB	Musomiste	63.13	324	⇓iP	P	21 27 47.7	+1.6
MMB	Musomiste	63.13	324	P	P	21 27 45.3	-0.8
VSR	Storozhevoye	63.17	340	eP	P	21 27 44.1	-2.0
VSR				pmax	pmax		
	comp=N,20nm,1.0s						
VSR				pmax	pmax		
	comp=E,20nm,1.0s						
VSR				pmax	pmax		
	comp=Z,30nm,1.0s						
PGB	Panagyurishte	63.49	325	P	P	21 27 47.6	-0.9
VAY	Valandovo	63.65	323	iP	P	21 27 49.2	-0.3
KKB	Krupnik	63.68	324	P	P	21 27 50.4	+0.7
ARU	Arti	63.78	354	P	P	21 27 49.4	-0.5
	comp=Z,238nm,1.0s,SNR=15						
ARU	Arti	63.78	354	ciP	P	21 27 49.5	-0.5
ARU						21 30 05.3	
ARU				S	S	21 36 25.7	+1.2
ARU				SS	SS	21 40 24.6	-8.2
ARU				pmax	pmax		
	comp=Z,77nm,1.7s						
ARU	Arti	63.78	354	eP	P	21 27 49.5	-0.5
	comp=Z,43nm,1.0s						
ARU				LR	LR		
	comp=Z,735nm,21.0s						
SVE	Sverdlovsk	63.99	356	⇓eP	P	21 27 51.0	-0.4
SVE				pmax	pmax		
	comp=Z,57nm,1.8s						
VTS	Vitosha	64.06	325	P	P	21 27 52.1	-0.3
VTS	Vitosha	64.06	325	⇑P	P	21 27 52.2	-0.2
VTS	Vitosha	64.06	325	⇑iP	P	21 27 52.2	-0.2
VTS	Vitosha	64.06	325	P	P	21 27 52.8	+0.4
VTS	Vitosha	64.06	325	P	P	21 27 52.1	-0.3
KIS	Kishinev	64.08	331	eP	P	21 27 52.0	-0.2
KIS				e		21 27 55.0	
KIS				e		21 28 22.0	
KIS				MLR	MLR		
	comp=Z,400nm,18.0s						
KIS				MLR	MLR		
	comp=Z,400nm,18.0s						
KIS	Kishinev	64.08	331	eP	P	21 27 52.0	-0.2
KIS				LRM	MLR	21 55 54.0	
	comp=Z,400nm,18.0s						
FAKI	Fak Fak	64.10	90	eP	P	21 27 54.1	+1.1
	comp=Z,51nm,1.1s						
MPEP	Malo Peshtene	64.25	326	P	P	21 27 53.0	-0.4
VRI	Vrincioaia	64.31	329	⇑P	P	21 27 54.3	+0.5
VRI	Vrincioaia	64.31	329	⇑iP	P	21 27 54.3	+0.5
SONM	Songino Array	64.32	28	P	P	21 27 54.4	+0.5
	comp=Z,12nm,1.0s,baz=218,slow=6.8,SNR=66						
SONM				LR	LR	21 55 24.3	
	comp=Z,2μm,21.0s,baz=248,slow=36						
HUMR	Humele	64.33	327	⇑iP	P	21 27 53.4	-0.5
PLOR	Plostina	64.34	329	⇑P	P	21 27 54.3	+0.3
PLOR	Plostina	64.34	329	⇑iP	P	21 27 54.3	+0.3
MLR	Muntele Rosu	64.46	329	⇑P	P	21 27 55.1	+0.2
MLR	Muntele Rosu	64.46	329	⇑iP	P	21 27 55.1	+0.2
MLR	Muntele Rosu	64.46	329	P	P	21 27 54.9	0.0
	comp=Z,4.3nm,1.2s,baz=139,slow=3.6,SNR=16						
BJT	Baijiatuau	64.55	39	PFAKE		21 28 10.0	+15
BJT				LR	LR		
	comp=Z,1μm,20.0s						
BJI	Beijing	64.57	39	P	P	21 27 55.8	+0.3
BJI				S	S	21 36 37.8	+2.9
BJI				PMZ			
	comp=Z,17nm,0.6s						
BJI				PMZ			
	comp=Z,150nm,5.1s						
BJI				LN			
	comp=Z,650nm,19.2s						
BJI				LE			
	comp=Z,940nm,19.2s						
BJI				LZ			
	comp=Z,720nm,21.0s						
ULN	Ulaanbaatar	64.65	28	ciP	P	21 27 56.6	+0.5
ULN				pmax	pmax		
	comp=Z,28nm,1.7s						
ULN	Ulaanbaatar	64.65	28	P	P	21 27 57.7	+1.6
	SNR=12						
ULN	Ulaanbaatar	64.65	28	eP	P	21 27 56.2	+0.1
	comp=Z,14nm,1.0s						
ULN				LR	LR		
	comp=Z,1μm,22.0s						
SKO	Skopje	64.72	323	iP	P	21 27 52.8	-3.7
MTUR	Matau	64.74	328	⇓P	P	21 27 56.3	-0.4
MTUR	Matau	64.74	328	⇓iP	P	21 27 56.3	-0.4
TESR	Tescani	64.80	330	⇑iP	P	21 27 55.9	-1.0
ZAK	Zakamensk	64.89	24	eP	P	21 27 57.2	-0.4
ZAK				e		21 30 28.8	
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
VOIR		64.89	328	⇑P	P	21 27 56.6	-1.1
VOIR		64.89	328	⇑iP	P	21 27 56.5	-1.1
MOY	Mondy	65.02	22	eP	P	21 27 58.8	+0.4
ARR	Arges	65.06	328	⇑iP	P	21 27 57.9	-0.9
DOPR	Dopca	65.07	329	⇓iP	P	21 27 58.1	-0.6
ASAR	Alice Springs	65.14	113	P	P	21 27 59.1	-0.7
	comp=Z,2.7nm,0.8s,baz=278,slow=5.9,SNR=26						
ASAR				LR	LR	21 54 06.9	
	comp=Z,627nm,19.9s,baz=276,slow=34						
AS31	Alice Springs	65.14	113	eP	P	21 27 59.9	+0.1
WRA	Warramunga Arr	65.40	109	P	P	21 28 01.8	+0.3
	comp=Z,5.7nm,0.8s,baz=281,slow=6.4,SNR=24						
WRA				LR	LR	21 52 21.4	
	comp=Z,1μm,21.6s,baz=280,slow=32						
WRAB	Tennant Creek	65.41	109	P	P	21 28 02.5	+1.0
	comp=Z,125nm,0.8s,SNR=5.7						
WRAB	Tennant Creek	65.41	109	⇓eP	P	21 28 01.2	-0.3
WRAB				pmax	pmax		
	comp=Z,42nm,1.3s						
WRAB	Tennant Creek	65.41	109	eP	P	21 28 01.4	-0.2
	comp=Z,43nm,1.3s						
WB2	Warramunga Arr	65.41	109	eP	P	21 28 01.8	+0.3
PRAR	RASCA	65.59	330	⇑iP	P	21 28 01.9	-0.2
CASY	Casey	65.92	163	PFAKE		21 28 20.0	+16
CASY				LR	LR		
	comp=Z,1μm,19.0s						
TLY	Talaya	66.04	23	eP	P	21 28 06.1	+1.2
TLY				pmax	pmax		
	comp=Z,28nm,1.3s						
TLY				MLR	MLR		
	comp=Z,693nm,17.0s						
TLY	Talaya	66.04	23	P	P	21 28 07.5	+2.6
	SNR=7.5						
TLY	Talaya	66.04	23	PFAKE		21 28 20.0	+15
TLY				LR	LR		
	comp=Z,903nm,20.0s						
TIP	Timpagrande	66.06	318	PFAKE		21 28 20.0	+15
TIP				LR	LR		
	comp=Z,248nm,20.0s						
GZR	Gura Zlata	66.08	327	⇓P	P	21 28 05.5	+0.1
GZR	Gura Zlata	66.08	327	⇓iP	P	21 28 05.4	+0.1
BURAR	Bucovina Array	66.27	330	⇑P	P	21 28 06.4	-0.1
BURAR	Bucovina Array	66.27	330	⇑iP	P	21 28 06.4	-0.1
AKASG	Malin Array Be	66.59	334	ceP	P	21 28 07.5	-0.9
AKASG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AKASG	Malin Array Be	66.59	334	P	P	21 28 07.0	-1.4
	comp=Z,6.9nm,0.7s,baz=136,slow=5.1,SNR=20						
AKASG				PP	PP	21 30 35.0	-0.2
	comp=Z,0.5nm,0.5s,baz=143,slow=8.5,SNR=4.9						
AKASG				LR	LR	21 59 05.2	
	comp=Z,295nm,19.2s,baz=185,slow=38						
KIEV	Kiev	66.59	334	⇓iP	P	21 28 07.7	-0.7
KIEV	Kiev	66.59	334	eP	P	21 28 06.7	-1.7
IRK	Irkutsk	66.72	23	eP	P	21 28 09.7	+0.5
IRK				pmax	pmax		
	comp=Z,48nm,2.1s						
DIVS	Divibare	66.84	324	P	P	21 28 10.1	-0.2
DRGR		67.01	328	⇑P	P	21 28 10.9	-0.4
DRGR		67.01	328	⇑iP	P	21 28 10.9	-0.4
SOKR	Solikamsk	67.08	354	eP	P	21 28 11.9	+0.7
SOKR				pmax	pmax		
	comp=Z,70nm,2.5s						
OBN	Obninsk	67.29	341	⇓eP	P	21 28 12.9	+0.2
OBN				e		21 30 42.7	
OBN				ePPP	PPP	21 32 19.6	
OBN				pmax	pmax		
	comp=Z,29nm,1.5s						
OBN	Obninsk	67.29	341	eP	P	21 28 12.7	0.0
	comp=Z,161nm,1.8s						
OBN				LR	LR		
	comp=Z,507nm,21.0s						
MOS	Moscow	67.48	342	eP	P	21 28 14.1	+0.2
MOS				e		21 28 36.8	
MOS				pmax	pmax		
	comp=Z,146nm,1.4s						
BBOO	Buckeboo	67.76	122	eP	P	21 28 16.4	0.0
	comp=Z,1μm,2.1s						
TAM	Tamanrasset	67.91	298	eP	P	21 28 17.0	-0.6
TAM				pmax	pmax		
	comp=Z,42nm,1.6s						
TAM	Tamanrasset	67.91	298	eP	P	21 28 17.0	-0.6
	comp=Z,42nm,1.6s						
TRPA	Tarpa	67.96	329	⇑iP	P	21 28 17.0	-0.1
TRPA	Tarpa	67.96	329	⇓eP	P	21 28 17.3	+0.2
LVV	L'vov	68.33	331	eP	P	21 28 17.9	-1.6
UZH	Uzhgorod	68.41	329	⇑iP	P	21 28 19.1	-0.8
UZH				e		21 28 25.9	
UZH				i		21 28 42.5	
UZH				e		21 37 16.5	
PKS6	Bocsa	68.58	326	eP	P	21 28 21.2	+0.1
KOLS	Kolonicke sedl	68.61	330	eP	P	21 28 21.2	-0.1
KOLS				pmax	pmax		
	comp=Z,29nm,1.4s						
KOLS	Kolonicke sedl	68.61	330	eP	P	21 28 21.2	-0.1
TORD	Torodi Ar. Bea	68.85	287	P	P	21 28 22.6	-0.8
	comp=Z,9.1nm,1.0s,baz=90,slow=6.9,SNR=27						
TORD				LR	LR	21 56 54.2	
	comp=Z,1μm,20.1s,baz=100,slow=34						
KWP	Kalwaria Pacla	68.85	330	eP	P	21 28 22.2	-0.6
KWP	Kalwaria Pacla	68.85	330	eP	P	21 28 22.2	-0.6
KWP	Kalwaria Pacla	68.85	330	eP	P	21 28 22.1	-0.6
	comp=Z,17nm,0.3s						
KWP				LR	LR		
	comp=Z,183nm,20.0s						
PKS7	Kunszentmiklos	69.07	327	eP	P	21 28 23.9	-0.2
PSZ	Piszkesteto	69.21	328	⇑P	P	21 28 21.6	-3.4
PSZ	Piszkesteto	69.21	328	⇑iP	P	21 28 21.6	-3.4
PSZ	Piszkesteto	69.21	328	eP	P	21 28 24.0	-1.0
PSZ	Piszkesteto	69.21	328	eP	P	21 28 24.3	-0.7
	comp=Z,29nm,1.5s						
PSZ				LR	LR		
	comp=Z,405nm,22.0s						
STHS	Stebnicka Huta	69.44	329	eP	P	21 28 25.7	-0.7
STHS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
STHS	Stebnicka Huta	69.44	329	eP	P	21 28 25.7	-0.7
KEST	Kesra	69.59	312	P	P	21 28 28.2	+0.5
	comp=Z,2.2nm,0.8s,baz=245,slow=3.8,SNR=7.7						
KEST				LR	LR	21 57 45.2	
	comp=Z,222nm,19.5s,baz=34,slow=35						
PKSG		69.70	327	⇑eP	P	21 28 27.4	-0.6
PKST	T"s	69.82	326	⇓eP	P	21 28 27.3	-1.5
AQU	L'Aquila	69.89	320	PFAKE		21 28 40.0	+11
AQU				LR	LR		
	comp=Z,269nm,19.0s						
NIE	Niedzica	69.92	329	eP	P	21 28 29.0	-0.4
NIE	Niedzica	69.92	329	eP	P	21 28 29.0	-0.4
MICGM	Minsk	69.94	336	e	P	21 28 27.0	-2.3
MNK	Minsk	69.96	336	eP	P	21 28 27.0	-2.4
VYHS	Vyhne	70.12	328	eP	P	21 28 29.9	-0.7
VYHS				pmax	pmax		
	comp=Z,39nm,1.7s						
VYHS	Vyhne	70.12	328	eP	P	21 28 29.9	-0.7
BOJS	Bojanci	70.41	324	eP	P	21 28 31.9	-0.5
BOJS				i		21 28 40.3	
CIT	Chita	70.55	28	eP	P	21 28 33.4	+0.2
CIT				e		21 28 39.4	
CIT				e		21 28 50.4	
CIT				pmax	pmax		
	comp=Z,102nm,1.9s						
NACGM	Naroch	70.67	336	e	P	21 28 30.0	-3.8
OJC	Ojcow	70.68	330	eP	P	21 28 32.8	-1.1
OJC	Ojcow	70.68	330	eP	P	21 28 32.8	-1.1
PRGR	Permogore	70.70	349	eP	P	21 28 31.5	-2.3
PRGR				e		21 28 52.7	
PRGR				pmax	pmax		
	comp=Z,56nm,1.0s						
VISS	Visnje	70.82	324	eP	P	21 28 34.4	-0.5
SOP	Sopron	70.88	326	eP	P	21 28 35.2	0.0
PERS	Pernice	71.11	324	eP	P	21 28 36.4	-0.4
PERS				i		21 28 42.5	
SOKA	Soboth	71.18	325	⇑iP	P	21 28 36.8	-0.4
	comp=Z,16nm,1.3s,SNR=10.0						
VSL	Villasalto	71.21	316	PFAKE		21 28 50.0	+13
VSL				LR	LR		
	comp=Z,336nm,19.0s						
BEL	Belsk	71.21	331	eP	P	21 28 37.9	+0.8
BEL	Belsk	71.21	331	eP	P	21 28 37.9	+0.8
KSAR	Wonju Array Be	71.22	47	P	P	21 28 38.2	+0.7
KSAR	Wonju Array Be	71.22	47	P	P	21 28 38.1	+0.7
ARSA	Arzberg	71.22	325	iP	P	21 28 37.3	-0.1
	comp=Z,20nm,1.2s,SNR=11						
KSRS	Korea Array	71.25	47	P	P	21 28 38.1	+0.5
	comp=Z,2.1nm,0.9s,baz=242,slow=9.8,SNR=5.9						
OKC	Ostrava-Krasne	71.29	328	eP	P	21 28 36.6	-1.0
OKC				e		21 28 45.2	
OKC				e		21 28 51.4	
OKC	Ostrava-Krasne	71.29	328	eP	P	21 28 36.6	-1.0
OKC				ex	x	21 28 45.2	
OKC				ex	x	21 28 51.4	
JAVS	Javornik	71.32	323	eP	P	21 28 37.6	-0.5
KLMR	Klimovskoe	71.33	346	eP	P	21 28 34.3	-3.4
KLMR				pmax	pmax		
	comp=Z,194nm,1.6s						
OBKA	Obir	71.37	324	iP	P	21 28 38.2	-0.1
	comp=Z,21nm,1.3s,SNR=8.7						
CONA	Conrad Observa	71.41	326	iP	P	21 28 38.1	-0.4
	comp=Z,39nm,1.4s,SNR=14						
SUW	Suwalki	71.55	334	eP	P	21 28 39.0	-0.1
SUW	Suwalki	71.55	334	eP	P	21 28 39.0	-0.1
MORC	Moravsky Berou	71.57	328	⇓P	P	21 28 38.8	-0.6
MORC	Moravsky Berou	71.57	328	⇓iP	P	21 28 38.8	-0.6
MORC	Moravsky Berou	71.57	328	eP	P	21 28 38.1	-1.3
	comp=Z,28nm,1.4s						
VRAC	Vranov	71.79	327	⇓P	P	21 28 40.0	-0.7
VRAC	Vranov	71.79	327	⇓iP	P	21 28 40.0	-0.7
HIA	Hailar	71.95	33	⇓eP	P	21 28 41.9	+0.2
HIA				pmax	pmax		
	comp=Z,16nm,1.6s						
HIA	Hailar	71.95	33	eP	P	21 28 41.1	-0.6
	comp=Z,15nm,0.9s						
HIA				LR	LR		
	comp=Z,866nm,20.0s						
MYKA	Terra Mystica	71.96	324	⇑iP	P	21 28 41.8	-0.1
	comp=Z,29nm,1.5s,SNR=8.5						
MOA	Molln	72.26	325	iP	P	21 28 43.3	-0.2
	comp=Z,35nm,1.0s,SNR=14						
STKA	Stephens Creek	72.37	121	eP	P	21 28 44.7	+0.1
STKA	Stephens Creek	72.37	121	P	P	21 28 44.3	-0.3
	comp=Z,2.1nm,0.5s,baz=276,slow=10,SNR=5.1						
STKA				LR	LR	21 57 44.2	
	comp=Z,1μm,19.4s,baz=260,slow=34						
STKA	Stephens Creek	72.37	121	eP	P	21 28 44.6	+0.1
KBA	Koelnbreinsper	72.37	324	iP	P	21 28 45.0	+0.6
	comp=Z,21nm,1.6s,SNR=7.1						
TREC	Trest	72.38	327	eP	P	21 28 43.7	-0.6
TREC	Trest	72.38	327	eP	P	21 28 43.7	-0.6
CN2	Changchun	72.42	40	eP	P	21 28 45.4	+0.8
CN2				eS	S	21 38 07.4	-0.9
CN2				PMZ			
	comp=Z,20nm,1.3s						
CN2				PMZ			
	comp=Z,200nm,8.0s						
CN2				LN			
	comp=Z,700nm,18.0s						
CN2				LE			
	comp=Z,600nm,18.0s						
CN2				LZ			
	comp=Z,500nm,18.0s						
DPC	Dobruska-Polom	72.54	328	eP	P	21 28 44.7	-0.5
DPC				e		21 28 53.5	
DPC				e		21 29 00.3	
DPC	Dobruska-Polom	72.54	328	eP	P	21 28 44.7	-0.5
DPC				ex	x	21 28 53.5	
DPC				ePCP	PcP	21 29 00.3	-2.5
DPC	Dobruska-Polom	72.54	328	eP	P	21 28 44.8	-0.5
NVL	N'lazarevskaya	72.61	197	⇓iP	P	21 28 43.1	-2.1
NVL				e*PP	pP	21 28 52.8	+3.3
NVL				pmax	pmax		
	comp=Z,68nm,1.8s						
ABTA	Abfaltersbach	72.69	324	⇓iP	P	21 28 46.1	-0.1
	comp=Z,38nm,1.1s,SNR=17						
VLC	Villacollemand	72.70	320	PFAKE		21 29 00.0	+14
VLC				LR	LR		
	comp=Z,291nm,22.0s						
UPC	Upice	72.79	328	eP	P	21 28 45.8	-0.9
UPC				e		21 29 02.0	
UPC	Upice	72.79	328	eP	P	21 28 45.8	-0.9
UPC				ePCP	PcP	21 29 02.0	-1.9
PGF	Pioggiola	72.84	318	eP	P	21 28 46.6	-0.7
	comp=Z,55nm,1.3s						
PGF	Pioggiola	72.84	318	eP	P	21 28 46.6	-0.7
PGF				pmax	pmax		
	comp=Z,55nm,1.3s						
PGF	Pioggiola	72.84	318	eP	P	21 28 46.6	-0.7
	comp=Z,55nm,1.3s						
KSP	Ksiaz	72.84	329	⇑eP	P	21 28 46.8	-0.1
KSP	Ksiaz	72.84	329	eP	P	21 28 47.0	+0.1
RJOB	Jochberg	73.04	325	eP	P	21 28 47.4	-0.9
	comp=Z,16nm,1.3s						
GEC2	GERESS Array S	73.11	326	eP	P	21 28 48.6	-0.2
GEC2	GERESS Array S	73.11	326	eP	P	21 28 47.7	-1.0
	comp=Z,69nm,2.6s						
GEC2				eL	L	22 02 59.3	
	comp=Z,266nm,21.3s						
GEC2	GERESS Array S	73.11	326	eP	P	21 28 48.6	-0.2
GERES	GERESS Array B	73.11	326	P	P	21 28 47.4	-1.4
	comp=Z,1.4nm,0.8s,baz=116,slow=8.0,SNR=5.2						
VSU	Vasula	73.28	339	P	P	21 28 49.7	+0.4
VSU				pmax	pmax		
	comp=Z,87nm,1.5s						
PRU	Pruhonice	73.28	327	eP	P	21 28 48.8	-0.8
PRU				e		21 28 58.7	
PRU	Pruhonice	73.28	327	eP	P	21 28 48.8	-0.8
PRU				ex	x	21 28 58.7	
KHC	Kasperske Hory	73.33	326	eP	P	21 28 48.8	-1.2
KHC				e		21 28 56.8	
KHC				e		21 29 04.7	
KHC	Kasperske Hory	73.33	326	eP	P	21 28 48.8	-1.2
KHC				ex	x	21 28 56.8	
KHC				ePCP	PcP	21 29 04.7	-1.6
KHC	Kasperske Hory	73.33	326	eP	P	21 28 48.4	-1.5
PRA	Prague	73.38	327	eP	P	21 28 50.1	-0.1
PRA	Prague	73.38	327	eP	P	21 28 50.1	-0.1
WTTA	Wattenberg	73.47	324	iP	P	21 28 50.5	-0.5
	comp=Z,61nm,1.3s,SNR=20						
WATA	Walderalm	73.54	324	⇑iP	P	21 28 50.7	-0.6
	comp=Z,34nm,1.0s,SNR=16						
PVCC	Panska Ves	73.56	328	eP	P	21 28 51.5	+0.3
PVCC				e		21 29 05.7	
PVCC	Panska Ves	73.56	328	eP	P	21 28 51.5	+0.3
PVCC				ePCP	PcP	21 29 05.7	-1.5
WET	Wettzell	73.73	326	eP	P	21 28 51.2	-1.1
	comp=Z,39nm,1.8s						
WET				eL	L	22 00 39.8	
	comp=Z,234nm,19.6s						
KIC	Kosan Boka	73.79	279	eP	P	21 28 53.1	-0.2
	comp=Z,58nm,0.8s						
GKP	Gorka Klasztor	73.80	331	eP	P	21 28 53.6	+1.0
GKP	Gorka Klasztor	73.80	331	eP	P	21 28 53.5	+1.0
MOTA	Moosalm	73.82	324	⇑iP	P	21 28 52.2	-0.8
	comp=Z,29nm,0.8s,SNR=29						
FETA	Feichten	73.88	323	⇑iP	P	21 28 53.3	-0.1
	comp=Z,32nm,1.2s,SNR=14						
DBIC	Dimbokro	73.95	279	eP	P	21 28 54.2	0.0
DBIC				pmax	pmax		
	comp=Z,24nm,0.8s						
DBIC	Dimbokro	73.95	279	P	P	21 28 54.0	-0.3
	comp=Z,21nm,0.7s,baz=81,slow=7.1,SNR=31						
DBIC				LR	LR	22 01 25.9	
	comp=Z,863nm,18.9s,baz=71,slow=36						
DBIC	Dimbokro	73.95	279	eP	P	21 28 54.2	0.0
	comp=Z,24nm,0.8s						
FUORN	Ofenpass-Fuorn	73.96	323	eP	P	21 28 54.2	+0.2
	comp=Z,45nm,1.0s						
LIC	Lamto	74.05	279	eP	P	21 28 54.4	-0.4
	comp=Z,29nm,0.7s						
LIC				eR			
	comp=Z,1μm,20.5s						
LIC	Lamto	74.05	279	eP	P	21 28 54.6	-0.2
	comp=Z,48nm,0.7s						
LIC	Lamto	74.05	279	eP	P	21 28 54.4	-0.4
	comp=Z,29nm,0.7s						
BRG	Berggiesshubel	74.09	328	eP	P	21 28 54.5	+0.2
	comp=Z,27nm,1.4s						
BRG	Berggiesshubel	74.09	328	eP	P	21 28 54.5	+0.2
BRG				pmax	pmax		
	comp=Z,27nm,1.4s						
BRG	Berggiesshubel	74.09	328	eP	P	21 28 54.6	+0.2
	comp=Z,28nm,1.4s						
RETA	Reutte	74.09	324	iP	P	21 28 53.9	-0.6
	comp=Z,31nm,1.2s,SNR=17						
TIC	Toumodi	74.11	279	eP	P	21 28 54.8	-0.4
	comp=Z,32nm,0.5s						
FUR	Fursten

CLL Collm 74.82 328⇑ iP P 21 28 58.8 +0.3
CLL pmax pmax
comp=Z,51nm,1.4s
CLL MLR MLR
comp=Z,300nm,20.6s
CLL Collm 74.82 328 eP P 21 28 58.9 +0.4
comp=Z,51nm,1.4s
CLL eL L 22 01 45.4
comp=Z,318nm,20.6s
CLL Collm 74.82 328⇑ iP P 21 28 58.8 +0.3
comp=Z,51nm,1.4s
CLL e 21 29 09.0
CLL e 21 29 15.0
CLL e 21 30 02.0
CLL ePP PP 21 31 45.0 -1.1
CLL LmV 22 01 00.0
comp=Z,300nm,20.6s
LMR La Mourre 74.83 318 eP P 21 28 58.8 +0.1
comp=Z,32nm,1.0s
LMR La Mourre 74.83 318 eP P 21 28 58.8 +0.1
LMR pmax pmax
comp=Z,32nm,1.0s
LMR La Mourre 74.83 318 eP P 21 28 58.8 +0.1
comp=Z,32nm,1.0s
FRF La Foret Royal 74.83 319 eP P 21 28 58.0 -0.8
FRF La Foret Royal 74.83 319 eP P 21 28 58.0 -0.8
FRF La Foret Royal 74.83 319 eP P 21 28 58.0 -0.8
GRF Grafenberg Arr 74.94 326 eP P 21 28 59.1 -0.2
comp=Z,122nm,1.5s
GRFO Grafenberg 74.94 326 eP P 21 28 59.7 +0.4
GRFO pmax pmax
comp=Z,135nm,1.6s
GRFO Grafenberg 74.94 326 eP P 21 28 59.7 +0.4
comp=Z,135nm,1.6s
RUE Ruedersdorf 75.06 329 eP P 21 29 00.7 +0.8
MOX Moxa 75.21 327 eP P 21 29 01.4 +0.5
comp=Z,37nm,1.5s
JOF Joensuu 75.22 344 eP P 21 29 00.2 -0.4
JOF pmax pmax
comp=Z,21nm,0.8s
JOF Joensuu 75.22 344 ep P 21 29 00.2 -0.4
comp=Z,21nm,0.8s
MBDF Montbardon 75.26 320 eP P 21 29 01.1 -0.3
comp=Z,17nm,0.8s
MBDF Montbardon 75.26 320 eP P 21 29 01.1 -0.3
MBDF pmax pmax
comp=Z,17nm,0.8s
MBDF Montbardon 75.26 320 eP P 21 29 01.1 -0.3
comp=Z,17nm,0.8s
MDJ Mudanjiang 75.45 40 P P 21 29 02.8 +0.5
MDJ pP **pP** 21 29 05.8 -0.8
MDJ sP **sP** 21 29 07.3 -0.9
MDJ PcP **PcP** 21 29 16.0 +0.6
MDJ PP **PP** 21 31 49.0 -2.6
MDJ S **S** 21 38 44.3 +2.0
MDJ ScS **ScS** 21 39 15.5 0.0
MDJ PMZ
comp=Z,23nm,1.4s
MDJ PMZ
comp=Z,210nm,4.8s
MDJ LN
comp=Z,390nm,8.5s
MDJ LE
comp=Z,220nm,13.2s
MDJ LZ
comp=Z,560nm,16.0s
MDJ Mudanjiang 75.45 40 eP P 21 29 01.9 -0.4
comp=Z,33nm,0.9s
MDJ LR LR
comp=Z,539nm,19.0s
BNI Bardonecchia 75.46 320 eP P 21 29 01.8 -0.7
BNI MLR MLR
comp=Z,477nm,21.0s
BNI Bardonecchia 75.46 320 eP P 21 29 01.8 -0.7
BNI LR LR
comp=Z,477nm,21.0s
LPG La Plagne 75.61 320 eP P 21 29 03.0 -0.6
comp=Z,20nm,0.9s
LPG La Plagne 75.61 320 eP P 21 29 03.0 -0.6
LPG pmax pmax
comp=Z,20nm,0.9s
LPG La Plagne 75.61 320 eP P 21 29 03.0 -0.6
comp=Z,20nm,0.9s
LPL La Plagne 75.63 320 eP P 21 29 03.1 -0.5
comp=Z,47nm,1.2s
LPL La Plagne 75.63 320 eP P 21 29 03.1 -0.5
LPL pmax pmax
comp=Z,47nm,1.2s
LPL La Plagne 75.63 320 eP P 21 29 03.1 -0.5
comp=Z,47nm,1.2s
STU Stuttgart 75.64 324 eP P 21 29 03.3 -0.1
STU pmax pmax
comp=Z,30nm,1.0s
STU Stuttgart 75.64 324 eP P 21 29 03.2 -0.1
comp=Z,76nm,1.6s
STU Stuttgart 75.64 324 eP P 21 29 03.3 -0.1
comp=Z,30nm,1.0s
SENIN Lac Senin/Sane 75.65 321 eP P 21 29 03.2 -0.5
FINES FINESS Array B 75.69 341 ceP P 21 29 04.5 +1.2
FINES pmax pmax
comp=Z,7.0nm,0.9s
FINES FINESS Array B 75.69 341 P P 21 29 03.4 +0.1
comp=Z,7.0nm,0.9s,baz=134,slow=5.5,SNR=12
FINES LR LR 22 01 32.2
comp=Z,350nm,21.7s,baz=134,slow=35
SMRF Simiane la Rot 75.71 319 eP P 21 29 04.7 +0.8
comp=Z,60nm,1.0s
SMRF Simiane la Rot 75.71 319 eP P 21 29 04.7 +0.8
comp=Z,60nm,1.0s
ORIF Oris-en-Rattie 75.91 320 eP P 21 29 05.2 +0.1
comp=Z,33nm,0.9s
ORIF eR
comp=Z,437nm,21.8s
ORIF Oris-en-Rattie 75.91 320 eP P 21 29 05.2 +0.1
ORIF pmax pmax
comp=Z,33nm,0.9s
ORIF Oris-en-Rattie 75.91 320 eP P 21 29 05.2 +0.1
comp=Z,33nm,0.9s
BFO Black Forest 75.93 324 ceP P 21 29 05.9 +0.8
BFO Black Forest 75.93 324 eP P 21 29 05.2 +0.1
comp=Z,97nm,2.2s
BFO eL L 22 07 14.5
comp=Z,187nm,21.8s
BFO Black Forest 75.93 324 eP P 21 29 04.9 -0.1
comp=Z,20nm,1.2s
KAF Kangasniemi 76.10 341 eP P 21 29 05.3 -0.4
KAF pmax pmax
comp=Z,25nm,0.7s
KAF Kangasniemi 76.10 341 ep P 21 29 05.3 -0.4
comp=Z,24nm,0.7s
LOMF Lomont 76.38 322 eP P 21 29 07.8 +0.1
MOF Molkenrain 76.42 323 eP P 21 29 07.3 -0.6
CLZ Clausthal 76.50 327 eP P 21 29 08.7 +0.5
comp=Z,93nm,1.8s
CABF La Chapelle 76.51 321 eP P 21 29 08.9 +0.4
CABF La Chapelle 76.51 321 eP P 21 29 08.9 +0.4
CABF La Chapelle 76.51 321 eP P 21 29 08.9 +0.4
LANF Langenberg 76.54 324 eP P 21 29 08.8 +0.3
ECH Echery 76.57 323 eP P 21 29 07.0 -1.7
ECH pmax pmax
comp=Z,9.0nm,1.0s
ECH Echery 76.57 323 eP P 21 29 06.6 -2.1
ECH Echery 76.57 323 eP P 21 29 07.0 -1.7
comp=Z,9.4nm,1.0s
HINF Hinteralfeld 76.58 323 eP P 21 29 08.2 -0.5
HINF Hinteralfeld 76.58 323 eP P 21 29 08.2 -0.5
HINF Hinteralfeld 76.58 323 eP P 21 29 08.2 -0.5
CDF Champ du Feu 76.59 323 eP P 21 29 08.8 -0.1
comp=Z,79nm,1.5s
CDF Champ du Feu 76.59 323 eP P 21 29 08.8 -0.1
CDF pmax pmax
comp=Z,79nm,1.5s
CDF Champ du Feu 76.59 323 eP P 21 29 08.8 -0.1
comp=Z,79nm,1.5s
CTA Charters Tower 76.60 109 LR LR 21 59 35.2
comp=Z,749nm,21.9s,baz=254,slow=33
CTAO Charters Tower 76.60 109 PFAKE 21 29 20.0 +11
CTAO LR LR
comp=Z,2µm,20.0s
VIVF Saint-Julien-I 76.67 319 eP P 21 29 09.7 +0.4
comp=Z,63nm,1.4s
VIVF Saint-Julien-I 76.67 319 eP P 21 29 09.7 +0.4
VIVF pmax pmax
comp=Z,63nm,1.4s
VIVF Saint-Julien-I 76.67 319 eP P 21 29 09.7 +0.4
comp=Z,63nm,1.4s

TNS Taunus Mts 76.76 325 eP P 21 29 10.3 +0.6
comp=Z,30nm,1.3s
USRK Ussuriysk Ar. 76.83 42 P P 21 29 09.2 -1.0
comp=Z,4.4nm,0.9s,baz=227,slow=7.0,SNR=5.8
LASF Ste Croix 76.88 318 eP P 21 29 11.4 +0.9
LASF Ste Croix 76.88 318 eP P 21 29 11.4 +0.9
SSB Saint Sauveur 76.92 320 eP P 21 29 10.4 -0.4
SSB pmax pmax
comp=Z,15nm,0.9s
SSB Saint Sauveur 76.92 320 eP P 21 29 10.4 -0.4
comp=Z,15nm,0.9s
HAU Haudompre 76.96 323 eP P 21 29 10.6 -0.3
HAU eR
comp=Z,228nm,18.8s
HAU Haudompre 76.96 323 eP P 21 29 10.6 -0.3
HAU Haudompre 76.96 323 eP P 21 29 10.6 -0.3
NRDL Niedersach Rie 76.97 328 eP P 21 29 11.6 +0.9
comp=Z,85nm,2.0s
THEF They Montfort 77.28 323 eP P 21 29 12.0 -0.7
PAGF Fort de Pagny 77.58 323 eP P 21 29 14.6 +0.3
comp=Z,23nm,1.5s
PAGF Fort de Pagny 77.58 323 eP P 21 29 14.6 +0.3
comp=Z,23nm,1.5s
MTLF Montolieu 77.69 317 eP P 21 29 15.7 +0.6
comp=Z,68nm,1.2s
MTLF Montolieu 77.69 317 eP P 21 29 15.7 +0.6
MTLF pmax pmax
comp=Z,68nm,1.2s
MTLF Montolieu 77.69 317 eP P 21 29 15.7 +0.6
comp=Z,68nm,1.2s
LBL Lubilhac 77.74 319 eP P 21 29 15.6 +0.2
PLDF La Planade 77.80 320 eP P 21 29 15.6 -0.1
WLF Walferdange 77.82 324 P P 21 29 15.6 0.0
comp=Z,17nm,1.6s
WLF Walferdange 77.82 324 eP P 21 29 15.8 +0.1
WLF MLR MLR
comp=Z,338nm,20.0s
WLF Walferdange 77.82 324 eP P 21 29 15.7 +0.1
comp=Z,52nm,1.6s
WLF Walferdange 77.82 324 eP P 21 29 15.8 +0.1
WLF LR LR
comp=Z,338nm,20.0s
SFTF Sexfontaines 77.84 322 eP P 21 29 16.1 +0.3
comp=Z,101nm,1.4s
SFTF Sexfontaines 77.84 322 eP P 21 29 16.1 +0.3
comp=Z,101nm,1.4s
SMF Signal de Mont 77.93 321 eP P 21 29 16.2 -0.1
SMF Signal de Mont 77.93 321 eP P 21 29 16.2 -0.1
SMF Signal de Mont 77.93 321 eP P 21 29 16.2 -0.1
MEZF Maizieres J'vi 77.96 323 eP P 21 29 16.9 +0.5
MEZF Maizieres J'vi 77.96 323 eP P 21 29 16.9 +0.5
BUG Bochum--Univer 77.99 326 eP P 21 29 17.0 +0.5
comp=Z,224nm,2.7s
PYM Petit Puy Mans 78.10 320 eP P 21 29 17.9 +0.5
AGO Saint Agoulin 78.14 320 eP P 21 29 17.1 -0.4
LOR Lormes 78.17 321 eP P 21 29 17.9 +0.2
comp=Z,73nm,1.5s,baz=105
LOR eR
comp=Z,351nm,20.8s
LOR Lormes 78.17 321 eP P 21 29 17.9 +0.2
LOR pmax pmax
comp=Z,73nm,1.5s
LOR Lormes 78.17 321 eP P 21 29 17.9 +0.2
comp=Z,73nm,1.5s
PMG Port Moresby 78.22 98 PFAKE 21 29 30.0 +11
PMG LR LR
comp=Z,1µm,19.0s
AVF Avril sur Loir 78.30 321 eP P 21 29 18.3 0.0
comp=Z,16nm,1.1s
AVF Avril sur Loir 78.30 321 eP P 21 29 18.3 0.0
AVF pmax pmax
comp=Z,16nm,1.1s
AVF Avril sur Loir 78.30 321 eP P 21 29 18.3 0.0
comp=Z,16nm,1.1s
SSF Saint Saulge 78.31 321 eP P 21 29 18.5 +0.1
comp=Z,44nm,1.2s
SSF Saint Saulge 78.31 321 eP P 21 29 18.5 +0.1
SSF pmax pmax
comp=Z,44nm,1.2s
SSF Saint Saulge 78.31 321 eP P 21 29 18.5 +0.1
comp=Z,44nm,1.2s
MEM Membach 78.32 325 P P 21 29 19.4 +1.1
comp=Z,12nm,1.8s
MEM XP **sP** 21 29 23.1 -1.2
CAF Calviac 78.40 319 eP P 21 29 19.8 +0.8
CAF Calviac 78.40 319 eP P 21 29 19.8 +0.8
CAF Calviac 78.40 319 eP P 21 29 19.8 +0.8
BGF Bois d'Agland 78.52 320 eP P 21 29 20.4 +0.8
comp=Z,62nm,0.9s
BGF Bois d'Agland 78.52 320 eP P 21 29 20.4 +0.8
BGF pmax pmax
comp=Z,62nm,0.9s
BGF Bois d'Agland 78.52 320 eP P 21 29 20.4 +0.8
comp=Z,62nm,0.9s
VNA2 Neumayer--Watz 78.57 199 P P 21 29 22.5 +3.0
MAJO Matsushiro 78.59 51⇓ eP P 21 29 19.7 -0.5
MAJO pmax pmax
comp=Z,97nm,1.8s
MAJO Matsushiro 78.59 51 eP P 21 29 21.2 +1.0
comp=Z,52nm,1.7s
MAJO LR LR
comp=Z,551nm,20.0s
MAT Matsushiro 78.59 51 P P 21 29 19.9 -0.3
MJAR Matsushiro Arr 78.59 51 P P 21 29 19.5 -0.7
comp=Z,4.0nm,0.7s,baz=248,slow=5.7,SNR=21
CAN Canberra 78.61 125 PFAKE 21 29 30.0 +10
CAN LR LR
comp=Z,685nm,20.0s
BCLA Clavier 78.64 325 P P 21 29 20.6 +0.5
comp=Z,19nm,2.2s
KLR Kul'dur 78.75 37 eP P 21 29 15.2 -5.6
KLR pmax pmax
comp=Z,50nm,1.8s
GIVF Givet 78.78 324 eP P 21 29 21.6 +0.7
GIVF Givet 78.78 324 eP P 21 29 21.6 +0.7
GIVF Givet 78.78 324 eP P 21 29 21.6 +0.7
TCF Toulx Ste Croi 78.82 320 eP P 21 29 21.8 +0.5
TCF Toulx Ste Croi 78.82 320 eP P 21 29 21.8 +0.5
TCF Toulx Ste Croi 78.82 320 eP P 21 29 21.8 +0.5
EPF Esparros 78.86 316 eP P 21 29 21.6 0.0
comp=Z,38nm,1.3s
EPF Esparros 78.86 316 eP P 21 29 21.6 0.0
EPF pmax pmax
comp=Z,38nm,1.3s
EPF Esparros 78.86 316 eP P 21 29 21.6 0.0
comp=Z,38nm,1.3s
RJF Les Rejaudoux 78.90 319 eP P 21 29 22.6 +0.9
comp=Z,36nm,0.9s
RJF eR
comp=Z,331nm,19.0s
RJF Les Rejaudoux 78.90 319 eP P 21 29 22.6 +0.9
RJF pmax pmax
comp=Z,36nm,0.9s
RJF Les Rejaudoux 78.90 319 eP P 21 29 22.6 +0.9
comp=Z,36nm,0.9s
DOU Dourbes 78.91 324 P P 21 29 22.4 +0.7
comp=Z,11nm,1.8s
HYF Humbligny 78.93 321 eP P 21 29 22.5 +0.6
HYF Humbligny 78.93 321 eP P 21 29 22.5 +0.6
VIEF Viey 79.03 316 eP P 21 29 23.8 +1.2
LABF Labassere 79.05 316 eP P 21 29 24.0 +1.4
BAIF Baives 79.12 324 eP P 21 29 23.6 +0.8
comp=Z,116nm,1.4s
BAIF Baives 79.12 324 eP P 21 29 23.6 +0.8
BAIF pmax pmax
comp=Z,116nm,1.4s
BAIF Baives 79.12 324 eP P 21 29 23.6 +0.8
comp=Z,116nm,1.4s
SNF Seneffe 79.27 324 P P 21 29 24.5 +0.9
SNF AP **pP** 21 29 27.8 -0.1
LFF La Frestale 79.27 318 eP P 21 29 24.7 +1.0
comp=Z,63nm,0.9s
LFF La Frestale 79.27 318 eP P 21 29 24.7 +1.0
LFF pmax pmax
comp=Z,63nm,0.9s
LFF La Frestale 79.27 318 eP P 21 29 24.7 +1.0
comp=Z,63nm,0.9s
VNA3 Neumayer Olymp 79.36 199 P P 21 29 26.0 +2.3
REYF Montagne du Re 79.38 316 eP P 21 29 24.8 +0.3
MDT Midelt 79.42 305 P P 21 29 25.5 +0.5
comp=Z,6.1nm,0.9s,baz=116,slow=8.0,SNR=6.8
ETSF Etsaut 79.43 316 eP P 21 29 25.9 +1.1
comp=Z,48nm,1.0s
ETSF Etsaut 79.43 316 eP P 21 29 25.9 +1.1
ETSF pmax pmax

comp=Z,48nm,1.0s
ETSF Etsaut 79.43 316 eP P 21 29 25.9 +1.1
comp=Z,48nm,1.0s
LARF Larrau 79.78 316 eP P 21 29 27.9 +1.3
SJPF Ste Jean 79.97 316 eP P 21 29 28.9 +1.3
comp=Z,43nm,1.0s
SJPF Ste Jean 79.97 316 eP P 21 29 28.9 +1.3
SJPF pmax pmax
comp=Z,43nm,1.0s
SJPF Ste Jean 79.97 316 eP P 21 29 28.9 +1.3
comp=Z,43nm,1.0s
HABR Khabarovsk 80.45 38 eP P 21 29 28.0 -2.0
HABR e*SP **sP** 21 29 32.1 -3.8
HABR e 21 29 34.4
HABR 21 32 30.5
HABR ePPP PPP 21 34 19.7
HABR eS **S** 21 39 35.0 -1.1
HABR e*SS **sS** 21 39 39.8 -3.4
HABR eSS **SS** 21 44 46.1 -2.2
HABR eSSS SSS 21 48 12.8
HABR pmax pmax
comp=Z,51nm,2.1s
HABR MLR MLR
comp=Z,448nm,17.0s
MFF Saint Martin d 80.45 320 eP P 21 29 30.8 +0.7
comp=Z,43nm,1.2s
MFF Saint Martin d 80.45 320 eP P 21 29 30.8 +0.7
MFF pmax pmax
comp=Z,43nm,1.2s
MFF Saint Martin d 80.45 320 eP P 21 29 30.8 +0.7
comp=Z,43nm,1.2s
ESDC Sonseca Array 80.84 312 P P 21 29 32.6 +0.1
comp=Z,6.9nm,0.7s,baz=95,slow=4.6,SNR=36
NB2 NORSAR Subarra 80.94 336 P P 21 29 32.4 -0.1
comp=Z,76nm,2.0s,baz=120,slow=6.2
NB2 NORSAR Subarra 80.94 336 P P 21 29 32.4 -0.1
baz=120,slow=6.2
NOA NORSAR Array B 80.94 336 P P 21 29 32.7 +0.2
comp=Z,4.2nm,1.0s,baz=113,slow=5.6,SNR=3.0
LDF La Druitiere 81.15 321 eP P 21 29 34.1 +0.3
comp=Z,33nm,1.0s
LDF La Druitiere 81.15 321 eP P 21 29 34.1 +0.3
LDF pmax pmax
comp=Z,33nm,1.0s
LDF La Druitiere 81.15 321 eP P 21 29 34.1 +0.3
comp=Z,33nm,1.0s
FLN La Foliniere 81.44 322 eP P 21 29 35.7 +0.4
comp=Z,24nm,0.9s
FLN eR
comp=Z,416nm,21.0s
FLN La Foliniere 81.44 322 eP P 21 29 35.7 +0.4
FLN pmax pmax
comp=Z,24nm,0.9s
FLN La Foliniere 81.44 322 eP P 21 29 35.7 +0.4
comp=Z,24nm,0.9s
GRR Gorron 81.54 321 eP P 21 29 36.5 +0.7
comp=Z,41nm,1.1s
GRR Gorron 81.54 321 eP P 21 29 36.5 +0.7
GRR pmax pmax
comp=Z,41nm,1.1s
GRR Gorron 81.54 321 eP P 21 29 36.5 +0.7
comp=Z,41nm,1.1s
ARCES ARCESS Array B 81.81 346 P P 21 29 36.6 -0.3
comp=Z,4.4nm,0.8s,baz=143,slow=3.9,SNR=13
ARCES LR LR 22 05 60.0
comp=Z,422nm,21.2s,baz=132,slow=36
SGMF Saint Gilles 82.56 321 eP P 21 29 41.4 +0.2
comp=Z,87nm,1.4s
SGMF Saint Gilles 82.56 321 eP P 21 29 41.4 +0.2
SGMF pmax pmax
comp=Z,87nm,1.4s
SGMF Saint Gilles 82.56 321 eP P 21 29 41.4 +0.2
comp=Z,87nm,1.4s
JSA Saint Aubin 82.63 322 AMS AMS 21 29 22.4
comp=Z,1µm,18.3s
QUIF Quistinic 82.83 320 eP P 21 29 42.8 +0.2
comp=Z,32nm,1.2s
QUIF Quistinic 82.83 320 eP P 21 29 42.8 +0.2
QUIF pmax pmax
comp=Z,32nm,1.2s
QUIF Quistinic 82.83 320 eP P 21 29 42.8 +0.2
comp=Z,32nm,1.2s
QSPA South Pole Qui 82.94 180 eP P 21 29 42.7 -0.4
comp=Z,59nm,1.4s
QSPA LR LR
comp=Z,1µm,22.0s
ROSF Rostrenen 83.04 320 eP P 21 29 43.8 +0.1
comp=Z,71nm,1.5s
ROSF Rostrenen 83.04 320 eP P 21 29 43.8 +0.1
ROSF pmax pmax
comp=Z,71nm,1.5s
ROSF Rostrenen 83.04 320 eP P 21 29 43.8 +0.1
comp=Z,71nm,1.5s
PMRV Marv??o 83.32 311 eP P 21 29 48.0 +2.6
comp=Z,23nm,1.5s
PESTR Estremoz 83.33 310 eP P 21 29 46.4 +0.9
comp=Z,22nm,2.3s
PBRG Braganca 83.47 313 eP P 21 29 47.2 +1.1
comp=Z,18nm,1.5s
YAK Yakutsk 83.47 25 eP P 21 29 44.9 -0.7
YAK e 21 29 54.3
YAK pmax pmax
comp=Z,14nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK Yakutsk 83.47 25 PFAKE 21 30 00.0 +14
YAK LR LR
comp=Z,597nm,19.0s
PCBR Castelo Branco 83.49 311 eP P 21 29 47.4 +1.2
comp=Z,24nm,1.3s
MVO Moncorvo 83.50 313 eP P 21 29 46.7 +0.3
comp=Z,28nm,1.5s
EVO Evora 83.57 310 eP P 21 29 47.8 +1.1
comp=Z,29nm,1.6s
PNCL Nicolau / Gran 83.86 310 eP P 21 29 45.6 -2.6
comp=Z,31nm,2.8s
VNDA Vanda 83.96 167 P P 21 29 48.7 +0.7
comp=Z,4.3nm,0.8s,baz=270,slow=5.3,SNR=12
VNDA LR LR 22 02 21.2
comp=Z,662nm,20.4s,baz=272,slow=32
PCAS Casmilo, Conde 84.31 311 eP P 21 29 51.2 +0.8
comp=Z,41nm,1.9s
HTL Hartland 84.62 323 AMS AMS 21 29 30.0
comp=Z,1µm,18.7s
LPW Lampeter 84.73 324 AMS AMS 21 30 57.9
comp=Z,2µm,20.8s
YSS Yuzh-Sakhalins 84.88 42 eP P 21 29 53.5 +0.4
KESW Keswick, Cumbr 84.99 326 AMS AMS 21 30 57.8
comp=Z,1µm,21.4s
TIXI Tiksi 87.90 16⇑ iP P 21 30 07.0 -0.4
TIXI pmax pmax
comp=Z,20nm,1.5s
TIXI Tiksi 87.90 16 eP P 21 30 07.2 -0.2
comp=Z,18nm,1.0s
SEY Seymchan 93.71 27 eP P 21 30 35.6 +0.9
BILL Bilibino 99.64 22 PFAKE 21 31 10.0 +8.5
BILL LR LR
comp=Z,875nm,21.0s
COLA College 117.03 16 PFAKE 21 36 10.0 +7.2
COLA LR LR
comp=Z,812nm,19.0s
ILAR Eielson Array 117.37 16 PKP PKPdf 21 36 02.5 -1.0
comp=Z,0.7nm,0.9s,baz=313,slow=2.9,SNR=6.5
YKA Yellowknife Ar 124.68 1 PKP PKPdf 21 36 16.8 -0.7
comp=Z,2.0nm,0.8s,baz=349,slow=2.3,SNR=28
YKA PP **PP** 21 38 03.8 -0.2
comp=Z,1.6nm,1.1s,baz=355,slow=6.8,SNR=5.9
YKA PKKPbc **PKKPab** 21 46 00.0 +1.2
comp=Z,0.4nm,0.8s,baz=169,slow=4.0,SNR=9.3
SAML Samuel 128.80 253 ePKPdf PKPdf 21 36 26.9 0.0
LPAZ La Paz 130.76 241 PKP PKPdf 21 36 30.8 -0.5
comp=Z,1.7nm,0.9s,baz=180,slow=1.9,SNR=6.1
PPT2 Papeete2 135.51 124 eLR LR 22 20 08.4
comp=Z,592nm,25.5s
EGMT Eagleton 139.17 358 ePKPdf PKPdf 21 36 45.4 0.0
LAO LASA Array 140.24 354 ePKPdf PKPdf 21 36 47.3 -0.1
BOZ Bozeman (W) 141.59 360 ePKIKP PKPdf 21 36 50.9 +0.9
BOZ Bozeman (W) 141.59 360 ePKPdf PKPdf 21 36 50.9 +0.9
RKT Rikitea 142.50 144 eLR LR 22 23 33.6
comp=Z,628nm,26.0s
I25A Rochford 142.51 350 P PKPdf 21 36 46.8 -5.0
baz=142
J05D Fort Rock, OR 143.05 11 P PKPbc 21 36 49.4 0.0
baz=143
I21A Big Trails, Te 143.20 354 P PKPbc 21 36 49.5 -0.3

	baz=143						
J22A	Midwest	143.50	353	P	PKPab	21 36 49.4	-0.3
	baz=143						
HLID	Hailey	143.62	3	P	PKPab	21 36 49.0	-1.2
	baz=144						
J19A	Crowheart	143.88	356	P	PKPbc	21 36 52.2	+0.4
	baz=144						
K22A	Casper	144.26	353	P	**PKPab**	**21 36 52.0**	**-0.6**
	baz=144						
K22A	Casper	144.26	353	*e*PKPdf	PKPbc	21 36 52.9	-0.1
WVOR	Wild Horse Val	144.32	8	*e*PKIKP	PKPbc	21 36 53.4	+0.3
WVOR	Wild Horse Val	144.32	8	*e*PKPdf	PKPbc	21 36 53.4	+0.3
K21A	Alcova	144.36	354	P	**PKPab**	**21 36 52.6**	**-0.5**
	baz=144						
M04C	Macdoel	144.37	13	P	**PKPdf**	**21 36 54.3**	**-0.7**
	baz=144						
BW06	Boulder Array	144.41	357	*e*PKPdf	PKPbc	21 36 53.9	+0.3
PDAR	Pinedale Array	144.41	357	PKP	PKPbc	21 36 53.8	+0.2
	comp=Z,1.8nm,0.7s,baz=107,slow=1.8,SNR=13						
PDAR				PP	PP	21 40 14.9	+5.5
	comp=Z,1.4nm,1.1s,baz=324,slow=4.5,SNR=4.4						
M02C	Callahan	144.51	14	P	**PKPdf**	**21 36 54.5**	**-0.7**
	baz=144						
M28A	Bar X Bar Ranc	144.56	346	P	PKPbc	21 36 54.1	+0.3
	baz=144						
MOD	Modoc Plateau	144.56	11	*e*PKPdf	PKPbc	21 36 54.0	+0.1
M27A	Reverse DX Ran	144.66	347	P	**PKPab**	**21 36 54.1**	**+0.1**
	baz=144						
L23A	Garrett	144.68	352	P	**PKPab**	**21 36 54.4**	**0.0**
	baz=144						
O32A	Brockman Farm,	144.76	342	P	**PKPab**	**21 36 53.8**	**-0.6**
	baz=145						
KHMM	Horse Mountain	144.77	15	*e*PKPdf	**PKPdf**	**21 36 55.5**	**-0.3**
N30A	Hueftle Ranch,	144.80	344	P	**PKPab**	**21 36 54.2**	**-0.4**
	baz=145						
L22A	Ellis Ranch, M	144.86	353	P	**PKPab**	**21 36 54.9**	**0.0**
	baz=145						
M26A	McRoberts Ranc	144.88	348	P	**PKPdf**	**21 36 55.8**	**-0.1**
	baz=145						
N02D	Trinity Center	144.94	14	P	**PKPdf**	**21 36 55.8**	**-0.2**
	baz=145						
M25A	Palm-Egli Farm	145.08	350	P	**PKPdf**	**21 36 56.1**	**-0.2**
	baz=145						
OGNE	Ogallala	145.14	347	*e*PKPbc	**PKPbc**	**21 36 54.9**	**-0.8**
M24A	Cheyenne	145.18	351	P	**PKPdf**	**21 36 56.7**	**+0.1**
	baz=145						
KSU1	Kansas State U	145.25	339	P	**PKPbc**	**21 36 55.6**	**-0.4**
	baz=145						
KSU1	Kansas State U	145.25	339	*e*PKPdf	**PKPbc**	**21 36 55.6**	**-0.4**
N28A	Pribbeno Ranch	145.27	346	P	**PKPbc**	**21 36 56.1**	**-0.1**
	baz=145						
LRAL	Lakeview Retre	145.30	321	*e*PKPbc	**PKPbc**	**21 36 55.7**	**-0.7**
M23A	Laramie	145.32	352	P	**PKPdf**	**21 36 56.9**	**+0.1**
	baz=145						
WDC	Whiskeytown Da	145.35	14	*e*PKIKP	**PKPbc**	**21 36 56.1**	**-0.3**
WDC	Whiskeytown Da	145.35	14	*e*PKPbc	**PKPbc**	**21 36 56.1**	**-0.3**
O30A	MW Ranch, Wils	145.36	344	P	**PKPbc**	**21 36 56.4**	**0.0**
	baz=145						
N27A	Anderson Farm,	145.38	347	P	**PKPbc**	**21 36 56.6**	**0.0**
	baz=145						
P32A	Huiting Farm,	145.45	342	P	**PKPbc**	**21 36 56.6**	**-0.1**
	baz=145						
HVU	Hansel Valley	145.45	1	*e*PKIKP	**PKPbc**	**21 36 56.8**	**-0.1**
HVU	Hansel Valley	145.45	1	*e*PKPbc	**PKPbc**	**21 36 56.8**	**-0.1**
M22A	Cedar Creek Ra	145.50	353	P	**PKPab**	**21 36 57.3**	**0.0**
	baz=145						
HBAR	Harrisburg	145.56	328	*e*PKPdf	**PKPbc**	**21 36 57.2**	**0.0**
O29A	4D Ranch, Culb	145.61	345	P	**PKPbc**	**21 36 57.2**	**-0.1**
	baz=146						
HWUT	Hardware Ranch	145.63	359	*e*PKPdf	**PKPab**	**21 36 57.6**	**-0.1**
OXF	Oxford	145.68	326	*e*PKIKP	**PKPdf**	**21 36 56.9**	**-0.4**
OXF	Oxford	145.68	326	*e*PKPdf	**PKPdf**	**21 36 56.9**	**-0.4**
Q33A	Connelly Farm,	145.76	340	P	**PKPdf**	**21 36 57.1**	**-0.2**
	baz=146						
P31A	Stockton	145.78	343	P	**PKPbc**	**21 36 57.6**	**-0.2**
	baz=146						
N24A	Carr	145.81	350	P	**PKPbc**	**21 36 57.9**	**-0.2**
	baz=146						
KIPM	Iron Peak	145.84	16	*e*PKPdf	**PKPab**	**21 36 58.5**	**0.0**
OTAV	Otavalo	145.85	260	*e*PKPdf	**PKPab**	**21 36 59.8**	**0.0**
O28A	Krutsinger Ran	145.86	346	P	**PKPab**	**21 36 58.4**	**-0.1**
	baz=146						
N23A	Red Feather La	145.91	352	P	**PKPbc**	**21 36 58.5**	**0.0**
	baz=146						
KCPM	Cahto Peak	145.92	16	*e*PKPdf	**PKPab**	**21 36 59.8**	**+1.0**
O27A	Beecher Island	145.96	347	P	**PKPab**	**21 36 59.1**	**+0.2**
	baz=146						
P30A	Selden	146.01	344	P	**PKPbc**	**21 36 58.5**	**-0.1**
	baz=146						
Q32A	Meitler Ranch,	146.01	341	P	**PKPdf**	**21 36 58.1**	**+0.3**
	baz=146						
N22A	Wattenberg Ran	146.07	352	P	**PKPab**	**21 36 59.3**	**-0.2**
	baz=146						
O26A	Horse Wrangler	146.09	348	P	**PKPab**	**21 36 59.4**	**-0.1**
	baz=146						
TCUT	Toone Canyon	146.12	359	*e*PKPdf	**PKPdf**	**21 36 58.5**	**+0.3**
P29A	Atwood	146.14	345	P	**PKPab**	**21 36 59.4**	**-0.2**
	baz=146						
N20A	Spence Gulch,	146.24	355	P	**PKPab**	**21 37 00.1**	**0.0**
	baz=146						
Q31A	Ellis	146.26	342	P	**PKPab**	**21 37 00.1**	**+0.1**
	baz=146						
ELK	Elko	146.37	4	PKPbc	**PKPab**	**21 37 00.3**	**-0.3**
	comp=Z,6.3nm,1.0s,baz=2.2,slow=2.7,SNR=13						
O25A	Wiggins	146.37	349	P	**PKPab**	**21 37 00.3**	**-0.2**
	baz=146						
P28A	Saint Francis	146.38	346	P	**PKPbc**	**21 36 59.9**	**+0.2**
	baz=146						
R33A	Olander Ranch,	146.44	340	P	**PKPbc**	**21 36 59.3**	**-0.5**
	baz=146						
BMN	Battle Mountai	146.48	7	*e*PKP2	**PKPdf**	**21 36 58.2**	**-0.5**
BMN	Battle Mountai	146.48	7	*e*PKPdf	**PKPdf**	**21 36 58.2**	**-0.5**
CTU	Camp Tracy	146.55	360	*e*PKPdf	**PKPdf**	**21 36 58.5**	**-0.4**
R32A	Long Quarter,	146.57	341	P	**PKPdf**	**21 36 58.9**	**+0.1**
	baz=146						
O23A	Lake Granby, G	146.58	352	P	**PKPab**	**21 37 01.2**	**-0.3**
	baz=146						
O22A	Kremmling	146.72	352	P	**PKPbc**	**21 37 00.5**	**-0.5**
	baz=147						
P26A	Davis Ranch, A	146.75	348	P	**PKPbc**	**21 37 01.1**	**+0.2**
	baz=147						
Q28A	Sharon Springs	146.88	345	P	**PKPbc**	**21 37 01.2**	**0.0**
	baz=147						
O20A	White River Ci	146.93	355	P	**PKPbc**	**21 37 01.2**	**-0.2**
	baz=147						
O20A	White River Ci	146.93	355	*e*PKPdf	**PKPdf**	**21 36 59.1**	**-0.4**
ISCO	Idaho Springs	146.94	351	*e*PKP2	**PKPdf**	**21 36 59.4**	**-0.3**
ISCO	Idaho Springs	146.94	351	P	**PKPbc**	**21 37 01.2**	**-0.4**
	baz=147						
ISCO	Idaho Springs	146.94	351	*e*PKPdf	**PKPdf**	**21 36 59.4**	**-0.3**
P25A	Willow Gulch B	146.96	349	P	**PKPbc**	**21 37 01.7**	**+0.1**
	baz=147						
DUG	Dugway, Tooele	147.03	1	*e*PKP2	**PKPdf**	**21 37 00.2**	**+0.5**
DUG	Dugway, Tooele	147.03	1	P	**PKPbc**	**21 37 01.5**	**-0.1**
	baz=147						
DUG	Dugway, Tooele	147.03	1	*e*PKPdf	**PKPdf**	**21 37 00.2**	**+0.5**
UALR	University of	147.04	329	*e*PKPdf	**PKPdf**	**21 36 58.5**	**-1.1**
KSCO	Kaye Shedlock'	147.12	346	P	**PKPbc**	**21 37 01.9**	**0.0**
	baz=147						
KSCO	Kaye Shedlock'	147.12	346	*e*PKPdf	**PKPdf**	**21 37 00.0**	**+0.2**
R30A	Dighton	147.19	343	P	**PKPbc**	**21 37 02.2**	**+0.2**
	baz=147						
P23A	Jefferson	147.39	351	P	**PKPbc**	**21 37 02.0**	**-0.9**
	baz=147						
Q26A	Hugo	147.40	348	P	**PKPbc**	**21 37 02.0**	**-0.7**
	baz=147						
R28A	Tribune	147.55	345	P	**PKPbc**	**21 37 02.7**	**-0.4**
	baz=147						
S31A	Mullinville	147.56	341	P	**PKPbc**	**21 37 02.7**	**-0.4**
	baz=147						
T33A	Patterson Ranc	147.63	339	P	**PKPbc**	**21 37 02.4**	**-0.8**
	baz=148						
Q24A	Divide	147.68	350	P	**PKPbc**	**21 37 03.2**	**-0.5**
	baz=148						
TUL1	Leonard	147.70	335	P	**PKPbc**	**21 37 02.9**	**-0.5**
	baz=148						
TUL1	Leonard	147.70	335	*e*PKPdf	**PKPdf**	**21 37 01.2**	**+0.6**
MIAR	Mount Ida	147.83	331	*e*PKIKP	**PKPdf**	**21 37 01.0**	**+0.1**
MIAR				*e*		21 37 05.9	
MIAR	Mount Ida	147.83	331	*e*PKPdf	**PKPdf**	**21 37 01.0**	**+0.1**
MIAR				*e*PKPab	**PKiKP**	**21 37 05.8**	**+0.1**
R27A	Eads	147.85	346	P	**PKPbc**	**21 37 02.8**	**-1.1**
	baz=148						
TMUT	Trail Mountain	147.93	359	*e*PKPdf	**PKPdf**	**21 37 01.6**	**+0.2**
U34A	Anderson Ranch	147.94	338	*e*PKPdf	**PKPdf**	**21 37 00.6**	**-0.5**
R26A	Arlington	147.98	347	P	**PKPbc**	**21 37 03.2**	**-1.1**
	baz=148						
T31A	Randall Ranch,	148.09	341	P	**PKPbc**	**21 37 03.2**	**-1.3**
	baz=148						
SRU	San Rafael Swe	148.10	358	*e*PKIKP	**PKPdf**	**21 37 01.4**	**-0.1**
SRU	San Rafael Swe	148.10	358	*e*PKPdf	**PKPdf**	**21 37 01.4**	**-0.1**
V35A	Meyer Ranch, C	148.26	336	P	**PKPbc**	**21 37 03.6**	**-1.3**
	baz=148						
CMB	Columbia Colle	148.28	13	*e*PKIKP	**PKPdf**	**21 37 01.6**	**0.0**
CMB	Columbia Colle	148.28	13	*e*PKPdf	**PKPdf**	**21 37 01.6**	**0.0**
S28A	Manter	148.29	345	P	**PKPbc**	**21 37 04.0**	**-1.0**
	baz=148						
NVAR	Mina Array Bea	148.29	9	PKPbc	**PKPbc**	**21 37 04.8**	**-0.4**
	comp=Z,6.9nm,0.8s,baz=326,slow=1.9,SNR=20						
R24A	Sanders Place,	148.38	350	P	**PKPbc**	**21 37 04.6**	**-0.8**
	baz=148						
V34A	Guthrie	148.47	337	P	**PKPbc**	**21 37 04.3**	**-1.1**
	baz=148						
V34A	Guthrie	148.47	337	*e*PKPdf	**PKPdf**	**21 37 02.4**	**+0.4**
U32A	Winter Ranch,	148.52	340	P	**PKPbc**	**21 37 04.9**	**-0.8**
	baz=148						
R23A	Moffat	148.54	351	P	**PKPdf**	**21 37 00.4**	**-2.0**
	baz=148						
S26A	Kim	148.64	347	P	**PKPdf**	**21 37 02.2**	**-0.2**
	baz=148						
PV04	Paradox Valley	148.72	355	*e*PKPdf	**PKPdf**	**21 37 03.4**	**+0.9**
R11A	Troy Canyon, C	148.72	5	P	**PKPdf**	**21 37 02.9**	**+0.3**
	baz=149						
R11A	Troy Canyon, C	148.72	5	*e*PKPdf	**PKPdf**	**21 37 02.3**	**-0.3**
T28A	Walsh	148.78	345	P	**PKPdf**	**21 37 03.3**	**+0.8**
	baz=149						
TPH	Tonopah	148.80	8	*e*PKIKP	**PKPdf**	**21 37 03.2**	**+0.5**
TPH	Tonopah	148.80	8	*e*PKPdf	**PKPdf**	**21 37 03.2**	**+0.5**
S25A	Robets Cordova	148.81	348	P	**PKPdf**	**21 37 03.5**	**+0.8**
	baz=149						
S24A	Houchin Ranch,	148.97	350	P	**PKPdf**	**21 37 04.8**	**+1.6**
	baz=149						
T27A	Campo	149.00	345	P	**PKPdf**	**21 37 04.8**	**+1.8**
	baz=149						
T26A	Comanche Natio	149.09	347	P	**PKPdf**	**21 37 04.6**	**+1.4**
	baz=149						
S22A	4UR Ranch, Cre	149.13	352	P	**PKPdf**	**21 37 04.9**	**+1.5**
	baz=149						
V32A	Arapaho	149.13	339	P	**PKPdf**	**21 37 04.5**	**+1.4**
	baz=149						
T25A	Trinidad	149.31	348	P	**PKPdf**	**21 37 05.6**	**+2.0**
	baz=149						
U27A	Thompson Grove	149.63	345	P	**PKPdf**	**21 37 03.7**	**-0.3**
	baz=150						
W32A	Sentinel	149.74	339	P	**PKPdf**	**21 37 05.7**	**+1.7**
	baz=150						
U26A	Atchley Ranch,	149.88	347	P	**PKPdf**	**21 37 05.7**	**+1.3**
	baz=150						
WMOK	Wichita Mounta	149.91	338	*e*PKPdf	**PKPdf**	**21 37 04.4**	**0.0**
U25A	Circle Dot Ran	150.02	348	P	**PKPdf**	**21 37 05.5**	**+0.8**
	baz=150						
Y34A	Reagan Ranch,	150.20	336	P	**PKPdf**	**21 37 05.9**	**+1.1**
	baz=150						
X32A	Elmer	150.38	338	P	**PKPbc**	**21 37 10.1**	**-0.2**
	baz=150						
U23A	El Rito	150.42	350	P	**PKPdf**	**21 37 06.5**	**+1.1**
	baz=150						
FURC	Furnace Creek,	150.43	8	P	**PKPbc**	**21 37 11.5**	**+1.3**
	baz=150						
X31A	McDonald Ranch	150.44	340	P	**PKPbc**	**21 37 11.2**	**+0.7**
	baz=150						
V26A	Tequesquite Ra	150.46	346	P	**PKPbc**	**21 37 10.0**	**-0.6**
	baz=150						
137A	Heron Place, G	150.47	331	P	**PKPdf**	**21 37 07.4**	**+2.2**
	baz=150						
Y33A	Hilltop Ranch,	150.50	337	P	**PKPdf**	**21 37 06.5**	**+1.3**
	baz=150						
Z35A	Perchaven, San	150.53	334	P	**PKPbc**	**21 37 11.6**	**+1.0**
	baz=150						
V25A	Rancho No Teng	150.60	348	P	**PKPbc**	**21 37 10.6**	**-0.4**
	baz=150						
VES	Vestal, Richgr	150.66	12	P	**PKPbc**	**21 37 10.7**	**-0.2**
	baz=150						
AMTX	Amarillo	150.76	342	P	**PKPbc**	**21 37 10.8**	**-0.4**
	baz=151						
Z34A	Collier Ranch,	150.77	335	P	**PKPbc**	**21 37 11.3**	**0.0**
	baz=151						
U15A	North Rim	150.80	0	P	**PKPbc**	**21 37 12.0**	**+0.4**
	baz=151						
Y32A	R-V Farms, Ver	150.81	338	P	**PKPbc**	**21 37 11.6**	**+0.2**
	baz=151						
V24A	Rampart Ranch,	150.84	349	P	**PKPbc**	**21 37 11.7**	**+0.1**
	baz=151						
X30A	Coker Ranch, T	150.91	341	P	**PKPbc**	**21 37 11.6**	**-0.1**
	baz=151						
V22A	San Miguel Ran	150.94	351	P	**PKPbc**	**21 37 12.4**	**+0.5**
	baz=151						
ISA	Isabella, Lake	150.96	11	P	**PKPbc**	**21 37 12.5**	**+0.8**
	baz=151						
W27A	Bowe Ranch, En	150.97	345	P	**PKPbc**	**21 37 12.1**	**+0.3**
	baz=151						
V23A	Ortiz Mt. (NFS	150.99	350	P	**PKPbc**	**21 37 12.6**	**+0.6**
	baz=151						
SHOC	Shoshone, Teco	151.06	7	P	**PKPbc**	**21 37 13.1**	**+1.2**
	baz=151						
W25A	X Bar L Ranch,	151.17	347	P	**PKPbc**	**21 37 12.8**	**+0.5**
	baz=151						
X29A	Tulia	151.17	342	P	**PKPbc**	**21 37 12.4**	**+0.1**
	baz=151						
Z33A	Whitaker Ranch	151.19	337	P	**PKPbc**	**21 37 13.2**	**+1.0**
	baz=151						
X28A	Dimmitt	151.25	343	P	**PKPbc**	**21 37 13.4**	**+0.9**
	baz=151						
135A	Vickery Place,	151.26	334	P	**PKPbc**	**21 37 12.5**	**+0.1**
	baz=151						
LRMC	Laurel Mtn Rad	151.27	10	P	**PKPdf**	**21 37 08.2**	**+1.6**
	baz=151						
W24A	Lazy 6 Ranch,	151.37	349	P	**PKPdf**	**21 37 08.8**	**+2.0**
	baz=151						
Z32A	Haskell	151.45	338	P	**PKPdf**	**21 37 08.4**	**+1.6**
	baz=151						
134A	White-Moore Ra	151.53	335	P	**PKPdf**	**21 37 08.2**	**+1.3**
	baz=151						
GSC	Goldstone, Bar	151.58	8	P	**PKPbc**	**21 37 14.3**	**+1.2**
	baz=151						
X26A	CR and CF Fran	151.65	346	P	**PKPdf**	**21 37 08.2**	**+1.0**
	baz=152						
Z31A	Sharp Cattle R	151.68	339	P	**PKPdf**	**21 37 08.4**	**+1.2**
	baz=152						
WUAZ	Wupatki	151.71	359	P	**PKPdf**	**21 37 10.1**	**+2.9**
	baz=152						
WUAZ	Wupatki	151.71	359	*e*PKPdf	**PKPdf**	**21 37 07.6**	**+0.3**
WHTX	Lake Whitney,	151.76	333	*e*PKPdf	**PKPdf**	**21 37 07.1**	**-0.1**
EDW2	Edwards Air Fo	151.81	10	P	**PKPdf**	**21 37 09.4**	**+2.1**
	baz=152						
ANMO	Albuquerque	151.82	350	*e*PKIKP	**PKPdf**	**21 37 07.3**	**-0.2**
ANMO						21 37 15.3	
ANMO						21 40 53.2	
ANMO	Albuquerque	151.82	350	PKPbc	**PKPbc**	**21 37 15.3**	**+1.4**
	comp=Z,4.3nm,0.9s,baz=49,slow=2.7,SNR=14						
ANMO				PP	**PP**	**21 40 53.2**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=353,slow=4.2,SNR=4.2						
ANMO	Albuquerque	151.82	350	*e*PKPdf	**PKPdf**	**21 37 07.2**	**-0.2**
ANMO				PKPbc	**PKPbc**	**21 37 15.3**	**+1.4**
ANMO				PP	**PP**	**21 40 53.1**	**+0.5**
Y28A	McKinney Farm,	151.83	343	P	**PKPbc**	**21 37 10.8**	**-3.0**
	baz=152						
336A	Riesel	151.99	332	P	**PKPdf**	**21 37 09.3**	**+1.7**
	baz=152						
Y27A	Causey	152.12	344	P	**PKPbc**	**21 37 13.5**	**-1.0**
	baz=152						
ABTX	Abilene, Hawle	152.12	337	P	**PKPbc**	**21 37 14.6**	**+0.2**
	baz=152						
GMRC	Granite Mounta	152.24	6	P	**PKPbc**	**21 37 14.4**	**-0.4**
	baz=152						
LAZ	Ladron	152.46	351	*e*PKPdf	**PKPdf**	**21 37 08.7**	**+0.2**
Y24A	Capitan	152.62	348	P	**PKPdf**	**21 37 09.5**	**+0.7**
	baz=152						
130A	Snyder	152.63	339	P	**PKPbc**	**21 37 16.2**	**+0.6**
	baz=152						
X18A	Snowflake	152.63	356	P	**PKPbc**	**21 37 15.7**	**0.0**
	baz=152						
HKT	Hockley	152.65	328	*e*PKIKP	**PKPdf**	**21 37 09.6**	**+1.1**
HKT	Hockley	152.65	328	*e*PKPdf	**PKPdf**	**21 37 09.6**	**+1.1**
334A	Lometa	152.67	334	P	**PKPdf**	**21 37 09.3**	**+0.6**
	baz=153						
X16A	Lo Mia Camp, P	152.81	359	P	**PKPbc**	**21 37 17.3**	**+1.2**
	baz=153						
434A	Burnet	153.12	333	P	**PKPdf**	**21 37 10.0**	**+0.7**
	baz=153						
BC3	Big Chuckawall	153.38	6	P	**PKPbc**	**21 37 18.6**	**+1.3**
	baz=153						
Z14A	Wintersburg	153.85	2	P	**PKPbc**	**21 37 20.0**	**+1.8**
	baz=154						
JCT	Junction City	154.07	335	*e*PKIKP	**PKPbc**	**21 37 19.2**	**+0.4**
JCT	Junction City	154.07	335	*e*PKPbc	**PKPbc**	**21 37 19.2**	**+0.4**
431A	Sonora	154.22	337	P	**PKPbc**	**21 37 19.2**	**0.0**
	baz=154						
532A	Rocksprings	154.42	335	P	**PKPbc**	**21 37 18.9**	**-0.7**
	baz=154						
531A	Rocksprings	154.65	336	P	**PKPdf**	**21 37 11.3**	**-0.3**
	baz=154						
429A	Davenport Ranc	154.75	339	P	**PKPdf**	**21 37 11.8**	**+0.1**
	baz=155						
530A	J-C Ranch, Com	154.97	338	P	**PKPdf**	**21 37 12.7**	**+0.7**
	baz=155						
529A	Stev Forest Ra	155.32	339	P	**PKPdf**	**21 37 12.8**	**+0.4**
	baz=155						
TXAR	Lajitas Array	156.53	341	PKP	**PKPdf**	**21 37 14.8**	**+0.7**
	comp=Z,1.3nm,1.0s,baz=316,slow=3.5,SNR=7.8						
TXAR				PKPab	**PKPab**	**21 37 43.6**	**+0.9**
	comp=Z,4.4nm,0.9s,baz=65,slow=3.2,SNR=8.3						
TXAR				PP	PP	21 41 33.9	+15
	comp=Z,1.1nm,1.0s,baz=22,slow=2.9,SNR=4.0						

*ISCJB **14** 21:30:32.7±0.7, 13°.85N±0°.05×119°.78E±0°.05, h10km, mb3.8/4, Error ellipse: s-maj=7.8km s-min=6.9km az=152.9*
*MAN **14** 21:30:32, 13°.89N×119°.73E, h7km, mb4.8, ML3.8, MS3.8*
MAN INTENSITY II - LUBANG OCCIDENTAL MINDORO.
*IDC **14** 21:30:32.4±1.2, 13°.68N×119°.89E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/27, mbtmp3.7/5, Error ellipse: s-maj=22.8km s-min=12.5km az=151.0*

ISC 14 21:30:33.1±1.1, 13°.85N±0°.06×119°.78E±0°.07, h10km, n15, σ0°.88/16, mb3.8/4, 4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.47**	**104**	*e*P		**Pg**		**21 30 42.9**	**+0.6**
LUBP				*e*S		**Sg**		**21 30 48.7**	**+0.3**
TGY	**Tagaytay City**	**1.15**	**77**	Pg		**Pb**		**21 30 53.9**	**-1.3**
	242nm,0.3s,baz=262,slow=3.4,SNR=12								
TGY				Lg		Lg		21 31 08.8	
	212nm,0.3s,baz=121,slow=18,SNR=11								
TGY				LR		LR		21 31 20.4	
	comp=Z,103nm,18.6s,baz=16,slow=44								
TGY	**Tagaytay City**	**1.15**	**77**	↓*i*P		**Pb**		**21 30 54.6**	**-0.6**
PGP	**Puerto Galera**	**1.19**	**107**	↓*e*P		**Pb**		**21 30 55.8**	**-0.1**
BUSP	**Coron**	**1.88**	**167**	*e*P		**Pn**		**21 31 05.4**	**+0.1**
SJMP	**San Jose**	**1.90**	**136**	*e*P		**Pn**		**21 31 05.9**	**+0.3**
PCPH	**Palayan**	**2.13**	**37**	↓*e*P		**Pn**		**21 31 08.8**	**0.0**
PCPH				*e*S		**Sn**		**21 31 35.1**	**-0.3**
GQP	**Guinayangan**	**2.59**	**88**	↓*e*P		**Pn**		**21 31 16.6**	**+1.5**
OTRP	**Odiongan**	**2.63**	**124**	*e*P		**Pn**		**21 31 15.9**	**+0.1**
ENPP	**El Nido**	**2.65**	**188**	*e*P		**Pn**		**21 31 16.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**20.53**	**286**	P		Pn		21 35 15.8	+1.7
	0.3nm,0.6s,baz=99,slow=11,SNR=3.1								
BATI	**Baumata**	**24.20**	**171**	P		**P**		**21 35 50.0**	**-0.1**
	5.9nm,0.5s,baz=148,slow=5.4,SNR=3.7								
WRA	**Warramunga Arr**	**36.51**	**157**	P		**P**		**21 37 37.4**	**-1.6**
	1.9nm,0.8s,baz=336,slow=9.5,SNR=24								
ASAR	**Alice Springs**	**39.76**	**160**	P		**P**		**21 38 05.5**	**-0.9**
	1.1nm,0.7s,baz=336,slow=7.5,SNR=13								
MKAR	**Makanchi Array**	**45.39**	**324**	P		**P**		**21 38 53.1**	**+1.2**
	0.3nm,0.8s,baz=132,slow=6.0,SNR=3.2								

GUC 14 21:32:11.0±0.5, 35°.69S×72°.66W, h17km±6km, ML3.9, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.46**	**193**	↓*i*P			Pg	21 32 20.1	-0.1
COCH				*i*S			Sb	21 32 27.2	+0.2
LNCH	**Linares**	**0.88**	**101**	*i*P4			Pb	21 32 27.9	+0.2
LNCH				*e*S			Sb	21 32 39.2	0.0
TALC	**Talca**	**0.89**	**71**	↑*i*P			Pb	21 32 27.3	-0.6
TALC				*i*S			Sg	21 32 39.7	-0.2
NICH	**Los Niches**	**1.35**	**60**	↑*i*P			Pn	21 32 34.6	-0.5
NICH				*i*S			Sb	21 32 53.4	+0.4
CLCH	**Cerro Calan**	**2.88**	**38**	*e*P1			Pn	21 32 58.2	+2.0
CLCH				IAML				21 33 44.1	
	comp=N,370nm,0.5s								
PEL	**Peldehue**	**3.02**	**33**	*e*P1			Pn	21 32 59.7	+1.6
PEL				IAML				21 33 44.9	
	comp=E,346nm,0.6s								

WEL 14 21:43:22.7±0.8, 45°.98S×165°.83E, h5km, ML3.6/10, Error ellipse: s-maj=8.0km s-min=4.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.05**	**62**	P*			Pg	21 43 41.0	-1.9
DCZ				S*			Sg	21 43 54.8	-1.7
DCZ				AML			AML	21

CAMI	**Rancho Maria**	**1.71**	**314**	P	**Pn**	**22 13 05.0**	**-1.1**
CAYA	**Cayambe**	**2.05**	**340**	P	**Pn**	**22 13 11.0**	**0.0**
PINO	**Pino**	**2.16**	**322**	P	**Pn**	**22 13 10.7**	**-1.8**
OTAV	**Otavalo**	**2.40**	**331**	⇓P	**Pn**	**22 13 13.9**	**-1.8**

*IDC **14** 22:17:26.4±1.8, 12°.24N×120°.64E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/25, mbtmp3.5/3, Error ellipse: s-maj=94.7km s-min=19.4km az=84.0*
*ISCJB **14** 22:17:28.8±0.6, 12°.22N±0°.06×120°.74E±0°.05, h23km, mb3.4/3, Error ellipse: s-maj=9.1km s-min=5.8km az=147.4*
*MAN **14** 22:17:28, 12°.18N×120°.67E, h20km, mb4.6, ML3.5, MS3.5*
ISC 14 22:17:29.0±0.9, **12°.23N**±0°.06×**120.74E**±0°.05, **h23**km, **n10**, σ1§**07**/13, **mb3.5**/3, **2D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.44**	**58**	*eP*	**Pb**	**22 17 37.5**	**-0.6**
SJMP				*eS*	**Sb**	**22 17 43.9**	**-0.5**
BUSP	**Coron**	**0.57**	**247**	*eP*	**Pb**	**22 17 39.8**	**-0.6**
BUSP				*eS*	**Sn**	**22 17 48.7**	**-1.7**
OTRP	**Odiongan**	**1.26**	**84**	*eP*	**Pn**	**22 17 51.9**	**+0.7**
PGP	**Puerto Galera**	**1.28**	**9**	⇓*iP*	**Pn**	**22 17 51.3**	**-0.3**
LUBP	**Lubang**	**1.57**	**342**	*eP*	**Pn**	**22 17 55.7**	**+0.2**
TGY	**Tagaytay City**	**1.88**	**6**	Pn	**Pn**	**22 17 59.8**	**0.0**
	195nm,0.3s,baz=191,slow=10,SNR=12						
TGY				Sn	**Sb**	**22 18 25.9**	**+0.3**
	76nm,0.3s,baz=106,slow=4.0,SNR=3.8						
RCP	**Roxas**	**2.08**	**108**	⇓*eP*	**Pb**	**22 18 04.4**	**-1.6**
WRA	**Warramunga Arr**	**34.66**	**157**	P	**P**	**22 24 17.5**	**+0.6**
	1.0nm,0.9s,baz=336,slow=9.5,SNR=3.9						
SONM	**Songino Array**	**37.47**	**344**	P	**P**	**22 24 41.3**	**+0.4**
	0.3nm,0.8s,baz=163,slow=9.4,SNR=2.3						
ASAR	**Alice Springs**	**37.93**	**160**	P	**P**	**22 24 46.8**	**+1.9**
	0.7nm,0.9s,baz=359,slow=8.3,SNR=4.1						

IDC 14 22:23:07.8±1.2, **16°.88N**×**147°.15E, h0**km, **mb3.7**/5, **mb1 4.0**/5, **mb1mx3.5**/41, **mbtmp3.7**/5, **Error ellipse: s-maj=49.1km s-min=28.4km az=108.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.70**	**199**	P	P	22 30 33.5	-0.1
	0.1nm,0.3s,baz=22,slow=8.7,SNR=5.0						
SONM	**Songino Array**	**45.42**	**322**	P	P	22 31 28.0	-0.5
	0.2nm,0.4s,baz=138,slow=6.4,SNR=2.4						
ILAR	**Eielson Array**	**64.67**	**26**	P	P	22 33 46.9	-0.4
	0.4nm,0.4s,baz=249,slow=6.2,SNR=11						
YKA	**Yellowknife Ar**	**78.94**	**28**	P	P	22 35 13.4	+0.4
	0.4nm,0.5s,baz=282,slow=5.4,SNR=11						
ARCES	**ARCESS Array B**	**84.64**	**342**	P	P	22 35 43.4	+0.4
	6.4nm,1.1s,baz=55,slow=7.8,SNR=3.7						

*KRNET **14** 22:24:05.0±0.1, 39°.52N×73°.59E, h3km, mb3.8*
*NNC **14** 22:24:07.8±3.1, 39°.49N×73°.67E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=38.1km s-min=18.2km az=143.0*
ISC 14 22:24:05.5±1.9, **39°.55N**±0°.07×**73°.61E**±0°.04, **h2**km±13km, **n18**, σ1§**69**/29, **17C-3D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.47**	**350**	*eP*	**Pg**	**22 24 12.6**	**-1.9**
	baz=353						
SFK				*eS*	**Sg**	**22 24 20.4**	**-0.1**
	baz=353						
OHH	**Osh**	**1.16**	**327**	*eP*	**Pg**	**22 24 29.4**	**+1.7**
	baz=329						
OHH				*eS*	**Sn**	**22 24 47.4**	**+2.1**
	baz=329						
DRK	**Karamyk**	**1.40**	**268**	*eP*	**Pn**	**22 24 31.0**	**-1.4**
	baz=269						
DRK				*eS*	**Sg**	**22 24 52.0**	**+1.4**
	baz=269						
ARSB	**Arslanbob**	**1.83**	**345**	*eP*	**Pg**	**22 24 41.2**	**+0.6**
	baz=346						
ARSB				*eS*	**Sg**	**22 25 08.0**	**+3.6**
	baz=346						
BTK	**Batken**	**2.21**	**284**	*eP*	**Pb**	**22 24 45.7**	**-0.5**
	baz=285						
BTK				*eS*	**Sg**	**22 25 18.5**	**+2.0**
	baz=285						
ARLS	**Aral**	**2.37**	**13**	*i P*	**Pb**	**22 24 49.2**	**+0.3**
	baz=13						
ARLS				⇓*iS*	**Sg**	**22 25 22.4**	**+0.9**
	baz=13						
AML	**Almayashu**	**2.58**	**1**	⇑*iP*	**Pb**	**22 24 51.9**	**-0.7**
	baz=2.0						
AML				⇑*iS*	**Sg**	**22 25 28.7**	**+0.5**
	baz=2.0						
NRN	**Naryn**	**2.62**	**43**	*eP*	**Pb**	**22 24 53.1**	**-0.2**
	baz=43						
NRN				*eS*	**Sb**	**22 25 27.8**	**+1.8**
	baz=43						
TRKS	**Terek-Say**	**2.73**	**317**	*i P*	**Pb**	**22 24 53.0**	**-2.1**
	baz=317						
TRKS				*eS*	**Sb**	**22 25 27.5**	**-1.6**
	baz=317						
KZA	**Kyzart**	**2.81**	**26**	⇑*iP*	**Pb**	**22 24 56.9**	**+0.2**
	baz=26						
KZA				⇑*iS*	**Sg**	**22 25 37.6**	**+1.8**
	baz=26						
EKS2	**Erkin-Say**	**3.11**	**2**	⇑*iP*	**Pb**	**22 24 59.4**	**-2.1**
	baz=3.0						
EKS2				⇑*iS*	**Sb**	**22 25 41.6**	**+1.7**
	baz=3.0						
AAK	**Ala-Archa**	**3.15**	**12**	⇑Pn	**Pb**	**22 25 00.7**	**-1.6**
	7.9nm,0.8s						
AAK				⇓Lg	Lg	22 25 48.7	
	16nm,0.6s						
AAK	**Ala-Archa**	**3.15**	**12**	⇑*iP*	**Pb**	**22 25 00.3**	**-2.0**
	baz=12						
AAK				⇑*iS*	**Sg**	**22 25 44.8**	**-1.8**
	baz=12						
ULHL	**Ulahol**	**3.35**	**36**	⇑*iP*	**Pb**	**22 25 06.0**	**+0.3**
	baz=36						
ULHL				⇑*iS*	**Sg**	**22 25 53.2**	**+0.2**
	baz=36						
TKM2	**Tokmak 2**	**3.68**	**23**	⇑Pn	**Pb**	**22 25 09.0**	**-2.3**
	1.9nm,0.5s						
TKM2				⇑Lg	Lg	22 26 05.4	
	7.1nm,0.6s						
DZET	**Dzherino**	**3.79**	**260**	⇑Pn	Pn	22 25 06.7	+1.6
DZET				⇓Lg	Lg	22 26 12.6	
KK31	**Karatay Array**	**4.25**	**328**	Pn	Pn	22 25 14.6	+3.4
	0.8nm,0.3s,baz=139,slow=12,SNR=20						
KK31				⇑Lg	Lg	22 26 20.6	
	2.8nm,0.3s,baz=150,slow=30,SNR=4.1						
PDGK	**Podgornoye**	**5.80**	**48**	⇑Pn	**Pn**	**22 25 31.5**	**-1.1**
PDGK				⇑Lg	Lg	22 27 10.7	

GUC 14 22:30:19.9±0.4, **35°.84S**×**72°.21W, h47**km±2km, **ML3.8, 1C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.50**	**91**	⇓*iP*	Pn	22 30 31.1	+0.1
LNCH				*i S*	Sn	22 30 39.8	+0.9
COCH	**Cobquecura**	**0.55**	**238**	⇓*iP*	Pn	22 30 31.9	+0.3
COCH				*i S*	Sn	22 30 40.7	+0.8
TALC	**Talca**	**0.64**	**47**	⇑*iP*	Pn	22 30 33.2	+0.4
TALC				*i S*	Sn	22 30 43.0	+1.0
NICH	**Los Niches**	**1.16**	**44**	*eP*	Pn	22 30 40.2	+0.5
NICH				*i S*	Sn	22 30 55.5	+1.1
LNV	**Longovilo**	**1.99**	**20**	*eP*1	Pn	22 30 51.6	+0.5
CACH	**El Canelo**	**2.17**	**38**	*eP*1	Pn	22 30 54.4	+0.7
CLCH	**Cerro Calan**	**2.80**	**30**	*eP*1	Pn	22 31 03.4	+1.1
CLCH				*i S*	Sn	22 31 35.5	+0.6
CLCH				IAML		22 31 57.3	
	comp=N,328nm,0.8s						

*IDC **14** 22:33:14.6±0.4, 58°.35S×23°.67W, h0km, mb4.8/21, mb1 4.8/22, mb1mx4.8/25, mbtmp4.8/22, ML5.5/2, MS5.1/22, Ms1 5.1/22, ms1mx5.1/22, Error ellipse: s-maj=15.6km s-min=13.1km az=18.0*
*ISCJB **14** 22:33:14.7±0.3, 58°.44S±0°.05×23°.5W±0°.1, h10km, mb5.1/35, MS5.2/159, Error ellipse: s-maj=8.2km s-min=5.9km az=145.3*
*AWI **14** 22:33:16.8, 58°.26S×22°.99W*
*BJI **14** 22:33:16.7, 57°.49S×24°.17W, h25km, mB5.4/28, Ms5.5/21, Ms7 5.2/22*
*MOS **14** 22:33:19.0±1.3, 58°.47S×23°.67W, h33km, mb5.5/14, MS5.1/19, Error ellipse: s-maj=25.7km s-min=11.9km az=99.0*
*GCMT **14** 22:33:20.7±0.1, 58°.62S×23°.34W, h17km, MW5.6/114, Moment Tensor Solution. s82,c139; s114,c266; Duration: 1§6 Moment tensor: Scale 10^17^Nm; Mrr-1.70±.06; Mθθ-1.79±.06; Mφφ3.49±.04; Mrθ-0.97±.15; Mrφ1.17±.04; Mθφ0.25±.11; Best double couple: M0 3.30900×10^17^ NP1:φs155.00000°, δ63.00000°, λ-149.00000°. NP2:φs49.00000°, δ62.00000°, λ-31.00000°. Principal axes: T 3.7380, Plg0.0000°, Azm282.0000°; N -0.8580, Plg50.0000°, Azm191.0000°; P -2.8800, Plg40.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **14** 22:33:20.7±1.3, 58°.42S×23°.57W, h40km±11km, mb5.3/20, MS5.2/131 Error ellipse: s-maj=8.3km s-min=6.8km az=209.0*
ISC 14 22:33:16.4±0.2, **58°.41S**±0°.06×**23°.66W**±0°.06, **h10**km, **n603**, σ1§**24**/478, **mb5.1**/34, **MS5.2**/159, **140C-114D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.23**	**295**	Pn	Pn	22 35 20.6	+4.9
	3μm,0.7s,SNR=9.3						
HOPE	**Hope Point**	**8.23**	**295**	*e*Pn	Pn	22 35 20.0	+4.3
VNA1	**Neumayer--Stat**	**13.88**	**158**	P	**Pn**	**22 36 31.8**	**-1.0**
VNA1	**Neumayer--Stat**	**13.88**	**158**	S	Sn	22 38 59.0	-7.8
VNA3	**Neumayer Olymp**	**14.13**	**161**	P	**Pn**	**22 36 35.0**	**-1.2**
VNA3	**Neumayer Olymp**	**14.13**	**161**	S	Sn	22 39 02.7	-10
VNA2	**Neumayer--Watz**	**14.28**	**158**	P	**Pn**	**22 36 36.1**	**-2.2**
	baz=325,slow=16						
VNA2	**Neumayer--Watz**	**14.28**	**158**	S	Sn	22 39 02.0	-14
SNAA	**Sanae**	**15.80**	**156**	P	**Pn**	**22 36 57.5**	**-1.1**
SNAA	**Sanae**	**15.80**	**156**	S	Sn	22 39 40.6	-13
SNAA	**Sanae**	**15.80**	**156**	Pn	**Pn**	**22 36 56.7**	**-1.9**
	12nm,0.3s,baz=332,slow=16,SNR=89						
SNAA				Sn	Sn	22 39 38.2	-15
	1.2nm,0.3s,baz=336,slow=20,SNR=5.9						
SNAA				LR	LR	22 41 55.0	
	comp=Z,4μm,19.1s,baz=324,slow=33						
NVL	**N'lazarevskaya**	**19.23**	**144**	⇑*iP*	**P**	**22 37 40.4**	**+0.2**
NVL				*e*S	**Sn**	**22 41 16.4**	**+0.1**
NVL				pmax	pmax		
	comp=Z,87nm,0.9s						
NVL				MLR	MLR		
	comp=Z,5μm,13.0s						
PMSA	**Palmer Station**	**19.94**	**234**	P	**P**	**22 37 48.9**	**+0.8**
	comp=Z,2.6nm,0.3s,baz=78,slow=9.2,SNR=7.1						
PMSA	**Palmer Station**	**19.94**	**234**	*e*P	**Pn**	**22 37 49.2**	**-0.5**
	comp=Z,99nm,0.9s						
EFI	**East Falkland**	**20.65**	**274**	P	**P**	**22 37 57.0**	**+1.2**
	comp=Z,3μm,0.6s,SNR=12						
EFI	**East Falkland**	**20.65**	**274**	*e*P	**P**	**22 37 57.0**	**+1.2**
EFI	**East Falkland**	**20.65**	**274**	*e*P	Pn	22 37 57.3	-0.8
	comp=Z,303nm,0.7s						
EFI				LR	LR		
	comp=Z,6μm,20.0s						
USHA	**Ushuaia**	**24.54**	**259**	P	**P**	**22 38 35.1**	**-0.7**
	comp=Z,53nm,0.9s,baz=95,slow=11,SNR=15						
QSPA	**South Pole Qui**	**31.83**	**180**	LR	LR	22 51 53.4	
	comp=Z,4μm,18.7s,baz=190,slow=35						
QSPA	**South Pole Qui**	**31.83**	**180**	*e*P	**P**	**22 39 42.2**	**+1.2**
	comp=Z,48nm,1.0s						
TRQA	**Tornquist**	**32.01**	**293**	PFAKE		22 40 00.0	+17
TRQA				LR	LR		
	comp=Z,3μm,19.0s						
PLCA	**Paso Flores**	**34.31**	**280**	LR	LR	22 54 07.6	
	comp=Z,3μm,19.0s,baz=132,slow=36						
MAW	**Mawson**	**37.10**	**141**	LR	LR	22 53 35.0	
	comp=Z,3μm,21.6s,baz=253,slow=33						
SUR	**Sutherland**	**39.56**	**69**	P	**P**	**22 40 45.2**	**-2.4**
	comp=Z,10nm,0.9s,baz=188,slow=14,SNR=2.1						
SUR				LR	LR	22 53 46.6	
	comp=Z,3μm,18.2s,baz=219,slow=31						
CFAA	**Coronel Fontan**	**40.24**	**292**	P	**P**	**22 40 51.0**	**-2.0**
	comp=Z,1.3nm,0.5s,baz=145,slow=7.6,SNR=9.2						
LCO	**Las Campanas**	**43.58**	**292**	*e*P	**P**	**22 41 19.2**	**-1.5**
	comp=Z,22nm,0.9s						
LCO				LR	LR		
	comp=Z,3μm,21.0s						
SBA	**Scott Base**	**43.84**	**183**	*e*P	**P**	**22 41 23.2**	**+1.4**
SBA				*e*		22 43 09.3	
SBA				pmax	pmax		
	comp=Z,51nm,1.2s						
SBA				MLR	MLR		
	comp=Z,2μm,19.0s						
SBA	**Scott Base**	**43.84**	**183**	*e*P	**P**	**22 41 23.2**	**+1.4**
	comp=Z,51nm,1.2s						
SBA				*e*PcP	**PcP**	**22 43 09.3**	**+1.5**
SBA				LR	LR		
	comp=Z,2μm,19.0s						
VNDA	**Vanda**	**44.28**	**182**	P	**P**	**22 41 25.3**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VNDA				MLR	MLR		
	comp=Z,17nm,28.6s						
VNDA	**Vanda**	**44.28**	**182**	P	**P**	**22 41 25.3**	**-0.1**
	comp=Z,7.6nm,0.9s,baz=186,slow=6.3,SNR=28						
VNDA				LR	LR	22 59 29.1	
	comp=Z,2μm,19.8s,baz=175,slow=36						
VNDA	**Vanda**	**44.28**	**182**	*e*P	**P**	**22 41 26.9**	**+1.5**
	comp=Z,22nm,0.9s						
SHEL	**Horse Pasture**	**44.43**	**25**	PFAKE		22 41 40.0	+13
SHEL				LR	LR		
	comp=Z,1μm,20.0s						
BOSA	**Boshof**	**44.83**	**70**	P	**P**	**22 41 30.3**	**-0.2**
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BOSA				MLR	MLR		
	comp=Z,17nm,28.6s						
BOSA	**Boshof**	**44.83**	**70**	P	**P**	**22 41 30.3**	**-0.2**
	comp=Z,6.2nm,0.7s,baz=199,slow=7.8,SNR=11						
BOSA				LR	LR	22 56 38.5	
	comp=Z,2μm,18.2s,baz=214,slow=31						
BOSA	**Boshof**	**44.83**	**70**	*e*P	**P**	**22 41 31.2**	**+0.7**
	comp=Z,131nm,2.2s						
CRZF	**Crozet Islands**	**45.16**	**109**	S	S	22 48 04.0	-8.0
CRZF				R		22 53 00.0	
BDFB	**Brasilia**	**46.38**	**327**	P	**P**	**22 41 43.7**	**+0.8**
BDFB				pmax	pmax		
	comp=Z,15nm,0.9s						
BDFB				MLR	MLR		
	comp=Z,2μm,18.2s						
BDFB	**Brasilia**	**46.38**	**327**	P	**P**	**22 41 43.7**	**+0.8**
	comp=Z,15nm,0.9s,baz=106,slow=4.3,SNR=16						
BDFB				LR	LR	23 00 50.3	
	comp=Z,2μm,18.2s,baz=154,slow=36						
BDFB	**Brasilia**	**46.38**	**327**	*e*P	**P**	**22 41 44.5**	**+1.7**
LBTB	**Lobatse**	**47.99**	**68**	LR	LR	22 58 33.3	
	comp=Z,2μm,18.2s,baz=226,slow=32						
LVC	**Limon Verde**	**48.13**	**298**	*e*P	**P**	**22 41 56.6**	**0.0**
	comp=Z,20nm,0.6s						
TSUM	**Tsumeb**	**49.31**	**55**	LR	LR	22 57 36.6	
	comp=Z,1μm,21.0s,baz=219,slow=30						
TSUM	**Tsumeb**	**49.31**	**55**	*e*P	**P**	**22 42 06.8**	**+1.3**
	comp=Z,47nm,1.6s						
H10S2	**ASCENSION HYDR**	**49.82**	**12**	T	T	23 36 14.1	
	baz=186,slow=75,SNR=7.8						
H10S3	**ASCENSION HYDR**	**49.83**	**12**	T	T	23 36 05.7	
	baz=186,slow=75,SNR=5.3						
H10S1	**ASCENSION HYDR**	**49.84**	**12**	T	T	23 36 04.5	
	baz=186,slow=75,SNR=5.3						
ASCN	**Ascension**	**50.87**	**12**	PFAKE		22 42 30.0	+13
ASCN				LR	LR		
	comp=Z,1μm,20.0s						
H10N1	**ASCENSION HYDR**	**50.94**	**12**	T	T	23 37 39.6	
	baz=179,slow=74						
H10N3	**ASCENSION HYDR**	**50.94**	**12**	T	T	23 37 39.5	
	baz=179,slow=74						
H10N2	**ASCENSION HYDR**	**50.96**	**12**	T	T	23 37 40.8	
	baz=179						
CASY	**Casey**	**51.02**	**158**	PFAKE		22 42 30.0	+12
CASY				LR	LR		
	comp=Z,8μm,20.0s						
PAF	**Port-aux-Franc**	**51.68**	**124**	P	P	22 42 17.0	-6.0
PAF				S	S	22 49 34.0	-10
PAF				L	L	22 54 00.0	
PAF				R		22 56 00.0	
PAF	**Port-aux-Franc**	**51.68**	**124**	PFAKE		22 42 30.0	+7.0
PAF				LR	LR		
	comp=Z,2μm,20.0s						
LPAZ	**La Paz**	**53.29**	**303**	P	**P**	**22 42 34.9**	**-1.1**
LPAZ				pmax	pmax		
	comp=Z,12nm,0.7s						
LPAZ				MLR	MLR		
	comp=Z,1μm,20.9s						
LPAZ	**La Paz**	**53.29**	**303**	P	**P**	**22 42 34.9**	**-1.1**
	comp=Z,12nm,0.7s,baz=98,slow=7.3,SNR=26						
LPAZ				LR	LR	23 05 58.5	
	comp=Z,1μm,20.9s,baz=142,slow=37						
LPAZ	**La Paz**	**53.29**	**303**	*e*P	**P**	**22 42 35.1**	**-0.9**
	comp=Z,35nm,0.7s						
RCBR	**Riachuelo**	**53.31**	**345**	P	**P**	**22 42 35.0**	**-0.4**
	comp=Z,16nm,0.8s,baz=159,slow=8.2,SNR=6.8						
RCBR	**Riachuelo**	**53.31**	**345**	*e*P	**P**	**22 42 32.3**	**-3.1**
	comp=Z,26nm,1.0s						
DRV	**Dumont d'Urvil**	**54.64**	**172**	S	**S**	**22 50 18.0**	**-5.8**
DRV				SS	SS	22 54 22.0	+16
DRV				R		23 00 00.0	
LSZ	**Lusaka**	**57.56**	**64**	P	**P**	**22 43 05.7**	**-0.4**
	comp=Z,7.5nm,0.8s,baz=194,slow=8.5,SNR=3.5						
LSZ				LR	LR	23 05 03.3	
	comp=Z,1μm,18.2s,baz=130,slow=33						
SAML	**Samuel**	**57.82**	**312**	*e*P	**P**	**22 43 07.3**	**-0.6**
	comp=Z,45nm,0.8s						
SAML				LR	LR		
	comp=Z,3μm,22.0s						
NNA	**Nana**	**61.05**	**296**	P	**P**	**22 43 29.1**	**-1.1**
NNA				MLR	MLR		
	comp=Z,2μm,22.0s						
NNA	**Nana**	**61.05**	**296**	P	**P**	**22 43 29.1**	**-1.1**
	comp=Z,3.8nm,0.6s,baz=214,slow=3.6,SNR=2.4						
NNA	**Nana**	**61.05**	**296**	P	**P**	**22 43 29.1**	**-1.1**
NNA				LR	LR		
	comp=Z,2μm,22.0s						
MSKU	**Masuku**	**63.70**	**42**	*e*P	**P**	**22 43 47.2**	**-0.7**
	comp=Z,42nm,1.1s						
ABPO	**Ambohimpanom**	**63.99**	**84**	PFAKE		22 44 00.0	+10
ABPO				LR	LR		
	comp=Z,1μm,19.0s						
AIS	**Amsterdam Isla**	**64.04**	**120**	S	**S**	**22 52 23.0**	**-3.0**
AIS				R		23 01 00.0	
PTGA	**Pitinga**	**64.22**	**319**	P	**P**	**22 43 50.5**	**-0.8**
	comp=Z,20nm,0.6s,baz=177,slow=11,SNR=19						
PTGA	**Pitinga**	**64.22**	**319**	*e*P	**P**	**22 43 50.2**	**-1.1**
	comp=Z,25nm,0.7s						
PTGA				LR	LR		
	comp=Z,2μm,21.0s						
RPN	**Rapa Nui**	**65.10**	**258**	LR	LR	23 04 08.8	
	comp=Z,97nm,20.8s,baz=121,slow=28						
ATAH	**Atahualpa**	**66.01**	**298**	P	**P**	**22 44 03.8**	**+0.3**
	comp=Z,2.4nm,0.4s,baz=102,slow=20,SNR=2.0						
LIC	**Lamto**	**66.15**	**20**	*e*P	**P**	**22 44 03.0**	**-0.8**
	comp=Z,141nm,0.7s						
KIC	**Kosan Boka**	**66.34**	**21**	*e*P	**P**	**22 44 04.2**	**-0.8**
	comp=Z,468nm,1.5s						
TIC	**Toumodi**	**66.56**	**20**	*e*P	**P**	**22 44 05.6**	**-0.8**
	comp=Z,99nm,0.6s						
DBIC	**Dimbokro**	**66.62**	**20**	*e*P	**P**	**22 44 06.1**	**-0.7**
DBIC				pmax	pmax		
	comp=Z,45nm,0.8s						
DBIC	**Dimbokro**	**66.62**	**20**	P	**P**	**22 44 06.0**	**-0.7**
	comp=Z,34nm,0.6s,baz=172,slow=7.2,SNR=70						
DBIC				LR	LR	23 07 59.5	
	comp=Z,737nm,18.0s,baz=180,slow=31						
DBIC	**Dimbokro**	**66.62**	**20**	*e*P	**P**	**22 44 06.1**	**-0.7**
	comp=Z,45nm,0.8s						
RER	**Riviere de l'E**	**66.71**	**93**	PFAKE		22 44 20.0	+13
RER				LR	LR		
	comp=Z,1μm,19.0s						
OTAV	**Otavalo**	**72.54**	**301**	*e*P	**P**	**22 44 45.0**	**+1.0**
	comp=Z,14nm,1.0s						
OTAV				*e*PP	PP	22 47 32.0	+6.7
OTAV				LR	LR		
	comp=Z,965nm,21.0s						
SACV	**Santiago Islan**	**73.11**	**0**	PFAKE		22 45 00.0	+13
SACV				LR	LR		
	comp=Z,1μm,21.0s						
KMBO	**Kilima Mbogo**	**74.19**	**65**	P	**P**	**22 44 53.3**	**-0.1**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KMBO				MLR	MLR		
	comp=Z,1μm,21.9s						
KMBO	**Kilima Mbogo**	**74.19**	**65**	P	**P**	**22 44 53.3**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=220,slow=16,SNR=1.8						
KMBO				LR	LR	23 13 51.5	
	comp=Z,1μm,21.9s,baz=202,slow=33						
KMBO	**Kilima Mbogo**	**74.19**	**65**	*e*P	P	22 44 58.2	+4.8
	comp=Z,95nm,2.7s						
TOA0	**Torodi Ar. Sit**	**74.27**	**26**	*e*P	**P**	**22 44 52.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**74.27**	**26**	P	**P**	**22 44 52.6**	**-0.8**
	comp=Z,48nm,0.6s,baz=200,slow=6.5,SNR=183						
TORD				LR	LR	23 12 02.7	
	comp=Z,583nm,19.2s,baz=190,slow=31						
ROSC	**El Rosal**	**74.88**	**307**	P	**P**	**22 44 58.4**	**+0.8**
	comp=Z,9.0nm,0.8s,baz=94,slow=6.6,SNR=11						
ROSC				LR	LR	23 19 41.7	
	comp=Z,1μm,20.4s,baz=174,slow=37						
ROSC	**El Rosal**	**74.88**	**307**	*e*P	**P**	**22 44 59.0**	**+1.4**
GRGR	**Grenville**	**76.81**	**322**	PFAKE		22 45 20.0	+12
GRGR				LR	LR		
	comp=Z,1μm,19.0s						
SDV	**Santo Domingo**	**77.03**	**312**	*e*P	**P**	**22 45 09.1**	**-0.4**
	comp=Z,64nm,1.1s						
SDV				LR	LR		
	comp=Z,3μm,21.0s						
BBGH	**Gun Hill**	**77.10**	**324**	PFAKE		22 45 20.0	+10
BBGH				LR	LR		
	comp=Z,2μm,20.0s						
PAYG	**Puerto Ayora**	**77.36**	**290**	PFAKE		22 45 20.0	+8.7
PAYG				LR	LR		
	comp=Z,2μm,19.0s						
TAU	**Tasmania Unive**	**78.76**	**173**	PFAKE		22 45 30.0	+11
TAU				LR	LR		
	comp=Z,4μm,20.0s						
FDF	**Fort de France**	**79.09**	**323**	*e*P	**P**	**22 45 20.6**	**-0.1**
FDF				pmax	pmax		
	comp=Z,335nm,1.2s						
FDF				MLR	MLR		
	comp=Z,664nm,19.0s						
FDF	**Fort de France**	**79.09**	**323**	*e*P	**P**	**22 45 22.2**	**+1.5**
FDF	**Fort de France**	**79.09**	**323**	*e*P	**P**	**22 45 20.6**	**-0.1**
	comp=Z,335nm,1.2s						
FDF				LR	LR		
	comp=Z,664nm,19.0s						
SNZO	**South Karori**	**79.47**	**194**	PFAKE		22 45 30.0	+7.4
SNZO				LR	LR		
	comp=Z,2μm,20.0s						
BBL	**Barber's Block**	**79.94**	**323**	*e*P	**P**	**22 45 25.2**	**-0.1**
TBG	**Guadaloupe-3**	**80.30**	**323**	*e*P	**P**	**22 45 29.2**	**+2.0**
MSEY	**Mahe Island**	**

TAM MLR MLR
comp=Z,483nm,19.0s
TAM Tamanrasset 84.46 27 *e*P **P 22 45 49.0 0.0**
TAM comp=Z,43nm,1.4s LR LR
comp=Z,483nm,19.0s
SMN1 Samana, DR 85.97 317 *e*P **P 22 45 56.8 +0.2**
CAN Canberra 86.42 174 PFAKE 22 46 10.0 +11
CAN LR LR
comp=Z,1μm,19.0s
SDDR Presa de Saban 86.52 316 *e*P **P 22 46 00.8 +1.5**
SDDR LR LR
comp=Z,1μm,22.0s
DGAR Diego Garcia 86.94 99 PFAKE 22 46 10.0 +8.5
DGAR LR LR
comp=Z,1μm,21.0s
FORT Forrest 88.05 156 *e*P **P 22 46 08.0 +1.3**
MTDJ Mount Denham 88.25 310 PFAKE 22 46 20.0 +12
MTDJ LR LR
comp=Z,2μm,20.0s
GRTK Grand Turk 88.78 317 PFAKE 22 46 20.0 +10
GRTK LR LR
comp=Z,1μm,22.0s
GTBY Guantanamo Bay 88.82 313 *e*P **P 22 46 12.8 +2.6**
GTBY LR LR
comp=Z,2μm,22.0s
STKA Stephens Creek 89.21 167 *e*P **P 22 46 12.2 0.0**
STKA Stephens Creek 89.21 167 P **P 22 46 11.9 -0.2**
comp=Z,7.0nm,1.0s,baz=151,slow=5.1,SNR=11
STKA LR LR 23 23 43.8
comp=Z,3μm,20.0s,baz=194,slow=34
STKA Stephens Creek 89.21 167 *e*P **P 22 46 12.2 0.0**
PPT2 Papeete2 92.24 231 *e*LR LR 23 16 03.0
comp=Z,1μm,22.0s,baz=152
PPT Papeete 92.26 231 LR LR 23 22 14.6
comp=Z,1μm,18.1s,baz=150,slow=32
MDT Midelt 92.27 16 P **P 22 46 27.1 +0.9**
comp=Z,6.4nm,0.9s,baz=207,slow=4.9,SNR=8.5
RTC Rabat Centre 93.12 14 PFAKE 22 46 40.0 +10
RTC LR LR
comp=Z,1μm,19.0s
COCO West Island 94.75 122 PFAKE 22 46 50.0 +12
COCO LR LR
comp=Z,703nm,19.0s
MBWA Marble Bar 95.12 146 PFAKE 22 46 50.0 +10
MBWA LR LR
comp=Z,2μm,20.0s
ASAR Alice Springs 96.13 159 PKKP 23 03 30.5
comp=Z,0.7nm,0.9s,baz=344,slow=3.1,SNR=5.3
ASAR PKPPKP P'P'df 23 11 38.8 -11
comp=Z,0.4nm,0.8s,baz=7.6,slow=2.8,SNR=4.6
ASAR LR LR 23 27 11.7
comp=Z,1μm,20.7s,baz=182,slow=34
KEST Kesra 97.77 27 P **P 22 46 49.7 -1.4**
comp=Z,1.3nm,0.9s,baz=301,slow=19,SNR=2.2
KEST LR LR 23 27 01.6
comp=Z,279nm,19.0s,baz=193,slow=33
PAB San Pablo 98.92 15 PFAKE 22 47 10.0 +14
PAB LR LR
comp=Z,657nm,19.0s
ESDC Sonseca Array 99.10 15 P **Pdif 22 46 57.1 +0.1**
comp=Z,0.8nm,0.7s,baz=187,slow=3.9,SNR=7.5
ESDC LR LR 23 28 16.4
comp=Z,545nm,18.6s,baz=185,slow=33
ES19 SONSECA Array 99.14 15 *e*P **Pdif 22 46 59.6 +2.5**
WDD Wield Dalam 99.20 31 PFAKE 22 47 10.0 +13
WDD LR LR
comp=Z,473nm,19.0s
MTE Manteigas 99.36 12 PFAKE 22 47 10.0 +12
MTE LR LR
comp=Z,741nm,22.0s
WRA Warramunga Arr 99.84 159 PKKP **PKKPbc 23 03 20.5 +2.4**
comp=Z,0.8nm,0.8s,baz=6.0,slow=3.3,SNR=7.5
WRA LR LR 23 29 35.9
comp=Z,2μm,20.9s,baz=190,slow=34
WRAB Tennant Creek 99.85 159 PFAKE 22 47 10.0 +9.0
WRAB LR LR
comp=Z,2μm,21.0s
CTAO Charters Tower 101.35 170 PFAKE 22 47 20.0 +12
CTAO LR LR
comp=Z,1μm,20.0s
VSL Villasalto 101.37 25 PFAKE 22 47 20.0 +13
VSL LR LR
comp=Z,705nm,19.0s
CEL Celeste 101.82 31 PFAKE 22 47 20.0 +11
CEL LR LR
comp=Z,378nm,19.0s
TIP Timpagrande 102.91 31 PFAKE 22 47 30.0 +16
TIP LR LR
comp=Z,309nm,20.0s
SANT Santorini 102.94 39 PFAKE 22 47 30.0 +16
SANT LR LR
comp=Z,320nm,19.0s
CUC Castrocucco 103.42 30 PFAKE 22 47 30.0 +14
CUC LR LR
comp=Z,218nm,20.0s
BRAL Brewton 103.50 308 PFAKE 22 47 30.0 +13
BRAL LR LR
comp=Z,1μm,20.0s
CNNC Cliffs of the 103.68 317 PFAKE 22 47 30.0 +13
CNNC LR LR
comp=Z,829nm,21.0s
GOGA Godfrey 104.16 312 PFAKE 22 47 30.0 +10
GOGA LR LR
comp=Z,1μm,20.0s
CSS Prodhromos 104.45 45 PFAKE 22 47 30.0 +9.1
CSS LR LR
comp=Z,121nm,19.0s
AQU L'Aquila 105.03 28 PFAKE 22 51 50.0
AQU LR LR
comp=Z,870nm,20.0s
SSB Saint Sauveur 105.94 20 PFAKE 22 51 50.0
SSB LR LR
comp=Z,858nm,19.0s
ISP Isparta 105.98 42 PFAKE 22 51 50.0
ISP LR LR
comp=Z,279nm,20.0s
VLC Villacollemand 106.04 25 PFAKE 22 51 50.0
VLC LR LR
comp=Z,332nm,19.0s
BNI Bardonecchia 106.12 22 PFAKE 22 51 50.0
BNI LR LR
comp=Z,817nm,19.0s
BLA Blacksburg 106.36 316 PFAKE 22 51 50.0
BLA LR LR
comp=Z,529nm,22.0s
TUE Stuetta 108.03 23 PFAKE 22 51 50.0
TUE LR LR
comp=Z,518nm,20.0s
ANTO Ankara 108.60 43 PFAKE 22 52 00.0
ANTO LR LR
comp=Z,365nm,19.0s
JCT Junction City 108.68 298 PFAKE 22 52 00.0
JCT LR LR
comp=Z,584nm,22.0s
531A Rocksprings 108.76 297 ⇑P **PKiKP 22 51 45.6 +0.5**
baz=109
BRTR Keskin Array B 108.78 43 PP PP 22 52 14.2 +2.0
comp=Z,0.8nm,0.9s,baz=157,slow=7.8,SNR=4.6
333A Richland Sprin 109.01 299 ⇓P **PKiKP 22 51 46.3 +0.8**
baz=109
530A J-C Ranch, Com 109.12 296 ⇑P **PKiKP 22 51 46.4 +0.6**
baz=109
431A Sonora 109.23 297 ⇑P **PKiKP 22 51 46.7 +0.7**
baz=110
ECH Echery 109.25 21 PFAKE 22 52 00.0
ECH LR LR
comp=Z,472nm,21.0s
MIAR Mount Ida 109.31 305 PFAKE 22 52 00.0
MIAR LR LR
comp=Z,724nm,22.0s
TXAR Lajitas Array 109.55 294 PKiKP **PKiKP 22 51 47.3 +0.6**
comp=Z,0.9nm,0.9s,baz=149,slow=3.9,SNR=6.6
BFO Black Forest 109.59 22 PFAKE 22 52 00.0
BFO LR LR
comp=Z,593nm,19.0s
429A Davenport Ranc 109.78 296 ⇑P **PKiKP 22 51 47.8 +0.7**
baz=110
ACSO Alum Creek Sta 109.96 316 PFAKE 22 52 00.0
ACSO LR LR
comp=Z,1μm,22.0s
PKME Peaks-Kenny Pk 110.00 328 PFAKE 22 52 00.0
PKME LR LR
comp=Z,1μm,19.0s
NCB Newcomb 110.30 324 PFAKE 22 52 00.0
NCB LR LR
comp=Z,2μm,20.0s
KAPI Kappang 110.32 141 PFAKE 22 52 00.0
KAPI LR LR
comp=Z,469nm,20.0s
ABTX Abilene, Hawle 110.40 299 ⇓P **PKiKP 22 51 49.6 +1.5**
baz=111
WLF Walferdange 110.46 20 PFAKE 22 52 00.0
WLF LR LR
comp=Z,647nm,22.0s
230A Sterling City 110.47 298 ⇑P **PKiKP 22 51 49.7 +1.4**
baz=111
ERPA Erie 110.55 319 PFAKE 22 52 00.0
ERPA LR LR
comp=Z,788nm,19.0s
GERES GERESS Array B 111.22 25 PP PP 22 52 13.7 -16
comp=Z,0.8nm,0.7s,baz=316,slow=2.7,SNR=3.5
KHC Kasperske Hory 111.46 25 *e*PP PP 22 52 29.8 -1.6
KHC AMS AMS 23 35 20.0
comp=Z,400nm,21.8s
Y32A R-V Farms, Ver 111.46 300 ⇓P **PKiKP 22 51 52.0 +1.9**
baz=112
128A Castleberry Fa 111.72 297 ⇓P **PKiKP 22 51 51.7 +1.0**
baz=112
WMOK Wichita Mounta 111.78 301 PFAKE 22 52 00.0
WMOK LR LR
comp=Z,441nm,21.0s
Y31A Rekieta Farm, 111.80 299 ⇑P **PKiKP 22 51 52.1 +1.4**
baz=112
PSZ Piszkesteto 111.87 30 PFAKE 22 52 00.0
PSZ LR LR
comp=Z,471nm,21.0s
W33A Caddo, Fort Co 111.98 301 ⇓P **PKiKP 22 51 52.7 +1.7**
baz=112
PMG Port Moresby 112.00 170 PFAKE 22 52 00.0
PMG LR LR
comp=Z,3μm,19.0s
AAM Ann Arbor 112.02 316 PFAKE 22 52 00.0
AAM LR LR
comp=Z,688nm,20.0s
TREC Trest 112.05 26 AMS AMS 23 37 40.0
comp=Z,600nm,17.9s
V34A Guthrie 112.13 303 ⇑P **PKiKP 22 51 52.9 +1.6**
baz=112
VYHS Vyhne 112.13 29 *i* P **Pdif 22 47 57.9 +3.2**
VYHS Vyhne 112.13 29 PDIF **Pdif 22 47 57.9 +3.2**
Z28A Tucker Farm, M 112.23 297 ⇑P **PKiKP 22 51 52.9 +1.3**
baz=112
W32A Sentinel 112.31 301 ⇓P **PKiKP 22 51 52.6 +0.9**
baz=113
HNR Honiara 112.33 184 PFAKE 22 52 00.0
HNR LR LR
comp=Z,83nm,19.0s
Y29A Porterfield Fa 112.37 298 ⇓P **PKiKP 22 51 53.2 +1.3**
baz=113
V33A Lossen Ranch, 112.46 302 ⇓P **PKiKP 22 51 53.4 +1.5**
baz=113
PRU Pruhonice 112.48 26 AMS AMS 23 38 20.0
comp=Z,500nm,19.5s
X30A Coker Ranch, T 112.49 299 ⇓P **PKiKP 22 51 53.4 +1.4**
baz=113
Y28A McKinney Farm, 112.68 298 ⇓P **PKiKP 22 51 54.2 +1.7**
baz=113
KSM Kuching 112.77 129 PFAKE 22 52 00.0
KSM LR LR
comp=Z,334nm,22.0s
MSTX Muleshoe 112.97 298 ⇑P **PKiKP 22 51 53.9 +0.8**
baz=113
PVCC Panska Ves 113.00 25 AMS AMS 23 38 50.0
comp=Z,600nm,18.1s
Y27A Causey 113.08 297 ⇑P **PKiKP 22 51 54.4 +1.1**
baz=113
OKC Ostrava-Krasne 113.20 28 *e*PP PP 22 52 38.6 -5.1
AMTX Amarillo 113.22 299 ⇑P **PKiKP 22 51 54.8 +1.3**
baz=114
DPC Dobruska-Polom 113.23 27 AMS AMS 23 38 30.0
CLL Collm 113.38 24 *e*(PP) PP 22 52 51.0 +6.0
CLL *e*PS **PS 23 02 25.0 +5.2**
CLL LmV 23 37 00.0
comp=Z,400nm,19.1s
W29A Amarillo 113.40 299 ⇓P **PKiKP 22 51 55.3 +1.5**
baz=114
GNI Garni 113.43 51 PFAKE 22 52 10.0
GNI LR LR
comp=Z,469nm,21.0s
X26A CR and CF Fran 113.93 297 ⇓P **PKiKP 22 51 56.3 +1.4**
baz=114
319A Douglas 113.96 291 ⇑P **PKiKP 22 51 56.3 +1.3**
baz=114
W27A Bowe Ranch, En 114.01 298 ⇑P PKPdf 22 51 56.1 +1.1
baz=114
U30A WK&E Inc. Balk 114.11 301 ⇑P PKPdf 22 51 56.3 +1.2
baz=114
T31A Randall Ranch, 114.14 302 ⇓P PKPdf 22 51 56.4 +1.3
baz=114
Y24A Capitan 114.19 296 ⇓P PKPdf 22 51 56.4 +0.9
baz=114
KWP Kalwaria Pacla 114.19 31 PFAKE 22 52 10.0 +15
KWP LR LR
comp=Z,521nm,21.0s
R33A Olander Ranch, 114.39 304 ⇓P PKPdf 22 51 56.2 +0.7
baz=115
KSU1 Kansas State U 114.45 305 PFAKE 22 52 10.0 +14
KSU1 LR LR
comp=Z,1μm,20.0s
ESK Eskdalemuir 114.56 13 PFAKE 22 52 10.0 +15
ESK LR LR
comp=Z,809nm,21.0s
ANN Anapa 114.58 43 *i* PKIKP PKPdf 22 51 57.2 +1.6
ANN *e* 22 52 06.3
ANN *e* 22 52 53.6
ANN *e* 22 58 42.3
ANN *e*SS SS 23 08 41.0 -5.8
ANN pmax pmax
comp=Z,23nm,1.2s
U28A Mallet 114.70 299 ⇓P PKPdf 22 51 57.8 +1.5
baz=115
W25A X Bar L Ranch, 114.79 297 ⇑P PKPdf 22 51 57.7 +1.1
baz=115
R32A Long Quarter, 114.81 303 ⇓P PKPdf 22 51 57.8 +1.4
baz=115
Q33A Connelly Farm, 114.90 304 ⇑P PKPdf 22 51 57.9 +1.5
baz=115
S30A Montezuma 114.94 302 ⇑P PKPdf 22 51 57.6 +1.0
baz=115
V26A Tequesquite Ra 114.94 298 ⇓P PKPdf 22 51 57.5 +0.7
baz=115
U27A Thompson Grove 115.01 299 ⇓P **PKPdf 22 51 58.3 +1.3**
baz=115
JFWS Jewell Farm 115.04 312 PFAKE 22 52 10.0 +13
JFWS LR LR
comp=Z,1μm,19.0s
R31A Burdett 115.06 303 ⇓P **PKPdf 22 51 58.4 +1.5**
baz=115
Q32A Meitler Ranch, 115.21 304 ⇑P **PKPdf 22 51 58.4 +1.3**
baz=116
S29A Ulysses 115.22 301 ⇑P **PKPdf 22 51 58.9 +1.7**
baz=116
W24A Lazy 6 Ranch, 115.22 296 ⇑P **PKPdf 22 51 58.7 +1.2**
baz=116
T28A Walsh 115.26 300 ⇑P **PKPdf 22 51 59.1 +1.8**
baz=116
V25A Rancho No Teng 115.37 297 ⇑P **PKPdf 22 51 59.3 +1.6**
baz=116
SCIA State Center 115.38 309 PFAKE 22 52 10.0 +13
SCIA LR LR
comp=Z,2μm,21.0s
R30A Dighton 115.39 302 ⇓P **PKPdf 22 51 59.0 +1.5**
baz=116
U26A Atchley Ranch, 115.41 298 ⇑P **PKPdf 22 51 58.9 +1.1**
baz=116
TUC Tucson 115.46 290 PFAKE 22 52 10.0 +12
TUC LR LR
comp=Z,812nm,22.0s
T27A Campo 115.49 300 ⇑P **PKPdf 22 51 58.9 +1.1**
baz=116
ANMO Albuquerque 115.51 295 PKIKP **PKPdf 22 51 58.5 +0.5**
ANMO 23 02 30.4
ANMO MLR MLR
comp=Z,774nm,19.0s
ANMO Albuquerque 115.51 295 PKP **PKPdf 22 51 58.5 +0.5**
comp=Z,0.8nm,0.6s,baz=156,slow=4.8,SNR=3.9
ANMO PKKPbc **PKKPbc 23 02 30.4 +0.6**
comp=Z,1.1nm,0.9s,baz=338,slow=5.4,SNR=3.1
ANMO Albuquerque 115.51 295 PKP **PKPdf 22 51 58.5 +0.5**
ANMO PKKPbc **PKKPbc 23 02 30.4 +0.6**
ANMO LR LR
comp=Z,774nm,19.0s
S28A Manter 115.55 300 ⇑P **PKPdf 22 51 58.9 +1.0**
baz=116
V24A Rampart Ranch, 115.58 297 ⇑P **PKPdf 22 51 59.5 +1.3**
baz=116
KBZ Khabaz 115.71 48 PKP **PKPdf 22 51 57.9 +0.1**
comp=Z,1.4nm,0.7s,baz=100,slow=1.4,SNR=4.7
U25A Circle Dot Ran 115.73 298 ⇑P **PKPdf 22 51 59.1 +0.7**
baz=116,SNR=7.8
P32A Huiting Farm, 115.75 304 ⇑P **PKPdf 22 51 59.6 +1.5**
baz=116
KIV Kislovodsk 115.82 47 *i* PKIKP **PKPdf 22 51 58.9 +0.7**
KIV *e* 22 53 02.5
KIV *e*PS **PS 23 02 45.1 +2.6**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,576nm,20.0s
KIV Kislovodsk 115.82 47 PFAKE 22 52 10.0 +12
KIV LR LR
comp=Z,570nm,20.0s
T26A Comanche Natio 115.98 299 ⇓P **PKPdf 22 51 59.6 +0.7**
baz=116,SNR=6.2
R28A Tribune 116.12 301 ⇓P **PKPdf 22 52 00.0 +1.1**
baz=116
U24A Moreno Valley 116.14 297 ⇑P **PKPdf 22 52 01.0 +1.7**
baz=116
Q29A Oakley 116.20 302 ⇓P **PKPdf 22 52 00.2 +1.1**
baz=116
S26A Kim 116.29 299 ⇑P **PKPdf 22 52 00.3 +1.0**
baz=117
T25A Trinidad 116.33 298 ⇓P **PKPdf 22 52 00.5 +0.9**
baz=117,SNR=6.5
P30A Selden 116.41 303 ⇓P **PKPdf 22 52 00.5 +1.0**
baz=117
U23A El Rito 116.50 297 ⇓P **PKPdf 22 52 01.2 +1.3**
baz=117
V22A San Miguel Ran 116.51 296 ⇑P **PKPdf 22 52 01.2 +1.3**
baz=117
R27A Eads 116.52 300 ⇓P **PKPdf 22 52 01.0 +1.3**
baz=117
S25A Robets Cordova 116.77 299 ⇑P **PKPdf 22 52 01.2 +0.9**
baz=117,SNR=15
R26A Arlington 116.83 300 ⇓P **PKPdf 22 52 01.8 +1.4**
baz=117
O30A MW Ranch, Wils 116.84 303 ⇓P **PKPdf 22 52 01.3 +1.1**
baz=117
X18A Snowflake 116.85 293 ⇑P **PKPdf 22 52 01.9 +1.3**
baz=117
U22A Llaves 116.86 296 ⇑P **PKPdf 22 52 01.9 +1.3**
baz=117
MAK Makhachkala 116.91 51 *i* PKIKP **PKPdf 22 52 00.1 0.0**
MAK *e* 22 53 13.1
MAK *e* 22 58 48.6
MAK *e*PS **PKKPdf 23 02 51.2 -0.8**
MAK pmax pmax
comp=Z,27nm,0.4s
MAK MLR MLR
comp=Z,879nm,17.0s
KIEV Kiev 117.00 35 PFAKE 22 52 10.0 +10
KIEV LR LR
comp=Z,192nm,21.0s
AKASG Malin Array Be 117.01 35*c* *i* PKIKP **PKPdf 22 52 00.1 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 117.01 35 PKP **PKPdf 22 51 59.1 -1.0**
comp=Z,0.6nm,0.5s,baz=242,slow=1.7,SNR=5.3
R25A Fountain Ranch 117.09 299 ⇑P **PKPdf 22 52 02.0 +1.1**
baz=117
P28A Saint Francis 117.10 302 ⇓P **PKPdf 22 52 02.4 +1.6**
baz=117
S24A Houchin Ranch, 117.11 298 ⇑P **PKPdf 22 52 02.4 +1.2**
baz=117
COWI Conover 117.30 315 PFAKE 22 52 10.0 +9.1
COWI LR LR
comp=Z,911nm,20.0s
Q26A Hugo 117.37 300 ⇑P **PKPdf 22 52 02.5 +1.1**
baz=118
Z14A Wintersburg 117.38 290 ⇑P **PKPdf 22 52 02.3 +0.8**
baz=118
GEYT Alibeck 117.45 62 PKP **PKPdf 22 52 00.1 -1.3**
comp=Z,2.0nm,1.0s,baz=228,slow=3.8,SNR=6.0
GEYT PKKPab **PKKPab 23 02 26.6 +0.8**
comp=Z,1.5nm,0.9s,baz=343,slow=4.6,SNR=6.5
X16A Lo Mia Camp, P 117.49 291 ⇓P **PKPdf 22 52 02.5 +0.6**
baz=118
S23A Nye Farm, Mont 117.53 298 ⇑P **PKPdf 22 52 03.1 +1.2**
baz=118
R24A Sanders Place, 117.54 299 ⇑P **PKPdf 22 52 03.1 +1.3**
baz=118
Q25A Bedland, Calha 117.69 300 ⇓P **PKPdf 22 52 03.2 +1.0**
baz=118
P26A Davis Ranch, A 117.81 301 ⇑P **PKPdf 22 52 03.5 +1.2**
baz=118
R23A Moffat 117.84 298 ⇓P **PKPdf 22 52 03.4 +0.9**
baz=118,SNR=7.0
Y14A Wickenburg 117.87 290 ⇑P **PKPdf 22 52 03.8 +1.4**
baz=118
N28A Pribbeno Ranch 117.91 303 ⇓P **PKPdf 22 52 03.6 +1.3**
baz=118
L31A Butterfield Fa 117.95 306 ⇑P **PKPdf 22 52 03.2 +0.9**
baz=118
S22A 4UR Ranch, Cre 117.95 297 ⇓P **PKPdf 22 52 03.6 +0.9**
baz=118
SPMN Marine on St. 117.98 312 ⇓P **PKPdf 22 52 02.4 +0.2**
baz=118
SCHQ Schefferville 118.12 333 PKP **PKPdf 22 52 01.6 -0.6**
comp=Z,5.6nm,0.9s,baz=182,slow=2.4,SNR=7.2
P25A Willow Gulch B 118.14 300 ⇑P **PKPdf 22 52 04.0 +1.1**
baz=118
Q24A Divide 118.15 299 ⇑P **PKPdf 22 52 03.9 +0.8**
baz=118
M29A Burnside Ranch 118.15 304 ⇑P **PKPdf 22 52 03.8 +1.1**
baz=118
ECSD EROS Data Cent 118.29 308 ⇑P **PKPdf 22 52 03.6 +0.7**
baz=119
ECSD EROS Data Cent 118.29 308 PFAKE 22 52 10.0 +7.2
ECSD LR LR
comp=Z,2μm,22.0s
MVCO Mesa Verde 118.31 295 ⇓P **PKPdf 22 52 04.3 +0.9**
baz=119
MVCO Mesa Verde 118.31 295 PFAKE 22 52 10.0 +6.6
MVCO LR LR
comp=Z,769nm,20.0s
WUAZ Wupatki 118.33 292 ⇑P **PKPdf 22 52 04.5 +1.1**
baz=119
WUAZ Wupatki 118.33 292 *e*PKPdf **PKPdf 22 52 03.7 +0.3**
WUAZ LR LR
comp=Z,577nm,20.0s
OGNE Ogallala 118.34 303 ⇑P **PKPdf 22 52 04.2 +1.0**
baz=119
OGNE Ogallala 118.34 303 *e*PKPdf **PKPdf 22 52 03.6 +0.5**
OGNE LR LR
comp=Z,600nm,21.0s
O26A Horse Wrangler 118.34 301 ⇑P **PKPdf 22 52 04.5 +1.3**
baz=119
O25A Wiggins 118.60 301 ⇓P **PKPdf 22 52 05.3 +1.5**
baz=119
K30A Basset 118.69 305 ⇑P **PKPdf 22 52 05.2 +1.5**
baz=119
PDMCI Parker Dam,Lak 118.72 289 ⇓P **PKPdf 22 52 05.5 +1.5**
baz=119
P23A Jefferson 118.80 299 ⇓P **PKPdf 22 52 05.1 +0.7**
baz=119,SNR=5.8
BC3 Big Chuckawall 118.86 288 ⇓P **PKPdf 22 52 06.0 +1.6**
baz=119
ISCO Idaho Springs 119.03 299 ⇑P **PKPdf 22 52 05.3 +0.5**
baz=119,SNR=5.5
ISCO Idaho Springs 119.03 299 PFAKE 22 52 20.0 +15
ISCO LR LR
comp=Z,500nm,19.0s
PV01 Paradox Valley 119.08 296 *e*PKPdf **PKPdf 22 52 05.5 +0.6**
IRM Iron Mountain 119.11 288 ⇓P **PKPdf 22 52 06.1 +1.3**
baz=119
J30A Dallas 119.16 306 ⇓P **PKPdf 22 52 05.9 +1.3**
baz=120
W13A Hualapai Mount 119.23 290 ⇓P **PKPdf 22 52 06.4 +1.2**
baz=120
M26A McRoberts Ranc 119.25 302 ⇑P **PKPdf 22 52 06.8 +1.8**
baz=120
PFO Pinyon Flats O 119.33 287 PFAKE 22 52 20.0 +15
PFO LR LR
comp=Z,415nm,20.0s
P22A Eagle 119.40 298 ⇑P **PKPdf 22 52 07.0 +1.6**
baz=120
BELC Belle Mtn. Jos 119.41 288 ⇓P **PKPdf 22 52 07.4 +1.9**
baz=120
O23A Lake Granby, G 119.50 299 ⇑P **PKPdf 22 52 06.2 +0.5**

baz=120,SNR=8.0
U15A North Rim 119.51 292 ⇑P PKPdf 22 52 06.2 +0.4
baz=120
N24A Carr 119.52 300 ⇓P PKPdf 22 52 06.4 +0.9
baz=120
J29A Okreek 119.58 305 ⇓P PKPdf 22 52 06.3 +0.9
baz=120
I30A Oacoma 119.61 306 ⇓P PKPdf 22 52 06.1 +0.7
baz=120
EYMN Ely 119.73 314 PFAKE 22 52 20.0 +15
EYMN LR LR
comp=Z,827nm,19.0s
O22A Kremmling 119.75 299 ⇓P PKPdf 22 52 06.5 +0.4
baz=120,SNR=8.3
GMRC Granite Mounta 119.86 288 ⇑P PKPdf 22 52 06.8 +0.4
baz=120
J28A Allard Ranch, 119.99 305 ⇑P PKPdf 22 52 06.8 +0.6
baz=120
M24A Cheyenne 120.01 301 ⇓P PKPdf 22 52 07.0 +0.5
baz=120
N23A Red Feather La 120.06 300 ⇑P PKPdf 22 52 07.1 +0.4
baz=120,SNR=6.3
I29A Vivian Onida 120.07 306 ⇓P PKPdf 22 52 07.3 +1.1
baz=120
L25A Engebretsen Ra 120.17 302 ⇑P PKPdf 22 52 07.9 +1.2
baz=120
N22A Wattenberg Ran 120.22 299 ⇑P PKPdf 22 52 06.9 -0.1
baz=120,SNR=7.7
I28A Midland 120.42 305 ⇑P PKPdf 22 52 07.9 +0.9
baz=121
BFSC Mount Baldy Ra 120.44 287 ⇓P PKPdf 22 52 08.4 +0.9
baz=121
G30A Faulkton 120.47 307 ⇓P PKPdf 22 52 08.4 +1.4
baz=121
K25A Mack Ranch, Ha 120.50 302 ⇑P PKPdf 22 52 08.4 +1.1
baz=121
O20A White River Ci 120.52 298 ⇓P PKPdf 22 52 08.4 +0.9
baz=121
H29A Onida 120.52 306 ⇓P PKPdf 22 52 08.3 +1.2
baz=121
KONO Kongsberg 120.59 19 PFAKE 22 52 20.0 +13
KONO LR LR
comp=Z,529nm,19.0s
VSR Storozhevoye 120.65 41 *e*PKIKP PKPdf 22 52 06.7 -0.4
VSR pmax pmax
comp=N,6.0nm,1.1s
VSR pmax pmax
comp=E,4.0nm,1.1s
VSR pmax pmax
comp=Z,8.0nm,1.1s
J26A Sides Ranch, S 120.70 303 ⇓P PKPdf 22 52 08.4 +0.8
baz=121
M22A Cedar Creek Ra 120.76 300 ⇓P PKPdf 22 52 08.7 +0.6
baz=121
SRU San Rafael Swe 120.78 295 *e*PKIKP PKPdf 22 52 07.7 -0.3
SRU San Rafael Swe 120.78 295 *e*PKPdf PKPdf 22 52 07.7 -0.3
GSC Goldstone, Bar 120.85 288 ⇑P PKPdf 22 52 08.7 +0.5
baz=121
I27A Quinn 120.86 305 ⇓P PKPdf 22 52 08.5 +0.6
baz=121
H28A Mission Ridge 120.90 306 ⇓P PKPdf 22 52 08.8 +0.9
baz=121
L23A Garrett 120.92 301 ⇑P PKPdf 22 52 09.5 +1.2
baz=121
SHOC Shoshone, Teco 121.06 289 ⇓P PKPdf 22 52 09.9 +1.5
baz=121
N20A Spence Gulch, 121.08 298 ⇑P PKPdf 22 52 09.4 +0.8
baz=121
J25A Sunshine Ranch 121.09 303 ⇓P PKPdf 22 52 09.4 +1.0
baz=121
EDW2 Edwards Air Fo 121.11 287 ⇑P PKPdf 22 52 09.5 +0.9
baz=121
MVU Marysvale 121.11 294 *e*PKPdf PKPdf 22 52 08.1 -0.7
G28A Parade 121.18 306 ⇑P PKPdf 22 52 09.7 +1.3
baz=122
I26A New Underwood 121.18 304 ⇑P PKPdf 22 52 09.3 +0.9
baz=122
L22A Ellis Ranch, M 121.19 300 ⇑P PKPdf 22 52 09.7 +1.0
baz=122
H27A Howes 121.32 305 ⇓P PKPdf 22 52 09.6 +0.9
baz=122
F29A Eureka 121.33 307 ⇑P PKPdf 22 52 09.6 +1.0
baz=122
K23A Bowen Ranch, D 121.39 301 ⇑P PKPdf 22 52 09.7 +0.7
baz=122
VRHR Novokhopersk 121.41 42 *e*PKIKP PKPdf 22 52 08.1 -0.4
VRHR pmax pmax
comp=N,7.0nm,0.7s
VRHR pmax pmax
comp=E,5.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
LRMC Laurel Mtn Rad 121.43 287 ⇑P PKPdf 22 52 09.9 +0.6
baz=122
E30A Jud 121.48 308 ⇑P PKPdf 22 52 09.4 +0.5
baz=122
I25A Rochford 121.56 303 ⇑P PKPdf 22 52 09.4 +0.1
baz=122
H26A Fairpoint 121.61 305 ⇑P PKPdf 22 52 09.5 +0.3
baz=122
TARA Tarawa 121.62 200 PFAKE 22 52 20.0 +10
TARA LR LR
comp=Z,4μm,22.0s
SBC Santa Barbara 121.64 285 ⇑P PKPdf 22 52 09.5 0.0
baz=122
AGMN Agassiz Nation 121.70 312 ⇑P PKPdf 22 52 09.8 +0.6
baz=122
AGMN Agassiz Nation 121.70 312 *e*PKPdf PKPdf 22 52 04.9 -4.3
AGMN LR LR
comp=Z,678nm,20.0s
K22A Casper 121.72 301 ⇓P PKPdf 22 52 09.3 -0.4
baz=122,SNR=5.7
K22A Casper 121.72 301 *e*PKPdf PKPdf 22 52 09.4 -0.3
F28A McLaughlin 121.75 307 ⇓P PKPdf 22 52 09.9 +0.5
baz=122
RSSD Black Hills 121.77 303 *e*PKIKP PKPdf 22 52 08.4 -1.4
RSSD Black Hills 121.77 303 *e*PKPdf PKPdf 22 52 08.4 -1.4
I24A Kuemmerle Ranc 121.82 303 ⇑P PKPdf 22 52 10.6 +0.8
baz=122
E29A Napoleon 121.84 308 ⇓P PKPdf 22 52 10.5 +0.9
baz=122
G27A Dupree 121.85 306 ⇓P PKPdf 22 52 10.4 +0.7
baz=122
D30A Buchanan 121.91 309 ⇑P PKPdf 22 52 10.5 +0.8
baz=122
ISA Isabella, Lake 121.97 287 ⇓P PKPdf 22 52 11.3 +1.0
baz=122
H25A Fruitdale 121.97 304 ⇑P PKPdf 22 52 10.6 +0.6
baz=122
K21A Alcova 122.03 300 ⇓P PKPdf 22 52 10.5 +0.2
baz=122,SNR=9.8
G26A Maurine 122.07 305 ⇑P PKPdf 22 52 10.7 +0.5
baz=122
NB2 NORSAR Subarra 122.18 19 PKPdf PKPdf 22 52 10.1 +0.3
comp=Z,13nm,1.2s,baz=202,slow=1.9
NB2 NORSAR Subarra 122.18 19 PKPdf PKPdf 22 52 10.1 +0.3
baz=202,slow=1.9
NOA NORSAR Array B 122.18 19 PKP PKPdf 22 52 07.8 -2.0
comp=Z,4.5nm,1.0s,baz=196,slow=1.8,SNR=5.5
C30A Mose, Pekin 122.27 310 ⇑P PKPdf 22 52 11.3 +0.9
baz=123
I23A Meade Ranch, G 122.27 302 ⇑P PKPdf 22 52 11.0 +0.4
baz=123
E28A Huff 122.28 307 ⇑P PKPdf 22 52 11.2 +0.8
baz=123
F27A Lemmon 122.28 306 ⇑P PKPdf 22 52 11.3 +0.8
baz=123
J22A Midwest 122.30 301 ⇓P PKPdf 22 52 10.4 -0.4
baz=123,SNR=14
G25A Newell 122.35 305 ⇓P PKPdf 22 52 11.6 +0.9
baz=123
VES Vestal, Richgr 122.42 287 ⇑P PKPdf 22 52 11.4 +0.4
baz=123
CMAR Chiang Mai Arr 122.47 109 PKP PKPdf 22 52 11.5 -0.1
comp=Z,7.1nm,0.8s,baz=236,slow=3.7,SNR=36
CMAR PKKPab PKKPab 23 02 06.6 0.0
comp=Z,1.5nm,0.3s,baz=14,slow=3.9,SNR=14
H24A Dirks Ranch, A 122.49 303 ⇓P PKPdf 22 52 11.6 +0.6
baz=123
F26A Lodgepole 122.54 306 ⇓P PKPdf 22 52 12.1 +1.0
baz=123
CTU Camp Tracy 122.61 296 *e*PKPdf PKPdf 22 52 11.5 0.0
R11A Troy Canyon, C 122.63 291 ⇓P PKPdf 22 52 12.2 +0.6
baz=123
I22A 9 Mile Ranch, 122.68 302 ⇑P PKPdf 22 52 11.7 +0.2
baz=123
J21A Lysite 122.68 300 ⇑P PKPdf 22 52 11.2 -0.3
baz=123,SNR=13
D28A Regan 122.72 308 ⇓P PKPdf 22 52 11.9 +0.6
baz=123
DUG Dugway, Tooele 122.73 294 ⇑P PKPdf 22 52 12.1 +0.5
baz=123
DUG Dugway, Tooele 122.73 294 PFAKE 22 52 20.0 +8.3
DUG LR LR
comp=Z,738nm,21.0s
CHTO Chiang Mai 122.77 108 *e*PKIKP PKPdf 22 52 11.6 -0.6
CHTO MLR MLR
comp=Z,612nm,21.0s
CHTO Chiang Mai 122.77 108 *e*PKPdf PKPdf 22 52 11.6 -0.6
CHTO LR LR
comp=Z,612nm,21.0s
B30A Myrvik Farm, E 122.80 310 ⇓P PKPdf 22 52 11.9 +0.6
baz=123
G24A Alzada 122.89 304 ⇑P PKPdf 22 52 12.2 +0.5
baz=123
F25A Bowman 122.94 305 ⇑P PKPdf 22 52 12.3 +0.5
baz=123
E26A Carlson Angus 122.94 306 ⇓P PKPdf 22 52 12.3 +0.6
baz=123
I21A Big Trails, Te 122.98 301 ⇓P PKPdf 22 52 11.5 -0.5
baz=123,SNR=12
J20A Shoshoni 122.98 300 ⇑P PKPdf 22 52 12.1 0.0
baz=123,SNR=16
D27A Center 123.05 307 ⇓P PKPdf 22 52 12.0 +0.1
baz=123
C28A Hausauer Farms 123.06 308 ⇑P PKPdf 22 52 12.7 +0.8
baz=123
OBN Obninsk 123.08 37 ⇑*i*PKIKP PKPdf 22 52 12.5 +0.9
OBN *e* 22 53 54.3
OBN pmax pmax
comp=Z,40nm,2.5s
OBN Obninsk 123.08 37 PFAKE 22 52 20.0 +8.4
OBN LR LR
comp=Z,365nm,21.0s
H22A Clearmont 123.17 302 ⇓P PKPdf 22 52 12.2 -0.2
baz=124,SNR=7.1
A30A Hoffart Farm, 123.18 311 ⇓P PKPdf 22 52 12.4 +0.3
baz=124
BW06 Boulder Array 123.20 299 PFAKE 22 52 20.0 +7.4
BW06 LR LR
comp=Z,621nm,19.0s
PDAR Pinedale Array 123.20 299 PKP PKPdf 22 52 11.2 -1.4
comp=Z,3.4nm,0.6s,baz=140,slow=3.5,SNR=26
G23A Biddle 123.22 303 ⇑P PKPdf 22 52 12.5 +0.1
baz=124
B29A Wagenman Farm, 123.23 310 ⇑P PKPdf 22 52 12.4 +0.2
baz=124
HWUT Hardware Ranch 123.23 296 PFAKE 22 52 20.0 +7.3
HWUT LR LR
comp=Z,810nm,21.0s
ULM Lac du Bonnet 123.28 313 PKP PKPdf 22 52 10.9 -1.3
comp=Z,6.4nm,0.5s,baz=150,slow=1.2,SNR=13
J19A Crowheart 123.35 299 ⇑P PKPdf 22 52 12.9 +0.1
baz=124,SNR=8.5
E25A Miller Ranch, 123.37 306 ⇑P PKPdf 22 52 13.1 +0.6
baz=124
D26A Manning 123.37 307 ⇑P PKPdf 22 52 13.4 +0.9
baz=124
I20A Worland 123.46 300 ⇓P PKPdf 22 52 12.7 -0.2
baz=124,SNR=8.6
H21A Big Horn, Sher 123.50 302 ⇓P PKPdf 22 52 13.3 +0.3
baz=124
C27A Sayler Ranch, 123.52 308 ⇓P PKPdf 22 52 13.3 +0.5
baz=124
A29A Manning Farm, 123.54 310 ⇑P PKPdf 22 52 13.0 +0.2
baz=124
DAV Davao City (W) 123.56 142 PFAKE 22 52 30.0 +16
DAV LR LR
comp=Z,151nm,19.0s
G22A Birney 123.63 303 ⇑P PKPdf 22 52 13.0 -0.2
baz=124
B28A Dugan Ranch, T 123.63 309 ⇓P PKPdf 22 52 13.5 +0.6
baz=124
F23A Volborg 123.63 304 ⇑P PKPdf 22 52 13.0 -0.1
baz=124
E24A Baker 123.81 305 ⇑P PKPdf 22 52 14.0 +0.5
baz=124
H20A Greybull 123.82 301 ⇑P PKPdf 22 52 13.8 +0.2
baz=124,SNR=11
D25A Fairfield 123.84 306 ⇑P PKPdf 22 52 14.0 +0.6
baz=124
C26A Wahner Farm, P 123.86 307 ⇑P PKPdf 22 52 14.3 +0.9
baz=124
AHID Auburn Hatcher 123.91 298 PFAKE 22 52 30.0 +16
AHID LR LR
comp=Z,876nm,19.0s
I19A Meeteetse 123.92 300 ⇓P PKPdf 22 52 14.1 +0.2
baz=124,SNR=16
A28A Rude Farm, Bot 123.95 309 ⇑P PKPdf 22 52 13.9 +0.3
baz=124
G21A Lodge Grass 124.04 302 ⇑P PKPdf 22 52 14.3 +0.3
baz=124
NVAR Mina Array Bea 124.04 289 PKP PKPdf 22 52 14.8 +0.5
comp=Z,4.3nm,0.8s,baz=141,slow=2.6,SNR=23
F22A Rosebud 124.05 303 ⇑P PKPdf 22 52 14.2 +0.3
baz=124
D24A Glendive 124.25 305 ⇑P PKPdf 22 52 14.9 +0.7
baz=124
ELK Elko 124.32 293 PKP PKPdf 22 52 15.3 +0.5
comp=Z,7.7nm,1.0s,baz=178,slow=2.1,SNR=20
A27A Ledoux Ranch, 124.39 309 ⇑P PKPdf 22 52 15.8 +1.4
baz=125
H19A Powell 124.41 300 ⇓P PKPdf 22 52 14.9 +0.2
baz=125,SNR=9.5
E22A Miles City 124.42 304 ⇓P PKPdf 22 52 15.4 +0.8
baz=125
F21A Absaloka Mine, 124.46 303 ⇓P PKPdf 22 52 15.5 +0.7
baz=125
I17A Pilgrim Ck. 124.56 299 ⇑P PKPdf 22 52 15.8 +0.6
baz=125
C24A Savage 124.61 306 ⇓P PKPdf 22 52 16.0 +1.1
baz=125
B25A Knox Farm, Ray 124.65 307 ⇑P PKPdf 22 52 16.2 +1.2
baz=125
A26A Wade Farm, Ken 124.67 308 ⇓P PKPdf 22 52 15.5 +0.5
baz=125
D23A Lindsay 124.67 305 ⇑P PKPdf 22 52 15.9 +0.8
baz=125
H18A Shoshone NF, C 124.72 300 ⇓P PKPdf 22 52 15.9 +0.4
baz=125,SNR=10.0
LAO LASA Array 124.74 304 *e*PKPdf PKPdf 22 52 14.4 -0.8
LAO LR LR
comp=Z,1μm,20.0s
CMB Columbia Colle 124.78 287 *e*PKIKP PKPdf 22 52 16.1 +0.6
CMB Columbia Colle 124.78 287 *e*PKPdf PKPdf 22 52 16.1 +0.6
RLMT Red Lodge 124.89 301 *e*PKPdf PKPdf 22 52 15.5 -0.2
RLMT LR LR
comp=Z,1μm,19.0s
F20A Billings 124.90 302 ⇑P PKPdf 22 52 16.0 +0.4
baz=125
H17A Grant Village 124.92 299 ⇓P PKPdf 22 52 16.3 +0.4
baz=125
E21A Keefer Ranch, 125.00 303 ⇑P PKPdf 22 52 16.5 +0.8
baz=125
BMN Battle Mountai 125.05 291 *e*PKIKP PKPdf 22 52 16.7 +0.6
BMN Battle Mountai 125.05 291 *e*PKPdf PKPdf 22 52 16.7 +0.6
D22A Cohagen 125.07 304 ⇓P PKPdf 22 52 16.5 +0.7
baz=125
C23A Lambert 125.15 305 ⇑P PKPdf 22 52 16.9 +1.0
baz=125
A25A Svangstu Ranch 125.15 308 ⇓P PKPdf 22 52 16.8 +0.9
baz=125
F19A Roth Farm, Mol 125.30 301 ⇓P PKPdf 22 52 17.4 +1.0
baz=126
D21A La Casta Ranch 125.36 304 ⇑P PKPdf 22 52 16.9 +0.5
baz=126,SNR=11
C22A Vida 125.40 305 ⇑P PKPdf 22 52 17.1 +0.7
baz=126
E20A Meyer Farm, Mu 125.44 302 ⇓P PKPdf 22 52 16.9 +0.3
baz=126,SNR=13
A24A Westby 125.51 307 ⇓P PKPdf 22 52 17.6 +1.0
baz=126
B23A Brockton 125.57 306 ⇑P PKPdf 22 52 17.6 +0.9
baz=126
FINES FINESS Array B 125.61 27 PKP PKPdf 22 52 15.3 -0.9
comp=Z,6.2nm,0.5s,baz=176,slow=3.0,SNR=22
FINES SKP 22 56 07.8
comp=Z,0.9nm,0.6s,baz=163,slow=1.5,SNR=4.8
E19A Rath Farm, Rou 125.69 302 ⇑P PKPdf 22 52 17.5 +0.4
baz=126,SNR=10
D20A Manuel Ranch, 125.89 303 ⇓P PKPdf 22 52 18.0 +0.6
baz=126,SNR=16
A23A Redstone 125.91 306 ⇑P PKPdf 22 52 18.3 +1.0
baz=126
C21A Desert Coulee 125.99 304 ⇓P PKPdf 22 52 18.6 +1.1
baz=126
HLID Hailey 126.08 296 ⇑P PKPdf 22 52 18.9 +0.9
baz=126
HLID Hailey 126.08 296 PFAKE 22 52 30.0 +12
HLID LR LR
comp=Z,812nm,19.0s
KAF Kangasniemi 126.24 27 *e*PKIKP PKPdf 22 52 17.7 +0.2
KAF pmax pmax
comp=Z,13nm,1.0s
KAF Kangasniemi 126.24 27 *ep* PKPdf 22 52 17.7 +0.2
comp=Z,13nm,1.0s
D19A Cripps Ranch, 126.27 302 ⇑P PKPdf 22 52 19.0 +0.8
baz=127,SNR=21
C20A Veseth Ranch, 126.30 304 ⇓P PKPdf 22 52 18.9 +0.7
baz=127,SNR=22
BOZ Bozeman (W) 126.36 299 PFAKE 22 52 30.0 +12
BOZ LR LR
comp=Z,593nm,19.0s
A22A Carney Farms, 126.37 306 ⇓P PKPdf 22 52 19.5 +1.2
baz=127
B21A Ellsworth Farm 126.42 305 ⇓P PKPdf 22 52 19.7 +1.3
baz=127
FRB Frobisher Bay 126.56 337 PKP PKPdf 22 52 18.2 +0.2
comp=Z,14nm,0.9s,baz=134,slow=3.3,SNR=27
SFJD Kangerlussuaq 126.69 347 PKP PKPdf 22 52 17.0 -1.1
comp=Z,13nm,0.9s,baz=314,slow=3.7,SNR=3.0
C19A Slack Wire Ran 126.78 303 ⇓P PKPdf 22 52 20.0 +1.0
baz=127,SNR=16
A21A Bergtoll Ranch 126.80 305 ⇑P PKPdf 22 52 20.3 +1.2
baz=127
ABKAR Akbulak array 127.15 55 *e*PKPdf PKPdf 22 52 18.2 -1.4
A20A Cobblestone Ra 127.15 305 ⇓P PKPdf 22 52 20.8 +1.0
baz=127,SNR=17
WVOR Wild Horse Val 127.26 292 PFAKE 22 52 30.0 +10
WVOR LR LR
comp=Z,615nm,19.0s
B19A Brinkman Farms 127.28 304 ⇓P PKPdf 22 52 21.5 +1.5
baz=128,SNR=10
EGMT Eagleton 127.31 303 ⇑P PKPdf 22 52 21.3 +1.2
baz=128,SNR=17
EGMT Eagleton 127.31 303 PFAKE 22 52 30.0 +10
EGMT LR LR
comp=Z,2μm,21.0s
KKAR Karatay Array 127.37 67 *e*PKIKP PKPdf 22 52 18.9 -1.4
KKAR Karatay Array 127.37 67 *e*PKPdf PKPdf 22 52 18.9 -1.4
KSH Kashi 127.37 74 PKP PKPdf 22 52 20.5 -0.1
KSH sPKP 22 52 31.8
KSH PP PP 22 54 19.9 -1.4
KSH PKS PKSdf 22 55 58.9 +1.7
KSH SKKS 23 01 10.9
KSH PPMZ
comp=Z,97nm,4.8s
KSH LN
comp=Z,82nm,4.4s
KSH LE
comp=Z,62nm,4.3s
KSH LZ
comp=Z,140nm,12.7s
A19A Klindworth Far 127.54 304 ⇓P PKPdf 22 52 21.8 +1.2
baz=128,SNR=10
MOD Modoc Plateau 127.68 290 *e*PKPdf PKPdf 22 52 21.0 -0.1
LSA Lhasa 127.68 94 *e*PKIKP PKPdf 22 52 21.5 -0.4
LSA MLR MLR
comp=Z,806nm,21.0s
LSA Lhasa 127.68 94 *e*PKPdf PKPdf 22 52 21.5 -0.4
LSA LR LR
comp=Z,806nm,21.0s
JOF Joensuu 128.15 28 *e*PKIKP PKPdf 22 52 19.6 -1.5
JOF pmax pmax
comp=Z,23nm,0.8s
JOF Joensuu 128.15 28 *ep* PKPdf 22 52 19.6 -1.5
comp=Z,23nm,0.8s
N02D Trinity Center 128.17 288 ⇓P PKPdf 22 52 23.6 +1.6
baz=128,SNR=13
QIZ Qiongzhong 128.20 119 PKP PKPdf 22 52 23.8 +1.2
QIZ PP PP 22 54 29.5 +3.2
QIZ SS SS 23 11 45.5 +4.9
QIZ PPMZ
comp=Z,96nm,3.9s
QIZ LN
comp=Z,450nm,19.7s
QIZ LZ
comp=Z,600nm,21.8s
QIZ Qiongzhong 128.20 119 PFAKE 22 52 30.0 +7.4
QIZ LR LR
comp=Z,646nm,22.0s
AML Almayashu 128.20 70 P PKPdf 22 52 21.9 -0.5
SNR=21
MSO Missoula 128.31 299 ⇑P PKPdf 22 52 23.6 +1.5
baz=129
M04C Macdoel 128.35 289 ⇓P PKPdf 22 52 23.8 +1.4
baz=129,SNR=9.0
BMO Blue Mountains 128.42 295 PFAKE 22 52 30.0 +7.6
BMO LR LR
comp=Z,814nm,21.0s
M02C Callahan 128.56 288 ⇑P PKPdf 22 52 24.3 +1.6
baz=129,SNR=9.2
EKS2 Erkin-Say 128.63 69 P PKPdf 22 52 22.7 -0.2
SNR=23
EKS2 Erkin-Say 128.63 69 *e*PKIKP PKPdf 22 52 22.3 -0.6
EKS2 MLR MLR
comp=Z,589nm,20.0s
EKS2 Erkin-Say 128.63 69 *e*PKPdf PKPdf 22 52 22.3 -0.6
EKS2 LR LR
comp=Z,589nm,20.0s
UCH Uchtor 128.68 70 P PKPdf 22 52 23.5 +0.1
SNR=14
KLMR Klimovskoe 128.69 34 *e*PKIKP PKPdf 22 52 20.2 -2.0
KLMR *e* 22 54 28.3
KLMR pmax pmax
comp=Z,64nm,1.2s
YBH Yreka Blue Hor 128.74 289 PKP PKPdf 22 52 23.5 +0.4
comp=Z,4.5nm,1.0s,baz=180,slow=0.3,SNR=7.2
AAK Ala-Archa 128.97 70 P PKPdf 22 52 23.6 0.0
SNR=13
AAK Ala-Archa 128.97 70 ⇑*i*PKIKP PKPdf 22 52 25.9 +2.3
AAK pmax pmax
comp=Z,35nm,1.2s
AAK Ala-Archa 128.97 70 *e*PKPdf PKPdf 22 52 22.4 -1.1
AAK LR LR
comp=Z,700nm,19.0s
FFC Flin Flon 129.10 313 PFAKE 22 52 30.0 +6.8
FFC LR LR
comp=Z,841nm,19.0s
J05D Fort Rock, OR 129.16 291 ⇑P PKPdf 22 52 25.2 +1.3
baz=129,SNR=9.7
USP Ospenovka 129.44 69 P PKPdf 22 52 25.1 +0.8
SNR=6.1
L02D Cave Junction, 129.50 288 ⇓P PKPdf 22 52 26.1 +1.7
baz=130
J04D Umpqua Nationa 129.56 290 ⇓P PKPdf 22 52 26.6 +1.9
baz=130,SNR=7.6
TKM2 Tokmak 2 129.73 71 P PKPdf 22 52 24.3 -0.8
SNR=6.2
TKM2 Tokmak 2 129.73 71 *e*PKIKP PKPdf 22 52 24.1 -1.0
TKM2 MLR MLR
comp=Z,606nm,21.0s
TKM2 Tokmak 2 129.73 71 *e*PKPdf PKPdf 22 52 24.1 -1.0
TKM2 LR LR
comp=Z,606nm,21.0s
KMI Kunming 129.95 108 PKP PKPdf 22 52 26.6 +0.5
KMI SS SS 23 12 04.9 +1.9
KMI LN
comp=Z,300nm,22.8s
KMI LE
comp=Z,340nm,18.5s
KMI LZ
comp=Z,460nm,20.3s
I05D Terrebonne, OR 129.99 292 ⇑P PKPdf 22 52 27.3 +2.0
baz=130
I03D Drain, OR 130.51 290 ⇑P PKPdf 22 52 27.9 +1.7
baz=131
HAWA Hanford 130.61 295 PFAKE 22 52 40.0 +14
HAWA LR LR
comp=Z,779nm,19.0s
NEW Newport 130.83 298 PKIKP PKPdf 22 52 26.4 -0.4
NEW MLR MLR
comp=Z,1μm,19.0s
NEW Newport 130.83 298 PKP PKPdf 22 52 26.4 -0.4
comp=Z,3.2nm,0.8s,baz=167,slow=2.5,SNR=8.5
NEW Newport 130.83 298 ⇓P PKPdf 22 52 27.9 +1.1
baz=131
NEW Newport 130.83 298 PKP PKPdf 22 52 26.4 -0.4
NEW LR LR
comp=Z,1μm,19.0s
SUMG Summit 131.10 354 *e*PKIKP PKPdf 22 52 28.6 +1.6
SUMG pmax pmax

comp=Z,3.0nm,1.0s
SUMG Summit 131.10 354 *i* P **PKPdf 22 52 28.6 +1.6**
comp=Z,3.2nm,1.0s
PRGR Permogore 131.16 36 *e*PKIKP **PKPdf 22 52 23.6 -3.2**
PRGR pmax pmax
comp=Z,295nm,2.5s
G03D McMinnville, O 131.57 291 ⇑P **PKPdf 22 52 29.7 +1.6**
baz=132
ARU Arti 131.87 48 *i* PKIKP **PKPdf 22 52 28.9 +0.6**
ARU 22 54 48.1
ARU SS SS 23 12 20.3 -5.5
ARU MLR MLR
comp=Z,414nm,21.0s
ARU Arti 131.87 48 PFAKE 22 52 40.0 +12
ARU LR LR
comp=Z,465nm,19.0s
ARCES ARCESS Array B 132.44 21 PKhKP PKPpre 22 52 16.2
comp=Z,5.2nm,1.0s,baz=294,slow=4.8,SNR=4.0
ARCES PKP **PKPdf 22 52 28.8 -0.2**
comp=Z,5.8nm,0.6s,baz=217,slow=1.9,SNR=18
ARCES PP **PP 22 54 51.6 -2.1**
comp=Z,6.2nm,1.0s,baz=201,slow=4.8,SNR=5.1
ARCES SKP 22 56 13.2
comp=Z,3.5nm,0.8s,baz=222,slow=1.2,SNR=6.5
EDM Edmonton 132.66 305 *e*PKIKP **PKPdf 22 52 28.8 -1.2**
EDM Edmonton 132.66 305 *e*PKPdf **PKPdf 22 52 28.8 -1.2**
SVE Sverdlovsk 132.96 48 ⇓*i*PKIKP **PKPdf 22 52 30.9 +0.5**
SVE pmax pmax
comp=Z,25nm,1.6s
GYA Guiyang 133.01 111 Pdif **Pdif 22 49 30.0 +1.7**
GYA PKP **PKiKP 22 52 32.6 -0.3**
GYA PP **PP 22 55 02.8 +5.1**
GYA PKS **PKSdf 22 56 07.3 -1.0**
GYA SKKS 23 01 51.3
GYA PPMZ
comp=Z,150nm,8.4s
GYA LN
comp=Z,180nm,20.5s
GYA LE
comp=Z,150nm,22.2s
GYA LZ
comp=Z,170nm,21.8s
LVZ Lovozero 133.03 26 PFAKE 22 52 40.0 +10
LVZ LR LR
comp=Z,583nm,19.0s
BRVK Borovoye 134.41 57⇑*e*PKIKP **PKPdf 22 52 34.4 +1.1**
BRVK Borovoye 134.41 57 *e*PKPdf **PKPdf 22 52 33.8 +0.6**
BRVK LR LR
comp=Z,442nm,19.0s
DAG Danmarks Havn 134.96 2 *i* P **PKPdf 22 52 32.9 -0.7**
comp=Z,3.4nm,1.1s
DAG *e* 22 52 50.1
CD2 Chengdu 135.19 104 *e*PKP **PKPdf 22 52 35.9 +0.3**
CD2 PP PP 22 55 18.6 +7.0
CD2 PKS **PKSdf 22 56 12.1 +0.2**
CD2 SKS **SKSdf 22 59 44.8 -1.6**
CD2 SKKS **SKKSac 23 02 06.3 -0.1**
CD2 SS **SS 23 13 09.8 +3.4**
CD2 PPMZ
comp=Z,170nm,10.7s
CD2 LN
comp=Z,410nm,14.1s
CD2 LE
comp=Z,370nm,19.0s
CD2 LZ
comp=Z,310nm,17.8s
MKAR Makanchi Array 135.82 71 PKhKP PKPpre 22 52 23.0
comp=Z,1.3nm,0.9s,baz=298,slow=2.6,SNR=9.9
MKAR PKP **PKPdf 22 52 35.6 -0.5**
comp=Z,5.7nm,0.9s,baz=212,slow=1.2,SNR=16
KURBB Kurchatov Arra 136.57 65 PP PP 22 55 22.4 +2.3
comp=Z,0.9nm,0.3s,baz=248,slow=6.4,SNR=5.8
KURBB SKPbc **SKPbc 22 56 07.0 -2.5**
comp=Z,0.5nm,0.3s,baz=220,slow=4.2,SNR=5.6
KURK Kurchatov 136.68 65 PP PP 22 55 22.4 +1.6
KURK SKPbc **SKPbc 22 56 07.0 -2.9**
KURK LR LR
comp=Z,179nm,20.0s
ENH Enshi 137.55 111 PFAKE 22 52 50.0 +10
ENH LR LR
comp=Z,242nm,22.0s
YHNB Yeheng 138.19 129 PFAKE 22 52 50.0 +8.7
YHNB LR LR
comp=Z,542nm,20.0s
SPITS Spitsbergen Ar 138.49 12 PKhKP PKPpre 22 52 30.9
comp=Z,2.0nm,0.6s,baz=150,slow=1.8,SNR=5.2
SPITS PKP **PKPdf 22 52 39.5 -0.7**
comp=Z,7.4nm,0.8s,baz=151,slow=7.1,SNR=4.4
KBS Kingsbay 138.72 10 PFAKE 22 52 50.0 +9.4
KBS LR LR
comp=Z,407nm,20.0s
YKA Yellowknife Ar 139.21 315 PKhKP PKPpre 22 52 31.8
comp=Z,1.8nm,0.7s,baz=123,slow=3.5,SNR=16
YKA PKP **PKPdf 22 52 41.0 -0.8**
comp=Z,25nm,0.9s,baz=125,slow=2.2,SNR=77
YKA PP **PP 22 55 33.5 -2.8**
comp=Z,3.9nm,1.0s,baz=120,slow=6.8,SNR=12
YKA SKP 22 56 16.0
comp=Z,2.0nm,0.9s,baz=122,slow=2.5,SNR=3.9
YKA PKKP PKKPdf 23 02 37.5 +28
comp=Z,0.9nm,0.9s,baz=0.2,slow=2.7,SNR=9.9
LZH Lanzhou 139.31 100 *e*PKP **PKPdf 22 52 44.5 +1.4**
LZH sPKP 22 52 54.8
LZH *e*PP PP 22 55 44.1 +6.7
LZH *e*SKKS 23 02 30.3
LZH PPMZ
comp=Z,220nm,4.3s
LZH LN
comp=Z,390nm,16.1s
LZH LE
comp=Z,450nm,17.2s
LZH LZ
comp=Z,460nm,19.0s
WHN Wuhan 140.13 116 PKP **PKPdf 22 52 45.0 +0.4**
WHN SS SS 23 14 04.8 +0.3
WHN LZ
comp=Z,1μm,27.3s
XAN Xi'an 140.31 107 PKP **PKPdf 22 52 47.8 +2.9**
RES Resolute Bay 140.78 337 PKhKP PKPpre 22 52 36.6
comp=Z,9.0nm,1.0s,baz=134,slow=5.1,SNR=18
NVS Novosibirsk 141.45 63 *e*PKHKP PKPpre 22 52 39.3
NVS pmax pmax
comp=Z,24nm,1.3s
NVS pmax pmax
comp=N,5.0nm,1.0s
ZALV Zalesovo Beam 141.67 65 PKhKP PKPpre 22 52 39.2
comp=N,3.1nm,0.5s,baz=241,slow=3.3,SNR=16
DLBC Dease Lake 143.24 303 PKP PKPbc 22 52 47.5 +1.0
comp=N,5.2nm,0.7s,baz=251,slow=7.9,SNR=7.6
NJ2 Nanjing 143.49 120 *e*PKP **PKPdf 22 52 52.9 +2.4**
HVS Khovu-Aksy 144.36 74 ⇑PKIKP **PKPdf 22 52 50.8 -0.8**
HHC Hu-ho-hao-te 146.87 102 *e*PKPbc **PKPbc 22 52 58.3 +0.2**
HHC PP PP 22 56 30.0 +7.0
HHC SKKS 23 03 14.4
HHC SS **SS 23 15 26.8 +4.1**
HHC PPMZ
comp=N,260nm,8.6s
HHC LN
comp=N,440nm,17.3s
HHC LE
comp=N,620nm,14.8s
HHC LZ
comp=N,690nm,17.3s
MOY Mondy 148.39 78 *e*PKIKP **PKPdf 22 52 58.4 0.0**
MOY pmax pmax
comp=Z,82nm,1.9s
BJT Baijiatuau 148.59 108 *e*PKIKP **PKPdf 22 52 58.2 -0.7**
BJT MLR MLR
comp=Z,435nm,20.0s
BJT Baijiatuau 148.59 108 *e*PKPdf **PKPdf 22 52 58.2 -0.7**
BJT LR LR
comp=Z,435nm,20.0s
BJI Beijing 148.61 108 PKPbc **PKPbc 22 53 01.4 -1.3**
BJI PP **PP 22 56 33.3 +0.4**
BJI PPMZ
comp=Z,250nm,9.3s
BJI LN
comp=Z,320nm,19.9s
BJI LE
comp=Z,380nm,21.8s
BJI LZ
comp=Z,310nm,24.6s
ZAK Zakamensk 148.84 81 *e*PKIKP **PKPdf 22 52 58.6 -0.5**
ZAK pmax pmax
comp=Z,45nm,1.8s
SONM Songino Array 148.93 88 PKPbc **PKPbc 22 53 02.7 -0.8**
comp=Z,40nm,1.0s,baz=216,slow=2.7,SNR=93
ULN Ulaanbaatar 149.29 88 *e*PKPdf **PKPdf 22 52 59.7 -0.3**
ULN *e*PKPbc **PKPbc 22 53 03.6 -0.8**
ULN LR LR
comp=Z,451nm,20.0s
JNU Nakatsue 149.46 135 PKPbc **PKPbc 22 53 05.6 +0.5**
comp=Z,10nm,0.8s,baz=78,slow=3.9,SNR=4.9
TLY Talaya 149.76 80⇑*e*PKP2 **PKPbc 22 53 05.3 +0.1**
TLY pmax pmax
comp=Z,83nm,1.4s
TLY Talaya 149.76 80 PKP **PKPdf 22 53 00.6 +0.1**
comp=Z,3.0nm,0.7s,baz=202,slow=2.2,SNR=7.4
TLY PKPbc **PKiKP 22 53 06.2 0.0**
comp=Z,31nm,1.0s,baz=217,slow=5.1,SNR=48
TLY Talaya 149.76 80 PKP **PKPdf 22 53 00.6 +0.1**
TLY PKPbc **PKiKP 22 53 06.2 0.0**
TLY LR LR
comp=Z,338nm,20.0s
DAWY Dawson 149.78 308 *e*PKPdf **PKPbc 22 53 03.5 -1.5**
IRK Irkutsk 150.40 79 *e*PKIKP **PKPdf 22 53 00.4 -1.0**
IRK pmax pmax
comp=Z,142nm,1.6s
EGAK Eagle 150.74 309 *e*PKPdf **PKPdf 22 53 01.1 -0.4**
EGAK *e*PKPbc **PKPbc 22 53 06.6 -0.5**
EGAK LR LR
comp=Z,839nm,21.0s
DIV Divide 151.55 300 *e*PKPdf **PKPdf 22 53 03.4 +0.4**
DIV *e*PKPbc **PKiKP 22 53 09.7 +0.1**
ILAR Eielson Array 153.10 308 PKP **PKPdf 22 53 02.1 -3.0**
comp=Z,2.5nm,1.0s,baz=304,slow=1.7,SNR=11
ILAR PKPbc **PKPbc 22 53 11.5 -1.0**
comp=Z,45nm,1.0s,baz=131,slow=2.2,SNR=91
ILAR PKPab **PKPab 22 53 23.7 -0.6**
comp=Z,24nm,1.0s,baz=138,slow=3.8,SNR=12
COLA College 153.53 308 PFAKE 22 53 20.0 -6.0
COLA LR LR
comp=Z,898nm,19.0s
RSO Redoubt South 154.56 296 *e*PKPbc **PKPbc 22 53 16.2 +0.2**
RSO *e*PKPab **PKPab 22 53 30.9 +0.1**
COLD Coldfoot 154.85 313 *e*PKPdf **PKPdf 22 53 07.7 +0.2**
MAJO Matsushiro 155.08 143 PFAKE 22 53 20.0 +11
MAJO LR LR
comp=Z,384nm,21.0s
MJAR Matsushiro Arr 155.08 144 PKPbc PKPdf 22 53 17.1 +8.3
comp=Z,2.4nm,0.9s,baz=186,slow=2.6,SNR=7.3
MJAR PKPab **PKPab 22 53 33.8 +0.4**
comp=Z,5.9nm,0.9s,baz=204,slow=5.6,SNR=9.8
CN2 Changchun 156.00 114 *e*PKP **PKPdf 22 53 08.9 -0.9**
CN2 SS SS 23 17 06.1 +3.0
CN2 PPMZ
comp=Z,200nm,8.0s
CN2 LN
comp=Z,500nm,20.0s
CN2 LE
comp=Z,500nm,20.0s
CN2 LZ
comp=Z,400nm,21.0s
HIA Hailar 156.82 97 PFAKE 22 53 20.0 +9.3
HIA LR LR
comp=Z,713nm,19.0s
BOD Bodaibo 157.89 73 *e*PKIKP **PKPdf 22 53 09.6 -2.1**
BOD *e* 22 53 41.8
BOD pmax pmax
comp=Z,8.0nm,1.5s
BOD pmax pmax
comp=Z,10.0nm,1.4s
MDJ Mudanjiang 158.57 118 PKP **PKPdf 22 53 12.6 -0.4**
MDJ PPMZ
comp=Z,160nm,4.9s
MDJ Mudanjiang 158.57 118 PFAKE 22 53 20.0 +7.0
MDJ LR LR
comp=Z,533nm,20.0s
USRK Ussuriysk Ar. 159.33 123 PKPab **PKPab 22 53 52.0 +0.4**
comp=Z,4.8nm,1.1s,baz=291,slow=4.0,SNR=4.0
ERM Erimo 161.60 147 PFAKE 22 53 30.0 +14
ERM LR LR
comp=Z,649nm,20.0s
TIXI Tiksi 162.63 29 PFAKE 22 53 30.0 +13
TIXI LR LR
comp=Z,375nm,20.0s
KLR Kul'dur 162.91 112 *e*PKP2 **PKPab 22 54 02.2 -4.9**
YUK Yuzh-Kuril'sk 164.21 151*c* PKIKP **PKPdf 22 53 17.8 -1.1**
YUK *i* PPP PPP 23 01 53.6
YUK *i* SS SS 23 18 29.3 +0.6
YUK *i* SSS SSS 23 24 44.0
YAK Yakutsk 166.31 63 PFAKE 22 53 30.0 +10
YAK LR LR
comp=Z,454nm,20.0s
BILL Bilibino 169.37 339 PFAKE 22 53 30.0 +7.9
BILL LR LR
comp=Z,849nm,21.0s

MAN 14 22:37:44,8°.78N×126°.58E,h12km,mb4.8,ML3.7,MS3.8, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.97**	**282**	*e*P	Pg	22 38 02.2	-0.5
BUTP				*e*S	Sn	22 38 17.8	+0.7
SCPH	**Surigao**	**1.47**	**313**⇑	*e*P	Pn	22 38 09.8	-0.6
BUKP	**Musuan**	**1.75**	**239**	*e*P	Pn	22 38 14.4	+0.1
MATI	**Mati**	**1.85**	**190**	*e*P	Pn	22 38 15.9	+0.4
MSLP	**Maasin**	**2.17**	**309**	*e*P	Pn	22 38 20.7	+0.8

ISCJB ***14*** *22:42:25.3±0.2,8°.17S±0°.03×122°.60E±0°.03,h200km, mb4.4/19,Error ellipse: s-maj=4.4km s-min=3.0km az=135.2*
BJI ***14*** *22:42:26.1,8°.01S×123°.02E,h181km,mB4.9/12,mb4.4/16*
NEIC ***14*** *22:42:26.5±0.4,8°.10S×122°.64E,h204km±4km,mb4.7/10, Error ellipse: s-maj=8.4km s-min=5.2km az=50.0*
IDC ***14*** *22:42:26.2±1.0,8°.03S×122°.67E,h198km±10km,mb3.9/12, mb1 4.1/15,mb1mx3.8/43,mbtmp4.5/15,MS4.7/2, Ms1 4.7/2,ms1mx3.4/25,Error ellipse: s-maj=27.3km s-min=10.3km az=78.0*
DJA ***14*** *22:42:27.0±0.3,8°S±3°×12°2E±°,h197km±7km,M4.7/16, mB5.3/6,mb4.5/16,MLv4.8/15,Mw(mB)4.7/6*
ISC 14 22:42:26.8±0.3,8°.22S±0°.04×122°.69E±0°.04,h200km,n110, σ1986/119**,mb4.3/19,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.61**	**227**	P	**Pn**	**22 42 55.1**	**+0.7**
MMRI				S	**Sn**	**22 43 17.4**	**+1.6**
MMRI	**Maumere**	**0.61**	**227**	*e*Pn	**Pn**	**22 42 55.1**	**+0.7**
MMRI				*e*Sn	**Sn**	**22 43 12.3**	**-3.5**
SOEI	**Soe**	**2.18**	**134**	P	**Pn**	**22 43 08.7**	**+1.3**
SOEI	**Soe**	**2.18**	**134**	P	**Pn**	**22 43 08.7**	**+1.3**
baz=2.2,SNR=133							
SOEI	**Soe**	**2.18**	**134**	*e*Pn	**Pn**	**22 43 09.0**	**+1.6**
SOEI				*e*Sn	**Sn**	**22 43 36.3**	**-2.8**
BATI	**Baumata**	**2.20**	**154**	P	**Pn**	**22 43 09.4**	**+1.9**
BATI	**Baumata**	**2.20**	**154**	P	**Pn**	**22 43 09.1**	**+1.6**
223nm,0.3s,baz=260,slow=1.3,SNR=117							
BATI				S	**Sn**	**22 43 42.2**	**+2.9**
431nm,0.3s,baz=317,slow=18,SNR=25							
BATI				LR	LR	22 44 19.3	
comp=Z,128nm,20.1s,baz=78,slow=48							
BBSI	**Bau Bau**	**2.71**	**358**	P	**Pn**	**22 43 12.3**	**-0.9**
WSI	**Waingapu**	**2.77**	**238**	P	**Pn**	**22 43 13.6**	**-0.1**
WSI	**Waingapu**	**2.77**	**238**	P	**Pn**	**22 43 13.7**	**-0.1**
baz=2.7,SNR=13							
WSI				S	**Sn**	**22 43 49.9**	**-0.5**
baz=2.7,SNR=12							
BSSI	**Bau Bau, Buton**	**3.00**	**313**	P	Pn	22 43 12.7	-3.8
KAPI	**Kappang**	**4.32**	**317**	Pn	**Pn**	**22 43 31.0**	**-1.6**
580nm,0.9s,SNR=14							
KAPI	**Kappang**	**4.32**	**317**	*e*Pn	**Pn**	**22 43 31.6**	**-1.0**
BNSI	**Bone**	**4.58**	**326**	P	**Pn**	**22 43 34.4**	**-1.5**
BNSI				S	**Sn**	**22 44 27.9**	**-2.4**
SPSI	**Sidrap Palu**	**5.12**	**325**	P	Pn	22 43 37.2	-5.7
SPSI				S	Sn	22 44 00.3	-43
SRBI	**Singaraja**	**7.40**	**270**	P	**Pn**	**22 44 11.3**	**-1.0**
40nm,0.8s,0.2nm							
SRBI				S	Sn	22 45 30.0	-6.2
40nm,0.8s,0.2nm							
IGBI	**Denpasar**	**7.48**	**265**	P	**Pn**	**22 44 10.6**	**-2.8**
174nm,0.6s,21μm3.9nm							
IGBI				S	Sn	22 45 28.3	-10
174nm,0.6s,21μm3.9nm							
JAGI	**Jajag, Banyuwa**	**8.45**	**268**	P	Pn	22 44 21.9	-4.1
33nm,0.5s							
JAGI	**Jajag, Banyuwa**	**8.45**	**268**	*e*Pn	Pn	22 44 22.3	-3.7
24nm,0.4s							
JAGI				*e*Sn	Sn	22 45 51.7	-9.4
SAUI	**Saumlaki**	**8.53**	**89**	*e*Pn	**Pn**	**22 44 28.1**	**+1.0**
GMJI	**Gumukmas**	**9.15**	**269**	P	Pn	22 44 31.3	-3.8
17nm,1.4s							
MTN	**Manton Dam**	**9.49**	**120**	P	**Pn**	**22 44 38.9**	**-0.7**
baz=9.5,SNR=246							
KNRA	**Kununurra**	**9.50**	**142**	P	**Pn**	**22 44 39.0**	**-0.6**
baz=9.5,SNR=252							
FITZ	**Fitzroy Crossi**	**10.24**	**164**	P	**Pn**	**22 44 48.4**	**-0.7**
baz=10,SNR=81							
FITZ	**Fitzroy Crossi**	**10.24**	**164**	*e*Pn	**Pn**	**22 44 48.3**	**-0.9**
FITZ				*e*Sn	**Sn**	**22 46 40.9**	**-2.6**
KDU	**Kakadu**	**10.60**	**116**	P	**Pn**	**22 44 52.6**	**-1.3**
baz=11,SNR=62							
PWJI	**Pagerwojo**	**10.78**	**270**	P	**Pn**	**22 44 54.4**	**-1.8**
30nm,0.4s							
FAKI	**Fak Fak**	**10.87**	**62**	*e*Pn	Pn	22 44 55.5	-2.0
FAKI				*e*Sn	**Sn**	**22 46 57.7**	**-1.2**
SWI	**Sorong**	**11.24**	**50**	P	**Pn**	**22 45 02.7**	**+0.6**
baz=11,SNR=3.1							
UGM	**Wanagama**	**12.05**	**271**	P	Pn	22 45 04.6	-7.9
97nm,1.9s							
UGM	**Wanagama**	**12.05**	**271**	P	**Pn**	**22 45 10.3**	**-2.2**
baz=12,SNR=8.6							
UGM	**Wanagama**	**12.05**	**271**	*e*Pn	**Pn**	**22 45 10.3**	**-2.2**
MBWA	**Marble Bar**	**13.18**	**192**	*e*Pn	**P**	**22 45 31.6**	**+2.1**
KPJI	**Karang Pucung**	**13.66**	**273**	P	Pn	22 45 29.7	-3.0
20nm,0.9s							
MYLDM	**Lahad Datu**	**13.95**	**342**	*e*Pn	**Pn**	**22 45 35.4**	**-0.8**
CMJI	**Cimerak**	**14.11**	**271**	P	Pn	22 45 30.9	-7.3
51nm,1.1s							
CISI	**Cisompet, Garu**	**14.75**	**272**	P	**Pn**	**22 45 46.3**	**+0.1**
baz=15,SNR=3.7							
CISI	**Cisompet, Garu**	**14.75**	**272**	*e*Pn	**Pn**	**22 45 44.5**	**-1.7**
SBUM	**Sibu**	**14.88**	**315**	*e*Pn	**P**	**22 45 49.4**	**+0.9**
SBUM				*e*S	Sn	22 48 40.6	+6.2
CNJI	**Cibinong**	**15.44**	**272**	P	**Pn**	**22 45 53.5**	**-1.1**
45nm,1.2s							
WRA	**Warramunga Arr**	**16.22**	**137**	P	**P**	**22 46 03.9**	**+0.5**
5.4nm,0.3s,baz=318,slow=12,SNR=236							
WRA				S	**S**	**22 48 58.1**	**-5.2**
3.1nm,0.3s,baz=309,slow=25,SNR=7.8							
WRAB	**Tennant Creek**	**16.22**	**137**	Pn	**P**	**22 46 03.0**	**-0.3**
181nm,0.4s,SNR=87							
WRAB	**Tennant Creek**	**16.22**	**137**	*e*P	**P**	**22 46 03.5**	**+0.2**
24nm,0.9s							
WRAB				*e*S	S	22 48 54.4	-8.8
WB2	**Warramunga Arr**	**16.23**	**137**	*e*P	**P**	**22 46 03.3**	**-0.1**
WB2				*e*S	**S**	**22 48 58.5**	**-4.9**
SMPI	**Sarmi**	**17.11**	**70**	P	**P**	**22 46 14.5**	**+1.4**
WRKA	**Warakurna**	**17.56**	**163**	P	**Pn**	**22 46 20.0**	**+0.1**
baz=18,SNR=81							
MEEK	**Meekatharra**	**18.72**	**191**	P	**Pn**	**22 46 32.3**	**-1.1**
baz=19,SNR=102							
ASAR	**Alice Springs**	**18.75**	**146**	P	**P**	**22 46 32.6**	**+1.7**
6.7nm,0.3s,baz=314,slow=8.8,SNR=154							
ASAR				S	**S**	**22 49 54.1**	**+0.3**
baz=320,slow=21,SNR=5.6							
JAY	**Jayapura**	**18.81**	**73**	P	**P**	**22 46 33.5**	**+1.9**
baz=19,SNR=3.7							
QIS	**Mount Isa**	**20.44**	**129**	P	**P**	**22 46 50.0**	**+0.9**
baz=20,SNR=24							
COEN	**Coen**	**20.89**	**108**	P	**P**	**22 46 53.7**	**-0.2**
baz=21,SNR=29							
COEN	**Coen**	**20.89**	**108**	*e*P	**P**	**22 46 53.8**	**-0.2**
576nm,1.8s							
MORW	**Morawa**	**21.66**	**196**	P	**P**	**22 47 02.2**	**+0.4**
baz=22,SNR=20							
BLDU	**Ballidu**	**22.97**	**193**	P	**P**	**22 47 14.4**	**+0.5**
baz=23,SNR=33							
FORT	**Forrest**	**23.00**	**168**	P	**P**	**22 47 16.1**	**+1.9**
baz=23,SNR=28							
FORT	**Forrest**	**23.00**	**168**	*e*P	**P**	**22 47 15.2**	**+1.0**
76nm,0.7s							
KMBL	**Kambalda**	**23.04**	**182**	P	**P**	**22 47 15.3**	**+0.7**
baz=23,SNR=8.4							
KLBR	**Kellerberrin**	**23.71**	**191**	P	**P**	**22 47 21.1**	**+0.5**
baz=24,SNR=40							
NWAO	**Narrogin (SRO)**	**25.10**	**191**	P	**P**	**22 47 33.8**	**+0.5**
7.2nm,0.4s,baz=34,slow=6.8,SNR=23							
QLP	**Quilpie**	**27.42**	**134**	P	**P**	**22 47 55.9**	**+1.8**
baz=28,SNR=6.3							
BBOO	**Buckleboo**	**27.43**	**155**	P	**P**	**22 47 55.0**	**+0.9**
baz=28,SNR=99							
BBOO	**Buckleboo**	**27.43**	**155**	*e*P	**P**	**22 47 55.0**	**+0.9**
339nm,0.4s							
HTT	**Hallett**	**29.23**	**151**	P	**P**	**22 48 11.2**	**+1.0**
baz=29,SNR=34							
STKA	**Stephens Creek**	**29.39**	**146**	P	**P**	**22 48 12.8**	**+1.3**
7.4nm,0.5s,baz=313,slow=9.3,SNR=25							
STKA	**Stephens Creek**	**29.39**	**146**	P	**P**	**22 48 12.8**	**+1.3**
baz=30,SNR=27							
STKA	**Stephens Creek**	**29.39**	**146**	*e*P	**P**	**22 48 12.8**	**+1.3**
2.2nm,0.9s							
QIZ	**Qiongzhong**	**29.89**	**335**	P	**P**	**22 48 18.3**	**+2.3**
QIZ				pP	**pP**	**22 48 55.8**	**-1.1**
QIZ				sP	**sP**	**22 49 16.6**	**-3.3**
QIZ				S	**S**	**22 53 04.1**	**+5.6**
QIZ				PMZ			
19nm,1.7s							
CMSA	**Cobar Meteorol**	**31.58**	**140**	P	**P**	**22 48 32.6**	**+1.8**
baz=32,SNR=13							
ARMA	**Armidale**	**34.93**	**133**	*e*P	**P**	**22 49 00.7**	**+0.7**
66nm,1.7s							
YNG	**Young**	**35.11**	**141**	P	**P**	**22 49 03.7**	**+2.4**
baz=35,SNR=18							
GYA	**Guiyang**	**37.82**	**336**	P	**P**	**22 49 27.0**	**+2.6**
GYA				pP	**pP**	**22 50 06.8**	**+0.5**
GYA				sP	**sP**	**22 50 28.4**	**-0.7**
GYA				PP	**PnPn**	**22 51 01.0**	**+2.0**
GYA				PcP	**PcP**	**22 51 38.6**	**+1.9**
GYA				S	**ScP**	**22 55 05.3**	**0.0**
GYA				PMZ			
20nm,0.8s							
GYA				PMZ			
130nm,4.9s							
KMI	**Kunming**	**38.42**	**330**	P	P	22 49 37.0	+7.5
CD2	**Chengdu**	**42.93**	**336**	*e*P	**P**	**22 50 08.0**	**+1.9**
CD2				PMZ			
10.0nm,0.8s							
MJAR	**Matsushiro Arr**	**46.85**	**17**	P	P	22 50 34.4	-2.5
1.9nm,0.8s,baz=179,slow=7.7,SNR=5.7							
LSA	**Lhasa**	**48.39**	**323**	*e*P	**P**	**22 50 47.8**	**-1.6**
2.7nm,0.5s							
BJI	**Beijing**	**48.39**	**353**	P	**P**	**22 50 48.6**	**0.0**
BJI				PMZ			
4.0nm,0.6s							
ODAN	**Odare**	**48.86**	**317**	*e*P	**P**	**22 50 51.5**	**-1.3**
TAPN	**Taplejung**	**48.96**	**317**	*e*P	**P**	**22 50 52.7**	**-0.9**
RAMN	**Ramite**	**49.46**	**316**	*e*P	**P**	**22 50 56.7**	**-0.6**
17nm,0.5s							
JIRN	**Jiri**	**50.19**	**317**	*e*P	**P**	**22 51 01.7**	**-1.3**
13nm,0.5s							
GUN	**Gumba**	**50.56**	**317**	*e*P	**P**	**22 51 04.6**	**-1.1**
17nm,0.6s							
PKI	**Pulchoki**	**50.67**	**316**	*e*P	**P**	**22 51 04.8**	**-1.7**
13nm,0.5s							
PKIN	**Phulchoki**	**50.68**	**316**	*e*P	**P**	**22 51 04.6**	**-1.9**
11nm,0.5s							
KKN	**Kakani**	**50.89**	**316**	*e*P	**P**	**22 51 07.2**	**-0.8**
GKN	**Gorkha**	**51.47**	**316**	*e*P	**P**	**22 51 10.7**	**-1.5**
12nm,0.5s							
CN2	**Changchun**	**51.83**	**3**	*e*P	**P**	**22 51 13.5**	**-0.9**
CN2				*e*pP	**pP**	**22 51 56.4**	**-2.5**
CN2				*e*sP	sP	22 52 15.0	-6.0
CN2				*e*S	**S**	**22 58 21.3**	**+0.2**
CN2				PMZ			
10.0nm,0.5s							
CN2				PMZ			
200nm,4.0s							
DANN	**Dangsing**	**52.29**	**316**	*e*P	**P**	**22 51 16.9**	**-1.6**
23nm,0.5s							
USRK	**Ussuriysk Ar.**	**52.85**	**8**	P	P	22 51 19.9	-2.0
1.8nm,0.5s,baz=189,slow=6.7,SNR=7.6							
MDJ	**Mudanjiang**	**52.96**	**6**	P	**P**	**22 51 25.6**	**+2.9**
MDJ				PMZ			
7.0nm,0.8s							
MDJ				PMZ			
150nm,3.6s							
RPZ	**Rata Peaks**	**54.93**	**139**	*e*P	**P**	**22 51 37.4**	**+0.3**
717nm,2.8s							
SONM	**Songino Array**	**57.64**	**347**	P	P	22 51 54.1	-2.1
0.5nm,0.5s,baz=160,slow=7.5,SNR=7.6							
WMQ	**Urumqi**	**60.73**	**332**	*e*P	**P**	**22 52 19.1**	**+1.7**
WMQ				pP	**PcP**	**22 53 01.5**	**+2.2**

WMQ			PP	**PP**	**22 54 37.0**	**+3.2**
WMQ			S	**S**	**23 00 19.0**	**+0.7**
WMQ			sS	**sS**	**23 01 36.0**	**-2.4**
WMQ			PMZ			
	5.0nm,1.4s					
WMQ			PMZ			
	96nm,4.0s					
WMQ			LN			
	170nm,20.0s					
WMQ			LE			
	180nm,20.0s					
WMQ			LZ			
	120nm,25.0s					
KSH	**Kashi**	**64.22 321**	P	P	22 52 44.3	+3.6
KSH			sP	sP	22 53 49.1	+0.4
KSH			PP	PP	22 55 10.1	+5.4
KSH			S	**S**	**23 01 02.9**	**+0.8**
KSH			ScS	**SKSac**	**23 02 13.3**	**-1.9**
KSH			sS	sS	23 02 20.9	-2.2
KSH			SS	**SS**	**23 05 20.0**	**+4.3**
KSH			PMZ			
	8.0nm,1.2s					
KSH			LN			
	110nm,5.6s					
KSH			LE			
	86nm,5.6s					
KSH			LZ			
	110nm,5.6s					
MKAR	**Makanchi Array**	**65.50 331**	P	**P**	**22 52 48.2**	**-0.5**
	2.2nm,0.4s,baz=137,slow=6.2,SNR=34					
ZALV	**Zalesovo Beam**	**69.67 337**	P	P	22 53 11.7	-2.9
	1.7nm,0.4s,baz=148,slow=4.7,SNR=5.2					
KURBB	**Kurchatov Arra**	**69.95 332**	P	**P**	**22 53 15.6**	**-0.7**
	1.7nm,0.4s,baz=146,slow=5.6					
KURK	**Kurchatov**	**69.97 332**	P	**P**	**22 53 15.6**	**-0.8**
VNDA	**Vanda**	**72.21 172**	P	**P**	**22 53 30.6**	**+1.1**
	2.1nm,0.5s,baz=318,slow=7.7,SNR=19					
VNDA	**Vanda**	**72.21 172**	*eP*	**P**	**22 53 30.6**	**+1.1**
	25nm,2.0s					
SEY	**Seymchan**	**74.51 14**	P	**P**	**22 53 42.0**	**-1.0**
	3.9nm,0.4s,baz=239,slow=19,SNR=4.2					
GEYT	**Alibeck**	**75.57 312**	P	**P**	**22 53 48.2**	**-1.5**
	1.0nm,0.7s,baz=216,slow=4.8,SNR=3.9					
TIXI	**Tiksi**	**79.80 2**	*eP*	P	22 54 03.9	-8.5
	14nm,1.0s					
QSPA	**South Pole Qui**	**81.77 180**	P	**P**	**22 54 23.9**	**+0.7**
	4.5nm,0.6s,baz=288,slow=0.5,SNR=25					
BILL	**Bilibino**	**82.06 15**	*eP*	P	22 54 27.8	+3.4
	20nm,1.1s					
KBZ	**Khabaz**	**88.32 314**	LR	LR	23 41 49.7	
	comp=Z,371nm,20.8s,baz=182,slow=40					
ARCES	**ARCESS Array B**	**100.16 339**	LR	LR	23 46 36.8	
	comp=Z,353nm,18.9s,baz=214,slow=38					
STHS	**Stebnicka Huta**	**103.64 319**	PDIF	**Pdif**	**22 56 05.3**	**-0.1**
VYHS	**Vyhne**	**105.29 318**	PDIF	**Pdif**	**22 56 13.0**	**+0.3**
DAG	**Danmarks Havn**	**108.43 351**	*i P*	**Pdif**	**22 56 18.8**	**-7.3**
	2.4nm,1.0s					
TORD	**Torodi Ar. Bea**	**121.91 280**	PKP	**PKPdf**	**23 00 57.0**	**-1.2**
	0.4nm,0.5s,baz=29,slow=2.0,SNR=8.4					

*IDC **14** 22:51:18.4±2.7, 43°.69N×130°.13W, h0km, mb3.5/5, mb1 3.9/8, mb1mx3.6/31, mbtmp3.5/8, ML3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx2.9/27, Error ellipse: s-maj=58.6km s-min=21.9km az=51.0*

*NEIC **14** 22:51:27.0±1.2, 44°.41N×129°.10W, h10km, mb4.3/9, Error ellipse: s-maj=14.3km s-min=6.4km az=71.0*

ISC 14 22:51:27.3±2.0, 44°.26N±0°.08×129°.0W±0°.2, h10km, n64, σ1§68/50, mb4.2/6, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.65**	**111**	*eP*n	Pn	22 52 18.5	-5.4
KEBM				*eS*n	**Sn**	**22 53 02.1**	**-5.0**
COR	**Corvallis**	**4.08**	**83**	*eP*n	**Pn**	**22 52 28.9**	**-0.8**
COR				*eS*n	**Sn**	**22 53 18.3**	**+0.8**
F03A	**Seaside**	**4.18**	**65**	*eP*n	**Pn**	**22 52 29.7**	**-1.5**
E03A	**Lebam**	**4.45**	**57**	*eP*n	**Pn**	**22 52 32.0**	**-2.7**
HUMO	**Hull Mountain**	**4.69**	**109**	*eP*n	**Pn**	**22 52 35.6**	**-2.6**
NLWA	**Neilton Lookou**	**4.75**	**47**	*eP*n	**Pn**	**22 52 38.1**	**-0.9**
OSR	**Olympics--Salm**	**4.77**	**45**	P	**Pn**	**22 52 38.3**	**-1.1**
RVW	**Rose Valley**	**4.79**	**65**	P	**Pn**	**22 52 38.6**	**-0.9**
HBO	**Huckleberry Mo**	**4.82**	**93**	P	**Pn**	**22 52 40.0**	**-0.1**
H04A	**Detroit Lake**	**4.88**	**83**	*eP*n	**Pn**	**22 52 39.8**	**-1.0**
F04A	**Amboy**	**4.94**	**68**	*eP*n	**Pn**	**22 52 41.2**	**-0.3**
OBC	**Olympics--Boni**	**5.08**	**40**	P	**Pn**	**22 52 42.4**	**-1.2**
ERK	**Elk Rock**	**5.11**	**64**	P	**Pn**	**22 52 43.5**	**-0.6**
TDL	**Tradedollar La**	**5.21**	**64**	P	**Pn**	**22 52 44.5**	**-0.9**
YBH	**Yreka Blue Hor**	**5.25**	**117**	Pn	**Pn**	**22 52 46.5**	**+0.6**
	0.3nm,0.3s,baz=285,slow=11,SNR=5.6						
YBH				LR	LR	22 54 39.0	
	comp=Z,380nm,19.7s,baz=358,slow=34						
STW	**Striped Peak**	**5.36**	**42**	P	**Pn**	**22 52 46.1**	**-1.2**
BLN	**Blyn Mountain**	**5.61**	**46**	P	**Pn**	**22 52 50.3**	**-0.5**
LON	**Longmire**	**5.62**	**61**	*eP*n	**Pn**	**22 52 50.9**	**-0.1**
	15nm,0.8s						
D05A	**Enumclaw**	**5.70**	**57**	*eP*n	**Pn**	**22 52 53.0**	**+1.0**
PGC	**Sidney**	**5.82**	**39**	*eP*n	**Pn**	**22 52 51.2**	**-2.4**
PGC				*eS*n	**Sn**	**22 53 59.6**	**-0.7**
PINOR	**Pine Mountain**	**5.86**	**92**	*eP*n	Pb	22 53 03.3	-6.3
CMW	**Cultus Mountai**	**6.31**	**46**	P	**Pn**	**22 53 00.4**	**-0.2**
LTY	**Liberty**	**6.54**	**60**	*eP*n	**Pn**	**22 53 03.8**	**+0.2**
MBW	**Mount Baker**	**6.66**	**45**	P	**Pn**	**22 53 05.5**	**+0.2**
B06A	**Marblemount**	**6.71**	**48**	*eP*n	**Pn**	**22 53 05.3**	**-0.5**
VDB	**Vedder Mountai**	**6.71**	**42**	P	**Pn**	**22 53 05.5**	**-0.5**
F10A	**Beach Ranch, E**	**8.49**	**74**	*eP*n	Pn	22 53 34.8	+4.4
NVAR	**Mina Array Bea**	**9.91**	**122**	Pn	**Pn**	**22 53 51.6**	**+1.6**
	0.1nm,0.3s,baz=291,slow=15,SNR=3.4						
HLID	**Hailey**	**10.54**	**89**	*eP*n	**Pn**	**22 54 00.7**	**+2.1**
SLMT	**Seeley Lake**	**11.22**	**69**	*eP*n	**Pn**	**22 54 07.4**	**-0.5**
IMW	**Indian Meadow**	**12.98**	**85**	*eP*n	Pn	22 54 36.7	+4.7
TPAW	**Teton Pass**	**13.04**	**87**	*eP*n	Pn	22 54 37.1	+4.3
FLWY	**Flagg Ranch**	**13.13**	**84**	*eP*n	Pn	22 54 37.7	+3.7
EGMT	**Eagleton**	**13.85**	**67**	*eP*n	**Pn**	**22 54 43.7**	**+0.1**
RLMT	**Red Lodge**	**14.05**	**80**	*eP*n	**Pn**	**22 54 46.8**	**+0.2**
	7.3nm,1.0s						
BW06	**Boulder Array**	**14.18**	**89**	*eP*n	P	22 55 01.1	+5.2
PDAR	**Pinedale Array**	**14.18**	**89**	Pn	**P**	**22 54 57.7**	**+1.8**
	0.1nm,0.3s,baz=281,slow=11,SNR=5.0						
SRU	**San Rafael Swe**	**14.71**	**104**	*eP*n	**Pn**	**22 54 58.0**	**+2.4**
	16nm,0.9s						
O20A	**White River Ci**	**15.90**	**98**	*eP*n	**P**	**22 55 18.1**	**+3.0**
	10nm,0.8s						
PV09	**Paradox Valley**	**15.96**	**104**	*eP*n	**P**	**22 55 14.7**	**-1.1**
WUAZ	**Wupatki**	**16.07**	**117**	*eP*n	**Pn**	**22 55 14.6**	**+1.2**
	49nm,2.1s						
LAO	**LASA Array**	**16.14**	**73**	*eP*n	**Pn**	**22 55 15.5**	**+1.3**
PV04	**Paradox Valley**	**16.16**	**104**	*eP*n	**P**	**22 55 17.2**	**-0.8**
PV01	**Paradox Valley**	**16.52**	**105**	*eP*n	**Pn**	**22 55 20.4**	**+1.1**
MVCO	**Mesa Verde**	**17.02**	**107**	*eP*n	**Pn**	**22 55 26.5**	**+0.8**
	49nm,1.9s						
SMCO	**Snowmass**	**17.18**	**100**	*eP*n	**P**	**22 55 32.4**	**+3.0**
	47nm,2.5s						
ISCO	**Idaho Springs**	**17.90**	**96**	*eP*	**P**	**22 55 37.6**	**+0.3**
	59nm,2.8s						
ANMO	**Albuquerque**	**19.64**	**111**	P	**P**	**22 55 53.6**	**-2.7**
	0.8nm,0.7s,baz=349,slow=16,SNR=2.7						
YKA	**Yellowknife Ar**	**20.09**	**20**	P	**P**	**22 56 00.8**	**+0.1**
	1.3nm,0.9s,baz=206,slow=10,SNR=4.8						
FFC	**Flin Flon**	**20.30**	**49**	*eP*	**P**	**22 56 04.4**	**+1.4**
	123nm,2.5s						
KSCO	**Kaye Shedlock'**	**20.34**	**96**	*eP*	Pn	22 56 05.3	-0.6
	13nm,0.9s						
BRSD	**Miller**	**21.42**	**79**	*eP*	**P**	**22 56 18.1**	**+2.7**
	61nm,0.3s						
ILAR	**Eielson Array**	**22.86**	**340**	P	P	22 56 27.1	-3.4
	1.0nm,0.8s,baz=161,slow=7.9,SNR=2.9						
AGMN	**Agassiz Nation**	**23.14**	**68**	*eP*	P	22 56 39.9	+6.3
	112nm,2.9s						
ECSD	**EROS Data Cent**	**23.21**	**80**	*eP*	**P**	**22 56 35.4**	**+1.1**
	54nm,2.3s						
TX31	**Lajitas Ar. Si**	**25.02**	**118**	*eP*	**P**	**22 56 48.8**	**-2.8**
TXAR	**Lajitas Array**	**25.02**	**118**	P	**P**	**22 56 48.9**	**-2.7**
	1.4nm,1.0s,baz=307,slow=8.9,SNR=6.5						
CMIG	**Matias Romero**	**39.45**	**122**	P	P	22 58 52.6	-5.1
	0.6nm,0.3s,baz=312,slow=12,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**58.07**	**267**	T	T	00 03 38.0	
	baz=49,slow=75,SNR=1189						
H11N2	**WAKE ISLAND Hy**	**58.08**	**267**	T	T	00 03 38.1	
	baz=49,slow=75,SNR=546						
H11N1	**WAKE ISLAND Hy**	**58.09**	**267**	T	T	00 03 42.9	
	baz=49,slow=75,SNR=561						
H11S1	**WAKE ISLAND Hy**	**59.01**	**266**	T	T	00 04 53.3	
	baz=48,slow=75,SNR=81						
H11S2	**WAKE ISLAND Hy**	**59.02**	**266**	T	T	00 04 55.0	
	baz=48,slow=75,SNR=69						
H11S3	**WAKE ISLAND Hy**	**59.03**	**266**	T	T	00 04 54.6	
	baz=48,slow=75,SNR=60						

*BER **14** 23:10:28.5±2.1, 56°.86N×7°.83E, h15km, MD2.5, ML2.1, ML2.5(NAO)*

*ISCJB **14** 23:10:29.0±0.6, 57°.12N±0°.03×8°.07E±0°.06, h10km, Error ellipse: s-maj=5.7km s-min=3.4km az=39.4*

*HEL **14** 23:10:29.5±0.2, 56°.96N×7°.71E, h28km, ML2.8, MD2.5(BER), ML2.8(DNK)*

*CSEM **14** 23:10:30.3±0.3, 57°.05N×7°.87E, h20km, ML2.8, Error ellipse: s-maj=6.0km s-min=3.4km az=45.0*

*UPP **14** 23:10:31.1, 56°.95N×7°.78E, h33km, ML1.6*

*IDC **14** 23:10:33.7±4.1, 57°.38N×7°.88E, h0km, mb1 3.7/2, mb1mx3.0/29, mbtmp3.7/2, ML2.7/3, Error ellipse: s-maj=37.4km s-min=27.5km az=30.0*

*NAO **14** 23:10:33.5±3.8, 57°.37N×7°.92E, ML2.5*

ISC 14 23:10:28.5±1.2, 57°.01N±0°.04×7°.81E±0°.05, h10km, n143, σ1§53/227, 3D, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUD	**Monsted U'grnd**	**0.93**	**126**	↓*iP*	**Pg**	**23 10 46.4**	**+0.1**
MUD				*i*		23 10 51.7	
MUD				*i S*	**Sn**	**23 11 02.2**	**+1.3**
MUD	**Monsted U'grnd**	**0.93**	**126**	↓*eP*	**Pg**	**23 10 46.4**	**+0.1**
MUD				*e*		23 10 51.7	
MUD				AML	AML	23 11 02.2	
	comp=Z,77nm,0.4s						
MUD				*eS*	**Sn**	**23 11 02.3**	**+1.3**
MUD	**Monsted U'grnd**	**0.93**	**126**	↓*iP*	**Pg**	**23 10 46.4**	**+0.1**
MUD				S	**Sn**	**23 11 02.2**	**+1.3**
HOMB	**Homborsund**	**1.32**	**16**	*eP*	**Pn**	**23 10 53.1**	**+0.1**
HOMB				*eS*g	**Sg**	**23 11 13.9**	**+2.9**
HOMB				IAML		23 11 15.0	
	comp=Z,47nm,0.3s						
HOMB	**Homborsund**	**1.32**	**16**	*eP*	**Pn**	**23 10 53.1**	**+0.1**
HOMB				*eS*B	**Sg**	**23 11 13.9**	**+2.9**
HOMB				IAML		23 11 15.0	
	comp=Z,47nm,0.3s						
HOMB	**Homborsund**	**1.32**	**16**	*eP*	**Pn**	**23 10 53.1**	**+0.1**
	SNR=55						
HOMB				*eS*g	**Sg**	**23 11 13.9**	**+2.9**
	SNR=91						
SNART	**Snartemo**	**1.38**	**347**	*eP*	**Pn**	**23 10 53.1**	**-0.6**
SNART				*eS*	**Sn**	**23 11 10.4**	**-1.6**
SNART				IAML		23 11 13.8	
	comp=Z,44nm,0.2s						
SNART	**Snartemo**	**1.38**	**347**	*eP*	**Pn**	**23 10 53.2**	**-0.4**
SNART				*i S*	**Sb**	**23 11 13.5**	**+1.6**
SNART				AML	AML	23 11 13.7	
	comp=Z,47nm,0.2s						
SNART	**Snartemo**	**1.38**	**347**	*eP*	**Pn**	**23 10 53.1**	**-0.6**
	SNR=55						
SNART				*eS*	**Sn**	**23 11 10.4**	**-1.6**
	SNR=55						
TJOU	**Tjoern**	**2.30**	**62**	*eP*	**Pn**	**23 11 07.1**	**+0.7**
TJOU				*eS*	**Sn**	**23 11 34.1**	**-0.6**
TJOU	**Tjoern**	**2.30**	**62**	P	**Pn**	**23 11 07.0**	**+0.7**
TJOU				S	**Sn**	**23 11 34.1**	**-0.6**
TJOU	**Tjoern**	**2.30**	**62**	P	**Pn**	**23 11 07.1**	**+0.7**
TJOU				S	**Sn**	**23 11 34.1**	**-0.6**
BLS5	**Blasjo**	**2.53**	**344**	*eP*	**Pn**	**23 11 09.1**	**-0.5**
BLS5				IAML		23 11 54.1	
	comp=Z,21nm,0.5s						
BLS5	**Blasjo**	**2.53**	**344**	*eP*	**Pn**	**23 11 09.1**	**-0.5**
BLS5				IAML		23 11 54.1	
	comp=Z,21nm,0.5s						
BLS5	**Blasjo**	**2.53**	**344**	*eP*	**Pn**	**23 11 09.1**	**-0.5**
	SNR=55						
FABU	**Falkenberg**	**2.69**	**88**	*eP*	**Pn**	**23 11 12.2**	**+0.5**
FABU				*eS*	**Sn**	**23 11 43.0**	**-1.2**
FABU	**Falkenberg**	**2.69**	**88**	P	**Pn**	**23 11 12.1**	**+0.5**
FABU				S	**Sn**	**23 11 43.0**	**-1.2**
FABU	**Falkenberg**	**2.69**	**88**	P	**Pn**	**23 11 11.8**	**+0.2**
FABU				S	**Sn**	**23 11 42.0**	**-2.2**
STRU	**Stroemstad**	**2.71**	**40**	*eP*	**Pn**	**23 11 12.3**	**+0.3**
STRU				*eS*	**Sn**	**23 11 43.4**	**-1.5**
STRU	**Stroemstad**	**2.71**	**40**	P	**Pn**	**23 11 12.3**	**+0.3**
STRU				S	**Sn**	**23 11 43.4**	**-1.5**
STRU	**Stroemstad**	**2.71**	**40**	P	**Pn**	**23 11 12.3**	**+0.3**
STRU				S	**Sn**	**23 11 43.4**	**-1.5**
VANU	**Vaenersborg**	**2.73**	**55**	*eP*	**Pn**	**23 11 12.8**	**+0.5**
VANU				*eS*	**Sn**	**23 11 44.8**	**-0.5**
VANU	**Vaenersborg**	**2.73**	**55**	P	**Pn**	**23 11 12.7**	**+0.5**
VANU				S	**Sn**	**23 11 44.7**	**-0.5**
VANU	**Vaenersborg**	**2.73**	**55**	P	**Pn**	**23 11 12.8**	**+0.5**
VANU				S	**Sn**	**23 11 44.8**	**-0.5**
BORU	**Boraas**	**2.76**	**75**	*eS*	Sn	23 11 41.8	-4.3
BORU				*e*		23 12 16.1	
BORU	**Boraas**	**2.76**	**75**	P	**Pn**	**23 11 13.6**	**+0.9**
BORU				S	**Sn**	**23 11 45.9**	**-0.2**
BORU	**Boraas**	**2.76**	**75**	P	**Pn**	**23 11 13.6**	**+0.9**
BORU				S	**Sn**	**23 11 45.9**	**-0.2**
KONO	**Kongsberg**	**2.81**	**19**	*eP*	**Pn**	**23 11 13.3**	**-0.1**
KONO				*eS*	**Sn**	**23 11 45.8**	**-1.6**
KONO	**Kongsberg**	**2.81**	**19**	*eP*	**Pn**	**23 11 13.3**	**-0.1**
KONO				*eS*	**Sn**	**23 11 45.8**	**-1.6**
KONO	**Kongsberg**	**2.81**	**19**	P	**Pn**	**23 11 13.3**	**-0.1**
KONO				*eS*	**Sn**	**23 11 45.8**	**-1.6**
	SNR=55						
ODD1	**Odda**	**2.98**	**348**	*eP*	**Pn**	**23 11 15.6**	**-0.2**
ODD1				IAML		23 12 12.2	
	comp=Z,12nm,0.3s						
ODD1	**Odda**	**2.98**	**348**	*eP*	**Pn**	**23 11 15.6**	**-0.2**
ODD1				IAML		23 12 12.2	
	comp=Z,12nm,0.3s						
ODD1	**Odda**	**2.98**	**348**	*eP*	**Pn**	**23 11 15.6**	**-0.2**
	SNR=55						
BJUU	**Bjuv**	**3.03**	**106**	*eP*	**Pn**	**23 11 16.0**	**-0.4**
BJUU				*eS*	**Sn**	**23 11 49.4**	**-3.3**
BJUU	**Bjuv**	**3.03**	**106**	P	**Pn**	**23 11 16.0**	**-0.4**
BJUU				S	**Sn**	**23 11 49.4**	**-3.3**
BJUU	**Bjuv**	**3.03**	**106**	P	**Pn**	**23 11 16.0**	**-0.4**
BJUU				S	**Sn**	**23 11 49.4**	**-3.3**
GNOU	**Gnosjoe**	**3.25**	**82**	*eP*	**Pn**	**23 11 19.8**	**+0.3**
GNOU				*eS*	**Sn**	**23 11 56.6**	**-1.5**
GNOU	**Gnosjoe**	**3.25**	**82**	P	**Pn**	**23 11 19.8**	**+0.3**
GNOU				S	**Sn**	**23 11 56.7**	**-1.5**
GNOU	**Gnosjoe**	**3.25**	**82**	P	**Pn**	**23 11 19.8**	**+0.3**
GNOU				S	**Sn**	**23 11 56.6**	**-1.5**
DEL	**Delary**	**3.38**	**97**	*eP*	**Pn**	**23 11 22.6**	**+1.4**
DEL				*eS*	**Sn**	**23 11 59.4**	**-1.9**
DEL	**Delary**	**3.38**	**97**	P	**Pn**	**23 11 21.8**	**+0.6**
DEL				S	**Sn**	**23 11 59.4**	**-1.9**
DEL	**Delary**	**3.38**	**97**	P	**Pn**	**23 11 21.8**	**+0.6**
DEL				S	**Sn**	**23 11 59.2**	**-2.2**
FKPU	**Falk**	**3.39**	**68**	P	**Pn**	**23 11 22.4**	**+1.1**
FKPU				S	**Sn**	**23 12 01.5**	**-0.1**
FKPU	**Falk**	**3.39**	**68**	P	**Pn**	**23 11 22.4**	**+1.1**
FKPU				S	**Sn**	**23 12 01.5**	**-0.1**
FINU	**Finntorp**	**3.45**	**44**	*eP*	**Pn**	**23 11 22.7**	**+0.5**
FINU				*eS*	**Sn**	**23 12 00.8**	**-2.1**
FINU	**Finntorp**	**3.45**	**44**	P	**Pn**	**23 11 22.6**	**+0.5**
FINU				S	**Sn**	**23 12 00.9**	**-2.1**
FINU	**Finntorp**	**3.45**	**44**	P	**Pn**	**23 11 22.7**	**+0.5**
FINU				S	**Sn**	**23 12 00.8**	**-2.1**
NASU	**Vaermlandsnaes**	**3.45**	**54**	*eP*	**Pn**	**23 11 22.7**	**+0.5**
NASU	**Vaermlandsnaes**	**3.45**	**54**	P	**Pn**	**23 11 22.6**	**+0.5**
NASU	**Vaermlandsnaes**	**3.45**	**54**	P	**Pn**	**23 11 22.7**	**+0.5**
ASK	**Askoy**	**3.75**	**340**	*eP*	**Pn**	**23 11 26.5**	**+0.3**
ASK				*eS*	**Sn**	**23 12 09.5**	**-0.8**
ASK				IAML		23 12 31.3	
	comp=Z,4.8nm,0.3s						
ASK	**Askoy**	**3.75**	**340**	*eP*	**Pn**	**23 11 26.5**	**+0.3**
ASK				*eS*	**Sn**	**23 12 09.5**	**-0.8**
ASK				IAML		23 12 31.3	
	comp=Z,4.8nm,0.3s						
VXJU	**Vaexsjoe**	**3.90**	**88**	*eS*	**Sn**	**23 12 13.0**	**-1.3**
VXJU	**Vaexsjoe**	**3.90**	**88**	S	**Sn**	**23 12 13.0**	**-1.3**
VXJU	**Vaexsjoe**	**3.90**	**88**	S	**Sn**	**23 12 13.0**	**-1.3**
EKSU	**Eksjoe**	**4.11**	**79**	*eP*	**Pn**	**23 11 31.8**	**+0.6**
EKSU				*eS*	**Sn**	**23 12 18.8**	**-0.4**
EKSU	**Eksjoe**	**4.11**	**79**	P	**Pn**	**23 11 31.7**	**+0.6**
EKSU				S	**Sn**	**23 12 18.8**	**-0.4**
EKSU	**Eksjoe**	**4.11**	**79**	P	**Pn**	**23 11 31.8**	**+0.6**
EKSU				S	**Sn**	**23 12 18.8**	**-0.4**
LNKU	**Linkoeping**	**4.32**	**70**	*eP*	**Pn**	**23 11 34.8**	**+0.8**
LNKU				*eS*	**Sn**	**23 12 24.3**	**0.0**
LNKU	**Linkoeping**	**4.32**	**70**	P	**Pn**	**23 11 34.8**	**+0.8**
LNKU				S	**Sn**	**23 12 24.3**	**0.0**
LNKU	**Linkoeping**	**4.32**	**70**	P	**Pn**	**23 11 34.8**	**+0.8**
LNKU				S	**Sn**	**23 12 24.3**	**0.0**
UDD	**Uddeholm**	**4.33**	**42**	*eP*	**Pn**	**23 11 34.6**	**+0.3**
UDD				*eS*	**Sn**	**23 12 21.5**	**-3.3**
UDD	**Uddeholm**	**4.33**	**42**	P	**Pn**	**23 11 34.6**	**+0.3**
UDD				S	**Sn**	**23 12 21.5**	**-3.3**
UDD	**Uddeholm**	**4.33**	**42**	P	**Pn**	**23 11 34.6**	**+0.3**
UDD				S	**Sn**	**23 12 21.5**	**-3.3**
HFS	**Hagfors**	**4.40**	**42**	Pn	**Pn**	**23 11 35.4**	**+0.2**
	baz=229,slow=14						
HFS				Sn	**Sn**	**23 12 22.8**	**-3.6**
	baz=224,slow=22						
HFS	**Hagfors**	**4.40**	**42**	Pn	**Pn**	**23 11 35.4**	**+0.2**
	baz=229,slow=14						
HFS				Sn	**Sn**	**23 12 22.8**	**-3.6**
	baz=224,slow=22						
HFS	**Hagfors**	**4.40**	**42**	*eP*	**Pn**	**23 11 35.4**	**+0.2**
	baz=229,slow=14						
HFS				*eS*	**Sn**	**23 12 22.8**	**-3.6**
	baz=224,slow=22						
HFS	**Hagfors**	**4.40**	**42**	P	**Pn**	**23 11 35.3**	**+0.2**
HFS	**Hagfors**	**4.40**	**42**	Pn	**Pn**	**23 11 35.4**	**+0.2**
	SNR=4.2						
HFS				Sn	**Sn**	**23 12 22.8**	**-3.6**
	SNR=0.2						
BSD	**Bornholm Skovb**	**4.41**	**112**	*i P*	**Pn**	**23 11 34.3**	**-1.0**
BSD				*i S*	**Sn**	**23 12 22.3**	**-4.4**
BSD	**Bornholm Skovb**	**4.41**	**112**	*eP*	**Pn**	**23 11 34.3**	**-1.0**
BSD				*eS*	**Sn**	**23 12 22.3**	**-4.4**
BSD				AML	AML	23 12 58.1	
	comp=Z,11nm,0.6s						
BSD	**Bornholm Skovb**	**4.41**	**112**	P	**Pn**	**23 11 34.3**	**-1.0**
BSD				*i S*	**Sn**	**23 12 22.3**	**-4.4**
NB2	**NORSAR Subarra**	**4.41**	**22**	Pn	**Pn**	**23 11 34.9**	**-0.6**
	baz=204,slow=14						
NB2				Sn	**Sn**	**23 12 24.9**	**-2.0**
NB2	**NORSAR Subarra**	**4.41**	**22**	Pn	**Pn**	**23 11 34.9**	**-0.6**
	baz=204,slow=14						
NB2				Sn	**Sn**	**23 12 24.9**	**-2.0**
NB2	**NORSAR Subarra**	**4.41**	**22**	*eP*	**Pn**	**23 11 34.9**	**-0.6**
	baz=204,slow=14						
NB2				*eS*	**Sn**	**23 12 24.9**	**-2.0**
NB2	**NORSAR Subarra**	**4.41**	**22**	P	**Pn**	**23 11 34.8**	**-0.6**
NB2	**NORSAR Subarra**	**4.41**	**22**	Pn	**Pn**	**23 11 34.9**	**-0.6**
	SNR=3.1						
NB2				Sn	**Sn**	**23 12 24.9**	**-2.0**
NOA	**NORSAR Array B**	**4.41**	**22**	Pn	**Pn**	**23 11 34.3**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=206,slow=13,SNR=5.1						
NOA				Sn	**Sn**	**23 12 22.6**	**-4.2**
	comp=Z,0.5nm,0.3s,baz=206,slow=21,SNR=4.6						
BLEU	**Blekinge**	**4.47**	**96**	*eP*	**Pn**	**23 11 36.1**	**-0.1**
BLEU				*eS*	**Sn**	**23 12 25.3**	**-2.9**
BLEU	**Blekinge**	**4.47**	**96**	P	**Pn**	**23 11 36.1**	**-0.1**
BLEU				S	**Sn**	**23 12 25.3**	**-2.9**
BLEU	**Blekinge**	**4.47**	**96**	P	**Pn**	**23 11 36.1**	**-0.1**
BLEU				S	**Sn**	**23 12 25.3**	**-2.9**
OSKU	**Oskarshamn**	**4.53**	**84**	*eP*	**Pn**	**23 11 37.1**	**+0.1**
OSKU				*eS*	**Sn**	**23 12 27.9**	**-1.6**
OSKU	**Oskarshamn**	**4.53**	**84**	P	**Pn**	**23 11 37.1**	**+0.1**
OSKU				S	**Sn**	**23 12 28.0**	**-1.6**
OSKU	**Oskarshamn**	**4.53**	**84**	P	**Pn**	**23 11 37.1**	**+0.1**
OSKU				S	**Sn**	**23 12 27.9**	**-1.6**
NRAU	**Nora**	**4.60**	**53**	*eP*	**Pn**	**23 11 39.0**	**+1.1**
NRAU	**Nora**	**4.60**	**53**	P	**Pn**	**23 11 39.0**	**+1.1**
NRAU	**Nora**	**4.60**	**53**	P	**Pn**	**23 11 39.0**	**+1.1**
VSTU	**Vaestervik**	**4.77**	**78**	*eP*	**Pn**	**23 11 41.0**	**+0.6**
VSTU				*eS*	**Sn**	**23 12 34.8**	**-0.8**
VSTU	**Vaestervik**	**4.77**	**78**	P	**Pn**	**23 11 40.9**	**+0.6**
VSTU				S	**Sn**	**23 12 34.8**	**-0.8**
VSTU	**Vaestervik**	**4.77**	**78**	P	**Pn**	**23 11 41.0**	**+0.6**
VSTU				S	**Sn**	**23 12 34.8**	**-0.8**
ASPU	**Aespoe**	**4.80**	**81**	*eP*	**Pn**	**23 11 41.8**	**+1.1**
ASPU				*eS*	**Sn**	**23 12 34.4**	**-1.9**
ASPU	**Aesp

KAF	**Kangasniemi**	**10.67**	**54**	P	**Pn**	**23 13 01.0**	**-0.1**
SUF	**Sumiainen**	**10.83**	**51**	*e*P	**Pn**	**23 13 02.5**	**-0.9**
SUF				MPN		23 13 03.7	
	comp=Z,0.3nm,0.4s						
SUF				*e*S	Sn	23 14 55.3	-9.1
SUF	**Sumiainen**	**10.83**	**51**	P	**Pn**	**23 13 02.4**	**-0.9**
ARA0	**ARCESS Array S**	**14.79**	**25**	Pn	Pn	23 13 53.8	-3.5
	baz=204,slow=14						
ARA0	**ARCESS Array S**	**14.79**	**25**	P	Pn	23 13 53.8	-3.5
	baz=204,slow=14						
ARA0	**ARCESS Array S**	**14.79**	**25**	*e*P	Pn	23 13 53.8	-3.5
	baz=204,slow=14						
ARCES	**ARCESS Array B**	**14.79**	**25**	Pn	Pn	23 13 53.8	-3.6
	comp=Z,0.1nm,0.3s,baz=205,slow=14,SNR=3.8						

IDC 14 23:23:42.5±2.3, 37°39S×73°56W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/16, mbtmp3.5/3, Error ellipse: s-maj=114.2km s-min=35.1km az=53.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.07**	**146**	Pn	Pn	23 24 46.1	-0.1
	baz=270,slow=20						
PLCA				Lg	Lg	23 25 40.8	
	baz=54,slow=19						
TXAR	**Lajitas Array**	**72.13**	**333**	P	P	23 35 08.9	0.0
	0.3nm,0.5s,baz=154,slow=8.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**86.51**	**71**	P	P	23 36 27.7	0.0
	0.4nm,1.0s,baz=226,slow=4.0,SNR=3.4						

*NSSC **14** 23:38:33.6±0.8, 35°.71N×42°.71E, h0km±29km, ML2.6*
*CSEM **14** 23:38:42.3±1.0, 36°.26N×42°.20E, h10km, ML3.5, Error ellipse: s-maj=51.8km s-min=17.0km az=19.0*
*ISN **14** 23:38:47.1±0.9, 36°.76N×43°.50E, h0km±755km, ML3.5*
*ISK **14** 23:38:50.1, 37°.60N×43°.31E, h9km, MD3.4*
*DDA **14** 23:38:54.4, 36°.54N×43°.43E, h26km, MD3.7*
ISC 14 23:38:27.7±2.3, 35°.54N±0°.10×43°.21E±0°.08, h10km, n34, σ2°.24/37, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**0.93**	**98**	*e*Pn	x	23 39 15.0	
IKRK				*e*SN	x	23 39 34.9	
CUKT	**Cukurca**	**1.74**	**11**	*e*PG	**Pn**	**23 38 58.4**	**+0.3**
CUKT	**Cukurca**	**1.74**	**11**	*e*Pg	**Pn**	**23 38 58.4**	**+0.3**
HAKT	**HAKKARI**	**2.06**	**11**	*i* P	Pn	23 39 00.2	-2.4
HAKT				*i* S	**Sn**	**23 39 27.5**	**-0.9**
HAKT	**HAKKARI**	**2.06**	**11**	*i* P	Pn	23 39 00.2	-2.4
HAKT				*i* S	**Sn**	**23 39 27.5**	**-0.9**
SIRT	**Sirnak**	**2.06**	**343**	*e*PG	**Pn**	**23 39 04.1**	**+1.7**
SIRT	**Sirnak**	**2.06**	**343**	*e*Pg	**Pn**	**23 39 04.1**	**+1.7**
SIRN	**S¨–rnak**	**2.06**	**342**	*i* P	**Pn**	**23 39 00.6**	**-1.9**
SIRN				*i* S	**Sg**	**23 39 35.1**	**+1.3**
SIRN	**S¨–rnak**	**2.06**	**342**	*i* P	**Pn**	**23 39 00.6**	**-1.9**
SIRN				*i* S	**Sg**	**23 39 35.1**	**+1.3**
HKR	**Hakkari**	**2.08**	**12**	*e*PG	Pn	23 38 57.7	-5.2
HKR	**Hakkari**	**2.08**	**12**	*e*Pg	Pn	23 38 57.7	-5.2
BHD	**Baghdad**	**2.46**	**156**	*e*Pn	x	23 39 44.0	
BHD				*i* Sn	x	23 40 24.0	
BHD	**Baghdad**	**2.46**	**156**	*e*Pn	x	23 39 44.0	
	SNR=3.0						
BHD				*i* Sn	x	23 40 24.0	
	SNR=3.0						
KBSD	**Kabsdagh**	**2.60**	**305**	*e*P	**Pn**	**23 39 10.9**	**+1.0**
	SNR=45						
KBSD				*e*S	**Sn**	**23 39 38.4**	**-3.2**
	38nm,0.8s,SNR=40						
KBSD	**Kabsdagh**	**2.60**	**305**	*e*P	**Pn**	**23 39 10.9**	**+1.0**
KBSD				*e*S	**Sn**	**23 39 38.4**	**-3.2**
KBSD				AML	AML	23 39 57.5	
	comp=N,74nm,0.5s						
KBSD				AML	AML	23 40 01.5	
	comp=Z,60nm,0.7s						
KBSD				AML	AML	23 40 01.8	
	comp=E,38nm,0.8s						
MARD	**Mardin**	**2.64**	**313**	*i* P	**Pn**	**23 39 11.6**	**+1.1**
MARD				*i* S	**Sg**	**23 39 56.2**	**+3.6**
SFNV	**Sufian**	**2.66**	**290**	*e*P	**Pn**	**23 39 11.9**	**+1.2**
	SNR=45						
SFNV				*e*S	**Sn**	**23 39 39.7**	**-3.4**
	comp=E,47nm,0.5s,SNR=40						
SFNV	**Sufian**	**2.66**	**290**	*e*P	**Pn**	**23 39 11.9**	**+1.2**
SFNV				*e*S	**Sn**	**23 39 39.7**	**-3.4**
SFNV				AML	AML	23 39 58.2	
	comp=E,82nm,0.5s						
SFNV				AML	AML	23 40 01.8	
	comp=N,81nm,0.8s						
SFNV				AML	AML	23 40 08.5	
	comp=Z,47nm,0.5s						
MAZI	**Mazidag**	**2.94**	**312**	*e*PN	Pg	23 39 29.7	+5.7
MAZI	**Mazidag**	**2.94**	**312**	*e*Pn	Pg	23 39 29.7	+5.7
BTMT	**Batman**	**2.99**	**333**	*e*PN	**Pn**	**23 39 18.4**	**+3.2**
BTMT	**Batman**	**2.99**	**333**	*e*Pn	**Pn**	**23 39 18.4**	**+3.2**
SVAN	**Silvan-Diyarba**	**3.07**	**329**	*e*PN	**Pb**	**23 39 21.3**	**-1.1**
MNKR	**ALMNKUR**	**3.23**	**278**	*e*P	**Pn**	**23 39 19.4**	**+0.9**
	SNR=45						
MNKR				*e*S	**Sn**	**23 39 53.2**	**-3.8**
	comp=Z,152nm,0.3s,SNR=40						
MNKR	**ALMNKUR**	**3.23**	**278**	*e*P	**Pn**	**23 39 19.4**	**+0.9**
MNKR				*e*S	**Sn**	**23 39 53.2**	**-3.8**
MNKR				AML	AML	23 40 10.8	
	comp=E,187nm,0.4s						
MNKR				AML	AML	23 40 13.9	
	comp=Z,51nm,0.7s						
MNKR				AML	AML	23 40 21.4	
	comp=N,152nm,0.3s						
DIY	**Diyarbakir**	**3.36**	**315**	*e*Pn	**Pg**	**23 39 32.3**	**+0.2**
KSRV	**Kasrt alli**	**3.44**	**277**	*e*P	**Pn**	**23 39 23.9**	**+2.6**
	SNR=45						
KSRV				*e*S	**Sn**	**23 39 59.4**	**-2.8**
	comp=N,35nm,0.6s,SNR=40						
KSRV	**Kasrt alli**	**3.44**	**277**	*e*P	**Pn**	**23 39 23.9**	**+2.6**
KSRV				*e*S	**Sn**	**23 39 59.4**	**-2.8**
KSRV				AML	AML	23 40 19.3	
	comp=E,23nm,0.6s						
KSRV				AML	AML	23 40 21.0	
	comp=Z,40nm,0.6s						
KSRV				AML	AML	23 40 21.5	
	comp=N,35nm,0.6s						
DYBB	**Diyarbakir**	**3.45**	**315**	*e*PN	**Pg**	**23 39 32.3**	**-1.5**
URFA	**Urfa**	**4.01**	**300**	*e*PN	Pg	23 39 48.0	+3.4
URFA	**Urfa**	**4.01**	**300**	*e*Pn	Pg	23 39 48.0	+3.4
SVRC	**Sivrice-ELAZID**	**4.22**	**313**	*e*PN	**Pb**	**23 39 42.1**	**0.0**
SVRC	**Sivrice-ELAZID**	**4.22**	**313**	*e*Pn	**Pb**	**23 39 42.1**	**0.0**
GZT	**Gaziantep**	**4.90**	**293**	*i* P	**Pb**	**23 39 55.2**	**+1.5**
GZT				*i* S	**Sg**	**23 41 07.5**	**+2.5**

IDC 14 23:41:33.3±7.2, 31°46S×178°30W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/18, mbtmp3.5/2, Error ellipse: s-maj=311.3km s-min=56.1km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.81**	**268**	P	P	23 49 32.9	-0.3
	0.2nm,0.6s,baz=106,slow=6.8,SNR=3.2						
WRA	**Warramunga Arr**	**43.89**	**273**	P	P	23 49 41.8	-0.1
	0.4nm,0.3s,baz=112,slow=8.0,SNR=15						
FINES	**FINESS Array B**	**146.04**	**339**	PKPbc	PKPdf	00 01 13.6	0.0
	1.6nm,1.0s,baz=52,slow=2.3,SNR=7.6						

GUC 14 23:46:39.8±1.1, 34°.54S×71°.93W, h55km±6km, ML3.9, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.74**	**129**	⇑*i*P	Pn	23 46 54.4	+0.1
NICH				*i* S	Sn	23 47 05.6	+0.8
TALC	**Talca**	**0.89**	**164**	⇑*i*P	Pn	23 46 56.3	+0.1
TALC				*i* S	Sn	23 47 08.9	+0.6
LNCH	**Linares**	**1.33**	**168**	⇑*i*P	Pn	23 47 01.4	-0.7
LNCH				*i* S	Sn	23 47 19.8	+1.0
STL	**Santa Lucia**	**1.54**	**45**	*e*P9	Pn	23 47 04.8	-0.2
STL				*e*S	Sn	23 47 24.2	+0.3
SJCH	**San Jose de Ma**	**1.59**	**56**	*e*P9	Pn	23 47 05.7	0.0
SJCH				*i* S	Sn	23 47 26.3	+1.0
LACH	**Col Las Americ**	**1.59**	**47**	*e*P1	Pn	23 47 06.2	+0.4
CLCH	**Cerro Calan**	**1.63**	**46**	⇓*i*P	Pn	23 47 06.9	+0.7
CLCH				*i* S	Sn	23 47 27.4	+1.3
CLCH				IAML		23 47 38.2	
	comp=E,2μm,0.4s						
COCH	**Cobquecura**	**1.73**	**204**	⇑*i*P	Pn	23 47 08.4	+0.8
PEL	**Peldehue**	**1.74**	**37**	⇑*i*P	Pn	23 47 08.4	+0.7
PEL				*i* S	Sn	23 47 29.4	+0.6
PEL				IAML		23 47 36.0	
	comp=N,2μm,0.5s						
FCH	**Farellones**	**1.82**	**49**	*e*P9	Pn	23 47 02.9	-6.3
FCH				*e*S	Sn	23 47 25.7	-5.8
FCH				IAML		23 47 30.1	
	comp=N,2μm,0.2s						

*INMG **15** 00:13:06.8±1.2, 33°.97N×3°.99W, h10km, ML2.2, Error ellipse: s-maj=8.5km s-min=5.9km az=104.0*
*CNRM **15** 00:13:09.0, 33°.64N×3°.93W, h6km, MD3.2*
*MDD **15** 00:13:10.5±0.9, 33°.96N×4°.55W, h0km, mb3.7/2, Error ellipse: s-maj=11.7km s-min=5.7km az=119.0, PRXIMO*
*IGIL **15** 00:13:10.0, 34°.05N×4°.24W, h0km, ML2.1*
*CSEM **15** 00:13:10.7±0.3, 33°.99N×4°.58W, h10km, mb3.7, Error ellipse: s-maj=6.0km s-min=4.0km az=111.0*
*ISCJB **15** 00:13:11.7±0.6, 34°.04N±0°.03×4°.66W±0°.05, h24km, Error ellipse: s-maj=6.0km s-min=3.9km az=14.7*
ISC 15 00:13:13.2±1.3, 33°.99N±0°.03×4°.63W±0°.05, h24km, n56, σ1°.01/96, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**1.21**	**37**	P	Pn	00 13 32.0	-2.7
TOU				S	**Sn**	**00 13 50.0**	**-0.4**
TOU	**Touzarine**	**1.21**	**37**	P	Pn	00 13 32.0	-2.7
TOU				S	**Sn**	**00 13 50.0**	**-0.4**
KIB	**El Ksiba**	**1.84**	**220**	P	**Pn**	**00 13 42.0**	**-1.4**
KIB				S	**Sn**	**00 14 07.0**	**+1.0**
KIB	**El Ksiba**	**1.84**	**220**	P	**Pn**	**00 13 42.0**	**-1.4**
KIB				S	**Sn**	**00 14 07.0**	**+1.0**
TZC	**Tazercounte**	**2.41**	**221**	P	**Pn**	**00 13 51.0**	**-0.4**
TZC				S	**Sn**	**00 14 21.0**	**+0.8**
TZC	**Tazercounte**	**2.41**	**221**	P	**Pn**	**00 13 51.0**	**-0.4**
TZC				S	**Sn**	**00 14 21.0**	**+0.8**
EMIJ	**Mijas**	**2.57**	**357**	P	**Pn**	**00 13 53.1**	**-0.2**
	0.6nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**00 14 24.5**	**+0.7**
	1.0nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.57**	**357**	P	**Pn**	**00 13 53.1**	**-0.2**
	0.6nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**00 14 24.5**	**+0.7**
	1.0nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**2.96**	**17**	P	Pn	00 13 56.3	-2.5
	0.7nm,0.3s,SNR=7.9						
EGUA				S	**Sn**	**00 14 32.8**	**-0.8**
	1.2nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**2.96**	**17**	P	Pn	00 13 56.3	-2.5
	0.7nm,0.3s,SNR=7.9						
EGUA				S	**Sn**	**00 14 32.8**	**-0.8**
	1.2nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.01**	**18**	P	**Pn**	**00 14 12.8**	**-0.4**
	0.0nm,0.0s,SNR=7.9						
EQES				S	**Sn**	**00 15 03.5**	**+4.1**
	0.1nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.01**	**18**	P	**Pn**	**00 14 12.8**	**-0.4**
	SNR=7.9						
EMIN	**Mina Concepcio**	**4.11**	**337**	P	**Pn**	**00 14 14.0**	**-0.6**
	0.2nm,0.1s,SNR=8.5						
EMIN				S	**Sn**	**00 15 02.0**	**+0.1**
	0.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.11**	**337**	P	**Pn**	**00 14 14.0**	**-0.6**
	0.2nm,0.1s,SNR=8.5						
EMIN				S	**Sn**	**00 15 02.0**	**+0.1**
	0.2nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.12**	**351**	P	**Pn**	**00 14 14.9**	**+0.2**
	0.2nm,0.1s,SNR=6.8						
ECAB				S	**Sn**	**00 15 03.1**	**+0.9**
	0.1nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.12**	**351**	P	**Pn**	**00 14 14.9**	**+0.2**
	0.2nm,0.1s,SNR=6.8						
ECAB				S	**Sn**	**00 15 03.1**	**+0.9**
	0.1nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**4.16**	**23**	P	**Pn**	**00 14 15.6**	**+0.4**
	0.3nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**4.16**	**23**	P	**Pn**	**00 14 15.6**	**+0.4**
	0.3nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.21**	**321**	*e*Pn	**Pn**	**00 14 15.5**	**-0.4**
PBDV				*e*Sn	**Sn**	**00 15 06.7**	**+2.4**
PBDV				A	A	00 15 11.8	
	1.5nm,0.4s						
PBDV	**Barranco-do-Ve**	**4.21**	**321**	P	**Pn**	**00 14 15.5**	**-0.4**
PBDV				S	**Sn**	**00 15 06.7**	**+2.4**
	1.5nm,0.4s						
PBDV	**Barranco-do-Ve**	**4.21**	**321**	P	**Pn**	**00 14 15.5**	**-0.4**
PBDV				S	**Sn**	**00 15 06.7**	**+2.4**
	1.5nm,0.4s						
EGRO	**El Granado**	**4.22**	**328**	P	**Pn**	**00 14 14.8**	**-1.3**
	0.5nm,0.1s,SNR=12						
EGRO				S	**Sn**	**00 15 04.3**	**-0.4**
	0.8nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.22**	**328**	P	**Pn**	**00 14 14.8**	**-1.3**
	0.5nm,0.1s,SNR=12						
EGRO				S	**Sn**	**00 15 04.3**	**-0.4**
	0.8nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.23**	**324**	*e*Pn	**Pn**	**00 14 14.6**	**-1.5**
PVAQ				*e*Sn	**Sn**	**00 15 04.3**	**-0.4**
PVAQ				A	A	00 15 08.9	
	3.1nm,0.6s						
PVAQ	**Vaqueiros**	**4.23**	**324**	P	**Pn**	**00 14 14.6**	**-1.5**
PVAQ				S	**Sn**	**00 15 04.3**	**-0.4**
	3.1nm,0.6s						
PVAQ	**Vaqueiros**	**4.23**	**324**	P	**Pn**	**00 14 14.6**	**-1.5**
PVAQ				S	**Sn**	**00 15 04.3**	**-0.4**
	3.1nm,0.6s						
PBAR	**Barrancos**	**4.61**	**336**	*e*Pn	**Pn**	**00 14 20.6**	**-0.7**
PBAR				*e*Sn	**Sn**	**00 15 13.9**	**-0.1**
PBAR				A	A	00 15 27.2	
	3.8nm,0.7s						
PBAR	**Barrancos**	**4.61**	**336**	P	**Pn**	**00 14 20.6**	**-0.7**
PBAR				S	**Sn**	**00 15 13.9**	**-0.1**
	3.8nm,0.7s						
PBAR	**Barrancos**	**4.61**	**336**	P	**Pn**	**00 14 20.6**	**-0.7**
PBAR				S	**Sn**	**00 15 13.9**	**-0.1**
	3.8nm,0.7s						
MORF	**Marmelete**	**4.65**	**316**	*e*Pn	**Pn**	**00 14 21.9**	**-0.1**
MORF				*e*Sn	**Sn**	**00 15 17.9**	**+2.7**
MORF				A	A	00 15 28.3	
	3.2nm,0.3s						
MORF	**Marmelete**	**4.65**	**316**	P	**Pn**	**00 14 21.9**	**-0.1**
MORF				S	**Sn**	**00 15 17.9**	**+2.7**
	3.2nm,0.3s						
MORF	**Marmelete**	**4.65**	**316**	P	**Pn**	**00 14 21.9**	**-0.1**
MORF				*e*Sn	**Sn**	**00 15 17.9**	**+2.7**
	3.2nm,0.3s						
MESJ	**Messejana**	**4.82**	**324**	*e*P	**Pn**	**00 14 23.3**	**-0.9**
MESJ				*e*S	**Sn**	**00 15 18.1**	**-1.1**
MESJ				AML	AML	00 15 22.9	
	comp=N,3.1nm,0.4s						
MESJ	**Messejana**	**4.82**	**324**	*e*Pn	**Pn**	**00 14 23.4**	**-0.8**
MESJ				*e*Sn	**Sn**	**00 15 19.0**	**-0.2**
MESJ				A	A	00 15 28.9	
	comp=N,1.8nm,0.8s						
MESJ	**Messejana**	**4.82**	**324**	P	**Pn**	**00 14 23.4**	**-0.8**
MESJ				S	**Sn**	**00 15 19.0**	**-0.2**
	comp=N,1.8nm,0.8s						
MESJ	**Messejana**	**4.82**	**324**	P	**Pn**	**00 14 23.4**	**-0.8**
MESJ				S	**Sn**	**00 15 19.0**	**-0.2**
	comp=N,1.8nm,0.8s						
PTEO	**Sao Teotonio**	**4.86**	**318**	*e*Pn	**Pn**	**00 14 24.3**	**-0.5**
PTEO	**Sao Teotonio**	**4.86**	**318**	P	**Pn**	**00 14 24.3**	**-0.5**
PTEO	**Sao Teotonio**	**4.86**	**318**	P	**Pn**	**00 14 24.3**	**-0.5**
EBAD	**Badajoz**	**5.12**	**339**	P	**Pn**	**00 14 27.9**	**-0.6**
	comp=N,1.2nm,0.3s,SNR=11						
EBAD				S	**Sn**	**00 15 26.1**	**-0.8**
	comp=N,1.8nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.12**	**339**	P	**Pn**	**00 14 27.9**	**-0.6**
	comp=N,1.2nm,0.3s,SNR=11						
EBAD				S	**Sn**	**00 15 26.0**	**-0.8**
	comp=N,1.8nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**5.18**	**324**	*e*Pn	**Pn**	**00 14 28.3**	**-0.9**
PNCL				*e*Sn	**Sn**	**00 15 28.6**	**+0.4**
PNCL				A	A	00 15 33.0	
	comp=N,1.6nm,0.5s						
PNCL	**Nicolau / Gran**	**5.18**	**324**	*e*Pn	**Pn**	**00 14 28.3**	**-0.9**
PNCL				*e*Sn	**Sn**	**00 15 28.6**	**+0.4**
	comp=N,1.6nm,0.5s						
EVO	**Evora**	**5.29**	**330**	*e*Pn	**Pn**	**00 14 30.0**	**-0.7**
EVO				*e*Sn	**Sn**	**00 15 31.4**	**+0.5**
EVO				A	A	00 15 34.8	
	comp=N,1.4nm,0.4s						
EVO	**Evora**	**5.29**	**330**	P	**Pn**	**00 14 30.0**	**-0.7**
EVO				S	**Sn**	**00 15 31.4**	**+0.5**
	comp=N,1.4nm,0.4s						
EVO	**Evora**	**5.29**	**330**	P	**Pn**	**00 14 30.0**	**-0.7**
EVO				S	**Sn**	**00 15 31.4**	**+0.5**
	comp=N,1.4nm,0.4s						
PESTR	**Estremoz**	**5.42**	**335**	*e*Pn	**Pn**	**00 14 32.5**	**0.0**
PESTR				*e*Sn	**Sn**	**00 15 33.6**	**-0.4**
PESTR				A	A	00 15 55.4	
	comp=N,1.2nm,0.6s						
PESTR	**Estremoz**	**5.42**	**335**	*e*Pn	**Pn**	**00 14 32.5**	**0.0**
PESTR				*e*Sn	**Sn**	**00 15 33.6**	**-0.4**
	comp=N,1.2nm,0.6s						
PMTG	**Montargil**	**5.83**	**331**	*e*Pn	**Pn**	**00 14 37.3**	**-0.9**
PMTG				*e*Sn	**Sn**	**00 15 43.9**	**-0.3**
PMTG	**Montargil**	**5.83**	**331**	*e*Pn	**Pn**	**00 14 37.3**	**-0.9**
PMTG				*e*Sn	**Sn**	**00 15 43.9**	**-0.3**
PMRV	**Marv??o**	**5.86**	**339**	*e*Pn	**Pn**	**00 14 38.4**	**-0.1**
PMRV	**Marv??o**	**5.86**	**339**	P	**Pn**	**00 14 38.4**	**-0.1**
PMRV	**Marv??o**	**5.86**	**339**	P	**Pn**	**00 14 38.4**	**-0.1**
PCBR	**Castelo Branco**	**6.26**	**339**	*e*Pn	**Pn**	**00 14 43.6**	**-0.5**
PCBR	**Castelo Branco**	**6.26**	**339**	P	**Pn**	**00 14 43.6**	**-0.5**
PCBR	**Castelo Branco**	**6.26**	**339**	P	**Pn**	**00 14 43.6**	**-0.5**

*ISCJB **15** 00:42:51.0±0.2, 34°.36S±0°.03×72°.04W±0°.04, h16km, mb4.9/42, MS3.5/4, Error ellipse: s-maj=4.2km s-min=4.0km az=15.0*
*NEIC **15** 00:42:51.9, 34°.38S×72°.04W, h32km, mb5.1/34, ML4.7(GUC), After GUC.*
NEIC Felt [IV] at Cardenal Caro; [III] in Colchagua and at Rancagua; [II] at Santiago. Also felt at Buin, Colina, Graneros and San Antonio.
*GUC **15** 00:42:51.9±0.4, 34°.38S×72°.04W, h32km±2km, ML4.7*
*IDC **15** 00:42:53.6±5.6, 34°.35S×72°.00W, h28km±37km, mb4.3/14, mb1 4.4/17, mb1mx4.1/33, mbtmp4.4/17, ML3.8/2, MS3.6/6, Ms1 3.5/6, ms1mx3.3/24, Error ellipse: s-maj=22.8km s-min=14.8km az=84.0*
*BJI **15** 00:42:55.0, 34°.30S×71°.80W, h35km, mB5.0/5, Ms5.3/5, Ms7 5.2/5*
ISC 15 00:42:51.9±0.3, 34°.37S±0°.03×71°.92W±0°.05, h16km, n322, σ0°.98/352, mb4.9/42, MS3.4/4, 112C-102D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.59**	**46**	⇑*i*P	**Pb**	**00 43 04.4**	**+0.5**
LNV	**Longovilo**	**0.59**	**46**	⇑*i*P	**Pb**	**00 43 04.4**	**+0.5**
NICH	**Los Niches**	**0.85**	**138**	⇑*i*P	**Pb**	**00 43 08.5**	**+0.1**
NICH				*i* S	**Sn**	**00 43 21.1**	**-0.5**
NICH				AML	AML	00 43 22.3	
	comp=E,55μm,0.6s						
NICH	**Los Niches**	**0.85**	**138**	⇑*i*P	**Pb**	**00 43 08.5**	**+0.1**
NICH				*i* S	**Sn**	**00 43 21.1**	**-0.5**
CACH	**El Canelo**	**1.12**	**78**	⇑*i*P	**Pg**	**00 43 13.7**	**0.0**
CACH	**El Canelo**	**1.12**	**78**	⇑*i*P	**Pg**	**00 43 13.7**	**0.0**
CHCH	**Chadas Angostu**	**1.14**	**68**	⇓*i*P	**Pb**	**00 43 13.4**	**+0.1**
CHCH	**Chadas Angostu**	**1.14**	**68**	⇓*i*P	**Pb**	**00 43 13.4**	**+0.1**
ANTU	**Antumapu**	**1.33**	**54**	*e*P	**Pb**	**00 43 16.4**	**-0.2**
ANTU				*i* S	**Sg**	**00 43 35.2**	**+0.1**
ANTU				AML	AML	00 43 40.9	
	comp=E,16μm,0.4s						
ANTU	**Antumapu**	**1.33**	**54**	*e*P	**Pb**	**00 43 16.4**	**-0.2**
ANTU				*i* S	**Sg**	**00 43 35.2**	**+0.1**
IHA	**Instituto Hidr**	**1.36**	**10**	*e*P	**Pn**	**00 43 16.0**	**-0.2**
IHA				*i* S1	**Sn**	**00 43 33.9**	**0.0**
IHA	**Instituto Hidr**	**1.36**	**10**	*e*P	**Pn**	**00 43 16.0**	**-0.2**
IHA				*i* S	**Sn**	**00 43 33.9**	**0.0**
CLCH	**Cerro Calan**	**1.50**	**50**	AML	AML	00 43 50.7	
	comp=E,11μm,0.6s						
PEL	**Peldehue**	**1.60**	**41**	⇓*i*P	**Pn**	**00 43 20.2**	**+0.6**
PEL				*i* S	**Sb**	**00 43 41.9**	**+0.9**
PEL				AML	AML	00 43 50.2	
	comp=E,25μm,0.4s						
PEL	**Peldehue**	**1.60**	**41**	⇓*i*P	**Pn**	**00 43 20.2**	**+0.6**
PEL				*i* S	**Sb**	**00 43 41.9**	**+0.9**
CMCH	**Combarbala**	**3.28**	**14**	*e*P	**Pn**	**00 43 42.9**	**+0.1**
CMCH				*e*S	**Sn**	**00 44 21.9**	**+0.6**
CMCH	**Combarbala**	**3.28**	**14**	*e*P	**Pn**	**00 43 42.9**	**+0.1**
CMCH				*e*S	**Sn**	**00 44 21.9**	**+0.6**
CFAA	**Coronel Fontan**	**4.14**	**49**	Pn	**Pn**	**00 43 57.3**	**+2.7**
	comp=E,1.9nm,0.3s,baz=222,slow=14,SNR=42						
CFAA				Lg	Lg	00 44 57.0	
	comp=E,2.1nm,0.3s,baz=354,slow=4.8,SNR=4.9						
CFAA				LR	LR	00 45 46.3	
	comp=E,178nm,18.2s,baz=176,slow=41						
LCO	**Las Campanas**	**5.44**	**11**	*e*Pn	**Pn**	**00 44 12.3**	**-0.3**
LCO				*e*Sn	**Sn**	**00 45 14.4**	**-0.6**
PLCA	**Paso Flores**	**6.45**	**171**	Pn	**Pn**	**00 44 27.2**	**+0.9**
	baz=3.9,slow=14						
PLCA				Lg	Lg	00 46 08.6	
	baz=315,slow=14						
PLCA				LR	LR	00 47 04.9	
	comp=E,962nm,18.2s,baz=354,slow=39						
TRQA	**Tornquist**	**8.84**	**117**	*e*Pn	Pn	00 45 03.0	+3.9
LVC	**Limon Verde**	**12.00**	**14**	*e*Pn	Pn	00 45 38.0	-4.7
LPAZ	**La Paz**	**18.32**	**12**	P	**P**	**00 47 06.3**	**+0.1**
	comp=E,0.3nm,0.3s,baz=202,slow=8.6,SNR=22						
LPAZ	**La Paz**	**18.32**	**12**	*e*P	**P**

baz=70
JCT Junction City 69.66 334 eP P 00 54 00.2 -0.4
comp=E,5.8nm,0.9s
KMSC Kings Mountain 69.70 352 ⇑P P 00 54 00.9 +0.2
baz=70
334A Lometa 69.89 336 ⇓P P 00 54 02.2 +0.1
baz=70
530A J-C Ranch, Com 69.92 333 ⇓P P 00 54 02.4 +0.1
baz=70
432A Menard 70.01 335 ⇓P P 00 54 03.3 +0.4
baz=70
TXAR Lajitas Array 70.10 331 P P 00 54 03.5 0.0
comp=E,0.7nm,0.5s,baz=154,slow=7.9,SNR=11
TX31 Lajitas Ar. Si 70.10 331 eP P 00 54 03.1 -0.3
431A Sonora 70.13 334 ⇓P P 00 54 04.3 +0.8
baz=70
333A Richland Sprin 70.14 336 ⇓P P 00 54 03.6 0.0
baz=70
529A Stev Forest Ra 70.23 332 ⇑P P 00 54 04.6 +0.4
baz=70
CPCT Cooper Cave 70.44 349 eP P 00 54 06.7 +1.3
SWET Sewanee 70.45 348 eP P 00 54 05.0 -0.4
430A Baggett Ranch, 70.45 333 ⇑P P 00 54 05.8 +0.3
baz=71
332A Millersview 70.45 335 ⇑P P 00 54 05.4 -0.2
baz=71
234A Clairette 70.48 337 ⇑P P 00 54 05.8 +0.1
baz=71
TKL Tuckaleechee C 70.54 350 P P 00 54 05.1 -0.8
comp=E,5.7nm,0.9s,baz=159,slow=8.6,SNR=4.1
TKL Tuckaleechee C 70.54 350 eP P 00 54 05.4 -0.4
429A Davenport Ranc 70.55 333 ⇓P P 00 54 06.4 +0.2
baz=71
331A San Angelo 70.63 334 ⇑P P 00 54 06.7 +0.1
baz=71
233A Rising Star 70.74 336 ⇓P P 00 54 07.4 +0.1
baz=71
232A Coleman 70.88 335 ⇑P P 00 54 08.5 +0.3
baz=71
330A Mertzon 70.99 334 ⇓P P 00 54 08.8 0.0
baz=71
133A Hamilton Ranch 71.29 336 ⇓P P 00 54 10.8 +0.3
baz=72
329A Wagon Wheel Ra 71.36 333 ⇑P P 00 54 11.2 +0.1
baz=72
Z35A Perchaven, San 71.42 338 ⇓P P 00 54 11.5 +0.2
baz=72
Z34A Collier Ranch, 71.66 337 ⇑P P 00 54 12.4 -0.3
baz=72
WVT Waverly 71.69 346 eP P 00 54 12.1 -0.8
comp=E,18nm,0.7s
229A Bryant Ranch, 71.73 334 ⇓P P 00 54 13.0 -0.2
baz=72
131A Roby 71.85 335 ⇓P P 00 54 14.1 +0.1
baz=72
Z33A Whitaker Ranch 71.86 337 ⇓P P 00 54 14.1 +0.2
baz=72
130A Snyder 71.99 334 ⇓P P 00 54 15.1 +0.3
baz=72
Z32A Haskell 72.12 336 ⇓P P 00 54 15.2 -0.4
baz=72
228A UT Block 9, Go 72.15 333 ⇑P P 00 54 16.2 +0.4
baz=72
Y34A Reagan Ranch, 72.15 338 ⇑P P 00 54 16.4 +0.7
baz=72
Z31A Sharp Cattle R 72.35 335 ⇑P P 00 54 17.3 +0.4
baz=73
128A Castleberry Fa 72.56 333 ⇑P P 00 54 18.8 +0.5
baz=73
X34A Smith Ranch, M 72.77 338 ⇑P P 00 54 19.6 +0.2
baz=73
Z29A Hungry Hill Ra 72.85 334 ⇑P P 00 54 20.1 +0.1
baz=73
Z28A Tucker Farm, M 73.12 334 ⇓P P 00 54 22.0 +0.4
baz=73
TUL1 Leonard 73.38 340 ⇓P P 00 54 23.0 +0.1
baz=74
W33A Caddo, Fort Co 73.48 338 ⇓P P 00 54 24.0 +0.4
baz=74
W32A Sentinel 73.70 337 ⇓P P 00 54 24.9 0.0
baz=74
V34A Guthrie 73.82 339 ⇓P P 00 54 25.6 +0.1
baz=74
V33A Lossen Ranch, 74.04 338 ⇓P P 00 54 26.9 +0.1
baz=74
V32A Arapaho 74.19 337 ⇑P P 00 54 28.1 +0.4
baz=74
319A Douglas 74.26 327 ⇑P P 00 54 28.8 +0.5
baz=74
U34A Anderson Ranch 74.38 339 ⇓P P 00 54 29.2 +0.5
baz=75
W29A Amarillo 74.51 335 ⇓P P 00 54 30.3 +0.6
baz=75
121A Cookes Peak, D 74.60 329 ⇑P P 00 54 31.2 +0.8
baz=75
V30A Spur Ranch, Mi 74.76 336 ⇓P P 00 54 33.2 +2.1
baz=75
U32A Winter Ranch, 74.78 338 ⇑P P 00 54 31.4 +0.3
baz=75
X26A CR and CF Fran 74.78 333 ⇓P P 00 54 31.9 +0.6
baz=75
Y24A Capitan 74.85 332 ⇑P P 00 54 32.4 +0.6
baz=75
W27A Bowe Ranch, En 74.96 334 ⇓P P 00 54 33.1 +0.7
baz=75
T33A Patterson Ranc 75.19 338 ⇑P P 00 54 34.7 +1.2
baz=76
DBIC Dimbokro 75.21 71 P P 00 54 34.5 +0.3
comp=E,6.7nm,0.7s,baz=223,slow=7.6,SNR=12
DBIC Dimbokro 75.21 71 eP P 00 54 33.4 -0.7
comp=E,34nm,1.6s
W26A Owens Ranch, T 75.24 333 ⇓P P 00 54 34.6 +0.6
baz=76
V28A Channing 75.28 335 ⇑P P 00 54 34.8 +0.6
baz=76
U30A WK&E Inc. Balk 75.45 336 ⇓P P 00 54 35.9 +0.8
baz=76
T32A Huddler Ranch, 75.49 338 ⇓P P 00 54 35.9 +0.7
baz=76
BNM Barren Site 75.52 331 eP P 00 54 36.5 +0.8
V26A Tequesquite Ra 75.88 334 ⇓P P 00 54 38.2 +0.6
baz=76
LAZ Ladron 75.95 331 eP P 00 54 37.8 -0.4
W24A Lazy 6 Ranch, 75.97 332 ⇓P P 00 54 39.1 +0.8
baz=76
U27A Thompson Grove 76.09 335 ⇓P P 00 54 39.3 +0.5
baz=76
ANMO Albuquerque 76.15 331 eP P 00 54 39.8 +0.6
comp=E,4.1nm,1.1s
V25A Rancho No Teng 76.22 333 ⇓P P 00 54 40.4 +0.7
baz=76
S30A Montezuma 76.40 337 ⇓P P 00 54 41.3 +0.8
baz=77
T28A Walsh 76.47 336 ⇓P P 00 54 41.6 +0.6
baz=77
R32A Long Quarter, 76.57 339 ⇑P P 00 54 41.9 +0.5
baz=77
S29A Ulysses 76.59 337 ⇑P P 00 54 42.1 +0.6
baz=77
T27A Campo 76.63 335 ⇑P P 00 54 42.5 +0.6
baz=77
U25A Circle Dot Ran 76.64 334 ⇑P P 00 54 42.9 +0.9
baz=77
R31A Burdett 76.69 338 ⇑P P 00 54 42.6 +0.5
baz=77
S28A Manter 76.83 336 ⇓P P 00 54 43.6 +0.7
baz=77
T26A Comanche Natio 77.04 335 ⇓P P 00 54 44.8 +0.5
baz=77
Q32A Meitler Ranch, 77.05 339 ⇑P P 00 54 44.5 +0.4
baz=77
V22A San Miguel Ran 77.17 331 ⇓P P 00 54 46.3 +1.3
baz=78
X18A Snowflake 77.23 329 ⇓P P 00 54 46.4 +1.0
baz=78
U23A El Rito 77.25 332 ⇑P P 00 54 46.8 +1.3
baz=78
T25A Trinidad 77.30 334 ⇓P P 00 54 46.8 +1.1
baz=78
Q31A Ellis 77.31 338 ⇑P P 00 54 46.3 +0.8
baz=78
S26A Kim 77.40 335 ⇑P P 00 54 47.1 +1.0
baz=78
R28A Tribune 77.48 336 ⇑P P 00 54 47.1 +0.5
baz=78
Q30A Quinter 77.54 338 ⇑P P 00 54 47.5 +0.6
baz=78
Q29A Oakley 77.70 337 ⇓P P 00 54 48.0 +0.2
baz=78
R27A Eads 77.76 336 ⇑P P 00 54 48.6 +0.5
baz=78
S25A Robets Cordova 77.77 334 ⇑P P 00 54 48.7 +0.4
baz=78
X16A Lo Mia Camp, P 77.79 327 ⇓P P 00 54 49.3 +0.7
baz=78
R26A Arlington 78.00 335 ⇑P P 00 54 50.5 +1.0
baz=78
S24A Houchin Ranch, 78.04 334 ⇓P P 00 54 50.9 +1.0
baz=78
R25A Fountain Ranch 78.15 334 ⇑P P 00 54 51.2 +0.8
baz=78
P29A Atwood 78.33 338 ⇑P P 00 54 52.5 +1.2
baz=79
R24A Sanders Place, 78.52 334 ⇓P P 00 54 53.7 +1.2
baz=79
Q26A Hugo 78.58 335 ⇓P P 00 54 54.4 +1.7
baz=79
WUAZ Wupatki 78.69 328 ⇑P P 00 54 54.7 +1.3
baz=79
WUAZ Wupatki 78.69 328 eP P 00 54 54.2 +0.7
comp=E,15nm,1.6s
S22A 4UR Ranch, Cre 78.74 332 ⇓P P 00 54 55.0 +1.2
baz=79
R23A Moffat 78.75 333 ⇑P P 00 54 55.0 +1.1
baz=79
Q25A Bedland, Calha 78.82 335 ⇓P P 00 54 54.8 +0.6
baz=79
BC3 Big Chuckawall 79.03 324 ⇑P P 00 54 56.3 +1.0
baz=79
P26A Davis Ranch, A 79.09 336 ⇓P P 00 54 56.5 +0.9
baz=79
BGNE Belgrade 79.17 340 ⇑P P 00 54 57.0 +1.3
baz=80
Q24A Divide 79.19 334 ⇑P P 00 54 57.1 +0.8
baz=80
IRM Iron Mountain 79.29 325 ⇓P P 00 54 57.7 +1.1
baz=80
P25A Willow Gulch B 79.33 335 ⇑P P 00 54 57.9 +1.0
baz=80
M31A Lambtecht Ranc 79.34 340 ⇓P P 00 54 57.6 +0.9
baz=80
W13A Hualapai Mount 79.47 326 ⇑P P 00 54 58.8 +1.0
baz=80
BOSA Boshof 79.82 118 P P 00 54 59.9 -0.1
comp=E,9.1nm,0.9s,baz=211,slow=3.5,SNR=7.3
BOSA Boshof 79.82 118 eP P 00 55 00.2 +0.3
comp=E,19nm,1.1s
MURC Murrieta 79.84 323 ⇑P P 00 55 01.0 +1.4
baz=80
U15A North Rim 79.86 328 ⇑P P 00 55 01.3 +1.4
baz=80
PV05 Paradox Valley 79.92 331 eP P 00 54 58.6 -1.6
N27A Anderson Farm, 79.94 337 ⇑P P 00 55 01.3 +1.3
baz=80
GMRC Granite Mounta 80.04 325 ⇑P P 00 55 02.2 +1.4
baz=80
SMCO Snowmass 80.05 333 eP P 00 55 02.1 +1.0
comp=E,5.7nm,1.0s
L31A Butterfield Fa 80.07 340 ⇑P P 00 55 02.2 +1.5
baz=80
ISCO Idaho Springs 80.09 334 ⇑P P 00 55 02.3 +1.1
baz=80
PV10 Paradox Valley 80.15 331 eP P 00 55 01.0 -0.5
PV09 Paradox Valley 80.29 331 eP P 00 55 00.6 -1.7
O23A Lake Granby, G 80.57 334 ⇓P P 00 55 05.0 +1.3
baz=81
KNB Kanab 80.58 328 eP P 00 55 04.8 +1.1
comp=E,98nm,2.9s
N24A Carr 80.75 335 ⇑P P 00 55 05.8 +1.3
baz=81
K30A Basset 80.75 340 ⇑P P 00 55 05.4 +1.1
baz=81
O22A Kremmling 80.75 334 ⇓P P 00 55 05.4 +0.7
baz=81
ECSD EROS Data Cent 80.92 342 ⇓P P 00 55 05.0 -0.2
baz=81
ECSD EROS Data Cent 80.92 342 eP P 00 55 04.9 -0.3
comp=E,12nm,0.9s
GSC Goldstone, Bar 81.02 324 ⇓P P 00 55 07.3 +1.4
baz=81
N23A Red Feather La 81.18 335 ⇓P P 00 55 08.3 +1.4
baz=82
SHPR Sheep Range 81.21 326 eP P 00 55 07.8 +0.8
EDW2 Edwards Air Fo 81.26 323 ⇑P P 00 55 08.2 +1.0
baz=82
CCUT Cedar City 81.26 328 eP P 00 55 08.2 +0.8
comp=E,11nm,1.5s
N22A Wattenberg Ran 81.28 334 ⇑P P 00 55 08.6 +1.1
baz=82
J30A Dallas 81.32 340 ⇑P P 00 55 07.7 +0.4
baz=82
SRU San Rafael Swe 81.38 331 eP P 00 55 08.5 +0.6
comp=E,87nm,2.9s
BSC Santa Cruz Isl 81.39 322 ⇓P P 00 55 08.8 +0.9
baz=82
LRMC Laurel Mtn Rad 81.58 324 ⇑P P 00 55 09.8 +0.8
baz=82
M23A Laramie 81.61 335 ⇓P P 00 55 10.2 +1.0
baz=82
J29A Okreek 81.63 339 ⇓P P 00 55 09.4 +0.5
baz=82
I30A Oacoma 81.84 340 ⇑P P 00 55 10.3 +0.3
baz=82
J28A Allard Ranch, 81.91 339 ⇓P P 00 55 11.3 +0.8
baz=82
J27A Elkhorn Farm, 81.99 338 ⇓P P 00 55 12.2 +1.3
baz=82
LBTB Lobatse 82.06 115 eP P 00 55 11.6 -0.3
comp=E,72nm,2.0s
ISA Isabella, Lake 82.12 323 ⇑P P 00 55 13.0 +1.2
baz=82
ISA Isabella, Lake 82.12 323 eP P 00 55 12.1 +0.4
comp=E,49nm,2.4s
J26A Sides Ranch, S 82.38 338 ⇓P P 00 55 13.8 +0.9
baz=83
I28A Midland 82.42 339 ⇓P P 00 55 13.8 +0.7
baz=83
VES Vestal, Richgr 82.56 323 ⇑P P 00 55 14.9 +1.0
baz=83
G30A Faulkton 82.89 341 ⇓P P 00 55 15.6 +0.1
baz=83
J24A Dixon Ranch, L 82.90 337 ⇓P P 00 55 17.0 +1.3
baz=83
R11A Troy Canyon, C 82.91 327 ⇑P P 00 55 17.1 +1.2
baz=83
R11A Troy Canyon, C 82.91 327 eP P 00 55 16.6 +0.6
comp=E,49nm,2.6s
H28A Mission Ridge 82.99 340 ⇑P P 00 55 16.4 +0.4
baz=83
K21A Alcova 83.17 335 ⇑P P 00 55 17.8 +0.5
baz=84
I25A Rochford 83.22 337 ⇓P P 00 55 18.2 +0.7
baz=84
DUG Dugway, Tooele 83.23 330 ⇓P P 00 55 18.4 +0.9
baz=84
DUG Dugway, Tooele 83.23 330 eP P 00 55 17.2 -0.3
comp=E,6.3nm,1.1s
H27A Howes 83.26 339 ⇑P P 00 55 18.0 +0.6
baz=84
G28A Parade 83.33 340 ⇓P P 00 55 18.5 +0.7
baz=84
I24A Kuemmerle Ranc 83.36 337 ⇑P P 00 55 18.5 +0.4
baz=84
TPH Tonopah 83.44 326 eP P 00 55 19.5 +0.7
comp=E,66nm,2.8s
J22A Midwest 83.59 335 ⇑P P 00 55 19.0 -0.3
baz=84
HWUT Hardware Ranch 83.91 331 eP P 00 55 20.6 -0.4
comp=E,86nm,2.8s
F28A McLaughlin 84.00 340 ⇑P P 00 55 21.5 +0.3
baz=84
I22A 9 Mile Ranch, 84.01 336 ⇑P P 00 55 21.6 +0.1
baz=84
G26A Maurine 84.02 339 ⇑P P 00 55 21.4 0.0
baz=84
E30A Jud 84.09 342 ⇓P P 00 55 21.9 +0.2
baz=84
J20A Shoshoni 84.10 334 ⇓P P 00 55 22.2 +0.3
baz=84,SNR=6.3
BW06 Boulder Array 84.13 333 eP P 00 55 21.3 -0.9
PDAR Pinedale Array 84.13 333 P P 00 55 21.8 -0.4
comp=E,1.1nm,0.7s,baz=144,slow=6.3,SNR=10
H24A Dirks Ranch, A 84.13 337 ⇑P P 00 55 21.6 -0.4
baz=84
G25A Newell 84.18 338 ⇑P P 00 55 22.3 +0.1
baz=84
I21A Big Trails, Te 84.22 335 ⇑P P 00 55 22.2 -0.3
baz=84
DRLN Deer Lake 84.23 9 eP P 00 55 21.4 -0.8
comp=E,258nm,2.5s
NV01 Mina Array Sit 84.24 325 eP P 00 55 23.7 +0.9
NVAR Mina Array Bea 84.24 325 P P 00 55 22.9 0.0
comp=E,1.6nm,0.8s,baz=154,slow=5.9,SNR=7.6
TOA0 Torodi Ar. Sit 84.25 70 eP P 00 55 22.3 -0.8
TORD Torodi Ar. Bea 84.25 70 P P 00 55 23.3 +0.2
comp=E,5.7nm,0.8s,baz=256,slow=4.2,SNR=25
J19A Crowheart 84.37 334 ⇓P P 00 55 23.3 -0.1
baz=85
F27A Lemmon 84.37 339 ⇓P P 00 55 23.2 +0.1
baz=85
D30A Buchanan 84.62 342 ⇓P P 00 55 24.1 -0.1
baz=85,SNR=5.1
E27A Carson 84.75 340 ⇑P P 00 55 24.9 -0.1
baz=85
D29A Pettibone, Tap 84.79 341 ⇑P P 00 55 25.4 +0.2
baz=85
F25A Bowman 84.85 338 ⇑P P 00 55 25.8 +0.3
baz=85
AGMN Agassiz Nation 85.03 344 ⇑P P 00 55 25.9 -0.4
baz=85,SNR=5.1
AGMN Agassiz Nation 85.03 344 eP P 00 55 25.7 -0.6
comp=E,4.5nm,0.6s
H20A Greybull 85.06 335 ⇑P P 00 55 25.8 -0.8
baz=85,SNR=6.4
F24A Ekalaka 85.08 338 ⇓P P 00 55 26.4 -0.3
baz=85
C30A Mose, Pekin 85.10 342 ⇑P P 00 55 26.8 +0.1
baz=85,SNR=7.3
G22A Birney 85.12 336 ⇓P P 00 55 26.6 -0.3
baz=85
REDW Red Top Meadow 85.13 333 eP P 00 55 27.1 -0.1
comp=E,77nm,2.8s
D28A Regan 85.17 341 ⇓P P 00 55 27.3 +0.2
baz=86
FXWY Fox Creek 85.43 333 eP P 00 55 27.1 -1.6
comp=E,62nm,2.9s
G21A Lodge Grass 85.43 336 ⇑P P 00 55 28.9 +0.4
baz=86
I17A Pilgrim Ck. 85.50 333 ⇑P P 00 55 29.7 +0.7
baz=86
D26A Manning 85.55 340 ⇑P P 00 55 29.4 +0.4
baz=86
H19A Powell 85.56 334 ⇑P P 00 55 29.4 +0.2
baz=86
F22A Rosebud 85.60 337 ⇓P P 00 55 29.4 +0.1
baz=86
IMW Indian Meadow 85.62 333 eP P 00 55 29.9 +0.2
comp=E,50nm,2.8s
E24A Baker 85.68 338 ⇓P P 00 55 29.8 +0.1
baz=86
FLWY Flagg Ranch 85.69 333 eP P 00 55 30.3 +0.3
comp=E,6.6nm,0.6s
B30A Myrvik Farm, E 85.75 343 ⇑P P 00 55 29.8 -0.1
baz=86,SNR=12
H18A Shoshone NF, C 85.81 334 ⇑P P 00 55 30.4 -0.2
baz=86,SNR=19
C27A Sayler Ranch, 85.91 340 ⇓P P 00 55 31.0 +0.3
baz=86
D25A Fairfield 85.91 339 ⇑P P 00 55 31.4 +0.6
baz=86
B29A Wagenman Farm, 86.02 342 ⇓P P 00 55 31.0 -0.3
baz=86
RLMT Red Lodge 86.06 335 eP P 00 55 31.7 -0.1
comp=E,4.3nm,0.6s
E22A Miles City 86.08 337 ⇓P P 00 55 31.0 -0.6
baz=86
A30A Hoffart Farm, 86.20 343 ⇓P P 00 55 31.8 -0.3
baz=86,SNR=5.8
B28A Dugan Ranch, T 86.27 341 ⇑P P 00 55 32.7 +0.2
baz=87
YMR Madison River 86.28 333 eP P 00 55 33.4 +0.5
comp=E,9.2nm,0.9s
A29A Manning Farm, 86.42 342 ⇓P P 00 55 33.0 -0.2
baz=87
D23A Lindsay 86.50 338 ⇑P P 00 55 34.1 +0.3
baz=87,SNR=5.1
F19A Roth Farm, Mol 86.58 335 ⇑P P 00 55 34.0 -0.1
baz=87
C24A Savage 86.58 339 ⇑P P 00 55 34.4 +0.3
baz=87,SNR=7.8
HLID Hailey 86.70 331 ⇑P P 00 55 35.4 +0.4
baz=87
GCMT Greycliff 86.78 335 eP P 00 55 34.1 -1.1
D22A Cohagen 86.79 337 ⇑P P 00 55 35.4 +0.3
baz=87
E20A Meyer Farm, Mu 86.86 336 ⇑P P 00 55 35.2 -0.3
baz=87,SNR=8.4
ULM Lac du Bonnet 86.87 345 P P 00 55 34.3 -1.0
comp=E,4.2nm,0.9s,baz=166,slow=5.3,SNR=5.9
D21A La Casta Ranch 86.98 337 ⇑P P 00 55 36.4 +0.3
baz=87
E19A Rath Farm, Rou 87.05 335 ⇓P P 00 55 36.2 -0.3
baz=87,SNR=7.2
C23A Lambert 87.06 338 ⇑P P 00 55 36.4 0.0
baz=87,SNR=6.3
A26A Wade Farm, Ken 87.13 341 ⇓P P 00 55 37.1 +0.4
baz=88
MCMT McKenzie Canyo 87.14 332 eP P 00 55 37.5 +0.4
C22A Vida 87.22 338 ⇓P P 00 55 37.2 0.0
baz=88
D20A Manuel Ranch, 87.38 336 ⇑P P 00 55 37.7 -0.3
baz=88,SNR=5.1
B23A Brockton 87.59 339 ⇑P P 00 55 39.3 +0.3
baz=88
C21A Desert Coulee 87.68 337 ⇓P P 00 55 39.2 -0.2
baz=88
D19A Cripps Ranch, 87.69 336 ⇓P P 00 55 40.0 +0.5
baz=88
A24A Westby 87.71 339 ⇓P P 00 55 40.1 +0.6
baz=88
LRM Limekiln Ridge 87.82 333 eP P 00 55 39.7 -0.6
WDC Whiskeytown Da 87.95 324 eP P 00 55 40.4 -0.5
comp=E,55nm,2.5s
C19A Slack Wire Ran 88.24 336 ⇑P P 00 55 42.1 0.0
baz=88
N02D Trinity Center 88.34 324 ⇑P P 00 55 43.0 +0.2
baz=89
A22A Carney Farms, 88.34 338 ⇑P P 00 55 42.8 +0.3
baz=89
B20A Solberg Farm, 88.52 337 ⇓P P 00 55 43.6 +0.3
baz=89
A20A Cobblestone Ra 88.87 337 ⇓P P 00 55 44.8 -0.2
baz=89
A19A Klindworth Far 89.18 337 ⇓P P 00 55 46.2 -0.3
baz=90
J05D Fort Rock, OR 89.43 326 ⇓P P 00 55 48.6 +0.7
baz=90
YKA Yellowknife Ar 102.43 341 P Pdif 00 56 45.4 -1.0
comp=E,0.4nm,0.7s,baz=143,slow=4.6,SNR=9.5
IM04 Indian Mountai 117.69 333 ePKPdf PKPdf 01 01 36.4 0.0
WRA Warramunga Arr 120.49 209 PKP PKPdf 01 01 41.6 -1.7
comp=E,0.8nm,0.6s,baz=158,slow=1.8,SNR=4.9
BRTR Keskin Array B 121.93 61 PKP PKPdf 01 01 45.1 -0.4
comp=E,0.7nm,0.8s,baz=200,slow=2.9,SNR=6.2
ARCES ARCESS Array B 124.31 25 PKP PKPdf 01 01 47.7 -1.3
comp=E,3.8nm,0.9s,baz=249,slow=3.8,SNR=2.7
SEY Seymchan 140.39 330 PKP PKPdf 01 02 19.3 0.0
comp=E,1.4nm,0.3s,baz=96,slow=3.3,SNR=6.9
BRVK Borovoye 147.41 43 ePKPdf PKPbc 01 02 34.0 -0.4
BVAR Borovoye Array 147.48 43 PKPbc PKPbc 01 02 35.4 +0.7
comp=E,3.6nm,0.6s,baz=298,slow=3.1,SNR=17
VOSK Vostochnaya 147.92 44 ePKPdf PKPdf 01 02 33.0 +0.1
KKAR Karatay Array 149.63 62 ePKPbc PKPbc 01 02 39.8 -0.8
EKS2 Erkin-Say 152.06 63 ePKPbc PKPbc 01 02 46.6 +0.2
AAK Ala-Archa 152.59 62 PKPbc PKPbc 01 02 47.6 -0.1
comp=E,2.6nm,0.7s,baz=175,slow=3.7,SNR=9.1
AAK Ala-Archa 152.59 62 ePKPbc PKPbc 01 02 47.8 +0.1
KURBB Kurchatov Arra 153.07 44 PKPbc PKPbc 01 02 47.5 -0.7
comp=E,0.8nm,0.4s,baz=295,slow=2.8,SNR=9.4
KURK Kurchatov 153.08 44 PKPbc PKPbc 01 02 47.5 -0.8
KSH Kashi 153.91 69 ePKPbc PKPdf 01 02 42.8 +0.1
KSH sPKP 01 02 55.3
KSH PKS PKSdf 01 06 16.6 -0.4
KSH PP PP 01 06 36.3 -2.7
KSH SKS SKSdf 01 09 46.9 -2.0
KSH SS SS 01 26 12.0 -4.5
KSH PPMZ
comp=E,69nm,5.0s
KSH LN
comp=E,37nm,4.6s
KSH LE
comp=E,35nm,4.1s
KSH LZ

comp=E,150nm,5.1s
ZAA0 Zalesovo Array 154.48 33 *e*PKPdf **PKPdf 01 02 41.5 -1.2**
ZAA0 *e*PKPbc **PKPbc 01 02 50.6 -0.6**
ZAA0 *e*PKPab **PKPab 01 03 05.5 -0.1**
ZALV Zalesovo Beam 154.48 33 PKP **PKPdf 01 02 42.2 -0.6**
comp=E,0.4nm,0.4s,baz=294,slow=1.4,SNR=3.5
ZALV PKPbc **PKPbc 01 02 50.5 -0.7**
comp=E,2.5nm,0.7s,baz=311,slow=3.0,SNR=14
ZALV PKPab **PKPab 01 03 05.6 0.0**
comp=E,3.9nm,0.7s,baz=304,slow=5.2,SNR=9.7
MKAR Makanchi Array 156.93 50 PKP **PKPdf 01 02 45.2 -1.1**
comp=E,0.4nm,0.8s,baz=299,slow=3.0,SNR=4.2
MKAR PKPab **PKPab 01 03 16.3 -0.1**
comp=E,1.6nm,0.8s,baz=306,slow=3.4,SNR=10
MK01 Makanchi Array 156.94 50 *e*PKPdf **PKPdf 01 02 45.6 -0.8**
MK01 *e*PKPab **PKPab 01 03 16.0 -0.5**
WMQ Urumqi 161.62 53 *e*PKP **PKPdf 01 02 49.9 -2.0**
WMQ pPKP **pPKPdf 01 03 00.5 +3.0**
CN2 Changchun 163.57 310 *e*PKP **PKPdf 01 02 53.3 -0.5**
CN2 PP **PP 01 07 35.0 +4.0**
CN2 PPMZ
comp=E,200nm,4.0s
CN2 LN
comp=E,700nm,14.0s
CN2 LE
comp=E,700nm,14.0s
CN2 LZ
comp=E,500nm,14.0s
SONM Songino Array 166.48 5 PKPab **PKPab 01 03 58.3 +0.1**
comp=E,0.4nm,0.6s,baz=346,slow=3.0,SNR=5.0
GYA Guiyang 172.03 171 *e*PKP **PKPdf 01 02 59.8 -0.6**
GYA pPKP **pPKPdf 01 03 11.4 +5.5**
GYA PKPab **PKPab 01 04 24.0 +0.8**
GYA PKS **PKSdf 01 06 29.8 -3.1**
GYA PP **PP 01 08 16.6 +3.3**
GYA SKKS 01 14 58.3
GYA SS **SS 01 29 20.9 -0.3**
GYA PPMZ
comp=E,120nm,8.3s
GYA LN
comp=E,120nm,24.5s
GYA LE
comp=E,110nm,25.8s
GYA LZ
comp=E,120nm,24.2s
HHC Hu-ho-hao-te 172.96 338 *e*PKP **PKPdf 01 03 00.5 +0.2**
HHC pPKP **pPKPdf 01 03 08.0 +2.1**
HHC sPKP 01 03 17.3
HHC PP **PP 01 08 17.0 -1.1**
HHC SKS **SKSdf 01 10 02.0 -0.9**
HHC SKKS **SKKSac 01 15 05.8 +1.3**
HHC SS **SS 01 29 29.3 -1.4**
HHC PPMZ
comp=E,160nm,10.0s
HHC LN
comp=E,240nm,21.6s
HHC LE
comp=E,300nm,21.1s
HHC LZ
comp=E,130nm,18.8s
CD2 Chengdu 174.99 132 *e*PKP **PKPdf 01 03 00.5 -0.8**
LZH Lanzhou 176.13 62 *e*PKP **PKPdf 01 03 01.9 +0.3**
LZH pPKP **pPKPdf 01 03 13.3 +6.2**
LZH sPKP 01 03 18.4

MAN 15 00:43:41, 7°.35N×124°.39E, h21km, mb4.4, ML3.3, MS3.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.19**	**228**	⇑*i*P	Pb	00 43 47.9	+1.0
CTBH				*i* S	Sb	00 43 55.5	+4.5
BUKP	**Musuan**	**0.85**	**52**	*e*P	Pb	00 43 57.5	+0.3
BUKP				*e*S	Sn	00 44 11.2	+1.5
PAGZ	**Pagadian**	**1.11**	**297**	*e*P	Pb	00 44 02.8	+1.2
PAGZ				*e*S	Sn	00 44 17.3	+1.2
MATI	**Mati**	**1.90**	**102**	*e*P	Pb	00 44 15.1	+0.2
BUTP	**Butuan**	**2.02**	**37**	*e*P	Pn	00 44 14.0	+0.1

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*ISCJB **15** 00:48:04.8±0.6, 6°.83N±0°.07×73°.01W±0°.07, h167km±6km, mb3.4/6, Error ellipse: s-maj=15.0km s-min=7.6km az=43.0*
*IDC **15** 00:48:06.7±2.5, 6°.71N×73°.20W, h169km±20km, mb3.2/6, mb1 3.5/7, mb1mx3.2/22, mbtmp3.7/7, Error ellipse: s-maj=51.1km s-min=22.4km az=91.0*
*FUNV **15** 00:48:06.3, 6°.80N×73°.08W, h171km, MW4.0*
ISC 15 00:48:05.7±0.9, 6°.82N±0°.08×73°.01W±0°.09, h163km±8km, n25, σ1s03/30, mb3.5/6, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.25**	**34**	⇑*i*P	**Pn**	**00 48 35.3**	**+1.1**
CAPV				*e*S	**Sn**	**00 48 57.0**	**+0.9**
ROSC	**El Rosal**	**2.35**	**214**	P	**Pn**	**00 48 47.0**	**+1.0**
42nm,0.3s,baz=124,slow=1.0,SNR=92
ROSC S **Sn 00 49 14.9 -2.4**
29nm,0.3s,baz=90,slow=20,SNR=8.2
SOCV Socops 2.59 56 *e*P **Pn 00 48 48.5 -0.1**
SOCV *e*S **Sn 00 49 21.1 -0.7**
VIGV El Vigia 2.59 39 *e*P **Pn 00 48 48.9 +0.3**
VIGV *e*S **Sn 00 49 20.6 -1.3**
VIRV Villa del Rosa 3.71 9 *e*P **Pn 00 49 01.7 -1.0**
VIRV *e*S **Sn 00 49 44.1 -2.9**
SANV Sanarito 4.35 52 *e*P **Pn 00 49 12.0 +0.9**
CURV Curarigua 4.38 43 *e*P **Pn 00 49 11.6 +0.2**
DABV Dabajuro 4.71 30 *e*P **Pn 00 49 15.9 +0.3**
SIQV Siquisique 4.95 40 *e*P **Pn 00 49 18.9 +0.1**
BAUV El Baul 5.36 66 *e*P **Pn 00 49 23.2 -0.9**
MAPV Macapo 5.41 56 *e*P **Pn 00 49 24.9 +0.1**
MONV Montecano 5.92 30 *e*P **Pn 00 49 31.1 -0.4**
TURV Turiamo 6.26 54 *e*P **Pn 00 49 35.9 -0.1**
MERV Las Mercedes 7.08 70 *e*P **Pn 00 49 46.0 -0.8**
BIRV Birongo 7.59 61 *e*P **Pn 00 49 52.9 -0.8**
CUPV Cœpira 7.84 65 *e*P **Pn 00 49 56.1 -0.9**
ULM Lac du Bonnet 47.33 340 P **P 00 56 22.8 -0.1**
1.2nm,0.4s,baz=180,slow=9.1,SNR=3.0
SCHQ Schefferville 48.14 5 P **P 00 56 30.5 +1.4**
1.7nm,0.7s,baz=187,slow=8.1,SNR=4.4
PDAR Pinedale Array 48.15 324 P **P 00 56 29.7 0.0**
0.5nm,0.7s,baz=116,slow=8.1,SNR=2.4
NVAR Mina Array Bea 51.56 315 P **P 00 56 56.0 +0.5**
0.3nm,0.6s,baz=138,slow=6.8,SNR=2.6
YKA Yellowknife Ar 63.31 340 P **P 00 58 17.3 +0.4**
0.7nm,0.6s,baz=133,slow=6.7,SNR=25
ILAR Eielson Array 77.01 335 P **P 00 59 40.6 +0.3**
0.1nm,0.6s,baz=104,slow=4.4,SNR=3.6
MKAR Makanchi Array 122.29 20 PKP **PKPdf 01 06 41.3 -0.2**
0.1nm,0.4s,baz=332,slow=0.8,SNR=3.4
ASAR Alice Springs 149.19 234 PKPbc **PKPbc 01 07 35.2 -0.7**
1.5nm,0.7s,baz=128,slow=2.7,SNR=7.3
WRA Warramunga Arr 150.43 241 PKPbc **PKPbc 01 07 38.5 -0.4**
0.9nm,0.4s,baz=107,slow=2.6,SNR=5.8

GUC 15 00:55:21.1±0.6, 33°.98S×72°.43W, h38km±4km, ML3.7, 5C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.15**	**35**	⇑*i*P	Pn	00 55 41.6	+0.9
IHA				*i* S1	Sn	00 55 56.7	+1.5
NICH	**Los Niches**	**1.42**	**136**	⇑*i*P	Pn	00 55 45.8	+1.4
NICH				*i* S	Sn	00 56 04.2	+2.2
ANTU	**Antumapu**	**1.55**	**75**	⇑*i*P	Pn	00 55 47.7	+1.5
ANTU				*i* S	Sn	00 56 07.3	+2.2
PEL	**Peldehue**	**1.67**	**61**	⇓*i*P	Pn	00 55 49.7	+1.7
PEL				*i* S	Sn	00 56 10.8	+2.5
PEL				IAML		00 56 20.3	
comp=N,2μm,0.6s
CLCH Cerro Calan 1.68 70 *e*P9 Pn 00 55 50.2 +2.2
CLCH *i* S Sn 00 56 11.9 +3.5
CLCH IAML 00 56 21.3
comp=N,1μm,0.7s
FCH Farellones 1.90 71 ⇓*i*P Pn 00 55 56.7 +5.3
FCH *i* S Sn 00 56 20.6 +6.3
FCH IAML 00 56 26.7
comp=N,820nm,0.4s
COCH Cobquecura 2.17 188 ⇑*i*P Pn 00 55 55.8 +1.1
CHNG Los Chungos 2.23 21 ⇑*i*P Pn 00 55 56.3 +0.9
CHNG *i* S4 Sn 00 56 21.7 -0.1

IDC 15 00:58:54.0±1.9, 7°.04S×128°.53E, h0km, mb3.7/1, mb1 3.9/3, mb1mx3.5/32, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=105.8km s-min=31.7km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.01**	**157**	Pn	Pn	01 02 12.3	-1.6
0.6nm,0.3s,baz=335,slow=14,SNR=7.3
WRA Sn Sn 01 04 35.4 -15
0.8nm,0.3s,baz=332,slow=22,SNR=7.9
ASAR Alice Springs 17.32 163 Pn P 01 02 58.7 -0.2
0.4nm,0.3s,baz=345,slow=10,SNR=19
ASAR Sn Sn 01 05 57.1 -14
0.1nm,0.3s,baz=342,slow=25,SNR=2.8
MKAR Makanchi Array 67.47 328 P P 01 09 51.8 0.0
0.4nm,0.5s,baz=116,slow=7.5,SNR=9.6

MEX 15 01:03:35.2±0.5, 16°.69N×96°.67W, h56km±5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.39**	**351**	*i* P	Pn	01 03 44.5	-1.5
VHO *i* S Sn 01 03 51.9 -1.8
HUIG Huatulco 1.06 149 *e*P Pn 01 03 52.5 -1.4
HUIG *e*S Sn 01 04 05.8 -1.9
PNIG Pinotepa 1.43 258 *e*P Pn 01 03 57.3 -1.6
PNIG *i* S Sn 01 04 14.2 -2.5
CMIG Matias Romero 1.76 77 *e*P Pn 01 04 01.5 -1.8
CMIG *e*S Sn 01 04 22.3 -2.3
TPIG Tehuac#an 1.84 339 *e*P Pn 01 04 03.9 -0.9
TPIG *e*S Sn 01 04 24.9 -2.3

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*ISCJB **15** 01:21:27.3±1.0, 37°.02N±0°.08×71°.20E±0°.07, h88km, mb3.2/3, Error ellipse: s-maj=11.5km s-min=7.9km az=162.0*
*IDC **15** 01:21:29.1±4.5, 37°.09N×71°.12E, h92km±33km, mb3.2/3, mb1 3.3/10, mb1mx3.1/41, mbtmp3.6/10, Error ellipse: s-maj=51.1km s-min=18.2km az=151.0*
*NNC **15** 01:21:31.4±3.3, 37°.52N×71°.17E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=28.9km s-min=11.0km az=168.0*
ISC 15 01:21:27.9±1.4, 37°.00N±0°.1×71°.11E±0°.08, h88km, n23, σ1s80/28, mb3.3/3, 4C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.55**	**316**	⇓P	Pn	01 22 10.4	+3.0
DZET ⇓S **Sn 01 22 39.6 +1.9**
AML Almayashu 5.49 21 P **Pn 01 22 49.2 +1.6**
SNR=33
UCH Uchtor 5.84 26 P **Pn 01 22 54.1 +1.8**
SNR=6.9
EKS2 Erkin-Say 6.01 19 P **Pn 01 22 56.6 +2.3**
SNR=12
KK31 Karatay Array 6.11 356 ⇑P **Pn 01 22 57.2 +1.6**
10.0nm,0.4s,baz=181,slow=12,SNR=311
KK31 ⇓S **Sn 01 24 04.0 -0.1**
3.6nm,0.4s,baz=192,slow=26,SNR=5.8
AAK Ala-Archa 6.19 24 ⇑P **Pn 01 22 58.2 +1.3**
4.8nm,0.5s
AAK ⇓S **Sn 01 24 04.0 -2.3**
8.7nm,0.6s
AAK Ala-Archa 6.19 24 P **Pn 01 22 58.6 +1.7**
SNR=13
AAK Ala-Archa 6.19 24 P **Pn 01 22 58.9 +2.0**
2.1nm,0.3s,baz=174,slow=6.1,SNR=43
AAK S **Sn 01 24 05.1 -1.2**
0.8nm,0.3s,baz=324,slow=23,SNR=12
CHMS Chumysh 6.61 24 P **Pn 01 23 04.0 +1.7**
SNR=6.4
USP Ospenovka 6.77 21 P **Pn 01 23 05.8 +1.2**
SNR=6.8
TKM2 Tokmak 2 6.84 29 ⇓P **Pn 01 23 07.0 +1.3**
3.1nm,0.6s
TKM2 ⇑S **Sn 01 24 20.2 -1.9**
2.8nm,0.8s
TKM2 Tokmak 2 6.84 29 P **Pn 01 23 07.4 +1.6**
SNR=8.9
GEYT Alibeck 10.37 279 P **Pn 01 23 54.6 +0.9**
0.4nm,0.3s,baz=119,slow=15,SNR=6.9
GEYT S **Sn 01 25 42.4 -5.7**
0.8nm,0.3s,baz=133,slow=16,SNR=4.7
MKAR Makanchi Array 12.83 37 P **Pn 01 24 26.2 -0.7**
0.0nm,0.3s,baz=220,slow=14,SNR=7.3
KURBB Kurchatov Arra 14.62 19 P **Pn 01 24 49.3 -0.8**
0.1nm,0.3s,baz=210,slow=13,SNR=9.5
AB31 Akbulak array 14.69 330 ⇓P **Pn 01 24 50.7 -0.4**
1.4nm,0.4s,baz=138,slow=13,SNR=89
BVAR Borovoye Array 16.03 358 P **Pn 01 25 07.7 -0.2**
0.3nm,0.3s,baz=168,slow=14,SNR=7.3
AKTO Aktyubinsk 16.39 329 ⇑P **P 01 25 14.2 +0.5**
3.6nm,1.1s
AKTO Aktyubinsk 16.39 329 P **P 01 25 13.7 0.0**
0.4nm,0.3s,baz=142,slow=14,SNR=7.8
ZALV Zalesovo Beam 19.42 25 P **P 01 25 46.4 -0.5**
0.2nm,0.3s,baz=222,slow=11,SNR=6.1
SONM Songino Array 27.98 56 P **P 01 27 10.6 +0.3**
0.3nm,0.6s,baz=257,slow=8.8,SNR=3.3
TORD Torodi Ar. Bea 65.82 268 P **P 01 32 04.6 +0.4**
0.5nm,1.1s,baz=53,slow=6.0,SNR=9.4
YKA Yellowknife Ar 80.74 3 P **P 01 33 31.9 +0.8**
0.2nm,0.5s,baz=349,slow=5.4,SNR=8.8

KRNET 15 01:28:25.8±0.1, 39°.13N×74°.99E, h4km, mb3.9, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.45**	**308**	*e*P	Pn	01 28 51.0	-2.1
baz=308
SFK *e*S Sb 01 29 11.0 -1.8
baz=308
NRN Naryn 2.43 18 *i* P Pn 01 29 07.0 +0.3
baz=18
NRN *e*S Sn 01 29 38.0 +0.8
baz=18
ARSB Arslanbob 2.68 326 *e*P Pb 01 29 14.8 +0.2
baz=326
ARSB *e*S Sb 01 29 49.8 +1.9
baz=326

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*IDC **15** 01:36:06.7±1.5, 40°.75N×51°.77E, h0km, mb3.4/4, mb1 3.4/10, mb1mx3.3/32, mbtmp3.4/10, ML3.2/6, Error ellipse: s-maj=21.6km s-min=11.7km az=171.0*
*ISCJB **15** 01:36:09.6±0.4, 40°.65N±0°.05×52°.02E±0°.03, h47km, mb3.3/3, Error ellipse: s-maj=7.5km s-min=3.4km az=170.3*
*CSEM **15** 01:36:10.2±0.4, 40°.67N×52°.09E, h40km, mb3.7, Error ellipse: s-maj=13.8km s-min=5.7km az=154.0*
*AZER **15** 01:36:11.9±10.0, 40°.58N×51°.79E, h42km, Error ellipse: s-maj=7.3km s-min=6.8km az=229.0*
*NNC **15** 01:36:19.0±2.9, 41°.40N×53°.00E, h0km, mb3.7, Error ellipse: s-maj=44.2km s-min=22.5km az=121.0*
ISC 15 01:36:09.7±0.8, 40°.68N±0°.05×52°.08E±0°.05, h47km, n68, σ1s95/110, mb3.5/3, 33C-40D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**1.60**	**267**	⇑P	**Pn**	**01 36 36.6**	**+1.1**
NDR ⇓S **Sn 01 36 55.5 +0.6**
NDR Nardaran 1.60 267 ⇑P **Pn 01 36 36.6 +1.1**
NDR ⇓S **Sn 01 36 55.5 +0.6**
NDR Nardaran 1.60 267 P **Pn 01 36 36.6 +1.1**
NDR S **Sn 01 36 55.5 +0.6**
GOBA Gobu 1.81 262 ⇑S **Sn 01 36 58.3 -1.9**
GOBA Gobu 1.81 262 ⇑S **Sn 01 36 58.3 -1.9**
GOBA Gobu 1.81 262 S **Sn 01 36 58.3 -1.9**
ATGJ Altiaghaj 2.40 275 ⇓Pn **Pn 01 36 47.9 +1.4**
ATGJ ⇓Sn **Sn 01 37 15.5 +0.8**
ATGJ Altiaghaj 2.40 275 ⇓Pn **Pn 01 36 47.9 +1.4**
ATGJ ⇓Sn **Sn 01 37 15.5 +0.8**
ATGJ Altiaghaj 2.40 275 Pn **Pn 01 36 47.9 +1.4**
ATGJ Sn **Sn 01 37 15.5 +0.8**
SIZA Siyzn 2.45 280 ⇓Pn **Pn 01 36 49.7 +2.5**
SIZA ⇓Sn **Sn 01 37 17.1 +1.2**
SIZA Siyzn 2.45 280 ⇓Pn **Pn 01 36 49.7 +2.5**
SIZA ⇓Sn **Sn 01 37 17.1 +1.2**
SIZA Siyzn 2.45 280 Pn **Pn 01 36 49.7 +2.5**
SIZA Sn **Sn 01 37 17.1 +1.2**
ALIB Äli-Bayra 2.46 254 ⇑Sg Sn 01 37 23.0 +7.0
ALIB Äli-Bayra 2.46 254 ⇑Sg Sn 01 37 23.0 +7.0
PQL Pirkuli 2.65 274 ⇑Pn **Pn 01 36 51.4 +1.3**
PQL ⇓Sn **Sn 01 37 21.6 +0.5**
PQL Pirkuli 2.65 274 ⇑Pn **Pn 01 36 51.4 +1.3**
PQL ⇓Sn **Sn 01 37 21.6 +0.5**
PQL Pirkuli 2.65 274 Pn **Pn 01 36 51.4 +1.3**
PQL Sn **Sn 01 37 21.6 +0.5**
QUBA Quba, Azerbaij 2.80 285 ⇑Pn **Pn 01 36 53.6 +1.7**
QUBA ⇑Sn **Sn 01 37 24.4 -0.1**
QUBA Quba, Azerbaij 2.80 285 ⇑Pn **Pn 01 36 53.6 +1.7**
QUBA ⇑Sn **Sn 01 37 24.4 -0.1**
QUBA Quba, Azerbaij 2.80 285 Pn **Pn 01 36 53.7 +1.7**
QUBA Sn **Sn 01 37 24.4 -0.1**
IML Ismayilli 2.96 274 ⇑Pn **Pn 01 36 54.8 +0.6**
IML ⇓Sn **Sn 01 37 29.0 +0.4**
IML Ismayilli 2.96 274 ⇑Pn **Pn 01 36 54.8 +0.6**
IML ⇓Sn **Sn 01 37 29.0 +0.4**
IML Ismayilli 2.96 274 Pn **Pn 01 36 54.8 +0.6**
IML Sn **Sn 01 37 29.0 +0.4**
GLBA Clilabad 3.18 244 ⇓Pn **Pn 01 36 58.2 +1.1**
GLBA ⇑Sn **Sn 01 37 32.5 -1.3**
GLBA Clilabad 3.18 244 ⇓Pn **Pn 01 36 58.2 +1.1**
GLBA ⇑Sn **Sn 01 37 32.5 -1.3**
GLBA Clilabad 3.18 244 Pn **Pn 01 36 58.2 +1.1**
GLBA Sn **Sn 01 37 32.5 -1.3**
LKRN Lenkeran, Azer 3.22 233 ⇓Pn **Pn 01 36 58.0 +0.4**
LKRN ⇑Sn **Sn 01 37 32.5 -2.2**
LKRN Lenkeran, Azer 3.22 233 ⇓Pn **Pn 01 36 58.0 +0.4**
LKRN ⇑Sn **Sn 01 37 32.5 -2.2**
LKRN Lenkeran, Azer 3.22 233 Pn **Pn 01 36 58.0 +0.4**
LRK Lerik 3.53 236 ⇓Pn **Pn 01 37 02.2 +0.1**
LRK ⇑Sn **Sn 01 37 39.3 -3.4**
LRK Lerik 3.53 236 ⇓Pn **Pn 01 37 02.2 +0.1**
LRK ⇑Sn **Sn 01 37 39.3 -3.4**
LRK Lerik 3.53 236 Pn **Pn 01 37 02.2 +0.1**
SEKA Sheki 3.74 280 ⇓Pn **Pn 01 37 05.8 +0.9**
SEKA ⇓Sn **Sn 01 37 47.5 -0.2**
SEKA Sheki 3.74 280 ⇓Pn **Pn 01 37 05.8 +0.9**
SEKA ⇓Sn **Sn 01 37 47.5 -0.2**
SEKA Sheki 3.74 280 Pn **Pn 01 37 05.8 +0.9**
SEKA Sn **Sn 01 37 47.5 -0.2**
BRDA Brd 3.76 265 ⇑Pn **Pn 01 37 04.9 -0.3**
BRDA ⇑Sn **Sn 01 37 49.5 +1.3**
BRDA Brd 3.76 265 ⇑Pn **Pn 01 37 04.9 -0.3**
BRDA ⇑Sn **Sn 01 37 49.5 +1.3**
BRDA Brd 3.76 265 Pn **Pn 01 37 04.9 -0.3**
BRDA Sn **Sn 01 37 49.5 +1.3**
ZKTA Zakatala 4.23 285 ⇓Pn **Pn 01 37 13.1 +1.5**
ZKTA ⇑Sn **Sn 01 37 58.1 -1.7**
ZKTA Zakatala 4.23 285 ⇓Pn **Pn 01 37 13.1 +1.5**
ZKTA ⇑Sn **Sn 01 37 58.1 -1.7**
GANJ Ganja 4.38 271 ⇓Pn **Pn 01 37 12.6 -1.1**
GANJ ⇓Sn **Sn 01 37 59.0 -4.5**
GANJ Ganja 4.38 271 ⇓Pn **Pn 01 37 12.6 -1.1**
GANJ ⇓Sn **Sn 01 37 59.0 -4.5**
GANJ Ganja 4.38 271 Pn **Pn 01 37 12.6 -1.1**
QZX Qazax, Azerbai 5.10 276 ⇑Pn **Pn 01 37 22.8 -0.8**
QZX ⇓Sn **Sn 01 38 18.2 -2.9**
QZX Qazax, Azerbai 5.10 276 ⇑Pn **Pn 01 37 22.8 -0.8**
QZX ⇓Sn **Sn 01 38 18.2 -2.9**
QZX Qazax, Azerbai 5.10 276 Pn **Pn 01 37 22.8 -0.8**
NAX Nakhchivan 5.28 256 ⇓Pn **Pn 01 37 28.2 +2.1**
NAX ⇓Sn **Sn 01 38 25.3 -0.4**
NAX Nakhchivan 5.28 256 ⇓Pn **Pn 01 37 28.2 +2.1**
NAX ⇓Sn **Sn 01 38 25.3 -0.4**
NAX Nakhchivan 5.28 256 Pn **Pn 01 37 28.2 +2.1**
NAX Sn **Sn 01 38 25.3 -0.4**
GEYT Alibeck 5.42 118 Pn Pn 01 37 33.4 +5.4
0.4nm,0.3s,baz=306,slow=17,SNR=4.3
GEYT Sn **Sn 01 38 31.5 +2.4**
0.8nm,0.3s,baz=306,slow=19,SNR=3.1
KBZ Khabaz 7.47 297 Pn **Pn 01 37 54.5 -1.4**
0.1nm,0.3s,baz=95,slow=11,SNR=3.1
KBZ Sn **Sn 01 39 16.4 -2.9**
0.4nm,0.3s,baz=68,slow=19,SNR=5.0
AB31 Akbulak array 10.22 30 ⇓Pn **Pn 01 38 33.9 +0.3**
0.1nm,0.3s
AB31 ⇓Sn **Sn 01 40 21.4 -5.4**
2.8nm,0.3s
AB31 Akbulak array 10.22 30 Pn **Pn 01 38 33.9 +0.3**
0.1nm,0.3s
AKTO Aktyubinsk 10.60 21 ⇓Pn **Pn 01 38 38.3 -0.5**
1.2nm,0.6s
AKTO ⇑Sn **Sn 01 40 30.4 -5.7**
10.0nm,0.7s
AKTO Aktyubinsk 10.60 21 Pn **Pn 01 38 38.6 -0.2**
0.4nm,0.3s,baz=211,slow=13,SNR=16
AKTO Sn **Sn 01 40 31.6 -4.5**
2.8nm,0.3s,baz=110,slow=22,SNR=21
AKTO Aktyubinsk 10.60 21 Pn **Pn 01 38 38.3 -0.5**
1.2nm,0.6s
BRTR Keskin Array B 14.13 272 Pn **Pn 01 39 29.3 +2.1**
0.0nm,0.3s,baz=102,slow=10,SNR=2.7
BRVK Borovoye 17.49 39 ⇑P **P 01 40 11.3 +0.6**
4.0nm,1.1s
BRVK ⇑S **Sn 01 43 16.7 -7.0**
1.5nm,0.4s
BRVK Borovoye 17.49 39 P **P 01 40 11.3 +0.6**
4.0nm,1.1s
BVA0 Borovoye Array 17.52 39 ⇓P **P 01 40 13.4 +2.4**
3.1nm,1.1s,baz=228,slow=12,SNR=7.9
BVA0 S Sn 01 43 16.9 -7.5
3.5nm,1.1s,baz=233,slow=24,SNR=6.0
BVA0 Borovoye Array 17.52 39 P **P 01 40 13.4 +2.4**
3.1nm,1.1s,baz=228,SNR=7.9
BVAR Borovoye Array 17.52 39 P **P 01 40 13.8 +2.9**
0.2nm,0.3s,baz=224,slow=10,SNR=8.6
VOSK Vostochnaya 17.63 41 ⇑P **P 01 40 14.5 +2.3**
3.0nm,1.4s
VOSK ⇑S Sn 01 43 17.5 -10
2.4nm,0.9s
AKASG Malin Array Be 18.78 310 P **P 01 40 23.5 -1.3**
0.8nm,0.3s,baz=113,slow=11,SNR=3.0
KURBB Kurchatov Arra 20.89 53 P Pn 01 40 51.4 +0.7
0.3nm,0.3s,baz=254,slow=11,SNR=4.1
MKAR Makanchi Array 22.58 64 P **P 01 41 10.0 +4.0**
0.3nm,0.7s,baz=261,slow=9.5,SNR=4.2
ZALV Zalesovo Beam 25.60 48 P **P 01 41 37.2 +3.0**
0.8nm,0.5s,baz=269,slow=11,SNR=4.5
FINES FINESS Array B 26.12 331 P **P 01 41 40.7 +1.8**
1.1nm,0.7s,baz=136,slow=13,SNR=6.2

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*ISCJB **15** 01:43:54.7±0.9, 4°.98N±0°.05×94°.75E±0°.07, h60km±9km, mb4.3/37, MS3.4/3, Error ellipse: s-maj=12.3km s-min=6.5km az=150.1*
*NEIC **15** 01:43:55.1±2.4, 5°.01N×94°.74E, h46km±10km, mb4.4/6, Error ellipse: s-maj=20.5km s-min=14.8km az=225.0*
NEIC Felt [III] at Banda Aceh.
*IDC **15** 01:43:55.3±0.7, 5°.07N×94°.77E, h46km±5km, mb4.0/17, mb1 4.1/20, mb1mx3.9/41, mbtmp4.3/20, MS3.3/6, Ms1 3.3/6, ms1mx2.9/36, Error ellipse: s-maj=26.1km s-min=9.2km az=45.0*
*DJA **15** 01:43:57.1±0.9, 5°N±4°×9°5E±°, h101km±11km, M4.6/10, mb4.7/4, mB5.1/4, MLv4.5/10, Mw(mB)4.5/4*
ISC 15 01:43:55.0±0.5, 4°.96N±0°.06×94°.65E±0°.07, h45km±5km, h45km:pP-P, n95, σ1s14/109, mb4.4/37, MS3.3/3, 11C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.31**	**83**	P	Pn	01 44 34.9	+4.4
LHMI S Sn 01 45 03.8 +6.1
LHMI Lhok Sumawe 2.31 83 *e*Pn **Pn 01 44 30.7 +0.2**
SNSI Sinabang, Aceh 3.04 146 P **Pn 01 44 40.2 -0.4**
SNSI S **Sn 01 45 15.7 0.0**
TPTI 3.04 124 P **Pn 01 44 40.7 +0.1**
TPTI S **Sn 01 45 18.5 +2.8**
KCSI Kotacane, Aceh 3.42 115 P **Pn 01 44 47.2 +1.3**
KCSI S **Sn 01 45 29.4 +4.1**
GSI Gunungsitoli 4.66 141 P **Pn 01 45 02.2 -0.7**
GSI S **Sn 01 45 55.5 -0.3**
GSI Gunungsitoli 4.66 141 *e*Pn **Pn 01 45 02.2 -0.7**
GSI *e*Sn **Sn 01 45 51.1 -4.7**
PSI Prapat 4.77 117 P **Pn 01 45 06.0 +1.4**
14nm,0.3s,baz=313,slow=9.1,SNR=36
PSI S **Sn 01 46 00.4 +1.7**
5.6nm,0.3s,baz=204,slow=20,SNR=3.6

PSI LR LR 01 47 18.7
comp=Z,395nm,19.0s,baz=298,slow=43
KULM Kulim 5.99 87 *e*Pn Pn 01 45 17.6 -3.6
IPM Ipoh 6.37 94 *e*Pn **Pn 01 45 26.0 -0.5**
MNSI Mandailing Nat 6.43 130 P **Pn 01 45 27.6 +0.4**
122nm,0.2s,9μm1.3nm
MNSI S **Sn 01 46 39.1 -0.2**
122nm,0.2s,9μm1.3nm
BKNI Bangkinang 7.87 126 P **Pn 01 45 48.3 +1.3**
BKNI Bangkinang 7.87 126 *e*Pn **Pn 01 45 48.0 +1.0**
PDSI Padang 8.23 135 P **Pn 01 45 52.0 +0.1**
CM31 Chiang Mai Arr 14.06 17 *e*Pn **Pn 01 47 11.7 0.0**
CM31 *e*PcP **PcP 01 52 32.6 +2.9**
CMAR Chiang Mai Arr 14.06 17 P **Pn 01 47 11.7 0.0**
0.8nm,0.3s,baz=207,slow=14,SNR=3.7
CMAR LR LR 01 52 32.6
comp=Z,55nm,19.4s,baz=194,slow=37
PALK Pallekele 14.06 280 P **Pn 01 47 13.6 +1.9**
2.3nm,0.3s,baz=105,slow=16,SNR=4.4
PALK S Sn 01 49 36.2 -10
3.5nm,0.3s,baz=158,slow=13,SNR=8.1
PALK LR LR 01 52 02.8
comp=Z,120nm,22.0s,baz=82,slow=34
PALK Pallekele 14.06 280 *e*Pn **Pn 01 47 14.2 +2.5**
PALK *e*Sn Sn 01 49 34.1 -12
RAMN Ramite 23.18 341 *e*P **P 01 48 57.6 -0.5**
TAPN Taplejung 23.23 344 *e*P **P 01 48 57.8 -0.9**
11nm,0.4s
JIRN Jiri 23.97 341 *e*P **P 01 49 04.8 -1.0**
12nm,0.5s
GUN Gumba 24.30 341 *e*P **P 01 49 07.4 -1.4**
16nm,0.5s
GKN Gorkha 24.82 339 *e*P **P 01 49 12.6 -0.7**
9.7nm,0.3s
KOLN Koldanda 25.01 336 *e*P **P 01 49 14.5 -0.5**
34nm,0.7s
H08S2 Diego Garcia H 25.41 241 T T 02 16 20.2
baz=61,slow=75,SNR=682
H08S3 Diego Garcia H 25.41 241 T T 02 16 24.3
baz=61,slow=75,SNR=618
H08S1 Diego Garcia H 25.42 241 T T 02 16 36.5
baz=61,slow=75,SNR=232
DANN Dangsing 25.46 337 *e*P **P 01 49 19.0 -0.2**
49nm,0.6s
UCH Uchtor 41.22 337 P **P 01 51 36.5 +0.5**
SNR=8.3
TKM2 Tokmak 2 41.41 339 P **P 01 51 37.7 +0.4**
SNR=5.2
TKM2 Tokmak 2 41.41 339 *e*P **P 01 51 37.5 +0.3**
7.6nm,1.4s
KBK Karagaybulak 41.42 338 P **P 01 51 38.4 +1.1**
SNR=7.4
AML Almayashu 41.45 336 P **P 01 51 38.3 +0.4**
SNR=10
AAK Ala-Archa 41.57 337 P **P 01 51 39.9 +1.4**
2.9nm,0.7s,baz=121,slow=5.9,SNR=13
AAK Ala-Archa 41.57 337 *e*P **P 01 51 39.5 +1.0**
4.1nm,0.8s
EKS2 Erkin-Say 41.87 337 P **P 01 51 41.9 +0.9**
SNR=6.4
EKS2 Erkin-Say 41.87 337 *e*P **P 01 51 40.8 -0.2**
3.7nm,0.6s
USP Ospenovka 42.11 338 P **P 01 51 43.5 +0.7**
SNR=7.3
MK01 Makanchi Array 43.00 348 *e*P **P 01 51 49.7 -0.2**
MK32 Makanchi Array 43.02 348 *e*P **P 01 51 50.0 -0.2**
MKAR Makanchi Array 43.02 348 P **P 01 51 50.0 -0.2**
0.5nm,0.4s,baz=169,slow=8.1,SNR=8.4
MKAR PcP **PcP 01 53 39.5 -0.2**
0.6nm,0.6s,baz=160,slow=4.9,SNR=2.3
KKAR Karatay Array 43.58 334 *e*P **P 01 51 55.0 +0.3**
SONA0 Songino Array 43.89 11 *e*P **P 01 51 55.6 -1.7**
SONA0 *e*pP **pP 01 52 07.2 -2.5**
SONM Songino Array 43.89 11 P **P 01 51 55.6 -1.7**
1.4nm,0.7s,baz=192,slow=8.0,SNR=14
SONM pP **pP 01 52 07.2 -2.5**
0.8nm,0.7s,baz=198,slow=8.1,SNR=3.8
SONM PcP **PcP 01 53 42.4 -0.5**
0.6nm,0.6s,baz=203,slow=2.7,SNR=3.7
WRA Warramunga Arr 46.20 124 P **P 01 52 15.6 -0.3**
4.7nm,0.8s,baz=302,slow=9.1,SNR=40
WRA pP **pP 01 52 27.5 -0.9**
7.3nm,0.7s,baz=302,slow=9.3,SNR=15
GEYT Alibeck 46.72 320 P **P 01 52 20.6 +0.8**
6.9nm,0.5s,baz=148,slow=8.8,SNR=27
GEYT LR LR 02 15 19.3
comp=Z,28nm,18.2s,baz=200,slow=40
KURBB Kurchatov Arra 47.48 346 P **P 01 52 25.4 0.0**
3.7nm,0.6s,baz=169,slow=7.0,SNR=31
KURK Kurchatov 47.54 346 *e*P **P 01 52 25.4 -0.5**
AS12 Alice Springs 47.69 128 *e*P **P 01 52 27.3 -0.2**
AS12 *e*pP **pP 01 52 39.9 -0.2**
ASAR Alice Springs 47.69 128 P **P 01 52 27.3 -0.2**
2.7nm,0.8s,baz=306,slow=8.0,SNR=37
ASAR pP **pP 01 52 39.9 -0.2**
2.9nm,0.4s,baz=301,slow=7.7,SNR=14
AS01 Alice Springs 47.73 128 *e*P **P 01 52 27.7 -0.1**
ZAA0 Zalesovo Array 49.49 352 *e*P **P 01 52 40.3 -0.5**
ZALV Zalesovo Beam 49.49 352 P **P 01 52 40.2 -0.6**
4.6nm,0.5s,baz=182,slow=7.7,SNR=30
ZALV pP **pP 01 52 52.9 -0.6**
1.4nm,0.3s,baz=186,slow=7.2,SNR=5.6
ZALV LR LR 02 15 18.2
comp=Z,27nm,19.1s,baz=252,slow=38
ZAA1 Zalesovo Array 49.50 352 *e*P **P 01 52 40.2 -0.6**
ZAA1 *e*pP **pP 01 52 52.9 -0.6**
RAYN Ar Rayn 50.78 296 *e*P **P 01 52 52.3 +1.1**
13nm,1.6s
VOSK Vostochnaya 51.45 342 *e*P **P 01 52 55.6 0.0**
6.5nm,0.7s
BRVK Borovoye 51.96 342 *e*P **P 01 52 57.7 -1.7**
4.1nm,0.7s
AKTO Aktyubinsk 54.74 332 P **P 01 53 19.4 -0.4**
2.3nm,0.6s,baz=114,slow=8.5,SNR=13
STKA Stephens Creek 57.76 133 P **P 01 53 41.4 -0.3**
0.5nm,0.3s,baz=303,slow=7.6,SNR=4.3
STKA LR LR 02 21 55.5
comp=Z,47nm,18.3s,baz=22,slow=40
BRTR Keskin Array B 64.72 312 P **P 01 54 28.4 -0.5**
1.9nm,0.6s,baz=129,slow=7.3,SNR=20
ISP Isparta 66.63 309 ⇓*i*P **P 01 54 41.8 +0.6**
AKASG Malin Array Be 70.75 322 P **P 01 55 05.2 -1.3**
1.3nm,0.5s,baz=96,slow=4.9,SNR=5.7
VRI Vrincioaia 71.15 317 ⇑*i*P **P 01 55 09.7 +0.6**
PLOR Plostina 71.20 317 ⇑*i*P **P 01 55 09.8 +0.4**
TESR Tescani 71.35 317 ⇑*i*P **P 01 55 10.3 +0.1**
MLR Muntele Rosu 71.61 316 ⇑*i*P **P 01 55 12.0 0.0**
VOIR 72.21 316 ⇓*i*P **P 01 55 15.2 -0.4**
ARR Arges 72.49 316 ⇑*i*P **P 01 55 16.9 -0.3**
BURAR Bucovina Array 72.54 318 ⇑*i*P **P 01 55 18.1 +0.6**
VTS Vitosha 73.02 313 ⇑*i*P **P 01 55 20.2 -0.3**
JOF Joensuu 73.68 335 *e*p **P 01 55 22.4 -1.4**
0.8nm,0.5s
FINES FINESS Array B 75.51 332 P **P 01 55 33.7 -0.7**
0.8nm,0.3s,baz=113,slow=6.0,SNR=22
FINES pP **pP 01 55 48.1 +0.4**
1.1nm,0.6s,baz=104,slow=5.9,SNR=2.5
KAF Kangasniemi 75.60 333 *e*p P 01 55 31.4 -3.5
0.5nm,0.4s
MORC Moravsky Berou 77.91 320 ⇑*i*P **P 01 55 48.9 +0.6**
ARCES ARCESS Array B 78.16 340 P **P 01 55 49.1 -0.2**
2.0nm,0.8s,baz=94,slow=6.4,SNR=11
ARCES pP **pP 01 56 02.6 0.0**
0.6nm,0.3s,baz=98,slow=6.5,SNR=1.6
SOKA Soboth 79.29 316 ⇑*i*P **P 01 55 56.7 +0.7**
3.0nm,0.7s
GERES GERESS Array B 80.33 319 P **P 01 56 02.3 +0.7**
3.1nm,0.6s,baz=86,slow=5.5,SNR=16
MOTA Moosalm 82.00 317 ⇓*i*P **P 01 56 10.0 -0.6**
3.4nm,0.7s
RETA Reutte 82.24 317 ⇑*i*P **P 01 56 11.5 -0.2**
4.4nm,0.5s
FETA Feichten 82.25 317 ⇑*i*P **P 01 56 11.9 0.0**
2.8nm,0.7s
KEST Kesra 83.32 305 P **P 01 56 19.1 +1.5**
1.0nm,0.6s,baz=21,slow=4.9,SNR=5.5
HINF Hinteralfeld 84.88 317 *e*P **P 01 56 23.9 -1.3**
1.9nm,0.5s
LPG La Plagne 85.02 315 *e*P **P 01 56 25.9 -0.4**
4.3nm,0.8s
LPL La Plagne 85.04 315 *e*P **P 01 56 26.0 -0.3**
7.8nm,0.8s
HAU Haudompre 85.21 318 *e*P **P 01 56 26.0 -0.9**
5.9nm,0.6s
CABF La Chapelle 85.44 316 *e*P **P 01 56 27.7 -0.4**
3.2nm,0.6s
ORIF Oris-en-Rattie 85.66 315 *e*P **P 01 56 29.1 -0.2**

SFTF Sexfontaines 86.08 318 *e*P **P 01 56 30.3 -0.9**
4.7nm,0.5s
BAIF Baives 86.52 320 *e*P **P 01 56 32.9 -0.3**
2.3nm,0.5s
LOR Lormes 86.93 317 *e*P **P 01 56 34.6 -0.8**
3.7nm,0.7s
SMF Signal de Mont 86.99 316 *e*P **P 01 56 34.9 -0.8**
5.8nm,0.8s
TCF Toulx Ste Croi 88.14 316 *e*P **P 01 56 40.2 -1.0**
FLN La Foliniere 89.69 319 *e*P **P 01 56 47.2 -1.2**
EPF Esparros 89.80 313 *e*P **P 01 56 48.3 -0.8**
ESDC Sonseca Array 93.47 310 P **P 01 57 06.3 +0.1**
0.2nm,0.5s,baz=67,slow=4.0,SNR=4.1
ESDC pP **pP 01 57 21.9 +2.1**
0.2nm,0.5s,baz=75,slow=4.4,SNR=2.6

IDC 15 01:56:24.1±2.4, 14°.17S×175°.81W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.7/45, mbtmp4.1/4, Error ellipse: s-maj=186.9km s-min=29.3km az=147.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.67**	**238**	P	P	02 04 22.8	0.0
	1.4nm,0.4s,baz=64,slow=6.8,SNR=7.0						
WRA	**Warramunga Arr**	**47.87**	**256**	P	P	02 05 04.1	-0.2
	0.6nm,0.5s,baz=89,slow=6.6,SNR=9.2						
ASAR	**Alice Springs**	**48.29**	**251**	P	P	02 05 07.3	-0.2
	9.5nm,0.6s,baz=85,slow=8.4,SNR=89						
NVAR	**Mina Array Bea**	**75.01**	**43**	P	P	02 08 07.9	0.0
	0.1nm,0.4s,baz=231,slow=5.7,SNR=4.1						

ISCJB ***15*** *01:58:12.0±0.5, 35°.16S±0°.03×72°.61W±0°.05, h10km, mb4.4/25, MS3.7/10, Error ellipse: s-maj=6.6km s-min=4.7km az=161.0*
NEIC ***15*** *01:58:16.5, 35°.10S×72°.33W, h12km, mb4.9/15, ML4.8(GUC), After GUC.*
NEIC Felt [III] at Rancagua, San Fernando and Talca; [II] at Cauquenes, Linares, Longavi, Parral, Retiro, San Clemente and San Javier.
IDC ***15*** *01:58:16.6±0.5, 35°.09S×72°.41W, h31km±3km, mb4.0/12, mb1 4.1/14, mb1mx3.9/37, mbtmp4.2/14, ML3.5/2, MS3.7/11, Ms1 3.7/11, ms1mx3.5/21, Error ellipse: s-maj=19.7km s-min=13.9km az=66.0*
GUC ***15*** *01:58:16.5±0.7, 35°.10S×72°.33W, h12km±5km, ML4.8*
ISC 15 01:58:15.9±0.5, 35°.08S±0°.03×72°.32W±0°.06, h18km, n65, σ1$57/65, mb4.6/25, MS3.8/10, 8C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.65**	**120**	⇓*i*P	**Pg**	**01 58 29.0**	**+0.3**
TALC				*i* S	**Sg**	**01 58 37.9**	**+0.5**
TALC				AML	AML	01 58 38.9	
	comp=N,96μm,0.1s						
TALC	**Talca**	**0.65**	**120**	⇓*i*P	**Pg**	**01 58 29.0**	**+0.3**
TALC				*i* S	**Sg**	**01 58 37.9**	**+0.5**
LNCH	**Linares**	**0.97**	**143**	⇓*i*P	**Pb**	**01 58 34.0**	**-0.1**
LNCH				*i* S	**Sb**	**01 58 46.7**	**+0.1**
LNCH				AML	AML	01 58 53.3	
	comp=N,96μm,0.4s						
LNCH	**Linares**	**0.97**	**143**	⇓*i*P	**Pb**	**01 58 34.0**	**-0.1**
LNCH				*i* S	**Sb**	**01 58 46.7**	**+0.1**
LNV	**Longovilo**	**1.35**	**34**	⇑*i*P	**Pn**	**01 58 40.2**	**+0.4**
LNV	**Longovilo**	**1.35**	**34**	⇑*i*P	**Pn**	**01 58 40.2**	**+0.4**
CACH	**El Canelo**	**1.71**	**57**	⇓*i*P	**Pn**	**01 58 46.2**	**+1.3**
CACH	**El Canelo**	**1.71**	**57**	⇓*i*P	**Pn**	**01 58 46.2**	**+1.3**
CHCH	**Chadas Angostu**	**1.79**	**51**	⇑*i*P	**Pb**	**01 58 47.5**	**-0.6**
CHCH	**Chadas Angostu**	**1.79**	**51**	⇑*i*P	**Pb**	**01 58 47.5**	**-0.6**
IHA	**Instituto Hidr**	**2.12**	**16**	⇑*i*P	**Pn**	**01 58 51.0**	**+0.5**
IHA				*i* S1	**Sb**	**01 59 18.9**	**-0.9**
IHA	**Instituto Hidr**	**2.12**	**16**	⇑*i*P	**Pn**	**01 58 51.0**	**+0.5**
IHA				*i* S	**Sb**	**01 59 18.9**	**-0.9**
CLCH	**Cerro Calan**	**2.23**	**42**	AML	AML	01 59 35.3	
	comp=N,11μm,0.6s						
PEL	**Peldehue**	**2.36**	**36**	⇑*i*P	**Pn**	**01 58 56.1**	**+2.4**
PEL				*i* S1	**Sb**	**01 59 26.8**	**+0.1**
PEL				AML	AML	01 59 39.9	
	comp=N,7μm,0.5s						
PEL	**Peldehue**	**2.36**	**36**	⇑*i*P	**Pn**	**01 58 56.1**	**+2.4**
PEL				*i* S	**Sb**	**01 59 26.8**	**+0.1**
FCH	**Farellones**	**2.42**	**45**	AML	AML	01 59 37.6	
	comp=N,4μm,0.4s						
CFAA	**Coronel Fontan**	**4.87**	**46**	Pn	**Pn**	**01 59 30.1**	**+1.9**
	comp=N,0.6nm,0.3s,baz=196,slow=13,SNR=35						
CFAA				Sn	**Sb**	**02 00 34.9**	**-3.9**
	comp=N,1.6nm,0.3s,baz=148,slow=19,SNR=2.6						
CFAA				LR	LR	02 01 33.7	
	comp=N,112nm,19.8s,baz=226,slow=40						
LCO	**Las Campanas**	**6.20**	**13**	*e*Pn	**Pn**	**01 59 46.5**	**-0.3**
LCO				*e*S	**Sn**	**02 00 59.5**	**+2.1**
TRQA	**Tornquist**	**8.84**	**113**	*e*Pn	**Pn**	**02 00 23.1**	**+0.4**
LVC	**Limon Verde**	**12.77**	**14**	*e*Pn	**Pn**	**02 01 17.5**	**+0.6**
LPAZ	**La Paz**	**19.08**	**12**	P	**Pn**	**02 02 40.0**	**+1.0**
	comp=N,0.3nm,0.3s,baz=178,slow=10,SNR=21						
LPAZ	**La Paz**	**19.08**	**12**	*e*P	**Pn**	**02 02 40.3**	**+1.2**
	comp=N,7.2nm,0.8s						
USHA	**Ushuaia**	**19.94**	**173**	P	**P**	**02 02 44.7**	**-1.9**
	comp=N,0.5nm,0.3s,baz=343,slow=11,SNR=4.6						
SIV	**San Ignacio**	**21.51**	**31**	P	**P**	**02 03 03.4**	**-0.6**
	comp=N,22nm,0.8s,baz=207,slow=10.0,SNR=61						
SIV				LR	LR	02 13 14.9	
	comp=N,220nm,19.1s,baz=240,slow=42						
NNA	**Nana**	**23.35**	**349**	LR	LR	02 11 02.5	
	comp=N,82nm,18.1s,baz=168,slow=33						
SAML	**Samuel**	**27.32**	**20**	*e*P	**P**	**02 04 04.1**	**+4.3**
	comp=N,1.0nm,0.6s						
ATAH	**Atahualpa**	**28.36**	**347**	LR	LR	02 13 38.0	
	comp=N,66nm,19.6s,baz=192,slow=32						
BDFB	**Brasilia**	**29.14**	**55**	P	**P**	**02 04 14.9**	**-1.2**
	comp=N,4.1nm,0.7s,baz=214,slow=9.5,SNR=5.9						
BDFB				LR	LR	02 16 58.2	
	comp=N,239nm,21.5s,baz=216,slow=38						
PMSA	**Palmer Station**	**30.15**	**173**	LR	LR	02 14 45.2	
	comp=N,158nm,20.1s,baz=42,slow=33						
RPN	**Rapa Nui**	**32.52**	**274**	LR	LR	02 14 33.3	
	comp=N,240nm,20.4s,baz=123,slow=30						
SDV	**Santo Domingo**	**43.75**	**2**	*e*P	**P**	**02 06 20.6**	**0.0**
	comp=N,4.0nm,0.8s						
SNAA	**Sanae**	**50.68**	**157**	P	**P**	**02 07 12.8**	**-1.0**
	comp=N,4.4nm,0.8s,baz=266,slow=8.2,SNR=12						
SNAA	**Sanae**	**50.68**	**157**	*e*P	**P**	**02 07 13.3**	**-0.5**
	comp=N,10nm,0.8s						
QSPA	**South Pole Qui**	**55.16**	**180**	P	**P**	**02 07 46.8**	**-0.3**
	comp=N,3.3nm,0.7s,baz=164,slow=7.4,SNR=17						
QSPA	**South Pole Qui**	**55.16**	**180**	*e*P	**P**	**02 07 46.8**	**-0.3**
	comp=N,8.2nm,0.9s						
JCT	**Junction City**	**70.16**	**335**	*e*P	P	02 09 36.6	+9.3
	comp=N,7.1nm,0.9s						
TXAR	**Lajitas Array**	**70.56**	**331**	P	**P**	**02 09 30.0**	**+0.1**
	comp=N,0.5nm,0.5s,baz=154,slow=7.8,SNR=12						
TXAR				pP	**pP**	**02 09 38.4**	**+2.6**
	comp=N,2.1nm,0.6s,baz=144,slow=7.8,SNR=18						
TXAR				LR	LR	02 35 27.4	
	comp=N,83nm,19.8s,baz=0.0,slow=32						
TKL	**Tuckaleechee C**	**71.18**	**350**	P	**P**	**02 09 31.3**	**-2.1**
	comp=N,2.7nm,0.9s,baz=153,slow=4.5,SNR=2.0						
MAW	**Mawson**	**72.22**	**164**	LR	LR	02 39 54.9	
	comp=N,123nm,21.8s,baz=246,slow=35						
WVT	**Waverly**	**72.30**	**347**	*e*P	**P**	**02 09 39.6**	**-0.5**
	comp=N,20nm,1.2s						
MSTX	**Muleshoe**	**74.37**	**334**	*e*P	P	02 10 01.7	+9.2
	comp=N,10nm,1.0s						
DBIC	**Dimbokro**	**75.75**	**71**	P	**P**	**02 10 00.3**	**-0.5**
	comp=N,11nm,0.7s,baz=225,slow=6.4,SNR=15						
DBIC	**Dimbokro**	**75.75**	**71**	*e*P	**P**	**02 10 00.2**	**-0.6**
	comp=N,10nm,0.7s						
ANMO	**Albuquerque**	**76.62**	**332**	P	**P**	**02 10 03.5**	**-2.0**
	comp=N,0.4nm,0.6s,baz=72,slow=6.4,SNR=4.0						
ANMO				pP	**PcP**	**02 10 15.2**	**-1.7**
	comp=N,2.3nm,0.9s,baz=141,slow=6.5,SNR=6.5						
BOSA	**Boshof**	**79.78**	**118**	P	**P**	**02 10 22.6**	**-0.8**
	comp=N,14nm,0.5s,baz=242,slow=3.4,SNR=51						
BOSA				pP	**PcP**	**02 10 32.1**	**+1.1**
	comp=N,8.0nm,0.5s,baz=243,slow=4.3,SNR=5.8						
BOSA				LR	LR	02 45 41.6	
	comp=N,50nm,18.3s,baz=177,slow=36						
ECSD	**EROS Data Cent**	**81.50**	**342**	*e*P	**P**	**02 10 33.0**	**+1.2**
	comp=N,8.2nm,1.0s						
SRU	**San Rafael Swe**	**81.83**	**331**	*e*P	P	02 10 43.7	+10
	comp=N,63nm,2.8s						
LBTB	**Lobatse**	**82.06**	**115**	*e*P	**P**	**02 10 35.0**	**-0.6**
	comp=N,43nm,1.8s						
HWUT	**Hardware Ranch**	**84.38**	**332**	*e*P	P	02 10 55.6	+8.5
	comp=N,4.7nm,0.9s						
PDAR	**Pinedale Array**	**84.62**	**333**	P	**P**	**02 10 46.0**	**-2.3**
	comp=N,0.3nm,0.8s,baz=134,slow=6.4,SNR=2.2						
PDAR				pP	**pP**	**02 10 56.2**	**+1.9**
	comp=N,1.0nm,0.8s,baz=146,slow=5.2,SNR=5.9						
NVAR	**Mina Array Bea**	**84.63**	**325**	P	**P**	**02 10 46.8**	**-1.6**
	comp=N,0.3nm,0.6s,baz=198,slow=5.7,SNR=2.9						
NVAR				pP	**pP**	**02 10 58.0**	**+3.6**
	comp=N,1.0nm,0.7s,baz=155,slow=5.9,SNR=6.9						
TORD	**Torodi Ar. Bea**	**84.80**	**70**	P	**P**	**02 10 48.5**	**-1.1**
	comp=N,2.6nm,0.8s,baz=254,slow=8.4,SNR=39						
TORD				pP	**pP**	**02 10 58.4**	**+2.9**
	comp=N,3.2nm,0.8s,baz=240,slow=4.8,SNR=6.9						
TORD				LR	LR	02 46 24.9	
	comp=N,51nm,19.5s,baz=285,slow=34						
ELK	**Elko**	**85.16**	**329**	P	**P**	**02 10 49.5**	**-1.6**
	comp=N,0.5nm,0.7s,baz=177,slow=8.0,SNR=2.4						
ELK				pP	**pP**	**02 10 58.7**	**+1.6**
	comp=N,0.8nm,0.8s,baz=150,slow=8.1,SNR=2.7						
FLWY	**Flagg Ranch**	**86.17**	**333**	*e*P	P	02 11 04.5	+8.6
	comp=N,19nm,1.7s						
MCMT	**McKenzie Canyo**	**87.61**	**332**	P	**P**	**02 11 03.7**	**+0.7**
	comp=N,1.5nm,0.8s						
MOD	**Modoc Plateau**	**88.33**	**326**	*e*P	P	02 11 15.8	+9.4
	comp=N,47nm,2.7s						
WRA	**Warramunga Arr**	**119.71**	**209**	PKP	**PKPdf**	**02 17 02.6**	**-2.8**
	comp=N,0.3nm,0.8s,baz=152,slow=1.7,SNR=4.6						
WRA				pPKP	**pPKPdf**	**02 17 12.3**	**+0.7**
	comp=N,0.4nm,0.6s,baz=168,slow=1.7,SNR=2.5						
BRTR	**Keskin Array B**	**122.56**	**62**	PKP	**PKPdf**	**02 17 08.7**	**-1.6**
	comp=N,0.7nm,0.9s,baz=270,slow=0.3,SNR=5.5						
BRTR				pPKP	**pPKPdf**	**02 17 19.5**	**+3.0**
	comp=N,0.4nm,0.7s,baz=204,slow=3.2,SNR=3.4						
H11S2	**WAKE ISLAND Hyl**	**25.52**	**269**	T	T	04 35 19.9	
	baz=118						
H11S1	**WAKE ISLAND Hyl**	**25.53**	**269**	T	T	04 35 23.4	
	baz=118						
H11S3	**WAKE ISLAND Hyl**	**25.53**	**269**	T	T	04 35 21.4	
	baz=118						
H11N3	**WAKE ISLAND Hyl**	**25.95**	**270**	T	T	04 35 45.3	
	baz=122						
H11N1	**WAKE ISLAND Hyl**	**25.97**	**270**	T	T	04 35 46.2	
	baz=122						
H11N2	**WAKE ISLAND Hyl**	**25.97**	**270**	T	T	04 35 51.2	
	baz=122						
EKS2	**Erkin-Say**	**152.68**	**64**	*e*PKPbc	**PKPbc**	**02 18 11.1**	**-0.4**

IDC 15 02:07:20.7±8.3, 19°.14S×168°.80E, h120km±55km, mb3.6/3, mb1 3.7/4, mb1mx3.3/36, mbtmp3.9/4, Error ellipse: s-maj=126.7km s-min=62.7km az=118.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.66**	**217**	P	Pn	02 08 16.0	+0.2
	2.0nm,0.3s,baz=329,slow=23,SNR=12						
DZM				S	Sn	02 08 58.7	+0.2
	5.9nm,0.3s,baz=135,slow=22,SNR=12						
STKA	**Stephens Creek**	**27.55**	**237**	P	P	02 12 56.8	+0.4
	1.3nm,0.5s,baz=78,slow=9.1,SNR=8.0						
WRA	**Warramunga Arr**	**32.45**	**263**	P	P	02 13 39.3	-0.5
	0.4nm,0.5s,baz=96,slow=6.6,SNR=7.4						
ASAR	**Alice Springs**	**32.75**	**256**	P	P	02 13 42.4	0.0
	1.8nm,0.5s,baz=84,slow=8.9,SNR=30						

NIED ***15*** *02:10:00, 28°.80N×128°.30E, h5km, Mw4.4 Best double couple: M0:5.16000×10^15 NP1:φ1=254.00000°, δ23.00000°, λ-115.00000°. NP2:φ2=100.00000°, δ69.00000°, λ-80.00000°.*
JMA ***15*** *02:10:45.6±0.2, 28°.81N×128°.33E, h26km, M3.7*
ISCJB ***15*** *02:10:46.9±0.8, 28°.76N±0°.03×128°.42E±0°.05, h28km±6km, mb4.3/27, MS3.7/10, Error ellipse: s-maj=6.6km s-min=5.2km az=178.3*
NEIC ***15*** *02:10:51.5±0.9, 28°.71N×128°.50E, h56km±8km, mb4.6/9, MW4.4(NIED), Error ellipse: s-maj=12.3km s-min=8.3km az=115.0*
IDC ***15*** *02:10:51.7±3.2, 28°.82N×128°.50E, h55km±29km, mb3.9/18, mb1 4.1/20, mb1mx3.9/31, mbtmp4.2/20, ML3.1/2, MS3.6/15, Ms1 3.7/15, ms1mx3.4/37, Error ellipse: s-maj=20.3km s-min=13.3km az=69.0*
ISC 15 02:10:48.9±1.3, 28°.76N±0°.04×128°.54E±0°.06, h31km±10km, n58, σ1$05/54, mb4.3/27, MS3.7/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.70**	**56**	P	**Pb**	**02 11 01.2**	**-1.5**
JTAJ				*e*S	**Sb**	**02 11 11.7**	**-0.4**
JAMN	**Amaminishikomi**	**0.77**	**132**	P	**Pb**	**02 11 02.9**	**-0.8**
JAMN				*e*S	**Sb**	**02 11 15.2**	**+1.4**
JAM	**Amami Oshima**	**1.00**	**110**	P	**Pn**	**02 11 06.7**	**-0.1**
JAM				*e*S	**Sb**	**02 11 21.8**	**+1.2**
JTK	**Tokunoshima**	**1.04**	**159**	P	**Pn**	**02 11 05.8**	**-1.5**
JTK				*e*S	**Sn**	**02 11 20.8**	**0.0**
JZK	**Kikaishima**	**1.34**	**109**	P	**Pn**	**02 11 12.4**	**+0.9**
JOKE	**Okinoerabujima**	**1.40**	**179**	P	**Pn**	**02 11 10.6**	**-1.6**
JIH	**Iheya**	**1.79**	**196**	P	**Pn**	**02 11 15.9**	**-1.8**
JOW	**Kunigami**	**1.94**	**187**	P	**Pn**	**02 11 18.3**	**-1.4**
JOW	**Kunigami**	**1.94**	**187**	*e*Pn	**Pn**	**02 11 18.0**	**-1.7**
JOW				*e*S	**Sb**	**02 11 48.1**	**+0.9**
JYAK	**Yakushimahirau**	**2.26**	**49**	P	**Pn**	**02 11 25.3**	**+1.1**
JNTH	**Nagotoyohara**	**2.28**	**192**	P	**Pn**	**02 11 23.3**	**-1.1**
JAGN	**Aguni-jima**	**2.45**	**208**	P	**Pn**	**02 11 24.8**	**-1.9**
JNU	**Nakatsue**	**4.79**	**24**	P	Pn	02 12 04.2	+5.3
	1.9nm,0.3s,baz=180,slow=11,SNR=13						
JNU				LR	LR	02 14 02.6	
	comp=Z,950nm,18.4s,baz=224,slow=40						
JNU	**Nakatsue**	**4.79**	**24**	*e*Pn	Pn	02 12 04.4	+5.4
TATO	**Taipei**	**7.34**	**241**	*e*Pn	Pn	02 12 38.1	+4.2
YHNB	**Yeheng**	**7.59**	**239**	*e*Pn	Pn	02 12 41.5	+4.1
NACB	**Ninganchiao**	**7.72**	**235**	*e*Pn	**Pn**	**02 12 41.0**	**+1.9**
SSLB	**Suanglung**	**8.41**	**236**	*e*Pn	**Pn**	**02 12 49.1**	**+0.4**
YULB	**Yu-li**	**8.42**	**232**	*e*Pn	**Pn**	**02 12 47.5**	**-1.3**
KSAR	**Wonju Array Be**	**8.67**	**357**	P	**Pn**	**02 12 53.3**	**+1.1**
KSRS	**Korea Array**	**8.68**	**357**	P	**Pn**	**02 12 53.3**	**+1.0**
	0.1nm,0.3s,baz=168,slow=12,SNR=9.2						
KSRS				LR	LR	02 16 19.0	
	comp=Z,508nm,19.1s,baz=174,slow=38						
MJAR	**Matsushiro Arr**	**11.25**	**44**	P	Pn	02 13 30.6	+3.1
	0.4nm,0.3s,baz=247,slow=8.2,SNR=5.4						
MJAR				LR	LR	02 18 15.5	
	comp=Z,244nm,19.4s,baz=230,slow=40						
USRK	**Uss

18nm,1.4s
ASAR Alice Springs 52.38 174 P P 02 19 58.6 +0.4
2.6nm,0.9s,baz=356,slow=6.2,SNR=19
ASAR PcP **PcP 02 21 09.4 +0.4**
1.1nm,0.7s,baz=354,slow=3.4,SNR=5.9
ABKAR Akbulak array 55.14 312 *e*P **P 02 20 17.9 -0.3**
0.6nm,0.4s
ARU Arti 55.59 321 *e*P **P 02 20 21.5 +0.1**
6.4nm,1.0s
GEYT Alibeck 58.28 299 P P 02 20 41.5 +0.7
2.0nm,0.7s,baz=42,slow=4.5,SNR=4.8
STKA Stephens Creek 61.57 167 P P 02 21 03.2 +0.1
1.9nm,0.9s,baz=44,slow=5.6,SNR=3.8
ILAR Eielson Array 62.09 29 P P 02 21 05.5 -0.9
0.6nm,0.8s,baz=293,slow=9.5,SNR=8.1
ILAR LR 02 49 41.7
comp=Z,34nm,18.4s,baz=118,slow=38
ARCES ARCESS Array B 67.76 338 LR LR 02 55 49.0
comp=Z,40nm,18.8s,baz=36,slow=40
KBZ Khabaz 67.78 309 P P 02 21 45.1 +1.4
2.2nm,0.8s,baz=90,slow=5.3,SNR=6.6
FINES FINESS Array B 70.80 330 P P 02 22 01.2 -0.8
1.2nm,0.6s,baz=102,slow=4.7,SNR=6.6
FINES LR LR 02 55 47.4
comp=Z,82nm,20.0s,baz=96,slow=38
RES Resolute Bay 73.02 11 P P 02 22 14.9 -0.2
1.6nm,0.7s,baz=305,slow=6.6,SNR=9.7
AKASG Malin Array Be 73.79 319 LR LR 02 57 35.0
comp=Z,95nm,18.9s,baz=55,slow=38
BRTR Keskin Array B 75.70 308 P P 02 22 30.2 -1.4
0.7nm,0.7s,baz=90,slow=5.3,SNR=7.2
YKA Yellowknife Ar 76.13 25 P P 02 22 34.0 +0.6
1.6nm,0.9s,baz=301,slow=5.8,SNR=19
YKA Yellowknife Ar 76.13 25 P P 02 22 34.0 +0.6
NOA NORSAR Array B 77.17 334 P P 02 22 37.6 -1.8
1.3nm,0.8s,baz=54,slow=5.7,SNR=3.5
NOA LR LR 02 59 17.8
comp=Z,26nm,19.2s,baz=35,slow=38
GERES GERESS Array B 83.35 323 LR LR 03 02 52.7
comp=Z,61nm,18.8s,baz=58,slow=38
FRB Frobisher Bay 86.82 8 P P 02 23 28.9 -1.0
2.8nm,0.8s,baz=353,slow=6.4,SNR=8.4
PDAR Pinedale Array 91.02 39 P P 02 23 51.5 +0.9
0.4nm,0.7s,baz=340,slow=4.8,SNR=3.8
ULM Lac du Bonnet 92.04 27 P P 02 23 54.5 -0.3
2.0nm,0.6s,baz=308,slow=2.8,SNR=4.8
ESDC Sonseca Array 98.82 325 LR LR 03 11 33.4
comp=Z,24nm,21.6s,baz=325,slow=37

ISCJB ***15*** *02:15:36.6±0.5,28°.79N±0°.04×128°.30E±0°.05,h10km, mb3.7/10,Error ellipse: s-maj=7.1km s-min=5.6km az=140.4*
JMA ***15*** *02:15:36.7±0.2,28°.80N×128°.28E,h15km,M3.3*
IDC ***15*** *02:15:47.1±3.8,28°.75N×128°.44E,h89km±36km,mb3.4/10, mb1 3.5/11,mb1mx3.4/35,mbtmp3.7/11,Error ellipse: s-maj=26.0km s-min=17.5km az=64.0*
ISC 15 02:15:37.8±0.7,28°.77N±0°.05×128°.39E±0°.06,h10km,n19, σ19°00/20,mb3.8/10,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.81**	**62**	P	**Pg**	**02 15 53.3**	**-0.2**
JTAJ				*e*S	**Sg**	**02 16 04.9**	**+0.8**
JAMN	**Amaminishikomi**	**0.87**	**127**	P	**Pg**	**02 15 54.6**	**+0.1**
JAMN				*e*S	**Sg**	**02 16 07.9**	**+2.0**
JTK	**Tokunoshima**	**1.10**	**153**	P	**Pb**	**02 15 57.8**	**-1.1**
JTK				*e*S	**Sb**	**02 16 13.7**	**+0.5**
JAM	**Amami Oshima**	**1.13**	**108**	P	**Pn**	**02 15 58.8**	**-0.8**
JOKE	**Okinoerabujima**	**1.41**	**173**	P	**Pn**	**02 16 02.7**	**-0.8**
JIH	**Iheya**	**1.77**	**192**	P	**Pn**	**02 16 08.1**	**-0.3**
JOW	**Kunigami**	**1.93**	**183**	P	**Pn**	**02 16 10.3**	**-0.4**
JOW	**Kunigami**	**1.93**	**183**	LR	LR	02 17 14.6	
	comp=Z,150nm,21.4s,slow=46						
JNU	**Nakatsue**	**4.84**	**26**	P	Pb	02 16 57.1	-5.5
	1.1nm,0.3s,baz=171,slow=13,SNR=5.0						
SONM	**Songino Array**	**25.54**	**324**	P	**P**	**02 21 08.8**	**+2.1**
	4.1nm,1.2s,baz=136,slow=9.0,SNR=12						
MKAR	**Makanchi Array**	**39.99**	**310**	P	**P**	**02 23 13.4**	**+0.8**
	1.2nm,0.8s,baz=89,slow=10,SNR=8.7						
ZALV	**Zalesovo Beam**	**40.34**	**321**	P	**P**	**02 23 15.9**	**+0.5**
	1.0nm,0.5s,baz=124,slow=8.7,SNR=4.0						
KURBB	**Kurchatov Arra**	**43.15**	**315**	P	**P**	**02 23 39.4**	**+1.0**
	1.2nm,0.5s,baz=103,slow=8.7,SNR=10						
WRA	**Warramunga Arr**	**48.77**	**173**	P	**P**	**02 24 22.9**	**0.0**
	1.0nm,0.7s,baz=354,slow=8.4,SNR=7.4						
ASAR	**Alice Springs**	**52.40**	**174**	P	**P**	**02 24 50.3**	**-0.1**
	0.2nm,0.5s,baz=352,slow=5.6,SNR=4.0						
GEYT	**Alibeck**	**58.17**	**299**	P	**P**	**02 25 31.4**	**-0.6**
	0.7nm,0.5s,baz=66,slow=3.6,SNR=3.0						
ILAR	**Eielson Array**	**62.15**	**29**	P	**P**	**02 25 57.7**	**-1.1**
	0.1nm,0.5s,baz=283,slow=7.0,SNR=3.1						
FINES	**FINESS Array B**	**70.73**	**330**	P	**P**	**02 26 52.9**	**-0.8**
	1.3nm,0.9s,baz=76,slow=5.9,SNR=6.4						
YKA	**Yellowknife Ar**	**76.18**	**25**	P	**P**	**02 27 26.4**	**+0.6**
	0.2nm,0.5s,baz=308,slow=6.0,SNR=6.1						

ISCJB ***15*** *02:34:34.4±0.4,51°.86N±0°.09×177°.16W±0°.04,h90km±4km, mb3.9/8,Error ellipse: s-maj=15.5km s-min=4.0km az=173.8*
IDC ***15*** *02:34:34.6±0.7,51°.79N×177°.12W,h79km±5km,mb3.5/9, mb1 3.9/11,mb1mx3.5/31,mbtmp3.9/11,Error ellipse: s-maj=20.5km s-min=12.0km az=0.0*
NEIC ***15*** *02:34:36.5,51°.72N×177°.14W,h69km,ML4.1(AEIC),After AEIC.*
ISC 15 02:34:34.6±0.6,51°.7N±0°.1×177°.12W±0°.03,h79km±4km, n38,σ09°92/49,mb3.9/8,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.31**	**61**	P	**Pn**	**02 34 46.3**	**-0.5**
ADK				S	**Sn**	**02 34 56.0**	**+0.2**
KOWE	**Korovin West**	**1.88**	**69**	P	**Pn**	**02 35 06.1**	**+1.2**
KOKL	**Mount Kliuchef**	**1.90**	**71**	P	**Pn**	**02 35 06.3**	**+1.2**
KOKL				S	**Sn**	**02 35 29.0**	**+0.7**
KOKV	**Korovin Volcan**	**1.93**	**70**	P	**Pn**	**02 35 06.0**	**+0.4**
KOFP	**Korovin Flat P**	**1.95**	**73**	P	**Pn**	**02 35 07.0**	**+1.3**
CERAA	**Semis' Rag'd T**	**1.99**	**276**	P	**Pn**	**02 35 07.0**	**+0.8**
CERAA				S	**Sn**	**02 35 30.5**	**+0.1**
CEAP	**Semis' Anvil P**	**2.06**	**279**	P	**Pn**	**02 35 08.3**	**+1.0**
CESW	**Semis' Southwe**	**2.06**	**276**	P	**Pn**	**02 35 07.9**	**+0.7**
CESW				S	**Sn**	**02 35 32.1**	**0.0**
CETU	**Semis' Tuman**	**2.11**	**278**	P	**Pn**	**02 35 08.7**	**+0.8**
AMKA	**Amchitka**	**2.26**	**262**	P	**Pn**	**02 35 10.5**	**+0.6**
AMKA				S	**Sn**	**02 35 36.8**	**0.0**
LSPA	**Little Sitkin**	**2.68**	**276**	P	**Pn**	**02 35 16.8**	**+1.2**
LSPA				S	**Sn**	**02 35 47.9**	**+0.9**
LSNW	**Little Sitkin**	**2.71**	**277**	P	**Pn**	**02 35 16.9**	**+1.0**
LSNW				S	**Sn**	**02 35 48.4**	**+0.6**
LSSA	**Little Sitkin**	**2.72**	**276**	P	**Pn**	**02 35 17.1**	**+1.1**
NIKH	**Nikolski High**	**5.22**	**73**	P	**Pn**	**02 35 52.5**	**+2.6**
SMY	**Shemya**	**5.49**	**284**	*e*Pn	**Pn**	**02 35 53.5**	**-0.1**
FX1	**Attu Island--F**	**6.07**	**285**	P	**Pn**	**02 36 01.6**	**-0.1**
	3.7nm,0.3s,baz=188,slow=2.2,SNR=12						
FX1				S	**Sn**	**02 37 08.8**	**-0.7**
	5.6nm,0.3s,baz=72,slow=20,SNR=5.2						
FX1	**Attu Island--F**	**6.07**	**285**	*e*Pn	**Pn**	**02 36 02.5**	**+0.9**
GAMB	**Gambell**	**12.41**	**11**	*e*Pn	**Pn**	**02 37 29.0**	**+1.2**
	8.2nm,1.1s						
SEW	**Seward**	**17.51**	**51**	*e*Pn	**Pn**	**02 38 32.7**	**-0.5**
KTH	**Kantishna Hill**	**18.18**	**39**	*e*Pn	**P**	**02 38 40.8**	**+0.1**
SEY	**Seymchan**	**19.70**	**316**	P	**P**	**02 38 57.5**	**+0.4**
	0.1nm,0.3s,baz=117,slow=16,SNR=5.3						
SEY				pP	**pP**	**02 39 14.1**	**+1.2**
	0.2nm,0.3s,baz=120,slow=9.9,SNR=4.5						
ILAR	**Eielson Array**	**20.31**	**38**	P	**P**	**02 39 02.8**	**-1.0**
	0.4nm,0.7s,baz=236,slow=10,SNR=12						
ILAR				pP	**pP**	**02 39 18.9**	**-0.8**
	1.1nm,0.7s,baz=224,slow=8.7,SNR=5.5						
YKA	**Yellowknife Ar**	**34.23**	**47**	P	**P**	**02 41 10.9**	**-1.3**
	0.1nm,0.4s,baz=286,slow=8.9,SNR=7.6						
YKA				pP	**pP**	**02 41 31.2**	**+0.5**
	0.2nm,0.7s,baz=277,slow=8.1,SNR=3.2						
YKA				PcP	**PcP**	**02 43 46.8**	**-0.1**
	0.1nm,0.6s,baz=287,slow=3.4,SNR=2.7						
H11N2	**WAKE ISLAND Hy 34.31 207**			T	T	03 17 46.3	
	baz=18,slow=76,SNR=1146						
H11N3	**WAKE ISLAND Hy 34.32 207**			T	T	03 17 53.3	
	baz=18,slow=76,SNR=1144						
H11N1	**WAKE ISLAND Hy 34.33 207**			T	T	03 17 54.0	
	baz=18,slow=76,SNR=955						
H11S1	**WAKE ISLAND Hy 35.53 207**			T	T	03 19 19.2	
	baz=18,slow=76,SNR=747						
H11S2	**WAKE ISLAND Hy 35.54 207**			T	T	03 19 20.6	
	baz=18,slow=76,SNR=265						
H11S3	**WAKE ISLAND Hy 35.54 207**			T	T	03 19 20.8	
	baz=18,slow=76,SNR=236						
NEW	**Newport 37.78 71**			pP	pP	02 42 02.2	+0.7
	1.1nm,0.5s,baz=292,slow=11,SNR=3.4						
NVAR	**Mina Array Bea 42.47 84**			P	**P**	**02 42 22.7**	**+0.8**
	0.8nm,0.9s,baz=294,slow=6.8,SNR=4.4						
NVAR				pP	**pP**	**02 42 41.9**	**+1.0**
	0.5nm,0.6s,baz=311,slow=7.0,SNR=3.5						
PDAR	**Pinedale Array 45.20 74**			P	**P**	**02 42 43.8**	**0.0**
	1.0nm,0.7s,baz=324,slow=3.9,SNR=8.0						
PDAR				pP	**pP**	**02 43 02.9**	**-0.1**
	1.3nm,0.5s,baz=311,slow=4.2,SNR=6.4						
PDAR				sP	**sP**	**02 43 11.2**	**-0.8**
	1.4nm,0.7s,baz=308,slow=3.8,SNR=5.5						
TXAR	**Lajitas Array 57.57 83**			P	**P**	**02 44 15.9**	**-0.1**
	1.2nm,0.8s,baz=279,slow=2.4,SNR=3.7						
TXAR				pP	**pP**	**02 44 35.3**	**-0.7**
	0.4nm,0.6s,baz=307,slow=6.7,SNR=3.8						
TXAR				sP	**sP**	**02 44 44.1**	**-0.7**
	0.7nm,0.7s,baz=306,slow=5.2,SNR=4.6						
ARCES	**ARCESS Array B 57.91 351**			P	**P**	**02 44 16.9**	**-0.9**
	4.6nm,0.9s,baz=27,slow=8.1,SNR=3.0						
ARCES				pP	**pP**	**02 44 38.0**	**+0.3**
	4.5nm,1.0s,baz=21,slow=7.9,SNR=2.2						
WRA	**Warramunga Arr 83.00 225**			P	**P**	**02 46 50.5**	**-0.5**
	0.7nm,0.5s,baz=35,slow=6.1,SNR=10						
ASAR	**Alice Springs 86.46 224**			P	**P**	**02 47 08.7**	**+0.3**
	1.7nm,0.8s,baz=23,slow=5.5,SNR=16						
STKA	**Stephens Creek 90.80 214**			P	**P**	**02 47 29.6**	**+1.0**
	2.0nm,0.7s,baz=50,slow=8.4,SNR=6.1						
TORD	**Torodi Ar. Bea 115.38 1**			PKP	**PKPdf**	**02 53 05.2**	**-2.1**
	0.1nm,0.4s,baz=324,slow=0.9,SNR=5.4						

JMA 15 02:57:27.8±0.2,28°.82N×128°.30E,h21km±2km,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.86**	**67**	P	Pb	02 57 43.8	-0.2
JTAJ				*e*S	Sb	02 57 55.1	+0.1
JAMN	**Amaminishikomi**	**0.96**	**127**	P	Pb	02 57 45.5	-0.2
JTK	**Tokunoshima**	**1.18**	**151**	P	Pn	02 57 48.7	-0.4
JAM	**Amami Oshima**	**1.22**	**109**	P	Pn	02 57 49.5	-0.1
JOKE	**Okinoerabujima**	**1.47**	**171**	P	Pn	02 57 53.7	+0.6
JZK	**Kikaishima**	**1.56**	**109**	P	Pn	02 57 54.8	+0.6
JIH	**Iheya**	**1.80**	**189**	P	Pn	02 57 58.5	+0.9
JNTH	**Nagotoyohara**	**2.31**	**186**	P	Pn	02 58 05.9	+1.3
JYAK	**Yakushimahirau**	**2.39**	**53**	P	Pn	02 58 07.5	+1.8

NIED ***15*** *02:57:00,28°.80N×128°.30E,h5km,Mw4.6 Best double couple: M:9.88000×1015 NP1:φs45.00000°,δ10.00000°, λ-172.00000°. NP2:φs307.00000°,δ89.00000°, λ-80.00000°.*
MOS ***15*** *02:57:30.7±0.9,28°.65N×128°.37E,h33km,mb4.6/14,Error ellipse: s-maj=12.8km s-min=7.5km az=109.1*
BJI ***15*** *02:57:32.3,28°.42N×128°.74E,h68km,mB4.8/36,mb4.4/43, Ms4.7/41,Ms7 4.3/40*
IDC ***15*** *02:57:34.9±0.5,28°.74N×128°.42E,h53km±4km,mb3.8/18, mb1 3.9/20,mb1mx3.8/43,mbtmp4.0/20,MS3.8/19, Ms1 3.8/19,ms1mx3.6/35,Error ellipse: s-maj=15.3km s-min=10.9km az=69.0*
NEIC ***15*** *02:57:35.0±1.9,28°.69N×128°.36E,h55km±5km,mb4.9/19, MW4.6(NIED),Error ellipse: s-maj=17.8km s-min=7.0km az=81.0*
ISCJB ***15*** *02:57:35.6±0.6,28°.59N±0°.04×128°.33E±0°.04,h75km±5km, mb4.4/40,Error ellipse: s-maj=6.3km s-min=5.4km az=157.9*
JMA ***15*** *02:57:43.1±0.5,28°.82N×128°.32E,h22km,M3.8*
ISC 15 02:57:35.8±0.4,28°.63N±0°.05×128°.43E±0°.04,h68km±2km, h67km:pP-P,n137,σ2°10/179,mb4.4/40,4C-4D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.76**	**120**	P	Pn	02 58 00.5	+9.3
JAMN				*e*S	Sn	02 58 13.0	+10
JTAJ	**Takarajima**	**0.86**	**52**	P	Pn	02 57 58.7	+6.4
JTAJ				*e*S	**Sn**	**02 58 09.5**	**+4.9**
JTK	**Tokunoshima**	**0.96**	**151**	P	Pn	02 58 03.8	+10
JTK				*e*S	Sn	02 58 18.3	+11
JAM	**Amami Oshima**	**1.06**	**102**	P	Pn	02 58 05.2	+10
JAM				*e*S	Sn	02 58 20.6	+12
JOKE	**Okinoerabujima**	**1.27**	**174**	P	Pn	02 58 09.1	+11
JZK	**Kikaishima**	**1.40**	**103**	P	Pn	02 58 08.7	+9.5
JOW	**Kunigami**	**1.79**	**184**	P	**Pn**	**02 58 03.4**	**-1.2**
	3.4nm,0.3s,baz=7.1,slow=16,SNR=20						
JOW	**Kunigami**	**1.79**	**184**	*e*Pn	**Pn**	**02 58 03.4**	**-1.2**
JOW				*e*Sn	Sn	02 58 18.1	-8.4
JNU	**Nakatsue**	**4.95**	**25**	P	**Pn**	**02 58 48.8**	**+1.2**
	2.3nm,0.3s,baz=221,slow=11,SNR=19						
JNU				LR	LR	03 00 10.3	
	comp=Z,227nm,20.7s,baz=212,slow=32						
JNU	**Nakatsue**	**4.95**	**25**	*e*Pn	**Pn**	**02 58 48.6**	**+1.0**
YOJ	**Yonaguni jima**	**6.38**	**231**	*e*P	**Pn**	**02 59 08.7**	**+1.5**
YOJ	**Yonaguni jima**	**6.38**	**231**	*e*Pn	**Pn**	**02 59 08.7**	**+1.5**
YHNB	**Yeheng**	**7.44**	**240**	*e*Pn	**Pn**	**02 59 24.2**	**+2.5**
SSLB	**Suanglung**	**8.26**	**236**	*e*Pn	**Pn**	**02 59 33.0**	**+0.1**
YULB	**Yu-li**	**8.27**	**233**	*e*Pn	**Pn**	**02 59 31.8**	**-1.1**
KS15	**Wonju Array Si**	**8.80**	**357**	*e*Pn	**Pn**	**02 59 39.1**	**-1.0**
KSRS	**Korea Array**	**8.81**	**357**	P	**Pn**	**02 59 39.2**	**-1.1**
KSRS				MLR	MLR		
	comp=Z,16nm,28.6s						
KSRS	**Korea Array**	**8.81**	**357**	P	**Pn**	**02 59 39.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=185,slow=13,SNR=5.6						
KSRS				LR	LR	03 03 10.6	
	comp=Z,1μm,18.9s,baz=176,slow=39						
NJ2	**Nanjing**	**8.95**	**295**	*e*P	**Pn**	**02 59 42.5**	**+0.3**
NJ2				S	**Sn**	**03 01 22.0**	**+0.6**
NJ2				LN			
	comp=Z,3μm,11.1s						
NJ2				LE			
	comp=Z,3μm,9.9s						
NJ2				LZ			
	comp=Z,3μm,10.1s						
MAJO	**Matsushiro**	**11.41**	**44**	*e*P	**Pn**	**03 00 15.5**	**-0.3**
MAJO	**Matsushiro**	**11.41**	**44**	*e*Pn	**Pn**	**03 00 15.5**	**-0.3**
MJAR	**Matsushiro Arr**	**11.41**	**44**	P	**Pn**	**03 00 15.5**	**-0.3**
MJAR				MLR	MLR		
	comp=Z,15nm,28.6s						
MJAR	**Matsushiro Arr**	**11.41**	**44**	P	**Pn**	**03 00 15.5**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=233,slow=14,SNR=5.9						
MJAR				LR	LR	03 05 06.4	
	comp=Z,452nm,18.7s,baz=225,slow=40						
WHN	**Wuhan**	**12.40**	**282**	*e*P	Pn	03 00 33.3	+3.9
WHN				LN			
	comp=Z,2μm,3.8s						
WHN				LE			
	comp=Z,1μm,3.2s						
WHN				LZ			
	comp=Z,2μm,7.6s						
BJT	**Baijiatuau**	**15.20**	**322**	*e*P	**Pn**	**03 01 04.8**	**-1.6**
BJT				pmax	pmax		
	comp=Z,40nm,1.4s						
BJT	**Baijiatuau**	**15.20**	**322**	*e*Pn	**Pn**	**03 01 04.8**	**-1.6**
	comp=Z,40nm,1.4s						
BJI	**Beijing**	**15.21**	**322**	P	**P**	**03 01 08.3**	**-1.8**
BJI				S	**Sn**	**03 03 56.8**	**+2.8**
BJI				PMZ			
	comp=Z,13nm,1.6s						
BJI				PMZ			
	comp=Z,280nm,3.7s						
BJI				LN			
	comp=Z,1μm,16.0s						
BJI				LE			
	comp=Z,600nm,16.3s						
BJI				LZ			
	comp=Z,390nm,17.8s						
CN2	**Changchun**	**15.33**	**352**	*e*P	**P**	**03 01 12.6**	**+1.2**
CN2				*e*S	**Sn**	**03 03 59.1**	**+2.3**
CN2				PMZ			
	comp=Z,200nm,4.0s						
CN2				LN			
	comp=Z,2μm,12.0s						
CN2				LE			
	comp=Z,1μm,12.0s						
CN2				LZ			
	comp=Z,600nm,19.0s						
USRK	**Ussuriysk Ar.**	**15.80**	**9**	P	**P**	**03 01 17.4**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=185,slow=15,SNR=10						
USRK				LR	LR	03 06 59.6	
	comp=Z,289nm,20.1s,baz=178,slow=36						
MDJ	**Mudanjiang 15.98 3**			P	**P**	**03 01 18.9**	**+0.3**
MDJ				pP	**pP**	**03 01 34.8**	**+2.3**
MDJ				sP	**sP**	**03 01 42.8**	**+1.7**
MDJ				S	**S**	**03 04 19.4**	**-3.4**
MDJ				PcS	**PcS**	**03 09 48.9**	**+3.7**
MDJ				ScS	**ScS**	**03 13 16.1**	**-0.8**
MDJ				PMZ			
	comp=Z,20nm,1.0s						
MDJ				PMZ			
	comp=Z,200nm,3.8s						
MDJ				LN			
	comp=Z,380nm,12.9s						
MDJ				LE			
	comp=Z,550nm,12.3s						
MDJ				LZ			
	comp=Z,820nm,11.6s						
MDJ	**Mudanjiang 15.98 3**			*e*Pn	**P**	**03 01 18.4**	**-0.2**
	comp=Z,63nm,1.4s						
XAN	**Xi'an 17.51 293**			P	P	03 01 41.8	+6.2
XAN				PMZ			
	comp=Z,5.0nm,0.8s						
XAN				LN			
	comp=Z,490nm,10.5s						
XAN				LE			
	comp=Z,140nm,10.3s						
XAN				LZ			
	comp=Z,150nm,9.5s						
HHC	**Hu-ho-hao-te 18.42 316**			*e*P	**Pn**	**03 01 47.1**	**+0.6**
HHC				pP	**pP**	**03 02 02.5**	**+2.8**
HHC				PP	**PnPn**	**03 02 06.0**	**+5.9**
HHC				sP	**sP**	**03 02 11.9**	**+3.6**
HHC				S	**Sn**	**03 05 07.6**	**-4.1**
HHC				SS	SnSn	03 05 36.6	+10
HHC				PMZ			
	comp=Z,31nm,1.2s						
HHC				PMZ			
	comp=Z,300nm,4.9s						
HHC				LN			
	comp=Z,2μm,15.5s						
HHC				LE			
	comp=Z,720nm,12.4s						
HHC				LZ			
	comp=Z,1μm,15.7s						
ASAJ	**Asahikawa 19.17 32**			LR	LR	03 09 01.9	
	comp=Z,304nm,18.8s,baz=188,slow=36						
GYA	**Guiyang 19.42 269**			*e*P	**Pn**	**03 01 59.0**	**+0.5**
GYA				pP	**pP**	**03 02 12.8**	**+2.0**
GYA				sP	**sP**	**03 02 22.5**	**+3.2**
GYA				S	**S**	**03 05 28.4**	**-4.5**
GYA				sS	sS	03 05 49.0	-6.8
GYA				SS	**SnSn**	**03 05 57.3**	**+6.2**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				LN			
	comp=Z,460nm,13.8s						
GYA				LE			
	comp=Z,380nm,15.0s						
GYA				LZ			
	comp=Z,440nm,12.4s						
QIZ	**Qiongzhong 19.48 245**			P	**Pn**	**03 01 58.8**	**-0.3**
QIZ				pP	**pP**	**03 02 11.4**	**0.0**
QIZ				sP	**sP**	**03 02 19.4**	**-0.5**
QIZ				S	**S**	**03 05 34.8**	**+0.8**
QIZ				sS	**sS**	**03 05 56.4**	**-0.5**
QIZ				PMZ			
	comp=Z,11nm,1.4s						
QIZ				LN			
	comp=Z,600nm,13.6s						
QIZ				LZ			
	comp=Z,470nm,11.9s						
HABR	**Khabarovsk 20.46 13**			*e*P	Pn	03 02 18.7	+8.3
HABR				*e**SP	sP	03 02 26.6	-3.8
HABR				*e*S	**S**	**03 05 51.6**	**-1.3**
HABR				*e*		03 06 15.8	
HABR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HABR				MLR	MLR		
	comp=Z,632nm,15.0s						
KLR	**Kul'dur 20.73 6**			*e*P	P	03 02 05.2	-5.4
KLR				MLR	MLR		
	comp=E,500nm,12.0s						
KLR				MLR	MLR		
	comp=Z,2μm,12.0s						
YUK	**Yuzh-Kuril'sk 20.76 38**			P	**P**	**03 02 11.4**	**+0.5**
YUK				*e*		03 02 31.9	
YUK				*e*S	**S**	**03 05 52.7**	**-6.1**
CD2	**Chengdu 21.53 282**			⇑*i*P	**P**	**03 02 19.0**	**-0.4**
CD2				pP	**pP**	**03 02 31.0**	**-2.7**
CD2				PP	**PnPn**	**03 02 45.3**	**+2.8**
CD2				S	**S**	**03 06 08.3**	**-6.2**
CD2				PMZ			
	comp=Z,40nm,0.9s						
CD2				PMZ			
	comp=Z,230nm,4.2s						
CD2				LN			
	comp=Z,1μm,14.2s						
CD2				LE			
	comp=Z,880nm,11.9s						
CD2				LZ			
	comp=Z,770nm,8.3s						
LZH	**Lanzhou 22.02 296**			*e*P	**P**	**03 02 25.5**	**+0.7**
LZH				pP	pP	03 02 44.1	+5.0
LZH				sP	sP	03 02 53.0	+5.4
LZH				S	**S**	**03 06 18.4**	**-5.6**
LZH				sS	**sS**	**03 06 46.0**	**-1.8**
LZH				SS	**SnSn**	**03 07 02.5**	**+7.7**
LZH				PMZ			
	comp=Z,15nm,1.0s						
LZH				PMZ			
	comp=Z,75nm,4.2s						
LZH				LN			
	comp=Z,1μm,13.4s						
LZH				LE			
	comp=Z,680nm,12.7s						
LZH				LZ			
	comp=Z,990nm,13.8s						
ULN	**Ulaanbaatar 25.36 325**			*c i*P	**P**	**03 02 57.0**	**+0.4**
ULN				pmax	pmax		
	comp=Z,11nm,1.2s						
ULN	**Ulaanbaatar 25.36 325**			*e*P	**P**	**03 02 56.0**	**-0.6**
	comp=Z,9.0nm,1.1s						
SONA0	**Songino Array 25.68 324**			*e*P	**P**	**03 02 58.9**	**-0.5**
SONM	**Songino Array 25.68 324**			P	**P**	**03 02 58.9**	**-0.5**
SONM				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,16nm,28.6s						
SONM	**Songino Array 25.68 324**			P	**P**	**03 02 58.9**	**-0.5**
	comp=Z,7.1nm,1.0s,baz=131,slow=9.3,SNR=32						
SONM				LR	LR	03 14 25.3	
	comp=Z,263nm,18.0s,baz=146,slow=40						
SONA1	**Songino Array 25.68 324**			*e*P	**P**	**03 02 59.0**	**-0.5**
GTA	**Gaotai 25.94 302**			*e*P	**P**	**03 03 01.3**	**-0.6**
GTA				PMZ			
	comp=Z,21nm,1.1s						
GTA				PMZ			
	comp=Z,100nm,6.7s						
GTA				LN			
	comp=Z,2μm,14.7s						
GTA				LE			
	comp=Z,750nm,15.

WMQ				LN				
	comp=Z,390nm,18.0s							
WMQ				LE				
	comp=Z,280nm,20.0s							
WMQ				LZ				
	comp=Z,250nm,16.0s							
SEY	**Seymchan**	**37.69**	**18**	P		**P**	**03 04 43.2**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=196,slow=7.1,SNR=4.7							
MK32	**Makanchi Array**	**40.11**	**310**	*eP*		**P**	**03 05 04.4**	**-0.3**
MK32				*epP*		**pP**	**03 05 18.6**	**-2.9**
MKAR	**Makanchi Array**	**40.11**	**310**	P		**P**	**03 05 04.4**	**-0.3**
MKAR				*PP		**pP**	**03 05 18.6**	**-2.9**
MKAR				pmax		pmax		
	comp=Z,5.0nm,0.9s							
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
MKAR	**Makanchi Array**	**40.11**	**310**	P		**P**	**03 05 04.4**	**-0.3**
	comp=Z,4.6nm,0.9s,baz=96,slow=9.1,SNR=36							
MKAR				pP		**pP**	**03 05 18.6**	**-2.9**
	comp=Z,2.7nm,0.8s,baz=108,slow=9.3,SNR=7.3							
ZAA0	**Zalesovo Array**	**40.47**	**321**	*eP*		**P**	**03 05 05.7**	**-1.9**
ZALV	**Zalesovo Beam**	**40.47**	**321**	P		**P**	**03 05 07.2**	**-0.4**
ZALV				*PP		**pP**	**03 05 21.4**	**-2.9**
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ZALV				MLR		MLR		
	comp=Z,34nm,20.9s							
ZALV	**Zalesovo Beam**	**40.47**	**321**	P		**P**	**03 05 07.2**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=116,slow=7.9,SNR=9.1							
ZALV				pP		**pP**	**03 05 21.4**	**-2.9**
	comp=Z,1.3nm,0.4s,baz=117,slow=8.8,SNR=4.5							
ZALV				LR		LR	03 22 27.0	
	comp=Z,34nm,20.9s,baz=70,slow=37							
ZAA1	**Zalesovo Array**	**40.48**	**321**	*eP*		**P**	**03 05 07.2**	**-0.5**
ZAA1				*epP*		**pP**	**03 05 21.4**	**-2.9**
PMG	**Port Moresby**	**41.92**	**152**	LR		LR	03 21 37.0	
	comp=Z,104nm,18.9s,baz=344,slow=34							
KURK	**Kurchatov**	**43.23**	**315**	*eP*		**P**	**03 05 30.1**	**-0.1**
KURK				*e*PP		**pP**	**03 05 43.8**	**-3.2**
KURK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
KURK	**Kurchatov**	**43.23**	**315**	*eP*		**P**	**03 05 30.1**	**-0.1**
	comp=Z,4.6nm,1.0s							
KURK				*ep*P		**pP**	**03 05 43.8**	**-3.2**
KURBB	**Kurchatov Arra**	**43.27**	**315**	P		**P**	**03 05 30.2**	**-0.3**
	comp=Z,4.9nm,0.9s,baz=102,slow=8.7,SNR=16							
KURBB				pP		**pP**	**03 05 43.8**	**-3.6**
	comp=Z,2.9nm,0.6s,baz=102,slow=8.7,SNR=3.1							
KSH	**Kashi**	**44.24**	**298**	P		P	03 05 42.5	+3.9
KSH				sP		sP	03 06 09.4	+6.1
KSH				PP		PP	03 07 28.4	+5.7
KSH				S		**S**	**03 12 10.4**	**+3.0**
KSH				sS		sS	03 12 42.5	+6.4
KSH				PMZ				
	comp=Z,2.0nm,0.3s							
KSH				PMZ				
	comp=Z,61nm,4.3s							
KSH				LN				
	comp=Z,400nm,11.0s							
KSH				LE				
	comp=Z,310nm,12.8s							
KSH				LZ				
	comp=Z,170nm,9.4s							
TKM2	**Tokmak 2**	**44.48**	**303**	*eP*		**P**	**03 05 40.7**	**+0.2**
TKM2				pmax		pmax		
	comp=Z,5.0nm,0.7s							
TKM2	**Tokmak 2**	**44.48**	**303**	*eP*		**P**	**03 05 40.7**	**+0.2**
	comp=Z,4.7nm,0.7s							
AAK	**Ala-Archa**	**45.28**	**303**	P		**P**	**03 05 46.6**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=150,slow=8.1,SNR=3.3							
AAK				pP		**pP**	**03 06 01.8**	**-2.0**
	comp=Z,1.1nm,0.5s,baz=127,slow=8.4,SNR=3.0							
KKAR	**Karatay Array**	**48.20**	**304**	*eP*		**P**	**03 06 09.8**	**+0.3**
KKAR	**Karatay Array**	**48.20**	**304**	*eP*		**P**	**03 06 09.8**	**+0.3**
VOSK	**Vostochnaya**	**48.24**	**317**	*eP*		**P**	**03 06 08.7**	**-0.9**
VOSK				pmax		pmax		
	comp=Z,6.0nm,1.0s							
VOSK	**Vostochnaya**	**48.24**	**317**	*eP*		**P**	**03 06 08.7**	**-0.9**
	comp=Z,5.7nm,1.0s							
WRAB	**Tennant Creek**	**48.62**	**173**	⇓*iP*		**P**	**03 06 14.1**	**+1.3**
WRAB				pmax		pmax		
	comp=Z,11nm,1.0s							
WRA	**Warramunga Arr**	**48.62**	**173**	P		**P**	**03 06 13.5**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=353,slow=8.4,SNR=13							
WRA				pP		**pP**	**03 06 28.9**	**-1.1**
	comp=Z,4.8nm,0.8s,baz=351,slow=8.3,SNR=12							
WRA				LR		LR	03 28 59.2	
	comp=Z,35nm,18.7s,baz=30,slow=39							
BVAR	**Borovoye Array**	**48.63**	**317**	P		**P**	**03 06 13.1**	**+0.5**
BVAR				*PP		**pP**	**03 06 27.4**	**-2.4**
BVAR				pmax		pmax		
	comp=Z,8.0nm,0.9s							
BVAR				pmax		pmax		
	comp=Z,3.0nm,0.6s							
BVAR				MLR		MLR		
	comp=Z,366nm,20.3s							
BVAR	**Borovoye Array**	**48.63**	**317**	P		**P**	**03 06 13.1**	**+0.5**
	comp=Z,8.0nm,0.9s,baz=93,slow=8.7,SNR=40							
BVAR				pP		**pP**	**03 06 27.4**	**-2.4**
	comp=Z,2.9nm,0.6s,baz=91,slow=8.9,SNR=6.7							
BVAR				LR		LR	03 28 20.3	
	comp=Z,366nm,20.3s,baz=92,slow=38							
BRVK	**Borovoye**	**48.70**	**317**	⇓*iP*		**P**	**03 06 13.7**	**+0.6**
BRVK				pmax		pmax		
	comp=Z,17nm,1.0s							
BRVK	**Borovoye**	**48.70**	**317**	*eP*		**P**	**03 06 13.0**	**-0.1**
	comp=Z,14nm,0.9s							
AS12	**Alice Springs**	**52.26**	**174**	*eP*		**P**	**03 06 42.1**	**+1.8**
AS12				*epP*		**pP**	**03 06 56.8**	**-0.8**
ASAR	**Alice Springs**	**52.26**	**174**	P		**P**	**03 06 42.1**	**+1.8**
ASAR				*PP		**pP**	**03 06 56.8**	**-0.8**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**52.26**	**174**	P		**P**	**03 06 42.1**	**+1.8**
	comp=Z,0.7nm,0.8s,baz=355,slow=6.8,SNR=9.2							
ASAR				pP		**pP**	**03 06 56.8**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=357,slow=7.6,SNR=8.5							
AS01	**Alice Springs**	**52.26**	**174**	*eP*		**P**	**03 06 41.1**	**+0.8**
ABKAR	**Akbulak array**	**55.16**	**312**	*eP*		**P**	**03 07 01.1**	**-0.1**
ARU	**Arti**	**55.64**	**321**	*d iP*		**P**	**03 07 04.5**	**0.0**
ARU							03 09 07.4	
ARU				S		**S**	**03 14 46.7**	**+1.4**
ARU				SS		**SS**	**03 18 27.0**	**-3.9**
ARU				pmax		pmax		
	comp=Z,14nm,2.5s							
GEYT	**Alibeck**	**58.27**	**299**	P		**P**	**03 07 23.5**	**0.0**
	comp=Z,1.5nm,0.6s,baz=64,slow=6.7,SNR=4.6							
GEYT				pP		**pP**	**03 07 39.2**	**-1.9**
	comp=Z,1.2nm,0.5s,baz=122,slow=5.2,SNR=2.1							
STKA	**Stephens Creek**	**61.46**	**167**	LR		LR	03 34 18.9	
	comp=Z,40nm,20.4s,baz=23,slow=36							
ILAR	**Eielson Array**	**62.25**	**29**	P		**P**	**03 07 50.1**	**-0.2**
ILAR				*PP		**pP**	**03 08 05.8**	**-2.2**
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ILAR				MLR		MLR		
	comp=Z,56nm,18.8s							
ILAR	**Eielson Array**	**62.25**	**29**	P		**P**	**03 07 50.0**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=289,slow=8.1,SNR=8.3							
ILAR				pP		**pP**	**03 08 05.8**	**-2.2**
	comp=Z,0.5nm,0.7s,baz=284,slow=7.3,SNR=3.2							
ILAR				LR		LR	03 37 11.2	
	comp=Z,56nm,18.8s,baz=282,slow=38							
ILB	**Eielson Array**	**62.25**	**29**	*eP*		**P**	**03 07 50.0**	**-0.2**
ILB				*epP*		**pP**	**03 08 05.8**	**-2.2**
MAK	**Makhachkala**	**64.82**	**307**	*eP*		P	03 08 17.9	+10
MAK				MLR		MLR		
	comp=Z,431nm,16.0s							
ZEI	**Tsey**	**67.40**	**307**	*eP*		**P**	**03 08 23.7**	**-0.6**
ZEI				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KBZ	**Khabaz**	**67.79**	**309**	P		**P**	**03 08 28.7**	**+2.3**
	comp=Z,2.4nm,0.9s,baz=118,slow=5.8,SNR=5.9							
ARCES	**ARCESS Array B**	**67.85**	**338**	LR		LR	03 42 14.2	
	comp=Z,50nm,18.4s,baz=49,slow=40							
KIV	**Kislovodsk**	**67.86**	**309**	*eP*		**P**	**03 08 27.5**	**+0.4**
KIV				pmax		pmax		
	comp=Z,6.0nm,1.0s							
KIV				MLR		MLR		
	comp=Z,116nm,17.0s							
FIA0	**FINESS Array S**	**70.87**	**330**	*eP*		**P**	**03 08 44.5**	**-0.7**
FIA0				*e*PP		**pP**	**03 08 58.5**	**-4.8**
FIA0	**FINESS Array S**	**70.87**	**330**	*eP*		**P**	**03 08 44.5**	**-0.7**
FIA0				*ep*P		**pP**	**03 08 58.5**	**-4.8**
FINES	**FINESS Array B**	**70.87**	**330**	*ceP*		**P**	**03 08 45.7**	**+0.5**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**70.87**	**330**	P		**P**	**03 08 44.5**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=72,slow=6.2,SNR=4.1							
FINES				pP		**pP**	**03 08 58.5**	**-4.8**
	comp=Z,0.6nm,0.5s,baz=66,slow=6.8,SNR=2.1							
FINES				LR		LR	03 42 20.1	
	comp=Z,115nm,21.7s,baz=72,slow=38							
RES	**Resolute Bay**	**73.17**	**11**	*eP*		**P**	**03 08 57.9**	**-0.8**
RES				pmax		pmax		
	comp=Z,101nm,2.9s							
RES	**Resolute Bay**	**73.17**	**11**	P		**P**	**03 08 57.8**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=301,slow=5.5,SNR=11							
RES	**Resolute Bay**	**73.17**	**11**	*eP*		**P**	**03 08 57.9**	**-0.8**
	comp=Z,100nm,2.9s							
NACGM	**Naroch**	**73.35**	**324**	*eLR*		LR	03 07 56.0	
BR101	**Keskin Array S**	**75.71**	**308**	*eP*		**P**	**03 09 14.3**	**+0.1**
BR101				*epP*		**PcP**	**03 09 27.8**	**+1.1**
BRTR	**Keskin Array B**	**75.71**	**308**	*ceP*		**P**	**03 09 16.1**	**+1.8**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**75.71**	**308**	P		**P**	**03 09 14.3**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=97,slow=2.8,SNR=5.6							
BRTR				pP		**PcP**	**03 09 27.8**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=84,slow=4.1,SNR=3.8							
BR231	**Keskin MP Arra**	**76.26**	**308**	*eP*		**P**	**03 09 16.7**	**-0.7**
YKA	**Yellowknife Ar**	**76.29**	**25**	P		**P**	**03 09 17.3**	**+0.4**
YKA				*PP		**PcP**	**03 09 31.2**	**+2.6**
YKA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
YKA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**76.29**	**25**	P		**P**	**03 09 17.3**	**+0.4**
	comp=Z,2.4nm,1.0s,baz=304,slow=5.4,SNR=21							
YKA				pP		**PcP**	**03 09 31.2**	**+2.6**
	comp=Z,0.7nm,0.6s,baz=304,slow=6.1,SNR=5.1							
YKB5	**Yellowknife Ar**	**76.29**	**25**	*eP*		**P**	**03 09 17.3**	**+0.4**
NOA	**NORSAR Array B**	**77.25**	**334**	LR		LR	03 45 05.9	
	comp=Z,52nm,18.2s,baz=35,slow=37							
KOLS	**Kolonicke sedl**	**78.64**	**320**	*eP*		**P**	**03 09 29.8**	**-0.5**
KOLS	**Kolonicke sedl**	**78.64**	**320**	*eP*		**P**	**03 09 29.8**	**-0.5**
STHS	**Stebnicka Huta**	**78.97**	**321**	*eP*		**P**	**03 09 32.2**	**0.0**
STHS	**Stebnicka Huta**	**78.97**	**321**	*eP*		**P**	**03 09 32.2**	**0.0**
E07A	**Sunnyside**	**83.08**	**40**	*eP*		**P**	**03 09 56.0**	**+1.9**
	comp=Z,67nm,2.3s							
NEW	**Newport**	**83.60**	**38**	*eP*		**P**	**03 09 56.6**	**-0.1**
NEW				pmax		pmax		
	comp=Z,108nm,2.9s							
NEW	**Newport**	**83.60**	**38**	*eP*		**P**	**03 09 56.6**	**-0.1**
	comp=Z,108nm,2.9s							
MOD	**Modoc Plateau**	**85.46**	**44**	*eP*		**P**	**03 10 07.2**	**+0.8**
	comp=Z,49nm,2.5s							
BMO	**Blue Mountains**	**85.52**	**41**	*eP*		**P**	**03 10 08.1**	**+1.5**
BMO				pmax		pmax		
	comp=Z,55nm,2.6s							
BMO	**Blue Mountains**	**85.52**	**41**	*eP*		**P**	**03 10 08.1**	**+1.5**
	comp=Z,55nm,2.6s							
FFC	**Flin Flon**	**86.37**	**27**	*eP*		**P**	**03 10 10.8**	**+0.3**
FFC				pmax		pmax		
	comp=Z,80nm,2.5s							
FFC	**Flin Flon**	**86.37**	**27**	*eP*		**P**	**03 10 10.8**	**+0.3**
	comp=Z,80nm,2.5s							
MFID	**Camas Ranch**	**87.24**	**41**	*eP*		**P**	**03 10 16.7**	**+1.7**
	comp=Z,52nm,2.7s							
EGMT	**Eagleton**	**87.58**	**35**	*eP*		**P**	**03 10 17.8**	**+1.2**
	comp=Z,93nm,2.5s							
DLMT	**Dillon**	**87.83**	**38**	*eP*		**P**	**03 10 19.5**	**+1.6**
	comp=Z,5.7nm,1.0s							
HLID	**Hailey**	**87.96**	**40**	*eP*		**P**	**03 10 18.7**	**+0.1**
	comp=Z,44nm,2.5s							
NVAR	**Mina Array Bea**	**88.72**	**46**	P		**P**	**03 10 24.1**	**+1.8**
	comp=Z,0.6nm,0.9s,baz=296,slow=4.6,SNR=3.3							
NVAR				pP		**pP**	**03 10 38.9**	**-2.2**
	comp=Z,1.0nm,1.0s,baz=299,slow=4.0,SNR=2.9							
LKWY	**Lake**	**89.54**	**38**	*eP*		**P**	**03 10 29.0**	**+2.9**
LKWY				pmax		pmax		
	comp=Z,6.0nm,0.4s							
LKWY	**Lake**	**89.54**	**38**	*eP*		**P**	**03 10 29.0**	**+2.9**
	comp=Z,5.6nm,0.4s							
H17A	**Grant Village**	**89.55**	**38**	*eP*		**P**	**03 10 28.9**	**+2.7**
	comp=Z,66nm,2.8s							
PD31	**Pinedale Array**	**91.19**	**39**	*eP*		**P**	**03 10 33.8**	**+0.1**
PDAR	**Pinedale Array**	**91.19**	**39**	P		**P**	**03 10 33.8**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=289,slow=4.5,SNR=4.3							
ULM	**Lac du Bonnet**	**92.20**	**27**	LR		LR	03 56 18.3	
	comp=Z,29nm,19.6s,baz=50,slow=38							
PV10	**Paradox Valley**	**94.41**	**42**	*eP*		**P**	**03 10 51.0**	**+2.2**
SCHQ	**Schefferville**	**95.85**	**9**	LR		LR	03 58 25.3	
	comp=Z,45nm,19.4s,baz=9.0,slow=38							

DJA 15 02:58:20.5±0.6, 2°N±4°×12°1E±°, h10km, M3.9/6, MLv3.9/6, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.71**	**154**	P		02 58 49.7	-0.7
MRSI				S		02 59 12.7	+0.4
MPSI	**Mapaga**	**2.11**	**217**	P		02 58 51.1	-4.7
APSI	**Ampana**	**2.95**	**171**	P		02 59 08.3	+0.9
LUWI	**Luwuk**	**3.43**	**152**	P		02 59 14.7	+0.6
LUWI				S		02 59 56.3	+1.4

*IDC **15** 03:00:34.7±1.0, 28°78N×128°61E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/42, mbtmp3.9/10, Error ellipse: s-maj=46.4km s-min=19.5km az=65.0*
*ISCJB **15** 03:00:35.3±2.9, 28°77N±0°04×128°35E±0°05, h10km±19km, mb3.8/10, Error ellipse: s-maj=8.2km s-min=6.3km az=149.0*
*JMA **15** 03:00:35.5±0.2, 28°80N×128°32E, h23km, M3.4*
ISC 15 03:00:36.0±3.5, 28°74N±0°05×128°49E±0°07, h9km±22km, n15, σ0°95/20, mb3.9/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.75**	**57**	P		**Pb**	**03 00 51.3**	**+0.1**
JTAJ				*e*S		**Sn**	**03 01 02.3**	**-1.9**
JAMN	**Amaminishikomi**	**0.78**	**129**	P		**Pn**	**03 00 52.8**	**-0.4**
JAMN				*e*S		**Sn**	**03 01 04.8**	**-0.2**
JAM	**Amami Oshima**	**1.03**	**108**	P		**Pn**	**03 00 56.8**	**+0.1**
JAM				*e*S		**Sn**	**03 01 12.6**	**+1.3**
JTK	**Tokunoshima**	**1.03**	**157**	P		**Pb**	**03 00 55.8**	**-0.3**
JTK				*e*S		**Sn**	**03 01 11.5**	**+0.2**
JOKE	**Okinoerabujima**	**1.38**	**177**	P		**Pn**	**03 01 01.0**	**-0.4**
JOKE				*e*S		**Sn**	**03 01 19.1**	**-0.7**
SONM	**Songino Array**	**25.62**	**324**	P		**P**	**03 06 07.2**	**+1.3**
	2.8nm,0.9s,baz=138,slow=9.4,SNR=9.0							
MKAR	**Makanchi Array**	**40.08**	**310**	P		**P**	**03 08 12.2**	**+0.5**
	0.7nm,0.6s,baz=91,slow=10,SNR=4.8							
ZALV	**Zalesovo Beam**	**40.42**	**321**	P		**P**	**03 08 14.8**	**+0.4**
	0.6nm,0.6s,baz=106,slow=8.0,SNR=3.8							
KURBB	**Kurchatov Arra**	**43.23**	**315**	P		**P**	**03 08 38.5**	**+1.1**
	1.2nm,0.2s,baz=102,slow=9.0,SNR=6.3							
BVAR	**Borovoye Array**	**48.58**	**317**	P		**P**	**03 09 20.9**	**+1.2**
	1.9nm,0.6s,baz=94,slow=8.6,SNR=8.4							
WRA	**Warramunga Arr**	**48.73**	**173**	P		**P**	**03 09 21.0**	**-0.1**
	4.2nm,1.2s,baz=354,slow=8.2,SNR=6.0							
ASAR	**Alice Springs**	**52.37**	**174**	P		**P**	**03 09 49.4**	**+0.8**
	1.1nm,1.1s,baz=7.8,slow=7.5,SNR=4.6							
FINES	**FINESS Array B**	**70.80**	**330**	P		**P**	**03 11 51.1**	**-1.5**
	1.0nm,0.8s,baz=54,slow=5.9,SNR=4.4							
BRTR	**Keskin Array B**	**75.69**	**308**	P		**P**	**03 12 21.5**	**-0.6**
	0.6nm,1.0s,baz=69,slow=8.0,SNR=3.1							
YKA	**Yellowknife Ar**	**76.16**	**25**	P		**P**	**03 12 24.2**	**+0.1**
	0.8nm,0.8s,baz=308,slow=6.0,SNR=6.6							

*IDC **15** 03:05:21.5±0.9, 27°61N×104°10E, h0km, mb3.6/10, mb1 3.7/10, mb1mx3.6/27, mbtmp3.6/10, MS3.8/2, Ms1 3.8/2, ms1mx2.9/34, Error ellipse: s-maj=31.9km s-min=18.5km az=52.0*
*BJI **15** 03:05:22.7, 27°70N×103°88E, h5km, ML3.4/13*
*ISCJB **15** 03:05:25.2±0.6, 27°98N±0°05×104°04E±0°08, h21km, mb3.6/9, MS3.8/2, Error ellipse: s-maj=10.1km s-min=7.6km az=7.1*
ISC 15 03:05:27.0±0.7, 27°93N±0°07×104°06E±0°07, h21km, n14, σ0°98/14, mb3.7/9, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA	**Guiyang**	**2.75**	**122**	Pn		**Pn**	**03 06 09.3**	**-0.7**
GYA				Sn		**Sn**	**03 06 43.5**	**+0.9**
GYA				Sg		**Sb**	**03 06 49.8**	**+1.0**
GYA				SMN				
	190nm,0.7s							
GYA				SME				
	130nm,0.7s							
KMI	**Kunming**	**3.04**	**203**	Pg		**Pn**	**03 06 14.8**	**+0.8**
KMI				Sg		**Sn**	**03 06 49.8**	**-0.1**
KMI				SMN				
	39nm,1.1s							
KMI				SME				
	48nm,0.9s							
XAN	**Xi'an**	**7.38**	**33**	Pn		**Pn**	**03 07 14.5**	**+0.9**
XAN				SMN				
	30nm,1.2s							
XAN				SME				
	15nm,1.2s							
SONM	**Songino Array**	**19.95**	**5**	P		**P**	**03 09 58.7**	**+1.0**
	0.7nm,0.7s,baz=184,slow=12,SNR=8.7							
KSRS	**Korea Array**	**22.17**	**59**	P		**P**	**03 10 20.9**	**-0.7**
	1.8nm,0.6s,baz=250,slow=10,SNR=5.4							
MKAR	**Makanchi Array**	**25.42**	**324**	P		**P**	**03 10 53.7**	**+0.6**
	3.3nm,1.1s,baz=129,slow=11,SNR=10.0							
ZALV	**Zalesovo Beam**	**29.58**	**337**	P		**P**	**03 11 29.9**	**-0.4**
	0.2nm,0.3s,baz=145,slow=8.0,SNR=2.0							
GEYT	**Alibeck**	**39.48**	**297**	P		**P**	**03 12 56.7**	**+0.7**
	0.8nm,0.5s,baz=94,slow=9.1,SNR=2.1							
GEYT				LR		LR	03 32 48.6	
	comp=Z,123nm,18.7s,baz=50,slow=42							
KBZ	**Khabaz**	**50.92**	**305**	LR		LR	03 40 14.9	
	comp=Z,96nm,18.8s,baz=60,slow=41							
WRA	**Warramunga Arr**	**55.89**	**145**	P		P	03 14 59.2	-4.2
	0.7nm,0.6s,baz=336,slow=8.3,SNR=9.9							
BRTR	**Keskin Array B**	**58.31**	**301**	P		**P**	**03 15 18.8**	**-1.9**
	0.4nm,0.8s,baz=98,slow=6.1,SNR=3.6							
ASAR	**Alice Springs**	**58.83**	**148**	P		P	03 15 19.6	-4.5
	0.4nm,0.7s,baz=327,slow=6.6,SNR=4.4							
FINES	**FINESS Array B**	**60.18**	**327**	P		**P**	**03 15 32.8**	**-0.2**
	2.1nm,1.0s,baz=65,slow=7.8,SNR=3.9							
YKA	**Yellowknife Ar**	**84.72**	**17**	P		**P**	**03 17 58.1**	**-1.1**
	0.1nm,0.5s,baz=324,slow=4.6,SNR=3.9							

IDC 15 03:20:25.5±1.8, 4°88S×152°24E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/33, mbtmp3.5/4, MS3.4/1, Ms1 3.4/1, ms1mx2.7/22, Error ellipse: s-maj=73.5km s-min=24.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.97**	**228**	P		P	03 25 32.5	+0.5
	1.0nm,0.5s,baz=52,slow=9.8,SNR=20							
ASAR	**Alice Springs**	**25.72**	**222**	P		P	03 25 58.0	+0.2
	0.3nm,0.3s,baz=55,slow=9.1,SNR=4.2							
TGY	**Tagaytay City**	**36.34**	**302**	LR		LR	03 39 43.5	
	comp=Z,62nm,21.8s,baz=121,slow=32							
SONM	**Songino Array**	**66.10**	**328**	P		P	03 31 15.2	+0.5
	0.2nm,0.4s,baz=144,slow=5.0,SNR=3.1							
ILAR	**Eielson Array**	**82.44**	**22**	P		P	03 32 49.9	+0.4
	0.2nm,0.7s,baz=260,slow=5.3,SNR=3.9							
TORD	**Torodi Ar. Bea**	**149.80**	**288**	PKPbc		PKPbc	03 40 16.3	-2.3
	0.4nm,0.6s,baz=73,slow=1.9,SNR=6.1							

IDC 15 03:25:00.0±1.5, 27°52N×104°09E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/40, mbtmp3.5/5, MS2.5/1, Ms1 2.7/1, ms1mx2.4/32, Error ellipse: s-maj=41.0km s-min=24.4km az=54.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.19**	**209**	LR	LR	03 31 53.0	
	comp=Z,30nm,20.4s,baz=10.0,slow=40						
SONM	**Songino Array**	**20.36**	**4**	P		P	03 29 38.4	+0.3
	1.0nm,0.9s,baz=185,slow=10.0,SNR=7.5							
KSRS	**Korea Array**	**22.36**	**58**	P		P	03 29 59.3	-0.3
	1.1nm,0.7s,baz=244,slow=9.5,SNR=3.9							
MKAR	**Makanchi Array**	**25.77**	**324**	P		P	03 30 32.3	-0.2
	1.0nm,0.9s,baz=119,slow=9.9,SNR=7.4							
KURBB	**Kurchatov Arra**	**30.15**	**327**	P		P	03 31 11.6	0.0
	0.4nm,0.3s,baz=130,slow=9.8,SNR=4.3							
WRA	**Warramunga Arr**	**55.54**	**145**	P		P	03 34 37.2	-0.1
	0.5nm,0.6s,baz=335,slow=8.3,SNR=7.1							

*ISCJB **15** 03:31:02.9±0.9, 39°45N±0°09×33°1E±0°1, h7km±5km, Error ellipse: s-maj=19.7km s-min=7.0km az=139.4*
*CSEM **15** 03:31:02.0±0.4, 39°48N×32°99E, h5km, MD2.7, Error ellipse: s-maj=16.3km s-min=5.3km az=148.0*
*DDA **15** 03:31:02.2, 39°48N×32°98E, h7km, MD2.7*
ISC 15 03:31:02.5±1.1, 39°41N±0°07×33°04E±0°07, h6km±8km, n8, σ0°32/16, Turkey

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

H11S2 WAKE ISLAND Hy 32.44 49 T T 04 30 29.3
baz=232,slow=75,SNR=12
H11S1 WAKE ISLAND Hy 32.44 49 T T 04 30 12.0
baz=232,slow=75,SNR=11
H11N1 WAKE ISLAND Hy 33.33 47 T T 04 31 12.7
baz=230,slow=75,SNR=21
H11N2 WAKE ISLAND Hy 33.34 47 T T 04 31 14.4
baz=230,slow=75,SNR=42
H11N3 WAKE ISLAND Hy 33.35 47 T T 04 31 14.5
baz=230,slow=75,SNR=18
MKAR Makanchi Array 71.57 321 P P 04 00 42.6 0.0
0.3nm,0.7s,baz=105,slow=7.6,SNR=4.1
ILAR Eielson Array 84.61 24 P P 04 01 54.5 -0.1
0.7nm,1.0s,baz=256,slow=4.4,SNR=6.1

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*IDC **15** 04:16:11.2±0.9, 9°.23S×157°.53E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/25, mbtmp3.9/8, Error ellipse: s-maj=40.5km s-min=23.9km az=129.0*
*ISCJB **15** 04:16:12.7±0.9, 9°.2S±0°.2×157°.5E±0°.2, h17km, mb3.8/8, Error ellipse: s-maj=37.1km s-min=19.1km az=42.4*
ISC 15 04:16:13.9±0.8, 9°.2S±0°.2×157°.5E±0°.2, h17km, n9, σ0.53/10, mb3.9/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.80**	**242**	P		**P**		**04 21 35.4**	**+0.1**
	3.1nm,0.7s,baz=68,slow=9.8,SNR=20								
WRA				PcP		**PcP**		**04 25 12.2**	**+0.4**
	0.4nm,0.7s,baz=68,slow=2.7,SNR=4.6								
ASAR	**Alice Springs**	**26.75**	**235**	P		**P**		**04 21 52.8**	**-0.2**
	0.8nm,1.0s,baz=65,slow=9.6,SNR=4.3								
SONM	**Songino Array**	**72.57**	**327**	P		**P**		**04 27 40.9**	**+0.6**
	0.4nm,0.7s,baz=132,slow=6.0,SNR=3.8								
QSPA	**South Pole Qui**	**80.75**	**180**	P		**P**		**04 28 26.3**	**0.0**
	3.6nm,1.0s,baz=339,slow=2.6,SNR=6.6								
ILAR	**Eielson Array**	**84.55**	**21**	P		**P**		**04 28 45.2**	**-0.6**
	0.9nm,0.9s,baz=243,slow=5.0,SNR=7.0								
MKAR	**Makanchi Array**	**86.73**	**318**	P		**P**		**04 28 56.7**	**-0.4**
	0.5nm,0.7s,baz=96,slow=5.8,SNR=5.0								
NVAR	**Mina Array Bea**	**91.15**	**51**	P		**P**		**04 29 19.3**	**+0.8**
	0.7nm,0.8s,baz=252,slow=5.3,SNR=5.0								
YKA	**Yellowknife Ar**	**97.14**	**28**	P		**P**		**04 29 44.9**	**-0.2**
	0.2nm,0.6s,baz=258,slow=4.2,SNR=3.9								
BDFB	**Brasilia**	**144.63**	**134**	PKP		**PKPdf**		**04 35 50.4**	**-0.5**
	3.9nm,0.8s,baz=220,slow=2.9,SNR=6.1								

IDC 15 05:01:05.3±1.7, 2°.60N×127°.82E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/23, mbtmp3.7/4, Error ellipse: s-maj=150.7km s-min=22.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.30**	**164**	P			P	05 06 15.4	+0.3
	0.9nm,0.3s,baz=344,slow=10,SNR=17								
STKA	**Stephens Creek**	**36.70**	**160**	P			P	05 08 13.2	-1.0
	0.6nm,0.3s,baz=337,slow=7.7,SNR=3.9								
MKAR	**Makanchi Array**	**59.10**	**325**	P			P	05 11 07.9	+0.2
	0.3nm,0.4s,baz=136,slow=8.1,SNR=5.3								
KURBB	**Kurchatov Arra**	**63.27**	**327**	P			P	05 11 35.9	+0.1
	0.4nm,0.3s,baz=118,slow=6.2,SNR=4.9								

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*ISCJB **15** 05:03:17.1±0.5, 17°.49N±0°.06×95°.09W±0°.03, h134km±5km, mb3.4/4, Error ellipse: s-maj=9.8km s-min=5.3km az=5.1*
*IDC **15** 05:03:17.1±0.8, 17°.77N×94°.62W, h112km±21km, mb3.2/5, mb1 3.5/8, mb1mx3.3/28, mbtmp3.6/8, Error ellipse: s-maj=48.2km s-min=12.7km az=31.0*
*NEIC **15** 05:03:19.2, 17°.49N×95°.09W, h135km, MD4.0(MEX), After MEX.*
*MEX **15** 05:03:19.6±0.8, 17°.50N×95°.10W, h132km±6km, MD4.0*
ISC 15 05:03:18.3±0.6, 17°.49N±0°.05×95°.12W±0°.03, h126km±6km, n28, σ1.20/47, mb3.5/4, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.46**	**150**	*i* P			**Pn**	**05 03 37.6**	**+0.9**
CMIG				*i* S			**Sn**	**05 03 51.2**	**+0.7**
CMIG	**Matias Romero**	**0.46**	**150**	LR			LR	05 03 26.2	
	comp=Z,24nm,20.0s,baz=322,slow=12								
CMIG				P			**Pn**	**05 03 36.2**	**-0.4**
	348nm,0.3s,baz=326,slow=6.8,SNR=9014								
CMIG				S			**Sn**	**05 03 51.0**	**+0.5**
	256nm,0.3s,baz=18,slow=20,SNR=75								
CMIG	**Matias Romero**	**0.46**	**150**	*i* P			**Pn**	**05 03 37.6**	**+0.9**
CMIG				*i* S			**Sn**	**05 03 51.2**	**+0.7**
TUIG	**Tuzandepetl**	**0.86**	**51**	*i* P			**Pn**	**05 03 39.7**	**+0.2**
TUIG				*i* S			**Sn**	**05 03 55.6**	**0.0**
TUIG	**Tuzandepetl**	**0.86**	**51**	*i* P			**Pn**	**05 03 39.7**	**+0.2**
TUIG				*i* S			**Sn**	**05 03 55.6**	**0.0**
OXBJ	**Oaxaca**	**1.59**	**255**	*e*P			**Pn**	**05 03 48.2**	**+0.9**
OXBJ				*e*S			**Sn**	**05 04 10.4**	**+1.0**
VHO	**Vista Hermosa**	**1.59**	**255**	*i* P			**Pn**	**05 03 48.2**	**+0.8**
VHO				*e*S			**Sn**	**05 04 10.4**	**+0.8**
VHO	**Vista Hermosa**	**1.59**	**255**	*i* P			**Pn**	**05 03 48.2**	**+0.8**
VHO				*e*S			**Sn**	**05 04 10.4**	**+0.8**
HUIG	**Huatulco**	**1.96**	**209**	*e*P			**Pn**	**05 03 51.4**	**-0.1**
HUIG				*e*S			**Sn**	**05 04 17.2**	**+0.3**
HUIG	**Huatulco**	**1.96**	**209**	*e*P			**Pn**	**05 03 51.4**	**-0.1**
HUIG				*e*S			**Sn**	**05 04 17.2**	**+0.3**
TGBT	**Tuxtla Gutierr**	**2.07**	**110**	*e*P			**Pn**	**05 03 52.6**	**-0.3**
TGBT				*i* S			**Sn**	**05 04 18.6**	**-0.8**
TPIG	**Tehuac#an**	**2.32**	**294**	*e*P			**Pn**	**05 03 56.5**	**+0.3**
TPIG				*e*S			**Sn**	**05 04 26.1**	**+0.7**
TPIG	**Tehuac#an**	**2.32**	**294**	*e*P			**Pn**	**05 03 56.5**	**+0.3**
TPIG				*e*S			**Sn**	**05 04 26.1**	**+0.7**
PNIG	**Pinotepa**	**3.08**	**250**	*i* P			**Pn**	**05 04 04.2**	**-1.6**
PNIG				*i* S			**Sn**	**05 04 42.9**	**+0.5**
PNIG	**Pinotepa**	**3.08**	**250**	*i* P			**Pn**	**05 04 04.2**	**-1.6**
PNIG				*i* S			**Sn**	**05 04 42.9**	**+0.5**
CCIG	**Comitan**	**3.10**	**112**	*e*P			**Pn**	**05 04 07.7**	**+1.4**
CCIG				*i* S			**Sn**	**05 04 42.1**	**-1.1**
CCIG	**Comitan**	**3.10**	**112**	*e*P			**Pn**	**05 04 07.7**	**+1.4**
CCIG				*i* S			**Sn**	**05 04 42.1**	**-1.1**
APG	**El Apazote**	**5.11**	**118**	P			Pn	05 04 27.8	-5.3
	2.5nm,0.3s,baz=314,slow=15,SNR=89								
APG				S			Sn	05 05 23.7	-7.5
	32nm,0.3s,baz=348,slow=20,SNR=22								
JTS	**JuntasAbangare**	**12.19**	**125**	P			**Pn**	**05 06 05.1**	**-2.9**
	0.1nm,0.3s,baz=328,slow=15,SNR=2.4								
JTS	**JuntasAbangare**	**12.19**	**125**	*e*Pn			**Pn**	**05 06 09.5**	**+1.5**
JTS				*e*Sn			**Sn**	**05 08 24.2**	**+1.9**
TXAR	**Lajitas Array**	**14.15**	**328**	P			**Pn**	**05 06 32.6**	**-0.6**
	0.0nm,0.3s,baz=153,slow=12,SNR=2.8								
LRAL	**Lakeview Retre**	**17.12**	**24**	*e*P			**Pn**	**05 07 13.3**	**+3.4**
	1.5nm,0.5s								
ANMO	**Albuquerque**	**20.11**	**332**	P			**P**	**05 07 41.6**	**-0.8**
	1.1nm,0.6s,baz=137,slow=11,SNR=5.9								
PDAR	**Pinedale Array**	**28.03**	**337**	P			**P**	**05 08 57.7**	**-0.2**
	0.5nm,0.9s,baz=141,slow=10,SNR=3.5								
NVAR	**Mina Array Bea**	**29.08**	**321**	P			**P**	**05 09 08.4**	**+1.2**
	0.8nm,0.6s,baz=133,slow=8.7,SNR=9.0								
NVAR				pP			**pP**	**05 09 33.9**	**-0.5**
	0.6nm,0.7s,baz=130,slow=9.9,SNR=2.9								
YKA	**Yellowknife Ar**	**46.98**	**348**	P			**P**	**05 11 35.6**	**-0.8**
	0.7nm,0.6s,baz=154,slow=7.4,SNR=18								
YKA				pP			**pP**	**05 12 02.1**	**-3.1**
	0.2nm,0.5s,baz=153,slow=7.4,SNR=2.9								
ILAR	**Eielson Array**	**58.47**	**337**	P			**P**	**05 13 00.1**	**-0.7**
	0.5nm,1.0s,baz=131,slow=5.5,SNR=5.3								
WRA	**Warramunga Arr**	**133.22**	**259**	PKP			**PKPdf**	**05 22 21.0**	**+0.9**
	0.4nm,0.9s,baz=75,slow=2.6,SNR=3.0								

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*IDC **15** 05:10:27.0±1.3, 2°.74S×141°.89E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.6/19, mbtmp3.5/6, ML3.6/1, Error ellipse: s-maj=64.7km s-min=22.5km az=93.0*
*ISCJB **15** 05:10:29.6±1.1, 2°.8S±0°.1×141°.8E±0°.4, h30km, mb3.5/5, Error ellipse: s-maj=51.4km s-min=15.4km az=4.9*
ISC 15 05:10:31.6±1.1, 2°.8S±0°.1×141°.9E±0°.4, h30km, n13, σ0.64/7, mb3.5/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.57**	**203**	P			**P**	**05 14 45.8**	**-0.5**
	0.2nm,0.3s,baz=18,slow=13,SNR=14								
ASAR	**Alice Springs**	**22.14**	**200**	P			**P**	**05 15 25.1**	**0.0**
	0.9nm,0.8s,baz=30,slow=9.9,SNR=8.9								
STKA	**Stephens Creek**	**28.95**	**180**	P			**P**	**05 16 28.4**	**0.0**
	0.6nm,0.6s,baz=329,slow=12,SNR=1.5								
H11S3	**WAKE ISLAND Hy 32.33**	**48**		T			T	05 51 13.0	
	baz=232,slow=76,SNR=8.8								
H11S2	**WAKE ISLAND Hy 32.34**	**48**		T			T	05 51 11.3	
	baz=232,slow=76,SNR=5.1								
H11S1	**WAKE ISLAND Hy 32.34**	**48**		T			T	05 51 11.6	
	baz=232,slow=76,SNR=4.8								
H11N1	**WAKE ISLAND Hy 33.24**	**47**		T			T	05 52 18.8	
	baz=230,slow=76,SNR=13								
H11N2	**WAKE ISLAND Hy 33.25**	**47**		T			T	05 52 19.3	
	baz=230,slow=76,SNR=14								
H11N3	**WAKE ISLAND Hy 33.25**	**47**		T			T	05 52 17.9	
	baz=230,slow=76,SNR=5.3								
SONM	**Songino Array**	**59.16**	**333**	P			**P**	**05 20 29.8**	**+0.1**
	0.1nm,0.3s,baz=150,slow=6.3,SNR=3.3								
MKAR	**Makanchi Array**	**71.77**	**321**	P			**P**	**05 21 51.4**	**+0.2**
	0.6nm,0.6s,baz=107,slow=4.8,SNR=3.7								
ILAR	**Eielson Array**	**84.61**	**24**	P			**P**	**05 23 01.2**	**-0.6**
	0.5nm,1.0s,baz=246,slow=5.2,SNR=3.1								
LPAZ	**La Paz**	**144.84**	**124**	PKP			**PKPdf**	**05 30 08.5**	**+1.0**
	0.7nm,0.6s,baz=256,slow=4.2,SNR=2.6								

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*IDC **15** 05:16:12.6±1.6, 3°.28S×140°.94E, h0km, mb3.4/2, mb1 3.9/3, mb1mx3.5/21, mbtmp3.6/3, ML3.7/1, MS4.3/1, Ms1 4.3/1, ms1mx2.7/18, Error ellipse: s-maj=63.5km s-min=30.0km az=89.0*
*DJA **15** 05:16:13.1±1.4, 3°.5±10°.×14°.1E±1°.0, h10km, M3.7/4, MLv3.7/4*
ISC 15 05:16:15.3±1.5, 3°.23S±0°.08×141°.0E±0°.2, h23km, n12, σ1.10/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.76**	**339**	P			Pb	05 16 22.6	-7.3
JAY				S			**Sb**	**05 16 38.5**	**-1.4**
GENI	**Genyem**	**1.03**	**308**	P			**Pn**	**05 16 33.4**	**-0.9**
GENI				S			**Sn**	**05 16 49.7**	**+1.7**
WAMI	**Wamena**	**2.35**	**254**	P			**Pb**	**05 16 56.6**	**-0.4**
SMPI	**Sarmi**	**2.58**	**299**	P			**Pb**	**05 17 00.9**	**0.0**
WRA	**Warramunga Arr**	**17.83**	**201**	P			**Pn**	**05 20 22.0**	**-0.1**
	0.2nm,0.3s,baz=21,slow=12,SNR=14								
ASAR	**Alice Springs**	**21.43**	**198**	P			**P**	**05 21 01.8**	**-0.2**
	1.5nm,0.6s,baz=26,slow=11,SNR=24								
JCJ	**Chichijima**	**30.17**	**2**	LR			LR	05 31 36.8	
	comp=Z,630nm,20.9s,baz=52,slow=31								
H11S3	**WAKE ISLAND Hy 33.28**	**49**		T			T	05 57 22.2	
	baz=232,slow=75,SNR=9.7								
H11S2	**WAKE ISLAND Hy 33.29**	**49**		T			T	05 57 21.1	
	baz=232,slow=75,SNR=4.9								
H11S1	**WAKE ISLAND Hy 33.29**	**49**		T			T	05 57 17.9	
	baz=232,slow=75,SNR=4.9								
MKAR	**Makanchi Array**	**71.59**	**322**	P			**P**	**05 27 36.0**	**+1.2**
	0.2nm,0.6s,baz=111,slow=7.9,SNR=3.6								
LPAZ	**La Paz**	**145.30**	**125**	PKPbc			**PKPdf**	**05 35 53.1**	**0.0**
	1.9nm,0.7s,baz=241,slow=2.0,SNR=9.4								

GUC 15 05:23:22.1±0.5, 34°.77S×72°.32W, h35km, ML3.7, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.84**	**138**	↑*i*P			Pn	05 23 37.6	+0.1
TALC				*i* S			Sn	05 23 49.6	+1.0
NICH	**Los Niches**	**0.93**	**105**	*e*P1			Pn	05 23 39.4	+0.7
NICH				*i* S			Sn	05 23 51.5	+0.7
LNCH	**Linares**	**1.23**	**151**	↑*i*P			Pn	05 23 43.3	+0.6
LNCH				*i* S			Sn	05 23 59.8	+1.7
COCH	**Cobquecura**	**1.41**	**195**	*e*P4			Pn	05 23 44.1	-1.1
COCH				*i* S4			Sn	05 23 59.2	-3.4
CCSP	**San Pedro de C**	**2.17**	**197**	↑*i*P			Pn	05 23 58.6	+3.0
CCSP				*i* S4			Sn	05 24 04.0	-17
CCSP				AML			AML	05 24 05.3	
	comp=E,623nm,0.1s								

DJA 15 05:49:38.8±1.0, 8°.5S±10°.7E±°, h22km±7km, M4.0/7, MLv4.0/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.61**	**45**	P			Pb	05 49 51.4	+0.5
CISI				S			Sb	05 50 00.1	+0.9
CNJI	**Cibinong**	**0.72**	**340**	P			Pb	05 49 53.0	+0.3
CNJI				S			Sn	05 50 03.1	-0.9
CMJI	**Cimerak**	**1.08**	**79**	P			Pn	05 49 57.2	-1.4
CMJI				S			Sb	05 50 11.2	-1.2
LEM	**Lembang**	**1.18**	**12**	P			Pn	05 50 00.1	-0.1
SKJI	**Sukabumi**	**1.27**	**320**	P			Pn	05 50 00.7	-0.6
KPJI	**Karang Pucung**	**1.67**	**67**	P			Pn	05 50 06.9	+0.2
CGJI	**Cibinong**	**2.16**	**309**	P			Pn	05 50 12.1	-1.4
SBJI	**Serang**	**2.23**	**326**	P			Pn	05 50 15.2	+0.7
KASI	**Kota Agung**	**3.77**	**310**	P			Pn	05 50 35.8	+0.2
PWJI	**Pagerwojo**	**4.38**	**91**	P			Pn	05 50 44.4	+0.3

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*BJI **15** 05:56:48.4, 38°.56N×71°.80E, h9km, mB4.2/1, mb4.1/4, ML4.2/4, Ms3.9/1, Ms7 3.7/1*
*IDC **15** 05:56:48.0±0.8, 38°.33N×72°.19E, h0km, mb3.8/14, mb1 4.0/21, mb1mx3.9/35, mbtmp3.9/21, ML3.6/7, MS3.2/6, Ms1 3.2/6, ms1mx2.8/39, Error ellipse: s-maj=15.9km s-min=12.6km az=149.0*
*ISCJB **15** 05:56:50.8±0.3, 38°.40N±0°.03×72°.15E±0°.05, h25km, mb3.9/24, MS3.3/6, Error ellipse: s-maj=5.9km s-min=4.3km az=167.3*
*MOS **15** 05:56:53.5±1.7, 38°.53N×71°.98E, h33km, mb4.4/8, Error ellipse: s-maj=9.8km s-min=4.5km az=81.0*
*NNC **15** 05:56:54.4±1.9, 38°.68N×71°.85E, h0km, mb4.7, mpv4.2, Error ellipse: s-maj=19.2km s-min=9.4km az=146.0*
*NEIC **15** 05:56:57.2±1.1, 38°.62N×72°.15E, h62km±10km, mb4.4/2, Error ellipse: s-maj=13.1km s-min=9.3km az=134.0*
ISC 15 05:56:52.6±0.5, 38°.51N±0°.04×72°.05E±0°.04, h25km, n113, σ2.08/94, mb4.0/24, MS3.2/6, 19C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.54**	**278**	↑Pn			**Pn**	**05 57 34.8**	**+2.5**
DZET				↑Lg			Lg	05 58 11.2	
KSH	**Kashi**	**3.22**	**71**	Pn			**Pn**	**05 57 39.5**	**-2.1**
KSH				Sn			Sn	05 58 12.0	-7.3
KSH				SMN					
	2μm,0.7s								
KSH				SME					
	3μm,0.8s								
AML	**Almayashu**	**3.83**	**19**	P			**Pn**	**05 57 52.5**	**+2.2**
	SNR=256								
AML	**Almayashu**	**3.83**	**19**	*i* PN			**Pn**	**05 57 52.4**	**+2.2**
UCH	**Uchtor**	**4.16**	**26**	P			**Pn**	**05 57 56.4**	**+1.4**
	SNR=49								
UCH	**Uchtor**	**4.16**	**26**	*i* PN			**Pn**	**05 57 56.3**	**+1.4**
KZA	**Kyzart**	**4.32**	**34**	P			**Pn**	**05 57 59.3**	**+2.2**
	SNR=9.2								
KZA	**Kyzart**	**4.32**	**34**	*i* PN			**Pn**	**05 57 59.2**	**+2.2**
EKS2	**Erkin-Say**	**4.35**	**17**	P			Pn	05 58 01.2	+4.0
	SNR=8.7								
EKS2	**Erkin-Say**	**4.35**	**17**	*e*PN			**Pn**	**05 57 59.3**	**+2.1**
EKS2	**Erkin-Say**	**4.35**	**17**	*e*Pn			**Pn**	**05 57 59.3**	**+2.1**
EKS2				*e*Sn			**Sn**	**05 58 44.8**	**-2.4**
AAK	**Ala-Archa**	**4.52**	**24**	↑Pn			Pn	05 58 03.0	+3.4
	27nm,0.5s								
AAK				↓Sn			**Sb**	**05 58 59.9**	**-5.5**
	108nm,0.7s								
AAK	**Ala-Archa**	**4.52**	**24**	P			Pn	05 58 02.9	+3.4
	SNR=43								
AAK	**Ala-Archa**	**4.52**	**24**	*ce*PN			**Pn**	**05 58 02.6**	**+3.1**
AAK				pmax			pmax		
	comp=Z,62nm,0.7s								
AAK	**Ala-Archa**	**4.52**	**24**	Pn			Pn	05 58 02.8	+3.2
	comp=Z,4.3nm,0.3s,baz=193,slow=9.1,SNR=47								
AAK				Sn			**Sb**	**05 59 00.4**	**-4.9**
	comp=Z,6.5nm,0.3s,baz=150,slow=20,SNR=7.4								
AAK				LR			LR	05 59 54.0	
	comp=Z,148nm,21.9s,baz=196,slow=40								
AAK	**Ala-Archa**	**4.52**	**24**	*e*Pn			**Pn**	**05 58 01.9**	**+2.3**
KBL	**Kabul**	**4.64**	**212**	*e*PN			Pb	05 58 08.1	-5.3
KBL				*e*				05 59 08.0	
KBL	**Kabul**	**4.64**	**212**	*e*Pn			Pb	05 58 08.1	-5.3
KBL				*e*Sn			**Sb**	**05 59 08.0**	**-0.9**
KBK	**Karagaybulak**	**4.69**	**27**	P			Pn	05 58 08.3	+6.4
	SNR=16								
KBK	**Karagaybulak**	**4.69**	**27**	*i* PN			Pn	05 58 08.3	+6.4
KK31	**Karatay Array**	**4.73**	**346**	Pn			**Pn**	**05 58 04.8**	**+2.4**
	comp=Z,13nm,0.3s,baz=158,slow=11,SNR=481								
KK31				↓Sn			**Sn**	**05 58 59.6**	**+3.2**
	comp=Z,30nm,0.4s,baz=168,slow=22,SNR=3.8								
KK31				↑Lg			Lg	05 59 18.5	
	comp=Z,53nm,0.5s,baz=164,slow=27,SNR=3.9								
KK31	**Karatay Array**	**4.73**	**346**	*e*PN			**Pn**	**05 58 04.7**	**+2.4**
KK31				*e*				05 59 18.4	
KK31				pmax			pmax		
	comp=Z,49nm,0.4s								
KK31				pmax			pmax		
	comp=Z,52nm,0.4s								
KKAR	**Karatay Array**	**4.73**	**346**	*e*PN			**Pn**	**05 58 04.9**	**+2.5**
KKAR	**Karatay Array**	**4.73**	**346**	*e*Pn			**Pn**	**05 58 04.9**	**+2.5**
KKAR				*e*Sn			**Sn**	**05 58 53.4**	**-3.0**
FRU	**Bishkek**	**4.74**	**24**	↓*e*PN			Pb	05 58 09.5	-5.4
FRU				*i*				05 58 17.5	
FRU				*e*				05 59 04.0	
FRU				*i*				05 59 21.0	
ULHL	**Ulahol**	**4.92**	**39**	P			**Pn**	**05 58 07.6**	**+2.5**
	SNR=8.2								
ULHL	**Ulahol**	**4.92**	**39**	*i* PN			**Pn**	**05 58 07.5**	**+2.5**
CHMS	**Chumysh**	**4.93**	**24**	P			Pn	05 58 09.7	+4.7
	SNR=21								
CHMS	**Chumysh**	**4.93**	**24**	*i* PN			Pn	05 58 09.7	+4.7
USP	**Ospenovka**	**5.10**	**21**	P			Pn	05 58 11.9	+4.5
	SNR=17								
USP	**Ospenovka**	**5.10**	**21**	*i* PN			Pn	05 58 11.9	+4.5
TKM2	**Tokmak 2**	**5.16**	**30**	↑Pn			Pn	05 58 13.1	+4.7
	comp=Z,8.3nm,0.4s								
TKM2				↑Pg			**Pb**	**05 58 23.2**	**+1.0**
	comp=Z,74nm,1.0s								
TKM2				↓Lg			Lg	05 59 35.7	
	comp=Z,122nm,1.2s								
TKM2	**Tokmak 2**	**5.16**	**30**	P			Pn	05 58 13.5	+5.1
	SNR=30								
TKM2	**Tokmak 2**	**5.16**	**30**	*e*PN			**Pn**	**05 58 11.0**	**+2.6**
TKM2				pmax			pmax		
	comp=Z,54nm,0.7s								
TKM2	**Tokmak 2**	**5.16**	**30**	*e*Pn			**Pn**	**05 58 11.0**	**+2.6**
	comp=Z,54nm,0.7s								
TKM2				*e*Sn			**Sn**	**05 59 04.5**	**-2.8**
THW	**Thamme Wali**	**5.71**	**183**	P			Pn	05 58 19.8	+4.0
KNDC	**Almaty**	**6.00**	**37**	↓Lg			Lg	06 00 00.6	
	comp=Z,387nm,1.3s								
DLH	**Dalhousie**	**6.76**	**151**	*e*P			**Pn**	**05 58 31.0**	**+0.6**
DLH				*ex*			**Sn**	**05 59 48.0**	**+1.3**
PDGK	**Podgornoye**	**7.41**	**47**	↑Lg			Lg	06 00 46.8	
PDGK	**Podgornoye**	**7.41**	**47**	*i* P			**Pn**	**05 58 39.1**	**+0.1**
BHK	**Bhakra**	**7.93**	**152**	*ex*			Pb	05 59 20.2	+11
SMLA	**Simla**	**8.48**	**149**	*i* P			**Pn**	**05 58 55.0**	**+1.2**
SMLA				*e*S			**Sn**	**06 00 23.6**	**-5.1**
SMLA				AML			AML	06 00 30.4	
	comp=N,123nm,0.5s								
SMLA				AML			AML	06 00 32.6	
	comp=E,143nm,0.6s								
OTUK	**Ortayu**	**9.73**	**1**	↑Pn			**Pn**	**05 59 12.9**	**+2.0**
OTUK				↓Lg			Lg	06 01 55.2	
OTUK	**Ortayu**	**9.73**	**1**	*i* P			**Pn**	**05 59 12.9**	**+2.0**
KHET	**Khetri**	**10.87**	**162**	*e*P			**Pn**	**05 59 24.6**	**-2.0**
KHET				*e*S			Sn	06 01 16.3	-11
GEYT	**Alibeck**	**10.98**	**271**	Pn			**Pn**	**05 59 27.1**	**-0.9**
	comp=E,1.6nm,0.3s,baz=96,slow=12,SNR=6.6								
GEYT				Sn			**Sn**	**06 01 25.1**	**-4.9**
	comp=E,1.4nm,0.3s,baz=92,slow=19,SNR=2.9								
KUDL	**Kundal**	**10.98**	**159**	*e*P			**Pn**	**05 59 28.3**	**+0.2**
KUDL				*e*S			Sn	06 01 18.9	-11
SONA	**Sohna**	**11.06**	**156**	*e*P			**Pn**	**05 59 28.2**	**-0.9**
SONA				*e*S			Sn	06 01 21.7	-10
MKAR	**Makanchi Array**	**11.19**	**39**	*ce*P			**Pn**	**05 59 32.7**	**+1.8**
MKAR				pmax			pmax		
	comp=Z,3.0nm,0.8s								
MKAR	**Makanchi Array**	**11.19**	**39**	Pn			**Pn**	**05 59 32.3**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=229,slow=13,SNR=15								
MKAR				Lg			Lg	06 02 46.7	
	comp=Z,0.1nm,0.3s,baz=242,slow=32,SNR=3.7								
AGRA	**Agra**	**12.29**	**155**	*e*P			**Pn**	**05 59 43.8**	**-2.1**
AGRA				*e*S			Sn	06 01 49.2	-13
KURBB	**Kurchatov Arra**	**12.95**	**19**	Pn			**Pn**	**05 59 52.8**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=214,slow=13,SNR=3.8								
KURBB				Lg			Lg	06 03 33.5	
	comp=Z,0.1nm,0.3s,baz=206

GTA sP **sP** **06 01 50.9 +0.3**
GTA PMZ
comp=Z,7.0nm,0.8s
KBZ **Khabaz** **22.51 293** P **P** **06 01 52.0 +1.8**
comp=Z,1.8nm,0.7s,baz=90,slow=10,SNR=5.0
KIV **Kislovodsk** **22.67 293** *e*P **P** **06 01 52.7 +0.6**
KIV pmax pmax
comp=Z,7.0nm,0.7s
KIV MLR MLR
comp=Z,30nm,15.0s
VRHR **Novokhopersk** **24.79 310** *e*P **P** **06 02 13.9 +1.7**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,4.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.8s
ZAK **Zakamensk** **25.07 52** *e*P **P** **06 02 15.2 +0.3**
ZAK pmax pmax
comp=Z,2.0nm,1.5s
VORD **Divnogorie** **26.16 309** *e*P **P** **06 02 26.9 +2.3**
VORD pmax pmax
comp=Z,4.0nm,0.6s
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,7.0nm,0.7s
VSR **Storozhevoye** **26.30 310** *e*P **P** **06 02 27.3 +1.3**
VSR pmax pmax
comp=Z,6.0nm,0.8s
VSR pmax pmax
comp=N,4.0nm,1.1s
VSR pmax pmax
comp=E,9.0nm,0.9s
SONM **Songino Array** **26.54 58** P **P** **06 02 28.0 -0.3**
comp=E,0.1nm,0.5s,baz=255,slow=8.8,SNR=2.1
RAYN **Ar Rayn** **27.09 244** *e*P **P** **06 02 35.2 +1.8**
comp=E,16nm,1.0s
BRTR **Keskin Array B** **29.67 285** P **P** **06 02 57.0 +0.6**
BRTR **Keskin Array B** **29.67 285** P **P** **06 02 57.0 +0.6**
comp=E,0.4nm,0.6s,baz=88,slow=7.3,SNR=4.0
BRTR LR LR 06 16 42.0
comp=E,30nm,18.2s,baz=76,slow=40
AKASG **Malin Array Be** **32.38 306** P **P** **06 03 20.9 +0.9**
comp=E,0.5nm,0.4s,baz=82,slow=8.6,SNR=3.0
JOF **Joensuu** **34.57 328** *e*P **P** **06 03 39.9 +1.0**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF **Joensuu** **34.57 328** *e*p **P** **06 03 39.9 +1.0**
comp=Z,2.2nm,0.6s
FINES **FINESS Array B** **36.31 324** P **P** **06 03 54.7 +0.8**
comp=Z,2.3nm,0.5s,baz=112,slow=8.7,SNR=11
FINES LR LR 06 20 19.6
comp=Z,39nm,18.6s,baz=131,slow=39
KOLS **Kolonicke sedl** **36.84 303** *e*P **P** **06 04 01.0 +2.4**
KOLS **Kolonicke sedl** **36.84 303** *e*P **P** **06 04 01.0 +2.4**
ARCES **ARCESS Array B** **39.62 336** P **P** **06 04 22.3 +0.6**
comp=Z,1.5nm,0.6s,baz=115,slow=8.3,SNR=16
BRG **Berggiesshubel** **42.06 307** *e*P P 06 04 46.8 +4.8
comp=Z,4.1nm,0.9s
BRG **Berggiesshubel** **42.06 307** *e*P P 06 04 46.8 +4.8
BRG pmax pmax
comp=Z,4.0nm,0.9s
NB2 **NORSAR Subarra** **43.30 322** P **P** **06 04 52.7 +0.7**
comp=Z,1.6nm,0.7s,baz=93,slow=7.9
NOA **NORSAR Array B** **43.30 322** P **P** **06 04 52.7 +0.7**
comp=Z,1.2nm,0.6s,baz=93,slow=8.0,SNR=6.0
NOA LR LR 06 23 40.8
comp=Z,28nm,18.1s,baz=120,slow=37
TIXI **Tiksi** **43.60 23***ce*P P 06 04 59.0 +4.8
TIXI pmax pmax
comp=Z,2.0nm,0.7s
TIXI MLR MLR
comp=Z,150nm,22.0s
TIXI **Tiksi** **43.60 23** *e*P P 06 04 57.8 +3.6
comp=Z,3.0nm,0.8s
MJAR **Matsushiro Arr** **51.47 70** LR LR 06 27 25.4
comp=Z,55nm,18.3s,baz=200,slow=36
TORD **Torodi Ar. Bea** **66.60 268** P **P** **06 07 40.7 -0.3**
comp=Z,1.0nm,0.5s,baz=50,slow=5.8,SNR=27
ILAR **Eielson Array** **72.62 16** P **P** **06 08 18.2 +0.8**
comp=Z,0.5nm,0.8s,baz=330,slow=5.9,SNR=8.1
YKA **Yellowknife Ar** **79.20 3** P **P** **06 08 55.7 +0.8**
comp=Z,1.3nm,0.8s,baz=349,slow=5.5,SNR=17
SCHQ **Schefferville** **80.57 337** P **P** **06 09 04.8 +2.3**
comp=Z,1.4nm,0.8s,baz=36,slow=8.7,SNR=3.4
WRA **Warramunga Arr** **82.36 123** P **P** **06 09 10.6 -1.9**
comp=Z,1.8nm,1.2s,baz=323,slow=4.8,SNR=6.5
WRAB **Tennant Creek** **82.36 123***ce*P P 06 09 19.5 +7.1
WRAB pmax pmax
comp=Z,32nm,2.5s
ASAR **Alice Springs** **84.74 126** P **P** **06 09 23.2 -1.4**
comp=Z,0.3nm,0.8s,baz=304,slow=5.5,SNR=3.3

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*IDC **15** 05:58:07.8±0.9, 25°.95S×66°.75W, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.8/18, mbtmp3.7/7, ML3.4/2, MS3.6/7, Ms1 3.5/7, ms1mx3.2/25, Error ellipse: s-maj=34.3km s-min=19.4km az=101.0*
*SJA **15** 05:58:12.3±0.9, 25°.80S×66°.76W, h1km±6km, ML4.1*
ISC 15 05:58:09.4±0.7, 25°.94S±0°.05×66°.79W±0°.09, h10km±n22, σ1°.35/21, mb3.6/5, MS3.4/5, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHML	**Horco Molle**	**1.55**	**123**	*i* P	Pg	05 58 43.8	+4.5
AHML				*i* S	Sg	05 59 06.4	+7.0
AHML				AML	AML	05 59 08.8	
	comp=N,2μm,0.3s						
SLA	**San Lorenzo**	**1.68**	**44**	*i* P	**Pg**	**05 58 42.5**	**+0.7**
SLA				*i* S	**Sg**	**05 59 05.8**	**+2.2**
SLA				AML	AML	05 59 12.4	
	comp=Z,3μm,0.5s						
AZAP	**Zapla**	**2.32**	**43**	*i* P	**Pg**	**05 58 53.8**	**-0.1**
AZAP				*i* S	**Sg**	**05 59 22.9**	**-1.0**
AZAP				AML	AML	05 59 29.7	
	comp=Z,2μm,0.6s						
CYA	**Choya**	**2.64**	**161**	*i* P	**Pg**	**05 59 00.4**	**+0.3**
CYA				*i* S	**Sg**	**05 59 36.3**	**+2.0**
CYA				AML	AML	05 59 41.0	
	comp=Z,742nm,0.5s						
ASTB	**Santa Barbara**	**2.88**	**47**	*i* P	**Pb**	**05 59 00.8**	**-0.3**
ASTB				*i* P	**Pb**	**05 59 00.8**	**-0.3**
ALOL	**LOMAS DE OLMED**	**3.32**	**51**	*i* P	**Pb**	**05 59 06.7**	**-1.8**
CFAA	**Coronel Fontan**	**5.78**	**192**	Pn	Pn	05 59 40.9	+5.5
	comp=Z,0.3nm,0.3s,baz=12,slow=14,SNR=13						
CFAA				Pg	Pg	05 59 54.3	-5.9
	comp=Z,0.4nm,0.3s,baz=347,slow=16,SNR=15						
CFAA				Lg	Lg	06 01 12.8	
	comp=Z,0.7nm,0.3s,baz=293,slow=4.3,SNR=4.9						
CFAA				LR	LR	06 02 04.2	
	comp=Z,24nm,21.1s,baz=332,slow=41						
LPAZ	**La Paz**	**9.69**	**352**	Pn	**Pn**	**06 00 31.2**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=181,slow=8.1,SNR=16						
LPAZ				LR	LR	06 04 43.3	
	comp=Z,226nm,18.9s,baz=196,slow=41						
SIV	**San Ignacio**	**11.25**	**29**	Pn	**Pn**	**06 00 50.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=225,slow=11,SNR=2.5						
SIV				Sn	**Sn**	**06 02 59.0**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=294,slow=20,SNR=2.6						
SIV				LR	LR	06 05 40.4	
	comp=Z,157nm,21.3s,baz=208,slow=40						
BDFB	**Brasilia**	**20.30**	**63**	LR	LR	06 10 51.0	
	comp=Z,170nm,19.1s,baz=234,slow=38						
ROSC	**El Rosal**	**31.48**	**346**	LR	LR	06 17 20.3	
	comp=Z,73nm,18.4s,baz=272,slow=37						
TXAR	**Lajitas Array**	**65.36**	**325**	P	**P**	**06 08 52.6**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=145,slow=9.7,SNR=3.3						
DBIC	**Dimbokro**	**68.25**	**71**	LR	LR	06 36 59.4	
	comp=Z,24nm,19.6s,baz=234,slow=34						
TORD	**Torodi Ar. Bea**	**77.10**	**68**	P	**P**	**06 10 02.7**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=252,slow=4.9,SNR=11						
TORD				LR	LR	06 44 27.8	
	comp=Z,34nm,18.2s,baz=235,slow=36						
PDAR	**Pinedale Array**	**78.91**	**329**	P	**P**	**06 10 12.0**	**-1.3**
	comp=Z,0.6nm,0.9s,baz=125,slow=7.9,SNR=2.6						
NVAR	**Mina Array Bea**	**80.17**	**321**	P	**P**	**06 10 20.8**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=133,slow=6.3,SNR=3.7						
YKA	**Yellowknife Ar**	**96.00**	**340**	P	**P**	**06 11 35.6**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=133,slow=4.3,SNR=3.9						
DAVOX	**Davos/Dischmat**	**99.99**	**43**	LR	LR	06 58 40.8	
	comp=Z,67nm,18.2s,baz=342,slow=36						
ASAR	**Alice Springs**	**126.77**	**204**	PKP	**PKPdf**	**06 17 13.2**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=151,slow=2.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**145.00**	**29**	PKP	**PKPdf**	**06 17 46.6**	**+0.1**
	comp=Z,11nm,0.7s,baz=302,slow=3.3,SNR=45						
MKAR	**Makanchi Array**	**147.87**	**42**	PKPbc	**PKPab**	**06 17 55.2**	**-2.0**
	comp=Z,2.6nm,0.8s,baz=329,slow=2.1,SNR=22						
SONM	**Songino Array**	**157.50**	**12**	PKPab	**PKPab**	**06 18 38.1**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=323,slow=4.4,SNR=2.3						

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*ISCJB **15** 06:09:10.4±1.0, 28°.79N±0°.05×128°.36E±0°.07, h10km, mb3.5/3, MS3.5/1, Error ellipse: s-maj=8.8km s-min=7.1km az=145.8*
*JMA **15** 06:09:10.2±0.2, 28°.82N×128°.31E, h24km, M3.1*
*IDC **15** 06:09:11.1±3.9, 28°.33N×127°.84E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/28, mbtmp3.5/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/30, Error ellipse: s-maj=212.6km s-min=27.0km az=64.0*
ISC 15 06:09:11.1±1.1, 28°.77N±0°.06×128°.42E±0°.07, h10km, n9, σ1°.29/11, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.79**	**60**	P	**Pg**	**06 09 25.9**	**-0.4**
JTAJ				S	**Sg**	**06 09 36.7**	**+0.2**
JAMN	**Amaminishikomi**	**0.84**	**128**	P	**Pg**	**06 09 27.6**	**+0.3**
JAMN				*e*S	**Sg**	**06 09 40.1**	**+1.8**
JTK	**Tokunoshima**	**1.08**	**154**	P	**Pb**	**06 09 30.9**	**-1.0**
JTK				*e*S	**Sb**	**06 09 46.3**	**+0.2**
JAM	**Amami Oshima**	**1.10**	**108**	P	**Pn**	**06 09 31.7**	**-0.8**
JAM				*e*S	**Sb**	**06 09 47.3**	**+0.8**
KSRS	**Korea Array**	**8.68**	**357**	LR	LR	06 14 53.0	
	comp=Z,66nm,21.0s,baz=180,slow=38						
SONM	**Songino Array**	**25.56**	**324**	P	**P**	**06 14 42.7**	**+2.4**
	1.0nm,0.9s,baz=136,slow=10,SNR=5.5						
MKAR	**Makanchi Array**	**40.02**	**310**	P	**P**	**06 16 46.4**	**+0.2**
	0.5nm,0.6s,baz=90,slow=10,SNR=6.9						
WRA	**Warramunga Arr**	**48.76**	**173**	P	**P**	**06 17 55.0**	**-1.3**
	0.6nm,0.7s,baz=353,slow=8.4,SNR=3.5						
EIL	**Elat**	**79.08**	**298**	LR	LR	07 00 34.9	
	comp=Z,22nm,19.6s,baz=281,slow=39						

NNC 15 06:15:20.8±5.1, 38°.40N×72°.22E, h0km, mb3.6, mpv3.1, 4C-5D, Error ellipse: s-maj=51.8km s-min=17.5km az=151.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.69**	**280**	⇓Pn	Pn	06 16 04.2	-1.3
DZET				⇓Sn	Sn	06 16 41.0	+2.1
AAK	**Ala-Archa**	**4.57**	**22**	⇓Pn	Pn	06 16 29.7	-1.7
	2.8nm,0.6s						
AAK				⇑Sn	Sn	06 17 30.7	+5.2
	6.9nm,0.7s						
KK31	**Karatay Array**	**4.88**	**345**	⇓Pn	Pn	06 16 34.3	-1.1
	1.5nm,0.4s,baz=160,slow=11,SNR=22						
KK31				⇑Sn	Sn	06 17 31.4	-1.2
	1.8nm,0.5s,baz=168,slow=20,SNR=3.5						
TKM2	**Tokmak 2**	**5.20**	**29**	⇑Pn	Pn	06 16 42.5	+2.4
	1.7nm,0.8s						
TKM2				⇑Pg	Pb	06 16 53.6	+0.7
	2.3nm,0.7s						
TKM2				⇓Lg	Lg	06 18 02.3	
	7.2nm,1.3s						
AB31	**Akbulak array**	**13.99**	**325**	Pn	Pn	06 18 36.0	-4.3
	0.7nm,0.8s,baz=133,slow=13,SNR=5.3						

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*ISCJB **15** 06:32:07.7±0.3, 53°.40N±0°.03×159°.46E±0°.06, h111km±2km, mb3.8/22, Error ellipse: s-maj=7.1km s-min=3.3km az=37.3*
*KRSC **15** 06:32:07.9±0.7, 53°.40N×159°.62E, h97km±7km, ML4.3*
*MOS **15** 06:32:07.4±1.0, 53°.45N×159°.37E, h109km, mb4.1/12, Error ellipse: s-maj=13.9km s-min=7.5km az=70.5*
*IDC **15** 06:32:10.0±0.7, 53°.63N×159°.17E, h111km±7km, mb3.5/20, mb1 3.7/21, mb1mx3.6/31, mbtmp3.9/21, MS3.3/3, Ms1 3.3/3, ms1mx2.7/37, Error ellipse: s-maj=17.3km s-min=11.8km az=162.0*
ISC 15 06:32:08.2±0.6, 53°.40N±0°.03×159°.55E±0°.04, h102km±4km, n94, σ1°.36/123, mb3.8/22, 1C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.26**	**208**	PN	**Pn**	**06 32 23.3**	**+0.5**
NLC				S	**Sn**	**06 32 33.5**	**-0.1**
NLC	**Nalytchevo**	**0.26**	**208**	*i* P	**Pn**	**06 32 23.3**	**+0.5**
NLC				*i* S	**Sn**	**06 32 33.5**	**-0.1**
SPN	**Mys Shipunski**	**0.41**	**136**	PN	**Pn**	**06 32 24.5**	**+0.9**
SPN				S	**Sn**	**06 32 36.0**	**+0.9**
SPN	**Mys Shipunski**	**0.41**	**136**	P	**Pn**	**06 32 24.5**	**+0.9**
SPN				S	**Sn**	**06 32 36.0**	**+0.9**
SDLR	**Sedlovina**	**0.41**	**254**	*i* P	**Pn**	**06 32 24.3**	**+0.6**
SDLR				*e*S	**Sn**	**06 32 35.5**	**+0.1**
SMAR	**Somma**	**0.47**	**254**	*i* P	**Pn**	**06 32 24.6**	**+0.4**
SMAR				*e*S	**Sn**	**06 32 35.9**	**-0.3**
UGLR	**Uglovaya**	**0.47**	**247**	*i* P	**Pn**	**06 32 24.9**	**+0.8**
UGLR				*e*S	**Sn**	**06 32 36.6**	**+0.6**
KRER	**Koryakskii**	**0.49**	**259**	*i* P	**Pn**	**06 32 25.0**	**+0.7**
KRER				*e*S	**Sn**	**06 32 36.9**	**+0.5**
AVH	**Avacha**	**0.50**	**255**	*i* P	**Pn**	**06 32 25.1**	**+0.8**
AVH				*e*S	**Sn**	**06 32 36.8**	**+0.5**
KRX	**Arik**	**0.54**	**266**	*i* P	**Pn**	**06 32 25.2**	**+0.6**
KRX				*e*S	**Sn**	**06 32 36.8**	**-0.1**
KOK	**Koryaka**	**0.56**	**259**	*i* P	**Pn**	**06 32 25.4**	**+0.7**
KOK				*e*S	**Sn**	**06 32 37.4**	**+0.4**
KII	**Karymskiy**	**0.64**	**355**	*i* P	**Pn**	**06 32 25.9**	**+0.5**
KII				*e*S	**Sn**	**06 32 38.4**	**+0.2**
PET	**Petropavlovsk**	**0.66**	**236**	⇑*i* PN	**Pn**	**06 32 25.8**	**+0.5**
PET				*e*S	**Sn**	**06 32 38.5**	**+0.3**
PET				pmax	pmax		
	comp=Z,898nm,0.5s						
PET				smax	smax		
	comp=E,3μm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.6s						
PET	**Petropavlovsk**	**0.66**	**236**	*i* P	**Pn**	**06 32 25.9**	**+0.6**
PET				*e*S	**Sn**	**06 32 38.5**	**+0.3**
INSR	**Institute**	**0.66**	**240**	*i* P	**Pn**	**06 32 25.1**	**-0.3**
INSR				*e*S	**Sn**	**06 32 37.3**	**-0.9**
GNL	**Ganaly**	**1.00**	**288**	*i* P	**Pn**	**06 32 29.2**	**+0.3**
GNL				*e*S	**Sn**	**06 32 44.9**	**+0.4**
PETK	**Petropavlovsk-**	**1.15**	**256**	PN	**Pn**	**06 32 31.0**	**+0.6**
PETK				S	**Sn**	**06 32 48.1**	**+1.0**
PETK				pmax	pmax		
	comp=Z,193nm,0.3s						
PETK				smax	smax		
	comp=N,44nm,0.3s						
PETK	**Petropavlovsk-**	**1.15**	**256**	P	**Pn**	**06 32 30.9**	**+0.6**
	comp=N,193nm,0.3s,baz=73,slow=15,SNR=2347						
PETK				S	**Sn**	**06 32 48.1**	**+1.0**
	comp=N,44nm,0.3s,baz=79,slow=24,SNR=7.8						
RUS	**Russkaya**	**1.15**	**213**	PN	**Pn**	**06 32 31.0**	**+0.6**
RUS				S	**Sn**	**06 32 47.8**	**+0.7**
RUS	**Russkaya**	**1.15**	**213**	*i* P	**Pn**	**06 32 31.0**	**+0.6**
RUS				*e*S	**Sn**	**06 32 47.8**	**+0.7**
MTVR	**Mutnovka**	**1.23**	**223**	*e*P	**Pn**	**06 32 32.7**	**+1.2**
MTVR				*e*S	**Sn**	**06 32 50.8**	**+1.7**
APC	**Apacha**	**1.51**	**253**	*i* P	**Pn**	**06 32 35.9**	**+1.3**
APC				*i* S	**Sn**	**06 32 56.0**	**+1.3**
MKZ	**Mys Kozlova**	**1.73**	**47**	PN	**Pn**	**06 32 38.3**	**+0.9**
MKZ				S	**Sn**	**06 32 59.3**	**-0.3**
MKZ	**Mys Kozlova**	**1.73**	**47**	*i* P	**Pn**	**06 32 38.3**	**+0.9**
MKZ				*e*S	**Sn**	**06 32 59.3**	**-0.3**
KZV	**Kizimen**	**1.77**	**14**	P	**Pn**	**06 32 39.4**	**+1.3**
TUMR	**Tumrok**	**1.92**	**10**	*i* P	**Pn**	**06 32 41.6**	**+1.7**
TUMR				*e*S	**Sn**	**06 33 05.9**	**+1.8**
MIPR	**Malaya Ipel'ka**	**2.03**	**238**	*i* P	**Pn**	**06 32 42.7**	**+1.5**
KMNR	**Kamenistaya**	**2.40**	**9**	*i* P	**Pn**	**06 32 48.0**	**+2.0**
PAU	**Pauzhetka**	**2.56**	**222**	PN	**Pn**	**06 32 49.7**	**+1.7**
PAU				S	**Sn**	**06 33 19.3**	**+0.6**
PAU	**Pauzhetka**	**2.56**	**222**	*e*P	**Pn**	**06 32 49.7**	**+1.7**
PAU				*e*S	**Sn**	**06 33 19.3**	**+0.6**
ESO	**Esso**	**2.58**	**349**	PN	**Pn**	**06 32 49.6**	**+1.2**
ESO	**Esso**	**2.58**	**349**	*i* P	**Pn**	**06 32 49.6**	**+1.2**
KOZ	**Kozyrevsk**	**2.67**	**4**	*e*P	**Pn**	**06 32 51.0**	**+1.4**
KOZR	**Kozyr**	**2.68**	**4**	PN	**Pn**	**06 32 51.0**	**+1.3**
SRDR	**Sredinnyy**	**2.93**	**2**	*e*P	**Pn**	**06 32 54.1**	**+1.1**
BDR	**Baidarnaya**	**3.32**	**16**	*e*P	**Pn**	**06 33 01.1**	**+2.9**
BDR				*e*S	**Sn**	**06 33 38.6**	**+1.7**
SMKR	**Semkarok**	**3.38**	**18**	*e*P	**Pn**	**06 33 01.8**	**+2.8**
SMKR				*e*S	**Sn**	**06 33 40.6**	**+2.3**
KBTR	**Krutoberegovo**	**3.39**	**33**	PN	**Pn**	**06 33 00.9**	**+1.8**
KBTR				S	**Sn**	**06 33 38.4**	**-0.1**
KBTR	**Krutoberegovo**	**3.39**	**33**	*i* P	**Pn**	**06 33 00.9**	**+1.8**
KBTR				*e*S	**Sn**	**06 33 38.4**	**-0.1**
SRKR	**Sorokina**	**3.40**	**15**	*e*P	**Pn**	**06 33 01.3**	**+2.1**
SRKR				*e*S	**Sn**	**06 33 39.9**	**+1.2**
SKR	**Severo-Kuril's**	**3.45**	**219**	*e*PN	**Pn**	**06 32 59.0**	**-0.9**
SKR				*e*S	**Sn**	**06 33 39.5**	**-0.3**
SKR				smax	smax		
	comp=N,240nm,0.3s						
SKR				smax	smax		
	comp=E,180nm,0.3s						
SKR	**Severo-Kuril's**	**3.45**	**219**	*e*P	Pn	06 33 03.2	+3.3
SKR				*e*S	**Sn**	**06 33 43.5**	**+3.7**
BKI	**Bering**	**4.18**	**62**	PN	**Pn**	**06 33 10.3**	**+0.7**
BKI				S	**Sn**	**06 33 54.2**	**-3.1**
BKI	**Bering**	**4.18**	**62**	*e*P	**Pn**	**06 33 10.3**	**+0.7**
BKI				*e*S	**Sn**	**06 33 54.1**	**-3.2**
FX1	**Attu Island--F**	**8.21**	**88**	PN	**Pn**	**06 34 06.0**	**+1.7**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1				MLR	MLR		
	comp=Z,15nm,28.6s						
FX1	**Attu Island--F**	**8.21**	**88**	P	**Pn**	**06 34 06.0**	**+1.7**
	comp=Z,3.0nm,0.3s,baz=281,slow=16,SNR=16						
FX1				S	**Sn**	**06 35 30.9**	**-4.3**
	comp=Z,17nm,0.3s,baz=11,slow=22,SNR=13						
FX1				LR	LR	06 37 22.1	
	comp=Z,74nm,19.0s,baz=235,slow=37						
UGL	**Uglegorsk**	**11.77**	**255**	*e*PN	**Pn**	**06 34 50.1**	**-2.5**
ASAJ	**Asahikawa**	**14.50**	**237**	P	**Pn**	**06 35 28.9**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**14.50**	**237**	P	**Pn**	**06 35 28.9**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=58,slow=9.5,SNR=2.6						
BILL	**Bilibino**	**15.04**	**10**	*e*P	Pn	06 35 26.5	-8.4
BILL				pmax	pmax		
	comp=Z,14nm,3.5s						
ERM	**Erimo**	**15.81**	**231**	*e*P	**Pn**	**06 35 43.7**	**-1.1**
MJA0	**Matsu Arr-Jizo**	**22.47**	**230**	*e*P	P	06 37 05.3	+6.5
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MJAR	**Matsushiro Arr**	**22.48**	**230**	P	**P**	**06 36 59.7**	**+0.7**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**22.48**	**230**	P	**P**	**06 36 59.7**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=41,slow=10,SNR=4.3						
ILAR	**Eielson Array**	**28.84**	**46**	P	**P**	**06 37 57.0**	**+0.6**
ILAR				*PP	pP	06 38 30.1	+11
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**28.84**	**46**	P	**P**	**06 37 57.0**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=268,slow=7.0,SNR=18						
ILAR				pP	pP	06 38 30.1	+11
	comp=Z,1.2nm,0.9s,baz=265,slow=8.5,SNR=5.4						
SONM	**Songino Array**	**33.51**	**282**	*e*P	**P**	**06 38 37.8**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**33.51**	**282**	P	**P**	**06 38 36.9**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=61,slow=7.4,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**34.08**	**168**	T	T	07 14 47.2	
	baz=353,slow=76,SNR=87						
H11N3	**WAKE ISLAND Hy**	**34.09**	**168**	T	T	07 14 45.7	
	baz=353,slow=76,SNR=78						
H11N1	**WAKE ISLAND Hy**	**34.10**	**168**	T	T	07 14 44.7	
	baz=353,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**35.26**	**168**	T	T	07 16 12.0	
	baz=352,slow=76,SNR=9.5						
H11S3	**WAKE ISLAND Hy**	**35.27**	**168**	T	T	07 16 13.3	
	baz=352,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**35.28**	**168**	T	T	07 16 21.6	
	baz=352,slow=76,SNR=7.9						
ZALV	**Zalesovo Beam**	**42.34**	**302**	P	**P**	**06 39 50.4**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=67,slow=8.0,SNR=2.7						
YKA	**Yellowknife Ar**	**43.16**	**43**	P	**P**	**06 39 59.1**	**+1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**43.16**	**43**	P	**P**	**06 39 59.1**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=298,slow=8.3,SNR=12						
SPITS	**Spitsbergen Ar**	**46.78**	**350**	LR	LR	07 01 28.9	
	comp=Z,36nm,18.8s,baz=30,slow=38						
MKAR	**Makanchi Array**	**47.73**	**295**	P	**P**	**06 40 32.6**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.73**	**295**	P	**P**	**06 40 32.6**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=48,slow=7.6,SNR=11						
BVAR	**Borovoye Array**	**49.94**	**308**	P	**P**	**06 40 49.8**	**-1.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR	**Borovoye Array**	**49.94**	**308**	P	**P**	**06 40 49.8**	**-1.4**
	comp=Z,1.8nm,0.5s,baz=63,slow=7.6,SNR=13						
BRVK	**Borovoye**	**49.97**	**308**	⇓*i* P	**P**	**06 40 50.1**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,25nm,5.0s						
ARCES	**ARCESS Array B**	**52.90**	**342**	*e*P	**P**	**06 41 12.2**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**52.90**	**342**	P	**P**	**06 41 10.6**	**-2.4**
	comp=Z,3.3nm,0.9s,baz=33,slow=8.9,SNR=6.0						
ARCES				LR	LR	07 07 06.5	
	comp=Z,61nm,18.2s,baz=34,slow=40						
ARU	**Arti**	**52.95**	**317**	*d* iP	**P**	**06 41 12.2**	**-1.3**
ARU						06 43 09.2	
ARU				S	**S**	**06 48 34.1**	**-0.6**
ARU				SS	**SS**	**06 52 12.9**	**-1.3**
ARU				pmax	pmax		
	comp=Z,17nm,2.5s						
AAK	**Ala-Archa**	**54.65**	**296**	*e*P	**P**	**06 41 25.0**	**-1.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NVAR	**Mina Array Bea**	**55.95**	**70**	P	**P**	**06 41 37.5**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=303,slow=7.0,SNR=7.2						
AKTO	**Aktyubinsk**	**57.37**	**312**	P	**P**	**06 41 44.2**	**-1.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**57.37**	**312**	P	**P**	**06 41 44

PEL IAML 06 43 45.1
comp=E,4μm,0.7s
COCH Cobquecura 1.81 199⇑ *i* P Pn 06 43 16.5 +1.5
COCH *i* S Sb 06 43 39.6 -0.9

WEL 15 06:52:18.0±0.2, 39°.73S×174°.30E, h137km±2km, ML3.6/14, 13C-22D, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.28**	**16**	⇓PN	Pn	06 52 36.9	0.0
LREZ				*e*SN	Sn	06 52 50.1	-1.1
PREZ	**Palmer Road**	**0.41**	**344**	⇓PN	Pn	06 52 37.2	-0.3
PREZ				SN	Sn	06 52 51.5	-0.7
NMEZ	**Namu Road**	**0.46**	**314**	PN	Pn	06 52 37.3	-0.3
NEZ	**North Egmont**	**0.49**	**341**	PN	Pn	06 52 37.6	-0.3
KHEZ	**Kahui Hut**	**0.49**	**333**	⇓PN	Pn	06 52 37.7	-0.3
WAZ	**Wanganui**	**0.53**	**93**	⇓PN	Pn	06 52 38.4	+0.3
WAZ				SN	Sn	06 52 53.0	-0.1
DREZ	**Durham Road**	**0.55**	**352**	⇓PN	Pn	06 52 37.9	-0.2
NWEZ	**Newall Road**	**0.57**	**324**	PN	Pn	06 52 38.3	0.0
PKE	**Pukeiti**	**0.59**	**336**	PN	Pn	06 52 38.3	-0.1
VRZ	**Vera Road**	**0.70**	**30**	PN	Pn	06 52 38.7	-0.5
VRZ				SN	Sn	06 52 54.2	-1.0
PKVZ	**Pokaka**	**0.92**	**62**	⇓PN	Pn	06 52 40.7	-0.2
MTVZ	**Mangateitei**	**0.97**	**69**	PN	Pn	06 52 41.1	-0.2
TRVZ	**Turoa**	**1.06**	**66**	⇓PN	Pn	06 52 42.0	-0.4
DRZ	**Dome Shelter**	**1.08**	**65**	PN	Pn	06 52 42.8	+0.2
FWVZ	**Far West T-bar**	**1.08**	**64**	⇓PN	Pn	06 52 42.2	-0.4
WNVZ	**Wahianoa**	**1.08**	**68**	⇓PN	Pn	06 52 42.3	-0.2
WHVZ	**Whangaehu Hut**	**1.09**	**66**	PN	Pn	06 52 42.4	-0.3
WPVZ	**Whakapapa**	**1.10**	**62**	⇓PN	Pn	06 52 42.3	-0.3
COVZ	**Chateau Observ**	**1.10**	**61**	*e*PN	Pn	06 52 42.2	-0.4
TWVZ	**Taurewa**	**1.10**	**53**	⇓PN	Pn	06 52 42.1	-0.5
DUWZ	**D'Urville Isla**	**1.11**	**195**	⇑PN	Pn	06 52 42.4	-0.1
TUVZ	**Tukino**	**1.15**	**67**	⇓PN	Pn	06 52 43.1	0.0
NGZ	**Ngauruhoe**	**1.15**	**61**	⇓PN	Pn	06 52 42.8	-0.3
MOVZ	**Moawhango**	**1.17**	**74**	⇓PN	Pn	06 52 42.8	-0.5
WTVZ	**West Tongariro**	**1.17**	**59**	⇓PN	Pn	06 52 43.0	-0.3
OTVZ	**Oturere**	**1.20**	**62**	⇓PN	Pn	06 52 43.5	-0.1
KRVZ	**Karewarewa**	**1.22**	**59**	⇓PN	Pn	06 52 43.5	-0.3
KIW	**Kapiti Island**	**1.22**	**158**	PN	Pn	06 52 43.6	-0.1
KIW				AML	AML	06 53 03.2	
KIW				AML	AML	06 53 03.8	
OGWZ	**Otaki Gorge**	**1.27**	**149**	PN	Pn	06 52 44.2	+0.1
HIZ	**Hauiti**	**1.29**	**20**	⇓PN	Pn	06 52 43.9	-0.5
POWZ	**Post Office Ro**	**1.30**	**121**	PN	Pn	06 52 44.6	+0.1
TSZ	**Takapari Road**	**1.32**	**105**	PN	Pn	06 52 44.0	-0.7
TSZ				AML	AML	06 53 06.4	
TSZ				AML	AML	06 53 08.8	
KATZ	**Kakaramea**	**1.32**	**55**	PN	Pn	06 52 44.7	-0.1
MRZ	**Mangatainoka R**	**1.35**	**134**	PN	Pn	06 52 44.9	0.0
MRZ				SN	Sn	06 53 02.9	-2.6
MRZ				AML	AML	06 53 05.1	
BHHZ	**Black Hill Sta**	**1.38**	**80**	PN	Pn	06 52 44.5	-0.9
RATZ	**Rangitukua**	**1.43**	**53**	⇓PN	Pn	06 52 46.3	+0.4
PNRZ	**Pukenui**	**1.47**	**98**	PN	Pn	06 52 46.7	+0.4
TCW	**Tory Channel**	**1.48**	**181**	⇓PN	Pn	06 52 46.4	+0.1
TCW				AML	AML	06 53 06.8	
TCW				AML	AML	06 53 07.6	
HOWZ	**Holdsworth Sta**	**1.49**	**142**	⇑PN	Pn	06 52 46.4	-0.1
CAW	**Cannon Point**	**1.49**	**157**	⇑PN	Pn	06 52 46.6	+0.1
CAW				AML	AML	06 53 08.0	
CAW				AML	AML	06 53 09.0	
PRWZ	**Pori Road**	**1.52**	**123**	PN	Pn	06 52 47.1	+0.3
DVHZ	**Dannevirke**	**1.54**	**112**	⇑PN	Pn	06 52 47.0	-0.1
WEL	**Wellington**	**1.59**	**167**	PN	Pn	06 52 47.5	-0.1
KRHZ	**Kereru**	**1.60**	**87**	PN	Pn	06 52 47.5	-0.2
TIWZ	**Tintock**	**1.60**	**131**	⇑PN	Pn	06 52 47.7	0.0
TIWZ				AML	AML	06 53 10.4	
TIWZ				AML	AML	06 53 11.1	
NNZ	**Nelson**	**1.64**	**205**	⇑PN	Pn	06 52 47.9	-0.2
MTW	**Mount Morrison**	**1.69**	**148**	⇑PN	Pn	06 52 48.5	-0.2
MTW				AML	AML	06 53 11.8	
MTW				AML	AML	06 53 12.9	
TLZ	**Tolley Road**	**1.70**	**35**	⇓PN	Pn	06 52 48.5	-0.4
TUWZ	**Tuamarina**	**1.72**	**189**	PN	Pn	06 52 48.5	-0.5
TUWZ				AML	AML	06 53 10.1	
TUWZ				AML	AML	06 53 10.3	
BHW	**Baring Head**	**1.73**	**166**	⇑PN	Pn	06 52 48.8	-0.2
BHW				AML	AML	06 53 18.5	
QRZ	**Quartz Range**	**1.74**	**231**	PN	Pn	06 52 48.6	-0.7
BFZ	**Birch Farm**	**1.77**	**123**	⇓PN	Pn	06 52 49.4	-0.2
ANWZ	**Angora Road**	**1.82**	**114**	⇑PN	Pn	06 52 50.4	+0.2
MSWZ	**Moikau Station**	**1.83**	**157**	⇑PN	Pn	06 52 50.1	-0.2
MSWZ				AML	AML	06 52 50.9	
MSWZ				AML	AML	06 53 14.6	
TMWZ	**Te Maipa**	**1.83**	**139**	⇑PN	Pn	06 52 50.3	-0.1
PAWZ	**Paruwai Farm**	**1.86**	**153**	⇑PN	Pn	06 52 50.5	-0.2
PAWZ				AML	AML	06 53 19.0	
PAWZ				AML	AML	06 53 19.2	
PRHZ	**Porangahau**	**1.87**	**107**	PN	Pn	06 52 50.9	+0.1
MCHZ	**McNeill Hill**	**1.87**	**82**	PN	Pn	06 52 51.3	+0.4
TRWZ	**Traveller**	**1.97**	**148**	PN	Pn	06 52 51.6	-0.4
TRWZ				AML	AML	06 53 27.3	
PLWZ	**Palliser**	**1.97**	**159**	PN	Pn	06 52 51.6	-0.5
KAHZ	**Kahuranaki**	**1.99**	**93**	PN	Pn	06 52 52.3	0.0
PXZ	**Pawanui**	**1.99**	**99**	PN	Pn	06 52 52.2	0.0
PXZ				*e*SN	Sn	06 53 14.5	-3.9
PXZ				AML	AML	06 53 19.1	
PXZ				AML	AML	06 53 19.1	
PXZ				AML	AML	06 53 20.0	
BSWZ	**Blackbirch Sta**	**2.00**	**189**	PN	Pn	06 52 52.4	0.0
NMHZ	**Naumai**	**2.04**	**73**	PN	Pn	06 52 53.4	+0.4
ARHZ	**Aropaoanui**	**2.14**	**78**	PN	Pn	06 52 54.0	0.0
THZ	**Tophouse**	**2.29**	**207**	*e*PN	Pn	06 52 55.4	-0.6
URZ	**Urewera**	**2.64**	**57**	PN	Pn	06 52 58.7	-1.5
KNZ	**Kokohu**	**2.71**	**76**	PN	Pn	06 53 00.1	-1.0
KHZ	**Kahutara**	**2.74**	**192**	⇑PN	Pn	06 53 01.0	-0.5
KHZ				AML	AML	06 53 34.0	
KHZ				AML	AML	06 53 34.1	
DSZ	**Denniston Nort**	**2.77**	**223**	PN	Pn	06 53 01.1	-0.8
MWZ	**Matawai**	**2.88**	**62**	PN	Pn	06 53 02.0	-1.3
RIGZ	**Rimuhau**	**2.88**	**70**	PN	Pn	06 53 02.3	-1.0
TWGZ	**Tauwhareparae**	**3.26**	**63**	PN	Pn	06 53 07.2	-1.1
WMGZ	**Waiomatatini S**	**3.74**	**61**	PN	Pn	06 53 12.6	-1.9
OXZ	**Oxford**	**3.97**	**205**	PN	Pn	06 53 15.7	-1.8
MQZ	**McQueen's Vall**	**4.16**	**197**	PN	Pn	06 53 17.1	-2.8

*IDC **15** 06:53:59.4±6.0, 21°.90S×179°.69W, h607km±73km, mb2.9/8, mb1 3.2/8, mb1mx3.1/17, mbtmp3.8/8, Error ellipse: s-maj=32.9km s-min=28.9km az=12.0*

ISC 15 06:53:58.1±0.8, 21°.9S±0°.2×179°.7W±0°.2, h592km, n14, σ0557/12, mb3.4/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.57**	**189**	P	P	06 57 15.5	-5.4
	0.8nm,0.3s,baz=36,slow=3.3,SNR=4.1						
URZ				S	S	06 59 56.5	-9.4
	0.4nm,0.3s,baz=74,slow=22,SNR=11						
STKA	**Stephens Creek**	**35.78**	**246**	P	**P**	**07 00 09.0**	**0.0**
	0.6nm,0.4s,baz=97,slow=8.8,SNR=5.2						
ASAR	**Alice Springs**	**42.69**	**258**	P	**P**	**07 01 04.7**	**+0.2**
	0.5nm,0.4s,baz=100,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**42.87**	**264**	P	**P**	**07 01 06.2**	**+0.2**
	0.4nm,0.3s,baz=93,slow=8.0,SNR=45						
VNDA	**Vanda**	**56.42**	**185**	P	**P**	**07 02 43.9**	**-0.2**
	0.6nm,0.7s,baz=357,slow=7.4,SNR=5.3						
NVAR	**Mina Array Bea**	**83.10**	**44**	P	**P**	**07 05 22.7**	**-0.3**
	0.9nm,0.8s,baz=224,slow=6.3,SNR=5.8						
TXAR	**Lajitas Array**	**89.11**	**58**	P	**P**	**07 05 52.2**	**+0.5**
	0.8nm,0.7s,baz=243,slow=4.0,SNR=4.2						
ILAR	**Eielson Array**	**90.00**	**13**	P	**P**	**07 05 54.5**	**-0.4**
	0.3nm,0.6s,baz=201,slow=6.4,SNR=1.5						
PDAR	**Pinedale Array**	**91.03**	**44**	P	**P**	**07 06 00.8**	**+0.3**
	0.6nm,1.0s,baz=224,slow=6.3,SNR=2.9						
BVAR	**Borovoye Array**	**119.10**	**319**	PKP	**PKPdf**	**07 11 39.4**	**-0.9**
	0.3nm,0.3s,baz=101,slow=1.5,SNR=2.9						
ARCES	**ARCESS Array B**	**129.96**	**349**	PKP	**PKPdf**	**07 12 00.8**	**+0.2**
	2.2nm,0.9s,baz=5.5,slow=3.8,SNR=4.1						
AKASG	**Malin Array Be**	**143.41**	**329**	PKP	PKPbc	07 12 25.1	+0.5
	0.9nm,0.4s,baz=40,slow=4.0,SNR=5.8						
BRTR	**Keskin Array B**	**146.55**	**310**	PKPbc	**PKPbc**	**07 12 33.7**	**-0.7**
	0.6nm,0.6s,baz=150,slow=3.0,SNR=5.5						
BRG	**Berggiesshubel**	**149.15**	**343**	*e*PKP	**PKPbc**	**07 12 41.4**	**+1.0**
	4.0nm,0.6s						

GUC 15 07:08:12.9±0.5, 34°.77S×72°.43W, h28km±3km, ML3.8, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.90**	**134**	⇑*i*P	Pn	07 08 29.1	-0.6
NICH	**Los Niches**	**1.01**	**103**	⇑*i*P	Pn	07 08 31.1	-0.2
NICH				*i* S	Sb	07 08 44.7	-0.1
LNV	**Longovilo**	**1.17**	**46**	⇓*i*P	Pn	07 08 33.2	-0.2
LNV				*i* S1	Sn	07 08 48.6	+0.2
LNCH	**Linares**	**1.27**	**148**	⇑*i*P	Pb	07 08 38.0	+1.8
LNCH				*i* S	Sb	07 08 54.5	+2.4
COCH	**Cobquecura**	**1.39**	**192**	⇓*i*P	Pn	07 08 36.8	+0.4
COCH				*e*S1	Sn	07 08 54.7	+1.0
CACH	**El Canelo**	**1.65**	**67**	⇓*i*P	Pb	07 08 41.6	-1.2
CACH				*e*S1	Sb	07 09 03.5	+0.2
CHCH	**Chadas Angostu**	**1.69**	**61**	⇑*i*P	Pn	07 08 41.9	+1.2
CHCH				*i* S1	Sn	07 09 03.8	+2.3
PEL	**Peldehue**	**2.18**	**42**	⇓*i*P	Pn	07 08 49.0	+1.6
PEL				*e*S	Sn	07 09 15.6	+2.2
PEL				IAML		07 09 23.7	
	comp=N,796nm,0.4s						

GUC 15 07:12:47.2±0.8, 35°.19S×72°.30W, h46km±4km, ML4.0, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.58**	**112**	⇓*i*P	Pn	07 13 00.4	+1.1
TALC				*i* S	Sn	07 13 09.4	+1.4
TALC				IAML		07 13 09.7	
	comp=N,15μm,0.1s						
LNCH	**Linares**	**0.87**	**139**	*e*P9	Pn	07 13 10.2	+7.1
LNCH				*e*S	Sn	07 13 23.5	+8.8
NICH	**Los Niches**	**0.90**	**79**	⇑*i*P	Pn	07 13 04.8	+1.4
NICH				*i* S	Sn	07 13 17.4	+2.1
COCH	**Cobquecura**	**1.02**	**203**	*e*P	Pn	07 13 06.3	+1.2
COCH				*e*S	Sn	07 13 20.6	+2.1
CHCH	**Chadas Angostu**	**1.84**	**48**	*e*P1	Pn	07 13 18.4	+1.9

GUC 15 07:23:48.5±0.4, 34°.52S×71°.92W, h12km±4km, ML4.0, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.71**	**37**	⇑*i*P	Pg	07 24 01.2	-1.1
LNV				*i* S1	Sg	07 24 10.6	-0.9
NICH	**Los Niches**	**0.74**	**130**	⇑*i*P	Pg	07 24 01.7	-1.2
NICH				*i* S	Sg	07 24 11.7	-1.0
TALC	**Talca**	**0.90**	**165**	⇑*i*P	Pg	07 24 04.1	-1.9
TALC				*i* S1	Sg	07 24 16.2	-1.5
CACH	**El Canelo**	**1.17**	**70**	⇑*i*P	Pb	07 24 09.1	-1.7
CACH				*i* S1	Sb	07 24 24.8	-1.2
TACH	**Talagante**	**1.19**	**43**	*e*P1	Pn	07 24 08.8	-2.3
TACH				*e*S1	Sb	07 24 24.4	-2.1
CHCH	**Chadas Angostu**	**1.20**	**61**	⇓*i*P	Pn	07 24 09.4	-1.9
CHCH				*i* S1	Sb	07 24 24.6	-2.3
LNCH	**Linares**	**1.35**	**169**	⇓*i*P	Pn	07 24 11.6	-1.6
LNCH				*i* S	Sb	07 24 28.7	-2.2
IHA	**Instituto Hidr**	**1.51**	**9**	*e*P1	Pn	07 24 13.7	-1.7
SJCH	**San Jose de Ma**	**1.57**	**56**	⇓*i*P	Pn	07 24 14.7	-1.6
SJCH				*e*S	Sn	07 24 35.3	-1.4
PEL	**Peldehue**	**1.72**	**37**	⇓*i*P	Pn	07 24 17.4	-1.0
PEL				*i* S	Sn	07 24 39.3	-1.0
PEL				IAML		07 24 46.6	
	comp=N,3μm,0.3s						

GUC 15 07:39:27.6±0.7, 34°.41S×71°.97W, h34km±5km, ML3.5, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.65**	**46**	*e*P1	Pn	07 39 40.5	+0.2
NICH	**Los Niches**	**0.85**	**134**	*e*P	Pb	07 39 44.3	+0.2
NICH				*i* S	Sb	07 39 56.6	+1.3
TALC	**Talca**	**1.03**	**164**	⇑*i*P	Pb	07 39 46.7	-0.2
TALC				*i* S	Sb	07 40 00.8	+0.6
CACH	**El Canelo**	**1.17**	**76**	*e*P1	Pb	07 39 49.7	+0.1
CACH				*i* S1	Sb	07 40 06.7	+2.0
CHCH	**Chadas Angostu**	**1.19**	**67**	*e*P1	Pb	07 39 49.1	-0.7
CHCH				*i* S	Sb	07 40 06.0	+0.9
LNCH	**Linares**	**1.47**	**168**	*e*P	Pb	07 39 53.2	-1.2
LNCH				*i* S	Sb	07 40 13.6	+0.9
SJCH	**San Jose de Ma**	**1.55**	**61**	*e*P9	Pb	07 39 54.3	-1.5
SJCH				*e*S	Sb	07 40 15.1	-0.2
PEL	**Peldehue**	**1.66**	**41**	⇑*i*P	Pb	07 39 57.1	-0.6
PEL				*i* S	Sb	07 40 18.6	+0.3
PEL				IAML		07 40 23.9	
	comp=N,976nm,0.4s						

MEX 15 07:43:24.0±0.4, 18°.13N×103°.38W, h10km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.17**	**10**	*i* P	Pg	07 43 27.0	-0.6
MMIG				*i* S	Sg	07 43 29.7	-0.4
R15V		**1.19**	**331**	*e*P	Pb	07 43 42.8	-4.0
R15V				*i* S	Sb	07 43 57.8	-4.5
EZ5V		**1.36**	**351**	*e*P	Pn	07 43 46.0	-3.5
EZ5V				*e*S	Sb	07 44 02.6	-5.1

IDC 15 07:56:28.2±2.5, 0°.66N×127°.01E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.1/22, mbtmp3.1/3, Error ellipse: s-maj=212.5km s-min=28.5km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.70**	**161**	P	P	08 01 21.1	+0.2
	0.3nm,0.6s,baz=340,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**25.09**	**165**	P	P	08 01 54.6	-0.1
	0.2nm,0.5s,baz=343,slow=7.2,SNR=7.0						
MKAR	**Makanchi Array**	**60.23**	**326**	P	P	08 06 38.3	-0.1
	0.1nm,0.5s,baz=115,slow=7.7,SNR=3.4						

*SJA **15** 08:10:43.9±0.9, 21°.15S×68°.83W, h151km±23km, ML3.4*
*ISCJB **15** 08:10:45.4±0.3, 21°.12S±0°.03×68°.65W±0°.05, h125km±4km, mb4.2/16, Error ellipse: s-maj=7.7km s-min=4.6km az=153.2*
*NEIC **15** 08:10:46.2±0.4, 21°.33S×68°.47W, mb4.4/14, Error ellipse: s-maj=14.0km s-min=9.0km az=95.0*
*GUC **15** 08:10:46.0±0.7, 21°.16S×68°.77W, h124km±7km, ML4.7*
*IDC **15** 08:10:47.1±0.9, 21°.16S×68°.43W, h124km±7km, mb3.9/9, mb1 4.0/11, mb1mx3.9/23, mbtmp4.4/11, MS2.6/3, Ms1 2.6/3, ms1mx2.5/19, Error ellipse: s-maj=18.5km s-min=15.5km az=95.0*

ISC 15 08:10:47.0±0.6, 21°.14S±0°.03×68°.75W±0°.05, h125km±5km, h125km:pP-P, n55, σ1§47/71, mb4.3/16, 3C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.70**	**278**	*e*P	**Pn**	**08 11 06.2**	**-0.7**
PB01				*i* S	**Sn**	**08 11 21.4**	**-0.7**
PB01				IAML		08 11 23.2	
	comp=E,17μm,0.7s						
PB07	**IPOC Station P**	**1.21**	**241**	⇑*i*P	**Pn**	**08 11 11.2**	**-0.5**
PB07				*i* S	**Sn**	**08 11 29.9**	**-0.7**
PB07				IAML		08 11 30.2	
	comp=N,19μm,0.7s						
PB04	**IPOC Station P**	**1.31**	**212**	⇑*i*P	Pn	08 11 17.2	+4.6
PB04				IAML		08 11 44.0	
	comp=N,7μm,0.7s						
PATCX	**Punta Patache**	**1.35**	**283**	⇓*i*P	**Pn**	**08 11 12.9**	**-0.3**
PATCX				*i* S	**Sn**	**08 11 32.8**	**-0.3**
PATCX				IAML		08 11 34.9	
	comp=E,29μm,0.8s						
HMBC	**Humberstone**	**1.37**	**309**	⇓*i*P	**Pn**	**08 11 12.7**	**-0.7**
HMBC				*i* S	**Sn**	**08 11 32.9**	**-0.7**
HMBC				IAML		08 11 34.2	
	comp=E,11μm,0.8s						
LVC	**Limon Verde**	**1.47**	**186**	*e*Pn	**Pn**	**08 11 14.1**	**-0.6**
LVC				*e*Sn	**Sn**	**08 11 35.7**	**-0.1**
LVC	**Limon Verde**	**1.47**	**186**	*i* P	**Pn**	**08 11 14.3**	**-0.4**
LVC				*i* S	**Sn**	**08 11 36.5**	**+0.7**
PB06	**IPOC Station P**	**1.73**	**206**	⇑*i*P	**Pn**	**08 11 17.2**	**-0.5**
PB06				*i* S	**Sn**	**08 11 40.7**	**-0.4**
PB06				IAML		08 11 41.2	
	comp=E,8μm,0.4s						
PSGC	**Pisagua**	**2.01**	**320**	⇓*i*P	**Pn**	**08 11 19.6**	**-1.3**
PSGC				*i* S	**Sn**	**08 11 45.7**	**-1.2**
MNMC	**Minimini**	**2.15**	**338**	⇓*i*P	**Pn**	**08 11 22.4**	**-0.5**
MNMC				*e*S	**Sn**	**08 11 51.0**	**+0.6**
CEN1	**Los Morros**	**2.61**	**211**	*e*P9	**Pn**	**08 11 29.1**	**+0.6**
CEN1				*i* S	**Sn**	**08 12 02.8**	**+2.3**
YJA	**Yavi**	**3.18**	**109**	*i* P	**Pn**	**08 11 36.7**	**+0.6**
AZAP	**Zapla**	**4.58**	**133**	*i* P	**Pn**	**08 11 53.2**	**-1.3**
AZAP				*i* P	**Pn**	**08 11 53.2**	**-1.3**
SLA	**San Lorenzo**	**4.65**	**141**	*i* P	**Pn**	**08 11 55.4**	**0.0**
SLA				*i* S	**Sn**	**08 12 47.1**	**-1.6**
SLA				AML	AML	08 12 52.7	
	comp=Z,26nm,0.7s						
ASTB	**Santa Barbara**	**4.83**	**126**	*i* P	**Pn**	**08 11 57.2**	**-0.7**
LPAZ	**La Paz**	**4.86**	**7**	P	**Pn**	**08 11 59.0**	**+0.3**
	comp=Z,6.0nm,0.3s,baz=179,slow=8.2,SNR=109						
LPAZ				S	**Sn**	**08 12 55.0**	**+0.5**
	comp=Z,2.7nm,0.3s,baz=219,slow=6.6,SNR=5.5						
LPAZ	**La Paz**	**4.86**	**7**	*e*Pn	**Pn**	**08 12 00.8**	**+2.0**
LPAZ				*e*Sn	**Sn**	**08 12 55.6**	**+1.1**
LPAZ	**La Paz**	**4.86**	**7**	*e*Pn	**Pn**	**08 11 59.9**	**+1.1**
LPAZ				*e*Sn	Px	08 12 22.3	
ALOL	**LOMAS DE OLMED**	**5.15**	**122**	*i* P	**Pn**	**08 12 00.3**	**-1.7**
ARE	**Arequipa**	**5.33**	**330**	*e*P	**Pn**	**08 12 02.0**	**-2.8**
ARE				*e*S	**Sn**	**08 13 00.0**	**-5.3**
LCO	**Las Campanas**	**8.03**	**192**	*e*Pn	Pn	08 12 36.0	-5.1
	comp=Z,15nm,0.3s						
SIV	**San Ignacio**	**8.90**	**56**	P	Pn	08 12 48.7	-3.9
	comp=Z,32nm,0.3s,baz=261,slow=14,SNR=304						
SIV				S	Sn	08 14 22.9	-8.4
	comp=Z,0.2nm,0.3s,baz=326,slow=21,SNR=3.2						
CFAA	**Coronel Fontan**	**10.43**	**178**	P	Pn	08 13 08.8	-4.4
	comp=Z,0.3nm,0.3s,baz=3.2,slow=14,SNR=26						
CFAA				S	Sn	08 14 58.0	-10
	comp=Z,0.2nm,0.3s,baz=268,slow=21,SNR=7.7						
CFAA				LR	LR	08 17 31.1	
	comp=Z,4.7nm,19.8s,baz=349,slow=39						
SAML	**Samuel**	**13.26**	**25**	*e*Pn	Pn	08 13 46.7	-3.7
SAML				*e*Sn	**Sn**	**08 16 18.9**	**+2.2**
TRQA	**Tornquist**	**17.84**	**162**	*e*P	**P**	**08 14 44.3**	**-2.0**
	comp=Z,17nm,0.8s						
BDFB	**Brasilia**	**20.41**	**78**	P	**P**	**08 15 12.3**	**-2.1**
	comp=Z,5.1nm,0.4s,baz=249,slow=9.8,SNR=16						
PTGA	**Pitinga**	**22.02**	**24**	P	**P**	**08 15 29.2**	**-2.2**
	comp=Z,7.7nm,0.3s,baz=196,slow=19,SNR=30						
PTGA				LR	LR	08 25 45.1	
	comp=Z,22nm,20.9s,baz=220,slow=41						
PTGA	**Pitinga**	**22.02**	**24**	*e*P	**P**	**08 15 33.7**	**+2.2**
	comp=Z,11nm,0.5s						
PTGA	**Pitinga**	**22.02**	**24**	*e*Pn	**P**	**08 15 29.0**	**-2.5**
	comp=Z,6.1nm,0.4s						
OTAV	**Otavalo**	**23.27**	**335**	*e*P	**P**	**08 15 47.6**	**+3.5**
	comp=Z,7.4nm,0.9s						
ROSC	**El Rosal**	**26.41**	**347**	LR	LR	08 28 04.9	
	comp=Z,64nm,18.3s,baz=214,slow=39						
RCBR	**Riachuelo**	**35.27**	**69**	P	**P**	**08 17 28.7**	**-1.2**
	comp=Z,6.6nm,0.7s,baz=240,slow=9.2,SNR=4.3						
RCBR	**Riachuelo**	**35.27**	**69**	*e*P	**P**	**08 17 28.8**	**-1.2**
	comp=Z,5.6nm,0.7s						
JCT	**Junction City**	**59.38**	**329**	P	**P**	**08 20 38.1**	**+1.9**
	comp=Z,3.1nm,0.6s						
MIAR	**Mount Ida**	**60.20**	**336**	*e*P	**P**	**08 20 41.7**	**-0.1**
	comp=Z,5.0nm,1.1s						
TXAR	**Lajitas Array**	**60.42**	**325**	pP	pP	08 21 14.4	+0.7
	comp=Z,1.4nm,0.9s,baz=144,slow=11,SNR=4.8						
SNAA	**Sanae**	**62.57**	**161**	P	**P**	**08 20 56.0**	**-1.2**
	comp=Z,2.0nm,0.9s,baz=288,slow=9.9,SNR=7.1						
SNAA	**Sanae**	**62.57**	**161**	*e*P	P	08 20 53.8	-3.5
	comp=Z,6.7nm,0.9s						
MSTX	**Muleshoe**	**63.67**	**329**	P	**P**	**08 21 05.2**	**+0.1**
	comp=Z,15nm,1.1s						
MSTX				*e*pP	**pP**	**08 21 35.0**	**-0.5**
ANMO	**Albuquerque**	**66.28**	**327**	P	**P**	**08 21 23.3**	**+1.1**
ANMO				*e*pP	**pP**	**08 21 53.0**	**+0.3**
DBIC	**Dimbokro**	**68.49**	**73**	P	**P**	**08 21 35.0**	**-1.2**
	comp=Z,7.1nm,0.8s,baz=235,slow=7.6,SNR=5.9						
DBIC	**Dimbokro**	**68.49**	**73**	*e*P	**P**	**08 21 35.3**	**-0.9**
	comp=Z,6.2nm,0.8s						
SRU	**San Rafael Swe**	**71.56**	**327**	*e*P	**P**	**08 21 55.8**	**+1.1**
	com

az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTZ	**Whakaora**	**0.19**	**156**	⇑PN	Pn	08 52 46.0	+0.2
WHTZ	**Whakaora**	**0.19**	**156**	Pn	Pn	08 52 46.0	+0.2
WATZ	**Wairara**	**0.24**	**204**	⇑PN	Pn	08 52 46.0	+0.2
WATZ	**Wairara**	**0.24**	**204**	Pn	Pn	08 52 46.0	+0.2
TLZ	**Tolley Road**	**0.30**	**303**	PN	Pn	08 52 46.1	+0.1
RATZ	**Rangitukua**	**0.38**	**190**	PN	Pn	08 52 46.1	-0.1
RATZ	**Rangitukua**	**0.38**	**190**	Pn	Pn	08 52 46.1	-0.1
ALRZ	**Allen Road**	**0.39**	**101**	⇑PN	Pn	08 52 46.2	0.0
ALRZ	**Allen Road**	**0.39**	**101**	Pn	Pn	08 52 46.2	0.0
PRRZ	**Plateau Road**	**0.42**	**91**	PN	Pn	08 52 46.3	0.0
PRRZ	**Plateau Road**	**0.42**	**91**	Pn	Pn	08 52 46.3	0.0
RITZ	**Rihia Road**	**0.49**	**180**	⇓PN	Pn	08 52 47.0	+0.4
RITZ	**Rihia Road**	**0.49**	**180**	Pn	Pn	08 52 47.0	+0.4
KATZ	**Kakaramea**	**0.50**	**195**	⇑PN	Pn	08 52 46.8	-0.1
KATZ	**Kakaramea**	**0.50**	**195**	Pn	Pn	08 52 46.8	0.0
RRRZ	**Republican Roa**	**0.54**	**74**	PN	Pn	08 52 46.7	-0.2
RRRZ	**Republican Roa**	**0.54**	**74**	Pn	Pn	08 52 46.7	-0.2
TARZ	**Mount Tarawera**	**0.57**	**63**	PN	Pn	08 52 47.1	-0.1
TARZ	**Mount Tarawera**	**0.57**	**63**	Pn	Pn	08 52 47.1	0.0
KRVZ	**Karewarewa**	**0.63**	**196**	PN	Pn	08 52 47.3	-0.2
KRVZ	**Karewarewa**	**0.63**	**196**	Pn	Pn	08 52 47.3	-0.2
WTVZ	**West Tongariro**	**0.66**	**199**	PN	Pn	08 52 47.5	-0.1
WTVZ	**West Tongariro**	**0.66**	**199**	Pn	Pn	08 52 47.5	-0.1
TWVZ	**Taurewa**	**0.67**	**210**	⇑PN	Pn	08 52 47.6	0.0
TWVZ	**Taurewa**	**0.67**	**210**	Pn	Pn	08 52 47.6	0.0
OTVZ	**Oturere**	**0.69**	**193**	PN	Pn	08 52 47.8	-0.1
OTVZ	**Oturere**	**0.69**	**193**	Pn	Pn	08 52 47.8	-0.1
NGZ	**Ngauruhoe**	**0.71**	**196**	PN	Pn	08 52 47.9	-0.2
NGZ	**Ngauruhoe**	**0.71**	**196**	Pn	Pn	08 52 47.9	-0.2
COVZ	**Chateau Observ**	**0.75**	**199**	⇓PN	Pn	08 52 48.0	-0.2
WPVZ	**Whakapapa**	**0.75**	**199**	PN	Pn	08 52 48.0	-0.3
WPVZ	**Whakapapa**	**0.75**	**199**	Pn	Pn	08 52 48.0	-0.3
HIZ	**Hauiti**	**0.79**	**268**	⇑PN	Pn	08 52 48.3	0.0
HIZ				*e*SN	Sn	08 53 06.6	0.0
HIZ	**Hauiti**	**0.79**	**268**	Pn	Pn	08 52 48.3	0.0
TUVZ	**Tukino**	**0.79**	**192**	PN	Pn	08 52 48.6	0.0
TUVZ	**Tukino**	**0.79**	**192**	Pn	Pn	08 52 48.6	0.0
FWVZ	**Far West T-bar**	**0.80**	**197**	⇑PN	Pn	08 52 48.4	-0.3
FWVZ	**Far West T-bar**	**0.80**	**197**	Pn	Pn	08 52 48.4	-0.3
TOZ	**Tahuroa Road**	**0.81**	**340**	PN	Pn	08 52 48.6	+0.1
TOZ				*e*SN	Sn	08 53 07.2	+0.3
TOZ	**Tahuroa Road**	**0.81**	**340**	Pn	Pn	08 52 48.6	+0.1
DRZ	**Dome Shelter**	**0.82**	**196**	PN	Pn	08 52 48.9	0.0
DRZ	**Dome Shelter**	**0.82**	**196**	Pn	Pn	08 52 48.9	0.0
WHVZ	**Whangaehu Hut**	**0.82**	**195**	PN	Pn	08 52 48.6	-0.3
BKZ	**Black Stump Fm**	**0.84**	**144**	PN	Pn	08 52 48.3	-0.5
BKZ				AML	AML	08 52 49.0	
BKZ				SN	Sn	08 53 06.4	-1.1
BKZ	**Black Stump Fm**	**0.84**	**144**	Pn	Pn	08 52 48.3	-0.5
TRVZ	**Turoa**	**0.84**	**197**	PN	Pn	08 52 48.8	-0.2
TRVZ	**Turoa**	**0.84**	**197**	Pn	Pn	08 52 48.8	-0.2
OPRZ	**Ohinepanea**	**0.85**	**41**	⇑PN	Pn	08 52 48.6	-0.2
OPRZ	**Ohinepanea**	**0.85**	**41**	Pn	Pn	08 52 48.6	-0.2
WNVZ	**Wahianoa**	**0.86**	**194**	⇑PN	Pn	08 52 49.0	0.0
WNVZ	**Wahianoa**	**0.86**	**194**	Pn	Pn	08 52 49.0	0.0
PKVZ	**Pokaka**	**0.89**	**207**	⇑PN	Pn	08 52 49.1	-0.1
PKVZ	**Pokaka**	**0.89**	**207**	Pn	Pn	08 52 49.1	-0.1
MOVZ	**Moawhango**	**0.92**	**185**	⇑PN	Pn	08 52 49.1	-0.3
MOVZ	**Moawhango**	**0.92**	**185**	Pn	Pn	08 52 49.1	-0.3
MTVZ	**Mangateitei**	**0.94**	**199**	PN	Pn	08 52 49.4	-0.2
MTVZ	**Mangateitei**	**0.94**	**199**	Pn	Pn	08 52 49.4	-0.2
NMHZ	**Naumai**	**0.96**	**130**	⇑PN	Pn	08 52 50.4	+0.8
NMHZ	**Naumai**	**0.96**	**130**	Pn	Pn	08 52 50.5	+0.8
BHHZ	**Black Hill Sta**	**1.01**	**171**	⇑PN	Pn	08 52 49.8	-0.3
BHHZ	**Black Hill Sta**	**1.01**	**171**	Pn	Pn	08 52 49.8	-0.3
URZ	**Urewera**	**1.01**	**77**	⇑PN	Pn	08 52 49.4	-0.6
URZ				SN	Sn	08 53 07.9	-1.7
URZ				AML	AML	08 53 09.2	
URZ	**Urewera**	**1.01**	**77**	Pn	Pn	08 52 49.4	-0.6
RAHZ	**Arahi**	**1.05**	**114**	⇑PN	Pn	08 52 50.8	+0.4
RAHZ	**Arahi**	**1.05**	**114**	Pn	Pn	08 52 50.8	+0.4
VRZ	**Vera Road**	**1.07**	**233**	⇑PN	Pn	08 52 50.4	-0.1
VRZ	**Vera Road**	**1.07**	**233**	Pn	Pn	08 52 50.4	-0.1
MCHZ	**McNeill Hill**	**1.15**	**146**	⇑PN	Pn	08 52 52.0	+0.7
MCHZ	**McNeill Hill**	**1.15**	**146**	Pn	Pn	08 52 52.0	+0.7
ARHZ	**Aropaoanui**	**1.17**	**131**	⇑PN	Pn	08 52 51.9	+0.5
SNGZ	**Shannon Statio**	**1.20**	**104**	⇑PN	Pn	08 52 52.0	+0.3
KRHZ	**Kereru**	**1.22**	**161**	⇑PN	Pn	08 52 51.8	0.0
RAGZ	**Rawiri**	**1.22**	**91**	PN	Pn	08 52 51.8	-0.2
WHHZ	**Waihua**	**1.22**	**119**	PN	Pn	08 52 52.2	+0.4
MWZ	**Matawai**	**1.32**	**84**	⇑PN	Pn	08 52 52.5	-0.4
MWZ				AML	AML	08 53 13.4	
MWZ				AML	AML	08 53 13.4	
MWZ				AML	AML	08 53 14.2	
MWZ				AML	AML	08 53 14.3	
MWZ	**Matawai**	**1.32**	**84**	Pn	Pn	08 52 52.5	-0.4
MHEZ	**Mangahewa**	**1.33**	**244**	*e*PN	Pn	08 52 53.2	+0.3
MHEZ	**Mangahewa**	**1.33**	**244**	Pn	Pn	08 52 52.5	-0.4
MHEZ				Sn	Sn	08 53 09.5	-5.3
WAZ	**Wanganui**	**1.43**	**208**	⇑PN	Pn	08 52 53.5	-0.4
WAZ	**Wanganui**	**1.43**	**208**	Pn	Pn	08 52 53.5	-0.4
PNHZ	**Pukenui**	**1.45**	**170**	⇑PN	Pn	08 52 53.7	-0.4
PNHZ	**Pukenui**	**1.45**	**170**	Pn	Pn	08 52 53.7	-0.4
DREZ	**Durham Road**	**1.47**	**241**	PN	Pn	08 52 54.4	+0.1
DREZ	**Durham Road**	**1.47**	**241**	Pn	Pn	08 52 54.4	+0.1
MKAZ	**Moumakai**	**1.48**	**338**	⇓PN	Pn	08 52 54.4	0.0
MKAZ	**Moumakai**	**1.48**	**338**	Pn	Pn	08 52 54.4	0.0
LREZ	**Lake Rotokare**	**1.49**	**229**	⇑PN	Pn	08 52 54.6	+0.1
CKHZ	**Cape Kidnapper**	**1.50**	**141**	⇑PN	Pn	08 52 54.9	+0.3
CKHZ	**Cape Kidnapper**	**1.50**	**141**	Pn	Pn	08 52 54.9	+0.3
RIGZ	**Rimuhau**	**1.51**	**99**	PN	Pn	08 52 54.7	0.0
KNZ	**Kokohu**	**1.51**	**111**	PN	Pn	08 52 54.7	0.0
KNZ	**Kokohu**	**1.51**	**111**	Pn	Pn	08 52 54.7	0.0
KAHZ	**Kahuranaki**	**1.52**	**149**	⇑PN	Pn	08 52 55.1	+0.2
KAHZ	**Kahuranaki**	**1.52**	**149**	Pn	Pn	08 52 55.1	+0.2
TKGZ	**Te Karaka**	**1.56**	**89**	PN	Pn	08 52 55.3	+0.1
TSZ	**Takapari Road**	**1.57**	**177**	PN	Pn	08 52 53.2	-2.1
TSZ				AML	AML	08 52 55.0	
TSZ				AML	AML	08 52 55.4	
PREZ	**Palmer Road**	**1.57**	**237**	PN	Pn	08 52 55.5	+0.1
NEZ	**North Egmont**	**1.58**	**240**	PN	Pn	08 52 54.1	-1.4
NEZ	**North Egmont**	**1.58**	**240**	Pn	Pn	08 52 54.1	-1.4
WPHZ	**Waipukurau**	**1.64**	**164**	⇑PN	Pn	08 52 55.6	-0.3
WPHZ	**Waipukurau**	**1.64**	**164**	Pn	Pn	08 52 55.6	-0.3
PRGZ	**Paritu Road**	**1.64**	**106**	PN	Pn	08 52 55.9	-0.2
PRGZ	**Paritu Road**	**1.64**	**106**	Pn	Pn	08 52 55.9	-0.2
KHEZ	**Kahui Hut**	**1.65**	**240**	PN	Pn	08 52 56.1	-0.1
HAZ	**Te Kaha**	**1.69**	**65**	⇓PN	Pn	08 52 55.4	-1.1
HAZ				SN	Sn	08 53 18.3	-2.8
TWGZ	**Tauwhareparae**	**1.70**	**80**	PN	Pn	08 52 56.7	-0.1
PXZ	**Pawanui**	**1.72**	**153**	⇑PN	Pn	08 52 56.6	-0.3
PXZ				AML	AML	08 53 22.8	
PXZ				AML	AML	08 53 22.8	
PXZ				AML	AML	08 53 24.2	
PXZ				AML	AML	08 53 24.2	
PXZ	**Pawanui**	**1.72**	**153**	Pn	Pn	08 52 56.6	-0.3
MHGZ	**Mahia Peninsul**	**1.73**	**113**	⇓PN	Pn	08 52 57.2	+0.2
MHGZ	**Mahia Peninsul**	**1.73**	**113**	Pn	Pn	08 52 57.2	+0.2
NWEZ	**Newall Road**	**1.74**	**243**	PN	Pn	08 52 56.8	-0.3
NWEZ	**Newall Road**	**1.74**	**243**	Pn	Pn	08 52 56.8	-0.3
KUZ	**Kuaotunu**	**1.75**	**356**	⇓PN	Pn	08 52 56.9	-0.3
KUZ	**Kuaotunu**	**1.75**	**356**	Pn	Pn	08 52 56.9	-0.3
DVHZ	**Dannevirke**	**1.82**	**173**	⇑PN	Pn	08 52 57.1	-0.9
DVHZ	**Dannevirke**	**1.82**	**173**	Pn	Pn	08 52 57.1	-0.9
CNGZ	**Carnagh Statio**	**1.84**	**91**	PN	Pn	08 52 58.4	+0.2
CNGZ	**Carnagh Statio**	**1.84**	**91**	Pn	Pn	08 52 58.4	+0.2
PRHZ	**Porangahau**	**1.87**	**162**	⇑PN	Pn	08 52 58.1	-0.5
PRHZ	**Porangahau**	**1.87**	**162**	Pn	Pn	08 52 58.1	-0.5
POWZ	**Post Office Ro**	**1.90**	**182**	⇑PN	Pn	08 52 57.9	-1.0
POWZ	**Post Office Ro**	**1.90**	**182**	Pn	Pn	08 52 57.9	-1.0
PUZ	**Puketiti**	**1.93**	**78**	⇓PN	Pn	08 52 58.6	-0.7
PUZ				SN	Sn	08 53 23.6	-2.5
PUZ				AML	AML	08 53 24.8	
PUZ	**Puketiti**	**1.93**	**78**	Pn	Pn	08 52 58.6	-0.7
ANWZ	**Angora Road**	**2.02**	**167**	⇑PN	Pn	08 52 59.7	-0.6
PRWZ	**Pori Road**	**2.06**	**178**	⇑PN	Pn	08 52 59.8	-0.9
WMGZ	**Waiomatatini S**	**2.12**	**72**	PN	Pn	08 53 00.8	-0.7
MXZ	**Matakaoa Point**	**2.14**	**65**	PN	Pn	08 53 01.3	-0.4
MXZ	**Matakaoa Point**	**2.14**	**65**	Pn	Pn	08 53 01.3	-0.4
MRZ	**Mangatainoka R**	**2.18**	**186**	⇑PN	Pn	08 53 00.6	-1.5
MRZ				SN	Sn	08 53 27.7	-3.5
MRZ				AML	AML	08 53 30.4	
MRZ	**Mangatainoka R**	**2.18**	**186**	Pn	Pn	08 53 00.5	-1.5
BFZ	**Birch Farm**	**2.21**	**172**	Pn	Pn	08 52 58.6	-3.8
TIWZ	**Tintock**	**2.28**	**179**	PN	Pn	08 53 01.8	-1.5
TIWZ				AML	AML	08 53 02.8	
TIWZ				AML	AML	08 53 32.2	
TIWZ	**Tintock**	**2.28**	**179**	Pn	Pn	08 53 01.8	-1.5
OGWZ	**Otaki Gorge**	**2.38**	**193**	⇑PN	Pn	08 53 02.9	-1.6
OGWZ	**Otaki Gorge**	**2.38**	**193**	Pn	Pn	08 53 02.9	-1.6
HOWZ	**Holdsworth Sta**	**2.42**	**186**	PN	Pn	08 53 03.0	-1.9
HOWZ	**Holdsworth Sta**	**2.42**	**186**	Pn	Pn	08 53 03.0	-1.9
CPWZ	**Castlepoint**	**2.43**	**174**	PN	Pn	08 53 04.1	-1.0
KIW	**Kapiti Island**	**2.48**	**197**	⇑PN	Pn	08 53 03.6	-2.0
KIW				AML	AML	08 53 36.7	
KIW				AML	AML	08 53 39.0	
KIW	**Kapiti Island**	**2.48**	**197**	Pn	Pn	08 53 03.6	-2.0
TMWZ	**Te Maipa**	**2.61**	**179**	PN	Pn	08 53 05.3	-2.0
TMWZ	**Te Maipa**	**2.61**	**179**	Pn	Pn	08 53 05.3	-2.0
MTW	**Mount Morrison**	**2.68**	**186**	⇑PN	Pn	08 53 05.8	-2.3
MTW				AML	AML	08 53 38.1	
MTW				AML	AML	08 53 40.0	
MTW	**Mount Morrison**	**2.68**	**186**	Pn	Pn	08 53 05.8	-2.3
CAW	**Cannon Point**	**2.68**	**193**	PN	Pn	08 53 05.9	-2.2
CAW				AML	AML	08 53 40.2	
CAW				AML	AML	08 53 40.3	
CAW	**Cannon Point**	**2.68**	**193**	Pn	Pn	08 53 05.9	-2.2
DUWZ	**D'Urville Isla**	**2.75**	**212**	PN	Pn	08 53 06.6	-2.3
DUWZ	**D'Urville Isla**	**2.75**	**212**	Pn	Pn	08 53 06.7	-2.3
PAWZ	**Paruwai Farm**	**2.91**	**186**	PN	Pn	08 53 08.4	-2.5
PAWZ				AML	AML	08 53 42.9	
PAWZ				AML	AML	08 53 45.3	
PAWZ	**Paruwai Farm**	**2.91**	**186**	Pn	Pn	08 53 08.4	-2.5
TRWZ	**Traveller**	**2.91**	**183**	PN	Pn	08 53 08.6	-2.3
TRWZ				AML	AML	08 53 45.2	
TRWZ				AML	AML	08 53 45.4	
TRWZ	**Traveller**	**2.91**	**183**	Pn	Pn	08 53 08.7	-2.3
WEL	**Wellington**	**2.91**	**196**	PN	Pn	08 53 08.4	-2.6
MSWZ	**Moikau Station**	**2.96**	**189**	⇑PN	Pn	08 53 08.9	-2.6
MSWZ				AML	AML	08 53 45.1	
MSWZ				AML	AML	08 53 45.8	
MSWZ	**Moikau Station**	**2.96**	**189**	Pn	Pn	08 53 08.9	-2.6
TCW	**Tory Channel**	**2.98**	**204**	⇓PN	Pn	08 53 09.3	-2.5
TCW				AML	AML	08 53 46.1	
TCW				AML	AML	08 53 46.2	
TCW	**Tory Channel**	**2.98**	**204**	Pn	Pn	08 53 09.3	-2.5
BHW	**Baring Head**	**3.01**	**194**	PN	Pn	08 53 09.5	-2.7
BHW				AML	AML	08 53 46.1	
BHW	**Baring Head**	**3.01**	**194**	Pn	Pn	08 53 09.5	-2.7
PLWZ	**Palliser**	**3.11**	**188**	⇓PN	Pn	08 53 10.7	-2.8
PLWZ	**Palliser**	**3.11**	**188**	Pn	Pn	08 53 10.7	-2.8
TUWZ	**Tuamarina**	**3.28**	**206**	PN	Pn	08 53 12.6	-3.0
TUWZ				AML	AML	08 53 52.6	
TUWZ				AML	AML	08 53 52.8	
TUWZ	**Tuamarina**	**3.28**	**206**	Pn	Pn	08 53 12.6	-3.0
NNZ	**Nelson**	**3.33**	**214**	PN	Pn	08 53 13.0	-3.1
NNZ	**Nelson**	**3.33**	**214**	Pn	Pn	08 53 13.0	-3.1
QRZ	**Quartz Range**	**3.47**	**227**	PN	Pn	08 53 14.6	-3.5
QRZ	**Quartz Range**	**3.47**	**227**	Pn	Pn	08 53 14.6	-3.5
BSWZ	**Blackbirch Sta**	**3.56**	**205**	PN	Pn	08 53 16.4	-2.8
BSWZ	**Blackbirch Sta**	**3.56**	**205**	Pn	Pn	08 53 16.4	-2.8
THZ	**Tophouse**	**3.98**	**214**	PN	Pn	08 53 21.0	-3.6
THZ	**Tophouse**	**3.98**	**214**	Pn	Pn	08 53 20.9	-3.6
KHZ	**Kahutara**	**4.30**	**204**	PN	Pn	08 53 25.6	-3.1
KHZ				AML	AML	08 54 15.2	
KHZ	**Kahutara**	**4.30**	**204**	Pn	Pn	08 53 25.6	-3.1
DSZ	**Denniston Nort**	**4.50**	**222**	PN	Pn	08 53 27.1	-4.3
DSZ	**Denniston Nort**	**4.50**	**222**	Pn	Pn	08 53 27.1	-4.3
LTZ	**Lake Taylor**	**5.08**	**211**	Pn	Pn	08 53 33.4	-5.6
OXZ	**Oxford**	**5.63**	**210**	PN	Pn	08 53 40.7	-5.5
MQZ	**McQueen's Vall**	**5.75**	**204**	⇓PN	Pn	08 53 42.4	-5.3
MQZ				SN	Sn	08 54 43.4	-10
MQZ	**McQueen's Vall**	**5.75**	**204**	Pn	Pn	08 53 42.5	-5.3
RPZ	**Rata Peaks**	**6.36**	**213**	PN	Pn	08 53 51.0	-4.8
RPZ	**Rata Peaks**	**6.36**	**213**	Pn	Pn	08 53 51.0	-4.8
FOZ	**Fox Glacier**	**6.89**	**221**	PN	Pn	08 53 56.3	-6.6
FOZ	**Fox Glacier**	**6.89**	**221**	Pn	Pn	08 53 56.3	-6.6
ODZ	**Otahua Downs**	**7.62**	**209**	PN	Pn	08 54 07.8	-4.8
ODZ	**Otahua Downs**	**7.62**	**209**	Pn	Pn	08 54 07.8	-4.8
JCZ	**Jackson Bay**	**7.72**	**222**	Pn	Pn	08 54 08.8	-5.4
WKZ	**Wanaka**	**8.14**	**217**	PN	Pn	08 54 13.7	-5.9
WKZ	**Wanaka**	**8.14**	**217**	Pn	Pn	08 54 13.7	-5.9
EAZ	**Earnscleugh**	**8.32**	**214**	PN	Pn	08 54 16.1	-5.9
EAZ	**Earnscleugh**	**8.32**	**214**	Pn	Pn	08 54 16.1	-5.9

MEX 15 08:55:31.0±0.6, 17°.00N×99°.93W, h38km±9km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.15**	**152**	*i*P	Pn	08 55 36.4	-5.1
ACX				*i*S	Sn	08 55 40.7	-11
CAIG	**El Cayaco**	**0.33**	**278**	*i*P	Pn	08 55 37.7	-1.7
CAIG				*i*S	Sn	08 55 43.6	-2.5
MEIG	**Mezcala**	**0.97**	**18**	*e*P	Pn	08 55 46.0	-2.2
MEIG				*i*S	Sn	08 55 58.3	-2.5
ARIG	**Puente Sto Nin**	**1.33**	**343**	*e*P	Pn	08 55 52.1	-1.1
ARIG				*e*S	Sn	08 56 07.7	-2.0
TLIG	**Tlapa**	**1.42**	**67**	*e*P	Pn	08 55 52.8	-1.7
TLIG				*e*S	Sn	08 56 10.3	-1.6
ZIIG	**Zihuatanejo**	**1.59**	**293**	*e*P	Pn	08 55 55.0	-1.6
ZIIG				*e*S	Sn	08 56 13.6	-2.2
PNIG	**Pinotepa**	**1.83**	**109**	*e*P	Pn	08 55 58.1	-1.8
PNIG				*e*S	Sn	08 56 20.3	-1.6
YAIG	**Yautepec**	**2.03**	**24**	*e*P	Pn	08 56 00.9	-2.0
YAIG				*e*S	Sn	08 56 25.5	-1.6

IDC ***15*** *09:03:13.3±1.6, 33°.20N×138°.28E, h0km, mb3.3/4, mb1 3.5/6, mb1mx3.3/37, mbtmp3.5/6, ML3.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.1/20, Error ellipse: s-maj=60.4km s-min=19.8km az=68.0*

ISCJB ***15*** *09:03:18.9±0.6, 33°.89N±0°.04×140°.05E±0°.06, h115km±4km, mb3.3/4, Error ellipse: s-maj=9.1km s-min=5.9km az=162.7*

JMA ***15*** *09:03:20.2±0.1, 33°.90N×140°.03E, h102km±1km, M3.2*

ISC 15 09:03:19.6±0.9, 33°.86N±0°.05×140°.02E±0°.06, h113km±7km, n23, σ0°.96/30, mb3.3/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMY	**Miyakejima3**	**0.47**	**297**	P	Pn	**09 03 36.0**	**-0.2**
JHJ2	**Mitsune**	**0.77**	**193**	P	**Pn**	**09 03 39.0**	**+0.5**
JHJ2				S	**Sn**	**09 03 53.9**	**+1.2**
JNIO	**Niijimaoohara**	**0.79**	**309**	P	**Pn**	**09 03 38.5**	**-0.1**
JKO	**Kozu shima**	**0.80**	**294**	P	**Pn**	**09 03 38.7**	**0.0**
JKO				S	**Sn**	**09 03 52.7**	**-0.5**
JHCJ	**Hachijojimakas**	**0.81**	**193**	P	**Pn**	**09 03 39.4**	**+0.5**
JHCJ				S	**Sn**	**09 03 53.7**	**+0.3**
JIM2	**Oshima 3**	**0.98**	**331**	P	**Pn**	**09 03 40.4**	**-0.2**
JIM2				S	**Sn**	**09 03 55.4**	**-1.0**
BSO3	**Boso 3**	**1.02**	**23**	P	**Pn**	**09 03 41.2**	**+0.6**
BSO1	**Boso 1**	**1.12**	**45**	P	**Pn**	**09 03 41.9**	**+0.5**
BSO1				S	**Sn**	**09 03 59.2**	**+1.2**
JIZS	**Izushimoda**	**1.27**	**312**	P	**Pn**	**09 03 43.8**	**+0.1**
JIZS				S	**Sn**	**09 04 01.1**	**-0.8**
JOD2	**Odawara 2**	**1.59**	**332**	P	**Pn**	**09 03 47.7**	**+0.2**
JOD2				S	**Sn**	**09 04 08.1**	**-0.6**
TK04	**Tokai 4**	**1.85**	**287**	P	Pn	09 03 51.8	+1.3
TK04				S	**Sn**	**09 04 16.5**	**+2.3**
TK02	**Tokai 2**	**1.88**	**273**	P	Pn	09 03 52.0	+1.2
SHZ3	**Shizuoka 3**	**1.92**	**309**	P	**Pn**	**09 03 52.5**	**+1.0**
SHZ3				S	**Sn**	**09 04 17.1**	**+1.2**
JYN	**Shimob**	**2.03**	**324**	P	**Pn**	**09 03 53.7**	**+0.7**
JRY	**Ryogami san**	**2.34**	**337**	P	**Pn**	**09 03 57.3**	**+0.4**
MJAR	**Matsushiro Arr**	**3.06**	**332**	Pn	**Pn**	**09 04 06.5**	**+0.2**
	3.1nm,0.3s,baz=167,slow=11,SNR=20						
MJAR				Sn	**Sn**	**09 04 42.2**	**-0.1**
	1.4nm,0.3s,baz=81,slow=4.4,SNR=5.9						
MAT	**Matsushiro**	**3.06**	**332**	P	**Pn**	**09 04 06.5**	**+0.2**
MAT				S	**Sn**	**09 04 42.9**	**+0.6**
JCJ	**Chichijima**	**7.00**	**164**	Pn	**Pn**	**09 04 56.6**	**-2.9**
	2.8nm,0.3s,baz=282,slow=20,SNR=4.2						
SONM	**Songino Array**	**28.75**	**309**	P	**P**	**09 09 06.4**	**-0.4**
	0.2nm,0.4s,baz=107,slow=9.7,SNR=3.4						
MKAR	**Makanchi Array**	**44.91**	**305**	P	**P**	**09 11 23.2**	**0.0**
	0.6nm,0.7s,baz=84,slow=11,SNR=7.1						
PSI	**Prapat**	**49.21**	**240**	LR	LR	09 33 05.5	
	comp=Z,14nm,19.1s,baz=199,slow=38						
WRA	**Warramunga Arr**	**53.78**	**187**	P	**P**	**09 12 30.5**	**-0.3**
	0.1nm,0.3s,baz=3.1,slow=7.8,SNR=5.2						
ASAR	**Alice Springs**	**57.51**	**187**	P	P	09 12 59.7	+2.3
	0.1nm,0.3s,baz=17,slow=10.0,SNR=2.7						

ISCJB ***15*** *09:06:14.1±1.2, 29°.07S±0°.08×178°.5W±0°.2, h200km, mb3.1/3, Error ellipse: s-maj=28.8km s-min=9.7km az=13.3*

IDC ***15*** *09:06:16.3±3.3, 29°.87S×178°.09W, h229km±9km, mb3.0/3, mb1 3.3/3, mb1mx3.2/23, mbtmp3.6/3, Error ellipse: s-maj=177.0km s-min=23.5km az=163.0*

ISC 15 09:06:14.9±0.9, 29°.2S±0°.1×178°.6W±0°.3, h200km, n21, σ2°.19/20, mb3.2/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.57**	**99**	P	Pn	09 06 47.6	+5.3
	319nm,0.3s,baz=90,slow=8.5,SNR=9.3						
MXZ	**Matakaoa Point**	**8.78**	**197**	*e*PN	**Pn**	**09 08 18.5**	**+0.4**
HAZ	**Te Kaha**	**9.10**	**199**	*e*PN	Pn	09 08 26.0	+3.7
HAZ				*e*SN	Sn	09 10 11.1	+7.0
MWZ	**Matawai**	**9.71**	**199**	*e*PN	**Pn**	**09 08 31.4**	**+1.2**
MWZ				*e*SN	**Sn**	**09 10 21.5**	**+2.7**
URZ	**Urewera**	**9.76**	**201**	*e*PN	**Pn**	**09 08 33.1**	**+2.2**
URZ				*e*SN	**Sn**	**09 10 24.8**	**+4.8**
BFZ	**Birch Farm**	**12.25**	**199**	*e*SN	**Sn**	**09 11 17.2**	**-2.1**
MRZ	**Mangatainoka R**	**12.43**	**201**	*e*SN	**Sn**	**09 11 18.3**	**-5.4**
NNZ	**Nelson**	**13.70**	**207**	*e*PN	**Pn**	**09 09 21.4**	**+0.4**
NNZ				*e*SN	**S**	**09 11 51.7**	**-1.9**
ASAR	**Alice Springs**	**42.70**	**266**	P	P	09 13 55.6	+3.2
	0.3nm,0.7s,baz=101,slow=7.4,SNR=4.1						
WRA	**Warramunga Arr**	**43.57**	**271**	P	**P**	**09 13 59.4**	**0.0**
	0.5nm,0.7s,baz=106,slow=7.9,SNR=4.6						
NVAR	**Mina Array Bea**	**87.67**	**43**	P	**P**	**09 18 40.6**	**-0.3**
	0.6nm,0.7s,baz=228,slow=9.1,SNR=6.0						
MKAR	**Makanchi Array**	**116.60**	**311**	PKP	**PKPdf**	**09 24 34.2**	**-0.6**
	0.2nm,0.6s,baz=42,slow=2.3,SNR=4.4						
KURBB	**Kurchatov Arra**	**

JIH			*e*S		**Sn**	**09 36 15.2 -1.2**
JOW	**Kunigami**	**1.93 185**	P		**Pn**	**09 35 55.3 -1.3**
JOW			*e*S		**Sn**	**09 36 19.6 -0.6**
JOW	**Kunigami**	**1.93 185**	Pn		**Pn**	**09 35 55.4 -1.2**
	20nm,0.3s,baz=57,slow=7.7,SNR=64					
JOW			LR		LR	09 36 49.5
	comp=Z,4μm,20.4s,baz=7.0,slow=45					
JOW	**Kunigami**	**1.93 185**	*e*Pn		**Pn**	**09 35 56.8 +0.2**
JKC	**Kuchinoerabu**	**2.27 41**	P		**Pn**	**09 36 01.2 0.0**
JKC			S		**Sn**	**09 36 29.4 +0.9**
JNTH	**Nagotoyohara**	**2.27 190**	P		**Pn**	**09 36 00.3 -0.9**
JNTH			*e*S		**Sn**	**09 36 27.7 -0.8**
JYAK	**Yakushimahirau**	**2.31 50**	P		**Pn**	**09 36 01.7 -0.1**
JYAK			*e*S		**Sn**	**09 36 30.8 +1.2**
JAGN	**Aguni-jima**	**2.42 207**	P		**Pn**	**09 36 01.4 -1.9**
JAGN			*e*S		**Sn**	**09 36 30.5 -1.8**
JJT2	**Tamagusuku 2**	**2.69 194**	P		**Pn**	**09 36 04.8 -2.2**
JKE	**Kume jima 2**	**2.85 212**	P		**Pn**	**09 36 07.5 -1.7**
JTN	**Tanegashima 3**	**2.89 49**	P		**Pn**	**09 36 10.0 +0.2**
JTN			*e*S		**Sn**	**09 36 45.9 +2.0**
JNU	**Nakatsue**	**4.81 25**	Pn		**Pn**	**09 36 36.0 -0.3**
	baz=248,slow=16					
JNU			LR		LR	09 38 40.6
	comp=Z,21μm,19.0s,baz=219,slow=42					
YOJ	**Yonaguni jima**	**6.49 230**	*e*P		Pn	09 37 02.0 +2.7
YOJ	**Yonaguni jima**	**6.49 230**	*e*Pn		Pn	09 37 02.0 +2.7
SSE	**Sheshan**	**6.73 292**	P		Pn	09 37 06.4 +3.9
SSE			S		**Sn**	**09 38 22.0 +3.6**
SSE			LN			
	19μm,10.8s					
SSE			LE			
	9μm,10.8s					
SSE			LZ			
	14μm,10.2s					
TATO	**Taipei**	**7.28 240**	P		Pn	09 37 17.7 +7.6
	SNR=8.8					
TATO	**Taipei**	**7.28 240**	*e*Pn		Pn	09 37 16.3 +6.2
YHNB	**Yeheng**	**7.53 239**	*e*Pn		**Pn**	**09 37 14.8 +1.2**
	633nm,1.1s					
TJN	**Taejon**	**7.65 353**	*e*P		**Pn**	**09 37 15.4 +0.3**
NACB	**Ninganchiao**	**7.66 235**	*e*Pn		**Pn**	**09 37 16.4 +1.0**
	424nm,1.1s					
SSLB	**Suanglung**	**8.36 235**	*e*Pn		**Pn**	**09 37 26.9 +1.8**
YULB	**Yu-li**	**8.37 232**	*e*Pn		**Pn**	**09 37 24.7 -0.4**
	229nm,1.3s					
KSAR	**Wonju Array Be**	**8.67 357**	P		**Pn**	**09 37 29.5 +0.4**
KSAR	**Wonju Array Be**	**8.67 357**	Pn		**Pn**	**09 37 29.5 +0.4**
KSRS	**Korea Array**	**8.68 357**	P		**Pn**	**09 37 29.5 +0.3**
KSRS			pmax		pmax	
	comp=Z,1.0nm,0.3s					
KSRS			MLR		MLR	
	comp=Z,17nm,28.6s					
KSRS	**Korea Array**	**8.68 357**	Pn		**Pn**	**09 37 29.5 +0.3**
	comp=Z,0.7nm,0.3s,baz=180,slow=14,SNR=26					
KSRS			LR		LR	09 40 56.9
	comp=Z,12μm,20.1s,baz=173,slow=39					
TPUB	**Ta-pu**	**8.90 234**	*e*Pn		**Pn**	**09 37 33.4 +1.0**
	comp=Z,797nm,1.4s					
TWG	**Pinlang**	**8.91 230**	*e*Pn		**Pn**	**09 37 34.5 +2.1**
	comp=Z,385nm,1.1s					
NJ2	**Nanjing**	**8.92 294**	*e*P		Pn	09 37 37.5 +4.9
NJ2			S		**Sn**	**09 39 15.0 +2.7**
NJ2			PMZ			
	comp=Z,200nm,0.5s					
NJ2			PMZ			
	comp=Z,2μm,4.0s					
NJ2			LN			
	comp=Z,27μm,8.4s					
NJ2			LE			
	comp=Z,28μm,8.6s					
NJ2			LZ			
	comp=Z,28μm,8.8s					
QZH	**Quanzhou**	**9.60 249**	⇓*i*P		Pn	09 37 49.8 +7.9
QZH			S		Sn	09 39 41.4 +12
JHJ2	**Mitsune**	**10.67 63**	*e*Pn		Pn	09 38 01.5 +4.9
MAJO	**Matsushiro**	**11.29 44**	*e*P		**Pn**	**09 38 06.7 +1.6**
MAJO	**Matsushiro**	**11.29 44**	*e*Pn		Pn	09 38 10.9 +5.8
MAT	**Matsushiro**	**11.29 44**	P		Pn	09 38 07.0 +1.9
MAT			S		**Sn**	**09 40 08.2 -2.4**
MJAR	**Matsushiro Arr**	**11.29 44**	Pn		**Pn**	**09 38 04.9 -0.2**
	comp=Z,0.5nm,0.3s,baz=239,slow=13,SNR=18					
MJAR			LR		LR	09 43 02.8
	comp=Z,5μm,18.0s,baz=230,slow=41					
DL2	**Dalian**	**11.60 332**	P		Pn	09 38 14.8 +5.6
DL2			S		Sn	09 40 27.1 +9.1
DL2			PMZ			
	comp=Z,800nm,5.4s					
DL2			LN			
	comp=Z,8μm,12.4s					
DL2			LE			
	comp=Z,4μm,10.9s					
DL2			LZ			
	comp=Z,9μm,12.8s					
TIA	**Tai'an**	**12.11 311**	*e*P		**Pn**	**09 38 15.0 -1.2**
TIA			PMZ			
	comp=Z,20nm,0.5s					
TIA			LN			
	comp=Z,20μm,14.0s					
TIA			LE			
	comp=Z,18μm,14.0s					
TIA			LZ			
	comp=Z,16μm,15.0s					
JCJ	**Chichijima**	**12.25 95**	LR		LR	09 42 56.9
	comp=Z,920nm,19.4s,baz=294,slow=37					
WHN	**Wuhan**	**12.40 282**	P		**Pn**	**09 38 17.8 -2.5**
WHN			S		**Sn**	**09 40 32.4 -5.4**
WHN			LN			
	comp=Z,33μm,9.1s					
WHN			LE			
	comp=Z,7μm,10.4s					
WHN			LZ			
	comp=Z,16μm,8.8s					
SZP	**Santa**	**13.36 215**	*e*Pn		**Pn**	**09 38 33.1 -0.3**
	comp=Z,155nm,1.0s					
SNY	**Shenyang**	**13.63 344**	⇓P		**Pn**	**09 38 38.4 +1.5**
SNY			PMZ			
	comp=Z,55nm,2.5s					
SNY			PMZ			
	comp=Z,2μm,11.8s					
SNY			LN			
	comp=Z,18μm,13.4s					
SNY			LE			
	comp=Z,17μm,10.0s					
SNY			LZ			
	comp=Z,20μm,13.8s					
BCPH	**Baguio City Da**	**14.30 212**	⇓*i*P		**Pn**	**09 38 44.5 -2.0**
VLA	**Vladivostok**	**14.59 10**	⇑*e*P		**Pn**	**09 38 52.7 +2.6**
VLA			S		**Sn**	**09 41 32.7 +1.7**
VLA			pmax		pmax	
	comp=Z,49nm,1.3s					
VLA			smax		smax	
	comp=N,1μm,1.1s					
GZH	**Guangzhou**	**14.72 251**	P		**Pn**	**09 38 50.8 -1.2**
GZH			S		**Sn**	**09 41 37.4 +2.9**
GZH			LN			
	comp=N,11μm,10.4s					
GZH			LE			
	comp=N,12μm,11.0s					
BJT	**Baijiatuau**	**15.11 321**	*e*P		**Pn**	**09 38 56.6 -0.6**
BJT			pmax		pmax	
	comp=Z,97nm,0.8s					
BJT	**Baijiatuau**	**15.11 321**	*e*Pn		**Pn**	**09 38 56.6 -0.6**
	comp=Z,97nm,0.8s					
BJI	**Beijing**	**15.13 321**	P		**Pn**	**09 38 57.3 0.0**
BJI			PMZ			
	comp=Z,97nm,1.5s					
BJI			PMZ			
	comp=Z,870nm,6.5s					
BJI			LN			
	comp=Z,10μm,19.6s					
BJI			LE			
	comp=Z,7μm,15.8s					
BJI			LZ			
	comp=Z,4μm,18.7s					
CN2	**Changchun**	**15.20 352**	*e*P		**P**	**09 39 06.1 +3.0**
CN2			*e*pP		pP	09 39 14.9 +5.7
CN2			*e*sP		sP	09 39 21.3 +9.2
CN2			*e*S		S	09 41 54.3 -8.2
USRK	**Ussuriysk Ar.**	**15.66 9**	Pn		**P**	**09 39 06.9 -1.3**
	comp=Z,0.1nm,0.3s,baz=175,slow=28,SNR=6.0					
USRK			LR		LR	09 44 35.6
	comp=Z,4μm,19.8s,baz=180,slow=36					
MDJ	**Mudanjiang**	**15.85 3**	P		**P**	**09 39 13.4 +3.1**
MDJ			PcP		**PcP**	**09 44 09.5 +4.7**
MDJ			ScP		**ScP**	**09 47 36.3 -1.6**
MDJ			PcS		**PcS**	**09 47 44.4 +4.2**
MDJ			ScS		ScS	09 51 10.0 -6.4
MDJ			PMZ			
	comp=Z,220nm,0.9s					
MDJ			PMZ			
	comp=Z,1μm,5.3s					
MDJ			LN			
	comp=Z,3μm,14.6s					
MDJ			LE			
	comp=Z,7μm,10.6s					
MDJ			LZ			
	comp=Z,9μm,11.3s					
MDJ	**Mudanjiang**	**15.85 3**	*e*Pn		**P**	**09 39 09.2 -1.1**
	comp=Z,280nm,1.2s					
TIY	**Taiyuan**	**16.09 308**	*e*P		**P**	**09 39 14.9 +1.8**
TIY			pP		pP	09 39 22.3 +3.1
TIY			S		**Sn**	**09 42 12.1 +4.3**
TIY			SS		**S**	**09 42 25.1 +4.2**
TIY			PMZ			
	comp=Z,770nm,4.1s					
TIY			LN			
	comp=Z,12μm,11.4s					
TIY			LE			
	comp=Z,8μm,12.1s					
TIY			LZ			
	comp=Z,10μm,13.2s					
TGY	**Tagaytay City**	**16.18 207**	Pn		**Pn**	**09 39 11.9 +0.8**
	comp=Z,42nm,0.3s,baz=212,slow=3.7,SNR=3.7					
ENH	**Enshi**	**16.59 280**	*e*P		**P**	**09 39 19.3 +0.7**
	comp=Z,28nm,0.8s					
XAN	**Xi'an**	**17.48 292**	P		**Pn**	**09 39 26.4 -1.1**
XAN			PMZ			
	comp=Z,48nm,0.8s					
XAN			PMZ			
	comp=Z,260nm,11.8s					
XAN			LN			
	comp=Z,6μm,11.3s					
XAN			LE			
	comp=Z,2μm,12.1s					
XAN			LZ			
	comp=Z,1μm,9.2s					
ERM	**Erimo**	**17.81 38**	*e*P		**Pn**	**09 39 29.4 -2.0**
ERM			pmax		pmax	
	comp=Z,72nm,1.0s					
ERM	**Erimo**	**17.81 38**	*e*Pn		**Pn**	**09 39 29.4 -2.0**
	comp=Z,72nm,1.0s					
HHC	**Hu-ho-hao-te**	**18.34 316**	*e*P		**Pn**	**09 39 39.3 +1.2**
HHC			pP		pP	09 39 50.6 +6.4
HHC			PP		PnPn	09 39 58.6 +8.9
HHC			S		**Sn**	**09 43 01.3 -1.1**
HHC			sS		**sS**	**09 43 15.5 -1.0**
HHC			PMZ			
	comp=Z,2μm,6.2s					
HHC			LN			
	comp=Z,14μm,15.2s					
HHC			LE			
	comp=Z,7μm,12.3s					
HHC			LZ			
	comp=Z,12μm,15.5s					
ASAJ	**Asahikawa**	**19.04 33**	P		**P**	**09 39 43.9 -1.7**
ASAJ			MLR		MLR	
	comp=Z,17nm,28.6s					
ASAJ	**Asahikawa**	**19.04 33**	P		**P**	**09 39 43.9 -1.7**
	comp=Z,0.4nm,0.3s,baz=244,slow=19,SNR=12					
ASAJ			LR		LR	09 46 48.7
	comp=Z,3μm,19.1s,baz=244,slow=36					
ASAJ	**Asahikawa**	**19.04 33**	*e*P		**P**	**09 39 45.4 -0.1**
BTO	**Baotou**	**19.18 313**	*e*P		**Pn**	**09 39 48.0 -0.2**
GYA	**Guiyang**	**19.45 268**	⇑*i*P		**Pn**	**09 39 51.3 -0.3**
GYA			pP		pP	09 40 03.5 +7.0
GYA			sP		sP	09 40 11.4 +12
GYA			S		**S**	**09 43 23.0 -6.1**
GYA			sS		**sS**	**09 43 40.8 +1.6**
GYA			PMZ			
	comp=Z,110nm,1.0s					
GYA			PMZ			
	comp=Z,590nm,7.7s					
GYA			LN			
	comp=Z,9μm,10.2s					
GYA			LE			
	comp=Z,5μm,12.4s					
GYA			LZ			
	comp=Z,4μm,12.7s					
QIZ	**Qiongzhong**	**19.56 244**	P		**Pn**	**09 39 52.4 -0.5**
QIZ			pP		pP	09 40 04.8 +7.2
QIZ			sP		sP	09 40 10.9 +10
QIZ			S		**S**	**09 43 30.5 -0.8**
QIZ			LN			
	comp=Z,5μm,14.1s					
QIZ			LZ			
	comp=Z,5μm,12.6s					
HABR	**Khabarovsk**	**20.33 13**	*e*P		**P**	**09 39 57.1 -2.4**
HABR			*e**SP		sP	09 40 10.1 +1.6
HABR						09 40 14.3
HABR			S		**S**	**09 43 42.5 -3.8**
HABR			*e**SS		sS	09 43 57.6 +1.5
HABR			*e*SS		**SnSn**	**09 44 02.5 -2.2**
HABR			pmax		pmax	
	comp=Z,38nm,1.8s					
HABR			pmax		pmax	
	comp=Z,76nm,1.6s					
HABR			MLR		MLR	
	comp=Z,6μm,15.0s					
KLR	**Kul'dur**	**20.59 6**	*e*P		**P**	**09 40 00.0 -2.5**
KLR			*e*S		**S**	**09 43 48.0 -3.6**
KLR			pmax		pmax	
	comp=Z,160nm,1.0s					
KLR			pmax		pmax	
	comp=N,2μm,12.0s					
KLR			pmax		pmax	
	comp=Z,2μm,12.0s					
KLR			smax		smax	
	comp=N,4μm,12.0s					
KLR			smax		smax	
	comp=E,4μm,12.0s					
KLR			MLR		MLR	
	comp=E,4μm,12.0s					
KLR			MLR		MLR	
	comp=Z,26μm,12.0s					
YUK	**Yuzh-Kuril'sk**	**20.63 38**	*d i*P		**P**	**09 40 01.2 -1.7**
YUK			*i*			09 40 13.4
YUK			*i* S		**S**	**09 43 48.5 -4.0**
YUK			*i* SS		Sn	09 44 01.9 +4.5
YUK			pmax		pmax	
	comp=N,233nm,1.5s					
YUK			pmax		pmax	
	comp=E,189nm,1.5s					
YUK			pmax		pmax	
	comp=Z,297nm,1.5s					
YUK			pmax		pmax	
	comp=Z,961nm,2.4s					
YUK			MLR		MLR	
	comp=N,2μm,16.0s					
YUK			MLR		MLR	
	comp=E,1μm,16.0s					
YUK			MLR		MLR	
	comp=Z,2μm,16.0s					
YSS	**Yuzh-Sakhalins**	**21.32 28**	*e*P		**P**	**09 40 10.5 +0.2**
YSS			*e*			09 40 35.0
YSS			*e*S		S	09 43 58.0 -8.0
YSS			*e*SS		**SnSn**	**09 44 36.0 +7.0**
YSS			pmax		pmax	
	comp=Z,30nm,1.0s					
YSS			MLR		MLR	
	comp=Z,5μm,20.0s					
YSS			MLR		MLR	
	comp=N,6μm,18.0s					
YSS	**Yuzh-Sakhalins**	**21.32 28**	*e*P		**P**	**09 40 11.8 +1.6**
	comp=N,39nm,1.1s					
CD2	**Chengdu**	**21.53 282**	*e*P		**P**	**09 40 13.4 +0.6**
CD2			sP		sP	09 40 32.8 +11
CD2			PP		**PnPn**	**09 40 38.8 +5.5**
CD2			S		**S**	**09 44 05.3 -5.2**
CD2			sS		Sn	09 44 21.3 +2.1
CD2			PMZ			
	comp=N,310nm,1.1s					
CD2			PMZ			
	comp=N,920nm,8.3s					
CD2			LN			
	comp=N,16μm,10.2s					
CD2			LE			
	comp=N,8μm,13.1s					
CD2			LZ			
	comp=N,8μm,10.7s					
HIA	**Hailar**	**21.54 344**	*e*P		**P**	**09 40 13.0 +0.4**
HIA			pmax		pmax	
	comp=Z,113nm,1.5s					
HIA	**Hailar**	**21.54 344**	*e*P		**P**	**09 40 13.0 +0.4**
	comp=Z,113nm,1.5s					
LZH	**Lanzhou**	**21.99 296**	*e*P		**P**	**09 40 18.3 +0.5**
LZH			pP		pP	09 40 29.9 +5.9
LZH			sP		sP	09 40 36.4 +10
LZH			PMZ			
	comp=Z,82nm,1.0s					
LZH			PMZ			
	comp=Z,570nm,4.4s					
LZH			LN			
	comp=Z,12μm,12.5s					
LZH			LE			
	comp=Z,7μm,13.2s					
LZH			LZ			
	comp=Z,8μm,13.9s					
KUR	**Kuril'sk**	**22.50 38**	⇓*i*P		**P**	**09 40 20.7 -2.3**
KUR			*i* S		**S**	**09 44 26.8 -1.8**
KUR			pmax		pmax	
	comp=N,73nm,1.3s					
KUR			pmax		pmax	
	comp=E,51nm,1.3s					
KUR			pmax		pmax	
	comp=Z,126nm,1.3s					
KUR			MLR		MLR	
	comp=Z,913nm,19.0s					
KUR			MLR		MLR	
	comp=E,2μm,19.0s					
KUR			MLR		MLR	
	comp=N,3μm,19.0s					
UGL	**Uglegorsk**	**22.81 24**	*e*P		**P**	**09 40 24.0 -2.2**
UGL			*PP		**pP**	**09 40 33.2 +0.8**
UGL			*e**SP		sP	09 40 37.3 +2.0
UGL			*e*SS		**SnSn**	**09 45 04.3 -1.2**
KMI	**Kunming**	**23.20 267**	P		**P**	**09 40 31.5 +0.8**
KMI			PMZ			
	comp=N,89nm,0.9s					
KMI			PMZ			
	comp=N,590nm,6.0s					
KMI			LN			
	comp=N,5μm,10.5s					
KMI			LE			
	comp=N,3μm,8.3s					
KMI			LZ			
	comp=N,3μm,8.7s					
SLVN	**Son La**	**23.42 257**	*e*P		**P**	**09 40 34.4 +1.7**
	comp=N,31nm,1.0s					
KDM	**Kudat**	**24.35 209**	⇑P		**P**	**09 40 44.3 +2.8**
DLV	**T Lat**	**25.05 232**	*e*P		**P**	**09 40 49.8 +1.7**
	comp=N,55nm,1.1s					
UBPT	**Khong Chiam**	**25.12 243**	P		**P**	**09 40 50.8 +2.3**
	comp=N,40nm,1.2s					
ULN	**Ulaanbaatar**	**25.27 325**	*c i*P		**P**	**09 40 49.7 -0.1**
ULN			pmax		pmax	
	comp=Z,165nm,2.4s					
ULN	**Ulaanbaatar**	**25.27 325**	P		**P**	**09 40 50.1 +0.3**
	SNR=53					
ULN	**Ulaanbaatar**	**25.27 325**	*e*P		**P**	**09 40 49.8 +0.1**
	comp=Z,503nm,2.2s					
MYLDM	**Lahad Datu**	**25.29 204**	⇓P		**P**	**09 40 54.0 +4.0**
MYLDM	**Lahad Datu**	**25.29 204**	*e*P		**P**	**09 40 54.3 +4.3**
	comp=Z,154nm,1.4s					
SDKM	**Sandakan**	**25.35 207**	⇓P		**P**	**09 40 52.6 +1.9**
KKM	**Kota Kinabalu**	**25.40 209**	⇑P		**P**	**09 40 52.2 +1.1**
SONM	**Songino Array**	**25.58 324**	P		**P**	**09 40 52.9 +0.3**
	comp=Z,39nm,0.9s,baz=135,slow=7.1,SNR=109					
SONM			PcP		**PcP**	**09 44 23.7 +0.4**
	comp=Z,0.8nm,0.6s,baz=127,slow=2.6,SNR=2.8					
SONM			LR		LR	09 52 03.1
	comp=Z,4μm,18.2s,baz=130,slow=39					
GTA	**Gaotai**	**25.89 302**	⇑P		**P**	**09 40 55.5 0.0**
GTA			pP		pP	09 41 06.9 +4.8
GTA			sP		sP	09 41 12.8 +8.0
GTA			S		**S**	**09 45 23.8 -0.6**
GTA			PMZ			
	comp=Z,120nm,1.1s					
GTA			PMZ			
	comp=Z,490nm,5.0s					
GTA			LN			
	comp=Z,14μm,15.7s					
GTA			LE			
	comp=Z,7μm,14.7s					
GTA			LZ			
	comp=Z,8μm,15.7s					
TSM	**Tawau**	**26.33 204**	⇑P		**P**	**09 40 58.3 -1.1**
CRAI	**Chiangrai**	**26.88 258**	P		**P**	**09 41 05.7 +1.2**
	comp=Z,12nm,1.3s					
UTTA	**Uttaradit**	**27.82 253**	P		**P**	**09 41 16.7 +3.9**
	comp=Z,3.6nm,1.2s,comp=Z,46nm					
PBKT	**Sadao Pong**	**28.05 250**	P		**P**	**09 41 16.4 +1.5**
	comp=Z,13nm,0.9s,comp=Z,2μm					
CMAI	**Chiengmai2**	**28.14 258**	P		P	09 41 23.1 +7.1
	comp=Z,12nm,1.4s,comp=Z,2μm					
CLNS	**Chul'man**	**28.17 356**	*e*P		**P**	**09 41 17.1 +1.4**
CLNS			*e**PP		pP	09 41 24.7 +2.4
CLNS			*e*			09 42 07.2
CLNS			*e*PPP		PPP	09 42 15.7
CLNS			*e*			09 44 23.1
CLNS			*e*S		**S**	**09 46 04.0 +4.2**
CLNS			*e*SS		**SnSn**	**09 47 15.9 -0.5**
CLNS			pmax		pmax	
	comp=Z,21nm,1.1s					
CLNS			pmax		pmax	
	comp=N,12nm,1.0s					
CLNS			pmax		pmax	
	comp=E,11nm,0.9s					
CLNS			pmax		pmax	
	comp=Z,9.0nm,1.0s					
CLNS			pmax		pmax	
	comp=N,12nm,1.0s					
CLNS			pmax		pmax	
	comp=E,7.0nm,0.9s					
CLNS			smax		smax	
	comp=N,1μm,15.1s					
CLNS			smax		smax	
	comp=E,482nm,12.5s					
CLNS			MLR		MLR	
	comp=N,4μm,12.0s					
CLNS			MLR		MLR	
	comp=E,3μm,12.0s					
CLNS			MLR		MLR	
	comp=Z,7μm,13.0s					
LAMP	**Lampang**	**28.24 255**	P		P	09 41 19.5 +2.9
	comp=Z,6.4nm,1.0s,comp=Z,142nm					
GTOI	**Gorontalo**	**28.45 191**	P		P	09 41 32.3 +14
	comp=Z,36nm,1.2s					
CHTO	**Chiang Mai**	**28.70 256**	*e*P		**P**	**09 41 21.2 +0.4**
CHTO			pmax		pmax	
	comp=Z,8.0nm,0.9s					
CHTO	**Chiang Mai**	**28.70 256**	P		**P**	**09 41 22.9 +2.2**
	comp=Z,74nm,1.5s					
CHTO	**Chiang Mai**	**28.70 256**	*e*P		**P**	**09 41 21.1 +0.4**
	comp=Z,8.5nm,0.9s					
ZAK	**Zakamensk**	**28.79 326**	⇑*i*P		**P**	**09 41 20.6 -0.7**
ZAK			pmax		pmax	
	comp=Z,12nm,1.0s					
CMAR	**Chiang Mai Arr**	**28.86 256**	P		**P**	**09 41 22.0 -0.1**
CMAR	**Chiang Mai Arr**	**28.86 256**	P		**P**	**09 41 21.9 -0.1**
	comp=Z,4.3nm,0.8s,baz=52,slow=4.6,SNR=11					
CMAR			LR		LR	09 53 35.4
	comp=Z,2μm,19.6s,baz=78,slow=38					
BTM	**Bintulu**	**29.33 213**	⇑P		**P**	**09 41 26.4 +0.1**
TLY	**Talaya**	**29.45 328**	P		**P**	**09 41 28.1 +1.0**
	comp=Z,78nm,1.3s,SNR=6.9					
TLY	**Talaya**	**29.45 328**	*e*P		**P**	**09 41 27.3 +0.2**
TLY			pmax		pmax	
	comp=Z,32nm,1.6s					
TLY			MLR		MLR	
	comp=Z,5μm,17.0s					
TLY	**Talaya**	**29.45 328**	P		**P**	**09 41 27.5 +0.4**
	SNR=11					
TLY	**Talaya**	**29.45 328**	P		**P**	**09 41 27.1 0.0**
	comp=Z,5.6nm,0.7s,baz=169,slow=5.7,SNR=7.5					
TLY	**Talaya**	**29.45 328**	*e*P		**P**	**09 41 27.8 +0.6**
IRK	**Irkutsk**	**29.54 329**	*e*P		**P**	**09 41 27.0 -0.9**
IRK			pmax		pmax	
	comp=Z,65nm,3.1s					
SBUM	**Sibu**	**30.40 214**	⇓P		**P**	**09 41 38.2 +2.4**
SBUM	**Sibu**	**30.40 214**	*e*P		**P**	**09 41 37.3 +1.5**
	comp=Z,37nm,1.7s					
MOY	**Mondy**	**30.72 326**	*e*P		**P**	**09 41 38.2 -0.2**
SRDT	**SRDT**	**30.72 248**	P		P	09 41 44.1 +5.5
	comp=Z,62nm,2.0s,comp=Z,7μm					
BOD	**Bodaibo**	**30.75 345**	*e*P		**P**	**09 41 37.7 -0.8**
BOD			pmax		pmax	
	comp=Z,21nm,1.0s					

KHLT	Khaolaem Dam	30.92 250	P	P	09 41 47.3 +6.9
	comp=Z,10.0nm,1.2s				
FAKI	Fak Fak	31.71 173	eP	P	09 41 47.9 +0.5
KSM	Kuching	32.20 216	⇑P	P	09 41 52.6 +1.0
KSM	Kuching	32.20 216	eP	P	09 41 53.0 +1.4
	comp=Z,23nm,1.0s				
PETK	Petropavlovsk-	32.45 33	P	P	09 41 52.0 -1.5
	comp=Z,12nm,0.9s,baz=174,slow=4.9,SNR=7.6				
PETK			LR	LR	09 54 37.8
	comp=Z,1μm,21.9s,baz=226,slow=36				
LSA	Lhasa	32.48 281	eP	P	09 41 54.5 -0.1
LSA			pmax	pmax	
	comp=Z,12nm,0.8s				
LSA	Lhasa	32.48 281	eP	P	09 41 54.5 -0.1
	comp=Z,12nm,0.8s				
YAK	Yakutsk	33.28 1	eP	P	09 41 58.9 -1.7
YAK			e		09 43 12.4
YAK			e		09 44 40.4
YAK			eS	S	09 47 12.4 -7.1
YAK			eSS	SnSn	09 49 25.8 +5.5
YAK			e		09 52 15.9
YAK			pmax	pmax	
	comp=Z,37nm,0.9s				
YAK			pmax	pmax	
	comp=N,13nm,0.9s				
YAK			pmax	pmax	
	comp=Z,113nm,4.7s				
YAK			pmax	pmax	
	comp=N,128nm,3.7s				
YAK			pmax	pmax	
	comp=E,98nm,3.5s				
YAK			smax	smax	
	comp=N,77nm,3.1s				
YAK			smax	smax	
	comp=E,83nm,3.2s				
YAK	Yakutsk	33.28 1	eP	P	09 42 00.7 +0.1
	comp=E,42nm,0.9s				
KTGM	Kuala Trenggan	33.45 231	⇑P	P	09 42 05.6 +3.0
SURT	Suratani	34.13 241	P	P	09 42 11.4 +2.9
	comp=E,12nm,1.1s,comp=E,226nm				
HVS	Khovu-Aksy	34.29 320	iP	P	09 42 10.0 +0.3
PKDT	Phuket	35.16 240	P	P	09 42 19.9 +2.5
	comp=E,56nm,0.9s				
KULM	Kulim	35.20 234	⇑P	P	09 42 21.0 +3.2
KULM	Kulim	35.20 234	eP	P	09 42 19.4 +1.6
	comp=E,78nm,1.7s				
IPM	Ipoh	35.51 232	⇓P	P	09 42 22.6 +2.1
IPM	Ipoh	35.51 232	eP	P	09 42 21.6 +1.1
MYKOM	Kota Tinggi	35.64 226	⇑P	P	09 42 23.0 +1.4
WMQ	Urumqi	35.74 306	P	P	09 42 22.8 +0.5
WMQ			pP	pP	09 42 37.9 +8.9
WMQ			PP	PP	09 43 46.0 +2.4
WMQ			PcP	PcP	09 44 50.1 +0.1
WMQ			S	S	09 47 59.3 +1.1
WMQ			sS	sS	09 48 19.4 +10
WMQ			SS	SnSn	09 50 18.8 -1.9
WMQ			PMZ		
	comp=E,66nm,1.6s				
WMQ			PMZ		
	comp=E,400nm,3.5s				
WMQ			LN		
	comp=E,7μm,18.0s				
WMQ			LE		
	comp=E,3μm,21.0s				
WMQ			LZ		
	comp=E,2μm,17.0s				
KGM	Kluang	35.80 227	⇑P	P	09 42 27.3 +4.3
TAPN	Taplejung	35.87 278	eP	P	09 42 24.6 +0.8
	comp=E,88nm,1.3s				
ODAN	Odare	36.25 277	eP	P	09 42 26.8 -0.2
	comp=E,105nm,0.9s				
RAMN	Ramite	36.92 277	eP	P	09 42 32.4 -0.3
	comp=E,42nm,1.0s				
JIRN	Jiri	37.12 279	eP	P	09 42 35.3 +0.7
	comp=E,38nm,1.0s				
GUN	Gumba	37.34 279	eP	P	09 42 36.6 +0.2
	comp=E,88nm,0.9s				
PKI	Pulchoki	37.82 279	eP	P	09 42 40.1 -0.4
	comp=E,87nm,0.9s				
PKIN	Phulchoki	37.83 279	eP	P	09 42 40.1 -0.4
	comp=E,57nm,0.9s				
PKIN	Phulchoki	37.83 279	eP	P	09 42 40.2 -0.3
	comp=E,38nm,0.9s				
KKN	Kakani	37.89 279	eP	P	09 42 40.6 -0.3
	comp=E,84nm,1.0s				
DMN	Daman	38.08 279	eP	P	09 42 42.3 -0.2
	comp=E,84nm,1.0s				
GKN	Gorkha	38.40 280	eP	P	09 42 44.7 -0.5
	comp=E,147nm,1.1s				
BATI	Baumata	39.02 188	P	P	09 42 48.1 -2.0
	comp=E,37nm,0.7s,baz=237,slow=1.6,SNR=6.9				
DANN	Dangsing	39.09 280	eP	P	09 42 51.1 0.0
	comp=E,120nm,0.9s				
KOLN	Koldanda	39.35 280	eP	P	09 42 53.0 -0.1
	comp=E,33nm,0.9s				
MKAR	Makanchi Array	40.04 310	P	P	09 42 58.5 0.0
	comp=E,43nm,1.0s,baz=90,slow=11,SNR=153				
MKAR			PcP	PcP	09 45 01.6 -1.5
	comp=E,3.7nm,0.7s,baz=73,slow=2.8,SNR=5.7				
ZALV	Zalesovo Beam	40.39 321	P	P	09 43 00.7 -0.4
	comp=E,13nm,0.5s,baz=106,slow=8.3,SNR=54				
ZALV			PcP	PcP	09 45 02.5 -1.5
	comp=E,3.7nm,0.8s,baz=140,slow=4.7,SNR=4.2				
ZALV			LR	LR	10 00 29.7
	comp=E,955nm,19.0s,baz=100,slow=37				
PMG	Port Moresby	42.02 152	ceP	P	09 43 16.4 +1.4
PMG			pmax	pmax	
	comp=Z,76nm,1.0s				
PMG	Port Moresby	42.02 152	P	P	09 43 13.8 -1.2
	comp=Z,51nm,0.8s,baz=320,slow=18,SNR=7.6				
PMG			LR	LR	09 58 33.7
	comp=Z,2μm,21.0s,baz=313,slow=33				
PMG	Port Moresby	42.02 152	eP	P	09 43 16.3 +1.4
TIXI	Tiksi	42.93 0	eP	P	09 43 22.2 +0.4
TIXI			pmax	pmax	
	comp=Z,9.0nm,1.1s				
TIXI			MLR	MLR	
	comp=Z,3μm,16.0s				
TIXI	Tiksi	42.93 0	eP	P	09 43 20.5 -1.3
KURK	Kurchatov	43.16 315	P	P	09 43 23.5 -0.4
	comp=Z,233nm,0.9s,SNR=33				
KURK	Kurchatov	43.16 315	P	P	09 43 23.1 -0.8
KURK			pmax	pmax	
	comp=Z,40nm,1.0s				
KURK	Kurchatov	43.16 315	P	P	09 43 23.4 -0.5
	SNR=26				
KURK	Kurchatov	43.16 315	eP	P	09 43 23.4 -0.4
	comp=Z,35nm,0.9s				
ULHL	Ulahol	43.94 302	P	P	09 43 31.0 +0.3
	SNR=15				
ULHL	Ulahol	43.94 302	iP	P	09 43 30.9 +0.3
KSH	Kashi	44.20 298	P	P	09 43 35.9 +3.3
KSH			sP	sP	09 43 53.8 +12
KSH			PP	PcP	09 45 20.8 +3.6
KSH			PcS	PcS	09 49 10.3 -0.1
KSH			S	S	09 50 05.4 +0.5
KSH			sS	sS	09 50 26.4 +10
KSH			SS	SS	09 53 16.4 -6.5
KSH			PMZ		
	comp=Z,7.0nm,0.5s				
KSH			LN		
	comp=Z,2μm,16.9s				
KSH			LE		
	comp=Z,2μm,14.3s				
KSH			LZ		
	comp=Z,690nm,17.0s				
TKM2	Tokmak 2	44.42 303	P	P	09 43 35.2 +0.7
	SNR=68				
TKM2	Tokmak 2	44.42 303	iP	P	09 43 34.6 +0.1
TKM2			pmax	pmax	
	comp=Z,30nm,0.7s				
TKM2	Tokmak 2	44.42 303	eP	P	09 43 35.1 +0.7
NDI	New Delhi	44.64 283	eP	P	09 43 36.0 -0.2
KZA	Kyzart	44.68 302	P	P	09 43 37.8 +1.1
	SNR=32				
KZA	Kyzart	44.68 302	iP	P	09 43 37.8 +1.1
KBK	Karagaybulak	44.90 303	P	P	09 43 38.6 +0.4
	SNR=15				
KBK	Karagaybulak	44.90 303	iP	P	09 43 38.7 +0.4
CHMS	Chumysh	45.05 303	P	P	09 43 39.4 +0.2
	SNR=16				
CHMS	Chumysh	45.05 303	iP	P	09 43 39.4 +0.2
FRU	Bishkek	45.14 303	eP	P	09 43 40.0 0.0
FRU			pmax	pmax	
	comp=Z,50nm,1.9s				
FRU			MLR	MLR	
	comp=Z,2μm,17.0s				
BILL	Bilibino	45.21 19	⇓iP	P	09 43 39.6 -0.5
BILL			i		09 45 20.7
BILL			eS	S	09 50 32.2 +14
BILL			pmax	pmax	
	comp=Z,18nm,1.0s				
BILL			MLR	MLR	
	comp=Z,3μm,17.0s				
BILL	Bilibino	45.21 19	eP	P	09 43 39.8 -0.3
UCH	Uchtor	45.23 302	P	P	09 43 42.4 +1.2
	SNR=78				
UCH	Uchtor	45.23 302	iP	P	09 43 42.3 +1.2
USP	Ospenovka	45.23 304	P	P	09 43 40.8 0.0
	SNR=11				
USP	Ospenovka	45.23 304	iP	P	09 43 40.7 0.0
AAK	Ala-Archa	45.23 303	P	P	09 43 41.2 +0.3
	comp=Z,83nm,0.6s,SNR=11				
AAK	Ala-Archa	45.23 303	P	P	09 43 41.2 +0.3
	SNR=13				
AAK	Ala-Archa	45.23 303	⇓eP	P	09 43 41.3 +0.3
AAK			pmax	pmax	
	comp=Z,17nm,0.6s				
AAK	Ala-Archa	45.23 303	P	P	09 43 41.8 +0.9
	SNR=8.5				
AAK	Ala-Archa	45.23 303	eP	P	09 43 41.1 +0.2
	comp=Z,14nm,1.1s				
EKS2	Erkin-Say	45.76 303	P	P	09 43 45.6 +0.6
	SNR=5.3				
EKS2	Erkin-Say	45.76 303	iP	P	09 43 45.6 +0.6
EKS2	Erkin-Say	45.76 303	eP	P	09 43 46.3 +1.3
	comp=Z,53nm,1.6s				
HYB	Hyderabad	46.98 267	iP	P	09 43 54.0 -0.8
KK31	Karatay Array	48.15 304	iP	P	09 44 03.6 +0.1
KK31			pmax	pmax	
	comp=Z,22nm,0.7s				
KKAR	Karatay Array	48.15 304	eP	P	09 44 04.1 +0.6
KKAR			pmax	pmax	
	comp=Z,19nm,0.6s				
KKAR	Karatay Array	48.15 304	eP	P	09 44 04.1 +0.6
	comp=Z,19nm,0.6s				
VOSK	Vostochnaya	48.16 316	iP	P	09 44 02.4 -1.0
VOSK			pmax	pmax	
	comp=Z,41nm,1.0s				
BVA0	Borovoye Array	48.55 317	iP	P	09 44 06.0 -0.4
BVA0			pmax	pmax	
	comp=Z,73nm,1.0s				
BRVK	Borovoye	48.62 317	P	P	09 44 07.3 +0.4
	comp=Z,710nm,1.0s,SNR=42				
BRVK	Borovoye	48.62 317	ciP	P	09 44 06.7 -0.2
BRVK			pmax	pmax	
	comp=Z,125nm,1.0s				
BRVK	Borovoye	48.62 317	P	P	09 44 07.4 +0.4
	SNR=53				
BRVK	Borovoye	48.62 317	eP	P	09 44 06.9 -0.1
	comp=Z,105nm,0.9s				
HNR	Honiara	48.64 137	LR	LR	10 02 27.8
	comp=Z,475nm,20.2s,baz=306,slow=33				
WRAB	Tennant Creek	48.75 173	P	P	09 44 08.0 -0.2
	comp=Z,246nm,1.0s,SNR=15				
WRAB	Tennant Creek	48.75 173	ceP	P	09 44 08.2 0.0
WRAB			pmax	pmax	
	comp=Z,176nm,1.5s				
WRAB	Tennant Creek	48.75 173	eP	P	09 44 08.2 0.0
	comp=Z,39nm,0.9s				
WRA	Warramunga Arr	48.75 173	P	P	09 44 08.2 -0.1
	comp=Z,36nm,1.0s,baz=349,slow=8.2,SNR=74				
WRA			PcP	PcP	09 45 32.5 -0.6
	comp=Z,2.8nm,0.7s,baz=351,slow=4.2,SNR=6.1				
WB2	Warramunga Arr	48.76 173	eP	P	09 44 08.2 -0.1
PALK	Pallekele	49.78 254	LR	LR	10 08 21.3
	comp=Z,748nm,18.5s,baz=59,slow=40				
KBL	Kabul	50.29 293	eP	P	09 44 21.4 +1.1
KBL	Kabul	50.29 293	eP	P	09 44 21.4 +1.1
POO	Poona	50.68 271	eP	P	09 44 15.0 -8.2
GAMB	Gambell	51.33 29	eP	P	09 44 28.1 +0.8
	comp=Z,9.7nm,1.0s				
CTA	Charters Tower	51.52 158	P	P	09 44 28.8 -0.5
	comp=Z,12nm,0.9s,baz=335,slow=11,SNR=6.5				
CTA			LR	LR	10 04 38.5
	comp=Z,518nm,20.4s,baz=338,slow=34				
AS31	Alice Springs	52.39 174	eP	P	09 44 36.3 +0.5
ASAR	Alice Springs	52.39 174	P	P	09 44 36.0 +0.3
	comp=Z,14nm,1.0s,baz=354,slow=6.0,SNR=56				
ASAR			PcP	PcP	09 45 47.2 +0.7
	comp=Z,4.7nm,0.7s,baz=350,slow=3.1,SNR=9.7				
ASAR			LR	LR	10 08 34.2
	comp=Z,383nm,18.6s,baz=358,slow=38				
TNA	Tin City	53.30 28	eP	P	09 44 43.1 +1.1
	comp=Z,18nm,0.8s				
SVE	Sverdlovsk	54.40 321	⇑eP	P	09 44 50.7 +0.5
SVE			pmax	pmax	
	comp=Z,55nm,1.2s				
SVE			MLR	MLR	
	comp=Z,6μm,14.0s				
AB31	Akbulak array	55.09 312	P	P	09 44 54.7 -0.6
AB31			pmax	pmax	
	comp=Z,12nm,0.6s				
ABKAR	Akbulak array	55.09 312	eP	P	09 44 55.1 -0.1
ARU	Arti	55.55 321	ciP	P	09 44 58.3 -0.2
ARU			S	S	09 52 43.5 +0.9
ARU			pmax	pmax	
	comp=Z,32nm,0.8s				
ARU			MLR	MLR	
	comp=Z,4μm,16.0s				
ARU	Arti	55.55 321	eP	P	09 44 58.3 -0.2
	comp=Z,37nm,1.0s				
AKTO	Aktyubinsk	56.22 314	P	P	09 45 02.4 -1.0
AKTO			pmax	pmax	
	comp=Z,30nm,1.8s				
SOKR	Solikamsk	56.45 325	eP	P	09 45 05.4 +0.6
SOKR			pmax	pmax	
	comp=Z,20nm,1.0s				
SOKR			MLR	MLR	
	comp=Z,5μm,16.0s				
IMYA	Miami	57.05 297	eP	P	09 45 11.4 +1.6
ISRO	Mashad	57.55 297	eP	P	09 45 14.7 +1.5
IDAH	Dahanechah	58.15 293	eP	P	09 45 17.9 +0.3
IKRD	Kardeh	58.19 297	eP	P	09 45 14.7 -3.2
ABKT	Ailbek	58.22 299	P	P	09 45 19.2 +1.4
	comp=Z,248nm,1.1s,SNR=6.0				
GEYT	Alibeck	58.23 299	P	P	09 45 18.0 +0.2
	comp=Z,18nm,0.7s,baz=29,slow=3.4,SNR=27				
SVW2	Sparrevohn	58.54 34	eP	P	09 45 21.1 +1.5
	comp=Z,243nm,2.7s				
ITEG	Tejag	59.01 293	eP	P	09 45 24.2 +0.6
IM04	Indian Mountai	59.14 28	eP	P	09 45 23.4 -0.3
FORT	Forrest	59.21 180	eP	P	09 45 25.4 +0.9
	comp=Z,64nm,1.2s				
RSO	Redoubt South	59.97 34	eP	P	09 45 30.5 +0.7
PPLA	Purkeypile	60.01 31	eP	P	09 45 30.4 +0.5
	comp=Z,53nm,1.3s				
SPU	Mount Spurr	60.24 33	eP	P	09 45 32.1 +0.8
KDAK	Kodiak Island	60.37 37	P	P	09 45 32.0 -0.2
	comp=Z,428nm,0.9s,SNR=6.0				
KDAK	Kodiak Island	60.37 37	ceP	P	09 45 32.5 +0.3
KDAK	Kodiak Island	60.37 37	eP	P	09 45 32.5 +0.3
COLD	Coldfoot	60.50 26	eP	P	09 45 32.5 -0.5
	comp=Z,4.9nm,0.8s				
KTH	Kantishna Hill	60.52 30	eP	P	09 45 34.4 +1.1
TRF	Thorofare Moun	60.81 31	eP	P	09 45 36.1 +0.7
RC01	Rabbit Creek A	61.37 33	eP	P	09 45 39.7 +0.7
MCK	McKinley	61.38 30	eP	P	09 45 39.6 +0.5
MCK	McKinley	61.38 30	eP	P	09 45 39.6 +0.5
PMR	Palmer	61.58 33	eP	P	09 45 40.6 +0.2
PMR			pmax	pmax	
	comp=Z,24nm,1.0s				
PMR	Palmer	61.58 33	eP	P	09 45 40.6 +0.2
	comp=Z,24nm,1.0s				
STKA	Stephens Creek	61.59 167	P	P	09 45 40.6 -0.1
STKA			pmax	pmax	
	comp=Z,10.0nm,1.0s				
STKA			MLR	MLR	
	comp=Z,17nm,28.6s				
STKA	Stephens Creek	61.59 167	P	P	09 45 40.6 -0.1
	comp=Z,9.6nm,1.0s,baz=345,slow=7.6,SNR=14				
STKA			LR	LR	10 12 14.5
	comp=Z,333nm,20.9s,baz=350,slow=36				
STKA	Stephens Creek	61.59 167	eP	P	09 45 41.2 +0.5
SEW	Seward	61.65 34	eP	P	09 45 41.1 +0.3
BBOO	Buckleboo	61.66 173	eP	P	09 45 41.4 +0.2
	comp=Z,528nm,1.4s				
COLA	College	61.70 29	⇓iP	P	09 45 41.8 +0.7
COLA	College	61.70 29	eP	P	09 45 41.6 +0.5
	comp=Z,173nm,2.6s				
PRGR	Permogore	61.78 327	eP	P	09 45 41.2 -0.5
PRGR			pmax	pmax	
	comp=Z,29nm,1.3s				
ILAR	Eielson Array	62.12 29	P	P	09 45 43.1 -0.9
	comp=Z,5.1nm,0.8s,baz=277,slow=5.4,SNR=33				
ILAR			LR	LR	10 15 16.7
	comp=Z,759nm,18.2s,baz=290,slow=39				
NWAO	Narrogin (SRO)	62.27 191	P	P	09 45 45.2 -0.1
	comp=Z,26nm,1.1s,baz=348,slow=4.5,SNR=4.6				
DZM	Mont Dzumac	62.42 140	P	P	09 45 46.6 0.0
	comp=Z,12nm,0.9s,baz=12,slow=13,SNR=3.7				
PAX	Paxson	63.04 31	eP	P	09 45 50.6 +0.3
PAX	Paxson	63.04 31	eP	P	09 45 50.6 +0.3
DIV	Divide	63.26 33	eP	P	09 45 52.7 +1.0
MENT	Mentasta	63.83 31	eP	P	09 45 55.4 -0.1
BMRM	Bremner River	63.84 33	eP	P	09 45 55.7 +0.1
	comp=Z,24nm,0.8s				
EGAK	Eagle	64.53 28	eP	P	09 45 59.6 -0.4
	comp=Z,16nm,0.9s				
IPAR	Pars	64.59 291	eP	P	09 46 00.5 -0.8
ISRV	Sarvestan	64.69 291	eP	P	09 46 00.4 -1.6
TMCR	Tamitsa	64.69 331	eP	P	09 46 00.9 -0.1
TMCR			e		09 46 33.7
TMCR			pmax	pmax	
	comp=Z,11nm,0.6s				
MAK	Makhachkala	64.76 307	eP	P	09 46 00.6 -1.2
MAK			e		09 48 19.3
MAK			eS	S	09 54 38.9 -2.3
MAK			pmax	pmax	
	comp=Z,174nm,1.3s				
MAK			MLR	MLR	
	comp=Z,2μm,13.0s				
KLMR	Klimovskoe	64.83 327	eP	P	09 46 03.3 +1.4
KLMR			pmax	pmax	
	comp=Z,25nm,1.2s				
KLMR			MLR	MLR	
	comp=Z,3μm,13.0s				
DAWY	Dawson	65.45 29	eP	P	09 46 06.1 +0.1
IKAZ	Kazeroun	65.59 292	eP	P	09 46 08.4 +0.5
APA	Apatity	65.64 335	⇑iP	P	09 46 06.4 -0.7
APA			i		09 46 36.0
APA			iS	S	09 54 42.0 -9.3
APA			MLR	MLR	
	comp=Z,2μm,14.0s				
VRHR	Novokhopersk	66.29 317	eP	P	09 46 11.0 -0.5
VRHR			pmax	pmax	
	comp=Z,8.0nm,0.6s				
VRHR			pmax	pmax	
	comp=N,10.0nm,0.7s				
VRHR			pmax	pmax	
	comp=E,10.0nm,0.6s				
VRHR			MLR	MLR	
	comp=Z,3μm,15.0s				
VRHR			MLR	MLR	
	comp=N,850nm,12.0s				
VRHR			MLR	MLR	
	comp=E,2μm,15.0s				
CAN	Canberra	66.62 162	eP	P	09 46 14.7 +0.9
CAN			pmax	pmax	
	comp=Z,27nm,1.4s				
CAN	Canberra	66.62 162	eP	P	09 46 14.7 +0.9
	comp=Z,27nm,1.4s				
KEV	Kevo	67.16 338	eP	P	09 46 15.0 -1.8
KEV			pmax	pmax	
	comp=Z,6.0nm,0.7s				
KEV	Kevo	67.16 338	ep	P	09 46 15.0 -1.8
	comp=Z,5.8nm,0.7s				
HYT	Haines Junctio	67.23 32	eP	P	09 46 17.5 -0.1
ZEI	Tsey	67.34 307	eP	P	09 46 19.0 +0.3
ZEI			pmax	pmax	
	comp=Z,26nm,0.9s				
GNI	Garni	67.60 305	eP	P	09 46 22.3 +2.0
GNI			pmax	pmax	
	comp=Z,29nm,1.9s				
GNI	Garni	67.60 305	LR	LR	10 19 34.0
	comp=Z,797nm,18.3s,baz=85,slow=39				
KBZ	Khabaz	67.73 309	P	P	09 46 21.0 +0.2
	comp=Z,18nm,0.9s,baz=92,slow=1.2,SNR=22				
KBZ			LR	LR	10 20 38.3
	comp=Z,1μm,18.1s,baz=60,slow=40				
VSR	Storozhevoye	67.73 317	eP	P	09 46 17.5 -3.2
VSR			pmax	pmax	
	comp=Z,4.0nm,0.6s				
VSR			pmax	pmax	
	comp=N,10.0nm,0.7s				
VSR			pmax	pmax	
	comp=E,10.0nm,0.6s				
VSR			MLR	MLR	
	comp=N,1μm,15.0s				
VSR			MLR	MLR	
	comp=Z,3μm,15.0s				
VSR			MLR	MLR	
	comp=E,2μm,14.0s				
VORD	Divnogorie	67.73 317	eP	P	09 46 18.0 -2.7
VORD			pmax	pmax	
	comp=Z,20nm,1.8s				
VORD			pmax	pmax	
	comp=N,20nm,0.7s				
VORD			pmax	pmax	
	comp=E,10.0nm,0.6s				
VORD			MLR	MLR	
	comp=Z,3μm,14.0s				
VORD			MLR	MLR	
	comp=N,1μm,15.0s				
VORD			MLR	MLR	
	comp=E,2μm,15.0s				
ARCES	ARCESS Array B	67.73 338	P	P	09 46 18.8 -1.6
	comp=E,3.3nm,0.8s,baz=70,slow=7.9,SNR=5.6				
ARCES			LR	LR	10 20 17.7
	comp=E,935nm,18.9s,baz=58,slow=40				
KIV	Kislovodsk	67.80 309	eP	P	09 46 21.3 -0.1
KIV			e		09 46 47.0
KIV			eS	S	09 55 17.2 -1.2
KIV			pmax	pmax	
	comp=Z,23nm,0.9s				
KIV			MLR	MLR	
	comp=Z,1μm,17.0s				
KIV	Kislovodsk	67.80 309	eP	P	09 46 21.9 +0.5
	comp=Z,60nm,1.3s				
JOF	Joensuu	67.94 331	eP	P	09 46 20.5 -1.3
JOF			pmax	pmax	
	comp=Z,6.0nm,0.6s				
JOF	Joensuu	67.94 331	ep	P	09 46 20.5 -1.3
	comp=Z,5.9nm,0.6s				
OBN	Obninsk	67.97 322	eP	P	09 46 23.3 +1.2
OBN			pmax	pmax	
	comp=Z,10.0nm,0.6s				
OBN			MLR	MLR	
	comp=Z,3μm,21.0s				
SOC	Sochi	69.95 309	eP	P	09 46 34.4 -0.3
SOC			ePPP	PPP	09 50 50.6
SOC			eS	S	09 55 43.1 -0.5
SOC			eSS	SS	10 00 07.2 -5.2
SOC			MLR	MLR	
	comp=Z,2μm,16.0s				
KAF	Kangasniemi	70.39 331	eP	P	09 46 30.7 -6.3
KAF			pmax	pmax	
	comp=Z,4.0nm,0.7s				
KAF	Kangasniemi	70.39 331	ep	P	09 46 30.7 -6.3
	comp=Z,4.4nm,0.7s				
FINES	FINESS Array B	70.77 330	P	P	09 46 38.1 -1.2
	comp=Z,5.8nm,0.6s,baz=73,slow=6.4,SNR=24				
FINES			LR	LR	10 20 58.3
	comp=Z,3μm,19.1s,baz=73,slow=39				
ANN	Anapa	71.04 311	eP	P	09 46 40.0 -1.3
ANN			eS	S	09 55 54.0 -2.2
ANN			e		09 56 35.1
ANN			pmax	pmax	
	comp=Z,28nm,1.2s				
ANN			MLR	MLR	
	comp=Z,1μm,21.0s				
VSU	Vasula	71.73 327	eP	P	09 46 45.2 0.0
VSU			pmax	pmax	
	comp=Z,35nm,1.0s				
DAG	Danmarks Havn	72.78 352	iP	P	09 46 49.2 -2.0
	comp=Z,2.2nm,0.7s				
MALT	Malatya	72.83 305	⇑P	P	09 46 55.1 +2.8
MALT	Malatya	72.83 305	⇑iP	P	09 46 55.1 +2.8
RES	Resolute Bay	73.03 11	eP	P	09 46 51.8 -0.9
RES			pmax	pmax	
	comp=Z,13nm,0.8s				
RES	Resolute Bay	73.03 11	eP	P	09 46 51.8 -0.9
	comp=Z,14nm,0.8s				
RAYN	Ar Rayn	73.21 288	eP	P	09 46 53.7 -1.0
	comp=Z,17nm,1.0s				
NACGM	Naroch	73.25 324	e	P	09 46 50.0 -4.4
AKASG	Malin Array Be	73.75 319	P	P	09 46 55.8 -1.5
	comp=Z,1.9nm,0.6s,baz=54,slow=6.9,SNR=9.0				

AKASG LR LR 10 22 12.5
comp=Z,3µm,18.4s,baz=50,slow=38
KIEV Kiev 73.76 319 *e*P **P 09 46 56.3 -1.1**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 73.76 319 *e*P **P 09 46 56.3 -1.1**
comp=Z,7.9nm,0.8s
BRTR Keskin Array B 75.65 308 P **P 09 47 07.8 -1.0**
comp=Z,4.6nm,0.8s,baz=102,slow=5.6,SNR=21
BRTR LR LR 10 25 30.7
comp=Z,654nm,19.1s,baz=40,slow=40
JMIC Jan Mayen 76.00 347 LR LR 10 25 06.2
comp=Z,652nm,18.3s,baz=78,slow=39
YKA Yellowknife Ar 76.15 25 P **P 09 47 11.1 +0.1**
YKA pmax pmax
comp=Z,13nm,0.9s
YKA Yellowknife Ar 76.15 25 P **P 09 47 11.1 +0.1**
comp=Z,13nm,0.8s,baz=300,slow=5.6,SNR=152
ASF Jabal al Asfar 76.50 299 LR LR 10 27 07.4
comp=Z,431nm,18.3s,baz=48,slow=41
HFS Hagfors 76.68 332 LR LR 10 23 13.8
comp=Z,986nm,20.0s,baz=50,slow=38
CFR Carcaliu 76.87 314 ⇓P **P 09 47 14.4 -1.0**
CFR Carcaliu 76.87 314 ⇓*i*P **P 09 47 14.4 -1.0**
TIRR Tirgusor 77.03 314 ⇓P **P 09 47 15.9 -0.4**
TIRR Tirgusor 77.03 314 ⇓*i*P **P 09 47 15.9 -0.4**
TIRR Tirgusor 77.03 314 *e*P **P 09 47 16.8 +0.5**
comp=Z,4.0nm,0.8s
NB2 NORSAR Subarra 77.14 334 P **P 09 47 15.1 -1.6**
comp=Z,0.5nm,0.6s,baz=54,slow=5.9
NOA NORSAR Array B 77.14 334 P **P 09 47 14.7 -2.0**
comp=Z,5.0nm,0.8s,baz=50,slow=5.5,SNR=11
NOA LR LR 10 24 05.4
comp=Z,843nm,18.7s,baz=50,slow=38
TESR Tescani 77.17 316 ⇑*i*P **P 09 47 16.5 -0.6**
MMAI Mount Meron Ar 77.28 301 LR LR 10 25 07.3
comp=Z,410nm,18.8s,baz=55,slow=39
VRI Vrincioaia 77.42 315 ⇓P **P 09 47 18.6 0.0**
VRI Vrincioaia 77.42 315 ⇓*i*P **P 09 47 18.6 0.0**
BURAR Bucovina Array 77.50 318 ⇑P **P 09 47 18.0 -1.1**
BURAR Bucovina Array 77.50 318 ⇑*i*P **P 09 47 18.0 -1.1**
PSN Preselentsi 77.53 313 ⇓P **P 09 47 19.6 +0.4**
PSN Preselentsi 77.53 313 ⇓*i*P **P 09 47 19.6 +0.4**
KWP Kalwaria Pacla 77.95 320 ⇑P **P 09 47 21.2 -0.2**
KWP Kalwaria Pacla 77.95 320 ⇑*i*P **P 09 47 21.2 -0.2**
KWP Kalwaria Pacla 77.95 320 *e*P **P 09 47 20.6 -0.8**
comp=Z,18nm,0.9s
MLR Muntele Rosu 78.09 315 ⇑P **P 09 47 24.7 +2.3**
MLR Muntele Rosu 78.09 315 ⇑*i*P **P 09 47 24.7 +2.3**
SUMG Summit 78.53 356 *i* P **P 09 47 23.7 -1.0**
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 78.53 356 *i* P **P 09 47 23.7 -1.0**
comp=Z,10.0nm,0.8s
SUMG Summit 78.53 356 *e*P **P 09 47 23.8 -0.9**
comp=Z,9.6nm,0.8s
KOLS Kolonicke sedl 78.55 320 *e*P **P 09 47 21.6 -3.2**
KOLS Kolonicke sedl 78.55 320 *e*P **P 09 47 21.6 -3.2**
UZH Uzhgorod 78.69 319 *e*P P 09 47 16.3 -9.2
UZH *e* 09 47 29.7
UZH MLR MLR
comp=N,1µm,15.0s
UZH MLR MLR
comp=E,2µm,15.0s
UZH MLR MLR
comp=Z,1µm,15.0s
EIL Elat 79.11 298 LR LR 10 27 49.1
comp=Z,402nm,19.2s,baz=88,slow=40
GZR Gura Zlata 80.07 316 ⇓P P 09 47 35.9 +2.7
GZR Gura Zlata 80.07 316 ⇓*i*P P 09 47 35.9 +2.7
OKC Ostrava-Krasne 80.36 322 AMS AMS 10 26 20.0
comp=Z,2µm,15.9s
MORC Moravsky Berou 80.72 322 *e*P **P 09 47 37.6 +1.0**
MORC pmax pmax
comp=Z,8.0nm,0.8s
MORC Moravsky Berou 80.72 322 *e*P **P 09 47 37.6 +1.0**
comp=Z,7.6nm,0.8s
DPC Dobruska-Polom 81.05 323 *e*P **P 09 47 37.2 -1.1**
DPC Dobruska-Polom 81.05 323 *e*P **P 09 47 37.2 -1.1**
DPC AMS AMS 10 26 50.0
VRAC Vranov 81.49 322 ⇑P **P 09 47 41.6 +0.9**
VRAC Vranov 81.49 322 ⇑*i*P **P 09 47 41.6 +0.9**
FMW Mount Fremont 81.71 41 P **P 09 47 43.2 +1.1**
PVCC Panska Ves 81.86 324 AMS AMS 10 27 00.0
comp=Z,2µm,15.6s
BRG Berggiesshubel 81.98 324 *e*P P 09 47 46.7 +3.5
comp=Z,14nm,1.4s
BRG *i* 09 48 06.0
comp=Z,6.7nm,0.7s
BRG Berggiesshubel 81.98 324 *e*P P 09 47 46.7 +3.5
BRG pmax pmax
comp=Z,14nm,1.4s
BRG pmax pmax
comp=Z,7.0nm,0.7s
BRG MLR MLR
comp=N,1µm,14.4s
BRG MLR MLR
comp=E,2µm,17.0s
BRG MLR MLR
comp=Z,3µm,16.9s
COR Corvallis 82.03 43 *e*P **P 09 47 44.7 +1.2**
COR Corvallis 82.03 43 *e*P **P 09 47 44.7 +1.2**
TREC Trest 82.09 323 AMS AMS 10 27 20.0
comp=Z,2µm,15.3s
TBM Table Mountain 82.19 40 P **P 09 47 45.5 +1.1**
PRU Pruhonice 82.19 323 AMS AMS 10 27 40.0
comp=Z,2µm,16.3s
CLL Collm 82.20 325 *e*P **P 09 47 44.0 -0.3**
CLL *i* 09 50 54.8
CLL *e*S **S 09 57 57.0 -1.1**
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 82.20 325 *e*P **P 09 47 44.0 -0.3**
comp=Z,5.0nm,0.7s
CLL *e*sP sP 09 47 57.0 +2.9
CLL *i* PP **PP 09 50 54.8 +2.7**
CLL *e*S **S 09 57 57.0 -1.1**
CLL *e*PS **PnS 09 58 55.0 +6.9**
CLL *e*SS **SS 10 03 20.0 +3.0**
CLL *e* 10 07 44.0
CLL *e*SSSS 10 09 36.0
CLL LmH 10 21 00.0
comp=N,4µm,18.0s
CLL LmH 10 21 00.0
comp=E,3µm,19.5s
WTV Waterville 82.25 39 P **P 09 47 45.0 +0.2**
NAC Naches 82.30 40 P **P 09 47 46.4 +1.4**
EDM Edmonton 82.35 32 *e*P **P 09 47 45.1 0.0**
EDM Edmonton 82.35 32 *e*P **P 09 47 45.1 0.0**
I03D Drain, OR 82.49 44 ⇑P **P 09 47 46.7 +0.7**
baz=82
VLL Laurance Lake 82.52 42 P **P 09 47 47.8 +1.6**
SAW Saint Andrews 82.56 39 P **P 09 47 46.7 +0.4**
CONA Conrad Observa 82.68 321 ⇑*i*P **P 09 47 47.3 +0.3**
comp=E,5.9nm,1.0s
VFP Flag Point 82.72 42 P **P 09 47 48.3 +0.9**
G05D Wamic, OR 82.85 42 ⇑P **P 09 47 48.8 +0.9**
baz=83
I04A Tendick Farm, 83.00 44 ⇓P **P 09 47 49.5 +0.8**
baz=83,SNR=5.3
GBB Gable Butte 83.06 40 P **P 09 47 50.1 +1.2**
DPW Davenport 83.12 39 P **P 09 47 50.4 +1.1**
DPW Davenport 83.12 39 P **P 09 47 50.4 +1.1**
L02D Cave Junction, 83.16 45 ⇑P **P 09 47 50.5 +0.9**
baz=83
KHC Kasperske Hory 83.20 323 *e*P **P 09 47 50.5 +0.9**
KHC MLR MLR
comp=Z,2µm,16.0s
KHC Kasperske Hory 83.20 323 *e*P **P 09 47 50.5 +0.9**
KHC *e*PCP **PcP 09 47 53.4 -0.8**
KHC AMS AMS 10 28 10.0
comp=Z,2µm,16.0s
HAWA Hanford 83.23 40 *e*P **P 09 47 50.5 +0.7**
comp=Z,19nm,0.8s
GERES GERESS Array B 83.31 323 P **P 09 47 48.8 -1.5**
comp=Z,1.6nm,0.7s,baz=46,slow=5.8,SNR=11
GERES PP **PP 09 51 01.1 -0.3**
comp=Z,1.1nm,0.8s,baz=47,slow=8.0,SNR=6.4
GERES LR LR 10 27 29.9
comp=Z,2µm,19.5s,baz=56,slow=38
HUMO Hull Mountain 83.32 45 *e*P **P 09 47 50.2 -0.1**
comp=Z,22nm,1.3s
I05D Terrebonne, OR 83.34 43 ⇑P **P 09 47 51.2 +0.7**
baz=83,SNR=12
KTRM Thompson Ridge 83.44 46 P **P 09 47 52.3 +1.2**
baz=90
NEW Newport 83.47 38 *e*P **P 09 47 51.2 +0.2**
NEW pmax pmax
comp=Z,21nm,0.8s
NEW Newport 83.47 38 ⇑P **P 09 47 51.7 +0.6**
baz=83
NEW Newport 83.47 38 *e*P **P 09 47 51.2 +0.2**
comp=Z,21nm,0.8s
J04D Umpqua Nationa 83.49 44 ⇑P **P 09 47 52.4 +0.9**
baz=83,SNR=12
PINOR Pine Mountain 83.92 43 *e*P **P 09 47 54.5 +1.2**
comp=Z,17nm,0.9s
J05D Fort Rock, OR 84.00 44 ⇓P **P 09 47 54.9 +1.0**
baz=84,SNR=20
M02C Callahan 84.05 46 ⇑P **P 09 47 55.2 +1.1**
baz=84,SNR=5.1
K04D Chiloquin, OR 84.05 44 ⇓P **P 09 47 55.2 +1.0**
baz=84,SNR=7.5
N02D Trinity Center 84.37 46 ⇓P **P 09 47 57.0 +1.2**
baz=84
M04C Macdoel 84.47 45 ⇓P **P 09 47 57.1 +0.7**
baz=84,SNR=8.0
SFJD Kangerlussuaq 84.54 360 *i* P **P 09 47 54.8 -1.2**
SFJD pmax pmax
comp=Z,13nm,0.9s
SFJD Kangerlussuaq 84.54 360 *i* P **P 09 47 54.8 -1.2**
comp=Z,13nm,0.8s
SFJD Kangerlussuaq 84.54 360 *e*P **P 09 47 54.9 -1.1**
comp=Z,13nm,0.8s
BSMT Bassoo Peak 84.97 37 *e*P **P 09 47 59.7 +0.9**
BLMT Blacktail Moun 85.09 37 *e*P **P 09 47 59.9 +0.4**
comp=Z,20nm,1.2s
ABTA Abfaltersbach 85.22 322 ⇑*i*P **P 09 47 59.7 -0.3**
comp=Z,2.7nm,0.6s
JTMT Jette 85.30 37 *e*P **P 09 48 01.0 +0.5**
comp=Z,12nm,1.0s
MOD Modoc Plateau 85.35 44 *e*P **P 09 48 01.0 +0.1**
comp=Z,17nm,0.9s
YBMT Yellow Bay 85.37 37 *e*P **P 09 48 01.4 +0.6**
comp=Z,7.1nm,0.9s
BMO Blue Mountains 85.40 41 *e*P **P 09 48 00.8 -0.2**
BMO pmax pmax
comp=Z,11nm,0.9s
BMO Blue Mountains 85.40 41 *e*P **P 09 48 00.8 -0.2**
comp=Z,11nm,0.9s
SWMT Swartz Lake 85.60 37 *e*P **P 09 48 01.8 -0.1**
comp=Z,14nm,1.0s
FCC Fort Churchill 85.90 21 *e*P **P 09 48 01.5 -1.4**
FCC pmax pmax
comp=Z,1.0nm,0.8s
FCC Fort Churchill 85.90 21 *e*P **P 09 48 01.5 -1.4**
comp=Z,0.7nm,0.8s
SLMT Seeley Lake 86.04 37 *e*P **P 09 48 04.1 0.0**
comp=Z,26nm,0.8s
WVOR Wild Horse Val 86.05 43 *e*P **P 09 48 04.6 +0.4**
WVOR pmax pmax
comp=Z,8.0nm,0.9s
WVOR Wild Horse Val 86.05 43 *e*P **P 09 48 04.6 +0.4**
comp=Z,8.4nm,0.9s
MSO Missoula 86.06 38 ⇑P **P 09 48 04.4 +0.2**
baz=86
FFC Flin Flon 86.24 27 P **P 09 48 04.0 -0.8**
comp=Z,217nm,0.7s,SNR=16
FFC Flin Flon 86.24 27 *e*P **P 09 48 04.2 -0.6**
FFC pmax pmax
comp=Z,30nm,0.8s
FFC Flin Flon 86.24 27 *e*P **P 09 48 04.2 -0.6**
comp=Z,30nm,0.8s
CHMT Chamberlain Mo 86.37 37 *e*P **P 09 48 05.8 -0.1**
comp=Z,4.3nm,0.9s
MFID Camas Ranch 87.12 41 *e*P **P 09 48 09.9 +0.4**
comp=Z,19nm,0.9s
HRY Holter Researc 87.25 37 *e*P **P 09 48 10.7 +0.7**
comp=Z,19nm,0.8s
A19A Klindworth Far 87.35 34 ⇑P **P 09 48 10.8 +0.3**
baz=87
EGMT Eagleton 87.46 35 ⇓P **P 09 48 11.4 +0.5**
baz=87
EGMT Eagleton 87.46 35 *e*P **P 09 48 11.0 0.0**
comp=Z,32nm,0.9s
LRM Limekiln Ridge 87.49 38 *e*P **P 09 48 11.8 +0.4**
comp=Z,80nm,0.9s
CMB Columbia Colle 87.50 47 *e*P **P 09 48 11.2 -0.1**
CMB pmax pmax
comp=Z,6.0nm,0.9s
CMB Columbia Colle 87.50 47 *e*P **P 09 48 11.2 -0.1**
comp=Z,6.4nm,0.9s
B19A Brinkman Farms 87.57 34 ⇓P **P 09 48 11.6 +0.1**
baz=87
A20A Cobblestone Ra 87.78 33 ⇓P **P 09 48 12.6 +0.1**
baz=88
HLID Hailey 87.84 40 ⇑P **P 09 48 14.2 +1.2**
baz=88,SNR=29
HLID Hailey 87.84 40 *e*P **P 09 48 14.0 +1.0**
comp=Z,19nm,0.9s
WAKR Walker 87.84 47 *e*P **P 09 48 13.3 +0.2**
comp=Z,8.3nm,1.3s
C19A Slack Wire Ran 88.00 35 ⇑P **P 09 48 14.3 +0.7**
baz=88,SNR=18
B20A Solberg Farm, 88.03 34 ⇓P **P 09 48 14.0 +0.4**
baz=88,SNR=18
BOZ Bozeman (W) 88.05 37 *e*P **P 09 48 13.8 -0.1**
BOZ pmax pmax
comp=Z,9.0nm,0.9s
BOZ Bozeman (W) 88.05 37 *e*P **P 09 48 13.8 -0.1**
comp=Z,9.0nm,0.9s
A21A Bergtoll Ranch 88.18 33 ⇓P **P 09 48 14.8 +0.5**
baz=88,SNR=31
D19A Cripps Ranch, 88.47 35 ⇓P **P 09 48 16.4 +0.6**
baz=88,SNR=29
B21A Ellsworth Farm 88.53 33 ⇑P **P 09 48 16.4 +0.4**
baz=88
C20A Veseth Ranch, 88.54 34 ⇑P **P 09 48 16.5 +0.5**
baz=88,SNR=21
NVAR Mina Array Bea 88.61 46 P **P 09 48 16.6 -0.2**
comp=Z,3.0nm,0.7s,baz=295,slow=4.7,SNR=17
A22A Carney Farms, 88.66 32 ⇓P **P 09 48 17.2 +0.6**
baz=88,SNR=43
QLMT Earthquake Lak 88.68 38 *e*P **P 09 48 17.8 +0.7**
comp=Z,1.0nm,0.8s
D20A Manuel Ranch, 88.89 35 ⇓P **P 09 48 18.5 +0.7**
baz=89,SNR=21
C21A Desert Coulee 88.91 34 ⇓P **P 09 48 18.1 +0.3**
baz=89,SNR=7.6
E19A Rath Farm, Rou 88.99 36 ⇑P **P 09 48 19.1 +0.8**
baz=89,SNR=22
YMR Madison River 89.04 38 *e*P **P 09 48 19.5 +0.7**
comp=Z,15nm,0.9s
B22A Reddig Ranch S 89.11 33 ⇑P **P 09 48 19.3 +0.6**
baz=89,SNR=5.1
A23A Redstone 89.17 32 ⇑P **P 09 48 19.5 +0.5**
baz=89
E20A Meyer Farm, Mu 89.30 35 ⇑P **P 09 48 20.4 +0.7**
baz=89,SNR=14
F19A Roth Farm, Mol 89.32 36 ⇓P **P 09 48 20.1 +0.3**
baz=89,SNR=12
SMMC Simmler 89.32 50 ⇓P **P 09 48 21.3 +1.3**
baz=89
LKWY Lake 89.41 38 *e*P **P 09 48 21.9 +1.4**
LKWY pmax pmax
comp=Z,15nm,0.9s
LKWY Lake 89.41 38 *e*P **P 09 48 21.9 +1.4**
comp=Z,15nm,0.9s
H17A Grant Village 89.43 38 ⇓P P 09 48 23.3 +2.7
baz=89,SNR=12
H17A Grant Village 89.43 38 *e*P **P 09 48 20.4 -0.2**
comp=Z,18nm,1.0s
B23A Brockton 89.47 32 ⇑P **P 09 48 21.1 +0.7**
baz=89,SNR=20
D21A La Casta Ranch 89.48 34 ⇑P **P 09 48 21.2 +0.7**
baz=89,SNR=42
TPH Tonopah 89.50 46 *e*P **P 09 48 21.8 +0.8**
TPH pmax pmax
comp=Z,10.0nm,0.9s
TPH Tonopah 89.50 46 *e*P **P 09 48 21.8 +0.8**
comp=Z,10nm,0.9s
C22A Vida 89.55 33 ⇑P **P 09 48 21.0 +0.2**
baz=89,SNR=8.0
A24A Westby 89.60 32 ⇑P **P 09 48 21.6 +0.6**
baz=89,SNR=13
RLMT Red Lodge 89.64 37 *e*P **P 09 48 22.0 +0.5**
comp=Z,12nm,0.9s
H18A Shoshone NF, C 89.73 37 ⇑P **P 09 48 22.8 +0.8**
baz=90,SNR=6.6
I17A Pilgrim Ck. 89.74 38 ⇓P **P 09 48 23.6 +1.6**
baz=90,SNR=11
F20A Billings 89.77 36 ⇑P **P 09 48 22.5 +0.5**
baz=90
E21A Keefer Ranch, 89.80 35 ⇑P **P 09 48 22.7 +0.7**
baz=90
D22A Cohagen 89.82 34 ⇑P **P 09 48 22.7 +0.6**
baz=90,SNR=22
C23A Lambert 89.84 33 ⇓P **P 09 48 22.6 +0.4**
baz=90,SNR=10
HVU Hansel Valley 89.90 41 *e*P **P 09 48 24.0 +1.2**
HVU pmax pmax
comp=Z,9.0nm,0.9s
HVU Hansel Valley 89.90 41 *e*P **P 09 48 23.9 +1.2**
comp=Z,9.3nm,0.9s
A25A Svangstu Ranch 89.99 31 ⇑P **P 09 48 23.8 +1.0**
baz=90
GRAC Grapevine Rang 90.05 47 ⇑P **P 09 48 24.5 +1.1**
baz=90
H19A Powell 90.10 37 ⇓P **P 09 48 24.5 +0.9**
baz=90,SNR=10
LAO LASA Array 90.12 34 *e*P **P 09 48 24.0 +0.4**
comp=Z,35nm,1.0s
ISA Isabella, Lake 90.13 49 ⇑P **P 09 48 23.9 +0.1**
baz=90
F21A Absaloka Mine, 90.27 35 ⇑P **P 09 48 25.1 +0.8**
baz=90
D23A Lindsay 90.28 33 ⇑P **P 09 48 25.0 +0.8**
baz=90,SNR=11
R11A Troy Canyon, C 90.36 45 ⇑P **P 09 48 25.7 +0.7**
baz=90
C24A Savage 90.40 33 ⇓P **P 09 48 25.5 +0.7**
baz=90
E22A Miles City 90.43 34 ⇑P **P 09 48 25.5 +0.5**
baz=90,SNR=19
B25A Knox Farm, Ray 90.46 32 ⇓P **P 09 48 25.7 +0.7**
baz=90,SNR=12
A26A Wade Farm, Ken 90.51 31 ⇑P **P 09 48 25.7 +0.5**
baz=90
I19A Meeteetse 90.52 37 ⇑P **P 09 48 26.2 +0.6**
baz=90,SNR=5.8
G21A Lodge Grass 90.64 36 ⇓P **P 09 48 26.4 +0.3**
baz=90
FURC Furnace Creek, 90.70 47 ⇓P **P 09 48 27.3 +1.0**
baz=90
E23A Ismay 90.71 34 ⇑P **P 09 48 26.8 +0.5**
baz=90,SNR=5.2
H20A Greybull 90.74 37 ⇑P **P 09 48 27.6 +1.1**
baz=90,SNR=15
F22A Rosebud 90.74 35 ⇑P **P 09 48 26.7 +0.3**
baz=90,SNR=7.5
D24A Glendive 90.74 33 ⇓P **P 09 48 26.4 0.0**
baz=90,SNR=12
LRMC Laurel Mtn Rad 90.75 48 ⇑P **P 09 48 27.3 +0.5**
baz=90
B26A Jensen Ranch, 90.80 31 ⇓P **P 09 48 27.3 +0.7**
baz=90
C25A Freed Ranch, W 90.82 32 ⇑P **P 09 48 27.5 +0.8**
baz=90,SNR=6.2
DUG Dugway, Tooele 90.89 42 *e*P **P 09 48 28.1 +0.7**
DUG pmax pmax
comp=Z,10.0nm,0.8s
DUG Dugway, Tooele 90.89 42 ⇓P **P 09 48 28.3 +0.9**
baz=91,SNR=10
DUG Dugway, Tooele 90.89 42 *e*P **P 09 48 28.1 +0.7**
comp=Z,9.7nm,0.8s
EDW2 Edwards Air Fo 90.91 49 ⇑P **P 09 48 28.3 +0.8**
baz=91
J19A Crowheart 91.00 38 ⇓P **P 09 48 28.7 +0.9**
baz=91,SNR=13
PDAR Pinedale Array 91.06 39 P **P 09 48 28.6 +0.3**
comp=Z,5.0nm,0.8s,baz=292,slow=0.6,SNR=35
PDAR PP **PP 09 52 08.2 +4.1**
comp=Z,1.0nm,0.9s,baz=289,slow=4.5,SNR=4.0
TCUT Toone Canyon 91.11 41 *e*P **P 09 48 29.1 +0.6**
comp=Z,26nm,1.1s
G22A Birney 91.11 35 ⇑P **P 09 48 28.8 +0.6**
baz=91,SNR=7.2
H21A Big Horn, Sher 91.14 36 ⇓P **P 09 48 29.1 +0.7**
baz=91
E24A Baker 91.15 33 ⇑P **P 09 48 29.1 +0.8**
baz=91
D25A Fairfield 91.19 32 ⇑P **P 09 48 29.4 +0.9**
baz=91,SNR=5.7
F23A Volborg 91.21 34 ⇑P **P 09 48 29.2 +0.6**
baz=91,SNR=18
C26A Wahner Farm, P 91.27 31 ⇑P **P 09 48 29.4 +0.5**
baz=91,SNR=6.2
A28A Rude Farm, Bot 91.28 30 ⇑P **P 09 48 29.5 +0.7**
baz=91,SNR=8.0
GSC Goldstone, Bar 91.44 48 ⇓P **P 09 48 30.5 +0.6**
baz=91
J20A Shoshoni 91.47 38 ⇑P **P 09 48 30.7 +0.8**
baz=91,SNR=7.3
NLU North Lily Min 91.47 42 *e*P **P 09 48 30.9 +0.7**
comp=Z,10nm,0.8s
H22A Clearmont 91.52 36 ⇑P **P 09 48 30.7 +0.6**
baz=91
PPT Papeete 91.52 109 LR LR 10 24 12.4
comp=Z,179nm,19.5s,baz=292,slow=32
PPT2 Papeete2 91.53 109 *e*LR LR 10 17 46.1
comp=Z,436nm,23.2s
I21A Big Trails, Te 91.57 37 ⇓P **P 09 48 30.6 +0.1**
baz=91
G23A Biddle 91.58 35 ⇓P **P 09 48 31.0 +0.6**
baz=91,SNR=8.7
B28A Dugan Ranch, T 91.58 30 ⇑P **P 09 48 30.7 +0.4**
baz=91,SNR=7.8
F24A Ekalaka 91.59 34 ⇑P **P 09 48 31.1 +0.7**
baz=91,SNR=11
C27A Sayler Ranch, 91.62 31 ⇑P **P 09 48 30.7 +0.3**
baz=91
E25A Miller Ranch, 91.63 33 ⇓P **P 09 48 31.3 +0.7**
baz=91,SNR=7.3
DAU Daniels Canyon 91.66 41 *e*P **P 09 48 31.2 +0.1**
DAU pmax pmax
comp=Z,10.0nm,1.0s
DAU Daniels Canyon 91.66 41 *e*P **P 09 48 31.2 +0.1**
comp=Z,9.7nm,1.0s
D26A Manning 91.70 32 ⇓P **P 09 48 31.6 +0.8**
baz=91,SNR=6.1
A29A Manning Farm, 91.72 29 ⇑P **P 09 48 30.9 +0.1**
baz=91,SNR=5.4
SHPR Sheep Range 91.76 46 *e*P **P 09 48 32.2 +0.7**
comp=Z,3.1nm,0.8s
J21A Lysite 91.81 37 ⇓P **P 09 48 32.1 +0.5**
baz=92,SNR=22
I22A 9 Mile Ranch, 91.94 36 ⇑P **P 09 48 32.5 +0.4**
baz=92,SNR=6.2
G24A Alzada 91.98 34 ⇓P **P 09 48 32.2 -0.1**
baz=92
B29A Wagenman Farm, 92.01 30 ⇑P **P 09 48 32.6 +0.4**
baz=92
F25A Bowman 92.02 33 ⇑P **P 09 48 32.8 +0.5**
baz=92,SNR=9.7
HEC Hector,Ludlow 92.03 48 ⇓P **P 09 48 33.5 +0.8**
baz=92
ARUT Antelope Range 92.04 44 *e*P **P 09 48 33.4 +0.7**
ARUT pmax pmax
comp=Z,107nm,0.9s
ARUT Antelope Range 92.04 44 *e*P **P 09 48 33.4 +0.7**
comp=Z,107nm,0.9s
D27A Center 92.06 32 ⇑P **P 09 48 33.1 +0.6**
baz=92
ULM Lac du Bonnet 92.07 27 P **P 09 48 31.9 -0.5**
comp=Z,16nm,0.7s,baz=322,slow=5.0,SNR=32
ULM LR LR 10 32 41.2
comp=Z,195nm,18.3s,baz=347,slow=37
E26A Carlson Angus 92.09 32 ⇑P **P 09 48 33.3 +0.6**
baz=92
A30A Hoffart Farm, 92.10 29 ⇓P **P 09 48 32.9 +0.3**
baz=92,SNR=16
C28A Hausauer Farms 92.12 31 ⇑P **P 09 48 33.7 +0.9**
baz=92
MURC Murrieta 92.20 50 ⇓P **P 09 48 34.4 +1.0**
baz=92
J22A Midwest 92.28 37 ⇓P **P 09 48 34.0 +0.2**
baz=92,SNR=18
H24A Dirks Ranch, A 92.32 35 ⇑P **P 09 48 33.9 +0.1**
baz=92,SNR=7.5
MVU Marysvale 92.33 43 *e*P **P 09 48 34.9 +0.7**
comp=Z,7.4nm,0.9s
K21A Alcova 92.40 38 ⇓P **P 09 48 35.0 +0.6**
baz=92,SNR=13
D28A Regan 92.43 31 ⇓P **P 09 48 34.7 +0.5**
baz=92
F26A Lodgepole 92.45 33 ⇑P **P 09 48 35.1 +0.7**
baz=92,SNR=5.7
B30A Myrvik Farm, E 92.46 29 ⇑P **P 09 48 34.6 +0.3**
baz=92,SNR=13
GMRC Granite Mounta 92.50 48 ⇑P **P 09 48 35.7 +0.8**
baz=92
G25A Newell 92.56 34 ⇓P **P 09 48 35.4 +0.5**

baz=92,SNR=5.1
PFO Pinyon Flats O 92.69 49 P **P 09 48 36.9 +1.1**
comp=Z,81nm,1.1s,SNR=7.0
PFO Pinyon Flats O 92.69 49 *eP* **P 09 48 36.1 +0.3**
PFO pmax pmax
comp=Z,20nm,1.1s
PFO Pinyon Flats O 92.69 49 ⇓P **P 09 48 36.1 +0.3**
baz=92
PFO Pinyon Flats O 92.69 49 *eP* **P 09 48 36.1 +0.3**
comp=Z,20nm,1.1s
F27A Lemmon 92.74 33 ⇓P **P 09 48 36.2 +0.5**
baz=92,SNR=9.0
K22A Casper 92.78 37 ⇓P **P 09 48 36.4 +0.3**
baz=92
K22A Casper 92.78 37 *eP* **P 09 48 36.1 +0.1**
comp=Z,19nm,1.5s
E28A Huff 92.84 31 ⇓P **P 09 48 36.6 +0.5**
baz=92
H25A Fruitdale 92.89 34 ⇑P **P 09 48 36.9 +0.4**
baz=93,SNR=12
G26A Maurine 92.89 33 ⇑P **P 09 48 37.0 +0.6**
baz=93,SNR=12
I24A Kuemmerle Ranc 92.92 35 ⇓P **P 09 48 36.6 0.0**
baz=93
SRU San Rafael Swe 92.93 42 *eP* **P 09 48 37.1 +0.2**
SRU pmax pmax
comp=Z,9.0nm,1.1s
SRU San Rafael Swe 92.93 42 *eP* **P 09 48 37.1 +0.2**
comp=Z,8.7nm,1.1s
D29A Pettibone, Tap 92.97 31 ⇓P **P 09 48 36.9 +0.3**
baz=93
RSSD Black Hills 93.03 35 *eP* **P 09 48 37.2 -0.1**
RSSD pmax pmax
comp=Z,10.0nm,0.9s
RSSD Black Hills 93.03 35 *eP* **P 09 48 37.2 -0.1**
comp=Z,9.8nm,0.9s
MONP Monument Peak, 93.14 50 ⇓P **P 09 48 38.9 +0.9**
baz=93
G27A Dupree 93.15 33 ⇑P **P 09 48 37.9 +0.3**
baz=93,SNR=7.7
K23A Bowen Ranch, D 93.18 37 ⇑P **P 09 48 38.0 +0.1**
baz=93
IRM Iron Mountain 93.21 48 ⇑P **P 09 48 38.8 +0.7**
baz=93
I25A Rochford 93.25 35 ⇓P **P 09 48 38.7 +0.4**
baz=93,SNR=13
L22A Ellis Ranch, M 93.26 38 ⇑P **P 09 48 38.4 0.0**
baz=93
J24A Dixon Ranch, L 93.28 36 ⇓P **P 09 48 38.2 -0.1**
baz=93
H26A Fairpoint 93.30 34 ⇑P **P 09 48 38.7 +0.4**
baz=93,SNR=5.9
D30A Buchanan 93.31 30 ⇑P **P 09 48 38.1 -0.1**
baz=93,SNR=5.6
BC3 Big Chuckawall 93.32 49 ⇓P **P 09 48 39.5 +0.9**
baz=93
E29A Napoleon 93.32 31 ⇓P **P 09 48 38.1 -0.3**
baz=93,SNR=7.5
F28A McLaughlin 93.33 32 ⇑P **P 09 48 38.9 +0.5**
baz=93,SNR=10
W13A Hualapai Mount 93.45 47 ⇓P **P 09 48 40.2 +0.8**
baz=93
SWSC Sam W. Stewart 93.53 49 ⇑P **P 09 48 40.4 +0.9**
baz=93
O20A White River Ci 93.56 40 ⇓P **P 09 48 40.3 +0.5**
baz=93
L23A Garrett 93.59 37 ⇓P **P 09 48 39.6 -0.3**
baz=93,SNR=8.1
M22A Cedar Creek Ra 93.61 38 ⇑P **P 09 48 40.2 +0.2**
baz=93
U15A North Rim 93.61 45 ⇓P **P 09 48 40.9 +0.7**
baz=93
AGMN Agassiz Nation 93.62 28 ⇑P **P 09 48 38.7 -0.9**
baz=93
H27A Howes 93.62 34 ⇓P **P 09 48 40.4 +0.6**
baz=93
I26A New Underwood 93.68 34 ⇑P **P 09 48 40.6 +0.5**
baz=93
E30A Jud 93.70 31 ⇓P **P 09 48 40.2 +0.1**
baz=93,SNR=14
PDMCI Parker Dam,Lak 93.78 47 ⇑P **P 09 48 41.4 +0.7**
baz=94
F29A Eureka 93.79 32 ⇑P **P 09 48 40.8 +0.3**
baz=94
G28A Parade 93.85 33 ⇑P **P 09 48 41.4 +0.6**
baz=94
KEST Kesra 93.97 315 LR LR 10 36 15.9
comp=Z,207nm,18.4s,baz=354,slow=39
I27A Quinn 94.05 34 ⇑P **P 09 48 41.9 +0.2**
baz=94,SNR=6.4
J26A Sides Ranch, S 94.09 35 ⇓P **P 09 48 42.2 +0.1**
baz=94,SNR=12
N22A Wattenberg Ran 94.10 39 ⇑P **P 09 48 42.5 +0.2**
baz=94
H28A Mission Ridge 94.10 33 ⇑P **P 09 48 42.4 +0.5**
baz=94
GLA Glamis 94.11 49 ⇓P **P 09 48 43.0 +0.8**
baz=94
F30A Leola 94.16 31 ⇓P **P 09 48 42.6 +0.4**
baz=94
N23A Red Feather La 94.31 38 ⇑P **P 09 48 43.8 +0.5**
baz=94
L25A Engebretsen Ra 94.47 36 ⇓P **P 09 48 44.3 +0.5**
baz=94
K26A Motz Farm, Whi 94.48 35 ⇓P **P 09 48 43.8 0.0**
baz=94
O22A Kremmling 94.49 39 ⇓P **P 09 48 44.7 +0.5**
baz=94
M24A Cheyenne 94.51 37 ⇓P **P 09 48 44.2 +0.1**
baz=94
H29A Onida 94.52 33 ⇑P **P 09 48 44.2 +0.3**
baz=94
I28A Midland 94.53 33 ⇑P **P 09 48 44.4 +0.4**
baz=94
G30A Faulkton 94.64 32 ⇑P **P 09 48 43.8 -0.5**
baz=94,SNR=7.0
J27A Elkhorn Farm, 94.67 34 ⇓P **P 09 48 45.3 +0.6**
baz=94
PV01 Paradox Valley 94.72 42 *eP* **P 09 48 45.7 +0.5**
comp=Z,792nm,1.2s
Y14A Wickenburg 94.74 47 ⇑P **P 09 48 45.9 +0.7**
baz=94
WUAZ Wupatki 94.76 45 ⇑P **P 09 48 45.9 +0.6**
baz=94
P22A Eagle 94.77 40 ⇑P **P 09 48 45.8 +0.4**
baz=94
O23A Lake Granby, G 94.80 39 ⇑P **P 09 48 46.0 +0.4**
baz=94
J28A Allard Ranch, 94.93 34 ⇑P **P 09 48 46.2 +0.4**
baz=95
I29A Vivian Onida 94.93 33 ⇑P **P 09 48 46.3 +0.6**
baz=95
K27A Flueckinger Fa 94.96 35 ⇓P **P 09 48 45.9 -0.2**
baz=95
113A Mohawk Valley, 94.98 48 ⇓P **P 09 48 47.4 +1.2**
baz=95
BRSD Miller 95.25 32 ⇓P **P 09 48 47.5 +0.3**
baz=95
BRSD Miller 95.25 32 *eP* **P 09 48 47.4 +0.3**
comp=Z,15nm,0.8s
ISCO Idaho Springs 95.26 39 ⇑P **P 09 48 48.3 +0.6**
baz=95
J29A Okreek 95.38 33 ⇓P **P 09 48 48.4 +0.5**
baz=95
MVCO Mesa Verde 95.39 42 ⇑P **P 09 48 49.2 +0.9**
baz=95
I30A Oacoma 95.43 33 ⇑P **P 09 48 48.7 +0.7**
baz=95
DRV Dumont d'Urvil 95.53 175 SS SS 10 06 37.0 +5.2
DRV R 10 21 00.0
SCHQ Schefferville 95.71 9 P **P 09 48 47.7 -1.4**
comp=Z,7.5nm,0.8s,baz=348,slow=3.6,SNR=10
SCHQ LR LR 10 32 53.8
comp=Z,748nm,21.9s,baz=342,slow=36
J30A Dallas 95.84 33 ⇑P **P 09 48 50.1 +0.1**
baz=96
K29A Lazy Trails An 95.87 34 ⇑P **P 09 48 50.1 0.0**
baz=96
214A Organ Pipe Nat 96.12 49 ⇑P **P 09 48 52.2 +0.7**
baz=96
K30A Basset 96.28 34 ⇑P **P 09 48 52.3 +0.3**
baz=96
X18A Snowflake 96.29 45 ⇓P **P 09 48 53.1 +0.7**
baz=96
OGNE Ogallala 96.35 36 ⇑P **P 09 48 52.7 +0.3**
baz=96
Q25A Bedland, Calha 96.63 39 ⇓P **P 09 48 54.0 +0.1**
baz=96
P26A Davis Ranch, A 96.66 38 ⇑P **P 09 48 54.9 +1.0**
baz=96
ECSD EROS Data Cent 96.87 31 ⇓P **P 09 48 54.3 -0.3**
baz=97
R25A Fountain Ranch 97.16 39 ⇑P **P 09 48 55.6 -0.5**
baz=97
R26A Arlington 97.51 39 ⇑P **P 09 48 57.6 -0.2**
baz=97
P31A Stockton 98.77 35 ⇑Pdiff **P 09 49 03.1 -0.1**
baz=98
ESDC Sonseca Array 98.78 325 PP PP 09 53 05.2 +1.3
comp=Z,0.2nm,0.3s,baz=44,slow=8.2,SNR=4.4
ESDC LR LR 10 38 24.1
comp=Z,655nm,18.7s,baz=70,slow=38
TXAR Lajitas Array 103.73 45 Pdiff **Pdif 09 49 24.7 -0.9**
comp=Z,0.6nm,0.9s,baz=316,slow=7.0,SNR=3.7
TXAR PP **PP 09 53 40.5 -1.1**
comp=Z,0.8nm,0.9s,baz=292,slow=6.6,SNR=4.0
832A Faith Ranch, C 106.74 44 ⇑Pdiff **PKiKP 09 53 49.8 +0.6**
baz=106
TORD Torodi Ar. Bea 113.81 301 PKiKP **PKiKP 09 54 01.5 -1.3**
comp=Z,1.6nm,1.1s,baz=19,slow=2.3,SNR=6.2
TORD PP **PP 09 54 55.4 0.0**
comp=Z,2.0nm,1.0s,baz=28,slow=6.1,SNR=5.4
TORD PKKPbc **PKKPbc 10 04 46.0 +1.8**
comp=Z,1.4nm,0.8s,baz=272,slow=3.4,SNR=7.7
PTGA Pitinga 150.98 18 *e*PKPbc **PKPbc 09 55 16.2 -0.7**
NNA Nana 151.10 60 *e*PKIKP **PKPbc 09 55 16.6 -0.6**
NNA Nana 151.10 60 *e*PKPbc **PKPbc 09 55 16.6 -0.6**
SAML Samuel 157.45 31 *e*PKPdf **PKPdf 09 55 19.9 -0.4**
LPAZ La Paz 160.31 54 PKP **PKPdf 09 55 25.2 +0.9**
comp=Z,1.6nm,0.8s,baz=24,slow=6.4,SNR=6.0

IDC 15 09:36:15.1±2.5, 6°38S×150°57E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/28, mbtmp4.0/4, ML3.1/1, MS3.3/2, Ms1 3.3/2, ms1mx3.0/30, Error ellipse: s-maj=69.9km s-min=39.0km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.52**	**228**	Pn	Pn	09 37 26.3	+1.4
	6.4nm,0.3s,baz=37,slow=6.9,SNR=17						
PMG				Sn	Sn	09 38 14.8	-3.5
	3.7nm,0.3s,baz=156,slow=20,SNR=3.7						
PMG				LR	LR	09 38 44.3	
	comp=Z,64nm,19.5s,baz=16,slow=33						
WRA	**Warramunga Arr**	**20.74**	**228**	P	P	09 40 57.2	-0.4
	6.7nm,0.6s,baz=52,slow=11,SNR=90						
ASAR	**Alice Springs**	**23.50**	**221**	P	P	09 41 26.3	-0.6
	0.7nm,0.6s,baz=56,slow=9.0,SNR=19						
STKA	**Stephens Creek**	**26.72**	**197**	P	P	09 41 56.0	-0.3
	2.2nm,0.7s,baz=28,slow=12,SNR=9.1						
KSRS	**Korea Array**	**48.46**	**336**	LR	LR	10 04 31.9	
	comp=Z,161nm,18.1s,baz=143,slow=35						
TORD	**Torodi Ar. Bea**	**148.62**	**285**	PKPbc	PKPbc	09 56 05.2	-0.1
	0.7nm,0.5s,baz=55,slow=2.8,SNR=10						

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*JMA **15** 09:54:21.9±0.4, 28°.87N×128°.23E, h26km, M3.0*
*ISCJB **15** 09:54:24.4±1.8, 28°.78N±0°.04×128°.4E±0°.1, h23km±15km, mb3.5/5, Error ellipse: s-maj=16.1km s-min=6.8km az=179.6*
*IDC **15** 09:54:24.1±4.5, 28°.61N×128°.06E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/47, mbtmp3.5/5, Error ellipse: s-maj=254.0km s-min=25.3km az=64.0*
ISC 15 09:54:23.6±1.9, 28°.74N±0°.06×128°.42E±0°.08, h6km±13km, n12, σ0°87/18, mb3.4/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.80**	**59**	P	**Pg**	**09 54 38.3**	**-0.8**
JTAJ				S	**Sg**	**09 54 49.7**	**+0.2**
JAMN	**Amaminishikomi**	**0.83**	**126**	P	**Pg**	**09 54 40.9**	**+1.4**
JAMN				S	**Sn**	**09 54 54.4**	**+0.1**
JTK	**Tokunoshima**	**1.06**	**153**	P	**Pb**	**09 54 43.3**	**-1.0**
JTK				S	**Sn**	**09 54 59.4**	**-0.6**
JAM	**Amami Oshima**	**1.09**	**107**	P	**Pb**	**09 54 44.4**	**-0.5**
JAM				S	**Sn**	**09 55 00.4**	**-0.4**
JOKE	**Okinoerabujima**	**1.38**	**174**	P	**Pn**	**09 54 48.4**	**-0.9**
JOKE				S	**Sn**	**09 55 07.3**	**-0.6**
JZK	**Kikaishima**	**1.43**	**107**	P	**Pb**	**09 54 50.4**	**-0.3**
JOW	**Kunigami**	**1.90**	**184**	P	**Pn**	**09 54 55.8**	**-0.7**
JOW				S	**Sn**	**09 55 19.9**	**-0.9**
SONM	**Songino Array**	**25.58**	**324**	P	**P**	**09 59 55.2**	**+1.7**
	0.8nm,1.1s,baz=134,slow=8.5,SNR=4.4						
MKAR	**Makanchi Array**	**40.03**	**310**	P	**P**	**10 01 59.3**	**0.0**
	0.4nm,0.8s,baz=104,slow=6.1,SNR=3.7						
KURBB	**Kurchatov Arra**	**43.19**	**315**	P	**P**	**10 02 25.1**	**0.0**
	0.5nm,0.7s,baz=102,slow=8.8,SNR=5.0						
BVAR	**Borovoye Array**	**48.54**	**317**	P	**P**	**10 03 07.3**	**0.0**
	0.4nm,0.4s,baz=104,slow=6.1,SNR=4.2						
WRA	**Warramunga Arr**	**48.73**	**173**	P	**P**	**10 03 09.9**	**+0.8**
	0.8nm,1.0s,baz=357,slow=8.4,SNR=3.9						

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*ISCJB **15** 09:56:00.1±1.8, 5°.2S±0°.3×68°.9E±0°.3, h10km, mb3.7/7, Error ellipse: s-maj=56.2km s-min=22.2km az=142.2*
*IDC **15** 09:56:01.1±1.9, 5°.2S×68°.94E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/48, mbtmp3.6/7, Error ellipse: s-maj=62.1km s-min=25.2km az=53.0*
ISC 15 09:56:02.0±2.1, 5°.3S±0°.3×68°.8E±0°.4, h10km, n14, σ0°88/8, mb3.9/7, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**2.39**	**116**	T	T	09 59 20.0	
	baz=291,slow=74,SNR=161						
H08N3	**Diego Garcia H**	**2.39**	**116**	T	T	09 59 19.7	
	baz=291,slow=74,SNR=177						
H08N1	**Diego Garcia H**	**2.41**	**116**	T	T	09 59 21.3	
	baz=291,slow=74,SNR=101						
H08S3	**Diego Garcia H**	**4.31**	**123**	T	T	10 01 47.0	
	baz=304,slow=80,SNR=18						
H08S1	**Diego Garcia H**	**4.31**	**123**	T	T	10 01 40.3	
	baz=304,slow=80,SNR=7.4						
H08S2	**Diego Garcia H**	**4.33**	**123**	T	T	10 01 45.8	
	baz=304,slow=80,SNR=15						
MMAI	**Mount Meron Ar**	**49.56**	**323**	P	**P**	**10 04 53.4**	**0.0**
	0.7nm,0.3s,baz=135,slow=14,SNR=4.5						
MKAR	**Makanchi Array**	**53.21**	**12**	P	**P**	**10 05 20.6**	**0.0**
	0.3nm,0.7s,baz=178,slow=5.7,SNR=3.7						
KURBB	**Kurchatov Arra**	**56.31**	**7**	P	**P**	**10 05 42.9**	**+0.1**
	0.4nm,0.7s,baz=191,slow=6.9,SNR=2.4						
ZALV	**Zalesovo Beam**	**60.53**	**11**	P	**P**	**10 06 11.9**	**-0.4**
	0.6nm,0.5s,baz=215,slow=6.5,SNR=3.2						
SONM	**Songino Array**	**62.34**	**28**	P	**P**	**10 06 24.6**	**-0.3**
	0.7nm,0.8s,baz=218,slow=6.6,SNR=6.1						
ASAR	**Alice Springs**	**65.08**	**114**	P	**P**	**10 06 42.1**	**-1.2**
	0.2nm,0.8s,baz=272,slow=5.4,SNR=4.7						
WRA	**Warramunga Arr**	**65.20**	**109**	P	**P**	**10 06 45.5**	**+1.3**
	1.0nm,1.0s,baz=286,slow=6.1,SNR=4.8						
NVAR	**Mina Array Bea**	**146.38**	**10**	PKPbc	**PKPab**	**10 15 45.4**	**+0.7**
	0.7nm,0.9s,baz=280,slow=1.2,SNR=6.2						

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*IDC **15** 10:09:43.2±1.1, 28°.80N×128°.87E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/45, mbtmp3.6/6, ML2.5/1, Error ellipse: s-maj=46.5km s-min=18.7km az=77.0*
*ISCJB **15** 10:09:46.3±1.0, 28°.8N±0°.1×128°.9E±0°.3, h33km, mb3.6/6, Error ellipse: s-maj=37.9km s-min=14.3km az=170.5*
ISC 15 10:09:48.5±1.2, 28°.8N±0°.1×128°.8E±0°.3, h35km, n7, σ0°86/7, mb3.5/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.98**	**193**	Pn	**Pn**	**10 10 20.1**	**+0.5**
	2.7nm,0.3s,baz=127,slow=25,SNR=13						
SONM	**Songino Array**	**25.75**	**324**	P	**P**	**10 15 15.9**	**0.0**
	1.1nm,0.9s,baz=123,slow=11,SNR=6.3						
KURBB	**Kurchatov Arra**	**43.39**	**315**	P	**P**	**10 17 46.9**	**-0.6**
	0.5nm,0.5s,baz=102,slow=8.8,SNR=4.1						
WRA	**Warramunga Arr**	**48.72**	**173**	P	**P**	**10 18 28.3**	**-1.4**
	1.5nm,1.0s,baz=348,slow=7.8,SNR=5.6						
BVAR	**Borovoye Array**	**48.74**	**317**	P	**P**	**10 18 29.9**	**+0.3**
	0.8nm,0.6s,baz=81,slow=9.5,SNR=4.1						
ASAR	**Alice Springs**	**52.37**	**17**	P	**P**	**10 18 57.6**	**+0.4**
	0.3nm,0.8s,baz=0.7,slow=15,SNR=3.6						
YKA	**Yellowknife Ar**	**76.03**	**25**	P	**P**	**10 21 32.2**	**+0.4**
	0.5nm,0.9s,baz=304,slow=5.3,SNR=4.5						

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*NEIC **15** 10:10:48.8±0.7, 35°.69S×72°.39W, h35km, mb4.1/2, Error ellipse: s-maj=18.0km s-min=11.3km az=79.0*
*ISCJB **15** 10:10:49.8±0.4, 35°.75S±0°.05×72°.25W±0°.07, h58km±5km, mb4.1/8, MS3.9/2, Error ellipse: s-maj=11.7km s-min=5.7km az=42.8*
*IDC **15** 10:10:50.5±0.8, 35°.75S×72°.12W, h48km±6km, mb3.9/7, mb1 4.0/10, mb1mx3.8/27, mbtmp4.0/10, MS3.9/2, Ms1 3.9/2, ms1mx3.2/22, Error ellipse: s-maj=25.9km s-min=17.1km az=91.0*
*GUC **15** 10:10:50.2±0.6, 35°.74S×72°.26W, h45km±1km, ML4.7*
ISC 15 10:10:50.2±0.6, 35°.72S±0°.05×72°.29W±0°.06, h49km±6km, n28, σ1°05/35, mb4.2/8, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.57**	**103**	⇓*i*P	**Pn**	**10 11 01.7**	**-0.6**
LNCH				*i* S	**Sn**	**10 11 10.9**	**-0.1**
COCH	**Cobquecura**	**0.58**	**225**	⇓*i*P	**Pn**	**10 11 02.6**	**+0.2**
COCH				*i* S	**Sn**	**10 11 11.3**	**+0.2**
TALC	**Talca**	**0.62**	**59**	⇓*i*P	**Pn**	**10 11 03.0**	**+0.1**
TALC				*i* S	**Sn**	**10 11 12.2**	**+0.2**
NICH	**Los Niches**	**1.12**	**51**	⇑*i*P	**Pn**	**10 11 10.1**	**+0.6**
NICH				*i* S	**Sn**	**10 11 25.2**	**+1.3**
CCSP	**San Pedro de C**	**1.30**	**210**	*e*P	**Pn**	**10 11 12.3**	**+0.3**
CCSP				*i* S	**Sn**	**10 11 29.3**	**+0.9**
PEL	**Peldehue**	**2.89**	**28**	⇓*i*P	**Pn**	**10 11 35.1**	**+1.3**
PEL				IAML		10 12 25.4	
	comp=N,3μm,0.3s						
PLCA	**Paso Flores**	**5.19**	**165**	P	**Pn**	**10 12 05.7**	**+0.3**
CFAA	**Coronel Fontan**	**5.31**	**41**	P	**Pn**	**10 12 07.9**	**+0.8**
	comp=N,1.0nm,0.3s,baz=213,slow=13,SNR=21						
LCO	**Las Campanas**	**6.82**	**12**	*e*Pn	**Pn**	**10 12 25.4**	**-2.6**
	comp=N,19nm,0.5s						
TRQA	**Tornquist**	**8.58**	**109**	*e*Pn	**Pn**	**10 12 52.8**	**+0.9**
	comp=N,8.9nm,0.6s						
LPAZ	**La Paz**	**19.70**	**12**	P	**Pn**	**10 15 18.4**	**+0.4**
	comp=N,0.2nm,0.3s,baz=188,slow=6.1,SNR=9.9						
LPAZ	**La Paz**	**19.70**	**12**	*e*P	**Pn**	**10 15 18.1**	**+0.1**
	comp=N,4.4nm,0.7s						
SIV	**San Ignacio**	**22.05**	**30**	P	**P**	**10 15 40.8**	**-0.2**
	comp=N,3.6nm,0.9s,baz=225,slow=12,SNR=7.3						
OTAV	**Otavalo**	**36.23**	**350**	*e*P	**P**	**10 17 49.0**	**-0.2**
	comp=N,10.0nm,2.0s						
PAYG	**Puerto Ayora**	**38.68**	**330**	P	**P**	**10 18 09.2**	**-0.3**
RCBR	**Riachuelo**	**44.73**	**57**	LR	LR	10 39 32.8	
	comp=N,55nm,18.1s,baz=218,slow=39						
QSPA	**South Pole Qui**	**54.52**	**180**	P	**P**	**10 20 14.0**	**+1.0**
	comp=N,3.5nm,0.8s,baz=320,slow=1.9,SNR=25						
QSPA				LR	LR	10 43 23.8	
	comp=N,324nm,21.3s,baz=0.5,slow=36						
QSPA	**South Pole Qui**	**54.52**	**180**	P	**P**	**10 20 14.0**	**+1.0**
TEIG	**Tepich**	**57.67**	**342**	*e*P	**P**	**10 20 34.4**	**-1.3**
TXAR	**Lajitas Array**	**71.14**	**331**	P	**P**	**10 22 04.5**	**+0.7**
	comp=N,0.2nm,0.4s,baz=131,slow=5.7,SNR=3.9						
TXAR				pP	**pP**	**10 22 17.9**	**+0.3**
	comp=N,0.8nm,0.4s,baz=158,slow=9.6,SNR=7.8						
DBIC	**Dimbokro**	**75.93**	**71**	P	**P**	**10 22 31.9**	**-0.2**
	comp=N,17nm,1.2s,baz=238,slow=4.2,SNR=3.8						
BOSA	**Boshof**	**79.45**	**118**	P	**P**	**10 22 51.5**	**-0.4**
	comp=N,4.8nm,0.8s,baz=218,slow=5.6,SNR=6.8						
TORD	**Torodi Ar. Bea**	**84.99**	**70**	P	**P**	**10 23 20.6**	**-0.2**
	comp=N,1.0nm,0.8s,baz=269,slow=5.5,SNR=5.4						
TORD				pP	**pP**	**10 23 34.5**	**-0.4**
	comp=N,1.7nm,0.8s,baz=261,slow=5.3,SNR=5.0						
NVAR	**Mina Array Bea**	**85.18**	**325**	P	**P**	**10 23 23.1**	**+1.6**
	comp=N,0.3nm,0.7s,baz=146,slow=9.8,SNR=3.5						
NVAR				pP	**pP**	**10 23 37.1**	**+1.5**
	comp=N,0.7nm,0.9s,baz=151,slow=5.4,SNR=3.6						
ULM	**Lac du Bonnet**	**88.10**	**345**	pP	pP	10 23 48.2	-1.1
	comp=N,3.3nm,0.8s,baz=174,slow=5.0,SNR=4.5						
WRA	**Warramunga Arr**	**119.16**	**209**	PKP	**PKPdf**	**10 29 33.5**	**-0.8**
	comp=N,0.3nm,0.8s,baz=156,slow=1.7,SNR=2.8						
WRA				pPKP	**pPKPdf**	**10 29 47.2**	**-1.9**
	comp=N,0.4nm,0.8s,baz=153,slow=1.7,SNR=2.4						
ZALV	**Zalesovo Beam**	**155.77**	**34**	PKPab	**PKPab**	**10 31 02.8**	**-2.1**
	comp=N,1.1nm,0.5s,baz=308,slow=5.1,SNR=5.3						
MKAR	**Makanchi Array**	**158.01**	**52**	PKPab	**PKPab**	**10 31 13.4**	**-1.5**
	comp=N,0.7nm,0.9s,baz=298,slow=2.6,SNR=4.5						

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*JMA **15** 10:23:50.6±0.2, 28°.85N×128°.19E, h13km±3km, M2.9*
*IDC **15** 10:23:51.4±2.2, 28°.77N×128°.85E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/32, mbtmp3.4/5, MS3.9/1, Ms1 3.9/1, ms1mx2.7/20, Error ellipse: s-maj=87.2km s-min=19.1km az=70.0*
ISC 15 10:23:51.6±1.7, 28°.83N±0°.07×128°.28E±0°.09, h10km, n12, σ0°75/12, mb3.4/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.87**	**68**	P	**Pg**	**10 24 08.1**	**-0.3**
JTAJ				*e*S	**Sg**	**10 24 20.3**	**+0.5**
JAMN	**Amaminishikomi**	**0.98**	**126**	P	**Pg**	**10 24 10.1**	**-0.4**
JAMN				S	**Sg**	**10 24 24.4**	**+1.1**
JTK	**Tokunoshima**	**1.20**	**150**	P	**Pn**	**10 24 13.4**	**-1.0**
JTK				S	**Sb**	**10 24 29.6**	**-0.3**
JAM	**Amami Oshima**	**1.24**	**109**	P	**Pn**	**10 24 14.5**	**-0.5**
JAM				*e*S	**Sb**	**10 24 31.4**	**+0.3**
JOKE	**Okinoerabujima**	**1.48**	**170**	P	**Pn**	**10 24 17.6**	**-0.8**
JOW	**Kunigami**	**1.99**	**180**	Pn	**Pn**	**10 24 25.6**	**+0.2**
	baz=218,slow=19						
JCJ	**Chichijima**	**12.41**	**95**	LR	LR	10 30 50.6	
	comp=Z,552nm,19.3s,baz=308,slow=35						
MKAR	**Makanchi Array**	**39.88**	**310**	P	P	10 31 31.3	+5.8
	0.7nm,0.9s,baz=106,slow=13,SNR=4.2						
ZALV	**Zalesovo Beam**	**40.23**	**321**	P	P	10 31 31.5	+3.2
	0.5nm,0.5s,baz=86,slow=8.8,SNR=2.5						
KURBB	**Kurchatov Arra**	**43.03**	**315**	P	P	10 31 55.7	+4.4
	0.7nm,0.7s,baz=103,slow=9.1,SNR=3.3						
WRA	**Warramunga Arr**	**48.84**	**172**	P	**P**	**10 32 37.3**	**-0.1**
	0.5nm,0.7s,baz=355,slow=8.2,SNR=5.2						
ASAR	**Alice Springs**	**52.47**	**173**	P	**P**	**10 33 05.8**	**+1.0**
	0.3nm,0.9s,baz=0.4,slow=12,SNR=3.3						

WEL 15 10:24:24.1±0.3, 36°.40S×177°.28E, h206km±4km, ML3.5/9, 2C-2D, Error ellipse: s-maj=5.9km s-min=5.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.41**	**164**	PN	Pn	10 24 57.6	+0.2
HAZ				SN	S	10 25 23.0	-0.2
MXZ	**Matakaoa Point**	**1.42**	**145**	*e*PN	Pn	10 24 57.4	-0.1
MXZ				SN	S	10 25 23.6	+0.2
WMGZ	**Waiomatatini S**	**1.68**	**148**	PN	Pn	10 25 00.0	+0.2
PUZ	**Puketiti**	**1.84**	**155**	⇑PN	Pn	10 25 01.3	-0.1
PUZ				SN	S	10 25 29.2	-1.0
TWGZ	**Tauwhareparae**	**1.86**	**163**	⇑PN	Pn	10 25 02.3	+0.7
URZ	**Urewera**	**1.86**	**184**	Pn	Pn	10 25 02.0	+0.5
URZ				SN	S	10 25 31.0	+0.5
MWZ	**Matawai**	**1.94**	**174**	⇓PN	Pn	10 25 02.8	+0.4
MWZ				SN	S	10 25 31.6	-0.4
MWZ				AML	AML	10 25 34.4	
TKGZ	**Te Karaka**	**2.08**	**168**	PN	Pn	10 25 03.8	+0.1
RAGZ	**Rawiri**	**2.09**	**177**	PN	Pn	10 25 04.4	+0.4
CNGZ	**Carnagh Statio**	**2.21**	**161**	PN	Pn	10 25 05.3	+0.2
RIGZ	**Rimuhau**	**2.33**	**171**	PN	Pn	10 25 06.3	-0.2
SNGZ	**Shannon Statio**	**2.38**	**179**	PN	Pn	10 25 06.3	-0.6
RAHZ	**Arahi**	**2.52**	**184**	PN	Pn	10 25 08.8	+0.3
KNZ	**Kokohu**	**2.63**	**173**	PN	Pn	10 25 09.1	-0.5
NMHZ	**Naumai**	**2.72**	**188**	PN	Pn	10 25 11.1	+0.3
BKZ	**Black Stump Fm**	**2.83**	**193**	PN	Pn	10 25 11.6	-0.5
ARHZ	**Aropaoanui**	**2.86**	**184**	*e*PN	Pn	10 25 12.2	-0.2
MCHZ	**McNeill Hill**	**3.07**	**189**	PN	Pn	10 25 14.6	-0.2
WNVZ	**Wahianoa**	**3.21**	**204**	PN	Pn	10 25 16.6	-0.1
BHHZ	**Black Hill Sta**	**3.23**	**197**	PN	Pn	10 25 15.9	-0.8
KRHZ	**Kereru**	**3.32**	**192**	PN	Pn	10 25 16.7	-1.0
**KAH

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.66**	**325**	⇑*i*P	Pn	10 27 57.3	-0.2
LNCH				*i* S	Sn	10 28 07.3	+0.4
TALC	**Talca**	**1.06**	**337**	⇑*i*P	Pb	10 28 03.6	-0.2
TALC				*i* S	Sb	10 28 18.3	+1.0
TALC				IAML		10 28 20.6	
	comp=E,2μm,0.1s						
COCH	**Cobquecura**	**1.36**	**280**	*e*P	Pb	10 28 08.6	-0.2
COCH				*e*S	Sb	10 28 27.2	+1.4
COCH				IAML		10 28 28.7	
	comp=E,2μm,0.4s						

*IDC **15** 10:28:36.0±1.4, 20°.59S×68°.48W, h114km±6km, mb3.6/5, mb1 3.7/7, mb1mx3.5/31, mbtmp4.0/7, Error ellipse: s-maj=43.8km s-min=22.0km az=10.0*

ISC 15 10:28:35.5±1.4, 20.7S±0.2×68.5W±0.1, h110km, n9, σ0.9 94/11, mb3.7/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.36**	**4**	P	**Pn**	**10 29 40.1**	**-0.2**
	12nm,0.3s,baz=193,slow=2.7,SNR=253						
SIV	**San Ignacio**	**8.42**	**58**	P	**Pn**	**10 30 34.7**	**-0.2**
	2.1nm,0.3s,baz=259,slow=12,SNR=26						
BDFB	**Brasilia**	**20.07**	**79**	P	**P**	**10 33 01.4**	**+1.0**
	2.8nm,0.4s,baz=243,slow=11,SNR=4.2						
DBIC	**Dimbokro**	**68.11**	**74**	P	**P**	**10 39 23.5**	**-0.6**
	5.1nm,0.9s,baz=224,slow=9.4,SNR=3.8						
NVAR	**Mina Array Bea**	**75.08**	**322**	P	**P**	**10 40 06.2**	**+0.5**
	0.4nm,1.0s,baz=148,slow=6.0,SNR=2.9						
NVAR				pP	**pP**	**10 40 33.2**	**-0.3**
	0.6nm,0.8s,baz=165,slow=6.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**76.69**	**70**	P	**P**	**10 40 15.0**	**0.0**
	1.2nm,0.3s,baz=255,slow=5.6,SNR=39						
YKA	**Yellowknife Ar**	**90.53**	**340**	P	**P**	**10 41 23.4**	**-1.2**
	0.1nm,0.6s,baz=131,slow=4.8,SNR=3.9						
YKA				pP	**pP**	**10 41 53.9**	**+0.6**
	1.0nm,0.8s,baz=134,slow=4.6,SNR=14						
YKA				sP	**sP**	**10 42 06.7**	**+1.8**
	0.6nm,0.8s,baz=132,slow=4.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**141.02**	**25**	PKP	**PKPdf**	**10 47 51.8**	**-0.7**
	0.5nm,0.5s,baz=20,slow=4.6,SNR=3.0						
MKAR	**Makanchi Array**	**144.71**	**36**	PKP	PKPbc	10 47 58.8	+0.3
	0.2nm,0.4s,baz=1.8,slow=3.5,SNR=4.0						
MKAR				pPKP	pPKPdf	10 48 30.4	+1.0
	0.7nm,0.9s,baz=318,slow=1.9,SNR=3.6						

*CSEM **15** 10:31:52.9, 39°.87N×33°.06E, h7km, MD2.3*

DDA 15 10:31:52.9, 39°.87N×33°.06E, h7km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAL	**Bala**	**0.33**	**171**	*i* P	Pg	10 32 00.1	+0.5
BBAL				*i* S	Sb	10 32 06.5	-0.5
BBAL	**Bala**	**0.33**	**171**	*i* P	Pg	10 32 00.1	+0.5
BBAL				*i* S	Sb	10 32 06.5	-0.5
ELDT	**Eldivan**	**0.68**	**24**	*i* P	Pg	10 32 05.9	-0.4
ELDT				*i* S	Sb	10 32 16.4	-0.9
ELDT	**Eldivan**	**0.68**	**24**	*i* P	Pg	10 32 05.9	-0.5
ELDT				*i* S	Sb	10 32 16.4	-0.9
CDAG	**Cicekdag**	**1.04**	**103**	*i* P	Pg	10 32 13.0	-0.1
CDAG				*i* S	Sb	10 32 27.6	+0.1
CDAG	**Cicekdag**	**1.04**	**103**	*i* P	Pg	10 32 13.0	-0.1
CDAG				*i* S	Sb	10 32 27.6	+0.2
BCAM	**Yenicaga**	**1.21**	**322**	*i* P	Pg	10 32 15.9	-0.5
BCAM	**Yenicaga**	**1.21**	**322**	*i* P	Pg	10 32 15.9	-0.5
ILGA	**Ilgaz**	**1.28**	**23**	*i* P	Pn	10 32 16.9	-0.8
ILGA				*i* S	Sn	10 32 36.1	+0.7
ILGA	**Ilgaz**	**1.28**	**23**	*i* P	Pn	10 32 16.9	-0.8
ILGA				*i* S	Sn	10 32 36.1	+0.8

*CSEM **15** 10:32:08.2, 40°.85N×30°.89E, h16km, MD2.6*

ISK 15 10:32:08.2, 40°.85N×30°.89E, h16km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDUB	**Mudurnu**	**0.45**	**148**	*e*PG	Pb	10 32 18.0	+0.1
MDUB				*e*SG	Sb	10 32 24.0	-0.4
MDUB	**Mudurnu**	**0.45**	**148**	*e*Pg	Pb	10 32 18.0	+0.1
MDUB				*e*Sg	Sb	10 32 24.0	-0.4
GULT	**Gulveren**	**0.51**	**214**	*e*PG	Pb	10 32 19.0	+0.1
GULT				*e*SG	Sb	10 32 26.3	+0.3
GULT	**Gulveren**	**0.51**	**214**	*e*Pg	Pb	10 32 19.0	+0.2
GULT				*e*Sg	Sb	10 32 26.3	+0.3
HRT	**Hereke**	**0.93**	**269**	*e*PG	Pg	10 32 26.4	+0.1
HRT				*e*SG	Sn	10 32 39.8	+0.1
HRT	**Hereke**	**0.93**	**269**	*e*Pg	Pg	10 32 26.4	+0.1
HRT				*e*Sg	Sn	10 32 39.8	+0.1
ADVT	**Abdulvahap**	**0.97**	**245**	*e*PG	Pn	10 32 27.3	+0.1
ADVT	**Abdulvahap**	**0.97**	**245**	*e*Pg	Pn	10 32 27.3	+0.2
SVRH	**Sivrihisar-ESK**	**1.48**	**161**	*e*PN	Pb	10 32 35.0	-0.5
SVRH	**Sivrihisar-ESK**	**1.48**	**161**	*e*Pn	Pb	10 32 35.0	-0.5
ARMT	**Armutlu**	**1.57**	**260**	*e*PN	Pn	10 32 35.9	+0.5
ARMT	**Armutlu**	**1.57**	**260**	*e*Pn	Pn	10 32 35.9	+0.5
TVSB	**Tavsanli**	**1.77**	**218**	*e*PN	Pn	10 32 39.2	+0.8
TVSB	**Tavsanli**	**1.77**	**218**	*e*Pn	Pn	10 32 39.2	+0.8

*IDC **15** 10:33:03.5±0.7, 34°.49S×71°.98W, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.0/27, mbtmp4.0/10, ML3.8/3, Error ellipse: s-maj=27.8km s-min=19.0km az=90.0*

*ISCJB **15** 10:33:05.8±1.3, 34°.44S±0°.04×72°.16W±0°.07, h22km±9km, mb4.0/7, Error ellipse: s-maj=11.1km s-min=5.2km az=23.5*

*GUC **15** 10:33:06.4±0.5, 34°.43S×72°.11W, h33km±2km, ML4.5*

ISC 15 10:33:09.2±0.7, 34.49S±0°.05×72.01W±0°.09, h39km±4km, n30, σ1.9 01/34, mb4.2/7, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.73**	**43**	⇑*i*P	**Pn**	**10 33 20.4**	**-2.6**
NICH	**Los Niches**	**0.82**	**129**	*i* P	**Pn**	**10 33 23.2**	**-1.1**
NICH				*i* S	**Sn**	**10 33 35.7**	**+0.4**
TALC	**Talca**	**0.96**	**161**	⇑*i*P	**Pn**	**10 33 24.9**	**-1.2**
TALC				*i* S4	**Sn**	**10 33 38.1**	**-0.4**
CACH	**El Canelo**	**1.23**	**73**	⇑*i*P	**Pn**	**10 33 29.4**	**-0.5**
CHCH	**Chadas Angostu**	**1.25**	**64**	⇓*i*P	**Pn**	**10 33 29.2**	**-1.1**
LNCH	**Linares**	**1.40**	**166**	⇓*i*P	**Pn**	**10 33 32.0**	**-0.2**
LNCH				*i* S	**Sn**	**10 33 51.0**	**+1.6**
SJCH	**San Jose de Ma**	**1.61**	**59**	*e*P9	**Pn**	**10 33 34.2**	**-1.0**
SJCH				*i* S	**Sn**	**10 33 55.7**	**+0.8**
CLCH	**Cerro Calan**	**1.64**	**49**	⇑*i*P	**Pn**	**10 33 35.6**	**+0.1**
CLCH				*e*S	**Sn**	**10 33 57.5**	**+2.1**
CLCH				IAML		10 34 01.4	
	comp=N,8μm,0.7s						
PEL	**Peldehue**	**1.74**	**40**	⇓*i*P	**Pn**	**10 33 36.2**	**-0.7**
PEL				*i* S	**Sn**	**10 33 58.3**	**+0.5**
PEL				IAML		10 34 04.1	
	comp=N,8μm,0.5s						
COCH	**Cobquecura**	**1.76**	**201**	⇓*i*P	**Pn**	**10 33 35.8**	**-1.3**
COCH				*i* S	**Sn**	**10 33 59.1**	**+0.8**
CFAA	**Coronel Fontan**	**4.28**	**49**	Pn	**Pn**	**10 34 11.6**	**-0.2**
	comp=N,0.7nm,0.3s,baz=219,slow=13,SNR=24						
CFAA				Lg	Lg	10 35 10.5	
	comp=N,2.3nm,0.3s,baz=47,slow=12,SNR=5.3						
PLCA	**Paso Flores**	**6.34**	**170**	Pn	**Pn**	**10 34 39.6**	**-0.5**
	comp=N,1.2nm,0.3s,baz=339,slow=11,SNR=15						
PLCA				Lg	Lg	10 36 22.9	
	comp=N,1.1nm,0.3s,baz=248,slow=15,SNR=5.6						
LPAZ	**La Paz**	**18.46**	**12**	P	**Pn**	**10 37 22.8**	**+0.2**
	comp=N,0.1nm,0.3s,baz=178,slow=8.6,SNR=5.6						
SIV	**San Ignacio**	**20.88**	**31**	P	**P**	**10 37 47.8**	**-0.2**
	comp=N,1.4nm,0.6s,baz=18,slow=20,SNR=4.5						
QSPA	**South Pole Qui**	**55.75**	**180**	P	**P**	**10 42 43.2**	**+1.5**
	comp=N,1.8nm,0.7s,baz=312,slow=1.8,SNR=19						
TXAR	**Lajitas Array**	**70.17**	**331**	P	**P**	**10 44 18.2**	**+0.4**
	comp=N,0.3nm,0.6s,baz=146,slow=9.8,SNR=3.6						
DBIC	**Dimbokro**	**75.31**	**71**	P	**P**	**10 44 48.8**	**+0.2**
	comp=N,4.0nm,0.6s,baz=170,slow=6.7,SNR=3.8						
BOSA	**Boshof**	**79.82**	**118**	P	**P**	**10 45 12.9**	**-1.0**
	comp=N,3.4nm,0.6s,baz=238,slow=3.4,SNR=6.5						
PDAR	**Pinedale Array**	**84.21**	**333**	P	**P**	**10 45 37.3**	**+0.9**
	comp=N,0.2nm,0.5s,baz=121,slow=8.7,SNR=2.9						
NVAR	**Mina Array Bea**	**84.30**	**325**	P	**P**	**10 45 37.1**	**+0.1**
	comp=N,0.4nm,0.7s,baz=159,slow=6.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**84.36**	**70**	P	**P**	**10 45 37.1**	**-0.4**
	comp=N,1.2nm,0.7s,baz=282,slow=7.2,SNR=10.0						
YKA	**Yellowknife Ar**	**102.53**	**341**	P	**Pdif**	**10 47 00.2**	**-0.4**
	comp=N,0.1nm,0.5s,baz=145,slow=4.9,SNR=3.2						
WRA	**Warramunga Arr**	**120.35**	**209**	PKP	**PKPdf**	**10 51 56.0**	**-0.7**
	comp=N,0.4nm,0.4s,baz=155,slow=1.8,SNR=13						
H11N3	**WAKE ISLAND Hyd**	**26.21**	**270**	T	T	13 10 55.6	
	baz=116,slow=78,SNR=7.5						
H11N1	**WAKE ISLAND Hyd**	**26.22**	**270**	T	T	13 10 57.3	
	baz=116,slow=78,SNR=10						
H11N2	**WAKE ISLAND Hyd**	**26.23**	**270**	T	T	13 11 02.5	
	baz=116,slow=78,SNR=5.3						
BVAR	**Borovoye Array**	**147.62**	**43**	PKPbc	**PKPbc**	**10 52 49.8**	**+1.0**
	comp=N,1.1nm,0.5s,baz=290,slow=3.2,SNR=6.9						
KURBB	**Kurchatov Arra**	**153.21**	**44**	PKPbc	**PKPbc**	**10 53 02.5**	**+0.3**
	comp=N,0.7nm,0.5s,baz=302,slow=3.2,SNR=12						
ZALV	**Zalesovo Beam**	**154.62**	**33**	PKPbc	**PKPbc**	**10 53 04.2**	**-1.0**
	comp=N,0.7nm,0.5s,baz=338,slow=1.6,SNR=5.7						
MKAR	**Makanchi Array**	**157.06**	**50**	PKPab	**PKPab**	**10 53 30.3**	**-0.5**
	comp=N,0.6nm,0.9s,baz=265,slow=6.1,SNR=3.6						

*IDC **15** 10:36:52.0±0.8, 60°.72S×48°.50W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/25, mbtmp4.2/7, ML5.0/1, Error ellipse: s-maj=35.0km s-min=27.8km az=137.0*

*ISCJB **15** 10:36:52.3±0.8, 60°.75±0°.2×48°.5W±0°.3, h10km, mb4.1/6, Error ellipse: s-maj=27.8km s-min=16.3km az=139.8*

ISC 15 10:36:53.6±0.8, 60.7S±0°.2×48.4W±0°.2, h10km, n18, σ1.9 07/11, mb4.3/5, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**8.25**	**234**	Pn	**Pn**	**10 38 53.9**	**+0.9**
	1.9nm,0.3s,baz=50,slow=9.7,SNR=7.4						
LPAZ	**La Paz**	**46.57**	**334**	P	**P**	**10 45 22.4**	**+0.3**
	0.9nm,0.5s,baz=198,slow=5.9,SNR=4.4						
H10S2	**ASCENSION HYDR**	**57.41**	**41**	T	T	11 49 07.2	
	baz=200,slow=75,SNR=10						
H10S3	**ASCENSION HYDR**	**57.41**	**41**	T	T	11 49 07.3	
	baz=200,slow=75,SNR=11						
H10S1	**ASCENSION HYDR**	**57.42**	**41**	T	T	11 49 08.5	
	baz=200,slow=75,SNR=11						
BOSA	**Boshof**	**57.56**	**91**	P	**P**	**10 46 44.4**	**+1.1**
	1.7nm,0.5s,baz=219,slow=6.7,SNR=6.9						
H10N3	**ASCENSION HYDR**	**58.50**	**40**	T	T	11 50 30.1	
	baz=199,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**58.51**	**40**	T	T	11 50 30.1	
	baz=199,slow=75,SNR=9.0						
H10N2	**ASCENSION HYDR**	**58.52**	**40**	T	T	11 50 32.7	
	baz=199,slow=75,SNR=10						
DBIC	**Dimbokro**	**75.31**	**45**	P	**P**	**10 48 36.6**	**-0.1**
	5.3nm,0.9s,baz=174,slow=7.6,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.66**	**49**	P	**P**	**10 49 22.9**	**+0.8**
	4.2nm,0.8s,baz=211,slow=5.6,SNR=21						
ASAR	**Alice Springs**	**95.92**	**182**	P	**P**	**10 50 19.4**	**-1.2**
	0.3nm,0.8s,baz=162,slow=3.6,SNR=3.2						
WRA	**Warramunga Arr**	**99.62**	**183**	P	**Pdif**	**10 50 37.8**	**+0.7**
	0.2nm,0.7s,baz=180,slow=4.2,SNR=2.8						
ARCES	**ARCESS Array B**	**140.09**	**32**	PKhKP	PKPpre	10 56 09.8	
	2.7nm,1.0s,baz=207,slow=1.4,SNR=9.2						
ILAR	**Eielson Array**	**144.85**	**313**	PKP	**PKPab**	**10 56 26.8**	**-1.4**
	0.6nm,0.6s,baz=138,slow=2.2,SNR=16						
BVAR	**Borovoye Array**	**146.83**	**75**	PKPbc	**PKPbc**	**10 56 34.7**	**+0.1**
	2.7nm,0.6s,baz=232,slow=1.7,SNR=12						
MKAR	**Makanchi Array**	**148.54**	**94**	PKPbc	**PKPbc**	**10 56 38.0**	**-1.6**
	1.8nm,0.5s,baz=259,slow=2.5,SNR=27						
KURBB	**Kurchatov Arra**	**149.26**	**85**	PKPbc	**PKPbc**	**10 56 40.5**	**-0.7**
	1.3nm,0.5s,baz=235,slow=3.2,SNR=16						

IDC 15 10:40:48.2±2.1, 11.72N×92.87E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.3/38, mbtmp3.4/5, ML3.9/1, Error ellipse: s-maj=65.6km s-min=23.8km az=68.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.90**	**40**	Pn	Pn	10 42 57.4	-0.8
	0.4nm,0.3s,baz=231,slow=16,SNR=5.2						
SONM	**Songino Array**	**37.75**	**15**	P	P	10 48 06.6	+0.6
	0.6nm,0.9s,baz=204,slow=8.6,SNR=4.2						
KURBB	**Kurchatov Arra**	**40.54**	**346**	P	P	10 48 28.7	-0.4
	0.2nm,0.4s,baz=155,slow=8.2,SNR=2.4						
WRA	**Warramunga Arr**	**51.54**	**127**	P	P	10 49 55.5	-0.7
	0.3nm,0.8s,baz=310,slow=7.5,SNR=3.2						
ASAR	**Alice Springs**	**53.36**	**131**	P	P	10 50 10.2	+0.4
	0.1nm,0.4s,baz=308,slow=6.9,SNR=5.9						

*ISCJB **15** 10:41:48.5±1.1, 35°.59S±0°.09×73°.2W±0°.3, h17km, mb3.9/5, Error ellipse: s-maj=30.0km s-min=12.8km az=1.8*

*IDC **15** 10:41:54.4±3.5, 35°.59S×72°.97W, h52km±29km, mb3.7/5, mb1 3.8/8, mb1mx3.7/21, mbtmp3.9/8, ML4.0/3, MS3.1/2, Ms1 3.1/2, ms1mx3.1/20, Error ellipse: s-maj=42.3km s-min=19.4km az=86.0*

ISC 15 10:41:49.8±1.2, 35.6S±0°.1×73°.2W±0°.2, h17km, n9, σ1.9 55/9, mb4.0/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.57**	**159**	P	**Pn**	**10 43 12.9**	**+1.0**
	1.8nm,0.3s,baz=321,slow=13,SNR=7.4						
PLCA				LR	LR	10 45 23.4	
	comp=Z,388nm,20.2s,baz=299,slow=38						
CFAA	**Coronel Fontan**	**5.73**	**48**	P	**Pn**	**10 43 14.8**	**+0.7**
	1.2nm,0.3s,baz=221,slow=11,SNR=18						
CFAA				LR	LR	10 45 35.7	
	comp=Z,86nm,18.3s,baz=239,slow=40						
LPAZ	**La Paz**	**19.73**	**15**	P	**Pn**	**10 46 21.1**	**+0.4**
	0.2nm,0.3s,baz=182,slow=8.3,SNR=7.3						
SIV	**San Ignacio**	**22.31**	**32**	P	**P**	**10 46 46.8**	**+0.3**
	5.8nm,1.0s,baz=243,slow=12,SNR=5.6						
SNAA	**Sanae**	**50.51**	**157**	P	**P**	**10 50 46.9**	**+0.3**
	3.5nm,1.1s,baz=294,slow=10.0,SNR=4.0						
TXAR	**Lajitas Array**	**70.64**	**332**	P	**P**	**10 53 05.2**	**+0.7**
	0.2nm,0.4s,baz=164,slow=10,SNR=3.1						
BOSA	**Boshof**	**80.19**	**118**	P	**P**	**10 53 57.8**	**-1.8**
	1.9nm,0.6s,baz=198,slow=4.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**85.64**	**71**	P	**P**	**10 54 28.2**	**+0.4**
	0.6nm,0.7s,baz=217,slow=6.9,SNR=3.7						
MKAR	**Makanchi Array**	**158.51**	**51**	PKPab	**PKPab**	**11 02 18.0**	**-2.9**
	0.7nm,0.9s,baz=316,slow=4.0,SNR=2.7						

*NIED **15** 10:52:00, 28°.80N×128°.30E, h5km, Mw4.6 Best double couple: M0 8.74000×10^15 NP1:φs 275.00000°, δ25.00000°, λ-53.00000°. NP2:φs 55.00000°, δ70.00000°, λ-106.00000°.*

*ISCJB **15** 10:52:35.4±1.9, 28°.80N±0°.03×128°.32E±0°.04, h5km±12km, mb3.9/14, MS3.6/2, Error ellipse: s-maj=5.8km s-min=4.4km az=160.0*

*JMA **15** 10:52:35.6±0.2, 28°.80N×128°.28E, h9km±2km, M3.8*

*IDC **15** 10:52:35.9±0.8, 28°.79N×128°.55E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.8/48, mbtmp3.8/12, ML3.0/2, MS3.8/8, Ms1 3.8/8, ms1mx3.5/53, Error ellipse: s-maj=23.7km s-min=16.9km az=82.0*

*NEIC **15** 10:52:42.2±0.9, 28°.80N×128°.57E, h47km±9km, mb4.2/4, Error ellipse: s-maj=12.5km s-min=8.2km az=114.0*

ISC 15 10:52:37.0±1.7, 28.77N±0°.04×128.46E±0°.05, h8km±11km, n38, σ0.9 89/40, mb3.9/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.76**	**59**	P	**Pb**	**10 52 52.3**	**-0.2**
JTAJ				S	**Sn**	**10 53 04.0**	**-1.7**
JAMN	**Amaminishikomi**	**0.82**	**129**	P	**Pn**	**10 52 53.9**	**-0.9**
JAMN				S	**Sn**	**10 53 06.6**	**-0.5**
JTK	**Tokunoshima**	**1.07**	**156**	P	**Pg**	**10 52 57.3**	**-0.3**
JTK				S	**Sn**	**10 53 12.7**	**-0.6**
JAM	**Amami Oshima**	**1.07**	**109**	P	**Pn**	**10 52 58.0**	**-0.3**
JAM				S	**Sn**	**10 53 14.5**	**+1.2**
JOKE	**Okinoerabujima**	**1.40**	**176**	P	**Pn**	**10 53 01.8**	**-1.1**
JOKE				S	**Sn**	**10 53 20.8**	**-0.8**
JZK	**Kikaishima**	**1.41**	**108**	P	**Pg**	**10 53 03.7**	**-0.3**
JZK				S	**Sg**	**10 53 23.8**	**+1.5**
JNN	**Nakanoshima**	**1.64**	**49**	P	**Pb**	**10 53 06.4**	**-1.1**
JIH	**Iheya**	**1.78**	**194**	P	**Pn**	**10 53 06.4**	**-1.6**
JIH				S	**Sn**	**10 53 29.2**	**-1.6**
JOW	**Kunigami**	**1.93**	**185**	P	**Pn**	**10 53 09.8**	**-0.4**
JOW				S	**Sn**	**10 53 34.6**	**-0.1**
JOW	**Kunigami**	**1.93**	**185**	*e*Pn	**Pb**	**10 53 12.0**	**-0.6**
JNTH	**Nagotoyohara**	**2.27**	**190**	P	**Pn**	**10 53 14.6**	**-0.2**
JYAK	**Yakushimahirau**	**2.31**	**50**	P	**Pn**	**10 53 15.7**	**+0.3**
JNU	**Nakatsue**	**4.81**	**25**	Pn	Pn	10 53 54.5	+4.6
	1.3nm,0.3s,baz=200,slow=7.9,SNR=12						
JNU				LR	LR	10 55 54.9	
	comp=Z,1μm,18.5s,baz=216,slow=42						
JNU	**Nakatsue**	**4.81**	**25**	*e*Pn	Pn	10 53 53.5	+3.6
YHNB	**Yeheng**	**7.53**	**239**	*e*Pn	Pn	10 54 32.7	+5.4
	104nm,1.3s						
KSAR	**Wonju Array Be**	**8.67**	**357**	Pn	**Pn**	**10 54 42.1**	**-0.5**
KSRS	**Korea Array**	**8.68**	**357**	Pn	**Pn**	**10 54 42.1**	**-0.7**
	0.1nm,0.3s,baz=181,slow=13,SNR=3.2						
KSRS				LR	LR	10 58 11.8	
	comp=Z,812nm,21.1s,baz=167,slow=39						
MJAR	**Matsushiro Arr**	**11.29**	**44**	Pn	**Pn**	**10 55 20.0**	**+1.2**
	0.1nm,0.3s,baz=246,slow=14,SNR=2.7						
MJAR				LR	LR	10 59 33.4	
	comp=Z,196nm,19.0s,baz=245,slow=37						
JCJ	**Chichijima**	**12.25**	**95**	LR	LR	10 59 31.4	
	comp=Z,614nm,21.5s,baz=84,slow=34						
USRK	**Ussuriysk Ar.**	**15.66**	**9**	LR	LR	11 01 40.3	
	comp=Z,311nm,21.1s,baz=186,slow=35						
ASAJ	**Asahikawa**	**19.04**	**33**	LR	LR	11 04 04.3	
	comp=Z,208nm,18.0s,baz=34,slow=36						
SONM	**Songino Array**	**25.58**	**324**	P	**P**	**10 58 07.4**	**+0.8**
	2.6nm,1.0s,baz=137,slow=9.7,SNR=16						
SONM				LR	LR	11 09 18.4	
	comp=Z,274nm,19.0s,baz=147,slow=39						
CMAR	**Chiang Mai Arr**	**28.85**	**256**	P	**P**	**10 58 37.7**	**+1.5**
	0.4nm,0.3s,baz=69,slow=11,SNR=3.6						
CMAR				LR	LR	11 10 51.5	
	comp=Z,97nm,18.7s,baz=84,slow=38						
MKAR	**Makanchi Array**	**40.04**	**310**	P	**P**	**11 00 12.6**	**+0.1**
	1.6nm,0.6s,baz=91,slow=10,SNR=13						
ZALV	**Zalesovo Beam**	**40.38**	**321**	P	**P**	**11 00 15.3**	**+0.1**
	1.6nm,0.5s,baz=111,slow=8.5,SNR=10						
KURK	**Kurchatov**	**43.15**	**315**	*e*P	**P**	**11 00 37.9**	**0.0**
	2.4nm,0.9s						
TKM2	**Tokmak 2**	**44.42**	**303**	*e*P	**P**	**11 00 49.1**	**+0.5**
	3.2nm,0.6s						
BRVK	**Borovoye**	**48.61**	**317**	*e*P	**P**	**11 01 21.6**	**+0.6**
	5.3nm,0.8s						
WRA	**Warramunga Arr**	**48.76**	**173**	P	**P**	**11 01 21.9**	**-0.6**
	1.4nm,0.9s,baz=355,slow=8.1,SNR=11						
ASAR	**Alice Springs**	**52.39**	**174**	P	**P**	**11 01 50.3**	**+0.4**
	0.5nm,0.7s,baz=0.9,slow=12,SNR=8.1						
ASAR				PcP	**PcP**	**11 03 01.5**	**+0.7**
	0.2nm,0.6s,baz=357,slow=3.3,SNR=4.4						
ABKAR	**Akbulak array**	**55.08**	**312**	*e*P	**P**	**11 02 09.8**	**+0.3**
	1.3nm,0.6s						
CHGN	**Chignik**	**57.35**	**39**	*e*P	**P**	**11 02 24.1**	**-1.3**
ILAR	**Eielson Array**	**62.12**	**29**	P	**P**	**11 02 56.8**	**-1.4**
	0.2nm,0.6s,baz=294,slow=7.7,SNR=6.4						
FINES	**FINESS Array B**	**70.77**	**330**	P	**P**	**11 03 53.6**	**+0.1**
	0.9nm,0.6s,baz=72,slow=6.2,SNR=5.2						
RAYN	**Ar Rayn**	**73.21**	**288**	P	**P**	**11 04 09.8**	**+0.8**
YKA	**Yellowknife Ar**	**76.15**	**25**	P	**P**	**11 04 25.8**	**+0.5**
	1.1nm,1.0s,baz=314,slow=5.9,SNR=13						
ULM	**Lac du Bonnet**	**92.07**	**27**	P	**P**	**11 05 46.7**	**0.0**
	1.0nm,0.6s,baz=354,slow=4.7,SNR=3.1						
TRQA	**Tornquist**	**167.29**	**139**	PFAKE		11 12 50.0	+6.3
TRQA				LR	LR		
	comp=Z,94μm,20.0s						

IDC 15 10:58:12.6±1.0, 28°.75N×128°.29E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/48, mbtmp3.7/8, ML2.4/1, Error ellipse: s-maj=36.4km s-min=19.6km az=71.0, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**4.89**	**26**	Pn	Pn	10 59 28.5	+1.1
	0.2nm,0.3s,baz=45,slow=14,SNR=2.3						
SONM	**Songino Array**	**25.51**	**324**	P	P	11 03 43.4	+0.7
	1.4nm,0.8s,baz=135,slow=8.3,SNR=7.9						
MKAR	**Makanchi Array**	**39.94**	**310**	P	P	11 05 48.6	+0.1
	0.9nm,0.8s,baz=95,slow=7.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**40.30**	**321**	P	P	11 05 50.8	-0.6
	0.6nm,0.3s,baz=112,slow=6.5,SNR=3.1						
BVAR	**Borovoye Array**	**48.46**	**317**	P	P	11 06 56.3	-0.4
	1.7nm,0.8s,baz=78,slow=8.0,SNR=7.7						
WRA

cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
ISCJB ***15*** *11:08:30.2±0.2,35°.76S±0°.04×73°.38W±0°.05,h33km, mb5.7/189,MS6.1/200 Error ellipse: s-maj=6.6km s-min=4.3km az=144.7*
MOS ***15*** *11:08:31.6±1.1,35°.54S×73°.25W,h33km,mb6.0/48, MS6.2/36,Error ellipse: s-maj=16.9km s-min=7.4km az=98.5*

ISC 15 11:08:32.5±0.2,35°.85S±0°.05×73°.49W±0°.05,h35km, n1180,σ1967/1069,mb5.8/188,MS6.2/200,213C-211D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.39**	**156**	LR	LR	11 11 20.1	
	comp=Z,29μm,18.3s,baz=336,slow=33						
CFAA	**Coronel Fontan**	**6.09**	**47**	Pn	Pn	11 09 55.4	-4.6
	7.0nm,0.3s,baz=213,slow=12,SNR=48						
CFAA				LR	LR	11 12 34.2	
	comp=Z,31μm,18.4s,baz=236,slow=42						
TRQA	**Tornquist**	**9.47**	**107**	*e*Pn	Pn	11 10 40.9	-5.5
LVC	**Limon Verde**	**13.78**	**18**	*e*Pn	Pn	11 11 39.5	-6.2
EFI	**East Falkland**	**19.28**	**150**	*c i*P	**P**	**11 12 51.7**	**-2.3**
EFI				pmax	pmax		
	comp=Z,451nm,1.0s						
EFI	**East Falkland**	**19.28**	**150**	*e*P	**P**	**11 12 52.2**	**-1.8**
	comp=Z,3μm,2.8s						
USHA	**Ushuaia**	**19.30**	**171**	P	**P**	**11 12 54.2**	**0.0**
	comp=Z,2.3nm,0.3s,baz=327,slow=8.7,SNR=13						
USHA				LR	LR	11 20 12.4	
	comp=Z,120μm,20.2s,baz=326,slow=37						
LPAZ	**La Paz**	**20.06**	**15**	*e*P	**P**	**11 13 01.5**	**-1.9**
LPAZ	**La Paz**	**20.06**	**15**	P	**P**	**11 13 02.5**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=173,slow=7.7,SNR=30						
LPAZ	**La Paz**	**20.06**	**15**	*e*P	**P**	**11 13 01.6**	**-1.9**
	comp=Z,1μm,1.8s						
SIV	**San Ignacio**	**22.67**	**32**	P	**P**	**11 13 27.7**	**-3.2**
	comp=Z,89nm,1.0s,baz=231,slow=13,SNR=57						
SIV				LR	LR	11 23 39.1	
	comp=Z,79μm,21.0s,baz=223,slow=41						
NNA	**Nana**	**23.95**	**352**	*e*P	**P**	**11 13 43.1**	**-0.5**
NNA	**Nana**	**23.95**	**352**	P	**P**	**11 13 43.1**	**-0.5**
	comp=Z,45nm,0.9s,baz=198,slow=11,SNR=9.6						
NNA				LR	LR	11 20 46.9	
	comp=Z,27μm,21.2s,baz=179,slow=31						
NNA	**Nana**	**23.95**	**352**	*e*P	**P**	**11 13 43.1**	**-0.5**
	comp=Z,2μm,3.0s						
SAML	**Samuel**	**28.38**	**22**	*e*P	**P**	**11 14 20.6**	**-2.9**
	comp=Z,614nm,2.4s						
SAML				LR	LR		
	comp=Z,78μm,19.0s						
ATAH	**Atahualpa**	**28.93**	**350**	P	**P**	**11 14 28.4**	**-0.4**
	comp=Z,36nm,1.2s,baz=174,slow=7.5,SNR=15						
ATAH				LR	LR	11 23 59.4	
	comp=Z,19μm,19.2s,baz=185,slow=32						
PMSA	**Palmer Station**	**29.51**	**172**	PFAKE		11 14 40.0	+6.9
PMSA				LR	LR		
	comp=Z,80μm,19.0s						
BDFB	**Brasilia**	**30.36**	**55**	P	P	11 14 37.6	-3.7
BDFB	**Brasilia**	**30.36**	**55**	P	P	11 14 37.6	-3.7
	comp=Z,51nm,1.0s,baz=220,slow=8.0,SNR=19						
BDFB				LR	LR	11 28 34.0	
	comp=Z,95μm,18.4s,baz=224,slow=40						
HOPE	**Hope Point**	**31.48**	**137**	PFAKE		11 15 00.0	+9.4
HOPE				LR	LR		
	comp=Z,28μm,20.0s						
RPN	**Rapa Nui**	**31.64**	**276**	LR	LR	11 24 22.9	
	comp=Z,37μm,18.9s,baz=146,slow=30						
OTAV	**Otavalo**	**36.20**	**352**	*e*P	**P**	**11 15 31.9**	**-0.5**
	comp=Z,333nm,1.6s						
OTAV				LR	LR		
	comp=Z,16μm,20.0s						
PTGA	**Pitinga**	**37.14**	**23**	P	**P**	**11 15 36.9**	**-3.0**
	comp=Z,32nm,0.9s,baz=193,slow=9.4,SNR=15						
PTGA				LR	LR	11 32 45.6	
	comp=Z,38μm,18.6s,baz=188,slow=39						
PTGA	**Pitinga**	**37.14**	**23**	*e*P	**P**	**11 15 36.9**	**-3.0**
	comp=Z,1μm,2.5s						
PAYG	**Puerto Ayora**	**38.33**	**332**	*e*P	**P**	**11 15 50.1**	**+0.1**
	comp=Z,246nm,1.4s						
PAYG				LR	LR		
	comp=Z,25μm,19.0s						
ROSC	**El Rosal**	**40.50**	**359**	P	**P**	**11 16 09.0**	**+0.5**
	comp=Z,9.3nm,0.7s,baz=139,slow=2.8,SNR=8.1						
SDV	**Santo Domingo**	**44.58**	**4**	*e*P	**P**	**11 16 40.3**	**-1.1**
	comp=Z,58nm,1.0s						
SDV				LR	LR		
	comp=Z,32μm,20.0s						
BCIP	**Isla Barro Col**	**45.17**	**351**	*e*P	**P**	**11 16 46.7**	**+0.8**
	comp=Z,581nm,2.1s						
BCIP				LR	LR		
	comp=Z,14μm,20.0s						
RCBR	**Riachuelo**	**45.63**	**58**	P	**P**	**11 16 48.5**	**-1.2**
	comp=Z,70nm,1.2s,baz=223,slow=8.6,SNR=7.2						
RCBR	**Riachuelo**	**45.63**	**58**	*e*P	**P**	**11 16 48.9**	**-0.9**
	comp=Z,295nm,1.5s						
RCBR				LR	LR		
	comp=Z,70μm,20.0s						
JTS	**JuntasAbangare**	**47.15**	**345**	*e*P	**P**	**11 17 01.4**	**-0.1**
JTS				pmax	pmax		
	comp=Z,59nm,1.2s						
JTS	**JuntasAbangare**	**47.15**	**345**	P	**P**	**11 17 01.6**	**+0.1**
	comp=Z,23nm,1.1s,baz=127,slow=4.1,SNR=12						
JTS	**JuntasAbangare**	**47.15**	**345**	*e*P	**P**	**11 17 02.0**	**+0.4**
	comp=Z,716nm,2.4s						
JTS				LR	LR		
	comp=Z,11μm,19.0s						
VNA3	**Neumayer Olymp**	**48.11**	**157**	P	**P**	**11 17 06.9**	**-1.5**
TRIS	**Tristan da Cun**	**48.45**	**111**	PFAKE		11 17 20.0	+8.6
TRIS				LR	LR		
	comp=Z,13μm,20.0s						
VNA1	**Neumayer--Stat**	**48.45**	**156**	P	**P**	**11 17 10.5**	**-0.5**
VNA2	**Neumayer--Watz**	**48.78**	**156**	P	**P**	**11 17 12.0**	**-1.5**
GRGR	**Grenville**	**49.02**	**15**	*e*P	**P**	**11 17 15.2**	**-0.7**
GRGR	**Grenville**	**49.02**	**15**	*e*P	**P**	**11 17 16.4**	**+0.5**
	comp=Z,5μm,2.6s						
GRGR				LR	LR		
	comp=Z,21μm,19.0s						
PTCN	**Pitcairn Islan**	**49.37**	**266**	PFAKE		11 17 30.0	+11
PTCN				LR	LR		
	comp=Z,15μm,19.0s						
SVB	**Belmont**	**50.21**	**16**	*e*P	**P**	**11 17 23.7**	**-1.3**
SNAA	**Sanae**	**50.33**	**157**	P	**P**	**11 17 24.2**	**-1.2**
SNAA	**Sanae**	**50.33**	**157**	*e*P	**P**	**11 17 23.6**	**-1.9**
SNAA	**Sanae**	**50.33**	**157**	*c i*P	**P**	**11 17 23.8**	**-1.6**
SNAA				pmax	pmax		
	comp=Z,175nm,1.6s						
SNAA				MLR	MLR		
	comp=Z,31μm,16.0s						
SNAA	**Sanae**	**50.33**	**157**	P	**P**	**11 17 24.3**	**-1.1**
	comp=Z,50nm,1.1s,baz=288,slow=6.4,SNR=29						
SNAA	**Sanae**	**50.33**	**157**	*e*P	**P**	**11 17 23.5**	**-1.9**
	comp=Z,233nm,1.0s						
BBGH	**Gun Hill**	**50.48**	**18**	PFAKE		11 17 40.0	+13
BBGH				LR	LR		
	comp=Z,56μm,22.0s						
FDF	**Fort de France**	**51.65**	**15**	*e*P	**P**	**11 17 34.2**	**-1.6**
FDF				pmax	pmax		
	comp=Z,434nm,1.3s						
FDF				MLR	MLR		
	comp=Z,27μm,20.0s						
FDF	**Fort de France**	**51.65**	**15**	*e*P	**P**	**11 17 34.1**	**-1.8**
FDF	**Fort de France**	**51.65**	**15**	*e*P	**P**	**11 17 34.2**	**-1.6**
	comp=Z,434nm,1.3s						
FDF				LR	LR		
	comp=Z,27μm,20.0s						
APG	**El Apazote**	**53.07**	**339**	P	P	11 17 40.3	-6.3
	comp=Z,13nm,0.8s,baz=188,slow=5.9,SNR=17						
CRPR	**Cabo Rojo, PR**	**53.90**	**8**	*e*P	**P**	**11 17 50.8**	**-1.6**
	comp=Z,68nm,1.0s						
MTDJ	**Mount Denham**	**53.92**	**355**	*e*P	P	11 17 59.5	+6.9
MTDJ				LR	LR		
	comp=Z,10μm,22.0s						
OBIP	**Obispado Ponce**	**53.99**	**8**	*e*P	**P**	**11 17 50.6**	**-2.4**
	comp=Z,256nm,1.4s						
CELP	**Cerrillos**	**54.03**	**8**	*e*P	**P**	**11 17 51.4**	**-1.9**
LSP	**Las Mesas**	**54.07**	**8**	*e*P	**P**	**11 17 54.8**	**+1.1**
HUMP	**Col San Antoni**	**54.18**	**9**	*e*P	P	11 17 57.4	+2.9
LRS	**Lares**	**54.21**	**8**	*e*P	**P**	**11 17 53.5**	**-1.2**
RKT	**Rikitea**	**54.22**	**266**	*e*S	**S**	**11 25 28.5**	**-1.3**
RKT				*e*SS	**SS**	**11 29 12.3**	**+0.5**
	comp=Z,10μm,26.2s						
RKT				*e*LQ	LQ	11 31 21.8	
	comp=Z,2μm,28.8s						
RKT				*e*LR	LR	11 33 34.2	
	comp=Z,4μm,35.5s						
RKT	**Rikitea**	**54.22**	**266**	*e*T	T	12 16 10.4	
	comp=Z,20μm,28.5s,baz=123						
AOPR	**Arecibo Observ**	**54.28**	**8**	*e*P	**P**	**11 17 54.2**	**-1.0**
	comp=Z,2.7nm,0.3s						
PCDR	**Punta Cana, DR**	**54.28**	**6**	*e*P	**P**	**11 17 54.8**	**-0.4**
CBYP	**Canovanas**	**54.31**	**9**	*e*P	**P**	**11 17 53.3**	**-2.1**
	comp=Z,97nm,1.2s						
ANWB	**Willy Bob**	**54.37**	**14**	*e*P	**P**	**11 17 54.6**	**-1.2**
	comp=Z,2μm,2.4s						
QSPA	**South Pole Qui**	**54.39**	**180**	P	**P**	**11 17 54.3**	**-1.4**
	comp=Z,55nm,0.9s,baz=154,slow=4.4,SNR=23						
QSPA	**South Pole Qui**	**54.39**	**180**	P	**P**	**11 17 54.3**	**-1.4**
QSPA				LR	LR		
	comp=Z,14μm,20.0s						
STVI	**Saint Thomas**	**54.51**	**10**	*e*P	P	11 18 00.6	+3.8
	comp=Z,338nm,2.0s						
SDDR	**Presa de Saban**	**54.57**	**3**	*e*P	P	11 18 00.7	+3.3
	comp=Z,155nm,1.9s						
SDDR				LR	LR		
	comp=Z,14μm,20.0s						
SMN1	**Samana, DR**	**54.88**	**5**	*e*P	**P**	**11 17 59.6**	**+0.1**
NVL	**N'lazarevskaya**	**55.10**	**156**	⇑*i*P	**P**	**11 17 57.8**	**-2.7**
NVL				*e**PP	**pP**	**11 18 06.7**	**-4.4**
NVL				*e*		11 19 05.8	
NVL				*e*PPP	PPP	11 21 23.3	
NVL				pmax	pmax		
	comp=Z,3μm,18.8s						
GTBY	**Guantanamo Bay**	**55.49**	**358**	PFAKE		11 18 20.0	+16
GTBY				LR	LR		
	comp=Z,9μm,21.0s						
CMIG	**Matias Romero**	**56.42**	**335**	P	**P**	**11 18 08.8**	**-1.8**
	comp=Z,5.6nm,1.0s,baz=183,slow=5.7,SNR=8.2						
GRTK	**Grand Turk**	**57.09**	**3**	PFAKE		11 18 30.0	+15
GRTK				LR	LR		
	comp=Z,11μm,19.0s						
TEIG	**Tepich**	**57.50**	**343**	*e*P	**P**	**11 18 17.6**	**-0.6**
	comp=Z,1μm,2.8s						
ASCN	**Ascension**	**60.47**	**78**	PFAKE		11 18 50.0	+11
ASCN				LR	LR		
	comp=Z,8μm,19.0s						
SBA	**Scott Base**	**61.02**	**192**	*e*P	**P**	**11 18 44.4**	**+2.5**
SBA				pmax	pmax		
	comp=Z,894nm,2.6s						
SBA				MLR	MLR		
	comp=Z,12μm,19.0s						
SBA	**Scott Base**	**61.02**	**192**	*e*P	**P**	**11 18 44.4**	**+2.5**
	comp=Z,894nm,2.6s						
SBA				LR	LR		
	comp=Z,12μm,19.0s						
VNDA	**Vanda**	**62.05**	**192**	*e*P	**P**	**11 18 48.8**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,63nm,1.3s						
VNDA	**Vanda**	**62.05**	**192**	P	**P**	**11 18 49.0**	**+0.1**
	comp=Z,4.5nm,1.0s,baz=140,slow=4.9,SNR=10						
VNDA	**Vanda**	**62.05**	**192**	*e*P	**P**	**11 18 48.8**	**-0.1**
	comp=Z,63nm,1.3s						
SHEL	**Horse Pasture**	**62.91**	**91**	PFAKE		11 19 10.0	+14
SHEL				LR	LR		
	comp=Z,6μm,20.0s						
SYO	**Syowa Base**	**64.58**	**158**	⇓*e*P	P	11 19 02.6	-3.1
TBI	**Tubuai**	**65.75**	**258**	*e*P	**P**	**11 19 14.2**	**+0.2**
	comp=Z,280nm,1.1s						
TBI	**Tubuai**	**65.75**	**258**	*e*T	T	12 30 32.9	
	comp=Z,5.2nm,0.3s						
035Z	**Hargill**	**66.18**	**336**	⇑P	**P**	**11 19 16.4**	**-0.1**
	baz=66						
035A	**Encino**	**66.63**	**336**	⇑P	**P**	**11 19 18.9**	**-0.4**
	baz=67						
034A	**Hebbronville**	**66.94**	**336**	⇓P	**P**	**11 19 20.6**	**-0.7**
	baz=67,SNR=10						
934A	**Benavides**	**67.39**	**336**	⇓P	**P**	**11 19 23.6**	**-0.6**
	baz=68,SNR=6.5						
MEH	**Mehetia**	**67.44**	**264**	*e*T	T	12 32 41.3	
	comp=Z,89nm,0.2s						
TIGA	**Tifton**	**67.61**	**351**	⇓P	**P**	**11 19 24.4**	**-1.0**
	baz=68						
TIGA	**Tifton**	**67.61**	**351**	*e*P	**P**	**11 19 27.2**	**+1.8**
	comp=Z,2μm,2.8s						
933A	**Laredo**	**67.65**	**335**	⇑P	**P**	**11 19 24.5**	**-1.3**
	baz=68,SNR=9.3						
BRAL	**Brewton**	**67.72**	**347**	PFAKE		11 19 40.0	+14
BRAL				LR	LR		
	comp=Z,6μm,22.0s						
835A	**Beeville**	**67.80**	**337**	⇓P	**P**	**11 19 25.9**	**-0.8**
	baz=68						
834A	**Tilden**	**67.88**	**336**	⇓P	**P**	**11 19 26.6**	**-0.7**
	baz=68,SNR=15						
735A	**Kenedy**	**68.32**	**337**	⇓P	**P**	**11 19 29.4**	**-0.5**
	baz=69,SNR=7.0						
833A	**Chaparral WMA,**	**68.34**	**336**	⇑P	**P**	**11 19 29.3**	**-0.8**
	baz=69,SNR=14						
BBSR	**BB Station**	**68.37**	**8**	PFAKE		11 19 40.0	+10
BBSR				LR	LR		
	comp=Z,7μm,21.0s						
TVO	**Taravao**	**68.45**	**263**	*e*T	T	12 33 56.7	
	comp=Z,4.1nm,0.3s						
VAH	**Vaihoa**	**68.49**	**266**	*e*P	**P**	**11 19 30.6**	**-0.9**
	comp=Z,100nm,1.1s						
832A	**Faith Ranch, C**	**68.50**	**335**	⇓P	**P**	**11 19 29.7**	**-1.5**
	baz=69,SNR=17						
734A	**La Parita Cree**	**68.55**	**336**	⇑P	**P**	**11 19 30.1**	**-1.3**
	baz=69						
TIAR	**Tiarei**	**68.64**	**263**	*e*T	T	12 34 11.2	
	comp=Z,18nm,0.3s						
636A	**Smothers Creek**	**68.67**	**338**	⇑P	**P**	**11 19 31.3**	**-0.9**
	baz=69,SNR=16						
733A	**Divot King Ran**	**68.67**	**336**	⇑P	**P**	**11 19 30.9**	**-1.3**
	baz=69,SNR=6.0						
HKT	**Hockley**	**68.75**	**339**	*e*P	**P**	**11 19 32.1**	**-0.4**
HKT				pmax	pmax		
	comp=Z,289nm,2.1s						
HKT	**Hockley**	**68.75**	**339**	*e*P	**P**	**11 19 32.1**	**-0.4**
	comp=Z,289nm,2.1s						
PAE	**Paea**	**68.78**	**263**	*e*P	**P**	**11 19 32.4**	**-0.8**
	comp=Z,32nm,1.3s						
PAE	**Paea**	**68.78**	**263**	*e*T	T	12 34 21.0	
	comp=Z,1.6nm,0.3s						
635A	**Leesville**	**68.80**	**337**	⇑P	**P**	**11 19 31.4**	**-1.6**
	baz=69						
PPT2	**Papeete2**	**68.81**	**263**	*e*P	**P**	**11 19 32.9**	**-0.7**
	comp=Z,169nm,1.3s						
PPT2				*e*S	**S**	**11 28 35.2**	**0.0**
	comp=Z,11μm,23.0s						
PPT2	**Papeete2**	**68.81**	**263**	*e*LR	LR	11 40 26.7	
	comp=Z,36μm,25.2s,baz=121						
PPT2	**Papeete2**	**68.81**	**263**	*e*T	T	12 34 23.1	
	comp=Z,3.3nm,0.3s						
PPT	**Papeete**	**68.82**	**263**	P	**P**	**11 19 35.1**	**+1.5**
PPT	**Papeete**	**68.82**	**263**	P	**P**	**11 19 35.1**	**+1.5**
	comp=Z,86nm,1.0s,baz=187,slow=3.0,SNR=5.0						
PPT				LR	LR	11 41 59.9	
	comp=Z,15μm,18.5s,baz=102,slow=29						
NHSC	**New Hope**	**68.89**	**354**	PFAKE		11 19 40.0	+6.6
NHSC				LR	LR		
	comp=Z,9μm,20.0s						
732A	**Laxson Ranch,**	**68.91**	**335**	⇑P	**P**	**11 19 32.3**	**-1.4**
	baz=69,SNR=15						
537A	**Green Hill Far**	**69.01**	**339**	⇑P	**P**	**11 19 33.1**	**-1.1**
	baz=69,SNR=7.0						
SACV	**Santiago Islan**	**69.13**	**52**	PFAKE		11 19 50.0	+15
SACV				LR	LR		
	comp=Z,13μm,19.0s						
536A	**Bastrop**	**69.23**	**338**	⇑P	**P**	**11 19 34.2**	**-1.4**
	baz=70						
633A	**Saathoff Ranch**	**69.32**	**336**	⇑P	**P**	**11 19 35.0**	**-1.2**
	baz=70,SNR=13						
535A	**Dale**	**69.34**	**338**	⇑P	**P**	**11 19 35.0**	**-1.3**
	baz=70						
GOGA	**Godfrey**	**69.53**	**351**	*e*P	**P**	**11 19 37.2**	**-0.2**
GOGA				pmax	pmax		
	comp=Z,49nm,1.1s						
GOGA				MLR	MLR		
	comp=Z,6μm,22.0s						
GOGA	**Godfrey**	**69.53**	**351**	*e*P	**P**	**11 19 37.2**	**-0.2**
	comp=Z,49nm,1.1s						
GOGA				LR	LR		
	comp=Z,6μm,22.0s						
632A	**Uvalde**	**69.56**	**336**	⇑P	**P**	**11 19 36.6**	**-1.2**
	baz=70,SNR=15						
VBMS	**Vicksburg**	**69.57**	**345**	*e*P	**P**	**11 19 38.9**	**+1.2**
	comp=Z,347nm,1.7s						
340A	**Bronson**	**69.60**	**341**	⇑P	**P**	**11 19 36.7**	**-1.2**
	baz=70						
534A	**Blanco**	**69.62**	**337**	⇑P	**P**	**11 19 37.0**	**-1.1**
	baz=70						
LRAL	**Lakeview Retre**	**69.69**	**348**	*e*P	**P**	**11 19 38.6**	**+0.2**
	comp=Z,712nm,2.8s						
339A	**Huntington**	**69.70**	**341**	⇑P	**P**	**11 19 37.4**	**-1.1**
	baz=70						
631A	**Perdido Creek**	**69.75**	**335**	⇑P	**P**	**11 19 37.0**	**-1.8**
	baz=70,SNR=12						
436A	**Wall Ranch, Ga**	**69.80**	**339**	⇓P	**P**	**11 19 37.5**	**-1.6**
	baz=70						
533A	**Kerrville**	**69.84**	**337**	⇑P	**P**	**11 19 37.8**	**-1.7**
	baz=70,SNR=12						
338A	**Crockett**	**69.92**	**340**	⇑P	**P**	**11 19 38.5**	**-1.4**
	baz=70						
435B	**Jarrell**	**70.04**	**338**	⇓P	**P**	**11 19 39.5**	**-1.1**
	baz=70						
337A	**Centerville**	**70.05**	**340**	⇓P	**P**	**11 19 39.5**	**-1.1**
	baz=70						
JSC	**Jenkinsville**	**70.15**	**353**	*e*P	P	11 19 44.5	+3.3
JSC				pmax	pmax		
	comp=Z,465nm,2.7s						
JSC	**Jenkinsville**	**70.15**	**353**	*e*P	P	11 19 44.5	+3.3
	comp=Z,465nm,2.7s						
532A	**Rocksprings**	**70.18**	**336**	⇓P	**P**	**11 19 40.1**	**-1.5**
	baz=70,SNR=25						
434A	**Burnet**	**70.28**	**337**	⇑P	**P**	**11 19 40.5**	**-1.7**
	baz=71,SNR=20						
239A	**Gary**	**70.32**	**341**	⇑P	**P**	**11 19 41.5**	**-0.8**
	baz=71						
336A	**Riesel**	**70.39**	**339**	⇓P	**P**	**11 19 41.1**	**-1.6**
	baz=71,SNR=14						
531A	**Rocksprings**	**70.42**	**335**	⇓P	**P**	**11 19 41.8**	**-1.2**
	baz=71,SNR=21						
335A	**Moody**	**70.46**	**338**	⇓P	**P**	**11 19 42.1**	**-1.1**
	baz=71						
JCT	**Junction City**	**70.47**	**336**	*e*P	**P**	**11 19 42.3**	**-1.0**
JCT				pmax	pmax		
	comp=Z,205nm,1.8s						
JCT				MLR	MLR		
	comp=Z,4μm,20.0s						
JCT	**Junction City**	**70.47**	**336**	⇓P	**P**	**11 19 41.8**	**-1.5**
	baz=71,SNR=15						
JCT	**Junction City**	**70.47**	**336**	*e*P	**P**	**11 19 42.3**	**-1.0**
	comp=Z,205nm,1.8s						
JCT				LR	LR		
	comp=Z,4μm,20.0s						
238A	**Jacksonville**	**70.48**	**341**	⇓P	**P**	**11 19 42.1**	**-1.2**
	baz=71						
433A	**Art**	**70.49**	**337**	⇓P	**P**	**11 19 41.4**	**-2.1**
	baz=71,SNR=10						
237A	**Washetta, Mont**	**70.67**	**340**	⇑P	**P**	**11 19 42.7**	**-1.7**
	baz=71,SNR=6.3						
530A	**J-C Ranch, Com**	**70.68**	**335**	⇓P	**P**	**11 19 43.0**	**-1.6**
	baz=71,SNR=29						
334A	**Lometa**	**70.76**	**338**	⇑P	**P**	**11 19 43.6**	**-1.4**
	baz=71,SNR=17						
TXAR	**Lajitas Array**	**70.79**	**332**	P	**P**	**11 19 44.2**	**-1.2**
TXAR	**Lajitas Array**	**70.79**	**332**	P	**P**	**11 19 44.2**	**-1.2**
	comp=Z,8.1nm,0.7s,baz=153,slow=8.1,SNR=21						
TXAR				LR	LR	11 46 20.3	
	comp=Z,16μm,18.7s,baz=0.0,slow=32						
432A	**Menard**	**70.83**	**336**	⇓P	**P**	**11 19 44.0**	**-1.5**
	baz=71,SNR=5.8						
CNNC	**Cliffs of the**	**70.85**	**356**	PFAKE		11 20 00.0	+15
CNNC				LR	LR		
	comp=Z,6μm,21.0s						
431A	**Sonora**	**70.92**	**335**	⇓P	**P**	**11 19 44.5**	**-1.6**
	baz=71,SNR=12						
529A	**Stev Forest Ra**	**70.97**	**334**	⇓P	**P**	**11 19 45.2**	**-1.3**
	baz=71,SNR=23						
333A	**Richland Sprin**	**70.98**	**337**	⇓P	**P**	**11 19 44.9**	**-1.5**
	baz=71,SNR=16						
KMSC	**Kings Mountain**	**71.01**	**353**	⇓P	**P**	**11 19 45.6**	**-0.8**
	baz=71,SNR=5.6						
138A	**Matatall Enter**	**71.10**	**341**	⇓P	**P**	**11 19 46.1**	**-1.0**
	baz=72						
WHTX	**Lake Whitney,**	**71.13**	**339**	⇓P	**P**	**11 19 46.2**	**-1.1**
	baz=72						
WHTX	**Lake Whitney,**	**71.13**	**339**	*e*P	**P**	**11 19 47.0**	**-0.3**
	comp=Z,99nm,1.3s						
137A	**Heron Place, G**	**71.22**	**340**	⇑P	**P**	**11 19 46.5**	**-1.2**
	baz=72,SNR=7.1						
430A	**Baggett Ranch,**	**71.23**	**335**	⇑P	**P**	**11 19 46.5**	**-1.5**
	baz=72						
332A	**Millersview**	**71.28**	**336**	⇑P	**P**	**11 19 46.8**	**-1.4**
	baz=72,SNR=16						
429A	**Davenport Ranc**	**71.31**	**334**	⇓P	**P**	**11 19 47.1**	**-1.4**
	baz=72,SNR=15						
234A	**Clairette**	**71.35**	**338**	⇑P	**P**	**11 19 47.2**	**-1.4**
	baz=72,SNR=10						
331A	**San Angelo**	**71.44**	**336**	⇓P	**P**	**11 19 47.5**	**-1.7**
	baz=72,SNR=18						
OXF	**Oxford**	**71.56**	**346**	*e*P	**P**	**11 19 48.8**	**-1.0**
OXF				pmax	pmax		
	comp=Z,74nm,0.9s						
OXF	**Oxford**	**71.56**	**346**	*e*P	**P**	**11 19 48.8**	**-1.0**
	comp=Z,74nm,0.9s						
233A	**Rising Star**	**71.60**	**337**	⇑P	**P**	**11 19 48.5**	**-1.7**
	baz=72,SNR=7.1						
135A	**Vickery Place,**	**71.65**	**339**	⇓P	**P**	**11 19 48.4**	**-2.0**
	baz=72						
CPCT	**Cooper Cave**	**71.68**	**351**	*e*P	P	11 19 53.6	+3.1
232A	**Coleman**	**71.71**	**337**	⇑P	**P**	**11 19 48.9**	**-1.9**
	baz=72,SNR=10						
MAW	**Mawson**	**71.74**	**164**	LR	LR	11 52 02.8	
	comp=Z,34μm,18.6s,baz=230,slow=36						
330A	**Mertzon**	**71.78**	**335**	⇓P	**P**	**11 19 49.6**	**-1.6**
	baz=72,SNR=11						
TKL	**Tuckaleechee C**	**71.79**	**351**	*e*P	**P**	**11 19 51.0**	**-0.1**
TKL	**Tuckaleechee C**	**71.79**	**351**	*e*P	**P**	**11 19 51.0**	**-0.1**
134A	**White-Moore Ra**	**71.86**	**338**	⇑P	**P**	**11 19 49.9**	**-1.7**
	baz=72,SNR=6.2						
231A	**Bronte**	**71.97**	**336**	⇓P	**P**	**11 19 50.6**	**-1.8**
	baz=72,SNR=12						
329A	**Wagon Wheel Ra**	**72.13**	**335**	⇑P	**P**	**11 19 51.4**	**-2.0**
	baz=72,SNR=8.5						
133A	**Hamilton Ranch**	**72.15**	**338**	⇓P	**P**	**11 19 51.3**	**-2.1**
	baz=72,SNR=17						
230A	**Sterling City**	**72.20**	**336**	⇑P	**P**	**11 19 52.3**	**-1.5**
	baz=73					

Z31A	Sharp Cattle R	73.19 337	⇓P	P	11 19 57.8	-1.8
	baz=74,SNR=13					
UTMT	University of	73.24 347	eP	P	11 20 00.1	+0.4
	comp=Z,114nm,0.8s					
JSRW	J. Sargeant Re	73.29 356	eP	P	11 20 00.7	+0.7
128A	Castleberry Fa	73.33 335	⇓P	P	11 19 58.8	-1.8
	baz=74,SNR=11					
Y33A	Hilltop Ranch,	73.36 338	⇓P	P	11 19 58.5	-2.1
	baz=74,SNR=7.6					
Z30A	Sanderson Ranc	73.48 336	⇑P	P	11 19 59.5	-1.8
	baz=74,SNR=13					
MNTX	Cornudas Mount	73.56 332	eP	P	11 19 59.8	-2.0
	comp=Z,20nm,1.1s					
Y32A	R-V Farms, Ver	73.61 338	⇑P	P	11 20 00.3	-1.8
	baz=74,SNR=11					
BBTS	Babate	73.62 58	P	P	11 19 60.0	-2.4
	comp=Z,13nm,0.4s,baz=7.8,slow=0.3,SNR=2.6					
Z29A	Hungry Hill Ra	73.65 336	⇓P	P	11 20 00.5	-1.9
	baz=74,SNR=18					
X34A	Smith Ranch, M	73.68 339	⇑P	P	11 20 00.8	-1.6
	baz=74,SNR=9.8					
PARMO	Parma	73.72 346	eP	P	11 20 03.0	+0.5
X33A	Lawton	73.82 339	⇓P	P	11 20 01.4	-1.9
	baz=74					
Y31A	Rekieta Farm,	73.82 337	⇑P	P	11 20 01.4	-1.9
	baz=74,SNR=9.3					
Z28A	Tucker Farm, M	73.91 335	⇓P	P	11 20 02.0	-1.9
	baz=74,SNR=5.9					
X32A	Elmer	73.95 338	⇓P	P	11 20 02.1	-1.9
	baz=74,SNR=6.8					
Y30A	Stafford Cattl	73.95 337	⇑P	P	11 20 02.4	-1.7
	baz=74					
PBMO	Poplar Bluff	73.96 346	eP	P	11 20 03.8	-0.2
	comp=Z,215nm,1.8s					
KOMG	Komaggas	73.96 115	eP	P	11 20 04.6	+0.1
KOMG			AMB	AMB	11 20 15.8	
	comp=Z,125nm,2.5s					
KOMG			AMS	AMS	11 54 53.8	
	comp=Z,11μm,16.7s					
WMOK	Wichita Mounta	74.09 339	eP	P	11 20 04.7	-0.1
WMOK			pmax	pmax		
	comp=Z,177nm,2.0s					
WMOK			MLR	MLR		
	comp=Z,4μm,21.0s					
WMOK	Wichita Mounta	74.09 339	eP	P	11 20 04.7	-0.1
	comp=Z,176nm,2.0s					
WMOK			LR	LR		
	comp=Z,4μm,21.0s					
Y29A	Porterfield Fa	74.19 336	⇑P	P	11 20 03.8	-1.7
	baz=75					
W34A	Bridge Creek,	74.26 340	⇓P	P	11 20 04.2	-1.6
	baz=75					
W34A	Bridge Creek,	74.26 340	eP	P	11 20 04.4	-1.4
	comp=Z,134nm,1.4s					
X31A	McDonald Ranch	74.35 338	⇓P	P	11 20 04.2	-2.1
	baz=75,SNR=15					
TUL1	Leonard	74.36 341	⇑P	P	11 20 04.4	-1.9
	baz=75,SNR=7.7					
TUL1	Leonard	74.36 341	eP	P	11 20 04.8	-1.5
	comp=Z,154nm,1.4s					
W33A	Caddo, Fort Co	74.38 339	⇓P	P	11 20 05.5	-1.0
	baz=75					
Y28A	McKinney Farm,	74.42 335	⇑P	P	11 20 05.4	-1.5
	baz=75					
X30A	Coker Ranch, T	74.47 337	⇓P	P	11 20 05.4	-1.7
	baz=75,SNR=7.1					
V35A	Meyer Ranch, C	74.49 340	P	P	11 20 05.0	-2.1
	baz=75					
W32A	Sentinel	74.59 338	⇑P	P	11 20 06.0	-1.8
	baz=75,SNR=22					
DRV	Dumont d'Urvil	74.63 193	P	P	11 19 52.0	-16
DRV			S	SKiKP	11 29 10.0	-20
DRV			SS	**SS**	**11 34 28.0**	**+1.1**
DRV			L	L	11 39 00.0	
DRV			R		11 44 00.0	
SIUC	Southern Illin	74.64 347	eP	P	11 20 07.3	-0.6
	comp=Z,48nm,1.0s					
MSTX	Muleshoe	74.66 335	⇓P	P	11 20 06.4	-1.9
	baz=75,SNR=8.4					
MSTX	Muleshoe	74.66 335	eP	P	11 20 07.0	-1.3
	comp=Z,44nm,1.0s					
WCI	Wyandotte Cave	74.66 350	eP	P	11 20 07.3	-0.8
WCI			pmax	pmax		
	comp=Z,547nm,3.0s					
WCI	Wyandotte Cave	74.66 350	eP	P	11 20 07.3	-0.8
	comp=Z,548nm,3.0s					
Y27A	Causey	74.72 335	⇑P	P	11 20 06.4	-2.2
	baz=75,SNR=9.9					
X29A	Tulia	74.73 336	⇓P	P	11 20 07.0	-1.6
	baz=75					
V34A	Guthrie	74.75 340	⇓P	P	11 20 06.9	-1.7
	baz=75,SNR=9.1					
V34A	Guthrie	74.75 340	eP	P	11 20 07.1	-1.6
	comp=Z,159nm,1.4s					
319A	Douglas	74.84 329	⇓P	P	11 20 08.1	-1.3
	baz=75,SNR=9.1					
W31A	Holland Ranch,	74.86 338	⇓P	P	11 20 07.6	-1.7
	baz=75,SNR=9.6					
V33A	Lossen Ranch,	74.95 339	⇑P	P	11 20 08.2	-1.6
	baz=75,SNR=17					
X28A	Dimmitt	74.96 336	⇑P	P	11 20 08.6	-1.4
	baz=75					
SUR	Sutherland	74.98 119	P	P	11 20 08.5	-2.0
	comp=Z,20nm,1.0s,baz=248,slow=8.4,SNR=8.8					
SUR	Sutherland	74.98 119	P	P	11 20 08.5	-2.0
SUR			LR	LR		
	comp=Z,16μm,19.0s					
RAR	Rarotonga	75.00 255	PFAKE		11 20 20.0	+9.5
RAR			LR	LR		
	comp=Z,2.0nm,20.0s					
V32A	Arapaho	75.08 339	⇓P	P	11 20 09.4	-1.1
	baz=76					
AMTX	Amarillo	75.13 336	⇓P	P	11 20 09.6	-1.4
	baz=76					
AMTX	Amarillo	75.13 336	eP	P	11 20 10.0	-1.0
	comp=Z,184nm,1.4s					
121A	Cookes Peak, D	75.23 331	⇑P	P	11 20 10.9	-0.8
	baz=76,SNR=13					
U34A	Anderson Ranch	75.32 340	⇑P	P	11 20 10.3	-1.6
	baz=76,SNR=6.2					
U34A	Anderson Ranch	75.32 340	eP	P	11 20 11.4	-0.5
	comp=Z,158nm,1.5s					
W29A	Amarillo	75.33 336	⇑P	P	11 20 10.8	-1.4
	baz=76,SNR=8.6					
V31A	Spring Creek L	75.37 338	⇓P	P	11 20 11.0	-1.3
	baz=76,SNR=9.3					
X27A	F and S Farms,	75.39 335	⇑P	P	11 20 11.3	-1.2
	baz=76,SNR=7.9					
OLIL	Olney	75.44 348	eP	P	11 20 11.9	-0.5
	comp=Z,176nm,1.9s					
U33A	Lingo Farm, Me	75.48 340	P	P	11 20 10.9	-1.9
	baz=76					
MVL	Millersville	75.53 358	eP	P	11 20 18.4	+5.4
	comp=Z,126nm,1.4s					
X26A	CR and CF Fran	75.54 335	⇓P	P	11 20 12.1	-1.3
	baz=76,SNR=11					
Z22A	Elephant Butte	75.55 331	⇓P	P	11 20 12.6	-0.9
	baz=76,SNR=10					
Y24A	Capitan	75.57 333	⇓P	P	11 20 12.3	-1.3
	baz=76,SNR=16					
BLO	Bloomington	75.62 350	eP	P	11 20 13.1	-0.4
BLO			pmax	pmax		
	comp=Z,832nm,2.8s					
BLO	Bloomington	75.62 350	eP	P	11 20 13.1	-0.4
	comp=Z,832nm,2.8s					
V30A	Spur Ranch, Mi	75.62 337	⇓P	P	11 20 13.1	-0.6
	baz=76					
W28A	Vega	75.64 336	P	P	11 20 13.3	-0.6
	baz=76					
U32A	Winter Ranch,	75.68 339	⇓P	P	11 20 13.5	-0.5
	baz=76					
SLM	Saint Louis	75.72 347	eP	P	11 20 14.1	0.0
SLM			pmax	pmax		
	comp=Z,839nm,2.4s					
SLM	Saint Louis	75.72 347	eP	P	11 20 14.1	0.0
	comp=Z,839nm,2.4s					
W27A	Bowe Ranch, En	75.75 335	⇓P	P	11 20 13.1	-1.4
	baz=76,SNR=16					
X25A	Clemmons Ranch	75.82 334	⇓P	P	11 20 14.0	-1.0
	baz=76					
U31A	Nine Bar Ranch	75.92 338	⇑P	P	11 20 14.9	-0.5
	baz=76					
V29A	Stinnett	75.98 337	⇑P	P	11 20 15.1	-0.7
	baz=76					
W26A	Owens Ranch, T	76.02 335	⇓P	P	11 20 14.1	-1.9
	baz=76,SNR=15					
V28A	Channing	76.10 336	⇑P	P	11 20 15.2	-1.3
	baz=76					
T33A	Patterson Ranc	76.12 340	⇑P	P	11 20 15.1	-1.3
	baz=76,SNR=13					
ACSO	Alum Creek Sta	76.22 353	eP	P	11 20 14.4	-2.5
	comp=Z,91nm,0.9s					
ACSO			LR	LR		
	comp=Z,8μm,21.0s					
SSPA	Standing Stone	76.22 357	eP	P	11 20 17.8	+0.8
	comp=Z,122nm,1.5s					
TUC	Tucson	76.28 328	eP	P	11 20 16.5	-1.1
TUC			pmax	pmax		
	comp=Z,74nm,1.4s					
TUC			MLR	MLR		
	comp=Z,5μm,19.0s					
TUC	Tucson	76.28 328	eP	P	11 20 16.5	-1.1
	comp=Z,74nm,1.4s					
TUC			LR	LR		
	comp=Z,5μm,19.0s					
V27A	Dan Oppiter Fa	76.31 336	⇓P	P	11 20 16.5	-1.1
	baz=77,SNR=11					
U30A	WK&E Inc. Balk	76.31 338	⇑P	P	11 20 15.6	-2.1
	baz=77,SNR=8.8					
LPM	Los Pinos Moun	76.36 332	eP	P	11 20 17.5	-0.6
LENM	Lemitar	76.36 332	eP	P	11 20 19.0	+0.9
W25A	X Bar L Ranch,	76.37 334	⇑P	P	11 20 16.5	-1.6
	baz=77,SNR=12					
T32A	Huddler Ranch,	76.40 339	⇑P	P	11 20 17.0	-1.1
	baz=77					
U29A	Oasis Ranch, S	76.43 337	⇑P	P	11 20 17.1	-1.2
	baz=77					
LIC	Lamto	76.48 72	eP	P	11 20 19.2	+0.1
	comp=Z,357nm,1.5s					
S33A	Kaszmaul Farm,	76.53 340	⇑P	P	11 20 17.7	-1.1
	baz=77					
T31A	Randall Ranch,	76.55 339	⇓P	P	11 20 17.7	-1.2
	baz=77,SNR=5.2					
V26A	Tequesquite Ra	76.66 335	⇑P	P	11 20 18.2	-1.6
	baz=77,SNR=11					
U28A	Mallet	76.67 337	⇓P	P	11 20 18.7	-1.0
	baz=77					
W24A	Lazy 6 Ranch,	76.71 334	⇓P	P	11 20 18.5	-1.5
	baz=77,SNR=15					
TIC	Toumodi	76.75 72	eP	P	11 20 17.5	-3.1
	comp=Z,21nm,0.2s					
KIC	Kosan Boka	76.79 72	eP	P	11 20 17.6	-3.2
	comp=Z,126nm,0.7s					
ANMO	Albuquerque	76.86 333	ceP	P	11 20 20.1	-0.8
ANMO			pmax	pmax		
	comp=Z,87nm,1.1s					
ANMO			MLR	MLR		
	comp=Z,42μm,15.0s					
ANMO	Albuquerque	76.86 333	eP	P	11 20 20.2	-0.7
	comp=Z,90nm,1.4s					
ANMO			LR	LR		
	comp=Z,13μm,19.0s					
214A	Organ Pipe Nat	76.87 326	⇓P	P	11 20 19.7	-1.2
	baz=77,SNR=9.2					
SFIN	Lafayette	76.89 349	⇓P	P	11 20 19.8	-0.9
	baz=77					
SFIN	Lafayette	76.89 349	eP	P	11 20 19.7	-1.0
	comp=Z,432nm,2.5s					
S32A	Newby Ranch, P	76.89 340	⇓P	P	11 20 20.5	-0.4
	baz=77					
DBIC	Dimbokro	76.89 72	eP	P	11 20 19.6	-1.8
DBIC	Dimbokro	76.89 72	eP	P	11 20 19.3	-2.1
DBIC			pmax	pmax		
	comp=Z,354nm,1.6s					
DBIC	Dimbokro	76.89 72	P	P	11 20 18.2	-3.1
	comp=Z,30nm,0.7s,baz=206,slow=5.8,SNR=22					
DBIC			LR	LR	11 51 04.4	
	comp=Z,7μm,20.4s,baz=212,slow=33					
DBIC	Dimbokro	76.89 72	eP	P	11 20 19.3	-2.1
	comp=Z,354nm,1.6s					
U27A	Thompson Grove	76.91 336	⇓P	P	11 20 20.7	-0.4
	baz=77					
S31A	Mullinville	76.97 339	⇑P	P	11 20 20.2	-1.1
	baz=77,SNR=10					
V25A	Rancho No Teng	76.99 334	⇑P	P	11 20 20.5	-1.1
	baz=77,SNR=22					
T29A	Hugoton	77.09 338	⇓P	P	11 20 21.3	-0.7
	baz=78					
V24A	Rampart Ranch,	77.12 334	⇓P	P	11 20 21.2	-1.2
	baz=78,SNR=9.4					
U26A	Atchley Ranch,	77.19 335	⇑P	P	11 20 21.6	-1.1
	baz=78					
R33A	Olander Ranch,	77.19 340	⇓P	P	11 20 21.7	-0.8
	baz=78,SNR=9.1					
S30A	Montezuma	77.28 338	⇓P	P	11 20 21.8	-1.3
	baz=78,SNR=8.5					
T28A	Walsh	77.31 337	⇓P	P	11 20 21.6	-1.7
	baz=78,SNR=23					
MIR	Mirnyy	77.39 175	eP	P	11 20 34.0	+11
MIR			eS	S	11 30 18.0	+7.1
MIR			ePS	**PnS**	**11 31 00.0**	**+6.9**
MIR			eSS	**SS**	**11 35 12.0**	**+3.4**
MIR			eSSS	SSS	11 38 40.0	
MIR			pmax	pmax		
	comp=Z,2μm,5.0s					
MIR			MLR	MLR		
	comp=N,23μm,18.0s					
MIR			MLR	MLR		
	comp=E,20μm,18.0s					
MIR			MLR	MLR		
	comp=Z,37μm,18.0s					
U25A	Circle Dot Ran	77.42 335	⇑P	P	11 20 22.8	-1.3
	baz=78,SNR=12					
T27A	Campo	77.46 336	P	P	11 20 24.3	+0.1
	baz=78					
S29A	Ulysses	77.46 338	⇓P	P	11 20 23.2	-0.9
	baz=78,SNR=14					
V23A	Ortiz Mt. (NFS	77.47 333	⇓P	P	11 20 24.0	-0.3
	baz=78					
R32A	Long Quarter,	77.50 340	⇑P	P	11 20 23.3	-1.0
	baz=78,SNR=10					
UPI	Upington	77.50 116	eP	P	11 20 26.6	+1.8
UPI			AMB	AMB	11 20 34.0	
	comp=Z,126nm,3.8s					
UPI			AMS	AMS	11 53 30.9	
	comp=Z,9μm,18.1s					
KSU1	Kansas State U	77.58 342	⇑P	P	11 20 24.1	-0.6
	baz=78					
KSU1	Kansas State U	77.58 342	eP	P	11 20 24.8	+0.2
	comp=Z,395nm,2.3s					
KSU1			LR	LR		
	comp=Z,5μm,20.0s					
R31A	Burdett	77.61 339	⇑P	P	11 20 23.7	-1.1
	baz=78,SNR=12					
S28A	Manter	77.68 337	⇑P	P	11 20 23.9	-1.5
	baz=78,SNR=19					
BINY	Binghamton	77.71 358	PFAKE		11 20 40.0	+15
BINY			LR	LR		
	comp=Z,11μm,19.0s					
U24A	Moreno Valley	77.73 334	⇑P	P	11 20 25.0	-0.9
	baz=78					
Q33A	Connelly Farm,	77.80 341	⇑P	P	11 20 24.7	-1.2
	baz=78,SNR=7.6					
ERPA	Erie	77.82 355	eP	P	11 20 26.1	+0.2
	comp=Z,77nm,1.2s					
ERPA			LR	LR		
	comp=Z,7μm,19.0s					
R30A	Dighton	77.82 339	⇓P	P	11 20 25.2	-0.9
	baz=78,SNR=8.8					
T26A	Comanche Natio	77.85 336	⇑P	P	11 20 25.4	-1.0
	baz=78,SNR=17					
X18A	Snowflake	77.85 330	⇑P	P	11 20 25.7	-0.8
	baz=78					
V22A	San Miguel Ran	77.88 333	⇓P	P	11 20 26.0	-0.7
	baz=78,SNR=25					
U23A	El Rito	77.99 334	⇑P	P	11 20 26.7	-0.6
	baz=78,SNR=17					
113A	Mohawk Valley,	77.99 326	⇓P	P	11 20 26.4	-0.7
	baz=78					
Q32A	Meitler Ranch,	77.99 340	⇑P	P	11 20 26.3	-0.6
	baz=78,SNR=7.2					
T25A	Trinidad	78.09 335	⇑P	P	11 20 27.0	-0.8
	baz=78,SNR=35					
Z14A	Wintersburg	78.12 327	P	P	11 20 27.0	-0.8
	baz=78					
CASY	Casey	78.15 182	eP	P	11 20 28.9	+1.4
CASY			LR	LR		
	comp=Z,555nm,1.8s					
	comp=Z,28μm,19.0s					
P33A	Williams Farm,	78.18 341	P	P	11 20 27.7	-0.3
	baz=79					
R29A	Marienthal	78.21 338	⇑P	P	11 20 27.7	-0.6
	baz=79					
TRY	Troy	78.21 360	eP	P	11 20 29.7	+1.7
	comp=Z,116nm,1.2s					
S26A	Kim	78.21 336	⇑P	P	11 20 26.9	-1.4
	baz=79,SNR=24					
Q31A	Ellis	78.24 340	⇓P	P	11 20 27.2	-1.1
	baz=79,SNR=14					
U22A	Llaves	78.27 333	⇑P	P	11 20 28.3	-0.6
	baz=79,SNR=18					
W18A	Petrified Fore	78.28 330	⇓P	P	11 20 27.9	-1.0
	baz=79,SNR=6.2					
W18A	Petrified Fore	78.28 330	eP	P	11 20 29.5	+0.7
	comp=Z,132nm,1.3s					
AAM	Ann Arbor	78.33 352	eP	P	11 20 28.4	-0.3
AAM			pmax	pmax		
	comp=Z,260nm,1.6s					
AAM			MLR	MLR		
	comp=Z,7μm,20.0s					
AAM	Ann Arbor	78.33 352	eP	P	11 20 28.4	-0.3
	comp=Z,260nm,1.6s					
AAM			LR	LR		
	comp=Z,7μm,20.0s					
R28A	Tribune	78.34 338	⇓P	P	11 20 27.8	-1.2
	baz=79,SNR=16					
T24B	San Luis	78.36 334	⇓P	P	11 20 28.3	-1.0
	baz=79,SNR=17					
X16A	Lo Mia Camp, P	78.38 329	⇑P	P	11 20 28.7	-0.7
	baz=79					
GRM	Grahamstown	78.42 123	eP	P	11 20 26.9	-2.9
GRM			AMB	AMB	11 20 38.6	
	comp=Z,159nm,3.5s					
GRM			AMS	AMS	11 52 01.1	
	comp=Z,10μm,17.2s					
Q30A	Quinter	78.45 339	⇑P	P	11 20 28.5	-1.0
	baz=79,SNR=32					
T23A	Casias Ranch,	78.56 334	⇑P	P	11 20 29.9	-0.6
	baz=79,SNR=10					
S25A	Robets Cordova	78.57 335	⇓P	P	11 20 29.6	-0.8
	baz=79,SNR=17					
Q29A	Oakley	78.59 338	⇓P	P	11 20 29.5	-0.8
	baz=79,SNR=14					
P32A	Huiting Farm,	78.59 340	⇑P	P	11 20 29.0	-1.2
	baz=79,SNR=11					
R27A	Eads	78.60 337	⇑P	P	11 20 29.1	-1.4
	baz=79,SNR=10					
Y14A	Wickenburg	78.64 327	⇓P	P	11 20 30.0	-0.7
	baz=79,SNR=7.7					
GLA	Glamis	78.71 326	eP	P	11 20 33.0	+1.9
GLA			pmax	pmax		
	comp=Z,193nm,1.9s					
GLA	Glamis	78.71 326	⇓P	P	11 20 29.7	-1.4
	baz=79					
GLA	Glamis	78.71 326	eP	P	11 20 33.0	+1.9
	comp=Z,193nm,1.9s					
P31A	Stockton	78.71 340	⇓P	P	11 20 29.8	-1.1
	baz=79,SNR=11					
S24A	Houchin Ranch,	78.82 335	⇓P	P	11 20 31.4	-0.5
	baz=79,SNR=26					
R26A	Arlington	78.82 336	⇓P	P	11 20 30.0	-1.7
	baz=79,SNR=16					
ACCN	Adirondack Com	78.86 360	eP	P	11 20 32.5	+0.9
	comp=Z,153nm,1.5s					
R25A	Fountain Ranch	78.96 336	⇑P	P	11 20 31.1	-1.3
	baz=79,SNR=8.8					
P30A	Selden	78.98 339	⇑P	P	11 20 31.8	-0.7
	baz=79					
Q28A	Sharon Springs	79.01 338	⇑P	P	11 20 31.2	-1.5
	baz=79,SNR=9.8					
SDCO	Great Sand Dun	79.01 335	eP	P	11 20 32.4	-0.6
	comp=Z,472nm,3.0s					
SWSC	Sam W. Stewart	79.07 325	⇑P	P	11 20 32.5	-0.5
	baz=80					
O32A	Brockman Farm,	79.10 341	⇓P	P	11 20 32.8	-0.2
	baz=80					
S23A	Nye Farm, Mont	79.15 334	⇓P	P	11 20 33.2	-0.5
	baz=80					
KSCO	Kaye Shedlock'	79.21 337	⇓P	P	11 20 32.8	-1.0
	baz=80,SNR=9.1					
KSCO	Kaye Shedlock'	79.21 337	eP	P	11 20 34.3	+0.5
	comp=Z,293nm,1.8s					
P29A	Atwood	79.23 339	⇑P	P	11 20 32.9	-0.9
	baz=80,SNR=25					
BAR	Barrett	79.27 324	eP	P	11 20 35.0	+0.9
	comp=Z,43nm,1.3s					
HVD	Gariep Dam	79.28 120	eP	P	11 20 34.1	-0.6
HVD			AMB	AMB	11 20 49.7	
	comp=Z,109nm,1.9s					
HVD			AMS	AMS	11 52 14.4	
	comp=Z,7μm,20.5s					
O31A	Woolen Ranch,	79.29 340	⇓P	P	11 20 33.6	-0.5
	baz=80					
WUAZ	Wupatki	79.29 329	⇑P	P	11 20 33.4	-1.0
	baz=80,SNR=14					
WUAZ	Wupatki	79.29 329	eP	P	11 20 34.1	-0.3
	comp=Z,65nm,1.3s					
WUAZ			LR	LR		
	comp=Z,6μm,19.0s					
R24A	Sanders Place,	79.31 335	⇑P	P	11 20 33.9	-0.5
	baz=80,SNR=24					
MONP	Monument Peak,	79.32 324	⇓P	P	11 20 33.7	-1.0
	baz=80					
Q26A	Hugo	79.41 337	⇓P	P	11 20 34.4	-0.6
	baz=80,SNR=12					
PDMCI	Parker Dam,Lak	79.45 327	⇓P	P	11 20 34.1	-0.9
	baz=80					
NCB	Newcomb	79.45 359	PFAKE		11 20 50.0	+15
NCB			LR	LR		
	comp=Z,7μm,20.0s					
P28A	Saint Francis	79.45 338	⇓P	P	11 20 34.5	-0.6
	baz=80,SNR=13					
SCIA	State Center	79.47 345	eP	P	11 20 35.2	+0.3
	comp=Z,275nm,1.7s					
SCIA			LR	LR		
	comp=Z,5μm,20.0s					
MDV	Middlebury	79.48 0	eP	P	11 20 35.8	+0.8
S22A	4UR Ranch, Cre	79.48 334	⇑P	P	11 20 34.7	-0.8
	baz=80,SNR=17					
BC3	Big Chuckawall	79.50 325	⇓P	P	11 20 34.8	-0.7
	baz=80,SNR=12					
O30A	MW Ranch, Wils	79.52 340	⇓P	P	11 20 35.1	-0.3
	baz=80					
R23A	Moffat	79.52 335	⇑P	P	11 20 35.1	-0.7
	baz=80,SNR=12					
N32A	Stulken Farm,	79.58 341	⇓P	P	11 20 35.0	-0.6
	baz=80					
MVCO	Mesa Verde	79.62 332	⇓P	P	11 20 35.2	-1.0
	baz=80,SNR=23					
MVCO	Mesa Verde	79.62 332	PFAKE		11 20 50.0	+14
MVCO			LR	LR		
	comp=Z,16μm,19.0s					
Q25A	Bedland, Calha	79.64 336	⇑P	P	11 20 35.5	-0.8
	baz=80,SNR=13					
O29A	4D Ranch, Culb	79.68 339	⇑P	P	11 20 36.2	-0.1
	baz=80,SNR=7.3					
P27A	Ficken Ranch,	79.69 338	⇓P	P	11 20 35.9	-0.5
	baz=80,SNR=8.2					
LBNH	Lisbon	79.73 1	PFAKE		11 20 50.0	+14
LBNH			LR	LR		
	comp=Z,7μm,19.0s					
IRM	Iron Mountain	79.78 326	⇑P	P	11 20 36.3	-0.7
	baz=80					
N31A	Bailey Ranch,	79.81 341	P	P	11 20 36.2	-0.7
	baz=80					
TSUM	Tsumeb	79.85 106	P	P	11 20 36.0	-1.9
	comp=Z,4.4nm,0.8s,baz=210,slow=5.6,SNR=7.3					
TSUM	Tsumeb	79.85 106	P	P	11 20 36.0	-1.9
TSUM			LR	LR		
	comp=Z,9μm,19.0s					
JFWS	Jewell Farm	79.87 348	eP	P	11 20 36.9	-0.2
JFWS			pmax	pmax		
	comp=Z,234nm,1.7s					
JFWS			MLR	MLR		
	comp=Z,9μm,20.0s					
JFWS	Jewell Farm	79.87 348	eP	P	11 20 36.9	-0.2
	comp=Z,234nm,1.7s					
JFWS			LR	LR		
	comp=Z,9μm,20.0s					
PFO	Pinyon Flats O	79.93 325	⇑P	P	11 20 37.6	-0.3
	baz=80,SNR=10					
PFO	Pinyon Flats O	79.93 325	PFAKE		11 20 50.0	+12
PFO			LR	LR		
	comp=Z,5μm,22.0s					
P26A	Davis Ranch, A	79.93 337	⇑P	P	11 20 37.2	-0.6
	baz=80,SNR=12					
O28A	Krutsinger Ran	79.97 338	⇑P	P	11 20 37.1	-0.7
	baz=80,SNR=16					
Q24A	Divide	79.98 335	⇓P	P	11 20 37.2	-1.1
	baz=80,SNR=16					
W13A	Hualapai Mount	80.01 327	⇑P	P	11 20 37.5	-0.8
	baz=80					
BELC	Belle Mtn. Jos	80.04 325	⇑P	P	11 20 38.0	-0.4
	baz=80					

NEE2	Needles Airpor	80.05	327	⇑P	P	11 20 37.9	-0.4
	baz=80						
PTN	Potsdam (NY)	80.06	359	eP	P	11 20 39.2	+1.1
PTN				pmax	pmax		
	comp=Z,560nm,1.9s						
PTN	Potsdam (NY)	80.06	359	eP	P	11 20 39.2	+1.1
	comp=Z,560nm,1.9s						
LONY	Lake Ozonia	80.10	359	eP	P	11 20 39.1	+0.8
LONY	comp=Z,139nm,1.4s			LR	LR		
	comp=Z,7µm,19.0s						
BGNE	Belgrade	80.15	341	⇑P	P	11 20 38.6	-0.1
	baz=80						
BGNE	Belgrade	80.15	341	eP	P	11 20 39.2	+0.5
	comp=Z,165nm,1.4s						
P25A	Willow Gulch B	80.16	336	⇓P	P	11 20 38.1	-0.9
	baz=80,SNR=20						
O27A	Beecher Island	80.24	338	⇑P	P	11 20 39.1	-0.3
	baz=81						
BOSA	Boshof	80.26	118	eP	P	11 20 38.0	-2.0
BOSA				AMB	AMB	11 20 48.5	
	comp=Z,119nm,3.5s						
BOSA				AMS	AMS	11 54 52.0	
	comp=Z,10µm,18.1s						
BOSA	Boshof	80.26	118	P	P	11 20 38.3	-1.7
BOSA	Boshof	80.26	118	P	P	11 20 38.3	-1.7
	comp=Z,22nm,0.7s,baz=238,slow=4.2,SNR=30						
BOSA				LR	LR	11 55 00.6	
	comp=Z,9µm,18.2s,baz=228,slow=35						
BOSA	Boshof	80.26	118	i P	P	11 20 41.2	+1.2
N29A	Votaw Ranch, W	80.27	339	⇓P	P	11 20 38.7	-0.7
	baz=81,SNR=7.7						
MURC	Murrieta	80.27	324	⇓P	P	11 20 39.2	-0.4
	baz=81,SNR=9.8						
M31A	Lambtecht Ranc	80.30	341	⇓P	P	11 20 39.0	-0.5
	baz=81,SNR=11						
P24A	Kohler Place,	80.40	336	⇑P	P	11 20 40.5	+0.2
	baz=81						
N28A	Pribbeno Ranch	80.41	339	⇑P	P	11 20 40.4	+0.1
	baz=81,SNR=7.9						
U15A	North Rim	80.45	329	⇓P	P	11 20 40.3	-0.5
	baz=81,SNR=13						
GMRC	Granite Mounta	80.53	326	⇓P	P	11 20 40.8	-0.2
	baz=81,SNR=20						
O26A	Horse Wrangler	80.55	337	⇓P	P	11 20 40.7	-0.3
	baz=81,SNR=12						
P23A	Jefferson	80.59	335	⇑P	P	11 20 41.3	-0.2
	baz=81						
O25A	Wiggins	80.68	337	⇓P	P	11 20 41.4	-0.3
	baz=81,SNR=12						
BBRC	Big Bear Solar	80.69	325	P	P	11 20 41.9	-0.1
	baz=81						
M30A	Dale-Ortello V	80.73	340	⇓P	P	11 20 42.0	+0.2
	baz=81						
OGNE	Ogallala	80.80	338	⇓P	P	11 20 42.4	+0.1
	baz=81						
OGNE	Ogallala	80.80	338	PFAKE		11 20 50.0	+7.7
OGNE				LR	LR		
	comp=Z,6µm,19.0s						
SMCO	Snowmass	80.81	334	eP	P	11 20 42.3	-0.5
	comp=Z,92nm,1.4s						
PV04	Paradox Valley	80.82	333	eP	P	11 20 43.0	+0.4
N27A	Anderson Farm,	80.82	338	⇓P	P	11 20 42.4	0.0
	baz=81						
PKME	Peaks-Kenny Pk	80.83	3	PFAKE		11 20 50.0	+7.8
PKME				LR	LR		
	comp=Z,5µm,20.0s						
M29A	Burnside Ranch	80.87	340	P	P	11 20 43.1	+0.5
	baz=81						
HEC	Hector,Ludlow	80.88	325	⇑P	P	11 20 42.3	-0.6
	baz=81,SNR=13						
FMP	Fort Macarthur	80.89	323	P	P	11 20 42.8	-0.1
	baz=81						
ISCO	Idaho Springs	80.89	335	eP	P	11 20 42.6	-0.5
ISCO				pmax	pmax		
	comp=Z,231nm,2.5s						
ISCO				MLR	MLR		
	comp=Z,6µm,19.0s						
ISCO	Idaho Springs	80.89	335	⇓P	P	11 20 42.2	-0.9
	baz=81,SNR=14						
ISCO	Idaho Springs	80.89	335	eP	P	11 20 42.6	-0.5
	comp=Z,231nm,2.5s						
ISCO				LR	LR		
	comp=Z,6µm,19.0s						
BFSC	Mount Baldy Ra	81.02	324	⇑P	P	11 20 43.1	-0.6
	baz=81						
M28A	Bar X Bar Ranc	81.02	339	⇑P	P	11 20 43.2	-0.2
	baz=81						
SNZO	South Karori	81.02	225	PFAKE		11 21 00.0	+16
SNZO				LR	LR		
	comp=Z,8µm,19.0s						
L31A	Butterfield Fa	81.04	341	⇓P	P	11 20 42.6	-0.9
	baz=81,SNR=17						
N26A	Koester Ranch,	81.05	338	⇑P	P	11 20 43.0	-0.7
	baz=81						
L30A	Spencer Herefo	81.07	341	⇑P	P	11 20 43.5	-0.2
	baz=81,SNR=10						
P22A	Eagle	81.10	335	⇓P	P	11 20 44.3	+0.1
	baz=82,SNR=14						
SWZ	Schweizer	81.14	117	eP	P	11 20 42.0	-2.8
SWZ				AMB	AMB	11 20 50.6	
	comp=Z,121nm,2.2s						
SWZ				AMS	AMS	11 56 43.4	
	comp=Z,18µm,18.6s						
MWC	Mount Wilson	81.19	324	eP	P	11 20 43.7	-1.0
MWC				pmax	pmax		
	comp=Z,74nm,1.3s						
MWC	Mount Wilson	81.19	324	eP	P	11 20 43.7	-1.0
	comp=Z,74nm,1.3s						
TUQ	Turquoise Moun	81.20	326	⇓P	P	11 20 44.1	-0.5
	baz=82						
BKZ	Black Stump Fm	81.34	228	eP	P	11 20 47.9	+2.4
	comp=Z,445nm,2.2s						
O23A	Lake Granby, G	81.36	335	⇑P	P	11 20 45.0	-0.5
	baz=82,SNR=24						
GSC	Goldstone, Bar	81.49	325	eP	P	11 20 46.4	+0.3
GSC				pmax	pmax		
	comp=Z,65nm,1.4s						
GSC	Goldstone, Bar	81.49	325	⇓P	P	11 20 45.5	-0.6
	baz=82,SNR=10						
GSC	Goldstone, Bar	81.49	325	eP	P	11 20 46.4	+0.3
	comp=Z,65nm,1.4s						
O22A	Kremmling	81.53	335	⇑P	P	11 20 45.6	-0.9
	baz=82,SNR=18						
N24A	Carr	81.58	336	⇓P	P	11 20 47.0	+0.5
	baz=82,SNR=8.0						
L28A	Connealy Angus	81.62	339	⇑P	P	11 20 46.0	-0.6
	baz=82						
EDW2	Edwards Air Fo	81.69	324	⇑P	P	11 20 46.6	-0.6
	baz=82,SNR=9.6						
K30A	Basset	81.71	341	⇓P	P	11 20 46.3	-0.8
	baz=82,SNR=22						
SHPR	Sheep Range	81.75	327	eP	P	11 20 47.5	-0.1
CCUT	Cedar City	81.86	329	eP	P	11 20 40.7	-7.5
	comp=Z,150nm,1.6s						
M25A	Palm-Egli Farm	81.86	337	⇓P	P	11 20 47.5	-0.5
	baz=82						
ECSD	EROS Data Cent	81.96	343	⇓P	P	11 20 47.7	-0.6
	baz=82,SNR=34						
ECSD	EROS Data Cent	81.96	343	PFAKE		11 21 00.0	+12
ECSD				LR	LR		
	comp=Z,6µm,19.0s						
K29A	Lazy Trails An	81.98	340	⇓P	P	11 20 48.2	-0.3
	baz=82,SNR=8.4						
N23A	Red Feather La	81.99	336	⇓P	P	11 20 48.6	-0.3
	baz=82,SNR=12						
LRMC	Laurel Mtn Rad	82.04	325	⇑P	P	11 20 48.6	-0.4
	baz=82,SNR=13						
KSD	Kokstad	82.05	122	eP	P	11 20 47.1	-2.4
KSD				AMB	AMB	11 20 54.9	
	comp=Z,56nm,5.5s						
KSD				AMS	AMS	11 56 26.8	
	comp=Z,3µm,23.9s						
SRU	San Rafael Swe	82.06	332	eP	P	11 20 48.5	-0.6
SRU				pmax	pmax		
	comp=Z,55nm,1.2s						
SRU	San Rafael Swe	82.06	332	eP	P	11 20 48.5	-0.6
	comp=Z,55nm,1.2s						
N22A	Wattenberg Ran	82.08	335	⇓P	P	11 20 49.0	-0.3
	baz=82,SNR=16						
O20A	White River Ci	82.11	334	⇑P	P	11 20 49.2	-0.2
	baz=82						
SEK	Senekal	82.12	119	eP	P	11 20 47.4	-2.5
SEK				AMB	AMB	11 20 58.5	
	comp=Z,132nm,3.5s						
SEK				AMS	AMS	11 56 27.1	
	comp=Z,12µm,17.6s						
M24A	Cheyenne	82.14	337	⇑P	P	11 20 48.6	-0.9
	baz=82,SNR=12						
PHWY	Pilot Hill	82.19	336	eP	P	11 20 49.3	-0.6
	comp=Z,55nm,1.3s						
MVU	Marysvale	82.20	330	eP	P	11 20 50.0	0.0
	comp=Z,56nm,1.3s						
K28A	Ten Mile Ranch	82.23	340	⇑P	P	11 20 49.3	-0.5
	baz=83,SNR=11						
J30A	Dallas	82.29	341	⇓P	P	11 20 49.8	-0.3
	baz=83,SNR=10						
M23A	Laramie	82.43	336	⇓P	P	11 20 50.4	-0.7
	baz=83,SNR=13						
K27A	Flueckinger Fa	82.47	339	⇑P	P	11 20 50.6	-0.5
	baz=83,SNR=9.9						
FURC	Furnace Creek,	82.48	326	⇑P	P	11 20 50.7	-0.4
	baz=83,SNR=11						
TMUT	Trail Mountain	82.48	331	eP	P	11 20 52.1	+0.6
	comp=Z,175nm,1.6s						
L25A	Engebretsen Ra	82.49	338	⇓P	P	11 20 50.7	-0.6
	baz=83						
ISA	Isabella, Lake	82.56	325	eP	P	11 20 51.8	+0.1
ISA				pmax	pmax		
	comp=Z,67nm,1.3s						
ISA	Isabella, Lake	82.56	325	⇑P	P	11 20 51.1	-0.6
	baz=83,SNR=13						
ISA	Isabella, Lake	82.56	325	eP	P	11 20 51.8	+0.1
	comp=Z,67nm,1.3s						
SPMN	Marine on St.	82.57	346	⇓P	P	11 20 51.0	-0.5
	baz=83						
SPMN	Marine on St.	82.57	346	eP	P	11 20 51.1	-0.3
	comp=Z,414nm,2.5s						
J29A	Okreek	82.59	341	⇑P	P	11 20 50.3	-1.3
	baz=83,SNR=32						
DAC	Darwin (Calif)	82.65	325	eP	P	11 20 52.5	+0.2
DAC				pmax	pmax		
	comp=Z,93nm,1.4s						
DAC	Darwin (Calif)	82.65	325	eP	P	11 20 52.5	+0.2
	comp=Z,93nm,1.4s						
M22A	Cedar Creek Ra	82.66	336	⇑P	P	11 20 52.5	+0.2
	baz=83						
L24A	Wheatland	82.69	337	⇓P	P	11 20 52.3	0.0
	baz=83						
K26A	Motz Farm, Whi	82.75	338	P	P	11 20 51.4	-1.1
	baz=83						
PRYS	Parys	82.75	118	eP	P	11 20 52.0	-1.2
PRYS				AMB	AMB	11 21 15.6	
	comp=Z,44nm,2.5s						
PRYS				AMS	AMS	11 55 07.5	
	comp=Z,6µm,19.6s						
I30A	Oacoma	82.82	341	⇑P	P	11 20 52.0	-0.8
	baz=83,SNR=17						
J28A	Allard Ranch,	82.85	340	⇓P	P	11 20 51.9	-1.1
	baz=83,SNR=15						
K25A	Mack Ranch, Ha	82.88	338	⇑P	P	11 20 52.9	-0.3
	baz=83						
J27A	Elkhorn Farm,	82.91	339	⇑P	P	11 20 53.0	-0.4
	baz=83,SNR=16						
VES	Vestal, Richgr	83.00	324	⇓P	P	11 20 53.1	-0.8
	baz=83,SNR=16						
L23A	Garrett	83.00	336	⇓P	P	11 20 53.2	-0.8
	baz=83,SNR=7.3						
SMMC	Simmler	83.01	323	⇑P	P	11 20 53.5	-0.5
	baz=83						
KSR	Koster	83.06	117	eP	P	11 20 53.5	-1.4
KSR				AMB	AMB	11 21 03.6	
	comp=Z,48nm,3.3s						
WDLM	Western Deep L	83.10	118	eP	P	11 20 53.0	-2.1
WDLM				AMB	AMB	11 21 03.4	
	comp=Z,91nm,4.1s						
GRAC	Grapevine Rang	83.14	326	⇑P	P	11 20 54.1	-0.6
	baz=84						
I29A	Vivian Onida	83.15	341	⇓P	P	11 20 54.0	-0.5
	baz=84,SNR=6.9						
L22A	Ellis Ranch, M	83.17	336	⇓P	P	11 20 54.3	-0.6
	baz=84						
BRSD	Miller	83.20	342	⇓P	P	11 20 54.4	-0.3
	baz=84						
BRSD	Miller	83.20	342	eP	P	11 20 55.0	+0.3
	comp=Z,85nm,1.1s						
K24A	Anderson Ranch	83.27	337	⇑P	P	11 20 54.9	-0.4
	baz=84						
MPU	Maple Canyon	83.27	331	eP	P	11 20 55.0	-0.4
	comp=Z,118nm,1.5s						
J26A	Sides Ranch, S	83.28	339	⇓P	P	11 20 54.6	-0.6
	baz=84,SNR=8.9						
I28A	Midland	83.36	340	⇓P	P	11 20 54.8	-0.8
	baz=84,SNR=10						
NLU	North Lily Min	83.39	331	eP	P	11 20 56.2	+0.1
	comp=Z,175nm,1.8s						
RCTC	Rector, Farmer	83.45	324	⇓P	P	11 20 55.5	-0.6
	baz=84						
DAU	Daniels Canyon	83.47	332	eP	P	11 20 56.3	-0.3
DAU	Daniels Canyon	83.47	332	eP	P	11 20 56.3	-0.3
R11A	Troy Canyon, C	83.47	328	⇑P	P	11 20 55.7	-0.8
	baz=84,SNR=22						
R11A	Troy Canyon, C	83.47	328	eP	P	11 20 49.1	-7.4
	comp=Z,82nm,1.4s						
K23A	Bowen Ranch, D	83.55	337	⇑P	P	11 20 55.6	-1.1
	baz=84,SNR=11						
J25A	Sunshine Ranch	83.56	338	⇑P	P	11 20 56.8	+0.1
	baz=84						
CRWM	Crown Mines	83.64	118	eP	P	11 20 58.3	+0.4
CRWM				AMB	AMB	11 21 04.9	
	comp=Z,98nm,2.4s						
I27A	Quinn	83.67	340	⇓P	P	11 20 56.3	-1.0
	baz=84,SNR=5.9						
H29A	Onida	83.69	341	⇑P	P	11 20 56.1	-1.2
	baz=84,SNR=15						
OBSV	Observatory	83.71	118	eP	P	11 20 55.7	-2.6
OBSV				AMB	AMB	11 21 06.5	
	comp=Z,66nm,3.5s						
ERPM	east rand prop	83.73	118	eP	P	11 20 56.0	-2.4
ERPM				AMB	AMB	11 21 11.1	
	comp=Z,90nm,2.3s						
K22A	Casper	83.75	336	⇓P	P	11 20 56.8	-1.0
	baz=84,SNR=19						
K22A	Casper	83.75	336	eP	P	11 20 57.2	-0.6
	comp=Z,217nm,1.8s						
J24A	Dixon Ranch, L	83.77	338	⇓P	P	11 20 57.4	-0.5
	baz=84						
I26A	New Underwood	83.87	339	⇑P	P	11 20 57.9	-0.4
	baz=84						
RAO	Raoul Island	83.88	238	PFAKE		11 21 10.0	+11
RAO				LR	LR		
	comp=Z,4µm,20.0s						
DUG	Dugway, Tooele	83.89	331	eP	P	11 20 57.8	-0.7
DUG				pmax	pmax		
	comp=Z,118nm,1.2s						
DUG				MLR	MLR		
	comp=Z,4µm,19.0s						
DUG	Dugway, Tooele	83.89	331	⇑P	P	11 20 57.9	-0.6
	baz=84,SNR=28						
DUG	Dugway, Tooele	83.89	331	eP	P	11 20 57.8	-0.7
	comp=Z,118nm,1.2s						
DUG				LR	LR		
	comp=Z,4µm,19.0s						
G30A	Faulkton	83.89	342	⇑P	P	11 20 57.8	-0.4
	baz=84,SNR=15						
CTU	Camp Tracy	83.90	332	eP	P	11 20 58.4	-0.2
	comp=Z,350nm,2.9s						
H28A	Mission Ridge	83.95	341	⇓P	P	11 20 57.6	-0.9
	baz=84,SNR=11						
TPH	Tonopah	83.96	327	eP	P	11 20 58.7	-0.3
TPH				pmax	pmax		
	comp=Z,82nm,1.3s						
TPH	Tonopah	83.96	327	eP	P	11 20 58.7	-0.3
	comp=Z,82nm,1.3s						
K21A	Alcova	83.98	336	⇑P	P	11 20 58.0	-1.0
	baz=84,SNR=18						
MTUM	Tungsten Hills	83.98	325	eP	P	11 20 52.1	-7.1
I25A	Rochford	84.11	339	⇓P	P	11 20 58.7	-0.9
	baz=84,SNR=13						
SLR	Silverton	84.13	117	eP	P	11 20 59.5	-0.8
SLR				AMB	AMB	11 21 08.5	
	comp=Z,117nm,3.5s						
SLR				AMS	AMS	11 57 51.4	
	comp=Z,6µm,17.5s						
G29A	Hoven	84.14	342	⇓P	P	11 20 59.1	-0.4
	baz=84						
H27A	Howes	84.20	340	⇓P	P	11 20 58.9	-1.0
	baz=85,SNR=11						
I24A	Kuemmerle Ranc	84.24	338	⇑P	P	11 20 59.5	-0.7
	baz=85						
G28A	Parade	84.29	341	⇓P	P	11 20 59.6	-0.7
	baz=85,SNR=16						
RSSD	Black Hills	84.30	338	eP	P	11 21 00.2	-0.4
RSSD				pmax	pmax		
	comp=Z,26nm,1.1s						
RSSD	Black Hills	84.30	338	eP	P	11 21 00.2	-0.4
	comp=Z,26nm,1.1s						
MLAC	Mammoth, Mammo	84.33	325	⇑P	P	11 21 00.0	-1.0
	baz=85,SNR=14						
H26A	Fairpoint	84.38	339	⇑P	P	11 20 59.8	-1.0
	baz=85						
J22A	Midwest	84.42	337	⇑P	P	11 21 00.1	-1.0
	baz=85,SNR=8.3						
CRZF	Crozet Islands	84.49	145	P	P	11 20 39.0	-23
F30A	Leola	84.52	342	⇑P	P	11 21 00.7	-0.7
	baz=85						
BGU	Big Grassy Mou	84.59	331	eP	P	11 21 02.3	+0.2
	comp=Z,226nm,2.8s						
HWUT	Hardware Ranch	84.61	332	PFAKE		11 21 10.0	+7.7
HWUT				LR	LR		
	comp=Z,11µm,21.0s						
H25A	Fruitdale	84.62	339	⇓P	P	11 21 01.2	-0.9
	baz=85,SNR=8.3						
J21A	Lysite	84.68	336	⇑P	P	11 21 01.3	-1.2
	baz=85,SNR=11						
F29A	Eureka	84.72	342	⇓P	P	11 21 01.6	-0.8
	baz=85,SNR=15						
NVAR	Mina Array Bea	84.74	326	P	P	11 21 02.0	-1.0
	comp=Z,8.0nm,0.7s,baz=153,slow=6.0,SNR=26						
NVAR				PKKPbc	PKKPbc	11 39 15.6	+2.4
	comp=Z,0.5nm,0.8s,baz=281,slow=5.6,SNR=3.8						
G27A	Dupree	84.85	340	⇑P	P	11 21 02.2	-1.0
	baz=85,SNR=6.6						
I22A	9 Mile Ranch,	84.85	337	⇑P	P	11 21 02.4	-0.9
	baz=85,SNR=11						
BW06	Boulder Array	84.89	334	PFAKE		11 21 10.0	+6.3
BW06				LR	LR		
	comp=Z,11µm,20.0s						
PDAR	Pinedale Array	84.89	334	P	P	11 21 02.2	-1.5
	comp=Z,9.5nm,1.1s,baz=151,slow=3.4,SNR=26						
PDAR				PKKPbc	PKKPbc	11 39 22.4	+9.3
	comp=Z,0.4nm,0.8s,baz=215,slow=1.8,SNR=3.6						
PDAR				LR	LR	11 54 59.9	
	comp=Z,9µm,19.2s,baz=150,slow=33						
J20A	Shoshoni	84.90	335	⇑P	P	11 21 03.0	-0.5
	baz=85,SNR=18						
G26A	Maurine	84.95	340	⇑P	P	11 21 02.7	-1.0
	baz=85,SNR=13						
EYMN	Ely	84.97	348	eP	P	11 21 03.4	-0.2
EYMN	comp=Z,58nm,1.2s			LR	LR		
	comp=Z,7µm,19.0s						
F28A	McLaughlin	84.98	341	⇑P	P	11 21 02.8	-0.9
	baz=85,SNR=15						
H24A	Dirks Ranch, A	85.02	338	⇑P	P	11 21 02.9	-1.2
	baz=85,SNR=16						
I21A	Big Trails, Te	85.04	336	⇑P	P	11 21 03.4	-0.9
	baz=85,SNR=16						
G25A	Newell	85.09	339	⇓P	P	11 21 03.8	-0.6
	baz=86,SNR=15						
E30A	Jud	85.11	343	⇑P	P	11 21 03.8	-0.6
	baz=86,SNR=13						
J19A	Crowheart	85.15	335	⇑P	P	11 21 04.3	-0.6
	baz=86,SNR=19						
HVU	Hansel Valley	85.22	332	eP	P	11 21 01.9	-3.4
HVU				pmax	pmax		
	comp=Z,99nm,1.3s						
HVU	Hansel Valley	85.22	332	eP	P	11 21 01.9	-3.4
	comp=Z,99nm,1.3s						
WAKR	Walker	85.32	326	eP	P	11 21 06.1	+0.2
F27A	Lemmon	85.33	340	⇑P	P	11 21 05.0	-0.5
	baz=86,SNR=14						
ELK	Elko	85.33	329	eP	P	11 21 06.2	+0.3
ELK				pmax	pmax		
	comp=Z,87nm,1.6s						
ELK	Elko	85.33	329	eP	P	11 21 06.2	+0.3
	comp=Z,87nm,1.6s						
E29A	Napoleon	85.35	342	⇑P	P	11 21 05.2	-0.4
	baz=86,SNR=12						
CMB	Columbia Colle	85.38	325	eP	P	11 21 06.6	+0.6
CMB				pmax	pmax		
	comp=Z,412nm,2.8s						
CMB	Columbia Colle	85.38	325	eP	P	11 21 06.6	+0.6
	comp=Z,412nm,2.8s						
I20A	Worland	85.44	336	⇓P	P	11 21 05.4	-0.9
	baz=86,SNR=14						
AHID	Auburn Hatcher	85.44	333	PFAKE		11 21 20.0	+14
AHID				LR	LR		
	comp=Z,10µm,19.0s						
F26A	Lodgepole	85.48	340	⇓P	P	11 21 05.3	-1.0
	baz=86,SNR=16						
G24A	Alzada	85.51	339	⇓P	P	11 21 05.2	-1.3
	baz=86,SNR=13						
E28A	Huff	85.62	342	⇓P	P	11 21 06.0	-0.9
	baz=86,SNR=6.7						
D30A	Buchanan	85.64	343	⇓P	P	11 21 05.7	-1.3
	baz=86,SNR=14						
G23A	Biddle	85.69	338	⇑P	P	11 21 06.1	-1.3
	baz=86,SNR=11						
H21A	Big Horn, Sher	85.69	337	⇓P	P	11 21 06.7	-0.8
	baz=86,SNR=6.6						
E27A	Carson	85.72	341	⇓P	P	11 21 07.1	-0.4
	baz=86,SNR=5.8						
F25A	Bowman	85.78	340	⇑P	P	11 21 06.9	-0.9
	baz=86,SNR=11						
D29A	Pettibone, Tap	85.80	342	P	P	11 21 07.5	-0.3
	baz=86						
I19A	Meeteetse	85.81	335	⇑P	P	11 21 07.4	-0.8
	baz=86,SNR=8.2						
REDW	Red Top Meadow	85.87	334	eP	P	11 21 07.7	-0.9
	comp=Z,145nm,1.7s						
H20A	Greybull	85.87	336	⇑P	P	11 21 06.9	-1.5
	baz=86,SNR=10						
BMN	Battle Mountai	85.91	328	eP	P	11 21 09.1	+0.4
BMN	Battle Mountai	85.91	328	eP	P	11 21 09.1	+0.4
DRLN	Deer Lake	85.92	10	eP	P	11 21 09.1	+0.8
	comp=Z,233nm,1.4s						
TORD	Torodi Ar. Bea	85.95	71	P	P	11 21 06.1	-3.2
	comp=Z,8.7nm,0.9s,baz=241,slow=4.8,SNR=22						
TORD				PP	PP	11 24 33.2	+3.5
	comp=Z,6.9nm,1.0s,baz=236,slow=8.9,SNR=3.6						
TORD				LR	LR	11 57 33.4	
	comp=Z,8µm,20.3s,baz=235,slow=34						
G22A	Birney	85.98	337	⇑P	P	11 21 07.8	-1.1
	baz=86,SNR=8.9						
F24A	Ekalaka	85.99	339	⇓P	P	11 21 08.0	-0.8
	baz=86,SNR=13						
E26A	Carlson Angus	86.00	340	⇓P	P	11 21 08.0	-0.9
	baz=86,SNR=15						
LOHW	Long Hollow	86.00	334	eP	P	11 21 08.3	-0.9
	comp=Z,78nm,1.4s						
TPAW	Teton Pass	86.02	334	eP	P	11 21 08.6	-0.7
	comp=Z,66nm,1.1s						
AGMN	Agassiz Nation	86.12	345	⇑P	P	11 21 08.5	-0.9
	baz=86,SNR=9.9						
AGMN	Agassiz Nation	86.12	345	eP	P	11 21 07.8	-1.6
	comp=Z,374nm,2.3s						
AGMN				LR	LR		
	comp=Z,6µm,21.0s						
C30A	Mose, Pekin	86.14	343	⇓P	P	11 21 08.4	-1.0
	baz=86,SNR=30						
F23A	Volborg	86.16	338	⇑P	P	11 21 08.8	-0.9
	baz=86,SNR=15						
D28A	Regan	86.17	342	⇓P	P	11 21 09.0	-0.6
	baz=86,SNR=10						
FXWY	Fox Creek	86.17	334	eP	P	11 21 09.3	-0.7
	comp=Z,68nm,1.4s						
I17A	Pilgrim Ck.	86.26	334	⇓P	P	11 21 09.6	-0.8
	baz=87,SNR=19						
PMOZ	Porto Moniz, M	86.27	45	eP	P	11 21 11.1	+0.5
PMOZ	Porto Moniz, M	86.27	45	eSKS	S	11 31 52.4	+9.0
PMOZ	Porto Moniz, M	86.27	45	eL

MDND	Maddock	86.54	343	⇑P	P	11 21 10.1	-1.3
	baz=87,SNR=29						
MDND	Maddock	86.54	343	eP	P	11 21 10.6	-0.8
	comp=Z,81nm,1.4s						
G20A	Bridger	86.59	336	P	P	11 21 11.1	-0.8
	baz=87						
E24A	Baker	86.60	339	⇑P	P	11 21 10.5	-1.3
	baz=87,SNR=8.9						
H18A	Shoshone NF, C	86.60	335	⇓P	P	11 21 10.9	-1.2
	baz=87,SNR=23						
C28A	Hausauer Farms	86.61	342	⇑P	P	11 21 11.1	-0.7
	baz=87						
H17A	Grant Village	86.67	334	eP	P	11 21 15.0	+2.5
	comp=Z,104nm,2.0s						
F21A	Absaloka Mine,	86.78	337	⇓P	P	11 21 11.7	-1.1
	baz=87						
B30A	Myrvik Farm, E	86.81	344	P	P	11 21 12.2	-0.5
	baz=87						
YFT	Old Faithful	86.81	334	eP	P	11 21 14.6	+1.5
	comp=Z,124nm,1.5s						
E23A	Ismay	86.83	339	⇓P	P	11 21 12.0	-0.9
	baz=87						
D25A	Fairfield	86.86	340	⇓P	P	11 21 12.4	-0.7
	baz=87,SNR=20						
RLMT	Red Lodge	86.86	336	PFAKE		11 21 20.0	+6.7
RLMT				LR	LR		
	comp=Z,5μm,19.0s						
C27A	Sayler Ranch,	86.89	341	⇑P	P	11 21 12.4	-0.7
	baz=87,SNR=21						
OHCM	Honcut	86.93	325	eP	P	11 21 13.5	0.0
E22A	Miles City	86.97	338	⇑P	P	11 21 12.2	-1.4
	baz=87,SNR=9.5						
YNR	Norris Junctio	86.99	334	eP	P	11 21 15.7	+1.7
	comp=Z,85nm,1.6s						
YMR	Madison River	87.05	334	eP	P	11 21 14.7	+0.4
	comp=Z,144nm,1.4s						
B29A	Wagenman Farm,	87.06	343	⇓P	P	11 21 12.6	-1.3
	baz=87,SNR=25						
D24A	Glendive	87.11	339	⇓P	P	11 21 13.1	-1.2
	baz=88,SNR=23						
C26A	Wahner Farm, P	87.15	341	⇓P	P	11 21 13.3	-1.1
	baz=88,SNR=12						
A30A	Hoffart Farm,	87.26	344	⇓P	P	11 21 14.1	-0.8
	baz=88,SNR=18						
LAO	LASA Array	87.28	338	PFAKE		11 21 30.0	+15
LAO				LR	LR		
	comp=Z,4μm,20.0s						
B28A	Dugan Ranch, T	87.28	342	⇑P	P	11 21 13.7	-1.3
	baz=88,SNR=29						
C25A	Freed Ranch, W	87.35	340	P	P	11 21 14.5	-1.0
	baz=88						
QLMT	Earthquake Lak	87.35	334	eP	P	11 21 16.5	+0.7
HLID	Hailey	87.38	332	⇑P	P	11 21 14.9	-1.0
	baz=88,SNR=24						
HLID	Hailey	87.38	332	eP	P	11 21 15.7	-0.1
	comp=Z,138nm,1.6s						
HLID				LR	LR		
	comp=Z,5μm,19.0s						
F19A	Roth Farm, Mol	87.39	336	⇓P	P	11 21 15.1	-0.7
	baz=88,SNR=7.3						
E21A	Keefer Ranch,	87.41	338	⇓P	P	11 21 14.8	-1.0
	baz=88,SNR=6.2						
D23A	Lindsay	87.41	339	⇓P	P	11 21 14.9	-0.8
	baz=88,SNR=19						
MSNA	Messina	87.44	116	eP	P	11 21 15.3	-1.3
MSNA				AMB	AMB	11 21 26.3	
	comp=Z,98nm,2.6s						
MSNA				AMS	AMS	11 59 12.2	
	comp=Z,7μm,17.5s						
A29A	Manning Farm,	87.46	343	⇑P	P	11 21 14.6	-1.2
	baz=88,SNR=30						
B27A	Peters Farms,	87.47	342	⇓P	P	11 21 14.7	-1.2
	baz=88,SNR=6.9						
C24A	Savage	87.51	340	⇓P	P	11 21 15.0	-1.2
	baz=88,SNR=19						
D22A	Cohagen	87.68	338	⇓P	P	11 21 16.4	-0.6
	baz=88,SNR=10.0						
A28A	Rude Farm, Bot	87.69	343	P	P	11 21 16.1	-0.9
	baz=88						
B26A	Jensen Ranch,	87.69	341	⇑P	P	11 21 16.0	-1.0
	baz=88						
E20A	Meyer Farm, Mu	87.71	337	⇑P	P	11 21 16.4	-0.8
	baz=88,SNR=12						
MOPA	Mopani	87.72	117	eP	P	11 21 17.0	-1.0
MOPA				AMB	AMB	11 21 27.2	
	comp=Z,80nm,3.4s						
MOPA				AMS	AMS	11 56 32.4	
	comp=Z,10μm,19.5s						
MFID	Camas Ranch	87.81	331	eP	P	11 21 18.3	+0.4
	comp=Z,145nm,1.6s						
B25A	Knox Farm, Ray	87.84	341	⇑P	P	11 21 17.7	-0.1
	baz=88,SNR=15						
D21A	La Casta Ranch	87.85	338	⇓P	P	11 21 17.3	-0.6
	baz=88,SNR=7.2						
E19A	Rath Farm, Rou	87.88	336	⇑P	P	11 21 16.9	-1.2
	baz=88,SNR=14						
C23A	Lambert	87.97	339	⇑P	P	11 21 17.3	-1.1
	baz=88,SNR=16						
ULM	Lac du Bonnet	87.98	346	eP	P	11 21 16.9	-1.4
ULM	Lac du Bonnet	87.98	346	P	P	11 21 16.6	-1.7
	comp=Z,19nm,0.8s,baz=168,slow=3.3,SNR=19						
ULM	Lac du Bonnet	87.98	346	eP	P	11 21 16.9	-1.4
A26A	Wade Farm, Ken	88.12	342	⇓P	P	11 21 18.0	-1.0
	baz=88,SNR=11						
C22A	Vida	88.13	339	⇓P	P	11 21 17.9	-1.2
	baz=88,SNR=8.3						
BOZ	Bozeman (W)	88.13	334	PFAKE		11 21 30.0	+11
BOZ				LR	LR		
	comp=Z,10μm,20.0s						
WVOR	Wild Horse Val	88.16	328	eP	P	11 21 19.0	-0.5
WVOR				pmax	pmax		
	comp=Z,75nm,1.3s						
WVOR				MLR	MLR		
	comp=Z,8μm,19.0s						
WVOR	Wild Horse Val	88.16	328	eP	P	11 21 19.0	-0.5
	comp=Z,75nm,1.3s						
WVOR				LR	LR		
	comp=Z,8μm,19.0s						
D20A	Manuel Ranch,	88.23	337	⇑P	P	11 21 18.9	-0.8
	baz=89,SNR=12						
DLMT	Dillon	88.23	334	eP	P	11 21 19.8	-0.1
	comp=Z,95nm,1.4s						
WDC	Whiskeytown Da	88.41	325	eP	P	11 21 20.3	-0.3
WDC				pmax	pmax		
	comp=Z,342nm,2.8s						
WDC	Whiskeytown Da	88.41	325	eP	P	11 21 20.3	-0.3
	comp=Z,342nm,2.8s						
A25A	Svangstu Ranch	88.44	341	⇑P	P	11 21 20.1	-0.4
	baz=89,SNR=10						
MOD	Modoc Plateau	88.45	327	eP	P	11 21 20.4	-0.6
	comp=Z,135nm,1.4s						
B23A	Brockton	88.52	340	⇑P	P	11 21 20.4	-0.6
	baz=89,SNR=6.8						
D19A	Cripps Ranch,	88.53	337	⇓P	P	11 21 20.2	-0.9
	baz=89,SNR=6.2						
AFI	Afiamalu	88.53	254	PFAKE		11 21 30.0	+8.0
AFI				LR	LR		
	comp=Z,14μm,21.0s						
C21A	Desert Coulee	88.56	338	⇑P	P	11 21 20.6	-0.6
	baz=89,SNR=8.5						
LRM	Limekiln Ridge	88.57	334	eP	P	11 21 21.9	+0.4
B22A	Reddig Ranch S	88.66	339	⇓P	P	11 21 21.1	-0.6
	baz=89,SNR=13						
A24A	Westby	88.66	340	⇑P	P	11 21 21.3	-0.3
	baz=89,SNR=7.6						
KMRM	Mail Ridge	88.69	324	eP	P	11 21 25.2	+3.2
	comp=Z,180nm,1.7s						
C20A	Veseth Ranch,	88.74	337	⇑P	P	11 21 21.1	-1.0
	baz=89,SNR=7.5						
N02D	Trinity Center	88.80	325	⇑P	P	11 21 22.2	-0.4
	baz=89,SNR=8.3						
A23A	Redstone	88.94	340	⇑P	P	11 21 22.5	-0.4
	baz=89						
M04C	Macdoel	89.04	326	⇑P	P	11 21 23.4	-0.3
	baz=89,SNR=6.9						
B21A	Ellsworth Farm	89.08	338	⇑P	P	11 21 22.9	-0.7
	baz=90						
C19A	Slack Wire Ran	89.09	337	⇓P	P	11 21 23.3	-0.4
	baz=90						
HRY	Holter Researc	89.12	335	eP	P	11 21 24.4	+0.5
M02C	Callahan	89.20	325	⇓P	P	11 21 23.8	-0.6
	baz=90,SNR=5.8						
KHMM	Horse Mountain	89.20	324	eP	P	11 21 31.9	+7.4
	comp=Z,670nm,3.0s						
PAF	Port-aux-Franc	89.26	157	P	P	11 20 59.0	-26
PAF				PP	PP	11 24 36.0	-19
PAF				S	S	11 31 44.0	-27
PAF				L	L	11 44 00.0	
PAF				R		11 53 00.0	
PAF	Port-aux-Franc	89.26	157	PFAKE		11 21 40.0	+15
PAF				LR	LR		
	comp=Z,20μm,19.0s						
A22A	Carney Farms,	89.26	339	⇓P	P	11 21 23.7	-0.7
	baz=90,SNR=11						
YBH	Yreka Blue Hor	89.40	325	eP	P	11 21 25.2	-0.2
YBH				pmax	pmax		
	comp=Z,35nm,1.3s						
YBH	Yreka Blue Hor	89.40	325	eP	P	11 21 25.2	-0.2
	comp=Z,35nm,1.3s						
A21A	Bergtoll Ranch	89.55	339	⇓P	P	11 21 25.2	-0.6
	baz=90,SNR=8.1						
EGMT	Eagleton	89.57	337	⇓P	P	11 21 25.5	-0.4
	baz=90						
EGMT	Eagleton	89.57	337	eP	P	11 21 28.3	+2.4
	comp=Z,29nm,1.4s						
EGMT				LR	LR		
	comp=Z,3μm,19.0s						
BMO	Blue Mountains	89.59	330	PFAKE		11 21 40.0	+14
BMO				LR	LR		
	comp=Z,6μm,19.0s						
A20A	Cobblestone Ra	89.75	338	⇑P	P	11 21 26.8	0.0
	baz=90						
CHMT	Chamberlain Mo	89.80	334	eP	P	11 21 28.2	+1.0
I07A	Izee	89.87	329	eP	P	11 21 27.6	+0.1
	comp=Z,172nm,1.8s						
J05D	Fort Rock, OR	89.97	327	⇓P	P	11 21 28.5	+0.5
	baz=90,SNR=14						
MSO	Missoula	89.97	334	⇑P	P	11 21 28.2	+0.2
	baz=90						
MSO	Missoula	89.97	334	eP	P	11 21 28.5	+0.6
	comp=Z,438nm,3.0s						
A19A	Klindworth Far	90.05	338	⇑P	P	11 21 28.6	+0.5
	baz=90						
SLMT	Seeley Lake	90.16	334	eP	P	11 21 29.9	+1.0
HUMO	Hull Mountain	90.20	326	eP	P	11 21 30.7	+1.7
	comp=Z,126nm,2.3s						
J04D	Umpqua Nationa	90.32	327	⇓P	P	11 21 29.8	0.0
	baz=91						
LSZ	Lusaka	90.34	109	P	P	11 21 30.9	+0.3
	SNR=20						
LSZ	Lusaka	90.34	109	PFAKE		11 21 40.0	+9.4
LSZ				LR	LR		
	comp=Z,12μm,19.0s						
F10A	Beach Ranch, E	90.49	331	eP	P	11 21 30.0	-0.3
	comp=Z,304nm,2.3s						
SCHQ	Scheffer ville	90.50	4	P	P	11 21 28.6	-1.4
	comp=Z,9.7nm,0.8s,baz=184,slow=3.8,SNR=11						
SCHQ				LR	LR	12 03 28.7	
	comp=Z,4μm,20.1s,baz=174,slow=36						
SWMT	Swartz Lake	90.57	334	eP	P	11 21 31.5	+0.8
G08A	Pilot Rock	90.62	330	eP	P	11 21 31.4	+0.4
	comp=Z,97nm,1.6s						
I05D	Terrebonne, OR	90.86	328	⇓P	P	11 21 32.1	+0.1
	baz=91,SNR=6.5						
JTMT	Jette	90.87	334	eP	P	11 21 31.6	-0.6
YBMT	Yellow Bay	90.87	334	eP	P	11 21 33.1	+1.0
I04A	Tendick Farm,	90.89	327	⇓P	P	11 21 32.0	-0.2
	baz=91						
BLMT	Blacktail Moun	91.12	334	eP	P	11 21 33.5	+0.2
BSMT	Bassoo Peak	91.14	334	eP	P	11 21 33.6	+0.1
I03D	Drain, OR	91.23	326	⇑P	P	11 21 33.5	-0.2
	baz=92						
G06A	Carlson Farm,	91.27	329	eP	P	11 21 34.5	+0.6
E09A	Wood Farm, Sta	91.30	331	eP	P	11 21 34.8	+0.8
	comp=Z,246nm,2.9s						
H04A	Detroit Lake	91.50	328	eP	P	11 21 35.7	+0.7
	comp=Z,29nm,1.2s						
G05D	Wamic, OR	91.57	328	⇓P	P	11 21 34.7	-0.6
	baz=92						
HAWA	Hanford	91.75	330	eP	P	11 21 36.9	+0.8
	comp=Z,86nm,1.4s						
HAWA				LR	LR		
	comp=Z,4μm,19.0s						
WALA	Waterton Lakes	91.86	335	eP	P	11 21 36.5	-0.1
E07A	Sunnyside	92.02	330	eP	P	11 21 37.7	+0.4
	comp=Z,332nm,2.9s						
D08A	Wollman Farm,	92.05	331	eP	P	11 21 36.8	-0.7
	comp=Z,95nm,1.7s						
NEW	Newport	92.35	333	⇓P	P	11 21 38.4	-0.5
	baz=93,SNR=6.6						
NEW	Newport	92.35	333	PFAKE		11 21 50.0	+11
NEW				LR	LR		
	comp=Z,6μm,19.0s						
G03D	McMinnville, O	92.38	327	⇓P	P	11 21 39.5	+0.5
	baz=93						
C09A	Chrisman Ranch	92.40	332	eP	P	11 21 40.0	+0.9
	comp=Z,52nm,1.3s						
LTY	Liberty	92.91	330	eP	P	11 21 42.3	+0.8
	comp=Z,39nm,1.4s						
LON	Longmire	92.98	329	eP	P	11 21 42.8	+1.0
LON	Longmire	92.98	329	eP	P	11 21 42.8	+1.0
TAU	Tasmania Unive	93.22	209	eP	P	11 21 45.1	+1.9
TAU				pmax	pmax		
	comp=Z,63nm,1.4s						
TAU				MLR	MLR		
	comp=Z,5μm,19.0s						
TAU	Tasmania Unive	93.22	209	eP	P	11 21 45.1	+1.9
	comp=Z,63nm,1.4s						
TAU				LR	LR		
	comp=Z,5μm,19.0s						
RTC	Rabat Centre	93.25	50	PFAKE		11 21 50.0	+6.7
RTC				LR	LR		
	comp=Z,12μm,20.0s						
B08A	Colville Reser	93.27	331	eP	P	11 21 43.2	+0.1
	comp=Z,84nm,1.9s						
D05A	Enumclaw	93.40	329	eP	P	11 21 44.5	+0.8
	comp=Z,72nm,1.4s						
FFC	Flin Flon	93.48	344	eP	P	11 21 43.6	-0.3
FFC				pmax	pmax		
	comp=Z,43nm,1.5s						
FFC				MLR	MLR		
	comp=Z,8μm,20.0s						
FFC	Flin Flon	93.48	344	eP	P	11 21 43.5	-0.3
	comp=Z,43nm,1.5s						
FFC				LR	LR		
	comp=Z,8μm,20.0s						
PFVI	Vila Bisbo	94.17	46	eP	P	11 21 49.2	+1.8
	comp=Z,71nm,2.7s						
PFVI	Vila Bisbo	94.17	46	eSKS	SKSac	11 32 28.4	+8.8
NLWA	Neilton Lookou	94.35	328	PFAKE		11 22 00.0	+12
NLWA				LR	LR		
	comp=Z,4μm,20.0s						
MORF	Marmelete	94.39	46	eP	P	11 21 47.4	-1.1
MORF				eS	SKSac	11 32 23.2	+2.3
MORF				AMS	AMS	12 02 30.6	
	comp=Z,12μm,18.9s						
MORF	Marmelete	94.39	46	eP	P	11 21 53.4	+4.9
	comp=Z,35nm,1.5s						
MORF	Marmelete	94.39	46	eSKS	S	11 33 02.3	+4.4
MORF	Marmelete	94.39	46	eP	P	11 21 47.4	-1.1
MORF				eS	SKSac	11 32 23.1	+2.3
TAM	Tamanrasset	94.69	65	eP	P	11 21 48.4	-2.0
TAM				pmax	pmax		
	comp=Z,122nm,2.0s						
TAM				MLR	MLR		
	comp=Z,12μm,19.0s						
TAM	Tamanrasset	94.69	65	eP	P	11 21 48.4	-2.0
	comp=Z,122nm,2.0s						
TAM				LR	LR		
	comp=Z,12μm,19.0s						
PBDV	Barranco-do-Ve	94.77	47	eP	P	11 21 51.0	+0.8
	comp=Z,86nm,1.6s						
PBDV	Barranco-do-Ve	94.77	47	eSKS	SKSac	11 32 35.5	+13
MESJ	Messejana	95.00	46	eP	P	11 21 50.2	-1.0
MESJ				eS	SKSac	11 32 26.6	+2.5
MESJ				AMS	AMS	12 02 57.9	
	comp=Z,10μm,19.6s						
MESJ	Messejana	95.00	46	eP	P	11 21 51.7	+0.5
	comp=Z,52nm,1.9s						
MESJ	Messejana	95.00	46	eP	P	11 21 50.2	-1.0
MESJ				eS	SKSac	11 32 26.5	+2.5
PNCL	Nicolau / Gran	95.00	46	eP	P	11 21 52.8	+1.6
	comp=Z,28nm,2.1s						
PNCL	Nicolau / Gran	95.00	46	eSKS	SKSac	11 32 34.4	+10
PVAQ	Vaqueiros	95.00	47	eP	P	11 21 51.7	+0.4
	comp=Z,62nm,1.9s						
PVAQ	Vaqueiros	95.00	47	eSKS	SKSac	11 32 35.7	+12
PVAQ	Vaqueiros	95.00	47	eLQ	LQ	11 51 56.1	
PVAQ				eLR	LR	11 55 52.3	
	comp=Z,11μm,18.0s						
LIS	Lisbon	95.05	45	eP	P	11 21 50.6	-0.8
LIS				eS	SKSac	11 32 26.6	+2.4
LIS				AMS	AMS	12 05 43.4	
	comp=Z,12μm,18.9s						
LIS	Lisbon	95.05	45	eP	P	11 21 50.6	-0.8
LIS				eS	SKSac	11 32 26.6	+2.4
LIS				A	A	12 05 43.4	
	comp=Z,12μm,18.9s						
LIS	Lisbon	95.05	45	eP	P	11 21 50.6	-0.8
LIS				eS	SKSac	11 32 26.6	+2.4
PMAFR	Mafra	95.14	45	eP	P	11 21 53.0	+1.2
	comp=Z,61nm,1.9s						
PMAFR	Mafra	95.14	45	eSKS	SKSac	11 32 32.6	+7.9
POHA	Pohakuloa	95.17	291	PFAKE		11 22 00.0	+7.3
POHA				LR	LR		
	comp=Z,5μm,19.0s						
EDM	Edmonton	95.22	337	eP	P	11 21 50.7	-1.2
EDM	Edmonton	95.22	337	eP	P	11 21 50.6	-1.2
EVO	Evora	95.58	46	eP	P	11 21 54.6	+0.7
FCC	Fort Churchill	95.82	349	eP	P	11 21 54.5	+0.1
FCC	Fort Churchill	95.82	349	eP	P	11 21 54.5	+0.1
PMTG	Montargil	95.82	45	eP	P	11 21 56.7	+1.8
	comp=Z,44nm,2.5s						
PMTG	Montargil	95.82	45	eSKS	SKSac	11 32 37.3	+9.0
PBAR	Barrancos	95.92	47	eP	P	11 21 56.5	+1.1
	comp=Z,58nm,1.7s						
PBAR	Barrancos	95.92	47	eSKS	SKSac	11 32 37.5	+8.6
PESTR	Estremoz	96.05	46	eP	P	11 21 58.3	+2.2
	comp=Z,37nm,1.7s						
PESTR	Estremoz	96.05	46	eSKS	SKSac	11 32 31.2	+1.6
PCAS	Casmilo, Conde	96.32	44	eP	P	11 21 59.0	+1.8
	comp=Z,46nm,1.8s						
PCAS	Casmilo, Conde	96.32	44	eSKS	SKSac	11 32 44.2	+13
PMRV	Marv??o	96.54	45	eP	P	11 21 58.4	+0.1
	comp=Z,35nm,1.3s						
PMRV	Marv??o	96.54	45	eSKS	SKSac	11 32 36.3	+4.2
PMRV	Marv??o	96.54	45	eLQ	LQ	11 52 55.3	
PMRV				eLR	LR	11 57 18.8	
	comp=Z,13μm,18.0s						
MTE	Manteigas	97.10	45	eP	Pdif	11 22 02.1	+1.2
	comp=Z,51nm,1.5s						
MTE	Manteigas	97.10	45	eSKS	SKSac	11 32 37.2	+2.1
MTE	Manteigas	97.10	45	eLQ	LQ	11 53 14.2	
MTE				eLR	LR	11 57 41.3	
	comp=Z,14μm,20.0s						
MTE	Manteigas	97.10	45	PFAKE		11 22 10.0	+9.1
MTE				LR	LR		
	comp=Z,14μm,19.0s						
POLO	Lamas de Olo	97.60	44	eP	Pdif	11 22 04.3	+1.1
	comp=Z,18nm,1.8s						
POLO	Lamas de Olo	97.60	44	eSKS	SKSac	11 32 48.3	+11
PGAV	Gavieira, Arco	97.73	43	eP	Pdif	11 22 03.6	-0.1
	comp=Z,40nm,2.2s						
PGAV	Gavieira, Arco	97.73	43	eSKS	SKSac	11 32 48.1	+10
PGAV	Gavieira, Arco	97.73	43	eLQ	LQ	11 54 03.8	
PGAV				eLR	LR	11 57 50.6	
	comp=Z,13μm,20.0s						
MVO	Moncorvo	97.90	44	eP	Pdif	11 22 05.7	+1.2
	comp=Z,28nm,1.6s						
MVO	Moncorvo	97.90	44	eSKS	SKSac	11 32 47.0	+7.8
MVO	Moncorvo	97.90	44	eLQ	LQ	11 53 32.9	
MVO				eLR	LR	12 00 59.8	
	comp=Z,19μm,18.0s						
KIP	Kipapa	98.02	291	PFAKE		11 22 20.0	+15
KIP				LR	LR		
	comp=Z,5μm,19.0s						
PAB	San Pablo	98.40	47	PFAKE		11 22 20.0	+13
PAB				LR	LR		
	comp=Z,13μm,20.0s						
PBRG	Braganca	98.48	44	eP	Pdif	11 22 08.9	+1.9
	comp=Z,22nm,1.8s						
ESDC	Sonseca Array	98.71	47	P	P	11 22 07.5	-0.6
	comp=Z,1.3nm,0.6s,baz=252,slow=4.1,SNR=7.3						
ESDC				LR	LR	12 05 27.4	
	comp=Z,10μm,19.6s,baz=235,slow=35						
CAN	Canberra	98.88	214	PFAKE		11 22 20.0	+11
CAN				LR	LR		
	comp=Z,8μm,20.0s						
ABPO	Ambohimpanom	101.75	124	PFAKE		11 22 30.0	+7.6
ABPO				LR	LR		
	comp=Z,8μm,19.0s						
AIS	Amsterdam Isla	101.97	157	PP	PP	11 26 20.0	-13
AIS				SP	SP	11 35 52.0	+18
AIS				SS	SS	11 40 57.0	-7.9
AIS				L	L	11 51 00.0	
AIS				R		11 57 00.0	
VAL	Valentia	103.39	35	ePS	PS	11 35 53.1	-1.2
VAL	Valentia	103.39	35	⇓iSS	SS	11 41 32.6	+6.0
YKA	Yellowknife Ar	103.43	342	P	Pdif	11 22 26.9	-1.5
YKA						11 26 54.3	
YKA	Yellowknife Ar	103.43	342	Pdiff	Pdif	11 22 26.9	-1.5
	comp=Z,1.2nm,0.8s,baz=143,slow=4.2,SNR=20						
YKA				PP	PKiKP	11 26 54.3	+7.3
	comp=Z,1.7nm,1.1s,baz=139,slow=8.3,SNR=5.7						
SFJD	Kangerlussuaq	104.00	9	PFAKE		11 22 40.0	+9.2
SFJD				LR	LR		
	comp=Z,4μm,19.0s						
WRAK	Wrangell Islan	104.56	331	PFAKE		11 22 40.0	+6.5
WRAK				LR	LR		
	comp=Z,8μm,20.0s						
RER	Riviere de l'E	105.69	131	PFAKE		11 27 00.0	
RER				LR	LR		
	comp=Z,4μm,20.0s						
KMBO	Kilima Mbogo	106.04	103	PFAKE		11 27 00.0	
KMBO				LR	LR		
	comp=Z,8μm,20.0s						
VSL	Villasalto	106.94	53	PFAKE		11 27 10.0	
VSL				LR	LR		
	comp=Z,10μm,19.0s						
SSB	Saint Sauveur	107.10	46	PFAKE		11 27 10.0	
SSB				LR	LR		
	comp=Z,10μm,22.0s						
BORG	Borgarnes	108.24	21	PFAKE		11 27 10.0	
BORG				LR	LR		
	comp=Z,7μm,19.0s						
BNI	Bardonecchia	108.24	47	PFAKE		11 27 10.0	
BNI				LR	LR		
	comp=Z,17μm,20.0s						
WDD	Wield Dalam	108.50	59	PFAKE		11 27 10.0	
WDD				LR	LR		
	comp=Z,27μm,19.0s						
ESK	Eskdalemuir	108.77	35	PFAKE		11 27 10.0	
ESK				LR	LR		
	comp=Z,10μm,19.0s						
TARA	Tarawa	109.80	257	PFAKE		11 27 10.0	
TARA				LR	LR		
	comp=Z,6μm,21.0s						
VLC	Villacollemand	110.03	50	PFAKE		11 27 10.0	
VLC				LR	LR		
	comp=Z,5μm,20.0s						
ECH	Echery	110.19	45	PFAKE		11 27 10.0	
ECH				LR	LR		
	comp=Z,7μm,21.0s						
WLF	Walferdange	110.38	43	ePdiff	Pdif	11 23 00.2	+0.5
WLF				ePP	PP	11 27 30.7	-5.7
WLF	Walferdange	110.38	43	PFAKE		11 27 10.0	
WLF				LR	LR		
	comp=Z,9μm,19.0s						
TUE	Stuetta	110.57	47	PFAKE		11 27 10.0	
TUE				LR	LR		
	comp=Z,10μm,20.0s						
CEL	Celeste	110.65	57	PFAKE		11 27 10.0	
CEL				LR	LR		
	comp=Z,25μm,20.0s						
NWAO	Narrogin (SRO)	110.85	190	PFAKE		11 27 10.0	
NWAO				LR	LR		
	comp=Z,1.0nm,22.0s						
BFO	Black Forest	110.92	45	ePdiff	Pdif	11 23 02.6	+0.5
BFO				ePP	PP	11 27 34.5	-5.9
BFO	Black Forest	110.92	45	PFAKE		11 27

HNR	**Honiara**	**112.49**	**239**	PFAKE		11 27 20.0	
HNR				LR	LR		
comp=Z,517nm,22.0s							
FUR	**Furstenfeldbru**	**112.55**	**46**	*e*Pdiff	**Pdif**	**11 23 09.7**	**+0.3**
FUR				*e*PP	PP	11 27 45.2	-6.9
IBBN	**Ibbenburen**	**112.60**	**41**	*e*Pdiff	**Pdif**	**11 23 10.1**	**+0.7**
IBBN				*e*PP	PP	11 27 46.5	-5.8
CTAO	**Charters Tower**	**112.83**	**221**	PFAKE		11 27 20.0	
CTAO				LR	LR		
comp=Z,6µm,20.0s							
UBBA	**Unterbreizbach**	**113.10**	**43**	*e*Pdiff	**Pdif**	**11 23 12.2**	**+0.6**
UBBA				*e*PP	PP	11 27 49.0	-6.7
EGAK	**Eagle**	**113.24**	**334**	PFAKE		11 27 20.0	
EGAK				LR	LR		
comp=Z,5µm,21.0s							
RJOB	**Jochberg**	**113.25**	**47**	*e*Pdiff	**Pdif**	**11 23 12.8**	**+0.3**
RJOB				*e*PP	PP	11 27 49.6	-7.5
GRF	**Grafenberg Arr**	**113.25**	**45**	*e*Pdiff	**Pdif**	**11 23 12.9**	**+0.4**
GRF				*e*PP	PP	11 27 51.5	-5.5
CLZ	**Clausthal**	**113.79**	**42**	*e*Pdiff	**Pdif**	**11 23 15.3**	**+0.5**
CLZ				*e*PP	PP	11 27 55.3	-5.5
ROTZ	**Rotzenmuhle**	**113.85**	**45**	*e*Pdiff	**Pdif**	**11 23 15.5**	**+0.4**
ROTZ				*e*PP	PP	11 27 55.3	-6.0
MOX	**Moxa**	**113.92**	**44**	*e*Pdiff	**Pdif**	**11 23 15.9**	**+0.5**
MOX				*e*PP	PP	11 27 54.6	-7.1
WET	**Wettzell**	**113.95**	**46**	*e*Pdiff	**Pdif**	**11 23 15.9**	**+0.3**
WET				*e*PP	PP	11 27 56.1	-5.9
NRDL	**Niedersach Rie**	**113.95**	**42**	*e*Pdiff	**Pdif**	**11 23 16.0**	**+0.6**
NRDL				*e*PP	PP	11 27 55.9	-5.9
MOA	**Molln**	**114.18**	**48⇑**	*i*PKiKP	**PKiKP**	**11 27 08.4**	**+0.7**
comp=Z,8.5nm,1.3s							
KDAK	**Kodiak Island**	**114.21**	**325**	PFAKE		11 27 20.0	+13
KDAK				LR	LR		
comp=Z,4µm,20.0s							
GEC2	**GERESS Array S**	**114.30**	**46**	*e*Pdiff	**Pdif**	**11 23 17.8**	**+0.6**
GEC2				*e*PP	PP	11 27 57.8	-6.7
GERES	**GERESS Array B**	**114.30**	**46**	PKIKP	PKPdf	11 27 07.9	-0.1
GERES	**GERESS Array B**	**114.30**	**46**	PKP	PKPdf	11 27 07.9	-0.1
comp=Z,1.6nm,0.8s,baz=235,slow=4.7,SNR=8.7							
TANN	**Tannenbergstha**	**114.30**	**44**	*e*Pdiff	**Pdif**	**11 23 17.5**	**+0.4**
TANN				*e*PP	PP	11 27 57.8	-6.7
KHC	**Kasperske Hory**	**114.35**	**46**	*e*PKIKP	PKPdf	11 27 09.7	+1.7
KHC				*e*		11 27 14.1	
KHC				*e*		11 28 01.8	
KHC				*e*		11 33 54.6	
KHC				*e*SP	SP	11 37 40.9	+2.8
KHC				*e*		11 38 58.2	
KHC				*e*SS	SS	11 43 46.8	-7.9
KHC				MLR	MLR		
comp=Z,7µm,18.9s							
KHC	**Kasperske Hory**	**114.35**	**46**	*e*PKP	PKPdf	11 27 09.7	+1.7
KHC				*ep*PKP	PKiKP	11 27 14.1	+6.1
KHC				*e*PP	**PP**	**11 28 01.8**	**-3.1**
KHC				*e*SKS	**SKSac**	**11 33 54.6**	**+2.6**
KHC				*e*XS	**Sdif**	**11 35 54.5**	**+9.4**
KHC				*e*SP	**SP**	**11 37 40.9**	**+2.8**
KHC				*ex*	x	11 38 58.2	
KHC				*e*SS	SS	11 43 46.8	-7.9
KHC				AMS	AMS	12 16 40.0	
comp=Z,7µm,18.9s							
ARSA	**Arzberg**	**114.67**	**49⇓**	*i*PKiKP	**PKiKP**	**11 27 10.2**	**+1.6**
comp=Z,5.4nm,1.0s							
BSEG	**Bad Segeberg**	**114.73**	**40**	*e*Pdiff	**Pdif**	**11 23 19.5**	**+0.6**
BSEG				*e*PP	PP	11 28 00.9	-6.4
CLL	**Collm**	**115.01**	**44**	*e*P	**Pdif**	**11 23 19.0**	**-1.2**
CLL				*e*		11 28 12.0	
CLL				*e*		11 34 00.0	
CLL				pmax	pmax		
comp=Z,114nm,2.9s							
CLL				MLR	MLR		
comp=Z,9µm,20.2s							
CLL	**Collm**	**115.01**	**44**	*e*Pdiff	**Pdif**	**11 23 20.7**	**+0.5**
CLL				*e*PP	PP	11 28 02.8	-6.5
CLL	**Collm**	**115.01**	**44**	*e*Pdif	**Pdif**	**11 23 19.0**	**-1.2**
CLL				*e*(PKiKP)		11 27 14.0	
comp=Z,114nm,2.9s							
CLL				*e*PP	**PP**	**11 28 12.0**	**+2.7**
CLL				*e*SKSac	**SKSac**	**11 34 00.0**	**+5.7**
CLL				*e*SKKSac	**SKKSac**	**11 35 14.0**	**+6.9**
CLL				*e*Sdif	**Sdif**	**11 35 57.0**	**+6.7**
CLL				*e*PS	**PKKPbc**	**11 37 46.0**	**+0.1**
CLL				*e*PPS	PPS	11 39 02.0	
CLL				*e*SS	**SS**	**11 44 04.0**	**+1.0**
CLL				*e*SSS	SSS	11 48 18.0	
CLL				*e*SSSS		11 51 48.0	
CLL				*e*		11 55 06.0	
CLL				Lm	MLR	12 15 00.0	
comp=N,5µm,19.9s							
CLL				Lm	MLR	12 15 00.0	
comp=E,7µm,20.2s							
CLL				Lm	MLR	12 15 00.0	
comp=Z,9µm,20.2s							
CONA	**Conrad Observa**	**115.17**	**48⇓**	*i*PKiKP	**PKiKP**	**11 27 10.1**	**+0.4**
comp=Z,9.7nm,1.4s							
PRU	**Pruhonice**	**115.30**	**46**	*e*PP	PP	11 28 05.2	-6.3
PRU				*e*SKS	**SKSac**	**11 33 59.1**	**+3.6**
PRU				*e*SKKS	**SKKSac**	**11 35 14.4**	**+5.2**
PRU				*e*SDIF	**Sdif**	**11 35 55.4**	**+2.6**
PRU				*e*SP	**SP**	**11 37 48.2**	**+1.6**
PRU				*ex*	x	11 39 10.6	
PRU				*e*SS	SS	11 43 58.0	-9.0
PRU				AMS	AMS	12 15 00.0	
comp=Z,6µm,20.9s							
ILAR	**Eielson Array**	**115.30**	**333**	PKIKP	**PKPdf**	**11 27 08.9**	**-0.4**
ILAR						11 37 48.8	
ILAR	**Eielson Array**	**115.30**	**333**	PKP	**PKPdf**	**11 27 08.8**	**-0.4**
comp=Z,1.8nm,0.9s,baz=159,slow=1.4,SNR=10							
ILAR				PKKPbc	**PKKPab**	**11 37 48.8**	**+1.9**
comp=Z,1.0nm,1.1s,baz=318,slow=4.2,SNR=5.4							
MUD	**Monsted U'grnd**	**115.30**	**38**	*i*P	**PP**	**11 28 09.4**	**-1.9**
BRG	**Berggiesshubel**	**115.34**	**44**	PDIFF	**Pdif**	**11 23 23.0**	**+1.3**
BRG				PP	PP	11 27 55.5	-16
comp=Z,8.7nm,1.8s							
BRG				SKS	**SKSac**	**11 34 01.0**	**+5.4**
BRG				SDIFF	**Sdif**	**11 36 00.0**	**+6.8**
BRG				PS	**PKKPbc**	**11 37 41.0**	**-3.7**
BRG				SS	SS	11 43 44.0	-24
BRG	**Berggiesshubel**	**115.34**	**44**	P	**Pdif**	**11 23 23.0**	**+1.3**
BRG						11 34 01.0	
BRG				PS	**PKKPbc**	**11 37 41.0**	**-3.7**
BRG				pmax	pmax		
comp=Z,9.0nm,1.8s							
BRG				MLR	MLR		
comp=N,6µm,19.7s							
BRG				MLR	MLR		
comp=E,6µm,19.4s							
BRG				MLR	MLR		
comp=Z,10µm,19.3s							
BRG	**Berggiesshubel**	**115.34**	**44**	*e*Pdiff	**Pdif**	**11 23 22.1**	**+0.4**
BRG				*e*PP	PP	11 28 06.0	-5.8
ASAR	**Alice Springs**	**115.38**	**208**	PKIKP	**PKPdf**	**11 27 10.5**	**-0.5**
ASAR						11 37 45.0	
ASAR	**Alice Springs**	**115.38**	**208**	PKP	**PKPdf**	**11 27 10.4**	**-0.5**
comp=Z,0.8nm,0.7s,baz=142,slow=3.0,SNR=4.9							
ASAR				PKKPbc	**PKKPbc**	**11 37 45.0**	**+0.9**
comp=Z,1.5nm,0.7s,baz=335,slow=3.4,SNR=19							
TREC	**Trest**	**115.55**	**47**	*e*PP	**PP**	**11 28 09.3**	**-4.0**
TREC				*e*SP	SP	11 37 51.4	+2.5
TREC				*ex*	x	11 39 13.3	
TREC				AMS	AMS	12 18 00.0	
comp=Z,5µm,18.2s							
PVCC	**Panska Ves**	**115.55**	**45**	*e*PP	PP	11 28 11.9	-1.3
PVCC				*e*SP	SP	11 37 50.6	+1.7
PVCC				*ex*	x	11 39 14.4	
PVCC				*e*SS	**SS**	**11 44 09.6**	**-0.7**
PVCC				AMS	AMS	12 14 10.0	
comp=Z,6µm,21.4s							
COLA	**College**	**115.71**	**333**	PFAKE		11 27 20.0	+10
COLA				LR	LR		
comp=Z,4µm,20.0s							
DPC	**Dobruska-Polom**	**116.49**	**46**	*e*PKIKP	**PKPdf**	**11 27 13.2**	**+1.1**
DPC				*e*		11 28 14.4	
DPC				*e*		11 34 03.5	
DPC				*e*SP	SP	11 38 00.3	+2.8
DPC				*e*		11 39 23.6	
DPC				*e*SS	**SS**	**11 44 25.9**	**+3.3**
DPC	**Dobruska-Polom**	**116.49**	**46**	*e*PKP	**PKPdf**	**11 27 13.2**	**+1.1**
DPC				*ep*PKP	PKiKP	11 27 17.2	+5.1
DPC				*e*PP	PP	11 28 14.4	-5.5
DPC				*e*SKS	**SKSac**	**11 34 03.5**	**+3.4**
DPC				*e*SKKS	**SKKSac**	**11 35 22.4**	**+5.1**
DPC				*e*XS		11 36 11.5	
DPC				*e*SP	**SP**	**11 38 00.3**	**+2.8**
DPC				*ex*	x	11 39 23.6	
DPC				*e*SS	**SS**	**11 44 25.9**	**+3.3**
DPC				AMS	AMS	12 23 30.0	
SANT	**Santorini**	**116.50**	**63**	PFAKE		11 27 20.0	+7.5
SANT				LR	LR		
comp=Z,6µm,20.0s							
COP	**Copenhagen**	**116.61**	**39**	*i*P	**PP**	**11 28 16.1**	**-4.3**
KONO	**Kongsberg**	**116.92**	**34**	PFAKE		11 27 20.0	+7.5
KONO				LR	LR		
comp=Z,7µm,20.0s							
KKB	**Krupnik**	**117.20**	**57**	*e*P	PP	11 28 32.8	+7.8
OKC	**Ostrava-Krasne**	**117.35**	**47**	*e*PKIKP	**PKPdf**	**11 27 17.4**	**+3.7**
OKC				*e*		11 28 21.9	
OKC				*e*		11 34 07.0	
OKC				*e*SP	SP	11 38 13.6	+8.4
OKC				*e*SS	**SS**	**11 44 35.2**	**+1.5**
OKC				MLR	MLR		
comp=Z,7µm,18.1s							
OKC	**Ostrava-Krasne**	**117.35**	**47**	*e*PKP	**PKPdf**	**11 27 17.4**	**+3.7**
OKC				*e*PP	**PP**	**11 28 21.9**	**-3.9**
OKC				*e*SKS	SKSdf	11 34 07.0	-16
OKC				*e*SKKS	**SKKSac**	**11 35 29.0**	**+6.1**
OKC				*e*XS		11 36 19.6	
OKC				*e*SP	**SP**	**11 38 13.6**	**+8.4**
OKC				*ex*	x	11 39 38.5	
OKC				*e*SS	**SS**	**11 44 35.2**	**+1.5**
OKC				AMS	AMS	12 20 40.0	
comp=Z,7µm,18.1s							
DAG	**Danmarks Havn**	**117.37**	**12**	*i*P	**PP**	**11 28 29.1**	**+3.9**
MSEY	**Mahe Island**	**117.52**	**119**	PFAKE		11 27 30.0	+15
MSEY				LR	LR		
comp=Z,4µm,20.0s							
VTS	**Vitosha**	**117.59**	**56**	*e*P	**PP**	**11 28 26.6**	**-1.3**
PSZ	**Piszkesteto**	**117.63**	**49**	PFAKE		11 27 30.0	+16
PSZ				LR	LR		
comp=Z,6µm,21.0s							
BSD	**Bornholm Skovb**	**117.66**	**40**	*i*P	**PP**	**11 28 25.5**	**-2.3**
PGB	**Panagyurishte**	**118.22**	**56**	*e*P	**PP**	**11 28 31.5**	**-0.6**
NB2	**NORSAR Subarra**	**118.22**	**33**	PKPdf	**PKPdf**	**11 27 15.3**	**+0.2**
comp=Z,17nm,1.7s,baz=248,slow=1.9							
NB2	**NORSAR Subarra**	**118.22**	**33**	PKPdf	**PKPdf**	**11 27 15.3**	**+0.2**
baz=248,slow=1.9							
NOA	**NORSAR Array B**	**118.22**	**33**	PKIKP	**PKPdf**	**11 27 15.1**	**0.0**
NOA	**NORSAR Array B**	**118.22**	**33**	PKP	**PKPdf**	**11 27 15.1**	**0.0**
comp=Z,1.2nm,0.8s,baz=250,slow=5.1,SNR=3.2							
PLD	**Plovdiv**	**118.40**	**57**	*e*P	**PP**	**11 28 32.3**	**-1.0**
WRA	**Warramunga Arr**	**118.57**	**210**	PKIKP	**PKPdf**	**11 27 16.5**	**-0.6**
WRA						11 28 38.8	
WRA	**Warramunga Arr**	**118.57**	**210**	PKP	**PKPdf**	**11 27 16.5**	**-0.6**
comp=Z,3.2nm,0.8s,baz=146,slow=1.8,SNR=4.9							
WRA				PP	PP	11 28 38.8	+5.4
comp=Z,2.2nm,1.0s,baz=154,slow=6.7,SNR=7.0							
WRA				PKKPbc	**PKKPab**	**11 37 36.1**	**-2.8**
comp=Z,2.0nm,0.8s,baz=344,slow=4.0,SNR=13							
WRAB	**Tennant Creek**	**118.57**	**210**	PFAKE		11 27 30.0	+13
WRAB				LR	LR		
comp=Z,14µm,20.0s							
KDZ	**Kurdzhali**	**118.71**	**58**	*e*P	PP	11 28 42.0	+6.5
HFS	**Hagfors**	**119.00**	**35**	PKIKP	**PKPdf**	**11 27 15.1**	**-1.4**
HFS	**Hagfors**	**119.00**	**35**	PKP	**PKPdf**	**11 27 15.1**	**-1.4**
comp=Z,3.8nm,0.8s,baz=204,slow=6.5,SNR=4.6							
UZH	**Uzhgorod**	**119.38**	**49**	*i*PKIKP	**PKPdf**	**11 27 17.9**	**+0.3**
UZH				*e*		11 34 08.1	
KOLS	**Kolonicke sedl**	**119.48**	**49**	*e*PKIKP	PKPdf	11 27 27.4	+10
KOLS				*e*		11 28 39.5	
KOLS	**Kolonicke sedl**	**119.48**	**49**	*e*	PKPdf	11 27 27.4	+10
KOLS				*e*PP	**PP**	**11 28 39.5**	**-1.1**
KOLS				*e*		12 05 15.7	
SZH	**Strazhica**	**119.69**	**56**	*e*P	PP	11 28 49.0	+6.8
KWP	**Kalwaria Pacla**	**120.00**	**48**	*e*PKIKP	**PKPdf**	**11 27 18.1**	**-0.8**
KWP	**Kalwaria Pacla**	**120.00**	**48**	*e*PKP	**PKPdf**	**11 27 18.0**	**-0.8**
KWP	**Kalwaria Pacla**	**120.00**	**48**	PFAKE		11 27 30.0	+11
KWP				LR	LR		
comp=Z,8µm,19.0s							
ISP	**Isparta**	**120.79**	**63**	PFAKE		11 27 30.0	+9.2
ISP				LR	LR		
comp=Z,6µm,21.0s							
LVV	**L'vov**	**120.87**	**48**	*i*PKIKP	**PKPdf**	**11 27 22.4**	**+1.9**
LVV				*e*		11 34 15.4	
LVV				*e*		11 38 28.2	
PMG	**Port Moresby**	**120.90**	**229**	PFAKE		11 27 30.0	+8.3
PMG				LR	LR		
comp=Z,4µm,20.0s							
PSN	**Preselentsi**	**121.37**	**56**	*e*P	**PP**	**11 28 58.0**	**+4.3**
CSS	**Prodhromos**	**121.72**	**68**	PFAKE		11 27 30.0	+7.4
CSS				LR	LR		
comp=Z,728nm,19.0s							
SUW	**Suwalki**	**121.76**	**44**	*e*PKIKP	**PKPdf**	**11 27 20.4**	**-1.6**
SUW	**Suwalki**	**121.76**	**44**	*e*PKP	**PKPdf**	**11 27 20.4**	**-1.6**
TIRR	**Tirgusor**	**121.80**	**56**	*e*PKIKP	**PKPdf**	**11 27 23.1**	**+0.7**
TIRR	**Tirgusor**	**121.80**	**56**	*e*PKPdf	**PKPdf**	**11 27 23.1**	**+0.7**
MBWA	**Marble Bar**	**121.93**	**195**	PFAKE		11 27 30.0	+6.5
MBWA				LR	LR		
comp=Z,14µm,19.0s							
KIS	**Kishinev**	**122.93**	**53**	*e*PKIKP	**PKPdf**	**11 27 28.0**	**+3.5**
KIS	**Kishinev**	**122.93**	**53**	*e*PKP	**PKPdf**	**11 27 28.0**	**+3.5**
KIS	**Kishinev**	**122.93**	**53**	*e*PPP	PPP	11 31 20.0	
KIS				*e*SKKS		11 35 50.0	
KIS	**Kishinev**	**122.93**	**53**	*e*PS	PS	11 39 05.0	+5.0
KIS				LRM	MLR	12 23 35.0	
comp=Z,8µm,19.0s							
BHL	**Bhannes**	**123.05**	**70**	*e*P	**PP**	**11 29 09.5**	**+4.1**
ANTO	**Ankara**	**123.20**	**62**	PFAKE		11 27 40.0	+15
ANTO				LR	LR		
comp=Z,7µm,20.0s							
BRTR	**Keskin Array B**	**123.76**	**62**	PKIKP	**PKPdf**	**11 27 24.8**	**-1.8**
BRTR	**Keskin Array B**	**123.76**	**62**	PKP	**PKPdf**	**11 27 24.8**	**-1.8**
comp=Z,1.2nm,0.7s,baz=197,slow=4.0,SNR=8.7							
KBS	**Kingsbay**	**124.03**	**13**	PFAKE		11 27 40.0	+14
KBS				LR	LR		
comp=Z,3µm,20.0s							
NACGM	**Naroch**	**124.03**	**43**	*e*PKP	**PKPdf**	**11 27 23.0**	**-3.3**
KIEV	**Kiev**	**124.30**	**49**	*e*PKIKP	**PKPdf**	**11 27 25.7**	**-1.3**
KIEV	**Kiev**	**124.30**	**49**	*e*PKPdf	**PKPdf**	**11 27 26.6**	**-0.4**
KIEV				LR	LR		
comp=Z,4µm,20.0s							
AKASG	**Malin Array Be**	**124.31**	**49**	PKIKP	**PKPdf**	**11 27 26.6**	**-0.4**
AKASG						11 29 12.4	
AKASG	**Malin Array Be**	**124.31**	**49**	PKP	**PKPdf**	**11 27 26.6**	**-0.4**
comp=Z,2.0nm,0.6s,baz=271,slow=2.2,SNR=11							
AKASG				PP	**PP**	**11 29 12.4**	**-1.0**
comp=Z,9.2nm,1.2s,baz=254,slow=7.1,SNR=6.0							
MNK	**Minsk**	**124.52**	**44**	*e*PKIKP	**PKPdf**	**11 27 26.0**	**-1.3**
MNK				*e*		11 29 10.0	
MNK				*e*		11 34 32.0	
MNK				*e*PS	**PS**	**11 39 14.0**	**+0.2**
MNK				MLR	MLR		
comp=Z,12µm,18.0s							
MNK				MLR	MLR		
comp=Z,17µm,14.0s							
MNK				MLR	MLR		
comp=E,9µm,18.0s							
MNK				MLR	MLR		
comp=N,4µm,14.0s							
MICGM	**Minsk**	**124.55**	**44**	*e*PKP	**PKPdf**	**11 27 26.0**	**-1.3**
SPITS	**Spitsbergen Ar**	**124.76**	**15**	PKIKP	**PKPdf**	**11 27 26.9**	**-0.3**
SPITS	**Spitsbergen Ar**	**124.76**	**15**	PKP	**PKPdf**	**11 27 26.9**	**-0.3**
comp=N,8.2nm,0.9s,baz=119,slow=1.0,SNR=5.4							
VSU	**Vasula**	**124.88**	**39**	*e*PKIKP	**PKPdf**	**11 27 27.7**	**-0.1**
ADK	**Adak**	**124.93**	**313**	PFAKE		11 27 40.0	+12
ADK				LR	LR		
comp=Z,4µm,21.0s							
WAKE	**Wake Island**	**124.99**	**269**	PFAKE		11 27 40.0	+11
WAKE				LR	LR		
comp=Z,6µm,22.0s							
H11N3	**WAKE ISLAND Hyd**	**125.00**	**270**	T	T	13 44 50.8	
baz=122,slow=76,SNR=12							
H11N1	**WAKE ISLAND Hyd**	**125.02**	**270**	T	T	13 44 53.0	
baz=122,slow=76,SNR=15							
H11N2	**WAKE ISLAND Hyd**	**125.02**	**270**	T	T	13 44 56.1	
baz=122,slow=76,SNR=18							
GAMB	**Gambell**	**125.03**	**328**	*e*PKPdf	**PKPdf**	**11 27 28.3**	**+0.4**
FINES	**FINESS Array B**	**125.19**	**35**	PKIKP	**PKPdf**	**11 27 28.2**	**-0.2**
FINES	**FINESS Array B**	**125.19**	**35**	PKP	**PKPdf**	**11 27 28.1**	**-0.2**
comp=Z,3.7nm,0.8s,baz=110,slow=2.2,SNR=10							
KAF	**Kangasniemi**	**125.42**	**35**	*e*PKIKP	**PKPdf**	**11 27 27.7**	**-1.1**
KAF				pmax	pmax		
comp=Z,6.0nm,0.7s							
KAF	**Kangasniemi**	**125.42**	**35**	*e*pkp	**PKPdf**	**11 27 27.7**	**-1.1**
comp=Z,6.2nm,0.7s							
SIM	**Simferopol'**	**125.81**	**57**	*e*PKIKP	PKPdf	11 27 43.5	+13
SIM				*e*		11 29 24.0	
SIM				*e*SS	SS	11 46 24.0	+2.0
SIM				pmax	pmax		
comp=Z,320nm,9.0s							
ARCES	**ARCESS Array B**	**126.19**	**25**	PKIKP	**PKPdf**	**11 27 30.5**	**+0.4**
ARCES	**ARCESS Array B**	**126.19**	**25**	PKP	**PKPdf**	**11 27 30.5**	**+0.4**
comp=Z,3.7nm,0.7s,baz=242,slow=2.7,SNR=16							
DGAR	**Diego Garcia**	**126.35**	**136**	PFAKE		11 27 40.0	+7.9
DGAR				LR	LR		
comp=Z,8µm,20.0s							
RAYN	**Ar Rayn**	**126.36**	**86**	*e*PKPdf	**PKPdf**	**11 27 32.2**	**+0.3**
KEV	**Kevo**	**126.74**	**25**	PFAKE		11 27 40.0	+8.9
KEV				LR	LR		
comp=Z,6µm,21.0s							
JOF	**Joensuu**	**127.84**	**34**	*e*PKIKP	**PKPdf**	**11 27 30.5**	**-2.9**
JOF				pmax	pmax		
comp=Z,6.0nm,0.9s							
JOF	**Joensuu**	**127.84**	**34**	*e*pkp	**PKPdf**	**11 27 30.5**	**-2.9**
comp=Z,5.6nm,0.9s							
ANN	**Anapa**	**128.03**	**58**	*i*PKIKP	**PKPdf**	**11 27 33.4**	**-0.9**
ANN				*e*		11 29 33.0	
ANN				*e*		11 34 38.4	
ANN				*e*PS	**PS**	**11 39 41.0**	**-3.9**
ANN				*i* SS	SS	11 46 49.0	-0.7
ANN				pmax	pmax		
comp=E,29nm,2.3s							
ANN				pmax	pmax		
comp=Z,70nm,2.3s							
ANN				pmax	pmax		
comp=N,42nm,2.3s							
APA	**Apatity**	**128.98**	**28⇑**	*i*PKIKP	**PKPdf**	**11 27 37.6**	**+2.2**
APA				*i*		11 34 42.0	
APA				*i* PS	**PS**	**11 39 46.0**	**-6.5**
APA				MLR	MLR		
comp=Z,7µm,19.0s							
SOC	**Sochi**	**129.29**	**60**	*i* P	**Pdif**	**11 24 24.3**	**+0.4**
SOC				*e*		11 27 34.4	
SOC				*i*		11 29 42.4	
SOC				*e*PPP	PPP	11 32 27.6	
SOC				*e*		11 34 39.2	
SOC				*i* PS	**SS**	**11 47 08.4**	**+3.0**
LVZ	**Lovozero**	**129.45**	**28**	PFAKE		11 27 50.0	+14
LVZ				LR	LR		
comp=Z,5µm,19.0s							
OBN	**Obninsk**	**129.59**	**44**	*i*PKIKP	**PKPdf**	**11 27 38.4**	**+1.5**
OBN				*i*		11 29 50.3	
OBN				*i* SS	SS	11 47 06.3	-2.1
OBN				pmax	pmax		
comp=Z,102nm,2.1s							
OBN				MLR	MLR		
comp=Z,7µm,21.0s							
OBN	**Obninsk**	**129.59**	**44**	PKP	**PKPdf**	**11 27 38.4**	**+1.5**
comp=Z,18nm,0.4s,baz=159,slow=2.5,SNR=5.6							
OBN	**Obninsk**	**129.59**	**44**	PKP	**PKPdf**	**11 27 38.4**	**+1.5**
OBN				LR	LR		
comp=Z,7µm,20.0s							
ABTO	**Aybut**	**129.60**	**97**	P	**PKPdf**	**11 27 42.5**	**+4.3**
SNR=6.1							
MOS	**Moscow**	**130.27**	**44**	*e*PKIKP	**PKPdf**	**11 27 36.8**	**-1.4**
MOS				*e*		11 29 52.4	
MOS				MLR	MLR		
comp=Z,6µm,19.0s							
VSR	**Storozhevoye**	**130.55**	**50**	*e*PKIKP	**PKPdf**	**11 27 42.5**	**+3.6**
VSR				pmax	pmax		
comp=Z,7.0nm,1.0s							
VSR				pmax	pmax		
comp=N,7.0nm,0.8s							
VSR				pmax	pmax		
comp=E,5.0nm,0.7s							
VSR				MLR	MLR		
comp=Z,8µm,20.0s							
VSR				MLR	MLR		
comp=N,2µm,18.0s							
VSR				MLR	MLR		
comp=E,6µm,20.0s							
VORD	**Divnogorie**	**130.59**	**50**	*e*PKIKP	**PKPdf**	**11 27 42.3**	**+3.3**
VORD				pmax	pmax		
comp=Z,5.0nm,0.9s							
VORD				pmax	pmax		
comp=N,6.0nm,0.7s							
VORD				pmax	pmax		
comp=E,10.0nm,0.6s							
VORD				MLR	MLR		
comp=Z,4µm,19.0s							
VORD				MLR	MLR		
comp=N,3µm,18.0s							
VORD				MLR	MLR		
comp=E,3µm,19.0s							
TMCR	**Tamitsa**	**130.90**	**33**	*e*PKIKP	**PKPdf**	**11 27 39.9**	**+0.8**
TMCR				pmax	pmax		
comp=Z,39nm,0.3s							
COCO	**West Island**	**131.35**	**167**	PFAKE		11 27 50.0	+8.4
COCO				LR	LR		
comp=Z,8µm,20.0s							
KIV	**Kislovodsk**	**131.46**	**60**	*i* P	**Pdif**	**11 24 29.9**	**-3.8**
KIV				*i*		11 27 39.8	
KIV				*e*		11 29 57.6	
KIV				*e*PS	**PS**	**11 40 11.9**	**-3.1**
KIV				*e*SS	SS	11 47 31.6	-0.7
KIV				*e*SSS	SSS	11 52 20.6	
KIV				pmax	pmax		
comp=Z,13nm,1.0s							
KIV				MLR	MLR		
comp=Z,3µm,21.0s							
KIV	**Kislovodsk**	**131.46**	**60**	P	**PKPdf**	**11 27 45.2**	**+4.1**
SNR=8.0							
KIV	**Kislovodsk**	**131.46**	**60**	*e*PKPdf	**PKPdf**	**11 27 42.8**	**+1.8**
KIV				LR	LR		
comp=Z,3µm,21.0s							
KBZ	**Khabaz**	**131.56**	**60**	PKIKP	**PKPdf**	**11 27 41.9**	**+0.8**
KBZ

IPAR	Pars	135.15	82	eP		PKPdf	11 27 44.6	-4.1
NAZ	Nazwa, Dubai	135.27	89⇑	i	PKPdf	PKPdf	11 27 44.8	-3.8
	SNR=5.9							
ASHO	Ashiyiah	135.46	90	⇓	PKPdf	PKPdf	11 27 46.0	-3.1
SMDO	Samad	136.33	93	P		PKPdf	11 27 55.0	+4.2
	SNR=5.0							
ISAD	Sadrabad	136.41	79	eP		PKPdf	11 27 44.2	-6.7
KAPI	Kappang	137.49	200		PFAKE		11 28 00.0	+6.8
KAPI					LR	LR		
	comp=Z,5μm,20.0s							
IBAF	Bafgh	137.80	81	eP		PKPdf	11 27 52.0	-1.4
SANI	Sanana	138.13	210	P		PKPdf	11 27 59.2	+4.9
	comp=Z,32nm,1.2s,comp=Z,1μm							
GUMO	Guam	139.07	247		PFAKE		11 28 10.0	+14
GUMO					LR	LR		
	comp=Z,2μm,22.0s							
PET	Petropavlovsk	139.98	312		PFAKE		11 28 10.0	+14
PET					LR	LR		
	comp=Z,4μm,20.0s							
SOKR	Solikamsk	140.28	37	i	PKHKP	PKPpre	11 27 46.7	
SOKR					pmax	pmax		
	comp=Z,10.0nm,1.0s							
PETK	Petropavlovsk-	140.55	312		PKIKP	PKPdf	11 27 59.2	+1.7
PETK	Petropavlovsk-	140.55	312		PKP	PKPdf	11 27 59.2	+1.7
	comp=Z,16nm,1.1s,baz=87,slow=15,SNR=3.7							
GEYT	Alibeck	141.58	72		PKP	PKPdf	11 27 59.1	-0.8
	comp=Z,5.9nm,0.8s,baz=216,slow=4.8,SNR=7.5							
IDAH	Dahanechah	141.62	81	eP		PKPdf	11 27 54.7	-5.7
IKRD	Kardeh	141.64	74	eP		PKPdf	11 27 56.6	-3.7
TRD	Trivandrum	141.70	128	eP		PKPdf	11 27 58.1	-2.6
TRD					AMS	AMS	13 00 19.0	
	comp=Z,2μm,22.0s							
ARU	Arti	141.92	42	i	PKIKP	PKPdf	11 27 57.6	-2.2
ARU					PPP	PPP	11 34 11.8	
ARU					MLR	MLR		
	comp=Z,10μm,20.0s							
ARU	Arti	141.92	42		PFAKE		11 28 10.0	+10
ARU					LR	LR		
	comp=Z,9μm,20.0s							
ISRO	Mashad	142.28	75	eP		PKPdf	11 27 53.6	-7.7
TIXI	Tiksi	142.28	349c	i	PKIKP	PKPdf	11 27 59.3	-0.7
TIXI	Tiksi	142.28	349		PFAKE		11 28 10.0	+10
TIXI					LR	LR		
	comp=Z,4μm,19.0s							
AKTO	Aktyubinsk	142.43	52		PKIKP	PKPdf	11 27 57.3	-3.6
AKTO					pmax	pmax		
	comp=Z,32nm,1.4s							
AKTO	Aktyubinsk	142.43	52		PKP	PKPdf	11 27 58.5	-2.5
	comp=Z,3.4nm,0.8s,baz=212,slow=1.9,SNR=11							
IMYA	Miami	142.78	75	eP		PKPdf	11 27 55.3	-6.9
SVE	Sverdlovsk	142.94	41	i	PKIKP	PKPdf	11 28 02.9	+1.3
SVE				e	SS	SS	11 49 47.8	+0.3
SVE					pmax	pmax		
	comp=Z,60nm,1.9s							
SVE					MLR	MLR		
	comp=Z,9μm,20.0s							
SVE					MLR	MLR		
	comp=E,7μm,19.0s							
PALK	Pallekele	143.02	134		PKIKP	PKPbc	11 28 01.5	+1.5
PALK	Pallekele	143.02	134		PKP	PKPbc	11 28 01.5	+1.5
	comp=E,12nm,0.8s,baz=247,slow=3.6,SNR=4.6							
MNGI	Mangalore	143.49	121	ex		PKPab	11 27 52.5	-7.6
MNGI				ex		SKKSac	11 38 06.5	+0.4
AB31	Akbulak array	143.75	54	i	PKHKP	PKPab	11 27 58.4	-1.8
AB31					pmax	pmax		
	comp=Z,230nm,1.3s							
BKNI	Bangkinang	144.29	171	e	PKPdf	PKPdf	11 28 04.8	-0.6
GOA	Goa	144.49	116	eP		PKPbc	11 28 04.3	+0.1
MNSI	Mandailing Nat	144.53	168	P		PKPab	11 28 02.2	-2.0
GSI	Gunungsitoli	144.64	164	P		PKPdf	11 28 05.9	-0.1
	comp=Z,149nm,1.2s,comp=Z,4μm							
GSI	Gunungsitoli	144.64	164	e	PKPdf	PKPbc	11 28 05.2	+0.5
SNSI	Sinabang, Aceh	145.41	162	P		PKPab	11 28 10.9	+3.5
KSM	Kuching	145.61	187	e	PKPdf	PKPdf	11 28 06.7	-1.0
KSM					LR	LR		
	comp=Z,6μm,21.0s							
BHJ	Bhuj	145.77	101	eP		PKPdf	11 28 07.8	+0.2
MYKOM	Kota Tinggi	146.02	175	⇓	P	PKPdf	11 28 01.7	-6.6
KGM	Kluang	146.20	174	⇑	P	PKPbc	11 28 09.3	-0.4
PSI	Prapat	146.37	166		PKHKP	PKPpre	11 28 06.8	
PSI	Prapat	146.37	166		PKPbc	PKPdf	11 28 06.8	-2.3
	comp=Z,15nm,0.8s,baz=194,slow=7.5,SNR=9.5							
POO	Poona	146.42	112	eP		PKPdf	11 28 06.2	-2.7
POO				i	SS	SS	11 50 30.0	+1.4
TPTI		146.44	163		P	PKPab	11 28 21.7	+10
	comp=Z,77nm,0.7s,comp=Z,33μm							
DAV	Davao City (W)	146.44	216		PFAKE		11 28 20.0	+8.7
DAV					LR	LR		
	comp=Z,3μm,19.0s							
TSM	Tawau	146.89	201	⇑	P	PKPdf	11 28 07.7	-2.1
TSI	Tuntungan	146.98	165		P	PKPab	11 28 25.1	+12
CTBH	Cotabato--PC H	147.20	214	⇓	P	PKPbc	11 28 12.9	+0.4
FRIM	Kepong	147.23	171	⇓	P	PKPdf	11 28 11.5	+1.1
MDRS	Chennai	147.24	127	eP		PKPdf	11 28 09.1	-1.2
MDRS					AMS	AMS	12 59 40.2	
	comp=Z,2μm,19.2s							
KUR	Kuril'sk	147.51	300	i	PKP2	PKPab	11 28 15.9	+1.3
KUR				i			11 44 17.8	
KUR				i	SS	SS	11 50 43.4	+2.9
MYLDM	Lahad Datu	147.54	203	⇑	P	PKPdf	11 28 05.0	-5.9
SDKM	Sandakan	148.37	201	⇑	P	PKPdf	11 28 13.8	+1.4
IPM	Ipoh	148.37	170	e	PKPdf	PKPdf	11 28 13.3	+1.0
YUK	Yuzh-Kuril'sk	148.98	297	i	PKHKP	PKPpre	11 28 10.7	
YUK				i	SS	SS	11 51 00.1	+3.0
KKM	Kota Kinabalu	149.02	199	⇑	P	PKPdf	11 28 14.5	+1.1
KKM	Kota Kinabalu	149.02	199		PFAKE		11 28 20.0	-1.6
KKM					LR	LR		
	comp=Z,3μm,20.0s							
KULM	Kulim	149.11	169	e	PKPdf	PKPdf	11 28 13.2	-0.3
KULM				e	PKPbc	PKPbc	11 28 16.9	-0.7
HYB	Hyderabad	149.16	119	i	PKP	PKPdf	11 28 14.0	+0.6
HYB				e			11 28 22.0	
HYB				e	PP	PP	11 31 50.0	+0.9
HYB				e	SKS	SKSdf	11 35 24.0	+4.8
HYB				e			11 44 44.0	
HYB	Hyderabad	149.16	119	eP		PKPdf	11 28 11.5	-1.9
BRVK	Borovoye	149.37	44	e	PKIKP	PKPdf	11 28 13.1	+0.5
BRVK					MLR	MLR		
	comp=Z,12μm,20.0s							
BRVK	Borovoye	149.37	44	P		PKPdf	11 28 12.3	-0.3
	SNR=52							
BRVK	Borovoye	149.37	44	e	PKPdf	PKPdf	11 28 13.1	+0.5
BRVK					LR	LR		
	comp=Z,12μm,20.0s							
BVA0	Borovoye Array	149.44	44	i	PKHKP	PKPpre	11 28 11.2	
BVA0					pmax	pmax		
	comp=Z,146nm,1.5s							
BVAR	Borovoye Array	149.44	44		PKIKP	PKPdf	11 28 13.5	+0.7
BVAR	Borovoye Array	149.44	44		PKPbc	PKPdf	11 28 13.5	+0.7
	comp=Z,8.1nm,0.8s,baz=293,slow=2.9,SNR=15							
KTGM	Kuala Trenggan	149.46	173	⇑	P	PKPdf	11 28 16.1	+2.1
KBL	Kabul	149.47	81	e	PKPdf	PKPdf	11 28 14.1	+0.3
KBL				e	PKPbc	PKPbc	11 28 17.6	-0.7
VOSK	Vostochnaya	149.88	45		PKP2	PKPbc	11 28 17.0	-1.3
VOSK					pmax	pmax		
	comp=Z,24nm,1.1s							
YAK	Yakutsk	150.04	338	i	PKHKP	PKPpre	11 28 16.9	
YAK				e			11 31 51.4	
YAK					pmax	pmax		
	comp=Z,179nm,1.2s							
YAK					pmax	pmax		
	comp=N,14nm,1.3s							
YAK					pmax	pmax		
	comp=E,17nm,0.9s							
YAK					pmax	pmax		
	comp=Z,506nm,3.3s							
YAK					pmax	pmax		
	comp=N,214nm,3.0s							
YAK					pmax	pmax		
	comp=E,108nm,3.2s							
YAK	Yakutsk	150.04	338		PFAKE		11 28 20.0	+1.6
YAK					LR	LR		
	comp=Z,3μm,20.0s							
YSS	Yuzh-Sakhalins	150.88	304	⇓	i	PKIKP	PKPbc	11 28 20.0	-0.9
YSS				e			11 28 25.0	
YSS				e	SS	SS	11 51 22.0	+3.9
YSS	Yuzh-Sakhalins	150.88	304	e	PKPbc	PKPbc	11 28 19.9	-0.9
YSS					LR	LR		
	comp=Z,2μm,19.0s							
ERM	Erimo	150.99	293	e	PKIKP	PKPbc	11 28 21.4	+0.1
ERM					MLR	MLR		
	comp=Z,4μm,20.0s							
ERM	Erimo	150.99	293	e	PKPbc	PKPbc	11 28 21.4	+0.1
ERM					LR	LR		
	comp=Z,4μm,20.0s							
AJM	Ajmer	151.28	100	ex		PKPbc	11 28 20.0	-2.5
ASAJ	Asahikawa	151.33	298	e	PKPbc	PKPbc	11 28 20.6	-1.4
KK31	Karatay Array	151.45	64		PKIKP	PKPbc	11 28 20.2	-2.2
KK31					pmax	pmax		
	comp=Z,43nm,1.1s							
KKAR	Karatay Array	151.45	64	e	PKIKP	PKPbc	11 28 19.7	-2.7
KKAR	Karatay Array	151.45	64	e	PKPbc	PKPbc	11 28 19.7	-2.7
RCP	Roxas	151.70	215⇑	eP		PKPab	11 28 29.1	-3.3
BHPL	Bhopal	151.86	109	eP		PKPdf	11 28 16.2	-1.3
NGP	Nagpur	151.89	114	eP		PKPdf	11 28 16.2	-1.3
NGP				ex		x	11 41 57.3	
VIS	Vishakhapatnam	152.65	125	eP		PKPdf	11 28 16.5	-2.2
PBA	Port Blair	152.88	149	eP		PKPdf	11 28 15.6	-3.6
EKS2	Erkin-Say	153.87	65	e	PKIKP	PKPdf	11 28 18.7	-1.3
EKS2					MLR	MLR		
	comp=Z,7μm,19.0s							
EKS2	Erkin-Say	153.87	65	e	PKPdf	PKPdf	11 28 18.7	-1.3
EKS2					LR	LR		
	comp=Z,7μm,19.0s							
NDI	New Delhi	154.28	98	e	PKP3	PKPdf	11 28 22.0	+1.2
AAK	Ala-Archa	154.40	65c	i	PKIKP	PKPdf	11 28 23.0	+2.2
AAK					pmax	pmax		
	comp=Z,85nm,2.5s							
AAK	Ala-Archa	154.40	65		P	PKPdf	11 28 20.9	+0.2
	SNR=27							
AAK	Ala-Archa	154.40	65		PKP	PKPdf	11 28 21.0	+0.2
	comp=Z,7.6nm,1.0s,baz=204,slow=2.4,SNR=16							
AAK	Ala-Archa	154.40	65		PKP	PKPdf	11 28 21.0	+0.2
AAK					LR	LR		
	comp=Z,6μm,20.0s							
MJAR	Matsushiro Arr	154.47	281		PKIKP	PKPdf	11 28 21.3	+0.5
MJAR	Matsushiro Arr	154.47	281		PKP	PKPdf	11 28 21.3	+0.5
	comp=Z,1.5nm,0.9s,baz=186,slow=2.5,SNR=5.7							
MJAR					PKPab	PKPab	11 28 46.0	+2.2
	comp=Z,13nm,1.1s,baz=126,slow=1.7,SNR=6.1							
MAJO	Matsushiro	154.47	281	e	PKIKP	PKPbc	11 28 30.4	+1.1
MAJO					MLR	MLR		
	comp=Z,5μm,22.0s							
MAJO	Matsushiro	154.47	281	e	PKPbc	PKPbc	11 28 30.4	+1.1
MAJO					LR	LR		
	comp=Z,5μm,22.0s							
MAT	Matsushiro	154.47	281		PKP	PKPdf	11 28 23.5	+2.6
FRU	Bishkek	154.47	64	e	PKIKP	PKPdf	11 28 20.0	-0.7
FRU				i			11 32 20.0	
FRU					pmax	pmax		
	comp=Z,680nm,3.2s							
FRU					pmax	pmax		
	comp=Z,1μm,2.9s							
BHK	Bhakra	154.61	91	ex		PKPab	11 28 44.8	+0.2
DHRM	DHARAMSHALA	154.76	89	eP		PKPdf	11 28 19.7	-2.0
KURBB	Kurchatov Arra	155.03	45		PKP	PKPdf	11 28 19.4	-1.7
	comp=Z,1.8nm,0.8s,baz=297,slow=2.1,SNR=8.4							
KURBB					PP	PP	11 32 25.1	+3.1
	comp=Z,4.0nm,0.9s,baz=282,slow=5.0,SNR=7.0							
KURK	Kurchatov	155.04	45		PKIKP	PKPdf	11 28 19.4	-1.7
KURK							11 32 25.1	
KURK					MLR	MLR		
	comp=Z,3μm,19.0s							
KURK	Kurchatov	155.04	45		P	PKPdf	11 28 21.7	+0.6
	SNR=11							
KURK	Kurchatov	155.04	45		PKP	PKPdf	11 28 19.4	-1.7
KURK					PP	PP	11 32 25.1	+3.0
KURK					LR	LR		
	comp=Z,3μm,19.0s							
SMLA	Simla	155.13	92	i	x	PKPdf	11 28 18.8	-3.1
TKM2	Tokmak 2	155.18	64		PKIKP	PKPdf	11 28 20.1	-1.8
TKM2					pmax	pmax		
	comp=Z,26nm,1.4s							
TKM2	Tokmak 2	155.18	64	e	PKPdf	PKPdf	11 28 20.3	-1.6
TKM2					LR	LR		
	comp=Z,5μm,19.0s							
HABR	Khabarovsk	155.53	310	d	PKIKP	PKPdf	11 28 20.3	-1.6
HABR				e			11 28 46.7	
HABR				e			11 32 24.0	
HABR				e			11 35 26.9	
HABR					PPP	PPP	11 35 56.5	
HABR				e	SS	SS	11 52 11.6	+3.0
HABR				e	SSS	SSS	11 58 08.0	
HABR					pmax	pmax		
	comp=N,19nm,1.6s							
HABR					pmax	pmax		
	comp=E,26nm,1.6s							
HABR					pmax	pmax		
	comp=Z,77nm,1.6s							
KSH	Kashi	155.62	72		PKP	PKPdf	11 28 21.4	-1.1
KSH					sPKP		11 28 26.3	
KSH					PKS	PKSdf	11 31 55.9	-0.7
KSH					PP	PP	11 32 23.3	-2.9
KSH					SKS	SKSdf	11 35 28.4	+2.2
KSH					SKKS	SKKSac	11 39 15.1	+2.3
KSH					SS	SS	11 52 09.1	-1.7
KSH					PPMZ			
	comp=Z,670nm,3.6s							
KSH					LN			
	comp=Z,910nm,15.9s							
KSH					LE			
	comp=Z,1μm,15.5s							
KSH					LZ			
	comp=Z,3μm,22.7s							
CLNS	Chul'man	155.62	335	e	PKP2	PKPab	11 28 45.6	-2.5
CLNS					pmax	pmax		
	comp=E,7.0nm,1.0s							
CLNS					pmax	pmax		
	comp=N,4.0nm,0.8s							
CLNS					pmax	pmax		
	comp=Z,20nm,1.3s							
ZALV	Zalesovo Beam	156.43	33		PKIKP	PKPdf	11 28 20.4	-2.5
ZALV	Zalesovo Beam	156.43	33		PKP	PKPdf	11 28 20.4	-2.5
	comp=Z,6.5nm,0.8s,baz=29,slow=3.4,SNR=17							
ZALV					PKPab	PKPab	11 28 51.1	-0.4
	comp=Z,24nm,0.7s,baz=309,slow=4.7,SNR=10							
KLR	Kul'dur	157.23	314	e	PKIKP	PKPdf	11 28 23.2	-0.9
KLR					pmax	pmax		
	comp=Z,200nm,2.4s							
BOD	Bodaibo	157.46	350	e	PKIKP	PKPdf	11 28 24.5	+0.4
BOD					pmax	pmax		
	comp=Z,19nm,2.2s							
BOD					pmax	pmax		
	comp=Z,46nm,1.2s							
BOK	Bokaro	158.50	118	ex		PKPdf	11 28 26.7	+0.3
USRK	Ussuriysk Ar.	158.84	301		PKPab	PKPab	11 29 03.1	+0.8
	comp=Z,3.7nm,0.8s,baz=96,slow=1.9,SNR=4.5							
MKAR	Makanchi Array	158.86	51		PKIKP	PKPdf	11 28 24.1	-2.1
MKAR							11 32 46.4	
MKAR	Makanchi Array	158.86	51		PKP	PKPdf	11 28 24.1	-2.1
	comp=Z,4.9nm,0.8s,baz=336,slow=1.5,SNR=18							
MKAR					PKPab	PKPab	11 29 01.9	-0.6
	comp=Z,6.1nm,0.8s,baz=274,slow=4.7,SNR=4.9							
MKAR					PP	PP	11 32 46.4	+2.9
	comp=Z,4.1nm,1.0s,baz=305,slow=4.3,SNR=6.0							
MDJ	Mudanjiang	160.37	304		PKP	PKPdf	11 28 31.6	+3.6
MDJ					pPKP	pPKPdf	11 28 36.8	-2.6
MDJ					PKS	PKSdf	11 32 02.6	+1.4
MDJ					PPMZ			
	comp=Z,660nm,5.1s							
MDJ					LN			
	comp=Z,1μm,24.2s							
MDJ					LE			
	comp=Z,3μm,24.2s							
MDJ					LZ			
	comp=Z,3μm,22.5s							
MDJ	Mudanjiang	160.37	304		PFAKE		11 28 40.0	+12
MDJ					LR	LR		
	comp=Z,4μm,20.0s							
CMAR	Chiang Mai Arr	161.42	157		PKIKP	PKPdf	11 28 29.2	-0.7
CMAR							11 29 13.6	
CMAR	Chiang Mai Arr	161.42	157		PKP	PKPdf	11 28 29.1	-0.7
	comp=Z,1.1nm,0.3s,baz=237,slow=2.4,SNR=5.3							
CMAR					PKPab	PKPab	11 29 13.6	-0.5
	comp=Z,1.5nm,0.3s,baz=294,slow=11,SNR=4.2							
CHTO	Chiang Mai	161.76	157	e	PKIKP	PKPdf	11 28 30.3	+0.1
CHTO					MLR	MLR		
	comp=Z,6μm,19.0s							
CHTO	Chiang Mai	161.76	157		P	PKPdf	11 28 33.1	+2.8
	SNR=8.0							
CHTO	Chiang Mai	161.76	157	e	PKPdf	PKPdf	11 28 30.3	+0.1
CHTO					LR	LR		
	comp=Z,6μm,19.0s							
KSRS	Korea Array	162.74	282		PKP	PKPdf	11 28 31.4	+0.7
	comp=Z,5.7nm,1.1s,baz=282,slow=6.3,SNR=5.5							
KSRS					PKPab	PKPab	11 29 20.2	+0.6
	comp=Z,3.7nm,0.7s,baz=83,slow=3.1,SNR=6.0							
KSAR	Wonju Array Be	162.77	282		PKIKP	PKPdf	11 28 31.4	+0.7
KSAR							11 29 20.2	
KSAR	Wonju Array Be	162.77	282		PKP	PKPdf	11 28 31.4	+0.7
KSAR					PKPab	PKPab	11 29 20.2	+0.4
QIZ	Qiongzhong	162.99	191		PKP	PKPdf	11 28 29.3	-2.1
QIZ					PP	PP	11 33 04.8	+0.3
QIZ					SS	SS	11 53 30.0	+4.3
QIZ					LN			
	comp=Z,4μm,19.1s							
QIZ					LZ			
	comp=Z,7μm,19.1s							
QIZ	Qiongzhong	162.99	191		PFAKE		11 28 40.0	+8.6
QIZ					LR	LR		
	comp=Z,7μm,20.0s							
YHNB	Yeheng	163.02	233		PFAKE		11 28 40.0	+8.6
YHNB					LR	LR		
	comp=Z,4μm,22.0s							
TATO	Taipei	163.16	234		PFAKE		11 28 40.0	+8.6
TATO					LR	LR		
	comp=Z,3μm,20.0s							
HIA	Hailar	163.46	328		PFAKE		11 28 40.0	+9.0
HIA					LR	LR		
	comp=Z,6μm,21.0s							
WMQ	Urumqi	163.53	55	e	PKP	PKPdf	11 28 31.3	0.0
WMQ					PKPab	PKPab	11 29 25.3	+2.4
WMQ					PKS	PKSdf	11 32 03.3	-1.0
WMQ					PP	PP	11 33 10.8	+2.2
WMQ					SKS	SKSdf	11 35 34.0	+0.9
WMQ					SKKS	SKKSac	11 39 56.0	+2.4
WMQ					SS	SS	11 53 35.0	+1.5
WMQ					PPMZ			
	comp=Z,2μm,11.0s							
WMQ					LN			
	comp=Z,5μm,20.0s							
WMQ					LE			
	comp=Z,4μm,20.0s							
WMQ					LZ			
	comp=Z,4μm,20.0s							
IRK	Irkutsk	163.53	5	e	PKIKP	PKPdf	11 28 30.8	-0.2
IRK				e			11 29 22.0	
IRK				e			11 33 05.6	
IRK					pmax	pmax		
	comp=Z,100nm,2.7s							
MOY	Mondy	163.70	12	e	PKIKP	PKPdf	11 28 33.3	+2.0
INCN	Inchon	163.77	282		PFAKE		11 28 40.0	+8.3
INCN					LR	LR		
	comp=Z,4μm,19.0s							
SHL	Shillong	163.79	125	e	P3	PKPdf	11 28 28.3	-4.0
TLY	Talaya	164.04	7	i	PKIKP	PKPdf	11 28 34.7	+3.2
TLY					pmax	pmax		
	comp=Z,37nm,2.8s							
TLY	Talaya	164.04	7		P	PKPdf	11 28 32.6	+1.1
	SNR=12							
TLY	Talaya	164.04	7		PKP	PKPdf	11 28 32.0	+0.5
	comp=Z,1.7nm,0.5s,baz=216,slow=18,SNR=4.3							
TLY	Talaya	164.04	7		PKP	PKPdf	11 28 32.0	+0.5
TLY					LR	LR		
	comp=Z,5μm,19.0s							
QZH	Quanzhou	164.95	227	e	PKP	PKPdf	11 28 37.8	+4.7
QZH					PP	PP	11 33 15.8	+0.1
QZH					LN			
	comp=Z,3μm,15.0s							
QZH					LE			
	comp=Z,11μm,19.5s							
QZH					LZ			
	comp=Z,7μm,18.4s							
ZAK	Zakamensk	165.29	8	e	PKIKP	PKPdf	11 28 31.6	-1.1
ZAK					pmax	pmax		
	comp=Z,12nm,2.7s							
SLVN	Son La	165.36	170	e	PKPdf	PKPdf	11 28 34.7	+1.1
SNY	Shenyang	165.43	299	⇓	PKP	PKPdf	11 28 23.0	-10
LSA	Lhasa	165.70	111		PFAKE		11 28 40.0	+5.8
LSA					LR	LR		
	comp=Z,8μm,20.0s							
SSE	Sheshan	166.87	253		PKP	PKPdf	11 28 35.6	+1.2
SSE					PP	PP	11 33 30.9	+4.6
SSE					SS	SS	11 54 13.1	+4.9
SSE					PPMZ			
	comp=Z,2μm,14.3s							
SSE					LN			
	comp=Z,3μm,20.3s							
SSE					LE			
	comp=Z,2μm,20.4s							
SSE					LZ			
	comp=Z,5μm,18.3s							
DL2	Dalian	167.59	289	e	PKP	PKPdf	11 28 45.5	+11
DL2					PP	PP	11 33 33.6	+3.6
ULN	Ulaanbaatar	167.99	358	e	PKIKP	PKPdf	11 28 34.0	-0.9
ULN					MLR	MLR		
	comp=Z,6μm,19.0s							
ULN	Ulaanbaatar	167.99	358		P	PKPdf	11 28 33.6	-1.3
	SNR=7.7							
ULN	Ulaanbaatar	167.99	358	e	PKPdf	PKPdf	11 28 34.0	-0.9
ULN					LR	LR		
	comp=Z,6μm,19.0s							
SONM	Songino Array	168.03	0		PKIKP	PKPdf	11 28 34.7	-0.2
SONM							11 33 32.4	
SONM	Songino Array	168.03	0		PKP	PKPdf	11 28 34.7	-0.2
	comp=Z,3.5nm,1.1s,baz=222,slow=2.0,SNR=4.7							
SONM					PKPab	PKPab	11 29 43.8	+1.3
	comp=Z,7.2nm,0.8s,baz=339,slow=3.8,SNR=12							
SONM					PP	PP	11 33 32.4	+1.6
	comp=Z,1.7nm,0.9s,baz=349,slow=2.9,SNR=3.7							
GYA	Guiyang	170.63	181	i	PKP	PKPdf	11 28 36.0	-1.2
GYA					PKPab	PKPab	11 29 54.6	0.0
GYA					PKS	PKSdf	11 32 06.3	-3.5
GYA					SKKS		11 40 31.3	
GYA					SS	SS	11 54 43.8	+0.6
GYA					PPMZ			
	comp=Z,410nm,9.8s							
GYA					LN			
	comp=Z,3μm,23.2s							
GYA					LE			
	comp=Z,3μm,20.5s							
GYA					LZ			
	comp=Z,4μm,20.5s							
BJI	Beijing	171.30	302		PKP	PKPdf	11 28 37.3	+0.4
BJI					SS	SS	11 54 55.3	+3.5
BJI					LN			
	comp=Z,1μm,23.5s							
BJI					LE			
	comp=Z,3μm,26.6s							
BJI					LZ			
	comp=Z,3μm,30.1s							
BJT	Baijiatuau	171.31	301		PFAKE		11 28 50.0	+13
BJT					LR	LR		
	comp=Z,7μm,19.0s							
TIA	Tai'an	171.39	275		PKP	PKPdf	11 28 41.0	+3.9
TIA					PP	PP	11 33 51.4	+2.0
TIA

HHC				LE			
	comp=Z,2μm,21.1s						
HHC				LZ			
	comp=Z,2μm,22.4s						
ENH	**Enshi**	**173.90**	**205**	PFAKE		11 28 50.0	+12
ENH				LR	LR		
	comp=Z,4μm,21.0s						
CD2	**Chengdu**	**174.56**	**154**	PKP	**PKPdf**	**11 28 37.1**	**-1.5**
CD2				PKPab	**PKPab**	**11 30 15.8**	**+3.9**
CD2				PP	**PP**	**11 34 01.9**	**-1.6**
CD2				SKKS		11 40 49.8	
CD2				SS	**SS**	**11 55 22.3**	**+0.4**
CD2				PPMZ			
	comp=Z,3μm,11.9s						
CD2				LN			
	comp=Z,6μm,16.7s						
CD2				LE			
	comp=Z,5μm,19.0s						
CD2				LZ			
	comp=Z,6μm,16.7s						
XAN	**Xi'an**	**177.32**	**228**	PKP	**PKPdf**	**11 28 37.3**	**-1.9**
XAN				PKPab	PKPab	11 30 28.8	+4.6
XAN				SKKS		11 41 04.8	
XAN				LN			
	comp=Z,3μm,20.2s						
XAN				LE			
	comp=Z,700nm,17.9s						
XAN				LZ			
	comp=Z,2μm,19.1s						
LZH	**Lanzhou**	**177.82**	**83**	*e*PKP	**PKPdf**	**11 28 40.9**	**+1.6**
LZH				pPKP	**pPKPdf**	**11 28 45.8**	**-5.1**
LZH				PKPab	PKPab	11 30 28.9	+2.2
LZH				PP	**PP**	**11 34 25.1**	**+4.4**
LZH				SKKS		11 41 05.3	
LZH				SS	**SS**	**11 55 49.1**	**-6.8**
LZH				PPMZ			
	comp=Z,7μm,13.7s						
LZH				LN			
	comp=Z,4μm,18.6s						
LZH				LE			
	comp=Z,5μm,19.7s						
LZH				LZ			
	comp=Z,6μm,19.3s						

*IDC **15** 11:13:05.0±0.9, 35°.60S×72°.90W, h0^{km}, mb4.6/7, mb1 4.6/8, mb1mx4.3/31, mbtmp4.5/8, ML3.4/1, Error ellipse: s-maj=34.9km s-min=25.3km az=55.0*
*ISCJB **15** 11:13:06.5±0.6, 35°.5S±0°.1×72°.9W±0°.1, h17^{km}, mb4.8/16, Error ellipse: s-maj=16.9km s-min=13.9km az=138.0*
*NEIC **15** 11:13:10.2±0.5, 35°.59S×72°.80W, h35^{km}, mb4.7/4, Error ellipse: s-maj=14.5km s-min=11.9km az=74.0*
ISC 15 11:13:07.8±0.8, 35°.6S±0°.1×72°.9W±0°.2, h17^{km}, n28, σ0°79/27, mb4.9/16, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.55**	**46**	Pn	**Pn**	**11 14 29.5**	**-0.2**
	1.1nm,0.3s,baz=258,slow=16,SNR=2.4						
LPAZ	**La Paz**	**19.69**	**14**	*e*P	**P**	**11 17 36.2**	**-0.7**
NNA	**Nana**	**23.77**	**350**	*e*P	**P**	**11 18 19.6**	**+0.1**
OTAV	**Otavalo**	**36.02**	**351**	*e*P	**P**	**11 20 09.7**	**+1.0**
PTGA	**Pitinga**	**36.71**	**22**	*e*P	**P**	**11 20 13.3**	**-0.8**
	15nm,1.1s						
SNAA	**Sanae**	**50.38**	**157**	P	**P**	**11 22 03.6**	**-0.1**
	4.9nm,0.9s,baz=284,slow=7.0,SNR=5.7						
SNAA	**Sanae**	**50.38**	**157**	*e*P	**P**	**11 22 02.9**	**-0.8**
CELP	**Cerrillos**	**53.70**	**7**	*e*P	**P**	**11 22 28.7**	**-0.2**
TXAR	**Lajitas Array**	**70.79**	**332**	P	**P**	**11 24 22.6**	**-0.8**
	1.0nm,0.8s,baz=147,slow=10,SNR=3.0						
WVT	**Waverly**	**72.70**	**347**	*e*P	**P**	**11 24 34.6**	**0.0**
LIC	**Lamto**	**75.93**	**72**	*e*P	**P**	**11 24 55.2**	**+1.2**
	83nm,1.1s						
TIC	**Toumodi**	**76.20**	**71**	*e*P	**P**	**11 24 57.2**	**+1.7**
	20nm,0.2s						
KIC	**Kosan Boka**	**76.24**	**72**	*e*P	**P**	**11 24 57.2**	**+1.5**
	79nm,1.1s						
DBIC	**Dimbokro**	**76.34**	**71**	P	**P**	**11 24 56.7**	**+0.4**
	19nm,0.9s,baz=227,slow=5.3,SNR=6.4						
LAZ	**Ladron**	**76.64**	**331**	P	**P**	**11 24 58.2**	**+0.5**
ANMO	**Albuquerque**	**76.85**	**332**	*e*P	**P**	**11 24 58.3**	**-0.7**
	6.5nm,1.2s						
BOSA	**Boshof**	**79.94**	**118**	P	**P**	**11 25 16.7**	**+0.4**
	13nm,1.0s,baz=207,slow=6.5,SNR=4.6						
R11A	**Troy Canyon, C**	**83.52**	**328**	*e*P	**P**	**11 25 33.6**	**-1.2**
	4.9nm,1.1s						
DUG	**Dugway, Tooele**	**83.90**	**330**	*e*P	**P**	**11 25 36.5**	**-0.1**
	11nm,1.2s						
TPH	**Tonopah**	**84.02**	**326**	P	**P**	**11 25 38.0**	**+0.6**
	22nm,1.5s						
NVAR	**Mina Array Bea**	**84.80**	**326**	P	**P**	**11 25 41.8**	**+0.5**
	1.4nm,0.8s,baz=169,slow=5.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**85.40**	**70**	P	**P**	**11 25 43.8**	**-0.8**
	7.0nm,1.0s,baz=241,slow=3.8,SNR=3.8						
ULM	**Lac du Bonnet**	**87.86**	**345**	P	**P**	**11 25 56.8**	**+1.0**
	1.9nm,0.7s,baz=248,slow=5.4,SNR=2.2						
MOD	**Modoc Plateau**	**88.50**	**327**	*e*P	**P**	**11 25 58.7**	**-0.6**
	63nm,1.1s						
WRA	**Warramunga Arr**	**119.04**	**209**	PKP	**PKPdf**	**11 31 55.8**	**-0.3**
	0.8nm,1.0s,baz=152,slow=2.0,SNR=3.1						
ABKAR	**Akbulak array**	**143.20**	**53**	*e*PKPdf	PKPbc	11 32 37.1	-0.4
BVAR	**Borovoye Array**	**148.91**	**44**	PKPbc	**PKPbc**	**11 32 53.7**	**-0.4**
	2.4nm,0.8s,baz=299,slow=3.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**155.94**	**33**	PKPab	**PKPab**	**11 33 27.5**	**0.0**
	5.0nm,0.8s,baz=300,slow=4.6,SNR=4.1						

*IDC **15** 11:19:11.1±3.2, 9°.32S×118°.33E, h71^{km}±31^{km}, mb4.1/12, mb1 4.2/14, mb1mx3.9/47, mbtmp4.4/14, ML4.4/2, Error ellipse: s-maj=28.8km s-min=17.5km az=37.0*
*ISCJB **15** 11:19:12.9±0.3, 9°.38S±0°.04×118°.41E±0°.02, h100^{km}, mb4.5/12, Error ellipse: s-maj=5.7km s-min=3.0km az=12.4*
*NEIC **15** 11:19:13.4±0.7, 9°.32S×118°.32E, h91^{km}±7^{km}, mb4.5/2, Error ellipse: s-maj=11.9km s-min=5.9km az=217.0*
*DJA **15** 11:19:15.0±0.2, 9°.S±2°.×11°.8E±°.°, h60^{km}±5^{km}, M4.8/15, mb5.0/2, mB5.2/1, MLv4.8/15, Mw(mB)4.6/1*
ISC 15 11:19:13.7±0.6, 9°.44S±0°.05×118°.41E±0°.04, h100^{km}, n47, σ1°32/59, mb4.4/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.98**	**102**	P	**Pn**	**11 19 32.3**	**-1.7**
WBSI				S	**Sn**	**11 19 46.4**	**-2.9**
WSI	**Waingapu**	**1.87**	**97**	P	**Pn**	**11 19 45.7**	**+1.1**
WSI				S	**Sn**	**11 20 08.1**	**-0.1**
BASI	**Baing, Sumba**	**2.27**	**110**	P	**Pn**	**11 19 51.2**	**+1.4**
BASI				S	**Sn**	**11 20 17.4**	**0.0**
DNP	**Denpasar**	**3.25**	**283**	P	**Pn**	**11 20 04.8**	**+2.0**
DNP				S	**Sn**	**11 20 42.3**	**+1.5**
IGBI	**Denpasar**	**3.29**	**281**	P	**Pn**	**11 20 03.5**	**+0.2**
IGBI				S	**Sn**	**11 20 42.6**	**+1.0**
EDFI	**Ende, Flores**	**3.31**	**78**	P	**Pn**	**11 20 04.0**	**+0.3**
SRBI	**Singaraja**	**3.44**	**293**	P	**Pn**	**11 20 06.9**	**+1.6**
MMRI	**Maumere**	**3.86**	**78**	P	**Pn**	**11 20 11.9**	**+0.9**
MMRI				S	**Sn**	**11 20 55.6**	**+0.1**
MMRI	**Maumere**	**3.86**	**78**	*e*Pn	**Pn**	**11 20 11.5**	**+0.5**
MMRI				*e*Sn	**Sn**	**11 20 57.1**	**+1.6**
BSSI	**Bau Bau, Buton**	**3.87**	**32**	P	**Pn**	**11 20 11.2**	**0.0**
JAGI	**Jajag, Banyuwa**	**4.32**	**283**	P	**Pn**	**11 20 16.5**	**-0.7**
JAGI				S	**Sn**	**11 21 05.6**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.32**	**283**	*e*Pn	**Pn**	**11 20 15.8**	**-1.4**
JAGI				*e*Sn	**Sn**	**11 21 04.7**	**-1.8**
BKSI	**Bulukumba**	**4.43**	**23**	P	**Pn**	**11 20 19.1**	**+0.4**
BKSI				S	**Sn**	**11 21 06.5**	**-2.7**
ABJI	**Asem Bagus**	**4.44**	**291**	P	Pn	11 20 22.0	+3.1
KAPI	**Kappang**	**4.59**	**17**	*e*Pn	**Pn**	**11 20 20.4**	**-0.6**
KAPI				*e*Sn	**Sn**	**11 21 09.9**	**-3.3**
GMJI	**Gumukmas**	**5.04**	**283**	P	**Pn**	**11 20 26.7**	**-0.3**
GMJI				S	**Sn**	**11 21 23.7**	**-0.5**
BLJI	**Banyuglugur**	**5.05**	**289**	P	**Pn**	**11 20 27.3**	**+0.1**
	87nm,0.5s,3μm0.9nm						
BATI	**Baumata**	**5.23**	**99**	P	**Pn**	**11 20 30.2**	**+0.6**
BATI				S	**Sn**	**11 21 29.2**	**+0.5**
BATI	**Baumata**	**5.23**	**99**	P	**Pn**	**11 20 29.6**	**0.0**
	52nm,0.3s,baz=268,slow=3.5,SNR=59						
BATI				S	**Sn**	**11 21 26.8**	**-1.9**
	46nm,0.3s,baz=312,slow=23,SNR=15						
BNSI	**Bone**	**5.28**	**19**	P	**Pn**	**11 20 32.9**	**+2.6**
BNSI				S	**Sn**	**11 21 31.9**	**+2.0**
SPSI	**Sidrap Palu**	**5.61**	**14**	P	**Pn**	**11 20 35.6**	**+0.9**
SOEI	**Soe**	**5.78**	**94**	P	**Pn**	**11 20 37.8**	**+0.6**
SOEI	**Soe**	**5.78**	**94**	*e*Pn	**Pn**	**11 20 37.4**	**+0.2**
	53nm,0.5s						
TTSI	**Tana Toraja**	**6.51**	**12**	P	**Pn**	**11 20 49.1**	**+2.2**
PWJI	**Pagerwojo**	**6.68**	**282**	P	**Pn**	**11 20 49.7**	**+0.4**
BBKI	**Banjar Baru**	**6.92**	**329**	P	**Pn**	**11 20 53.9**	**+1.4**
WRA	**Warramunga Arr**	**18.59**	**126**	P	**Pn**	**11 23 25.1**	**+0.4**
	0.6nm,0.3s,baz=298,slow=14,SNR=37						
WRA				S	S	11 26 37.1	-13
	0.5nm,0.3s,baz=290,slow=24,SNR=4.5						
WRAB	**Tennant Creek**	**18.60**	**126**	*e*P	**Pn**	**11 23 25.4**	**+0.8**
	3.1nm,0.4s						
WB2	**Warramunga Arr**	**18.60**	**126**	*e*P	**Pn**	**11 23 25.1**	**+0.4**
AS31	**Alice Springs**	**20.48**	**136**	*e*P	Pn	11 23 46.3	-0.5
ASAR	**Alice Springs**	**20.48**	**136**	P	Pn	11 23 46.4	-0.4
	1.5nm,0.6s,baz=316,slow=10,SNR=31						
ASAR				S	**S**	**11 27 27.3**	**-0.2**
	3.4nm,0.7s,baz=310,slow=23,SNR=12						
PSI	**Prapat**	**22.91**	**301**	P	**P**	**11 24 07.7**	**-1.8**
	8.3nm,0.4s,baz=161,slow=4.0,SNR=10						
COEN	**Coen**	**24.65**	**103**	*e*P	**P**	**11 24 28.1**	**+2.8**
	48nm,0.5s						
CMAR	**Chiang Mai Arr**	**33.73**	**325**	P	**P**	**11 25 45.6**	**-0.1**
	0.9nm,0.5s,baz=152,slow=6.4,SNR=7.3						
KSAR	**Wonju Array Be**	**47.47**	**10**	P	**P**	**11 27 39.0**	**+0.5**
KSRS	**Korea Array**	**47.49**	**10**	P	**P**	**11 27 39.0**	**+0.4**
	2.9nm,0.6s,baz=191,slow=9.8,SNR=12						
USRK	**Ussuriysk Ar.**	**54.79**	**12**	P	**P**	**11 28 33.3**	**+0.2**
	5.6nm,0.4s,baz=197,slow=6.3,SNR=28						
SONM	**Songino Array**	**58.01**	**350**	P	**P**	**11 28 56.5**	**+0.3**
	3.6nm,0.5s,baz=165,slow=8.0,SNR=36						
MKAR	**Makanchi Array**	**64.59**	**333**	P	**P**	**11 29 39.8**	**-0.6**
	8.4nm,0.8s,baz=139,slow=6.0,SNR=24						
KURBB	**Kurchatov Arra**	**69.11**	**334**	P	**P**	**11 30 08.0**	**-0.9**
	3.3nm,0.5s,baz=140,slow=5.2,SNR=18						
KURK	**Kurchatov**	**69.14**	**334**	P	**P**	**11 30 08.0**	**-1.1**
ZALV	**Zalesovo Beam**	**69.25**	**340**	P	**P**	**11 30 07.7**	**-2.1**
	5.1nm,0.4s,baz=145,slow=5.3,SNR=8.0						
BVAR	**Borovoye Array**	**74.41**	**332**	P	**P**	**11 30 40.8**	**+0.1**
	3.1nm,0.7s,baz=136,slow=8.9,SNR=4.2						
SEY	**Seymchan**	**76.74**	**15**	P	**P**	**11 30 54.5**	**+0.8**
	3.0nm,0.7s,baz=18,slow=6.4						
BRTR	**Keskin Array B**	**91.97**	**310**	P	**P**	**11 32 10.6**	**-1.0**
	0.9nm,0.8s,baz=124,slow=5.7,SNR=3.8						
YKA	**Yellowknife Ar**	**114.83**	**24**	PKP	PKPdf	11 37 43.5	+1.2
	0.1nm,0.5s,baz=309,slow=2.1,SNR=6.7						
TORD	**Torodi Ar. Bea**	**117.97**	**280**	PKP	**PKPdf**	**11 37 50.1**	**+0.3**
	0.4nm,0.5s,baz=33,slow=1.7,SNR=8.8						

*IDC **15** 11:32:54.5±2.3, 57°.02N×122°.07E, h0^{km}, mb3.2/3, mb1 3.6/4, mb1mx3.3/47, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=94.0km s-min=28.8km az=113.0*
*ISCJB **15** 11:32:56.5±0.5, 56°.92N±0°.05×123°.03E±0°.06, h10^{km}, mb3.1/3, Error ellipse: s-maj=7.3km s-min=4.6km az=166.5*
*YARS **15** 11:32:56.3±0.3, 56°.89N±0°.02×123°.03E±0°.02, h10^{km}, MSV3.1*
ISC 15 11:32:56.6±0.6, 56°.94N±0°.04×123°.02E±0°.03, h10^{km}, n15, σ1°78/26, mb3.1/3, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKLR	**Yuktali**	**0.83**	**245**	*e*P	**Pg**	**11 33 12.3**	**-0.3**
YKLR				Pm		11 33 12.3	
	comp=Z,13nm,0.1s						
YKLR				*e*S	**Sg**	**11 33 22.6**	**-0.8**
YKLR				Sm		11 33 22.6	
	comp=N,673nm,0.3s						
CLNS	**Chul'man**	**1.03**	**95**	*e*P	**Pg**	**11 33 15.0**	**-1.5**
CLNS				Pm		11 33 15.0	
	comp=Z,10.0nm,0.1s						
CLNS				*e*S	**Sg**	**11 33 27.7**	**-2.2**
CLNS				Sm		11 33 27.7	
	comp=N,91nm,0.2s						
KHN	**Khani**	**1.77**	**271**	*e*P	**Pb**	**11 33 28.3**	**-0.8**
KHN				Pm		11 33 28.3	
	comp=Z,35nm,0.2s						
KHN				*e*S	**Sn**	**11 33 50.6**	**+0.7**
KHN				Sm		11 33 50.6	
	comp=E,278nm,0.2s						
TNDR	**Tynda**	**2.04**	**151**	*e*P	**Pb**	**11 33 32.2**	**-1.5**
TNDR				Pm		11 33 32.2	
	comp=Z,191nm,0.3s						
TNDR				*e*S	**Sb**	**11 33 57.6**	**-1.5**
TNDR				Sm		11 33 57.6	
	comp=E,446nm,0.2s						
ALDR	**Aldan**	**2.11**	**36**	*e*P	**Pb**	**11 33 34.2**	**-0.7**
ALDR				Pm		11 33 34.2	
	comp=Z,110nm,0.3s						
ALDR				*e*S	**Sn**	**11 34 00.0**	**+1.8**
ALDR				Sm		11 34 00.0	
	comp=E,245nm,0.3s						
TUP	**Tupik**	**3.06**	**216**	*e*P	**Pn**	**11 33 45.6**	**+0.5**
TUP				*e*P	**Pb**	**11 33 51.5**	**+0.3**
TUP				Pm		11 33 51.5	
	comp=Z,40nm,0.5s						
TUP				*e*S	**Sn**	**11 34 21.5**	**-0.2**
TUP				*e*S	**Sb**	**11 34 29.9**	**+1.3**
TUP				Sm		11 34 29.9	
	comp=E,322nm,0.9s						
BMKR	**Bomnak**	**3.97**	**122**	*e*S	**Sb**	**11 34 57.9**	**+3.2**
BMKR				Sm		11 34 57.9	
	comp=E,87nm,0.4s						
CGD	**Chagda**	**4.45**	**63**	*e*P	**Pn**	**11 34 05.9**	**+1.9**
CGD				*e*P	**Pb**	**11 34 16.3**	**+1.6**
CGD				Pm		11 34 16.3	
	comp=Z,2.0nm,0.3s						
CGD				*e*S	**Sg**	**11 35 15.6**	**-3.6**
CGD				Sm		11 35 15.6	
	comp=E,39nm,0.3s						
VTMR	**Vitim**	**6.08**	**299**	*e*S	**Sn**	**11 35 36.6**	**+0.8**
VTMR				*e*S	**Sg**	**11 36 07.5**	**-3.9**
VTMR				Sm		11 36 07.5	
	comp=E,48nm,0.4s						
NBS	**Nizhniy Bestya**	**6.11**	**32**	*e*P	**Pn**	**11 34 28.3**	**+1.5**
NBS				*e*P	Pb	11 34 46.8	+3.8
NBS				*e*S	**Sn**	**11 35 36.9**	**+0.3**
NBS				*e*S	Sg	11 36 06.9	-5.6
SONM	**Songino Array**	**13.61**	**235**	Lg	Lg	11 40 02.2	
	comp=E,0.2nm,0.3s,baz=41,slow=27,SNR=5.5						
SEY	**Seymchan**	**15.79**	**56**	P	**Pn**	**11 36 40.6**	**-1.9**
	comp=E,0.2nm,0.3s,baz=258,slow=17,SNR=11						
ILAR	**Eielson Array**	**40.95**	**41**	P	**P**	**11 40 39.8**	**+1.0**
	comp=E,0.2nm,0.5s,baz=299,slow=5.3,SNR=5.8						
YKA	**Yellowknife Ar**	**52.80**	**29**	P	**P**	**11 42 12.3**	**+0.8**
	comp=E,0.1nm,0.5s,baz=329,slow=6.9,SNR=3.6						
WRA	**Warramunga Arr**	**77.18**	**169**	P	**P**	**11 44 51.0**	**+0.7**
	comp=E,0.3nm,0.6s,baz=353,slow=6.7,SNR=6.8						

*ISCJB **15** 11:34:40.5±1.9, 35°.87S±0°.04×73°.64W±0°.05, h9^{km}±12^{km}, mb4.4/14, Error ellipse: s-maj=7.1km s-min=6.6km az=146.4*
*IDC **15** 11:34:40.6±0.6, 35°.94S×73°.39W, h0^{km}, mb4.3/13, mb1 4.5/15, mb1mx4.3/28, mbtmp4.3/15, ML4.0/2, Error ellipse: s-maj=24.2km s-min=15.9km az=88.0*
*GUC **15** 11:34:43.3±0.7, 35°.95S×73°.58W, h36^{km}±4^{km}, ML4.1*
*NEIC **15** 11:34:45.8±0.5, 35°.89S×73°.42W, h35^{km}, mb4.4/2, Error ellipse: s-maj=13.9km s-min=9.6km az=85.0*
ISC 15 11:34:40.9±1.3, 35°.96S±0°.05×73°.52W±0°.06, h3^{km}±7^{km}, n37, σ1°04/45, mb4.4/14, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.62**	**106**	⇓*i*P	**Pn**	**11 34 56.1**	**-0.4**
COCH				*i* S	**Sn**	**11 35 06.0**	**-1.0**
COCH				IAML		11 35 08.0	
	comp=E,17μm,0.4s						
CCSP	**San Pedro de C**	**0.94**	**159**	⇓*i*P	**Pn**	**11 35 00.6**	**-0.4**
CCSP				*i* S	**Sn**	**11 35 14.5**	**-0.5**
LNCH	**Linares**	**1.56**	**86**	⇑*i*P	**Pg**	**11 35 10.8**	**-0.1**
LNCH				*i* S	**Sg**	**11 35 30.9**	**-0.2**
TALC	**Talca**	**1.64**	**70**	*e*P	**Pn**	**11 35 11.1**	**+0.5**
TALC				*i* S	**Sb**	**11 35 32.8**	**+0.1**
NICH	**Los Niches**	**2.10**	**64**	⇑*i*P	**Pn**	**11 35 18.1**	**+1.2**
NICH				*i* S	**Sn**	**11 35 44.0**	**+0.3**
PEL	**Peldehue**	**3.66**	**41**	⇑*i*P	**Pn**	**11 35 38.8**	**+0.4**
PEL				*i* S	**Sn**	**11 36 21.6**	**-0.5**
PLCA	**Paso Flores**	**5.30**	**155**	Pn	**Pn**	**11 36 02.5**	**+1.4**
	comp=E,1.5nm,0.3s,baz=325,slow=14,SNR=23						
CFAA	**Coronel Fontan**	**6.18**	**47**	Pn	**Pn**	**11 36 13.5**	**+0.4**
	comp=E,2.3nm,0.3s,baz=217,slow=8.7,SNR=96						
CFAA				Lg	Lg	11 37 51.7	
	comp=E,0.3nm,0.3s,baz=3.9,slow=14,SNR=4.0						
LCO	**Las Campanas**	**7.33**	**20**	*e*Pn	**Pn**	**11 36 27.5**	**-1.6**
	comp=E,20nm,0.5s						
TRQA	**Tornquist**	**9.47**	**106**	*e*Pn	**Pn**	**11 37 00.3**	**+2.2**
	comp=E,23nm,1.0s						
LPAZ	**La Paz**	**20.18**	**15**	P	**P**	**11 39 17.1**	**-0.1**
	comp=E,3.0nm,0.6s,baz=186,slow=5.4,SNR=9.4						
LPAZ	**La Paz**	**20.18**	**15**	P	**P**	**11 39 17.1**	**-0.1**
LPAZ				*e*Pn	Pn	11 39 19.1	0.0
SIV	**San Ignacio**	**22.78**	**32**	P	**P**	**11 39 44.5**	**-0.1**
	comp=E,8.9nm,0.7s,baz=233,slow=14,SNR=25						
BDFB	**Brasilia**	**30.45**	**55**	P	**P**	**11 40 54.4**	**-0.6**
	comp=E,7.1nm,1.0s,baz=219,slow=7.6,SNR=5.3						
PTGA	**Pitinga**	**37.25**	**23**	P	**P**	**11 41 53.3**	**-0.6**
	comp=E,4.6nm,0.8s,baz=200,slow=11,SNR=4.6						
SNAA	**Sanae**	**50.24**	**157**	P	**P**	**11 43 38.5**	**+0.6**
	comp=E,2.8nm,0.8s,baz=249,slow=6.8,SNR=6.5						
QSPA	**South Pole Qui**	**54.28**	**180**	P	**P**	**11 44 08.8**	**+0.7**
	comp=E,6.9nm,0.9s,baz=149,slow=1.1,SNR=19						
QSPA	**South Pole Qui**	**54.28**	**180**	P	**P**	**11 44 08.8**	**+0.7**
QSPA				*e*Pn	**pP**	**11 44 08.9**	**-0.1**
TXAR	**Lajitas Array**	**70.88**	**332**	P	**P**	**11 46 00.5**	**+1.3**
	comp=E,2.5nm,0.5s,baz=152,slow=8.8,SNR=23						
WVT	**Waverly**	**72.95**	**348**	*e*P	**P**	**11 46 11.4**	**0.0**
	comp=E,14nm,1.4s						
DBIC	**Dimbokro**	**76.95**	**72**	P	**P**	**11 46 34.6**	**-0.5**
	comp=E,4.8nm,0.6s,baz=226,slow=6.6,SNR=5.0						
BOSA	**Boshof**	**80.23**	**118**	P	**P**	**11 46 53.1**	**-0.1**
	comp=E,5.3nm,1.0s,baz=201,slow=8.5,SNR=5.2						
NVAR	**Mina Array Bea**	**84.82**	**326**	P	**P**	**11 47 17.6**	**+0.8**
	comp=E,1.4nm,0.6s,baz=156,slow=6.0,SNR=16						
PDAR	**Pinedale Array**	**84.98**	**334**	P	**P**	**11 47 18.4**	**+0.8**
	comp=E,0.4nm,0.7s,baz=116,slow=6.2,SNR=3.4						
TORD	**Torodi Ar. Bea**	**86.01**	**71**	P	**P**	**11 47 22.9**	**-0.2**
	comp=E,2.4nm,1.1s,baz=235,slow=5.6,SNR=6.7						
MCMT	**McKenzie Canyo**	**87.95**	**333**	*e*P	**P**	**11 47 31.7**	**-0.4**
	comp=E,1.0nm,0.9s						
ULM	**Lac du Bonnet**	**88.09**	**346**	P	**P**	**11 47 31.6**	**-0.6**
	comp=E,2.7nm,0.6s,baz=174,slow=3.0,SNR=4.8						
CHGN	**Chignik**	**116.43**	**322**	*e*PKPdf	**PKPdf**	**11 53 27.0**	**+1.8**
WRA	**Warramunga Arr**	**118.46**	**210**	PKP	**PKPdf**	**11 53 30.4**	**-0.1**
	comp=E,0.2nm,0.6s,baz=181,slow=1.2,SNR=4.9						
ABKAR	**Akbulak array**	**143.84**	**54**	*e*PKPdf	PKPbc	11 54 14.5	-0.3
BVAR	**Borovoye Array**	**149.54**	**45**	PKPbc	**PKPdf**	**11 54 28.4**	**+1.9**
	comp=E,1.3nm,0.7s,baz=298,slow=3.2,SNR=7.1						
KKAR	**Karatay Array**	**151.52**	**64**	*e*PKPdf	**PKPdf**	**11 54 30.3**	**+0.3**
KURBB	**Kurchatov Arra**	**155.12**	**45**	PKP	**PKPdf**	**11 54 33.1**	**-1.8**
	comp=E,0.8nm,0.9s,baz=296,slow=2.3,SNR=6.1						
KURK	**Kurchatov**	**155.13**	**45**	PKP	**PKPdf**	**11 54 33.1**	**-1.8**
ZALV	**Zalesovo Beam**	**156.53**	**33**	PKP	**PKPdf**	**11 54 34.4**	**-2.3**
	comp=E,2.0nm,0.9s,baz=282,slow=1.4,SNR=6.1						
ZALV				PKPab	**PKPab**	**11 55 04.9**	**-0.6**
	comp=E,1.4nm,0.7s,baz=297,slow=6.5,SNR=3.9						
MKAR	**Makanchi Array**	**158.95**	**52**	PKP	**PKPdf**	**11 54 37.5**	**-2.4**
	comp=E,1.3nm,1.0s,baz=337,slow=2.8,SNR=7.2						
MKAR				PKPab	**PKPab**	**11 55 15.5**	**-0.8**
	comp=E,1.0nm,1.0s,baz=336,slow=2.7,SNR=3.9						
SONM	**Songino Array**	**168.14**	**0**	PKPab	**PKPab**	**11 55 57.1**	**+0.6**
	comp=E,0.6nm,0.7s,baz=335,slow=2.6,SNR=5.3						

IDC 15 11:42:24.6±1.1, 36°.07S×74°.05W, h0^{km}, mb3.8/5, mb1 4.1/5, mb1mx3.8/23, mbtmp3.8/5, Error ellipse: s-maj=52.2km s-min=27.9km az=87.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**20.40**	**17**	P	P	11 47 02.5	-1.4
	2.0nm,0.8s,baz=212,slow=9.5,SNR=5.1						
QSPA	**South Pole Qui**	**54.17**	**180**	P	P	11 51 51.0	-0.5
	2.3nm,0.9s,baz=312,slow=1.3,SNR=8.7						
TXAR	**Lajitas Array**	**70.78**	**333**	P	P	11 53 42.9	+0.1
	0.6nm,0.5s,baz=150,slow=8.7,SNR=4.2						
NVAR	**Mina Array Bea**	**84.67**	**327**	P	P	11 55 00.7	+0.4
	0.1nm,0.5s,baz=155,slow=6.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**86.45**	**71**	P	P	11 55 10.0	+0.6
	0.6nm,0.9s,baz=232,slow=7.1,SNR=2.9						

*IDC **15** 11:48:05.3±2.9, 8°.04N×126°.58E, h0^{km}, mb3.5/5, mb1 3.6/5, mb1mx3.4/44, mbtmp3.5/5, Error ellipse: s-maj=300.7km s-min=20.7km az=68.0*
*MAN **15** 11:48:06, 7°.95N×127°.42E, h30$^{km}

JAM	Amami Oshima	1.12 106	P	Pb	11 55 59.7	-0.8
JAM			S	Sn	11 56 16.0	-0.8
JOKE	Okinoerabujima	1.37 173	P	Pn	11 56 03.7	-0.8
JOKE			S	Sb	11 56 21.9	-0.8
JOW	Kunigami	1.89 183	P	Pn	11 56 11.4	-0.3
KSRS	Korea Array	8.71 358	Pn	Pn	11 57 46.9	+1.5
0.2nm,0.3s,baz=192,slow=34,SNR=5.6						
SONM	Songino Array	25.57 324	P	P	12 01 09.2	+0.4
0.6nm,0.8s,baz=128,slow=11,SNR=4.7						
MKAR	Makanchi Array	40.02 310	P	P	12 03 14.3	-0.2
0.6nm,0.7s,baz=91,slow=8.5,SNR=6.5						
ZALV	Zalesovo Beam	40.37 321	P	P	12 03 15.1	-2.3
0.4nm,0.4s,baz=119,slow=12,SNR=2.4						
KURBB	Kurchatov Arra	43.17 315	P	P	12 03 40.0	-0.4
0.5nm,0.4s,baz=102,slow=8.9,SNR=6.3						
BVAR	Borovoye Array	48.53 317	P	P	12 04 23.4	+0.8
0.7nm,0.6s,baz=99,slow=7.7,SNR=3.9						
WRA	Warramunga Arr	48.73 173	P	P	12 04 25.0	+0.6
0.5nm,0.8s,baz=354,slow=8.3,SNR=4.2						
YKA	Yellowknife Ar	76.21 25	P	P	12 07 28.4	+0.6
0.2nm,0.9s,baz=297,slow=5.5,SNR=4.0						

*ISCJB **15** 11:56:56.0±2.5, 28°.77N±0°.04×128°.29E±0°.05, h8km±16km, mb3.6/8, Error ellipse: s-maj=7.7km s-min=5.7km az=160.1*
*IDC **15** 11:56:56.3±1.0, 28°.74N×128°.39E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/39, mbtmp3.7/9, Error ellipse: s-maj=36.9km s-min=19.1km az=69.0*
*JMA **15** 11:56:56.2±0.2, 28°.81N×128°.27E, h18km±3km, M3.2*

ISC 15 11:56:56.4±2.1, 28°.72N±0°.04×128°.34E±0°.08, h1km±14km, n15, σ0s37/21, mb3.5/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	Takarajima	0.87	60	P	Pg	11 57 12.8	-0.3
JTAJ				S	Sg	11 57 24.5	+0.1
JAMN	Amaminishikomi	0.88	123	P	Pb	11 57 14.3	-0.1
JAMN				S	Sb	11 57 27.3	+0.7
JTK	Tokunoshima	1.08	150	P	Pg	11 57 17.3	+0.3
JTK				S	Sb	11 57 33.0	+0.6
JAM	Amami Oshima	1.16	105	P	Pg	11 57 18.4	-0.2
JAM				S	Sb	11 57 34.5	-0.1
JOKE	Okinoerabujima	1.37	171	P	Pn	11 57 22.4	-0.2
JOKE				S	Sb	11 57 41.1	+0.3
JOW	Kunigami	1.88	182	P	Pn	11 57 29.3	-0.4
JOW				S	Sn	11 57 53.7	-0.4
JNU	Nakatsue	4.90	26	Pn	Pn	11 58 11.7	+0.5
baz=8.1,slow=14,SNR=1.6							
SONM	Songino Array	25.56	324	P	P	12 02 27.0	+0.2
0.7nm,0.7s,baz=140,slow=10,SNR=4.1							
MKAR	Makanchi Array	39.99	310	P	P	12 04 32.6	0.0
1.2nm,0.8s,baz=96,slow=8.8,SNR=9.9							
ZALV	Zalesovo Beam	40.35	321	P	P	12 04 35.6	+0.1
0.6nm,0.6s,baz=105,slow=9.1,SNR=3.2							
KURBB	Kurchatov Arra	43.15	315	P	P	12 04 58.5	+0.1
1.8nm,0.8s,baz=102,slow=8.9,SNR=11							
BVAR	Borovoye Array	48.51	317	P	P	12 05 41.0	+0.2
1.0nm,0.8s,baz=116,slow=6.6,SNR=4.9							
WRA	Warramunga Arr	48.72	172	P	P	12 05 42.8	+0.1
0.6nm,0.7s,baz=354,slow=8.2,SNR=7.4							
ASAR	Alice Springs	52.36	174	P	P	12 06 10.3	+0.2
0.5nm,0.9s,baz=18,slow=8.3,SNR=4.9							
YKA	Yellowknife Ar	76.24	25	P	P	12 08 45.6	-0.6
0.3nm,0.8s,baz=292,slow=5.3,SNR=4.5							

IDC 15 11:58:26.8±3.4, 38°.14S×74°.99W, h0km, mb3.8/1, mb1 3.6/2, mb1mx3.1/29, mbtmp3.6/2, ML3.3/1, Error ellipse: s-maj=167.8km s-min=72.7km az=124.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	8.56	42	Pn	Pn	12 00 32.1	0.0
0.3nm,0.3s,baz=214,slow=15,SNR=3.3							
TORD	Torodi Ar. Bea	87.83	72	P	P	12 11 18.5	+0.2
0.5nm,0.9s,baz=236,slow=6.8,SNR=2.6							
ZALV	Zalesovo Beam	158.99	35	PKPab	PKPab	12 19 02.4	-0.2
1.4nm,0.7s,baz=294,slow=4.7,SNR=8.0							
MKAR	Makanchi Array	161.19	55	PKPab	PKPab	12 19 11.5	-1.0
0.4nm,0.8s,baz=308,slow=7.1,SNR=3.6							

*CSEM **15** 12:04:27.4±0.4, 50°.26N×18°.71E, h2km, ML2.9/7, Error ellipse: s-maj=8.9km s-min=4.2km az=11.0*
*VIE **15** 12:04:29.4±1.0, 49°.87N×18°.90E, h0km, mb1.8/2, ML2.6/4, Error ellipse: s-maj=6.9km s-min=4.6km az=121.0 43 km S of Katowice Suspected Mining induced.*

PRU 15 12:04:28.2, 50°.24N×18°.71E, h0km, 3C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.19	74	ePg	Pg	12 04 30.2	-1.6
CHZP				eSg	Sg	12 04 32.2	-2.1
OKC	Ostrava-Krasne	0.54	222	ePG	Pg	12 04 38.2	-0.4
OKC				eSG	Sg	12 04 45.8	+0.1
comp=Z,23nm,0.3s							
OKC	Ostrava-Krasne	0.54	222	Pg	Pg	12 04 38.2	-0.4
OKC				Sg	Sg	12 04 45.8	+0.1
23nm,0.3s							
OJC	Ojcow	0.70	91	ePg	Pg	12 04 39.7	-2.0
OJC				eSg	Sg	12 04 48.2	-2.6
OJC	Ojcow	0.70	91	eSg	Sg	12 04 48.2	-2.6
MORC	Moravsky Berou	0.89	239	↑iP	Pg	12 04 40.9	-4.4
MORC				S	Sb	12 04 58.1	-0.8
MORC	Moravsky Berou	0.89	239	ePg	Pb	12 04 45.9	-0.6
MORC				eSg	Sg	12 04 57.5	+0.7
LANS	Liptovska Anna	1.20	155	eSn	Sb	12 05 07.5	-0.4
KRLC	Kraliky	1.25	263	eSG	Sg	12 05 08.6	0.0
KRLC	Kraliky	1.25	263	Sg	Sg	12 05 08.6	0.0
NIE	Niedzica	1.32	128	ePg	Pg	12 04 52.0	-1.7
NIE				eSg	Sg	12 05 10.6	-0.3
NIE	Niedzica	1.32	128	ePg	Pg	12 04 52.0	-1.7
NIE				eSg	Sg	12 05 10.6	-0.3
DPC	Dobruska-Polom	1.54	275	ePG	Pn	12 04 56.1	-0.8
DPC				eSG	Sg	12 05 17.9	+0.2
DPC	Dobruska-Polom	1.54	275	Pg	Pn	12 04 56.1	-0.8
DPC				Sg	Sg	12 05 17.9	+0.2
KSP	Ksiaz	1.66	292	ePn	Pg	12 05 00.0	0.0
KSP				eSn	Sg	12 05 22.9	+1.4
KSP				eSg	Sb	12 05 26.3	+5.3
KSP	Ksiaz	1.66	292	ePg	Pg	12 05 00.1	+0.1
KSP				eSg	Sg	12 05 23.1	+1.6
VRAC	Vranov	1.66	237	⇓iP	Pb	12 04 59.3	-0.4
VRAC				S	Sg	12 05 22.7	+1.1
VRAC	Vranov	1.66	237	eSg	Sg	12 05 22.2	+0.6
UPC	Upice	1.75	280	ePG	Pn	12 04 59.8	0.0
UPC				eSG	Sg	12 05 24.2	-0.2
comp=Z,6.4nm,0.3s							
UPC	Upice	1.75	280	Pg	Pn	12 04 59.8	0.0
UPC				Sg	Sg	12 05 24.2	-0.2
6.4nm,0.3s							
STHS	Stebnicka Huta	1.84	116	ePn	Pn	12 05 01.1	+0.1
STHS				eSn	Sb	12 05 26.6	+0.3
STHS	Stebnicka Huta	1.84	116	ePN	Pn	12 05 01.1	+0.1
STHS				eSN	Sb	12 05 26.6	+0.3
STHS				eLG	Lg	12 05 35.9	
TREC	Trest	2.29	247	eSG	Sb	12 05 40.1	+0.7
comp=Z,11nm,0.3s							
TREC	Trest	2.29	247	Sg	Sb	12 05 40.1	+0.7
11nm,0.3s							
KOLS	Kolonicke sedl	2.66	118	eSn	Sn	12 05 46.9	+1.6
KOLS	Kolonicke sedl	2.66	118	eSN	Sn	12 05 46.9	+1.6
PVCC	Panska Ves	2.67	278	eSG	Sg	12 05 53.3	-0.6
comp=Z,27nm,0.3s							
PVCC	Panska Ves	2.67	278	Sg	Sg	12 05 53.3	-0.6
27nm,0.3s							
PRU	Pruhonice	2.69	266	ePG	Pb	12 05 17.2	-0.1
PRU				eSG	Sb	12 05 52.8	+1.9
comp=Z,9.1nm,0.5s							
PRU	Pruhonice	2.69	266	Pg	Pb	12 05 17.2	-0.1
PRU				Sg	Sb	12 05 52.8	+1.9
9.1nm,0.5s							
PRA	Prague	2.76	268	eSG	Sg	12 05 56.0	-0.8
PRA	Prague	2.76	268	Sg	Sg	12 05 56.0	-0.8
CONA	Conrad Observa	2.98	220	↑iSg	Sb	12 06 01.5	+2.3
8.4nm,0.6s							
CONA	Conrad Observa	2.98	220	Sg	Sb	12 06 01.5	+2.3
8.4nm,0.6s							
BRG	Berggiesshubel	3.11	284	PG	Pg	12 05 27.0	-0.7
BRG				SG	Sg	12 06 07.5	-0.5
8.2nm,0.6s							
KHC	Kasperske Hory	3.51	254	ePG	Pb	12 05 32.0	+0.7
KHC				eSN	Sn	12 06 04.3	-2.1
KHC				eSg	Sb	12 06 17.7	+3.2
comp=Z,10nm,0.4s							
MOA	Molln	3.78	232	↑iSg	Sg	12 06 31.0	+1.4
6.0nm,0.5s							
MOA	Molln	3.78	232	Sg	Sg	12 06 31.0	+1.4
6.0nm,0.5s							
BURAR	Bucovina Array	5.03	119	⇓iP	Pn	12 05 43.5	-1.5

*IDC **15** 12:07:39.4±0.9, 35°.83S×73°.36W, h0km, mb4.0/9, mb1 4.1/11, mb1mx4.0/29, mbtmp4.0/11, ML3.7/2, Error ellipse: s-maj=30.3km s-min=15.5km az=84.0*
*ISCJB **15** 12:07:42.9±0.7, 35°.79S±0°.07×73°.1W±0°.2, h33km, mb4.1/8, Error ellipse: s-maj=18.2km s-min=9.4km az=177.6*
*NEIC **15** 12:07:44.6±0.5, 35°.79S×73°.21W, h35km, mb4.8/3, Error ellipse: s-maj=12.1km s-min=6.3km az=88.0*

ISC 15 12:07:44.6±0.8, 35°.79S±0°.08×73°.2W±0°.2, h35km, n21, σ0s61/22, mb4.0/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.37	158	Pn	Pn	12 09 02.3	0.0
0.9nm,0.3s,baz=335,slow=11,SNR=8.4							
PLCA				Lg	Lg	12 10 29.5	
0.8nm,0.3s,baz=251,slow=15,SNR=3.1							
CFAA	Coronel Fontan	5.89	46	Pn	Pn	12 09 10.2	+0.7
0.9nm,0.3s,baz=212,slow=12,SNR=34							
LCO	Las Campanas	7.09	18	ePn	Pn	12 09 24.7	-1.3
TRQA	Tornquist	9.30	107	ePn	Pn	12 09 55.0	-1.1
LVC	Limon Verde	13.66	17	ePn	Pn	12 10 55.9	-0.1
LPAZ	La Paz	19.95	15	P	Pn	12 12 15.6	-0.5
2.1nm,0.7s,baz=151,slow=4.6,SNR=7.2							
LPAZ	La Paz	19.95	15	eP	P	12 12 14.2	0.0
2.0nm,0.7s							
SIV	San Ignacio	22.51	32	P	P	12 12 41.4	+0.1
2.2nm,0.7s,baz=222,slow=14,SNR=7.2							
SNAA	Sanae	50.32	157	P	P	12 16 37.5	+0.1
2.4nm,0.8s,baz=264,slow=19							
SNAA	Sanae	50.32	157	eP	P	12 16 37.0	-0.4
5.0nm,0.8s							
QSPA	South Pole Qui	54.45	180	P	P	12 17 08.0	-0.2
4.8nm,0.8s,baz=161,slow=0.5,SNR=18							
QSPA	South Pole Qui	54.45	180	eP	P	12 17 07.8	-0.4
9.6nm,1.3s							
TXAR	Lajitas Array	70.83	332	P	P	12 18 57.8	+0.1
0.4nm,0.6s,baz=133,slow=6.3,SNR=2.6							
DBIC	Dimbokro	76.68	72	P	P	12 19 33.7	+1.4
1.7nm,0.5s,baz=248,slow=5.8,SNR=4.2							
DBIC	Dimbokro	76.68	72	eP	P	12 19 33.0	+0.7
55nm,2.1s							
TSUM	Tsumeb	79.67	106	eP	P	12 19 49.0	0.0
BOSA	Boshof	80.11	118	P	P	12 19 51.8	+0.5
2.9nm,0.8s,baz=219,slow=13,SNR=3.1							
NVAR	Mina Array Bea	84.80	326	P	P	12 20 15.7	+0.3
0.4nm,0.7s,baz=184,slow=6.8,SNR=3.9							
TORD	Torodi Ar. Bea	85.74	71	P	P	12 20 20.4	+0.1
0.6nm,1.0s,baz=230,slow=2.4,SNR=2.6							
ZALV	Zalesovo Beam	156.26	33	PKPab	PKPab	12 28 03.2	+0.3
0.9nm,0.5s,baz=305,slow=5.2,SNR=5.3							
MKAR	Makanchi Array	158.66	51	PKP	PKPdf	12 27 38.0	-0.1
0.3nm,1.0s,baz=96,slow=2.9,SNR=4.3							
MKAR				PKPab	PKPab	12 28 13.5	-0.1
0.3nm,0.8s,baz=354,slow=5.8,SNR=2.8							

IGQ 15 12:09:09±1.3, 2°.33N×79°.83W, h5km±153km, Mb4.0, 4D, Error ellipse: s-maj=38.1km s-min=5.1km az=8.4, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINO	Pino	2.76	154	⇓P	Pn	12 09 56.6	+1.8
PINO	Pino	2.76	154	⇓S	Sn	12 10 30.2	+1.2
TERV	Terraza Guagua	2.77	154	P	Pn	12 09 56.2	+1.3
GGP	Refugio Guagua	2.78	154	⇓P	Pn	12 09 56.8	+1.9
JUA2	Sanjuan 2	2.81	154	P	Pn	12 09 57.6	+2.4
ANTI	Antisana	3.23	149	P	Pn	12 10 03.5	+2.3
VC1	Cotopaxi 1	3.28	154	P	Pn	12 10 04.4	+2.6
BVC2	Cotopaxi Volca	3.29	154	⇓P	Pb	12 10 05.7	-3.0
BTAM	Cotopaxi Volca	3.31	154	P	Pb	12 10 05.9	-3.1
BTAM	Cotopaxi Volca	3.31	154	S	Sb	12 10 46.7	-3.5
BMOR	Cotopaxi Volca	3.34	156	P	Pb	12 10 06.5	-2.9
BMOR	Cotopaxi Volca	3.34	156	S	Sn	12 10 46.3	+3.2

IDC 15 12:09:09.1±2.8, 22°.73S×178°.77W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/30, mbtmp3.7/5, Error ellipse: s-maj=203.6km s-min=24.4km az=154.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.22	247	P	P	12 16 13.8	0.0
0.8nm,0.5s,baz=103,slow=10,SNR=4.5							
ASAR	Alice Springs	43.35	259	P	P	12 17 12.4	-1.0
0.2nm,0.4s,baz=92,slow=7.8,SNR=9.9							
WRA	Warramunga Arr	43.63	265	P	P	12 17 16.1	+0.3
0.2nm,0.5s,baz=104,slow=7.9,SNR=7.9							
NVAR	Mina Array Bea	83.13	43	P	P	12 21 35.9	-1.4
1.0nm,1.0s,baz=234,slow=8.5,SNR=4.0							
PDAR	Pinedale Array	91.07	44	P	P	12 22 16.8	+1.0
0.8nm,1.0s,baz=225,slow=4.0,SNR=4.4							
ARCES	ARCESS Array B	130.97	349	PKP	PKPdf	12 28 23.5	+1.5
2.6nm,0.9s,baz=80,slow=1.4,SNR=4.4							

*IDC **15** 12:13:10.2±0.6, 36°.08S×73°.39W, h0km, mb4.5/12, mb1 4.6/15, mb1mx4.4/27, mbtmp4.5/15, ML4.1/3, MS4.4/2, Ms1 4.4/2, ms1mx4.0/25, Error ellipse: s-maj=23.8km s-min=13.5km az=83.0*
*GUC **15** 12:13:10.6±0.6, 36°.11S×73°.81W, h38km±2km, ML4.7*
*BJI **15** 12:13:15.0, 36°.00S×72°.10W, h10km, mB5.2/3, Ms5.4/8, Ms7 5.2/8*
*ISCJB **15** 12:13:16.4±0.2, 36°.39S±0°.04×73°.09W±0°.08, h28km, mb4.9/45, MS4.3/2, Error ellipse: s-maj=9.3km s-min=5.5km az=155.5*
*MOS **15** 12:13:16.4±1.4, 36°.13S×72°.76W, h33km, mb5.3/17, Error ellipse: s-maj=25.0km s-min=10.6km az=103.8*
*NEIC **15** 12:13:16.6±0.3, 36°.08S×73°.18W, h35km, mb5.0/37, Error ellipse: s-maj=11.6km s-min=7.7km az=78.0*
NEIC Felt at Chillan and Concepcion.

ISC 15 12:13:16.9±0.3, 36°.25S±0°.04×73°.11W±0°.05, h28km, n194, σ2s03/167, mb5.0/46, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.28	66	⇓iP	Pn	12 13 26.0	+0.8
COCH				iS	Sn	12 13 37.7	+7.2
CCSP	San Pedro de C	0.59	180	eP	Pb	12 13 27.7	-1.1
CCSP				iS	Sn	12 13 40.3	+2.1
CCSP				AML	AML	12 13 47.7	
comp=E,47μm,0.5s							
LNCH	Linares	1.28	72	↑iP	Pb	12 13 40.5	+0.1
LNCH				eS	Sb	12 14 03.0	+6.5
TALC	Talca	1.47	55	↑iP	Pn	12 13 41.9	+0.4
TALC				eS	Sb	12 14 05.8	+4.0
LNV	Longovilo	2.68	32	eP1	Pn	12 13 55.2	-3.0
PLCA	Paso Flores	4.91	157	Pn	Pn	12 14 29.9	+1.0
comp=E,3.1nm,0.3s,baz=322,slow=9.4,SNR=30							
PLCA				Lg	Lg	12 15 55.2	
comp=E,6.5nm,0.3s,baz=257,slow=23,SNR=3.7							
CFAA	Coronel Fontan	6.15	43	Pn	Pn	12 14 44.4	-1.5
comp=E,1.7nm,0.3s,baz=218,slow=12,SNR=47							
LCO	Las Campanas	7.50	16	ePn	Pn	12 14 57.7	-7.0
TRQA	Tornquist	9.07	105	ePn	Pn	12 15 29.3	+3.4
LVC	Limon Verde	14.07	16	ePn	Pn	12 16 30.8	-3.8
EFI	East Falkland	18.78	150	eP	P	12 17 34.2	+0.4
USHA	Ushuaia	18.86	172	P	P	12 17 35.4	+0.8
comp=E,0.4nm,0.3s,baz=336,slow=9.2,SNR=8.3							
LPAZ	La Paz	20.37	14	eP	P	12 17 49.7	-2.3
LPAZ	La Paz	20.37	14	P	P	12 17 49.3	-2.7
comp=E,5.5nm,0.8s,baz=192,slow=9.3,SNR=15							
LPAZ	La Paz	20.37	14	ePn	P	12 17 49.8	-2.3
comp=E,39nm,1.4s							
SIV	San Ignacio	22.85	31	P	P	12 18 15.2	-2.8
comp=E,26nm,1.0s,baz=232,slow=13,SNR=38							
SIV				LR	LR	12 26 57.9	
comp=E,726nm,19.6s,baz=210,slow=36							
SAML	Samuel	28.64	21	eP	P	12 19 07.8	-3.3
comp=E,35nm,1.7s							
ATAH	Atahualpa	29.38	349	LR	LR	12 27 51.9	
comp=E,868nm,19.2s,baz=102,slow=30							
BDFB	Brasilia	30.34	54	P	P	12 19 23.6	-2.8
comp=E,9.0nm,0.9s,baz=229,slow=6.2,SNR=7.5							
PTGA	Pitinga	37.38	22	eP	P	12 20 24.3	-3.1
comp=E,26nm,1.1s							
SDV	Santo Domingo	44.95	3	eP	P	12 21 29.4	-0.4
comp=E,7.4nm,0.8s							
VNA3	Neumayer Olymp	47.62	157	P	P	12 21 50.4	+0.3
VNA2	Neumayer--Watz	48.30	156	P	P	12 21 55.2	0.0
SNAA	Sanae	49.85	157	P	P	12 22 06.8	-0.4
SNAA	Sanae	49.85	157	⇓iP	P	12 22 07.0	-0.2
SNAA				pmax	pmax		
comp=Z,39nm,1.2s							
SNAA	Sanae	49.85	157	P	P	12 22 06.2	-0.9
comp=Z,9.9nm,1.0s,baz=276,slow=5.7,SNR=15							
SNAA	Sanae	49.85	157	eP	P	12 22 06.5	-0.7
comp=Z,45nm,1.0s							
QSPA	South Pole Qui	53.99	180	P	P	12 22 36.2	-1.9
comp=Z,16nm,0.9s,baz=167,slow=0.9,SNR=33							
QSPA	South Pole Qui	53.99	180	eP	P	12 22 36.5	-1.7
comp=Z,26nm,1.1s							
NVL	N'lazarevskaya	54.62	156	iP	P	12 22 41.4	-1.0
NVL				pmax	pmax		
comp=Z,12nm,0.9s							
VNDA	Vanda	61.73	192	eP	P	12 23 33.4	+1.3
VNDA				pmax	pmax		
comp=Z,24nm,1.8s							
VNDA	Vanda	61.73	192	eP	P	12 23 33.4	+1.3
comp=Z,24nm,1.8s							
832A	Faith Ranch, C	69.00	335	P	P	12 24 22.3	+2.6
baz=70							
636A	Smothers Creek	69.15	338	P	P	12 24 23.6	+3.0
baz=70							
533A	Kerrville	70.33	336	P	P	12 24 30.5	+2.6
baz=71							
532A	Rocksprings	70.66	336	P	P	12 24 32.3	+2.3
baz=71							
531A	Rocksprings	70.92	335	P	P	12 24 34.4	+2.9
baz=71							
334A	Lometa	71.24	337	P	P	12 24 35.7	+2.3
baz=72							
TXAR	Lajitas Array	71.28	332	P	P	12 24 29.3	-4.5
comp=Z,0.8nm,0.6s,baz=150,slow=8.2,SNR=5.8							
431A	Sonora	71.41	335	P	P	12 24 36.4	+1.9
baz=72							
529A	Stev Forest Ra	71.47	334	P	P	12 24 37.3	+2.5
baz=72							
333A	Richland Sprin	71.47	337	P	P	12 24 36.5	+1.7
baz=72							
430A	Baggett Ranch,	71.72	335	P	P	12 24 38.7	+2.4
baz=72							
332A	Millersview	71.77	336	P	P	12 24 38.7	+2.1
baz=72							
331A	San Angelo	71.92	336	P	P	12 24 39.4	+1.8
baz=72							
232A	Coleman	72.20	336	P	P	12 24 41.1	+1.9
baz=73							
330A	Mertzon	72.27	335	P	P	12 24 41.2	+1.6
baz=73							
231A	Bronte	72.46	336	P	P	12 24 42.4	+1.6
baz=73							
133A	Hamilton Ranch	72.64	337	P	P	12 24 43.4	+1.6
baz=73							
ABTX	Abilene, Hawle	72.88	337	eP	P	12 24 41.0	-2.2
comp=Z,9.8nm,0.8s							
MIAR	Mount Ida	72.97	342	eP	P	12 24 45.8	+2.1
MIAR				pmax	pmax		
comp=Z,108nm,2.6s							
MIAR	Mount Ida	72.97	342	eP	P	12 24 45.8	+2.1
comp=Z,108nm,2.6s							
Z33A	Whitaker Ranch	73.22	338	P	P	12 24 47.1	+1.9
baz=74							
WVT	Waverly	73.30	348	eP	P	12 24 44.2	-1.4
WVT				pmax	pmax		
comp=Z,48nm,1.5s							
WVT	Waverly	73.30	348	eP	P	12 24 44.2	-1.4
comp=Z,48nm,1.5s							
228A	UT Block 9, Go	73.41	334	P	P	12 24 48.9	+2.5
baz=74							
Z32A	Haskell	73.46	337	P	P	12 24 48.9	+2.3
baz=74							
Z31A	Sharp Cattle R	73.68	337	P	P	12 24 49.8	+1.9
baz=74							
128A	Castleberry Fa	73.83	334	P	P	12 24 50.7	+1.8
baz=74							
Y33A	Hilltop Ranch,	73.84	338	P	P	12 24 50.4	+1.5
baz=74							
MNTX	Cornudas Mount	74.05	332	eP	P	12 24 52.6	+2.5
comp=Z,7.1nm,1.1s							
Z28A	Tucker Farm, M	74.40	335	P	P	12 24 54.5	+2.3
baz=75							
TUL1	Leonard	74.83	341	P	P	12 24 56.5	+2.0
baz=75							
TUL1	Leonard	74.83	341	eP	P	12 24 50.2	-4.3
comp=Z,12nm,0.7s							
TUL1				e		12 24 57.2	
X31A	McDonald Ranch	74.84	337	P	P	12 24 57.0	+2.4
baz=75							
W33A	Caddo, Fort Co	74.86	339	P	P	12 24 57.2	+2.4
baz=75							
W32A	Sentinel	75.07	338	P	P	12 24 58.5	+2.6
baz=76							
MSTX	Muleshoe	75.15	335	eP	P	12 24 55.0	-1.6
comp=Z,52nm,2.0s							
AMTX	Amarillo	75.61	336	eP	P	12 24 57.2	-2.0
comp=Z,19nm,1.1s							
W27A	Bowe Ranch, En	76.24	335	P	P	12 25 05.3	+2.6
baz=77							
ACSO	Alum Creek Sta	76.65	352	eP	P	12 25 07.0	+2.2
comp=Z,66nm,1.6s							
DBIC	Dimbokro	76.73	71	P	P	12 25 05.1	-0.8
comp=Z,8.2nm,0.8s,baz=211,slow=7.8,SNR=6.4							
LAZ	Ladron	77.13	332	eP	P	12 25 06.8	-1.1
comp=Z,9.5nm,1.6s							
ANMO	Albuquerque	77.35	332	eP	P	12 25 06.6	-2.6
ANMO				pmax	pmax		
comp=Z,9.0nm,1.2s							
ANMO	Albuquerque	77.35	332	eP	P	12 25 06.6	-2.6
comp=Z,9.4nm,1.2s							
S30A	Montezuma	77.77	338	P	P	12 25 13.8	+2.6
baz=78							
T28A	Walsh	77.80	337	P	P

SRU	San Rafael Swe	82.55	332	eP		P		12 25 37.9	+0.7
SRU					pmax	pmax			
comp=Z,12nm,1.4s									
SRU	San Rafael Swe	82.55	332	eP		P		12 25 37.9	+0.7
comp=Z,12nm,1.4s									
ARUT	Antelope Range	82.59	329	eP		P		12 25 35.5	-1.9
ARUT					pmax	pmax			
comp=Z,185nm,1.2s									
ARUT	Antelope Range	82.59	329	eP		P		12 25 35.5	-1.9
comp=Z,185nm,1.2s									
N20A	Spence Gulch,	83.22	334	P		P		12 25 42.4	+1.7
baz=84									
J28A	Allard Ranch,	83.33	340	P		P		12 25 42.2	+1.3
baz=84									
J26A	Sides Ranch, S	83.76	338	P		P		12 25 44.7	+1.5
baz=84									
MPU	Maple Canyon	83.76	331	eP		P		12 25 44.9	+1.5
comp=Z,14nm,1.1s									
DAU	Daniels Canyon	83.96	332	eP		P		12 25 40.8	-3.8
DAU	Daniels Canyon	83.96	332	eP		P		12 25 40.8	-3.8
R11A	Troy Canyon, C	83.97	328	eP		P		12 25 41.9	-2.6
comp=Z,9.8nm,1.3s									
K22A	Casper	84.24	336	P		P		12 25 48.9	+3.1
baz=85									
DUG	Dugway, Tooele	84.38	331	eP		P		12 25 47.7	+1.2
DUG					pmax	pmax			
comp=Z,19nm,1.3s									
DUG	Dugway, Tooele	84.38	331	eP		P		12 25 47.6	+1.2
comp=Z,19nm,1.3s									
TPH	Tonopah	84.46	326	eP		P		12 25 48.9	+1.8
TPH					pmax	pmax			
comp=Z,11nm,1.1s									
TPH	Tonopah	84.46	326	eP		P		12 25 48.9	+1.8
comp=Z,11nm,1.1s									
H25A	Fruitdale	85.11	339	P		P		12 25 52.2	+2.3
baz=86									
NVAR	Mina Array Bea	85.24	326	P		P		12 25 48.3	-2.7
comp=Z,1.0nm,0.8s,baz=171,slow=6.4,SNR=2.7									
I22A	9 Mile Ranch,	85.34	336	P		P		12 25 53.2	+1.9
baz=86									
PDAR	Pinedale Array	85.38	334	P		P		12 25 49.0	-2.6
comp=Z,0.5nm,0.9s,baz=90,slow=1.2,SNR=3.5									
I21A	Big Trails, Te	85.53	336	P		P		12 25 53.9	+1.7
baz=86									
J19A	Crowheart	85.64	335	P		P		12 25 54.4	+1.6
baz=86									
HVU	Hansel Valley	85.72	331	eP		P		12 25 52.2	-1.0
HVU					pmax	pmax			
comp=Z,102nm,2.7s									
HVU	Hansel Valley	85.72	331	eP		P		12 25 52.2	-1.0
comp=Z,102nm,2.7s									
TORD	Torodi Ar. Bea	85.79	70	P		P		12 25 51.5	-2.5
comp=Z,5.8nm,1.1s,baz=267,slow=3.4,SNR=15									
F26A	Lodgepole	85.96	340	P		P		12 25 55.3	+1.1
baz=86									
H20A	Greybull	86.36	336	P		P		12 25 58.3	+2.0
baz=87									
REDW	Red Top Meadow	86.36	333	eP		P		12 25 58.7	+2.2
LOHW	Long Hollow	86.49	334	eP		P		12 25 59.1	+2.0
comp=Z,6.8nm,1.1s									
TPAW	Teton Pass	86.51	333	eP		P		12 25 58.0	+0.8
AGMN	Agassiz Nation	86.59	345	eP		P		12 25 57.1	0.0
comp=Z,98nm,2.5s									
FXWY	Fox Creek	86.67	333	eP		P		12 26 00.0	+2.1
comp=Z,113nm,3.0s									
IMW	Indian Meadow	86.86	334	eP		P		12 25 58.2	-0.8
comp=Z,19nm,1.5s									
FLWY	Flagg Ranch	86.94	334	eP		P		12 25 58.6	-0.6
G20A	Bridger	87.08	336	P		P		12 26 01.2	+1.5
baz=88									
YMR	Madison River	87.54	334	eP		P		12 26 03.6	+1.5
comp=Z,14nm,1.1s									
HLID	Hailey	87.87	331	P		P		12 26 05.2	+1.5
baz=88									
HLID	Hailey	87.87	331	eP		P		12 26 05.1	+1.5
comp=Z,65nm,2.6s									
MCMT	McKenzie Canyo	88.36	333	eP		P		12 26 04.8	-1.3
comp=Z,5.3nm,1.3s									
E19A	Rath Farm, Rou	88.37	336	P		P		12 26 07.9	+2.1
baz=89									
ULM	Lac du Bonnet	88.44	346	eP		P		12 26 06.2	+0.2
ULM					pmax	pmax			
comp=Z,17nm,1.4s									
ULM	Lac du Bonnet	88.44	346	P		P		12 26 01.3	-4.7
comp=Z,2.3nm,0.6s,baz=171,slow=7.5,SNR=5.0									
ULM	Lac du Bonnet	88.44	346	eP		P		12 26 06.2	+0.2
comp=Z,16nm,1.4s									
D20A	Manuel Ranch,	88.72	337	P		P		12 26 09.6	+2.2
baz=89									
LSZ	Lusaka	89.92	109	eP		P		12 26 11.7	-2.4
LSZ					pmax	pmax			
comp=Z,26nm,1.5s									
LSZ	Lusaka	89.92	109	eP		P		12 26 11.7	-2.4
comp=Z,26nm,1.5s									
ASAR	Alice Springs	115.17	207	PKKPbc		PKKPbc		12 42 26.9	-3.5
comp=Z,0.1nm,0.3s,baz=320,slow=3.3,SNR=4.4									
WRA	Warramunga Arr	118.38	210	PKP		PKPdf		12 32 01.3	-0.9
comp=Z,0.6nm,1.0s,baz=167,slow=1.4,SNR=4.7									
KOLS	Kolonicke sedl	119.51	49	ePKIKP		PKPdf		12 32 10.1	+6.7
KOLS	Kolonicke sedl	119.51	49	e		PKPdf		12 32 10.1	+6.7
BRTR	Keskin Array B	123.67	63	PKP		PKPdf		12 32 09.2	-2.7
comp=Z,0.7nm,0.7s,baz=174,slow=4.7,SNR=4.3									
KIEV	Kiev	124.33	49	i PKIKP		PKPdf		12 32 13.3	+0.8
AKASG	Malin Array Be	124.34	49	i PKIKP		PKPdf		12 32 17.5	+4.9
OBN	Obninsk	129.66	45	ePKIKP		PKPdf		12 32 20.8	-1.7
OBN					pmax	pmax			
comp=Z,22nm,1.4s									
KIV	Kislovodsk	131.39	60	ePKIKP		PKPdf		12 32 27.0	+0.6
KIV					pmax	pmax			
comp=Z,6.0nm,0.9s									
KLMR	Klimovskoe	131.73	37	ePKIKP		PKPdf		12 32 28.6	+2.3
KLMR					pmax	pmax			
comp=Z,22nm,1.3s									
BILL	Bilibino	134.46	333	ePKIKP		PKPdf		12 32 32.6	+1.3
BILL					pmax	pmax			
comp=Z,19nm,2.8s									
SEY	Seymchan	141.51	328	ePKIKP		PKPdf		12 32 46.9	+2.5
ARU	Arti	142.00	42	i PKIKP		PKPdf		12 32 45.4	-0.1
ARU					SS	SS		12 54 14.9	-7.9
TIXI	Tiksi	142.73	349	ePKIKP		PKPdf		12 32 45.2	-1.1
BRVK	Borovoye	149.43	45	ePKIKP		PKPdf		12 32 59.4	+1.2
YAK	Yakutsk	150.52	338	ePKIKP		PKPbc		12 33 06.7	+1.7
YAK					pmax	pmax			
comp=Z,46nm,1.2s									
YAK	Yakutsk	150.52	338	ePKPbc		PKPdf		12 33 01.8	+2.2
KKAR	Karatay Array	151.34	65	ePKIKP		PKPbc		12 33 05.4	-2.2
KKAR	Karatay Array	151.34	65	ePKPbc		PKPbc		12 33 05.4	-2.2
AAK	Ala-Archa	154.28	66	ePKIKP		PKPdf		12 33 04.6	-1.5
AAK	Ala-Archa	154.28	66	ePKPdf		PKPdf		12 33 04.6	-1.5
NVS	Novosibirsk	155.30	34	ePKIKP		PKPdf		12 33 06.0	-0.8
NVS					pmax	pmax			
comp=N,5.0nm,1.6s									
NVS					pmax	pmax			
comp=E,7.0nm,1.6s									
NVS					pmax	pmax			
comp=Z,13nm,1.6s									
KSH	Kashi	155.44	73	ePKPbc		PKPdf		12 33 07.8	0.0
KSH					sPKP			12 33 11.9	
KSH					PKS	PKSdf		12 36 41.9	0.0
KSH					PP	PP		12 37 05.8	-4.9
KSH					SKS	SKSdf		12 40 14.4	+2.1
KSH					SS	SS		12 56 48.6	-6.4
KSH					PPMZ				
comp=Z,1μm,16.2s									
KSH					LN				
comp=Z,89nm,7.5s									
KSH					LE				
comp=Z,53nm,4.9s									
KSH					LZ				
comp=Z,620nm,13.3s									
ZALV	Zalesovo Beam	156.58	34	PKP		PKPdf		12 33 04.5	-4.1
comp=Z,1.9nm,0.7s,baz=281,slow=2.4,SNR=11									
ZALV					PKPab	PKPab		12 33 35.7	-2.0
comp=Z,3.7nm,0.8s,baz=315,slow=5.5,SNR=6.8									
BOD	Bodaibo	157.91	350	ePKP2		PKPab		12 33 41.4	-1.8
KOLN	Koldanda	158.55	107	eP		PKPab		12 33 45.6	-1.7
MKAR	Makanchi Array	158.86	52	PKP		PKPdf		12 33 08.6	-3.2
comp=Z,1.2nm,0.9s,baz=349,slow=1.2,SNR=10									
MKAR					PKPab	PKPab		12 33 45.8	-2.1
comp=Z,1.7nm,0.8s,baz=308,slow=4.5,SNR=7.4									
DANN	Dangsing	158.95	105	eP		PKPab		12 33 47.7	-1.5
comp=Z,15nm,0.8s									
GKN	Gorkha	159.47	107	eP		PKPab		12 33 49.9	-1.3
comp=Z,106nm,1.3s									
DMN	Daman	159.63	109	eP		PKPab		12 33 50.5	-1.6
comp=Z,61nm,1.1s									
PKIN	Phulchoki	159.84	109	eP		PKPab		12 33 51.5	-1.5
PKI	Pulchoki	159.84	109	eP		PKPab		12 33 51.5	-1.6
comp=Z,67nm,1.6s									
KKN	Kakani	159.86	109	eP		PKPab		12 33 52.1	-0.9
comp=Z,77nm,1.2s									
GUN	Gumba	160.38	109	eP		PKPab		12 33 54.2	-1.2
comp=Z,75nm,1.4s									
RAMN	Ramite	160.42	113	eP		PKPab		12 33 53.8	-1.7
JIRN	Jiri	160.49	110	eP		PKPab		12 33 54.5	-1.4
comp=Z,43nm,1.2s									
CMAR	Chiang Mai Arr	160.94	156	PKP		PKPdf		12 33 13.2	-1.6
comp=Z,0.5nm,0.4s,baz=52,slow=1.5,SNR=2.7									
ODAN	Odare	160.95	114	eP		PKPab		12 33 56.4	-1.4
comp=Z,44nm,1.2s									
WMQ	Urumqi	163.49	57	ePKP		PKPdf		12 33 16.3	-0.5
WMQ					LN				
comp=Z,83nm,16.0s									
WMQ					LE				
comp=Z,110nm,21.0s									
WMQ					LZ				
comp=Z,220nm,17.0s									
TLY	Talaya	164.40	8	ePKIKP		PKPdf		12 33 21.5	+4.2
TLY					pmax	pmax			
comp=Z,5.0nm,2.3s									
ZAK	Zakamensk	165.63	9	ePKP2		PKPab		12 34 14.7	-2.7
ZAK					pmax	pmax			
comp=Z,3.0nm,1.4s									
SONM	Songino Array	168.42	2	PKP		PKPdf		12 33 18.8	-1.9
comp=Z,1.0nm,1.1s,baz=116,slow=3.4,SNR=2.9									
SONM				PKPab		PKPab		12 34 26.5	-3.2
comp=Z,0.5nm,0.9s,baz=111,slow=3.2,SNR=3.5									
NJ2	Nanjing	169.24	251	ePKP		PKPdf		12 33 22.1	+0.6
GYA	Guiyang	170.24	179	ePKP		PKPdf		12 33 23.0	+0.5
GYA				PKPab		PKPab		12 34 42.6	+4.3
GYA				PKS		PKSdf		12 36 53.8	-1.3
GYA				PP		PP		12 38 33.5	+6.1
GYA				SKKS				12 45 18.3	
GYA				SS		SS		12 59 31.0	+5.6
GYA				PPMZ					
comp=Z,120nm,8.5s									
GYA				LN					
comp=Z,120nm,24.5s									
GYA				LE					
comp=Z,110nm,25.8s									
GYA				LZ					
comp=Z,120nm,24.2s									
GTA	Gaotai	173.57	58	ePKP		PKPdf		12 33 28.1	+4.5
CD2	Chengdu	174.07	153	ePKP		PKPdf		12 33 25.1	+1.1
HHC	Hu-ho-hao-te	174.13	323	ePKP		PKPdf		12 33 26.3	+2.5
HHC				PP		PP		12 38 53.3	+6.0
HHC				SKKS				12 45 33.4	
HHC				LN					
comp=Z,240nm,15.7s									
HHC				LE					
comp=Z,290nm,18.1s									
HHC				LZ					
comp=Z,410nm,20.6s									
XAN	Xi'an	177.24	218	PKP		PKPdf		12 33 21.4	-3.3
LZH	Lanzhou	177.53	93	ePKP		PKPdf		12 33 23.1	-1.7
LZH				pPKP		pPKPdf		12 33 27.0	-7.2
LZH				sPKP				12 33 28.8	

CASC 15 12:35:41.8±0.9, 13°.73N×91°.04W, h23km±4km, MD3.5, 2C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.78	33	eP	Pb	12 35 57.1	0.0
PCG				eS	Sb	12 36 07.9	+0.3
JAT	Jato	0.82	315⇑	eP	Pb	12 35 56.8	-0.6
NBG	Las Nubes	1.08	38	eP	Pn	12 36 01.8	-0.2
NBG				eS	Sn	12 36 17.2	+0.6
RTR	El Retiro	1.37	83	eP	Pn	12 36 05.7	-0.1
RBDL	Robledal	1.37	74⇓	eP	Pn	12 36 05.2	-0.6
SBLS	San Blas	1.38	85⇓	eP	Pn	12 36 05.6	-0.4
SBLS				eS	Sb	12 36 24.4	-0.3
SNJE	San Jose	1.40	84⇓	eP	Pn	12 36 06.1	-0.2
SNJE				eS	Sb	12 36 25.2	-0.1
MTO2	Montecristo 2	1.76	68	eP	Pn	12 36 11.4	+0.2
LFRS	El Faro	1.93	93⇑	eP	Pn	12 36 13.7	+0.3

*IDC **15** 12:37:47.4±1.1, 44°.08N×129°.30W, h0km, mb4.1/9, mb1 4.4/18, mb1mx4.2/45, mbtmp4.2/18, ML3.6/9, MS4.4/6, Ms1 4.4/6, ms1mx4.0/43, Error ellipse: s-maj=25.0km s-min=11.7km az=42.0*

*BJI **15** 12:37:48.0, 44°.20N×129°.30W, h10km, mB5.5/3, mb4.6/8, Ms5.3/3, Ms7 5.1/3*

*ISCJB **15** 12:37:49.4±0.3, 44°.21N±0°.02×129°.23W±0°.04, h13km, mb4.5/19, MS4.5/3, Error ellipse: s-maj=4.2km s-min=2.8km az=173.6*

*NEIC **15** 12:37:50.0±0.6, 44°.21N×129°.39W, h10km, mb4.8/21, Error ellipse: s-maj=7.0km s-min=4.3km az=74.0*

ISC 15 12:37:50.5±0.6, 44°.11N±0°.09×129°.27W±0°.08, h13km, n505, σ1$09/470, mb4.8/20, MS4.5/3, 163C-168D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	3.79	107	Pn	Pn	12 38 47.8	-0.8
RNO	Roman Nose	3.99	91	P	Pn	12 38 50.2	-1.2
MPOR	Mary's Peak	4.12	83	P	Pn	12 38 51.9	-1.3
I03D	Drain, OR	4.29	93	⇓P	Pn	12 38 54.8	-0.7
baz=4.4,SNR=44							
COR	Corvallis	4.30	82	ePn	Pn	12 38 55.0	-0.5
KMOR	Kings Mountain	4.38	68	P	Pn	12 38 55.5	-1.2
G03D	McMinnville, O	4.42	73	⇓P	Pn	12 38 56.4	-0.8
baz=4.5,SNR=17							
HSO	Harness Mounta	4.51	95	P	Pn	12 38 57.6	-0.9
NLO	Nicolai Mounta	4.57	62	P	Pn	12 38 58.8	-0.5
L02D	Cave Junction,	4.58	113	⇓P	Pn	12 38 57.4	-2.0
baz=4.7,SNR=6.3							
E03A	Lebam	4.70	57	ePn	Pn	12 38 59.7	-1.3
HUMO	Hull Mountain	4.84	106	ePn	Pn	12 39 02.0	-1.0
F04D	Rainier, OR	4.85	64	⇑P	Pn	12 39 02.3	-0.7
baz=4.9,SNR=9.3							
BBOR	Butler Butte	4.94	102	P	Pn	12 39 03.3	-1.3
I04A	Tendick Farm,	4.96	91	⇓P	Pn	12 39 04.4	-0.2
baz=5.0,SNR=52							
NLWA	Neilton Lookou	5.00	47	ePn	Pn	12 39 04.8	-0.4
HBO	Huckleberry Mo	5.02	91	P	Pn	12 39 06.4	+0.8
H04A	Detroit Lake	5.11	81	ePn	Pn	12 39 06.3	-0.3
F04A	Amboy	5.18	67	ePn	Pn	12 39 07.8	+0.1
KHMM	Horse Mountain	5.21	126	ePn	Pn	12 39 08.8	+0.5
J04D	Umpqua Nationa	5.26	97	⇑P	Pn	12 39 08.9	-0.1
baz=5.3,SNR=72							
FL2	Flat Top 2	5.32	64	P	Pn	12 39 09.5	-0.2
MTMW	Mount Mitchell	5.35	67	P	Pn	12 39 10.0	0.0
YBH	Yreka Blue Hor	5.37	114	Pn	Pn	12 39 09.1	-1.2
1.2nm,0.3s,baz=300,slow=12,SNR=26							
YBH	Yreka Blue Hor	5.37	114	ePn	Pn	12 39 09.5	-0.8
M02C	Callahan	5.45	118	⇑P	Pn	12 39 11.5	+0.1
baz=5.6,SNR=5.8							
TDH	Tom, Dick, Har	5.46	75	P	Pn	12 39 11.7	+0.1
TDL	Tradedollar La	5.46	63	P	Pn	12 39 11.1	-0.5
STW	Striped Peak	5.61	42	P	Pn	12 39 12.9	-0.6
KMRM	Mail Ridge	5.67	131	ePn	Pn	12 39 15.0	+0.6
GNW	Green Mountain	5.67	50	P	Pn	12 39 13.8	-0.6
I05D	Terrebonne, OR	5.70	85	⇑P	Pn	12 39 14.6	-0.3
baz=5.8,SNR=14							
N02D	Trinity Center	5.77	121	⇑P	Pn	12 39 16.3	+0.5
baz=5.9							
G05D	Wamic, OR	5.78	76	⇑P	Pn	12 39 16.0	0.0
baz=5.8,SNR=25							
LON	Longmire	5.87	61	ePn	Pn	12 39 17.1	-0.2
J05D	Fort Rock, OR	5.88	95	⇑P	Pn	12 39 17.0	-0.4
baz=6.0,SNR=16							
M04C	Macdoel	5.92	111	⇑P	Pn	12 39 19.1	+1.1
baz=6.0,SNR=9.0							
D05A	Enumclaw	5.96	56	ePn	Pn	12 39 18.3	0.0
PGC	Sidney	6.07	39	eP	Pn	12 39 18.4	-1.3
3.9nm,0.8s							
PINOR	Pine Mountain	6.07	90	ePn	Pn	12 39 19.8	0.0
73nm,1.0s							
KIPM	Iron Peak	6.09	133	ePn	Pn	12 39 20.8	+0.6
42nm,0.8s							
WDC	Whiskeytown Da	6.10	123	ePn	Pn	12 39 21.3	+0.9
KCPM	Cahto Peak	6.12	134	ePn	Pn	12 39 21.2	+0.5
87nm,1.6s							
G06A	Carlson Farm,	6.26	77	ePn	Pn	12 39 21.6	-0.9
JCW	Jim Creek	6.53	49	P	Pn	12 39 26.2	0.0
CMW	Cultus Mountai	6.57	46	P	Pn	12 39 26.9	+0.1
LTY	Liberty	6.79	59	ePn	Pn	12 39 29.6	-0.2
HOPS	Hopland Field	6.90	136	ePn	Pn	12 39 30.9	-0.4
204nm,1.4s							
MOD	Modoc Plateau	6.93	105	ePn	Pn	12 39 34.0	+2.2
A05A	Maple Falls	6.96	43	ePn	Pn	12 39 32.3	+0.3
B06A	Marblemount	6.96	48	ePn	Pn	12 39 32.0	0.0
VDB	Vedder Mountai	6.97	43	P	Pn	12 39 32.0	-0.1
I07A	Izee	7.03	87	ePn	Pn	12 39 33.0	-0.1
E07A	Sunnyside	7.07	66	ePn	Pn	12 39 33.9	+0.3
HAWA	Hanford	7.24	68	ePn	Pn	12 39 36.5	+0.6
LOCW	Locke Island	7.40	66	P	Pn	12 39 38.5	+0.5
G08A	Pilot Rock	7.44	77	ePn	Pn	12 39 37.5	-1.3
OHCM	Honcut	7.52	127	ePn	Pn	12 39 40.9	+1.1
D08A	Wollman Farm,	7.83	64	ePn	Pn	12 39 44.0	-0.1
WVOR	Wild Horse Val	7.94	98	ePn	Pn	12 39 44.3	-1.3
OD2	Odessa Site #2	8.08	62	P	Pn	12 39 47.3	-0.2
B08A	Colville Reser	8.09	55	ePn	Pn	12 39 46.9	-0.7
BBB	Bella Bella	8.12	5	Pn	Pn	12 39 46.3	-1.6
0.5nm,0.3s,baz=147,slow=22,SNR=3.3							
E09A	Wood Farm, Sta	8.20	69	ePn	Pn	12 39 49.2	+0.1
C09A	Chrisman Ranch	8.50	60	ePn	Pn	12 39 52.4	-0.8
BMO	Blue Mountains	8.59	81	ePn	Pn	12 39 53.9	-0.6
10.0nm,0.8s							
F10A	Beach Ranch, E	8.73	73	ePn	Pn	12 39 55.9	-0.5
CMB	Columbia Colle	9.04	129	ePn	Pn	12 40 02.5	+1.9
WAKR	Walker	9.27	124	ePn	Pn	12 40 06.1	+2.1
NEW	Newport	9.39	59	Pn	Pn	12 40 04.7	-0.7
1.5nm,0.3s,baz=240,slow=13,SNR=21							
NEW				LR	LR	12 43 41.8	
comp=Z,2μm,18.1s,baz=282,slow=38							
NEW	Newport	9.39	59	⇑P	Pn	12 40 04.4	-1.0
baz=9.4,SNR=22							
SAO	San Andreas Ge	9.45	138	ePn	Pn	12 40 08.1	+1.9
BMN	Battle Mountai	9.65	108	ePn	Pn	12 40 13.3	+4.1
MFID	Camas Ranch	9.75	89	ePn	Pn	12 40 12.1	+1.7
NVAR	Mina Array Bea	10.01	121	Pn	Pn	12 40 16.1	+2.0
0.6nm,0.3s,baz=294,slow=14,SNR=37							
MLAC	Mammoth, Mammo	10.21	126	⇑P	Pn	12 40 18.6	+1.8
baz=10,SNR=6.0							
MTUM	Tungsten Hills	10.55	126	ePn	Pn	12 40 25.5	+4.0
HLID	Hailey	10.75	88	⇓P	Pn	12 40 24.1	0.0
baz=11,SNR=51							
HLID	Hailey	10.75	88	ePn	Pn	12 40 27.2	+3.1
BSMT	Bassoo Peak	10.75	65	ePn	Pn	12 40 23.5	-0.7
ELK	Elko	10.90	103	Pn	Pn	12 40 27.9	+1.6
0.1nm,0.3s,baz=355,slow=3.2,SNR=13							
TPH	Tonopah	10.90	119	ePn	Pn	12 40 28.7	+2.4
RCTC	Rector, Farmer	10.92	132	⇓P	Pn	12 40 27.1	+0.7
baz=11							
TIN	Tinemaha, Big	10.95	126	⇓P	Pn	12 40 28.9	+2.0
baz=11							
JTMT	Jette	11.05	66	ePn	Pn	12 40 28.8	+0.6
BLMT	Blacktail Moun	11.06	64	ePn	Pn	12 40 28.6	+0.1
MSO	Missoula	11.10	70	⇓P	Pn	12 40 28.1	-0.8
baz=11,SNR=30							
MSO	Missoula	11.10	70	ePn	Pn	12 40 29.0	+0.1
SWMT	Swartz Lake	11.19	67	ePn	Pn	12 40 30.8	+0.8
YBMT	Yellow Bay	11.26	65	ePn	Pn	12 40 31.2	+0.1
VES	Vestal, Richgr	11.36	133	⇑P	Pn	12 40 32.3	0.0
baz=12,SNR=12							
SLMT	Seeley Lake	11.47	69	ePn	Pn	12 40 34.1	0.0
CHMT	Chamberlain Mo	11.58	70	ePn	Pn	12 40 37.7	+2.1
WALA	Waterton Lakes	11.66	59	ePn	Pn	12 40 36.3	-0.3
MCMT	McKenzie Canyo	11.76	81	ePn	Pn	12 40 38.7	+0.7
14nm,1.2s							
R11A	Troy Canyon, C	11.79	115	⇓P	Pn	12 40 40.4	+1.9
baz=12,SNR=9.7							
R11A	Troy Canyon, C	11.79	115	ePn	Pn	12 40 42.3	+3.8
ISA	Isabella, Lake	11.82	132	⇓P	Pn	12 40 39.0	+0.3
baz=12,SNR=24							
ISA	Isabella, Lake	11.82	132	ePn	Pn	12 40 40.6	+1.8
DAC	Darwin (Calif)	11.86	127	ePn	Pn	12 40 42.2	+2.8
DLMT	Dillon	11.93	78	ePn	Pn	12 40 43.4	+3.2
LRM	Limekiln Ridge	12.04	76	ePn	Pn	12 40 43.5	+1.6
ARVC	Arvin	12.04	135	⇓P	Pn	12 40 41.6	-0.1
baz=12,SNR=7.4							
FURC	Furnace Creek,	12.15	125	⇑P	Pn	12 40 47.5	+4.3
baz=12,SNR=49							
HVU	Hansel Valley	12.31	95	ePn	Pn	12 40 49.1	+3.6
LRMC	Laurel Mtn Rad	12.38	130	⇓P	Pn	12 40 48.1	+1.6
baz=12							
BGU	Big Grassy Mou	12.39	99	ePn	Pn	12 40 50.9	+4.3
HRY	Holter Researc	12.53	72	ePn	Pn	12 40 50.7	+2.3
BOZ	Bozeman (W)	12.61	77	ePn	Pn	12 40 49.8	+0.3
31nm,1.2s							
EDW2	Edwards Air Fo	12.67	133	⇓P	Pn	12 40 50.2	-0.2
baz=13,SNR=17							
QLMT	Earthquake Lak	12.76	81	ePn	Pn	12 40 54.0	+2.3
DUG	Dugway, Tooele	12.82	102	⇓P	Pn	12 40 51.8	-0.7
baz=13							
DU

J19A	Crowheart baz=15,SNR=9.5	14.65	86	⇑P	Pn	12 41 18.7	+1.2
109C	Camp Elliot, M baz=15	14.68	136	⇓P	Pn	12 41 18.6	+0.8
IRM	Iron Mountain baz=15,SNR=22	14.77	127	⇓P	Pn	12 41 19.9	+0.9
W13A	Hualapai Mount baz=15,SNR=6.7	14.86	122	⇓P	Pn	12 41 21.4	+1.0
SRU	San Rafael Swe 137nm,1.2s	14.88	103	*e*Pn	Pn	12 41 23.4	+2.8
A19A	Klindworth Far baz=15,SNR=12	14.91	64	⇓P	Pn	12 41 20.7	-0.2
BC3	Big Chuckawall baz=15	14.97	130	⇑P	Pn	12 41 23.0	+1.2
MONP	Monument Peak, baz=15,SNR=23	15.03	134	⇑P	Pn	12 41 22.6	-0.1
U15A	North Rim baz=15,SNR=28	15.04	115	⇓P	Pn	12 41 24.8	+1.9
F20A	Billings baz=15	15.04	76	⇑P	Pn	12 41 22.9	+0.1
E20A	Meyer Farm, Mu baz=15,SNR=6.3	15.06	73	⇓P	Pn	12 41 22.3	-0.6
BAR	Barrett 37nm,1.3s	15.07	135	*e*Pn	Pn	12 41 23.4	+0.4
D20A	Manuel Ranch, baz=15,SNR=12	15.08	71	⇓P	Pn	12 41 24.2	+1.1
I20A	Worland baz=15,SNR=9.0	15.21	83	⇑P	P	12 41 27.9	-2.0
C20A	Veseth Ranch, baz=15,SNR=12	15.22	69	⇑P	Pn	12 41 24.5	-0.6
H20A	Greybull baz=15,SNR=16	15.23	81	⇑P	Pn	12 41 26.9	+1.6
PDMCI	Parker Dam,Lak baz=15	15.26	125	⇑P	Pn	12 41 26.4	+0.9
B20A	Solberg Farm, baz=15	15.30	66	⇓P	Pn	12 41 26.3	+0.3
SWSC	Sam W. Stewart baz=15	15.32	132	⇓P	Pn	12 41 26.8	+0.4
J20A	Shoshoni baz=15	15.33	85	⇓P	Pn	12 41 27.0	+0.4
A20A	Cobblestone Ra baz=15,SNR=12	15.44	64	⇑P	Pn	12 41 27.8	0.0
G21A	Lodge Grass baz=16	15.73	78	⇓P	Pn	12 41 31.4	-0.3
GLA	Glamis baz=16	15.76	130	⇓P	Pn	12 41 33.0	+0.8
GLA	Glamis 55nm,1.5s	15.76	130	*e*Pn	Pn	12 41 33.6	+1.4
E21A	Keefer Ranch, baz=16,SNR=14	15.79	73	⇑P	Pn	12 41 32.6	+0.1
J21A	Lysite baz=16,SNR=23	15.79	85	⇑P	Pn	12 41 33.0	+0.4
I21A	Big Trails, Te baz=16,SNR=11	15.82	83	⇓P	Pn	12 41 33.4	+0.4
C21A	Desert Coulee baz=16,SNR=14	15.84	69	⇓P	Pn	12 41 32.2	-0.9
D21A	La Casta Ranch baz=16,SNR=10	15.86	71	⇓P	Pn	12 41 32.6	-0.8
H21A	Big Horn, Sher baz=16	15.90	80	⇓P	Pn	12 41 35.1	+1.2
B21A	Ellsworth Farm baz=16	15.96	66	⇓P	Pn	12 41 34.1	-0.6
K21A	Alcova baz=16,SNR=8.0	16.07	88	⇑P	Pn	12 41 37.2	+0.9
A21A	Bergtoll Ranch baz=16,SNR=20	16.11	64	⇑P	Pn	12 41 35.6	-0.9
WUAZ	Wupatki baz=16,SNR=24	16.18	116	⇑P	Pn	12 41 38.9	+1.2
WUAZ	Wupatki 33nm,1.0s	16.18	116	*e*Pn	P	12 41 39.6	-1.2
Y14A	Wickenburg baz=16	16.18	123	⇑P	Pn	12 41 38.9	+1.3
PV04	Paradox Valley	16.33	103	*e*Pn	P	12 41 41.6	-0.8
F22A	Rosebud baz=16,SNR=7.2	16.37	76	⇓P	Pn	12 41 39.3	-0.6
G22A	Birney baz=16	16.38	78	⇑P	Pn	12 41 40.0	-0.1
LAO	LASA Array 63nm,1.3s	16.38	73	*e*Pn	Pn	12 41 39.7	-0.3
I22A	9 Mile Ranch, baz=16,SNR=13	16.39	83	⇓P	Pn	12 41 40.7	+0.5
H22A	Clearmont baz=16	16.39	80	⇑P	Pn	12 41 40.0	-0.3
D22A	Cohagen baz=16,SNR=9.9	16.42	71	⇑P	Pn	12 41 41.1	+0.6
J22A	Midwest baz=16,SNR=19	16.47	84	⇓P	Pn	12 41 42.1	+0.8
E22A	Miles City baz=17	16.57	74	⇑P	Pn	12 41 41.8	-0.6
113A	Mohawk Valley, baz=17,SNR=6.2	16.57	128	⇓P	Pn	12 41 42.3	-0.2
K22A	Casper baz=17,SNR=9.4	16.59	87	⇑P	Pn	12 41 43.5	+0.7
K22A	Casper	16.59	87	*e*Pn	P	12 41 46.7	+1.3
Z14A	Wintersburg baz=17	16.62	125	⇓P	Pn	12 41 44.1	+1.0
B22A	Reddig Ranch S baz=17,SNR=32	16.62	67	⇑P	Pn	12 41 42.9	-0.2
C22A	Vida baz=17,SNR=15	16.65	69	⇑P	Pn	12 41 42.7	-0.8
PV01	Paradox Valley 8um,1.3s	16.68	104	*e*Pn	Pn	12 41 45.1	+1.1
A22A	Carney Farms, baz=17,SNR=34	16.76	65	⇑P	Pn	12 41 44.1	-0.8
L22A	Ellis Ranch, M baz=17,SNR=9.5	16.80	89	⇓P	Pn	12 41 45.2	-0.4
X16A	Lo Mia Camp, P baz=17,SNR=5.9	16.83	119	⇑P	P	12 41 47.4	-0.6
M22A	Cedar Creek Ra baz=17,SNR=16	16.86	91	⇑P	Pn	12 41 45.0	-1.3
F23A	Volborg baz=17,SNR=32	16.97	76	⇓P	Pn	12 41 46.8	-0.7
E23A	Ismay baz=17	17.01	74	⇓P	Pn	12 41 47.9	-0.1
G23A	Biddle baz=17,SNR=18	17.01	78	⇓P	Pn	12 41 47.5	-0.6
D23A	Lindsay baz=17,SNR=14	17.08	71	⇑P	Pn	12 41 49.2	+0.3
C23A	Lambert baz=17,SNR=23	17.13	69	⇑P	Pn	12 41 48.9	-0.6
N22A	Wattenberg Ran baz=17,SNR=19	17.14	93	⇑P	Pn	12 41 48.5	-1.4
MVCO	Mesa Verde baz=17,SNR=20	17.17	107	⇓P	Pn	12 41 51.0	+0.7
MVCO	Mesa Verde	17.17	107	*e*Pn	P	12 41 52.0	+0.1
K23A	Bowen Ranch, D baz=17	17.22	86	⇑P	Pn	12 41 49.6	-1.1
O22A	Kremmling baz=17,SNR=23	17.29	95	⇓P	Pn	12 41 51.1	-0.7
B23A	Brockton baz=17,SNR=18	17.31	67	⇓P	Pn	12 41 50.7	-1.0
L23A	Garrett baz=17,SNR=8.5	17.31	88	⇓P	Pn	12 41 52.4	+0.4
P22A	Eagle baz=17,SNR=5.8	17.35	97	⇓P	Pn	12 41 51.6	-0.8
SMCO	Snowmass	17.36	99	*e*Pn	Pn	12 41 53.2	+0.4
A23A	Redstone baz=17	17.43	65	⇓P	Pn	12 41 52.2	-1.1
M23A	Laramie baz=18,SNR=10	17.47	91	⇓P	Pn	12 41 54.1	+0.2
N23A	Red Feather La baz=18,SNR=16	17.48	92	⇓P	Pn	12 41 53.5	-0.7
W18A	Petrified Fore baz=18	17.49	114	⇑P	P	12 41 55.0	-0.3
W18A	Petrified Fore	17.49	114	*e*P	P	12 41 59.3	+3.9
C24A	Savage baz=18,SNR=13	17.63	70	⇓P	Pn	12 41 55.6	0.0
F24A	Ekalaka baz=18,SNR=9.0	17.63	76	⇑P	Pn	12 41 54.8	-1.0
H24A	Dirks Ranch, A baz=18,SNR=28	17.65	79	⇓P	Pn	12 41 55.2	-0.8
D24A	Glendive baz=18,SNR=8.1	17.68	71	⇑P	Pn	12 41 55.6	-0.8
G24A	Alzada baz=18,SNR=9.2	17.69	77	⇑P	Pn	12 41 55.3	-1.2
E24A	Baker baz=18,SNR=6.2	17.70	73	⇑P	Pn	12 41 56.6	0.0
PHWY	Pilot Hill	17.71	91	*e*Pn	Pn	12 41 57.4	+0.4
X18A	Snowflake baz=18,SNR=10	17.71	116	⇑P	P	12 41 58.4	+0.7
214A	Organ Pipe Nat baz=18	17.71	128	⇓P	P	12 41 58.1	+0.4
I24A	Kuemmerle Ranc baz=18,SNR=9.4	17.72	82	⇓P	Pn	12 41 56.9	0.0
O23A	Lake Granby, G baz=18,SNR=14	17.73	95	⇑P	Pn	12 41 57.5	+0.2
J24A	Dixon Ranch, L baz=18,SNR=11	17.79	84	⇓P	Pn	12 41 58.1	+0.3
K24A	Anderson Ranch baz=18,SNR=7.3	17.80	86	⇓P	Pn	12 41 57.2	-0.8
L24A	Wheatland baz=18	17.88	88	⇓P	P	12 41 59.4	-0.2
A24A	Westby baz=18,SNR=20	18.01	66	⇓P	Pn	12 41 60.0	-0.4
S22A	4UR Ranch, Cre baz=18,SNR=26	18.08	103	⇓P	P	12 42 02.1	+0.1
P23A	Jefferson baz=18,SNR=20	18.09	97	⇑P	P	12 42 02.4	+0.3
ISCO	Idaho Springs baz=18,SNR=14	18.09	96	⇑P	Pn	12 42 01.6	-0.1
ISCO	Idaho Springs	18.09	96	*e*Pn	P	12 42 02.1	0.0
RSSD	Black Hills	18.10	81	*e*Pn	Pn	12 42 01.9	+0.1
M24A	Cheyenne baz=18	18.12	90	⇑P	P	12 42 02.4	+0.1
E25A	Miller Ranch, baz=18	18.33	73	⇓P	Pn	12 42 04.3	0.0
I25A	Rochford baz=18,SNR=36	18.33	81	⇑P	Pn	12 42 03.8	-0.7
H25A	Fruitdale baz=18,SNR=15	18.34	79	⇑P	P	12 42 05.6	+1.0
D25A	Fairfield baz=18	18.37	71	⇓P	P	12 42 05.0	+0.2
J25A	Sunshine Ranch baz=18,SNR=7.6	18.39	83	⇑P	P	12 42 04.7	-0.5
G25A	Newell baz=18	18.40	78	⇓P	Pn	12 42 05.5	+0.3
C25A	Freed Ranch, W baz=18	18.42	70	⇓P	P	12 42 05.1	-0.3
K25A	Mack Ranch, Ha baz=18,SNR=8.8	18.51	86	⇑P	P	12 42 05.7	-0.7
L25A	Engebretsen Ra baz=19	18.55	87	⇓P	Pn	12 42 07.5	+0.3
A25A	Svangstu Ranch baz=19,SNR=13	18.59	66	⇓P	Pn	12 42 08.2	+0.8
TUC	Tucson	18.65	123	*e*Pn	Pn	12 42 09.7	+1.4
S23A	Nye Farm, Mont baz=19,SNR=8.9	18.68	102	⇑P	Pn	12 42 08.9	+0.1
M25A	Palm-Egli Farm baz=19	18.68	89	⇓P	Pn	12 42 09.7	+0.9
U22A	Llaves baz=19,SNR=47	18.73	107	⇓P	Pn	12 42 11.1	+1.7
Q24A	Divide baz=19,SNR=6.5	18.74	98	⇓P	Pn	12 42 10.1	+0.4
F26A	Lodgepole baz=19,SNR=18	18.87	75	⇑P	Pn	12 42 11.2	+0.3
H26A	Fairpoint baz=19,SNR=15	18.93	79	⇑P	Pn	12 42 12.9	+1.3
J26A	Sides Ranch, S baz=19,SNR=33	18.93	83	⇑P	Pn	12 42 12.0	+0.4
V22A	San Miguel Ran baz=19,SNR=44	18.94	108	⇓P	Pn	12 42 13.3	+1.3
I26A	New Underwood baz=19,SNR=23	18.95	81	⇑P	Pn	12 42 13.0	+1.0
G26A	Maurine baz=19,SNR=13	18.97	77	⇑P	P	12 42 10.7	-0.7
T23A	Casias Ranch, baz=19,SNR=9.9	18.97	104	⇑P	Pn	12 42 14.7	+2.3
E26A	Carlson Angus baz=19	18.98	73	⇑P	Pn	12 42 12.0	-0.2
D26A	Manning baz=19,SNR=12	18.98	72	⇑P	P	12 42 11.4	0.0
K26A	Motz Farm, Whi baz=19,SNR=17	18.98	85	⇑P	Pn	12 42 13.1	+0.7
SDCO	Great Sand Dun	19.02	101	*e*Pn	Pn	12 42 14.3	+1.4
R24A	Sanders Place, baz=19	19.08	100	⇑P	P	12 42 13.1	+0.3
C26A	Wahner Farm, P baz=19,SNR=13	19.21	69	⇑P	P	12 42 14.3	+0.3
U23A	El Rito baz=19,SNR=15	19.22	106	⇓P	Pn	12 42 16.2	+0.8
P25A	Willow Gulch B baz=19,SNR=13	19.23	95	⇓P	Pn	12 42 16.2	+0.7
S24A	Hochin Ranch, baz=19,SNR=18	19.27	101	⇓P	Pn	12 42 17.1	+1.1
A26A	Wade Farm, Ken baz=19,SNR=9.9	19.29	66	⇓P	P	12 42 14.7	-0.2
F27A	Lemmon baz=19,SNR=16	19.32	75	⇑P	P	12 42 15.7	+0.5
Q25A	Bedland, Calha baz=20,SNR=11	19.41	97	⇓P	Pn	12 42 18.1	+0.5
H27A	Howes baz=19,SNR=12	19.41	79	⇑P	Pn	12 42 17.1	-0.4
T24B	San Luis baz=20,SNR=15	19.42	103	⇓P	Pn	12 42 18.8	+1.0
G27A	Dupree baz=19,SNR=13	19.43	77	⇑P	Pn	12 42 17.1	-0.5
I27A	Quinn baz=20,SNR=6.4	19.52	81	⇑P	Pn	12 42 18.5	-0.2
V23A	Ortiz Mt. (NFS baz=20,SNR=18	19.53	107	⇑P	Pn	12 42 18.6	-0.4
O26A	Horse Wrangler baz=20	19.59	92	⇑P	Pn	12 42 19.2	-0.5
E27A	Carson baz=20,SNR=5.4	19.60	73	⇑P	Pn	12 42 19.0	-0.6
C27A	Sayler Ranch, baz=20,SNR=6.0	19.61	70	⇑P	Pn	12 42 20.0	+0.3
LAZ	Ladron 14nm,1.2s	19.63	112	*e*P	Pn	12 42 20.9	+0.6
K27A	Flueckinger Fa baz=20,SNR=11	19.66	85	⇑P	P	12 42 19.5	+0.5
R25A	Fountain Ranch baz=20,SNR=21	19.70	99	⇑P	Pn	12 42 21.0	0.0
J27A	Elkhorn Farm, baz=20,SNR=8.9	19.70	83	⇑P	Pn	12 42 20.7	-0.2
L27A	T5 Ranch, Ells baz=20	19.75	86	⇓P	Pn	12 42 21.4	-0.2
ANMO	Albuquerque 0.1nm,0.3s,baz=326,slow=11,SNR=7.4	19.78	110	P	P	12 42 20.6	+0.1
ANMO	Albuquerque	19.78	110	P	P	12 42 20.6	+0.1
ANMO				*e*Pn	Pn	12 42 22.3	+0.2
B27A	Peters Farms, baz=20	19.78	68	⇑P	P	12 42 20.3	0.0
P26A	Davis Ranch, A baz=20,SNR=13	19.81	94	⇓P	P	12 42 21.1	+0.4
S25A	Robets Cordova baz=20,SNR=16	19.81	100	⇓P	Pn	12 42 22.5	+0.1
U24A	Moreno Valley baz=20,SNR=7.4	19.81	105	⇓P	Pn	12 42 23.6	+1.1
LENM	Lemitar	19.88	112	*e*Pn	Pn	12 42 24.2	+1.0
Q26A	Hugo baz=20,SNR=15	19.93	96	⇑P	Pn	12 42 23.4	-0.3
N27A	Anderson Farm, baz=20	19.96	90	⇑P	P	12 42 22.9	+0.5
Y22D	IRIS PASSCAL I baz=20	19.97	113	⇑P	Pn	12 42 24.3	0.0
LPM	Los Pinos Moun	20.03	112	*e*Pn	Pn	12 42 25.9	+0.9
T25A	Trinidad baz=20,SNR=26	20.06	102	⇓P	Pn	12 42 25.7	+0.2
H28A	Mission Ridge baz=20	20.16	78	⇓P	Pn	12 42 25.4	-0.9
I28A	Midland baz=20,SNR=14	20.16	80	⇑P	P	12 42 25.0	+0.6
V24A	Rampart Ranch, baz=20,SNR=42	20.17	106	⇑P	Pn	12 42 27.0	+0.3
F28A	McLaughlin baz=20	20.17	75	⇑P	P	12 42 25.4	+0.9
G28A	Parade baz=20,SNR=17	20.18	77	⇓P	P	12 42 25.3	+0.8
E28A	Huff baz=20,SNR=15	20.19	73	⇓P	P	12 42 25.3	+0.6
O27A	Beecher Island baz=20	20.21	92	⇑P	P	12 42 24.6	-0.5
319A	Douglas baz=20,SNR=9.2	20.22	122	⇑P	Pn	12 42 27.1	0.0
J28A	Allard Ranch, baz=20	20.22	82	⇓P	P	12 42 25.3	+0.2
R26A	Arlington baz=20,SNR=20	20.23	98	⇓P	Pn	12 42 27.1	-0.2
D28A	Regan baz=20	20.25	71	⇓P	P	12 42 25.9	+0.6
K28A	Ten Mile Ranch baz=20,SNR=6.9	20.28	84	⇑P	P	12 42 26.5	+0.7
YKA	Yellowknife Ar 4.4nm,0.9s,baz=207,slow=11,SNR=34	20.30	20	P	P	12 42 25.4	-0.3
L28A	Connealy Angus baz=20	20.35	86	⇑P	P	12 42 26.9	+0.4
W24A	Lazy 6 Ranch, baz=20,SNR=38	20.35	108	⇓P	Pn	12 42 28.8	0.0
C28A	Hausauer Farms baz=20	20.36	70	⇑P	P	12 42 26.6	0.0
121A	Cookes Peak, D baz=20,SNR=30	20.37	117	⇑P	Pn	12 42 28.3	-0.8
121A	Cookes Peak, D 92nm,1.4s	20.37	117	*e*P	Pn	12 42 28.7	-0.4
B28A	Dugan Ranch, T baz=20,SNR=43	20.38	68	⇑P	Pn	12 42 27.9	-1.0
U25A	Circle Dot Ran baz=20,SNR=36	20.42	104	⇓P	Pn	12 42 29.0	-0.7
Z22A	Elephant Butte baz=20,SNR=7.2	20.44	114	⇑P	Pn	12 42 29.6	-0.3
S26A	Kim baz=21,SNR=7.3	20.51	100	⇓P	Pn	12 42 30.0	-0.6
KSCO	Kaye Shedlock' baz=21	20.53	95	⇓P	P	12 42 29.5	+1.0
KSCO	Kaye Shedlock' 69nm,1.3s	20.53	95	*e*P	P	12 42 29.6	+1.0
FFC	Flin Flon 37nm,0.9s	20.55	49	*e*P	P	12 42 28.6	0.0
V25A	Rancho No Teng baz=21,SNR=48	20.56	105	⇑P	Pn	12 42 30.7	-0.6
T26A	Comanche Natio baz=21,SNR=25	20.62	101	⇑P	Pn	12 42 31.0	-1.1
MENT	Mentasta	20.63	341	*e*Pn	Pn	12 42 32.1	+0.4
R27A	Eads baz=21,SNR=20	20.70	97	⇓P	Pn	12 42 31.7	-1.1
N28A	Pribbeno Ranch baz=21	20.72	90	⇓P	P	12 42 31.7	+1.1
H29A	Onida baz=21,SNR=13	20.73	78	⇑P	P	12 42 31.7	+1.0
O28A	Krutsinger Ran baz=21,SNR=25	20.74	92	⇓P	P	12 42 31.4	+0.6
I29A	Vivian Onida baz=21	20.77	80	⇓P	P	12 42 31.6	+0.6
F29A	Eureka baz=21	20.85	75	⇓P	P	12 42 30.5	-1.4
G29A	Hoven baz=21	20.86	77	⇓P	P	12 42 32.6	+0.6
J29A	Okreek baz=21,SNR=7.6	20.87	82	⇓P	P	12 42 32.5	+0.4
MDND	Maddock baz=21	20.89	69	⇑P	Pn	12 42 33.6	-1.1
MDND	Maddock 40nm,1.4s	20.89	69	*e*P	P	12 42 33.2	+1.0
S27A	Las Animas baz=21	20.89	99	⇑P	P	12 42 33.4	+0.9
U26A	Atchley Ranch, baz=21,SNR=11	20.89	103	⇓P	P	12 42 33.8	+1.2
RC01	Rabbit Creek A 26nm,1.1s	20.91	332	*e*Pn	P	12 42 33.3	+1.0
E29A	Napoleon baz=21,SNR=23	20.91	73	⇓P	P	12 42 32.9	+0.3
P28A	Saint Francis baz=21	20.95	93	⇓P	P	12 42 33.3	+0.3
W25A	X Bar L Ranch, baz=21,SNR=28	21.00	107	⇓P	P	12 42 35.3	+1.6
K29A	Lazy Trails An baz=21,SNR=6.4	21.02	84	⇓P	P	12 42 34.6	+0.9
B29A	Wagenman Farm, baz=21,SNR=18	21.05	68	⇓P	P	12 42 34.8	+0.8
Y24A	Capitan baz=21,SNR=12	21.05	111	⇓P	P	12 42 36.0	+1.6
PMR	Palmer 159nm,2.0s	21.07	333	*e*P	P	12 42 34.9	+0.9
L29A	Maesberg Ranch baz=21	21.08	86	⇓P	P	12 42 34.7	+0.3
Q28A	Sharon Springs baz=21	21.08	94	⇓P	P	12 42 34.7	+0.2
A29A	Manning Farm, baz=21,SNR=65	21.14	66	⇑P	P	12 42 35.9	+0.9
V26A	Tequesquite Ra baz=21,SNR=25	21.16	104	⇑P	P	12 42 36.9	+1.5
X25A	Clemmons Ranch baz=21,SNR=5.3	21.24	108	⇓P	P	12 42 38.4	+2.2
N29A	Votaw Ranch, W baz=21	21.34	89	⇓P	P	12 42 38.7	+1.5
R28A	Tribune baz=21,SNR=13	21.39	96	⇓P	P	12 42 37.9	+0.1
F30A	Leola baz=21	21.41	75	⇓P	P	12 42 39.5	+1.6
G30A	Faulkton baz=21,SNR=5.9	21.41	77	⇓P	P	12 42 38.1	+0.1
I30A	Oacoma baz=21	21.41	80	⇑P	P	12 42 38.1	+0.2
E30A	Jud baz=21,SNR=18	21.42	73	⇑P	P	12 42 38.0	0.0
O29A	4D Ranch, Culb baz=22	21.44	91	⇓P	P	12 42 38.6	+0.3
D30A	Buchanan baz=22,SNR=41	21.48	71	⇑P	P	12 42 39.4	+0.7
J30A	Dallas baz=22,SNR=11	21.48	82	⇑P	P	12 42 39.1	+0.4
U27A	Thompson Grove baz=22,SNR=20	21.52	102	⇓P	P	12 42 39.5	+0.1
P29A	Atwood baz=22,SNR=8.5	21.53	92	⇓P	P	12 42 40.1	+0.8
W26A	Owens Ranch, T baz=22,SNR=8.9	21.55	106	⇑P	P	12 42 40.6	+1.0
K30A	Basset baz=22	21.55	83	⇓P	P	12 42 39.9	+0.5
S28A	Manter baz=22	21.64	98	⇓P	P	12 42 40.6	+0.1
C30A	Mose, Pekin baz=22,SNR=14	21.65	70	⇑P	P	12 42 41.0	+0.5
BRSD	Miller baz=22	21.65	78	⇓P	P	12 42 41.2	+0.7
BRSD	Miller 39nm,0.8s	21.65	78	*e*P	P	12 42 41.0	+0.5
T28A	Walsh baz=22,SNR=6.0	21.70	99	⇑P	P	12 42 40.8	-0.4
N30A	Hueftle Ranch, baz=22	21.72	89	⇑P	P	12 42 41.8	+0.5
A30A	Hoffart Farm, baz=22,SNR=95	21.76	66	⇑P	P	12 42 42.0	+0.4
Q29A	Oakley baz=22,SNR=14	21.76	94	⇑P	P	12 42 42.3	+0.5
X26A	CR and CF Fran baz=22	21.81	107	⇑P	P	12 42 43.4	+1.0
R29A	Marienthal baz=22	21.83	95	⇑P	P	12 42 42.9	+0.4
V27A	Dan Oppiter Fa baz=22,SNR=6.9	21.85	103	⇑P	P	12 42 43.2	+0.4
O30A	MW Ranch, Wils baz=22	21.95	90	⇓P	P	12 42 44.1	+0.3
U28A	Mallet baz=22,SNR=13	21.97	101	⇑P	P	12 42 44.5	+0.4
P30A	Selden baz=22	22.04	92	⇓P	P	12 42 44.8	0.0
W27A	Bowe Ranch, En baz=22	22.05	105	⇓P	P	12 42 45.4	+0.5
S29A	Ulysses baz=22	22.19	97	⇑P	P	12 42 46.6	+0.3
L31A	Butterfield Fa baz=22	22.23	84	⇑P	P	12 42 46.8	+0.1
X27A	F and S Farms, baz=22	22.25	106	⇓P	P	12 42 47.6	+0.5
T29A	Hugoton baz=22	22.27	99	⇑P	P	12 42 48.2	+0.9
Q30A	Quinter baz=22,SNR=15	22.27	93	⇑P	P	12 42 47.4	+0.2
M31A	Lambtecht Ranc baz=22	22.36	87	⇑P	P	12 42 48.6	+0.4
R30A	Dighton baz=22	22.51	95	⇓P	P	12 42 50.1	+0.3
Y27A	Causey baz=23	22.62	108	⇓P	P	12 42 51.4	+0.3
P31A	Stockton baz=23	22.68	91	⇓P	P	12 42 51.7	+0.1
ILAR	Eielson Array 14nm,1.1s,baz=154,slow=7.7,SNR=43	22.94	341	P	P	12 42 53.5	-0.6
X28A	Dimmitt baz=23	22.94	105	⇑P	P	12 42 53.9	-0.5
U30A	WK&E Inc. Balk baz=23	23.01	99	⇓P	P	12 42 52.1	-3.0
R31A	Burdett baz=23,SNR=5.6	23.05	94	⇓P	P	12 42 54.9	-0.5
AMTX	Amarillo baz=23	23.11	104	⇓P	P	12 42 56.1	0.0
AMTX	Amarillo 60nm,1.4s	23.11	104	*e*P	P	12 42 57.4	+1.3
Y28A	McKinney Farm, baz=23,SNR=8.0	23.24	107	⇓P	P	12 42 57.6	+0.1
V30A	Spur Ranch, Mi baz=23	23.36	101	⇓P	P	12 42 59.1	+0.5
S31A	Mullinville baz=23	23.36	96	⇑P	P	12 42 58.1	-0.5
ULM	Lac du Bonnet 14nm,0.9s,baz=280,slow=8.9,SNR=14	23.38	63	P	P	12 42 58.0	-0.6
AGMN	Agassiz Nation baz=23,SNR=7.3	23.38	68	⇑P	P	12 42 58.2	-0.5
AGMN	Agassiz Nation 20nm,1.0s	23.38	68	*e*P	P	12 42 58.3	-0.5
ECSD	EROS Data Cent baz=23	23.44	79	⇑P	P	12 42 59.1	-0.3
ECSD	EROS Data Cent	23.44	79	*e*P	P	12 43 00.8	+1.5

83nm,1.5s
T31A **Randall Ranch,** 23.45 97 ⇓P P 12 43 00.3 +0.9
baz=24
Q32A **Meitler Ranch,** 23.46 92 ⇑P P 12 42 60.0 +0.4
baz=24
Z28A **Tucker Farm, M** 23.50 108 ⇑P P 12 43 00.9 +0.8
baz=24
128A **Castleberry Fa** 23.82 110 ⇑P P 12 43 03.7 +0.5
baz=24
X30A **Coker Ranch, T** 23.90 104 ⇑P P 12 43 04.1 +0.2
baz=24,SNR=9.2
T32A **Huddler Ranch,** 23.95 96 ⇓P P 12 43 03.6 -0.7
baz=24
V31A **Spring Creek L** 23.95 100 ⇓P P 12 43 04.0 -0.4
baz=24
Z29A **Hungry Hill Ra** 23.98 107 ⇓P P 12 43 05.3 +0.6
baz=24,SNR=8.2
Q33A **Connelly Farm,** 23.98 91 ⇓P P 12 43 04.9 +0.3
baz=24
228A **UT Block 9, Go** 24.05 111 ⇓P P 12 43 05.7 +0.3
baz=24
R33A **Olander Ranch,** 24.15 93 ⇑P P 12 43 06.3 +0.2
baz=24
W31A **Holland Ranch,** 24.17 102 ⇓P P 12 43 07.4 +1.0
baz=24
Y30A **Stafford Cattl** 24.19 105 ⇑P P 12 43 07.5 +0.8
baz=24
X31A **McDonald Ranch** 24.43 103 ⇓P P 12 43 09.1 +0.3
baz=24
V32A **Arapaho** 24.54 100 ⇓P P 12 43 10.8 +1.0
baz=25
Y31A **Rekieta Farm,** 24.59 104 ⇑P P 12 43 10.8 +0.6
baz=25
229A **Bryant Ranch,** 24.67 110 ⇑P P 12 43 11.4 +0.4
baz=25
W32A **Sentinel** 24.69 101 ⇑P P 12 43 11.5 +0.4
baz=25
KSU1 **Kansas State U** 24.83 90 ⇑P P 12 43 13.5 +1.2
baz=25
KSU1 **Kansas State U** 24.83 90 *eP* P 12 43 13.8 +1.5
36nm,1.0s
329A **Wagon Wheel Ra** 24.84 111 ⇓P P 12 43 12.2 -0.4
baz=25
130A **Snyder** 24.87 108 ⇑P P 12 43 13.8 +1.0
baz=25,SNR=5.3
Z31A **Sharp Cattle R** 25.02 106 ⇑P P 12 43 14.2 0.0
baz=25
X32A **Elmer** 25.03 102 ⇑P P 12 43 14.4 +0.2
baz=25,SNR=8.5
V33A **Lossen Ranch,** 25.03 99 ⇓P P 12 43 14.5 +0.3
baz=25
TXAR **Lajitas Array** 25.13 117 P P 12 43 14.6 -0.7
4.2nm,0.9s,baz=296,slow=6.5,SNR=9.1
TXAR LR LR 12 52 17.6
comp=Z,368nm,19.5s,baz=0.0,slow=35
Y32A **R-V Farms, Ver** 25.14 103 ⇓P P 12 43 15.3 +0.1
baz=25
230A **Sterling City** 25.19 109 ⇑P P 12 43 15.7 0.0
baz=25
WMOK **Wichita Mounta** 25.22 101 *eP* P 12 43 17.2 +1.3
38nm,1.0s
W33A **Caddo, Fort Co** 25.23 100 ⇑P P 12 43 16.1 +0.1
baz=25
U34A **Anderson Ranch** 25.28 97 ⇓P P 12 43 16.5 +0.1
baz=25
U34A **Anderson Ranch** 25.28 97 *eP* P 12 43 16.9 +0.5
63nm,1.3s
330A **Mertzon** 25.44 110 ⇑P P 12 43 17.7 -0.2
baz=26,SNR=7.0
429A **Davenport Ranc** 25.44 113 ⇓P P 12 43 18.7 +0.7
baz=26,SNR=16
Z32A **Haskell** 25.49 105 ⇓P P 12 43 19.4 +1.0
baz=26,SNR=7.8
X33A **Lawton** 25.52 101 ⇑P P 12 43 19.5 +0.9
baz=26
529A **Stev Forest Ra** 25.55 114 ⇓P P 12 43 19.8 +0.9
baz=26,SNR=36
V34A **Guthrie** 25.57 98 ⇑P P 12 43 19.9 +0.8
baz=26
V34A **Guthrie** 25.57 98 *eP* P 12 43 19.5 +0.4
45nm,1.1s
W34A **Bridge Creek,** 25.68 99 ⇑P P 12 43 21.1 +0.9
baz=26
W34A **Bridge Creek,** 25.68 99 *eP* P 12 43 21.0 +0.9
97nm,1.5s
231A **Bronte** 25.70 108 ⇑P P 12 43 21.2 +0.8
baz=26
Y33A **Hilltop Ranch,** 25.71 103 ⇑P P 12 43 21.2 +0.8
baz=26
ABTX **Abilene, Hawle** 25.76 106 ⇑P P 12 43 22.2 +1.3
baz=26
430A **Baggett Ranch,** 25.78 112 ⇑P P 12 43 21.6 +0.5
baz=26
SPMN **Marine on St.** 25.82 75 ⇑P P 12 43 22.3 +1.1
baz=26
331A **San Angelo** 26.00 110 ⇓P P 12 43 23.4 +0.4
baz=26
530A **J-C Ranch, Com** 26.12 113 ⇑P P 12 43 24.1 0.0
baz=26,SNR=6.1
232A **Coleman** 26.19 108 ⇑P P 12 43 26.9 +2.2
baz=26,SNR=5.6
431A **Sonora** 26.27 111 ⇓P P 12 43 25.9 +0.4
baz=26
133A **Hamilton Ranch** 26.28 106 ⇓P P 12 43 25.5 0.0
baz=26
Y34A **Reagan Ranch,** 26.35 102 ⇓P P 12 43 28.2 +2.0
baz=26
332A **Millersview** 26.42 109 ⇑P P 12 43 26.2 -0.7
baz=26,SNR=11
233A **Rising Star** 26.63 107 ⇑P P 12 43 29.2 +0.5
baz=27,SNR=7.6
531A **Rocksprings** 26.63 112 ⇑P P 12 43 29.7 +0.9
baz=27,SNR=8.0
432A **Menard** 26.70 110 ⇓P P 12 43 30.3 +1.0
baz=27
134A **White-Moore Ra** 26.88 105 ⇓P P 12 43 32.0 +1.1
baz=27
JCT **Junction City** 26.94 110 ⇓P P 12 43 32.0 +0.5
baz=27
333A **Richland Sprin** 26.98 108 ⇓P P 12 43 31.7 -0.2
baz=27
532A **Rocksprings** 27.09 111 ⇓P P 12 43 33.3 +0.4
baz=27,SNR=6.5
631A **Perdido Creek** 27.10 113 ⇑P P 12 43 33.4 +0.5
baz=27,SNR=6.4
234A **Clairette** 27.16 106 ⇑P P 12 43 34.9 +1.4
baz=27
433A **Art** 27.25 109 ⇑P P 12 43 34.5 +0.2
baz=27,SNR=10
632A **Uvalde** 27.56 112 ⇓P P 12 43 37.2 +0.1
baz=28
434A **Burnet** 27.77 108 ⇑P P 12 43 40.4 +1.4
baz=28,SNR=5.8
534A **Blanco** 28.11 110 ⇓P P 12 43 42.5 +0.5
baz=28
832A **Faith Ranch, C** 28.23 114 ⇓P P 12 43 43.4 +0.3
baz=28
034A **Hebbronville** 29.90 114 ⇑P P 12 43 59.2 +1.3
baz=30
OXF **Oxford** 32.02 94 *eP* P 12 44 17.4 +0.8
58nm,0.9s
TKL **Tuckaleechee C** 35.53 88 LR LR 12 59 04.4
comp=Z,875nm,18.5s,baz=329,slow=36
H11N3 **WAKE ISLAND Hy 57.86 267** T T 13 50 13.1
baz=49,slow=75,SNR=4314
H11N2 **WAKE ISLAND Hy 57.86 267** T T 13 50 10.9
baz=49,slow=75,SNR=2114
H11N1 **WAKE ISLAND Hy 57.88 267** T T 13 50 17.1
baz=49,slow=75,SNR=2089
H11S1 **WAKE ISLAND Hy 58.79 266** T T 13 51 30.2
baz=49,slow=75,SNR=138
H11S2 **WAKE ISLAND Hy 58.80 266** T T 13 51 22.8
baz=49,slow=75,SNR=128
H11S3 **WAKE ISLAND Hy 58.81 266** T T 13 51 26.1
baz=49,slow=75,SNR=140
MDJ **Mudanjiang** 67.29 311 P P 12 48 43.9 -0.8
MDJ PMZ
8.0nm,1.2s
JOF **Joensuu** 72.20 9 *ep* P 12 49 14.8 +0.3
1.9nm,0.8s
FINES **FINESS Array B** 72.92 12 P P 12 49 18.7 -0.1
1.9nm,0.8s,baz=344,slow=6.3,SNR=4.3
SONM **Songino Array** 76.19 325 P P 12 49 37.4 -0.9
2.6nm,1.1s,baz=58,slow=3.7,SNR=12
ZALV **Zalesovo Beam** 78.06 340 P P 12 49 47.8 -0.7
0.8nm,0.6s,baz=22,slow=5.1,SNR=5.3
HHC **Hu-ho-hao-te** 79.31 318 *eP* P 12 49 56.1 +0.3
HHC sP sP 12 50 07.3 +5.7
HHC PP PP 12 52 58.3 +3.4
HHC S S 12 59 51.1 -4.8
HHC SS SS 13 05 02.0 +0.5
HHC PMZ
21nm,1.0s
HHC PMZ
360nm,5.3s
HHC LN
260nm,16.7s
HHC LE
660nm,17.5s
HHC LZ
720nm,17.7s
LPAZ **La Paz** 81.92 122 P P 12 50 09.0 -1.6
1.0nm,0.7s,baz=296,slow=5.2,SNR=4.5
NJ2 **Nanjing** 82.05 307 *eP* P 12 50 09.9 -0.5
NJ2 PMZ
20nm,1.0s
MKAR **Makanchi Array** 85.28 339 P P 12 50 24.9 -2.0
1.1nm,1.1s,baz=27,slow=5.6,SNR=6.0
RAO **Raoul Island** 85.49 221 LR LR 13 19 03.0
comp=Z,491nm,20.0s,baz=252,slow=29
WMQ **Urumqi** 86.45 334 *eP* P 12 50 33.9 +1.2
WMQ PMZ
5.0nm,1.0s
WMQ PMZ
370nm,8.5s
WMQ LN
400nm,16.0s
WMQ LE
260nm,17.0s
WMQ LZ
520nm,17.0s
LZH **Lanzhou** 86.76 320 *eP* P 12 50 35.3 +0.8
LZH pP pP 12 50 39.5 +0.7
LZH sP sP 12 50 41.8 +1.4
LZH PMZ
20nm,1.1s
LZH PMZ
130nm,5.5s
KSH **Kashi** 93.69 341 *eP* P 12 51 08.0 +1.1
KSH sP sP 12 51 15.1 +2.3
KSH PP PP 12 54 56.1 +5.2

IDC 15 12:54:34.8±0.9, 0.75N×125.49E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/37, mbtmp3.7/6, Error ellipse: s-maj=79.8km s-min=17.3km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.32	158	P	P	12 59 32.3	-2.0
0.6nm,0.4s,baz=337,slow=11,SNR=16							
ASAR	Alice Springs	25.61	162	P	P	13 00 06.2	+0.1
0.9nm,0.8s,baz=344,slow=12,SNR=10							
STKA	Stephens Creek	35.86	156	P	P	13 01 38.1	+1.6
1.0nm,0.9s,baz=325,slow=9.1,SNR=4.2							
USRK	Ussuriysk Ar.	43.65	7	P	P	13 02 40.5	-0.7
1.5nm,0.6s,baz=198,slow=6.0,SNR=5.0							
SONM	Songino Array	49.74	343	P	P	13 03 29.9	+0.8
0.4nm,0.8s,baz=142,slow=7.2,SNR=3.3							
MKAR	Makanchi Array	59.32	327	P	P	13 04 37.9	-0.7
0.6nm,0.4s,baz=121,slow=7.3,SNR=18							
TORD	Torodi Ar. Bea	122.60	286	PKP	PKPdf	13 13 33.5	0.0
0.6nm,1.0s,baz=124,slow=0.5,SNR=2.4							

IDC 15 13:02:29.2±4.3, 22.76N×94.56E, h94km±39km, mb3.4/7, mb1 3.5/8, mb1mx3.2/43, mbtmp3.6/8, Error ellipse: s-maj=84.7km s-min=14.7km az=57.0

ISC 15 13:02:30.3±1.1, 22.6N±0.2×94.1E±0.1, h105km, n19, σ1°79/27, mb3.7/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	3.55	327	*e*PN	Pn	13 03 25.5	+1.8
SHL				*e*SN	Sn	13 04 03.0	-1.9
CMAR	Chiang Mai Arr	6.17	131	P	Pn	13 03 54.4	-4.7
0.1nm,0.3s,baz=304,slow=15,SNR=3.2							
ODAN	Odare	7.38	306	*e*Pn	Pn	13 04 17.6	+1.9
ODAN				*e*Sn	Sn	13 05 36.1	-1.9
TAPN	Taplejung	7.44	311	*e*Pn	Pn	13 04 17.9	+1.4
TAPN				*e*Sn	Sn	13 05 37.5	-1.9
36nm,0.4s							
RAMN	Ramite	8.03	304	*e*Pn	Pn	13 04 26.8	+2.3
JIRN	Jiri	8.71	307	*e*Pn	Pn	13 04 34.9	+1.0
JIRN				*e*Sn	Sn	13 06 09.1	-1.5
35nm,0.3s							
GUN	Gumba	9.08	307	*e*Pn	Pn	13 04 40.0	+1.1
GUN				*e*Sn	Sn	13 06 18.4	-1.1
38nm,0.4s							
PKI	Pulchoki	9.26	304	*e*Pn	Pn	13 04 43.7	+2.5
PKIN	Phulchoki	9.27	304	*e*Sn	Sn	13 06 22.9	-1.0
28nm,0.4s							
GKN	Gorkha	10.06	304	*e*Pn	Pn	13 04 53.5	+1.5
GKN				*e*Sn	Sn	13 06 40.7	-2.4
20nm,0.3s							
KOLN	Koldanda	10.76	301	*e*Pn	Pn	13 05 03.6	+2.0
KOLN				*e*Sn	Sn	13 06 57.5	-2.7
25nm,0.3s							
DANN	Dangsing	10.91	304	*e*Pn	Pn	13 05 05.4	+1.8
DANN				*e*Sn	Sn	13 07 01.3	-2.5
11nm,0.3s							
MKAR	Makanchi Array	25.93	341	P	P	13 07 53.5	+0.8
0.5nm,0.5s,baz=143,slow=9.9,SNR=16							
MKAR				pP	pP	13 08 16.7	+0.9
0.8nm,0.7s,baz=146,slow=8.8,SNR=7.1							
ZALV	Zalesovo Beam	32.06	350	P	P	13 08 45.7	-1.3
0.5nm,0.4s,baz=157,slow=8.9,SNR=3.2							
WRA	Warramunga Arr	57.76	134	P	P	13 12 08.9	-1.8
0.4nm,0.5s,baz=319,slow=7.6,SNR=20							
FINES	FINESS Array B	59.88	329	P	P	13 12 25.4	+0.6
0.9nm,0.8s,baz=60,slow=5.6,SNR=3.1							
ASAR	Alice Springs	60.14	137	P	P	13 12 25.9	-1.2
0.3nm,0.5s,baz=320,slow=6.8,SNR=7.8							
ARCES	ARCESS Array B	61.53	338	P	P	13 12 35.9	0.0
2.3nm,1.0s,baz=95,slow=8.6,SNR=7.4							
GERES	GERESS Array B	67.09	315	P	P	13 13 14.0	+1.4
0.4nm,0.6s,baz=76,slow=5.3,SNR=2.3							

ISCJB 15 13:14:31.1±2.6, 28.77N±0.04×128.32E±0.05, h7km±17km, mb3.6/6, Error ellipse: s-maj=7.8km s-min=6.2km az=157.7

JMA 15 13:14:31.5±0.2, 28.82N×128.28E, h26km±4km, M2.9

IDC 15 13:14:31.0±3.9, 28.77N×128.53E, h0km, mb3.7/6, mb1 3.7/6, mb1mx3.5/33, mbtmp3.7/6, Error ellipse: s-maj=211.4km s-min=24.4km az=64.0

ISC 15 13:14:31.9±3.5, 28.75N±0.05×128.46E±0.07, h7km±23km, n12, σ0°72/18, mb3.6/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	Takarajima	0.77	58	P	Pb	13 14 47.7	0.0
JTAJ				S	Sn	13 14 59.1	-1.9
JAMN	Amaminishikomi	0.81	128	P	Pn	13 14 49.3	-0.4
JAMN				S	Sn	13 15 02.5	+0.5
JTK	Tokunoshima	1.05	155	P	Pb	13 14 52.5	0.0
JTK				S	Sn	13 15 07.8	-0.3
JAM	Amami Oshima	1.07	108	P	Pn	13 14 53.4	+0.1
JAM				S	Sn	13 15 08.7	+0.4
JOKE	Okinoerabujima	1.39	176	P	Pn	13 14 57.0	-0.7
JOKE				S	Sn	13 15 15.8	-0.5
JOW	Kunigami	1.92	185	P	Pn	13 15 04.6	-0.4
JOW				S	Sn	13 15 28.8	-0.6
SONM	Songino Array	25.59	324	P	P	13 20 02.3	+0.5
1.0nm,1.0s,baz=129,slow=12,SNR=4.4							
MKAR	Makanchi Array	40.05	310	P	P	13 22 08.5	+0.8
1.0nm,0.8s,baz=97,slow=9.0,SNR=10							
ZALV	Zalesovo Beam	40.40	321	P	P	13 22 11.0	+0.6
0.3nm,0.3s,baz=76,slow=6.1,SNR=2.6							
KURBB	Kurchatov Arra	43.20	315	P	P	13 22 33.0	-0.5
1.3nm,0.8s,baz=103,slow=8.9,SNR=9.1							
BVAR	Borovoye Array	48.56	317	P	P	13 23 16.1	+0.4
0.8nm,0.6s,baz=96,slow=9.1,SNR=5.1							
WRA	Warramunga Arr	48.74	173	P	P	13 23 17.6	+0.2
0.7nm,1.0s,baz=353,slow=8.3,SNR=3.6							

GUC 15 13:42:00.5±0.5, 35.78S×72.86W, h18km±4km, ML4.2, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.36	170	⇑*i*P	Pb	13 42 08.5	+0.2
COCH				*i*S	Sb	13 42 14.1	+0.4
LNCH	Linares	1.03	94	⇓*i*P	Pg	13 42 22.7	+2.2
LNCH				*i*S	Sg	13 42 37.7	+3.7
TALC	Talca	1.07	70	⇑*i*P	Pn	13 42 20.7	+0.1
TALC				*i*S	Sg	13 42 35.7	+0.4
NICH	Los Niches	1.54	60	⇓*i*P	Pb	13 42 28.5	0.0
NICH				*i*S	Sg	13 42 49.8	-0.6
CLCH	Cerro Calan	3.06	40	*e*P1	Pn	13 42 50.9	+2.9
CLCH				*e*S	Sb	13 43 28.7	-2.8
CLCH				IAML		13 43 45.2	
comp=N,553nm,1.2s							
PEL	Peldehue	3.19	35	⇑*i*P	Pn	13 42 50.1	+0.4
PEL				IAML		13 43 56.4	
comp=N,904nm,0.8s							
FCH	Farellones	3.24	42	⇑*i*P	Pn	13 42 54.3	+3.4
FCH				IAML		13 43 51.2	
comp=N,285nm,0.5s							

NIED 15 14:10:00, 28.80N×128.30E, h5km, Mw4.5 Best double couple: M0 6.23000×10^15 NP1:φs 73.00000°, δ 40.00000°, λ -129.00000°. NP2:φs 299.00000°, δ 60.00000°, λ -62.00000°.

JMA 15 14:10:38.7±0.1, 28.82N×128.31E, h15km±1km, M4.4

IDC 15 14:10:38.3±0.6, 28.76N×128.45E, h0km, mb4.1/18, mb1 4.2/21, mb1mx4.1/54, mbtmp4.1/21, ML3.2/2, MS3.8/17, Ms1 3.8/17, ms1mx3.6/35, Error ellipse: s-maj=18.4km s-min=13.4km az=73.0

BJI 15 14:10:39.1, 28.52N×128.78E, h35km, mB4.9/31, mb4.5/46, Ms4.5/38, Ms7 4.2/35

ISCJB 15 14:10:40.9±0.7, 28.77N±0.02×128.45E±0.03, h25km±5km, mb4.2/39, MS3.9/14, Error ellipse: s-maj=4.1km s-min=3.4km az=8.8

MOS 15 14:10:41.1±1.1, 28.79N×128.60E, h34km, mb4.6/15, Error ellipse: s-maj=10.7km s-min=6.9km az=106.3

NEIC 15 14:10:43.6±0.3, 28.76N×128.53E, h35km, mb4.5/14, MW4.5(NIED), Error ellipse: s-maj=6.4km s-min=5.0km az=122.0

ISC 15 14:10:44.3±0.5, 28.73N±0.04×128.51E±0.04, h41km±4km, n121, σ1°97/144, mb4.3/39, MS3.8/14, 2C-6D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	Takarajima	0.74	55	P	Pn	14 10 54.6	-3.6
JTAJ				S	Sn	14 11 05.6	-2.7
JAMN	Amaminishikomi	0.76	130	P	Pn	14 10 56.4	-2.2
JAMN				S	Sn	14 11 09.4	+0.5
JAM	Amami Oshima	1.01	108	P	Pn	14 11 00.4	-1.6
JAM				S	Sn	14 11 16.8	+1.7
JTK	Tokunoshima	1.02	158	P	Pn	14 11 00.0	-2.1
JTK				S	Sn	14 11 15.1	-0.2
JZK	Kikaishima	1.35	108	P	Pn	14 11 05.8	-0.9
JZK				S	Sn	14 11 25.1	+1.7
JOKE	Okinoerabujima	1.37	178	P	Pn	14 11 04.9	-2.0
JOKE				S	Sn	14 11 23.7	-0.1
JNN	Nakanoshima	1.62	47	P	Pn	14 11 08.5	-1.9
JNN				S	Sn	14 11 29.8	-0.3
JOW	Kunigami	1.91	186	P	Pn	14 11 12.4	-1.9
JOW				S	Sn	14 11 36.2	-0.9
JOW	Kunigami	1.91	186	*e*P	Pn	14 11 12.5	-1.8
JNTH	Nagotoyohara	2.25	191	P	Pn	14 11 16.8	-2.2
JNTH				S	Sn	14 11 44.8	-0.7
JKC	Kuchinoerabu	2.26	40	P	Pn	14 11 16.8	-2.4
JYAK	Yakushimahirau	2.30	49	P	Pn	14 11 18.1	-1.6
JYAK				S	Sn	14 11 46.9	+0.2
JAGN	Aguni-jima	2.42	208	P	Pn	14 11 18.6	-2.7
JAGN				S	Sn	14 11 48.2	-1.4
JJT2	Tamagusuku 2	2.67	195	P	Pn	14 11 22.9	-1.9
JTN	Tanegashima 3	2.88	48	P	Pn	14 11 26.8	-0.8
JNU	Nakatsue	4.82	24	Pn	Pn	14 11 55.4	+1.0
2.5nm,0.3s,baz=175,slow=9.8,SNR=16							
JNU				LR	LR	14 13 56.3	
comp=Z,2μm,19.4s,baz=218,slow=41							
JNU	Nakatsue	4.82	24	*e*P	Pn	14 11 58.1	+3.7
YHNB	Yeheng	7.56	239	*e*P	Pn	14 12 35.8	+3.8
123nm,1.2s							
SSLB	Suanglung	8.38	236	*e*P	Pn	14 12 44.0	+0.7
35nm,0.9s							
KSAR	Wonju Array Be	8.70	357	P	Pn	14 12 46.2	-1.3
KSAR	Wonju Array Be	8.70	357	Pn	Pn	14 12 46.2	-1.3
KSRS	Korea Array	8.71	357	Pn	Pn	14 12 46.2	-1.5
0.2nm,0.3s,baz=177,slow=15,SNR=9.1							
KSRS				LR	LR	14 16 02.5	
comp=Z,677nm,21.0s,baz=184,slow=37							
TPUB	Ta-pu	8.92	234	*e*P	Pn	14 12 51.2	+0.6
75nm,1.2s							
NJ2	Nanjing	8.97	294	*e*P	Pn	14 12 50.8	-0.5
NJ2				S	Sn	14 14 31.0	0.0
NJ2				PMZ			
60nm,1.0s							
NJ2				LN			
3μm,12.9s							
NJ2				LE			
2μm,11.6s							
NJ2				LZ			
2μm,11.7s							
MAJO	Matsushiro	11.28	44	*e*P	Pn	14 13 22.3	-0.6
MAJO	Matsushiro	11.28	44	*e*P	Pn	14 13 22.3	-0.6
MJAR	Matsushiro Arr	11.28	44	Pn	Pn	14 13 22.7	-0.3
0.2nm,0.3s,baz=264,slow=11,SNR=7.9							
MJAR				LR	LR	14 18 09.1	
comp=Z,521nm,20.5s,baz=250,slow=40							
WHN	Wuhan	12.45	282	P	Pn	14 13 44.3	+5.4
SNY	Shenyang	13.67	344	⇓P	P	14 14 01.9	-1.5
SNY				pP	Pn	14 14 12.3	+17
SNY				S	Sn	14 16 32.8	+7.0
BJI	Beijing	15.18	321	P	Pn	14 14 16.4	+0.7
BJI				S	Sn	14 17 04.9	+2.3
BJI				PMZ			
18nm,1.2s							
BJI				PMZ			
120nm,3.6s							
BJI				LN			
700nm,20.5s							
BJI				LE			
700nm,21.3s							
BJI				LZ			
240nm,18.2s							
CN2	Changchun	15.24	352	*e*P	P	14 14 22.9	+2.1
USRK	Ussuriysk Ar.	15.68	9	Pn	Pn	14 14 22.1	-0.2
0.0nm,0.3s,baz=194,slow=10,SNR=2.3							
USRK				LR	LR	14 20 12.1	
comp=Z,218nm,18.2s,baz=176,slow=37							
ENH	Enshi	16.64	280	P	P	14 14 36.0	-0.4
9.4nm,0.8s							
XAN	Xi'an	17.54	292	P	P	14 14 52.9	+6.5
XAN				S	S	14 18 11.8	+5.3
XAN	Xi'an	17.54	292	P	Pn	14 14 44.3	-1.4
XAN				PMZ			
6.0nm,1.3s							
XAN				LN			
410nm,10.9s							
XAN				LE			
120nm,9.2s							
XAN				LZ			
100nm,9.0s							
ERM	Erimo	17.80	38	*e*P	P	14 14 52.0	+2.8
ERM				pmax	pmax		
comp=Z,14nm,1.0s							
HHC	Hu-ho-hao-te	18.40	316	*e*P	P	14 14 56.1	+0.2
HHC				PP	PnPn	14 15 10.8	+2.4
HHC				S	Sn	14 18 15.0	-5.8
HHC				SS	SnSn	14 18 44.6	+10
HHC				PMZ			
comp=Z,26nm,1.0s							
HHC				PMZ			
comp=Z,300nm,5.0s							
HHC				LN			
comp=Z,820nm,13.1s							
HHC				LE			
comp=Z,1μm,12.6s							
HHC				LZ			
comp=Z,600nm,13.5s							
ASAJ	Asahikawa	19.04	33	LR	LR	14 22 04.3	
comp=Z,279nm,18.4s,baz=299,slow=36							
GYA	Guiyang	19.50	268	⇓*i*P	P	14 15 08.8	+0.7
GYA				pP	pP	14 15 20.3	+2.1
GYA				PP	PnPn	14 15 28.0	+4.4
GYA				S	S	14 18 42.6	-3.7

GYA				SS	SnSn	14 19 11.0	+9.1
GYA				PMZ			
	comp=Z,50nm,1.0s						
GYA				LN			
	comp=Z,380nm,12.3s						
GYA				LE			
	comp=Z,250nm,13.0s						
GYA				LZ			
	comp=Z,420nm,11.6s						
KLR	**Kul'dur**	**20.62**	**6**	*e*P	**P**	**14 15 16.8**	**-3.2**
KLR				MLR	MLR		
	comp=N,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
YUK	**Yuzh-Kuril'sk**	**20.63**	**38**	*d i*P	**P**	**14 15 19.0**	**-1.1**
YUK				*i*		14 15 54.8	
YUK				*i* S	S	14 19 00.0	-8.3
YUK				*i* SS	**SnSn**	**14 19 34.4**	**+4.9**
YUK				MLR	MLR		
	comp=Z,286nm,20.0s						
LZH	**Lanzhou**	**22.04**	**296**	*e*P	**P**	**14 15 37.8**	**+2.2**
LZH				pP	**pP**	**14 15 46.5**	**+0.7**
LZH				sP	**sP**	**14 15 52.8**	**+1.8**
LZH				sS	**sS**	**14 19 53.1**	**-0.1**
LZH				PMZ			
	comp=Z,39nm,1.1s						
LZH				PMZ			
	comp=Z,130nm,4.9s						
LZH				LN			
	comp=Z,730nm,13.2s						
LZH				LE			
	comp=Z,580nm,12.8s						
LZH				LZ			
	comp=Z,800nm,13.3s						
KMI	**Kunming**	**23.24**	**267**	P	**P**	**14 15 49.1**	**+0.8**
KMI				PMZ			
	comp=Z,34nm,0.8s						
KMI				LN			
	comp=Z,570nm,11.2s						
KMI				LE			
	comp=Z,360nm,9.1s						
KMI				LZ			
	comp=Z,400nm,11.4s						
SLVN	**Son La**	**23.45**	**257**	*e*P	**P**	**14 15 51.3**	**+1.1**
	comp=Z,6.1nm,1.0s						
ULN	**Ulaanbaatar**	**25.32**	**325**	*ce*P	**P**	**14 16 08.6**	**+1.4**
ULN				pmax	pmax		
	comp=Z,48nm,3.5s						
ULN	**Ulaanbaatar**	**25.32**	**325**	*e*P	**P**	**14 16 06.0**	**-1.2**
	comp=Z,42nm,1.7s						
SONM	**Songino Array**	**25.63**	**324**	P	**P**	**14 16 09.8**	**-0.3**
	comp=Z,10nm,1.1s,baz=134,slow=7.9,SNR=31						
SONM				LR	LR	14 26 34.9	
	comp=Z,125nm,18.9s,baz=140,slow=37						
GTA	**Gaotai**	**25.95**	**302**	P	**P**	**14 16 12.6**	**-0.4**
GTA				pP	**pP**	**14 16 22.9**	**-1.2**
GTA				sP	**sP**	**14 16 26.9**	**-2.2**
GTA				PMZ			
	comp=Z,31nm,0.8s						
GTA				PMZ			
	comp=Z,170nm,6.9s						
GTA				LN			
	comp=Z,790nm,17.1s						
GTA				LE			
	comp=Z,420nm,13.2s						
GTA				LZ			
	comp=Z,490nm,12.9s						
CHTO	**Chiang Mai**	**28.73**	**256**	*e*P	**P**	**14 16 37.4**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CHTO	**Chiang Mai**	**28.73**	**256**	*e*P	**P**	**14 16 37.4**	**-0.6**
	comp=Z,3.5nm,0.9s						
ZAK	**Zakamensk**	**28.84**	**326**	*e*P	P	14 16 34.8	-3.9
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.9s						
CMAR	**Chiang Mai Arr**	**28.89**	**256**	*i* P	**P**	**14 16 38.7**	**-0.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**28.89**	**256**	P	**P**	**14 16 38.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=51,slow=7.0,SNR=6.8						
CMAR				LR	LR	14 28 28.4	
	comp=Z,177nm,18.8s,baz=66,slow=37						
TLY	**Talaya**	**29.50**	**328**	*e*P	**P**	**14 16 45.1**	**+0.6**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.5s						
TLY				MLR	MLR		
	comp=Z,280nm,15.0s						
TLY	**Talaya**	**29.50**	**328**	LR	LR	14 30 17.7	
	comp=Z,71nm,18.0s,baz=142,slow=40						
PETK	**Petropavlovsk-**	**32.45**	**33**	LR	LR	14 30 06.1	
	comp=Z,135nm,20.9s,baz=218,slow=36						
LSA	**Lhasa**	**32.53**	**281**	*e*P	**P**	**14 17 12.0**	**0.0**
LSA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LSA	**Lhasa**	**32.53**	**281**	*e*P	**P**	**14 17 12.0**	**0.0**
	comp=Z,6.9nm,1.0s						
HVS	**Khovu-Aksy**	**34.34**	**320**	*e*P	**P**	**14 17 27.5**	**+0.5**
HVS				pmax	pmax		
	comp=Z,19nm,1.0s						
WMQ	**Urumqi**	**35.80**	**306**	*e*P	**P**	**14 17 40.3**	**+0.6**
WMQ				pP	**pP**	**14 17 51.0**	**0.0**
WMQ				PP	**PP**	**14 19 06.1**	**+4.7**
WMQ				S	**S**	**14 23 14.6**	**+0.3**
WMQ				sS	**sS**	**14 23 30.5**	**-2.7**
WMQ				SS	**SnSn**	**14 25 35.3**	**-3.9**
WMQ				PMZ			
	comp=Z,5.0nm,1.0s						
WMQ				PMZ			
	comp=Z,240nm,5.6s						
WMQ				LN			
	comp=Z,270nm,19.0s						
WMQ				LE			
	comp=Z,230nm,20.0s						
WMQ				LZ			
	comp=Z,88nm,17.0s						
TAPN	**Taplejung**	**35.92**	**278**	*e*P	**P**	**14 17 41.0**	**-0.2**
	comp=Z,23nm,1.2s						
ODAN	**Odare**	**36.30**	**277**	*e*P	**P**	**14 17 44.1**	**-0.3**
	comp=Z,54nm,0.8s						
RAMN	**Ramite**	**36.97**	**277**	*e*P	**P**	**14 17 49.4**	**-0.7**
	comp=Z,8.6nm,0.8s						
JIRN	**Jiri**	**37.17**	**279**	*e*P	**P**	**14 17 51.9**	**-0.1**
GUN	**Gumba**	**37.39**	**279**	*e*P	**P**	**14 17 53.1**	**-0.7**
SEY	**Seymchan**	**37.56**	**18**	P	**P**	**14 17 54.4**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=246,slow=5.1,SNR=5.1						
PKI	**Pulchoki**	**37.87**	**279**	*e*P	**P**	**14 17 57.5**	**-0.3**
	comp=Z,34nm,1.0s						
PKIN	**Phulchoki**	**37.88**	**279**	*e*P	**P**	**14 17 57.3**	**-0.5**
	comp=Z,16nm,0.8s						
KKN	**Kakani**	**37.94**	**279**	*e*P	**P**	**14 17 58.1**	**-0.1**
	comp=Z,33nm,1.0s						
DMN	**Daman**	**38.12**	**279**	*e*P	**P**	**14 17 59.8**	**-0.1**
	comp=Z,59nm,1.3s						
GKN	**Gorkha**	**38.45**	**280**	*e*P	**P**	**14 18 02.3**	**-0.2**
	comp=Z,32nm,0.8s						
DANN	**Dangsing**	**39.14**	**281**	*e*P	**P**	**14 18 08.5**	**+0.1**
	comp=Z,39nm,0.9s						
KOLN	**Koldanda**	**39.40**	**280**	*e*P	**P**	**14 18 10.3**	**-0.2**
	comp=Z,13nm,1.0s						
MKAR	**Makanchi Array**	**40.09**	**310**	P	**P**	**14 18 15.7**	**-0.1**
	comp=Z,5.3nm,0.8s,baz=97,slow=9.0,SNR=48						
MKAR				PcP	**PcP**	**14 20 19.2**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=103,slow=5.2,SNR=4.4						
ZALV	**Zalesovo Beam**	**40.44**	**321**	P	**P**	**14 18 18.1**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=121,slow=7.1,SNR=8.0						
ZALV				PcP	**PcP**	**14 20 19.6**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=108,slow=4.8,SNR=4.1						
NVS	**Novosibirsk**	**41.62**	**322**	*e*P	**P**	**14 18 26.7**	**-1.5**
NVS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NVS				pmax	pmax		
	comp=N,2.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.3s						
TIXI	**Tiksi**	**42.96**	**0**	*e*P	**P**	**14 18 40.7**	**+1.8**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KURK	**Kurchatov**	**43.21**	**315**	*e*P	**P**	**14 18 40.3**	**-0.9**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KURK	**Kurchatov**	**43.21**	**315**	*e*P	**P**	**14 18 40.3**	**-0.9**
	comp=Z,8.2nm,1.0s						
KSH	**Kashi**	**44.25**	**298**	P	**P**	**14 18 48.8**	**-1.1**
TKM2	**Tokmak 2**	**44.48**	**303**	*e*P	**P**	**14 18 51.3**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TKM2	**Tokmak 2**	**44.48**	**303**	*e*P	**P**	**14 18 51.3**	**-0.5**
	comp=Z,5.2nm,0.8s						
BILL	**Bilibino**	**45.23**	**19**	*e*P	P	14 18 53.9	-3.2
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
AAK	**Ala-Archa**	**45.29**	**303**	⇓*i*P	**P**	**14 18 59.7**	**+1.5**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
AAK	**Ala-Archa**	**45.29**	**303**	P	**P**	**14 18 57.4**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=123,slow=8.1,SNR=6.4						
AAK	**Ala-Archa**	**45.29**	**303**	*e*P	**P**	**14 18 58.4**	**+0.2**
EKS2	**Erkin-Say**	**45.82**	**303**	*e*P	**P**	**14 19 02.2**	**-0.1**
EKS2				pmax	pmax		
	comp=Z,2.0nm,1.2s						
EKS2	**Erkin-Say**	**45.82**	**303**	*e*P	**P**	**14 19 02.2**	**-0.1**
	comp=Z,2.5nm,1.2s						
KKAR	**Karatay Array**	**48.20**	**304**	P	**P**	**14 19 20.5**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KKAR	**Karatay Array**	**48.20**	**304**	P	**P**	**14 19 20.5**	**-0.3**
	comp=Z,3.0nm,0.7s						
BVAR	**Borovoye Array**	**48.60**	**317**	P	**P**	**14 19 23.4**	**-0.2**
	comp=Z,11nm,1.0s,baz=99,slow=8.3,SNR=41						
BRVK	**Borovoye**	**48.67**	**317**	*ce*P	**P**	**14 19 24.2**	**0.0**
BRVK				pmax	pmax		
	comp=Z,25nm,1.0s						
BRVK	**Borovoye**	**48.67**	**317**	*e*P	**P**	**14 19 24.1**	**-0.1**
	comp=Z,22nm,1.0s						
WRAB	**Tennant Creek**	**48.71**	**173**	⇓*i*P	**P**	**14 19 25.2**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,54nm,1.7s						
WRAB	**Tennant Creek**	**48.71**	**173**	*e*P	**P**	**14 19 25.4**	**+0.6**
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**48.72**	**173**	P	**P**	**14 19 24.9**	**0.0**
	comp=Z,7.1nm,0.9s,baz=351,slow=8.4,SNR=37						
WRA				PcP	**PcP**	**14 20 50.5**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=351,slow=4.5,SNR=5.9						
KBL	**Kabul**	**50.34**	**293**	*e*P	**P**	**14 19 38.1**	**+0.6**
KBL				pmax	pmax		
	comp=Z,17nm,1.2s						
KBL	**Kabul**	**50.34**	**293**	*e*P	**P**	**14 19 38.1**	**+0.6**
	comp=Z,17nm,1.2s						
ASAR	**Alice Springs**	**52.35**	**174**	P	**P**	**14 19 52.5**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=0.5,slow=7.3,SNR=22						
ASAR				PcP	**PcP**	**14 21 03.9**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=358,slow=3.6,SNR=10.0						
ABKAR	**Akbulak array**	**55.14**	**312**	*e*P	**P**	**14 20 12.4**	**0.0**
	comp=Z,6.0nm,1.1s						
ARU	**Arti**	**55.60**	**321**	*d i*P	**P**	**14 20 15.3**	**-0.3**
ARU						14 22 15.4	
ARU				S	**S**	**14 27 58.1**	**-0.3**
ARU				SS	**SS**	**14 31 40.0**	**-3.4**
ARU				pmax	pmax		
	comp=Z,24nm,2.5s						
AKTO	**Aktyubinsk**	**56.28**	**314**	P	**P**	**14 20 20.5**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=50,slow=7.7,SNR=3.7						
GEYT	**Alibeck**	**58.28**	**299**	P	**P**	**14 20 34.9**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=72,slow=4.8,SNR=7.5						
STKA	**Stephens Creek**	**61.55**	**167**	P	**P**	**14 20 57.5**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=339,slow=5.7,SNR=5.9						
STKA				LR	LR	14 49 20.9	
	comp=Z,43nm,19.4s,baz=29,slow=38						
ILAR	**Eielson Array**	**62.13**	**29**	P	**P**	**14 21 00.6**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=259,slow=6.3,SNR=6.7						
ILAR				LR	LR	14 50 51.0	
	comp=Z,117nm,18.7s,baz=158,slow=39						
ARCES	**ARCESS Array B**	**67.78**	**338**	LR	LR	14 55 40.9	
	comp=Z,70nm,19.4s,baz=42,slow=40						
KBZ	**Khabaz**	**67.78**	**309**	P	**P**	**14 21 36.8**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=84,slow=4.2,SNR=5.6						
KIV	**Kislovodsk**	**67.85**	**309**	*e*P	**P**	**14 21 40.8**	**+2.3**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FINES	**FINESS Array B**	**70.82**	**330**	LR	LR	14 55 20.8	
	comp=Z,97nm,18.4s,baz=47,slow=38						
AKASG	**Malin Array Be**	**73.80**	**319**	LR	LR	14 57 20.4	
	comp=Z,130nm,18.5s,baz=65,slow=38						
KIEV	**Kiev**	**73.81**	**319**	*e*P	**P**	**14 22 14.7**	**+0.3**
BRTR	**Keskin Array B**	**75.70**	**308**	P	**P**	**14 22 24.1**	**-1.7**
	comp=Z,1.6nm,1.1s,baz=145,slow=4.5,SNR=4.2						
BRTR				LR	LR	14 59 47.7	
	comp=Z,61nm,18.4s,baz=64,slow=39						
YKA	**Yellowknife Ar**	**76.16**	**25**	P	**P**	**14 22 27.0**	**-0.7**
YKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YKA	**Yellowknife Ar**	**76.16**	**25**	P	**P**	**14 22 27.0**	**-0.7**
	comp=Z,2.0nm,1.0s,baz=304,slow=5.4,SNR=22						
NOA	**NORSAR Array B**	**77.19**	**334**	LR	LR	14 59 11.2	
	comp=Z,38nm,18.5s,baz=10.0,slow=38						
STHS	**Stebnicka Huta**	**78.93**	**321**	*e*P	**P**	**14 22 40.7**	**-2.8**
STHS	**Stebnicka Huta**	**78.93**	**321**	*e*P	**P**	**14 22 40.7**	**-2.8**
BSMT	**Bassoo Peak**	**84.97**	**37**	P	**P**	**14 23 16.0**	**+0.5**
	comp=Z,4.1nm,0.9s						
NVAR	**Mina Array Bea**	**88.60**	**46**	P	**P**	**14 23 34.5**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=202,slow=2.4,SNR=3.8						
PDAR	**Pinedale Array**	**91.06**	**39**	P	**P**	**14 23 44.7**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=17,slow=1.5,SNR=4.6						
SCHQ	**Schefferville**	**95.73**	**9**	LR	LR	15 09 49.2	
	comp=Z,69nm,19.8s,baz=81,slow=37						

CASC 15 14:19:51.5±2.7, 11°.93N×88°.35W, h10km±17km, MD3.7, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.74**	**82**	*e*P	Pn	14 20 21.7	0.0
COPN				*e*S	Sn	14 20 43.9	-0.1
LFRS	**El Faro**	**1.82**	**338**	*e*P	Pn	14 20 23.2	+0.2
LFRS				*e*S	Sn	14 20 46.2	0.0
LBRS	**Las Brisas**	**1.92**	**339**	*e*P	Pn	14 20 23.9	-0.5
SBLS	**San Blas**	**2.27**	**327**	*e*P	Pn	14 20 29.6	+0.3
GBS3	**Finca Las Im¯¡**	**3.06**	**112**	*i* P	Pn	14 20 40.0	0.0
GBS3				*i* S	Sn	14 21 19.2	+2.5
LAPC	**Finca la Perla**	**3.08**	**112**	*i* P	Pn	14 20 39.9	-0.4
GPS2	**Hotel Rinc¯‡n**	**3.16**	**111**	*i* P	Pn	14 20 41.9	+0.4
CUI	**Cuipilapa**	**3.37**	**112**	*i* P	Pn	14 20 44.0	-0.3
JCR	**Jicaral**	**3.79**	**123**	*e*P	Pn	14 20 51.8	+1.7
JCR				*e*S	Sn	14 21 39.7	+4.8
CGA2	**Cerro Gallo 2**	**4.26**	**116**	*e*P	Pn	14 20 55.7	-0.9
CGA2				*e*S	Sn	14 21 44.7	-1.9
QCR	**Quepos**	**4.81**	**121**	*e*P	Pn	14 21 03.2	-0.8
QCR				*e*S	Sn	14 22 00.5	+0.8
URSC	**Urasca**	**4.95**	**114**	⇑*e*P	Pn	14 21 05.1	-1.1
BUS	**Buena Vista**	**5.09**	**117**	*e*P	Pn	14 21 06.7	-1.8
BUS				*e*S	Sn	14 22 03.0	-4.7

*IDC **15** 14:27:01.3±1.4, 36°.76S×73°.25W, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.8/24, mbtmp3.6/8, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/22, Error ellipse: s-maj=35.8km s-min=29.8km az=78.0*

*GUC **15** 14:27:05.4±0.6, 36°.59S×73°.13W, h14km±5km, ML4.0*

ISC 15 14:27:05.5±1.0, 36°.67S±0°.07×73°.1W±0°.1, h28km±7km, n13, σ1§24/17, mb3.8/5, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.18**	**175**	⇑*i*P	**Pb**	**14 27 11.4**	**+0.2**
CCSP				*i* S	**Sb**	**14 27 15.6**	**+0.5**
CCSP				IAML		14 27 16.8	
	comp=E,34μm,0.5s						
COCH	**Cobquecura**	**0.60**	**27**	⇑*i*P	**Pb**	**14 27 16.5**	**-1.0**
COCH				*i* S	**Sb**	**14 27 24.6**	**-1.0**
LNCH	**Linares**	**1.48**	**57**	⇓*i*P	**Pn**	**14 27 31.5**	**+1.2**
LNCH				*i* S	**Sb**	**14 27 52.3**	**+1.6**
TALC	**Talca**	**1.75**	**44**	⇑*i*P	**Pb**	**14 27 36.0**	**-1.0**
TALC				*i* S	**Sb**	**14 27 59.2**	**+0.7**
NICH	**Los Niches**	**2.27**	**43**	*e*P1	**Pb**	**14 27 44.2**	**-1.5**
PLCA	**Paso Flores**	**4.53**	**154**	Pn	**Pn**	**14 28 10.7**	**-1.6**
	comp=E,0.2nm,0.3s,baz=240,slow=20,SNR=3.6						
PLCA				Lg	Lg	14 29 27.7	
	comp=E,6.4nm,0.3s,baz=80,slow=14,SNR=5.5						
PLCA				LR	LR	14 29 53.3	
	comp=E,191nm,19.6s,baz=308,slow=38						
CFAA	**Coronel Fontan**	**6.47**	**40**	Pn	**Pn**	**14 28 38.7**	**-0.3**
	baz=214,slow=13						
LPAZ	**La Paz**	**20.78**	**14**	P	**P**	**14 31 46.2**	**+1.2**
	comp=E,1.3nm,0.7s,baz=219,slow=3.9,SNR=3.9						
SIV	**San Ignacio**	**23.21**	**31**	P	**P**	**14 32 11.8**	**+1.4**
	comp=E,1.3nm,0.5s,baz=232,slow=13,SNR=2.7						
TXAR	**Lajitas Array**	**71.65**	**332**	P	**P**	**14 38 23.6**	**-1.0**
	comp=E,0.8nm,0.8s,baz=148,slow=7.4,SNR=3.6						
NVAR	**Mina Array Bea**	**85.58**	**326**	P	**P**	**14 39 42.6**	**+1.3**
	comp=E,0.8nm,0.8s,baz=127,slow=6.7,SNR=5.2						
PDAR	**Pinedale Array**	**85.75**	**334**	P	**P**	**14 39 42.6**	**+0.6**
	comp=E,0.6nm,0.9s,baz=154,slow=5.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**85.95**	**70**	P	**P**	**14 39 44.1**	**+0.8**
	comp=E,0.2nm,0.6s,baz=209,slow=4.1,SNR=2.9						

WEL 15 14:51:23.9±0.5, 38°.48S×175°.84E, h182km±4km, ML3.8/15, 25C-5D, Error ellipse: s-maj=2.4km s-min=2.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**0.28**	**303**	PN	Pn	14 51 48.1	-0.3
TLZ				SN	Sn	14 52 07.3	+0.3
KRVZ	**Karewarewa**	**0.64**	**194**	PN	Pn	14 51 49.6	-0.1
WTVZ	**West Tongariro**	**0.67**	**197**	PN	Pn	14 51 49.9	0.0
TWVZ	**Taurewa**	**0.67**	**208**	PN	Pn	14 51 49.8	-0.1
OTVZ	**Oturere**	**0.70**	**191**	PN	Pn	14 51 50.1	0.0
NGZ	**Ngauruhoe**	**0.72**	**195**	PN	Pn	14 51 50.1	-0.2
COVZ	**Chateau Observ**	**0.76**	**198**	⇑PN	Pn	14 51 50.3	-0.1
WPVZ	**Whakapapa**	**0.76**	**197**	⇑PN	Pn	14 51 50.4	0.0
HIZ	**Hauiti**	**0.77**	**267**	⇓PN	Pn	14 51 50.1	-0.2
TOZ	**Tahuroa Road**	**0.79**	**341**	⇓PN	Pn	14 51 50.4	-0.1
TUVZ	**Tukino**	**0.80**	**190**	⇑PN	Pn	14 51 50.8	+0.1
FWVZ	**Far West T-bar**	**0.81**	**196**	⇓PN	Pn	14 51 50.6	-0.2
TRVZ	**Turoa**	**0.85**	**195**	⇑PN	Pn	14 51 51.1	0.0
BKZ	**Black Stump Fm**	**0.86**	**143**	⇑PN	Pn	14 51 50.9	-0.1
BKZ				AML	AML	14 52 12.7	
BKZ				AML	AML	14 52 14.5	
WNVZ	**Wahianoa**	**0.87**	**192**	⇑PN	Pn	14 51 51.1	0.0
MOVZ	**Moawhango**	**0.93**	**184**	⇑PN	Pn	14 51 51.1	-0.3
MTVZ	**Mangateitei**	**0.95**	**197**	PN	Pn	14 51 51.6	0.0
NMHZ	**Naumai**	**0.98**	**129**	PN	Pn	14 51 52.6	+0.9
BHHZ	**Black Hill Sta**	**1.02**	**170**	⇑PN	Pn	14 51 51.9	-0.2
URZ	**Urewera**	**1.03**	**78**	⇑PN	Pn	14 51 51.5	-0.6
URZ				SN	Sn	14 52 11.9	-1.8
RAHZ	**Arahi**	**1.07**	**115**	PN	Pn	14 51 52.9	+0.5
MCHZ	**McNeill Hill**	**1.18**	**145**	⇑PN	Pn	14 51 54.0	+0.8
ARHZ	**Aropaoanui**	**1.20**	**131**	PN	Pn	14 51 53.9	+0.6
SNGZ	**Shannon Statio**	**1.22**	**105**	*e*PN	Pn	14 51 54.1	+0.6
KRHZ	**Kereru**	**1.24**	**160**	⇑PN	Pn	14 51 53.8	+0.1
RAGZ	**Rawiri**	**1.24**	**91**	*e*PN	Pn	14 51 54.0	+0.2
MWZ	**Matawai**	**1.34**	**84**	PN	Pn	14 51 54.3	-0.3
WAZ	**Wanganui**	**1.44**	**207**	PN	Pn	14 51 55.2	-0.3
PNHZ	**Pukenui**	**1.46**	**169**	⇑PN	Pn	14 51 55.5	-0.3
CKHZ	**Cape Kidnapper**	**1.52**	**141**	⇓PN	Pn	14 51 56.8	+0.5
RIGZ	**Rimuhau**	**1.53**	**99**	PN	Pn	14 51 56.6	+0.3
KNZ	**Kokohu**	**1.54**	**111**	PN	Pn	14 51 56.7	+0.3
KAHZ	**Kahuranaki**	**1.54**	**149**	⇑PN	Pn	14 51 56.9	+0.4
TKGZ	**Te Karaka**	**1.58**	**89**	PN	Pn	14 51 57.2	+0.4
TSZ	**Takapari Road**	**1.58**	**176**	⇑PN	Pn	14 51 56.5	-0.4
TSZ				AML	AML	14 51 56.6	
TSZ				AML	AML	14 52 22.4	
WPHZ	**Waipukurau**	**1.65**	**164**	⇑PN	Pn	14 51 57.3	-0.2
HAZ	**Te Kaha**	**1.70**	**65**	PN	Pn	14 51 57.0	-1.0
TWGZ	**Tauwhareparae**	**1.71**	**81**	PN	Pn	14 51 59.2	+1.0
PXZ	**Pawanui**	**1.74**	**153**	⇑PN	Pn	14 51 58.2	-0.2
PXZ				AML	AML	14 52 25.4	
PXZ				AML	AML	14 52 26.0	
PXZ				AML	AML	14 52 26.0	
PXZ				AML	AML	14 52 26.3	
MHGZ	**Mahia Peninsul**	**1.75**	**113**	PN	Pn	14 51 59.0	+0.4
DVHZ	**Dannevirke**	**1.84**	**172**	⇑PN	Pn	14 51 58.6	-0.8
CNGZ	**Carnagh Statio**	**1.86**	**91**	PN	Pn	14 52 00.2	+0.6
PRHZ	**Porangahau**	**1.89**	**161**	PN	Pn	14 51 59.5	-0.4
POWZ	**Post Office Ro**	**1.91**	**182**	⇑PN	Pn	14 51 59.2	-0.9
PUZ	**Puketiti**	**1.95**	**79**	PN	Pn	14 52 00.2	-0.4
ANWZ	**Angora Road**	**2.04**	**166**	PN	Pn	14 52 01.0	-0.6
PRWZ	**Pori Road**	**2.08**	**177**	⇑PN	Pn	14 52 01.1	-0.8
WMGZ	**Waiomatatini S**	**2.14**	**73**	*e*PN	Pn	14 52 02.3	-0.4
MXZ	**Matakaoa Point**	**2.15**	**66**	PN	Pn	14 52 02.5	-0.3
MRZ	**Mangatainoka R**	**2.19**	**185**	⇑PN	Pn	14 52 01.8	-1.4
MRZ				SN	Sn	14 52 30.4	-3.5
MRZ				AML	AML	14 52 33.1	
BFZ	**Birch Farm**	**2.22**	**172**	PN	Pn	14 52 02.2	-1.2
TIWZ	**Tintock**	**2.30**	**179**	⇓PN	Pn	14 52 03.1	-1.3
TIWZ				AML	AML	14 52 34.8	
TIWZ				AML	AML	14 52 36.6	
OGWZ	**Otaki Gorge**	**2.39**	**192**	⇑PN	Pn	14 52 04.1	-1.3
HOWZ	**Holdsworth Sta**	**2.43**	**186**	⇑PN	Pn	14 52 04.2	-1.7
KIW	**Kapiti Island**	**2.48**	**196**	PN	Pn	14 52 04.8	-1.8
KIW				AML	AML	14 52 37.4	
KIW				AML	AML	14 52 38.0	
TMWZ	**Te Maipa**	**2.63**	**179**	PN	Pn	14 52 06.4	-1.9
MTW	**Mount Morrison**	**2.69**	**185**	⇑PN	Pn	14 52 06.8	-2.1
MTW				AML	AML	14 52 42.0	
MTW				AML	AML	14 52 42.0	
CAW	**Cannon Point**	**2.69**	**192**	PN	Pn	14 52 07.1	-1.9
CAW				AML	AML	14 52 42.3	
CAW				AML	AML	14 52 42.6	
DUWZ	**D'Urville Isla**	**2.75**	**212**	PN	Pn	14 52 07.5	-2.1

JAMN	Amaminishikomi	0.72	128	P		Pg	15 04 10.2	-0.1
JAMN				eS		Sn	15 04 23.2	-0.5
JTAJ	Takarajima	0.75	52	P		Pg	15 04 08.4	-2.4
JTAJ				eS		Sg	15 04 20.6	0.0
JTK	Tokunoshima	0.97	157	P		Pg	15 04 13.6	-1.4
JTK				eS		Sn	15 04 28.9	-1.0
JAM	Amami Oshima	0.99	106	P		Pg	15 04 14.1	-1.2
JAM				eS		Sn	15 04 30.0	-0.2
JOKE	Okinoerabujima	1.32	178	P		Pn	15 04 19.7	-1.1
JOKE				eS		Sn	15 04 38.1	-0.4
JZK	Kikaishima	1.33	106	P		Pn	15 04 20.3	-0.6
JIH	Iheya	1.72	197	P		Pn	15 04 24.1	-2.2
JIH				eS		Sn	15 04 47.2	-1.1
JOW	Kunigami	1.86	187	P		Pn	15 04 26.9	-1.4
JNTH	Nagotoyohara	2.21	192	P		Pn	15 04 31.4	-1.6
JYAK	Yakushimahirau	2.32	48	P		Pn	15 04 33.1	-1.4
JNU	Nakatsue	4.86	24	Pn		Pn	15 05 13.2	+3.8
	0.4nm,0.3s,baz=233,slow=20,SNR=3.5							
KSRS	Korea Array	8.76	357	LR		LR	15 09 19.2	
	comp=Z,188nm,18.6s,baz=172,slow=37							
MJAR	Matsushiro Arr	11.31	44	LR		LR	15 11 17.7	
	comp=Z,52nm,18.2s,baz=145,slow=38							
SONM	Songino Array	25.68	324	P		P	15 09 27.0	+0.6
	0.4nm,0.7s,baz=131,slow=11,SNR=2.9							
CMAR	Chiang Mai Arr	28.89	256	LR		LR	15 23 06.8	
	comp=Z,81nm,18.3s,baz=88,slow=40							
MKAR	Makanchi Array	40.13	310	P		P	15 11 31.8	-0.6
	0.6nm,0.8s,baz=93,slow=10,SNR=5.8							
ZALV	Zalesovo Beam	40.48	321	P		P	15 11 36.5	+1.5
	0.4nm,0.3s,baz=108,slow=8.1,SNR=2.9							
WRA	Warramunga Arr	48.67	173	P		P	15 12 43.2	+2.5
	1.2nm,1.1s,baz=353,slow=8.0,SNR=5.8							
ASAR	Alice Springs	52.31	174	P		P	15 13 11.0	+2.8
	0.1nm,0.5s,baz=353,slow=8.0,SNR=4.3							
ILAR	Eielson Array	62.16	29	P		P	15 14 21.6	+4.2
	0.3nm,0.8s,baz=288,slow=7.5,SNR=4.0							
ARCES	ARCESS Array B	67.82	338	LR		LR	15 50 50.7	
	comp=Z,57nm,18.1s,baz=334,slow=42							
AKASG	Malin Array Be	73.84	319	LR		LR	15 48 22.6	
	comp=Z,49nm,20.2s,baz=10.0,slow=36							
YKA	Yellowknife Ar	76.19	25	P		P	15 15 45.9	+1.5
	0.1nm,0.4s,baz=298,slow=6.2,SNR=5.1							

*IDC **15** 15:05:03.5±2.6, 54°.38N×157°.03W, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.7/41, mbtmp3.8/8, ML4.1/2, Error ellipse: s-maj=62.3km s-min=20.9km az=162.0*
*NEIC **15** 15:05:05.6±2.6, 54°.66N×156°.90W, h8km±18km, ML3.7(AEIC), Error ellipse: s-maj=11.1km s-min=2.7km az=151.0*

ISC 15 15:05:05.0±4.4, 54°.64N±0°.07×156°.89W±0°.05, h10km±29km, n67, σ1°12/74, mb3.8/6, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	Chignik	1.88	333	P	Pn	15 05 37.6	+0.5
CHGN				S	Sn	15 05 59.6	-1.2
VNSG	Veniaminof 6	1.94	321	P	Pn	15 05 39.2	+1.1
VNSG				S	Sn	15 06 02.7	+0.1
VNHG	Veniaminof 1	2.05	322	P	Pn	15 05 41.0	+1.4
VNHG				S	Sb	15 06 05.7	-2.1
SDPT	Sand Point	2.18	290	P	Pn	15 05 41.3	0.0
SDPT				S	Sn	15 06 07.2	-1.1
SII	Sitkinak Islan	2.46	38	P	Pn	15 05 45.3	+0.1
SII				S	Sn	15 06 13.7	-1.7
PVV	Pavlof Volcano	2.92	287	P	Pn	15 05 51.8	+0.4
PVV				S	Sn	15 06 25.7	-0.7
DOL	Dolgoi Island	2.92	282	P	Pn	15 05 51.7	+0.3
DOL				S	Sn	15 06 25.3	-1.1
PS4A	Pavlof South-4	2.95	286	P	Pn	15 05 52.2	+0.4
HAG	Hague Volcano	2.97	285	P	Pn	15 05 52.6	+0.5
HAG				S	Sn	15 06 26.7	-1.0
PLK4	Peulik 4	3.01	5	P	Pn	15 05 54.4	+1.5
PLK4				S	Sn	15 06 29.2	+0.2
PLK3	Peulik 3	3.08	6	P	Pn	15 05 54.9	+1.2
PLK3				S	Sn	15 06 30.2	-0.2
DT1	Dutton Round H	3.15	281	P	Pn	15 05 55.0	+0.4
DT1				S	Sn	15 06 30.2	-1.9
PLK1	Peulik 1	3.17	3	P	Pn	15 05 56.4	+1.5
OHAK	Old Harbor	3.29	37	P	Pn	15 05 56.4	-0.1
OHAK				S	Sn	15 06 31.9	-3.6
KABR	Katmai Barrier	3.66	16	P	Pn	15 06 02.5	+0.9
KCE	Katmai Mt Cerb	3.73	14	P	Pn	15 06 04.2	+1.5
FALS	False Pass	3.79	276	P	Pn	15 06 03.8	+0.5
FALS				S	Sn	15 06 46.0	-1.9
KAKN	Katmai Knife C	3.80	15	P	Pn	15 06 04.6	+0.9
KVTA	Katmai Vly 10	3.85	13	P	Pn	15 06 05.2	+0.9
KELA	Mount Kelaz	3.86	9	P	Pn	15 06 05.3	+0.8
KDAK	Kodiak Island	3.96	36	P	Pn	15 06 05.5	-0.2
SSLN	Shishaldin Nor	4.12	275	P	Pn	15 06 09.4	+1.4
SSLW	Shishaldin Wes	4.20	275	P	Pn	15 06 10.1	+1.1
WESE	West Dahl East	4.48	271	P	Pn	15 06 14.0	+1.0
AUP	Augustine Pinn	5.10	20	P	Pn	15 06 23.4	+1.9
AKUT	Akutan	5.21	268	ePn	Pn	15 06 23.5	+0.6
AKGG	Akutan Green G	5.33	269	P	Pn	15 06 25.4	+0.8
ZRO	Akutan Zero	5.34	268	P	Pn	15 06 25.5	+0.8
OPT	Oil Point	5.41	20	P	Pn	15 06 26.8	+1.1
UNV	Unalaska Valle	5.69	266	P	Pn	15 06 29.7	+0.3
MTBL	Makushin Table	5.77	267	P	Pn	15 06 31.3	+0.7
ILW	Iliamna West	5.80	19	P	Pn	15 06 32.0	+0.8
MSW	Makushin Switc	5.84	267	P	Pn	15 06 31.8	+0.3
MCIR	Makushin Cirqu	5.90	267	P	Pn	15 06 33.2	+0.8
BRLK	Bradley Lake	6.08	30	P	Pn	15 06 34.5	-0.4
RSO	Redoubt South	6.25	19	ePn	Pn	15 06 38.2	+0.9
	77nm,0.6s						
RDWB	Redoubt West	6.25	19	P	Pn	15 06 38.2	+0.8
NCT	North Crescent	6.31	18	P	Pn	15 06 39.0	+1.0
DFR	Drift River	6.38	19	P	Pn	15 06 40.2	+1.2
SVW2	Sparrevohn	6.51	6	P	Pn	15 06 41.7	+0.9
CKL	Chakachamna La	7.01	18	P	Pn	15 06 48.5	+0.8
BGL	Barrier Glacie	7.06	18	P	Pn	15 06 49.4	+1.1
RC01	Rabbit Creek A	7.50	28	ePn	Pn	15 06 54.0	-0.3
	18nm,0.4s						
PMR	Palmer	8.09	27	ePn	Pn	15 07 02.3	0.0
	10nm,0.4s						
PPLA	Purkeypile	8.63	14	ePn	Pn	15 07 10.9	+1.0
	4.0nm,0.4s						
DIV	Divide	8.79	38	ePn	Pn	15 07 13.8	+1.7
BMRM	Bremner River	9.11	41	ePn	Pn	15 07 15.3	-1.1
	17nm,0.5s						
KTH	Kantishna Hill	9.45	16	ePn	Pn	15 07 20.0	-1.1
	4.5nm,0.7s						
TRF	Thorofare Moun	9.46	18	ePn	Pn	15 07 20.5	-0.8
	4.3nm,0.4s						
MCK	McKinley	9.98	21	ePn	Pn	15 07 27.6	-0.7
	36nm,1.6s						
PAX	Paxson	10.22	31	ePn	Pn	15 07 31.8	+0.1
	7.7nm,0.4s						
MENT	Mentasta	10.74	34	ePn	Pn	15 07 39.3	+0.5
ILAR	Eielson Array	11.33	22	Pn	Pn	15 07 44.4	-2.3
	1.2nm,0.3s,baz=218,slow=14,SNR=42						
ILAR				Sn	Sn	15 09 40.6	-13
	baz=203,slow=25,SNR=2.6						
EGAK	Eagle	12.85	31	ePn	Pn	15 08 07.8	+0.4
	3.9nm,0.4s						
DLBC	Dease Lake	15.25	65	Pn	P	15 08 44.0	-1.2
	0.2nm,0.3s,baz=222,slow=10,SNR=4.1						
YKA	Yellowknife Ar	23.02	53	P	P	15 10 11.0	+1.2
	0.4nm,0.5s,baz=271,slow=9.6,SNR=13						
PETK	Petropavlovsk-	26.46	286	P	P	15 10 42.5	+0.6
	7.4nm,0.9s,baz=86,slow=12,SNR=20						
SEY	Seymchan	26.89	308	P	P	15 10 45.4	-0.2
	2.2nm,0.7s,baz=94,slow=11,SNR=19						
H11N2	WAKE ISLAND Hy	44.37	233	T	T	16 00 49.9	
	baz=29,slow=76,SNR=3.8						
H11N3	WAKE ISLAND Hy	44.37	233	T	T	16 00 55.3	
	baz=29,slow=76,SNR=4.8						
H11N1	WAKE ISLAND Hy	44.38	233	T	T	16 00 49.7	
	baz=29,slow=76,SNR=4.2						
H11S1	WAKE ISLAND Hy	45.52	232	T	T	16 02 14.5	
	baz=28,slow=76,SNR=7.6						
H11S2	WAKE ISLAND Hy	45.53	232	T	T	16 02 21.6	
	baz=28,slow=76,SNR=5.8						
H11S3	WAKE ISLAND Hy	45.54	232	T	T	16 02 16.7	
	baz=28,slow=76,SNR=7.5						
SONM	Songino Array	56.25	306	P	P	15 14 46.6	+1.3
	0.6nm,0.8s,baz=56,slow=6.8,SNR=5.7						
MKAR	Makanchi Array	67.26	320	P	P	15 16 00.0	+0.7
	0.4nm,0.7s,baz=39,slow=5.5,SNR=7.4						
CMAR	Chiang Mai Arr	83.05	292	P	P	15 17 31.6	+0.9
	0.4nm,0.6s,baz=11,slow=5.4,SNR=4.5						

IDC 15 15:18:14.7±3.4, 6°.27S×149°.62E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/31, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=112.4km s-min=28.5km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.95	218	Pn	Pn	15 19 18.8	+2.1
	5.6nm,0.3s,baz=22,slow=11,SNR=23						
PMG				Sn	Sn	15 20 00.8	-3.0
	10.0nm,0.3s,baz=162,slow=19,SNR=9.2						
WRA	Warramunga Arr	20.12	226	P	P	15 22 48.8	-1.6
	1.8nm,0.4s,baz=51,slow=11,SNR=31						
ASAR	Alice Springs	22.97	220	P	P	15 23 20.4	-0.6
	0.7nm,0.4s,baz=56,slow=9.2,SNR=39						
MKAR	Makanchi Array	79.37	320	P	P	15 30 22.7	0.0
	0.1nm,0.5s,baz=115,slow=6.8,SNR=2.7						
TORD	Torodi Ar. Bea	147.68	285	PKPbc	PKPbc	15 38 02.4	0.0
	0.2nm,0.3s,baz=53,slow=3.5,SNR=4.5						

*IDC **15** 15:22:49.2±0.8, 34°.65S×72°.72W, h0km, mb4.0/7, mb1 4.1/10, mb1mx3.9/36, mbtmp3.9/10, ML4.0/3, MS3.5/2, Ms1 3.5/2, ms1mx2.8/21, Error ellipse: s-maj=29.4km s-min=15.7km az=98.0*
*ISCJB **15** 15:22:50.2±1.5, 34°.63S±0°.04×72°.75W±0°.07, h16km±11km, mb4.0/7, MS3.3/2, Error ellipse: s-maj=9.9km s-min=5.6km az=25.0*
*GUC **15** 15:22:51.5±0.7, 34°.61S×72°.68W, h27km±3km, ML4.3*
*NEIC **15** 15:22:53.0±4.2, 34°.66S×72°.66W, h24km±29km, mb4.3/4, Error ellipse: s-maj=24.2km s-min=9.9km az=92.0*

ISC 15 15:22:51.3±3.8, 34°.66S±0°.05×72°.66W±0°.07, h12km±23km, n30, σ0°79/36, mb4.0/7, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	1.12	132	⇑iP	Pb	15 23 11.9	-0.6
TALC				i S	Sb	15 23 27.0	-0.1
NICH	Los Niches	1.23	107	eP	Pn	15 23 13.8	-0.4
NICH				i S	Sb	15 23 29.9	-0.3
LNCH	Linares	1.47	144	⇑iP	Pn	15 23 17.7	+0.1
LNCH				i S	Sb	15 23 37.6	+0.3
COCH	Cobquecura	1.48	184	eP	Pn	15 23 17.1	-0.5
COCH				eS1		15 23 37.5	
TACH	Talagante	1.74	55	⇑iP	Pn	15 23 20.5	-0.8
RCDM	Rinconada Maip	1.93	53	⇓iP	Pn	15 23 23.3	-0.6
RCDM				eS	Sn	15 23 47.5	-0.6
ANTU	Antumapu	2.00	58	⇑iP	Pn	15 23 24.7	-0.2
ANTU				i S	Sn	15 23 50.0	0.0
ANTU				AML	AML	15 23 57.5	
	comp=N,3μm,0.4s						
CLCH	Cerro Calan	2.16	55	⇑iP	Pn	15 23 27.0	-0.2
CLCH				eS	Sn	15 23 54.4	+0.4
CLCH				AML	AML	15 24 10.5	
	comp=N,2μm,0.7s						
CLCH				AML	AML	15 24 11.1	
	comp=N,3μm,0.8s						
PEL	Peldehue	2.23	48	⇓iP	Pn	15 23 28.2	+0.1
PEL				i S	Sn	15 23 55.5	0.0
PEL				AML	AML	15 24 07.3	
	comp=E,3μm,0.5s						
FCH	Farellones	2.37	57	AML	AML	15 24 04.0	
	comp=N,2μm,0.3s						
CFAA	Coronel Fontan	4.80	52	Pn	Pn	15 24 04.3	+0.9
	comp=N,1.4nm,0.3s,baz=226,slow=11,SNR=34						
CFAA				Sn	Sn	15 24 59.6	+0.7
	comp=N,0.7nm,0.3s,baz=161,slow=10,0,SNR=4.0						
LCO	Las Campanas	5.87	17	eP	Pn	15 24 16.8	-1.5
	comp=N,16nm,0.6s						
PLCA	Paso Flores	6.29	165	Pn	Pn	15 24 24.2	+0.3
	comp=N,1.9nm,0.3s,baz=347,slow=11,SNR=25						
PLCA				Lg	Lg	15 26 08.5	
	comp=N,1.1nm,0.3s,baz=254,slow=21,SNR=4.5						
PLCA	Paso Flores	6.29	165	eP	Pn	15 24 24.5	+0.5
	comp=N,12nm,0.6s						
PLCA				Lg	Lg	15 26 08.5	
TRQA	Tornquist	9.26	115	eP	Pn	15 25 04.2	-0.4
LPAZ	La Paz	18.74	14	P	Pn	15 27 12.0	+1.0
	comp=N,0.2nm,0.3s,baz=204,slow=4.8,SNR=8.2						
LPAZ	La Paz	18.74	14	eP	Pn	15 27 12.3	+1.3
	comp=N,3.3nm,0.9s						
USHA	Ushuaia	20.39	173	LR	LR	15 36 27.9	
	comp=N,168nm,18.4s,baz=230,slow=40						
SIV	San Ignacio	21.30	32	P	P	15 27 39.8	+1.8
	comp=N,2.8nm,0.9s,baz=237,slow=7.9,SNR=6.4						
SIV				LR	LR	15 37 29.9	
	comp=N,85nm,18.6s,baz=264,slow=41						
SNAA	Sanae	51.17	158	P	P	15 31 54.2	+0.2
	comp=N,2.2nm,1.1s,baz=255,slow=5.8,SNR=4.4						
SNAA	Sanae	51.17	158	eP	P	15 31 53.9	0.0
	comp=N,1.6nm,0.7s						
QSPA	South Pole Qui	55.58	180	P	P	15 32 27.2	+0.7
	comp=N,2.5nm,1.0s,baz=161,slow=3.2,SNR=3.6						
QSPA	South Pole Qui	55.58	180	eP	P	15 32 26.8	+0.3
	comp=N,8.0nm,1.3s						
VNDA	Vanda	63.36	191	P	P	15 33 20.9	+1.1
	comp=N,0.6nm,0.7s,baz=130,slow=5.6,SNR=3.7						
TXAR	Lajitas Array	70.06	331	P	P	15 34 02.5	-0.7
	comp=N,0.4nm,0.6s,baz=148,slow=7.0,SNR=2.5						
DBIC	Dimbokro	75.87	72	P	P	15 34 36.8	-1.2
	comp=N,4.6nm,0.7s,baz=167,slow=4.1,SNR=4.2						
DBIC	Dimbokro	75.87	72	P	P	15 34 36.9	-1.0
	comp=N,6.6nm,0.9s						
TORD	Torodi Ar. Bea	84.91	70	P	P	15 35 26.2	-0.3
	comp=N,1.4nm,0.7s,baz=274,slow=3.6,SNR=7.4						
ASAR	Alice Springs	116.75	207	PKP	PKPdf	15 41 34.9	-1.2
	comp=N,0.8nm,1.1s,baz=171,slow=2.1,SNR=4.3						
WRA	Warramunga Arr	119.94	210	PKP	PKPdf	15 41 41.3	-0.9
	comp=N,0.4nm,0.5s,baz=170,slow=1.6,SNR=9.2						

*IDC **15** 15:26:46.1±1.3, 6°.93S×151°.06E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/29, mbtmp3.7/6, ML2.2/1, Error ellipse: s-maj=52.9km s-min=20.8km az=121.0*
*ISCJB **15** 15:26:50.3±1.2, 7°.05S±0°.2×151°.1E±0°.2, h40km, mb3.6/4, Error ellipse: s-maj=36.4km s-min=12.8km az=139.5*

ISC 15 15:26:51.8±1.3, 7°.05S±0°.2×151°.1E±0°.2, h40km, n7, σ0°69/8, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.56	238	Pn	Pn	15 27 58.8	+0.4
	0.8nm,0.3s,baz=59,slow=18,SNR=3.8						
PMG				Sn	Sn	15 28 50.5	+0.3
	2.9nm,0.3s,baz=332,slow=17,SNR=6.2						
WRA	Warramunga Arr	20.73	230	P	P	15 31 28.2	-0.9
	2.1nm,0.7s,baz=54,slow=11,SNR=27						
ASAR	Alice Springs	23.39	223	P	P	15 31 57.5	+0.2
	1.4nm,0.7s,baz=60,slow=9.1,SNR=26						
STKA	Stephens Creek	26.29	198	P	P	15 32 23.3	-0.4
	1.6nm,0.5s,baz=23,slow=11,SNR=13						
MKAR	Makanchi Array	80.86	320	P	P	15 39 01.0	-0.8
	0.2nm,0.8s,baz=97,slow=5.8,SNR=2.8						
ILAR	Eielson Array	84.83	22	P	P	15 39 22.6	+0.7
	1.1nm,0.8s,baz=247,slow=5.0,SNR=13						
TORD	Torodi Ar. Bea	149.27	284	PKPbc	PKPbc	15 46 37.7	+0.4
	0.4nm,0.6s,baz=67,slow=3.2,SNR=2.8						

*JMA **15** 15:46:37.2±0.2, 28°.80N×128°.26E, h15km±4km, M3.0*
*IDC **15** 15:46:38.9±1.2, 28°.61N×128°.06E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/42, mbtmp3.6/8, ML2.4/1, Error ellipse: s-maj=47.7km s-min=19.3km az=68.0*

ISC 15 15:46:39.8±1.9, 28°.60N±0°.06×128°.30E±0°.06, h10km±12km, n16, σ1°08/19, mb3.6/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	Amaminishikomi	0.85	114	P	Pg	15 46 55.4	-0.8
JAMN				S	Sg	15 47 08.7	+1.5
JTAJ	Takarajima	0.97	55	P	Pg	15 46 54.1	-4.4
JTAJ				S	Sg	15 47 05.9	-5.2
JTK	Tokunoshima	0.99	144	P	Pg	15 46 58.5	-0.4
JTK				S	Sn	15 47 14.1	+0.1
JAM	Amami Oshima	1.17	99	P	Pn	15 46 59.5	-2.7
JAM				S	Sb	15 47 15.7	-1.6
JOKE	Okinoerabujima	1.25	169	P	Pn	15 47 03.2	-0.3
JOKE				S	Sn	15 47 21.8	+1.4
JZK	Kikaishima	1.50	100	P	Pn	15 47 07.2	+0.3
JZK				S	Sn	15 47 26.4	-0.1
JIH	Iheya	1.58	191	P	Pn	15 47 08.1	+0.1
JOW	Kunigami	1.76	181	P	Pn	15 47 10.8	+0.4
JNU	Nakatsue	5.03	26	Pn	Pn	15 47 56.6	+1.2
	0.2nm,0.3s,baz=169,slow=19,SNR=2.2						
SONM	Songino Array	25.64	324	P	P	15 52 10.4	+0.7
	1.9nm,1.1s,baz=134,slow=9.6,SNR=7.9						
MKAR	Makanchi Array	40.04	310	P	P	15 54 13.6	-1.6
	0.9nm,0.8s,baz=97,slow=8.7,SNR=8.8						
ZALV	Zalesovo Beam	40.43	321	P	P	15 54 17.0	-1.2
	0.4nm,0.3s,baz=110,slow=8.8,SNR=2.7						
KURBB	Kurchatov Arra	43.21	315	P	P	15 54 39.6	-1.4
	1.1nm,0.7s,baz=102,slow=9.0,SNR=11						
BVAR	Borovoye Array	48.57	317	P	P	15 55 23.0	-0.3
	0.7nm,0.6s,baz=99,slow=8.8,SNR=4.3						
WRA	Warramunga Arr	48.60	172	P	P	15 55 24.1	+0.3
	0.5nm,0.9s,baz=354,slow=8.1,SNR=5.5						
ASAR	Alice Springs	52.24	173	P	P	15 55 52.8	+1.4
	0.3nm,0.8s,baz=14,slow=13,SNR=4.7						

GUC 15 15:47:31.6±0.6, 34°.32S×72°.09W, h32km±4km, ML3.8, 7C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.98	134	⇑iP	Pn	15 47 49.6	+0.4
NICH				i S	Sb	15 48 03.0	+0.1
TALC	Talca	1.14	161	⇓iP	Pn	15 47 51.8	+0.5
TALC				i S	Sb	15 48 06.9	-0.3
IHA	Instituto Hidr	1.35	16	⇑iP	Pn	15 47 54.8	+0.7
IHA				eP	Pn	15 47 54.8	+0.7
IHA				eS1	Sb	15 48 12.6	-0.6
RCDM	Rinconada Maip	1.35	53	⇑iP	Pn	15 47 55.2	+0.8
RCDM				eS	Sn	15 48 12.3	+1.1
ANTU	Antumapu	1.43	59	eP	Pn	15 47 56.3	+0.9
ANTU				eS	Sb	15 48 14.8	-0.8
ANTU				AML	AML	15 48 20.4	
	comp=N,3μm,0.3s						
LNCH	Linares	1.58	165	⇑iP	Pb	15 47 59.4	-0.8
LNCH				i S	Sb	15 48 19.4	-0.4
CLCH	Cerro Calan	1.59	55	⇑iP	Pn	15 47 58.8	+1.2
CLCH				i S	Sb	15 48 19.9	-0.4
CLCH				AML	AML	15 48 30.5	
	comp=N,2μm,0.9s						
CLCH				AML	AML	15 48 31.1	
	comp=N,2μm,0.8s						
PEL	Peldehue	1.66	45	⇑iP	Pb	15 48 00.3	-1.3
PEL				AML	AML	15 48 25.8	
	comp=E,2μm,0.4s						
FCH	Farellones	1.80	57	AML	AML	15 48 32.0	
	comp=N,1μm,0.5s						
COCH	Cobquecura	1.89	197	⇑iP	Pn	15 48 03.1	+1.5
COCH				i S	Sn	15 48 26.5	+2.1

*IDC **15** 15:57:42.1±0.8, 37°.47S×73°.47W, h0km, mb4.1/10, mb1 4.2/12, mb1mx4.1/25, mbtmp4.0/12, ML3.7/1, MS3.6/4, Ms1 3.6/4, ms1mx3.3/19, Error ellipse: s-maj=27.9km s-min=15.2km az=79.0*
*ISCJB **15** 15:57:44.0±0.7, 37°.49S±0°.07×73°.5W±0°.2, h23km, mb4.1/10, MS3.8/3, Error ellipse: s-maj=18.6km s-min=10.0km az=174.3*
*NEIC **15** 15:57:47.0±0.8, 37°.46S×73°.54W, h35km, mb4.5/4, Error ellipse: s-maj=20.3km s-min=12.3km az=86.0*

ISC 15 15:57:45.8±0.8, 37°.47S±0°.09×73°.4W±0°.2, h23km, n30, σ0°83/26, mb4.2/10, MS3.8/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.92	147	Pn	Pn	15 58 45.9	+1.2
	1.2nm,0.3s,baz=321,slow=12,SNR=12						
PLCA				Lg	Lg	15 59 50.4	
	7.2nm,0.3s,baz=302,slow=11,SNR=3.2						
PLCA	Paso Flores	3.92	147	P	Pn	15 58 44.4	-0.3
PLCA				Lg	Lg	15 59 50.4	
CFAA	Coronel Fontan	7.23	37	Pn	Pn	15 59 29.1	-1.0
	baz=180,slow=0.0						
CFAA				LR	LR	16 02 47.7	
	comp=Z,69nm,21.5s,baz=226,slow=42						
LCO	Las Campanas	8.73	16	eP	Pn	15 59 46.5	-4.4
	14nm,0.6s						
TRQA	Tornquist	9.04	97	eP	Pn	15 59 59.7	+4.7
	14nm,0.8s						
LVC	Limon Verde	15.30	16	P	Pn	16 01 20.8	+0.2
	3.7nm,0.8s						
LPAZ	La Paz	21.61	14	P	P	16 02 34.5	-0.4
	5.3nm,0.9s,baz=152,slow=7.5,SNR=8.5						
LPAZ	La Paz	21.61	14	eP	P	16 02 34.3	-0.6
	13nm,0.9s						
SIV	San Ignacio	24.01	30	P	P	16 02 58.9	0.0
	3.6nm,1.0s,baz=234,slow=11,SNR=3.6						
SIV				LR	LR	16 14 18.8	
	comp=Z,288nm,19.5s,baz=236,slow=41						
PMSA	Palmer Station	27.89	171	LR	LR	16 15 12.6	
	comp=Z,248nm,18.5s,baz=264,slow=38						
BDFB	Brasília	31.24	53	P	P	16 04 05.9	+2.0
	1.1nm,0.5s,baz=228,slow=12,SNR=2.0						
BDFB				LR	LR	16 16 15.9	
	comp=Z,188nm,18.4s,baz=226,slow=36						
VNA3	Neumayer Olymp	46.59	156	P	P	16 06 11.4	-0.1
VNA1	Neumayer--Stat	46.94	156	P	P	16 06 06.2	-8.0
VNA2	Neumayer--Watz	47.26	156	P	P	16 06 12.3	-4.4
	baz=305,slow=8.6						
SNAA	Sanae	48.81	157	P	P	16 06 29.1	+0.3
SNAA	Sanae	48.81	157	P	P	16 06 29.0	+0.2

UPC	Upice	2.05 284	Sg	Sg	16 01 48.2	-1.3
	0.8nm,0.1s					
TREC	Trest	2.48 254	eSG	Sg	16 02 03.1	-0.1
	comp=Z,2.1nm,0.2s					
TREC	Trest	2.48 254	Sg	Sg	16 02 03.1	-0.1
	2.1nm,0.2s					
PRU	Pruhonice	2.96 271	eSG	Sg	16 02 17.9	-0.7
	comp=Z,2.1nm,0.4s					
PRU	Pruhonice	2.96 271	Sg	Sg	16 02 17.9	-0.7
	2.1nm,0.4s					
PVCC	Panska Ves	2.96 281	eSG	Sg	16 02 17.6	-1.2
	comp=Z,9.9nm,0.5s					
PVCC	Panska Ves	2.96 281	Sg	Sg	16 02 17.6	-1.2
	9.9nm,0.5s					
KHC	Kasperske Hory	3.72 258	ePG	Pb	16 01 51.5	+1.2
KHC			eSG	Sg	16 02 43.0	-0.2
	comp=Z,1.4nm,0.4s					

IDC 15 16:12:03.5±2.0, 1°.94N×125°.91E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/34, mbtmp3.3/3, Error ellipse: s-maj=184.3km s-min=24.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.26	160	P	P	16 17 11.8	-1.1
	0.3nm,0.3s,baz=338,slow=10,SNR=13						
ASAR	Alice Springs	26.61	162	P	P	16 17 44.8	+0.9
	0.3nm,0.8s,baz=332,slow=6.9,SNR=6.2						
MKAR	Makanchi Array	58.57	326	P	P	16 22 02.1	0.0
	0.2nm,0.6s,baz=111,slow=7.2,SNR=3.4						

*ISCJB **15** 16:13:03.6±0.7, 8°.1S±0°.1×67°.9E±0°.1, h15km, mb3.8/11, MS3.4/3, Error ellipse: s-maj=18.4km s-min=16.6km az=158.1*

*IDC **15** 16:13:03.1±0.7, 8°.13S×67°.95E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.7/41, mbtmp3.8/10, MS3.5/4, Ms1 3.6/4, ms1mx3.0/32, Error ellipse: s-maj=23.5km s-min=19.6km az=153.0*

*NEIC **15** 16:13:04.8±0.5, 8°.11S×67°.91E, h10km, mb4.1/1, Error ellipse: s-maj=15.5km s-min=13.9km az=159.0*

ISC 15 16:13:05.4±0.8, 8°.1S±0°.2×67°.9E±0°.2, h15km, n20, σ1§01/15, mb3.9/11, MS3.5/3, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	Diego Garcia H	3.53	61	T	T	16 17 25.3	
	baz=237,slow=74,SNR=981						
H08N2	Diego Garcia H	3.54	60	T	T	16 17 27.4	
	baz=237,slow=74,SNR=1121						
H08N1	Diego Carcia H	3.55	61	T	T	16 17 27.1	
	baz=237,slow=74,SNR=803						
PALK	Pallekele	19.90	40	LR	LR	16 23 21.9	
	comp=Z,233nm,19.7s,baz=201,slow=31						
OPO	Ambohidratompo	22.66	241	LR	LR	16 25 07.8	
	comp=Z,160nm,18.3s,baz=6.0,slow=32						
LSZ	Lusaka	39.49	256	P	P	16 20 35.1	-0.8
	0.8nm,0.3s,baz=98,slow=7.1,SNR=2.3						
CMAR	Chiang Mai Arr	40.43	49	P	P	16 20 43.8	+0.3
	0.5nm,0.6s,baz=244,slow=9.9,SNR=6.7						
CMAR				LR	LR	16 35 55.3	
	comp=Z,17nm,18.2s,baz=225,slow=34						
LBTB	Lobatse	43.67	242	P	P	16 21 11.3	+1.2
	2.2nm,0.7s,baz=79,slow=10,SNR=3.2						
AAK	Ala-Archa	50.85	6	P	P	16 22 06.6	+0.9
	0.4nm,0.5s,baz=181,slow=6.7,SNR=3.6						
MKAR	Makanchi Array	56.14	12	P	P	16 22 43.9	-0.4
	0.8nm,0.7s,baz=205,slow=7.4,SNR=9.4						
BRTR	Keskin Array B	57.18	329	P	P	16 22 51.6	-0.5
	0.9nm,0.9s,baz=176,slow=9.4,SNR=4.9						
ABKAR	Akbulak array	57.54	354	eP	P	16 22 54.7	+0.5
	1.2nm,0.6s						
ZALV	Zalesovo Beam	63.45	11	P	P	16 23 33.9	-0.6
	0.4nm,0.3s,baz=184,slow=4.3,SNR=3.5						
ASAR	Alice Springs	64.84	112	P	P	16 23 43.9	-0.5
	0.9nm,1.0s,baz=277,slow=6.6,SNR=11						
AS31	Alice Springs	64.84	112	P	P	16 23 45.4	+1.0
WRA	Warramunga Arr	65.17	108	P	P	16 23 45.8	-0.8
	0.9nm,1.0s,baz=280,slow=6.0,SNR=4.4						
SONM	Songino Array	65.25	28	P	P	16 23 47.2	+0.6
	1.3nm,0.8s,baz=216,slow=6.3,SNR=12						
SONM				LR	LR	16 51 35.0	
	comp=Z,55nm,18.7s,baz=160,slow=35						
YKA	Yellowknife Ar	125.68	1	PKP	PKPdf	16 32 05.8	-0.2
	0.4nm,0.7s,baz=350,slow=2.7,SNR=8.2						
PDAR	Pinedale Array	145.40	357	PKPbc	PKPab	16 32 43.2	-0.2
	0.9nm,0.7s,baz=22,slow=2.3,SNR=5.7						
NVAR	Mina Array Bea	149.29	10	PKPbc	PKPab	16 32 56.4	-2.4
	1.4nm,0.9s,baz=302,slow=0.8,SNR=7.4						

IDC 15 16:38:58.8±10.0, 4°.71N×125°.32E, h181km±101km, mb2.8/3, mb1 3.0/3, mb1mx2.8/28, mbtmp3.3/3, Error ellipse: s-maj=172.5km s-min=21.7km az=63.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.05	160	P	P	16 44 15.2	-0.4
	0.4nm,0.6s,baz=339,slow=10,SNR=16						
ASAR	Alice Springs	29.42	164	P	P	16 44 46.0	+0.4
	0.2nm,0.4s,baz=341,slow=7.1,SNR=19						
ASAR				PcP	PcP	16 47 46.5	-0.5
	0.1nm,0.4s,baz=351,slow=2.3,SNR=6.9						
MKAR	Makanchi Array	55.95	326	P	P	16 48 18.2	-0.1
	0.1nm,0.5s,baz=124,slow=8.0,SNR=3.5						

MAN 15 16:49:03.10°.20N×126°.01E, h15km, mb4.9, ML3.8, MS3.9, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.66 231	↑eP		Pb	16 49 16.1	-0.1
SCPH				eS	Sn	16 49 28.4	+0.4
MSLP	Maasin	1.14 267	eP		Pb	16 49 23.9	-0.4
MSLP				eS	Sg	16 49 45.5	+5.7
BUTP	Butuan	1.28 197	eP		Pb	16 49 26.6	-0.2
BUTP				eS	Sg	16 49 46.7	+2.2
PLP	Palo	1.39 313	↓eP		Pn	16 49 26.8	-1.1
PLP				eS	Sn	16 49 44.6	-1.5
OCLP	Ormoc	1.62 302	eP		Pb	16 49 32.0	-0.6
LLP	Lapu-Lapu	2.02 273	eP		Pn	16 49 36.5	0.0
LLP				eS	Sn	16 50 02.8	+1.4
CGP	Cagayan de Oro	2.17 217	eP		Pn	16 49 38.9	+0.3
CGP				eS	Sb	16 50 07.2	-1.5
TBP	Tagbilaran	2.18 257	eP		Pn	16 49 40.3	+1.6
TBP				i S	Sb	16 50 08.8	-0.1
BUKP	Musuan	2.49 202	eP		Pn	16 49 42.7	-0.4
GUIM	Jordan	3.39 277	eP		Pn	16 49 56.7	+1.3
PAGZ	Pagadian	3.49 228	eP		Pn	16 49 59.4	+2.6

*IDC **15** 17:00:14.0±0.9, 41°.43S×89°.15W, h0km, mb4.0/7, mb1 4.3/8, mb1mx4.1/30, mbtmp4.0/8, ML2.9/1, MS4.3/19, Ms1 4.3/19, ms1mx4.2/29, Error ellipse: s-maj=32.4km s-min=21.0km az=103.0*

*ISCJB **15** 17:00:14.0±0.6, 41°.49S±0°.10×89°.1W±0°.1, h10km, mb4.2/8, MS4.3/17, Error ellipse: s-maj=15.5km s-min=13.2km az=31.8*

*NEIC **15** 17:00:15.1±0.7, 41°.44S×89°.25W, h10km, mb4.6/2, Error ellipse: s-maj=17.3km s-min=15.7km az=122.0*

*GCMT **15** 17:00:15.1±0.2, 41°.31S×89°.29W, h18km±1km, MW5.2/101, Moment Tensor Solution. s46,c59; s101,c154; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.57±.20; Mθθ0.47±.20; Mφφ0.10±.19; Mrθ-2.26±.47; Mrφ-6.73±.16; Mθφ0.13±.40; Best double couple: M=7.10200×10^16 NP1:φs=90.00000°, δ=89.00000°, λ=-161.00000°. NP2: φs=359.00000°, δ=71.00000°, λ=-1.00000°. Principal axes: T 7.3930, Plg12.0000°, Azm223.0000°; N -0.5820, Plg71.0000°, Azm92.0000°; P -6.8120, Plg14.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 17:00:15.7±0.7, 41°.5S±0°.1×89°.1W±0°.1, h10km, n33, σ1§19/16, mb4.1/8, MS4.3/17, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	14.03	93	Pn	Pn	17 03 35.8	+1.3

USHA	Ushuaia	19.13	141	LR	LR	17 10 40.5	
	comp=Z,2μm,19.2s,baz=284,slow=33						
CFAA	Coronel Fontan	19.41	66	P	P	17 04 42.3	+0.4
	0.0nm,0.3s,baz=224,slow=8.7,SNR=4.3						
CFAA				LR	LR	17 10 30.7	
	comp=Z,205nm,21.4s,baz=230,slow=32						
TRQA	Tornquist	21.11	90	eP	P	17 05 01.8	+1.4
	76nm,1.5s						
PMSA	Palmer Station	27.42	157	LR	LR	17 13 56.0	
	comp=Z,506nm,18.4s,baz=308,slow=30						
LPAZ	La Paz	30.93	42	P	P	17 06 32.8	-0.6
	1.1nm,0.7s,baz=159,slow=3.9,SNR=3.3						
LPAZ				LR	LR	17 16 15.2	
	comp=Z,920nm,18.6s,baz=198,slow=31						
LPAZ	La Paz	30.93	42	eP	P	17 06 26.4	-7.0
	3.6nm,0.9s						
SIV	San Ignacio	35.05	52	LR	LR	17 19 51.1	
	comp=Z,925nm,21.6s,baz=262,slow=34						
ATAH	Atahualpa	35.48	19	P	P	17 07 11.7	-1.2
	7.3nm,0.9s,baz=129,slow=13,SNR=3.4						
RKT	Rikitea	42.31	281	eLR	LR	17 19 51.7	
	673nm,27.2s						
OTAV	Otavalo	42.61	16	eP	P	17 08 13.9	+1.3
BDFB	Brasilia	43.75	66	LR	LR	17 26 02.0	
	comp=Z,951nm,18.8s,baz=226,slow=35						
ROSC	El Rosal	48.03	20	LR	LR	17 27 27.6	
	comp=Z,404nm,18.2s,baz=186,slow=34						
PTGA	Pitinga	48.34	41	LR	LR	17 26 55.4	
	comp=Z,727nm,21.3s,baz=186,slow=33						
QSPA	South Pole Qui	48.78	180	P	P	17 09 00.2	-0.3
	2.1nm,1.1s,baz=79,slow=2.4,SNR=2.3						
SBA	Scott Base	52.72	195	eP	P	17 09 30.1	+0.2
VNDA	Vanda	53.81	195	P	P	17 09 37.8	-0.1
	0.9nm,0.9s,baz=72,slow=14,SNR=3.3						
VNDA				LR	LR	17 27 50.6	
	comp=Z,250nm,21.1s,baz=116,slow=31						
PPT2	Papeete2	56.52	276	eS	S	17 17 52.3	+2.3
	104nm,25.0s						
PPT2				eLR	LR	17 26 19.7	
	350nm,26.2s						
PPT	Papeete	56.53	276	LR	LR	17 27 37.2	
	comp=Z,115nm,19.6s,baz=108,slow=29						
RCBR	Riachuelo	59.05	68	LR	LR	17 35 20.4	
	comp=Z,642nm,18.1s,baz=176,slow=36						
MAW	Mawson	69.21	169	LR	LR	17 40 23.4	
	comp=Z,216nm,18.9s,baz=230,slow=35						
TXAR	Lajitas Array	71.71	347	P	P	17 11 37.3	-0.4
	1.1nm,0.8s,baz=163,slow=8.8,SNR=7.8						
NVAR	Mina Array Bea	83.85	337	P	P	17 12 46.1	+0.7
	1.4nm,0.8s,baz=159,slow=5.9,SNR=5.5						
PDAR	Pinedale Array	85.84	345	P	P	17 12 55.5	+0.2
	1.1nm,0.9s,baz=151,slow=5.1,SNR=5.8						
PDAR				LR	LR	17 44 43.5	
	comp=Z,68nm,19.6s,baz=84,slow=31						
BOSA	Boshof	87.62	127	LR	LR	17 46 46.7	
	comp=Z,121nm,19.1s,baz=210,slow=32						
BOSA	Boshof	87.62	127	eP	P	17 13 02.9	-1.6
DBIC	Dimbokro	90.08	81	LR	LR	17 52 56.5	
	comp=Z,76nm,18.1s,baz=217,slow=35						
ULM	Lac du Bonnet	91.52	356	LR	LR	17 51 09.5	
	comp=Z,77nm,18.0s,baz=202,slow=33						
STKA	Stephens Creek	93.34	221	LR	LR	17 48 32.2	
	comp=Z,156nm,18.4s,baz=186,slow=31						
SCHQ	Schefferville	97.79	13	LR	LR	17 53 42.8	
	comp=Z,112nm,20.3s,baz=42,slow=33						
TORD	Torodi Ar. Bea	99.17	81	LR	LR	17 54 56.6	
	comp=Z,64nm,21.8s,baz=255,slow=33						
TIXI	Tiksi	144.41	340	ePKPdf	PKPab	17 19 47.6	-1.4
KBZ	Khabaz	144.99	70	PKPbc	PKPbc	17 19 51.2	-0.7
	1.5nm,1.0s,baz=187,slow=16,SNR=3.1						

*ISCJB **15** 17:04:43.0±1.3, 26°.5S±0°.2×106°.8W±0°.1, h10km, mb3.6/5, Error ellipse: s-maj=38.6km s-min=10.6km az=157.6*

*IDC **15** 17:04:43.6±1.3, 26°.37S×106°.61W, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.7/35, mbtmp3.6/6, ML4.0/1, Error ellipse: s-maj=40.5km s-min=27.5km az=170.0*

ISC 15 17:04:44.0±1.2, 26°.6S±0°.3×106°.8W±0°.1, h10km, n16, σ0§66/11, mb3.8/5, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	2.32 257		Pn	Pg	17 05 28.4	-0.1
	30nm,0.3s,baz=120,slow=3.2,SNR=39						
RPN				Sn	Sn	17 05 51.2	+0.3
	43nm,0.3s,baz=294,slow=23,SNR=8.1						
LPAZ	La Paz	37.30	82	P	P	17 11 57.3	+0.1
	0.6nm,0.4s,baz=153,slow=6.8,SNR=2.4						
TXAR	Lajitas Array	55.74	3	P	P	17 14 21.6	+0.6
	0.2nm,0.7s,baz=191,slow=7.4,SNR=1.9						
NVAR	Mina Array Bea	65.62	350	P	P	17 15 28.9	+0.4
	0.7nm,0.7s,baz=186,slow=6.7,SNR=4.1						
PDAR	Pinedale Array	69.11	358	P	P	17 15 49.6	-0.8
	0.3nm,0.8s,baz=164,slow=7.3,SNR=2.4						
YKA	Yellowknife Ar	89.04	356	P	P	17 17 38.1	-0.6
	0.5nm,0.8s,baz=166,slow=4.6,SNR=10						
H11S2	WAKE ISLAND Hy 95.09	288		T	T	19 03 38.5	
	baz=117,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy 95.10	288		T	T	19 03 21.3	
	baz=117,slow=75,SNR=215						
H11S3	WAKE ISLAND Hy 95.11	288		T	T	19 03 24.8	
	baz=117,slow=75,SNR=16						
H11N3	WAKE ISLAND Hy 95.46	289		T	T	19 03 48.6	
	baz=118,slow=76,SNR=60						
H11N1	WAKE ISLAND Hy 95.47	289		T	T	19 03 48.6	
	baz=118,slow=76,SNR=40						
H11N2	WAKE ISLAND Hy 95.47	289		T	T	19 03 44.0	
	baz=118,slow=76,SNR=142						
BRTR	Keskin Array B	144.69	58	PKP	PKPdf	17 24 21.1	-0.2
	0.5nm,0.8s,baz=284,slow=2.5,SNR=3.5						
SONM	Songino Array	146.54	318	PKPbc	PKPdf	17 24 24.2	0.0
	1.0nm,1.1s,baz=75,slow=3.1,SNR=3.6						
KBZ	Khabaz	150.15	47	PKPbc	PKPbc	17 24 36.2	+1.1
	1.1nm,0.8s,baz=306,slow=2.4,SNR=3.2						
ZALV	Zalesovo Beam	151.40	346	PKPbc	PKPbc	17 24 37.0	-0.7
	0.4nm,0.3s,baz=47,slow=4.2,SNR=2.9						

IDC 15 17:06:15.7±2.2, 2°.64N×127°.03E, h0km, mb2.9/3, mb1 3.1/3, mb1mx3.0/31, mbtmp3.0/3, Error ellipse: s-maj=186.7km s-min=25.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.57	163	P	P	17 11 27.5	-0.6
	0.1nm,0.4s,baz=342,slow=10,SNR=4.8						
ASAR	Alice Springs	27.00	166	P	P	17 12 00.1	+0.6
	0.2nm,0.9s,baz=343,slow=7.0,SNR=4.6						
MKAR	Makanchi Array	58.61	325	P	P	17 16 14.6	-0.1
	0.1nm,0.3s,baz=116,slow=7.7,SNR=3.6						

*IDC **15** 17:15:28.9±1.4, 34°.54S×72°.16W, h0km, mb4.2/2, mb1 3.8/5, mb1mx3.5/29, mbtmp3.7/5, ML3.2/3, Error ellipse: s-maj=44.9km s-min=20.7km az=97.0*

*ISCJB **15** 17:15:32.2±1.5, 34°.40S±0°.04×72°.08W±0°.09, h25km±11km, mb4.1/2, Error ellipse: s-maj=13.2km s-min=6.0km az=13.9*

*GUC **15** 17:15:32.7±0.3, 34°.39S×72°.00W, h36km±1km, ML3.9*

ISC 15 17:15:30.6±2.4, 34°.43S±0°.04×72°.03W±0°.09, h9km±15km, n15, σ1§32/27, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.87	131	↑iP	Pn	17 15 49.0	-0.2
NICH				i S	Sn	17 16 01.3	-0.7
TALC	Talca	1.02	161	↑iP	Pn	17 15 51.6	+0.5
TALC				i S	Sn	17 16 05.7	+0.2
IHA	Instituto Hidr	1.44	13	↑iP	Pn	17 15 56.7	-0.2
IHA				i S	Sn	17 16 15.2	-0.7
ANTU	Antumapu	1.45	54	i P	Pn	17 15 57.0	0.0
ANTU				i S	Sn	17 16 15.5	-0.6
ANTU				IAML		17 16 18.6	
	comp=E,2μm,0.6s						
LNCH	Linares	1.46	166	i P	Pb	17 15 58.3	+0.4
LNCH				i S	Sg	17 16 17.9	+0.4
LACH	Col Las Americ	1.58	52	↑iP	Pn	17 15 59.1	+0.2
LACH				i S	Sn	17 16 19.3	-0.3
CLCH	Cerro Calan	1.62	51	eP9	Pn	17 15 59.1	-0.3
CLCH				i P	Pb	17 15 59.7	-0.9
CLCH				eS	Sn	17 16 19.4	-0.9
CLCH				i S	Sb	17 16 20.0	-1.2
CLCH				IAML		17 16 31.1	
	comp=N,2μm,0.7s						
CLCH				IAML		17 16 31.7	
	comp=N,3μm,0.7s						
PEL	Peldehue	1.71	42	eP	Pn	17 16 00.6	0.0
PEL				eS	Sn	17 16 22.3	-0.3
PEL				IAML		17 16 27.5	
	comp=E,4μm,0.5s						
CFAA	Coronel Fontan	4.25	50	Pn	Pn	17 16 38.3	+2.6
	comp=E,0.5nm,0.3s,baz=220,slow=12,SNR=14						
CFAA				Sn	Sn	17 17 30.4	+4.9
	comp=E,0.6nm,0.3s,baz=253,slow=17,SNR=2.5						
PLCA	Paso Flores	6.40	170	Pn	Pn	17 17 04.0	-1.2
	comp=E,0.1nm,0.3s,baz=350,slow=13,SNR=2.7						
PLCA				Lg	Lg	17 18 50.2	
	comp=E,0.2nm,0.3s,baz=276,slow=17,SNR=3.5						
LPAZ	La Paz	18.40	12	P	Pn	17 19 47.7	+1.0
	comp=E,0.1nm,0.3s,baz=176,slow=7.9,SNR=5.1						
BOSA	Boshof	79.87	118	P	P	17 27 39.7	-0.3
	comp=E,3.4nm,1.2s,baz=230,slow=17,SNR=3.1						
TORD	Torodi Ar. Bea	84.35	70	P	P	17 28 03.3	-0.2
	comp=E,1.1nm,0.8s,baz=234,slow=5.5,SNR=4.5						
WRA	Warramunga Arr	120.39	209	PKP	PKPdf	17 34 22.3	-0.7
	comp=E,0.3nm,0.9s,baz=160,slow=1.5,SNR=3.6						
ZALV	Zalesovo Beam	154.59	33	PKPbc	PKPbc	17 35 31.6	+0.4
	comp=E,0.5nm,0.3s,baz=330,slow=1.6,SNR=3.7						
ZALV				PKPab	PKPab	17 35 46.3	+0.4
	comp=E,0.4nm,0.3s,baz=307,slow=4.3,SNR=3.2						

KRSC 15 17:16:27.2±1.9, 50°.51N×157°.05E, h60km±19km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.62	287	i P	Pn	17 16 40.6	+0.2
SKR				i S	Sn	17 16 49.8	-0.2
PAU	Pauzhetka	0.97	351	i P	Pn	17 16 46.9	+2.1
PAU				i S	Sn	17 17 00.4	+2.6
MTVR	Mutnovka	2.10	19	eP	Pn	17 17 02.6	+2.4
MTVR				eS	Sn	17 17 27.5	+2.2
RUS	Russkaya	2.13	25	eP	Pn	17 17 02.0	+1.6
RUS				eS	Sn	17 17 26.9	+1.1
PET	Petropavlovsk	2.71	21	P	Pn	17 17 11.1	+2.9
PET				eS	Sn	17 17 42.5	+2.7
UGLR	Uglovaya	2.92	21	eP	Pn	17 17 15.3	+4.0
AVH	Avacha	2.95	20	eP	Pn	17 17 15.8	+4.1
KOK	Koryaka	2.96	19	eP	Pn	17 17 15.5	+3.7
SMAR	Somma	2.96	21	eP	Pn	17 17 15.9	+3.8
KRER	Koryakskii	2.99	20	eP	Pn	17 17 16.3	+3.9
SDLR	Sedlovina	3.00	22	eP	Pn	17 17 15.3	+2.9
SDLR				S	Sn	17 17 49.6	+2.4
KRX	Arik	3.02	19	eP	Pn	17 17 16.7	+4.0
GNL	Ganaly	3.24	9	P	Pn	17 17 18.1	+2.4
MKZ	Mys Kozlova	4.96	33	eP	Pn	17 17 40.8	+1.8
KBTR	Krutoberegovo	6.67	29	P	Pn	17 18 04.8	+2.4

*ISCJB **15** 17:25:44.6±0.3, 18°.88N±0°.05×69°.78W±0°.04, h88km, mb4.0/20, Error ellipse: s-maj=7.2km s-min=5.3km az=33.1*

*NEIC **15** 17:25:46.3±0.8, 18°.99N×69°.68W, h118km±15km, mb4.8/2, Error ellipse: s-maj=17.9km s-min=7.5km az=196.0*

NEIC Felt [II] at Santo Domingo. Also felt at Bayaguana, Monte Plata and Santiago.

*IDC **15** 17:25:47.5±0.7, 18°.84N×69°.64W, h105km±5km, mb3.7/19, mb1 3.9/20, mb1mx3.7/44, mbtmp4.1/20, Error ellipse: s-maj=20.5km s-min=11.5km az=46.0*

ISC 15 17:25:46.3±0.5, 18°.85N±0°.06×69°.62W±0°.07, h88km, n41, σ1§92/46, mb4.2/20, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMN1	Samana, DR	0.47	44	ePg	Pn	17 26 03.7	+3.1
PCDR	Punta Cana, DR	1.22	106	ePg	Pn	17 26 11.2	+2.8
SDDR	Presa de Saban	1.58	275	ePn	Pn	17 26 14.9	+1.9
AGPR	Aguadilla, PR	2.41	99	ePn	Pn	17 26 26.0	+2.1
LSP	Las Mesas	2.50	105	ePn	Pn	17 26 28.8	+3.8
CRPR	Cabo Rojo, PR	2.53	109	ePn	Pn	17 26 27.5	+2.1
LRS	Lares	2.69	101	ePn	Pn	17 26 30.3	+2.6
OBIP	Obispado Ponce	2.97	105	ePn	Pn	17 26 33.5	+2.1
CELP	Cerrillos	2.99	104	ePn	Pn	17 26 34.1	+2.5
GRTK	Grand Turk	3.00	332	ePn	Pn	17 26 31.8	0.0
CBYP	Canovanas	3.62	99	ePn	Pn	17 26 40.7	+0.6
STVI	Saint Thomas	4.45	96	ePn	Pn	17 26 51.4	0.0
GTBY	Guantanamo Bay	5.29	283	ePn	Pn	17 26 59.9	-3.0
ANWB	Willy Bob	7.54	98	eP	Pn	17 27 32.4	-1.1
MLG	Mont-d'or	8.04	109	eP	Pn	17 27 43.3	+2.8
SSG	Sans Toucher	8.06	109	eP	Pn	17 27 42.7	+1.9
SDV	Santo Domingo	9.96	186	ePn	Pn	17 28 07.9	+1.2
	18nm,0.6s						
SDV				eS	Sn	17 29 42.6	-14
ROSC	El Rosal	14.65	199	P	Pn	17 29 11.2	+1.7
	2.3nm,0.3s,baz=64,slow=13,SNR=6.7						
ROSC				S	Sn	17 31 47.4	-3.8
	1.1nm,0.3s,baz=90,slow=20,SNR=2.7						
OTAV	Otavalo	20.43	206	eP	P	17 30 17.0	-0.1
	33nm,1.3s						
TKL	Tuckaleechee C	20.90	326	P	P	17 30 22.5	+0.9
	5.9nm,0.9s,baz=177,slow=11,SNR=5.0						
TKL				S	S	17 34 09.1	-0.6
	8.3nm,0.8s,baz=167,slow=9.9,SNR=4.2						
PTGA	Pitinga	21.65	153	P	P	17 30 28.7	-0.9
	5.1nm,0.5s,baz=336,slow=12,SNR=7.6						
TXAR	Lajitas Array	32.68	295	P	P	17 32 10.1	-0.3
	0.6nm,0.4s,baz=123,slow=7.8,SNR=8.4						
ULM	Lac du Bonnet	37.67	332	P	P	17 32 52.1	-0.8
	3.1nm,0.8s,baz=132,slow=6.2,SNR=5.8						
BDFB	Brasilia	40.34	147	P	P	17 33 15.2	-0.4
	2.2nm,0.5s,baz=306,slow=13,SNR=4.9						
PDAR	Pinedale Array	41.24	314	P	P	17 33 22.1	-0.8
	1.0nm,0.9s,baz=111,slow=8.3,SNR=5.3						
NVAR	Mina Array Bea	46.38	305	P	P	17 34 04.3	+0.1
	3.4nm,0.9s,baz=91,slow=6.8,SNR=15						
NVAR				pP	pP	17 34 29.4	+4.1
	2.3nm,1.0s,baz=99,slow=7.0,SNR=3.7						
NVAR				sP	sP	17 34 41.0	+5.7
	3.9nm,0.9s,baz=95,slow=6.3,SNR=6.3						
NEW	Newport	48.21	319	P	P	17 34 16.4	-1.6
	4.0nm,0.8s,baz=116,slow=16,SNR=5.0			

σ1°26/21, mb4.0/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	4.35	128	Pn	**Pn**	17 31 04.3	-1.4
	1.8nm,0.3s,baz=304,slow=11,SNR=20						
PLCA				Sn	**Sn**	17 31 57.8	+2.7
	2.0nm,0.3s,baz=325,slow=6.0,SNR=4.0						
PLCA				LR	LR	17 32 17.8	
	comp=Z,92nm,20.6s,baz=4.5,slow=32						
CFAA	**Coronel Fontan**	8.60	43	Pn	**Pn**	17 32 03.5	-0.5
	0.2nm,0.3s,baz=26,slow=20,SNR=4.5						
CFAA				Sn	**Sn**	17 33 38.0	-1.7
	0.2nm,0.3s,baz=54,slow=19,SNR=3.5						
TRQA	**Tornquist**	10.31	94	*e*P	**Pn**	17 32 26.0	-1.5
	8.3nm,1.0s						
LPAZ	**La Paz**	22.61	18	P	**P**	17 35 01.3	+1.0
	0.7nm,0.5s,baz=201,slow=8.6,SNR=2.2						
LPAZ	**La Paz**	22.61	18	*e*P	**P**	17 35 01.7	+1.4
	2.8nm,1.0s						
SIV	**San Ignacio**	25.27	33	P	**P**	17 35 27.0	+1.9
	1.8nm,0.6s,baz=228,slow=8.9,SNR=4.0						
QSPA	**South Pole Qui**	52.10	180	P	**P**	17 39 07.5	-0.9
	5.3nm,0.8s,baz=306,slow=0.9,SNR=29						
TXAR	**Lajitas Array**	72.26	334	P	**P**	17 41 24.3	+0.7
	1.2nm,0.7s,baz=152,slow=7.3,SNR=11						
SWET	**Sewanee**	73.68	351	*e*P	**P**	17 41 31.5	-0.3
	8.0nm,0.6s						
ANMO	**Albuquerque**	78.33	334	P	**P**	17 41 58.7	+0.1
	3.0nm,0.9s,baz=157,slow=6.9,SNR=5.0						
ANMO	**Albuquerque**	78.33	334	*e*P	**P**	17 41 59.4	+0.8
	4.1nm,1.0s						
PDAR	**Pinedale Array**	86.42	335	P	**P**	17 42 40.9	+0.2
	0.6nm,0.8s,baz=166,slow=7.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	87.88	72	P	**P**	17 42 48.6	+0.5
	0.6nm,0.8s,baz=298,slow=3.0,SNR=3.5						
WRA	**Warramunga Arr**	115.96	211	PKP	**PKPdf**	17 48 39.6	-1.9
	1.4nm,1.4s,baz=146,slow=1.5,SNR=3.3						
GEYT	**Alibeck**	143.43	75	PKhKP	PKPpre	17 49 29.1	
	1.8nm,0.7s,baz=248,slow=1.6,SNR=5.5						
TIXI	**Tiksi**	144.25	347	*e*PKPpre	PKPpre	17 49 29.8	
ABKAR	**Akbulak array**	146.09	56	*e*PKPdf	**PKPdf**	17 49 37.2	+0.4
ZALV	**Zalesovo Beam**	159.02	35	PKP	**PKPdf**	17 49 55.8	+0.3
	0.3nm,0.3s,baz=304,slow=1.5,SNR=2.3						
ZALV				PKPab	**PKPab**	17 50 33.2	+1.0
	0.4nm,0.4s,baz=312,slow=5.2,SNR=2.9						
MKAR	**Makanchi Array**	161.24	55	PKP	**PKPdf**	17 49 57.6	-0.7
	0.2nm,0.6s,baz=27,slow=3.0,SNR=3.9						
MKAR				PKPab	**PKPab**	17 50 42.8	+0.6
	0.3nm,0.7s,baz=2.9,slow=2.4,SNR=4.3						

WEL 15 17:39:02.4±0.3, 37°.08S×176°.58E, h237km±3km, ML4.4/19, 14C-5D, Error ellipse: s-maj=4.7km s-min=4.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	1.18	125	PN	Pn	17 39 37.0	0.0
HAZ				SN	S	17 40 04.1	-0.2
URZ	**Urewera**	1.25	160	⇑PN	Pn	17 39 37.4	-0.2
URZ				SN	S	17 40 05.3	0.0
URZ				AML	AML	17 40 07.7	
MXZ	**Matakaoa Point**	1.46	110	⇓PN	Pn	17 39 39.3	+0.2
MXZ				AML	AML	17 40 10.6	
MXZ				AML	AML	17 40 10.7	
MXZ				AML	AML	17 40 12.1	
MXZ				AML	AML	17 40 12.1	
MWZ	**Matawai**	1.47	149	⇑PN	Pn	17 39 38.9	-0.3
MWZ				AML	AML	17 40 10.1	
MWZ				AML	AML	17 40 10.1	
MWZ				AML	AML	17 40 10.9	
MWZ				AML	AML	17 40 10.9	
TLZ	**Tolley Road**	1.50	213	*e*PN	Pn	17 39 40.4	+1.0
RAGZ	**Rawiri**	1.56	155	PN	Pn	17 39 40.3	+0.2
TWGZ	**Tauwhareparae**	1.56	135	PN	Pn	17 39 40.5	+0.5
WMGZ	**Waiomatatini S**	1.64	117	PN	Pn	17 39 40.9	+0.3
PUZ	**Puketiti**	1.67	127	PN	Pn	17 39 40.6	-0.2
PUZ				AML	AML	17 40 14.1	
PUZ				AML	AML	17 40 14.5	
TKGZ	**Te Karaka**	1.69	144	PN	Pn	17 39 40.9	-0.1
SNGZ	**Shannon Statio**	1.81	161	⇑PN	Pn	17 39 42.1	+0.1
RIGZ	**Rimuhau**	1.88	150	PN	Pn	17 39 42.9	+0.2
RAHZ	**Arahi**	1.88	168	PN	Pn	17 39 42.8	+0.1
CNGZ	**Carnagh Statio**	1.91	138	PN	Pn	17 39 43.3	+0.4
RITZ	**Rihia Road**	1.98	196	PN	Pn	17 39 44.4	+0.8
KATZ	**Kakaramea**	2.02	200	PN	Pn	17 39 45.1	+1.0
NMHZ	**Naumai**	2.03	175	PN	Pn	17 39 44.4	+0.4
WHHZ	**Waihua**	2.06	166	PN	Pn	17 39 44.5	+0.2
BKZ	**Black Stump Fm**	2.09	182	PN	Pn	17 39 43.9	-0.8
BKZ				SN	S	17 40 16.2	-1.7
BKZ				AML	AML	17 40 19.6	
PRGZ	**Paritu Road**	2.11	151	PN	Pn	17 39 44.4	-0.4
KNZ	**Kokohu**	2.12	156	⇑PN	Pn	17 39 44.5	-0.4
WCZ	**Waipu Caves**	2.12	302	PN	Pn	17 39 46.2	+1.2
KRVZ	**Karewarewa**	2.15	200	PN	Pn	17 39 45.8	+0.5
WTVZ	**West Tongariro**	2.18	201	PN	Pn	17 39 45.7	+0.2
TWVZ	**Taurewa**	2.18	204	PN	Pn	17 39 45.9	+0.3
OTVZ	**Oturere**	2.20	199	PN	Pn	17 39 45.9	+0.1
ARHZ	**Aropaoanui**	2.21	171	⇑PN	Pn	17 39 45.8	+0.1
NGZ	**Ngauruhoe**	2.23	200	PN	Pn	17 39 46.7	+0.5
WPVZ	**Whakapapa**	2.27	201	PN	Pn	17 39 46.5	0.0
FWVZ	**Far West T-bar**	2.32	200	⇑PN	Pn	17 39 46.9	-0.2
MHGZ	**Mahia Peninsul**	2.32	154	PN	Pn	17 39 46.6	-0.3
WHVZ	**Whangaehu Hut**	2.33	199	PN	Pn	17 39 47.0	-0.2
DRZ	**Dome Shelter**	2.33	200	⇑PN	Pn	17 39 47.7	+0.3
TRVZ	**Turoa**	2.36	200	PN	Pn	17 39 47.1	-0.4
MCHZ	**McNeill Hill**	2.36	178	⇑PN	Pn	17 39 47.2	-0.1
WNVZ	**Wahianoa**	2.38	199	PN	Pn	17 39 47.1	-0.5
PKVZ	**Pokaka**	2.41	203	PN	Pn	17 39 47.7	-0.2
MOVZ	**Moawhango**	2.42	195	PN	Pn	17 39 47.3	-0.6
BHHZ	**Black Hill Sta**	2.44	189	PN	Pn	17 39 47.2	-1.0
MTVZ	**Mangateitei**	2.46	200	PN	Pn	17 39 47.8	-0.6
VRZ	**Vera Road**	2.50	214	PN	Pn	17 39 49.3	+0.6
KRHZ	**Kereru**	2.57	184	⇑PN	Pn	17 39 48.5	-0.9
CKHZ	**Cape Kidnapper**	2.61	171	PN	Pn	17 39 49.1	-0.6
KAHZ	**Kahuranaki**	2.72	175	⇑PN	Pn	17 39 50.2	-0.8
PNHZ	**Pukenui**	2.85	186	PN	Pn	17 39 51.0	-1.4
LREZ	**Lake Rotokare**	2.93	215	*e*PN	Pn	17 39 53.6	+0.3
NEZ	**North Egmont**	2.94	221	PN	Pn	17 39 54.7	+1.3
WAZ	**Wanganui**	2.95	205	PN	Pn	17 39 52.7	-0.8
PXZ	**Pawanui**	2.96	176	PN	Pn	17 39 52.1	-1.4
PXZ				AML	AML	17 40 33.0	
PXZ				AML	AML	17 40 33.1	
PXZ				AML	AML	17 40 33.3	
PXZ				AML	AML	17 40 33.3	
WPHZ	**Waipukurau**	2.98	182	PN	Pn	17 39 52.7	-1.2
TSZ	**Takapari Road**	3.02	189	⇑PN	Pn	17 39 52.6	-1.6
TSZ				AML	AML	17 40 35.6	
TSZ				AML	AML	17 40 36.0	
PRHZ	**Porangahau**	3.19	179	PN	Pn	17 39 54.3	-1.8
DVHZ	**Dannevirke**	3.23	186	PN	Pn	17 39 54.6	-2.0
POWZ	**Post Office Ro**	3.37	191	⇓PN	Pn	17 39 56.3	-1.9
ANWZ	**Angora Road**	3.38	181	PN	Pn	17 39 56.3	-1.9
PRWZ	**Pori Road**	3.50	188	PN	Pn	17 39 57.8	-1.9
BFZ	**Birch Farm**	3.61	184	PN	Pn	17 39 58.1	-2.8
MRZ	**Mangatainoka R**	3.66	192	PN	Pn	17 39 58.5	-3.0
MRZ				AML	AML	17 40 46.0	
MRZ				AML	AML	17 40 48.0	
TIWZ	**Tintock**	3.73	188	PN	Pn	17 40 00.0	-2.4
TIWZ				AML	AML	17 40 48.3	
TIWZ				AML	AML	17 40 48.6	
OGWZ	**Otaki Gorge**	3.89	196	⇑PN	Pn	17 40 01.6	-2.7
HOWZ	**Holdsworth Sta**	3.90	192	PN	Pn	17 40 01.3	-3.1
KIW	**Kapiti Island**	4.00	198	PN	Pn	17 40 02.6	-2.9
KIW				AML	AML	17 40 53.9	
KIW				AML	AML	17 40 54.2	
TMWZ	**Te Maipa**	4.06	187	PN	Pn	17 40 03.2	-3.1
MTW	**Mount Morrison**	4.16	191	PN	Pn	17 40 03.9	-3.5
MTW				AML	AML	17 40 57.6	
MTW				AML	AML	17 40 57.9	
CAW	**Cannon Point**	4.19	196	PN	Pn	17 40 04.8	-3.1
CAW				AML	AML	17 40 59.0	
CAW				AML	AML	17 40 59.3	
DUWZ	**D'Urville Isla**	4.26	208	PN	Pn	17 40 05.7	-2.9
TRWZ	**Traveller**	4.37	189	PN	Pn	17 40 06.9	-3.1
TRWZ				AML	AML	17 41 02.5	
TRWZ				AML	AML	17 41 02.8	
PAWZ	**Paruwai Farm**	4.39	191	PN	Pn	17 40 06.9	-3.4
PAWZ				AML	AML	17 41 02.4	
PAWZ				AML	AML	17 41 02.4	
WEL	**Wellington**	4.43	198	AML	AML	17 41 01.9	
WEL				AML	AML	17 41 02.2	
MSWZ	**Moikau Station**	4.45	193	PN	Pn	17 40 07.3	-3.7
MSWZ				AML	AML	17 41 01.5	
MSWZ				AML	AML	17 41 02.6	
TCW	**Tory Channel**	4.50	203	⇓PN	Pn	17 40 08.2	-3.3
TCW				AML	AML	17 41 04.2	
TCW				AML	AML	17 41 07.0	
PLWZ	**Palliser**	4.60	192	PN	Pn	17 40 08.9	-3.9
TUWZ	**Tuamarina**	4.80	204	⇑PN	Pn	17 40 11.6	-3.6
TUWZ				AML	AML	17 41 09.3	
TUWZ				AML	AML	17 41 09.8	
NNZ	**Nelson**	4.82	210	⇑PN	Pn	17 40 11.6	-3.9
QRZ	**Quartz Range**	4.89	219	PN	Pn	17 40 12.6	-3.8
BSWZ	**Blackbirch Sta**	5.08	203	PN	Pn	17 40 15.0	-3.6
THZ	**Tophouse**	5.47	210	⇓PN	Pn	17 40 20.0	-3.6
KHZ	**Kahutara**	5.82	203	PN	Pn	17 40 24.2	-3.7
KHZ				AML	AML	17 41 32.3	
DSZ	**Denniston Nort**	5.95	217	PN	Pn	17 40 25.2	-4.3
LTZ	**Lake Taylor**	6.59	209	PN	Pn	17 40 32.8	-4.8
OXZ	**Oxford**	7.14	208	PN	Pn	17 40 38.6	-5.9
MQZ	**McQueen's Vall**	7.27	203	⇓PN	Pn	17 40 40.3	-5.8
FOZ	**Fox Glacier**	8.34	217	PN	Pn	17 40 53.4	-6.4
ODZ	**Otahua Downs**	9.13	207	PN	Pn	17 41 04.9	-5.0

NEIC ***15*** *17:53:24.8±0.7, 37°.05S×72°.73W, h35km, mb4.2/1, Error ellipse: s-maj=20.9km s-min=12.9km az=89.0*
ISCJB ***15*** *17:53:27.9±0.9, 37°.05S±0°.05×72°.3W±0°.1, h72km±7km, mb4.3/12, Error ellipse: s-maj=15.9km s-min=8.0km az=9.4*
IDC ***15*** *17:53:27.3±0.8, 37°.04S×72°.38W, h52km±6km, mb3.9/9, mb1 4.0/11, mb1mx3.9/25, mbtmp4.1/11, MS2.8/3, Ms1 2.8/3, ms1mx2.7/26, Error ellipse: s-maj=25.8km s-min=15.4km az=94.0*
GUC ***15*** *17:53:28.3±0.2, 37°.10S×72°.43W, h64km±2km, ML4.1*

ISC 15 17:53:27.3±0.8, 37°.07S±0°.07×72°.5W±0°.1, h56km±6km, n32, σ0°82/44, mb4.4/12, 1C-4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	0.97	346	*e*P	**Pn**	17 53 46.3	+1.5
LNCH	**Linares**	1.42	31	⇓*i*P	**Pn**	17 53 51.8	+1.0
LNCH				*i*S	**Sn**	17 54 09.5	+1.1
LNCH				IAML		17 54 22.6	
	comp=E,5μm,0.6s						
TALC	**Talca**	1.81	23	⇓*i*P	**Pn**	17 53 57.1	+1.0
TALC				*i*S	**Sn**	17 54 18.8	+0.9
NICH	**Los Niches**	2.30	27	*e*P	**Pn**	17 54 03.9	+1.1
NICH				*i*S	**Sn**	17 54 31.0	+0.9
ANTU	**Antumapu**	3.81	24	⇑*i*P	**Pn**	17 54 24.8	+1.2
ANTU				*i*S	**Sn**	17 55 07.6	+0.5
RCDM	**Rinconada Maip**	3.83	22	⇓*i*P	**Pn**	17 54 24.9	+1.1
RCDM				*i*S	**Sn**	17 55 07.8	+0.2
PLCA	**Paso Flores**	3.96	158	P	**Pn**	17 54 26.6	+1.1
	comp=E,3.6nm,0.3s,baz=328,slow=11,SNR=40						
PLCA				LR	LR	17 56 03.3	
	comp=E,211nm,19.8s,baz=326,slow=39						
PEL	**Peldehue**	4.19	21	⇓*i*P	**Pn**	17 54 29.8	+1.1
PEL				*e*S	**Sn**	17 55 16.7	+0.3
CFAA	**Coronel Fontan**	6.49	34	P	**Pn**	17 55 00.1	-0.2
	comp=E,0.9nm,0.3s,baz=218,slow=15,SNR=14						
CFAA				S	**Sn**	17 56 12.9	-0.1
	comp=E,0.4nm,0.3s,baz=319,slow=19,SNR=2.2						
CFAA				LR	LR	17 58 16.0	
	comp=E,17nm,20.0s,baz=233,slow=45						
LCO	**Las Campanas**	8.18	11	*e*P	**Pn**	17 55 22.7	-0.9
	comp=E,37nm,0.3s						
TRQA	**Tornquist**	8.41	100	*e*P	**Pn**	17 55 28.0	+1.5
LPAZ	**La Paz**	21.06	12	P	**P**	17 58 06.5	-1.0
	comp=E,2.5nm,0.8s,baz=156,slow=8.7,SNR=6.2						
LPAZ	**La Paz**	21.06	12	*e*P	**P**	17 58 07.9	+0.5
	comp=E,11nm,1.0s						
SIV	**San Ignacio**	23.31	29	P	**P**	17 58 29.8	-0.7
	comp=E,3.2nm,0.6s,baz=203,slow=8.5,SNR=12						
SIV				LR	LR	18 08 10.6	
	comp=E,72nm,21.4s,baz=88,slow=38						
BDFB	**Brasilia**	30.44	52	P	**P**	17 59 34.5	-0.3
	comp=E,3.6nm,0.5s,baz=222,slow=4.8,SNR=4.9						
QSPA	**South Pole Qui**	53.17	180	P	**P**	18 02 40.2	+0.8
	comp=E,6.6nm,0.9s,baz=176,slow=1.2,SNR=20						
QSPA				pP	**pP**	18 02 53.7	-0.7
	comp=E,4.1nm,0.9s,baz=97,slow=2.4,SNR=4.4						
TXAR	**Lajitas Array**	72.24	332	P	**P**	18 04 48.3	+1.7
	comp=E,0.6nm,0.7s,baz=154,slow=6.9,SNR=4.2						
TXAR				pP	**pP**	18 05 01.9	-0.4
	comp=E,0.3nm,0.6s,baz=138,slow=8.0,SNR=3.6						
LIC	**Lamto**	76.11	71	*e*P	**P**	18 05 09.6	+0.2
	comp=E,64nm,1.8s						
TIC	**Toumodi**	76.38	71	*e*P	**P**	18 05 11.0	0.0
	comp=E,7.4nm,0.2s						
KIC	**Kosan Boka**	76.41	71	*e*P	**P**	18 05 11.1	0.0
	comp=E,46nm,1.0s						
DBIC	**Dimbokro**	76.52	71	P	**P**	18 05 12.2	+0.5
	comp=E,8.1nm,0.8s,baz=197,slow=6.6,SNR=10						
DBIC	**Dimbokro**	76.52	71	*e*P	**P**	18 05 11.8	+0.1
BOSA	**Boshof**	78.98	117	P	**P**	18 05 25.0	-0.4
	comp=E,5.6nm,0.9s,baz=215,slow=5.3,SNR=5.5						
BOSA	**Boshof**	78.98	117	*e*P	**P**	18 05 24.4	-1.0
TORD	**Torodi Ar. Bea**	85.60	70	P	**P**	18 05 59.1	-0.9
	comp=E,1.2nm,0.9s,baz=240,slow=5.9,SNR=5.2						
TORD				pP	**pP**	18 06 15.0	-0.9
	comp=E,0.9nm,0.8s,baz=251,slow=3.2,SNR=4.3						
PDAR	**Pinedale Array**	86.34	334	P	**P**	18 06 03.1	-0.1
	comp=E,0.2nm,0.6s,baz=144,slow=9.9,SNR=3.6						
PDAR				pP	**pP**	18 06 18.8	-0.5
	comp=E,1.1nm,1.1s,baz=145,slow=5.4,SNR=3.6						
WRA	**Warramunga Arr**	117.90	209	PKP	**PKPdf**	18 12 07.5	-0.5
	comp=E,0.2nm,0.4s,baz=155,slow=1.6,SNR=8.1						
BRTR	**Keskin Array B**	123.60	63	PKP	**PKPdf**	18 12 18.2	-0.2
	comp=E,0.5nm,0.7s,baz=176,slow=3.5,SNR=4.4						
ABKAR	**Akbulak array**	143.81	55	*e*P	PKPab	18 12 52.8	+0.1
KKAR	**Karatay Array**	151.23	66	*e*PKPbc	**PKPbc**	18 13 14.1	0.0
ZALV	**Zalesovo Beam**	156.97	36	PKP	**PKPdf**	18 13 15.2	-0.6
	comp=E,0.9nm,0.8s,baz=256,slow=2.4,SNR=4.5						
ZALV				PKPab	**PKPab**	18 13 46.1	-0.1
	comp=E,1.0nm,0.6s,baz=334,slow=5.4,SNR=3.9						
MKAR	**Makanchi Array**	158.95	55	PKP	**PKPdf**	18 13 18.6	+0.1
	comp=E,0.7nm,0.8s,baz=0.0,slow=0.5,SNR=6.8						
MKAR				PKPab	**PKPab**	18 13 54.6	-0.5
	comp=E,1.4nm,0.5s,baz=269,slow=3.9,SNR=24						

ISCJB ***15*** *18:01:49.4±1.3, 28°.76N±0°.03×128°.40E±0°.05, h4km±9km, mb3.5/7, MS3.5/7, Error ellipse: s-maj=7.5km s-min=5.4km az=161.7*
JMA ***15*** *18:01:49.4±0.3, 28°.81N×128°.36E, h13km±5km, M3.4*
IDC ***15*** *18:01:51.2±0.9, 28°.73N×128°.19E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.6/29, mbtmp3.6/9, ML3.2/2, MS3.4/9, Ms1 3.5/9, ms1mx3.2/32, Error ellipse: s-maj=28.6km s-min=16.0km az=81.0*

ISC 15 18:01:50.7±1.7, 28°.70N±0°.04×128°.48E±0°.06, h4km±12km, n25, σ0°88/24, mb3.6/7, MS3.5/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	0.76	126	P	**Pb**	18 02 06.6	+0.1
JAMN				S	**Sn**	18 02 19.3	-0.9
JTAJ	**Takarajima**	0.78	54	P	**Pg**	18 02 04.8	-1.0
JTAJ				S	**Sg**	18 02 15.6	-0.4
JTK	**Tokunoshima**	1.00	155	P	**Pg**	18 02 10.3	+0.4
JTK				S	**Sn**	18 02 25.0	-1.0
JAM	**Amami Oshima**	1.03	106	P	**Pg**	18 02 10.4	-0.1
JAM				S	**Sb**	18 02 25.5	+0.4
JOKE	**Okinoerabujima**	1.33	176	P	**Pn**	18 02 15.5	-0.6
JOKE				S	**Sn**	18 02 33.4	-0.9
JZK	**Kikaishima**	1.37	106	P	**Pb**	18 02 17.0	+0.1
JZK				S	**Sb**	18 02 35.3	+0.5
JIH	**Iheya**	1.71	195	P	**Pn**	18 02 21.4	+0.1
JIH				S	**Sn**	18 02 43.0	-0.7
JOW	**Kunigami**	1.86	186	P	**Pn**	18 02 22.9	-0.5
JOW				S	**Sb**	18 02 48.6	-0.4
JOW	**Kunigami**	1.86	186	Pn	**Pn**	18 02 23.2	-0.2
	2.4nm,0.3s,baz=37,slow=13,SNR=17						
JNU	**Nakatsue**	4.87	24	Pn	Pn	18 03 09.1	+4.3
	1.6nm,0.3s,baz=206,slow=9.6,SNR=12						
KSRS	**Korea Array**	8.75	357	Pn	**Pn**	18 04 00.1	+2.1
	0.1nm,0.3s,baz=182,slow=12,SNR=2.9						
KSRS				LR	LR	18 07 24.1	
	comp=Z,269nm,19.6s,baz=160,slow=38						
USRK	**Ussuriysk Ar.**	15.73	9	LR	LR	18 11 02.8	
	comp=Z,82nm,20.9s,baz=161,slow=35						
SONM	**Songino Array**	25.65	324	P	**P**	18 07 20.7	-0.8
	3.0nm,1.2s,baz=131,slow=8.3,SNR=9.5						
CMAR	**Chiang Mai Arr**	28.85	256	P	**P**	18 07 50.5	+0.1
	0.1nm,0.4s,baz=65,slow=10,SNR=2.9						
CMAR				LR	LR	18 20 54.1	
	comp=Z,90nm,19.1s,baz=115,slow=40						
PETK	**Petropavlovsk-**	32.51	33	LR	LR	18 23 03.4	
	comp=Z,33nm,19.0s,baz=104,slow=39						
BATI	**Baumata**	38.95	188	LR	LR	18 25 37.3	
	comp=Z,54nm,21.9s,slow=37						
MKAR	**Makanchi Array**	40.10	310	P	**P**	18 09 26.2	-1.2
	0.8nm,0.8s,baz=94,slow=9.7,SNR=8.7						
ZALV	**Zalesovo Beam**	40.45	321	P	**P**	18 09 28.9	-1.3
	0.8nm,0.6s,baz=123,slow=10,SNR=3.6						
PMG	**Port Moresby**	41.96	152	LR	LR	18 25 00.5	
	comp=Z,103nm,18.9s,baz=31,slow=33						
WRA	**Warramunga Arr**	48.68	173	P	**P**	18 10 37.1	+0.9
	0.9nm,0.8s,baz=353,slow=8.3,SNR=8.0						
ASAR	**Alice Springs**	52.32	174	P	P	18 11 07.0	+3.3
	0.4nm,0.8s,baz=357,slow=11,SNR=4.4						
NWAO	**Narrogin (SRO)**	62.21	191	LR	LR	18 44 03.1	
	comp=Z,27nm,18.1s,baz=7.0,slow=41						
ARCES	**ARCESS Array B**	67.80	338	LR	LR	18 46 57.2	
	comp=Z,32nm,18.6s,baz=99,slow=40						
FINES	**FINESS Array B**	70.84	330	LR	LR	18 46 44.9	
	comp=Z,48nm,18.3s,baz=167,slow=38						
YKA	**Yellowknife Ar**	76.21	25	P	**P**	18 13 40.7	+0.8
	0.5nm,0.9s,baz=303,slow=5.3,SNR=9.1						

ISCJB ***15*** *18:04:33.6±0.4, 67°.06N±0°.02×20°.90E±0°.07, h0km, Error ellipse: s-maj=4.0km s-min=2.6km az=177.5*
CSEM ***15*** *18:04:34.7±0.1, 67°.08N×20°.87E, h2km, ML2.0, Error ellipse: s-maj=3.6km s-min=2.4km az=82.0, Mining explosion.*
UPP ***15*** *18:04:34.5, 67°.06N×20°.94E, h0km, ML2.0, Mining explosion.*
HEL ***15*** *18:04:35.3±0.1, 67°.06N×20°.92E, h0km, ML2.2, ML2.0(UPP), Explosion*
IDC ***15*** *18:04:35.2±1.0, 67°.05N×21°.00E, h0km, mb1 2.9/3, mb1mx2.7/33, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=15.8km s-min=8.4km az=110.0*
NAO ***15*** *18:04:35.6±1.0, 67°.04N×21°.18E, ML2.5*
BER ***15*** *18:04:37.0±2.3, 67°.11N×20°.71E, h0km, ML1.8, ML2.5(NAO), Suspected explosion*

ISC 15 18:04:34.4±0.7, 67°.05N±0°.02×20°.93E±0°.02, h0km, n88, σ0°97/136, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	0.58	45	*i*P	**Pg**	18 04 45.6	+0.1
MASU	**Masugnsbyn**	0.58	45	P	**Pg**	18 04 45.6	+0.1
MASU	**Masugnsbyn**	0.58	45	P	**Pg**	18 04 45.6	+0.1
ERTU	**Ertsjaerv**	0.71	135	*e*P	**Pg**	18 04 47.8	-0.1
ERTU				*e*S	**Sg**	18 04 57.3	+0.3
ERTU	**Ertsjaerv**	0.71	135	P	**Pg**	18 04 47.8	-0.1
ERTU				S	**Sg**	18 04 57.5	+0.5
ERTU	**Ertsjaerv**	0.71	135	P	**Pg**	18 04 47.8	-0.1
ERTU				S	**Sg**	18 04 57.5	+0.5
PAJU	**Pajala**	0.86	91	*i*P	**Pg**	18 04 50.4	-0.4
PAJU	**Pajala**	0.86	91	P	**Pg**	18 04 50.4	-0.4
PAJU	**Pajala**	0.86	91	P	**Pg**	18 04 50.4	-0.4
HARU	**Harads**	0.89	179	*e*P	**Pg**	18 04 51.4	-0.1
HARU	**Harads**	0.89	179	P	**Pg**	18 04 51.4	-0.1
HARU	**Harads**	0.89	179	P	**Pg**	18 04 51.4	-0.1
KUA	**Kurravaara**	0.93

VRF			S		Sn	18 06 11.0 +0.9
MSF	**Maaselka**	**3.45 106**	*e*P		**Pn**	18 05 30.4 +1.0
MSF			*e*S		**Sn**	18 06 11.3 +0.5
MSF	**Maaselka**	**3.45 106**	P		**Pn**	18 05 30.3 +1.0
MSF			S		**Sn**	18 06 11.2 +0.5
KEV	**Kevo**	**3.52 37**	*e*P		**Pn**	18 05 30.5 +0.1
KEV			*e*S		**Sn**	18 06 12.3 -0.4
KEV	**Kevo**	**3.52 37**	P		**Pn**	18 05 30.4 +0.1
KEV			S		**Sn**	18 06 12.2 -0.4
KU6	**Riekki**	**3.73 102**	*e*P		**Pn**	18 05 34.2 +1.1
KU6			*e*S		**Sn**	18 06 17.7 -0.1
KU6	**Riekki**	**3.73 102**	P		**Pn**	18 05 34.2 +1.1
KU6			S		**Sn**	18 06 17.6 -0.1
VAF	**Ylistaro**	**4.09 169**	*e*P		**Pn**	18 05 39.1 +0.9
VAF			*e*S		**Sn**	18 06 25.6 -1.1
VAF	**Ylistaro**	**4.09 169**	P		**Pn**	18 05 39.1 +0.9
VAF			S		**Sn**	18 06 25.6 -1.1
KJN	**Kajaani**	**4.10 133**	*e*P		**Pn**	18 05 39.6 +1.4
KJN			*e*S		**Sn**	18 06 26.4 -0.4
KJN	**Kajaani**	**4.10 133**	P		**Pn**	18 05 39.6 +1.4
KJN			S		**Sn**	18 06 26.4 -0.4
SUF	**Sumiainen**	**4.88 151**	*e*P		**Pn**	18 05 50.2 +1.2
SUF			*e*S		**Sn**	18 06 44.8 -1.4
SUF	**Sumiainen**	**4.88 151**	P		**Pn**	18 05 50.2 +1.2
SUF			S		**Sn**	18 06 44.8 -1.4
FIA0	**FINESS Array S**	**6.06 156**	Pn		**Pn**	18 06 06.8 +1.7
baz=345,slow=14						
FIA0			Sn		**Sn**	18 07 13.9 -1.2
baz=341,slow=28						
FIA0	**FINESS Array S**	**6.06 156**	Pn		**Pn**	18 06 06.8 +1.7
baz=345,slow=14						
FIA0			Sn		**Sn**	18 07 13.9 -1.2
baz=341,slow=28						
FIA0	**FINESS Array S**	**6.06 156**	Pn		**Pn**	18 06 06.8 +1.7
baz=345,slow=14,SNR=50						
FIA0			Sn		**Sn**	18 07 13.9 -1.2
baz=341,slow=24,SNR=50						
FINES	**FINESS Array B**	**6.06 156**	Pn		**Pn**	18 06 06.8 +1.7
comp=Z,0.1nm,0.3s,baz=348,slow=11,SNR=7.7						
FINES			Sn		**Sn**	18 07 14.4 -0.7
comp=Z,0.2nm,0.3s,baz=343,slow=22,SNR=7.3						
FINES			Lg		Lg	18 07 44.4
comp=Z,0.1nm,0.3s,baz=340,slow=31,SNR=2.8						
NB2	**NORSAR Subarra**	**7.38 220**	Pn		**Pn**	18 06 23.6 +0.3
baz=28,slow=12						
NB2	**NORSAR Subarra**	**7.38 220**	Pn		**Pn**	18 06 23.6 +0.3
baz=28,slow=12						
NB2	**NORSAR Subarra**	**7.38 220**	Pn		**Pn**	18 06 23.6 +0.3
baz=28,slow=12,SNR=50						
NOA	**NORSAR Array B**	**7.38 220**	Pn		**Pn**	18 06 23.3 0.0
comp=Z,0.0nm,0.3s,baz=42,slow=14,SNR=2.2						
NOA			Sn		**Sn**	18 07 44.2 -3.5
comp=Z,0.1nm,0.3s,baz=33,slow=18,SNR=2.7						
HFS	**Hagfors**	**7.65 208**	Sn		**Sn**	18 07 51.1 -3.2
baz=29,slow=28						
HFS	**Hagfors**	**7.65 208**	Sn		**Sn**	18 07 51.1 -3.2
baz=29,slow=28						
SPA0	**Spitsbergen Ar**	**11.26 355**	Pn		**Pn**	18 07 16.5 +0.2
baz=162,slow=18						
SPA0	**Spitsbergen Ar**	**11.26 355**	Pn		**Pn**	18 07 16.5 +0.2
baz=162,slow=18						
SPA0	**Spitsbergen Ar**	**11.26 355**	Pn		**Pn**	18 07 16.5 +0.2
baz=162,slow=18,SNR=50						

GUC 15 18:13:32.8±0.4, 35°.01S×71°.68W, h58km±3km, ML3.5, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.37**	**90**	*e*P	Pn	18 13 42.8	-0.5
NICH				*i* S	Sn	18 13 50.9	0.0
TALC	**Talca**	**0.39**	**174**	*e*P	Pn	18 13 43.0	-0.5
TALC				*e*S	Sn	18 13 51.2	0.0
LNCH	**Linares**	**0.84**	**175**	⇑*i*P	Pn	18 13 48.8	+0.1
LNCH				*e*S	Sn	18 14 00.9	+0.5
COCH	**Cobquecura**	**1.44**	**218**	*e*P	Pn	18 13 57.3	+0.7
COCH				*i* S	Sn	18 14 15.4	+0.9
ANTU	**Antumapu**	**1.68**	**32**	*e*P	Pn	18 14 00.7	+0.8
ANTU				*i* S	Sn	18 14 21.7	+1.3
ANTU				IAML		18 14 24.1	
comp=E,789nm,0.5s							
CLCH	**Cerro Calan**	**1.86**	**31**	*e*P	Pn	18 14 03.3	+0.8
CLCH				*i* S	Sn	18 14 26.5	+1.4
CLCH				IAML		18 14 31.2	
comp=N,538nm,0.3s							

*IDC **15** 18:17:37.4±1.0, 2°.87S×122°.32E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/39, mbtmp3.6/6, MS3.1/1, Ms1 3.3/1, ms1mx2.5/29, Error ellipse: s-maj=112.5km s-min=17.6km az=59.0*

*ISCJB **15** 18:17:41.4±0.4, 2°.80S±0°.04×122°.43E±0°.05, h33km, mb3.6/5, MS3.0/1, Error ellipse: s-maj=7.3km s-min=5.1km az=28.9*

*DJA **15** 18:17:42.6±1.4, 3°.5S±2°×12°.2E±°, h24km±18km, M4.4/21, mb4.6/5, mB5.0/1, MLv4.3/21, Mw(mB)4.4/1*

ISC 15 18:17:43.3±0.8, 2°.80S±0°.05×122°.40E±0°.07, h35km, n22, σ1§64/25, mb3.5/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.79**	**12**	P	**Pn**	18 18 10.2	-1.5
LUWI				S	**Sn**	18 18 36.1	+2.9
APSI	**Ampana**	**2.02**	**338**	P	**Pn**	18 18 12.9	-2.0
TTSI	**Tana Toraja**	**2.59**	**265**	P	**Pn**	18 18 25.3	+2.6
BNSI	**Bone**	**2.78**	**235**	P	**Pn**	18 18 23.7	-1.7
SPSI	**Sidrap Palu**	**2.87**	**246**	P	**Pn**	18 18 25.7	-0.8
SPSI				S	**Sn**	18 19 00.7	+0.9
MRSI	**Marisa**	**3.29**	**352**	P	**Pn**	18 18 30.7	-1.7
BKSI	**Bulukumba**	**3.38**	**222**	P	**Pn**	18 18 33.8	+0.2
BKSI				S	**Sn**	18 19 14.2	+1.8
GTOI	**Gorontalo**	**3.47**	**10**	P	**Pn**	18 18 35.3	+0.4
KMSI	**Cibinong**	**3.71**	**25**	P	**Pn**	18 18 40.2	+2.1
BSSI	**Bau Bau, Buton**	**3.82**	**210**	P	**Pn**	18 18 40.7	+1.0
MPSI	**Mapaga**	**4.00**	**321**	P	**Pn**	18 18 43.2	+1.1
LBMI	**Labuha**	**5.54**	**67**	P	**Pn**	18 19 04.3	+1.0
72nm,0.7s,0.3nm							
MMRI	**Maumere**	**5.79**	**182**	P	**Pn**	18 19 05.3	-1.5
45nm,0.7s,0.2nm							
SOEI	**Soe**	**7.15**	**165**	P	**Pn**	18 19 26.1	+0.5
58nm,0.9s,0.2nm							
BATI	**Baumata**	**7.46**	**170**	Pn	**Pn**	18 19 32.5	+2.8
2.0nm,0.3s,baz=330,slow=2.3,SNR=8.0							
SWI	**Sorong**	**9.06**	**78**	P	**Pn**	18 19 52.6	+0.9
WRA	**Warramunga Arr**	**20.64**	**146**	P	**P**	18 22 17.6	-2.4
1.7nm,0.9s,baz=325,slow=11,SNR=7.5							
ASAR	**Alice Springs**	**23.54**	**153**	P	**P**	18 22 49.5	-1.1
1.2nm,0.8s,baz=335,slow=11,SNR=18							
CMAR	**Chiang Mai Arr**	**31.30**	**313**	P	**P**	18 23 59.7	-0.7
0.4nm,0.6s,baz=137,slow=7.1,SNR=5.6							
CMAR				LR	LR	18 37 30.3	
comp=Z,35nm,19.7s,baz=290,slow=38							
STKA	**Stephens Creek**	**34.10**	**150**	P	**P**	18 24 24.2	-0.6
2.6nm,0.7s,baz=320,slow=9.9,SNR=10							
SONM	**Songino Array**	**52.34**	**346**	P	**P**	18 26 51.9	+0.1
0.3nm,0.6s,baz=164,slow=9.8,SNR=4.0							
MKAR	**Makanchi Array**	**60.69**	**329**	P	**P**	18 27 50.2	-1.0
0.4nm,0.9s,baz=112,slow=6.4,SNR=3.0							

IDC 15 18:21:08.1±7.8, 5°.60S×129°.04E, h281km±85km, mb2.8/1, mb1 3.1/4, mb1mx2.8/38, mbtmp3.7/4, Error ellipse: s-maj=79.0km s-min=23.8km az=46.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.02**	**229**	P	Pn	18 22 50.4	+0.9
7.2nm,0.3s,baz=68,slow=3.2,SNR=18							
BATI				S	S	18 24 10.4	-0.9
1.6nm,0.3s,baz=144,slow=17,SNR=3.2							
WRA	**Warramunga Arr**	**15.16**	**161**	P	P	18 24 27.9	-0.2
0.4nm,0.3s,baz=341,slow=11,SNR=15							
WRA				S	S	18 27 07.7	-6.5
0.1nm,0.3s,baz=346,slow=20,SNR=7.5							
ASAR	**Alice Springs**	**18.56**	**166**	P	P	18 25 05.2	+0.1
0.1nm,0.3s,baz=347,slow=12,SNR=9.7							
ASAR				S	S	18 28 16.8	-4.9
0.1nm,0.3s,baz=346,slow=22,SNR=9.3							
MKAR	**Makanchi Array**	**66.54**	**327**	P	P	18 31 28.2	0.0
0.2nm,0.4s,baz=112,slow=5.6,SNR=3.1							

*IDC **15** 18:21:11.9±1.1, 4°.22N×96°.14E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.6/54, mbtmp3.7/9, ML3.5/2, Error ellipse: s-maj=49.1km s-min=15.9km az=50.0*

*ISCJB **15** 18:21:15.3±0.7, 4°.42N±0°.05×96°.22E±0°.06, h33km, mb3.8/8, Error ellipse: s-maj=10.2km s-min=5.7km az=148.2*

*DJA **15** 18:21:16.4±0.7, 4°N±3°×9°6E±°, h10km, M4.3/7, MLv4.3/7*

*NEIC **15** 18:21:18.4±1.9, 4°.44N×96°.56E, h38km±17km, mb4.5/1, Error ellipse: s-maj=29.4km s-min=11.8km az=71.0*

ISC 15 18:21:17.5±0.8, 4°.45N±0°.05×96°.32E±0°.09, h33km, n21, σ1§58/22, mb3.9/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.00**	**39**	P	**Pn**	18 21 33.8	-1.4
LHMI				S	**Sn**	18 21 46.9	-1.2
LHMI	**Lhok Sumawe**	**1.00**	**39**	*e*P	**Pn**	18 21 33.5	-1.7
TPTI		**1.46**	**144**	P	**Pn**	18 21 39.1	-2.5
TPTI				S	**Sn**	18 21 58.4	-1.2
KCSI	**Kotacane, Aceh**	**1.72**	**122**	P	**Pn**	18 21 43.2	-1.9
KCSI				S	**Sn**	18 22 05.5	-0.5
TSI	**Tuntungan**	**2.43**	**113**	P	**Pn**	18 21 55.8	+0.9
TSI				S	**Sn**	18 22 25.2	+1.6
PSI	**Prapat**	**3.08**	**122**	Pn	**Pn**	18 22 04.4	+0.5
9.1nm,0.3s,baz=316,slow=11,SNR=25							
PSI				Sn	**Sn**	18 22 42.0	+2.3
17nm,0.3s,baz=169,slow=15,SNR=6.0							
GSI	**Gunungsitoli**	**3.37**	**158**	P	**Pn**	18 22 09.4	+1.5
GSI	**Gunungsitoli**	**3.37**	**158**	*e*P	**Pn**	18 22 07.0	-0.9
IPM	**Ipoh**	**4.69**	**89**	*e*P	Pn	18 22 21.1	-5.0
CMAR	**Chiang Mai Arr**	**14.16**	**10**	Pn	**Pn**	18 24 37.9	+2.1
0.0nm,0.3s,baz=199,slow=12,SNR=3.3							
H08S2	**Diego Garcia H**	**26.64**	**243**	T	T	18 54 12.8	
baz=62,slow=76,SNR=37							
H08S3	**Diego Garcia H**	**26.64**	**243**	T	T	18 54 17.2	
baz=62,slow=76,SNR=13							
H08S1	**Diego Carcia H**	**26.65**	**243**	T	T	18 54 18.9	
baz=62,slow=76,SNR=29							
MKAR	**Makanchi Array**	**43.90**	**346**	P	**P**	18 29 20.6	-0.4
0.2nm,0.3s,baz=154,slow=9.1,SNR=10							
SONM	**Songino Array**	**44.08**	**10**	P	**P**	18 29 23.2	+0.6
0.2nm,0.6s,baz=192,slow=9.8,SNR=4.2							
WRA	**Warramunga Arr**	**44.54**	**124**	P	**P**	18 29 25.8	-0.8
3.2nm,0.5s,baz=301,slow=9.2,SNR=23							
WRAB	**Tennant Creek**	**44.54**	**124**	*e*P	**P**	18 29 25.8	-0.8
5.0nm,0.6s							
ASAR	**Alice Springs**	**46.08**	**129**	P	**P**	18 29 38.0	-0.7
0.8nm,0.6s,baz=299,slow=7.5,SNR=12							
STKA	**Stephens Creek**	**56.20**	**133**	P	**P**	18 30 52.5	-2.1
0.8nm,0.7s,baz=326,slow=7.5,SNR=3.2							
BRTR	**Keskin Array B**	**66.30**	**312**	P	**P**	18 32 02.3	-0.7
0.3nm,0.6s,baz=130,slow=4.5,SNR=2.6							
ARCES	**ARCESS Array B**	**79.20**	**340**	P	**P**	18 33 21.3	+2.4
3.9nm,1.1s,baz=108,slow=6.4,SNR=3.7							

*IDC **15** 18:21:53.1±7.0, 18°.77S×69°.84W, h97km±42km, mb3.8/6, mb1 4.0/9, mb1mx3.6/46, mbtmp4.2/9, Error ellipse: s-maj=105.1km s-min=17.7km az=19.0*

*ISCJB **15** 18:21:54.1±0.8, 18°.4S±0°.1×69°.75W±0°.09, h112km, mb4.0/6, Error ellipse: s-maj=18.4km s-min=8.5km az=33.7*

*NEIC **15** 18:21:59.2±0.9, 18°.12S×69°.61W, h134km±8km, mb4.7/2, Error ellipse: s-maj=16.6km s-min=13.2km az=209.0*

ISC 15 18:21:55.8±0.9, 18°.4S±0°.1×69°.69W±0°.08, h112km, n16, σ1§55/17, mb4.0/5, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.56**	**36**	P	Pn	18 22 40.0	+3.3
23nm,0.3s,baz=236,slow=3.5,SNR=438							
LPAZ				S	**Sn**	18 23 10.4	+2.4
3.9nm,0.3s,baz=109,slow=23,SNR=5.2							
ARE	**Arequipa**	**2.57**	**318**	⇑*i*P	**Pn**	18 22 37.6	+1.1
ARE				*e*S	**Sn**	18 23 05.0	-2.7
LVC	**Limon Verde**	**4.27**	**170**	*e*P	Pn	18 23 06.7	+7.6
SIV	**San Ignacio**	**8.57**	**75**	P	**Pn**	18 23 57.0	-0.1
4.8nm,0.3s,baz=279,slow=10,SNR=30							
SIV				S	**Sn**	18 25 28.6	-3.5
0.5nm,0.3s,baz=6.1,slow=23,SNR=4.4							
NNA	**Nana**	**9.38**	**312**	P	**Pn**	18 24 07.0	-1.2
6.5nm,0.3s,baz=125,slow=10,SNR=7.5							
NNA				S	Sn	18 25 43.2	-8.7
2.6nm,0.3s,baz=219,slow=18,SNR=2.6							
TRQA	**Tornquist**	**20.73**	**163**	P	**P**	18 26 27.6	+0.2
BDFB	**Brasilia**	**20.90**	**86**	P	**P**	18 26 30.1	+0.6
5.3nm,0.6s,baz=233,slow=10.0,SNR=8.6							
TXAR	**Lajitas Array**	**57.67**	**325**	P	**P**	18 31 35.0	+0.2
0.6nm,0.9s,baz=147,slow=5.4,SNR=2.4							
DBIC	**Dimbokro**	**68.59**	**75**	P	**P**	18 32 47.9	+0.8
5.5nm,0.6s,baz=222,slow=7.9,SNR=12							
DBIC	**Dimbokro**	**68.59**	**75**	*e*P	**P**	18 32 47.4	+0.3
5.6nm,0.6s							
PDAR	**Pinedale Array**	**71.06**	**330**	P	**P**	18 33 02.2	+0.2
0.3nm,0.8s,baz=135,slow=6.1,SNR=2.9							
TORD	**Torodi Ar. Bea**	**77.03**	**71**	P	**P**	18 33 36.8	-0.2
4.6nm,0.8s,baz=255,slow=5.7,SNR=20							
YKA	**Yellowknife Ar**	**88.02**	**341**	P	**P**	18 34 33.3	+0.4
0.7nm,0.5s,baz=133,slow=4.7,SNR=19							
KHC	**Kasperske Hory**	**99.39**	**41**	*e*P	**Pdif**	18 35 23.8	-1.7
2.0nm,0.8s							
USRK	**Ussuriysk Ar.**	**148.48**	**329**	PKPbc	**PKPbc**	18 41 29.6	+0.2
0.8nm,0.6s,baz=115,slow=2.7,SNR=4.9							
SONM	**Songino Array**	**150.45**	**5**	PKPbc	**PKPbc**	18 41 35.1	+0.8
1.3nm,0.7s,baz=332,slow=1.4,SNR=10							

*IDC **15** 18:22:11.3±1.7, 43°.80N×105°.40W, h0km, mb1 3.5/5, mb1mx3.3/31, mbtmp3.3/5, ML3.1/5, Error ellipse: s-maj=44.9km s-min=8.9km az=148.0*

*ISCJB **15** 18:22:12.4±0.2, 43°.75N±0°.01×105°.30W±0°.02, h0km, Error ellipse: s-maj=1.8km s-min=1.7km az=16.2*

*NEIC **15** 18:22:12.2±0.9, 43°.75N×105°.24W, h0km, ML3.2, Error ellipse: s-maj=12.7km s-min=10.3km az=154.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 15 18:22:12.1±0.7, 43°.75N±0°.02×105°.32W±0°.02, h0km, n125, σ1§11/148, 58C-46D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.23**	**335**	P	**Pg**	18 22 18.4	+1.8
baz=0.3,SNR=299							
I23A				⇓S	**Sg**	18 22 20.6	+0.9
baz=0.3							
J23A	**Dilts Ranch, B**	**0.38**	**206**	P	**Pb**	18 22 21.1	-0.8
baz=0.4,SNR=110							
J23A				⇑S	**Sg**	18 22 25.1	+0.7
baz=0.4							
I24A	**Kuemmerle Ranc**	**0.52**	**77**	P	**Pg**	18 22 22.3	+0.3
baz=0.5,SNR=346							
I24A				⇓S	**Sg**	18 22 29.8	+1.1
baz=0.5							
J24A	**Dixon Ranch, L**	**0.64**	**131**	P	**Pg**	18 22 24.8	+0.4
baz=0.6,SNR=142							
J24A				⇑S	**Sg**	18 22 32.4	-0.2
baz=0.6							
H23A	**Clabaugh Cattl**	**0.81**	**356**	P	**Pg**	18 22 28.1	+0.4
baz=0.8,SNR=25							
H23A				⇓S	**Sb**	18 22 40.5	-0.3
baz=0.8							
I22A	**9 Mile Ranch,**	**0.85**	**280**	P	**Pb**	18 22 29.8	-0.1
baz=0.9,SNR=805							
J22A	**Midwest**	**0.90**	**249**	P	**Pb**	18 22 30.2	-0.6
baz=1.0,SNR=123							
J22A				⇑S	**Sb**	18 22 42.9	-0.6
baz=1.0							
RSSD	**Black Hills**	**1.00**	**68**	*e*P	**Pg**	18 22 30.7	-0.6
K23A	**Bowen Ranch, D**	**1.02**	**193**	⇓P	**Pb**	18 22 32.3	-0.5
baz=1.0							
K23A				⇑S	**Sb**	18 22 46.7	0.0
baz=1.0							
K24A	**Anderson Ranch**	**1.09**	**160**	⇑P	**Pg**	18 22 32.7	-0.4
baz=1.1,SNR=89							
H22A	**Clearmont**	**1.12**	**319**	⇑P	**Pb**	18 22 34.4	-0.1
baz=1.2,SNR=113							
H24A	**Dirks Ranch, A**	**1.14**	**29**	⇓P	**Pg**	18 22 33.3	-0.7
baz=1.1							
H24A				⇑S	**Sb**	18 22 49.4	-0.8
baz=1.1							
J25A	**Sunshine Ranch**	**1.16**	**107**	⇑P	**Pg**	18 22 34.1	-0.3
baz=1.1,SNR=45							
J25A				⇓S	**Sb**	18 22 50.4	-0.4
baz=1.1							
I25A	**Rochford**	**1.18**	**76**	P	**Pg**	18 22 34.1	-0.7
baz=1.1,SNR=148							
I25A				⇑S	**Sb**	18 22 50.9	-0.6
baz=1.1							
K22A	**Casper**	**1.41**	**219**	P	**Pn**	18 22 39.1	0.0
baz=1.4,SNR=197							
K22A				⇓S	**Sn**	18 22 59.5	+1.0
baz=1.4							
K22A	**Casper**	**1.41**	**219**	*e*P	**Pn**	18 22 38.8	-0.4
I21A	**Big Trails, Te**	**1.43**	**273**	P	**Pn**	18 22 38.9	-0.6
baz=1.5,SNR=210							
I21A				⇑S	**Sn**	18 22 58.9	-0.1
baz=1.5							
G23A	**Biddle**	**1.45**	**358**	⇑P	**Pn**	18 22 39.3	-0.5
baz=1.5,SNR=165							
G23A				⇓S	**Sn**	18 23 00.8	+1.2
baz=1.5							
H21A	**Big Horn, Sher**	**1.52**	**306**	⇓P	**Pg**	18 22 41.4	+0.2
baz=1.6,SNR=77							
H21A				⇑S	**Sn**	18 23 02.9	+1.7
baz=1.6							
H25A	**Fruitdale**	**1.52**	**54**	⇓P	**Pn**	18 22 40.2	-0.4
baz=1.5,SNR=69							
H25A				⇓S	**Sn**	18 23 02.1	+1.0
baz=1.5							
K25A	**Mack Ranch, Ha**	**1.56**	**136**	P	**Pb**	18 22 41.8	-0.1
baz=1.5,SNR=60							
K25A				⇓S	**Sg**	18 23 03.4	+1.3
baz=1.5							
J21A	**Lysite**	**1.59**	**256**	P	**Pn**	18 22 42.1	+0.3
baz=1.6,SNR=155							
J21A				⇑S	**Sg**	18 23 04.6	+1.2
baz=1.6							
G22A	**Birney**	**1.62**	**335**	⇓P	**Pg**	18 22 43.0	-0.2
baz=1.7,SNR=104							
G22A				⇑S	**Sg**	18 23 05.4	+1.1
baz=1.7							
L23A	**Garrett**	**1.66**	**190**	P	**Pn**	18 22 43.1	+0.5
baz=1.7,SNR=537							
L23A				⇑S	**Sg**	18 23 06.3	+1.0
baz=1.7							
J26A	**Sides Ranch, S**	**1.69**	**104**	⇓P	**Pn**	18 22 43.4	+0.4
baz=1.6,SNR=114							
J26A				⇑S	**Sg**	18 23 06.4	-0.1
baz=1.6							
G24A	**Alzada**	**1.71**	**22**	⇑P	**Pb**	18 22 43.8	-0.7
baz=1.7,SNR=149							
G24A				⇑S	**Sg**	18 23 07.1	+0.1
baz=1.7							
L24A	**Wheatland**	**1.73**	**170**	⇑P	**Pn**	18 22 44.2	+0.6
baz=1.7							
L24A				⇓Sb	**Sg**	18 23 09.4	+1.7
baz=1.7							
K21A	**Alcova**	**1.80**	**232**	P	**Pb**	18 22 46.0	-0.1
baz=1.8,SNR=152							
I26A	**New Underwood**	**1.80**	**80**	P	**Pb**	18 22 45.3	-0.8
baz=1.7,SNR=48							
L25A	**Engebretsen Ra**	**1.88**	**148**	⇑P	**Pb**	18 22 47.0	-0.4
baz=1.8,SNR=160							
K26A	**Motz Farm, Whi**	**1.89**	**123**	⇓P	**Pn**	18 22 46.4	+0.7
baz=1.8							
L22A	**Ellis Ranch, M**	**1.90**	**206**	⇑P	**Pb**	18 22 47.1	-0.7
baz=1.9,SNR=185							
L22A				⇓S	**Sb**	18 23 12.9	+0.7
baz=1.9							
F23A	**Volborg**	**1.97**	**358**	P	**Pn**	18 22 47.6	+0.7
baz=2.0,SNR=143							
G25A	**Newell**	**1.99**	**43**	⇑P	**Pb**	18 22 48.0	-1.2
baz=1.9,SNR=73							
G21A	**Lodge Grass**	**2.00**	**318**	⇑P	**Pb**	18 22 48.4	-1.1
baz=2.0,SNR=108							
H26A	**Fairpoint**	**2.03**	**64**	⇓Pb	**Pb**	18 22 49.8	-0.1
baz=2.0,SNR=36							
I20A	**Worland**	**2.04**	**277**	⇑P	**Pb**	18 22 49.3	-0.8
baz=2.1,SNR=253							
J20A	**Shoshoni**	**2.05**	**260**	⇓Pb	**Pg**	18 22 51.0	-0.3
baz=2.1,SNR=208							
J20A				⇓Sb	**Sg**	18 23 19.5	+1.7
baz=2.1							
H20A	**Greybull**	**2.06**	**292**	⇓P	**Pb**	18 22 49.2	-1.3
baz=2.1,SNR=36							
F22A	**Rosebud**	**2.14**	**342**	⇓P	**Pn**	18 22 49.6	+0.5
baz=2.2,SNR=52							
F22A				⇑S	**Sb**	18 23 18.5	-0.3
baz=2.2							
F24A	**Ekalaka**	**2.19**	**16**	⇓P	**Pb**	18 22 51.1	-1.5
baz=2.2,SNR=22							
M23A	**Laramie**	**2.30**	**187**	⇓P	**Pn**	18 22 52.5	+1.0
baz=2.3,SNR=37							
M24A	**Cheyenne**	**2.31**	**171**	⇑Pb	**Pb**	18 22 55.2	+0.5
baz=2.3,SNR=28							
I27A	**Quinn**	**2.39**	**81**	⇑P	**Pn**	18 22 53.5	+0.9
baz=2.3,SNR=60							
I27A				⇓Sb	**Sg**	18 23 28.4	-0.3
baz=2.3							
F21A	**Absaloka Mine,**	**2.44**	**329**	⇓P	**Pn**	18 22 54.1	+0.8
baz=2.5							
J27A	**Elkhorn Farm,**	**2.46**	**100**	⇑P	**Pn**	18 22 54.9	+1.3
baz=2.4,SNR=34							
G26A	**Maurine**	**2.49**	**51**	⇑P	**Pn**	18 22 55.0	+1.0
baz=2.4,SNR=29							
K27A	**Flueckinger Fa**	**2.49**	**114**	⇑P	**Pn**	18 22 55.3	+1.3
baz=2.4,SNR=32							
M25A	**Palm-Egli Farm**	**2.50**	**158**	⇑P	**Pn**	18 22 55.5	+1.4
baz=2.5							
H27A	**Howes**	**2.50**	**68**	⇑P	**Pn**	18 22 55.2	+1.1
baz=2.4,SNR=24							
M22A	**Cedar Creek Ra**	**2.53**	**202**	⇑P	**Pb**	18 22 57.0

baz=3.8,SNR=8.0
C24A Savage 3.83 9 ⇑P Pn 18 23 13.8 +1.4
baz=3.8,SNR=22
H17A Grant Village 3.84 281 *e*P **Pn 18 23 15.3 +2.6**
F28A McLaughlin 3.84 55 ⇑P Pn 18 23 13.2 +0.6
baz=3.8
D26A Manning 3.86 31 ⇑P Pn 18 23 13.6 +0.8
baz=3.8,SNR=6.0
D20A Manuel Ranch, 3.88 330 ⇑P Pn 18 23 13.4 +0.3
baz=3.9,SNR=16
L29A Maesberg Ranch 3.94 114 ⇓P Pn 18 23 15.1 +1.2
baz=3.9
ISCO Idaho Springs 3.95 183 ⇑P Pn 18 23 15.0 +0.7
baz=4.0,SNR=8.9
ISCO Idaho Springs 3.95 183 *e*P **Pn 18 23 14.9 +0.7**
YNR Norris Junctio 3.97 286 *e*P Pb 18 23 19.7 -3.4
C22A Vida 4.02 355 ⇓P Pn 18 23 16.2 +1.3
baz=4.0,SNR=9.4
YFT Old Faithful 4.03 282 P **Pn 18 23 17.3 +1.9**
C23A Lambert 4.05 1 ⇑P Pn 18 23 16.8 +1.3
baz=4.1,SNR=40
G29A Hoven 4.13 68 ⇑P Pn 18 23 17.3 +0.9
baz=4.1
YMR Madison River 4.16 285 *e*Pn **Pn 18 23 17.1 0.0**
O20A White River Ci 4.22 212 *e*P **Pn 18 23 19.0 +1.2**
C25A Freed Ranch, W 4.22 19 ⇑P Pn 18 23 19.0 +1.3
baz=4.2,SNR=6.4
D19A Cripps Ranch, 4.23 325 ⇑P Pn 18 23 18.9 +1.0
baz=4.3
P25A Willow Gulch B 4.32 168 ⇑P Pn 18 23 20.6 +1.3
baz=4.3,SNR=6.0
E28A Huff 4.33 48 ⇑P Pn 18 23 19.7 +0.6
baz=4.3,SNR=9.9
AHID Auburn Hatcher 4.33 259 *e*Pg **Pg 18 23 33.1 -2.0**
C20A Veseth Ranch, 4.39 336 ⇑P Pn 18 23 21.7 +1.7
baz=4.4
P23A Jefferson 4.39 185 ⇓P Pn 18 23 22.0 +1.7
baz=4.4
P26A Davis Ranch, A 4.44 160 ⇓P Pn 18 23 22.0 +1.2
baz=4.4,SNR=25
P27A Ficken Ranch, 4.67 153 ⇓P Pn 18 23 24.8 +0.8
baz=4.6,SNR=14
B25A Knox Farm, Ray 4.77 18 ⇓P Pn 18 23 26.4 +1.2
baz=4.8,SNR=5.3
BOZ Bozeman (W) 4.88 295 *e*P **Pn 18 23 28.6 +1.7**
TCUT Toone Canyon 5.21 242 *e*Pn **Pn 18 23 33.2 +1.6**
24nm,0.6s
LRM Limekiln Ridge 5.48 295 *e*P Pn 18 23 30.2 -5.0
31nm,0.6s
DAU Daniels Canyon 5.53 235 *e*Pn **Pn 18 23 38.4 +2.4**
0.5nm,0.4s
R26A Arlington 5.62 165 ⇑P Pn 18 23 37.8 +0.7
baz=5.6,SNR=17
HVU Hansel Valley 5.83 253 *e*Pn **Pn 18 23 40.6 +0.7**
5.5nm,0.7s
PV04 Paradox Valley 6.00 208 *e*Pg Pb 18 24 02.2 +4.7
R28A Tribune 6.02 153 ⇓P Pn 18 23 42.5 0.0
baz=6.0,SNR=7.4
SRU San Rafael Swe 6.06 222 *e*Pn **Pn 18 23 43.7 +0.5**
7.1nm,0.5s
S25A Robets Cordova 6.12 173 ⇑P Pn 18 23 44.3 +0.4
baz=6.1,SNR=5.9
S26A Kim 6.28 166 ⇓P Pn 18 23 46.7 +0.6
baz=6.3,SNR=8.0
ECSD EROS Data Cent 6.31 87 ⇓P Pn 18 23 46.9 +0.5
baz=6.2,SNR=5.3
ECSD EROS Data Cent 6.31 87 *e*Pn **Pn 18 23 46.0 -0.4**
4.3nm,0.4s
ELK Elko 7.94 251 Pn **Pn 18 24 10.2 +1.2**
0.1nm,0.3s,baz=179,slow=15,SNR=2.7
ELK Lg Lg 18 26 19.2
0.1nm,0.3s,baz=177,slow=15,SNR=2.2
I10CA LAC DU BONNET 9.05 41 *i* 19 18 10.0
baz=222,slow=324,SNR=2.2
ULM Lac du Bonnet 9.16 41 Pn **Pn 18 24 22.8 -2.7**
0.9nm,0.3s,baz=235,slow=12,SNR=5.8
ULM Lg Lg 18 26 53.5
0.7nm,0.3s,baz=78,slow=20,SNR=2.9
NVAR Mina Array Bea 11.14 246 Pn **Pn 18 24 53.6 +0.8**
0.2nm,0.3s,baz=66,slow=9.0,SNR=3.3
YKA Yellowknife Ar 19.55 347 P **P 18 26 38.3 -2.7**
0.0nm,0.3s,baz=152,slow=13,SNR=3.8

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*IDC **15** 18:22:56.7±1.1,31°.57S×58°.17E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.7/54,mbtmp3.9/7,ML3.9/1,Error ellipse: s-maj=35.8km s-min=25.1km az=75.0*

ISC 15 18:22:58.3±1.1,31°.55S±0°.2×57°.9E±0°.2,h17km,n14, σ1§01/8,mb4.1/6,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.10**	**321**	Pn	**P**	**18 26 47.7**	**+0.3**
	0.5nm,0.3s,baz=258,slow=19,SNR=2.2						
H08S1	**Diego Carcia H**	**27.35**	**33**	T	T	18 57 03.9	
	baz=207,slow=76,SNR=11						
H08S2	**Diego Garcia H**	**27.36**	**33**	T	T	18 57 04.7	
	baz=207,slow=76,SNR=10.0						
H08S3	**Diego Garcia H**	**27.37**	**33**	T	T	18 57 06.0	
	baz=207,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**46.66**	**110**	T	T	19 21 06.1	
	baz=258,slow=75,SNR=3.9						
H01W3	**Cape Leeuwin H**	**46.66**	**110**	T	T	19 21 06.8	
	baz=258,slow=75,SNR=3.7						
H01W1	**Cape Leeuwin H**	**46.68**	**110**	T	T	19 21 08.4	
	baz=258,slow=75,SNR=4.3						
QSPA	**South Pole Qui**	**58.67**	**180**	P	**P**	**18 32 55.0**	**+0.5**
	2.5nm,0.6s,baz=241,slow=6.7,SNR=28						
CMAR	**Chiang Mai Arr**	**63.39**	**44**	P	**P**	**18 33 28.2**	**+1.2**
	0.8nm,0.6s,baz=228,slow=7.0,SNR=9.6						
ASAR	**Alice Springs**	**66.61**	**104**	P	**P**	**18 33 47.5**	**-0.7**
	1.2nm,0.7s,baz=237,slow=6.1,SNR=23						
WRA	**Warramunga Arr**	**68.61**	**101**	P	**P**	**18 34 00.3**	**-0.5**
	1.6nm,0.7s,baz=242,slow=5.4,SNR=12						
STKA	**Stephens Creek**	**69.33**	**115**	P	**P**	**18 34 05.2**	**+0.1**
	1.0nm,0.9s,baz=252,slow=3.2,SNR=2.8						
MKAR	**Makanchi Array**	**80.98**	**17**	P	**P**	**18 35 11.4**	**-0.3**
	0.3nm,0.8s,baz=197,slow=4.5,SNR=3.2						
YKA	**Yellowknife Ar**	**148.62**	**353**	PKPbc	**PKPab**	**18 42 45.6**	**-1.6**
	0.8nm,0.8s,baz=1.8,slow=2.7,SNR=12						

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*IDC **15** 18:31:39.2±1.1,35°.49N×22°.95E,h0km,mb3.9/12, mb1 3.9/17,mb1mx3.7/48,mbtmp3.8/17,ML3.5/5,MS4.1/1, Ms1 4.1/1,ms1mx2.6/47,Error ellipse: s-maj=21.4km s-min=15.3km az=19.0*

*ISCJB **15** 18:31:43.1±0.9,35°.27N±0°.05×22°.99E±0°.04,h18km±6km, mb3.8/12,MS4.2/1,Error ellipse: s-maj=8.6km s-min=3.8km az=32.1*

*CSEM **15** 18:31:45.8±0.3,35°.42N×23°.13E,h15km,ML3.4,Error ellipse: s-maj=8.7km s-min=3.0km az=34.0*

*ATH **15** 18:31:45.6,35°.46N×23°.11E,h32km±1km,MD3.8/42, ML3.3*

*THE **15** 18:31:46.7,35°.45N×23°.19E,h9km±1km,ML3.4/4,Error ellipse: s-maj=3.2km s-min=1.0km az=46.0*

ISC 15 18:31:44.2±0.6,35°.37N±0°.03×23°.04E±0°.02,h24km±3km, n138,σ1§69/134,mb3.9/12,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.54**	**23**	P	**Pn**	**18 31 55.7**	**-0.8**
ANKY				S	**Sb**	**18 32 01.8**	**-0.6**
ANKY	**Antikythira Is**	**0.54**	**23**	*e*PB	**Pn**	**18 31 55.6**	**-0.9**
ANKY				*e*SB	**Sn**	**18 32 02.8**	**-2.0**
ANKY	**Antikythira Is**	**0.54**	**23**	*e*Pb	**Pn**	**18 31 55.6**	**-0.9**
ANKY				S	**Sb**	**18 32 01.8**	**-0.6**
ANKY				*e*Sb	**Sn**	**18 32 02.8**	**-2.0**
KARN	**Karanos**	**0.71**	**87**	P	**Pb**	**18 31 59.0**	**+1.0**
KARN				S	**Sb**	**18 32 07.1**	**-0.4**
KARN	**Karanos**	**0.71**	**87**	*e*PN	**Pb**	**18 31 59.0**	**+1.0**
KARN				*e*SN	**Sn**	**18 32 09.4**	**+0.2**
KARN	**Karanos**	**0.71**	**87**	P	**Pb**	**18 31 59.0**	**+1.0**
KARN				S	**Sb**	**18 32 07.1**	**-0.4**
KARN				*e*Sn	**Sn**	**18 32 09.4**	**+0.2**
KYTH	**Kithira**	**0.91**	**360**	P	**Pb**	**18 32 01.8**	**+0.4**
KYTH				S	**Sb**	**18 32 15.9**	**+2.8**
KYTH	**Kithira**	**0.91**	**360**	*e*PN	**Pb**	**18 32 01.7**	**+0.4**
KYTH	**Kithira**	**0.91**	**360**	*e*Pn	**Pb**	**18 32 01.7**	**+0.4**
KYTH				S	**Sb**	**18 32 15.9**	**+2.8**
VAM	**Vamos**	**0.94**	**87**	P	**Pn**	**18 32 01.3**	**-0.8**
VAM				S	**Sn**	**18 32 13.7**	**-1.1**
VAM	**Vamos**	**0.94**	**87**	*e*PB	**Pn**	**18 32 02.2**	**+0.1**
VAM				*e*SN	**Sb**	**18 32 16.1**	**+2.1**
VAM	**Vamos**	**0.94**	**87**	P	**Pn**	**18 32 02.2**	**+0.1**
VAM				S	**Sn**	**18 32 13.7**	**-1.1**
VAM				*e*Sn	**Sb**	**18 32 16.1**	**+2.1**
VLI	**Veliai**	**1.35**	**356**	P	**Pb**	**18 32 09.7**	**+0.9**
VLI				S	**Sb**	**18 32 28.6**	**+3.0**
VLI	**Veliai**	**1.35**	**356**	*e*PN	**Pb**	**18 32 09.6**	**+0.8**
VLI				*e*SN	**Sb**	**18 32 26.4**	**+0.8**
VLI	**Veliai**	**1.35**	**356**	P	**Pb**	**18 32 09.7**	**+0.9**
VLI				*e*Sn	**Sb**	**18 32 26.4**	**+0.8**
VLI				S	**Sb**	**18 32 28.6**	**+3.0**
SIVA	**Sivas**	**1.49**	**103**	P	**Pb**	**18 32 12.1**	**+0.9**
SIVA				S	**Sb**	**18 32 30.6**	**+0.9**
SIVA	**Sivas**	**1.49**	**103**	*e*PN	**Pb**	**18 32 11.7**	**+0.5**
SIVA	**Sivas**	**1.49**	**103**	*e*Pn	**Pb**	**18 32 11.7**	**+0.5**
SIVA	**Sivas**	**1.49**	**103**	P	**Pb**	**18 32 12.1**	**+0.9**
IDI	**Anoyia**	**1.51**	**93**	Pn	**Pn**	**18 32 10.6**	**+0.7**
	24nm,0.3s,baz=232,slow=10,SNR=48						
IDI				Sn	**Sb**	**18 32 32.4**	**+2.0**
	49nm,0.3s,baz=78,slow=17,SNR=5.9						
IDI				LR	LR	18 33 06.9	
	comp=Z,84nm,20.8s,baz=280,slow=55						
PYL	**PYLOS**	**1.85**	**326**	P	**Pb**	**18 32 18.5**	**+1.1**
PYL				S	**Sb**	**18 32 43.4**	**+3.3**
PYL	**PYLOS**	**1.85**	**326**	*e*PN	**Pn**	**18 32 16.3**	**+1.8**
PYL	**PYLOS**	**1.85**	**326**	*e*Pn	**Pn**	**18 32 16.3**	**+1.8**
PYL	**PYLOS**	**1.85**	**326**	P	**Pb**	**18 32 18.5**	**+1.1**
PYL				S	**Sb**	**18 32 43.4**	**+3.3**
LAST	**Lasithi**	**2.00**	**95**	*e*PB	**Pb**	**18 32 19.1**	**-0.9**
LAST	**Lasithi**	**2.00**	**95**	*e*Pb	**Pb**	**18 32 19.1**	**-0.9**
ITM	**Ithomi**	**2.02**	**334**	P	**Pb**	**18 32 19.7**	**-0.6**
ITM	**Ithomi**	**2.02**	**334**	*e*PB	**Pb**	**18 32 19.4**	**-0.9**
ITM	**Ithomi**	**2.02**	**334**	*e*Pb	**Pb**	**18 32 19.4**	**-0.9**
ITM	**Ithomi**	**2.02**	**334**	P	**Pb**	**18 32 19.7**	**-0.6**
NPS	**Neapolis**	**2.10**	**92**	P	**Pb**	**18 32 20.2**	**-1.5**
NPS	**Neapolis**	**2.10**	**92**	*e*PN	**Pb**	**18 32 20.2**	**-1.5**
NPS	**Neapolis**	**2.10**	**92**	P	**Pb**	**18 32 20.2**	**-1.5**
DID	**Didima**	**2.14**	**4**	P	**Pn**	**18 32 19.5**	**+1.0**
DID				S	**Sb**	**18 32 46.4**	**-2.0**
DID	**Didima**	**2.14**	**4**	*e*PN	**Pn**	**18 32 20.0**	**+1.5**
DID	**Didima**	**2.14**	**4**	P	**Pn**	**18 32 19.5**	**+1.0**
DID	**Didima**	**2.14**	**4**	*e*Pn	**Pn**	**18 32 20.0**	**+1.5**
DID				S	**Sb**	**18 32 46.4**	**-2.0**
THR6	**Thira Island,**	**2.15**	**62**	P	**Pn**	**18 32 20.1**	**+1.5**
THR6	**Thira Island,**	**2.15**	**62**	P	**Pn**	**18 32 20.1**	**+1.5**
SANT	**Santorini**	**2.20**	**62**	P	**Pn**	**18 32 20.9**	**+1.5**
SANT	**Santorini**	**2.20**	**62**	*e*PN	**Pn**	**18 32 20.4**	**+1.0**
SANT	**Santorini**	**2.20**	**62**	*e*Pn	**Pn**	**18 32 20.4**	**+1.0**
SANT	**Santorini**	**2.20**	**62**	P	**Pn**	**18 32 20.9**	**+1.5**
NAIG	**Nisos Aigina**	**2.41**	**8**	*e*PN	**Pn**	**18 32 23.4**	**+1.2**
NAIG	**Nisos Aigina**	**2.41**	**8**	*e*Pn	**Pn**	**18 32 23.4**	**+1.2**
AMT	**Artemida-Makis**	**2.41**	**334**	P	**Pb**	**18 32 25.3**	**-1.7**
AMT	**Artemida-Makis**	**2.41**	**334**	*e*PB	**Pb**	**18 32 25.2**	**-1.7**
AMT	**Artemida-Makis**	**2.41**	**334**	P	**Pb**	**18 32 25.3**	**-1.7**
ZKR	**Zakros**	**2.61**	**95**	P	Pn	18 32 27.7	+2.7
ZKR	**Zakros**	**2.61**	**95**	*e*PN	Pn	18 32 27.4	+2.4
ZKR	**Zakros**	**2.61**	**95**	*e*Pn	Pn	18 32 27.4	+2.4
ZKR	**Zakros**	**2.61**	**95**	P	Pn	18 32 27.7	+2.7
GUR	**Goura**	**2.62**	**348**	P	**Pb**	**18 32 28.1**	**-2.5**
GUR	**Goura**	**2.62**	**348**	*e*PN	Pn	18 32 27.6	+2.4
GUR	**Goura**	**2.62**	**348**	*e*Pn	Pn	18 32 27.6	+2.4
GUR	**Goura**	**2.62**	**348**	P	**Pb**	**18 32 28.1**	**-2.5**
APE	**Apeiranthos**	**2.63**	**49**	*e*PN	Pn	18 32 27.0	+1.7
APE	**Apeiranthos**	**2.63**	**49**	*e*Pn	Pn	18 32 27.0	+1.7
LTK	**Loutraki**	**2.65**	**359**	P	**Pn**	**18 32 27.2**	**+1.7**
LTK	**Loutraki**	**2.65**	**359**	*e*PN	**Pn**	**18 32 27.1**	**+1.6**
LTK	**Loutraki**	**2.65**	**359**	*e*Pn	**Pn**	**18 32 27.1**	**+1.6**
ATH	**Athens Observa**	**2.65**	**12**	*e*PN	**Pn**	**18 32 27.1**	**+1.6**
ATH	**Athens Observa**	**2.65**	**12**	*e*Pn	**Pn**	**18 32 27.1**	**+1.6**
KLV	**Kalavryta, Ach**	**2.76**	**345**	P	Pb	18 32 30.0	-3.0
KLV				S	**Sb**	**18 33 03.1**	**-3.3**
KLV	**Kalavryta, Ach**	**2.76**	**345**	*e*PN	**Pn**	**18 32 28.9**	**+1.8**
KLV	**Kalavryta, Ach**	**2.76**	**345**	*e*Pn	**Pn**	**18 32 28.9**	**+1.8**
KLV	**Kalavryta, Ach**	**2.76**	**345**	P	Pb	18 32 30.0	-3.0
KLV				S	**Sb**	**18 33 03.1**	**-3.3**
DRO	**Drossia**	**2.79**	**338**	P	Pn	18 32 29.8	+2.3
DRO	**Drossia**	**2.79**	**338**	*e*PN	**Pn**	**18 32 29.3**	**+1.8**
DRO	**Drossia**	**2.79**	**338**	*e*Pn	**Pn**	**18 32 29.3**	**+1.8**
DRO	**Drossia**	**2.79**	**338**	P	Pn	18 32 29.8	+2.3
RLS	**Riolos of Patr**	**2.97**	**335**	*e*PN	**Pn**	**18 32 31.7**	**+1.9**
RLS	**Riolos of Patr**	**2.97**	**335**	*e*Pn	**Pn**	**18 32 31.7**	**+1.9**
DSF	**Desfina**	**3.06**	**352**	P	**Pn**	**18 32 32.9**	**+1.7**
DSF	**Desfina**	**3.06**	**352**	*e*PN	**Pn**	**18 32 32.2**	**+1.0**
DSF	**Desfina**	**3.06**	**352**	*e*Pn	**Pn**	**18 32 32.2**	**+1.0**
DSF	**Desfina**	**3.06**	**352**	P	**Pn**	**18 32 32.9**	**+1.7**
KALE	**Kalithea**	**3.10**	**347**	*e*PN	Pn	18 32 34.2	+2.4
KALE	**Kalithea**	**3.10**	**347**	*e*Pn	Pn	18 32 34.2	+2.4
LKR	**Lokris**	**3.27**	**359**	P	Pn	18 32 36.0	+1.9
LKR	**Lokris**	**3.27**	**359**	*e*PN	**Pn**	**18 32 35.6**	**+1.5**
LKR	**Lokris**	**3.27**	**359**	*e*Pn	**Pn**	**18 32 35.6**	**+1.5**
LKR	**Lokris**	**3.27**	**359**	P	Pn	18 32 36.0	+1.9
MRKA	**Markates**	**3.36**	**7**	*e*PN	**Pn**	**18 32 36.3**	**+1.0**
MRKA	**Markates**	**3.36**	**7**	*e*Pn	**Pn**	**18 32 36.3**	**+1.0**
KARP	**Karpathos**	**3.37**	**86**	P	**Pn**	**18 32 36.0**	**+0.6**
KARP	**Karpathos**	**3.37**	**86**	*e*PN	**Pn**	**18 32 36.9**	**+1.5**
KARP	**Karpathos**	**3.37**	**86**	P	**Pn**	**18 32 36.0**	**+0.6**
KARP	**Karpathos**	**3.37**	**86**	*e*Pn	**Pn**	**18 32 36.9**	**+1.5**
AXAR	**Agios Charalam**	**3.40**	**355**	*e*PN	Pn	18 32 38.0	+2.1
AXAR	**Agios Charalam**	**3.40**	**355**	*e*Pn	Pn	18 32 38.0	+2.1
VLS	**Valsamata**	**3.42**	**326**	*e*PN	Pn	18 32 40.1	+3.9
VLS	**Valsamata**	**3.42**	**326**	*e*Pn	Pn	18 32 40.1	+3.9
SMIA	**Simia**	**3.50**	**2**	*e*PN	Pn	18 32 39.8	+2.5
SMIA	**Simia**	**3.50**	**2**	*e*Pn	Pn	18 32 39.8	+2.5
PDO	**Prodromos**	**3.55**	**336**	*e*PN	**Pn**	**18 32 39.5**	**+1.6**
PDO	**Prodromos**	**3.55**	**336**	*e*Pn	**Pn**	**18 32 39.5**	**+1.6**
EVR	**Evrytania**	**3.67**	**345**	*e*PN	Pn	18 32 42.4	+2.7
EVR	**Evrytania**	**3.67**	**345**	*e*Pn	Pn	18 32 42.4	+2.7
AGG	**Agios Georgios**	**3.69**	**351**	*e*PN	**Pn**	**18 32 41.6**	**+1.8**
AGG	**Agios Georgios**	**3.69**	**351**	*e*Pn	**Pn**	**18 32 41.6**	**+1.8**
MAKR	**Makrakomi, Fth**	**3.71**	**349**	*e*PN	Pn	18 32 42.0	+1.9
MAKR	**Makrakomi, Fth**	**3.71**	**349**	*e*Pn	Pn	18 32 42.0	+1.9
SKIA	**Skiathos**	**3.80**	**5**	*e*PN	Pn	18 32 43.4	+2.0
SKIA	**Skiathos**	**3.80**	**5**	*e*Pn	Pn	18 32 43.4	+2.0
SMG	**Samos**	**3.84**	**52**	*e*PN	**Pn**	**18 32 43.3**	**+1.4**
SMG	**Samos**	**3.84**	**52**	*e*Pn	**Pn**	**18 32 43.3**	**+1.4**
AOS	**Alonnisos**	**3.85**	**10**	*e*PN	**Pn**	**18 32 42.7**	**+0.7**
AOS	**Alonnisos**	**3.85**	**10**	*e*Pn	**Pn**	**18 32 42.7**	**+0.7**
CHOS	**Chios island**	**3.86**	**38**	*e*PN	**Pn**	**18 32 43.6**	**+1.4**
CHOS	**Chios island**	**3.86**	**38**	*e*Pn	**Pn**	**18 32 43.6**	**+1.4**
NEO	**Neokhori**	**3.93**	**2**	*e*PN	**Pn**	**18 32 44.9**	**+1.7**
NEO	**Neokhori**	**3.93**	**2**	*e*Pn	**Pn**	**18 32 44.9**	**+1.7**
DSL	**Palaion Diasel**	**4.07**	**338**	*e*PN	**Pn**	**18 32 46.5**	**+1.5**
DSL	**Palaion Diasel**	**4.07**	**338**	*e*Pn	**Pn**	**18 32 46.5**	**+1.5**
ARG	**Arkhangelos**	**4.22**	**77**	*e*PN	**Pn**	**18 32 48.2**	**+1.2**
ARG	**Arkhangelos**	**4.22**	**77**	*e*Pn	**Pn**	**18 32 48.2**	**+1.2**
SOH	**Sokhos**	**5.45**	**2**	*e*PN	Pn	18 33 06.5	+2.5
SOH	**Sokhos**	**5.45**	**2**	*e*Pn	Pn	18 33 06.5	+2.5
BRTR	**Keskin Array B**	**9.47**	**60**	Pn	**Pn**	**18 33 59.6**	**+0.4**
	0.2nm,0.3s,baz=228,slow=13,SNR=14						
MMAI	**Mount Meron Ar**	**10.50**	**99**	Pn	**Pn**	**18 34 12.2**	**-1.1**
	0.8nm,0.3s,baz=290,slow=9.6,SNR=5.5						
GERES	**GERESS Array B**	**15.13**	**336**	Pn	**Pn**	**18 35 12.3**	**-4.1**
	0.1nm,0.3s,baz=162,slow=20,SNR=5.5						
AKASG	**Malin Array Be**	**15.96**	**14**	Pn	**Pn**	**18 35 23.2**	**-4.0**
	0.3nm,0.3s,baz=207,slow=12,SNR=2.8						
KBZ	**Khabaz**	**17.41**	**55**	P	**Pn**	**18 35 45.1**	**-0.4**
	0.1nm,0.3s,baz=245,slow=11,SNR=5.0						
HFS	**Hagfors**	**25.51**	**349**	P	**P**	**18 37 08.2**	**-2.3**
	0.9nm,0.3s,baz=154,slow=10,SNR=11						
FINES	**FINESS Array B**	**26.16**	**3**	P	**P**	**18 37 13.4**	**-3.1**
	0.5nm,0.3s,baz=168,slow=10,SNR=6.8						
FINES				PcP	**PcP**	**18 40 41.8**	**-1.2**
	2.6nm,1.1s,baz=219,slow=2.4,SNR=4.8						
NOA	**NORSAR Array B**	**26.78**	**347**	P	**P**	**18 37 19.9**	**-2.2**
	0.4nm,0.5s,baz=156,slow=8.8,SNR=3.5						
EKA	**Eskdalemuir Ar**	**26.89**	**326**	P	**P**	**18 37 20.9**	**-2.1**
	2.1nm,0.8s,baz=123,slow=10,SNR=3.5						
TORD	**Torodi Ar. Bea**	**29.34**	**226**	P	**P**	**18 37 44.0**	**-1.4**
	0.2nm,0.4s,baz=31,slow=9.4,SNR=3.3						
ARCES	**ARCESS Array B**	**34.25**	**2**	P	**P**	**18 38 24.8**	**-3.1**
	0.9nm,0.6s,baz=185,slow=6.1,SNR=5.9						
KURBB	**Kurchatov Arra**	**42.34**	**51**	P	**P**	**18 39 34.0**	**-2.2**
	1.4nm,0.4s,baz=277,slow=8.6,SNR=4.6						
SPITS	**Spitsbergen Ar**	**43.01**	**358**	P	**P**	**18 39 39.7**	**-1.6**
	8.2nm,1.0s,baz=153,slow=12,SNR=12						
MKAR	**Makanchi Array**	**45.10**	**56**	P	**P**	**18 39 56.4**	**-2.2**
	1.3nm,0.5s,baz=269,slow=6.8,SNR=27						
ZALV	**Zalesovo Beam**	**46.11**	**46**	P	**P**	**18 40 03.5**	**-2.9**
	1.6nm,0.4s,baz=270,slow=9.3,SNR=9.4						
YKA	**Yellowknife Ar**	**76.70**	**341**	P	**P**	**18 43 31.6**	**-1.4**
	0.4nm,0.7s,baz=31,slow=5.4,SNR=4.4						
USRK	**Ussuriysk Ar.**	**77.91**	**44**	P	**P**	**18 43 37.6**	**-2.5**
	1.6nm,0.7s,baz=267,slow=2.9,SNR=4.4						
MJAR	**Matsushiro Arr**	**86.46**	**47**	LR	LR	19 27 31.1	
	comp=Z,81nm,18.2s,baz=255,slow=39						

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*IDC **15** 18:33:47.7±1.5,0°.07N×124°.85E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.3/33,mbtmp3.5/4,Error ellipse: s-maj=188.3km s-min=22.0km az=64.0*

*DJA **15** 18:33:54.3±0.2,0°.S±2°×12°.5E±°,h10km,M4.2/14,mb4.4/2, mB4.6/1,MLv4.1/14,Mw(mB)3.8/1*

*ISCJB **15** 18:33:55.6±0.5,0°.25S±0°.06×124°.73E±0°.04,h81km±9km, mb3.1/4,Error ellipse: s-maj=9.9km s-min=6.1km az=10.6*

ISC 15 18:33:57.2±1.1,0°.28S±0°.06×124°.78E±0°.04,h64km±16km, n14,σ1§65/17,mb3.1/4,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.17**	**317**	P	Pn	18 34 13.0	-4.6
KMSI				S	**Sn**	**18 34 31.6**	**-1.2**
SANI	**Sanana**	**2.13**	**145**	P	**Pn**	**18 34 28.0**	**-2.5**
SANI				S	**Sn**	**18 34 57.0**	**+1.1**
LUWI	**Luwuk**	**2.15**	**249**	P	**Pn**	**18 34 30.2**	**-0.5**
LUWI				S	**Sn**	**18 34 59.4**	**+3.1**
LBMI	**Labuha**	**2.74**	**97**	P	**Pn**	**18 34 39.2**	**+0.4**
LBMI				S	**Sn**	**18 35 11.7**	**+0.8**
TNTI	**Ternate**	**2.79**	**68**	P	**Pn**	**18 34 39.1**	**-0.4**
TNTI				S	**Sn**	**18 35 14.5**	**+2.5**
MRSI	**Marisa**	**2.94**	**285**	P	**Pn**	**18 34 40.5**	**-1.0**
APSI	**Ampana**	**3.19**	**259**	P	**Pn**	**18 34 44.6**	**-0.4**
MPSI	**Mapaga**	**4.92**	**277**	P	**Pn**	**18 35 09.5**	**+0.9**
SPSI	**Sidrap Palu**	**6.20**	**234**	P	**Pn**	**18 35 25.7**	**-0.5**
	19nm,0.5s,441nm0.1nm						
BNSI	**Bone**	**6.21**	**229**	P	**Pn**	**18 35 25.7**	**-0.6**
WRA	**Warramunga Arr**	**21.66**	**155**	P	**P**	**18 38 41.9**	**-0.8**
	0.3nm,0.7s,baz=335,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**24.87**	**160**	P	**P**	**18 39 16.2**	**+2.1**
	0.4nm,0.9s,baz=328,slow=7.9,SNR=5.4						
MKAR	**Makanchi Array**	**59.80**	**328**	P	P	18 43 51.9	-4.0
	0.3nm,0.3s,baz=119,slow=7.5,SNR=11						
KURBB	**Kurchatov Arra**	**64.11**	**329**	P	**P**	**18 44 23.3**	**-1.4**
	0.2nm,0.4s,baz=118,slow=7.6,SNR=5.4						

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*NIED **15** 18:50:00,25°.90N×128°.60E,h11km,Mw4.2 Best double couple: M0=2.22000×10^15 NP1:φ§=78.00000°,δ68.00000°, λ-8.00000°. NP2:φ§=171.00000°,δ82.00000°, λ-158.00000°.*

*IDC **15** 18:50:32.0±0.9,25°.91N×128°.40E,h0km,mb3.8/12, mb1 4.0/15,mb1mx3.9/37,mbtmp3.8/15,ML3.3/3,MS3.3/2, Ms1 3.3/2,ms1mx2.8/40,Error ellipse: s-maj=26.0km s-min=16.9km az=78.0*

*NEIC **15** 18:50:32.9±2.0,25°.91N×128°.40E,h6km±12km,mb4.1/3, Error ellipse: s-maj=13.7km s-min=9.8km az=127.0*

*ISCJB **15** 18:50:33.4±0.8,25°.92N±0°.03×128°.59E±0°.04,h27km±5km, mb3.8/15,MS3.1/1,Error ellipse: s-maj=6.2km s-min=4.6km az=137.1*

*JMA **15** 18:50:34.2±0.3,25°.95N×128°.58E,h39km±5km,M3.6*

ISC 15 18:50:33.9±1.6,25°.93N±0°.05×128°.56E±0°.04,h17km±9km, n50,σ1§23/59,mb3.9/15,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.76**	**286**	P	**Pb**	**18 50 49.0**	**+0.3**
JJT2				*e*S	**Sb**	**18 50 59.2**	**+0.4**
JNTH	**Nagotoyohara**	**0.76**	**321**	P	**Pg**	**18 50 48.2**	**-0.6**
JNTH				*e*S	**Sg**	**18 50 59.0**	**+0.2**
JOW	**Kunigami**	**0.93**	**344**	P	**Pb**	**18 50 51.2**	**-0.5**
JOW	

SDLR	**Sedlovina**	**2.46 287**	*e*P		Pn	18 52 52.4 +2.5
SDLR			*e*S		Sn	18 53 21.5 +2.5
UGLR	**Uglovaya**	**2.48 285**	*e*P		Pn	18 52 53.2 +3.0
SMAR	**Somma**	**2.51 286**	*e*P		Pn	18 52 53.2 +2.6
AVH	**Avacha**	**2.55 286**	*e*P		Pn	18 52 54.0 +3.0
AVH			*e*S		Sn	18 53 24.0 +3.1
PET	**Petropavlovsk**	**2.55 281**	*e*S		Sn	18 53 22.7 +1.9
KOK	**Koryaka**	**2.61 287**	*e*P		Pn	18 52 54.4 +2.5
KRX	**Arik**	**2.62 288**	*e*P		Pn	18 52 54.6 +2.5
KRX			*e*S		Sn	18 53 25.1 +2.2
RUS	**Russkaya**	**2.63 268**	*e*P		Pn	18 52 53.8 +1.8
RUS			*e*S		Sn	18 53 23.9 +1.2
TUMR	**Tumrok**	**3.10 331**	*e*P		Pn	18 53 02.1 +3.6
GNL	**Ganaly**	**3.12 292**	*e*P		Pn	18 53 02.5 +3.6
GNL			*e*S		Sn	18 53 39.0 +4.0
KMNR	**Kamenistaya**	**3.49 335**	P		Pn	18 53 07.7 +3.9
KBTR	**Krutoberegovo**	**3.60 0**	*e*P		Pn	18 53 06.8 +1.6
ESO	**Esso**	**4.09 326**	*e*P		Pn	18 53 16.0 +4.0

BJI ***15*** *18:54:17.9,0°.81N×97°.15E,h31km,mB5.1/40,mb4.9/57, Ms4.8/44,Ms7 4.5/44*
IDC ***15*** *18:54:18.0±0.6, 1°.13N×96°.99E,h0km,mb4.5/19, mb1 4.6/22,mb1mx4.4/42,mbtmp4.5/22,ML4.3/3,MS4.0/15, Ms1 4.0/15,ms1mx3.8/37,Error ellipse: s-maj=15.7km s-min=13.5km az=42.0*
ISCJB ***15*** *18:54:20.6±0.8, 1°.18N±0°.03×97°.11E±0°.03,h27km±6km, mb4.7/48,MS4.0/12,Error ellipse: s-maj=6.1km s-min=3.9km az=141.6*
DJA ***15*** *18:54:21.9±0.6, 1°N±3°×9°7E±°,h29km±4km,M4.9/13, mb4.8/8,mB5.0/3,MLv4.9/13,Mw(mB)4.3/3*
NEIC ***15*** *18:54:23.3±1.0, 1°.19N×97°.14E,h37km±8km,mb4.8/29, Error ellipse: s-maj=9.7km s-min=5.4km az=46.0*
KLM ***15*** *18:54:23.7, 1°.20N×97°.04E,h45km,mb4.9,ML4.6,MS5.8*
ISC 15 18:54:22.9±0.5, 1°.15N±0°.04×97°.04E±0°.05, h34km±1km, h34km:pP-P,n177,σ1§39/207, mb4.8/48, MS4.0/12, 14C-11D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.55**	**73**	P	**Pb**	**18 54 33.7**	**-0.7**
GSI				S	**Sn**	**18 54 42.8**	**+0.4**
GSI	**Gunungsitoli**	**0.55**	**73**	*e*P	**Pb**	**18 54 33.5**	**-0.9**
SNSI	**Sinabang, Aceh**	**1.45**	**330**	P	**Pn**	**18 54 45.8**	**-0.9**
SNSI				S	**Sn**	**18 55 03.4**	**-1.1**
TPTI		**2.11**	**4**	P	**Pn**	**18 54 53.8**	**-1.9**
TPTI				S	**Sn**	**18 55 19.2**	**-1.6**
KCSI	**Kotacane, Aceh**	**2.47**	**17**	P	**Pn**	**18 54 59.8**	**-1.0**
PSI	**Prapat**	**2.50**	**49**	Pn	**Pn**	**18 55 00.1**	**-1.2**
	44nm,0.3s,baz=209,slow=6.1,SNR=101						
PSI				Lg	Lg	18 55 37.7	
	19nm,0.3s,baz=192,slow=11,SNR=5.0						
PSI				LR	LR	18 55 49.5	
	comp=Z,2μm,20.8s,baz=303,slow=37						
MNSI	**Mandailing Nat**	**2.56**	**98**	P	**Pn**	**18 55 02.0**	**0.0**
TSI	**Tuntungan**	**2.79**	**33**	P	**Pn**	**18 55 05.1**	**-0.1**
PDSI	**Padang**	**3.98**	**121**	P	**Pn**	**18 55 21.0**	**-0.6**
LHMI	**Lhok Sumawe**	**4.06**	**359**	P	**Pn**	**18 55 20.6**	**-2.0**
LHMI				S	**Sn**	**18 56 08.5**	**-0.5**
LHMI	**Lhok Sumawe**	**4.06**	**359**	*e*P	**Pn**	**18 55 21.9**	**-0.7**
BKNI	**Bangkinang**	**4.08**	**101**	P	**Pn**	**18 55 22.6**	**-0.3**
BKNI	**Bangkinang**	**4.08**	**101**	*e*P	**Pn**	**18 55 22.9**	**+0.1**
FRIM	**Kepong**	**5.03**	**66**	⇓P	**Pn**	**18 55 35.9**	**-0.1**
IPM	**Ipoh**	**5.17**	**50**	⇓P	**Pn**	**18 55 38.4**	**+0.4**
IPM	**Ipoh**	**5.17**	**50**	*e*P	**Pn**	**18 55 38.0**	**0.0**
	90nm,0.6s						
KGM	**Kluang**	**6.33**	**82**	⇑P	**Pn**	**18 55 54.4**	**+0.5**
PKDT	**Phuket**	**6.83**	**11**	P	**Pn**	**18 55 58.7**	**-2.0**
	65nm,0.9s,1μm0.4nm						
MYKOM	**Kota Tinggi**	**6.83**	**85**	⇑P	**Pn**	**18 56 01.7**	**+0.9**
JMBI	**JAMBI**	**7.15**	**113**	P	**Pn**	**18 56 05.0**	**-0.1**
	106nm,0.6s,1.3nm						
KTGM	**Kuala Trenggan**	**7.36**	**56**	⇓P	**Pn**	**18 56 07.7**	**-0.4**
TPRI	**Tanjung Pinang**	**7.49**	**92**	P	**Pn**	**18 56 09.7**	**0.0**
SURT	**Suratani**	**7.96**	**13**	P	**Pn**	**18 56 14.3**	**-1.9**
	15nm,1.0s,242nm0.1nm						
MNAI	**Manna**	**8.05**	**133**	P	**Pn**	**18 56 17.8**	**+0.3**
LHSI	**Lahat**	**8.14**	**127**	P	**Pn**	**18 56 19.6**	**+0.8**
MDSI	**Maura Dua**	**9.06**	**128**	P	**Pn**	**18 56 31.5**	**+0.1**
	46nm,0.7s						
LWLI	**Liwa**	**9.30**	**131**	P	**Pn**	**18 56 34.3**	**-0.5**
KASI	**Kota Agung**	**9.96**	**132**	P	**Pn**	**18 56 42.3**	**-1.4**
PBA	**Port Blair**	**11.28**	**338**	*e*P	Pn	18 57 00.4	-1.4
PBA				*e*S	Sn	18 59 08.2	+1.4
DGPR	**DIGLIPUR**	**12.63**	**341**	*e*P3	Pn	18 57 17.1	-3.1
DGPR				AMB	AMB	18 57 31.8	
	comp=Z,12nm,0.6s						
KHLT	**Khaolaem Dam**	**13.65**	**6**	P	**P**	**18 57 43.2**	**+0.6**
STKI	**Sintang**	**14.47**	**94**	P	Pn	18 57 41.0	-4.4
STKI				Pn	P	18 57 44.4	-7.3
UTHA	**Uthaitani**	**14.52**	**9**	P	**P**	**18 57 50.2**	**-2.0**
	comp=Z,7.4nm,0.9s						
PBKI	**Pangkalan Bun**	**15.11**	**105**	P	**Pn**	**18 57 53.6**	**-0.4**
	comp=Z,66nm,1.1s,comp=Z,668nm						
SBUM	**Sibu**	**15.22**	**85**	⇓P	**Pn**	**18 57 56.3**	**+0.8**
DLV	**T Lat**	**15.62**	**46**	*e*P	**Pn**	**18 57 58.7**	**-2.1**
	comp=Z,40nm,0.9s						
PBKT	**Sadao Pong**	**15.81**	**14**	P	**Pn**	**18 58 02.8**	**-0.2**
	comp=Z,47nm,1.3s						
UBPT	**Khong Chiam**	**16.32**	**30**	P	**Pn**	**18 58 10.4**	**+0.8**
	comp=Z,51nm,0.9s						
UTTA	**Uttaradit**	**16.85**	**12**	P	**Pn**	**18 58 14.8**	**-1.5**
	comp=Z,6.5nm,1.1s,comp=Z,66nm						
MHMT	**Maesarieng**	**16.95**	**3**	P	**Pn**	**18 58 18.5**	**+1.0**
	comp=Z,10nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.31**	**6**	P	**Pn**	**18 58 20.4**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=195,slow=12,SNR=46						
CMAR				LR	LR	19 05 59.7	
	comp=Z,718nm,18.5s,baz=196,slow=40						
PALK	**Pallekele**	**17.39**	**291**	P	**P**	**18 58 23.6**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=112,slow=10,SNR=5.6						
PALK				LR	LR	19 04 45.5	
	comp=Z,1μm,18.1s,baz=114,slow=36						
PALK	**Pallekele**	**17.39**	**291**	*e*P	**P**	**18 58 24.9**	**+0.7**
	comp=Z,72nm,1.4s						
LAMP	**Lampang**	**17.46**	**8**	P	**Pn**	**18 58 23.4**	**-0.4**
	comp=Z,6.7nm,1.1s,comp=Z,71nm						
CHTO	**Chiang Mai**	**17.66**	**6**	P	**Pn**	**18 58 24.4**	**-2.0**
	comp=Z,65nm,1.0s						
CHTO	**Chiang Mai**	**17.66**	**6**	*e*P	**Pn**	**18 58 23.9**	**-2.4**
	comp=Z,13nm,1.0s						
CMMT	**Chiang Mai**	**17.66**	**6**	P	**Pn**	**18 58 24.4**	**-2.0**
	comp=Z,19nm,0.9s						
CMAI	**Chiengmai2**	**18.77**	**6**	P	**P**	**18 58 39.2**	**-0.3**
	comp=Z,74nm,0.9s,comp=Z,4μm						
CRAI	**Chiangrai**	**19.25**	**10**	P	**P**	**18 58 43.8**	**-0.7**
	comp=Z,34nm,0.9s						
KDM	**Kudat**	**20.55**	**73**	⇑P	**P**	**18 58 56.9**	**-1.9**
SDKM	**Sandakan**	**20.60**	**77**	⇓P	**P**	**18 58 59.7**	**+0.3**
SLVN	**Son La**	**21.15**	**18**	*e*P	**P**	**18 59 04.2**	**-1.1**
	comp=Z,71nm,0.8s						
VIS	**Vishakhapatnam**	**21.29**	**321**	*e*P	**P**	**18 59 06.3**	**-0.3**
TRD	**Trivandrum**	**21.30**	**291**	⇑*e*x	x	18 59 25.9	
TRD				*e*x	Sn	19 03 13.9	+3.8
QIZ	**Qiongzhong**	**21.76**	**34**	P	**P**	**18 59 11.8**	**+0.1**
QIZ				sP	**sP**	**18 59 25.3**	**+0.3**
QIZ				S	**S**	**19 03 12.5**	**+1.7**
QIZ				sS	**sS**	**19 03 26.3**	**+1.2**
QIZ				PMZ			
	comp=Z,20nm,1.2s						
QIZ				LN			
	comp=Z,640nm,14.2s						
QIZ				LZ			
	comp=Z,690nm,12.8s						
MYLDM	**Lahad Datu**	**21.79**	**79**	⇑P	**P**	**18 59 13.1**	**+0.9**
KAPI	**Kappang**	**23.49**	**105**	*e*P	**P**	**18 59 30.2**	**+0.3**
	comp=Z,46nm,0.9s						
HYB	**Hyderabad**	**24.33**	**313**	*i*P	**P**	**18 59 41.0**	**+3.2**
HYB	**Hyderabad**	**24.33**	**313**	*e*P	**P**	**18 59 38.5**	**+0.7**
HYB				AMB	AMB	18 59 50.5	
	comp=Z,23nm,1.5s						
KMI	**Kunming**	**24.46**	**13**	P	**P**	**18 59 39.9**	**+0.8**
KMI				pP	**pP**	**18 59 46.3**	**-2.6**
KMI				PMZ			
	comp=Z,81nm,1.2s						
KMI				PMZ			
	comp=Z,280nm,3.8s						
KMI				LN			
	comp=Z,2μm,14.4s						
KMI				LE			
	comp=Z,1μm,13.7s						
KMI				LZ			
	comp=Z,2μm,14.1s						
SHL	**Shillong**	**24.79**	**349**	*e*P	**P**	**18 59 41.7**	**-0.2**
SHL				⇑*i*P	pP	18 59 43.0	-8.7
SHL				AMB	AMB	18 59 44.0	
	comp=Z,76nm,1.2s						
SHL				*e*x	x	19 04 00.0	
H08S2	**Diego Garcia H**	**26.00**	**250**	T	T	19 26 53.1	
	baz=71,slow=75						
H08S3	**Diego Garcia H**	**26.00**	**250**	T	T	19 26 49.1	
	baz=71,slow=75,SNR=9019						
H08S1	**Diego Carcia H**	**26.02**	**250**	T	T	19 26 50.2	
	baz=71,slow=75						
NGP	**Nagpur**	**26.52**	**320**	*e*P	**P**	**18 59 59.4**	**+1.8**
GYA	**Guiyang**	**26.82**	**19**	*e*P	**P**	**19 00 01.4**	**+1.1**
GYA				pP	**pP**	**19 00 12.6**	**+2.6**
GYA				PP	**PnPn**	**19 00 47.8**	**+5.1**
GYA				S	**S**	**19 04 33.3**	**-1.2**
GYA				sS	**sS**	**19 04 52.0**	**+1.4**
GYA				SS	**SnSn**	**19 05 47.3**	**+6.6**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				PMZ			
	comp=Z,110nm,4.8s						
GYA				LN			
	comp=Z,480nm,15.8s						
GYA				LE			
	comp=Z,390nm,16.4s						
GYA				LZ			
	comp=Z,470nm,16.6s						
ODAN	**Odare**	**27.20**	**341**	*e*P	**P**	**19 00 05.0**	**+1.1**
RAMN	**Ramite**	**27.55**	**340**	*e*P	**P**	**19 00 08.3**	**+1.3**
	comp=Z,36nm,0.6s						
TAPN	**Taplejung**	**27.55**	**342**	*e*P	**P**	**19 00 08.5**	**+1.4**
	comp=Z,187nm,0.9s						
SZP	**Santa**	**28.20**	**53**	*e*P	**P**	**19 00 12.3**	**-0.4**
	comp=Z,165nm,1.0s						
JIRN	**Jiri**	**28.34**	**339**	*e*P	**P**	**19 00 15.5**	**+1.3**
	comp=Z,112nm,1.0s						
PKI	**Pulchoki**	**28.55**	**338**	*e*P	**P**	**19 00 17.0**	**+1.0**
	comp=Z,55nm,1.0s						
PKIN	**Phulchoki**	**28.56**	**338**	*e*P	**P**	**19 00 16.9**	**+0.9**
	comp=Z,49nm,1.0s						
GUN	**Gumba**	**28.68**	**339**	*e*P	**P**	**19 00 18.6**	**+1.4**
	comp=Z,88nm,0.8s						
DMN	**Daman**	**28.70**	**338**	*e*P	**P**	**19 00 18.2**	**+1.0**
BATI	**Baumata**	**28.79**	**114**	P	P	19 00 15.0	-3.0
	comp=Z,7.7nm,0.5s,baz=198,slow=3.6,SNR=6.6						
BATI				LR	LR	19 13 47.2	
	comp=Z,665nm,19.9s,baz=270,slow=40						
KKN	**Kakani**	**28.79**	**338**	*e*P	**P**	**19 00 19.2**	**+1.1**
	comp=Z,67nm,1.0s						
LSA	**Lhsa**	**28.95**	**349**	*e*P	**P**	**19 00 20.6**	**+0.9**
	comp=Z,20nm,0.9s						
SOEI	**Soe**	**29.19**	**112**	*e*P	**P**	**19 00 18.8**	**-2.8**
	comp=Z,12nm,0.6s						
GKN	**Gorkha**	**29.23**	**337**	*e*P	**P**	**19 00 23.2**	**+1.3**
KOLN	**Koldanda**	**29.44**	**335**	*e*P	**P**	**19 00 25.4**	**+1.6**
	comp=Z,42nm,0.7s						
DANN	**Dangsing**	**29.89**	**336**	*e*P	**P**	**19 00 29.1**	**+1.2**
CD2	**Chengdu**	**30.28**	**11**	⇓*i*P	**P**	**19 00 30.8**	**-0.2**
CD2				PP	**PnPn**	**19 01 30.9**	**+1.2**
CD2				S	**S**	**19 05 25.6**	**-3.2**
CD2				PMZ			
	comp=Z,20nm,1.4s						
CD2				LN			
	comp=Z,2μm,13.1s						
CD2				LZ			
	comp=Z,1μm,11.8s						
ENH	**Enshi**	**31.29**	**21**	*e*P	**P**	**19 00 39.4**	**-0.5**
	comp=Z,9.9nm,0.8s						
TPUB	**Ta-pu**	**31.76**	**44**	*e*P	**P**	**19 00 42.8**	**-1.4**
	comp=Z,58nm,1.3s						
YULB	**Yu-li**	**32.29**	**45**	*e*P	**P**	**19 00 49.5**	**+0.7**
	comp=Z,34nm,1.3s						
SSLB	**Suanglung**	**32.30**	**44**	*e*P	**P**	**19 00 48.7**	**-0.2**
	comp=Z,31nm,1.1s						
XAN	**Xi'an**	**34.56**	**18**	P	**P**	**19 01 07.3**	**-1.2**
XAN				PMZ			
	comp=Z,10.0nm,1.0s						
XAN				PMZ			
	comp=Z,36nm,4.4s						
XAN				LN			
	comp=Z,540nm,13.1s						
XAN				LE			
	comp=Z,200nm,14.0s						
XAN				LZ			
	comp=Z,280nm,14.5s						
SMLA	**Simla**	**35.26**	**330**	*e*P	**P**	**19 01 15.4**	**+0.9**
LZH	**Lanzhou**	**35.34**	**10**	⇓P	**P**	**19 01 15.5**	**+0.2**
LZH				pP	**pP**	**19 01 22.5**	**-2.6**
LZH				sP	**sP**	**19 01 26.5**	**-2.7**
LZH				PP	**PP**	**19 02 36.0**	**+0.1**
LZH				*e*S	**S**	**19 06 49.0**	**+1.5**
LZH				sS	**sS**	**19 07 06.0**	**+2.2**
LZH				SS	**SnSn**	**19 09 07.0**	**-0.7**
LZH				PMZ			
	comp=Z,20nm,1.0s						
LZH				PMZ			
	comp=Z,82nm,4.0s						
LZH				LN			
	comp=Z,450nm,11.0s						
LZH				LE			
	comp=Z,850nm,14.6s						
LZH				LZ			
	comp=Z,750nm,15.6s						
DHRM	**DHARAMSHALA**	**36.60**	**330**	*e*P	**P**	**19 01 25.9**	**-0.4**
DHRM				AMB	AMB	19 01 31.8	
	comp=Z,22nm,1.4s						
NJ2	**Nanjing**	**36.99**	**32**	*e*P	**P**	**19 01 29.6**	**+0.3**
NJ2				S	**S**	**19 07 11.0**	**-1.6**
NJ2				PMZ			
	comp=Z,60nm,0.9s						
NJ2				LN			
	comp=Z,1μm,20.4s						
NJ2				LE			
	comp=Z,1μm,13.1s						
NJ2				LZ			
	comp=Z,2μm,12.9s						
GTA	**Gaotai**	**38.17**	**3**	*e*P	**P**	**19 01 39.3**	**0.0**
GTA				pP	**pP**	**19 01 49.0**	**-0.2**
GTA				sP	**sP**	**19 01 52.9**	**-0.4**
GTA				S	**S**	**19 07 31.3**	**+0.7**
GTA				sS	**sS**	**19 07 47.1**	**+0.2**
GTA				SS	**SnSn**	**19 10 12.8**	**-3.3**
GTA				PMZ			
	comp=Z,25nm,1.1s						
GTA				PMZ			
	comp=Z,130nm,5.2s						
GTA				LN			
	comp=Z,600nm,12.8s						
GTA				LE			
	comp=Z,570nm,14.0s						
GTA				LZ			
	comp=Z,520nm,13.5s						
H01W3	**Cape Leeuwin H**	**39.25**	**158**	T	T	19 43 24.0	
	baz=333,slow=76,SNR=56						
H01W2	**Cape Leeuwin H**	**39.27**	**158**	T	T	19 43 25.0	
	baz=333,slow=76,SNR=66						
H01W1	**Cape Leeuwin H**	**39.27**	**158**	T	T	19 43 17.4	
	baz=333,slow=76,SNR=58						
HHC	**Hu-ho-hao-te**	**41.66**	**17**	*e*P	**P**	**19 02 09.3**	**+1.1**
HHC				pP	**pP**	**19 02 19.3**	**+1.1**
HHC				sP	**sP**	**19 02 23.4**	**+1.1**
HHC				PP	**PnPn**	**19 03 49.5**	**-0.5**
HHC				S	**S**	**19 08 23.8**	**+1.1**
HHC				sS	**sS**	**19 08 39.3**	**+0.1**
HHC				SS	**SS**	**19 11 28.9**	**0.0**
HHC				PMZ			
	comp=Z,20nm,1.1s						
HHC				PMZ			
	comp=Z,210nm,4.6s						
HHC				LN			
	comp=Z,480nm,10.2s						
HHC				LE			
	comp=Z,1μm,14.9s						
HHC				LZ			
	comp=Z,430nm,11.6s						
WRA	**Warramunga Arr**	**42.14**	**122**	P	**P**	**19 02 12.2**	**-0.2**
	comp=Z,5.0nm,0.5s,baz=302,slow=9.1,SNR=103						
WRA				LR	LR	19 23 24.8	
	comp=Z,190nm,18.3s,baz=80,slow=41						
WRAB	**Tennant Creek**	**42.14**	**122**	*e*P	**P**	**19 02 12.0**	**-0.4**
	comp=Z,5.3nm,0.5s						
WB2	**Warramunga Arr**	**42.15**	**122**	*e*P	**P**	**19 02 12.1**	**-0.4**
BJT	**Baijiatuau**	**42.43**	**22**	*e*P	**P**	**19 02 15.3**	**+0.9**
	comp=Z,28nm,0.6s						
BJI	**Beijing**	**42.45**	**22**	P	**P**	**19 02 15.3**	**+0.7**
BJI				S	**S**	**19 08 37.0**	**+2.8**
BJI				PMZ			
	comp=Z,34nm,0.8s						
BJI				PMZ			
	comp=Z,270nm,4.7s						
BJI				LN			
	comp=Z,480nm,18.2s						
BJI				LE			
	comp=Z,430nm,19.5s						
BJI				LZ			
	comp=Z,130nm,22.1s						
KSH	**Kashi**	**42.76**	**336**	*e*P	**P**	**19 02 16.9**	**-0.4**
KSH				sP	sP	19 02 35.1	+3.8
KSH				PP	**PP**	**19 03 59.0**	**+2.1**
KSH				S	**S**	**19 08 35.4**	**-3.7**
KSH				sS	**sS**	**19 08 55.5**	**0.0**
KSH				SS	SS	19 11 40.5	-10
KSH				PMZ			
	comp=Z,5.0nm,0.5s						
KSH				PMZ			
	comp=Z,110nm,4.9s						
KSH				LN			
	comp=Z,120nm,4.7s						
KSH				LE			
	comp=Z,140nm,5.3s						
KSH				LZ			
	comp=Z,140nm,5.2s						
WMQ	**Urumqi**	**43.30**	**350**	P	**P**	**19 02 22.1**	**+0.6**
WMQ				pP	**pP**	**19 02 33.1**	**+1.6**
WMQ				PP	**PP**	**19 04 05.0**	**+2.4**
WMQ				PcP	**PcP**	**19 04 12.5**	**+2.4**
WMQ				S	**S**	**19 08 47.1**	**+0.3**
WMQ				sS	**sS**	**19 09 02.3**	**-1.0**
WMQ				PMZ			
	comp=Z,26nm,1.0s						
WMQ				PMZ			
	comp=Z,66nm,5.0s						
WMQ				LN			
	comp=Z,94nm,24.0s						
WMQ				LE			
	comp=Z,250nm,24.0s						
WMQ				LZ			
	comp=Z,150nm,22.0s						
AS31	**Alice Springs**	**43.49**	**127**	*e*P	**P**	**19 02 23.5**	**+0.2**
ASAR	**Alice Springs**	**43.49**	**127**	P	**P**	**19 02 23.4**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=297,slow=8.0,SNR=59						
ULHL	**Ulahol**	**44.99**	**338**	P	**P**	**19 02 36.5**	**+1.2**
	SNR=15						
UCH	**Uchtor**	**45.64**	**337**	P	**P**	**19 02 42.1**	**+1.4**
	SNR=18						
TKM2	**Tokmak 2**	**45.81**	**338**	*e*P	**P**	**19 02 40.8**	**-1.0**
	comp=Z,14nm,1.0s						
KBK	**Karagaybulak**	**45.83**	**337**	P	**P**	**19 02 43.9**	**+2.0**
	SNR=14						
AML	**Almayashu**	**45.89**	**336**	P	**P**	**19 02 44.2**	**+1.6**
	SNR=15						
KSAR	**Wonju Array Be**	**45.95**	**35**	P	**P**	**19 02 42.5**	**-0.2**
KSRS	**Korea Array**	**45.98**	**35**	P	**P**	**19 02 42.5**	**-0.4**
	comp=Z,18nm,0.9s,baz=223,slow=8.9,SNR=27						
KSRS				LR	LR	19 22 27.2	
	comp=Z,167nm,18.7s,baz=238,slow=37						
AAK	**Ala-Archa**	**45.99**	**337**	P	P	19 02 49.6	+6.5
	SNR=5.6						
AAK	**Ala-Archa**	**45.99**	**337**	*e*P	**P**	**19 02 44.6**	**+1.4**
	comp=Z,23nm,1.4s						
EKS2	**Erkin-Say**	**46.30**	**336**	P	**P**	**19 02 47.4**	**+1.9**
	SNR=13						
EKS2	**Erkin-Say**	**46.30**	**336**	*e*P	**P**	**19 02 47.0**	**+1.5**
	comp=Z,7.5nm,0.8s						
USP	**Ospenovka**	**46.52**	**337**	P	**P**	**19 02 48.5**	**+1.3**
	SNR=22						
SNY	**Shenyang**	**47.02**	**27**	⇑P	**P**	**19 02 50.6**	**-0.4**
SNY				PMZ			
	comp=Z,22nm,1.0s						
SNY				PMZ			
	comp=Z,190nm,4.0s						
SNY				LN			
	comp=Z,580nm,17.2s						
SNY				LE			
	comp=Z,570nm,12.4s						
SNY				LZ			
	comp=Z,570nm,17.4s						
SONM	**Songino Array**	**47.21**	**9**	P	**P**	**19 02 52.9**	**+0.4**
	comp=Z,4.8nm,0.5s,baz=188,slow=9.0,SNR=98						
SONM				PcP	**PcP**	**19 04 24.3**	**+0.7**
	comp=Z,1.8nm,0.4s,baz=188,slow=4.2,SNR=13						
MKAR	**Makanchi Array**	**47.26**	**346**	P	**P**	**19 02 53.5**	**+0.7**
	comp=Z,9.8nm,0.6s,baz=164,slow=8.0,SNR=206						
ULN	**Ulaanbaatar**	**47.34**	**9**	*e*P	**P**	**19 02 53.7**	**+0.1**
	comp=Z,6.7nm,0.8s						
KKAR	**Karatay Array**	**48.04**	**334**	*e*P	**P**	**19 02 59.6**	**+0.6**
	comp=Z,13nm,1.0s						
CN2	**Changchun**	**49.42**	**27**	*e*P	**P**	**19 03 09.4**	**-0.1**
CN2				*e*S	**S**	**19 10 15.6**	**+1.2**
CN2				PMZ			
	comp=Z,30nm,1.0s						
CN2				PMZ			
	comp=Z,200nm,3.0s						
CN2				LN			
	comp=Z,600nm,13.0s						
CN2				LE			
	comp=Z,600nm,13.0s						
CN2				LZ			
	comp=Z,600nm,17.0s						
TLY	**Talaya**	**50.66**	**5**	P	**P**	**19 03 19.5**	**+0.7**
	comp=Z,4.2nm,0.6s,baz=217,slow=4.8,SNR=9.0						
TLY	**Talaya**	**50.66**	**5**	*e*P	**P**	**19 03 19.4**	**+0.6**
	comp=Z,3.7nm,0.8s						
GEYT	**Alibeck**	**51.16**	**320**	P	**P**	**19 03 23.6**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=148,slow=8.7,SNR=8.2						
GEYT				LR	LR	19 27 42.1	
	comp=Z,105nm,19.9s,baz=115,slow=39						
HIA	**Hailar**	**51.74**	**19**	*e*P	**P**	**19 03 27.0**	**+0.1**
	comp=Z,18nm,1.0s						
KURK	**Kurchatov**	**51.80**	**345**	*e*P	**P**	**19 03 27.7**	**+0.3**
	comp=Z,11nm,1.1s						
MDJ	**Mudanjiang**	**51.99**	**29**	P	**P**	**19 03 29.9**	**+1.0**
MDJ				pP	**pP**	**19 03 38.6**	**-0.5**
MDJ				sP	**sP**	**19 03 43.3**	**+0.2**
MDJ				PcP	**PcP**	**19 04 42.4**	**+1.4**
MDJ				PP	**PP**	**19 05 23.8**	**-3.4**
MDJ				S	**S**	**19 10 48.6**	**-1.4**
MDJ				sS	sS	19 11 10.3	+3.5
MDJ				ScS	ScS	19 13 07.9	-8.6
MDJ				SS	SS	19 14 20.9	-6.6
MDJ				PMZ			
	comp=Z,21nm,1.1s						
MDJ				PMZ			
	comp=Z,130nm,5.0s						
MDJ				LN			
	comp=Z,360nm,12.9s						
MDJ				LE			
	comp=Z,300nm,17.0s						
MDJ				LZ			
	comp=Z,410nm,17.0s						
MDJ	**Mudanjiang**	**51.99**	**29**	*e*P	**P**	**19 03 29.0**	**+0.1**
OPO	**Ambohidratompo**	**52.76**	**246**	LR	LR	19 21 49.4	
	comp=Z,171

comp=Z,9.3nm,1.0s
SEY Seymchan 73.87 23 P **P 19 05 54.2 +0.1**
comp=Z,5.2nm,0.7s,baz=240,slow=5.9,SNR=30
TIRR Tirgusor 74.05 316 ⇑ *i*P P 19 06 02.0 +6.5
CFR Carcaliu 74.42 317 ⇑ *i*P **P 19 05 58.7 +1.1**
BOSA Boshof 74.62 240 LR LR 19 33 48.1
comp=Z,77nm,20.5s,baz=119,slow=32
JMB Yambol 74.88 314 ⇑ *i*P P 19 06 09.4 +9.0
AKASG Malin Array Be 75.21 322 P **P 19 06 01.4 -0.7**
comp=Z,0.8nm,0.4s,baz=86,slow=5.6,SNR=6.8
VRI Vrincioaia 75.55 317 ⇓ *i*P **P 19 06 04.8 +0.6**
TESR Tescani 75.76 318 ⇑ *i*P P 19 06 12.6 +7.3
VOIR 76.60 317 ⇑ *i*P **P 19 06 10.6 +0.3**
BURAR Bucovina Array 76.96 319 ⇓ *i*P **P 19 06 13.9 +1.6**
TRPA Tarpa 78.83 319 ⇓ *i*P **P 19 06 24.1 +1.6**
SUR Sutherland 79.00 237 LR LR 19 34 25.2
comp=Z,113nm,19.1s,baz=72,slow=30
BZS Buzias 79.01 316 ⇓ *i*P **P 19 06 24.4 +0.9**
KWP Kalwaria Pacla 79.01 320 ⇑ *i*P **P 19 06 23.5 0.0**
KOLS Kolonicke sedl 79.16 320 *e*P **P 19 06 26.4 +2.1**
KOLS *e* 19 12 11.4
STHS Stebnicka Huta 79.91 320 *e*P **P 19 06 29.8 +1.4**
STHS epP **PKiKP 19 11 55.6 -3.3**
FINES FINESS Array B 79.97 333 P **P 19 06 28.1 -0.3**
comp=Z,1.6nm,0.5s,baz=100,slow=7.3,SNR=12
PSZ Piszkesteto 80.55 318 ⇑ *i*P **P 19 06 32.3 +0.4**
VYHS Vyhne 81.33 319 *e*P **P 19 06 37.5 +1.5**
MORC Moravsky Berou 82.34 320 *e*P **P 19 06 41.3 -0.1**
comp=Z,4.7nm,1.0s
ARCES ARCESS Array B 82.53 340 P **P 19 06 42.5 +0.6**
comp=Z,3.4nm,0.8s,baz=95,slow=3.9,SNR=12
KRLC Kraliky 82.87 320 *e*P **P 19 06 45.0 +0.9**
KRLC epP **pP 19 06 52.6 -2.2**
DPC Dobruska-Polom 83.19 320 *e*P **P 19 06 45.2 -0.6**
DPC epP **pP 19 06 54.4 -2.1**
GERES GERESS Array B 84.75 319 P **P 19 06 54.2 +0.3**
comp=Z,1.6nm,0.9s,baz=125,slow=6.7,SNR=9.5
BRG Berggiesshubel 84.75 321 *e*PKP 19 12 24.3
comp=Z,12nm,1.5s
VNDA Vanda 85.80 169 P **P 19 07 00.0 +1.7**
comp=Z,0.3nm,0.5s,baz=314,slow=3.4,SNR=3.2
VNDA LR LR 19 42 21.1
comp=Z,86nm,19.7s,baz=294,slow=34
NB2 NORSAR Subarra 86.98 331 P **P 19 07 04.5 0.0**
comp=Z,6.3nm,1.2s,baz=91,slow=6.2
NOA NORSAR Array B 86.98 331 P **P 19 07 04.8 +0.3**
comp=Z,2.0nm,0.9s,baz=91,slow=5.0,SNR=5.8
KEST Kesra 87.47 306 LR LR 19 50 46.4
comp=Z,21nm,19.0s,baz=274,slow=39
TKL Tuckaleechee C 143.38 1 PKP **PKPdf 19 13 54.2 -0.2**
comp=Z,4.2nm,0.8s,baz=341,slow=18,SNR=3.1
TXAR Lajitas Array 143.80 32 PKP PKPbc 19 13 53.8 +0.7
comp=Z,0.7nm,0.5s,baz=341,slow=0.3,SNR=8.7
JCT Junction City 144.69 26 *e*PKPdf **PKPab 19 13 55.6 0.0**

ISCJB ***15*** *18:57:23.2±0.7, 35.°56S±0.°04×73.°29W±0.°06, h17km, mb3.7/7, MS4.0/3, Error ellipse: s-maj=7.4km s-min=6.3km az=8.9*
IDC ***15*** *18:57:23.4±0.8, 35.°59S×72.°71W, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.7/35, mbtmp3.6/10, ML3.4/3, MS3.4/3, Ms1 3.4/3, ms1mx3.0/32, Error ellipse: s-maj=31.0km s-min=15.6km az=86.0*
GUC ***15*** *18:57:25.0±0.4, 35.°59S×73.°22W, h30km±4km, ML4.6*
ISC 15 18:57:25.7±0.8, 35.°63S±0.°05×73.°03W±0.°07, h17km, n20, σ1§37/21, mb3.6/7, MS3.8/3, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.54**	**159**	⇓ *i*P	**Pb**	**18 57 37.2**	**+0.5**
COCH				*i* S	**Sn**	**18 57 46.4**	**-0.9**
TALC	**Talca**	**1.16**	**79**	*i* S	**Sg**	**18 58 04.9**	**+1.6**
LNCH	**Linares**	**1.18**	**101**	⇑ *i*P	**Pb**	**18 57 48.0**	**+0.3**
LNCH				*i* S	**Sg**	**18 58 05.6**	**+1.6**
NICH	**Los Niches**	**1.60**	**68**	*i* P	**Pb**	**18 57 54.5**	**-0.2**
NICH				*i* S	**Sg**	**18 58 16.6**	**-0.7**
NICH				IAML		18 58 32.8	
comp=N,8μm,0.9s							
CLCH	**Cerro Calan**	**3.03**	**43**	*e*P	**Pn**	**18 58 13.6**	**+0.6**
CLCH				*i* S	**Sn**	**18 58 50.4**	**+1.5**
CLCH				IAML		18 59 08.0	
comp=E,2μm,0.6s							
PEL	**Peldehue**	**3.15**	**39**	*e*P	**Pn**	**18 58 15.0**	**+0.4**
PEL				IAML		18 59 09.3	
comp=E,1μm,1.0s							
PLCA	**Paso Flores**	**5.46**	**160**	Pn	**Pn**	**18 58 47.2**	**+0.9**
comp=E,0.5nm,0.3s,baz=324,slow=11,SNR=14							
PLCA				Lg	Lg	19 00 15.7	
comp=E,1.1nm,0.3s,baz=68,slow=19,SNR=3.4							
PLCA				LR	LR	19 00 58.6	
comp=E,110nm,18.6s,baz=316,slow=40							
CFAA	**Coronel Fontan**	**5.66**	**46**	Pn	**Pn**	**18 58 47.9**	**-1.3**
comp=E,0.2nm,0.3s,baz=196,slow=18,SNR=9.8							
CFAA				Lg	Lg	19 00 11.8	
comp=E,0.4nm,0.3s,baz=99,slow=17,SNR=6.7							
CFAA				LR	LR	19 01 24.0	
comp=E,30nm,18.0s,baz=236,slow=44							
LPAZ	**La Paz**	**19.75**	**14**	P	**P**	**19 01 55.1**	**-0.3**
comp=E,0.1nm,0.3s,baz=176,slow=12,SNR=2.4							
SIV	**San Ignacio**	**22.28**	**32**	P	**P**	**19 02 18.5**	**-3.7**
comp=E,1.2nm,0.6s,baz=238,slow=11,SNR=2.8							
BDFB	**Brasilia**	**29.93**	**55**	LR	LR	19 16 42.2	
comp=E,129nm,20.7s,baz=209,slow=39							
SNAA	**Sanae**	**50.40**	**157**	P	**P**	**19 06 21.7**	**0.0**
comp=E,1.9nm,1.0s,baz=293,slow=7.7,SNR=3.1							
QSPA	**South Pole Qui**	**54.61**	**180**	P	**P**	**19 06 53.4**	**+0.3**
comp=E,1.4nm,0.9s,baz=256,slow=4.2,SNR=3.7							
TXAR	**Lajitas Array**	**70.77**	**332**	P	**P**	**19 08 42.3**	**+1.1**
comp=E,0.1nm,0.4s,baz=123,slow=6.5,SNR=2.3							
DBIC	**Dimbokro**	**76.47**	**72**	P	**P**	**19 09 14.4**	**-0.4**
comp=E,4.1nm,0.9s,baz=256,slow=8.3,SNR=3.0							
PDAR	**Pinedale Array**	**84.85**	**334**	P	**P**	**19 10 01.4**	**+2.0**
comp=E,0.1nm,0.6s,baz=142,slow=6.1,SNR=2.0							
TORD	**Torodi Ar. Bea**	**85.53**	**70**	P	**P**	**19 10 01.6**	**-1.6**
comp=E,0.3nm,0.8s,baz=235,slow=4.6,SNR=2.4							
ESDC	**Sonseca Array**	**98.29**	**47**	LR	LR	19 53 42.1	
comp=E,33nm,20.5s,baz=105,slow=34							
BBB	**Bella Bella**	**99.78**	**329**	LR	LR	19 53 51.1	
comp=E,194nm,19.0s,baz=286,slow=34							
WRA	**Warramunga Arr**	**118.95**	**210**	PKP	**PKPdf**	**19 16 13.2**	**-0.7**
comp=E,0.4nm,1.1s,baz=145,slow=1.8,SNR=2.7							

NIED ***15*** *18:59:00.25.°40N×128.°60E, h5km, Mw4.4 Best double couple: M0=3.79000×10^15 NP1:φ=44.00000°, δ=31.00000°, λ=-94.00000°. NP2:φ=229.00000°, δ=59.00000°, λ=-88.00000°.*
ISCJB ***15*** *18:59:29.3±0.9, 25.°44N±0.°02×128.°47E±0.°03, h1km±5km, mb4.6/47, MS4.0/8, Error ellipse: s-maj=4.6km s-min=3.5km az=37.7*
BJI ***15*** *18:59:30.1, 25.°45N×128.°47E, h10km, mB4.8/36, mb4.4/47, Ms4.5/36, Ms7 4.3/35*
IDC ***15*** *18:59:30.2±0.6, 25.°39N×128.°54E, h0km, mb4.4/19, mb1 4.5/22, mb1mx4.4/43, mbtmp4.4/22, ML3.8/3, MS3.7/5, Ms1 3.7/5, ms1mx3.1/37, Error ellipse: s-maj=20.0km s-min=12.5km az=81.0*
NEIC ***15*** *18:59:31.9±0.3, 25.°41N×128.°44E, h10km, mb4.8/7, MW4.3(NIED), Error ellipse: s-maj=7.8km s-min=5.7km az=115.0*
JMA ***15*** *18:59:32.3±0.2, 25.°44N×128.°56E, h49km, M4.2*
MOS ***15*** *18:59:33.7±1.2, 25.°49N×128.°55E, h33km, mb4.9/24, Error ellipse: s-maj=11.5km s-min=6.0km az=107.6*
ISC 15 18:59:32.7±0.6, 25.°45N±0.°04×128.°52E±0.°03, h17km±3km, n179, σ1§76/214, mb4.6/47, MS3.9/8, 8C-16D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.97**	**315**	P	**Pb**	**18 59 50.5**	**-0.7**
JJT2				*e*S	**Sb**	**19 00 03.6**	**-0.2**
JNTH	**Nagotoyohara**	**1.15**	**337**	P	**Pn**	**18 59 52.5**	**-1.6**
JNTH				S	**Sb**	**19 00 07.6**	**-1.3**
JOW	**Kunigami**	**1.39**	**351**	P	**Pn**	**18 59 56.3**	**-1.2**
JOW				*e*S	**Sn**	**19 00 13.0**	**-2.4**
JOW	**Kunigami**	**1.39**	**351**	*e*P	**Pn**	**18 59 56.2**	**-1.2**
JAGN	**Aguni-jima**	**1.61**	**315**	P	**Pn**	**18 59 59.6**	**-0.8**
JAGN				*e*S	**Sn**	**19 00 18.8**	**-2.0**
JIH	**Iheya**	**1.65**	**343**	P	**Pn**	**19 00 00.4**	**-0.6**
JIH				S	**Sn**	**19 00 20.6**	**-1.2**
JKE	**Kume jima 2**	**1.79**	**300**	P	**Pn**	**19 00 01.6**	**-1.2**
JKE				*e*S	**Sn**	**19 00 23.3**	**-1.9**
JOKE	**Okinoerabujima**	**1.90**	**1**	P	**Pn**	**19 00 03.6**	**-0.8**
JOKE				*e*S	**Sn**	**19 00 26.4**	**-1.6**
JTK	**Tokunoshima**	**2.36**	**9**	P	**Pn**	**19 00 09.9**	**-0.8**
JTK				*e*S	**Sn**	**19 00 35.6**	**-3.6**
JMZ	**Minamidaito 2**	**2.47**	**81**	P	**Pn**	**19 00 10.0**	**-2.2**
JMZ				*e*S	**Sn**	**19 00 37.7**	**-4.2**
JAMN	**Amaminishikomi**	**2.84**	**12**	P	**Pn**	**19 00 16.7**	**-0.6**
JAMN				*e*S	**Sn**	**19 00 49.0**	**-2.2**
JOGS	**Gusukube**	**2.90**	**257**	P	**Pn**	**19 00 17.5**	**-0.7**
JOGS				*e*S	**Sn**	**19 00 50.5**	**-2.2**
JMJ	**Miyako jima 2**	**2.99**	**258**	P	**Pn**	**19 00 18.5**	**-0.9**
JMJ				*e*S	**Sn**	**19 00 52.7**	**-2.2**
JIKM	**Ikemajima**	**3.01**	**261**	P	**Pn**	**19 00 18.8**	**-0.8**
JIKM				*e*S	**Sn**	**19 00 53.6**	**-1.7**
JIRB	**Irabujima**	**3.10**	**259**	P	**Pn**	**19 00 19.7**	**-1.1**
JIRB				*e*S	**Sn**	**19 00 54.3**	**-3.1**
JAM	**Amami Oshima**	**3.10**	**18**	P	**Pn**	**19 00 19.9**	**-1.0**
JAM				*e*S	**Sn**	**19 00 54.3**	**-3.3**
JZK	**Kikaishima**	**3.13**	**24**	P	**Pn**	**19 00 21.9**	**+0.5**
JZK				*e*S	**Sn**	**19 00 57.1**	**-1.3**
JTJ	**Tarama**	**3.55**	**258**	P	**Pn**	**19 00 25.9**	**-1.2**
JTJ				*e*S	**Sn**	**19 01 04.7**	**-4.1**
JTAJ	**Takarajima**	**3.74**	**9**	P	**Pn**	**19 00 29.0**	**-0.6**
JISG	**Ishigakijimahi**	**3.91**	**258**	P	**Pn**	**19 00 30.2**	**-1.9**
JIJ	**Ishigaki jima**	**4.12**	**256**	P	**Pn**	**19 00 33.5**	**-1.4**
JIJ				*e*S	**Sn**	**19 01 17.7**	**-5.0**
JKRS	**Kuro-shima**	**4.27**	**255**	P	**Pn**	**19 00 36.5**	**-0.5**
IRIF	**Iriomote-Funau**	**4.49**	**257**	P	**Pn**	**19 00 39.6**	**-0.4**
NACB	**Ninganchiao**	**6.42**	**260**	*e*P	**Pn**	**19 01 03.9**	**-2.7**
57nm,0.3s							
YHNB	**Yeheng**	**6.52**	**265**	*e*P	**Pn**	**19 01 07.2**	**-0.9**
YULB	**Yu-li**	**6.89**	**254**	*e*P	Pn	19 01 08.2	-4.9
32nm,1.0s							
SSLB	**Suanglung**	**7.08**	**258**	*e*P	**Pn**	**19 01 13.1**	**-2.5**
31nm,0.8s							
TWG	**Pinlang**	**7.29**	**250**	*e*P	Pn	19 01 14.0	-4.5
265nm,0.7s							
TPUB	**Ta-pu**	**7.50**	**255**	*e*P	**Pn**	**19 01 19.4**	**-2.0**
46nm,0.9s							
JNU	**Nakatsue**	**7.92**	**15**	Pn	**Pn**	**19 01 27.6**	**+0.4**
3.0nm,0.3s,baz=179,slow=10,SNR=44							
JNU				Sn	**Sn**	**19 02 50.9**	**-5.5**
0.9nm,0.3s,baz=71,slow=18,SNR=2.4							
JNU	**Nakatsue**	**7.92**	**15**	*e*P	**Pn**	**19 01 27.5**	**+0.4**
17nm,0.9s							
JNU				Sn	**Sn**	**19 02 50.9**	**-5.5**
NJ2	**Nanjing**	**10.73**	**310**	*e*P	**Pn**	**19 02 04.6**	**-1.0**
NJ2				S	**Sn**	**19 04 04.0**	**-1.3**
NJ2				PMZ			
30nm,0.6s							
NJ2				LN			
3μm,13.9s							
NJ2				LE			
3μm,12.4s							
NJ2				LZ			
5μm,12.6s							
KSAR	**Wonju Array Be**	**11.97**	**358**	P	**Pn**	**19 02 22.4**	**-0.1**
KSAR	**Wonju Array Be**	**11.97**	**358**	Pn	**Pn**	**19 02 22.4**	**-0.1**
KSRS	**Korea Array**	**11.98**	**358**	P	**Pn**	**19 02 22.4**	**-0.3**
KSRS				MLR	MLR		
comp=Z,15nm,28.6s							
KSRS	**Korea Array**	**11.98**	**358**	Pn	**Pn**	**19 02 22.4**	**-0.3**
comp=Z,0.1nm,0.3s,baz=180,slow=15,SNR=4.2							
KSRS				LR	LR	19 07 47.5	
comp=Z,102nm,19.1s,baz=188,slow=41							
WHN	**Wuhan**	**13.50**	**295**	P	P	19 03 03.4	+11
WHN				S	S	19 05 49.4	+13
MAT	**Matsushiro**	**13.82**	**35**	P	**Pn**	**19 02 47.8**	**-0.1**
MJAR	**Matsushiro Arr**	**13.82**	**35**	Pn	**Pn**	**19 02 48.2**	**+0.3**
comp=Z,0.2nm,0.3s,baz=222,slow=10,SNR=3.2							
BJT	**Baijiatuan**	**17.83**	**328**	*e*P	**P**	**19 03 41.0**	**+0.3**
BJT	**Baijiatuan**	**17.83**	**328**	*e*P	**P**	**19 03 41.0**	**+0.3**
BJI	**Beijing**	**17.84**	**328**	P	**Pn**	**19 03 39.9**	**-0.3**
BJI				S	**Sn**	**19 06 59.8**	**+1.1**
BJI				PMZ			
comp=Z,17nm,1.0s							
BJI				PMZ			
comp=Z,190nm,5.4s							
BJI				LN			
comp=Z,480nm,10.4s							
BJI				LE			
comp=Z,420nm,19.4s							
QIZ	**Qiongzhong**	**18.42**	**253**	P	**P**	**19 03 45.3**	**-2.1**
QIZ				S	**Sn**	**19 07 10.3**	**-2.7**
QIZ				PMZ			
comp=Z,16nm,2.5s							
QIZ				LN			
comp=Z,650nm,13.4s							
QIZ				LZ			
comp=Z,650nm,12.7s							
CN2	**Changchun**	**18.48**	**353**	*e*P	**Pn**	**19 03 48.8**	**+0.9**
CN2				*e*S	**Sn**	**19 07 15.1**	**+1.1**
CN2				PMZ			
comp=Z,20nm,1.4s							
CN2				PMZ			
comp=Z,200nm,4.0s							
CN2				LN			
comp=Z,500nm,15.0s							
CN2				LE			
comp=Z,400nm,15.0s							
CN2				LZ			
comp=Z,400nm,13.0s							
XAN	**Xi'an**	**19.02**	**301**	P	**P**	**19 03 53.4**	**-0.5**
XAN				PMZ			
comp=Z,4.0nm,1.2s							
XAN				PMZ			
comp=Z,45nm,5.4s							
MDJ	**Mudanjiang**	**19.14**	**2**	P	**Pn**	**19 03 55.8**	**-0.2**
MDJ				PMZ			
comp=Z,9.0nm,1.6s							
MDJ				PMZ			
comp=Z,95nm,4.5s							
GYA	**Guiyang**	**19.68**	**278**	⇓ *i*P	**P**	**19 04 01.8**	**+0.6**
GYA				PP	**PnPn**	**19 04 20.5**	**+4.1**
GYA				S	S	19 07 35.4	-7.4
GYA				SS	**SnSn**	**19 08 02.0**	**+4.3**
GYA				PMZ			
comp=Z,50nm,1.0s							
GYA				PMZ			
comp=Z,120nm,4.8s							
GYA				LN			
comp=Z,560nm,12.3s							
GYA				LE			
comp=Z,480nm,13.0s							
GYA				LZ			
comp=Z,560nm,11.6s							
ERM	**Erimo**	**20.47**	**33**	⇓ *i*P	**P**	**19 04 09.5**	**-0.1**
ERM				pmax	pmax		
comp=Z,19nm,0.8s							
HHC	**Hu-ho-hao-te**	**20.85**	**322**	*e*P	Pn	19 04 15.3	-1.1
HHC				pP	pP	19 04 20.0	+1.3
HHC				PP	**PnPn**	**19 04 37.4**	**+5.0**
HHC				S	**S**	**19 08 00.6**	**-5.4**
HHC				PMZ			
comp=Z,31nm,1.4s							
HHC				PMZ			
comp=Z,310nm,4.6s							
HHC				LN			
comp=Z,1μm,10.3s							
HHC				LE			
comp=Z,750nm,12.3s							
HHC				LZ			
comp=Z,1μm,11.0s							
CD2	**Chengdu**	**22.47**	**290**	P	**P**	**19 04 30.8**	**-0.5**
CD2				PP	**PnPn**	**19 04 53.8**	**-0.7**
CD2				S	**S**	**19 08 31.0**	**-6.4**
CD2				SS	SnSn	19 09 17.3	+11
CD2				PMZ			
comp=Z,20nm,1.2s							
CD2				PMZ			
comp=Z,220nm,8.3s							
CD2				LN			
comp=Z,2μm,13.1s							
CD2				LE			
comp=Z,1μm,13.1s							
CD2				LZ			
comp=Z,1μm,9.5s							
KMI	**Kunming**	**23.30**	**275**	P	**P**	**19 04 41.3**	**+1.1**
KMI				PMZ			
comp=Z,19nm,1.2s							
HABR	**Khabarovsk**	**23.55**	**11**	*e*P	P	19 04 49.9	+7.8
HABR				*e**SP	sP	19 04 54.3	+5.1
HABR				*e*PPP	PPP	19 05 16.8	
HABR				S	**S**	**19 08 53.5**	**-1.8**
HABR				*e**SS	Sn	19 09 09.6	-6.1
HABR				*e*SS	**SnSn**	**19 09 32.0**	**-0.2**
HABR				*e*		19 15 47.1	
HABR				MLR	MLR		
comp=Z,130nm,16.0s							
LZH	**Lanzhou**	**23.64**	**303**	*e*P	**P**	**19 04 42.4**	**-1.0**
LZH				pP	**pP**	**19 04 46.0**	**-2.4**
LZH				sP	**sP**	**19 04 48.8**	**-1.7**
LZH				PMZ			
comp=Z,19nm,1.0s							
LZH				PMZ			
comp=Z,180nm,4.5s							
LZH				LN			
comp=Z,450nm,11.0s							
LZH				LE			
comp=Z,850nm,15.6s							
LZH				LZ			
comp=Z,750nm,13.6s							
YSS	**Yuzh-Sakhalins**	**24.27**	**24**	*e*P	**P**	**19 04 50.9**	**+2.0**
YSS				pmax	pmax		
comp=Z,40nm,1.0s							
YSS	**Yuzh-Sakhalins**	**24.27**	**24**	*e*P	**P**	**19 04 49.8**	**+0.9**
comp=Z,34nm,0.8s							
GTA	**Gaotai**	**27.80**	**307**	*e*P	**P**	**19 05 20.4**	**-0.8**
GTA				pP	**pP**	**19 05 24.6**	**-1.7**
GTA				sP	**sP**	**19 05 28.3**	**-0.1**
GTA				S	**S**	**19 10 00.6**	**-2.9**
GTA				PMZ			
comp=Z,7.0nm,1.3s							
GTA				PMZ			
comp=Z,71nm,5.4s							
GTA				LN			
comp=Z,600nm,12.3s							
GTA				LE			
comp=Z,490nm,12.3s							
GTA				LZ			
comp=Z,520nm,14.1s							
ULN	**Ulaanbaatar**	**28.05**	**328**	*e*P	**P**	**19 05 24.8**	**+1.5**
ULN	**Ulaanbaatar**	**28.05**	**328**	*e*P	**P**	**19 05 24.8**	**+1.5**
CHTO	**Chiang Mai**	**28.14**	**262**	*e*P	**P**	**19 05 25.3**	**+1.1**
CHTO	**Chiang Mai**	**28.14**	**262**	*e*P	**P**	**19 05 25.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**28.26**	**262**	P	**P**	**19 05 26.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**28.26**	**262**	P	**P**	**19 05 25.9**	**+0.7**
comp=Z,2.1nm,1.0s,baz=62,slow=8.2,SNR=5.4							
SONM	**Songino Array**	**28.35**	**328**	P	**P**	**19 05 27.4**	**+1.5**
comp=Z,1.8nm,0.6s,baz=145,slow=11,SNR=7.1							
TLY	**Talaya**	**32.32**	**331**	*e*P	P	19 06 12.2	+11
TLY				pmax	pmax		
comp=Z,5.0nm,1.3s							
BATI	**Baumata**	**35.76**	**188**	P	**P**	**19 06 28.6**	**-2.4**
comp=Z,20nm,0.7s,baz=334,slow=4.1,SNR=11							
TAPN	**Taplejung**	**36.49**	**282**	*e*P	**P**	**19 06 38.6**	**+1.0**
comp=Z,25nm,1.1s							
YAK	**Yakutsk**	**36.58**	**1**	*e*P	**P**	**19 06 37.2**	**-0.3**
YAK				pmax	pmax		
comp=Z,66nm,0.9s							
YAK				pmax	pmax		
comp=N,31nm,1.1s							
YAK	**Yakutsk**	**36.58**	**1**	*e*P	**P**	**19 06 37.6**	**+0.1**
comp=N,91nm,1.1s							
ODAN	**Odare**	**36.83**	**281**	*e*P	**P**	**19 06 41.4**	**+1.0**
comp=N,61nm,1.0s							
RAMN	**Ramîte**	**37.52**	**282**	*e*P	**P**	**19 06 47.0**	**+0.7**
comp=N,32nm,1.2s							
JIRN	**Jiri**	**37.80**	**283**	*e*P	**P**	**19 06 49.7**	**+0.9**
comp=N,6.6nm,0.6s							
WMQ	**Urumqi**	**37.81**	**309**	*e*P	**P**	**19 06 49.5**	**+1.2**
WMQ				PMZ			
comp=N,4.0nm,1.0s							
WMQ				PMZ			
comp=N,180nm,5.2s							
WMQ				LN			
comp=N,94nm,24.0s							
WMQ				LE			
comp=N,250nm,24.0s							
WMQ				LZ			
comp=N,150nm,22.0s							
GUN	**Gumba**	**38.04**	**283**	*e*P	**P**	**19 06 51.4**	**+0.6**
comp=N,29nm,0.9s							
PKI	**Pulchoki**	**38.49**	**283**	*e*P	**P**	**19 06 55.2**	**+0.6**
comp=N,32nm,0.9s							
PKIN	**Phulchoki**	**38.50**	**283**	*e*P	**P**	**19 06 55.0**	**+0.4**
comp=N,23nm,1.0s							
KKN	**Kakani**	**38.58**	**283**	*e*P	**P**	**19 06 56.1**	**+0.9**
comp=N,30nm,0.9s							
DMN	**Daman**	**38.76**	**283**	*e*P	**P**	**19 06 57.6**	**+0.9**
comp=N,41nm,1.0s							
PMG	**Port Moresby**	**39.12**	**150**	LR	LR	19 21 02.2	
comp=N,130nm,20.6s,baz=272,slow=33							
GKN	**Gorkha**	**39.12**	**284**	*e*P	**P**	**19 07 00.4**	**+0.7**
comp=N,49nm,1.0s							
DANN	**Dangsing**	**39.85**	**284**	*e*P	**P**	**19 07 07.1**	**+1.2**
comp=N,63nm,0.8s							
KOLN	**Koldanda**	**40.06**	**284**	*e*P	**P**	**19 07 08.8**	**+1.2**
comp=N,31nm,0.9s							
SEY	**Seymchan**	**40.69**	**16**	P	**P**	**19 07 12.8**	**+0.7**
comp=N,2.5nm,0.6s,baz=192,slow=12,SNR=4.8							
MKAR	**Makanchi Array**	**42.25**	**312**	*i* P	**P**	**19 07 24.8**	**-0.3**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.6s							
MKAR	**Makanchi Array**	**42.25**	**312**	P	**P**	**19 07 24.9**	**-0.2**
comp=Z,2.9nm,0.6s,baz=93,slow=10,SNR=17							
ZALV	**Zalesovo Beam**	**43.02**	**323**	*i* P	**P**	**19 07 31.7**	**+0.5**
ZALV				pmax	pmax		
comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**43.02**	**323**	P	**P**	**19 07 30.4**	**-0.9**
comp=Z,0.8nm,0.3s,baz=120,slow=8.2,SNR=3.5							
WRAB	**Tennant Creek**	**45.47**	**172**	*e*P	**P**	**19 07 51.8**	**+0.7**
WRAB				pmax	pmax		
comp=Z,60nm,2.5s							
WRA	**Warramunga Arr**	**45.48**	**172**	*i* P	**P**	**19 07 51.4**	**+0.2**
WRA				pmax	pmax		
comp=Z,9.0nm,0.8s							
WRA	**Warramunga Arr**	**45.48**	**172**	P	**P**	**19 07 51.4**	**+0.2**
comp=Z,8.7nm,0.8s,baz=353,slow=8.6,SNR=39							
WB2	**Warramunga Arr**	**45.48**	**172**	*e*P	**P**	**19 07 51.6**	**+0.4**
KURK	**Kurchatov**	**45.56**	**317**	*e*P	**P**	**19 07 50.5**	**-1.1**
KURK	**Kurchatov**	**45.56**	**317**	*e*P	**P**	**19 07 50.5**	**-1.1**
KSH	**Kashi**	**45.88**	**301**	P	**P**	**19 07 57.0**	**+2.5**
KSH				sP	**sP**	**19 08 04.1**	**+2.3**
KSH				PP	**PP**	**19 09 45.1**	**+3.1**
KSH				S	**S**	**19 14 40.9**	**+2.6**
KSH				SS	**SS**	**19 17 57.0**	**-5.8**
KSH				PMZ			
comp=Z,3.0nm,0.7s							
KSH				PMZ			
comp=Z,120nm,4.0s							
KSH				LN			
comp=Z,93nm,6.0s							
KSH				LE			
comp=Z,77nm,5.2s							
KSH				LZ			
comp=Z,180nm,5.8s							
TIXI	**Tiksi**	**46.23**	**0**	*e*P	**P**	**19 07 56.1**	**-0.5**
TIXI				pmax	pmax		
comp=Z,5.0nm,1.5s							
TIXI	**Tiksi**	**46.23**	**0**	*e*P	**P**	**19 07 57.3**	**+0.7**
comp=Z,6.5nm,1.1s							
AAK	**Ala-Archa**	**

comp=Z,7.0nm,1.2s
ARU Arti 58.16 322 *eP* **P 19 09 26.5 +1.0**
STKA Stephens Creek 58.36 167 P **P 19 09 26.1 -0.9**
comp=Z,3.0nm,0.7s,baz=350,slow=6.7,SNR=10
GEYT Alibeck 59.91 301 P **P 19 09 39.1 +1.1**
comp=Z,6.7nm,0.9s,baz=41,slow=2.7,SNR=16
PRGR Permogore 64.60 328 *eP* **P 19 10 08.8 -0.1**
PRGR pmax pmax
comp=Z,46nm,1.2s
ILAR Eielson Array 65.00 28 P **P 19 10 11.1 -0.4**
comp=Z,1.3nm,0.8s,baz=266,slow=6.4,SNR=12
TMCR Tamitsa 67.61 332 *eP* **P 19 10 29.5 +1.3**
TMCR *e* 19 10 56.6
TMCR pmax pmax
comp=Z,22nm,1.1s
KLMR Klimovskoe 67.64 328 *eP* **P 19 10 27.8 -0.7**
KLMR pmax pmax
comp=Z,29nm,1.5s
VRHR Novokhopersk 68.74 317 *eP* **P 19 10 34.5 -1.1**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.8s
GOF Gofitskoye 69.39 311 *eP* **P 19 10 41.5 +1.8**
GOF pmax pmax
comp=Z,42nm,1.3s
ZEI Tsey 69.41 308 *eP* **P 19 10 40.5 +0.3**
ZEI pmax pmax
comp=Z,18nm,1.1s
KBZ Khabaz 69.85 310 P **P 19 10 44.4 +1.8**
comp=Z,19nm,0.9s,baz=88,slow=3.7,SNR=35
KBZ LR LR 19 44 43.6
comp=Z,44nm,18.9s,baz=108,slow=39
KIV Kislovodsk 69.94 310 *eP* **P 19 10 45.0 +1.7**
KIV pmax pmax
comp=Z,47nm,1.1s
KIV MLR MLR
comp=Z,54nm,17.0s
VORD Divnogorie 70.19 318 *eP* **P 19 10 44.1 -0.4**
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.9s
VSR Storozhevoye 70.20 318 *eP* **P 19 10 43.8 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,1.0s
OBN Obninsk 70.60 322⇓ *eP* **P 19 10 47.9 +1.0**
OBN *e* 19 11 07.8
OBN pmax pmax
comp=Z,24nm,1.2s
OBN MLR MLR
comp=Z,130nm,19.0s
JOF Joensuu 70.85 331 *eP* **P 19 10 48.0 -0.3**
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 70.85 331 *ep* **P 19 10 48.0 -0.3**
comp=Z,1.5nm,0.7s
ANN Anapa 73.27 312 *eP* **P 19 11 02.0 -1.1**
ANN pmax pmax
comp=Z,42nm,1.3s
KAF Kangasniemi 73.30 331 *eP* **P 19 11 01.9 -1.2**
KAF pmax pmax
comp=Z,3.0nm,0.8s
KAF Kangasniemi 73.30 331 *ep* **P 19 11 01.9 -1.2**
comp=Z,3.3nm,0.8s
FINES FINESS Array B 73.67 331 *i P* **P 19 11 05.8 +0.6**
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 73.67 331 P **P 19 11 05.3 +0.2**
comp=Z,3.0nm,0.8s,baz=56,slow=4.8,SNR=8.9
RAYN Ar Rayn 74.30 289 *eP* **P 19 11 09.9 +0.2**
comp=Z,4.7nm,0.9s
MALT Malatya 74.77 305⇑ *iP* P 19 11 15.9 +3.7
NACGM Naroch 75.96 324 *e* **P 19 11 18.0 -0.6**
AKASG Malin Array Be 76.29 320 *i P* **P 19 11 21.1 +0.5**
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 76.29 320 P **P 19 11 20.5 -0.1**
comp=Z,3.2nm,0.6s,baz=55,slow=5.8,SNR=11
AKASG LR LR 19 47 15.7
comp=Z,121nm,19.4s,baz=60,slow=38
KIEV Kiev 76.30 320 *eP* **P 19 11 20.8 +0.2**
KIEV pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 76.30 320 *eP* **P 19 11 20.8 +0.2**
comp=Z,3.9nm,0.7s
BRTR Keskin Array B 77.72 308 P **P 19 11 30.0 +1.0**
comp=Z,4.1nm,0.8s,baz=92,slow=5.1,SNR=25
URZ Urewera 78.04 143 LR LR 19 41 29.9
comp=Z,60nm,18.6s,baz=268,slow=32
SUW Suwalki 78.23 324 *eP* **P 19 11 31.4 0.0**
SUW Suwalki 78.23 324 *eP* **P 19 11 31.4 0.0**
YKA Yellowknife Ar 79.12 25 P **P 19 11 37.3 +1.2**
comp=Z,1.8nm,0.8s,baz=298,slow=5.2,SNR=26
TESR Tescani 79.59 317⇑ *iP* **P 19 11 40.9 +1.9**
VRI Vrincioaia 79.82 316⇓ *iP* **P 19 11 42.6 +2.3**
PLOR Plostina 79.88 316⇓ *iP* **P 19 11 42.7 +2.0**
BURAR Bucovina Array 79.98 318⇓ *iP* **P 19 11 42.8 +1.6**
NB2 NORSAR Subarra 80.12 334 P **P 19 11 41.5 -0.2**
comp=Z,2.2nm,0.7s,baz=53,slow=5.3
NOA NORSAR Array B 80.12 334 P **P 19 11 41.8 +0.1**
comp=Z,4.7nm,0.8s,baz=53,slow=5.2,SNR=14
MLR Muntele Rosu 80.48 316⇓ *iP* **P 19 11 46.0 +2.0**
KWP Kalwaria Pacla 80.53 321 *eP* **P 19 11 45.5 +1.4**
KWP pmax pmax
comp=Z,10.0nm,1.0s
KWP Kalwaria Pacla 80.53 321⇓ *iP* **P 19 11 46.0 +2.0**
KWP Kalwaria Pacla 80.53 321 *eP* **P 19 11 45.5 +1.4**
comp=Z,9.6nm,1.0s
DOPR Dopca 80.62 316⇓ *iP* **P 19 11 46.4 +1.8**
VOIR 81.07 316⇑ *iP* **P 19 11 48.7 +1.6**
TRPA Tarpa 81.34 319⇓ *iP* **P 19 11 50.2 +1.9**
ARR Arges 81.36 316⇑ *iP* **P 19 11 49.9 +1.3**
JMB Yambol 81.42 313⇓ *iP* **P 19 11 51.7 +2.8**
LOT Lotru 81.86 317⇓ *iP* **P 19 11 53.0 +1.6**
GZR Gura Zlata 82.50 317⇓ *iP* **P 19 11 55.9 +1.2**
BZS Buzias 83.11 317⇑ *iP* **P 19 11 58.5 +0.8**
VYHS Vyhne 83.31 321 *eP* **P 19 12 00.3 +1.6**
VYHS pmax pmax
comp=Z,17nm,2.1s
VYHS Vyhne 83.31 321 *eP* **P 19 12 00.3 +1.6**
MORC Moravsky Berou 83.36 322⇓ *iP* **P 19 11 59.1 +0.1**
VTS Vitosha 83.57 314⇑ *iP* **P 19 12 02.1 +1.7**
KRLC Kraliky 83.62 323 *eP* **P 19 12 00.8 +0.5**
KRLC Kraliky 83.62 323 *eP* **P 19 12 00.8 +0.5**
MMB Musomiste 83.71 313⇑ *iP* **P 19 12 01.8 +0.8**
VRAC Vranov 84.13 322⇓ *iP* **P 19 12 03.9 +1.0**
PVCC Panska Ves 84.56 324 *ex* x 19 12 24.0
TREC Trest 84.75 323 *eP* **P 19 12 06.1 +0.1**
TREC Trest 84.75 323 *eP* **P 19 12 06.1 +0.1**
PRU Pruhonice 84.88 324 *eP* **P 19 12 08.5 +1.9**
PRU Pruhonice 84.88 324 *eP* **P 19 12 08.5 +1.9**
PRU *ex* x 19 12 30.3
CLL Collm 84.94 325 *eP* **P 19 12 08.0 +1.1**
CLL *e* 19 12 20.0
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL MLR MLR
comp=Z,200nm,19.0s
CLL Collm 84.94 325 *eP* **P 19 12 08.0 +1.1**
comp=Z,5.0nm,0.8s
CLL *e* 19 12 20.0
CLL *i* 19 12 30.2
CLL *e*PP **PP 19 15 20.0 -3.0**
CLL LmV 19 54 00.0
comp=Z,200nm,19.0s
KHC Kasperske Hory 85.88 323 *eP* **P 19 12 12.8 +1.1**
KHC *e* 19 12 25.2
KHC Kasperske Hory 85.88 323 *eP* **P 19 12 12.8 +1.1**
KHC *ex* x 19 12 25.2
KHC *ex* x 19 12 34.6
GERES GERESS Array B 85.97 323 P **P 19 12 12.9 +0.7**
comp=Z,1.8nm,0.7s,baz=46,slow=5.8,SNR=8.7
NEW Newport 86.05 38 P **P 19 12 14.0 +1.4**
NEW Newport 86.05 38 P **P 19 12 14.0 +1.4**
comp=Z,1.8nm,0.8s,baz=270,slow=9.1,SNR=2.8

ISCJB ***15*** *19:12:42.9±0.7, 22°.00S±0°.06×66°.9W±0°.1, h180km, mb3.9/9, Error ellipse: s-maj=14.2km s-min=8.4km az=4.5*
IDC ***15*** *19:12:43.0±2.0, 22°.02S×66°.92W, h167km±19km, mb3.7/8, mb1 3.7/10, mb1mx3.4/37, mbtmp4.1/10, Error ellipse: s-maj=24.9km s-min=14.5km az=90.0*
ISC 15 19:12:44.3±0.8, 21°.89S±0°.09×66°.9W±0°.1, h180km, n13, σ1§10/14, mb4.0/9, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.71**	**348**	P	**Pn**	**19 14 09.7**	**+1.6**
	2.2nm,0.3s,baz=131,slow=5.3,SNR=33						
LPAZ				S	**Sn**	**19 15 13.4**	**-0.5**
	1.8nm,0.3s,baz=52,slow=23,SNR=6.9						
SIV	**San Ignacio**	**8.03**	**44**	P	**Pn**	**19 14 39.0**	**+0.9**
	40nm,0.3s,baz=251,slow=8.8,SNR=306						
SIV				S	**Sn**	**19 16 07.3**	**-0.9**
	2.4nm,0.3s,baz=156,slow=20,SNR=2.9						
CFAA	**Coronel Fontan**	**9.75**	**187**	P	Pn	19 14 55.9	-4.7
	0.1nm,0.3s,baz=10.0,slow=12,SNR=9.4						
PTGA	**Pitinga**	**22.08**	**19**	P	**P**	**19 17 24.3**	**-0.8**
	3.2nm,0.2s,baz=184,slow=9.5,SNR=5.7						
TKL	**Tuckaleechee C**	**59.44**	**344**	P	**P**	**19 22 25.9**	**-2.2**
	3.3nm,0.7s,baz=128,slow=7.8,SNR=3.6						
SNAA	**Sanae**	**61.29**	**161**	P	**P**	**19 22 39.8**	**-0.4**
	0.6nm,0.6s,baz=256,slow=10,SNR=5.2						
QSPA	**South Pole Qui**	**68.30**	**180**	P	**P**	**19 23 25.2**	**-0.5**
	1.7nm,0.6s,baz=307,slow=1.2,SNR=20						
PDAR	**Pinedale Array**	**75.42**	**329**	P	**P**	**19 24 09.7**	**+1.2**
	0.5nm,0.7s,baz=111,slow=4.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**75.70**	**69**	P	**P**	**19 24 11.1**	**+0.7**
	1.9nm,0.4s,baz=257,slow=5.7,SNR=40						
TSUM	**Tsumeb**	**78.10**	**106**	P	**P**	**19 24 24.7**	**+0.7**
	1.9nm,0.7s,baz=267,slow=9.4,SNR=5.1						
BOSA	**Boshof**	**81.57**	**117**	P	**P**	**19 24 43.0**	**+0.5**
	3.8nm,0.8s,baz=260,slow=3.6,SNR=5.9						
YKA	**Yellowknife Ar**	**92.20**	**340**	P	**P**	**19 25 32.5**	**-0.5**
	0.4nm,0.5s,baz=130,slow=4.3,SNR=10						
MKAR	**Makanchi Array**	**144.80**	**38**	PKP	**PKPdf**	**19 31 59.5**	**-0.2**
	0.6nm,0.7s,baz=310,slow=4.3,SNR=9.8						

IDC 15 19:13:37.5±7.8, 31°.55S×179°.61E, h482km±100km, mb2.4/2, mb1 2.8/3, mb1mx2.6/41, mbtmp3.6/3, Error ellipse: s-maj=110.6km s-min=39.4km az=8.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.00**	**196**	P	P	19 15 23.6	+0.7
	4.3nm,0.3s,baz=274,slow=4.5,SNR=20						
URZ				S	S	19 16 48.9	-0.5
	2.8nm,0.3s,baz=219,slow=22,SNR=12						
ASAR	**Alice Springs**	**41.02**	**269**	P	P	19 20 38.1	0.0
	0.2nm,0.6s,baz=101,slow=7.8,SNR=3.6						
WRA	**Warramunga Arr**	**42.12**	**275**	P	P	19 20 46.5	-0.2
	0.2nm,0.3s,baz=111,slow=8.1,SNR=16						
FINES	**FINESS Array B**	**145.48**	**338**	PKPbc	PKPdf	19 32 19.6	+0.3
	0.6nm,0.4s,baz=68,slow=3.7,SNR=7.7						

IDC 15 19:20:41.0±6.5, 25°.85S×70°.46E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/38, mbtmp3.8/4, Error ellipse: s-maj=169.8km s-min=40.0km az=62.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**18.20**	**6**	T	T	19 43 46.0	
	baz=187,slow=76,SNR=13						
H08S2	**Diego Garcia H**	**18.21**	**6**	T	T	19 43 27.6	
	baz=187,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**18.22**	**6**	T	T	19 43 39.7	
	baz=187,slow=76,SNR=21						
H01W2	**Cape Leeuwin H**	**38.49**	**114**	T	T	20 08 55.7	
	baz=271,slow=74,SNR=7.4						
H01W3	**Cape Leeuwin H**	**38.49**	**114**	T	T	20 08 49.8	
	baz=271,slow=74,SNR=6.7						
H01W1	**Cape Leeuwin H**	**38.51**	**114**	T	T	20 08 52.0	
	baz=271,slow=74,SNR=7.2						
CMAR	**Chiang Mai Arr**	**52.02**	**35**	P	P	19 29 52.0	-0.5
	2.7nm,1.0s,baz=227,slow=6.6,SNR=16						
ASAR	**Alice Springs**	**57.15**	**103**	P	P	19 30 30.1	+0.1
	0.8nm,0.8s,baz=243,slow=6.3,SNR=7.8						
WRA	**Warramunga Arr**	**58.65**	**98**	P	P	19 30 40.2	-0.3
	1.4nm,0.9s,baz=252,slow=6.7,SNR=6.2						
SONM	**Songino Array**	**80.14**	**24**	P	P	19 32 53.4	+0.4
	0.6nm,1.1s,baz=202,slow=4.4,SNR=3.1						

IDC ***15*** *19:30:56.7±0.9, 1°.40S×100°.96E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.8/38, mbtmp3.8/13, ML3.5/1, MS3.6/10, Ms1 3.7/10, ms1mx3.2/39, Error ellipse: s-maj=49.4km s-min=13.6km az=53.0*
ISCJB ***15*** *19:31:02.7±0.8, 1°.23S±0°.04×100°.92E±0°.03, h16km±7km, mb4.0/13, MS3.6/9, Error ellipse: s-maj=7.7km s-min=3.7km az=40.0*
NEIC ***15*** *19:31:02.7±1.6, 1°.42S×101°.03E, h40km±13km, mb4.6/3, Error ellipse: s-maj=25.2km s-min=9.6km az=46.0*
NEIC Felt [III] at Padang.
DJA ***15*** *19:31:03.8±0.2, 1°.S±2°×10°1E±°, h10km, M4.7/14, mb4.6/7, mB5.1/3, MLv4.7/14, Mw(mB)4.5/3*
KLM ***15*** *19:31:03.1, 1°.29S×101°.01E, h9km, mb4.5, ML4.5, MS6.3*
ISC 15 19:31:02.8±1.2, 1°.17S±0°.04×100°.98E±0°.03, h14km±8km, n55, σ2§11/47, mb4.2/13, MS3.5/9, 3C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDSI	**Sungai Dareh**	**0.51**	**62**	P	**Pg**	**19 31 12.8**	**-0.1**
SDSI				S	**Sg**	**19 31 21.1**	**+1.4**
PDSI	**Padang**	**0.58**	**296**	P	**Pg**	**19 31 13.1**	**-1.1**
PDSI				S	**Sg**	**19 31 21.3**	**-0.6**
BKNI	**Bangkinang**	**1.49**	**2**	P	**Pn**	**19 31 30.5**	**+1.4**
BKNI				S	**Sg**	**19 31 52.5**	**+1.7**
BKNI	**Bangkinang**	**1.49**	**2**	*eP*	**Pn**	**19 31 30.5**	**+1.4**
MNSI	**Mandailing Nat**	**2.40**	**324**	P	**Pn**	**19 31 43.5**	**+1.8**
MNSI				S	**Sn**	**19 32 14.3**	**+3.4**
JMBI	**JAMBI**	**2.70**	**100**	P	**Pn**	**19 31 48.3**	**+2.5**
JMBI				S	**Sb**	**19 32 22.1**	**-1.9**
DSRI	**Dabo**	**3.66**	**79**	P	**Pn**	**19 32 01.1**	**+2.0**
LHSI	**Lahat**	**3.66**	**136**	P	**Pn**	**19 32 00.2**	**+1.2**
MNAI	**Manna**	**3.73**	**148**	P	**Pn**	**19 32 01.9**	**+1.9**
KGM	**Kluang**	**3.94**	**36**	⇑P	**Pn**	**19 32 05.4**	**+2.6**
TPRI	**Tanjung Pinang**	**4.11**	**60**	P	**Pn**	**19 32 07.6**	**+2.4**
TPRI				S	**Sg**	**19 33 12.5**	**-2.4**
MYKOM	**Kota Tinggi**	**4.11**	**44**	⇓P	**Pn**	**19 32 06.6**	**+1.4**
PMBI	**Palembang**	**4.17**	**115**	P	**Pn**	**19 32 06.9**	**+0.8**
PMBI				S	**Sn**	**19 32 57.1**	**+2.4**
GSI	**Gunungsitoli**	**4.20**	**306**	P	**Pn**	**19 32 08.3**	**+1.9**
GSI				S	**Sn**	**19 32 58.2**	**+2.9**
GSI	**Gunungsitoli**	**4.20**	**306**	*eP*	**Pn**	**19 32 07.8**	**+1.4**
FRIM	**Kepong**	**4.43**	**8**	⇑P	**Pn**	**19 32 11.9**	**+2.4**
PSI	**Prapat**	**4.45**	**333**	Pn	**Pn**	**19 32 08.1**	**-1.9**
	0.0nm,0.3s,baz=163,slow=17,SNR=4.4						
PSI				Lg	Lg	19 33 21.9	
	25nm,0.3s,baz=342,slow=15,SNR=9.6						
MDSI	**Maura Dua**	**4.59**	**136**	P	**Pn**	**19 32 12.4**	**+0.6**
MDSI				S	**Sn**	**19 33 07.6**	**+2.7**
LWLI	**Liwa**	**4.91**	**141**	P	Pn	19 32 19.6	+3.4
TSI	**Tuntungan**	**5.23**	**333**	P	**Pn**	**19 32 22.5**	**+1.9**
	91nm,1.0s,1.9nm						
TSI				S	**Sg**	**19 33 52.4**	**+1.6**
	91nm,1.0s,1.9nm						
KLI	**Kotabumi**	**5.33**	**134**	P	**Pn**	**19 32 24.1**	**+2.1**
	66nm,1.0s,0.7nm						
KASI	**Kota Agung**	**5.57**	**141**	P	**Pn**	**19 32 24.8**	**-0.5**
	42nm,0.8s,0.2nm						
KASI				S	**Sn**	**19 33 30.9**	**+1.8**
	42nm,0.8s,0.2nm						
IPM	**Ipoh**	**5.61**	**0**	*eP*	**Pn**	**19 32 29.1**	**+3.2**
	39nm,0.6s						
KCSI	**Kotacane, Aceh**	**5.66**	**326**	P	**Pn**	**19 32 28.7**	**+2.2**
	61nm,1.1s,601nm0.7nm						
KCSI				S	Sn	19 32 52.5	-39
	61nm,1.1s,601nm0.7nm						
TPTI		**5.81**	**319**	P	**Pn**	**19 32 30.8**	**+2.2**
	19nm,1.3s,10μm0.3nm						
TPTI				S	**Sn**	**19 33 38.6**	**+3.5**
	19nm,1.3s,10μm0.3nm						
BLSI	**Bandar Lampung**	**5.96**	**134**	P	**Pn**	**19 32 33.0**	**+2.3**
KTGM	**Kuala Trenggan**	**6.80**	**18**	⇑P	**Pn**	**19 32 45.4**	**+3.1**
TPI	**Tanjungpandan**	**6.86**	**103**	P	Pn	19 32 50.8	+7.9
KAPI	**Kappang**	**19.13**	**102**	*eP*	**P**	**19 35 22.6**	**-3.1**
	27nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.61**	**354**	P	**P**	**19 35 30.1**	**-0.7**
	0.1nm,0.3s,baz=184,slow=11,SNR=3.7						
CMAR				LR	LR	19 44 43.4	
	comp=Z,203nm,18.2s,baz=185,slow=42						
PALK	**Pallekele**	**21.90**	**293**	LR	LR	19 44 37.7	
	comp=Z,227nm,19.4s,baz=105,slow=37						
BATI	**Baumata**	**24.27**	**113**	LR	LR	19 46 56.5	
	comp=Z,366nm,21.3s,baz=265,slow=40						
LSA	**Lhasa**	**32.10**	**344**	P	**P**	**19 37 31.8**	**+1.6**
WRA	**Warramunga Arr**	**37.58**	**122**	P	P	19 38 11.5	-5.7
	0.6nm,0.7s,baz=301,slow=9.3,SNR=8.4						
WRAB	**Tennant Creek**	**37.59**	**122**	*eP*	P	19 38 10.9	-6.3
ASAR	**Alice Springs**	**38.96**	**128**	P	P	19 38 24.4	-4.5
	0.7nm,0.5s,baz=303,slow=8.2,SNR=35						
AS31	**Alice Springs**	**38.96**	**128**	*eP*	P	19 38 23.5	-5.4
PMG	**Port Moresby**	**46.66**	**102**	LR	LR	20 02 09.7	
	comp=Z,48nm,19.2s,baz=314,slow=40						
STKA	**Stephens Creek**	**48.98**	**133**	P	P	19 39 44.3	-4.8
	1.7nm,0.7s,baz=318,slow=9.8,SNR=6.1						
STKA				LR	LR	20 02 40.7	
	comp=Z,39nm,19.9s,baz=253,slow=39						
SONM	**Songino Array**	**49.03**	**5**	P	**P**	**19 39 47.4**	**-2.0**
	0.3nm,0.7s,baz=179,slow=6.6,SNR=2.7						
EKS2	**Erkin-Say**	**50.04**	**334**	*eP*	**P**	**19 39 55.4**	**-1.7**
	4.0nm,0.7s						
MKAR	**Makanchi Array**	**50.51**	**343**	P	P	19 39 57.0	-3.5
	0.2nm,0.3s,baz=159,slow=6.6,SNR=6.6						
MJAR	**Matsushiro Arr**	**51.02**	**39**	LR	LR	20 03 37.2	
	comp=Z,24nm,18.1s,baz=260,slow=38						
KKAR	**Karatay Array**	**51.88**	**332**	*eP*	**P**	**19 40 10.4**	**-0.5**
GEYT	**Alibeck**	**55.45**	**319**	P	P	19 40 33.2	-4.0
	2.0nm,0.8s,baz=124,slow=9.5,SNR=7.4						
ZALV	**Zalesovo Beam**	**56.55**	**349**	P	P	19 40 41.1	-3.5
	0.4nm,0.4s,baz=156,slow=7.1,SNR=2.5						
ABKAR	**Akbulak array**	**61.39**	**331**	*eP*	P	19 41 15.1	-3.3
	2.6nm,0.6s						
KBZ	**Khabaz**	**68.33**	**319**	P	**P**	**19 42 01.5**	**-2.2**
	2.9nm,0.9s,baz=123,slow=5.1,SNR=7.9						
ASF	**Jabal al Asfar**	**68.91**	**305**	LR	LR	20 13 40.7	
	comp=Z,184nm,19.8s,baz=86,slow=37						
EIL	**Elat**	**69.91**	**302**	LR	LR	20 12 22.1	
	comp=Z,50nm,19.1s,baz=89,slow=36						
MMAI	**Mount Meron Ar**	**70.35**	**306**	LR	LR	20 14 18.9	
	comp=Z,29nm,20.4s,baz=45,slow=37						
BRTR	**Keskin Array B**	**73.49**	**312**	P	P	19 42 32.1	-3.3
	0.8nm,0.8s,baz=130,slow=7.7,SNR=3.9						
OBN	**Obninsk**	**76.61**	**328**	LR	LR	20 21 02.8	
	comp=Z,23nm,18.2s,baz=282,slow=39						
FINES	**FINESS Array B**	**83.84**	**332**	P	**P**	**19 43 30.4**	**-1.3**
	2.0nm,1.0s,baz=111,slow=7.6,SNR=2.8						
ARCES	**ARCESS Array B**	**86.03**	**340**	P	**P**	**19 43 41.1**	**-1.4**
	6.3nm,1.1s,baz=77,slow=5.6,SNR=3.1						

IDC ***15*** *19:37:18.8±2.8, 20°.25S×177°.89W, h580km±33km, mb3.4/7, mb1 3.5/8, mb1mx3.1/37, mbtmp4.3/8, Error ellipse: s-maj=31.5km s-min=20.0km az=145.0*
ISC 15 19:37:15.7±1.3, 20°.1S±0°.2×177°.8W±0°.2, h550km, n11, σ1§45/13, mb4.0/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.60**	**193**	P	**P**	**19 40 59.8**	**+1.0**
	1.6nm,0.3s,baz=39,slow=12,SNR=6.3						
CTA	**Charters Tower**	**33.70**	**264**	P	**P**	**19 43 12.4**	**+0.7**
	7.5nm,0.5s,baz=91,slow=10,SNR=16						
STKA	**Stephens Creek**	**38.10**	**244**	P	**P**	**19 43 48.1**	**+0.1**
	1.7nm,0.8s,baz=86,slow=9.6,SNR=7.9						
ASAR	**Alice Springs**	**44.77**	**256**	P	**P**	**19 44 41.0**	**+0.1**
	6.4nm,0.8s,baz=88,slow=7.7,SNR=128						
ASAR				PcP	**PcP**	**19 46 11.3**	**+0.2**
	0.5nm,0.6s,baz=106,slow=4.3,SNR=5.4						
ASAR				S	**S**	**19 50 37.0**	**-1.3**
	0.8nm,0.8s,baz=95,slow=16,SNR=5.8						
WRA	**Warramunga Arr**	**44.82**	**262**	P	**P**	**19 44 41.2**	**-0.1**
	3.8nm,0.6s,baz=97,slow=7.9,SNR=112						
MJAR	**Matsushiro Arr**	**70.01**	**323**	P	**P**	**19 47 33.4**	**+1.0**
	1.2nm,0.5s,baz=72,slow=0.7,SNR=5.7						
SEY	**Seymchan**	**86.05**	**347**	P	**P**	**19 48 59.3**	**+1.5**
	0.6nm,0.2s,baz=184,slow=19						
CMAR	**Chiang Mai Arr**	**90.15**	**290**	P	**P**	**19 49 18.8**	**+0.8**
	0.5nm,0.8s,baz=101,slow=2.2,SNR=5.0						
MKAR	**Makanchi Array**	**111.06**	**314**	PKiKP	**PKiKP**	**19 54 45.1**	**-1.7**
	0.2nm,0.6s,baz=66,slow=2.5,SNR=3.1						
AKASG	**Malin Array Be**	**142.77**	**331**	PKP	**PKPdf**	**19 55 43.9**	**-2.5**
	1.4nm,0.5s,baz=43,slow=4.5,SNR=5.1						
BRTR	**Keskin Array B**	**146.71**	**313**	PKPbc	**PKPab**	**19 55 57.2**	**-2.2**
	0.7nm,0.6s,baz=131,slow=4.7,SNR=4.5						

IDC 15 19:43:25.2±3.7, 15°.98S×177°.65W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/40, mbtmp3.9/4, Error ellipse: s-maj=165.9km s-min=29.7km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.22**	**239**	P	P	19 51 03.5	-0.2
	1.1nm,0.5s,baz=94,slow=8.9,SNR=13						
WRA	**Warramunga Arr**	**45.73**	**258**	P	P	19 51 48.5	-0.2
	0.3nm,0.4s,baz=92,slow=8.0,SNR=13						
ASAR	**Alice Springs**	**46.04**	**252**	P	P	19 51 51.1	0.0
	2.5nm,0.6s,baz=89,slow=7.9,SNR=58						
ILAR	**Eielson Array**	**83.85**	**13**	P	P	19 55 56.3	0.0
	0.6nm,0.4s,baz=221,slow=5.6,SNR=15						

IDC ***15*** *19:50:47.7±6.1, 22°.30S×68°.15W, h123km±46km, mb3.8/2, mb1 3.8/4, mb1mx3.4/29, mbtmp4.1/4, MS2.9/2, Ms1 2.9/2, ms1mx2.4/21, Error ellipse: s-maj=62.9km s-min=34.0km az=177.0*
ISCJB ***15*** *19:50:50.6±1.8, 22°.1S±0°.2×68°.0W±0°.2, h150km, mb3.8/2, Error ellipse: s-maj=30.9km s-min=16.4km az=151.0*
ISC 15 19:50:51.0±1.2, 22°.1S±0°.2×68°.1W±0°.1, h150km, n9, σ1§18/9, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.77**	**359**	P	**Pn**	**19 52 15.3**	**+0.1**
	0.6nm,0.3s,baz=169,slow=0.9,SNR=15						
LPAZ				LR	LR	19 55 38.6	
	comp=Z,47nm,20.1s,baz=267,slow=49						
SIV	**San Ignacio**	**8.97**	**49**	P	**Pn**	**19 52 57.5**	**+0.2**
	3.5nm,0.3s,baz=265,slow=9.4,SNR=35						
SIV				S	**Sn**	**19 54 36.0**	**-1.0**
	0.3nm,0.3s,baz=162,slow=20,SNR=3.2						
PTGA	**Pitinga**	**22.64**	**21**	LR	LR	20 04 26.7	
	comp=Z,66nm,21.0s,baz=106,slow=36						
TORD	**Torodi Ar. Bea**	**76.81**	**70**	P	**P**	**20 02 28.0**	**+1.4**
	1.9nm,0.8s,baz=255,slow=5.5,SNR=10						
YKA	**Yellowknife Ar**	**92.00**	**340**	P	**P**	**20 03 42.3**	**+0.2**
	0.4nm,0.5s,baz=134,slow=4.8,SNR=7.2						
ASAR	**Alice Springs**	**129.75**	**206**	PKP	**PKPdf**	**20 09 41.5**	**-1.7**
	0.1nm,0.3s,baz=129,slow=1.5,SNR=4.4						
WRA	**Warramunga Arr**	**132.84**	**209**	PKP	**PKPdf**	**20 09 47.7**	**-1.4**
	0.2nm,0.5s,ba

ZALV Zalesovo Beam 34.80 34 P P 20 10 00.1 -0.5
0.6nm,0.3s,baz=243,slow=9.8,SNR=5.5
FINES FINESS Array B 36.92 340 P P 20 10 16.6 -2.0
0.8nm,0.6s,baz=134,slow=8.0,SNR=5.7
CMAR Chiang Mai Arr 44.12 93 P P 20 11 17.7 -1.1
0.2nm,0.6s,baz=297,slow=8.0,SNR=3.0

IDC 15 20:03:13.0±12.0, 6°.50S×130°.15E, h112km±122km, mb3.4/1, mb1 3.2/4, mb1mx2.9/39, mbtmp3.6/4, ML3.5/3, MS4.1/2, Ms1 4.1/2, ms1mx2.9/21, Error ellipse: s-maj=130.9km s-min=33.8km az=46.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.40**	**240**	P	Pn	20 04 58.8	+0.4
1.3nm,0.3s,baz=72,slow=3.2,SNR=4.9							
BATI				S	Sn	20 06 14.2	-6.8
1.7nm,0.3s,baz=99,slow=21,SNR=10							
WRA	**Warramunga Arr**	**13.97**	**163**	P	Pn	20 06 24.6	-1.6
0.2nm,0.3s,baz=344,slow=13,SNR=12							
WRA				S	Sn	20 08 52.3	-8.0
0.2nm,0.3s,baz=2.4,slow=22,SNR=6.3							
ASAR	**Alice Springs**	**17.45**	**168**	P	Pn	20 07 09.8	+0.3
0.2nm,0.3s,baz=347,slow=11,SNR=13							
ASAR				S	Sn	20 10 15.1	-9.0
0.0nm,0.3s,baz=351,slow=23,SNR=3.1							
PSI	**Prapat**	**32.52**	**286**	LR	LR	20 24 06.1	
comp=Z,445nm,21.0s,baz=72,slow=39							
JCJ	**Chichijima**	**35.37**	**19**	LR	LR	20 24 14.0	
comp=Z,192nm,21.0s,baz=124,slow=36							
MKAR	**Makanchi Array**	**67.89**	**327**	P	P	20 13 59.4	-0.1
0.3nm,0.3s,baz=111,slow=8.2,SNR=8.3							

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*ISCJB **15** 20:04:58.5±0.6, 13°.23N±0°.07×89°.53W±0°.06, h69km±5km, mb4.1/6, Error ellipse: s-maj=14.7km s-min=5.5km az=35.9*
*NEIC **15** 20:04:58.8±1.3, 13°.52N×89°.30W, h43km±12km, mb4.0/1, MD4.5(SNET), Error ellipse: s-maj=29.4km s-min=11.1km az=219.0*
NEIC Felt [III] at San Salvador. Also felt at Antiguo Cuscatlan.
*IDC **15** 20:04:58.4±3.3, 13°.63N×89°.16W, h35km±27km, mb3.9/6, mb1 4.2/8, mb1mx3.7/42, mbtmp4.1/8, ML3.9/2, MS2.9/3, Ms1 2.9/3, ms1mx2.8/23, Error ellipse: s-maj=43.5km s-min=19.9km az=40.0*
*CASC **15** 20:04:59.2±1.8, 13°.17N×89°.57W, h34km±5km, MD4.1, ML4.3*
ISC 15 20:04:58.8±1.3, 13°.15N±0°.08×89°.56W±0°.07, h52km±11km, n33, σ1§53/40, mb4.3/6, 2C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONS	**Sonsonate**	**0.60**	**345**	⇓*e*P	**Pn**	**20 05 10.7**	**-0.8**
SONS				*e*S	**Sn**	**20 05 19.7**	**-0.9**
SONS				AML	AML	20 05 20.1	
comp=Z,15μm,0.2s							
SNET	**Serv Nac Est T**	**0.62**	**31**	⇓*i*P	**Pn**	**20 05 11.5**	**-0.2**
SNET				*e*S	**Sn**	**20 05 21.0**	**0.0**
SNET				AML	AML	20 05 24.2	
comp=Z,17μm,0.3s							
BOQS	**Boqueron**	**0.64**	**25**	⇑*e*P	**Pn**	**20 05 12.1**	**0.0**
BOQS				*e*S	**Sn**	**20 05 22.8**	**+1.1**
LFRS	**El Faro**	**0.67**	**46**	⇓*e*P	**Pn**	**20 05 12.3**	**-0.1**
SBLS	**San Blas**	**0.69**	**354**	⇓*i*P	**Pn**	**20 05 12.5**	**-0.2**
SNJE	**San Jose**	**0.71**	**356**	⇓*i*P	**Pn**	**20 05 12.8**	**-0.2**
SNVI	**San Vicente**	**0.83**	**57**	*e*P	**Pn**	**20 05 14.4**	**-0.1**
SNVI				*e*S	**Sn**	**20 05 26.3**	**+0.2**
VSM	**San Miguel**	**1.28**	**77**	*e*P	**Pn**	**20 05 20.7**	**+0.1**
NBG	**Las Nubes**	**1.62**	**332**	*e*P	**Pn**	**20 05 26.8**	**+1.5**
CNCH	**Conchagua**	**1.68**	**86**	*e*P	**Pn**	**20 05 26.3**	**+0.3**
MRL	**Marmol**	**1.91**	**356**	⇑*e*P	**Pn**	**20 05 31.3**	**+2.2**
APG	**El Apazote**	**2.04**	**334**	Pn	Pn	20 05 26.8	-4.2
comp=Z,14nm,0.3s,baz=146,slow=9.8,SNR=119							
APG				Sn	**Sn**	**20 05 54.9**	**-0.5**
comp=Z,45nm,0.3s,baz=327,slow=24,SNR=11							
APG				LR	LR	20 06 01.4	
comp=Z,106nm,21.9s,baz=102,slow=34							
JAT	**Jato**	**2.33**	**300**	*e*P	**Pn**	**20 05 35.2**	**+0.5**
JTS	**JuntasAbangare**	**5.33**	**122**	Pn	**Pn**	**20 06 15.9**	**0.0**
comp=Z,2.2nm,0.3s,baz=113,slow=23,SNR=9.3							
JTS				Sn	**Sn**	**20 07 14.0**	**-2.1**
comp=Z,4.4nm,0.3s,baz=297,slow=18,SNR=2.8							
JTS				Lg	Lg	20 07 35.8	
comp=Z,3.9nm,0.3s,baz=125,slow=18,SNR=11							
JTS				LR	LR	20 08 40.3	
comp=Z,109nm,18.3s,baz=293,slow=42							
JCR	**Jicaral**	**5.45**	**127**	*e*P	**Pn**	**20 06 20.0**	**+2.3**
JCR				*e*S	Sn	20 07 40.5	+21
CGA2	**Cerro Gallo 2**	**5.88**	**121**	*e*P	**Pn**	**20 06 26.3**	**+2.7**
CMIG	**Matias Romero**	**6.47**	**308**	Pn	**Pn**	**20 06 32.5**	**+1.0**
comp=Z,4.2nm,0.3s,baz=98,slow=11,SNR=36							
CMIG				Sn	**Sn**	**20 07 44.4**	**+0.4**
comp=Z,4.2nm,0.3s,baz=303,slow=17,SNR=4.1							
CMIG				LR	LR	20 08 22.2	
comp=Z,48nm,20.6s,baz=84,slow=31							
BUS	**Buena Vista**	**6.71**	**122**	*e*P	**Pn**	**20 06 37.8**	**+2.5**
BUS				*e*S	**Sn**	**20 07 47.9**	**-2.8**
ACR	**Cerro Adams**	**7.70**	**125**	*e*P	**Pn**	**20 06 50.4**	**+1.9**
SDV	**Santo Domingo**	**19.05**	**101**	*e*P	**P**	**20 09 16.1**	**-1.0**
comp=Z,6.0nm,0.6s							
TXAR	**Lajitas Array**	**20.76**	**323**	P	**P**	**20 09 37.7**	**+2.1**
comp=Z,2.5nm,0.5s,baz=145,slow=11,SNR=16							
TKL	**Tuckaleechee C**	**23.01**	**12**	LR	LR	20 18 59.3	
comp=Z,96nm,21.6s,baz=54,slow=37							
NVAR	**Mina Array Bea**	**35.83**	**320**	P	**P**	**20 11 55.4**	**+1.5**
comp=Z,1.1nm,0.5s,baz=130,slow=8.2,SNR=9.2							
NVAR				PcP	**PcP**	**20 14 21.2**	**+0.7**
comp=Z,0.7nm,0.6s,baz=145,slow=3.8,SNR=5.2							
NEW	**Newport**	**41.82**	**332**	P	**P**	**20 12 43.8**	**+0.1**
comp=Z,5.2nm,0.4s,baz=91,slow=13,SNR=3.8							
SCHQ	**Schefferville**	**45.23**	**18**	P	**P**	**20 13 08.2**	**-2.6**
comp=Z,2.4nm,0.5s,baz=220,slow=7.7,SNR=7.9							
YKA	**Yellowknife Ar**	**52.41**	**346**	P	**P**	**20 14 04.7**	**-1.0**
comp=Z,0.9nm,0.4s,baz=140,slow=8.3,SNR=17							
RES	**Resolute Bay**	**61.59**	**358**	P	**P**	**20 15 08.1**	**-2.4**
comp=Z,1.9nm,0.6s,baz=174,slow=8.7,SNR=18							
ILAR	**Eielson Array**	**64.56**	**336**	P	**P**	**20 15 28.9**	**-1.5**
comp=Z,0.4nm,0.5s,baz=160,slow=4.1,SNR=9.7							
RAYN	**Ar Rayn**	**122.90**	**51**	*e*PKPdf	**PKPdf**	**20 23 52.9**	**+2.7**
WRAB	**Tennant Creek**	**137.47**	**255**	PKPdf	**PKPdf**	**20 24 18.4**	**+0.7**
WRA	**Warramunga Arr**	**137.48**	**255**	PKhKP	PKPpre	20 24 18.4	
comp=Z,0.7nm,0.8s,baz=89,slow=2.7,SNR=13							
WRA				PKP	**PKiKP**	**20 24 21.1**	**+1.4**
comp=Z,0.3nm,0.5s,baz=88,slow=2.6,SNR=9.3							
ASAR	**Alice Springs**	**137.61**	**249**	PKP	**PKPdf**	**20 24 19.3**	**+1.3**
comp=Z,0.3nm,0.6s,baz=99,slow=2.4,SNR=3.8							
CMAR	**Chiang Mai Arr**	**147.49**	**345**	PKPbc	**PKPdf**	**20 24 37.3**	**+1.7**
comp=Z,2.3nm,0.7s,baz=330,slow=2.6,SNR=6.1							

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*IDC **15** 20:08:53.7±1.4, 30°.37N×81°.79E, h0km, mb3.3/6, mb1 3.5/8, mb1mx3.3/55, mbtmp3.4/8, ML3.4/2, Error ellipse: s-maj=36.7km s-min=21.0km az=49.0*
ISC 15 20:08:56.8±0.9, 30°.4N±0°.1×81°.4E±0°.1, h36km, n10, σ1§81/8, mb3.3/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**1.34**	**232**	*e*P	**Pn**	**20 09 17.3**	**-1.9**
LGTI	**Lohaghat**	**1.39**	**228**	*e*P	**Sn**	**20 09 39.2**	**+2.4**
MKAR	**Makanchi Array**	**16.39**	**2**	Pn	**Pn**	**20 12 42.7**	**-1.4**
0.0nm,0.3s,baz=185,slow=13,SNR=3.3							
CMAR	**Chiang Mai Arr**	**19.85**	**123**	P	**P**	**20 13 24.8**	**-0.1**
0.1nm,0.3s,baz=314,slow=9.8,SNR=28							
KURBB	**Kurchatov Arra**	**20.33**	**355**	P	**P**	**20 13 30.3**	**+0.6**
0.4nm,0.6s,baz=181,slow=10,SNR=9.1							
GEYT	**Alibeck**	**20.67**	**298**	P	Pn	20 13 38.6	+2.5
2.3nm,0.9s,baz=123,slow=11,SNR=9.6							
ZALV	**Zalesovo Beam**	**23.67**	**5**	P	**P**	**20 14 06.8**	**+1.9**
0.2nm,0.2s,baz=186,slow=6.0,SNR=3.6							
SONM	**Songino Array**	**25.88**	**41**	P	**P**	**20 14 26.1**	**+0.8**
0.6nm,0.8s,baz=237,slow=9.9,SNR=3.5							
FINES	**FINESS Array B**	**47.35**	**327**	P	P	20 17 31.0	+4.1
0.8nm,0.7s,baz=102,slow=8.7,SNR=3.0							
WRA	**Warramunga Arr**	**71.36**	**128**	P	**P**	**20 20 13.1**	**-0.2**
0.2nm,0.6s,baz=324,slow=6.3,SNR=4.8							

IDC 15 20:09:17.6±2.0, 21°.63N×143°.36E, h294km±19km, mb3.1/8, mb1 3.3/10, mb1mx3.0/50, mbtmp3.8/10, Error ellipse: s-maj=41.0km s-min=13.4km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.55**	**349**	P	Pn	20 10 42.7	+1.4
9.0nm,0.3s,baz=280,slow=21,SNR=4.6							
JCJ				S	S	20 11 47.6	-1.1
12nm,0.3s,baz=313,slow=24,SNR=7.9							
MJAR	**Matsushiro Arr**	**15.52**	**344**	P	Pn	20 12 42.1	-0.2
0.4nm,0.3s,baz=168,slow=10,SNR=4.5							
CMAR	**Chiang Mai Arr**	**41.74**	**274**	P	P	20 16 39.0	+0.1
0.4nm,0.6s,baz=96,slow=6.3,SNR=8.4							
WRA	**Warramunga Arr**	**42.24**	**193**	P	P	20 16 42.6	-0.1
0.7nm,0.6s,baz=17,slow=9.1,SNR=20							
ASAR	**Alice Springs**	**45.95**	**192**	P	P	20 17 11.5	-0.5
0.2nm,0.6s,baz=17,slow=12,SNR=5.9							
MKAR	**Makanchi Array**	**54.86**	**313**	P	P	20 18 17.9	-0.2
0.1nm,0.3s,baz=90,slow=9.6,SNR=4.1							
KURBB	**Kurchatov Arra**	**57.69**	**317**	P	P	20 18 37.5	-0.3
0.7nm,0.4s,baz=93,slow=7.5,SNR=15							
BVAR	**Borovoye Array**	**62.83**	**320**	P	P	20 19 12.5	+0.1
1.0nm,0.3s,baz=106,slow=7.6,SNR=13							
ARCES	**ARCESS Array B**	**79.04**	**342**	P	P	20 20 49.8	+0.8
6.5nm,1.1s,baz=53,slow=6.5,SNR=3.1							
FINES	**FINESS Array B**	**83.31**	**335**	P	P	20 21 10.4	-1.1
1.1nm,0.7s,baz=62,slow=3.3,SNR=6.7							

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*DMN **15** 20:17:10.1±0.6, 31°.32N×81°.56E, h10km, Ml5.5/3, Error ellipse: s-maj=15.7km s-min=9.4km az=82.0*
*BJI **15** 20:17:12.8, 30°.48N×81°.90E, h10km, mB4.9/25, mb4.5/39, Ms4.7/35, Ms7 4.3/31*
*LDG **15** 20:17:13.1±0.1, 30°.59N×81°.88E, h10km, Mb4.9/22, Ms3.8/8, Error ellipse: s-maj=9.1km s-min=5.4km az=38.0*
*NDI **15** 20:17:14.8±4.5, 30°.52N×82°.14E, h10km, mb4.9, mb5.0(NEIC)*
*IDC **15** 20:17:14.2±0.5, 30°.53N×81°.96E, h0km, mb4.4/30, mb1 4.5/33, mb1mx4.5/44, mbtmp4.4/33, ML4.3/3, MS4.0/17, Ms1 4.0/17, ms1mx3.8/30, Error ellipse: s-maj=13.8km s-min=10.7km az=40.0*
*NEIC **15** 20:17:16.9±2.2, 30°.53N×81°.88E, h18km±13km, mb5.0/37, Error ellipse: s-maj=6.0km s-min=3.8km az=220.0*
*ISCJB **15** 20:17:17.2±0.9, 30°.55N±0°.03×81°.89E±0°.03, h32km±7km, mb4.7/106, MS4.1/26, Error ellipse: s-maj=5.3km s-min=3.0km az=30.4*
*MOS **15** 20:17:17.8±1.0, 30°.53N×81°.89E, h39km, mb5.1/40, MS4.3/8, Error ellipse: s-maj=9.0km s-min=4.0km az=123.7*
*GCMT **15** 20:17:18.5±0.3, 30°.53N×82°.00E, h22km±1km, MW4.9/77, Moment Tensor Solution. s20,c24; s77,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.28±.16; $M_{\theta\theta}$-1.90±.12; $M_{\phi\phi}$2.18±.12; $M_{r\theta}$1.09±.21; $M_{\theta\phi}$-1.76±.09; $M_{r\phi}$0.57±.18; Best double couple: $M_0$2.96500×10^{16} NP1:ϕ_s202.00000°, δ76.00000°, λ-19.00000°. NP2: ϕ_s297.00000°, δ71.00000°, λ-165.00000°. Principal axes: T 2.8430, Plg3.0000°, Azm250.0000°; N 0.2410, Plg66.0000°, Azm348.0000°; P -3.0870, Plg24.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **15** 20:17:32.8, 31°.62N×79°.75E, h10km, mb4.8, MS4.1, Western Xizang-India border region*
ISC 15 20:17:16.9±0.4, 30°.54N±0°.04×81°.92E±0°.03, h17km±2km, h17km:pP-P, n369, σ1§47/384, mb4.8/106, MS4.2/31, 28C-14D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**1.78**	**237**	*e*P	**Pb**	**20 17 48.1**	**-1.0**
LGTI	**Lohaghat**	**1.81**	**234**	*e*P9	Pg	20 18 00.2	+8.5
LGTI				*e*S	Sg	20 18 33.2	+18
DANN	**Dangsing**	**2.71**	**143**	*e*Pn	**Pb**	**20 18 03.4**	**-1.7**
DANN				*e*Sn	**Sg**	**20 18 43.0**	**-1.1**
13μm,0.9s							
KOLN	**Koldanda**	**3.13**	**152**	*e*Pn	**Pb**	**20 18 09.4**	**-2.8**
KOLN				*e*Sn	**Sg**	**20 18 53.6**	**-3.9**
4μm,0.7s							
DDI	**Dehra Dun**	**3.34**	**267**	*ex*	**Pb**	**20 18 16.3**	**+0.6**
DDI				*ex*	**Sg**	**20 19 06.3**	**+2.0**
GKN	**Gorkha**	**3.47**	**136**	*e*Pn	Pn	20 18 13.3	+3.0
GKN				*e*Sn	**Sb**	**20 18 59.3**	**-0.6**
1μm,0.4s							
KKN	**Kakani**	**4.02**	**132**	*e*Pn	**Pn**	**20 18 20.2**	**+2.3**
DMN	**Daman**	**4.04**	**136**	*e*Pn	**Pn**	**20 18 21.0**	**+2.8**
SMLA	**Simla**	**4.13**	**279**	*e*P	Pn	20 18 22.1	+2.9
SMLA				AMB	AMB	20 18 38.0	
comp=Z,433nm,0.8s							
SMLA				*e*S	**Sn**	**20 19 07.5**	**+0.5**
PKIN	**Phulchoki**	**4.24**	**133**	*e*Pn	**Pn**	**20 18 23.8**	**+2.8**
PKI	**Pulchoki**	**4.25**	**133**	*e*Pn	**Pn**	**20 18 23.5**	**+2.3**
GUN	**Gumba**	**4.34**	**126**	*e*Pn	**Pn**	**20 18 24.5**	**+2.1**
SDNR	**Sundarnagar**	**4.35**	**284**	*e*P	Pn	20 18 25.0	+2.7
NDI	**New Delhi**	**4.49**	**247**	*e*P	Pn	20 18 27.0	+2.8
NDI				*ex*	**Sg**	**20 19 42.0**	**+0.8**
JIRN	**Jiri**	**4.71**	**126**	*e*Pn	**Pn**	**20 18 30.0**	**+2.4**
BHK	**Bhakra**	**4.80**	**282**	*ex*	Pn	20 18 34.8	+6.3
BHK				*ex*	**Sg**	**20 19 45.2**	**-5.9**
DHRM	**DHARAMSHALA**	**5.10**	**291**	*e*P	**Pn**	**20 18 33.1**	**+0.4**
DHRM				AMB	AMB	20 18 51.3	
comp=Z,418nm,1.1s							
DHRM				*e*S3	**Sn**	**20 19 28.3**	**-3.0**
PONG	**Pong**	**5.30**	**287**	*ex*	Pn	20 18 40.0	+4.8
PONG				*ex*	**Sb**	**20 19 50.5**	**-1.9**
RAMN	**Ramite**	**5.45**	**130**	*e*Pn	**Pn**	**20 18 39.0**	**+1.4**
DLH	**Dalhousie**	**5.46**	**293**	*e*P	**Pn**	**20 18 39.0**	**+1.4**
TAPN	**Taplejung**	**5.99**	**121**	*e*Pn	**Pn**	**20 18 46.6**	**+1.6**
ODAN	**Odare**	**6.05**	**126**	*e*Pn	**Pn**	**20 18 47.5**	**+1.8**
BOK	**Bokaro**	**7.59**	**151**	*e*P	**Pn**	**20 19 04.2**	**-2.6**
BOK				AMB	AMB	20 19 08.6	
comp=Z,111nm,1.5s							
CHCP	**Chirah Chowk**	**7.97**	**295**	P	**Pn**	**20 19 13.1**	**+1.1**
SARP	**Sargodha**	**8.04**	**282**	P	**Pn**	**20 19 12.2**	**-0.6**
LSA	**Lhasa**	**8.04**	**94**	P	**Pn**	**20 19 15.8**	**+2.5**
LSA				S	**Sn**	**20 20 43.8**	**-0.3**
LSA	**Lhasa**	**8.04**	**94**	*e*P	**Pn**	**20 19 14.9**	**+1.6**
LSA				pmax	pmax		
comp=Z,95nm,0.8s							
LSA	**Lhasa**	**8.04**	**94**	*e*P	**Pn**	**20 19 14.9**	**+1.6**
comp=Z,95nm,0.8s							
BHPL	**Bhopal**	**8.30**	**210**	*e*P	**Pn**	**20 19 15.4**	**-1.1**
BHPL				AMB	AMB	20 19 19.2	
comp=Z,34nm,1.2s							
BHPL				*e*S	Sn	20 20 42.3	-7.8
THW	**Thamme Wali**	**8.96**	**287**	⇑P	**Pn**	**20 19 25.7**	**+0.2**
CEP	**Cherat**	**9.09**	**294**	⇑P	**Pn**	**20 19 28.2**	**+0.8**
NGP	**Nagpur**	**9.70**	**196**	*e*P	**Pn**	**20 19 35.0**	**-0.8**
NGP				*e*S	Sn	20 21 15.7	-8.7
SHL	**Shillong**	**10.10**	**117**	*e*P	Pn	20 19 37.1	-4.2
SHL				AMB	AMB	20 19 40.6	
comp=Z,115nm,1.7s							
SHL				*ex*	**Sn**	**20 21 32.0**	**-2.3**
KSH	**Kashi**	**10.19**	**333**	P	**Pn**	**20 19 42.3**	**-0.2**
KSH				S	**Sn**	**20 21 33.4**	**-3.0**
KSH				PMZ			
comp=Z,33nm,0.9s							
KSH				LN			
comp=Z,1μm,6.7s							
KSH				LE			
comp=Z,1μm,7.8s							
KSH				LZ			
comp=Z,1μm,6.6s							
KBL	**Kabul**	**11.57**	**294**	*e*P	**Pn**	**20 20 01.5**	**0.0**
KBL				pmax	pmax		
comp=Z,3.0nm,0.6s							
KBL	**Kabul**	**11.57**	**294**	*e*P	**Pn**	**20 20 01.5**	**0.0**
comp=Z,2.9nm,0.6s							
ULHL	**Ulahol**	**12.54**	**340**	P	**Pn**	**20 20 13.1**	**-1.6**
SNR=13							
ULHL	**Ulahol**	**12.54**	**340**	*i* P	**Pn**	**20 20 13.0**	**-1.6**
KZA	**Kyzart**	**12.70**	**337**	P	**Pn**	**20 20 18.7**	**+1.7**
SNR=7.7							
KZA	**Kyzart**	**12.70**	**337**	*i* P	**Pn**	**20 20 18.7**	**+1.7**
VIS	**Vishakhapatnam**	**12.83**	**174**	*e*P	**Pn**	**20 20 16.6**	**-2.0**
VIS				AMB	AMB	20 20 37.2	
comp=Z,48nm,0.8s							
VIS				*ex*	x	20 22 27.7	
LATR	**Latur**	**13.02**	**203**	*ex*	**Pn**	**20 20 22.0**	**+0.9**
UCH	**Uchtor**	**13.09**	**335**	P	**Pn**	**20 20 20.6**	**-1.9**
SNR=20							
UCH	**Uchtor**	**13.09**	**335**	*i* P	**Pn**	**20 20 20.5**	**-1.9**
BHJ	**Bhuj**	**13.13**	**239**	*e*P	**Pn**	**20 20 20.9**	**-1.7**
BHJ				AMB	AMB	20 20 29.7	
comp=Z,54nm,0.0s							
AML	**Almayashu**	**13.32**	**332**	P	**Pn**	**20 20 23.2**	**-2.3**
SNR=6.7							
TKM2	**Tokmak 2**	**13.35**	**339**	P	**Pn**	**20 20 23.9**	**-1.9**
SNR=5.9							
TKM2	**Tokmak 2**	**13.35**	**339**	*i* P	**Pn**	**20 20 23.8**	**-1.9**
HYB	**Hyderabad**	**13.42**	**194**	*e*P	**Pn**	**20 20 24.5**	**-2.2**
HYB	**Hyderabad**	**13.42**	**194**	*i* P	**Pn**	**20 20 24.5**	**-2.2**
HYB				*e*S	Sn	20 22 46.5	-9.1
HYB	**Hyderabad**	**13.42**	**194**	*e*P	**Pn**	**20 20 24.9**	**-1.8**
HYB				AMB	AMB	20 20 30.9	
comp=Z,36nm,0.3s							
HYB	**Hyderabad**	**13.42**	**194**	*e*P	**Pn**	**20 20 24.5**	**-2.2**
HYB				*e*S	Sn	20 22 46.5	-9.1
AAK	**Ala-Archa**	**13.45**	**336**	P	**Pn**	**20 20 29.9**	**+2.8**
SNR=7.9							
AAK	**Ala-Archa**	**13.45**	**336**	*e*P	**Pn**	**20 20 25.5**	**-1.6**
AAK				pmax	pmax		
comp=Z,47nm,1.2s							
AAK	**Ala-Archa**	**13.45**	**336**	P	P	20 20 32.7	-3.7
SNR=9.0							
AAK	**Ala-Archa**	**13.45**	**336**	Pn	**Pn**	**20 20 27.9**	**+0.8**
comp=Z,0.8nm,0.3s,baz=165,slow=6.2,SNR=13							
AAK				LR	LR	20 25 34.6	
comp=Z,234nm,18.0s,baz=147,slow=37							
FRU	**Bishkek**	**13.59**	**337**	*e*P	**Pn**	**20 20 31.0**	**+2.2**
FRU				*e*S	**Sn**	**20 23 02.0**	**+2.7**
FRU				pmax	pmax		
comp=Z,100nm,2.3s							
FRU				MLR	MLR		
comp=Z,20μm,14.5s							
CHMS	**Chumysh**	**13.69**	**337**	P	Pn	20 20 33.2	+3.0
SNR=5.2							
CHMS	**Chumysh**	**13.69**	**337**	*i* P	Pn	20 20 33.2	+3.0
EKS2	**Erkin-Say**	**13.74**	**334**	*e*P	**Pn**	**20 20 30.6**	**-0.4**
EKS2				pmax	pmax		
comp=Z,20nm,1.0s							
EKS2	**Erkin-Say**	**13.74**	**334**	*e*P	**Pn**	**20 20 30.6**	**-0.4**
comp=Z,20nm,1.0s							
POO	**Poona**	**14.03**	**213**	*e*P	**Pn**	**20 20 34.1**	**-0.9**
POO				AMB	AMB	20 20 35.3	
comp=Z,20nm,0.8s							
KK31	**Karatay Array**	**15.49**	**327**	*i* P	**Pn**	**20 20 51.0**	**-3.5**
KK31				pmax	pmax		
comp=Z,8.0nm,0.6s							
KKAR	**Karatay Array**	**15.49**	**327**	*e*P	**Pn**	**20 20 50.6**	**-3.9**
KKAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
KKAR	**Karatay Array**	**15.49**	**327**	*e*P	**Pn**	**20 20 50.6**	**-3.9**
comp=Z,0.9nm,0.5s							
MKAR	**Makanchi Array**	**16.23**	**1**	Pn	**Pn**	**20 21 02.5**	**-1.5**
comp=Z,0.6nm,0.3s,baz=186,slow=10,SNR=29							
GOA	**Goa**	**16.72**	**208**	*e*P	**Pn**	**20 21 09.1**	**-1.3**
GOA				AMB	AMB	20 21 25.1	
comp=Z,42nm,1.1s							
GTA	**Gaotai**	**17.11**	**54**	*e*P	**Pn**	**20 21 16.1**	**+0.8**
GTA				pP	**pP**	**20 21 23.3**	**+1.6**
GTA				sP	**sP**	**20 21 27.3**	**+3.3**
GTA				PMZ			
comp=Z,11nm,2.0s							
GTA				PMZ			
comp=Z,160nm,6.3s							
GTA				LN			
comp=Z,1μm,10.8s							
GTA				LE			
comp=Z,780nm,10.8s							
GTA				LZ			
comp=Z,790nm,11.1s							
CMAI	**Chiengmai2**	**18.73**	**120**	P	**Pn**	**20 21 35.2**	**-0.2**
comp=Z,48nm,1.0s,comp=Z,4μm							
MHMT	**Maesarieng**	**19.06**	**127**	P	**Pn**	**20 21 39.0**	**-0.3**
comp=Z,24nm,1.0s,comp=Z,268nm							
LZH	**Lanzhou**	**19.13**	**67**	*e*P	**Pn**	**20 21 41.8**	**+1.7**
LZH				pP	**pP**	**20 21 45.0**	**+0.9**
LZH				sP	**sP**	**20 21 46.5**	**+0.2**
LZH				PP	**PnPn**	**20 21 59.3**	**+6.5**
LZH				*e*S	**Sn**	**20 25 14.0**	**-0.1**
LZH				sS	**sS**	**20 25 22.1**	**-1.3**
LZH				PMZ			
comp=Z,31nm,1.2s							
LZH				PMZ			
comp=Z,170nm,4.3s							
LZH				LN			
comp=Z,620nm,12.2s							
LZH				LE			
comp=Z,640nm,12.5s							
LZH				LZ			
comp=Z,980nm,13.8s							
KMI	**Kunming**	**19.18**	**101**	P	**P**	**20 21 40.1**	**+0.1**
KMI				pP	**pP**	**20 21 45.8**	**+1.0**
KMI				S	**Sn**	**20 25 15.3**	**-0.4**
KMI				PMZ			
comp=Z,26nm,1.3s							
KMI				LN			
comp=Z,580nm,17.0s							
KMI				LE			
comp=Z,1μm,14.2s							
KMI				LZ			
comp=Z,1μm,14.9s							
CHTO	**Chiang Mai**	**19.35**	**123**	*e*P	**P**	**20 21 41.2**	**-0.5**
CHTO				pmax	pmax		
comp=Z,20nm,0.9s							
CHTO	**Chiang Mai**	**19.35**	**123**	P	**Pn**	**20 21 42.5**	**-0.3**
SNR=18							
CHTO	**Chiang Mai**	**19.

comp=Z,8.0nm,1.1s
XAN PMZ
comp=Z,22nm,3.7s
XAN LN
comp=Z,310nm,10.3s
XAN LE
comp=Z,210nm,10.8s
XAN LZ
comp=Z,240nm,12.3s
PALK Pallekele 23.18 183 P P 20 22 23.3 +0.5
PALK pmax pmax
comp=Z,22nm,1.0s
PALK Pallekele 23.18 183 P P 20 22 23.3 +0.5
comp=Z,22nm,1.0s,baz=15,slow=11,SNR=5.7
PALK Pallekele 23.18 183 *e*P **P 20 22 23.8 +1.0**
ZALV Zalesovo Beam 23.48 4 P P 20 22 25.6 +0.1
comp=Z,7.8nm,0.7s,baz=187,slow=10,SNR=25
ZALV LR LR 20 32 33.7
comp=Z,265nm,18.3s,baz=240,slow=39
ASHO Ashiyiah 23.62 262 P P 20 22 31.3 +4.1
SNR=9.0
ARQ Araqi 23.72 259 P P 20 22 32.2 +4.0
SNR=10.0
ENH Enshi 23.76 84 *e*P **P 20 22 26.6 -1.9**
comp=Z,18nm,0.9s
BVA0 Borovoye Array 23.99 343 *i* P **P 20 22 30.1 -0.3**
BVA0 pmax pmax
comp=Z,13nm,1.1s
BVAR Borovoye Array 23.99 343 P P 20 22 29.8 -0.6
comp=Z,1.4nm,0.4s,baz=145,slow=11,SNR=25
BRVK Borovoye 24.05 343 *ce*P **P 20 22 29.8 -1.2**
BRVK pmax pmax
comp=Z,22nm,2.5s
BRVK Borovoye 24.05 343 *e*P **P 20 22 30.7 -0.2**
comp=Z,17nm,1.0s
NVS Novosibirsk 24.30 2⇓*i*P **P 20 22 34.3 +1.0**
NVS *e*S **S 20 26 49.8 -1.5**
NVS pmax pmax
comp=Z,46nm,2.5s
NVS pmax pmax
comp=N,41nm,2.3s
NVS pmax pmax
comp=E,23nm,2.3s
NVS smax smax
comp=N,22nm,2.5s
NVS smax smax
comp=E,26nm,2.3s
AB31 Akbulak array 25.02 325 *i* P **P 20 22 40.3 +0.5**
AB31 pmax pmax
comp=Z,15nm,0.7s
ABKAR Akbulak array 25.02 325 *e*P **P 20 22 39.9 +0.2**
comp=Z,12nm,0.6s
MOY Mondy 25.39 28 *e*P P 20 22 48.2 +4.9
ZAK Zakamensk 25.47 33 *e*P **P 20 22 44.8 +0.8**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 25.49 40 P P 20 22 45.0 +0.7
SONM Songino Array 25.49 40 P P 20 22 45.0 +0.7
comp=Z,5.6nm,1.0s,baz=225,slow=8.4,SNR=25
ULN Ulaanbaatar 25.87 41 *ce*P **P 20 22 51.2 +3.4**
ULN pmax pmax
comp=Z,16nm,1.7s
ULN Ulaanbaatar 25.87 41 P P 20 22 52.1 +4.3
SNR=6.0
ULN Ulaanbaatar 25.87 41 *e*P **P 20 22 49.5 +1.7**
comp=Z,14nm,1.3s
HHC Hu-ho-hao-te 26.07 59 *e*P **P 20 22 48.3 -1.3**
HHC sP **sP 20 22 55.8 -1.1**
HHC PP **PnPn 20 23 25.9 -1.9**
HHC S **S 20 27 13.8 -6.3**
HHC sS **sS 20 27 23.6 -5.1**
HHC PMZ
comp=Z,20nm,1.1s
HHC PMZ
comp=Z,380nm,4.6s
HHC LN
comp=Z,1μm,13.7s
HHC LE
comp=Z,760nm,12.8s
HHC LZ
comp=Z,880nm,11.8s
TLY Talaya 26.53 31 P P 20 22 54.5 +1.0
comp=Z,2.9nm,0.7s,baz=148,slow=2.0,SNR=3.7
SURT Suratani 26.64 140 P P 20 22 59.2 +4.5
comp=Z,18nm,1.3s
AKTO Aktyubinsk 26.73 325 P P 20 22 55.5 +0.2
comp=Z,2.9nm,0.7s,baz=98,slow=13,SNR=11
AKTO LR LR 20 34 07.4
comp=Z,464nm,20.3s,baz=138,slow=38
PKDT Phuket 27.28 142 P P 20 23 13.5 +13
QIZ Qiongzhong 27.75 108 P P 20 22 55.9 -8.8
QIZ sP sP 20 22 59.8 -12
QIZ S S 20 27 35.6 -11
MAK Makhachkala 30.02 304 *e*P **P 20 23 22.4 -2.3**
MAK *e* 20 24 17.9
MAK *e*S **S 20 28 16.4 -5.6**
MAK *e*SSS SSS 20 30 03.1
MAK pmax pmax
comp=Z,105nm,1.0s
MAK MLR MLR
comp=Z,846nm,15.0s
ARU Arti 30.63 334 *d i*P **P 20 23 30.2 +0.2**
ARU 20 24 29.9
ARU S **S 20 28 29.1 -2.2**
ARU SS **SnSn 20 30 05.5 -3.4**
ARU pmax pmax
comp=Z,6.0nm,1.0s
ARU MLR MLR
comp=Z,352nm,18.0s
ARU Arti 30.63 334 *e*P **P 20 23 30.2 +0.2**
comp=Z,3.4nm,0.6s
ZEI Tsey 32.59 303 *e*P **P 20 23 49.1 +1.5**
ZEI pmax pmax
comp=Z,21nm,1.4s
KBZ Khabaz 33.47 304 P P 20 23 55.9 +0.9
comp=Z,4.8nm,0.9s,baz=147,slow=7.5,SNR=9.8
SSE Sheshan 33.61 79 P P 20 24 01.1 +4.7
SSE S **S 20 29 22.9 +4.6**
SSE PMZ
comp=Z,59nm,0.8s
SSE PMZ
comp=Z,420nm,4.2s
SSE LN
comp=Z,1μm,14.2s
SSE LE
comp=Z,290nm,14.2s
SSE LZ
comp=Z,720nm,11.8s
KIV Kislovodsk 33.66 304 *e*P **P 20 23 57.8 +1.0**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,226nm,15.0s
KIV Kislovodsk 33.66 304 *e*P **P 20 23 57.6 +0.8**
comp=Z,14nm,0.9s
VRHR Novokhopersk 36.16 316 *e*P **P 20 24 16.9 -1.2**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR MLR MLR
comp=Z,710nm,18.0s
VRHR MLR MLR
comp=N,50nm,13.0s
VRHR MLR MLR
comp=E,620nm,18.0s
MALT Malatya 36.43 294⇓*i*P **P 20 24 21.2 +0.4**
VORD Divnogorie 37.52 315 *e*P **P 20 24 30.9 +1.2**
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,20nm,0.7s
VORD pmax pmax
comp=Z,6.0nm,0.7s
VSR Storozhevoye 37.67 316 *e*P **P 20 24 29.7 -1.3**
VSR pmax pmax
comp=Z,9.0nm,1.0s
VSR pmax pmax
comp=N,1.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,30nm,1.3s
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR MLR MLR
comp=N,260nm,18.0s
VSR MLR MLR
comp=E,450nm,18.0s
VSR MLR MLR
comp=Z,510nm,18.0s
KSAR Wonju Array Be 38.42 67 P **P 20 24 38.1 +0.5**
KSAR Wonju Array Be 38.42 67 P **P 20 24 38.1 +0.5**
KSRS Korea Array 38.45 67 P **P 20 24 38.1 +0.3**
KSRS pmax pmax
comp=Z,4.0nm,0.7s
KSRS Korea Array 38.45 67 P **P 20 24 38.1 +0.3**
comp=Z,4.1nm,0.7s,baz=272,slow=9.7,SNR=11
PRGR Permogore 39.07 333 *e*P **P 20 24 40.1 -2.6**
PRGR pmax pmax
comp=Z,26nm,1.2s
SIM Simferopol' 39.87 305 *e*P **P 20 24 49.1 -0.5**
SIM pmax pmax
comp=Z,21nm,0.7s
MOS Moscow 39.98 322 *e*P P 20 24 47.1 -3.2
BRTR Keskin Array B 40.12 297 P **P 20 24 52.6 +0.7**
comp=Z,13nm,1.1s,baz=99,slow=7.6,SNR=29
BRTR LR LR 20 45 23.9
comp=Z,58nm,18.1s,baz=89,slow=42
OBN Obninsk 40.34 321⇓*i*P **P 20 24 54.7 +1.4**
OBN *e* 20 26 28.8
OBN *e*S S 20 31 07.5 +7.3
OBN pmax pmax
comp=Z,37nm,1.7s
OBN MLR MLR
comp=Z,252nm,16.0s
KLMR Klimovskoe 41.17 330 *e*P **P 20 24 57.8 -2.2**
KLMR *i* 20 26 35.6
KLMR pmax pmax
comp=Z,29nm,1.3s
USRK Ussuriysk Ar. 41.45 56 P **P 20 25 00.9 -1.7**
comp=Z,1.1nm,0.6s,baz=263,slow=8.2,SNR=3.3
TMCR Tamitsa 43.37 334 *e*P **P 20 25 18.6 +0.7**
TMCR *e* 20 26 58.2
TMCR pmax pmax
comp=Z,36nm,1.0s
AKASG Malin Array Be 43.72 313 P **P 20 25 20.9 -0.1**
comp=Z,6.7nm,0.5s,baz=78,slow=7.4,SNR=19
AKASG LR LR 20 45 53.4
comp=Z,221nm,19.9s,baz=90,slow=39
KIEV Kiev 43.73 313 *e*P **P 20 25 20.6 -0.4**
KIEV pmax pmax
comp=Z,15nm,0.9s
KIEV Kiev 43.73 313 *e*P **P 20 25 20.6 -0.4**
comp=Z,15nm,0.9s
VRI Vrincioaia 45.10 306⇓*i*P **P 20 25 33.5 +1.4**
PLOR Plostina 45.16 306⇑*i*P **P 20 25 33.7 +1.1**
TESR Tescani 45.16 307⇑*i*P **P 20 25 34.0 +1.4**
JMB Yambol 45.31 301⇓*i*P **P 20 25 35.1 +1.3**
JOF Joensuu 45.56 330 *e*P **P 20 25 34.5 -1.0**
JOF pmax pmax
comp=Z,12nm,0.6s
JOF Joensuu 45.56 330 *ep* **P 20 25 34.5 -1.0**
comp=Z,12nm,0.6s
MLR Muntele Rosu 45.65 305⇑*i*P **P 20 25 38.4 +1.7**
NACGM Naroch 45.77 319 *e* **P 20 25 35.0 -2.2**
DOPR Dopca 46.03 306⇑*i*P **P 20 25 41.2 +1.7**
BURAR Bucovina Array 46.15 308⇑*i*P **P 20 25 41.7 +1.2**
BBKI Banjar Baru 46.17 131 P P 20 25 48.2 +7.3
KDZ Kurdzhali 46.24 300⇑*i*P **P 20 25 41.8 +0.6**
MTUR Matau 46.28 305⇓*i*P **P 20 25 42.3 +0.7**
VOIR 46.28 305⇑*i*P **P 20 25 41.9 +0.3**
ARR Arges 46.58 305⇑*i*P **P 20 25 44.7 +0.8**
LVV L'vov 46.98 311 *e*P **P 20 25 46.6 -0.2**
MPEP Malo Peshtene 47.34 303 *e*P **P 20 25 50.6 +0.9**
FINES FINESS Array B 47.45 327 P **P 20 25 50.4 0.0**
comp=Z,8.3nm,0.7s,baz=115,slow=9.3,SNR=50
FINES LR LR 20 47 06.9
comp=Z,569nm,18.6s,baz=107,slow=38
MMB Musomiste 47.51 300⇑*i*P **P 20 25 52.5 +1.4**
MMB Musomiste 47.51 300 *e*P **P 20 25 50.6 -0.5**
KAF Kangasniemi 47.52 328 *e*P **P 20 25 49.9 -0.9**
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 47.52 328 *ep* **P 20 25 49.9 -0.9**
comp=Z,4.0nm,0.7s
SUW Suwalki 47.74 317 *e*P **P 20 25 51.9 -0.8**
SUW Suwalki 47.74 317 *e*P **P 20 25 51.9 -0.8**
SUW Suwalki 47.74 317 *e*P **P 20 25 52.6 -0.1**
comp=Z,31nm,1.0s
VTS Vitosha 47.79 302⇓*i*P **P 20 25 54.0 +0.5**
VTS Vitosha 47.79 302 *e*P **P 20 25 53.6 +0.1**
KWP Kalwaria Pacla 47.83 311 *e*P **P 20 25 54.5 +1.0**
KWP pmax pmax
comp=Z,21nm,0.9s
KWP Kalwaria Pacla 47.83 311 *e*P **P 20 25 54.6 +1.0**
KWP Kalwaria Pacla 47.83 311⇑*i*P **P 20 25 54.5 +1.0**
KWP Kalwaria Pacla 47.83 311 *e*P **P 20 25 54.5 +1.0**
comp=Z,21nm,0.9s
DRGR 47.87 307⇑*i*P **P 20 25 54.9 +1.0**
GZR Gura Zlata 47.89 305⇓*i*P **P 20 25 55.0 +0.9**
TRPA Tarpa 47.95 309⇓*i*P **P 20 25 54.7 +0.3**
KKB Krupnik 47.96 301 *e*P **P 20 25 53.7 -0.9**
KOLS Kolonicke sedl 48.12 310 *e*P **P 20 25 56.8 +1.1**
KOLS Kolonicke sedl 48.12 310 *e*P **P 20 25 56.8 +1.1**
TIXI Tiksi 48.23 18 *ce*P **P 20 25 58.6 +2.4**
TIXI pmax pmax
comp=Z,20nm,1.7s
TIXI Tiksi 48.23 18 *e*P **P 20 25 57.4 +1.2**
comp=Z,5.9nm,0.8s
BZS Buzias 48.69 306⇑*i*P **P 20 25 59.8 -0.3**
STHS Stebnicka Huta 48.79 311 *e*P **P 20 26 01.6 +0.7**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 48.79 311 *e*P **P 20 26 01.6 +0.7**
NIE Niedzica 49.39 311 *e*P **P 20 26 07.9 +2.3**
NIE Niedzica 49.39 311 *e*P **P 20 26 06.7 +1.1**
OJC Ojcow 49.71 312 *e*P **P 20 26 07.9 0.0**
OJC Ojcow 49.71 312 *e*P **P 20 26 07.9 0.0**
KEV Kevo 49.71 338 *e*P **P 20 26 06.4 -1.2**
KEV pmax pmax
comp=Z,8.0nm,0.6s
KEV Kevo 49.71 338 *ep* **P 20 26 06.4 -1.2**
comp=Z,8.1nm,0.6s
PSZ Piszkesteto 49.73 309⇑*i*P **P 20 26 09.2 +1.0**
ARCES ARCESS Array B 50.12 338 P **P 20 26 10.6 -0.1**
comp=Z,5.1nm,0.7s,baz=104,slow=7.6,SNR=16
ARCES LR LR 20 49 24.7
comp=Z,222nm,19.4s,baz=132,slow=38
VYHS Vyhne 50.41 310 *e*P **P 20 26 13.6 +0.4**
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 50.41 310 *e*P **P 20 26 13.6 +0.4**
OKC Ostrava-Krasne 50.78 311 *e*P **P 20 26 16.3 +0.2**
OKC *e* 20 26 23.5
OKC MLR MLR
comp=Z,200nm,17.8s
OKC Ostrava-Krasne 50.78 311 *e*P **P 20 26 16.3 +0.2**
OKC *ep*P **pP 20 26 20.3 -1.2**
OKC *es*P **sP 20 26 23.5 -0.1**
OKC AMS AMS 20 50 20.0
comp=Z,200nm,17.8s
MORC Moravsky Berou 51.18 311 *e*P **P 20 26 19.8 +0.7**
MORC pmax pmax
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 51.18 311⇓*i*P **P 20 26 19.9 +0.8**
MORC Moravsky Berou 51.18 311 *e*P **P 20 26 19.8 +0.8**
comp=Z,8.7nm,0.9s
KRLC Kraliky 51.65 312 *e*P **P 20 26 23.4 +0.8**
KRLC *e* 20 26 31.9
KRLC Kraliky 51.65 312 *e*P **P 20 26 23.4 +0.8**
KRLC *ep*P **pP 20 26 26.9 -1.2**
KRLC *es*P **sP 20 26 31.9 +1.7**
VRAC Vranov 51.83 311⇑*i*P **P 20 26 24.9 +1.0**
KSP Ksiaz 51.92 313 *e*P **P 20 26 24.5 0.0**
KSP Ksiaz 51.92 313 *e*P **P 20 26 24.8 +0.3**
DPC Dobruska-Polom 51.93 312 *e*P **P 20 26 25.3 +0.6**
DPC *e* 20 26 33.7
DPC Dobruska-Polom 51.93 312 *e*P **P 20 26 25.3 +0.6**
DPC *ep*P **pP 20 26 28.7 -1.4**
DPC *es*P **sP 20 26 33.7 +1.5**
UPC Upice 52.12 312 *e*P **P 20 26 27.0 +1.0**
UPC Upice 52.12 312 *e*P **P 20 26 27.0 +1.0**
UPC *ep*P **pP 20 26 30.4 -1.1**
CONA Conrad Observa 52.43 309⇑*i*P **P 20 26 29.1 +0.6**
comp=Z,18nm,1.0s,SNR=11
TREC Trest 52.55 311 *e*P **P 20 26 29.5 +0.2**
TREC MLR MLR
comp=Z,300nm,15.2s
TREC Trest 52.55 311 *e*P **P 20 26 29.5 +0.2**
TREC *ep*P **pP 20 26 33.4 -1.3**
TREC AMS AMS 20 51 30.0
comp=Z,300nm,15.2s
ARSA Arzberg 52.73 308⇑*i*P **P 20 26 30.3 -0.4**
comp=Z,7.0nm,1.0s
KMBO Kilima Mbogo 52.87 242 P **P 20 26 33.1 +0.8**
comp=Z,2.6nm,0.9s,baz=50,slow=13,SNR=3.9
KMBO LR LR 20 47 25.3
comp=Z,67nm,21.3s,baz=92,slow=34
PERS Pernice 53.09 308 *e*P **P 20 26 33.6 +0.2**
PRU Pruhonice 53.10 312 *e*P **P 20 26 33.6 +0.3**
PRU *e* 20 26 42.2
PRU MLR MLR
comp=Z,200nm,16.5s
PRU Pruhonice 53.10 312 *e*P **P 20 26 33.6 +0.3**
PRU *ep*P **pP 20 26 37.6 -1.1**
PRU *es*P **sP 20 26 42.2 +1.4**
PRU AMS AMS 20 53 00.0
comp=Z,200nm,16.5s
SOKA Soboth 53.14 308⇑*i*P **P 20 26 34.5 +0.8**
comp=Z,12nm,0.8s,SNR=11
BOJS Bojanci 53.14 306 *i* P **P 20 26 34.4 +0.7**
PRA Prague 53.16 312 *e*P **P 20 26 34.9 +1.2**
PRA Prague 53.16 312 *e*P **P 20 26 34.9 +1.2**
PRA *ep*P **pP 20 26 38.4 -0.8**
PDKS Podkum 53.24 307 *i* P **P 20 26 35.0 +0.5**
BRG Berggiesshubel 53.40 313 *e*P **P 20 26 36.1 +0.6**
comp=Z,11nm,0.9s
BRG *e*PCP **PcP 20 27 43.7 +1.1**
comp=Z,2.7nm,0.8s
BRG *e* 20 32 44.1
comp=Z,2.8nm,0.7s
BRG Berggiesshubel 53.40 313 *e*P **P 20 26 36.1 +0.6**
BRG *e* 20 27 43.7
BRG pmax pmax
comp=Z,11nm,0.9s
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG Berggiesshubel 53.40 313 *e*P **P 20 26 36.3 +0.8**
comp=Z,11nm,0.9s
MOA Molln 53.51 309⇓*i*P **P 20 26 36.5 +0.1**
comp=Z,10nm,0.9s
CUC Castrocucco 53.69 299 *e*P **P 20 26 37.6 -0.3**
comp=Z,12nm,0.8s
GEC2 GERESS Array S 53.76 310 *e*P **P 20 26 38.9 +0.6**
comp=Z,10.0nm,1.3s
GERES GERESS Array B 53.76 310 P **P 20 26 38.9 +0.6**
comp=Z,1.7nm,0.6s,baz=80,slow=8.3,SNR=10
GERES LR LR 20 52 57.2
comp=Z,103nm,18.4s,baz=111,slow=40
KHC Kasperske Hory 53.81 311 *e*P **P 20 26 38.6 0.0**
KHC Kasperske Hory 53.81 311 *e*P **P 20 26 38.6 0.0**
KHC *ep*P **pP 20 26 42.4 -1.7**
KHC Kasperske Hory 53.81 311 *e*P **P 20 26 38.3 -0.3**
comp=Z,4.4nm,0.8s
CLL Collm 53.95 314 *e*P **P 20 26 40.0 +0.5**
CLL Collm 53.95 314 *e*L L 20 52 04.9
comp=Z,280nm,18.5s
CLL Collm 53.95 314 *e*P **P 20 26 40.0 +0.5**
WET Wettzell 54.27 311 *e*P **P 20 26 42.6 +0.7**
comp=Z,8.0nm,0.9s
WET *e*L L 20 50 02.8
comp=Z,188nm,21.9s
TANN Tannenbergstha 54.39 313 *e*P **P 20 26 43.3 +0.5**
comp=Z,6.0nm,1.0s
NB2 NORSAR Subarra 54.52 326 P **P 20 26 42.9 -0.6**
comp=Z,1.9nm,0.6s,baz=88,slow=7.4
NOA NORSAR Array B 54.52 326 P **P 20 26 42.2 -1.3**
comp=Z,3.0nm,0.7s,baz=90,slow=7.2,SNR=12
ROTZ Rotzenmuhle 54.62 312 *e*P **P 20 26 45.8 +1.3**
comp=Z,15nm,1.0s
MOX Moxa 54.90 313 *e*P **P 20 26 47.0 +0.6**
comp=Z,8.0nm,1.1s
MOX *e*L L 20 53 53.7
comp=Z,184nm,18.1s
GRF Grafenberg Arr 55.27 312 *e*L L 20 55 18.8
comp=Z,165nm,20.7s
BSEG Bad Segeberg 55.33 317 *e*P **P 20 26 50.3 +0.8**
comp=Z,15nm,0.8s
FUR Furstenfeldbru 55.45 310 *e*P **P 20 26 51.3 +0.8**
CLZ Clausthal 55.53 314 *e*P **P 20 26 51.7 +0.7**
comp=Z,21nm,0.8s
NRDL Niedersach Rie 55.61 315 *e*P **P 20 26 52.3 +0.9**
comp=Z,15nm,0.9s
MOTA Moosalm 55.70 309⇑*i*P **P 20 26 51.8 -0.7**
comp=Z,14nm,1.0s,SNR=8.7
FETA Feichten 56.01 309⇑*i*P **P 20 26 54.1 -0.5**
comp=Z,4.8nm,0.6s
DAVA Damuels 56.53 309⇑*i*P **P 20 26 58.2 -0.2**
comp=Z,16nm,0.9s,SNR=6.6
SOEI Soe 57.09 128 *e*P **P 20 27 05.2 +2.6**
comp=Z,19nm,0.9s
BFO Black Forest 57.37 311 *ce*P **P 20 27 04.3 +0.1**
BFO Black Forest 57.37 311 *e*L L 20 51 59.5
comp=Z,110nm,19.8s
CDF Champ du Feu 58.04 311 *e*P **P 20 27 08.4 -0.6**
comp=Z,37nm,1.5s
CDF Champ du Feu 58.04 311 *e*P **P 20 27 08.4 -0.6**
CDF pmax pmax
comp=Z,37nm,1.5s
CDF Champ du Feu 58.04 311 *e*P **P 20 27 08.4 -0.6**
comp=Z,37nm,1.5s
HINF Hinteralfeld 58.44 310 *e*P **P 20 27 11.2 -0.5**
comp=Z,24nm,1.0s
HINF Hinteralfeld 58.44 310 *e*P **P 20 27 11.2 -0.5**
HINF pmax pmax
comp=Z,24nm,1.0s
HINF Hinteralfeld 58.44 310 *e*P **P 20 27 11.2 -0.5**
comp=Z,24nm,1.0s
HAU Haudompre 58.73 310 *e*P **P 20 27 13.3 -0.4**
comp=Z,21nm,0.9s
HAU *e*R
comp=Z,137nm,21.5s
HAU Haudompre 58.73 310 *e*P **P 20 27 13.3 -0.4**
HAU pmax pmax
comp=Z,21nm,0.9s
HAU Haudompre 58.73 310 *e*P **P 20 27 13.3 -0.4**
comp=Z,21nm,0.9s
SBF Sospel 58.93 306 *e*P **P 20 27 14.6 -0.6**
comp=Z,50nm,1.0s
SBF Sospel 58.93 306 *e*P **P 20 27 14.6 -0.6**
SBF pmax pmax
comp=Z,51nm,1.0s
SBF Sospel 58.93 306 *e*P **P 20 27 14.6 -0.6**
comp=Z,50nm,1.0s
LPG La Plagne 59.02 308 *e*P **P 20 27 16.1 0.0**
comp=Z,22nm,0.8s
LPG La Plagne 59.02 308 *e*P **P 20 27 16.1 0.0**
LPG pmax pmax
comp=Z,22nm,0.8s
LPG La Plagne 59.02 308 *e*P **P 20 27 16.1 0.0**
comp=Z,22nm,0.8s
LPL La Plagne 59.02 308 *e*P **P 20 27 16.1 0.0**
comp=Z,25nm,0.8s
LPL La Plagne 59.02 308 *e*P **P 20 27 16.1 0.0**
LPL pmax pmax
comp=Z,25nm,0.8s
LPL La Plagne 59.02 308 *e*P **P 20 27 16.1 0.0**
comp=Z,25nm,0.8s
MBDF Montbardon 59.18 307 *e*P **P 20 27 16.2 -0.9**
MBDF Montbardon 59.18 307 *e*P **P 20 27 16.2 -0.9**
MBDF Montbardon 59.18 307 *e*P **P 20 27 16.2 -0.9**
CABF La Chapelle 59.21 309 *e*P **P 20 27 15.9 -1.3**
CABF La Chapelle 59.21 309 *e*P **P 20 27 15.9 -1.3**
CABF La Chapelle 59.21 309 *e*P **P 20 27 15.9 -1.3**
GIVF Givet 59.27 313 *e*P **P 20 27 17.4 0.0**
GIVF Givet 59.27 313 *e*P **P 20 27 17.4 0.0**
GIVF Givet 59.27 313 *e*P **P 20 27 17.4 0.0**
MEZF Maizieres J'vi 59.47 311 *e*P **P 20 27 18.6 -0.2**
comp=Z,30nm,0.9s
MEZF Maizieres J'vi 59.47 311 *e*P **P 20 27 18.6 -0.2**
comp=Z,30nm,0.9s
FRF La Foret Royal 59.56 305 *e*P **P 20 27 19.1 -0.4**
FRF La Foret Royal 59.56 305 *e*P **P 20 27 19.1 -0.4**
FRF La Foret Royal 59.56 305 *e*P **P 20 27 19.1 -0.4**
BAIF Baives 59.67 313 *e*P **P 20 27 19.9 -0.2**
BAIF Baives 59.67 313 *e*P **P 20 27 19.9 -0.2**
BAIF Baives 59.67 313 *e*P **P 20 27 19.9 -0.2**
KEST Kesra 59.72 296 P **P 20 27 21.6 +0.7**
comp=Z,5.5nm,0.9s,baz=343,slow=3.5,SNR=9.6

KEST LR LR 20 59 17.0
comp=Z,41nm,18.5s,baz=250,slow=42
BILL Bilibino 59.97 26 ⇊*iP* P 20 27 25.6 +3.7
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL MLR MLR
comp=Z,509nm,22.0s
LOR Lormes 60.54 310 *eP* **P 20 27 25.2 -1.0**
LOR *eR*
comp=Z,6.8nm,0.8s
comp=Z,167nm,20.8s
LOR Lormes 60.54 310 *eP* **P 20 27 25.2 -1.0**
LOR pmax pmax
comp=Z,7.0nm,0.8s
LOR Lormes 60.54 310 *eP* **P 20 27 25.2 -1.0**
comp=Z,6.8nm,0.8s
SMF Signal de Mont 60.71 309 *eP* **P 20 27 26.7 -0.6**
comp=Z,17nm,1.0s
SMF Signal de Mont 60.71 309 *eP* **P 20 27 26.7 -0.6**
SMF pmax pmax
comp=Z,17nm,1.0s
SMF Signal de Mont 60.71 309 *eP* **P 20 27 26.7 -0.6**
comp=Z,17nm,1.0s
SSF Saint Saulge 60.82 310 *eP* **P 20 27 27.4 -0.7**
comp=Z,36nm,1.2s
SSF Saint Saulge 60.82 310 *eP* **P 20 27 27.4 -0.7**
SSF pmax pmax
comp=Z,36nm,1.2s
SSF Saint Saulge 60.82 310 *eP* **P 20 27 27.4 -0.7**
comp=Z,36nm,1.2s
AVF Avril sur Loir 60.99 310 *eP* **P 20 27 28.5 -0.7**
comp=Z,20nm,1.1s
AVF Avril sur Loir 60.99 310 *eP* **P 20 27 28.5 -0.7**
AVF pmax pmax
comp=Z,20nm,1.1s
AVF Avril sur Loir 60.99 310 *eP* **P 20 27 28.5 -0.7**
comp=Z,20nm,1.1s
BGF Bois d'Agland 61.39 309 *eP* **P 20 27 31.3 -0.7**
BGF Bois d'Agland 61.39 309 *eP* **P 20 27 31.3 -0.7**
BGF Bois d'Agland 61.39 309 *eP* **P 20 27 31.3 -0.7**
TCF Toulx Ste Croi 61.89 309 *eP* **P 20 27 35.2 -0.2**
comp=Z,22nm,1.1s
TCF Toulx Ste Croi 61.89 309 *eP* **P 20 27 35.2 -0.2**
TCF pmax pmax
comp=Z,22nm,1.1s
TCF Toulx Ste Croi 61.89 309 *eP* **P 20 27 35.2 -0.2**
comp=Z,22nm,1.1s
CAF Calviac 62.37 308 *eP* **P 20 27 37.9 -0.7**
CAF Calviac 62.37 308 *eP* **P 20 27 37.9 -0.7**
CAF Calviac 62.37 308 *eP* **P 20 27 37.9 -0.7**
RJF Les Rejaudoux 62.63 308 *eP* **P 20 27 39.8 -0.5**
RJF *eR*
comp=Z,199nm,21.0s
RJF Les Rejaudoux 62.63 308 *eP* **P 20 27 39.8 -0.5**
RJF Les Rejaudoux 62.63 308 *eP* **P 20 27 39.8 -0.5**
LDF La Druitiere 62.78 312 *eP* **P 20 27 40.3 -0.9**
comp=Z,15nm,0.7s
LDF La Druitiere 62.78 312 *eP* **P 20 27 40.3 -0.9**
LDF pmax pmax
comp=Z,15nm,0.7s
LDF La Druitiere 62.78 312 *eP* **P 20 27 40.3 -0.9**
comp=Z,15nm,0.7s
FLN La Foliniere 62.96 313 *eP* **P 20 27 41.5 -0.9**
FLN *eR*
comp=Z,219nm,17.8s
FLN La Foliniere 62.96 313 *eP* **P 20 27 41.5 -0.9**
FLN La Foliniere 62.96 313 *eP* **P 20 27 41.5 -0.9**
GRR Gorron 63.30 312 *eP* **P 20 27 43.8 -0.9**
comp=Z,12nm,0.8s
GRR Gorron 63.30 312 *eP* **P 20 27 43.8 -0.9**
GRR pmax pmax
comp=Z,13nm,0.8s
GRR Gorron 63.30 312 *eP* **P 20 27 43.8 -0.9**
comp=Z,12nm,0.8s
MFF Saint Martin d 63.36 310 *eP* **P 20 27 44.1 -1.0**
comp=Z,8.0nm,0.7s
MFF Saint Martin d 63.36 310 *eP* **P 20 27 44.1 -1.0**
MFF pmax pmax
comp=Z,8.0nm,0.7s
MFF Saint Martin d 63.36 310 *eP* **P 20 27 44.1 -1.0**
comp=Z,8.0nm,0.7s
SGMF Saint Gilles 64.43 312 *eP* **P 20 27 51.5 -0.6**
comp=Z,24nm,1.0s
SGMF Saint Gilles 64.43 312 *eP* **P 20 27 51.5 -0.6**
SGMF pmax pmax
comp=Z,24nm,1.0s
SGMF Saint Gilles 64.43 312 *eP* **P 20 27 51.5 -0.6**
comp=Z,24nm,1.0s
ETSF Etsaut 64.79 306 *eP* **P 20 27 54.6 -0.1**
comp=Z,13nm,0.8s
ETSF Etsaut 64.79 306 *eP* **P 20 27 54.6 -0.1**
ETSF pmax pmax
comp=Z,13nm,0.8s
ETSF Etsaut 64.79 306 *eP* **P 20 27 54.6 -0.1**
comp=Z,13nm,0.8s
ROSF Rostrenen 64.86 313 *eP* **P 20 27 54.1 -0.8**
comp=Z,35nm,1.2s
ROSF Rostrenen 64.86 313 *eP* **P 20 27 54.1 -0.8**
ROSF pmax pmax
comp=Z,35nm,1.2s
ROSF Rostrenen 64.86 313 *eP* **P 20 27 54.1 -0.8**
comp=Z,35nm,1.2s
QUIF Quistinic 64.92 312 *eP* **P 20 27 54.3 -1.0**
comp=Z,11nm,0.9s
QUIF Quistinic 64.92 312 *eP* **P 20 27 54.3 -1.0**
QUIF pmax pmax
comp=Z,11nm,0.9s
QUIF Quistinic 64.92 312 *eP* **P 20 27 54.3 -1.0**
comp=Z,11nm,0.9s
ESDC Sonseca Array 68.32 304 P **P 20 28 16.8 -0.5**
comp=Z,2.2nm,0.7s,baz=62,slow=6.7,SNR=15
WRA Warramunga Arr 71.12 128 P **P 20 28 34.0 -0.6**
comp=Z,1.5nm,0.6s,baz=323,slow=6.1,SNR=35
WRAB Tennant Creek 71.12 128 *eP* **P 20 28 33.9 -0.7**
WRAB pmax pmax
comp=Z,9.0nm,1.0s
WRAB Tennant Creek 71.12 128 *eP* **P 20 28 33.9 -0.7**
comp=Z,8.9nm,1.0s
WB2 Warramunga Arr 71.13 128 *eP* **P 20 28 34.1 -0.6**
ASAR Alice Springs 73.42 131 P **P 20 28 48.0 -0.4**
ASAR Alice Springs 73.42 131 P **P 20 28 48.0 -0.4**
comp=Z,1.3nm,0.6s,baz=313,slow=6.1,SNR=13
COLD Coldfoot 74.96 19 *eP* **P 20 28 56.8 +0.1**
comp=Z,4.8nm,0.9s
TORD Torodi Ar. Bea 75.11 277 P **P 20 28 58.4 0.0**
comp=Z,8.2nm,1.1s,baz=48,slow=4.4,SNR=32
TORD LR LR 21 07 18.3
comp=Z,139nm,18.7s,baz=50,slow=40
ILAR Eielson Array 77.68 19 P **P 20 29 11.3 -0.9**
comp=Z,1.3nm,0.9s,baz=302,slow=4.5,SNR=14
CTA Charters Tower 79.72 121 P **P 20 29 23.6 -0.5**
comp=Z,15nm,1.0s,baz=7.1,slow=3.9,SNR=4.6
BOSA Boshof 79.86 228 P **P 20 29 25.2 +0.4**
comp=Z,4.0nm,0.7s,baz=23,slow=5.5,SNR=8.1
BOSA LR LR 21 02 58.0
comp=Z,71nm,19.0s,baz=46,slow=34
KDAK Kodiak Island 80.87 26 *ceP* P 20 29 32.9 +3.2
DBIC Dimbokro 83.88 274 P **P 20 29 46.0 -0.2**
comp=Z,1.6nm,0.4s,baz=37,slow=6.1,SNR=7.2
DBIC LR LR 21 11 50.4
comp=Z,144nm,18.9s,baz=40,slow=39
STKA Stephens Creek 83.98 132 P **P 20 29 46.0 -0.3**
STKA Stephens Creek 83.98 132 P **P 20 29 46.0 -0.3**
comp=Z,4.1nm,0.8s,baz=334,slow=4.8,SNR=10
STKA LR LR 21 11 29.1
comp=Z,49nm,19.9s,baz=8.2,slow=39
YKA Yellowknife Ar 86.34 8 P **P 20 29 59.0 +1.3**
YKA Yellowknife Ar 86.34 8 P **P 20 29 58.9 +1.3**
comp=Z,0.7nm,0.7s,baz=339,slow=5.0,SNR=11
SCHQ Schefferville 90.82 343 P **P 20 30 20.1 +0.9**
comp=Z,2.7nm,0.9s,baz=30,slow=20,SNR=3.2
SCHQ LR LR 21 15 10.3
comp=Z,80nm,18.3s,baz=54,slow=38
BBB Bella Bella 93.52 18 LR LR 21 16 26.9
comp=Z,266nm,18.3s,baz=298,slow=38
LPAZ La Paz 149.19 291 PKPbc **PKPbc 20 37 06.0 +0.2**
comp=Z,3.3nm,0.9s,baz=64,slow=6.0,SNR=6.5

*IDC **15** 20:19:57.6±3.2, 36°.56S×179°.41E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.4/22, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=76.3km s-min=33.2km az=127.0*
*WEL **15** 20:20:02.1±0.7, 36°.95S×179°.58E, h12km, ML3.1/3, Error ellipse: s-maj=11.0km s-min=10.2km az=0.0*
ISC 15 20:20:02.1±2.1, **36°.8S**±0°.2×**179°.4E**±0°.3, **h33**km, **n9,**
σ1§**19**/12, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.17**	**228**	*eP**		**Pn**		**20 20 21.8**	**-0.3**
MXZ				*eS**		**Sb**		**20 20 39.1**	**+0.5**
WMGZ	**Waiomatatini S**	**1.29**	**217**	*e*PN		**Pb**		**20 20 24.9**	**-1.0**
HAZ	**Te Kaha**	**1.61**	**233**	*e*PN		**Pb**		**20 20 30.3**	**-0.9**
MWZ	**Matawai**	**2.14**	**223**	*e*PN		**Pn**		**20 20 36.1**	**+0.5**
MWZ				*e*SN		**Sn**		**20 21 03.3**	**+2.2**
URZ	**Urewera**	**2.34**	**230**	PN		**Pn**		**20 20 39.0**	**+0.8**
URZ	**Urewera**	**2.34**	**230**	Pn		**Pn**		**20 20 39.2**	**+1.0**
	3.0nm,0.3s,baz=271,slow=5.3,SNR=24								
URZ				Sn		**Sb**		**20 21 10.2**	**-1.9**
	1.4nm,0.3s,baz=311,slow=20,SNR=4.8								
ASAR	**Alice Springs**	**41.07**	**275**	P		**P**		**20 27 42.7**	**-0.1**
	0.3nm,0.7s,baz=116,slow=7.8,SNR=6.7								
WRA	**Warramunga Arr**	**42.64**	**281**	P		**P**		**20 27 56.0**	**+0.4**
	0.2nm,0.4s,baz=120,slow=7.8,SNR=8.5								
FINES	**FINESS Array B**	**150.18**	**334**	PKPbc		**PKPbc**		**20 39 48.5**	**-0.2**
	0.3nm,0.5s,baz=27,slow=3.4,SNR=5.3								

*DMN **15** 20:23:16.6±0.4, 31°.35N×81°.26E, h10km, Ml5.3/3, Error ellipse: s-maj=12.1km s-min=7.0km az=75.0*
*IDC **15** 20:23:22.9±0.6, 30°.52N×81°.98E, h0km, mb4.0/23, mb1 4.1/26, mb1mx4.1/41, mbtmp4.0/26, ML3.7/3, Error ellipse: s-maj=18.2km s-min=12.5km az=39.0*
*NDI **15** 20:23:25.6±2.9, 30°.69N×82°.07E, h10km, mb4.7, mb4.9(NEIC)*
*ISCJB **15** 20:23:27.2±0.2, 30°.68N±0°.04×81°.98E±0°.04, h33km, mb4.1/30, Error ellipse: s-maj=6.4km s-min=3.3km az=37.5*
*MOS **15** 20:23:27.0±1.2, 30°.65N×82°.04E, h33km, mb4.7/8, Error ellipse: s-maj=11.7km s-min=6.3km az=124.2*
*NEIC **15** 20:23:28.0±3.7, 30°.64N×81°.95E, h30km±26km, mb4.9/4, Error ellipse: s-maj=14.1km s-min=6.6km az=220.0*
ISC 15 20:23:28.8±0.5, **30°.63N**±0°.07×**81°.97E**±0°.06, **h35**km, **n118,**
σ1§**21**/113, **mb4.1**/30, **13C-7D, Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**1.86**	**235**	*eP*		**Pn**		**20 23 57.2**	**-1.2**
LGTI	**Lohaghat**	**1.90**	**232**	*e*P9		Pn		20 24 09.1	+10
LGTI				*e*S		Sn		20 24 36.1	+15
DANN	**Dangsing**	**2.75**	**145**	*e*Pn		**Pn**		**20 24 12.0**	**+1.2**
DANN				*e*Sn		Sn		20 24 52.9	+10
	8μm,1.0s								
KOLN	**Koldanda**	**3.18**	**153**	*e*Pn		**Pn**		**20 24 18.1**	**+1.5**
KOLN				*e*Sn		Sn		20 25 02.7	+9.3
	3μm,0.8s								
GKN	**Gorkha**	**3.50**	**138**	*e*Pn		**Pn**		**20 24 22.1**	**+1.2**
GKN				*e*Sn		Sn		20 25 11.5	+10
	3μm,0.8s								
KKN	**Kakani**	**4.04**	**134**	*e*Pn		**Pn**		**20 24 29.6**	**+1.1**
DMN	**Daman**	**4.07**	**137**	*e*Pn		**Pn**		**20 24 30.0**	**+1.2**
SMLA	**Simla**	**4.16**	**278**	*e*P		**Pn**		**20 24 29.7**	**-0.2**
SMLA				*e*S		**Sn**		**20 25 19.0**	**+1.7**
PKIN	**Phulchoki**	**4.27**	**135**	*e*Pn		**Pn**		**20 24 32.7**	**+1.1**
PKI	**Pulchoki**	**4.28**	**135**	*e*Pn		**Pn**		**20 24 32.7**	**+0.9**
GUN	**Gumba**	**4.36**	**127**	*e*Pn		**Pn**		**20 24 34.0**	**+1.1**
SDNR	**Sundarnagar**	**4.38**	**283**	*e*P3		**Pn**		**20 24 35.0**	**+2.1**
NDI	**New Delhi**	**4.57**	**246**	*ex*		x		20 24 47.0	
NDI				*ex*		x		20 25 53.0	
JIRN	**Jiri**	**4.73**	**128**	*e*Pn		**Pn**		**20 24 39.0**	**+1.0**
BHK	**Bhakra**	**4.83**	**281**	*ex*		x		20 24 44.2	
DHRM	**DHARAMSHALA**	**5.11**	**290**	*eP*		**Pn**		**20 24 42.8**	**-0.3**
DHRM				*ex*		x		20 25 34.1	
RAMN	**Ramite**	**5.47**	**131**	*e*Pn		**Pn**		**20 24 47.9**	**-0.2**
DLH	**Dalhousie**	**5.47**	**292**	*ex*		Pn		20 24 57.0	+8.9
TAPN	**Taplejung**	**5.99**	**122**	*e*Pn		**Pn**		**20 24 55.7**	**+0.4**
ODAN	**Odare**	**6.06**	**127**	*e*Pn		**Pn**		**20 24 56.8**	**+0.6**
BOK	**Bokaro**	**7.64**	**152**	*eP*		**Pn**		**20 25 16.6**	**-1.1**
BOK					AMB	AMB		20 25 17.3	
	comp=Z,45nm,0.7s								
CHCP	**Chirah Chowk**	**7.98**	**295**	P		**Pn**		**20 25 23.7**	**+1.3**
LSA	**Lhasa**	**8.00**	**94**	*eP*		**Pn**		**20 25 25.2**	**+2.2**
LSA	**Lhasa**	**8.00**	**94**	*eP*		**Pn**		**20 25 25.2**	**+2.2**
BHPL	**Bhopal**	**8.40**	**210**	*eP*		**Pn**		**20 25 28.6**	**+0.4**
BHPL					AMB	AMB		20 25 34.5	
	comp=Z,71nm,2.1s								
THW	**Thamme Wali**	**8.98**	**287**	P		**Pn**		**20 25 36.3**	**+0.2**
CEP	**Cherat**	**9.10**	**293**	P		**Pn**		**20 25 37.9**	**+0.1**
SHL	**Shillong**	**10.10**	**118**	*eP*		**Pn**		**20 25 49.5**	**-2.0**
SHL					AMB	AMB		20 25 58.8	
	comp=Z,38nm,1.8s								
KSH	**Kashi**	**10.14**	**333**	P		**Pn**		**20 25 51.0**	**-1.0**
KSH				S		**Sn**		**20 27 42.0**	**-2.5**
AAK	**Ala-Archa**	**13.40**	**336**	Pn		**Pn**		**20 26 36.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=130,slow=18,SNR=2.4								
MKAR	**Makanchi Array**	**16.15**	**1**	Pn		**Pn**		**20 27 10.3**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=183,slow=11,SNR=5.8								
KMI	**Kunming**	**19.15**	**102**	P		**P**		**20 27 49.9**	**+0.4**
CHTO	**Chiang Mai**	**19.36**	**123**	*eP*		**P**		**20 27 50.2**	**-1.3**
CHTO	**Chiang Mai**	**19.36**	**123**	*eP*		**P**		**20 27 50.2**	**-1.3**
CMAR	**Chiang Mai Arr**	**19.59**	**124**	P		**P**		**20 27 53.3**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=311,slow=10,SNR=17								
KURBB	**Kurchatov Arra**	**20.14**	**354**	P		**P**		**20 27 58.8**	**-1.0**
	comp=Z,3.2nm,0.6s,baz=179,slow=10,SNR=17								
KURK	**Kurchatov**	**20.23**	**354**	*eP*		**P**		**20 27 59.8**	**-0.9**
KURK	**Kurchatov**	**20.23**	**354**	*eP*		**P**		**20 27 59.8**	**-0.9**
GEYT	**Alibeck**	**20.98**	**297**	P		**P**		**20 28 09.2**	**+0.1**
	comp=Z,19nm,0.9s,baz=117,slow=8.6,SNR=24								
PBA	**Port Blair**	**21.36**	**150**	*eP*		P		20 28 13.9	+0.7
PBA					AMB	AMB		20 28 18.4	
	comp=Z,32nm,1.2s								
SLVN	**Son La**	**21.75**	**110**	*eP*		**P**		**20 28 17.2**	**-0.2**
ZALV	**Zalesovo Beam**	**23.40**	**4**	P		**P**		**20 28 33.4**	**-1.0**
	comp=Z,4.4nm,0.6s,baz=188,slow=10,SNR=11								
ENH	**Enshi**	**23.70**	**84**	*eP*		**P**		**20 28 39.7**	**+2.1**
BVAR	**Borovoye Array**	**23.93**	**343**	P		**P**		**20 28 38.9**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=146,slow=11,SNR=8.2								
BRVK	**Borovoye**	**23.98**	**342**	*eP*		**P**		**20 28 39.2**	**-0.7**
BRVK	**Borovoye**	**23.98**	**342**	*eP*		**P**		**20 28 39.2**	**-0.7**
ABKAR	**Akbulak array**	**24.98**	**324**	*eP*		**P**		**20 28 49.3**	**+0.3**
SONM	**Songino Array**	**25.39**	**41**	P		**P**		**20 28 53.7**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=231,slow=9.6,SNR=12								
ULN	**Ulaanbaatar**	**25.78**	**41**	P		**P**		**20 28 56.2**	**-0.3**
ULN	**Ulaanbaatar**	**25.78**	**41**	P		**P**		**20 28 56.2**	**-0.3**
AKTO	**Aktyubinsk**	**26.69**	**325**	P		**P**		**20 29 06.2**	**+1.6**
	comp=Z,2.8nm,0.7s,baz=120,slow=12,SNR=7.6								
ZEI	**Tsey**	**32.58**	**303**	*eP*		**P**		**20 29 58.4**	**+1.3**
ZEI				pmax		pmax			
	comp=Z,9.0nm,1.4s								
KBZ	**Khabaz**	**33.46**	**304**	P		**P**		**20 30 04.4**	**0.0**
	comp=Z,2.9nm,0.9s,baz=119,slow=5.8,SNR=6.8								
KSAR	**Wonju Array Be**	**38.35**	**67**	P		**P**		**20 30 47.6**	**+1.1**
KSAR	**Wonju Array Be**	**38.35**	**67**	P		**P**		**20 30 47.6**	**+1.1**
KSRS	**Korea Array**	**38.38**	**67**	P		**P**		**20 30 47.6**	**+0.9**
KSRS				pmax		pmax			
	comp=Z,3.0nm,0.8s								
KSRS	**Korea Array**	**38.38**	**67**	P		**P**		**20 30 47.6**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=273,slow=8.3,SNR=6.5								
BRTR	**Keskin Array B**	**40.13**	**297**	P		**P**		**20 31 01.8**	**+0.3**
	comp=Z,2.8nm,1.0s,baz=99,slow=7.8,SNR=7.9								
AKASG	**Malin Array Be**	**43.70**	**313**	P		**P**		**20 31 29.2**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=78,slow=7.1,SNR=5.3								
VRI	**Vrincioaia**	**45.09**	**306**	⇑P		**P**		**20 31 43.5**	**+2.0**
VRI	**Vrincioaia**	**45.09**	**306**	⇑*i*P		**P**		**20 31 43.5**	**+2.0**
PLOR	**Plostina**	**45.15**	**306**	⇊P		**P**		**20 31 44.4**	**+2.4**
PLOR	**Plostina**	**45.15**	**306**	⇊*i*P		**P**		**20 31 44.3**	**+2.3**
JOF	**Joensuu**	**45.51**	**330**	*eP*		**P**		**20 31 43.8**	**-0.7**
JOF				pmax		pmax			
	comp=Z,3.0nm,0.6s								
JOF	**Joensuu**	**45.51**	**330**	*ep*		**P**		**20 31 43.8**	**-0.7**
	comp=Z,3.3nm,0.6s								
MLR	**Muntele Rosu**	**45.64**	**305**	⇊P		**P**		**20 31 48.0**	**+1.9**
MLR	**Muntele Rosu**	**45.64**	**305**	⇊*i*P		**P**		**20 31 48.0**	**+1.9**
BURAR	**Bucovina Array**	**46.13**	**308**	⇑P		**P**		**20 31 51.0**	**+1.1**
BURAR	**Bucovina Array**	**46.13**	**308**	⇑*i*P		**P**		**20 31 51.0**	**+1.1**
VOIR		**46.28**	**305**	⇑P		**P**		**20 31 52.2**	**+1.2**
VOIR		**46.28**	**305**	⇑*i*P		**P**		**20 31 52.2**	**+1.2**
ARR	**Arges**	**46.57**	**305**	⇊*i*P		**P**		**20 31 55.8**	**+2.5**
FINES	**FINESS Array B**	**47.41**	**327**	P		**P**		**20 31 58.8**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=119,slow=9.3,SNR=23								
KAF	**Kangasniemi**	**47.47**	**328**	*eP*		**P**		**20 32 01.2**	**+1.3**
KAF				pmax		pmax			
	comp=Z,1.0nm,0.6s								
KAF	**Kangasniemi**	**47.47**	**328**	*ep*		**P**		**20 32 01.2**	**+1.3**
	comp=Z,1.3nm,0.6s								
VTS	**Vitosha**	**47.79**	**302**	⇑P		**P**		**20 32 04.1**	**+1.2**
VTS	**Vitosha**	**47.79**	**302**	⇑*i*P		**P**		**20 32 04.1**	**+1.2**
KWP	**Kalwaria Pacla**	**47.81**	**311**	⇑P		**P**		**20 32 04.0**	**+1.2**
KWP	**Kalwaria Pacla**	**47.81**	**311**	⇑*i*P		**P**		**20 32 04.0**	**+1.2**
DRGR		**47.85**	**307**	⇑P		**P**		**20 32 02.9**	**-0.4**
DRGR		**47.85**	**307**	⇑*i*P		**P**		**20 32 02.9**	**-0.4**
TRPA	**Tarpa**	**47.93**	**309**	⇑*i*P		**P**		**20 32 05.2**	**+1.5**
TIXI	**Tiksi**	**48.13**	**18**	*eP*		**P**		**20 32 04.1**	**-0.8**
TIXI				pmax		pmax			
	comp=Z,5.0nm,1.1s								
TIXI	**Tiksi**	**48.13**	**18**	*eP*		**P**		**20 32 04.1**	**-0.8**
	comp=Z,5.1nm,1.1s								
KEV	**Kevo**	**49.65**	**338**	*eP*		P		20 32 20.0	+3.4
KEV				pmax		pmax			
	comp=Z,1.0nm,0.4s								
KEV	**Kevo**	**49.65**	**338**	*ep*		P		20 32 20.0	+3.4
	comp=Z,0.7nm,0.4s								
ARCES	**ARCESS Array B**	**50.06**	**338**	P		**P**		**20 32 19.3**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=101,slow=6.4,SNR=7.1								
VRAC	**Vranov**	**51.81**	**311**	⇊P		**P**		**20 32 34.5**	**+1.3**
VRAC	**Vranov**	**51.81**	**311**	⇊*i*P		**P**		**20 32 34.5**	**+1.3**
GERES	**GERESS Array B**	**53.75**	**310**	P		**P**		**20 32 49.0**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=110,slow=20,SNR=3.6								
NB2	**NORSAR Subarra**	**54.47**	**326**	P		**P**		**20 32 52.9**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=88,slow=7.4								
NOA	**NORSAR Array B**	**54.47**	**326**	P		**P**		**20 32 53.1**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=90,slow=7.2,SNR=6.5								
HINF	**Hinteralfeld**	**58.42**	**310**	*eP*		**P**		**20 33 21.5**	**+0.5**
	comp=Z,6.3nm,0.7s								
HINF	**Hinteralfeld**	**58.42**	**310**	*eP*		**P**		**20 33 21.5**	**+0.5**
HINF				pmax		pmax			
	comp=Z,6.0nm,0.7s								
HINF	**Hinteralfeld**	**58.42**	**310**	*eP*		**P**		**20 33 21.5**	**+0.5**
	comp=Z,6.3nm,0.7s								
LPG	**La Plagne**	**59.00**	**308**	*eP*		**P**		**20 33 25.2**	**-0.2**
	comp=Z,17nm,1.2s								
LPG	**La Plagne**	**59.00**	**308**	*eP*		**P**		**20 33 25.2**	**-0.2**
LPG				pmax		pmax			
	comp=Z,17nm,1.2s								
LPG	**La Plagne**	**59.00**	**308**	*eP*		**P**		**20 33 25.2**	**-0.2**
	comp=Z,17nm,1.2s								
LPL	**La Plagne**	**59.01**	**308**	*eP*		**P**		**20 33 24.7**	**-0.7**
LPL	**La Plagne**	**59.01**	**308**	*eP*		**P**		**20 33 24.7**	**-0.7**
LPL	**La Plagne**	**59.01**	**308**	*eP*		**P**		**20 33 24.7**	**-0.7**
LDF	**La Druitiere**	**62.76**	**312**	*eP*		**P**		**20 33 51.1**	**+0.6**
LDF	**La Druitiere**	**62.76**	**312**	*eP*		**P**		**20 33 51.1**	**+0.6**
LDF	**La Druitiere**	**62.76**	**312**	*eP*		**P**		**20 33 51.1**	**+0.6**
SGMF	**Saint Gilles**	**64.41**	**312**	*eP*		**P**		**20 34 02.3**	**+1.0**
	comp=Z,15nm,1.0s								
SGMF	**Saint Gilles**	**64.41**	**312**	*eP*		**P**		**20 34 02.3**	**+1.0**
SGMF				pmax		pmax			
	comp=Z,15nm,1.0s								
SGMF	**Saint Gilles**	**64.41**	**312**	*eP*		**P**		**20 34 02.3**	**+1.0**
	comp=Z,15nm,1.0s								
ESDC	**Sonseca Array**	**68.32**	**304**	P		**P**		**20 34 26.0**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=58,slow=6.5,SNR=5.8								
WRA	**Warramunga Arr**	**71.14**	**128**	P		**P**		**20 34 42.6**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=322,slow=6.0,SNR=12								
WRAB	**Tennant Creek**	**71.14**	**128**	P		**P**		**20 34 46.3**	**+2.2**
WRAB	**Tennant Creek**	**71.14**	**128**	P		**P**		**20 34 46.3**	**+2.2**
ASAR	**Alice Springs**	**73.44**	**131**	P		**P**		**20 34 56.6**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=310,slow=6.3,SNR=5.9								
TORD	**Torodi Ar. Bea**	**75.15**	**277**	P		**P**		**20 35 07.1**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=47,slow=4.4,SNR=13								
ILAR	**Eielson Array**	**77.59**	**19**	P		**P**		**20 35 20.9**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=297,slow=3.7,SNR=7.8								
BOSA	**Boshof**	**79.96**	**228**	P		**P**		**20 35 34.3**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=65,slow=3.1,SNR=3.9								
DBIC	**Dimbokro**	**83.92**	**274**	P		**P**		**20 35 56.0**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=124,slow=7.3,SNR=3.4								
STKA	**Stephens Creek**	**84.00**	**132**	P		**P**		**20 35 54.5**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=338,slow=5.4,SNR=3.0								
YKA	**Yellowknife Ar**	**86.25**	**8**	P		**P**		**20 36 05.4**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=338,slow=5.7,SNR=4.1								

DDA 15 20:37:36.1, 37°.64N×36°.33E, h9km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.06**	**168**	*i* Pg		Pg		20 37 37.6	-0.6
ANDN				*i* Sg		Sg		20 37 40.5	+0.6
KMRS	**Kahramanmaras**	**0.47**	**106**	*e*PG		Pg		20 37 45.5	+0.1
KMRS				*e*SG		Sb		20 37 52.9	-0.8
KAMA	**Osmaniye**	**0.53**	**149**	*eP*		Pg		20 37 46.1	-0.3
KAMA				*e*S		Sg		20 37 54.0	+0.5
GZT	**Gaziantep**	**1.02**	**106**	*eP*		Pn		20 37 56.7	-0.1
GZT				*e*S		Sn		20 38 12.0	+0.7
DARE	**Darende-Malaty**	**1.30**	**44**	*e*PG		Pg		20 38 05.9	+4.7

GUC 15 20:37:44.2±0.7, **37°.74S**×**73°.62W, h40**km±4km, **ML3.7, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.74**	**96**	*i* S4		Sn		20 38 11.1	+2.9
CCSP	**San Pedro de C**	**0.98**	**25**	⇊*i*P		Pn		20 38 01.7	+0.2

4.9nm,1.0s
CHTO Chiang Mai 19.39 125 P P 20 44 53.1 -1.2
28nm,0.9s
CMMT Chiang Mai 19.39 125 P P 20 44 53.1 -1.2
10.0nm,1.4s
CRAI Chiangrai 19.54 119 P P 20 44 55.0 -1.0
37nm,0.7s
CMAR Chiang Mai Arr 19.62 125 P P 20 44 54.5 -2.4
0.5nm,0.3s,baz=312,slow=10.0,SNR=80
CMAR LR LR 20 52 44.6
comp=Z,67nm,20.1s,baz=28,slow=38
KURBB Kurchatov Arra 19.87 353 P Pn 20 45 02.4 +1.5
0.9nm,0.5s,baz=179,slow=10,SNR=10.0
LAMP Lampang 20.07 124 P P 20 45 02.3 +0.6
11nm,0.9s
GEYT Alibeck 21.00 296 P P 20 45 11.2 -0.5
8.3nm,0.8s,baz=113,slow=9.8,SNR=27
GEYT LR LR 20 53 29.8
comp=Z,62nm,18.4s,baz=155,slow=37
UTTA Uttaradit 21.24 124 P P 20 45 13.1 -1.2
4.0nm,0.8s
UTHA Uthaitani 21.99 130 P P 20 45 21.9 -0.6
3.4nm,1.0s
KHLT Khaolaem Dam 22.01 133 P P 20 45 22.4 -0.3
5.7nm,1.1s
PBKT Sadao Pong 22.32 125 P P 20 45 25.4 -0.5
23nm,1.0s
ZALV Zalesovo Beam 23.10 4 P P 20 45 35.6 +1.7
1.0nm,0.6s,baz=192,slow=9.9,SNR=6.1
PALK Pallekele 23.56 184 LR LR 20 54 36.7
comp=Z,80nm,19.7s,baz=11,slow=37
BVAR Borovoye Array 23.70 342 P P 20 45 41.6 +1.6
0.2nm,0.4s,baz=150,slow=9.6,SNR=2.9
BVAR LR LR 20 55 24.7
comp=Z,71nm,18.5s,baz=215,slow=37
SONM Songino Array 25.07 41 P P 20 45 54.9 +2.2
0.9nm,0.8s,baz=235,slow=9.5,SNR=7.5
HHC Hu-ho-hao-te 25.70 59 *e*P **P 20 45 55.5 -3.0**
HHC pP **pP 20 46 01.8 +0.3**
HHC PP **PnPn 20 46 36.4 +1.7**
HHC S S 20 50 17.6 -10
HHC sS sS 20 50 24.8 -7.5
HHC SS **SnSn 20 51 20.8 -0.7**
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,230nm,4.7s
HHC LR LR
comp=N,360nm,13.7s
HHC LR LR
comp=E,220nm,11.8s
HHC LR LR
comp=Z,160nm,12.9s
AKTO Aktyubinsk 26.55 324 P P 20 46 07.8 +1.9
comp=Z,2.1nm,0.7s,baz=108,slow=18,SNR=2.4
BRTR Keskin Array B 40.15 296 P P 20 48 02.7 -1.7
comp=Z,0.9nm,0.6s,baz=106,slow=12,SNR=5.0
FINES FINESS Array B 47.25 327 P P 20 49 00.8 -0.3
comp=Z,1.1nm,0.6s,baz=112,slow=10.0,SNR=7.0
FINES LR LR 21 10 19.4
comp=Z,84nm,20.9s,baz=90,slow=38
ARCES ARCESS Array B 49.86 337 P P 20 49 22.8 +1.7
comp=Z,2.2nm,1.0s,baz=103,slow=6.8,SNR=2.9
WRA Warramunga Arr 71.19 128 P P 20 51 45.1 -2.3
comp=Z,0.6nm,0.5s,baz=323,slow=6.2,SNR=17
ASAR Alice Springs 73.51 131 P P 20 51 58.7 -2.5
comp=Z,0.3nm,0.6s,baz=320,slow=6.0,SNR=5.9
TORD Torodi Ar. Bea 75.28 277 P P 20 52 09.2 -2.5
comp=Z,0.7nm,0.7s,baz=46,slow=4.6,SNR=5.4
ILAR Eielson Array 77.26 19 P P 20 52 22.1 -0.1
comp=Z,0.3nm,0.8s,baz=281,slow=6.3,SNR=3.8
BOSA Boshof 80.27 228 P P 20 52 36.8 -2.6
comp=Z,2.4nm,0.9s,baz=299,slow=13,SNR=2.4
YKA Yellowknife Ar 85.94 8 P P 20 53 08.6 +0.5
comp=Z,0.1nm,0.6s,baz=334,slow=4.5,SNR=3.1

*ISCJB **15** 20:43:08.7±0.6,32.°93S±0.°05×72.°41W±0.°05,h14km, mb4.2/9,MS3.8/4,Error ellipse: s-maj=7.6km s-min=4.6km az=36.5*
*IDC **15** 20:43:08.0±0.7,32.°85S×72.°42W,h0km,mb4.2/7, mb1 4.3/10,mb1mx4.1/25,mbtmp4.2/10,ML3.8/3,MS3.9/5, Ms1 3.8/5,ms1mx3.5/21,Error ellipse: s-maj=26.6km s-min=18.3km az=92.0*
*GUC **15** 20:43:10.5±0.4,32.°94S×72.°41W,h40km±1km,ML4.3*
*NEIC **15** 20:43:11.3±4.3,32.°89S×72.°37W,h20km±26km,mb4.5/2, Error ellipse: s-maj=17.3km s-min=8.2km az=89.0*
ISC 15 20:43:10.2±0.6,32.°91S±0.°06×72.°36W±0.°07,h14km,n34, σ0.°88/40,mb4.4/9,MS3.9/4,1C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.61**	**101**	*i* P	**Pb**	**20 43 22.7**	**+0.1**
IHA				*i* S	**Sb**	**20 43 32.1**	**+1.0**
RCDM	**Rinconada Maip**	**1.42**	**114**	*i* P	**Pn**	**20 43 34.4**	**-1.3**
RCDM				*i* S	**Sn**	**20 43 53.1**	**-1.0**
PEL	**Peldehue**	**1.42**	**100**	*e*P	**Pn**	**20 43 35.0**	**-0.6**
PEL				*e*S	**Sn**	**20 43 53.5**	**-0.7**
PEL				IAML		20 44 12.0	
comp=E,10μm,0.5s							
ANTU	**Antumapu**	**1.59**	**115**	⇑*i*P	**Pn**	**20 43 36.9**	**-1.0**
ANTU				*i* S	**Sn**	**20 43 57.4**	**-0.9**
CLCH	**Cerro Calan**	**1.60**	**108**	*e*P	**Pn**	**20 43 37.7**	**-0.5**
CLCH				*i* S	**Sn**	**20 43 57.8**	**-0.9**
CLCH				IAML		20 44 11.4	
comp=N,6μm,1.0s							
SJCH	**San Jose de Ma**	**1.83**	**114**	*i* P	**Pn**	**20 43 40.7**	**-0.5**
SJCH				*i* S	**Sn**	**20 44 03.3**	**-1.0**
CMCH	**Combarbala**	**2.08**	**34**	*i* P	**Pn**	**20 43 44.3**	**-0.4**
CMCH				*i* S	**Sn**	**20 44 10.0**	**-0.5**
CFAA	**Coronel Fontan**	**3.72**	**71**	Pn	**Pn**	**20 44 09.3**	**+2.0**
comp=N,0.2nm,0.3s,baz=258,slow=12,SNR=16							
CFAA				Lg	Lg	20 45 05.5	
comp=N,2.7nm,0.3s,baz=144,slow=19,SNR=5.4							
LCO	**Las Campanas**	**4.14**	**21**	*e*P	**Pn**	**20 44 12.3**	**-0.9**
PLCA	**Paso Flores**	**7.94**	**170**	Pn	**Pn**	**20 45 05.0**	**-0.2**
comp=N,0.3nm,0.3s,baz=337,slow=12,SNR=3.7							
TRQA	**Tornquist**	**9.89**	**124**	*e*P	**Pn**	**20 45 33.2**	**+1.3**
comp=N,51nm,1.3s							
LPAZ	**La Paz**	**16.99**	**14**	Pn	**Pn**	**20 47 07.3**	**-0.8**
comp=N,0.2nm,0.3s,baz=185,slow=8.2,SNR=17							
LPAZ	**La Paz**	**16.99**	**14**	*e*P	**Pn**	**20 47 08.8**	**+0.8**
SIV	**San Ignacio**	**19.70**	**34**	P	**P**	**20 47 38.4**	**-0.8**
comp=N,0.1nm,0.3s,baz=222,slow=12,SNR=7.9							
SIV				LR	LR	20 56 28.3	
comp=N,167nm,18.2s,baz=246,slow=41							
USHA	**Ushuaia**	**22.09**	**174**	LR	LR	20 57 37.4	
comp=N,525nm,18.6s,baz=304,slow=39							
SAML	**Samuel**	**25.31**	**22**	*e*P	**P**	**20 48 36.7**	**+0.3**
comp=N,12nm,1.0s							
ATAH	**Atahualpa**	**26.25**	**346**	LR	LR	20 57 34.7	
comp=N,215nm,18.1s,baz=191,slow=33							
BDFB	**Brasilia**	**27.96**	**58**	P	**P**	**20 48 59.8**	**-0.7**
comp=N,3.4nm,0.6s,baz=234,slow=6.3,SNR=3.6							
BDFB				LR	LR	21 00 54.0	
comp=N,132nm,18.4s,baz=222,slow=38							
SNAA	**Sanae**	**52.69**	**158**	P	**P**	**20 52 24.5**	**+0.7**
comp=N,1.3nm,0.8s,baz=270,slow=14,SNR=3.6							
QSPA	**South Pole Qui**	**57.32**	**180**	P	**P**	**20 52 58.2**	**+0.8**
comp=N,6.2nm,0.9s,baz=138,slow=4.4,SNR=10							
VNDA	**Vanda**	**65.11**	**191**	LR	LR	21 19 35.1	
comp=N,101nm,18.9s,baz=288,slow=34							
TXAR	**Lajitas Array**	**68.66**	**331**	P	**P**	**20 54 12.6**	**-0.5**
comp=N,1.2nm,0.6s,baz=152,slow=8.5,SNR=6.6							
R11A	**Troy Canyon, C**	**81.50**	**327**	*e*P	**P**	**20 55 29.1**	**+1.9**
comp=N,8.9nm,1.5s							
NVAR	**Mina Array Bea**	**82.84**	**325**	P	**P**	**20 55 35.2**	**+1.0**
comp=N,0.8nm,0.7s,baz=160,slow=6.3,SNR=5.8							
TORD	**Torodi Ar. Bea**	**84.09**	**70**	P	**P**	**20 55 40.8**	**-0.1**
comp=N,2.6nm,0.8s,baz=251,slow=4.7,SNR=12							
ULM	**Lac du Bonnet**	**85.38**	**345**	P	**P**	**20 55 46.2**	**-0.3**
comp=N,1.3nm,0.5s,baz=165,slow=6.3,SNR=3.5							
MCMT	**McKenzie Canyo**	**85.68**	**332**	*e*P	**P**	**20 55 50.1**	**+1.5**
YKA	**Yellowknife Ar**	**100.94**	**341**	P	**Pdif**	**20 56 57.5**	**-0.9**
comp=N,0.2nm,0.7s,baz=141,slow=4.4,SNR=3.6							
WRA	**Warramunga Arr**	**121.58**	**210**	PKP	**PKPdf**	**21 02 03.3**	**-0.7**
comp=N,0.9nm,1.1s,baz=158,slow=1.7,SNR=3.9							
BRVK	**Borovoye**	**146.58**	**42**	*e*PKPbc	**PKPab**	**21 02 51.6**	**-0.1**
YAK	**Yakutsk**	**147.62**	**341**	*e*PKPdf	**PKPdf**	**21 02 50.7**	**+0.1**
ZALV	**Zalesovo Beam**	**153.44**	**31**	PKP	**PKPdf**	**21 02 59.7**	**-0.2**
comp=N,0.5nm,0.6s,baz=319,slow=2.2,SNR=3.2							
ZALV				PKPbc	**PKPbc**	**21 03 07.6**	**+0.1**
comp=N,1.3nm,0.6s,baz=291,slow=4.1,SNR=7.6							
MKAR	**Makanchi Array**	**156.23**	**47**	PKP	**PKPdf**	**21 03 03.5**	**-0.5**
comp=N,0.3nm,0.7s,baz=29,slow=2.8,SNR=3.5							
MKAR				PKPab	**PKPab**	**21 03 32.5**	**+0.5**
comp=N,1.1nm,0.8s,baz=302,slow=2.7,SNR=9.7							
SONM	**Songino Array**	**165.06**	**3**	PKPab	**PKPab**	**21 04 09.7**	**-0.8**
comp=N,0.6nm,0.9s,baz=329,slow=4.2,SNR=4.4							

IDC 15 21:16:15.5±3.2,22.°78S×68.°46W,h0km,mb4.0/2, mb1 3.8/4,mb1mx3.6/27,mbtmp3.8/4,ML3.5/2,MS4.6/1, Ms1 4.6/1,ms1mx2.7/26,Error ellipse: s-maj=78.7km s-min=50.3km az=80.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.47**	**3**	Pn	Pn	21 17 52.3	-0.5
0.6nm,0.3s,baz=208,slow=5.5,SNR=11							
SIV	**San Ignacio**	**9.71**	**47**	Pn	Pn	21 18 37.0	+0.4
0.2nm,0.3s,baz=249,slow=14,SNR=6.0							
PMSA	**Palmer Station**	**42.08**	**177**	LR	LR	21 42 33.2	
comp=Z,716nm,19.0s,baz=167,slow=38							
DBIC	**Dimbokro**	**68.71**	**73**	P	P	21 27 21.8	+0.3
2.8nm,0.8s,baz=217,slow=5.1,SNR=3.6							
TORD	**Torodi Ar. Bea**	**77.40**	**70**	P	P	21 28 12.6	-0.4
0.3nm,0.3s,baz=251,slow=5.5,SNR=11							
MKAR	**Makanchi Array**	**146.41**	**37**	PKPbc	PKPbc	21 35 58.1	-0.4
0.2nm,0.7s,baz=322,slow=3.5,SNR=3.5							

GUC 15 21:17:03.2±0.4,32.°89S×72.°35W,h35km±1km,ML3.7,1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.61**	**103**	*i* P	Pn	21 17 15.0	-0.4
IHA				*i* S	Sb	21 17 24.3	+0.1
PEL	**Peldehue**	**1.42**	**101**	⇓*i*P	Pb	21 17 28.0	-1.2
PEL				*i* S	Sb	21 17 46.4	-0.7
PEL				IAML		21 17 52.3	
comp=N,3μm,0.5s							
RCDM	**Rinconada Maip**	**1.42**	**115**	*i* P	Pn	21 17 27.6	+0.9
RCDM				*i* S	Sb	21 17 46.3	-0.8
ANTU	**Antumapu**	**1.59**	**116**	*i* P	Pn	21 17 30.5	+1.5
ANTU				*i* S	Sb	21 17 51.2	-0.7
ANTU				IAML		21 17 56.5	
comp=E,1μm,0.2s							
CLCH	**Cerro Calan**	**1.60**	**109**	*e*P	Pn	21 17 30.6	+1.4
CLCH				*e*P	Pb	21 17 30.6	-1.7
CLCH				*i* S	Sb	21 17 51.4	-0.9
CLCH				IAML		21 17 57.1	
comp=N,1μm,0.6s							
CLCH				IAML		21 17 57.8	
comp=N,2μm,0.6s							
SJCH	**San Jose de Ma**	**1.83**	**115**	*i* P9	Pn	21 17 32.8	+0.5
SJCH				*i* S	Sn	21 17 55.8	+1.4
CMCH	**Combarbala**	**2.06**	**34**	*e*P	Pn	21 17 37.0	+1.6
CMCH				*i* S	Sn	21 18 02.4	+2.4

IDC 15 21:17:25.0±2.8,36.°11S×72.°14W,h0km,mb3.9/4, mb1 4.0/5,mb1mx3.8/27,mbtmp3.9/5,ML3.7/1,MS3.0/2, Ms1 2.9/2,ms1mx2.7/19,Error ellipse: s-maj=92.0km s-min=20.4km az=86.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.78**	**165**	Pn	Pn	21 18 37.5	-1.0
0.7nm,0.3s,baz=329,slow=11,SNR=8.3							
PLCA				Lg	Lg	21 19 58.2	
1.2nm,0.3s,baz=55,slow=15,SNR=3.2							
PLCA				LR	LR	21 20 07.0	
comp=Z,84nm,18.0s,baz=276,slow=34							
USHA	**Ushuaia**	**18.90**	**173**	LR	LR	21 28 54.1	
comp=Z,75nm,21.7s,baz=330,slow=36							
LPAZ	**La Paz**	**20.06**	**11**	P	Pn	21 22 01.6	-0.8
2.6nm,0.6s,baz=174,slow=8.2,SNR=5.6							
SIV	**San Ignacio**	**22.33**	**29**	P	P	21 22 24.5	0.0
4.8nm,0.9s,baz=220,slow=15,SNR=7.9							
DBIC	**Dimbokro**	**75.94**	**71**	P	P	21 29 14.5	+0.5
1.6nm,0.7s,baz=217,slow=8.4,SNR=2.8							
TORD	**Torodi Ar. Bea**	**85.00**	**70**	P	P	21 30 02.3	-0.4
0.8nm,0.8s,baz=215,slow=4.9,SNR=4.2							
ZALV	**Zalesovo Beam**	**156.03**	**35**	PKPab	PKPab	21 37 45.4	-2.6
0.8nm,0.5s,baz=296,slow=4.6,SNR=3.9							
MKAR	**Makanchi Array**	**158.15**	**53**	PKP	PKPdf	21 37 24.6	+1.0
0.2nm,0.5s,baz=263,slow=2.5,SNR=2.7							

IDC 15 21:24:20.9±1.6,2.°92S×144.°56E,h0km,mb3.4/2, mb1 3.9/3,mb1mx3.4/22,mbtmp3.5/3,ML3.9/1,MS3.4/1, Ms1 3.4/1,ms1mx2.6/18,Error ellipse: s-maj=130.5km s-min=27.9km az=116.0,Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.64**	**210**	P	P	21 28 51.6	+0.2
0.4nm,0.3s,baz=31,slow=10,SNR=28							
WRA				LR	LR	21 37 48.1	
comp=Z,112nm,19.3s,baz=255,slow=41							
ASAR	**Alice Springs**	**23.05**	**206**	P	P	21 29 27.9	-0.2
0.5nm,0.4s,baz=29,slow=12,SNR=15							
ILAR	**Eielson Array**	**83.64**	**24**	P	P	21 36 51.1	0.0
0.3nm,0.8s,baz=268,slow=5.7,SNR=2.8							

*MOS **15** 21:25:29.6±1.4,21.°35S×70.°03W,h33km,mb5.0/21,Error ellipse: s-maj=17.0km s-min=7.9km az=107.1*
*NEIC **15** 21:25:32.0,21.°29S×69.°93W,h48km,mb4.8/59,After GUC.*
NEIC Felt [III] at Alto Hospicio, Iquique, Maria Elena and Tocopilla; [II] at Huara, Pica and Pozo Almonte. Also felt at Calama.
*ISCJB **15** 21:25:32.6±0.3,21.°18S±0.°03×69.°80W±0.°05,h61km±3km, mb4.7/69,Error ellipse: s-maj=8.7km s-min=4.2km az=157.3*
*GUC **15** 21:25:32.8±0.9,21.°29S×69.°93W,h48km±6km,ML4.9*
*BJI **15** 21:25:33.0,21.°30S×69.°90W,h33km,mB5.2/7,Ms5.3/5, Ms7 5.3/5*
*IDC **15** 21:25:33.4±0.4,21.°16S×69.°79W,h53km±2km,mb4.2/15, mb1 4.4/17,mb1mx4.3/24,mbtmp4.5/17,MS3.6/11, Ms1 3.6/11,ms1mx3.5/27,Error ellipse: s-maj=15.7km s-min=11.8km az=74.0*
ISC 15 21:25:33.1±0.3,21.°22S±0.°03×69.°87W±0.°05,h53km±2km, h53km:pP-P,n463,σ1s20/500,mb4.8/69,MS3.7/9, 156C-138D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.40**	**63**	⇓*i*P	**Pn**	**21 25 44.4**	**+0.9**
PB01				*i* S1	**Sn**	**21 25 52.4**	**+1.3**
PB01				AML	AML	21 25 53.5	
comp=E,164μm,0.2s							
PATCX	**Punta Patache**	**0.48**	**326**	⇑*i*P	**Pn**	**21 25 44.7**	**+0.2**
PATCX				*i* S	**Sn**	**21 25 53.3**	**+0.6**
PATCX				AML	AML	21 25 53.8	
comp=E,311μm,0.3s							
PB07	**IPOC Station P**	**0.50**	**182**	⇑*i*P	**Pn**	**21 25 44.3**	**-0.5**
PB07				*i* S1	**Sn**	**21 25 52.1**	**-1.1**
PB07				AML	AML	21 25 52.9	
comp=E,122μm,0.1s							
PB09	**IPOC Station P**	**0.81**	**135**	⇓*i*P	**Pn**	**21 25 49.3**	**+0.6**
PB09				*i* S	**Sn**	**21 26 00.7**	**+0.7**
PB09				AML	AML	21 26 02.0	
comp=E,244μm,0.2s							
HMBC	**Humberstone**	**0.94**	**359**	⇑*i*P	**Pn**	**21 25 51.2**	**+0.9**
HMBC				*i* S1	**Sn**	**21 26 04.8**	**+1.9**
HMBC				AML	AML	21 26 07.9	
comp=N,68μm,0.5s							
MACH	**Maria Elena**	**0.97**	**174**	⇑*i*P	**Pn**	**21 25 50.4**	**-0.4**
MACH				*i* S1	**Sn**	**21 26 03.1**	**-0.7**
PB04	**IPOC Station P**	**1.09**	**161**	⇑*i*P	**Pn**	**21 25 52.1**	**0.0**
PB04				*i* S1	**Sn**	**21 26 06.6**	**+0.2**
PB04				AML	AML	21 26 07.8	
comp=N,38μm,0.7s							
PB06	**IPOC Station P**	**1.50**	**170**	⇓*i*P	**Pn**	**21 25 57.4**	**-0.4**
PB06				AML	AML	21 26 18.7	
comp=E,16μm,0.3s							
PSGC	**Pisagua**	**1.64**	**351**	⇑*i*P	**Pn**	**21 26 00.4**	**+0.8**
PSGC				AML	AML	21 26 27.4	
comp=N,11μm,0.1s							
LVC	**Limon Verde**	**1.64**	**148**	*e*Pn	**Pn**	**21 26 01.2**	**+1.3**
LVC				*e*Sn	**Sn**	**21 26 20.5**	**+0.5**
MNMC	**Minimini**	**2.10**	**7**	⇑*i*P	**Pn**	**21 26 07.8**	**+1.7**
ARE	**Arequipa**	**4.98**	**342**	*e*P	**Pn**	**21 26 45.0**	**-0.6**
ARE				*e*S	**Sn**	**21 27 38.0**	**-4.1**
ARE	**Arequipa**	**4.98**	**342**	*e*P	**Pn**	**21 26 45.0**	**-0.6**
ARE				*e*S	**Sn**	**21 27 38.0**	**-4.1**
LPAZ	**La Paz**	**5.18**	**19**	*e*P	Pn	21 26 53.3	+4.6
LPAZ	**La Paz**	**5.18**	**19**	P	Pn	21 26 52.5	+3.9
comp=N,4.1nm,0.3s,baz=177,slow=7.6,SNR=53							
LPAZ				LR	LR	21 29 20.0	
comp=N,892nm,21.8s,baz=210,slow=44							
LPAZ	**La Paz**	**5.18**	**19**	*e*Pn	Pn	21 26 53.2	+4.6
LCO	**Las Campanas**	**7.79**	**185**	*e*Pn	**Pn**	**21 27 24.4**	**+0.3**
LCO				*e*Sn	**Sn**	**21 28 48.3**	**-2.8**
SIV	**San Ignacio**	**9.83**	**59**	P	**Pn**	**21 27 51.3**	**-0.5**
comp=N,4.9nm,0.3s,baz=251,slow=11,SNR=77							
CFAA	**Coronel Fontan**	**10.44**	**172**	P	Pn	21 27 56.8	-3.4
comp=N,0.1nm,0.3s,baz=19,slow=17,SNR=8.3							
NNA	**Nana**	**11.36**	**323**	P	**Pn**	**21 28 11.9**	**-0.9**
NNA	**Nana**	**11.36**	**323**	Pn	**Pn**	**21 28 11.9**	**-0.9**
SAML	**Samuel**	**13.80**	**29**	*e*Pn	**Pn**	**21 28 44.4**	**-1.7**
SAML				*e*Sn	**Sn**	**21 31 14.9**	**-2.9**
TRQA	**Tornquist**	**18.11**	**160**	*e*P	**P**	**21 29 40.4**	**-0.2**
comp=N,402nm,2.7s							
PLCA	**Paso Flores**	**19.46**	**182**	*e*P	**P**	**21 29 53.8**	**-1.7**
PLCA				pmax	pmax		
comp=Z,13nm,0.9s							
PLCA	**Paso Flores**	**19.46**	**182**	P	**Pn**	**21 29 56.4**	**-0.6**
comp=Z,0.2nm,0.3s,baz=355,slow=11,SNR=12							
PLCA				LR	LR	21 37 39.3	
comp=Z,241nm,18.4s,baz=341,slow=37							
PLCA	**Paso Flores**	**19.46**	**182**	*e*P	**P**	**21 29 53.8**	**-1.7**
comp=Z,13nm,0.9s							
BDFB	**Brasilia**	**21.45**	**79**	P	**P**	**21 30 17.0**	**-0.2**
comp=Z,6.1nm,0.7s,baz=243,slow=11,SNR=7.9							
BDFB				LR	LR	21 39 37.8	
comp=Z,160nm,21.8s,baz=238,slow=40							
PTGA	**Pitinga**	**22.54**	**27**	P	**P**	**21 30 28.6**	**-0.2**
comp=Z,24nm,0.9s,baz=201,slow=9.4,SNR=23							
PTGA	**Pitinga**	**22.54**	**27**	*e*P	**P**	**21 30 28.6**	**-0.2**
comp=Z,36nm,1.1s							
OTAV	**Otavalo**	**22.92**	**337**	*e*P	P	21 30 28.3	-4.9
comp=Z,20nm,0.9s							
ROSC	**El Rosal**	**26.29**	**350**	LR	LR	21 42 56.3	
comp=Z,123nm,19.1s,baz=80,slow=40							
SDV	**Santo Domingo**	**29.93**	**358**	*e*P	**P**	**21 31 35.7**	**-0.7**
comp=Z,14nm,1.0s							
USHA	**Ushuaia**	**33.57**	**179**	P	**P**	**21 32 08.5**	**+0.7**
comp=Z,3.6nm,0.5s,baz=319,slow=9.3,SNR=3.5							
JTS	**JuntasAbangare**	**34.65**	**333**	*e*P	**P**	**21 32 19.9**	**+2.3**
JTS				pmax	pmax		
comp=Z,21nm,1.2s							
CELP	**Cerrillos**	**39.19**	**5**	*e*P	**P**	**21 32 54.4**	**-1.7**
APG	**El Apazote**	**41.29**	**329**	LR	LR	21 47 40.4	
comp=Z,48nm,18.7s,baz=322,slow=32							
PMSA	**Palmer Station**	**43.70**	**176**	P	**P**	**21 33 33.4**	**+0.9**
comp=Z,21nm,0.9s,baz=166,slow=19,SNR=2.6							
PMSA				LR	LR	21 51 19.9	
comp=Z,118nm,18.2s,baz=282,slow=35							
833A	**Chaparral WMA,**	**56.92**	**329**	⇑P	**P**	**21 35 13.7**	**+0.8**
baz=57							
KMSC	**Kings Mountain**	**57.10**	**349**	⇑P	**P**	**21 35 14.3**	**+0.3**
baz=58							
832A	**Faith Ranch, C**	**57.17**	**328**	⇓P	**P**	**21 35 15.3**	**+0.7**
baz=57							
339A	**Huntington**	**57.38**	**335**	⇑P	**P**	**21 35 17.7**	**+1.7**
baz=58							
633A	**Saathoff Ranch**	**57.76**	**330**	⇑P	**P**	**21 35 19.5**	**+0.7**
baz=58							
239A	**Gary**	**57.95**	**335**	⇑P	**P**	**21 35 21.1**	**+1.0**
baz=58							
632A	**Uvalde**	**58.09**	**329**	⇑P	**P**	**21 35 22.1**	**+0.9**
baz=58							
435B	**Jarrell**	**58.16**	**332**	⇑P	**P**	**21 35 22.7**	**+1.1**
baz=58							
SWET	**Sewanee**	**58.16**	**345**	*e*P	**P**	**21 35 20.6**	**-1.0**
comp=Z,10nm,0.8s							
238A	**Jacksonville**	**58.19**	**335**	⇑P	**P**	**21 35 22.8**	**+1.0**
baz=58							
336A	**Riesel**	**58.36**	**333**	⇓P	**P**	**21 35 23.7**	**+0.8**
baz=59							
631A	**Perdido Creek**	**58.40**	**328**	⇑P	**P**	**21 35 24.1**	**+0.8**
baz=59							
434A	**Burnet**	**58.49**	**331**	⇓P	**P**	**21 35 24.1**	**+0.2**
baz=59							
532A	**Rocksprings**	**58.67**	**329**	⇑P	**P**	**21 35 26.0**	**+0.8**
baz=59							
138A	**Matatall Enter**	**58.76**	**335**	⇓P	**P**	**21 35 26.0**	**+0.3**
baz=59							
433A	**Art**	**58.81**	**331**	⇓P	**P**	**21 35 25.6**	**-0.5**
baz=59,SNR=6.0							
JCT	**Junction City**	**58.91**	**330**	⇑P	**P**	**21 35 27.3**	**+0.4**
baz=59							
334A	**Lometa**	**58.92**	**332**	⇓P	**P**	**21 35 27.2**	**+0.4**
baz=59							
137A	**Heron Place, G**	**58.97**	**335**	⇑P	**P**	**21 35 28.1**	**+0.9**
baz=59							
531A	**Rocksprings**	**59.00**	**329**	⇑P	**P**	**21 35 27.8**	**+0.3**
baz=59,SNR=5.3							
WHTX	**Lake Whitney,**	**59.14**	**333**	⇓P	**P**	**21 35 28.8**	**+0.4**
baz=59							
432A	**Menard**	**59.24**	**330**	⇓P	**P**	**21 35 29.6**	**+0.4**
baz=60							
333A	**Richland Sprin**	**59.25**	**331**	⇓P	**P**	**21 35 29.5**	**+0.3**
baz=60							
530A	**J-C Ranch, Com**	**59.38**	**328**	⇑P	**P**	**21 35 30.6**	**+0.5**
baz=60							
234A	**Clairette**	**59.45**	**332**	⇑P	**P**	**21 35 31.0**	**+0.5**
baz=60							
431A	**Sonora**	**59.46**	**329**	⇓P	**P**	**21 35 31.2**	**+0.5**
baz=60							
WVT	**Waverly**	**59.52**	**343**	*e*P	**P**	**21 35 29.9**	**-1.0**
WVT				pmax	pmax		
comp=Z,13nm,0.7s							
WVT	**Waverly**	**59.52**	**343**	*e*P	**P**	**21 35 29.9**	**-1.0**
comp=Z,13nm,0.7s							
332A	**Millersview**	**59.64**	**330**	⇑P	**P**	**21 35 32.3**	**+0.5**
baz=60							
529A	**Stev Forest Ra**	**59.79**	**328**	⇑P	**P**	**21 35 33.5**	**+0.5**
baz=60,SNR=6.6							
233A	**Rising Star**	**59.80**	**332**	⇑P	**P**	**21 35 33

VNA2 Neumayer--Watz 61.21 161 P P 21 35 42.2 +0.2
130A Snyder 61.22 330 ⇓P P 21 35 42.5 -0.2
baz=62
SIUC Southern Illin 61.39 343 eP P 21 35 43.8 +0.2
comp=Z,28nm,0.8s
Z31A Sharp Cattle R 61.45 331 ⇓P P 21 35 44.8 +0.6
baz=62
X34A Smith Ranch, M 61.55 334 ⇓P P 21 35 45.4 +0.5
baz=62
228A UT Block 9, Go 61.60 329 ⇑P P 21 35 45.7 +0.4
baz=62
129A Stewart Farms, 61.67 329 ⇓P P 21 35 46.3 +0.5
baz=62
Y32A R-V Farms, Ver 61.72 332 ⇑P P 21 35 47.0 +1.0
baz=62
Z30A Sanderson Ranc 61.87 330 ⇓P P 21 35 47.3 +0.2
baz=62,SNR=5.4
128A Castleberry Fa 61.96 329 ⇓P P 21 35 48.5 +0.8
baz=62
X32A Elmer 62.01 333 ⇑P P 21 35 48.9 +1.0
baz=62
Y31A Rekieta Farm, 62.05 332 ⇑P P 21 35 48.6 +0.4
baz=62
Z29A Hungry Hill Ra 62.12 330 ⇑P P 21 35 49.0 +0.3
baz=62
W33A Caddo, Fort Co 62.29 334 ⇓P P 21 35 50.3 +0.5
baz=63
ACSO Alum Creek Sta 62.35 349 eP P 21 35 49.8 -0.3
comp=Z,22nm,1.1s
Z28A Tucker Farm, M 62.46 329 ⇓P P 21 35 51.2 +0.1
baz=63
X31A McDonald Ranch 62.49 332 ⇑P P 21 35 51.6 +0.5
baz=63
V34A Guthrie 62.50 335 ⇑P P 21 35 51.5 +0.3
baz=63
W32A Sentinel 62.59 333 ⇑P P 21 35 51.8 0.0
baz=63
Y29A Porterfield Fa 62.60 330 ⇑P P 21 35 51.9 -0.1
baz=63
MNTX Cornudas Mount 62.67 326 eP P 21 35 52.4 0.0
comp=Z,15nm,1.4s
MNTX epP pP 21 36 06.4 -0.7
X30A Coker Ranch, T 62.73 331 ⇑P P 21 35 52.7 0.0
baz=63
V33A Lossen Ranch, 62.80 334 ⇓P P 21 35 53.1 -0.1
baz=63
SNAA Sanae 62.83 161 P P 21 35 53.1 +0.1
SNAA Sanae 62.83 161 eP P 21 35 53.4 +0.4
SNAA pmax pmax
comp=Z,7.0nm,1.2s
Y28A McKinney Farm, 62.91 330 ⇓P P 21 35 53.9 -0.1
baz=63
W31A Holland Ranch, 62.95 333 ⇑P P 21 35 54.5 +0.4
baz=63
V32A Arapaho 63.02 334 ⇓P P 21 35 54.8 +0.2
baz=63
U34A Anderson Ranch 63.03 335 ⇓P P 21 35 55.1 +0.5
baz=63
X29A Tulia 63.10 331 ⇑P P 21 35 55.1 -0.2
baz=63
MSTX Muleshoe 63.20 330 ⇓P P 21 35 55.9 -0.1
baz=64
MSTX Muleshoe 63.20 330 epP pP 21 36 10.0 -0.8
Y27A Causey 63.32 329 ⇓P P 21 35 56.3 -0.5
baz=64
SFIN Lafayette 63.35 345 ⇓P P 21 35 55.5 -1.2
baz=64
V31A Spring Creek L 63.40 333 ⇑P P 21 35 56.4 -0.7
baz=64
AMTX Amarillo 63.46 331 ⇓P P 21 35 57.1 -0.6
baz=64
W29A Amarillo 63.64 331 ⇑P P 21 35 58.3 -0.6
baz=64
TRY Troy 63.73 357 eP P 21 36 00.4 +1.3
T33A Patterson Ranc 63.87 335 ⇑P P 21 35 59.9 -0.3
baz=64
X26A CR and CF Fran 64.17 329 ⇓P P 21 36 02.5 +0.1
baz=64
T32A Huddler Ranch, 64.23 334 ⇓P P 21 36 02.7 +0.2
baz=64
W27A Bowe Ranch, En 64.24 330 ⇓P P 21 36 02.9 +0.1
baz=64
V28A Channing 64.42 331 ⇑P P 21 36 04.0 0.0
baz=65
T31A Randall Ranch, 64.46 334 ⇓P P 21 36 04.2 0.0
baz=65
Y24A Capitan 64.46 328 ⇑P P 21 36 04.8 +0.4
baz=65
319A Douglas 64.53 323 ⇓P P 21 36 05.3 +0.5
baz=65
X25A Clemmons Ranch 64.56 329 ⇑P P 21 36 05.4 +0.4
baz=65
121A Cookes Peak, D 64.59 325 ⇑P P 21 36 06.2 +1.0
baz=65
W26A Owens Ranch, T 64.59 330 ⇓P P 21 36 06.0 +0.9
baz=65
V27A Dan Oppiter Fa 64.71 331 ⇑P P 21 36 06.6 +0.8
baz=65
Z22A Elephant Butte 64.72 326 ⇓P P 21 36 06.8 +0.8
baz=65
R33A Olander Ranch, 64.84 336 ⇑P P 21 36 06.5 0.0
baz=65
U28A Mallet 64.95 332 ⇓P P 21 36 07.3 -0.1
baz=65
KSU1 Kansas State U 65.02 337 ⇓P P 21 36 07.4 -0.3
baz=65
W25A X Bar L Ranch, 65.02 329 ⇓P P 21 36 07.9 0.0
baz=65
V26A Tequesquite Ra 65.18 330 ⇑P P 21 36 08.9 0.0
baz=66
R32A Long Quarter, 65.22 335 ⇑P P 21 36 09.3 +0.3
baz=66
U27A Thompson Grove 65.25 331 ⇑P P 21 36 09.5 +0.1
baz=66
S30A Montezuma 65.25 334 ⇓P P 21 36 09.3 0.0
baz=66
LPM Los Pinos Moun 65.37 327 eP P 21 36 11.7 +1.4
LPM epP pP 21 36 25.7 +0.7
R31A Burdett 65.42 335 ⇑P P 21 36 10.0 -0.3
baz=66
W24A Lazy 6 Ranch, 65.48 328 ⇑P P 21 36 10.5 -0.5
baz=66
S29A Ulysses 65.51 333 ⇓P P 21 36 10.8 -0.1
baz=66
V25A Rancho No Teng 65.60 329 ⇓P P 21 36 11.2 -0.6
baz=66
PTN Potsdam (NY) 65.64 356 eP P 21 36 13.8 +2.3
PTN pmax pmax
comp=Z,138nm,1.4s
PTN Potsdam (NY) 65.64 356 eP P 21 36 13.8 +2.3
comp=Z,138nm,1.4s
U26A Atchley Ranch, 65.65 330 ⇑P P 21 36 11.7 -0.3
baz=66
Q32A Meitler Ranch, 65.65 336 ⇓P P 21 36 11.2 -0.5
baz=66
R30A Dighton 65.72 334 ⇓P P 21 36 12.9 +0.6
baz=66
T27A Campo 65.73 332 ⇓P P 21 36 12.6 +0.1
baz=66
ANMO Albuquerque 65.78 328ceP P 21 36 13.9 +1.0
ANMO pmax pmax
comp=Z,10.0nm,0.8s
ANMO Albuquerque 65.78 328 eP P 21 36 12.5 -0.5
comp=Z,42nm,2.3s
S28A Manter 65.81 332 ⇑P P 21 36 13.3 +0.3
baz=66,SNR=7.6
V24A Rampart Ranch, 65.82 329 ⇓P P 21 36 13.7 +0.5
baz=66
U25A Circle Dot Ran 65.96 330 ⇑P P 21 36 14.7 +0.7
baz=66,SNR=8.4
Q31A Ellis 65.99 335 ⇑P P 21 36 14.3 +0.3
baz=66
R29A Marienthal 66.20 334 ⇑P P 21 36 15.7 +0.4
baz=66
P32A Huiting Farm, 66.22 336 ⇑P P 21 36 15.6 +0.2
baz=66
T26A Comanche Natio 66.22 331 ⇓P P 21 36 16.4 +0.7
baz=66
V23A Ortiz Mt. (NFS 66.28 328 ⇓P P 21 36 16.3 +0.1
baz=67
Q30A Quinter 66.29 335 ⇑P P 21 36 16.5 +0.5
baz=67,SNR=5.2
R28A Tribune 66.41 333 ⇑P P 21 36 16.6 -0.2
baz=67
P31A Stockton 66.43 335 ⇓P P 21 36 17.0 +0.2
baz=67
JFWS Jewell Farm 66.53 344 eP P 21 36 17.0 -0.3
JFWS pmax pmax
comp=Z,12nm,0.8s
JFWS Jewell Farm 66.53 344 eP P 21 36 16.9 -0.3
comp=Z,12nm,0.8s
Q29A Oakley 66.53 334 ⇑P P 21 36 17.6 +0.1
baz=67
S26A Kim 66.53 331 ⇑P P 21 36 18.1 +0.5
baz=67,SNR=8.9
T25A Trinidad 66.56 330 ⇓P P 21 36 18.1 +0.2
baz=67
U23A El Rito 66.75 329 ⇓P P 21 36 19.8 +0.6
baz=67
V22A San Miguel Ran 66.78 328 ⇑P P 21 36 20.2 +0.8
baz=67
R27A Eads 66.79 332 ⇓P P 21 36 19.2 +0.1
baz=67
214A Organ Pipe Nat 66.98 321 ⇑P P 21 36 21.1 +0.6
baz=67
214A Organ Pipe Nat 66.98 321 eP P 21 36 20.4 -0.1
comp=Z,12nm,1.1s
S25A Robets Cordova 67.00 331 ⇓P P 21 36 21.1 +0.4
baz=67
R26A Arlington 67.08 332 ⇓P P 21 36 21.5 +0.4
baz=67
X18A Snowflake 67.28 325 ⇓P P 21 36 23.5 +1.0
baz=68
N31A Bailey Ranch, 67.40 336 ⇓P P 21 36 23.0 +0.1
baz=68
NVL N'lazarevskaya 67.41 159 eP P 21 36 22.3 -0.3
NVL pmax pmax
comp=Z,10.0nm,0.9s
SDCO Great Sand Dun 67.56 330 eP P 21 36 25.4 +1.1
comp=Z,9.1nm,0.8s
W18A Petrified Fore 67.61 325 ⇑P P 21 36 25.3 +0.7
baz=68
Q26A Hugo 67.63 332 ⇓P P 21 36 25.7 +1.1
baz=68
R24A Sanders Place, 67.77 331 ⇑P P 21 36 26.6 +1.0
baz=68
N30A Hueftle Ranch, 67.81 336 ⇓P P 21 36 26.3 +0.8
baz=68
M31A Lambtecht Ranc 67.86 337 ⇓P P 21 36 26.4 +0.6
baz=68
O28A Krutsinger Ran 67.90 334 ⇓P P 21 36 27.1 +1.0
baz=68
X16A Lo Mia Camp, P 68.01 324 ⇓P P 21 36 28.0 +1.0
baz=68
R23A Moffat 68.07 330 ⇓P P 21 36 27.7 +0.2
baz=68
113A Mohawk Valley, 68.13 321 ⇓P P 21 36 28.4 +0.8
baz=68
Q24A Divide 68.39 331 ⇑P P 21 36 30.1 +0.5
baz=69,SNR=5.7
P25A Willow Gulch B 68.40 332 ⇑P P 21 36 30.3 +0.8
baz=69,SNR=5.5
L31A Butterfield Fa 68.53 337 ⇑P P 21 36 30.8 +0.8
baz=69
MVCO Mesa Verde 68.58 328 ⇑P P 21 36 31.6 +1.0
baz=69,SNR=7.6
MVCO Mesa Verde 68.58 328 eP P 21 36 30.4 -0.3
comp=Z,12nm,0.8s
WUAZ Wupatki 68.79 325 ⇑P P 21 36 33.4 +1.5
baz=69,SNR=6.0
WUAZ Wupatki 68.79 325 eP P 21 36 34.0 +2.0
comp=Z,11nm,0.9s
QSPA South Pole Qui 68.97 180 eP P 21 36 33.4 +0.8
comp=Z,18nm,1.1s
ECSD EROS Data Cent 69.14 340 ⇑P P 21 36 33.9 +0.1
baz=70
ECSD EROS Data Cent 69.14 340 eP P 21 36 33.4 -0.4
comp=Z,14nm,1.3s
K30A Basset 69.25 337 ⇑P P 21 36 35.0 +0.6
baz=70
ISCO Idaho Springs 69.27 331 eP P 21 36 36.2 +1.2
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO Idaho Springs 69.27 331 ⇓P P 21 36 35.6 +0.5
baz=70
ISCO Idaho Springs 69.27 331 eP P 21 36 36.2 +1.2
comp=Z,5.5nm,0.9s
SMCO Snowmass 69.40 330 eP P 21 36 36.7 +0.8
comp=Z,8.3nm,0.9s
DBIC Dimbokro 69.51 74 eP P 21 36 36.3 -0.3
DBIC *SP sP 21 36 57.6 0.0
DBIC pmax pmax
comp=Z,11nm,0.8s
DBIC Dimbokro 69.51 74 P P 21 36 36.4 -0.3
comp=Z,6.5nm,0.7s,baz=224,slow=5.5,SNR=8.4
DBIC sP sP 21 36 57.6 0.0
comp=Z,12nm,0.8s,baz=227,slow=6.3,SNR=6.0
DBIC LR LR 22 05 56.8
comp=Z,48nm,19.1s,baz=216,slow=35
DBIC Dimbokro 69.51 74 eP P 21 36 36.3 -0.3
comp=Z,11nm,0.8s
DBIC sP sP 21 36 57.6 0.0
K29A Lazy Trails An 69.58 337 ⇑P P 21 36 37.5 +0.9
baz=70
P22A Eagle 69.63 330 ⇓P P 21 36 38.0 +0.9
baz=70
O23A Lake Granby, G 69.74 331 ⇑P P 21 36 38.9 +1.1
baz=70,SNR=6.3
BC3 Big Chuckawall 69.75 321 ⇑P P 21 36 39.1 +1.2
baz=70,SNR=6.2
J30A Dallas 69.77 337 ⇓P P 21 36 38.5 +0.8
baz=70
N24A Carr 69.79 332 ⇑P P 21 36 39.6 +1.6
baz=70
MONP Monument Peak, 69.80 319 ⇑P P 21 36 40.0 +1.7
baz=70
IRM Iron Mountain 69.93 321 ⇓P P 21 36 40.3 +1.4
baz=70,SNR=6.1
U15A North Rim 69.96 325 ⇑P P 21 36 40.9 +1.6
baz=70,SNR=7.2
O22A Kremmling 69.99 331 ⇓P P 21 36 40.8 +1.4
baz=70
L26A Underwood Farm 70.04 334 ⇓P P 21 36 40.7 +1.3
baz=70
J29A Okreek 70.14 337 ⇓P P 21 36 40.3 +0.3
baz=70,SNR=5.1
M24A Cheyenne 70.29 333 ⇑P P 21 36 42.8 +1.7
baz=71
N23A Red Feather La 70.31 332 ⇑P P 21 36 42.7 +1.3
baz=71
BELC Belle Mtn. Jos 70.32 320 ⇓P P 21 36 43.2 +1.8
baz=71
PFO Pinyon Flats O 70.32 320 ⇑P P 21 36 42.8 +1.5
baz=71
PHWY Pilot Hill 70.43 332 eP P 21 36 42.8 +0.8
comp=Z,24nm,1.7s
N22A Wattenberg Ran 70.46 331 ⇑P P 21 36 43.3 +1.1
baz=71
J28A Allard Ranch, 70.50 336 ⇓P P 21 36 42.7 +0.5
baz=71,SNR=7.0
J27A Elkhorn Farm, 70.64 336 ⇑P P 21 36 44.0 +1.0
baz=71,SNR=6.3
GMRC Granite Mounta 70.66 321 ⇓P P 21 36 44.8 +1.4
baz=71,SNR=7.6
I29A Vivian Onida 70.67 337 ⇓P P 21 36 42.9 -0.2
baz=71
M23A Laramie 70.68 332 ⇑P P 21 36 44.5 +1.0
baz=71
O20A White River Ci 70.75 330 ⇓P P 21 36 45.1 +1.2
baz=71
O20A White River Ci 70.75 330 eP P 21 36 45.5 +1.5
comp=Z,9.8nm,0.8s
I28A Midland 70.96 337 ⇑P P 21 36 46.2 +1.3
baz=71
M22A Cedar Creek Ra 71.01 332 ⇑P P 21 36 46.7 +1.1
baz=71
SRU San Rafael Swe 71.06 328 eP P 21 36 44.7 -1.1
SRU pmax pmax
comp=Z,14nm,0.7s
SRU San Rafael Swe 71.06 328 eP P 21 36 44.7 -1.1
comp=Z,14nm,0.7s
HEC Hector,Ludlow 71.09 321 ⇓P P 21 36 47.1 +1.2
baz=71
J26A Sides Ranch, S 71.11 335 ⇑P P 21 36 46.4 +0.5
baz=71
L23A Garrett 71.20 333 ⇑P P 21 36 47.0 +0.4
baz=72
G30A Faulkton 71.22 339 ⇑P P 21 36 47.2 +0.7
baz=72
N20A Spence Gulch, 71.31 330 ⇓P P 21 36 48.2 +0.9
baz=72,SNR=5.2
K24A Anderson Ranch 71.32 334 ⇓P P 21 36 47.9 +0.6
baz=72
I27A Quinn 71.35 336 ⇑P P 21 36 48.1 +0.8
baz=72
CIS Catalina Islan 71.37 319 ⇓P P 21 36 47.4 -0.2
baz=72
J25A Sunshine Ranch 71.46 335 ⇑P P 21 36 48.9 +0.8
baz=72
MVU Marysvale 71.47 326 eP P 21 36 50.1 +1.7
comp=Z,12nm,0.9s
BFSC Mount Baldy Ra 71.48 320 ⇑P P 21 36 48.9 +0.6
baz=72
H28A Mission Ridge 71.49 337 ⇑P P 21 36 48.8 +0.7
baz=72
EYMN Ely 71.54 345 eP P 21 36 47.7 -0.6
comp=Z,49nm,2.0s
SHPR Sheep Range 71.60 323 eP P 21 36 51.2 +2.0
GSC Goldstone, Bar 71.70 321 eP P 21 36 51.6 +2.0
GSC pmax pmax
comp=Z,31nm,1.8s
GSC Goldstone, Bar 71.70 321 ⇓P P 21 36 50.0 +0.4
baz=72
GSC Goldstone, Bar 71.70 321 eP P 21 36 51.6 +2.0
comp=Z,31nm,1.8s
F30A Leola 71.80 339 ⇓P P 21 36 52.5 +2.6
baz=72
H27A Howes 71.84 336 ⇓P P 21 36 50.8 +0.6
baz=72
I25A Rochford 71.96 335 ⇑P P 21 36 52.1 +1.0
baz=72,SNR=8.3
K22A Casper 71.99 332 ⇑P P 21 36 52.1 +0.9
baz=72
EDW2 Edwards Air Fo 72.11 320 ⇑P P 21 36 53.4 +1.3
baz=72
I24A Kuemmerle Ranc 72.18 334 ⇓P P 21 36 53.4 +1.1
baz=72
K21A Alcova 72.29 332 ⇑P P 21 36 54.2 +1.0
baz=73,SNR=12
MPU Maple Canyon 72.31 328 eP P 21 36 55.0 +1.7
comp=Z,12nm,1.0s
LRMC Laurel Mtn Rad 72.34 321 ⇑P P 21 36 54.3 +0.8
baz=73
E30A Jud 72.35 339 ⇓P P 21 36 53.7 +0.5
baz=73
H25A Fruitdale 72.41 335 ⇑P P 21 36 54.3 +0.6
baz=73
DAU Daniels Canyon 72.42 328 eP P 21 36 55.9 +1.8
DAU Daniels Canyon 72.42 328 eP P 21 36 55.9 +1.8
F28A McLaughlin 72.42 338 ⇑P P 21 36 54.2 +0.6
baz=73
G27A Dupree 72.43 337 ⇓P P 21 36 54.2 +0.6
baz=73
BSC Santa Cruz Isl 72.52 318 ⇑P P 21 36 55.2 +0.7
baz=73
FURC Furnace Creek, 72.55 322 ⇑P P 21 36 56.3 +1.8
baz=73
J22A Midwest 72.59 333 ⇓P P 21 36 55.3 +0.5
baz=73,SNR=5.5
G26A Maurine 72.60 336 ⇑P P 21 36 55.2 +0.4
baz=73
G25A Newell 72.82 336 ⇑P P 21 36 56.4 +0.3
baz=73
D30A Buchanan 72.83 340 ⇑P P 21 36 56.3 +0.2
baz=73
DAC Darwin (Calif) 72.84 321 eP P 21 36 58.4 +1.9
DAC pmax pmax
comp=Z,21nm,1.5s
DAC Darwin (Calif) 72.84 321 eP P 21 36 58.4 +1.9
comp=Z,21nm,1.5s
F27A Lemmon 72.88 337 ⇑P P 21 36 56.6 +0.2
baz=73
H24A Dirks Ranch, A 72.89 335 ⇓P P 21 36 56.8 +0.2
baz=73
ISA Isabella, Lake 72.94 320 eP P 21 36 56.5 -0.5
ISA pmax pmax
comp=Z,7.0nm,0.8s
ISA Isabella, Lake 72.94 320 ⇓P P 21 36 58.5 +1.5
baz=73,SNR=6.5
ISA Isabella, Lake 72.94 320 eP P 21 36 56.5 -0.5
comp=Z,6.6nm,0.8s
I22A 9 Mile Ranch, 72.98 333 ⇑P P 21 36 57.8 +0.6
baz=73,SNR=5.3
E28A Huff 73.02 338 ⇓P P 21 36 58.1 +1.0
baz=73
AGMN Agassiz Nation 73.02 342 ⇓P P 21 36 57.2 +0.1
baz=73
AGMN Agassiz Nation 73.02 342 eP P 21 36 56.8 -0.3
comp=Z,7.5nm,0.8s
DUG Dugway, Tooele 73.04 327 eP P 21 36 57.1 -0.5
DUG pmax pmax
comp=Z,20nm,1.3s
DUG Dugway, Tooele 73.04 327 ⇓P P 21 36 58.9 +1.3
baz=73
DUG Dugway, Tooele 73.04 327 eP P 21 36 57.0 -0.5
comp=Z,20nm,1.3s
D29A Pettibone, Tap 73.07 339 ⇑P P 21 36 58.5 +1.1
baz=73
F26A Lodgepole 73.10 337 ⇑P P 21 36 58.0 +0.3
baz=73
R11A Troy Canyon, C 73.16 324 ⇓P P 21 36 59.9 +1.6
baz=73,SNR=7.9
R11A Troy Canyon, C 73.16 324 eP P 21 37 00.0 +1.6
comp=Z,4.7nm,0.9s
J20A Shoshoni 73.23 332 ⇓P P 21 36 59.8 +1.1
baz=74
I21A Big Trails, Te 73.26 333 ⇑P P 21 36 59.2 +0.4
baz=74,SNR=11
C30A Mose, Pekin 73.27 340 ⇑P P 21 36 58.6 0.0
baz=74,SNR=5.2
G24A Alzada 73.32 335 ⇓P P 21 36 59.7 +0.6
baz=74
PDAR Pinedale Array 73.43 331 P P 21 37 00.4 +0.5
comp=Z,1.1nm,0.6s,baz=142,slow=7.2,SNR=11
PDAR pP pP 21 37 14.8 -0.2
comp=Z,1.6nm,0.6s,baz=140,slow=7.6,SNR=8.5
PDAR LR LR 22 10 41.4
comp=Z,35nm,18.8s,baz=294,slow=37
F25A Bowman 73.46 336 ⇓P P 21 37 00.8 +1.0
baz=74
HWUT Hardware Ranch 73.48 329 eP P 21 37 00.9 +0.7
comp=Z,25nm,1.4s
J19A Crowheart 73.59 331 ⇑P P 21 37 01.1 +0.3
baz=74,SNR=5.0
G23A Biddle 73.60 335 ⇑P P 21 37 00.9 +0.2
baz=74,SNR=5.3
BGU Big Grassy Mou 73.69 327 eP P 21 37 02.7 +1.3
comp=Z,3.6nm,1.1s
I20A Worland 73.73 332 ⇓P P 21 37 01.5 0.0
baz=74
MDND Maddock 73.76 340 ⇑P P 21 37 02.0 +0.5
baz=74
MDND Maddock 73.76 340 eP P 21 37 01.5 0.0
comp=Z,8.6nm,1.0s
D27A Center 73.76 338 ⇓P P 21 37 01.9 +0.3
baz=74
F24A Ekalaka 73.77 336 ⇑P P 21 37 02.2 +0.6
baz=74
H21A Big Horn, Sher 73.81 333 ⇑P P 21 37 02.4 +0.4
baz=74
TPH Tonopah 73.87 323 eP P 21 37 04.5 +1.9
TPH pmax pmax
comp=Z,9.0nm,1.0s
TPH Tonopah 73.87 323 eP P 21 37 04.5 +1.9
comp=Z,8.8nm,1.0s
B30A Myrvik Farm, E 73.89 341 ⇓P P 21 37 02.2 0.0
baz=74
G22A Birney 73.98 334 ⇑P P 21 37 03.4 +0.4
baz=74
F23A Volborg 74.04 335 ⇑P P 21 37 03.8 +0.6
baz=74
H20A Greybull 74.10 333 ⇓P P 21 37 04.3 +0.7
baz=74
I19A Meeteetse 74.18 332 ⇓P P 21 37 05.0 +0.8
baz=74
HVU Hansel Valley 74.20 328 eP P 21 37 05.5 +1.1
HVU pmax pmax
comp=Z,11nm,1.0s
HVU Hansel Valley 74.20 328 eP P 21 37 05.5 +1.1
comp=Z,11nm,1.0s
B29A Wagenman Farm, 74.22 340 ⇑P P 21 37 04.4 +0.2
baz=75,SNR=6.3
E24A Baker 74.31 336 ⇑P P 21 37 05.2 +0.4
baz=75
A30A Hoffart Farm, 74.31 341 ⇑P P 21 37 05.0 +0.4
baz=75
G21A Lodge Grass 74.36 334 ⇑P P 21 37 05.5 +0.3
baz=75
F22A Rosebud 74.42 334 ⇑P P 21 37 05.8 +0.4
baz=75
D25A Fairfield 74.44 337 ⇑P P 21 37 06.3 +0.8
baz=75
REDW Red Top Meadow 74.49 330 eP P 21 37 07.1 +1.0
comp=Z,10nm,0.9s

B28A	Dugan Ranch, T	74.53	339	⇑P	P	21 37 06.2 +0.2
	baz=75					
LOHW	Long Hollow	74.57	331	eP	P	21 37 07.6 +1.0
	comp=Z,5.8nm,0.9s					
LOHW				epP	PcP	21 37 15.8 -5.0
A29A	Manning Farm,	74.59	340	⇑P	P	21 37 06.6 +0.4
	baz=75					
TPAW	Teton Pass	74.63	330	eP	P	21 37 08.4 +1.4
	comp=Z,9.7nm,0.8s					
H19A	Powell	74.67	332	⇑P	P	21 37 08.0 +1.0
	baz=75					
ELK	Elko	74.69	326	eP	pP	21 37 23.2 +0.8
ELK	Elko	74.69	326	epP	pP	21 37 23.2 +0.8
NVAR	Mina Array Bea	74.73	322	P	P	21 37 09.1 +1.5
	comp=Z,2.7nm,0.8s,baz=146,slow=7.5,SNR=13					
NVAR				pP	pP	21 37 23.8 +1.1
	comp=Z,4.1nm,0.8s,baz=154,slow=6.8,SNR=10					
D24A	Glendive	74.78	336	⇓P	P	21 37 08.8 +1.3
	baz=75					
FXWY	Fox Creek	74.78	330	eP	P	21 37 09.0 +1.2
	comp=Z,5.6nm,1.0s					
FXWY				epP	PcP	21 37 21.7 0.0
ULM	Lac du Bonnet	74.79	343	eP	P	21 37 06.7 -0.7
ULM				*PP	PcP	21 37 21.3 +0.1
ULM				pmax	pmax	
	comp=Z,6.0nm,0.9s					
ULM	Lac du Bonnet	74.79	343	P	P	21 37 06.9 -0.4
	comp=Z,4.2nm,0.6s,baz=162,slow=5.9,SNR=11					
ULM				pP	PcP	21 37 21.3 +0.1
	comp=Z,4.3nm,0.7s,baz=144,slow=5.4,SNR=5.3					
ULM	Lac du Bonnet	74.79	343	eP	P	21 37 06.7 -0.7
	comp=Z,6.4nm,0.9s					
ULM				pP	PcP	21 37 21.3 +0.1
I17A	Pilgrim Ck.	74.79	331	⇓P	P	21 37 08.8 +1.0
	baz=75,SNR=8.2					
F21A	Absaloka Mine,	74.81	334	⇑P	P	21 37 08.2 +0.5
	baz=75					
A28A	Rude Farm, Bot	74.90	340	⇓P	P	21 37 08.2 +0.1
	baz=75					
IMW	Indian Meadow	74.94	331	eP	P	21 37 10.2 +1.4
	comp=Z,22nm,1.5s					
IMW				epP	pP	21 37 23.8 -0.1
FLWY	Flagg Ranch	74.98	331	eP	P	21 37 10.3 +1.4
	comp=Z,14nm,0.8s					
H18A	Shoshone NF, C	74.98	332	⇓P	P	21 37 09.5 +0.6
	baz=75,SNR=12					
H17A	Grant Village	75.16	331	⇑P	P	21 37 11.3 +1.3
	baz=76					
H17A	Grant Village	75.16	331	epP	pP	21 37 26.7 +1.6
C24A	Savage	75.17	337	⇓P	P	21 37 11.0 +1.3
	baz=76					
LKWY	Lake	75.22	331	eP	P	21 37 12.8 +2.5
LKWY				e*PP	pP	21 37 27.3 +1.9
LKWY				pmax	pmax	
	comp=Z,10.0nm,0.9s					
LKWY	Lake	75.22	331	eP	P	21 37 12.8 +2.5
	comp=Z,10nm,0.9s					
LKWY				epP	pP	21 37 27.3 +1.9
F20A	Billings	75.22	333	⇑P	P	21 37 11.0 +0.9
	baz=76					
E21A	Keefer Ranch,	75.37	334	⇑P	P	21 37 11.9 +1.0
	baz=76					
A26A	Wade Farm, Ken	75.48	339	⇓P	P	21 37 12.6 +1.2
	baz=76					
D22A	Cohagen	75.52	335	⇑P	P	21 37 12.6 +0.9
	baz=76,SNR=7.5					
YMR	Madison River	75.55	331	eP	P	21 37 11.8 -0.4
F19A	Roth Farm, Mol	75.59	333	⇑P	P	21 37 12.9 +0.7
	baz=76,SNR=5.8					
C23A	Lambert	75.68	336	⇓P	P	21 37 14.1 +1.5
	baz=76					
D21A	La Casta Ranch	75.77	335	⇓P	P	21 37 14.8 +1.6
	baz=76					
E20A	Meyer Farm, Mu	75.77	334	⇑P	P	21 37 14.7 +1.5
	baz=76					
SCHQ	Schefferville	75.79	2	P	P	21 37 13.0 -0.1
	comp=Z,7.2nm,0.8s,baz=200,slow=3.6,SNR=10.0					
SCHQ	Schefferville	75.79	2	eP	P	21 37 13.0 -0.1
	comp=Z,189nm,3.0s					
A25A	Svangstu Ranch	75.88	338	⇑P	P	21 37 15.3 +1.6
	baz=76					
QLMT	Earthquake Lak	75.89	331	eP	P	21 37 14.4 +0.3
C22A	Vida	75.89	336	⇑P	P	21 37 15.0 +1.1
	baz=76					
SBA	Scott Base	75.94	191	eP	pP	21 37 31.1 +2.3
SBA	Scott Base	75.94	191	epP	pP	21 37 31.1 +2.3
E19A	Rath Farm, Rou	76.01	333	⇓P	P	21 37 15.2 +0.6
	baz=76,SNR=12					
B23A	Brockton	76.16	337	⇓P	P	21 37 16.5 +1.2
	baz=76					
A24A	Westby	76.18	338	⇓P	P	21 37 16.7 +1.3
	baz=76					
D20A	Manuel Ranch,	76.25	334	⇓P	P	21 37 16.5 +0.6
	baz=77,SNR=6.3					
HLID	Hailey	76.34	328	⇓P	P	21 37 18.1 +1.5
	baz=77,SNR=10					
HLID	Hailey	76.34	328	eP	P	21 37 18.4 +1.8
	comp=Z,8.4nm,0.9s					
C21A	Desert Coulee	76.43	335	⇑P	P	21 37 17.8 +0.9
	baz=77					
MCMT	McKenzie Canyo	76.54	330	eP	P	21 37 18.2 +0.3
	comp=Z,2.5nm,0.8s					
D19A	Cripps Ranch,	76.61	334	⇑P	P	21 37 19.1 +1.1
	baz=77					
C20A	Veseth Ranch,	76.70	335	⇓P	P	21 37 18.8 +0.4
	baz=77					
DLMT	Dillon	76.83	331	epP	pP	21 37 35.5 +1.1
MFID	Camas Ranch	76.93	327	eP	P	21 37 21.8 +1.8
	comp=Z,14nm,1.2s					
MFID				epP	pP	21 37 36.2 +1.2
A22A	Carney Farms,	76.94	337	⇓P	P	21 37 20.5 +0.7
	baz=77,SNR=5.3					
VNDA	Vanda	76.97	190	P	P	21 37 21.3 +1.8
VNDA				*PP	pP	21 37 35.2 +0.5
VNDA				e*PP	pwP	21 37 36.3 +1.6
VNDA	Vanda	76.97	190	P	P	21 37 21.3 +1.8
	comp=Z,1.6nm,0.9s,baz=146,slow=3.6,SNR=7.0					
VNDA				pP	pP	21 37 35.1 +0.5
	comp=Z,2.6nm,1.0s,baz=123,slow=5.1,SNR=6.2					
VNDA	Vanda	76.97	190	P	P	21 37 21.3 +1.8
VNDA				pP	pP	21 37 35.1 +0.5
VNDA				epP	pwP	21 37 36.3 +1.6
SYO	Syowa Base	77.07	160	⇑eP	P	21 37 19.6 -0.6
C19A	Slack Wire Ran	77.14	334	⇑P	P	21 37 21.2 +0.3
	baz=77					
B20A	Solberg Farm,	77.29	335	⇓P	P	21 37 22.1 +0.4
	baz=78					
A21A	Bergtoll Ranch	77.31	336	⇓P	P	21 37 22.2 +0.4
	baz=78					
A20A	Cobblestone Ra	77.61	335	⇑P	P	21 37 24.0 +0.5
	baz=78,SNR=5.8					
EGMT	Eagleton	77.65	334	⇓P	P	21 37 24.7 +0.9
	baz=78					
EGMT	Eagleton	77.65	334	eP	P	21 37 24.4 +0.6
	comp=Z,9.9nm,0.9s					
EGMT				epP	pP	21 37 39.3 +0.3
B19A	Brinkman Farms	77.67	335	⇑P	P	21 37 24.8 +1.0
	baz=78					
A19A	Klindworth Far	77.97	335	⇑P	P	21 37 26.3 +0.8
	baz=78					
TORD	Torodi Ar. Bea	78.11	71	P	P	21 37 26.0 -1.0
	comp=Z,9.8nm,0.7s,baz=252,slow=5.2,SNR=68					
TORD				LR	LR	22 11 59.9
	comp=Z,38nm,18.2s,baz=200,slow=36					
MSO	Missoula	78.55	331	⇑P	P	21 37 29.7 +0.8
	baz=79					
N02D	Trinity Center	78.95	322	⇑P	P	21 37 32.0 +0.9
	baz=79					
M04C	Macdoel	78.99	323	⇓P	P	21 37 32.5 +1.0
	baz=79					
I07A	Izee	79.28	326	eP	P	21 37 34.7 +1.7
	comp=Z,8.6nm,1.1s					
M02C	Callahan	79.31	322	⇑P	P	21 37 34.1 +1.0
	baz=80					
F10A	Beach Ranch, E	79.47	329	eP	P	21 37 35.1 +1.3
	comp=Z,9.3nm,1.0s					
J05D	Fort Rock, OR	79.66	325	⇓P	P	21 37 35.7 +0.7
	baz=80					
J04D	Umpqua Nationa	80.11	324	⇓P	P	21 37 38.2 +0.7
	baz=80					
WALA	Waterton Lakes	80.21	332	epP	pP	21 37 53.6 +0.6
L02D	Cave Junction,	80.23	323	⇓P	P	21 37 38.2 +0.2
	baz=80					
I05D	Terrebonne, OR	80.42	325	⇑P	P	21 37 40.2 +1.2
	baz=81					
I04A	Tendick Farm,	80.64	324	⇓P	P	21 37 40.8 +0.7
	baz=81					
TSUM	Tsumeb	80.97	107	eP	P	21 37 43.3 +0.6
	comp=Z,12nm,0.8s					
TSUM				epP	pP	21 37 59.7 +1.7
G05D	Wamic, OR	81.02	326	⇓P	P	21 37 43.1 +0.9
	baz=81					
NEW	Newport	81.06	330	⇓P	P	21 37 43.2 +0.8
	baz=81					
H04A	Detroit Lake	81.11	325	epP	pP	21 37 58.2 +0.3
C09A	Chrisman Ranch	81.27	329	eP	P	21 37 44.5 +1.1
	comp=Z,13nm,0.9s					
C09A				epP	pP	21 37 59.2 +0.6
BOSA	Boshof	84.36	118	P	P	21 38 00.0 -0.2
	comp=Z,6.3nm,0.9s,baz=220,slow=3.0,SNR=7.7					
BOSA				pP	pP	21 38 15.4 -0.1
	comp=Z,14nm,0.9s,baz=212,slow=2.7,SNR=2.4					
BOSA				sP	sP	21 38 21.3 -0.1
	comp=Z,12nm,0.8s,baz=259,slow=4.8,SNR=8.2					
BOSA				LR	LR	22 12 56.9
	comp=Z,39nm,18.0s,baz=182,slow=34					
TAM	Tamanrasset	85.49	64	eP	P	21 38 05.6 -0.3
TAM				pmax	pmax	
	comp=Z,12nm,1.3s					
TAM	Tamanrasset	85.49	64	eP	P	21 38 05.5 -0.3
	comp=Z,12nm,1.3s					
ESDC	Sonseca Array	86.27	45	P	P	21 38 10.0 +0.8
	comp=Z,2.2nm,0.9s,baz=237,slow=5.5,SNR=8.9					
ESDC				LR	LR	22 13 30.1
	comp=Z,21nm,21.8s,baz=0.0,slow=33					
YKA	Yellowknife Ar	90.63	341	P	P	21 38 29.3 0.0
	comp=Z,3.4nm,0.8s,baz=133,slow=4.7,SNR=65					
YKA				pP	pP	21 38 44.3 -0.5
	comp=Z,3.6nm,0.8s,baz=134,slow=4.7,SNR=16					
VYHS	Vyhne	104.75	43	iP	Pdif	21 39 36.8 +3.3
VYHS	Vyhne	104.75	43	PDIF	Pdif	21 39 36.8 +3.3
KOLS	Kolonicke sedl	107.07	44	iP	Pdif	21 39 53.0 +9.2
KOLS	Kolonicke sedl	107.07	44	e	Pdif	21 39 53.0 +9.2
KOLS				e		22 13 45.8
KBZ	Khabaz	120.64	51	PKP	PKPdf	21 44 19.2 +0.2
	comp=Z,2.0nm,0.8s,baz=108,slow=4.8,SNR=5.7					
KBZ				pPKP	pPKPdf	21 44 35.5 +0.6
	comp=Z,3.5nm,0.9s,baz=36,slow=1.5,SNR=6.0					
BILL	Bilibino	121.94	338	ePKIKP	PKPdf	21 44 20.2 -0.6
BILL				pmax	pmax	
	comp=Z,12nm,2.5s					
TIXI	Tiksi	128.41	353	iPKIKP	PKPdf	21 44 32.4 -0.6
TIXI				pmax	pmax	
	comp=Z,5.0nm,2.5s					
ARU	Arti	128.42	34	PKIKP	pPKPdf	21 44 49.1 -0.4
SEY	Seymchan	129.49	337	ePKIKP	PKPdf	21 44 35.3 0.0
ASAR	Alice Springs	129.73	209	PKP	PKPdf	21 44 36.5 -0.6
	comp=Z,1.4nm,0.8s,baz=146,slow=2.5,SNR=11					
ASAR				pPKP	pPKPdf	21 44 52.6 -0.6
	comp=Z,3.2nm,0.8s,baz=144,slow=2.1,SNR=15					
ABKAR	Akbulak array	131.55	42	ePKPdf	PKPdf	21 44 38.5 -1.1
WRA	Warramunga Arr	132.73	212	PKP	PKPdf	21 44 42.8 -0.1
	comp=Z,1.2nm,0.6s,baz=155,slow=1.7,SNR=24					
WRA				pPKP	pPKPdf	21 44 58.6 -0.3
	comp=Z,3.4nm,0.7s,baz=151,slow=1.7,SNR=13					
YAK	Yakutsk	137.05	347	⇑ePKIKP	PKPdf	21 44 51.5 +1.9
NVS	Novosibirsk	140.79	24	ePKIKP	PKPdf	21 44 56.2 -0.4
KURK	Kurchatov	141.58	32	ePKIHKP	PKPpre	21 44 53.4
KURK	Kurchatov	141.58	32	ePKPdf	PKPpre	21 44 53.4
ZALV	Zalesovo Beam	142.08	24	PKP	PKPdf	21 44 59.1 +0.1
	comp=Z,6.9nm,0.6s,baz=284,slow=2.2,SNR=35					
ZALV				pPKP	pPKPdf	21 45 15.9 +0.9
	comp=Z,3.9nm,0.6s,baz=292,slow=2.4,SNR=5.5					
EKS2	Erkin-Say	142.87	46	ePKIKP	PKPdf	21 45 00.3 -0.7
EKS2	Erkin-Say	142.87	46	ePKPdf	PKPdf	21 45 00.3 -0.7
AAK	Ala-Archa	143.36	46	cePKIKP	PKPbc	21 45 00.3 +1.2
AAK				pmax	pmax	
	comp=Z,17nm,1.7s					
AAK	Ala-Archa	143.36	46	ePKPdf	PKPbc	21 44 59.5 +0.4
COCO	West Island	144.32	157	iPKIKP	PKPdf	21 45 13.5 +9.4
KSH	Kashi	145.62	50	⇑iPKPbc	PKPab	21 45 06.6 +0.1
KSH				sPKP		21 45 26.3
KSH				PKS	PKSdf	21 48 41.0 -0.4
KSH				SKS	SKSdf	21 52 10.3 -0.4
KSH				SKKS	SKKSac	21 55 13.9 -1.0
KSH				SS	SS	22 07 14.0 -2.4
KSH				PPMZ		
	comp=Z,79nm,5.9s					
KSH				LN		
	comp=Z,51nm,4.1s					
KSH				LE		
	comp=Z,41nm,4.1s					
KSH				LZ		
	comp=Z,140nm,6.0s					
MKAR	Makanchi Array	145.93	35	PKPbc	PKPbc	21 45 06.5 -0.3
	comp=Z,11nm,0.7s,baz=341,slow=2.6,SNR=130					
MKAR				pPKPbc	pPKPbc	21 45 22.7 +0.1
	comp=Z,2.9nm,0.7s,baz=325,slow=2.0,SNR=5.5					
DHRM	DHARAMSHALA	147.97	63	eP	PKPbc	21 45 13.7 +0.4
PALK	Pallekele	148.36	112	iPKP2	PKPbc	21 45 15.6 +1.0
MOY	Mondy	148.79	11	ePKP2	PKPbc	21 45 15.6 +1.0
SMLA	Simla	148.91	65	ex	PKiKP	21 45 15.1 -1.6
TLY	Talaya	149.18	8	ePKIHKP	PKPpre	21 45 14.5
TLY				pmax	pmax	
	comp=Z,8.0nm,1.3s					
HYB	Hyderabad	149.99	92	iPKP	PKPbc	21 45 17.0 -1.5
HYB				e		21 45 34.0
HYB				e		21 45 40.0
JAGI	Jajag, Banyuwa	150.23	188	ePKPbc	PKPbc	21 45 18.1 -1.1
ZAK	Zakamensk	150.40	9	ePKIKP	PKPbc	21 45 18.4 -0.2
ZAK				pmax	pmax	
	comp=Z,5.0nm,1.6s					
WMQ	Urumqi	150.75	34	ePKPbc	PKPbc	21 45 19.6 0.0
WMQ				PKPab	PKPab	21 45 36.1 +9.4
WMQ				PKS	PP	21 48 52.9 -3.4
WMQ				PP	PP	21 49 05.3 +9.0
WMQ				PPMZ		
	comp=Z,160nm,4.0s					
WMQ				LN		
	comp=Z,39nm,22.0s					
WMQ				LE		
	comp=Z,56nm,22.0s					
WMQ				LZ		
	comp=Z,46nm,20.0s					
USRK	Ussuriysk Ar.	150.79	327	PKPbc	PKPbc	21 45 19.6 +0.1
	comp=Z,3.8nm,0.7s,baz=203,slow=1.5,SNR=9.3					
USRK				pPKPbc	pPKPbc	21 45 35.5 0.0
	comp=Z,2.4nm,0.7s,baz=94,slow=0.7,SNR=3.4					
NGP	Nagpur	151.04	84	ex	PKiKP	21 45 21.0 -0.4
MJAR	Matsushiro Arr	151.20	308	PKPbc	PKPbc	21 45 19.9 -0.9
	comp=Z,1.4nm,0.8s,baz=316,slow=6.9,SNR=4.4					
MJAR				pPKPbc	pPKPbc	21 45 36.4 -0.4
	comp=Z,2.7nm,0.8s,baz=84,slow=1.5,SNR=4.6					
SONM	Songino Array	153.28	6	PKP	PKPdf	21 45 18.4 +0.7
	comp=Z,1.4nm,0.8s,baz=212,slow=0.4,SNR=12					
SONM				PKPbc	PKiKP	21 45 25.5 +0.1
	comp=Z,2.6nm,0.9s,baz=319,slow=0.9,SNR=15					
SONM				PKPab	PKPab	21 45 35.2 -2.1
	comp=Z,1.5nm,0.8s,baz=328,slow=1.3,SNR=6.6					
SONM				pPKPbc	pPKPbc	21 45 42.7 +1.5
	comp=Z,1.1nm,0.7s,baz=318,slow=1.8,SNR=3.0					
GTA	Gaotai	159.83	24	ePKP	PKPdf	21 45 27.3 +0.8
HHC	Hu-ho-hao-te	160.40	357	ePKP	PKPdf	21 45 28.4 +1.3
HHC				pPKP	pPKPdf	21 45 37.5 -5.6
HHC				SKS	SKSdf	21 52 28.6 +0.6
HHC				SKKS	SKKSac	21 56 35.1 +0.6
HHC				SS	SS	22 09 57.9 +2.1
HHC				PPMZ		
	comp=Z,83nm,9.6s					
HHC				LN		
	comp=Z,170nm,20.0s					
HHC				LE		
	comp=Z,140nm,22.7s					
HHC				LZ		
	comp=Z,120nm,21.0s					
LZH	Lanzhou	164.20	19	ePKP	PKPdf	21 45 37.0 +5.9
CMAR	Chiang Mai Arr	169.12	103	PKP	PKPdf	21 45 34.5 -0.6
	comp=Z,0.6nm,0.8s,baz=293,slow=1.7,SNR=5.6					
CMAR				pPKP	pPKPdf	21 45 51.0 -0.2
	comp=Z,1.2nm,0.9s,baz=259,slow=1.9,SNR=5.7					
CMAR				PKPab	PKPab	21 46 46.9 -0.2
	comp=Z,0.4nm,0.7s,baz=262,slow=4.3,SNR=4.8					

GUC 15 21:32:36.3±0.4, 35°.34S×72°.68W, h15km±4km, ML3.8, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.80	186	⇓iP	Pg	21 32 49.1	-2.7
COCH				iS	Sg	21 32 59.3	-3.1
TALC	Talca	0.86	94	iP	Pb	21 32 50.2	-2.7
TALC				iS	Sb	21 33 00.7	-3.5
TALC				IAML		21 33 06.2	
	comp=E,7μm,0.2s						
LNCH	Linares	1.02	120	eP	Pb	21 32 52.9	-2.8
LNCH				iS	Sb	21 33 05.5	-3.3
NICH	Los Niches	1.24	75	iP	Pn	21 32 56.5	-2.5
NICH				iS	Sb	21 33 11.8	-3.4
NICH				IAML		21 33 17.3	
	comp=N,5μm,0.3s						
PEL	Peldehue	2.74	38	IAML		21 34 00.8	

ISCJB 15 21:37:40.8±0.4, 42°.48N±0°.02×20°.95E±0°.03, h0km±4km, Error ellipse: s-maj=3.6km s-min=3.1km az=33.8
SKO 15 21:37:40.8, 42°.41N×20°.88E, h10km, M1.6, ML2.0
CSEM 15 21:37:41.5±0.2, 42°.46N×20°.94E, h2km, ML2.1, Error ellipse: s-maj=3.6km s-min=3.0km az=36.0
BEO 15 21:37:42.4±0.3, 42°.46N×20°.97E, h7km±2km, ML1.9/1

ISC 15 21:37:41.3±1.0, 42°.44N±0°.02×20°.93E±0°.02, h6km±9km, n45, σ0°.63/74, 4C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZATK	Zatriq	0.23	272	P	Pg	21 37 45.6	-0.2
PRZK	Prizren	0.26	209	P	Pg	21 37 46.5	0.0
GJIK	Gjilan	0.38	87	P	Pg	21 37 48.9	+0.3
SMRK	Smrekonice	0.43	1	P	Pg	21 37 50.0	+0.3
PEJK	Peje	0.52	293	P	Pg	21 37 51.0	-0.4
SKO	Skopje	0.60	141	⇑iPg	Pg	21 37 51.6	-1.3
SKO				eSg	Sg	21 38 00.8	0.0
SKO	Skopje	0.60	141	iPg	Pg	21 37 52.2	-0.7
SKO				iSg	Sg	21 38 00.5	-0.3
SKO				iLg	Lg	21 38 01.0	
	comp=E,44nm,0.3s						
SKO				iLg	Lg	21 38 04.5	
	comp=N,65nm,0.5s						
SKO	Skopje	0.60	141	iPg	Pg	21 37 52.2	-0.7
SKO				eSg	Sg	21 38 00.8	0.0
SKO				iLg	Lg	21 38 00.9	
	comp=N,44nm,0.3s						
BARS	Barje	0.75	60	⇑iPg	Pg	21 37 55.8	0.0
BARS				eSg	Sg	21 38 06.2	+0.6
BARS	Barje	0.75	60	⇑iPg	Pg	21 37 55.8	0.0
BARS				eSg	Sg	21 38 06.2	+0.6
SELS	Selova	0.79	10	⇑iPg	Pg	21 37 56.0	-0.5
SELS				eSg	Sg	21 38 07.2	+0.4
BEY	Berane	0.88	300	P	Pg	21 37 57.5	-0.7
SJES	Sjenica	1.08	320	ePg	Pb	21 38 02.8	+0.3
SJES				eSg	Sg	21 38 16.1	0.0
PDG	Podgorica	1.24	270	eSg	Sn	21 38 23.3	+1.0
PDG	Podgorica	1.24	270	eSg	Sn	21 38 23.3	+1.0
IVAS	Ivanjica	1.27	334	iPg	Pn	21 38 04.7	-1.0
IVAS				eSg	Sb	21 38 21.5	-0.9
IVAS	Ivanjica	1.27	334	iPg	Pn	21 38 04.7	-1.0
IVAS				eSg	Sb	21 38 21.5	-0.9
OHR	Ohrid	1.33	184	iPn	Pn	21 38 06.9	+0.3
OHR				iSn	Sn	21 38 25.7	+1.0
OHR				iLg	Lg	21 38 26.7	
	comp=E,43nm,0.7s						
OHR				iLg	Lg	21 38 27.8	
	comp=N,19nm,0.7s						
OHR	Ohrid	1.33	184	iPn	Pn	21 38 06.9	+0.3
OHR				iSn	Sn	21 38 25.6	+1.0
OHR				iLg	Lg	21 38 26.6	
	comp=N,43nm,0.7s						
GRUS	Gruza	1.46	354	ePg	Pg	21 38 10.1	+0.8
GRUS				eSg	Sg	21 38 28.7	+0.6
GRUS	Gruza	1.46	354	ePg	Pg	21 38 10.1	+0.8
GRUS				eSg	Sg	21 38 28.7	+0.6
ZAPS	Zavoj	1.50	56	⇓iPg	Pg	21 38 11.1	+0.9
ZAPS				eSg	Sg	21 38 29.8	+0.1
ZAPS	Zavoj	1.50	56	⇓iPg	Pg	21 38 11.1	+0.9
ZAPS				eSg	Sg	21 38 29.8	+0.1
BOLS	Boljevac	1.58	28	ePg	Pb	21 38 10.6	-0.3
BOLS				eSg	Sn	21 38 30.0	-0.7
BOLS	Boljevac	1.58	28	ePg	Pb	21 38 10.6	-0.3
BOLS				eSg	Sn	21 38 30.0	-0.7
VAY	Valandovo	1.66	132	iPn	Pb	21 38 12.1	-0.3
VAY				iSn	Sb	21 38 33.6	+0.1
VAY				eLg	Lg	21 38 37.8	
	comp=N,13nm,0.8s						
VAY				eLg	Lg	21 38 38.5	
	comp=E,7.3nm,0.5s						
VAY	Valandovo	1.66	132	iPn	Pb	21 38 12.0	-0.3
VAY				iSn	Sb	21 38 33.6	+0.1
VAY				eLg	Lg	21 38 37.7	
	comp=E,13nm,0.8s						
VTS	Vitosha	1.69	84	ePn	Pb	21 38 13.5	+0.5
VTS				eSg	Sb	21 38 34.6	0.0
VTS	Vitosha	1.69	84	iP	Pb	21 38 13.4	+0.4
VTS	Vitosha	1.69	84	iP	Pb	21 38 13.4	+0.5
VTS				eSg	Sb	21 38 34.6	0.0
KKB	Krupnik	1.70	109	iP	Pg	21 38 13.7	-0.2
KKB	Krupnik	1.70	109	iP	Pg	21 38 13.7	-0.2
DIVS	Divibare	1.79	338	ePn	Pn	21 38 12.6	-0.4
DIVS				eSn	Sn	21 38 35.6	-0.5
DIVS	Divibare	1.79	338	ePn	Pn	21 38 12.6	-0.4
DIVS				eSn	Sn	21 38 35.6	-0.5
BBLS	Lazići	1.81	322	ePn	Pn	21 38 13.0	-0.2
BBLS				eSn	Sn	21 38 36.9	+0.4
BBLS	Lazići	1.81	322	ePn	Pn	21 38 13.0	-0.2
BBLS				eSn	Sn	21 38 36.9	+0.4
TRUS	Trudelj	1.82	348	ePn	Pn	21 38 13.2	-0.1
TRUS	Trudelj	1.82	348	ePn	Pn	21 38 13.2	-0.1
TREB	Trebinje	1.93	279	ePn	Pb	21 38 17.1	+0.2
TREB				eSg	Sg	21 38 44.6	+1.4
TREB	Trebinje	1.93	279	ePn	Pb	21 38 17.1	+0.2
TREB				eSg	Sg	21 38 44.6	+1.4
MPEP	Malo Peshtene	2.26	65	iP	Pg	21 38 24.0	-0.6
STON	Ston	2.42	281	ePn	Pb	21 38 24.1	-1.2
STON	Ston	2.42	281	ePn	Pb	21 38 24.1	-1.2
BZS	Buzias	3.21	9	ePn	Pn	21 38 32.2	-0.2
BZS				eSn	Sn	21 39 11.2	+0.2
BZS	Buzias	3.21	9	ePn	Pn	21 38 32.2	-0.2
BZS				eSn	Sn	21 39 11.2	+0.2

ISCJB 15 21:53:19.9±0.9, 25°.97N±0°.05×128°.65E±0°.04, h26km±7km, mb3.4/5, Error ellipse: s-maj=7.8km s-min=6.2km az=8.0
JMA 15 21:53:20.8±0.3, 25°.97N×128°.59E, h31km, M3.4
*I

CMAR	**Chiang Mai Arr**	**28.42 261**	pP	pP	21 59 25.0	+3.0
	0.5nm,0.7s,baz=66,slow=7.7,SNR=4.0					
MKAR	**Makanchi Array**	**41.97 312**	P	**P**	**22 01 10.1**	**-0.1**
	0.3nm,0.7s,baz=95,slow=8.6,SNR=3.6					
MKAR			pP	**pP**	**22 01 18.1**	**-0.1**
	0.8nm,0.5s,baz=96,slow=11,SNR=8.6					
ZALV	**Zalesovo Beam**	**42.67 323**	pP	pP	22 01 24.6	+0.8
	0.6nm,0.5s,baz=111,slow=8.2,SNR=2.8					
WRA	**Warramunga Arr**	**45.97 172**	P	**P**	**22 01 42.9**	**+0.4**
	0.8nm,0.7s,baz=353,slow=8.5,SNR=9.2					
ASAR	**Alice Springs**	**49.60 174**	P	**P**	**22 02 12.7**	**+2.0**
	0.3nm,0.8s,baz=7.0,slow=10,SNR=6.1					
FINES	**FINESS Array B**	**73.26 331**	P	**P**	**22 04 51.0**	**+0.8**
	0.9nm,0.9s,baz=356,slow=9.8,SNR=2.4					
FINES			pP	**pP**	**22 04 59.2**	**+0.6**
	0.7nm,0.5s,baz=83,slow=6.5,SNR=2.0					
BRTR	**Keskin Array B**	**77.47 308**	pP	pP	22 05 26.1	+2.6
	0.8nm,0.9s,baz=306,slow=2.9,SNR=2.5					

ISCJB ***15*** *21:54:28.0±1.0, 25°.94N±0°.05×128°.64E±0°.04, h26km±7km, mb3.2/4, Error ellipse: s-maj=9.0km s-min=6.4km az=11.5*
JMA ***15*** *21:54:29.5±0.4, 25°.97N×128°.57E, h33km, M3.2*
IDC ***15*** *21:54:33.7±2.6, 25°.44N×127°.47E, h28km±7km, mb3.2/4, mb1 3.4/4, mb1mx3.2/30, mbtmp3.4/4, Error ellipse: s-maj=152.0km s-min=23.8km az=66.0*
ISC 15 21:54:31.5±1.3, 26°.01N±0°.08×128°.47E±0°.07, h31km±7km, n14, σ1°.40/21, mb3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.64**	**321**	P	**Pb**	**21 54 43.0**	**-1.3**
JNTH				*eS*	**Sn**	**21 54 53.3**	**-0.3**
JJT2	**Tamagusuku 2**	**0.66**	**281**	P	**Pb**	**21 54 43.9**	**-0.7**
JJT2				*eS*	**Sn**	**21 54 54.2**	**+0.2**
JOW	**Kunigami**	**0.83**	**348**	P	**Pn**	**21 54 46.2**	**-0.9**
JIH	**Iheya**	**1.11**	**336**	P	**Pn**	**21 54 50.7**	**-0.2**
JIH				*eS*	**Sn**	**21 55 05.8**	**+0.7**
JAGN	**Aguni-jima**	**1.24**	**298**	P	**Pn**	**21 54 52.1**	**-0.6**
JAGN				*eS*	**Sb**	**21 55 09.6**	**-0.4**
JOKE	**Okinoerabujima**	**1.34**	**4**	P	**Pn**	**21 54 53.2**	**-0.9**
JOKE				*eS*	**Sn**	**21 55 10.7**	**-0.2**
JKE	**Kume jima 2**	**1.54**	**282**	P	**Pn**	**21 54 55.9**	**-0.9**
JKE				*eS*	**Sb**	**21 55 17.0**	**-1.6**
JMZ	**Minamidaito 2**	**2.49**	**94**	P	Pn	21 55 05.4	-4.4
JMZ				*eS*	Sn	21 55 32.0	-7.1
JAM	**Amami Oshima**	**2.59**	**23**	*eS*	**Sn**	**21 55 40.1**	**-1.6**
SONM	**Songino Array**	**27.85**	**327**	P	**P**	**22 00 20.8**	**+2.5**
	0.3nm,0.5s,baz=140,slow=8.8,SNR=2.9						
SONM				pP	**pP**	**22 00 28.6**	**+1.3**
	0.4nm,0.4s,baz=142,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**41.84**	**312**	P	**P**	**22 02 17.8**	**-0.7**
	0.2nm,0.5s,baz=94,slow=9.1,SNR=3.2						
MKAR				pP	**pP**	**22 02 26.7**	**-1.0**
	0.3nm,0.5s,baz=90,slow=11,SNR=3.4						
ZALV	**Zalesovo Beam**	**42.55**	**323**	P	**P**	**22 02 26.7**	**+2.6**
	0.4nm,0.5s,baz=98,slow=7.9,SNR=2.0						
ZALV				pP	**pP**	**22 02 35.7**	**+2.3**
	0.4nm,0.4s,baz=106,slow=9.7,SNR=2.0						
WRA	**Warramunga Arr**	**46.04**	**172**	P	**P**	**22 02 51.4**	**-1.0**
	0.4nm,0.7s,baz=354,slow=8.5,SNR=3.3						
FINES	**FINESS Array B**	**73.16**	**331**	pP	pP	22 06 08.8	+0.3
	2.5nm,1.1s,baz=113,slow=9.2,SNR=1.7						

GUC 15 21:59:13.6±0.5, 34°.54S×71°.93W, h18km±3km, ML3.5, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.73**	**129**	*eP*	Pb	21 59 27.4	-0.4
NICH				*i S*	Sg	21 59 38.1	+0.3
TALC	**Talca**	**0.89**	**164**	⇑*iP*	Pb	21 59 29.9	-0.5
TALC				*eS*	Sb	21 59 41.9	0.0
LNCH	**Linares**	**1.33**	**169**	*eP*	Pn	21 59 36.9	-0.3
LNCH				*i S*	Sb	21 59 54.6	-0.1
RCDM	**Rinconada Maip**	**1.40**	**42**	⇑*iP*	Pn	21 59 38.3	0.0
RCDM				*i S*	Sb	21 59 56.8	-0.1
ANTU	**Antumapu**	**1.45**	**48**	⇑*iP*	Pn	21 59 39.0	+0.1
ANTU				*i S*	Sb	21 59 58.2	0.0
SJCH	**San Jose de Ma**	**1.59**	**56**	⇓*iP*	Pn	21 59 40.8	-0.1
SJCH				*i S*	Sb	22 00 02.2	-0.1
SJCH				IAML		22 00 02.9	
	comp=N,1μm,0.2s						
CLCH	**Cerro Calan**	**1.63**	**46**	⇑*iP*	Pn	21 59 41.9	+0.5
CLCH				*i S*	Sb	22 00 03.4	0.0
CLCH				IAML		22 00 08.1	
	comp=E,942nm,0.4s						
CLCH				IAML		22 00 08.7	
	comp=E,1μm,0.4s						
COCH	**Cobquecura**	**1.73**	**204**	*i P*	Pn	21 59 43.5	+0.7
COCH				*i S*	Sb	22 00 06.0	-0.3
PEL	**Peldehue**	**1.74**	**37**	⇓*iP*	Pn	21 59 43.5	+0.6
PEL				*eS*	Sb	22 00 06.5	-0.1
PEL				IAML		22 00 10.1	
	comp=N,860nm,0.4s						
FCH	**Farellones**	**1.82**	**49**	IAML		22 00 15.8	
	comp=N,814nm,0.3s						

IDC ***15*** *22:10:46.9±2.4, 3°.92S×100°.04E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.5/52, mbtmp3.6/8, MS3.7/2, Ms1 3.7/2, ms1mx2.8/27, Error ellipse: s-maj=99.9km s-min=19.4km az=54.0*
ISC 15 22:10:52.4±2.9, 3°.9S±0°.4×100°.2E±0°.7, h35km, n13, σ0°.58/9, mb3.6/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.20**	**357**	P	**P**	**22 15 46.0**	**+0.2**
	0.7nm,0.4s,baz=180,slow=9.1,SNR=8.7						
H08S2	**Diego Garcia H**	**27.78**	**261**	T	T	22 46 10.0	
	baz=84,slow=75,SNR=159						
H08S3	**Diego Garcia H**	**27.79**	**261**	T	T	22 46 10.6	
	baz=84,slow=75,SNR=202						
H08S1	**Diego Carcia H**	**27.80**	**261**	T	T	22 46 08.9	
	baz=84,slow=75,SNR=84						
WRA	**Warramunga Arr**	**36.95**	**118**	P	**P**	**22 17 58.2**	**-0.3**
	0.2nm,0.3s,baz=304,slow=8.5,SNR=5.4						
WRA				LR	LR	22 34 25.3	
	comp=Z,40nm,21.9s,baz=120,slow=38						
ASAR	**Alice Springs**	**38.06**	**124**	P	**P**	**22 18 08.2**	**+0.3**
	0.4nm,0.8s,baz=306,slow=8.8,SNR=5.9						
JOW	**Kunigami**	**40.85**	**40**	LR	LR	22 34 46.4	
	comp=Z,278nm,21.1s,slow=35						
SONM	**Songino Array**	**51.76**	**5**	P	**P**	**22 19 56.3**	**-0.3**
	1.3nm,0.8s,baz=190,slow=9.7,SNR=8.7						
MKAR	**Makanchi Array**	**52.84**	**345**	P	**P**	**22 20 05.2**	**+0.7**
	1.0nm,0.8s,baz=158,slow=8.7,SNR=13						
KURBB	**Kurchatov Arra**	**57.36**	**344**	P	**P**	**22 20 37.2**	**+0.2**
	0.6nm,0.8s,baz=161,slow=6.7,SNR=5.7						
ZALV	**Zalesovo Beam**	**59.00**	**349**	P	**P**	**22 20 48.4**	**0.0**
	1.2nm,0.8s,baz=163,slow=5.7,SNR=7.4						
BVAR	**Borovoye Array**	**61.97**	**340**	P	**P**	**22 21 07.7**	**-1.0**
	0.2nm,0.4s,baz=127,slow=9.6,SNR=3.6						
TXAR	**Lajitas Array**	**146.04**	**39**	PKPbc	**PKPab**	**22 30 30.3**	**+0.3**
	0.3nm,0.4s,baz=270,slow=2.5,SNR=4.4						

NEIC ***15*** *22:12:55.8, 65°.94N×150°.45W, h11km, ML3.9(AEIC), After AEIC.*
IDC ***15*** *22:12:55.3±1.1, 66°.05N×150°.31W, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.3/56, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=19.7km s-min=10.9km az=39.0*
ISCJB ***15*** *22:12:56.1±0.6, 65°.95N±0°.03×150°.35W±0°.07, h24km±5km, mb3.5/3, Error ellipse: s-maj=5.2km s-min=4.5km az=144.4*
ISC 15 22:12:56.1±1.4, 65°.96N±0°.03×150°.37W±0°.03, h14km±10km, n45, σ1°.05/59, mb3.5/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS06	**TAPS Pump Stn6**	**0.28**	**111**	P	**Pb**	**22 13 02.4**	**-0.4**
PS06				S	**Sg**	**22 13 06.6**	**+0.6**
MLY	**Manley**	**0.94**	**190**	P	**Pb**	**22 13 13.9**	**-0.3**
MLY				S	**Sb**	**22 13 25.6**	**-1.0**
COLD	**Coldfoot**	**1.28**	**3**	P	**Pb**	**22 13 19.5**	**-0.3**
COLD				S	**Sg**	**22 13 37.0**	**-0.2**
MDM	**Murphy Dome**	**1.34**	**137**	P	**Pn**	**22 13 19.5**	**-0.8**
MDM				S	**Sb**	**22 13 38.1**	**+0.1**
IM3	**Indian Mountai**	**1.38**	**273**	P	**Pn**	**22 13 20.6**	**-0.3**
IM3				S	**Sg**	**22 13 40.2**	**-0.4**
COLA	**College**	**1.52**	**135**	P	**Pn**	**22 13 21.9**	**-0.7**
COLA				S	**Sb**	**22 13 42.8**	**0.0**
GLM	**Gilmore Dome**	**1.58**	**127**	P	**Pn**	**22 13 23.1**	**-0.6**
GLM				S	**Sb**	**22 13 45.9**	**+1.0**
CCB	**Clear Creek Bu**	**1.70**	**140**	P	**Pn**	**22 13 24.4**	**-0.8**
CCB				S	**Sb**	**22 13 48.4**	**+0.2**
WRH	**Wood River Hil**	**1.78**	**146**	P	**Pn**	**22 13 25.5**	**-0.7**
BWN	**Browne**	**1.83**	**168**	P	**Pn**	**22 13 27.4**	**+0.3**
BWN				S	**Sg**	**22 13 53.6**	**-1.4**
IL1	**Eielson Array**	**1.89**	**128**	P	**Pn**	**22 13 27.0**	**-0.8**
ILAR	**Eielson Array**	**1.89**	**128**	Pn	**Pn**	**22 13 26.9**	**-0.8**
	8.4nm,0.3s,baz=307,slow=13,SNR=231						
ILAR				Pg	**Pb**	**22 13 31.1**	**+1.0**
	127nm,0.3s,baz=316,slow=18,SNR=467						
ILAR				Lg	Lg	22 13 54.3	
	278nm,0.3s,baz=314,slow=32,SNR=37						
PS08	**TAPS Pump Stn8**	**2.06**	**132**	P	**Pn**	**22 13 29.6**	**-0.6**
PS08				S	**Sb**	**22 13 58.8**	**+0.2**
HDA	**Harding Lake**	**2.12**	**136**	P	**Pn**	**22 13 30.2**	**-0.8**
HDA				S	**Sb**	**22 14 00.2**	**-0.1**
FYU	**Fort Yukon**	**2.17**	**71**	P	**Pn**	**22 13 31.2**	**-0.4**
MCK	**McKinley**	**2.32**	**164**	P	**Pn**	**22 13 33.9**	**+0.1**
KTH	**Kantishna Hill**	**2.43**	**186**	P	**Pn**	**22 13 34.8**	**-0.4**
TRF	**Thorofare Moun**	**2.52**	**179**	P	**Pn**	**22 13 36.5**	**-0.1**
RND	**Reindeer**	**2.64**	**165**	P	**Pn**	**22 13 38.4**	**+0.1**
BM3	**Burnt Mountain**	**2.72**	**55**	P	**Pn**	**22 13 38.9**	**-0.4**
DDM	**Donnelly Dome**	**2.91**	**137**	P	**Pn**	**22 13 41.1**	**-0.7**
DHY	**Denali Highway**	**3.17**	**155**	P	**Pn**	**22 13 46.5**	**+0.9**
PPLA	**Purkeypile**	**3.17**	**195**	P	**Pn**	**22 13 45.8**	**+0.2**
SCRK	**Sand Creek**	**3.37**	**123**	P	**Pn**	**22 13 47.6**	**-0.6**
DOT	**Dot Lake**	**3.56**	**128**	P	**Pn**	**22 13 49.8**	**-0.9**
PAX	**Paxson**	**3.67**	**142**	P	**Pn**	**22 13 52.9**	**+0.5**
TT01	**Tatalina**	**3.92**	**221**	P	**Pn**	**22 13 54.6**	**-1.1**
SKT	**Skwentna**	**4.03**	**188**	P	**Pn**	**22 13 58.0**	**+0.8**
EGAK	**Eagle**	**4.04**	**103**	P	**Pn**	**22 13 56.8**	**-0.5**
HARP	**HAARP**	**4.23**	**145**	P	**Pn**	**22 14 00.7**	**+0.7**
SCM	**Sheep Creek Mo**	**4.35**	**161**	P	**Pn**	**22 14 02.9**	**+1.2**
PS01	**TAPS Pump Stn**	**4.37**	**8**	P	**Pn**	**22 14 03.0**	**+1.2**
SUA	**Susitna One**	**4.52**	**182**	P	**Pn**	**22 14 05.5**	**+1.5**
STLK	**Strandline Lak**	**4.52**	**189**	P	**Pn**	**22 14 04.4**	**+0.3**
BCA3	**Beaver Creek A**	**4.71**	**124**	P	**Pn**	**22 14 05.5**	**-1.0**
RC01	**Rabbit Creek A**	**4.90**	**176**	*e*Pn	**Pn**	**22 14 11.7**	**+2.6**
RC01				*e*Sn	**Sn**	**22 15 04.2**	**-1.2**
DAWY	**Dawson**	**5.03**	**107**	P	**Pn**	**22 14 10.8**	**-0.2**
SVW2	**Sparrevohn**	**5.41**	**208**	P	**Pn**	**22 14 15.5**	**-0.7**
RSO	**Redoubt South**	**5.62**	**192**	*e*Pn	**Pn**	**22 14 18.1**	**-1.2**
	99nm,0.6s						
RSO				*e*Sn	Sn	22 15 16.4	-7.2
HYT	**Haines Junctio**	**7.73**	**126**	*e*Pn	**Pn**	**22 14 48.0**	**-0.1**
HYT				*e*Sn	**Sn**	**22 16 12.3**	**-3.0**
DLBC	**Dease Lake**	**12.07**	**119**	Pn	**Pn**	**22 15 49.4**	**+2.0**
	0.3nm,0.3s,baz=298,slow=15,SNR=3.6						
YKA	**Yellowknife Ar**	**15.79**	**86**	Pn	**Pn**	**22 16 34.8**	**-2.7**
	0.1nm,0.3s,baz=293,slow=13,SNR=6.7						
SEY	**Seymchan**	**24.14**	**290**	P	**P**	**22 18 11.5**	**+0.5**
	0.9nm,0.5s,baz=96,slow=19,SNR=3.9						
NVAR	**Mina Array Bea**	**33.14**	**130**	P	**P**	**22 19 34.2**	**+2.5**
	0.2nm,0.3s,baz=311,slow=8.2,SNR=2.7						
MKAR	**Makanchi Array**	**60.52**	**321**	P	**P**	**22 23 06.0**	**+0.9**
	0.1nm,0.3s,baz=35,slow=5.3,SNR=3.1						

IDC ***15*** *22:25:46.7±0.7, 55°.74S×27°.19W, h0km, mb4.5/7, mb1 4.5/8, mb1mx4.2/19, mbtmp4.4/8, ML3.8/1, MS3.5/10, Ms1 3.5/10, ms1mx3.4/19, Error ellipse: s-maj=29.1km s-min=20.0km az=88.0*
ISCJB ***15*** *22:25:48.6±0.6, 55°.7S±0°.1×27°.3W±0°.2, h25km, mb4.6/12, MS3.6/9, Error ellipse: s-maj=18.7km s-min=11.2km az=136.2*
NEIC ***15*** *22:25:51.6±1.8, 55°.71S×27°.28W, h35km±15km, mb4.7/8, Error ellipse: s-maj=16.6km s-min=8.8km az=55.0*
ISC 15 22:25:50.1±0.6, 55°.7S±0°.1×27°.2W±0°.1, h25km, n39, σ0°.86/25, mb4.6/10, MS3.7/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.52**	**281**	*e*Pn	**Pn**	**22 27 10.7**	**+0.1**
	52nm,0.3s						
HOPE				*e*Sn	Sn	22 28 07.5	-5.7
SNAA	**Sanae**	**19.07**	**156**	Pn	**Pn**	**22 30 10.8**	**-0.3**
	0.3nm,0.3s,baz=319,slow=11,SNR=15						
SNAA				LR	LR	22 35 48.5	
	comp=Z,65nm,20.8s,baz=166,slow=32						
SNAA	**Sanae**	**19.07**	**156**	*e*P	**Pn**	**22 30 10.7**	**-0.5**
	10nm,0.8s						
USHA	**Ushuaia**	**23.25**	**255**	LR	LR	22 37 54.9	
	comp=Z,178nm,18.8s,baz=50,slow=31						
PLCA	**Paso Flores**	**31.92**	**280**	LR	LR	22 45 39.7	
	comp=Z,51nm,18.1s,baz=122,slow=37						
QSPA	**South Pole Qui**	**34.55**	**180**	P	**P**	**22 32 36.6**	**+0.4**
	5.1nm,0.6s,baz=206,slow=1.1,SNR=51						
BDFB	**Brasilia**	**43.05**	**330**	LR	LR	22 49 27.1	
	comp=Z,84nm,19.0s,baz=139,slow=33						
LVC	**Limon Verde**	**45.11**	**300**	*e*P	**P**	**22 34 05.1**	**+0.6**
	14nm,0.8s						
BOSA	**Boshof**	**45.90**	**76**	P	**P**	**22 34 10.9**	**+0.3**
	2.1nm,0.7s,baz=229,slow=6.1,SNR=7.6						
BOSA				LR	LR	22 49 36.4	
	comp=Z,97nm,19.4s,baz=174,slow=31						
BOSA	**Boshof**	**45.90**	**76**	*e*P	**P**	**22 34 10.1**	**-0.4**
	3.1nm,0.8s						
VNDA	**Vanda**	**46.92**	**183**	P	**P**	**22 34 18.5**	**+0.8**
	2.6nm,0.6s,baz=186,slow=7.0,SNR=40						
VNDA	**Vanda**	**46.92**	**183**	*e*P	**P**	**22 34 18.4**	**+0.7**
	4.5nm,0.7s						
H10S2	**ASCENSION HYDR**	**47.67**	**17**	T	T	23 26 48.6	
	baz=190,slow=74,SNR=61						
H10S3	**ASCENSION HYDR**	**47.68**	**17**	T	T	23 26 48.9	
	baz=190,slow=74,SNR=65						
H10S1	**ASCENSION HYDR**	**47.69**	**17**	T	T	23 26 49.9	
	baz=190,slow=74,SNR=46						
H10N1	**ASCENSION HYDR**	**48.79**	**17**	T	T	23 28 12.5	
	baz=20,slow=75,SNR=2.6						
H10N3	**ASCENSION HYDR**	**48.79**	**17**	T	T	23 28 00.2	
	baz=20,slow=75,SNR=12						
H10N2	**ASCENSION HYDR**	**48.81**	**17**	T	T	23 28 13.9	
	baz=20,slow=75,SNR=9.1						
LPAZ	**La Paz**	**50.16**	**305**	P	**P**	**22 34 45.3**	**+1.2**
	6.8nm,0.6s,baz=154,slow=5.1,SNR=22						
LPAZ				LR	LR	22 57 43.7	
	comp=Z,28nm,19.8s,baz=156,slow=38						
LPAZ	**La Paz**	**50.16**	**305**	*e*P	**P**	**22 34 44.3**	**+0.2**
	6.4nm,0.6s						
SAML	**Samuel**	**54.55**	**315**	*e*P	**P**	**22 35 15.6**	**-0.3**
	11nm,1.1s						
DBIC	**Dimbokro**	**64.86**	**25**	P	P	22 36 32.6	+5.7
	2.8nm,0.8s,baz=143,slow=10,SNR=2.6						
DBIC				LR	LR	22 57 23.7	
	comp=Z,52nm,20.3s,baz=137,slow=29						
ROSC	**El Rosal**	**71.67**	**310**	LR	LR	23 09 46.2	
	comp=Z,14nm,19.6s,baz=79,slow=37						
TORD	**Torodi Ar. Bea**	**72.76**	**30**	P	**P**	**22 37 17.6**	**+1.5**
	2.2nm,0.4s,baz=199,slow=6.1,SNR=47						
SDV	**Santo Domingo**	**73.75**	**315**	*e*P	**P**	**22 37 21.1**	**-1.0**
	7.0nm,0.8s						
KMBO	**Kilima Mbogo**	**74.93**	**69**	LR	LR	23 07 27.6	
	comp=Z,55nm,20.2s,baz=98,slow=33						
MDT	**Midelt**	**90.27**	**19**	LR	LR	23 15 52.3	
	comp=Z,35nm,18.8s,slow=33						
STKA	**Stephens Creek**	**92.25**	**170**	P	**P**	**22 38 57.0**	**-0.7**
	1.4nm,0.7s,baz=146,slow=4.5,SNR=5.7						
MBWA	**Marble Bar**	**98.46**	**149**	P	Pdif	22 39 26.3	+0.2
	24nm,1.5s						
ASAR	**Alice Springs**	**99.33**	**163**	P	**Pdif**	**22 39 30.1**	**0.0**
	0.5nm,0.6s,baz=182,slow=3.9,SNR=8.6						
FINES	**FINESS Array B**	**124.08**	**28**	PKP	**PKPdf**	**22 44 44.0**	**-0.7**
	1.8nm,0.7s,baz=174,slow=1.9,SNR=7.1						
KAF	**Kangasniemi**	**124.70**	**27**	*ep*	**PKPdf**	**22 44 44.3**	**-1.6**
	2.6nm,0.6s						
JOF	**Joensuu**	**126.71**	**29**	*ep*	**PKPdf**	**22 44 48.0**	**-1.7**
	1.3nm,0.6s						
ARCES	**ARCESS Array B**	**130.63**	**22**	PKP	**PKPdf**	**22 44 56.7**	**-0.3**
	3.4nm,0.9s,baz=238,slow=2.3,SNR=6.0						
YKA	**Yellowknife Ar**	**135.90**	**318**	PKP	**PKPdf**	**22 45 07.0**	**0.0**
	0.6nm,0.6s,baz=126,slow=2.6,SNR=14						
MKAR	**Makanchi Array**	**136.79**	**71**	PKP	**PKPdf**	**22 45 10.7**	**+1.4**
	0.3nm,0.7s,baz=229,slow=1.3,SNR=2.6						
ZALV	**Zalesovo Beam**	**142.23**	**63**	PKhKP	PKPpre	22 45 14.9	
	0.3nm,0.4s,baz=305,slow=5.1,SNR=2.9						
ZALV				PKP	**PKiKP**	**22 45 20.9**	**-1.0**
	1.0nm,0.5s,baz=294,slow=1.9,SNR=5.4						
ILAR	**Eielson Array**	**149.87**	**312**	PKPbc	**PKPbc**	**22 45 36.1**	**-0.3**
	1.9nm,0.6s,baz=33,slow=0.4,SNR=26						
SONM	**Songino Array**	**150.72**	**86**	PKPbc	**PKPbc**	**22 45 39.3**	**+0.2**
	3.9nm,0.6s,baz=224,slow=2.8,SNR=42						

NEIC ***15*** *22:30:01.9±0.9, 35°.61N×140°.36E, h55km±8km, mb4.2/2, Error ellipse: s-maj=16.4km s-min=8.6km az=68.0*
IDC ***15*** *22:30:02.0±2.5, 35°.62N×140°.37E, h53km±22km, mb3.6/6, mb1 3.8/8, mb1mx3.4/38, mbtmp4.0/8, ML3.8/2, MS3.7/1, Ms1 3.7/1, ms1mx2.8/22, Error ellipse: s-maj=42.8km s-min=15.9km az=69.0*
ISCJB ***15*** *22:30:03.2±0.5, 35°.60N±0°.04×140°.12E±0°.06, h76km±4km, mb3.9/8, Error ellipse: s-maj=8.7km s-min=5.6km az=147.2*
JMA ***15*** *22:30:03.6±0.2, 35°.67N×140°.14E, h67km±2km, M3.6 Broadband fault plane solution: P waves. NP1: φs205.00000°, δ83.00000°, λ-93.00000°. NP2:φs48.00000°, δ8.00000°, λ-67.00000°. Principal axes: T Plg38.0000°, Azm298.0000°; N Plg3.0000°, Azm206.0000°; P Plg52.0000°, Azm112.0000°;*
ISC 15 22:30:02.4±1.3, 35°.61N±0°.05×140°.30E±0°.09, h56km±12km, n29, σ0°.74/29, mb3.9/8, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.20**	**203**	P	Pn	22 30 14.8	+3.4
JCN				S	Sn	22 30 23.5	+5.7
TOK	**Tokyo**	**0.45**	**280**	P	**Pn**	**22 30 15.4**	**+2.0**
BSO3	**Boso 3**	**0.82**	**168**	⇑P	Pn	22 30 20.4	+2.7
JOD2	**Odawara 2**	**1.05**	**251**	P	**Pn**	**22 30 21.2**	**+0.3**
JOD2				S	**Sn**	**22 30 33.7**	**-0.9**
JAG	**Ashikaga**	**1.07**	**320**	P	**Pn**	**22 30 21.6**	**+0.5**
JAG				S	**Sn**	**22 30 34.5**	**-0.5**
BSO1	**Boso 1**	**1.10**	**149**	P	Pn	22 30 23.8	+2.7
BSO1				S	Sn	22 30 41.2	+6.1
JIM2	**Oshima 3**	**1.14**	**219**	P	**Pn**	**22 30 22.7**	**+0.6**
JIM2				S	**Sn**	**22 30 37.3**	**+0.6**
JRY	**Ryogami san**	**1.21**	**290**	P	**Pn**	**22 30 23.8**	**+0.8**
JYN	**Shimob**	**1.43**	**266**	P	**Pn**	**22 30 26.4**	**+0.3**
JYN				S	**Sn**	**22 30 43.6**	**-0.4**
JKT	**Katashina**	**1.44**	**324**	P	**Pn**	**22 30 26.7**	**+0.5**
JKT				S	**Sn**	**22 30 44.2**	**+0.2**
JIZS	**Izushimoda**	**1.46**	**233**	P	**Pn**	**22 30 26.9**	**+0.5**
JIZS				S	**Sn**	**22 30 43.9**	**-0.7**
MJAR	**Matsushiro Arr**	**1.93**	**299**	P	**Pn**	**22 30 33.0**	**+0.2**
	18nm,0.3s,baz=128,slow=5.6,SNR=66						
MAJO	**Matsushiro**	**1.94**	**299**	*e*Pn	**Pn**	**22 30 33.5**	**+0.6**
MAT	**Matsushiro**	**1.94**	**299**	P	**Pn**	**22 30 33.7**	**+0.8**
MAT				S	**Sn**	**22 30 55.4**	**-0.7**
CBIJ	**Chichi jima**	**8.64**	**169**	P	**Pn**	**22 32 03.7**	**-0.9**
JCJ	**Chichijima**	**8.64**	**169**	P	**Pn**	**22 32 03.7**	**-1.0**
	11nm,0.3s,baz=71,slow=23,SNR=6.8						
ASAJ	**Asahikawa**	**8.68**	**11**	P	**Pn**	**22 32 04.6**	**-0.6**
	0.5nm,0.3s,baz=212,slow=8.4,SNR=5.4						
YAK	**Yakutsk**	**27.28**	**349**	P	P	22 35 36.1	-5.0
SEY	**Seymchan**	**28.36**	**12**	LR	LR	22 49 03.1	
	comp=Z,163nm,21.2s,baz=120,slow=40						
ZALV	**Zalesovo Beam**	**42.23**	**314**	P	**P**	**22 37 49.9**	**+0.3**
	1.3nm,0.6s,baz=92,slow=7.4,SNR=7.0						
MKAR	**Makanchi Array**	**44.13**	**303**	P	**P**	**22 38 05.1**	**-0.1**
	1.0nm,0.5s,baz=77,slow=10,SNR=20						
KURK	**Kurchatov**	**46.12**	**309**	*e*P	**P**	**22 38 20.3**	**-0.5**
	1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**46.18**	**309**	P	**P**	**22 38 21.1**	**-0.2**
	1.3nm,0.5s,baz=85,slow=7.8,SNR=11						
TKM2	**Tokmak 2**	**49.53**	**299**	*e*P	**P**	**22 38 46.6**	**-1.0**
	4.0nm,1.0s						
WRA	**Warramunga Arr**	**55.53**	**187**	P	**P**	**22 39 31.6**	**-0.3**
	1.1nm,0.6s,baz=1.7,slow=7.6,SNR=38						
ASAR	**Alice Springs**	**59.26**	**187**	P	**P**	**22 39 58.7**	**+0.6**
	0.2nm,0.4s,baz=18,slow=11,SNR=12						
FINES	**FINESS Array B**	**69.65**	**332**	P	**P**	**22 41 06.0**	**+0.5**
	1.3nm,0.8s,baz=42,slow=8.9,SNR=4.2						
PMOR	**Pomariorio Ree**	**84.45**	**113**	*e*T	T	00 15 28.9	
	4.3

ASAJ			S	Sn	22 34 05.3	-7.6
	comp=N,1.4nm,0.3s,baz=12,slow=19,SNR=2.9					
YUK	**Yuzh-Kuril'sk**	**9.52 26**	⇓*i P*	**Pn**	**22 32 47.0**	**+0.1**
YUK			pmax	pmax		
	comp=N,50nm,0.2s					
YUK			pmax	pmax		
	comp=E,38nm,0.2s					
YUK			pmax	pmax		
	comp=Z,102nm,0.2s					
VLA	**Vladivostok**	**9.86 322**	*eP*	**Pn**	**22 32 52.4**	**+0.8**
VLA			S	**Sn**	**22 34 41.6**	**+1.1**
VLA			pmax	pmax		
	comp=Z,127nm,1.5s					
KSRS	**Korea Array**	**9.99 284**	P	**Pn**	**22 32 56.4**	**+2.9**
KSRS			pmax	pmax		
	comp=Z,1.0nm,0.3s					
KSRS	**Korea Array**	**9.99 284**	P	**Pn**	**22 32 56.4**	**+2.9**
	comp=Z,0.8nm,0.3s,baz=99,slow=14,SNR=23					
KSAR	**Wonju Array Be**	**10.02 284**	P	**Pn**	**22 32 56.4**	**+2.5**
KSAR	**Wonju Array Be**	**10.02 284**	P	**Pn**	**22 32 56.4**	**+2.5**
USRK	**Ussuriysk Ar.**	**10.62 327**	P	**Pn**	**22 33 03.7**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=142,slow=12,SNR=15					
YSS	**Yuzh-Sakhalins**	**11.53 9**	*eP*	Pn	22 33 25.0	+11
MDJ	**Mudanjiang**	**12.09 321**	P	Pn	22 33 26.9	+4.9
MDJ			PcS	**PcS**	**22 42 34.4**	**-0.6**
MDJ			PMZ			
	comp=Z,48nm,1.1s					
MDJ			PMZ			
	comp=Z,230nm,4.2s					
MDJ			LZ			
	comp=Z,240nm,21.4s					
MDJ	**Mudanjiang**	**12.09 321**	*e*Pn	Pn	22 33 25.9	+3.9
HABR	**Khabarovsk**	**13.41 345**	*eP*	**Pn**	**22 33 39.0**	**-0.8**
HABR			S	**Sn**	**22 36 05.2**	**-1.8**
HABR			pmax	pmax		
	comp=Z,59nm,1.9s					
KLR	**Kul'dur**	**14.96 338**	*eP*	**P**	**22 34 04.4**	**+0.5**
NJ2	**Nanjing**	**18.02 265**	*eP*	**P**	**22 34 37.0**	**-0.9**
NJ2			PMZ			
	comp=Z,30nm,0.9s					
TIA	**Tai'an**	**18.64 279**	*eP*	**P**	**22 34 44.8**	**0.0**
TIA			PMZ			
	comp=Z,20nm,1.1s					
BJI	**Beijing**	**19.42 290**	P	**P**	**22 34 52.6**	**-0.6**
BJI			S	**S**	**22 38 27.5**	**-1.4**
BJI			PMZ			
	comp=Z,16nm,0.9s					
BJI			PMZ			
	comp=Z,160nm,4.1s					
BJI			LZ			
	comp=Z,160nm,29.9s					
BJT	**Baijiatuau**	**19.42 290**	*eP*	**P**	**22 34 53.2**	**-0.1**
BJT			pmax	pmax		
	comp=Z,37nm,0.8s					
BJT	**Baijiatuau**	**19.42 290**	*e*Pn	**P**	**22 34 53.1**	**-0.1**
	comp=Z,37nm,0.8s					
HIA	**Hailar**	**20.24 319**	*eP*	**P**	**22 34 59.9**	**-2.2**
HIA			pmax	pmax		
	comp=Z,10.0nm,1.0s					
HIA	**Hailar**	**20.24 319**	*eP*	**P**	**22 34 59.9**	**-2.2**
	comp=Z,10nm,1.0s					
PETK	**Petropavlovsk-**	**21.46 30**	P	**P**	**22 35 14.8**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=193,slow=12,SNR=2.6					
HHC	**Hu-ho-hao-te**	**22.99 292**	*eP*	**P**	**22 35 30.9**	**-0.7**
HHC			pP	**pP**	**22 35 48.5**	**+1.8**
HHC			sP	**sP**	**22 35 54.5**	**-1.1**
HHC			PP	**PnPn**	**22 36 00.5**	**+1.1**
HHC			S	**S**	**22 39 32.3**	**-4.2**
HHC			sS	Sn	22 39 57.6	-0.5
HHC			SS	**SnSn**	**22 40 18.8**	**+3.6**
HHC			PMZ			
	comp=Z,29nm,1.1s					
HHC			PMZ			
	comp=Z,220nm,5.2s					
HHC			LN			
	comp=Z,280nm,11.2s					
HHC			LE			
	comp=Z,410nm,10.2s					
HHC			LZ			
	comp=Z,280nm,10.8s					
CLNS	**Chul'man**	**23.62 339**	*eP*	**P**	**22 35 38.2**	**+1.0**
CLNS			pmax	pmax		
	comp=Z,24nm,1.1s					
CLNS			pmax	pmax		
	comp=N,15nm,1.1s					
CLNS			pmax	pmax		
	comp=E,6.0nm,1.0s					
XAN	**Xi'an**	**25.61 276**	P	**P**	**22 35 55.3**	**-0.3**
XAN			pP	**pP**	**22 36 11.5**	**-0.8**
XAN			PMZ			
	comp=E,2.0nm,0.6s					
ENH	**Enshi**	**26.19 267**	*eP*	**P**	**22 36 00.4**	**-0.4**
	comp=E,18nm,0.8s					
YAK	**Yakutsk**	**27.27 349**	*eP*	**P**	**22 36 10.2**	**+0.1**
YAK			*e*		22 36 58.5	
YAK			*e*		22 39 30.0	
YAK			*e*S	**S**	**22 40 41.4**	**-2.6**
YAK			*e*SS	SnSn	22 42 10.3	+11
YAK			*e*		22 46 50.4	
YAK			pmax	pmax		
	comp=Z,16nm,1.0s					
YAK			pmax	pmax		
	comp=N,12nm,1.1s					
YAK			pmax	pmax		
	comp=Z,136nm,3.3s					
YAK			pmax	pmax		
	comp=N,111nm,4.6s					
YAK			pmax	pmax		
	comp=E,164nm,4.4s					
YAK			smax	smax		
	comp=N,38nm,2.3s					
YAK			smax	smax		
	comp=E,62nm,3.3s					
ULN	**Ulaanbaatar**	**27.34 307**	*ceP*	**P**	**22 36 08.7**	**-2.4**
ULN			pmax	pmax		
	comp=Z,7.0nm,1.7s					
ULN	**Ulaanbaatar**	**27.34 307**	*eP*	**P**	**22 36 07.0**	**-4.2**
	comp=Z,28nm,2.0s					
SONM	**Songino Array**	**27.77 307**	P	**P**	**22 36 14.1**	**-0.8**
	comp=Z,3.4nm,0.6s,baz=106,slow=9.0,SNR=16					
BOD	**Bodaibo**	**28.23 330**	*eP*	**P**	**22 36 17.6**	**-1.1**
BOD			pmax	pmax		
	comp=Z,8.0nm,0.8s					
H11N2	**WAKE ISLAND Hy 28.37 117**		T	T	23 06 12.2	
	baz=309,slow=75,SNR=156					
H11N1	**WAKE ISLAND Hy 28.37 117**		T	T	23 05 49.5	
	baz=309,slow=75,SNR=221					
H11N3	**WAKE ISLAND Hy 28.39 117**		T	T	23 05 50.2	
	baz=309,slow=75,SNR=177					
SEY	**Seymchan**	**28.41 12**	P	**P**	**22 36 20.9**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=180,slow=15,SNR=2.1					
FX1	**Attu Island--F**	**28.96 43**	LR	LR	22 45 32.2	
	comp=Z,42nm,20.2s,baz=271,slow=31					
H11S1	**WAKE ISLAND Hy 29.01 119**		T	T	23 06 44.2	
	baz=311,slow=75,SNR=122					
H11S3	**WAKE ISLAND Hy 29.01 119**		T	T	23 06 30.8	
	baz=311,slow=75,SNR=59					
H11S2	**WAKE ISLAND Hy 29.03 119**		T	T	23 06 41.8	
	baz=311,slow=75,SNR=66					
LZH	**Lanzhou**	**29.31 282**	*eP*	**P**	**22 36 31.5**	**+2.7**
LZH			pP	**pP**	**22 36 47.1**	**+1.4**
LZH			sP	**sP**	**22 36 55.8**	**+1.8**
LZH			PMZ			
	comp=Z,28nm,1.2s					
LZH			PMZ			
	comp=Z,110nm,4.4s					
ZAK	**Zakamensk**	**30.38 311**	*eP*	**P**	**22 36 36.2**	**-1.8**
ZAK			pmax	pmax		
	comp=Z,1.0nm,0.9s					
TLY	**Talaya**	**30.52 313**	*eP*	**P**	**22 36 40.1**	**+1.0**
TLY			*e*S	S	22 41 28.4	-7.1
TLY			pmax	pmax		
	comp=Z,4.0nm,1.0s					
TLY			MLR	MLR		
	comp=Z,99nm,17.0s					
TLY	**Talaya**	**30.52 313**	P	**P**	**22 36 39.1**	**-0.1**
	comp=Z,1.2nm,0.2s,baz=149,slow=5.9,SNR=4.8					
TLY	**Talaya**	**30.52 313**	*eP*	**P**	**22 36 39.6**	**+0.5**
CD2	**Chengdu**	**30.65 272**	*eP*	**P**	**22 36 40.3**	**-0.2**
CD2			PMZ			
	comp=Z,10.0nm,1.1s					
QIZ	**Qiongzhong**	**31.39 246**	P	**P**	**22 36 46.0**	**-1.0**
QIZ			pP	**pP**	**22 37 01.9**	**-2.1**
QIZ			sP	**sP**	**22 37 11.8**	**-0.5**
QIZ			S	**S**	**22 41 49.4**	**-0.1**
QIZ			PMZ			
	comp=Z,15nm,3.0s					
QIZ			LZ			
	comp=Z,200nm,9.2s					
GTA	**Gaotai**	**32.02 289**	*eP*	**P**	**22 36 53.1**	**+0.5**
GTA			PMZ			
	comp=Z,7.0nm,0.8s					
KMI	**Kunming**	**33.73 262**	P	**P**	**22 37 06.5**	**-1.2**
KMI			PMZ			
	comp=Z,9.0nm,0.7s					
BILL	**Bilibino**	**35.71 17**	*eP*	**P**	**22 37 25.4**	**+1.4**
BILL			pmax	pmax		
	comp=Z,3.0nm,1.2s					
HVS	**Khovu-Aksy**	**36.49 310**	*eP*	**P**	**22 37 29.7**	**-1.4**
TIXI	**Tiksi**	**36.61 354**	*eP*	**P**	**22 37 30.4**	**-1.2**
TIXI			pmax	pmax		
	comp=Z,5.0nm,0.8s					
TIXI	**Tiksi**	**36.61 354**	*eP*	**P**	**22 37 30.6**	**-1.0**
	comp=Z,4.4nm,0.7s					
CRAI	**Chiangrai**	**38.04 257**	P	**P**	**22 37 43.7**	**-0.7**
	comp=Z,86nm,0.8s					
CMAI	**Chiengmai2**	**39.25 258**	P	**P**	**22 37 55.8**	**+1.1**
	comp=Z,43nm,1.6s,comp=Z,6μm					
UTTA	**Uttaradit**	**39.26 254**	P	**P**	**22 37 54.8**	**+0.2**
	comp=Z,2.1nm,0.9s					
PBKT	**Sadao Pong**	**39.62 252**	P	**P**	**22 37 57.0**	**-0.5**
	comp=Z,17nm,1.0s					
CHTO	**Chiang Mai**	**39.93 256**	*eP*	**P**	**22 37 59.5**	**-0.7**
CHTO			pmax	pmax		
	comp=Z,61nm,3.0s					
CHTO	**Chiang Mai**	**39.93 256**	*eP*	**P**	**22 37 59.5**	**-0.7**
	comp=Z,61nm,3.0s					
CMAR	**Chiang Mai Arr**	**40.13 256**	P	**P**	**22 38 01.5**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=41,slow=10,SNR=7.6					
WMQ	**Urumqi**	**40.58 298**	P	**P**	**22 38 06.0**	**+0.6**
WMQ			pP	**pP**	**22 38 23.6**	**+0.8**
WMQ			PP	**PnPn**	**22 39 44.0**	**-0.4**
WMQ			PcP	**PcP**	**22 40 07.0**	**+0.7**
WMQ			S	**S**	**22 44 09.8**	**+0.2**
WMQ			sS	**sS**	**22 44 41.0**	**+1.6**
WMQ			PMZ			
	comp=Z,19nm,1.0s					
WMQ			PMZ			
	comp=Z,87nm,4.5s					
WMQ			LN			
	comp=Z,34nm,22.0s					
WMQ			LE			
	comp=Z,59nm,21.0s					
WMQ			LZ			
	comp=Z,46nm,20.0s					
LSA	**Lhasa**	**41.31 276**	*eP*	**P**	**22 38 12.7**	**+0.7**
LSA			pmax	pmax		
	comp=Z,6.0nm,0.9s					
LSA	**Lhasa**	**41.31 276**	*eP*	**P**	**22 38 12.7**	**+0.7**
	comp=Z,6.0nm,0.9s					
ZALV	**Zalesovo Beam**	**42.14 314**	P	**P**	**22 38 18.3**	**+0.4**
	comp=Z,19nm,0.9s,baz=97,slow=6.4,SNR=46					
ZALV			PcP	**PcP**	**22 40 11.4**	**+0.4**
	comp=Z,3.2nm,0.6s,baz=104,slow=3.0,SNR=4.9					
ZALV			ScP	**ScP**	**22 43 55.4**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=116,slow=3.4,SNR=3.8					
ZALV			LR	LR	22 58 25.4	
	comp=Z,48nm,20.0s,baz=66,slow=40					
SRDT	**SRDT**	**42.37 251**	P	P	22 38 23.4	+3.2
	comp=Z,44nm,0.8s,comp=Z,10μm					
NVS	**Novosibirsk**	**43.10 315**	⇑*i P*	**P**	**22 38 25.0**	**-0.6**
NVS			*e*S	**S**	**22 44 43.5**	**-2.8**
NVS			pmax	pmax		
	comp=N,6.0nm,1.0s					
NVS			pmax	pmax		
	comp=E,15nm,1.0s					
NVS			pmax	pmax		
	comp=Z,22nm,1.0s					
NVS			smax	smax		
	comp=N,23nm,3.1s					
NVS			smax	smax		
	comp=E,34nm,3.3s					
MKAR	**Makanchi Array**	**44.02 303**	P	**P**	**22 38 33.5**	**+0.3**
	comp=E,13nm,0.7s,baz=82,slow=10.0,SNR=62					
MKAR			ScP	**ScP**	**22 44 02.1**	**-1.0**
	comp=E,0.7nm,0.8s,baz=64,slow=5.8,SNR=4.1					
TAPN	**Taplejung**	**45.01 275**	*eP*	**P**	**22 38 41.6**	**-0.1**
	comp=E,9.2nm,0.4s					
ODAN	**Odare**	**45.47 274**	*eP*	**P**	**22 38 44.9**	**-0.4**
	comp=E,16nm,0.7s					
KURK	**Kurchatov**	**46.02 309**	P	**P**	**22 38 49.5**	**+0.6**
KURK			pmax	pmax		
	comp=Z,11nm,0.6s					
KURK	**Kurchatov**	**46.02 309**	*eP*	**P**	**22 38 49.1**	**+0.1**
	comp=Z,12nm,0.8s					
RAMN	**Ramite**	**46.08 275**	*eP*	**P**	**22 38 50.0**	**0.0**
	comp=Z,54nm,0.7s					
KURBB	**Kurchatov Arra**	**46.08 309**	P	**P**	**22 38 49.5**	**0.0**
	comp=Z,11nm,0.6s,baz=85,slow=7.7,SNR=44					
JIRN	**Jiri**	**46.12 276**	*eP*	**P**	**22 38 50.9**	**+0.4**
	comp=Z,45nm,0.8s					
GUN	**Gumba**	**46.27 276**	*eP*	**P**	**22 38 51.9**	**+0.2**
PKI	**Pulchoki**	**46.79 276**	*eP*	**P**	**22 38 55.0**	**-0.7**
	comp=Z,16nm,0.7s					
PKIN	**Phulchoki**	**46.80 276**	*eP*	**P**	**22 38 55.1**	**-0.6**
KKN	**Kakani**	**46.80 276**	*eP*	**P**	**22 38 55.6**	**-0.1**
	comp=Z,18nm,0.7s					
DMN	**Daman**	**47.02 276**	*eP*	**P**	**22 38 57.1**	**-0.3**
	comp=Z,14nm,0.8s					
GKN	**Gorkha**	**47.24 277**	*eP*	**P**	**22 38 59.2**	**+0.2**
	comp=Z,48nm,0.8s					
DANN	**Dangsing**	**47.81 278**	*eP*	**P**	**22 39 04.1**	**+0.5**
	comp=Z,52nm,0.5s					
KOLN	**Koldanda**	**48.17 277**	*eP*	**P**	**22 39 06.3**	**0.0**
	comp=Z,12nm,0.7s					
KDAK	**Kodiak Island**	**48.87 41**	*i P*	**P**	**22 39 11.3**	**+0.4**
TKM2	**Tokmak 2**	**49.41 299**	P	**P**	**22 39 16.7**	**+1.1**
	SNR=14					
TKM2	**Tokmak 2**	**49.41 299**	*i* P	**P**	**22 39 16.7**	**+1.1**
TKM2	**Tokmak 2**	**49.41 299**	*eP*	**P**	**22 39 16.7**	**+1.1**
	comp=Z,32nm,1.3s					
KBK	**Karagaybulak**	**49.94 299**	P	**P**	**22 39 20.8**	**+1.2**
	SNR=5.6					
KBK	**Karagaybulak**	**49.94 299**	*i* P	**P**	**22 39 20.8**	**+1.2**
CHMS	**Chumysh**	**49.99 299**	P	**P**	**22 39 20.7**	**+0.9**
	SNR=6.3					
CHMS	**Chumysh**	**49.99 299**	*i* P	**P**	**22 39 20.7**	**+0.9**
KSH	**Kashi**	**50.05 295**	P	P	22 39 24.3	+3.9
KSH			sP	sP	22 39 51.3	+4.8
KSH			PP	PP	22 41 21.3	+5.4
KSH			S	**S**	**22 46 28.9**	**+2.6**
KSH			sS	sS	22 47 00.9	+4.0
KSH			SS	**SS**	**22 49 59.3**	**-0.6**
KSH			PMZ			
	comp=Z,5.0nm,0.9s					
KSH			PMZ			
	comp=Z,59nm,5.9s					
KSH			LN			
	comp=Z,89nm,4.4s					
KSH			LE			
	comp=Z,91nm,5.3s					
KSH			LZ			
	comp=Z,93nm,5.3s					
USP	**Ospenovka**	**50.10 300**	P	**P**	**22 39 21.4**	**+0.8**
	SNR=9.8					
USP	**Ospenovka**	**50.10 300**	*i* P	**P**	**22 39 21.4**	**+0.8**
AAK	**Ala-Archa**	**50.27 299**	*eP*	**P**	**22 39 23.1**	**+1.0**
AAK			pmax	pmax		
	comp=Z,21nm,1.2s					
AAK	**Ala-Archa**	**50.27 299**	*eP*	**P**	**22 39 21.9**	**-0.2**
	comp=Z,6.0nm,0.9s					
MCK	**McKinley**	**50.41 33**	*eP*	**P**	**22 39 24.2**	**+1.6**
MCK			pmax	pmax		
	comp=Z,134nm,2.6s					
MCK	**McKinley**	**50.41 33**	*eP*	**P**	**22 39 24.2**	**+1.6**
	comp=Z,134nm,2.6s					
EKS2	**Erkin-Say**	**50.77 299**	*eP*	**P**	**22 39 26.4**	**+0.6**
EKS2			pmax	pmax		
	comp=Z,4.0nm,0.8s					
EKS2	**Erkin-Say**	**50.77 299**	*eP*	**P**	**22 39 26.4**	**+0.6**
	comp=Z,3.6nm,0.8s					
BRVK	**Borovoye**	**50.84 313**	*eP*	**P**	**22 39 26.7**	**+0.7**
BRVK			pmax	pmax		
	comp=Z,10.0nm,1.2s					
BRVK	**Borovoye**	**50.84 313**	*eP*	**P**	**22 39 26.4**	**+0.4**
	comp=Z,6.9nm,0.9s					
AML	**Almayashu**	**50.98 299**	P	**P**	**22 39 28.9**	**+1.2**
	SNR=15					
AML	**Almayashu**	**50.98 299**	*i* P	**P**	**22 39 28.9**	**+1.2**
ILAR	**Eielson Array**	**51.27 32**	P	**P**	**22 39 29.6**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=282,slow=7.6,SNR=7.7					
KKAR	**Karatay Array**	**52.95 301**	*eP*	**P**	**22 39 42.5**	**+0.6**
KKAR	**Karatay Array**	**52.95 301**	*eP*	**P**	**22 39 42.5**	**+0.6**
EGAK	**Eagle**	**53.72 31**	*eP*	**P**	**22 39 47.9**	**+0.8**
WRAB	**Tennant Creek**	**55.49 187**	*eP*	**P**	**22 40 02.7**	**+2.3**
WRAB			pmax	pmax		
	comp=Z,24nm,1.3s					
WRAB	**Tennant Creek**	**55.49 187**	*eP*	**P**	**22 39 59.9**	**-0.5**
	comp=Z,12nm,0.9s					
WB2	**Warramunga Arr**	**55.50 187**	*eP*	**P**	**22 39 59.2**	**-1.2**
WRA	**Warramunga Arr**	**55.50 187**	P	**P**	**22 39 59.8**	**-0.7**
	comp=Z,8.6nm,0.7s,baz=1.7,slow=7.6,SNR=36					
WRA			pP	**pP**	**22 40 17.8**	**-1.0**
	comp=Z,8.8nm,0.5s,baz=3.6,slow=7.6,SNR=8.2					
ARU	**Arti**	**56.76 319**	*d i P*	**P**	**22 40 08.8**	**-0.3**
ARU			*PP	**pP**	**22 40 26.1**	**-1.3**
ARU			S	**S**	**22 47 56.2**	**-0.2**
ARU			SS	**SS**	**22 51 43.6**	**-1.1**
ARU			pmax	pmax		
	comp=Z,15nm,0.6s					
ARU	**Arti**	**56.76 319**	*eP*	**P**	**22 40 09.1**	**+0.1**
	comp=Z,17nm,0.7s					
SOKR	**Solikamsk**	**56.84 323**	*eP*	**P**	**22 40 10.6**	**+1.0**
SOKR			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KBL	**Kabul**	**56.96 291**	*eP*	**P**	**22 40 11.6**	**+0.4**
KBL			pmax	pmax		
	comp=Z,5.0nm,0.9s					
KBL	**Kabul**	**56.96 291**	*eP*	**P**	**22 40 11.6**	**+0.4**
	comp=Z,5.5nm,0.9s					
HYB	**Hyderabad**	**57.12 269**	*i P*	**P**	**22 40 11.5**	**-0.8**
ABKAR	**Akbulak array**	**58.08 310**	*eP*	**P**	**22 40 18.9**	**+0.4**
ASAR	**Alice Springs**	**59.23 187**	P	**P**	**22 40 26.8**	**+0.1**
	comp=Z,2.8nm,0.4s,baz=18,slow=11,SNR=17					
ASAR			pP	**pP**	**22 40 44.8**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=15,slow=13,SNR=6.2					
PRGR	**Permogore**	**61.41 327**	*eP*	**P**	**22 40 39.9**	**-1.2**
PRGR			pmax	pmax		
	comp=Z,15nm,0.7s					
GEYT	**Alibeck**	**63.62 299**	P	**P**	**22 40 57.3**	**+0.9**
	comp=Z,1.0nm,0.2s,baz=206,slow=6.7,SNR=6.0					
RES	**Resolute Bay**	**64.26 14**	P	**P**	**22 41 00.0**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=197,slow=4.6,SNR=4.5					
KLMR	**Klimovskoe**	**64.42 328**	*eP*	**P**	**22 41 00.1**	**-1.0**
KLMR			pmax	pmax		
	comp=Z,5.0nm,0.4s					
KEV	**Kevo**	**64.42 339**	*eP*	P	22 41 04.5	+3.5
KEV	**Kevo**	**64.42 339**	*ep*	P	22 41 04.5	+3.5
	comp=Z,0.4nm,0.3s					
ARCES	**ARCESS Array B**	**64.98 339**	P	**P**	**22 41 04.8**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=59,slow=6.4,SNR=6.3					
YKA	**Yellowknife Ar**	**65.58 29**	P	**P**	**22 41 08.7**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=308,slow=7.6,SNR=6.1					
JOF	**Joensuu**	**66.74 332**	*eP*	**P**	**22 41 14.6**	**-1.5**
JOF			pmax	pmax		
	comp=Z,4.0nm,0.6s					
JOF	**Joensuu**	**66.74 332**	*ep*	**P**	**22 41 14.6**	**-1.5**
	comp=Z,3.5nm,0.6s					
STKA	**Stephens Creek**	**67.12 179**	P	**P**	**22 41 18.9**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=358,slow=8.4,SNR=6.3					
VRHR	**Novokhopersk**	**68.06 318**	*eP*	**P**	**22 41 22.9**	**-1.6**
VRHR			pmax	pmax		
	comp=N,10.0nm,0.8s					
VRHR			pmax	pmax		
	comp=E,4.0nm,0.8s					
VRHR			pmax	pmax		
	comp=Z,20nm,0.8s					
OBN	**Obninsk**	**68.63 323**	*eP*	**P**	**22 41 28.1**	**+0.1**
OBN			*e*		22 44 00.7	
OBN			pmax	pmax		
	comp=Z,3.0nm,0.5s					
KAF	**Kangasniemi**	**69.11 333**	*eP*	**P**	**22 41 29.4**	**-1.5**
KAF			pmax	pmax		
	comp=Z,5.0nm,0.7s					
KAF	**Kangasniemi**	**69.11 333**	*ep*	**P**	**22 41 29.4**	**-1.5**
	comp=Z,4.6nm,0.7s					
VSR	**Storozhevoye**	**69.33 319**	*eP*	**P**	**22 41 31.7**	**-0.8**
VSR			pmax	pmax		
	comp=N,9.0nm,0.8s					
VSR			pmax	pmax		
	comp=E,9.0nm,0.8s					
VSR			pmax	pmax		
	comp=Z,10.0nm,0.8s					
VORD	**Divnogorie**	**69.39 318**	*eP*	**P**	**22 41 31.6**	**-1.2**
VORD			pmax	pmax		
	comp=N,5.0nm,0.8s					
VORD			pmax	pmax		
	comp=E,10.0nm,0.8s					
VORD			pmax	pmax		
	comp=Z,10.0nm,0.8s					
FINES	**FINESS Array B**	**69.60 332**	P	**P**	**22 41 34.1**	**+0.1**
	comp=Z,8.3nm,0.7s,baz=76,slow=8.0,SNR=27					
KBZ	**Khabaz**	**71.05 311**	P	**P**	**22 41 44.2**	**+1.1**
	comp=Z,7.4nm,0.9s,baz=26,slow=3.4,SNR=15					
KIV	**Kislovodsk**	**71.06 311**	*eP*	**P**	**22 41 44.8**	**+1.5**
KIV			pmax	pmax		
	comp=Z,15nm,0.9s					
KIV			MLR	MLR		
	comp=Z,25nm,18.0s					
KIV	**Kislovodsk**	**71.06 311**	*eP*	**P**	**22 41 43.6**	**+0.3**
	comp=Z,13nm,0.8s					
SUMG	**Summit**	**72.12 360**	*eP*	**P**	**22 41 50.6**	**+1.0**
SUMG			pmax	pmax		
	comp=Z,6.0nm,0.9s					
SUMG	**Summit**	**72.12 360**	*eP*	**P**	**22 41 50.6**	**+1.0**
	comp=Z,6.0nm,0.9s					
ISAL	**Salakas**	**73.23 327**	*eP*	**P**	**22 41 55.6**	**-0.3**
ISAL			AMB	AMB	22 41 57.1	
	comp=Z,8.2nm,0.8s					
IIGN	**Ignalina**	**73.32 327**	*eP*	**P**	**22 41 56.0**	**-0.5**
IIGN			AMB	AMB	22 41 57.0	
	comp=Z,6.1nm,0.8s					
SLMT	**Seeley Lake**	**74.49 43**	*eP*	**P**	**22 42 04.8**	**+1.1**
AKASG	**Malin Array Be**	**74.80 322**	P	**P**	**22 42 05.0**	**-0.2**
AKASG	**Malin Array Be**	**74.80 322**	P	**P**	**22 42 05.0**	**-0.2**
	comp=Z,13nm,0.8s,baz=47,slow=6.0,SNR=21					
KIEV	**Kiev**	**74.81 322**	*eP*	**P**	**22 42 04.9**	**-0.3**
KIEV			pmax	pmax		
	comp=Z,11nm,0.8s					
KIEV	**Kiev**	**74.81 322**	*eP*	**P**	**22 42 04.8**	**-0.3**
	comp=Z,10nm,0.8s					
NB2	**NORSAR Subarra**	**75.11 337**	P	**P**	**22 42 06.8**	**0.0**
	comp=Z,1.9nm,0.8s,baz=41,slow=5.9					
NOA	**NORSAR Array B**	**75.11 337**	P	**P**	**22 42 07.1**	**+0.3**
	comp=Z,5.3nm,1.0s,baz=40,slow=5.7,SNR=8.7					
SUW	**Suwalki**	**75.54 327**	*eP*	**P**	**22 42 09.8**	**+0.5**
SUW	**Suwalki**	**75.54 327**	*eP*	**P**	**22 42 09.8**	**+0.5**
LRM	**Limekiln Ridge**	**75.91 43**	*eP*	**P**	**22 42 13.5**	**+1.5**
DLMT	**Dillon**	**76.10 44**	*eP*	**P**	**22 42 14.5**	**+1.6**
	comp=Z,10nm,1.1s					
NVAR	**Mina Array Bea**	**76.69 52**	P	**P**	**22 42 18.0**	**+1.5**
	comp=Z,1.7nm,0.7s,baz=280,slow=6.1,SNR=7.7					
MALT	**Malatya**	**76.84 308**	⇓*i P*	**P**	**22 42 16.6**	**-0.6**
R11A	**Troy Canyon, C**	**78.48 51**	*eP*	**P**	**22 42 27.8**	**+1.4**
	comp=Z,2.3nm,0.8s					
KWP	**Kalwaria Pacla**	**78.69 324**	*eP*	**P**	**22 42 27.5**	**+0.4**
KWP	**Kalwaria Pacla**	**78.69 324**	*eP*	**P**	**22 42 27.5**	**+0.4**
KWP	**Kalwaria Pacla**	**78.69 324**	⇓*i P*	**P**	**22 42 26.1**	**-1.0**
KWP	**Kalwaria Pacla**	**78.69 324**	*eP*	**P**	**22 42 27.4**	**+0.3**
	comp=Z,34nm,1.0s					
TESR	**Tescani**	**78.77 320**	⇑*i P*	**P**	**22 42 26.2**	**-1.4**
BURAR	**Bucovina Array**	**78.79 321**	⇑*i P*	**P**	**22 42 27.2**	**-0

DPC			*e*			22 42 55.1	
DPC	**Dobruska-Polom**	**81.12 327**	*e*P	**P**		**22 42 39.1**	**-1.2**
DPC			*e*x	x		22 42 55.1	
DPC			*e*pP	**pP**		**22 42 59.6**	**0.0**
DPC	**Dobruska-Polom**	**81.12 327**	*e*P	**P**		**22 42 41.5**	**+1.2**
PSZ	**Piszkesteto**	**81.22 324**	*e*P	**P**		**22 42 41.2**	**+0.3**
PSZ			pmax	pmax			
	comp=Z,7.0nm,1.0s						
PSZ	**Piszkesteto**	**81.22 324**	⇓*i*P	**P**		**22 42 38.7**	**-2.2**
PSZ	**Piszkesteto**	**81.22 324**	*e*P	**P**		**22 42 41.2**	**+0.3**
	comp=Z,6.5nm,1.0s						
VYHS	**Vyhne**	**81.31 325**	*e*P	**P**		**22 42 41.8**	**+0.5**
VYHS			pmax	pmax			
	comp=Z,3.0nm,1.1s						
VYHS	**Vyhne**	**81.31 325**	*e*P	**P**		**22 42 41.8**	**+0.5**
BRG	**Berggiesshubel**	**81.76 329**	*e*P	**P**		**22 42 43.9**	**+0.3**
	comp=Z,3.4nm,0.6s						
BRG	**Berggiesshubel**	**81.76 329**	*e*P	**P**		**22 42 43.8**	**+0.3**
BRG			pmax	pmax			
	comp=Z,3.0nm,0.6s						
VRAC	**Vranov**	**81.76 327**	⇓*i*P	**P**		**22 42 42.5**	**-1.1**
CLL	**Collm**	**81.82 330**	*e*P	**P**		**22 42 44.0**	**+0.1**
CLL			pmax	pmax			
	comp=Z,9.0nm,0.9s						
CLL	**Collm**	**81.82 330**	*i*P	**P**		**22 42 43.8**	**-0.1**
	comp=Z,10.0nm,0.9s						
CLL			*e*pP	**pP**		**22 43 00.0**	**-3.2**
CLL			*e*pPP			22 46 09.0	
CLL	**Collm**	**81.82 330**	*e*P	**P**		**22 42 44.0**	**+0.1**
	comp=Z,8.5nm,0.9s						
PRU	**Pruhonice**	**82.16 328**	*e*P	**P**		**22 42 46.5**	**+0.8**
PRU	**Pruhonice**	**82.16 328**	*e*P	**P**		**22 42 46.5**	**+0.8**
VTS	**Vitosha**	**83.21 318**	⇓*i*P	**P**		**22 42 50.8**	**-0.7**
KHC	**Kasperske Hory**	**83.22 328**	*e*P	**P**		**22 42 51.8**	**+0.5**
KHC			*e*			22 43 10.6	
KHC	**Kasperske Hory**	**83.22 328**	*e*P	**P**		**22 42 51.8**	**+0.5**
KHC			*e*pP	**pP**		**22 43 10.6**	**0.0**
KHC			*e*sP	**sP**		**22 43 18.5**	**+0.1**
KHC	**Kasperske Hory**	**83.22 328**	*e*P	**P**		**22 42 51.8**	**+0.5**
	comp=Z,3.0nm,0.8s						
GERES	**GERESS Array B**	**83.38 328**	P	**P**		**22 42 52.1**	**0.0**
	comp=Z,0.9nm,0.7s,baz=36,slow=5.0,SNR=6.7						
GERES			pP	**pP**		**22 43 11.8**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=30,slow=6.2,SNR=3.3						
MMB	**Musomiste**	**83.61 317**	⇑*i*P	**P**		**22 42 52.3**	**-1.1**
SOKA	**Soboth**	**84.40 326**	⇑*i*P	**P**		**22 42 57.8**	**+0.4**
	comp=Z,7.8nm,1.0s						
DAVA	**Damuels**	**86.22 329**	⇑*i*PcP	**P**		**22 43 06.6**	**0.0**
	comp=Z,4.3nm,1.0s						
CDF	**Champ du Feu**	**86.40 331**	*e*P	**P**		**22 43 07.3**	**0.0**
	comp=Z,12nm,1.1s						
CDF	**Champ du Feu**	**86.40 331**	*e*P	**P**		**22 43 07.3**	**0.0**
CDF			pmax	pmax			
	comp=Z,12nm,1.1s						
CDF	**Champ du Feu**	**86.40 331**	*e*P	**P**		**22 43 07.3**	**0.0**
	comp=Z,12nm,1.1s						
PAGF	**Fort de Pagny**	**86.90 332**	*e*P	**P**		**22 43 09.8**	**+0.2**
	comp=Z,4.7nm,0.9s						
PAGF	**Fort de Pagny**	**86.90 332**	*e*P	**P**		**22 43 09.8**	**+0.2**
	comp=Z,4.7nm,0.9s						
SCHQ	**Schefferville**	**87.01 15**	P	**P**		**22 43 11.3**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=297,slow=6.8,SNR=3.7						
HAU	**Haudompre**	**87.10 331**	*e*P	**P**		**22 43 10.2**	**-0.5**
HAU	**Haudompre**	**87.10 331**	*e*P	**P**		**22 43 10.2**	**-0.5**
HAU	**Haudompre**	**87.10 331**	*e*P	**P**		**22 43 10.2**	**-0.5**
AVF	**Avril sur Loir**	**89.26 332**	*e*P	**P**		**22 43 21.3**	**+0.4**
	comp=Z,7.2nm,0.9s						
AVF	**Avril sur Loir**	**89.26 332**	*e*P	**P**		**22 43 21.3**	**+0.4**
AVF			pmax	pmax			
	comp=Z,7.0nm,0.9s						
AVF	**Avril sur Loir**	**89.26 332**	*e*P	**P**		**22 43 21.3**	**+0.4**
	comp=Z,7.2nm,0.9s						
GRR	**Gorron**	**89.44 335**	*e*P	**P**		**22 43 21.9**	**+0.2**
	comp=Z,3.9nm,0.7s						
GRR	**Gorron**	**89.44 335**	*e*P	**P**		**22 43 21.9**	**+0.2**
GRR			pmax	pmax			
	comp=Z,4.0nm,0.7s						
GRR	**Gorron**	**89.44 335**	*e*P	**P**		**22 43 21.9**	**+0.2**
	comp=Z,3.9nm,0.7s						
SGMF	**Saint Gilles**	**90.13 336**	*e*P	**P**		**22 43 25.2**	**+0.3**
	comp=Z,22nm,1.1s						
SGMF	**Saint Gilles**	**90.13 336**	*e*P	**P**		**22 43 25.2**	**+0.3**
SGMF			pmax	pmax			
	comp=Z,22nm,1.1s						
SGMF	**Saint Gilles**	**90.13 336**	*e*P	**P**		**22 43 25.2**	**+0.3**
	comp=Z,22nm,1.1s						
MFF	**Saint Martin d**	**90.72 334**	*e*P	**P**		**22 43 28.2**	**+0.5**
	comp=Z,15nm,1.1s						
MFF	**Saint Martin d**	**90.72 334**	*e*P	**P**		**22 43 28.2**	**+0.5**
MFF			pmax	pmax			
	comp=Z,15nm,1.1s						
MFF	**Saint Martin d**	**90.72 334**	*e*P	**P**		**22 43 28.2**	**+0.5**
	comp=Z,15nm,1.1s						
RJF	**Les Rejaudoux**	**91.21 332**	*e*P	**P**		**22 43 30.5**	**+0.5**
	comp=Z,11nm,0.9s						
RJF	**Les Rejaudoux**	**91.21 332**	*e*P	**P**		**22 43 30.5**	**+0.5**
RJF			pmax	pmax			
	comp=Z,11nm,0.9s						
RJF	**Les Rejaudoux**	**91.21 332**	*e*P	**P**		**22 43 30.5**	**+0.5**
	comp=Z,11nm,0.9s						
CAF	**Calviac**	**91.31 332**	*e*P	**P**		**22 43 31.2**	**+0.7**
	comp=Z,14nm,1.0s						
CAF	**Calviac**	**91.31 332**	*e*P	**P**		**22 43 31.2**	**+0.7**
CAF			pmax	pmax			
	comp=Z,14nm,1.0s						
CAF	**Calviac**	**91.31 332**	*e*P	**P**		**22 43 31.2**	**+0.7**
	comp=Z,14nm,1.0s						
LFF	**La Frestale**	**91.81 332**	*e*P	**P**		**22 43 34.2**	**+1.4**
LFF	**La Frestale**	**91.81 332**	*e*P	**P**		**22 43 34.2**	**+1.4**
LFF	**La Frestale**	**91.81 332**	*e*P	**P**		**22 43 34.2**	**+1.4**
JSRW	**J. Sargeant Re**	**99.02 30**	*e*PKKPbc	PKKPbc		23 00 29.8	-1.1
TORD	**Torodi Ar. Bea**	**117.58 313**	PKP	**PKPdf**		**22 49 10.8**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=12,slow=2.1,SNR=7.8						
TORD			pPKP	**pPKPdf**		**22 49 30.4**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=172,slow=0.9,SNR=2.3						
PAPH	**Port-au-Prince**	**118.03 35**	*e*PKKPbc	PKKPbc		22 59 24.3	-6.3
SAML	**Samuel**	**146.01 44**	*e*PKPdf	**PKPbc**		**22 50 04.6**	**-0.4**
LPAZ	**La Paz**	**148.32 60**	PKPbc	**PKPbc**		**22 50 11.8**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=60,slow=0.8,SNR=3.7						

*IDC **15** 22:47:33.2±7.2, 0°.78S×133°.50E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/24, mbtmp3.4/3, ML3.6/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/15, Error ellipse: s-maj=425.6km s-min=26.2km az=76.0*

*ISCJB **15** 22:47:35.9±1.5, 0°.9S±0°.1×133°.5E±0°.1, h29km, mb3.4/2, MS3.2/2, Error ellipse: s-maj=19.5km s-min=9.1km az=44.3*

ISC 15 22:47:37.6±1.5, **1°.04S**±0°.09×**133°.4E**±0°.1, **h29**km, **n10, σ2.9 34/12, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**2.17**	**275**	P	**Pn**	**22 48 11.9**	**+0.1**
SWI				S	**Sn**	**22 48 37.6**	**0.0**
	baz=2.3,SNR=21						
FAKI	**Fak Fak**	**2.21**	**212**	P	**Pb**	**22 48 15.7**	**-1.2**
	baz=2.7,SNR=75						
FAKI				S	**Sb**	**22 48 45.2**	**+1.4**
	baz=2.7,SNR=10						
KDU	**Kakadu**	**11.61**	**185**	P	**Pn**	**22 50 23.9**	**+2.3**
	baz=12,SNR=9.3						
MTN	**Manton Dam**	**11.95**	**191**	P	**Pn**	**22 50 28.1**	**+2.0**
	baz=13,SNR=27						
MTN				S	**Sn**	**22 52 37.5**	**-1.0**
	baz=13,SNR=5.3						
KNRA	**Kununurra**	**15.26**	**197**	P	**P**	**22 51 13.7**	**-2.0**
	baz=16,SNR=4.8						
WRA	**Warramunga Arr**	**18.81**	**177**	P	**Pn**	**22 51 57.5**	**+1.7**
	0.2nm,0.3s,baz=356,slow=13,SNR=15						
WRA				S	**Sn**	**22 55 20.9**	**-4.7**
	0.1nm,0.3s,baz=7.6,slow=22,SNR=5.6						
ASAR	**Alice Springs**	**22.50**	**179**	P	**P**	**22 52 37.5**	**+2.4**
	1.2nm,0.7s,baz=5.9,slow=11,SNR=18						
NWAO	**Narrogin (SRO)**	**35.19**	**204**	LR	LR	23 10 34.2	
	comp=Z,19nm,18.4s,slow=39						
SONM	**Songino Array**	**54.07**	**338**	LR	LR	23 18 24.0	
	comp=Z,43nm,21.5s,baz=115,slow=34						
MKAR	**Makanchi Array**	**65.29**	**324**	P	**P**	**22 58 16.0**	**-0.9**
	0.2nm,0.5s,baz=107,slow=8.0,SNR=6.8						

MEX 15 22:50:38.0±0.5, **18°.00N**×**101°.84W**, **h38**km±10km, **MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.53**	**138**	*i*P	Pn	22 50 47.5	-1.5
ZIIG				*i*S	Sn	22 50 55.2	-1.6
CAIG	**El Cayaco**	**1.77**	**122**	*e*P	Pn	22 51 04.3	-1.8
CAIG				*e*S	Sn	22 51 25.2	-2.2
ACX	**Acapulco**	**2.20**	**121**	*e*P	Pn	22 51 09.8	-2.2
ACX				*e*S	Sn	22 51 35.5	-2.5
PLIG	**Platanillo**	**2.25**	**80**	*e*P	Pn	22 51 11.7	-1.2
PLIG				*e*S	Sn	22 51 37.4	-2.1
YAIG	**Yautepec**	**2.76**	**72**	*e*P	Pn	22 51 18.7	-1.3
YAIG				*e*S	Sn	22 51 50.4	-1.9
TLIG	**Tlapa**	**3.15**	**97**	*e*P	Pn	22 51 23.8	-1.4
TLIG				*e*S	Sn	22 51 59.7	-1.9

DJA 15 23:03:27.2±0.7, **10°.S**±10°×**11°.3E**±°, **h134**km±19km, **M3.7/13, MLv3.7/13, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.93**	**26**	P	Pn	23 04 00.4	-0.2
JAGI				S	Sn	23 04 27.3	+1.1
GMJI	**Gumukmas**	**1.94**	**4**	P	Pn	23 04 00.8	+0.1
GMJI				S	Sn	23 04 28.4	+2.1
IGBI	**Denpasar**	**2.29**	**53**	P	Pn	23 04 05.9	+0.9
BLJI	**Banyuglugur**	**2.48**	**7**	P	Pn	23 04 06.3	-1.0
ABJI	**Asem Bagus**	**2.58**	**21**	P	Pn	23 04 11.1	+2.5
PWJI	**Pagerwojo**	**2.64**	**326**	P	Pn	23 04 07.5	-1.8
PWJI				S	Sn	23 04 41.5	-0.3
SRBI	**Singaraja**	**2.84**	**42**	P	Pn	23 04 12.1	+0.2
SRBI				S	Sn	23 04 47.2	+0.8
KMMI	**Kalianget**	**3.22**	**12**	P	Pn	23 04 18.7	+1.9
WOJI	**Wonogiri, Jawa**	**3.33**	**315**	P	Pn	23 04 16.9	-1.4
WOJI				S	Sn	23 04 57.2	-0.6
UGM	**Wanagama**	**3.58**	**310**	P	Pn	23 04 20.9	-0.6
UGM				S	Sn	23 05 02.2	-1.4
KPJI	**Karang Pucung**	**5.18**	**303**	P	Pn	23 04 43.4	+0.6

*ISCJB **15** 23:12:30.9±1.8, 35°.55S±0°.07×73°.63W±0°.08, h15km±13km, mb4.0/5, MS3.6/3, Error ellipse: s-maj=12.5km s-min=9.0km az=140.2*

*IDC **15** 23:12:32.4±1.9, 35°.47S×73°.47W, h0km, mb4.0/5, mb1 3.9/8, mb1mx3.8/25, mbtmp3.9/8, ML3.7/3, MS3.7/3, Ms1 3.6/3, ms1mx3.1/21, Error ellipse: s-maj=61.9km s-min=21.1km az=101.0*

*GUC **15** 23:12:34.5±0.3, 35°.72S×73°.54W, h46km±2km, ML4.1*

ISC 15 23:12:33.1±3.3, **35°.69S**±0°.06×**73°.42W**±0°.10, **h5**km±18km, **n16, σ1.9 60/20, mb4.2/5, MS3.6/3, 2C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.68**	**131**	⇓*i*P	**Pn**	**23 12 48.6**	**-0.7**
COCH				*i*S	**Sn**	**23 12 59.4**	**-0.9**
COCH				IAML		23 13 00.9	
	comp=E,13μm,0.4s						
CCSP	**San Pedro de C**	**1.18**	**168**	*i*P	**Pn**	**23 12 55.3**	**-0.9**
CCSP				*i*S	**Sb**	**23 13 10.9**	**-0.7**
CCSP				IAML		23 13 16.8	
	comp=E,10μm,0.7s						
TALC	**Talca**	**1.49**	**79**	⇑*i*P	**Pb**	**23 13 00.8**	**-0.4**
TALC				*i*S	**Sg**	**23 13 21.0**	**+0.1**
LNCH	**Linares**	**1.49**	**97**	⇑*i*P	**Pb**	**23 13 01.3**	**+0.1**
LNCH				*i*S	**Sg**	**23 13 21.4**	**+0.4**
NICH	**Los Niches**	**1.92**	**70**	*i*P	**Pn**	**23 13 07.2**	**+0.8**
NICH				*i*S	**Sb**	**23 13 32.4**	**-0.4**
PLCA	**Paso Flores**	**5.52**	**157**	Pn	**Pn**	**23 13 57.7**	**+1.7**
	comp=E,1.5nm,0.3s,baz=327,slow=11,SNR=36						
PLCA				Lg	Lg	23 15 28.1	
	comp=E,2.7nm,0.3s,baz=253,slow=20,SNR=4.2						
CFAA	**Coronel Fontan**	**5.94**	**48**	Pn	**Pn**	**23 14 02.1**	**+0.3**
	comp=E,0.8nm,0.3s,baz=202,slow=10.0,SNR=18						
CFAA				Sn	**Sn**	**23 15 10.1**	**-0.1**
	comp=E,0.2nm,0.3s,baz=156,slow=18,SNR=1.9						
LPAZ	**La Paz**	**19.89**	**15**	P	**P**	**23 17 02.0**	**-4.0**
	comp=E,0.0nm,0.3s,baz=180,slow=1.0,SNR=2.6						
SIV	**San Ignacio**	**22.51**	**33**	P	**P**	**23 17 30.0**	**-3.7**
	comp=E,1.3nm,0.6s,baz=288,slow=6.4,SNR=2.4						
SIV				LR	LR	23 28 00.6	
	comp=E,231nm,18.9s,baz=222,slow=42						
BDFB	**Brasilia**	**30.23**	**55**	LR	LR	23 33 19.9	
	comp=E,68nm,18.9s,baz=230,slow=41						
QSPA	**South Pole Qui**	**54.55**	**180**	P	**P**	**23 22 03.3**	**+1.3**
	comp=E,2.1nm,0.8s,baz=221,slow=1.7,SNR=7.1						
DBIC	**Dimbokro**	**76.79**	**72**	P	**P**	**23 24 26.1**	**0.0**
	comp=E,3.2nm,0.9s,baz=163,slow=11,SNR=2.4						
BOSA	**Boshof**	**80.29**	**118**	P	**P**	**23 24 46.2**	**+0.7**
	comp=E,3.2nm,1.1s,baz=186,slow=10,SNR=2.2						
TORD	**Torodi Ar. Bea**	**85.85**	**71**	P	**P**	**23 25 14.4**	**+0.3**
	comp=E,0.8nm,1.1s,baz=222,slow=3.1,SNR=3.0						
MDT	**Midelt**	**93.75**	**52**	LR	LR	00 09 52.3	
	comp=E,43nm,18.1s,baz=224,slow=37						
ZALV	**Zalesovo Beam**	**156.26**	**33**	PKPab	**PKPab**	**23 32 57.5**	**+1.3**
	comp=E,0.4nm,0.5s,baz=320,slow=5.0,SNR=2.5						

IDC 15 23:25:12.0±1.4, **24°.17S**×**69°.59E**, **h0**km, **mb3.7**/5, **mb1 3.8**/5, **mb1mx3.5**/57, **mbtmp3.7**/5, **MS3.9**/2, **Ms1 3.9**/2, **ms1mx3.0**/36, **Error ellipse: s-maj=55.5km s-min=27.2km az=29.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**16.66**	**10**	T	T	23 46 01.4	
	baz=190,slow=76,SNR=18						
H08S2	**Diego Garcia H**	**16.66**	**10**	T	T	23 46 01.2	
	baz=190,slow=76,SNR=40						
H08S3	**Diego Garcia H**	**16.68**	**10**	T	T	23 46 03.1	
	baz=190,slow=76,SNR=27						
PALK	**Pallekele**	**33.08**	**21**	LR	LR	23 42 23.2	
	comp=Z,99nm,19.6s,baz=216,slow=31						
ASAR	**Alice Springs**	**58.30**	**104**	P	P	23 35 09.2	+0.1
	0.7nm,0.6s,baz=250,slow=6.3,SNR=9.9						
WRA	**Warramunga Arr**	**59.70**	**100**	P	P	23 35 18.5	-0.3
	0.5nm,0.7s,baz=254,slow=6.8,SNR=5.4						
MKAR	**Makanchi Array**	**71.56**	**9**	P	P	23 36 34.5	-0.2
	0.8nm,0.8s,baz=187,slow=7.0,SNR=8.2						
TORD	**Torodi Ar. Bea**	**75.95**	**292**	P	P	23 37 01.3	+0.1
	0.4nm,0.9s,baz=112,slow=6.0,SNR=2.8						
ZALV	**Zalesovo Beam**	**78.90**	**9**	P	P	23 37 17.0	+0.2
	0.4nm,0.5s,baz=225,slow=3.9,SNR=3.4						
ASAJ	**Asahikawa**	**95.17**	**44**	LR	LR	00 18 24.5	
	comp=Z,90nm,20.8s,baz=314,slow=34						

*HLW **15** 23:36:38.5, 33°.71N×35°.86E, h9km±18km, Md2.9, Ml2.9*
*GII **15** 23:36:41.7±0.0, 33°.28N×35°.44E, h1km, MD3.0/6, Mm2.4/4*
*NSSC **15** 23:36:41.3±0.8, 33°.30N×35°.36E, h2km±3km, MD1.2, ML2.9*
*CSEM **15** 23:36:42.8±0.1, 33°.33N×35°.45E, h2km, ML3.3, Mw2.4, Error ellipse: s-maj=3.6km s-min=2.2km az=113.0*
*GRAL **15** 23:36:43.3±0.5, 33°.31N×35°.46E, h4km±18km, MD3.3*

ISC 15 23:36:42.6±1.0, **33°.32N**±0°.02×**35°.45E**±0°.02, **h7**km±8km, **n50, σ0.9 92/79, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATL	**Matarih**	**0.20**	**330**	*e*P	**Pg**	**23 36 46.9**	**+0.3**
MATL	**Matarih**	**0.20**	**330**	*e*P	**Pg**	**23 36 46.9**	**+0.3**
KSDI	**Kefar Szold**	**0.22**	**125**	Pg	**Pg**	**23 36 47.1**	**+0.2**
KSDI				Sg	**Sg**	**23 36 51.0**	**+1.2**
MMC7	**Mount Meron ar**	**0.30**	**189**	Pg	**Pg**	**23 36 48.6**	**+0.1**
MMA0B	**Mount Meron ar**	**0.30**	**187**	Pg	**Pg**	**23 36 48.6**	**0.0**
MMA0B				Sg	**Sb**	**23 36 54.2**	**-1.4**
NAQL	**Naqoura**	**0.33**	**232**	*e*P	**Pb**	**23 36 49.2**	**-1.5**
NAQL	**Naqoura**	**0.33**	**232**	*e*P	**Pb**	**23 36 49.2**	**-1.5**
HNTI	**Hanita**	**0.33**	**225**	Pg	**Pb**	**23 36 49.5**	**-1.3**
HNTI				Sg	**Sg**	**23 36 54.1**	**+0.8**
HNTI	**Hanita**	**0.33**	**225**	Pg	**Pb**	**23 36 49.5**	**-1.3**
HNTI				Sg	**Sg**	**23 36 54.1**	**+0.8**
RCY	**Rachaya**	**0.37**	**61**	*e*P	**Pg**	**23 36 50.0**	**+0.1**
RCY				*e*S	**Sg**	**23 36 54.8**	**0.0**
BEYL	**Beirut**	**0.55**	**4**	*e*P	**Pb**	**23 36 53.4**	**-1.3**
BEYL				*e*S	**Sg**	**23 37 00.9**	**+0.3**
BEYL	**Beirut**	**0.55**	**4**	*e*P	**Pb**	**23 36 53.4**	**-1.3**
BEYL				*e*S	**Sg**	**23 37 00.9**	**+0.3**
BHL	**Bhannes**	**0.61**	**16**	*e*P	**Pg**	**23 36 53.9**	**-0.5**
BHL				*e*S	**Sg**	**23 37 02.6**	**+0.3**
BHL	**Bhannes**	**0.61**	**16**	*e*P	**Pg**	**23 36 53.9**	**-0.5**
BHL				*e*S	**Sg**	**23 37 02.7**	**+0.3**
BLGI	**Bet Lehem HaGe**	**0.62**	**200**	Pg	**Pb**	**23 36 54.9**	**-0.9**
QASN	**Qassioun**	**0.72**	**73**	*i*P	**Pb**	**23 36 57.0**	**-0.6**
QASN				*e*S	**Sb**	**23 37 07.9**	**+0.1**
	SNR=75						
QASN	**Qassioun**	**0.72**	**73**	*i*P	**Pb**	**23 36 57.0**	**-0.6**
QASN				*e*S	**Sb**	**23 37 07.9**	**+0.1**
QASN				AML	AML	23 37 09.3	
	2μm,0.4s,SNR=59						
QASN	**Qassioun**	**0.72**	**73**	*i*P	**Pb**	**23 36 57.0**	**-0.6**
QASN				*e*S	**Sb**	**23 37 07.9**	**+0.1**
QASN				AML	AML	23 37 09.3	
	comp=N,1μm,0.8s						
QASN				AML	AML	23 37 09.6	
	comp=E,2μm,0.4s						
TCHB	**Talchebab**	**0.78**	**146**	*i*P	**Pb**	**23 36 57.9**	**-0.6**
	SNR=75						
TCHB				*e*S	**Sb**	**23 37 08.2**	**-1.1**
	comp=E,604nm,0.3s,SNR=59						
TCHB	**Talchebab**	**0.78**	**146**	*i*P	**Pb**	**23 36 57.9**	**-0.6**
TCHB				*e*S	**Sb**	**23 37 08.2**	**-1.1**
TCHB				AML	AML	23 37 09.6	
	comp=E,732nm,0.6s						
TCHB				AML	AML	23 37 15.4	
	comp=N,604nm,0.3s						
OFRI	**'Ofer**	**0.80**	**209**	Pg	**Pb**	**23 36 58.0**	**-0.8**
MMLI	**Mount Malkishu**	**0.88**	**181**	Pg	**Pb**	**23 36 59.2**	**-1.0**
HWQ	**Hawqa**	**1.04**	**23**	*e*P	**Pg**	**23 37 02.1**	**-0.6**
HWQ				*e*S	**Sg**	**23 37 16.0**	**-0.2**
HWQ	**Hawqa**	**1.04**	**23**	*e*P	**Pg**	**23 37 02.1**	**-0.6**
MARH	**Ras Al Marh**	**1.11**	**50**	*i*P	**Pb**	**23 37 04.1**	**-0.3**
	SNR=57						
MARH				*e*S	**Sn**	**23 37 20.7**	**0.0**
	comp=N,444nm,0.5s,SNR=49						
MARH	**Ras Al Marh**	**1.11**	**50**	*i*P	**Pb**	**23 37 04.0**	**-0.3**
MARH				*e*S	**Sn**	**23 37 20.7**	**0.0**
MARH				AML	AML	23 37 25.2	
	comp=N,390nm,0.4s						
MARH				AML	AML	23 37 26.7	
	comp=E,444nm,0.5s						
SLTI	**Sal'it**	**1.13**	**198**	Pg	**Pb**	**23 37 03.7**	**-0.7**
SLTI				Sg	**Sn**	**23 37 20.2**	**-0.3**
SALA	**Sala**	**1.24**	**119**	*i*P	**Pg**	**23 37 05.8**	**-0.5**
	SNR=57						
SALA				*e*S	**Sb**	**23 37 22.8**	**+0.2**
	comp=E,164nm,0.7s,SNR=49						
SALA	**Sala**	**1.24**	**119**	*i*P	**Pg**	**23 37 05.8**	**-0.5**
SALA				*e*S	**Sb**	**23 37 22.8**	**+0.2**
SALA				AML	AML	23 37 23.9	
	comp=E,41nm,0.3s						
SALA				AML	AML	23 37 30.2	
	comp=N,164nm,0.7s						
HAWK	**Haweek**	**1.44**	**33**	*i*P	**Pn**	**23 37 08.7**	**-0.5**
	SNR=57						
HAWK				*e*S	**Sn**	**23 37 29.0**	**+0.5**
	comp=N,194nm,0.8s,SNR=49						
HAWK	**Haweek**	**1.44**	**33**	*i*P	**Pn**	**23 37 08.7**	**-0.5**
HAWK				*e*S	**Sn**	**23 37 29.0**	**+0.5**
HAWK				AML	AML	23 37 31.3	
	comp=N,216nm,0.5s						
HAWK				AML	AML	23 37 31.7	
	comp=E,194nm,0.8s						
ZALF	**Zalf**	**1.63**	**103**	*i*P	**Pb**	**23 37 12.4**	**-0.6**
	SNR=45						
ZALF				*e*S	**Sg**	**23 37 34.6**	**-0.5**
	SNR=40						
ZALF	**Zalf**	**1.63**	**103**	*i*P	**Pb**	**23 37 12.4**	**-0.6**
ZALF				*e*S	**Sg**	**23 37 34.6**	**-0.5**
DSI	**Dead Sea**	**1.74**	**182**	Pn	**Pn**	**23 37 13.4**	**+0.1**
DSI				Sn	**Sg**	**23 37 38.0**	**-0.6**
BIDA	**Albida**	**1.84**	**23**	*i*P	**Pn**	**23 37 14.6**	**-0.1**
	SNR=45						
BIDA				*e*S	**Sn**	**23 37 39.1**	**+0.8**
	comp=E,310nm,0.4s,SNR=40						
BIDA	**Albida**	**1.84**	**23**	*i*P	**Pn**	**23 37 14.6**	**-0.1**
BIDA				*e*S	**Sn**	**23 37 39.1**	**+0.8**
BIDA				AML	AML	23 37 46.3	
	comp=N,259nm,0.3s						
BIDA				AML	AML	23 37 53.2	
	comp=E,310nm,0.4s						
YTIR	**Yattir**	**1.97**	**188**	Pn	**Pb**	**23 37 17.7**	**-1.1**
YTIR	**Yattir**	**1.97**	**188**	Pn	**Pb**	**23 37 17.7**	**-1.1**
MZDA	**Masada**	**2.00**	**182**	Pn	**Pn**	**23 37 16.9**	**+0.1**
MZDA				Sn	**Sg**	**23 37 45.3**	**-1.7**
MZDA	**Masada**	**2.00**	**182**	Pn	**Pn**	**23 37 16.9**	**+0.1**
MZDA				Sn	**Sg**	**23 37 45.3**	**-1.7**
RTMI	**Retamim**	**2.34**	**196**	Pn	**Pn**	**23 37 22.3**	**+0.7**
RTMI	**Retamim**	**2.34**	**196**	Pn	**Pn**	**23 37 22.3**	**+0.7**
ZFRI	**Zfri**	**2.76**	**185**	Pn	**Pn**	**23 37 28.3**	**+1.0**
ZFRI	**Zfri**	**2.76**	**185**	Pn	**Pn**	**23 37 28.3**	**+1.0**
RSH		**2.77**	**212**	P	**Pn**	**23 37 27.7**	**+0.3**
	baz=214	

MKAR	Makanchi Array	87.44	358	P		P	23 51 58.8 -0.8
	0.2nm,0.6s,baz=165,slow=6.0,SNR=2.7						
SONM	Songino Array	90.30	14	P		P	23 52 12.5 -0.6
	1.0nm,0.9s,baz=173,slow=5.5,SNR=6.1						
BRTR	Keskin Array B	93.28	322	LR	LR	LR	00 30 47.9
	comp=Z,27nm,19.4s,baz=133,slow=33						
TLY	Talaya	93.58	11	LR		LR	00 34 09.3
	comp=Z,79nm,21.6s,baz=168,slow=35						
ZALV	Zalesovo Beam	94.55	359	LR		LR	00 32 30.5
	comp=Z,82nm,21.6s,baz=63,slow=34						
DBIC	Dimbokro	94.80	275	LR		LR	00 30 11.4
	comp=Z,81nm,18.9s,baz=138,slow=32						
PLCA	Paso Flores	95.88	198	LR		LR	00 36 08.2
	comp=Z,96nm,18.5s,baz=192,slow=36						

*ISCJB **15** 23:40:51.4±0.7,8.″17S±0.″08×74.″43W±0.″06,h151km, mb3.4/3, Error ellipse: s-maj=10.9km s-min=7.7km az=19.6*
*IDC **15** 23:40:52.7±1.8,8.″19S×74.″48W,h165km±26km,mb3.3/3, mb1 3.4/8,mb1mx3.1/34,mbtmp3.9/8, Error ellipse: s-maj=40.0km s-min=13.6km az=37.0*
ISC 15 23:40:51.9±0.8,8.″20S±0.″08×74.″43W±0.″08,h151km,n9, σ1$30/12,mb3.3/3,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	4.07	285	P	Pn	23 41 54.1	+0.6
	24nm,0.3s,baz=45,slow=2.7,SNR=123						
ATAH				S	Sn	23 42 42.0	+0.7
	7.3nm,0.3s,baz=59,slow=22,SNR=7.2						
NNA	Nana	4.45	212	P	Pn	23 41 60.0	+1.8
	4.5nm,0.3s,baz=23,slow=5.7,SNR=9.0						
NNA				S	Sn	23 42 47.8	-2.0
	9.1nm,0.3s,baz=355,slow=23,SNR=6.1						
LPAZ	La Paz	10.12	143	P	Pn	23 43 13.7	-0.5
	0.1nm,0.3s,baz=342,slow=9.6,SNR=3.5						
LPAZ				S	S	23 45 08.5	+0.8
	0.2nm,0.3s,baz=186,slow=4.2,SNR=5.8						
SIV	San Ignacio	15.17	122	P	P	23 44 19.8	-0.4
	0.3nm,0.3s,baz=299,slow=6.6,SNR=3.6						
PTGA	Pitinga	16.21	63	P	P	23 44 32.7	+1.1
	0.7nm,0.3s,baz=234,slow=18,SNR=5.5						
DBIC	Dimbokro	70.92	80	P	P	23 51 54.5	+1.2
	0.8nm,0.3s,baz=207,slow=6.8,SNR=4.2						
YKA	Yellowknife Ar	76.96	342	P	P	23 52 26.4	-1.0
	0.3nm,0.5s,baz=141,slow=6.0,SNR=9.4						
TORD	Torodi Ar. Bea	78.51	75	P	P	23 52 35.4	-1.6
	0.6nm,0.9s,baz=258,slow=6.8,SNR=5.7						
WRA	Warramunga Arr	140.20	225	PKP	PKPdf	00 00 03.6	-0.1
	0.4nm,0.5s,baz=117,slow=2.2,SNR=8.4						

*ISCJB **15** 23:44:49.9±0.6,37.″02S±0.″05×73.″3W±0.″1,h14km, mb4.1/14,MS3.7/5, Error ellipse: s-maj=11.9km s-min=6.5km az=174.4*
*IDC **15** 23:44:49.2±0.7,37.″07S×73.″35W,h0km,mb4.1/10, mb1 4.3/10,mb1mx4.1/30,mbtmp4.1/10,ML2.6/1,MS3.7/6, Ms1 3.7/6,ms1mx3.3/25, Error ellipse: s-maj=29.0km s-min=18.1km az=88.0*
*NEIC **15** 23:44:54.6±1.3,36.″97S×73.″31W,h36km±10km,mb4.2/5, Error ellipse: s-maj=17.6km s-min=7.4km az=80.0*
ISC 15 23:44:51.2±0.6,37.″00S±0.″06×73.″4W±0.″1,h14km,n35, σ1$20/32,mb4.1/14,MS3.7/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.34	150	Pn	Pn	23 45 58.2	+1.4
	2.3nm,0.3s,baz=330,slow=12,SNR=20						
PLCA				Lg	Lg	23 47 04.4	
	9.8nm,0.3s,baz=236,slow=22,SNR=4.0						
PLCA	Paso Flores	4.34	150	*e*Pn	Pn	23 45 58.3	+1.4
PLCA				*e*Sn	Sn	23 46 46.0	-1.2
PLCA				Lg	Lg	23 47 04.4	
CFAA	Coronel Fontan	6.87	40	Pn	Pn	23 46 32.6	+1.0
	0.1nm,0.3s,baz=205,slow=14,SNR=7.2						
CFAA				Sn	Sn	23 47 51.8	+2.1
	0.1nm,0.3s,baz=153,slow=9.0,SNR=1.9						
CFAA				LR	LR	23 49 34.8	
	comp=Z,28nm,21.6s,baz=242,slow=41						
LCO	Las Campanas	8.29	17	*e*Pn	Pn	23 46 50.7	-0.5
	9.9nm,0.6s						
LCO				*e*Sn	Sn	23 48 21.1	-3.7
TRQA	Tornquist	9.14	100	*e*Pn	Pn	23 47 03.5	+0.9
	40nm,1.4s						
LVC	Limon Verde	14.86	16	*e*Pn	Pn	23 48 20.7	-0.5
USHA	Ushuaia	18.16	171	LR	LR	23 55 22.1	
	comp=Z,169nm,19.9s,baz=62,slow=35						
LPAZ	La Paz	21.16	14	P	P	23 49 38.7	+2.1
	2.0nm,0.8s,baz=168,slow=11,SNR=3.8						
LPAZ	La Paz	21.16	14	*e*P	P	23 49 37.0	+0.4
	3.6nm,0.8s						
SIV	San Ignacio	23.61	31	LR	LR	00 00 23.0	
	comp=Z,128nm,18.1s,baz=219,slow=40						
PMSA	Palmer Station	28.36	172	LR	LR	00 01 18.8	
	comp=Z,186nm,18.9s,baz=312,slow=35						
SAML	Samuel	29.43	21	*e*P	P	23 50 54.3	-0.1
	1.0nm,0.7s						
BDFB	Brasilia	30.98	53	LR	LR	00 04 49.2	
	comp=Z,158nm,19.2s,baz=228,slow=39						
OTAV	Otavalo	37.35	352	*e*P	P	23 52 04.7	+0.8
	4.6nm,1.1s						
PTGA	Pitinga	38.17	22	LR	LR	00 10 03.4	
	comp=Z,76nm,19.4s,baz=174,slow=40						
SNAA	Sanae	49.25	157	P	P	23 53 38.4	-0.5
	1.4nm,1.1s,baz=261,slow=13,SNR=3.9						
QSPA	South Pole Qui	53.24	180	P	P	23 54 09.6	+0.6
	5.8nm,0.8s,baz=147,slow=2.5,SNR=22						
APG	El Apazote	54.17	340	P	P	23 54 11.9	-4.5
	2.9nm,0.7s,baz=194,slow=6.8,SNR=4.1						
MAW	Mawson	70.62	164	LR	LR	00 24 57.1	
	comp=Z,115nm,21.8s,baz=238,slow=34						
TXAR	Lajitas Array	71.84	332	P	P	23 56 14.7	+1.2
	0.9nm,0.7s,baz=149,slow=9.5,SNR=2.0						
DBIC	Dimbokro	77.19	71	P	P	23 56 45.4	+0.5
	3.1nm,0.8s,baz=199,slow=12,SNR=3.0						
DBIC	Dimbokro	77.19	71	*e*P	P	23 56 45.3	+0.3
	2.3nm,0.5s						
TSUM	Tsumeb	79.46	106	*e*P	P	23 56 56.4	-1.3
	4.4nm,1.1s						
BOSA	Boshof	79.66	118	P	P	23 56 58.2	-0.4
	2.1nm,0.8s,baz=169,slow=1.8,SNR=3.1						
NVAR	Mina Array Bea	85.73	326	P	P	23 57 31.2	+1.3
	0.9nm,0.7s,baz=155,slow=4.9,SNR=6.4						
PDAR	Pinedale Array	85.95	334	P	P	23 57 31.2	+0.4
	0.7nm,0.9s,baz=160,slow=4.7,SNR=4.1						
TORD	Torodi Ar. Bea	86.27	71	P	P	23 57 32.6	-0.2
	0.6nm,0.7s,baz=207,slow=5.8,SNR=3.9						
ULM	Lac du Bonnet	89.11	346	P	P	23 57 44.7	-0.9
	1.6nm,0.6s,baz=206,slow=3.9,SNR=3.4						
WRA	Warramunga Arr	117.60	210	PKP	PKPdf	00 03 36.4	-0.9
	0.6nm,0.6s,baz=177,slow=1.6,SNR=11						
BRTR	Keskin Array B	124.22	63	PKP	PKPdf	00 03 49.3	-0.2
	0.6nm,0.7s,baz=205,slow=2.6,SNR=3.6						
PSI	Prapat	145.24	166	PKPbc	PKPbc	00 04 28.1	-0.7
	2.7nm,0.3s,baz=216,slow=9.8,SNR=4.9						
HYB	Hyderabad	148.52	121	*i* PKP	PKPbc	00 04 37.0	-1.0
ZALV	Zalesovo Beam	157.34	35	PKP	PKPdf	00 04 44.9	-1.2
	0.5nm,0.4s,baz=292,slow=4.0,SNR=5.1						
MKAR	Makanchi Array	159.50	54	PKP	PKPdf	00 04 49.1	+0.1
	0.6nm,0.8s,baz=53,slow=0.6,SNR=6.7						
MKAR				PKPab	PKPab	00 05 26.7	-0.4
	0.9nm,0.8s,baz=296,slow=3.9,SNR=8.3						
SONM	Songino Array	169.17	1	PKPab	PKPab	00 06 10.0	+0.5
	0.9nm,0.8s,baz=347,slow=3.7,SNR=7.3						

IDC 15 23:59:58.6±16.0,26.″12S×66.″58E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.4/40,mbtmp3.7/4,MS3.4/2,Ms1 3.5/2, ms1mx2.9/35,Error ellipse: s-maj=549.9km s-min=36.7km az=51.0,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	54.34	39	LR	LR	00 27 13.5	
	comp=Z,12nm,20.9s,baz=240,slow=30						
ASAR	Alice Springs	60.49	104	P	P	00 10 11.3	+0.5
	0.4nm,0.5s,baz=245,slow=6.0,SNR=3.2						
WRA	Warramunga Arr	62.06	100	P	P	00 10 20.7	-0.7
	0.7nm,0.8s,baz=253,slow=6.7,SNR=4.9						
MKAR	Makanchi Array	73.95	11	P	P	00 11 35.9	+0.3
	0.6nm,0.8s,baz=191,slow=6.6,SNR=5.4						
ZALV	Zalesovo Beam	81.28	11	P	P	00 12 16.0	-0.3
	0.7nm,0.7s,baz=197,slow=4.6,SNR=4.0						
KEST	Kesra	81.87	316	LR	LR	00 49 15.9	
	comp=Z,62nm,18.2s,baz=255,slow=36						

*IDC **16** 00:09:33.8±1.2, 19.″69N×75.″97W,h0km,mb3.8/8, mb1 4.1/8,mb1mx3.8/23,mbtmp3.8/8,MS3.4/10, Ms1 3.5/10,ms1mx3.1/39, Error ellipse: s-maj=38.0km s-min=26.0km az=25.0*
*ISCJB **16** 00:09:34.2±0.6, 19.″73N±0.″03×75.″76W±0.″02,h10km±4km, mb4.2/17,MS3.6/6, Error ellipse: s-maj=4.3km s-min=3.8km az=11.8*
*NEIC **16** 00:09:35.4±0.3, 19.″65N×75.″83W,h10km,mb4.6/9, Error ellipse: s-maj=10.1km s-min=4.7km az=192.0*
NEIC Felt at Guantanamo and Santiago de Cuba.
*SSNC **16** 00:09:36.9±3.7, 19.″83N×75.″88W,h8km±8km,MD3.7, ML4.3*
*JSN **16** 00:09:37.8±0.6, 19.″65N×75.″98W,h0km±48km,MD4.7*
ISC 16 00:09:34.6±1.0,19.″76N±0.″04×75.″86W±0.″03,h8km±6km, n158,σ1$77/171,mb4.2/17,MS3.5/6,34C-51D,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	Rio Carpintero	0.27	33	*e*PG	Pg	00 09 40.3	+0.3
RCC				*e*SG	Sg	00 09 43.5	-0.2
GTBY	Guantanamo Bay	0.72	77	*e*P	Pb	00 09 49.9	+0.5
GTBY				*e*SG	Sb	00 10 00.1	+0.7
GTBY				*e*S	Sn	00 10 00.5	-1.8
GTBY	Guantanamo Bay	0.72	77	*e*Pg	Pb	00 09 49.9	+0.5
GTBY				*e*Sg	Sb	00 10 00.1	+0.7
LMGC	Las Mercedes	1.12	286	*e*PG	Pg	00 09 55.5	-0.6
	baz=96						
LMGC				*e*SG	Sg	00 10 09.1	-1.6
	comp=N,5μm,0.2s						
HLGC	Holguin	1.14	350	*e*P	Pg	00 09 53.9	-2.5
HLGC				*e*S	Sg	00 10 09.7	-1.5
MOAC	Moa	1.23	43	*e*PG	Pb	00 09 56.7	-1.3
MOAC				*e*SG	Sg	00 10 10.6	-3.5
	comp=N,5μm,0.3s						
	comp=E,8μm,0.3s						
MASC	Masc	1.58	75	*e*PG	Pn	00 10 02.3	-0.6
MASC				*e*SG	Sg	00 10 25.9	+0.4
CMJ	Castle Mountai	1.69	197	*i* P	Pb	00 10 05.5	-0.4
BNJ	Bonny Gate	1.77	216	*e*P	Pn	00 10 05.8	+0.2
GWJ	Greenwich	1.87	206	*e*P	Pn	00 10 07.5	+0.5
STH	Stony Hill	1.91	208	*e*P	Pn	00 10 07.8	+0.4
STH				*i* S	Sn	00 10 30.3	-1.3
BBJ	Bamboo Saint A	1.92	224	*e*P	Pn	00 10 07.7	+0.1
HOJ	Hope	1.94	206	*i* P	Pn	00 10 08.1	+0.2
MTDJ	Mount Denham	2.21	226	*e*P	Pn	00 10 10.8	-0.8
MTDJ				*e*S	Sn	00 10 36.4	-2.7
MTDJ	Mount Denham	2.21	226	*e*Pn	Pn	00 10 10.8	-0.8
MTDJ				*e*Sn	Sn	00 10 36.4	-2.7
CVJ	Coleyville	2.21	226	*e*P	Pn	00 10 12.1	+0.5
MBJ	Montego Bay	2.33	235	*i* S	Sn	00 10 40.9	-1.2
MCJ	Malvern	2.52	224	*e*P	Pn	00 10 16.8	+0.9
LGNH	LØonge	3.31	112	*e*Pn	Pn	00 10 24.4	-2.3
LGNH				*e*Sn	Sn	00 11 00.8	-5.6
JAKH	Jacmel	3.50	115	*e*P	Pn	00 10 28.8	-0.6
JAKH	Jacmel	3.50	115	*e*Pb	Pn	00 10 28.8	-0.6
JAKH				*e*Sb	Sn	00 11 09.9	-1.1
PAPH	Port-au-Prince	3.58	110	*e*Pb	Pn	00 10 29.8	-0.7
PAPH				*e*Sg	Sb	00 11 23.8	+2.0
SDDR	Presa de Saban	4.38	99	*e*P	Pn	00 10 43.2	+1.7
SDDR				*e*S	Sn	00 11 35.0	+2.2
SDDR	Presa de Saban	4.38	99	*e*Pn	Pn	00 10 42.7	+1.2
SDDR				*e*Sn	Sn	00 11 31.2	-1.6
MGV	Manicaragua	4.51	302	*e*P	Pn	00 10 43.1	0.0
MGV				*e*S	Sn	00 11 34.2	-1.6
GRTK	Grand Turk	4.75	68	*e*P	Pn	00 10 47.1	+0.6
GRTK	Grand Turk	4.75	68	*e*Pn	Pn	00 10 47.1	+0.6
GRTK				*e*Sn	Sn	00 11 40.2	-1.6
SMN1	Samana, DR	6.24	94	*e*Pn	Pn	00 11 08.6	+1.6
PCDR	Punta Cana, DR	7.17	99	*e*Pn	Pn	00 11 20.0	+0.2
SOR	Soroa	7.32	296	*e*P	Pn	00 11 21.2	-0.6
SOR				*e*S	Sn	00 12 45.9	+0.8
CRPR	Cabo Rojo, PR	8.46	100	*e*Pn	Pn	00 11 39.1	+1.6
AOPR	Arecibo Observ	8.72	98	*e*Pn	Pn	00 11 39.5	-1.6
CELP	Cerrillos	8.94	99	*e*Pn	Pn	00 11 43.3	-0.7
CBYP	Canovanas	9.57	97	*e*Pn	Pn	00 11 52.2	-0.6
CBYP				*e*Sn	Sn	00 13 36.1	-4.6
TEIG	Tepich	11.69	274	*e*Pn	Pn	00 12 21.5	-0.2
SDV	Santo Domingo	11.94	154	*e*Pn	Pn	00 12 25.0	-0.4
JTS	JuntasAbangare	12.87	224	LR	LR	00 17 30.8	
	comp=E,59nm,20.8s,baz=33,slow=37						
CSU	Charleston Sou	13.70	345	*e*Pn	P	00 12 54.0	-4.0
APG	El Apazote	14.72	254	Pn	P	00 13 07.4	-2.3
	comp=E,0.1nm,0.3s,baz=75,slow=12,SNR=2.1						
ROSC	El Rosal	14.89	174	LR	LR	00 19 24.8	
	comp=E,89nm,21.9s,baz=14,slow=40						
TKL	Tuckaleechee C	17.30	338	LR	LR	00 20 11.0	
	comp=E,157nm,19.1s,baz=186,slow=37						
CMIG	Matias Romero	18.25	265	P	P	00 13 50.6	+2.0
	comp=E,0.2nm,0.3s,baz=63,slow=14,SNR=4.1						
CMIG				LR	LR	00 19 55.4	
	comp=E,70nm,21.8s,baz=12,slow=34						
537A	Green Hill Far	21.18	303	⇑P	P	00 14 23.3	+2.9
	baz=21						
MIAR	Mount Ida	21.52	317	*e*P	P	00 14 25.6	+1.5
	comp=E,14nm,1.0s						
835A	Beeville	21.77	297	⇑P	P	00 14 29.9	+3.1
	baz=22						
137A	Heron Place, G	21.91	310	⇓P	P	00 14 31.5	+3.1
	baz=22						
034A	Hebbronville	22.15	293	⇓P	P	00 14 33.4	+2.4
	baz=22						
834A	Tilden	22.32	296	⇑P	P	00 14 34.5	+1.7
	baz=22						
435B	Jarrell	22.46	303	⇑P	P	00 14 36.5	+2.3
	baz=23						
335A	Moody	22.55	305	⇓P	P	00 14 37.2	+2.0
	baz=23						
933A	Laredo	22.80	294	⇑P	P	00 14 39.6	+1.7
	baz=23						
534A	Blanco	22.88	301	⇑P	P	00 14 40.3	+1.5
	baz=23						
WHTX	Lake Whitney,	22.88	306	⇓P	P	00 14 40.5	+1.8
	baz=23						
434A	Burnet	23.02	303	⇓P	P	00 14 42.0	+1.9
	baz=23						
833A	Chaparral WMA,	23.09	296	⇓P	P	00 14 42.4	+1.5
	baz=23,SNR=7.2						
733A	Divot King Ran	23.12	297	⇓P	P	00 14 42.9	+1.7
	baz=23						
334A	Lometa	23.20	304	⇓P	P	00 14 44.1	+2.1
	baz=23						
633A	Saathoff Ranch	23.26	299	⇑P	P	00 14 44.2	+1.6
	baz=23						
533A	Kerrville	23.35	301	⇑P	P	00 14 45.3	+1.7
	baz=23						
234A	Clairette	23.41	306	⇓P	P	00 14 45.8	+1.8
	baz=24						
832A	Faith Ranch, C	23.57	296	⇓P	P	00 14 47.5	+1.7
	baz=24,SNR=8.7						
134A	White-Moore Ra	23.62	307	⇑P	P	00 14 48.2	+2.0
	baz=24						
433A	Art	23.64	302	⇑P	P	00 14 47.9	+1.4
	baz=24						
732A	Laxson Ranch,	23.69	297	⇑P	P	00 14 48.4	+1.5
	baz=24						
632A	Uvalde	23.78	299	⇓P	P	00 14 49.0	+1.2
	baz=24						
333A	Richland Sprin	23.78	304	⇓P	P	00 14 49.0	+1.2
	baz=24						
Y34A	Reagan Ranch,	24.05	310	⇓P	P	00 14 52.3	+2.0
	baz=24						
532A	Rocksprings	24.08	300	⇑P	P	00 14 52.0	+1.4
	baz=24,SNR=10.0						
JCT	Junction City	24.11	301	⇓P	P	00 14 52.3	+1.3
	baz=24,SNR=6.3						
JCT	Junction City	24.11	301	*e*P	P	00 14 53.5	+2.6
	comp=E,14nm,0.8s						
432A	Menard	24.25	302	⇓P	P	00 14 53.9	+1.6
	baz=24,SNR=6.4						
332A	Millersview	24.40	303	⇑P	P	00 14 54.9	+1.3
	baz=24,SNR=10						
631A	Perdido Creek	24.40	298	⇑P	P	00 14 55.1	+1.5
	baz=24						
Z33A	Whitaker Ranch	24.46	308	⇓P	P	00 14 56.2	+2.1
	baz=25						
232A	Coleman	24.52	304	⇓P	P	00 14 56.2	+1.5
	baz=25						
531A	Rocksprings	24.61	300	⇑P	P	00 14 56.9	+1.3
	baz=25						
431A	Sonora	24.84	301	⇓P	P	00 14 59.0	+1.4
	baz=25,SNR=8.2						
V34A	Guthrie	24.88	315	⇑P	P	00 14 59.9	+2.0
	baz=25						
331A	San Angelo	24.91	302	⇑P	P	00 15 00.2	+2.0
	baz=25,SNR=9.2						
Z32A	Haskell	25.00	307	⇓P	P	00 15 00.5	+1.5
	baz=25						
231A	Bronte	25.06	304	⇓P	P	00 15 01.3	+1.7
	baz=25						
W33A	Caddo, Fort Co	25.16	312	⇑P	P	00 15 03.5	+3.1
	baz=25						
U34A	Anderson Ranch	25.24	316	⇓P	P	00 15 03.3	+2.2
	baz=25						
530A	J-C Ranch, Com	25.26	299	⇑P	P	00 15 03.9	+2.5
	baz=25						
Y32A	R-V Farms, Ver	25.29	309	⇑P	P	00 15 03.4	+1.8
	baz=25						
430A	Baggett Ranch,	25.38	301	⇑P	P	00 15 03.9	+1.3
	baz=26						
Z31A	Sharp Cattle R	25.50	307	⇓P	P	00 15 05.6	+2.1
	baz=26						
330A	Mertzon	25.55	302	⇓P	P	00 15 05.5	+1.5
	baz=26						
W32A	Sentinel	25.70	311	⇓P	P	00 15 07.0	+1.7
	baz=26						
429A	Davenport Ranc	25.86	300	⇓P	P	00 15 08.1	+1.2
	baz=26						
Y31A	Rekieta Farm,	25.88	308	⇓P	P	00 15 08.2	+1.2
	baz=26						
529A	Stev Forest Ra	25.98	299	⇓P	P	00 15 09.1	+1.2
	baz=26						
329A	Wagon Wheel Ra	26.22	302	⇑P	P	00 15 11.3	+1.1
	baz=26						
X30A	Coker Ranch, T	26.55	309	⇓P	P	00 15 14.6	+1.6
	baz=27						
Z29A	Hungry Hill Ra	26.66	306	⇑P	P	00 15 15.5	+1.4
	baz=27						
ATAH	Atahualpa	26.85	186	LR	LR	00 28 25.4	
	comp=E,65nm,19.9s,baz=9.1,slow=42						
Q33A	Connelly Farm,	26.97	320	⇓P	P	00 15 18.8	+2.0
	baz=27						
TXAR	Lajitas Array	26.97	296	P	P	00 15 15.7	-1.3
	comp=E,1.9nm,1.0s,baz=145,slow=13,SNR=6.1						
128A	Castleberry Fa	27.02	304	⇓P	P	00 15 18.5	+1.1
	baz=27						
Y28A	McKinney Farm,	27.34	306	⇓P	P	00 15 21.3	+1.1
	baz=27						
MNTX	Cornudas Mount	29.04	300	*e*P	P	00 15 37.8	+2.5
	comp=E,4.2nm,1.0s						
V26A	Tequesquite Ra	29.28	309	⇑P	P	00 15 39.3	+1.7
	baz=29						
U26A	Atchley Ranch,	29.52	310	⇓P	P	00 15 41.2	+1.5
	baz=30						
T26A	Comanche Natio	29.77	312	⇓P	P	00 15 44.2	+2.3
	baz=30						
V25A	Rancho No Teng	29.91	308	⇓P	P	00 15 44.7	+1.5
	baz=30						
W24A	Lazy 6 Ranch,	30.25	307	⇑P	P	00 15 47.8	+1.5
	baz=30						
T25A	Trinidad	30.33	311	⇑P	P	00 15 48.8	+1.9
	baz=30						
S25A	Robets Cordova	30.58	312	⇑P	P	00 15 51.1	+1.9
	baz=31						
R25A	Fountain Ranch	30.71	313	⇓P	P	00 15 52.5	+2.3
	baz=31						
S24A	Houchin Ranch,	31.12	311	⇓P	P	00 15 56.2	+2.1
	baz=31						
R23A	Moffat	31.80	312	⇓P	P	00 16 02.4	+2.4
	baz=32						
319A	Douglas	32.17	298	⇓P	P	00 16 05.7	+2.5
	baz=32						
P23A	Jefferson	32.36	314	⇑P	P	00 16 06.8	+1.8
	baz=32						
ISCO	Idaho Springs	32.41	314	⇑P	P	00 16 07.2	+1.8
	baz=32						
ULM	Lac du Bonnet	34.33	337	P	P	00 16 21.7	+0.1
	comp=E,1.8nm,0.5s,baz=151,slow=8.2,SNR=4.6						
ULM				LR	LR	00 30 59.8	
	comp=E,120nm,18.9s,baz=56,slow=37						
X16A	Lo Mia Camp, P	34.68	302	⇓P	P	00 16 27.4	+2.3
	baz=35						
WUAZ	Wupatki	34.94	304	⇑P	P	00 16 29.3	+2.1
	baz=35						
WUAZ	Wupatki	34.94	304	*e*P	P	00 16 29.9	+2.6
	comp=E,9.0nm,1.1s						
214A	Organ Pipe Nat	35.23	298	⇓P	P	00 16 31.6	+1.9
	baz=35						
U15A	North Rim	35.92	305	⇓P	P	00 16 38.0	+2.1
	baz=36						
PDAR	Pinedale Array	36.45	317	P	P	00 16 40.6	+0.4
	comp=E,0.4nm,0.7s,baz=104,slow=7.5,SNR=3.4						
LPAZ	La Paz	36.62	168	LR	LR	00 33 53.3	
	comp=E,42nm,18.6s,baz=64,slow=40						
E20A	Meyer Farm, Mu	37.52	323	⇑P	P	00 16 50.2	+1.1
	baz=38						
REDW	Red Top Meadow	37.56	317	*e*P	P	00 16 51.1	+1.4
	comp=E,24nm,1.9s						
DUG	Dugway, Tooele	37.58	311	⇓P	P	00 16 51.4	+1.6
	baz=38						
DUG	Dugway, Tooele	37.58	311	*e*P	P	00 16 51.5	+1.8
IRM	Iron Mountain	37.60	301	⇓P	P	00 16 51.6	+1.7
	baz=38						
E19A	Rath Farm, Rou	37.88	322	⇓P	P	00 16 53.6	+1.4
	baz=38						
BGU	Big Grassy Mou	38.00	312	*e*P	P	00 16 54.7	+1.3
	comp=E,7.3nm,1.7s						
YMR	Madison River	38.26	318	*e*P	P	00 16 49.3	-6.2
	comp=E,103nm,2.9s						
BELC	Belle Mtn. Jos	38.26	300	⇓P	P	00 16 57.6	+2.0
	baz=38						
D19A	Cripps Ranch,	38.32	323	⇓P	P	00 16 57.1	+1.2
	baz=38						
PFO	Pinyon Flats O	38.56	299	⇓P	P	00 16 59.4	+1.3
	baz=39						
R11A

IDC 16 00:16:02.6±1.9, 6°75'S×128°37'E, h0km, mb3.3/1, mb1 4.0/4, mb1mx3.6/21, mbtmp3.8/4, ML4.0/3, Error ellipse: s-maj=56.6km s-min=29.8km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.78**	**233**	Pn	Pn	00 17 30.0	+0.2
	6.7nm,0.3s,baz=155,slow=3.8,SNR=6.9						
BATI				Sn	Sn	00 18 21.4	-16
	9.7nm,0.3s,baz=144,slow=14,SNR=11						
WRA	**Warramunga Arr**	**14.34**	**157**	Pn	Pn	00 19 26.1	-1.0
	0.7nm,0.3s,baz=327,slow=13,SNR=28						
WRA				Sn	Sn	00 21 52.2	-15
	0.5nm,0.3s,baz=320,slow=24,SNR=6.9						
ASAR	**Alice Springs**	**17.64**	**163**	P	Pn	00 20 10.1	0.0
	0.4nm,0.3s,baz=336,slow=10,SNR=14						
MKAR	**Makanchi Array**	**67.14**	**328**	P	P	00 26 58.4	+0.1
	0.2nm,0.5s,baz=115,slow=6.8,SNR=3.3						

*IDC **16** 00:17:41.5±0.8, 3°31'N×126°51'E, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.9/26, mbtmp4.1/8, Error ellipse: s-maj=78.5km s-min=15.9km az=69.0*

ISC 16 00:17:48.6±0.9, 3°3'N±0°2'×126°5'E±0°5, h53km, n12, σ0°49'/9, mb4.2/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.32**	**162**	P	**P**	**00 23 01.0**	**-0.5**
	4.7nm,0.7s,baz=341,slow=10,SNR=16						
ASAR	**Alice Springs**	**27.73**	**165**	P	**P**	**00 23 32.1**	**-0.2**
	1.0nm,0.3s,baz=338,slow=7.5,SNR=5.7						
STKA	**Stephens Creek**	**37.79**	**159**	P	**P**	**00 25 00.1**	**+0.3**
	9.1nm,0.8s,baz=328,slow=7.5,SNR=26						
H11S3	**WAKE ISLAND Hy**	**42.13**	**66**	T	T	01 10 01.4	
	baz=253,slow=74,SNR=36						
H11S2	**WAKE ISLAND Hy**	**42.14**	**66**	T	T	01 10 02.0	
	baz=253,slow=74,SNR=26						
H11S1	**WAKE ISLAND Hy**	**42.15**	**66**	T	T	01 10 04.2	
	baz=253,slow=74,SNR=16						
SONM	**Songino Array**	**47.66**	**342**	P	**P**	**00 26 19.1**	**-0.7**
	0.7nm,0.7s,baz=153,slow=9.8,SNR=7.0						
TLY	**Talaya**	**51.89**	**342**	P	**P**	**00 26 52.3**	**+0.5**
	2.5nm,0.7s,baz=162,slow=20,SNR=3.4						
MKAR	**Makanchi Array**	**57.80**	**326**	P	**P**	**00 27 34.7**	**+0.2**
	0.9nm,0.5s,baz=115,slow=7.0,SNR=22						
KURBB	**Kurchatov Arra**	**62.00**	**328**	P	**P**	**00 28 02.9**	**-0.3**
	1.8nm,1.0s,baz=125,slow=6.4,SNR=9.8						
ILAR	**Eielson Array**	**85.61**	**25**	P	**P**	**00 30 21.2**	**+0.1**
	0.4nm,0.9s,baz=236,slow=6.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**122.84**	**288**	PKP	**PKPdf**	**00 36 40.3**	**+0.5**
	0.6nm,0.8s,baz=59,slow=0.8,SNR=2.9						

*ISCJB **16** 00:20:15.1±1.2, 22°98S±0°09×66°3W±0°2, h222km, mb3.4/1, Error ellipse: s-maj=22.5km s-min=12.0km az=167.7*

*IDC **16** 00:20:18.4±2.4, 22°88S×66°28W, h252km±29km, mb3.3/1, mb1 3.3/5, mb1mx3.1/19, mbtmp3.9/5, Error ellipse: s-maj=41.8km s-min=22.9km az=120.0*

ISC 16 00:20:16.0±1.3, 22°9S±0°1×66°4W±0°2, h222km, n6, σ1°11/6, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.75**	**346**	P	Pn	00 21 57.4	+3.6
	1.2nm,0.3s,baz=165,slow=12,SNR=51						
LPAZ				S	**S**	**00 23 11.5**	**-0.1**
	baz=270,slow=20,SNR=2.1						
SIV	**San Ignacio**	**8.50**	**37**	P	**Pn**	**00 22 16.5**	**+0.8**
	0.6nm,0.3s,baz=242,slow=12,SNR=6.6						
PLCA	**Paso Flores**	**18.15**	**190**	P	**P**	**00 24 12.5**	**+0.5**
	0.2nm,0.3s,baz=4.3,slow=11,SNR=4.6						
BDFB	**Brasilia**	**18.79**	**71**	P	**P**	**00 24 19.5**	**+0.4**
	0.2nm,0.3s,baz=240,slow=12,SNR=4.8						
TORD	**Torodi Ar. Bea**	**75.66**	**69**	P	**P**	**00 31 35.7**	**-1.6**
	0.4nm,0.4s,baz=261,slow=6.0,SNR=19						
WRA	**Warramunga Arr**	**132.87**	**207**	PKP	**PKPdf**	**00 39 05.8**	**+0.3**
	0.1nm,0.5s,baz=150,slow=1.6,SNR=4.3						

GUC 16 00:42:39.0±0.7, 34°75S×72°16W, h26km±4km, ML3.6, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.77**	**146**	⇑*i*P	Pb	00 42 53.0	-0.8
TALC				*i*S	Sb	00 43 03.6	-0.4
TALC				AML	AML	00 43 04.5	
	comp=N,19μm,0.1s						
NICH	**Los Niches**	**0.80**	**108**	⇓*i*P	Pb	00 42 53.9	-0.5
NICH				*i*S	Sb	00 43 05.0	+0.2
NICH				AML	AML	00 43 05.5	
	comp=N,8μm,0.2s						
LNCH	**Linares**	**1.18**	**158**	⇑*i*P	Pn	00 42 59.6	-0.2
LNCH				*i*S	Sn	00 43 15.4	+0.2
LNCH				AML	AML	00 43 16.7	
	comp=E,2μm,0.3s						
RCDM	**Rinconada Maip**	**1.69**	**42**	*e*P1	Pn	00 43 07.1	+0.2
RCDM				*e*S	Sb	00 43 29.1	-1.2
CLCH	**Cerro Calan**	**1.91**	**45**	⇑*i*P	Pn	00 43 11.4	+1.4
CLCH				*i*S	Sb	00 43 36.0	-0.7
CLCH				AML	AML	00 43 41.1	
	comp=N,536nm,0.7s						
PEL	**Peldehue**	**2.02**	**38**	⇑*i*P	Pn	00 43 12.5	+1.1
PEL				*i*S	Sb	00 43 38.4	-1.5
PEL				AML	AML	00 43 47.0	
	comp=N,657nm,0.5s						
FCH	**Farellones**	**2.10**	**48**	*e*P9	Pn	00 43 12.4	-0.6
FCH				*i*S	Sn	00 43 38.9	+0.3
FCH				AML	AML	00 43 51.2	
	comp=N,225nm,0.5s						

*IDC **16** 00:59:38.5±2.2, 2°32S×128°79E, h0km, mb3.7/2, mb1 4.2/3, mb1mx3.7/22, mbtmp3.9/3, ML4.2/1, Error ellipse: s-maj=126.5km s-min=28.1km az=68.0*

*DJA **16** 00:59:41.7±0.4, 3°S±4°×12°8E±°, h91km±10km, M3.6/6, MLv3.6/6*

ISC 16 00:59:41.6±0.9, 2°45S±0°05×127°74E±0°05, h32km, n11, σ1°32/14, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.01**	**219**	P	**Pb**	**01 00 00.5**	**-0.1**
MSAI	**Masohi**	**1.48**	**127**	P	**Pb**	**01 00 08.6**	**+0.1**
MSAI				S	**Sb**	**01 00 28.2**	**+1.2**
SANI	**Sanana**	**1.80**	**283**	P	**Pn**	**01 00 10.0**	**-0.4**
SANI				S	**Sn**	**01 00 32.3**	**+0.2**
LBMI	**Labuha**	**1.82**	**352**	P	**Pb**	**01 00 13.6**	**-0.6**
LBMI				S	**Sb**	**01 00 38.2**	**+1.6**
FAKI	**Fak Fak**	**4.52**	**96**	P	**Pn**	**01 00 47.4**	**-0.5**
LUWI	**Luwuk**	**5.16**	**286**	P	**Pn**	**01 00 56.0**	**-0.7**
APSI	**Ampana**	**6.28**	**284**	P	**Pn**	**01 01 15.1**	**+3.0**
APSI				S	Sn	01 02 17.6	-5.2
MRSI	**Marisa**	**6.49**	**297**	P	**Pn**	**01 01 13.9**	**-1.0**
MRSI				S	**Sn**	**01 02 28.0**	**+0.1**
WRA	**Warramunga Arr**	**18.54**	**160**	P	**P**	**01 03 54.0**	**-1.7**
	0.8nm,0.3s,baz=343,slow=12,SNR=56						
ASAR	**Alice Springs**	**21.92**	**165**	P	**P**	**01 04 31.8**	**-0.7**
	3.3nm,0.3s,baz=340,slow=11,SNR=39						
MKAR	**Makanchi Array**	**63.21**	**327**	P	P	01 10 12.2	+5.4
	0.2nm,0.6s,baz=134,slow=6.2,SNR=2.0						

*PGC **16** 01:38:31.3±0.6, 48°79N×129°27W, h10km, ML3.2/11, Mw3.9, 247km west of Tofino, Bc Vancouver Island Region*

*IDC **16** 01:38:33.5±1.8, 48°96N×128°83W, h0km, mb3.5/3, mb1 3.8/11, mb1mx3.6/42, mbtmp3.6/11, ML3.5/8, MS3.4/15, Ms1 3.4/15, ms1mx3.3/36, Error ellipse: s-maj=31.7km s-min=11.3km az=65.0*

*NEIC **16** 01:38:35.9±0.7, 49°14N×128°74W, h10km, mb4.0/10, MW3.9(OTT), Error ellipse: s-maj=10.6km s-min=4.3km az=74.0*

ISC 16 01:38:37.0±2.5, 49°04N±0°05×128°86W±0°07, h24km±18km, n252, σ1°24/241, mb3.7/4, MS3.4/8, 78C-104D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.33**	**32**	⇓Pn	**Pn**	**01 38 58.5**	**-1.5**
BPBC				⇑Sn	**Sb**	**01 39 18.0**	**+0.2**
BPBC	**Brooks Peninsu**	**1.33**	**32**	⇓Pn	**Pn**	**01 38 58.5**	**-1.5**
BPBC				Sn	**Sb**	**01 39 18.0**	**+0.2**
EDB	**Eliza Dome**	**1.41**	**53**	Pn	**Pn**	**01 38 59.9**	**-1.2**
EDB				⇓Sn	**Sb**	**01 39 20.6**	**+0.4**
EDB	**Eliza Dome**	**1.41**	**53**	Pn	**Pn**	**01 38 59.9**	**-1.2**
EDB				Sn	**Sb**	**01 39 20.6**	**+0.4**
FHRB	**Fair Harbour**	**1.52**	**47**	⇑Pn	**Pn**	**01 39 01.4**	**-1.3**
FHRB				⇑Sn	**Sb**	**01 39 23.8**	**+0.4**
ETB	**Estevan Point**	**1.56**	**76**	⇑Pn	**Pn**	**01 39 02.2**	**-1.0**
ETB	**Estevan Point**	**1.56**	**76**	Pn	**Pn**	**01 39 02.2**	**-1.0**
HOLB	**Holberg**	**1.67**	**16**	⇑Pn	**Pn**	**01 39 02.9**	**-1.9**
HOLB				⇑Sn	**Sn**	**01 39 26.0**	**+0.4**
HOLB	**Holberg**	**1.67**	**16**	⇓Pn	**Pn**	**01 39 02.9**	**-1.9**
HOLB				Sn	**Sn**	**01 39 26.0**	**+0.4**
MAYB	**Maynard**	**1.75**	**38**	Pn	**Pn**	**01 39 05.0**	**-1.0**
MAYB	**Maynard**	**1.75**	**38**	Pn	**Pn**	**01 39 05.0**	**-1.0**
WOSB	**Woss**	**1.87**	**52**	Pn	**Pn**	**01 39 07.2**	**-0.4**
WOSB				⇑Sn	**Sb**	**01 39 32.7**	**-0.6**
PHC	**Port Hardy**	**1.91**	**28**	⇑Pn	**Pn**	**01 39 06.8**	**-1.2**
PHC				⇓Sn	**Sn**	**01 39 32.6**	**+1.3**
PHC	**Port Hardy**	**1.91**	**28**	⇑Pn	**Pn**	**01 39 06.8**	**-1.2**
PHC				Sn	**Sn**	**01 39 32.6**	**+1.3**
TOFB	**Tofino**	**1.94**	**85**	⇓Pn	**Pn**	**01 39 06.4**	**-2.1**
TOFB				⇓Sn	**Sn**	**01 39 32.2**	**+0.1**
GDR	**Gold River**	**1.99**	**67**	⇓Pn	**Pn**	**01 39 08.0**	**-1.1**
GDR	**Gold River**	**1.99**	**67**	Pn	**Pn**	**01 39 08.0**	**-1.1**
TLCB	**Telegraph Cove**	**2.00**	**40**	⇑Pn	**Pn**	**01 39 08.8**	**-0.5**
TLCB				⇑Sn	**Sb**	**01 39 35.9**	**-1.2**
OZB	**Mount Ozzard**	**2.22**	**91**	Pn	**Pn**	**01 39 10.1**	**-2.2**
OZB				⇓Sn	**Sn**	**01 39 38.7**	**-0.3**
BTB	**Buttle Lake**	**2.23**	**78**	Pn	**Pn**	**01 39 11.5**	**-1.1**
BTB				⇓Sn	**Sn**	**01 39 40.8**	**+1.4**
BMSB	**Bamfield Mari**	**2.46**	**93**	⇓Pn	**Pn**	**01 39 13.6**	**-2.0**
BMSB				⇑Sn	**Sn**	**01 39 44.4**	**-0.5**
ALB	**Alberni**	**2.66**	**83**	Pn	**Pn**	**01 39 17.0**	**-1.3**
ALB				⇑Sn	**Sn**	**01 39 50.8**	**+1.1**
MGB	**Mount Grey**	**2.74**	**89**	⇓Pn	**Pn**	**01 39 17.5**	**-2.1**
MGB				⇓Sn	**Sn**	**01 39 51.6**	**-0.5**
PFB	**Port Renfrew**	**2.96**	**97**	⇓Pn	**Pn**	**01 39 20.2**	**-2.2**
PFB				⇑Sn	**Sn**	**01 39 56.0**	**-1.2**
BBB	**Bella Bella**	**3.19**	**8**	Pn	**Pn**	**01 39 24.6**	**-1.0**
	30nm,0.3s,baz=187,slow=7.1,SNR=233						
BBB				Sn	**Sn**	**01 40 01.5**	**-1.3**
	2.0nm,0.3s,baz=90,slow=20,SNR=2.0						
BBB				LR	LR	01 40 42.0	
	comp=Z,481nm,20.5s,baz=237,slow=39						
PGC	**Sidney**	**3.59**	**94**	*e*Pn	**Pn**	**01 39 29.6**	**-1.5**
PGC				*e*S	**Sn**	**01 40 14.1**	**+1.4**
NLWA	**Neilton Lookou**	**3.72**	**114**	*e*Pn	**Pn**	**01 39 31.2**	**-1.8**
NLWA				*e*S	**Sn**	**01 40 12.0**	**-4.0**
VDB	**Vedder Mountai**	**4.45**	**88**	P	**Pn**	**01 39 42.2**	**-0.7**
LON	**Longmire**	**5.26**	**113**	*e*Pn	**Pn**	**01 39 54.0**	**-0.1**
ASR	**Mount Adams--S**	**5.70**	**118**	P	**Pn**	**01 40 00.3**	**+0.2**
COR	**Corvallis**	**5.86**	**137**	*e*Pn	**Pn**	**01 40 02.1**	**-0.2**
ETW	**Entiat**	**5.87**	**101**	P	**Pn**	**01 40 02.8**	**+0.3**
WTV	**Waterville**	**6.08**	**99**	P	**Pn**	**01 40 05.3**	**-0.1**
G05D	**Wamic, OR**	**6.39**	**124**	⇓P	**Pn**	**01 40 10.8**	**+1.2**
	baz=6.5						
I03D	**Drain, OR**	**6.56**	**142**	⇓P	**Pn**	**01 40 12.3**	**+0.4**
	baz=6.5						
HAWA	**Hanford**	**6.83**	**109**	*e*Pn	**Pn**	**01 40 14.4**	**-1.2**
I04A	**Tendick Farm,**	**6.88**	**137**	⇑P	**Pn**	**01 40 16.8**	**+0.5**
	baz=6.9						
I05D	**Terrebonne, OR**	**6.98**	**129**	⇓P	**Pn**	**01 40 19.0**	**+1.2**
	baz=7.0						
J04D	**Umpqua Nationa**	**7.45**	**139**	⇑P	**Pn**	**01 40 25.0**	**+0.6**
	baz=7.4						
HUMO	**Hull Mountain**	**7.63**	**145**	*e*Pn	**Pn**	**01 40 27.8**	**+1.1**
J05D	**Fort Rock, OR**	**7.81**	**135**	⇓P	**Pn**	**01 40 29.9**	**+0.6**
	baz=7.8						
NEW	**Newport**	**7.81**	**91**	Pn	**Pn**	**01 40 28.1**	**-1.0**
	0.2nm,0.3s,baz=281,slow=16,SNR=3.8						
NEW				LR	LR	01 43 47.6	
	comp=Z,294nm,18.3s,baz=282,slow=40						
NEW	**Newport**	**7.81**	**91**	*e*Pn	**Pn**	**01 40 29.3**	**+0.2**
YBH	**Yreka Blue Hor**	**8.49**	**147**	Pn	**Pn**	**01 40 39.3**	**+0.9**
	0.1nm,0.3s,baz=343,slow=13,SNR=11						
YBH				LR	LR	01 43 18.1	
	comp=Z,142nm,18.7s,baz=332,slow=34						
YBH	**Yreka Blue Hor**	**8.49**	**147**	*e*Pn	**Pn**	**01 40 40.2**	**+1.8**
M02C	**Callahan**	**8.74**	**149**	⇑P	**Pn**	**01 40 41.4**	**-0.5**
	baz=8.7						
M04C	**Macdoel**	**8.77**	**143**	⇓P	**Pn**	**01 40 43.6**	**+1.2**
	baz=8.7,SNR=7.1						
BMO	**Blue Mountains**	**8.94**	**114**	*e*Pn	**Pn**	**01 40 44.7**	**0.0**
MOD	**Modoc Plateau**	**9.32**	**137**	*e*Pn	**Pn**	**01 40 50.5**	**+0.6**
DLBC	**Dease Lake**	**9.45**	**356**	Pn	**Pn**	**01 40 52.6**	**+1.1**
	0.1nm,0.3s,baz=166,slow=14,SNR=3.3						
DLBC				LR	LR	01 44 10.7	
	comp=Z,383nm,21.7s,baz=169,slow=35						
WDC	**Whiskeytown Da**	**9.57**	**150**	*e*Pn	**Pn**	**01 40 54.4**	**+1.3**
WVOR	**Wild Horse Val**	**9.72**	**129**	*e*Pn	**Pn**	**01 40 57.5**	**+2.1**
HLID	**Hailey**	**11.39**	**113**	⇓P	**Pn**	**01 41 20.0**	**+1.7**
	baz=12						
HLID	**Hailey**	**11.39**	**113**	*e*Pn	**Pn**	**01 41 19.1**	**+0.9**
MCMT	**McKenzie Canyo**	**11.72**	**105**	*e*Pn	**Pn**	**01 41 22.1**	**-0.8**
	1.6nm,1.0s						
BMN	**Battle Mountai**	**11.92**	**132**	*e*Pn	**Pn**	**01 41 27.5**	**+1.9**
	5.2nm,1.0s						
EGMT	**Eagleton**	**12.71**	**87**	⇓P	Pn	01 41 39.2	+3.0
	baz=13						
ELK	**Elko**	**12.71**	**126**	LR	LR	01 46 52.9	
	comp=Z,124nm,18.2s,baz=0.0,slow=40						
NVAR	**Mina Array Bea**	**13.05**	**140**	Pn	**Pn**	**01 41 42.5**	**+1.5**
	0.3nm,0.3s,baz=318,slow=12,SNR=8.9						
B19A	**Brinkman Farms**	**13.16**	**85**	⇓P	Pn	01 41 45.6	+3.4
	baz=13						
A19A	**Klindworth Far**	**13.21**	**83**	⇑P	**Pn**	**01 41 44.3**	**+1.2**
	baz=14						
C19A	**Slack Wire Ran**	**13.23**	**88**	⇑P	Pn	01 41 47.3	+4.1
	baz=14,SNR=5.4						
LKWY	**Lake**	**13.40**	**103**	*e*Pn	Pn	01 41 49.7	+3.8
	10nm,1.0s						
HVU	**Hansel Valley**	**13.41**	**117**	*e*Pn	**Pn**	**01 41 45.2**	**-0.6**
	20nm,1.7s						
D19A	**Cripps Ranch,**	**13.48**	**90**	⇑P	Pn	01 41 50.1	+3.4
	baz=14,SNR=5.6						
I17A	**Pilgrim Ck.**	**13.59**	**105**	⇓P	**Pn**	**01 41 50.8**	**+2.5**
	baz=14,SNR=8.6						
E19A	**Rath Farm, Rou**	**13.75**	**93**	⇓P	**Pn**	**01 41 53.1**	**+2.8**
	baz=14,SNR=7.0						
A20A	**Cobblestone Ra**	**13.76**	**83**	⇓P	**Pn**	**01 41 51.6**	**+1.2**
	baz=14						
H18A	**Shoshone NF, C**	**13.83**	**101**	⇓P	**Pn**	**01 41 53.1**	**+1.4**
	baz=14						
F19A	**Roth Farm, Mol**	**13.84**	**96**	⇑P	**Pn**	**01 41 53.1**	**+1.4**
	baz=14						
SPUT	**South Promonto**	**13.90**	**118**	Pn	**Pn**	**01 41 53.3**	**+0.8**
	19nm,1.0s						
C20A	**Veseth Ranch,**	**13.92**	**88**	⇓P	**Pn**	**01 41 55.4**	**+2.7**
	baz=14						
D20A	**Manuel Ranch,**	**13.99**	**90**	⇓P	**Pn**	**01 41 56.5**	**+2.9**
	baz=14,SNR=7.6						
E20A	**Meyer Farm, Mu**	**14.16**	**92**	⇓P	**Pn**	**01 41 59.0**	**+3.0**
	baz=14,SNR=6.8						
HWUT	**Hardware Ranch**	**14.23**	**115**	*e*Pn	**Pn**	**01 41 58.6**	**+1.5**
	19nm,1.7s						
H19A	**Powell**	**14.27**	**100**	⇓P	**Pn**	**01 42 00.3**	**+2.7**
	baz=14						
R11A	**Troy Canyon, C**	**14.34**	**133**	⇑P	**Pn**	**01 41 57.8**	**-0.8**
	baz=14						
F20A	**Billings**	**14.38**	**95**	⇑P	**P**	**01 42 08.2**	**+2.4**
	baz=15,SNR=8.1						
A21A	**Bergtoll Ranch**	**14.39**	**82**	⇑P	**Pn**	**01 42 00.5**	**+1.5**
	baz=15						
DUG	**Dugway, Tooele**	**14.42**	**122**	⇓P	**Pn**	**01 42 00.6**	**+0.9**
	baz=14						
DUG	**Dugway, Tooele**	**14.42**	**122**	*e*Pn	**Pn**	**01 41 59.7**	**0.0**
	8.9nm,1.1s						
I19A	**Meeteetse**	**14.54**	**103**	⇓P	**Pn**	**01 42 03.7**	**+2.4**
	baz=15,SNR=5.3						
G20A	**Bridger**	**14.55**	**97**	⇑P	**Pn**	**01 42 03.9**	**+2.5**
	baz=15						
TCUT	**Toone Canyon**	**14.63**	**116**	*e*Pn	**Pn**	**01 42 04.9**	**+2.4**
D21A	**La Casta Ranch**	**14.75**	**89**	⇓P	**Pn**	**01 42 05.7**	**+1.7**
	baz=15						
PDAR	**Pinedale Array**	**14.81**	**108**	Pn	**Pn**	**01 42 07.1**	**+2.1**
	0.0nm,0.3s,baz=304,slow=14,SNR=6.4						
PDAR				LR	LR	01 48 25.8	
	comp=Z,203nm,19.1s,baz=298,slow=40						
H20A	**Greybull**	**14.99**	**100**	⇓P	**Pn**	**01 42 09.4**	**+2.1**
	baz=15,SNR=8.1						
I20A	**Worland**	**15.14**	**102**	⇓P	**Pn**	**01 42 11.8**	**+2.5**
	baz=15						
DAU	**Daniels Canyon**	**15.17**	**118**	*e*Pn	**Pn**	**01 42 11.2**	**+1.4**
	19nm,1.2s						
TPNV	**Topopah Spring**	**15.17**	**138**	⇑P	**Pn**	**01 42 10.7**	**+0.9**
	baz=15						
D22A	**Cohagen**	**15.26**	**89**	⇓P	**Pn**	**01 42 13.0**	**+2.2**
	baz=16						
J20A	**Shoshoni**	**15.45**	**104**	⇓P	**P**	**01 42 15.7**	**-2.0**
	baz=16,SNR=12						
H21A	**Big Horn, Sher**	**15.55**	**98**	⇑P	**P**	**01 42 20.6**	**+1.8**
	baz=16,SNR=8.7						
E22A	**Miles City**	**15.62**	**91**	⇓P	**Pn**	**01 42 17.5**	**+2.0**
	baz=16						
YKA	**Yellowknife Ar**	**15.63**	**25**	Pn	**Pn**	**01 42 13.8**	**-1.7**
	0.1nm,0.3s,baz=216,slow=12,SNR=31						
I21A	**Big Trails, Te**	**15.74**	**101**	⇓P	**Pn**	**01 42 18.8**	**+1.6**
	baz=16,SNR=5.4						
C23A	**Lambert**	**15.76**	**86**	⇑P	**Pn**	**01 42 18.9**	**+1.7**
	baz=16						
J21A	**Lysite**	**15.86**	**103**	⇑P	**P**	**01 42 21.7**	**-0.6**
	baz=16,SNR=6.5						
MVU	**Marysvale**	**15.95**	**125**	*e*Pn	**Pn**	**01 42 18.5**	**-1.4**
	11nm,1.4s						
H22A	**Clearmont**	**16.02**	**98**	⇑P	**P**	**01 42 23.3**	**-0.7**
	baz=16,SNR=5.9						
F23A	**Volborg**	**16.21**	**93**	⇓P	**P**	**01 42 25.8**	**-0.3**
	baz=16,SNR=5.7						
I22A	**9 Mile Ranch,**	**16.23**	**100**	⇓P	**P**	**01 42 26.1**	**-0.2**
	baz=16,SNR=7.2						
K21A	**Alcova**	**16.34**	**105**	⇓P	**P**	**01 42 27.0**	**-0.6**
	baz=16,SNR=7.2						
G23A	**Biddle**	**16.41**	**95**	⇑P	**P**	**01 42 27.6**	**-0.6**
	baz=17						
J22A	**Midwest**	**16.45**	**102**	⇑P	**P**	**01 42 28.3**	**-0.6**
	baz=17,SNR=13						
SRU	**San Rafael Swe**	**16.45**	**120**	*e*Pn	**Pn**	**01 42 27.1**	**+0.8**
	10nm,1.0s						
N20A	**Spence Gulch,**	**16.69**	**112**	⇑P	**P**	**01 42 31.0**	**-0.6**
	baz=17,SNR=17						
K22A	**Casper**	**16.79**	**104**	⇓P	**P**	**01 42 32.1**	**-0.5**
	baz=17						
F24A	**Ekalaka**	**16.80**	**92**	⇑P	**P**	**01 42 32.6**	**0.0**
	baz=17						
G24A	**Alzada**	**17.00**	**93**	⇑P	**Pn**	**01 42 34.0**	**+0.9**
	baz=17						
O20A	**White River Ci**	**17.13**	**114**	⇓P	**P**	**01 42 36.1**	**-0.3**
	baz=17,SNR=9.7						
O20A	**White River Ci**	**17.13**	**114**	*e*Pn	**Pn**	**01 42 34.0**	**-0.8**
	17nm,1.0s						
H24A	**Dirks Ranch, A**	**17.13**	**95**	⇑P	**Pn**	**01 42 35.4**	**+0.6**
	baz=17						
D25A	**Fairfield**	**17.14**	**87**	⇓P	**P**	**01 42 36.7**	**+0.3**
	baz=17						
L22A	**Ellis Ranch, M**	**17.16**	**106**	⇓P	**P**	**01 42 37.4**	**+0.6**
	baz=17						
M22A	**Cedar Creek Ra**	**17.40**	**108**	⇓P	**P**	**01 42 39.6**	**+0.1**
	baz=18,SNR=6.4						
F25A	**Bowman**	**17.42**	**91**	⇑P	**P**	**01 42 40.3**	**+0.8**
	baz=18						
U15A	**North Rim**	**17.47**	**130**	⇑P	**P**	**01 42 39.8**	**-0.5**
	baz=18						
FFC	**Flin Flon**	**17.48**	**61**	*e*Pn	**Pn**	**01 42 38.7**	**-0.2**
	12nm,0.8s						
A26A	**Wade Farm, Ken**	**17.58**	**80**	⇓P	**Pn**	**01 42 40.5**	**+0.2**
	baz=18						
L23A	**Garrett**	**17.59**	**104**	⇑P	**Pn**	**01 42 40.9**	**+0.4**
	baz=18,SNR=7.1						
J24A	**Dixon Ranch, L**	**17.66**	**100**	⇑P	**P**	**01 42 42.6**	**+0.4**
	baz=18						
G25A	**Newell**	**17.71**	**93**	⇑P	**P**	**01 42 42.3**	**-0.3**
	baz=18,SNR=5.2						
D26A	**Manning**	**17.76**	**86**	⇓P	**P**	**01 42 43.0**	**-0.1**
	baz=18						
W13A	**Hualapai Mount**	**17.77**	**136**	⇑P	**P**	**01 42 43.3**	**-0.2**
	baz=18						
C26A	**Wahner Farm, P**	**17.77**	**84**	⇓P	**P**	**01 42 43.8**	**+0.5**
	baz=18						
BELC	**Belle Mtn. Jos**	**17.80**	**143**	⇓P	**Pn**	**01 42 42.1**	**-1.1**
	baz=18						
H25A	**Fruitdale**	**17.81**	**95**	⇓P	**P**	**01 42 44.2**	**+0.4**
	baz=18,SNR=7.8						
N22A	**Wattenberg Ran**	**17.83**	**109**	⇓P	**P**	**01 42 44.5**	**+0.3**
	baz=18						
PV04	**Paradox Valley**	**17.87**	**119**	*e*Pn	**Pn**	**01 42 43.7**	**-0.3**
M23A	**Laramie**	**17.91**	**106**	⇓P	**P**	**01 42 45.9**	**+0.8**
	baz=18						
I25A	**Rochford**	**17.96**	**97**	⇑P	**P**	**01 42 47.1**	**+1.5**
	baz=18,SNR=16						
F26A	**Lodgepole**

D29A	Pettibone, Tap	19.61	85	⇓P	Pn	01 43 04.9	0.0
baz=20							
I28A	Midland	19.65	94	⇓P	P	01 43 03.2	-0.7
baz=20							
E29A	Napoleon	19.73	86	⇓P	Pn	01 43 06.8	+0.5
baz=20							
R23A	Moffat	19.81	115	⇓P	P	01 43 05.0	-1.0
baz=20							
J28A	Allard Ranch,	19.86	96	⇑P	Pn	01 43 07.4	-0.5
baz=20							
A30A	Hoffart Farm,	19.99	79	⇑P	Pn	01 43 08.6	-0.8
baz=20							
H29A	Onida	20.03	92	⇓P	Pn	01 43 09.7	-0.2
baz=20							
B30A	Myrvik Farm, E	20.08	80	⇑P	Pn	01 43 10.0	-0.5
baz=20,SNR=10.0							
K28A	Ten Mile Ranch	20.09	98	⇓P	Pn	01 43 10.8	+0.1
baz=20							
D30A	Buchanan	20.15	84	⇓P	P	01 43 10.1	+0.9
baz=20							
C30A	Mose, Pekin	20.17	82	⇑P	Pn	01 43 11.1	-0.3
baz=20							
E30A	Jud	20.23	86	⇓P	Pn	01 43 12.0	-0.2
baz=20							
N27A	Anderson Farm,	20.30	104	⇑P	Pn	01 43 12.8	-0.3
baz=20							
T23A	Casias Ranch,	20.45	117	⇓P	Pn	01 43 14.7	-0.6
baz=20							
J29A	Okreek	20.46	95	⇓P	Pn	01 43 14.7	-0.2
baz=21							
P26A	Davis Ranch, A	20.49	108	⇑P	Pn	01 43 14.6	-0.8
baz=21							
S24A	Houchin Ranch,	20.54	115	⇓P	Pn	01 43 15.6	-0.7
baz=21							
G30A	Faulkton	20.54	90	⇑P	Pn	01 43 15.5	-0.3
baz=21							
OGNE	Ogallala	20.54	103	⇓P	Pn	01 43 15.1	-0.9
baz=21							
Q26A	Hugo	20.76	110	⇑P	Pn	01 43 17.8	-0.8
baz=21							
R25A	Fountain Ranch	20.77	112	⇓P	P	01 43 17.5	+1.2
baz=21							
T24B	San Luis	20.82	116	⇑P	P	01 43 18.1	+1.1
baz=21							
U23A	El Rito	20.85	119	⇑P	P	01 43 18.5	+1.3
baz=21							
S25A	Robets Cordova	20.99	114	⇑P	P	01 43 19.8	+1.2
baz=21							
N28A	Pribbeno Ranch	21.00	103	⇑P	P	01 43 20.1	+1.5
baz=21							
J30A	Dallas	21.04	95	⇓P	P	01 43 20.7	+1.7
baz=21							
K30A	Basset	21.25	96	⇓P	P	01 43 22.3	+1.0
baz=21							
ULM	Lac du Bonnet	21.30	74	P	P	01 43 20.8	-0.9
1.7nm,0.7s,baz=278,slow=7.1,SNR=2.2							
ULM				LR	LR	01 51 19.3	
comp=Z,161nm,18.9s,baz=234,slow=36							
T25A	Trinidad	21.35	115	⇑P	P	01 43 23.9	+1.4
baz=22,SNR=6.0							
R27A	Eads	21.59	110	⇑P	P	01 43 26.4	+1.3
baz=22							
S26A	Kim	21.60	112	⇑P	P	01 43 27.6	+2.4
baz=22,SNR=7.6							
ANMO	Albuquerque	21.70	122	P	P	01 43 24.8	-1.4
1.7nm,0.8s,baz=315,slow=5.7,SNR=2.8							
ANMO	Albuquerque	21.70	122	eP	P	01 43 26.6	+0.3
7.3nm,1.2s							
AGMN	Agassiz Nation	21.71	79	⇑P	P	01 43 27.0	+0.9
baz=22,SNR=6.9							
O29A	4D Ranch, Culb	21.78	104	⇓P	P	01 43 28.9	+1.9
baz=22							
V24A	Rampart Ranch,	21.81	119	⇓P	P	01 43 28.9	+1.4
baz=22							
T26A	Comanche Natio	21.82	113	⇑P	P	01 43 29.9	+2.4
baz=22							
LENM	Lemitar	21.99	124	eP	P	01 43 30.8	+1.3
5.1nm,1.0s							
W24A	Lazy 6 Ranch,	22.09	120	⇑P	P	01 43 32.3	+1.7
baz=22,SNR=6.8							
V25A	Rancho No Teng	22.11	118	⇑P	P	01 43 31.4	+0.7
baz=22							
R28A	Tribune	22.17	109	⇓P	P	01 43 32.3	+1.1
baz=22							
O30A	MW Ranch, Wils	22.23	103	⇓P	P	01 43 33.1	+1.4
baz=22							
U26A	Atchley Ranch,	22.24	115	⇑P	P	01 43 32.9	+0.8
baz=22							
T27A	Campo	22.42	112	⇑P	P	01 43 35.1	+1.1
baz=22							
P30A	Selden	22.45	104	⇓P	P	01 43 35.7	+1.4
baz=23							
R29A	Marienthal	22.54	108	⇓P	P	01 43 36.7	+1.5
baz=23							
S28A	Manter	22.58	110	⇑P	P	01 43 36.7	+1.0
baz=23							
V26A	Tequesquite Ra	22.62	116	⇑P	P	01 43 36.7	+0.5
baz=23							
W25A	X Bar L Ranch,	22.63	118	⇓P	P	01 43 34.7	-1.6
baz=23							
Z22A	Elephant Butte	22.69	126	⇑P	P	01 43 35.9	-1.0
baz=23							
T28A	Walsh	22.75	112	⇓P	P	01 43 38.3	+0.9
baz=23							
ECSD	EROS Data Cent	22.76	91	⇓P	P	01 43 38.0	+0.6
baz=23							
121A	Cookes Peak, D	22.82	128	⇓P	P	01 43 39.0	+0.7
baz=23							
Y24A	Capitan	23.02	122	⇓P	P	01 43 40.0	-0.3
baz=23							
P31A	Stockton	23.02	103	⇑P	P	01 43 41.8	+1.6
baz=23							
R30A	Dighton	23.17	107	⇓P	P	01 43 42.1	+0.4
baz=23							
V27A	Dan Oppiter Fa	23.21	115	⇓P	P	01 43 42.8	+0.6
baz=23							
X26A	CR and CF Fran	23.48	119	⇑P	P	01 43 45.2	+0.3
baz=24							
W27A	Bowie Ranch, En	23.56	117	⇓P	P	01 43 46.1	+0.4
baz=24							
R31A	Burdett	23.64	106	⇑P	P	01 43 46.8	+0.5
baz=24							
Q32A	Meitler Ranch,	23.85	103	⇑P	P	01 43 49.1	+0.8
baz=24							
Q33A	Connelly Farm,	24.31	103	⇑P	P	01 43 53.1	+0.6
baz=24							
Y27A	Causey	24.33	119	⇑P	P	01 43 53.3	+0.3
baz=24							
MSTX	Muleshoe	24.50	118	⇑P	P	01 43 55.2	+0.7
baz=25							
AMTX	Amarillo	24.50	115	⇑P	P	01 43 55.1	+0.7
baz=25							
Z29A	Hungry Hill Ra	25.63	118	⇓P	P	01 44 04.1	-0.5
baz=26							
W32A	Sentinel	25.81	112	⇑P	P	01 44 07.3	+1.1
baz=26							
TXAR	Lajitas Array	27.51	126	P	P	01 44 20.5	-1.1
0.4nm,0.7s,baz=327,slow=9.9,SNR=2.2							
TXAR				LR	LR	01 55 34.6	
comp=Z,97nm,21.9s,baz=0.0,slow=37							
RES	Resolute Bay	29.43	18	LR	LR	01 56 39.2	
comp=Z,111nm,19.8s,baz=321,slow=37							
FX1	Attu Island--F	35.87	299	LR	LR	01 57 07.6	
comp=Z,77nm,21.6s,baz=120,slow=31							
SCHQ	Schefferville	37.56	57	LR	LR	02 01 23.4	
comp=Z,144nm,18.9s,baz=50,slow=36							
PETK	Petropavlovsk-	44.46	304	LR	LR	02 02 31.8	
comp=Z,33nm,18.6s,baz=87,slow=32							
SPITS	Spitsbergen Ar	51.30	9	LR	LR	02 09 15.6	
comp=Z,32nm,18.8s,baz=345,slow=36							
H11N2	WAKE ISLAND Hy	58.53	264	T	T	02 51 08.4	
baz=44,slow=76,SNR=34							
H11N3	WAKE ISLAND Hy	58.53	264	T	T	02 51 06.8	
baz=44,slow=76,SNR=29							
H11N1	WAKE ISLAND Hy	58.55	264	T	T	02 51 08.7	
baz=44,slow=76,SNR=28							
H11S1	WAKE ISLAND Hy	59.54	263	T	T	02 52 32.7	
baz=44,slow=74,SNR=6.0							
H11S2	WAKE ISLAND Hy	59.55	263	T	T	02 52 38.6	
baz=44,slow=74,SNR=9.8							
H11S3	WAKE ISLAND Hy	59.55	263	T	T	02 52 39.4	
baz=44,slow=74,SNR=5.6							
ARCES	ARCESS Array B	60.25	10	LR	LR	02 16 32.1	
comp=Z,32nm,18.7s,baz=16,slow=38							

*ATH **16** 01:46:14.3, 36°.33N×21°.18E, h26km±2km, MD3.5/23*
*ISCJB **16** 01:46:15.2±0.8, 36°.37N±0°.05×21°.21E±0°.05, h15km, Error ellipse: s-maj=7.4km s-min=5.2km az=42.2*
*CSEM **16** 01:46:15.3±0.4, 36°.36N×21°.26E, h10km, ML2.4, Error ellipse: s-maj=8.0km s-min=4.7km az=50.0*
*THE **16** 01:46:21.6, 36°.58N×21°.61E, h22km, ML2.4/2, Error ellipse: s-maj=1.6km s-min=0.8km az=62.0*

ISC 16 01:46:16.5±1.4, 36°.43N±0°.05×21°.33E±0°.05, h15km, n92, σ0§97/109, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.57	35	P	Pb	01 46 28.6	+0.4
PYL				S	Sg	01 46 34.7	-0.6
PYL	PYLOS	0.57	35	ePN	Pn	01 46 29.3	-0.8
PYL				eSN	Sn	01 46 38.8	-0.4
PYL	PYLOS	0.57	35	P	Pb	01 46 28.6	+0.4
PYL	PYLOS	0.57	35	ePn	Pn	01 46 29.3	-0.8
PYL				S	Sb	01 46 36.7	+0.6
PYL				eSn	Sn	01 46 38.8	-0.4
ITM	Ithomi	0.89	32	P	Pn	01 46 34.0	-0.5
ITM				S	Sb	01 46 43.4	-1.9
ITM	Ithomi	0.89	32	ePN	Pn	01 46 34.2	-0.3
ITM				eSN	Sn	01 46 48.3	+1.2
ITM	Ithomi	0.89	32	P	Pn	01 46 34.0	-0.5
ITM				S	Sn	01 46 46.7	-0.4
ITM				eSn	Sn	01 46 48.3	+1.2
AMT	Artemida-Makis	1.14	15	P	Pg	01 46 38.7	+0.2
AMT	Artemida-Makis	1.14	15	ePN	Pg	01 46 38.4	-0.1
AMT	Artemida-Makis	1.14	15	ePn	Pg	01 46 38.4	-0.1
AMT	Artemida-Makis	1.14	15	P	Pg	01 46 38.7	+0.2
AMT				S	Sg	01 46 55.9	+2.5
VLI	Veliai	1.32	77	P	Pb	01 46 41.0	0.0
VLI	Veliai	1.32	77	ePN	Pb	01 46 41.3	+0.3
VLI				eSN	Sg	01 47 01.1	+1.9
VLI	Veliai	1.32	77	P	Pb	01 46 41.0	0.0
VLI	Veliai	1.32	77	ePn	Pb	01 46 41.3	+0.3
VLI				S	Sg	01 47 00.0	+0.8
VLI				eSn	Sg	01 47 01.1	+1.9
KYTH	Kithira	1.38	96	P	Pb	01 46 42.0	-0.1
KYTH	Kithira	1.38	96	ePN	Pb	01 46 42.2	+0.1
KYTH	Kithira	1.38	96	P	Pb	01 46 42.0	-0.1
DRO	Drossia	1.55	11	P	Pb	01 46 44.6	-0.3
DRO	Drossia	1.55	11	ePN	Pb	01 46 44.7	-0.2
DRO	Drossia	1.55	11	P	Pb	01 46 44.6	-0.3
DRO				S	Sg	01 47 07.4	+1.0
RLS	Riolos of Patr	1.63	4	P	Pb	01 46 46.4	+0.2
RLS	Riolos of Patr	1.63	4	ePN	Pb	01 46 45.7	-0.5
RLS	Riolos of Patr	1.63	4	ePn	Pb	01 46 45.7	-0.5
RLS	Riolos of Patr	1.63	4	P	Pb	01 46 46.4	+0.2
ANKY	Antikythira Is	1.69	109	ePN	Pn	01 46 46.0	+0.5
ANKY	Antikythira Is	1.69	109	ePn	Pn	01 46 46.0	+0.5
GUR	Goura	1.71	28	P	Pn	01 46 46.4	+0.6
GUR				S	Sn	01 47 05.5	-1.9
GUR	Goura	1.71	28	ePN	Pb	01 46 47.2	-0.4
GUR	Goura	1.71	28	P	Pn	01 46 46.4	+0.6
GUR	Goura	1.71	28	ePn	Pb	01 46 47.2	-0.4
GUR				S	Sn	01 47 05.5	-1.9
KLV	Kalavryta, Ach	1.74	22	P	Pn	01 46 47.0	+0.8
KLV	Kalavryta, Ach	1.74	22	ePN	Pn	01 46 46.8	+0.6
KLV	Kalavryta, Ach	1.74	22	P	Pn	01 46 47.0	+0.8
VLS	Valsamata	1.84	341	ePN	Pn	01 46 47.9	+0.3
VLS				eSN	Sn	01 47 10.7	+0.1
VLS	Valsamata	1.84	341	ePn	Pn	01 46 47.9	+0.3
VLS				eSn	Sn	01 47 10.7	+0.1
DID	Didima	1.86	54	P	Pn	01 46 47.7	-0.2
DID	Didima	1.86	54	ePN	Pn	01 46 47.2	-0.7
DID	Didima	1.86	54	ePn	Pn	01 46 47.2	-0.7
DID	Didima	1.86	54	P	Pn	01 46 47.7	-0.2
EFP	Efpalio	2.04	13	P	Pb	01 46 51.9	-1.4
EFP	Efpalio	2.04	13	ePN	Pn	01 46 50.7	+0.4
EFP	Efpalio	2.04	13	ePn	Pn	01 46 50.7	+0.4
EFP	Efpalio	2.04	13	P	Pb	01 46 51.9	-1.4
LTK	Loutraki	2.06	39	P	Pn	01 46 50.8	+0.3
LTK	Loutraki	2.06	39	ePN	Pn	01 46 51.1	+0.6
LTK	Loutraki	2.06	39	P	Pn	01 46 50.8	+0.3
LTK	Loutraki	2.06	39	ePn	Pn	01 46 51.1	+0.6
KALE	Kalithea	2.06	18	ePB	Pb	01 46 52.3	-1.3
KALE	Kalithea	2.06	18	ePb	Pb	01 46 52.3	-1.3
PDO	Prodromos	2.17	357	P	Pb	01 46 54.2	-1.2
PDO	Prodromos	2.17	357	ePN	Pn	01 46 52.0	-0.1
PDO	Prodromos	2.17	357	ePn	Pn	01 46 52.0	-0.1
PDO	Prodromos	2.17	357	P	Pb	01 46 54.2	-1.2
DSF	Desfina	2.19	25	P	Pn	01 46 53.4	+0.9
DSF	Desfina	2.19	25	ePN	Pn	01 46 53.0	+0.5
DSF	Desfina	2.19	25	ePn	Pn	01 46 53.0	+0.5
DSF	Desfina	2.19	25	P	Pn	01 46 53.4	+0.9
KARN	Karanos	2.34	115	ePN	Pn	01 46 54.0	-0.4
KARN	Karanos	2.34	115	ePn	Pn	01 46 54.0	-0.4
EVR	Evrytania	2.51	9	ePB	Pb	01 46 59.8	-1.5
EVR	Evrytania	2.51	9	ePb	Pb	01 46 59.8	-1.5
VAM	Vamos	2.54	113	ePN	Pn	01 46 56.4	-0.8
VAM	Vamos	2.54	113	ePn	Pn	01 46 56.4	-0.8
AXAR	Agios Charalam	2.56	24	ePN	Pn	01 46 58.7	+1.3
AXAR	Agios Charalam	2.56	24	ePn	Pn	01 46 58.7	+1.3
LKR	Lokris	2.58	30	ePN	Pn	01 46 58.2	+0.5
LKR	Lokris	2.58	30	ePn	Pn	01 46 58.2	+0.5
PTL	Penteli	2.59	51	ePN	Pn	01 46 54.9	-3.0
PTL	Penteli	2.59	51	ePn	Pn	01 46 54.9	-3.0
MAKR	Makrakomi, Fth	2.65	14	ePB	Pn	01 47 00.9	+2.1
MAKR	Makrakomi, Fth	2.65	14	ePb	Pn	01 47 00.9	+2.1
AGG	Agios Georgios	2.70	17	ePN	Pn	01 47 01.2	+1.7
AGG	Agios Georgios	2.70	17	ePn	Pn	01 47 01.2	+1.7
DSL	Palaion Diasel	2.70	356	ePN	Pn	01 47 00.1	+0.6
DSL	Palaion Diasel	2.70	356	ePn	Pn	01 47 00.1	+0.6
THL	Klokotos Trika	3.17	10	ePN	Pn	01 47 06.2	+0.3
THL	Klokotos Trika	3.17	10	ePn	Pn	01 47 06.2	+0.3
IGT	Igoumenitsa	3.19	346	ePN	Pn	01 47 06.1	-0.1
IGT	Igoumenitsa	3.19	346	ePn	Pn	01 47 06.1	-0.1
LIT	Litokhoron	3.77	14	ePN	Pn	01 47 14.9	+0.7
LIT	Litokhoron	3.77	14	ePn	Pn	01 47 14.9	+0.7
NEST	Nestorio	3.98	357	ePN	Pn	01 47 17.7	+0.6
NEST	Nestorio	3.98	357	ePn	Pn	01 47 17.7	+0.6
FNA	Florina	4.35	0	ePN	Pn	01 47 22.6	+0.5
FNA	Florina	4.35	0	ePn	Pn	01 47 22.6	+0.5
GRG	Griva	4.59	10	ePN	Pn	01 47 25.8	+0.3
GRG	Griva	4.59	10	ePn	Pn	01 47 25.8	+0.3
SOH	Sokhos	4.66	19	ePN	Pn	01 47 27.6	+1.2
SOH	Sokhos	4.66	19	ePn	Pn	01 47 27.6	+1.2
SRS	Serrai	5.00	20	ePN	Pn	01 47 31.2	+0.2
SRS	Serrai	5.00	20	ePn	Pn	01 47 31.2	+0.2

*NEIC **16** 01:51:12.0, 34°.85S×71°.96W, h30km, ML4.1(GUC), After GUC.*
NEIC Felt [III] at Talca and [II] at Linares and Rancagua.

GUC 16 01:51:12.4±0.8, 34°.85S×71°.96W, h30km±3km, ML4.1, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.60	154	⇓iP	Pb	01 51 24.7	+0.1
TALC				i S	Sb	01 51 33.1	+0.2
TALC				AML	AML	01 51 33.5	
comp=E,62μm,0.1s							
NICH	Los Niches	0.62	104	⇓iP	Pb	01 51 24.6	-0.2
NICH				i S	Sb	01 51 33.1	-0.1
NICH				AML	AML	01 51 34.5	
comp=E,15μm,0.1s							
LNCH	Linares	1.03	164	⇓iP	Pn	01 51 30.4	-0.4
LNCH				i S	Sb	01 51 44.7	-0.3
TACH	Talagante	1.47	36	⇓iP	Pn	01 51 37.9	+1.1
TACH				eS1	Sb	01 51 57.1	-0.2
RCDM	Rinconada Maip	1.66	35	⇑iP	Pn	01 51 40.4	+0.9
RCDM				i S	Sb	01 52 02.0	-1.0
RCDM				AML	AML	01 52 05.3	
comp=E,2μm,0.3s							
ANTU	Antumapu	1.69	41	eP	Pn	01 51 41.0	+1.1
ANTU				eS	Sb	01 52 02.9	-0.9
ANTU				AML	AML	01 52 07.5	
comp=E,5μm,0.4s							
SAN	Santiago	1.76	38	⇑iP	Pn	01 51 42.1	+1.2
SAN				i S	Sb	01 52 05.4	-0.5
SJCH	San Jose de Ma	1.80	48	eP9	Pn	01 51 42.1	+0.6
SJCH				i S	Sb	01 52 05.2	-1.8
CLCH	Cerro Calan	1.87	39	⇑iP	Pn	01 51 43.6	+1.2
CLCH				i S	Sb	01 52 07.7	-1.4
CLCH				AML	AML	01 52 13.8	
comp=E,2μm,0.4s							
PEL	Peldehue	2.01	32	⇓iP	Pn	01 51 45.9	+1.6
PEL				i S4	Sn	01 52 11.7	+3.3
PEL				AML	AML	01 52 18.9	
comp=N,2μm,0.4s							
FCH	Farellones	2.06	43	⇑iP	Pb	01 51 50.4	+0.9
FCH				i S	Sb	01 52 17.1	+2.1
FCH				AML	AML	01 52 18.7	
comp=N,2μm,0.4s							
LCO	Las Campanas	5.92	11	ePn	Pn	01 52 38.4	0.0
LCO				eSn	Sn	01 53 45.1	-0.4
PLCA	Paso Flores	5.97	170	ePn	Pn	01 52 39.6	+0.8
TRQA	Tornquist	8.65	115	ePn	Pn	01 53 17.6	+2.1
LVC	Limon Verde	12.48	13	Pn	Pn	01 54 07.0	-1.4
SAML	Samuel	27.01	19	P	P	01 56 49.3	-2.5
comp=N,0.9nm,0.6s							

*IDC **16** 02:05:51.6±1.1, 41°.93S×173°.86E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.9/15, mbtmp3.9/4, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx3.0/31, Error ellipse: s-maj=31.3km s-min=27.1km az=99.0*
*ISCJB **16** 02:05:53.4±0.4, 42°.18S±0°.04×173°.88E±0°.05, h27km±4km, mb4.0/4, MS3.2/1, Error ellipse: s-maj=7.9km s-min=3.5km az=43.4*
*NEIC **16** 02:05:53.8, 42°.12S×173°.85E, h15km, mb4.5/2, ML4.6(WEL), After WEL.*
NEIC Felt at Blenheim. Also felt at Wellington on the North Island.
*WEL **16** 02:05:54.4±0.1, 42°.16S×173°.90E, h21km±1km, ML4.6/53, Error ellipse: s-maj=1.6km s-min=1.4km az=90.0*
WEL Felt from Manawatu to Canterbury, maximum reported intensity MM 4.

ISC 16 02:05:53.7±0.9, 42°.19S±0°.04×173°.95E±0°.04, h21km±3km, n86, σ1§41/61, mb3.9/4, 6C-8D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.38	233	P*	Pb	02 06 01.9	+0.3
KHZ				S*	Sb	02 06 07.8	+0.8
KHZ				AML	AML	02 06 08.3	
KHZ				AML	AML	02 06 08.3	
KHZ				AML	AML	02 06 08.4	
KHZ	Kahutara	0.38	233	ePg	Pb	02 06 01.9	+0.3
KHZ				eSg	Sb	02 06 07.1	+0.2
BSWZ	Blackbirch Sta	0.48	353	⇑P*	Pb	02 06 01.6	-1.8
BSWZ				AML	AML	02 06 01.9	
BSWZ				AML	AML	02 06 09.3	
CMWZ	Cape Campbell	0.48	24	⇑P*	Pb	02 06 04.2	+0.7
CMWZ				S*	Sb	02 06 11.6	+1.5
CMWZ				AML	AML	02 06 17.6	
TUWZ	Tuamarina	0.76	360	⇑P*	Pb	02 06 06.9	-1.3
TUWZ				AML	AML	02 06 07.6	
TUWZ				AML	AML	02 06 07.7	
THZ	Tophouse	0.89	298	⇑P*	Pb	02 06 07.7	-2.7
THZ				AML	AML	02 06 21.1	
THZ				AML	AML	02 06 22.2	
TCW	Tory Channel	1.01	14	⇑P*	Pn	02 06 11.6	-1.0
TCW				AML	AML	02 06 27.8	
TCW				AML	AML	02 06 30.6	
BHW	Baring Head	1.04	42	P*	Pb	02 06 13.8	+0.8
BHW				AML	AML	02 06 37.1	
BHW				AML	AML	02 06 39.4	
SNZO	South Karori	1.05	33	ePg	Pb	02 06 13.8	+0.7
SNZO				eS	Sn	02 06 29.7	+2.7
NNZ	Nelson	1.06	336	PN	Pn	02 06 10.9	-2.4
NNZ				AML	AML	02 06 23.5	
NNZ				AML	AML	02 06 26.1	
WEL	Wellington	1.09	34	P*	Pb	02 06 14.5	+0.6
WEL				AML	AML	02 06 33.7	
WEL				AML	AML	02 06 34.6	
PLWZ	Palliser	1.16	58	⇓P*	Pb	02 06 15.4	+0.4
MSWZ	Moikau Station	1.24	52	⇓P*	Pb	02 06 16.6	+0.1
MSWZ				AML	AML	02 06 44.5	
MSWZ				AML	AML	02 06 51.7	
CAW	Cannon Point	1.37	38	P*	Pn	02 06 18.1	+0.5
CAW				AML	AML	02 06 42.6	
CAW				AML	AML	02 06 44.7	
PAWZ	Paruwai Farm	1.37	54	⇓P*	Pb	02 06 18.1	-0.5
PAWZ				AML	AML	02 06 57.9	
PAWZ				AML	AML	02 06 59.4	
LTZ	Lake Taylor	1.38	244	PN	Pn	02 06 17.8	+0.1
LTZ				AML	AML	02 06 37.7	
LTZ				AML	AML	02 06 40.5	
DUWZ	D'Urville Isla	1.39	359	P*	Pn	02 06 17.3	-0.5
DUWZ				AML	AML	02 06 40.3	
DUWZ				AML	AML	02 06 43.7	
KIW	Kapiti Island	1.51	29	⇑PN	Pn	02 06 20.2	+0.7
KIW				AML	AML	02 06 45.5	
KIW				AML	AML	02 06 49.3	
TRWZ	Traveller	1.52	59	⇓PN	Pn	02 06 20.0	+0.4
TRWZ				AML	AML	02 06 56.6	
TRWZ				AML	AML	02 06 58.7	
MTW	Mount Morrison	1.56	49	⇓PN	Pn	02 06 20.3	+0.1
MTW				AML	AML	02 06 54.1	
MTW				AML	AML	02 06 56.0	
OGWZ	Otaki Gorge	1.65	34	⇓PN	Pn	02 06 21.9	+0.4
DSZ	Denniston Nort	1.66	285	PN	Pn	02 06 22.0	+0.3
CRLZ	Canterbury Las	1.69	215	PN	Pn	02 06 21.7	-0.3
CRLZ				AML	AML	02 06 58.7	
CRLZ				AML	AML	02 06 59.5	
QRZ	Quartz Range	1.73	321	PN	Pn	02 06 22.5	0.0
HOWZ	Holdsworth Sta	1.75	43	PN	Pn	02 06 22.5	0.0
MQZ	McQueen's Vall	1.79	212	PN	Pn	02 06 22.5	-0.8
OXZ	Oxford	1.81	231	PN	Pn	02 06 23.0	-0.6
TMWZ	Te Maipa	1.81	54	⇓PN	Pn	02 06 23.7	0.0
MRZ	Mangatainoka R	1.96	39	⇓PN	Pn	02 06 25.8	+0.1
MRZ				AML	AML	02 07 10.1	
MRZ				AML	AML	02 07 11.4	
PRWZ	Pori Road	2.23	44	PN	Pn	02 06 29.3	-0.1
POWZ	Post Office Ro	2.26	38	ePN	Pn	02 06 29.7	-0.1
BFZ	Birch Farm	2.29	50	ePN	Pn	02 06 29.8	-0.5
DVHZ	Dannevirke	2.52	42	PN	Pn	02 06 32.7	-0.8
WVZ	Waitaha Valley	2.53	248	PN	Pn	02 06 33.0	-0.5
WVZ				AML	AML	02 07 20.2	
WAZ	Wanganui	2.56	18	AML	AML	02 07 20.0	
WAZ				AML	AML	02 07 29.6	
RPZ	Rata Peaks	2.62	233	PN	Pn	02 06 33.8	-0.9
RPZ				AML	AML

FOZ				AML	AML	02 07 44.0	
LBZ	**Lake Benmore**	**3.52**	**230**	AML	AML	02 07 30.0	
LBZ				AML	AML	02 08 05.3	
RITZ	**Rihia Road**	**3.52**	**25**	AML	AML	02 07 07.6	
RITZ				AML	AML	02 07 08.4	
BKZ	**Black Stump Fm**	**3.59**	**33**	AML	AML	02 08 08.2	
BKZ				AML	AML	02 08 14.5	
RATZ	**Rangitukua**	**3.60**	**23**	AML	AML	02 08 06.8	
RATZ				AML	AML	02 08 08.0	
ODZ	**Otahua Downs**	**3.73**	**219**	*e*Pn	**Pn**	**02 06 49.4**	**-0.6**
WATZ	**Wairara**	**3.73**	**22**	AML	AML	02 08 04.0	
WATZ				AML	AML	02 08 09.4	
HIZ	**Hauiti**	**3.74**	**11**	AML	AML	02 07 54.3	
HIZ				AML	AML	02 08 03.0	
JCZ	**Jackson Bay**	**4.24**	**242**	AML	AML	02 07 47.8	
JCZ				AML	AML	02 07 51.2	
WKZ	**Wanaka**	**4.45**	**232**	AML	AML	02 08 34.9	
WKZ				AML	AML	02 08 37.8	
EAZ	**Earnscleugh**	**4.53**	**226**	AML	AML	02 08 40.0	
EAZ				AML	AML	02 08 40.3	
URZ	**Urewera**	**4.61**	**33**	Pn	**Pn**	**02 07 01.9**	**-0.2**
	1.8nm,0.3s,baz=221,slow=9.3,SNR=9.0						
URZ				Sn	**Sn**	**02 07 51.2**	**-3.8**
	4.0nm,0.3s,baz=260,slow=22,SNR=3.9						
URZ				LR	LR	02 09 06.0	
	comp=Z,397nm,19.5s,baz=208,slow=44						
URZ	**Urewera**	**4.61**	**33**	*e*Pn	**Pn**	**02 07 02.0**	**-0.2**
URZ				Sn	**Sn**	**02 07 51.2**	**-3.8**
URZ				*e*S	**Sb**	**02 08 04.9**	**-4.1**
MWZ	**Matawai**	**4.72**	**37**	AML	AML	02 08 33.1	
MWZ				AML	AML	02 08 57.4	
MKAZ	**Moumakai**	**5.16**	**11**	AML	AML	02 07 37.7	
MKAZ				AML	AML	02 07 39.4	
MLZ	**Mavora Lakes**	**5.24**	**231**	AML	AML	02 08 22.5	
MLZ				AML	AML	02 09 02.6	
SYZ	**Scrubby Hill**	**5.55**	**217**	AML	AML	02 09 10.4	
SYZ				AML	AML	02 09 16.1	
WHZ	**Wether Hill Ro**	**5.69**	**227**	AML	AML	02 09 12.1	
WHZ				AML	AML	02 09 27.4	
WHZ	**Wether Hill Ro**	**5.69**	**227**	*e*Pn	**Pn**	**02 07 15.1**	**-1.9**
	65nm,0.9s						
OUZ	**Omahuta**	**6.97**	**358**	*e*Pn	**Pn**	**02 07 36.1**	**+1.7**
	83nm,0.6s						
OUZ				*e*S	**Sn**	**02 08 54.8**	**+1.8**
STKA	**Stephens Creek**	**27.66**	**281**	LR	LR	02 21 00.6	
	comp=Z,59nm,18.1s,baz=48,slow=33						
ASAR	**Alice Springs**	**37.94**	**286**	P	**P**	**02 13 09.7**	**0.0**
	0.6nm,0.7s,baz=118,slow=7.4,SNR=3.2						
WRAB	**Tennant Creek**	**40.05**	**291**	*e*P	**P**	**02 13 26.9**	**-0.5**
	1.9nm,0.7s						
WRA	**Warramunga Arr**	**40.05**	**291**	P	**P**	**02 13 27.0**	**-0.5**
	2.2nm,0.7s,baz=129,slow=7.7,SNR=12						
QSPA	**South Pole Qui**	**47.94**	**180**	P	P	02 14 33.8	+3.4
	4.5nm,1.0s,baz=50,slow=1.6,SNR=10						
QSPA	**South Pole Qui**	**47.94**	**180**	*e*P	P	02 14 33.7	+3.4
	30nm,1.8s						
TORD	**Torodi Ar. Bea**	**150.29**	**195**	PKPbc	**PKPbc**	**02 25 44.4**	**+0.8**
	1.0nm,0.5s,baz=164,slow=2.4,SNR=26						
FINES	**FINESS Array B**	**152.78**	**326**	PKPbc	**PKPbc**	**02 25 49.4**	**+1.5**
	0.7nm,0.8s,baz=27,slow=6.4,SNR=2.6						

CSEM ***16*** *02:06:55.4,37.°71N×36.°53E,h7km,MD2.7*

DDA 16 02:06:55.4,37.°71N×36.°53E,h7km,MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.20**	**228**	*i* P	Pg	02 06 59.7	+0.1
ANDN				*i* S	Sg	02 07 03.8	+1.5
ANDN	**Andirin**	**0.20**	**228**	*i* P	Pg	02 06 59.7	+0.1
ANDN				*i* S	Sg	02 07 03.8	+1.5
KAMA	**Osmaniye**	**0.54**	**168**	*i* P	Pn	02 07 09.1	-0.6
KUZU	**Kuzuini**	**1.03**	**155**	*i* P	Pn	02 07 17.4	+1.0
KUZU				*i* S	Sn	02 07 32.4	+1.2
KUZU	**Kuzuini**	**1.03**	**155**	*i* P	Pn	02 07 17.4	+0.9
KUZU				*i* S	Sn	02 07 32.4	+1.2
AKCD	**Akcadag**	**1.25**	**62**	*i* P	Pn	02 07 19.0	-0.5
AKCD				*i* S	Sn	02 07 38.6	+1.9
AKCD	**Akcadag**	**1.25**	**62**	*i* P	Pn	02 07 19.0	-0.5
AKCD				*i* S	Sn	02 07 38.6	+1.9

ISCJB ***16*** *02:07:20.6±1.4,34.°53S±0.°03×72.°07W±0.°05,h5km±8km, mb4.2/11,Error ellipse: s-maj=6.8km s-min=4.3km az=8.5*

IDC ***16*** *02:07:21.0±0.7,34.°63S×72.°06W,h0km,mb4.1/11, mb1 4.3/13,mb1mx4.2/21,mbtmp4.1/13,ML4.2/2,MS1.9/1, Ms1 1.9/1,ms1mx1.9/31,Error ellipse: s-maj=26.0km s-min=16.1km az=85.0*

GUC ***16*** *02:07:22.6±0.7,34.°56S×72.°02W,h31km±8km,ML4.4*

NEIC ***16*** *02:07:26.3±0.4,34.°56S×71.°99W,h35km,mb4.5/5, ML4.4(GUC),Error ellipse: s-maj=12.7km s-min=7.2km az=84.0*

NEIC Felt [III] at Curico and [II] at Paredones, Pichilemu, San Fernando and Talca.

ISC 16 02:07:22.1±1.8,34.°52S±0.°03×71.°91W±0.°08,h7km±11km, n43,σ1°±04/46,mb4.3/11,5C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.74**	**131**	⇑*i*P	**Pb**	**02 07 37.2**	**-0.1**
NICH				*i* S	**Sb**	**02 07 48.2**	**+0.6**
NICH				AML	AML	02 07 51.1	
	comp=E,39μm,0.6s						
TALC	**Talca**	**0.90**	**165**	⇑*i*P	**Pg**	**02 07 38.9**	**-0.6**
TALC				*i* S	**Sb**	**02 07 51.0**	**-1.3**
TALC				AML	AML	02 07 54.0	
	comp=N,19μm,0.4s						
TACH	**Talagante**	**1.19**	**43**	⇑*i*P	**Pb**	**02 07 44.7**	**-0.2**
LNCH	**Linares**	**1.35**	**169**	⇑*i*P	**Pn**	**02 07 46.9**	**-0.5**
LNCH				*i* S	**Sb**	**02 08 04.3**	**-0.9**
LNCH				AML	AML	02 08 13.6	
	comp=N,11μm,0.5s						
RCDM	**Rinconada Maip**	**1.38**	**42**	*e*P	**Pn**	**02 07 47.4**	**-0.5**
RCDM				*e*S	**Sg**	**02 08 06.8**	**+0.3**
RCDM				AML	AML	02 08 13.4	
	comp=E,5μm,0.6s						
ANTU	**Antumapu**	**1.43**	**48**	*e*P	**Pb**	**02 07 49.1**	**0.0**
ANTU				*i* S	**Sg**	**02 08 08.3**	**+0.4**
ANTU				AML	AML	02 08 13.1	
	comp=N,10μm,0.3s						
SAN	**Santiago**	**1.49**	**45**	⇓*i*P	**Pb**	**02 07 50.5**	**+0.3**
SAN				*i* S	**Sg**	**02 08 10.6**	**+0.6**
SAN				AML	AML	02 08 15.7	
	comp=N,6μm,0.6s						
IHA	**Instituto Hidr**	**1.51**	**9**	*e*P	**Pn**	**02 07 49.3**	**-0.3**
LACH	**Col Las Americ**	**1.57**	**47**	*e*P1	**Pn**	**02 07 51.2**	**+0.8**
LACH				*i* S	**Sg**	**02 08 12.6**	**0.0**
CLCH	**Cerro Calan**	**1.60**	**46**	⇑*i*P	**Pn**	**02 07 51.2**	**+0.2**
CLCH				*i* S	**Sg**	**02 08 14.1**	**+0.4**
CLCH				AML	AML	02 08 19.6	
	comp=N,12μm,0.5s						
PEL	**Peldehue**	**1.71**	**37**	⇓*i*P	**Pn**	**02 07 52.7**	**+0.2**
PEL				AML	AML	02 08 23.8	
	comp=E,10μm,0.4s						
CFAA	**Coronel Fontan**	**4.24**	**48**	Pn	Pn	02 08 30.9	+3.6
	comp=E,0.6nm,0.3s,baz=219,slow=12,SNR=40						
CFAA				Sn	**Sb**	**02 09 24.5**	**-4.0**
	comp=E,1.3nm,0.3s,baz=192,slow=12,SNR=4.4						
CFAA				LR	LR	02 10 10.1	
	comp=E,12nm,18.3s,baz=223,slow=38						
LCO	**Las Campanas**	**5.59**	**11**	*e*Pn	**Pn**	**02 08 45.7**	**-0.3**
	comp=E,20nm,0.3s						
LCO				*e*S	**Sn**	**02 09 50.4**	**-0.3**
PLCA	**Paso Flores**	**6.29**	**171**	Pn	**Pn**	**02 08 55.9**	**+0.4**
	comp=E,2.0nm,0.3s,baz=331,slow=12,SNR=19						
PLCA				Lg	Lg	02 10 34.0	
	comp=E,0.9nm,0.3s,baz=259,slow=19,SNR=2.4						
PLCA	**Paso Flores**	**6.29**	**171**	*e*Pn	**Pn**	**02 08 57.1**	**+1.7**
	comp=E,18nm,0.7s						
PLCA				Lg	Lg	02 10 34.0	
TRQA	**Tornquist**	**8.76**	**117**	*e*Pn	**Pn**	**02 09 31.1**	**+1.9**
TRQA				*e*S	Sn	02 11 15.3	+7.0
LPAZ	**La Paz**	**18.47**	**12**	P	**Pn**	**02 11 40.8**	**+1.4**
	comp=E,0.1nm,0.3s,baz=172,slow=6.9,SNR=8.1						
LPAZ	**La Paz**	**18.47**	**12**	*e*Pn	**Pn**	**02 11 41.1**	**+1.7**
	comp=E,5.8nm,1.0s						
USHA	**Ushuaia**	**20.45**	**174**	P	**P**	**02 11 58.4**	**-1.6**
	comp=E,4.9nm,0.8s,baz=349,slow=17,SNR=2.0						
SIV	**San Ignacio**	**20.87**	**31**	P	**P**	**02 12 05.9**	**+1.0**
	comp=E,2.8nm,0.6s,baz=230,slow=10,SNR=6.7						
NNA	**Nana**	**22.88**	**348**	P	**P**	**02 12 27.9**	**+1.5**

2010 MAR

	comp=E,5.3nm,0.5s,baz=220,slow=6.9,SNR=3.5						
SDV	**Santo Domingo**	**43.19**	**2**	*e*P	**P**	**02 15 23.7**	**-0.3**
	comp=E,1.9nm,0.5s						
QSPA	**South Pole Qui**	**55.72**	**180**	P	**P**	**02 16 59.2**	**+0.1**
	comp=E,3.5nm,1.0s,baz=204,slow=1.5,SNR=6.3						
QSPA	**South Pole Qui**	**55.72**	**180**	*e*P	**P**	**02 16 59.6**	**+0.5**
	comp=E,8.1nm,1.2s						
TXAR	**Lajitas Array**	**70.24**	**331**	**P**	**P**	**02 18 36.8**	**+0.8**
	comp=E,0.8nm,0.5s,baz=154,slow=8.7,SNR=4.7						
WVT	**Waverly**	**71.84**	**346**	*e*P	**P**	**02 18 45.4**	**-0.1**
	comp=E,10nm,0.8s						
ANMO	**Albuquerque**	**76.29**	**331**	**P**	**P**	**02 19 12.8**	**+1.0**
	comp=E,1.3nm,0.9s,baz=141,slow=5.7,SNR=4.6						
BOSA	**Boshof**	**79.73**	**118**	**P**	**P**	**02 19 31.3**	**+0.1**
	comp=E,6.5nm,0.9s,baz=213,slow=1.9,SNR=12						
PDAR	**Pinedale Array**	**84.28**	**333**	**P**	**P**	**02 19 54.8**	**+0.1**
	comp=E,0.6nm,0.6s,baz=159,slow=4.6,SNR=6.0						
TORD	**Torodi Ar. Bea**	**84.29**	**70**	P	**P**	**02 19 55.3**	**+0.2**
	comp=E,1.6nm,0.8s,baz=286,slow=6.5,SNR=16						
NVAR	**Mina Array Bea**	**84.37**	**325**	P	**P**	**02 19 54.7**	**-0.5**
	comp=E,0.9nm,0.7s,baz=158,slow=6.1,SNR=5.2						
ULM	**Lac du Bonnet**	**87.03**	**345**	P	**P**	**02 20 07.5**	**-0.3**
	comp=E,1.6nm,0.7s,baz=110,slow=4.8,SNR=3.3						
YKA	**Yellowknife Ar**	**102.58**	**341**	P	**Pdif**	**02 21 17.7**	**-1.0**
	comp=E,0.2nm,0.7s,baz=153,slow=4.2,SNR=3.6						
WRA	**Warramunga Arr**	**120.36**	**209**	PKP	**PKPdf**	**02 26 13.8**	**-1.0**
	comp=E,0.5nm,0.4s,baz=156,slow=1.7,SNR=20						
H11S2	**WAKE ISLAND Hyl**	**25.87**	**269**	T	T	04 44 40.4	
	baz=131						
H11S1	**WAKE ISLAND Hyl**	**25.88**	**269**	T	T	04 44 41.7	
	baz=131						
H11S3	**WAKE ISLAND Hyl**	**25.88**	**269**	T	T	04 44 40.4	
	baz=131						
H11N3	**WAKE ISLAND Hyl**	**26.29**	**270**	T	T	04 45 12.7	
	baz=116,slow=78,SNR=13						
H11N1	**WAKE ISLAND Hyl**	**26.31**	**270**	T	T	04 45 12.2	
	baz=116,slow=78,SNR=28						
H11N2	**WAKE ISLAND Hyl**	**26.31**	**270**	T	T	04 45 13.5	
	baz=116,slow=78,SNR=14						
SEY	**Seymchan**	**140.53**	**330**	PKP	**PKPdf**	**02 26 50.9**	**-0.5**
	comp=E,0.9nm,0.6s,baz=78,slow=1.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**154.61**	**33**	PKPbc	**PKPbc**	**02 27 22.3**	**-0.9**
	comp=E,1.0nm,0.5s,baz=319,slow=4.3,SNR=6.2						
SONM	**Songino Array**	**166.64**	**5**	PKPab	**PKPab**	**02 28 31.1**	**+0.6**
	comp=E,0.2nm,0.5s,baz=357,slow=5.1,SNR=3.3						

IDC 16 02:08:01.6±15.0,17.°03S×179.°26W,h511km±172km, mb3.0/4,mb1 3.2/4,mb1mx3.0/19,mbtmp3.9/4,Error ellipse: s-maj=129.1km s-min=63.7km az=137.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.35**	**240**	P	P	02 14 38.5	0.0
	1.3nm,0.5s,baz=86,slow=8.5,SNR=6.7						
WRA	**Warramunga Arr**	**44.00**	**259**	P	P	02 15 22.5	-1.1
	0.1nm,0.3s,baz=96,slow=7.3,SNR=8.4						
ASAR	**Alice Springs**	**44.26**	**253**	P	P	02 15 26.1	+0.5
	2.2nm,0.4s,baz=90,slow=8.0,SNR=25						
ILAR	**Eielson Array**	**85.22**	**13**	P	P	02 19 43.3	0.0
	0.2nm,0.3s,baz=223,slow=5.3,SNR=10						
GERES	**GERESS Array B**	**146.55**	**344**	PKPbc	PKPbc	02 26 44.8	-0.8
	0.3nm,0.4s,baz=33,slow=2.3,SNR=2.7						

TIF 16 02:11:13.3,41.°28N×44.°05E,h8km±1km,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBLG	**Delisi**	**0.68**	**49**	P	Pb	02 11 27.5	-0.1
TBLG				S	Sb	02 11 37.4	+0.1
DUS	**Dusheti**	**0.94**	**31**	P	Pn	02 11 32.8	-0.2
DUS				S	Sn	02 11 46.9	+0.2
DGRG	**David-gareji**	**1.01**	**80**	P	Pn	02 11 33.9	0.0
DGRG				S	Sn	02 11 49.6	+1.2

GUC ***16*** *02:21:51.7±1.0,36.°47S×73.°90W,h25km±36km,ML6.7*

ISCJB ***16*** *02:21:53.7±1.2,36.°17S±0.°02×73.°28W±0.°04,h0km±7km, mb6.0/251,MS6.8/223,Error ellipse: s-maj=5.7km s-min=3.7km az=161.7*

IDC ***16*** *02:21:55.1±0.3,36.°27S×73.°33W,h0km,mb5.6/30, mb1 5.6/33,mb1mx5.6/33,mbtmp5.6/33,ML4.9/3,MS6.8/21, Ms1 6.8/21,ms1mx6.6/30,Error ellipse: s-maj=14.3km s-min=9.1km az=82.0*

GCMT ***16*** *02:21:57.9±0.1,36.°49S×73.°63W,h13km,MW6.7/136, Moment Tensor Solution. s135,c327; s136,c578; Duration: 5±1 Moment tensor: Scale 10^{19}Nm; M_{rr}0.49±.00; $M_{\theta\theta}$0.03±.00; $M_{\phi\phi}$-0.52±.00; $M_{r\theta}$0.11±.01; $M_{\theta\phi}$-0.03±.00; $M_{\phi r}$-1.03±.02; Best double couple: $M_0$1.15500×10^{19} NP1:ϕ_s175.00000°,δ77.00000°, λ86.00000°. NP2:ϕ_s12.00000°,δ14.00000°,λ107.00000°. Principal axes: T 1.1450, Plg58.0000°, Azm79.0000°; N 0.0190, Plg4.0000°, Azm175.0000°; P -1.1640, Plg32.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***16*** *02:21:57.9±0.1,36.°22S×73.°26W,h18km,mb6.0/196, ME6.6,MS6.7/151,MW6.7,MW6.5,MW6.7,ML6.7(GUC) Error ellipse: s-maj=5.6km s-min=3.3km az=67.0, Moment Tensor Solution. s117 Moment tensor: Scale 10^{18}Nm; M_{rr}4.59; $M_{\theta\theta}$1.64; $M_{\phi\phi}$-6.23; $M_{r\theta}$-0.16; $M_{\theta\phi}$-0.47; $M_{\phi r}$-6.12; Best double couple: $M_0$8.30000×10^{18} NP1: ϕ_s182.00000°,δ69.00000°,λ88.00000°. NP2:ϕ_s6.00000°, δ21.00000°,λ94.00000°. Principal axes: T 7.3500, Plg65.0000°, Azm88.0000°; N 1.6600, Plg1.0000°, Azm182.0000°; P -9.0100, Plg24.0000°, Azm272.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [VI] at Concepcion; [V] at Chiguayante, Curico, Parral, San Clemente, San Javier, Talca, Talcahuano and Temuco; [IV] at Angol, Chillan, Coronel, Linares, Los Angeles, Pichilemu, Rancagua and Tome; [III] at Santiago; [II] at Corral, Lanco, Puente Alto, San Fernando, Valdivia, Villarrica and Vina del Mar. Felt as far as La Serena and Osorno. Felt [III] at Neuquen and [II] at Mendoza, Argentina. Also felt at San Rafael.

BJI ***16*** *02:21:58.9,36.°20S×73.°20W,h18km,mB6.5/31,Ms7.0/84, Ms7 6.9/79*

NEIC ***16*** *02:21:58.0±0.0,36.°12S×73.°15W,h25km Best double couple: NP1:ϕ_s177.00000°,δ81.00000°,λ86.00000°. NP2:ϕ_s21.00000°,δ9.00000°,λ114.00000°. Principal axes: T 1.4700, Plg53.0000°, Azm82.0000°; N 0.0400, Plg3.0000°, Azm178.0000°; P -1.5200, Plg36.0000°, Azm270.0000°;*

MOS ***16*** *02:21:59.2±1.1,36.°19S×73.°34W,h33km,mb6.1/68, MS6.8/52 Error ellipse: s-maj=13.3km s-min=6.2km az=100.3*

SZGRF ***16*** *02:22:04.0,35.°34S×72.°82W,h33km,mb7.0,Near coast of central Chile*

NEIC ***16*** *02:22:21.5±0.0,36.°52S×72.°85W,h25km,Moment Tensor Solution. s127 Moment tensor: Scale 10^{19}Nm; M_{rr}0.64; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$-0.62; $M_{r\theta}$0.21; $M_{\theta\phi}$-0.05; $M_{\phi r}$-1.02; Best double couple: $M_0$1.20000×10^{19} NP1:ϕ_s171.00000°, δ75.00000°,λ83.00000°. NP2:ϕ_s15.00000°,δ17.00000°, λ114.00000°. Principal axes: T 1.2400, Plg59.0000°, Azm71.0000°; N -0.0500, Plg6.0000°, Azm172.0000°; P -1.1900, Plg29.0000°, Azm266.0000°;*

ISC 16 02:21:58.1±0.5,36.°26S±0.°03×73.°39W±0.°04,h19km±1km, h19km:pP-P,n1627,σ1°±72/1583,mb5.9/249,MS6.8/231, 300C-277D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**1.51**	**75**	⇑*i*P	**Pn**	**02 22 24.8**	**+0.7**
LNCH				AML	AML	02 22 52.4	
	comp=N,534μm,0.5s						
TALC	**Talca**	**1.67**	**59**	⇑*i*P	**Pn**	**02 22 26.7**	**+0.4**
TALC				*i* S	**Sg**	**02 22 53.4**	**+1.5**
TALC				AML	AML	02 23 06.5	
	comp=E,718μm,0.5s						
NICH	**Los Niches**	**2.16**	**55**	⇓*i*P	**Pb**	**02 22 35.2**	**-1.4**
NICH				*e*S1	**Sb**	**02 23 07.8**	**+4.8**
NICH				AML	AML	02 23 27.2	
	comp=N,486μm,0.6s						
RCDM	**Rinconada Maip**	**3.49**	**38**	*e*P1	**Pn**	**02 22 51.7**	**+0.4**
ANTU	**Antumapu**	**3.51**	**41**	*e*P1	**Pn**	**02 22 52.4**	**+0.6**
ANTU				*e*S2	**Sn**	**02 23 36.9**	**+4.1**
IHA	**Instituto Hidr**	**3.53**	**25**	⇑*i*P	**Pn**	**02 22 51.2**	**-0.8**
VLCH	**Valdivia**	**3.54**	**178**	⇓*i*P	**Pn**	**02 22 49.8**	**-2.2**
LACH	**Col Las Americ**	**3.66**	**41**	⇑*i*P	**Pn**	**02 22 54.1**	**+0.4**
CLCH	**Cerro Calan**	**3.70**	**40**	⇑*i*P	**Pn**	**02 22 54.3**	**0.0**
PEL	**Peldehue**	**3.83**	**36**	⇓*i*P	**Pn**	**02 22 56.2**	**+0.1**
PLCA	**Paso Flores**	**4.99**	**154**	*e*P	**Pn**	**02 23 12.0**	**-0.1**
PLCA	**Paso Flores**	**4.99**	**154**	Pn	**Pn**	**02 23 11.9**	**-0.1**
	comp=N,24nm,0.3s,baz=325,slow=11,SNR=62						
PLCA				Lg	Lg	02 24 30.5	
	comp=N,93nm,0.3s,baz=55,slow=19,SNR=4.2						
PLCA				LR	LR	02 25 06.1	
	comp=N,496μm,21.5s,baz=299,slow=38						
PLCA	**Paso Flores**	**4.99**	**154**	*e*Pn	**Pn**	**02 23 12.0**	**-0.1**
PLCA				*e*Pg	**Pg**	**02 23 34.6**	**+1.0**
PLCA				*e*Sn	**Sn**	**02 24 10.8**	**+1.5**
PLCA				Lg	Lg	02 24 30.5	
PLCA				*e*Sg	**Sg**	**02 24 38.7**	**+0.5**
PMCH	**Puerto Montt**	**5.24**	**176**	*e*P4	**Pn**	**02 23 13.3**	**-2.0**
CMCH	**Combarbala**	**5.45**	**22**	⇓*i*P	**Pn**	**02 23 16.9**	**-1.5**
CMCH				*i* S4	**Sn**	**02 24 18.2**	**-2.4**
CFAA	**Coronel Fontan**	**6.32**	**44**	Pn	**Pn**	**02 23 30.0**	**-0.2**
	comp=N,19nm,0.3s,baz=216,slow=11,SNR=550						
CFAA				Sn	**Sn**	**02 24 46.1**	**+4.2**
	comp=N,10nm,0.3s,baz=224,slow=21,SNR=3.2						
CFAA				Lg	Lg	02 25 21.1	
	comp=N,20nm,0.3s,baz=319,slow=20,SNR=7.9						
CFAA				LR	LR	02 26 24.3	
	comp=N,129μm,21.5s,baz=226,slow=43						
LCO	**Las Campanas**	**7.58**	**18**	*e*Pn	**Pn**	**02 23 45.8**	**-1.9**
LCO				*e*Lg	Lg	02 25 59.1	
VACH	**Vallenar**	**7.98**	**17**	⇓*i*P	**Pn**	**02 23 52.2**	**-0.9**
CPCH	**Copiapo**	**9.24**	**17**	⇓*i*P	**Pn**	**02 24 08.8**	**-1.6**
TRQA	**Tornquist**	**9.28**	**105**	*e*Pn	**Pn**	**02 24 11.8**	**+0.9**
TRQA				*e*Lg	Lg	02 26 54.2	
LVC	**Limon Verde**	**14.14**	**17**	*e*Pn	Pn	02 25 13.1	-4.6
LVC				*e*Lg	Lg	02 28 42.2	
USHA	**Ushuaia**	**18.89**	**171**	P	**Pn**	**02 26 18.3**	**+0.5**
	comp=N,1.4nm,0.3s,baz=321,slow=6.5,SNR=21						
USHA				LR	LR	02 33 08.7	
	comp=N,253μm,20.8s,baz=328,slow=36						
EFI	**East Falkland**	**18.89**	**149**	*c* *i*P	**P**	**02 26 15.7**	**-1.5**
EFI				pmax	pmax		
	comp=Z,1μm,1.4s						
EFI	**East Falkland**	**18.89**	**149**	*e*P	**P**	**02 26 16.4**	**-0.9**
	comp=Z,256nm,0.8s						
LPAZ	**La Paz**	**20.43**	**15**	*e*P	Pn	02 26 36.6	-0.7
LPAZ				pmax	pmax		
	comp=Z,2μm,1.5s						
LPAZ	**La Paz**	**20.43**	**15**	P	Pn	02 26 36.4	-0.9
	comp=Z,162nm,0.8s,baz=183,slow=7.9,SNR=117						
LPAZ	**La Paz**	**20.43**	**15**	*e*P	Pn	02 26 36.6	-0.7
	comp=Z,2μm,1.5s						
SIV	**San Ignacio**	**22.98**	**32**	P	**P**	**02 27 00.8**	**-0.8**
	comp=Z,527nm,1.1s,baz=228,slow=11,SNR=138						
SIV				LR	LR	02 37 52.7	
	comp=Z,594μm,18.9s,baz=227,slow=42						
NNA	**Nana**	**24.37**	**352**	P	**P**	**02 27 15.1**	**0.0**
	comp=Z,291nm,1.1s,baz=186,slow=11,SNR=36						
NNA	**Nana**	**24.37**	**352**	*e*P	**P**	**02 27 15.1**	**0.0**
	comp=Z,407nm,1.0s						
NNA				LR	LR		
	comp=Z,55μm,21.0s						
SAML	**Samuel**	**28.73**	**21**	*e*P	**P**	**02 27 54.4**	**0.0**
	comp=Z,241nm,1.3s						
SAML				LR	LR		
	comp=Z,321μm,20.0s						
PMSA	**Palmer Station**	**29.09**	**172**	P	**P**	**02 27 57.7**	**+0.6**
	comp=Z,32nm,0.9s,baz=356,slow=16,SNR=3.4						
PMSA				LR	LR	02 38 33.1	
	comp=Z,61μm,21.8s,baz=338,slow=34						
PMSA	**Palmer Station**	**29.09**	**172**	*e*P	**P**	**02 27 57.9**	**+0.7**
	comp=Z,307nm,1.2s						
ATAH	**Atahualpa**	**29.35**	**350**	P	**P**	**02 28 02.1**	**+1.8**
	comp=Z,41nm,1.0s,baz=172,slow=8.2,SNR=24						
ATAH				LR	LR	02 38 55.0	
	comp=Z,51μm,18.1s,baz=177,slow=35						
BDFB	**Brasilia**	**30.53**	**54**	P	**P**	**02 28 09.7**	**-0.9**
	comp=Z,434nm,1.2s,baz=222,slow=7.1,SNR=61						
BDFB				LR	LR	02 41 55.5	
	comp=Z,451μm,18.1s,baz=223,slow=39						
HOPE	**Hope Point**	**31.13**	**137**	*e*P	**P**	**02 28 14.6**	**-0.7**
	comp=Z,135nm,0.9s						
HOPE				LR	LR		
	comp=Z,96μm,19.0s						
RPN	**Rapa Nui**	**31.76**	**276**	LR	LR	02 37 44.7	
	comp=Z,199μm,18.1s,baz=124,slow=30						
OTAV	**Otavalo**	**36.62**	**351**	*e*P	**P**	**02 29 05.6**	**+1.8**
	comp=Z,671nm,1.7s						
OTAV				LR	LR		
	comp=Z,65μm,19.0s						
PTGA	**Pitinga**	**37.48**	**22**	P	**P**	**02 29 10.0**	**-0.6**
	comp=Z,238nm,1.1s,baz=205,slow=9.4,SNR=57						
PTGA				LR	LR	02 46 29.6	
	comp=Z,161μm,18.1s,baz=190,slow=39						
PTGA	**Pitinga**	**37.48**	**22**	*e*P	**P**	**02 29 10.2**	**-0.4**
PAYG	**Puerto Ayora**	**38.72**	**332**	*e*P	**P**	**02 29 21.5**	**+0.3**
	comp=Z,365nm,1.4s						
PAYG				LR	LR		
	comp=Z,101μm,19.0s						
ROSC	**El Rosal**	**40.91**	**359**	P	**P

comp=Z,96µm,21.0s
MCLT Moule a Chique 51.07 16 *e* **P 02 30 59.2 -0.2**
LPMF Morne Lapointe 51.90 15 *e*P **P 02 31 05.5 0.0**
FDF Fort de France 52.02 15 *e*P **P 02 31 05.3 -1.2**
FDF pmax pmax
comp=Z,702nm,0.9s
FDF MLR MLR
comp=Z,94µm,21.0s
FDF Fort de France 52.02 15 *e*P **P 02 31 05.1 -1.4**
FDF Fort de France 52.02 15 *e*P **P 02 31 06.1 -0.4**
FDF Fort de France 52.02 15 *e*P **P 02 31 05.3 -1.2**
comp=Z,702nm,0.9s
FDF LR LR
comp=Z,94µm,21.0s
BVM Bellevue 52.04 15 *e*P **P 02 31 06.8 +0.2**
DLPL La Plaine 52.58 15 *e* **P 02 31 09.3 -1.3**
DLPL La Plaine 52.58 15 *e*P **P 02 31 09.5 -1.1**
BBL Barber's Block 52.72 14 *e*P **P 02 31 10.3 -1.4**
TBG Guadaloupe-3 53.01 14 *e*P **P 02 31 12.2 -1.5**
DOG Dongo Capester 53.19 14 *e*P **P 02 31 13.7 -1.4**
ECG Echelle 53.19 14 *e*P **P 02 31 13.8 -1.4**
LKG Breislack 53.19 14 *e*P **P 02 31 13.8 -1.4**
MLG Mont-d'or 53.20 14 *e*P **P 02 31 13.6 -1.6**
SSG Sans Toucher 53.23 14 *e*P **P 02 31 14.1 -1.4**
APG El Apazote 53.48 339 P P 02 31 13.3 -4.2
comp=Z,179nm,1.2s,baz=173,slow=6.6,SNR=25
SEG Port Louis 53.57 14 *e*P **P 02 31 16.2 -1.6**
DEG La Desirade 53.57 15 *e*P **P 02 31 16.2 -1.7**
QSPA South Pole Qui 53.98 180 P **P 02 31 20.6 0.0**
comp=Z,138nm,1.0s,baz=148,slow=2.7,SNR=67
QSPA South Pole Qui 53.98 180 *e*P **P 02 31 20.4 -0.2**
comp=Z,207nm,0.9s
QSPA LR LR
comp=Z,22µm,19.0s
RKT Rikitea 54.27 266 *e*S **S 02 38 59.8 -0.1**
comp=Z,49µm,26.5s
RKT *e*SS **SS 02 42 43.2 +1.4**
comp=Z,12µm,28.2s
RKT *e*LR LR 02 47 08.5
comp=Z,99µm,37.8s,baz=125
RKT Rikitea 54.27 266 *e*T T 03 29 32.8
comp=Z,14nm,0.2s
CRPR Cabo Rojo, PR 54.30 7 *e*P **P 02 31 22.2 -0.9**
comp=Z,386nm,0.9s
MTDJ Mount Denham 54.33 355 *e*P **P 02 31 22.6 -0.9**
comp=Z,2µm,2.9s
MTDJ LR LR
comp=Z,29µm,19.0s
CDVI St. Croix 54.33 10 *e*P **P 02 31 21.1 -2.3**
comp=Z,202nm,0.9s
OBIP Obispado Ponce 54.39 8 *e*P **P 02 31 22.3 -1.5**
comp=Z,507nm,0.9s
CELP Cerrillos 54.42 8 *e*P **P 02 31 23.2 -0.9**
LSP Las Mesas 54.47 7 *e*P **P 02 31 23.5 -0.9**
LRS Lares 54.61 8 *e*P **P 02 31 24.0 -1.5**
PCDR Punta Cana, DR 54.68 6 *e*P **P 02 31 25.3 -0.6**
NVL N'lazarevskaya 54.70 156 ⇓*i*P **P 02 31 24.8 -0.7**
NVL *e**PP **pP 02 31 33.9 +2.5**
NVL *e* 02 32 34.7
NVL *e* 02 33 27.8
NVL *e*PPP PPP 02 34 39.0
NVL *i* S **S 02 38 59.3 -5.1**
NVL pmax pmax
comp=Z,278nm,0.9s
CBYP Canovanas 54.70 9 *e*P **P 02 31 24.0 -2.1**
comp=Z,331nm,0.9s
ANWB Willy Bob 54.75 14 *e*P **P 02 31 24.5 -1.9**
STVI Saint Thomas 54.90 10 *e*P **P 02 31 25.2 -2.3**
comp=Z,107nm,1.0s
SDDR Presa de Saban 54.98 2 *e*P **P 02 31 27.3 -0.8**
comp=Z,63nm,0.8s
SDDR LR LR
comp=Z,63µm,20.0s
SMN1 Samana, DR 55.28 5 *e*P **P 02 31 29.3 -1.1**
GTBY Guantanamo Bay 55.90 358 *e*P **P 02 31 33.9 -0.8**
comp=Z,92nm,0.6s
GTBY LR LR
comp=Z,20µm,21.0s
CMIG Matias Romero 56.82 335 P **P 02 31 41.7 +0.4**
comp=Z,28nm,1.1s,baz=172,slow=6.2,SNR=21
GRTK Grand Turk 57.50 2 *e*P **P 02 31 45.7 -0.3**
comp=Z,343nm,1.0s
GRTK LR LR
comp=Z,46µm,19.0s
ASCN Ascension 60.48 77 *e*P **P 02 32 07.2 +0.2**
comp=Z,349nm,0.8s
ASCN LR LR
comp=Z,94µm,20.0s
SBA Scott Base 60.64 192 *e*P **P 02 32 08.2 +1.0**
SBA pmax pmax
comp=Z,212nm,1.4s
SBA MLR MLR
comp=Z,32µm,19.0s
SBA Scott Base 60.64 192 *e*P **P 02 32 08.2 +1.0**
comp=Z,212nm,1.4s
SBA LR LR
comp=Z,32µm,19.0s
VNDA Vanda 61.67 192 *e*P **P 02 32 15.3 +1.1**
VNDA pmax pmax
comp=Z,106nm,1.2s
VNDA Vanda 61.67 192 P **P 02 32 15.0 +0.8**
comp=Z,22nm,1.1s,baz=159,slow=5.0,SNR=14
VNDA LR LR 02 55 29.0
comp=Z,38µm,19.1s,baz=124,slow=33
VNDA PKPPKP P'P'df 03 01 24.4 -8.5
comp=Z,3.2nm,1.1s,baz=214,slow=4.3,SNR=5.7
VNDA Vanda 61.67 192 *e*P **P 02 32 15.2 +1.1**
comp=Z,106nm,1.2s
VNDA P'P' 03 01 24.4
SHEL Horse Pasture 62.83 90 *e*P **P 02 32 24.3 +1.4**
SHEL pmax pmax
comp=Z,246nm,0.8s
SHEL MLR MLR
comp=Z,116µm,20.0s
SHEL Horse Pasture 62.83 90 *e*P **P 02 32 24.3 +1.4**
comp=Z,246nm,0.8s
SHEL LR LR
comp=Z,116µm,20.0s
SYO Syowa Base 64.18 158 ⇑*i*P **P 02 32 29.0 -1.9**
H06S1 SOCORRO T 65.22 320 T T 03 43 34.1
SNR=37
H06E1 SOCORRO T-PHAS 65.24 321 T T 03 43 33.4
SNR=46
TBI Tubuai 65.74 258 *e*P P 02 32 45.9 +4.0
comp=Z,177nm,1.0s
TBI Tubuai 65.74 258 *e*T T 03 44 01.9
comp=Z,19nm,0.3s
035Z Hargill 66.59 336 ⇓P **P 02 32 46.1 -0.9**
baz=67
035Z ⇓S **S 02 41 39.7 +2.5**
baz=67
035A Encino 67.04 336 ⇓P **P 02 32 50.2 +0.3**
baz=67
034A Hebbronville 67.35 336 ⇑P **P 02 32 52.8 +0.9**
baz=68,SNR=16
MEH Mehetia 67.48 264 *e*P P 02 32 56.3 +3.2
comp=Z,24nm,1.0s
MEH Mehetia 67.48 264 *e*T T 03 46 09.8
comp=Z,410nm,0.2s
934A Benavides 67.79 336 ⇓P **P 02 32 55.2 +0.6**
baz=68,SNR=11
TIGA Tifton 68.02 351 ⇓P **P 02 32 55.4 -0.6**
baz=68,SNR=12
TIGA Tifton 68.02 351 *e*P **P 02 32 54.9 -1.1**
comp=Z,139nm,0.9s
933A Laredo 68.05 335 ⇓P **P 02 32 56.4 +0.1**
baz=68,SNR=34
738A Farr-Stevens R 68.06 339 ⇓P **P 02 32 55.4 -0.9**
baz=68
BRAL Brewton 68.14 347 *e*P **P 02 32 58.0 +1.2**
comp=Z,779nm,1.7s
BRAL LR LR
comp=Z,19µm,19.0s
835A Beeville 68.20 337 ⇓P **P 02 32 58.7 +1.5**
baz=68,SNR=9.5
834A Tilden 68.29 336 ⇑P **P 02 32 58.5 +0.7**
baz=69,SNR=28
TVO Taravao 68.48 263 *e*P P 02 33 02.8 +3.4
comp=Z,20nm,0.9s
TVO Taravao 68.48 263 *e*T T 03 47 26.4
comp=Z,7.7nm,0.3s
VAH Vaihoa 68.55 267 *e*P **P 02 33 02.9 +3.1**
comp=Z,133nm,1.0s
TIAR Tiarei 68.67 263 *e*P P 02 33 03.9 +3.3
comp=Z,41nm,0.9s
TIAR Tiarei 68.67 263 *e*T T 03 47 37.9
comp=Z,41nm,0.2s

735A Kenedy 68.72 337 ⇓P **P 02 33 01.2 +0.7**
baz=69,SNR=18
833A Chaparral WMA, 68.75 335 ⇓P **P 02 33 00.5 -0.2**
baz=69,SNR=49
BBSR BB Station 68.76 8 *e*P **P 02 33 01.9 +1.3**
comp=Z,78nm,0.9s
BBSR LR LR
comp=Z,18µm,20.0s
PAE Paea 68.81 263 *e*P P 02 33 04.6 +3.2
comp=Z,35nm,1.2s
PAE Paea 68.81 263 *e*T T 03 47 43.6
comp=Z,5.1nm,0.2s
PPT2 Papeete2 68.84 263 *e*P P 02 33 05.2 +3.5
comp=Z,252nm,1.2s
PPT2 *e*S **S 02 42 04.7 -0.3**
comp=Z,59µm,23.2s
PPT2 Papeete2 68.84 263 *e*LR LR 02 53 52.9
comp=Z,177µm,24.5s,baz=122
PPT2 Papeete2 68.84 263 *e*T T 03 47 40.8
comp=Z,6.5nm,0.2s
PPT Papeete 68.85 263 P **P 02 33 02.6 +0.9**
comp=Z,54nm,0.8s,baz=169,slow=3.3,SNR=5.6
PPT LR LR 02 55 25.6
comp=Z,101µm,19.8s,baz=118,slow=29
832A Faith Ranch, C 68.91 335 ⇑P **P 02 33 01.7 +0.1**
baz=69,SNR=30
734A La Parita Cree 68.96 336 ⇑P **P 02 33 02.1 +0.2**
baz=69,SNR=12
636A Smothers Creek 69.08 338 ⇓P **P 02 33 03.1 +0.5**
baz=69,SNR=19
733A Divot King Ran 69.08 336 ⇓P **P 02 33 02.9 +0.2**
baz=69,SNR=15
RGRS Roger Stewart 69.10 354 *e*P **P 02 33 04.0 +1.3**
HKT Hockley 69.16 339 *e*P **P 02 33 05.3 +2.3**
HKT pmax pmax
comp=Z,276nm,1.8s
HKT Hockley 69.16 339 *e*P **P 02 33 05.3 +2.3**
comp=Z,276nm,1.8s
CSU Charleston Sou 69.17 354 *e*P **P 02 33 02.7 -0.4**
635A Leesville 69.21 337 ⇑P **P 02 33 02.6 -0.9**
baz=70
NHSC New Hope 69.30 354 *e*P **P 02 33 03.3 -0.6**
comp=Z,378nm,1.0s
NHSC LR LR
comp=Z,31µm,19.0s
538A Harpers Horsep 69.31 340 ⇓P **P 02 33 03.2 -0.9**
baz=70
SACV Santiago Islan 69.31 52 *e*P **P 02 33 04.6 +0.2**
comp=Z,112nm,0.9s
SACV LR LR
comp=Z,54µm,19.0s
732A Laxson Ranch, 69.32 335 ⇑P **P 02 33 03.9 -0.3**
baz=70,SNR=69
634A China Grove, S 69.39 337 ⇑P **P 02 33 04.9 +0.3**
baz=70
537A Green Hill Far 69.42 339 ⇑P **P 02 33 04.2 -0.5**
baz=70,SNR=11
536A Bastrop 69.64 338 ⇑P **P 02 33 06.3 +0.2**
baz=70,SNR=7.9
633A Saathoff Ranch 69.72 336 ⇓P **P 02 33 07.4 +0.7**
baz=70,SNR=15
535A Dale 69.75 338 ⇑P **P 02 33 06.5 -0.3**
baz=70,SNR=13
438A Sam Houston St 69.81 340 ⇑P **P 02 33 08.0 +0.9**
baz=70,SNR=15
GOGA Godfrey 69.95 351 *e*P **P 02 33 06.7 -1.3**
GOGA pmax pmax
comp=Z,436nm,1.6s
GOGA MLR MLR
comp=Z,22µm,19.0s
GOGA Godfrey 69.95 351 *e*P **P 02 33 06.7 -1.3**
comp=Z,436nm,1.6s
GOGA LR LR
comp=Z,22µm,19.0s
632A Uvalde 69.97 336 ⇑P **P 02 33 08.5 +0.3**
baz=70,SNR=40
340A Bronson 70.01 341 ⇑P **P 02 33 09.0 +0.7**
baz=70,SNR=30
534A Blanco 70.03 337 ⇑P **P 02 33 08.0 -0.6**
baz=70,SNR=16
437A Phantom Ranch, 70.07 339 ⇑P **P 02 33 09.1 +0.4**
baz=70
LRAL Lakeview Retre 70.10 348 *e*P **P 02 33 08.2 -0.7**
comp=Z,336nm,1.7s
339A Huntington 70.11 341 ⇓P **P 02 33 09.1 +0.1**
baz=70,SNR=23
631A Perdido Creek 70.15 335 ⇑P **P 02 33 09.4 +0.1**
baz=70,SNR=20
436A Wall Ranch, Ga 70.20 339 ⇑P **P 02 33 09.3 -0.2**
baz=70
533A Kerrville 70.24 337 ⇓P **P 02 33 09.7 -0.2**
baz=71,SNR=27
338A Crockett 70.33 340 ⇑P **P 02 33 10.4 0.0**
baz=71,SNR=33
435B Jarrell 70.45 338 ⇓P **P 02 33 12.1 +1.0**
baz=71
337A Centerville 70.46 340 ⇑P **P 02 33 12.1 +1.0**
baz=71
NATX Nacogdoches 70.54 341 *e*P **P 02 33 12.9 +1.3**
comp=Z,259nm,1.0s
NATX LR LR
comp=Z,12µm,19.0s
532A Rocksprings 70.58 336 ⇑P **P 02 33 12.0 0.0**
baz=71,SNR=68
434A Burnet 70.69 337 ⇓P **P 02 33 12.3 -0.3**
baz=71,SNR=87
239A Gary 70.74 341 ⇑P **P 02 33 13.4 +0.6**
baz=71,SNR=15
336A Riesel 70.80 339 ⇑P **P 02 33 13.2 0.0**
baz=71,SNR=27
531A Rocksprings 70.83 335 ⇑P **P 02 33 14.0 +0.6**
baz=71,SNR=57
JCT Junction City 70.87 336 *e*P **P 02 33 13.6 -0.1**
JCT pmax pmax
comp=Z,301nm,1.3s
JCT MLR MLR
comp=Z,11µm,19.0s
JCT Junction City 70.87 336 ⇓P **P 02 33 13.7 -0.1**
baz=71,SNR=38
JCT Junction City 70.87 336 *e*P **P 02 33 13.6 -0.1**
comp=Z,301nm,1.3s
JCT LR LR
comp=Z,11µm,19.0s
335A Moody 70.87 338 ⇑P **P 02 33 14.3 +0.6**
baz=71,SNR=10.0
238A Jacksonville 70.89 341 ⇓P **P 02 33 12.2 -1.6**
baz=71,SNR=15
433A Art 70.89 337 ⇑P **P 02 33 13.5 -0.4**
baz=71,SNR=78
237A Washetta, Mont 71.08 340 ⇑P **P 02 33 13.9 -0.9**
baz=71,SNR=23
530A J-C Ranch, Com 71.09 335 ⇓P **P 02 33 15.0 -0.1**
baz=71,SNR=82
334A Lometa 71.16 338 ⇓P **P 02 33 15.7 +0.3**
baz=72,SNR=77
TXAR Lajitas Array 71.19 332 P **P 02 33 16.2 +0.4**
comp=Z,100nm,1.2s,baz=148,slow=7.4,SNR=34
TXAR LR LR 03 00 05.9
comp=Z,62µm,18.6s,baz=0.0,slow=32
TXAR PKPPKP P'P'df 03 01 15.5 +11
comp=Z,1.9nm,1.0s,baz=336,slow=1.5,SNR=5.2
432A Menard 71.23 336 ⇑P **P 02 33 15.5 -0.4**
baz=72,SNR=20
CNNC Cliffs of the 71.26 356 *e*P **P 02 33 15.8 -0.1**
comp=Z,256nm,0.9s
CNNC LR LR
comp=Z,27µm,20.0s
431A Sonora 71.33 335 ⇑P **P 02 33 16.4 -0.1**
baz=72,SNR=53
MAW Mawson 71.33 164 P **P 02 33 16.8 +0.8**
comp=Z,93nm,1.0s,baz=206,slow=5.6,SNR=5.4
MAW LR LR 03 04 41.2
comp=Z,48µm,20.6s,baz=229,slow=36
529A Stev Forest Ra 71.37 334 ⇓P **P 02 33 16.4 -0.4**
baz=72,SNR=63
333A Richland Sprin 71.39 337 ⇑P **P 02 33 16.8 0.0**
baz=72,SNR=53
KMSC Kings Mountain 71.42 353 ⇓P **P 02 33 15.8 -1.0**
baz=72,SNR=36
KMSC Kings Mountain 71.42 353 *e*P **P 02 33 16.1 -0.8**
comp=Z,232nm,1.1s
138A Matatall Enter 71.51 341 ⇑P **P 02 33 17.5 0.0**
baz=72,SNR=21
WHTX Lake Whitney, 71.54 339 ⇑P **P 02 33 16.7 -0.9**
baz=72,SNR=49
WHTX Lake Whitney, 71.54 339 *e*P **P 02 33 17.2 -0.5**
comp=Z,394nm,1.4s
137A Heron Place, G 71.63 340 ⇑P **P 02 33 18.2 0.0**
baz=72,SNR=31
430A Baggett Ranch, 71.63 335 ⇓P **P 02 33 18.3 -0.1**
baz=72,SNR=85
332A Millersview 71.68 336 ⇓P **P 02 33 18.2 -0.4**
baz=72,SNR=85
429A Davenport Ranc 71.71 334 ⇓P **P 02 33 18.1 -0.7**
baz=72,SNR=82
234A Clairette 71.76 338 ⇑P **P 02 33 19.0 0.0**
baz=72,SNR=57
331A San Angelo 71.84 336 ⇑P **P 02 33 19.2 -0.4**
baz=72,SNR=86
OXF Oxford 71.98 346 *e*P **P 02 33 19.0 -1.2**
OXF pmax pmax
comp=Z,261nm,1.1s
OXF Oxford 71.98 346 *e*P **P 02 33 19.0 -1.2**
comp=Z,261nm,1.1s
233A Rising Star 72.00 337 ⇓P **P 02 33 20.2 -0.4**
baz=72,SNR=48
135A Vickery Place, 72.06 339 ⇑P **P 02 33 20.5 -0.3**
baz=72,SNR=11
SWET Sewanee 72.06 349 *e*P **P 02 33 20.4 -0.4**
comp=Z,492nm,1.2s
CPCT Cooper Cave 72.09 350 *e*P **P 02 33 23.1 +2.1**
232A Coleman 72.12 337 ⇑P **P 02 33 20.9 -0.4**
baz=72,SNR=66
330A Mertzon 72.18 335 ⇑P **P 02 33 21.5 -0.1**
baz=72,SNR=42
TKL Tuckaleechee C 72.20 351 *e*P **P 02 33 20.5 -1.1**
TKL Tuckaleechee C 72.20 351 P **P 02 33 21.1 -0.5**
comp=Z,61nm,0.8s,baz=169,slow=7.4,SNR=33
TKL Tuckaleechee C 72.20 351 *e*P **P 02 33 20.5 -1.1**
134A White-Moore Ra 72.27 338 ⇑P **P 02 33 21.4 -0.6**
baz=73,SNR=21
231A Bronte 72.38 336 ⇓P **P 02 33 23.1 +0.3**
baz=73,SNR=46
329A Wagon Wheel Ra 72.53 335 ⇑P **P 02 33 23.6 -0.1**
baz=73
133A Hamilton Ranch 72.56 338 ⇑P **P 02 33 23.5 -0.3**
baz=73,SNR=55
230A Sterling City 72.60 336 ⇑P **P 02 33 23.1 -1.0**
baz=73
Z35A Perchaven, San 72.74 339 ⇓P **P 02 33 24.5 -0.3**
baz=73,SNR=36
ELIM Elim 72.76 120 *e*P **P 02 33 24.5 -0.8**
ELIM AMB AMB 02 33 29.3
comp=Z,347nm,2.9s
ELIM Elim 72.76 120 P **P 02 33 24.5 -0.8**
comp=Z,347nm,2.9s
ABTX Abilene, Hawle 72.80 337 ⇓P **P 02 33 25.2 0.0**
baz=73,SNR=42
ABTX Abilene, Hawle 72.80 337 *e*P **P 02 33 24.8 -0.4**
comp=Z,237nm,1.1s
UALR University of 72.85 344 *e*P **P 02 33 24.7 -0.7**
comp=Z,171nm,1.4s
229A Bryant Ranch, 72.91 335 ⇓P **P 02 33 25.9 -0.1**
baz=73,SNR=23
MIAR Mount Ida 72.92 343 *e*P **P 02 33 24.9 -0.9**
MIAR pmax pmax
comp=Z,133nm,1.4s
MIAR MLR MLR
comp=Z,19µm,19.0s
MIAR Mount Ida 72.92 343 *e*P **P 02 33 24.9 -0.9**
comp=Z,133nm,1.4s
MIAR LR LR
comp=Z,19µm,19.0s
Z34A Collier Ranch, 72.97 339 ⇓P **P 02 33 25.2 -1.0**
baz=73,SNR=7.6
131A Roby 73.08 336 ⇓P **P 02 33 26.6 -0.4**
baz=73,SNR=27
Z33A Whitaker Ranch 73.14 338 ⇑P **P 02 33 26.6 -0.6**
baz=74,SNR=64
130A Snyder 73.20 336 ⇓P **P 02 33 27.3 -0.4**
baz=74,SNR=14
HBAR Harrisburg 73.24 345 *e*P **P 02 33 28.0 +0.3**
WVT Waverly 73.26 348 *e*P **P 02 33 27.0 -0.9**
WVT pmax pmax
comp=Z,245nm,1.0s
WVT Waverly 73.26 348 *e*P **P 02 33 27.0 -0.9**
comp=Z,245nm,1.0s
228A UT Block 9, Go 73.32 334 ⇑P **P 02 33 29.2 +0.8**
baz=74,SNR=36
HALT Halls 73.32 347 *e*P **P 02 33 28.1 -0.1**
Z32A Haskell 73.38 337 ⇑P **P 02 33 28.3 -0.3**
baz=74,SNR=80
BLA Blacksburg 73.39 354 *e*P **P 02 33 28.1 -0.5**
BLA pmax pmax
comp=Z,83nm,0.9s
BLA MLR MLR
comp=Z,22µm,22.0s
BLA Blacksburg 73.39 354 *e*P **P 02 33 28.1 -0.5**
comp=Z,83nm,0.9s
BLA LR LR
comp=Z,22µm,22.0s
Y34A Reagan Ranch, 73.47 339 ⇓P **P 02 33 28.5 -0.6**
baz=74,SNR=33
GNAR Gosnell 73.50 346 *e*P **P 02 33 28.9 -0.4**
comp=Z,4µm,1.3s
129A Stewart Farms, 73.53 335 ⇓P **P 02 33 28.9 -0.7**
baz=74,SNR=8.6
Z31A Sharp Cattle R 73.60 337 ⇑P **P 02 33 29.0 -1.0**
baz=74,SNR=54
GLAT Glass 73.66 347 *e*P **P 02 33 30.7 +0.5**
JSRW J. Sargeant Re 73.70 356 *e*P **P 02 33 30.2 -0.1**
KOMG Komaggas 73.71 115 AMB AMB 02 33 37.0
comp=Z,398nm,1.8s
KOMG AMS AMS 03 02 21.7
comp=Z,73µm,19.1s
128A Castleberry Fa 73.74 335 ⇑P **P 02 33 29.2 -1.7**
baz=74,SNR=54
BBTS Babate 73.77 58 LR LR 03 04 35.3
comp=Z,133µm,21.6s,baz=229,slow=35
Y33A Hilltop Ranch, 73.77 338 ⇑P **P 02 33 30.6 -0.3**
baz=74,SNR=21
Z30A Sanderson Ranc 73.89 336 ⇓P **P 02 33 31.3 -0.4**
baz=74,SNR=48
Y32A R-V Farms, Ver 74.01 338 ⇓P **P 02 33 30.4 -1.9**
baz=74,SNR=20
Z29A Hungry Hill Ra 74.05 336 ⇓P **P 02 33 32.0 -0.7**
baz=74,SNR=62
X34A Smith Ranch, M 74.09 339 ⇑P **P 02 33 32.8 0.0**
baz=74,SNR=7.3
PARMO Parma 74.13 346 *e*P **P 02 33 32.3 -0.7**
X33A Lawton 74.23 339 ⇓P **P 02 33 33.0 -0.6**
baz=75
Y31A Rekieta Farm, 74.23 337 ⇑P **P 02 33 32.7 -1.0**
baz=75,SNR=30
DRV Dumont d'Urvil 74.26 193 P P 02 33 16.0 -17
DRV S SKiKP 02 42 19.0 -40
DRV SS **SS 02 47 57.0 +6.6**
DRV L L 02 53 00.0
DRV R 02 57 00.0
Z28A Tucker Farm, M 74.31 335 ⇑P **P 02 33 33.1 -1.1**
baz=75,SNR=36
X32A Elmer 74.35 338 ⇓P **P 02 33 33.7 -0.6**
baz=75,SNR=30
Y30A Stafford Catti 74.36 336 ⇓P **P 02 33 33.7 -0.7**
baz=75,SNR=11
WMOK Wichita Mounta 74.50 339 *e*P **P 02 33 34.4 -0.8**
WMOK pmax pmax
comp=Z,134nm,1.3s
WMOK MLR MLR
comp=Z,9µm,20.0s
WMOK Wichita Mounta 74.50 339 *e*P **P 02 33 34.4 -0.8**
comp=Z,134nm,1.3s
WMOK LR LR
comp=Z,9µm,20.0s
Y29A Porterfield Fa 74.59 336 ⇓P **P 02 33 34.8 -1.1**
baz=75,SNR=25
CPRX Cap Rock 74.59 334 *e*P **P 02 33 36.2 +0.3**
comp=Z,21nm,1.0s
W34A Bridge Creek, 74.67 339 ⇑P **P 02 33 35.5 -0.6**
baz=75,SNR=16
W34A Bridge Creek, 74.67 339 *e*P **P 02 33 35.7 -0.4**
comp=Z,160nm,1.1s
SUR Sutherland 74.71 119 P P 02 33 40.6 +3.6
SNR=13
SUR Sutherland 74.71 119 *e*P **P 02 33 37.8 +0.8**
comp=Z,322nm,0.9s
SUR LR LR
comp=Z,61µm,20.0s
X31A McDonald Ranch 74.76 338 ⇑P **P 02 33 35.4 -1.3**
baz=75,SNR=31
TUL1 Leonard 74.77 341 ⇑P **P 02 33 35.7 -0.9**
baz=75,SNR=52
TUL1 Leonard 74.77 341 *e*P **P 02 33 35.9 -0.8**
comp=Z,161nm,1.0s
W33A Caddo, Fort Co 74.79 339 ⇑P **P 02 33 36.5 -0.3**

baz=75,SNR=46
Y28A McKinney Farm, 74.83 335 ⇓P **P 02 33 36.8 -0.4**
baz=75,SNR=21
X30A Coker Ranch, T 74.87 337 ⇑P **P 02 33 37.0 -0.4**
baz=75,SNR=20
V35A Meyer Ranch, C 74.91 340 P **P 02 33 36.9 -0.6**
baz=75
W32A Sentinel 74.99 338 ⇑P **P 02 33 36.8 -1.3**
baz=75,SNR=107
USIN University of 75.03 348 *e*P **P 02 33 36.9 -1.2**
comp=Z,224nm,1.0s
SIUC Southern Illin 75.05 347 *e*P **P 02 33 37.3 -0.9**
comp=Z,104nm,0.8s
MSTX Muleshoe 75.06 335 ⇑P **P 02 33 37.2 -1.4**
baz=75,SNR=44
MSTX Muleshoe 75.06 335 *e*P **P 02 33 38.3 -0.3**
comp=Z,182nm,1.3s
WCI Wyandotte Cave 75.07 350 *e*P **P 02 33 36.7 -1.7**
WCI pmax pmax
comp=Z,37nm,0.8s
WCI Wyandotte Cave 75.07 350 *e*P **P 02 33 36.7 -1.7**
comp=Z,37nm,0.8s
Y27A Causey 75.12 335 ⇑P **P 02 33 37.5 -1.4**
baz=76,SNR=29
X29A Tulia 75.14 336 ⇑P **P 02 33 37.9 -1.1**
baz=76,SNR=21
V34A Guthrie 75.16 340 ⇓P **P 02 33 38.7 -0.3**
baz=76
V34A Guthrie 75.16 340 *e*P **P 02 33 39.0 0.0**
comp=Z,156nm,1.0s
319A Douglas 75.23 329 ⇓P **P 02 33 39.7 +0.1**
baz=76,SNR=29
W31A Holland Ranch, 75.26 338 ⇑P **P 02 33 39.3 -0.3**
baz=76,SNR=22
V33A Lossen Ranch, 75.36 339 ⇓P **P 02 33 39.5 -0.6**
baz=76,SNR=53
SDMD Soldier's Deli 75.36 357 *e*P **P 02 33 40.1 +0.1**
comp=Z,87nm,0.9s
X28A Dimmitt 75.37 336 ⇑P **P 02 33 39.6 -0.8**
baz=76,SNR=8.1
W30A Crocket Farms 75.45 337 ⇓P **P 02 33 41.3 +0.6**
baz=76
V32A Arapaho 75.49 339 ⇓P **P 02 33 41.5 +0.6**
baz=76,SNR=11
AMTX Amarillo 75.53 336 ⇑P **P 02 33 40.8 -0.4**
baz=76
AMTX Amarillo 75.53 336 *e*P **P 02 33 41.0 -0.2**
comp=Z,246nm,1.1s
121A Cookes Peak, D 75.63 330 ⇓P **P 02 33 42.0 +0.1**
baz=76,SNR=46
121A Cookes Peak, D 75.63 330 *e*P **P 02 33 43.3 +1.4**
comp=Z,139nm,1.1s
U34A Anderson Ranch 75.73 340 ⇓P **P 02 33 41.3 -0.9**
baz=76,SNR=8.7
U34A Anderson Ranch 75.73 340 *e*P **P 02 33 41.7 -0.5**
comp=Z,207nm,1.2s
W29A Amarillo 75.74 336 ⇓P **P 02 33 41.7 -0.7**
baz=76,SNR=38
V31A Spring Creek L 75.78 338 ⇑P **P 02 33 43.5 +0.9**
baz=76,SNR=32
X27A F and S Farms, 75.79 335 ⇓P **P 02 33 42.9 +0.2**
baz=76,SNR=14
OLIL Olney 75.85 348 *e*P **P 02 33 41.4 -1.4**
comp=Z,172nm,1.3s
U33A Lingo Farm, Me 75.89 340 P **P 02 33 43.1 0.0**
baz=76
Z22A Elephant Butte 75.94 331 ⇑P **P 02 33 43.8 +0.1**
baz=76,SNR=42
X26A CR and CF Fran 75.95 334 ⇓P **P 02 33 43.8 +0.2**
baz=76,SNR=35
Y24A Capitan 75.97 333 ⇑P **P 02 33 43.0 -0.9**
baz=76,SNR=66
V30A Spur Ranch, Mi 76.03 337 ⇓P **P 02 33 44.3 +0.2**
baz=76,SNR=14
BLO Bloomington 76.03 350 *e*P **P 02 33 43.0 -0.8**
BLO pmax pmax
comp=Z,99nm,0.8s
BLO Bloomington 76.03 350 *e*P **P 02 33 43.0 -0.8**
comp=Z,99nm,0.8s
W28A Vega 76.05 336 ⇑P **P 02 33 44.4 +0.2**
baz=76
U32A Winter Ranch, 76.09 339 ⇓P **P 02 33 44.3 0.0**
baz=76,SNR=22
SLM Saint Louis 76.13 346 *e*P **P 02 33 43.8 -0.6**
SLM pmax pmax
comp=Z,102nm,0.7s
SLM Saint Louis 76.13 346 *e*P **P 02 33 43.8 -0.6**
comp=Z,102nm,0.7s
W27A Bowe Ranch, En 76.16 335 ⇓P **P 02 33 45.0 +0.2**
baz=76,SNR=58
X25A Clemmons Ranch 76.22 334 ⇓P **P 02 33 44.8 -0.5**
baz=77
U31A Nine Bar Ranch 76.33 338 ⇓P **P 02 33 46.0 +0.3**
baz=77,SNR=7.6
V29A Stinnett 76.39 337 ⇑P **P 02 33 44.7 -1.4**
baz=77,SNR=6.5
W26A Owens Ranch, T 76.42 335 ⇑P **P 02 33 46.5 +0.2**
baz=77,SNR=32
BUFB Buffelsbos 76.45 122 *e*P **P 02 33 47.8 +1.2**
BUFB AMB AMB 02 33 57.5
comp=Z,7.3nm,8.8s
BUFB Buffelsbos 76.45 122 P **P 02 33 47.8 +1.2**
comp=Z,7.3nm,8.8s
V28A Channing 76.50 336 ⇓P **P 02 33 47.0 +0.2**
baz=77,SNR=9.3
T33A Patterson Ranc 76.53 340 ⇑P **P 02 33 46.8 0.0**
baz=77,SNR=15
ACSO Alum Creek Sta 76.63 352 *e*P **P 02 33 46.4 -0.8**
comp=Z,210nm,0.8s
ACSO LR LR
comp=Z,25μm,22.0s
SSPA Standing Stone 76.63 356 *e*P **P 02 33 46.8 -0.4**
comp=Z,117nm,1.2s
Y22D IRIS PASSCAL I 76.65 332 ⇓P **P 02 33 48.2 +0.5**
baz=77
TUC Tucson 76.67 328 *e*P **P 02 33 48.8 +1.0**
TUC pmax pmax
comp=Z,414nm,2.0s
TUC MLR MLR
comp=Z,14μm,21.0s
TUC Tucson 76.67 328 *e*P **P 02 33 48.8 +1.0**
comp=Z,414nm,2.0s
TUC LR LR
comp=Z,14μm,21.0s
V27A Dan Oppiter Fa 76.71 336 ⇓P **P 02 33 47.8 -0.1**
baz=77,SNR=15
U30A WK&E Inc. Balk 76.72 338 ⇑P **P 02 33 48.2 +0.3**
baz=77,SNR=18
LENM Lemitar 76.75 332 *e*P **P 02 33 48.3 0.0**
comp=Z,560nm,2.4s
LPM Los Pinos Moun 76.75 332 *e*P **P 02 33 49.3 +1.0**
comp=Z,49nm,1.1s
W25A X Bar L Ranch, 76.78 334 ⇑P **P 02 33 47.9 -0.5**
baz=77,SNR=53
T32A Huddler Ranch, 76.81 339 ⇑P **P 02 33 48.7 +0.3**
baz=77,SNR=18
U29A Oasis Ranch, S 76.84 337 ⇓P **P 02 33 48.6 -0.1**
baz=77
S33A Kaszmaul Farm, 76.94 340 ⇓P **P 02 33 48.5 -0.6**
baz=77,SNR=5.2
DBIC Dimbokro 76.95 72 *e*P **P 02 33 49.8 +0.1**
DBIC Dimbokro 76.95 72 P **P 02 33 49.8 +0.1**
comp=Z,124nm,0.7s,baz=204,slow=5.7,SNR=138
DBIC LR LR 03 06 45.3
comp=Z,78μm,18.4s,baz=204,slow=35
DBIC Dimbokro 76.95 72 *e*P **P 02 33 49.8 +0.1**
comp=Z,3.5nm,1.3s
T31A Randall Ranch, 76.95 339 ⇓P **P 02 33 49.2 0.0**
baz=77,SNR=12
MIR Mirnyy 76.98 174 *e*P **P 02 33 50.0 +1.0**
MIR *e* 02 36 42.0
MIR *e*S **S 02 43 36.0 0.0**
MIR *e*PS **PnS 02 44 10.0 -5.1**
MIR *e*SS **SS 02 48 32.0 +0.4**
MIR pmax pmax
comp=Z,8μm,14.0s
MIR MLR MLR
comp=N,51μm,17.0s
MIR MLR MLR
comp=E,53μm,17.0s
MIR MLR MLR
comp=Z,151μm,17.0s
LAZ Ladron 77.03 332 *e*P **P 02 33 50.6 +0.7**
comp=Z,121nm,1.6s
V26A Tequesquite Ra 77.07 335 ⇑P **P 02 33 49.8 -0.2**
baz=77,SNR=18
U28A Mallet 77.08 336 ⇓P **P 02 33 50.5 +0.5**
baz=77,SNR=20
W24A Lazy 6 Ranch, 77.11 334 ⇓P **P 02 33 51.0 +0.7**
baz=77,SNR=42
T30A Plains 77.17 338 ⇓P **P 02 33 49.4 -1.0**
baz=78,SNR=6.3
ANMO Albuquerque 77.25 333*c i*P **P 02 33 51.8 +0.7**
ANMO pmax pmax
comp=Z,568nm,1.1s
ANMO MLR MLR
comp=Z,56μm,12.0s
ANMO Albuquerque 77.25 333 *e*P **P 02 33 51.5 +0.3**
comp=Z,172nm,1.3s
ANMO LR LR
comp=Z,43μm,19.0s
214A Organ Pipe Nat 77.26 326 ⇑P **P 02 33 52.2 +1.2**
baz=78,SNR=23
214A Organ Pipe Nat 77.26 326 *e*P **P 02 33 52.5 +1.4**
comp=Z,103nm,1.2s
S32A Newby Ranch, P 77.30 339 ⇑P **P 02 33 51.1 0.0**
baz=78,SNR=22
SFIN Lafayette 77.30 349 ⇑P **P 02 33 49.7 -1.2**
baz=78,SNR=12
SFIN Lafayette 77.30 349 *e*P **P 02 33 49.8 -1.2**
comp=Z,104nm,1.2s
U27A Thompson Grove 77.31 336 ⇑P **P 02 33 51.5 +0.2**
baz=78,SNR=23
S31A Mullinville 77.38 339 ⇑P **P 02 33 51.9 +0.3**
baz=78,SNR=20
V25A Rancho No Teng 77.39 334 ⇑P **P 02 33 51.6 -0.2**
baz=78,SNR=52
WIN Windhoek 77.39 109 *e*P **P 02 33 52.9 +0.5**
WIN AMB AMB 02 33 58.1
comp=Z,64nm,1.6s
WIN AMS AMS 03 05 03.5
comp=Z,29μm,18.6s
WIN Windhoek 77.39 109 P **P 02 33 52.9 +0.5**
WIN pmax pmax
comp=Z,64nm,1.6s
WIN Windhoek 77.39 109 *i*P **P 02 33 51.9 -0.5**
WIN PKP 02 43 45.6
WIN Windhoek 77.39 109 P **P 02 33 52.9 +0.5**
comp=Z,64nm,1.6s
T29A Hugoton 77.50 337 ⇓P **P 02 33 52.5 +0.2**
baz=78,SNR=10.0
V24A Rampart Ranch, 77.52 334 ⇑P **P 02 33 53.0 +0.3**
baz=78,SNR=29
U26A Atchley Ranch, 77.59 335 ⇑P **P 02 33 52.8 -0.2**
baz=78,SNR=22
R33A Olander Ranch, 77.61 340 ⇑P **P 02 33 53.1 +0.3**
baz=78,SNR=5.9
S30A Montezuma 77.69 338 ⇑P **P 02 33 53.3 -0.1**
baz=78,SNR=26
T28A Walsh 77.72 337 ⇓P **P 02 33 53.5 -0.1**
baz=78,SNR=62
CASY Casey 77.74 182 *e*P **P 02 33 55.1 +1.8**
comp=Z,220nm,1.2s
CASY LR LR
comp=Z,60μm,20.0s
ALLY Alegheny Colle 77.78 355 *e*P **P 02 33 53.2 -0.5**
comp=Z,296nm,1.4s
U25A Circle Dot Ran 77.82 335 ⇑P **P 02 33 54.7 +0.4**
baz=78,SNR=25
T27A Campo 77.86 336 ⇓P **P 02 33 54.3 -0.1**
baz=78,SNR=42
S29A Ulysses 77.87 338 ⇓P **P 02 33 54.3 -0.1**
baz=78,SNR=31
R32A Long Quarter, 77.91 340 ⇑P **P 02 33 53.6 -1.0**
baz=78,SNR=33
KSU1 Kansas State U 77.99 342 ⇓P **P 02 33 54.6 -0.3**
baz=78
KSU1 Kansas State U 77.99 342 *e*P **P 02 33 54.2 -0.7**
comp=Z,91nm,0.9s
KSU1 LR LR
comp=Z,13μm,19.0s
R31A Burdett 78.02 339 ⇓P **P 02 33 54.8 -0.3**
baz=78,SNR=18
S28A Manter 78.08 337 ⇓P **P 02 33 54.2 -1.4**
baz=78,SNR=56
BINY Binghamton 78.12 358 *e*P **P 02 33 55.5 -0.1**
comp=Z,264nm,1.8s
BINY LR LR
comp=Z,41μm,19.0s
U24A Moreno Valley 78.14 334 ⇑P **P 02 33 56.4 +0.3**
baz=78,SNR=11
GRM Grahamstown 78.14 123 *e*P **P 02 33 56.1 -0.1**
GRM AMB AMB 02 34 01.2
comp=Z,422nm,1.4s
GRM AMS AMS 03 07 40.3
comp=Z,66μm,18.2s
GRM Grahamstown 78.14 123 P **P 02 33 56.1 -0.1**
GRM pmax pmax
comp=Z,422nm,1.4s
GRM Grahamstown 78.14 123 *i*P **P 02 33 56.3 +0.1**
GRM PKP 02 56 56.0
GRM Grahamstown 78.14 123 P **P 02 33 56.1 -0.1**
comp=Z,422nm,1.4s
Q33A Connelly Farm, 78.21 341 ⇓P **P 02 33 55.2 -0.9**
baz=79,SNR=14
R30A Dighton 78.23 339 ⇓P **P 02 33 56.0 -0.4**
baz=79,SNR=24
ERPA Erie 78.24 355 *e*P **P 02 33 55.6 -0.6**
comp=Z,105nm,0.9s
ERPA LR LR
comp=Z,31μm,20.0s
X18A Snowflake 78.25 330 ⇓P **P 02 33 56.7 +0.1**
baz=79,SNR=19
T26A Comanche Natio 78.25 336 ⇓P **P 02 33 57.0 +0.4**
baz=79,SNR=40
V22A San Miguel Ran 78.28 333 ⇑P **P 02 33 57.9 +1.0**
baz=79,SNR=92
113A Mohawk Valley, 78.37 326 ⇓P **P 02 33 57.4 +0.3**
baz=79,SNR=16
U23A El Rito 78.39 333 ⇓P **P 02 33 58.5 +1.0**
baz=79,SNR=42
Q32A Meitler Ranch, 78.40 340 ⇑P **P 02 33 56.6 -0.6**
baz=79,SNR=30
HRV Adam Dziewonsk 78.41 1 *e*P **P 02 33 57.5 +0.4**
HRV pmax pmax
comp=Z,295nm,1.5s
HRV Adam Dziewonsk 78.41 1 *e*P **P 02 33 57.5 +0.4**
comp=Z,295nm,1.5s
S27A Las Animas 78.49 336 ⇓P **P 02 33 57.7 -0.2**
baz=79,SNR=28
T25A Trinidad 78.49 335 ⇑P **P 02 33 58.4 +0.4**
baz=79,SNR=104
Z14A Wintersburg 78.51 327 ⇑P **P 02 33 58.2 +0.3**
baz=79,SNR=12
P33A Williams Farm, 78.59 341 ⇓P **P 02 33 57.3 -1.0**
baz=79
S26A Kim 78.62 336 ⇓P **P 02 33 58.7 +0.2**
baz=79,SNR=66
R29A Marienthal 78.62 338 ⇓P **P 02 33 58.4 -0.1**
baz=79,SNR=15
Q31A Ellis 78.65 340 ⇓P **P 02 33 58.9 +0.3**
baz=79,SNR=27
W18A Petrified Fore 78.67 330 ⇓P **P 02 33 59.4 +0.4**
baz=79,SNR=27
W18A Petrified Fore 78.67 330 *e*P **P 02 33 59.6 +0.6**
comp=Z,274nm,1.4s
U22A Llaves 78.67 333 ⇓P **P 02 34 00.0 +1.0**
baz=79,SNR=44
R28A Tribune 78.75 338 ⇑P **P 02 33 58.8 -0.4**
baz=79,SNR=54
AAM Ann Arbor 78.75 352 *e*P **P 02 33 57.8 -1.2**
AAM pmax pmax
comp=Z,107nm,0.9s
AAM MLR MLR
comp=Z,32μm,22.0s
AAM Ann Arbor 78.75 352 *e*P **P 02 33 57.8 -1.2**
comp=Z,107nm,0.9s
AAM LR LR
comp=Z,32μm,22.0s
T24B San Luis 78.76 334 ⇓P **P 02 34 00.5 +0.9**
baz=79,SNR=37
X16A Lo Mia Camp, P 78.77 329 ⇓P **P 02 34 01.5 +2.0**
baz=79,SNR=68
Q30A Quinter 78.86 339 ⇓P **P 02 33 59.4 -0.4**
baz=79,SNR=49
S25A Robets Cordova 78.97 335 ⇓P **P 02 34 01.3 +0.7**
baz=79
Q29A Oakley 79.00 338 ⇓P **P 02 34 00.8 +0.3**
baz=79,SNR=16
P32A Huiting Farm, 79.00 340 ⇓P **P 02 34 00.2 -0.3**
baz=79,SNR=24
R27A Eads 79.00 337 ⇓P **P 02 33 59.6 -1.1**
baz=79,SNR=46
HVD Gariep Dam 79.01 120 *e*P **P 02 34 01.2 0.0**
HVD AMB AMB 02 34 05.7
comp=Z,386nm,3.3s
HVD AMS AMS 03 04 55.6
comp=Z,73μm,19.3s
HVD Gariep Dam 79.01 120 P **P 02 34 01.2 0.0**
HVD Gariep Dam 79.01 120 P **P 02 34 01.2 0.0**
comp=Z,386nm,3.3s
Y14A Wickenburg 79.03 327 ⇑P **P 02 34 01.3 +0.5**
baz=79,SNR=23
GLA Glamis 79.09 326 *e*P **P 02 34 02.6 +1.4**
GLA pmax pmax
comp=Z,85nm,1.2s
GLA Glamis 79.09 326 ⇑P **P 02 34 01.7 +0.5**
baz=79,SNR=13
GLA Glamis 79.09 326 *e*P **P 02 34 02.6 +1.4**
comp=Z,85nm,1.2s
P31A Stockton 79.12 340 ⇓P **P 02 34 00.5 -0.7**
baz=80,SNR=20
S24A Houchin Ranch, 79.22 335 ⇑P **P 02 34 02.0 -0.1**
baz=80,SNR=56
R26A Arlington 79.23 336 ⇑P **P 02 34 01.4 -0.5**
baz=80,SNR=62
ACCN Adirondack Com 79.27 360 *e*P **P 02 34 01.7 -0.1**
comp=Z,143nm,1.3s
R25A Fountain Ranch 79.36 336 ⇓P **P 02 34 03.1 +0.5**
baz=80,SNR=13
P30A Selden 79.39 339 ⇓P **P 02 34 02.9 +0.3**
baz=80,SNR=12
Q28A Sharon Springs 79.41 338 ⇓P **P 02 34 03.4 +0.5**
baz=80,SNR=13
SWSC Sam W. Stewart 79.45 325 ⇓P **P 02 34 03.3 +0.2**
baz=80,SNR=11
O32A Brockman Farm, 79.52 341 ⇑P **P 02 34 03.0 -0.3**
baz=80,SNR=17
Y12C Blythe 79.54 326 ⇓P **P 02 34 05.4 +1.9**
baz=80
S23A Nye Farm, Mont 79.55 334 ⇓P **P 02 34 04.5 +0.6**
baz=80,SNR=7.4
KSCO Kaye Shedlock' 79.61 337 ⇑P **P 02 34 03.5 -0.5**
baz=80,SNR=14
KSCO Kaye Shedlock' 79.61 337 *e*P **P 02 34 04.6 +0.6**
comp=Z,185nm,1.3s
P29A Atwood 79.64 339 ⇓P **P 02 34 04.0 -0.1**
baz=80,SNR=47
BAR Barrett 79.64 324 *e*P **P 02 34 06.0 +1.8**
comp=Z,202nm,1.1s
TSUM Tsumeb 79.66 106 P **P 02 34 05.3 +0.4**
comp=Z,88nm,1.1s,baz=208,slow=5.7,SNR=17
TSUM Tsumeb 79.66 106 P **P 02 34 05.3 +0.4**
TSUM LR LR
comp=Z,72μm,20.0s
WUAZ Wupatki 79.68 329 ⇓P **P 02 34 05.5 +1.0**
baz=80,SNR=52
WUAZ Wupatki 79.68 329 *e*P **P 02 34 05.9 +1.4**
comp=Z,120nm,1.2s
WUAZ LR LR
comp=Z,20μm,21.0s
O31A Woolen Ranch, 79.70 340 ⇓P **P 02 34 04.3 0.0**
baz=80,SNR=19
MONP Monument Peak, 79.70 324 ⇑P **P 02 34 05.6 +0.9**
baz=80,SNR=10
R24A Sanders Place, 79.72 335 ⇓P **P 02 34 05.0 +0.4**
baz=80,SNR=78
Q26A Hugo 79.82 337 ⇓P **P 02 34 05.6 +0.5**
baz=80,SNR=31
PDMCI Parker Dam,Lak 79.83 327 ⇑P **P 02 34 07.0 +1.9**
baz=80,SNR=15
NCB Newcomb 79.86 359 *e*P **P 02 34 04.9 -0.1**
comp=Z,55nm,0.9s
NCB LR LR
comp=Z,25μm,19.0s
P28A Saint Francis 79.86 338 ⇑P **P 02 34 06.1 +0.9**
baz=80,SNR=16
SCIA State Center 79.88 345 *e*P **P 02 34 05.2 0.0**
comp=Z,196nm,1.1s
SCIA LR LR
comp=Z,17μm,19.0s
S22A 4UR Ranch, Cre 79.88 334 ⇑P **P 02 34 06.3 +0.6**
baz=80,SNR=42
BC3 Big Chuckawall 79.88 325 ⇓P **P 02 34 04.7 -0.9**
baz=80,SNR=44
MDV Middlebury 79.88 0 *e*P **P 02 34 04.9 -0.2**
O30A MW Ranch, Wils 79.92 340 ⇑P **P 02 34 05.5 0.0**
baz=80,SNR=6.1
R23A Moffat 79.92 335 ⇑P **P 02 34 04.9 -1.0**
baz=80,SNR=43
N32A Stulken Farm, 79.99 341 ⇓P **P 02 34 06.2 +0.3**
baz=80
BOSA Boshof 80.00 118 *e*P **P 02 34 06.3 -0.2**
BOSA AMB AMB 02 34 10.6
comp=Z,346nm,3.1s
BOSA AMS AMS 03 09 57.7
comp=Z,58μm,17.5s
BOSA Boshof 80.00 118 *e*P **P 02 34 06.1 -0.4**
BOSA pmax pmax
comp=Z,43nm,1.3s
BOSA Boshof 80.00 118 P **P 02 34 06.4 -0.2**
comp=Z,308nm,1.0s,baz=231,slow=4.7,SNR=46
BOSA LR LR 03 07 47.4
comp=Z,50μm,18.2s,baz=234,slow=34
BOSA Boshof 80.00 118 *e*P **P 02 34 06.1 -0.4**
comp=Z,43nm,1.3s
109C Camp Elliot, M 80.02 324 ⇑P **P 02 34 07.0 +0.9**
baz=80
MVCO Mesa Verde 80.02 332 ⇓P **P 02 34 06.1 -0.3**
baz=80,SNR=54
MVCO Mesa Verde 80.02 332 *e*P **P 02 34 07.3 +0.9**
comp=Z,105nm,1.1s
MVCO LR LR
comp=Z,75μm,19.0s
Q25A Bedland, Calha 80.04 336 ⇑P **P 02 34 06.2 -0.3**
baz=80,SNR=22
O29A 4D Ranch, Culb 80.09 339 ⇑P **P 02 34 06.7 +0.3**
baz=80,SNR=8.6
P27A Ficken Ranch, 80.10 337 ⇑P **P 02 34 06.1 -0.5**
baz=80,SNR=8.8
KUK Kukurantumi 80.12 75 *i*P **P 02 34 07.1 -0.1**
KUK PKP **S 02 44 14.9 +3.7**
KUK PKP **SS 02 49 18.9 -3.2**
KUK PKP SKKSdf 02 59 40.2 -7.6
LBNH Lisbon 80.14 1 *e*P **P 02 34 07.3 +0.8**
LBNH pmax pmax
comp=Z,103nm,1.0s
LBNH MLR MLR
comp=Z,27μm,19.0s
LBNH Lisbon 80.14 1 *e*P **P 02 34 07.3 +0.8**
comp=Z,103nm,1.0s
LBNH LR LR
comp=Z,27μm,19.0s
IRM Iron Mountain 80.17 326 ⇑P **P 02 34 06.2 -0.8**
baz=80,SNR=39
N31A Bailey Ranch, 80.22 341 ⇑P **P 02 34 07.4 +0.3**
baz=81
JFWS Jewell Farm 80.29 348 *e*P **P 02 34 06.6 -0.8**
JFWS pmax pmax
comp=Z,290nm,1.3s
JFWS MLR MLR
comp=Z,31μm,19.0s
JFWS Jewell Farm 80.29 348 *e*P **P 02 34 06.6 -0.8**
comp=Z,290nm,1.3s
JFWS LR LR
comp=Z,31μm,19.0s
PFO Pinyon Flats O 80.31 325 *e*P **P 02 34 08.9 +1.0**
PFO pmax pmax
comp=Z,118nm,1.3s
PFO MLR MLR
comp=Z,28μm,19.0s
PFO Pinyon Flats O 80.31 325 ⇑P **P 02 34 09.6 +1.7**
baz=81,SNR=36
PFO Pinyon Flats O 80.31 325 *e*P **P 02 34 08.9 +1.0**
comp=Z,118nm,1.3s
PFO LR LR
comp=Z,28μm,19.0s
P26A Davis Ranch, A 80.34 337 ⇑P **P 02 34 07.8 -0.2**
baz=81,SNR=13
O28A Krutsinger Ran 80.38 338 ⇓P **P 02 34 08.2 +0.2**
baz=81,SNR=16
Q24A Divide 80.39 335 ⇑P **P 02 34 08.7 +0.2**
baz=81,SNR=36
W13A Hualapai Mount 80.39 327 ⇑P **P 02 34 09.0 +0.6**
baz=81
BELC Belle Mtn. Jos 80.42 325 ⇓P **P 02 34 09.2 +0.7**
baz=81,SNR=18
NEE2 Needles Airpor 80.44 327 ⇓P **P 02 34 09.6 +1.2**
baz=81
N30A Hueftle Ranch, 80.51 340 ⇑P **P 02 34 09.3 +0.6**
baz=81
LONY Lake Ozonia 80.51 359 *e*P **P 02 34 08.0 -0.6**
comp=Z,145nm,1.3s
LONY LR LR

comp=Z,23µm,20.0s
P25A Willow Gulch B 80.56 336 ⇑P P 02 34 09.6 +0.4
baz=81,SNR=7.1
Q23A Hartsel 80.57 335 ⇑P P 02 34 09.3 -0.1
baz=81
O27A Beecher Island 80.65 338 ⇑P P 02 34 10.0 +0.5
baz=81,SNR=14
MURC Murrieta 80.65 324 ⇑P P 02 34 10.7 +1.1
baz=81,SNR=21
N29A Votaw Ranch, W 80.68 339 ⇓P P 02 34 09.9 +0.2
baz=81,SNR=10
M31A Lambtecht Ranc 80.71 341 ⇑P P 02 34 09.7 0.0
baz=81,SNR=18
SNZO South Karori 80.79 225 PFAKE 02 34 20.0 +10
SNZO LR LR
comp=Z,37µm,20.0s
SCI San Clemente I 80.79 323 ⇓P P 02 34 11.5 +1.2
baz=81,SNR=6.0
P24A Kohler Place, 80.81 336 ⇑P P 02 34 10.9 +0.4
baz=81
N28A Pribbeno Ranch 80.82 339 ⇑P P 02 34 10.3 -0.1
baz=81,SNR=12
U15A North Rim 80.84 329 ⇓P P 02 34 10.5 -0.4
baz=81,SNR=72
PV01 Paradox Valley 80.86 333 *eP* **P 02 34 11.3 +0.4**
comp=Z,9µm,1.3s
GMRC Granite Mounta 80.91 326 ⇑P P 02 34 12.8 +1.7
baz=81,SNR=18
LDFC Landfair 80.92 326 *eP* P 02 34 15.1 +4.0
comp=Z,124nm,1.2s
O26A Horse Wrangler 80.95 337 ⇑P P 02 34 11.3 +0.1
baz=81
P23A Jefferson 80.99 335 ⇓P P 02 34 12.2 +0.5
baz=81,SNR=14
BBRC Big Bear Solar 81.06 325 ⇑P P 02 34 13.9 +1.8
baz=81
CIS Catalina Islan 81.07 323 ⇑P P 02 34 12.3 +0.5
baz=81,SNR=7.7
O25A Wiggins 81.09 337 ⇑P P 02 34 11.7 -0.2
baz=81,SNR=18
M30A Dale-Ortello V 81.14 340 ⇑P P 02 34 12.3 +0.2
baz=82
OGNE Ogallala 81.20 338 ⇓P P 02 34 12.7 +0.2
baz=82
OGNE Ogallala 81.20 338 *eP* **P 02 34 14.2 +1.7**
comp=Z,219nm,1.5s
OGNE LR LR
comp=Z,17µm,19.0s
PV04 Paradox Valley 81.21 332 *eP* **P 02 34 12.6 -0.1**
RPZ Rata Peaks 81.22 221 *eP* **P 02 34 15.8 +3.0**
comp=Z,186nm,1.3s
N27A Anderson Farm, 81.23 338 ⇑P P 02 34 12.1 -0.5
baz=82,SNR=17
PKME Peaks-Kenny Pk 81.23 3 PFAKE 02 34 20.0 +7.7
PKME LR LR
comp=Z,21µm,22.0s
HEC Hector,Ludlow 81.26 325 ⇑P P 02 34 13.0 +0.1
baz=82,SNR=9.8
FMP Fort Macarthur 81.27 323 ⇓P P 02 34 13.3 +0.5
baz=82
M29A Burnside Ranch 81.28 340 ⇑P P 02 34 13.3 +0.5
baz=82,SNR=7.8
ISCO Idaho Springs 81.30 335 *eP* **P 02 34 13.5 +0.2**
ISCO pmax pmax
comp=Z,137nm,1.5s
ISCO MLR MLR
comp=Z,26µm,19.0s
ISCO Idaho Springs 81.30 335 ⇑P P 02 34 13.5 +0.2
baz=82,SNR=45
ISCO Idaho Springs 81.30 335 *eP* **P 02 34 13.5 +0.2**
comp=Z,137nm,1.5s
ISCO LR LR
comp=Z,26µm,19.0s
URZ Urewera 81.33 229 P P 02 34 14.9 +1.5
comp=Z,11nm,0.8s,baz=224,slow=1.7,SNR=5.3
URZ LR LR 03 02 47.9
comp=Z,70µm,18.7s,baz=138,slow=30
URZ Urewera 81.33 229 *eP* **P 02 34 15.8 +2.4**
comp=Z,67nm,1.1s
BFSC Mount Baldy Ra 81.39 324 ⇓P P 02 34 14.3 +0.7
baz=82,SNR=23
O24A Longmont 81.41 336 ⇓P P 02 34 14.4 +0.8
baz=82
M28A Bar X Bar Ranc 81.43 339 ⇓P P 02 34 13.8 +0.2
baz=82,SNR=7.5
L31A Butterfield Fa 81.46 341 ⇑P P 02 34 13.6 0.0
baz=82,SNR=42
N26A Koester Ranch, 81.46 338 ⇑P P 02 34 14.3 +0.5
baz=82
L30A Spencer Herefo 81.48 340 ⇓P P 02 34 14.1 +0.3
baz=82,SNR=12
P22A Eagle 81.50 335 ⇑P P 02 34 14.6 +0.3
baz=82,SNR=30
MWC Mount Wilson 81.57 324 *eP* **P 02 34 14.5 -0.2**
MWC pmax pmax
comp=Z,70nm,1.1s
MWC Mount Wilson 81.57 324 *eP* **P 02 34 14.5 -0.2**
comp=Z,70nm,1.1s
TUQ Turquoise Moun 81.58 326 ⇓P P 02 34 14.7 0.0
baz=82,SNR=20
PASC Pasadena Art C 81.59 324 *eP* **P 02 34 15.5 +1.0**
comp=Z,108nm,1.3s
RRX Edison Barstow 81.61 325 ⇓P P 02 34 16.4 +1.8
baz=82
N25A Grover 81.72 337 ⇑P P 02 34 15.7 +0.4
baz=82
DECC Green Verdugo 81.72 324 ⇑P P 02 34 17.0 +1.8
baz=82
KSD Kokstad 81.77 122 *eP* **P 02 34 17.3 +1.3**
KSD AMB AMB 02 34 17.5
comp=Z,106nm,8.5s
KSD AMS AMS 03 06 10.0
comp=Z,21µm,20.4s
KSD Kokstad 81.77 122 P P 02 34 17.3 +1.3
comp=Z,106nm,8.5s
O23A Lake Granby, G 81.77 335 ⇑P P 02 34 16.3 +0.6
baz=82,SNR=45
L29A Maesberg Ranch 81.79 340 ⇑P P 02 34 15.7 +0.2
baz=82
M27A Reverse DX Ran 81.85 338 ⇑P P 02 34 16.0 +0.2
baz=82
GSC Goldstone, Bar 81.87 325 *eP* **P 02 34 17.0 +0.9**
GSC pmax pmax
comp=Z,222nm,1.8s
GSC Goldstone, Bar 81.87 325 ⇓P P 02 34 15.9 -0.2
baz=82,SNR=19
GSC Goldstone, Bar 81.87 325 *eP* **P 02 34 16.9 +0.9**
comp=Z,222nm,1.8s
O22A Kremmling 81.94 335 ⇑P P 02 34 16.2 -0.4
baz=82,SNR=44
N24A Carr 81.98 336 ⇑P P 02 34 17.1 +0.4
baz=82,SNR=14
M26A McRoberts Ranc 82.02 338 ⇑P P 02 34 16.6 -0.2
baz=82
L28A Connealy Angus 82.03 339 ⇑P P 02 34 17.3 +0.5
baz=82
RUDU RUNDU 82.06 106 *eP* **P 02 34 18.8 +1.1**
RUDU AMB AMB 02 34 23.6
comp=Z,352nm,1.9s
RUDU AMS AMS 03 10 51.9
comp=Z,69µm,17.3s
RUDU RUNDU 82.06 106 P P 02 34 18.8 +1.1
comp=Z,352nm,1.9s
EDW2 Edwards Air Fo 82.07 324 ⇑P P 02 34 18.6 +1.4
baz=82,SNR=24
K30A Basset 82.12 341 ⇑P P 02 34 17.8 +0.6
baz=82,SNR=17
SHOC Shoshone, Teco 82.12 326 ⇓P P 02 34 16.6 -0.8
baz=82
SHPR Sheep Range 82.13 327 *eP* **P 02 34 18.6 +1.0**
comp=Z,181nm,1.3s
BSC Santa Cruz Isl 82.14 323 ⇓P P 02 34 17.3 -0.2
baz=82
M25A Palm-Egli Farm 82.27 337 ⇓P P 02 34 17.3 -0.9
baz=83,SNR=7.6
L27A T5 Ranch, Ells 82.33 339 ⇓P P 02 34 17.6 -0.8
baz=83
ECSD EROS Data Cent 82.37 343 ⇓P P 02 34 18.4 0.0
baz=83,SNR=93
ECSD EROS Data Cent 82.37 343 *eP* **P 02 34 17.8 -0.7**
comp=Z,123nm,0.8s
ECSD LR LR
comp=Z,16µm,22.0s
N23A Red Feather La 82.39 336 ⇓P P 02 34 19.5 +0.6
baz=83,SNR=25
K29A Lazy Trails An 82.40 340 ⇑P P 02 34 18.9 +0.2
baz=83,SNR=22
LRMC Laurel Mtn Rad 82.42 325 ⇓P P 02 34 20.7 +1.6
baz=83,SNR=29
SRU San Rafael Swe 82.45 332 *eP* **P 02 34 19.2 0.0**
SRU pmax pmax
comp=Z,163nm,1.3s
SRU San Rafael Swe 82.45 332 *eP* **P 02 34 19.2 0.0**
comp=Z,162nm,1.3s
N22A Wattenberg Ran 82.48 335 ⇓P P 02 34 20.0 +0.6
baz=83,SNR=42
ARUT Antelope Range 82.48 329 *eP* **P 02 34 20.5 +1.2**
ARUT Antelope Range 82.48 329 *eP* **P 02 34 20.5 +1.2**
comp=Z,2µm,1.2s
PRYS Parys 82.49 118 *eP* **P 02 34 18.9 -1.0**
PRYS AMB AMB 02 34 24.4
comp=Z,118nm,1.6s
PRYS AMS AMS 03 08 46.6
comp=Z,34µm,19.0s
PRYS Parys 82.49 118 P P 02 34 18.9 -1.0
comp=Z,118nm,1.6s
O20A White River Ci 82.51 334 ⇓P P 02 34 19.5 0.0
baz=83,SNR=21
O20A White River Ci 82.51 334 *eP* **P 02 34 19.8 +0.3**
comp=Z,189nm,1.5s
L26A Underwood Farm 82.52 338 ⇓P P 02 34 19.9 +0.5
baz=83
M24A Cheyenne 82.54 337 ⇑P P 02 34 20.0 +0.4
baz=83,SNR=18
SBC Santa Barbara 82.54 323 ⇑P P 02 34 20.3 +0.8
baz=83
MVU Marysvale 82.59 330 *eP* **P 02 34 20.8 +0.8**
comp=Z,97nm,1.3s
K28A Ten Mile Ranch 82.64 340 ⇓P P 02 34 20.5 +0.5
baz=83,SNR=30
ARVC Arvin 82.67 324 ⇑P P 02 34 21.0 +0.8
baz=83
J30A Dallas 82.70 341 ⇓P P 02 34 19.8 -0.4
baz=83,SNR=20
KSR Koster 82.80 117 *eP* **P 02 34 21.4 -0.2**
KSR AMB AMB 02 34 26.1
comp=Z,126nm,1.9s
KSR AMS AMS 03 08 20.9
comp=Z,28µm,27.4s
KSR Koster 82.80 117 P P 02 34 21.4 -0.2
comp=Z,126nm,1.9s
M23A Laramie 82.83 336 ⇑P P 02 34 21.2 0.0
baz=83,SNR=7.8
WDLM Western Deep L 82.84 117 *eP* **P 02 34 20.8 -0.9**
WDLM AMB AMB 02 34 26.4
comp=Z,184nm,1.6s
WDLM AMS AMS 03 08 46.2
comp=Z,34µm,18.0s
FURC Furnace Creek, 82.86 326 ⇓P P 02 34 21.3 +0.3
baz=83,SNR=16
TMUT Trail Mountain 82.88 331 *eP* **P 02 34 22.0 +0.4**
comp=Z,215nm,1.4s
K27A Flueckinger Fa 82.88 339 ⇓P P 02 34 21.7 +0.5
baz=83,SNR=16
L25A Engebretsen Ra 82.90 338 ⇓P P 02 34 22.8 +1.4
baz=83
ISA Isabella, Lake 82.94 324 *eP* **P 02 34 23.0 +1.3**
ISA pmax pmax
comp=Z,61nm,1.0s
ISA Isabella, Lake 82.94 324 ⇑P P 02 34 22.4 +0.7
baz=83,SNR=41
ISA Isabella, Lake 82.94 324 *eP* **P 02 34 23.0 +1.3**
comp=Z,61nm,1.0s
TPNV Topopah Spring 82.98 327 ⇑P P 02 34 22.3 +0.3
baz=83,SNR=34
SPMN Marine on St. 82.99 346 ⇓P P 02 34 20.0 -1.6
baz=83,SNR=21
SPMN Marine on St. 82.99 346 *eP* **P 02 34 20.2 -1.4**
comp=Z,85nm,1.0s
J29A Okreek 83.00 341 ⇓P P 02 34 21.7 -0.1
baz=83,SNR=66
KLOF Kloof 83.02 117 *eP* **P 02 34 22.2 -0.5**
KLOF AMB AMB 02 34 26.4
comp=Z,225nm,3.2s
KLOF Kloof 83.02 117 P P 02 34 22.2 -0.5
comp=Z,225nm,3.2s
DAC Darwin (Calif) 83.03 325 *eP* **P 02 34 23.6 +1.3**
DAC pmax pmax
comp=Z,97nm,1.1s
DAC Darwin (Calif) 83.03 325 *eP* **P 02 34 23.6 +1.3**
comp=Z,97nm,1.1s
M22A Cedar Creek Ra 83.06 335 ⇓P P 02 34 22.0 -0.4
baz=83,SNR=13
L24A Wheatland 83.10 337 ⇓P P 02 34 23.2 +0.7
baz=83
N20A Spence Gulch, 83.13 334 ⇓P P 02 34 23.4 +0.6
baz=84,SNR=22
K26A Motz Farm, Whi 83.16 338 ⇑P P 02 34 23.1 +0.5
baz=84
COWI Conover 83.20 349 *eP* **P 02 34 22.0 -0.7**
comp=Z,111nm,1.2s
COWI LR LR
comp=Z,17µm,22.0s
I30A Oacoma 83.23 341 ⇓P P 02 34 22.5 -0.4
baz=84,SNR=26
J28A Allard Ranch, 83.26 340 ⇑P P 02 34 22.4 -0.7
baz=84,SNR=26
K25A Mack Ranch, Ha 83.28 338 ⇓P P 02 34 23.8 +0.4
baz=84
J27A Elkhorn Farm, 83.32 339 ⇑P P 02 34 22.7 -0.8
baz=84,SNR=25
VES Vestal, Richgr 83.37 324 ⇓P P 02 34 24.3 +0.5
baz=84,SNR=27
CRWM Crown Mines 83.37 118 *eP* **P 02 34 24.0 -0.5**
CRWM AMB AMB 02 34 28.9
comp=Z,248nm,1.6s
SMMC Simmler 83.38 323 ⇑P P 02 34 25.9 +2.0
baz=84,SNR=10.0
L23A Garrett 83.41 336 ⇓P P 02 34 23.5 -0.7
baz=84,SNR=16
OBSV Observatory 83.45 118 *eP* **P 02 34 24.4 -0.5**
OBSV AMB AMB 02 34 29.5
comp=Z,216nm,1.7s
OBSV AMS AMS 03 08 11.2
comp=Z,41µm,23.9s
ERPM east rand prop 83.47 118 *eP* **P 02 34 24.9 -0.1**
ERPM AMB AMB 02 34 29.4
comp=Z,265nm,3.3s
ERPM east rand prop 83.47 118 P P 02 34 24.9 -0.1
comp=Z,265nm,3.3s
GRAC Grapevine Rang 83.53 326 ⇓P P 02 34 25.4 +0.7
baz=84,SNR=16
I29A Vivian Onida 83.56 341 ⇑P P 02 34 24.2 -0.4
baz=84,SNR=10
L22A Ellis Ranch, M 83.57 336 ⇑P P 02 34 25.6 +0.6
baz=84,SNR=12
MPU Maple Canyon 83.66 331 *eP* **P 02 34 25.1 -0.4**
comp=Z,231nm,1.3s
K24A Anderson Ranch 83.67 337 ⇑P P 02 34 24.2 -1.2
baz=84
J26A Sides Ranch, S 83.68 339 ⇑P P 02 34 24.9 -0.5
baz=84,SNR=27
RAO Raoul Island 83.74 238 PFAKE 02 34 40.0 +14
RAO LR LR
comp=Z,31µm,19.0s
I28A Midland 83.78 340 ⇓P P 02 34 25.0 -0.7
baz=84,SNR=32
NLU North Lily Min 83.78 331 *eP* **P 02 34 26.4 +0.3**
comp=Z,178nm,1.5s
RCTC Rector, Farmer 83.83 324 ⇓P P 02 34 26.3 +0.2
baz=84
R11A Troy Canyon, C 83.86 328 ⇓P P 02 34 27.7 +1.2
baz=84,SNR=78
R11A Troy Canyon, C 83.86 328 *eP* **P 02 34 27.4 +1.0**
comp=Z,122nm,1.3s
DAU Daniels Canyon 83.86 332 *eP* **P 02 34 27.0 +0.4**
DAU pmax pmax
comp=Z,238nm,1.5s
DAU Daniels Canyon 83.86 332 *eP* **P 02 34 27.0 +0.4**
comp=Z,238nm,1.5s
SLR Silverton 83.87 117 *eP* **P 02 34 26.2 -0.8**
SLR AMB AMB 02 34 31.3
comp=Z,299nm,2.0s
SLR AMS AMS 03 08 23.3
comp=Z,64µm,18.8s
SLR Silverton 83.87 117 P P 02 34 26.2 -0.8
SLR pmax pmax
comp=Z,299nm,2.0s
SLR Silverton 83.87 117 P P 02 34 26.2 -0.8
comp=Z,299nm,2.0s
K23A Bowen Ranch, D 83.96 337 ⇑P P 02 34 26.6 -0.2
baz=84,SNR=16
TIN Tinemaha, Big 83.96 325 ⇓P P 02 34 28.3 +1.3
baz=84
J25A Sunshine Ranch 83.97 338 ⇓P P 02 34 26.0 -0.8
baz=84,SNR=33
I27A Quinn 84.08 340 ⇑P P 02 34 26.9 -0.4
baz=84,SNR=16
H29A Onida 84.10 341 ⇓P P 02 34 26.3 -1.0
baz=84,SNR=33
CRZF Crozet Islands 84.11 145 P P 02 34 10.0 -18
K22A Casper 84.16 336 ⇓P P 02 34 27.9 0.0
baz=84,SNR=26
K22A Casper 84.16 336 *eP* **P 02 34 27.8 0.0**
comp=Z,163nm,1.2s
J24A Dixon Ranch, L 84.18 338 ⇑P P 02 34 28.0 +0.1
baz=84,SNR=20
DUG Dugway, Tooele 84.28 331 *eP* **P 02 34 29.1 +0.6**
DUG pmax pmax
comp=Z,153nm,1.1s
DUG MLR MLR
comp=Z,19µm,19.0s
DUG Dugway, Tooele 84.28 331 ⇑P P 02 34 28.6 0.0
baz=85,SNR=105
DUG Dugway, Tooele 84.28 331 *eP* **P 02 34 29.1 +0.6**
comp=Z,154nm,1.1s
DUG LR LR
comp=Z,19µm,19.0s
I26A New Underwood 84.28 339 ⇓P P 02 34 27.6 -0.8
baz=85,SNR=12
CTU Camp Tracy 84.29 332 *eP* **P 02 34 29.1 +0.5**
comp=Z,33nm,0.9s
G30A Faulkton 84.30 342 ⇓P P 02 34 27.9 -0.4
baz=85,SNR=24
TPH Tonopah 84.35 327 *eP* **P 02 34 29.7 +0.7**
TPH pmax pmax
comp=Z,177nm,1.3s
TPH Tonopah 84.35 327 *eP* **P 02 34 29.7 +0.7**
comp=Z,177nm,1.3s
H28A Mission Ridge 84.36 341 ⇓P P 02 34 28.0 -0.7
baz=85,SNR=39
K21A Alcova 84.38 336 ⇑P P 02 34 28.1 -1.0
baz=85,SNR=54
J23A Dilts Ranch, B 84.52 337 ⇓P P 02 34 28.8 -0.9
baz=85
I25A Rochford 84.52 339 ⇑P P 02 34 29.4 -0.3
baz=85,SNR=34
TCUT Toone Canyon 84.53 332 *eP* **P 02 34 30.3 +0.4**
comp=Z,117nm,0.9s
G29A Hoven 84.55 342 ⇑P P 02 34 28.6 -1.0
baz=85
H27A Howes 84.61 340 ⇑P P 02 34 29.2 -0.7
baz=85,SNR=28
I24A Kuemmerle Ranc 84.65 338 ⇑P P 02 34 30.1 -0.2
baz=85,SNR=8.7
G28A Parade 84.70 341 ⇓P P 02 34 30.0 -0.4
baz=85,SNR=23
RSSD Black Hills 84.71 338 *eP* **P 02 34 30.2 -0.5**
RSSD pmax pmax
comp=Z,46nm,0.9s
RSSD Black Hills 84.71 338 *eP* **P 02 34 30.2 -0.5**
comp=Z,46nm,0.9s
MLAC Mammoth, Mammo 84.71 325 ⇑P P 02 34 32.0 +1.1
baz=85,SNR=22
H07S1 FLORES T-PHASE 84.72 32 *eP* **P 02 34 29.9 -0.7**
H07S1 FLORES T-PHASE 84.72 32 *e*SKS S 02 45 10.2 +13
H26A Fairpoint 84.79 339 ⇓P P 02 34 29.5 -1.4
baz=85
J22A Midwest 84.83 336 ⇓P P 02 34 29.0 -2.2
baz=85,SNR=31
F30A Leola 84.93 342 ⇓P P 02 34 30.5 -1.0
baz=85
BGU Big Grassy Mou 84.99 331 *eP* **P 02 34 31.9 -0.2**
comp=Z,59nm,1.3s
I23A Meade Ranch, G 85.00 337 ⇑P P 02 34 31.2 -0.9
baz=85
HWUT Hardware Ranch 85.01 332 *eP* **P 02 34 32.1 -0.1**
comp=Z,115nm,0.7s
HWUT LR LR
comp=Z,34µm,21.0s
H25A Fruitdale 85.03 339 ⇓P P 02 34 31.7 -0.5
baz=85,SNR=49
J21A Lysite 85.08 336 ⇓P P 02 34 32.6 0.0
baz=85,SNR=21
SPUT South Promonto 85.09 332 *eP* **P 02 34 32.5 -0.2**
comp=Z,275nm,1.3s
NVAR Mina Array Bea 85.12 326 P P 02 34 33.9 +0.9
comp=Z,9.3nm,0.6s,baz=148,slow=5.5,SNR=47
NVAR PKKPbc **PKKPbc 02 52 40.1 -0.2**
comp=Z,2.6nm,0.8s,baz=284,slow=2.1,SNR=9.7
NVAR PKPPKP P'P'df 03 00 46.9 +6.2
comp=Z,0.3nm,0.3s,baz=208,slow=3.6,SNR=4.4
F29A Eureka 85.13 342 ⇓P P 02 34 31.8 -0.7
baz=86,SNR=36
PCAN Candelaria 85.15 34 *eP* **P 02 34 32.1 -0.7**
comp=Z,299nm,0.7s
PCED Cedros 85.18 34 *eP* **P 02 34 32.3 -0.6**
comp=Z,98nm,0.3s
PICO Pico 85.20 34 *eP* **P 02 34 32.4 -0.7**
SAO San Andreas Ge 85.25 323 *eP* **P 02 34 33.8 +0.5**
SAO pmax pmax
comp=Z,85nm,1.3s
SAO San Andreas Ge 85.25 323 *eP* **P 02 34 33.8 +0.5**
comp=Z,85nm,1.3s
I22A 9 Mile Ranch, 85.26 337 ⇓P P 02 34 32.1 -1.2
baz=86,SNR=45
G27A Dupree 85.26 340 ⇑P P 02 34 32.4 -0.8
baz=86,SNR=18
BW06 Boulder Array 85.29 334 *eP* **P 02 34 33.1 -0.6**
comp=Z,73nm,1.2s
BW06 LR LR
comp=Z,53µm,19.0s
PDAR Pinedale Array 85.29 334 P P 02 34 33.3 -0.4
comp=Z,17nm,0.9s,baz=144,slow=5.3,SNR=28
PDAR PKKPbc **PKKPbc 02 52 38.5 -1.6**
comp=Z,1.3nm,0.8s,baz=118,slow=1.7,SNR=7.4
PDAR PKPPKP P'P'df 03 00 46.9 +7.2
comp=Z,0.9nm,1.0s,baz=106,slow=3.2,SNR=3.2
J20A Shoshoni 85.30 335 ⇑P P 02 34 33.0 -0.6
baz=86,SNR=78
G26A Maurine 85.36 340 ⇓P P 02 34 33.0 -0.8
baz=86,SNR=46
EYMN Ely 85.38 348 *eP* **P 02 34 32.6 -1.0**
comp=Z,114nm,1.2s
EYMN LR LR
comp=Z,16µm,20.0s
F28A McLaughlin 85.39 341 ⇓P P 02 34 33.1 -0.7
baz=86,SNR=20
H24A Dirks Ranch, A 85.43 338 ⇑P P 02 34 33.9 -0.2
baz=86,SNR=53
I21A Big Trails, Te 85.45 336 ⇑P P 02 34 34.0 -0.3
baz=86,SNR=54
ROSA Rosais 85.47 34 *eP* **P 02 34 33.6 -0.7**
comp=Z,453nm,1.5s
ROSA Rosais 85.47 34 *e*SKS S 02 45 15.0 +10
G25A Newell 85.50 339 ⇑P P 02 34 34.6 +0.2
baz=86,SNR=72
TOPO Topo 85.50 34 *eP* **P 02 34 34.0 -0.6**
H23A Clabaugh Cattl 85.52 338 ⇓P P 02 34 34.4 -0.2
baz=86
E30A Jud 85.53 343 ⇑P P 02 34 34.4 -0.1
baz=86,SNR=19
PSMA Santa Maria 85.53 37 *eP* **P 02 34 34.0 -0.7**
comp=Z,259nm,0.8s
J19A Crowheart 85.55 335 ⇓P P 02 34 34.9 0.0
baz=86,SNR=67
PSMN Pico do Norte, 85.57 37 *eP* **P 02 34 34.2 -0.7**
comp=Z,232nm,1.1s
PSMN Pico do Norte, 85.57 37 *e*SKS S 02 45 16.5 +11
HVU Hansel Valley 85.62 332 *eP* **P 02 34 35.1 -0.2**
HVU pmax pmax
comp=Z,246nm,1.3s
HVU Hansel Valley 85.62 332 *eP* **P 02 34 35.0 -0.2**
comp=Z,246nm,1.3s
WAKR Walker 85.70 325 *eP* **P 02 34 37.0 +1.2**
comp=Z,418nm,2.0s
F27A Lemmon 85.74 340 ⇑P P 02 34 35.1 -0.4
baz=86,SNR=52
CMB Columbia Colle 85.76 325 *eP* **P 02 34 36.6 +0.7**
CMB pmax pmax
comp=Z,76nm,1.1s
CMB Columbia Colle 85.76 325 *eP* **P 02 34 36.6 +0.7**
comp=Z,76nm,1.1s
E29A Napoleon 85.77 342 ⇓P P 02 34 35.6 -0.1
baz=86,SNR=12
PGRA Graciosa 85.83 34 *eP* **P 02 34 36.1 -0.1**
comp=Z,604nm,1.1s
PGRA Graciosa 85.83 34 *e*SKS S 02 45 14.4 +6.2
AHID Auburn Hatcher 85.84 333 *eP* **P 02 34 37.0 +0.6**
comp=Z,242nm,1.4s
AHID LR LR
comp=Z,47µm,19.0s
H22A Clearmont 85.84 337 ⇓P P 02 34 35.4 -0.9
baz=86,SNR=13

I20A	Worland	85.84	336	⇑P		P	02 34 35.7 -0.6
	baz=86,SNR=68						
ADH	Angra Heroismo	85.87	34	eP		P	02 34 35.4 -0.9
	comp=Z,331nm,1.3s						
PDA	Ponta Delgada	85.87	36	eP		P	02 34 35.7 -0.6
	comp=Z,272nm,1.1s						
F26A	Lodgepole	85.90	340	⇑P		P	02 34 36.2 -0.1
	baz=86,SNR=49						
PSET	Sete Cidades	85.91	36	eP		P	02 34 35.8 -0.8
	comp=Z,614nm,1.1s						
PSET	Sete Cidades	85.91	36	eSKS		S	02 45 18.6 +10
G24A	Alzada	85.92	339	⇓P		P	02 34 36.0 -0.5
	baz=86,SNR=30						
TORD	Torodi Ar. Bea	86.01	71	P		P	02 34 37.0 -0.6
	comp=Z,36nm,0.8s,baz=253,slow=2.6,SNR=92						
TORD				PKKPbc		PKKPbc	02 52 36.5 0.0
	comp=Z,0.6nm,0.9s,baz=33,slow=6.2,SNR=2.8						
TORD				LR		LR	03 12 37.8
	comp=Z,73μm,18.3s,baz=250,slow=35						
E28A	Huff	86.04	342	⇓P		P	02 34 36.3 -0.7
	baz=86						
D30A	Buchanan	86.06	343	⇑P		P	02 34 36.0 -1.0
	baz=86,SNR=36						
G23A	Biddle	86.09	338	⇑P		P	02 34 36.3 -1.1
	baz=86,SNR=33						
H21A	Big Horn, Sher	86.09	337	⇓P		P	02 34 36.6 -0.9
	baz=86,SNR=19						
E27A	Carson	86.13	341	⇑P		P	02 34 36.7 -0.8
	baz=86,SNR=14						
F25A	Bowman	86.18	339	⇑P		P	02 34 37.3 -0.5
	baz=86,SNR=24						
I19A	Meeteetse	86.21	335	⇓P		P	02 34 37.8 -0.4
	baz=87,SNR=15						
D29A	Pettibone, Tap	86.21	342	⇑P		P	02 34 36.5 -1.4
	baz=87,SNR=22						
H20A	Greybull	86.28	336	⇓P		P	02 34 37.2 -1.2
	baz=87,SNR=48						
BMN	Battle Mountai	86.29	328	eP		P	02 34 38.5 -0.1
BMN				pmax		pmax	
	comp=Z,84nm,1.5s						
BMN	Battle Mountai	86.29	328	eP		P	02 34 38.5 -0.1
	comp=Z,84nm,1.5s						
SAC	San Andreas	86.37	323	eP		P	02 34 36.3 -2.5
SAC				pmax		pmax	
	comp=Z,139nm,1.2s						
SAC	San Andreas	86.37	323	eP		P	02 34 36.2 -2.5
	comp=Z,139nm,1.2s						
G22A	Birney	86.39	337	⇓P		P	02 34 37.7 -1.2
	baz=87,SNR=22						
F24A	Ekalaka	86.39	339	⇓P		P	02 34 38.4 -0.5
	baz=87,SNR=46						
XMAS	Kiritimati	86.40	275	PFAKE			02 34 50.0 +10
XMAS				LR		LR	
	comp=Z,46μm,20.0s						
E26A	Carlson Angus	86.41	340	⇑P		P	02 34 38.7 -0.1
	baz=87,SNR=38						
PMOZ	Porto Moniz, M	86.50	45	eP		P	02 34 40.2 +0.4
	comp=Z,233nm,1.9s						
PMOZ	Porto Moniz, M	86.50	45	eS		S	02 45 12.7 -2.6
PMOZ	Porto Moniz, M	86.50	45	eLR		LR	03 06 09.5
	comp=Z,43μm,18.0s						
AGMN	Agassiz Nation	86.54	345	⇑P		P	02 34 39.0 -0.4
	baz=87,SNR=55						
AGMN	Agassiz Nation	86.54	345	eP		P	02 34 38.7 -0.7
	comp=Z,52nm,0.7s						
AGMN				LR		LR	
	comp=Z,23μm,19.0s						
FUL	Funchal	86.55	45	eP		P	02 34 45.0 +5.2
	comp=Z,244nm,1.5s						
C30A	Mose, Pekin	86.55	343	⇑P		P	02 34 39.4 -0.1
	baz=87,SNR=60						
F23A	Volborg	86.57	338	⇑P		P	02 34 39.2 -0.5
	baz=87,SNR=40						
D28A	Regan	86.58	342	⇑P		P	02 34 39.6 -0.1
	baz=87						
PMAR	Madeira	86.59	45	eP		P	02 34 42.9 +2.6
	comp=Z,381nm,1.4s						
I17A	Pilgrim Ck.	86.66	334	⇑P		P	02 34 40.0 -0.4
	baz=87,SNR=80						
G21A	Lodge Grass	86.68	337	⇑P		P	02 34 39.1 -1.2
	baz=87,SNR=20						
E25A	Miller Ranch,	86.69	340	⇓P		P	02 34 40.5 +0.2
	baz=87,SNR=34						
D27A	Center	86.75	341	⇑P		P	02 34 40.7 +0.2
	baz=87						
H19A	Powell	86.77	335	⇓P		P	02 34 40.9 0.0
	baz=87,SNR=35						
F22A	Rosebud	86.88	338	⇑P		P	02 34 40.4 -0.8
	baz=87,SNR=23						
D26A	Manning	86.92	341	⇓P		P	02 34 41.2 -0.1
	baz=87,SNR=84						
MDND	Maddock	86.95	343	⇑P		P	02 34 41.4 -0.1
	baz=87,SNR=37						
MDND	Maddock	86.95	343	eP		P	02 34 41.0 -0.4
	comp=Z,101nm,1.1s						
G20A	Bridger	87.00	336	⇓P		P	02 34 41.6 -0.3
	baz=87						
H18A	Shoshone NF, C	87.00	335	⇑P		P	02 34 41.4 -0.7
	baz=87,SNR=95						
E24A	Baker	87.01	339	⇓P		P	02 34 41.6 -0.2
	baz=87,SNR=22						
C28A	Hausauer Farms	87.02	342	⇑P		P	02 34 42.0 +0.2
	baz=87,SNR=7.6						
H17A	Grant Village	87.07	334	⇓P		P	02 34 42.3 -0.1
	baz=87,SNR=18						
H17A	Grant Village	87.07	334	eP		P	02 34 43.4 +1.0
	comp=Z,35nm,1.0s						
LKWY	Lake	87.16	334	eP		P	02 34 43.9 +1.0
LKWY				pmax		pmax	
	comp=Z,71nm,1.3s						
LKWY				MLR		MLR	
	comp=Z,55μm,19.0s						
LKWY	Lake	87.16	334	eP		P	02 34 43.9 +1.0
	comp=Z,71nm,1.3s						
LKWY				LR		LR	
	comp=Z,55μm,19.0s						
PMPS	Porto Santo	87.17	45	eP		P	02 34 46.4 +3.6
	comp=Z,198nm,2.0s						
F21A	Absaloka Mine,	87.19	337	⇓P		P	02 34 43.2 +0.4
	baz=88						
MSNA	Messina	87.19	116	eP		P	02 34 42.5 -1.0
MSNA				AMS		AMS	03 14 56.4
	comp=Z,51μm,17.4s						
MSNA	Messina	87.19	116	P		P	02 34 42.5 -1.0
YFT	Old Faithful	87.22	334	eP		P	02 34 44.3 +1.2
	comp=Z,134nm,1.2s						
B30A	Myrvik Farm, E	87.22	344	⇓P		P	02 34 41.7 -1.1
	baz=88,SNR=57						
E23A	Ismay	87.24	339	⇑P		P	02 34 41.8 -1.1
	baz=88						
RLMT	Red Lodge	87.26	335	eP		P	02 34 42.9 -0.4
	comp=Z,128nm,1.6s						
RLMT				LR		LR	
	comp=Z,17μm,20.0s						
D25A	Fairfield	87.27	340	⇑P		P	02 34 42.2 -0.8
	baz=88,SNR=52						
C27A	Sayler Ranch,	87.30	341	⇓P		P	02 34 43.4 +0.2
	baz=88,SNR=31						
E22A	Miles City	87.38	338	⇓P		P	02 34 42.5 -1.1
	baz=88						
YNR	Norris Junctio	87.39	334	eP		P	02 34 44.6 +0.7
	comp=Z,56nm,1.3s						
YMR	Madison River	87.45	334	eP		P	02 34 44.6 +0.4
	comp=Z,266nm,1.3s						
B29A	Wagenman Farm,	87.47	343	⇓P		P	02 34 43.8 -0.1
	baz=88,SNR=41						
F20A	Billings	87.49	336	⇑P		P	02 34 44.3 +0.1
	baz=88,SNR=17						
D24A	Glendive	87.52	339	⇑P		P	02 34 44.1 -0.2
	baz=88,SNR=21						
C26A	Wahner Farm, P	87.56	341	⇓P		P	02 34 43.9 -0.5
	baz=88,SNR=34						
A30A	Hoffart Farm,	87.67	344	⇓P		P	02 34 43.8 -1.1
	baz=88,SNR=51						
LAO	LASA Array	87.69	338	eP		P	02 34 44.0 -1.1
	comp=Z,80nm,1.1s						
LAO				LR		LR	
	comp=Z,12μm,19.0s						
B28A	Dugan Ranch, T	87.70	342	⇓P		P	02 34 44.3 -0.8
	baz=88,SNR=58						
QLMT	Earthquake Lak	87.75	334	eP		P	02 34 46.4 +0.7
	comp=Z,13nm,1.2s						
C25A	Freed Ranch, W	87.76	340	⇓P		P	02 34 45.2 -0.2
	baz=88,SNR=19						
HLID	Hailey	87.77	331	⇑P		P	02 34 46.0 +0.2
	baz=88,SNR=53						
HLID	Hailey	87.77	331	eP		P	02 34 46.2 +0.4
	comp=Z,128nm,1.5s						
HLID				LR		LR	
	comp=Z,15μm,21.0s						
HOPS	Hopland Field	87.79	324	eP		P	02 34 43.1 -2.6
	comp=Z,152nm,1.4s						
F19A	Roth Farm, Mol	87.80	336	⇓P		P	02 34 44.8 -0.9
	baz=88,SNR=17						
E21A	Keefer Ranch,	87.81	337	⇑P		P	02 34 45.2 -0.5
	baz=88,SNR=6.7						
D23A	Lindsay	87.82	339	⇓P		P	02 34 45.2 -0.5
	baz=88						
A29A	Manning Farm,	87.87	343	⇓P		P	02 34 45.4 -0.5
	baz=88,SNR=100						
B27A	Peters Farms,	87.88	342	⇓P		P	02 34 45.8 -0.1
	baz=88,SNR=9.1						
C24A	Savage	87.92	340	⇑P		P	02 34 45.7 -0.5
	baz=88,SNR=51						
GCMT	Greycliff	87.98	336	eP		P	02 34 46.1 -0.6
	comp=Z,18nm,1.0s						
D22A	Cohagen	88.09	338	⇑P		P	02 34 46.5 -0.5
	baz=88,SNR=24						
B26A	Jensen Ranch,	88.10	341	⇓P		P	02 34 45.5 -1.5
	baz=88						
A28A	Rude Farm, Bot	88.10	343	⇑P		P	02 34 46.5 -0.5
	baz=88,SNR=14						
E20A	Meyer Farm, Mu	88.11	337	⇑P		P	02 34 46.9 -0.2
	baz=88,SNR=47						
ITZ	Itezhi-Tezhi	88.19	108	i P		P	02 34 48.6 +0.2
ITZ				PKP		PP	02 38 15.8 +0.5
ITZ				PKP		S	02 45 36.5 +4.2
MFID	Camas Ranch	88.20	331	eP		P	02 34 47.2 -0.5
	comp=Z,105nm,1.3s						
B25A	Knox Farm, Ray	88.25	341	⇓P		P	02 34 47.2 -0.5
	baz=89,SNR=17						
D21A	La Casta Ranch	88.26	338	⇑P		P	02 34 47.6 -0.2
	baz=89,SNR=12						
MCMT	McKenzie Canyo	88.26	333	eP		P	02 34 48.8 +0.6
	comp=Z,55nm,1.1s						
E19A	Rath Farm, Rou	88.28	336	⇓P		P	02 34 47.4 -0.6
	baz=89,SNR=37						
A27A	Ledoux Ranch,	88.38	342	P		P	02 34 48.4 +0.1
	baz=89						
C23A	Lambert	88.39	339	⇓P		P	02 34 48.2 -0.2
	baz=89,SNR=35						
ULM	Lac du Bonnet	88.40	346	P		P	02 34 47.7 -0.6
	comp=Z,59nm,0.8s,baz=174,slow=3.9,SNR=43						
ULM				PKKPbc		PKKPbc	02 52 30.8 -1.8
	comp=Z,1.9nm,0.7s,baz=5.2,slow=2.4,SNR=4.1						
AFI	Afiamalu	88.50	254	PFAKE			02 35 00.0 +10
AFI				LR		LR	
	comp=Z,65μm,22.0s						
A26A	Wade Farm, Ken	88.53	342	⇑P		P	02 34 48.5 -0.5
	baz=89,SNR=24						
BOZ	Bozeman (W)	88.53	334	eP		P	02 34 48.7 -0.6
BOZ				pmax		pmax	
	comp=Z,37nm,1.2s						
BOZ				MLR		MLR	
	comp=Z,38μm,19.0s						
BOZ	Bozeman (W)	88.53	334	eP		P	02 34 48.7 -0.6
	comp=Z,37nm,1.2s						
BOZ				LR		LR	
	comp=Z,38μm,19.0s						
C22A	Vida	88.54	339	⇓P		P	02 34 48.6 -0.5
	baz=89,SNR=15						
WVOR	Wild Horse Val	88.55	328	eP		P	02 34 49.9 +0.5
WVOR				pmax		pmax	
	comp=Z,131nm,1.2s						
WVOR				MLR		MLR	
	comp=Z,22μm,20.0s						
WVOR	Wild Horse Val	88.55	328	eP		P	02 34 49.9 +0.5
	comp=Z,131nm,1.2s						
WVOR				LR		LR	
	comp=Z,22μm,20.0s						
KCPM	Cahto Peak	88.58	324	eP		P	02 34 53.4 +3.8
	comp=Z,241nm,1.9s						
KIPM	Iron Peak	88.63	324	eP		P	02 34 53.2 +3.4
	comp=Z,218nm,1.6s						
D20A	Manuel Ranch,	88.64	337	⇓P		P	02 34 49.0 -0.6
	baz=89,SNR=26						
WDC	Whiskeytown Da	88.79	325	eP		P	02 34 50.3 -0.1
WDC				pmax		pmax	
	comp=Z,45nm,1.2s						
WDC	Whiskeytown Da	88.79	325	eP		P	02 34 50.3 -0.1
	comp=Z,46nm,1.2s						
MOD	Modoc Plateau	88.83	327	eP		P	02 34 51.8 +1.0
	comp=Z,260nm,1.4s						
A25A	Svangren Ranch	88.85	341	⇑P		P	02 34 50.7 +0.2
	baz=89,SNR=18						
PAF	Port-aux-Franc	88.85	157	P		P	02 34 24.0 -27
PAF				PP		PP	02 37 51.0 -28
PAF				S		SKSac	02 45 08.0 -11
PAF				SS		SS	02 51 26.0 -1.9
PAF				L		L	02 58 00.0
PAF				R			03 05 00.0
PAF	Port-aux-Franc	88.85	157	PFAKE			02 35 00.0 +9.2
PAF				LR		LR	
	comp=Z,33μm,19.0s						
B23A	Brockton	88.93	340	⇑P		P	02 34 50.4 -0.5
	baz=89,SNR=19						
D19A	Cripps Ranch,	88.94	337	⇓P		P	02 34 50.8 -0.3
	baz=89,SNR=13						
C21A	Desert Coulee	88.97	338	⇑P		P	02 34 50.6 -0.5
	baz=89,SNR=25						
LRM	Limekiln Ridge	88.97	334	eP		P	02 34 51.3 -0.1
	comp=Z,601nm,1.3s						
B22A	Reddig Ranch S	89.07	339	⇓P		P	02 34 50.1 -1.5
	baz=89,SNR=32						
A24A	Westby	89.07	340	⇑P		P	02 34 51.4 -0.2
	baz=89						
C20A	Veseth Ranch,	89.15	337	⇓P		P	02 34 52.4 +0.4
	baz=90,SNR=24						
N02D	Trinity Center	89.18	325	⇓P		P	02 34 52.9 +0.6
	baz=90						
A23A	Redstone	89.35	340	⇑P		P	02 34 52.7 -0.2
	baz=90						
M04C	Macdoel	89.42	326	⇑P		P	02 34 54.4 +0.9
	baz=90,SNR=24						
B21A	Ellsworth Farm	89.48	338	⇑P		P	02 34 52.4 -1.1
	baz=90						
C19A	Slack Wire Ran	89.49	337	⇑P		P	02 34 52.4 -1.2
	baz=90,SNR=14						
HRY	Holter Researc	89.52	335	eP		P	02 34 53.1 -0.7
	comp=Z,49nm,1.4s						
M02C	Callahan	89.58	325	⇑P		P	02 34 54.5 +0.3
	baz=90						
A22A	Carney Farms,	89.67	339	⇑P		P	02 34 52.9 -1.5
	baz=90,SNR=21						
YBH	Yreka Blue Hor	89.78	325	eP		P	02 34 57.0 +1.8
YBH				pmax		pmax	
	comp=Z,50nm,1.4s						
YBH	Yreka Blue Hor	89.78	325	P		P	02 34 55.7 +0.6
	comp=Z,8.4nm,0.8s,baz=121,slow=3.5,SNR=11						
YBH	Yreka Blue Hor	89.78	325	eP		P	02 34 57.0 +1.8
	comp=Z,50nm,1.4s						
B20A	Solberg Farm,	89.80	338	⇑P		P	02 34 54.5 -0.5
	baz=90,SNR=9.9						
A21A	Bergtoll Ranch	89.96	339	⇓P		P	02 34 54.3 -1.5
	baz=90,SNR=31						
EGMT	Eagleton	89.97	337	⇑P		P	02 34 56.9 +1.0
	baz=90,SNR=12						
EGMT	Eagleton	89.97	337	eP		P	02 34 54.9 -1.0
	comp=Z,30nm,1.1s						
EGMT				LR		LR	
	comp=Z,11μm,20.0s						
BMO	Blue Mountains	89.99	330	eP		P	02 34 56.1 +0.1
	comp=Z,110nm,1.5s						
BMO				LR		LR	
	comp=Z,20μm,19.0s						
K04D	Chiloquin, OR	90.06	327	⇓P		P	02 34 55.7 -0.7
	baz=90						
B19A	Brinkman Farms	90.10	337	⇓P		P	02 34 55.9 -0.5
	baz=90,SNR=17						
LSZ	Lusaka	90.14	109	PFAKE			02 35 10.0 +12
LSZ				LR		LR	
	comp=Z,111μm,19.0s						
A20A	Cobblestone Ra	90.16	338	⇓P		P	02 34 55.8 -0.9
	baz=90,SNR=21						
CHMT	Chamberlain Mo	90.20	334	eP		P	02 34 57.3 +0.2
	comp=Z,32nm,1.4s						
J05D	Fort Rock, OR	90.36	327	⇓P		P	02 34 58.1 +0.2
	baz=91,SNR=24						
MSO	Missoula	90.37	333	⇓P		P	02 34 58.4 +0.6
	baz=91,SNR=11						
A19A	Klindworth Far	90.45	338	⇑P		P	02 34 57.2 -0.9
	baz=91,SNR=24						
L02D	Cave Junction,	90.53	325	⇑P		P	02 34 58.2 -0.3
	baz=91						
SLMT	Seeley Lake	90.56	334	eP		P	02 34 58.7 0.0
	comp=Z,59nm,1.4s						
PINOR	Pine Mountain	90.62	328	eP		P	02 35 00.4 +1.6
	comp=Z,111nm,1.3s						
J04D	Umpqua Nationa	90.70	327	⇓P		P	02 34 59.7 +0.1
	baz=91						
SCHQ	Schefferville	90.90	4	P		P	02 34 58.9 -1.1
	comp=Z,15nm,0.9s,baz=117,slow=1.8,SNR=11						
SWMT	Swartz Lake	90.97	334	eP		P	02 35 00.4 -0.2
	comp=Z,39nm,1.1s						
I05D	Terrebonne, OR	91.24	328	⇑P		P	02 35 00.6 -1.3
	baz=92,SNR=8.5						
JTMT	Jette	91.27	334	eP		P	02 35 01.8 -0.2
	comp=Z,51nm,1.4s						
YBMT	Yellow Bay	91.28	334	eP		P	02 35 01.7 -0.3
	comp=Z,35nm,1.1s						
HBO	Huckleberry Mo	91.28	327	P		P	02 35 05.2 +3.0
I04A	Tendick Farm,	91.28	327	⇑P		P	02 35 01.7 -0.3
	baz=92						
BLMT	Blacktail Moun	91.53	334	eP		P	02 35 03.4 +0.2
	comp=Z,88nm,1.2s						
BSMT	Bassoo Peak	91.54	334	eP		P	02 35 03.7 +0.4
	comp=Z,26nm,0.9s						
I03D	Drain, OR	91.62	326	⇑P		P	02 35 03.9 +0.4
	baz=92						
G05D	Wamic, OR	91.96	328	⇓P		P	02 35 05.5 +0.4
	baz=92						
H2OWA	Water	92.10	330	P		P	02 35 06.9 +1.3
HAWA	Hanford	92.14	330	eP		P	02 35 06.6 +0.7
	comp=Z,131nm,1.4s						
HAWA				LR		LR	
	comp=Z,17μm,21.0s						
WALA	Waterton Lakes	92.26	335	eP		P	02 35 06.2 -0.3
	comp=Z,2.9nm,1.2s						
OD2	Odessa Site #2	92.63	331	P		P	02 35 08.3 +0.2
NEW	Newport	92.75	332	eP		P	02 35 08.4 -0.3
NEW							02 52 22.0
NEW				pmax		pmax	
	comp=Z,44nm,1.3s						
NEW				MLR		MLR	
	comp=Z,11μm,20.0s						
NEW	Newport	92.75	332	P		P	02 35 08.0 -0.7
	comp=Z,15nm,0.8s,baz=132,slow=5.1,SNR=16						
NEW				PKKP		PKKPbc	02 52 22.0 +0.6
	comp=Z,1.8nm,0.8s,baz=36,slow=3.2,SNR=4.0						
NEW	Newport	92.75	332	⇑P		P	02 35 08.4 -0.3
	baz=93,SNR=18						
NEW	Newport	92.75	332	eP		P	02 35 08.4 -0.3
	comp=Z,44nm,1.3s						
NEW				PKKP		PKKPbc	02 52 22.0 +0.6
NEW				LR		LR	
	comp=Z,11μm,20.0s						
G03D	McMinnville, O	92.77	327	⇓P		P	02 35 09.9 +1.1
	baz=93						
ASR	Mount Adams--S	92.80	329	P		P	02 35 10.2 +1.1
TAU	Tasmania Unive	92.90	209	PFAKE			02 35 20.0 +10
TAU				LR		LR	
	comp=Z,19μm,22.0s						
F04D	Rainier, OR	93.35	328	⇑P		P	02 35 13.8 +2.3
	baz=94						
LON	Longmire	93.37	329	eP		P	02 35 11.4 -0.2
LON				pmax		pmax	
	comp=Z,38nm,1.1s						
LON	Longmire	93.37	329	eP		P	02 35 11.4 -0.2
	comp=Z,38nm,1.1s						
WTV	Waterville	93.37	331	P		P	02 35 12.0 +0.3
ETW	Entiat	93.45	330	P		P	02 35 12.5 +0.5
RTC	Rabat Centre	93.45	50	PFAKE			02 35 20.0 +7.8
RTC				LR		LR	
	comp=Z,107μm,20.0s						
MSVF	Nonsavu	93.84	245	PFAKE			02 35 30.0 +15
MSVF				LR		LR	
	comp=Z,24μm,20.0s						
FFC	Flin Flon	93.90	344	eP		P	02 35 12.2 -1.5
FFC				pmax		pmax	
	comp=Z,35nm,1.4s						
FFC				MLR		MLR	
	comp=Z,25μm,19.0s						
FFC	Flin Flon	93.90	344	eP		P	02 35 12.2 -1.5
	comp=Z,35nm,1.4s						
FFC				LR		LR	
	comp=Z,25μm,19.0s						
MDT	Midelt	94.09	52	P		P	02 35 15.2 -0.2
	comp=Z,8.1nm,1.0s,baz=203,slow=4.0,SNR=9.0						
PFVI	Vila Bisbo	94.39	46	eP		P	02 35 16.0 -0.5
	comp=Z,141nm,1.5s						
PFVI	Vila Bisbo	94.39	46	ePP		PP	02 39 01.2 -3.2
PFVI				eSKS		SKSac	02 45 56.9 +6.4
MORF	Marmelete	94.61	46	eP		P	02 35 17.5 -0.1
MORF				eS		SKSac	02 45 52.4 +0.5
MORF				AMS		AMS	03 19 39.5
	comp=Z,86μm,16.9s						
MORF	Marmelete	94.61	46	eP		P	02 35 18.5 +0.9
	comp=Z,101nm,1.9s						
MORF	Marmelete	94.61	46	ePP		PP	02 39 01.9 -4.3
MORF				eSKS		SKSac	02 45 40.6 -11
MORF	Marmelete	94.61	46	eP		P	02 35 17.5 -0.1
MORF				eS		SKSac	02 45 52.4 +0.5
NLWA	Neilton Lookou	94.74	328	PFAKE			02 35 30.0 +12
NLWA				LR		LR	
	comp=Z,14μm,20.0s						
TAM	Tamanrasset	94.78	65	eP		P	02 35 18.7 -0.2
TAM				pmax		pmax	
	comp=Z,51nm,1.3s						
TAM				MLR		MLR	
	comp=Z,54μm,20.0s						
TAM	Tamanrasset	94.78	65	eP		P	02 35 18.7 -0.2
	comp=Z,51nm,1.3s						
TAM				LR		LR	
	comp=Z,54μm,20.0s						
PBDV	Barranco-do-Ve	94.99	47	eP		P	02 35 20.1 +0.8
	comp=Z,106nm,1.4s						
PBDV	Barranco-do-Ve	94.99	47	ePP		PP	02 39 08.4 -0.7
PBDV				eSKS		SKSac	02 46 01.7 +7.9
MESJ	Messejana	95.22	46	eP		P	02 35 20.3 0.0
MESJ				eS		SKSac	02 45 54.9 -0.1
MESJ				AMS		AMS	03 20 07.4
	comp=Z,74μm,11.2s						
MESJ	Messejana	95.22	46	eP		P	02 35 20.4 +0.1
	comp=Z,61nm,1.6s						
MESJ	Messejana	95.22	46	ePP		PP	02 39 07.6 -3.3
MESJ	Messejana	95.22	46	eP		P	02 35 20.2 0.0
MESJ				eS		SKSac	02 45 54.9 -0.1
PVAQ	Vaqueiros	95.22	47	eP		P	02 35 20.6 +0.3
	comp=Z,68nm,1.7s						
PVAQ	Vaqueiros	95.22	47	ePP		PP	02 39 07.0 -3.9
PVAQ				eSKS		SKSac	02 45 48.9 -6.1
PVAQ	Vaqueiros	95.22	47	eLR		LR	03 13 16.0
	comp=Z,62μm,16.0s						
PNCL	Nicolau / Gran	95.23	46	eP		P	02 35 19.1 -1.2
	comp=Z,46nm,1.8s						
PNCL	Nicolau / Gran	95.23	46	ePP		PP	02 39 06.9 -4.0
PNCL				eSKS		SKSac	02 45 52.5 -2.5
LIS	Lisbon	95.28	45	eP		P	02 35 20.6 +0.1
LIS				ePP		PP	02 39 09.8 -1.4
LIS				eS		SKSac	02 45 54.9 -0.3
LIS				AMS		AMS	03 21 13.1
	comp=Z,50μm,16.6s						
LIS	Lisbon	95.28	45	eP		P	02 35 20.6 +0.1
	comp=Z,79nm,2.1s						
LIS	Lisbon	95.28	45	eP		P	02 35 21.4 +0.9
	comp=Z,79nm,2.1s						
LIS	Lisbon	95.28	45	ePP		PP	02 39 08.9 -2.4
LIS	Lisbon	95.28	45	A		A	03 21 13.1
	comp=Z,50μm,16.6s						
LIS	Lisbon	95.28	45	eP		P	02 35 20.6 +0.1
LIS				e			02 39 09.8
LIS				eS		SKSac	02 45 54.9 -0

PBAR	**Barrancos**	**96.14**	**47**	*e*PP	PP	02 39 13.9	-4.1
PBAR				*e*SKS	**SKSac**	**02 46 03.5**	**+3.7**
FCC	**Fort Churchill**	**96.23**	**349**	*e*P	**P**	**02 35 23.4**	**-0.9**
FCC	**Fort Churchill**	**96.23**	**349**	*e*P	**P**	**02 35 23.4**	**-0.9**
	comp=Z,0.7nm,1.1s						
PESTR	**Estremoz**	**96.28**	**46**	*e*P	**P**	**02 35 24.4**	**-0.7**
	comp=Z,62nm,1.6s						
PESTR	**Estremoz**	**96.28**	**46**	*e*PP	PP	02 39 13.0	-6.1
PESTR				*e*SKS	**SKSac**	**02 45 58.2**	**-2.4**
PTOM	**Tomar**	**96.31**	**45**	*e*PP	PP	02 39 20.5	+1.2
PCAS	**Casmilo, Conde**	**96.56**	**44**	*e*P	**P**	**02 35 25.6**	**-0.7**
	comp=Z,43nm,1.6s						
PCAS	**Casmilo, Conde**	**96.56**	**44**	*e*PP	PP	02 39 20.7	-0.5
PCAS				*e*SKS	**SKSac**	**02 46 03.1**	**+1.2**
PMRV	**Marv??o**	**96.77**	**45**	*e*P	**P**	**02 35 28.3**	**+1.0**
	comp=Z,31nm,1.6s						
PMRV	**Marv??o**	**96.77**	**45**	*e*PP	PP	02 39 20.2	-2.7
PMRV				*e*SKS	**SKSac**	**02 46 05.0**	**+1.9**
PMRV	**Marv??o**	**96.77**	**45**	*e*LQ	LQ	03 06 40.3	
PMRV				*e*LR	LR	03 13 27.3	
	comp=Z,44µm,18.0s						
MZM	**Mzuzu**	**96.95**	**110**	*i* P	P	02 35 33.6	+4.8
MZM				PKP	PP	02 39 30.2	+6.2
MZM				PKP		02 46 12.2	
MZM				PKP		02 49 00.3	
MZM				PKP		03 08 02.1	
PCBR	**Castelo Branco**	**97.00**	**45**	*e*PP	PP	02 39 24.0	-0.6
MTE	**Manteigas**	**97.33**	**45**	*e*P	**P**	**02 35 28.8**	**-1.1**
	comp=Z,41nm,1.6s						
MTE	**Manteigas**	**97.33**	**45**	*e*PP	PP	02 39 23.8	-3.4
MTE				*e*SKS		02 45 40.8	
MTE	**Manteigas**	**97.33**	**45**	*e*LQ	LQ	03 06 48.5	
MTE				*e*LR	LR	03 11 02.6	
	comp=Z,53µm,20.0s						
MTE	**Manteigas**	**97.33**	**45**	PFAKE		02 35 40.0	+10
MTE				LR	LR		
	comp=Z,55µm,20.0s						
PVIS	**Viseu**	**97.34**	**44**	*e*P	Pdif	02 35 31.7	+1.7
	comp=Z,39nm,1.5s						
PVIS	**Viseu**	**97.34**	**44**	*e*PP	PP	02 39 26.9	-0.4
PVRL	**Vila Real**	**97.82**	**44**	*e*P	Pdif	02 35 33.1	+1.0
	comp=Z,38nm,1.4s						
PVRL	**Vila Real**	**97.82**	**44**	*e*PP	PP	02 39 32.2	+1.3
POLO	**Lamas de Olo**	**97.84**	**44**	*e*P	**P**	**02 35 31.8**	**-0.4**
	comp=Z,16nm,1.7s						
POLO	**Lamas de Olo**	**97.84**	**44**	*e*PP	PP	02 39 28.4	-2.8
POLO				*e*SKS	**SKSac**	**02 46 13.2**	**+4.5**
PCAB	**Cabril**	**97.94**	**43**	*e*PP	PP	02 39 30.4	-1.4
PGAV	**Gavieira, Arco**	**97.97**	**43**	*e*P	**P**	**02 35 32.6**	**-0.2**
	comp=Z,33nm,2.1s						
PGAV	**Gavieira, Arco**	**97.97**	**43**	*e*PP	PP	02 39 27.6	-4.6
PGAV				*e*SKS	SKSac	02 46 20.9	+12
PGAV	**Gavieira, Arco**	**97.97**	**43**	*e*LQ	LQ	03 07 00.1	
PGAV				*e*LR	LR	03 10 55.4	
	comp=Z,47µm,20.0s						
MVO	**Moncorvo**	**98.13**	**44**	*e*P	**P**	**02 35 33.0**	**-0.5**
	comp=Z,41nm,1.4s						
MVO	**Moncorvo**	**98.13**	**44**	*e*PP	PP	02 39 32.1	-1.3
MVO				*e*SKS	**SKSac**	**02 46 16.9**	**+5.9**
MVO	**Moncorvo**	**98.13**	**44**	*e*LQ	LQ	03 06 45.9	
MVO				*e*LR	LR	03 11 07.0	
	comp=Z,40µm,20.0s						
KIP	**Kipapa**	**98.24**	**290**	PFAKE		02 35 50.0	+16
KIP				LR	LR		
	comp=Z,14µm,20.0s						
CAN	**Canberra**	**98.58**	**214**	PFAKE		02 35 50.0	+14
CAN				LR	LR		
	comp=Z,31µm,20.0s						
PBRG	**Braganca**	**98.72**	**44**	*e*P	**P**	**02 35 35.8**	**-0.3**
	comp=Z,47nm,1.5s						
PBRG	**Braganca**	**98.72**	**44**	*e*PP	PP	02 39 37.0	-0.8
PBRG				*e*SKS	SKSac	02 46 05.3	-7.7
ESDC	**Sonseca Array**	**98.93**	**47**	PP	PP	02 39 30.7	-8.8
	comp=Z,10nm,1.2s,baz=231,slow=5.9,SNR=4.6						
ESDC				LR	LR	03 19 10.0	
	comp=Z,38µm,20.0s,baz=225,slow=35						
EANR	**'Ain N'Sour**	**99.72**	**52**	P	**Pdif**	**02 35 47.0**	**+6.3**
ABPO	**Ambohimpanom**	**101.46**	**124**	PFAKE		02 36 00.0	+11
ABPO				LR	LR		
	comp=Z,41µm,22.0s						
AIS	**Amsterdam Isla**	**101.56**	**157**	Pdif	Pdif	02 35 37.0	-12
AIS				PP	PP	02 39 49.0	-8.9
AIS				SKKS		02 46 25.0	
AIS				SP	**SP**	**02 48 59.0**	**-0.5**
AIS				SS	**SS**	**02 54 29.0**	**+0.4**
AIS				L	L	03 03 00.0	
AIS				R		03 09 00.0	
DODT	**Dodoma, Tanzan**	**101.56**	**107**	*i* P	**Pdif**	**02 35 51.2**	**+1.6**
DODT				PKP	**PP**	**02 39 57.8**	**-1.7**
DODT				PKP	**PS**	**02 49 11.2**	**+7.6**
DODT				PKP		02 58 25.2	
DODT				PKP		03 10 02.4	
SJPF	**Ste Jean**	**102.69**	**46**	*e*P	**Pdif**	**02 35 53.4**	**-0.3**
	comp=Z,61nm,1.4s						
SJPF	**Ste Jean**	**102.69**	**46**	*e*P	**Pdif**	**02 35 53.4**	**-0.3**
SJPF				pmax	pmax		
	comp=Z,61nm,1.4s						
SJPF	**Ste Jean**	**102.69**	**46**	*e*P	**Pdif**	**02 35 53.4**	**-0.3**
	comp=Z,61nm,1.4s						
ETSF	**Etsaut**	**102.95**	**46**	*e*P	**Pdif**	**02 35 56.1**	**+1.2**
	comp=Z,52nm,1.5s						
ETSF	**Etsaut**	**102.95**	**46**	*e*P	**Pdif**	**02 35 56.1**	**+1.2**
ETSF				pmax	pmax		
	comp=Z,52nm,1.5s						
ETSF	**Etsaut**	**102.95**	**46**	*e*P	**Pdif**	**02 35 56.1**	**+1.2**
	comp=Z,52nm,1.5s						
EPF	**Esparros**	**103.55**	**46**	*e*P	**Pdif**	**02 36 00.4**	**+2.8**
	comp=Z,33nm,1.5s						
EPF	**Esparros**	**103.55**	**46**	*e*P	**Pdif**	**02 36 00.4**	**+2.8**
EPF				pmax	pmax		
	comp=Z,33nm,1.5s						
EPF	**Esparros**	**103.55**	**46**	*e*P	**Pdif**	**02 36 00.4**	**+2.8**
	comp=Z,33nm,1.5s						
VAL	**Valentia**	**103.68**	**35**	*e*P	**Pdif**	**02 35 58.5**	**+0.7**
VAL				*e*PP	**PP**	**02 40 11.9**	**-3.0**
VAL				*e*S	**SKSac**	**02 46 39.4**	**+3.2**
YKA	**Yellowknife Ar**	**103.84**	**342**	Pdiff	**Pdif**	**02 35 57.4**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=143,slow=4.5,SNR=21						
YKA				PP	**PP**	**02 40 18.0**	**+2.1**
	comp=Z,3.0nm,1.0s,baz=140,slow=6.8,SNR=3.6						
YKA				PKKPbc	**PKKPbc**	**02 51 48.8**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=324,slow=3.2,SNR=12						
YKA				PKPPKP	**P'P'df**	**03 00 07.3**	**+2.8**
	comp=Z,0.2nm,0.6s,baz=316,slow=2.9,SNR=3.7						
SFJD	**Kangerlussuaq**	**104.39**	**9**	*i* P	**PKiKP**	**02 40 15.5**	**-1.2**
SFJD	**Kangerlussuaq**	**104.39**	**9**	PFAKE		02 36 10.0	+9.4
SFJD				LR	LR		
	comp=Z,20µm,19.0s						
MAUS	**Longido**	**104.44**	**104**	*i* P	**Pdif**	**02 36 00.6**	**-1.8**
MAUS				PKP	**PP**	**02 40 20.4**	**-0.7**
MAUS				PKP	**PS**	**02 49 36.1**	**+2.0**
MAUS				PKP	**SKKSdf**	**02 59 10.3**	**+4.3**
QUIF	**Quistinic**	**104.58**	**41**	*e*P	**Pdif**	**02 36 02.5**	**+0.6**
	comp=Z,94nm,1.8s						
QUIF	**Quistinic**	**104.58**	**41**	*e*P	**Pdif**	**02 36 02.5**	**+0.6**
QUIF				pmax	pmax		
	comp=Z,94nm,1.8s						
QUIF	**Quistinic**	**104.58**	**41**	*e*P	**Pdif**	**02 36 02.5**	**+0.6**
	comp=Z,94nm,1.8s						
STKA	**Stephens Creek**	**104.71**	**210**	PKKPbc	PKKPbc	02 51 45.9	-0.6
	comp=Z,1.1nm,0.8s,baz=354,slow=9.2,SNR=2.3						
ROSF	**Rostrenen**	**104.78**	**40**	*e*P	**Pdif**	**02 36 03.5**	**+0.7**
	comp=Z,24nm,1.1s						
ROSF	**Rostrenen**	**104.78**	**40**	*e*P	**Pdif**	**02 36 03.5**	**+0.7**
ROSF				pmax	pmax		
	comp=Z,24nm,1.1s						
ROSF	**Rostrenen**	**104.78**	**40**	*e*P	**Pdif**	**02 36 03.5**	**+0.7**
	comp=Z,24nm,1.1s						
MTLF	**Montolieu**	**104.84**	**47**	*e*P	**Pdif**	**02 36 03.6**	**+0.4**
MTLF	**Montolieu**	**104.84**	**47**	*e*P	**Pdif**	**02 36 03.6**	**+0.4**
MTLF	**Montolieu**	**104.84**	**47**	*e*P	**Pdif**	**02 36 03.6**	**+0.4**
LFF	**La Frestale**	**104.93**	**45**	*e*P	**Pdif**	**02 36 04.4**	**+0.9**
	comp=Z,121nm,1.6s						
LFF	**La Frestale**	**104.93**	**45**	*e*P	**Pdif**	**02 36 04.4**	**+0.9**
LFF				pmax	pmax		
	comp=Z,121nm,1.6s						
LFF	**La Frestale**	**104.93**	**45**	*e*P	**Pdif**	**02 36 04.4**	**+0.9**
	comp=Z,121nm,1.6s						
CCA1	**Carnmenellis**	**104.94**	**38**	*e*	**PKiKP**	**02 40 19.7**	**+1.4**
WRAK	**Wrangell Islan**	**104.95**	**330**	PFAKE		02 36 10.0	+6.7
WRAK				LR	LR		
	comp=Z,15µm,20.0s						
RER	**Riviere de l'E**	**105.36**	**131**	PFAKE		02 40 30.0	
RER				LR	LR		
	comp=Z,26µm,20.0s						
MFF	**Saint Martin d**	**105.42**	**43**	*e*P	**Pdif**	**02 36 06.9**	**+1.2**
	comp=Z,58nm,1.5s						
MFF	**Saint Martin d**	**105.42**	**43**	*e*P	**Pdif**	**02 36 06.9**	**+1.2**
MFF				pmax	pmax		
	comp=Z,59nm,1.5s						
MFF	**Saint Martin d**	**105.42**	**43**	*e*P	**Pdif**	**02 36 06.9**	**+1.2**
	comp=Z,58nm,1.5s						
DLBC	**Dease Lake**	**105.49**	**333**	Pdiff	**Pdif**	**02 36 07.6**	**+1.8**
	comp=Z,4.3nm,0.9s,baz=180,slow=6.1,SNR=3.3						
RJF	**Les Rejaudoux**	**105.58**	**45**	*e*P	**Pdif**	**02 36 08.4**	**+1.9**
	comp=Z,42nm,1.4s						
RJF				*e*R			
	comp=Z,106µm,20.8s						
RJF	**Les Rejaudoux**	**105.58**	**45**	*e*P	**Pdif**	**02 36 08.4**	**+1.9**
RJF				pmax	pmax		
	comp=Z,42nm,1.4s						
RJF	**Les Rejaudoux**	**105.58**	**45**	*e*P	**Pdif**	**02 36 08.4**	**+1.9**
	comp=Z,42nm,1.4s						
DYA	**Yadsworthy**	**105.75**	**38**	*e*	**PKiKP**	**02 40 24.9**	**+5.1**
DYA				AMS	AMS	03 22 10.1	
	comp=Z,30µm,19.6s						
HTL	**Hartland**	**105.82**	**38**	*e*	PKiKP	02 40 26.9	+7.0
HTL				AMS	AMS	03 20 38.4	
	comp=Z,40µm,20.9s						
KMBO	**Kilima Mbogo**	**105.86**	**103**	PFAKE		02 40 30.0	
KMBO				LR	LR		
	comp=Z,104µm,19.0s						
JSA	**Saint Aubin**	**105.88**	**40**	*e*	**PKiKP**	**02 40 25.0**	**+5.0**
ILULI	**Ilulissat**	**106.44**	**8**	*i* P	**PP**	**02 40 30.1**	**-5.0**
LDF	**La Druitiere**	**106.61**	**42**	*e*P	**Pdif**	**02 36 12.5**	**+1.6**
	comp=Z,49nm,1.4s						
LDF	**La Druitiere**	**106.61**	**42**	*e*P	**Pdif**	**02 36 12.5**	**+1.6**
LDF				pmax	pmax		
	comp=Z,49nm,1.4s						
LDF	**La Druitiere**	**106.61**	**42**	*e*P	**Pdif**	**02 36 12.5**	**+1.6**
	comp=Z,49nm,1.4s						
BGF	**Bois d'Agland**	**107.07**	**45**	*e*P	**Pdif**	**02 36 14.1**	**+1.1**
	comp=Z,74nm,1.5s						
BGF	**Bois d'Agland**	**107.07**	**45**	*e*P	**Pdif**	**02 36 14.1**	**+1.1**
BGF				pmax	pmax		
	comp=Z,74nm,1.5s						
BGF	**Bois d'Agland**	**107.07**	**45**	*e*P	**Pdif**	**02 36 14.1**	**+1.1**
	comp=Z,74nm,1.5s						
VSL	**Villasalto**	**107.12**	**53**	PFAKE		02 40 30.0	
VSL				LR	LR		
	comp=Z,47µm,19.0s						
BATH	**Bath**	**107.16**	**38**	*e*	PP	02 40 35.6	-5.2
MCH1	**Michaelchurch**	**107.17**	**38**	*e*	PP	02 40 34.8	-6.0
MCH1				AMS	AMS	03 21 31.4	
	comp=Z,38µm,21.5s						
MONM	**Monmouth**	**107.17**	**38**	*e*	PP	02 40 35.0	-5.8
OLDB	**Oldbury-Upon-S**	**107.18**	**38**	*e*	PP	02 40 35.6	-5.4
WLF1	**Llynfaes**	**107.28**	**36**	*e*	PP	02 40 36.1	-5.4
SSB	**Saint Sauveur**	**107.32**	**46**	PFAKE		02 40 30.0	
SSB				LR	LR		
	comp=Z,36µm,19.0s						
STRD	**Stroud**	**107.45**	**38**	*e*	PP	02 40 37.3	-5.5
SWN1	**Swindon**	**107.47**	**38**	*e*	PP	02 40 37.8	-5.3
SWN1				AMS	AMS	03 24 02.0	
	comp=Z,25µm,17.9s						
AVF	**Avril sur Loir**	**107.49**	**45**	*e*P	**Pdif**	**02 36 15.1**	**+0.2**
	comp=Z,53nm,1.6s						
AVF	**Avril sur Loir**	**107.49**	**45**	*e*P	**Pdif**	**02 36 15.1**	**+0.2**
AVF				pmax	pmax		
	comp=Z,53nm,1.6s						
AVF	**Avril sur Loir**	**107.49**	**45**	*e*P	**Pdif**	**02 36 15.1**	**+0.2**
	comp=Z,53nm,1.6s						
HLM1	**Long Mynd**	**107.54**	**37**	*e*	PP	02 40 37.9	-5.6
FOEL	**Foel Wylfa**	**107.61**	**37**	*e*	**PP**	**02 40 39.3**	**-4.8**
FOEL				AMS	AMS	03 23 54.6	
	comp=Z,36µm,20.0s						
WOL	**Wolverton**	**107.64**	**39**	*e*	PP	02 40 39.1	-5.2
SMF	**Signal de Mont**	**107.68**	**45**	*e*P	**Pdif**	**02 36 16.1**	**+0.3**
	comp=Z,67nm,1.5s						
SMF	**Signal de Mont**	**107.68**	**45**	*e*P	**Pdif**	**02 36 16.1**	**+0.3**
SMF				pmax	pmax		
	comp=Z,67nm,1.5s						
SMF	**Signal de Mont**	**107.68**	**45**	*e*P	**Pdif**	**02 36 16.1**	**+0.3**
	comp=Z,67nm,1.5s						
SSF	**Saint Saulge**	**107.73**	**44**	*e*P	**Pdif**	**02 36 17.1**	**+1.1**
	comp=Z,28nm,1.3s						
SSF	**Saint Saulge**	**107.73**	**44**	*e*P	**Pdif**	**02 36 17.1**	**+1.1**
SSF				pmax	pmax		
	comp=Z,28nm,1.3s						
SSF	**Saint Saulge**	**107.73**	**44**	*e*P	**Pdif**	**02 36 17.1**	**+1.1**
	comp=Z,28nm,1.3s						
ORIF	**Oris-en-Rattie**	**107.91**	**47**	*e*P	**Pdif**	**02 36 18.6**	**+1.7**
	comp=Z,32nm,1.4s						
ORIF				*e*R			
	comp=Z,80µm,19.5s						
ORIF	**Oris-en-Rattie**	**107.91**	**47**	*e*P	**Pdif**	**02 36 18.6**	**+1.7**
ORIF				pmax	pmax		
	comp=Z,32nm,1.4s						
ORIF	**Oris-en-Rattie**	**107.91**	**47**	*e*P	**Pdif**	**02 36 18.6**	**+1.7**
	comp=Z,32nm,1.4s						
LOR	**Lormes**	**108.04**	**44**	*e*P	**Pdif**	**02 36 18.5**	**+1.1**
	comp=Z,46nm,1.5s						
LOR				*e*R			
	comp=Z,83µm,19.0s						
LOR	**Lormes**	**108.04**	**44**	*e*P	**Pdif**	**02 36 18.5**	**+1.1**
LOR				pmax	pmax		
	comp=Z,46nm,1.5s						
LOR	**Lormes**	**108.04**	**44**	*e*P	**Pdif**	**02 36 18.5**	**+1.1**
	comp=Z,46nm,1.5s						
HMNX	**Herstmonceux**	**108.18**	**40**	*e*	PP	02 40 42.8	-5.5
HMNX				AMS	AMS	03 29 20.9	
	comp=Z,24µm,18.1s						
BNI	**Bardonecchia**	**108.45**	**47**	PFAKE		02 40 40.0	
BNI				LR	LR		
	comp=Z,78µm,21.0s						
BORG	**Borgarnes**	**108.59**	**21**	PFAKE		02 40 40.0	
BORG				LR	LR		
	comp=Z,20µm,19.0s						
WDD	**Wield Dalam**	**108.64**	**59**	*e*PKP		02 40 25.8	
WDD				LR	LR		
	comp=Z,166µm,20.0s						
KESW	**Keswick, Cumbr**	**108.67**	**35**	*e*	**PP**	**02 40 47.7**	**-4.0**
KESW				AMS	AMS	03 23 32.0	
	comp=Z,27µm,19.3s						
ELSH	**Elham, Standar**	**108.76**	**40**	*e*	**PP**	**02 40 47.7**	**-4.7**
ELSH				AMS	AMS	03 30 40.2	
	comp=Z,27µm,17.9s						
PGBU	**Glenifferbraes**	**108.78**	**34**	*e*	PP	02 40 47.2	-5.3
PGBU				AMS	AMS	03 23 52.9	
	comp=Z,36µm,19.2s						
HPK	**Haverah Park**	**109.00**	**36**	*e*	PP	02 40 48.7	-5.5
HPK				AMS	AMS	03 22 42.3	
	comp=Z,29µm,21.1s						
ESK	**Eskdalemuir**	**109.06**	**35**	*e*	**PP**	**02 40 50.2**	**-4.4**
ESK				AMS	AMS	03 30 11.8	
	comp=Z,41µm,17.4s						
ESK	**Eskdalemuir**	**109.06**	**35**	PFAKE		02 40 40.0	
ESK				LR	LR		
	comp=Z,24µm,20.0s						
KPL	**Plockton**	**109.19**	**32**	*e*	**PP**	**02 40 51.2**	**-4.2**
KPL				AMS	AMS	03 28 43.1	
	comp=Z,33µm,17.7s						
LMK	**Market Rasen**	**109.34**	**37**	*e*	PP	02 40 50.2	-6.4
BAIF	**Baives**	**109.78**	**42**	*e*P	**Pdif**	**02 36 25.7**	**+0.7**
BAIF	**Baives**	**109.78**	**42**	*e*P	**Pdif**	**02 36 25.7**	**+0.7**
BAIF	**Baives**	**109.78**	**42**	*e*P	**Pdif**	**02 36 25.7**	**+0.7**
TARA	**Tarawa**	**109.78**	**257**	PFAKE		02 40 40.0	
TARA				LR	LR		
	comp=Z,33µm,21.0s						
VLC	**Villacollemand**	**110.23**	**50**	PFAKE		02 40 40.0	
VLC				LR	LR		
	comp=Z,29µm,20.0s						
ECH	**Echery**	**110.43**	**45**	PFAKE		02 40 40.0	
ECH				LR	LR		
	comp=Z,34µm,21.0s						
WLF	**Walferdange**	**110.63**	**43**	*e*PP	PP	02 41 06.7	+0.6
WLF	**Walferdange**	**110.63**	**43**	PFAKE		02 40 40.0	
WLF				LR	LR		
	comp=Z,54µm,20.0s						
BIGH	**Upper Bighouse**	**110.63**	**32**	*e*	PP	02 40 59.6	-6.2
TUE	**Stuetta**	**110.79**	**47**	PFAKE		02 40 40.0	
TUE				LR	LR		
	comp=Z,40µm,20.0s						
CEL	**Celeste**	**110.80**	**57**	PFAKE		02 40 40.0	
CEL				LR	LR		
	comp=Z,124µm,21.0s						
KULLO	**Kullorsuaq**	**111.08**	**5**	*i* P	PP	02 41 02.6	-6.1
BFO	**Black Forest**	**111.16**	**45**	*e*PKIKP	PKiKP	02 40 24.1	-5.9
BFO				MLR	MLR		
	comp=Z,31µm,21.0s						
BFO	**Black Forest**	**111.16**	**45**	*e*PP	PP	02 41 11.0	+1.0
BFO				*e*L	L	03 24 29.7	
	comp=Z,33µm,21.3s						
BFO	**Black Forest**	**111.16**	**45**	*e*PKP	PKiKP	02 40 24.1	-5.9
BFO				LR	LR		
	comp=Z,31µm,21.0s						
AQU	**L'Aquila**	**111.21**	**53**	PFAKE		02 40 40.0	
AQU				LR	LR		
	comp=Z,49µm,20.0s						
SUMG	**Summit**	**111.22**	**11**	*i* P	PP	02 41 03.5	-6.7
DAVA	**Damuels**	**111.52**	**47⇑**	*i*Pdiff	**Pdif**	**02 36 33.4**	**+0.4**
	comp=Z,514nm,5.2s						
DAVA			⇑	*i*PKiKP	**PKiKP**	**02 40 32.4**	**+1.5**
	comp=Z,3µm,8.6s						
CUC	**Castrocucco**	**111.61**	**56**	PFAKE		02 40 40.0	
CUC				LR	LR		
	comp=Z,58µm,19.0s						
TIP	**Timpagrande**	**111.85**	**57**	PFAKE		02 40 40.0	
TIP				LR	LR		
	comp=Z,58µm,22.0s						
STU	**Stuttgart**	**111.88**	**45**	*e*PP	PP	02 41 17.3	+2.2
FETA	**Feichten**	**111.89**	**47⇓**	*i*Pdiff	**Pdif**	**02 36 34.4**	**-0.3**
	comp=Z,388nm,5.1s						
FETA			⇓	*i*PKiKP	PKiKP	02 40 26.0	-5.7
	comp=Z,3µm,9.1s						
RETA	**Reutte**	**112.14**	**47⇑**	*i*Pdiff	**Pdif**	**02 36 35.6**	**-0.1**
	comp=Z,647nm,8.2s						
RETA			⇓	*i*PKiKP	**PKiKP**	**02 40 32.3**	**+0.3**
	comp=Z,3µm,8.2s						
BUG	**Bochum--Univer**	**112.16**	**42**	*e*PP	PP	02 41 18.6	+1.6
TNS	**Taunus Mts**	**112.19**	**43**	*e*PP	PP	02 41 18.8	+1.5
TNS				*e*L	L	03 25 15.8	
	comp=Z,46µm,20.1s						
WTTA	**Wattenberg**	**112.55**	**47⇓**	*i*Pdiff	**Pdif**	**02 36 37.7**	**+0.1**
	comp=Z,737nm,9.8s						
WTTA			⇑	*i*PKiKP	PKiKP	02 40 26.0	-6.9
	comp=Z,2µm,6.4s						
CTAO	**Charters Tower**	**112.58**	**220**	PFAKE		02 40 50.0	
CTAO				LR	LR		
	comp=Z,24µm,20.0s						
LRW	**Lerwick**	**112.72**	**31**	*e*	PP	02 41 14.9	-5.9
FUR	**Furstenfeldbru**	**112.78**	**46**	*e*PP	PP	02 41 23.6	+2.0
FUR				*e*L	L	03 27 27.4	
	comp=Z,41µm,20.5s						
ABTA	**Abfaltersbach**	**112.82**	**48⇑**	*i*Pdiff	**Pdif**	**02 36 39.5**	**+0.8**
	comp=Z,953nm,13.4s						
ABTA			⇓	*i*PKiKP	PKiKP	02 40 27.5	-5.8
	comp=Z,1µm,6.4s						
IBBN	**Ibbenburen**	**112.86**	**41**	*e*PP	PP	02 41 24.3	+2.3
UBBA	**Unterbreizbach**	**113.34**	**43**	*e*PP	PP	02 41 27.8	+2.5
JAVS	**Javornik**	**113.35**	**49**	*e*Pdiff	**Pdif**	**02 36 34.3**	**-6.8**
JAVS				*e*PP	**PP**	**02 41 23.7**	**-2.2**
JAVS				*e*SKSac	PKKPbc	02 51 13.6	-6.0
JAVS				*e*		03 01 31.8	
RJOB	**Jochberg**	**113.46**	**47**	*e*PP	PP	02 41 28.9	+2.4
KBA	**Koelnbreinsper**	**113.48**	**48⇑**	*i*Pdiff	**Pdif**	**02 36 39.0**	**-2.7**
	comp=Z,1µm,15.0s						
KBA			⇑	*i*PKiKP	PKiKP	02 40 29.4	-5.3
	comp=Z,3µm,9.3s						
GRF	**Grafenberg Arr**	**113.48**	**45**	*e*PP	PP	02 41 28.9	+2.3
GRF				*e*L	L	03 26 08.5	
	comp=Z,40µm,21.8s						
EGAK	**Eagle**	**113.64**	**334**	PFAKE		02 40 50.0	
EGAK				LR	LR		
	comp=Z,22µm,19.0s						
VISS	**Visnje**	**113.79**	**50**	*e*Pdiff	**Pdif**	**02 36 43.2**	**+0.3**
VISS				*e*PP	**PP**	**02 41 26.9**	**-1.9**
VISS				*e*SKSac	**PS**	**02 51 10.9**	**+5.6**
BOJS	**Bojanci**	**113.90**	**50**	*e*Pdiff	**Pdif**	**02 36 43.6**	**+0.2**
BOJS				*e*PP	**PP**	**02 41 30.8**	**+1.2**
BOJS				*e*		02 43 50.0	
BOJS				*e*SKSac	**PS**	**02 51 10.4**	**+4.1**
OBKA	**Obir**	**113.94**	**49⇑**	*i*Pdiff	**Pdif**	**02 36 45.5**	**+1.8**
	comp=Z,763nm,11.4s						
OBKA			⇓	*i*pPKPdf	**PKiKP**	**02 40 39.3**	**+3.8**
	comp=Z,2µm,7.9s						
CLZ	**Clausthal**	**114.04**	**42**	*e*PP	**PP**	**02 41 33.9**	**+3.4**
ROTZ	**Rotzenmuhle**	**114.08**	**45**	*e*PP	**PP**	**02 41 32.6**	**+1.8**
MOX	**Moxa**	**114.16**	**44**	*e*PP	**PP**	**02 41 33.7**	**+2.4**
WET	**Wettzell**	**114.18**	**46**	*e*PP	**PP**	**02 41 33.0**	**+1.5**
NRDL	**Niedersach Rie**	**114.21**	**42**	*e*PP	**PP**	**02 41 34.3**	**+2.8**
SOKA	**Soboth**	**114.31**	**49⇑**	*i*Pdiff	**Pdif**	**02 36 48.0**	**+2.6**
	comp=Z,1µm,13.9s						
SOKA			⇓	*i*PKiKP	**PKiKP**	**02 40 38.9**	**+2.8**
	comp=Z,2µm,7.4s						
DOBS	**Dobrina**	**114.34**	**50**	*e*Pdiff	**Pdif**	**02 36 45.0**	**-0.4**
PERS	**Pernice**	**114.34**	**49**	*e*Pdiff	**Pdif**	**02 36 46.5**	**+1.0**
PERS				*e*PP	PP	02 41 39.8	+7.0
PERS				*e*SKSac	**PKKPbc**	**02 51 14.1**	**-2.0**
MOA	**Molln**	**114.39**	**48⇑**	*i*Pdiff	**Pdif**	**02 36 44.1**	**-1.5**
	comp=Z

CLL					Lm	MLR	03 28 00.0	
	comp=N,11µm,19.6s							
CLL					Lm	MLR	03 28 00.0	
	comp=E,28µm,21.2s							
CLL					Lm	MLR	03 28 00.0	
	comp=Z,37µm,20.4s							
CONA	**Conrad Observa**	**115.39**	**48**	⇑*i*Pdiff		**Pdif**	**02 36 50.8**	**+0.7**
	comp=Z,416nm,7.3s							
CONA				⇑*i*PKPdf		**PKPdf**	**02 40 37.8**	**-0.4**
	comp=Z,2µm,8.5s							
OHR	**Ohrid**	**115.49**	**57**	*e*P		**Pdif**	**02 36 51.9**	**+1.2**
PRA	**Prague**	**115.50**	**46**	*e*PKIKP		**PKPdf**	**02 40 43.3**	**+5.1**
PRA	**Prague**	**115.50**	**46**	*e*PKP		**PKPdf**	**02 40 43.3**	**+5.1**
PRU	**Pruhonice**	**115.53**	**46**	*e*P		**Pdif**	**02 36 52.9**	**+2.3**
PRU				*e*			02 40 39.5	
PRU				*e*			02 47 28.3	
PRU				*e*SP		SP	02 51 13.5	-4.8
PRU				*e*			02 52 40.9	
PRU				*e*SS		**SS**	**02 57 36.7**	**-2.7**
PRU				MLR		MLR		
	comp=Z,47µm,17.9s							
PRU	**Pruhonice**	**115.53**	**46**	*e*PDIFF		**Pdif**	**02 36 52.9**	**+2.3**
PRU				*e*PKP		**PKiKP**	**02 40 39.5**	**+1.2**
PRU				*e*PP		PP	02 41 34.6	-6.4
PRU				*e*SKS		**SKSac**	**02 47 28.3**	**+2.1**
PRU				*e*SKKS		**SKKSac**	**02 48 44.6**	**+4.1**
PRU				*e*XS			02 49 31.4	
PRU				*e*SP		**SP**	**02 51 13.5**	**-4.8**
PRU				*e*x		x	02 52 40.9	
PRU				*e*SS		**SS**	**02 57 36.7**	**-2.7**
PRU				AMS		AMS	03 32 30.0	
	comp=Z,47µm,17.9s							
MUD	**Monsted U'grnd**	**115.58**	**38**	*i* P		PP	02 41 32.7	-8.4
BRG	**Berggiesshubel**	**115.58**	**45**	PDIFF		**Pdif**	**02 36 52.0**	**+1.2**
BRG	**Berggiesshubel**	**115.58**	**45**	PKP		PKPdf	02 40 33.0	-5.3
BRG				PP		**PP**	**02 41 41.0**	**-0.3**
BRG				SKS		**SKSac**	**02 47 28.0**	**+1.7**
BRG				SDIFF		Sdif	02 49 35.0	+10
BRG				PS		**PS**	**02 51 22.0**	**+0.5**
BRG				SS		**SS**	**02 57 38.0**	**-2.0**
BRG	**Berggiesshubel**	**115.58**	**45**	PKIKP		PKPdf	02 40 33.0	-5.3
BRG							02 41 41.0	
BRG							02 47 28.0	
BRG				PS		**PS**	**02 51 22.0**	**+0.5**
BRG				SS		SS	02 57 38.0	-2.0
BRG				MLR		MLR		
	comp=N,26µm,17.9s							
BRG				MLR		MLR		
	comp=E,29µm,17.4s							
BRG				MLR		MLR		
	comp=Z,45µm,17.4s							
BRG	**Berggiesshubel**	**115.58**	**45**	*e*PP		PP	02 41 42.9	+1.6
BER	**Bergen**	**115.63**	**33**	*e*PP		PP	02 41 38.8	-2.5
ILAR	**Eielson Array**	**115.70**	**333**	PKIKP		**PKPdf**	**02 40 38.0**	**-0.2**
ILAR	**Eielson Array**	**115.70**	**333**	PKP		**PKPdf**	**02 40 38.0**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=170,slow=1.9,SNR=8.4							
ILAR				PKKPbc		**PKKPbc**	**02 51 10.6**	**-1.3**
	comp=Z,2.3nm,1.1s,baz=313,slow=4.1,SNR=6.3							
SUE	**Sulen**	**115.71**	**32**	*e*PP		PP	02 41 40.8	-1.1
TREC	**Trest**	**115.77**	**47**	*e*P		**Pdif**	**02 36 55.2**	**+3.5**
TREC				*e*			02 47 29.2	
TREC				*e*SP		SP	02 51 15.8	-4.8
TREC				*e*			02 52 43.6	
TREC				MLR		MLR		
	comp=Z,29µm,18.1s							
TREC	**Trest**	**115.77**	**47**	*e*PDIFF		**Pdif**	**02 36 55.2**	**+3.5**
TREC				*e*PKP		**PKiKP**	**02 40 43.2**	**+4.4**
TREC				*e*x		x	02 41 31.2	
TREC				*e*SKS		**SKSac**	**02 47 29.2**	**+2.0**
TREC				*e*SKKS		**SKKSac**	**02 48 44.8**	**+2.6**
TREC				*e*S		**Sdif**	**02 49 31.5**	**+5.0**
TREC				*e*SP		**SP**	**02 51 15.8**	**-4.8**
TREC				*e*x		x	02 52 43.6	
TREC				AMS		AMS	03 37 40.0	
	comp=Z,29µm,18.1s							
PVCC	**Panska Ves**	**115.78**	**45**	*e*P		**Pdif**	**02 36 52.9**	**+1.2**
PVCC				*e*			02 47 29.1	
PVCC				*e*SP		SP	02 51 21.8	+1.2
PVCC				*e*			02 52 45.8	
PVCC				*e*SS		**SS**	**02 57 37.5**	**-5.2**
PVCC				MLR		MLR		
	comp=Z,32µm,17.6s							
PVCC	**Panska Ves**	**115.78**	**45**	*e*PDIFF		**Pdif**	**02 36 52.9**	**+1.2**
PVCC				*e*PKP		**PKiKP**	**02 40 40.4**	**+1.7**
PVCC				*e*PP		PP	02 41 36.2	-6.5
PVCC				*e*SKS		**SKSac**	**02 47 29.1**	**+2.0**
PVCC				*e*SKKS		**SKKSac**	**02 48 45.9**	**+3.7**
PVCC				*e*XS			02 49 31.4	
PVCC				*e*SP		**SP**	**02 51 21.8**	**+1.2**
PVCC				*e*x		x	02 52 45.8	
PVCC				*e*SS		**SS**	**02 57 37.5**	**-5.2**
PVCC				AMS		AMS	03 33 50.0	
	comp=Z,32µm,17.6s							
HOMB	**Homborsund**	**116.08**	**36**	*e*PP		PP	02 41 42.4	-2.2
HOMB				IAMs_20		IAMs_20	03 35 29.9	
	comp=Z,28µm,20.9s							
HOMB				IVMs_BB		IVMs_BB	03 35 44.4	
	comp=Z,10µm,18.0s							
FOO	**Floro**	**116.09**	**31**	*e*PP		PP	02 41 41.2	-3.3
COLA	**College**	**116.11**	**333**	PFAKE			02 40 50.0	+11
COLA				LR		LR		
	comp=Z,13µm,20.0s							
SKO	**Skopje**	**116.30**	**56**	*e*P		**Pdif**	**02 36 55.1**	**+0.9**
TRF	**Thorofare Moun**	**116.34**	**331**	*e*PKPdf		**PKPdf**	**02 40 40.3**	**+0.6**
JMIC	**Jan Mayen**	**116.35**	**19**	*e*PP		PP	02 41 45.4	-0.8
JMIC				IVMs_BB		IVMs_BB	03 29 28.0	
	comp=Z,7µm,15.8s							
JMIC				IAMs_20		IAMs_20	03 29 31.3	
	comp=Z,18µm,18.0s							
VRAC	**Vranov**	**116.43**	**47**	⇓PKIKP		**PKPdf**	**02 40 38.2**	**-1.8**
VRAC	**Vranov**	**116.43**	**47**	⇓*i*P		**PKPdf**	**02 40 38.2**	**-1.8**
VRAC	**Vranov**	**116.43**	**47**	PKP		**PKPdf**	**02 40 40.1**	**0.0**
	comp=Z,7.3nm,1.1s,baz=250,slow=5.1,SNR=3.1							
UPC	**Upice**	**116.60**	**46**	*e*PKIKP		**PKPdf**	**02 40 41.1**	**+0.8**
UPC				*e*			02 40 45.8	
UPC	**Upice**	**116.60**	**46**	*e*PKP		**PKPdf**	**02 40 41.1**	**+0.8**
UPC				*e*pPKP		pPKPdf	02 40 45.8	-0.9
SANT	**Santorini**	**116.62**	**63**	PFAKE			02 40 50.0	+9.1
SANT				LR		LR		
	comp=Z,28µm,20.0s							
KTH	**Kantishna Hill**	**116.64**	**331**	*e*PKPdf		**PKPdf**	**02 40 39.7**	**-0.4**
DPC	**Dobruska-Polom**	**116.72**	**46**	*e*P		**Pdif**	**02 36 58.7**	**+2.8**
DPC				*e*			02 40 40.0	
DPC				*e*			02 40 45.1	
DPC				*e*			02 47 32.7	
DPC				*e*SP		SP	02 51 30.1	+0.9
DPC				*e*			02 52 52.0	
DPC				*e*SS		**SS**	**02 57 57.6**	**+2.6**
DPC	**Dobruska-Polom**	**116.72**	**46**	*e*PDIFF		**Pdif**	**02 36 58.7**	**+2.8**
DPC				*e*PKP		**PKPdf**	**02 40 40.0**	**-0.6**
DPC				*e*pPKP		pPKPdf	02 40 45.1	-1.9
DPC				*e*x		x	02 41 36.9	
DPC				*e*SKS		**SKSac**	**02 47 32.7**	**+2.0**
DPC				*e*SKKS		**SKKSac**	**02 48 48.4**	**-0.1**
DPC				*e*XS			02 49 41.2	
DPC				*e*SP		**SP**	**02 51 30.1**	**+0.9**
DPC				*e*x		x	02 52 52.0	
DPC				*e*SS		**SS**	**02 57 57.6**	**+2.6**
DPC				AMS		AMS	03 33 20.0	
VAY	**Valandovo**	**116.78**	**57**	*e*P		**Pdif**	**02 36 58.0**	**+1.6**
COP	**Copenhagen**	**116.87**	**39**	*i* P		PP	02 41 44.7	-5.5
KSP	**Ksiaz**	**116.91**	**45**	*i* PKIKP		**PKPdf**	**02 40 44.8**	**+3.9**
KSP				*e*			02 47 32.0	
KSP				*e*SP		SP	02 51 29.0	-1.9
KSP				*e*PPS		PPS	02 52 51.0	
KSP				*e*SS		**SS**	**02 57 55.0**	**-2.4**
KSP				MLR		MLR		
	comp=Z,224µm,21.8s							
KSP	**Ksiaz**	**116.91**	**45**	*e*PKP		**PKPdf**	**02 40 44.9**	**+4.0**
KSP				*e*PP		PP	02 41 33.7	-17
KSP				*e*SKSac		**SKSac**	**02 47 32.1**	**+0.8**
KSP				*e*SP		**SP**	**02 51 26.3**	**-4.5**
KSP				*e*			02 52 53.3	
KSP				*e*SS		**SS**	**02 57 56.2**	**-1.2**
KSP				LMZ		LR	03 29 27.2	
AKN	**Aaknes**	**117.17**	**31**	*e*PP		PP	02 41 52.2	0.0
MORC	**Moravsky Berou**	**117.19**	**47**	*e*PKIKP		**PKPdf**	**02 40 41.6**	**+0.1**
MORC	**Moravsky Berou**	**117.19**	**47**	⇓*i*P		**PKPdf**	**02 40 41.6**	**+0.1**
MORC	**Moravsky Berou**	**117.19**	**47**	*e*PKPdf		**PKPdf**	**02 40 41.6**	**+0.1**
KONO	**Kongsberg**	**117.20**	**35**	*e*PP		PP	02 41 52.9	+0.5
KONO	**Kongsberg**	**117.20**	**35**	PFAKE			02 40 50.0	+8.8
KONO				LR		LR		
	comp=Z,26µm,20.0s							
MSEY	**Mahe Island**	**117.25**	**119**	PFAKE			02 40 50.0	+7.2
MSEY				LR		LR		
	comp=Z,26µm,19.0s							
VYHS	**Vyhne**	**117.42**	**48**	*e*P		**Pdif**	**02 37 00.0**	**+0.9**
VYHS				*e*			02 40 41.3	
VYHS				*e*			02 41 53.5	
VYHS	**Vyhne**	**117.42**	**48**	PDIF		**Pdif**	**02 37 00.0**	**+0.9**
VYHS	**Vyhne**	**117.42**	**48**	*e*PKP		**PKPdf**	**02 40 41.3**	**-0.7**
VYHS				*e*PP		**PP**	**02 41 53.5**	**-0.8**
OKC	**Ostrava-Krasne**	**117.57**	**47**	*e*P		**Pdif**	**02 37 03.3**	**+3.7**
OKC				*e*			02 40 42.7	
OKC				*e*			02 47 36.6	
OKC				*e*SP		SP	02 51 45.7	+8.8
OKC				*e*SS		**SS**	**02 58 07.4**	**+1.4**
OKC				MLR		MLR		
	comp=Z,21µm,16.5s							
OKC	**Ostrava-Krasne**	**117.57**	**47**	*e*PDIFF		**Pdif**	**02 37 03.3**	**+3.7**
OKC				*e*PKP		**PKiKP**	**02 40 42.7**	**+0.5**
OKC				*e*pPKP		**pPKPdf**	**02 40 46.7**	**-1.9**
OKC				*e*x		x	02 41 38.8	
OKC				*e*SKS		**SKSac**	**02 47 36.6**	**+2.8**
OKC				*e*SKKS		**SKKSac**	**02 48 58.7**	**+4.6**
OKC				*e*XS			02 49 49.7	
OKC				*e*SP		**SP**	**02 51 45.7**	**+8.8**
OKC				*e*SS		**SS**	**02 58 07.4**	**+1.4**
OKC				AMS		AMS	03 36 00.0	
	comp=Z,21µm,16.5s							
DAG	**Danmarks Havn**	**117.75**	**12**	*i* P		**PP**	**02 41 52.4**	**-3.4**
PSZ	**Piszkesteto**	**117.83**	**49**	*e*PKIKP		**PKPdf**	**02 40 44.4**	**+1.5**
PSZ				MLR		MLR		
	comp=Z,28µm,19.0s							
PSZ	**Piszkesteto**	**117.83**	**49**	⇓*i*P		**PKPdf**	**02 40 46.8**	**+3.9**
PSZ	**Piszkesteto**	**117.83**	**49**	*e*PKPdf		**PKPdf**	**02 40 44.4**	**+1.5**
PSZ				LR		LR		
	comp=Z,28µm,19.0s							
OSL	**Oslo**	**117.84**	**34**	*e*PP		PP	02 41 56.6	-0.3
BSD	**Bornholm Skovb**	**117.92**	**41**	*i* P		**PP**	**02 41 53.2**	**-4.3**
BZS	**Buzias**	**117.97**	**52**	⇓PKIKP		**PKPdf**	**02 40 42.7**	**-0.4**
BZS	**Buzias**	**117.97**	**52**	⇓*i*P		**PKPdf**	**02 40 42.7**	**-0.4**
COLD	**Coldfoot**	**118.08**	**335**	*e*PKPdf		**PKPdf**	**02 40 44.1**	**+1.4**
WB2	**Warramunga Arr**	**118.25**	**210**	*e*PKPdf		**PKPdf**	**02 40 44.6**	**0.0**
WRA	**Warramunga Arr**	**118.25**	**210**	PKP		**PKPdf**	**02 40 42.8**	**-1.8**
	comp=Z,3.9nm,0.9s,baz=157,slow=1.6,SNR=23							
WRA				PKKPbc		**PKKPbc**	**02 51 01.9**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=340,slow=4.3,SNR=8.5							
BODT	**Bodrum**	**118.26**	**63**	*e*P		PP	02 42 06.5	+6.1
WRAB	**Tennant Creek**	**118.26**	**210**	*e*PKIKP		**PKPdf**	**02 40 41.7**	**-2.9**
WRAB	**Tennant Creek**	**118.26**	**210**	*e*PKPdf		**PKPdf**	**02 40 44.8**	**+0.2**
WRAB				LR		LR		
	comp=Z,50µm,22.0s							
GKP	**Gorka Klasztor**	**118.43**	**43**	*e*PKIKP		**PKPdf**	**02 40 48.5**	**+4.8**
GKP				*e*PS		**PS**	**02 51 52.7**	**+5.4**
GKP				*e*SS		SS	02 58 26.5	+9.5
GKP				MLR		MLR		
	comp=Z,43µm,21.7s							
GKP	**Gorka Klasztor**	**118.43**	**43**	*e*PKP		**PKPdf**	**02 40 48.5**	**+4.8**
GKP				*e*PP		PP	02 41 43.7	-17
GKP				*e*PS		**PS**	**02 51 52.7**	**+5.4**
GKP				*e*SS		SS	02 58 26.4	+9.4
GKP				LMZ		LR	03 28 34.4	
NB2	**NORSAR Subarra**	**118.52**	**33**	PKPdf		**PKPdf**	**02 40 45.8**	**+2.1**
	baz=248,slow=1.9							
NOA	**NORSAR Array B**	**118.52**	**33**	PKP		**PKPdf**	**02 40 45.3**	**+1.6**
	comp=Z,1.4nm,0.9s,baz=242,slow=1.9,SNR=5.7							
NOA				PKKPbc		**PKKPbc**	**02 51 01.5**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=67,slow=4.5,SNR=3.2							
NC602	**NORSAR Array S**	**118.54**	**34**	*e*		**PKPdf**	**02 40 48.5**	**+4.7**
NC602				IVMs_BB		IVMs_BB	03 32 26.5	
	comp=Z,13µm,19.9s							
NC602				IAMs_20		IAMs_20	03 32 32.2	
	comp=Z,38µm,19.5s							
BOZC	**Bozcaada**	**118.55**	**60**	*i* P		**PKPdf**	**02 40 47.1**	**+2.7**
GZR	**Gura Zlata**	**118.62**	**53**	⇓PKIKP		PKPdf	02 40 50.7	+6.2
GZR	**Gura Zlata**	**118.62**	**53**	⇓*i*P		PKPdf	02 40 50.7	+6.2
BLCB	**Balcova**	**118.63**	**62**	*e*P		PP	02 41 52.0	-11
NIE	**Niedzica**	**118.69**	**48**	*i* PKIKP		**PKPdf**	**02 40 46.3**	**+1.9**
NIE				*e*			02 42 02.4	
NIE				*e*PS		**PS**	**02 51 55.6**	**+5.7**
NIE	**Niedzica**	**118.69**	**48**	*e*Pdiff		**Pdif**	**02 37 12.0**	**+7.3**
NIE				*e*PKiKP		**PKPdf**	**02 40 46.3**	**+1.9**
NIE				*e*PP		**PP**	**02 42 02.4**	**-0.7**
NIE				*e*PS		**PS**	**02 51 55.6**	**+5.7**
NIE				L		L	03 35 21.0	
	comp=Z,28µm,18.6s							
OJC	**Ojcow**	**118.70**	**47**	*i* PKIKP		**PKPdf**	**02 40 46.6**	**+2.2**
OJC				*e*			02 42 01.7	
OJC				*e*			02 47 37.8	
OJC				*e*PS		**PS**	**02 51 55.9**	**+6.1**
OJC				MLR		MLR		
	comp=Z,31µm,18.3s							
OJC	**Ojcow**	**118.70**	**47**	*e*Pdiff		**Pdif**	**02 37 11.5**	**+6.8**
OJC				*e*PKiKP		**PKPdf**	**02 40 46.6**	**+2.2**
OJC				*e*PP		**PP**	**02 42 01.7**	**-1.4**
OJC				*e*SKSac		**SKSac**	**02 47 37.8**	**0.0**
OJC				*e*PS		**PS**	**02 51 55.9**	**+6.1**
OJC				L		L	03 33 40.0	
	comp=Z,31µm,18.3s							
EZN	**Ezine**	**118.73**	**60**	*e*P		PP	02 41 51.6	-12
KDZ	**Kurdzhali**	**118.86**	**58**	⇑PKIKP		**PKPdf**	**02 40 44.1**	**-0.9**
KDZ	**Kurdzhali**	**118.86**	**58**	⇑*i*P		**PKPdf**	**02 40 44.0**	**-0.9**
AYDN	**Tasoluk**	**118.92**	**63**	*i* P		**PKPdf**	**02 40 48.9**	**+3.7**
ENEZ	**Enez**	**118.99**	**59**	*e*P		**PP**	**02 42 02.9**	**-2.4**
YER	**Yerkesik**	**118.99**	**63**	*e*P		PP	02 41 47.5	-18
AYDB	**Zeytinkoy-Aydi**	**119.05**	**62**	*e*P		**PP**	**02 42 01.5**	**-4.5**
GELI	**Tayfur-Gelibol**	**119.07**	**59**	*e*P		PP	02 41 56.5	-9.4
DALY	**Dalyan (Mu'la**	**119.12**	**64**	*e*P		**PP**	**02 42 10.5**	**+4.2**
DRGR		**119.14**	**51**	⇓PKIKP		**PKPdf**	**02 40 45.0**	**-0.4**
DRGR		**119.14**	**51**	⇓*i*P		**PKPdf**	**02 40 45.0**	**-0.4**
ERIK	**Erikli-Kesan**	**119.21**	**59**	*e*P		**PP**	**02 42 02.4**	**-4.4**
STHS	**Stebnicka Huta**	**119.25**	**48**	*e*PKIKP		**PKPdf**	**02 40 46.0**	**+0.5**
STHS	**Stebnicka Huta**	**119.25**	**48**	*e*PKP		**PKPdf**	**02 40 46.0**	**+0.5**
LPK	**Lapseki**	**119.26**	**60**	*e*P		PP	02 42 01.9	-5.2
COEN	**Coen**	**119.28**	**222**	*e*PKPdf		**PKPdf**	**02 40 46.6**	**0.0**
LOT	**Lotru**	**119.28**	**53**	⇓*i*P		**PKPdf**	**02 40 46.2**	**+0.4**
HFS	**Hagfors**	**119.29**	**35**	PKP		**PKPdf**	**02 40 46.7**	**+1.5**
	comp=Z,2.4nm,0.7s,baz=177,slow=3.0,SNR=5.7							
HFS				PP		**PP**	**02 42 03.5**	**-3.4**
	comp=Z,5.9nm,0.9s,baz=289,slow=4.5,SNR=3.7							
FETY	**Fethiye**	**119.36**	**64**	*e*P		PP	02 42 02.4	-5.6
TRPA	**Tarpa**	**119.55**	**50**	⇓*i*P		**PKPdf**	**02 40 45.6**	**-0.4**
TRPA	**Tarpa**	**119.55**	**50**	⇓*e*		**PKPdf**	**02 40 45.7**	**-0.3**
UZH	**Uzhgorod**	**119.58**	**49**	*i* PKIKP		**PKPdf**	**02 40 47.9**	**+1.8**
UZH				*e*			02 40 52.9	
UZH				*e*			02 41 01.3	
UZH				*e*SS		SS	02 58 45.1	+13
BALY	**Balya**	**119.60**	**61**	*i* P		**PKPdf**	**02 40 47.7**	**+1.2**
KRBG	**Karabiga-Canak**	**119.64**	**60**	*e*P		**PP**	**02 42 06.5**	**-3.3**
RKY	**Sarkoy-Tekirda**	**119.68**	**59**	*e*P		**PP**	**02 42 05.6**	**-4.6**
KOLS	**Kolonicke sedl**	**119.69**	**49**	*e*PKIKP		**PKPdf**	**02 40 46.0**	**-0.3**
KOLS				*e*			02 42 07.9	
KOLS	**Kolonicke sedl**	**119.69**	**49**	*e*PKP		**PKPdf**	**02 40 46.0**	**-0.3**
KOLS				*e*PP		**PP**	**02 42 07.9**	**-2.1**
BALB	**Balikesir**	**119.75**	**61**	*e*P		PP	02 42 05.1	-5.4
ARR	**Arges**	**119.81**	**54**	⇑*i*P		**PKPdf**	**02 40 46.0**	**-0.8**
KULA	**Kula-Manisa**	**119.84**	**62**	*e*P		PP	02 42 04.2	-7.1
EDRB	**Edirne**	**119.84**	**58**	*e*P		PP	02 42 03.3	-7.9
MRMT	**Marmara Adasi**	**119.94**	**60**	*e*P		**PP**	**02 42 07.4**	**-4.6**
JMB	**Yambol**	**119.98**	**57**	⇑PKIKP		**PKPdf**	**02 40 49.7**	**+2.6**
JMB	**Yambol**	**119.98**	**57**	⇑*i*P		**PKPdf**	**02 40 49.7**	**+2.6**
ELL	**Elmali**	**120.01**	**65**	*e*P		PP	02 42 07.4	-5.2
EDC	**Edincik**	**120.02**	**60**	*e*P		**PP**	**02 42 08.7**	**-3.7**
TKR	**Tekirdag**	**120.05**	**59**	*e*P		**PP**	**02 42 07.8**	**-4.8**
VOIR		**120.11**	**54**	⇓PKIKP		**PKPdf**	**02 40 46.7**	**-0.6**
VOIR		**120.11**	**54**	⇓*i*P		**PKPdf**	**02 40 46.7**	**-0.6**
NSS	**Namsos**	**120.18**	**30**	*e*PP		PP	02 42 12.6	-0.2
KWP	**Kalwaria Pacla**	**120.21**	**48**	⇓PKIKP		**PKPdf**	**02 40 47.6**	**+0.3**
KWP	**Kalwaria Pacla**	**120.21**	**48**	*e*PKP		**PKPdf**	**02 40 48.3**	**+1.0**
KWP				*e*PP		**PP**	**02 42 08.9**	**-4.6**
KWP				*e*PS		PS	02 52 17.5	+14
KWP				LMZ		LR	03 30 07.1	
KWP	**Kalwaria Pacla**	**120.21**	**48**	⇓*i*P		**PKPdf**	**02 40 47.6**	**+0.3**
KWP	**Kalwaria Pacla**	**120.21**	**48**	*e*PKPdf		**PKPdf**	**02 40 45.8**	**-1.5**
KWP				LR		LR		
	comp=Z,22µm,22.0s							
CRLT	**Corlu**	**120.24**	**59**	*e*P		PP	02 42 08.7	-5.2
PHSR	**Pinarhisar**	**120.29**	**58**	*e*P		PP	02 42 06.9	-7.4
KCTX	**Karacabey (Bur**	**120.33**	**60**	*e*P		**PP**	**02 42 10.1**	**-4.5**
DOPR	**Dopca**	**120.53**	**53**	⇑*i*P		**PKPdf**	**02 40 47.0**	**-1.1**
SLVT	**Silivri**	**120.61**	**59**	*e*P		PP	02 42 10.5	-5.9
ANTB	**Antalya**	**120.61**	**65**	*e*P		**PP**	**02 42 15.1**	**-1.5**
SECR		**120.62**	**54**	⇓*i*P		**PKPdf**	**02 40 46.8**	**-1.5**
GDZ	**Gediz**	**120.66**	**62**	*i* P		PKPdf	02 40 41.0	-7.7
PMG	**Port Moresby**	**120.69**	**228**	PFAKE			02 41 00.0	+11
PMG				LR		LR		
	comp=Z,38µm,22.0s							
MLR	**Muntele Rosu**	**120.72**	**54**	⇓PKIKP		**PKPdf**	**02 40 47.9**	**-0.7**
MLR	**Muntele Rosu**	**120.72**	**54**	⇓*i*P		**PKPdf**	**02 40 47.9**	**-0.7**
MLR	**Muntele Rosu**	**120.72**	**54**	PKP		**PKPdf**	**02 40 47.4**	**-1.2**
	comp=Z,2.4nm,0.9s,baz=168,slow=6.4,SNR=7.6							
MDNY	**Mudanya-Bursa**	**120.74**	**60**	*e*P		PP	02 42 11.9	-5.5
EIL	**Elat**	**120.75**	**74**	PKP		**PKPdf**	**02 40 48.8**	**-0.2**
	comp=Z,7.4nm,0.8s,baz=23,slow=3.9,SNR=6.9							
CTYL	**Yal??k??y-??at**	**120.76**	**59**	*e*P		PP	02 42 11.0	-6.5
TVSB	**Tavsanli**	**120.79**	**61**	*e*P		PP	02 42 12.3	-5.5
BCK	**Bucak**	**120.80**	**64**	*e*P		PP	02 42 10.5	-7.4
ARMT	**Armutlu**	**120.81**	**60**	*e*P		PP	02 42 11.0	-6.9
CTKS	**Kestanelik-??a**	**120.82**	**59**	*e*P		**PP**	**02 42 12.8**	**-5.1**
ISP	**Isparta**	**120.90**	**64**	PFAKE			02 41 00.0	+11
ISP				LR		LR		
	comp=Z,60µm,21.0s							
BGKT	**Bogazkoy**	**120.98**	**59**	*e*P		**PP**	**02 42 15.1**	**-3.9**
GEMT	**Gemlik**	**120.98**	**60**	*e*P		PP	02 42 11.0	-8.0
BURAR	**Bucovina Array**	**121.03**	**51**	⇑PKIKP		**PKPdf**	**02 40 49.1**	**0.0**
BURAR	**Bucovina Array**	**121.03**	**51**	⇑*i*P		**PKPdf**	**02 40 49.1**	**0.0**
LVV	**L'vov**	**121.08**	**49**	*i* PKIKP		**PKPdf**	**02 40 52.4**	**+3.4**
LVV				*e*			02 47 47.6	
LVV				*e*SS		SS	02 58 53.4	+2.0
LVV				*e*SSS		SSS	03 03 24.4	
ALT	**Altintas**	**121.09**	**62**	*e*P		PP	02 42 11.4	-8.5
ISK	**Istanbul-Kandi**	**121.14**	**60**	*e*P		PP	02 42 12.3	-7.7
KLYT	**Kilyos**	**121.20**	**59**	*e*P		PP	02 42 14.6	-5.9
SHUT	**Suhut-Afyon**	**121.21**	**63**	*e*P		PP	02 42 11.0	-10
PLOR	**Plostina**	**121.31**	**54**	⇑PKIKP		**PKPdf**	**02 40 47.8**	**-1.8**
PLOR	**Plostina**	**121.31**	**54**	⇑*i*P		**PKPdf**	**02 40 47.8**	**-1.8**
CAVI	**Cavuskoy**	**121.35**	**61**	*e*P		**PP**	**02 42 18.7**	**-2.9**
VRI	**Vrincioaia**	**121.36**	**54**	⇓PKIKP		**PKPdf**	**02 40 48.4**	**-1.3**
VRI	**Vrincioaia**	**121.36**	**54**	⇓*i*P		**PKPdf**	**02 40 48.4**	**-1.3**
ADVT	**Abdulvahap**	**121.37**	**61**	*e*P		**PP**	**02 42 16.9**	**-4.8**
HRT	**Hereke**	**121.47**	**60**	*e*P		PP	02 42 15.9	-6.5
TESR	**Tescani**	**121.55**	**53**	⇓*i*P		**PKPdf**	**02 40 48.9**	**-1.1**
MBWA	**Marble Bar**	**121.56**	**194**	*e*PKPdf		**PKPdf**	**02 40 51.0**	**+0.1**
MBWA				LR		LR		
	comp=Z,27µm,20.0s							
PRAR	**RASCA**	**121.58**	**52**	⇓*i*P		**PKPdf**	**02 40 49.6**	**-0.4**
SILT	**Sile**	**121.58**	**60**	*e*P		PP	02 42 15.5	-7.6
BORA	**Eskisehir**	**121.66**	**61**	*i* P		**PKPdf**	**02 40 55.6**	**+5.

ANDN	**Andirin**	**125.06**	**66**	*i* P	**PKPdf**	**02 41 00.8**	**+3.7**
WAKE	**Wake Island**	**125.07**	**269**	PFAKE		02 41 10.0	+12
WAKE				LR	LR		
comp=Z,13μm,20.0s							
H11N3	**WAKE ISLAND Hyl**	**125.08**	**270**	T	T	04 58 24.2	
baz=116,slow=78,SNR=28							
H11N1	**WAKE ISLAND Hyl**	**125.09**	**270**	T	T	04 58 27.3	
baz=116,slow=78,SNR=46							
H11N2	**WAKE ISLAND Hyl**	**125.10**	**270**	T	T	04 58 26.2	
baz=116,slow=78,SNR=74							
SPA0	**Spitsbergen Ar**	**125.14**	**15**	*e*	**PKPdf**	**02 40 59.1**	**+3.1**
SPA0				*e*PP	**PP**	**02 42 44.6**	**-1.5**
SPA0				*e*PP	PP	02 42 45.7	-0.4
SPA0				*e*SS	SS	02 59 43.4	+2.0
SPA0				IVMs_BB	IVMs_BB	03 31 51.9	
comp=Z,8μm,17.2s							
VSU	**Vasula**	**125.14**	**39**	*e*PKIKP	**PKPdf**	**02 40 55.7**	**-0.7**
KAMA	**Osmaniye**	**125.15**	**67**	*i* P	**PKPdf**	**02 40 52.8**	**-4.5**
BNN	**Bunyan**	**125.16**	**64**	*e*P	PP	02 42 40.4	-7.1
BJO	**Bjornoya**	**125.24**	**19**	*e*PP	PP	02 42 43.2	-3.6
GAMB	**Gambell**	**125.41**	**327**	*e*PKPdf	**PKPdf**	**02 40 54.0**	**-2.8**
KMRS	**Kahramanmaras**	**125.44**	**66**	*e*P	PP	02 42 42.1	-7.1
FINES	**FINESS Array B**	**125.47**	**36**	PKP	**PKPdf**	**02 40 56.4**	**-0.6**
comp=Z,2.1nm,0.9s,baz=210,slow=8.0,SNR=4.3							
DIKM	**Dikmen**	**125.70**	**61**	*e*P	**PP**	**02 42 49.4**	**-1.5**
KAF	**Kangasniemi**	**125.71**	**35**	*e*PKIKP	**PKPdf**	**02 40 54.9**	**-2.5**
KAF				pmax	pmax		
comp=Z,6.0nm,0.8s							
KAF	**Kangasniemi**	**125.71**	**35**	*e*p	**PKPdf**	**02 40 54.9**	**-2.5**
comp=Z,5.7nm,0.8s							
HAVZ	**Havza**	**125.83**	**62**	*i* P	**PKPdf**	**02 40 55.8**	**-2.6**
SIM	**Simferopol'**	**125.96**	**57**	*de*P	**Pdif**	**02 37 42.8**	**+5.7**
SIM				*e*		02 40 58.0	
SIM				*e*		02 42 49.0	
SIM				*e*		02 47 59.0	
SIM				*e*PS	**PS**	**02 52 55.0**	**+0.4**
SIM				*e*PPS	PPS	02 54 27.0	
SIM				*e*SS	SS	02 59 52.0	-1.4
SIM				pmax	pmax		
comp=Z,200nm,13.5s							
SIM				pmax	pmax		
comp=Z,400nm,11.5s							
SIM				pmax	pmax		
comp=Z,3μm,12.8s							
DGAR	**Diego Garcia**	**126.00**	**137**	PFAKE		02 41 10.0	+10
DGAR				LR	LR		
comp=Z,33μm,19.0s							
KVT	**Kavak**	**126.07**	**62**	*e*P	PP	02 42 47.6	-5.8
DARE	**Darende-Malaty**	**126.25**	**65**	*e*P	PP	02 42 47.6	-7.2
RAYN	**Ar Rayn**	**126.31**	**86**	*e*PKPdf	**PKPdf**	**02 40 58.7**	**-1.1**
SVSK	**Karacayir**	**126.36**	**64**	*e*P	PP	02 42 45.8	-9.5
ERBA	**Erbaa**	**126.44**	**63**	*i* P	**PKPdf**	**02 40 57.5**	**-2.1**
ATAB	**Bozova**	**126.47**	**67**	*i* P	PKPdf	02 40 52.8	-7.0
AKCD	**Akcadag**	**126.48**	**66**	*i* P	**PKPdf**	**02 40 57.2**	**-2.7**
ARCES	**ARCESS Array B**	**126.53**	**26**	PKP	**PKPdf**	**02 40 58.7**	**-0.2**
comp=Z,6.2nm,0.8s,baz=244,slow=3.9,SNR=11							
ARE0	**ARCESS Array S**	**126.53**	**26**	*e*	**PKPdf**	**02 41 00.6**	**+1.7**
ARE0				IAMs_20	IAMs_20	03 31 39.3	
comp=Z,30μm,19.4s							
ARE0				IVMs_BB	IVMs_BB	03 31 55.6	
comp=Z,9μm,21.6s							
RSDY	**Resadiye-TOKAT**	**126.76**	**63**	*e*P	**PP**	**02 42 53.4**	**-4.5**
MALT	**Malatya**	**126.86**	**66**	⇑PKIKP	**PKPdf**	**02 41 00.7**	**+0.1**
MALT	**Malatya**	**126.86**	**66**	⇑*i*P	**PKPdf**	**02 41 00.7**	**+0.1**
HOPEN	**Hopen**	**126.88**	**17**	*e*	**PKPdf**	**02 40 59.5**	**+0.2**
HOPEN				*e*PP	**PP**	**02 42 55.6**	**-2.0**
HOPEN				*e*SS	SS	03 00 01.7	-1.5
HOPEN				IVMs_BB	IVMs_BB	03 33 13.2	
comp=Z,8μm,24.6s							
KEV	**Kevo**	**127.07**	**25**	PFAKE		02 41 10.0	+10
KEV				LR	LR		
comp=Z,25μm,20.0s							
KEMA	**Kemaliye**	**127.23**	**65**	*i* P	**PKPdf**	**02 40 59.6**	**-1.6**
ILIC	**ilic-Erzincan**	**127.35**	**65**	*e*P	**PP**	**02 42 58.4**	**-3.6**
SVRC	**Sivrice-ELAZID**	**127.53**	**66**	*e*P	PP	02 42 56.6	-6.7
ESPY	**Espiye-Giresun**	**127.94**	**63**	*e*P	PP	02 43 00.2	-5.5
DYBB	**Diyarbakir**	**128.00**	**67**	*e*P	PP	02 42 59.3	-7.0
MAZI	**Mazidag**	**128.06**	**68**	*e*P	PP	02 42 58.4	-8.3
KELT	**Kelkit**	**128.08**	**64**	*i* P	**PKPdf**	**02 40 58.5**	**-4.5**
JOF	**Joensuu**	**128.13**	**34**	*e*PKIKP	**PKPdf**	**02 41 00.4**	**-1.6**
JOF				pmax	pmax		
comp=Z,7.0nm,0.8s							
JOF	**Joensuu**	**128.13**	**34**	*e*p	**PKPdf**	**02 41 00.4**	**-1.6**
comp=Z,6.7nm,0.8s							
ANN	**Anapa**	**128.18**	**58**	*i* P	**Pdif**	**02 37 51.4**	**+4.5**
ANN				*e*		02 43 04.0	
ANN				*e*SS	SS	03 00 15.2	-5.8
ANN				pmax	pmax		
comp=Z,139nm,1.3s							
ANN				MLR	MLR		
comp=Z,18μm,22.0s							
ANN				MLR	MLR		
comp=E,8μm,22.0s							
ERZN	**Erzincan**	**128.24**	**65**	*e*P	**PP**	**02 43 04.3**	**-3.6**
EUZM	**Uzumlu**	**128.26**	**65**	*i* P	**PKPdf**	**02 40 59.5**	**-3.7**
MARD	**Mardin**	**128.26**	**68**	*i* P	**PKPdf**	**02 40 59.5**	**-3.8**
KTUT	**Trabzon**	**128.71**	**63**	*e*P	PP	02 43 01.6	-9.2
BNGB	**Bing"ll**	**128.75**	**66**	*e*P	**PP**	**02 43 07.0**	**-4.2**
BAYT	**Ayd –ntepe-Bay**	**128.80**	**64**	*e*P	PP	02 43 06.1	-5.5
SVAN	**Silvan-Diyarba**	**128.86**	**67**	*e*P	PP	02 43 03.8	-8.0
KOPT	**Kop Dagi**	**128.94**	**65**	*i* P	**PKPdf**	**02 41 06.8**	**+2.1**
BNGL	**BINGOL**	**129.08**	**66**	*i* P	**PKPdf**	**02 41 09.1**	**+4.2**
APA	**Apatity**	**129.30**	**28**	⇓*i*PKIKP	**PKPdf**	**02 41 09.0**	**+4.9**
APA				*i* PS	**PS**	**02 53 26.0**	**+3.0**
VRTB	**Varto-Mus**	**129.37**	**66**	*e*P	PP	02 43 09.2	-6.1
SOC	**Sochi**	**129.42**	**60**	*c i*PKIKP	**PKPdf**	**02 41 03.4**	**-1.7**
SOC				*i*		02 43 12.4	
SOC				*e*		02 48 10.4	
SOC				*e*PS	PKKSdf	02 54 54.4	+7.4
SOC				*e*SS	SS	03 00 36.1	-0.4
ABTO	**Aybut**	**129.47**	**97**	PKPdf	**PKPdf**	**02 41 05.8**	**-0.2**
SNR=12							
SIRT	**Sirnak**	**129.57**	**68**	*e*P	**PP**	**02 43 11.5**	**-5.1**
LVZ	**Lovozero**	**129.78**	**28**	PFAKE		02 41 20.0	+15
LVZ				LR	LR		
comp=Z,33μm,22.0s							
OBN	**Obninsk**	**129.83**	**45**	*de*PKIKP	**PKPdf**	**02 41 06.1**	**+0.6**
OBN				*i*		02 48 03.8	
OBN				pmax	pmax		
comp=Z,749nm,5.1s							
OBN				pmax	pmax		
comp=Z,361nm,3.1s							
OBN	**Obninsk**	**129.83**	**45**	PKP	**PKPdf**	**02 41 05.5**	**+0.1**
comp=Z,8.7nm,0.5s,baz=200,slow=23,SNR=1.7							
OBN	**Obninsk**	**129.83**	**45**	*e*PKPdf	**PKPdf**	**02 41 05.6**	**+0.1**
OBN				LR	LR		
comp=Z,30μm,21.0s							
BCA	**Borcka**	**130.18**	**63**	*e*P	PP	02 43 13.3	-7.1
GEVA	**Gevas**	**130.30**	**67**	*i* P	**PKPdf**	**02 41 04.0**	**-3.2**
ARTV	**Artvin**	**130.33**	**64**	*i* P	**PKPdf**	**02 41 08.5**	**+1.2**
EATA	**Eleskirt**	**130.35**	**65**	*i* P	**PKPdf**	**02 41 06.5**	**-0.9**
MOS	**Moscow**	**130.51**	**44**	*e*PKIKP	**PKPdf**	**02 41 05.5**	**-1.3**
MOS				*e*		02 43 21.0	
MOS				*e*		02 48 11.2	
MOS				*e*PS	PS	02 53 21.4	-12
MOS				*e*PPS	PPS	02 55 07.1	
MOS				pmax	pmax		
comp=Z,52nm,1.3s							
MOS				MLR	MLR		
comp=E,47μm,21.0s							
MOS				MLR	MLR		
comp=Z,50μm,21.0s							
MOS				MLR	MLR		
comp=N,10μm,20.0s							
VANB	**Van**	**130.63**	**67**	*e*P	**PP**	**02 43 19.2**	**-4.3**
AGRB	**Hanur-Agry**	**130.63**	**66**	*e*P	PP	02 43 17.8	-5.8
VSR	**Storozhevoye**	**130.75**	**50**	*e*PKIKP	**PKPdf**	**02 41 06.0**	**-1.4**
VSR				pmax	pmax		
comp=Z,40nm,1.1s							
VSR				pmax	pmax		
comp=N,4.0nm,0.8s							
VSR				pmax	pmax		
comp=E,9.0nm,0.8s							
VSR				MLR	MLR		
comp=Z,33μm,22.0s							
VSR				MLR	MLR		
comp=N,16μm,18.0s							
VSR				MLR	MLR		
comp=E,16μm,20.0s							
VORD	**Divnogorie**	**130.79**	**50**	*e*PKIKP	**PKPdf**	**02 41 05.0**	**-2.4**
VORD				*e*		02 43 19.7	
VORD				pmax	pmax		
comp=Z,40nm,1.6s							
VORD				pmax	pmax		
comp=N,80nm,0.8s							
VORD				pmax	pmax		
comp=E,100nm,0.6s							
VORD				pmax	pmax		
comp=Z,2μm,6.8s							
VORD				pmax	pmax		
comp=N,1μm,4.1s							
VORD				pmax	pmax		
comp=E,2μm,8.8s							
VORD				MLR	MLR		
comp=N,14μm,19.0s							
VORD				MLR	MLR		
comp=E,14μm,19.0s							
VORD				MLR	MLR		
comp=Z,17μm,19.0s							
VOR	**Voronezh**	**130.86**	**49**	PKIKP	**PKPdf**	**02 41 06.0**	**-1.6**
VOR				pmax	pmax		
comp=Z,250nm,1.2s							
COCO	**West Island**	**130.94**	**167**	PFAKE		02 41 20.0	+11
COCO				LR	LR		
comp=Z,24μm,20.0s							
BATI	**Baumata**	**131.07**	**203**	PKP	**PKPdf**	**02 41 08.0**	**-1.2**
comp=Z,7.6nm,0.3s,baz=72,slow=19,SNR=2.2							
CLDR	**Caldiran**	**131.19**	**67**	*e*P	PP	02 43 19.6	-7.6
TMCR	**Tamitsa**	**131.20**	**33**	*e*PKIKP	**PKPdf**	**02 41 07.6**	**-0.2**
TMCR				pmax	pmax		
comp=Z,40nm,1.4s							
SOEI	**Soe**	**131.30**	**203**	*e*PKPdf	**PKPdf**	**02 41 11.5**	**+1.7**
EAK	**Akyaka**	**131.41**	**65**	*i* P	**PKPdf**	**02 41 07.9**	**-1.3**
KIV	**Kislovodsk**	**131.60**	**60**	*i* P	**Pdif**	**02 38 00.6**	**-1.7**
KIV				*i*		02 41 08.7	
KIV				*e*		02 43 25.6	
KIV				*e*PPP	PPP	02 46 15.2	
KIV				*e*PS	**PS**	**02 53 45.0**	**+1.1**
KIV				*e*SS	SS	03 00 58.7	-4.7
KIV				*e*SSS	SSS	03 05 54.7	
KIV				pmax	pmax		
comp=Z,46nm,1.1s							
KIV				MLR	MLR		
comp=Z,22μm,21.0s							
KIV	**Kislovodsk**	**131.60**	**60**	PKPdf	**PKPdf**	**02 41 09.1**	**-0.3**
SNR=9.1							
KIV	**Kislovodsk**	**131.60**	**60**	⇑*i*PKPdf	**PKPdf**	**02 41 08.8**	**-0.6**
SNR=12							
KIV	**Kislovodsk**	**131.60**	**60**	*e*PKPdf	**PKPdf**	**02 41 08.8**	**-0.6**
KIV				LR	LR		
comp=Z,23μm,21.0s							
KBZ	**Khabaz**	**131.69**	**61**	PKIKP	**PKPdf**	**02 41 09.0**	**-0.4**
KBZ	**Khabaz**	**131.69**	**61**	PKP	**PKPdf**	**02 41 09.0**	**-0.4**
comp=Z,4.0nm,0.7s,baz=311,slow=4.1,SNR=11							
KLMR	**Klimovskoe**	**131.87**	**37**	*e*PKIKP	**PKPdf**	**02 41 12.0**	**+2.8**
KLMR						02 43 26.8	
KLMR				pmax	pmax		
comp=Z,158nm,1.6s							
GNI	**Garni**	**132.09**	**66**	*c i*PKIKP	**PKPdf**	**02 41 08.8**	**-1.7**
GNI				pmax	pmax		
comp=Z,57nm,1.7s							
GNI	**Garni**	**132.09**	**66**	PKP	**PKPdf**	**02 41 10.7**	**+0.2**
comp=Z,3.5nm,0.3s,baz=319,slow=11,SNR=4.2							
GNI	**Garni**	**132.09**	**66**	⇓PKIKP	**PKiKP**	**02 41 12.8**	**+1.2**
GNI	**Garni**	**132.09**	**66**	*e*PKPdf	**PKPdf**	**02 41 09.7**	**-0.8**
GNI				PKP	**PKPdf**	**02 41 10.7**	**+0.2**
GNI				LR	LR		
comp=Z,30μm,20.0s							
GOF	**Gofitskoye**	**132.10**	**59**	*e*PKIKP	**PKPdf**	**02 41 10.8**	**+0.6**
GOF				pmax	pmax		
comp=Z,20nm,0.7s							
ZEI	**Tsey**	**132.17**	**62**	*i* PKIKP	**PKPdf**	**02 41 10.4**	**-0.3**
ZEI				pmax	pmax		
comp=Z,59nm,1.9s							
VRHR	**Novokhopersk**	**132.26**	**51**	*e*PKIKP	**PKPdf**	**02 41 11.1**	**+0.9**
VRHR				pmax	pmax		
comp=N,5.0nm,1.0s							
VRHR				pmax	pmax		
comp=Z,30nm,1.0s							
VRHR				pmax	pmax		
comp=E,8.0nm,0.7s							
VRHR				MLR	MLR		
comp=N,8μm,20.0s							
VRHR				MLR	MLR		
comp=Z,18μm,20.0s							
VRHR				MLR	MLR		
comp=E,11μm,19.0s							
BILL	**Bilibino**	**134.36**	**333**	*c i*PKIKP	**PKPdf**	**02 41 13.4**	**-0.3**
BILL				*i*		02 43 46.5	
BILL				*e*		02 48 15.4	
BILL				*i* SS	SS	03 01 29.3	-5.9
BILL				pmax	pmax		
comp=Z,14nm,1.2s							
BILL				MLR	MLR		
comp=Z,13μm,18.0s							
BILL	**Bilibino**	**134.36**	**333**	*e*PKPdf	**PKPdf**	**02 41 13.0**	**-0.7**
BILL				LR	LR		
comp=Z,16μm,19.0s							
ASUD	**Al Ashush, Dub**	**134.76**	**90**	⇑*i*PKiKP	**PKiKP**	**02 41 18.4**	**+1.2**
SNR=5.8							
MAK	**Makhachkala**	**134.79**	**63**	*i* P	**Pdif**	**02 38 16.8**	**+0.4**
MAK				*i*		02 41 16.7	
MAK				*i*		02 43 46.3	
MAK				*e*		02 48 23.1	
MAK				*e*PS	PS	02 54 00.0	-11
MAK				pmax	pmax		
comp=Z,152nm,0.9s							
MAK				pmax	pmax		
comp=N,119nm,1.1s							
MAK				pmax	pmax		
comp=E,146nm,1.1s							
MAK				MLR	MLR		
comp=Z,20μm,22.0s							
MAK				MLR	MLR		
comp=N,22μm,23.0s							
PRGR	**Permogore**	**134.80**	**36**	*e*PKHKP	PKPpre	02 41 06.0	
PRGR				pmax	pmax		
comp=Z,75nm,1.6s							
JAGI	**Jajag, Banyuwa**	**134.95**	**191**	*e*PKPdf	**PKPdf**	**02 41 15.9**	**-0.7**
FAQ	**Al Faqa, Dubai**	**135.03**	**90**	⇓*i*PKiKP	**PKiKP**	**02 41 18.6**	**+0.9**
SNR=10							
NAZ	**Nazwa, Dubai**	**135.19**	**90**	⇓*i*PKiKP	**PKiKP**	**02 41 18.7**	**+0.6**
SNR=9.1							
ASHO	**Ashiyiah**	**135.37**	**90**	PKPdf	**PKPdf**	**02 41 19.1**	**+2.1**
SNR=6.3							
ASHO	**Ashiyiah**	**135.37**	**90**	⇑*i*PKPdf	PKPpre	02 41 00.6	
SNR=7.7							
HATD	**Hatta, Dubai**	**135.50**	**90**	⇓*i*PKPdf	PKPpre	02 41 02.8	
SNR=5.7							
BANOM	**Banah**	**136.12**	**89**	⇑PKPdf	**PKPdf**	**02 41 18.6**	**+0.3**
WBK	**Wadi Bani Khal**	**136.75**	**95**	PKPdf	**PKPdf**	**02 41 19.8**	**+0.2**
SNR=11							
SMRI	**Semarang**	**136.77**	**186**	*e*PKPdf	**PKPdf**	**02 41 19.4**	**-0.5**
KAPI	**Kappang**	**137.14**	**199**	PKPdf	**PKPdf**	**02 41 22.3**	**+1.7**
SNR=8.9							
KAPI	**Kappang**	**137.14**	**199**	*e*PKPdf	**PKPdf**	**02 41 19.6**	**-1.0**
KAPI				LR	LR		
comp=Z,17μm,21.0s							
GUMO	**Guam**	**138.99**	**247**	PFAKE		02 41 40.0	+16
GUMO				LR	LR		
comp=Z,8μm,19.0s							
LUWI	**Luwuk**	**139.95**	**206**	*e*PKPdf	**PKPdf**	**02 41 25.3**	**-0.4**
PET	**Petropavlovsk**	**140.32**	**312**	*e*PKHKP	PKPpre	02 41 18.8	
PET				*e*		02 44 24.0	
PET				*e*SS	SS	03 02 40.8	-6.0
PET				*e*SSS	SSS	03 08 02.9	
PET				pmax	pmax		
comp=Z,2μm,16.6s							
PET				pmax	pmax		
comp=Z,2μm,9.0s							
PET	**Petropavlovsk**	**140.32**	**312**	PFAKE		02 41 40.0	+15
PET				LR	LR		
comp=Z,15μm,20.0s							
SOKR	**Solikamsk**	**140.56**	**38**	*d i*PKHKP	PKPpre	02 41 18.8	
SOKR						02 56 42.3	
SOKR				SS	SS	03 02 39.6	-9.4
SOKR				pmax	pmax		
comp=Z,10.0nm,0.8s							
PETK	**Petropavlovsk-**	**140.88**	**312**	PKhKP	PKPpre	02 41 20.7	
comp=Z,11nm,1.0s,baz=116,slow=8.4,SNR=4.4							
TRD	**Trivandrum**	**141.38**	**128**	*e*P	**PKPdf**	**02 41 26.6**	**-1.7**
TRD				AMS	AMS	03 47 39.3	
comp=Z,16μm,26.3s							
SEY	**Seymchan**	**141.40**	**328**	PKhKP	PKPpre	02 41 21.4	
comp=Z,19nm,1.1s,baz=104,slow=3.9,SNR=18							
GEYT	**Alibeck**	**141.63**	**73**	PKhKP	PKPpre	02 41 20.9	
comp=Z,7.9nm,0.8s,baz=225,slow=1.9,SNR=10							
SKR	**Severo-Kuril's**	**142.02**	**308**	*e*PKHKP	PKPpre	02 41 21.0	
SKR				*e*		02 44 40.0	
SKR				*e*PPP	PPP	02 47 46.0	
SKR				pmax	pmax		
comp=Z,6μm,16.0s							
SKR				pmax	pmax		
comp=N,3μm,14.0s							
SKR				pmax	pmax		
comp=E,3μm,14.0s							
SKR				MLR	MLR		
comp=N,7μm,20.0s							
SKR				MLR	MLR		
comp=Z,10μm,20.0s							
SKR				MLR	MLR		
comp=E,8μm,18.0s							
ARU	**Arti**	**142.17**	**42**	*i* PKIKP	**PKPdf**	**02 41 26.4**	**-2.0**
ARU						02 44 30.6	
ARU				PPP	PPP	02 47 41.6	
ARU				MLR	MLR		
comp=Z,46μm,21.0s							
ARU	**Arti**	**142.17**	**42**	*e*PKPpre	PKPpre	02 41 22.2	
ARU				*e*PKPdf	**PKPdf**	**02 41 28.1**	**-0.3**
ARU				LR	LR		
comp=Z,46μm,21.0s							
AKTO	**Aktyubinsk**	**142.61**	**52**	PKHKP	PKPpre	02 41 23.7	
AKTO				pmax	pmax		
comp=Z,12nm,0.9s							
PALK	**Pallekele**	**142.68**	**134**	*e*PKIKP	**PKPdf**	**02 41 28.7**	**-2.0**
PALK	**Pallekele**	**142.68**	**134**	PKPdf	**PKPdf**	**02 41 29.2**	**-1.5**
SNR=8.0							
PALK	**Pallekele**	**142.68**	**134**	PKP	**PKPdf**	**02 41 28.6**	**-2.1**
comp=Z,16nm,0.8s,baz=176,slow=4.8,SNR=8.6							
PALK	**Pallekele**	**142.68**	**134**	⇑*i*PKPdf	PKPpre	02 41 22.9	
SNR=11							
TIXI	**Tiksi**	**142.70**	**349**	*c i*PKHKP	PKPpre	02 41 21.4	
TIXI				pmax	pmax		
comp=Z,14nm,0.7s							
TIXI	**Tiksi**	**142.70**	**349**	*e*PKPpre	PKPpre	02 41 22.9	
TIXI				LR	LR		
comp=Z,13μm,20.0s							
SVE	**Sverdlovsk**	**143.20**	**41**	*i* PKIKP	PKPbc	02 41 27.3	+0.1
SVE				*e*		02 57 12.1	
SVE				*e*SSS	SSS	03 08 41.0	
SVE				pmax	pmax		
comp=Z,50nm,1.4s							
SVE				MLR	MLR		
comp=Z,31μm,22.0s							
SVE				MLR	MLR		
comp=E,27μm,22.0s							
BKNI	**Bangkinang**	**143.88**	**171**	*e*PKPpre	PKPpre	02 41 26.9	
BKNI				*e*PKPdf	**PKPdf**	**02 41 32.5**	**-0.3**
AB31	**Akbulak array**	**143.93**	**54**	*i* PKIKP	PKPab	02 41 28.4	-0.6
AB31				pmax	pmax		
comp=Z,42nm,0.7s							
ABKAR	**Akbulak array**	**143.93**	**54**	*e*PKPdf	PKPab	02 41 28.4	-0.5
GSI	**Gunungsitoli**	**144.22**	**164**	*e*PKPdf	**PKPab**	**02 41 30.9**	**-0.2**
GOA	**Goa**	**144.23**	**117**	*e*P	PKPbc	02 41 32.2	+0.8
KSM	**Kuching**	**145.22**	**186**	⇑P	**PKPbc**	**02 41 34.6**	**-0.1**
KSM	**Kuching**	**145.22**	**186**	*e*PKPbc	**PKPbc**	**02 41 34.2**	**-0.4**
KSM				LR	LR		
comp=Z,15μm,21.0s							
MYKOM	**Kota Tinggi**	**145.61**	**175**	⇑P	**PKPdf**	**02 41 34.9**	**-0.9**
BHJ	**Bhuj**	**145.61**	**102**	*e*P	**PKPdf**	**02 41 33.8**	**-1.6**
BHJ				AMS	AMS	04 04 08.2	
comp=Z,12μm,26.5s							
KGM	**Kluang**	**145.79**	**174**	⇑P	**PKPdf**	**02 41 34.9**	**-1.2**
PSI	**Prapat**	**145.96**	**166**	PKPbc	**PKPdf**	**02 41 35.8**	**-0.7**
comp=Z,235nm,0.9s,baz=180,slow=3.7,SNR=77							
SBUM	**Sibu**	**145.96**	**190**	⇑P	**PKPdf**	**02 41 36.1**	**-0.2**
DAV	**Davao City (W)**	**146.16**	**215**	PFAKE		02 41 50.0	+12
DAV				LR	LR		
comp=Z,8μm,22.0s							
POO	**Poona**	**146.19**	**113**	*e*P	**PKPdf**	**02 41 33.8**	**-2.8**
POO				⇑*i*P	**PKPbc**	**02 41 36.0**	**-1.6**
comp=Z,21nm,1.5s							
POO				*i* PP	**PP**	**02 45 00.0**	**+0.2**
TSM	**Tawau**	**146.54**	**201**	⇑P	**PKPab**	**02 41 41.8**	**+2.1**
BTM	**Bintulu**	**146.56**	**192**	⇑P	**PKPab**	**02 41 43.1**	**+3.3**
FRIM	**Kepong**	**146.82**	**171**	⇑P	**PKPdf**	**02 41 38.6**	**+0.8**
CTBH	**Cotabato--PC H**	**146.90**	**213**	⇑*i*P	**PKPab**	**02 41 42.9**	**+1.8**
MDRS	**Chennai**	**146.93**	**128**	*e*P	**PKPdf**	**02 41 36.7**	**-1.2**
MDRS				⇑*ex*	x	02 41 45.9	
MDRS				*ex*	x	02 55 29.4	
MDRS				AMS	AMS	03 48 36.0	
comp=Z,24μm,15.2s							
BUKP	**Musuan**	**147.11**	**215**	*e*P	**PKPab**	**02 41 41.3**	**-0.7**
MYLDM	**Lahad Datu**	**147.19**	**202**	⇑P	**PKPab**	**02 41 43.5**	**+1.3**
KUR	**Kuril'sk**	**147.78**	**299**	*i* PKP2	**PKPab**	**02 41 43.7**	**0.0**
KUR				*i* SS	SS	03 04 07.9	-5.2
KUR				MLR	MLR		
comp=N,2μm,18.0s							
KUR				MLR	MLR		
comp=E,6μm,18.0s							
KUR				MLR	MLR		
comp=Z,4μm,18.0s							
PAGZ	**Pagadian**	**147.84**	**212**	*e*P	**PKPab**	**02 41 45.0**	**+0.2**
LHMI	**Lhok Sumawe**	**147.87**	**162**	*e*PKPbc	**PKPbc**	**02 41 41.6**	**-0.9**
IPM	**Ipoh**	**147.96**	**169**	⇑P	**PKPbc**	**02 41 41.8**	**-0.9**
IPM	**Ipoh**	**147.96**	**169**	*e*PKPbc	**PKPbc**	**02 41 41.5**	**-1.2**
SDKM	**Sandakan**	**148.01**	**200**	⇓P	**PKPbc**	**02 41 42.0**	**-0.9**
KKM	**Kota Kinabalu**	**148.66**	**199**	⇓P	**PKPbc**	**02 41 46.3**	**+1.7**
KKM	**Kota Kinabalu**	**148.66**	**199**	*e*PKPdf	**PKPdf**	**02 41 41.0**	**0.0**
KKM				*e*PKPbc	**PKPbc**	**02 41 45.0**	**+0.4**
KKM				*e*PKPab	**PKPab**	**02 41 49.1**	**+0.9**
KKM				LR	LR		
comp=Z,13μm,20.0s							
KULM	**Kulim**	**148.69**	**169**	⇑P	**PKPbc**	**02 41 44.7**	**+0.1**
KULM	**Kulim**	**148.69**	**169**	*e*PKPdf	**PKPdf**	**02 41 42.6**	**+1.7**
KULM				*e*PKPbc	**PKiKP**	**02 41 46.9**	**+0.8**
KULM				LR	LR		
comp=Z,21μm,19.0s							
HYB	**Hyderabad**	**148.89**	**120**	*i* PKP	**PKPdf**	**02 41

KK31	**Karatay Array**	**151.55**	**65**	*i* PKIKP	**PKPdf**	**02 41 43.4**	**-1.1**
KK31				pmax	pmax		
comp=Z,39nm,0.8s							
KKAR	**Karatay Array**	**151.55**	**65**	*e*PKIKP	**PKPdf**	**02 41 43.3**	**-1.2**
KKAR				*e*		02 41 50.4	
KKAR				*e*		02 41 59.0	
KKAR	**Karatay Array**	**151.55**	**65**	*e*PKPdf	**PKPdf**	**02 41 43.3**	**-1.2**
KKAR				*e*PKPbc	**PKPbc**	**02 41 50.4**	**-0.3**
KKAR				*e*PKPab	**PKPab**	**02 41 59.0**	**-0.3**
ASAJ	**Asahikawa**	**151.59**	**297**	PKPbc	**PKPbc**	**02 41 50.6**	**-0.1**
comp=Z,19nm,0.8s,baz=165,slow=12,SNR=4.1							
ASAJ				PKPab	**PKPab**	**02 41 57.8**	**-1.6**
comp=Z,86nm,1.1s,baz=49,slow=20,SNR=8.9							
ASAJ	**Asahikawa**	**151.59**	**297**	*e*PKPbc	**PKPbc**	**02 41 49.9**	**-0.9**
ASAJ				*e*PKPab	**PKPab**	**02 41 56.7**	**-2.7**
NGP	**Nagpur**	**151.65**	**115**	*e*P	**PKPdf**	**02 41 44.2**	**-1.1**
NGP				*ex*	x	02 55 49.2	
NGP				*ex*	x	03 44 22.0	
comp=Z,22μm,22.3s,baz=246,slow=2.6							
BHPL	**Bhopal**	**151.65**	**109**	*e*P	**PKPdf**	**02 41 44.4**	**-0.9**
BHPL				AMB	AMB	04 12 54.1	
comp=Z,11μm,16.7s							
VIS	**Vishakhapatnam**	**152.35**	**126**	*e*P	**PKPdf**	**02 41 45.4**	**-1.0**
VIS				AMS	AMS	03 56 57.5	
comp=Z,14μm,17.2s							
OTRP	**Odiongan**	**152.45**	**214**	*e*P	**PKPbc**	**02 41 53.9**	**+0.4**
PBA	**Port Blair**	**152.49**	**149**	*e*P	PKPdf	02 41 45.5	-1.2
DGPR	**DIGLIPUR**	**153.93**	**148**	*e*P	**PKPdf**	**02 41 48.1**	**-0.7**
DGPR				AMS	AMS	04 05 31.2	
comp=Z,18μm,23.7s							
EKS2	**Erkin-Say**	**153.97**	**66**	*e*PKIKP	**PKPdf**	**02 41 47.9**	**-0.3**
EKS2				MLR	MLR		
comp=Z,25μm,19.0s							
EKS2	**Erkin-Say**	**153.97**	**66**	*e*PKPdf	**PKPdf**	**02 41 47.9**	**-0.3**
EKS2				*e*PKPab	**PKPab**	**02 42 10.0**	**+0.3**
EKS2				LR	LR		
comp=Z,25μm,19.0s							
NDI	**New Delhi**	**154.15**	**99**	*ex*	PP	02 45 40.0	-5.9
AAK	**Ala-Archa**	**154.50**	**66**	PKIKP	**PKPdf**	**02 41 48.2**	**-0.8**
AAK				*e*		02 41 57.9	
AAK				MLR	MLR		
comp=Z,35μm,19.0s							
AAK	**Ala-Archa**	**154.50**	**66**	PKPdf	**PKPdf**	**02 41 49.4**	**+0.3**
SNR=21							
AAK	**Ala-Archa**	**154.50**	**66**	PKP	**PKPdf**	**02 41 48.2**	**-0.8**
comp=Z,6.0nm,0.8s,baz=308,slow=1.8,SNR=1.5							
AAK				PKPbc	**PKiKP**	**02 41 57.9**	**+0.5**
comp=Z,14nm,0.7s,baz=164,slow=3.5,SNR=1.8							
AAK	**Ala-Archa**	**154.50**	**66**	PKP	**PKPdf**	**02 41 48.2**	**-0.8**
AAK				*e*PKPdf	PKPbc	02 41 48.7	-8.8
AAK				*e*PKPbc	**PKiKP**	**02 41 57.9**	**+0.5**
AAK				*e*PKPab	**PKPab**	**02 42 12.3**	**+0.3**
AAK				LR	LR		
comp=Z,35μm,19.0s							
BHK	**Bhakra**	**154.52**	**92**	*ex*	PKPab	02 42 04.2	-8.0
FRU	**Bishkek**	**154.57**	**65**	*i* PKIKP	**PKPdf**	**02 41 49.0**	**+0.1**
FRU				*e*		02 41 58.0	
FRU				*i*		02 42 11.0	
FRU				*e*		02 45 50.0	
FRU				*e*		03 06 10.0	
FRU				pmax	pmax		
comp=Z,450nm,3.0s							
MJAR	**Matsushiro Arr**	**154.62**	**280**	PKP	**PKPdf**	**02 41 49.7**	**+0.5**
comp=Z,3.5nm,0.9s,baz=194,slow=4.5,SNR=3.4							
MJAR				PKPbc	**PKiKP**	**02 41 59.2**	**+1.5**
comp=Z,30nm,1.4s,baz=112,slow=2.8,SNR=6.5							
MAJO	**Matsushiro**	**154.62**	**280**	PFAKE		02 42 00.0	+2.3
MAJO				LR	LR		
comp=Z,22μm,21.0s							
MAT	**Matsushiro**	**154.62**	**280**	PKP	**PKPdf**	**02 41 50.9**	**+1.7**
DHRM	**DHARAMSHALA**	**154.68**	**90**	*e*P	**PKPdf**	**02 41 48.9**	**-0.8**
DHRM				AMS	AMS	04 00 14.8	
comp=Z,15μm,28.7s							
SDNR	**Sundarnagar**	**154.99**	**92**	*ex*	**PKPbc**	**02 42 00.0**	**+1.4**
SMLA	**Simla**	**155.03**	**93**	*i* P	**PKPdf**	**02 41 49.3**	**-0.6**
SMLA				AMS	AMS	03 57 41.5	
comp=Z,28μm,2.8s							
KURBB	**Kurchatov Arra**	**155.25**	**46**	PKP	**PKPdf**	**02 41 48.7**	**-0.9**
comp=Z,9.9nm,1.0s,baz=300,slow=2.1,SNR=18							
KURK	**Kurchatov**	**155.27**	**45**	*e*PKIKP	**PKPdf**	**02 41 48.6**	**-0.9**
KURK				MLR	MLR		
comp=Z,16μm,19.0s							
KURK	**Kurchatov**	**155.27**	**45**	PKPdf	**PKPdf**	**02 41 49.4**	**-0.2**
SNR=15							
KURK	**Kurchatov**	**155.27**	**45**	*e*PKPdf	**PKPdf**	**02 41 48.5**	**-0.9**
KURK				PKP	**PKPdf**	**02 41 48.7**	**-0.9**
KURK				LR	LR		
comp=Z,16μm,19.0s							
TKM2	**Tokmak 2**	**155.28**	**65**	*e*PKIKP	**PKPdf**	**02 41 49.5**	**-0.7**
TKM2				*e*		02 42 13.8	
TKM2				MLR	MLR		
comp=Z,23μm,21.0s							
TKM2	**Tokmak 2**	**155.28**	**65**	*e*PKPdf	**PKPdf**	**02 41 49.5**	**-0.7**
TKM2				*e*PKPab	**PKPab**	**02 42 13.8**	**-1.6**
TKM2				LR	LR		
comp=Z,23μm,21.0s							
KSH	**Kashi**	**155.66**	**73**	⇑*i*PKP	**PKPdf**	**02 41 50.3**	**-0.4**
KSH				sPKP		02 42 02.4	
KSH				PKS	**PKSdf**	**02 45 22.5**	**-2.2**
KSH				PP	**PP**	**02 45 52.9**	**-1.5**
KSH				SKS	**SKSdf**	**02 48 58.3**	**+2.1**
KSH				SKKS	**SKKSac**	**02 52 45.0**	**+2.2**
KSH				SS	**SS**	**03 05 38.5**	**-2.4**
KSH				PPMZ			
comp=Z,6μm,6.1s							
KSH				LN			
comp=Z,3μm,15.8s							
KSH				LE			
comp=Z,10μm,20.3s							
KSH				LZ			
comp=Z,14μm,22.7s							
HABR	**Khabarovsk**	**155.85**	**309**	*e*PKIKP	**PKPdf**	**02 41 50.1**	**-0.3**
HABR				*e*		02 42 01.0	
HABR				*e*		02 42 17.6	
HABR						02 45 56.0	
HABR				*e*		02 48 53.9	
HABR				*e*PPP	PPP	02 49 28.0	
HABR				*e*SS	SS	03 05 42.6	+1.0
HABR				*e*SSS	SSS	03 11 41.1	
HABR				pmax	pmax		
comp=E,74nm,1.9s							
HABR				pmax	pmax		
comp=Z,72nm,1.9s							
HABR				pmax	pmax		
comp=N,66nm,1.9s							
CLNS	**Chul'man**	**156.03**	**335**	*e*PKIKP	**PKPdf**	**02 41 50.9**	**+0.5**
CLNS				pmax	pmax		
comp=E,12nm,1.4s							
CLNS				pmax	pmax		
comp=N,6.0nm,1.1s							
CLNS				pmax	pmax		
comp=Z,25nm,1.1s							
ZALV	**Zalesovo Beam**	**156.72**	**34**	PKP	**PKPdf**	**02 41 50.1**	**-1.2**
comp=Z,18nm,0.8s,baz=285,slow=2.3,SNR=49							
ZALV				PKPab	**PKPab**	**02 42 20.6**	**-0.2**
comp=Z,50nm,0.8s,baz=298,slow=3.1,SNR=8.1							
LGTI	**Lohaghat**	**156.88**	**100**	*ex*	x	02 42 00.5	
KLR	**Kul'dur**	**157.57**	**313**	*e*PKIKP	**PKPdf**	**02 41 47.5**	**-5.1**
BOD	**Bodaibo**	**157.88**	**349**	*e*PKIKP	**PKPdf**	**02 41 52.0**	**-0.7**
BOD				*e*		02 42 24.5	
BOD				pmax	pmax		
comp=Z,16nm,1.1s							
BOD				pmax	pmax		
comp=Z,57nm,1.1s							
BOK	**Bokaro**	**158.23**	**119**	*e*P	**PKPdf**	**02 41 50.9**	**-3.3**
MKAR	**Makanchi Array**	**159.05**	**52**	PKP	**PKPdf**	**02 41 53.8**	**-0.7**
comp=Z,9.6nm,0.7s,baz=316,slow=4.0,SNR=54							
MKAR				PKPab	**PKPab**	**02 42 30.7**	**-0.5**
comp=Z,21nm,0.9s,baz=316,slow=6.0,SNR=3.6							
DANN	**Dangsing**	**159.17**	**106**	*e*P	**PKPdf**	**02 41 54.7**	**-0.9**
GKN	**Gorkha**	**159.68**	**108**	*e*P	**PKPdf**	**02 41 54.5**	**-1.6**
DMN	**Daman**	**159.84**	**109**	*e*P	**PKPdf**	**02 41 55.1**	**-1.3**
comp=Z,51nm,1.0s							
PKIN	**Phulchoki**	**160.05**	**110**	*e*P	**PKPdf**	**02 41 56.2**	**-0.4**
comp=Z,58nm,0.8s							
PKI	**Pulchoki**	**160.06**	**110**	*e*P	**PKPdf**	**02 41 56.4**	**-0.3**
KKN	**Kakani**	**160.07**	**109**	*e*P	**PKPdf**	**02 41 56.4**	**-0.2**
comp=Z,630nm,1.3s							
GUN	**Gumba**	**160.59**	**110**	*e*P	**PKPdf**	**02 41 56.2**	**-1.1**
comp=Z,432nm,1.8s							
RAMN	**Ramite**	**160.62**	**113**	*e*P	**PKPdf**	**02 41 56.4**	**-0.8**
MDJ	**Mudanjiang**	**160.66**	**303**	PKP	**PKPdf**	**02 41 58.0**	**+1.6**
MDJ				PP	**PP**	**02 46 21.3**	**0.0**
MDJ				SS	SS	03 06 38.4	+5.2
MDJ				LN			
comp=Z,8μm,22.8s							
MDJ				LE			
comp=Z,14μm,21.6s							
MDJ				LZ			
comp=Z,16μm,20.3s							
MDJ	**Mudanjiang**	**160.66**	**303**	PFAKE		02 42 10.0	+14
MDJ				LR	LR		
comp=Z,20μm,19.0s							
JIRN	**Jiri**	**160.69**	**111**	*e*P	**PKPdf**	**02 41 56.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**161.02**	**157**	PKP	**PKPdf**	**02 41 57.0**	**-0.6**
comp=Z,6.2nm,0.9s,baz=249,slow=1.9,SNR=12							
CMAR				PKPab	**PKPab**	**02 42 41.0**	**+0.6**
comp=Z,15nm,0.9s,baz=221,slow=4.2,SNR=9.2							
ODAN	**Odare**	**161.16**	**114**	*e*P	**PKPdf**	**02 41 56.5**	**-1.3**
comp=Z,237nm,1.0s							
CHTO	**Chiang Mai**	**161.35**	**157**	*e*PKIKP	**PKPdf**	**02 41 58.8**	**+0.9**
CHTO				*e*		02 42 42.3	
CHTO				MLR	MLR		
comp=Z,18μm,20.0s							
CHTO	**Chiang Mai**	**161.35**	**157**	PKPdf	**PKPdf**	**02 41 59.5**	**+1.6**
SNR=11							
CHTO	**Chiang Mai**	**161.35**	**157**	*e*PKPdf	**PKPdf**	**02 41 58.8**	**+0.9**
CHTO				*e*PKPab	**PKPab**	**02 42 42.3**	**+0.6**
CHTO				LR	LR		
comp=Z,18μm,20.0s							
TAPN	**Taplejung**	**161.67**	**114**	*e*P	**PKPdf**	**02 41 57.5**	**-0.9**
comp=Z,68nm,1.2s							
QIZ	**Qiongzhong**	**162.60**	**190**	PKP	**PKPdf**	**02 41 57.8**	**-1.4**
QIZ				PP	**PP**	**02 46 34.9**	**+4.4**
QIZ				SS	SS	03 06 54.1	+2.8
QIZ				LN			
comp=Z,9μm,17.4s							
QIZ				LZ			
comp=Z,12μm,19.8s							
QIZ	**Qiongzhong**	**162.60**	**190**	PFAKE		02 42 10.0	+11
QIZ				LR	LR		
comp=Z,13μm,20.0s							
YHNB	**Yeheng**	**162.84**	**232**	PFAKE		02 42 10.0	+11
YHNB				LR	LR		
comp=Z,15μm,22.0s							
KSRS	**Korea Array**	**162.90**	**280**	PKP	**PKPdf**	**02 41 58.0**	**-0.9**
comp=Z,5.7nm,0.9s,baz=185,slow=1.3,SNR=9.3							
KSRS				PKPab	**PKPab**	**02 42 47.7**	**-0.6**
comp=Z,4.4nm,0.8s,baz=97,slow=2.9,SNR=4.7							
KSAR	**Wonju Array Be**	**162.93**	**280**	PKIKP	**PKPdf**	**02 41 58.0**	**-0.9**
KSAR						02 42 47.7	
KSAR	**Wonju Array Be**	**162.93**	**280**	PKP	**PKPdf**	**02 41 58.0**	**-0.9**
KSAR				PKPab	**PKPab**	**02 42 47.7**	**-0.8**
TATO	**Taipei**	**162.98**	**233**	PFAKE		02 42 10.0	+11
TATO				LR	LR		
comp=Z,14μm,20.0s							
SHL	**Shillong**	**163.49**	**126**	*e*PKP	**PKPdf**	**02 42 01.0**	**+0.9**
SHL				AMS	AMS	03 55 52.2	
comp=Z,23μm,24.6s							
WMQ	**Urumqi**	**163.69**	**57**	PKP	**PKPdf**	**02 41 59.0**	**-0.6**
WMQ				PKPab	**PKPab**	**02 42 52.6**	**+0.9**
WMQ				PKS	**PKSdf**	**02 45 31.0**	**-1.5**
WMQ				PP	**PP**	**02 46 38.4**	**+0.9**
WMQ				SKS	**SKSdf**	**02 49 00.4**	**-2.7**
WMQ				SKKS	**SKKSac**	**02 53 25.8**	**+1.6**
WMQ				PPMZ			
comp=Z,8μm,5.5s							
WMQ				LN			
comp=Z,21μm,19.0s							
WMQ				LE			
comp=Z,14μm,20.0s							
WMQ				LZ			
comp=Z,29μm,21.0s							
CN2	**Changchun**	**163.75**	**303**	*e*PKP	**PKPdf**	**02 41 58.3**	**-1.2**
CN2				*es*PKP		02 42 12.6	
CN2				SS	SS	03 07 02.8	-2.4
CN2				PPMZ			
comp=Z,500nm,10.0s							
CN2				LN			
comp=Z,3μm,22.0s							
CN2				LE			
comp=Z,16μm,22.0s							
CN2				LZ			
comp=Z,3μm,21.0s							
HIA	**Hailar**	**163.85**	**328**	PFAKE		02 42 10.0	+11
HIA				LR	LR		
comp=Z,28μm,20.0s							
INCN	**Inchon**	**163.93**	**280**	PFAKE		02 42 10.0	+10
INCN				LR	LR		
comp=Z,15μm,21.0s							
IRK	**Irkutsk**	**163.93**	**5**	*e*PKIKP	**PKPdf**	**02 41 57.1**	**-2.3**
IRK				*e*		02 42 51.6	
IRK				*e*		02 46 42.0	
IRK				pmax	pmax		
comp=Z,75nm,2.2s							
MOY	**Mondy**	**164.08**	**13**	*e*PKIKP	**PKPdf**	**02 42 00.9**	**+1.2**
TLY	**Talaya**	**164.44**	**7**	*c i*PKIKP	**PKPdf**	**02 41 58.1**	**-1.8**
TLY				*e*		02 46 41.9	
TLY				pmax	pmax		
comp=Z,35nm,3.3s							
TLY	**Talaya**	**164.44**	**7**	PKPdf	**PKPdf**	**02 42 02.5**	**+2.5**
SNR=5.6							
TLY	**Talaya**	**164.44**	**7**	PKP	**PKPdf**	**02 42 00.6**	**+0.6**
comp=Z,4.3nm,0.8s,baz=289,slow=10.0,SNR=4.5							
TLY				PKPab	**PKPab**	**02 42 53.6**	**-1.0**
comp=Z,8.1nm,0.8s,baz=308,slow=4.3,SNR=5.0							
TLY	**Talaya**	**164.44**	**7**	*e*PKPdf	**PKPdf**	**02 41 59.1**	**-0.8**
TLY				PKP	**PKPdf**	**02 42 00.6**	**+0.6**
TLY				*e*PKPab	**PKPab**	**02 42 53.5**	**-1.0**
TLY				LR	LR		
comp=Z,29μm,19.0s							
HKC	**Hong Kong Obse**	**164.62**	**207**	PKPdf	**PKPdf**	**02 42 02.0**	**+1.1**
QZH	**Quanzhou**	**164.73**	**226**	*i* PKP	**PKPdf**	**02 42 02.5**	**+1.5**
QZH				PP	PP	02 46 50.8	+8.3
QZH				SKKS		02 53 33.1	
QZH				PPMZ			
comp=Z,10μm,11.4s							
QZH				LN			
comp=Z,15μm,17.0s							
QZH				LE			
comp=Z,14μm,21.3s							
QZH				LZ			
comp=Z,23μm,18.7s							
SLVN	**Son La**	**164.94**	**170**	*e*PKPdf	**PKPdf**	**02 42 00.6**	**-0.8**
LSA	**Lhasa**	**165.48**	**112**	PKP	**PKPdf**	**02 42 01.8**	**-0.3**
LSA				LN			
comp=Z,11μm,23.2s							
LSA				LE			
comp=Z,12μm,23.2s							
LSA				LZ			
comp=Z,27μm,26.3s							
LSA	**Lhasa**	**165.48**	**112**	*e*PKIKP	**PKPdf**	**02 42 01.3**	**-0.8**
LSA				*e*		02 43 00.5	
LSA				*e*		02 46 48.1	
LSA				MLR	MLR		
comp=Z,29μm,21.0s							
LSA	**Lhasa**	**165.48**	**112**	*e*PKPdf	**PKPdf**	**02 42 01.3**	**-0.8**
LSA				*e*PKPab	**PKPab**	**02 43 00.5**	**0.0**
LSA				*e*PP	**PP**	**02 46 48.1**	**+0.5**
LSA				LR	LR		
comp=Z,29μm,21.0s							
GZH	**Guangzhou**	**165.63**	**206**	PKP	**PKPdf**	**02 42 01.8**	**0.0**
GZH				PP	PP	02 46 53.9	+7.3
GZH				LN			
comp=Z,13μm,18.8s							
GZH				LE			
comp=Z,8μm,19.2s							
ZAK	**Zakamensk**	**165.68**	**9**	*e*PKIKP	**PKPdf**	**02 42 00.8**	**-0.3**
ZAK				*e*		02 46 51.2	
ZAK				pmax	pmax		
comp=Z,10.0nm,2.2s							
SNY	**Shenyang**	**165.70**	**298**	PKP	**PKPdf**	**02 41 58.9**	**-2.4**
SNY				PKPab	PKPab	02 43 06.9	+6.4
SNY				LN			
comp=Z,16μm,22.4s							
SNY				LE			
comp=Z,10μm,19.0s							
SNY				LZ			
comp=Z,18μm,18.6s							
SSE	**Sheshan**	**166.82**	**251**	PKP	**PKPdf**	**02 42 06.4**	**+3.9**
SSE				PP	PP	02 47 01.6	+7.6
SSE				SS	SS	03 07 43.3	+6.1
SSE				PPMZ			
comp=Z,5μm,12.0s							
SSE				LN			
comp=Z,8μm,19.2s							
SSE				LE			
comp=Z,10μm,19.3s							
SSE				LZ			
comp=Z,14μm,19.5s							
DL2	**Dalian**	**167.79**	**287**	PKP	**PKPdf**	**02 41 59.9**	**-3.0**
DL2				PP	PP	02 47 04.3	+5.2
DL2				LN			
comp=Z,2μm,20.1s							
DL2				LE			
comp=Z,6μm,21.6s							
DL2				LZ			
comp=Z,8μm,22.6s							
ULN	**Ulaanbaatar**	**168.40**	**359**	*e*PKIKP	**PKPdf**	**02 42 00.9**	**-2.4**
ULN				*e*		02 43 12.0	
ULN				MLR	MLR		
comp=Z,25μm,22.0s							
ULN	**Ulaanbaatar**	**168.40**	**359**	PKPdf	**PKPdf**	**02 42 03.9**	**+0.6**
SNR=10.0							
ULN	**Ulaanbaatar**	**168.40**	**359**	*e*PKPdf	**PKPdf**	**02 42 00.9**	**-2.4**
ULN				*e*PKPab	**PKPab**	**02 43 12.0**	**-0.2**
ULN				LR	LR		
comp=Z,25μm,22.0s							
KMI	**Kunming**	**168.41**	**162**	PKP	**PKPdf**	**02 42 04.1**	**0.0**
KMI				pPKP	**pPKPdf**	**02 42 10.3**	**-0.2**
SONM	**Songino Array**	**168.43**	**1**	PKP	**PKPdf**	**02 42 02.0**	**-1.3**
comp=Z,5.8nm,1.1s,baz=122,slow=1.9,SNR=13							
SONM				PKPab	**PKPab**	**02 43 12.6**	**+0.2**
comp=Z,9.7nm,0.8s,baz=341,slow=3.9,SNR=9.4							
SONM				PP	**PP**	**02 47 00.9**	**0.0**
comp=Z,1.9nm,0.8s,baz=348,slow=5.3,SNR=2.8							
NJ2	**Nanjing**	**169.02**	**251**	*e*PKP	**PKPdf**	**02 42 03.8**	**-0.2**
NJ2				pPKP	**pPKPdf**	**02 42 09.0**	**-1.4**
NJ2				PKPab	**PKPab**	**02 43 19.0**	**+3.5**
NJ2				PKS	**PKSdf**	**02 45 36.0**	**-0.5**
NJ2				PP	**PP**	**02 47 05.0**	**-0.3**
NJ2				SKS	**SKSdf**	**02 49 10.0**	**+3.3**
NJ2				SKKS	**SKKSac**	**02 53 53.0**	**+1.8**
NJ2				SS	**SS**	**03 08 03.0**	**+3.6**
NJ2				PPMZ			
comp=Z,14μm,11.6s							
NJ2				LN			
comp=Z,32μm,20.8s							
NJ2				LE			
comp=Z,57μm,20.0s							
NJ2				LZ			
comp=Z,57μm,20.1s							
GYA	**Guiyang**	**170.23**	**180**	*i* PKP	**PKPdf**	**02 42 03.9**	**-1.2**
GYA				PKPab	**PKPab**	**02 43 20.9**	**+0.1**
GYA				PKS	**PKSdf**	**02 45 36.4**	**-1.3**
GYA				PP	**PP**	**02 47 09.0**	**-0.9**
GYA				SKKS		02 53 57.8	
GYA				SS	**SS**	**03 08 08.5**	**-0.3**
GYA				LN			
comp=Z,13μm,19.6s							
GYA				LE			
comp=Z,20μm,20.5s							
GYA				LZ			
comp=Z,14μm,20.8s							
WHN	**Wuhan**	**171.38**	**231**	⇑*i*PKP	**PKPdf**	**02 42 04.4**	**-1.0**
WHN				PKPab	**PKPab**	**02 43 28.6**	**+2.8**
WHN				PP	PP	02 47 23.0	+6.4
WHN				SKKS		02 54 05.5	
WHN				LN			
comp=Z,23μm,15.6s							
WHN				LE			
comp=Z,11μm,16.4s							
WHN				LZ			
comp=Z,38μm,20.7s							
TIA	**Tai'an**	**171.50**	**273**	PKP	**PKPdf**	**02 42 04.6**	**-0.7**
TIA				PP	PP	02 47 23.9	+6.0
TIA				SKS	**SKSdf**	**02 49 03.8**	**-3.9**
TIA				SKKS	**SKKSac**	**02 54 05.3**	**+2.0**
TIA				LN			
comp=Z,13μm,19.4s							
TIA				LE			
comp=Z,16μm,19.0s							
TIA				LZ			
comp=Z,25μm,20.8s							
BJI	**Beijing**	**171.57**	**299**	PKP	**PKPdf**	**02 42 03.8**	**-1.3**
BJI				PP	**PP**	**02 47 20.3**	**+2.5**
BJI				SS	SS	03 08 27.6	+3.4
BJI				PPMZ			
comp=Z,4μm,9.8s							
BJI				LN			
comp=Z,8μm,21.9s							
BJI				LE			
comp=Z,10μm,29.1s							
BJI				LZ			
comp=Z,15μm,26.5s							
BJT	**Baijiatuau**	**171.59**	**299**	PFAKE		02 42 20.0	+15
BJT				LR	LR		
comp=Z,30μm,21.0s							
ENH	**Enshi**	**173.56**	**203**	*e*PKPdf	**PKPdf**	**02 42 05.8**	**-0.6**
ENH				LR	LR		
comp=Z,13μm,20.0s							
GTA	**Gaotai**	**173.77**	**58**	⇑PKP	**PKPdf**	**02 42 05.8**	**-0.5**
GTA				sPKP		02 42 15.0	
GTA				PKPab	**PKPab**	**02 43 37.1**	**+0.6**
GTA				PP	**PP**	**02 47 29.9**	**+1.1**
GTA				SKS	**SKSdf**	**02 49 03.5**	**-5.1**
GTA				SKKS	**SKKSac**	**02 54 11.5**	**-2.7**
GTA				SS	**SS**	**03 08 40.4**	**-5.4**
GTA				LN			
comp=Z,18μm,20.0s							
GTA				LE			
comp=Z,20μm,20.9s							
GTA				LZ			
comp=Z,30μm,20.9s							
HHC	**Hu-ho-hao-te**	**174.00**	**321**	*e*PKP	**PKPdf**	**02 42 05.9**	**-0.4**
HHC				pPKP	**pPKPdf**	**02 42 16.5**	**+3.8**
HHC				PP	**PP**	**02 47 31.4**	**+2.1**
HHC				SKS	**SKSdf**	**02 49 05.3**	**-3.2**
HHC				SS	**SS**	**03 08 46.8**	**-0.1**
HHC				PPMZ			
comp=Z,2μm,6.3s							
HHC				LN			
comp=Z,11μm,20.4s							
HHC				LE			
comp=Z,18μm,20.0s							
CD2	**Chengdu**	**174.16**	**155**	PKP	**PKPdf**	**02 42 06.1**	**-0.5**
CD2				PKPab	**PKPab**	**02 43 36.8**	**-1.3**
CD2				SKS	**SKSdf**	**02 49 02.6**	**-6.3**
CD2				SKKS	**SKKSac**	**02 54 15.9**	**+0.1**
CD2				SS	**SS**	**03 08 45.5**	**-2.1**
CD2				PPMZ			
comp=Z,10μm,8.4s							
CD2				LN			
comp=Z,18μm,19.0s							
CD2				LE			
comp=Z,21μm,19.0s							
CD2				LZ			
comp=Z,22μm,19.0s							
BTO	**Baotou**	**174.90**	**329**	*e*PKP	**PKPdf**	**02 42 08.1**	**+1.5**
TIY	**Taiyuan**	**175.12**	**289**	*e*PKP	**PKPdf**	**02 42 04.9**	**-1.8**
TIY				SKKS		02 54 24.8	
TIY				SS	**SS**	**03 08 55.3**	**-4.0**
TIY				LN			
comp=Z,7μm,15.4s							
TIY				LE			
comp=Z,14μm,17.9s							
TIY				LZ			
comp=Z,27μm,17.7s							
XAN	**Xi'an**	**177.09**	**221**	PKP	**PKPdf**	**02 42 05.0**	**-2.3**
XAN				PKPab	PKPab	02 43 50.5	-0.7
XAN				PKS	**PKSdf**	**02 45 35.5**	**-3.9**
XAN				PP	**PP**	**02 47 44.6**	**+0.6**
XAN				SKS	**SKSdf**	**02 49 02.6**	**-6.7**
XAN				SKKS	**SKKSac**	**02 54 25.3**	**-4.3**
XAN				LN			
comp=Z,11μm,18.8s							
XAN				LE			
comp=Z,7μm,20.9s							
XAN				LZ			
comp=Z,5μm

*ATH **16** 02:32:29.8,41.°41N×20.°02E,h5km×2km,MD3.4/18*
*PDG **16** 02:32:33.7±0.2,41.°12N×20.°12E,h4km,ML2.7/11,Error ellipse: s-maj=0.6km s-min=0.5km az=90.0*
*BEO **16** 02:32:34.1±0.8,41.°10N×20.°15E,h1km×3km,ML2.4/1*
*THE **16** 02:32:34.3,41.°18N×20.°17E,h5km,ML2.3/2,Error ellipse: s-maj=1.2km s-min=0.4km az=80.0*
*CSEM **16** 02:32:34.8±0.1,41.°20N×20.°19E,h2km,ML2.3,Error ellipse: s-maj=4.4km s-min=2.5km az=60.0*
*TIR **16** 02:32:34.0,41.°22N×20.°28E,h7km,ML3.1*
*SKO **16** 02:32:35.3,41.°22N×20.°20E,h0km,M2.1,ML2.5*

ISC 16 02:32:34.7±1.1,41.°21N±0.°01×20.°20E±0.°02,h1km±9km, n128,σ1°37/206,17C-9D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.47**	**102**	*i* Pg	**Pg**	**02 32 42.8**	**-0.8**
OHR				*i* Sg	**Sg**	**02 32 50.5**	**+0.8**
OHR				*i* Lg	Lg	02 32 51.2	
	comp=E,263nm,0.5s						
OHR				*i* Lg	Lg	02 32 51.3	
	comp=N,303nm,0.6s						
PHP	**Peshkopia**	**0.51**	**21**	*i* PG	**Pg**	**02 32 44.3**	**-0.1**
PHP				*i* SG	**Sb**	**02 32 53.6**	**-0.8**
PHP	**Peshkopia**	**0.51**	**21**	P	**Pg**	**02 32 44.5**	**+0.1**
PHP				S	**Sg**	**02 32 52.2**	**+1.1**
PHP	**Peshkopia**	**0.51**	**21**	P	**Pg**	**02 32 44.5**	**+0.1**
PHP				S	**Sg**	**02 32 52.2**	**+1.1**
PHP				*i* Sg	**Sb**	**02 32 53.6**	**-0.8**
KBN	**Korca**	**0.74**	**142**	*i* PG	**Pg**	**02 32 48.4**	**-0.4**
KBN				*i* SG	**Sb**	**02 33 00.3**	**-0.7**
KBN	**Korca**	**0.74**	**142**	P	**Pg**	**02 32 48.1**	**-0.7**
KBN				S	**Sg**	**02 32 58.6**	**+0.2**
KBN	**Korca**	**0.74**	**142**	P	**Pg**	**02 32 48.1**	**-0.7**
KBN	**Korca**	**0.74**	**142**	*i* Pg	**Pg**	**02 32 48.4**	**-0.4**
KBN				S	**Sg**	**02 32 58.6**	**+0.2**
KBN				*i* Sg	**Sb**	**02 33 00.3**	**-0.7**
PUK	**Puka**	**0.86**	**345**	*i* PG	**Pg**	**02 32 51.3**	**+0.1**
PUK				*i* SG	**Sn**	**02 33 06.0**	**-1.3**
PUK	**Puka**	**0.86**	**345**	*i* Pg	**Pg**	**02 32 51.3**	**+0.1**
PUK				*i* Sg	**Sn**	**02 33 06.0**	**-1.3**
FNA	**Florina**	**0.99**	**115**	P	**Pg**	**02 32 53.1**	**-0.6**
FNA				S	**Sb**	**02 33 07.9**	**-0.3**
FNA	**Florina**	**0.99**	**115**	*e*PB	**Pg**	**02 32 53.1**	**-0.6**
FNA				*e*SB	**Sb**	**02 33 07.9**	**-0.3**
FNA	**Florina**	**0.99**	**115**	P	**Pg**	**02 32 53.1**	**-0.6**
FNA				S	**Sb**	**02 33 07.9**	**-0.3**
NEST	**Nestorio**	**1.03**	**141**	P	**Pg**	**02 32 53.6**	**-0.7**
NEST				S	**Sg**	**02 33 07.8**	**+0.2**
NEST	**Nestorio**	**1.03**	**141**	*e*PB	**Pg**	**02 32 53.8**	**-0.5**
NEST				*e*SB	**Sn**	**02 33 10.8**	**-0.6**
NEST	**Nestorio**	**1.03**	**141**	*e*Pb	**Pg**	**02 32 53.8**	**-0.5**
NEST				S	**Sg**	**02 33 07.8**	**+0.2**
NEST				*e*Sb	**Sn**	**02 33 10.8**	**-0.6**
ULC	**Ulcinj**	**1.04**	**317**	⇑*i*Pg	**Pg**	**02 32 53.3**	**-1.3**
ULC				*e*Sg	**Sn**	**02 33 09.9**	**-1.7**
ULC	**Ulcinj**	**1.04**	**317**	⇑*i*Pg	**Pg**	**02 32 53.3**	**-1.3**
ULC				*e*Sg	**Sn**	**02 33 09.9**	**-1.7**
BCI	**Bajram Curri**	**1.16**	**355**	*i* PG	**Pb**	**02 32 56.9**	**-0.7**
BCI				*i* SG	**Sn**	**02 33 14.6**	**0.0**
BCI	**Bajram Curri**	**1.16**	**355**	*i* Pg	**Pb**	**02 32 56.8**	**-0.7**
BCI				*i* Sg	**Sn**	**02 33 14.6**	**0.0**
SKO	**Skopje**	**1.20**	**50**	P	**Pn**	**02 32 58.4**	**-0.3**
SKO	**Skopje**	**1.20**	**50**	⇑*i*Pg	**Pg**	**02 32 57.3**	**-0.5**
SKO	**Skopje**	**1.20**	**50**	*i* Pg	**Pg**	**02 32 57.6**	**-0.2**
SKO				*i* Sg	**Sg**	**02 33 13.3**	**-0.1**
SKO				*i* Lg	Lg	02 33 16.9	
	comp=E,132nm,0.8s						
SKO				*i* Lg	Lg	02 33 19.2	
	comp=N,107nm,0.5s						
SKO	**Skopje**	**1.20**	**50**	*i* Pg	**Pg**	**02 32 57.6**	**-0.2**
SKO	**Skopje**	**1.20**	**50**	P	**Pn**	**02 32 58.4**	**-0.3**
SKO				*i* Sg	**Sg**	**02 33 13.2**	**-0.1**
SKO				*i* Lg	Lg	02 33 19.2	
	comp=N,107nm,0.5s						
DRME	**Dracevica, Mon**	**1.23**	**323**	⇓*i*Pg	**Pg**	**02 32 57.3**	**-1.1**
DRME				*e*Sg	**Sn**	**02 33 17.0**	**+0.6**
DRME	**Dracevica, Mon**	**1.23**	**323**	⇓*i*Pg	**Pg**	**02 32 57.3**	**-1.1**
DRME				*e*Sg	**Sn**	**02 33 17.0**	**+0.6**
SRN	**Sarande**	**1.34**	**186**	*i* PN	**Pg**	**02 33 01.9**	**+1.6**
SRN				*i* SN	**Sn**	**02 33 21.2**	**+2.3**
SRN	**Sarande**	**1.34**	**186**	P	**Pn**	**02 32 58.2**	**-2.3**
SRN				S	**Sb**	**02 33 16.9**	**-1.2**
SRN	**Sarande**	**1.34**	**186**	P	**Pn**	**02 32 58.2**	**-2.3**
SRN	**Sarande**	**1.34**	**186**	*i* Pn	**Pg**	**02 33 01.9**	**+1.6**
SRN				S	**Sb**	**02 33 16.9**	**-1.2**
SRN				*i* Sn	**Sn**	**02 33 21.2**	**+2.3**
PVY	**Plav**	**1.39**	**353**	⇓*i*Pg	**Pn**	**02 33 00.4**	**-1.0**
PVY				*e*Sg	**Sn**	**02 33 23.9**	**+3.4**
PVY	**Plav**	**1.39**	**353**	⇓*i*Pg	**Pn**	**02 33 00.4**	**-1.0**
PVY				*e*Sg	**Sn**	**02 33 23.9**	**+3.4**
PDG	**Podgorica**	**1.41**	**330**	P	**Pn**	**02 33 00.0**	**-1.4**
PDG				S	**Sn**	**02 33 19.9**	**-0.7**
PDG	**Podgorica**	**1.41**	**330**	*e*Pg	**Pn**	**02 33 00.3**	**-1.1**
PDG				*e*Sg	**Sn**	**02 33 22.1**	**+1.5**
PDG	**Podgorica**	**1.41**	**330**	P	**Pn**	**02 33 00.0**	**-1.4**
PDG	**Podgorica**	**1.41**	**330**	*e*Pg	**Pn**	**02 33 00.3**	**-1.1**
PDG				S	**Sn**	**02 33 19.9**	**-0.7**
PDG				*e*Sg	**Sn**	**02 33 22.1**	**+1.5**
TTG	**Podgorica**	**1.41**	**330**	⇓*i*Pg	**Pn**	**02 33 00.3**	**-1.1**
TTG				*e*Sg	**Sn**	**02 33 23.6**	**+3.0**
BUM	**Brajici-Budva**	**1.46**	**319**	⇑*i*Pg	**Pb**	**02 33 01.7**	**-1.0**
BUM				*e*Sg	**Sg**	**02 33 24.4**	**+2.8**
BUM	**Brajici-Budva**	**1.46**	**319**	⇑*i*Pg	**Pb**	**02 33 01.7**	**-1.0**
BUM				*e*Sg	**Sg**	**02 33 24.4**	**+2.8**
KZN	**Kozani**	**1.50**	**127**	*e*PG	**Pn**	**02 33 01.6**	**-1.2**
KZN				*e*SN	**Sg**	**02 33 27.4**	**+4.6**
KZN	**Kozani**	**1.50**	**127**	*e*Pg	**Pn**	**02 33 01.6**	**-1.2**
KEK	**Kerkira**	**1.53**	**192**	*e*PG	**Pn**	**02 33 01.7**	**-1.4**
KEK				*e*SN	**Sg**	**02 33 25.2**	**+1.5**
KEK	**Kerkira**	**1.53**	**192**	*e*Pg	**Pn**	**02 33 01.7**	**-1.4**
KEK				*e*Sn	**Sg**	**02 33 25.2**	**+1.5**
JAN	**Janina**	**1.63**	**162**	*e*PN	**Pg**	**02 33 06.1**	**+0.2**
JAN				*e*SN	**Sg**	**02 33 31.4**	**+4.3**
JAN	**Janina**	**1.63**	**162**	*e*Pn	**Pg**	**02 33 06.1**	**+0.2**
BEY	**Berane**	**1.68**	**352**	⇓*i*Pn	**Pb**	**02 33 05.9**	**-0.5**
IVA	**Berane**	**1.68**	**352**	⇓*i*Pn	**Pb**	**02 33 05.9**	**-0.5**
IVA				*e*Sn	**Sg**	**02 33 31.9**	**+3.4**
IGT	**Igoumenitsa**	**1.68**	**176**	*e*PG	**Pb**	**02 33 05.1**	**-1.3**
IGT				*e*SN	**Sg**	**02 33 32.3**	**+3.7**
IGT	**Igoumenitsa**	**1.68**	**176**	*e*Pg	**Pb**	**02 33 05.1**	**-1.3**
GRG	**Griva**	**1.69**	**98**	P	**Pn**	**02 33 04.5**	**-0.8**
GRG				S	**Sn**	**02 33 26.8**	**-0.8**
GRG	**Griva**	**1.69**	**98**	*e*PN	**Pn**	**02 33 04.8**	**-0.5**
GRG				*e*SN	**Sg**	**02 33 31.2**	**+2.3**
GRG	**Griva**	**1.69**	**98**	P	**Pn**	**02 33 04.5**	**-0.8**
GRG	**Griva**	**1.69**	**98**	*e*Pn	**Pn**	**02 33 04.8**	**-0.5**
GRG				S	**Sn**	**02 33 26.8**	**-0.8**
HCY	**Herceg Novi**	**1.77**	**315**	⇓*i*Pn	**Pb**	**02 33 06.4**	**-1.6**
HCY				*e*Sn	**Sg**	**02 33 32.1**	**+0.4**
HCY	**Herceg Novi**	**1.77**	**315**	⇓*i*Pn	**Pb**	**02 33 06.4**	**-1.6**
HCY				*e*Sn	**Sg**	**02 33 32.1**	**+0.4**
VAY	**Valandovo**	**1.79**	**86**	⇑*i*Pg	**Pb**	**02 33 07.4**	**-0.9**
VAY				*e*Sg	**Sg**	**02 33 32.8**	**+0.5**
VAY	**Valandovo**	**1.79**	**86**	*i* Pn	**Pb**	**02 33 07.7**	**-0.6**
VAY				*i* Sn	**Sg**	**02 33 32.1**	**-0.2**
VAY				*i* Lg	Lg	02 33 35.8	
	comp=N,65nm,1.2s						
VAY				*i* Lg	Lg	02 33 38.0	
	comp=E,25nm,0.6s						
VAY	**Valandovo**	**1.79**	**86**	⇑*i*Pg	**Pb**	**02 33 07.4**	**-0.9**
VAY	**Valandovo**	**1.79**	**86**	*i* Pn	**Pb**	**02 33 07.7**	**-0.6**
VAY				*e*Sg	**Sg**	**02 33 32.8**	**+0.5**
VAY				*i* Lg	Lg	02 33 38.0	
	comp=E,25nm,0.6s						
NKME	**Niksic**	**1.81**	**330**	⇑*i*Pn	**Pb**	**02 33 07.3**	**-1.4**
NKME				*e*Sn	**Sg**	**02 33 34.0**	**+1.2**
NKME	**Niksic**	**1.81**	**330**	⇑*i*Pn	**Pb**	**02 33 07.3**	**-1.4**
NKME				*e*Sn	**Sg**	**02 33 34.0**	**+1.2**
NKY	**Niksic**	**1.83**	**331**	⇑*i*Pn	**Pb**	**02 33 07.7**	**-1.4**
NKY				*e*Sn	**Sg**	**02 33 34.1**	**+0.5**
NKY	**Niksic**	**1.83**	**331**	⇑*i*Pn	**Pb**	**02 33 07.7**	**-1.4**
NKY				*e*Sn	**Sg**	**02 33 34.1**	**+0.5**
BARS	**Barje**	**2.01**	**36**	*e*Pg	**Pg**	**02 33 12.6**	**-0.6**
BARS				*e*Sg	**Sg**	**02 33 41.3**	**+2.1**
KNT	**Kendrikon**	**2.04**	**90**	*e*PG	**Pb**	**02 33 10.8**	**-1.8**
KNT				*e*SN	**Sb**	**02 33 38.1**	**-0.3**
KNT	**Kendrikon**	**2.04**	**90**	*e*Pg	**Pb**	**02 33 10.8**	**-1.8**
KNT				*e*Sn	**Sb**	**02 33 38.1**	**-0.3**
TREB	**Trebinje**	**2.04**	**318**	*e*Pn	**Pb**	**02 33 10.6**	**-1.9**
TREB				*e*Sg	**Sg**	**02 33 40.0**	**-0.2**
TREB	**Trebinje**	**2.04**	**318**	*e*Pn	**Pb**	**02 33 10.6**	**-1.9**
TREB				*e*Sg	**Sg**	**02 33 40.0**	**-0.2**
SJES	**Sjenica**	**2.06**	**355**	⇑*i*Pg	**Pb**	**02 33 12.8**	**-0.1**
SJES				*e*Sg	**Sg**	**02 33 43.5**	**+2.8**
SJES	**Sjenica**	**2.06**	**355**	⇑*i*Pg	**Pb**	**02 33 12.8**	**-0.1**
LIT	**Litokhoron**	**2.07**	**122**	*e*PB	**Pn**	**02 33 09.8**	**-0.8**
LIT				*e*SN	**Sg**	**02 33 42.2**	**+1.1**
LIT	**Litokhoron**	**2.07**	**122**	*e*Pb	**Pn**	**02 33 09.8**	**-0.8**
SELS	**Selova**	**2.12**	**19**	*e*Pn	**Pn**	**02 33 11.3**	**0.0**
THL	**Klokotos Trika**	**2.15**	**139**	*e*PN	**Pb**	**02 33 13.1**	**-1.3**
THL				*e*SN	**Sg**	**02 33 42.3**	**-1.5**
THL	**Klokotos Trika**	**2.15**	**139**	*e*Pn	**Pb**	**02 33 13.1**	**-1.3**
THL				*e*Sn	**Sg**	**02 33 42.3**	**-1.5**
DSL	**Palaion Diasel**	**2.19**	**161**	*e*PN	**Pb**	**02 33 13.1**	**-1.9**
DSL	**Palaion Diasel**	**2.19**	**161**	*e*Pn	**Pb**	**02 33 13.1**	**-1.9**
PLE	**Pljevlja**	**2.20**	**344**	*e*Pn	**Pn**	**02 33 12.4**	**-0.1**
PLE				*e*Sn	**Sb**	**02 33 43.4**	**+0.2**
PLE	**Pljevlja**	**2.20**	**344**	*e*Pn	**Pn**	**02 33 12.4**	**-0.1**
PLE				*e*Sn	**Sb**	**02 33 43.4**	**+0.2**
UPM	**Unac-Piva**	**2.21**	**335**	⇑*i*Pn	**Pb**	**02 33 13.6**	**-2.0**
UPM				*e*Sn	**Sb**	**02 33 43.7**	**+0.2**
UPM	**Unac-Piva**	**2.21**	**335**	⇑*i*Pn	**Pb**	**02 33 13.6**	**-2.0**
UPM				*e*Sn	**Sb**	**02 33 43.7**	**+0.2**
HORT	**Hortiatis**	**2.29**	**105**	*e*PB	**Pn**	**02 33 12.0**	**-1.6**
HORT	**Hortiatis**	**2.29**	**105**	*e*Pb	**Pn**	**02 33 12.0**	**-1.6**
IVAS	**Ivanjica**	**2.37**	**359**	*i* Pn	**Pb**	**02 33 16.4**	**-1.7**
IVAS	**Ivanjica**	**2.37**	**359**	*i* Pn	**Pb**	**02 33 16.4**	**-1.7**
SOH	**Sokhos**	**2.42**	**98**	*e*PN	**Pn**	**02 33 15.6**	**+0.1**
SOH	**Sokhos**	**2.42**	**98**	*e*Pn	**Pn**	**02 33 15.6**	**+0.1**
LKD2	**Lefkada island**	**2.44**	**171**	*e*PN	**Pn**	**02 33 15.8**	**0.0**
LKD2	**Lefkada island**	**2.44**	**171**	*e*Pn	**Pn**	**02 33 15.8**	**0.0**
STON	**Ston**	**2.49**	**313**	*e*Pn	**Pn**	**02 33 16.2**	**-0.1**
STON				Sn	**Sn**	**02 33 46.7**	**-0.7**
STON	**Ston**	**2.49**	**313**	*e*Pn	**Pn**	**02 33 15.7**	**-0.6**
STON				*e*Sn	**Sb**	**02 33 48.1**	**-3.3**
STON	**Ston**	**2.49**	**313**	*e*Pn	**Pn**	**02 33 15.7**	**-0.6**
STON				Sn	**Sn**	**02 33 46.6**	**-0.7**
SRS	**Serrai**	**2.57**	**91**	*e*PN	**Pn**	**02 33 17.0**	**-0.4**
SRS	**Serrai**	**2.57**	**91**	*e*Pn	**Pn**	**02 33 17.0**	**-0.4**
EVR	**Evrytania**	**2.60**	**151**	*e*PN	**Pn**	**02 33 18.7**	**+0.7**
EVR				*e*SN	**Sb**	**02 33 54.3**	**-0.4**
EVR	**Evrytania**	**2.60**	**151**	*e*Pn	**Pn**	**02 33 18.7**	**+0.7**
PLG	**Polygyros**	**2.60**	**108**	*e*PN	**Pn**	**02 33 18.3**	**+0.3**
PLG				*e*SN	**Sb**	**02 33 52.8**	**-1.9**
PLG	**Polygyros**	**2.60**	**108**	*e*Pn	**Pn**	**02 33 18.3**	**+0.3**
PLG				*e*Sn	**Sb**	**02 33 52.8**	**-1.9**
VTS	**Vitosha**	**2.64**	**57**	*e*Pn	**Pn**	**02 33 19.1**	**+0.6**
VTS				*e*Sn	**Sn**	**02 33 52.7**	**+1.4**
VTS	**Vitosha**	**2.64**	**57**	*e*Pn	**Pn**	**02 33 19.1**	**+0.6**
VTS				*e*Sn	**Sn**	**02 33 52.7**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.65**	**145**	*e*PN	**Pb**	**02 33 20.4**	**-2.6**
MAKR				*e*SN	**Sb**	**02 33 56.8**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.65**	**145**	*e*Pn	**Pb**	**02 33 20.4**	**-2.6**
GRUS	**Gruza**	**2.70**	**8**	⇑*i*Pn	**Pn**	**02 33 20.8**	**+1.5**
GRUS	**Gruza**	**2.70**	**8**	⇑*i*Pn	**Pn**	**02 33 20.8**	**+1.5**
BBLS	**Lazići**	**2.72**	**348**	*e*Pn	**Pn**	**02 33 20.4**	**+0.8**
BBLS	**Lazići**	**2.72**	**348**	*e*Pn	**Pn**	**02 33 20.4**	**+0.8**
PDO	**Prodromos**	**2.72**	**163**	*e*PB	**Pn**	**02 33 19.5**	**0.0**
PDO	**Prodromos**	**2.72**	**163**	*e*Pb	**Pn**	**02 33 19.5**	**0.0**
AGG	**Agios Georgios**	**2.73**	**142**	*e*PN	**Pn**	**02 33 21.2**	**+1.5**
AGG	**Agios Georgios**	**2.73**	**142**	*e*Pn	**Pn**	**02 33 21.2**	**+1.5**
ZAPS	**Zavoj**	**2.74**	**40**	*e*Pn	**Pn**	**02 33 20.9**	**+1.0**
ZAPS	**Zavoj**	**2.74**	**40**	*e*Pn	**Pn**	**02 33 20.9**	**+1.0**
NVR	**Nevrokopi**	**2.77**	**86**	*e*PN	**Pn**	**02 33 19.2**	**-1.0**
NVR				*e*SN	**Sb**	**02 33 56.5**	**-2.9**
NVR	**Nevrokopi**	**2.77**	**86**	*e*Pn	**Pn**	**02 33 19.2**	**-1.0**
NVR				*e*Sn	**Sb**	**02 33 56.5**	**-2.9**
DIVS	**Divibare**	**2.89**	**357**	*e*PN	**Pn**	**02 33 22.9**	**+1.0**
DIVS	**Divibare**	**2.89**	**357**	*e*Pn	**Pn**	**02 33 22.9**	**+1.0**
VLS	**Valsamata**	**3.04**	**174**	*e*PB	**Pn**	**02 33 24.7**	**+0.7**
VLS	**Valsamata**	**3.04**	**174**	*e*Pb	**Pn**	**02 33 24.7**	**+0.7**
EFP	**Efpalio**	**3.08**	**154**	*e*PN	**Pn**	**02 33 26.2**	**+1.8**
EFP	**Efpalio**	**3.08**	**154**	*e*Pn	**Pn**	**02 33 26.2**	**+1.8**
AXAR	**Agios Charalam**	**3.09**	**141**	*e*PN	**Pn**	**02 33 25.9**	**+1.3**
AXAR	**Agios Charalam**	**3.09**	**141**	*e*Pn	**Pn**	**02 33 25.9**	**+1.3**
KALE	**Kalithea**	**3.19**	**151**	*e*PB	Pb	02 33 28.3	-3.9
KALE	**Kalithea**	**3.19**	**151**	*e*Pb	Pb	02 33 28.3	-3.9
FGSL	**Fruska Gora**	**3.96**	**356**	*e*Pn	**Pn**	**02 33 36.5**	**0.0**
FRGS	**Fruska Gora**	**3.96**	**356**	*e*Pn	**Pn**	**02 33 36.5**	**0.0**
VYHS	**Vyhne**	**7.35**	**353**	*e*PN	Pn	02 34 26.4	+3.3

*ISCJB **16** 02:33:49.1±1.0,34.°9S±0.°2×72.°0W±0.°2,h10km,mb4.1/6, Error ellipse: s-maj=28.7km s-min=12.8km az=142.2*
*IDC **16** 02:33:49.3±1.1,34.°75S×71.°95W,h0km,mb4.1/6, mb1 4.4/6,mb1mx4.2/14,mbtmp4.1/6,ML2.8/1,Error ellipse: s-maj=36.2km s-min=29.6km az=13.0*

ISC 16 02:33:50.5±1.0,34.°9S±0.°2×72.°0W±0.°2,h10km,n9, σ0°98/10,mb4.2/6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.52**	**45**	Pn	**Pn**	**02 34 58.6**	**-0.5**
	0.5nm,0.3s,baz=225,slow=7.1,SNR=3.6						
CFAA				Sn	**Sn**	**02 35 53.1**	**+1.2**
	0.5nm,0.3s,baz=274,slow=19,SNR=2.6						
TXAR	**Lajitas Array**	**70.48**	**331**	P	**P**	**02 45 05.6**	**+0.2**
	0.6nm,0.5s,baz=155,slow=8.8,SNR=3.7						
DBIC	**Dimbokro**	**75.43**	**71**	P	**P**	**02 45 34.1**	**-0.9**
	2.9nm,0.8s,baz=204,slow=12,SNR=3.3						
BOSA	**Boshof**	**79.66**	**118**	P	**P**	**02 45 60.0**	**+1.3**
	3.9nm,0.7s,baz=217,slow=3.6,SNR=8.6						
TORD	**Torodi Ar. Bea**	**84.48**	**70**	P	**P**	**02 46 22.8**	**-1.1**
	1.7nm,0.8s,baz=239,slow=5.2,SNR=7.9						
PDAR	**Pinedale Array**	**84.53**	**333**	P	**P**	**02 46 23.4**	**-0.4**
	1.2nm,1.0s,baz=157,slow=4.9,SNR=4.0						
NVAR	**Mina Array Bea**	**84.59**	**325**	P	**P**	**02 46 25.0**	**+0.8**
	0.6nm,0.7s,baz=163,slow=6.3,SNR=3.0						
WRA	**Warramunga Arr**	**120.03**	**209**	PKP	**PKPdf**	**02 52 42.6**	**+0.6**
	0.3nm,0.4s,baz=154,slow=1.7,SNR=4.8						
BVAR	**Borovoye Array**	**147.88**	**44**	PKPbc	**PKPbc**	**02 53 35.1**	**-0.2**
	1.8nm,0.7s,baz=306,slow=3.4,SNR=4.3						

*IDC **16** 02:35:20.9±1.0,36.°29S×73.°36W,h0km,mb4.3/10, mb1 4.4/11,mb1mx4.3/20,mbtmp4.2/11,ML3.4/1,Error ellipse: s-maj=30.2km s-min=23.1km az=92.0*
*ISCJB **16** 02:35:24.7±0.6,36.°21S±0.°07×73.°3W±0.°1,h33km, mb4.3/11,Error ellipse: s-maj=14.7km s-min=9.0km az=19.5*
*NEIC **16** 02:35:26.4±0.5,36.°20S×73.°39W,h35km,mb4.6/5,Error ellipse: s-maj=16.9km s-min=9.0km az=87.0*

ISC 16 02:35:26.3±0.7,36.°18S±0.°08×73.°4W±0.°1,h35km,n27, σ0°77/21,mb4.5/11,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.07**	**154**	Pn	**Pn**	**02 36 40.8**	**+0.9**
	baz=339,slow=17,SNR=1.5						
PLCA				Lg	Lg	02 38 00.8	
	2.4nm,0.3s,baz=268,slow=17,SNR=3.2						
CFAA	**Coronel Fontan**	**6.28**	**45**	Pn	**Pn**	**02 36 56.9**	**+0.4**
	0.9nm,0.3s,baz=211,slow=15,SNR=2.9						
CFAA				Sn	**Sn**	**02 38 07.8**	**+0.7**
	baz=0.0,slow=16,SNR=2.0						
LPAZ	**La Paz**	**20.37**	**15**	P	Pn	02 40 02.7	-0.2
	9.2nm,0.8s,baz=203,slow=8.0,SNR=4.7						
LPAZ	**La Paz**	**20.37**	**15**	*e*P	Pn	02 40 02.5	-0.4
	9.8nm,0.9s						
SIV	**San Ignacio**	**22.93**	**32**	P	**P**	**02 40 27.4**	**0.0**
	12nm,0.9s,baz=198,slow=14,SNR=3.6						
NNA	**Nana**	**24.29**	**352**	P	**P**	**02 40 41.3**	**+0.8**
	9.1nm,0.7s,baz=206,slow=8.4,SNR=4.0						
PTGA	**Pitinga**	**37.42**	**23**	P	**P**	**02 42 35.5**	**-0.7**
	7.0nm,1.0s,baz=255,slow=17,SNR=4.0						
SDV	**Santo Domingo**	**44.91**	**4**	P	**P**	**02 43 36.6**	**-1.3**
	6.5nm,0.8s						
SNAA	**Sanae**	**50.01**	**157**	P	**P**	**02 44 16.4**	**-0.4**
	2.9nm,0.9s,baz=296,slow=9.0,SNR=5.9						
SNAA	**Sanae**	**50.01**	**157**	*e*P	**P**	**02 44 16.7**	**-0.1**
	8.8nm,0.9s						
QSPA	**South Pole Qui**	**54.06**	**180**	*e*P	**P**	**02 44 46.9**	**-0.2**
	7.5nm,1.1s						
TXAR	**Lajitas Array**	**71.11**	**332**	P	**P**	**02 46 42.0**	**+0.9**
	1.3nm,0.7s,baz=151,slow=7.8,SNR=5.5						
DBIC	**Dimbokro**	**76.95**	**72**	P	**P**	**02 47 14.8**	**-0.7**
	3.9nm,1.0s,baz=146,slow=6.6,SNR=3.4						
DBIC	**Dimbokro**	**76.95**	**72**	*e*P	**P**	**02 47 14.8**	**-0.7**
	8.3nm,1.0s						
NVAR	**Mina Array Bea**	**85.04**	**326**	P	**P**	**02 47 59.1**	**+0.8**
	0.9nm,0.7s,baz=152,slow=5.5,SNR=4.3						
PDAR	**Pinedale Array**	**85.21**	**334**	P	**P**	**02 48 00.1**	**+1.0**
	0.3nm,0.6s,baz=122,slow=8.6,SNR=2.3						
ULM	**Lac du Bonnet**	**88.32**	**346**	P	**P**	**02 48 13.1**	**-0.6**
	3.0nm,0.7s,baz=136,slow=2.7,SNR=4.3						
H11S2	**WAKE ISLAND Hyl**	**24.58**	**268**	T	T	05 11 09.7	
	baz=106						
H11S1	**WAKE ISLAND Hyl**	**24.60**	**268**	T	T	05 11 10.3	
	baz=106						
H11S3	**WAKE ISLAND Hyl**	**24.60**	**268**	T	T	05 11 11.4	
	baz=106						
H11N3	**WAKE ISLAND Hyl**	**25.05**	**270**	T	T	05 11 41.2	
	baz=126						
H11N1	**WAKE ISLAND Hyl**	**25.06**	**270**	T	T	05 11 43.7	
	baz=126						
H11N2	**WAKE ISLAND Hyl**	**25.07**	**270**	T	T	05 11 43.0	
	baz=126						
BVAR	**Borovoye Array**	**149.64**	**45**	PKPbc	**PKPbc**	**02 55 10.8**	**-0.8**
	1.0nm,0.7s,baz=289,slow=4.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**156.67**	**34**	PKP	**PKPdf**	**02 55 16.3**	**-0.7**
	0.7nm,0.6s,baz=324,slow=3.7,SNR=2.7						
ZALV				PKPab	**PKPab**	**02 55 47.1**	**+0.7**
	0.5nm,0.3s,baz=321,slow=6.5,SNR=3.8						
MKAR	**Makanchi Array**	**159.03**	**52**	PKPab	**PKPab**	**02 55 56.4**	**-0.5**
	0.7nm,0.8s,baz=336,slow=3.2,SNR=3.4						
SONM	**Songino Array**	**168.36**	**1**	PKPab	**PKPab**	**02 56 38.7**	**+0.9**
	0.8nm,1.0s,baz=338,slow=3.4,SNR=2.8						

*MDD **16** 02:37:50.1±1.4,42.°46N×11.°25W,h50km,mb3.7/9,Error ellipse: s-maj=13.0km s-min=7.4km az=111.0,PRXIMO*
*INMG **16** 02:37:51.5±1.1,42.°50N×11.°40W,h10km,ML2.2,Error ellipse: s-maj=5.2km s-min=2.6km az=104.0*
*CSEM **16** 02:37:51.9±0.3,42.°25N×10.°94W,h20km,ML2.9/7,Error ellipse: s-maj=6.2km s-min=4.1km az=110.0*
*IGIL **16** 02:37:51.6,42.°46N×11.°24W,h50km,ML1.9*

ISC 16 02:37:45.3±2.3,42.°41N±0.°06×11.°3W±0.°1,h10km,n86, σ2°08/151,1C,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**1.76**	**71**	⇑P	**Pn**	**02 38 17.0**	**+1.1**
	2.2nm,0.7s,SNR=18						
EMAZ				S	**Sn**	**02 38 36.3**	**-2.1**
	8.1nm,0.3s,SNR=16						
STS	**Santiago**

3.5nm,0.2s,SNR=7.9
PMAFR Mafra 3.76 156 *e*Pn **Pn 02 38 45.3 +2.0**
PMAFR *e*Sn **Sn 02 39 25.6 -2.0**
9.4nm,0.9s
PCBR Castelo Branco 3.83 131 *e*Pn **Pn 02 38 46.6 +2.3**
PCBR *e*Sn **Sn 02 39 28.4 -1.0**
PCBR Castelo Branco 3.83 131 P **Pn 02 38 46.6 +2.3**
PCBR S **Sn 02 39 28.4 -1.0**
PCBR Castelo Branco 3.83 131 P **Pn 02 38 46.6 +2.3**
PCBR S **Sn 02 39 28.4 -1.0**
PMTG Montargil 4.05 144 *e*Pn **Pn 02 38 49.2 +1.9**
PMTG *e*Sn **Sn 02 39 32.1 -2.6**
PMTG A A 02 39 32.3
5.2nm,0.8s
PMTG Montargil 4.05 144 *e*Pn **Pn 02 38 49.2 +1.9**
PMTG *e*Sn **Sn 02 39 32.1 -2.6**
5.2nm,0.8s
PMRV Marv??o 4.17 134 *e*Pn **Pn 02 38 50.9 +1.9**
PMRV *e*Sn **Sn 02 39 35.5 -2.3**
PMRV A A 02 39 35.9
18nm,0.7s
PMRV Marv??o 4.17 134 P **Pn 02 38 50.9 +1.9**
PMRV S **Sn 02 39 35.5 -2.3**
18nm,0.7s
PMRV Marv??o 4.17 134 P **Pn 02 38 50.9 +1.9**
PMRV S **Sn 02 39 35.5 -2.3**
18nm,0.7s
PESTR Estremoz 4.50 141 *e*Pn **Pn 02 38 55.2 +1.7**
PESTR *e*Sn **Sn 02 39 42.7 -3.2**
PESTR A A 02 39 44.0
22nm,0.6s
PESTR Estremoz 4.50 141 *e*Pn **Pn 02 38 55.2 +1.7**
PESTR *e*Sn **Sn 02 39 42.7 -3.2**
22nm,0.6s
EARI Arriondas 4.53 77 P **Pn 02 38 56.2 +2.2**
0.2nm,0.1s,SNR=7.9
EARI S **Sn 02 39 43.7 -3.0**
0.2nm,0.1s,SNR=7.9
EARI Arriondas 4.53 77 P **Pn 02 38 56.2 +2.2**
0.2nm,0.1s,SNR=7.9
EVO Evora 4.59 146 *e*Pn **Pn 02 38 56.6 +1.9**
EVO *e*Sn **Sn 02 39 44.7 -3.4**
EVO A A 02 39 48.5
2.1nm,0.3s
EVO Evora 4.59 146 P **Pn 02 38 56.6 +1.9**
EVO S **Sn 02 39 44.7 -3.4**
2.1nm,0.3s
EVO Evora 4.59 146 P **Pn 02 38 56.6 +1.9**
EVO S **Sn 02 39 44.7 -3.4**
2.1nm,0.3s
PNCL Nicolau / Gran 4.77 153 *e*Pn **Pn 02 38 59.1 +1.9**
PNCL *e*Sn **Sn 02 39 49.4 -3.1**
PNCL A A 02 39 55.0
2.1nm,0.4s
PNCL Nicolau / Gran 4.77 153 *e*Pn **Pn 02 38 59.1 +1.9**
PNCL *e*Sn **Sn 02 39 49.4 -3.1**
2.1nm,0.4s
EBAD Badajoz 4.87 137 P **Pn 02 39 00.1 +1.6**
7.9nm,1.1s,SNR=13
EBAD S **Sn 02 39 52.0 -3.0**
0.7nm,0.1s,SNR=7.9
EBAD Badajoz 4.87 137 P **Pn 02 39 00.1 +1.6**
7.9nm,1.1s,SNR=13
EBAD S **Sn 02 39 52.0 -3.0**
0.7nm,0.1s,SNR=7.9
MESJ Messejana 5.12 152 *e*P **Pn 02 39 04.0 +2.1**
MESJ *e*S Sn 02 39 57.4 -3.7
MESJ AML AML 02 39 59.8
comp=N,1.8nm,0.5s
MESJ Messejana 5.12 152 *e*Pn **Pn 02 39 04.1 +2.1**
MESJ *e*Sn **Sn 02 39 58.8 -2.3**
MESJ A A 02 40 07.9
comp=N,2.2nm,0.5s
MESJ Messejana 5.12 152 P **Pn 02 39 04.1 +2.1**
MESJ S **Sn 02 39 58.8 -2.3**
comp=N,2.2nm,0.5s
MESJ Messejana 5.12 152 P **Pn 02 39 04.1 +2.1**
MESJ S **Sn 02 39 58.8 -2.3**
comp=N,2.2nm,0.5s
PTEO Sao Teotonio 5.23 157 *e*Sn **Sn 02 40 02.5 -1.3**
PTEO A A 02 40 12.2
comp=N,5.5nm,0.8s
PTEO Sao Teotonio 5.23 157 S **Sn 02 40 02.5 -1.3**
comp=N,2.8nm,0.8s
PTEO Sao Teotonio 5.23 157 S **Sn 02 40 02.5 -1.3**
comp=N,2.8nm,0.8s
PBAR Barrancos 5.31 141 *e*Pn **Pn 02 39 06.6 +1.9**
PBAR *e*Sn **Sn 02 40 03.1 -2.8**
PBAR A A 02 40 03.6
comp=N,4.7nm,0.7s
PBAR Barrancos 5.31 141 P **Pn 02 39 06.6 +1.9**
PBAR S **Sn 02 40 03.1 -2.8**
comp=N,4.7nm,0.7s
PBAR Barrancos 5.31 141 P **Pn 02 39 06.6 +1.9**
PBAR S **Sn 02 40 03.1 -2.8**
comp=N,4.7nm,0.7s
GUD Guadarrama 5.61 106 P **Pn 02 39 11.1 +2.2**
comp=N,0.2nm,0.2s,SNR=7.9
GUD S **Sn 02 40 10.5 -3.0**
comp=N,0.2nm,0.2s,SNR=7.9
GUD Guadarrama 5.61 106 P **Pn 02 39 11.1 +2.2**
comp=N,0.2nm,0.2s,SNR=7.9
GUD S **Sn 02 40 10.5 -3.0**
comp=N,0.2nm,0.2s,SNR=7.9
EGRO El Granado 5.66 148 P **Pn 02 39 11.6 +2.2**
comp=N,0.2nm,0.1s,SNR=4.3
EGRO S Sn 02 40 09.6 -4.9
comp=N,0.5nm,0.2s,SNR=7.9
EGRO El Granado 5.66 148 P **Pn 02 39 11.6 +2.2**
comp=N,0.2nm,0.1s,SNR=4.3
PVAQ Vaqueiros 5.69 150 *e*Pn **Pn 02 39 11.8 +2.0**
PVAQ *e*Sn Sn 02 40 10.6 -4.5
PVAQ A A 02 40 17.1
comp=N,3.9nm,0.6s
PVAQ Vaqueiros 5.69 150 P **Pn 02 39 11.8 +2.0**
PVAQ S Sn 02 40 10.6 -4.5
comp=N,3.9nm,0.6s
PVAQ Vaqueiros 5.69 150 P **Pn 02 39 11.8 +2.0**
PVAQ S Sn 02 40 10.6 -4.5
comp=N,3.9nm,0.6s
PBDV Barranco-do-Ve 5.75 153 *e*Pn **Pn 02 39 13.4 +2.6**
PBDV *e*Sn **Sn 02 40 14.2 -2.6**
PBDV A A 02 40 19.1
comp=N,6.1nm,0.7s
PBDV Barranco-do-Ve 5.75 153 P **Pn 02 39 13.4 +2.6**
PBDV S **Sn 02 40 14.2 -2.6**
comp=N,6.1nm,0.7s
PBDV Barranco-do-Ve 5.75 153 P **Pn 02 39 13.4 +2.6**
PBDV S **Sn 02 40 14.2 -2.6**
comp=N,6.1nm,0.7s
ELAN Lanestosa 5.81 79 P **Pn 02 39 12.9 +1.4**
comp=N,0.2nm,0.2s,SNR=4.0
ELAN S Sn 02 40 13.7 -4.3
comp=N,0.5nm,0.2s,SNR=7.9
ELAN Lanestosa 5.81 79 P **Pn 02 39 12.9 +1.4**
comp=N,0.2nm,0.2s,SNR=4.0
EMIN Mina Concepcio 5.81 141 P **Pn 02 39 13.7 +2.2**
comp=N,1.1nm,0.2s,SNR=7.8
EMIN S Sn 02 40 14.5 -3.7
comp=N,0.3nm,0.2s,SNR=7.9
EMIN Mina Concepcio 5.81 141 P **Pn 02 39 13.7 +2.2**
comp=N,1.1nm,0.2s,SNR=7.8
EMIN S Sn 02 40 14.5 -3.7
comp=N,0.3nm,0.2s,SNR=7.9
ECAB El Cabril 6.21 132 P **Pn 02 39 18.8 +1.7**
comp=N,1.2nm,0.2s,SNR=7.9
ECAB S **Sn 02 40 25.0 -3.1**
comp=N,0.2nm,0.2s,SNR=7.9
ECAB El Cabril 6.21 132 P **Pn 02 39 18.8 +1.7**
comp=N,1.2nm,0.2s,SNR=7.9
ECAB S **Sn 02 40 25.0 -3.1**
comp=N,0.2nm,0.2s,SNR=7.9

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*IDC **16** 02:41:41.4±0.9, 36°.18N×21°.45E, h0km, mb3.9/14, mb1 4.0/22, mb1mx3.9/40, mbtmp3.9/22, ML3.4/8, Error ellipse: s-maj=19.4km s-min=13.9km az=9.0*
*ISCJB **16** 02:41:41.7±0.7, 36°.04N±0°.03×21°.20E±0°.03, h19km±5km, mb3.9/15, Error ellipse: s-maj=4.6km s-min=3.5km az=40.5*
*CSEM **16** 02:41:43.9±0.3, 36°.04N×21°.23E, h0km, ML3.6, Error ellipse: s-maj=7.8km s-min=3.8km az=35.0*
*ATH **16** 02:41:44.0, 36°.13N×21°.41E, h26km±1km, MD4.0/45, ML3.9*

*THE **16** 02:41:45.1, 36°.14N×21°.48E, h2km±1km, ML3.6/3, Error ellipse: s-maj=2.7km s-min=1.1km az=63.0*
*PDG **16** 02:41:50.4±0.4, 36°.76N×21°.11E, h15km±3km, ML4.0/10, Error ellipse: s-maj=4.1km s-min=1.4km az=90.0*
ISC 16 02:41:44.5±0.6, 36°.12N±0°.05×21°.35E±0°.04, h21km±4km, n273, σ1§37/299, mb3.9/15, 23C-13D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.83**	**22**	P	**Pn**	**02 41 59.6**	**-1.4**
PYL				S	**Sn**	**02 42 10.8**	**-1.7**
PYL	**PYLOS**	**0.83**	**22**	*e*PN	**Pn**	**02 41 59.5**	**-1.4**
PYL				*e*SN	**Sn**	**02 42 11.5**	**-1.0**
PYL	**PYLOS**	**0.83**	**22**	P	**Pn**	**02 41 59.6**	**-1.4**
PYL				S	**Sn**	**02 42 10.8**	**-1.7**
PYL				*e*Sn	Sn	02 42 11.5	-1.1
ITM	**Ithomi**	**1.15**	**23**	P	**Pn**	**02 42 06.0**	**+0.7**
ITM				S	**Sn**	**02 42 21.2**	**+0.8**
ITM	**Ithomi**	**1.15**	**23**	*e*PN	**Pn**	**02 42 06.4**	**+1.1**
ITM				*e*SN	**Sn**	**02 42 21.4**	**+1.0**
ITM	**Ithomi**	**1.15**	**23**	P	**Pn**	**02 42 06.0**	**+0.7**
ITM	**Ithomi**	**1.15**	**23**	*e*Pn	**Pn**	**02 42 06.4**	**+1.1**
ITM				S	**Sn**	**02 42 21.2**	**+0.8**
KYTH	**Kithira**	**1.37**	**83**	P	**Pn**	**02 42 09.5**	**+1.1**
KYTH	**Kithira**	**1.37**	**83**	*e*PN	**Pn**	**02 42 09.4**	**+1.1**
KYTH	**Kithira**	**1.37**	**83**	P	**Pn**	**02 42 09.5**	**+1.1**
VLI	**Veliai**	**1.41**	**65**	P	**Pn**	**02 42 09.8**	**+1.0**
VLI	**Veliai**	**1.41**	**65**	*e*PN	**Pn**	**02 42 10.1**	**+1.3**
VLI				*e*SN	**Sb**	**02 42 27.9**	**+0.3**
VLI	**Veliai**	**1.41**	**65**	P	**Pn**	**02 42 09.8**	**+1.0**
VLI	**Veliai**	**1.41**	**65**	*e*Pn	**Pn**	**02 42 10.1**	**+1.3**
VLI				*e*Sn	**Sb**	**02 42 27.9**	**+0.3**
AMT	**Artemida-Makis**	**1.44**	**11**	P	**Pn**	**02 42 10.4**	**+1.2**
AMT	**Artemida-Makis**	**1.44**	**11**	*e*PN	**Pn**	**02 42 10.3**	**+1.1**
AMT				*e*SN	**Sb**	**02 42 29.4**	**+1.0**
AMT	**Artemida-Makis**	**1.44**	**11**	*e*Pn	**Pn**	**02 42 10.3**	**+1.1**
ANKY	**Antikythira Is**	**1.60**	**99**	P	**Pn**	**02 42 12.8**	**+1.3**
ANKY	**Antikythira Is**	**1.60**	**99**	*e*PN	**Pn**	**02 42 12.9**	**+1.4**
ANKY				*e*SN	**Sn**	**02 42 32.6**	**+1.2**
ANKY	**Antikythira Is**	**1.60**	**99**	P	**Pn**	**02 42 12.8**	**+1.3**
ANKY				*e*Sn	**Sn**	**02 42 32.6**	**+1.2**
DRO	**Drossia**	**1.85**	**9**	P	**Pn**	**02 42 16.5**	**+1.6**
DRO	**Drossia**	**1.85**	**9**	*e*PN	**Pn**	**02 42 16.6**	**+1.6**
DRO				*e*SN	**Sn**	**02 42 39.3**	**+1.6**
DRO	**Drossia**	**1.85**	**9**	P	**Pn**	**02 42 16.5**	**+1.6**
DRO				*e*Sn	**Sn**	**02 42 39.3**	**+1.6**
RLS	**Riolos of Patr**	**1.93**	**3**	P	**Pn**	**02 42 18.2**	**+2.2**
RLS	**Riolos of Patr**	**1.93**	**3**	*e*PN	**Pn**	**02 42 18.1**	**+2.1**
RLS				*e*SN	**Sn**	**02 42 41.5**	**+1.8**
RLS	**Riolos of Patr**	**1.93**	**3**	*e*Pn	**Pn**	**02 42 18.1**	**+2.1**
RLS				*e*Sn	**Sn**	**02 42 41.5**	**+1.8**
GUR	**Goura**	**1.98**	**23**	P	**Pn**	**02 42 18.7**	**+2.0**
GUR	**Goura**	**1.98**	**23**	*e*PN	**Pn**	**02 42 18.3**	**+1.6**
GUR				*e*SN	**Sn**	**02 42 42.2**	**+1.3**
GUR	**Goura**	**1.98**	**23**	*e*Pn	**Pn**	**02 42 18.3**	**+1.6**
GUR	**Goura**	**1.98**	**23**	P	**Pn**	**02 42 18.7**	**+2.0**
GUR				*e*Sn	**Sn**	**02 42 42.2**	**+1.3**
KLV	**Kalavryta, Ach**	**2.02**	**18**	P	**Pn**	**02 42 19.3**	**+1.9**
KLV	**Kalavryta, Ach**	**2.02**	**18**	*e*PB	**Pn**	**02 42 19.2**	**+1.9**
KLV				*e*SN	**Sn**	**02 42 43.5**	**+1.5**
KLV	**Kalavryta, Ach**	**2.02**	**18**	P	**Pn**	**02 42 19.3**	**+1.9**
KLV				*e*Sn	**Sn**	**02 42 43.5**	**+1.5**
KFL	**Anninata**	**2.03**	**347**	P	**Pn**	**02 42 19.3**	**+1.9**
KFL	**Anninata**	**2.03**	**347**	P	**Pn**	**02 42 19.3**	**+1.9**
DID	**Didima**	**2.05**	**47**	P	**Pn**	**02 42 18.6**	**+0.9**
DID	**Didima**	**2.05**	**47**	*e*PN	**Pn**	**02 42 18.5**	**+0.9**
DID				*e*SN	**Sn**	**02 42 44.3**	**+1.7**
DID	**Didima**	**2.05**	**47**	P	**Pn**	**02 42 18.6**	**+0.9**
DID				*e*Sn	**Sn**	**02 42 44.3**	**+1.7**
VLS	**Valsamata**	**2.14**	**344**	P	**Pn**	**02 42 20.1**	**+1.2**
VLS	**Valsamata**	**2.14**	**344**	*e*PN	**Pn**	**02 42 19.9**	**+1.0**
VLS				*e*SN	**Sn**	**02 42 46.7**	**+1.9**
VLS	**Valsamata**	**2.14**	**344**	*e*Pn	**Pn**	**02 42 19.9**	**+1.0**
VLS				*e*Sn	**Sn**	**02 42 46.7**	**+1.9**
KARN	**Karanos**	**2.21**	**108**	P	**Pn**	**02 42 20.4**	**+0.6**
KARN	**Karanos**	**2.21**	**108**	*e*PN	**Pn**	**02 42 20.5**	**+0.6**
KARN				*e*SN	**Sn**	**02 42 47.1**	**+0.6**
KARN	**Karanos**	**2.21**	**108**	P	**Pn**	**02 42 20.4**	**+0.6**
KARN				*e*Sn	**Sn**	**02 42 47.1**	**+0.6**
LTK	**Loutraki**	**2.29**	**34**	P	**Pn**	**02 42 22.6**	**+1.6**
LTK	**Loutraki**	**2.29**	**34**	*e*PN	**Pn**	**02 42 22.2**	**+1.2**
LTK				*e*SN	**Sn**	**02 42 50.0**	**+1.4**
LTK	**Loutraki**	**2.29**	**34**	*e*Pn	**Pn**	**02 42 22.2**	**+1.2**
LTK	**Loutraki**	**2.29**	**34**	P	**Pn**	**02 42 22.6**	**+1.6**
EFP	**Efpalio**	**2.34**	**11**	P	Pn	02 42 24.4	+2.7
EFP	**Efpalio**	**2.34**	**11**	*e*PB	**Pn**	**02 42 23.7**	**+2.0**
EFP				*e*SN	**Sn**	**02 42 51.8**	**+2.0**
EFP	**Efpalio**	**2.34**	**11**	*e*Pb	**Pn**	**02 42 23.7**	**+2.0**
EFP	**Efpalio**	**2.34**	**11**	P	Pn	02 42 24.4	+2.7
EFP				*e*Sn	**Sn**	**02 42 51.8**	**+2.0**
KALE	**Kalithea**	**2.35**	**15**	P	Pn	02 42 24.5	+2.6
KALE	**Kalithea**	**2.35**	**15**	*e*PB	Pn	02 42 24.4	+2.6
KALE	**Kalithea**	**2.35**	**15**	P	Pn	02 42 24.5	+2.6
NAIG	**Nisos Aigina**	**2.37**	**46**	*e*PN	**Pn**	**02 42 22.9**	**+0.9**
NAIG	**Nisos Aigina**	**2.37**	**46**	*e*Pn	**Pn**	**02 42 22.9**	**+0.9**
VAM	**Vamos**	**2.42**	**106**	P	**Pn**	**02 42 23.1**	**+0.3**
VAM	**Vamos**	**2.42**	**106**	*e*PN	**Pn**	**02 42 23.3**	**+0.5**
VAM	**Vamos**	**2.42**	**106**	*e*Pn	**Pn**	**02 42 23.3**	**+0.5**
DSF	**Desfina**	**2.47**	**22**	P	**Pn**	**02 42 24.5**	**+1.0**
DSF				S	**Sn**	**02 42 55.9**	**+2.9**
DSF	**Desfina**	**2.47**	**22**	*e*PN	**Pn**	**02 42 24.2**	**+0.7**
DSF	**Desfina**	**2.47**	**22**	*e*Pn	**Pn**	**02 42 24.2**	**+0.7**
DSF	**Desfina**	**2.47**	**22**	P	**Pn**	**02 42 24.5**	**+1.0**
DSF				S	**Sn**	**02 42 55.9**	**+2.9**
PDO	**Prodromos**	**2.48**	**357**	P	**Pn**	**02 42 25.7**	**+2.2**
PDO				S	**Sb**	**02 42 57.6**	**-0.7**
PDO	**Prodromos**	**2.48**	**357**	*e*PB	**Pn**	**02 42 25.6**	**+2.1**
PDO	**Prodromos**	**2.48**	**357**	P	**Pn**	**02 42 25.7**	**+2.2**
PDO				S	**Sb**	**02 42 57.6**	**-0.7**
ATH	**Athens Observa**	**2.64**	**45**	P	**Pn**	**02 42 27.3**	**+1.5**
ATH	**Athens Observa**	**2.64**	**45**	*e*PN	**Pn**	**02 42 26.1**	**+0.3**
ATH	**Athens Observa**	**2.64**	**45**	*e*Pn	**Pn**	**02 42 26.1**	**+0.3**
ATH	**Athens Observa**	**2.64**	**45**	P	**Pn**	**02 42 27.3**	**+1.5**
ATHU	**Athens Univers**	**2.68**	**46**	P	**Pn**	**02 42 27.1**	**+0.8**
ATHU	**Athens Univers**	**2.68**	**46**	P	**Pn**	**02 42 27.1**	**+0.8**
LKD2	**Lefkada island**	**2.72**	**348**	P	**Pn**	**02 42 29.2**	**+2.3**
LKD2				S	**Sb**	**02 43 03.7**	**-1.6**
LKD2	**Lefkada island**	**2.72**	**348**	*e*PN	**Pn**	**02 42 29.2**	**+2.3**
LKD2	**Lefkada island**	**2.72**	**348**	P	**Pn**	**02 42 29.2**	**+2.3**
LKD2				S	**Sb**	**02 43 03.7**	**-1.6**
PTL	**Penteli**	**2.78**	**45**	P	**Pn**	**02 42 28.3**	**+0.5**
PTL	**Penteli**	**2.78**	**45**	*e*PN	**Pn**	**02 42 28.2**	**+0.5**
PTL	**Penteli**	**2.78**	**45**	P	**Pn**	**02 42 28.3**	**+0.5**
EVR	**Evrytania**	**2.81**	**7**	P	Pn	02 42 31.1	+2.9
EVR	**Evrytania**	**2.81**	**7**	*e*PB	Pn	02 42 31.1	+2.9
EVR	**Evrytania**	**2.81**	**7**	P	Pn	02 42 31.1	+2.9
AXAR	**Agios Charalam**	**2.84**	**21**	P	**Pn**	**02 42 29.9**	**+1.4**
AXAR	**Agios Charalam**	**2.84**	**21**	*e*PN	**Pn**	**02 42 30.2**	**+1.7**
AXAR	**Agios Charalam**	**2.84**	**21**	P	**Pn**	**02 42 29.9**	**+1.4**
AXAR	**Agios Charalam**	**2.84**	**21**	*e*Pn	**Pn**	**02 42 30.2**	**+1.7**
LKR	**Lokris**	**2.84**	**27**	P	**Pn**	**02 42 29.5**	**+0.9**
LKR	**Lokris**	**2.84**	**27**	*e*PN	**Pn**	**02 42 29.1**	**+0.5**
LKR	**Lokris**	**2.84**	**27**	*e*Pn	**Pn**	**02 42 29.1**	**+0.5**
LKR	**Lokris**	**2.84**	**27**	P	**Pn**	**02 42 29.5**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.95**	**12**	P	Pn	02 42 33.0	+2.9
MAKR	**Makrakomi, Fth**	**2.95**	**12**	*e*PN	**Pn**	**02 42 31.6**	**+1.5**
MAKR	**Makrakomi, Fth**	**2.95**	**12**	*e*Pn	**Pn**	**02 42 31.6**	**+1.5**
MAKR	**Makrakomi, Fth**	**2.95**	**12**	P	Pn	02 42 33.0	+2.9
IDI	**Anoyia**	**3.00**	**105**	Pn	**Pn**	**02 42 31.0**	**+0.2**
	1.8nm,0.3s,baz=274,slow=8.2,SNR=25						
IDI				Sn	**Sn**	**02 43 06.8**	**+0.7**
	11nm,0.3s,baz=279,slow=21,SNR=5.4						
AGG	**Agios Georgios**	**3.00**	**15**	P	**Pn**	**02 42 32.3**	**+1.6**
AGG	**Agios Georgios**	**3.00**	**15**	*e*PN	**Pn**	**02 42 32.9**	**+2.2**
AGG	**Agios Georgios**	**3.00**	**15**	P	**Pn**	**02 42 32.3**	**+1.6**
AGG	**Agios Georgios**	**3.00**	**15**	*e*Pn	**Pn**	**02 42 32.9**	**+2.2**
DSL	**Palaion Diasel**	**3.01**	**356**	P	**Pn**	**02 42 33.1**	**+2.2**
DSL	**Palaion Diasel**	**3.01**	**356**	*e*PN	**Pn**	**02 42 33.2**	**+2.3**
DSL	**Palaion Diasel**	**3.01**	**356**	P	**Pn**	**02 42 33.1**	**+2.2**
SMIA	**Simia**	**3.12**	**28**	*e*PN	**Pn**	**02 42 34.1**	**+1.7**
SMIA	**Simia**	**3.12**	**28**	*e*Pn	**Pn**	**02 42 34.1**	**+1.7**
MRKA	**Markates**	**3.13**	**34**	P	**Pn**	**02 42 33.0**	**+0.5**
MRKA	**Markates**	**3.13**	**34**	*e*PN	**Pn**	**02 42 33.1**	**+0.5**
MRKA	**Markates**	**3.13**	**34**	*e*Pn	**Pn**	**02 42 33.1**	**+0.5**
SKIA	**Skiathos**	**3.47**	**28**	*e*PN	**Pn**	**02 42 38.8**	**+1.6**
SKIA	**Skiathos**	**3.47**	**28**	*e*Pn	**Pn**	**02 42 38.8**	**+1.6**
THL	**Klokotos Trika**	**3.48**	**8**	P	**Pn**	**02 42 39.1**	**+1.9**
THL	**Klokotos Trika**	**3.48**	**8**	*e*PN	**Pn**	**02 42 38.9**	**+1.7**
THL	**Klokotos Trika**	**3.48**	**8**	P	**Pn**	**02 42 39.1**	**+1.9**
APE	**Apeiranthos**	**3.49**	**73**	P	**Pn**	**02 42 38.7**	**+1.2**
APE	**Apeiranthos**	**3.49**	**73**	*e*PN	**Pn**	**02 42 38.7**	**+1.2**
APE	**Apeiranthos**	**3.49**	**73**	P	**Pn**	**02 42 38.7**	**+1.2**
LAST	**Lasithi**	**3.49**	**105**	P	**Pn**	**02 42 38.9**	**+1.3**
LAST	**Lasithi**	**3.49**	**105**	*e*PN	**Pn**	**02 42 38.7**	**+1.1**
LAST	**Lasithi**	**3.49**	**105**	P	**Pn**	**02 42 38.9**	**+1.3**
IGT	**Igoumenitsa**	**3.50**	**347**	*e*PN	**Pn**	**02 42 38.2**	**+0.6**
IGT	**Igoumenitsa**	**3.50**	**347**	*e*Pn	**Pn**	**02 42 38.2**	**+0.6**
NEO	**Neokhori**	**3.51**	**24**	P	**Pn**	**02 42 39.6**	**+1.9**
NEO	**Neokhori**	**3.51**	**24**	*e*PN	**Pn**	**02 42 38.7**	**+1.0**
NEO	**Neokhori**	**3.51**	**24**	*e*Pn	**Pn**	**02 42 38.7**	**+1.0**
NEO	**Neokhori**	**3.51**	**24**	P	**Pn**	**02 42 39.6**	**+1.9**
JAN	**Janina**	**3.55**	**354**	P	**Pn**	**02 42 40.6**	**+2.3**
JAN	**Janina**	**3.55**	**354**	*e*PN	**Pn**	**02 42 40.0**	**+1.7**
JAN	**Janina**	**3.55**	**354**	*e*Pn	**Pn**	**02 42 40.0**	**+1.7**
JAN	**Janina**	**3.55**	**354**	P	**Pn**	**02 42 40.6**	**+2.3**
XOR	**Xorichti**	**3.55**	**24**	P	**Pn**	**02 42 40.0**	**+1.7**
XOR	**Xorichti**	**3.55**	**24**	*e*PN	**Pn**	**02 42 40.0**	**+1.7**
XOR	**Xorichti**	**3.55**	**24**	P	**Pn**	**02 42 40.0**	**+1.7**
NPS	**Neapolis**	**3.57**	**103**	*e*PN	**Pn**	**02 42 40.1**	**+1.5**
NPS	**Neapolis**	**3.57**	**103**	*e*Pn	**Pn**	**02 42 40.1**	**+1.5**
AOS	**Alonnisos**	**3.64**	**33**	*e*PN	**Pn**	**02 42 41.4**	**+1.8**
AOS	**Alonnisos**	**3.64**	**33**	*e*Pn	**Pn**	**02 42 41.4**	**+1.8**
KEK	**Kerkira**	**3.79**	**342**	*e*PN	**Pn**	**02 42 42.8**	**+1.2**
KEK	**Kerkira**	**3.79**	**342**	*e*Pn	**Pn**	**02 42 42.8**	**+1.2**
LIT	**Litokhoron**	**4.07**	**12**	P	**Pn**	**02 42 47.4**	**+1.9**
LIT	**Litokhoron**	**4.07**	**12**	*e*PN	**Pn**	**02 42 46.9**	**+1.4**
LIT	**Litokhoron**	**4.07**	**12**	*e*Pn	**Pn**	**02 42 46.9**	**+1.4**
LIT	**Litokhoron**	**4.07**	**12**	P	**Pn**	**02 42 47.4**	**+1.9**
KZN	**Kozani**	**4.19**	**4**	P	**Pn**	**02 42 49.4**	**+2.2**
KZN	**Kozani**	**4.19**	**4**	*e*PN	**Pn**	**02 42 48.6**	**+1.4**
KZN	**Kozani**	**4.19**	**4**	*e*Pn	**Pn**	**02 42 48.6**	**+1.4**
KZN	**Kozani**	**4.19**	**4**	P	**Pn**	**02 42 49.4**	**+2.2**
PAIG	**Paliouri**	**4.22**	**25**	*e*PN	**Pn**	**02 42 48.5**	**+1.0**
PAIG	**Paliouri**	**4.22**	**25**	*e*Pn	**Pn**	**02 42 48.5**	**+1.0**
NEST	**Nestorio**	**4.29**	**357**	P	Pn	02 42 51.3	+2.7
NEST	**Nestorio**	**4.29**	**357**	*e*PN	**Pn**	**02 42 51.0**	**+2.4**
NEST	**Nestorio**	**4.29**	**357**	*e*Pn	**Pn**	**02 42 51.0**	**+2.4**
NEST	**Nestorio**	**4.29**	**357**	P	Pn	02 42 51.3	+2.7
CHOS	**Chios island**	**4.38**	**58**	*e*PN	**Pn**	**02 42 49.5**	**-0.2**
CHOS	**Chios island**	**4.38**	**58**	*e*Pn	**Pn**	**02 42 49.5**	**-0.2**
PLG	**Polygyros**	**4.55**	**21**	*e*PN	**Pn**	**02 42 52.7**	**+0.6**
PLG	**Polygyros**	**4.55**	**21**	*e*Pn	**Pn**	**02 42 52.7**	**+0.6**
FNA	**Florina**	**4.65**	**0**	P	**Pn**	**02 42 54.9**	**+1.4**
FNA	**Florina**	**4.65**	**0**	*e*PN	**Pn**	**02 42 54.6**	**+1.1**
FNA	**Florina**	**4.65**	**0**	*e*Pn	**Pn**	**02 42 54.6**	**+1.1**
FNA	**Florina**	**4.65**	**0**	P	**Pn**	**02 42 54.9**	**+1.4**
SMG	**Samos**	**4.67**	**69**	*e*PN	**Pn**	**02 42 54.9**	**+1.2**
SMG	**Samos**	**4.67**	**69**	*e*Pn	**Pn**	**02 42 54.9**	**+1.2**
HORT	**Hortiatis**	**4.67**	**17**	*e*PN	**Pn**	**02 42 54.6**	**+0.8**
HORT	**Hortiatis**	**4.67**	**17**	*e*Pn	**Pn**	**02 42 54.6**	**+0.8**
THE	**Thessaloniki**	**4.68**	**15**	*e*PN	**Pn**	**02 42 55.1**	**+1.4**
THE	**Thessaloniki**	**4.68**	**15**	*e*Pn	**Pn**	**02 42 55.1**	**+1.4**
OUR	**Ouranopolis**	**4.69**	**25**	*e*PN	**Pn**	**02 42 56.1**	**+2.2**
OUR	**Ouranopolis**	**4.69**	**25**	*e*Pn	**Pn**	**02 42 56.1**	**+2.2**
SIGR	**SIGRI**	**4.72**	**48**	*e*PN	**Pn**	**02 42 54.3**	**0.0**
SIGR	**SIGRI**	**4.72**	**48**	*e*Pn	**Pn**	**02 42 54.3**	**0.0**
KARP	**Karpathos**	**4.75**	**95**	*e*PN	**Pn**	**02 42 55.9**	**+1.0**
KARP	**Karpathos**	**4.75**	**95**	*e*Pn	**Pn**	**02 42 55.9**	**+1.0**
LIA	**Limnos Island**	**4.83**	**38**	*e*PN	**Pn**	**02 42 57.3**	**+1.4**
LIA	**Limnos Island**	**4.83**	**38**	*e*Pn	**Pn**	**02 42 57.3**	**+1.4**
GRG	**Griva**	**4.90**	**9**	*e*PN	**Pn**	**02 42 58.1**	**+1.3**
GRG	**Griva**	**4.90**	**9**	*e*Pn	**Pn**	**02 42 58.1**	**+1.3**
SOH	**Sokhos**	**4.95**	**18**	*e*PN	**Pn**	**02 42 58.7**	**+1.2**
SOH	**Sokhos**	**4.95**	**18**	*e*Pn	**Pn**	**02 42 58.7**	**+1.2**
PRK	**Paraskevi**	**4.99**	**50**	*e*PN	**Pn**	**02 42 59.7**	**+1.6**
PRK	**Paraskevi**	**4.99**	**50**	*e*Pn	**Pn**	**02 42 59.7**	**+1.6**
OHR	**Ohrid**	**5.00**	**355**	*i* Pn	**Pn**	**02 42 58.6**	**+0.3**
OHR				*i* Sg	**Sn**	**02 43 53.7**	**-1.8**
OHR				*i* Lg	Lg	02 43 57.6	
	comp=N,40nm,0.7s						
OHR				*i* Lg	Lg	02 43 59.1	
	comp=E,48nm,0.5s						
OHR	**Ohrid**	**5.00**	**355**	*i* Pn	**Pn**	**02 42 58.6**	**+0.3**
OHR				*i* Sg	**Sn**	**02 43 53.6**	**-1.8**
OHR				*i* Lg

ARR	Arges	9.56	14	⇑i/P		Pn		02 44 02.0 +1.1
ARR	Arges	9.56	14	⇑i/P		Pn		02 44 02.0 +1.1
VOIR		9.72	16	⇓i/P		Pn		02 44 04.5 +1.5
VOIR		9.72	16	⇓i/P		Pn		02 44 04.5 +1.5
KEST	Kesra	9.75	271	Pn		Pn		02 44 03.1 -0.3
	comp=N,0.1nm,0.3s,baz=45,slow=7.6,SNR=6.6							
KEST				Sn		Sn		02 45 44.0 -8.2
	baz=68,slow=19,SNR=2.1							
MLR	Muntele Rosu	9.98	19	Pn		Pn		02 44 07.5 +0.9
	comp=N,0.0nm,0.3s,baz=219,slow=5.7,SNR=3.4							
BRTR	Keskin Array B	10.35	66	Pn		Pn		02 44 13.0 +1.3
	comp=N,0.1nm,0.3s,baz=260,slow=6.7,SNR=2.4							
MMAI	Mount Meron Ar	11.99	101	Pn		Pn		02 44 34.3 +0.2
	comp=N,0.9nm,0.3s,baz=302,slow=11,SNR=4.2							
MMAI				Sn		Sn		02 46 37.4 -10
	comp=N,1.3nm,0.3s,baz=279,slow=29,SNR=4.0							
MOA	Molln	12.84	338	⇑i/Pn		Pn		02 44 45.1 -0.5
EIL	Elat	13.11	116	Pn		Pn		02 44 49.1 -0.2
	comp=N,0.2nm,0.3s,baz=330,slow=0.5,SNR=8.0							
EIL				Sn		Sn		02 47 03.4 -11
	comp=N,0.4nm,0.3s,baz=301,slow=18,SNR=4.7							
ASF	Jabal al Asfar	13.46	103	Sn		Sn		02 47 16.4 -6.9
	comp=N,0.2nm,0.3s,baz=240,slow=14,SNR=2.0							
GERES	GERESS Array B	13.90	339	Pn		Pn		02 44 59.6 -0.5
GERES				Sn		Sn		02 47 23.3 -11
	comp=N,0.3nm,0.3s,baz=154,slow=23,SNR=4.5							
AKASG	Malin Array Be	15.64	19	Pn		Pn		02 45 23.1 -0.3
	comp=N,2.5nm,0.3s,baz=213,slow=10,SNR=5.6							
HAU	Haudompre	16.25	322	eP		P		02 45 35.8 +1.6
	comp=N,21nm,1.0s							
KBZ	Khabaz	18.16	59	P		Pn		02 45 54.4 -0.7
	comp=N,0.4nm,0.3s,baz=254,slow=5.9,SNR=8.1							
MFF	Saint Martin d	19.18	310	eP		Pn		02 46 09.7 +2.2
	comp=N,39nm,1.5s							
LDF	La Druitiere	20.10	315	eP		Pn		02 46 21.1 +2.7
ESDC	Sonseca Array	20.27	288	P		P		02 46 19.1 +0.5
	comp=N,0.9nm,0.9s,baz=63,slow=8.8,SNR=4.1							
FLN	La Foliniere	20.39	315	eP		Pn		02 46 25.1 +3.3
	comp=N,14nm,1.0s							
OBN	Obninsk	21.68	24	P		P		02 46 32.6 -0.9
	comp=N,9.3nm,0.4s,baz=52,slow=20,SNR=3.5							
HFS	Hagfors	24.53	351	P		P		02 47 01.4 -0.8
	comp=N,1.1nm,0.4s,baz=161,slow=10,SNR=11							
EKA	Eskdalemuir Ar	25.50	327	P		P		02 47 12.1 +1.1
	comp=N,0.9nm,0.5s,baz=126,slow=8.9,SNR=6.7							
FINES	FINESS Array B	25.52	5	P		P		02 47 10.6 -0.5
	comp=N,1.7nm,0.5s,baz=168,slow=12,SNR=12							
NB2	NORSAR Subarra	25.76	349	P		P		02 47 12.9 -0.5
	comp=Z,0.9nm,0.6s,baz=155,slow=9.3							
NB2	NORSAR Subarra	25.76	349	P		P		02 47 12.9 -0.5
	comp=Z,0.9nm,0.6s,SNR=6.2							
NOA	NORSAR Array B	25.76	349	P		P		02 47 13.2 -0.2
	comp=Z,1.3nm,0.7s,baz=157,slow=8.8,SNR=6.7							
KAF	Kangasniemi	26.20	5	ep		P		02 47 17.1 -0.2
	comp=Z,0.5nm,0.3s							
JOF	Joensuu	27.52	10	ep		P		02 47 27.7 -1.5
	comp=Z,0.3nm,0.3s							
TORD	Torodi Ar. Bea	28.91	223	P		P		02 47 42.9 +0.9
	comp=Z,2.1nm,0.9s,baz=31,slow=8.6,SNR=7.2							
AKTO	Aktyubinsk	29.94	50	P		P		02 47 49.0 -1.9
	comp=Z,2.0nm,0.8s,baz=277,slow=14,SNR=3.8							
KURBB	Kurchatov Arra	42.95	52	P		P		02 49 40.1 -1.5
	comp=Z,0.7nm,0.5s,baz=280,slow=8.9,SNR=3.3							
MKAR	Makanchi Array	45.84	57	P		P		02 50 03.3 -1.5
	comp=Z,1.5nm,0.4s,baz=276,slow=8.3,SNR=29							
ZALV	Zalesovo Beam	46.59	47	P		P		02 50 09.3 -1.3
	comp=Z,1.3nm,0.3s,baz=268,slow=8.5,SNR=5.3							
SCHQ	Schefferville	60.43	318	P		P		02 51 52.9 +0.8
	comp=Z,0.8nm,0.5s,baz=45,slow=7.1,SNR=3.6							
SONM	Songino Array	61.26	50	P		P		02 51 57.1 -0.9
	comp=Z,2.8nm,1.1s,baz=295,slow=6.5,SNR=3.4							
YKA	Yellowknife Ar	75.55	341	P		P		02 53 27.5 +0.6
	comp=Z,0.7nm,0.9s,baz=47,slow=3.8,SNR=4.0							

*IDC **16** 02:41:43.9±0.6, 36°.29S×73°.36W, h0km, mb4.4/15, mb1 4.5/18, mb1mx4.4/33, mbtmp4.4/18, ML3.8/3, Error ellipse: s-maj=24.7km s-min=13.5km az=88.0*
*GUC **16** 02:41:47.2±0.5, 36°.43S×73°.43W, h10km±6km, ML4.3*
*NEIC **16** 02:41:49.5±1.1, 36°.27S×73°.26W, h38km±9km, mb4.8/7, Error ellipse: s-maj=15.1km s-min=6.4km az=84.0*
*SJA **16** 02:43:05.5±0.6, 32°.98S×68°.81W, h20km±3km, MD1.2, ML3.6*
ISC 16 02:41:47.9±0.5, 36°.36S±0°.04×73°.40W±0°.07, h27km, n292, σ0s87/292, mb4.5/17, 118C-125D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.54	154	⇑i/P	Pb	02 41 57.2	-1.6
CCSP				i S	Sb	02 42 04.8	-1.5
CCSP				AML	AML	02 42 06.5	
	comp=E,48μm,0.6s						
LNCH	Linares	1.55	71	eP9	Pb	02 42 15.8	0.0
LNCH				i S	Sb	02 42 36.7	+1.7
TALC	Talca	1.73	57	eP	Pb	02 42 17.7	-1.2
TALC				i S	Sb	02 42 41.2	+1.0
NICH	Los Niches	2.23	53	eP1	Pb	02 42 25.6	-1.8
NICH				eS	Sb	02 42 55.6	+1.1
PLCA	Paso Flores	4.91	154	Pn	Pn	02 43 00.8	+0.9
	comp=E,1.4nm,0.3s,baz=321,slow=14,SNR=2.6						
PLCA				Lg	Lg	02 44 17.5	
	comp=E,2.5nm,0.3s,baz=352,slow=16,SNR=3.9						
AAGR	Agrelo	4.98	50	i P	Pb	02 43 10.2	-4.3
AAGR				i P	Pb	02 43 10.2	-4.3
ARCO	CERRO ARCO	5.09	48	i P	Pb	02 43 10.3	-6.0
ARCO				i S	Sn	02 43 14.8	-46
ARCO				AML	AML	02 43 15.0	
	comp=Z,18μm,0.1s						
ASAL	Salagasta	5.32	46	i P	Pb	02 43 14.2	-6.1
ASAL				i S	Sn	02 43 20.4	-46
SJA	San Juan	6.28	41	i P	Pb	02 43 32.8	-3.7
SJA				i S	Sn	02 43 53.3	-36
SJA				AML	AML	02 43 55.6	
	comp=Z,471nm,0.5s						
CFAA	Coronel Fontan	6.39	44	Pn	Pn	02 43 19.9	-0.4
	comp=Z,0.7nm,0.3s,baz=225,slow=13,SNR=5.1						
CFAA	Coronel Fontan	6.39	44	i P	Pb	02 43 32.5	-6.0
LCO	Las Campanas	7.67	18	Pn	Pn	02 43 36.3	-1.7
TRQA	Tornquist	9.27	104	Pn	Pn	02 44 00.2	+0.4
LVC	Limon Verde	14.24	17	Pn	Pn	02 45 06.4	-1.6
USHA	Ushuaia	18.79	171	P	Pn	02 46 06.6	+1.0
	comp=Z,0.3nm,0.3s,baz=294,slow=8.8,SNR=4.1						
LPAZ	La Paz	20.53	15	P	P	02 46 25.6	+0.7
	comp=Z,5.1nm,0.6s,baz=204,slow=4.4,SNR=7.0						
LPAZ	La Paz	20.53	15	eP	P	02 46 25.2	+0.4
	comp=Z,5.4nm,0.7s						
SIV	San Ignacio	23.06	32	P	P	02 46 50.4	-1.0
	comp=Z,9.3nm,0.8s,baz=223,slow=14,SNR=10						
NNA	Nana	24.46	352	P	P	02 47 05.1	+0.4
	comp=Z,8.2nm,0.7s,baz=189,slow=12,SNR=4.8						
PTGA	Pitinga	37.58	22	P	P	02 48 58.0	-2.1
	comp=Z,4.6nm,0.7s,baz=209,slow=10,SNR=3.9						
VNA3	Neumayer Olymp	47.62	157	P	P	02 50 21.5	+0.4
VNA2	Neumayer--Watz	48.29	156	P	P	02 50 26.6	+0.3
	baz=279,slow=8.7						
SNAA	Sanae	49.84	157	P	P	02 50 39.1	+0.8
SNAA	Sanae	49.84	157	P	P	02 50 38.8	+0.6
	comp=Z,3.8nm,0.8s,baz=297,slow=8.2,SNR=10						
SNAA	Sanae	49.84	157	eP	P	02 50 38.9	+0.6
	comp=Z,12nm,0.9s						
QSPA	South Pole Qui	53.88	180	P	P	02 51 09.3	+0.8
	comp=Z,8.6nm,0.9s,baz=140,slow=4.1,SNR=14						
QSPA	South Pole Qui	53.88	180	eP	P	02 51 09.4	+0.9
	comp=Z,10.0nm,1.0s						
CBYP	Canovanas	54.80	9	eP	P	02 51 14.4	-1.1
	comp=Z,10nm,0.8s						
VNDA	Vanda	61.58	192	P	P	02 52 03.8	+1.6
	comp=Z,1.2nm,0.8s,baz=148,slow=7.2,SNR=5.5						
832A	Faith Ranch, C	68.99	335	⇓P	P	02 52 51.4	+0.7
	baz=69						
636A	Smothers Creek	69.16	338	⇓P	P	02 52 52.8	+1.1
	baz=69						
633A	Saathoff Ranch	69.81	336	⇑P	P	02 52 56.6	+0.8
	baz=70						
632A	Uvalde	70.05	336	⇓P	P	02 52 58.3	+1.0
	baz=70						
532A	Rocksprings	70.66	336	⇑P	P	02 53 01.9	+0.8
	baz=71						
434A	Burnet	70.78	337	⇓P	P	02 53 02.0	+0.3
	baz=71						
531A	Rocksprings	70.91	335	⇓P	P	02 53 03.5	+0.9
	baz=71						
JCT	Junction City	70.95	336	⇓P	P	02 53 03.7	+0.9
	baz=71						
433A	Art	70.98	337	⇓P	P	02 53 03.6	+0.6
	baz=71						
237A	Washetta, Mont	71.17	340	⇓P	P	02 53 05.0	+1.0
	baz=72						
530A	J-C Ranch, Com	71.17	335	⇓P	P	02 53 05.1	+0.9
	baz=72						
334A	Lometa	71.25	338	⇓P	P	02 53 05.1	+0.6
	baz=72						
TXAR	Lajitas Array	71.27	332	P	P	02 53 04.5	-0.4
	comp=Z,1.4nm,0.7s,baz=133,slow=5.5,SNR=5.7						
431A	Sonora	71.41	335	⇑P	P	02 53 06.5	+0.9
	baz=72						
529A	Stev Forest Ra	71.45	334	⇑P	P	02 53 07.0	+1.1
	baz=72						
333A	Richland Sprin	71.47	337	⇑P	P	02 53 06.3	+0.3
	baz=72						
KMSC	Kings Mountain	71.52	353	⇓P	P	02 53 05.2	-0.9
	baz=72						
138A	Matatall Enter	71.59	341	⇑P	P	02 53 07.0	+0.5
	baz=72						
WHTX	Lake Whitney,	71.63	339	⇓P	P	02 53 07.1	+0.3
	baz=72						
137A	Heron Place, G	71.72	340	⇓P	P	02 53 07.8	+0.6
	baz=72						
430A	Baggett Ranch,	71.72	335	⇑P	P	02 53 07.9	+0.4
	baz=72						
332A	Millersview	71.77	336	⇓P	P	02 53 08.2	+0.5
	baz=72						
429A	Davenport Ranc	71.80	334	⇓P	P	02 53 08.9	+1.0
	baz=72						
234A	Clairette	71.84	338	⇓P	P	02 53 08.3	+0.2
	baz=72						
331A	San Angelo	71.92	336	⇓P	P	02 53 08.4	-0.2
	baz=72,SNR=5.0						
233A	Rising Star	72.09	337	⇑P	P	02 53 09.9	+0.3
	baz=72						
232A	Coleman	72.20	337	⇑P	P	02 53 10.8	+0.4
	baz=72						
330A	Mertzon	72.26	335	⇑P	P	02 53 11.4	+0.7
	baz=73						
231A	Bronte	72.46	336	⇑P	P	02 53 12.1	+0.3
	baz=73						
329A	Wagon Wheel Ra	72.61	335	⇑P	P	02 53 13.7	+0.9
	baz=73						
133A	Hamilton Ranch	72.64	338	⇓P	P	02 53 13.5	+0.6
	baz=73						
Z35A	Perchaven, San	72.82	339	⇓P	P	02 53 14.3	+0.4
	baz=73						
ABTX	Abilene, Hawle	72.88	337	⇑P	P	02 53 14.7	+0.4
	baz=73						
229A	Bryant Ranch,	72.99	335	⇓P	P	02 53 15.6	+0.6
	baz=73						
131A	Roby	73.17	336	⇑P	P	02 53 16.7	+0.7
	baz=74						
Z33A	Whitaker Ranch	73.23	338	⇑P	P	02 53 16.7	+0.3
	baz=74						
130A	Snyder	73.28	336	⇓P	P	02 53 16.9	+0.2
	baz=74						
228A	UT Block 9, Go	73.40	334	⇓P	P	02 53 18.0	+0.6
	baz=74						
Z32A	Haskell	73.46	337	⇓P	P	02 53 17.9	+0.2
	baz=74						
Y34A	Reagan Ranch,	73.55	339	⇓P	P	02 53 18.1	-0.1
	baz=74						
129A	Stewart Farms,	73.62	335	⇑P	P	02 53 19.1	+0.4
	baz=74						
Z31A	Sharp Cattle R	73.68	337	⇓P	P	02 53 19.6	+0.5
	baz=74						
128A	Castleberry Fa	73.82	335	⇓P	P	02 53 20.7	+0.8
	baz=74						
Y33A	Hilltop Ranch,	73.86	338	⇑P	P	02 53 20.4	+0.4
	baz=74						
Z30A	Sanderson Ranc	73.97	336	⇑P	P	02 53 20.6	-0.2
	baz=74						
Y32A	R-V Farms, Ver	74.10	338	⇓P	P	02 53 21.6	+0.2
	baz=74						
Z29A	Hungry Hill Ra	74.14	336	⇑P	P	02 53 22.4	+0.6
	baz=74						
X34A	Smith Ranch, M	74.18	339	⇓P	P	02 53 22.5	+0.6
	baz=74						
Y31A	Rekieta Farm,	74.31	337	⇓P	P	02 53 23.4	+0.6
	baz=75						
X32A	Elmer	74.44	338	⇓P	P	02 53 23.6	+0.2
	baz=75						
Y29A	Porterfield Fa	74.67	336	⇑P	P	02 53 25.7	+0.8
	baz=75						
W34A	Bridge Creek,	74.75	340	⇓P	P	02 53 25.4	+0.2
	baz=75						
X31A	McDonald Ranch	74.84	338	⇓P	P	02 53 26.5	+0.7
	baz=75						
TUL1	Leonard	74.86	341	⇓P	P	02 53 25.8	+0.1
	baz=75						
W33A	Caddo, Fort Co	74.88	339	⇓P	P	02 53 26.8	+0.8
	baz=75						
X30A	Coker Ranch, T	74.95	337	⇓P	P	02 53 27.7	+1.3
	baz=75						
W32A	Sentinel	75.08	338	⇑P	P	02 53 27.3	+0.2
	baz=75						
MSTX	Muleshoe	75.14	335	⇓P	P	02 53 28.4	+0.8
	baz=75						
Y27A	Causey	75.20	335	⇓P	P	02 53 29.0	+1.0
	baz=76						
X29A	Tulia	75.22	336	⇑P	P	02 53 28.7	+0.6
	baz=76						
V34A	Guthrie	75.25	340	⇑P	P	02 53 28.1	+0.1
	baz=76						
W31A	Holland Ranch,	75.35	338	⇓P	P	02 53 29.2	+0.5
	baz=76						
V33A	Lossen Ranch,	75.45	339	⇓P	P	02 53 29.7	+0.5
	baz=76						
W30A	Crocket Farms	75.54	337	⇑P	P	02 53 30.1	+0.3
	baz=76						
V32A	Arapaho	75.57	339	⇑P	P	02 53 30.7	+0.7
	baz=76						
AMTX	Amarillo	75.62	336	⇑P	P	02 53 31.2	+0.9
	baz=76						
121A	Cookes Peak, D	75.71	331	⇑P	P	02 53 32.7	+1.7
	baz=76						
U34A	Anderson Ranch	75.81	340	⇑P	P	02 53 31.3	0.0
	baz=76						
W29A	Amarillo	75.82	336	⇓P	P	02 53 31.9	+0.5
	baz=76						
V31A	Spring Creek L	75.86	338	⇓P	P	02 53 32.6	+1.0
	baz=76						
X27A	F and S Farms,	75.87	335	⇓P	P	02 53 32.8	+1.0
	baz=76						
X26A	CR and CF Fran	76.03	335	⇓P	P	02 53 33.7	+1.0
	baz=76						
Y24A	Capitan	76.05	333	⇓P	P	02 53 33.9	+1.0
	baz=76						
V30A	Spur Ranch, Mi	76.11	337	⇓P	P	02 53 34.0	+0.9
	baz=76						
U32A	Winter Ranch,	76.17	339	⇓P	P	02 53 34.0	+0.6
	baz=76						
W27A	Bowe Ranch, En	76.24	335	⇓P	P	02 53 34.6	+0.8
	baz=76,SNR=5.9						
V28A	Channing	76.59	336	⇑P	P	02 53 36.9	+1.1
	baz=77						
T33A	Patterson Ranc	76.62	340	⇑P	P	02 53 36.4	+0.6
	baz=77						
U30A	WK&E Inc. Balk	76.81	338	⇓P	P	02 53 37.9	+0.9
	baz=77						
W25A	X Bar L Ranch,	76.86	334	⇓P	P	02 53 38.4	+0.9
	baz=77						
DBIC	Dimbokro	76.99	72	P	P	02 53 38.5	0.0
	comp=Z,6.5nm,0.8s,baz=212,slow=6.2,SNR=8.6						
DBIC	Dimbokro	76.99	72	eP	P	02 53 38.4	0.0
	comp=Z,5.9nm,0.7s						
W24A	Lazy 6 Ranch,	77.19	334	⇓P	P	02 53 40.6	+1.3
	baz=78						
S32A	Newby Ranch, P	77.39	339	⇑P	P	02 53 40.6	+0.4
	baz=78						
SFIN	Lafayette	77.39	349	⇑P	P	02 53 38.9	-1.1
	baz=78						
U27A	Thompson Grove	77.39	336	⇑P	P	02 53 41.4	+1.0
	baz=78						
S31A	Mullinville	77.47	339	⇓P	P	02 53 41.4	+0.7
	baz=78						
V25A	Rancho No Teng	77.47	334	⇓P	P	02 53 41.4	+0.5
	baz=78						
U26A	Atchley Ranch,	77.68	335	⇓P	P	02 53 42.5	+0.4
	baz=78						
T28A	Walsh	77.81	337	⇓P	P	02 53 42.7	+0.1
	baz=78						
U25A	Circle Dot Ran	77.91	335	⇑P	P	02 53 44.5	+1.2
	baz=78						
V23A	Ortiz Mt. (NFS	77.95	333	⇑P	P	02 53 44.4	+0.8
	baz=78						
S29A	Ulysses	77.95	338	⇓P	P	02 53 43.7	+0.3
	baz=78						
R32A	Long Quarter,	78.00	340	⇑P	P	02 53 43.4	-0.1
	baz=78						
R31A	Burdett	78.10	339	⇓P	P	02 53 44.8	+0.6
	baz=78						
S28A	Manter	78.17	337	⇑P	P	02 53 45.4	+0.7
	baz=78						
R30A	Dighton	78.32	339	⇓P	P	02 53 45.9	+0.5
	baz=79						
T26A	Comanche Natio	78.33	336	⇑P	P	02 53 46.7	+1.0
	baz=79						
V22A	San Miguel Ran	78.36	333	⇑P	P	02 53 47.6	+1.7
	baz=79						
Q32A	Meitler Ranch,	78.49	340	⇑P	P	02 53 46.7	+0.5
	baz=79						
S27A	Las Animas	78.57	337	⇑P	P	02 53 47.6	+0.7
	baz=79						
T25A	Trinidad	78.58	335	⇓P	P	02 53 48.0	+1.0
	baz=79,SNR=5.9						
S26A	Kim	78.70	336	⇑P	P	02 53 48.6	+1.0
	baz=79						
R29A	Marienthal	78.70	338	⇑P	P	02 53 48.0	+0.5
	baz=79						
Q31A	Ellis	78.73	340	⇓P	P	02 53 48.3	+0.7
	baz=79						
U22A	Llaves	78.75	333	⇑P	P	02 53 49.8	+1.7
	baz=79						
R28A	Tribune	78.83	338	⇓P	P	02 53 49.1	+0.8
	baz=79						
T24B	San Luis	78.84	334	⇓P	P	02 53 50.1	+1.5
	baz=79						
X16A	Lo Mia Camp, P	78.84	329	⇓P	P	02 53 50.7	+2.2
	baz=79						
Q30A	Quinter	78.94	339	⇑P	P	02 53 49.8	+0.9
	baz=79						
R27A	Eads	79.09	337	⇑P	P	02 53 50.1	+0.4
	baz=79						
P32A	Huiting Farm,	79.09	340	⇑P	P	02 53 49.9	+0.3
	baz=79						
P31A	Stockton	79.21	340	⇑P	P	02 53 50.6	+0.4
	baz=80						
S24A	Houchin Ranch,	79.30	335	⇑P	P	02 53 52.4	+1.3
	baz=80						
R26A	Arlington	79.31	336	⇑P	P	02 53 52.0	+1.1
	baz=80						
R25A	Fountain Ranch	79.44	336	⇓P	P	02 53 53.0	+1.4
	baz=80						
P30A	Selden	79.48	339	⇓P	P	02 53 52.0	+0.3
	baz=80						
P29A	Atwood	79.73	339	⇑P	P	02 53 54.0	+0.9
	baz=80						
R24A	Sanders Place,	79.80	335	⇓P	P	02 53 55.2	+1.6
	baz=80,SNR=5.1						
Q26A	Hugo	79.90	337	⇑P	P	02 53 55.2	+1.1
	baz=80						
BOSA	Boshof	79.96	118	P	P	02 53 54.3	-0.6
	comp=Z,6.9nm,1.0s,baz=199,slow=0.5,SNR=4.7						
S22A	4UR Ranch, Cre	79.96	334	⇓P	P	02 53 56.4	+1.7
	baz=80						
R23A	Moffat	80.01	335	⇓P	P	02 53 55.8	+0.9
	baz=80						
MVCO	Mesa Verde	80.10	332	⇓P	P	02 53 56.7	+1.3
	baz=80						
PFO	Pinyon Flats O	80.38	325	⇓P	P	02 53 59.3	+2.4
	baz=81						
P26A	Davis Ranch, A	80.42	337	⇑P	P	02 53 57.7	+0.8
	baz=81						
O28A	Krutsinger Ran	80.46	338	⇑P	P	02 53 57.9	+0.9
	baz=81						
Q24A	Divide	80.47	335	⇑P	P	02 53 58.2	+0.7
	baz=81						
P25A	Willow Gulch B	80.64	336	⇓P	P	02 53 59.5	+1.4
	baz=81						
MURC	Murrieta	80.72	324	⇓P	P	02 54 01.8	+3.3
	baz=81						
O27A	Beecher Island	80.73	338	⇑P	P	02 53 59.6	+1.1
	baz=81						
M31A	Lambtecht Ranc	80.80	341	⇓P	P	02 53 59.6	+0.8
	baz=81						
U15A	North Rim	80.92	329	⇑P	P	02 54 02.0	+2.1
	baz=81						
GMRC	Granite Mounta	80.99	326	⇓P	P	02 54 02.3	+2.3
	baz=81						
O26A	Horse Wrangler	81.04	337	⇑P	P	02 54 01.8	+1.6
	baz=81						
O25A	Wiggins	81.17	337	⇓P	P	02 54 02.1	+1.1
	baz=82						
M30A	Dale-Ortello V	81.22	340	⇓P	P	02 54 01.6	+0.5
	baz=82						
N27A	Anderson Farm,	81.31	338	⇓P	P	02 54 02.7	+1.1
	baz=82						
ISCO	Idaho Springs	81.38	335	⇑P	P	02 54 03.3	+1.0
	baz=82						
L31A	Butterfield Fa	81.54	341	⇑P	P	02 54 03.1	+0.4
	baz=82						
O23A	Lake Granby, G	81.85	335	⇑P	P	02 54 06.4	+1.7
	baz=82						
GSC	Goldstone, Bar	81.94	325	⇑P	P	02 54 06.9	+1.8
	baz=82						
O22A	Kremmling	82.02	335	⇓P	P	02 54 06.7	+1.1
	baz=82						
K30A	Basset	82.21	341	⇑P	P	02 54 07.2	+1.0
	baz=82						
ECSD	EROS Data Cent	82.46	343	⇓P	P	02 54 07.3	-0.2
	baz=83						
N23A	Red Feather La	82.47	336	⇑P	P	02 54 08.8	+0.9
	baz=83						
SRU	San Rafael Swe	82.53	332	eP	P	02 54 09.3	+1.1
N22A	Wattenberg Ran	82.56	335	⇑P	P	02 54 09.8	+1.4
	baz=83						
O20A	White River Ci	82.59	334	⇑P	P	02 54 10.2	+1.7
	baz=83						
M24A	Cheyenne	82.63	337	⇓P	P	02 54 09.7	+1.1
	baz=83						
K28A	Ten Mile Ranch	82.73	340	⇑P	P	02 54 09.7	+0.8
	baz=83						
K27A	Flueckinger Fa	82.97	339	⇑P	P	02 54 11.1	+0.9
	baz=83						
ISA	Isabella, Lake	83.01	324	⇓P	P	02 54 13.3	+2.6
	baz=83						
TPNV	Topopah Spring	83.06	327	⇑P	P	02 54 13.0	+2.0
	baz=83						
SPMN	Marine on St.	83.08	346	⇓P	P	02 54 10.4	-0.2
	baz=83						
J29A	Okreek

baz=85
H27A **Howes** 84.70 340 ⇓P P 02 54 19.5 +0.5
baz=85
G28A **Parade** 84.79 341 ⇑P P 02 54 20.0 +0.6
baz=85
J22A **Midwest** 84.91 336 ⇓P P 02 54 20.6 +0.4
baz=85
BGU **Big Grassy Mou** 85.07 331 *e*P P 02 54 22.7 +1.6
comp=Z,7.4nm,1.8s
H25A **Fruitdale** 85.12 339 ⇓P P 02 54 21.8 +0.6
baz=85
NVAR **Mina Array Bea** 85.20 326 P P 02 54 22.4 +0.6
comp=Z,1.8nm,0.7s,baz=154,slow=5.6,SNR=5.9
F29A **Eureka** 85.21 342 ⇑P P 02 54 21.8 +0.3
baz=86
I22A **9 Mile Ranch,** 85.34 337 ⇑P P 02 54 23.0 +0.7
baz=86
G27A **Dupree** 85.34 340 ⇑P P 02 54 22.1 -0.1
baz=86
PDAR **Pinedale Array** 85.37 334 P P 02 54 22.9 +0.2
comp=Z,2.7nm,1.0s,baz=151,slow=3.4,SNR=5.8
J20A **Shoshoni** 85.38 335 ⇑P P 02 54 23.6 +1.0
baz=86
G26A **Maurine** 85.45 340 ⇑P P 02 54 22.9 +0.2
baz=86
F28A **McLaughlin** 85.48 341 ⇑P P 02 54 23.1 +0.3
baz=86
H24A **Dirks Ranch, A** 85.52 338 ⇓P P 02 54 23.6 +0.5
baz=86
I21A **Big Trails, Te** 85.53 336 ⇓P P 02 54 24.2 +0.9
baz=86
G25A **Newell** 85.59 339 ⇓P P 02 54 23.5 0.0
baz=86,SNR=5.3
E30A **Jud** 85.61 343 ⇓P P 02 54 23.3 -0.2
baz=86
J19A **Crowheart** 85.64 335 ⇑P P 02 54 24.8 +0.9
baz=86
ELK **Elko** 85.80 329 P P 02 54 25.2 +0.4
comp=Z,2.0nm,0.7s,baz=249,slow=8.0,SNR=6.4
F27A **Lemmon** 85.82 340 ⇑P P 02 54 24.9 +0.4
baz=86
H22A **Clearmont** 85.93 337 ⇑P P 02 54 25.7 +0.5
baz=86
I20A **Worland** 85.93 336 ⇓P P 02 54 25.9 +0.6
baz=86
F26A **Lodgepole** 85.98 340 ⇓P P 02 54 25.7 +0.3
baz=86
G24A **Alzada** 86.00 339 ⇑P P 02 54 25.8 +0.3
baz=86
TORD **Torodi Ar. Bea** 86.05 71 P P 02 54 25.9 -0.4
comp=Z,2.2nm,0.7s,baz=224,slow=4.9,SNR=8.6
D30A **Buchanan** 86.15 343 ⇑P P 02 54 26.3 +0.2
baz=86
H21A **Big Horn, Sher** 86.18 337 ⇓P P 02 54 26.8 +0.3
baz=86
G23A **Biddle** 86.18 338 ⇓P P 02 54 26.6 +0.2
baz=86
F25A **Bowman** 86.27 339 ⇓P P 02 54 27.2 +0.4
baz=87
I19A **Meeteetse** 86.30 335 ⇓P P 02 54 28.1 +1.0
baz=87
D29A **Pettibone, Tap** 86.30 342 ⇓P P 02 54 26.9 0.0
baz=87
H20A **Greybull** 86.36 336 ⇑P P 02 54 28.1 +0.7
baz=87
G22A **Birney** 86.47 337 ⇑P P 02 54 28.1 +0.3
baz=87
F24A **Ekalaka** 86.48 339 ⇑P P 02 54 28.3 +0.4
baz=87
E26A **Carlson Angus** 86.50 340 ⇓P P 02 54 27.6 -0.3
baz=87,SNR=5.8
AGMN **Agassiz Nation** 86.63 345 ⇑P P 02 54 28.1 -0.3
baz=87
C30A **Mose, Pekin** 86.64 343 ⇑P P 02 54 29.0 +0.6
baz=87
F23A **Volborg** 86.65 338 ⇓P P 02 54 29.0 +0.3
baz=87
D28A **Regan** 86.67 342 ⇑P P 02 54 29.4 +0.7
baz=87
I17A **Pilgrim Ck.** 86.74 334 ⇑P P 02 54 30.5 +1.2
baz=87
G21A **Lodge Grass** 86.76 337 ⇑P P 02 54 30.2 +0.9
baz=87
E25A **Miller Ranch,** 86.78 340 ⇑P P 02 54 30.0 +0.7
baz=87
D27A **Center** 86.83 341 ⇑P P 02 54 30.1 +0.6
baz=87
H19A **Powell** 86.85 335 ⇑P P 02 54 30.5 +0.7
baz=87
F22A **Rosebud** 86.96 338 ⇓P P 02 54 30.6 +0.4
baz=87
D26A **Manning** 87.00 341 ⇑P P 02 54 30.9 +0.6
baz=87,SNR=6.5
G20A **Bridger** 87.08 336 ⇑P P 02 54 31.1 +0.2
baz=87
H18A **Shoshone NF, C** 87.09 335 ⇑P P 02 54 31.6 +0.5
baz=87
E24A **Baker** 87.09 339 ⇓P P 02 54 31.4 +0.6
baz=87
B30A **Myrvik Farm, E** 87.31 344 ⇑P P 02 54 31.6 -0.2
baz=88,SNR=5.8
D25A **Fairfield** 87.35 340 ⇓P P 02 54 32.4 +0.4
baz=88
C27A **Sayler Ranch,** 87.39 341 ⇑P P 02 54 32.6 +0.5
baz=88
B29A **Wagenman Farm,** 87.56 343 ⇓P P 02 54 33.2 +0.3
baz=88
C26A **Wahner Farm, P** 87.64 341 ⇓P P 02 54 33.8 +0.4
baz=88
A30A **Hoffart Farm,** 87.76 344 ⇑P P 02 54 34.0 +0.1
baz=88
B28A **Dugan Ranch, T** 87.78 342 ⇓P P 02 54 34.2 +0.2
baz=88,SNR=5.6
HLID **Hailey** 87.85 331 ⇓P P 02 54 36.1 +1.5
baz=88
D23A **Lindsay** 87.91 339 ⇓P P 02 54 35.6 +0.9
baz=88
A29A **Manning Farm,** 87.96 343 ⇓P P 02 54 34.5 -0.3
baz=88,SNR=9.0
C24A **Savage** 88.01 340 ⇓P P 02 54 35.9 +0.8
baz=88
D22A **Cohagen** 88.17 338 ⇑P P 02 54 36.3 +0.3
baz=88
A28A **Rude Farm, Bot** 88.19 343 ⇑P P 02 54 36.3 +0.4
baz=88
E20A **Meyer Farm, Mu** 88.20 337 ⇑P P 02 54 36.6 +0.5
baz=88
B25A **Knox Farm, Ray** 88.34 341 ⇓P P 02 54 37.7 +1.0
baz=89
E19A **Rath Farm, Rou** 88.37 336 ⇑P P 02 54 37.5 +0.6
baz=89
C23A **Lambert** 88.47 339 ⇑P P 02 54 37.8 +0.5
baz=89
ULM **Lac du Bonnet** 88.49 346 P P 02 54 36.9 -0.4
comp=Z,5.6nm,0.8s,baz=185,slow=4.3,SNR=7.5
A26A **Wade Farm, Ken** 88.62 342 ⇓P P 02 54 38.4 +0.4
baz=89
C22A **Vida** 88.62 339 ⇑P P 02 54 38.6 +0.5
baz=89
D20A **Manuel Ranch,** 88.72 337 ⇑P P 02 54 38.7 +0.1
baz=89
A25A **Svangstu Ranch** 88.94 341 ⇑P P 02 54 40.4 +0.9
baz=89
B22A **Reddig Ranch S** 89.16 339 ⇓P P 02 54 41.1 +0.5
baz=90
A22A **Carney Farms,** 89.75 339 ⇑P P 02 54 43.7 +0.4
baz=90
B20A **Solberg Farm,** 89.88 338 ⇑P P 02 54 44.0 +0.1
baz=90
A20A **Cobblestone Ra** 90.25 338 ⇑P P 02 54 45.7 0.0
baz=90
I04A **Tendick Farm,** 91.35 327 ⇓P P 02 54 54.6 +3.6
baz=92
NEW **Newport** 92.83 332 ⇑P P 02 54 57.8 +0.2
baz=93
WRA **Warramunga Arr** 118.16 210 PKP PKPdf 03 00 31.5 -1.5
comp=Z,0.3nm,0.7s,baz=163,slow=1.6,SNR=6.0
BRTR **Keskin Array B** 123.93 63 PKP PKPdf 03 00 43.5 0.0
comp=Z,0.7nm,0.8s,baz=179,slow=3.0,SNR=2.9
ABKAR **Akbulak array** 143.99 54 *e*PKPdf PKPab 03 01 17.7 0.0
BRVK **Borovoye** 149.68 45 *e*PKPbc PKPbc 03 01 34.7 +0.3
BVAR **Borovoye Array** 149.75 45 PKPbc PKPbc 03 01 34.9 +0.3
comp=Z,2.1nm,0.6s,baz=295,slow=3.3,SNR=13
AAK **Ala-Archa** 154.55 66 *e*PKPbc PKPbc 03 01 46.5 +0.4
AAK *e*PKPab PKPab 03 02 01.0 +0.2
ZALV **Zalesovo Beam** 156.81 34 PKP PKPdf 03 01 39.3 -0.7
comp=Z,0.8nm,0.4s,baz=285,slow=2.9,SNR=7.5
ZALV PKPab PKPab 03 02 10.3 +0.5
comp=Z,1.5nm,0.6s,baz=328,slow=5.3,SNR=6.1
MKAR **Makanchi Array** 159.12 53 PKP PKPdf 03 01 42.9 -0.2
comp=Z,1.0nm,0.8s,baz=318,slow=3.9,SNR=8.2
MKAR PKPab PKPab 03 02 19.7 -0.4
comp=Z,0.7nm,0.8s,baz=303,slow=7.9,SNR=3.4
SONM **Songino Array** 168.53 1 PKP PKPdf 03 01 50.5 -1.4
comp=Z,0.8nm,1.0s,baz=108,slow=3.3,SNR=3.5
SONM PKPab PKPab 03 03 01.5 +0.2
comp=Z,1.0nm,0.8s,baz=353,slow=3.8,SNR=8.1

*IDC **16** 02:45:47.0±1.1, 34°.67N×23°.92E, h0km, mb3.9/9, mb1 3.9/13, mb1mx3.7/33, mbtmp3.8/13, ML3.4/3, Error ellipse: s-maj=23.4km s-min=12.2km az=150.0*
*CSEM **16** 02:45:55.1, 35°.16N×24°.18E, h22km, MD3.5*
*ATH **16** 02:45:55.1, 35°.16N×24°.18E, h22km, MD3.5/12*

ISC 16 02:45:55.2±0.9, 35°.14N±0°.07×24°.19E±0°.04, h22km±3km, n68, σ1°.963/87, mb3.9/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.27**	**1**	*e*PB	**Pb**	**02 46 01.3**	**-0.3**
VAM				*e*SB	**Sb**	**02 46 05.4**	**-0.5**
VAM	**Vamos**	**0.27**	**1**	*e*Pb	**Pb**	**02 46 01.3**	**-0.3**
VAM				*e*Sb	**Sb**	**02 46 05.4**	**-0.5**
KARN	**Karanos**	**0.34**	**319**	*e*PB	**Pb**	**02 46 02.6**	**-0.1**
KARN				*e*SB	**Sb**	**02 46 07.8**	**0.0**
KARN	**Karanos**	**0.34**	**319**	*e*Pb	**Pb**	**02 46 02.6**	**-0.1**
KARN				*e*Sb	**Sb**	**02 46 07.8**	**0.0**
SIVA	**Sivas**	**0.52**	**103**	*e*PN	**Pb**	**02 46 05.3**	**-0.4**
SIVA				*e*SN	**Sb**	**02 46 13.8**	**+1.0**
SIVA	**Sivas**	**0.52**	**103**	*e*Pn	**Pb**	**02 46 05.3**	**-0.4**
SIVA				*e*Sn	**Sb**	**02 46 13.8**	**+1.0**
IDI	**Anoyia**	**0.59**	**75**	Pg	**Pb**	**02 46 07.5**	**+0.5**
	23nm,0.3s,baz=244,slow=11,SNR=38						
IDI				Lg	Lg	02 46 21.3	
	102nm,0.3s,baz=322,slow=19,SNR=38						
ANKY	**Antikythira Is**	**1.03**	**315**	*e*PN	**Pn**	**02 46 14.8**	**+0.5**
ANKY				*e*SN	**Sn**	**02 46 28.5**	**+0.5**
ANKY	**Antikythira Is**	**1.03**	**315**	*e*Pn	**Pn**	**02 46 14.8**	**+0.5**
ANKY				*e*Sn	**Sn**	**02 46 28.5**	**+0.5**
LAST	**Lasithi**	**1.05**	**88**	*e*PN	**Pn**	**02 46 15.0**	**+0.2**
LAST				*e*SN	**Sn**	**02 46 30.5**	**+1.7**
LAST	**Lasithi**	**1.05**	**88**	*e*Pn	**Pn**	**02 46 15.0**	**+0.2**
LAST				*e*Sn	**Sn**	**02 46 30.5**	**+1.7**
NPS	**Neapolis**	**1.17**	**84**	*e*PN	**Pb**	**02 46 17.8**	**+1.1**
NPS				*e*SN	**Sn**	**02 46 33.2**	**+1.6**
NPS	**Neapolis**	**1.17**	**84**	*e*Pn	**Pb**	**02 46 17.8**	**+1.1**
NPS				*e*Sn	**Sn**	**02 46 33.2**	**+1.6**
KYTH	**Kithira**	**1.48**	**321**	*e*PN	**Pb**	**02 46 21.8**	**-0.2**
KYTH	**Kithira**	**1.48**	**321**	*e*Pn	**Pb**	**02 46 21.8**	**-0.2**
ZKR	**Zakros**	**1.66**	**90**	*e*PN	**Pb**	**02 46 25.6**	**+0.5**
ZKR				*e*SN	**Sb**	**02 46 47.3**	**+1.8**
ZKR	**Zakros**	**1.66**	**90**	*e*Pn	**Pb**	**02 46 25.6**	**+0.5**
ZKR				*e*Sn	**Sb**	**02 46 47.3**	**+1.8**
VLI	**Veliai**	**1.88**	**327**	*e*PN	**Pb**	**02 46 28.9**	**+0.1**
VLI				*e*SN	**Sb**	**02 46 51.2**	**-0.6**
VLI	**Veliai**	**1.88**	**327**	*e*Pn	**Pb**	**02 46 28.9**	**+0.1**
VLI				*e*Sn	**Sb**	**02 46 51.2**	**-0.6**
APE	**Apeiranthos**	**2.21**	**29**	*e*PB	**Pn**	**02 46 32.3**	**+1.7**
APE				*e*SN	**Sb**	**02 47 00.0**	**-1.4**
APE	**Apeiranthos**	**2.21**	**29**	*e*Pb	**Pn**	**02 46 32.3**	**+1.7**
APE				*e*Sn	**Sb**	**02 47 00.0**	**-1.4**
KARP	**Karpathos**	**2.46**	**80**	*e*PN	**Pb**	**02 46 36.6**	**-2.2**
KARP				*e*SN	**Sb**	**02 47 06.8**	**-1.8**
KARP	**Karpathos**	**2.46**	**80**	*e*Pn	**Pb**	**02 46 36.6**	**-2.2**
KARP				*e*Sn	**Sb**	**02 47 06.8**	**-1.8**
DID	**Didima**	**2.48**	**342**	*e*PN	**Pn**	**02 46 36.1**	**+1.7**
DID				*e*SN	**Sn**	**02 47 06.6**	**+2.5**
DID	**Didima**	**2.48**	**342**	*e*Pn	**Pn**	**02 46 36.1**	**+1.7**
DID				*e*Sn	**Sn**	**02 47 06.6**	**+2.5**
ITM	**Ithomi**	**2.74**	**319**	*e*PN	**Pn**	**02 46 40.3**	**+2.4**
ITM	**Ithomi**	**2.74**	**319**	*e*Pn	**Pn**	**02 46 40.3**	**+2.4**
LTK	**Loutraki**	**3.04**	**341**	*e*PN	**Pn**	**02 46 43.7**	**+1.7**
LTK	**Loutraki**	**3.04**	**341**	*e*Pn	**Pn**	**02 46 43.7**	**+1.7**
GUR	**Goura**	**3.16**	**332**	*e*PN	**Pn**	**02 46 45.6**	**+1.8**
GUR	**Goura**	**3.16**	**332**	*e*Pn	**Pn**	**02 46 45.6**	**+1.8**
KLV	**Kalavryta, Ach**	**3.33**	**331**	*e*PN	**Pn**	**02 46 48.1**	**+2.0**
KLV	**Kalavryta, Ach**	**3.33**	**331**	*e*Pn	**Pn**	**02 46 48.1**	**+2.0**
SMG	**Samos**	**3.33**	**39**	*e*PN	**Pn**	**02 46 48.8**	**+2.7**
SMG	**Samos**	**3.33**	**39**	*e*Pn	**Pn**	**02 46 48.8**	**+2.7**
ARG	**Arkhangelos**	**3.38**	**70**	*e*PN	**Pn**	**02 46 48.3**	**+1.7**
ARG	**Arkhangelos**	**3.38**	**70**	*e*Pn	**Pn**	**02 46 48.3**	**+1.7**
DRO	**Drossia**	**3.45**	**325**	*e*PN	**Pn**	**02 46 50.1**	**+2.5**
DRO	**Drossia**	**3.45**	**325**	*e*Pn	**Pn**	**02 46 50.1**	**+2.5**
DSF	**Desfina**	**3.53**	**338**	*e*PN	**Pn**	**02 46 50.3**	**+1.5**
DSF	**Desfina**	**3.53**	**338**	*e*Pn	**Pn**	**02 46 50.3**	**+1.5**
MRKA	**Markates**	**3.59**	**352**	*e*PN	**Pn**	**02 46 51.3**	**+1.7**
MRKA	**Markates**	**3.59**	**352**	*e*Pn	**Pn**	**02 46 51.3**	**+1.7**
KALE	**Kalithea**	**3.64**	**334**	*e*PN	**Pn**	**02 46 52.1**	**+1.8**
KALE	**Kalithea**	**3.64**	**334**	*e*Pn	**Pn**	**02 46 52.1**	**+1.8**
EFP	**Efpalio**	**3.76**	**331**	*e*PN	**Pn**	**02 46 54.1**	**+2.2**
EFP	**Efpalio**	**3.76**	**331**	*e*Pn	**Pn**	**02 46 54.1**	**+2.2**
SMIA	**Simia**	**3.81**	**348**	*e*PN	**Pn**	**02 46 54.5**	**+1.8**
SMIA	**Simia**	**3.81**	**348**	*e*Pn	**Pn**	**02 46 54.5**	**+1.8**
AXAR	**Agios Charalam**	**3.82**	**342**	*e*PN	**Pn**	**02 46 54.9**	**+2.1**
AXAR	**Agios Charalam**	**3.82**	**342**	*e*Pn	**Pn**	**02 46 54.9**	**+2.1**
MAKR	**Makrakomi, Fth**	**4.20**	**338**	*e*PN	**Pn**	**02 46 59.7**	**+1.7**
MAKR	**Makrakomi, Fth**	**4.20**	**338**	*e*Pn	**Pn**	**02 46 59.7**	**+1.7**
DSL	**Palaion Diasel**	**4.69**	**329**	*e*PN	**Pn**	**02 47 06.8**	**+2.1**
DSL	**Palaion Diasel**	**4.69**	**329**	*e*Pn	**Pn**	**02 47 06.8**	**+2.1**
BRTR	**Keskin Array B**	**8.80**	**56**	Pn	**Pn**	**02 48 03.2**	**+2.0**
	0.1nm,0.3s,baz=226,slow=12,SNR=4.0						
MMAI	**Mount Meron Ar**	**9.54**	**100**	Pn	Pn	02 48 06.0	-5.2
	1.0nm,0.3s,baz=283,slow=13,SNR=4.8						
EIL	**Elat**	**10.60**	**118**	Pn	Pn	02 48 19.6	-6.2
	baz=284,slow=19,SNR=3.6						
EIL				Sn	Sn	02 50 12.8	-11
	baz=296,slow=17						
GERES	**GERESS Array B**	**15.74**	**334**	Pn	**Pn**	**02 49 37.1**	**+1.6**
	0.1nm,0.3s,baz=154,slow=12,SNR=3.6						
HFS	**Hagfors**	**25.92**	**348**	P	**P**	**02 51 23.4**	**-2.1**
	3.1nm,0.6s,baz=165,slow=12,SNR=6.3						
FINES	**FINESS Array B**	**26.35**	**2**	P	**P**	**02 51 27.5**	**-1.9**
	1.7nm,0.8s,baz=162,slow=14,SNR=2.9						
NOA	**NORSAR Array B**	**27.22**	**346**	P	**P**	**02 51 37.0**	**-0.3**
	0.6nm,0.8s,baz=153,slow=11,SNR=4.5						
TORD	**Torodi Ar. Bea**	**29.88**	**228**	P	P	02 51 54.1	-7.2
	0.7nm,0.7s,baz=36,slow=9.4,SNR=5.4						
AAK	**Ala-Archa**	**39.38**	**64**	P	**P**	**02 53 22.4**	**-0.9**
	1.1nm,0.5s,baz=284,slow=6.4,SNR=4.5						
KURBB	**Kurchatov Arra**	**41.75**	**51**	P	**P**	**02 53 41.1**	**-1.5**
	1.7nm,0.4s,baz=272,slow=8.7,SNR=11						
MKAR	**Makanchi Array**	**44.45**	**56**	P	**P**	**02 54 03.3**	**-1.2**
	1.1nm,0.5s,baz=278,slow=8.1,SNR=11						
ZALV	**Zalesovo Beam**	**45.59**	**46**	P	**P**	**02 54 11.2**	**-2.2**
	1.8nm,0.5s,baz=273,slow=8.6,SNR=8.9						
SONM	**Songino Array**	**60.11**	**50**	P	**P**	**02 55 58.7**	**-2.2**
	0.3nm,0.5s,baz=284,slow=7.3,SNR=4.7						

GUC 16 02:48:18.5±0.6, 34°.96S×72°.24W, h15km±6km, ML4.3, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.66**	**131**	⇑*i*P	Pg	02 48 30.9	-0.6
TALC				*i* S	Sg	02 48 40.2	-0.1
TALC				AML	AML	02 48 41.1	
	comp=E,54μm,0.2s						
NICH	**Los Niches**	**0.83**	**93**	⇑*i*P	Pb	02 48 33.5	-1.1
NICH				*i* S	Sg	02 48 44.9	-0.8
NICH				AML	AML	02 48 53.5	
	comp=E,12μm,0.4s						
LNCH	**Linares**	**1.03**	**150**	⇓*i*P	Pb	02 48 36.7	-1.3
LNCH				*i* S	Sb	02 48 50.1	-1.1
LNCH				AML	AML	02 48 54.4	
	comp=N,22μm,0.3s						
RCDM	**Rinconada Maip**	**1.89**	**39**	*e*P	Pn	02 48 50.0	-0.3
RCDM				*e*S	Sn	02 49 13.9	0.0
RCDM				AML	AML	02 49 18.8	
	comp=E,2μm,0.7s						
ANTU	**Antumapu**	**1.92**	**44**	⇑*i*P	Pn	02 48 50.7	-0.1
ANTU				*i* S	Sn	02 49 15.8	+1.1
ANTU				AML	AML	02 49 19.1	
	comp=E,4μm,0.6s						
CLCH	**Cerro Calan**	**2.11**	**43**	*e*P	Pn	02 48 54.2	+0.9
CLCH				*e*S	Sb	02 49 21.1	-1.5
CLCH				AML	AML	02 49 27.4	
	comp=N,6μm,0.7s						

GUC 16 02:57:00.2±0.8, 36°.48S×73°.34W, h34km±12km, ML4.2, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.40**	**153**	⇓*i*P	Pb	02 57 09.0	-0.4
CCSP				*i* S	Sb	02 57 15.2	-0.6
CCSP				IAML		02 57 16.1	
	comp=E,21μm,0.5s						
LNCH	**Linares**	**1.54**	**66**	⇑*i*P	Pn	02 57 26.6	+1.3
LNCH				*e*S	Sb	02 57 46.6	-0.8
TALC	**Talca**	**1.76**	**52**	*e*P	Pb	02 57 30.5	-1.3
TALC				*e*S	Sb	02 57 52.9	-0.6
TALC				IAML		02 58 01.4	
	comp=N,5μm,0.5s						
CLCH	**Cerro Calan**	**3.84**	**38**	*e*P	Pn	02 57 58.6	+1.5

*IDC **16** 03:04:33.5±0.4, 36°.50S×73°.23W, h0km, mb5.1/19, mb1 5.2/22, mb1mx5.2/24, mbtmp5.1/22, ML4.9/3, MS5.7/8, Ms1 5.6/8, ms1mx5.3/26, Error ellipse: s-maj=18.9km s-min=10.8km az=84.0*
*GUC **16** 03:04:35.4±0.7, 37°.17S×73°.43W, h45km±4km, ML6.3*
*ISCJB **16** 03:04:37.5±0.1, 36°.37S±0°.03×73°.02W±0°.06, h33km, mb5.4/160, MS5.9/8, Error ellipse: s-maj=7.1km s-min=3.8km az=151.3*
*MOS **16** 03:04:38.0±1.2, 36°.40S×73°.19W, h33km, mb5.5/51, Error ellipse: s-maj=16.3km s-min=6.7km az=102.3*
*BJI **16** 03:04:39.4, 36°.40S×73°.00W, h36km, mB6.0/8, Ms6.2/14, Ms7 6.1/18*
*NEIC **16** 03:04:40.0±0.9, 36°.41S×73°.07W, h42km±8km, mb5.4/139, Error ellipse: s-maj=8.5km s-min=4.4km az=72.0*
NEIC Felt [V] at Cauquenes and Concepcion; [IV] at Chiguayante, Chillan and Curico; [III] at Talca; [II] at Santiago and Valdivia. Also felt at Angol, Los Angeles, Mulchen, Talcahuano and Temuco.
*GCMT **16** 03:04:40.0±0.2, 36°.68S×73°.76W, h17km±1km, MW5.9/96, Moment Tensor Solution. s43,c62; s96,c165; Duration: 2s1 Moment tensor: Scale 10^{17}Nm; M_r3.73±.20; $M_{\theta\theta}$-0.09±.10; $M_{\phi\phi}$-3.64±.14; $M_{r\theta}$0.59±.30; $M_{\theta\phi}$-0.56±.07; $M_{\phi r}$-7.35±.68; Best double couple: $M_0$8.26100×10^{17} NP1:ϕ_s177.00000°, δ77.00000°, λ85.00000°. NP2: ϕ_s19.00000°, δ14.00000°, λ112.00000°. Principal axes: T 8.3420, Plg58.0000°, Azm80.0000°; N -0.1630, Plg5.0000°, Azm178.0000°; P -8.1800, Plg32.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 16 03:04:37.7±0.2, 36°.50S±0°.04×73°.30W±0°.06, h27km, n858, σ1°.05/882, mb5.5/159, MS5.9/8, 208C-225D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.38**	**155**	⇓*i*P	**Pb**	**03 04 45.6**	**-0.5**
CCSP				*i* S1	**Sb**	**03 04 52.9**	**+1.2**
LNCH	**Linares**	**1.52**	**65**	⇑*i*P	**Pb**	**03 05 07.0**	**+1.7**
LNCH				*i* S	Sb	03 05 31.0	+6.8
LNCH				AML	AML	03 05 44.2	
	comp=E,235μm,0.7s						
TALC	**Talca**	**1.75**	**51**	*e*P9	**Pn**	**03 05 06.3**	**+0.1**
TALC				*i* S1	**Sb**	**03 05 34.1**	**+3.5**
TALC				AML	AML	03 05 40.7	
	comp=E,214μm,0.4s						
NICH	**Los Niches**	**2.26**	**49**	*e*P9	**Pn**	**03 05 14.1**	**+0.9**
NICH				*i* S1	**Sb**	**03 05 46.6**	**+1.4**
NICH				AML	AML	03 05 58.9	
	comp=E,128μm,0.6s						
PLCA	**Paso Flores**	**4.74**	**154**	*e*P	**Pn**	**03 05 48.6**	**+1.1**
PLCA	**Paso Flores**	**4.74**	**154**	Pn	**Pn**	**03 05 47.1**	**-0.4**
	comp=E,25nm,0.3s,baz=329,slow=11,SNR=63						
PLCA				Lg	Lg	03 07 02.0	
	comp=E,31nm,0.3s,baz=277,slow=16,SNR=2.1						
PLCA	**Paso Flores**	**4.74**	**154**	*e*Pn	**Pn**	**03 05 48.6**	**+1.1**
PLCA				Lg	Lg	03 07 02.0	
CFAA	**Coronel Fontan**	**6.45**	**42**	Pn	**Pn**	**03 06 10.5**	**-0.4**
	comp=E,9.7nm,0.3s,baz=211,slow=13,SNR=109						
CFAA				Sn	**Sn**	**03 07 25.8**	**+2.2**
	comp=E,3.5nm,0.3s,baz=224,slow=11,SNR=3.5						
CFAA				LR	LR	03 08 45.3	
	comp=E,6μm,18.2s,baz=222,slow=39						
LCO	**Las Campanas**	**7.79**	**17**	*e*Pn	**Pn**	**03 06 26.8**	**-2.7**
TRQA	**Tornquist**	**9.16**	**103**	*e*Pn	**Pn**	**03 06 48.7**	**+0.6**
LVC	**Limon Verde**	**14.36**	**17**	*e*Pn	Pn	03 07 54.2	-5.2
USHA	**Ushuaia**	**18.64**	**171**	P	**Pn**	**03 08 54.0**	**+0.5**
	comp=E,1.3nm,0.3s,baz=324,slow=8.4,SNR=23						
EFI	**East Falkland**	**18.65**	**149**	*e*P	**P**	**03 08 53.2**	**0.0**
EFI				pmax	pmax		
	comp=Z,780nm,1.9s						
EFI	**East Falkland**	**18.65**	**149**	*e*P	**P**	**03 08 53.1**	**0.0**
	comp=Z,780nm,1.9s						
LPAZ	**La Paz**	**20.65**	**14**	*e*P	**P**	**03 09 16.2**	**+0.2**
LPAZ				pmax	pmax		
	comp=Z,115nm,1.1s						
LPAZ	**La Paz**	**20.65**	**14**	P	**P**	**03 09 15.8**	**-0.2**
	comp=Z,36nm,0.7s,baz=178,slow=4.0,SNR=72						
LPAZ	**La Paz**	**20.65**	**14**	*e*P	**P**	**03 09 16.2**	**+0.2**
	comp=Z,115nm,1.1s						
SIV	**San Ignacio**	**23.14**	**31**	P	**P**	**03 09 41.5**	**-0.5**
	comp=Z,104nm,1.0s,baz=227,slow=9.7,SNR=123						
SIV				LR	LR	03 20 32.9	
	comp=Z,30μm,18.4s,baz=238,slow=42						
NNA	**Nana**	**24.62**	**352**	*e*P	**P**	**03 09 56.2**	**+0.2**
NNA	**Nana**	**24.62**	**352**	P	**P**	**03 09 55.6**	**-0.4**
	comp=Z,33nm,0.8s,baz=177,slow=9.6,SNR=15						
NNA	**Nana**	**24.62**	**352**	*e*P	**P**	**03 09 56.2**	**+0.2**
	comp=Z,58nm,1.0s						
PMSA	**Palmer Station**	**28.84**	**172**	*e*P	P	03 10 37.1	+3.7
	comp=Z,269nm,1.6s						
SAML	**Samuel**	**28.93**	**21**	*e*P	**P**	**03 10 33.6**	**-1.1**
	comp=Z,35nm,1.0s						
ATAH	**Atahualpa**	**29.60**	**350**	P	**P**	**03 10 41.6**	**+0.5**
	comp=Z,7.7nm,0.8s,baz=151,slow=8.3,SNR=4.6						
BDFB	**Brasilia**	**30.62**	**54**	P	**P**	**03 10 48.4**	**-1.4**
	comp=Z,50nm,1.0s,baz=225,slow=7.1,SNR=41						
BDFB				LR	LR	03 24 17.4	
	comp=Z,34μm,18.0s,baz=230,slow=39						
HOPE	**Hope Point**	**30.91**	**137**	*e*P	**P**	**03 10 52.2**	**+0.3**
	comp=Z,79nm,0.9s						
RPN	**Rapa Nui**	**31.86**	**277**	LR	LR	03 20 00.2	
	comp=Z,10μm,21.7s,baz=98,slow=29						
OTAV	**Otavalo**	**36.87**	**351**	*e*P	**P**	**03 11 45.0**	**+0.5**
	comp=Z,150nm,1.7s						
PTGA	**Pitinga**	**37.68**	**22**	P	**P**	**03 11 49.5**	**-1.3**
	comp=Z,51nm,0.6s,baz=212,slow=12,SNR=50						
PTGA	**Pitinga**	**37.68**	**22**	*e*P	**P**	**03 11 49.6**	**-1.3**
	comp=Z,55nm,0.7s						
ROSC	**El Rosal**	**41.15**	**358**	P	**P**	**03 12 21.7**	**+1.4**
	comp=Z,18nm,0.8s,baz=115,slow=4.5,SNR=10						
ROSC	**El Rosal**	**41.15**	**358**	*e*P	**P**	**03 12 22.5**	**+2.2**
SDV	**Santo Domingo**	**45.22**	**4**	*e*P	**P**	**03 12 51.4**	**-1.5**
	comp=Z,58nm,0.8s						
BCIP	**Isla Barro Col**	**45.84**	**351**	*e*P	**P**	**03 12 56.5**	**-1.0**
	comp=Z,65nm,1.2s						
RCBR	**Riachuelo**	**45.85**	**57**	*e*P	**P**	**03 12 58.9

comp=Z,130nm,1.0s,baz=141,slow=4.0,SNR=100
QSPA South Pole Qui 53.74 180 eP P 03 13 57.1 -0.2
comp=Z,166nm,1.1s
RKT Rikitea 54.32 266 eLR LR 03 29 43.2
comp=Z,7µm,27.8s
RKT Rikitea 54.32 266 eT T 04 12 10.2
comp=Z,5.1nm,0.3s
NVL N'lazarevskaya 54.45 156 eP P 03 14 01.9 -0.3
NVL pmax pmax
comp=Z,148nm,0.9s
CRPR Cabo Rojo, PR 54.53 7 eP P 03 14 00.7 -2.5
comp=Z,104nm,1.0s
OBIP Obispado Ponce 54.62 8 eP P 03 14 02.7 -1.2
comp=Z,113nm,1.0s
CELP Cerrillos 54.65 8 eP P 03 14 02.8 -1.4
LSP Las Mesas 54.70 7 eP P 03 14 02.4 -2.1
HUMP Col San Antoni 54.80 9 eP P 03 14 04.8 -0.5
LRS Lares 54.84 8 eP P 03 14 03.6 -1.9
AOPR Arecibo Observ 54.90 8 eP P 03 14 04.6 -1.5
comp=Z,46nm,0.8s
PCDR Punta Cana, DR 54.91 6 eP P 03 14 04.8 -1.3
CBYP Canovanas 54.93 9 eP P 03 14 04.0 -2.3
comp=Z,73nm,0.9s
ANWB Willy Bob 54.97 13 eP P 03 14 05.4 -1.1
comp=Z,96nm,0.9s
SDDR Presa de Saban 55.22 2 eP P 03 14 08.8 +0.4
comp=Z,20nm,0.9s
SMN1 Samana, DR 55.52 5 eP P 03 14 10.2 -0.3
GTBY Guantanamo Bay 56.15 358 eP P 03 14 14.2 -0.8
comp=Z,37nm,0.6s
CMIG Matias Romero 57.07 335 P P 03 14 23.3 +1.7
comp=Z,2.0nm,0.8s,baz=128,slow=6.2,SNR=5.2
TEIG Tepich 58.17 343 eP P 03 14 29.1 -0.2
comp=Z,55nm,1.0s
SBA Scott Base 60.42 192 eP P 03 14 45.7 +1.5
SBA pmax pmax
comp=Z,73nm,1.4s
SBA Scott Base 60.42 192 eP P 03 14 45.7 +1.5
comp=Z,73nm,1.4s
ASCN Ascension 60.47 77 eP P 03 14 44.7 -0.7
comp=Z,144nm,0.7s
VNDA Vanda 61.45 192 eP P 03 14 51.5 +0.3
VNDA pmax pmax
comp=Z,57nm,1.4s
VNDA Vanda 61.45 192 P P 03 14 52.0 +0.8
comp=Z,17nm,1.1s,baz=140,slow=5.0,SNR=27
VNDA Vanda 61.45 192 eP P 03 14 51.5 +0.3
comp=Z,57nm,1.4s
SHEL Horse Pasture 62.76 90 eP P 03 15 01.2 +0.3
SHEL pmax pmax
comp=Z,133nm,0.9s
SHEL Horse Pasture 62.76 90 eP P 03 15 01.2 +0.3
comp=Z,133nm,0.9s
SYO Syowa Base 63.92 158 ⇓iP P 03 15 05.6 -2.1
H06S1 SOCORRO T 65.45 320 T T 04 26 27.1
H06E1 SOCORRO T-PHAS 65.47 321 T T 04 26 25.1
TBI Tubuai 65.76 258 eT T 04 26 28.3
comp=Z,8.8nm,0.3s
MEH Mehetia 67.52 264 eT T 04 28 39.5
comp=Z,102nm,0.2s
034A Hebbronville 67.60 336 ⇓P P 03 15 32.7 +0.8
baz=68
TIGA Tifton 68.27 351 ⇓P P 03 15 36.2 +0.2
baz=69
TIGA Tifton 68.27 351 eP P 03 15 35.1 -0.9
comp=Z,47nm,0.8s
933A Laredo 68.30 335 ⇓P P 03 15 36.9 +0.6
baz=69
835A Beeville 68.45 337 ⇓P P 03 15 38.2 +1.0
baz=69
TVO Taravao 68.52 263 eT T 04 29 54.7
comp=Z,2.7nm,0.3s
834A Tilden 68.54 336 ⇑P P 03 15 38.8 +1.1
baz=69
TIAR Tiarei 68.72 264 eT T 04 30 09.2
comp=Z,18nm,0.2s
PAE Paea 68.85 263 eT T 04 30 19.1
comp=Z,1.3nm,0.2s
PPT2 Papeete2 68.88 263 eLR LR 03 36 28.2
comp=Z,9µm,23.5s
PPT2 Papeete2 68.88 263 eT T 04 30 21.2
comp=Z,2.7nm,0.3s
PPT Papeete 68.89 263 LR LR 03 37 30.4
comp=Z,6µm,20.9s,baz=122,slow=29
735A Kenedy 68.97 337 ⇓P P 03 15 41.3 +0.9
baz=69
833A Chaparral WMA, 69.00 335 ⇑P P 03 15 40.7 +0.1
baz=69,SNR=7.3
832A Faith Ranch, C 69.16 335 ⇓P P 03 15 42.1 +0.5
baz=70
734A La Parita Cree 69.21 336 ⇑P P 03 15 42.6 +0.7
baz=70
636A Smothers Creek 69.33 338 ⇑P P 03 15 43.1 +0.5
baz=70,SNR=7.2
733A Divot King Ran 69.33 336 ⇑P P 03 15 43.4 +0.7
baz=70
HKT Hockley 69.41 339 eP P 03 15 44.3 +1.3
HKT pmax pmax
comp=Z,75nm,1.7s
HKT Hockley 69.41 339 eP P 03 15 44.2 +1.3
comp=Z,75nm,1.7s
635A Leesville 69.46 337 ⇑P P 03 15 44.3 +0.9
baz=70
732A Laxson Ranch, 69.56 335 ⇓P P 03 15 44.2 +0.1
baz=70,SNR=13
634A China Grove, S 69.64 337 ⇓P P 03 15 45.2 +0.6
baz=70
536A Bastrop 69.89 338 ⇑P P 03 15 46.4 +0.4
baz=70
633A Saathoff Ranch 69.97 336 ⇑P P 03 15 47.1 +0.5
baz=70
535A Dale 70.00 338 ⇑P P 03 15 47.2 +0.5
baz=70
438A Sam Houston St 70.06 340 ⇑P P 03 15 48.1 +1.0
baz=70
GOGA Godfrey 70.20 351 eP P 03 15 47.9 0.0
GOGA pmax pmax
comp=Z,25nm,0.7s
GOGA Godfrey 70.20 351 eP P 03 15 47.9 0.0
comp=Z,25nm,0.7s
632A Uvalde 70.22 336 ⇑P P 03 15 48.5 +0.3
baz=70,SNR=12
VBMS Vicksburg 70.24 345 eP P 03 15 49.7 +1.6
comp=Z,66nm,0.8s
340A Bronson 70.27 341 ⇑P P 03 15 48.7 +0.4
baz=71,SNR=15
534A Blanco 70.28 337 ⇑P P 03 15 48.7 +0.2
baz=71
LRAL Lakeview Retre 70.35 348 eP P 03 15 49.0 +0.1
comp=Z,49nm,1.4s
339A Huntington 70.36 341 ⇑P P 03 15 49.7 +0.8
baz=71,SNR=6.8
631A Perdido Creek 70.40 335 ⇑P P 03 15 49.6 +0.4
baz=71,SNR=7.5
436A Wall Ranch, Ga 70.46 339 ⇓P P 03 15 50.2 +0.6
baz=71
533A Kerrville 70.49 336 ⇓P P 03 15 50.4 +0.6
baz=71,SNR=7.9
338A Crockett 70.59 340 ⇓P P 03 15 51.4 +1.1
baz=71,SNR=8.1
435B Jarrell 70.70 338 ⇓P P 03 15 51.9 +0.9
baz=71
337A Centerville 70.71 340 ⇓P P 03 15 52.1 +1.0
baz=71
JSC Jenkinsville 70.81 353 eP P 03 15 54.0 +2.4
JSC pmax pmax
comp=Z,26nm,0.8s
JSC Jenkinsville 70.81 353 eP P 03 15 54.0 +2.4
comp=Z,26nm,0.8s
532A Rocksprings 70.83 336 ⇑P P 03 15 52.2 +0.3
baz=71,SNR=19
434A Burnet 70.94 337 ⇑P P 03 15 52.8 +0.2
baz=71,SNR=18
239A Gary 70.99 341 ⇑P P 03 15 53.4 +0.6
baz=71,SNR=7.4
336A Riesel 71.05 339 ⇑P P 03 15 53.5 +0.4
baz=71,SNR=11
MAW Mawson 71.08 164 LR LR 03 46 59.4
comp=Z,6µm,18.4s,baz=234,slow=36
531A Rocksprings 71.08 335 ⇑P P 03 15 53.6 +0.2
baz=71,SNR=14
JCT Junction City 71.12 336 eP P 03 15 54.2 +0.5
JCT pmax pmax
comp=Z,36nm,0.9s
JCT Junction City 71.12 336 ⇑P P 03 15 54.1 +0.5
baz=71,SNR=9.1
JCT Junction City 71.12 336 eP P 03 15 54.1 +0.5
comp=Z,36nm,0.9s

335A Moody 71.12 338 ⇓P P 03 15 54.2 +0.6
baz=71
433A Art 71.14 337 ⇓P P 03 15 53.6 -0.1
baz=72,SNR=14
238A Jacksonville 71.15 341 ⇓P P 03 15 54.2 +0.5
baz=72
237A Washetta, Mont 71.33 340 ⇓P P 03 15 55.2 +0.4
baz=72
530A J-C Ranch, Com 71.33 335 ⇑P P 03 15 55.2 +0.2
baz=72,SNR=14
334A Lometa 71.41 338 ⇓P P 03 15 55.5 +0.1
baz=72,SNR=31
TXAR Lajitas Array 71.44 332 P P 03 15 55.7 0.0
comp=Z,4.8nm,0.6s,baz=149,slow=8.3,SNR=30
432A Menard 71.48 336 ⇓P P 03 15 55.6 -0.3
baz=72,SNR=7.0
CNNC Cliffs of the 71.50 356 eP P 03 15 56.8 +1.0
comp=Z,45nm,0.8s
431A Sonora 71.57 335 ⇓P P 03 15 56.6 +0.2
baz=72,SNR=10
529A Stev Forest Ra 71.62 334 ⇑P P 03 15 56.7 -0.1
baz=72,SNR=12
333A Richland Sprin 71.64 337 ⇓P P 03 15 56.6 -0.1
baz=72,SNR=13
KMSC Kings Mountain 71.67 353 ⇓P P 03 15 56.4 -0.4
baz=72
KMSC Kings Mountain 71.67 353 eP P 03 15 55.7 -1.1
comp=Z,33nm,0.8s
138A Matatall Enter 71.76 341 ⇓P P 03 15 57.7 +0.3
baz=72
WHTX Lake Whitney, 71.79 339 ⇑P P 03 15 57.9 +0.3
baz=72,SNR=12
137A Heron Place, G 71.88 340 ⇓P P 03 15 58.4 +0.3
baz=72,SNR=9.7
430A Baggett Ranch, 71.88 335 ⇑P P 03 15 58.3 +0.1
baz=72,SNR=14
332A Millersview 71.93 336 ⇓P P 03 15 58.5 0.0
baz=72,SNR=14
429A Davenport Ranc 71.96 334 ⇓P P 03 15 58.7 -0.1
baz=72,SNR=15
234A Clairette 72.01 338 ⇓P P 03 15 58.7 -0.2
baz=72,SNR=12
331A San Angelo 72.09 336 ⇓P P 03 15 59.2 -0.3
baz=72,SNR=20
OXF Oxford 72.23 346 eP P 03 15 59.1 -1.1
OXF pmax pmax
comp=Z,43nm,0.8s
OXF Oxford 72.23 346 eP P 03 15 59.1 -1.1
comp=Z,43nm,0.8s
233A Rising Star 72.25 337 ⇑P P 03 16 00.6 +0.1
baz=73,SNR=14
135A Vickery Place, 72.31 339 ⇓P P 03 16 00.2 -0.5
baz=73
SWET Sewanee 72.32 349 eP P 03 15 59.1 -1.7
comp=Z,107nm,0.7s
CPCT Cooper Cave 72.34 350 eP P 03 16 02.9 +2.1
232A Coleman 72.37 337 ⇑P P 03 16 01.1 0.0
baz=73,SNR=18
330A Mertzon 72.43 335 ⇑P P 03 16 01.5 -0.1
baz=73,SNR=7.9
TKL Tuckaleechee C 72.45 351 eP P 03 16 00.2 -1.3
TKL Tuckaleechee C 72.45 351 eP P 03 16 00.2 -1.3
134A White-Moore Ra 72.52 338 ⇑P P 03 16 02.0 0.0
baz=73,SNR=6.0
231A Bronte 72.63 336 ⇓P P 03 16 02.4 -0.3
baz=73,SNR=16
329A Wagon Wheel Ra 72.78 335 ⇑P P 03 16 04.2 +0.6
baz=73,SNR=11
133A Hamilton Ranch 72.81 338 ⇓P P 03 16 03.8 +0.1
baz=73,SNR=19
230A Sterling City 72.85 335 ⇑P P 03 16 03.9 -0.2
baz=73
Z35A Perchaven, San 72.99 339 ⇓P P 03 16 04.9 +0.2
baz=73,SNR=12
ABTX Abilene, Hawle 73.05 337 ⇑P P 03 16 05.1 0.0
baz=73,SNR=15
ABTX Abilene, Hawle 73.05 337 eP P 03 16 05.4 +0.2
comp=Z,119nm,1.5s
UALR University of 73.10 344 eP P 03 16 04.5 -0.9
comp=Z,13nm,1.0s
229A Bryant Ranch, 73.16 335 ⇓P P 03 16 05.7 -0.2
baz=74,SNR=7.3
MIAR Mount Ida 73.17 343 eP P 03 16 05.3 -0.5
MIAR pmax pmax
comp=Z,36nm,1.4s
MIAR Mount Ida 73.17 343 eP P 03 16 05.2 -0.5
comp=Z,36nm,1.4s
Z34A Collier Ranch, 73.22 339 ⇓P P 03 16 06.1 0.0
baz=74
TZTN Tazewell 73.30 351 eP P 03 16 06.7 +0.2
comp=Z,23nm,0.8s
131A Roby 73.33 336 ⇓P P 03 16 07.0 +0.1
baz=74,SNR=14
Z33A Whitaker Ranch 73.39 338 ⇑P P 03 16 07.2 0.0
baz=74,SNR=20
130A Snyder 73.45 336 ⇓P P 03 16 07.5 0.0
baz=74,SNR=6.3
WVT Waverly 73.52 348 eP P 03 16 06.2 -1.5
WVT pmax pmax
comp=Z,47nm,0.9s
WVT Waverly 73.52 348 eP P 03 16 06.2 -1.5
comp=Z,47nm,0.9s
228A UT Block 9, Go 73.56 334 ⇓P P 03 16 08.3 +0.1
baz=74,SNR=8.5
Z32A Haskell 73.63 337 ⇓P P 03 16 08.4 -0.1
baz=74,SNR=17
Y34A Reagan Ranch, 73.72 339 ⇑P P 03 16 09.2 +0.2
baz=74,SNR=7.1
129A Stewart Farms, 73.78 335 ⇓P P 03 16 09.6 +0.1
baz=74,SNR=5.5
Z31A Sharp Cattle R 73.85 337 ⇓P P 03 16 09.9 0.0
baz=74,SNR=18
UTMT University of 73.91 347 eP P 03 16 10.7 +0.7
comp=Z,84nm,0.8s
JSRW J. Sargeant Re 73.95 356 eP P 03 16 09.7 -0.5
128A Castleberry Fa 73.98 335 ⇓P P 03 16 10.7 -0.1
baz=74,SNR=11
Y33A Hilltop Ranch, 74.02 338 ⇓P P 03 16 11.0 +0.2
baz=74,SNR=11
Z30A Sanderson Ranc 74.14 336 ⇓P P 03 16 11.4 -0.2
baz=74,SNR=13
MNTX Cornudas Mount 74.20 332 eP P 03 16 11.3 -0.6
comp=Z,11nm,0.9s
Y32A R-V Farms, Ver 74.26 338 ⇓P P 03 16 12.4 +0.1
baz=75,SNR=8.2
GDL2 Guadalupe Moun 74.27 333 eP P 03 16 12.1 -0.4
Z29A Hungry Hill Ra 74.30 336 ⇑P P 03 16 12.6 +0.1
baz=75,SNR=17
X34A Smith Ranch, M 74.34 339 ⇓P P 03 16 13.2 +0.5
baz=75,SNR=18
PARMO Parma 74.38 346 eP P 03 16 13.5 +0.7
Y31A Rekieta Farm, 74.48 337 ⇑P P 03 16 14.0 +0.5
baz=75,SNR=7.4
X33A Lawton 74.48 339 ⇑P P 03 16 13.5 0.0
baz=75,SNR=7.0
SUR Sutherland 74.53 119 P P 03 16 16.0 +1.6
comp=Z,822nm,0.9s,SNR=11
SUR Sutherland 74.53 119 eP P 03 16 15.2 +0.8
comp=Z,116nm,0.9s
Z28A Tucker Farm, M 74.56 335 ⇓P P 03 16 14.4 +0.3
baz=75,SNR=5.2
X32A Elmer 74.60 338 ⇓P P 03 16 14.4 +0.2
baz=75,SNR=5.6
Y30A Stafford Cattl 74.61 336 ⇓P P 03 16 14.5 +0.2
baz=75,SNR=6.0
PBMO Poplar Bluff 74.62 346 eP P 03 16 12.9 -1.4
comp=Z,41nm,0.7s
WMOK Wichita Mounta 74.75 338 eP P 03 16 15.4 +0.3
WMOK pmax pmax
comp=Z,60nm,1.6s
WMOK Wichita Mounta 74.75 338 eP P 03 16 15.3 +0.3
comp=Z,60nm,1.6s
Y29A Porterfield Fa 74.84 336 ⇑P P 03 16 15.9 +0.2
baz=75,SNR=9.8
W34A Bridge Creek, 74.92 339 ⇑P P 03 16 16.1 0.0
baz=75,SNR=6.3
W34A Bridge Creek, 74.92 339 eP P 03 16 16.3 +0.3
comp=Z,25nm,0.8s
X31A McDonald Ranch 75.01 337 ⇓P P 03 16 16.8 +0.3
baz=75,SNR=20
TUL1 Leonard 75.02 341 ⇑P P 03 16 16.8 +0.3
baz=75,SNR=25
TUL1 Leonard 75.02 341 eP P 03 16 15.4 -1.2
comp=Z,50nm,0.8s
W33A Caddo, Fort Co 75.04 339 ⇑P P 03 16 17.5 +0.8
baz=75,SNR=16
Y28A McKinney Farm, 75.08 335 ⇑P P 03 16 17.6 +0.6
baz=75,SNR=8.4

X30A Coker Ranch, T 75.12 337 ⇑P P 03 16 17.5 +0.2
baz=75,SNR=9.3
W32A Sentinel 75.25 338 ⇑P P 03 16 18.6 +0.6
baz=76,SNR=39
USIN University of 75.28 348 eP P 03 16 17.3 -0.7
comp=Z,55nm,0.8s
SIUC Southern Illin 75.30 347 eP P 03 16 18.5 +0.3
comp=Z,35nm,0.6s
MSTX Muleshoe 75.31 335 ⇑P P 03 16 18.8 +0.4
baz=76,SNR=11
MSTX Muleshoe 75.31 335 eP P 03 16 17.9 -0.6
comp=Z,21nm,0.8s
WCI Wyandotte Cave 75.33 349 eP P 03 16 16.4 -1.9
WCI pmax pmax
comp=Z,21nm,1.1s
WCI Wyandotte Cave 75.33 349 eP P 03 16 16.4 -1.9
comp=Z,21nm,1.1s
Y27A Causey 75.37 335 ⇑P P 03 16 19.0 +0.3
baz=76
X29A Tulia 75.39 336 ⇓P P 03 16 19.1 +0.3
baz=76,SNR=12
V34A Guthrie 75.41 340 ⇑P P 03 16 19.1 +0.3
baz=76,SNR=13
V34A Guthrie 75.41 340 eP P 03 16 18.8 -0.1
comp=Z,32nm,0.8s
319A Douglas 75.47 329 ⇑P P 03 16 20.1 +0.6
baz=76
W31A Holland Ranch, 75.51 338 ⇑P P 03 16 19.7 +0.3
baz=76,SNR=6.2
V33A Lossen Ranch, 75.61 339 ⇑P P 03 16 20.8 +0.8
baz=76,SNR=19
X28A Dimmitt 75.62 336 ⇓P P 03 16 20.8 +0.7
baz=76
W30A Crocket Farms 75.70 337 ⇑P P 03 16 21.3 +0.7
baz=76
V32A Arapaho 75.74 339 ⇓P P 03 16 21.3 +0.5
baz=76
AMTX Amarillo 75.78 336 ⇓P P 03 16 21.3 +0.2
baz=76
AMTX Amarillo 75.78 336 eP P 03 16 20.6 -0.5
comp=Z,157nm,1.8s
121A Cookes Peak, D 75.88 330 ⇓P P 03 16 22.7 +0.9
baz=76,SNR=6.1
U34A Anderson Ranch 75.98 340 ⇑P P 03 16 22.5 +0.4
baz=76,SNR=9.5
U34A Anderson Ranch 75.98 340 eP P 03 16 22.8 +0.7
comp=Z,28nm,0.8s
W29A Amarillo 75.99 336 ⇓P P 03 16 22.8 +0.6
baz=76,SNR=16
V31A Spring Creek L 76.03 338 ⇑P P 03 16 23.6 +1.2
baz=76,SNR=6.4
X27A F and S Farms, 76.04 335 ⇑P P 03 16 23.1 +0.5
baz=76
Z22A Elephant Butte 76.19 331 ⇓P P 03 16 24.6 +1.1
baz=76,SNR=6.6
X26A CR and CF Fran 76.19 334 ⇑P P 03 16 24.0 +0.5
baz=76,SNR=11
Y24A Capitan 76.21 333 ⇑P P 03 16 24.5 +0.8
baz=76,SNR=12
V30A Spur Ranch, Mi 76.28 337 ⇑P P 03 16 25.1 +1.2
baz=77
BLO Bloomington 76.28 349 eP P 03 16 23.0 -0.7
BLO pmax pmax
comp=Z,30nm,0.7s
BLO Bloomington 76.28 349 eP P 03 16 23.0 -0.7
comp=Z,30nm,0.7s
U32A Winter Ranch, 76.34 339 ⇓P P 03 16 24.8 +0.7
baz=77,SNR=15
SLM Saint Louis 76.39 346 eP P 03 16 23.9 -0.4
SLM pmax pmax
comp=Z,69nm,0.8s
SLM Saint Louis 76.39 346 eP P 03 16 23.9 -0.4
comp=Z,69nm,0.8s
W27A Bowe Ranch, En 76.40 335 ⇓P P 03 16 25.1 +0.4
baz=77,SNR=29
X25A Clemmons Ranch 76.47 334 ⇓P P 03 16 25.4 +0.2
baz=77,SNR=5.7
U31A Nine Bar Ranch 76.58 338 ⇓P P 03 16 26.0 +0.5
baz=77
W26A Owens Ranch, T 76.67 335 ⇑P P 03 16 26.8 +0.7
baz=77,SNR=8.4
V28A Channing 76.75 336 ⇑P P 03 16 27.3 +0.7
baz=77,SNR=5.8
T33A Patterson Ranc 76.78 340 ⇑P P 03 16 27.6 +1.1
baz=77
ACSO Alum Creek Sta 76.88 352 eP P 03 16 25.6 -1.5
comp=Z,59nm,0.8s
TUC Tucson 76.92 328 eP P 03 16 29.0 +1.4
TUC pmax pmax
comp=Z,24nm,1.3s
TUC Tucson 76.92 328 eP P 03 16 29.0 +1.4
comp=Z,24nm,1.3s
DBIC Dimbokro 76.96 72 eP P 03 16 28.7 +0.5
DBIC Dimbokro 76.96 72 eP P 03 16 27.7 -0.5
DBIC pmax pmax
comp=Z,101nm,0.8s
DBIC Dimbokro 76.96 72 P P 03 16 28.1 0.0
comp=Z,100nm,0.8s,baz=202,slow=5.8,SNR=74
DBIC Dimbokro 76.96 72 eP P 03 16 27.6 -0.5
comp=Z,100nm,0.8s
V27A Dan Oppiter Fa 76.96 336 ⇑P P 03 16 28.3 +0.5
baz=77,SNR=7.1
U30A WK&E Inc. Balk 76.97 338 ⇑P P 03 16 28.5 +0.7
baz=77,SNR=9.8
LPM Los Pinos Moun 77.00 332 eP P 03 16 29.0 +0.9
W25A X Bar L Ranch, 77.03 334 ⇑P P 03 16 28.8 +0.6
baz=77,SNR=6.5
T32A Huddler Ranch, 77.06 339 ⇑P P 03 16 28.9 +0.6
baz=77
U29A Oasis Ranch, S 77.09 337 ⇓P P 03 16 29.2 +0.7
baz=77
S33A Kaszmaul Farm, 77.19 340 ⇑P P 03 16 29.8 +0.9
baz=78
T31A Randall Ranch, 77.21 339 ⇑P P 03 16 29.8 +0.8
baz=78,SNR=5.2
WIN Windhoek 77.25 109 eP P 03 16 30.2 +0.2
WIN AMB AMB 03 16 32.5
comp=Z,18nm,1.1s
LAZ Ladron 77.27 332 eP P 03 16 31.0 +1.3
comp=Z,17nm,1.2s
V26A Tequesquite Ra 77.31 335 ⇑P P 03 16 30.2 +0.4
baz=78,SNR=6.0
W24A Lazy 6 Ranch, 77.35 334 ⇑P P 03 16 30.7 +0.6
baz=78,SNR=12
T30A Plains 77.42 338 ⇑P P 03 16 31.1 +0.9
baz=78
214A Organ Pipe Nat 77.50 326 ⇓P P 03 16 30.9 +0.1
baz=78
ANMO Albuquerque 77.50 333 eP P 03 16 31.0 0.0
ANMO pmax pmax
comp=Z,21nm,1.1s
ANMO Albuquerque 77.50 333 eP P 03 16 30.9 0.0
comp=Z,22nm,1.1s
SFIN Lafayette 77.55 349 ⇑P P 03 16 30.1 -0.7
baz=78
SFIN Lafayette 77.55 349 eP P 03 16 30.2 -0.7
comp=Z,13nm,0.7s
S32A Newby Ranch, P 77.55 339 ⇑P P 03 16 31.8 +0.9
baz=78,SNR=15
U27A Thompson Grove 77.56 336 ⇓P P 03 16 31.8 +0.7
baz=78,SNR=7.8
S31A Mullinville 77.63 339 ⇑P P 03 16 32.2 +0.8
baz=78,SNR=11
V25A Rancho No Teng 77.64 334 ⇑P P 03 16 32.4 +0.7
baz=78,SNR=18
T29A Hugoton 77.75 337 ⇓P P 03 16 33.0 +0.8
baz=78,SNR=6.0
V24A Rampart Ranch, 77.77 334 ⇓P P 03 16 32.7 +0.3
baz=78,SNR=6.3
U26A Atchley Ranch, 77.84 335 ⇑P P 03 16 33.3 +0.4
baz=78,SNR=6.6
R33A Olander Ranch, 77.86 340 ⇓P P 03 16 32.7 0.0
baz=78,SNR=6.8
S30A Montezuma 77.94 338 ⇓P P 03 16 33.6 +0.5
baz=78,SNR=14
GRM Grahamstown 77.95 122 eP P 03 16 33.4 -0.2
GRM AMB AMB 03 16 35.8
comp=Z,78nm,0.9s
T28A Walsh 77.97 337 ⇑P P 03 16 33.7 +0.3
baz=78,SNR=20
U25A Circle Dot Ran 78.07 335 ⇓P P 03 16 34.9 +0.8
baz=78
T27A Campo 78.11 336 ⇑P P 03 16 34.5 +0.3
baz=78,SNR=5.3
S29A Ulysses 78.12 338 ⇓P P 03 16 34.4 +0.2
baz=78,SNR=9.6
R32A Long Quarter, 78.16 340 ⇑P P 03 16 34.6 +0.3
baz=78,SNR=8.1

KSU1 **Kansas State U** 78.24 342 ⇑P P 03 16 34.7 -0.1
baz=79,SNR=5.2
KSU1 **Kansas State U** 78.24 342 eP P 03 16 34.8 +0.1
comp=Z,25nm,1.0s
R31A **Burdett** 78.27 339 ⇑P P 03 16 35.2 +0.3
baz=79,SNR=11
S28A **Manter** 78.33 337 ⇓P P 03 16 36.4 +1.1
baz=79,SNR=6.1
Q33A **Connelly Farm,** 78.46 341 ⇑P P 03 16 36.4 +0.4
baz=79,SNR=6.2
R30A **Dighton** 78.48 339 ⇑P P 03 16 36.8 +0.6
baz=79,SNR=9.0
X18A **Snowflake** 78.49 330 ⇓P P 03 16 37.6 +1.2
baz=79
T26A **Comanche Natio** 78.50 336 ⇓P P 03 16 37.3 +0.8
baz=79,SNR=12
V22A **San Miguel Ran** 78.53 333 ⇓P P 03 16 37.9 +1.3
baz=79,SNR=20
U23A **El Rito** 78.64 333 ⇑P P 03 16 39.0 +1.8
baz=79,SNR=12
Q32A **Meitler Ranch,** 78.65 340 ⇑P P 03 16 37.7 +0.7
baz=79,SNR=12
S27A **Las Animas** 78.74 336 ⇓P P 03 16 38.7 +1.0
baz=79,SNR=7.8
T25A **Trinidad** 78.74 335 ⇑P P 03 16 39.3 +1.5
baz=79,SNR=23
HVD **Gariep Dam** 78.83 120 eP P 03 16 38.9 +0.3
HVD AMB AMB 03 16 40.7
comp=Z,116nm,1.0s
TRY **Troy** 78.86 360 eP P 03 16 39.8 +1.9
comp=Z,121nm,1.5s
S26A **Kim** 78.87 336 ⇓P P 03 16 39.3 +0.9
baz=79,SNR=32
R29A **Marienthal** 78.87 338 ⇑P P 03 16 39.1 +0.8
baz=79,SNR=9.7
Q31A **Ellis** 78.90 340 ⇓P P 03 16 39.1 +0.8
baz=79,SNR=5.8
W18A **Petrified Fore** 78.92 330 ⇓P P 03 16 40.2 +1.4
baz=79
U22A **Llaves** 78.92 333 ⇓P P 03 16 40.2 +1.4
baz=79,SNR=9.2
R28A **Tribune** 79.00 338 ⇑P P 03 16 39.5 +0.4
baz=79,SNR=12
T24B **San Luis** 79.01 334 ⇑P P 03 16 40.9 +1.6
baz=79,SNR=13
X16A **Lo Mia Camp, P** 79.01 329 ⇑P P 03 16 40.3 +1.1
baz=79
Q30A **Quinter** 79.11 339 ⇓P P 03 16 40.4 +0.9
baz=79,SNR=24
S25A **Robets Cordova** 79.22 335 ⇓P P 03 16 41.2 +0.8
baz=80
Q29A **Oakley** 79.25 338 ⇑P P 03 16 41.1 +0.7
baz=80,SNR=8.4
R27A **Eads** 79.25 337 ⇓P P 03 16 41.1 +0.7
baz=80,SNR=21
P32A **Huiting Farm,** 79.25 340 ⇑P P 03 16 41.2 +0.9
baz=80,SNR=8.1
Y14A **Wickenburg** 79.27 327 ⇓P P 03 16 41.5 +1.0
baz=80
P31A **Stockton** 79.37 340 ⇑P P 03 16 41.5 +0.5
baz=80,SNR=7.3
S24A **Houchin Ranch,** 79.47 335 ⇓P P 03 16 43.2 +1.3
baz=80,SNR=20
R26A **Arlington** 79.48 336 ⇓P P 03 16 43.1 +1.4
baz=80,SNR=17
TSUM **Tsumeb** 79.52 106 eP P 03 16 43.3 +0.7
comp=Z,38nm,1.1s
R25A **Fountain Ranch** 79.61 336 ⇓P P 03 16 43.3 +0.9
baz=80,SNR=9.3
P30A **Selden** 79.64 339 ⇑P P 03 16 43.3 +0.9
baz=80,SNR=5.9
SDCO **Great Sand Dun** 79.66 335 eP P 03 16 43.7 +0.8
comp=Z,12nm,1.0s
Q28A **Sharon Springs** 79.67 338 ⇑P P 03 16 43.7 +1.1
baz=80,SNR=6.1
SWSC **Sam W. Stewart** 79.69 325 ⇑P P 03 16 43.8 +1.0
baz=80
O32A **Brockman Farm,** 79.77 341 ⇑P P 03 16 44.2 +1.1
baz=80
Y12C **Blythe** 79.78 326 ⇓P P 03 16 44.5 +1.3
baz=80
S23A **Nye Farm, Mont** 79.80 334 ⇓P P 03 16 45.0 +1.4
baz=80
BOSA **Boshof** 79.82 118 eP P 03 16 44.1 +0.1
BOSA AMB AMB 03 16 45.7
comp=Z,126nm,1.1s
BOSA **Boshof** 79.82 118 eP P 03 16 43.3 -0.7
BOSA pmax pmax
comp=Z,98nm,1.0s
BOSA **Boshof** 79.82 118 P P 03 16 44.0 0.0
comp=Z,78nm,0.9s,baz=233,slow=5.7,SNR=56
BOSA LR LR 03 50 21.3
comp=Z,3μm,18.1s,baz=336,slow=34
BOSA **Boshof** 79.82 118 eP P 03 16 43.3 -0.7
comp=Z,98nm,1.0s
KSCO **Kaye Shedlock'** 79.86 337 ⇓P P 03 16 44.8 +1.0
baz=80,SNR=6.5
KSCO **Kaye Shedlock'** 79.86 337 eP P 03 16 45.4 +1.7
comp=Z,232nm,2.1s
P29A **Atwood** 79.89 339 ⇑P P 03 16 44.8 +1.0
baz=80,SNR=30
WUAZ **Wupatki** 79.93 329 ⇑P P 03 16 46.1 +1.8
baz=80,SNR=6.6
WUAZ **Wupatki** 79.93 329 eP P 03 16 46.4 +2.2
comp=Z,123nm,2.0s
O31A **Woolen Ranch,** 79.95 340 ⇓P P 03 16 45.3 +1.3
baz=80
R24A **Sanders Place,** 79.96 335 ⇑P P 03 16 45.7 +1.3
baz=80,SNR=30
Q26A **Hugo** 80.07 337 ⇓P P 03 16 46.1 +1.2
baz=80,SNR=8.1
PDMCI **Parker Dam,Lak** 80.07 327 ⇓P P 03 16 46.4 +1.6
baz=80
P28A **Saint Francis** 80.11 338 ⇓P P 03 16 46.2 +1.2
baz=80,SNR=5.1
BC3 **Big Chuckawall** 80.12 325 ⇓P P 03 16 46.3 +1.0
baz=80
MDV **Middlebury** 80.13 0 eP P 03 16 45.1 +0.2
S22A **4UR Ranch, Cre** 80.13 334 ⇑P P 03 16 46.9 +1.4
baz=80,SNR=18
SCIA **State Center** 80.13 345 eP P 03 16 45.6 +0.6
comp=Z,38nm,1.0s
R23A **Moffat** 80.17 335 ⇓P P 03 16 47.0 +1.3
baz=80,SNR=12
O30A **MW Ranch, Wils** 80.18 340 ⇑P P 03 16 46.6 +1.2
baz=80
N32A **Stulken Farm,** 80.24 341 ⇓P P 03 16 46.9 +1.3
baz=81
MVCO **Mesa Verde** 80.27 332 ⇓P P 03 16 47.3 +1.1
baz=81,SNR=12
MVCO **Mesa Verde** 80.27 332 eP P 03 16 46.1 0.0
comp=Z,117nm,2.0s
Q25A **Bedland, Calha** 80.29 336 ⇓P P 03 16 47.2 +1.0
baz=81,SNR=6.8
O29A **4D Ranch, Culb** 80.34 339 ⇑P P 03 16 47.3 +1.1
baz=81
IRM **Iron Mountain** 80.41 326 ⇓P P 03 16 48.0 +1.3
baz=81
JFWS **Jewell Farm** 80.54 347 eP P 03 16 46.1 -1.0
JFWS pmax pmax
comp=Z,34nm,1.0s
JFWS **Jewell Farm** 80.54 347 eP P 03 16 46.1 -1.0
comp=Z,34nm,1.0s
PFO **Pinyon Flats O** 80.55 325 eP P 03 16 49.1 +1.6
PFO pmax pmax
comp=Z,33nm,1.1s
PFO **Pinyon Flats O** 80.55 325 LR LR 03 44 51.3
comp=Z,7μm,18.2s,baz=147,slow=30
PFO **Pinyon Flats O** 80.55 325 ⇓P P 03 16 49.2 +1.6
baz=81
PFO **Pinyon Flats O** 80.55 325 eP P 03 16 49.1 +1.6
comp=Z,33nm,1.1s
P26A **Davis Ranch, A** 80.59 337 ⇑P P 03 16 48.8 +1.1
baz=81,SNR=9.6
O28A **Krutsinger Ran** 80.63 338 ⇑P P 03 16 49.1 +1.3
baz=81,SNR=13
W13A **Hualapai Mount** 80.63 327 ⇓P P 03 16 49.2 +1.1
baz=81
Q24A **Divide** 80.64 335 ⇓P P 03 16 49.2 +1.0
baz=81,SNR=7.6
BELC **Belle Mtn. Jos** 80.66 325 ⇓P P 03 16 49.5 +1.3
baz=81
LONY **Lake Ozonia** 80.75 359 eP P 03 16 49.1 +0.9
comp=Z,41nm,1.1s
P25A **Willow Gulch B** 80.81 336 ⇓P P 03 16 50.2 +1.3
baz=81,SNR=18
MURC **Murrieta** 80.89 324 ⇓P P 03 16 50.2 +0.9
baz=81

O27A **Beecher Island** 80.90 338 ⇓P P 03 16 50.3 +1.0
baz=81,SNR=13
N29A **Votaw Ranch, W** 80.93 339 ⇓P P 03 16 50.2 +0.8
baz=81,SNR=5.7
M31A **Lambtecht Ranc** 80.97 341 ⇓P P 03 16 50.5 +1.0
baz=81,SNR=7.1
P24A **Kohler Place,** 81.06 336 ⇑P P 03 16 51.2 +0.9
baz=81
N28A **Pribbeno Ranch** 81.07 339 ⇑P P 03 16 51.5 +1.3
baz=81,SNR=6.8
U15A **North Rim** 81.09 329 ⇑P P 03 16 51.8 +1.2
baz=81
PV01 **Paradox Valley** 81.11 333 eP P 03 16 51.7 +1.1
comp=Z,3μm,1.4s
GMRC **Granite Mounta** 81.15 326 ⇑P P 03 16 52.2 +1.4
baz=82
O26A **Horse Wrangler** 81.20 337 ⇑P P 03 16 52.2 +1.3
baz=82,SNR=8.4
P23A **Jefferson** 81.24 335 ⇑P P 03 16 52.4 +1.0
baz=82
O25A **Wiggins** 81.34 337 ⇑P P 03 16 52.7 +1.0
baz=82
OGNE **Ogallala** 81.46 338 ⇑P P 03 16 52.8 +0.6
baz=82
SMCO **Snowmass** 81.46 334 eP P 03 16 53.5 +0.8
comp=Z,68nm,1.4s
PV04 **Paradox Valley** 81.46 332 eP P 03 16 52.4 0.0
N27A **Anderson Farm,** 81.48 338 ⇓P P 03 16 53.5 +1.2
baz=82,SNR=7.0
HEC **Hector,Ludlow** 81.50 325 ⇑P P 03 16 53.5 +0.9
baz=82
M29A **Burnside Ranch** 81.53 340 ⇑P P 03 16 53.6 +1.1
baz=82,SNR=5.2
ISCO **Idaho Springs** 81.55 335 eP P 03 16 53.3 +0.3
ISCO pmax pmax
comp=Z,89nm,2.1s
ISCO **Idaho Springs** 81.55 335 ⇑P P 03 16 54.0 +1.0
baz=82,SNR=13
ISCO **Idaho Springs** 81.55 335 eP P 03 16 53.3 +0.3
comp=Z,89nm,2.1s
BFSC **Mount Baldy Ra** 81.63 324 ⇓P P 03 16 53.9 +0.6
baz=82
L31A **Butterfield Fa** 81.71 341 ⇑P P 03 16 54.4 +1.0
baz=82,SNR=9.0
L30A **Spencer Herefo** 81.73 340 ⇑P P 03 16 54.5 +1.0
baz=82,SNR=5.3
P22A **Eagle** 81.75 335 ⇓P P 03 16 55.0 +1.0
baz=82,SNR=14
MWC **Mount Wilson** 81.81 324 eP P 03 16 56.3 +2.0
MWC pmax pmax
comp=Z,20nm,1.0s
MWC **Mount Wilson** 81.81 324 eP P 03 16 56.3 +2.0
comp=Z,20nm,1.0s
TUQ **Turquoise Moun** 81.82 326 ⇓P P 03 16 55.3 +1.0
baz=82
RUDU **RUNDU** 81.92 106 eP P 03 16 56.1 +0.7
RUDU AMB AMB 03 16 59.2
comp=Z,98nm,1.2s
O23A **Lake Granby, G** 82.02 335 ⇑P P 03 16 56.2 +0.8
baz=82,SNR=30
L29A **Maesberg Ranch** 82.04 340 ⇓P P 03 16 55.7 +0.5
baz=82,SNR=5.8
GSC **Goldstone, Bar** 82.11 325 eP P 03 16 56.4 +0.6
GSC pmax pmax
comp=Z,56nm,1.8s
GSC **Goldstone, Bar** 82.11 325 ⇑P P 03 16 56.4 +0.6
baz=82
GSC **Goldstone, Bar** 82.11 325 eP P 03 16 56.4 +0.6
comp=Z,56nm,1.8s
O22A **Kremmling** 82.19 335 ⇓P P 03 16 56.0 -0.3
baz=82,SNR=14
N24A **Carr** 82.23 336 ⇑P P 03 16 57.3 +1.0
baz=83
EDW2 **Edwards Air Fo** 82.31 324 ⇑P P 03 16 57.5 +0.7
baz=83
PRYS **Parys** 82.32 118 eP P 03 16 56.5 -0.9
PRYS AMB AMB 03 16 59.1
comp=Z,51nm,1.3s
SHPR **Sheep Range** 82.37 327 eP P 03 16 58.3 +1.1
K30A **Basset** 82.38 341 ⇑P P 03 16 57.4 +0.5
baz=83,SNR=14
M25A **Palm-Egli Farm** 82.52 337 ⇑P P 03 16 58.6 +0.7
baz=83
ECSD **EROS Data Cent** 82.62 343 ⇑P P 03 16 57.6 -0.6
baz=83,SNR=45
ECSD **EROS Data Cent** 82.62 343 eP P 03 16 57.1 -1.0
comp=Z,50nm,0.8s
KSR **Koster** 82.63 117 eP P 03 16 58.2 -0.9
KSR AMB AMB 03 17 15.3
comp=Z,78nm,14.7s
N23A **Red Feather La** 82.64 336 ⇑P P 03 16 59.1 +0.5
baz=83,SNR=8.2
K29A **Lazy Trails An** 82.65 340 ⇓P P 03 16 58.7 +0.4
baz=83,SNR=8.4
LRMC **Laurel Mtn Rad** 82.66 325 ⇓P P 03 16 59.3 +0.6
baz=83
WDLM **Western Deep L** 82.66 117 eP P 03 16 57.1 -2.1
WDLM AMB AMB 03 17 01.2
comp=Z,78nm,13.4s
SRU **San Rafael Swe** 82.70 332 eP P 03 16 59.6 +0.7
SRU pmax pmax
comp=Z,24nm,0.7s
SRU **San Rafael Swe** 82.70 332 eP P 03 16 59.6 +0.7
comp=Z,24nm,0.7s
ARUT **Antelope Range** 82.72 329 eP P 03 17 00.6 +1.6
ARUT pmax pmax
comp=Z,551nm,1.3s
ARUT **Antelope Range** 82.72 329 eP P 03 17 00.6 +1.6
comp=Z,551nm,1.3s
N22A **Wattenberg Ran** 82.73 335 ⇓P P 03 17 00.1 +0.9
baz=83,SNR=11
O20A **White River Ci** 82.75 334 ⇑P P 03 16 59.3 +0.2
baz=83,SNR=11
O20A **White River Ci** 82.75 334 eP P 03 16 59.1 0.0
comp=Z,27nm,1.0s
M24A **Cheyenne** 82.79 337 ⇓P P 03 17 00.1 +0.8
baz=83
MVU **Marysvale** 82.84 330 eP P 03 17 01.6 +1.9
comp=Z,40nm,1.5s
K28A **Ten Mile Ranch** 82.89 340 ⇑P P 03 17 00.5 +0.8
baz=83,SNR=14
J30A **Dallas** 82.95 341 ⇓P P 03 16 59.7 -0.2
baz=83,SNR=7.1
M23A **Laramie** 83.08 336 ⇓P P 03 17 01.6 +0.8
baz=83,SNR=8.7
FURC **Furnace Creek,** 83.10 326 ⇓P P 03 17 01.3 +0.6
baz=83
TMUT **Trail Mountain** 83.12 331 eP P 03 17 02.3 +1.1
comp=Z,190nm,2.2s
ISA **Isabella, Lake** 83.18 324 eP P 03 17 02.3 +1.0
ISA pmax pmax
comp=Z,79nm,2.0s
ISA **Isabella, Lake** 83.18 324 ⇓P P 03 17 01.9 +0.6
baz=84
ISA **Isabella, Lake** 83.18 324 eP P 03 17 02.3 +1.0
comp=Z,79nm,2.0s
CRWM **Crown Mines** 83.20 118 eP P 03 17 02.1 +0.1
CRWM AMB AMB 03 17 03.9
comp=Z,83nm,3.2s
TPNV **Topopah Spring** 83.22 327 eP P 03 17 02.6 +1.0
TPNV pmax pmax
comp=Z,17nm,1.0s
TPNV **Topopah Spring** 83.22 327 ⇑P P 03 17 02.4 +0.8
baz=84
TPNV **Topopah Spring** 83.22 327 eP P 03 17 02.6 +1.0
comp=Z,17nm,1.0s
SPMN **Marine on St.** 83.24 346 ⇑P P 03 17 01.2 -0.1
baz=84,SNR=8.6
SPMN **Marine on St.** 83.24 346 eP P 03 16 59.8 -1.5
comp=Z,18nm,0.8s
J29A **Okreek** 83.25 341 ⇓P P 03 17 02.3 +0.9
baz=84,SNR=19
DAC **Darwin (Calif)** 83.27 325 eP P 03 17 02.7 +0.8
DAC pmax pmax
comp=Z,110nm,2.0s
DAC **Darwin (Calif)** 83.27 325 eP P 03 17 02.7 +0.8
comp=Z,110nm,2.0s
OBSV **Observatory** 83.27 118 eP P 03 17 02.5 +0.1
OBSV AMB AMB 03 17 04.3
comp=Z,74nm,3.3s
ERPM **east rand prop** 83.30 118 eP P 03 17 02.4 -0.1
ERPM AMB AMB 03 17 04.8
comp=Z,124nm,13.5s
M22A **Cedar Creek Ra** 83.31 335 ⇑P P 03 17 03.8 +1.7
baz=84,SNR=9.0
L24A **Wheatland** 83.35 337 ⇑P P 03 17 02.7 +0.6
baz=84

N20A **Spence Gulch,** 83.38 334 ⇑P P 03 17 02.8 +0.4
baz=84,SNR=11
I30A **Oacoma** 83.48 341 ⇓P P 03 17 03.0 +0.4
baz=84,SNR=14
J28A **Allard Ranch,** 83.51 340 ⇓P P 03 17 03.0 +0.2
baz=84,SNR=9.4
K25A **Mack Ranch, Ha** 83.53 338 ⇓P P 03 17 03.7 +0.6
baz=84,SNR=5.9
J27A **Elkhorn Farm,** 83.57 339 ⇑P P 03 17 03.6 +0.4
baz=84,SNR=13
VES **Vestal, Richgr** 83.61 324 ⇑P P 03 17 04.5 +1.1
baz=84
L23A **Garrett** 83.66 336 ⇓P P 03 17 03.8 0.0
baz=84,SNR=5.9
SLR **Silverton** 83.69 117 eP P 03 17 03.9 -0.7
SLR AMB AMB 03 17 06.1
comp=Z,96nm,0.9s
GRAC **Grapevine Rang** 83.77 326 ⇑P P 03 17 05.4 +1.2
baz=84
I29A **Vivian Onida** 83.81 341 ⇑P P 03 17 05.2 +0.9
baz=84
L22A **Ellis Ranch, M** 83.82 336 ⇓P P 03 17 05.0 +0.4
baz=84,SNR=7.7
MPU **Maple Canyon** 83.91 331 eP P 03 17 04.3 -0.8
comp=Z,22nm,0.9s
J26A **Sides Ranch, S** 83.94 339 ⇓P P 03 17 05.3 +0.3
baz=84,SNR=14
I28A **Midland** 84.03 340 ⇑P P 03 17 05.7 +0.2
baz=84,SNR=12
NLU **North Lily Min** 84.03 331 eP P 03 17 07.5 +1.8
comp=Z,85nm,1.8s
R11A **Troy Canyon, C** 84.10 328 ⇓P P 03 17 06.5 +0.4
baz=84
R11A **Troy Canyon, C** 84.10 328 eP P 03 17 06.7 +0.6
comp=Z,79nm,1.8s
DAU **Daniels Canyon** 84.11 332 eP P 03 17 07.2 +0.9
DAU **Daniels Canyon** 84.11 332 eP P 03 17 07.2 +0.9
K23A **Bowen Ranch, D** 84.21 337 ⇑P P 03 17 06.5 0.0
baz=84,SNR=10
J25A **Sunshine Ranch** 84.22 338 ⇓P P 03 17 06.5 0.0
baz=84,SNR=14
I27A **Quinn** 84.34 340 ⇑P P 03 17 07.1 +0.1
baz=85,SNR=7.3
H29A **Onida** 84.35 341 ⇓P P 03 17 07.0 0.0
baz=85,SNR=8.4
K22A **Casper** 84.41 336 ⇑P P 03 17 07.9 +0.3
baz=85,SNR=6.0
K22A **Casper** 84.41 336 eP P 03 17 07.8 +0.3
comp=Z,46nm,1.1s
J24A **Dixon Ranch, L** 84.43 338 ⇓P P 03 17 08.0 +0.4
baz=85,SNR=6.6
DUG **Dugway, Tooele** 84.53 331 eP P 03 17 08.0 -0.2
DUG pmax pmax
comp=Z,57nm,1.4s
DUG **Dugway, Tooele** 84.53 331 ⇑P P 03 17 08.6 +0.5
baz=85,SNR=21
DUG **Dugway, Tooele** 84.53 331 eP P 03 17 08.0 -0.2
comp=Z,57nm,1.4s
I26A **New Underwood** 84.53 339 ⇓P P 03 17 08.2 +0.2
baz=85,SNR=5.6
CTU **Camp Tracy** 84.54 332 eP P 03 17 09.1 +0.8
comp=Z,10nm,0.8s
G30A **Faulkton** 84.55 342 ⇑P P 03 17 08.0 0.0
baz=85,SNR=10
TPH **Tonopah** 84.59 327 eP P 03 17 09.9 +1.3
TPH pmax pmax
comp=Z,44nm,1.4s
TPH **Tonopah** 84.59 327 eP P 03 17 09.9 +1.3
comp=Z,44nm,1.4s
MTUM **Tungsten Hills** 84.60 325 eP P 03 17 11.2 +2.6
H28A **Mission Ridge** 84.61 341 ⇑P P 03 17 08.5 +0.1
baz=85,SNR=21
K21A **Alcova** 84.63 336 ⇑P P 03 17 08.9 +0.1
baz=85,SNR=38
I25A **Rochford** 84.78 338 ⇓P P 03 17 09.9 +0.5
baz=85,SNR=10
H27A **Howes** 84.86 340 ⇑P P 03 17 09.9 +0.2
baz=85,SNR=11
I24A **Kuemmerle Ranc** 84.90 338 ⇑P P 03 17 10.1 +0.1
baz=85,SNR=5.7
G28A **Parade** 84.95 341 ⇓P P 03 17 10.2 +0.1
baz=85,SNR=18
RSSD **Black Hills** 84.96 338 eP P 03 17 09.3 -1.1
RSSD pmax pmax
comp=Z,15nm,0.8s
RSSD **Black Hills** 84.96 338 eP P 03 17 09.2 -1.1
comp=Z,15nm,0.8s
H26A **Fairpoint** 85.04 339 ⇑P P 03 17 10.6 +0.1
baz=85
J22A **Midwest** 85.08 336 ⇓P P 03 17 10.7 -0.2
baz=85,SNR=17
F30A **Leola** 85.18 342 ⇑P P 03 17 11.0 -0.1
baz=86
BGU **Big Grassy Mou** 85.23 331 eP P 03 17 12.8 +1.0
comp=Z,52nm,2.1s
HWUT **Hardware Ranch** 85.26 332 eP P 03 17 11.2 -0.7
comp=Z,159nm,1.8s
H25A **Fruitdale** 85.28 339 ⇑P P 03 17 12.3 +0.6
baz=86,SNR=15
J21A **Lysite** 85.33 336 ⇓P P 03 17 11.4 -0.8
baz=86,SNR=6.6
SPUT **South Promonto** 85.34 332 eP P 03 17 11.4 -0.8
comp=Z,80nm,1.5s
NVAR **Mina Array Bea** 85.36 326 P P 03 17 12.5 0.0
comp=Z,4.3nm,0.7s,baz=153,slow=5.5,SNR=40
NVAR PKKPbc PKKPbc 03 35 16.9 -1.2
comp=Z,1.0nm,0.6s,baz=320,slow=2.6,SNR=7.8
F29A **Eureka** 85.38 342 ⇓P P 03 17 11.5 -0.6
baz=86,SNR=14
SAO **San Andreas Ge** 85.48 323 eP P 03 17 21.3 +8.4
SAO pmax pmax
comp=Z,42nm,1.6s
SAO **San Andreas Ge** 85.48 323 eP P 03 17 21.3 +8.4
comp=Z,42nm,1.6s
I22A **9 Mile Ranch,** 85.51 337 ⇓P P 03 17 12.5 -0.5
baz=86,SNR=16
G27A **Dupree** 85.51 340 ⇑P P 03 17 12.3 -0.5
baz=86,SNR=9.2
PDAR **Pinedale Array** 85.54 334 P P 03 17 13.1 -0.2
comp=Z,4.8nm,0.7s,baz=144,slow=5.7,SNR=38
PDAR PKKPbc PKKPbc 03 35 16.2 -1.7
comp=Z,0.9nm,0.8s,baz=236,slow=0.7,SNR=7.4
J20A **Shoshoni** 85.55 335 ⇓P P 03 17 12.9 -0.3
baz=86,SNR=35
G26A **Maurine** 85.61 340 ⇓P P 03 17 12.8 -0.5
baz=86,SNR=22
EYMN **Ely** 85.63 348 eP P 03 17 12.0 -1.3
comp=Z,20nm,1.2s
F28A **McLaughlin** 85.64 341 ⇑P P 03 17 13.0 -0.5
baz=86,SNR=12
H24A **Dirks Ranch, A** 85.68 338 ⇓P P 03 17 13.1 -0.7
baz=86,SNR=16
I21A **Big Trails, Te** 85.70 336 ⇑P P 03 17 13.5 -0.4
baz=86,SNR=16
G25A **Newell** 85.75 339 ⇓P P 03 17 13.7 -0.4
baz=86,SNR=37
H23A **Clabaugh Cattl** 85.77 338 ⇑P P 03 17 13.8 -0.5
baz=86
E30A **Jud** 85.78 343 ⇑P P 03 17 13.4 -0.8
baz=86,SNR=5.5
J19A **Crowheart** 85.80 335 ⇓P P 03 17 14.3 -0.2
baz=86,SNR=16
HVU **Hansel Valley** 85.87 332 eP P 03 17 14.0 -0.9
HVU **Hansel Valley** 85.87 332 eP P 03 17 14.0 -0.9
WAKR **Walker** 85.94 325 eP P 03 17 15.9 +0.6
ELK **Elko** 85.97 329 eP P 03 17 16.2 +0.7
ELK pmax pmax
comp=Z,83nm,2.1s
ELK **Elko** 85.97 329 eP P 03 17 16.2 +0.7
comp=Z,83nm,2.1s
F27A **Lemmon** 85.99 340 ⇓P P 03 17 14.7 -0.5
baz=86,SNR=14
CMB **Columbia Colle** 86.00 325 eP P 03 17 17.5 +2.0
CMB pmax pmax
comp=Z,23nm,1.5s
CMB **Columbia Colle** 86.00 325 eP P 03 17 17.5 +2.0
comp=Z,23nm,1.5s
E29A **Napoleon** 86.02 342 ⇑P P 03 17 14.8 -0.5
baz=86,SNR=6.6
TORD **Torodi Ar. Bea** 86.03 71 P P 03 17 15.6 -0.5
comp=Z,32nm,0.9s,baz=239,slow=1.6,SNR=88
TORD PKKPbc PKKPbc 03 35 13.1 -1.7
comp=Z,0.9nm,1.0s,baz=0.0,slow=1.4,SNR=2.7
I20A **Worland** 86.09 336 ⇓P P 03 17 15.4 -0.5
baz=86,SNR=18
F26A **Lodgepole** 86.15 340 ⇑P P 03 17 15.2 -0.8
baz=86,SNR=16
G24A **Alzada** 86.17 339 ⇑P P 03 17 15.7 -0.5

baz=86,SNR=10.0
E28A **Huff** 86.29 341 ⇓P P 03 17 16.1 -0.5
baz=87
D30A **Buchanan** 86.31 343 ⇓P P 03 17 16.0 -0.7
baz=87,SNR=13
G23A **Biddle** 86.34 338 ⇓P P 03 17 16.3 -0.7
baz=87,SNR=9.3
H21A **Big Horn, Sher** 86.34 337 ⇓P P 03 17 16.5 -0.7
baz=87,SNR=11
E27A **Carson** 86.38 341 ⇑P P 03 17 17.3 +0.2
baz=87,SNR=5.7
F25A **Bowman** 86.44 339 ⇓P P 03 17 17.1 -0.3
baz=87,SNR=12
I19A **Meeteetse** 86.46 335 ⇓P P 03 17 17.2 -0.6
baz=87,SNR=8.7
D29A **Pettibone, Tap** 86.47 342 ⇓P P 03 17 17.0 -0.5
baz=87,SNR=5.5
REDW **Red Top Meadow** 86.52 334 *e*P P 03 17 17.6 -0.5
comp=Z,21nm,1.0s
H20A **Greybull** 86.53 336 ⇑P P 03 17 17.2 -0.7
baz=87,SNR=15
DRLN **Deer Lake** 86.53 10 *e*P P 03 17 17.6 -0.1
comp=Z,34nm,0.8s
G22A **Birney** 86.64 337 ⇑P P 03 17 17.6 -0.9
baz=87,SNR=8.9
F24A **Ekalaka** 86.65 339 ⇓P P 03 17 18.0 -0.5
baz=87,SNR=18
LOHW **Long Hollow** 86.65 334 *e*P P 03 17 18.2 -0.6
comp=Z,14nm,0.9s
E26A **Carlson Angus** 86.66 340 ⇑P P 03 17 18.0 -0.6
baz=87,SNR=17
TPAW **Teton Pass** 86.67 334 *e*P P 03 17 18.4 -0.5
comp=Z,21nm,0.8s
AGMN **Agassiz Nation** 86.79 345 ⇓P P 03 17 18.2 -0.9
baz=87,SNR=21
AGMN **Agassiz Nation** 86.79 345 *e*P P 03 17 17.1 -1.9
comp=Z,23nm,0.8s
C30A **Mose, Pekin** 86.80 343 ⇓P P 03 17 18.6 -0.5
baz=87,SNR=28
F23A **Volborg** 86.82 338 ⇑P P 03 17 18.6 -0.7
baz=87,SNR=17
FXWY **Fox Creek** 86.82 334 *e*P P 03 17 19.1 -0.6
comp=Z,10nm,0.9s
D28A **Regan** 86.83 342 ⇓P P 03 17 19.1 -0.2
baz=87,SNR=11
I17A **Pilgrim Ck.** 86.91 334 ⇓P P 03 17 20.1 +0.1
baz=87,SNR=21
G21A **Lodge Grass** 86.93 337 ⇑P P 03 17 19.6 -0.4
baz=87,SNR=6.8
E25A **Miller Ranch,** 86.95 340 ⇓P P 03 17 19.6 -0.3
baz=87,SNR=9.8
D27A **Center** 87.00 341 ⇑P P 03 17 19.7 -0.4
baz=87
IMW **Indian Meadow** 87.02 334 *e*P P 03 17 20.2 -0.4
comp=Z,18nm,0.9s
H19A **Powell** 87.02 335 ⇓P P 03 17 19.8 -0.7
baz=87
MSNA **Messina** 87.02 116 *e*P P 03 17 20.6 -0.5
FLWY **Flagg Ranch** 87.09 334 *e*P P 03 17 20.7 -0.2
comp=Z,29nm,0.8s
F22A **Rosebud** 87.13 338 ⇓P P 03 17 20.3 -0.6
baz=88,SNR=5.6
D26A **Manning** 87.17 341 ⇓P P 03 17 20.3 -0.7
baz=88,SNR=33
MDND **Maddock** 87.20 343 ⇓P P 03 17 20.7 -0.4
baz=88,SNR=11
MDND **Maddock** 87.20 343 *e*P P 03 17 20.6 -0.5
comp=Z,21nm,0.9s
G20A **Bridger** 87.25 336 ⇓P P 03 17 20.5 -1.0
baz=88
H18A **Shoshone NF, C** 87.25 335 ⇓P P 03 17 21.1 -0.6
baz=88,SNR=23
E24A **Baker** 87.26 339 ⇓P P 03 17 20.9 -0.6
baz=88,SNR=10
C28A **Hausauer Farms** 87.27 342 ⇓P P 03 17 21.5 +0.1
baz=88
H17A **Grant Village** 87.32 334 *e*P P 03 17 22.9 +0.8
comp=Z,17nm,1.4s
LKWY **Lake** 87.41 334 *e*P P 03 17 23.8 +1.3
LKWY pmax pmax
comp=Z,27nm,1.5s
LKWY **Lake** 87.41 334 *e*P P 03 17 23.8 +1.3
comp=Z,27nm,1.5s
YFT **Old Faithful** 87.46 334 *e*P P 03 17 25.0 +2.3
comp=Z,97nm,2.0s
B30A **Myrvik Farm, E** 87.47 344 ⇓P P 03 17 21.8 -0.5
baz=88,SNR=35
E23A **Ismay** 87.49 339 ⇑P P 03 17 22.0 -0.6
baz=88
D25A **Fairfield** 87.52 340 ⇓P P 03 17 22.5 -0.2
baz=88,SNR=16
OHCM **Honcut** 87.55 325 *e*P P 03 17 24.8 +1.8
C27A **Sayler Ranch,** 87.55 341 ⇓P P 03 17 22.4 -0.4
baz=88,SNR=24
E22A **Miles City** 87.63 338 ⇑P P 03 17 22.3 -1.0
baz=88,SNR=9.0
YNR **Norris Junctio** 87.64 334 *e*P P 03 17 23.5 0.0
comp=Z,31nm,1.5s
YMR **Madison River** 87.70 334 *e*P P 03 17 23.6 -0.2
comp=Z,30nm,1.0s
B29A **Wagenman Farm,** 87.72 343 ⇓P P 03 17 23.1 -0.4
baz=88,SNR=6.3
F20A **Billings** 87.74 336 ⇓P P 03 17 22.9 -0.9
baz=88,SNR=5.8
D24A **Glendive** 87.77 339 ⇑P P 03 17 23.4 -0.5
baz=88,SNR=5.5
C26A **Wahner Farm, P** 87.81 341 ⇑P P 03 17 23.3 -0.7
baz=88,SNR=10
A30A **Hoffart Farm,** 87.92 344 ⇑P P 03 17 23.7 -0.8
baz=88,SNR=23
B28A **Dugan Ranch, T** 87.95 342 ⇓P P 03 17 24.0 -0.7
baz=88,SNR=21
QLMT **Earthquake Lak** 88.00 334 *e*P P 03 17 26.6 +1.3
C25A **Freed Ranch, W** 88.02 340 ⇓P P 03 17 24.1 -0.9
baz=88
HLID **Hailey** 88.02 331 ⇑P P 03 17 24.9 -0.4
baz=88,SNR=13
HLID **Hailey** 88.02 331 *e*P P 03 17 25.6 +0.2
comp=Z,116nm,2.3s
F19A **Roth Farm, Mol** 88.05 336 ⇑P P 03 17 24.3 -1.0
baz=88,SNR=5.5
E21A **Keefer Ranch,** 88.06 337 ⇓P P 03 17 24.6 -0.7
baz=88
D23A **Lindsay** 88.07 339 ⇓P P 03 17 24.6 -0.7
baz=88
A29A **Manning Farm,** 88.12 343 ⇓P P 03 17 24.5 -0.9
baz=88,SNR=39
B27A **Peters Farms,** 88.13 342 ⇑P P 03 17 25.0 -0.5
baz=88,SNR=5.3
C24A **Savage** 88.17 339 ⇑P P 03 17 25.2 -0.6
baz=88,SNR=9.7
D22A **Cohagen** 88.34 338 ⇓P P 03 17 26.1 -0.5
baz=89,SNR=5.7
B26A **Jensen Ranch,** 88.35 341 ⇓P P 03 17 26.3 -0.3
baz=89
A28A **Rude Farm, Bot** 88.36 343 ⇓P P 03 17 25.9 -0.7
baz=89,SNR=11
E20A **Meyer Farm, Mu** 88.36 337 ⇑P P 03 17 26.0 -0.7
baz=89,SNR=18
MFID **Camas Ranch** 88.45 330 *e*P P 03 17 27.5 +0.2
comp=Z,129nm,2.3s
B25A **Knox Farm, Ray** 88.50 341 ⇑P P 03 17 27.0 -0.3
baz=89,SNR=16
D21A **La Casta Ranch** 88.51 338 ⇑P P 03 17 26.7 -0.7
baz=89
MCMT **McKenzie Canyo** 88.51 333 *e*P P 03 17 27.5 -0.2
comp=Z,8.7nm,0.8s
E19A **Rath Farm, Rou** 88.53 336 ⇑P P 03 17 26.9 -0.6
baz=89,SNR=18
C23A **Lambert** 88.64 339 ⇑P P 03 17 27.7 -0.2
baz=89,SNR=6.3
ULM **Lac du Bonnet** 88.65 346 *e*P P 03 17 26.3 -1.6
ULM pmax pmax
comp=Z,22nm,0.9s
ULM **Lac du Bonnet** 88.65 346 P P 03 17 26.5 -1.4
comp=Z,14nm,0.8s,baz=172,slow=3.1,SNR=28
ULM **Lac du Bonnet** 88.65 346 *e*P P 03 17 26.3 -1.6
comp=Z,22nm,0.9s
A26A **Wade Farm, Ken** 88.78 341 ⇑P P 03 17 28.0 -0.6
baz=89,SNR=9.4
C22A **Vida** 88.79 339 ⇑P P 03 17 28.3 -0.3
baz=89
WVOR **Wild Horse Val** 88.79 328 *e*P P 03 17 29.0 +0.1
WVOR pmax pmax
comp=Z,30nm,1.3s
WVOR **Wild Horse Val** 88.79 328 *e*P P 03 17 29.0 +0.1
comp=Z,30nm,1.3s
KIPM **Iron Peak** 88.87 324 *e*P P 03 17 27.5 -1.9

DLMT **Dillon** 88.88 333 *e*P P 03 17 29.8 +0.5
comp=Z,52nm,1.6s
D20A **Manuel Ranch,** 88.89 337 ⇓P P 03 17 28.4 -0.7
baz=89,SNR=7.3
MOD **Modoc Plateau** 89.08 327 *e*P P 03 17 32.0 +1.7
comp=Z,92nm,2.1s
A25A **Svangstu Ranch** 89.10 341 ⇓P P 03 17 30.0 -0.1
baz=89
B23A **Brockton** 89.18 340 ⇑P P 03 17 29.7 -0.8
baz=90
D19A **Cripps Ranch,** 89.19 337 ⇑P P 03 17 29.7 -0.9
baz=90
C21A **Desert Coulee** 89.22 338 ⇓P P 03 17 29.7 -1.0
baz=90,SNR=5.5
LRM **Limekiln Ridge** 89.22 334 *e*P P 03 17 30.6 -0.5
B22A **Reddig Ranch S** 89.32 339 ⇓P P 03 17 30.4 -0.7
baz=90,SNR=11
A24A **Westby** 89.33 340 ⇑P P 03 17 30.3 -0.8
baz=90
C20A **Veseth Ranch,** 89.40 337 ⇑P P 03 17 30.7 -0.8
baz=90,SNR=6.0
B21A **Ellsworth Farm** 89.73 338 ⇓P P 03 17 32.4 -0.7
baz=90
C19A **Slack Wire Ran** 89.74 337 ⇓P P 03 17 32.4 -0.7
baz=90
HRY **Holter Researc** 89.77 335 *e*P P 03 17 34.0 +0.6
A22A **Carney Farms,** 89.92 339 ⇓P P 03 17 33.0 -1.0
baz=90,SNR=9.2
LSZ **Lusaka** 89.99 109 *e*P P 03 17 35.9 +0.6
LSZ pmax pmax
comp=Z,28nm,0.9s
LSZ **Lusaka** 89.99 109 *e*P P 03 17 35.9 +0.6
comp=Z,28nm,0.9s
K05A **Summer Lake** 90.00 327 *e*P P 03 17 37.0 +2.4
comp=Z,112nm,1.8s
B20A **Solberg Farm,** 90.05 338 ⇑P P 03 17 33.6 -1.0
baz=90,SNR=7.8
A21A **Bergtoll Ranch** 90.21 339 ⇑P P 03 17 34.5 -0.8
baz=90,SNR=12
EGMT **Eagleton** 90.22 336 ⇑P P 03 17 34.8 -0.6
baz=90
B19A **Brinkman Farms** 90.35 337 ⇓P P 03 17 35.5 -0.5
baz=91
A20A **Cobblestone Ra** 90.41 338 ⇑P P 03 17 35.3 -1.0
baz=91,SNR=11
CHMT **Chamberlain Mo** 90.44 334 *e*P P 03 17 37.7 +1.1
I07A **Izee** 90.50 329 *e*P P 03 17 37.7 +0.8
comp=Z,119nm,2.3s
J05D **Fort Rock, OR** 90.60 327 ⇓P P 03 17 37.2 -0.2
baz=91
MSO **Missoula** 90.62 333 ⇓P P 03 17 37.4 +0.1
baz=91
MSO **Missoula** 90.62 333 *e*P P 03 17 38.5 +1.1
comp=Z,98nm,2.6s
A19A **Klindworth Far** 90.70 338 ⇑P P 03 17 36.6 -1.0
baz=91,SNR=6.6
SLMT **Seeley Lake** 90.81 334 *e*P P 03 17 39.1 +0.8
F10A **Beach Ranch, E** 91.13 331 *e*P P 03 17 40.6 +0.8
comp=Z,168nm,2.6s
SCHQ **Schefferville** 91.14 4 P P 03 17 39.0 -0.4
comp=Z,7.2nm,1.0s,baz=238,slow=4.8,SNR=7.0
SWMT **Swartz Lake** 91.22 334 *e*P P 03 17 41.1 +0.9
G08A **Pilot Rock** 91.26 330 *e*P P 03 17 38.0 -2.4
comp=Z,7.2nm,0.9s
JTMT **Jette** 91.52 334 *e*P P 03 17 42.6 +1.0
YBMT **Yellow Bay** 91.52 334 *e*P P 03 17 42.4 +0.8
BLMT **Blacktail Moun** 91.77 334 *e*P P 03 17 43.9 +1.0
BSMT **Bassoo Peak** 91.79 333 *e*P P 03 17 43.3 +0.4
E09A **Wood Farm, Sta** 91.94 331 *e*P P 03 17 44.1 +0.8
comp=Z,68nm,2.5s
HAWA **Hanford** 92.39 330 *e*P P 03 17 46.2 +0.8
comp=Z,18nm,1.1s
WALA **Waterton Lakes** 92.51 335 *e*P P 03 17 46.0 0.0
E07A **Sunnyside** 92.65 330 *e*P P 03 17 48.8 +2.1
comp=Z,97nm,2.4s
D08A **Wollman Farm,** 92.69 331 *e*P P 03 17 46.5 -0.3
comp=Z,9.7nm,0.8s
NEW **Newport** 92.99 332 *e*P P 03 17 48.5 +0.3
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW **Newport** 92.99 332 ⇓P P 03 17 46.5 -1.7
baz=93
NEW **Newport** 92.99 332 *e*P P 03 17 48.5 +0.3
comp=Z,5.8nm,1.0s
C09A **Chrisman Ranch** 93.05 332 *e*P P 03 17 49.5 +1.1
comp=Z,95nm,2.5s
TAM **Tamanrasset** 94.82 65 *e*P P 03 17 57.9 +0.5
TAM pmax pmax
comp=Z,19nm,1.0s
TAM **Tamanrasset** 94.82 65 *e*P P 03 17 57.9 +0.5
comp=Z,19nm,1.0s
FCC **Fort Churchill** 96.48 349 *e*P P 03 18 02.6 -1.2
FCC **Fort Churchill** 96.48 349 *e*P P 03 18 02.6 -1.2
comp=Z,0.2nm,0.8s
ESDC **Sonseca Array** 99.05 47 P Pdif 03 18 15.7 -0.3
comp=Z,1.5nm,0.8s,baz=258,slow=3.6,SNR=6.1
YKA **Yellowknife Ar** 104.09 342 Pdiff Pdif 03 18 36.4 -1.3
comp=Z,0.6nm,0.8s,baz=144,slow=4.5,SNR=13
YKA PP PP 03 23 02.1 +5.8
comp=Z,0.3nm,0.8s,baz=143,slow=7.2,SNR=3.9
YKA PKKPbc **PKKPbc** 03 34 25.4 -2.6
comp=Z,0.5nm,0.7s,baz=327,slow=3.0,SNR=16
FETA **Feichten** 112.00 47⇑*i*PKiKP **PKiKP** 03 23 10.3 +0.1
comp=Z,5.4nm,1.1s
SOKA **Soboth** 114.42 49⇑*i*PKPdf PKPdf 03 23 13.8 -0.9
comp=Z,2.6nm,0.9s
MOA **Molln** 114.50 48⇑*i*PKiKP **PKiKP** 03 23 15.3 +0.5
comp=Z,4.6nm,1.1s
GERES **GERESS Array B** 114.64 47 PKP PKPdf 03 23 14.3 -0.8
comp=Z,3.3nm,0.9s,baz=209,slow=1.4,SNR=19
KHC **Kasperske Hory** 114.70 46 *e*PKIKP PKPdf 03 23 14.7 -0.4
KHC *e* 03 23 24.9
KHC **Kasperske Hory** 114.70 46 *e*PKP PKPdf 03 23 14.7 -0.4
KHC *ep*PKP PKiKP 03 23 24.9 +10
ASAR **Alice Springs** 114.87 208 PKP PKPdf 03 23 15.6 -0.8
comp=Z,0.6nm,0.6s,baz=136,slow=2.2,SNR=7.4
ASAR PKKPbc **PKKPbc** 03 33 53.2 +0.9
comp=Z,0.8nm,0.6s,baz=339,slow=3.1,SNR=9.7
CLL **Collm** 115.37 44 *e*PKIKP **PKPdf** 03 23 17.0 +0.8
CLL pmax pmax
comp=Z,6.0nm,1.2s
CLL **Collm** 115.37 44 *e*PKiKP **PKPdf** 03 23 17.0 +0.8
comp=Z,6.0nm,1.2s
CONA **Conrad Observa** 115.50 48⇑*i*PKPdf **PKPdf** 03 23 16.0 -0.8
comp=Z,3.8nm,0.9s
BRG **Berggiesshubel** 115.70 45 *e*PKP **PKPdf** 03 23 17.6 +0.7
comp=Z,4.3nm,1.0s
BRG **Berggiesshubel** 115.70 45 *e*PKIKP **PKPdf** 03 23 17.6 +0.7
BRG pmax pmax
comp=Z,4.0nm,1.0s
PVCC **Panska Ves** 115.91 45 *e*PKIKP **PKPdf** 03 23 17.3 0.0
PVCC **Panska Ves** 115.91 45 *e*PKP **PKPdf** 03 23 17.3 0.0
ILAR **Eielson Array** 115.95 333 PKP **PKPdf** 03 23 17.1 +0.2
comp=Z,0.5nm,0.8s,baz=189,slow=2.2,SNR=6.0
ILAR PP **PP** 03 24 26.8 +4.8
comp=Z,1.2nm,1.0s,baz=136,slow=3.5,SNR=5.9
ILAR PKKPbc **PKKPbc** 03 33 47.9 -1.5
comp=Z,0.5nm,0.9s,baz=324,slow=5.1,SNR=4.4
UPC **Upice** 116.72 46 *e*PKIKP **PKPdf** 03 23 17.6 -1.3
UPC **Upice** 116.72 46 *e*PKP **PKPdf** 03 23 17.6 -1.3
DPC **Dobruska-Polom** 116.83 46 *e*PKIKP **PKPdf** 03 23 18.2 -1.0
DPC *e* 03 23 28.0
DPC **Dobruska-Polom** 116.83 46 *e*PKP **PKPdf** 03 23 18.2 -1.0
DPC *ex* x 03 23 28.0
MORC **Moravsky Berou** 117.30 47 ⇓PKIKP **PKPdf** 03 23 19.5 -0.6
MORC **Moravsky Berou** 117.30 47 ⇓*i*P **PKPdf** 03 23 19.5 -0.6
MORC **Moravsky Berou** 117.30 47 *e*PKPdf **PKPdf** 03 23 20.6 +0.5
VYHS **Vyhne** 117.53 49 *e*PKIKP **PKPdf** 03 23 20.3 -0.2
VYHS **Vyhne** 117.53 49 *e*PKP **PKPdf** 03 23 20.3 -0.2
OKC **Ostrava-Krasne** 117.68 47 *e*PKIKP **PKPdf** 03 23 20.3 -0.5
OKC **Ostrava-Krasne** 117.68 47 *e*PKP **PKPdf** 03 23 20.3 -0.5
BZS **Buzias** 118.06 52 ⇓PKIKP **PKPdf** 03 23 22.4 +0.8
BZS **Buzias** 118.06 52 ⇓*i*P **PKPdf** 03 23 22.4 +0.8
WRA **Warramunga Arr** 118.08 210 PKP **PKPdf** 03 23 21.4 -1.2
comp=Z,1.4nm,0.7s,baz=174,slow=1.5,SNR=16
WRA PKKPbc **PKKPab** 03 33 44.8 -2.6
comp=Z,1.4nm,0.9s,baz=341,slow=4.5,SNR=7.7
WRAB **Tennant Creek** 118.08 210 *e*PKIKP **PKPdf** 03 23 23.6 +1.0
WRAB **Tennant Creek** 118.08 210 *e*PKPdf **PKPdf** 03 23 23.6 +1.0
NOA **NORSAR Array B** 118.68 34 PKP **PKPdf** 03 23 22.1 -0.2
comp=Z,1.0nm,0.8s,baz=249,slow=2.0,SNR=3.9
GZR **Gura Zlata** 118.71 53 ⇓PKIKP **PKPdf** 03 23 22.1 -0.9
GZR **Gura Zlata** 118.71 53 ⇓*i*P **PKPdf** 03 23 22.1 -0.9
KDZ **Kurdzhali** 118.93 58 ⇓PKIKP **PKPdf** 03 23 23.9 +0.4
KDZ **Kurdzhali** 118.93 58 ⇓*i*P **PKPdf** 03 23 23.9 +0.4
COEN **Coen** 119.14 221 *e*PKPdf **PKPdf** 03 23 26.1 +1.3

DRGR 119.23 52 ⇓PKIKP **PKPdf** 03 23 23.4 -0.6
DRGR 119.23 52 ⇓*i*P **PKPdf** 03 23 23.4 -0.6
STHS **Stebnicka Huta** 119.36 48 *e*PKIKP **PKPdf** 03 23 25.0 +1.0
STHS **Stebnicka Huta** 119.36 48 *e*PKP **PKPdf** 03 23 25.0 +1.0
TRPA **Tarpa** 119.65 50 ⇓*i*P **PKPdf** 03 23 24.2 -0.4
KOLS **Kolonicke sedl** 119.79 49 *e*PKIKP **PKPdf** 03 23 25.6 +0.7
KOLS **Kolonicke sedl** 119.79 49 *e*PKP **PKPdf** 03 23 25.6 +0.7
ARR **Arges** 119.90 54 ⇓*i*P **PKPdf** 03 23 24.5 -0.8
JMB **Yambol** 120.05 57 ⇓PKIKP **PKPdf** 03 23 27.2 +1.6
JMB **Yambol** 120.05 57 ⇓*i*P **PKPdf** 03 23 27.2 +1.6
DOPR **Dopca** 120.62 53 ⇓*i*P **PKPdf** 03 23 27.1 +0.5
SECR 120.71 54 ⇓*i*P **PKPdf** 03 23 27.5 +0.7
MLR **Muntele Rosu** 120.80 54 ⇑PKIKP **PKPdf** 03 23 26.3 -0.8
MLR **Muntele Rosu** 120.80 54 ⇑*i*P **PKPdf** 03 23 26.3 -0.8
BURAR **Bucovina Array** 121.12 51 ⇓PKIKP **PKPdf** 03 23 27.8 +0.2
BURAR **Bucovina Array** 121.12 51 ⇓*i*P **PKPdf** 03 23 27.8 +0.2
MBWA **Marble Bar** 121.34 194 *e*PKPdf **PKPdf** 03 23 30.0 +1.2
PLOR **Plostina** 121.39 54 ⇓PKIKP **PKPdf** 03 23 27.7 -0.4
PLOR **Plostina** 121.39 54 ⇓*i*P **PKPdf** 03 23 27.7 -0.4
VRI **Vrincioaia** 121.45 54 ⇑PKIKP **PKPdf** 03 23 26.9 -1.3
VRI **Vrincioaia** 121.45 54 ⇑*i*P **PKPdf** 03 23 26.9 -1.3
TESR **Tescani** 121.64 53 ⇑*i*P **PKPdf** 03 23 28.8 +0.3
CFR **Carcaliu** 122.12 55 ⇑PKIKP **PKPdf** 03 23 28.9 -0.5
CFR **Carcaliu** 122.12 55 ⇑*i*P **PKPdf** 03 23 28.9 -0.5
SUW **Suwalki** 122.13 44 *e*PKIKP **PKPdf** 03 23 28.1 -1.1
SUW **Suwalki** 122.13 44 *e*PKP **PKPdf** 03 23 28.0 -1.1
SUW **Suwalki** 122.13 44 *e*PKPdf **PKPdf** 03 23 28.3 -0.8
TLCR 122.57 55 ⇓PKIKP **PKPdf** 03 23 31.1 +0.8
TLCR 122.57 55 ⇓*i*P **PKPdf** 03 23 31.1 +0.8
ANTO **Ankara** 123.38 62 ⇑PKIKP **PKPdf** 03 23 32.3 +0.2
ANTO **Ankara** 123.38 62 ⇑*i*P **PKPdf** 03 23 32.3 +0.2
BRTR **Keskin Array B** 123.92 63 PKP **PKPdf** 03 23 32.8 -0.6
comp=Z,5.1nm,0.7s,baz=203,slow=2.8,SNR=25
NACGM **Naroch** 124.40 44 *e* PKPdf 03 23 28.0 -5.5
TNA **Tin City** 124.44 330 *e*PKPdf **PKPdf** 03 23 33.0 -0.3
KIEV **Kiev** 124.62 49 *e*PKIKP **PKPdf** 03 23 32.8 -1.2
KIEV **Kiev** 124.62 49 *e*PKPdf **PKPdf** 03 23 32.8 -1.2
AKASG **Malin Array Be** 124.63 49 *c i*PKIKP **PKPdf** 03 23 33.5 -0.5
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG **Malin Array Be** 124.63 49 PKP **PKPdf** 03 23 33.6 -0.5
comp=Z,4.6nm,0.7s,baz=260,slow=3.0,SNR=14
H11S2 **WAKE ISLAND Hyl** 124.67 268 T T 05 40 36.7
baz=127
H11S1 **WAKE ISLAND Hyl** 124.69 268 T T 05 40 35.5
baz=127
H11S3 **WAKE ISLAND Hyl** 124.69 268 T T 05 40 37.2
baz=127
H11N3 **WAKE ISLAND Hyl** 125.15 270 T T 05 41 03.3
baz=125
H11N1 **WAKE ISLAND Hyl** 125.16 269 T T 05 41 06.2
baz=125
H11N2 **WAKE ISLAND Hyl** 125.17 270 T T 05 41 06.2
baz=125
VSU **Vasula** 125.29 39 *e*PKIKP **PKPdf** 03 23 35.5 +0.4
FINES **FINESS Array B** 125.63 36 PKP **PKPdf** 03 23 35.5 -0.1
comp=Z,2.8nm,0.8s,baz=90,slow=2.9,SNR=7.5
KAF **Kangasniemi** 125.87 35 *e*PKIKP **PKPdf** 03 23 34.9 -1.2
KAF pmax pmax
comp=Z,4.0nm,0.8s
KAF **Kangasniemi** 125.87 35 *ep* **PKPdf** 03 23 34.9 -1.2
comp=Z,4.4nm,0.8s
ARCES **ARCESS Array B** 126.72 26 PKP **PKPdf** 03 23 37.9 +0.4
comp=Z,2.8nm,0.7s,baz=300,slow=2.7,SNR=5.1
MALT **Malatya** 126.89 66 ⇓PKIKP **PKPdf** 03 23 39.1 +0.1
MALT **Malatya** 126.89 66 ⇓*i*P **PKPdf** 03 23 39.1 +0.1
JOF **Joensuu** 128.29 34 *e*PKIKP **PKPdf** 03 23 38.4 -2.3
JOF pmax pmax
comp=Z,4.0nm,0.8s
JOF **Joensuu** 128.29 34 *ep* **PKPdf** 03 23 38.4 -2.3
comp=Z,3.8nm,0.8s
OBN **Obninsk** 129.95 45 *e*PKIKP **PKPdf** 03 23 44.5 +0.5
OBN *i* 03 23 52.6
OBN pmax pmax
comp=Z,15nm,1.2s
VSR **Storozhevoye** 130.86 50 *e*PKIKP **PKPdf** 03 23 44.7 -1.2
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,3.0nm,0.7s
VSR pmax pmax
comp=E,4.0nm,0.8s
KIV **Kislovodsk** 131.66 60 *e*PKIKP **PKPdf** 03 23 49.0 +1.2
KIV pmax pmax
comp=Z,14nm,1.0s
KIV **Kislovodsk** 131.66 60 *e*PKPdf **PKPdf** 03 23 47.0 -0.9
KBZ **Khabaz** 131.75 61 PKP **PKPdf** 03 23 49.3 +1.5
comp=Z,4.2nm,1.0s,baz=221,slow=5.3,SNR=6.6
KLMR **Klimovskoe** 132.03 37 *e*PKIKP **PKPdf** 03 23 46.0 -1.8
KLMR pmax pmax
comp=Z,39nm,1.5s
GNI **Garni** 132.13 66 *e*PKIKP **PKPdf** 03 23 49.5 +0.5
GNI **Garni** 132.13 66 *e*PKPdf **PKPdf** 03 23 49.5 +0.5
ZEI **Tsey** 132.22 62 *i*PKIKP PKPdf 03 23 57.3 +8.2
ZEI pmax pmax
comp=Z,13nm,1.6s
VRHR **Novokhopersk** 132.36 51 *e*PKIKP **PKPdf** 03 23 49.0 +0.2
VRHR pmax pmax
comp=N,9.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,1.1s
BILL **Bilibino** 134.61 333 *e*PKIKP **PKPdf** 03 23 53.4 +0.9
BILL *i* 03 24 10.1
BILL *i* 03 26 29.7
BILL pmax pmax
comp=Z,3.0nm,1.3s
BILL MLR MLR
comp=Z,12μm,21.0s
BILL **Bilibino** 134.61 333 *e*PKPdf **PKPdf** 03 23 52.2 -0.3
PRGR **Permogore** 134.95 36 *e*PKIKP **PKPdf** 03 23 52.1 -1.2
PRGR pmax pmax
comp=Z,42nm,1.0s
PETK **Petropavlovsk-** 141.10 312 PKIKP **PKPdf** 03 24 05.0 +0.1
PETK **Petropavlovsk-** 141.10 312 PKP **PKPdf** 03 24 05.0 +0.1
comp=Z,6.2nm,1.1s,baz=66,slow=1.7,SNR=3.2
GEYT **Alibeck** 141.63 73 PKhKP PKPpre 03 24 00.5
comp=Z,7.9nm,0.9s,baz=269,slow=5.9,SNR=9.8
SEY **Seymchan** 141.64 328 PKIKP **PKPdf** 03 24 06.0 +0.4
SEY **Seymchan** 141.64 328 PKP **PKPdf** 03 24 06.0 +0.4
comp=Z,3.5nm,0.7s,baz=115,slow=2.6,SNR=8.5
ARU **Arti** 142.30 43 *i* PKIKP **PKPdf** 03 24 07.0 +0.1
ARU 03 27 11.2
ARU SS SS 03 45 42.1 -5.2
ARU **Arti** 142.30 43 *e*PKPpre PKPpre 03 24 02.3
ARU *e*PKPdf **PKPdf** 03 24 07.2 +0.3
PALK **Pallekele** 142.46 134 *e*PKIKP **PKPdf** 03 24 07.4 -1.2
PALK **Pallekele** 142.46 134 *e*PKPdf **PKPdf** 03 24 07.4 -1.2
AKTO **Aktyubinsk** 142.71 52 PKHKP PKPpre 03 24 03.0
AKTO pmax pmax
comp=Z,12nm,1.0s
TIXI **Tiksi** 142.95 349 ⇓*i*PKHKP PKPpre 03 24 02.5
TIXI *i* 03 24 06.1
TIXI pmax pmax
comp=Z,26nm,2.5s
TIXI **Tiksi** 142.95 349 *e*PKPpre PKPpre 03 24 02.6
TIXI *e*PKPdf **PKPdf** 03 24 08.0 +0.3
AB31 **Akbulak array** 144.01 54 *i* PKIKP **PKPab** 03 24 07.1 -0.5
AB31 pmax pmax
comp=Z,40nm,0.9s
ABKAR **Akbulak array** 144.01 54 *e*PKPdf **PKPab** 03 24 07.2 -0.4
KSM **Kuching** 144.98 186 ⇓P **PKPdf** 03 24 12.7 -0.4
KSM **Kuching** 144.98 186 *e*PKPbc **PKPab** 03 24 11.8 -0.5
MYKOM **Kota Tinggi** 145.36 175 ⇓P **PKPbc** 03 24 13.0 -0.5
KGM **Kluang** 145.54 174 ⇓P **PKPab** 03 24 14.3 0.0
SBUM **Sibu** 145.73 190 ⇑P **PKPab** 03 24 15.8 +0.8
POO **Poona** 146.03 113 ⇑*i*P **PKPdf** 03 24 14.0 -0.7
comp=Z,10.0nm,1.0s
FRIM **Kepong** 146.57 171 ⇓P **PKPab** 03 24 18.1 -0.1
LHMI **Lhok Sumawe** 147.61 162 *e*PKPbc **PKPbc** 03 24 20.5 +0.4
IPM **Ipoh** 147.71 169 ⇓P **PKPbc** 03 24 19.5 -0.9
IPM **Ipoh** 147.71 169 *e*PKPdf **PKPdf** 03 24 17.4 -0.3
IPM *e*PKPbc **PKPbc** 03 24 20.2 -0.2
KULM **Kulim** 148.44 168 *e*PKPbc **PKPbc** 03 24 20.9 -1.5
KULM *e*PKPab **PKPab** 03 24 25.6 +0.1
KKM **Kota Kinabalu** 148.46 198 *e*PKPdf **PKPdf** 03 24 19.8 +0.8
KKM *e*PKPbc **PKPbc** 03 24 22.7 +0.2
KKM *e*PKPab **PKPab** 03 24 26.8 +1.0
HYB **Hyderabad** 148.71 120 *i* PKP **PKPdf** 03 24 18.5 -0.7
KBL **Kabul** 149.42 82 *e*PKPdf **PKPdf** 03 24 19.9 -0.2
KBL *e*PKPbc **PKPbc** 03 24 24.4 -0.1
KBL *e*PKPab **PKPab** 03 24 28.6 -0.8

BRVK	**Borovoye**	**149.72**	**45**	*e*PKPdf	**PKPdf**	**03 24 20.1**	**+0.4**
BRVK				*e*PKPbc	**PKPbc**	**03 24 24.4**	**0.0**
YAK	**Yakutsk**	**150.70**	**338**	*e*PKIKP	**PKPbc**	**03 24 24.3**	**-2.1**
YAK				pmax	pmax		
	comp=Z,76nm,0.9s						
YAK	**Yakutsk**	**150.70**	**338**	*e*PKPdf	**PKPdf**	**03 24 20.7**	**-0.2**
YAK				*e*PKPbc	**PKPbc**	**03 24 26.6**	**+0.2**
YSS	**Yuzh-Sakhalins**	**151.37**	**303**	*e*PKIKP	**PKPbc**	**03 24 28.1**	**-0.3**
YSS	**Yuzh-Sakhalins**	**151.37**	**303**	*e*PKPbc	**PKPbc**	**03 24 28.7**	**+0.3**
YSS				*e*PKPab	**PKPab**	**03 24 37.5**	**+0.7**
KK31	**Karatay Array**	**151.59**	**65**	*i* PKIKP	**PKPbc**	**03 24 27.6**	**-1.6**
KK31				pmax	pmax		
	comp=Z,14nm,0.6s						
KKAR	**Karatay Array**	**151.59**	**65**	*e*PKIKP	**PKPdf**	**03 24 23.2**	**+0.3**
KKAR				*e*		03 24 29.2	
KKAR				*e*		03 24 37.4	
KKAR	**Karatay Array**	**151.59**	**65**	*e*PKPdf	**PKPdf**	**03 24 23.2**	**+0.3**
KKAR				*e*PKPbc	**PKPbc**	**03 24 29.2**	**0.0**
KKAR				*e*PKPab	**PKPab**	**03 24 37.4**	**-0.5**
EKS2	**Erkin-Say**	**154.00**	**66**	*e*PKIKP	**PKPdf**	**03 24 26.5**	**-0.1**
EKS2				*e*		03 24 34.4	
EKS2				*e*		03 24 47.7	
EKS2	**Erkin-Say**	**154.00**	**66**	*e*PKPdf	**PKPdf**	**03 24 26.5**	**-0.1**
EKS2				*e*PKPbc	**PKPbc**	**03 24 34.4**	**-0.3**
EKS2				*e*PKPab	**PKPab**	**03 24 47.7**	**-0.5**
NDI	**New Delhi**	**154.04**	**99**	*e*P	**PKPdf**	**03 24 26.0**	**-0.9**
AAK	**Ala-Archa**	**154.53**	**66***c*	*i* PKIKP	**PKPbc**	**03 24 36.7**	**+0.8**
AAK				pmax	pmax		
	comp=Z,77nm,1.7s						
FRU	**Bishkek**	**154.61**	**66⇑**	*i* PKIKP	**PKPbc**	**03 24 35.0**	**-0.8**
FRU				*e*		03 28 26.0	
FRU				pmax	pmax		
	comp=Z,390nm,3.0s						
TKM2	**Tokmak 2**	**155.32**	**65**	*e*PKIKP	**PKPdf**	**03 24 28.8**	**+0.2**
TKM2				*e*		03 24 37.3	
TKM2				*e*		03 24 52.9	
TKM2	**Tokmak 2**	**155.32**	**65**	*e*PKPdf	**PKPdf**	**03 24 28.8**	**+0.2**
TKM2				*e*PKPbc	PKPbc	03 24 37.3	
TKM2				*e*PKPab	**PKPab**	**03 24 52.9**	**-1.1**
KURK	**Kurchatov**	**155.39**	**46**	*e*PKIKP	**PKPdf**	**03 24 27.7**	**-0.4**
KURK				*e*		03 24 37.5	
KURK				*e*		03 24 53.6	
KURK	**Kurchatov**	**155.39**	**46**	*e*PKPdf	**PKPdf**	**03 24 27.7**	**-0.4**
KURK				*e*PKPbc	PKPbc	03 24 37.5	
KURK				*e*PKPab	**PKPab**	**03 24 53.6**	**0.0**
NVS	**Novosibirsk**	**155.60**	**34⇓**	*i* PKIKP	**PKPdf**	**03 24 26.4**	**-1.8**
NVS				*i*		03 24 54.5	
NVS				pmax	pmax		
	comp=Z,49nm,1.9s						
NVS				pmax	pmax		
	comp=N,6.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,20nm,2.0s						
NVS				pmax	pmax		
	comp=Z,78nm,1.9s						
NVS				pmax	pmax		
	comp=N,6.0nm,1.7s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.4s						
KSH	**Kashi**	**155.66**	**74**	PKP	**PKPdf**	**03 24 29.3**	**+0.3**
KSH				sPKP		03 24 43.1	
KSH				PKS	**PKSdf**	**03 28 03.5**	**+0.4**
KSH				PP	**PP**	**03 28 30.3**	**-2.6**
KSH				SKS	**SKSdf**	**03 31 33.8**	**+0.2**
KSH				SKKS	**SKKSac**	**03 35 20.8**	**+0.5**
KSH				SS	**SS**	**03 48 14.3**	**-4.2**
KSH				PPMZ			
	comp=E,790nm,4.9s						
KSH				LN			
	comp=E,720nm,14.6s						
KSH				LE			
	comp=E,1μm,18.6s						
KSH				LZ			
	comp=E,3μm,17.4s						
ZALV	**Zalesovo Beam**	**156.88**	**34**	PKP	**PKPdf**	**03 24 28.4**	**-1.5**
	comp=E,13nm,0.8s,baz=281,slow=2.3,SNR=42						
ZALV				PKPab	**PKPab**	**03 25 00.1**	**+0.2**
	comp=E,27nm,0.9s,baz=305,slow=5.2,SNR=13						
BOD	**Bodaibo**	**158.13**	**349**	*e*PKIKP	**PKPdf**	**03 24 35.6**	**+4.2**
BOD				*e*		03 25 04.5	
BOD				pmax	pmax		
	comp=Z,8.0nm,1.8s						
BOD				pmax	pmax		
	comp=Z,20nm,1.4s						
KOLN	**Koldanda**	**158.63**	**107**	*e*P	**PKPdf**	**03 24 31.7**	**-1.5**
	comp=Z,12nm,0.7s						
DANN	**Dangsing**	**159.04**	**106**	*e*P	**PKPdf**	**03 24 32.1**	**-1.7**
	comp=Z,38nm,0.9s						
MKAR	**Makanchi Array**	**159.14**	**53**	PKP	**PKPdf**	**03 24 30.8**	**-2.2**
	comp=Z,5.8nm,0.8s,baz=316,slow=4.0,SNR=45						
MKAR				PKPab	**PKPab**	**03 25 08.5**	**-1.5**
	comp=Z,12nm,0.8s,baz=300,slow=6.5,SNR=14						
MKAR				PP	**PP**	**03 28 51.3**	**-0.2**
	comp=Z,3.4nm,0.9s,baz=298,slow=6.4,SNR=6.3						
GKN	**Gorkha**	**159.54**	**108**	*e*P	**PKPdf**	**03 24 33.1**	**-1.1**
PKIN	**Phulchoki**	**159.90**	**110**	*e*P	**PKPdf**	**03 24 32.6**	**-2.2**
PKI	**Pulchoki**	**159.91**	**110**	*e*P	**PKPdf**	**03 24 32.7**	**-2.2**
KKN	**Kakani**	**159.92**	**110**	*e*P	**PKPdf**	**03 24 33.1**	**-1.7**
GUN	**Gumba**	**160.44**	**110**	*e*P	**PKPdf**	**03 24 33.0**	**-2.5**
RAMN	**Ramite**	**160.46**	**113**	*e*P	**PKPdf**	**03 24 34.1**	**-1.3**
JIRN	**Jiri**	**160.54**	**111**	*e*P	**PKPdf**	**03 24 34.7**	**-0.9**
CMAR	**Chiang Mai Arr**	**160.77**	**157**	PKP	**PKPdf**	**03 24 35.4**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=247,slow=2.7,SNR=9.3						
CMAR				PKPab	**PKPab**	**03 25 17.8**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=221,slow=5.2,SNR=6.3						
ODAN	**Odare**	**160.99**	**115**	*e*P	**PKPdf**	**03 24 34.1**	**-1.9**
TAPN	**Taplejung**	**161.50**	**114**	*e*P	**PKPdf**	**03 24 35.7**	**-0.9**
QIZ	**Qiongzhong**	**162.37**	**190**	PKP	**PKPdf**	**03 24 38.3**	**+1.0**
QIZ				PP	**PP**	**03 29 08.5**	**+0.8**
QIZ				SS	SS	03 49 32.9	+6.4
QIZ				LZ			
	comp=Z,5μm,16.0s						
WMQ	**Urumqi**	**163.76**	**57**	*e*PKP	**PKPdf**	**03 24 37.8**	**-0.2**
WMQ				pPKP	**pPKPdf**	**03 24 49.0**	**+2.0**
WMQ				PKPab	**PKPab**	**03 25 32.6**	**+2.2**
WMQ				PKS	**PKSdf**	**03 28 09.8**	**-1.1**
WMQ				PP	**PP**	**03 29 17.4**	**+1.1**
WMQ				SKKS		03 36 00.0	
WMQ				SS	**SS**	**03 49 38.6**	**-4.6**
WMQ				PPMZ			
	comp=Z,3μm,9.0s						
WMQ				LN			
	comp=Z,4μm,17.0s						
WMQ				LE			
	comp=Z,2μm,17.0s						
WMQ				LZ			
	comp=Z,2μm,15.0s						
TLY	**Talaya**	**164.67**	**7**	*e*PKIKP	**PKPdf**	**03 24 38.7**	**+0.2**
TLY				pmax	pmax		
	comp=Z,8.0nm,2.2s						
TLY	**Talaya**	**164.67**	**7**	PKPab	**PKPab**	**03 25 34.8**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=348,slow=6.6,SNR=4.7						
ZAK	**Zakamensk**	**165.91**	**9**	*e*PKP2	**PKPab**	**03 25 36.6**	**-2.9**
ZAK				*e*		03 29 24.4	
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KMI	**Kunming**	**168.16**	**162**	PKP	**PKPdf**	**03 24 43.9**	**+1.6**
ULN	**Ulaanbaatar**	**168.64**	**359**	*e*PKIKP	**PKPdf**	**03 24 40.6**	**-1.2**
ULN				*e*		03 25 51.5	
ULN	**Ulaanbaatar**	**168.64**	**359**	*e*PKPdf	**PKPdf**	**03 24 40.6**	**-1.2**
ULN				*e*PKPab	**PKPab**	**03 25 51.5**	**-0.2**
SONM	**Songino Array**	**168.67**	**1**	PKP	**PKPdf**	**03 24 40.8**	**-1.0**
	comp=Z,1.9nm,1.0s,baz=318,slow=1.9,SNR=9.3						
SONM				PKPab	**PKPab**	**03 25 52.8**	**+0.9**
	comp=Z,6.1nm,0.8s,baz=338,slow=3.7,SNR=19						
SONM				PP	**PP**	**03 29 39.4**	**-1.2**
	comp=Z,1.1nm,1.0s,baz=350,slow=5.1,SNR=3.2						
NJ2	**Nanjing**	**169.01**	**250**	*e*PKP	**PKPdf**	**03 24 44.4**	**+2.1**
GYA	**Guiyang**	**169.99**	**180**	*i* PKP	**PKPdf**	**03 24 43.0**	**-0.3**
GYA				pPKP	**pPKPdf**	**03 24 55.6**	**+3.3**
GYA				PKPab	**PKPab**	**03 26 01.4**	**+3.3**
GYA				PKS	**PKSdf**	**03 28 14.8**	**-1.1**
GYA				PP	**PP**	**03 29 52.0**	**+4.9**
GYA				SKKS		03 36 34.6	
GYA				SS	**SS**	**03 50 46.3**	**+2.3**
GYA				PPMZ			
	comp=Z,230nm,8.3s						
GYA				LN			
	comp=Z,4μm,19.8s						
GYA				LE			
	comp=Z,3μm,20.3s						
GYA				LZ			
	comp=Z,4μm,20.5s						
WHN	**Wuhan**	**171.28**	**229**	PKP	**PKPdf**	**03 24 44.3**	**+0.6**
GTA	**Gaotai**	**173.84**	**60**	*e*PKP	**PKPdf**	**03 24 45.3**	**+0.6**
GTA				pPKP	**pPKPdf**	**03 24 55.9**	**+2.2**
GTA				sPKP		03 24 59.4	
GTA				PKPab	**PKPab**	**03 26 17.0**	**+1.8**
GTA				PP	**PP**	**03 30 10.1**	**+2.5**
GTA				SKKS		03 36 50.8	
GTA				SS	**SS**	**03 51 19.9**	**-4.2**
GTA				PPMZ			
	comp=Z,2μm,9.5s						
GTA				LN			
	comp=Z,3μm,17.1s						
GTA				LE			
	comp=Z,3μm,17.1s						
GTA				LZ			
	comp=Z,4μm,18.5s						
CD2	**Chengdu**	**173.91**	**155**	*e*PKP	**PKPdf**	**03 24 44.8**	**-0.1**
HHC	**Hu-ho-hao-te**	**174.23**	**320**	*e*PKP	**PKPdf**	**03 24 44.9**	**+0.2**
HHC				pPKP	**pPKPdf**	**03 24 55.6**	**+1.8**
HHC				sPKP		03 24 59.5	
HHC				PP	**PP**	**03 30 10.3**	**+1.5**
HHC				SKS	**SKSdf**	**03 31 41.0**	**-5.0**
HHC				SS	**SS**	**03 51 28.4**	**+1.6**
HHC				PPMZ			
	comp=Z,350nm,6.0s						
HHC				LN			
	comp=Z,1μm,20.1s						
HHC				LE			
	comp=Z,860nm,19.1s						
HHC				LZ			
	comp=Z,3μm,22.2s						
XAN	**Xi'an**	**176.94**	**217**	PKP	**PKPdf**	**03 24 45.8**	**+0.2**
XAN				PP	**PP**	**03 30 24.5**	**+2.9**
XAN				SKKS		03 37 05.3	
XAN				LN			
	comp=Z,2μm,17.7s						
XAN				LE			
	comp=Z,990nm,19.3s						
XAN				LZ			
	comp=Z,990nm,16.1s						
LZH	**Lanzhou**	**177.66**	**99**	*e*PKP	**PKPdf**	**03 24 43.4**	**-2.4**
LZH				pPKP	**pPKPdf**	**03 24 53.3**	**-1.5**
LZH				sPKP		03 24 57.5	

*NEIC **16** 03:14:26.3, 45°.46S×166°.92E, h59km, ML4.0(WEL), After WEL.*

WEL 16 03:14:26.4±0.1, 45°.43S×166°.96E, h59km, ML4.0/13, 3C-3D, Error ellipse: s-maj=1.6km s-min=0.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.15**	**109**	⇑PN	Pn	03 14 35.4	-0.2
DCZ				SN	Sn	03 14 41.7	-0.4
DCZ				AML	AML	03 14 42.0	
DCZ				AML	AML	03 14 42.0	
DCZ				AML	AML	03 14 42.2	
DCZ	**Deep Cove**	**0.15**	**109**	Pn	Pn	03 14 35.3	-0.3
WHZ	**Wether Hill Ro**	**0.84**	**124**	⇓PN	Pn	03 14 42.2	-0.2
WHZ				AML	AML	03 14 54.5	
WHZ				AML	AML	03 14 54.6	
WHZ	**Wether Hill Ro**	**0.84**	**124**	*e*Pg	Pn	03 14 42.1	-0.2
WHZ				*e*S	Sn	03 14 53.9	-0.1
MLZ	**Mavora Lakes**	**0.86**	**85**	PN	Pn	03 14 41.9	-0.8
MLZ				SN	Sn	03 14 53.5	-1.2
MLZ				AML	AML	03 14 54.4	
MLZ	**Mavora Lakes**	**0.86**	**85**	Pn	Pn	03 14 41.6	-1.1
MSZ	**Milford Sound**	**1.02**	**43**	PN	Pn	03 14 44.5	-0.3
MSZ				AML	AML	03 14 59.4	
MSZ				AML	AML	03 14 59.4	
MSZ				AML	AML	03 14 59.8	
MSZ				AML	AML	03 14 59.9	
MSZ	**Milford Sound**	**1.02**	**43**	Pn	Pn	03 14 45.0	+0.3
APZ	**The Paps**	**1.58**	**153**	PN	Pn	03 14 51.7	-0.5
APZ				AML	AML	03 15 11.9	
APZ				AML	AML	03 15 12.6	
APZ	**The Paps**	**1.58**	**153**	Pn	Pn	03 14 51.7	-0.5
WKZ	**Wanaka**	**1.58**	**68**	PN	Pn	03 14 52.4	+0.2
WKZ				AML	AML	03 15 12.6	
WKZ				AML	AML	03 15 12.7	
WKZ				AML	AML	03 15 12.7	
WKZ				AML	AML	03 15 12.7	
WKZ	**Wanaka**	**1.58**	**68**	Pn	Pn	03 14 52.4	+0.2
EAZ	**Earnscleugh**	**1.67**	**84**	PN	Pn	03 14 53.4	0.0
EAZ				AML	AML	03 15 13.1	
EAZ				AML	AML	03 15 14.1	
EAZ				AML	AML	03 15 14.3	
EAZ				AML	AML	03 15 14.4	
EAZ	**Earnscleugh**	**1.67**	**84**	Pn	Pn	03 14 53.4	0.0
JCZ	**Jackson Bay**	**1.87**	**44**	PN	Pn	03 14 56.0	-0.2
JCZ				AML	AML	03 15 28.6	
JCZ				AML	AML	03 15 29.9	
JCZ	**Jackson Bay**	**1.87**	**44**	Pn	Pn	03 14 56.1	-0.1
SYZ	**Scrubby Hill**	**1.88**	**127**	⇓PN	Pn	03 14 55.8	-0.4
SYZ				AML	AML	03 15 18.3	
SYZ				AML	AML	03 15 18.3	
SYZ				AML	AML	03 15 18.5	
SYZ				AML	AML	03 15 18.5	
SYZ	**Scrubby Hill**	**1.88**	**127**	Pn	Pn	03 14 55.8	-0.4
TUZ	**Tuapeka**	**1.95**	**107**	PN	Pn	03 14 56.7	-0.5
TUZ	**Tuapeka**	**1.95**	**107**	Pn	Pn	03 14 56.7	-0.5
LBZ	**Lake Benmore**	**2.52**	**67**	⇑PN	Pn	03 15 03.8	-1.2
LBZ				AML	AML	03 15 34.3	
LBZ				AML	AML	03 15 38.2	
LBZ	**Lake Benmore**	**2.52**	**67**	Pn	Pn	03 15 03.8	-1.2
HHSZ	**Highcliff Hill**	**2.59**	**101**	⇓PN	Pn	03 15 05.6	-0.4
ODZ	**Otahua Downs**	**2.63**	**83**	⇑PN	Pn	03 15 05.4	-1.1
ODZ	**Otahua Downs**	**2.63**	**83**	*e*Pn	Pn	03 15 05.4	-1.2
ODZ				*e*S	Sn	03 15 33.6	-3.6
FOZ	**Fox Glacier**	**2.70**	**47**	AML	AML	03 15 58.8	
FOZ				AML	AML	03 16 04.5	
RPZ	**Rata Peaks**	**3.39**	**61**	*e*PN	Pn	03 15 15.2	-1.7
RPZ				AML	AML	03 15 54.5	
RPZ				AML	AML	03 15 54.6	
RPZ	**Rata Peaks**	**3.39**	**61**	*e*Pn	Pn	03 15 15.2	-1.7
WVZ	**Waitaha Valley**	**3.59**	**50**	PN	Pn	03 15 17.0	-2.6
WVZ				AML	AML	03 16 45.3	
MQZ	**McQueen's Vall**	**4.42**	**69**	PN	Pn	03 15 28.5	-2.4
MQZ	**McQueen's Vall**	**4.42**	**69**	Pn	Pn	03 15 28.5	-2.4
MQZ				Sn	Sn	03 16 14.9	-6.1
DSZ	**Denniston Nort**	**5.09**	**45**	Pn	Pn	03 15 42.5	+2.2

WEL 16 03:15:50.4±0.2, 40°.03S×176°.84E, h28km±1km, ML2.7/5, 3C, Error ellipse: s-maj=2.0km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.02**	**108**	⇑P*	Pb	03 15 54.9	-0.2
PXZ				S*	Sb	03 15 58.5	+0.3
PXZ				AML	AML	03 15 59.3	
PXZ				AML	AML	03 15 59.3	
PXZ				AML	AML	03 15 59.5	
KAHZ	**Kahuranaki**	**0.23**	**8**	P*	Pb	03 15 56.5	-0.3
KAHZ				S*	Sb	03 16 01.6	+0.4
WPHZ	**Waipukurau**	**0.30**	**262**	P*	Pb	03 15 57.8	+0.1
WPHZ				S*	Sb	03 16 03.3	+0.6
PNHZ	**Pukenui**	**0.50**	**283**	⇑P*	Pb	03 16 00.5	-0.2
KRHZ	**Kereru**	**0.52**	**317**	⇑P*	Pb	03 16 00.5	-0.6
DVHZ	**Dannevirke**	**0.58**	**242**	P*	Pb	03 16 02.4	+0.3
MCHZ	**McNeill Hill**	**0.59**	**350**	P*	Pb	03 16 02.2	0.0
TSZ	**Takapari Road**	**0.67**	**267**	P*	Pb	03 16 03.2	-0.4
TSZ				AML	AML	03 16 13.9	
TSZ				AML	AML	03 16 13.9	
ARHZ	**Aropaoanui**	**0.77**	**9**	*e*PN	Pn	03 16 05.4	0.0
BHHZ	**Black Hill Sta**	**0.80**	**312**	PN	Pb	03 16 05.0	-0.8
BKZ	**Black Stump Fm**	**0.90**	**343**	PN	Pn	03 16 06.6	-0.6
BKZ				AML	AML	03 16 19.6	
MOVZ	**Moawhango**	**1.04**	**306**	PN	Pn	03 16 08.9	-0.2
MRZ	**Mangatainoka R**	**1.15**	**236**	PN	Pn	03 16 10.0	-0.7
MRZ	**Mangatainoka R**	**1.15**	**236**	Pn	Pn	03 16 10.2	-0.4
HOWZ	**Holdsworth Sta**	**1.33**	**229**	PN	Pn	03 16 12.5	-0.7
HOWZ	**Holdsworth Sta**	**1.33**	**229**	Pn	Pn	03 16 12.5	-0.7

IDC 16 03:19:23.4±1.5, 32°.25S×110°.74W, h0km, mb3.9/2, mb1 4.3/2, mb1mx3.8/16, mbtmp3.8/2, Error ellipse: s-maj=81.3km s-min=59.2km az=102.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**70.67**	**354**	P	P	03 30 41.8	+0.8
	1.5nm,0.9s,baz=188,slow=7.1,SNR=6.5						
YKA	**Yellowknife Ar**	**94.46**	**358**	P	P	03 32 43.8	-0.8
	0.3nm,0.8s,baz=170,slow=4.7,SNR=5.8						
H01W1	**Cape Leeuwin H**	**101.02**	**216**	T	T	05 26 17.7	
	baz=142						
H01W2	**Cape Leeuwin H**	**101.02**	**216**	T	T	05 26 19.7	
	baz=142						
H01W3	**Cape Leeuwin H**	**101.03**	**216**	T	T	05 26 19.8	
	baz=142						
AKASG	**Malin Array Be**	**145.32**	**46**	PKPbc	PKPbc	03 39 01.2	-1.3
	0.8nm,0.5s,baz=298,slow=2.8,SNR=3.8						
SONM	**Songino Array**	**147.95**	**310**	PKPbc	PKPdf	03 39 08.6	+1.2
	1.0nm,0.7s,baz=104,slow=2.7,SNR=7.0						
CMAR	**Chiang Mai Arr**	**149.99**	**250**	PKPbc	PKPbc	03 39 16.7	+0.3
	0.7nm,0.3s,baz=174,slow=0.8,SNR=5.6						
BRTR	**Keskin Array B**	**150.37**	**65**	PKPbc	PKPbc	03 39 16.9	0.0
	1.1nm,0.9s,baz=293,slow=1.1,SNR=3.7						

IDC 16 03:33:12.5±3.8, 5°.20S×134°.86E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=178.8km s-min=28.8km az=81.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.66**	**182**	Pn	Pn	03 36 39.4	-2.0
	0.1nm,0.3s,baz=356,slow=13,SNR=9.0						
WRA				Sn	Sn	03 39 23.7	-1.1
	0.1nm,0.3s,baz=4.3,slow=23,SNR=3.7						
ASAR	**Alice Springs**	**18.38**	**183**	P	P	03 37 30.2	+1.1
	0.2nm,0.3s,baz=4.9,slow=11,SNR=13						
MKAR	**Makanchi Array**	**69.48**	**324**	P	P	03 44 22.9	0.0
	0.2nm,0.6s,baz=111,slow=7.9,SNR=2.7						

*IDC **16** 03:36:14.9±2.5, 51°.60N×178°.29W, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/31, mbtmp3.6/7, ML2.7/1, Error ellipse: s-maj=61.6km s-min=14.4km az=1.0*
*ISCJB **16** 03:36:16.5±1.0, 51°.0N±0°.1×178°.43W±0°.05, h35km, mb3.6/6, Error ellipse: s-maj=16.8km s-min=4.4km az=0.9*
*NEIC **16** 03:36:17.1, 50°.98N×178°.43W, h32km, ML3.5(AEIC), After AEIC.*

ISC 16 03:36:16.7±1.4, 51°.0N±0°.2×178°.46W±0°.04, h35km, n31, σ1°.71/26, mb3.7/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.42**	**51**	*e*Pn	**Pn**	**03 36 39.8**	**-0.2**
ADK				*e*S	**Sn**	**03 36 55.8**	**-1.6**
AMKA	**Amchitka**	**1.46**	**286**	*e*Pn	**Pn**	**03 36 41.1**	**+0.5**
AMKA				*e*S	**Sn**	**03 36 58.7**	**+0.2**
CERAA	**Semis' Rag'd T**	**1.48**	**309**	P	**Pn**	**03 36 40.8**	**0.0**
CERB	**Semis' Cerberu**	**1.52**	**309**	P	**Pn**	**03 36 41.7**	**+0.3**
CERB				S	**Sn**	**03 37 01.4**	**+1.5**
CESW	**Semis' Southwe**	**1.54**	**307**	P	**Pn**	**03 36 41.6**	**0.0**
CEAP	**Semis' Anvil P**	**1.59**	**310**	P	**Pn**	**03 36 43.7**	**+1.3**
LSSE	**Little Sitkin**	**2.08**	**298**	P	**Pn**	**03 36 50.4**	**+1.2**
LSPA	**Little Sitkin**	**2.09**	**298**	P	**Pn**	**03 36 50.7**	**+1.4**
LSPA				S	**Sn**	**03 37 16.7**	**+2.6**
LSNW	**Little Sitkin**	**2.13**	**298**	P	**Pn**	**03 36 50.7**	**+0.9**
KOKL	**Mount Kliuchef**	**2.96**	**62**	P	**Pn**	**03 37 04.4**	**+3.1**
FX1	**Attu Island--F**	**5.52**	**293**	Pn	**Pn**	**03 37 36.0**	**-0.3**
	0.9nm,0.3s,baz=104,slow=19,SNR=2.9						
FX1				Sn	**Sn**	**03 38 36.8**	**-1.6**
	1.5nm,0.3s,baz=135,slow=8.6,SNR=2.2						
FX1	**Attu Island--F**	**5.52**	**293**	P	**Pn**	**03 37 37.3**	**+1.0**
MSOM	**Makushin Julie**	**7.58**	**64**	P	Pn	03 38 08.1	+3.5
MREP	**Makushin Rep't**	**7.70**	**64**	P	Pn	03 38 09.9	+3.6
MSW	**Makushin Switc**	**7.71**	**63**	P	Pn	03 38 09.7	+3.3
UNV	**Unalaska Valle**	**7.84**	**64**	*e*Pn	**Pn**	**03 38 10.7**	**+2.5**
SPIA	**Saint Paul Isl**	**7.85**	**35**	P	Pn	03 38 12.2	+3.9
GAMB	**Gambell**	**13.31**	**13**	*e*Pn	**Pn**	**03 39 25.4**	**+2.5**
OHAK	**Old Harbor**	**15.96**	**57**	*e*Pn	**Pn**	**03 39 55.2**	**-3.2**
ILAR	**Eielson Array**	**21.41**	**38**	P	**P**	**03 40 59.2**	**-1.9**
	0.3nm,0.6s,baz=243,slow=9.6,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**33.28**	**206**	T	T	04 18 37.3	
	baz=18,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**33.29**	**206**	T	T	04 18 37.4	
	baz=18						
H11N1	**WAKE ISLAND Hy**	**33.30**	**206**	T	T	04 18 36.6	
	baz=18,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**34.50**	**205**	T	T	04 20 20.0	
	baz=18						
H11S2	**WAKE ISLAND Hy**	**34.51**	**205**	T	T	04 20 05.3	
	baz=18						
H11S3	**WAKE ISLAND Hy**	**34.51**	**205**	T	T	04 20 18.1	
	baz=18						
YKA	**Yellowknife Ar**	**35.34**	**46**	P	**P**	**03 43 07.5**	**-0.7**
	0.1nm,0.5s,baz=279,slow=9.5,SNR=6.2						
PDAR	**Pinedale Array**	**46.22**	**72**	P	**P**	**03 44 39.9**	**+1.5**
	0.8nm,0.5s,baz=328,slow=2.6,SNR=11						
SONM	**Songino Array**	**47.01**	**297**	P	**P**	**03 44 45.6**	**+1.2**
	0.3nm,0.5s,baz=63,slow=6.6,SNR=5.1						
SPITS	**Spitsbergen Ar**	**50.77**	**356**	P	**P**	**03 45 11.3**	**-1.4**
	1.7nm,0.5s,baz=26,slow=6.9,SNR=18						
ARCES	**ARCESS Array B**	**58.50**	**350**	P	**P**	**03 46 06.9**	**-1.9**
	2.4nm,0.8s,baz=36,slow=9.0,SNR=3.9						

GUC 16 03:37:41.4±0.7, 33°.94S×71°.98W, h40km±4km, ML3.6, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.95**	**17**	⇓*i*P	Pn	03 37 59

ISC 16 03:41:16.9±1.2, 17°.8S±0°.3×173°.1W±0°.3, h28km, n8, σ0°81/8, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.16**	**201**	P	**P**	**03 46 10.0**	**-0.5**
	2.6nm,0.4s,baz=54,slow=3.3,SNR=2.9						
STKA	**Stephens Creek**	**43.17**	**242**	P	**P**	**03 49 15.8**	**+0.4**
	0.9nm,0.7s,baz=80,slow=3.6,SNR=2.8						
WRA	**Warramunga Arr**	**49.64**	**259**	P	**P**	**03 50 06.5**	**+0.1**
	0.5nm,0.4s,baz=97,slow=6.9,SNR=25						
ASAR	**Alice Springs**	**49.71**	**254**	P	**P**	**03 50 07.1**	**+0.2**
	2.8nm,0.7s,baz=89,slow=8.8,SNR=34						
NVAR	**Mina Array Bea**	**75.88**	**41**	P	**P**	**03 53 02.2**	**+1.1**
	0.4nm,0.6s,baz=216,slow=4.5,SNR=3.9						
ILAR	**Eielson Array**	**84.69**	**11**	P	**P**	**03 53 46.5**	**-1.2**
	0.3nm,0.8s,baz=224,slow=5.7,SNR=6.3						
BRTR	**Keskin Array B**	**148.15**	**319**	PKPbc	**PKPbc**	**04 01 00.7**	**+0.1**
	1.4nm,1.0s,baz=341,slow=3.5,SNR=3.0						
GERES	**GERESS Array B**	**148.50**	**351**	PKPbc	**PKPbc**	**04 01 00.7**	**-0.4**
	0.3nm,0.6s,baz=86,slow=1.4,SNR=4.1						

*ISCJB **16** 04:08:11.5±0.6, 36°.48S±0°.04×73°.2W±0°.1, h27km, mb3.9/8, Error ellipse: s-maj=13.2km s-min=6.2km az=5.1*
*GUC **16** 04:08:11.9±0.6, 36°.84S×73°.17W, h50km±4km, ML4.6*
*NEIC **16** 04:08:12.3±1.5, 36°.49S×73°.38W, h35km, mb4.0/3, Error ellipse: s-maj=33.3km s-min=11.6km az=77.0*
NEIC Felt [III] at Concepcion.
*IDC **16** 04:08:12.9±0.9, 36°.48S×73°.06W, h23km±5km, mb3.7/8, mb1 3.9/9, mb1mx3.8/18, mbtmp3.8/9, ML3.7/2, Error ellipse: s-maj=28.1km s-min=20.4km az=91.0*

ISC 16 04:08:12.7±0.7, 36°.51S±0°.05×73°.26W±0°.09, h27km, n27, σ1°19/30, mb3.8/8, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.36**	**160**	⇓*i*P	**Pb**	**04 08 19.9**	**-0.8**
CCSP				*i* S	**Sb**	**04 08 25.4**	**-0.8**
LNCH	**Linares**	**1.50**	**64**	⇓*i*P	**Pn**	**04 08 38.1**	**+0.4**
LNCH				*i* S4	**Sb**	**04 08 59.3**	**+0.9**
LNCH				AML	AML	04 09 04.0	
	comp=N,11μm,0.7s						
TALC	**Talca**	**1.72**	**50**	*e*P9	**Pn**	**04 08 41.2**	**+0.3**
TALC				*i* S1	**Sb**	**04 09 04.4**	**-0.5**
TALC				AML	AML	04 09 10.6	
	comp=N,8μm,0.5s						
NICH	**Los Niches**	**2.23**	**48**	*i* S1	**Sb**	**04 09 18.1**	**-1.5**
NICH				AML	AML	04 09 32.9	
	comp=E,3μm,0.7s						
PLCA	**Paso Flores**	**4.72**	**154**	Pn	**Pn**	**04 09 23.9**	**+1.7**
	comp=E,1.6nm,0.3s,baz=324,slow=12,SNR=12						
PLCA				Lg	Lg	04 10 38.4	
	comp=E,3.6nm,0.3s,baz=257,slow=20,SNR=3.0						
PLCA	**Paso Flores**	**4.72**	**154**	*e*Pn	**Pn**	**04 09 21.7**	**-0.5**
CFAA	**Coronel Fontan**	**6.43**	**42**	Pn	**Pn**	**04 09 45.1**	**-0.5**
	comp=E,0.3nm,0.3s,baz=222,slow=14,SNR=11						
CFAA				Sn	**Sn**	**04 11 01.0**	**+2.9**
	comp=E,0.2nm,0.3s,baz=122,slow=19,SNR=2.7						
LCO	**Las Campanas**	**7.78**	**17**	*e*Pn	**Pn**	**04 10 01.7**	**-2.7**
TRQA	**Tornquist**	**9.12**	**103**	*e*Pn	**Pn**	**04 10 22.6**	**0.0**
LVC	**Limon Verde**	**14.35**	**16**	*e*Pn	**Pn**	**04 11 33.4**	**-1.0**
LPAZ	**La Paz**	**20.65**	**14**	P	**P**	**04 12 50.9**	**-0.1**
	comp=E,0.9nm,0.6s,baz=187,slow=12,SNR=3.3						
LPAZ	**La Paz**	**20.65**	**14**	*e*P	**P**	**04 12 50.7**	**-0.3**
	comp=E,3.8nm,0.8s						
SIV	**San Ignacio**	**23.13**	**31**	P	**P**	**04 13 16.4**	**-0.5**
	comp=E,2.3nm,0.8s,baz=222,slow=10,SNR=6.0						
SAML	**Samuel**	**28.93**	**21**	P	**P**	**04 14 09.1**	**-0.5**
	comp=E,2.8nm,1.1s						
QSPA	**South Pole Qui**	**53.73**	**180**	P	**P**	**04 17 33.3**	**+1.1**
	comp=E,1.4nm,0.8s,baz=9.3,slow=2.9,SNR=6.3						
TXAR	**Lajitas Array**	**71.46**	**332**	P	**P**	**04 19 31.5**	**+0.8**
	comp=E,0.5nm,0.6s,baz=146,slow=7.9,SNR=4.3						
DBIC	**Dimbokro**	**76.93**	**71**	P	**P**	**04 20 03.0**	**+0.1**
	comp=E,6.4nm,1.0s,baz=199,slow=8.4,SNR=4.5						
DBIC	**Dimbokro**	**76.93**	**71**	P	**P**	**04 20 02.8**	**-0.1**
	comp=E,5.7nm,0.8s						
NVAR	**Mina Array Bea**	**85.39**	**326**	P	**P**	**04 20 49.0**	**+1.4**
	comp=E,0.3nm,0.5s,baz=150,slow=7.2,SNR=3.6						
NVAR				pP	**pP**	**04 20 57.0**	**+0.7**
	comp=E,0.9nm,0.8s,baz=157,slow=5.5,SNR=4.7						
PDAR	**Pinedale Array**	**85.56**	**334**	P	**P**	**04 20 49.6**	**+1.2**
	comp=E,0.2nm,0.5s,baz=150,slow=3.8,SNR=2.6						
PDAR				pP	**pP**	**04 20 57.2**	**+0.1**
	comp=E,0.6nm,0.8s,baz=130,slow=3.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**86.00**	**71**	P	**P**	**04 20 50.1**	**-0.8**
	comp=E,0.7nm,0.8s,baz=218,slow=5.1,SNR=7.2						
TORD				pP	**pP**	**04 20 57.3**	**-2.4**
	comp=E,0.8nm,0.9s,baz=249,slow=4.7,SNR=3.5						
WRA	**Warramunga Arr**	**118.09**	**210**	PKP	**PKPdf**	**04 26 56.6**	**-1.0**
	comp=E,0.4nm,0.8s,baz=174,slow=1.4,SNR=4.7						
H11S2	**WAKE ISLAND Hyd**	**24.71**	**268**	T	T	06 44 30.3	
	baz=118						
H11S1	**WAKE ISLAND Hyd**	**24.72**	**268**	T	T	06 44 23.7	
	baz=118						
H11S3	**WAKE ISLAND Hyd**	**24.73**	**268**	T	T	06 44 46.3	
	baz=118						
ABKAR	**Akbulak array**	**143.99**	**54**	*e*PKPdf	PKPab	04 27 42.5	0.0
MKAR	**Makanchi Array**	**159.12**	**53**	PKPab	**PKPab**	**04 28 45.3**	**+0.4**
	comp=E,0.3nm,0.6s,baz=289,slow=4.4,SNR=3.6						

GUC 16 04:13:36.3±0.5, 36°.27S×73°.47W, h21km±4km, ML3.8, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.57**	**76**	⇓*i*P	Pb	04 13 47.9	+0.3
COCH				*i* S	Sn	04 13 56.5	-1.2
COCH				IAML		04 13 57.5	
	comp=N,7μm,0.3s						
CCSP	**San Pedro de C**	**0.64**	**153**	⇓*i*P	Pb	04 13 49.2	+0.3
CCSP				*i* S	Sn	04 13 58.7	-1.0
CCSP				IAML		04 13 59.9	
	comp=E,12μm,0.5s						
LNCH	**Linares**	**1.57**	**75**	⇓*i*P	Pb	04 14 04.4	-0.2
LNCH				*i* S	Sb	04 14 26.2	+2.2
TALC	**Talca**	**1.72**	**60**	⇑*i*P	Pb	04 14 06.9	-0.3
TALC				*i* S	Sb	04 14 29.7	+1.2

*IDC **16** 04:20:03.9±2.1, 16°.75S×173°.05W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/44, mbtmp3.8/6, Error ellipse: s-maj=132.5km s-min=21.5km az=146.0*
*ISCJB **16** 04:20:08.5±2.0, 16°.7S±0°.7×173°.2W±0°.5, h41km, mb3.8/6, Error ellipse: s-maj=127.0km s-min=20.2km az=145.7*

ISC 16 04:20:10.1±2.3, 16°.7S±0°.8×173°.1W±0°.6, h41km, n7, σ0°95/7, mb3.7/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.62**	**241**	P	**P**	**04 28 11.6**	**+0.8**
	0.8nm,0.6s,baz=74,slow=7.4,SNR=4.1						
WRA	**Warramunga Arr**	**49.82**	**258**	P	**P**	**04 28 58.3**	**-1.1**
	0.4nm,0.5s,baz=96,slow=6.7,SNR=9.6						
ASAR	**Alice Springs**	**49.97**	**253**	P	**P**	**04 29 00.2**	**-0.4**
	2.9nm,0.6s,baz=90,slow=7.7,SNR=17						
NVAR	**Mina Array Bea**	**75.13**	**42**	P	**P**	**04 31 47.9**	**-0.5**
	0.5nm,0.7s,baz=226,slow=6.2,SNR=5.5						
PDAR	**Pinedale Array**	**83.07**	**42**	P	**P**	**04 32 31.2**	**-0.6**
	0.9nm,0.8s,baz=224,slow=4.1,SNR=7.2						
ILAR	**Eielson Array**	**83.69**	**11**	P	**P**	**04 32 35.1**	**+1.0**
	0.3nm,0.8s,baz=224,slow=6.6,SNR=6.0						
BRTR	**Keskin Array B**	**147.36**	**320**	PKPbc	**PKPbc**	**04 39 49.9**	**0.0**
	0.8nm,0.8s,baz=69,slow=2.4,SNR=4.1						

*IDC **16** 04:20:09.1±0.9, 36°.20S×73°.40W, h0km, mb4.1/9, mb1 4.2/11, mb1mx4.1/20, mbtmp4.0/11, ML3.7/2, Error ellipse: s-maj=28.4km s-min=15.4km az=88.0*
*GUC **16** 04:20:11.0±0.4, 36°.23S×73°.62W, h28km±3km, ML4.3*
*NEIC **16** 04:20:14.1±1.4, 36°.18S×73°.32W, h36km±11km, mb4.5/3, Error ellipse: s-maj=20.7km s-min=8.1km az=91.0*

ISC 16 04:20:11.1±1.8, 36°.17S±0°.05×73°.45W±0°.07, h14km±10km, n23, σ0°81/29, mb4.2/8, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.54**	**86**	⇑*i*P	**Pn**	**04 20 23.6**	**-0.7**
COCH				*i* S	**Sn**	**04 20 33.0**	**0.0**
CCSP	**San Pedro de C**	**0.73**	**158**	⇑*i*P	**Pg**	**04 20 24.8**	**-0.5**
CCSP				*i* S	**Sb**	**04 20 35.0**	**-0.3**
CCSP				AML	AML	04 20 36.9	
	comp=E,23μm,0.6s						
LNCH	**Linares**	**1.53**	**78**	⇑*i*P	**Pb**	**04 20 39.5**	**+0.2**
LNCH				*i* S	**Sg**	**04 21 01.3**	**+0.8**
TALC	**Talca**	**1.67**	**63**	⇑*i*P	**Pb**	**04 20 41.5**	**0.0**
TALC				*e*S	**Sg**	**04 21 04.9**	**+0.2**
NICH	**Los Niches**	**2.15**	**58**	*i* P	**Pb**	**04 20 48.2**	**-1.6**
NICH				*e*S	**Sb**	**04 21 16.7**	**+0.4**
PLCA	**Paso Flores**	**5.09**	**154**	Pn	**Pn**	**04 21 27.8**	**+0.8**
	comp=E,0.9nm,0.3s,baz=330,slow=13,SNR=6.3						
PLCA				Lg	Lg	04 22 50.0	
	comp=E,1.8nm,0.3s,baz=258,slow=19,SNR=3.6						
PLCA	**Paso Flores**	**5.09**	**154**	*e*Pn	**Pn**	**04 21 27.3**	**+0.3**
	comp=E,32nm,0.7s						
PLCA				Lg	Lg	04 22 50.0	
CFAA	**Coronel Fontan**	**6.29**	**45**	Pn	**Pn**	**04 21 44.1**	**+0.8**
	comp=E,1.0nm,0.3s,baz=215,slow=14,SNR=40						
CFAA				Sn	**Sn**	**04 22 56.6**	**+1.6**
	comp=E,0.2nm,0.3s,baz=164,slow=18,SNR=3.3						
LCO	**Las Campanas**	**7.50**	**19**	*e*Pn	**Pn**	**04 22 00.0**	**-0.3**
	comp=E,7.8nm,0.4s						
LCO				*e*S	**Sn**	**04 23 24.0**	**-1.4**
LPAZ	**La Paz**	**20.36**	**15**	P	Pn	04 24 49.8	-0.3
	comp=E,3.4nm,0.9s,baz=189,slow=8.3,SNR=7.2						
LPAZ	**La Paz**	**20.36**	**15**	*e*P	Pn	04 24 48.4	-1.6
	comp=E,6.1nm,1.0s						
SIV	**San Ignacio**	**22.92**	**32**	P	**P**	**04 25 14.6**	**-0.2**
	comp=E,6.9nm,1.0s,baz=230,slow=13,SNR=15						
BDFB	**Brasilia**	**30.52**	**55**	P	**P**	**04 26 23.9**	**-0.2**
	comp=E,4.1nm,1.0s,baz=221,slow=9.3,SNR=3.6						
SNAA	**Sanae**	**50.03**	**157**	P	**P**	**04 29 04.7**	**0.0**
	comp=E,3.3nm,0.9s,baz=298,slow=4.0,SNR=6.6						
SNAA	**Sanae**	**50.03**	**157**	*e*P	**P**	**04 29 03.6**	**-1.1**
	comp=E,8.8nm,0.9s						
QSPA	**South Pole Qui**	**54.07**	**180**	P	**P**	**04 29 35.1**	**+0.1**
	comp=E,4.3nm,1.0s,baz=154,slow=6.7,SNR=6.8						
QSPA	**South Pole Qui**	**54.07**	**180**	*e*P	**P**	**04 29 35.3**	**+0.3**
	comp=E,6.1nm,1.0s						
TXAR	**Lajitas Array**	**71.08**	**332**	P	**P**	**04 31 29.1**	**+0.3**
	comp=E,0.9nm,0.8s,baz=162,slow=6.2,SNR=4.6						
BOSA	**Boshof**	**80.08**	**118**	P	**P**	**04 32 20.4**	**-0.4**
	comp=E,4.0nm,0.9s,baz=224,slow=5.2,SNR=4.2						
NVAR	**Mina Array Bea**	**85.02**	**326**	P	**P**	**04 32 47.5**	**+1.4**
	comp=E,0.4nm,0.7s,baz=152,slow=6.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**86.03**	**71**	P	**P**	**04 32 50.8**	**-0.7**
	comp=E,1.1nm,1.0s,baz=213,slow=5.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**156.67**	**34**	PKP	**PKPdf**	**04 40 04.1**	**-1.0**
	comp=E,0.5nm,0.3s,baz=331,slow=5.4,SNR=3.2						
ZALV				PKPab	**PKPab**	**04 40 34.7**	**+0.3**
	comp=E,1.1nm,0.6s,baz=316,slow=6.0,SNR=4.9						
MKAR	**Makanchi Array**	**159.03**	**52**	PKP	**PKPdf**	**04 40 07.2**	**-1.1**
	comp=E,0.2nm,0.6s,baz=305,slow=5.1,SNR=3.2						

TAP 16 04:21:20.0, 23°.22N×121°.38E, h40km±1km, ML2.8, 4C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.12**	**186**	P	Pn	04 21 26.9	-0.9
	baz=173						
CHKT				S	Sn	04 21 32.3	-1.6
	baz=173						
TWF1	**Yuli**	**0.15**	**331**	⇑P	Pn	04 21 26.8	-1.0
	baz=323						
TWF1				S	Sn	04 21 31.6	-2.1
	baz=323						
EHY	**Hungye**	**0.29**	**350**	*e*P	Pn	04 21 27.9	-0.3
	baz=345						
EHY				S	Sn	04 21 33.2	-1.0
	baz=345						
ELDTW	**Lidau**	**0.33**	**265**	⇑*i*P	Pn	04 21 28.6	-0.2
	baz=263						
ELDTW				*e*S	Sn	04 21 34.5	-0.5
	baz=263						
YUS	**Yu-Shan**	**0.47**	**304**	⇑*i*P	Pn	04 21 31.6	+0.6
	baz=311						
YUS				*i* S	Sn	04 21 39.6	+0.9
	baz=311						
TWG	**Pinlang**	**0.49**	**215**	⇑*i*P	Pn	04 21 29.5	-1.1
	baz=208						
STYT	**Tauyuan**	**0.57**	**264**	P	Pn	04 21 32.3	+0.5
	baz=261						
ALS	**Alishan**	**0.60**	**299**	P	Pn	04 21 33.4	+0.9
	baz=299						
ALS				*e*S	Sn	04 21 42.6	+1.2
	baz=299						
WTP	**Ta-pu**	**0.70**	**272**	P	Pn	04 21 34.6	+1.1
	baz=272						
WTP				S	Sn	04 21 45.4	+2.1
	baz=272						
CHN4	**Tsaushan**	**0.73**	**280**	*e*P	Pn	04 21 35.0	+1.1
	baz=280						
CHN4				S	Sn	04 21 46.8	+2.9
	baz=280						
CHN5	**Tsauling**	**0.74**	**300**	P	Pn	04 21 35.5	+1.3
	baz=300						
CHN5				S	Sn	04 21 46.8	+2.4
	baz=300						
SGST	**Jiashian**	**0.74**	**260**	*e*P	Pn	04 21 35.4	+1.3
	baz=267						
CHN1	**Nanshi**	**0.78**	**268**	P	Pn	04 21 35.9	+1.3
	baz=267						
CHN1				*e*S	Sn	04 21 47.6	+2.4
	baz=267						
TWK	**Hsinying**	**0.82**	**273**	*e*P	Pn	04 21 36.5	+1.3
	baz=273						
TWK				*e*S	Sn	04 21 48.6	+2.4
	baz=273						
TYC	**Yuchr**	**0.83**	**325**	*e*P	Pn	04 21 36.2	+1.0
	baz=327						
TYC				*e*S	Sn	04 21 47.3	+1.0
	baz=327						
WHF	**Hehuan Shan**	**0.93**	**354**	*e*P	Pn	04 21 36.6	-0.5
	baz=3.0						

*IDC **16** 04:23:07.0±0.8, 13°.74S×167°.59E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/21, mbtmp3.9/9, Error ellipse: s-maj=33.4km s-min=20.3km az=114.0*
*ISCJB **16** 04:23:11.1±0.8, 13°.8S±0°.2×167°.5E±0°.2, h33km, mb3.8/9, Error ellipse: s-maj=28.6km s-min=17.2km az=35.7*

ISC 16 04:23:12.4±0.8, 13°.7S±0°.2×167°.6E±0°.2, h35km, n15, σ1°65/16, mb3.8/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMQ	**Roma**	**21.76**	**231**	P	**P**	**04 28 05.1**	**+4.0**
	baz=23,SNR=4.7						
STKA	**Stephens Creek**	**29.91**	**228**	P	**P**	**04 29 18.1**	**+0.9**
	3.2nm,0.6s,baz=45,slow=8.5,SNR=11						
WRA	**Warramunga Arr**	**32.42**	**254**	P	**P**	**04 29 38.5**	**-1.0**
	0.2nm,0.3s,baz=85,slow=8.8,SNR=6.4						
ASAR	**Alice Springs**	**33.36**	**248**	P	**P**	**04 29 46.4**	**-1.3**
	0.7nm,0.6s,baz=76,slow=9.8,SNR=4.4						
WRKA	**Warakurna**	**38.64**	**247**	P	**P**	**04 30 31.9**	**-0.9**
	baz=41,SNR=3.4						
VNDA	**Vanda**	**63.86**	**181**	P	**P**	**04 33 41.5**	**+0.4**
	1.0nm,1.0s,baz=2.9,slow=6.0,SNR=3.8						
QSPA	**South Pole Qui**	**76.29**	**180**	P	**P**	**04 34 57.2**	**-0.3**
	2.6nm,0.9s,baz=21,slow=2.3,SNR=9.2						
SEY	**Seymchan**	**77.34**	**353**	P	**P**	**04 35 04.2**	**+1.0**
	1.2nm,0.2s,baz=135,slow=7.7,SNR=6.0						
SONM	**Songino Array**	**81.91**	**323**	P	**P**	**04 35 29.1**	**+0.6**
	0.2nm,0.5s,baz=109,slow=4.0,SNR=3.3						
ILAR	**Eielson Array**	**85.47**	**18**	P	**P**	**04 35 47.3**	**+1.1**
	0.4nm,0.6s,baz=244,slow=4.9,SNR=12						
YKA	**Yellowknife Ar**	**96.50**	**27**	P	**P**	**04 36 38.6**	**+0.6**
	0.1nm,0.4s,baz=259,slow=4.6,SNR=4.3						
ARCES	**ARCESS Array B**	**119.38**	**346**	PKP	**PKPdf**	**04 41 56.5**	**-1.1**
	1.8nm,0.7s,baz=54,slow=1.9,SNR=14						
FINES	**FINESS Array B**	**124.93**	**339**	PKP	**PKPdf**	**04 42 07.2**	**-1.3**
	0.8nm,0.7s,baz=28,slow=3.8,SNR=4.1						
KEST	**Kesra**	**150.65**	**322**	PKPbc	**PKPbc**	**04 43 00.7**	**-0.7**
	2.2nm,0.9s,baz=77,slow=4.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**166.31**	**269**	PKP	**PKPdf**	**04 43 12.7**	**-2.3**
	0.3nm,0.7s,baz=88,slow=1.0,SNR=3.4						
TORD				PKPab	**PKPab**	**04 44 14.5**	**-1.9**
	0.5nm,0.8s,baz=80,slow=4.3,SNR=2.9						

GUC 16 04:24:43.3±0.6, 36°.21S×73°.64W, h31km±5km, ML4.1, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.69**	**84**	⇑*i*P	Pb	04 24 57.0	+0.1
COCH				*i* S	Sn	04 25 07.2	+0.6
COCH				IAML		04 25 08.1	
	comp=N,15μm,0.7s						
CCSP	**San Pedro de C**	**0.76**	**146**	⇓*i*P	Pb	04 24 58.4	+0.2
CCSP				*i* S	Sn	04 25 09.5	+1.1
CCSP				IAML		04 25 10.3	
	comp=E,17μm,0.4s						
LNCH	**Linares**	**1.69**	**78**	*e*P4	Pb	04 25 12.9	-0.8
LNCH				*i* S	Sb	04 25 35.5	+0.9
TALC	**Talca**	**1.82**	**64**	*e*S	Sb	04 25 39.0	+0.6
CLCH	**Cerro Calan**	**3.79**	**43**	*e*P1	Pn	04 25 42.2	+2.5
PEL	**Peldehue**	**3.91**	**39**	*e*P1	Pn	04 25 44.1	+2.8

*IDC **16** 04:25:34.1±1.2, 1°.86N×132°.60E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/24, mbtmp4.0/8, Error ellipse: s-maj=96.4km s-min=16.2km az=70.0*
*ISCJB **16** 04:25:37.1±1.0, 1°.9N±0°.2×132°.6E±0°.5, h33km, mb4.0/8, Error ellipse: s-maj=77.3km s-min=14.3km az=160.5*

ISC 16 04:25:39.5±1.2, 1°.8N±0°.3×132°.6E±0°.7, h35km, n8, σ0°73/8, mb4.0/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.68**	**175**	P	**P**	**04 30 27.9**	**+0.5**
	4.6nm,0.8s,baz=354,slow=11,SNR=41						
ASAR	**Alice Springs**	**25.35**	**177**	P	**P**	**04 31 04.1**	**+0.7**
	4.1nm,0.7s,baz=354,slow=9.5,SNR=38						
CTA	**Charters Tower**	**25.57**	**149**	P	**P**	**04 31 05.1**	**-0.3**
	3.3nm,0.5s,baz=326,slow=12,SNR=5.2						
STKA	**Stephens Creek**	**34.58**	**166**	P	**P**	**04 32 24.7**	**-0.3**
	2.4nm,0.8s,baz=335,slow=9.8,SNR=5.7						
SONM	**Songino Array**	**51.13**	**338**	P	**P**	**04 34 39.7**	**+0.7**
	1.3nm,1.0s,baz=145,slow=7.9,SNR=7.6						
MKAR	**Makanchi Array**	**62.50**	**323**	P	**P**	**04 35 58.5**	**-1.1**
	1.8nm,0.9s,baz=117,slow=7.4,SNR=12						
ZALV	**Zalesovo Beam**	**65.00**	**331**	P	**P**	**04 36 16.0**	**+0.1**
	0.6nm,0.6s,baz=132,slow=6.4,SNR=3.5						
VNDA	**Vanda**	**80.85**	**174**	P	**P**	**04 37 49.2**	**-0.1**
	0.6nm,0.8s,baz=335,slow=4.9,SNR=4.6						

IDC 16 04:31:39.1±1.6, 6°.70S×129°.33E, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.6/34, mbtmp3.8/4, ML4.1/3, Error ellipse: s-maj=47.5km s-min=25.4km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.60**	**238**	Pn	Pn	04 33 17.9	+0.5
	28nm,0.3s,baz=121,slow=3.6,SNR=14						
BATI				Sn	Sn	04 34 18.8	-15
	26nm,0.3s,baz=7.0,slow=18,SNR=10						
WRA	**Warramunga Arr**	**14.03**	**160**	Pn	Pn	04 35 01.0	+1.7
	0.5nm,0.3s,baz=338,slow=13,SNR=36						
WRA				Sn	Sn	04 37 24.6	-11
	1.3nm,0.3s,baz=336,slow=22,SNR=7.9						
ASAR	**Alice Springs**	**17.43**	**166**	Pn	P	04 35 45.6	+0.4
	0.4nm,0.3s,baz=339,slow=10,SNR=23						
ASAR				Sn	Sn	04 38 45.0	-14
	0.4nm,0.3s,baz=338,slow=24,SNR=7.2						
STKA	**Stephens Creek**	**27.54**	**157**	P	P	04 37 26.5	-1.2
	1.0nm,0.5s,baz=325,slow=8.0,SNR=5.9						
MKAR	**Makanchi Array**	**67.61**	**327**	P	P	04 42 37.9	+0.1
	0.3nm,0.5s,baz=123,slow=5.3,SNR=5.9						

GUC 16 04:38:19.6±0.5, 36°.24S×73°.55W, h24km±3km, ML3.6, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.62**	**80**	*i* P	Pb	04 38 32.1	+0.2
COCH				*i* S	Sn	04 38 41.6	-0.5
COCH				IAML		04 38 42.2	
	comp=E,5μm,0.5s						
CCSP	**San Pedro de C**	**0.70**	**150**	*e*P	Pb	04 38 33.4	+0.2
CCSP				*i* S	Sn	04 38 43.9	-0.1
CCSP				IAML		04 38 45.6	
	comp=N,4μm,0.6s						
LNCH	**Linares**	**1.62**	**77**	⇑*i*P	Pb	04 38 48.5	-0.4
LNCH				*i* S	Sb	04 39 10.4	+1.5
LNCH				IAML		04 39 23.3	
	comp=E,1μm,0.7s						
TALC	**Talca**	**1.77**	**62**	⇑*i*P	Pb	04 38 50.5	-0.8
TALC				*i* S	Sb	04 39 14.0	+1.0
TALC				IAML		04 39 20.5	
	comp=N,2μm,0.4s						

GUC 16 04:46:24.4±0.6, 36°.36S×73°.39W, h29km±4km, ML4.1, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.54**	**66**	⇓*i*P	Pb	04 46 35.6	+0.2
COCH				*i* S	Sn	04 46 44.0	-0.2
CCSP	**San Pedro de C**	**0.54**	**155**	*e*P	Pn	04 46 35.9	-0.2
CCSP				*i* S	Sn	04 46 43.9	-0.4
CCSP				IAML		04 46 46.8	
	comp=E,24μm,0.3s						
LNCH	**Linares**	**1.54**	**71**	⇑*i*P	Pb	04 46 51.4	-0.8
LNCH				*i* S	Sb	04 47 12.2	+1.0
TALC	**Talca**	**1.72**	**57**	⇑*i*P	Pb	04 46 54.1	-1.1
TALC				*i* S	Sb	04 47 17.6	+1.1

**WEL 16 04:47:

TRWZ	**Traveller**	**2.59**	**51**	PN	Pn	04 48 19.9	-1.6
ODZ	**Otahua Downs**	**2.61**	**220**	⇑PN	Pn	04 48 21.6	-0.2
KIW	**Kapiti Island**	**2.62**	**33**	PN	Pn	04 48 21.0	-0.9
KIW				AML	AML	04 48 53.0	
MTW	**Mount Morrison**	**2.66**	**45**	PN	Pn	04 48 20.7	-1.7
MTW				AML	AML	04 48 50.5	
MTW				AML	AML	04 48 50.6	
OGWZ	**Otaki Gorge**	**2.76**	**36**	PN	Pn	04 48 22.6	-1.3
HOWZ	**Holdsworth Sta**	**2.86**	**42**	*e*PN	Pn	04 48 23.6	-1.6
TMWZ	**Te Maipa**	**2.90**	**49**	PN	Pn	04 48 23.9	-2.0
MRZ	**Mangatainoka R**	**3.07**	**40**	PN	Pn	04 48 26.5	-1.6
MRZ				AML	AML	04 49 00.8	
MRZ				AML	AML	04 49 02.2	
TIWZ	**Tintock**	**3.13**	**44**	AML	AML	04 49 03.7	
TIWZ				AML	AML	04 49 05.4	
JCZ	**Jackson Bay**	**3.25**	**250**	PN	Pn	04 48 30.6	0.0
HHSZ	**Highcliff Hill**	**3.31**	**211**	PN	Pn	04 48 31.0	-0.4
EAZ	**Earnscleugh**	**3.43**	**230**	PN	Pn	04 48 32.8	-0.3
EAZ				AML	AML	04 49 11.6	
EAZ				AML	AML	04 49 11.7	
EAZ				AML	AML	04 49 40.7	
EAZ				AML	AML	04 49 40.7	
TUZ	**Tuapeka**	**3.77**	**219**	PN	Pn	04 48 37.5	-0.2
MLZ	**Mavora Lakes**	**4.16**	**235**	PN	Pn	04 48 42.3	-0.8
TRVZ	**Turoa**	**4.22**	**28**	AML	AML	04 49 31.5	
FWVZ	**Far West T-bar**	**4.26**	**28**	AML	AML	04 49 37.8	
HIZ	**Hauiti**	**4.75**	**18**	PN	Pn	04 48 51.3	0.0
APZ	**The Paps**	**5.19**	**222**	PN	Pn	04 48 56.5	-0.8

GUC 16 04:50:42.2±0.8, 36°.52S×73°.49W, h20km±4km, ML3.7, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.45**	**137**	⇓*i*P	Pg	04 50 52.1	+0.6
CCSP				*i* S	Sb	04 50 58.9	+1.2
CCSP				IAML		04 50 59.6	
	comp=N,9μm,0.6s						
COCH	**Cobquecura**	**0.69**	**56**	⇓*i*P	Pg	04 50 55.9	+0.1
COCH				*i* S	Sg	04 51 05.7	+0.7
COCH				IAML		04 51 06.8	
	comp=N,8μm,0.3s						
LNCH	**Linares**	**1.67**	**67**	⇑*i*P	Pn	04 51 10.8	+0.5
LNCH				*i* S	Sb	04 51 33.8	+0.9
TALC	**Talca**	**1.88**	**54**	*e*P	Pb	04 51 14.8	-1.0
TALC				*i* S	Sb	04 51 40.6	+1.8

*IDC **16** 04:55:32.0±1.6, 34°.05S×71°.96W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=48.3km s-min=30.2km az=102.0*
*ISCJB **16** 04:55:33.7±3.8, 34°.04S±0°.05×72°.2W±0°.2, h18km±30km, mb3.6/2, Error ellipse: s-maj=23.1km s-min=8.6km az=5.1*
*GUC **16** 04:55:34.5±0.9, 34°.09S×72°.12W, h9km±7km, ML3.7*

ISC 16 04:55:34.0±1.8, 34°.08S±0°.04×72°.06W±0°.08, h12km±11km, n17, σ1§12/24, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.11**	**18**	⇑*i*P	**Pg**	**04 55 54.7**	**-0.6**
IHA				*e*S1	**Sg**	**04 56 10.8**	**+1.1**
NICH	**Los Niches**	**1.15**	**144**	*e*P1	**Pn**	**04 55 55.6**	**-0.3**
NICH				*e*S1	**Sg**	**04 56 12.0**	**+0.9**
NICH				AML	AML	04 56 17.1	
	comp=N,5μm,0.5s						
RCDM	**Rinconada Map**	**1.20**	**61**	⇓*i*P	**Pn**	**04 55 56.6**	**+0.1**
RCDM				AML	AML	04 56 15.2	
	comp=N,2μm,0.1s						
ANTU	**Antumapu**	**1.29**	**67**	⇓*i*P	**Pn**	**04 55 58.4**	**+0.6**
ANTU				*i* S1	**Sg**	**04 56 16.5**	**+1.0**
ANTU				AML	AML	04 56 24.9	
	comp=E,2μm,0.6s						
TALC	**Talca**	**1.36**	**165**	*e*P1	**Pn**	**04 55 58.5**	**-0.3**
TALC				*i* S1	**Sn**	**04 56 16.6**	**-0.2**
TALC				AML	AML	04 56 19.9	
	comp=E,4μm,0.4s						
CLCH	**Cerro Calan**	**1.44**	**62**	⇑*i*P	**Pn**	**04 56 01.1**	**+1.2**
CLCH				*i* S1	**Sg**	**04 56 20.4**	**+0.1**
CLCH				AML	AML	04 56 35.0	
	comp=E,2μm,0.6s						
PEL	**Peldehue**	**1.48**	**51**	⇓*i*P	**Pn**	**04 56 01.6**	**+1.1**
PEL				*i* S1	**Sg**	**04 56 22.2**	**+0.7**
PEL				AML	AML	04 56 33.7	
	comp=N,3μm,0.6s						
SJCH	**San Jose de Ma**	**1.48**	**73**	⇓*i*P	**Pn**	**04 56 00.9**	**+0.3**
SJCH				*i* S1	**Sg**	**04 56 21.1**	**-0.7**
SJCH				AML	AML	04 56 26.3	
	comp=E,2μm,0.7s						
FCH	**Farellones**	**1.65**	**64**	⇑*i*P	Pn	04 56 00.6	-2.6
FCH				*i* S1	Sg	04 56 23.2	-4.0
FCH				AML	AML	04 56 33.2	
	comp=N,965nm,0.2s						
LNCH	**Linares**	**1.80**	**168**	⇓*i*P	**Pn**	**04 56 05.3**	**+0.4**
LNCH				*i* S	**Sn**	**04 56 29.7**	**+2.0**
LNCH				AML	AML	04 56 35.1	
	comp=N,2μm,0.6s						
CFAA	**Coronel Fontan**	**4.05**	**54**	Pn	**Pn**	**04 56 36.3**	**+0.4**
	comp=N,0.1nm,0.3s,baz=222,slow=13,SNR=4.8						
CFAA				Lg	Lg	04 57 35.9	
	comp=N,0.8nm,0.3s,baz=98,slow=18,SNR=6.2						
PLCA	**Paso Flores**	**6.75**	**170**	Pn	**Pn**	**04 57 13.4**	**+0.5**
	comp=N,0.3nm,0.3s,baz=343,slow=14,SNR=6.3						
PLCA				Lg	Lg	04 59 02.5	
	comp=N,0.2nm,0.3s,baz=274,slow=17,SNR=4.0						
LPAZ	**La Paz**	**18.07**	**12**	P	**Pn**	**04 59 45.9**	**+0.4**
	comp=N,0.1nm,0.3s,baz=210,slow=12,SNR=7.0						
SIV	**San Ignacio**	**20.55**	**31**	P	**P**	**05 00 09.8**	**-2.8**
	comp=N,1.7nm,0.7s,baz=224,slow=11,SNR=3.4						
NVAR	**Mina Array Bea**	**83.94**	**325**	P	**P**	**05 08 04.4**	**+0.4**
	comp=N,0.2nm,0.6s,baz=156,slow=6.9,SNR=2.6						
TORD	**Torodi Ar. Bea**	**84.25**	**70**	P	**P**	**05 08 04.5**	**-1.4**
	comp=N,0.4nm,0.7s,baz=234,slow=4.8,SNR=4.0						
BVAR	**Borovoye Array**	**147.35**	**43**	PKPbc	**PKPdf**	**05 15 16.4**	**+1.8**
	comp=N,0.3nm,0.4s,baz=270,slow=4.0,SNR=4.0						

IDC 16 04:58:03.5±8.1, 18°.31S×167°.48E, h151km±78km, mb3.8/3, mb1 3.9/4, mb1mx3.5/18, mbtmp4.1/4, Error ellipse: s-maj=168.4km s-min=65.4km az=100.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.86**	**194**	P	Pn	04 59 02.6	+0.5
	2.0nm,0.3s,baz=79,slow=16,SNR=14						
DZM				S	Sn	04 59 47.7	0.0
	0.4nm,0.3s,baz=61,slow=19,SNR=1.7						
STKA	**Stephens Creek**	**26.97**	**235**	P	P	05 03 30.1	-1.0
	1.0nm,0.5s,baz=78,slow=9.3,SNR=3.6						
WRA	**Warramunga Arr**	**31.33**	**262**	P	P	05 04 10.1	+0.3
	0.8nm,0.4s,baz=88,slow=8.4,SNR=17						
ASAR	**Alice Springs**	**31.75**	**255**	P	P	05 04 13.6	+0.1
	5.6nm,0.5s,baz=82,slow=8.8,SNR=85						

*ISCJB **16** 05:04:22.3±0.6, 37°.63N±0°.04×103°.96E±0°.09, h10km, mb3.1/4, Error ellipse: s-maj=10.9km s-min=6.1km az=172.0*
*IDC **16** 05:04:22.3±1.4, 37°.63N×103°.97E, h0km, mb3.1/5, mb1 3.3/7, mb1mx3.2/29, mbtmp3.2/7, ML3.2/2, Error ellipse: s-maj=36.7km s-min=24.0km az=65.0*
*BJI **16** 05:04:26.6, 37°.65N×103°.93E, h10km, ML3.4/12*

ISC 16 05:04:24.8±0.7, 37°.68N±0°.06×103°.95E±0°.07, h10km, n11, σ1§16/14, mb3.2/4, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**1.59**	**183**	Pg	**Pn**	**05 04 53.8**	**+0.6**
LZH				Sg	**Sn**	**05 05 13.3**	**-0.7**
LZH				SMN			
	650nm,0.5s						
LZH				SME			
	640nm,0.5s						
GTA	**Gaotai**	**3.67**	**299**	Pn	**Pn**	**05 05 21.9**	**+0.1**
GTA				Pg	**Pb**	**05 05 29.5**	**-0.4**
GTA				Sg	**Sb**	**05 06 16.9**	**+2.4**
GTA				SMN			
	79nm,0.6s						
GTA				SME			
	100nm,0.7s						
XAN	**Xi'an**	**5.43**	**131**	Pg	**Pg**	**05 06 10.3**	**+1.5**
XAN				Sg	Sb	05 07 12.8	+7.7
XAN				smax	smax		
	comp=N,13nm,0.9s						
XAN				smax	smax		
	comp=E,4.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**6.70**	**59**	*e*Pn	**Pn**	**05 06 04.3**	**+0.9**
SONM	**Songino Array**	**10.30**	**9**	Pn	**Pn**	**05 06 53.3**	**+0.5**
	comp=E,0.3nm,0.3s,baz=187,slow=14,SNR=9.9						
SONM				Lg	Lg	05 09 51.6	
	comp=E,0.2nm,0.3s,baz=190,slow=31,SNR=6.6						
MKAR	**Makanchi Array**	**18.39**	**307**	P	**P**	**05 08 40.5**	**+0.6**
	comp=E,0.1nm,0.3s,baz=105,slow=11,SNR=3.2						
ZALV	**Zalesovo Beam**	**20.92**	**327**	P	**P**	**05 09 05.9**	**-1.5**
	comp=E,1.2nm,0.6s,baz=123,slow=11,SNR=5.6						
KURBB	**Kurchatov Arra**	**22.23**	**314**	P	**P**	**05 09 20.7**	**-0.7**
	comp=E,0.3nm,0.5s,baz=109,slow=11,SNR=3.9						
ILAR	**Eielson Array**	**64.00**	**27**	P	**P**	**05 14 57.4**	**-0.7**
	comp=E,0.1nm,0.4s,baz=299,slow=4.7,SNR=4.1						
ASAR	**Alice Springs**	**67.21**	**150**	P	**P**	**05 15 18.2**	**-1.1**
	comp=E,0.2nm,0.6s,baz=335,slow=6.8,SNR=3.5						
YKA	**Yellowknife Ar**	**75.46**	**17**	P	**P**	**05 16 08.0**	**-0.6**
	comp=E,0.1nm,0.6s,baz=331,slow=4.5,SNR=3.9						

*IDC **16** 05:12:39.5±0.9, 36°.27S×72°.96W, h0km, mb3.8/8, mb1 4.1/9, mb1mx4.0/18, mbtmp3.8/9, ML4.1/1, Error ellipse: s-maj=31.2km s-min=16.9km az=84.0*
*ISCJB **16** 05:12:41.6±0.5, 36°.39S±0°.04×73°.46W±0°.07, h25km, mb4.1/9, Error ellipse: s-maj=8.1km s-min=6.3km az=11.7*
*GUC **16** 05:12:41.7±0.6, 36°.39S×73°.44W, h25km±7km, ML4.6*
*NEIC **16** 05:12:44.5±0.5, 36°.19S×72°.81W, h35km, mb4.6/1, Error ellipse: s-maj=15.7km s-min=8.9km az=91.0*

ISC 16 05:12:42.9±0.6, 36°.34S±0°.05×73°.30W±0°.08, h25km, n28, σ1§42/26, mb4.1/9, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.52**	**163**	⇑*i*P	**Pb**	**05 12 52.2**	**-1.4**
CCSP				*i* S	**Sb**	**05 12 59.7**	**-1.0**
LNCH	**Linares**	**1.46**	**71**	⇓*i*P	**Pb**	**05 13 08.2**	**-1.2**
LNCH				*i* S	**Sb**	**05 13 29.3**	**+1.7**
TALC	**Talca**	**1.65**	**56**	⇑*i*P	**Pb**	**05 13 11.5**	**-1.1**
TALC				*i* S	**Sb**	**05 13 34.6**	**+1.6**
TALC				AML	AML	05 13 39.8	
	comp=E,12μm,0.6s						
NICH	**Los Niches**	**2.15**	**52**	*e*P1	**Pb**	**05 13 19.1**	**-2.1**
NICH				AML	AML	05 13 58.3	
	comp=E,4μm,0.3s						
VLCH	**Valdivia**	**3.46**	**179**	*e*P	**Pn**	**05 13 34.5**	**-0.7**
PLCA	**Paso Flores**	**4.88**	**155**	Pn	**Pn**	**05 13 55.6**	**+0.7**
	comp=E,1.7nm,0.3s,baz=327,slow=14,SNR=42						
PLCA				Lg	Lg	05 15 10.4	
	comp=E,7.1nm,0.3s,baz=30,slow=18,SNR=3.9						
CFAA	**Coronel Fontan**	**6.33**	**43**	Pn	Pn	05 14 09.0	-5.7
	comp=E,0.1nm,0.3s,baz=68,slow=22,SNR=11						
CFAA				Lg	Lg	05 15 46.9	
	comp=E,0.2nm,0.3s,baz=276,slow=18,SNR=7.1						
LCO	**Las Campanas**	**7.63**	**17**	*e*Pn	Pn	05 14 29.1	-3.7
	comp=E,10nm,0.6s						
TRQA	**Tornquist**	**9.19**	**104**	*e*Pn	Pn	05 14 49.1	-4.8
LVC	**Limon Verde**	**14.20**	**17**	Pn	Pn	05 15 58.4	-4.3
LPAZ	**La Paz**	**20.50**	**14**	P	**P**	**05 17 16.9**	**-2.9**
	comp=E,1.1nm,0.7s,baz=163,slow=11,SNR=2.5						
LPAZ	**La Paz**	**20.50**	**14**	*e*P	**P**	**05 17 17.4**	**-2.4**
SIV	**San Ignacio**	**23.01**	**31**	P	**P**	**05 17 43.8**	**-2.2**
	comp=E,2.2nm,0.8s,baz=206,slow=12,SNR=9.0						
NNA	**Nana**	**24.46**	**352**	P	**P**	**05 18 00.0**	**0.0**
ROSC	**El Rosal**	**40.99**	**358**	P	**P**	**05 20 23.4**	**-1.1**
SNAA	**Sanae**	**49.82**	**157**	*e*P	**P**	**05 21 33.6**	**+0.2**
	comp=E,4.8nm,0.8s						
QSPA	**South Pole Qui**	**53.90**	**180**	P	**P**	**05 22 04.7**	**+0.7**
	comp=E,2.0nm,0.9s,baz=145,slow=8.7,SNR=5.8						
QSPA	**South Pole Qui**	**53.90**	**180**	*e*P	**P**	**05 22 04.9**	**+1.0**
VNDA	**Vanda**	**61.60**	**192**	*e*P	**P**	**05 22 58.6**	**+0.9**
	comp=E,36nm,0.6s						
TXAR	**Lajitas Array**	**71.30**	**332**	P	**P**	**05 24 01.1**	**+0.8**
	comp=E,0.5nm,0.6s,baz=128,slow=7.0,SNR=3.2						
DBIC	**Dimbokro**	**76.91**	**72**	P	**P**	**05 24 33.8**	**+0.4**
	comp=E,2.7nm,0.8s,baz=212,slow=9.5,SNR=3.7						
WHZ	**Wether Hill Ro**	**81.31**	**218**	*e*P	**P**	**05 24 57.8**	**+0.7**
NVAR	**Mina Array Bea**	**85.23**	**326**	P	**P**	**05 25 19.2**	**+1.9**
	comp=E,0.2nm,0.6s,baz=168,slow=5.3,SNR=3.8						
PDAR	**Pinedale Array**	**85.40**	**334**	P	**P**	**05 25 19.2**	**+1.1**
	comp=E,1.1nm,1.0s,baz=133,slow=6.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**85.97**	**71**	P	**P**	**05 25 21.1**	**-0.2**
	comp=E,0.9nm,0.8s,baz=246,slow=4.2,SNR=5.7						
WRA	**Warramunga Arr**	**118.22**	**210**	PKP	**PKPdf**	**05 31 27.4**	**-1.0**
	comp=E,0.1nm,0.4s,baz=152,slow=1.6,SNR=3.4						
ABKAR	**Akbulak array**	**143.92**	**54**	*e*PKPdf	PKPbc	05 32 13.2	-0.2
SONM	**Songino Array**	**168.51**	**1**	PKPab	**PKPab**	**05 33 57.2**	**+0.5**
	comp=E,0.5nm,0.9s,baz=0.0,slow=3.0,SNR=3.4						

IDC 16 05:14:59.9±3.1, 30°.21S×138°.49E, h0km, mb1 3.3/3, mb1mx3.2/16, mbtmp3.1/3, ML3.1/3, Error ellipse: s-maj=81.6km s-min=19.2km az=47.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.14**	**123**	Pn	Pn	05 15 50.7	-0.1
	0.8nm,0.3s,baz=306,slow=16,SNR=7.0						
STKA				Pg	Pb	05 15 57.1	+0.4
	3.4nm,0.3s,baz=300,slow=16,SNR=22						
STKA				Sn	Sb	05 16 35.1	-0.6
	4.9nm,0.3s,baz=53,slow=23,SNR=4.4						
ASAR	**Alice Springs**	**7.69**	**327**	Pn	Pn	05 16 54.1	+0.8
	0.3nm,0.3s,baz=151,slow=12,SNR=13						
ASAR				Sn	Sn	05 18 22.4	+1.1
	0.4nm,0.3s,baz=150,slow=22,SNR=6.6						
WRA	**Warramunga Arr**	**10.89**	**339**	Pn	Pn	05 17 37.0	-0.2
	0.2nm,0.3s,baz=161,slow=12,SNR=7.4						
WRA				Sn	Sn	05 19 39.0	-0.8
	0.1nm,0.3s,baz=161,slow=24,SNR=3.4						

GUC 16 05:17:18.0±0.6, 36°.17S×73°.64W, h36km±6km, ML3.8, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.69**	**87**	*e*P	Pn	05 17 31.6	+0.3
COCH				*i* S	Sn	05 17 42.4	+1.7
COCH				IAML		05 17 44.3	
	comp=N,4μm,0.4s						
CCSP	**San Pedro de C**	**0.79**	**148**	⇑*i*P	Pn	05 17 33.1	+0.4
CCSP				*e*S	Sn	05 17 45.2	+2.0
CCSP				IAML		05 17 49.0	
	comp=E,13μm,0.4s						
LNCH	**Linares**	**1.68**	**79**	⇑*i*P	Pn	05 17 47.4	+2.5
LNCH				*i* S	Sn	05 18 09.3	+4.1
TALC	**Talca**	**1.80**	**65**	⇓*i*P	Pn	05 17 49.2	+2.7
TALC				*e*S	Sn	05 18 12.2	+4.0
CLCH	**Cerro Calan**	**3.77**	**44**	*e*P4	Pn	05 18 15.5	+1.8

*BEO **16** 05:25:22.8±0.6, 43°.31N×26°.04E, h0km, ML2.7/9*
*SOF **16** 05:25:23.0, 43°.32N×26°.00E, h7km, MD2.7*
*CSEM **16** 05:25:24.2±0.2, 43°.23N×25°.99E, h5km, ML2.4, Error ellipse: s-maj=5.4km s-min=4.2km az=154.0*
*SKO **16** 05:25:27.4, 43°.25N×25°.91E, h0km, M2.3, ML3.0*
*THE **16** 05:25:28.8, 42°.96N×25°.91E, h8km±3km, ML2.4/2, Error ellipse: s-maj=4.9km s-min=0.5km az=43.0*

ISC 16 05:25:23.6±0.9, 43°.24N±0°.02×25°.96E±0°.02, h5km±6km, n95, σ1§12/122, 20C-6D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZH	**Strazhica**	**0.03**	**319**	*i* Pg	**Pg**	**05 25 24.3**	**-0.3**
SZH	**Strazhica**	**0.03**	**319**	*i* Pg	**Pg**	**05 25 24.3**	**-0.3**
PVL	**Pavlikeni**	**0.46**	**267**	Pg	**Pn**	**05 25 36.0**	**-0.8**
PVL	**Pavlikeni**	**0.46**	**267**	Pg	**Pn**	**05 25 36.0**	**-0.8**
ZIMR		**0.60**	**314**	⇑*i*P	Pn	05 25 42.5	+3.7
JMB	**Yambol**	**0.90**	**149**	P	**Pg**	**05 25 41.6**	**+0.8**
JMB				S	**Sg**	**05 25 52.4**	**-0.1**
JMB	**Yambol**	**0.90**	**149**	⇓*i*P	**Pg**	**05 25 40.4**	**-0.4**
JMB	**Yambol**	**0.90**	**149**	Pg	**Pb**	**05 25 41.7**	**0.0**
JMB	**Yambol**	**0.90**	**149**	P	**Pg**	**05 25 41.6**	**+0.8**
JMB				S	**Sg**	**05 25 52.4**	**-0.1**
PRD	**Provadia**	**1.05**	**92**	Pg	**Pg**	**05 25 43.1**	**-0.6**
PRD	**Provadia**	**1.05**	**92**	Pg	**Pg**	**05 25 43.1**	**-0.6**
DIM	**Dimitrovgrad**	**1.23**	**195**	P	**Pg**	**05 25 47.6**	**+0.4**
DIM	**Dimitrovgrad**	**1.23**	**195**	P	**Pg**	**05 25 47.6**	**+0.4**
SULR		**1.45**	**8**	S	**Sg**	**05 26 12.3**	**+2.1**
SULR		**1.45**	**8**	S	**Sg**	**05 26 12.3**	**+2.1**
PLD	**Plovdiv**	**1.47**	**220**	P	**Pn**	**05 25 51.1**	**+0.4**
PLD				S	**Sn**	**05 26 09.1**	**-1.2**
PLD	**Plovdiv**	**1.47**	**220**	*e*Pg	**Pn**	**05 25 50.9**	**+0.2**
PLD				*e*Sg	**Sg**	**05 26 11.5**	**+0.8**
PLD	**Plovdiv**	**1.47**	**220**	P	**Pn**	**05 25 51.1**	**+0.4**
PLD				S	**Sn**	**05 26 09.1**	**-1.2**
PLD				*e*Sg	**Sg**	**05 26 11.5**	**+0.8**
PGB	**Panagyurishte**	**1.49**	**243**	*i* Pg	**Pg**	**05 25 53.6**	**+1.5**
PGB	**Panagyurishte**	**1.49**	**243**	*i* Pg	**Pg**	**05 25 53.6**	**+1.5**
MSAB	**Monastry St. A**	**1.60**	**57**	⇑*i*P	Pn	05 25 53.1	+0.6
MSAB	**Monastry St. A**	**1.60**	**57**	S	Sn	05 26 12.1	-1.4
MSAB	**Monastry St. A**	**1.60**	**57**	⇑*i*P	Pn	05 25 53.1	+0.6
MSAB				S	Sn	05 26 12.1	-1.4
MPEP	**Malo Peshtene**	**1.62**	**275**	P	**Pg**	**05 25 55.3**	**+0.6**
KDZ	**Kurdzhali**	**1.64**	**194**	⇓*i*P	**Pb**	**05 25 54.6**	**+0.3**
KDZ	**Kurdzhali**	**1.64**	**194**	S	**Sg**	**05 26 17.3**	**+1.0**
KDZ	**Kurdzhali**	**1.64**	**194**	P	**Pb**	**05 25 54.4**	**+0.1**
KDZ	**Kurdzhali**	**1.64**	**194**	P	**Pb**	**05 25 54.4**	**+0.1**
PSN	**Preselentsi**	**1.68**	**74**	⇑*i*P	**Pn**	**05 25 52.2**	**-1.4**
PSN	**Preselentsi**	**1.68**	**74**	S	**Sn**	**05 26 14.3**	**-1.2**
PSN	**Preselentsi**	**1.68**	**74**	Pg	**Pn**	**05 25 52.1**	**-1.5**
PSN	**Preselentsi**	**1.68**	**74**	⇑*i*P	**Pn**	**05 25 52.2**	**-1.4**
RZN	**Rozhen**	**1.81**	**211**	P	**Pn**	**05 25 56.8**	**+1.3**
RZN	**Rozhen**	**1.81**	**211**	P	**Pn**	**05 25 56.8**	**+1.3**
MANR	**Mangalia**	**1.99**	**72**	⇑*i*P	**Pn**	**05 25 58.7**	**+0.8**
MANR	**Mangalia**	**1.99**	**72**	S	**Sn**	**05 26 23.8**	**+0.5**
MANR	**Mangalia**	**1.99**	**72**	⇑*i*P	**Pn**	**05 25 58.7**	**+0.8**
MANR				S	**Sn**	**05 26 23.8**	**+0.5**
HARR	**Harsova**	**2.03**	**44**	⇑*i*P	**Pn**	**05 25 59.6**	**+1.2**
HARR	**Harsova**	**2.03**	**44**	⇑*i*P	**Pn**	**05 25 59.6**	**+1.2**
RDO	**Rodhopi**	**2.12**	**189**	P	**Pn**	**05 25 59.9**	**+0.3**
RDO				S	**Sn**	**05 26 23.9**	**-2.5**
RDO	**Rodhopi**	**2.12**	**189**	P	**Pn**	**05 25 59.9**	**+0.3**
RDO				S	**Sn**	**05 26 23.9**	**-2.5**
VTS	**Vitosha**	**2.12**	**253**	P	**Pb**	**05 26 02.7**	**+0.1**
VTS				S	**Sb**	**05 26 28.7**	**-0.7**
VTS	**Vitosha**	**2.12**	**253**	*e*Pn	**Pn**	**05 26 01.3**	**+1.4**
VTS				*e*Sg	**Sg**	**05 26 32.3**	**+0.5**
VTS	**Vitosha**	**2.12**	**253**	⇑*i*P	**Pb**	**05 26 03.3**	**+0.7**
VTS	**Vitosha**	**2.12**	**253**	S	**Sg**	**05 26 33.1**	**+1.3**
VTS	**Vitosha**	**2.12**	**253**	P	**Pb**	**05 26 03.1**	**+0.5**
VTS	**Vitosha**	**2.12**	**253**	*e*Pn	**Pn**	**05 26 01.3**	**+1.4**
VTS	**Vitosha**	**2.12**	**253**	P	**Pb**	**05 26 03.1**	**+0.5**
VTS				S	**Sb**	**05 26 28.7**	**-0.7**
VTS				*e*Sg	**Sg**	**05 26 32.3**	**+0.5**
TIRR	**Tirgusor**	**2.15**	**55**	⇑*i*P	**Pn**	**05 26 00.4**	**+0.3**
TIRR	**Tirgusor**	**2.15**	**55**	S	**Sn**	**05 26 27.8**	**+0.7**
TIRR	**Tirgusor**	**2.15**	**55**	⇑*i*P	**Pn**	**05 26 00.4**	**+0.3**
TIRR				S	**Sn**	**05 26 27.8**	**+0.7**
MLR	**Muntele Rosu**	**2.25**	**360**	⇑*i*P	**Pb**	**05 26 04.6**	**-0.1**
MLR	**Muntele Rosu**	**2.25**	**360**	S	**Sg**	**05 26 36.5**	**+0.8**
MLR	**Muntele Rosu**	**2.25**	**360**	⇑*i*P	**Pb**	**05 26 04.6**	**-0.1**
VOIR		**2.29**	**344**	⇑*i*P	**Pb**	**05 26 06.6**	**+1.2**
VOIR		**2.29**	**344**	S	**Sg**	**05 26 37.2**	**+0.1**
VOIR		**2.29**	**344**	⇑*i*P	**Pb**	**05 26 06.6**	**+1.2**
ARR	**Arges**	**2.33**	**336**	⇑*i*P	**Pb**	**05 26 06.6**	**+0.5**
ARR	**Arges**	**2.33**	**336**	S	**Sg**	**05 26 38.5**	**+0.2**
ARR	**Arges**	**2.33**	**336**	⇑*i*P	**Pb**	**05 26 06.6**	**+0.5**
MMB	**Musomiste**	**2.34**	**226**	⇑*i*P	**Pb**	**05 26 06.5**	**+0.3**
MMB	**Musomiste**	**2.34**	**226**	S	**Sb**	**05 26 36.4**	**+1.0**
MMB	**Musomiste**	**2.34**	**226**	P	**Pg**	**05 26 09.0**	**+0.7**
MMB	**Musomiste**	**2.34**	**226**	⇑*i*P	**Pb**	**05 26 06.5**	**+0.3**
ALN	**Alexandroupoli**	**2.34**	**178**	P	**Pn**	**05 26 03.3**	**+0.5**
ALN				S	**Sn**	**05 26 30.0**	**-1.9**
ALN	**Alexandroupoli**	**2.34**	**178**	P	**Pn**	**05 26 03.3**	**+0.5**
ALN				S	**Sn**	**05 26 30.0**	**-1.9**
ZAPS	**Zavoj**	**2.43**	**272**	*e*Pn	**Pn**	**05 26 05.7**	**+1.7**
ZAPS				*e*Sg	**Sg**	**05 26 42.6**	**+1.0**
ZAPS	**Zavoj**	**2.43**	**272**	*e*Pn	**Pn**	**05 26 05.7**	**+1.7**
ZAPS				*e*Sg	**Sg**	**05 26 42.6**	**+1.0**
CFR	**Carcaliu**	**2.49**	**38**	⇓*i*P	**Pn**	**05 26 06.9**	**+2.2**
CFR	**Carcaliu**	**2.49**	**38**	S	**Sb**	**05 26 39.2**	**-0.4

comp=N,245nm,0.7s
PEL Peldehue 2.67 36 *e*P1 Pn 05 29 53.4 +2.0
PEL *i* S Sb 05 30 26.3 -2.7
PEL IAML 05 30 31.0
comp=E,229nm,0.8s

GUC 16 05:37:58.5±0.6, 36°.28S×73°.36W, h37km±4km, ML4.0, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.48**	**73**	⇓*i*P	Pn	05 38 09.1	+0.3
COCH				*i* S	Sn	05 38 17.3	+1.3
COCH				IAML		05 38 17.5	
	comp=E,13μm,0.2s						
CCSP	**San Pedro de C**	**0.60**	**161**	⇑*i*P	Pn	05 38 10.8	+0.2
CCSP				*e*S	Sn	05 38 20.3	+1.2
CCSP				IAML		05 38 21.4	
	comp=N,23μm,0.3s						
TALC	**Talca**	**1.65**	**58**	⇑*i*P	Pn	05 38 27.1	+2.2
TALC				*e*S	Sn	05 38 48.7	+3.9

IDC 16 05:39:58.1±59.0, 6°.82N×77°.29E, h0km, Error ellipse: s-maj=132.0km s-min=7.6km az=172.0, Laccadive Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**14.48**	**206**	H	H	05 58 02.6	
	baz=25,slow=76,SNR=57						
H08N1	**Diego Carcia H**	**14.49**	**206**	H	H	05 58 03.2	
	baz=25,slow=76,SNR=81						
H08N3	**Diego Garcia H**	**14.51**	**206**	H	H	05 58 04.1	
	baz=25,slow=76,SNR=78						
H08S3	**Diego Garcia H**	**15.13**	**199**	H	H	05 58 48.9	
	baz=18,slow=76,SNR=381						
H08S2	**Diego Garcia H**	**15.14**	**198**	H	H	05 58 49.8	
	baz=18,slow=76,SNR=334						
H08S1	**Diego Carcia H**	**15.15**	**199**	H	H	05 58 50.3	
	baz=18,slow=76,SNR=144						
H01W3	**Cape Leeuwin H**	**54.12**	**143**	H	H	06 47 24.8	
	baz=313,slow=76,SNR=25						
H01W2	**Cape Leeuwin H**	**54.12**	**143**	H	H	06 47 25.5	
	baz=313,slow=76,SNR=27						
H01W1	**Cape Leeuwin H**	**54.13**	**143**	H	H	06 47 26.0	
	baz=313,slow=76,SNR=26						

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*ISCJB **16** 05:44:26.4±0.7, 13°.8N±0°.1×88°.2W±0°.1, h16km, mb3.6/6, Error ellipse: s-maj=26.6km s-min=6.9km az=41.0*
*IDC **16** 05:44:31.4±1.7, 13°.50N×88°.37W, h59km±27km, mb3.3/6, mb1 3.6/9, mb1mx3.5/24, mbtmp3.5/9, ML3.0/3, Error ellipse: s-maj=64.2km s-min=11.9km az=39.0*
ISC 16 05:44:27.5±0.8, 13°.7N±0°.2×88°.3W±0°.2, h16km, n11, σ1§89/12, mb3.6/6, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.48**	**302**	P	**Pn**	**05 45 08.4**	**+0.9**
	1.6nm,0.3s,baz=122,slow=15,SNR=26						
JTS	**JuntasAbangare**	**4.70**	**136**	P	**Pn**	**05 45 39.8**	**+2.0**
	1.3nm,0.3s,baz=321,slow=18,SNR=7.9						
JTS				S	**Sn**	**05 46 31.8**	**-0.2**
	3.3nm,0.3s,baz=229,slow=20,SNR=5.5						
CMIG	**Matias Romero**	**7.20**	**299**	P	Pn	05 46 16.3	+4.0
	0.3nm,0.3s,baz=140,slow=13,SNR=12						
CMIG				S	**Sn**	**05 47 35.0**	**+1.2**
	1.0nm,0.3s,baz=88,slow=22,SNR=4.6						
TXAR	**Lajitas Array**	**21.11**	**320**	P	**P**	**05 49 13.6**	**+1.9**
	0.5nm,0.5s,baz=134,slow=10,SNR=10						
PDAR	**Pinedale Array**	**34.30**	**332**	P	**P**	**05 51 14.6**	**+1.0**
	0.3nm,0.5s,baz=130,slow=8.4,SNR=4.2						
NVAR	**Mina Array Bea**	**36.24**	**318**	P	**P**	**05 51 30.6**	**+0.3**
	0.2nm,0.5s,baz=116,slow=7.5,SNR=2.8						
ULM	**Lac du Bonnet**	**36.99**	**352**	P	**P**	**05 51 36.5**	**+0.3**
	1.7nm,0.5s,baz=168,slow=8.0,SNR=4.7						
YKA	**Yellowknife Ar**	**52.22**	**345**	P	**P**	**05 53 37.1**	**-0.4**
	0.9nm,0.5s,baz=148,slow=6.9,SNR=37						
ILAR	**Eielson Array**	**64.57**	**336**	P	**P**	**05 55 01.9**	**-1.9**
	0.3nm,0.5s,baz=177,slow=5.1,SNR=14						
WRA	**Warramunga Arr**	**138.80**	**255**	PKP	**PKPdf**	**06 03 50.9**	**-3.1**
	0.3nm,0.6s,baz=85,slow=1.9,SNR=8.4						
ASAR	**Alice Springs**	**138.94**	**250**	PKP	**PKPdf**	**06 03 51.3**	**-2.8**
	0.2nm,0.6s,baz=90,slow=2.8,SNR=2.9						

IDC 16 05:49:02.2±5.4, 17°.89S×168°.82E, h156km±60km, mb3.7/4, mb1 3.9/5, mb1mx3.5/28, mbtmp4.1/5, Error ellipse: s-maj=93.1km s-min=31.6km az=150.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.72**	**208**	P	Pn	05 50 12.2	0.0
	3.9nm,0.3s,baz=31,slow=19,SNR=34						
STKA	**Stephens Creek**	**28.25**	**235**	P	P	05 54 39.3	-1.4
	1.3nm,0.6s,baz=51,slow=8.0,SNR=7.2						
WRA	**Warramunga Arr**	**32.65**	**261**	P	P	05 55 20.1	+0.5
	0.8nm,0.4s,baz=87,slow=8.3,SNR=32						
ASAR	**Alice Springs**	**33.09**	**254**	P	P	05 55 23.7	+0.3
	6.9nm,0.4s,baz=82,slow=8.9,SNR=148						
ILAR	**Eielson Array**	**89.07**	**17**	P	P	06 01 39.2	+0.1
	0.2nm,0.4s,baz=239,slow=5.3,SNR=6.8						

GUC 16 05:49:20.5±0.3, 35°.05S×72°.59W, h15km±4km, ML3.6, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.86**	**114**	⇑*i*P	Pb	05 49 35.9	-1.3
TALC				*i* S	Sb	05 49 47.5	-0.9
TALC				IAML		05 49 49.2	
	comp=E,4μm,0.1s						
COCH	**Cobquecura**	**1.09**	**188**	⇓*i*P	Pb	05 49 39.7	-1.4
COCH				*i* S	Sb	05 49 53.9	-1.2
NICH	**Los Niches**	**1.12**	**88**	⇑*e*P	Pb	05 49 40.1	-1.4
NICH				*i* S	Sb	05 49 55.1	-0.9
NICH				IAML		05 50 01.0	
	comp=E,3μm,0.2s						
LNCH	**Linares**	**1.14**	**135**	*e*P	Pb	05 49 40.3	-1.6
LNCH				*i* S	Sb	05 49 55.5	-1.0

GUC 16 05:51:29.2±0.7, 36°.51S×73°.38W, h32km±5km, ML3.5, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.40**	**147**	⇓*i*P	Pb	05 51 38.5	+0.2
CCSP				*i* S	Sn	05 51 45.3	+0.1
CCSP				IAML		05 51 46.0	
	comp=N,9μm,0.2s						
COCH	**Cobquecura**	**0.61**	**52**	⇓*i*P	Pn	05 51 41.7	+0.1
COCH				*i* S	Sn	05 51 51.0	+0.7
COCH				IAML		05 51 51.8	
	comp=E,3μm,0.3s						
LNCH	**Linares**	**1.58**	**66**	⇓*i*P	Pb	05 51 56.7	-1.2
LNCH				*i* S	Sb	05 52 18.0	+0.4

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*BJI **16** 06:11:02.7, 51°.61N×96°.75E, h14km, mB4.6/5, mb4.1/8, ML4.7/2, Ms4.2/7, Ms7 4.0/3*
*MOS **16** 06:11:04.1±1.2, 51°.20N×97°.05E, h12km, mb4.4/15, Error ellipse: s-maj=10.7km s-min=7.9km az=27.3*
MOS Felt (III) at Sary-Sep, (II-III) at Kyzyl.
*ISCJB **16** 06:11:04.5±0.3, 51°.25N±0°.04×96°.91E±0°.05, h10km, mb4. 1/22, MS4.0/2, Error ellipse: s-maj=6.0km s-min=4.1km az=6.6*
*IDC **16** 06:11:04.3±0.6, 51°.11N×97°.09E, h0km, mb4.0/12, mb1 4.0/18, mb1mx3.9/35, mbtmp3.9/18, ML3.2/6, MS3.5/1, Ms1 3.5/1, ms1mx3.0/39, Error ellipse: s-maj=18.8km s-min=7.5km az=0.0*
*ASRS **16** 06:11:05.7±2.0, 51°.38N×96°.91E, h15km, Ms4.2/5*
*NEIC **16** 06:11:06.1±0.3, 51°.14N×96°.95E, h10km, mb4.2/6, Error ellipse: s-maj=9.8km s-min=4.5km az=182.0*
*NNC **16** 06:11:07.9±2.3, 51°.27N×96°.42E, h0km, mb4.2, Error ellipse: s-maj=36.8km s-min=22.7km az=151.0*
ISC 16 06:11:05.8±0.5, 51°.20N±0°.06×96°.99E±0°.04, h10km, n103, σ1§10/104, mb4.1/22, 8C-9D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVS	**Khovu-Aksy**	**2.07**	**270**	*c i*PN	**Pn**	**06 11 41.1**	**+0.3**
HVS	**Khovu-Aksy**	**2.07**	**270**	P	**Pn**	**06 11 41.1**	**+0.3**
ORL	**Orlik**	**2.21**	**51**	*e*PN	**Pn**	**06 11 43.9**	**+1.3**
ORL				*e*		06 12 14.0	
ORL				pmax	pmax		
	comp=Z,2μm,0.4s						
ORL				smax	smax		
	comp=N,2μm,0.7s						
ORL	**Orlik**	**2.21**	**51**	P	**Pn**	**06 11 43.9**	**+1.3**
MOY	**Mondy**	**2.55**	**78**	*e*PN	**Pn**	**06 11 49.9**	**+2.6**
MOY				*e*		06 12 23.8	
MOY				pmax	pmax		
	comp=Z,1μm,0.6s						
MOY				smax	smax		
	comp=N,2μm,0.5s						
MOY	**Mondy**	**2.55**	**78**	P	**Pn**	**06 11 49.8**	**+2.5**
ARS	**Arshan**	**3.47**	**76**	*e*PN	**Pb**	**06 12 05.7**	**-1.6**
ARS				*e*		06 12 51.6	
ARS				pmax	pmax		
	comp=Z,422nm,0.3s						
ARS				smax	smax		
	comp=E,7μm,0.6s						
CERR	**Cheremushki**	**3.83**	**298**	*i* PN	**Pb**	**06 12 12.3**	**-1.1**
CERR				*i*		06 13 01.9	
CERR	**Cheremushki**	**3.83**	**298**	*i* Pg	**Pb**	**06 12 12.3**	**-1.1**
CERR				*i* Sg	**Sb**	**06 13 01.9**	**+2.2**
ZAK	**Zakamensk**	**4.07**	**99**	*e*PN	**Pn**	**06 12 08.4**	**+0.2**
ZAK				*e*		06 12 16.2	
ZAK				*e*		06 13 09.2	
ZAK				pmax	pmax		
	comp=Z,390nm,0.9s						
ZAK				smax	smax		
	comp=N,3μm,0.8s						
ZAK	**Zakamensk**	**4.07**	**99**	P	**Pn**	**06 12 08.4**	**+0.2**
TLY	**Talaya**	**4.19**	**81**	*e*PN	**Pb**	**06 12 18.2**	**-1.4**
TLY				*e*		06 13 13.3	
TLY				pmax	pmax		
	comp=Z,60nm,0.6s						
TLY				smax	smax		
	comp=N,416nm,0.6s						
TLY	**Talaya**	**4.19**	**81**	Pn	**Pn**	**06 12 11.5**	**+1.7**
	comp=N,0.0nm,0.3s,baz=261,slow=13,SNR=5.0						
TLY				Pg	Pb	06 12 16.5	-3.1
	comp=N,0.2nm,0.3s,baz=272,slow=11,SNR=41						
TLY				Lg	Lg	06 13 12.8	
	comp=N,1.3nm,0.3s,baz=87,slow=5.9,SNR=22						
ABNR	**Abakan**	**4.24**	**309**	*i* PN	**Pb**	**06 12 18.6**	**-1.8**
IRK	**Irkutsk**	**4.65**	**74**	*e*PN	**Pb**	**06 12 26.4**	**-1.0**
IRK				*e*		06 13 26.4	
IRK				pmax	pmax		
	comp=Z,659nm,0.5s						
IRK				smax	smax		
	comp=N,5μm,0.9s						
KRAR	**Krasnoyarsk**	**5.41**	**335**	*e*PN	**Pn**	**06 12 24.9**	**-1.6**
TASR	**Tashtagol**	**5.85**	**289**	*e*PN	Pn	06 12 35.8	+3.3
TASR				*e*		06 12 49.4	
TASR	**Tashtagol**	**5.85**	**289**	*e*Pn	Pn	06 12 35.8	+3.3
TASR				*e*Pg	**Pb**	**06 12 49.4**	**+1.6**
TRG	**Tyrgan**	**5.99**	**71**	*e*PN	**Pb**	**06 12 51.2**	**+0.9**
TRG				*e*		06 14 05.3	
TRG				pmax	pmax		
	comp=Z,156nm,0.6s						
TRG				smax	smax		
	comp=N,2μm,1.5s						
AKAR	**Aktash**	**6.01**	**265**	*e*PN	**Pn**	**06 12 36.2**	**+1.3**
AKAR				*e*		06 12 55.3	
AKAR				*e*		06 13 44.9	
AKAR				*e*		06 14 10.8	
AKAR	**Aktash**	**6.01**	**265**	*e*Pn	**Pn**	**06 12 36.2**	**+1.3**
AKAR				*e*Pg	Pb	06 12 55.3	+4.6
AKAR				*e*Sn	**Sn**	**06 13 44.9**	**+1.1**
AKAR				*e*Sg	Sb	06 14 10.8	+8.0
ELT	**Yel'tsovka**	**6.92**	**292**	*e*PN	**Pn**	**06 12 47.0**	**-0.3**
ELT				*e*		06 13 06.9	
ELT				*e*		06 14 36.4	
ELT	**Yel'tsovka**	**6.92**	**292**	*e*Pn	**Pn**	**06 12 47.0**	**-0.3**
ELT				*e*Pg	**Pb**	**06 13 06.9**	**+0.8**
ELT				*e*Sg	Sb	06 14 36.4	+7.7
OGRR	**Ongureny**	**6.93**	**65**	*e*PN	**Pn**	**06 12 47.3**	**-0.1**
OGRR				*e*		06 13 08.6	
OGRR				*e*		06 14 35.2	
OGRR				pmax	pmax		
	comp=Z,94nm,1.2s						
OGRR				smax	smax		
	comp=E,2μm,0.9s						
SONM	**Songino Array**	**6.98**	**115**	PN	**Pn**	**06 12 47.8**	**-0.5**
SONM						06 13 08.4	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM				pmax	pmax		
	comp=Z,8.0nm,0.3s						
SONM				MLR	MLR		
	comp=Z,15nm,28.6s						
SONM	**Songino Array**	**6.98**	**115**	Pn	**Pn**	**06 12 47.8**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=296,slow=14,SNR=8.6						
SONM				Pg	**Pb**	**06 13 08.4**	**+1.1**
	comp=Z,8.3nm,0.3s,baz=297,slow=17,SNR=51						
SONM				Lg	Lg	06 14 43.1	
	comp=Z,33nm,0.3s,baz=298,slow=29,SNR=13						
SONM				LR	LR	06 15 43.7	
	comp=Z,376nm,21.0s,baz=295,slow=40						
ULN	**Ulaanbaatar**	**7.34**	**113**	*e*P	**Pn**	**06 12 54.0**	**+0.8**
ULN				pmax	pmax		
	comp=Z,36nm,0.6s						
ULN	**Ulaanbaatar**	**7.34**	**113**	*e*Pn	**Pn**	**06 12 54.0**	**+0.8**
	comp=Z,36nm,0.6s						
ZALV	**Zalesovo Beam**	**7.91**	**295**	Pn	**Pn**	**06 13 02.9**	**+2.1**
	comp=Z,1.2nm,0.3s,baz=105,slow=12,SNR=27						
ZALV				Pg	**Pb**	**06 13 24.9**	**+2.0**
	comp=Z,3.1nm,0.3s,baz=103,slow=16,SNR=8.8						
ZALV				Lg	Lg	06 15 09.6	
	comp=Z,7.0nm,0.3s,baz=106,slow=26,SNR=8.9						
SYVR	**Suvo**	**8.32**	**68**	*e*P	Pn	06 13 16.7	+10
SYVR				pmax	pmax		
	comp=Z,37nm,1.3s						
NVS	**Novosibirsk**	**9.06**	**299**	*e*P	**Pn**	**06 13 17.6**	**+1.1**
NVS				*e*		06 14 58.0	
NVS	**Novosibirsk**	**9.06**	**299**	*e*Pn	**Pn**	**06 13 17.6**	**+1.1**
NVS				*e*Pg		06 13 46.4	
NVS				*e*Sn	**Sn**	**06 14 58.0**	**-0.5**
NVS				*e*Sg		06 15 42.9	
MKAR	**Makanchi Array**	**10.61**	**251**	P	**Pn**	**06 13 37.6**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**10.61**	**251**	Pn	**Pn**	**06 13 37.6**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=64,slow=13,SNR=30						
MK01	**Makanchi Array**	**10.62**	**251**	⇓Sn	**Sn**	**06 15 33.4**	**-3.5**
	comp=Z,11nm,0.7s,baz=49,slow=21						
MK01				⇓Lg	Lg	06 16 34.6	
	comp=Z,101nm,0.8s						
MK03	**Makanchi Array**	**10.62**	**251**	⇓Pn	**Pn**	**06 13 37.6**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=59,slow=12						
KURK	**Kurchatov**	**11.60**	**275**	⇓Pn	**Pn**	**06 13 51.1**	**-0.2**
	comp=Z,3.2nm,0.9s						
KURK				⇑Lg	Lg	06 17 03.7	
	comp=Z,64nm,1.0s						
KURK	**Kurchatov**	**11.60**	**275**	*e*P	**Pn**	**06 13 51.2**	**-0.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	**Kurchatov**	**11.60**	**275**	*e*Pn	**Pn**	**06 13 51.2**	**-0.2**
	comp=Z,3.5nm,0.6s						
KURK				Lg	Lg	06 17 09.0	
	comp=Z,12nm,1.0s						
KURBB	**Kurchatov Arra**	**11.67**	**274**	⇓Pn	**Pn**	**06 13 51.8**	**-0.5**
KURBB				⇑Lg	Lg	06 17 05.9	
	comp=Z,129nm,0.8s						
KURBB	**Kurchatov Arra**	**11.67**	**274**	Pn	**Pn**	**06 13 52.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=82,slow=14,SNR=18						
KURBB				Lg	Lg	06 17 09.0	
	comp=Z,0.2nm,0.3s,baz=85,slow=33,SNR=5.0						
HIA	**Hailar**	**14.68**	**89**	*e*P	**Pn**	**06 14 31.5**	**-1.9**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VOSK	**Vostochnaya**	**16.08**	**286**	⇑Pn	**Pn**	**06 14 50.2**	**-1.6**
	comp=Z,4.9nm,0.8s						
VOSK				Sn	**Sn**	**06 17 47.1**	**-2.9**
VOSK				Lg	Lg	06 19 27.6	
BVA0	**Borovoye Array**	**16.41**	**287**	⇓P	**Pn**	**06 14 55.1**	**-1.0**
	comp=Z,5.3nm,0.9s,baz=101,slow=12,SNR=25						
BVAR	**Borovoye Array**	**16.41**	**287**	Pn	**Pn**	**06 14 54.8**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=88,slow=10,SNR=17						
AAK	**Ala-Archa**	**17.54**	**250**	*ce*P	**Pn**	**06 15 10.0**	**-0.5**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
AAK	**Ala-Archa**	**17.54**	**250**	Lg	Lg	06 20 22.3	
	comp=Z,0.1nm,0.3s,baz=291,slow=19,SNR=6.2						
EKS2	**Erkin-Say**	**17.95**	**251**	*e*P	**Pn**	**06 15 15.8**	**+0.3**
EKS2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
EKS2	**Erkin-Say**	**17.95**	**251**	*e*Pn	**Pn**	**06 15 15.8**	**+0.3**
	comp=Z,8.2nm,0.8s						
KK31	**Karatay Array**	**19.66**	**256**	⇓P	**P**	**06 15 33.9**	**-0.9**
	comp=Z,4.0nm,0.9s,baz=52,slow=15,SNR=12						
KKAR	**Karatay Array**	**19.66**	**256**	*e*P	**P**	**06 15 34.1**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**19.66**	**256**	*e*P	**P**	**06 15 34.1**	**-0.7**
	comp=Z,2.2nm,0.6s						
YAK	**Yakutsk**	**20.76**	**46**	*e*P	**P**	**06 15 45.5**	**-0.9**
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
TIA	**Tai'an**	**20.78**	**128**	⇑P	Pn	06 15 52.3	+2.9
TIA				PMZ			
	comp=Z,20nm,1.2s						
SVE	**Sverdlovsk**	**21.90**	**299**	*e*P	**P**	**06 15 59.4**	**+0.6**
SVE				pmax	pmax		
	comp=Z,27nm,1.1s						
ARU	**Arti**	**23.06**	**298**	*d i*P	**P**	**06 16 10.9**	**-0.2**
ARU						06 16 35.0	
ARU				S	**S**	**06 20 22.8**	**+1.0**
ARU				SS	**SnSn**	**06 20 54.7**	**+0.8**
ARU				pmax	pmax		
	comp=Z,12nm,1.2s						
ARU	**Arti**	**23.06**	**298**	*e*P	**P**	**06 16 11.0**	**-0.1**
	comp=Z,15nm,0.8s						
AB31	**Akbulak array**	**23.62**	**280**	P	**P**	**06 16 17.2**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=75,slow=9.6,SNR=21						
ABKAR	**Akbulak array**	**23.62**	**280**	*e*P	**P**	**06 16 17.1**	**+0.3**
	comp=Z,2.1nm,0.6s						
AKTO	**Aktyubinsk**	**24.45**	**284**	⇑P	**P**	**06 16 24.1**	**-0.4**
	comp=Z,19nm,0.7s						
AKTO	**Aktyubinsk**	**24.45**	**284**	P	**P**	**06 16 24.5**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,18nm,0.7s						
AKTO	**Aktyubinsk**	**24.45**	**284**	P	**P**	**06 16 24.5**	**-0.1**
	comp=Z,18nm,0.7s,baz=83,slow=10,SNR=85						
GUN	**Gumba**	**24.73**	**204**	*e*P	**P**	**06 16 28.0**	**+0.4**
TAPN	**Taplejung**	**24.83**	**200**	*e*P	**P**	**06 16 29.5**	**+1.0**
	comp=Z,20nm,0.6s						
JIRN	**Jiri**	**24.89**	**203**	*e*P	**P**	**06 16 29.6**	**+0.5**
	comp=Z,13nm,0.5s						
DANN	**Dangsing**	**24.90**	**209**	*e*P	**P**	**06 16 29.3**	**+0.1**
	comp=Z,23nm,1.0s						
GKN	**Gorkha**	**24.97**	**207**	*e*P	**P**	**06 16 29.7**	**+0.1**
TIXI	**Tiksi**	**24.98**	**23**	*e*P	**P**	**06 16 29.1**	**0.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,321nm,18.0s						
TIXI	**Tiksi**	**24.98**	**23**	*e*P	**P**	**06 16 28.9**	**-0.2**
	comp=Z,7.2nm,0.8s						
KKN	**Kakani**	**25.00**	**205**	*e*P	**P**	**06 16 30.1**	**+0.2**
	comp=Z,20nm,0.7s						
PKI	**Pulchoki**	**25.17**	**205**	*e*P	**P**	**06 16 31.3**	**-0.3**
	comp=Z,38nm,0.9s						
DMN	**Daman**	**25.22**	**205**	*e*P	**P**	**06 16 31.8**	**-0.2**
	comp=Z,10.0nm,0.6s						
ODAN	**Odare**	**25.38**	**200**	*e*P	**P**	**06 16 34.1**	**+0.7**
	comp=Z,38nm,0.8s						
RAMN	**Ramite**	**25.47**	**202**	*e*P	**P**	**06 16 34.3**	**+0.1**
	comp=Z,57nm,1.0s						
KOLN	**Koldanda**	**25.50**	**208**	*e*P	**P**	**06 16 34.3**	**-0.1**
	comp=Z,21nm,1.1s						
JOF	**Joensuu**	**35.94**	**315**	*e*P	P	06 18 00.1	-5.9
JOF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JOF	**Joensuu**	**35.94**	**315**	*e*p	P	06 18 00.1	-5.9
	comp=Z,3.2nm,0.8s						
SKR	**Severo-Kuril's**	**36.38**	**67**	*e*P	P	06 18 03.5	-6.4
BILL	**Bilibino**	**36.50**	**36**	*i* P	P	06 18 19.0	+8.3
BILL				*i*		06 19 32.5	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.4s						
BILL				MLR	MLR		
	comp=Z,242nm,18.0s						
KBZ	**Khabaz**	**36.59**	**280**	P	**P**	**06 18 13.8**	**+2.0**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**36.59**	**280**	P	**P**	**06 18 13.8**	**+2.0**
	comp=Z,1.7nm,0.7s,baz=57,slow=12,SNR=3.9						
KIV	**Kislovodsk**	**36.61**	**280**	*e*P	**P**	**06 18 13.5**	**+1.4**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARCES	**ARCESS Array B**	**37.08**	**326**	*e*P	**P**	**06 18 16.3**	**+0.6**
ARCES	**ARCESS Array B**	**37.08**	**326**	P	**P**	**06 18 15.6**	**0.0**
	comp=Z,2.7nm,0.9s,baz=82,slow=9.9,SNR=6.2						
FINES	**FINESS Array B**	**38.70**	**313**	*e*P	**P**	**06 18 29.4**	**0.0**
FINES	**FINESS Array B**	**38.70**	**313**	P	**P**	**06 18 29.9**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=79,slow=9.9,SNR=11						
AKASG	**Malin Array Be**	**41.30**	**297**	P	**P**	**06 18 50.8**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**41.30**	**297**	P	**P**	**06 18 50.8**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=57,slow=9.3,SNR=2.3						
BRTR	**Keskin Array B**	**44.57**	**281**	*ce*P	**P**	**06 19 19.3**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**44.57**	**281**	P	**P**	**06 19 19.4**	**+1.4**
	comp=Z,3.7nm,0.8s,baz=72,slow=7.0,SNR=16						
NB2	**NORSAR Subarra**	**45.45**	**317**	P	**P**	**06 19 24.5**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=60,slow=7.9						
NOA	**NORSAR Array B**	**45.45**	**317**	P	**P**	**06 19 24.7**	**+0.1**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	**NORSAR Array B**	**45.45**	**317**	P	**P**	**06 19 24.7**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=61,slow=7.8,SNR=6.8						
RAYN	**Ar Rayn**	**48.08**	**255**	*e*P	**P**	**06 19 45.5**	**-0.1**
	comp=Z,7.5nm,0.5s						
KBA	**Koelnbreinsper**	**52.05**	**301**	⇓*i*P	**P**	**06 20 13.0**	**-2.6**
	comp=Z,3.8nm,0.8s						
ILAR	**Eielson Array**	**54.30**	**28**	P	**P**	**06 20 32.1**	**+0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	**Eielson Array**	**54.30**	**28**	P	**P**	**06 20 32.1**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=298,slow=3.4,SNR=6.3						
YKA	**Yellowknife Ar**	**63.93**	**16**	P	**P**	**06 21 38.0**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=336,slow=6.7,SNR=3.3						
WRA	**Warramunga Arr**	**78.05**	**144**	P	**P**	**06 23 03.5**	**-1.0**
WR

*IDC **16** 06:21:14.1±1.3,36°.52S×73°.39W,h0km,mb3.6/4, mb1 3.9/6,mb1mx3.7/19,mbtmp3.7/6,ML3.8/2,Error ellipse: s-maj=34.9km s-min=17.7km az=85.0*
*ISCJB **16** 06:21:15.2±1.5,36°.57S±0°.04×73°.52W±0°.10,h21km±9km, mb3.8/3,Error ellipse: s-maj=13.6km s-min=6.8km az=12.7*
*GUC **16** 06:21:17.0±0.4,36°.57S×73°.45W,h13km±2km,ML4.5*
ISC 16 06:21:16.3±2.1,36°.58S±0°.05×73°.4W±0°.1,h16km±12km, n11,σ0°83/17,mb4.0/3,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.36**	**137**	⇓*i*P	**Pb**	**06 21 24.4**	**0.0**
CCSP				*i* S	**Sb**	**06 21 29.7**	**-0.1**
CCSP				IAML		06 21 30.0	
	comp=N,77μm,0.1s						
COCH	**Cobquecura**	**0.68**	**49**	*e*P	**Pg**	**06 21 29.5**	**-0.1**
COCH				*e*S	**Sb**	**06 21 38.7**	**-0.1**
AGCH	**Angol**	**1.35**	**155**	*i* P	**Pn**	**06 21 40.0**	**-0.6**
AGCH				*i* S	**Sn**	**06 21 57.9**	**-0.4**
LNCH	**Linares**	**1.64**	**64**	*e*P	**Pn**	**06 21 44.6**	**+0.1**
LNCH				*i* S	**Sn**	**06 22 05.7**	**+0.4**
LNCH				IAML		06 22 07.0	
	comp=N,6μm,0.9s						
TALC	**Talca**	**1.87**	**51**	*e*P	**Pn**	**06 21 48.0**	**+0.4**
TALC				*i* S	**Sn**	**06 22 11.9**	**+1.1**
TALC				IAML		06 22 19.3	
	comp=E,8μm,0.4s						
PLCA	**Paso Flores**	**4.71**	**152**	Pn	**Pn**	**06 22 28.1**	**+1.2**
	comp=E,1.8nm,0.3s,baz=326,slow=13,SNR=33						
PLCA				Lg	Lg	06 23 45.8	
	comp=E,7.1nm,0.3s,baz=224,slow=18,SNR=5.9						
CFAA	**Coronel Fontan**	**6.56**	**42**	Pn	**Pn**	**06 22 51.4**	**-0.9**
	comp=E,0.5nm,0.3s,baz=207,slow=12,SNR=29						
CFAA				Sn	**Sn**	**06 24 05.7**	**-1.2**
	comp=E,0.4nm,0.3s,baz=295,slow=17,SNR=3.3						
LPAZ	**La Paz**	**20.75**	**14**	P	**P**	**06 25 57.9**	**+0.8**
	comp=E,0.7nm,0.6s,baz=185,slow=11,SNR=2.9						
SIV	**San Ignacio**	**23.26**	**31**	P	**P**	**06 26 21.6**	**-1.6**
	comp=E,0.9nm,0.5s,baz=226,slow=12,SNR=3.5						
QSPA	**South Pole Qui**	**53.66**	**180**	P	**P**	**06 30 37.0**	**+0.1**
	comp=E,1.6nm,0.8s,baz=137,slow=7.6,SNR=3.9						
TXAR	**Lajitas Array**	**71.46**	**332**	P	**P**	**06 32 36.3**	**+0.2**
	comp=E,0.8nm,0.7s,baz=150,slow=7.7,SNR=7.4						

IDC 16 06:36:19.7±19.0,27°.33S×179°.80W,h635km±207km, mb2.8/3,mb1 3.1/3,mb1mx2.8/17,mbtmp3.9/3,Error ellipse: s-maj=166.3km s-min=22.8km az=53.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.76**	**264**	P	P	06 43 16.7	+0.5
	0.9nm,0.5s,baz=88,slow=6.9,SNR=15						
WRA	**Warramunga Arr**	**42.46**	**270**	P	P	06 43 21.0	-0.6
	0.6nm,0.4s,baz=103,slow=8.2,SNR=5.4						
VNDA	**Vanda**	**50.99**	**185**	P	P	06 44 24.2	-0.3
	0.8nm,0.6s,baz=9.2,slow=6.4,SNR=10						
AKASG	**Malin Array Be**	**147.90**	**325**	PKPbc	PKPbc	06 54 55.3	+0.7
	0.3nm,0.3s,baz=48,slow=4.2,SNR=2.6						
BRTR	**Keskin Array B**	**149.68**	**303**	PKPbc	PKPbc	06 54 57.9	-1.7
	0.5nm,0.6s,baz=104,slow=6.1,SNR=2.6						
BRTR				PKPab	PKPab	06 55 07.2	-0.6
	0.9nm,0.6s,baz=85,slow=3.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**165.82**	**186**	PKPab	PKPab	06 56 18.7	+0.8
	1.1nm,0.7s,baz=178,slow=3.1,SNR=5.4						

*BJI **16** 06:40:56.2,32°.81N×138°.74E,h286km,mB4.7/11, mb4.4/23*
*JMA **16** 06:41:01.6±0.3,33°.04N×138°.47E,h308km±4km,M4.1*
*MOS **16** 06:41:01.8±0.9,33°.01N×138°.11E,h290km,mb4.3/33, Error ellipse: s-maj=10.8km s-min=6.4km az=91.4*
*NEIC **16** 06:41:02.7±0.9,33°.01N×138°.09E,h283km±7km,mb4.4/50, Error ellipse: s-maj=10.1km s-min=5.1km az=157.0*
*ISCJB **16** 06:41:03.9±0.3,33°.11N±0°.05×138°.07E±0°.04, h302km±2km,mb4.2/75,Error ellipse: s-maj=7.7km s-min=4.7km az=167.0*
*IDC **16** 06:41:03.3±1.1,32°.99N×138°.25E,h296km±9km,mb3.6/21, mb1 3.8/26,mb1mx3.8/32,mbtmp4.3/26,Error ellipse: s-maj=12.1km s-min=9.7km az=109.0*
ISC 16 06:41:04.0±0.6,33°.08N±0°.06×138°.21E±0°.06,h299km±4km, n380,σ0°96/394,mb4.2/78,115C-90D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.86**	**323**	S	**S**	**06 42 15.4**	**+0.9**
TK02	**Tokai 2**	**0.94**	**336**	P	**Pn**	**06 41 43.7**	**0.0**
TK02				S	**S**	**06 42 16.5**	**+1.2**
TTO3	**TONANKAI O.B.S**	**1.04**	**319**	P	**Pn**	**06 41 44.6**	**+0.4**
TTO3				S	**S**	**06 42 18.4**	**+2.2**
TK03	**Tokai 3**	**1.10**	**349**	P	**Pn**	**06 41 43.1**	**-1.4**
TK03				S	**S**	**06 42 18.5**	**+1.7**
TTO5	**TONANKAI O.B.S**	**1.24**	**341**	P	**Pn**	**06 41 45.4**	**+0.2**
TTO5				S	**S**	**06 42 19.2**	**+1.1**
TTO1	**TONANKAI O.B.S**	**1.31**	**295**	⇑P	**Pn**	**06 41 45.9**	**+0.4**
TTO1				S	**S**	**06 42 21.3**	**+2.7**
TK04	**Tokai 4**	**1.33**	**348**	P	**Pn**	**06 41 46.1**	**+0.3**
TK04				S	**S**	**06 42 19.9**	**+0.8**
JHJ2	**Mitsune**	**1.35**	**88**	P	**Pn**	**06 41 43.6**	**-2.5**
JKO	**Kozu shima**	**1.35**	**35**	P	**Pn**	**06 41 44.8**	**-1.2**
JHMK	**Hamakita**	**1.77**	**348**	P	**Pn**	**06 41 48.3**	**-0.4**
JIE	**Ise**	**1.81**	**317**	P	**Pn**	**06 41 49.1**	**-0.1**
HMMJ	**Hamamatsu 2**	**1.82**	**347**	P	**Pn**	**06 41 48.8**	**-0.4**
HMMJ				S	**S**	**06 42 24.5**	**-0.7**
JKN2	**Miekihoku**	**1.99**	**306**	⇑P	**Pn**	**06 41 50.3**	**-0.2**
JKN2				S	**S**	**06 42 27.4**	**-0.2**
JOD2	**Odawara 2**	**2.30**	**18**	P	**Pn**	**06 41 51.8**	**-1.3**
MJAR	**Matsushiro Arr**	**3.46**	**360**	P	**Pn**	**06 42 03.4**	**-0.8**
MJAR				S	**S**	**06 42 52.7**	**+0.3**
MJAR				pmax	pmax		
	comp=Z,11nm,0.3s						
MJAR				smax	smax		
	comp=N,6.0nm,0.3s						
MJAR	**Matsushiro Arr**	**3.46**	**360**	P	**Pn**	**06 42 03.4**	**-0.8**
	comp=N,11nm,0.3s,baz=171,slow=11,SNR=70						
MJAR				S	**S**	**06 42 52.7**	**+0.3**
	comp=N,5.6nm,0.3s,baz=236,slow=25,SNR=8.2						
MAJO	**Matsushiro**	**3.46**	**360**	*d i*P	**Pn**	**06 42 03.4**	**-0.8**
MAJO	**Matsushiro**	**3.46**	**360**	*e*Pn	**Pn**	**06 42 03.0**	**-1.2**
MAT	**Matsushiro**	**3.46**	**360**	P	**Pn**	**06 42 03.5**	**-0.7**
MAT				S	**S**	**06 42 52.1**	**-0.4**
JNU	**Nakatsue**	**6.16**	**272**	P	**Pn**	**06 42 36.0**	**+0.9**
	comp=N,0.5nm,0.3s,baz=68,slow=9.6,SNR=4.6						
KSRS	**Korea Array**	**9.48**	**300**	P	**Pn**	**06 43 17.4**	**+1.8**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**9.48**	**300**	P	**Pn**	**06 43 17.4**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=114,slow=12,SNR=46						
TJN	**Taejon**	**9.52**	**293**	*e*P	**Pn**	**06 43 17.5**	**+1.4**
ERM	**Erimo**	**9.74**	**22**	⇑*e*P	**Pn**	**06 43 18.3**	**-0.5**
ASAJ	**Asahikawa**	**11.54**	**16**	P	**Pn**	**06 43 41.8**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ	**Asahikawa**	**11.54**	**16**	P	**Pn**	**06 43 41.8**	**+1.1**
	comp=Z,2.8nm,0.3s,baz=200,slow=12,SNR=5.6						
USRK	**Ussuriysk Ar.**	**12.12**	**338**	P	**P**	**06 43 49.9**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=167,slow=11,SNR=11						
YUK	**Yuzh-Kuril'sk**	**12.46**	**26**	P	Pn	06 43 45.7	-6.2
YUK				pmax	pmax		
	comp=Z,161μm,0.9s						
MDJ	**Mudanjiang**	**13.32**	**332**	*e*Pn	**Pn**	**06 44 01.9**	**-0.4**
	comp=Z,7.4nm,0.7s						
YSS	**Yuzh-Sakhalins**	**14.28**	**13**	*e*P	**P**	**06 44 13.2**	**+0.2**
YSS	**Yuzh-Sakhalins**	**14.28**	**13**	*e*Pn	**P**	**06 44 13.2**	**+0.2**
HABR	**Khabarovsk**	**15.56**	**352**	*e*P	**P**	**06 44 25.3**	**-1.7**
HABR				*e*S	**S**	**06 47 13.9**	**-1.6**
HABR				pmax	pmax		
	comp=Z,42nm,1.4s						
HABR				MLR	MLR		
	comp=Z,74nm,18.0s						
HIA	**Hailar**	**21.24**	**325**	⇓*e*P	**P**	**06 45 25.5**	**-1.4**
HIA				pmax	pmax		
	comp=Z,14nm,0.9s						
XAN	**Xi'an**	**24.39**	**280**	P	**P**	**06 45 54.9**	**-0.9**
XAN				PMZ			
	comp=Z,7.0nm,0.9s						
PETK	**Petropavlovsk-**	**24.41**	**29**	P	**P**	**06 45 56.3**	**+0.7**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PETK	**Petropavlovsk-**	**24.41**	**29**	P	**P**	**06 45 56.3**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=234,slow=12,SNR=6.1						
ULN	**Ulaanbaatar**	**27.70**	**311**	*de*P	**P**	**06 46 26.1**	**+0.9**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ULN	**Ulaanbaatar**	**27.70**	**311**	*e*P	**P**	**06 46 25.7**	**+0.5**
	comp=Z,4.6nm,0.7s						
SONM	**Songino Array**	**28.11**	**311**	P	**P**	**06 46 29.5**	**+0.8**
SONM				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SONM	**Songino Array**	**28.11**	**311**	P	**P**	**06 46 29.5**	**+0.8**
	comp=Z,5.5nm,0.8s,baz=117,slow=8.5,SNR=18						
YAK	**Yakutsk**	**29.48**	**352**	*e*P	**P**	**06 46 39.3**	**-1.2**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
ZAK	**Zakamensk**	**30.91**	**314**	*e*P	P	06 46 48.9	-4.4
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.9s						
TLY	**Talaya**	**31.18**	**317**	*e*P	**P**	**06 46 57.0**	**+1.4**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TLY	**Talaya**	**31.18**	**317**	*e*P	**P**	**06 46 55.2**	**-0.4**
	comp=Z,2.6nm,0.8s						
SEY	**Seymchan**	**31.19**	**12**	*e*P	**P**	**06 46 55.6**	**+0.2**
GTA	**Gaotai**	**31.43**	**293**	*e*P	**P**	**06 46 58.3**	**+0.2**
GTA				PMZ			
	comp=Z,5.0nm,0.8s						
HVS	**Khovu-Aksy**	**36.96**	**313**	*c i*P	**P**	**06 47 46.1**	**+1.1**
HVS				pmax	pmax		
	comp=Z,136nm,1.2s						
CMAR	**Chiang Mai Arr**	**38.01**	**257**	P	**P**	**06 47 54.5**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**38.01**	**257**	P	**P**	**06 47 54.5**	**+0.4**
	comp=Z,2.1nm,0.3s,baz=46,slow=7.2,SNR=7.1						
BILL	**Bilibino**	**38.55**	**16**	*d i*P	**P**	**06 47 59.0**	**+1.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BILL	**Bilibino**	**38.55**	**16**	*e*P	**P**	**06 47 59.5**	**+1.6**
	comp=Z,7.5nm,0.8s						
KRAR	**Krasnoyarsk**	**38.66**	**320**	⇑*e*P	**P**	**06 47 59.2**	**+0.3**
KRAR				pmax	pmax		
	comp=Z,20nm,0.4s						
TIXI	**Tiksi**	**38.95**	**355**	⇑*e*P	**P**	**06 48 01.1**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s						
LSA	**Lhasa**	**40.06**	**278**	*e*P	**P**	**06 48 10.2**	**-1.2**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
LSA	**Lhasa**	**40.06**	**278**	*e*P	**P**	**06 48 10.2**	**-1.2**
	comp=Z,5.1nm,0.5s						
KAPI	**Kappang**	**41.74**	**208**	*e*P	**P**	**06 48 23.7**	**-0.8**
	comp=Z,19nm,1.3s						
ZALV	**Zalesovo Beam**	**42.77**	**316**	P	**P**	**06 48 32.1**	**-0.3**
ZALV						06 50 17.1	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**42.77**	**316**	P	**P**	**06 48 32.1**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=94,slow=7.9,SNR=10						
ZALV				PcP	**PcP**	**06 50 17.1**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=98,slow=2.5,SNR=5.9						
TAPN	**Taplejung**	**43.68**	**276**	*e*P	**P**	**06 48 39.5**	**-0.8**
	comp=Z,18nm,0.9s						
NVS	**Novosibirsk**	**43.79**	**317**	*i* P	**P**	**06 48 40.1**	**-0.4**
ODAN	**Odare**	**44.12**	**276**	*e*P	**P**	**06 48 43.4**	**-0.3**
	comp=Z,30nm,0.6s						
MKAR	**Makanchi Array**	**44.12**	**305**	*ce*P	**P**	**06 48 43.2**	**0.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**44.12**	**305**	P	**P**	**06 48 43.2**	**0.0**
	comp=Z,3.2nm,0.6s,baz=69,slow=7.9,SNR=35						
RAMN	**Ramite**	**44.74**	**276**	*e*P	**P**	**06 48 48.4**	**-0.3**
	comp=Z,73nm,0.7s						
JIRN	**Jiri**	**44.84**	**277**	*e*P	**P**	**06 48 49.7**	**+0.1**
	comp=Z,97nm,0.6s						
GUN	**Gumba**	**45.01**	**278**	*e*P	**P**	**06 48 50.9**	**0.0**
	comp=Z,56nm,0.8s						
PKI	**Pulchoki**	**45.52**	**278**	*e*P	**P**	**06 48 54.2**	**-0.6**
	comp=Z,34nm,0.8s						
PKIN	**Phulchoki**	**45.53**	**278**	*e*P	**P**	**06 48 54.4**	**-0.4**
	comp=Z,14nm,0.6s						
KKN	**Kakani**	**45.55**	**278**	*e*P	**P**	**06 48 54.9**	**0.0**
	comp=Z,56nm,0.8s						
DMN	**Daman**	**45.76**	**278**	*e*P	**P**	**06 48 56.6**	**0.0**
	comp=Z,41nm,1.1s						
GKN	**Gorkha**	**46.01**	**279**	*e*P	**P**	**06 48 58.1**	**-0.3**
	comp=Z,50nm,0.8s						
KURK	**Kurchatov**	**46.41**	**311**	*e*P	**P**	**06 49 00.7**	**-0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURK	**Kurchatov**	**46.41**	**311**	*e*P	**P**	**06 49 00.7**	**-0.3**
	comp=Z,6.2nm,0.8s						
DANN	**Dangsing**	**46.62**	**279**	*e*P	**P**	**06 49 03.5**	**+0.2**
	comp=Z,78nm,0.8s						
KOLN	**Koldanda**	**46.95**	**279**	*e*P	**P**	**06 49 05.8**	**0.0**
	comp=Z,35nm,0.9s						
GSI	**Gunungsitoli**	**49.52**	**239**	*e*P	**P**	**06 49 24.1**	**-1.0**
	comp=Z,28nm,0.9s						
KSH	**Kashi**	**49.70**	**296**	P	P	06 49 30.3	+3.9
KSH				PMZ			
	comp=Z,6.0nm,0.8s						
KSH				PMZ			
	comp=Z,55nm,2.9s						
AAK	**Ala-Archa**	**50.14**	**300**	⇑*e*P	**P**	**06 49 29.8**	**+0.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
RSO	**Redoubt South**	**51.63**	**36**	*e*P	**P**	**06 49 42.6**	**+2.2**
KDAK	**Kodiak Island**	**51.80**	**40**	*i* P	**P**	**06 49 41.3**	**-0.1**
WRA	**Warramunga Arr**	**52.85**	**185**	P	**P**	**06 49 47.8**	**-1.8**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA	**Warramunga Arr**	**52.85**	**185**	P	**P**	**06 49 47.8**	**-1.8**
	comp=Z,1.6nm,0.4s,baz=360,slow=7.7,SNR=55						
KKAR	**Karatay Array**	**52.90**	**302**	*e*P	**P**	**06 49 50.1**	**+0.3**
KKAR	**Karatay Array**	**52.90**	**302**	*e*P	**P**	**06 49 50.1**	**+0.3**
MCK	**McKinley**	**53.37**	**32**	*e*P	**P**	**06 49 53.6**	**+0.7**
MCK				pmax	pmax		
	comp=Z,19nm,1.3s						
MCK	**McKinley**	**53.37**	**32**	*e*P	**P**	**06 49 53.6**	**+0.7**
	comp=Z,19nm,1.3s						
COLA	**College**	**53.81**	**31**	⇑*e*P	**P**	**06 49 56.7**	**+0.8**
COLA				*i* *PP	**pP**	**06 50 59.7**	**-0.1**
COLA				pmax	pmax		
	comp=Z,27nm,0.8s						
COLA	**College**	**53.81**	**31**	*e*P	**P**	**06 49 56.8**	**+0.9**
	comp=Z,6.0nm,0.6s						
ILAR	**Eielson Array**	**54.23**	**31**	P	**P**	**06 49 58.8**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ILAR	**Eielson Array**	**54.23**	**31**	P	**P**	**06 49 58.8**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=279,slow=5.8,SNR=28						
PAX	**Paxson**	**54.97**	**33**	*e*P	**P**	**06 50 04.8**	**+0.4**
PAX				pmax	pmax		
	comp=Z,4.0nm,0.5s						
PAX	**Paxson**	**54.97**	**33**	*e*P	**P**	**06 50 04.8**	**+0.4**
	comp=Z,3.6nm,0.5s						
DOT	**Dot Lake**	**55.54**	**32**	*e*P	**P**	**06 50 08.9**	**+0.6**
	comp=Z,92nm,2.4s						
MENT	**Mentasta**	**55.77**	**33**	*e*P	**P**	**06 50 10.8**	**+0.8**
ASAR	**Alice Springs**	**56.58**	**185**	P	**P**	**06 50 15.0**	**-1.1**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**56.58**	**185**	P	**P**	**06 50 15.0**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=1.8,slow=5.9,SNR=20						
EGAK	**Eagle**	**56.67**	**30**	*e*P	**P**	**06 50 16.8**	**+0.6**
	comp=Z,6.4nm,0.8s						
ARU	**Arti**	**57.62**	**320**	*d i*P	**P**	**06 50 22.5**	**-0.5**
ARU				*PP	**pP**	**06 51 27.5**	**-0.4**
ARU						06 52 32.5	
ARU				S	**S**	**06 57 57.5**	**+0.6**
ARU				SS	**SS**	**07 01 47.6**	**-4.2**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ABKAR	**Akbulak array**	**58.52**	**311**	*e*P	**P**	**06 50 29.3**	**0.0**
PALK	**Pallekele**	**58.95**	**258**	*i* P	**P**	**06 50 33.4**	**+0.6**
PALK	**Pallekele**	**58.95**	**258**	*e*P	**P**	**06 50 32.2**	**-0.7**
	comp=Z,6.8nm,0.8s						
HYT	**Haines Junctio**	**59.03**	**35**	*e*P	**P**	**06 50 33.8**	**+1.0**
PRGR	**Permogore**	**62.66**	**328**	P	**P**	**06 50 55.3**	**-1.6**
PRGR				pmax	pmax		
	comp=Z,35nm,1.1s						
STKA	**Stephens Creek**	**64.69**	**177**	P	**P**	**06 51 09.7**	**-0.6**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
STKA	**Stephens Creek**	**64.69**	**177**	P	**P**	**06 51 09.7**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=358,slow=7.8,SNR=5.2						
ARCES	**ARCESS Array B**	**66.76**	**339**	P	**P**	**06 51 23.4**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**66.76**	**339**	P	**P**	**06 51 23.4**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=46,slow=6.9,SNR=5.5						
YKA	**Yellowknife Ar**	**68.53**	**28**	P	**P**	**06 51 34.2**	**0.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**68.53**	**28**	P	**P**	**06 51 34.2**	**0.0**
	comp=Z,1.4nm,0.6s,baz=302,slow=6.3,SNR=40						
FINES	**FINESS Array B**	**71.07**	**332**	P	**P**	**06 51 49.7**	**+0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**71.07**	**332**	P	**P**	**06 51 49.7**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=72,slow=4.5,SNR=8.9						
KBZ	**Khabaz**	**71.47**	**310**	P	**P**	**06 51 52.5**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBZ	**Khabaz**	**71.47**	**310**	P	**P**	**06 51 52.5**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=90,slow=2.7,SNR=7.9						
G03D	**McMinnville, O**	**72.77**	**47**	⇓P	**P**	**06 52 01.3**	**+1.4**
	baz=73						
F04A	**Amboy**	**72.92**	**46**	*e*P	**P**	**06 52 02.2**	**+1.4**
I03D	**Drain, OR**	**73.47**	**48**	⇓P	**P**	**06 52 05.5**	**+1.6**
	baz=73						
G05D	**Wamic, OR**	**73.94**	**46**	⇓P	**P**	**06 52 07.8**	**+1.0**
	baz=74						
I04A	**Tendick Farm,**	**74.00**	**48**	⇑P	**P**	**06 52 08.1**	**+1.0**
	baz=74						
EDM	**Edmonton**	**74.08**	**36**	*e*P	**P**	**06 52 08.1**	**+0.7**
EDM	**Edmonton**	**74.08**	**36**	*e*P	**P**	**06 52 08.1**	**+0.7**
I05D	**Terrebonne, OR**	**74.39**	**47**	⇑P	**P**	**06 52 10.7**	**+1.3**
	baz=74						
C09A	**Chrisman Ranch**	**74.40**	**43**	*e*P	**P**	**06 52 10.4**	**+1.0**
	comp=Z,5.3nm,0.8s						
D08A	**Wollman Farm,**	**74.42**	**44**	*e*P	**P**	**06 52 10.2**	**+0.8**
	comp=Z,82nm,2.7s						
J04D	**Umpqua Nationa**	**74.47**	**48**	⇓P	**P**	**06 52 11.0**	**+0.9**
	baz=74						
NEW	**Newport**	**74.80**	**42**	*e*P	**P**	**06 52 12.7**	**+1.0**
NEW				pmax	pmax		
	comp=Z,61nm,2.7s						
NEW	**Newport**	**74.80**	**42**	⇓P	**P**	**06 52 12.7**	**+1.0**
	baz=75						
NEW	**Newport**	**74.80**	**42**	*e*P	**P**	**06 52 12.7**	**+1.0**
	comp=Z,61nm,2.7s						
M02C	**Callahan**	**74.95**	**50**	⇑P	**P**	**06 52 14.0**	**+1.4**
	baz=75						
J05D	**Fort Rock, OR**	**75.00**	**48**	⇓P	**P**	**06 52 14.5**	**+1.4**
	baz=75						
E09A	**Wood Farm, Sta**	**75.16**	**44**	*e*P	**P**	**06 52 14.9**	**+1.2**
	comp=Z,7.0nm,0.8s						
N02D	**Trinity Center**	**75.26**	**51**	⇓P	**P**	**06 52 16.1**	**+1.7**
	baz=75						
M04C	**Macdoel**	**75.40**	**50**	⇓P	**P**	**06 52 16.7**	**+1.4**
	baz=75						
K05A	**Summer Lake**	**75.50**	**48**	*e*P	**P**	**06 52 17.7**	**+1.7**
	comp=Z,11nm,0.9s						
AKASG	**Malin Array Be**	**75.79**	**322**	*ce*P	**P**	**06 52 17.6**	**+0.5**
AKASG	**Malin Array Be**	**75.79**	**322**	P	**P**	**06 52 16.2**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=52,slow=6.2,SNR=4.8						
KIEV	**Kiev**	**75.80**	**322**	⇓*e*P	**P**	**06 52 16.4**	**-0.8**
F10A	**Beach Ranch, E**	**75.99**	**44**	*e*P	**P**	**06 52 19.5**	**+1.0**
	comp=Z,135nm,2.8s						
MOD	**Modoc Plateau**	**76.31**	**49**	*e*P	**P**	**06 52 21.3**	**+0.9**
	comp=Z,79nm,3.0s						
BMO	**Blue Mountains**	**76.56**	**45**	*e*P	**P**	**06 52 22.3**	**+0.6**
BMO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BMO	**Blue Mountains**	**76.56**	**45**	*e*P	**P**	**06 52 22.3**	**+0.6**
	comp=Z,8.5nm,1.1s						
JTMT	**Jette**	**76.68**	**41**	*e*P	**P**	**06 52 23.6**	**+1.2**
NB2	**NORSAR Subarra**	**76.78**	**336**	P	**P**	**06 52 22.3**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=43,slow=5.6						
NOA	**NORSAR Array B**	**76.78**	**336**	P	**P**	**06 52 22.5**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**76.78**	**336**	P	**P**	**06 52 22.4**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=44,slow=5.5,SNR=6.4						
SWMT	**Swartz Lake**	**76.97**	**41**	*e*P	**P**	**06 52 24.8**	**+0.9**
WVOR	**Wild Horse Val**	**77.07**	**48**	*e*P	**P**	**06 52 25.6**	**+1.0**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WVOR	**Wild Horse Val**	**77.07**	**48**	*e*P	**P**	**06 52 25.6**	**+1.0**
	comp=Z,7.2nm,1.0s						
MSO	**Missoula**	**77.39**	**42**	⇓P	**P**	**06 52 26.8**	**+0.5**
	baz=77						
SLMT	**Seeley Lake**	**77.41**	**42**	*e*P	**P**	**06 52 27.1**	**+0.7**
MFID	**Camas Ranch**	**78.24**	**46**	*e*P	P	06 52 27.6	-3.5
	comp=Z,5.7nm,0.8s						
CMB	**Columbia Colle**	**78.33**	**52

SBC	Santa Barbara	80.75	55	⇑P	P	06 52 45.8 +1.3
	baz=81					
B22A	Reddig Ranch S	80.77	38	⇓P	P	06 52 45.2 +0.8
	baz=81					
E20A	Meyer Farm, Mu	80.79	40	⇓P	P	06 52 45.2 +0.6
	baz=81,SNR=5.6					
IMW	Indian Meadow	80.83	43	eP	P	06 52 46.6 +1.4
FLWY	Flagg Ranch	80.86	43	eP	P	06 52 47.3 +2.1
	comp=Z,9.1nm,1.0s					
GRAC	Grapevine Rang	80.90	52	⇓P	P	06 52 46.3 +1.0
	baz=81					
HVU	Hansel Valley	81.03	46	eP	P	06 52 47.5 +1.5
HVU				pmax	pmax	
	comp=Z,8.0nm,0.7s					
HVU	Hansel Valley	81.03	46	eP	P	06 52 47.5 +1.5
	comp=Z,7.6nm,0.7s					
RLMT	Red Lodge	81.03	41	eP	P	06 52 46.2 +0.2
	comp=Z,2.0nm,0.6s					
I17A	Pilgrim Ck.	81.03	43	⇑P	P	06 52 48.0 +2.0
	baz=81,SNR=6.9					
D21A	La Casta Ranch	81.04	39	⇑P	P	06 52 46.4 +0.6
	baz=81					
H18A	Shoshone NF, C	81.08	42	⇓P	P	06 52 47.4 +1.0
	baz=81					
B23A	Brockton	81.17	37	⇓P	P	06 52 47.1 +0.7
	baz=81,SNR=5.2					
C22A	Vida	81.18	38	⇓P	P	06 52 46.9 +0.3
	baz=81					
F20A	Billings	81.22	40	⇑P	P	06 52 47.5 +0.6
	baz=81					
R11A	Troy Canyon, C	81.29	50	⇑P	P	06 52 48.2 +0.7
	baz=81,SNR=5.5					
R11A	Troy Canyon, C	81.29	50	eP	P	06 52 48.2 +0.7
	comp=Z,2.6nm,0.8s					
A24A	Westby	81.36	36	⇓P	P	06 52 48.0 +0.5
	baz=81					
BGU	Big Grassy Mou	81.38	47	eP	P	06 52 49.2 +1.3
	comp=Z,0.9nm,0.7s					
D22A	Cohagen	81.41	38	⇑P	P	06 52 48.6 +0.9
	baz=81					
H19A	Powell	81.46	42	⇑P	P	06 52 49.2 +1.0
	baz=81					
C23A	Lambert	81.50	38	⇑P	P	06 52 48.8 +0.6
	baz=81					
FURC	Furnace Creek,	81.54	52	⇑P	P	06 52 49.5 +0.9
	baz=82					
G20A	Bridger	81.55	41	⇑P	P	06 52 48.9 +0.2
	baz=81					
LRMC	Laurel Mtn Rad	81.55	53	⇓P	P	06 52 49.5 +0.7
	baz=82					
TPNV	Topopah Spring	81.67	51	⇑P	P	06 52 50.3 +0.9
	baz=82					
EDW2	Edwards Air Fo	81.69	54	⇓P	P	06 52 50.2 +0.7
	baz=82					
HWUT	Hardware Ranch	81.85	45	eP	P	06 52 51.4 +1.0
	comp=Z,7.4nm,0.9s					
I19A	Meeteetse	81.85	42	⇑P	P	06 52 51.3 +0.9
	baz=82					
D23A	Lindsay	81.90	38	⇑P	P	06 52 51.0 +0.7
	baz=82					
DUG	Dugway, Tooele	81.95	47	eP	P	06 52 51.8 +1.0
DUG				pmax	pmax	
	comp=Z,6.0nm,0.7s					
DUG	Dugway, Tooele	81.95	47	⇑P	P	06 52 51.5 +0.7
	baz=82,SNR=8.2					
DUG	Dugway, Tooele	81.95	47	eP	P	06 52 51.8 +1.0
	comp=Z,5.8nm,0.7s					
C24A	Savage	82.07	37	⇓P	P	06 52 51.9 +0.7
	baz=82					
G21A	Lodge Grass	82.09	40	⇑P	P	06 52 52.2 +0.7
	baz=82					
H20A	Greybull	82.13	41	⇑P	P	06 52 52.9 +1.3
	baz=82					
FMP	Fort Macarthur	82.14	55	⇑P	P	06 52 53.0 +1.3
	baz=82					
GSC	Goldstone, Bar	82.24	53	⇑P	P	06 52 52.9 +0.6
	baz=82					
SHOC	Shoshone, Teco	82.25	52	⇑P	P	06 52 53.0 +0.8
	baz=82					
F22A	Rosebud	82.25	40	⇑P	P	06 52 52.6 +0.4
	baz=82					
J19A	Crowheart	82.30	43	⇑P	P	06 52 53.5 +0.9
	baz=82,SNR=15					
PDAR	Pinedale Array	82.32	43	P	P	06 52 53.0 +0.2
	comp=Z,2.0nm,0.7s,baz=276,slow=3.2,SNR=18					
DPC	Dobruska-Polom	82.36	327	eP	P	06 52 53.5 +0.9
DPC	Dobruska-Polom	82.36	327	eP	P	06 52 53.5 +0.9
D24A	Glendive	82.39	38	⇓P	P	06 52 54.0 +1.2
	baz=82					
I20A	Worland	82.39	42	⇓P	P	06 52 54.2 +1.2
	baz=82					
NLU	North Lily Min	82.54	47	eP	P	06 52 55.4 +1.4
	comp=Z,5.5nm,1.0s					
H21A	Big Horn, Sher	82.57	41	⇑P	P	06 52 54.5 +0.6
	baz=82					
G22A	Birney	82.59	40	⇑P	P	06 52 54.6 +0.6
	baz=82					
F23A	Volborg	82.75	39	⇓P	P	06 52 55.3 +0.6
	baz=83					
DAU	Daniels Canyon	82.76	46	eP	P	06 52 56.6 +1.4
DAU	Daniels Canyon	82.76	46	eP	P	06 52 56.6 +1.4
E24A	Baker	82.77	38	⇑P	P	06 52 55.4 +0.5
	baz=83					
MPU	Maple Canyon	82.78	47	eP	P	06 52 56.3 +1.2
	comp=Z,7.1nm,0.8s					
J20A	Shoshoni	82.80	42	⇓P	P	06 52 55.6 +0.5
	baz=83,SNR=7.5					
D25A	Fairfield	82.88	37	⇑P	P	06 52 56.3 +0.9
	baz=83					
I21A	Big Trails, Te	82.95	42	⇑P	P	06 52 56.6 +0.7
	baz=83					
H22A	Clearmont	82.97	41	⇑P	P	06 52 57.1 +1.2
	baz=83					
C26A	Wahner Farm, P	83.04	36	⇑P	P	06 52 57.0 +0.9
	baz=83					
G23A	Biddle	83.09	40	⇑P	P	06 52 57.2 +0.7
	baz=83					
J21A	Lysite	83.16	42	⇑P	P	06 52 57.9 +0.8
	baz=83					
F24A	Ekalaka	83.17	39	⇑P	P	06 52 57.6 +0.7
	baz=83					
A28A	Rude Farm, Bot	83.19	34	⇓P	P	06 52 57.6 +0.8
	baz=83					
E25A	Miller Ranch,	83.28	38	⇑P	P	06 52 58.3 +0.9
	baz=83					
GMRC	Granite Mounta	83.31	53	⇑P	P	06 52 58.6 +0.7
	baz=83					
MVU	Marysvale	83.33	48	eP	P	06 52 59.6 +1.5
	comp=Z,3.7nm,0.9s					
I22A	9 Mile Ranch,	83.35	41	⇑P	P	06 52 58.6 +0.7
	baz=83					
C27A	Sayler Ranch,	83.41	36	⇓P	P	06 52 58.9 +0.9
	baz=83					
D26A	Manning	83.41	37	⇓P	P	06 52 58.4 +0.4
	baz=83					
PFO	Pinyon Flats O	83.45	54	⇓P	P	06 52 59.3 +0.6
	baz=83					
B28A	Dugan Ranch, T	83.46	35	⇑P	P	06 52 58.8 +0.6
	baz=83					
G24A	Alzada	83.53	39	⇑P	P	06 52 58.9 +0.2
	baz=83					
BELC	Belle Mtn. Jos	83.54	54	⇓P	P	06 52 59.3 +0.2
	baz=84					
J22A	Midwest	83.66	42	⇑P	P	06 52 60.0 +0.5
	baz=84,SNR=7.9					
K21A	Alcova	83.73	42	⇑P	P	06 53 00.4 +0.4
	baz=84,SNR=9.3					
H24A	Dirks Ranch, A	83.84	40	⇓P	P	06 53 00.4 +0.1
	baz=84					
MONP	Monument Peak,	83.89	55	⇓P	P	06 53 01.8 +0.8
	baz=84					
B29A	Wagenman Farm,	83.93	34	⇓P	P	06 53 01.2 +0.6
	baz=84					
SRU	San Rafael Swe	84.01	47	eP	P	06 53 02.2 +0.8
SRU				pmax	pmax	
	comp=Z,12nm,0.7s					
SRU	San Rafael Swe	84.01	47	eP	P	06 53 02.2 +0.8
	comp=Z,12nm,0.7s					
IRM	Iron Mountain	84.01	53	⇑P	P	06 53 02.1 +0.7
	baz=84					
A30A	Hoffart Farm,	84.09	34	⇑P	P	06 53 02.0 +0.6
	baz=84					
BC3	Big Chuckawall	84.11	54	⇑P	P	06 53 02.4 +0.5
	baz=84					
K22A	Casper	84.12	42	⇑P	P	06 53 02.4 +0.5
	baz=84					
G25A	Newell	84.14	39	⇓P	P	06 53 02.0 +0.2
	baz=84					
ULM	Lac du Bonnet	84.24	32	P	P	06 53 01.9 -0.2
ULM				pmax	pmax	
	comp=Z,2.0nm,0.4s					
ULM	Lac du Bonnet	84.24	32	P	P	06 53 01.9 -0.2
	comp=Z,1.6nm,0.4s,baz=335,slow=2.7,SNR=5.1					
E27A	Carson	84.26	37	⇓P	P	06 53 03.0 +0.6
	baz=84					
N20A	Spence Gulch,	84.29	44	⇓P	P	06 53 03.8 +1.0
	baz=84,SNR=7.7					
W13A	Hualapai Mount	84.30	52	⇓P	P	06 53 03.7 +0.7
	baz=84					
F27A	Lemmon	84.41	38	⇑P	P	06 53 03.7 +0.7
	baz=84					
B30A	Myrvik Farm, E	84.42	34	⇑P	P	06 53 03.6 +0.5
	baz=84					
H25A	Fruitdale	84.43	39	⇓P	P	06 53 04.1 +0.8
	baz=84					
G26A	Maurine	84.50	38	⇑P	P	06 53 04.3 +0.7
	baz=84					
U15A	North Rim	84.54	50	⇓P	P	06 53 05.4 +1.1
	baz=84					
L22A	Ellis Ranch, M	84.58	43	⇑P	P	06 53 05.4 +1.2
	baz=84					
GERES	GERESS Array B	84.63	327	P	P	06 53 03.5 -0.6
	comp=Z,0.3nm,0.5s,baz=54,slow=6.8,SNR=4.5					
O20A	White River Ci	84.74	45	⇓P	P	06 53 05.8 +0.8
	baz=85					
I25A	Rochford	84.76	40	⇑P	P	06 53 05.4 +0.3
	baz=85					
G27A	Dupree	84.79	38	⇓P	P	06 53 05.5 +0.5
	baz=85					
H26A	Fairpoint	84.87	39	⇑P	P	06 53 06.0 +0.6
	baz=85					
M22A	Cedar Creek Ra	84.89	43	⇑P	P	06 53 06.2 +0.4
	baz=85					
L23A	Garrett	84.94	42	⇑P	P	06 53 06.5 +0.5
	baz=85					
F28A	McLaughlin	85.05	37	⇓P	P	06 53 07.0 +0.8
	baz=85					
D30A	Buchanan	85.17	35	⇓P	P	06 53 07.4 +0.6
	baz=85					
H27A	Howes	85.22	38	⇓P	P	06 53 08.0 +0.8
	baz=85					
M23A	Laramie	85.35	43	⇓P	P	06 53 08.7 +0.6
	baz=85					
N22A	Wittenberg Ran	85.36	44	⇑P	P	06 53 09.2 +1.0
	baz=85					
PV04	Paradox Valley	85.44	47	eP	P	06 53 10.3 +1.8
G28A	Parade	85.52	38	⇑P	P	06 53 09.3 +0.7
	baz=85					
F29A	Eureka	85.55	37	⇑P	P	06 53 09.3 +0.6
	baz=85					
J26A	Sides Ranch, S	85.59	40	⇓P	P	06 53 09.6 +0.6
	baz=85					
N23A	Red Feather La	85.59	43	⇓P	P	06 53 10.6 +1.2
	baz=86					
I27A	Quinn	85.62	39	⇓P	P	06 53 10.1 +0.9
	baz=86					
WUAZ	Wupatki	85.68	50	⇓P	P	06 53 10.9 +1.2
	baz=86					
WUAZ	Wupatki	85.68	50	eP	P	06 53 10.8 +1.0
	comp=Z,53nm,3.0s					
O22A	Kremmling	85.72	44	⇑P	P	06 53 10.7 +0.7
	baz=86					
H28A	Mission Ridge	85.74	38	⇑P	P	06 53 10.7 +1.1
	baz=86					
113A	Mohawk Valley,	85.77	53	⇑P	P	06 53 11.8 +1.8
	baz=86					
M24A	Cheyenne	85.86	42	⇑P	P	06 53 11.5 +1.0
	baz=86					
K26A	Motz Farm, Whi	85.94	40	⇑P	P	06 53 11.3 +0.5
	baz=86					
P22A	Eagle	85.96	45	⇑P	P	06 53 12.3 +1.2
	baz=86					
O23A	Lake Granby, G	86.06	44	⇓P	P	06 53 12.7 +1.1
	baz=86					
SMCO	Snowmass	86.11	45	eP	P	06 53 13.1 +1.1
	comp=Z,4.0nm,0.9s					
I28A	Midland	86.13	38	⇓P	P	06 53 12.3 +0.7
	baz=86					
H29A	Onida	86.19	38	⇑P	P	06 53 12.3 +0.4
	baz=86					
J27A	Elkhorn Farm,	86.20	39	⇓P	P	06 53 12.9 +0.9
	baz=86					
N24A	Carr	86.25	43	⇑P	P	06 53 13.7 +1.3
	baz=86					
X16A	Lo Mia Camp, P	86.31	51	⇑P	P	06 53 14.3 +1.4
	baz=86					
G30A	Faulkton	86.38	37	⇑P	P	06 53 13.3 +0.5
	baz=86					
MVCO	Mesa Verde	86.44	47	⇓P	P	06 53 15.0 +1.6
	baz=86					
K27A	Flueckinger Fa	86.45	40	⇑P	P	06 53 13.9 +0.7
	baz=86					
J28A	Allard Ranch,	86.50	39	⇑P	P	06 53 14.1 +0.7
	baz=86					
ISCO	Idaho Springs	86.50	44	eP	P	06 53 15.0 +1.2
ISCO				pmax	pmax	
	comp=Z,50nm,3.0s					
ISCO	Idaho Springs	86.50	44	⇑P	P	06 53 14.6 +0.8
	baz=86					
ISCO	Idaho Springs	86.50	44	eP	P	06 53 15.0 +1.2
	comp=Z,50nm,3.0s					
I29A	Vivian Onida	86.57	38	⇑P	P	06 53 14.3 +0.6
	baz=86					
P23A	Jefferson	86.65	44	⇓P	P	06 53 16.2 +1.7
	baz=86					
J29A	Okreek	86.98	38	⇓P	P	06 53 16.2 +0.4
	baz=87					
I30A	Oacoma	87.09	38	⇓P	P	06 53 17.0 +0.8
	baz=87					
S22A	4UR Ranch, Cre	87.12	46	⇓P	P	06 53 18.1 +1.3
	baz=87					
O25A	Wiggins	87.16	43	⇓P	P	06 53 18.0 +1.2
	baz=87					
R23A	Moffat	87.43	45	⇑P	P	06 53 19.3 +1.0
	baz=87					
K29A	Lazy Trails An	87.44	39	⇓P	P	06 53 18.6 +0.7
	baz=87					
J30A	Dallas	87.48	38	⇓P	P	06 53 18.7 +0.7
	baz=87					
OGNE	Ogallala	87.77	41	⇑P	P	06 53 20.1 +0.6
	baz=88					
R24A	Sanders Place,	87.83	45	⇑P	P	06 53 21.1 +1.1
	baz=88					
K30A	Basset	87.87	39	⇑P	P	06 53 20.7 +0.8
	baz=88					
EYMN	Ely	87.87	31	eP	P	06 53 20.3 +0.5
	comp=Z,8.1nm,1.0s					
Q25A	Bedland, Calha	87.88	44	⇑P	P	06 53 21.1 +0.8
	baz=88					
T23A	Casias Ranch,	88.06	46	⇑P	P	06 53 22.4 +1.2
	baz=88					
S24A	Houchin Ranch,	88.16	45	⇑P	P	06 53 22.6 +0.9
	baz=88					
U23A	El Rito	88.42	47	⇓P	P	06 53 23.9 +1.0
	baz=88					
O28A	Krutsinger Ran	88.47	42	⇑P	P	06 53 23.3 +0.5
	baz=88					
L31A	Butterfield Fa	88.63	39	⇑P	P	06 53 24.3 +0.8
	baz=88					
ECSD	EROS Data Cent	88.65	36	⇓P	P	06 53 24.1 +0.6
	baz=88					
R26A	Arlington	88.76	44	⇑P	P	06 53 24.8 +0.5
	baz=89					
P28A	Saint Francis	88.86	42	⇓P	P	06 53 25.4 +0.7
	baz=89					
U24A	Moreno Valley	88.93	46	⇓P	P	06 53 26.8 +1.5
	baz=89					
R27A	Eads	89.14	44	⇓P	P	06 53 26.6 +0.5
	baz=89					
Q28A	Sharon Springs	89.17	42	⇓P	P	06 53 26.8 +0.6
	baz=89					
SPMN	Marine on St.	89.37	33	⇓P	P	06 53 27.6 +0.8
	baz=89					
V24A	Rampart Ranch,	89.38	47	⇑P	P	06 53 28.5 +1.1
	baz=89					
T26A	Comanche Natio	89.43	45	⇑P	P	06 53 28.2 +0.7
	baz=89					
U25A	Circle Dot Ran	89.46	46	⇑P	P	06 53 28.3 +0.6
	baz=89					
W24A	Lazy 6 Ranch,	89.64	47	⇑P	P	06 53 30.0 +1.4
	baz=90					
R28A	Tribune	89.67	43	⇓P	P	06 53 29.5 +1.0
	baz=90					
V25A	Rancho No Teng	89.71	46	⇓P	P	06 53 29.9 +1.0
	baz=90					
Q29A	Oakley	89.77	42	⇓P	P	06 53 29.4 +0.5
	baz=90					
U26A	Atchley Ranch,	89.86	45	⇓P	P	06 53 30.5 +1.0
	baz=90					
121A	Cookes Peak, D	89.87	51	⇑P	P	06 53 30.5 +0.8
	baz=90					
Q30A	Quinter	90.13	42	⇑P	P	06 53 31.2 +0.6
	baz=90					
S28A	Manter	90.14	44	⇑P	P	06 53 31.3 +0.7
	baz=90					
W25A	X Bar L Ranch,	90.21	47	⇓P	P	06 53 32.1 +1.0
	baz=90					
P31A	Stockton	90.22	41	⇑P	P	06 53 31.4 +0.5
	baz=90					
V26A	Tequesquite Ra	90.24	46	⇑P	P	06 53 32.3 +1.1
	baz=90					
S29A	Ulysses	90.56	43	⇓P	P	06 53 33.3 +0.6
	baz=90					
R30A	Dighton	90.58	42	⇓P	P	06 53 33.2 +0.5
	baz=90					
U28A	Mallet	90.77	45	⇑P	P	06 53 34.6 +0.9
	baz=91					
S30A	Montezuma	90.92	43	⇓P	P	06 53 35.0 +0.8
	baz=91					
X26A	CR and CF Fran	91.06	47	⇑P	P	06 53 36.0 +1.0
	baz=91					
W27A	Bowe Ranch, En	91.17	46	⇓P	P	06 53 36.7 +1.2
	baz=91					
X27A	F and S Farms,	91.42	46	⇑P	P	06 53 37.7 +1.0
	baz=91					
S31A	Mullinville	91.49	42	⇑P	P	06 53 37.5 +0.6
	baz=91					
S32A	Newby Ranch, P	91.75	42	⇑P	P	06 53 38.8 +0.8
	baz=92					
R33A	Olander Ranch,	91.84	41	⇓P	P	06 53 38.8 +0.3
	baz=92					
Y27A	Causey	91.90	47	⇑P	P	06 53 39.5 +0.6
	baz=92					
AMTX	Amarillo	92.12	45	⇑P	P	06 53 40.9 +1.1
	baz=92					
Z29A	Hungry Hill Ra	93.22	47	⇓P	P	06 53 45.5 +0.6
	baz=93					
V34A	Guthrie	93.87	42	⇓P	P	06 53 48.3 +0.5
	baz=94					
Z32A	Haskell	94.53	45	⇓P	P	06 53 51.5 +0.6
	baz=94					
TXAR	Lajitas Array	94.63	51	P	P	06 53 52.2 +0.7
TXAR				pmax	pmax	
	comp=Z,2.0nm,0.5s					
TXAR	Lajitas Array	94.63	51	P	P	06 53 52.1 +0.7
	comp=Z,1.6nm,0.5s,baz=292,slow=2.5,SNR=34					
SAML	Samuel	148.90	44	ePKPdf	PKPdf	07 00 13.2 +0.4
SAML				ePKPbc	PKPbc	07 00 16.5 -0.6

*IDC **16** 06:53:10.4±2.2, 32°.50S×71°.59W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/15, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=68.4km s-min=45.6km az=13.0*

ISC 16 06:53:16.4±2.0, 32°.0S±0°.3×71°.5W±0°.3, h28km, n7, σ1§81/7, mb3.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	15.96	12	Pn	P	06 57 01.7	-1.3
	0.1nm,0.3s,baz=195,slow=5.3,SNR=4.4						
BDFB	Brasilia	26.86	58	P	P	06 58 56.7	+1.8
	1.5nm,0.4s,baz=228,slow=17,SNR=4.5						
TXAR	Lajitas Array	68.25	330	P	P	07 04 16.2	+1.5
	0.1nm,0.4s,baz=144,slow=7.8,SNR=2.7						
TORD	Torodi Ar. Bea	83.08	70	P	P	07 05 40.0	+0.2
	1.3nm,0.7s,baz=250,slow=4.4,SNR=6.1						
BVAR	Borovoye Array	145.50	41	PKPbc	PKPab	07 12 51.9	+0.2
	0.6nm,0.4s,baz=306,slow=2.8,SNR=4.7						
ZALV	Zalesovo Beam	152.29	31	PKPbc	PKPbc	07 13 06.9	-2.1
	0.4nm,0.3s,baz=325,slow=1.8,SNR=3.5						
MKAR	Makanchi Array	155.08	46	PKPab	PKPab	07 13 29.8	-1.3
	0.7nm,0.7s,baz=311,slow=9.4,SNR=6.3						

IDC 16 06:54:45.7±1.7, 36°.32S×73°.77W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/16, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=73.2km s-min=33.5km az=71.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.08	151	Pn	Pn	06 56 03.2	0.0
	0.5nm,0.3s,baz=333,slow=16,SNR=4.0						
LPAZ	La Paz	20.57	16	P	P	06 59 26.8	-0.1
	2.4nm,0.8s,baz=198,slow=7.9,SNR=4.7						
TXAR	Lajitas Array	71.10	333	P	P	07 06 06.1	+0.2
	0.4nm,0.7s,baz=146,slow=7.1,SNR=4.4						
NVAR	Mina Array Bea	85.00	326	P	P	07 07 22.9	-0.2
	0.3nm,0.7s,baz=152,slow=5.9,SNR=3.1						

IDC 16 07:05:38.4±19.0, 4°.07S×145°.86E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/25, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=312.7km s-min=109.5km az=176.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.36	215	P	P	07 10 05.2	-0.7
	0.3nm,0.3s,baz=37,slow=11,SNR=30						
ASAR	Alice Springs	22.64	210	P	P	07 10 41.4	0.0
	0.4nm,0.4s,baz=48,slow=9.1,SNR=11						
STKA	Stephens Creek	27.95	188	P	P	07 11 31.2	+0.4
	0.4nm,0.4s,baz=0.0,slow=9.1,SNR=3.0						

*IDC **16** 07:18:38.1±1.1, 37°.21S×73°.77W, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/19, mbtmp4.0/8, ML3.2/2, MS3.2/2, Ms1 3.2/2, ms1mx3.0/18, Error ellipse: s-maj=31.2km s-min=16.2km az=86.0*

*GUC **16** 07:18:38.3±0.6, 37°.22S×74°.14W, h26km±6km, ML4.3*

*ISCJB **16** 07:18:41.0±0.7, 37°.17S±0°.05×73°.91W±0°.08, h33km, mb4.1/10, MS3.7/1, Error ellipse: s-maj=9.2km s-min=7.0km az=175.4*

*NEIC **16** 07:18:41.9±3.9, 37°.20S×73°.77W, h23km±26km, mb4.4/5, Error ellipse: s-maj=23.0km s-min=9.0km az=82.0*

ISC 16 07:18:42.9±0.7, 37°.21S±0°.05×73°.89W±0°.09, h35km, n27, σ1§33/29, mb4.1/10, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.73	60	eP1	Pn	07 18 54.8	-2.0
CCSP				i S	Sn	07 19 06.7	+0.1
CCSP				AML	AML	07 19 12.5	
	comp=N,20μm,0.5s						
AGCH	Angol	1.12	122	eP	Pn	07 19 00.8	-1.3
AGCH				i S	Sn	07 19 17.3	+0.9
COCH	Cobquecura	1.40	40	⇓iP	Pn	07 19 04.1	-1.8
PSCH	Puerto Saavedr	1.63	166	eP1	Pn	07 19 06.8	-2.3
LNCH	Linares	2.29	54	⇑iP	Pn	07 19 18.0	-0.3
VLCH	Valdivia	2.64	169	eP1	Pn	07 19 20.5	-2.5
PLCA	Paso Flores	4.37	144	Pn	Pn	07 19 46.9	-0.1
	comp=N,0.6nm,0.3s,baz=316,slow=12,SNR=14						
PLCA				Lg	Lg	07 20 56.0	
	comp=N,3.0nm,0.3s,baz=41,slow=20,SNR=3.7						
PLCA	Paso Flores	4.37	144	ePn	Pn	07 19 46.1	-0.8
PLCA				Lg	Lg	07 20 56.0	
CFAA	Coronel Fontan	7.29	42	Pn	Pn	07 20 25.2	-1.8
	comp=N,0.1nm,0.3s,baz=221,slow=12,SNR=7.6						
CFAA				Sn	Sn	07 21 47.8	-0.7
	comp=N,0.1nm,0.3s,baz=292,slow=16,SNR=2.1						
CFAA				LR	LR	07 23 51.6	
	comp=N,41nm,19.7s,baz=224,slow=43						
LCO	Las Campanas	8.61	19	ePn	Pn	07 20 43.6	-1.7
LCO				eSg	Sn	07 23 10.0	+48
TRQA	Tornquist	9.49	99	ePn	Pn	07 20 57.4	+0.3
LVC	Limon Verde	15.18	18	ePn	Pn	07 22 14.2	-0.7
LPAZ	La Paz	21.46	15	P	P	07 23 30.3	+1.3
	comp=N,5.5nm,0.8s,baz=192,slow=8.7,SNR=9.3						
LPAZ	La Paz	21.46	15	eP	P	07 23 30.2	+1.3
	comp=N,11nm,1.1s						
SIV	San Ignacio	24.00	32	P	P	07 23 54.4	-0.1
	comp=N,2.9nm,0.7s,baz=204,slow=9.6,SNR=8.1						
SAML	Samuel	29.77	22	eP	P	07 24 47.4	+1.1
	comp=N,1.3nm,0.7s						
BDFB	Brasilia	31.42	54	P

QSPA	**South Pole Qui**	**53.03**	**180**	P	**P**	**07 27 56.6 +0.5**
	comp=N,2.3nm,1.0s,baz=128,slow=6.4,SNR=4.9					
QSPA	**South Pole Qui**	**53.03**	**180**	*e*P	**P**	**07 27 56.7 +0.5**
	comp=N,14nm,1.6s					
TXAR	**Lajitas Array**	**71.85**	**333**	P	**P**	**07 30 02.8 +0.6**
	comp=N,0.3nm,0.6s,baz=155,slow=8.0,SNR=4.9					
LBTB	**Lobatse**	**82.31**	**115**	*e*P	**P**	**07 31 01.6 +0.2**
	comp=N,3.3nm,0.6s					
ECSD	**EROS Data Cent**	**83.17**	**344**	*e*P	**P**	**07 31 05.7 +0.7**
	comp=N,3.1nm,0.9s					
TORD	**Torodi Ar. Bea**	**86.71**	**71**	P	**P**	**07 31 23.3 -0.2**
	comp=N,0.9nm,0.6s,baz=240,slow=3.7,SNR=5.5					
COLA	**College**	**116.77**	**333**	*e*PKPdf	**PKPdf**	**07 37 25.1 +2.6**
ABKAR	**Akbulak array**	**144.81**	**55**	*e*PKPdf	PKPbc	07 38 15.0 +0.3
MKAR	**Makanchi Array**	**159.94**	**54**	PKPab	**PKPab**	**07 39 17.8 +0.2**
	comp=N,0.7nm,0.8s,baz=298,slow=3.1,SNR=4.2					

ISCJB ***16*** *07:27:12.7±0.4, 18°.94N±0°.05×145°.5E±0°.1, h150km, mb4.0/25, Error ellipse: s-maj=17.3km s-min=7.5km az=176.5*
NEIC ***16*** *07:27:14.0±1.0, 18°.92N×145°.56E, h148km±10km, mb4.1/6, Error ellipse: s-maj=14.6km s-min=6.2km az=88.0*
IDC ***16*** *07:27:13.9±3.4, 18°.91N×145°.63E, h148km±31km, mb3.8/18, mb1 3.9/20, mb1mx3.8/31, mbtmp4.3/20, MS3.2/1, Ms1 3.2/1, ms1mx2.7/26, Error ellipse: s-maj=21.0km s-min=10.8km az=93.0*

ISC 16 07:27:14.1±0.6, 18°.93N±0°.08×145°.5E±0°.2, h150km, n38, σ0§84/32, mb4.0/25, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.35**	**187**	*e*Pn	**Pn**	**07 28 32.6**	**+0.4**
CBIJ	**Chichi jima**	**8.69**	**340**	P	**Pn**	**07 29 15.4**	**-1.4**
CBIJ				S	Sn	07 30 47.3	-6.1
JCJ	**Chichijima**	**8.69**	**340**	P	**Pn**	**07 29 15.4**	**-1.4**
	1.9nm,0.3s,baz=307,slow=19,SNR=3.0						
JCJ				S	Sn	07 30 47.3	-6.1
	baz=307,slow=20						
MJAR	**Matsushiro Arr**	**18.69**	**341**	P	**P**	**07 31 21.3**	**+0.3**
	0.8nm,0.3s,baz=165,slow=9.2,SNR=6.0						
H11S3	**WAKE ISLAND Hy 20.04**	**88**		T	T	07 52 24.8	
	baz=274,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy 20.05**	**88**		T	T	07 52 23.0	
	baz=274,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy 20.06**	**88**		T	T	07 52 27.8	
	baz=274,slow=75,SNR=8.4						
H11N1	**WAKE ISLAND Hy 20.17**	**84**		T	T	07 52 57.0	
	baz=267,slow=74,SNR=4.1						
H11N2	**WAKE ISLAND Hy 20.18**	**84**		T	T	07 52 51.4	
	baz=267,slow=74,SNR=4.1						
H11N3	**WAKE ISLAND Hy 20.19**	**84**		T	T	07 52 56.2	
	baz=267,slow=74,SNR=4.9						
KSRS	**Korea Array**	**24.04**	**324**	P	**P**	**07 32 16.0**	**+0.7**
	4.2nm,0.7s,baz=144,slow=8.5,SNR=12						
KSAR	**Wonju Array Be**	**24.05**	**324**	P	**P**	**07 32 16.0**	**+0.6**
ASAJ	**Asahikawa**	**25.23**	**355**	P	**P**	**07 32 27.6**	**+1.6**
	12nm,0.8s,baz=150,slow=8.1,SNR=5.3						
USRK	**Ussuriysk Ar.**	**27.64**	**339**	P	**P**	**07 32 48.2**	**+0.6**
	2.1nm,0.7s,baz=153,slow=9.7,SNR=3.7						
PETK	**Petropavlovsk-**	**35.40**	**13**	P	**P**	**07 33 56.0**	**+0.5**
	5.9nm,1.0s,baz=186,slow=8.7,SNR=3.8						
PETK				LR	LR	07 47 19.8	
	comp=Z,37nm,19.8s,baz=275,slow=34						
WRAB	**Tennant Creek**	**40.15**	**196**	*e*P	**P**	**07 34 35.8**	**+0.2**
	6.7nm,0.4s						
WB2	**Warramunga Arr**	**40.16**	**196**	*e*P	**P**	**07 34 35.6**	**-0.1**
WRA	**Warramunga Arr**	**40.16**	**196**	P	**P**	**07 34 36.0**	**+0.3**
	6.9nm,0.6s,baz=19,slow=9.1,SNR=103						
ULN	**Ulaanbaatar**	**42.49**	**322**	*e*P	**P**	**07 34 55.4**	**+0.7**
	3.1nm,0.8s						
SONM	**Songino Array**	**42.87**	**321**	P	**P**	**07 34 58.7**	**+1.0**
	1.3nm,0.5s,baz=135,slow=8.9,SNR=14						
ASAR	**Alice Springs**	**43.83**	**195**	P	**P**	**07 35 05.8**	**+0.3**
	1.9nm,0.6s,baz=22,slow=9.1,SNR=32						
SEY	**Seymchan**	**44.22**	**4**	P	**P**	**07 35 08.8**	**+0.7**
	2.8nm,0.5s,baz=181,slow=6.7,SNR=7.4						
STKA	**Stephens Creek**	**50.66**	**184**	P	**P**	**07 35 56.9**	**-1.2**
	0.9nm,0.4s,baz=359,slow=6.7,SNR=9.2						
BILL	**Bilibino**	**50.82**	**10**	*e*P	**P**	**07 35 59.7**	**+0.8**
	4.2nm,0.8s						
ZALV	**Zalesovo Beam**	**57.74**	**322**	P	**P**	**07 36 49.1**	**0.0**
	0.6nm,0.4s,baz=103,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**58.19**	**314**	P	**P**	**07 36 53.3**	**+0.8**
	0.6nm,0.6s,baz=80,slow=8.9,SNR=6.9						
KURK	**Kurchatov**	**61.00**	**318**	*e*P	**P**	**07 37 11.5**	**0.0**
	1.4nm,0.7s						
ILAR	**Eielson Array**	**63.51**	**26**	P	**P**	**07 37 26.9**	**-1.1**
	3.0nm,0.8s,baz=254,slow=5.2,SNR=39						
BVAR	**Borovoye Array**	**66.20**	**320**	P	**P**	**07 37 46.0**	**+0.3**
	1.9nm,0.5s,baz=94,slow=7.4,SNR=14						
YKA	**Yellowknife Ar**	**77.86**	**28**	P	**P**	**07 38 54.3**	**-0.6**
	1.1nm,0.7s,baz=289,slow=5.6,SNR=25						
RES	**Resolute Bay**	**79.24**	**14**	P	**P**	**07 39 02.6**	**+0.4**
	1.7nm,0.7s,baz=323,slow=6.9,SNR=18						
RES	**Resolute Bay**	**79.24**	**14**	*e*P	**P**	**07 39 02.3**	**+0.1**
	3.0nm,0.8s						
KEV	**Kevo**	**81.67**	**342**	*e*p	**P**	**07 39 14.3**	**-0.9**
	0.7nm,0.4s						
CMB	**Columbia Colle**	**81.68**	**53**	*e*P	**P**	**07 39 16.3**	**+0.3**
	3.8nm,1.2s						
ARCES	**ARCESS Array B**	**82.23**	**342**	P	**P**	**07 39 18.2**	**0.0**
	1.3nm,0.5s,baz=65,slow=6.8,SNR=13						
NVAR	**Mina Array Bea**	**83.12**	**52**	P	**P**	**07 39 24.4**	**+0.6**
	1.6nm,0.7s,baz=268,slow=6.0,SNR=16						
JOF	**Joensuu**	**83.75**	**335**	*e*p	**P**	**07 39 24.7**	**-1.4**
	2.2nm,0.6s						
FINES	**FINESS Array B**	**86.61**	**335**	P	**P**	**07 39 38.9**	**-1.4**
	1.1nm,0.3s,baz=81,slow=4.7,SNR=13						

JMA 16 07:27:16.7±0.3, 25°.96N×128°.59E, h30km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.76**	**318**	P	Pn	07 27 30.5	-0.8
JNTH				*e*S	Sb	07 27 40.8	-0.5
JJT2	**Tamagusuku 2**	**0.78**	**283**	P	Pn	07 27 31.3	-0.3
JJT2				*e*S	Sb	07 27 42.0	0.0
JOW	**Kunigami**	**0.91**	**342**	P	Pn	07 27 33.6	+0.1
JIH	**Iheya**	**1.21**	**333**	P	Pn	07 27 37.9	+0.4
JIH				*e*S	Sn	07 27 53.3	+0.4
JAGN	**Aguni-jima**	**1.36**	**298**	P	Pn	07 27 39.9	+0.2
JOKE	**Okinoerabujima**	**1.40**	**359**	P	Pb	07 27 41.2	-1.0
JOKE				*e*S	Sn	07 27 57.5	-0.1
JKE	**Kume jima 2**	**1.66**	**283**	P	Pn	07 27 43.2	-0.6
JKE				*e*S	Sn	07 28 02.1	-2.0
JTK	**Tokunoshima**	**1.85**	**10**	P	Pn	07 27 47.5	+1.1
JAMN	**Amaminishikomi**	**2.33**	**13**	P	Pn	07 27 54.3	+1.3
JMZ	**Minamidaito 2**	**2.37**	**93**	P	Pn	07 27 54.1	+0.5
JMZ				*e*S	Sn	07 28 20.5	-1.2
JAM	**Amami Oshima**	**2.60**	**20**	P	Pn	07 27 57.9	+1.1
JTJ	**Tarama**	**3.76**	**250**	P	Pn	07 28 11.8	-0.8
JTJ				*e*S	Sn	07 28 52.7	-3.1

IDC 16 07:27:52.3±1.6, 37°.15S×73°.80W, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.5/19, mbtmp3.4/5, ML3.0/2, Error ellipse: s-maj=38.5km s-min=20.3km az=67.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.39**	**146**	Pn	Pn	07 29 00.8	+0.4
	0.3nm,0.3s,baz=325,slow=13,SNR=7.6						
PLCA				Lg	Lg	07 30 12.9	
	2.1nm,0.3s,baz=36,slow=23,SNR=4.7						
CFAA	**Coronel Fontan**	**7.19**	**41**	Pn	Pn	07 29 38.8	0.0
	0.1nm,0.3s,baz=215,slow=9.9,SNR=14						
CFAA				Sn	Sn	07 31 02.1	+0.9
	0.2nm,0.3s,baz=310,slow=17,SNR=5.9						
LPAZ	**La Paz**	**21.38**	**15**	P	P	07 32 43.4	+1.2
	3.6nm,1.1s,baz=190,slow=5.0,SNR=5.9						
TXAR	**Lajitas Array**	**71.82**	**333**	P	P	07 39 17.0	+0.1
	0.2nm,0.7s,baz=170,slow=6.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**86.62**	**71**	P	P	07 40 36.9	-1.0
	0.5nm,0.9s,baz=250,slow=4.3,SNR=2.7						

DJA 16 07:30:07.3±0.3, 0°.S±3°.×12°.4E±°, h10km, M3.8/7, MLv3.8/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.76**	**35**	P	Pg	07 30 20.7	-1.3
KMSI				S	Sg	07 30 30.7	-1.3
GTOI	**Gorontalo**	**0.86**	**322**	P	Pn	07 30 27.6	+2.1
LUWI	**Luwuk**	**1.25**	**218**	P	Pn	07 30 26.3	-4.5
LUWI				S	Sb	07 30 46.8	-0.4
MRSI	**Marisa**	**1.68**	**288**	P	Pn	07 30 37.0	+0.2
APSI	**Ampana**	**2.08**	**246**	P	Pn	07 30 40.8	-1.4
SANI	**Sanana**	**3.15**	**129**	P	Pn	07 30 59.5	+2.5
MPSI	**Mapaga**	**3.66**	**276**	P	Pn	07 31 04.4	+0.3
PCI	**Palu**	**3.80**	**257**	P	Pn	07 31 06.0	0.0

NIED ***16*** *08:11:00, 43°.30N×149°.10E, h17km, Mw4.4 Best double couple: M₀5.16000×10¹⁵ NP1:φs238.00000°, δ66.00000°, λ-5.00000°. NP2:φs330.00000°, δ85.00000°, λ-155.00000°.*
IDC ***16*** *08:11:12.7±0.5, 42°.98N×149°.13E, h0km, mb4.2/22, mb1 4.4/27, mb1mx4.3/47, mbtmp4.2/27, ML4.2/5, MS3.4/12, Ms1 3.5/12, ms1mx3.2/32, Error ellipse: s-maj=15.3km s-min=12.0km az=149.0*
NEIC ***16*** *08:11:14.6±2.4, 42°.96N×149°.15E, h11km±14km, mb4.7/25, MW4.4(NIED), Error ellipse: s-maj=7.7km s-min=4.2km az=147.0*
MOS ***16*** *08:11:16.5±1.3, 43°.05N×149°.01E, h40km, mb4.5/34, Error ellipse: s-maj=7.6km s-min=5.9km az=115.4*
JMA ***16*** *08:11:17.5±0.5, 43°.33N×149°.06E, h30km, M5.5*
SKHL ***16*** *08:11:18.2±0.4, 43°.06N×149°.00E, h55km±7km, mb5.9/2*

ISC 16 08:11:15.4±1.2, 43°.01N±0°.05×149°.01E±0°.05, h18km±7km, n369, σ1§07/372, mb4.5/63, MS3.5/8, 82C-95D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.81**	**299**	*e*P	**Pn**	**08 11 46.0**	**+0.4**
SHO				*e*S	**Sn**	**08 12 07.0**	**-1.1**
KUR	**Kuril'sk**	**2.37**	**340**	*c i*PN	**Pn**	**08 11 53.9**	**+0.6**
KUR				*i* S	**Sn**	**08 12 20.3**	**-1.7**
KUR				pmax	pmax		
	comp=N,493nm,0.6s						
KUR				pmax	pmax		
	comp=E,296nm,0.6s						
KUR				pmax	pmax		
	comp=Z,2μm,0.6s						
KUR				smax	smax		
	comp=E,4μm,0.6s						
KUR				smax	smax		
	comp=Z,6μm,0.6s						
KUR	**Kuril'sk**	**2.37**	**340**	*e*P	**Pn**	**08 11 53.9**	**+0.6**
KUR				AMB	AMB	08 11 54.4	
	comp=Z,493nm,0.6s						
KUR				AMB	AMB	08 11 54.4	
	comp=Z,300nm,0.6s						
KUR				AMB	AMB	08 11 54.4	
	comp=Z,2μm,0.6s						
KUR				*e*S	**Sn**	**08 12 20.3**	**-1.7**
KUR				A	A	08 12 25.6	
	comp=Z,6μm,0.6s						
KUR				A	A	08 12 25.6	
	comp=Z,4μm,0.6s						
NEM2	**Nemuro 2**	**2.42**	**280**	||P	**Pn**	**08 11 54.4**	**+0.4**
NEM2				*e*S	**Sn**	**08 12 22.0**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**2.51**	**295**	*d i*PN	**Pn**	**08 11 55.7**	**+0.4**
YUK				*i* S	**Sn**	**08 12 24.0**	**-1.4**
YUK				pmax	pmax		
	comp=N,260nm,0.2s						
YUK				pmax	pmax		
	comp=E,162nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				smax	smax		
	comp=N,3μm,0.3s						
YUK				smax	smax		
	comp=E,8μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.51**	**295**	*e*P	**Pn**	**08 11 55.7**	**+0.4**
YUK				AMB	AMB	08 11 56.1	
	comp=E,260nm,0.2s						
YUK				AMB	AMB	08 11 56.1	
	comp=E,160nm,0.2s						
YUK				AMB	AMB	08 11 56.1	
	comp=E,2μm,0.2s						
YUK				*e*S	**Sn**	**08 12 24.0**	**-1.4**
YUK				A	A	08 12 25.3	
	comp=E,3μm,0.3s						
YUK				A	A	08 12 25.3	
	comp=E,8μm,0.3s						
JRA	**Rausu**	**2.98**	**289**	||P	**Pn**	**08 12 02.6**	**+0.9**
JRA				*e*S	**Sn**	**08 12 35.8**	**-1.2**
JAK	**Akkeshi**	**3.17**	**271**	||P	**Pn**	**08 12 05.3**	**+1.0**
JAK				*e*S	**Sn**	**08 12 39.8**	**-1.8**
JNK	**Nakash**	**3.19**	**282**	P	**Pn**	**08 12 05.1**	**+0.5**
JNK				*e*S	**Sn**	**08 12 39.8**	**-2.3**
JOB	**Onbets**	**3.80**	**270**	||P	**Pn**	**08 12 14.3**	**+1.3**
JOB				*e*S	**Sn**	**08 12 55.4**	**-1.9**
JTKR	**Abashiri--Toko**	**3.84**	**286**	||P	**Pn**	**08 12 15.3**	**+1.8**
JTKR				*e*S	**Sn**	**08 12 58.9**	**+0.8**
JAR	**Ashorobuto**	**3.85**	**276**	||P	**Pn**	**08 12 14.8**	**+1.1**
JAR				*e*S	**Sn**	**08 12 57.4**	**-1.0**
JCH	**Churui**	**4.18**	**266**	P	**Pn**	**08 12 19.3**	**+1.1**
JCH				*e*S	**Sn**	**08 13 04.6**	**-1.9**
JMP	**Maruseppu**	**4.23**	**286**	||P	**Pn**	**08 12 21.0**	**+2.0**
JMP				*e*S	**Sn**	**08 13 09.5**	**+1.6**
MYR	**Moyori**	**4.29**	**262**	*e*P	**Pn**	**08 12 21.5**	**+1.8**
HRK	**Horoka**	**4.32**	**278**	*e*P	**Pn**	**08 12 22.4**	**+2.1**
ERM	**Erimo**	**4.44**	**259**	*c i*PN	**Pn**	**08 12 24.2**	**+2.4**
ERM				pmax	pmax		
	comp=Z,208nm,0.7s						
ERM	**Erimo**	**4.44**	**259**	*e*P	**Pn**	**08 12 24.2**	**+2.4**
ERM	**Erimo**	**4.44**	**259**	*e*Pn	**Pn**	**08 12 24.6**	**+2.8**
ERM				*e*Sn	**Sn**	**08 13 11.9**	**-1.2**
JEM	**Erimo**	**4.44**	**259**	P	**Pn**	**08 12 24.6**	**+2.8**
JEM				*e*S	**Sn**	**08 13 12.1**	**-0.9**
JKK2	**Kamakawa 2**	**4.64**	**283**	P	**Pn**	**08 12 26.9**	**+2.3**
JNBK	**Urakawa-nobuka**	**4.67**	**263**	P	**Pn**	**08 12 26.0**	**+1.0**
JNBK				*e*S	**Sn**	**08 13 17.1**	**-1.7**
JFR	**Furan**	**4.70**	**274**	||P	**Pn**	**08 12 27.2**	**+1.7**
JFR				*e*S	**Sn**	**08 13 18.1**	**-1.5**
ASAJ	**Asahikawa**	**4.79**	**286**	PN	**Pn**	**08 12 29.4**	**+2.7**
ASAJ						08 13 23.9	
ASAJ				pmax	pmax		
	comp=Z,67nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,16nm,28.6s						
ASAJ	**Asahikawa**	**4.79**	**286**	P	**Pn**	**08 12 28.9**	**+2.3**
ASAJ	**Asahikawa**	**4.79**	**286**	Pn	**Pn**	**08 12 29.4**	**+2.7**
	comp=Z,66nm,0.3s,baz=125,slow=6.5,SNR=170						
ASAJ				Sn	**Sn**	**08 13 23.9**	**+2.2**
	baz=217,slow=20,SNR=1.7						
ASAJ				LR	LR	08 14 35.5	
	comp=Z,441nm,19.4s,baz=108,slow=42						
JBT2	**Biratori 2**	**4.89**	**270**	P	**Pn**	**08 12 28.8**	**+0.8**
JAB	**Ashibetsu**	**4.98**	**278**	||P	Pn	08 12 32.5	+3.2
JHR	**Hokuryu**	**5.36**	**280**	P	**Pn**	**08 12 37.5**	**+3.0**
JSS	**Shosan**	**5.37**	**287**	P	Pn	08 12 38.0	+3.4
JEW	**Eniwo**	**5.56**	**271**	P	**Pn**	**08 12 39.3**	**+2.2**
JEW				*e*S	**Sn**	**08 13 40.2**	**-0.3**
JWK2	**Keihoku**	**5.61**	**297**	P	Pn	08 12 41.3	+3.4
JNB	**Noboribetsu**	**5.90**	**267**	P	**Pn**	**08 12 43.4**	**+1.6**
JNB				*e*S	**Sn**	**08 13 45.9**	**-3.0**
YSS	**Yuzh-Sakhalins**	**5.94**	**314**	||*e*PN	**Pn**	**08 12 43.8**	**+1.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS	**Yuzh-Sakhalins**	**5.94**	**314**	*e*P	**Pn**	**08 12 43.8**	**+1.5**
YSS				*e*S	Sn	08 13 45.0	-4.8
YSS	**Yuzh-Sakhalins**	**5.94**	**314**	*e*Pn	**Pn**	**08 12 44.0**	**+1.6**
YSS				*e*Sn	**Sn**	**08 13 46.8**	**-3.0**
JKB	**Kayabe**	**6.01**	**262**	P	**Pn**	**08 12 45.0**	**+1.6**
JKB				*e*S	**Sn**	**08 13 48.0**	**-3.7**
JTH	**Tanohata**	**6.18**	**243**	P	**Pn**	**08 12 45.5**	**-0.3**
JANG	**Nango**	**6.20**	**247**	P	**Pn**	**08 12 45.6**	**-0.4**
JANG				*e*S	Sn	08 13 49.9	-6.5
JSK	**Shakotan**	**6.25**	**276**	P	**Pn**	**08 12 49.0**	**+2.3**
JTM	**Tenmabayashi**	**6.33**	**252**	P	**Pn**	**08 12 48.9**	**+1.1**
JTM				*e*S	Sn	08 13 55.1	-4.5
JYM2	**Yakumo 2**	**6.44**	**265**	P	**Pn**	**08 12 51.2**	**+1.9**
JYM2				*e*S	**Sn**	**08 14 00.4**	**-2.0**
JSR	**Shiriuchi**	**6.54**	**260**	P	**Pn**	**08 12 52.0**	**+1.3**
JSH	**Shimam**	**6.60**	**270**	P	**Pn**	**08 12 54.1**	**+2.6**
OFUJ	**Ofunato**	**6.80**	**237**	P	**Pn**	**08 12 53.8**	**-0.4**
OFUJ				*e*S	Sn	08 14 04.8	-6.4
JOSM	**Okushiri--Mats**	**7.11**	**266**	P	**Pn**	**08 13 00.6**	**+2.2**
JOSM				*e*S	**Sn**	**08 14 16.0**	**-2.7**
JRG	**Rokugo**	**7.28**	**243**	P	**Pn**	**08 13 01.4**	**+0.6**
JIO	**Ouri**	**7.39**	**235**	P	**Pn**	**08 13 01.7**	**-0.6**
JIO				*e*S	Sn	08 14 17.7	-7.9
UGL	**Uglegorsk**	**7.75**	**324**	*e*PN	**Pn**	**08 13 09.3**	**+2.0**
JFK	**Kawauchi**	**8.40**	**231**	*e*S	Sn	08 14 41.4	-9.2
SKR	**Severo-Kuril's**	**9.08**	**30**	*e*PN	Pn	08 13 20.5	-5.0
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**9.08**	**30**	*e*P	**Pn**	**08 13 26.2**	**+0.7**
SKR				*e*S	Sn	08 15 02.0	-5.2
MJAR	**Matsushiro Arr**	**10.52**	**236**	Pn	**Pn**	**08 13 46.1**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=29,slow=13,SNR=12						
MJAR				Sn	**Sn**	**08 15 45.1**	**+2.4**
	comp=Z,1.7nm,0.3s,baz=18,slow=24,SNR=4.9						
MJAR				LR	LR	08 17 60.0	
	comp=Z,246nm,21.9s,baz=55,slow=38						
MAJO	**Matsushiro**	**10.53**	**236**	||*i*PN	**Pn**	**08 13 46.0**	**+0.7**
MAJO	**Matsushiro**	**10.53**	**236**	*e*P	**Pn**	**08 13 46.0**	**+0.7**
MAJO	**Matsushiro**	**10.53**	**236**	*e*Pn	**Pn**	**08 13 46.1**	**+0.7**
MAT	**Matsushiro**	**10.53**	**236**	P	**Pn**	**08 13 46.5**	**+1.2**
MAT				S	**Sn**	**08 15 41.1**	**-1.7**
HABR	**Khabarovsk**	**11.18**	**304**	PN	**Pn**	**08 13 54.5**	**+0.4**
HABR				*e*SS	Sn	08 16 11.9	+13
HABR				pmax	pmax		
	comp=Z,56nm,1.5s						
HABR				MLR	MLR		
	comp=Z,160nm,15.0s						
PEA0	**Petropavlovsk-**	**11.64**	**27**	*e*Pn	Pn	08 13 59.0	-1.6
PETK	**Petropavlovsk-**	**11.64**	**27**	PN	**Pn**	**08 14 00.1**	**-0.5**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,16nm,28.6s						
PETK	**Petropavlovsk-**	**11.64**	**27**	Pn	**Pn**	**08 14 00.1**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=205,slow=15,SNR=12						
PETK				LR	LR	08 19 22.4	
	comp=Z,127nm,19.9s,baz=207,slow=42						
PET	**Petropavlovsk**	**11.90**	**29**	*e*PN	Pn	08 14 14.6	+11
PET				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
PET	**Petropavlovsk**	**11.90**	**29**	*e*Pn	**Pn**	**08 14 06.0**	**+1.9**
PET				*e*Sn	Sn	08 16 10.3	-6.1
USRK	**Ussuriysk Ar.**	**12.40**	**281**	Pn	**Pn**	**08 14 11.8**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=86,slow=14,SNR=23						
USRK				LR	LR	08 18 36.7	
	comp=Z,115nm,22.0s,baz=91,slow=36						
VLA	**Vladivostok**	**12.53**	**276**	PN	Pn	08 14 17.2	+4.5
VLA				*e*S	Sn	08 16 39.2	+7.4
VLA				pmax	pmax		
	comp=Z,28nm,1.0s						
VLA				smax	smax		
	comp=N,2μm,0.7s						
KLR	**Kul'dur**	**13.48**	**303**	*e*PN	Pn	08 14 24.7	-0.9
KLR				pmax	pmax		
	comp=Z,56nm,1.8s						
MDJ	**Mudanjiang**	**14.12**	**283**	*e*Pn	**Pn**	**08 14 34.5**	**+0.1**
	comp=Z,31nm,0.9s						
KSRS	**Korea Array**	**17.02**	**258**	P	**Pn**	**08 15 12.5**	**+0.1**
KSRS				MLR	MLR		
	comp=Z,16nm,28.6s						
KSRS	**Korea Array**	**17.02**	**258**	P	**Pn**	**08 15 12.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=72,slow=12,SNR=6.2						
KSRS				LR	LR	08 22 22.7	
	comp=Z,117nm,18.4s,baz=62,slow=39						
KSAR	**Wonju Array Be**	**17.05**	**258**	P	**Pn**	**08 15 12.5**	**-0.3**
KSAR	**Wonju Array Be**	**17.05**	**258**	P	**Pn**	**08 15 12.5**	**-0.3**
TJN	**Taejon**	**17.91**	**256**	*e*P	**P**	**08 15 25.4**	**+1.5**
FX1	**Attu Island--F**	**18.87**	**50**	P	**Pn**	**08 15 36.0**	**+1.0**
FX1				S	Sn	08 18 51.4	-14
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FX1				smax	smax		
	comp=N,4.0nm,0.3s						
FX1	**Attu Island--F**	**18.87**	**50**	P	**Pn**	**08 15 36.0**	**+1.0**
	comp=N,2.1nm,0.3s,baz=220,slow=0.3,SNR=5.5						
FX1				S	Sn	08 18 51.4	-14
	comp=N,3.8nm,0.3s,baz=157,slow=19,SNR=7.5						
SEY	**Seymchan**	**20.05**	**4**	P	**P**	**08 15 45.6**	**-1.7**
SEY				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SEY	**Seymchan**	**20.05**	**4**	P	**P**	**08 15 45.6**	**-1.7**
	comp=Z,8.0nm,0.8s,baz=187,slow=12,SNR=17						
HIA	**Hailar**	**21.14**	**297**	*c i*P	**P**	**08 15 57.6**	**-1.6**
HIA				pmax	pmax		
	comp=Z,21nm,0.8s						
HIA	**Hailar**	**21.14**	**297**	*e*P	**P**	**08 15 57.5**	**-1.8**
	comp=Z,24nm,0.8s						
YAK	**Yakutsk**	**22.22**	**336**	*e*P	**P**	**08 16 09.0**	**-1.7**
YAK				pmax	pmax		
	comp=Z,13nm,0.7s						
YAK	**Yakutsk**	**22.22**	**336**	*e*P	**P**	**08 16 09.8**	**-0.9**
BJT	**Baijiatuau**	**24.69**	**274**	*e*P	**P**	**08 16 38.5**	**+3.2**
BJT				pmax	pmax		
	comp=Z,21nm,0.6s						
BJT	**Baijiatu

MKAR	Makanchi Array	46.13	299	P	P	08 19 39.7 +1.1
	comp=Z,2.6nm,0.7s,baz=54,slow=7.5,SNR=23					
KURK	Kurchatov	47.07	305	P	P	08 19 46.6 +0.8
KURK				pmax	pmax	
	comp=Z,3.0nm,0.5s					
KURK	Kurchatov	47.07	305	eP	P	08 19 46.0 +0.2
KURK	Kurchatov	47.07	305	P	P	08 19 46.6 +0.8
KURBB	Kurchatov Arra	47.15	305	P	P	08 19 46.6 +0.2
	comp=Z,3.2nm,0.5s,baz=72,slow=8.9,SNR=14					
CMAR	Chiang Mai Arr	48.64	256	P	P	08 19 57.9 -0.5
CMAR				pmax	pmax	
	comp=Z,1.0nm,0.3s					
CMAR				MLR	MLR	
	comp=Z,16nm,28.6s					
CMAR	Chiang Mai Arr	48.64	256	P	P	08 19 57.9 -0.5
	comp=Z,1.1nm,0.3s,baz=51,slow=7.1,SNR=3.5					
CMAR				LR	LR	08 40 52.5
	comp=Z,50nm,21.3s,baz=48,slow=36					
BVAR	Borovoye Array	51.02	310	P	P	08 20 17.2 +1.2
BVAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
BVAR				MLR	MLR	
	comp=Z,52nm,18.8s					
BVAR	Borovoye Array	51.02	310	P	P	08 20 17.2 +1.2
	comp=Z,0.9nm,0.6s,baz=80,slow=11,SNR=5.9					
BVAR				LR	LR	08 43 50.3
	comp=Z,52nm,18.8s,baz=61,slow=38					
TAPN	Taplejung	51.40	273	eP	P	08 20 27.0 +7.4
ODAN	Odare	51.91	273	eP	P	08 20 31.2 +7.9
TKM2	Tokmak 2	52.05	297	eP	P	08 20 26.2 +2.1
TKM2				pmax	pmax	
	comp=Z,6.0nm,0.8s					
TKM2	Tokmak 2	52.05	297	eP	P	08 20 26.2 +2.1
	comp=Z,6.1nm,0.8s					
JIRN	Jiri	52.34	275	eP	P	08 20 34.9 +8.2
GUN	Gumba	52.42	275	eP	P	08 20 35.2 +7.9
	comp=Z,30nm,0.8s					
RAMN	Ramite	52.44	274	eP	P	08 20 35.0 +7.7
	comp=Z,25nm,0.6s					
AAK	Ala-Archa	52.90	297	P	P	08 20 33.6 +3.2
AAK				pmax	pmax	
	comp=Z,1.0nm,0.4s					
AAK	Ala-Archa	52.90	297	P	P	08 20 33.6 +3.2
	comp=Z,1.2nm,0.4s,baz=61,slow=8.8,SNR=4.0					
PKI	Pulchoki	52.96	275	eP	P	08 20 38.9 +7.7
DMN	Daman	53.16	275	eP	P	08 20 40.3 +7.7
	comp=Z,20nm,0.9s					
DANN	Dangsing	53.72	277	eP	P	08 20 44.8 +8.0
	comp=Z,41nm,0.6s					
KKAR	Karatay Array	55.26	299	eP	P	08 20 47.9 +0.5
KKAR	Karatay Array	55.26	299	eP	P	08 20 47.9 +0.5
RES	Resolute Bay	55.28	17	P	P	08 20 47.2 +0.1
RES				pmax	pmax	
	comp=Z,5.0nm,0.8s					
RES	Resolute Bay	55.28	17	P	P	08 20 47.2 +0.1
	comp=Z,4.7nm,0.8s,baz=325,slow=8.2,SNR=17					
YKA	Yellowknife Ar	55.66	34	P	P	08 20 49.8 -0.1
YKA				pmax	pmax	
	comp=Z,1.0nm,0.7s					
YKA	Yellowknife Ar	55.66	34	P	P	08 20 49.8 -0.1
	comp=Z,0.5nm,0.7s,baz=296,slow=6.7,SNR=9.4					
ARU	Arti	55.81	318	d i P	P	08 20 52.1 +0.9
ARU						08 22 56.3
ARU				S	S	08 28 36.9 -0.2
ARU				SS	SS	08 32 18.4 -3.7
ARU				pmax	pmax	
	comp=Z,13nm,2.5s					
ARU	Arti	55.81	318	eP	P	08 20 52.0 +0.9
ABKAR	Akbulak array	58.58	310	eP	P	08 21 11.9 +1.0
PRGR	Permogore	58.93	327	P	P	08 21 12.5 -0.5
AKTO	Aktyubinsk	59.04	312	P	P	08 21 19.1 +5.0
AKTO				pmax	pmax	
	comp=Z,2.0nm,0.6s					
AKTO	Aktyubinsk	59.04	312	P	P	08 21 19.1 +5.0
	comp=Z,1.6nm,0.6s,baz=28,slow=4.8,SNR=5.9					
KEV	Kevo	59.88	340	eP	P	08 21 17.8 -1.6
KEV				pmax	pmax	
	comp=Z,1.0nm,0.3s					
KEV	Kevo	59.88	340	ep	P	08 21 17.8 -1.6
	comp=Z,0.6nm,0.3s					
ARCES	ARCESS Array B	60.41	340	P	P	08 21 24.2 +1.1
ARCES				pmax	pmax	
	comp=Z,1.0nm,0.5s					
ARCES	ARCESS Array B	60.41	340	P	P	08 21 24.2 +1.1
	comp=Z,0.8nm,0.5s,baz=43,slow=7.9,SNR=9.2					
NEW	Newport	61.79	49	P	P	08 21 32.8 -0.1
NEW				pmax	pmax	
	comp=Z,3.0nm,0.8s					
NEW	Newport	61.79	49	P	P	08 21 32.8 -0.1
	comp=Z,0.5nm,0.4s,baz=319,slow=5.4,SNR=6.2					
NEW	Newport	61.79	49	⇑P	P	08 21 32.8 -0.1
	baz=62					
YBH	Yreka Blue Hor	62.14	58	P	P	08 21 35.7 +0.2
YBH				pmax	pmax	
	comp=Z,3.0nm,0.9s					
YBH	Yreka Blue Hor	62.14	58	P	P	08 21 35.7 +0.2
	comp=Z,2.5nm,0.9s,baz=249,slow=8.6,SNR=4.7					
E09A	Wood Farm, Sta	62.20	51	eP	P	08 21 36.0 +0.5
	comp=Z,6.5nm,0.8s					
M02C	Callahan	62.24	58	⇓P	P	08 21 36.7 +0.6
	baz=62					
M04C	Macdoel	62.66	57	⇓P	P	08 21 39.1 +0.1
	baz=62					
JOF	Joensuu	63.37	333	eP	P	08 21 41.6 -1.5
JOF				pmax	pmax	
	comp=Z,2.0nm,0.7s					
JOF	Joensuu	63.37	333	ep	P	08 21 41.6 -1.5
	comp=Z,2.2nm,0.7s					
SWMT	Swartz Lake	63.95	49	eP	P	08 21 47.7 +0.3
WRAB	Tennant Creek	64.07	195	⇑eP	P	08 21 48.1 -0.1
WRAB				pmax	pmax	
	comp=Z,69nm,1.3s					
WRAB	Tennant Creek	64.07	195	eP	P	08 21 47.4 -0.8
	comp=Z,18nm,0.8s					
WRA	Warramunga Arr	64.08	195	P	P	08 21 47.7 -0.6
WRA				pmax	pmax	
	comp=Z,13nm,0.7s					
WRA	Warramunga Arr	64.08	195	P	P	08 21 47.7 -0.6
	comp=Z,13nm,0.7s,baz=16,slow=6.9,SNR=78					
MSO	Missoula	64.38	49	⇑P	P	08 21 50.1 -0.1
	baz=64					
MSO	Missoula	64.38	49	eP	P	08 21 50.1 -0.1
	comp=Z,34nm,2.2s					
SLMT	Seeley Lake	64.39	49	eP	P	08 21 50.4 +0.1
FFC	Flin Flon	65.48	37	eP	P	08 21 58.0 +0.9
KAF	Kangasniemi	65.57	334	eP	P	08 21 58.8 +1.3
KAF				pmax	pmax	
	comp=Z,1.0nm,0.4s					
KAF	Kangasniemi	65.57	334	ep	P	08 21 58.8 +1.3
	comp=Z,1.4nm,0.4s					
LRM	Limekiln Ridge	65.81	49	eP	P	08 21 59.9 +0.2
	comp=Z,36nm,0.7s					
A19A	Klindworth Far	65.90	45	⇑P	P	08 21 59.8 -0.2
	baz=66					
EGMT	Eagleton	65.93	46	⇓P	P	08 21 59.3 -0.9
	baz=66,SNR=6.0					
EGMT	Eagleton	65.93	46	eP	P	08 22 00.0 -0.2
	comp=Z,6.8nm,0.8s					
GEYT	Alibeck	65.98	300	LR	LR	08 53 16.5
	comp=Z,63nm,20.4s,baz=85,slow=38					
HLID	Hailey	66.06	52	⇓P	P	08 22 01.2 -0.1
	baz=66					
HLID	Hailey	66.06	52	eP	P	08 22 01.4 +0.2
	comp=Z,3.3nm,1.2s					
B19A	Brinkman Farms	66.09	45	⇑P	P	08 22 01.2 0.0
	baz=66					
FINES	FINESS Array B	66.14	334	P	P	08 22 02.5 +1.3
FINES				pmax	pmax	
	comp=Z,3.0nm,0.5s					
FINES	FINESS Array B	66.14	334	P	P	08 22 02.5 +1.3
	comp=Z,3.1nm,0.5s,baz=49,slow=6.7,SNR=23					
FINES	FINESS Array B	66.14	334	eP	P	08 22 03.2 +2.0
BMN	Battle Mountai	66.28	56	eP	P	08 22 02.9 +0.2
BMN				pmax	pmax	
	comp=Z,8.0nm,1.1s					
BMN	Battle Mountai	66.28	56	eP	P	08 22 02.9 +0.2
	comp=Z,7.6nm,1.1s					
A20A	Cobblestone Ra	66.35	45	⇓P	P	08 22 03.4 +0.5
	baz=66					
C19A	Slack Wire Ran	66.48	46	⇑P	P	08 22 03.7 -0.1
	baz=66,SNR=6.0					
B20A	Solberg Farm,	66.58	45	⇓P	P	08 22 04.2 -0.1
	baz=66					
A21A	Bergtoll Ranch	66.80	44	⇑P	P	08 22 05.8 +0.1
	baz=66					
NV01	Mina Array Sit	66.81	59	eP	P	08 22 06.3 +0.2
NVAR	Mina Array Bea	66.81	59	P	P	08 22 06.4 +0.2
	comp=Z,2.0nm,0.6s,baz=299,slow=7.2,SNR=24					
D19A	Cripps Ranch,	66.93	46	⇓P	P	08 22 06.9 +0.3
	baz=67					
C20A	Veseth Ranch,	67.05	46	⇑P	P	08 22 07.4 +0.1
	baz=67,SNR=6.8					
A22A	Carney Farms,	67.31	44	⇑P	P	08 22 08.5 -0.5
	baz=67,SNR=5.9					
D20A	Manuel Ranch,	67.37	46	⇓P	P	08 22 09.0 -0.4
	baz=67,SNR=5.6					
E19A	Rath Farm, Rou	67.42	47	⇑P	P	08 22 09.8 +0.1
	baz=67					
C21A	Desert Coulee	67.45	45	⇓P	P	08 22 09.9 0.0
	baz=67					
F19A	Roth Farm, Mol	67.72	48	⇓P	P	08 22 11.8 +0.1
	baz=67					
E20A	Meyer Farm, Mu	67.74	47	⇑P	P	08 22 11.9 +0.1
	baz=67					
AS01	Alice Springs	67.78	195	eP	P	08 22 11.9 -0.2
AS31	Alice Springs	67.79	195	eP	P	08 22 12.3 +0.2
ASAR	Alice Springs	67.79	195	P	P	08 22 12.5 +0.4
ASAR				pmax	pmax	
	comp=Z,8.0nm,0.7s					
ASAR	Alice Springs	67.79	195	P	P	08 22 12.5 +0.4
	comp=Z,7.7nm,0.7s,baz=13,slow=5.9,SNR=87					
FXWY	Fox Creek	67.96	50	eP	P	08 22 13.9 +0.5
	comp=Z,8.7nm,1.5s					
D21A	La Casta Ranch	67.99	46	⇓P	P	08 22 13.3 0.0
	baz=68					
I17A	Pilgrim Ck.	68.03	50	⇑P	P	08 22 14.6 +0.8
	baz=68					
H18A	Shoshone NF, C	68.07	49	⇓P	P	08 22 14.0 0.0
	baz=68,SNR=5.7					
TPAW	Teton Pass	68.09	51	eP	P	08 22 15.0 +0.7
	comp=Z,5.0nm,0.8s					
HVU	Hansel Valley	68.11	53	eP	P	08 22 14.3 0.0
HVU				pmax	pmax	
	comp=Z,4.0nm,1.0s					
HVU	Hansel Valley	68.11	53	eP	P	08 22 14.3 0.0
	comp=Z,4.0nm,1.0s					
B23A	Brockton	68.12	44	⇑P	P	08 22 14.3 +0.2
	baz=68					
GRAC	Grapevine Rang	68.27	59	⇑P	P	08 22 15.7 +0.4
	baz=68					
D22A	Cohagen	68.36	45	⇓P	P	08 22 16.0 +0.4
	baz=68					
H19A	Powell	68.45	49	⇓P	P	08 22 16.6 +0.3
	baz=68					
C23A	Lambert	68.45	44	⇓P	P	08 22 16.4 +0.2
	baz=68					
G20A	Bridger	68.52	48	⇑P	P	08 22 16.7 0.0
	baz=68					
R11A	Troy Canyon, C	68.55	57	⇓P	P	08 22 17.0 -0.1
	baz=68,SNR=5.3					
R11A	Troy Canyon, C	68.55	57	eP	P	08 22 17.1 -0.1
	comp=Z,1.9nm,0.5s					
F21A	Absaloka Mine,	68.72	47	⇑P	P	08 22 17.9 0.0
	baz=68					
A25A	Svangstu Ranch	68.74	42	⇓P	P	08 22 17.9 -0.1
	baz=68					
I19A	Meeteetse	68.84	49	⇓P	P	08 22 19.4 +0.5
	baz=68					
D23A	Lindsay	68.85	45	⇑P	P	08 22 19.2 +0.5
	baz=68					
FURC	Furnace Creek,	68.92	60	⇑P	P	08 22 20.1 +0.9
	baz=69					
E22A	Miles City	68.94	46	⇑P	P	08 22 19.7 +0.4
	baz=69					
TPNV	Topopah Spring	69.01	59	⇓P	P	08 22 20.4 +0.5
	baz=69					
DUG	Dugway, Tooele	69.08	54	eP	P	08 22 20.8 +0.5
DUG				pmax	pmax	
	comp=Z,4.0nm,0.8s					
DUG	Dugway, Tooele	69.08	54	⇓P	P	08 22 20.2 -0.1
	baz=69,SNR=5.6					
DUG	Dugway, Tooele	69.08	54	eP	P	08 22 20.8 +0.5
	comp=Z,4.3nm,0.8s					
EDW2	Edwards Air Fo	69.18	61	⇑P	P	08 22 21.7 +0.7
	baz=69					
F22A	Rosebud	69.21	46	⇓P	P	08 22 20.7 -0.2
	baz=69					
PALK	Pallekele	69.24	260	i P	P	08 22 21.7 +0.2
J19A	Crowheart	69.31	50	⇓P	P	08 22 22.1 +0.4
	baz=69					
D24A	Glendive	69.34	44	⇑P	P	08 22 22.2 +0.5
	baz=69					
BW06	Boulder Array	69.34	50	eP	P	08 22 21.7 -0.3
	comp=Z,3.5nm,1.0s					
PDAR	Pinedale Array	69.34	50	P	P	08 22 21.6 -0.4
	comp=Z,2.1nm,0.8s,baz=346,slow=0.5,SNR=17					
I20A	Worland	69.38	49	⇓P	P	08 22 22.6 +0.5
	baz=69					
H21A	Big Horn, Sher	69.53	48	⇑P	P	08 22 23.1 0.0
	baz=69,SNR=5.8					
F23A	Volborg	69.70	46	⇑P	P	08 22 24.2 +0.2
	baz=69					
J20A	Shoshoni	69.79	49	⇑P	P	08 22 24.9 +0.3
	baz=70,SNR=5.2					
BFSC	Mount Baldy Ra	69.80	62	⇑P	P	08 22 25.7 +0.9
	baz=70					
I21A	Big Trails, Te	69.93	48	⇓P	P	08 22 25.6 +0.1
	baz=70					
SHPR	Sheep Range	69.97	59	eP	P	08 22 26.2 +0.3
	comp=Z,5.0nm,1.4s					
G23A	Biddle	70.05	46	⇑P	P	08 22 26.1 0.0
	baz=70					
F24A	Ekalaka	70.12	45	⇓P	P	08 22 27.1 +0.6
	baz=70					
J21A	Lysite	70.15	49	⇑P	P	08 22 27.2 +0.2
	baz=70					
E25A	Miller Ranch,	70.22	44	⇑P	P	08 22 27.5 +0.3
	baz=70					
HEC	Hector,Ludlow	70.28	61	⇑P	P	08 22 28.3 +0.6
	baz=70					
I22A	9 Mile Ranch,	70.32	48	⇓P	P	08 22 28.0 +0.1
	baz=70					
B28A	Dugan Ranch, T	70.42	41	⇓P	P	08 22 28.6 +0.3
	baz=70					
MURC	Murrieta	70.49	62	⇓P	P	08 22 29.5 +0.5
	baz=70					
A29A	Manning Farm,	70.64	40	⇓P	P	08 22 30.0 +0.4
	baz=70					
J22A	Midwest	70.64	48	⇓P	P	08 22 29.7 -0.2
	baz=70					
E26A	Carlson Angus	70.72	44	⇓P	P	08 22 30.0 -0.2
	baz=70					
K21A	Alcova	70.72	49	⇓P	P	08 22 30.0 -0.4
	baz=70					
GMRC	Granite Mounta	70.74	60	⇑P	P	08 22 30.8 +0.2
	baz=70					
NB2	NORSAR Subarra	70.77	340	P	P	08 22 30.3 +0.1
	comp=Z,2.2nm,0.6s,baz=31,slow=6.5					
NOA	NORSAR Array B	70.77	340	P	P	08 22 30.7 +0.5
NOA				pmax	pmax	
	comp=Z,2.0nm,0.6s					
NOA				MLR	MLR	
	comp=Z,21nm,18.3s					
NOA	NORSAR Array B	70.77	340	P	P	08 22 30.7 +0.5
	comp=Z,1.6nm,0.6s,baz=31,slow=6.6,SNR=13					
NOA				LR	LR	08 57 58.8
	comp=Z,21nm,18.3s,baz=45,slow=40					
H24A	Dirks Ranch, A	70.79	46	⇑P	P	08 22 30.2 -0.5
	baz=70					
F26A	Lodgepole	71.03	45	⇓P	P	08 22 32.4 +0.3
	baz=71					
K22A	Casper	71.11	49	⇓P	P	08 22 32.8 0.0
	baz=71					
MDND	Maddock	71.20	41	⇓P	P	08 22 33.3 +0.2
	baz=71					
E27A	Carson	71.21	44	⇓P	P	08 22 33.1 -0.1
	baz=71					
KIV	Kislovodsk	71.26	313	eP	P	08 22 31.3 -2.3
KIV				pmax	pmax	
	comp=Z,6.0nm,1.0s					
KIV				MLR	MLR	
	comp=Z,62nm,18.0s					
KBZ	Khabaz	71.30	313	P	P	08 22 38.2 +4.6
KBZ				pmax	pmax	
	comp=Z,5.0nm,0.9s					
KBZ	Khabaz	71.30	313	P	P	08 22 38.2 +4.6
	comp=Z,4.8nm,0.9s,baz=44,slow=8.0,SNR=6.3					
N20A	Spence Gulch,	71.33	51	⇑P	P	08 22 34.9 +0.6
	baz=71					
B30A	Myrvik Farm, E	71.39	40	⇓P	P	08 22 34.7 +0.5
	baz=71					
G26A	Maurine	71.45	45	⇓P	P	08 22 34.2 -0.4
	baz=71					
IRM	Iron Mountain	71.46	60	⇑P	P	08 22 35.7 +0.8
	baz=71					
L22A	Ellis Ranch, M	71.58	49	⇓P	P	08 22 35.8 +0.1
	baz=71					
I25A	Rochford	71.72	47	⇓P	P	08 22 36.1 -0.4
	baz=71					
U15A	North Rim	71.80	57	⇑P	P	08 22 37.9 +0.7
	baz=72					
O20A	White River Ci	71.80	52	⇑P	P	08 22 37.5 +0.4
	baz=72					
M22A	Cedar Creek Ra	71.90	50	⇓P	P	08 22 38.3 +0.6
	baz=72					
F28A	McLaughlin	71.99	44	⇑P	P	08 22 37.7 -0.1
	baz=72					
PDMCI	Parker Dam,Lak	72.01	60	⇓P	P	08 22 38.4 +0.3
	baz=72					
Y12C	Blythe	72.12	60	⇑P	P	08 22 39.4 +0.7
	baz=72					
G28A	Parade	72.47	44	⇑P	P	08 22 40.8 0.0
	baz=72					
PV04	Paradox Valley	72.56	54	eP	P	08 22 41.6 0.0
I27A	Quinn	72.57	46	⇓P	P	08 22 41.6 +0.2
	baz=72					
H28A	Mission Ridge	72.69	45	⇓P	P	08 22 42.1 +0.1
	baz=72					
M24A	Cheyenne	72.85	49	⇑P	P	08 22 44.1 +0.9
	baz=72					
PV01	Paradox Valley	72.93	54	eP	P	08 22 43.5 -0.4
	comp=Z,202nm,0.8s					
WUAZ	Wupatki	72.95	57	⇑P	P	08 22 44.8 +0.9
	baz=73					
Y14A	Wickenburg	72.96	59	⇓P	P	08 22 44.4 +0.5
	baz=73					
AKASG	Malin Array Be	72.97	325	P	P	08 22 43.4 -0.1
	comp=Z,0.4nm,0.4s,baz=37,slow=6.1,SNR=2.4					
AKASG				LR	LR	08 57 16.6
	comp=Z,33nm,18.2s,baz=265,slow=38					
P22A	Eagle	73.01	52	⇑P	P	08 22 44.6 +0.3
	baz=73					
O23A	Lake Granby, G	73.08	51	⇑P	P	08 22 44.9 +0.1
	baz=73					
I28A	Midland	73.08	45	⇓P	P	08 22 43.9 -0.5
	baz=73					
J27A	Elkhorn Farm,	73.16	46	⇑P	P	08 22 45.0 +0.1
	baz=73					
113A	Mohawk Valley,	73.23	61	⇑P	P	08 22 45.0 -0.4
	baz=73					
G30A	Faulkton	73.33	43	⇑P	P	08 22 45.7 -0.1
	baz=73					
J28A	Allard Ranch,	73.44	46	⇑P	P	08 22 46.6 0.0
	baz=73					
ISCO	Idaho Springs	73.53	51	⇑P	P	08 22 47.8 +0.4
	baz=73					
MVCO	Mesa Verde	73.58	54	⇑P	P	08 22 47.6 -0.1
	baz=73					
X16A	Lo Mia Camp, P	73.63	58	⇑P	P	08 22 48.5 +0.5
	baz=73					
I30A	Oacoma	74.04	44	⇑P	P	08 22 49.7 -0.3
	baz=74					
S22A	4UR Ranch, Cre	74.21	53	⇓P	P	08 22 52.3 +0.8
	baz=74					
R23A	Moffat	74.49	52	⇑P	P	08 22 53.9 +0.8
	baz=74					
P25A	Willow Gulch B	74.54	50	⇑P	P	08 22 54.0 +0.8
	baz=74					
M28A	Bar X Bar Ranc	74.78	47	⇓P	P	08 22 55.8 +1.3
	baz=74					
STKA	Stephens Creek	74.83	187	P	P	08 22 55.1 +0.6
STKA				pmax	pmax	
	comp=Z,1.0nm,0.7s					
STKA	Stephens Creek	74.83	187	P	P	08 22 55.1 +0.6
	comp=Z,1.3nm,0.7s,baz=331,slow=6.3,SNR=4.7					
R24A	Sanders Place,	74.88	52	⇓P	P	08 22 56.0 +0.7
	baz=75					
Q25A	Bedland, Calha	74.91	51	⇓P	P	08 22 55.8 +0.5
	baz=75					
Q26A	Hugo	75.31	50	⇓P	P	08 22 57.6 -0.1
	baz=75					
T24B	San Luis	75.52	53	⇑P	P	08 22 59.5 +0.4
	baz=75					
U23A	El Rito	75.54	54	⇑P	P	08 22 59.8 +0.7
	baz=75					
L31A	Butterfield Fa	75.58	45	⇓P	P	08 22 58.6 -0.4
	baz=75					
ECSD	EROS Data Cent	75.59	43	⇓P	P	08 22 58.0 -1.0
	baz=75					
ECSD	EROS Data Cent	75.59	43	eP	P	08 22 58.1 -0.9
	comp=Z,8.9nm,1.3s					
R26A	Arlington	75.78	51	⇑P	P	08 23 00.3 -0.1
	baz=76					
V23A	Ortiz Mt. (NFS	75.95	54	⇓P	P	08 23 02.2 +0.8
	baz=76					
U24A	Moreno Valley	76.03	53	⇓P	P	08 23 02.6 +0.7
	baz=76					
ANMO	Albuquerque	76.33	55	⇑eP	P	08 23 04.1 +0.5
ANMO				pmax	pmax	
	comp=Z,41nm,2.5s					
SPMN	Marine on St.	76.35	40	⇓P	P	08 23 02.7 -0.5
	baz=76					
T26A	Comanche Natio	76.48	52	⇓P	P	08 23 03.9 -0.5
	baz=76					
W24A	Lazy 6 Ranch,	76.77	54	⇓P	P	08 23 07.0 +0.9
	baz=76					
R29A	Marienthal	76.99	49	⇓P	P	08 23 06.5 -0.7
	baz=77					
319A	Douglas	77.01	59	⇓P	P	08 23 08.5 +1.1
	baz=77					
121A	Cookes Peak, D	77.16	58	⇓P	P	08 23 09.2 +0.9
	baz=77					
Z22A	Elephant Butte	77.17	56	⇑P	P	08 23 09.3 +1.0
	baz=77					
W25A	X Bar L Ranch,	77.33	54	⇓P	P	08 23 09.8 +0.6
	baz=77					
P32A	Huiting Farm,	77.53	47	⇑P	P	08 23 08.9 -1.1
	baz=77					
Y24A	Capitan	77.64	55	⇓P	P	08 23 11.6 +0.6
	baz=77					
U28A	Mallet	77.82	51	⇑P	P	08 23 12.2 +0.4
	baz=78					
X26A	CR and CF Fran	78.17	54	⇑P	P	08 23 13.7 -0.1
	baz=78					
W27A	Bowe Ranch, En	78.26	53	⇓P	P	08 23 14.9 +0.6
	baz=78					
Q33A	Connelly Farm,	78.39	47	⇓P	P	08 23 13.5 -1.3
	baz=78					
CLL	Collm	78.59	334	eP	P	08 23 16.0 +0.4
CLL				e		08 23 20.0
CLL	Collm	78.59	334	eP	P	08 23 16.0 +0.4
CLL				epP	pP	08 23 20.0 -1.4
CLL				e		08 23 31.0
Y27A	Causey	79.02	54	⇑P	P	08 23 18.8 +0.3
	baz=79					
AMTX	Amarillo	79.19	52	⇑P	P	08 23 20.1 +0.7
	baz=79					
KHC	Kasperske Hory	80.25	332	eP	P	08 23 29.4 +4.6
KHC	Kasperske Hory	80.25	332	eP	P	08 23 29.4 +4.6
KHC				epP	PcP	08 23 32.6 +0.6
KHC	Kasperske Hory	80.25	332	eP	P	08 23 24.7 -0.1
128A	Castleberry Fa	80.31	54	⇑P	P	08 23 26.0 +0.4
	baz=80					
Z29A	Hungry Hill Ra	80.32	53	⇑P	P	08 23 26.0 +0.4
	baz=80					
U34A	Anderson Ranch	80.41	49	⇓P	P	08 23 25.8 -0.1
	baz=80					
GERES	GERESS Array B	80.46	332	P	P	08 23 29.5 +3.5
	comp=Z,0.4nm,0.4s,baz=40,slow=5.2,SNR=4.0					
229A	Bryant Ranch,	81.18	54	⇓P	P	08 23 30.7 +0.6
	baz=81					
Z31A	Sharp Cattle R	81.20	52	⇓P	P	08 23 30.6 +0.5
	baz=81					
329A	Wagon Wheel Ra	81.42	55	⇓P	P	08 23 31.7 +0.3
	baz=81					
230A	Sterling City	81.65	54	⇓P	P	08 23 32.7 +0.1
	baz=81					
TUL1	Leonard	81.75	48	⇓P	P	08 23 32.9 -0.1
	baz=81					
TX31	Lajitas Ar. Si	81.92	57	eP	P	08 23 33.7 -0.4
TXAR	Lajitas Array

baz=82
Y34A Reagan Ranch, 82.10 50 ⇊P P 08 23 34.9 0.0
baz=82
430A Baggett Ranch, 82.37 55 ⇊P P 08 23 36.5 +0.1
baz=82
331A San Angelo 82.47 54 ⇊P P 08 23 36.7 -0.2
baz=82
232A Coleman 82.52 53 ⇑P P 08 23 36.8 -0.4
baz=82
431A Sonora 82.82 54 ⇑P P 08 23 38.2 -0.5
baz=82
332A Millersview 82.83 53 ⇑P P 08 23 38.5 -0.3
baz=82
432A Menard 83.16 54 ⇊P P 08 23 40.7 +0.2
baz=83
531A Rocksprings 83.22 55 ⇊P P 08 23 41.1 +0.3
baz=83
333A Richland Sprin 83.31 53 ⇑P P 08 23 41.0 -0.2
baz=83
JCT Junction City 83.44 54 ⇑P P 08 23 41.6 -0.3
baz=83
532A Rocksprings 83.64 54 ⇑P P 08 23 42.7 -0.3
baz=83
433A Art 83.66 53 ⇑P P 08 23 42.8 -0.3
baz=83
334A Lometa 83.74 53 ⇑P P 08 23 43.5 0.0
baz=83
631A Perdido Creek 83.75 55 ⇑P P 08 23 43.5 0.0
baz=84
SIUC Southern Illin 83.81 43 *e*P **P 08 23 43.2 -0.4**
comp=Z,10nm,0.8s
434A Burnet 84.10 53 ⇊P P 08 23 44.7 -0.6
baz=84
632A Uvalde 84.16 55 ⇑P P 08 23 44.9 -0.7
baz=84
633A Saathoff Ranch 84.56 54 ⇊P P 08 23 48.2 +0.6
baz=84
534A Blanco 84.56 54 ⇑P P 08 23 47.4 -0.2
baz=84
732A Laxson Ranch, 84.61 55 ⇑P P 08 23 48.9 +1.0
baz=84
SHEL Horse Pasture 145.48 314 *i* PKIKP PKPab 08 31 00.1 +7.2

IDC ***16*** *08:17:00.8±1.6,36°.30S×73°.41W,h0km,mb3.7/4, mb1 3.9/6,mb1mx3.7/21,mbtmp3.7/6,ML3.6/2,MS3.7/1, Ms1 3.6/1,ms1mx2.5/33, Error ellipse: s-maj=42.5km s-min=29.1km az=83.0*
ISCJB ***16*** *08:17:02.5±0.8,36°.24S±0°.04×73°.67W±0°.07,h27km, mb3.7/3,MS3.6/1,Error ellipse: s-maj=8.3km s-min=5.8km az=2.3*
GUC ***16*** *08:17:02.8±0.4,36°.25S×73°.71W,h29km±3km,ML4.0*
SJA ***16*** *08:17:40.1±0.9,34°.34S×71°.23W,h159km±41km,ML2.7, Ms2.9*
ISC 16 08:17:04.7±1.1,**36°.30S**±0°.06×**73°.46W**±0°.09,**h27**km,**n24,** σ**1**§**01**/29,**mb3.8**/3,**2C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.57**	**73**	*e*P	**Pn**	**08 17 16.2**	**-0.8**
COCH				*i* S	**Sn**	**08 17 26.1**	**+0.7**
CCSP	**San Pedro de C**	**0.61**	**153**	*e*P	**Pb**	**08 17 16.4**	**-0.5**
CCSP				*i* S	**Sn**	**08 17 26.4**	**-0.2**
CCSP				IAML		08 17 27.8	
	comp=E,9μm,0.6s						
LNCH	**Linares**	**1.57**	**74**	⇑*i*P	**Pb**	**08 17 31.6**	**-1.4**
LNCH				*i* S	**Sb**	**08 17 53.7**	**+1.2**
LNCH				IAML		08 18 01.1	
	comp=N,4μm,1.1s						
TALC	**Talca**	**1.73**	**59**	*e*P	**Pn**	**08 17 34.0**	**+1.0**
TALC				*e*S	**Sb**	**08 17 57.4**	**+0.3**
CLCH	**Cerro Calan**	**3.76**	**41**	*i* P9	**Pn**	**08 18 00.7**	**-0.3**
CLCH				*i* S	**Sn**	**08 18 45.1**	**+0.7**
PEL	**Peldehue**	**3.89**	**37**	⇑*i*P	**Pn**	**08 18 02.6**	**-0.1**
PEL				*e*S	**Sn**	**08 18 48.1**	**+0.6**
PLCA	**Paso Flores**	**4.98**	**154**	Pn	**Pn**	**08 18 18.6**	**+0.8**
	comp=N,0.7nm,0.3s,baz=329,slow=10.0,SNR=24						
PLCA				Lg	Lg	08 19 37.7	
	comp=N,0.6nm,0.3s,baz=260,slow=17,SNR=1.8						
AAGR	**Agrelo**	**4.98**	**51**	*e*P	**Pn**	**08 18 19.7**	**+1.9**
ARCO	**CERRO ARCO**	**5.08**	**49**	*e*P	**Pn**	**08 18 21.1**	**+1.9**
ARCO				AMB	AMB	08 18 26.2	
	comp=Z,33nm,0.6s						
ARCO				AML	AML	08 19 51.7	
	comp=Z,25nm,0.7s						
ARCO				AMS	AMS	08 21 23.0	
	comp=Z,2μm,25.8s						
AUSP	**Uspallata**	**5.28**	**41**	*e*P	**Pn**	**08 18 23.4**	**+1.4**
ASAL	**Salagasta**	**5.32**	**47**	*e*P	**Pn**	**08 18 24.3**	**+1.9**
RTLS	**Leoncito**	**5.66**	**39**	*e*P	**Pn**	**08 18 28.5**	**+1.2**
CFAA	**Coronel Fontan**	**6.38**	**44**	Pn	**Pn**	**08 18 36.5**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=214,slow=12,SNR=56						
CFAA				Sn	**Sn**	**08 19 49.0**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=41,slow=19,SNR=2.3						
CFAA	**Coronel Fontan**	**6.38**	**44**	*e*P	**Pn**	**08 18 37.1**	**+0.1**
ACAN	**Cantantal**	**6.56**	**54**	*e*P	**Pn**	**08 18 40.2**	**+0.8**
AMOG	**MOGNA**	**6.76**	**39**	*e*P	**Pn**	**08 18 41.9**	**-0.3**
AVFE	**Valle Fertil**	**7.53**	**43**	*e*P	**Pn**	**08 18 51.4**	**-1.5**
AGUA	**GUANDACOL**	**7.97**	**33**	*e*P	**Pn**	**08 18 58.8**	**-0.1**
LPAZ	**La Paz**	**20.49**	**15**	P	Pn	08 21 42.6	-1.0
	comp=Z,1.5nm,0.6s,baz=198,slow=9.4,SNR=8.2						
SIV	**San Ignacio**	**23.04**	**32**	P	**P**	**08 22 07.1**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=228,slow=7.8,SNR=9.8						
BDFB	**Brasilia**	**30.60**	**54**	LR	LR	08 35 30.4	
	comp=Z,128nm,19.0s,baz=68,slow=36						
TXAR	**Lajitas Array**	**71.20**	**332**	P	**P**	**08 28 21.9**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=152,slow=8.7,SNR=5.9						
TORD	**Torodi Ar. Bea**	**86.08**	**71**	P	**P**	**08 29 42.9**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=222,slow=5.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**156.78**	**34**	PKPab	**PKPab**	**08 37 25.6**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=339,slow=3.7,SNR=3.0						

ISCJB ***16*** *08:23:04.7±1.6,36°.18S±0°.06×73°.70W±0°.08,h15km±12km, mb3.9/6,Error ellipse: s-maj=11.8km s-min=7.8km az=36.4*
IDC ***16*** *08:23:04.1±1.5,36°.20S×73°.53W,h0km,mb3.8/5, mb1 3.9/7,mb1mx3.8/22,mbtmp3.8/7,ML3.7/2,Error ellipse: s-maj=42.7km s-min=24.9km az=81.0*
GUC ***16*** *08:23:06.3±0.6,36°.22S×73°.61W,h28km±4km,ML4.6*
NEIC ***16*** *08:23:10.0±1.8,36°.18S×73°.36W,h37km±15km,mb4.2/3, Error ellipse: s-maj=29.5km s-min=10.3km az=90.0*
ISC 16 08:23:08.2±3.1,**36°.25S**±0°.05×**73°.5W**±0°.1,**h26**km±21km, **n20,** σ**1**§**05**/26,**mb4.0**/6,**5C-1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.57**	**79**	⇑*i*P	**Pn**	**08 23 18.9**	**-1.7**
COCH				*i* S1	**Sn**	**08 23 28.1**	**-1.0**
CCSP	**San Pedro de C**	**0.67**	**154**	⇑*i*P	**Pn**	**08 23 20.4**	**-1.5**
CCSP				*i* S	**Sn**	**08 23 30.7**	**-0.9**
CCSP				AML	AML	08 23 32.1	
	comp=E,46μm,0.5s						
LNCH	**Linares**	**1.57**	**76**	⇊*i*P	**Pn**	**08 23 34.3**	**-0.1**
LNCH				*i* S	**Sb**	**08 23 56.3**	**+0.3**
AGCH	**Angol**	**1.68**	**158**	*e*P1	**Pn**	**08 23 35.9**	**0.0**
AGCH				*e*S1	**Sn**	**08 23 58.5**	**+1.9**
TALC	**Talca**	**1.72**	**61**	⇑*i*P	**Pn**	**08 23 36.9**	**+0.4**
TALC				*e*S	**Sb**	**08 24 00.3**	**0.0**
NICH	**Los Niches**	**2.21**	**57**	⇑*i*P	**Pn**	**08 23 43.8**	**+0.6**
NICH				*e*S	**Sn**	**08 24 11.7**	**+2.0**
VLCH	**Valdivia**	**3.56**	**177**	⇑*i*P	**Pn**	**08 24 01.0**	**-0.7**
PLCA	**Paso Flores**	**5.03**	**154**	Pn	**Pn**	**08 24 22.8**	**+0.7**
	comp=E,1.0nm,0.3s,baz=328,slow=12,SNR=20						
PLCA				Lg	Lg	08 25 45.2	
	comp=E,3.6nm,0.3s,baz=101,slow=22,SNR=5.2						
PLCA	**Paso Flores**	**5.03**	**154**	*e*Pn	**Pn**	**08 24 23.4**	**+1.3**
	comp=E,18nm,0.6s						
PLCA				Lg	Lg	08 25 45.2	
CFAA	**Coronel Fontan**	**6.36**	**45**	Pn	**Pn**	**08 24 39.3**	**-0.9**
	comp=E,0.8nm,0.3s,baz=217,slow=14,SNR=28						
CFAA				Sn	**Sn**	**08 25 51.4**	**-0.6**
	comp=E,0.1nm,0.3s,baz=199,slow=17,SNR=2.4						
LCO	**Las Campanas**	**7.58**	**19**	*e*Pn	**Pn**	**08 24 56.9**	**-0.4**
LPAZ	**La Paz**	**20.44**	**15**	P	**P**	**08 27 45.4**	**+1.1**
	comp=E,2.3nm,0.7s,baz=186,slow=8.3,SNR=9.7						
LPAZ	**La Paz**	**20.44**	**15**	*e*P	Pn	08 27 46.1	-0.6
	comp=E,2.6nm,0.8s						
SIV	**San Ignacio**	**23.00**	**32**	P	**P**	**08 28 09.5**	**-1.6**
	comp=E,2.3nm,0.7s,baz=233,slow=9.5,SNR=9.9						
QSPA	**South Pole Qui**	**53.99**	**180**	*e*P	**P**	**08 32 30.6**	**+0.8**
	comp=E,4.8nm,1.1s						

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TXAR Lajitas Array 71.14 332 P P 08 34 24.0 -0.5
comp=E,0.3nm,0.6s,baz=146,slow=8.4,SNR=4.6
BOSA Boshof 80.06 118 P P 08 35 16.3 +0.4
comp=E,2.8nm,1.0s,baz=215,slow=5.6,SNR=2.8
ECSD EROS Data Cent 82.34 343 *e*P **P 08 35 27.2 -0.1**
comp=E,2.1nm,0.7s
TORD Torodi Ar. Bea 86.07 71 P P 08 35 46.5 -0.4
comp=E,0.5nm,0.7s,baz=224,slow=5.6,SNR=2.3
BVAR Borovoye Array 149.71 45 PKPbc PKPbc 08 42 55.1 +0.1
comp=E,0.7nm,0.6s,baz=263,slow=3.5,SNR=4.9

IDC ***16*** *08:30:27.4±0.7,38°.02S×73°.82W,h0km,mb4.3/11, mb1 4.4/14,mb1mx4.2/31,mbtmp4.3/14,ML3.8/3,MS4.2/6, Ms1 4.2/6,ms1mx3.8/19,Error ellipse: s-maj=25.4km s-min=16.4km az=86.0*
GUC ***16*** *08:30:28.4±0.7,38°.04S×74°.16W,h31km±4km,ML4.7*
ISCJB ***16*** *08:30:31.3±0.3,38°.01S±0°.03×73°.54W±0°.07,h22km, mb4.6/43,MS4.2/5,Error ellipse: s-maj=8.5km s-min=5.0km az=175.9*
NEIC ***16*** *08:30:34.0±0.4,38°.13S×73°.52W,h35km,mb4.7/36,Error ellipse: s-maj=16.1km s-min=9.6km az=69.0*
NEIC Felt at Chiguayante.
BJI ***16*** *08:30:34.7,38°.10S×73°.70W,h35km,mB5.0/3,Ms5.1/1*
ISC 16 08:30:31.9±0.4,**38°.06S**±0°.04×**73°.76W**±0°.07,**h22**km,**n102,** σ**1**§**74**/99,**mb4.7**/45,**MS4.2**/5,**3C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.80**	**159**	⇑*i*P	**Pb**	**08 30 46.0**	**-1.1**
PSCH				*e*S	**Sb**	**08 30 58.6**	**+1.2**
AGCH	**Angol**	**0.88**	**74**	*e*P	**Pn**	**08 30 49.3**	**+0.4**
AGCH				*i* S	**Sn**	**08 31 04.6**	**+3.6**
CCSP	**San Pedro de C**	**1.32**	**23**	*e*P	**Pn**	**08 30 53.5**	**-1.5**
CCSP				*e*S1	**Sb**	**08 31 12.0**	**-0.4**
CCSP				AML	AML	08 31 23.7	
	comp=E,18μm,0.5s						
VLCH	**Valdivia**	**1.79**	**167**	*e*P1	**Pn**	**08 30 59.9**	**-1.6**
VLCH				*e*S1	**Sn**	**08 31 23.9**	**+0.3**
COCH	**Cobquecura**	**2.08**	**22**	⇑*i*P	**Pn**	**08 31 03.5**	**-1.9**
OSCH	**Osorno**	**2.56**	**169**	*e*P1	**Pn**	**08 31 10.3**	**-1.8**
TALC	**Talca**	**3.16**	**33**	⇑*i*P	**Pn**	**08 31 19.4**	**-0.9**
PLCA	**Paso Flores**	**3.65**	**138**	Pn	**Pn**	**08 31 27.5**	**+0.3**
	comp=E,3.5nm,0.3s,baz=299,slow=9.0,SNR=38						
PLCA				Lg	Lg	08 32 25.2	
	comp=E,14nm,0.3s,baz=40,slow=23,SNR=2.9						
PLCA	**Paso Flores**	**3.65**	**138**	*e*Pn	**Pn**	**08 31 28.2**	**+1.1**
PLCA				Lg	Lg	08 32 25.2	
CFAA	**Coronel Fontan**	**7.88**	**37**	Pn	**Pn**	**08 32 22.4**	**-2.8**
	comp=E,0.4nm,0.3s,baz=21,slow=2.3,SNR=58						
CFAA				Sn	**Sn**	**08 33 53.3**	**-0.4**
	comp=E,0.7nm,0.3s,baz=333,slow=16,SNR=5.5						
CFAA				LR	LR	08 35 05.6	
	comp=E,46nm,20.3s,baz=224,slow=35						
TRQA	**Tornquist**	**9.29**	**94**	*e*Pn	**Pn**	**08 32 46.5**	**+1.8**
LCO	**Las Campanas**	**9.38**	**17**	*e*Pn	**Pn**	**08 32 43.0**	**-3.0**
LVC	**Limon Verde**	**15.95**	**17**	*e*P	**P**	**08 34 17.8**	**-0.9**
	comp=E,6.7nm,1.0s						
USHA	**Ushuaia**	**17.17**	**170**	P	**Pn**	**08 34 30.3**	**+0.1**
	comp=E,0.2nm,0.3s,baz=327,slow=11,SNR=5.2						
USHA				LR	LR	08 42 17.7	
	comp=E,1μm,19.8s,baz=326,slow=41						
LPAZ	**La Paz**	**22.25**	**14**	*e*P	**P**	**08 35 30.8**	**+2.8**
	comp=E,15nm,0.9s						
SIV	**San Ignacio**	**24.67**	**30**	P	**P**	**08 35 50.3**	**-0.9**
	comp=E,4.0nm,1.0s,baz=225,slow=11,SNR=4.3						
SIV				LR	LR	08 47 33.9	
	comp=E,1μm,18.2s,baz=223,slow=42						
PMSA	**Palmer Station**	**27.36**	**171**	LR	LR	08 47 38.3	
	comp=E,608nm,18.2s,baz=140,slow=38						
SAML	**Samuel**	**30.51**	**21**	*e*P	**P**	**08 36 42.9**	**-0.6**
	comp=E,20nm,2.0s						
RPN	**Rapa Nui**	**31.71**	**280**	LR	LR	08 46 37.1	
	comp=E,232nm,18.6s,baz=129,slow=31						
BDFB	**Brasilia**	**31.84**	**52**	P	**P**	**08 36 54.9**	**-0.6**
	comp=E,5.2nm,1.0s,baz=210,slow=4.6,SNR=5.7						
BDFB				LR	LR	08 50 47.5	
	comp=E,481nm,18.2s,baz=221,slow=38						
OTAV	**Otavalo**	**38.35**	**352**	*e*P	**P**	**08 37 53.5**	**+1.6**
	comp=E,12nm,1.4s						
PTGA	**Pitinga**	**39.26**	**22**	P	**P**	**08 37 58.1**	**-0.8**
	comp=E,2.1nm,0.6s,baz=248,slow=5.4,SNR=3.3						
SDV	**Santo Domingo**	**46.79**	**4**	*e*P	**P**	**08 39 00.1**	**0.0**
	comp=E,5.5nm,0.9s						
VNA2	**Neumayer--Watz**	**46.86**	**156**	P	**P**	**08 38 58.8**	**-1.1**
SNAA	**Sanae**	**48.40**	**156**	P	**P**	**08 39 12.7**	**+0.8**
SNAA	**Sanae**	**48.40**	**156**	P	**P**	**08 39 11.5**	**-0.4**
	comp=E,3.1nm,1.0s,baz=282,slow=6.6,SNR=5.6						
SNAA	**Sanae**	**48.40**	**156**	*e*P	**P**	**08 39 12.2**	**+0.3**
	comp=E,19nm,1.4s						
QSPA	**South Pole Qui**	**52.19**	**180**	P	**P**	**08 39 40.2**	**-0.5**
	comp=E,9.3nm,1.0s,baz=337,slow=2.0,SNR=28						
RKT	**Rikitea**	**53.87**	**267**	*e*LR	LR	08 55 40.0	
	comp=E,336nm,26.0s						
RKT	**Rikitea**	**53.87**	**267**	*e*T	T	09 37 23.5	
	comp=E,2.1nm,0.4s						
TBI	**Tubuai**	**65.09**	**259**	*e*T	T	09 51 23.5	
	comp=E,4.2nm,0.3s						
MEH	**Mehetia**	**67.00**	**265**	*e*T	T	09 53 47.7	
	comp=E,19nm,0.2s						
TVO	**Taravao**	**67.99**	**264**	*e*T	T	09 55 01.4	
	comp=E,1.6nm,0.3s						
TIAR	**Tiarei**	**68.19**	**264**	*e*T	T	09 55 16.4	
	comp=E,6.0nm,0.3s						
PAE	**Paea**	**68.31**	**264**	*e*T	T	09 55 25.7	
	comp=E,0.7nm,0.2s						
PPT2	**Papeete2**	**68.35**	**264**	*e*LR	LR	09 02 14.1	
	comp=E,163nm,24.8s						
PPT2	**Papeete2**	**68.35**	**264**	*e*T	T	09 55 27.9	
	comp=E,1.7nm,0.3s						
JCT	**Junction City**	**72.39**	**337**	*e*P	**P**	**08 41 56.2**	**0.0**
	comp=E,15nm,1.2s						
TXAR	**Lajitas Array**	**72.64**	**333**	P	**P**	**08 41 56.9**	**-0.9**
	comp=E,0.9nm,0.5s,baz=158,slow=9.0,SNR=39						
SWET	**Sewanee**	**73.78**	**350**	*e*P	**P**	**08 42 04.4**	**+0.2**
	comp=E,22nm,1.1s						
CPCT	**Cooper Cave**	**73.82**	**351**	*e*P	**P**	**08 42 06.1**	**+1.7**
ABTX	**Abilene, Hawke**	**74.34**	**338**	*e*P	**P**	**08 42 10.1**	**+2.5**
	comp=E,8.0nm,0.9s						
MNTX	**Cornudas Mount**	**75.41**	**332**	*e*P	**P**	**08 42 16.7**	**+2.9**
	comp=E,35nm,3.0s						
TUL1	**Leonard**	**76.38**	**342**	*e*P	**P**	**08 42 18.6**	**-0.6**
	comp=E,11nm,0.8s						
MSTX	**Muleshoe**	**76.57**	**336**	*e*P	P	08 42 23.8	+3.3
	comp=E,9.0nm,1.0s						
V34A	**Guthrie**	**76.75**	**340**	*e*P	**P**	**08 42 21.4**	**+0.1**
	comp=E,14nm,1.0s						
121A	**Cookes Peak, D**	**77.05**	**331**	*e*P	**P**	**08 42 23.7**	**+0.4**
	comp=E,4.7nm,0.9s						
AMTX	**Amarillo**	**77.06**	**337**	*e*P	**P**	**08 42 22.4**	**-0.8**
	comp=E,10.0nm,0.9s						
U34A	**Anderson Ranch**	**77.32**	**341**	*e*P	**P**	**08 42 27.4**	**+2.9**
	comp=E,5.5nm,0.8s						
DBIC	**Dimbokro**	**77.80**	**71**	P	**P**	**08 42 26.3**	**-1.5**
	comp=E,7.9nm,1.0s,baz=172,slow=18,SNR=4.0						
DBIC	**Dimbokro**	**77.80**	**71**	*e*P	**P**	**08 42 27.9**	**+0.1**
	comp=E,70nm,1.8s						
TUC	**Tucson**	**78.05**	**329**	*e*P	**P**	**08 42 29.5**	**+0.7**
	comp=E,5.7nm,1.3s						
LAZ	**Ladron**	**78.47**	**332**	*e*P	**P**	**08 42 32.1**	**+0.9**
	comp=E,4.2nm,1.3s						
ANMO	**Albuquerque**	**78.72**	**333**	*e*P	**P**	**08 42 32.5**	**0.0**
	comp=E,16nm,1.5s						
BOSA	**Boshof**	**79.42**	**118**	P	**P**	**08 42 36.2**	**-0.6**
	comp=E,6.1nm,1.0s,baz=181,slow=5.7,SNR=5.6						
BOSA	**Boshof**	**79.42**	**118**	*e*P	**P**	**08 42 36.1**	**-0.6**
	comp=E,10nm,1.0s						
W18A	**Petrified Fore**	**80.09**	**331**	*e*P	**P**	**08 42 42.5**	**+2.5**
	comp=E,8.9nm,1.1s						
SDCO	**Great Sand Dun**	**80.91**	**335**	*e*P	**P**	**08 42 46.5**	**+1.9**
	comp=E,4.5nm,1.0s						
WUAZ	**Wupatki**	**81.08**	**330**	*e*P	**P**	**08 42 46.4**	**+1.1**
	comp=E,6.0nm,1.1s						
MVCO	**Mesa Verde**	**81.47**	**333**	*e*P	**P**	**08 42 50.6**	**+3.2**
	comp=E,122nm,3.0s						
SMCO	**Snowmass**	**82.70**	**335**	*e*P	**P**	**08 42 55.1**	**+1.0**
	comp=E,13nm,1.3s						
ARUT	**Antelope Range**	**83.87**	**329**	*e*P	**P**	**08 43 01.5**	**+1.6**
	comp=E,172nm,1.5s						
ECSD	**EROS Data Cent**	**84.01**	**344**	*e*P	**P**	**08 42 59.7**	**-0.5**
	comp=E,29nm,1.5s						
ISA	**Isabella, Lake**	**84.23**	**325**	*e*P	**P**	**08 43 02.9**	**+1.2**
	comp=E,4.1nm,1.1s						
R11A	**Troy Canyon, C**	**85.23**	**328**	*e*P	**P**	**08 43 07.7**	**+1.0**
	comp=E,4.4nm,1.2s						
K22A	**Casper**	**85.68**	**336**	*e*P	**P**	**08 43 10.8**	**+2.0**
	comp=E,10nm,1.3s						
TPH	**Tonopah**	**85.69**	**327**	*e*P	**P**	**08 43 09.8**	**+0.8**
	comp=E,9.5nm,1.3s						
DUG	**Dugway, Tooele**	**85.70**	**331**	*e*P	**P**	**08 43 11.0**	**+2.0**
	comp=E,15nm,1.5s						
RSSD	**Black Hills**	**86.27**	**339**	*e*P	**P**	**08 43 11.8**	**+0.1**
	comp=E,4.5nm,1.2s						
NVAR	**Mina Array Bea**	**86.45**	**326**	P	**P**	**08 43 12.1**	**-0.7**
	comp=E,0.3nm,0.7s,baz=148,slow=5.3,SNR=2.6						
BW06	**Boulder Array**	**86.78**	**334**	*e*P	**P**	**08 43 16.6**	**+2.3**
	comp=E,24nm,2.0s						
PDAR	**Pinedale Array**	**86.78**	**334**	P	**P**	**08 43 13.9**	**-0.4**
	comp=E,1.8nm,0.9s,baz=159,slow=4.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**86.89**	**71**	P	**P**	**08 43 14.3**	**-0.9**
	comp=E,3.5nm,1.0s,baz=220,slow=5.0,SNR=13						
HVU	**Hansel Valley**	**87.06**	**332**	*e*P	**P**	**08 43 16.1**	**+0.4**
	comp=E,4.7nm,1.0s						
LOHW	**Long Hollow**	**87.89**	**334**	*e*P	P	08 43 22.9	+3.2
TPAW	**Teton Pass**	**87.90**	**334**	*e*P	**P**	**08 43 20.8**	**+1.1**
IMW	**Indian Meadow**	**88.25**	**334**	*e*P	P	08 43 25.1	+3.6
FLWY	**Flagg Ranch**	**88.33**	**334**	*e*P	**P**	**08 43 24.4**	**+2.7**
YMR	**Madison River**	**88.94**	**334**	*e*P	**P**	**08 43 25.9**	**+1.3**
	comp=E,7.1nm,1.1s						
HLID	**Hailey**	**89.21**	**332**	*e*P	**P**	**08 43 26.7**	**+0.8**
	comp=E,6.7nm,1.4s						
SCHQ	**Schefferville**	**92.71**	**4**	LR	LR	09 25 01.0	
	comp=E,56nm,20.3s,baz=25,slow=35						
WRA	**Warramunga Arr**	**116.55**	**210**	PKP	**PKPdf**	**08 49 12.5**	**-2.1**
	comp=E,0.4nm,1.0s,baz=162,slow=1.6,SNR=5.2						
H11S2	**WAKE ISLAND Hyl**	**24.25**	**267**	T	T	11 05 42.6	
	baz=126,slow=74,SNR=7.8						
H11S1	**WAKE ISLAND Hyl**	**24.26**	**267**	T	T	11 05 44.2	
	baz=126,slow=74,SNR=6.8						
H11S3	**WAKE ISLAND Hyl**	**24.27**	**267**	T	T	11 05 47.0	
	baz=126,slow=74,SNR=4.9						
BRTR	**Keskin Array B**	**124.95**	**64**	PKP	**PKPdf**	**08 49 27.2**	**-2.9**
	comp=E,0.8nm,0.8s,baz=7.8,slow=10.0,SNR=3.6						
SEY	**Seymchan**	**142.76**	**327**	PKP	**PKPdf**	**08 50 00.9**	**-1.6**
	comp=E,0.4nm,0.3s,baz=27,slow=4.5,SNR=2.7						
AKTO	**Aktyubinsk**	**143.93**	**54**	PKP	PKPab	08 50 02.1	-0.1
	comp=E,2.9nm,0.7s,baz=279,slow=2.4,SNR=12						
ABKAR	**Akbulak array**	**145.20**	**56**	*e*PKPdf	**PKPbc**	**08 50 06.6**	**-0.3**
BVAR	**Borovoye Array**	**151.13**	**47**	PKPbc	**PKPbc**	**08 50 20.2**	**-2.5**
	comp=E,1.3nm,0.6s,baz=291,slow=4.1,SNR=9.1						
AAK	**Ala-Archa**	**155.46**	**69**	PKPab	**PKPab**	**08 50 48.5**	**-0.9**
	comp=E,2.9nm,0.5s,baz=199,slow=2.7,SNR=8.3						
AAK	**Ala-Archa**	**155.46**	**69**	*e*PKPab	**PKPab**	**08 50 48.9**	**-0.5**
KSH	**Kashi**	**156.41**	**77**	*e*PKP	**PKPdf**	**08 50 26.3**	**+1.4**
KSH				sPKP		08 50 39.3	
KSH				PKS	**PKSdf**	**08 53 59.8**	**+0.9**
KSH				PP	**PP**	**08 54 31.3**	**-0.7**
KSH				SKS	**SKSdf**	**08 57 29.0**	**-0.8**
KSH				SKKS	**SKKSac**	**09 01 20.5**	**+0.8**
KSH				SS	**SS**	**09 14 17.8**	**-4.2**
KSH				PPMZ			
	comp=E,58nm,4.6s						
KSH				LN			
	comp=E,41nm,4.1s						
KSH				LE			
	comp=E,25nm,6.6s						
ZALV	**Zalesovo Beam**	**158.36**	**36**	PKPab	**PKPab**	**08 51 01.1**	**-0.1**
	comp=E,1.1nm,0.7s,baz=311,slow=5.7,SNR=4.5						
MKAR	**Makanchi Array**	**160.34**	**56**	PKPab	**PKPab**	**08 51 09.3**	**-0.9**
	comp=E,1.2nm,0.8s,baz=256,slow=4.3,SNR=7.3						
MDJ	**Mudanjiang**	**161.31**	**298**	PKP	**PKPdf**	**08 50 31.5**	**+1.2**
WMQ	**Urumqi**	**164.86**	**62**	*e*PKP	**PKPdf**	**08 50 35.0**	**+1.1**
KMI	**Kunming**	**166.77**	**166**	PKP	**PKPdf**	**08 50 35.1**	**-1.1**
CD2	**Chengdu**	**172.58**	**163**	*e*PKP	**PKPdf**	**08 50 40.5**	**+1.2**
GTA	**Gaotai**	**174.80**	**73**	*e*PKP	**PKPdf**	**08 50 42.6**	**+2.7**
GTA				pPKP	**pPKPdf**	**08 50 53.4**	**+6.0**
GTA				sPKP		08 50 56.8	
GTA				PKPab	**PKPab**	**08 52 16.3**	**+1.9**
HHC	**Hu-ho-hao-te**	**175.02**	**306**	*e*PKP	**PKPdf**	**08 50 41.1**	**+1.2**
HHC				pPKP	**pPKPdf**	**08 50 52.0**	**+4.6**
HHC				sPKP		08 50 55.3	
HHC				PP	PP	08 56 13.5	+5.5
HHC				SKS	**SKSdf**	**08 57 38.4**	**-3.2**
HHC				SS	**SS**	**09 17 31.3**	**+0.7**
HHC				PPMZ			
	comp=E,71nm,6.2s						
LZH	**Lanzhou**	**177.25**	**135**	*e*PKP	**PKPdf**	**08 50 41.0**	**+0.4**
LZH				pPKP	**pPKPdf**	**08 50 51.3**	**+3.1**
LZH				sPKP		08 50 55.4	

IDC 16 08:32:05.7±1.4,**7°.98N**×**79°.46W,h0**km,**mb3.5**/3, **mb1 3.8**/4,**mb1mx3.5**/31,**mbtmp3.6**/4,**ML2.3**/1,**MS3.1**/1, **Ms1 3.1**/1,**ms1m

JTS	JuntasAbangare	46.71	40	eP		P	08 41 36.3	+1.2
	9.9nm,1.1s							
SIV	San Ignacio	49.62	88	P		P	08 41 56.4	-1.2
	3.8nm,0.8s,baz=263,slow=12,SNR=6.7							
ROSC	El Rosal	49.65	55	LR		LR	08 58 11.9	
	comp=Z,195nm,21.7s,baz=222,slow=30							
SAML	Samuel	50.79	78	eP		P	08 42 05.6	-0.9
	8.1nm,1.4s							
JCT	Junction City	59.25	14	eP		P	08 43 07.8	+0.5
	10nm,0.8s							
BDFB	Brasilia	61.33	93	LR		LR	09 05 44.8	
	comp=Z,387nm,20.0s,baz=230,slow=32							
VNDA	Vanda	62.08	194	P		P	08 43 27.3	+1.3
	1.6nm,1.0s,baz=86,slow=3.9,SNR=4.0							
VNDA				LR		LR	09 04 20.2	
	comp=Z,245nm,18.2s,baz=122,slow=30							
VNDA	Vanda	62.08	194	eP		P	08 43 26.8	+0.7
	2.9nm,1.1s							
NVAR	Mina Array Bea	65.90	356	P		P	08 43 52.7	+0.9
	2.3nm,0.9s,baz=188,slow=9.7,SNR=9.4							
SRU	San Rafael Swe	66.47	2	eP		P	08 43 55.8	+0.3
	4.8nm,0.9s							
CTU	Camp Tracy	68.02	1	eP		P	08 44 05.7	+0.5
	4.4nm,0.9s							
PDAR	Pinedale Array	70.16	3	P		P	08 44 17.7	-0.9
	1.1nm,0.8s,baz=182,slow=8.0,SNR=5.0							
PDAR				LR		LR	09 10 44.2	
	comp=Z,71nm,19.3s,baz=204,slow=32							
HLID	Hailey	70.87	359	eP		P	08 44 22.7	-0.1
	5.5nm,1.0s							
NEW	Newport	75.64	357	eP		P	08 44 50.7	0.0
	10nm,1.5s							
ULM	Lac du Bonnet	79.10	11	P		P	08 45 11.3	+1.3
	0.7nm,0.3s,baz=170,slow=10,SNR=2.7							
MAW	Mawson	85.00	179	LR		LR	09 20 08.7	
	comp=Z,264nm,19.1s,baz=234,slow=33							
YKA	Yellowknife Ar	89.84	359	P		P	08 46 03.2	-0.8
	0.4nm,0.8s,baz=171,slow=5.5,SNR=9.1							
H11S2	WAKE ISLAND Hy	89.88	291	T		T	10 25 36.6	
	baz=119,slow=76,SNR=25							
H11S1	WAKE ISLAND Hy	89.89	291	T		T	10 25 35.8	
	baz=119,slow=76,SNR=34							
H11S3	WAKE ISLAND Hy	89.90	291	T		T	10 25 36.8	
	baz=119,slow=76,SNR=30							
H11N3	WAKE ISLAND Hy	90.31	292	T		T	10 26 17.1	
	baz=121,slow=76,SNR=21							
H11N1	WAKE ISLAND Hy	90.32	292	T		T	10 26 13.1	
	baz=121,slow=76,SNR=41							
H11N2	WAKE ISLAND Hy	90.32	292	T		T	10 26 13.1	
	baz=121,slow=76,SNR=26							
KTH	Kantishna Hill	95.61	344	eP		P	08 46 30.0	-0.8
	7.2nm,1.0s							
CMAR	Chiang Mai Arr	148.95	260	PKPbc		PKPbc	08 52 55.3	+0.8
	1.6nm,0.4s,baz=132,slow=1.3,SNR=8.4							
BRTR	Keskin Array B	150.21	58	PKP		PKPdf	08 52 50.0	-2.0
	0.6nm,0.8s,baz=174,slow=3.9,SNR=2.7							
BRTR				PKPbc		PKPbc	08 52 56.3	-0.9
	2.3nm,1.1s,baz=342,slow=5.0,SNR=4.5							
ZALV	Zalesovo Beam	150.51	338	PKP		PKPdf	08 52 51.7	-0.2
	2.4nm,0.8s,baz=51,slow=3.0,SNR=2.6							
ZALV				PKPbc		PKPbc	08 52 56.0	-1.3
	1.8nm,0.7s,baz=20,slow=4.7,SNR=6.1							

IDC 16 08:34:27.1±2.4, 35°22′S×74°13′W, h0km, mb4.0/2, mb1 4.0/4, mb1mx3.7/31, mbtmp3.8/4, ML3.2/2, Error ellipse: s-maj=62.0km s-min=41.1km az=6.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	6.10	55	Pn	Pn	08 35 56.5	-2.1
	0.6nm,0.3s,baz=227,slow=12,SNR=7.7						
CFAA				Sn	Sn	08 37 01.8	-7.4
	1.4nm,0.3s,baz=345,slow=18,SNR=11						
LPAZ	La Paz	19.60	17	P	Pn	08 38 59.1	+0.1
	0.0nm,0.3s,baz=204,slow=11,SNR=4.5						
TXAR	Lajitas Array	69.99	333	P	P	08 45 40.1	-0.5
	0.9nm,0.7s,baz=156,slow=8.7,SNR=12						
TORD	Torodi Ar. Bea	86.24	71	P	P	08 47 11.4	+0.6
	1.0nm,0.7s,baz=250,slow=4.0,SNR=4.1						
MKAR	Makanchi Array	158.87	50	PKPab	PKPab	08 55 02.4	-0.3
	0.3nm,0.7s,baz=280,slow=6.0,SNR=2.8						

*IDC **16** 08:43:48.0±0.6, 36°26′S×73°29′W, h0km, mb4.5/15, mb1 4.6/17, mb1mx4.5/27, mbtmp4.5/17, ML3.8/2, MS4.2/2, Ms1 4.2/2, ms1mx3.6/15, Error ellipse: s-maj=21.9km s-min=15.8km az=80.0*

*GUC **16** 08:43:49.6±0.8, 36°34′S×73°57′W, h23km±9km, ML5.3*

*ISCJB **16** 08:43:51.9±0.2, 36°28′S±0°03′×73°26′W±0°05, h33km, mb4.9/101, Error ellipse: s-maj=5.9km s-min=4.8km az=161.5*

*NEIC **16** 08:43:53.9±0.2, 36°21′S×73°19′W, h35km, mb4.9/89, Error ellipse: s-maj=7.7km s-min=6.4km az=63.0*

NEIC Felt at Chiguayante, Chillan, Coronel, San Fernando, Santiago, Talca, Talcahuano and Tome.

*BJI **16** 08:43:55.2, 36°20′S×73°20′W, h35km, mB5.2/5, Ms5.3/4, Ms7 5.3/4*

ISC 16 08:43:52.9±0.7, 36°28′S±0°05′×73°38′W±0°06, h30km±4km, h30km:pP-P,n498,σ0°84/516, mb4.9/102, 172C-165D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.60	159	⇓iP	Pb	08 44 01.7	-3.3
CCSP				i S	Sb	08 44 10.2	-3.0
LNCH	Linares	1.50	74	⇑iP	Pn	08 44 17.3	-0.4
LNCH				i S	Sb	08 44 39.2	+0.3
LNCH				AML	AML	08 44 48.4	
	comp=N,40μm,0.7s						
TALC	Talca	1.67	59	⇓iP	Pn	08 44 20.3	+0.2
TALC				i S	Sb	08 44 44.0	+0.4
TALC				AML	AML	08 44 51.9	
	comp=N,51μm,0.5s						
NICH	Los Niches	2.17	54	eP	Pn	08 44 28.1	+1.2
NICH				i S4	Sb	08 44 58.3	+0.4
NICH				AML	AML	08 45 07.2	
	comp=E,29μm,0.7s						
VLCH	Valdivia	3.52	178	eP	Pn	08 44 43.0	-2.5
PEL	Peldehue	3.84	36	⇑iP	Pn	08 44 49.4	-0.5
PLCA	Paso Flores	4.96	154	Pn	Pn	08 45 05.3	-0.1
	comp=E,1.3nm,0.3s,baz=330,slow=12,SNR=29						
PLCA				Lg	Lg	08 46 21.0	
	comp=E,3.2nm,0.3s,baz=249,slow=11,SNR=4.0						
CFAA	Coronel Fontan	6.32	44	Pn	Pn	08 45 23.5	-0.7
	comp=E,1.2nm,0.3s,baz=221,slow=14,SNR=48						
CFAA				Sn	Sn	08 46 36.5	+1.2
	comp=E,0.9nm,0.3s,baz=229,slow=18,SNR=2.2						
LCO	Las Campanas	7.59	18	ePn	Pn	08 45 38.8	-2.9
TRQA	Tornquist	9.27	104	ePn	Pn	08 46 06.0	+1.6
LVC	Limon Verde	14.16	17	ePn	Pn	08 47 11.4	-0.3
LPAZ	La Paz	20.45	15	P	P	08 48 29.2	+0.5
	comp=E,16nm,0.8s,baz=182,slow=7.7,SNR=50						
LPAZ	La Paz	20.45	15	eP	P	08 48 29.7	+1.0
	comp=E,22nm,0.8s						
SIV	San Ignacio	22.99	32	P	P	08 48 53.5	-1.7
	comp=E,26nm,0.8s,baz=226,slow=14,SNR=74						
NNA	Nana	24.39	352	P	P	08 49 07.7	-1.0
	comp=E,20nm,0.9s,baz=203,slow=11,SNR=6.8						
NNA	Nana	24.39	352	eP	P	08 49 08.2	-0.5
	comp=E,29nm,1.0s						
SAML	Samuel	28.75	21	eP	P	08 49 46.9	-1.0
	comp=E,5.7nm,1.0s						
PMSA	Palmer Station	29.07	172	LR	LR	09 00 47.1	
	comp=E,463nm,20.1s,baz=128,slow=35						
BDFB	Brasilia	30.54	54	P	P	08 50 02.7	-1.2
	comp=E,3.6nm,0.8s,baz=195,slow=9.3,SNR=4.6						
OTAV	Otavalo	36.64	351	eP	P	08 50 58.6	+1.3
	comp=E,20nm,1.4s						
ROSC	El Rosal	40.93	359	P	P	08 51 35.3	+2.1
	comp=E,3.2nm,0.7s,baz=266,slow=23,SNR=4.3						
SDV	Santo Domingo	45.00	4	eP	P	08 52 05.3	-0.5
	comp=E,12nm,0.8s						
VNA3	Neumayer Olymp	47.68	157	P	P	08 52 26.5	+0.4
VNA1	Neumayer--Stat	48.02	156	P	P	08 52 31.5	+2.8
VNA2	Neumayer--Watz	48.35	156	P	P	08 52 30.7	-0.6
SNAA	Sanae	49.90	157	P	P	08 52 42.8	-0.4
SNAA	Sanae	49.90	157	P	P	08 52 43.3	+0.1
	comp=E,1.7nm,0.9s,baz=197,slow=2.1,SNR=3.9						
SNAA	Sanae	49.90	157	eP	P	08 52 44.4	+1.2
	comp=E,31nm,1.4s						
CRPR	Cabo Rojo, PR	54.32	7	eP	P	08 53 15.3	-1.1
	comp=E,27nm,0.9s						
OBIP	Obispado Ponce	54.41	8	eP	P	08 53 16.4	-0.8
	comp=E,50nm,1.0s						
CELP	Cerrillos	54.44	8	eP	P	08 53 16.4	-1.1
SABA	Saba	54.46	12	eP	P	08 53 17.1	-0.5
	comp=E,45nm,0.9s						
LRS	Lares	54.63	8	eP	P	08 53 16.9	-1.9
CBYP	Canovanas	54.72	9	eP	P	08 53 17.4	-2.1
	comp=E,10nm,0.7s						
SMN1	Samana, DR	55.30	5	eP	P	08 53 23.2	-0.5
SBA	Scott Base	60.62	192	eP	P	08 54 06.6	+6.3
	comp=E,18nm,1.4s						
VNDA	Vanda	61.65	192	P	P	08 54 08.3	+1.0
	comp=E,1.1nm,0.9s,baz=106,slow=6.5,SNR=3.4						
VNDA	Vanda	61.65	192	eP	P	08 54 14.0	+6.8
	comp=E,3.4nm,1.1s						
TIGA	Tifton	68.05	351	⇓P	P	08 54 49.4	0.0
	baz=68						
933A	Laredo	68.08	335	⇑P	P	08 54 51.1	+1.5
	baz=68						
834A	Tilden	68.31	336	⇑P	P	08 54 52.2	+1.1
	baz=69						
735A	Kenedy	68.75	337	⇓P	P	08 54 54.8	+1.0
	baz=69						
833A	Chaparral WMA,	68.77	335	⇓P	P	08 54 54.6	+0.6
	baz=69						
832A	Faith Ranch, C	68.93	335	⇓P	P	08 54 55.4	+0.4
	baz=69						
636A	Smothers Creek	69.10	338	⇑P	P	08 54 57.0	+1.0
	baz=69						
733A	Divot King Ran	69.11	336	⇓P	P	08 54 57.0	+1.0
	baz=69						
732A	Laxson Ranch,	69.34	335	⇑P	P	08 54 57.6	+0.2
	baz=70,SNR=7.4						
632A	Uvalde	70.00	336	⇓P	P	08 55 02.3	+0.8
	baz=70						
340A	Bronson	70.04	341	⇓P	P	08 55 02.5	+0.8
	baz=70,SNR=6.9						
534A	Blanco	70.05	337	⇓P	P	08 55 02.5	+0.6
	baz=70						
LRAL	Lakeview Retre	70.13	348	eP	P	08 55 01.8	-0.4
	comp=E,8.3nm,1.0s						
339A	Huntington	70.13	341	⇑P	P	08 55 02.8	+0.6
	baz=70,SNR=5.2						
631A	Perdido Creek	70.17	335	⇑P	P	08 55 03.1	+0.5
	baz=70						
436A	Wall Ranch, Ga	70.23	339	⇓P	P	08 55 03.6	+0.7
	baz=70						
533A	Kerrville	70.27	336	⇓P	P	08 55 04.0	+0.7
	baz=71						
338A	Crockett	70.36	340	⇓P	P	08 55 04.7	+1.1
	baz=71						
337A	Centerville	70.48	340	⇓P	P	08 55 05.7	+1.3
	baz=71						
JSC	Jenkinsville	70.59	353	eP	P	08 55 07.6	+2.6
	comp=E,32nm,1.1s						
532A	Rocksprings	70.61	336	⇑P	P	08 55 05.8	+0.5
	baz=71,SNR=7.2						
434A	Burnet	70.72	337	⇑P	P	08 55 05.9	0.0
	baz=71,SNR=8.6						
239A	Gary	70.76	341	⇓P	P	08 55 06.7	+0.6
	baz=71						
336A	Riesel	70.82	339	⇑P	P	08 55 06.9	+0.5
	baz=71,SNR=6.0						
531A	Rocksprings	70.85	335	⇑P	P	08 55 07.3	+0.5
	baz=71,SNR=6.7						
JCT	Junction City	70.90	336	⇑P	P	08 55 07.3	+0.3
	baz=71,SNR=6.4						
JCT	Junction City	70.90	336	eP	P	08 55 07.5	+0.4
	comp=E,14nm,1.1s						
433A	Art	70.92	337	⇑P	P	08 55 07.1	-0.1
	baz=71,SNR=8.6						
238A	Jacksonville	70.92	341	⇑P	P	08 55 08.0	+0.9
	baz=71						
530A	J-C Ranch, Com	71.11	335	⇓P	P	08 55 08.7	+0.4
	baz=71,SNR=8.3						
334A	Lometa	71.19	338	⇓P	P	08 55 09.1	+0.3
	baz=72						
TXAR	Lajitas Array	71.21	332	P	P	08 55 09.2	+0.1
	comp=E,3.4nm,1.0s,baz=148,slow=8.2,SNR=22						
TXAR				LR	LR	09 21 53.6	
	comp=E,147nm,18.2s,baz=0.0,slow=32						
432A	Menard	71.26	336	⇓P	P	08 55 09.2	0.0
	baz=72						
431A	Sonora	71.35	335	⇑P	P	08 55 10.2	+0.4
	baz=72						
529A	Stev Forest Ra	71.40	334	⇑P	P	08 55 10.1	0.0
	baz=72,SNR=8.2						
333A	Richland Sprin	71.41	337	⇑P	P	08 55 09.8	-0.3
	baz=72,SNR=5.7						
KMSC	Kings Mountain	71.45	353	⇓P	P	08 55 09.9	-0.3
	baz=72						
KMSC	Kings Mountain	71.45	353	eP	P	08 55 09.6	-0.6
	comp=E,10nm,1.0s						
138A	Matatall Enter	71.53	341	⇓P	P	08 55 11.2	+0.5
	baz=72						
WHTX	Lake Whitney,	71.57	339	⇓P	P	08 55 11.3	+0.3
	baz=72						
137A	Heron Place, G	71.65	340	⇓P	P	08 55 11.8	+0.3
	baz=72						
430A	Baggett Ranch,	71.66	335	⇑P	P	08 55 11.4	-0.3
	baz=72,SNR=8.9						
332A	Millersview	71.71	336	⇑P	P	08 55 11.7	-0.2
	baz=72,SNR=8.9						
429A	Davenport Ranc	71.74	334	⇑P	P	08 55 12.4	+0.2
	baz=72,SNR=8.4						
234A	Clairette	71.78	338	⇑P	P	08 55 12.1	-0.2
	baz=72,SNR=5.8						
331A	San Angelo	71.86	336	⇓P	P	08 55 12.6	-0.2
	baz=72,SNR=10						
OXF	Oxford	72.00	346	eP	P	08 55 13.4	-0.2
	comp=E,32nm,1.0s						
233A	Rising Star	72.03	337	⇑P	P	08 55 13.5	-0.3
	baz=72,SNR=6.0						
135A	Vickery Place,	72.08	339	⇓P	P	08 55 13.8	-0.3
	baz=72						
SWET	Sewanee	72.09	349	eP	P	08 55 13.7	-0.4
	comp=E,43nm,1.0s						
CPCT	Cooper Cave	72.12	350	eP	P	08 55 16.4	+2.2
232A	Coleman	72.14	337	⇓P	P	08 55 14.1	-0.5
	baz=72,SNR=8.4						
330A	Mertzon	72.20	335	⇑P	P	08 55 14.8	-0.1
	baz=72,SNR=5.4						
134A	White-Moore Ra	72.30	338	⇑P	P	08 55 15.2	-0.2
	baz=73						
231A	Bronte	72.41	336	⇓P	P	08 55 15.6	-0.5
	baz=73,SNR=8.1						
329A	Wagon Wheel Ra	72.56	335	⇓P	P	08 55 16.7	-0.4
	baz=73,SNR=5.5						
133A	Hamilton Ranch	72.58	338	⇑P	P	08 55 17.1	0.0
	baz=73						
230A	Sterling City	72.62	335	⇑P	P	08 55 17.3	-0.1
	baz=73						
Z35A	Perchaven, San	72.76	339	⇑P	P	08 55 18.1	0.0
	baz=73,SNR=5.9						
ABTX	Abilene, Hawle	72.82	337	⇓P	P	08 55 18.4	-0.2
	baz=73,SNR=6.4						
ABTX	Abilene, Hawle	72.82	337	eP	P	08 55 18.4	-0.2
	comp=E,8.6nm,0.8s						
229A	Bryant Ranch,	72.93	335	⇑P	P	08 55 19.0	-0.2
	baz=73						
Z34A	Collier Ranch,	72.99	339	⇓P	P	08 55 19.3	-0.2
	baz=73						
131A	Roby	73.11	336	⇑P	P	08 55 20.1	-0.2
	baz=73,SNR=5.6						
Z33A	Whitaker Ranch	73.17	338	⇑P	P	08 55 20.4	-0.2
	baz=74,SNR=7.8						
130A	Snyder	73.23	336	⇓P	P	08 55 20.4	-0.6
	baz=74						
228A	UT Block 9, Go	73.34	334	⇑P	P	08 55 21.6	-0.1
	baz=74,SNR=5.5						
Z32A	Haskell	73.40	337	⇑P	P	08 55 21.7	-0.3
	baz=74,SNR=11						
Y34A	Reagan Ranch,	73.49	339	⇓P	P	08 55 21.9	-0.5
	baz=74,SNR=5.0						
129A	Stewart Farms,	73.56	335	⇓P	P	08 55 23.0	0.0
	baz=74						
Z31A	Sharp Cattle R	73.62	337	⇓P	P	08 55 23.0	-0.3
	baz=74,SNR=6.5						
128A	Castleberry Fa	73.76	335	⇑P	P	08 55 23.7	-0.5
	baz=74						
Z30A	Sanderson Ranc	73.91	336	⇑P	P	08 55 24.8	-0.2
	baz=74,SNR=9.0						
MNTX	Cornudas Mount	73.98	332	eP	P	08 55 24.7	-0.7
	comp=E,3.7nm,0.9s						
Y32A	R-V Farms, Ver	74.04	338	⇓P	P	08 55 25.3	-0.4
	baz=74						
Z29A	Hungry Hill Ra	74.08	336	⇑P	P	08 55 25.1	-0.9
	baz=74,SNR=9.5						
X34A	Smith Ranch, M	74.12	339	⇑P	P	08 55 26.0	-0.1
	baz=74						
X33A	Lawton	74.26	339	⇓P	P	08 55 26.6	-0.3
	baz=75						
Y31A	Rekieta Farm,	74.26	337	⇓P	P	08 55 26.5	-0.4
	baz=75						
Z28A	Tucker Farm, M	74.33	335	⇑P	P	08 55 27.0	-0.5
	baz=75						
X32A	Elmer	74.38	338	⇓P	P	08 55 27.2	-0.4
	baz=75						
Y30A	Stafford Cattl	74.38	336	⇑P	P	08 55 27.5	-0.2
	baz=75						
Y29A	Porterfield Fa	74.62	336	⇑P	P	08 55 28.8	-0.4
	baz=75						
W34A	Bridge Creek,	74.69	339	⇑P	P	08 55 28.8	-0.6
	baz=75						
W34A	Bridge Creek,	74.69	339	eP	P	08 55 29.2	-0.3
	comp=E,3.2nm,0.4s						
X31A	McDonald Ranch	74.78	338	⇓P	P	08 55 29.7	-0.3
	baz=75,SNR=7.0						
TUL1	Leonard	74.79	341	⇑P	P	08 55 29.4	-0.6
	baz=75,SNR=9.1						
TUL1	Leonard	74.79	341	eP	P	08 55 29.6	-0.4
	comp=E,25nm,1.0s						
W33A	Caddo, Fort Co	74.82	339	⇑P	P	08 55 30.4	+0.2
	baz=75,SNR=6.3						
Y28A	McKinney Farm,	74.85	335	⇑P	P	08 55 30.4	-0.1
	baz=75						
X30A	Coker Ranch, T	74.90	337	⇓P	P	08 55 30.6	-0.1
	baz=75						
W32A	Sentinel	75.02	338	⇑P	P	08 55 31.1	-0.3
	baz=75,SNR=15						
USIN	University of	75.05	348	eP	P	08 55 30.3	-1.1
	comp=E,36nm,0.9s						
SIUC	Southern Illin	75.08	347	eP	P	08 55 30.8	-0.7
	comp=E,6.6nm,0.8s						
MSTX	Muleshoe	75.09	335	⇑P	P	08 55 31.5	-0.4
	baz=75						
MSTX	Muleshoe	75.09	335	eP	P	08 55 31.7	-0.2
	comp=E,7.2nm,1.0s						
Y27A	Causey	75.14	335	⇑P	P	08 55 31.6	-0.6
	baz=76						
X29A	Tulia	75.16	336	⇓P	P	08 55 31.7	-0.6
	baz=76						
V34A	Guthrie	75.18	340	⇑P	P	08 55 32.0	-0.2
	baz=76,SNR=6.2						
V34A	Guthrie	75.18	340	eP	P	08 55 31.8	-0.4
	comp=E,25nm,1.1s						
319A	Douglas	75.25	329	⇑P	P	08 55 32.7	-0.2
	baz=76						
W31A	Holland Ranch,	75.29	338	⇓P	P	08 55 32.9	0.0
	baz=76						
V33A	Lossen Ranch,	75.39	339	⇑P	P	08 55 33.3	-0.1
	baz=76,SNR=9.0						
X28A	Dimmitt	75.39	336	⇓P	P	08 55 33.6	0.0
	baz=76						
V32A	Arapaho	75.51	339	⇓P	P	08 55 34.3	+0.1
	baz=76						
AMTX	Amarillo	75.56	336	⇑P	P	08 55 34.7	+0.2
	baz=76						
AMTX	Amarillo	75.56	336	eP	P	08 55 34.5	0.0
	comp=E,17nm,1.0s						
121A	Cookes Peak, D	75.66	330	⇓P	P	08 55 35.7	+0.4
	baz=76						
121A	Cookes Peak, D	75.66	330	eP	P	08 55 36.1	+0.9
	comp=E,12nm,1.5s						
U34A	Anderson Ranch	75.75	340	⇑P	P	08 55 35.5	0.0
	baz=76						
U34A	Anderson Ranch	75.75	340	eP	P	08 55 35.2	-0.3
	comp=E,22nm,1.2s						
W29A	Amarillo	75.77	336	⇓P	P	08 55 35.9	+0.2
	baz=76,SNR=8.3						
V31A	Spring Creek L	75.80	338	⇑P	P	08 55 36.6	+0.7
	baz=76,SNR=5.6						
X27A	F and S Farms,	75.81	335	⇑P	P	08 55 35.9	-0.1
	baz=76						
Z22A	Elephant Butte	75.97	331	⇓P	P	08 55 37.9	+0.9
	baz=76,SNR=5.3						
X26A	CR and CF Fran	75.97	334	⇑P	P	08 55 37.3	+0.3
	baz=76,SNR=6.6						
Y24A	Capitan	75.99	333	⇓P	P	08 55 37.3	+0.1
	baz=76,SNR=5.9						
V30A	Spur Ranch, Mi	76.05	337	⇑P	P	08 55 37.7	+0.4
	baz=76						
BLO	Bloomington	76.06	350	eP	P	08 55 36.2	-0.9
	comp=E,19nm,0.8s						
U32A	Winter Ranch,	76.11	339	⇑P	P	08 55 37.8	+0.3
	baz=76,SNR=6.6						
W27A	Bowe Ranch, En	76.18	335	⇓P	P	08 55 38.0	-0.1
	baz=76,SNR=9.5						
X25A	Clemmons Ranch	76.25	334	⇓P	P	08 55 38.7	+0.1
	baz=77						
W26A	Owens Ranch, T	76.44	335	⇑P	P	08 55 39.7	+0.1
	baz=77						
V28A	Channing	76.53	336	⇑P	P	08 55 40.5	+0.4
	baz=77						
LIC	Lamto	76.53	72	eP	P	08 55 40.0	-0.5
	comp=E,34nm,1.0s						
T33A	Patterson Ranc	76.56	340	⇓P	P	08 55 40.7	+0.7
	baz=77						
ACSO	Alum Creek Sta	76.65	352	eP	P	08 55 39.8	-0.7
	comp=E,24nm,0.8s						
TUC	Tucson	76.70	328	eP	P	08 55 42.1	+1.0
	comp=E,6.6nm,1.4s						
V27A	Dan Oppiter Fa	76.73	336	⇑P	P	08 55 41.9	+0.6
	baz=77						
U30A	WK&E Inc. Balk	76.75	338	⇑P	P	08 55 41.7	+0.5
	baz=77						
TIC	Toumodi	76.80	72	eP	P	08 55 41.8	-0.2
	comp=E,6.0nm,0.2s						
W25A	X Bar L Ranch,	76.80	334	⇑P	P	08 55 41.8	+0.1
	baz=77,SNR=5.1						
KIC	Kosan Boka	76.84	72	eP	P	08 55 42.0	-0.2
	comp=E,41nm,1.0s						
T32A	Huddler Ranch,	76.84	339	⇓P	P	08 55 42.1	+0.4
	baz=77						
DBIC	Dimbokro	76.94	72	P	P	08 55 41.9	-0.9
	comp=E,7.8nm,0.8s,baz=198,slow=5.9,SNR=9.5						
DBIC	Dimbokro	76.94	72	eP	P	08 55 43.1	+0.4
	comp=E,11nm,0.8s						
S33A	Kaszmaul Farm,	76.97	340	⇓P	P	08 55 42.6	+0.3
	baz=77						
T31A	Randall Ranch,	76.98	339	⇑P	P	08 55 42.6	+0.1
	baz=77						
LAZ	Ladron	77.05	332	eP	P	08 55 43.8	+0.6
V26A	Tequesquite Ra	77.09	335	⇑P	P	08 55 43.1

R31A	Burdett baz=78	78.04 339 ⇑P	P	08 55 48.7	+0.3
S28A	Manter baz=78	78.11 337 ⇓P	P	08 55 49.0	+0.2
U24A	Moreno Valley baz=78	78.16 334 ⇑P	P	08 55 49.7	+0.3
Q33A	Connelly Farm, baz=79	78.24 341 ⇓P	P	08 55 49.7	+0.3
R30A	Dighton baz=79	78.26 339 ⇑P	P	08 55 49.6	0.0
X18A	Snowflake baz=79	78.27 330 ⇑P	P	08 55 50.4	+0.4
T26A	Comanche Natio baz=79,SNR=5.0	78.28 336 ⇑P	P	08 55 50.5	+0.6
V22A	San Miguel Ran baz=79,SNR=11	78.31 333 ⇑P	P	08 55 51.4	+1.2
113A	Mohawk Valley, baz=79	78.40 326 ⇑P	P	08 55 51.1	+0.7
U23A	El Rito baz=79,SNR=5.2	78.42 333 ⇓P	P	08 55 51.8	+1.0
Q32A	Meitler Ranch, baz=79	78.43 340 ⇑P	P	08 55 50.6	+0.2
T25A	Trinidad baz=79,SNR=13	78.52 335 ⇓P	P	08 55 52.4	+1.1
R29A	Marienthal baz=79	78.64 338 ⇓P	P	08 55 52.1	+0.3
S26A	Kim baz=79,SNR=7.3	78.64 336 ⇑P	P	08 55 52.7	+0.9
Q31A	Ellis baz=79	78.67 340 ⇑P	P	08 55 52.2	+0.4
W18A	Petrified Fore baz=79	78.70 330 ⇓P	P	08 55 52.8	+0.6
W18A	Petrified Fore comp=E,8.6nm,1.1s	78.70 330 eP	P	08 55 53.1	+0.8
U22A	Llaves baz=79,SNR=5.3	78.70 333 ⇑P	P	08 55 53.4	+1.1
R28A	Tribune baz=79,SNR=5.9	78.77 338 ⇑P	P	08 55 52.7	+0.2
T24B	San Luis baz=79	78.78 334 ⇑P	P	08 55 53.9	+1.0
X16A	Lo Mia Camp, P baz=79	78.79 329 ⇓P	P	08 55 53.6	+0.8
Q30A	Quinter baz=79,SNR=6.4	78.88 339 ⇑P	P	08 55 53.6	+0.6
T23A	Casias Ranch, baz=79	78.99 334 ⇑P	P	08 55 54.8	+0.8
S25A	Robets Cordova baz=79	79.00 335 ⇑P	P	08 55 54.3	+0.4
Q29A	Oakley baz=79	79.03 338 ⇓P	P	08 55 54.2	+0.3
P32A	Huiting Farm, baz=79	79.03 340 ⇓P	P	08 55 53.9	+0.2
R27A	Eads baz=79	79.03 337 ⇓P	P	08 55 54.1	+0.2
Y14A	Wickenburg baz=79	79.05 327 ⇑P	P	08 55 54.5	+0.5
P31A	Stockton baz=80	79.15 340 ⇑P	P	08 55 54.5	0.0
S24A	Houchin Ranch, baz=80,SNR=7.5	79.25 335 ⇓P	P	08 55 55.9	+0.5
R26A	Arlington baz=80	79.25 336 ⇓P	P	08 55 56.2	+1.0
P30A	Selden baz=80	79.42 339 ⇓P	P	08 55 56.8	+0.9
SDCO	Great Sand Dun comp=E,5.9nm,1.1s	79.44 335 eP	P	08 55 57.1	+0.7
O32A	Brockman Farm, baz=80	79.54 341 ⇓P	P	08 55 57.2	+0.7
P29A	Atwood baz=80,SNR=8.6	79.67 339 ⇓P	P	08 55 58.2	+0.8
WUAZ	Wupatki baz=80	79.71 329 ⇓P	P	08 55 59.0	+1.2
WUAZ	Wupatki comp=E,9.1nm,1.3s	79.71 329 eP	P	08 55 58.9	+1.1
O31A	Woolen Ranch, baz=80	79.72 340 ⇓P	P	08 55 58.3	+0.8
R24A	Sanders Place, baz=80,SNR=11	79.74 335 ⇓P	P	08 55 59.0	+1.0
Q26A	Hugo baz=80	79.84 337 ⇑P	P	08 55 59.6	+1.2
P28A	Saint Francis baz=80	79.89 338 ⇓P	P	08 55 60.0	+1.4
S22A	4UR Ranch, Cre baz=80,SNR=5.0	79.91 334 ⇓P	P	08 56 00.0	+1.0
BC3	Big Chuckawall baz=80	79.91 325 ⇑P	P	08 55 59.8	+1.0
O30A	MW Ranch, Wils baz=80,SNR=5.7	79.95 340 ⇓P	P	08 55 59.6	+0.7
R23A	Moffat baz=80	79.95 335 ⇓P	P	08 55 59.7	+0.6
BOSA	Boshof comp=E,8.5nm,1.1s,baz=242,slow=4.2,SNR=5.9	79.97 118 P	P	08 55 58.3	-1.3
BOSA	Boshof comp=E,11nm,1.1s	79.97 118 eP	P	08 55 58.4	-1.3
MVCO	Mesa Verde baz=80,SNR=5.9	80.05 332 ⇑P	P	08 56 00.2	+0.5
MVCO	Mesa Verde comp=E,8.2nm,1.3s	80.05 332 eP	P	08 56 00.2	+0.5
Q25A	Bedland, Calha baz=80	80.07 336 ⇑P	P	08 56 00.5	+0.8
O29A	4D Ranch, Culb baz=80	80.11 339 ⇑P	P	08 56 00.6	+0.9
P27A	Ficken Ranch, baz=80	80.12 337 ⇓P	P	08 56 00.8	+0.9
IRM	Iron Mountain baz=80	80.19 326 ⇑P	P	08 56 01.6	+1.3
JFWS	Jewell Farm comp=E,16nm,1.0s	80.31 348 eP	P	08 56 00.3	-0.3
PFO	Pinyon Flats O baz=81	80.33 325 ⇓P	P	08 56 02.4	+1.2
P26A	Davis Ranch, A baz=81	80.37 337 ⇑P	P	08 56 02.3	+1.1
O28A	Krutsinger Ran baz=81	80.40 338 ⇑P	P	08 56 02.0	+0.7
Q24A	Divide baz=81	80.41 335 ⇓P	P	08 56 02.6	+0.9
W13A	Hualapai Mount baz=81	80.42 327 ⇓P	P	08 56 02.5	+0.9
BELC	Belle Mtn. Jos baz=81	80.45 325 ⇓P	P	08 56 03.2	+1.4
P25A	Willow Gulch B baz=81,SNR=5.6	80.59 336 ⇑P	P	08 56 02.9	+0.5
O27A	Beecher Island baz=81	80.67 338 ⇑P	P	08 56 03.8	+1.0
MURC	Murrieta baz=81	80.68 324 ⇓P	P	08 56 04.3	+1.4
M31A	Lambtecht Ranc baz=81	80.74 341 ⇓P	P	08 56 03.9	+0.9
P24A	Kohler Place, baz=81	80.83 336 ⇑P	P	08 56 04.9	+1.2
N28A	Pribbeno Ranch baz=81	80.85 339 ⇑P	P	08 56 04.3	+0.6
U15A	North Rim baz=81	80.87 329 ⇑P	P	08 56 05.2	+1.0
PV01	Paradox Valley comp=E,585nm,1.0s	80.89 333 eP	P	08 56 05.0	+0.8
GMRC	Granite Mounta baz=81	80.94 326 ⇑P	P	08 56 05.5	+1.1
SMCO	Snowmass	81.23 334 eP	P	08 56 07.4	+1.2
PV04	Paradox Valley	81.24 332 eP	P	08 56 06.6	+0.7
N27A	Anderson Farm, baz=82	81.25 338 ⇑P	P	08 56 06.9	+1.0
PV10	Paradox Valley comp=E,154nm,0.9s	81.28 332 eP	P	08 56 06.5	+0.2
HEC	Hector,Ludlow baz=82	81.29 325 ⇑P	P	08 56 07.7	+1.5
M29A	Burnside Ranch baz=82	81.30 340 ⇑P	P	08 56 07.3	+1.2
ISCO	Idaho Springs baz=82	81.32 335 ⇓P	P	08 56 07.3	+0.8
BFSC	Mount Baldy Ra baz=82	81.42 324 ⇓P	P	08 56 08.1	+1.2
L31A	Butterfield Fa baz=82,SNR=5.8	81.48 341 ⇓P	P	08 56 07.3	+0.4
L30A	Spencer Herefo baz=82	81.50 340 ⇓P	P	08 56 07.8	+0.7
P22A	Eagle baz=82	81.53 335 ⇓P	P	08 56 08.4	+0.9
O23A	Lake Granby, G baz=82,SNR=7.3	81.79 335 ⇑P	P	08 56 09.8	+0.8
GSC	Goldstone, Bar baz=82	81.89 325 ⇓P	P	08 56 10.5	+1.1
O22A	Kremmling baz=82,SNR=7.3	81.96 335 ⇑P	P	08 56 10.4	+0.5
EDW2	Edwards Air Fo baz=82	82.10 324 ⇓P	P	08 56 10.8	+0.4
K30A	Basset baz=82,SNR=8.7	82.15 341 ⇓P	P	08 56 11.1	+0.6
SHPR	Sheep Range	82.16 327 eP	P	08 56 11.9	+1.1
ECSD	EROS Data Cent baz=83,SNR=22	82.40 343 ⇓P	P	08 56 11.4	-0.3
ECSD	EROS Data Cent comp=E,20nm,0.8s	82.40 343 eP	P	08 56 11.0	-0.7
N23A	Red Feather La baz=83	82.42 336 ⇓P	P	08 56 12.5	+0.3
K29A	Lazy Trails An baz=83	82.42 340 ⇓P	P	08 56 11.9	0.0
LRMC	Laurel Mtn Rad baz=83	82.45 325 ⇑P	P	08 56 13.1	+0.8
SRU	San Rafael Swe comp=E,7.5nm,0.9s	82.48 332 eP	P	08 56 13.2	+0.7
N22A	Wattenberg Ran baz=83,SNR=6.9	82.50 335 ⇑P	P	08 56 13.4	+0.7
ARUT	Antelope Range comp=E,70nm,1.0s	82.51 329 eP	P	08 56 13.8	+1.2
O20A	White River Ci baz=83,SNR=5.2	82.53 334 ⇓P	P	08 56 13.3	+0.5
O20A	White River Ci comp=E,7.0nm,0.9s	82.53 334 eP	P	08 56 13.2	+0.4
M24A	Cheyenne baz=83	82.57 337 ⇑P	P	08 56 13.6	+0.7
MVU	Marysvale comp=E,5.1nm,1.1s	82.62 330 eP	P	08 56 14.1	+0.8
K28A	Ten Mile Ranch baz=83,SNR=5.1	82.67 340 ⇓P	P	08 56 13.9	+0.7
J30A	Dallas baz=83	82.72 341 ⇓P	P	08 56 13.6	+0.2
M23A	Laramie baz=83,SNR=6.0	82.86 336 ⇑P	P	08 56 15.3	+0.9
FURC	Furnace Creek, baz=83	82.89 326 ⇑P	P	08 56 15.6	+1.3
TMUT	Trail Mountain comp=E,9.4nm,1.0s	82.90 331 eP	P	08 56 15.3	+0.5
ISA	Isabella, Lake baz=83	82.97 324 ⇓P	P	08 56 15.7	+0.8
ISA	Isabella, Lake	82.97 324 eP	P	08 56 16.3	+1.3
TPNV	Topopah Spring baz=83	83.01 327 ⇓P	P	08 56 16.0	+0.8
TPNV	Topopah Spring comp=E,35nm,2.2s	83.01 327 eP	P	08 56 16.9	+1.6
SPMN	Marine on St. baz=83	83.01 346 ⇑P	P	08 56 14.3	-0.6
SPMN	Marine on St. comp=E,6.3nm,0.8s	83.01 346 eP	P	08 56 13.9	-0.9
J29A	Okreek baz=83,SNR=17	83.02 341 ⇑P	P	08 56 15.6	+0.6
M22A	Cedar Creek Ra baz=83	83.09 335 ⇓P	P	08 56 16.5	+0.9
N20A	Spence Gulch, baz=84,SNR=5.3	83.16 334 ⇓P	P	08 56 16.6	+0.6
I30A	Oacoma baz=84,SNR=7.5	83.26 341 ⇓P	P	08 56 16.2	0.0
J28A	Allard Ranch, baz=84	83.29 340 ⇑P	P	08 56 17.4	+1.0
J27A	Elkhorn Farm, baz=84,SNR=8.5	83.34 339 ⇑P	P	08 56 17.3	+0.6
VES	Vestal, Richgr baz=84	83.40 324 ⇑P	P	08 56 18.2	+1.1
L23A	Garrett baz=84	83.43 336 ⇓P	P	08 56 17.6	+0.3
I29A	Vivian Onida baz=84	83.59 341 ⇑P	P	08 56 18.3	+0.4
L22A	Ellis Ranch, M baz=84	83.60 336 ⇓P	P	08 56 18.7	+0.5
MPU	Maple Canyon comp=E,7.3nm,0.7s	83.69 331 eP	P	08 56 19.6	+0.9
J26A	Sides Ranch, S baz=84	83.71 339 ⇓P	P	08 56 19.2	+0.6
I28A	Midland baz=84,SNR=11	83.80 340 ⇓P	P	08 56 19.1	+0.1
NLU	North Lily Min comp=E,4.4nm,1.0s	83.81 331 eP	P	08 56 20.2	+0.8
R11A	Troy Canyon, C baz=84	83.89 328 ⇑P	P	08 56 20.4	+0.7
R11A	Troy Canyon, C comp=E,5.1nm,1.1s	83.89 328 eP	P	08 56 20.7	+1.0
DAU	Daniels Canyon comp=E,12nm,1.2s	83.89 332 eP	P	08 56 20.5	+0.6
K23A	Bowen Ranch, D baz=84	83.98 337 ⇓P	P	08 56 20.5	+0.4
I27A	Quinn baz=84	84.11 340 ⇓P	P	08 56 20.9	+0.4
H29A	Onida baz=84,SNR=8.3	84.13 341 ⇑P	P	08 56 20.9	+0.3
K22A	Casper baz=84,SNR=7.5	84.18 336 ⇑P	P	08 56 21.5	+0.3
K22A	Casper comp=E,14nm,1.0s	84.18 336 eP	P	08 56 21.8	+0.6
DUG	Dugway, Tooele baz=85	84.31 331 ⇑P	P	08 56 22.5	+0.7
DUG	Dugway, Tooele comp=E,20nm,1.3s	84.31 331 eP	P	08 56 22.5	+0.7
CTU	Camp Tracy comp=E,4.6nm,0.9s	84.32 332 eP	P	08 56 22.0	+0.1
G30A	Faulkton baz=85,SNR=6.7	84.32 342 ⇑P	P	08 56 21.5	-0.1
TPH	Tonopah comp=E,7.2nm,0.9s	84.37 327 eP	P	08 56 23.6	+1.3
H28A	Mission Ridge baz=85,SNR=5.1	84.39 341 ⇓P	P	08 56 22.2	+0.3
K21A	Alcova baz=85,SNR=10	84.41 336 ⇓P	P	08 56 22.5	+0.2
I25A	Rochford baz=85,SNR=5.8	84.55 339 ⇑P	P	08 56 23.3	+0.3
TCUT	Toone Canyon comp=E,9.6nm,0.9s	84.56 332 eP	P	08 56 23.8	+0.6
H27A	Howes baz=85	84.64 340 ⇓P	P	08 56 23.3	+0.1
I24A	Kuemmerle Ranc baz=85	84.67 338 ⇑P	P	08 56 23.7	+0.2
G28A	Parade baz=85	84.73 341 ⇓P	P	08 56 23.9	+0.3
RSSD	Black Hills comp=E,9.7nm,1.0s	84.73 338 eP	P	08 56 23.7	-0.2
J22A	Midwest baz=85	84.85 336 ⇑P	P	08 56 23.9	-0.5
F30A	Leola baz=85	84.95 342 ⇑P	P	08 56 25.0	+0.3
BGU	Big Grassy Mou comp=E,2.0nm,1.3s	85.02 331 eP	P	08 56 25.7	+0.3
H25A	Fruitdale baz=85,SNR=5.9	85.06 339 ⇑P	P	08 56 25.7	+0.3
J21A	Lysite baz=85	85.11 336 ⇓P	P	08 56 26.1	+0.3
NVAR	Mina Array Bea comp=E,2.5nm,0.8s,baz=154,slow=6.6,SNR=18	85.15 326 P	P	08 56 26.9	+0.8
F29A	Eureka baz=86,SNR=6.3	85.15 342 ⇑P	P	08 56 25.5	-0.2
I22A	9 Mile Ranch, baz=86,SNR=6.3	85.28 337 ⇑P	P	08 56 26.2	-0.4
G27A	Dupree baz=86	85.28 340 ⇑P	P	08 56 25.9	-0.5
BW06	Boulder Array comp=E,5.6nm,1.0s	85.32 334 eP	P	08 56 27.0	+0.1
PDAR	Pinedale Array comp=E,4.1nm,1.1s,baz=152,slow=3.3,SNR=17	85.32 334 P	P	08 56 26.7	-0.2
J20A	Shoshoni baz=86,SNR=9.0	85.33 335 ⇓P	P	08 56 27.6	+0.7
G26A	Maurine baz=86,SNR=6.3	85.39 340 ⇑P	P	08 56 26.8	-0.1
EYMN	Ely comp=E,5.5nm,1.1s	85.40 348 eP	P	08 56 26.1	-0.8
F28A	McLaughlin baz=86,SNR=7.1	85.42 341 ⇑P	P	08 56 27.1	0.0
H24A	Dirks Ranch, A baz=86,SNR=7.1	85.45 338 ⇑P	P	08 56 27.2	-0.2
I21A	Big Trails, Te baz=86,SNR=9.3	85.47 336 ⇓P	P	08 56 27.4	-0.2
G25A	Newell baz=86,SNR=9.8	85.53 339 ⇑P	P	08 56 28.0	+0.3
E30A	Jud baz=86	85.55 343 ⇑P	P	08 56 28.0	+0.3
J19A	Crowheart baz=86,SNR=8.0	85.58 335 ⇓P	P	08 56 28.3	+0.2
HVU	Hansel Valley comp=E,12nm,0.9s	85.65 332 eP	P	08 56 28.6	+0.1
WAKR	Walker comp=E,30nm,2.2s	85.72 325 eP	P	08 56 30.2	+1.2
ELK	Elko comp=E,3.7nm,0.9s,baz=179,slow=1.2,SNR=16	85.75 329 P	P	08 56 29.1	0.0
ELK	Elko comp=E,5.2nm,1.0s	85.75 329 eP	P	08 56 30.0	+0.9
E29A	Napoleon baz=86	85.79 342 ⇓P	P	08 56 28.8	-0.1
AHID	Auburn Hatcher comp=E,4.4nm,0.7s	85.87 333 eP	P	08 56 29.7	0.0
H22A	Clearmont baz=86	85.87 337 ⇑P	P	08 56 29.4	-0.1
I20A	Worland baz=86,SNR=9.4	85.87 336 ⇓P	P	08 56 29.5	0.0
F26A	Lodgepole baz=86,SNR=8.8	85.92 340 ⇓P	P	08 56 29.6	0.0
G24A	Alzada baz=86,SNR=5.6	85.94 339 ⇓P	P	08 56 29.5	-0.3
TORD	Torodi Ar. Bea comp=E,3.8nm,1.0s,baz=241,slow=4.3,SNR=11	86.01 71 P	P	08 56 29.7	-1.0
E28A	Huff baz=86	86.06 341 ⇓P	P	08 56 30.3	0.0
D30A	Buchanan baz=86,SNR=9.4	86.08 343 ⇓P	P	08 56 30.1	-0.2
G23A	Biddle baz=86,SNR=6.9	86.12 338 ⇓P	P	08 56 30.2	-0.4
H21A	Big Horn, Sher baz=86,SNR=5.4	86.12 337 ⇓P	P	08 56 30.4	-0.4
E27A	Carson baz=86	86.15 341 ⇑P	P	08 56 30.6	-0.1
F25A	Bowman baz=86,SNR=5.7	86.21 339 ⇓P	P	08 56 31.0	0.0
D29A	Pettibone, Tap baz=87	86.24 342 ⇓P	P	08 56 31.3	+0.2
I19A	Meeteetse baz=87	86.24 335 ⇑P	P	08 56 31.2	-0.2
REDW	Red Top Meadow comp=E,7.8nm,1.0s	86.30 334 eP	P	08 56 32.1	+0.4
H20A	Greybull baz=87	86.30 336 ⇓P	P	08 56 31.4	-0.2
G22A	Birney baz=87	86.41 337 ⇑P	P	08 56 31.9	-0.2
F24A	Ekalaka baz=87,SNR=8.8	86.42 339 ⇑P	P	08 56 32.1	-0.1
LOHW	Long Hollow comp=E,8.9nm,1.0s	86.43 334 eP	P	08 56 32.7	+0.3
LOHW		epP	pP	08 56 40.4	-1.7
E26A	Carlson Angus baz=87,SNR=10	86.43 340 ⇓P	P	08 56 32.2	+0.1
TPAW	Teton Pass comp=E,12nm,0.9s	86.44 334 eP	P	08 56 32.7	+0.2
AGMN	Agassiz Nation baz=87,SNR=7.4	86.56 345 ⇓P	P	08 56 32.6	-0.1
AGMN	Agassiz Nation comp=E,8.4nm,0.8s	86.56 345 eP	P	08 56 32.1	-0.6
C30A	Mose, Pekin baz=87,SNR=16	86.58 343 ⇑P	P	08 56 32.9	+0.2
F23A	Volborg baz=87,SNR=11	86.59 338 ⇓P	P	08 56 32.4	-0.5
FXWY	Fox Creek comp=E,6.3nm,1.0s	86.60 334 eP	P	08 56 33.6	+0.3
D28A	Regan baz=87,SNR=5.8	86.61 342 ⇓P	P	08 56 33.1	+0.1
I17A	Pilgrim Ck. baz=87,SNR=13	86.69 334 ⇓P	P	08 56 34.3	+0.6
G21A	Lodge Grass baz=87	86.70 337 ⇑P	P	08 56 33.6	0.0
E25A	Miller Ranch, baz=87,SNR=9.7	86.72 340 ⇓P	P	08 56 33.9	+0.3
IMW	Indian Meadow comp=E,14nm,1.1s	86.79 334 eP	P	08 56 34.7	+0.4
H19A	Powell baz=87	86.80 335 ⇓P	P	08 56 33.9	-0.1
FLWY	Flagg Ranch comp=E,19nm,1.0s	86.87 334 eP	P	08 56 35.3	+0.8
F22A	Rosebud baz=87,SNR=5.6	86.90 338 ⇑P	P	08 56 34.3	-0.2
D26A	Manning baz=87,SNR=16	86.94 341 ⇓P	P	08 56 34.8	+0.2
MDND	Maddock baz=87,SNR=11	86.98 343 ⇑P	P	08 56 35.0	+0.2
MDND	Maddock comp=E,29nm,1.4s	86.98 343 eP	P	08 56 34.9	+0.2
G20A	Bridger baz=87	87.03 336 ⇑P	P	08 56 34.5	-0.6
E24A	Baker baz=87,SNR=5.7	87.03 339 ⇓P	P	08 56 35.5	+0.5
H18A	Shoshone NF, C baz=87,SNR=12	87.03 335 ⇑P	P	08 56 35.3	0.0
C28A	Hausauer Farms baz=87	87.05 342 ⇑P	P	08 56 35.1	0.0
LKWY	Lake comp=E,8.4nm,0.4s	87.19 334 eP	P	08 56 38.3	+2.1
LKWY		epP	pP	08 56 45.9	0.0
F21A	Absaloka Mine, baz=88	87.21 337 ⇑P	P	08 56 35.7	-0.3
YFT	Old Faithful comp=E,9.7nm,0.9s	87.24 334 eP	P	08 56 37.9	+1.6
B30A	Myrvik Farm, E baz=88,SNR=22	87.24 344 ⇓P	P	08 56 36.1	+0.2
E23A	Ismay baz=88	87.27 339 ⇓P	P	08 56 36.3	+0.1
RLMT	Red Lodge comp=E,2.2nm,0.6s	87.29 335 eP	P	08 56 36.6	+0.1
D25A	Fairfield baz=88,SNR=9.0	87.29 340 ⇓P	P	08 56 36.5	+0.2
C27A	Sayler Ranch, baz=88,SNR=8.6	87.33 341 ⇑P	P	08 56 36.7	+0.3
YMR	Madison River comp=E,13nm,0.9s	87.47 334 eP	P	08 56 38.0	+0.6
B29A	Wagenmann Farm, baz=88,SNR=8.3	87.49 343 ⇓P	P	08 56 37.2	0.0
F20A	Billings baz=88	87.52 336 ⇑P	P	08 56 36.8	-0.7
C26A	Wahner Farm, P baz=88,SNR=7.1	87.58 341 ⇑P	P	08 56 37.8	+0.1
A30A	Hoffart Farm, baz=88,SNR=6.9	87.70 344 ⇓P	P	08 56 38.3	+0.1
B28A	Dugan Ranch, T baz=88,SNR=13	87.72 342 ⇑P	P	08 56 38.3	0.0
QLMT	Earthquake Lak	87.78 334 eP	P	08 56 40.2	+1.3
C25A	Freed Ranch, W baz=88	87.79 340 ⇓P	P	08 56 38.7	+0.1
HLID	Hailey baz=88	87.80 331 ⇑P	P	08 56 39.5	+0.5
HLID	Hailey comp=E,6.1nm,1.1s	87.80 331 eP	P	08 56 39.6	+0.6
F19A	Roth Farm, Mol baz=88	87.83 336 ⇓P	P	08 56 38.8	-0.1
E21A	Keefer Ranch, baz=88	87.84 337 ⇑P	P	08 56 38.9	0.0
D23A	Lindsay baz=88,SNR=10	87.85 339 ⇓P	P	08 56 39.0	+0.1
A29A	Manning Farm, baz=88,SNR=24	87.89 343 ⇑P	P	08 56 39.2	+0.1
B27A	Peters Farms, baz=88	87.90 342 ⇑P	P	08 56 38.9	-0.2
C24A	Savage baz=88,SNR=9.8	87.95 340 ⇓P	P	08 56 39.4	0.0
D22A	Cohagen baz=88,SNR=5.5	88.11 338 ⇑P	P	08 56 40.0	-0.2
A28A	Rude Farm, Bot baz=88,SNR=5.3	88.13 343 ⇓P	P	08 56 40.3	+0.1
E20A	Meyer Farm, Mu baz=88,SNR=8.7	88.14 337 ⇑P	P	08 56 40.2	-0.2
B25A	Knox Farm, Ray baz=89,SNR=7.4	88.28 341 ⇑P	P	08 56 41.0	+0.1
D21A	La Casta Ranch baz=89	88.28 338 ⇓P	P	08 56 40.9	-0.2
MCMT	McKenzie Canyo comp=E,5.9nm,1.0s	88.29 333 eP	P	08 56 42.2	+0.8
E19A	Rath Farm, Rou baz=89,SNR=6.9	88.31 336 ⇑P	P	08 56 40.9	-0.3
C23A	Lambert baz=89,SNR=5.8	88.41 339 ⇑P	P	08 56 41.4	-0.2
ULM	Lac du Bonnet comp=E,10nm,0.9s,baz=182,slow=3.8,SNR=20	88.42 346 P	P	08 56 40.5	-1.0
A26A	Wade Farm, Ken baz=89	88.56 342 ⇓P	P	08 56 42.0	-0.3
C22A	Vida baz=89	88.56 339 ⇓P	P	08 56 42.2	-0.2
WVOR	Wild Horse Val comp=E,7.1nm,1.1s	88.57 328 eP	P	08 56 42.6	0.0
DLMT	Dillon comp=E,12nm,1.3s	88.66 334 eP	P	08 56 44.0	+1.0
D20A	Manuel Ranch, baz=89,SNR=6.0	88.66 337 ⇓P	P	08 56 42.4	-0.4
MOD	Modoc Plateau comp=E,7.3nm,1.0s	88.86 327 eP	P	08 56 45.0	+1.0
A25A	Svangstu Ranch baz=89	88.87 341 ⇓P	P	08 56 44.1	+0.4
B23A	Brockton baz=89	88.95 340 ⇓P	P	08 56 44.4	+0.2
D19A	Cripps Ranch, baz=89	88.96 337 ⇑P	P	08 56 44.3	0.0
C21A	Desert Coulee baz=89	89.00 338 ⇓P	P	08 56 43.9	-0.4
B22A	Reddig Ranch S	89.09 339 ⇑P	P	08 56 44.7	-0.2

	baz=89						
C20A	Veseth Ranch,	89.17	337	⇑P	P	08 56 44.5	-0.7
	baz=90						
C19A	Slack Wire Ran	89.52	337	⇑P	P	08 56 46.4	-0.4
	baz=90						
A22A	Carney Farms,	89.69	339	⇑P	P	08 56 47.1	-0.5
	baz=90,SNR=6.4						
K05A	Summer Lake	89.78	327	eP	P	08 56 49.8	+1.4
	comp=E,17nm,1.1s						
A21A	Bergtoll Ranch	89.99	339	⇑P	P	08 56 48.4	-0.5
	baz=90						
EGMT	Eagleton	90.00	337	⇑P	P	08 56 48.6	-0.5
	baz=90						
A20A	Cobblestone Ra	90.19	338	⇑P	P	08 56 49.9	-0.1
	baz=90						
I07A	Izee	90.28	329	eP	P	08 56 51.1	+0.5
	comp=E,85nm,2.8s						
J05D	Fort Rock, OR	90.38	327	⇑P	P	08 56 51.5	+0.4
	baz=91						
A19A	Klindworth Far	90.48	338	⇑P	P	08 56 50.9	-0.4
	baz=91						
SWMT	Swartz Lake	91.00	334	eP	P	08 56 53.8	0.0
	comp=E,4.4nm,1.2s						
YBMT	Yellow Bay	91.30	334	eP	P	08 56 55.8	+0.6
BSMT	Bassoo Peak	91.57	334	eP	P	08 56 56.7	+0.1
HAWA	Hanford	92.17	330	eP	P	08 57 00.2	+1.1
	comp=E,1.7nm,0.8s						
E07A	Sunnyside	92.44	330	eP	P	08 57 01.4	+1.0
	comp=E,8.5nm,1.0s						
D08A	Wollman Farm,	92.47	331	eP	P	08 57 01.1	+0.6
	comp=E,6.0nm,0.8s						
NEW	Newport	92.77	332	P	P	08 57 01.1	-0.8
	comp=E,2.8nm,0.9s,baz=342,slow=0.9,SNR=5.3						
NEW	Newport	92.77	332	⇑P	P	08 57 01.6	-0.3
	baz=93						
YKA	Yellowknife Ar	103.87	342	Pdiff	Pdif	08 57 50.7	-0.7
	comp=E,0.4nm,0.9s,baz=144,slow=3.7,SNR=7.4						
YKA				PKKPbc	PKKPbc	09 13 45.6	+2.2
	comp=E,0.1nm,0.6s,baz=321,slow=3.4,SNR=5.0						
VYHS	Vyhne	117.43	48	ePKP	PKPdf	09 02 34.0	-1.1
VYHS				e		09 02 48.1	
WRA	Warramunga Arr	118.24	210	PKP	PKPdf	09 02 36.0	-1.6
	comp=E,0.3nm,0.7s,baz=172,slow=1.5,SNR=3.0						
H11S2	WAKE ISLAND Hyl	124.62	268	T	T	11 19 50.9	
	baz=121,slow=74						
H11S1	WAKE ISLAND Hyl	124.64	268	T	T	11 19 50.2	
	baz=121						
H11S3	WAKE ISLAND Hyl	124.64	268	T	T	11 19 52.7	
	baz=121,slow=74						
SEY	Seymchan	141.43	328	PKhKP	PKPpre	09 03 13.4	
	comp=E,0.3nm,0.3s,baz=116,slow=7.8,SNR=3.2						
TIXI	Tiksi	142.72	349	ePKPdf	PKPdf	09 03 16.8	-5.2
ABKAR	Akbulak array	143.93	54	ePKPdf	PKPab	09 03 21.6	-0.5
HYB	Hyderabad	148.87	120	i PKP	PKPbc	09 03 37.0	-1.1
HYB				e		09 03 44.0	
BVAR	Borovoye Array	149.68	45	PKP	PKPdf	09 03 34.0	-0.3
	comp=E,1.4nm,0.7s,baz=281,slow=3.7,SNR=2.2						
BVAR				PKPbc	PKPbc	09 03 38.4	-0.6
	comp=E,1.7nm,0.8s,baz=281,slow=4.3,SNR=8.5						
YAK	Yakutsk	150.47	338	ePKPbc	PKPbc	09 03 39.9	-0.6
KKAR	Karatay Array	151.55	65	ePKPdf	PKPdf	09 03 39.1	+1.5
KKAR				ePKPdf	PKPbc	09 03 40.7	-3.1
AAK	Ala-Archa	154.50	66	ePKPbc	PKPbc	09 03 48.7	-1.8
AAK				ePKPab	PKPab	09 04 05.4	+0.3
KSH	Kashi	155.66	73	ePKP	PKPdf	09 03 44.5	+0.8
KSH				sPKP		09 03 57.9	
KSH				PKS	PKSdf	09 07 18.5	+0.7
KSH				PP	PP	09 07 45.8	-1.8
KSH				SKS	SKSdf	09 10 48.8	+0.9
KSH				SKKS	SKKSac	09 14 35.8	+1.2
KSH				SS	SS	09 27 29.1	-3.7
KSH				PPMZ			
	comp=E,94nm,4.9s						
KSH				LN			
	comp=E,72nm,6.7s						
KSH				LE			
	comp=E,46nm,6.0s						
KSH				LZ			
	comp=E,180nm,5.3s						
ZALV	Zalesovo Beam	156.73	34	PKP	PKPdf	09 03 43.0	-1.5
	comp=E,2.0nm,0.7s,baz=327,slow=2.5,SNR=8.7						
ZALV				PKPab	PKPab	09 04 14.0	0.0
	comp=E,3.2nm,0.9s,baz=308,slow=5.1,SNR=7.8						
MKAR	Makanchi Array	159.06	52	PKP	PKPdf	09 03 47.0	-0.6
	comp=E,1.5nm,0.9s,baz=298,slow=3.1,SNR=9.4						
MKAR				PKPab	PKPab	09 04 23.6	-0.7
	comp=E,1.4nm,0.9s,baz=304,slow=3.3,SNR=4.5						
MDJ	Mudanjiang	160.69	303	PKP	PKPdf	09 03 50.6	+1.1
WMQ	Urumqi	163.69	57	ePKP	PKPdf	09 03 53.0	+0.4
KMI	Kunming	168.39	162	PKP	PKPdf	09 03 58.0	+0.8
SONM	Songino Array	168.46	1	PKP	PKPdf	09 03 54.8	-1.5
	comp=E,0.6nm,1.0s,baz=17,slow=1.5,SNR=4.4						
SONM				PKPab	PKPab	09 05 05.8	+0.2
	comp=E,2.0nm,0.9s,baz=336,slow=3.2,SNR=13						
NJ2	Nanjing	169.03	251	ePKP	PKPdf	09 03 58.8	+1.8
GYA	Guiyang	170.21	180	PKP	PKPdf	09 03 58.4	+0.3
GYA				pPKP	pPKPdf	09 04 10.8	+2.6
GYA				PKPab	PKPab	09 05 17.0	+3.2
GYA				PKS	PKSdf	09 07 29.6	-1.1
GYA				PP	PP	09 09 07.3	+4.3
GYA				SKKS		09 15 50.4	
GYA				SS	SS	09 30 03.8	+3.3
GYA				PPMZ			
	comp=E,130nm,8.5s						
GYA				LN			
	comp=E,130nm,19.9s						
GYA				LE			
	comp=E,110nm,20.7s						
GYA				LZ			
	comp=E,120nm,20.3s						
WHN	Wuhan	171.37	231	PKP	PKPdf	09 03 59.6	+1.2
HHC	Hu-ho-hao-te	174.02	321	ePKP	PKPdf	09 04 00.3	+0.9
HHC				pPKP	pPKPdf	09 04 10.1	+0.6
HHC				sPKP		09 04 14.6	
HHC				PP	PP	09 09 27.9	+5.4
HHC				SKS	SKSdf	09 10 58.1	-2.2
HHC				SS	SS	09 30 37.4	-1.7
HHC				PPMZ			
	comp=E,200nm,6.6s						
HHC				LN			
	comp=E,490nm,21.0s						
HHC				LE			
	comp=E,500nm,19.3s						
HHC				LZ			
	comp=E,610nm,22.2s						
CD2	Chengdu	174.13	155	ePKP	PKPdf	09 04 01.3	+1.7
LZH	Lanzhou	177.74	94	ePKP	PKPdf	09 04 01.5	+1.0
LZH				pPKP	pPKPdf	09 04 11.0	+0.4
LZH				sPKP		09 04 15.3	

NSSC ***16*** *09:33:19.2±2.9, 39°.18N×40°.33E, h0km±66km, MD2.4, ML3.7*
DDA ***16*** *09:33:27.5, 38°.65N×39°.68E, h14km, MD3.8*
ISK ***16*** *09:33:27.5, 38°.66N×39°.74E, h7km, MD3.8*
CSEM ***16*** *09:33:28.4±0.1, 38°.66N×39°.74E, h2km, MD3.8, Error ellipse: s-maj=3.9km s-min=3.8km az=107.0*
IDC ***16*** *09:33:28.6±0.9, 38°.67N×39°.41E, h0km, mb3.5/7, mb1 3.6/13, mb1mx3.5/52, mbtmp3.5/13, ML3.2/5, MS3.2/6, Ms1 3.2/6, ms1mx3.0/36, Error ellipse: s-maj=20.3km s-min=11.0km az=159.0*
ISN ***16*** *09:33:28.1±2.3, 40°.17N×40°.02E, h0km±235km, ML4.1*
ISC 16 09:33:29.1±0.8, 38°.67N±0°.02×39°.74E±0°.01, h9km±6km, n172, σ1§64/204, mb3.6/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.45	230	ePG	Pg	09 33 35.8	-2.0
SVRC				eSG	Sg	09 33 43.3	-0.3
SVRC	Sivrice-ELAZID	0.45	230	ePg	Pg	09 33 35.8	-2.0
SVRC				eSg	Sg	09 33 43.3	-0.3
ELZG	Elazig	0.61	254	i P	Pg	09 33 38.4	-2.6
ELZG				i S	Sb	09 33 51.5	+0.5
ELZG	Elazig	0.61	254	i P	Pg	09 33 38.4	-2.6
ELZG				i S	Sb	09 33 51.5	+0.5
DYBB	Diyarbakir	0.78	156	ePG	Pg	09 33 43.1	-1.0
DYBB				eSG	Sg	09 33 54.1	-0.1
DIYA	Diyarbakir	0.80	158	i P	Pg	09 33 43.7	-0.8
DIYA	Diyarbakir	0.80	158	i P	Pg	09 33 43.7	-0.8
BNGB	Bing¯¶‖	0.80	66	ePG	Pg	09 33 43.4	-1.2
DIY	Diyarbakir	0.86	153	ePg	Pg	09 33 43.1	-2.5
DIY				eSg	Sg	09 33 54.1	-2.7
ERZN	Erzincan	0.92	359	ePG	Pg	09 33 45.3	-1.5
ERZN				eSG	Sb	09 33 58.9	-0.8
BNGL	BINGOL	1.14	75	i P	Pb	09 33 50.4	-0.7
BNGL				i S	Sn	09 34 13.0	+5.6
KEMA	Kemaliye	1.14	302	i P	Pb	09 33 47.9	-3.2
KEMA				i S	Sn	09 34 06.3	-0.9
KEMA	Kemaliye	1.14	302	i P	Pb	09 33 47.9	-3.2
KEMA				i S	Sn	09 34 06.3	-0.9
ILIC	ilic-Erzincan	1.20	311	ePN	Pb	09 33 50.8	-1.3
ILIC	ilic-Erzincan	1.20	311	ePn	Pb	09 33 50.8	-1.3
SVAN	Silvan-Diyarba	1.26	114	ePN	Pn	09 33 51.7	-1.2
MAZI	Mazidag	1.33	155	ePN	Pn	09 33 52.3	-1.6
MAZI	Mazidag	1.33	155	ePn	Pn	09 33 52.3	-1.6
VRTB	Varto-Mus	1.43	69	ePN	Pn	09 33 54.5	-0.9
VRTB	Varto-Mus	1.43	69	ePn	Pn	09 33 54.5	-0.9
BEST	Besiri	1.43	122	i P	Pn	09 33 54.7	-0.7
BEST				i S	Sg	09 34 15.1	-0.1
BTMT	Batman	1.45	108	ePN	Pn	09 33 54.8	-0.9
BTMT	Batman	1.45	108	ePn	Pn	09 33 54.8	-0.9
KOPT	Kop Dagi	1.47	23	i P	Pb	09 33 56.0	-0.8
KOPT	Kop Dagi	1.47	23	i P	Pb	09 33 56.0	-0.8
KOPT				i S	Sg	09 34 22.0	+5.5
AKCD	Akcadag	1.47	256	i P	Pn	09 33 53.1	-2.9
AKCD				i S	Sg	09 34 18.6	+2.1
AKCD	Akcadag	1.47	256	i P	Pn	09 33 53.1	-2.9
AKCD				i S	Sg	09 34 18.6	+2.1
KELT	Kelkit	1.53	346	i P	Pn	09 33 56.3	-0.5
KELT				i S	Sg	09 34 18.9	+0.7
KELT	Kelkit	1.53	346	i P	Pn	09 33 56.3	-0.5
KELT				i S	Sg	09 34 18.9	+0.7
MARD	Mardin	1.58	148	i P	Pn	09 33 56.6	-0.9
MARD				i S	Sb	09 34 18.9	+0.2
ATAB	Bozova	1.65	224	i P	Pn	09 33 57.3	-1.0
ATAB				i S	Sg	09 34 25.4	+3.2
ATAB	Bozova	1.65	224	i P	Pn	09 33 57.3	-1.0
ATAB				i S	Sg	09 34 25.4	+3.2
BAYT	Ayd¨–ntepe-Bay	1.75	10	ePN	Pn	09 33 59.1	-0.8
BAYT	Ayd¨–ntepe-Bay	1.75	10	ePn	Pn	09 33 59.1	-0.8
EZM	Erzurum	1.77	45	ePN	Pn	09 33 59.3	-0.8
ERZM	Erzurum	1.77	45	i P	Pb	09 34 01.1	-0.7
ERZM	Erzurum	1.77	45	i P	Pb	09 34 01.1	-0.7
DARE	Darende-Malaty	1.77	268	ePN	Pn	09 33 59.2	-0.8
DARE	Darende-Malaty	1.77	268	ePn	Pn	09 33 59.2	-0.8
KBSD	Kabsdagh	1.78	159	AML	AML	09 34 32.5	
	comp=N,3μm,0.5s						
KBSD				AML	AML	09 34 34.1	
	comp=E,1μm,0.6s						
EKAR	Karacoban	1.91	71	i P	Pg	09 34 05.8	+0.1
EKAR	Karacoban	1.91	71	i P	Pg	09 34 05.8	+0.1
SUSE	Susehri	1.95	323	i P	Pn	09 34 02.8	+0.3
SUSE	Susehri	1.95	323	i P	Pn	09 34 02.8	+0.3
TATV	Tatvan	1.99	94	i P	Pb	09 34 04.4	-1.2
TATV	Tatvan	1.99	94	i P	Pb	09 34 04.4	-1.2
TATV				i S	Sg	09 34 34.2	+1.2
SFNV	Sufian	2.26	172	eP	Pn	09 34 06.2	-0.6
SFNV				eS	Sb	09 34 37.8	-0.5
SFNV				eS	Sb	09 34 37.8	-0.5
	comp=E,786nm,0.7s,SNR=40						
SFNV	Sufian	2.26	172	eP	Pn	09 34 06.2	-0.6
SFNV				eS	Sb	09 34 37.8	-0.5
SFNV				AML	AML	09 34 58.7	
	comp=Z,786nm,0.7s						
MACK	Trabzon	2.27	1	i P	Pb	09 34 09.5	-0.8
MACK	Trabzon	2.27	1	i P	Pb	09 34 09.5	-0.8
KTUT	Trabzon	2.32	1	ePN	Pn	09 34 07.7	+0.3
KTUT	Trabzon	2.32	1	ePn	Pn	09 34 07.7	+0.3
ESPY	Espiye-Giresun	2.38	341	ePN	Pn	09 34 08.2	-0.1
ESPY	Espiye-Giresun	2.38	341	ePn	Pn	09 34 08.2	-0.1
SIRN	S¨–rnak	2.41	118	i P	Pn	09 34 08.4	-0.4
SIRN	S¨–rnak	2.41	118	i P	Pn	09 34 08.4	-0.4
SIRN				i S	Sg	09 34 47.2	+0.6
SIRT	Sirnak	2.43	118	ePN	Pn	09 34 08.7	-0.4
SIRT	Sirnak	2.43	118	ePn	Pn	09 34 08.7	-0.4
EATA	Eleskirt	2.45	60	i P	Pb	09 34 13.9	+0.4
EATA	Eleskirt	2.45	60	i P	Pb	09 34 13.9	+0.4
EATA				i S	Sg	09 34 52.1	+4.4
SVSK	Karacayir	2.47	301	ePN	Pn	09 34 09.4	0.0
SVSK	Karacayir	2.47	301	ePn	Pn	09 34 09.4	0.0
KMRS	Kahramanmaras	2.52	244	ePN	Pn	09 34 10.0	-0.3
KMRS	Kahramanmaras	2.52	244	ePn	Pn	09 34 10.0	-0.3
RSDY	Resadiye-TOKAT	2.54	314	ePN	Pn	09 34 10.4	-0.2
RSDY	Resadiye-TOKAT	2.54	314	ePn	Pn	09 34 10.4	-0.2
GEVA	Gevas	2.63	97	i P	Pb	09 34 14.8	-1.7
GEVA	Gevas	2.63	97	i P	Pb	09 34 14.8	-1.7
GEVA				i S	Sg	09 34 54.5	+0.9
AGRB	Hanur-Agry	2.69	69	ePN	Pn	09 34 12.6	-0.1
AGRB	Hanur-Agry	2.69	69	ePn	Pn	09 34 12.6	-0.1
DDEM	Demirkent	2.71	34	i P	Pn	09 34 13.6	+0.7
DDEM	Demirkent	2.71	34	i P	Pn	09 34 13.6	+0.7
MNKR	ALMNKUR	2.75	188	eP	Pn	09 34 13.7	+0.4
	SNR=45						
MNKR	ALMNKUR	2.75	188	eP	Pn	09 34 13.7	+0.4
MNKR				eS	Sb	09 34 52.6	+0.5
MNKR				AML	AML	09 35 08.3	
	comp=E,2μm,0.5s						
MNKR				AML	AML	09 35 10.3	
	comp=N,3μm,0.3s						
KUZU	Kuzuini	2.83	229	i P	Pb	09 34 18.8	-1.1
KUZU	Kuzuini	2.83	229	i P	Pb	09 34 18.8	-1.1
KUZU				i S	Sg	09 35 01.5	+1.4
SLMH	Al Salmeh	2.84	211	eP	Pn	09 34 14.4	-0.3
	SNR=45						
SLMH	Al Salmeh	2.84	211	eP	Pn	09 34 14.3	-0.3
SLMH				eS	Sb	09 34 56.0	+1.1
SLMH				AML	AML	09 35 09.3	
	comp=Z,620nm,0.5s						
KAMA	Osmaniye	2.84	240	i P	Pn	09 34 14.6	-0.1
KAMA				i S	Sg	09 35 00.4	0.0
KSRV	Kasrt alli	2.86	192	AML	AML	09 35 10.2	
	comp=N,1μm,0.5s						
KSRV				AML	AML	09 35 10.4	
	comp=E,626nm,0.5s						
VANB	Van	2.86	90	ePN	Pn	09 34 15.0	0.0
VANB	Van	2.86	90	ePn	Pn	09 34 15.0	0.0
ANDN	Andirin	2.89	249	i P	Pb	09 34 20.3	-0.5
ANDN	Andirin	2.89	249	i P	Pb	09 34 20.3	-0.5
ANDN				i S	Sg	09 35 05.3	+3.4
MZRK	Al-Mazaregh	2.93	165	eP	Pn	09 34 14.9	-1.0
	SNR=45						
MZRK				eS	Sn	09 34 52.0	+0.8
	comp=E,1μm,0.5s,SNR=40						
MZRK	Al-Mazaregh	2.93	165	eP	Pn	09 34 14.9	-1.0
MZRK				eS	Sn	09 34 52.0	+0.8
MZRK				AML	AML	09 35 07.4	
	comp=Z,1μm,0.5s						
DAGI	Agillar	2.93	34	i P	Pn	09 34 16.9	+0.9
TOKA	Tokat	3.02	304	i P	Pb	09 34 21.4	-1.6
TOKA	Tokat	3.02	304	i P	Pb	09 34 21.4	-1.6
ARTV	Artvin	3.03	33	i P	Pn	09 34 18.4	+1.0
ARTV	Artvin	3.03	33	i P	Pn	09 34 18.4	+1.0
BNN	Bunyan	3.05	275	ePN	Pn	09 34 18.2	+0.6
BNN	Bunyan	3.05	275	ePn	Pn	09 34 18.2	+0.6
BCA	Borcka	3.13	27	ePN	Pn	09 34 18.5	-0.1
BCA	Borcka	3.13	27	ePn	Pn	09 34 18.5	-0.1
KOZT	Kozan	3.31	250	ePN	Pn	09 34 21.2	+0.1
KOZT	Kozan	3.31	250	ePn	Pn	09 34 21.2	+0.1
HAKT	HAKKARI	3.32	108	i P	Pb	09 34 25.3	-3.0
HAKT	HAKKARI	3.32	108	i P	Pb	09 34 25.3	-3.0
HAKT				i S	Sg	09 35 22.2	+6.5
HKR	Hakkari	3.34	108	ePN	Pn	09 34 21.8	+0.1
HKR	Hakkari	3.34	108	ePn	Pn	09 34 21.8	+0.1
CUKT	Cukurca	3.37	114	ePN	Pn	09 34 22.1	0.0
CUKT	Cukurca	3.37	114	ePn	Pn	09 34 22.1	0.0
CEYT	Ceyhan	3.56	244	ePN	Pn	09 34 25.1	+0.5
CEYT	Ceyhan	3.56	244	ePn	Pn	09 34 25.1	+0.5
YOZ	Yozgat	3.57	287	ePN	Pn	09 34 24.9	+0.1
YOZ	Yozgat	3.57	287	ePn	Pn	09 34 24.9	+0.1
BTCH	Batrach	3.70	226	eP	Pn	09 34 26.1	-0.5
	SNR=45						
BTCH	Batrach	3.70	226	eP	Pn	09 34 26.1	-0.5
BTCH				eS	Sb	09 35 17.2	-2.5
BTCH				AML	AML	09 35 41.2	
	comp=E,926nm,0.7s						
BTCH				AML	AML	09 35 45.0	
	comp=N,825nm,0.5s						
KVT	Kavak	3.73	311	ePN	Pn	09 34 27.3	+0.4
KVT	Kavak	3.73	311	ePn	Pn	09 34 27.3	+0.4
HAVZ	Havza	3.92	309	i P	Pn	09 34 30.3	+0.8
HAVZ	Havza	3.92	309	i P	Pn	09 34 30.3	+0.8
HAVZ				i S	Sb	09 35 29.7	+3.8
KARA	Karaisali	3.96	251	ePN	Pn	09 34 30.7	+0.7
KARA	Karaisali	3.96	251	ePn	Pn	09 34 30.7	+0.7
ARNB	Al Arnab	4.11	228	eP	Pn	09 34 34.2	+2.1
	SNR=45						
ARNB	Al Arnab	4.11	228	eP	Pn	09 34 34.2	+2.1
ARNB				AML	AML	09 35 53.7	
	comp=E,293nm,0.6s						
ARNB				AML	AML	09 35 57.2	
	comp=N,188nm,0.6s						
WRDH	Warideh	4.12	221	eP	Pn	09 34 34.9	+2.6
	SNR=45						
WRDH	Warideh	4.12	221	eP	Pn	09 34 34.9	+2.6
WRDH				eS	Sb	09 35 29.1	-2.8
WRDH				AML	AML	09 35 51.4	
	comp=N,306nm,0.5s						
WRDH				AML	AML	09 35 53.3	
	comp=E,511nm,0.5s						
GNI	Garni	4.15	68	Pn	Pb	09 34 40.6	-1.7
	comp=E,1.6nm,0.3s,baz=275,slow=11,SNR=3.0						
GNI				LR	LR	09 36 33.7	
	comp=E,101nm,21.8s,baz=6.0,slow=42						
KFRA	Kufra	4.17	215	eP	Pn	09 34 34.3	+1.2
	SNR=45						
KFRA	Kufra	4.17	215	eP	Pn	09 34 34.3	+1.2
KFRA				eS	Sb	09 35 28.9	-4.4
KFRA				AML	AML	09 35 54.4	
KFRA				AML	AML	09 36 00.1	
	comp=N,544nm,0.7s						
CORM	Corum	4.23	292	ePN	Pn	09 34 34.5	+0.7
CORM	Corum	4.23	292	ePn	Pn	09 34 34.6	+0.7
CDAG	Cicekdag	4.28	285	i P	Pn	09 34 35.7	+1.1
CDAG	Cicekdag	4.28	285	i P	Pn	09 34 35.7	+1.1
CDAG				i S	Sb	09 35 40.9	+4.5
DIKM	Dikmen	4.54	312	ePN	Pn	09 34 38.9	+0.8
DIKM	Dikmen	4.54	312	ePn	Pn	09 34 38.9	+0.8
BIDA	Albida	4.56	218	eP	Pn	09 34 39.4	+1.0
	SNR=45						
BIDA	Albida	4.56	218	eP	Pn	09 34 39.4	+1.0
BIDA				AML	AML	09 36 12.3	
	comp=N,699nm,0.6s						
BIDA				AML	AML	09 36 12.6	
	comp=E,744nm,0.6s						
RABH	Abou Rabah	4.69	207	eP	Pn	09 34 40.9	+0.8
	SNR=45						
RABH				eS	Sn	09 35 40.2	+5.5
	comp=E,235nm,0.6s,SNR=40						
RABH	Abou Rabah	4.69	207	eP	Pn	09 34 40.9	+0.8
RABH				eS	Sn	09 35 40.2	+5.5
RABH				AML	AML	09 36 12.7	
	comp=N,220nm,0.7s						
RABH				AML	AML	09 36 17.7	
	comp=E,235nm,0.6s						
BRTR	Keskin Array B	4.86	284	Pn	Pn	09 34 42.5	0.0
	comp=E,1.7nm,0.3s,baz=230,slow=7.8,SNR=32						
BRTR				Lg	Lg	09 36 08.8	
	comp=E,0.2nm,0.3s,baz=110,slow=27,SNR=5.4						
ROOS	tl_alroos	4.90	204	eP	Pn	09 34 43.5	+0.4
	SNR=45						
ROOS				eS	Sn	09 35 45.3	+5.3
	comp=E,2.8nm,0.6s,SNR=40						
ROOS	tl_alroos	4.90	204	eP	Pn	09 34 43.5	+0.4
ROOS				eS	Sn	09 35 45.3	+5.3
ROOS				AML	AML	09 36 15.7	
	comp=N,2.9nm,0.6s						
ROOS				AML	AML	09 36 16.4	
	comp=E,2.8nm,0.6s						
SULT	Sultanhani-AKS	4.91	266	ePN	Pn	09 34 44.5	+1.4
SULT	Sultanhani-AKS	4.91	266	ePn	Pn	09 34 44.5	+1.4
IKRK	Kirkuk	4.92	130	ePN	Pb	09 34 57.0	+1.6
IKRK				eSN	Sb	09 35 59.4	+4.8
HAWK	Haweek	4.93	214	eP	Pn	09 34 46.7	+3.2
	SNR=45						
HAWK				eS	Sn	09 35 45.9	+5.2
	comp=E,105nm,0.6s,SNR=40						
HAWK	Haweek	4.93	214	eP	Pn	09 34 46.7	+3.2
HAWK				eS	Sn	09 35 45.9	+5.2
HAWK				AML	AML	09 36 28.4	
	comp=E,204nm,0.6s						
HAWK				AML	AML	09 36 29.1	
	comp=Z,105nm,0.6s						
AFSR	Af´ar-Bala (A	5.25	281	ePN	Pn	09 34 49.0	+1.2
AFSR	Af´ar-Bala (A	5.25	281	ePn	Pn	09 34 49.0	+1.2
MARH	Ras Al Marh	5.32	211	eP	Pn	09 34 49.2	+0.1
	SNR=45						
MARH				eS	Sn	09 35 55.6	+4.9
	comp=Z,66nm,0.7s,SNR=40						
MARH	Ras Al Marh	5.32	211	eP	Pn	09 34 49.2	+0.1
MARH				eS	Sn	09 35 55.6	+4.9
MARH				AML	AML	09 36 31.9	
	comp=N,248nm,0.8s						
MARH				AML	AML	09 36 39.5	
	comp=E,236nm,0.6s						
KBZ	Khabaz	5.59	24	Pn	Pn	09 34 57.0	+4.6
	comp=E,0.2nm,0.3s,baz=180,slow=7.1,SNR=3.7						
KBZ				LR	LR	09 37 31.8	
	comp=E,215nm,22.0s,baz=218,slow=43						
RTB	Rutbah	5.64	175	ePn	Pg	09 35 15.8	-1.4
	SNR=39						
RTB				eSn	Sg	09 36 30.3	0.0
	SNR=39						
TOTH	TOTAH	5.93	208	AML	AML	09 36 48.0	
	comp=N,114nm,0.6s						
TOTH				AML	AML	09 37 08.8	
	comp=E,66nm,0.7s						
ZALF	Zalf	6.06	200	eP	Pn	09 34 57.5	-1.4
	SNR=45						
ZALF	Zalf	6.06	200	eP	Pn	09 34 57.5	-1.4
ZALF				AML	AML	09 37 01.4	
	comp=N,67nm,0.6s						
ZALF				AML	AML	09 37 08.1	
	comp=E,73nm,0.7s						
BRBR	Barbar	6.08	211	eP	Pn

comp=N,0.3nm,0.7s,baz=260,slow=8.6,SNR=3.6
MKAR Makanchi Array 31.97 61 P P 09 40 01.0 +5.7
comp=N,0.7nm,0.8s,baz=278,slow=10.0,SNR=3.7
TORD Torodi Ar. Bea 42.17 243 P **P 09 41 20.2 -2.0**
comp=N,1.4nm,1.0s,baz=54,slow=4.6,SNR=5.0
TORD PcP **PcP 09 43 17.0 +0.5**
comp=N,0.5nm,0.8s,baz=30,slow=3.6,SNR=2.6
SONM Songino Array 48.03 56 P **P 09 42 10.5 +1.9**
comp=N,0.4nm,0.8s,baz=267,slow=5.8,SNR=2.5
BBTS Babate 54.75 260 LR LR 10 10 19.6
comp=N,51nm,18.2s,baz=330,slow=41
SEY Seymchan 65.45 28 P **P 09 44 12.8 +0.9**
comp=N,1.7nm,0.9s,baz=288,slow=4.6,SNR=6.6
YKA Yellowknife Ar 77.09 348 P **P 09 45 21.8 -0.5**
comp=N,0.2nm,0.8s,baz=17,slow=5.4,SNR=4.9

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*IDC **16** 09:33:49.9±1.4, 41°.99S×173°.73E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/23, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=38.3km s-min=29.9km az=144.0*
*ISCJB **16** 09:33:51.3±0.7, 42°.22S±0°.03×173°.88E±0°.05, h10km±5km, mb3.0/2, Error ellipse: s-maj=7.6km s-min=3.3km az=41.3*
*NEIC **16** 09:33:52.6, 42°.13S×173°.87E, h8km, ML4.0(WEL), After WEL.*
*WEL **16** 09:33:53.0±0.1, 42°.12S×173°.84E, h12km, ML4.0/39, Error ellipse: s-maj=1.8km s-min=1.5km az=90.0*
WEL Felt in the Marlborough region, maximum reported intensity MM 4.

ISC 16 09:33:51.4±1.3, 42°.16S±0°.03×173°.88E±0°.03, h9km±9km, n114, σ0.99/109, 6C-11D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.36**	**224**	⇓PG	**Pb**	**09 34 01.3**	**+1.3**
KHZ				AML	AML	09 34 07.8	
KHZ				AML	AML	09 34 08.0	
KHZ	**Kahutara**	**0.36**	**224**	Pg	**Pb**	**09 34 01.1**	**+1.1**
KHZ				Sg	**Sb**	**09 34 07.5**	**+1.8**
BSWZ	**Blackbirch Sta**	**0.45**	**360**	⇑PG	**Pg**	**09 34 01.0**	**+0.9**
BSWZ				AML	AML	09 34 01.2	
BSWZ				AML	AML	09 34 12.4	
BSWZ	**Blackbirch Sta**	**0.45**	**360**	Pg	**Pg**	**09 34 01.0**	**+0.9**
CMWZ	**Cape Campbell**	**0.48**	**31**	PG	**Pb**	**09 34 03.6**	**+1.5**
CMWZ				*e*SG	**Sb**	**09 34 10.2**	**+0.8**
CMWZ				AML	AML	09 34 16.3	
CMWZ	**Cape Campbell**	**0.48**	**31**	Pg	**Pb**	**09 34 03.6**	**+1.5**
TUWZ	**Tuamarina**	**0.73**	**4**	⇑P*	**Pb**	**09 34 06.3**	**-0.1**
TUWZ				AML	AML	09 34 16.2	
TUWZ				AML	AML	09 34 20.4	
TUWZ	**Tuamarina**	**0.73**	**4**	Pg	**Pb**	**09 34 06.3**	**-0.1**
THZ	**Tophouse**	**0.83**	**298**	⇓P*	**Pg**	**09 34 07.2**	**-0.2**
THZ				AML	AML	09 34 17.9	
THZ				AML	AML	09 34 20.5	
THZ	**Tophouse**	**0.83**	**298**	P*	**Pg**	**09 34 06.8**	**-0.6**
THZ				Sg	**Sg**	**09 34 15.9**	**-2.3**
TCW	**Tory Channel**	**0.99**	**18**	⇑P*	**Pb**	**09 34 11.0**	**+0.2**
TCW				SG	**Sb**	**09 34 24.8**	**+0.7**
TCW				AML	AML	09 34 28.7	
TCW	**Tory Channel**	**0.99**	**18**	P*	**Pb**	**09 34 11.0**	**+0.2**
NNZ	**Nelson**	**1.01**	**338**	P*	**Pg**	**09 34 10.3**	**-0.6**
NNZ				AML	AML	09 34 24.7	
NNZ				AML	AML	09 34 25.6	
NNZ	**Nelson**	**1.01**	**338**	P*	**Pg**	**09 34 10.0**	**-0.9**
SNZO	**South Karori**	**1.05**	**36**	*e*Pg	**Pn**	**09 34 13.2**	**+0.8**
SNZO				*e*Sg	**Sn**	**09 34 28.2**	**+1.0**
BHW	**Baring Head**	**1.06**	**45**	⇓P*	**Pn**	**09 34 13.2**	**+0.8**
BHW				AML	AML	09 34 34.5	
BHW				AML	AML	09 34 38.7	
BHW	**Baring Head**	**1.06**	**45**	P*	**Pn**	**09 34 13.2**	**+0.8**
WEL	**Wellington**	**1.10**	**38**	P*	**Pn**	**09 34 13.8**	**+0.7**
WEL				AML	AML	09 34 31.9	
WEL				AML	AML	09 34 34.2	
WEL	**Wellington**	**1.10**	**38**	P*	**Pn**	**09 34 13.9**	**+0.8**
PLWZ	**Palliser**	**1.19**	**61**	P*	**Pn**	**09 34 14.8**	**+0.5**
PLWZ	**Palliser**	**1.19**	**61**	P*	**Pn**	**09 34 14.8**	**+0.5**
MSWZ	**Moikau Station**	**1.27**	**54**	⇓P*	**Pg**	**09 34 16.0**	**+0.2**
MSWZ				AML	AML	09 34 43.3	
MSWZ				AML	AML	09 34 47.6	
MSWZ	**Moikau Station**	**1.27**	**54**	P*	**Pg**	**09 34 16.0**	**+0.2**
LTZ	**Lake Taylor**	**1.34**	**242**	⇓PN	**Pb**	**09 34 17.4**	**+0.5**
LTZ				SN	**Sg**	**09 34 35.3**	**+0.7**
LTZ				AML	AML	09 34 39.5	
LTZ	**Lake Taylor**	**1.34**	**242**	Pn	**Pb**	**09 34 17.4**	**+0.5**
DUWZ	**D'Urville Isla**	**1.36**	**1**	P*	**Pn**	**09 34 16.7**	**+0.1**
DUWZ				S*	**Sn**	**09 34 35.2**	**+0.3**
DUWZ				AML	AML	09 34 39.4	
DUWZ	**D'Urville Isla**	**1.36**	**1**	P*	**Pn**	**09 34 16.7**	**+0.1**
DUWZ				S*	**Sn**	**09 34 35.2**	**+0.3**
CAW	**Cannon Point**	**1.38**	**41**	⇓P*	**Pb**	**09 34 17.5**	**+0.1**
CAW				AML	AML	09 34 43.8	
CAW				AML	AML	09 34 43.9	
CAW	**Cannon Point**	**1.38**	**41**	P*	**Pb**	**09 34 17.5**	**+0.1**
PAWZ	**Paruwai Farm**	**1.40**	**57**	P*	**Pn**	**09 34 17.5**	**+0.3**
PAWZ				AML	AML	09 34 49.1	
PAWZ				AML	AML	09 34 52.6	
PAWZ	**Paruwai Farm**	**1.40**	**57**	P*	**Pn**	**09 34 17.5**	**+0.3**
KIW	**Kapiti Island**	**1.51**	**31**	P*	**Pb**	**09 34 19.6**	**-0.1**
KIW				AML	AML	09 34 43.8	
KIW				AML	AML	09 34 44.5	
KIW	**Kapiti Island**	**1.51**	**31**	P*	**Pb**	**09 34 19.6**	**-0.1**
TRWZ	**Traveller**	**1.55**	**61**	PN	**Pn**	**09 34 19.4**	**+0.1**
TRWZ				AML	AML	09 34 56.0	
TRWZ				AML	AML	09 34 56.2	
TRWZ	**Traveller**	**1.55**	**61**	Pn	**Pn**	**09 34 19.4**	**+0.1**
MTW	**Mount Morrison**	**1.58**	**51**	PN	**Pn**	**09 34 19.7**	**+0.1**
MTW				AML	AML	09 34 51.8	
MTW				AML	AML	09 34 52.7	
MTW	**Mount Morrison**	**1.58**	**51**	Pn	**Pn**	**09 34 19.7**	**+0.1**
DSZ	**Denniston Nort**	**1.60**	**284**	⇑PN	**Pb**	**09 34 21.2**	**0.0**
DSZ	**Denniston Nort**	**1.60**	**284**	Pn	**Pb**	**09 34 21.3**	**0.0**
OGWZ	**Otaki Gorge**	**1.66**	**36**	⇓PN	**Pn**	**09 34 21.2**	**+0.5**
OGWZ	**Otaki Gorge**	**1.66**	**36**	Pn	**Pn**	**09 34 21.2**	**+0.5**
QRZ	**Quartz Range**	**1.68**	**322**	PN	**Pn**	**09 34 21.7**	**+0.7**
QRZ	**Quartz Range**	**1.68**	**322**	Pn	**Pn**	**09 34 21.7**	**+0.7**
CRLZ	**Canterbury Las**	**1.69**	**213**	PN	**Pn**	**09 34 21.2**	**0.0**
CRLZ				AML	AML	09 34 58.1	
CRLZ				AML	AML	09 34 58.8	
CRLZ	**Canterbury Las**	**1.69**	**213**	Pn	**Pn**	**09 34 21.5**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.76**	**45**	PN	**Pn**	**09 34 22.2**	**0.0**
HOWZ	**Holdsworth Sta**	**1.76**	**45**	Pn	**Pn**	**09 34 22.2**	**0.0**
OXZ	**Oxford**	**1.79**	**229**	⇑PN	**Pn**	**09 34 22.5**	**0.0**
MQZ	**McQueen's Vall**	**1.79**	**210**	PN	**Pn**	**09 34 22.2**	**-0.3**
MQZ	**McQueen's Vall**	**1.79**	**210**	Pn	**Pn**	**09 34 22.2**	**-0.3**
TMWZ	**Te Maipa**	**1.84**	**56**	PN	**Pn**	**09 34 23.2**	**-0.1**
TMWZ	**Te Maipa**	**1.84**	**56**	Pn	**Pn**	**09 34 23.2**	**-0.1**
MRZ	**Mangatainoka R**	**1.97**	**41**	⇓PN	**Pn**	**09 34 25.2**	**+0.1**
MRZ				AML	AML	09 35 09.8	
MRZ				AML	AML	09 35 10.7	
MRZ	**Mangatainoka R**	**1.97**	**41**	Pn	**Pn**	**09 34 25.2**	**+0.1**
TIWZ	**Tintock**	**2.05**	**48**	*e*PN	**Pn**	**09 34 25.8**	**-0.4**
TIWZ				AML	AML	09 35 00.2	
TIWZ				AML	AML	09 35 19.6	
TIWZ	**Tintock**	**2.05**	**48**	Pn	**Pn**	**09 34 25.8**	**-0.4**
WVZ	**Waitaha Valley**	**2.49**	**247**	⇑PN	**Pn**	**09 34 33.0**	**+0.8**
WVZ				AML	AML	09 35 19.7	
WVZ	**Waitaha Valley**	**2.49**	**247**	Pn	**Pn**	**09 34 33.0**	**+0.8**
WAZ	**Wanganui**	**2.55**	**20**	*e*PN	**Pb**	**09 34 36.0**	**-1.3**
WAZ				AML	AML	09 35 25.2	
WAZ				AML	AML	09 35 28.8	
WAZ	**Wanganui**	**2.55**	**20**	Pn	**Pb**	**09 34 36.9**	**-0.4**
RPZ	**Rata Peaks**	**2.59**	**232**	⇓PN	**Pn**	**09 34 33.4**	**-0.2**
RPZ				AML	AML	09 35 04.8	
RPZ				AML	AML	09 35 09.2	
RPZ	**Rata Peaks**	**2.59**	**232**	Pn	**Pn**	**09 34 33.6**	**0.0**
TSZ	**Takapari Road**	**2.62**	**38**	⇓PN	**Pn**	**09 34 33.8**	**-0.3**
TSZ				AML	AML	09 35 24.2	
TSZ				AML	AML	09 35 27.8	
TSZ	**Takapari Road**	**2.62**	**38**	Pn	**Pn**	**09 34 33.8**	**-0.3**
PNHZ	**Pukenui**	**2.85**	**39**	PN	**Pn**	**09 34 36.7**	**-0.5**
PNHZ	**Pukenui**	**2.85**	**39**	Pn	**Pn**	**09 34 36.7**	**-0.5**
NEZ	**North Egmont**	**2.89**	**3**	Pn	**Pb**	**09 34 43.1**	**-0.2**
DREZ	**Durham Road**	**2.98**	**5**	Pn	**Pb**	**09 34 42.6**	**-2.1**
MTVZ	**Mangateitei**	**3.03**	**24**	AML	AML	09 35 38.9	
MTVZ				AML	AML	09 35 40.3	
MTVZ	**Mangateitei**	**3.03**	**24**	Pn	**Pb**	**09 34 45.9**	**+0.4**
PKVZ	**Pokaka**	**3.08**	**22**	AML	AML	09 35 45.7	
PKVZ				AML	AML	09 35 49.5	
PKVZ	**Pokaka**	**3.08**	**22**	Pn	**Pn**	**09 34 43.5**	**+3.1**
MOVZ	**Moawhango**	**3.10**	**28**	AML	AML	09 35 39.6	
MOVZ				AML	AML	09 35 40.6	
MOVZ	**Moawhango**	**3.10**	**28**	Pn	**Pb**	**09 34 45.3**	**-1.5**
VRZ	**Vera Road**	**3.11**	**13**	AML	AML	09 35 37.7	
VRZ				AML	AML	09 35 38.8	
VRZ	**Vera Road**	**3.11**	**13**	Pn	**Pn**	**09 34 43.6**	**+3.0**
TRVZ	**Turoa**	**3.13**	**24**	AML	AML	09 35 41.4	
TRVZ				AML	AML	09 35 43.2	
TRVZ	**Turoa**	**3.13**	**24**	Pn	Pn	09 34 44.5	+3.3
FWVZ	**Far West T-bar**	**3.17**	**24**	AML	AML	09 34 56.0	
FWVZ				AML	AML	09 35 02.4	
FWVZ	**Far West T-bar**	**3.17**	**24**	Pn	**Pb**	**09 34 46.6**	**-1.5**
TUVZ	**Tukino**	**3.19**	**26**	AML	AML	09 35 52.5	
TUVZ				AML	AML	09 35 54.0	
TUVZ	**Tukino**	**3.19**	**26**	Pn	**Pn**	**09 34 43.1**	**+1.2**
WPVZ	**Whakapapa**	**3.21**	**24**	AML	AML	09 35 38.8	
WPVZ				AML	AML	09 35 49.8	
WPVZ	**Whakapapa**	**3.21**	**24**	Pn	**Pb**	**09 34 49.2**	**+0.4**
NGZ	**Ngauruhoe**	**3.26**	**24**	AML	AML	09 35 51.7	
NGZ				AML	AML	09 36 05.9	
NGZ	**Ngauruhoe**	**3.26**	**24**	Pn	Pn	09 34 46.1	+3.2
WTVZ	**West Tongariro**	**3.31**	**24**	AML	AML	09 35 03.7	
WTVZ				AML	AML	09 35 09.1	
WTVZ	**West Tongariro**	**3.31**	**24**	Pn	**Pb**	**09 34 48.1**	**-2.3**
KRVZ	**Karewarewa**	**3.34**	**24**	AML	AML	09 35 49.7	
KRVZ				AML	AML	09 35 52.4	
KRVZ	**Karewarewa**	**3.34**	**24**	Pn	**Pb**	**09 34 52.5**	**+1.5**
FOZ	**Fox Glacier**	**3.38**	**244**	Pn	**Pn**	**09 34 44.3**	**-0.1**
LBZ	**Lake Benmore**	**3.50**	**229**	PN	**Pn**	**09 34 46.1**	**+0.1**
LBZ				AML	AML	09 36 04.8	
LBZ				AML	AML	09 36 19.7	
LBZ	**Lake Benmore**	**3.50**	**229**	Pn	**Pn**	**09 34 46.1**	**+0.1**
BKZ	**Black Stump Fm**	**3.59**	**34**	PN	**Pn**	**09 34 46.4**	**-1.0**
BKZ				AML	AML	09 35 59.4	
BKZ				AML	AML	09 36 07.4	
BKZ	**Black Stump Fm**	**3.59**	**34**	Pn	**Pn**	**09 34 46.4**	**-1.0**
ODZ	**Otahua Downs**	**3.72**	**218**	⇓PN	**Pn**	**09 34 48.7**	**-0.4**
ODZ	**Otahua Downs**	**3.72**	**218**	Pn	**Pn**	**09 34 48.7**	**-0.4**
HIZ	**Hauiti**	**3.72**	**12**	AML	AML	09 35 49.3	
HIZ				AML	AML	09 36 02.6	
HIZ	**Hauiti**	**3.72**	**12**	Pn	**Pn**	**09 34 51.8**	**+2.7**
WATZ	**Wairara**	**3.73**	**23**	Pn	**Pb**	**09 34 58.2**	**+0.7**
JCZ	**Jackson Bay**	**4.21**	**241**	*e*PN	**Pn**	**09 34 55.9**	**0.0**
JCZ				AML	AML	09 35 48.5	
JCZ	**Jackson Bay**	**4.21**	**241**	Pn	**Pn**	**09 34 55.6**	**-0.3**
WKZ	**Wanaka**	**4.43**	**231**	PN	**Pn**	**09 34 58.9**	**+0.1**
WKZ	**Wanaka**	**4.43**	**231**	Pn	**Pn**	**09 34 58.1**	**-0.7**
EAZ	**Earnscleugh**	**4.52**	**226**	Pn	**Pn**	**09 34 59.8**	**-0.2**
URZ	**Urewera**	**4.62**	**33**	Pn	**Pn**	**09 35 00.7**	**-0.7**
	0.5nm,0.3s,baz=222,slow=4.8,SNR=4.9						
URZ				Sn	**Sn**	**09 35 52.5**	**-2.7**
	2.0nm,0.3s,baz=203,slow=15,SNR=2.1						
TUZ	**Tuapeka**	**4.87**	**217**	PN	**Pn**	**09 35 04.6**	**-0.2**
TUZ	**Tuapeka**	**4.87**	**217**	Pn	**Pn**	**09 35 04.7**	**-0.2**
MKAZ	**Moumakai**	**5.14**	**12**	Pn	Pn	09 35 12.0	+3.3
SYZ	**Scrubby Hill**	**5.54**	**216**	Pn	**Pn**	**09 35 14.3**	**+0.2**
OUZ	**Omahuta**	**6.94**	**358**	Pn	**Pn**	**09 35 36.2**	**+3.0**
ASAR	**Alice Springs**	**37.88**	**286**	P	**P**	**09 41 07.4**	**-1.5**
	0.2nm,0.8s,baz=118,slow=7.5,SNR=3.1						
WRA	**Warramunga Arr**	**39.99**	**291**	P	**P**	**09 41 24.7**	**-1.9**
	0.3nm,0.8s,baz=129,slow=8.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**150.30**	**196**	PKPbc	**PKPbc**	**09 53 43.8**	**+0.3**
	0.2nm,0.4s,baz=162,slow=3.0,SNR=7.1						
TORD				PKPab	**PKPab**	**09 53 48.9**	**-0.7**
	0.4nm,0.7s,baz=159,slow=2.8,SNR=4.0						

MAN 16 09:37:08, 13°.40N×121°.04E, h33km, mb4.4, ML3.3, MS3.1, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.13**	**321**	⇓*e*P	Pb	09 37 14.9	+0.9
LUBP	**Lubang**	**0.83**	**293**	*e*P	Pb	09 37 25.1	+1.0
LUBP				*e*S	Sn	09 37 34.1	-0.5
SJMP	**San Jose**	**0.94**	**175**	*e*P	Pb	09 37 25.4	-0.5
SJMP				*e*S	Sn	09 37 37.6	+0.4
OTRP	**Odiongan**	**1.41**	**137**	*e*P	Pn	09 37 31.9	+0.5

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*SKO **16** 09:41:39.9, 41°.74N×22°.74E, h23km, M1.3, ML1.7*
*THE **16** 09:41:40.1, 41°.77N×22°.76E, h2km±39km, ML2.0/2, Error ellipse: s-maj=39.0km s-min=0.8km az=0.0*
*BEO **16** 09:41:40.6±0.6, 41°.76N×22°.66E, h2km±9km, ML1.5/4*
*ATH **16** 09:41:41.4, 41°.71N×22°.79E, h5km, MD2.9/9*
CSEM 16 09:41:39.5±0.2, 41°.79N×22°.73E, h5km, ML1.5, Error ellipse: s-maj=4.9km s-min=2.7km az=85.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.48**	**195**	P	Pg	09 41 49.0	+0.2
VAY				S	Sg	09 41 55.2	+0.2
VAY	**Valandovo**	**0.48**	**195**	*e*Pg	Pg	09 41 48.7	-0.1
VAY				*e*Sg	Sg	09 41 55.2	+0.2
VAY	**Valandovo**	**0.48**	**195**	*i* Pg	Pg	09 41 49.5	+0.7
VAY				*i* Sg	Sg	09 41 55.8	+0.7
VAY				*e*Lg	Lg	09 41 56.0	
	comp=N,53nm,0.6s						
VAY				*e*Lg	Lg	09 41 56.2	
	comp=E,43nm,0.4s						
VAY	**Valandovo**	**0.48**	**195**	*e*Pg	Pg	09 41 48.7	-0.1
VAY	**Valandovo**	**0.48**	**195**	P	Pg	09 41 49.0	+0.2
VAY				S	Sg	09 41 55.2	+0.2
VAY				*e*Lg	Lg	09 41 56.1	
	comp=E,43nm,0.4s						
KNT	**Kendrikon**	**0.64**	**169**	P	Pg	09 41 52.1	+0.3
KNT				S	Sg	09 42 00.6	+0.5
KNT	**Kendrikon**	**0.64**	**169**	*e*PG	Pg	09 41 51.9	+0.1
KNT				*e*SB	Sg	09 42 00.5	+0.4
KNT	**Kendrikon**	**0.64**	**169**	P	Pg	09 41 52.1	+0.3
KNT				*e*Sb	Sg	09 42 00.5	+0.4
GRG	**Griva**	**0.86**	**197**	*e*PB	Pn	09 41 58.0	-0.4
GRG				*e*SB	Sg	09 42 07.9	+0.4
GRG	**Griva**	**0.86**	**197**	*e*Pb	Pn	09 41 58.0	-0.4
GRG				*e*Sb	Sg	09 42 07.9	+0.4
VTS	**Vitosha**	**0.88**	**24**	P	Pg	09 41 56.7	+0.1
VTS				S	Sg	09 42 08.9	+0.7
VTS	**Vitosha**	**0.88**	**24**	*e*Pg	Pb	09 41 57.5	0.0
VTS				*e*Sg	Sb	09 42 09.3	-0.4
VTS	**Vitosha**	**0.88**	**24**	P	Pg	09 41 56.7	+0.1
VTS	**Vitosha**	**0.88**	**24**	*e*Pg	Pb	09 41 57.5	0.0
VTS				S	Sg	09 42 08.9	+0.7
VTS				*e*Sg	Sb	09 42 09.3	-0.4
SRS	**Serrai**	**0.93**	**136**	P	Pg	09 41 57.4	0.0
SRS				S	Sg	09 42 10.0	+0.5
SRS	**Serrai**	**0.93**	**136**	*e*PG	Pg	09 41 57.0	-0.4
SRS				*e*SB	Sg	09 42 10.1	+0.6
SRS	**Serrai**	**0.93**	**136**	*e*Pg	Pg	09 41 57.0	-0.4
SRS	**Serrai**	**0.93**	**136**	P	Pg	09 41 57.4	0.0
SRS				*e*Sb	Sg	09 42 10.1	+0.6
NVR	**Nevrokopi**	**0.95**	**117**	P	Pg	09 41 58.0	+0.1
NVR				S	Sg	09 42 10.8	+0.5
NVR	**Nevrokopi**	**0.95**	**117**	*e*PG	Pg	09 41 57.8	-0.1
NVR				*e*SB	Sb	09 42 11.0	-0.6
NVR	**Nevrokopi**	**0.95**	**117**	P	Pg	09 41 58.0	+0.1
NVR				S	Sg	09 42 10.8	+0.5
SOH	**Sokhos**	**1.07**	**154**	P	Pg	09 42 00.1	0.0
SOH	**Sokhos**	**1.07**	**154**	*e*PN	Pb	09 42 00.6	0.0
SOH	**Sokhos**	**1.07**	**154**	P	Pg	09 42 00.1	0.0
SOH	**Sokhos**	**1.07**	**154**	*e*Pn	Pb	09 42 00.6	0.0
HORT	**Hortiatis**	**1.22**	**167**	P	Pb	09 42 03.2	0.0
HORT	**Hortiatis**	**1.22**	**167**	*e*PB	Pb	09 42 03.2	0.0
HORT	**Hortiatis**	**1.22**	**167**	P	Pb	09 42 03.2	0.0
BARS	**Barje**	**1.23**	**327**	*e*Pg	Pg	09 42 02.1	-1.1
BARS				*e*Sg	Sg	09 42 19.3	0.0
BARS	**Barje**	**1.23**	**327**	*e*Pg	Pg	09 42 02.1	-1.1
BARS				*e*Sg	Sg	09 42 19.3	0.0
ZAPS	**Zavoj**	**1.49**	**357**	*e*Pg	Pb	09 42 07.5	-0.2
ZAPS				*e*Sg	Sg	09 42 29.5	+2.0
PLG	**Polygyros**	**1.51**	**159**	*e*PB	Pb	09 42 08.3	+0.2
PLG	**Polygyros**	**1.51**	**159**	*e*Pb	Pb	09 42 08.3	+0.2
LIT	**Litokhoron**	**1.69**	**186**	*e*PB	Pg	09 42 13.1	+1.1
LIT	**Litokhoron**	**1.69**	**186**	*e*Pb	Pg	09 42 13.1	+1.1
OUR	**Ouranopolis**	**1.73**	**146**	*e*PG	Pb	09 42 12.2	+0.4
OUR	**Ouranopolis**	**1.73**	**146**	*e*Pg	Pb	09 42 12.2	+0.4
PAIG	**Paliouri**	**1.99**	**159**	*e*PG	Pb	09 42 16.3	+0.1
PAIG	**Paliouri**	**1.99**	**159**	*e*Pg	Pb	09 42 16.3	+0.1
RDO	**Rodhopi**	**2.20**	**106**	*e*PG	Pg	09 42 22.0	+0.3
RDO	**Rodhopi**	**2.20**	**106**	*e*Pg	Pg	09 42 22.0	+0.3

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*ISCJB **16** 09:42:29.0±1.2, 37°.36N±0°.06×26°.93E±0°.10, h12km, Error ellipse: s-maj=13.4km s-min=5.3km az=144.3*
*DDA **16** 09:42:29.6, 37°.39N×26°.99E, h7km, MD2.6*
ISC 16 09:42:29.0±1.6, 37°.37N±0°.06×26°.95E±0°.08, h12km, n4, σ0.57/8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.43**	**137**	*e*PG	**Pg**	**09 42 36.9**	**-0.5**
BODT				*e*SG	**Sg**	**09 42 44.0**	**+0.9**
BDRM	**Kayabasi**	**0.50**	**128**	*i* P	**Pg**	**09 42 39.2**	**+0.3**
BDRM				*i* S	**Sb**	**09 42 46.5**	**-0.6**
AYDN	**Tasoluk**	**0.80**	**69**	*i* P	**Pg**	**09 42 44.5**	**0.0**
AYDN				*i* S	**Sb**	**09 42 55.2**	**-0.4**
ZEY	**¨zmir**	**0.93**	**338**	*i* P	**Pg**	**09 42 47.1**	**+0.1**
ZEY				*i* S	**Sg**	**09 42 59.1**	**0.0**

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*SKHL **16** 09:44:11.0±1.0, 52°.20N×142°.40E, h10km, mb5.4/13, mbh5.9/6, mbv6.0/8, ms6.1/3, msh6.0/3*
*MOS **16** 09:44:13.4±0.9, 52°.12N×142°.28E, h10km, mb5.7/147, MS5.5/83, Error ellipse: s-maj=5.9km s-min=3.6km az=95.0 Broadband fault plane solution: P waves. $M_0$1.10000×10^18 NP1:ϕ_s=58.00000°, δ69.00000°, λ142.00000°. NP2:ϕ_s=164.00000°, δ55.00000°, λ26.00000°. Principal axes: T Plg41.0000°, Azm16.0000°; N Plg47.0000°, Azm214.0000°; P Plg9.0000°, Azm114.0000°;*
MOS Fault plane solution: P-wave C88, D9 . Felt (V-VI) at Lazarev, (V) at Nogliki, (IV-V) at Nikolaevsk-na-Amure, (IV) at Chnyrrakh, Krasnoye, Val, (III-IV) at Tymovskoye, Aleksandrovsk-Sakhalinskiy, (III) at Mago, Okha, Tungor, (II-III) at Komsomol'sk-na-Amure, (II) at Moskal'vo.
*IDC **16** 09:44:13.8±0.4, 52°.15N×142°.27E, h0km, mb5.1/47, mb1 5.2/53, mb1mx5.1/59, mbtmp5.1/53, ML4.4/5, MS5.4/33, Ms1 5.4/33, ms1mx5.2/43 Error ellipse: s-maj=10.7km s-min=8.5km az=156.0*
*BJI **16** 09:44:14.4, 52°.30N×142°.40E, h24km, mB5.9/71, mb5.3/64, Ms6.1/85, Ms7 6.0/78*
*NEIC **16** 09:44:15.5±0.1, 52°.14N×142°.20E, h9km, mb5.6/245, ME5.4, MS5.5/143, MW5.7, MW5.8, MW5.8, Error ellipse: s-maj=2.8km s-min=2.0km az=155.0, Moment Tensor Solution. s61 Moment tensor: Scale 10^17Nm; M_{rr}5.08; $M_{\theta\theta}$-1.46; $M_{\phi\phi}$-3.61; $M_{r\theta}$-2.79; $M_{\theta\phi}$0.58; $M_{\phi r}$-0.51; Best double couple: $M_0$5.40000×10^17 NP1:ϕ_s=184.00000°, δ47.00000°, λ119.00000°. NP2:ϕ_s=325.00000°, δ50.00000°, λ63.00000°. Principal axes: T 6.1600, Plg69.0000°, Azm168.0000°; N -2.3800, Plg20.0000°, Azm342.0000°; P -3.7600, Plg1.0000°, Azm73.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [III] at Nogliki. Also felt at De-Kastri, Komsomol'sk-na-Amure and Nikolayevsk-na-Amure.
*ISCJB **16** 09:44:15.4±0.1, 52°.14N±0°.01×142°.30E±0°.02, h20km, mb5.5/396, MS5.5/210 Error ellipse: s-maj=2.2km s-min=1.5km az=161.6*
*NEIC **16** 09:44:16.0±0.0, 52°.21N×142°.15E, h15km Best double couple: NP1:ϕ_s=155.00000°, δ51.00000°, λ76.00000°. NP2:ϕ_s=356.00000°, δ40.00000°, λ106.00000°. Principal axes: T 4.1300, Plg77.0000°, Azm12.0000°; N -0.0800, Plg10.0000°, Azm163.0000°; P -4.0600, Plg5.0000°, Azm254.0000°;*
*GCMT **16** 09:44:17.9±0.1, 52°.14N×142°.09E, h12km, MW5.8/129, Moment Tensor Solution. s111, c232; s129, c388; Duration: 1s8 Moment tensor: Scale 10^17Nm; M_{rr}5.20±.04; $M_{\theta\theta}$-0.05±.04; $M_{\phi\phi}$-5.15±.04; $M_{r\theta}$0.35±.14; $M_{\theta\phi}$1.20±.04; $M_{\phi r}$-0.84±.13; Best double couple: $M_0$5.38700×10^17 NP1:ϕ_s=166.00000°, δ50.00000°, λ88.00000°. NP2:ϕ_s=349.00000°, δ40.00000°, λ93.00000°. Principal axes: T 5.2800, Plg85.0000°, Azm57.0000°; N 0.2130, Plg2.0000°, Azm167.0000°; P -5.4930, Plg5.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*SZGRF **16** 09:44:18.3, 52°.52N×142°.25E, h33km, mb5.8, MS5.5, Sakhalin Island, Russia*
*NEIC **16** 09:44:38.5±0

	comp=E,4μm,0.4s						
UGL				*e*Sg	**Sg**	**09 45 57.0**	**+0.5**
UGL				A	A	09 46 04.0	
	comp=E,28μm,0.6s						
UGL				A	A	09 46 04.0	
	comp=E,7μm,0.6s						
UGL				A	A	09 46 10.0	
	comp=E,71μm,10.0s						
UGL				A	A	09 46 10.0	
	comp=E,85μm,10.0s						
GRNR	**Gornyy**	**3.97**	**252**	*e*P	Pn	09 45 12.0	-5.1
GRNR				AMB	AMB	09 45 17.0	
	comp=E,92nm,0.2s						
GRNR				*e*Pg	**Pb**	**09 45 28.6**	**+2.1**
YSS	**Yuzh-Sakhalins**	**5.22**	**177**⇑	*i*PN	**Pn**	**09 45 32.0**	**-2.2**
YSS				*i*		09 46 43.0	
YSS				pmax	pmax		
	comp=Z,320nm,0.8s						
YSS				pmax	pmax		
	comp=N,220nm,0.9s						
YSS				pmax	pmax		
	comp=Z,4μm,5.0s						
YSS				pmax	pmax		
	comp=N,5μm,6.0s						
YSS				MLR	MLR		
	comp=N,75μm,12.0s						
YSS				MLR	MLR		
	comp=Z,101μm,12.0s						
YSS				MLR	MLR		
	comp=E,16μm,14.0s						
YSS	**Yuzh-Sakhalins**	**5.22**	**177**⇑	*i*P	**Pn**	**09 45 32.0**	**-2.2**
YSS			⇑	*i*P	**Pn**	**09 45 32.0**	**-2.2**
YSS				AMB	AMB	09 45 35.5	
	comp=E,220nm,0.9s						
YSS				AMB	AMB	09 45 35.5	
	comp=E,320nm,0.9s						
YSS				AMB	AMB	09 45 36.0	
	comp=E,5μm,6.0s						
YSS				AMB	AMB	09 45 36.0	
	comp=E,4μm,6.0s						
YSS				*i* S	**Sn**	**09 46 30.5**	**-3.5**
YSS				A	A	09 46 40.0	
	comp=E,1μm,0.4s						
YSS				AMS	AMS	09 47 55.0	
	comp=E,75μm,12.0s						
YSS				AMS	AMS	09 47 55.0	
	comp=E,16μm,12.0s						
YSS				AMS	AMS	09 47 55.0	
	comp=E,101μm,12.0s						
YSS	**Yuzh-Sakhalins**	**5.22**	**177**	*e*Pn	**Pn**	**09 45 32.6**	**-1.6**
YSS				*e*Sn	**Sn**	**09 46 31.7**	**-2.3**
EKMR	**Ekimchan**	**5.81**	**283**	*e*P	**Pn**	**09 45 39.5**	**-2.8**
EKMR				*e*Pg	Pg	09 46 03.8	-4.3
EKMR				AMB	AMB	09 46 12.2	
	comp=E,160nm,0.5s						
EKMR				AMB	AMB	09 46 12.2	
	comp=E,360nm,0.5s						
EKMR				AMB	AMB	09 46 12.2	
	comp=E,460nm,0.5s						
HABR	**Khabarovsk**	**5.97**	**235**	*de*PN	**Pn**	**09 45 42.0**	**-2.4**
HABR				MLR	MLR		
	comp=N,66μm,7.0s						
HABR				MLR	MLR		
	comp=Z,100μm,7.0s						
HABR				MLR	MLR		
	comp=E,63μm,7.0s						
KLR	**Kul'dur**	**7.36**	**251**	*e*PN	Pn	09 46 00.0	-3.5
KLR				*e*S	**Sn**	**09 47 32.0**	**+5.5**
KLR				pmax	pmax		
	comp=N,2μm,9.5s						
KLR				pmax	pmax		
	comp=E,3μm,9.5s						
KLR				pmax	pmax		
	comp=E,6μm,9.5s						
KLR	**Kul'dur**	**7.36**	**251**	*e*P	Pn	09 46 00.0	-3.5
KLR				AMB	AMB	09 46 11.0	
	comp=Z,2μm,9.5s						
KLR				AMB	AMB	09 46 11.0	
	comp=Z,3μm,9.5s						
KLR				AMB	AMB	09 46 11.0	
	comp=Z,6μm,9.5s						
KLR				*e*S	**Sn**	**09 47 32.0**	**+5.5**
KUR	**Kuril'sk**	**7.83**	**150**	*e*PN	**Pn**	**09 46 09.8**	**-0.2**
KUR				pmax	pmax		
	comp=Z,2μm,4.0s						
KUR				pmax	pmax		
	comp=Z,116nm,0.7s						
KUR				pmax	pmax		
	comp=N,54nm,0.1s						
KUR				pmax	pmax		
	comp=E,53nm,0.6s						
KUR				MLR	MLR		
	comp=N,10μm,14.0s						
KUR				MLR	MLR		
	comp=E,33μm,14.0s						
KUR				MLR	MLR		
	comp=Z,7μm,14.0s						
KUR	**Kuril'sk**	**7.83**	**150**	*e*P	**Pn**	**09 46 09.9**	**-0.1**
KUR				AMB	AMB	09 46 31.0	
	comp=Z,220nm,0.8s						
KUR				AMB	AMB	09 46 31.4	
	comp=Z,54nm,0.1s						
KUR				AMB	AMB	09 46 31.4	
	comp=Z,54nm,0.7s						
KUR				AMB	AMB	09 46 31.4	
	comp=Z,117nm,0.7s						
KUR				*e*S	**Sn**	**09 47 40.5**	**+2.3**
KUR				A	A	09 47 42.0	
	comp=Z,410nm,0.9s						
KUR				A	A	09 47 42.0	
	comp=Z,130nm,0.9s						
KUR				A	A	09 47 45.8	
	comp=Z,4μm,3.8s						
KUR				AMS	AMS	09 49 34.0	
	comp=Z,31μm,14.0s						
KUR				AMS	AMS	09 49 40.0	
	comp=Z,27μm,14.0s						
ASAJ	**Asahikawa**	**8.06**	**179**	Pn	**Pn**	**09 46 11.4**	**-1.7**
	comp=Z,5.8nm,0.3s,baz=16,slow=18,SNR=14						
ASAJ				LR	LR	09 49 46.2	
	comp=Z,23μm,18.8s,baz=22,slow=41						
ASAJ	**Asahikawa**	**8.06**	**179**	*e*Pn	**Pn**	**09 46 12.2**	**-0.9**
ASAJ				*e*Sn	**Sn**	**09 47 43.5**	**-0.3**
TEY	**Ternei**	**8.09**	**210**	*e*P	**Pn**	**09 46 12.0**	**-1.6**
TEY				AMB	AMB	09 46 14.4	
	comp=Z,57nm,0.7s						
TEY				AMB	AMB	09 46 14.4	
	comp=Z,2μm,10.0s						
TEY				AMB	AMB	09 46 14.4	
	comp=Z,1μm,10.0s						
TEY				AMB	AMB	09 46 14.4	
	comp=Z,2μm,10.0s						
TEY				*e*Sg	Sb	09 48 36.0	+23
TEY				A	A	09 48 42.0	
	comp=Z,1μm,0.8s						
TEY				AMS	AMS	09 50 50.0	
	comp=Z,25μm,10.0s						
TEY				AMS	AMS	09 50 50.0	
	comp=Z,28μm,10.0s						
TEY				AMS	AMS	09 50 50.0	
	comp=Z,46μm,10.0s						
YUK	**Yuzh-Kuril'sk**	**8.46**	**163**	*d i*PN	Pn	09 46 12.7	-6.0
YUK				pmax	pmax		
	comp=N,140nm,1.1s						
YUK				pmax	pmax		
	comp=Z,279nm,1.1s						
YUK				pmax	pmax		
	comp=Z,2μm,2.7s						
YUK				MLR	MLR		
	comp=N,19μm,12.0s						
YUK				MLR	MLR		
	comp=E,15μm,12.0s						
YUK				MLR	MLR		
	comp=Z,18μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**8.46**	**163**⇓	*i*P	Pn	09 46 12.8	-6.0
YUK				AMB	AMB	09 46 23.5	
	comp=Z,141nm,1.0s						
YUK				AMB	AMB	09 46 23.5	
	comp=Z,110nm,1.0s						
YUK				AMB	AMB	09 46 23.5	
	comp=Z,279nm,1.0s						
YUK				AMB	AMB	09 46 47.8	
	comp=Z,2μm,3.0s						
SKR	**Severo-Kuril's**	**8.72**	**94**	*e*PN	Pn	09 46 18.5	-3.7
SKR				pmax	pmax		
	comp=N,60nm,0.6s						
SKR				pmax	pmax		
	comp=Z,80nm,0.6s						
SKR				pmax	pmax		
	comp=Z,2μm,6.0s						
SKR				pmax	pmax		
	comp=N,3μm,8.0s						
SKR				pmax	pmax		
	comp=E,4μm,8.0s						
SKR				MLR	MLR		
	comp=N,40μm,12.0s						
SKR				MLR	MLR		
	comp=E,45μm,12.0s						
SKR				MLR	MLR		
	comp=Z,40μm,12.0s						
SKR	**Severo-Kuril's**	**8.72**	**94**	*e*P	Pn	09 46 18.5	-3.7
SKR				AMB	AMB	09 46 21.7	
	comp=Z,40nm,0.5s						
SKR				AMB	AMB	09 46 27.7	
	comp=Z,3μm,8.0s						
SKR				AMB	AMB	09 46 27.7	
	comp=Z,4μm,8.0s						
SKR				AMB	AMB	09 46 27.7	
	comp=Z,3μm,8.0s						
SKR				AMB	AMB	09 46 27.7	
	comp=Z,60nm,6.0s						
SKR				AMB	AMB	09 46 27.7	
	comp=Z,4μm,6.0s						
SKR				AMB	AMB	09 46 27.7	
	comp=Z,2μm,6.0s						
SKR				*e*S	**Sn**	**09 48 02.8**	**+2.8**
SKR				A	A	09 48 22.6	
	comp=Z,220nm,1.0s						
SKR				A	A	09 48 22.6	
	comp=Z,180nm,1.0s						
SKR				A	A	09 48 26.0	
	comp=Z,13μm,8.0s						
SKR				A	A	09 48 26.0	
	comp=Z,8μm,8.0s						
SKR				A	A	09 48 26.0	
	comp=Z,12μm,8.0s						
SKR				A	A	09 48 26.0	
	comp=Z,8μm,8.0s						
SKR				AMS	AMS	09 51 24.0	
	comp=Z,40μm,12.0s						
SKR				AMS	AMS	09 51 24.0	
	comp=Z,45μm,12.0s						
SKR				AMS	AMS	09 51 24.0	
	comp=Z,40μm,12.0s						
SKR				AMS	AMS	09 51 24.0	
	comp=Z,44μm,12.0s						
ZEA	**Zeya**	**9.26**	**286**⇓	*e*P	**Pn**	**09 46 30.6**	**+1.0**
ZEA				AMB	AMB	09 46 37.8	
	comp=Z,81nm,1.0s						
ZEA				AMB	AMB	09 46 40.0	
	comp=Z,700nm,6.0s						
ZEA				AMB	AMB	09 46 40.0	
	comp=Z,4μm,6.0s						
ZEA				AMB	AMB	09 46 40.0	
	comp=Z,5μm,6.0s						
ZEA				*e*S	**Sn**	**09 48 18.0**	**+4.7**
ZEA				A	A	09 48 19.5	
	comp=Z,360nm,1.0s						
ZEA				A	A	09 48 19.5	
	comp=Z,280nm,1.0s						
ZEA				A	A	09 48 19.5	
	comp=Z,200nm,1.0s						
ZEA				AMS	AMS	09 49 35.0	
	comp=Z,87μm,10.0s						
PETK	**Petropavlovsk-**	**9.37**	**78**	Pn	**Pn**	**09 46 30.6**	**-0.5**
	comp=Z,4.4nm,0.3s,baz=287,slow=9.7,SNR=23						
PETK				Sn	Sn	09 48 07.0	-9.0
	baz=265,slow=29,SNR=2.0						
PETK				LR	LR	09 50 31.9	
	comp=Z,17μm,19.1s,baz=285,slow=40						
KROS	**Kirovskiy**	**9.49**	**290**⇓	*i*P	**Pn**	**09 46 33.5**	**+0.7**
KROS				AMB	AMB	09 46 38.2	
	comp=Z,12nm,1.0s						
KROS				AMB	AMB	09 46 38.2	
	comp=Z,480nm,1.0s						
KROS				AMB	AMB	09 46 38.2	
	comp=Z,520nm,1.0s						
PET	**Petropavlovsk**	**9.95**	**79**	*d i*PN	**Pn**	**09 46 40.1**	**+1.1**
PET				pmax	pmax		
	comp=Z,2μm,13.7s						
PET				pmax	pmax		
	comp=Z,162nm,0.8s						
PET				pmax	pmax		
	comp=Z,2μm,9.6s						
PET				MLR	MLR		
	comp=Z,33μm,14.0s						
PET				MLR	MLR		
	comp=Z,37μm,12.0s						
PET	**Petropavlovsk**	**9.95**	**79**⇓	*i*P	**Pn**	**09 46 40.1**	**+1.1**
PET				AMB	AMB	09 46 41.9	
	comp=Z,2μm,14.0s						
PET				AMB	AMB	09 46 44.1	
	comp=Z,162nm,0.8s						
PET				*e*S	**Sn**	**09 48 30.1**	**0.0**
PET				A	A	09 48 35.9	
	comp=Z,240nm,0.8s						
PET				AMS	AMS	09 51 18.5	
	comp=Z,33μm,14.0s						
PET	**Petropavlovsk**	**9.95**	**79**	*e*Pn	**Pn**	**09 46 40.4**	**+1.4**
PET				*e*Sn	**Sn**	**09 48 32.8**	**+2.7**
ERM	**Erimo**	**10.17**	**177**⇑	*e*PN	**Pn**	**09 46 42.6**	**+0.5**
ERM				MLR	MLR		
	comp=Z,27μm,19.0s						
ERM	**Erimo**	**10.17**	**177**	*e*Pn	**Pn**	**09 46 43.2**	**+1.2**
USRK	**Ussuriysk Ar.**	**10.55**	**225**	Pn	**Pn**	**09 46 46.1**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=36,slow=16,SNR=16						
USRK				Sn	**Sn**	**09 48 47.6**	**+2.7**
	comp=Z,1.1nm,0.3s,baz=61,slow=22,SNR=2.8						
USRK				Lg	Lg	09 49 52.7	
	comp=Z,9.9nm,0.3s,baz=50,slow=29,SNR=7.8						
USRK				LR	LR	09 51 20.7	
	comp=Z,30μm,20.0s,baz=32,slow=41						
CLNS	**Chul'man**	**11.17**	**302**	*e*PN	**Pn**	**09 46 55.6**	**-0.2**
CLNS				pmax	pmax		
	comp=E,38nm,1.1s						
CLNS				pmax	pmax		
	comp=N,42nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,76nm,1.2s						
CLNS				MLR	MLR		
	comp=N,10μm,10.0s						
CLNS				MLR	MLR		
	comp=Z,29μm,10.0s						
CLNS				MLR	MLR		
	comp=E,23μm,9.0s						
MDJ	**Mudanjiang**	**11.36**	**233**	P	**Pn**	**09 46 58.0**	**-0.3**
MDJ				S	**Sn**	**09 49 06.3**	**+1.7**
MDJ				ScP	**ScP**	**09 56 23.3**	**+0.3**
MDJ				PcS	**PcS**	**09 56 26.0**	**+0.9**
MDJ				PMZ			
	comp=E,1μm,6.5s						
MDJ				LN			
	comp=E,70μm,13.3s						
MDJ				LE			
	comp=E,68μm,12.8s						
MDJ				LZ			
	comp=E,105μm,8.8s						
MDJ	**Mudanjiang**	**11.36**	**233**	*e*Pn	**Pn**	**09 46 58.0**	**-0.3**
	comp=E,127nm,1.5s						
VLA	**Vladivostok**	**11.47**	**222**	*de*PN	**Pn**	**09 47 00.5**	**+0.6**
VLA				MLR	MLR		
	comp=Z,28μm,20.0s						
YAK	**Yakutsk**	**12.03**	**330**	*e*PN	**Pn**	**09 47 05.8**	**-1.6**
YAK				*e*SS	SS	09 49 33.7	
YAK				pmax	pmax		
	comp=E,38nm,1.3s						
YAK				pmax	pmax		
	comp=N,56nm,1.3s						
YAK				pmax	pmax		
	comp=Z,56nm,1.0s						
YAK				pmax	pmax		
	comp=Z,322nm,1.5s						
YAK				pmax	pmax		
	comp=E,675nm,3.2s						
YAK				pmax	pmax		
	comp=N,567nm,2.2s						
YAK				MLR	MLR		
	comp=N,15μm,9.0s						
YAK				MLR	MLR		
	comp=Z,20μm,10.0s						
YAK				MLR	MLR		
	comp=E,8μm,10.0s						
YAK	**Yakutsk**	**12.03**	**330**	*e*Pn	**Pn**	**09 47 07.1**	**-0.3**
YAK				*e*Sn	**Sn**	**09 49 19.2**	**-1.7**
SEY	**Seymchan**	**12.04**	**22**	Pn	**Pn**	**09 47 08.7**	**+1.2**
	comp=E,1.1nm,0.3s,baz=200,slow=11,SNR=17						
SEY				Sn	**Sn**	**09 49 19.4**	**-1.8**
	comp=E,1.0nm,0.3s,baz=75,slow=20,SNR=3.9						
SEY				LR	LR	09 52 21.6	
	comp=E,21μm,18.0s,baz=212,slow=40						
CN2	**Changchun**	**14.06**	**240**	*e*P	**Pn**	**09 47 36.0**	**+0.8**
CN2				*e*sP		09 47 42.8	
CN2				*e*S	**Sn**	**09 50 12.3**	**+1.6**
CN2				PMZ			
	comp=E,20nm,1.1s						
CN2				PMZ			
	comp=E,200nm,5.0s						
CN2				LN			
	comp=E,36μm,10.0s						
CN2				LE			
	comp=E,42μm,10.0s						
CN2				LZ			
	comp=E,41μm,10.0s						
HIA	**Hailar**	**14.61**	**268**	*e*P	**Pn**	**09 47 42.2**	**-0.6**
HIA				*e*		09 50 16.7	
HIA				pmax	pmax		
	comp=Z,311nm,1.6s						
HIA	**Hailar**	**14.61**	**268**	*e*Pn	**Pn**	**09 47 42.2**	**-0.6**
	comp=Z,311nm,1.6s						
HIA				*e*Sn	Sn	09 50 16.7	-7.4
MAJO	**Matsushiro**	**15.90**	**192**	*e*P	**Pn**	**09 47 59.8**	**0.0**
MAJO				pmax	pmax		
	comp=Z,430nm,1.6s						
MAJO				MLR	MLR		
	comp=Z,61μm,18.0s						
MAJO	**Matsushiro**	**15.90**	**192**	*e*Pn	**Pn**	**09 47 59.7**	**-0.1**
	comp=Z,60nm,0.9s						
MAT	**Matsushiro**	**15.90**	**192**	P	**Pn**	**09 47 57.3**	**-2.5**
MAT				S	**Sn**	**09 50 55.8**	**+0.3**
MJAR	**Matsushiro Arr**	**15.90**	**192**	Pn	**Pn**	**09 47 56.3**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=3.7,slow=13,SNR=8.9						
MJAR				LR	LR	09 53 26.4	
	comp=Z,7μm,20.9s,baz=10.0,slow=35						
SNY	**Shenyang**	**16.42**	**238**	⇓P	**P**	**09 48 08.5**	**-0.6**
SNY				S	**Sn**	**09 51 12.5**	**+4.4**
SNY				sS	**S**	**09 51 16.5**	**-3.6**
SNY				SS	**SnSn**	**09 51 25.5**	**+4.6**
SNY				PMZ			
	comp=Z,58nm,1.5s						
SNY				PMZ			
	comp=Z,6μm,11.5s						
SNY				LN			
	comp=Z,30μm,6.6s						
SNY				LE			
	comp=Z,46μm,8.0s						
SNY				LZ			
	comp=Z,59μm,7.9s						
BOD	**Bodaibo**	**17.15**	**300**	*e*P	**Pn**	**09 48 14.0**	**-1.5**
CIT	**Chita**	**17.66**	**281**	*e*P	**P**	**09 48 23.7**	**+0.8**
CIT				pmax	pmax		
	comp=Z,647nm,1.9s						
KSRS	**Korea Array**	**17.88**	**220**	P	**Pn**	**09 48 24.5**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=31,slow=10,SNR=29						
KSRS				PcP	**PcP**	**09 52 59.5**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=0.0,slow=1.2,SNR=4.7						
KSRS				LR	LR	09 55 21.8	
	comp=Z,17μm,18.2s,baz=40,slow=37						
KSAR	**Wonju Array Be**	**17.90**	**220**	P	**Pn**	**09 48 24.5**	**-0.5**
KSAR	**Wonju Array Be**	**17.90**	**220**	P	**Pn**	**09 48 24.5**	**-0.5**
KSAR				PcP	**PcP**	**09 52 59.5**	**-0.9**
FX1	**Attu Island--F**	**18.69**	**76**	P	**Pn**	**09 48 35.7**	**+1.2**
FX1				pmax	pmax		
	comp=Z,9.0nm,0.3s						
FX1				MLR	MLR		
	comp=Z,10μm,21.8s						
FX1	**Attu Island--F**	**18.69**	**76**	P	**Pn**	**09 48 35.6**	**+1.2**
	comp=Z,9.0nm,0.3s,baz=233,slow=5.7,SNR=21						
FX1				LR	LR	09 55 32.3	
	comp=Z,10μm,21.8s,baz=314,slow=36						
TJN	**Taejon**	**19.03**	**220**	*i* P	**P**	**09 48 37.4**	**-0.6**
SMY	**Shemya**	**19.27**	**76**	*e*P	**P**	**09 48 40.7**	**+0.2**
SMY				pmax	pmax		
	comp=Z,409nm,0.8s						
SMY	**Shemya**	**19.27**	**76**	*e*P	**P**	**09 48 40.7**	**+0.2**
	comp=Z,409nm,0.8s						
DL2	**Dalian**	**19.58**	**236**⇑	*i*P	**P**	**09 48 43.4**	**-0.5**
DL2				S	**S**	**09 52 23.8**	**-0.3**
DL2				PMZ			
	comp=Z,1μm,1.6s						
DL2				PMZ			
	comp=Z,5μm,9.8s						
DL2				LN			
	comp=Z,49μm,7.8s						
DL2				LE			
	comp=Z,49μm,8.2s						
DL2				LZ			
	comp=Z,52μm,8.2s						
BILL	**Bilibino**	**19.65**	**27**	*c i*P	**P**	**09 48 44.7**	**+0.2**
BILL				pmax	pmax		
	comp=Z,62nm,0.8s						
BILL				MLR	MLR		
	comp=Z,23μm,19.0s						
BILL	**Bilibino**	**19.65**	**27**	*e*P	**P**	**09 48 45.1**	**+0.5**
	comp=Z,170nm,1.2s						
TIXI	**Tiksi**	**20.46**	**348**	*c i*P	**P**	**09 48 52.8**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,235nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,9μm,14.0s						
TIXI	**Tiksi**	**20.46**	**348**	*e*P	**P**	**09 48 52.6**	**-0.6**
	comp=Z,319nm,1.0s						
JNU	**Nakatsue**	**20.78**	**208**	P	**P**	**09 48 57.3**	**+0.2**
	comp=Z,30nm,0.8s,baz=59,slow=3.7,SNR=11						
JNU				LR	LR	09 56 34.3	
	comp=Z,9μm,18.1s,baz=24,slow=36						
JNU	**Nakatsue**	**20.78**	**208**	*e*P	**P**	**09 48 57.6**	**+0.6**
	comp=Z,125nm,1.7s						
BJI	**Beijing**	**21.70**	**246**	P	**P**	**09 49 06.0**	**-0.9**
BJI				S	**S**	**09 53 03.9**	**-2.4**
BJI				PMZ			
	comp=Z,49nm,1.7s						
BJI				PMZ			
	comp=Z,3μm,10.9s						
BJI				LN			
	comp=Z,45μm,15.5s						
BJI				LE			
	comp=Z,38μm,15.5s						
BJI				LZ			
	comp=Z,17μm,19.6s						
BJT	**Baijiatuau**	**21.72**	**246**	*e*P	**P**	**09 49 06.1**	**-1.0**
BJT				pmax	pmax		
	comp=Z,95nm,0.8s						
BJT				MLR	MLR		
	comp=Z,22μm,20.0s						
BJT	**Baijiatuau**	**21.72**	**246**	*e*P	**P**	**09 49 06.1**	**-1.0**
	comp=Z,95nm,0.8s						
BJT				LR	LR		
	comp=Z,22μm,20.0s						
AMKA	**Amchitka**	**22.71**	**77**	*e*P	**P**	**09 49 19.1**	**+1.4**
	comp=Z,332nm,1.2s						
ULN	**Ulaanbaatar**	**22.95**	**273**	*c i*P	**P**	**09 49 19.4**	**-0.9**
ULN				pmax	pmax		
	comp=Z,111nm,1.2s						
ULN				MLR	MLR		
	comp=Z,24μm,19.0s						
ULN	**Ulaanbaatar**	**22.95**	**273**	P	**P**	**09 49 21.2**	**+0.9**
	SNR=42						
ULN	**Ulaanbaatar**	**22.95**	**273**	*e*P	**P**	**09 49 19.4**	**-0.9**
	comp=Z,72nm,1.0s						
ULN				LR	LR		
	comp=Z,28μm,19.0s						
IRK	**Irkutsk**	**23.17**	**285**⇓	*i*P	**P**	**09 49 22.4**	**0.0**
IRK				*e*S	**S**	**09 53 30.1**	**-3.0**
IRK				pmax	pmax		
	comp=Z,500nm,2.5s						
SONM	**Songino Array**	**23.36**	**274**	P	**P**	**09 49 22.0**	**-2.5**
	comp=Z,16nm,0.8s,baz=62,slow=8.3,SNR=57						
SONM				PcP	**PcP**	**09 53 10.6**	**-0.2**
	comp=Z,9.5nm,1.0s,baz=107,slow=2.4,SNR=5.4						
SONM				Lg	Lg	09 56 29.6	
	comp=Z,23nm,1.1s,baz=61,slow=30,SNR=6.2						
SONM				LR	LR	09 59 11.2	
	comp=Z,31μm,19.3s,baz=67,slow=38						
TLY	**Talaya**	**23.70**	**284**	*c i*P	**P**	**09 49 27.0**	**-0.6**
TLY				*e*		09 49 59.4	
TLY				*e*PPP	PPP	09 50 05.4	
TLY				*e*S	**S**	**09 53 39.9**	**-1.8**
TLY				pmax	pmax		
	comp=Z,314nm,1.8s						
TLY				MLR	MLR		

comp=Z,20μm,14.0s
TLY Talaya 23.70 284 P **P 09 49 27.2 -0.5**
SNR=117
TLY Talaya 23.70 284 P **P 09 49 26.4 -1.3**
comp=Z,60nm,1.0s,baz=68,slow=7.5,SNR=69
TLY PcP **PcP 09 53 11.9 +0.6**
comp=Z,7.1nm,0.6s,baz=135,slow=4.3,SNR=5.1
TLY Lg Lg 09 56 42.7
comp=Z,7.0nm,0.7s,baz=196,slow=15,SNR=5.6
TLY LR LR 09 59 25.0
comp=Z,28μm,18.2s,baz=66,slow=38
TLY Talaya 23.70 284 *e*P **P 09 49 27.1 -0.6**
comp=Z,246nm,1.3s
TLY PcP **PcP 09 53 11.9 +0.6**
TLY Lg Lg 09 56 42.7
HHC Hu-ho-hao-te 23.85 254 *e*P **P 09 49 28.5 -0.7**
HHC pP **pP 09 49 37.3 +2.8**
HHC PP **PnPn 09 50 01.5 +4.3**
HHC S **S 09 53 41.8 -2.5**
HHC sS **sS 09 53 50.3 -2.8**
HHC PMZ
comp=Z,14nm,0.6s
HHC PMZ
comp=Z,5μm,5.8s
HHC LN
comp=Z,28μm,14.1s
HHC LE
comp=Z,34μm,13.9s
HHC LZ
comp=Z,53μm,13.5s
TIA Tai'an 23.95 238 ⇑P **P 09 49 28.4 -1.7**
TIA S **S 09 53 43.3 -2.5**
TIA PMZ
comp=Z,90nm,0.8s
TIA PMZ
comp=Z,5μm,6.9s
TIA LN
comp=Z,27μm,14.7s
TIA LE
comp=Z,22μm,18.0s
TIA LZ
comp=Z,25μm,16.8s
ZAK Zakamensk 24.32 281 *e*P **P 09 49 33.2 -0.4**
ZAK pmax pmax
comp=Z,100nm,1.8s
BTO Baotou 24.92 255 *e*P **P 09 49 38.6 -0.4**
ADK Adak 24.96 74 *e*P **P 09 49 40.2 +1.0**
ADK pmax pmax
comp=Z,165nm,1.1s
ADK MLR MLR
comp=Z,8μm,21.0s
ADK Adak 24.96 74 *e*P **P 09 49 40.2 +1.0**
comp=Z,165nm,1.1s
ADK LR LR
comp=Z,8μm,21.0s
JCJ Chichijima 25.04 180 LR LR 09 59 52.7
comp=Z,2μm,22.0s,baz=45,slow=38
MOY Mondy 25.28 285 *e*P **P 09 49 42.4 +0.1**
MOY pmax pmax
comp=Z,254nm,1.9s
TIY Taiyuan 25.42 247 *e*P **P 09 49 43.0 -0.6**
TIY sP **sP 09 49 55.6 +4.6**
TIY S **S 09 54 09.8 +0.3**
TIY PMZ
comp=Z,3μm,6.4s
TIY LN
comp=Z,10μm,7.6s
TIY LE
comp=Z,25μm,7.5s
TIY LZ
comp=Z,28μm,10.1s
SSE Sheshan 26.16 225 P **P 09 49 50.3 +0.1**
SSE S **S 09 54 21.5 +0.4**
SSE PMZ
comp=Z,89nm,1.0s
SSE PMZ
comp=Z,3μm,8.6s
SSE LN
comp=Z,16μm,16.3s
SSE LE
comp=Z,11μm,16.3s
SSE LZ
comp=Z,15μm,14.6s
GAMB Gambell 26.35 46 *e*P **P 09 49 52.8 +1.1**
comp=Z,56nm,1.2s
NJ2 Nanjing 26.41 230 *e*P **P 09 49 52.3 -0.1**
NJ2 pP **pP 09 50 00.1 +2.4**
NJ2 S **S 09 54 26.0 +1.0**
NJ2 sS **sS 09 54 35.0 +1.2**
NJ2 PMZ
comp=Z,130nm,1.1s
NJ2 PMZ
comp=Z,5μm,6.6s
NJ2 LN
comp=Z,120μm,16.4s
NJ2 LE
comp=Z,36μm,25.0s
NJ2 LZ
comp=Z,30μm,21.0s
TNA Tin City 28.10 42 *e*P **P 09 50 07.8 +0.4**
comp=Z,127nm,1.0s
KRAR Krasnoyarsk 28.78 297⇑*e*P **P 09 50 13.7 +0.2**
KRAR pmax pmax
comp=Z,193nm,1.7s
HVS Khovu-Aksy 29.77 288⇓*e*P **P 09 50 22.1 -0.3**
HVS pmax pmax
comp=Z,310nm,1.7s
HVS MLR MLR
comp=Z,47μm,20.0s
WHN Wuhan 29.83 235 ⇓P **P 09 50 22.0 -1.0**
WHN S S 09 55 10.6 -8.4
WHN LN
comp=Z,56μm,6.4s
WHN LE
comp=Z,46μm,8.0s
WHN LZ
comp=Z,43μm,10.0s
XAN Xi'an 30.04 246 P **P 09 50 23.0 -1.9**
XAN pP **pP 09 50 30.3 +0.1**
XAN sP **sP 09 50 33.6 +1.2**
XAN PP **PnPn 09 51 24.4 +2.7**
XAN S **S 09 55 23.8 +1.6**
XAN sS sS 09 55 35.8 +4.8
XAN PMZ
comp=Z,260nm,7.1s
XAN LN
comp=Z,12μm,10.7s
XAN LE
comp=Z,5μm,9.8s
XAN LZ
comp=Z,5μm,14.2s
AKUT Akutan 30.59 65 *e*P **P 09 50 31.1 +1.5**
TATO Taipei 31.45 218 PFAKE 09 50 50.0 +13
TATO LR LR
comp=Z,11μm,19.0s
LZH Lanzhou 31.54 255 *e*P **P 09 50 38.3 0.0**
LZH pP **pP 09 50 47.0 +3.4**
LZH sP **sP 09 50 50.1 +4.3**
LZH S **S 09 55 45.0 -0.9**
LZH sS **sS 09 55 55.3 +0.6**
LZH SS **SnSn 09 57 30.1 -1.0**
LZH PMZ
comp=Z,91nm,1.2s
LZH PMZ
comp=Z,550nm,6.6s
LZH LN
comp=Z,5μm,11.4s
LZH LE
comp=Z,3μm,13.7s
LZH LZ
comp=Z,5μm,13.3s
FALS False Pass 31.68 63 *e*P **P 09 50 39.6 +0.5**
comp=Z,28nm,1.4s
YHNB Yeheng 31.77 218 PFAKE 09 50 50.0 +10
YHNB LR LR
comp=Z,11μm,19.0s
GTA Gaotai 31.83 263 ⇑P **P 09 50 40.8 0.0**
GTA pP **pP 09 50 45.3 -0.8**
GTA sP **sP 09 50 47.8 -0.5**
GTA PP **PnPn 09 51 48.5 +3.3**
GTA PcP **PcP 09 53 32.8 +1.5**
GTA S **S 09 55 52.8 +2.5**
GTA sS **sS 09 55 59.6 +0.5**
GTA ScP **ScP 09 57 15.6 +2.0**
GTA PcS **PcS 09 57 17.3 +1.3**
GTA PMZ
comp=Z,35nm,1.7s
GTA PMZ
comp=Z,2μm,7.4s
GTA LN
comp=Z,25μm,15.7s
GTA LE
comp=Z,22μm,16.6s
GTA LZ
comp=Z,30μm,17.1s
ENH Enshi 32.58 241 *e*P **P 09 50 46.6 -0.7**
comp=Z,24nm,0.8s
ENH LR LR
comp=Z,12μm,20.0s
QZH Quanzhou 32.64 223⇓*i*P **P 09 50 49.8 +2.0**
QZH S **S 09 56 03.8 +0.9**
QZH PMZ
comp=Z,2μm,6.7s
QZH LN
comp=Z,20μm,12.1s
QZH LE
comp=Z,33μm,11.2s
QZH LZ
comp=Z,18μm,11.0s
SDPT Sand Point 33.13 61 *e*P **P 09 50 52.6 +0.8**
comp=Z,58nm,1.0s
ZALV Zalesovo Beam 33.82 296 P **P 09 50 57.0 -0.9**
ZALV 09 53 36.1
ZALV pmax pmax
comp=Z,11nm,0.7s
ZALV MLR MLR
comp=Z,11μm,18.3s
ZALV Zalesovo Beam 33.82 296 P **P 09 50 57.0 -0.9**
comp=Z,11nm,0.7s,baz=61,slow=7.2,SNR=26
ZALV PcP **PcP 09 53 36.0 -0.4**
comp=Z,17nm,0.7s,baz=53,slow=1.2,SNR=12
ZALV LR LR 10 05 35.1
comp=Z,11μm,18.3s,baz=64,slow=38
IM04 Indian Mountai 33.91 41 *e*P **P 09 50 58.5 -0.1**
SVW2 Sparrevohn 34.02 50 *e*P **P 09 51 01.5 +1.9**
NVS Novosibirsk 34.37 298⇑*i*P **P 09 51 01.5 -1.1**
NVS *e* 09 52 11.7
NVS *e*PPP PPP 09 52 31.6
NVS *e*S **S 09 56 28.5 -0.7**
NVS *e*SS **SS 09 58 59.0 +1.1**
NVS pmax pmax
comp=Z,287nm,2.1s
NVS pmax pmax
comp=N,83nm,2.0s
NVS pmax pmax
comp=E,233nm,2.2s
NVS pmax pmax
comp=E,42nm,1.9s
NVS pmax pmax
comp=Z,66nm,1.9s
NVS pmax pmax
comp=N,44nm,2.0s
CAST Castle Rocks 35.09 45 *e*P **P 09 51 10.4 +1.7**
comp=N,44nm,0.9s
COLD Coldfoot 35.15 39 *e*P **P 09 51 09.7 +0.5**
comp=N,91nm,0.9s
PPLA Purkeypile 35.16 46 *e*P **P 09 51 11.5 +1.9**
comp=N,117nm,1.1s
CD2 Chengdu 35.28 248⇓*i*P **P 09 51 10.3 -0.5**
CD2 pP **pP 09 51 14.8 -1.3**
CD2 PP **PnPn 09 52 28.8 0.0**
CD2 PcP **PcP 09 53 43.8 +2.7**
CD2 S S 09 56 37.1 -6.7
CD2 SS **SnSn 09 59 00.9 -0.9**
CD2 ScS **ScS 10 01 26.0 -4.0**
CD2 PMZ
comp=N,70nm,1.0s
CD2 PMZ
comp=N,2μm,5.9s
CD2 LN
comp=N,20μm,16.6s
CD2 LE
comp=N,21μm,11.9s
CD2 LZ
comp=N,24μm,11.9s
RSO Redoubt South 35.53 51 *e*P **P 09 51 14.9 +2.1**
KTH Kantishna Hill 35.57 45 *e*P **P 09 51 14.2 +1.2**
comp=N,697nm,2.4s
SPU Mount Spurr 35.66 49 *e*P **P 09 51 14.5 +0.8**
TRF Thorofare Moun 35.87 45 *e*P **P 09 51 16.5 +0.9**
comp=N,134nm,0.8s
SII Sitkinak Islan 36.05 57 *e*P P 09 51 20.9 +3.8
comp=N,182nm,1.0s
OHAK Old Harbor 36.28 56 *e*P **P 09 51 19.1 +0.1**
comp=N,632nm,2.4s
MCK McKinley 36.38 44 *e*P **P 09 51 20.4 +0.5**
MCK pmax pmax
comp=Z,164nm,0.9s
MCK McKinley 36.38 44 *e*P **P 09 51 20.4 +0.5**
comp=Z,164nm,0.9s
KDAK Kodiak Island 36.45 55 *i*P **P 09 51 20.6 +0.2**
KDAK Kodiak Island 36.45 55 *e*P **P 09 51 21.1 +0.7**
comp=Z,64nm,0.9s
KDAK LR LR
comp=Z,7μm,20.0s
COLA College 36.56 42*c i*P **P 09 51 22.0 +0.7**
COLA pmax pmax
comp=Z,242nm,1.0s
COLA MLR MLR
comp=Z,28μm,20.0s
COLA College 36.56 42 *e*P **P 09 51 21.2 0.0**
comp=Z,102nm,0.9s
COLA LR LR
comp=Z,6μm,19.0s
GZH Guangzhou 36.57 229 P P 09 51 15.8 -6.0
GZH PP **PnPn 09 52 44.5 -0.3**
GZH S **S 09 57 02.3 -1.2**
GZH SS **SnSn 09 59 34.8 +1.6**
WMQ Urumqi 36.74 279 P **P 09 51 23.3 +0.1**
WMQ pP pP 09 51 33.9 +5.3
WMQ PP **PP 09 52 49.0 +2.3**
WMQ PcP **PcP 09 53 46.1 +0.8**
WMQ S **S 09 57 04.5 -1.5**
WMQ sS **sS 09 57 16.3 +1.5**
WMQ SS **SnSn 09 59 31.1 -5.8**
WMQ ScS **ScS 10 01 35.8 -2.0**
WMQ PMZ
comp=Z,25nm,1.2s
WMQ PMZ
comp=Z,2μm,5.6s
WMQ LN
comp=Z,40μm,12.0s
WMQ LE
comp=Z,13μm,9.0s
WMQ LZ
comp=Z,6μm,18.0s
RC01 Rabbit Creek A 36.76 49 *e*P **P 09 51 24.4 +1.4**
comp=Z,54nm,0.8s
HKC Hong Kong Obse 36.87 227 P **P 09 51 23.0 -1.4**
PMR Palmer 36.89 48 *e*P **P 09 51 24.4 +0.3**
PMR Palmer 36.89 48 *e*P **P 09 51 24.4 +0.3**
ILAR Eielson Array 36.98 42 P **P 09 51 25.5 +0.6**
ILAR pmax pmax
comp=Z,54nm,1.0s
ILAR Eielson Array 36.98 42 P **P 09 51 25.5 +0.6**
comp=Z,56nm,1.0s,baz=282,slow=7.3,SNR=237
ILAR LR LR 10 08 23.3
comp=Z,6μm,18.9s,baz=284,slow=39
GYA Guiyang 37.11 240⇑*i*P **P 09 51 24.3 -2.2**
GYA pP **pP 09 51 32.8 +0.9**
GYA PP **PP 09 52 50.9 -0.2**
GYA PcP **PcP 09 53 48.0 +1.3**
GYA S **S 09 57 09.9 -2.1**
GYA ScP **ScP 09 57 31.4 -1.2**
GYA SS **SnSn 09 59 39.0 -7.3**
GYA PMZ
comp=Z,50nm,1.1s
GYA PMZ
comp=Z,1μm,9.7s
GYA LN
comp=Z,11μm,18.0s
GYA LE
comp=Z,9μm,18.0s
GYA LZ
comp=Z,8μm,17.4s
SEW Seward 37.20 50 *e*P **P 09 51 27.8 +0.9**
comp=Z,64nm,0.8s
WAKE Wake Island 37.91 141 PFAKE 09 51 40.0 +6.8
WAKE LR LR
comp=Z,3μm,19.0s
PAX Paxson 38.10 45 *e*P **P 09 51 34.7 +0.2**
PAX Paxson 38.10 45 *e*P **P 09 51 34.7 +0.2**
MKAR Makanchi Array 38.42 287 P **P 09 51 35.6 -1.7**
MKAR 09 53 50.2
MKAR pmax pmax
comp=Z,20nm,0.8s
MKAR Makanchi Array 38.42 287 P **P 09 51 35.6 -1.7**
comp=Z,20nm,0.8s,baz=19,slow=9.2,SNR=81
MKAR PcP **PcP 09 53 50.2 -0.1**
comp=Z,7.3nm,0.8s,baz=39,slow=5.5,SNR=6.0
DOT Dot Lake 38.49 43 *e*P **P 09 51 37.8 0.0**
comp=Z,78nm,1.0s
GUMO Guam 38.53 176 PFAKE 09 51 50.0 +12
GUMO LR LR
comp=Z,340nm,22.0s
DIV Divide 38.57 48 *e*P **P 09 51 39.5 +1.0**
comp=Z,79nm,1.2s
KURK Kurchatov 38.62 294 P **P 09 51 37.0 -1.9**
KURK pmax pmax
comp=Z,136nm,2.3s
KURK Kurchatov 38.62 294 P **P 09 51 38.1 -0.8**
SNR=56
KURK Kurchatov 38.62 294 *e*P **P 09 51 37.6 -1.3**
KURK PcP **PcP 09 53 50.2 -0.6**
KURK ScP **ScP 09 57 40.2 +2.4**
KURK LR LR
comp=Z,16μm,19.0s
KURBB Kurchatov Arra 38.71 294 P **P 09 51 38.8 -0.9**
comp=Z,26nm,0.8s,baz=68,slow=8.9,SNR=98
KURBB PcP **PcP 09 53 50.2 -0.9**
comp=Z,13nm,0.6s,baz=66,slow=3.1,SNR=16
KURBB ScP **ScP 09 57 40.2 +2.0**
comp=Z,1.8nm,1.1s,baz=46,slow=4.0,SNR=4.1
MENT Mentasta 38.87 44 *e*P **P 09 51 41.6 +0.7**
BMRM Bremner River 39.16 48 *e*P **P 09 51 44.6 +1.2**
comp=Z,83nm,1.0s
EGAK Eagle 39.33 41 *e*P **P 09 51 44.4 -0.2**
comp=Z,261nm,0.9s
EGAK LR LR
comp=Z,7μm,19.0s
RAGM Ragged Mountai 39.34 49 *e*P P 09 51 48.1 +3.3
comp=Z,57nm,0.8s
BCPH Baguio City Da 39.66 214⇓*e*P **P 09 51 45.2 -2.9**
DAWY Dawson 40.29 42 *e*P **P 09 51 53.2 +0.5**
KMI Kunming 40.30 243 P **P 09 51 52.6 -0.8**
KMI PP **PnPn 09 53 30.3 +0.4**
KMI PcS **PcS 09 57 47.3 -0.4**
KMI S **S 09 57 59.5 -0.8**
KMI SS SS 10 00 48.9 -10
KMI PMZ
comp=Z,82nm,0.9s
KMI PMZ
comp=Z,2μm,5.6s
KMI LN
comp=Z,13μm,15.9s
KMI LE
comp=Z,10μm,17.6s
KMI LZ
comp=Z,10μm,12.5s
TGY Tagaytay City 41.67 212 LR LR 10 10 33.5
comp=Z,116nm,19.1s,slow=38
QIZ Qiongzhong 41.70 230 PFAKE 09 52 10.0 +5.2
QIZ LR LR
comp=Z,13μm,19.0s
BVA0 Borovoye Array 42.02 301 *i*P **P 09 52 06.3 -0.7**
BVA0 pmax pmax
comp=Z,700nm,3.0s
BVAR Borovoye Array 42.02 301 P **P 09 52 06.1 -0.9**
BVAR 09 54 01.0
BVAR pmax pmax
comp=Z,27nm,0.8s
BVAR MLR MLR
comp=Z,7μm,19.9s
BVAR Borovoye Array 42.02 301 P **P 09 52 06.1 -0.9**
comp=Z,27nm,0.8s,baz=63,slow=7.6,SNR=63
BVAR PcP **PcP 09 54 01.0 -0.8**
comp=Z,12nm,0.7s,baz=56,slow=2.2,SNR=7.9
BVAR LR LR 10 09 01.8
comp=Z,7μm,19.9s,baz=58,slow=36
HYT Haines Junctio 42.40 46 *e*P **P 09 52 12.2 +2.0**
SLVN Son La 42.73 239 *e*P **P 09 52 12.8 -0.4**
comp=Z,149nm,1.9s
AAA Alma-Ata 43.51 285 *i*P **P 09 52 19.0 -0.3**
AAA pmax pmax
comp=Z,2μm,4.9s
LSA Lhasa 43.61 260 P **P 09 52 20.0 -0.8**
LSA sP sP 09 52 35.0 +6.6
LSA S **S 09 58 46.3 -3.4**
LSA sS sS 09 59 05.1 +6.4
LSA PMZ
comp=Z,970nm,8.5s
LSA LN
comp=Z,3μm,11.9s
LSA LE
comp=Z,5μm,13.3s
LSA LZ
comp=Z,11μm,15.4s
LSA Lhasa 43.61 260 *e*P **P 09 52 20.0 -0.8**
LSA pmax pmax
comp=Z,33nm,0.6s
LSA MLR MLR
comp=Z,11μm,19.0s
LSA Lhasa 43.61 260 *e*P **P 09 52 20.0 -0.8**
comp=Z,33nm,0.6s
LSA LR LR
comp=Z,11μm,19.0s
SKAG Skagway 43.99 47 *e*P **P 09 52 24.4 +1.5**
comp=Z,109nm,1.0s
TKM2 Tokmak 2 44.52 286 P **P 09 52 27.9 +0.2**
SNR=27
TKM2 Tokmak 2 44.52 286 *e*P **P 09 52 27.3 -0.3**
TKM2 pmax pmax
comp=Z,20nm,0.8s
TKM2 MLR MLR
comp=Z,8μm,20.0s
TKM2 Tokmak 2 44.52 286 *e*P **P 09 52 27.3 -0.3**
comp=Z,20nm,0.8s
TKM2 LR LR
comp=Z,8μm,20.0s
ULHL Ulahol 44.54 285 P **P 09 52 29.6 +1.8**
SNR=5.1
ULHL Ulahol 44.54 285 *i*P **P 09 52 29.5 +1.8**
USP Ospenovka 44.97 287 P **P 09 52 30.2 -0.8**
SNR=40
USP Ospenovka 44.97 287 *i*P **P 09 52 30.2 -0.8**
CHMS Chumysh 44.98 286 P **P 09 52 31.0 -0.1**
SNR=7.8
CHMS Chumysh 44.98 286 *i*P **P 09 52 30.9 -0.1**
SVE Sverdlovsk 45.03 310*d i*P **P 09 52 31.5 +0.3**
SVE *e* 09 54 23.2
SVE *e*S **S 09 59 10.0 +1.2**
SVE *e* 10 02 30.1
SVE pmax pmax
comp=Z,199nm,1.1s
SVE MLR MLR
comp=Z,11μm,13.0s
KBK Karagaybulak 45.06 286 P **P 09 52 32.0 +0.1**
SNR=9.3
KBK Karagaybulak 45.06 286 *i*P **P 09 52 32.0 +0.1**
FRU Bishkek 45.15 286 *e*P **P 09 52 32.0 -0.4**
FRU *i* 09 54 10.0
FRU *e* 09 59 24.0
FRU *e* 10 02 30.0
FRU pmax pmax
comp=Z,210nm,2.2s
FRU MLR MLR
comp=Z,11μm,20.0s
SIT Sitka 45.18 50 *e*P **P 09 52 31.9 -0.5**
SIT pmax pmax
comp=Z,108nm,1.0s
SIT Sitka 45.18 50 *e*P **P 09 52 31.9 -0.5**
comp=Z,108nm,1.0s
KZA Kyzart 45.23 285 P **P 09 52 33.4 -0.1**
SNR=49
KZA Kyzart 45.23 285 *i*P **P 09 52 33.4 -0.1**
AAK Ala-Archa 45.34 286 P **P 09 52 33.3 -0.8**
SNR=30
AAK Ala-Archa 45.34 286⇓*e*P **P 09 52 33.0 -1.1**
AAK pmax pmax
comp=Z,50nm,0.7s
AAK MLR MLR
comp=Z,22μm,21.0s
AAK Ala-Archa 45.34 286 P **P 09 52 34.3 +0.1**
SNR=23
AAK Ala-Archa 45.34 286 PcP **PcP 09 54 13.5 +0.1**
comp=Z,12nm,0.9s,baz=194,slow=3.5,SNR=2.6
AAK Ala-Archa 45.34 286 *e*P **P 09 52 33.2 -1.0**
AAK PcP **PcP 09 54 13.5 +0.1**

AAK LR LR
comp=Z,12µm,21.0s
SOKR Solikamsk 45.38 315 *d iP* **P 09 52 31.4 -2.5**
SOKR 09 54 25.4
SOKR S **S 09 59 14.7 +1.1**
SOKR pmax pmax
comp=Z,110nm,2.2s
SOKR MLR MLR
comp=Z,9µm,14.0s
CRAI Chiangrai 45.52 242 P **P 09 52 34.3 -1.2**
comp=Z,26nm,1.2s
UCH Uchtor 45.58 286 P P 09 52 40.4 +4.0
SNR=7.0
UCH Uchtor 45.58 286 *i* P P 09 52 40.3 +4.0
HOPEN Hopen 45.63 343 *eP* **P 09 52 35.4 -0.3**
HOPEN IAmb IAmb 09 52 37.0
comp=Z,67nm,1.1s
HOPEN IVMs_BB IVMs_BB 10 16 10.3
comp=Z,3µm,10.3s
EKS2 Erkin-Say 45.75 287 P **P 09 52 37.6 +0.4**
SNR=24
EKS2 Erkin-Say 45.75 287 *eP* **P 09 52 36.8 -0.5**
EKS2 pmax pmax
comp=Z,29nm,0.9s
EKS2 MLR MLR
comp=Z,14µm,22.0s
EKS2 Erkin-Say 45.75 287 *eP* **P 09 52 36.8 -0.5**
comp=Z,29nm,0.9s
EKS2 LR LR
comp=Z,14µm,22.0s
SPA0 Spitsbergen Ar 45.88 347 *eP* **P 09 52 36.9 -0.8**
SPA0 *eP*P **PP 09 54 25.4 +0.6**
SPITS Spitsbergen Ar 45.88 347 LR LR 10 12 09.4
comp=Z,1µm,18.4s,baz=40,slow=36
KBS Kingsbay 45.92 348 *eP* **P 09 52 39.5 +1.5**
KBS *eP*P **PP 09 54 27.5 +2.2**
KBS Kingsbay 45.92 348 PFAKE 09 52 50.0 +12
KBS LR LR
comp=Z,2µm,20.0s
AML Almayashu 46.12 286 P **P 09 52 40.3 -0.2**
SNR=12
AML Almayashu 46.12 286 *i* P **P 09 52 40.3 -0.2**
SHL Shillong 46.20 255 *eP* **P 09 52 40.0 -1.1**
SHL *i* S **S 09 59 26.0 -0.7**
ARU Arti 46.22 310 *c iP* **P 09 52 39.7 -0.9**
ARU 09 54 12.2
ARU 09 54 29.0
ARU PPP PPP 09 55 06.5
ARU S **S 09 59 27.3 +1.4**
ARU SS **ScS 10 02 36.8 +2.2**
ARU SSS SSS 10 03 43.0
ARU pmax pmax
comp=Z,285nm,1.2s
ARU MLR MLR
comp=Z,7µm,13.0s
ARU Arti 46.22 310 *eP* **P 09 52 39.8 -0.8**
comp=Z,150nm,0.8s
ARU LR LR
comp=Z,8µm,19.0s
KSH Kashi 46.37 282 P P 09 52 46.0 +3.8
KSH sP sP 09 52 56.9 +7.1
KSH PP PP 09 54 36.0 +5.1
KSH S **S 09 59 32.3 +3.6**
KSH sS sS 09 59 45.5 +7.8
KSH ScS **ScS 10 02 36.1 -0.4**
KSH SS **SS 10 02 51.1 -2.9**
KSH PMZ
comp=Z,60nm,1.5s
KSH PMZ
comp=Z,680nm,3.5s
KSH LN
comp=Z,4µm,7.8s
KSH LE
comp=Z,6µm,11.0s
KSH LZ
comp=Z,8µm,10.3s
CMAI Chiengmai2 46.48 243 P **P 09 52 43.0 -0.3**
comp=Z,42nm,1.3s,comp=Z,1µm
HSPB Hornsund (broa 46.86 346 *eP* **P 09 52 46.6 +1.3**
HSPB IAmb IAmb 09 52 51.3
comp=Z,17nm,0.6s
HSPB IVMs_BB IVMs_BB 10 16 46.2
comp=Z,2µm,12.5s
DLBC Dease Lake 46.88 46 P **P 09 52 47.6 +1.8**
comp=Z,26nm,0.9s,baz=290,slow=9.6,SNR=17
DLBC Dease Lake 46.88 46 *eP* **P 09 52 48.4 +2.6**
WRAK Wrangell Islan 46.91 49 *eP* **P 09 52 47.5 +1.4**
comp=Z,80nm,1.1s
WRAK LR LR
comp=Z,5µm,19.0s
UBPT Khong Chiam 47.02 232 P **P 09 52 48.3 +1.0**
comp=Z,76nm,0.8s,comp=Z,1µm
DAV Davao City (W) 47.03 203 PFAKE 09 53 00.0 +13
DAV LR LR
comp=Z,3µm,22.0s
LAMP Lampang 47.31 241 P **P 09 52 50.3 +0.7**
comp=Z,11nm,1.3s,comp=Z,345nm
KK31 Karatay Array 47.40 289 *i* P **P 09 52 49.1 -1.0**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 47.40 289 *eP* **P 09 52 49.5 -0.6**
KKAR Karatay Array 47.40 289 *eP* **P 09 52 49.5 -0.6**
CMMT Chiang Mai 47.45 242 P **P 09 52 50.3 -0.4**
comp=Z,135nm,1.2s,comp=Z,2µm
CHTO Chiang Mai 47.45 242 *eP* **P 09 52 50.6 -0.1**
CHTO pmax pmax
comp=Z,108nm,1.6s
CHTO MLR MLR
comp=Z,3µm,19.0s
CHTO Chiang Mai 47.45 242 P **P 09 52 50.8 +0.1**
SNR=19
CHTO Chiang Mai 47.45 242 P **P 09 52 50.3 -0.4**
comp=Z,359nm,1.0s,comp=Z,6µm
CHTO Chiang Mai 47.45 242 *eP* **P 09 52 50.5 -0.1**
comp=Z,108nm,1.6s
CHTO LR LR
comp=Z,3µm,19.0s
UTTA Uttaradit 47.46 240 P **P 09 52 51.8 +1.1**
comp=Z,6.7nm,1.3s
CMAR Chiang Mai Arr 47.74 242 *i* P **P 09 52 53.0 +0.1**
CMAR pmax pmax
comp=Z,13nm,1.1s
CMAR Chiang Mai Arr 47.74 242 P **P 09 52 51.8 -1.2**
comp=Z,13nm,1.1s,baz=22,slow=6.8,SNR=40
CMAR LR LR 10 12 59.1
comp=Z,4µm,18.6s,baz=36,slow=36
RES Resolute Bay 47.86 18 P **P 09 52 53.1 -0.1**
RES pmax pmax
comp=Z,16nm,0.8s
RES Resolute Bay 47.86 18 P **P 09 52 53.1 -0.1**
comp=Z,16nm,0.8s,baz=305,slow=7.3,SNR=54
PBKT Sadao Pong 48.21 238 P **P 09 52 56.5 0.0**
comp=Z,79nm,1.2s
MHMT Maesarieng 48.52 243 P **P 09 52 59.8 +0.9**
comp=Z,53nm,1.5s,comp=Z,905nm
PRGR Permogore 48.88 321 *eP* **P 09 52 58.5 -2.7**
PRGR 09 54 23.6
PRGR S **S 10 00 00.4 -3.2**
PRGR pmax pmax
comp=Z,202nm,1.1s
APA Apatity 49.41 331 ⇓ *iP* **P 09 53 05.0 -0.2**
APA *i* S **S 10 00 08.0 -2.9**
APA *i* SS **SS 10 03 42.0 +0.1**
APA pmax pmax
comp=Z,96nm,1.5s
APA MLR MLR
comp=Z,6µm,15.0s
AB31 Akbulak array 49.58 301 *i* P **P 09 53 05.8 -1.0**
AB31 pmax pmax
comp=Z,60nm,0.8s
ABKAR Akbulak array 49.58 301 *eP* **P 09 53 05.9 -0.8**
comp=Z,30nm,0.6s
KEV Kevo 49.71 336 *eP* **P 09 53 06.3 -1.1**
KEV pmax pmax
comp=Z,6.0nm,0.7s
KEV Kevo 49.71 336 *ep* **P 09 53 06.3 -1.1**
comp=Z,5.9nm,0.7s
KEV Kevo 49.71 336 PFAKE 09 53 20.0 +13
KEV LR LR
comp=Z,3µm,19.0s
AKTO Aktyubinsk 49.88 304 P **P 09 53 08.0 -1.0**
AKTO pmax pmax
comp=Z,22nm,0.8s
AKTO Aktyubinsk 49.88 304 P **P 09 53 08.0 -1.0**
comp=Z,22nm,0.8s,baz=62,slow=7.6,SNR=34
AKTO LR LR 10 16 00.4
comp=Z,12µm,18.3s,baz=48,slow=38
TMCR Tamitsa 50.11 326 *eP* **P 09 53 10.5 0.0**
TMCR *e* 09 55 07.2
TMCR pmax pmax
comp=Z,90nm,1.3s
ARCES ARCESS Array B 50.24 336 P **P 09 53 11.3 -0.2**
comp=Z,10nm,1.1s,baz=42,slow=6.6,SNR=7.6
ARCES LR LR 10 16 57.5
comp=E,3µm,18.9s,baz=36,slow=39
ARE0 ARCESS Array S 50.24 336 *eP* **P 09 53 11.8 +0.3**
ARE0 *eP*P **PP 09 55 07.9 +1.5**
ARE0 IVMs_BB IVMs_BB 10 20 25.2
comp=Z,3µm,18.9s
YKA Yellowknife Ar 50.71 36 P **P 09 53 14.3 -0.7**
comp=Z,12nm,0.7s,baz=308,slow=7.4,SNR=223
YKA PKPPKP P'P'df 10 23 59.0 -10
comp=Z,0.2nm,0.7s,baz=156,slow=2.5,SNR=5.0
DAG Danmarks Havn 50.77 354 ⇑ *iP* **P 09 53 13.8 -1.5**
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG MLR MLR
comp=Z,2µm,15.0s
DAG Danmarks Havn 50.77 354 ⇑ *iP* **P 09 53 13.8 -1.5**
comp=Z,6.3nm,0.8s
KKM Kota Kinabalu 50.78 214 ⇑P **P 09 53 18.2 +1.9**
KKM Kota Kinabalu 50.78 214 PFAKE 09 53 30.0 +14
KKM LR LR
comp=Z,2µm,22.0s
KHLT Khaolaem Dam 50.94 240 P **P 09 53 18.7 +1.3**
comp=Z,34nm,1.3s,comp=Z,565nm
SRDT SRDT 51.03 239 P **P 09 53 19.0 +0.9**
comp=Z,220nm,1.2s,comp=Z,3µm
KTK1 Kautokeino 51.18 336 *eP* **P 09 53 19.4 +0.8**
SMLA Simla 51.19 272 *i P* **P 09 53 17.8 -1.3**
SMLA AMB AMB 09 53 23.2
comp=Z,170nm,1.3s
BHK Bhakra 51.45 273 *eP* **P 09 53 22.0 +0.9**
KLMR Klimovskoe 51.69 323 *eP* **P 09 53 19.6 -2.9**
KLMR *e* 09 54 32.3
KLMR 09 55 19.2
KLMR S **S 10 00 40.0 -2.7**
KLMR SS **SS 10 04 16.0 -2.4**
KLMR pmax pmax
comp=Z,224nm,1.5s
KLMR MLR MLR
comp=Z,6µm,13.0s
TRO Tromso 51.75 338 *eP* **P 09 53 22.8 +0.1**
TRO IAmb IAmb 09 53 24.5
comp=Z,89nm,1.1s
TRO *e*S **S 10 00 45.5 +2.2**
TSM Tawau 51.86 212 ⇑P **P 09 53 26.1 +1.9**
BISR Bishrakh 52.82 270 *ex* P 09 53 21.2 -10
BISR AMB AMB 09 53 23.7
comp=Z,88nm,0.1s
KULLO Kullorsuaq 52.86 6 ⇑ *iP* **P 09 53 29.9 -1.0**
KULLO pmax pmax
comp=Z,22nm,0.8s
KULLO MLR MLR
comp=Z,4µm,16.0s
KULLO Kullorsuaq 52.86 6 ⇑ *iP* **P 09 53 29.9 -1.0**
comp=Z,22nm,0.8s
NDI New Delhi 52.87 270 *eP* **P 09 53 31.0 -0.7**
NDI *e*S **S 10 01 00.0 +0.3**
SONA Sohna 53.26 270 *eP* **P 09 53 33.7 -0.9**
AGRA Agra 53.46 268 *eP* **P 09 53 35.1 -1.0**
AGRA AMB AMB 09 53 37.5
comp=Z,57nm,0.4s
KUDL Kundal 53.70 270 *eP* **P 09 53 36.1 -1.7**
KUDL AMB AMB 09 53 38.2
comp=Z,37nm,1.2s
KBL Kabul 53.80 282 *eP* **P 09 53 37.5 -1.2**
KBL Kabul 53.80 282 *eP* **P 09 53 37.5 -1.2**
SMPI Sarmi 54.05 185 P **P 09 53 43.0 +2.7**
comp=Z,207nm,1.2s,comp=Z,3µm
LBMI Labuha 54.09 198 P P 09 53 49.6 +8.9
KHET Khetri 54.18 271 *eP* **P 09 53 39.9 -1.4**
KHET AMB AMB 09 53 42.3
comp=Z,31nm,1.2s
BTM Bintulu 54.54 217 ⇑P **P 09 53 46.8 +2.7**
KAF Kangasniemi 55.39 329 *eP* **P 09 53 48.3 -1.2**
KAF pmax pmax
comp=Z,32nm,0.6s
KAF Kangasniemi 55.39 329 *ep* **P 09 53 48.3 -1.2**
comp=Z,32nm,0.6s
JMIC Jan Mayen 55.39 349 *eP* **P 09 53 49.5 0.0**
JMIC Jan Mayen 55.39 349 LR LR 10 18 21.9
comp=Z,884nm,18.0s,baz=32,slow=37
MOR8 Moi Rana 55.53 337 *eP* **P 09 53 49.1 -1.4**
MOR8 IAmb IAmb 09 53 50.8
comp=Z,71nm,1.2s
FAKI Fak Fak 55.55 192 P **P 09 53 48.9 -2.3**
comp=Z,112nm,1.3s,comp=Z,2µm
FAKI Fak Fak 55.55 192 *eP* **P 09 53 50.3 -0.9**
comp=Z,558nm,2.0s
SUMG Summit 55.55 0 ⇑ *iP* **P 09 53 50.8 -0.3**
SUMG pmax pmax
comp=Z,39nm,0.9s
SUMG Summit 55.55 0 ⇑ *iP* **P 09 53 50.8 -0.3**
comp=Z,39nm,0.9s
SUMG Summit 55.55 0 *eP* **P 09 53 50.4 -0.7**
comp=Z,55nm,1.0s
SBUM Sibu 55.56 217 ⇓P **P 09 53 52.2 +0.9**
SURT Suratani 55.76 235 P **P 09 53 55.0 +2.2**
comp=Z,21nm,0.7s,comp=Z,423nm
SANI Sanana 55.77 200 P P 09 53 49.5 -3.3
comp=Z,57nm,1.6s,comp=Z,3µm
MOS Moscow 55.87 319 *eP* **P 09 53 52.0 -1.1**
MOS *e* 09 54 45.2
MOS *e* 09 55 59.9
MOS *e*S S 10 01 45.9 +6.5
MOS pmax pmax
comp=Z,209nm,1.5s
MOS pmax pmax
comp=Z,900nm,2.8s
MOS MLR MLR
comp=Z,4µm,16.0s
FINES FINESS Array B 55.96 329 P **P 09 53 53.1 -0.6**
FINES 09 54 51.5
FINES pmax pmax
comp=Z,81nm,0.7s
FINES FINESS Array B 55.96 329 P **P 09 53 53.1 -0.6**
comp=Z,81nm,0.7s,baz=54,slow=7.5,SNR=135
FINES PcP **PcP 09 54 51.5 -0.4**
comp=Z,19nm,0.7s,baz=64,slow=4.4,SNR=3.7
A05A Maple Falls 56.38 52 *eP* **P 09 53 58.0 +1.1**
comp=Z,89nm,1.7s
NLWA Neilton Lookou 56.59 54 *eP* **P 09 54 00.7 +2.2**
comp=Z,34nm,1.2s
NLWA LR LR
comp=Z,4µm,20.0s
OBN Obninsk 56.74 319 *c iP* **P 09 53 58.2 -1.1**
OBN *i* 09 54 51.7
OBN *i* 09 56 05.9
OBN *i* S **S 10 01 47.7 -3.2**
OBN *i* SS **SS 10 05 40.8 +2.8**
OBN pmax pmax
comp=Z,176nm,1.2s
OBN MLR MLR
comp=Z,6µm,14.0s
OBN Obninsk 56.74 319 P **P 09 53 58.0 -1.3**
comp=Z,33nm,0.4s,baz=54,slow=3.5,SNR=25
OBN Obninsk 56.74 319 *eP* **P 09 53 59.4 +0.1**
comp=Z,176nm,1.2s
OBN LR LR
comp=Z,3µm,22.0s
KTGM Kuala Trenggan 56.79 229 ⇑P **P 09 54 01.4 +1.3**
B06A Marblemount 57.00 52 *eP* **P 09 54 02.1 +0.8**
comp=Z,34nm,0.9s
KSM Kuching 57.18 219 ⇑P **P 09 54 05.7 +2.8**
KSM Kuching 57.18 219 *eP* **P 09 54 03.1 +0.2**
comp=Z,53nm,1.4s
KSM LR LR
comp=Z,2µm,22.0s
NGP Nagpur 57.26 263 *eP* **P 09 54 02.5 -1.0**
NGP AMB AMB 09 54 03.6
comp=Z,133nm,1.2s
NGP *e*S **S 10 01 57.5 -1.2**
E03A Lebam 57.32 55 *eP* **P 09 54 06.5 +2.9**
comp=Z,45nm,0.9s
VRHR Novokhopersk 57.38 313 *eP* **P 09 54 01.0 -2.9**
VRHR pmax pmax
comp=Z,160nm,0.8s
VRHR pmax pmax
comp=N,150nm,1.0s
VRHR pmax pmax
comp=E,90nm,0.9s
VRHR MLR MLR
comp=N,4µm,13.0s
VRHR MLR MLR
comp=Z,5µm,13.0s
VRHR MLR MLR
comp=E,2µm,12.0s
EDM Edmonton 57.45 44 *eP* **P 09 54 04.1 -0.3**
EDM Edmonton 57.45 44 *eP* **P 09 54 04.1 -0.3**
comp=E,92nm,1.4s
POHA Pohakuloa 57.58 100 *eP* **P 09 54 07.3 +1.4**
comp=E,106nm,1.0s
POHA LR LR
comp=Z,3µm,20.0s
D05A Enumclaw 57.67 53 *eP* **P 09 54 07.6 +1.5**
comp=Z,151nm,1.8s
IMYA Miami 57.88 289 *eP* **P 09 54 07.3 -0.5**
F04D Rainier, OR 57.92 55 ⇓P **P 09 54 08.5 +0.7**
baz=58
GEYT Alibeck 57.93 292 P **P 09 54 07.5 -0.5**
comp=Z,19nm,0.6s,baz=29,slow=3.4,SNR=32
GEYT LR LR 10 20 50.0
comp=Z,7µm,18.5s,baz=50,slow=38
VSU Vasula 57.98 326 *d iP* **P 09 54 08.0 0.0**
VSU pmax pmax
comp=Z,443nm,1.2s
VSU MLR MLR
comp=Z,8µm,20.0s
KULM Kulim 58.00 231 ⇓P **P 09 54 10.5 +1.9**
KULM Kulim 58.00 231 *eP* P 09 54 05.1 -3.5
comp=Z,49nm,1.4s
KULM LR LR
comp=Z,6µm,21.0s
STKI Sintang 58.03 217 P **P 09 54 11.9 +3.0**
comp=Z,66nm,1.4s,comp=Z,20µm
LON Longmire 58.06 54 *eP* **P 09 54 10.6 +1.7**
LON pmax pmax
comp=Z,29nm,1.5s
LON Longmire 58.06 54 *eP* **P 09 54 10.6 +1.7**
comp=Z,29nm,1.5s
ISRO Mashad 58.27 290 *eP* **P 09 54 09.9 -0.6**
LTY Liberty 58.27 53 *eP* **P 09 54 10.8 +0.5**
comp=Z,70nm,1.7s
F04A Amboy 58.32 55 *eP* **P 09 54 11.9 +1.3**
comp=Z,23nm,0.9s
G03D McMinnville, O 58.39 56 ⇑P **P 09 54 11.7 +0.6**
baz=58
VSR Storozhevoye 58.40 314 *eP* **P 09 54 09.2 -1.9**
VSR pmax pmax
comp=Z,90nm,1.0s
VSR pmax pmax
comp=N,110nm,1.2s
VSR pmax pmax
comp=E,100nm,1.3s
VSR MLR MLR
comp=N,6µm,13.0s
VSR MLR MLR
comp=Z,10µm,13.0s
VSR MLR MLR
comp=E,5µm,14.0s
VORD Divnogorie 58.52 314 *eP* **P 09 54 10.1 -1.8**
VORD pmax pmax
comp=Z,70nm,1.0s
VORD pmax pmax
comp=N,60nm,0.9s
VORD pmax pmax
comp=E,50nm,0.9s
VORD MLR MLR
comp=Z,7µm,13.0s
VORD MLR MLR
comp=N,4µm,12.0s
VORD MLR MLR
comp=E,5µm,14.0s
IPM Ipoh 58.52 231 ⇓P **P 09 54 12.4 0.0**
IPM Ipoh 58.52 231 *eP* **P 09 54 11.8 -0.6**
comp=E,28nm,1.0s
ILULI Ilulissat 58.53 6 ⇑ *iP* **P 09 54 10.7 -1.0**
ILULI pmax pmax
comp=Z,16nm,0.8s
ILULI MLR MLR
comp=Z,3µm,18.0s
ILULI Ilulissat 58.53 6 ⇑ *iP* **P 09 54 10.7 -1.0**
comp=Z,16nm,0.8s
C09A Chrisman Ranch 59.05 51 *eP* **P 09 54 16.3 +0.6**
comp=Z,105nm,1.9s
E07A Sunnyside 59.16 53 *eP* **P 09 54 17.3 +0.8**
comp=Z,101nm,1.8s
D08A Wollman Farm, 59.26 52 *eP* **P 09 54 17.3 +0.2**
comp=Z,110nm,2.1s
NEW Newport 59.27 50 *eP* **P 09 54 17.8 +0.6**
NEW pmax pmax
comp=Z,82nm,2.0s
NEW MLR MLR
comp=Z,4µm,20.0s
NEW Newport 59.27 50 ⇑P **P 09 54 17.4 +0.1**
baz=59,SNR=9.7
NEW Newport 59.27 50 *eP* **P 09 54 17.8 +0.6**
comp=Z,82nm,2.0s
NEW LR LR
comp=Z,4µm,20.0s
H04A Detroit Lake 59.31 56 *eP* **P 09 54 18.6 +1.0**
comp=Z,77nm,1.5s
G05D Wamic, OR 59.36 55 ⇑P **P 09 54 18.7 +0.8**
baz=59
I03D Drain, OR 59.41 57 ⇑P **P 09 54 19.1 +0.9**
baz=59
HAWA Hanford 59.43 53 *eP* **P 09 54 19.2 +0.8**
comp=Z,104nm,1.8s
HAWA LR LR
comp=Z,4µm,21.0s
MYKOM Kota Tinggi 59.59 226 ⇓P P 09 54 23.1 +3.4
G06A Carlson Farm, 59.70 54 *eP* **P 09 54 21.3 +1.0**
comp=Z,130nm,2.1s
I04A Tendick Farm, 59.82 57 ⇓P **P 09 54 21.7 +0.5**
baz=60,SNR=9.3
I05D Terrebonne, OR 59.98 55 ⇑P **P 09 54 22.7 +0.5**
baz=60,SNR=9.1
E09A Wood Farm, Sta 60.02 52 *eP* **P 09 54 22.7 +0.3**
comp=Z,56nm,1.2s
KAPI Kappang 60.13 206 P **P 09 54 23.9 +0.5**
SNR=40
KAPI Kappang 60.13 206 *eP* **P 09 54 22.9 -0.5**
comp=Z,113nm,2.0s
KAPI LR LR
comp=Z,706nm,20.0s
WALA Waterton Lakes 60.18 47 *eP* **P 09 54 23.2 -0.4**
comp=Z,65nm,1.1s
MAK Makhachkala 60.22 303 *eP* **P 09 54 21.5 -2.3**
MAK *e* 09 55 05.1
MAK S **S 10 02 37.2 +0.6**
MAK *e* 10 04 13.5
MAK pmax pmax
comp=Z,291nm,1.2s
MAK MLR MLR
comp=Z,8µm,10.0s
BBOR Butler Butte 60.32 57 P **P 09 54 26.3 +1.6**
FCC Fort Churchill 60.33 30 *eP* **P 09 54 24.2 -0.1**
FCC Fort Churchill 60.33 30 *eP* **P 09 54 24.2 -0.1**
comp=Z,55nm,1.4s
L02D Cave Junction, 60.36 59 ⇓P **P 09 54 25.2 +0.4**
baz=60
J04D Umpqua Nationa 60.37 57 ⇑P **P 09 54 25.3 +0.2**
baz=60
HUMO Hull Mountain 60.38 58 *eP* **P 09 54 26.1 +1.2**
comp=Z,35nm,1.3s
IDID Didziasalis 60.39 324 *eP* **P 09 54 24.7 0.0**
IDID AMB AMB 09 54 27.5
comp=Z,41nm,1.2s
HYB Hyderabad 60.41 260 *i P* **P 09 54 24.5 -0.9**
ISAL Salakas 60.41 324 *eP* **P 09 54 25.0 +0.1**
ISAL AMB AMB 09 54 27.6
comp=Z,33nm,1.1s
G08A Pilot Rock 60.50 53 *eP* **P 09 54 26.7 +0.9**
comp=Z,62nm,1.9s
IIGN Ignalina 60.55 324 *eP* **P 09 54 25.4 -0.4**
IIGN AMB AMB 09 54 28.1
comp=Z,53nm,1.3s
MICGM Minsk 60.59 322 ⇑ *eP* **P 09 54 24.0 -2.2**
NB2 NORSAR Subarra 60.60 335 P **P 09 54 25.2 -1.0**
comp=Z,63nm,0.8s,baz=32,slow=6.9
NB2 NORSAR Subarra 60.60 335 P **P 09 54 25.2 -1.0**
baz=32,slow=6.9
NOA NORSAR Array B 60.60 335 P **P 09 54 25.2 -1.0**
NOA pmax pmax
comp=Z,42nm,0.7s
NOA NORSAR Array B 60.60 335 P **P 09 54 25.2 -1.0**
comp=Z,4.4nm,0.6s,baz=32,slow=7.1,SNR=108
NOA LR LR 10 24 24.6

comp=Z,3μm,18.2s,baz=30,slow=40
MNK Minsk 60.61 322 *ce*P **P 09 54 24.0 -2.3**
MNK *e* 09 54 24.0
MNK *e* 09 55 09.0
MNK *e*PPP PPP 09 58 08.0
MNK *e*S S 10 02 34.0 -7.3
MNK *e*PS **PnS 10 02 50.0 -5.1**
MNK pmax pmax
comp=Z,380nm,1.2s
MNK pmax pmax
comp=N,270nm,1.2s
MNK MLR MLR
comp=Z,24μm,14.0s
MNK MLR MLR
comp=Z,23μm,13.0s
MNK MLR MLR
comp=N,16μm,12.0s
BSMT Bassoo Peak 60.65 49 *e*P **P 09 54 26.6 -0.3**
AKN Aaknes 60.66 338 *e*P **P 09 54 27.1 +0.6**
NACGM Naroch 60.70 323 *e*P P 09 54 23.0 -3.8
HFS Hagfors 60.70 333 P **P 09 54 26.1 -0.7**
HFS pmax pmax
comp=Z,65nm,0.7s
HFS Hagfors 60.70 333 P **P 09 54 26.1 -0.7**
comp=Z,65nm,0.7s,baz=57,slow=5.3,SNR=18
BLMT Blacktail Moun 60.73 49 *e*P **P 09 54 28.5 +0.9**
SFJD Kangerlussuaq 60.76 6⇑*i*P **P 09 54 26.5 -0.6**
SFJD pmax pmax
comp=Z,31nm,0.8s
SFJD MLR MLR
comp=Z,1μm,18.0s
SFJD Kangerlussuaq 60.76 6⇑*i*P **P 09 54 26.5 -0.6**
comp=Z,31nm,0.7s
SFJD Kangerlussuaq 60.76 6 P **P 09 54 26.2 -0.9**
comp=Z,37nm,0.8s,baz=358,slow=6.0,SNR=15
SFJD Kangerlussuaq 60.76 6 *e*P **P 09 54 26.7 -0.4**
comp=Z,32nm,0.8s
SFJD LR LR
comp=Z,2μm,19.0s
NC602 NORSAR Array S 60.77 335 *e*P **P 09 54 26.5 -0.8**
J05D Fort Rock, OR 60.78 56⇓P **P 09 54 28.9 +1.0**
baz=61,SNR=20
FFC Flin Flon 60.86 37 *e*P **P 09 54 27.3 -0.7**
FFC pmax pmax
comp=Z,84nm,1.1s
FFC MLR MLR
comp=Z,3μm,20.0s
FFC Flin Flon 60.86 37 *e*P **P 09 54 27.2 -0.7**
comp=Z,76nm,1.1s
FFC LR LR
comp=Z,3μm,20.0s
JTMT Jette 60.96 49 *e*P **P 09 54 29.4 +0.5**
GOF Gofitskoye 60.99 307 *e*P **P 09 54 29.4 +0.4**
GOF pmax pmax
comp=Z,200nm,1.3s
K04D Chiloquin, OR 60.99 57⇑P **P 09 54 29.6 +0.3**
baz=61
YBMT Yellow Bay 61.00 48 *e*P **P 09 54 30.1 +0.9**
ITEG Tejag 61.09 287 *e*P **P 09 54 28.9 -1.2**
I07A Izee 61.09 55 *e*P **P 09 54 31.2 +1.3**
YBH Yreka Blue Hor 61.13 58 P **P 09 54 31.5 +1.4**
YBH pmax pmax
comp=Z,5.0nm,0.7s
YBH Yreka Blue Hor 61.13 58 P **P 09 54 31.5 +1.4**
comp=Z,5.4nm,0.7s,baz=7.4,slow=5.8,SNR=15
KHMM Horse Mountain 61.20 60 *e*P P 09 54 33.9 +3.2
SWMT Swartz Lake 61.27 49 *e*P **P 09 54 31.7 +0.7**
M02C Callahan 61.29 59⇑P **P 09 54 32.2 +0.9**
baz=61
PMG Port Moresby 61.46 175 *i*P **P 09 54 31.1 -1.3**
PMG Port Moresby 61.46 175 PFAKE 09 54 40.0 +7.6
PMG LR LR
comp=Z,1μm,21.0s
M04C Macdoel 61.55 58⇓P **P 09 54 33.2 +0.2**
baz=61,SNR=10
FOO Floro 61.62 338 *e*P **P 09 54 33.4 +0.5**
BMO Blue Mountains 61.63 53 *e*P **P 09 54 33.7 +0.2**
comp=Z,24nm,1.2s
BMO LR LR
comp=Z,5μm,22.0s
OSL Oslo 61.67 335 *e*P **P 09 54 33.9 +0.5**
N02D Trinity Center 61.67 59⇑P **P 09 54 34.4 +0.6**
baz=62,SNR=7.2
SLMT Seeley Lake 61.70 49 *e*P **P 09 54 34.5 +0.5**
HYA Hoyanger 61.73 338 *e*P **P 09 54 33.8 +0.1**
HYA IAmb IAmb 09 54 35.9
comp=Z,78nm,0.4s
MSO Missoula 61.79 49⇑P **P 09 54 34.5 -0.1**
baz=62,SNR=29
MSO Missoula 61.79 49 *e*P **P 09 54 34.9 +0.3**
FRB Frobisher Bay 61.93 15 P **P 09 54 34.0 -1.0**
FRB pmax pmax
comp=Z,39nm,0.7s
FRB Frobisher Bay 61.93 15 P **P 09 54 34.0 -1.0**
comp=Z,39nm,0.7s,baz=347,slow=8.1,SNR=84
KIV Kislovodsk 61.96 306 *e*P **P 09 54 35.8 +0.1**
KIV *e* 09 56 52.2
KIV *e*PPP PPP 09 58 18.2
KIV *e*S **S 10 03 01.2 +2.3**
KIV *e*SS **SS 10 07 03.1 +2.5**
KIV *e*SSS SSS 10 09 48.3
KIV pmax pmax
comp=Z,149nm,1.1s
KIV pmax pmax
comp=Z,871nm,6.7s
KIV MLR MLR
comp=Z,5μm,17.0s
KIV Kislovodsk 61.96 306 P **P 09 54 36.4 +0.7**
SNR=20
KIV Kislovodsk 61.96 306⇓*i*P **P 09 54 35.8 +0.1**
SNR=16
KIV Kislovodsk 61.96 306 *e*P **P 09 54 36.2 +0.5**
comp=Z,238nm,1.3s
KIV LR LR
comp=Z,6μm,20.0s
KBZ Khabaz 62.02 306 P **P 09 54 36.2 +0.3**
comp=Z,18nm,0.8s,baz=24,slow=8.1,SNR=26
KBZ LR LR 10 24 49.7
comp=Z,8μm,19.5s,baz=42,slow=39
CHMT Chamberlain Mo 62.05 49 *e*P **P 09 54 36.5 +0.1**
IANJ Anjilo 62.05 293 *e*P **P 09 54 36.2 -0.4**
KIPM Iron Peak 62.09 60 *e*P **P 09 54 38.0 +1.2**
comp=Z,52nm,1.2s
SUE Sulen 62.16 338 *e*P **P 09 54 38.6 +2.0**
KONO Kongsberg 62.21 335 *e*P **P 09 54 37.5 +0.5**
KONO *e*S **S 10 03 05.8 +4.4**
KONO Kongsberg 62.21 335 *e*P **P 09 54 37.0 0.0**
KONO pmax pmax
comp=Z,70nm,1.2s
KONO MLR MLR
comp=Z,2μm,19.0s
KONO Kongsberg 62.21 335 *e*P **P 09 54 37.0 0.0**
comp=Z,70nm,1.2s
KONO LR LR
comp=Z,2μm,19.0s
MOD Modoc Plateau 62.26 57 *e*P **P 09 54 38.3 +0.5**
comp=Z,98nm,1.9s
POO Poona 62.43 265⇓*i*P **P 09 54 39.0 -0.1**
comp=Z,92nm,1.2s
POO *e*PPP PPP 09 58 25.0
POO *e*PCS **PcS 09 59 22.0 0.0**
POO *i*x x 10 03 00.0
POO *e*SCS **SKSac 10 04 28.5 -2.2**
ASK Askoy 62.57 338 *e*P **P 09 54 40.6 +1.3**
A19A Klindworth Far 62.57 45⇑P **P 09 54 39.7 0.0**
baz=62,SNR=96
RUND Rundenannen 62.59 338 *e*P **P 09 54 39.0 -0.6**
BER Bergen 62.62 338 *e*P **P 09 54 39.8 +0.1**
BER *e*S **S 10 03 09.1 +2.6**
SUW Suwalki 62.70 325 *e*P **P 09 54 40.0 -0.4**
SUW pmax pmax
comp=Z,150nm,0.9s
SUW Suwalki 62.70 325 *e*P **P 09 54 39.9 -0.4**
SUW Suwalki 62.70 325 *e*P **P 09 54 40.0 -0.4**
comp=Z,150nm,0.9s
WVOR Wild Horse Val 62.72 55 *e*P **P 09 54 42.2 +1.3**
WVOR pmax pmax
comp=Z,37nm,1.1s
WVOR MLR MLR
comp=Z,4μm,22.0s
WVOR Wild Horse Val 62.72 55 *e*P **P 09 54 42.1 +1.3**
comp=Z,37nm,1.1s
WVOR LR LR
comp=Z,4μm,22.0s
ODD1 Odda 62.73 337 *e*P **P 09 54 40.9 +0.4**

BORG Borgarnes 62.74 352 PFAKE 09 54 50.0 +10
BORG LR LR
comp=Z,2μm,19.0s
EGMT Eagleton 62.81 46⇑P **P 09 54 41.2 -0.1**
baz=63,SNR=51
EGMT Eagleton 62.81 46 *e*P **P 09 54 41.0 -0.3**
comp=Z,78nm,1.0s
EGMT LR LR
comp=Z,5μm,21.0s
B19A Brinkman Farms 62.84 45⇓P **P 09 54 41.5 0.0**
baz=63,SNR=48
HRY Holter Researc 62.86 48 *e*P **P 09 54 41.9 +0.2**
comp=Z,64nm,0.9s
GSI Gunungsitoli 62.95 232 *e*P **P 09 54 42.2 -0.3**
comp=Z,83nm,1.1s
A20A Cobblestone Ra 62.96 44⇑P **P 09 54 42.8 +0.5**
baz=63,SNR=32
MMRI Maumere 62.98 202 *e*P **P 09 54 41.7 -0.9**
comp=Z,204nm,1.3s
AKASG Malin Array Be 63.00 319 P **P 09 54 41.2 -1.2**
AKASG pmax pmax
comp=Z,30nm,0.9s
AKASG MLR MLR
comp=Z,4μm,18.1s
AKASG Malin Array Be 63.00 319 P **P 09 54 41.1 -1.2**
comp=Z,30nm,0.9s,baz=36,slow=6.8,SNR=54
AKASG LR LR 10 23 08.9
comp=Z,4μm,18.1s,baz=40,slow=37
KIEV Kiev 63.01 319 *ce*P **P 09 54 41.4 -1.0**
KIEV Kiev 63.01 319 *e*P **P 09 54 41.4 -1.0**
comp=Z,130nm,1.5s
KIEV LR LR
comp=Z,6μm,19.0s
BLS5 Blasjo 63.20 337 *e*P **P 09 54 44.0 +0.3**
LRM Limekiln Ridge 63.23 49 *e*P **P 09 54 44.8 +0.4**
comp=Z,185nm,0.9s
B20A Solberg Farm, 63.25 45⇑P **P 09 54 44.2 0.0**
baz=63,SNR=6.5
A21A Bergtoll Ranch 63.30 44⇓P **P 09 54 45.1 +0.6**
baz=63,SNR=52
C19A Slack Wire Ran 63.34 46⇓P **P 09 54 45.5 +0.6**
baz=63,SNR=46
MFID Camas Ranch 63.40 53 *e*P **P 09 54 46.3 +0.9**
comp=Z,68nm,1.5s
LCCM Lewis and Clar 63.49 49 P **P 09 54 46.8 +0.9**
SOEI Soe 63.61 200 *e*P **P 09 54 45.2 -1.7**
comp=Z,40nm,0.9s
KMY Karmoy 63.68 337 *e*P **P 09 54 46.4 -0.4**
GNI Garni 63.69 302 *ce*P **P 09 54 49.1 +1.8**
GNI pmax pmax
comp=Z,85nm,1.7s
GNI MLR MLR
comp=Z,4μm,18.0s
GNI Garni 63.69 302 P **P 09 54 49.9 +2.6**
SNR=5.2
GNI Garni 63.69 302 P **P 09 54 47.1 -0.2**
comp=Z,4.9nm,0.4s,baz=210,slow=9.8,SNR=5.8
GNI Garni 63.69 302⇑*i*P **P 09 54 45.7 -1.7**
SNR=6.2
GNI Garni 63.69 302 *e*P **P 09 54 48.2 +0.8**
comp=Z,80nm,1.4s
GNI LR LR
comp=Z,4μm,22.0s
HOMB Homborsund 63.69 335 *e*P **P 09 54 47.7 +0.9**
HOMB IVMs_BB IVMs_BB 10 26 00.8
comp=Z,2μm,13.5s
B21A Ellsworth Farm 63.69 44⇓P **P 09 54 47.3 +0.2**
baz=64,SNR=12
SOC Sochi 63.69 308 *c i*P **P 09 54 46.6 -0.5**
SOC *e*S **S 10 03 19.4 -1.1**
SOC pmax pmax
comp=Z,75nm,0.9s
SOC MLR MLR
comp=Z,6μm,17.0s
A22A Carney Farms, 63.73 43⇓P **P 09 54 46.8 -0.5**
baz=64,SNR=75
BOZ Bozeman (W) 63.75 49 *e*P **P 09 54 47.5 -0.2**
BOZ pmax pmax
comp=Z,22nm,0.8s
BOZ Bozeman (W) 63.75 49 *e*P **P 09 54 47.5 -0.2**
comp=Z,19nm,0.8s
MCMT McKenzie Canyo 63.79 50 P **P 09 54 48.8 +0.8**
C20A Veseth Ranch, 63.81 45⇑P **P 09 54 47.7 -0.2**
baz=64,SNR=52
D19A Cripps Ranch, 63.85 46⇓P **P 09 54 48.3 +0.1**
baz=64,SNR=36
ANN Anapa 63.88 310 *e*P **P 09 54 47.2 -1.1**
ANN *e*PP **pP 09 54 52.2 -1.8**
ANN *e* 09 57 10.8
ANN *e*PPP PPP 09 58 44.2
ANN *e*S **S 10 03 25.3 +2.6**
ANN *e*SS **SS 10 07 33.1 +2.9**
ANN *e*SSS SSS 10 10 23.2
ANN pmax pmax
comp=Z,140nm,1.4s
ANN MLR MLR
comp=E,2μm,12.0s
ANN MLR MLR
comp=Z,4μm,12.0s
ANN MLR MLR
comp=N,3μm,12.0s
SNART Snartemo 63.96 336 *e*P **P 09 54 48.9 +0.3**
HLID Hailey 63.98 52⇑P **P 09 54 49.6 +0.3**
baz=64,SNR=18
HLID Hailey 63.98 52 *e*P **P 09 54 50.1 +0.8**
comp=N,45nm,1.5s
HLID LR LR
comp=Z,4μm,22.0s
C21A Desert Coulee 64.12 45⇑P **P 09 54 49.9 -0.1**
baz=64,SNR=21
A23A Redstone 64.19 42⇑P **P 09 54 50.5 +0.1**
baz=64
B22A Reddig Ranch S 64.23 44⇑P **P 09 54 50.9 +0.2**
baz=64,SNR=12
D20A Manuel Ranch, 64.23 46⇑P **P 09 54 51.4 +0.6**
baz=64,SNR=40
LRW Lerwick 64.27 341 *e*P **P 09 54 49.8 -0.8**
E19A Rath Farm, Rou 64.42 46⇓P **P 09 54 52.6 +0.6**
baz=64,SNR=51
QLMT Earthquake Lak 64.45 49 *e*P **P 09 54 53.6 +1.2**
comp=Z,3.6nm,1.0s
B23A Brockton 64.52 43⇑P **P 09 54 52.6 0.0**
baz=64,SNR=19
BSD Bornholm Skovb 64.56 330⇑*i*P **P 09 54 52.1 -0.5**
BSD pmax pmax
comp=Z,84nm,0.8s
BSD MLR MLR
comp=Z,3μm,14.0s
BSD Bornholm Skovb 64.56 330⇑*i*P **P 09 54 52.1 -0.5**
comp=Z,84nm,0.8s
A24A Westby 64.58 42⇑P **P 09 54 52.9 0.0**
baz=64,SNR=22
E20A Meyer Farm, Mu 64.68 46⇑P **P 09 54 54.1 +0.4**
baz=64,SNR=21
C22A Vida 64.70 44⇓P **P 09 54 53.5 -0.2**
baz=64,SNR=16
D21A La Casta Ranch 64.75 45⇑P **P 09 54 54.2 +0.1**
baz=65,SNR=18
YMR Madison River 64.79 49 *e*P **P 09 54 55.3 +0.7**
comp=Z,171nm,1.6s
F19A Roth Farm, Mol 64.82 47⇑P **P 09 54 54.4 -0.2**
baz=65,SNR=48
COP Copenhagen 64.83 331⇑*i*P **P 09 54 53.5 -0.8**
COP pmax pmax
comp=Z,34nm,1.0s
COP MLR MLR
comp=Z,2μm,14.0s
COP Copenhagen 64.83 331⇑*i*P **P 09 54 53.5 -0.8**
comp=Z,34nm,0.9s
YNR Norris Junctio 64.89 49 *e*P **P 09 54 56.5 +1.3**
comp=Z,34nm,1.1s
BMN Battle Mountai 64.92 56 *e*P **P 09 54 55.5 +0.1**
BMN pmax pmax
comp=Z,25nm,1.0s
BMN Battle Mountai 64.92 56 *e*P **P 09 54 55.5 +0.1**
comp=Z,25nm,1.0s
A25A Svangstu Ranch 64.93 41⇓P **P 09 54 54.9 -0.3**
baz=65,SNR=14
C23A Lambert 64.96 43⇑P **P 09 54 55.4 0.0**
baz=65,SNR=38
YFT Old Faithful 65.02 49 *e*P **P 09 54 57.4 +1.3**
comp=Z,75nm,0.9s
CMB Columbia Colle 65.04 60 *e*P **P 09 54 56.8 +0.7**
CMB pmax pmax
comp=Z,45nm,1.3s
CMB Columbia Colle 65.04 60 *e*P **P 09 54 56.8 +0.7**
comp=Z,45nm,1.3s

D22A Cohagen 65.04 44⇓P **P 09 54 55.5 -0.5**
baz=65
MUD Monsted U'grnd 65.09 333⇑*i*P **P 09 54 57.0 +1.0**
MUD pmax pmax
comp=Z,33nm,1.1s
MUD MLR MLR
comp=Z,4μm,12.0s
MUD Monsted U'grnd 65.09 333⇑*i*P **P 09 54 57.0 +1.0**
comp=Z,33nm,1.0s
E21A Keefer Ranch, 65.12 45⇑P **P 09 54 56.5 0.0**
baz=65,SNR=16
LKWY Lake 65.13 49 *e*P **P 09 54 58.7 +1.8**
LKWY pmax pmax
comp=Z,7.0nm,0.4s
LKWY MLR MLR
comp=Z,8μm,20.0s
LKWY Lake 65.13 49 *e*P **P 09 54 58.7 +1.8**
comp=Z,7.2nm,0.4s
LKWY LR LR
comp=Z,8μm,20.0s
H17A Grant Village 65.18 49⇓P **P 09 54 58.1 +0.9**
baz=65,SNR=43
H17A Grant Village 65.18 49 *e*P **P 09 54 58.5 +1.3**
comp=Z,50nm,1.0s
LLD Lille Linde 65.19 331 *i*P **P 09 54 56.9 +0.2**
LLD Lille Linde 65.19 331 *i*P **P 09 54 56.9 +0.2**
WAKR Walker 65.19 59 *e*P **P 09 54 58.0 +0.7**
comp=Z,26nm,1.1s
F20A Billings 65.22 47⇓P **P 09 54 57.4 +0.3**
baz=65,SNR=13
RLMT Red Lodge 65.23 48 *e*P **P 09 54 57.5 0.0**
comp=Z,79nm,0.9s
RLMT LR LR
comp=Z,5μm,21.0s
BEL Belsk 65.31 324 *e*P **P 09 54 57.9 +0.4**
BEL Belsk 65.31 324 *e*P **P 09 54 57.8 +0.3**
SIM Simferopol' 65.31 312 *e*P **P 09 54 55.8 -1.9**
SIM *e* 09 57 25.0
SIM *e*S **S 10 03 42.0 +1.6**
SIM pmax pmax
comp=Z,35nm,0.8s
SIM pmax pmax
comp=Z,350nm,9.4s
SIM MLR MLR
comp=Z,2μm,15.0s
GKP Gorka Klasztor 65.36 327 *e*P **P 09 54 57.8 -0.1**
GKP Gorka Klasztor 65.36 327 *e*P **P 09 54 57.7 -0.1**
LAO LASA Array 65.38 45 *e*P **P 09 54 57.7 -0.5**
comp=Z,42nm,1.0s
LAO LR LR
comp=Z,3μm,20.0s
H18A Shoshone NF, C 65.39 48⇓P **P 09 54 58.3 -0.2**
baz=65,SNR=17
A26A Wade Farm, Ken 65.40 41⇓P **P 09 54 58.1 -0.1**
baz=65,SNR=16
B25A Knox Farm, Ray 65.44 42⇓P **P 09 54 58.8 +0.4**
baz=65,SNR=16
D23A Lindsay 65.44 44⇓P **P 09 54 58.4 -0.1**
baz=65
C24A Savage 65.49 43⇑P **P 09 54 58.4 -0.5**
baz=65
I17A Pilgrim Ck. 65.54 49⇓P **P 09 55 00.0 +0.5**
baz=65,SNR=25
G20A Bridger 65.63 47⇓P **P 09 54 59.7 -0.3**
baz=66
F21A Absaloka Mine, 65.65 46⇑P **P 09 55 00.1 +0.1**
baz=66,SNR=6.5
ELK Elko 65.68 55 P **P 09 55 00.6 +0.1**
ELK pmax pmax
comp=Z,18nm,1.0s
ELK Elko 65.68 55 P **P 09 55 00.6 +0.1**
comp=Z,18nm,1.0s,baz=353,slow=4.0,SNR=36
E22A Miles City 65.69 45⇓P **P 09 55 00.2 0.0**
baz=66,SNR=21
H19A Powell 65.70 48⇑P **P 09 55 00.8 +0.4**
baz=66,SNR=24
B26A Jensen Ranch, 65.73 41⇓P **P 09 55 00.9 +0.5**
baz=66,SNR=18
LVV L'vov 65.74 321 *e*P **P 09 55 00.4 0.0**
LVV *e* 09 55 25.8
LVV *e* 09 57 30.0
LVV *e*PPP PPP 09 58 59.6
LVV *e*S **S 10 03 43.6 -1.9**
LVV *e*SSS SSS 10 11 00.8
LVV MLR MLR
comp=E,5μm,13.0s
LVV MLR MLR
comp=Z,4μm,13.0s
LVV MLR MLR
comp=N,3μm,14.0s
C25A Freed Ranch, W 65.84 42⇓P **P 09 55 01.6 +0.5**
baz=66,SNR=10
NVAR Mina Array Bea 65.84 58 P **P 09 55 01.6 +0.1**
comp=N,21nm,1.0s,baz=303,slow=6.1,SNR=56
NVAR PKPPKP **P'P'df 10 23 40.0 -3.7**
comp=N,0.4nm,0.8s,baz=151,slow=3.4,SNR=3.8
COEN Coen 65.85 179 *e*P **P 09 55 01.6 +0.3**
comp=N,96nm,1.3s
D24A Glendive 65.86 43⇑P **P 09 55 01.1 -0.1**
baz=66,SNR=36
E23A Ismay 65.92 44⇑P **P 09 55 01.7 0.0**
baz=66,SNR=23
KIS Kishinev 66.05 317α*i*P **P 09 55 02.0 -0.4**
KIS *e* 09 55 30.0
KIS *e*PPP PPP 09 59 12.0
KIS *e*S **S 10 03 54.0 +4.6**
KIS pmax pmax
comp=Z,1μm,5.0s
KIS Kishinev 66.05 317⇑*i*P **P 09 55 02.0 -0.4**
comp=Z,400nm,2.0s
KIS Kishinev 66.05 317 *e*PcP **PcP 09 55 30.0 -2.9**
KIS Kishinev 66.05 317 *e*PP PP 09 57 20.0 -7.3
KIS Kishinev 66.05 317 *e*PPP PPP 09 59 12.0
KIS *e*S **S 10 03 54.0 +4.6**
F22A Rosebud 66.07 45⇓P **P 09 55 02.3 -0.3**
baz=66,SNR=31
G21A Lodge Grass 66.08 46⇑P **P 09 55 02.8 0.0**
baz=66,SNR=13
A28A Rude Farm, Bot 66.09 40⇑P **P 09 55 02.7 -0.1**
baz=66,SNR=19
B27A Peters Farms, 66.10 41⇑P **P 09 55 02.1 -0.6**
baz=66
HVU Hansel Valley 66.12 52 *e*P **P 09 55 04.2 +1.0**
HVU pmax pmax
comp=Z,108nm,1.2s
HVU Hansel Valley 66.12 52 *e*P **P 09 55 04.2 +1.0**
comp=Z,89nm,1.2s
MLAC Mammoth, Mammo 66.16 59⇑P **P 09 55 04.0 +0.4**
baz=66
AHID Auburn Hatcher 66.18 51 PFAKE 09 55 10.0 +6.4
AHID LR LR
comp=Z,3μm,21.0s
I19A Meeteetse 66.19 48⇑P **P 09 55 03.9 +0.3**
baz=66,SNR=18
C26A Wahner Farm, P 66.22 42⇑P **P 09 55 03.7 +0.1**
baz=66,SNR=46
D25A Fairfield 66.25 43⇑P **P 09 55 03.9 +0.1**
baz=66,SNR=12
E24A Baker 66.30 44⇓P **P 09 55 04.4 +0.2**
baz=66,SNR=15
BIGH Upper Bighouse 66.33 341 *e*P **P 09 55 04.1 +0.1**
BIGH AMB AMB 09 55 10.5
comp=Z,172nm,3.0s
KWP Kalwaria Pacla 66.40 322 *e*P **P 09 55 04.9 +0.3**
KWP pmax pmax
comp=Z,44nm,0.5s
KWP MLR MLR
comp=Z,6μm,21.0s
KWP Kalwaria Pacla 66.40 322 *e*P **P 09 55 04.5 -0.1**
KWP Kalwaria Pacla 66.40 322 *e*P **P 09 55 04.9 +0.3**
comp=Z,44nm,0.5s
KWP LR LR
comp=Z,6μm,21.0s
B28A Dugan Ranch, T 66.43 40⇓P **P 09 55 04.8 0.0**
baz=66,SNR=24
F23A Volborg 66.49 45⇓P **P 09 55 05.2 -0.1**
baz=66,SNR=34
A29A Manning Farm, 66.49 39⇑P **P 09 55 05.1 -0.2**
baz=66,SNR=25
G22A Birney 66.49 46⇑P **P 09 55 05.3 -0.1**
baz=66,SNR=12
C27A Sayler Ranch, 66.56 41⇓P **P 09 55 05.7 0.0**
baz=66,SNR=9.3
H21A Big Horn, Sher 66.62 47⇑P **P 09 55 06.1 -0.1**
baz=66,SNR=21
BGU Big Grassy Mou 66.64 53 *e*P **P 09 55 07.4 +0.8**
comp=Z,15nm,1.0s

IPAR	Pars	66.65	289	eP	P	09 55 05.7	-1.2
I20A	Worland	66.65	48	⇑P	P	09 55 07.0	+0.5
	baz=66,SNR=29						
TPH	Tonopah	66.67	58	eP	P	09 55 07.6	+0.8
TPH				pmax	pmax		
	comp=Z,15nm,0.8s						
TPH	Tonopah	66.67	58	eP	P	09 55 07.6	+0.8
	comp=Z,15nm,0.8s						
ULM	Lac du Bonnet	66.68	36	P	P	09 55 05.0	-1.4
	comp=Z,35nm,0.9s,baz=325,slow=6.9,SNR=43						
ULM				PKPPKP	P'P'df	10 23 36.6	-6.7
	comp=Z,3.6nm,0.9s,baz=104,slow=2.4,SNR=5.5						
ULM				LR	LR	10 28 21.3	
	comp=Z,3μm,18.9s,baz=326,slow=40						
D26A	Manning	66.72	42	⇓P	P	09 55 07.1	+0.4
	baz=66,SNR=26						
E25A	Miller Ranch,	66.73	43	⇓P	P	09 55 06.9	0.0
	baz=66,SNR=10						
J19A	Crowheart	66.76	49	⇑P	P	09 55 07.0	-0.3
	baz=67,SNR=22						
F24A	Ekalaka	66.81	44	⇓P	P	09 55 07.1	-0.3
	baz=67,SNR=23						
B29A	Wagenman Farm,	66.81	40	⇑P	P	09 55 07.0	-0.3
	baz=67,SNR=21						
A30A	Hoffart Farm,	66.84	39	⇓P	P	09 55 07.3	-0.2
	baz=67,SNR=18						
HWUT	Hardware Ranch	66.84	52	eP	P	09 55 08.0	+0.2
	comp=Z,48nm,1.0s						
HWUT				LR	LR		
	comp=Z,3μm,20.0s						
G23A	Biddle	66.90	45	⇓P	P	09 55 07.8	-0.2
	baz=67,SNR=25						
BW06	Boulder Array	66.90	50	eP	P	09 55 07.9	-0.4
	comp=Z,46nm,1.0s						
BW06				LR	LR		
	comp=Z,3μm,19.0s						
PDAR	Pinedale Array	66.91	50	P	P	09 55 07.8	-0.4
	comp=Z,25nm,0.8s,baz=337,slow=2.0,SNR=89						
PDAR				PKPPKP	P'P'df	10 23 31.4	-11
	comp=Z,0.9nm,0.9s,baz=142,slow=3.4,SNR=4.3						
PDAR				LR	LR	10 26 23.2	
	comp=Z,2μm,18.4s,baz=351,slow=38						
TIN	Tinemaha, Big	66.91	59	⇓P	P	09 55 08.4	+0.2
	baz=67						
MVH1	Achvaich	66.92	341	eP	P	09 55 07.7	-0.1
RCTC	Rector, Farmer	66.93	60	⇑P	P	09 55 08.5	+0.3
	baz=67						
H22A	Clearmont	66.95	46	⇓P	P	09 55 08.4	0.0
	baz=67,SNR=10						
BSEG	Bad Segeberg	66.96	332	eP	P	09 55 07.9	-0.2
	comp=Z,82nm,1.2s						
OJC	Ojcow	67.00	324	⇑iP	P	09 55 08.0	-0.4
OJC				e*SP	sP	09 55 12.7	-3.5
OJC				MLR	MLR		
	comp=Z,3μm,20.8s						
OJC	Ojcow	67.00	324	iP	P	09 55 08.0	-0.4
OJC				esP	sP	09 55 12.7	-3.5
OJC				L	L	10 28 04.0	
	comp=Z,3μm,20.8s						
C28A	Hausauer Farms	67.01	41	⇓P	P	09 55 08.3	-0.3
	baz=67						
D27A	Center	67.03	42	⇓P	P	09 55 08.6	-0.1
	baz=67						
BURAR	Bucovina Array	67.05	319	⇑iP	P	09 55 08.6	-0.3
MCD	Coleburn Disti	67.05	341	eP	P	09 55 08.7	+0.1
PALK	Pallekele	67.10	251	iP	P	09 55 10.3	+0.7
PALK	Pallekele	67.10	251	P	P	09 55 10.7	+1.1
	SNR=8.4						
PALK	Pallekele	67.10	251	⇑iP	P	09 55 08.9	-0.7
	SNR=7.6						
PALK	Pallekele	67.10	251	eP	P	09 55 08.8	-0.7
	comp=Z,20nm,0.8s						
STHS	Stebnicka Huta	67.13	323	eP	P	09 55 10.0	+0.7
STHS				pmax	pmax		
	comp=Z,56nm,1.5s						
STHS	Stebnicka Huta	67.13	323	eP	P	09 55 10.0	+0.7
J20A	Shoshoni	67.14	48	⇓P	P	09 55 09.9	+0.2
	baz=67,SNR=34						
KOLS	Kolonicke sedl	67.14	322	eP	P	09 55 09.3	-0.1
KOLS				pmax	pmax		
	comp=Z,62nm,1.7s						
KOLS	Kolonicke sedl	67.14	322	eP	P	09 55 09.2	-0.1
I21A	Big Trails, Te	67.14	47	⇓P	P	09 55 09.5	-0.2
	baz=67,SNR=44						
RUE	Ruedersdorf	67.15	329	eP	P	09 55 09.6	+0.3
	comp=Z,91nm,0.9s						
E26A	Carlson Angus	67.15	43	⇑P	P	09 55 09.5	0.0
	baz=67,SNR=14						
F25A	Bowman	67.17	44	⇑P	P	09 55 09.8	+0.1
	baz=67,SNR=18						
MDND	Maddock	67.21	40	⇑P	P	09 55 09.6	-0.3
	baz=67						
MDND	Maddock	67.21	40	eP	P	09 55 09.9	0.0
	comp=Z,88nm,1.0s						
B30A	Myrvik Farm, E	67.22	39	⇓P	P	09 55 09.5	-0.4
	baz=67,SNR=52						
G24A	Alzada	67.23	45	⇑P	P	09 55 09.7	-0.4
	baz=67,SNR=30						
SMMC	Simmler	67.27	62	⇑P	P	09 55 10.4	0.0
	baz=67,SNR=9.0						
TCUT	Toone Canyon	67.29	52	eP	P	09 55 11.0	+0.3
	comp=Z,52nm,1.3s						
DUG	Dugway, Tooele	67.31	53	eP	P	09 55 11.2	+0.4
DUG				pmax	pmax		
	comp=Z,20nm,0.9s						
DUG				MLR	MLR		
	comp=Z,3μm,22.0s						
DUG	Dugway, Tooele	67.31	53	⇓P	P	09 55 10.8	0.0
	baz=67,SNR=35						
DUG	Dugway, Tooele	67.31	53	eP	P	09 55 11.2	+0.4
	comp=Z,20nm,0.9s						
DUG				LR	LR		
	comp=Z,3μm,22.0s						
R11A	Troy Canyon, C	67.31	56	⇑P	P	09 55 11.0	+0.2
	baz=67,SNR=15						
R11A	Troy Canyon, C	67.31	56	eP	P	09 55 11.4	+0.5
	comp=Z,6.2nm,0.9s						
TESR	Tescani	67.35	318	⇑iP	P	09 55 10.2	-0.5
D28A	Regan	67.35	41	⇑P	P	09 55 10.8	0.0
	baz=67,SNR=10.0						
VES	Vestal, Richgr	67.36	61	⇓P	P	09 55 10.8	-0.2
	baz=67,SNR=16						
UZH	Uzhgorod	67.38	322	eP	P	09 55 08.7	-2.1
UZH				e		09 55 11.5	
UZH				e		09 55 34.3	
UZH				iS	S	10 03 58.7	-6.6
UZH				MLR	MLR		
	comp=N,5μm,14.0s						
UZH				MLR	MLR		
	comp=E,4μm,14.0s						
UZH				MLR	MLR		
	comp=Z,5μm,14.0s						
IKAZ	Kazeroun	67.40	290	eP	P	09 55 10.8	-0.9
H23A	Clabaugh Cattl	67.40	46	⇓P	P	09 55 10.8	-0.4
	baz=67						
GRAC	Grapevine Rang	67.40	59	⇓P	P	09 55 11.6	+0.3
	baz=67						
MDO	Dochfour	67.41	341	eP	P	09 55 10.4	-0.5
J21A	Lysite	67.43	48	⇓P	P	09 55 11.6	0.0
	baz=67,SNR=18						
I22A	9 Mile Ranch,	67.44	47	⇑P	P	09 55 11.1	-0.4
	baz=67,SNR=15						
CTU	Camp Tracy	67.45	52	eP	P	09 55 12.3	+0.6
	comp=Z,19nm,1.1s						
NIE	Niedzica	67.47	323	⇑iP	P	09 55 11.6	+0.1
NIE				e*SP	sP	09 55 16.3	-3.0
NIE	Niedzica	67.47	323	iP	P	09 55 11.6	+0.1
NIE				esP	sP	09 55 16.3	-3.0
NIE				L	L	10 32 05.0	
	comp=Z,3μm,20.6s						
KAC	Achnashellach	67.53	342	eP	P	09 55 11.2	-0.4
F26A	Lodgepole	67.56	43	⇑P	P	09 55 12.0	-0.1
	baz=67,SNR=26						
E27A	Carson	67.56	42	⇑P	P	09 55 12.2	+0.1
	baz=67,SNR=43						
H24A	Dirks Ranch, A	67.63	45	⇓P	P	09 55 11.9	-0.8
	baz=67,SNR=13						
BANOM	Banah	67.63	284	P	P	09 55 12.3	-0.5
	SNR=6.2						
BANOM	Banah	67.63	284	⇓iP	P	09 55 11.4	-1.4
	SNR=16						
TRPA	Tarpa	67.69	321	⇓iP	P	09 55 12.9	+0.1
TRPA	Tarpa	67.69	321	⇓eP	P	09 55 14.6	+1.8
KSP	Ksiaz	67.71	326	⇑eP	P	09 55 12.8	-0.1
KSP				eS	S	10 04 07.5	-1.8
KSP				MLR	MLR		
	comp=Z,24μm,18.9s						
KSP	Ksiaz	67.71	326	eP	P	09 55 12.8	-0.1
KSP				ePcP	PcP	09 55 41.0	+1.3
KPL	Plockton	67.75	342	eP	P	09 55 13.8	+0.7
KPL				AMS	AMS	10 40 32.6	
	comp=Z,2μm,14.8s						
G25A	Newell	67.76	44	⇓P	P	09 55 13.3	-0.1
	baz=68,SNR=15						
C30A	Mose, Pekin	67.78	40	⇑P	P	09 55 12.5	-0.9
	baz=68,SNR=12						
CFR	Carcaliu	67.78	316	⇓iP	P	09 55 13.1	-0.3
E28A	Huff	67.80	42	⇑P	P	09 55 13.1	-0.5
	baz=68,SNR=11						
F27A	Lemmon	67.81	43	⇓P	P	09 55 13.2	-0.5
	baz=68,SNR=14						
J22A	Midwest	67.82	47	⇓P	P	09 55 13.2	-0.8
	baz=68,SNR=26						
ISA	Isabella, Lake	67.83	60	eP	P	09 55 13.9	-0.1
ISA				pmax	pmax		
	comp=Z,19nm,1.1s						
ISA	Isabella, Lake	67.83	60	⇑P	P	09 55 13.8	-0.2
	baz=68,SNR=13						
ISA	Isabella, Lake	67.83	60	eP	P	09 55 13.9	-0.2
	comp=Z,19nm,1.1s						
KSB	Sheil Bridge	67.83	342	eP	P	09 55 13.6	+0.1
DAC	Darwin (Calif)	67.83	59	eP	P	09 55 14.9	+0.7
DAC				pmax	pmax		
	comp=Z,20nm,1.1s						
DAC	Darwin (Calif)	67.83	59	eP	P	09 55 14.9	+0.7
	comp=Z,20nm,1.1s						
VRI	Vrincioaia	67.83	317	⇑iP	P	09 55 15.0	+1.2
I23A	Meade Ranch, G	67.84	46	⇓P	P	09 55 13.3	-0.8
	baz=68						
D29A	Pettibone, Tap	67.85	41	⇑P	P	09 55 13.5	-0.4
	baz=68,SNR=7.9						
NLU	North Lily Min	67.86	53	eP	P	09 55 14.5	+0.1
	comp=Z,17nm,1.0s						
PLOR	Plostina	67.88	317	⇑iP	P	09 55 15.0	+0.9
DAU	Daniels Canyon	67.91	52	eP	P	09 55 16.0	+1.2
DAU				pmax	pmax		
	comp=Z,22nm,1.1s						
DAU	Daniels Canyon	67.91	52	eP	P	09 55 16.0	+1.2
	comp=Z,1.4nm,1.1s						
OKC	Ostrava-Krasne	67.91	325	eP	P	09 55 14.3	+0.1
OKC				e		09 55 19.1	
OKC				e		09 57 49.7	
OKC				eS	S	10 04 13.2	+1.5
OKC				MLR	MLR		
	comp=Z,5μm,11.0s						
OKC	Ostrava-Krasne	67.91	325	eP	P	09 55 14.3	+0.1
OKC				epP	pP	09 55 19.1	-0.8
OKC				ePP	PP	09 57 49.7	+6.3
OKC				eS	S	10 04 13.2	+1.5
OKC				AMS	AMS	10 32 00.0	
	comp=Z,5μm,11.0s						
MPU	Maple Canyon	68.03	53	eP	P	09 55 16.3	+0.9
	comp=Z,27nm,0.9s						
TPNV	Topopah Spring	68.03	58	⇑P	P	09 55 14.9	-0.5
	baz=68,SNR=44						
G26A	Maurine	68.03	44	⇓P	P	09 55 14.5	-0.6
	baz=68,SNR=33						
ARVC	Arvin	68.04	61	⇓P	P	09 55 15.2	-0.1
	baz=68						
FURC	Furnace Creek,	68.07	59	⇓P	P	09 55 15.4	0.0
	baz=68,SNR=28						
SBC	Santa Barbara	68.08	62	⇑P	P	09 55 15.7	+0.2
	baz=68						
K21A	Alcova	68.08	48	⇑P	P	09 55 15.1	-0.6
	baz=68,SNR=16						
UPC	Upice	68.09	326	eP	P	09 55 15.2	-0.1
UPC	Upice	68.09	326	eP	P	09 55 15.2	-0.1
DPC	Dobruska-Polom	68.12	326	eP	P	09 55 15.6	0.0
DPC				e		09 57 47.5	
DPC				e		09 59 29.0	
DPC				eS	S	10 04 19.1	+4.8
DPC	Dobruska-Polom	68.12	326	eP	P	09 55 15.6	0.0
DPC				ePP	PP	09 57 47.5	+2.3
DPC				ex	x	09 59 29.0	
DPC				eS	S	10 04 19.1	+4.8
DPC				AMS	AMS	10 28 30.0	
H25A	Fruitdale	68.14	45	⇑P	P	09 55 15.1	-0.7
	baz=68,SNR=14						
D30A	Buchanan	68.15	40	⇓P	P	09 55 15.0	-0.8
	baz=68,SNR=22						
MORC	Moravsky Berou	68.17	325	eP	P	09 55 14.8	-1.1
MORC				pmax	pmax		
	comp=Z,35nm,0.7s						
MORC	Moravsky Berou	68.17	325	⇓iP	P	09 55 15.4	-0.5
MORC	Moravsky Berou	68.17	325	eP	P	09 55 14.8	-1.1
	comp=Z,35nm,0.7s						
KRLC	Kraliky	68.19	326	eP	P	09 55 15.9	-0.1
KRLC	Kraliky	68.19	326	eP	P	09 55 15.9	-0.1
E29A	Napoleon	68.23	41	⇓P	P	09 55 15.7	-0.6
	baz=68,SNR=9.2						
TIRR	Tirgusor	68.24	315	eP	P	09 55 16.3	0.0
TIRR				pmax	pmax		
	comp=Z,79nm,1.6s						
TIRR	Tirgusor	68.24	315	⇑iP	P	09 55 16.5	+0.2
TIRR	Tirgusor	68.24	315	eP	P	09 55 16.3	0.0
	comp=Z,79nm,1.6s						
J23A	Dilts Ranch, B	68.24	47	⇓P	P	09 55 16.1	-0.5
	baz=68						
G27A	Dupree	68.25	43	⇓P	P	09 55 15.5	-1.0
	baz=68,SNR=12						
NRDL	Niedersach Rie	68.28	331	eP	P	09 55 16.4	+0.1
	comp=Z,87nm,1.2s						
AGMN	Agassiz Nation	68.29	38	⇑P	P	09 55 15.7	-1.0
	baz=68,SNR=28						
AGMN	Agassiz Nation	68.29	38	eP	P	09 55 15.6	-1.0
	comp=Z,60nm,1.2s						
AGMN				LR	LR		
	comp=Z,3μm,21.0s						
I24A	Kuemmerle Ranc	68.30	46	⇓P	P	09 55 16.1	-0.8
	baz=68,SNR=12						
F28A	McLaughlin	68.34	42	⇑P	P	09 55 16.4	-0.6
	baz=68,SNR=22						
RSSD	Black Hills	68.35	45	eP	P	09 55 17.6	+0.2
RSSD				pmax	pmax		
	comp=Z,53nm,1.0s						
RSSD	Black Hills	68.35	45	eP	P	09 55 17.6	+0.2
	comp=Z,53nm,1.0s						
LRMC	Laurel Mtn Rad	68.38	60	⇓P	P	09 55 17.4	-0.1
	baz=68,SNR=15						
K22A	Casper	68.40	48	⇑P	P	09 55 16.8	-0.8
	baz=68,SNR=16						
K22A	Casper	68.40	48	eP	P	09 55 17.2	-0.4
	comp=Z,74nm,1.4s						
CLL	Collm	68.41	329	iP	P	09 55 16.6	-0.7
CLL				i		09 55 20.0	
CLL				eS	S	10 04 20.0	+2.5
CLL				pmax	pmax		
	comp=Z,133nm,1.0s						
CLL	Collm	68.41	329	eP	P	09 55 16.7	-0.6
	comp=Z,133nm,1.0s						
CLL				eL	L	10 25 24.6	
	comp=Z,3μm,18.3s						
CLL	Collm	68.41	329	iP	P	09 55 16.6	-0.7
	comp=Z,133nm,1.0s						
CLL				i		09 55 20.0	
CLL				ePP	PP	09 57 49.0	+1.4
CLL				ePPP	PPP	09 59 28.0	
CLL				eS	S	10 04 20.0	+2.5
CLL				eScS	SKSac	10 05 14.0	-1.0
CLL				eSS	SS	10 08 41.0	+1.0
CLL				eSSS	SSS	10 11 48.0	
CLL				eSSSS		10 12 54.0	
CLL				LmH		10 22 00.0	
	comp=N,8μm,19.1s						
CLL				LmH		10 22 00.0	
	comp=E,14μm,19.7s						
CLL				Lmax		10 28 00.0	
BSC	Santa Cruz Isl	68.46	62	⇓P	P	09 55 17.8	-0.1
	baz=68						
MLR	Muntele Rosu	68.46	317	P	P	09 55 17.5	-0.4
MLR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MLR	Muntele Rosu	68.46	317	⇑iP	P	09 55 18.6	+0.7
MLR	Muntele Rosu	68.46	317	P	P	09 55 17.5	-0.4
	comp=Z,3.7nm,0.8s,baz=46,slow=4.7,SNR=18						
ESY	Stoneypath	68.46	340	eP	P	09 55 16.4	-1.2
BRG	Berggiesshubel	68.47	328	iP	P	09 55 17.6	-0.1
	comp=Z,34nm,1.1s						
BRG				i		09 55 30.9	
	comp=Z,30nm,1.3s						
BRG				PP	PP	09 57 47.0	-1.2
BRG				S	S	10 04 23.0	+4.6
BRG				SS	SS	10 08 45.0	+3.9
BRG	Berggiesshubel	68.47	328	iP	P	09 55 17.6	-0.1
BRG						09 57 47.0	
BRG				S	S	10 04 23.0	+4.6
BRG				SS	SS	10 08 45.0	+3.9
BRG				pmax	pmax		
	comp=Z,34nm,1.1s						
BRG				MLR	MLR		
	comp=N,5μm,12.4s						
BRG				MLR	MLR		
	comp=E,4μm,13.9s						
BRG				MLR	MLR		
	comp=Z,5μm,13.0s						
BRG	Berggiesshubel	68.47	328	eP	P	09 55 17.1	-0.6
	comp=Z,143nm,1.9s						
WBK	Wadi Bani Khal	68.50	279	P	P	09 55 18.8	+0.5
	SNR=8.5						
H26A	Fairpoint	68.50	44	⇓P	P	09 55 17.2	-0.9
	baz=68,SNR=14						
HATD	Hatta, Dubai	68.55	283	⇑iP	P	09 55 17.3	-1.3
	SNR=27						
PVCC	Panska Ves	68.56	327	eP	P	09 55 18.2	-0.1
PVCC				e		09 55 21.7	
PVCC				e		09 57 50.1	
PVCC				MLR	MLR		
	comp=Z,5μm,13.1s						
PVCC	Panska Ves	68.56	327	eP	P	09 55 18.2	-0.1
PVCC				ex	x	09 55 21.7	
PVCC				ePP	PP	09 57 50.1	+1.1
PVCC				AMS	AMS	10 28 30.0	
	comp=Z,5μm,13.1s						
I25A	Rochford	68.56	45	⇑P	P	09 55 17.9	-0.7
	baz=68,SNR=20						
EAB	Aberfoyle	68.57	341	eP	P	09 55 17.9	-0.3
E30A	Jud	68.58	41	⇑P	P	09 55 17.7	-0.8
	baz=68,SNR=8.5						
EDW2	Edwards Air Fo	68.67	60	⇑P	P	09 55 19.4	+0.1
	baz=68,SNR=28						
EBL	Broad Law	68.69	340	eP	P	09 55 19.1	+0.2
J24A	Dixon Ranch, L	68.70	46	⇑P	P	09 55 18.4	-1.0
	baz=68,SNR=5.9						
ASHO	Ashiyiah	68.70	283	P	P	09 55 19.1	-0.5
	SNR=14						
ASHO	Ashiyiah	68.70	283	⇓iP	P	09 55 18.4	-1.2
	SNR=18						
NAZ	Nazwa, Dubai	68.71	284	⇓iP	P	09 55 18.8	-0.8
	SNR=5.6						
SMDO	Samad	68.72	280	P	P	09 55 19.4	-0.4
	SNR=11						
K23A	Bowen Ranch, D	68.72	47	⇓P	P	09 55 18.8	-0.8
	baz=68						
F29A	Eureka	68.75	42	⇓P	P	09 55 18.7	-0.9
	baz=69,SNR=12						
CLZ	Clausthal	68.77	330	eP	P	09 55 19.9	+0.3
	comp=Z,158nm,1.2s						
HOQ	Hoqain	68.77	281	P	P	09 55 19.1	-0.9
	SNR=12						
VYHS	Vyhne	68.78	324	eP	P	09 55 20.0	+0.3
VYHS				pmax	pmax		
	comp=Z,111nm,2.0s						
VYHS	Vyhne	68.78	324	eP	P	09 55 20.0	+0.3
H27A	Howes	68.78	44	⇓P	P	09 55 19.1	-0.7
	baz=69,SNR=55						
TMUT	Trail Mountain	68.79	53	eP	P	09 55 21.1	+0.8
	comp=Z,34nm,0.9s						
SHOC	Shoshone, Teco	68.81	59	⇓P	P	09 55 19.9	-0.2
	baz=69,SNR=7.6						
ARUT	Antelope Range	68.84	55	eP	P	09 55 18.7	-1.7
ARUT				pmax	pmax		
	comp=Z,440nm,1.0s						
ARUT	Antelope Range	68.84	55	eP	P	09 55 18.7	-1.7
	comp=Z,28nm,1.0s						
PSZ	Piszkesteto	68.87	323	eP	P	09 55 20.8	+0.4
PSZ				pmax	pmax		
	comp=Z,61nm,1.2s						
PSZ				MLR	MLR		
	comp=Z,6μm,19.0s						
PSZ	Piszkesteto	68.87	323	⇑iP	P	09 55 20.7	+0.4
PSZ	Piszkesteto	68.87	323	⇓eP	P	09 55 20.8	+0.4
PSZ	Piszkesteto	68.87	323	eP	P	09 55 20.8	+0.4
	comp=Z,61nm,1.2s						
PSZ				LR	LR		
	comp=Z,6μm,19.0s						
VOIR		68.88	318	⇓iP	P	09 55 21.0	+0.6
VRAC	Vranov	68.90	325	P	P	09 55 20.4	0.0
VRAC				pmax	pmax		
	comp=Z,24nm,0.8s						
VRAC	Vranov	68.90	325	⇓iP	P	09 55 21.2	+0.8
VRAC	Vranov	68.90	325	P	P	09 55 20.4	0.0
	comp=Z,24nm,0.8s,baz=27,slow=7.4,SNR=37						
MVU	Marysvale	68.90	54	eP	P	09 55 21.2	+0.3
	comp=Z,30nm,1.2s						
G28A	Parade	68.92	43	⇑P	P	09 55 20.0	-0.6
	baz=69,SNR=18						
L22A	Ellis Ranch, M	68.93	48	⇑P	P	09 55 20.8	-0.2
	baz=69,SNR=19						
I26A	New Underwood	68.93	45	⇑P	P	09 55 20.6	-0.2
	baz=69						
FAQ	Al Faqa, Dubai	68.93	283	⇑iP	P	09 55 19.9	-1.0
	SNR=12						
SHPR	Sheep Range	68.93	57	eP	P	09 55 22.1	+1.1
	comp=Z,19nm,1.2s						
PGBU	Glenifferbraes	68.95	341	eP	P	09 55 21.0	+0.4
PGBU				AMB	AMB	09 55 23.4	
	comp=Z,174nm,1.6s						
PGBU				AMS	AMS	10 32 15.2	
	comp=Z,2μm,14.3s						
PSN	Preselentsi	68.95	315	P	P	09 55 21.4	+0.6
DECC	Green Verdugo	68.97	61	⇑P	P	09 55 21.1	0.0
	baz=69						
GSC	Goldstone, Bar	68.99	59	⇑P	P	09 55 21.5	+0.3
	baz=69,SNR=18						
PRA	Prague	69.00	327	eP	P	09 55 21.5	+0.5
PRA	Prague	69.00	327	eP	P	09 55 21.5	+0.5
N20A	Spence Gulch,	69.02	50	⇑P	P	09 55 21.1	-0.4
	baz=69,SNR=28						
PRU	Pruhonice	69.03	327	eP	P	09 55 21.0	-0.2
PRU				e		09 57 55.1	
PRU				e		09 59 33.1	
PRU				eS	S	10 04 28.9	+3.9
PRU				MLR	MLR		
	comp=Z,4μm,10.6s						
PRU	Pruhonice	69.03	327	eP	P	09 55 21.0	-0.2
PRU				ePP	PP	09 57 55.1	+2.0
PRU				ex	x	09 59 33.1	
PRU				eS	S	10 04 28.9	+3.9
PRU				AMS	AMS	10 31 30.0	
	comp=Z,4μm,10.6s						
J25A	Sunshine Ranch	69.03	46	⇑P	P	09 55 21.1	-0.4
	baz=69,SNR=6.6						
F30A	Leola	69.08	41	⇑P	P	09 55 20.7	-0.9
	baz=69						
ARR	Arges	69.10	318	⇓iP	P	09 55 22.8	+1.0
PASC	Pasadena Art C	69.11	61	eP	P	09 55 22.4	+0.5
	comp=Z,38nm,1.2s						
K24A	Anderson Ranch	69.11	47	⇓P	P	09 55 21.4	-0.7
	baz=69						
IBBN	Ibbenburen	69.13	332	eP	P	09 55 21.4	-0.4
	comp=Z,137nm,1.4s						
MWC	Mount Wilson	69.14	61	eP	P	09 55 22.9	+0.6
MWC				pmax	pmax		
	comp=Z,77nm,1.5s						
MWC	Mount Wilson	69.14	61	eP	P	09 55 22.9	+0.6
	comp=Z,77nm,1.5s						
ESK	Eskdalemuir	69.15	340	eP	P	09 55 22.0	+0.2
ESK				AMS	AMS	10 31 04.9	
	comp=Z,2μm,15.4s						
ESK	Eskdalemuir	69.15	340	eP	P	09 55 22.3	+0.5
ESK				pmax	pmax		
	comp=Z,143nm,0.9s						
ESK				MLR	MLR		
	comp=Z,2μm,19.0s						
ESK	Eskdalemuir	69.15	340	eP	P	09 55 22.

I27A Quinn 69.25 44 ⇓P P 09 55 22.5 -0.2
baz=69,SNR=28
ECK Cauldkaine Hil 69.26 340 *e*P P 09 55 22.6 +0.1
SRU San Rafael Swe 69.27 53 *e*P P 09 55 23.3 +0.2
SRU pmax pmax
comp=Z,27nm,0.9s
SRU San Rafael Swe 69.27 53 *e*P P 09 55 23.3 +0.2
comp=Z,27nm,0.9s
TREC Trest 69.30 326 *e*P P 09 55 22.7 -0.2
TREC *e* 09 55 26.8
TREC *e* 09 57 55.6
TREC *e* 09 59 41.5
TREC MLR MLR
comp=Z,6µm,13.1s
TREC Trest 69.30 326 *e*P P 09 55 22.7 -0.2
TREC *e*pP **pP** 09 55 26.8 -1.8
TREC *e*PP **PP** 09 57 55.6 +0.2
TREC *e*x x 09 59 41.5
TREC AMS AMS 10 29 20.0
comp=Z,6µm,13.1s
BFSC Mount Baldy Ra 69.34 61 ⇑P P 09 55 23.4 -0.1
baz=69,SNR=21
M22A Cedar Creek Ra 69.35 49 ⇑P P 09 55 23.5 -0.1
baz=69,SNR=13
TANN Tannenbergstha 69.35 328 *e*P P 09 55 23.0 -0.2
comp=Z,82nm,1.6s
TUQ Turquoise Moun 69.35 59 ⇑P P 09 55 23.5 -0.1
baz=69
FMP Fort Macarthur 69.40 61 ⇑P P 09 55 23.8 +0.1
baz=69
J26A Sides Ranch, S 69.41 45 ⇓P P 09 55 23.8 0.0
baz=69,SNR=19
MOX Moxa 69.42 329 *e*P P 09 55 23.6 0.0
comp=Z,100nm,1.3s
ARQ Araqi 69.43 282 P P 09 55 23.6 -0.5
SNR=12
CIS Catalina Islan 69.57 62 ⇓P P 09 55 24.7 -0.1
baz=69
O20A White River Ci 69.57 51 ⇑P P 09 55 24.9 -0.1
baz=69,SNR=55
O20A White River Ci 69.57 51 *e*P P 09 55 24.6 -0.4
comp=Z,87nm,0.9s
H29A Onida 69.58 43 ⇑P P 09 55 24.2 -0.5
baz=69,SNR=22
BRTR Keskin Array B 69.58 309 P P 09 55 24.5 -0.5
comp=Z,19nm,0.8s,baz=74,slow=3.7,SNR=38
BRTR PKPPKP P'P'df 10 23 31.9 -5.7
comp=Z,3.0nm,1.2s,baz=256,slow=5.0,SNR=4.0
HEC Hector,Ludlow 69.60 59 ⇓P P 09 55 25.2 +0.1
baz=70,SNR=33
L24A Wheatland 69.60 47 ⇑P P 09 55 24.8 -0.3
baz=69,SNR=9.1
G30A Faulkton 69.61 42 ⇓P P 09 55 24.1 -0.7
baz=69,SNR=18
K25A Mack Ranch, Ha 69.62 46 ⇓P P 09 55 24.3 -0.9
baz=69
I28A Midland 69.68 44 ⇑P P 09 55 25.2 -0.2
baz=70,SNR=13
PRD Provadia 69.68 315 P P 09 55 26.3 +1.0
M23A Laramie 69.70 48 ⇓P P 09 55 25.5 -0.2
baz=70,SNR=10
BBRC Big Bear Solar 69.72 60 ⇓P P 09 55 26.2 +0.2
baz=70,SNR=31
UBBA Unterbreizbach 69.77 330 *e*P P 09 55 25.3 -0.3
comp=Z,136nm,1.8s
KESW Keswick, Cumbr 69.80 339 *e*P P 09 55 25.7 -0.1
KESW AMB AMB 09 55 28.6
comp=Z,119nm,1.3s
KESW AMS AMS 10 35 48.6
comp=Z,2µm,15.2s
SCI San Clemente I 69.81 62 ⇓P P 09 55 25.9 -0.4
baz=70
GZR Gura Zlata 69.84 319 ⇓*i*P P 09 55 26.4 0.0
K26A Motz Farm, Whi 69.86 46 ⇓P P 09 55 26.5 -0.1
baz=70,SNR=7.4
ANTO Ankara 69.87 309 *e*P P 09 55 26.8 +0.2
ANTO pmax pmax
comp=Z,37nm,0.9s
ANTO MLR MLR
comp=Z,2µm,19.0s
ANTO Ankara 69.87 309 ⇓*i*P P 09 55 26.5 -0.1
ANTO Ankara 69.87 309 P P 09 55 27.6 +0.9
SNR=5.4
ANTO Ankara 69.87 309 *e*P P 09 55 26.8 +0.2
comp=Z,37nm,0.9s
ANTO LR LR
comp=Z,2µm,19.0s
PKSG 69.87 323⇓*e*P P 09 55 27.3 +0.9
PKS7 Kunszentmiklos 69.87 322⇓*e*P P 09 55 27.3 +0.9
GAL1 Galloway 69.88 340 *e*P P 09 55 26.4 +0.1
N22A Wattenberg Ran 69.89 49 ⇓P P 09 55 27.2 +0.2
baz=70,SNR=15
J27A Elkhorn Farm, 69.92 45 ⇓P P 09 55 27.0 0.0
baz=70,SNR=25
L25A Engebretsen Ra 69.94 46 ⇑P P 09 55 26.7 -0.5
baz=70
GMRC Granite Mounta 69.99 59 ⇑P P 09 55 27.9 +0.3
baz=70,SNR=29
ROTZ Rotzenmuhle 69.99 328 *e*P P 09 55 27.5 +0.3
comp=Z,66nm,1.2s
I29A Vivian Onida 70.03 43 ⇓P P 09 55 26.9 -0.6
baz=70,SNR=9.3
BUG Bochum--Univer 70.04 332 *e*P P 09 55 27.0 -0.4
comp=Z,134nm,1.4s
N23A Red Feather La 70.05 49 ⇓P P 09 55 27.7 -0.3
baz=70,SNR=16
LDFC Landfair 70.05 58 *e*P P 09 55 28.8 +0.8
comp=Z,44nm,0.8s
HPK Haverah Park 70.06 338 *e*P P 09 55 27.6 +0.1
HPK AMB AMB 09 55 29.9
comp=Z,68nm,1.2s
HPK AMS AMS 10 28 42.3
comp=Z,2µm,15.9s
MURC Murrieta 70.07 61 ⇓P P 09 55 28.2 +0.3
baz=70,SNR=9.0
KHC Kasperske Hory 70.09 327 *e*P P 09 55 27.7 -0.1
KHC *e* 09 58 03.0
KHC *e* 09 59 43.9
KHC *e*S **S** 10 04 41.5 +3.9
KHC MLR MLR
comp=Z,6µm,12.7s
KHC Kasperske Hory 70.09 327 *e*P P 09 55 27.7 -0.1
KHC *e*PP **PP** 09 58 03.0 +0.7
KHC *e*x x 09 59 43.9
KHC *e*S **S** 10 04 41.5 +3.9
KHC AMS AMS 10 30 00.0
comp=Z,6µm,12.7s
KHC Kasperske Hory 70.09 327 *e*P P 09 55 27.6 -0.1
comp=Z,68nm,1.1s
M24A Cheyenne 70.11 47 ⇓P P 09 55 28.4 +0.2
baz=70,SNR=15
PKST T^s 70.11 323⇓*e*P P 09 55 28.6 +0.6
BZS Buzias 70.12 320⇓*i*P P 09 55 27.9 -0.1
J28A Allard Ranch, 70.12 44 ⇓P P 09 55 28.0 -0.1
baz=70,SNR=47
EYMN Ely 70.19 35 *e*P P 09 55 27.7 -0.7
comp=Z,49nm,1.1s
EYMN LR LR
comp=Z,4µm,20.0s
SZH Strazhica 70.26 316 P P 09 55 28.8 -0.1
SOP Sopron 70.29 324⇑*e*P P 09 55 29.9 +0.9
GEC2 GERESS Array S 70.29 327 *e*P P 09 55 28.4 -0.7
comp=Z,84nm,1.6s
GEC2 *e*L L 10 27 46.2
comp=Z,3µm,19.9s
GERES GERESS Array B 70.29 327 P P 09 55 28.4 -0.7
GERES pmax pmax
comp=Z,8.0nm,0.7s
GERES MLR MLR
comp=Z,3µm,18.1s
GERES GERESS Array B 70.29 327 P P 09 55 28.4 -0.7
comp=Z,7.9nm,0.7s,baz=42,slow=6.1,SNR=49
GERES LR LR 10 28 18.0
comp=Z,3µm,18.1s,baz=30,slow=38
WET Wettzell 70.31 327 *e*P P 09 55 29.3 +0.2
comp=Z,89nm,1.2s
CONA Conrad Observa 70.33 325⇑*i*P P 09 55 29.6 +0.3
comp=Z,964nm,4.2s,SNR=34
O22A Kremmling 70.35 49 ⇓P P 09 55 29.7 -0.2
baz=70,SNR=20
GRF Grafenberg Arr 70.38 329 *e*P P 09 55 29.8 +0.3
comp=Z,125nm,1.0s
GRF *e*L L 10 24 17.9
comp=Z,2µm,18.4s
GRFO Grafenberg 70.38 329 *e*P P 09 55 29.6 +0.1
GRFO pmax pmax
comp=Z,83nm,1.0s
GRFO Grafenberg 70.38 329 *e*P P 09 55 29.6 +0.1
comp=Z,83nm,1.0s
BELC Belle Mtn. Jos 70.41 60 ⇓P P 09 55 30.3 +0.2
baz=70,SNR=13
L26A Underwood Farm 70.43 46 ⇑P P 09 55 29.9 -0.2
baz=70
PFO Pinyon Flats O 70.46 60 *e*P P 09 55 31.0 +0.5
PFO pmax pmax
comp=Z,25nm,1.3s
PFO MLR MLR
comp=Z,3µm,19.0s
PFO Pinyon Flats O 70.46 60 ⇑P P 09 55 30.6 +0.1
baz=70,SNR=8.5
PFO Pinyon Flats O 70.46 60 *e*P P 09 55 31.0 +0.5
comp=Z,25nm,1.3s
PFO LR LR
comp=Z,3µm,19.0s
U15A North Rim 70.47 56 ⇑P P 09 55 30.7 0.0
baz=70,SNR=37
M25A Palm-Egli Farm 70.48 47 ⇓P P 09 55 30.5 0.0
baz=70,SNR=9.6
I30A Oacoma 70.48 43 ⇑P P 09 55 29.7 -0.6
baz=70,SNR=28
LHO Holmfirth 70.49 338 *e*P P 09 55 29.9 -0.2
J29A Okreek 70.52 43 ⇓P P 09 55 30.2 -0.3
baz=70,SNR=25
NEE2 Needles Airpor 70.55 58 ⇑P P 09 55 30.9 +0.1
baz=70
N24A Carr 70.59 48 ⇑P P 09 55 31.3 +0.1
baz=70,SNR=13
O23A Lake Granby, G 70.60 49 ⇑P P 09 55 31.7 +0.2
baz=70,SNR=16
PV04 Paradox Valley 70.62 52 *e*P P 09 55 32.2 +0.8
JMB Yambol 70.63 315 P P 09 55 33.1 +2.0
JMB Yambol 70.63 315 P P 09 55 33.7 +2.6
K28A Ten Mile Ranch 70.64 44 ⇓P P 09 55 31.7 +0.4
baz=70,SNR=31
SCHQ Schefferville 70.64 17 P P 09 55 30.4 -0.6
comp=Z,11nm,0.7s,baz=349,slow=5.7,SNR=26
SCHQ PKPPKP P'P'df 10 23 27.2 -10
comp=Z,3.9nm,0.9s,baz=221,slow=7.7,SNR=4.7
SCHQ LR LR 10 29 52.4
comp=Z,2µm,18.0s,baz=344,slow=39
109C Camp Elliot, M 70.67 61 ⇑P P 09 55 31.9 +0.3
baz=70
W13A Hualapai Mount 70.67 58 ⇓P P 09 55 31.9 +0.1
baz=70,SNR=13
KBI1 Birley Grange 70.69 338 *e*P P 09 55 30.6 -0.7
P22A Eagle 70.70 50 ⇓P P 09 55 32.1 +0.2
baz=70,SNR=47
L27A T5 Ranch, Ells 70.73 45 ⇓P P 09 55 31.6 -0.4
baz=70
IRM Iron Mountain 70.74 59 ⇑P P 09 55 32.1 +0.1
baz=71,SNR=25
TNS Taunus Mts 70.77 331 *e*P P 09 55 31.8 -0.2
comp=Z,81nm,1.3s
TNS *e*L L 10 26 03.0
comp=Z,4µm,19.0s
M26A McRoberts Ranc 70.86 46 ⇑P P 09 55 32.5 -0.2
baz=71
J30A Dallas 70.94 43 ⇓P P 09 55 32.7 -0.3
baz=71,SNR=34
MOA Molln 70.96 326⇑*i*P P 09 55 32.9 -0.2
comp=Z,772nm,4.2s,SNR=13
BC3 Big Chuckawall 70.96 60 ⇑P P 09 55 34.0 +0.5
baz=71,SNR=16
N25A Grover 70.96 47 ⇑P P 09 55 33.2 -0.3
baz=71
PV01 Paradox Valley 70.98 52 *e*P P 09 55 33.3 -0.4
comp=Z,2µm,1.0s
ARSA Arzberg 71.03 325⇑*i*P P 09 55 34.0 +0.4
comp=Z,388nm,2.4s,SNR=14
MONP Monument Peak, 71.03 61 ⇑P P 09 55 33.8 -0.2
baz=71,SNR=18
K29A Lazy Trails An 71.05 44 ⇓P P 09 55 33.6 -0.2
baz=71,SNR=27
EDRB Edirne 71.06 315 P P 09 55 40.9 +7.1
BAR Barrett 71.06 61 *e*P P 09 55 34.0 0.0
comp=Z,24nm,0.8s
O24A Longmont 71.06 48 ⇓P P 09 55 34.5 +0.4
baz=71,SNR=16
BEBN Eben Emael 71.07 333 P P 09 55 33.8 +0.1
ISCO Idaho Springs 71.07 49 *e*P P 09 55 34.6 +0.3
ISCO pmax pmax
comp=Z,32nm,1.1s
ISCO MLR MLR
comp=Z,5µm,21.0s
ISCO Idaho Springs 71.07 49 ⇑P P 09 55 34.3 0.0
baz=71,SNR=24
ISCO Idaho Springs 71.07 49 *e*P P 09 55 34.5 +0.3
comp=Z,32nm,1.1s
ISCO LR LR
comp=Z,5µm,21.0s
MPEP Malo Peshtene 71.11 317 P P 09 55 33.9 -0.2
L28A Connealy Angus 71.14 45 ⇑P P 09 55 34.3 -0.1
baz=71,SNR=10
MEM Membach 71.14 332 P P 09 55 34.1 0.0
comp=Z,19nm,1.2s
M27A Reverse DX Ran 71.15 46 ⇓P P 09 55 34.3 -0.2
baz=71,SNR=13
PDMCI Parker Dam,Lak 71.16 58 ⇑P P 09 55 34.7 +0.2
baz=71,SNR=23
P23A Jefferson 71.31 49 ⇓P P 09 55 35.5 -0.3
baz=71,SNR=12
SWSC Sam W. Stewart 71.33 60 ⇓P P 09 55 35.7 +0.2
baz=71,SNR=5.9
N26A Koester Ranch, 71.34 47 ⇓P P 09 55 35.8 +0.1
baz=71,SNR=10
FOEL Foel Wylfa 71.41 339 *e*P P 09 55 36.0 +0.3
FOEL AMB AMB 09 55 37.6
comp=Z,64nm,1.4s
FOEL AMS AMS 10 38 33.8
comp=Z,2µm,18.4s
K30A Basset 71.42 43 ⇑P P 09 55 35.7 -0.3
baz=71,SNR=39
O25A Wiggins 71.51 48 ⇑P P 09 55 36.0 -0.7
baz=71
BCLA Clavier 71.52 333 P P 09 55 36.1 -0.3
L29A Maesberg Ranch 71.55 44 ⇑P P 09 55 37.0 +0.1
baz=71,SNR=11
RJOB Jochberg 71.56 327 *e*P P 09 55 36.9 +0.1
comp=Z,45nm,1.0s
PGB Panagyurishte 71.60 317 P P 09 55 39.0 +1.9
P24A Kohler Place, 71.63 49 ⇑P P 09 55 37.9 +0.3
baz=72,SNR=7.6
WUAZ Wupatki 71.64 56 ⇑P P 09 55 38.0 +0.3
baz=72,SNR=25
WUAZ Wupatki 71.64 56 *e*P P 09 55 38.1 +0.5
comp=Z,41nm,1.1s
WUAZ LR LR
comp=Z,2µm,21.0s
N27A Anderson Farm, 71.67 46 ⇑P P 09 55 37.5 -0.1
baz=72,SNR=34
HLM1 Long Mynd 71.68 338 *e*P P 09 55 36.7 -0.6
Q23A Hartsel 71.68 50 ⇑P P 09 55 37.7 -0.3
baz=72
FUR Furstenfeldbru 71.69 328 *e*P P 09 55 37.5 0.0
comp=Z,185nm,1.4s
SOKA Soboth 71.69 325 *i*P P 09 55 37.7 0.0
comp=Z,682nm,3.5s,SNR=34
PERS Pernice 71.70 325 *e*P P 09 55 37.3 -0.3
PERS Pernice 71.70 325 *e*P P 09 55 37.3 -0.3
M28A Bar X Bar Ranc 71.70 45 ⇑P P 09 55 37.5 -0.4
baz=72
SNF Seneffe 71.72 333 P P 09 55 38.8 +1.2
PLD Plovdiv 71.73 316 P P 09 55 38.9 +1.1
PLD Plovdiv 71.73 316 P P 09 55 38.8 +1.0
MVCO Mesa Verde 71.75 53 ⇑P P 09 55 38.1 -0.2
baz=72,SNR=19
MVCO Mesa Verde 71.75 53 *e*P P 09 55 38.9 +0.5
comp=Z,33nm,1.1s
MVCO LR LR
comp=Z,3µm,19.0s
GLA Glamis 71.76 60 *e*P P 09 55 39.3 +1.1
GLA pmax pmax
comp=Z,42nm,1.0s
GLA Glamis 71.76 60 ⇓P P 09 55 38.6 +0.3
baz=72,SNR=16
GLA Glamis 71.76 60 *e*P P 09 55 39.3 +1.1
comp=Z,42nm,1.0s
O26A Horse Wrangler 71.77 47 ⇓P P 09 55 37.7 -0.6
baz=72
ALT Altintas 71.78 311 P P 09 55 38.0 -0.3
ECSD EROS Data Cent 71.78 41 ⇑P P 09 55 37.8 -0.4
baz=72,SNR=81
ECSD EROS Data Cent 71.78 41 *e*P P 09 55 36.5 -1.6
comp=Z,62nm,0.7s
ECSD LR LR
comp=Z,3µm,20.0s
KDZ Kurdzhali 71.80 315⇓*i*P P 09 55 38.8 +0.5
KDZ Kurdzhali 71.80 315 P P 09 55 39.3 +1.0
STU Stuttgart 71.82 329 *e*P P 09 55 39.5 +1.2
STU pmax pmax
comp=Z,52nm,0.9s
STU Stuttgart 71.82 329 *e*P P 09 55 39.5 +1.2
comp=Z,52nm,0.9s
GIVF Givet 71.94 333 *e*P P 09 55 38.5 -0.4
comp=Z,103nm,1.2s
GIVF Givet 71.94 333 *e*P P 09 55 38.5 -0.4
GIVF pmax pmax
comp=Z,103nm,1.2s
GIVF Givet 71.94 333 *e*P P 09 55 38.5 -0.4
comp=Z,103nm,1.2s
KBA Koelnbreinsper 71.94 326⇑*i*P P 09 55 39.1 -0.2
comp=Z,397nm,1.9s,SNR=73
WLF Walferdange 71.95 332 P P 09 55 40.2 +1.2
comp=Z,27nm,1.6s
WLF Walferdange 71.95 332 PFAKE 09 55 50.0 +11
WLF LR LR
comp=Z,4µm,19.0s
Q24A Divide 71.96 49 ⇓P P 09 55 39.1 -0.5
baz=72
M29A Burnside Ranch 71.96 45 ⇑P P 09 55 38.9 -0.5
baz=72
VTS Vitosha 71.97 317 P P 09 55 37.2 -2.2
VTS Vitosha 71.97 317⇑*i*P P 09 55 39.0 -0.4
VTS Vitosha 71.97 317 P P 09 55 39.0 -0.4
L30A Spencer Herefo 71.97 44 ⇑P P 09 55 39.2 -0.1
baz=72,SNR=15
P25A Willow Gulch B 71.97 48 ⇑P P 09 55 39.5 0.0
baz=72,SNR=7.1
DOU Dourbes 72.01 333 P P 09 55 38.7 -0.6
comp=Z,20nm,1.4s
OBKA Obir 72.01 325⇑*i*P P 09 55 39.6 0.0
comp=Z,544nm,2.4s,SNR=25
SPMN Marine on St. 72.02 38 ⇑P P 09 55 39.3 -0.2
baz=72,SNR=13
SPMN Marine on St. 72.02 38 *e*P P 09 55 38.5 -0.9
comp=Z,60nm,1.0s
DIVS Divibare 72.02 320 P P 09 55 38.7 -1.0
CTAO Charters Tower 72.02 176 *e*P P 09 55 39.3 -0.4
CTAO pmax pmax
comp=Z,30nm,1.0s
CTAO MLR MLR
comp=Z,1µm,21.0s
CTAO Charters Tower 72.02 176 *e*P P 09 55 39.3 -0.4
comp=Z,30nm,1.0s
CTAO LR LR
comp=Z,1µm,21.0s
Y14A Wickenburg 72.03 58 ⇑P P 09 55 40.0 +0.2
baz=72,SNR=26
LANF Langenberg 72.07 330⇑*e*P P 09 55 39.5 -0.3
RZN Rozhen 72.07 316 P P 09 55 39.0 -1.1
WRAB Tennant Creek 72.13 188*c*⇑P P 09 55 39.1 -1.2
WRAB pmax pmax
comp=Z,203nm,1.7s
WRAB MLR MLR
comp=Z,2µm,20.0s
WRAB Tennant Creek 72.13 188 *e*P P 09 55 38.8 -1.5
comp=Z,76nm,1.2s
WRAB LR LR
comp=Z,929nm,21.0s
S22A 4UR Ranch, Cre 72.13 51 ⇑P P 09 55 40.9 +0.2
baz=72,SNR=32
ALN Alexandroupoli 72.14 314 P P 09 55 38.5 -1.8
ALN Alexandroupoli 72.14 314 *e*P P 09 55 34.9 -5.4
WB2 Warramunga Arr 72.14 188 *e*P P 09 55 38.6 -1.7
WRA Warramunga Arr 72.14 188 P P 09 55 38.3 -2.1
comp=Z,30nm,1.1s,baz=5.0,slow=6.3,SNR=93
WRA PKPPKP P'P'df 10 23 28.5 +7.7
comp=Z,1.0nm,1.0s,baz=182,slow=2.0,SNR=5.7
WRA LR LR 10 25 44.1
comp=Z,563nm,21.9s,baz=320,slow=34
BAIF Baives 72.15 333 *e*P P 09 55 39.9 -0.3
comp=Z,93nm,1.2s
BAIF Baives 72.15 333 *e*P P 09 55 39.9 -0.3
BAIF pmax pmax
comp=Z,93nm,1.2s
BAIF Baives 72.15 333 *e*P P 09 55 39.9 -0.3
comp=Z,93nm,1.2s
L31A Butterfield Fa 72.15 43 ⇑P P 09 55 40.0 -0.5
baz=72,SNR=35
RDO Rodhopi 72.16 315 P P 09 55 39.7 -0.7
MCH1 Michaelchurch 72.19 338 *e*P P 09 55 40.2 -0.2
MCH1 AMB AMB 09 55 47.5
comp=Z,90nm,3.4s
MCH1 AMS AMS 10 35 49.4
comp=Z,1µm,7.3s
O27A Beecher Island 72.19 47 ⇑P P 09 55 40.7 -0.1
baz=72,SNR=18
N28A Pribbeno Ranch 72.21 46 ⇑P P 09 55 40.6 -0.2
baz=72,SNR=10
MYKA Terra Mystica 72.22 326⇓*i*P P 09 55 40.5 -0.4
comp=Z,313nm,2.3s,SNR=27
M30A Dale-Ortello V 72.24 44 ⇑P P 09 55 40.4 -0.6
baz=72
R23A Moffat 72.26 50 ⇓P P 09 55 41.3 -0.1
baz=72,SNR=21
P26A Davis Ranch, A 72.31 48 ⇑P P 09 55 41.1 -0.5
baz=72,SNR=8.9
WATA Walderalm 72.31 327⇑*i*P P 09 55 41.5 +0.1
comp=Z,105nm,1.2s,SNR=12
WTTA Wattenberg 72.36 327⇑*i*P P 09 55 41.9 +0.1
comp=Z,733nm,3.0s,SNR=33
Q25A Bedland, Calha 72.42 49 ⇑P P 09 55 42.0 -0.3
baz=72,SNR=24
RETA Reutte 72.45 328⇑*i*P P 09 55 41.9 -0.3
comp=Z,654nm,3.4s,SNR=13
MOTA Moosalm 72.46 328⇓*i*P P 09 55 42.3 -0.1
comp=Z,82nm,1.2s,SNR=32
X16A Lo Mia Camp, P 72.47 56 ⇑P P 09 55 43.2 +0.6
baz=72,SNR=56
BFO Black Forest 72.48 330 *i*P P 09 55 42.2 -0.1
BFO Black Forest 72.48 330 *e*P P 09 55 41.5 -0.7
comp=Z,83nm,1.2s
BFO *e*L L 10 30 30.7
comp=Z,2µm,19.7s
BFO Black Forest 72.48 330 *e*P P 09 55 41.5 -0.7
comp=Z,134nm,1.4s
BFO LR LR
comp=Z,2µm,20.0s
N29A Votaw Ranch, W 72.50 45 ⇑P P 09 55 42.1 -0.4
baz=72,SNR=12
ABTA Abfaltersbach 72.51 326⇓*i*P P 09 55 42.1 -0.4
comp=Z,268nm,2.0s,SNR=26
Z14A Wintersburg 72.51 58 ⇑P P 09 55 42.5 -0.1
baz=72
VISS Visnje 72.51 324 *e*P P 09 55 41.8 -0.7
VISS Visnje 72.51 324 *e*P P 09 55 41.8 -0.7
113A Mohawk Valley, 72.54 59 ⇑P P 09 55 43.1 +0.3
baz=72,SNR=15
O28A Krutsinger Ran 72.56 46 ⇓P P 09 55 42.6 -0.3
baz=72
S23A Nye Farm, Mont 72.56 51 ⇑P P 09 55 43.5 +0.3
baz=72,SNR=22
R24A Sanders Place, 72.56 50 ⇑P P 09 55 43.0 -0.1
baz=72,SNR=38
ISP Isparta 72.57 310 P P 09 55 42.0 -1.1
ISP Isparta 72.57 310 PFAKE 09 55 50.0 +6.9
ISP LR LR
comp=Z,3µm,21.0s
MMB Musomiste 72.57 316⇓*i*P P 09 55 43.3 +0.4
MMB Musomiste 72.57 316 P P 09 55 42.6 -0.3
COWI Conover 72.60 35 *e*P P 09 55 41.9 -1.1
comp=Z,47nm,1.4s
KKB Krupnik 72.62 317 P P 09 55 42.8 -0.4
BOJS Bojanci 72.62 324 *e*P P 09 55 42.7 -0.4
BOJS Bojanci 72.62 324 *e*P P 09 55 42.7 -0.4
P27A Ficken Ranch, 72.66 47 ⇑P P 09 55 43.5 -0.1
baz=72,SNR=9.9
SMTH Samothraki Isl 72.71 315 P P 09 55 44.6 +0.9
JAVS Javornik 72.71 325 *i*P P 09 55 42.5 -1.3
JAVS Javornik 72.71 325 *i*P P 09 55 42.5 -1.3
NVR Nevrokopi 72.71 316 P P 09 55 45.0 +1.2
KAVA Kavala 72.72 316 P P 09 55 43.7 -0.1
KAVA Kavala 72.72 316 *e*P P 09 55 42.7 -1.1
CDF Champ du Feu 72.73 330 *e*P P 09 55 43.6 -0.2
comp=Z,116nm,1.0s
CDF Champ du Feu 72.73 330 *e*P P 09 55 43.6 -0.2
CDF pmax pmax
comp=Z,116nm,1.0s
CDF Champ du Feu 72.73 330 *e*P P 09 55 43.6 -0.2
comp=Z,116nm,1.0s

Q26A	Hugo	72.74	48	⇑P	P	09 55 43.7	-0.5
	baz=73						
N30A	Hueftle Ranch,	72.75	45	⇓P	P	09 55 43.3	-0.7
	baz=73						
M31A	Lambtecht Ranc	72.78	44	⇓P	P	09 55 43.9	-0.3
	baz=73,SNR=15						
W18A	Petrified Fore	72.78	55	⇓P	P	09 55 44.8	+0.3
	baz=73,SNR=11						
W18A	Petrified Fore	72.78	55	eP	P	09 55 45.1	+0.6
	comp=Z,29nm,0.9s						
FETA	Feichten	72.87	328	⇑iP	P	09 55 44.7	-0.1
	comp=Z,479nm,2.7s,SNR=26						
KULA	Kula-Manisa	72.89	311	P	P	09 55 44.5	-0.4
DAVA	Damuels	72.91	328	iP	P	09 55 44.9	-0.1
	comp=Z,519nm,3.1s,SNR=16						
ECH	Echery	72.94	330	eP	P	09 55 43.6	-1.4
ECH				pmax	pmax		
	comp=Z,74nm,1.1s						
ECH				MLR	MLR		
	comp=Z,2μm,20.0s						
ECH	Echery	72.94	330	⇑eP	P	09 55 44.5	-0.5
ECH	Echery	72.94	330	eP	P	09 55 43.6	-1.4
	comp=Z,74nm,1.1s						
ECH				LR	LR		
	comp=Z,2μm,20.0s						
S24A	Houchin Ranch,	72.99	50	⇓P	P	09 55 45.1	-0.7
	baz=73,SNR=30						
O29A	4D Ranch, Culb	72.99	46	⇑P	P	09 55 44.7	-0.8
	baz=73,SNR=15						
R25A	Fountain Ranch	73.02	49	⇑P	P	09 55 45.1	-0.7
	baz=73,SNR=21						
P28A	Saint Francis	73.02	47	⇑P	P	09 55 45.0	-0.7
	baz=73,SNR=17						
SRS	Serrai	73.02	316	P	P	09 55 44.8	-0.8
SRS	Serrai	73.02	316	eP	P	09 55 44.7	-0.8
PAGF	Fort de Pagny	73.07	332	eP	P	09 55 45.9	+0.2
	comp=Z,69nm,1.3s						
PAGF	Fort de Pagny	73.07	332	eP	P	09 55 45.9	+0.2
	comp=Z,69nm,1.3s						
T23A	Casias Ranch,	73.08	51	⇓P	P	09 55 45.9	-0.4
	baz=73,SNR=13						
KSCO	Kaye Shedlock'	73.08	48	⇑P	P	09 55 45.8	-0.3
	baz=73,SNR=14						
KSCO	Kaye Shedlock'	73.08	48	eP	P	09 55 45.4	-0.7
	comp=Z,54nm,1.1s						
X18A	Snowflake	73.14	55	⇑P	P	09 55 46.3	-0.3
	baz=73,SNR=21						
U22A	Llaves	73.21	52	⇓P	P	09 55 47.0	-0.1
	baz=73,SNR=18						
SKO	Skopje	73.21	318	iP	P	09 55 46.7	0.0
N31A	Bailey Ranch,	73.22	44	⇑P	P	09 55 46.4	-0.4
	baz=73,SNR=7.0						
O30A	MW Ranch, Wils	73.27	45	⇓P	P	09 55 46.6	-0.5
	baz=73,SNR=26						
MOF	Molkenrain	73.28	330	⇑eP	P	09 55 46.4	-0.7
KNT	Kendrikon	73.28	317	P	P	09 55 47.1	0.0
KNT	Kendrikon	73.28	317	eP	P	09 55 46.6	-0.5
R26A	Arlington	73.28	49	⇑P	P	09 55 47.0	-0.3
	baz=73,SNR=30						
VAY	Valandovo	73.28	317	P	P	09 55 46.0	-1.1
VAY	Valandovo	73.28	317	iP	P	09 55 46.2	-0.9
THEF	They Montfort	73.28	331	⇑eP	P	09 55 46.6	-0.4
MEZF	Maizieres J'vi	73.31	332	eP	P	09 55 47.2	+0.1
	comp=Z,265nm,1.4s						
MEZF	Maizieres J'vi	73.31	332	eP	P	09 55 47.2	+0.1
	comp=Z,265nm,1.4s						
S25A	Robets Cordova	73.34	50	⇓P	P	09 55 47.5	-0.2
	baz=73,SNR=14						
DAVOX	Davos/Dischmat	73.36	328	P	P	09 55 48.0	+0.3
DAVOX	Davos/Dischmat	73.36	328	P	P	09 55 47.9	+0.3
	comp=Z,41nm,0.8s,baz=357,slow=3.8,SNR=29						
P29A	Atwood	73.36	46	⇑P	P	09 55 47.1	-0.5
	baz=73,SNR=9.4						
T24B	San Luis	73.37	51	⇑P	P	09 55 48.1	0.0
	baz=73,SNR=6.4						
HAU	Haudompre	73.38	331	eP	P	09 55 47.1	-0.5
	comp=Z,97nm,1.1s						
HAU				eR			
	comp=Z,4μm,19.5s						
HAU	Haudompre	73.38	331	eP	P	09 55 47.1	-0.5
HAU				pmax	pmax		
	comp=Z,97nm,1.1s						
HAU	Haudompre	73.38	331	eP	P	09 55 47.1	-0.5
	comp=Z,97nm,1.1s						
HINF	Hinteralfeld	73.39	330	eP	P	09 55 47.0	-0.7
	comp=Z,144nm,1.5s						
HINF	Hinteralfeld	73.39	330	eP	P	09 55 47.0	-0.7
HINF				pmax	pmax		
	comp=Z,144nm,1.5s						
HINF	Hinteralfeld	73.39	330	eP	P	09 55 47.0	-0.7
	comp=Z,144nm,1.5s						
Q28A	Sharon Springs	73.40	47	⇑P	P	09 55 47.5	-0.4
	baz=73,SNR=17						
CSS	Prodhromos	73.48	306	PFAKE		09 56 00.0	+12
CSS				LR	LR		
	comp=Z,741nm,22.0s						
OUR	Ouranopolis	73.50	315	P	P	09 55 49.3	+1.0
OUR	Ouranopolis	73.50	315	eP	P	09 55 42.5	-5.8
N32A	Stulken Farm,	73.55	44	⇓P	P	09 55 48.6	-0.2
	baz=73						
V22A	San Miguel Ran	73.55	52	⇓P	P	09 55 49.1	0.0
	baz=73,SNR=14						
U23A	El Rito	73.57	52	⇓P	P	09 55 48.9	-0.2
	baz=73,SNR=64						
SFTF	Sexfontaines	73.58	332	eP	P	09 55 48.4	-0.4
	comp=Z,125nm,1.0s						
SFTF	Sexfontaines	73.58	332	eP	P	09 55 48.4	-0.4
	comp=Z,125nm,1.0s						
R27A	Eads	73.59	48	⇓P	P	09 55 48.6	-0.5
	baz=73,SNR=32						
O31A	Woolen Ranch,	73.61	45	⇓P	P	09 55 48.3	-0.8
	baz=73,SNR=8.9						
GRG	Griva	73.66	317	P	P	09 55 47.7	-1.6
GRG	Griva	73.66	317	eP	P	09 55 48.3	-1.0
214A	Organ Pipe Nat	73.68	59	⇓P	P	09 55 49.7	+0.1
	baz=74,SNR=13						
214A	Organ Pipe Nat	73.68	59	eP	P	09 55 50.4	+0.7
	comp=Z,24nm,1.0s						
P30A	Selden	73.71	46	⇓P	P	09 55 49.1	-0.7
	baz=74,SNR=13						
PDG	Podgorica	73.71	320	P	P	09 55 49.2	-0.4
T25A	Trinidad	73.77	50	⇓P	P	09 55 49.8	-0.5
	baz=74,SNR=20						
TUE	Stuetta	73.80	328	eP	P	09 55 49.9	-0.5
	comp=Z,64nm,1.0s						
TUE				LR	LR		
	comp=Z,4μm,22.0s						
LOMF	Lomont	73.82	330	eP	P	09 55 49.9	-0.3
S26A	Kim	73.82	49	⇓P	P	09 55 49.8	-0.7
	baz=74,SNR=18						
ASF	Jabal al Asfar	73.85	302	P	P	09 55 50.5	-0.2
ASF				pmax	pmax		
	comp=Z,12nm,0.9s						
ASF	Jabal al Asfar	73.85	302	P	P	09 55 50.5	-0.2
	comp=Z,12nm,0.9s,baz=55,slow=2.9,SNR=7.2						
DYA	Yadsworthy	73.86	338	eP	P	09 55 49.5	-0.8
DYA				AMB	AMB	09 55 52.3	
	comp=Z,79nm,2.2s						
DYA				AMS	AMS	10 37 53.1	
	comp=Z,2μm,13.9s						
Q29A	Oakley	73.92	47	⇓P	P	09 55 50.5	-0.5
	baz=74,SNR=12						
U24A	Moreno Valley	73.94	51	⇑P	P	09 55 51.5	+0.1
	baz=74,SNR=19						
PAIG	Paliouri	73.96	315	P	P	09 55 50.5	-0.6
PAIG	Paliouri	73.96	315	eP	P	09 55 43.8	-7.3
MMAI	Mount Meron Ar	73.97	303	P	P	09 55 51.1	-0.3
	comp=Z,13nm,0.7s,baz=24,slow=8.2,SNR=5.9						
O32A	Brockman Farm,	73.97	44	⇑P	P	09 55 50.2	-1.0
	baz=74						
R28A	Tribune	73.99	47	⇑P	P	09 55 50.6	-0.9
	baz=74,SNR=27						
SHAO	Shalim	74.00	279	P	P	09 55 51.2	-0.4
	SNR=5.9						
S27A	Las Animas	74.03	49	⇑P	P	09 55 50.8	-0.9
	baz=74						
V23A	Ortiz Mt. (NFS	74.04	52	⇓P	P	09 55 51.7	-0.2
	baz=74,SNR=28						
P31A	Stockton	74.11	45	⇓P	P	09 55 51.0	-1.0
	baz=74,SNR=23						
T26A	Comanche Natio	74.12	49	⇓P	P	09 55 51.9	-0.5
	baz=74,SNR=21						
CHOS	Chios island	74.18	313	P	P	09 55 52.4	-0.1
CHOS	Chios island	74.18	313	eP	P	09 55 50.2	-2.3
Q30A	Quinter	74.19	46	⇑P	P	09 55 51.8	-0.8
	baz=74,SNR=26						
OHR	Ohrid	74.19	318	iP	P	09 55 50.7	-1.8
FNA	Florina	74.23	317	P	P	09 55 51.5	-1.2
FNA	Florina	74.23	317	eP	P	09 55 51.5	-1.2
R29A	Marienthal	74.23	47	⇓P	P	09 55 51.8	-1.0
	baz=74,SNR=22						
LIT	Litokhoron	74.33	316	P	P	09 55 51.8	-1.5
P32A	Huiting Farm,	74.36	45	⇓P	P	09 55 52.5	-1.0
	baz=74,SNR=30						
U25A	Circle Dot Ran	74.37	50	⇑P	P	09 55 53.4	-0.3
	baz=74,SNR=21						
TUC	Tucson	74.46	57	eP	P	09 55 54.6	+0.4
TUC				pmax	pmax		
	comp=Z,14nm,1.0s						
TUC				MLR	MLR		
	comp=Z,2μm,20.0s						
TUC	Tucson	74.46	57	eP	P	09 55 54.6	+0.4
	comp=Z,14nm,1.0s						
TUC				LR	LR		
	comp=Z,2μm,20.0s						
V24A	Rampart Ranch,	74.50	51	⇑P	P	09 55 54.2	-0.4
	baz=74,SNR=17						
AOS	Alonnisos	74.50	315	P	P	09 55 53.1	-1.2
AOS	Alonnisos	74.50	315	eP	P	09 55 50.5	-3.8
Q31A	Ellis	74.53	45	⇓P	P	09 55 54.1	-0.4
	baz=74,SNR=9.8						
ANMO	Albuquerque	74.55	53	ceP	P	09 55 55.4	+0.5
ANMO				pmax	pmax		
	comp=Z,86nm,1.3s						
ANMO				MLR	MLR		
	comp=Z,8μm,18.0s						
ANMO	Albuquerque	74.55	53	P	P	09 55 55.1	+0.2
	comp=Z,5.6nm,1.0s,baz=321,slow=7.8,SNR=17						
ANMO	Albuquerque	74.55	53	eP	P	09 55 55.1	+0.2
	comp=Z,32nm,1.4s						
ANMO				LR	LR		
	comp=Z,2μm,19.0s						
S28A	Manter	74.57	48	⇑P	P	09 55 54.4	-0.4
	baz=74,SNR=19						
FLN	La Foliniere	74.58	336	eP	P	09 55 54.1	-0.5
	comp=Z,85nm,1.0s						
FLN				eR			
	comp=Z,4μm,21.8s						
FLN	La Foliniere	74.58	336	eP	P	09 55 54.1	-0.5
FLN				pmax	pmax		
	comp=Z,85nm,1.0s						
FLN	La Foliniere	74.58	336	eP	P	09 55 54.1	-0.5
	comp=Z,85nm,1.0s						
KBN	Korca	74.61	318	P	P	09 55 54.3	-0.7
JSA	Saint Aubin	74.61	337	eP	P	09 55 54.4	-0.3
T27A	Campo	74.62	49	⇓P	P	09 55 54.8	-0.4
	baz=74,SNR=15						
XOR	Xorichti	74.64	315	P	P	09 55 53.4	-1.7
XOR	Xorichti	74.64	315	eP	P	09 55 53.4	-1.7
LAZ	Ladron	74.65	53	eP	P	09 55 56.2	+0.7
	comp=Z,15nm,1.1s						
LDF	La Druitiere	74.65	335	eP	P	09 55 54.4	-0.5
	comp=Z,117nm,1.2s						
LDF	La Druitiere	74.65	335	eP	P	09 55 54.4	-0.5
LDF				pmax	pmax		
	comp=Z,117nm,1.2s						
LDF	La Druitiere	74.65	335	eP	P	09 55 54.4	-0.5
	comp=Z,117nm,1.2s						
SCIA	State Center	74.67	40	eP	P	09 55 55.1	-0.1
	comp=Z,80nm,1.0s						
SCIA				LR	LR		
	comp=Z,3μm,19.0s						
NEO	Neokhori	74.67	315	P	P	09 55 55.5	+0.2
NEST	Nestorio	74.67	317	P	P	09 55 54.4	-1.0
NEST	Nestorio	74.67	317	eP	P	09 55 54.2	-1.2
U26A	Atchley Ranch,	74.68	50	⇑P	P	09 55 55.4	-0.2
	baz=74,SNR=14						
CABF	La Chapelle	74.70	330	eP	P	09 55 55.1	-0.3
	comp=Z,57nm,1.1s						
CABF	La Chapelle	74.70	330	eP	P	09 55 55.1	-0.3
CABF				pmax	pmax		
	comp=Z,57nm,1.1s						
CABF	La Chapelle	74.70	330	eP	P	09 55 55.1	-0.3
	comp=Z,57nm,1.1s						
V25A	Rancho No Teng	74.72	51	⇑P	P	09 55 55.2	-0.7
	baz=75,SNR=15						
R30A	Dighton	74.73	46	⇓P	P	09 55 55.1	-0.6
	baz=74,SNR=17						
LOR	Lormes	74.77	332	eP	P	09 55 55.1	-0.6
	comp=Z,152nm,1.2s						
LOR				eR			
	comp=Z,4μm,21.8s						
LOR	Lormes	74.77	332	eP	P	09 55 55.1	-0.6
LOR				pmax	pmax		
	comp=Z,152nm,1.2s						
LOR	Lormes	74.77	332	eP	P	09 55 55.1	-0.6
	comp=Z,152nm,1.2s						
W24A	Lazy 6 Ranch,	74.85	52	⇓P	P	09 55 56.4	-0.2
	baz=75,SNR=16						
T28A	Walsh	74.85	48	⇑P	P	09 55 55.1	-1.4
	baz=75,SNR=11						
S29A	Ulysses	74.90	47	⇓P	P	09 55 56.2	-0.5
	baz=75,SNR=13						
Q32A	Meitler Ranch,	74.91	45	⇓P	P	09 55 56.0	-0.6
	baz=75,SNR=18						
P33A	Williams Farm,	74.91	44	⇓P	P	09 55 56.0	-0.6
	baz=75						
LENM	Lemitar	74.92	53	eP	P	09 55 57.4	+0.4
	comp=Z,17nm,1.1s						
JFWS	Jewell Farm	74.94	37	eP	P	09 55 56.0	-0.8
JFWS				pmax	pmax		
	comp=Z,20nm,0.8s						
JFWS				MLR	MLR		
	comp=Z,3μm,20.0s						
JFWS	Jewell Farm	74.94	37	eP	P	09 55 56.0	-0.8
	comp=Z,20nm,0.8s						
JFWS				LR	LR		
	comp=Z,3μm,20.0s						
LPM	Los Pinos Moun	74.97	53	eP	P	09 55 58.3	+1.0
	comp=Z,48nm,1.7s						
THL	Klokotos Trika	74.98	316	P	P	09 55 54.9	-2.1
ARG	Arkhangelos	75.00	310	eP	P	09 55 50.7	-6.5
MRKA	Markates	75.01	315	P	P	09 55 56.7	-0.6
MRKA	Markates	75.01	315	eP	P	09 55 55.8	-1.5
Y22D	IRIS PASSCAL I	75.02	53	⇑P	P	09 55 57.7	+0.2
	baz=75						
GRR	Gorron	75.03	336	eP	P	09 55 56.8	-0.3
	comp=Z,78nm,0.9s						
GRR	Gorron	75.03	336	eP	P	09 55 56.8	-0.3
GRR				pmax	pmax		
	comp=Z,78nm,0.9s						
GRR	Gorron	75.03	336	eP	P	09 55 56.8	-0.3
	comp=Z,78nm,0.9s						
SMIA	Simia	75.03	315	eP	P	09 55 56.0	-1.4
R31A	Burdett	75.06	46	⇑P	P	09 55 56.8	-0.7
	baz=75,SNR=21						
SSF	Saint Saulge	75.06	332	eP	P	09 55 56.7	-0.7
	comp=Z,49nm,0.8s						
SSF	Saint Saulge	75.06	332	eP	P	09 55 56.7	-0.7
SSF				pmax	pmax		
	comp=Z,49nm,0.8s						
SSF	Saint Saulge	75.06	332	eP	P	09 55 56.7	-0.7
	comp=Z,49nm,0.8s						
U27A	Thompson Grove	75.09	49	⇓P	P	09 55 57.4	-0.5
	baz=75,SNR=32						
HYF	Humbligny	75.12	333	eP	P	09 55 57.6	-0.1
HYF	Humbligny	75.12	333	eP	P	09 55 57.6	-0.1
COCO	West Island	75.13	226	PFAKE		09 56 10.0	+12
COCO				LR	LR		
	comp=Z,2μm,22.0s						
V26A	Tequesquite Ra	75.15	50	⇑P	P	09 55 57.5	-0.7
	baz=75,SNR=18						
S30A	Montezuma	75.18	47	⇑P	P	09 55 57.8	-0.5
	baz=75,SNR=26						
T29A	Hugoton	75.20	48	⇓P	P	09 55 57.6	-0.9
	baz=75						
Q33A	Connelly Farm,	75.21	44	⇓P	P	09 55 57.4	-1.0
	baz=75,SNR=17						
RBK	Rabkut	75.27	280	P	P	09 55 58.7	-0.3
	SNR=6.6						
AGG	Agios Georgios	75.30	316	P	P	09 55 57.0	-1.9
AGG	Agios Georgios	75.30	316	eP	P	09 55 54.2	-4.7
W25A	X Bar L Ranch,	75.30	51	⇓P	P	09 55 58.3	-0.9
	baz=75,SNR=15						
R32A	Long Quarter,	75.31	45	⇓P	P	09 55 58.1	-0.9
	baz=75,SNR=9.4						
LKR	Lokris	75.32	315	P	P	09 55 57.8	-1.2
LKR	Lokris	75.32	315	eP	P	09 55 57.5	-1.5
SMF	Signal de Mont	75.34	332	eP	P	09 55 58.5	-0.5
	comp=Z,194nm,1.3s						
SMF	Signal de Mont	75.34	332	eP	P	09 55 58.5	-0.5
SMF				pmax	pmax		
	comp=Z,194nm,1.3s						
SMF	Signal de Mont	75.34	332	eP	P	09 55 58.5	-0.5
	comp=Z,194nm,1.3s						
AVF	Avril sur Loir	75.35	332	eP	P	09 55 58.6	-0.4
	comp=Z,92nm,1.1s						
AVF	Avril sur Loir	75.35	332	eP	P	09 55 58.6	-0.4
AVF				pmax	pmax		
	comp=Z,92nm,1.1s						
AVF	Avril sur Loir	75.35	332	eP	P	09 55 58.6	-0.4
	comp=Z,92nm,1.1s						
AXAR	Agios Charalam	75.37	315	P	P	09 55 58.6	-0.7
AXAR	Agios Charalam	75.37	315	eP	P	09 55 56.5	-2.8
MAKR	Makrakomi, Fth	75.39	316	P	P	09 55 59.1	-0.3
MAKR	Makrakomi, Fth	75.39	316	eP	P	09 55 56.6	-2.8
U28A	Mallet	75.41	49	⇑P	P	09 55 59.1	-0.6
	baz=75,SNR=10						
LPL	La Plagne	75.49	329	eP	P	09 56 00.3	+0.2
	comp=Z,70nm,0.9s						
LPL	La Plagne	75.49	329	eP	P	09 56 00.3	+0.2
LPL				pmax	pmax		
	comp=Z,70nm,0.9s						
LPL	La Plagne	75.49	329	eP	P	09 56 00.3	+0.2
	comp=Z,70nm,0.9s						
LPG	La Plagne	75.50	329	eP	P	09 56 00.5	+0.2
	comp=Z,94nm,0.9s						
LPG	La Plagne	75.50	329	eP	P	09 56 00.5	+0.2
LPG				pmax	pmax		
	comp=Z,95nm,0.9s						
LPG	La Plagne	75.50	329	eP	P	09 56 00.5	+0.2
	comp=Z,94nm,0.9s						
VLC	Villacollemand	75.50	326	PFAKE		09 56 10.0	+10
VLC				LR	LR		
	comp=Z,3μm,22.0s						
SGMF	Saint Gilles	75.57	337	eP	P	09 56 00.2	-0.1
	comp=Z,85nm,1.0s						
SGMF	Saint Gilles	75.57	337	eP	P	09 56 00.2	-0.1
SGMF				pmax	pmax		
	comp=Z,85nm,1.0s						
SGMF	Saint Gilles	75.57	337	eP	P	09 56 00.2	-0.1
	comp=Z,85nm,1.0s						
EVR	Evrytania	75.61	316	P	P	09 55 59.2	-1.6
V27A	Dan Oppiter Fa	75.63	50	⇑P	P	09 56 00.5	-0.5
	baz=76,SNR=14						
S31A	Mullinville	75.63	46	⇓P	P	09 56 00.0	-0.9
	baz=75						
T30A	Plains	75.63	47	⇑P	P	09 56 00.3	-0.6
	baz=76						
MBWA	Marble Bar	75.64	202	P	P	09 56 02.3	+1.4
	SNR=6.9						
MBWA	Marble Bar	75.64	202	eP	P	09 56 00.2	-0.7
	comp=Z,280nm,2.0s						
MBWA				LR	LR		
	comp=Z,755nm,19.0s						
KSU1	Kansas State U	75.65	43	⇑P	P	09 55 59.7	-1.2
	baz=76,SNR=20						
KSU1	Kansas State U	75.65	43	eP	P	09 55 59.4	-1.6
	comp=Z,69nm,0.8s						
KSU1				LR	LR		
	comp=Z,4μm,19.0s						
Z22A	Elephant Butte	75.65	54	⇑P	P	09 56 01.9	+0.7
	baz=76,SNR=38						
ROSF	Rostrenen	75.67	337	eP	P	09 56 00.7	-0.1
	comp=Z,91nm,1.1s						
ROSF	Rostrenen	75.67	337	eP	P	09 56 00.7	-0.1
ROSF				pmax	pmax		
	comp=Z,91nm,1.1s						
ROSF	Rostrenen	75.67	337	eP	P	09 56 00.7	-0.1
	comp=Z,91nm,1.1s						
BGF	Bois d'Agland	75.71	332	eP	P	09 56 00.7	-0.4
BGF	Bois d'Agland	75.71	332	eP	P	09 56 00.7	-0.4
BGF	Bois d'Agland	75.71	332	eP	P	09 56 00.7	-0.4
IGT	Igoumenitsa	75.71	317	eP	P	09 56 00.9	-0.4
DSF	Desfina	75.72	315	P	P	09 55 58.6	-2.8
DSF	Desfina	75.72	315	eP	P	09 55 59.2	-2.2
R33A	Olander Ranch,	75.72	45	⇓P	P	09 56 00.5	-0.9
	baz=76,SNR=13						
DSL	Palaion Diasel	75.73	317	eP	P	09 55 58.7	-2.7
W26A	Owens Ranch, T	75.73	51	⇓P	P	09 56 01.9	+0.3
	baz=76,SNR=13						
X25A	Clemmons Ranch	75.76	52	⇓P	P	09 56 01.9	+0.1
	baz=76,SNR=51						
KEK	Kerkira	75.78	318	P	P	09 55 59.1	-2.5
KEK	Kerkira	75.78	318	eP	P	09 55 53.1	-8.5
U29A	Oasis Ranch, S	75.79	48	⇑P	P	09 56 01.2	-0.6
	baz=76						
S32A	Newby Ranch, P	75.81	46	⇓P	P	09 56 01.0	-0.8
	baz=76,SNR=14						
RAYN	Ar Rayn	75.81	290	eP	P	09 56 01.4	-0.7
	comp=Z,59nm,1.2s						
121A	Cookes Peak, D	75.82	55	⇑P	P	09 56 02.7	+0.5
	baz=76,SNR=36						
121A	Cookes Peak, D	75.82	55	eP	P	09 56 03.0	+0.8
	comp=Z,66nm,1.0s						
LTK	Loutraki	75.85	315	P	P	09 56 00.0	-2.1
LTK	Loutraki	75.85	315	eP	P	09 55 53.2	-8.9
AS31	Alice Springs	75.87	188	eP	P	09 56 00.9	-1.2
Y24A	Capitan	75.87	53	⇑P	P	09 56 02.6	+0.1
	baz=76,SNR=30						
ASAR	Alice Springs	75.87	188	P	P	09 56 01.0	-1.1
	comp=Z,14nm,0.6s,baz=4.1,slow=5.6,SNR=202						
ASAR				PKKPbc	PKKPbc	10 15 17.3	-1.3
	comp=Z,0.4nm,0.8s,baz=185,slow=2.1,SNR=6.3						
ASAR				LR	LR	10 28 28.7	
	comp=Z,631nm,20.1s,baz=341,slow=35						
KALE	Kalithea	75.90	316	P	P	09 56 00.1	-2.3
KALE	Kalithea	75.90	316	eP	P	09 55 59.7	-2.7
BNI	Bardonecchia	75.92	329	eP	P	09 56 02.7	+0.2
BNI				pmax	pmax		
	comp=Z,25nm,0.9s						
BNI				MLR	MLR		
	comp=Z,5μm,20.0s						
BNI	Bardonecchia	75.92	329	eP	P	09 56 02.7	+0.2
	comp=Z,25nm,0.9s						
BNI				LR	LR		
	comp=Z,5μm,20.0s						
V28A	Channing	75.92	49	⇑P	P	09 56 01.9	-0.7
	baz=76						
ABTO	Aybut	75.93	280	P	P	09 56 01.4	-1.4
	SNR=14						
GDM	Grand'Maison	75.96	330	⇑eP	P	09 56 03.0	+0.2
EFP	Efpalio	75.97	316	P	P	09 56 02.2	-0.5
EFP	Efpalio	75.97	316	eP	P	09 56 01.6	-1.1
319A	Douglas	75.98	57	⇓P	P	09 56 03.1	+0.1
	baz=76,SNR=38						
T31A	Randall Ranch,	75.98	47	⇓P	P	09 56 02.7	-0.2
	baz=76,SNR=10						
U30A	WK&E Inc. Balk	76.01	48	⇓P	P	09 56 02.3	-0.7
	baz=76,SNR=5.6						
AQU	L'Aquila	76.01	324	eP	P	09 56 02.9	-0.1
AQU				pmax	pmax		
	comp=Z,82nm,1.0s						
AQU				MLR	MLR		
	comp=Z,3μm,22.0s						
AQU	L'Aquila	76.01	324	eP	P	09 56 02.9	-0.1
	comp=Z,82nm,1.0s						
AQU				LR	LR		
	comp=Z,3μm,22.0s						
QUIF	Quistinic	76.04	337	eP	P	09 56 02.7	-0.2
QUI

comp=Z,37nm,0.7s
KLV Kalavryta, Ach 76.19 315 P P 09 56 01.0 -3.1
GUR Goura 76.20 315 P P 09 56 00.5 -3.7
GUR Goura 76.20 315 eP P 09 56 01.8 -2.4
LKD2 Lefkada island 76.20 317 eP P 09 56 03.4 -0.7
T32A Huddler Ranch, 76.25 46 ⇑P P 09 56 04.3 -0.1
baz=76,SNR=7.5
ORIF Oris-en-Rattie 76.29 330 eP P 09 56 04.6 0.0
comp=Z,86nm,0.9s
ORIF eR
comp=Z,6µm,20.2s
ORIF Oris-en-Rattie 76.29 330 eP P 09 56 04.6 0.0
ORIF pmax pmax
comp=Z,87nm,0.9s
ORIF Oris-en-Rattie 76.29 330 eP P 09 56 04.6 0.0
comp=Z,86nm,0.9s
S33A Kaszmaul Farm, 76.31 45 ⇑P P 09 56 04.1 -0.6
baz=76
W28A Vega 76.33 50 ⇓P P 09 56 04.6 -0.3
baz=76,SNR=15
SSB Saint Sauveur 76.37 331 eP P 09 56 05.0 0.0
SSB pmax pmax
comp=Z,64nm,1.3s
SSB MLR MLR
comp=Z,2µm,19.0s
SSB Saint Sauveur 76.37 331⇑eP P 09 56 04.6 -0.4
SSB Saint Sauveur 76.37 331 eP P 09 56 05.0 0.0
comp=Z,64nm,1.3s
SSB LR LR
comp=Z,2µm,19.0s
SURF Saint Ours 76.39 329⇑eP P 09 56 05.1 -0.2
PYM Petit Puy Mans 76.40 332⇑eP P 09 56 05.1 0.0
COLF Collangettes 76.41 331⇑eP P 09 56 05.3 +0.1
X27A F and S Farms, 76.41 50 ⇓P P 09 56 05.4 -0.1
baz=76,SNR=19
DRO Drossia 76.46 316 P P 09 56 04.8 -0.7
DRO Drossia 76.46 316 eP P 09 56 04.8 -0.7
MFF Saint Martin d 76.49 334 eP P 09 56 05.6 +0.1
comp=Z,259nm,1.5s
MFF Saint Martin d 76.49 334 eP P 09 56 05.6 +0.1
MFF pmax pmax
comp=Z,259nm,1.5s
MFF Saint Martin d 76.49 334 eP P 09 56 05.6 +0.1
comp=Z,259nm,1.5s
U31A Nine Bar Ranch 76.50 47 ⇓P P 09 56 05.3 -0.6
baz=76
LCHF La Chataignera 76.59 335⇑eP P 09 56 06.0 -0.1
SAOF Saorge 76.59 328⇑eP P 09 56 05.0 -1.2
V30A Spur Ranch, Mi 76.62 48 ⇓P P 09 56 06.2 -0.3
baz=76
AUTN L'Aution 76.63 328⇑eP P 09 56 04.9 -1.8
T33A Patterson Ranc 76.63 46 ⇑P P 09 56 06.3 -0.2
baz=76,SNR=10
VLX Vlachokerasia 76.65 315 P P 09 56 04.6 -2.1
VLX Vlachokerasia 76.65 315 eP P 09 56 04.1 -2.6
TOUF Mont Tournerai 76.67 328⇑eP P 09 56 06.1 -0.8
W29A Amarillo 76.70 49 ⇑P P 09 56 06.9 -0.2
baz=76,SNR=8.9
VIVF Saint-Julien-I 76.72 331 eP P 09 56 06.9 0.0
comp=Z,89nm,1.0s
VIVF Saint-Julien-I 76.72 331 eP P 09 56 06.9 0.0
VIVF pmax pmax
comp=Z,89nm,1.0s
VIVF Saint-Julien-I 76.72 331 eP P 09 56 06.9 0.0
comp=Z,89nm,1.0s
SBF Sospel 76.74 328 eP P 09 56 06.3 -0.8
comp=Z,70nm,0.8s
SBF Sospel 76.74 328 eP P 09 56 06.3 -0.8
SBF pmax pmax
comp=Z,70nm,0.8s
SBF Sospel 76.74 328 eP P 09 56 06.3 -0.8
comp=Z,70nm,0.8s
VLS Valsamata 76.75 317 P P 09 56 05.2 -2.0
OG26 St.-Nazaire-De 76.78 330⇑eP P 09 56 07.5 +0.2
ZKR Zakros 76.79 311 eP P 09 56 05.1 -2.3
LBL Lubilhac 76.80 332 eP P 09 56 07.5 +0.1
MVIF Mont Vial 76.81 328⇑eP P 09 56 06.4 -1.2
AMT Artemida-Makis 76.81 315 eP P 09 56 04.7 -2.8
EIL Elat 76.85 301 P P 09 56 07.5 -0.3
comp=Z,32nm,0.8s,baz=346,slow=6.6,SNR=13
REVF Revere 76.88 328⇑eP P 09 56 07.0 -0.8
U32A Winter Ranch, 76.88 47 ⇓P P 09 56 07.5 -0.4
baz=77,SNR=12
AMTX Amarillo 76.88 49 ⇓P P 09 56 07.9 -0.2
baz=77
AMTX Amarillo 76.88 49 eP P 09 56 07.5 -0.5
comp=Z,95nm,1.1s
X28A Dimmitt 76.94 50 ⇓P P 09 56 07.9 -0.6
baz=77
V31A Spring Creek L 77.00 48 ⇓P P 09 56 08.5 -0.2
baz=77,SNR=35
Y27A Causey 77.00 51 ⇑P P 09 56 08.5 -0.3
baz=77,SNR=19
ITM Ithomi 77.01 315 P P 09 56 06.8 -1.9
ITM Ithomi 77.01 315 eP P 09 56 07.2 -1.5
CALN Calern 77.02 329⇑eP P 09 56 07.3 -1.5
SADO Sadowa 77.03 29 P P 09 56 07.5 -1.2
comp=Z,7.0nm,0.9s,baz=317,slow=7.1,SNR=5.0
LAST Lasithi 77.09 311 eP P 09 56 06.2 -3.0
MSTX Muleshoe 77.12 51 ⇑P P 09 56 09.1 -0.3
baz=77,SNR=14
MSTX Muleshoe 77.12 51 eP P 09 56 09.3 -0.1
comp=Z,33nm,1.1s
CUC Castrocucco 77.14 321 eP P 09 56 08.9 -0.5
comp=Z,44nm,1.4s
CUC LR LR
comp=Z,2µm,19.0s
W30A Crocket Farms 77.15 48 ⇓P P 09 56 09.2 -0.3
baz=77
RJF Les Rejaudoux 77.23 333 eP P 09 56 09.7 -0.1
comp=Z,116nm,1.4s
RJF eR
comp=Z,4µm,20.0s
RJF Les Rejaudoux 77.23 333 eP P 09 56 09.7 -0.1
RJF pmax pmax
comp=Z,116nm,1.4s
RJF Les Rejaudoux 77.23 333 eP P 09 56 09.7 -0.1
comp=Z,116nm,1.4s
SMRF Simiane la Rot 77.23 330 eP P 09 56 09.8 0.0
comp=Z,73nm,1.3s
SMRF Simiane la Rot 77.23 330 eP P 09 56 09.8 0.0
comp=Z,73nm,1.3s
X29A Tulia 77.23 50 ⇑P P 09 56 09.6 -0.4
baz=77
IDI Anoyia 77.26 312 P P 09 56 08.9 -1.2
comp=Z,18nm,0.9s,baz=354,slow=8.4,SNR=6.5
FRF La Foret Royal 77.27 329 eP P 09 56 09.1 -0.9
comp=Z,62nm,1.1s
FRF La Foret Royal 77.27 329 eP P 09 56 09.1 -0.9
FRF pmax pmax
comp=Z,62nm,1.1s
FRF La Foret Royal 77.27 329 eP P 09 56 09.1 -0.9
comp=Z,62nm,1.1s
PYL PYLOS 77.33 315 P P 09 56 07.2 -3.2
PYL PYLOS 77.33 315 eP P 09 56 08.6 -1.8
PGF Pioggiola 77.40 327 eP P 09 56 10.0 -0.9
comp=Z,55nm,1.0s
PGF Pioggiola 77.40 327 eP P 09 56 10.0 -0.9
PGF pmax pmax
comp=Z,55nm,1.0s
PGF Pioggiola 77.40 327 eP P 09 56 10.0 -0.9
comp=Z,55nm,1.0s
V32A Arapaho 77.41 47 ⇓P P 09 56 10.6 -0.3
baz=77
Y28A McKinney Farm, 77.42 50 ⇑P P 09 56 10.8 -0.3
baz=77,SNR=14
CAF Calviac 77.42 332 eP P 09 56 11.2 +0.3
comp=Z,118nm,1.3s
CAF Calviac 77.42 332 eP P 09 56 11.2 +0.3
CAF pmax pmax
comp=Z,118nm,1.3s
CAF Calviac 77.42 332 eP P 09 56 11.2 +0.3
comp=Z,118nm,1.3s
W31A Holland Ranch, 77.44 48 ⇓P P 09 56 10.6 -0.5
baz=77,SNR=22
TIP Timpagrande 77.47 320 P P 09 56 09.3 -2.0
TIP Timpagrande 77.47 320 eP P 09 56 09.2 -2.0
comp=Z,54nm,1.4s
TIP LR LR
comp=Z,282nm,19.0s
U34A Anderson Ranch 77.48 46 ⇓P P 09 56 11.1 -0.2
baz=77,SNR=12
U34A Anderson Ranch 77.48 46 eP P 09 56 11.6 +0.3
comp=Z,117nm,1.3s
LMR La Mourre 77.52 329 eP P 09 56 10.9 -0.5
comp=Z,170nm,1.5s
LMR La Mourre 77.52 329 eP P 09 56 10.9 -0.5
LMR pmax pmax
comp=Z,170nm,1.5s
LMR La Mourre 77.52 329 eP P 09 56 10.9 -0.5
comp=Z,170nm,1.5s
EIDS Eidsvold 77.58 172 eP P 09 56 11.8 +0.1
comp=Z,345nm,1.9s
KARN Karanos 77.61 313 eP P 09 56 08.2 -3.8
X30A Coker Ranch, T 77.62 49 ⇑P P 09 56 11.2 -1.0
baz=78,SNR=9.8
V33A Lossen Ranch, 77.66 46 ⇑P P 09 56 11.7 -0.7
baz=78,SNR=14
LASF Ste Croix 77.67 331 eP P 09 56 12.6 +0.3
comp=Z,86nm,1.2s
LASF Ste Croix 77.67 331 eP P 09 56 12.6 +0.3
comp=Z,86nm,1.2s
Y29A Porterfield Fa 77.73 50 ⇓P P 09 56 12.5 -0.3
baz=78
LFF La Frestale 77.78 333 eP P 09 56 13.1 +0.3
comp=Z,243nm,1.4s
LFF La Frestale 77.78 333 eP P 09 56 13.1 +0.3
LFF pmax pmax
comp=Z,243nm,1.4s
LFF La Frestale 77.78 333 eP P 09 56 13.1 +0.3
comp=Z,243nm,1.4s
W32A Sentinel 77.81 48 ⇓P P 09 56 12.8 -0.4
baz=78,SNR=33
AAM Ann Arbor 77.82 33 PFAKE 09 56 20.0 +6.9
AAM LR LR
comp=Z,5µm,20.0s
Z28A Tucker Farm, M 77.86 51 ⇑P P 09 56 13.2 -0.4
baz=78,SNR=6.3
X31A McDonald Ranch 77.88 48 ⇓P P 09 56 13.7 +0.1
baz=78,SNR=42
V34A Guthrie 77.99 46 ⇑P P 09 56 14.1 -0.1
baz=78,SNR=31
V34A Guthrie 77.99 46 eP P 09 56 14.0 -0.1
comp=Z,170nm,1.2s
Y30A Stafford Cattl 78.08 49 ⇓P P 09 56 14.9 +0.1
baz=78
W33A Caddo, Fort Co 78.14 47 ⇓P P 09 56 15.1 +0.1
baz=78,SNR=12
Z29A Hungry Hill Ra 78.21 50 ⇑P P 09 56 15.3 -0.2
baz=78,SNR=33
Y31A Rekieta Farm, 78.31 49 ⇓P P 09 56 15.6 -0.4
baz=78,SNR=15
SFIN Lafayette 78.31 36 ⇑P P 09 56 15.5 -0.4
baz=78
WMOK Wichita Mounta 78.34 47 eP P 09 56 16.5 +0.4
WMOK pmax pmax
comp=Z,70nm,1.0s
WMOK MLR MLR
comp=Z,4µm,19.0s
WMOK Wichita Mounta 78.34 47 eP P 09 56 16.5 +0.4
comp=Z,70nm,1.0s
WMOK LR LR
comp=Z,4µm,19.0s
128A Castleberry Fa 78.36 51 ⇑P P 09 56 15.6 -0.8
baz=78,SNR=14
X32A Elmer 78.37 48 ⇑P P 09 56 15.9 -0.4
baz=78,SNR=14
W34A Bridge Creek, 78.38 46 ⇑P P 09 56 16.2 -0.2
baz=78,SNR=14
W34A Bridge Creek, 78.38 46 eP P 09 56 16.8 +0.4
comp=Z,133nm,1.3s
Z30A Sanderson Ranc 78.46 50 ⇑P P 09 56 16.5 -0.4
baz=78,SNR=32
LONY Lake Ozonia 78.47 26 PFAKE 09 56 30.0 +13
LONY LR LR
comp=Z,3µm,22.0s
CEL Celeste 78.61 320 eP P 09 56 16.7 -0.9
comp=Z,23nm,0.8s
CEL LR LR
comp=Z,4µm,19.0s
X33A Lawton 78.63 47 ⇑P P 09 56 17.4 -0.4
baz=78,SNR=7.5
129A Stewart Farms, 78.65 51 ⇑P P 09 56 17.8 -0.1
baz=78,SNR=9.6
Y32A R-V Farms, Ver 78.65 48 ⇑P P 09 56 17.4 -0.5
baz=78,SNR=11
TUL1 Leonard 78.68 45 ⇑P P 09 56 17.5 -0.4
baz=78,SNR=25
TUL1 Leonard 78.68 45 eP P 09 56 17.7 -0.3
comp=Z,62nm,0.8s
228A UT Block 9, Go 78.72 52 ⇑P P 09 56 17.7 -0.6
baz=79
MTLF Montolieu 78.83 332 eP P 09 56 18.9 +0.3
comp=Z,54nm,1.1s
MTLF Montolieu 78.83 332 eP P 09 56 18.9 +0.3
MTLF pmax pmax
comp=Z,54nm,1.1s
MTLF Montolieu 78.83 332 eP P 09 56 18.9 +0.3
comp=Z,54nm,1.1s
X34A Smith Ranch, M 78.88 47 ⇑P P 09 56 18.7 -0.4
baz=79,SNR=21
Z31A Sharp Cattle R 78.89 49 ⇓P P 09 56 18.6 -0.6
baz=79,SNR=17
Y33A Hilltop Ranch, 79.02 48 ⇑P P 09 56 19.3 -0.6
baz=79,SNR=21
130A Snyder 79.10 50 ⇑P P 09 56 19.9 -0.5
baz=79,SNR=12
NCB Newcomb 79.17 26 PFAKE 09 56 30.0 +9.5
NCB LR LR
comp=Z,3µm,21.0s
ERPA Erie 79.18 31 eP P 09 56 20.2 -0.4
comp=Z,27nm,0.7s
ERPA LR LR
comp=Z,3µm,19.0s
PKME Peaks-Kenny Pk 79.19 22 PFAKE 09 56 30.0 +9.4
PKME LR LR
comp=Z,2µm,19.0s
Z32A Haskell 79.21 49 ⇓P P 09 56 20.3 -0.6
baz=79,SNR=23
229A Bryant Ranch, 79.22 51 ⇑P P 09 56 20.6 -0.5
baz=79
131A Roby 79.31 50 ⇑P P 09 56 21.1 -0.5
baz=79,SNR=9.3
OLIL Olney 79.38 38 eP P 09 56 22.1 +0.3
comp=Z,17nm,0.8s
SJAF Saint Jean de 79.41 331⇑eP P 09 56 21.4 -0.5
CARF Carcanieres 79.43 331⇑eP P 09 56 22.1 0.0
FILF Fillols 79.44 331⇑eP P 09 56 22.0 -0.1
Y34A Reagan Ranch, 79.46 47 ⇑P P 09 56 21.6 -0.6
baz=79,SNR=23
LBNH Lisbon 79.52 24 PFAKE 09 56 30.0 +7.6
LBNH LR LR
comp=Z,3µm,21.0s
329A Wagon Wheel Ra 79.53 52 ⇑P P 09 56 22.6 -0.2
baz=79,SNR=12
Z33A Whitaker Ranch 79.56 48 ⇓P P 09 56 22.3 -0.5
baz=79,SNR=13
BLO Bloomington 79.58 37 eP P 09 56 23.1 +0.2
BLO pmax pmax
comp=Z,22nm,0.9s
BLO Bloomington 79.58 37 eP P 09 56 23.1 +0.2
comp=Z,20nm,0.9s
230A Sterling City 79.62 51 ⇓P P 09 56 22.9 -0.4
baz=80,SNR=8.5
EPF Esparros 79.65 333 eP P 09 56 22.8 -0.4
comp=Z,46nm,1.1s
EPF Esparros 79.65 333 eP P 09 56 22.8 -0.4
EPF pmax pmax
comp=Z,46nm,1.1s
EPF Esparros 79.65 333 eP P 09 56 22.8 -0.4
comp=Z,46nm,1.1s
ABTX Abilene, Hawle 79.70 49 ⇓P P 09 56 23.2 -0.5
baz=80,SNR=19
ABTX Abilene, Hawle 79.70 49 eP P 09 56 23.9 +0.2
comp=Z,113nm,1.4s
SIUC Southern Illin 79.84 39 eP P 09 56 23.9 -0.4
comp=Z,72nm,1.0s
ACCN Adirondack Com 79.86 26 eP P 09 56 24.0 -0.3
comp=Z,27nm,1.1s
Z34A Collier Ranch, 79.88 48 ⇑P P 09 56 23.8 -0.7
baz=80,SNR=7.9
VIEF Viey 79.88 333⇑eP P 09 56 25.1 +0.6
ACSO Alum Creek Sta 79.90 34 eP P 09 56 24.0 -0.5
comp=Z,29nm,1.0s
ACSO LR LR
comp=Z,2µm,20.0s
231A Bronte 79.96 50 ⇓P P 09 56 24.3 -0.7
baz=80,SNR=13
VSL Villasalto 79.97 325 PFAKE 09 56 30.0 +5.0
VSL LR LR
comp=Z,1µm,19.0s
330A Mertzon 79.99 51 ⇓P P 09 56 24.8 -0.5
baz=80,SNR=25
SJPF Ste Jean 80.01 334 eP P 09 56 25.3 +0.2
SJPF Ste Jean 80.01 334 eP P 09 56 25.3 +0.2
SJPF Ste Jean 80.01 334 eP P 09 56 25.3 +0.2
ETSF Etsaut 80.03 333 eP P 09 56 25.8 +0.5
comp=Z,62nm,1.0s
ETSF Etsaut 80.03 333 eP P 09 56 25.8 +0.5
ETSF pmax pmax
comp=Z,62nm,1.0s
ETSF Etsaut 80.03 333 eP P 09 56 25.8 +0.5
comp=Z,62nm,1.0s
133A Hamilton Ranch 80.05 49 ⇓P P 09 56 24.8 -0.7
baz=80,SNR=14
Z35A Perchaven, San 80.21 47 ⇓P P 09 56 25.7 -0.6
baz=80,SNR=13
USIN University of 80.22 38 eP P 09 56 26.4 +0.1
comp=Z,98nm,1.2s
429A Davenport Ranc 80.28 52 ⇑P P 09 56 26.3 -0.6
baz=80,SNR=23
BINY Binghamton 80.31 28 PFAKE 09 56 40.0 +13
BINY LR LR
comp=Z,4µm,21.0s
232A Coleman 80.31 50 ⇑P P 09 56 26.9 -0.1
baz=80,SNR=24
331A San Angelo 80.42 51 ⇑P P 09 56 27.3 -0.3
baz=80,SNR=38
134A White-Moore Ra 80.47 48 ⇑P P 09 56 27.5 -0.2
baz=80,SNR=9.8
430A Baggett Ranch, 80.47 51 ⇑P P 09 56 28.0 +0.2
baz=80,SNR=24
TXAR Lajitas Array 80.47 54 P P 09 56 28.0 +0.1
TXAR 10 15 06.7
TXAR pmax pmax
comp=Z,40nm,1.0s
TXAR Lajitas Array 80.47 54 P P 09 56 28.0 +0.1
comp=Z,40nm,1.0s,baz=292,slow=3.0,SNR=139
TXAR PKKPbc **PKKPbc 10 15 06.7 +0.4**
comp=Z,0.3nm,0.7s,baz=143,slow=4.4,SNR=4.9
WCI Wyandotte Cave 80.50 37 eP P 09 56 27.6 -0.2
WCI pmax pmax
comp=Z,55nm,1.1s
WCI Wyandotte Cave 80.50 37 eP P 09 56 27.6 -0.2
comp=Z,55nm,1.1s
529A Stev Forest Ra 80.54 53 ⇑P P 09 56 27.8 -0.4
baz=80,SNR=34
PARMO Parma 80.55 40 eP P 09 56 28.1 0.0
233A Rising Star 80.55 49 ⇑P P 09 56 28.0 -0.2
baz=80,SNR=17
332A Millersview 80.69 50 ⇑P P 09 56 28.8 -0.2
baz=80,SNR=26
135A Vickery Place, 80.79 48 ⇑P P 09 56 29.2 -0.2
baz=81,SNR=14
MIAR Mount Ida 80.80 44 eP P 09 56 29.8 +0.3
MIAR pmax pmax
comp=Z,65nm,1.3s
MIAR MLR MLR
comp=Z,3µm,20.0s
MIAR Mount Ida 80.80 44 eP P 09 56 29.8 +0.3
comp=Z,65nm,1.3s
MIAR LR LR
comp=Z,3µm,20.0s
431A Sonora 80.86 51 ⇑P P 09 56 29.7 -0.2
baz=81,SNR=26
234A Clairette 80.92 48 ⇓P P 09 56 29.5 -0.7
baz=81,SNR=22
530A J-C Ranch, Com 80.95 52 ⇓P P 09 56 29.5 -0.9
baz=81,SNR=25
GNAR Gosnell 81.05 41 eP P 09 56 31.3 +0.6
comp=Z,2µm,1.4s
432A Menard 81.08 50 ⇓P P 09 56 30.4 -0.7
baz=81,SNR=44
333A Richland Sprin 81.09 49 ⇑P P 09 56 30.2 -0.9
baz=81,SNR=31
UALR University of 81.12 43 eP P 09 56 31.2 +0.1
comp=Z,71nm,1.5s
HBAR Harrisburg 81.14 41 eP P 09 56 32.0 +0.7
WDD Wield Dalam 81.22 320 PFAKE 09 56 40.0 +8.3
WDD LR LR
comp=Z,2µm,20.0s
WHTX Lake Whitney, 81.24 48 ⇑P P 09 56 31.4 -0.4
baz=81,SNR=12
WHTX Lake Whitney, 81.24 48 eP P 09 56 32.3 +0.5
comp=Z,126nm,1.2s
531A Rocksprings 81.32 51 ⇑P P 09 56 31.6 -0.8
baz=81,SNR=20
HALT Halls 81.36 40 eP P 09 56 33.1 +0.7
JCT Junction City 81.41 51 eP P 09 56 32.5 -0.4
JCT pmax pmax
comp=Z,54nm,1.0s
JCT MLR MLR
comp=Z,3µm,21.0s
JCT Junction City 81.41 51 ⇓P P 09 56 32.5 -0.4
baz=81,SNR=17
JCT Junction City 81.41 51 eP P 09 56 32.5 -0.4
comp=Z,54nm,1.0s
JCT LR LR
comp=Z,3µm,21.0s
334A Lometa 81.43 49 ⇓P P 09 56 32.5 -0.5
baz=81,SNR=38
137A Heron Place, G 81.50 46 ⇓P P 09 56 33.0 -0.2
baz=81
433A Art 81.52 50 ⇑P P 09 56 32.6 -0.8
baz=81,SNR=20
532A Rocksprings 81.65 51 ⇓P P 09 56 33.7 -0.5
baz=82,SNR=31
138A Matatall Enter 81.74 46 ⇑P P 09 56 34.4 -0.1
baz=82
WVT Waverly 81.76 39 eP P 09 56 34.2 -0.3
WVT pmax pmax
comp=Z,39nm,1.1s
WVT Waverly 81.76 39 eP P 09 56 34.2 -0.3
comp=Z,39nm,1.1s
335A Moody 81.85 48 ⇑P P 09 56 34.8 -0.3
baz=82,SNR=14
434A Burnet 81.85 49 ⇑P P 09 56 34.2 -1.0
baz=82,SNR=9.8
631A Perdido Creek 81.93 52 ⇓P P 09 56 35.3 -0.2
baz=82,SNR=48
237A Washetta, Mont 81.98 47 ⇓P P 09 56 35.8 0.0
baz=82
336A Riesel 82.03 48 ⇓P P 09 56 35.8 -0.2
baz=82,SNR=8.5
533A Kerrville 82.11 50 ⇓P P 09 56 36.1 -0.4
baz=82,SNR=30
435B Jarrell 82.20 49 ⇓P P 09 56 36.9 -0.1
baz=82
632A Uvalde 82.23 51 ⇓P P 09 56 37.2 +0.1
baz=82,SNR=18
238A Jacksonville 82.29 46 ⇑P P 09 56 37.4 0.0
baz=82
534A Blanco 82.41 50 ⇓P P 09 56 37.3 -0.8
baz=82,SNR=14
337A Centerville 82.53 47 ⇓P P 09 56 38.7 0.0
baz=82
OXF Oxford 82.55 41 eP P 09 56 39.1 +0.4
OXF pmax pmax
comp=Z,78nm,1.1s
OXF Oxford 82.55 41 eP P 09 56 39.1 +0.4
comp=Z,78nm,1.1s
633A Saathoff Ranch 82.56 51 ⇓P P 09 56 38.8 0.0
baz=82,SNR=9.5
239A Gary 82.56 46 ⇓P P 09 56 38.8 0.0
baz=82
436A Wall Ranch, Ga 82.57 48 ⇑P P 09 56 38.8 -0.1
baz=82,SNR=8.9
ARMA Armidale 82.63 172 eP P 09 56 39.4 +0.4
comp=Z,98nm,1.5s
PBRG Braganca 82.65 337 eP P 09 56 38.4 -0.8
comp=Z,23nm,1.5s
NATX Nacogdoches 82.70 46 eP P 09 56 41.1 +1.6
comp=Z,197nm,1.2s
338A Crockett 82.75 47 ⇓P P 09 56 39.6 -0.2
baz=83,SNR=9.9
732A Laxson Ranch, 82.79 52 ⇑P P 09 56 40.2 +0.2
baz=83,SNR=25
437A Phantom Ranch, 82.82 48 ⇓P P 09 56 40.2 +0.1
baz=83
535A Dale 82.84 49 ⇓P P 09 56 40.2 0.0
baz=83
PGAV Gavieira, Arco 82.85 338 eP P 09 56 39.3 -1.0
comp=Z,45nm,2.0s
PGAV Gavieira, Arco 82.85 338 eS S 10 07 07.2 +9.5
PGAV Gavieira, Arco 82.85 338 eLQ LQ 10 27 55.4
PGAV eLR LR 10 31 28.1
comp=Z,1µm,16.0s
634A China Grove, S 83.02 50 ⇑P P 09 56 40.9 -0.3
baz=83
536A Bastrop 83.03 49 ⇓P P 09 56 41.9 +0.6

baz=83
PCAB Cabril 83.04 338 *e*P P 09 56 42.5 +1.3
comp=Z,56nm,2.7s
339A Huntington 83.11 46 ⇑P P 09 56 41.4 -0.2
baz=83
733A Divot King Ran 83.12 51 ⇑P P 09 56 41.8 0.0
baz=83
832A Faith Ranch, C 83.15 52 ⇑P P 09 56 41.9 -0.1
baz=83,SNR=17
438A Sam Houston St 83.19 47 ⇑P P 09 56 42.4 +0.3
baz=83,SNR=10
635A Leesville 83.28 50 ⇓P P 09 56 42.4 -0.1
baz=83
POLO Lamas de Olo 83.30 338 *e*P P 09 56 42.7 +0.1
comp=Z,37nm,1.5s
POLO Lamas de Olo 83.30 338 *e*S S 10 07 10.8 +8.4
MVO Moncorvo 83.32 337 *e*P **P 09 56 42.1 -0.6**
comp=Z,58nm,1.5s
MVO Moncorvo 83.32 337 *e*S **S 10 07 06.6 +4.1**
MVO Moncorvo 83.32 337 *e*LQ LQ 10 27 18.3
MVO *e*LR LR 10 33 15.5
comp=Z,1μm,16.0s
340A Bronson 83.33 46 ⇑P P 09 56 42.7 -0.1
baz=83,SNR=14
KEST Kesra 83.33 323 P **P 09 56 42.6 -0.3**
comp=Z,4.1nm,0.7s,baz=170,slow=4.5,SNR=7.2
KEST LR LR 10 37 54.0
comp=Z,1μm,18.8s,baz=340,slow=39
KEST Kesra 83.33 323 *e*P **P 09 56 42.9 0.0**
734A La Parita Cree 83.36 51 ⇓P P 09 56 43.0 0.0
baz=83
537A Green Hill Far 83.38 48 ⇓P P 09 56 43.4 +0.3
baz=83
PVRL Vila Real 83.38 338 *e*P **P 09 56 43.4 +0.4**
comp=Z,74nm,1.5s
833A Chaparral WMA, 83.40 51 ⇓P P 09 56 43.6 +0.4
baz=83,SNR=13
BLA Blacksburg 83.48 33 PFAKE 09 56 50.0 +6.4
BLA LR LR
comp=Z,4μm,19.0s
636A Smothers Creek 83.54 49 ⇑P P 09 56 44.2 +0.3
baz=83
FORT Forrest 83.54 192 *e*P **P 09 56 43.2 -0.4**
comp=Z,85nm,0.7s
538A Harpers Horsep 83.63 48 ⇑P P 09 56 44.8 +0.4
baz=84
STKA Stephens Creek 83.69 181 P **P 09 56 43.9 -0.4**
STKA pmax pmax
comp=Z,14nm,0.8s
STKA MLR MLR
comp=Z,317nm,19.7s
STKA Stephens Creek 83.69 181 P **P 09 56 43.9 -0.4**
comp=Z,14nm,0.8s,baz=348,slow=5.5,SNR=16
STKA LR LR 10 37 32.6
comp=Z,317nm,19.7s,baz=350,slow=38
TKL Tuckaleechee C 83.70 36 *e*P **P 09 56 44.3 -0.4**
TKL Tuckaleechee C 83.70 36 *e*P **P 09 56 44.3 -0.4**
HKT Hockley 83.71 48 *e*P **P 09 56 45.4 +0.8**
HKT pmax pmax
comp=Z,52nm,1.4s
HKT Hockley 83.71 48 *e*P **P 09 56 45.4 +0.8**
comp=Z,52nm,1.4s
735A Kenedy 83.71 50 ⇓P P 09 56 44.9 +0.1
baz=84,SNR=7.1
DGAR Diego Garcia 83.75 250 PFAKE 09 56 50.0 +4.9
DGAR LR LR
comp=Z,2μm,20.0s
PVIS Viseu 83.95 338 *e*P **P 09 56 47.3 +1.4**
comp=Z,68nm,1.6s
ESDC Sonseca Array 83.95 335 P **P 09 56 45.4 -0.6**
comp=Z,10nm,0.7s,baz=16,slow=4.9,SNR=32
ESDC PP **PP 10 00 00.1 +1.3**
comp=Z,0.3nm,0.3s,baz=27,slow=7.5,SNR=4.2
ESDC LR LR 10 38 16.8
comp=Z,1μm,19.3s,baz=20,slow=39
834A Tilden 83.97 51 ⇓P P 09 56 46.7 +0.5
baz=84
933A Laredo 84.05 52 ⇓P P 09 56 47.0 +0.4
baz=84,SNR=17
MTE Manteigas 84.17 337 *e*P **P 09 56 46.7 -0.4**
comp=Z,78nm,1.1s
MTE Manteigas 84.17 337 *e*S **S 10 07 15.6 +4.5**
MTE Manteigas 84.17 337 *e*LQ LQ 10 28 08.3
MTE *e*LR LR 10 33 36.1
comp=Z,2μm,16.0s
MTE Manteigas 84.17 337 *e*P **P 09 56 46.9 -0.2**
comp=Z,35nm,0.8s
MTE LR LR
comp=Z,2μm,20.0s
PAB San Pablo 84.18 335 PFAKE 09 57 00.0 +13
PAB LR LR
comp=Z,3μm,20.0s
835A Beeville 84.18 50 ⇓P P 09 56 47.3 +0.1
baz=84
934A Benavides 84.43 51 ⇑P P 09 56 48.9 +0.4
baz=84
PCBR Castelo Branco 84.69 337 *e*P **P 09 56 49.4 -0.2**
comp=Z,61nm,1.6s
PCAS Casmilo, Conde 84.72 338 *e*P **P 09 56 50.3 +0.5**
comp=Z,61nm,1.5s
PCAS Casmilo, Conde 84.72 338 *e*S S 10 07 23.5 +7.0
BBOO Buckleboo 84.80 185 *e*P **P 09 56 48.3 -1.6**
comp=Z,44nm,0.8s
034A Hebbronville 84.80 52 ⇓P P 09 56 51.9 +1.5
baz=85,SNR=9.2
LRAL Lakeview Retre 84.81 40 *e*P **P 09 56 49.0 -1.3**
comp=Z,18nm,1.1s
KMSC Kings Mountain 85.04 35 ⇓P P 09 56 51.5 +0.1
baz=85
KMSC Kings Mountain 85.04 35 *e*P **P 09 56 51.0 -0.4**
comp=Z,86nm,1.5s
PMRV Marv??o 85.06 337 *e*P **P 09 56 50.8 -0.7**
comp=Z,50nm,1.4s
PMRV Marv??o 85.06 337 *e*S **S 10 07 18.1 -1.7**
PMRV Marv??o 85.06 337 *e*LQ LQ 10 28 28.0
PMRV *e*LR LR 10 31 55.9
comp=Z,2μm,18.0s
035A Encino 85.18 51 ⇓P P 09 56 52.9 +0.7
baz=85
PMTG Montargil 85.60 337 *e*P **P 09 56 51.6 -2.5**
comp=Z,42nm,1.7s
PMTG Montargil 85.60 337 *e*S **S 10 07 23.7 -1.4**
035Z Hargill 85.60 51 ⇑P P 09 56 54.9 +0.6
baz=86
PESTR Estremoz 85.64 337 *e*P **P 09 56 53.6 -0.8**
comp=Z,42nm,1.2s
PESTR Estremoz 85.64 337 *e*S **S 10 07 26.4 +0.8**
GOGA Godfrey 85.82 37 *e*P **P 09 56 55.6 +0.2**
GOGA pmax pmax
comp=Z,38nm,1.4s
GOGA MLR MLR
comp=Z,5μm,20.0s
GOGA Godfrey 85.82 37 *e*P **P 09 56 55.6 +0.2**
comp=Z,38nm,1.4s
GOGA LR LR
comp=Z,5μm,20.0s
PMAFR Mafra 85.95 338 *e*S S 10 07 36.2 +7.6
EVO Evora 86.06 337 *e*P **P 09 56 55.6 -0.8**
comp=Z,55nm,1.6s
CNNC Cliffs of the 86.11 32 PFAKE 09 57 10.0 +13
CNNC LR LR
comp=Z,4μm,22.0s
LIS Lisbon 86.15 338 *e*P **P 09 56 56.9 0.0**
LIS AMS AMS 10 34 25.9
comp=E,6μm,22.8s
LIS Lisbon 86.15 338 *e*P **P 09 56 56.9 0.0**
LIS Lisbon 86.15 338 *e*P **P 09 56 56.8 0.0**
PBAR Barrancos 86.16 336 *e*P **P 09 56 57.8 +0.9**
comp=E,88nm,1.5s
BRAL Brewton 86.57 41 PFAKE 09 57 10.0 +11
BRAL LR LR
comp=Z,2μm,20.0s
PNCL Nicolau / Gran 86.58 337 *e*P **P 09 56 59.4 +0.4**
comp=Z,28nm,1.9s
PNCL Nicolau / Gran 86.58 337 *e*S **S 10 07 34.9 +0.2**
MESJ Messejana 86.76 337 *e*P **P 09 56 59.8 -0.1**
MESJ *e*PP **PP 10 00 22.4 +1.0**
MESJ *e*S **SKSac 10 07 24.5 -1.4**
MESJ AMS AMS 10 35 27.2
comp=E,3μm,16.6s
MESJ Messejana 86.76 337 *e*P **P 09 56 57.1 -2.8**
MESJ *e* 10 00 22.4
MESJ *e*S **SKSac 10 07 24.4 -1.4**
PVAQ Vaqueiros 87.06 337 *e*P **P 09 57 03.1 +1.7**
comp=E,42nm,1.6s
PVAQ Vaqueiros 87.06 337 *e*S S 10 07 32.3 -7.1
PVAQ Vaqueiros 87.06 337 *e*LQ LQ 10 29 21.8

PVAQ *e*LR LR 10 32 28.9
comp=E,3μm,18.0s
NHSC New Hope 87.28 35 PFAKE 09 57 10.0 +7.5
NHSC LR LR
comp=Z,5μm,20.0s
CAN Canberra 87.31 175 *e*P **P 09 57 03.1 +0.8**
CAN pmax pmax
comp=Z,68nm,1.4s
CAN MLR MLR
comp=Z,986nm,21.0s
CAN Canberra 87.31 175 *e*P **P 09 57 03.1 +0.8**
comp=Z,68nm,1.4s
CAN LR LR
comp=Z,986nm,21.0s
MORF Marmelete 87.38 337 *e*P **P 09 57 03.2 +0.2**
MORF *e*PP **PP 10 00 27.1 +0.6**
MORF AMS AMS 10 35 37.1
comp=E,4μm,20.4s
MORF Marmelete 87.38 337 *e*S **S 10 07 47.8 +5.2**
MORF Marmelete 87.38 337 *e*P **P 09 57 03.2 +0.2**
MORF *e* 10 00 27.0
TIGA Tifton 87.54 38 ⇓P P 09 57 04.0 +0.2
baz=87
RTC Rabat Centre 90.08 335 PFAKE 09 57 30.0 +14
RTC LR LR
comp=Z,2μm,20.0s
PPT Papeete 90.96 118 LR LR 10 29 59.2
comp=Z,1μm,21.8s,baz=320,slow=30
PPT2 Papeete2 90.98 118 *e*LR LR 10 26 18.0
comp=Z,5μm,24.5s,baz=328
MSEY Mahe Island 91.75 265 PFAKE 09 57 30.0 +6.3
MSEY LR LR
comp=Z,2μm,19.0s
BBSR BB Station 92.54 23 PFAKE 09 57 40.0 +13
BBSR LR LR
comp=Z,1μm,20.0s
PMOZ Porto Moniz, M 93.50 343 *e*LR LR 10 33 52.2
comp=Z,2μm,20.0s
TAU Tasmania Unive 94.80 176 PFAKE 09 57 50.0 +13
TAU LR LR
comp=Z,1μm,21.0s
TAM Tamanrasset 96.39 321 PFAKE 09 57 50.0 +4.8
TAM LR LR
comp=Z,1μm,20.0s
SNZO South Karori 97.24 156 PFAKE 09 58 00.0 +12
SNZO LR LR
comp=Z,2μm,22.0s
KMBO Kilima Mbogo 100.14 281 *i* P **Pdif 09 58 05.5 +3.3**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 100.14 281 PFAKE 09 58 10.0 +7.8
KMBO LR LR
comp=Z,3μm,20.0s
GRTK Grand Turk 101.02 32 PFAKE 09 58 20.0 +14
GRTK LR LR
comp=Z,2μm,20.0s
GTBY Guantanamo Bay 101.13 36 PFAKE 09 58 20.0 +14
GTBY LR LR
comp=Z,2μm,22.0s
MTDJ Mount Denham 101.78 39 PFAKE 09 58 20.0 +11
MTDJ LR LR
comp=Z,3μm,21.0s
SDDR Presa de Saban 103.32 33 PFAKE 09 58 30.0 +14
SDDR LR LR
comp=Z,3μm,21.0s
RKT Rikitea 103.60 110 *e*LR LR 10 31 30.4
comp=Z,3μm,35.0s,baz=316
RER Riviere de l'E 104.41 254 PFAKE 09 58 30.0 +9.3
RER LR LR
comp=Z,2μm,20.0s
JTS JuntasÁbangare 105.73 49 PFAKE 10 02 50.0
JTS LR LR
comp=Z,813nm,21.0s
AIS Amsterdam Isla 105.84 228 SP SP 10 12 31.0 +27
AIS R 10 35 00.0
TORD Torodi Ar. Bea 106.62 320 PKiKP **PKiKP 10 02 40.0 -1.2**
comp=Z,0.4nm,0.5s,baz=11,slow=1.4,SNR=6.4
ABPO Ambohimpanom 107.90 262 PFAKE 10 02 50.0
ABPO LR LR
comp=Z,2μm,21.0s
PTCN Pitcairn Islan 107.94 108 PFAKE 10 02 50.0
PTCN LR LR
comp=Z,3μm,21.0s
BCIP Isla Barro Col 109.02 45 PFAKE 10 03 00.0
BCIP LR LR
comp=Z,1μm,19.0s
FDF Fort de France 110.33 24 PFAKE 10 03 00.0
FDF LR LR
comp=Z,1μm,22.0s
SACV Santiago Islan 112.05 345 PFAKE 10 03 00.0
SACV LR LR
comp=Z,818nm,20.0s
BBGH Gun Hill 112.25 23 PFAKE 10 03 00.0
BBGH LR LR
comp=Z,2μm,21.0s
PAYG Puerto Ayora 112.51 59 PFAKE 10 03 00.0
PAYG LR LR
comp=Z,1μm,22.0s
GRGR Grenville 112.69 26 PFAKE 10 03 00.0
GRGR LR LR
comp=Z,1μm,20.0s
SDV Santo Domingo 112.93 36 PFAKE 10 03 00.0
SDV LR LR
comp=Z,3μm,21.0s
LSZ Lusaka 116.73 280 PFAKE 10 03 10.0 +10
LSZ LR LR
comp=Z,2μm,20.0s
OTAV Otavalo 117.57 48 PFAKE 10 03 10.0 +7.4
OTAV LR LR
comp=Z,574nm,22.0s
PAF Port-aux-Franc 118.20 225 Pdif PP 10 03 59.0 -19
PAF SKKS 10 13 48.0
PAF SS SS 10 20 41.0 +8.0
PAF L L 10 40 00.0
DRV Dumont d'Urvil 118.52 181 SS SS 10 20 48.0 +12
DRV L L 10 31 00.0
DRV R 10 39 00.0
ATAH Atahualpa 124.07 51 PKP **PKPdf 10 03 15.4 +0.4**
comp=Z,7.5nm,0.8s,baz=99,slow=7.2,SNR=3.7
CRZF Crozet Islands 124.94 238 PP PP 10 04 41.0 -23
CRZF SS SS 10 23 04.0 +65
CRZF R 10 43 00.0
PTGA Pitinga 125.43 28 PFAKE 10 03 30.0 +13
PTGA LR LR
comp=Z,731nm,22.0s
TSUM Tsumeb 126.13 286 PFAKE 10 03 30.0 +12
TSUM LR LR
comp=Z,2μm,21.0s
BOSA Boshof 128.47 272 PKIKP **PKPdf 10 03 21.9 -0.7**
BOSA pmax pmax
comp=Z,4.0nm,0.6s
BOSA Boshof 128.47 272 PKP **PKPdf 10 03 21.9 -0.7**
comp=Z,4.4nm,0.6s,baz=8.9,slow=1.5,SNR=10
NNA Nana 129.02 53 PFAKE 10 03 30.0 +6.0
NNA LR LR
comp=Z,757nm,21.0s
VNDA Vanda 129.99 175 PKIKP **PKPdf 10 03 23.6 -0.3**
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA Vanda 129.99 175 PKP **PKPdf 10 03 23.6 -0.3**
comp=Z,3.6nm,0.9s,baz=324,slow=4.2,SNR=13
SBA Scott Base 130.62 173 PFAKE 10 03 30.0 +5.0
SBA LR LR
comp=Z,727nm,19.0s
ASCN Ascension 131.95 328 PFAKE 10 03 40.0 +10
ASCN LR LR
comp=Z,1μm,21.0s
SAML Samuel 132.13 35 *e*PKPdf **PKPdf 10 03 29.9 0.0**
SAML LR LR
comp=Z,915nm,20.0s
RCBR Riachuelo 133.79 358 PFAKE 10 03 40.0 +7.0
RCBR LR LR
comp=Z,1μm,21.0s
SUR Sutherland 133.84 272 PFAKE 10 03 40.0 +7.2
SUR LR LR
comp=Z,2μm,20.0s
SHEL Horse Pasture 135.92 313 PFAKE 10 03 50.0 +13
SHEL LR LR
comp=Z,1μm,20.0s
SIV San Ignacio 139.39 36 PKP **PKPdf 10 03 43.4 +0.1**
comp=Z,3.9nm,0.8s,baz=356,slow=3.7,SNR=3.5
QSPA South Pole Qui 141.91 180 PKhKP PKPpre 10 03 41.2
comp=Z,9.9nm,0.7s,baz=292,slow=0.7,SNR=24
QSPA South Pole Qui 141.91 180 *e*PKPdf PKPpre 10 03 41.6
QSPA LR LR

comp=Z,839nm,19.0s
LVC Limon Verde 141.96 51 PFAKE 10 04 00.0 +12
LVC LR LR
comp=Z,1μm,22.0s
BDFB Brasilia 142.63 17 *i* PKHKP PKPpre 10 03 42.9
BDFB pmax pmax
comp=Z,4.0nm,0.8s
BDFB Brasilia 142.63 17 PKhKP PKPpre 10 03 42.9
comp=Z,4.1nm,0.8s,baz=214,slow=2.2,SNR=3.7
LCO Las Campanas 146.33 60 *e*PKPbc **PKPbc 10 03 57.0 +0.3**
LCO LR LR
comp=Z,1μm,21.0s
NVL N'lazarevskaya 151.16 211 ⇓*i* PKIKP **PKPbc 10 04 06.4 -1.1**
NVL *i* 10 04 10.3
PLCA Paso Flores 154.82 76 PKIKP **PKPbc 10 04 16.0 -0.7**
PLCA pmax pmax
comp=Z,9.0nm,1.0s
PLCA Paso Flores 154.82 76 PKPbc **PKPbc 10 04 15.9 -0.7**
comp=Z,8.7nm,1.0s,baz=349,slow=5.2,SNR=3.4
SNAA Sanae 155.14 205 P **PKPab 10 04 30.4 -2.1**
SNAA Sanae 155.14 205 PKP **PKPdf 10 04 07.0 -0.4**
comp=Z,0.9nm,0.8s,baz=154,slow=7.9,SNR=2.8
SNAA PKPab **PKPab 10 04 31.5 -0.9**
comp=Z,7.3nm,0.9s,baz=182,slow=6.3,SNR=11
SNAA Sanae 155.14 205 PKP **PKPdf 10 04 07.0 -0.4**
SNAA *e*PKPdf **PKPdf 10 04 07.1 -0.4**
SNAA PKPab **PKPab 10 04 31.5 -0.9**
SNAA *e*PKPab PKPab 10 04 32.5 0.0
VNA2 Neumayer--Watz 156.77 205 P PKPdf 10 04 19.3 +10
baz=267,slow=14
VNA3 Neumayer Olymp 157.13 203 P **PKPab 10 04 36.0 -4.9**
TRQA Tornquist 157.91 60 PFAKE 10 04 20.0 +7.9
TRQA LR LR
comp=Z,981nm,20.0s
EFI East Falkland 167.38 96 PFAKE 10 04 30.0 +9.2
EFI LR LR
comp=Z,2μm,21.0s

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*ISCJB **16** 09:45:29.4±1.4, 36°.23S±0°.04×73°.60W±0°.07, h15km±9km, mb4.3/11, MS4.3/2, Error ellipse: s-maj=9.7km s-min=5.9km az=22.4*
*IDC **16** 09:45:29.0±0.8, 36°.18S×73°.44W, h0km, mb4.2/8, mb1 4.2/10, mb1mx4.1/30, mbtmp4.1/10, ML4.0/2, MS3.3/2, Ms1 3.2/2, ms1mx2.9/20, Error ellipse: s-maj=34.0km s-min=18.2km az=104.0*
*GUC **16** 09:45:31.9±0.4, 36°.29S×73°.50W, h11km±2km, ML4.4*
*NEIC **16** 09:45:34.1±0.6, 36°.14S×73°.40W, h35km, mb4.5/6, Error ellipse: s-maj=17.1km s-min=9.3km az=90.0*
ISC 16 09:45:29.7±1.8, 36°.20S±0°.04×73°.50W±0°.07, h6km±11km, n34, σ1§11/40, mb4.4/11, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.58**	**84**	⇓*i*P	**Pb**	**09 45 42.9**	**+0.7**
COCH				*i* S	**Sb**	**09 45 50.8**	**+0.1**
CCSP	**San Pedro de C**	**0.72**	**154**	⇑*i*P	**Pg**	**09 45 43.7**	**+0.2**
CCSP				*i* S	**Sg**	**09 45 52.3**	**-0.5**
CCSP				IAML		09 45 53.1	
LNCH	**Linares**	**1.58**	**78**	*e*P	**Pn**	**09 45 58.7**	**+0.4**
LNCH				*e*S	**Sb**	**09 46 19.3**	**-0.2**
LNCH				IAML		09 46 25.5	
TALC	**Talca**	**1.71**	**63**	*e*P	**Pb**	**09 46 01.3**	**-0.3**
TALC				*e*S	**Sb**	**09 46 23.8**	**+0.4**
AGCH	**Angol**	**1.73**	**158**	⇑*i*P	**Pn**	**09 45 59.6**	**-0.7**
AGCH				*i* S	**Sn**	**09 46 20.5**	**-2.2**
NICH	**Los Niches**	**2.20**	**58**	*i* P	**Pb**	**09 46 08.9**	**-1.0**
NICH				*i* S	**Sb**	**09 46 37.4**	**0.0**
PLCA	**Paso Flores**	**5.08**	**154**	Pn	**Pn**	**09 46 47.3**	**+0.8**
	comp=N,2.5nm,0.3s,baz=327,slow=11,SNR=97						
PLCA				Lg	Lg	09 48 04.1	
	comp=N,4.1nm,0.3s,baz=90,slow=20,SNR=2.3						
PLCA				LR	LR	09 48 36.5	
	comp=N,241nm,20.2s,baz=296,slow=37						
PLCA	**Paso Flores**	**5.08**	**154**	*e*Pn	**Pn**	**09 46 46.6**	**+0.1**
PLCA				Lg	Lg	09 48 04.1	
CFAA	**Coronel Fontan**	**6.33**	**45**	Pn	**Pn**	**09 47 04.4**	**+0.8**
	comp=N,0.7nm,0.3s,baz=223,slow=11,SNR=43						
CFAA				Sn	**Sn**	**09 48 16.9**	**+0.5**
	comp=N,0.3nm,0.3s,baz=18,slow=20,SNR=2.0						
LCO	**Las Campanas**	**7.54**	**19**	*e*Pn	**Pn**	**09 47 20.4**	**-0.1**
	comp=N,13nm,0.4s						
LCO				*e*Sn	**Sn**	**09 48 43.8**	**-2.8**
TRQA	**Tornquist**	**9.38**	**105**	*e*Pn	**Pn**	**09 47 47.2**	**+1.7**
	comp=N,19nm,0.9s						
TRQA				*e*Sn	**Sn**	**09 49 30.4**	**-0.9**
LVC	**Limon Verde**	**14.11**	**18**	*e*Pn	**Pn**	**09 48 48.1**	**-2.3**
LPAZ	**La Paz**	**20.40**	**15**	P	Pn	09 50 10.9	+0.7
	comp=N,2.3nm,0.7s,baz=194,slow=6.7,SNR=11						
LPAZ	**La Paz**	**20.40**	**15**	*e*P	**P**	**09 50 07.5**	**-0.6**
	comp=N,2.1nm,0.6s						
SIV	**San Ignacio**	**22.97**	**32**	P	**P**	**09 50 34.9**	**-0.2**
	comp=N,3.9nm,0.8s,baz=210,slow=6.5,SNR=13						
SIV				LR	LR	10 01 11.5	
	comp=N,82nm,19.9s,baz=201,slow=41						
BCIP	**Isla Barro Col**	**45.52**	**351**	*e*P	**P**	**09 53 51.3**	**+1.2**
	comp=N,7.3nm,0.6s						
SNAA	**Sanae**	**50.02**	**157**	P	**P**	**09 54 24.6**	**+0.1**
	comp=N,2.7nm,1.0s,baz=291,slow=6.1,SNR=6.3						
SNAA	**Sanae**	**50.02**	**157**	*e*P	**P**	**09 54 24.4**	**-0.2**
	comp=N,7.3nm,0.9s						
QSPA	**South Pole Qui**	**54.04**	**180**	P	**P**	**09 54 54.7**	**0.0**
	comp=N,3.4nm,0.8s,baz=320,slow=1.5,SNR=17						
QSPA	**South Pole Qui**	**54.04**	**180**	*e*P	**P**	**09 54 55.3**	**+0.6**
	comp=N,3.6nm,0.8s						
SDDR	**Presa de Saban**	**54.92**	**3**	*e*P	**P**	**09 55 02.7**	**+1.3**
	comp=N,2.7nm,0.7s						
TEIG	**Tepich**	**57.83**	**344**	*e*P	**P**	**09 55 21.7**	**-0.4**
VNDA	**Vanda**	**61.71**	**192**	P	**P**	**09 55 49.4**	**+1.2**
	comp=N,0.8nm,0.8s,baz=115,slow=7.8,SNR=3.5						
DBIC	**Dimbokro**	**77.01**	**72**	P	**P**	**09 57 23.8**	**0.0**
	comp=N,3.4nm,0.6s,baz=171,slow=3.7,SNR=5.2						
BOSA	**Boshof**	**80.10**	**118**	P	**P**	**09 57 42.8**	**+1.9**
	comp=N,3.1nm,0.9s,baz=216,slow=9.9,SNR=3.6						
LBTB	**Lobatse**	**82.46**	**115**	*e*P	**P**	**09 57 53.2**	**-0.3**
	comp=N,2.9nm,0.6s						
NVAR	**Mina Array Bea**	**85.02**	**326**	P	**P**	**09 58 08.1**	**+2.0**
	comp=N,0.8nm,0.6s,baz=144,slow=5.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**86.08**	**71**	P	**P**	**09 58 10.8**	**-0.9**
	comp=N,0.7nm,0.8s,baz=244,slow=3.8,SNR=6.2						
MDT	**Midelt**	**94.12**	**52**	LR	LR	10 38 21.2	
	comp=N,2μm,21.0s,baz=14,slow=34						
WRA	**Warramunga Arr**	**118.26**	**210**	PKP	**PKPdf**	**10 04 17.1**	**-1.3**
	comp=N,0.5nm,0.9s,baz=159,slow=1.4,SNR=5.5						
ARCES	**ARCESS Array B**	**126.51**	**26**	PKP	**PKPdf**	**10 04 31.7**	**-0.9**
	comp=N,2.8nm,0.9s,baz=205,slow=4.0,SNR=3.3						
ABKAR	**Akbulak array**	**143.96**	**54**	*e*PKPdf	PKPbc	10 05 03.3	-0.1
PSI	**Prapat**	**146.04**	**166**	PKPbc	**PKPdf**	**10 05 10.3**	**-0.2**
	comp=N,8.9nm,0.6s,baz=187,slow=8.1,SNR=7.7						
BVAR	**Borovoye Array**	**149.69**	**45**	PKPbc	**PKPbc**	**10 05 18.4**	**-1.4**
	comp=N,0.9nm,0.6s,baz=277,slow=2.5,SNR=5.0						

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*ISCJB **16** 09:51:18.9±0.4, 52°.12N±0°.03×142°.37E±0°.07, h10km, mb3.9/13, Error ellipse: s-maj=6.7km s-min=4.5km az=12.1*
*SKHL **16** 09:51:18.3±0.2, 52°.20N×142°.50E, h10km, mb4.6/2*
*IDC **16** 09:51:19.2±0.8, 52°.05N×142°.27E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.8/49, mbtmp3.9/12, ML3.1/1, Error ellipse: s-maj=22.8km s-min=19.0km az=163.0*
*NEIC **16** 09:51:20.4±0.4, 51°.99N×142°.32E, h10km, mb4.0/2, Error ellipse: s-maj=10.9km s-min=6.5km az=160.0*
ISC 16 09:51:20.5±0.5, 52°.02N±0°.06×142°.32E±0°.07, h10km, n24, σ1§80/27, mb4.0/13, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.18**	**170**	*e*Pg	**Pn**	**09 51 44.5**	**+1.5**
TYV				AMB	AMB	09 51 48.5	
	113nm,0.5s						
TYV				AMB	AMB	09 51 48.5	
	322nm,0.5s						
TYV				*e*Sg	**Sn**	**09 52 03.0**	**+4.0**
TYV				A	A	09 52 05.0	
	1μm,0.8s						
OKH	**Okha**	**1.58**	**13**	*e*Pg	**Pn**	**09 51 48.5**	**0.0**
OKH				⇑*i*Sg	**Sn**	**09 52 09.5**	**+0.5**
OKH				A	A	09 52 12.0	
	3μm,0.8s						
UGL	**Úglegorsk**	**2.95**	**183**	*e*Pg	Pg	09 52 20.0	+3.1

UGL				AMB	AMB	09 52 29.0	
	100nm,0.5s						
UGL				eSg	Sg	09 53 04.5	+9.4
UGL				A	A	09 53 09.0	
	77nm,0.5s						
GRNR	**Gornyy**	**3.90**	**254**	eSg	Sg	09 53 34.4	+8.7
PETK	**Petropavlovsk-**	**9.43**	**77**	Pn	**Pn**	**09 53 36.4**	**+0.1**
	0.8nm,0.3s,baz=232,slow=16,SNR=6.2						
PETK				Sn	**Sn**	**09 55 16.9**	**-5.4**
	baz=207,slow=18,SNR=2.2						
PET	**Petropavlovsk**	**10.01**	**78**	ePn	**Pn**	**09 53 43.8**	**-0.4**
PET				eSn	**Sn**	**09 55 38.9**	**+2.5**
MDJ	**Mudanjiang**	**11.24**	**234**	ePn	**Pn**	**09 53 59.1**	**-2.1**
HIA	**Hailar**	**14.58**	**268**	ePn	**Pn**	**09 54 47.4**	**+0.7**
MAJO	**Matsushiro**	**15.75**	**192**	ePn	**Pn**	**09 55 01.9**	**-0.4**
MAJO				ePn	**P**	**09 55 02.3**	**-4.0**
BILL	**Bilibino**	**19.80**	**27**	eP	**P**	**09 55 50.4**	**-0.3**
ILAR	**Eielson Array**	**37.11**	**42**	P	**P**	**09 58 30.6**	**-0.1**
	3.0nm,1.0s,baz=283,slow=8.9,SNR=10						
MKAR	**Makanchi Array**	**38.43**	**287**	P	**P**	**09 58 42.2**	**+0.1**
	0.5nm,0.6s,baz=41,slow=9.6,SNR=3.4						
KURK	**Kurchatov**	**38.65**	**294**	P	**P**	**09 58 44.6**	**+0.8**
KURBB	**Kurchatov Arra**	**38.75**	**294**	P	**P**	**09 58 44.6**	**0.0**
	1.0nm,0.7s,baz=67,slow=8.7,SNR=5.6						
ABKAR	**Akbulak array**	**49.64**	**302**	eP	**P**	**10 00 11.6**	**-0.2**
	1.5nm,0.7s						
YKA	**Yellowknife Ar**	**50.84**	**36**	P	**P**	**10 00 20.4**	**-0.3**
	0.5nm,0.6s,baz=308,slow=7.6,SNR=6.6						
FINES	**FINESS Array B**	**56.07**	**329**	P	**P**	**10 00 59.0**	**-0.1**
	2.3nm,0.7s,baz=57,slow=5.1,SNR=4.8						
NOA	**NORSAR Array B**	**60.72**	**335**	P	**P**	**10 01 31.6**	**-0.1**
	0.9nm,0.7s,baz=32,slow=6.8,SNR=3.4						
HFS	**Hagfors**	**60.82**	**333**	P	**P**	**10 01 31.5**	**-0.8**
	1.9nm,0.6s,baz=46,slow=4.8,SNR=5.7						
PDAR	**Pinedale Array**	**67.02**	**49**	P	**P**	**10 02 14.3**	**+0.6**
	0.5nm,0.7s,baz=2.6,slow=4.0,SNR=3.5						
WRAB	**Tennant Creek**	**71.98**	**188**	P	**P**	**10 02 43.5**	**-0.6**
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**71.99**	**188**	P	**P**	**10 02 44.0**	**-0.1**
	1.3nm,1.1s,baz=3.9,slow=6.8,SNR=4.6						
ASAR	**Alice Springs**	**75.72**	**188**	P	**P**	**10 03 06.8**	**+0.8**
	1.0nm,0.9s,baz=1.6,slow=5.3,SNR=5.8						
TXAR	**Lajitas Array**	**80.58**	**54**	P	**P**	**10 03 34.2**	**+1.0**
	1.7nm,0.9s,baz=298,slow=3.8,SNR=9.2						

*IDC **16** 09:56:45.9±0.6,36°.18S×73°.37W,h0km,mb4.1/11, mb1 4.3/14,mb1mx4.2/29,mbtmp4.2/14,ML4.3/3,MS3.0/2, Ms1 3.1/2,ms1mx3.0/17,Error ellipse: s-maj=28.3km s-min=14.7km az=87.0*
*ISCJB **16** 09:56:46.6±1.3,36°.19S±0°.04×73°.58W±0°.06,h17km±9km, mb4.2/15,Error ellipse: s-maj=8.5km s-min=5.8km az=22.2*
*GUC **16** 09:56:49.0±0.3,36°.24S×73°.51W,h22km±2km,ML4.8*
*NEIC **16** 09:56:50.9±0.4,36°.12S×73°.37W,h35km,mb4.5/8,Error ellipse: s-maj=12.5km s-min=6.9km az=85.0*

ISC 16 09:56:46.5±2.4,36°.18S±0°.04×73°.48W±0°.07,h6km±14km, n45,σ0.96/52,mb4.3/15,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.56**	**85**	↑iP	**Pb**	**09 56 59.6**	**+0.8**
COCH				iS	**Sb**	**09 57 07.8**	**+0.7**
CCSP	**San Pedro de C**	**0.73**	**156**	iP	**Pb**	**09 57 01.1**	**-0.4**
CCSP				iS	**Sg**	**09 57 10.4**	**+0.5**
CCSP				IAML		09 57 11.3	
	comp=E,87μm,0.6s						
LNCH	**Linares**	**1.56**	**78**	iP	**Pb**	**09 57 15.4**	**-0.3**
LNCH				eS	**Sb**	**09 57 35.5**	**-0.2**
TALC	**Talca**	**1.69**	**63**	eP	**Pb**	**09 57 17.9**	**-0.1**
TALC				eS	**Sb**	**09 57 39.6**	**0.0**
TALC				IAML		09 57 46.9	
	comp=N,11μm,0.9s						
AGCH	**Angol**	**1.74**	**159**	iP9	**Pn**	**09 57 16.4**	**-0.8**
AGCH				iS	**Sn**	**09 57 38.0**	**-1.8**
NICH	**Los Niches**	**2.18**	**58**	eP	**Pb**	**09 57 25.3**	**-1.0**
NICH				iS	**Sb**	**09 57 52.7**	**-0.9**
NICH				IAML		09 58 17.5	
	comp=N,8μm,0.6s						
ANTU	**Antumapu**	**3.50**	**43**	IAML		09 58 48.6	
	comp=N,1μm,0.5s						
PLCA	**Paso Flores**	**5.09**	**154**	Pn	**Pn**	**09 58 04.2**	**+0.9**
	comp=N,5.3nm,0.3s,baz=328,slow=10.0,SNR=7.3						
PLCA				Lg	Lg	09 59 19.7	
	comp=N,7.4nm,0.3s,baz=327,slow=11,SNR=3.0						
PLCA				LR	LR	09 59 57.0	
	comp=N,732nm,20.6s,baz=332,slow=38						
PLCA	**Paso Flores**	**5.09**	**154**	ePn	**Pn**	**09 58 04.1**	**+0.8**
PLCA				Lg	Lg	09 59 19.7	
PLCA				eSg	**Sg**	**09 59 28.6**	**-1.5**
CFAA	**Coronel Fontan**	**6.31**	**45**	Pn	**Pn**	**09 58 20.4**	**+0.3**
	comp=N,1.7nm,0.3s,baz=210,slow=13,SNR=23						
CFAA				Sn	**Sn**	**09 59 31.6**	**-0.9**
	comp=N,0.3nm,0.3s,baz=205,slow=18,SNR=3.2						
CFAA				LR	LR	10 00 54.7	
	comp=N,34nm,20.6s,baz=230,slow=40						
LCO	**Las Campanas**	**7.52**	**19**	ePn	**Pn**	**09 58 35.7**	**-1.3**
	comp=N,23nm,0.6s						
LCO				eSn	**Sn**	**10 00 01.3**	**-1.4**
TRQA	**Tornquist**	**9.38**	**105**	ePn	**Pn**	**09 59 04.4**	**+2.3**
	comp=N,33nm,1.1s						
LVC	**Limon Verde**	**14.09**	**18**	ePn	**Pn**	**10 00 05.7**	**-1.2**
LVC				eSn	**Sn**	**10 02 42.0**	**-1.8**
USHA	**Ushuaia**	**18.98**	**171**	P	**Pn**	**10 01 09.4**	**+0.4**
	comp=N,0.7nm,0.3s,baz=346,slow=10,SNR=9.4						
LPAZ	**La Paz**	**20.38**	**15**	P	Pn	10 01 26.4	-0.3
	comp=N,2.6nm,0.6s,baz=176,slow=6.8,SNR=11						
LPAZ	**La Paz**	**20.38**	**15**	eP	**P**	**10 01 25.6**	**+1.0**
	comp=N,6.4nm,0.8s						
SIV	**San Ignacio**	**22.95**	**32**	P	**P**	**10 01 50.3**	**-1.3**
	comp=N,3.9nm,0.6s,baz=225,slow=4.6,SNR=13						
NNA	**Nana**	**24.28**	**352**	eP	**P**	**10 02 04.2**	**-0.5**
SDV	**Santo Domingo**	**44.91**	**4**	eP	**P**	**10 05 02.2**	**0.0**
	comp=N,5.4nm,0.9s						
JTS	**JuntasAbangare**	**47.47**	**345**	eP	**P**	**10 05 23.4**	**+1.2**
	comp=N,12nm,1.3s						
SNAA	**Sanae**	**50.03**	**157**	P	**P**	**10 05 41.3**	**-0.1**
	comp=N,7.2nm,0.9s,baz=280,slow=7.1,SNR=7.6						
SNAA	**Sanae**	**50.03**	**157**	eP	**P**	**10 05 41.3**	**-0.1**
	comp=N,38nm,1.2s						
QSPA	**South Pole Qui**	**54.06**	**180**	P	**P**	**10 06 11.6**	**+0.1**
	comp=N,11nm,0.9s,baz=79,slow=2.0,SNR=4.6						
QSPA	**South Pole Qui**	**54.06**	**180**	eP	**P**	**10 06 11.8**	**+0.2**
	comp=N,17nm,1.1s						
VNDA	**Vanda**	**61.73**	**192**	P	**P**	**10 07 06.0**	**+1.0**
	comp=N,1.2nm,0.9s,baz=104,slow=8.2,SNR=3.8						
TXAR	**Lajitas Array**	**71.08**	**332**	P	**P**	**10 08 06.6**	**+1.0**
	comp=N,0.5nm,0.6s,baz=160,slow=9.4,SNR=13						
WVT	**Waverly**	**73.17**	**348**	eP	**P**	**10 08 17.8**	**+0.1**
	comp=N,2.7nm,0.6s						
DBIC	**Dimbokro**	**76.99**	**72**	P	**P**	**10 08 40.4**	**0.0**
	comp=N,4.4nm,0.8s,baz=210,slow=7.7,SNR=4.3						
BOSA	**Boshof**	**80.10**	**118**	P	**P**	**10 08 57.1**	**-0.4**
	comp=N,5.8nm,1.0s,baz=304,slow=6.2,SNR=4.9						
DUG	**Dugway, Tooele**	**84.17**	**331**	eP	**P**	**10 09 16.4**	**-2.0**
	comp=N,0.7nm,0.7s						
HWUT	**Hardware Ranch**	**84.91**	**332**	eP	**P**	**10 09 23.3**	**+1.1**
	comp=N,0.8nm,0.4s						
NVAR	**Mina Array Bea**	**85.02**	**326**	P	**P**	**10 09 24.1**	**+1.3**
	comp=N,0.4nm,0.5s,baz=158,slow=4.8,SNR=5.1						
PDAR	**Pinedale Array**	**85.19**	**334**	P	**P**	**10 09 23.6**	**0.0**
	comp=N,0.3nm,0.7s,baz=138,slow=8.2,SNR=2.2						
ULM	**Lac du Bonnet**	**88.31**	**346**	P	**P**	**10 09 38.4**	**+0.1**
	comp=N,0.9nm,0.5s,baz=131,slow=2.2,SNR=2.7						
H11S2	**WAKE ISLAND Hyl**	**24.54**	**268**	T	T	12 32 56.0	
	baz=118						
H11S1	**WAKE ISLAND Hyl**	**24.55**	**268**	T	T	12 32 50.9	
	baz=118						
H11S3	**WAKE ISLAND Hyl**	**24.56**	**268**	T	T	12 32 55.6	
	baz=118						
AKTO	**Aktyubinsk**	**142.62**	**52**	PKhKP	PKPpre	10 16 16.1	
	comp=N,4.6nm,0.7s,baz=170,slow=11,SNR=12						
ABKAR	**Akbulak array**	**143.94**	**54**	ePKPdf	PKPbc	10 16 20.5	+0.4
PSI	**Prapat**	**146.05**	**166**	PKPbc	**PKPdf**	**10 16 26.6**	**-0.6**
	comp=N,7.5nm,0.6s,baz=157,slow=6.2,SNR=8.0						
KBL	**Kabul**	**149.52**	**82**	ePKPdf	**PKPdf**	**10 16 31.9**	**-0.6**
KBL				ePKPbc	**PKPbc**	**10 16 36.5**	**-0.5**
KBL				ePKPab	**PKPab**	**10 16 41.6**	**-0.3**
BVAR	**Borovoye Array**	**149.67**	**45**	PKPbc	**PKPbc**	**10 16 36.5**	**+0.1**
	comp=N,0.7nm,0.6s,baz=228,slow=1.8,SNR=4.0						
EKS2	**Erkin-Say**	**154.00**	**66**	ePKPdf	**PKPdf**	**10 16 39.2**	**+0.4**
EKS2				ePKPbc	**PKiKP**	**10 16 47.8**	**+0.9**
EKS2				ePKPab	**PKPab**	**10 17 01.6**	**+1.3**
ZALV	**Zalesovo Beam**	**156.70**	**34**	PKP	**PKPdf**	**10 16 40.5**	**-1.4**
	comp=N,0.5nm,0.4s,baz=211,slow=1.7,SNR=3.5						
SONM	**Songino Array**	**168.35**	**0**	PKPab	**PKPab**	**10 18 02.6**	**0.0**
	comp=N,0.1nm,0.3s,baz=345,slow=1.6,SNR=2.1						

DJA 16 10:06:05.7±0.2,9°.5±7°.1×11°.8E±°.1,h10km,M3.6/11, MLv3.6/11,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.06**	**120**	P	Pn	10 06 41.5	+1.1
WBSI				S	Sn	10 07 06.3	+0.1
DNP	**Denpasar**	**2.34**	**268**	P	Pn	10 06 43.9	-0.4
DNP				S	Sn	10 07 12.9	-0.3
SRBI	**Singaraja**	**2.40**	**283**	P	Pn	10 06 45.1	0.0
SRBI				S	Sn	10 07 15.7	+1.1
JAGI	**Jajag, Banyuwa**	**3.39**	**272**	P	Pn	10 06 58.2	-0.6
JAGI				S	Sn	10 07 38.5	-0.6
ABJI	**Asem Bagus**	**3.41**	**284**	P	Pn	10 07 00.0	+1.0
GMJI	**Gumukmas**	**4.11**	**275**	P	Pn	10 07 09.8	+1.2
GMJI				S	Sn	10 07 58.6	+1.9

*ISCJB **16** 10:33:23.6±2.5,33°.86S±0°.04×72°.16W±0°.06,h6km±20km, mb3.3/2,Error ellipse: s-maj=9.0km s-min=6.0km az=27.1*
*IDC **16** 10:33:25.1±1.6,33°.81S×72°.46W,h0km,mb3.4/2, mb1 3.7/5,mb1mx3.5/23,mbtmp3.4/5,ML3.9/2,Error ellipse: s-maj=41.1km s-min=31.6km az=77.0*
*GUC **16** 10:33:25.4±0.5,33°.85S×72°.12W,h20km±4km,ML3.9*

ISC 16 10:33:25.1±1.7,33°.85S±0°.04×72°.05W±0°.07,h10km±11km, n15,σ0.69/24,3C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.89**	**23**	↑iP	**Pg**	**10 33 41.9**	**-0.2**
IHA				iS	**Sb**	**10 33 54.3**	**-0.1**
TACH	**Talagante**	**0.94**	**79**	↑iP	**Pb**	**10 33 43.5**	**0.0**
TACH				iS	**Sb**	**10 33 57.0**	**+0.8**
ANTU	**Antumapu**	**1.21**	**77**	↓iP	**Pb**	**10 33 48.0**	**-0.1**
ANTU				iS	**Sn**	**10 34 05.0**	**+0.3**
ANTU				IAML		10 34 08.8	
	comp=E,3μm,0.4s						
SAN	**Santiago**	**1.22**	**72**	ePi	**Pb**	**10 33 48.0**	**-0.3**
SAN				iS	**Sn**	**10 34 04.9**	**+0.1**
LACH	**Col Las Americ**	**1.32**	**73**	ePi	**Pn**	**10 33 49.6**	**-0.1**
LACH				iS	**Sg**	**10 34 08.2**	**+0.5**
PEL	**Peldehue**	**1.34**	**59**	↑iP	**Pn**	**10 33 50.1**	**+0.2**
PEL				iS	**Sg**	**10 34 08.4**	**+0.4**
PEL				IAML		10 34 08.9	
	comp=E,4μm,0.6s						
CLCH	**Cerro Calan**	**1.34**	**71**	↓iP	**Pn**	**10 33 50.0**	**+0.1**
CLCH				iS	**Sg**	**10 34 08.4**	**+0.3**
NICH	**Los Niches**	**1.34**	**150**	iP	**Pn**	**10 33 49.1**	**-0.7**
NICH				eS1	**Sb**	**10 34 07.7**	**+0.2**
TALC	**Talca**	**1.59**	**168**	eP	**Pn**	**10 33 52.8**	**-0.5**
TALC				iS	**Sn**	**10 34 13.8**	**0.0**
LNCH	**Linares**	**2.03**	**170**	eP1	**Pn**	**10 33 59.7**	**+0.3**
LNCH				eS1	**Sb**	**10 34 26.5**	**-1.0**
CFAA	**Coronel Fontan**	**3.91**	**56**	Pn	Pn	10 34 29.0	+3.7
	comp=E,0.1nm,0.3s,baz=236,slow=11,SNR=8.3						
CFAA				Sn	**Sb**	**10 35 19.3**	**-2.3**
	comp=E,0.5nm,0.3s,baz=28,slow=18,SNR=3.6						
PLCA	**Paso Flores**	**6.98**	**171**	Pn	**Pn**	**10 35 08.2**	**+0.8**
	comp=E,0.5nm,0.3s,baz=342,slow=12,SNR=16						
PLCA				Lg	Lg	10 37 01.6	
	comp=E,0.2nm,0.3s,baz=234,slow=19,SNR=2.6						
LPAZ	**La Paz**	**17.84**	**12**	P	**Pn**	**10 37 34.0**	**-0.1**
	comp=E,0.1nm,0.3s,baz=189,slow=8.1,SNR=6.6						
TXAR	**Lajitas Array**	**69.60**	**331**	P	**P**	**10 44 34.9**	**+0.4**
	comp=E,0.1nm,0.7s,baz=150,slow=9.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**84.16**	**70**	P	P	10 46 01.3	+4.5
	comp=E,0.5nm,0.7s,baz=229,slow=5.9,SNR=3.2						

SKHL 16 10:38:40.3±1.2,52°.20N×142°.40E,h10km±2km,mb3.8/3, 1D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.35**	**173**	ePg	Pg	10 39 06.5	+0.3
TYV				AMB	AMB	10 39 08.5	
	55nm,0.8s						
TYV				AMB	AMB	10 39 08.5	
	174nm,0.8s						
TYV				pP	Pb	10 39 10.0	+4.4
TYV				eSg	Sg	10 39 24.3	+0.6
TYV				A	A	10 39 26.0	
	117nm,0.6s						
OKH	**Okha**	**1.39**	**13**	ePg	Pg	10 39 11.0	+4.0
OKH				AMB	AMB	10 39 11.8	
	54nm,0.5s						
OKH				pP	Pb	10 39 13.0	+6.7
OKH				sP	Sb	10 39 18.1	-6.0
OKH				eSg	Sg	10 39 33.5	+8.5
OKH				A	A	10 39 35.1	
	200nm,0.5s						
NKL	**Nikolayevsk**	**1.42**	**313**	↓iPg	Pg	10 39 10.0	+2.6
NKL				AMB	AMB	10 39 10.7	
	30nm,0.3s						
NKL				AMB	AMB	10 39 10.7	
	27nm,0.3s						
NKL				AMB	AMB	10 39 10.7	
	40nm,0.3s						
NKL				pP	Pb	10 39 13.0	+6.2
NKL				eSg	Sg	10 39 30.0	+4.2
NKL				A	A	10 39 32.7	
	260nm,0.4s						
UGL	**Uglegorsk**	**3.13**	**184**	eSg	Sg	10 40 26.0	+5.1
UGL				A	A	10 40 29.5	
	70nm,0.5s						
GRNR	**Gornyy**	**4.00**	**251**	ePg	Pg	10 39 59.0	+2.0
GRNR				eSg	Sg	10 40 54.5	+5.7
GRNR				A	A	10 40 55.2	
	21nm,0.4s						
EKMR	**Ekimchan**	**5.82**	**282**	ePg	Pg	10 40 36.0	+4.2
EKMR				AMB	AMB	10 40 37.4	
	4.0nm,0.5s						
EKMR				eSg	Sg	10 41 52.0	+4.8
EKMR				A	A	10 41 53.5	
	34nm,0.8s						
BMKR	**Bomnak**	**8.47**	**293**	eSg	Sg	10 43 12.8	+0.7
BMKR				A	A	10 43 16.1	
	5.0nm,0.6s						
ZEA	**Zeya**	**9.27**	**286**	eSg		10 43 40.9	

*IDC **16** 10:48:48.7±1.1,52°.16N×142°.12E,h0km,mb3.5/8, mb1 3.7/9,mb1mx3.5/42,mbtmp3.5/9,ML2.3/1,Error ellipse: s-maj=29.5km s-min=21.3km az=173.0*
*ISCJB **16** 10:48:51.3±1.0,52°.2N±0°.2×142°.4E±0°.2,h33km,mb3.4/8, Error ellipse: s-maj=27.5km s-min=16.3km az=176.1*

ISC 16 10:48:53.7±1.0,52°.2N±0°.2×142°.3E±0°.1,h35km,n10, σ1.33/9,mb3.4/8,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**9.43**	**78**	Pn	**Pn**	**10 51 05.2**	**-1.7**
	0.2nm,0.3s,baz=271,slow=7.9,SNR=5.3						
SONM	**Songino Array**	**23.31**	**274**	Lg	Lg	11 01 03.8	
	0.9nm,1.1s,baz=64,slow=29,SNR=3.7						
ILAR	**Eielson Array**	**37.03**	**42**	P	**P**	**10 56 00.0**	**+0.4**
	0.3nm,0.7s,baz=285,slow=5.8,SNR=4.6						
MKAR	**Makanchi Array**	**38.36**	**287**	P	**P**	**10 56 10.7**	**-0.5**
	0.3nm,0.6s,baz=60,slow=8.5,SNR=4.2						
BVAR	**Borovoye Array**	**41.97**	**301**	P	**P**	**10 56 40.5**	**-0.4**
	0.5nm,0.6s,baz=64,slow=6.6,SNR=3.0						
YKA	**Yellowknife Ar**	**50.75**	**36**	P	**P**	**10 57 49.9**	**+0.3**
	0.1nm,0.7s,baz=309,slow=7.4,SNR=3.7						
FINES	**FINESS Array B**	**55.94**	**329**	P	**P**	**10 58 27.4**	**-0.3**
	1.0nm,0.6s,baz=40,slow=7.2,SNR=3.9						
NOA	**NORSAR Array B**	**60.58**	**335**	P	**P**	**10 58 59.4**	**-0.8**
	0.9nm,0.8s,baz=32,slow=7.1,SNR=2.0						
ASAR	**Alice Springs**	**75.85**	**188**	P	**P**	**11 00 36.1**	**0.0**
	0.4nm,0.6s,baz=3.7,slow=5.6,SNR=6.5						
TXAR	**Lajitas Array**	**80.53**	**54**	P	**P**	**11 01 04.8**	**+2.5**
	0.2nm,0.8s,baz=324,slow=4.5,SNR=3.3						

*CSEM **16** 10:52:15.7,42°.67N×13°.28E,h17km,MD2.0/8*

ROM 16 10:52:15.7±0.1,42°.67N×13°.28E,h17km±2km,Md2.0/8, Ml1.6/5,Error ellipse: s-maj=1.9km s-min=1.3km az=62.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.06**	**130**	Pg	Pg	10 52 19.3	+0.2
SMA1				Sg	Sg	10 52 21.7	+0.4
NRCA	**Norcia**	**0.21**	**324**	Pg	Pg	10 52 20.9	+0.1
NRCA				Sg	Sb	10 52 24.6	-0.2
NRCA	**Norcia**	**0.21**	**324**	Pg	Pg	10 52 20.9	+0.1
NRCA				Sg	Sb	10 52 24.6	-0.2
TERO	**Teramo**	**0.24**	**100**	Pg	Pg	10 52 21.3	0.0
TERO				Sg	Sg	10 52 25.4	+0.2
TERO	**Teramo**	**0.24**	**100**	Pg	Pg	10 52 21.3	0.0
TERO				Sg	Sg	10 52 25.4	+0.2
FDMO	**Fiordimonte**	**0.40**	**339**	Pg	Pg	10 52 23.9	-0.1
FDMO				Sg	Sb	10 52 30.2	0.0
	57nm,0.2s						
FDMO	**Fiordimonte**	**0.40**	**339**	Pg	Pg	10 52 23.9	-0.1
FDMO				Sg	Sb	10 52 30.2	0.0
	57nm,0.2s						
OFFI	**Offida**	**0.40**	**48**	Pg	Pb	10 52 25.0	+0.6
	151nm,0.6s						
OFFI	**Offida**	**0.40**	**48**	Pg	Pb	10 52 25.0	+0.6
	151nm,0.6s						
FIAM	**Fiamignano**	**0.41**	**197**	Pg	Pg	10 52 24.2	-0.2
FIAM				Sg	Sb	10 52 31.1	+0.3
	20nm,0.3s						
FIAM	**Fiamignano**	**0.41**	**197**	Pg	Pg	10 52 24.2	-0.2
FIAM				Sg	Sb	10 52 31.1	+0.3
	20nm,0.3s						
CESI	**CESI - Serrava**	**0.44**	**321**	Pg	Pg	10 52 24.7	0.0
CESI				Sg	Sb	10 52 31.6	+0.2
	25nm,0.2s						
CESI	**CESI - Serrava**	**0.44**	**321**	Pg	Pg	10 52 24.7	0.0
CESI				Sg	Sb	10 52 31.6	+0.2
	25nm,0.2s						
MNS	**Montasola**	**0.52**	**238**	Pg	Pg	10 52 26.2	-0.1
	26nm,0.3s						
MNS	**Montasola**	**0.52**	**238**	Pg	Pg	10 52 26.2	-0.1
	26nm,0.3s						

GUC 16 10:54:45.9±0.4,23°.92S×67°.29W,h236km±15km,ML4.2, 4C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.42**	**299**	↑iP	Pn	10 55 33.8	+2.1
PB06				iS	S	10 56 09.3	+1.8
PB06				IAML		10 56 10.8	
	comp=E,331nm,0.1s						
PB04	**IPOC Station P**	**2.61**	**309**	↑iP	Pn	10 55 41.1	+7.7
PB04				iS	S	10 56 22.6	+12
CEN1	**Los Morros**	**2.72**	**281**	↓iP	Pn	10 55 36.5	+1.7
CEN1				iS	S	10 56 16.1	+3.0
ANCH	**Antofagasta**	**2.87**	**274**	eP9	Pn	10 55 33.6	-2.5
ANCH				iS	S	10 56 13.3	-2.3
PB10	**IPOC Station P**	**3.02**	**277**	↑iP	Pn	10 55 39.7	+1.9
PB10				iS	S	10 56 20.8	+2.2
PB10				IAML		10 56 24.1	
	comp=N,316nm,0.4s						
PB07	**IPOC Station P**	**3.24**	**312**	iP	Pn	10 55 42.7	+2.1
PB07				iS	S	10 56 26.2	+2.6
PB01	**IPOC Station P**	**3.51**	**324**	iP	Pn	10 55 46.1	+2.5
PB01				iS	S	10 56 31.6	+2.6
HMBC	**Humberstone**	**4.35**	**326**	eP9	Pn	10 55 55.4	+1.8
HMBC				iS	S	10 56 49.4	+2.3
MNMC	**Minimini**	**5.23**	**335**	↑iP	Pn	10 56 07.3	+2.8
MNMC				iS	S	10 57 09.8	+2.8

*SKHL **16** 10:57:43.7±0.5,52°.20N×142°.40E,h12km±3km,mb4.5/7, ms4.1/1*
*ISCJB **16** 10:57:46.1±0.3,52°.13N±0°.02×142°.32E±0°.06,h10km, mb4.2/34,MS3.8/1,Error ellipse: s-maj=5.4km s-min=2.8km az=178.6*
*MOS **16** 10:57:46.2±1.3,52°.17N×142°.53E,h10km,mb4.5/21,Error ellipse: s-maj=12.3km s-min=6.2km az=87.0*
*IDC **16** 10:57:46.4±0.7,52°.15N×142°.34E,h0km,mb4.1/15, mb1 4.2/17,mb1mx4.0/47,mbtmp4.0/17,ML2.6/2,Error ellipse: s-maj=18.2km s-min=14.2km az=146.0*
*NEIC **16** 10:57:48.1±0.3,52°.15N×142°.34E,h10km,mb4.4/7,Error ellipse: s-maj=8.3km s-min=6.2km az=117.0*

ISC 16 10:57:48.2±0.4,52°.16N±0°.03×142°.46E±0°.05,h10km,n93, σ1.39/99,mb4.3/34,7C-6D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.31**	**174**	ePg	**Pn**	**10 58 10.0**	**-2.5**
TYV				AMB	AMB	10 58 13.0	
	2μm,1.0s						
TYV				AMB	AMB	10 58 17.0	
	3μm,4.0s						
TYV				AMB	AMB	10 58 17.0	
	4μm,4.0s						
TYV				sP	sP	10 58 19.4	
TYV				eSg	**Sb**	**10 58 28.0**	**-1.6**
TYV				A	A	10 58 33.8	
	1μm,0.8s						
TYV				A	A	10 58 41.0	
	9μm,6.0s						
TYV				A	A	10 58 41.0	
	12μm,4.0s						
OKH	**Okha**	**1.42**	**12**	ePN	**Pn**	**10 58 14.6**	**+0.5**
OKH	**Okha**	**1.42**	**12**	ePg	**Pn**	**10 58 14.6**	**+0.5**
OKH				↓iPg	**Pn**	**10 58 14.6**	**+0.5**
OKH				AMB	AMB	10 58 15.0	
	200nm,0.9s						
OKH				AMB	AMB	10 58 16.1	
	3μm,5.0s						
OKH				sP	sP

comp=E,28nm,1.6s
HABR pmax pmax
comp=Z,22nm,1.6s
HABR pmax pmax
comp=N,20nm,1.6s
HABR MLR MLR
comp=Z,402nm,14.0s
KLR Kul'dur 7.41 251 *e*PN Pb 10 59 58.8 +2.1
KLR MLR MLR
comp=Z,2μm,11.0s
ASAJ Asahikawa 8.05 179 *e*Pn **Pn 10 59 45.5 +0.4**
TEY Ternei 8.12 211 *e*Sg Sg 11 02 14.5 +6.0
TEY A A 11 02 18.5
comp=Z,57nm,0.8s
TEY A A 11 02 18.5
comp=Z,52nm,0.8s
BMKR Bomnak 8.52 293 *e*Sg **Sg 11 02 24.5 +3.1**
BMKR A A 11 02 27.4
comp=Z,29nm,0.7s
YASR Yasnyy 8.86 283 *e*Sg Sg 11 02 07.2 -25
YASR A A 11 02 16.2
comp=Z,140nm,1.0s
YASR A A 11 02 16.2
comp=Z,27nm,1.0s
YASR A A 11 02 16.2
comp=Z,110nm,1.0s
ZEA Zeya 9.32 286 *e*P **Pn 11 00 00.5 -2.0**
ZEA *e*Pg 11 00 20.3
ZEA AMB AMB 11 00 21.2
comp=Z,19nm,0.6s
ZEA *e*Sg Sn 11 02 41.3 +54
ZEA A A 11 02 49.5
comp=Z,59nm,1.0s
PETK Petropavlovsk- 9.32 78 Pn **Pn 11 00 01.3 -1.2**
comp=Z,0.2nm,0.3s,baz=274,slow=13,SNR=6.4
PETK Sn Sn 11 01 42.5 -4.8
comp=Z,0.1nm,0.3s,baz=267,slow=15,SNR=4.0
KROS Kirovskiy 9.55 290 *e*Pg Pn 11 00 09.0 +3.4
KROS AMB AMB 11 00 10.5
comp=Z,23nm,1.0s
KROS *e*Sg 11 02 53.0
KROS A A 11 02 54.5
comp=Z,49nm,0.9s
KROS A A 11 02 54.5
comp=Z,21nm,0.9s
KROS A A 11 02 54.5
comp=Z,27nm,0.9s
PET Petropavlovsk 9.90 79 *e*PN **Pn 11 00 08.4 -2.0**
PET Petropavlovsk 9.90 79 *e*P **Pn 11 00 08.4 -2.0**
ERM Erimo 10.16 177 *ce*PN **Pn 11 00 15.0 +0.9**
USRK Ussuriysk Ar. 10.59 225 Lg Lg 11 03 20.8
comp=Z,0.1nm,0.3s,baz=55,slow=18,SNR=5.4
SEY Seymchan 12.02 22 Pn **Pn 11 00 42.4 +3.0**
comp=Z,0.1nm,0.3s,baz=220,slow=17,SNR=3.0
YAK Yakutsk 12.06 330 *e*PN **Pn 11 00 39.1 -0.8**
YAK pmax pmax
comp=Z,8.0nm,0.8s
YAK MLR MLR
comp=Z,187nm,11.0s
KSRS Korea Array 17.91 220 P **Pn 11 01 56.8 -0.5**
baz=38,slow=13,SNR=2.9
KSAR Wonju Array Be 17.93 221 P **Pn 11 01 56.8 -0.8**
KSAR Wonju Array Be 17.93 221 P **Pn 11 01 56.8 -0.8**
BILL Bilibino 19.63 27⇑ *e*P **P 11 02 17.2 +0.6**
BILL pmax pmax
comp=Z,17nm,2.5s
BILL Bilibino 19.63 27 *e*P **P 11 02 17.5 +0.9**
comp=Z,2.1nm,0.3s
TIXI Tiksi 20.47 348 *ce*P **P 11 02 25.4 -0.3**
TIXI pmax pmax
comp=Z,16nm,1.0s
TIXI Tiksi 20.47 348 *e*P **P 11 02 24.9 -0.7**
comp=Z,23nm,1.1s
ULN Ulaanbaatar 23.00 273⇑ *i*P **P 11 02 55.9 +2.7**
ULN pmax pmax
comp=Z,12nm,2.5s
SONM Songino Array 23.42 274 P **P 11 02 57.0 -0.4**
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 23.42 274 P **P 11 02 57.0 -0.4**
comp=Z,0.9nm,1.0s,baz=66,slow=9.1,SNR=4.3
SONM Lg Lg 11 10 08.3
comp=Z,0.7nm,0.9s,baz=62,slow=22,SNR=7.2
TLY Talaya 23.75 284 *e*P **P 11 03 00.4 -0.1**
TLY pmax pmax
comp=Z,14nm,1.7s
TLY MLR MLR
comp=Z,254nm,17.0s
ZAK Zakamensk 24.38 281 *e*P **P 11 03 02.5 -3.9**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
TNA Tin City 28.07 42 *e*P **P 11 03 40.3 +0.9**
comp=Z,3.5nm,1.0s
COLA College 36.52 42⇑ *e*P **P 11 04 53.6 +0.3**
COLA pmax pmax
comp=Z,20nm,1.0s
ILAR Eielson Array 36.95 42 P **P 11 04 57.6 +0.6**
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR Eielson Array 36.95 42 P **P 11 04 57.6 +0.6**
comp=Z,2.9nm,0.8s,baz=288,slow=7.2,SNR=28
MKAR Makanchi Array 38.47 287 P **P 11 05 08.8 -1.3**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 38.47 287 P **P 11 05 08.8 -1.3**
comp=Z,1.0nm,0.8s,baz=46,slow=8.3,SNR=10
KURK Kurchatov 38.67 294 P **P 11 05 11.4 -0.3**
KURK pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 38.67 294 P **P 11 05 11.3 -0.3**
KURBB Kurchatov Arra 38.76 294 P **P 11 05 11.3 -1.1**
comp=Z,1.9nm,0.7s,baz=67,slow=8.8,SNR=12
EGAK Eagle 39.30 41 *e*P **P 11 05 17.2 +0.5**
comp=Z,8.0nm,0.9s
BVAR Borovoye Array 42.07 301 P **P 11 05 38.9 -0.9**
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 42.07 301 P **P 11 05 38.9 -0.9**
comp=Z,1.1nm,0.6s,baz=61,slow=7.0,SNR=5.2
AAK Ala-Archa 45.40 286⇓ *e*P **P 11 06 08.8 +1.9**
AAK pmax pmax
comp=Z,15nm,2.5s
ARU Arti 46.26 310 *d i*P **P 11 06 14.3 +1.0**
ARU 11 08 02.3
ARU S **S 11 13 04.3 +4.7**
ARU pmax pmax
comp=Z,10.0nm,1.0s
PRGR Permogore 48.92 321 P **P 11 06 33.9 +0.1**
PRGR pmax pmax
comp=Z,11nm,1.0s
ABKAR Akbulak array 49.63 302 *e*P **P 11 06 38.8 -0.7**
comp=Z,3.1nm,0.8s
YKA Yellowknife Ar 50.68 36 P **P 11 06 47.2 0.0**
comp=Z,1.1nm,0.7s,baz=308,slow=7.4,SNR=21
KLMR Klimovskoe 51.73 323 *e*P **P 11 06 54.7 -0.4**
KLMR pmax pmax
comp=Z,11nm,1.4s
JOF Joensuu 53.22 328 *e*P **P 11 07 06.2 0.0**
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 53.22 328 *ep* **P 11 07 06.2 0.0**
comp=Z,1.8nm,0.7s
KAF Kangasniemi 55.42 329 *e*P **P 11 07 20.7 -1.5**
KAF pmax pmax
comp=Z,3.0nm,0.8s
KAF Kangasniemi 55.42 329 *ep* **P 11 07 20.7 -1.5**
comp=Z,2.9nm,0.8s
FINES FINESS Array B 55.99 329 *i*P **P 11 07 26.2 -0.1**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 55.99 329 P **P 11 07 26.0 -0.3**
comp=Z,6.3nm,0.8s,baz=55,slow=7.2,SNR=16
NB2 NORSAR Subarra 60.63 335 P **P 11 07 58.7 0.0**
comp=Z,3.7nm,0.8s,baz=32,slow=6.9
NOA NORSAR Array B 60.63 335 P **P 11 07 58.5 -0.3**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 60.63 335 P **P 11 07 58.5 -0.3**
comp=Z,2.7nm,0.8s,baz=33,slow=6.6,SNR=6.7
FFC Flin Flon 60.83 37 *e*P **P 11 08 00.4 +0.2**
FFC pmax pmax
comp=Z,10.0nm,1.1s
FFC Flin Flon 60.83 37 *e*P **P 11 08 00.4 +0.2**
comp=Z,9.7nm,1.1s
KIV Kislovodsk 62.01 306 *e*P **P 11 08 08.7 +0.3**
KIV pmax pmax
comp=Z,11nm,1.1s
AKASG Malin Array Be 63.03 319 *ce*P **P 11 08 14.8 -0.2**
AKASG Malin Array Be 63.03 319 P **P 11 08 14.0 -1.0**
comp=Z,1.1nm,0.6s,baz=36,slow=6.9,SNR=4.4
ULM Lac du Bonnet 66.65 37 P **P 11 08 38.4 -0.2**
ULM pmax pmax
comp=Z,4.0nm,0.9s
ULM Lac du Bonnet 66.65 37 P **P 11 08 38.4 -0.2**
comp=Z,4.1nm,0.9s,baz=323,slow=6.4,SNR=6.7
PDAR Pinedale Array 66.87 50 P **P 11 08 39.8 -0.6**
comp=Z,2.7nm,1.1s,baz=208,slow=2.9,SNR=4.1
DPC Dobruska-Polom 68.15 326 *e*P **P 11 08 48.8 +0.6**
DPC Dobruska-Polom 68.15 326 *e*P **P 11 08 48.8 +0.6**
KRLC Kraliky 68.22 326 *e*P **P 11 08 48.0 -0.6**
KRLC *e* 11 08 50.5
KRLC Kraliky 68.22 326 *e*P **P 11 08 48.0 -0.6**
KRLC *ep*P **pP 11 08 50.5 -1.4**
CLL Collm 68.44 329 *e*P **P 11 08 49.0 -0.9**
CLL *e* 11 08 51.0
CLL pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 68.44 329 *e*P **P 11 08 49.0 -0.9**
comp=Z,3.0nm,0.7s
CLL *e*Pmax 11 08 51.0
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 68.50 328 *e*P **P 11 08 51.3 +1.0**
comp=Z,1.5nm,0.7s
BRG Berggiesshubel 68.50 328 *e*P **P 11 08 51.3 +1.0**
BRG pmax pmax
comp=Z,2.0nm,0.6s
PRU Pruhonice 69.06 327 *e*P **P 11 08 55.6 +1.8**
PRU Pruhonice 69.06 327 *e*P **P 11 08 55.6 +1.8**
KHC Kasperske Hory 70.12 327 *e*P **P 11 09 00.2 -0.2**
KHC Kasperske Hory 70.12 327 *e*P **P 11 09 00.2 -0.2**
GERES GERESS Array B 70.33 327 P **P 11 09 01.3 -0.5**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 70.33 327 P **P 11 09 01.3 -0.5**
comp=Z,0.6nm,0.7s,baz=76,slow=5.6,SNR=4.5
WRAB Tennant Creek 72.14 188⇑ *e*P **P 11 09 13.3 +0.6**
WRAB pmax pmax
comp=Z,19nm,1.7s
WRAB Tennant Creek 72.14 188 P **P 11 09 11.4 -1.3**
comp=Z,5.0nm,1.1s
WRA Warramunga Arr 72.14 188 *i*P **P 11 09 11.8 -1.0**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 72.14 188 P **P 11 09 11.9 -0.9**
comp=Z,2.0nm,0.9s,baz=4.6,slow=6.8,SNR=9.9
ASAR Alice Springs 75.87 188 P **P 11 09 34.8 +0.2**
ASAR pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 75.87 188 P **P 11 09 34.8 +0.2**
comp=Z,2.2nm,0.9s,baz=0.9,slow=5.4,SNR=21
TXAR Lajitas Array 80.43 54 P **P 11 10 01.2 +1.0**
TXAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 80.43 54 P **P 11 10 01.1 +1.0**
comp=Z,2.2nm,0.8s,baz=289,slow=4.8,SNR=15

IDC ***16*** *11:03:57.5±1.2,33.˙84N×118.˙10W,h0km,mb3.9/6, mb1 3.9/13,mb1mx3.7/48,mbtmp3.7/13,ML3.6/6,MS3.6/1, Ms1 3.6/1,ms1mx2.9/49,Error ellipse: s-maj=19.5km s-min=9.1km az=41.0*
BJI ***16*** *11:03:58.0,34.˙00N×118.˙10W,h18km,mB5.4/2,mb5.2/5*
ISCJB ***16*** *11:03:59.2±0.3,34.˙02N±0.˙02×118.˙04W±0.˙02,h14km±2km, mb3.9/8,Error ellipse: s-maj=3.1km s-min=2.6km az=143.4*
NEIC ***16*** *11:04:00.2,33.˙99N×118.˙08W,h19km,mb4.2/5, ML4.4(PAS),After PAS.*
NEIC Felt [V] at Whittier and [IV] at Alhambra, Arcadia, Bell, Bellflower, Buena Park, Covina, Downey, El Monte, Hawaiian Gardens, Irvine, La Habra, La Mirada, La Palma, Los Angeles, Lynwood, Montebello, Monterey Park, Norwalk, Pasadena, Pico Rivera, Rosemead, San Gabriel, Santa Fe Springs, South El Monte and Temple City. Felt from Lancaster to San Diego and from Ventura to Palm Springs and as far away as Independence, Paso Robles and Twentynine Palms.

ISC 16 11:03:59.9±0.6,33.˙99N±0.˙02×118.˙07W±0.˙02,h15km±3km, n220,σ1§43/269,mb4.0/8,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PASC	**Pasadena Art C**	**0.21**	**332**	*e*Pg	**Pg**	**11 04 04.5**	**-0.3**
PASC				*e*Sg	**Sg**	**11 04 07.7**	**-0.3**
MWC	**Mount Wilson**	**0.23**	**2**	*e*Pg	**Pg**	**11 04 05.1**	**-0.2**
MWC				*e*Sg	**Sg**	**11 04 09.0**	**0.0**
FMP	**Fort Macarthur**	**0.33**	**215**	P	**Pg**	**11 04 06.4**	**-0.4**
FMP	baz=0.3			S	**Sg**	**11 04 11.2**	**-0.3**
DECC	**Green Verdugo**	**0.34**	**320**	P	**Pg**	**11 04 06.5**	**-0.5**
DECC	baz=0.3			S	**Sg**	**11 04 11.5**	**-0.3**
BFSC	**Mount Baldy Ra**	**0.42**	**53**	P	**Pg**	**11 04 08.0**	**-0.5**
BFSC	baz=0.4			S	**Sg**	**11 04 14.2**	**0.0**
CIS	**Catalina Islan**	**0.64**	**206**	P	**Pg**	**11 04 12.0**	**-0.5**
CIS	baz=0.7			S	**Sb**	**11 04 21.4**	**-0.2**
MURC	**Murrieta**	**0.82**	**118**	P	**Pb**	**11 04 15.1**	**-0.7**
MURC	baz=0.8			S	**Sb**	**11 04 26.3**	**-0.4**
EDW2	**Edwards Air Fo**	**0.89**	**4**	P	**Pb**	**11 04 16.2**	**-0.9**
EDW2	baz=0.9			S	**Sb**	**11 04 28.8**	**-0.1**
BBRC	**Big Bear Solar**	**0.99**	**74**	P	**Pb**	**11 04 18.2**	**-0.6**
	baz=1.0						
SCI	**San Clemente I**	**1.08**	**202**	P	**Pb**	**11 04 18.6**	**-1.7**
	baz=1.1						
RRX	**Edison Barstow**	**1.25**	**44**	Pb	**Pn**	**11 04 22.5**	**-0.4**
	baz=1.2						
ARVC	**Arvin**	**1.30**	**331**	Pb	**Pn**	**11 04 23.1**	**-0.4**
	baz=1.3						
ARVC				S	**Sb**	**11 04 40.0**	**-0.5**
	baz=1.3						
BSC	**Santa Cruz Isl**	**1.30**	**271**	Pb	**Pn**	**11 04 23.1**	**-0.5**
	baz=1.3						
109C	**Camp Elliot, M**	**1.36**	**143**	P	**Pn**	**11 04 22.7**	**-1.6**
	baz=1.4						
PFO	**Pinyon Flats O**	**1.40**	**105**	Pg	**Pn**	**11 04 23.9**	**-1.1**
	90nm,0.3s,baz=287,slow=14,SNR=487						
PFO				Lg	Lg	11 04 42.3	
	498nm,0.3s,baz=212,slow=15,SNR=41						
PFO				LR	LR	11 04 50.6	
	comp=Z,266nm,21.1s,baz=32,slow=38						
PFO	**Pinyon Flats O**	**1.40**	**105**	P	**Pn**	**11 04 23.8**	**-1.1**
	baz=1.4						
PFO	**Pinyon Flats O**	**1.40**	**105**	Pg	**Pn**	**11 04 23.9**	**-1.1**
PFO				*e*Pn	**Pn**	**11 04 23.9**	**-1.1**
PFO				Lg	Lg	11 04 42.3	
PFO				*e*Sn	**Sn**	**11 04 43.2**	**+0.1**
SBC	**Santa Barbara**	**1.44**	**289**	P	**Pn**	**11 04 24.2**	**-1.2**
	baz=1.4						
LRMC	**Laurel Mtn Rad**	**1.52**	**12**	P	**Pn**	**11 04 26.0**	**-0.6**
	baz=1.5						
HEC	**Hector,Ludlow**	**1.66**	**59**	P	**Pn**	**11 04 27.9**	**-0.7**
	baz=1.7						
GSC	**Goldstone, Bar**	**1.67**	**38**	P	**Pn**	**11 04 28.4**	**-0.3**
	baz=1.7						
GSC				S	**Sn**	**11 04 49.2**	**-0.8**
	baz=1.7						
GSC	**Goldstone, Bar**	**1.67**	**38**	*e*Pn	**Pn**	**11 04 28.5**	**-0.2**
GSC				*e*Sn	**Sn**	**11 04 49.5**	**-0.4**
ISA	**Isabella, Lake**	**1.70**	**349**	P	**Pn**	**11 04 28.6**	**-0.4**
	baz=1.7						
ISA	**Isabella, Lake**	**1.70**	**349**	*e*Pn	**Pn**	**11 04 28.7**	**-0.4**
ISA				*e*Sn	**Sn**	**11 04 50.4**	**-0.3**
BELC	**Belle Mtn. Jos**	**1.72**	**89**	P	**Pn**	**11 04 28.6**	**-0.8**
	baz=1.7						
MONP	**Monument Peak,**	**1.76**	**128**	P	**Pn**	**11 04 29.1**	**-0.9**
	baz=1.8						
VES	**Vestal, Richgr**	**2.03**	**336**	P	**Pn**	**11 04 32.7**	**-0.8**
	baz=2.0						
SMMC	**Simmler**	**2.07**	**310**	P	**Pn**	**11 04 33.3**	**-0.8**
	baz=2.1						
GMRC	**Granite Mounta**	**2.14**	**68**	P	**Pn**	**11 04 34.2**	**-1.0**
	baz=2.1						
SWSC	**Sam W. Stewart**	**2.17**	**118**	Pb	**Pb**	**11 04 38.1**	**-0.7**
	baz=2.2						
TUQ	**Turquoise Moun**	**2.28**	**50**	P	**Pn**	**11 04 36.6**	**-0.5**
	baz=2.3						
DAC	**Darwin (Calif)**	**2.32**	**10**	*e*Pn	**Pn**	**11 04 37.4**	**-0.3**
DAC				*e*Pg	**Pg**	**11 04 43.5**	**-0.9**
DAC				*e*Sg	**Sg**	**11 05 13.5**	**-1.0**
IRM	**Iron Mountain**	**2.43**	**85**	P	**Pn**	**11 04 37.7**	**-1.3**
	baz=2.4						
RCTC	**Rector, Farmer**	**2.51**	**338**	P	**Pn**	**11 04 39.7**	**-0.4**
	baz=2.5						
LDFC	**Landfair**	**2.67**	**65**	*e*Pn	**Pn**	**11 04 41.5**	**-0.9**
LDFC				*e*Sg	**Sg**	**11 05 25.6**	**-0.2**
GLA	**Glamis**	**2.86**	**108**	*e*Pn	**Pn**	**11 04 45.3**	**+0.2**
GLA				*e*Sn	**Sn**	**11 05 19.0**	**-0.2**
NEE2	**Needles Airpor**	**2.96**	**74**	P	**Pn**	**11 04 46.7**	**+0.5**
	baz=3.0						
GRAC	**Grapevine Rang**	**3.06**	**11**	P	**Pn**	**11 04 48.4**	**+0.7**
	baz=3.1						
TIN	**Tinemaha, Big**	**3.06**	**358**	P	**Pn**	**11 04 48.5**	**+0.7**
	baz=3.1						
TPNV	**Topopah Spring**	**3.31**	**26**	P	**Pn**	**11 04 51.7**	**+0.5**
	baz=3.3						
SHPR	**Sheep Range**	**3.46**	**43**	*e*Pn	**Pn**	**11 04 53.8**	**+0.4**
SHPR				*e*Sg	**Sg**	**11 05 50.8**	**-0.2**
W13A	**Hualapai Mount**	**3.62**	**71**	P	**Pn**	**11 04 55.2**	**-0.4**
	baz=3.6						
MLAC	**Mammoth, Mammo**	**3.69**	**350**	P	**Pn**	**11 04 58.5**	**+1.9**
	baz=3.7						
SAO	**San Andreas Ge**	**3.91**	**316**	*e*Pn	**Pn**	**11 04 58.1**	**-1.3**
SAO				*e*Sn	**Sn**	**11 05 47.3**	**+2.3**
TPH	**Tonopah**	**4.13**	**9**	*e*Pn	**Pn**	**11 05 02.2**	**-0.4**
TPH				*e*Sg	**Sg**	**11 06 12.7**	**0.0**
Y14A	**Wickenburg**	**4.21**	**89**	P	**Pn**	**11 05 02.7**	**-0.8**
	baz=4.2						
Z14A	**Wintersburg**	**4.32**	**97**	P	**Pn**	**11 05 03.8**	**-1.2**
	baz=4.3						
NV11	**Mina Array Sit**	**4.43**	**359**	*e*Pg	**Pg**	**11 05 22.2**	**-2.6**
NV11				*e*Sg	**Sg**	**11 06 22.7**	**+0.4**
NVAR	**Mina Array Bea**	**4.44**	**358**	Pn	**Pn**	**11 05 08.0**	**+1.2**
	1.4nm,0.3s,baz=192,slow=15,SNR=44						
NVAR				Pg	**Pb**	**11 05 18.4**	**+0.8**
	6.7nm,0.3s,baz=193,slow=16,SNR=37						
NVAR				Lg	Lg	11 06 23.3	
	12nm,0.3s,baz=184,slow=33,SNR=6.1						
CMB	**Columbia Colle**	**4.45**	**336**	*e*Pn	**Pn**	**11 05 06.3**	**-0.7**
CMB				*e*Sg	**Sg**	**11 06 22.7**	**-0.2**
WAKR	**Walker**	**4.64**	**347**	*e*Pn	**Pn**	**11 05 11.4**	**+1.8**
WAKR				*e*Sg	**Sg**	**11 06 27.7**	**-1.2**
R11A	**Troy Canyon, C**	**4.79**	**24**	P	**Pn**	**11 05 12.4**	**+0.7**
	baz=4.8						
R11A	**Troy Canyon, C**	**4.79**	**24**	*e*Pn	**Pn**	**11 05 12.9**	**+1.2**
R11A				*e*Sg	**Sg**	**11 06 30.8**	**-3.0**
214A	**Organ Pipe Nat**	**4.86**	**113**	*e*Pn	**Pn**	**11 05 13.7**	**+1.2**
214A				*e*Sg	**Sg**	**11 06 37.7**	**+1.8**
U15A	**North Rim**	**5.32**	**61**	P	**Pn**	**11 05 19.7**	**+0.7**
	baz=5.3						
ARUT	**Antelope Range**	**5.34**	**43**	*e*Pn	**Pn**	**11 05 20.6**	**+1.5**
	29nm,0.6s						
ARUT				*e*Sg	**Sg**	**11 06 49.0**	**-2.2**
X16A	**Lo Mia Camp, P**	**5.51**	**84**	P	**Pn**	**11 05 21.0**	**-0.5**
	baz=5.5						
WUAZ	**Wupatki**	**5.72**	**73**	P	**Pn**	**11 05 25.2**	**+0.9**
	baz=5.7						
WUAZ	**Wupatki**	**5.72**	**73**	*e*Pn	**Pn**	**11 05 24.8**	**+0.4**
	40nm,0.7s						
WUAZ				*e*Sg	**Sg**	**11 07 03.0**	**-0.4**
TUC	**Tucson**	**6.33**	**103**	*e*Pn	**Pn**	**11 05 33.8**	**+1.1**
	9.2nm,0.8s						
BMN	**Battle Mountai**	**6.47**	**6**	*e*Pn	**Pn**	**11 05 36.0**	**+1.4**
	32nm,0.9s						
BMN				*e*Sn	**Sn**	**11 06 47.1**	**-1.1**
MVU	**Marysvale**	**6.53**	**45**	*e*Pn	**Pn**	**11 05 34.7**	**-0.9**
	35nm,0.7s						
MVU				*e*Sn	**Sn**	**11 06 45.2**	**-4.8**
W18A	**Petrified Fore**	**6.97**	**78**	*e*Pn	**Pn**	**11 05 42.0**	**+0.4**
	28nm,0.7s						
W18A				*e*Sn	**Sn**	**11 07 02.6**	**+2.0**
ELK	**Elko**	**7.11**	**18**	Pn	**Pn**	**11 05 45.8**	**+2.2**
	0.6nm,0.3s,baz=265,slow=23,SNR=12						
ELK				Lg	Lg	11 07 41.9	
	4.2nm,0.3s,baz=180,slow=8.7,SNR=9.9						
DUG	**Dugway, Tooele**	**7.48**	**33**	*e*Pn	**Pn**	**11 05 48.3**	**-0.3**
	29nm,0.8s						
DUG				*e*Sn	Sn	11 07 06.5	-6.7
NLU	**North Lily Min**	**7.64**	**37**	*e*Pn	**Pn**	**11 05 50.7**	**-0.2**
	6.9nm,1.0s						
NLU				*e*Sn	**Sn**	**11 07 17.8**	**+0.5**
MPU	**Maple Canyon**	**7.92**	**39**	*e*Pn	**Pn**	**11 05 54.6**	**0.0**
	5.6nm,1.0s						
MPU				*e*Sn	**Sn**	**11 07 22.2**	**-1.7**
SRU	**San Rafael Swe**	**7.93**	**48**	*e*Pn	**Pn**	**11 05 55.3**	**+0.5**
	14nm,0.6s						
SRU				*e*Sn	**Sn**	**11 07 22.2**	**-2.2**
BGU	**Big Grassy Mou**	**8.00**	**29**	*e*Pn	**Pn**	**11 05 54.0**	**-1.6**
	16nm,0.7s						
BGU				*e*Sn	**Sn**	**11 07 23.0**	**-2.9**
CTU	**Camp Tracy**	**8.37**	**35**	*e*Pn	**Pn**	**11 06 00.0**	**-0.8**
	6.6nm,0.7s						
CTU				*e*Sn	**Sn**	**11 07 34.1**	**-1.0**
DAU	**Daniels Canyon**	**8.40**	**38**	*e*Pn	**Pn**	**11 06 02.4**	**+1.0**
	13nm,0.9s						
DAU				*e*Sn	**Sn**	**11 07 32.4**	**-3.7**
MVCO	**Mesa Verde**	**8.43**	**65**	*e*Pn	**Pn**	**11 06 01.6**	**-0.1**
	33nm,0.8s						
MVCO				*e*Sn	**Sn**	**11 07 42.5**	**+5.8**
WVOR	**Wild Horse Val**	**8.44**	**357**	*e*Pn	**Pn**	**11 06 02.8**	**+1.0**
	12nm,1.0s						
WVOR				*e*Sn	**Sn**	**11 07 35.8**	**-1.1**
SPUT	**South Promonto**	**8.56**	**30**	*e*Pn	**Pn**	**11 06 03.0**	**-0.4**
	4.8nm,0.7s						
YBH	**Yreka Blue Hor**	**8.56**	**336**	Pn	Pn	11 06 06.9	+3.6
	0.3nm,0.3s,baz=170,slow=11,SNR=6.0						
YBH				Lg	Lg	11 08 24.1	
	0.1nm,0.3s,baz=83,slow=19,SNR=2.4						
PV04	**Paradox Valley**	**8.61**	**57**	*e*Pn	**Pn**	**11 06 06.0**	**+1.9**
PV01	**Paradox Valley**	**8.73**	**59**	*e*Pn	**Pn**	**11 06 08.0**	**+2.2**
	1μm,0.8s						
PV01				*e*Sn	Sn	11 07 31.8	-13
121A	**Cookes Peak, D**	**8.73**	**97**	P	**Pn**	**11 06 05.5**	**-0.3**
	baz=8.7						
121A	**Cookes Peak, D**	**8.73**	**97**	*e*Pn	**Pn**	**11 06 06.5**	**+0.7**
	9.2nm,0.6s						
121A				*e*Sn	**Sn**	**11 07 43.3**	**-0.8**
HVU	**Hansel Valley**	**8.83**	**27**	*e*Pn	**Pn**	**11 06 08.5**	**+1.4**
	33nm,0.6s						
HWUT	**Hardware Ranch**	**9.18**	**32**	*e*Pn	**Pn**	**11 06 11.5**	**-0.4**
	9.5nm,0.7s						
HWUT				*e*Sn	**Sn**	**11 07 54.0**	**-1.0**
LENM	**Lemitar**	**9.21**	**86**	*e*Pn	**Pn**	**11 06 13.6**	**+1.3**
Z22A	**Elephant Butte**	**9.29**	**91**	P	**Pn**	**11 06 14.0**	**+0.6**
	baz=9.3						
ANMO	**Albuquerque**	**9.63**	**81**	Pn	**Pn**	**11 06 18.7**	**+0.6**
	0.0nm,0.3s,baz=238,slow=4.8,SNR=2.9						
ANMO				Lg	Lg	11 08 59.4	
	0.0nm,0.3s,baz=177,slow=17,SNR=2.4						
ANMO				LR	LR	11 10 23.1	
	comp=Z,362nm,18.8s,baz=56,slow=40						
O20A	**White River Ci**	**9.96**	**49**	P	**Pn**	**11 06 24.3**	**+1.7**
	baz=9.9						
O20A	**White River Ci**	**9.96**	**49**	*e*Pn	**Pn**	**11 06 22.7**	**+0.1**
	8.3nm,0.8s						
O20A				*e*Sn	**Sn**	**11 08 15.7**	**+1.5**
HLID	**Hailey**	**9.97**	**16**	P	**Pn**	**11 06 24.8**	**+2.0**
	baz=10.0						
HLID	**Hailey**	**9.97**	**16**	*e*Pn	**Pn**	**11 06 23.1**	**+0.4**
	4.5nm,0.6s						
HLID				*e*Sn	Sn	11 08 07.5	-7.1
P22A	**Eagle**	**10.65**	**55**	P	**Pn**	**11 06 34.1**	**+2.0**
	baz=11						
PDAR	**Pinedale Array**	**11.01**	**35**	Pn	Pn	11 06 41.4	+4.3
	0.1nm,0.3s,baz=219,slow=12,SNR=5.8						
PDAR				Lg	Lg	11 09 45.7	
	0.1nm,0.3s,baz=220,slow=32,SNR=2.5						
U25A	**Circle Dot Ran**	**11.43**	**74**	P	**Pn**	**11 06 45.5**	**+2.7**
	baz=11						
MCMT	**McKenzie Canyo**	**11.55**	**19**	*e*Pn	**Pn**	**11 06 41.6**	**-2.7**
	1.0nm,0.8s						
MCMT				*e*Sn	**Sn**	**11 08 50.5**	**-2.6**
K22A	**Casper**	**12.52**	**43**	*e*Pn	**Pn**	**11 06 55.8**	**-1.7**
	9.1nm,0.9s						
K22A				*e*Sn	**Sn**	**11 09 16.6**	**-0.2**
TXAR	**Lajitas Array**	**13.11**	**107**	Pn	**Pn**	**11 07 08.5**	**+2.8**
	0.1nm,0.3s,baz=284,slow=10,SNR=9.7						

CHMT	**Chamberlain Mo**	**13.42**	**14**	*e*Pn	**Pn**	**11 07 09.3**	**-0.6**
	7.9nm,1.5s						
CHMT				*e*Sn	**Sn**	**11 09 42.8**	**+4.0**
SLMT	**Seeley Lake**	**13.68**	**13**	*e*Pn	**Pn**	**11 07 12.1**	**-1.3**
	2.5nm,0.6s						
SLMT				*e*Sn	**Sn**	**11 09 44.0**	**-1.2**
F19A	**Roth Farm, Mol**	**13.75**	**28**	P	**P**	**11 07 24.9**	**+2.0**
	baz=14						
329A	**Wagon Wheel Ra**	**13.77**	**96**	P	**P**	**11 07 25.9**	**+2.7**
	baz=14						
R28A	**Tribune**	**13.83**	**67**	P	**P**	**11 07 26.0**	**+2.2**
	baz=14						
O27A	**Beecher Island**	**13.89**	**59**	P	**P**	**11 07 25.8**	**+1.3**
	baz=14						
JTMT	**Jette**	**14.04**	**11**	*e*Pn	**Pn**	**11 07 21.1**	**+2.9**
	3.2nm,1.1s						
JTMT				*e*Sn	**Sn**	**11 09 51.6**	**-2.2**
429A	**Davenport Ranc**	**14.08**	**99**	P	**P**	**11 07 23.7**	**-2.9**
	baz=14						
P28A	**Saint Francis**	**14.21**	**62**	P	P	11 07 24.6	-3.3
	baz=14						
S29A	**Ulysses**	**14.22**	**70**	P	**P**	**11 07 30.1**	**+2.0**
	baz=14						
NEW	**Newport**	**14.28**	**3**	Pn	P	11 07 25.3	-3.4
	0.1nm,0.3s,baz=184,slow=14,SNR=6.9						
NEW	**Newport**	**14.28**	**3**	P	**P**	**11 07 25.8**	**-2.9**
	baz=14						
E19A	**Rath Farm, Rou**	**14.32**	**27**	P	**P**	**11 07 31.2**	**+2.0**
	baz=14						
R29A	**Marienthal**	**14.37**	**67**	P	**P**	**11 07 31.2**	**+1.5**
	baz=14						
O28A	**Krutsinger Ran**	**14.37**	**60**	P	**P**	**11 07 31.8**	**+2.0**
	baz=14						
G22A	**Birney**	**14.41**	**35**	P	**P**	**11 07 30.4**	**+0.2**
	baz=14						
330A	**Mertzon**	**14.46**	**96**	P	**P**	**11 07 31.3**	**+0.5**
	baz=14						
J25A	**Sunshine Ranch**	**14.55**	**46**	P	**P**	**11 07 33.5**	**+1.7**
	baz=14						
430A	**Baggett Ranch,**	**14.57**	**98**	P	**P**	**11 07 31.3**	**-0.8**
	baz=15						
Q29A	**Oakley**	**14.60**	**66**	P	**P**	**11 07 34.7**	**+2.4**
	baz=15						
E20A	**Meyer Farm, Mu**	**14.61**	**28**	P	**P**	**11 07 33.9**	**+1.5**
	baz=15						
530A	**J-C Ranch, Com**	**14.69**	**101**	P	**P**	**11 07 31.4**	**-1.9**
	baz=15						
Y31A	**Rekieta Farm,**	**14.78**	**85**	P	**P**	**11 07 35.5**	**+1.2**
	baz=15						
L27A	**T5 Ranch, Ells**	**14.80**	**52**	P	**P**	**11 07 36.2**	**+1.7**
	baz=15						
P29A	**Atwood**	**14.82**	**63**	P	**P**	**11 07 36.3**	**+1.5**
	baz=15						
131A	**Roby**	**14.84**	**90**	P	**P**	**11 07 37.3**	**+2.3**
	baz=15						
F22A	**Rosebud**	**14.84**	**34**	P	**P**	**11 07 36.3**	**+1.3**
	baz=15						
G23A	**Biddle**	**14.84**	**37**	P	**P**	**11 07 36.7**	**+1.7**
	baz=15						
RSSD	**Black Hills**	**14.85**	**43**	*e*Pn	**Pn**	**11 07 31.2**	**+1.7**
	4.5nm,0.8s						
D19A	**Cripps Ranch,**	**14.88**	**25**	P	**P**	**11 07 37.1**	**+1.7**
	baz=15						
J26A	**Sides Ranch, S**	**14.94**	**47**	P	**P**	**11 07 38.2**	**+2.1**
	baz=15						
Z31A	**Sharp Cattle R**	**14.95**	**88**	P	**P**	**11 07 37.4**	**+1.2**
	baz=15						
I25A	**Rochford**	**14.96**	**44**	P	**Pn**	**11 07 31.3**	**+0.3**
	baz=15						
X31A	**McDonald Ranch**	**14.97**	**82**	P	**P**	**11 07 38.4**	**+2.0**
	baz=15						
H24A	**Dirks Ranch, A**	**14.97**	**40**	P	**P**	**11 07 37.7**	**+1.3**
	baz=15						
R30A	**Dighton**	**15.00**	**68**	P	**P**	**11 07 38.5**	**+1.7**
	baz=15						
231A	**Bronte**	**15.04**	**93**	P	**P**	**11 07 38.7**	**+1.5**
	baz=15						
E21A	**Keefer Ranch,**	**15.07**	**30**	P	**P**	**11 07 35.9**	**-1.6**
	baz=15						
O29A	**4D Ranch, Culb**	**15.08**	**61**	P	**P**	**11 07 39.7**	**+2.1**
	baz=15						
D20A	**Manuel Ranch,**	**15.09**	**27**	P	**P**	**11 07 39.4**	**+1.7**
	baz=15						
331A	**San Angelo**	**15.10**	**95**	P	**P**	**11 07 36.2**	**-1.7**
	baz=15						
F23A	**Volborg**	**15.20**	**36**	P	**P**	**11 07 40.8**	**+1.8**
	baz=15						
P30A	**Selden**	**15.31**	**64**	P	**P**	**11 07 42.4**	**+2.2**
	baz=15						
C19A	**Slack Wire Ran**	**15.32**	**24**	P	**P**	**11 07 42.3**	**+2.1**
	baz=15						
531A	**Rocksprings**	**15.33**	**100**	P	**P**	**11 07 41.7**	**+1.2**
	baz=15						
EGMT	**Eagleton**	**15.35**	**22**	P	**P**	**11 07 42.3**	**+1.7**
	baz=15						
EGMT	**Eagleton**	**15.35**	**22**	*e*Pn	**Pn**	**11 07 35.7**	**-0.2**
	14nm,1.0s						
EGMT				*e*Sn	Sn	11 10 17.1	-8.4
WALA	**Waterton Lakes**	**15.37**	**10**	*e*Pn	**Pn**	**11 07 35.7**	**-0.6**
	0.2nm,0.8s						
H25A	**Fruitdale**	**15.41**	**42**	P	**P**	**11 07 43.3**	**+2.0**
	baz=15						
ABTX	**Abilene, Hawle**	**15.47**	**90**	P	**Pn**	**11 07 39.5**	**+2.0**
	baz=15						
E22A	**Miles City**	**15.48**	**33**	P	**P**	**11 07 44.4**	**+2.4**
	baz=16						
Z32A	**Haskell**	**15.50**	**87**	P	**P**	**11 07 44.4**	**+2.1**
	baz=16						
S31A	**Mullinville**	**15.51**	**71**	P	**P**	**11 07 44.9**	**+2.5**
	baz=16						
D21A	**La Casta Ranch**	**15.52**	**29**	P	**P**	**11 07 45.5**	**+3.1**
	baz=16						
W32A	**Sentinel**	**15.55**	**81**	P	**P**	**11 07 45.6**	**+2.7**
	baz=16						
J27A	**Elkhorn Farm,**	**15.57**	**49**	P	**P**	**11 07 45.1**	**+2.0**
	baz=16						
R31A	**Burdett**	**15.58**	**69**	P	**P**	**11 07 45.1**	**+1.9**
	baz=16						
232A	**Coleman**	**15.61**	**93**	P	**P**	**11 07 45.2**	**+1.6**
	baz=16						
O30A	**MW Ranch, Wils**	**15.63**	**62**	P	**P**	**11 07 45.5**	**+1.7**
	baz=16						
332A	**Millersview**	**15.65**	**95**	P	**P**	**11 07 43.0**	**-1.0**
	baz=16						
C20A	**Veseth Ranch,**	**15.66**	**26**	P	**P**	**11 07 43.9**	**-0.1**
	baz=16						
432A	**Menard**	**15.74**	**96**	P	**P**	**11 07 44.0**	**-1.0**
	baz=16						
F24A	**Ekalaka**	**15.77**	**37**	P	**P**	**11 07 47.0**	**+1.8**
	baz=16						
G25A	**Newell**	**15.87**	**41**	P	**P**	**11 07 46.0**	**-0.4**
	baz=16						
532A	**Rocksprings**	**15.87**	**99**	P	**P**	**11 07 45.8**	**-0.7**
	baz=16						
H26A	**Fairpoint**	**15.87**	**44**	P	**P**	**11 07 46.8**	**+0.4**
	baz=16						
D22A	**Cohagen**	**15.92**	**31**	P	**P**	**11 07 46.5**	**-0.5**
	baz=16						
S32A	**Newby Ranch, P**	**15.95**	**71**	P	**P**	**11 07 46.6**	**-0.7**
	baz=16						
B19A	**Brinkman Farms**	**15.98**	**23**	P	**P**	**11 07 48.5**	**+0.9**
	baz=16						
Z33A	**Whitaker Ranch**	**16.09**	**87**	P	**P**	**11 07 49.3**	**+0.4**
	baz=16						
C21A	**Desert Coulee**	**16.10**	**28**	P	**P**	**11 07 49.0**	**+0.1**
	baz=16						
J28A	**Allard Ranch,**	**16.14**	**49**	P	**P**	**11 07 50.6**	**+1.1**
	baz=16						
O31A	**Woolen Ranch,**	**16.16**	**62**	P	**P**	**11 07 51.5**	**+1.8**
	baz=16						
233A	**Rising Star**	**16.20**	**92**	P	**Pn**	**11 07 48.6**	**+1.6**
	baz=16						
H27A	**Howes**	**16.28**	**45**	P	**P**	**11 07 52.0**	**+1.0**
	baz=16						
333A	**Richland Sprin**	**16.29**	**94**	P	**P**	**11 07 50.6**	**-0.5**
	baz=16						
732A	**Laxson Ranch,**	**16.32**	**104**	P	**P**	**11 07 53.6**	**+2.2**
	baz=16						
F25A	**Bowman**	**16.33**	**39**	P	**P**	**11 07 53.6**	**+2.1**
	baz=16						
433A	**Art**	**16.35**	**96**	P	**P**	**11 07 51.4**	**-0.4**
	baz=16						
D23A	**Lindsay**	**16.37**	**33**	P	**P**	**11 07 53.8**	**+1.9**
	baz=16						
G26A	**Maurine**	**16.38**	**42**	P	**P**	**11 07 53.2**	**+1.1**
	baz=16						
A19A	**Klindworth Far**	**16.46**	**22**	P	**P**	**11 07 52.8**	**-0.1**
	baz=16						
I28A	**Midland**	**16.48**	**48**	P	**Pn**	**11 07 50.8**	**+0.3**
	baz=16						
C22A	**Vida**	**16.52**	**30**	P	**P**	**11 07 53.0**	**-0.5**
	baz=16						
A20A	**Cobblestone Ra**	**16.68**	**24**	P	**P**	**11 07 56.0**	**+0.6**
	baz=17						
F26A	**Lodgepole**	**16.70**	**40**	P	**P**	**11 07 54.6**	**-0.9**
	baz=17						
E25A	**Miller Ranch,**	**16.74**	**37**	P	**P**	**11 07 56.1**	**0.0**
	baz=17						
G27A	**Dupree**	**16.81**	**43**	P	**P**	**11 07 56.3**	**-0.5**
	baz=17						
F27A	**Lemmon**	**17.06**	**41**	P	**P**	**11 07 59.6**	**+0.1**
	baz=17						
E26A	**Carlson Angus**	**17.21**	**39**	P	**P**	**11 08 01.4**	**+0.2**
	baz=17						
B23A	**Brockton**	**17.45**	**30**	P	**P**	**11 08 05.6**	**+1.8**
	baz=17						
A22A	**Carney Farms,**	**17.50**	**27**	P	**P**	**11 08 05.2**	**+0.8**
	baz=18						
D26A	**Manning**	**17.59**	**38**	P	**P**	**11 08 07.3**	**+1.9**
	baz=18						
F28A	**McLaughlin**	**17.73**	**43**	P	**P**	**11 08 08.4**	**+1.5**
	baz=18						
E28A	**Huff**	**18.22**	**41**	P	**P**	**11 08 13.3**	**+1.0**
	baz=18						
C27A	**Sayler Ranch,**	**18.52**	**37**	P	**Pn**	**11 08 17.0**	**+1.2**
	baz=18						
B26A	**Jensen Ranch,**	**18.62**	**35**	P	**Pn**	**11 08 17.6**	**+0.6**
	baz=19						
D28A	**Regan**	**18.67**	**40**	P	**Pn**	**11 08 18.0**	**+0.4**
	baz=19						
A26A	**Wade Farm, Ken**	**19.08**	**34**	P	**Pn**	**11 08 23.6**	**+1.0**
	baz=19						
B27A	**Peters Farms,**	**19.11**	**36**	P	**P**	**11 08 22.2**	**+0.2**
	baz=19						
ECSD	**EROS Data Cent**	**19.29**	**53**	P	**Pn**	**11 08 24.9**	**-0.2**
	baz=19						
A27A	**Ledoux Ranch,**	**19.49**	**35**	P	**Pn**	**11 08 27.8**	**+0.3**
	baz=20						
EDM	**Edmonton**	**19.52**	**9**	*e*P	**P**	**11 08 26.8**	**+0.2**
B28A	**Dugan Ranch, T**	**19.58**	**37**	P	**Pn**	**11 08 29.2**	**+0.6**
	baz=20						
MDND	**Maddock**	**19.59**	**40**	P	**Pn**	**11 08 29.0**	**+0.3**
	baz=20						
MDND	**Maddock**	**19.59**	**40**	*e*P	**P**	**11 08 27.8**	**+0.5**
	5.7nm,0.9s						
D30A	**Buchanan**	**19.61**	**42**	P	**P**	**11 08 28.2**	**+0.7**
	baz=20						
A28A	**Rude Farm, Bot**	**19.93**	**36**	P	**Pn**	**11 08 32.6**	**-0.2**
	baz=20						
B29A	**Wagenman Farm,**	**20.10**	**38**	P	Pn	11 08 34.4	-0.4
	baz=20						
MIAR	**Mount Ida**	**20.24**	**82**	*e*P	**P**	**11 08 35.2**	**+0.7**
	14nm,1.1s						
A29A	**Manning Farm,**	**20.46**	**38**	P	**P**	**11 08 37.2**	**+0.4**
	baz=20						
B30A	**Myrvik Farm, E**	**20.63**	**40**	P	**P**	**11 08 39.6**	**+0.9**
	baz=21						
A30A	**Hoffart Farm,**	**20.95**	**39**	P	**P**	**11 08 43.0**	**+1.0**
	baz=21						
AGMN	**Agassiz Nation**	**21.89**	**43**	P	**P**	**11 08 52.3**	**+0.1**
	baz=22						
AGMN	**Agassiz Nation**	**21.89**	**43**	*e*P	**P**	**11 08 49.9**	**-2.3**
	8.0nm,0.7s						
ULM	**Lac du Bonnet**	**23.00**	**38**	P	**P**	**11 09 03.1**	**-0.8**
	6.0nm,0.9s,baz=238,slow=12,SNR=8.6						
FFC	**Flin Flon**	**23.60**	**24**	*e*P	**P**	**11 09 09.9**	**-0.1**
	15nm,1.4s						
DLBC	**Dease Lake**	**25.74**	**345**	P	**P**	**11 09 31.1**	**+1.5**
	2.7nm,0.8s,baz=217,slow=12,SNR=4.3						
YKA	**Yellowknife Ar**	**28.61**	**3**	P	**P**	**11 09 55.7**	**+0.5**
	0.3nm,0.7s,baz=179,slow=9.0,SNR=12						
YKA				PcP	**PcP**	**11 13 05.6**	**-0.2**
	0.3nm,0.7s,baz=180,slow=2.2,SNR=6.3						
ILAR	**Eielson Array**	**35.44**	**339**	P	**P**	**11 10 56.1**	**+1.0**
	1.2nm,0.7s,baz=156,slow=8.4,SNR=24						
ILAR				PcP	**PcP**	**11 13 24.7**	**+0.2**
	0.2nm,0.6s,baz=171,slow=2.7,SNR=4.1						
FINES	**FINESS Array B**	**80.54**	**17**	P	**P**	**11 16 11.1**	**-0.1**
	1.2nm,0.6s,baz=270,slow=1.3,SNR=5.3						
MDJ	**Mudanjiang**	**80.56**	**318**	P	**P**	**11 16 08.8**	**-2.8**
MDJ				PMZ			
	5.0nm,1.3s						
MDJ				PMZ			
	110nm,4.0s						
SONM	**Songino Array**	**89.33**	**332**	P	**P**	**11 16 57.1**	**+1.3**
	0.4nm,0.6s,baz=49,slow=2.2,SNR=3.4						
HHC	**Hu-ho-hao-te**	**92.62**	**325**	*e*P	**P**	**11 17 10.9**	**-0.2**
HHC				pP	**pP**	**11 17 15.8**	**-0.5**
HHC				sP	**sP**	**11 17 18.0**	**-0.1**
HHC				PP	**PP**	**11 20 53.5**	**+1.6**
HHC				SKS	**SKSac**	**11 27 42.8**	**-1.7**
HHC				S	S	11 28 08.5	-6.8
HHC				PMZ			
	21nm,0.7s						
HHC				PMZ			
	190nm,5.8s						
WMQ	**Urumqi**	**99.07**	**341**	*e*P	**Pdif**	**11 17 41.3**	**+0.9**
WMQ				PMZ			
	3.0nm,1.0s						
LZH	**Lanzhou**	**100.05**	**327**	*e*P	**Pdif**	**11 17 45.1**	**+0.1**
LZH				pP	pP	11 17 50.3	+0.1
LZH				sP	sP	11 17 52.4	+0.4
LZH				PMZ			
	15nm,1.0s						

GUC 16 11:03:59.9±0.4, 34°.91S×72°.79W, h15km±10km, ML3.5, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.06**	**118**	*e*P	Pb	11 04 18.2	-1.8
TALC				*i* S	Sb	11 04 31.7	-2.1
COCH	**Cobquecura**	**1.22**	**180**	‖*i*P	Pn	11 04 20.3	-2.1
COCH				*i* S	Sb	11 04 36.1	-2.1
NICH	**Los Niches**	**1.28**	**95**	*e*P	Pn	11 04 21.5	-1.8
NICH				*i* S	Sb	11 04 38.0	-2.0
LNCH	**Linares**	**1.35**	**134**	*e*P	Pn	11 04 22.7	-1.5
LNCH				*e*S	Sn	11 04 39.8	-2.0
CLCH	**Cerro Calan**	**2.40**	**52**	IAML		11 05 21.1	
	comp=E,327nm,0.6s						

SKHL ***16*** *11:07:03.5±1.1, 52°.20N×142°.50E, h10km, mb4.4/6, mbv5.4/1, ms4.3/1*
MOS ***16*** *11:07:05.7±1.3, 52°.14N×142°.40E, h10km, mb4.5/20, Error ellipse: s-maj=13.2km s-min=6.3km az=88.2*
IDC ***16*** *11:07:05.5±0.7, 52°.10N×142°.35E, h0km, mb4.0/17, mb1 4.2/19, mb1mx4.0/44, mbtmp3.9/19, ML2.7/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/36, Error ellipse: s-maj=18.5km s-min=14.0km az=160.0*
NEIC ***16*** *11:07:07.5±0.3, 52°.14N×142°.31E, h10km, mb4.6/13, Error ellipse: s-maj=6.9km s-min=5.9km az=117.0*
BJI ***16*** *11:07:10.9, 53°.80N×142°.40E, h10km, mB5.0/13, mb4.5/17, Ms4.4/10, Ms7 4.2/10*

ISC 16 11:07:07.6±0.8, 52°.22N±0°.03×142°.38E±0°.04, h11km±5km, n121, σ1°.54/118, mb4.3/37, 9C-5D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.36**	**173**	*e*Pg	**Pn**	**11 07 30.0**	**-2.6**
TYV				AMB	AMB	11 07 31.2	
	805nm,0.5s						
TYV				AMB	AMB	11 07 35.0	
	4μm,4.0s						
TYV				AMB	AMB	11 07 35.0	
	4μm,4.0s						
TYV				*e*Sg	**Sb**	**11 07 49.3**	**-1.3**
TYV				A	A	11 08 04.0	
	16μm,2.0s						
TYV				A	A	11 08 09.0	
	2μm,1.0s						
OKH	**Okha**	**1.38**	**14**	*i* PN	**Pb**	**11 07 33.6**	**+0.2**
OKH	**Okha**	**1.38**	**14**	‖*i*Pg	**Pb**	**11 07 33.4**	**0.0**
OKH				AMB	AMB	11 07 35.2	
	200nm,0.6s						
OKH				AMB	AMB	11 07 35.8	
	2μm,3.0s						
OKH				*e*Sg	**Sg**	**11 07 53.5**	**+1.5**
OKH				A	A	11 07 55.9	
	1μm,0.9s						
OKH				A	A	11 07 55.9	
	2μm,0.9s						
NKL	**Nikolayevsk**	**1.40**	**313**	‖*i*Pg	**Pn**	**11 07 32.0**	**-1.0**
NKL				AMB	AMB	11 07 33.0	
	200nm,0.3s						
NKL				AMB	AMB	11 07 33.0	
	190nm,0.3s						
NKL				AMB	AMB	11 07 34.0	
	2μm,1.0s						
NKL				AMB	AMB	11 07 34.0	
	4μm,1.0s						
NKL				*e*Sg	**Sg**	**11 07 52.0**	**-0.5**
NKL				A	A	11 07 57.0	
	9μm,3.5s						
NKL				A	A	11 07 57.0	
	4μm,3.5s						
NKL				AMS	AMS	11 08 58.0	
	4μm,4.0s						
UGL	**Uglegorsk**	**3.15**	**184**	PN	**Pn**	**11 07 57.0**	**-0.1**
UGL				S	**Sb**	**11 08 42.5**	**+0.6**
UGL				pmax	pmax		
	comp=Z,1μm,4.0s						
UGL				pmax	pmax		
	comp=Z,65nm,0.5s						
UGL				smax	smax		
	comp=N,80nm,0.6s						
UGL				smax	smax		
	comp=E,320nm,0.6s						
UGL	**Uglegorsk**	**3.15**	**184**	*e*P	**Pn**	**11 07 54.0**	**-3.1**
UGL				AMB	AMB	11 08 04.0	
	comp=E,1μm,4.0s						
UGL				*e*Pg	**Pb**	**11 08 04.7**	**+1.2**
UGL				AMB	AMB	11 08 05.0	
	comp=E,65nm,0.5s						
UGL				*e*Sg	**Sg**	**11 08 48.9**	**+0.3**
UGL				A	A	11 08 56.5	
	comp=E,578nm,0.8s						
GRNR	**Gornyy**	**3.99**	**251**	*e*P	**Pn**	**11 08 08.0**	**-0.8**
GRNR				*e*Sg	**Sg**	**11 09 19.3**	**+3.5**
GRNR				A	A	11 09 20.0	
	comp=E,216nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.27**	**177**	⇑*i*PN	**Pn**	**11 08 26.1**	**-0.2**
YSS				pmax	pmax		
	comp=N,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**5.27**	**177**	⇑*i*P	**Pn**	**11 08 25.5**	**-0.8**
YSS				AMB	AMB	11 08 27.0	
	comp=Z,30nm,0.9s						
YSS				AMB	AMB	11 08 27.0	
	comp=Z,40nm,0.9s						
YSS				*e*Pg	**Pg**	**11 08 46.0**	**-2.5**
YSS				AMB	AMB	11 08 47.0	
	comp=Z,23nm,0.7s						
YSS				*e*S	**Sn**	**11 09 22.0**	**-5.0**
YSS				A	A	11 09 30.8	
	comp=Z,60nm,1.0s						
YSS				*e*Sg	**Sg**	**11 09 58.5**	**+1.7**
YSS				A	A	11 10 07.0	
	comp=Z,68nm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.27**	**177**	*e*Pn	**Pn**	**11 08 25.8**	**-0.5**
	comp=Z,33nm,0.7s						
YSS				*e*Sg	**Sg**	**11 09 55.5**	**-1.3**
EKMR	**Ekimchan**	**5.80**	**282**	*e*P	**Pn**	**11 08 33.0**	**-0.7**
EKMR				AMB	AMB	11 08 48.0	
	comp=Z,4.0nm,0.5s						
HABR	**Khabarovsk**	**6.00**	**234**	*e*PN	Pn	11 08 31.3	-5.0
HABR				*e*		11 09 49.2	
HABR				pmax	pmax		
	comp=N,19nm,1.6s						
HABR				pmax	pmax		
	comp=E,36nm,1.6s						
HABR				pmax	pmax		
	comp=Z,35nm,1.6s						
HABR				MLR	MLR		
	comp=Z,504nm,16.0s						
ASAJ	**Asahikawa**	**8.11**	**179**	PN	**Pn**	**11 09 05.6**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.11**	**179**	Pn	**Pn**	**11 09 05.6**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=74,slow=13,SNR=4.1						
ASAJ	**Asahikawa**	**8.11**	**179**	Pn	**Pn**	**11 09 03.5**	**-1.8**
ASAJ				*e*Sn	**Sn**	**11 10 38.6**	**+1.8**
TEY	**Ternei**	**8.14**	**210**	*e*S	**Sn**	**11 10 41.0**	**+3.5**
TEY				*e*Sg	**Sg**	**11 11 31.0**	**+2.5**
TEY				A	A	11 11 32.0	
	comp=Z,67nm,0.9s						
TEY				A	A	11 11 32.0	
	comp=Z,43nm,0.9s						
BMKR	**Bomnak**	**8.46**	**293**	*e*Pg	Pg	11 09 52.5	+3.2
BMKR				*e*Sg	Sb	11 11 17.5	+3.0
BMKR				A	A	11 11 19.5	
	comp=Z,4.0nm,0.6s						
YASR	**Yasnyy**	**8.80**	**283**	*e*Pg	Pg	11 09 46.0	-10
ZEA	**Zeya**	**9.26**	**285**	*e*Sg	Sn	11 11 50.3	+45
ZEA				A	A	11 12 08.3	
	comp=Z,156nm,0.8s						
PETK	**Petropavlovsk-**	**9.36**	**78**	PN	**Pn**	**11 09 21.4**	**-0.9**
PETK						11 11 13.1	
PETK				MLR	MLR		
	comp=Z,15nm,28.6s						
PETK	**Petropavlovsk-**	**9.36**	**78**	Pn	**Pn**	**11 09 21.4**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=265,slow=11,SNR=3.5						
PETK				Sn	**Sn**	**11 11 13.1**	**+5.6**
	comp=Z,0.4nm,0.3s,baz=272,slow=28,SNR=5.5						
PETK				LR	LR	11 12 58.5	
	comp=Z,189nm,20.9s,baz=307,slow=38						
PET	**Petropavlovsk**	**9.93**	**79**	*e*PN	**Pn**	**11 09 30.8**	**+0.6**
PET	**Petropavlovsk**	**9.93**	**79**	*e*P	**Pn**	**11 09 30.8**	**+0.6**
PET	**Petropavlovsk**	**9.93**	**79**	*e*Pn	**Pn**	**11 09 30.8**	**+0.6**
PET				*e*Sn	**Sn**	**11 11 19.4**	**-2.2**
ERM	**Erimo**	**10.22**	**177**	*e*PN	**Pn**	**11 09 35.7**	**+1.6**
ERM	**Erimo**	**10.22**	**177**	*e*Pn	**Pn**	**11 09 35.7**	**+1.6**
USRK	**Ussuriysk Ar.**	**10.59**	**225**	Lg	Lg	11 12 38.7	
	comp=Z,0.3nm,0.3s,baz=38,slow=29,SNR=5.1						
USRK				LR	LR	11 14 09.6	
	comp=Z,384nm,19.8s,baz=328,slow=40						
MDJ	**Mudanjiang**	**11.39**	**233**	P	Pn	11 10 10.3	+20
MDJ				S	Sn	11 12 23.8	+26
MDJ				ScP	ScP	11 19 24.6	+9.0
MDJ				PcS	PcS	11 19 26.0	+9.0
MDJ				PMZ			
	comp=Z,4.0nm,0.9s						
MDJ				PMZ			
	comp=Z,170nm,3.9s						
MDJ				LN			
	comp=Z,690nm,10.6s						
MDJ				LE			
	comp=Z,500nm,9.7s						
MDJ				LZ			
	comp=Z,1μm,11.9s						
YAK	**Yakutsk**	**11.99**	**330**	‖*e*PN	Pn	11 09 47.6	-11
SEY	**Seymchan**	**11.99**	**22**	Pn	Pn	11 10 02.3	+4.0
	comp=Z,0.1nm,0.3s,baz=218,slow=19,SNR=3.9						
HIA	**Hailar**	**14.62**	**267**	⇑*e*P	**P**	**11 10 42.4**	**+1.7**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAJO	**Matsushiro**	**15.95**	**192**	*e*P	**Pn**	**11 10 49.7**	**-2.2**
MAJO	**Matsushiro**	**15.95**	**192**	*e*Pn	**Pn**	**11 10 49.7**	**-2.2**
KSRS	**Korea Array**	**17.92**	**220**	LR	LR	11 17 28.6	
	comp=Z,369nm,18.9s,baz=318,slow=35						
FX1	**Attu Island--F**	**18.67**	**76**	*e*P	**Pn**	**11 11 27.5**	**+1.7**
FX1	**Attu Island--F**	**18.67**	**76**	*e*P	**Pn**	**11 11 27.5**	**+1.7**
BILL	**Bilibino**	**19.61**	**27**	*e*P	**P**	**11 11 31.9**	**-3.7**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BILL	**Bilibino**	**19.61**	**27**	*e*P	**Pn**	**11 11 37.1**	**+0.1**
	comp=Z,

SONM Lg Lg 11 19 23.6
comp=Z,2.0nm,1.2s,baz=62,slow=22,SNR=6.3
TLY Talaya 23.70 284 *e*P **P 11 12 21.3 +2.1**
TLY pmax pmax
comp=Z,11nm,1.1s
HHC Hu-ho-hao-te 23.87 254 *e*P P 11 12 31.8 +11
HHC pP pP 11 12 36.3 +12
HHC PP PnPn 11 13 09.3 +20
HHC PcP PcP 11 16 13.0 +9.3
HHC S Sn 11 16 49.4 -10
HHC sS sS 11 16 54.4 +12
HHC PMZ
comp=Z,38nm,0.5s
HHC PMZ
comp=Z,370nm,5.9s
HHC LN
comp=Z,540nm,14.3s
HHC LE
comp=Z,790nm,14.1s
HHC LZ
comp=Z,560nm,13.4s
WHN Wuhan 29.87 234 P P 11 13 39.8 +25
LZH Lanzhou 31.56 255 *e*P P 11 13 42.1 +12
LZH pP pP 11 13 46.0 +13
LZH sP sP 11 13 48.8 +14
LZH PMZ
comp=Z,16nm,1.0s
MCK McKinley 36.34 44 *e*P **P 11 14 12.3 +1.1**
MCK pmax pmax
comp=Z,6.0nm,0.8s
MCK McKinley 36.34 44 *e*P **P 11 14 12.2 +1.1**
comp=Z,5.6nm,0.8s
COLA College 36.52 42⇓*e*P **P 11 14 13.6 +1.0**
COLA pmax pmax
comp=Z,14nm,1.0s
WMQ Urumqi 36.74 279 *e*P P 11 14 20.8 +6.0
WMQ pP pP 11 14 27.0 +8.9
WMQ PMZ
comp=Z,8.0nm,1.0s
WMQ PMZ
comp=Z,160nm,5.0s
ILAR Eielson Array 36.94 42 P **P 11 14 17.0 +0.8**
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR Eielson Array 36.94 42 P **P 11 14 17.0 +0.8**
comp=Z,2.7nm,0.8s,baz=282,slow=7.8,SNR=26
GYA Guiyang 37.14 240 *e*P P 11 14 32.8 +14
GYA PMZ
comp=Z,10.0nm,1.0s
MKAR Makanchi Array 38.41 287 P **P 11 14 28.4 -0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 38.41 287 P **P 11 14 28.4 -0.5**
comp=Z,1.1nm,0.8s,baz=23,slow=7.8,SNR=9.6
KURK Kurchatov 38.60 294 P **P 11 14 31.2 +0.8**
KURK pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 38.60 294 P **P 11 14 31.1 +0.8**
KURBB Kurchatov Arra 38.70 294 P **P 11 14 31.1 -0.1**
comp=Z,0.9nm,0.4s,baz=66,slow=8.7,SNR=9.2
EGAK Eagle 39.29 41 *e*P **P 11 14 36.7 +0.7**
comp=Z,7.4nm,0.9s
KMI Kunming 40.33 243 P P 11 15 01.3 +16
KMI PMZ
comp=Z,7.0nm,0.9s
QIZ Qiongzhong 41.74 230 P P 11 15 12.6 +16
QIZ pP pP 11 15 15.8 +16
QIZ sP sP 11 15 16.8 +16
QIZ S S 11 21 37.5 +24
QIZ sS sS 11 21 42.4 +23
QIZ PMZ
comp=Z,17nm,2.2s
QIZ LZ
comp=Z,220nm,6.3s
BVAR Borovoye Array 42.00 301 P **P 11 14 58.4 -0.1**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 42.00 301 P **P 11 14 58.4 -0.1**
comp=Z,0.5nm,0.4s,baz=65,slow=12,SNR=5.7
ARU Arti 46.19 310*d i*P **P 11 15 33.0 +1.0**
ARU 11 17 17.1
ARU S **S 11 22 15.0 -2.9**
ARU SS **SS 11 25 38.1 -4.5**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 46.19 310 *e*P **P 11 15 33.6 +1.6**
comp=Z,11nm,1.0s
KSH Kashi 46.36 282 *e*P P 11 15 42.0 +8.2
KSH pP pP 11 15 47.1 +10
KSH PP PP 11 17 32.0 +10
KSH S S 11 22 28.0 +7.0
KSH sS sS 11 22 36.0 +10
KSH SS **SS 11 25 46.3 0.0**
KSH PMZ
comp=Z,58nm,3.4s
KSH LN
comp=Z,140nm,7.2s
KSH LE
comp=Z,130nm,6.6s
KSH LZ
comp=Z,170nm,5.2s
APA Apatity 49.37 331 *e*P P 11 16 08.8 +12
APA MLR MLR
comp=Z,300nm,13.0s
ABKAR Akbulak array 49.56 301 *e*P **P 11 15 58.2 -0.1**
comp=Z,0.8nm,0.4s
YKA Yellowknife Ar 50.66 36 P **P 11 16 06.6 +0.2**
comp=Z,0.9nm,0.7s,baz=307,slow=7.4,SNR=20
KLMR Klimovskoe 51.66 323 *e*P **P 11 16 13.0 -0.9**
KLMR pmax pmax
comp=Z,15nm,1.3s
JOF Joensuu 53.15 328 *e*P **P 11 16 25.1 +0.1**
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 53.15 328 *e*p **P 11 16 25.1 +0.1**
comp=Z,2.5nm,0.7s
KAF Kangasniemi 55.35 329 *e*P **P 11 16 40.6 -0.4**
KAF pmax pmax
comp=Z,3.0nm,0.7s
KAF Kangasniemi 55.35 329 *e*p **P 11 16 40.6 -0.4**
comp=Z,2.9nm,0.7s
FINES FINESS Array B 55.92 329*ce*P **P 11 16 44.4 -0.7**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 55.92 329 P **P 11 16 45.0 0.0**
comp=Z,6.1nm,0.7s,baz=39,slow=7.1,SNR=14
KKH Kailua Kona 57.36 100 *e*P P 11 17 10.2 +14
KKH Kailua Kona 57.36 100 *e*P P 11 17 10.2 +14
NB2 NORSAR Subarra 60.56 335 P **P 11 17 17.2 -0.4**
comp=Z,2.8nm,0.8s,baz=31,slow=6.9
NOA NORSAR Array B 60.56 335 P **P 11 17 17.5 -0.1**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 60.56 335 P **P 11 17 17.5 -0.1**
comp=Z,2.0nm,0.7s,baz=32,slow=6.7,SNR=6.7
FFC Flin Flon 60.81 37 *e*P **P 11 17 19.7 +0.4**
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 60.81 37 *e*P **P 11 17 19.7 +0.4**
comp=Z,5.6nm,0.9s
KIV Kislovodsk 61.94 306 *e*P **P 11 17 27.3 0.0**
KIV pmax pmax
comp=Z,10.0nm,1.1s
AKASG Malin Array Be 62.96 319*ce*P **P 11 17 34.5 +0.6**
AKASG Malin Array Be 62.96 319 P **P 11 17 33.4 -0.5**
comp=Z,0.4nm,0.3s,baz=37,slow=7.6,SNR=4.7
DLMT Dillon 63.47 50 *e*P **P 11 17 38.9 +1.4**
comp=Z,19nm,1.8s
LOHW Long Hollow 65.73 50 *e*P **P 11 17 53.4 +1.0**
comp=Z,5.6nm,1.4s
NVAR Mina Array Bea 65.81 58 P **P 11 17 53.8 +0.7**
comp=Z,0.9nm,0.9s,baz=291,slow=6.7,SNR=4.2
ULM Lac du Bonnet 66.64 36 P **P 11 17 56.9 -0.9**
ULM pmax pmax
comp=Z,3.0nm,0.9s
ULM Lac du Bonnet 66.64 36 P **P 11 17 56.9 -0.9**
comp=Z,3.0nm,0.8s,baz=316,slow=3.6,SNR=4.9
PDAR Pinedale Array 66.87 50 P **P 11 17 59.7 0.0**
comp=Z,2.2nm,1.1s,baz=331,slow=2.0,SNR=8.2
STHS Stebnicka Huta 67.09 323 *e*P **P 11 18 02.6 +1.8**
STHS Stebnicka Huta 67.09 323 *e*P **P 11 18 02.6 +1.8**
DPC Dobruska-Polom 68.08 326 *e*P **P 11 18 09.0 +2.0**
DPC Dobruska-Polom 68.08 326 *e*P **P 11 18 09.0 +2.0**
KRLC Kraliky 68.15 326 *e*P **P 11 18 07.4 -0.1**
KRLC *e* 11 18 09.5
KRLC Kraliky 68.15 326 *e*P **P 11 18 07.4 -0.1**
KRLC *e*pP **pP 11 18 09.5 -1.4**
CLL Collm 68.37 329 *e*P **P 11 18 08.0 -0.7**
CLL *i* 11 18 10.3
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 68.37 329 *e*P **P 11 18 08.0 -0.7**
comp=Z,4.0nm,0.9s
CLL *i* Pmax 11 18 10.3
comp=Z,11nm,1.1s
CLL *e*pP **pP 11 18 14.0 +1.8**
PRU Pruhonice 68.99 327 *e*P **P 11 18 14.6 +1.9**
PRU Pruhonice 68.99 327 *e*P **P 11 18 14.6 +1.9**
BRTR Keskin Array B 69.55 309*ce*P **P 11 18 18.5 +2.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 69.55 309 P **P 11 18 16.5 0.0**
comp=Z,1.0nm,0.8s,baz=79,slow=9.4,SNR=4.3
KHC Kasperske Hory 70.05 327 *e*P **P 11 18 19.2 -0.1**
KHC *e* 11 18 21.3
KHC Kasperske Hory 70.05 327 *e*P **P 11 18 19.2 -0.1**
KHC *e*pP **pP 11 18 21.3 -1.4**
KHC Kasperske Hory 70.05 327 *e*P **P 11 18 19.5 +0.2**
comp=Z,1.8nm,0.7s
GERES GERESS Array B 70.26 327 P **P 11 18 21.5 +0.9**
comp=Z,0.3nm,0.3s,baz=2.9,slow=2.7,SNR=3.7
CONA Conrad Observa 70.30 325⇑*i*sP sP 11 18 23.6 -2.0
comp=Z,3.4nm,1.0s
ECSD EROS Data Cent 71.74 41 *e*P **P 11 18 28.9 -0.7**
comp=Z,4.9nm,0.8s
KBA Koelnbreinsper 71.90 326⇑*i*pP pP 11 18 32.8 -1.4
comp=Z,6.8nm,0.8s
WRA Warramunga Arr 72.19 188 P **P 11 18 30.9 -1.5**
WRA pmax pmax
comp=Z,2.0nm,1.1s
WRA Warramunga Arr 72.19 188 P **P 11 18 30.9 -1.5**
comp=Z,2.1nm,1.1s,baz=9.6,slow=6.8,SNR=7.7
ASAR Alice Springs 75.92 188 P **P 11 18 53.5 -0.6**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 75.92 188 P **P 11 18 53.5 -0.6**
comp=Z,1.3nm,0.7s,baz=1.9,slow=5.5,SNR=27
MNTX Cornudas Mount 77.66 54 *e*P **P 11 19 05.0 +0.8**
comp=Z,36nm,2.7s
CLNB Carlsbad 77.94 52 *e*P **P 11 19 06.1 +0.4**
HNH Hanover 79.88 25 *e*P **P 11 19 15.4 -0.7**
comp=Z,322nm,2.1s
PBMO Poplar Bluff 80.13 40 *e*P **P 11 19 18.5 +0.9**
comp=Z,54nm,0.9s
TXAR Lajitas Array 80.44 54 P **P 11 19 20.1 +0.6**
TXAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 80.44 54 P **P 11 19 20.1 +0.6**
comp=Z,1.9nm,0.8s,baz=292,slow=5.9,SNR=20

*ISCJB **16** 11:22:24.2±0.6, 22°.28S±0°.05×67°.26W±0°.05, h167km, mb3.7/5, Error ellipse: s-maj=6.8km s-min=6.5km az=14.1*
*IDC **16** 11:22:25.0±2.0, 22°.31S×67°.21W, h164km±18km, mb3.7/5, mb1 3.8/7, mb1mx3.3/32, mbtmp4.2/7, Error ellipse: s-maj=27.2km s-min=16.3km az=96.0*
*GUC **16** 11:22:27.5±0.4, 22°.28S×67°.88W, h204km±6km, ML4.4*
ISC 16 11:22:24.4±0.7, **22°.39S**±0°.06×**67°.29W**±0°.07, **h167km, n18,** σ2§**06/26, mb3.8/5, 4C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**2.04**	**273**⇑	*i*P	Pn	11 23 09.3	+8.3
PB04				*i* S	Sn	11 23 40.4	+11
PB04				IAML		11 23 43.3	
	comp=N,984nm,0.3s						
PB06	**IPOC Station P**	**2.13**	**261**	*e*P	**Pn**	**11 23 03.9**	**+1.7**
PB06				*e*S	**Sn**	**11 23 31.6**	**+0.2**
PB01	**IPOC Station P**	**2.44**	**303**	*e*P	**Pn**	**11 23 06.9**	**+1.1**
PB01				*e*S	**Sn**	**11 23 37.0**	**-0.8**
PB07	**IPOC Station P**	**2.50**	**285**⇑	*i*P	**Pn**	**11 23 07.7**	**+1.2**
PB07				*e*S	**Sn**	**11 23 37.9**	**-1.2**
PB07				IAML		11 23 38.4	
	comp=N,2μm,0.2s						
CEN1	**Los Morros**	**2.86**	**249**	*e*P	Pn	11 23 14.6	+3.7
CEN1				*i* S	**Sn**	**11 23 50.2**	**+3.3**
PATCX	**Punta Patache**	**3.08**	**300**	*e*P	**Pn**	**11 23 13.8**	**+0.2**
PATCX				*i* S	**Sn**	**11 23 49.4**	**-2.4**
PATCX				IAML		11 23 51.0	
	comp=E,1μm,0.2s						
ANCH	**Antofagasta**	**3.15**	**245**	*e*P9	**Pn**	**11 23 11.8**	**-2.5**
ANCH				*i* S	**Sn**	**11 23 48.1**	**-5.0**
HMBC	**Humberstone**	**3.20**	**310**⇑	*i*P	**Pn**	**11 23 15.0**	**-0.1**
HMBC				*e*S	**Sn**	**11 23 52.1**	**-2.5**
HMBC				IAML		11 23 55.4	
	comp=N,532nm,0.3s						
MNMC	**Minimini**	**3.89**	**326**⇑	*i*P	**Pn**	**11 23 24.7**	**+0.6**
MNMC				*i* S	**Sn**	**11 24 08.9**	**-1.5**
LPAZ	**La Paz**	**6.12**	**352**	P	**Pn**	**11 23 55.0**	**+1.6**
	comp=N,4.5nm,0.3s,baz=156,slow=5.7,SNR=37						
LPAZ				S	**Sn**	**11 25 01.4**	**-1.9**
	baz=18,slow=18,SNR=2.9						
SIV	**San Ignacio**	**8.66**	**44**	P	**Pn**	**11 24 25.4**	**-1.2**
	comp=N,4.6nm,0.3s,baz=233,slow=12,SNR=40						
SIV				S	Sn	11 25 55.8	-7.4
	comp=N,1.5nm,0.3s,baz=317,slow=23,SNR=7.9						
CFAA	**Coronel Fontan**	**9.22**	**185**	P	**Pn**	**11 24 35.2**	**+1.3**
	comp=N,0.0nm,0.3s,baz=12,slow=19,SNR=6.5						
CFAA				S	**Sn**	**11 26 12.1**	**-4.4**
	comp=N,0.1nm,0.3s,baz=258,slow=19,SNR=3.6						
DBIC	**Dimbokro**	**67.56**	**72**	P	**P**	**11 33 03.0**	**-0.3**
	comp=N,4.3nm,1.0s,baz=298,slow=2.8,SNR=3.4						
VNDA	**Vanda**	**76.24**	**190**	P	**P**	**11 33 55.3**	**+1.4**
	comp=N,1.4nm,0.5s,baz=149,slow=5.9,SNR=15						
TORD	**Torodi Ar. Bea**	**76.25**	**69**	P	**P**	**11 33 55.7**	**+0.7**
	comp=N,0.8nm,0.4s,baz=257,slow=5.5,SNR=20						
ULM	**Lac du Bonnet**	**76.62**	**342**	P	**P**	**11 33 56.6**	**+0.3**
	comp=N,0.3nm,0.3s,baz=121,slow=5.9,SNR=3.0						
YKA	**Yellowknife Ar**	**92.52**	**340**	P	**P**	**11 35 16.7**	**+0.6**
	comp=N,0.3nm,0.6s,baz=132,slow=4.2,SNR=10						
WRA	**Warramunga Arr**	**132.92**	**208**	PKP	**PKPdf**	**11 41 21.9**	**+1.4**
	comp=N,0.5nm,1.1s,baz=169,slow=1.5,SNR=4.2						

*ISCJB **16** 11:32:14.3±0.8, 1°.29S±0°.05×99°.35E±0°.06, h50km, mb3.8/6, Error ellipse: s-maj=9.2km s-min=6.5km az=143.7*
*DJA **16** 11:32:16.8±0.5, 1°S±4°×10°0E±°, h68km±16km, M4.0/4, MLv4.0/4*
*IDC **16** 11:32:19.1±2.4, 1°.20S×99°.46E, h76km±9km, mb3.4/6, mb1 3.5/7, mb1mx3.3/44, mbtmp3.7/7, Error ellipse: s-maj=99.9km s-min=15.8km az=59.0*
ISC 16 11:32:17.6±0.9, **1°.21S**±0°.07×**99°.42E**±0°.08, **h50km, n19,** σ2§**42/20, mb3.9/6, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.08**	**74**	P	**Pn**	**11 32 37.5**	**+1.0**
PDSI				S	**Sn**	**11 32 49.0**	**-1.4**
MNSI	**Mandailing Nat**	**2.00**	**5**	P	**Pn**	**11 32 48.6**	**-0.3**
MNSI				S	**Sn**	**11 33 11.5**	**-1.2**
SDSI	**Sungai Dareh**	**2.02**	**82**	P	**Pn**	**11 32 49.8**	**+0.5**
BKNI	**Bangkinang**	**2.22**	**47**	P	**Pn**	**11 32 49.1**	**-2.9**
BKNI				S	**Sn**	**11 33 19.3**	**+1.0**
GSI	**Gunungsitoli**	**3.10**	**323**	P	Pn	11 33 07.6	+3.5
GSI				S	**Sn**	**11 33 39.6**	**-0.4**
PSI	**Prapat**	**4.01**	**353**	P	**Pn**	**11 33 15.7**	**-1.0**
	1.5nm,0.3s,baz=149,slow=13,SNR=3.1						
MNAI	**Manna**	**4.72**	**132**	P	**Pn**	**11 33 23.5**	**-2.8**
LHSI	**Lahat**	**4.85**	**123**	P	Pn	11 33 23.3	-4.9
MDSI	**Maura Dua**	**5.76**	**125**	P	**Pn**	**11 33 42.9**	**+2.3**
H08S2	**Diego Garcia H**	**27.59**	**256**	T	T	12 06 06.1	
	baz=77,slow=76						
H08S3	**Diego Garcia H**	**27.59**	**256**	T	T	12 06 06.1	
	baz=77,slow=76						
H08S1	**Diego Garcia H**	**27.60**	**256**	T	T	12 06 06.1	
	baz=77,slow=76						
WRA	**Warramunga Arr**	**38.89**	**121**	P	**P**	**11 39 36.2**	**-2.5**
	1.4nm,0.6s,baz=299,slow=8.5,SNR=23						
ASAR	**Alice Springs**	**40.18**	**126**	P	**P**	**11 39 47.9**	**-1.6**
	0.5nm,0.3s,baz=300,slow=9.1,SNR=18						
SONM	**Songino Array**	**49.22**	**6**	P	**P**	**11 41 01.7**	**+0.6**
	0.2nm,0.6s,baz=150,slow=6.1,SNR=2.6						
SONM				pP	**pP**	**11 41 17.9**	**+3.2**
	0.3nm,0.6s,baz=180,slow=12,SNR=2.7						
STKA	**Stephens Creek**	**50.11**	**132**	P	**P**	**11 41 07.8**	**-0.2**
	1.4nm,0.7s,baz=316,slow=8.8,SNR=8.3						
MKAR	**Makanchi Array**	**50.12**	**345**	P	**P**	**11 41 06.0**	**-1.9**
	0.3nm,0.3s,baz=165,slow=6.0,SNR=11						
MKAR				pP	**pP**	**11 41 26.2**	**+4.8**
	0.3nm,0.4s,baz=149,slow=6.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**56.29**	**350**	P	**P**	**11 41 50.7**	**-2.3**
	0.4nm,0.3s,baz=144,slow=6.2,SNR=3.4						
ZALV				pP	**pP**	**11 42 11.3**	**+4.5**
	0.4nm,0.4s,baz=278,slow=36,SNR=2.3						
TXAR	**Lajitas Array**	**144.41**	**36**	pPKP	pPKPdf	11 52 08.0	+3.5
	0.4nm,0.9s,baz=239,slow=0.5,SNR=3.0						

IDC 16 11:32:32.1±3.5, **7°.83N**×**81°.87W, h0km, mb3.6/5, mb1 4.0/7, mb1mx3.7/38, mbtmp3.7/7, ML3.7/2, MS3.7/2, Ms1 3.7/2, ms1mx3.0/40, Error ellipse: s-maj=91.4km s-min=42.4km az=23.0, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**3.91**	**309**	Pn	Pn	11 33 31.9	-1.5
	11nm,0.3s,baz=188,slow=3.7,SNR=79						
JTS				Sn	Sn	11 34 19.8	-0.2
	1.5nm,0.3s,baz=301,slow=19,SNR=3.4						
JTS				LR	LR	11 35 12.5	
	comp=Z,558nm,20.8s,baz=97,slow=41						
APG	**El Apazote**	**11.03**	**311**	Pn	Pn	11 35 08.4	-3.2
	0.5nm,0.3s,baz=129,slow=12,SNR=12						
CMIG	**Matias Romero**	**15.68**	**307**	Pn	Pn	11 36 14.8	+0.3
	0.1nm,0.3s,baz=95,slow=9.8,SNR=5.9						
TXAR	**Lajitas Array**	**29.63**	**319**	P	P	11 38 41.0	+1.6
	0.3nm,0.9s,baz=139,slow=7.1,SNR=3.3						
RPN	**Rapa Nui**	**43.77**	**216**	LR	LR	11 54 06.7	
	comp=Z,154nm,19.9s,baz=96,slow=30						
ULM	**Lac du Bonnet**	**43.87**	**347**	P	P	11 40 39.7	-0.5
	2.8nm,0.9s,baz=157,slow=8.3,SNR=6.4						
NVAR	**Mina Array Bea**	**44.78**	**319**	P	P	11 40 47.8	-0.1
	0.5nm,0.7s,baz=123,slow=6.1,SNR=4.0						
YKA	**Yellowknife Ar**	**59.55**	**343**	P	P	11 42 37.2	+0.1
	1.0nm,0.8s,baz=136,slow=7.2,SNR=23						
ILAR	**Eielson Array**	**72.44**	**336**	P	P	11 43 59.5	-0.6
	0.4nm,0.9s,baz=118,slow=3.4,SNR=5.3						
WRA	**Warramunga Arr**	**142.94**	**247**	PKP	PKPdf	11 52 07.4	-1.4
	0.4nm,1.0s,baz=91,slow=2.4,SNR=4.0						

*IDC **16** 11:43:25.5±1.7, 62°.95N×28°.36E, h0km, mb1 3.0/3, mb1mx2.7/37, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=24.8km s-min=9.4km az=104.0*
*ISCJB **16** 11:43:26.2±0.5, 63°.13N±0°.03×27°.72E±0°.08, h0km, Error ellipse: s-maj=5.3km s-min=3.8km az=21.3*
*CSEM **16** 11:43:28.0, 63°.12N×27°.73E, h0km, ML1.4, Mining explosion.*
*HEL **16** 11:43:28.0±0.2, 63°.12N×27°.73E, h0km, ML1.4, Explosion*
ISC 16 11:43:26.8±0.9, **63°.11N**±0°.03×**27°.76E**±0°.04, **h0km, n20,** σ1§**32/39, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUF	**Sumiainen**	**0.84**	**242**	*e*P	**Pg**	**11 43 42.7**	**-0.2**
SUF				*e*S	**Sg**	**11 43 53.5**	**-0.3**
SUF	**Sumiainen**	**0.84**	**242**	P	**Pg**	**11 43 42.6**	**-0.2**
SUF				S	**Sg**	**11 43 53.4**	**-0.3**
KJN	**Kajaani**	**0.97**	**359**	*e*P	**Pg**	**11 43 44.6**	**-0.9**
KJN				*e*S	**Sg**	**11 43 56.9**	**-1.2**
KJN	**Kajaani**	**0.97**	**359**	P	**Pg**	**11 43 44.6**	**-0.9**
KJN				S	**Sg**	**11 43 56.9**	**-1.2**
KAF	**Kangasniemi**	**1.21**	**215**	*e*P	**Pg**	**11 43 49.1**	**-1.0**
KAF				*e*S	**Sg**	**11 44 04.3**	**-1.4**
KAF	**Kangasniemi**	**1.21**	**215**	P	**Pg**	**11 43 49.0**	**-1.0**
KAF				S	**Sg**	**11 44 04.2**	**-1.4**
JOF	**Joensuu**	**1.63**	**95**	*e*P	**Pn**	**11 43 57.4**	**+0.7**
JOF				*e*S	**Sn**	**11 44 18.5**	**+0.1**
JOF	**Joensuu**	**1.63**	**95**	P	**Pn**	**11 43 57.4**	**+0.7**
JOF				S	**Sn**	**11 44 18.5**	**+0.1**
FIA0	**FINESS Array S**	**1.85**	**206**	*e*P	**Pn**	**11 44 00.8**	**+1.0**
FIA0				*e*S	**Sn**	**11 44 24.4**	**+0.5**
FIA0				MSG		11 44 26.7	
	comp=Z,1.9nm,0.3s						
FIA0	**FINESS Array S**	**1.85**	**206**	P	**Pn**	**11 44 00.8**	**+1.0**
FIA0				S	**Sn**	**11 44 24.3**	**+0.5**
FINES	**FINESS Array B**	**1.85**	**206**	Pn	**Pn**	**11 44 00.3**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=30,slow=16,SNR=16						
FINES				Sn	**Sg**	**11 44 25.7**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=32,slow=29,SNR=16						
OUL	**Oulu**	**2.14**	**338**	*e*P	**Pn**	**11 44 05.8**	**+1.9**
OUL				*e*S	**Sn**	**11 44 32.2**	**+1.2**
OUL	**Oulu**	**2.14**	**338**	P	**Pn**	**11 44 05.7**	**+1.9**
OUL				S	**Sn**	**11 44 32.2**	**+1.2**
VAF	**Ylistaro**	**2.32**	**270**	*e*P	**Pn**	**11 44 07.7**	**+1.5**
VAF				*e*S	**Sn**	**11 44 37.1**	**+1.8**
VAF	**Ylistaro**	**2.32**	**270**	P	**Pn**	**11 44 07.7**	**+1.5**
VAF				S	**Sn**	**11 44 37.1**	**+1.8**
VJF	**Virojoki**	**2.59**	**182**	*e*P	**Pn**	**11 44 11.1**	**+1.3**
VJF				*e*S	**Sn**	**11 44 43.3**	**+1.3**
VJF	**Virojoki**	**2.59**	**182**	P	**Pn**	**11 44 11.1**	**+1.3**
VJF				S	**Sn**	**11 44 43.2**	**+1.3**
ARCES	**ARCESS Array B**	**6.51**	**353**	Pn	**Pn**	**11 45 04.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=169,slow=14,SNR=9.8						
ARCES				Sn	**Sn**	**11 46 16.9**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=170,slow=23,SNR=4.1						
HFS	**Hagfors**	**7.34**	**252**	Pn	**Pn**	**11 45 15.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=68,slow=11,SNR=3.5						
HFS				Sn	**Sn**	**11 46 34.8**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=38,slow=26,SNR=2.6						
NOA	**NORSAR Array B**	**8.04**	**262**	Pn	**Pn**	**11 45 24.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=59,slow=13,SNR=2.5						

*IDC **16** 11:51:17.1±0.8, 35°.40S×72°.79W, h0km, mb4.1/9, mb1 4.2/12, mb1mx4.1/25, mbtmp4.1/12, ML4.0/3, Error ellipse: s-maj=30.6km s-min=17.9km az=76.0*
*ISCJB **16** 11:51:18.0±1.8, 35°.32S±0°.03×72°.88W±0°.04, h15km±12km, mb4.1/17, Error ellipse: s-maj=6.2km s-min=5.2km az=44.7*
*NEIC **16** 11:51:20.0, 35°.34S×72°.81W, h27km, mb4.5/7, ML4.7(GUC), After GUC.*
NEIC Felt [III] at Talca.
*GUC **16** 11:51:20.0±0.7, 35°.34S×72°.81W, h27km±5km, ML4.7*
ISC 16 11:51:18.4±1.7, **35°.41S**±0°.04×**72°.83W**±0°.06, **h10km**±10km, **n49,** σ6§**91/55, mb4.2/17, 4C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.97**	**90**⇑	*i*P	**Pg**	**11 51 37.1**	**-0.1**
TALC				*i* S	**Sb**	**11 51 50.3**	**+0.1**
TALC				AML	AML	11 51 53.4	
	comp=N,69μm,0.5s						
LNCH	**Linares**	**1.09**	**114**⇑	*i*P	**Pb**	**11 51 39.7**	**+0.3**
LNCH				*i* S	**Sb**	**11 51 54.1**	**+0.5**
LNCH				AML	AML	11 51 57.5	
	comp=N,23μm,0.3s						
NICH	**Los Niches**	**1.37**	**73**⇑	*i*P	**Pn**	**11 51 43.5**	**0.0**
NICH				*i* S	**Sb**	**11 52 00.9**	**-0.7**
NICH				AML	AML	11 52 08.3	
	comp=E,27μm,0.5s						
CCSP	**San Pedro de C**	**1.45**	**189**⇓	*i*P	**Pb**	**11 51 45.7**	**+0.1**
CCSP				*i* S	**Sg**	**11 52 05.8**	**+0.6**
TACH	**Talagante**	**2.34**	**42**⇑	*i*P	**Pn**	**11 51 57.0**	**0.0**
TACH				*i* S1	**Sn**	**11 52 25.3**	**-0.5**
ANTU	**Antumapu**	**2.58**	**45**	*e*P1	**Pn**	**11 52 01.0**	**+0.8**
ANTU				*i* S	**Sn**	**11 52 31.3**	**-0.3**
CLCH	**Cerro Calan**	**2.76**	**44**	*e*P1	**Pn**	**11 52 03.4**	**+0.7**
CLCH				*i* S	**Sn**	**11 52 35.7**	**-0.4**
CLCH				AML	AML	11 52 48.9	
	comp=E,4μm,0.5s						
PEL	**Peldehue**	**2.87**	**39**⇓	*i*P	**Pn**	**11 52 04.8**	**+0.6**
PEL				*i* S	**Sn**	**11 52 38.4**	**-0.4**
PEL				AML	AML	11 52 57.8	
	comp=N,3μm,0.4s						
FCH	**Farellones**	**2.95**	**46**	*e*P9	**Pb**	**11 52 12.6**	**+1.3**
FCH				*i* S	**Sb**	**11 52 48.2**	**+0.7**
FCH				AML	AML	11 52 59.9	
	comp=E,2μm,0.4s						
CFAA	**Coronel Fontan**	**5.39**	**47**	Pn	**Pn**	**11 52 39.2**	**+0.4**
	comp=E,0.9nm,0.3s,baz=204,slow=14,SNR=25						
CFAA				Sn	**Sn**	**11 53 40.4**	**-0.6**
	comp=E,1.0nm,0.3s,baz=186,slow=19,SNR=4.2						
PLCA	**Paso Flores**	**5.61**	**162**	Pn	**Pn**	**11 52 44.1**	**+2.1**
	comp=E,1.3nm,0.3s,baz=334,slow=10,SNR=23						
PLCA				Lg	Lg	11 54 07.2	
	comp=E,1.5nm,0.3s,baz=248,slow=19,SNR=3.1						
PLCA	**Paso Flores**	**5.61**	**162**	*e*Pn	**Pn**	**11 52 42.0**	**+0.1**
	comp=E,3.6nm,0.6s						

PLCA					Lg	Lg	11 54 07.2	
PLCA					*e*Sg	**Sg**	**11 54 15.8**	**-2.8**
LCO	**Las Campanas**	**6.62**	**16**	*e*Pn	**Pn**	**Pn**	**11 52 54.2**	**-1.9**
	comp=E,22nm,0.4s							
TRQA	**Tornquist**	**9.10**	**110**	*e*Pn	**Pn**	**Pn**	**11 53 32.2**	**+2.4**
	comp=E,13nm,0.6s							
LVC	**Limon Verde**	**13.20**	**16**	*e*Pn	**Pn**	**Pn**	**11 54 26.3**	**+0.1**
LVC				*e*Sn	**Sn**	**Sn**	**11 56 53.2**	**+0.1**
LPAZ	**La Paz**	**19.50**	**14**	P	**Pn**	**Pn**	**11 55 47.9**	**+0.3**
	comp=E,0.6nm,0.3s,baz=171,slow=7.6,SNR=20							
LPAZ	**La Paz**	**19.50**	**14**	*e*P	**Pn**	**Pn**	**11 55 47.6**	**+0.1**
	comp=E,9.4nm,0.9s							
SIV	**San Ignacio**	**22.01**	**32**	P	**P**	**P**	**11 56 11.6**	**-1.3**
	comp=E,7.2nm,1.0s,baz=235,slow=14,SNR=11							
NNA	**Nana**	**23.60**	**350**	P	**P**	**P**	**11 56 30.1**	**+0.6**
	comp=E,3.7nm,0.3s,baz=200,slow=12,SNR=3.7							
SAML	**Samuel**	**27.77**	**21**	*e*P	**P**	**P**	**11 57 07.0**	**-0.5**
	comp=E,0.9nm,0.6s							
SDV	**Santo Domingo**	**44.10**	**3**	*e*P	**P**	**P**	**11 59 26.6**	**-0.5**
	comp=E,8.4nm,0.9s							
SNAA	**Sanae**	**50.53**	**157**	P	**P**	**P**	**12 00 16.9**	**+0.4**
	comp=E,2.7nm,0.8s,baz=285,slow=8.9,SNR=7.8							
SNAA	**Sanae**	**50.53**	**157**	*e*P	**P**	**P**	**12 00 17.5**	**+1.0**
	comp=E,7.5nm,0.9s							
HUMP	**Col San Antoni**	**53.66**	**8**	*e*P	**P**	**P**	**12 00 38.5**	**-1.6**
	comp=E,2.3nm,0.3s							
QSPA	**South Pole Qui**	**54.83**	**180**	*e*P	**P**	**P**	**12 00 48.3**	**-0.2**
TXAR	**Lajitas Array**	**70.65**	**332**	P	**P**	**P**	**12 02 34.8**	**+0.6**
	comp=E,1.0nm,0.7s,baz=154,slow=8.1,SNR=13							
WVT	**Waverly**	**72.53**	**347**	*e*P	**P**	**P**	**12 02 45.5**	**+0.2**
	comp=E,4.4nm,0.6s							
WMOK	**Wichita Mounta**	**73.88**	**338**	*e*P	**P**	**P**	**12 02 53.0**	**-0.2**
	comp=E,1.5nm,0.8s							
TUL1	**Leonard**	**74.11**	**341**	*e*P	**P**	**P**	**12 02 53.8**	**-0.8**
ANMO	**Albuquerque**	**76.71**	**332**	*e*P	**P**	**P**	**12 03 10.9**	**+1.1**
	comp=E,2.2nm,1.0s							
BOSA	**Boshof**	**79.99**	**118**	P	**P**	**P**	**12 03 28.1**	**-0.2**
	comp=E,1.7nm,0.9s,baz=180,slow=2.0,SNR=2.7							
DUG	**Dugway, Tooele**	**83.76**	**330**	*e*P	**P**	**P**	**12 03 48.9**	**+1.2**
	comp=E,3.0nm,1.2s							
HWUT	**Hardware Ranch**	**84.47**	**332**	*e*P	**P**	**P**	**12 03 51.0**	**-0.3**
	comp=E,1.6nm,0.7s							
NVAR	**Mina Array Bea**	**84.67**	**326**	P	**P**	**P**	**12 03 53.5**	**+1.1**
	comp=E,0.6nm,0.7s,baz=142,slow=6.0,SNR=5.4							
PDAR	**Pinedale Array**	**84.73**	**334**	P	**P**	**P**	**12 03 52.5**	**-0.1**
	comp=E,0.4nm,0.6s,baz=104,slow=6.3,SNR=3.8							
TORD	**Torodi Ar. Bea**	**85.30**	**70**	P	**P**	**P**	**12 03 55.5**	**-0.3**
	comp=E,0.8nm,0.7s,baz=245,slow=2.9,SNR=4.1							
ULM	**Lac du Bonnet**	**87.69**	**345**	P	**P**	**P**	**12 04 06.3**	**-0.4**
	comp=E,1.2nm,0.5s,baz=214,slow=0.4,SNR=3.4							
WRA	**Warramunga Arr**	**119.22**	**209**	PKP	**PKPdf**	**PKPdf**	**12 10 07.3**	**-0.9**
	comp=E,0.2nm,0.9s,baz=175,slow=1.3,SNR=2.5							
H11S2	**WAKE ISLAND Hyl**	**25.09**	**269**	T	T	T	14 27 58.4	
	baz=118,slow=75,SNR=7.4							
H11S1	**WAKE ISLAND Hyl**	**25.11**	**269**	T	T	T	14 27 59.2	
	baz=118,slow=75,SNR=7.7							
H11S3	**WAKE ISLAND Hyl**	**25.11**	**269**	T	T	T	14 27 59.7	
	baz=118,slow=75,SNR=4.2							
H11N3	**WAKE ISLAND Hyl**	**25.54**	**270**	T	T	T	14 28 20.4	
	baz=122							
H11N1	**WAKE ISLAND Hyl**	**25.56**	**270**	T	T	T	14 28 21.4	
	baz=122							
H11N2	**WAKE ISLAND Hyl**	**25.56**	**270**	T	T	T	14 28 21.7	
	baz=122							
BVAR	**Borovoye Array**	**148.74**	**44**	PKPbc	**PKPbc**	**PKPbc**	**12 11 06.2**	**+0.8**
	comp=E,0.5nm,0.7s,baz=316,slow=4.0,SNR=3.0							
KURBB	**Kurchatov Arra**	**154.33**	**45**	PKPbc	**PKPbc**	**PKPbc**	**12 11 18.7**	**+0.4**
	comp=E,0.3nm,0.8s,baz=295,slow=2.8,SNR=3.7							
KURK	**Kurchatov**	**154.34**	**45**	PKPbc	**PKPbc**	**PKPbc**	**12 11 18.7**	**+0.3**
ZALV	**Zalesovo Beam**	**155.76**	**33**	PKPab	**PKPab**	**PKPab**	**12 11 38.4**	**-0.1**
	comp=E,0.5nm,0.5s,baz=258,slow=5.5,SNR=2.4							
SONM	**Songino Array**	**167.57**	**2**	PKPab	**PKPab**	**PKPab**	**12 12 30.6**	**+0.2**
	comp=E,0.3nm,0.8s,baz=41,slow=4.6,SNR=3.1							

GUC 16 11:54:25.8±0.3,36°39S×73°40W,h6km±1km,ML4.1,1C,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.51**	**153**	*e*P	Pg	11 54 36.3	+0.5
CCSP				*e*S	Sb	11 54 44.1	-0.8
CCSP				IAML		11 54 46.1	
	comp=N,15μm,0.2s						
COCH	**Cobquecura**	**0.56**	**63**	*e*P	Pg	11 54 37.2	+0.6
COCH				*i* S	Sb	11 54 45.8	-0.4
LNCH	**Linares**	**1.56**	**70⇑**	*e*P	Pn	11 54 53.1	-0.8
LNCH				*e*S	Sn	11 55 14.2	-0.3
LNCH				IAML		11 55 19.0	
	comp=N,4μm,0.8s						
TALC	**Talca**	**1.74**	**56**	*i* P	Pn	11 54 56.2	-0.4
TALC				*i* S	Sn	11 55 19.1	0.0
TALC				IAML		11 55 24.2	
	comp=E,4μm,0.5s						

*IDC **16** 11:59:15.5±1.4,36°30S×73°46W,h0km,mb3.7/4,*
mb1 3.9/6,mb1mx3.8/23,mbtmp3.7/6,ML3.5/2,Error
ellipse: s-maj=40.5km s-min=28.9km az=87.0
*ISCJB **16** 11:59:16.5±1.1,36°24S±0°09×73°3W±0°2,h10km,mb3.8/3,*
Error ellipse: s-maj=21.6km s-min=11.4km az=21.0

ISC 16 11:59:17.6±1.1,36°3S±0°1×73°5W±0°2,h10km,n11,
σ2§43/15,mb4.1/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.97**	**154**	Pn	**Pn**	**12 00 33.2**	**+0.8**
	0.7nm,0.3s,baz=324,slow=14,SNR=9.0						
PLCA				Lg	Lg	12 01 48.0	
	1.8nm,0.3s,baz=352,slow=14,SNR=4.8						
AUSP	**Uspallata**	**5.28**	**41**	*e*P4	**Pn**	**12 00 37.7**	**+0.8**
AUSP				*e*S4	Sb	12 02 02.2	+8.5
RTLS	**Leoncito**	**5.66**	**39**	*e*P4	**Pn**	**12 00 42.8**	**+0.7**
RTLS				*e*S4	**Sb**	**12 02 10.6**	**+5.9**
CFAA	**Coronel Fontan**	**6.38**	**44**	Pn	**Pn**	**12 00 51.2**	**-0.5**
	0.4nm,0.3s,baz=213,slow=14,SNR=10						
CFAA				Sn	**Sn**	**12 02 02.4**	**-2.2**
	0.2nm,0.3s,baz=241,slow=19,SNR=2.4						
RTLL	**Cerro Villicun**	**6.46**	**41**	*e*P4	**Pn**	**12 00 52.5**	**-0.4**
RTLL				*e*S4	**Sb**	**12 02 25.2**	**-2.3**
LPAZ	**La Paz**	**20.49**	**15**	P	**P**	**12 03 57.6**	**+1.2**
	1.4nm,0.5s,baz=172,slow=8.1,SNR=4.7						
SIV	**San Ignacio**	**23.04**	**32**	P	**P**	**12 04 21.9**	**-1.2**
	6.3nm,0.9s,baz=228,slow=13,SNR=8.8						
TXAR	**Lajitas Array**	**71.20**	**332**	P	**P**	**12 10 36.6**	**-0.2**
	0.2nm,0.6s,baz=157,slow=7.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**86.07**	**71**	P	**P**	**12 11 57.8**	**-1.1**
	1.2nm,0.9s,baz=216,slow=5.8,SNR=3.9						
BVAR	**Borovoye Array**	**149.74**	**45**	PKPbc	**PKPdf**	**12 19 06.3**	**+3.9**
	0.3nm,0.4s,baz=296,slow=4.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**156.78**	**34**	PKP	**PKPdf**	**12 19 11.2**	**-1.3**
	0.3nm,0.3s,baz=315,slow=1.2,SNR=3.1						
ZALV				PKPab	**PKPab**	**12 19 40.4**	**-1.7**
	0.4nm,0.4s,baz=323,slow=4.5,SNR=3.1						

SJA 16 12:00:02.9±1.1,25°59S×67°21W,h75km,MD3.9,ML3.3,
Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.77**	**61**	*e*P	Pn	12 00 32.6	+0.7
SLA				*e*S	Sn	12 00 56.3	+2.5
SLA				AML	AML	12 01 02.4	
	comp=Z,217nm,0.5s						
AZAP	**Zapla**	**2.37**	**56**	*e*P4	Pn	12 00 43.9	+3.9
AZAP				*e*S4	Sn	12 01 13.8	+5.3
AZAP				AML	AML	12 01 21.5	
	comp=Z,201nm,0.5s						
ASTB	**Santa Barbara**	**2.97**	**57**	*e*P	Pn	12 00 51.0	+3.0
ASTB				*e*P	Pn	12 00 51.0	+3.0
CYA	**Choya**	**3.11**	**156**	*e*P	Pn	12 00 51.7	+2.0
CYA				*e*S	Sn	12 01 27.4	+1.6
ALOL	**LOMAS DE OLMED**	**3.44**	**60**	*e*P4	Pn	12 00 57.3	+3.2

*IDC **16** 12:13:00.2±1.0,20°30N×122°55E,h0km,mb3.7/9,*
mb1 3.9/9,mb1mx3.7/26,mbtmp3.7/9,Error ellipse:
s-maj=38.8km s-min=19.3km az=64.0
*ISCJB **16** 12:13:04.8±0.9,20°40N±0°08×122°3E±0°1,h31km,*
mb3.6/9,Error ellipse: s-maj=19.9km s-min=6.2km
az=33.4
*JMA **16** 12:13:09.3±0.4,20°57N×122°36E,h110km*

ISC 16 12:13:06.1±1.1,20°3N±0°1×122°3E±0°2,h31km,n20,
σ1§30/19,mb3.7/9,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**3.96**	**20**	*e*S	**Sn**	**12 14 48.8**	**-1.2**
JKRS	**Kuro-shima**	**4.19**	**22**	P	**Pn**	**12 14 08.8**	**+0.9**
JKRS				*e*S	**Sn**	**12 14 54.9**	**-0.9**
IRIF	**Iriomote-Funau**	**4.19**	**18**	*e*S	**Sn**	**12 14 54.5**	**-1.4**
JIJ	**Ishigaki jima**	**4.36**	**23**	P	**Pn**	**12 14 11.2**	**+1.0**
JIJ				*e*S	**Sn**	**12 14 58.0**	**-1.9**
JISG	**Ishigakijimahi**	**4.62**	**23**	P	**Pn**	**12 14 14.7**	**+0.9**
JTJ	**Tarama**	**4.82**	**27**	P	**Pn**	**12 14 18.9**	**+2.3**
JTJ				*e*S	**Sn**	**12 15 10.3**	**-1.1**
JIRB	**Irabujima**	**5.20**	**30**	*e*S	**Sn**	**12 15 21.5**	**+0.9**
KSRS	**Korea Array**	**17.75**	**15**	Pn	**P**	**12 17 13.2**	**+1.8**
	0.6nm,0.3s,baz=192,slow=11,SNR=7.6						
CMAR	**Chiang Mai Arr**	**22.12**	**269**	P	**P**	**12 18 00.9**	**+1.8**
	0.4nm,0.4s,baz=59,slow=5.5,SNR=4.8						
SONM	**Songino Array**	**30.31**	**339**	P	**P**	**12 19 13.8**	**-1.0**
	0.5nm,0.9s,baz=120,slow=8.8,SNR=3.4						
WRA	**Warramunga Arr**	**41.73**	**163**	P	P	12 20 48.4	-4.1
	0.8nm,0.9s,baz=342,slow=8.6,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**41.80**	**85**	T	T	13 05 59.1	
	baz=273						
H11S1	**WAKE ISLAND Hy**	**41.81**	**85**	T	T	13 06 02.3	
	baz=273						
H11S2	**WAKE ISLAND Hy**	**41.82**	**85**	T	T	13 06 03.4	
	baz=273						
MKAR	**Makanchi Array**	**41.86**	**319**	P	**P**	**12 20 52.8**	**-0.6**
	1.1nm,0.6s,baz=92,slow=7.5,SNR=11						
ZALV	**Zalesovo Beam**	**44.05**	**329**	P	**P**	**12 21 10.4**	**-0.5**
	0.8nm,0.6s,baz=120,slow=5.8,SNR=4.1						
ASAR	**Alice Springs**	**45.17**	**165**	P	**P**	**12 21 19.2**	**-1.0**
	0.3nm,0.6s,baz=350,slow=7.4,SNR=6.2						
KURBB	**Kurchatov Arra**	**45.74**	**322**	P	**P**	**12 21 24.6**	**+0.2**
	1.9nm,0.7s,baz=113,slow=8.0,SNR=20						
FINES	**FINESS Array B**	**75.28**	**330**	P	**P**	**12 24 45.4**	**-0.5**
	1.0nm,0.7s,baz=86,slow=5.7,SNR=3.5						
YKA	**Yellowknife Ar**	**86.09**	**23**	P	**P**	**12 25 43.4**	**-0.3**
	1.2nm,0.8s,baz=311,slow=4.6,SNR=26						

*ISCJB **16** 12:23:14.2±0.7,65°98N±0°03×150°44W±0°07,h6km±5km,*
mb3.6/9,Error ellipse: s-maj=5.1km s-min=3.6km
az=142.2
*IDC **16** 12:23:15.2±0.9,66°08N×150°55W,h0km,mb3.5/7,*
mb1 3.8/10,mb1mx3.6/30,mbtmp3.5/10,ML3.3/3,Error
ellipse: s-maj=46.5km s-min=10.1km az=37.0
*NEIC **16** 12:23:16.6,65°93N×150°33W,h20km,mb4.1/3,MW3.9,*
ML4.0(AEIC),Moment Tensor Solution. s12 Moment
tensor: Scale 1014Nm; Mrr=1.34; Mθθ=4.53; Mφφ=5.87;
Mrθ=3.04; Mθφ=5.16; Mφr=0.59; Best double couple:
M0=8.00000×1014 NP1:φs=20.00000°,δ70.00000°,
λ=15.00000°. NP2:φs=115.00000°,δ76.00000°,
λ=159.00000°. Principal axes: T 8.0400, Plg4.0000°,
Azm246.0000°; N 0.0000, Plg65.0000°, Azm148.0000°; P
=8.0400, Plg24.0000°, Azm338.0000°; After AEIC.

ISC 16 12:23:16.8±0.6,65°97N±0°03×150°40W±0°03,h17km±3km,
n66,σ1§70/93,mb3.5/9,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS06	**TAPS Pump Stn6**	**0.29**	**112**	P	**Pg**	**12 23 22.3**	**-0.9**
PS06				S	**Sg**	**12 23 26.3**	**-1.2**
MLY	**Manley**	**0.95**	**189**	P	**Pb**	**12 23 33.8**	**-1.1**
MLY				S	**Sb**	**12 23 45.5**	**-1.6**
COLD	**Coldfoot**	**1.27**	**3**	*e*Pg	**Pn**	**12 23 39.4**	**-0.3**
COLD				*e*Sg	**Sg**	**12 23 57.4**	**-0.5**
MDM	**Murphy Dome**	**1.36**	**137**	P	**Pn**	**12 23 41.1**	**+0.1**
MDM				S	**Sn**	**12 23 58.1**	**-0.5**
IM3	**Indian Mountai**	**1.37**	**272**	P	**Pn**	**12 23 40.6**	**-0.6**
COLA	**College**	**1.53**	**135**	*e*Pn	**Pn**	**12 23 42.2**	**-1.1**
COLA				*e*Sg	**Sg**	**12 24 05.0**	**-1.0**
GLM	**Gilmore Dome**	**1.59**	**127**	P	**Pn**	**12 23 43.1**	**-1.1**
GLM				S	**Sb**	**12 24 05.8**	**+0.1**
CCB	**Clear Creek Bu**	**1.71**	**139**	P	**Pn**	**12 23 44.5**	**-1.3**
CCB				S	**Sb**	**12 24 09.1**	**+0.1**
WRH	**Wood River Hil**	**1.79**	**146**	P	**Pn**	**12 23 45.7**	**-1.2**
WRH				S	**Sb**	**12 24 10.8**	**-0.3**
BWN	**Browne**	**1.84**	**167**	P	**Pn**	**12 23 47.6**	**0.0**
IL1	**Eielson Array**	**1.90**	**128**	P	**Pn**	**12 23 47.0**	**-1.3**
ILAR	**Eielson Array**	**1.90**	**128**	Pn	**Pn**	**12 23 48.2**	**-0.1**
	5.6nm,0.3s,baz=313,slow=14,SNR=178						
ILAR				Pg	**Pb**	**12 23 51.6**	**+0.7**
	78nm,0.3s,baz=314,slow=17,SNR=666						
ILAR				Lg	Lg	12 24 15.2	
	236nm,0.3s,baz=314,slow=32,SNR=58						
ILB	**Eielson Array**	**1.90**	**128**	P	**Pn**	**12 23 47.0**	**-1.3**
PS08	**TAPS Pump Stn8**	**2.08**	**132**	P	**Pn**	**12 23 49.9**	**-0.9**
HDA	**Harding Lake**	**2.14**	**136**	P	**Pn**	**12 23 50.4**	**-1.3**
FYU	**Fort Yukon**	**2.17**	**72**	P	**Pn**	**12 23 51.4**	**-0.8**
MCK	**McKinley**	**2.33**	**164**	*e*Pn	**Pn**	**12 23 53.7**	**-0.6**
MCK				*e*Sg	**Sb**	**12 24 28.4**	**+1.6**
KTH	**Kantishna Hill**	**2.43**	**186**	*e*Pn	**Pn**	**12 23 55.3**	**-0.5**
KTH				*e*Sg	**Sb**	**12 24 30.8**	**+1.0**
TRF	**Thorofare Moun**	**2.52**	**179**	*e*Pn	**Pn**	**12 23 56.6**	**-0.5**
TRF				*e*Sg	**Sb**	**12 24 34.0**	**+1.4**
RND	**Reindeer**	**2.65**	**165**	P	**Pn**	**12 23 58.5**	**-0.3**
CAST	**Castle Rocks**	**2.66**	**197**	P	**Pn**	**12 23 59.3**	**+0.4**
BM3	**Burnt Mountain**	**2.73**	**55**	P	**Pn**	**12 23 58.9**	**-0.9**
DDM	**Donnelly Dome**	**2.92**	**136**	P	**Pn**	**12 24 01.4**	**-1.1**
GCSA	**Galena City Sc**	**2.98**	**249**	P	**Pn**	**12 24 02.6**	**-0.6**
PPLA	**Purkeypile**	**3.18**	**195**	*e*Pn	**Pn**	**12 24 05.5**	**-0.6**
PPLA				*e*Sn	**Sn**	**12 24 47.1**	**+3.5**
DHY	**Denali Highway**	**3.18**	**154**	P	**Pn**	**12 24 06.6**	**+0.4**
PS10	**TAPS Pump St10**	**3.23**	**140**	P	**Pn**	**12 24 06.8**	**0.0**
SCRK	**Sand Creek**	**3.38**	**123**	P	**Pn**	**12 24 08.1**	**-0.8**
DOT	**Dot Lake**	**3.57**	**128**	*e*Pn	**Pn**	**12 24 09.9**	**-1.4**
DOT				*e*Sg	**Sb**	**12 25 06.0**	**+3.6**
PAX	**Paxson**	**3.69**	**142**	*e*Pn	**Pn**	**12 24 13.0**	**-0.1**
PAX				*e*Sn	**Sn**	**12 24 54.6**	**-1.5**
TT01	**Tatalina**	**3.92**	**221**	P	**Pn**	**12 24 15.0**	**-1.1**
EGAK	**Eagle**	**4.05**	**103**	*e*Pn	**Pn**	**12 24 16.6**	**-1.3**
EGAK				*e*Sg	**Sb**	**12 25 21.2**	**+5.1**
MENT	**Mentasta**	**4.19**	**133**	*e*Pn	**Pn**	**12 24 20.1**	**+0.1**
MENT				*e*Sg	**Sg**	**12 25 27.1**	**-4.2**
HARP	**HAARP**	**4.24**	**145**	P	**Pn**	**12 24 21.5**	**+0.9**
SCM	**Sheep Creek Mo**	**4.36**	**160**	P	**Pn**	**12 24 22.4**	**0.0**
PMR	**Palmer**	**4.43**	**172**	*e*Pn	**Pn**	**12 24 25.0**	**+1.9**
PMR				*e*Sg	**Sg**	**12 25 36.2**	**-2.5**
PS11	**TAPS Pump St11**	**4.46**	**149**	P	**Pn**	**12 24 24.9**	**+1.3**
SUA	**Susitna One**	**4.52**	**182**	P	**Pn**	**12 24 25.6**	**+1.0**
STLK	**Strandline Lak**	**4.53**	**189**	P	**Pn**	**12 24 25.6**	**+1.0**
BCA3	**Beaver Creek A**	**4.72**	**124**	P	**Pn**	**12 24 25.8**	**-1.4**
SPBG	**Spurr Blockage**	**4.80**	**191**	P	**Pn**	**12 24 29.1**	**+0.7**
CKL	**Chakachamna La**	**4.87**	**191**	P	**Pn**	**12 24 29.9**	**+0.7**
RC01	**Rabbit Creek A**	**4.90**	**176**	*e*Pn	**Pn**	**12 24 32.1**	**+2.4**
RC01				*e*Sn	**Sn**	**12 25 25.9**	**-0.1**
KLU	**Klutina**	**4.91**	**154**	P	**Pn**	**12 24 31.1**	**+1.3**
DAWY	**Dawson**	**5.04**	**107**	P	**Pn**	**12 24 30.8**	**-0.8**
VLZ	**Valdez**	**5.18**	**158**	P	**Pn**	**12 24 34.6**	**+1.2**
GLI	**Glacier Island**	**5.32**	**162**	P	**Pn**	**12 24 36.3**	**+1.0**
RSO	**Redoubt South**	**5.63**	**192**	*e*Pn	**Pn**	**12 24 38.3**	**-1.5**
	126nm,0.7s						
RSO				*e*Sn	**Sn**	**12 25 41.7**	**-2.3**
BMRM	**Bremner River**	**5.65**	**150**	*e*Pn	Pn	12 24 44.0	+4.1
	29nm,0.5s						
TNA	**Tin City**	**7.22**	**275**	*e*Pn	**Pn**	**12 25 02.4**	**+1.0**
	2μm,0.6s						
TNA				*e*Sn	**Sn**	**12 26 21.0**	**-1.8**
HYT	**Haines Junctio**	**7.74**	**126**	*e*Pn	**Pn**	**12 25 09.6**	**+0.9**
HYT				*e*Sn	**Sn**	**12 26 32.4**	**-3.5**
DLBC	**Dease Lake**	**12.08**	**119**	Pn	**Pn**	**12 26 09.6**	**+1.6**
	0.4nm,0.3s,baz=329,slow=13,SNR=7.4						
DLBC				Lg	Lg	12 29 34.2	
	0.3nm,0.3s,baz=231,slow=27,SNR=4.7						
YKA	**Yellowknife Ar**	**15.80**	**86**	Pn	**Pn**	**12 26 55.3**	**-2.8**
	0.1nm,0.3s,baz=304,slow=13,SNR=6.3						
BILL	**Bilibino**	**16.80**	**297**	*e*P	**P**	**12 27 13.9**	**+1.0**
	8.2nm,1.2s						
SEY	**Seymchan**	**24.12**	**290**	P	**P**	**12 28 30.8**	**-0.4**
	0.6nm,0.6s,baz=72,slow=19,SNR=5.3						
BSMT	**Bassess Peak**	**26.03**	**117**	*e*P	**P**	**12 28 51.9**	**+3.0**
	6.5nm,1.3s						
JTMT	**Jette**	**26.30**	**116**	*e*P	**P**	**12 28 53.6**	**+2.3**
	9.5nm,1.5s						
PDAR	**Pinedale Array**	**32.29**	**116**	P	**P**	**12 29 46.0**	**+1.4**
	0.4nm,0.8s,baz=316,slow=3.8,SNR=3.5						
NVAR	**Mina Array Bea**	**33.15**	**130**	P	P	12 29 55.8	+3.6
	1.9nm,0.8s,baz=314,slow=6.7,SNR=12						
TXAR	**Lajitas Array**	**46.39**	**119**	P	**P**	**12 31 45.1**	**+3.0**
	0.3nm,0.5s,baz=334,slow=6.0,SNR=2.9						
MDJ	**Mudanjiang**	**46.42**	**284**	P	**P**	**12 31 40.9**	**-1.2**
SONM	**Songino Array**	**52.33**	**304**	P	**P**	**12 32 28.6**	**+1.3**
	0.5nm,0.7s,baz=24,slow=6.3,SNR=4.3						
ZALV	**Zalesovo Beam**	**53.29**	**323**	P	**P**	**12 32 33.4**	**-0.7**
	0.3nm,0.3s,baz=37,slow=7.4,SNR=3.6						
HHC	**Hu-ho-hao-te**	**56.57**	**296**	*e*P	**P**	**12 32 58.8**	**+0.7**
HHC				pP	**pP**	**12 33 03.4**	**-0.2**
HHC				sP	**sP**	**12 33 06.5**	**+0.8**
HHC				PP	**PP**	**12 35 06.6**	**+3.0**
HHC				S	**S**	**12 40 44.5**	**-4.3**
HHC				sS	**sS**	**12 40 55.1**	**-2.7**
HHC				ScS	**ScS**	**12 42 43.9**	**-2.4**
MKAR	**Makanchi Array**	**60.51**	**321**	P	**P**	**12 33 24.8**	**-0.6**
	0.2nm,0.6s,baz=8.9,slow=10,SNR=3.6						
WMQ	**Urumqi**	**61.79**	**316**	*e*P	**P**	**12 33 35.6**	**+1.4**
WMQ				pP	**pP**	**12 33 43.0**	**+3.3**

*MOS **16** 12:25:22.7±1.0,17°55S×178°80W,h529km,mb5.2/51,*
Error ellipse: s-maj=9.0km s-min=6.6km az=54.7
*IDC **16** 12:25:23.8±0.9,17°69S×178°72W,h536km±8km,mb4.6/33,*
mb1 4.7/34,mb1mx4.7/35,mbtmp5.5/34,Error ellipse:
s-maj=10.9km s-min=7.5km az=151.0
*ISCJB **16** 12:25:23.7±0.7,17°78S±0°04×178°80W±0°03,*
h548km±8km,mb5.1/241,Error ellipse: s-maj=5.6km
s-min=3.4km az=160.9
*BJI **16** 12:25:24.9,17°18S×178°63W,h544km,mB5.0/31,*
mb4.8/47
*GCMT **16** 12:25:25.2±0.4,17°61S×178°62W,h575km±2km,*
MW5.4/66,Moment Tensor Solution. s66,c82; Duration:
1s2 Moment tensor: Scale 1017Nm; Mrr0.36±.04;
Mθθ0.50±.07; Mφφ-0.85±.06; Mrθ1.22±.07; Mθφ0.77±.07;
Mφr-0.26±.07; Best double couple: M0 1.64000×1017
NP1:φs114.00000°,δ81.00000°,λ50.00000°. NP2:
φs14.00000°,δ40.00000°,λ167.00000°. Principal axes: T
1.7110, Plg40.0000°, Azm348.0000°; N -0.1410,
Plg39.0000°, Azm121.0000°; P -1.5690, Plg26.0000°,
Azm234.0000°; nsta1 refers to body waves, cutoff=40s.
*NEIC **16** 12:25:25.2±0.3,17°72S×178°79W,h555km±3km,*
mb5.2/180 Error ellipse: s-maj=4.7km s-min=2.7km
az=144.0

ISC 16 12:25:25.0±0.3,17°77S±0°05×178°74W±0°05,
h556km±2km,n557km:pP-P,n1239,σ1§00/1317,mb5.1/240,
289C-244D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.06**	**270**	P	**P**	**12 26 42.0**	**+1.1**
	1μm,0.9s,SNR=49						
MSVF	**Nonsavu**	**3.06**	**270**	*e*P	**P**	**12 26 42.5**	**+1.6**
MSVF	**Nonsavu**	**3.06**	**270**	*e*P	**P**	**12 26 42.5**	**+1.6**
AFI	**Afiamalu**	**7.72**	**61**	*e*P	P	12 27 16.6	-3.8
AFI	**Afiamalu**	**7.72**	**61**	*e*P	P	12 27 16.6	-3.8
DZM	**Mont Dzumac**	**14.57**	**251**	P	**P**	**12 28 29.9**	**-0.2**
	6.0nm,0.3s,baz=78,slow=13,SNR=43						
DZM				ScP	**ScP**	**12 35 47.4**	**+3.7**
	0.4nm,0.3s,baz=117,slow=4.5,SNR=4.6						
DZM	**Mont Dzumac**	**14.57**	**251**	*e*P	**P**	**12 28 29.4**	**-0.7**
	198nm,0.7s						
DZM				*e*S	**S**	**12 31 02.2**	**-0.3**
DZM				ScP	**ScP**	**12 35 47.4**	**+3.7**
NOUC	**Port Laguerre**	**14.71**	**251**	*e*P	**P**	**12 28 29.2**	**-2.2**
KNTN	**Kanton**	**16.42**	**26**	*e*P	**P**	**12 28 46.8**	**-1.6**
	444nm,0.8s						

TAU	Tasmania Unive	38.13	222		P		P	12 31 57.9	+0.9
	comp=Z,974nm,0.8s,SNR=22								
TAU	Tasmania Unive	38.13	222		eP		P	12 31 57.6	+0.6
TAU					pmax		pmax		
	comp=Z,127nm,0.8s								
TAU	Tasmania Unive	38.13	222		eP		P	12 31 57.5	+0.6
	comp=Z,126nm,0.8s								
STKA	Stephens Creek	38.42	241		eP		P	12 32 00.5	+1.0
STKA					pmax		pmax		
	comp=Z,84nm,1.0s								
STKA	Stephens Creek	38.42	241		P		P	12 32 00.7	+1.2
	comp=Z,230nm,0.7s,baz=88,slow=9.3,SNR=906								
STKA					ScP		ScP	12 36 56.2	+2.3
	comp=Z,13nm,0.9s,baz=49,slow=3.2,SNR=3.2								
STKA	Stephens Creek	38.42	241		P		P	12 32 00.5	+1.0
	baz=40,SNR=582								
STKA	Stephens Creek	38.42	241		eP		P	12 32 00.5	+1.0
	comp=Z,84nm,1.0s								
STKA					ScP		ScP	12 36 56.2	+2.3
QIS	Mount Isa	39.37	259		P		P	12 32 06.6	-0.8
	baz=40,SNR=21								
JAY	Jayapura	42.56	286		P		P	12 32 33.5	+0.7
	comp=Z,101nm,1.0s,comp=Z,3μm								
GENI	Genyem	43.02	286		P		P	12 32 37.5	+1.1
	comp=Z,352nm,0.7s,comp=Z,4μm								
BBOO	Buckleboo	43.19	241		P		P	12 32 37.8	+0.4
	baz=44,SNR=1000								
BBOO	Buckleboo	43.19	241		eP		P	12 32 37.8	+0.4
	comp=Z,8μm,0.9s								
KKH	Kailua Kona	43.38	32		eP		P	12 32 45.3	+6.4
KKH					e*PP		pP	12 34 23.0	+4.7
KKH	Kailua Kona	43.38	32		eP		P	12 32 45.3	+6.4
KKH					epP		pP	12 34 22.9	+4.7
POHA	Pohakuloa	43.71	32		eP		P	12 32 41.9	+0.1
	comp=Z,116nm,0.8s								
KIP	Kipapa	43.93	28	⇓	eP		P	12 32 43.7	+0.5
KIP					pmax		pmax		
	comp=Z,316nm,1.3s								
KIP	Kipapa	43.93	28		eP		P	12 32 44.1	+0.9
	comp=Z,290nm,1.2s								
WB2	Warramunga Arr	44.33	259		eP		P	12 32 45.7	-0.7
WRAB	Tennant Creek	44.34	259		P		P	12 32 45.0	-1.5
	comp=Z,986nm,0.6s								
WRAB	Tennant Creek	44.34	259	d	iP		P	12 32 45.7	-0.7
WRAB					pmax		pmax		
	comp=Z,329nm,0.9s								
WRAB	Tennant Creek	44.34	259		eP		P	12 32 45.8	-0.7
	comp=Z,118nm,0.8s								
WRA	Warramunga Arr	44.34	259		P		P	12 32 46.1	-0.5
	comp=Z,91nm,0.7s,baz=94,slow=7.1,SNR=614								
WRA					ScP		ScP	12 37 20.4	+2.6
	comp=Z,11nm,1.0s,baz=85,slow=4.1,SNR=11								
WRA					S		S	12 38 35.5	-5.5
	comp=Z,7.1nm,0.9s,baz=92,slow=13,SNR=7.3								
ASAR	Alice Springs	44.52	254		P		P	12 32 48.5	+0.6
	comp=Z,772nm,0.6s,baz=88,slow=8.2								
ASAR					ScP		ScP	12 37 21.6	+3.0
	comp=Z,11nm,0.8s,baz=94,slow=4.2,SNR=9.1								
ASAR					S		S	12 38 41.9	-1.6
	comp=Z,22nm,1.0s,baz=87,slow=16,SNR=28								
KDU	Kakadu	47.24	269		P		P	12 33 08.4	-0.2
	baz=48,SNR=102								
MTN	Manton Dam	48.48	268		P		P	12 33 17.4	-0.5
	baz=50,SNR=84								
SAUI	Saumlaki	49.53	275		P		P	12 33 26.6	+1.0
	comp=Z,268nm,1.0s								
SAUI	Saumlaki	49.53	275		eP		P	12 33 26.7	+1.0
	comp=Z,349nm,1.2s								
WRKA	Warakurna	49.58	252		P		P	12 33 26.1	+0.1
	baz=51,SNR=607								
FORT	Forrest	49.78	244		P		P	12 33 26.9	-0.3
	baz=51,SNR=44								
FORT	Forrest	49.78	244		eP		P	12 33 26.7	-0.6
	comp=Z,504nm,0.6s								
KNRA	Kununurra	50.19	264		P		P	12 33 30.3	-0.1
	baz=51,SNR=118								
SWI	Sorong	51.90	283		P		P	12 33 43.6	+0.7
	comp=Z,345nm,0.9s,comp=Z,3μm								
FITZ	Fitzroy Crossi	52.74	261	⇓	P		P	12 33 49.0	+0.2
	baz=54,SNR=158								
FITZ	Fitzroy Crossi	52.74	261		eP		P	12 33 49.1	+0.4
	comp=Z,44nm,0.7s								
KMBL	Kambalda	55.09	244		P		P	12 34 04.6	-0.6
	baz=56,SNR=27								
LBMI	Labuha	55.48	282		P		P	12 34 09.1	+0.9
	comp=Z,142nm,1.1s,comp=Z,1μm								
SOEI	Soe	55.75	270		P		P	12 34 11.7	+1.5
	comp=Z,440nm,0.9s,comp=Z,4μm								
SOEI	Soe	55.75	270	⇑	P		P	12 34 10.9	+0.7
	baz=57,SNR=94								
SOEI	Soe	55.75	270		eP		P	12 34 11.6	+1.4
	comp=Z,331nm,0.9s								
TNTI	Ternate	56.12	283		eP		P	12 34 13.3	+0.7
	comp=Z,164nm,0.9s								
BATI	Baumata	56.22	269		P		P	12 34 15.0	+1.7
	comp=Z,91nm,0.8s,comp=Z,898nm								
BATI	Baumata	56.22	269		P		P	12 34 14.9	+1.7
	comp=Z,120nm,0.7s,baz=198,slow=1.5,SNR=23								
BATI					S		S	12 41 24.0	+2.5
	comp=Z,5.6nm,0.5s,baz=263,slow=22,SNR=8.4								
SANI	Sanana	56.41	280		P		P	12 34 14.6	0.0
	comp=Z,143nm,0.9s								
MBWA	Marble Bar	57.80	256		eP		P	12 34 23.7	-0.3
	comp=Z,94nm,0.8s								
MMRI	Maumere	57.98	271		eP		P	12 34 24.9	-0.4
	comp=Z,102nm,0.9s								
MEEK	Meekatharra	58.18	249		P		P	12 34 26.0	-0.5
	baz=59,SNR=67								
EDFI	Ende, Flores	58.47	271		P		P	12 34 28.3	-0.4
	comp=Z,116nm,0.9s,comp=Z,1μm								
CBIJ	Chichi jima	58.53	319		P		P	12 34 28.4	-0.3
JCJ	Chichijima	58.53	319		P		P	12 34 28.4	-0.3
	comp=Z,90nm,0.8s,baz=270,slow=18								
NWAO	Narrogin (SRO)	58.99	242		P		P	12 34 31.8	-0.1
	comp=Z,50nm,0.7s,baz=96,slow=5.8,SNR=27								
NWAO	Narrogin (SRO)	58.99	242		P		P	12 34 31.9	0.0
	baz=60,SNR=9.2								
BASI	Baing, Sumba	59.15	269		P		P	12 34 34.2	+1.0
	comp=Z,213nm,1.2s,comp=Z,2μm								
RKGY	Rocky Gully	59.16	240	⇑	P		P	12 34 32.7	-0.3
	baz=60,SNR=7.8								
BLDU	Ballidu	59.55	245		P		P	12 34 35.2	-0.4
	baz=61,SNR=36								
LUWI	Luwuk	59.77	279		P		P	12 34 37.6	+0.3
	comp=Z,173nm,1.2s,comp=Z,3μm								
LUWI	Luwuk	59.77	279	⇓	P		P	12 34 37.4	+0.1
	baz=61,SNR=7.2								
LUWI	Luwuk	59.77	279		eP		P	12 34 37.4	+0.1
	comp=Z,191nm,1.1s								
GTOI	Gorontalo	60.13	281		P		P	12 34 41.0	+1.3
	comp=Z,104nm,0.7s								
MORW	Morawa	60.24	246		P		P	12 34 40.0	-0.2
	baz=61,SNR=25								
SBA	Scott Base	60.53	183		eP		P	12 34 43.5	+2.2
SBA					pmax		pmax		
	comp=Z,80nm,1.1s								
SBA	Scott Base	60.53	183		eP		P	12 34 43.5	+2.2
	comp=Z,80nm,1.1s								
VNDA	Vanda	60.55	185		eP		P	12 34 42.7	+1.3
VNDA					pmax		pmax		
	comp=Z,69nm,1.5s								
VNDA	Vanda	60.55	185		P		P	12 34 42.8	+1.3
	comp=Z,19nm,0.9s,baz=357,slow=7.5,SNR=86								
VNDA	Vanda	60.55	185		eP		P	12 34 42.7	+1.3
	comp=Z,69nm,1.5s								
KAPI	Kappang	61.37	274		P		P	12 34 48.0	+0.2
	comp=Z,203nm,0.6s,SNR=5.7								
KAPI	Kappang	61.37	274		eP		P	12 34 48.0	+0.2
	comp=Z,77nm,1.4s								
SPSI	Sidrap Palu	61.67	275		P		P	12 34 49.1	-0.7
	comp=Z,71nm,0.9s								
GIRL	Giralia	62.63	253	⇓	P		P	12 34 56.6	+0.8
	baz=64,SNR=22								
DNP	Denpasar	64.66	269		P		P	12 35 08.2	-0.8
	comp=Z,290nm,0.8s								
JAGI	Jajag, Banyuwa	65.73	269		P		P	12 35 14.8	-0.9
	comp=Z,229nm,0.9s,comp=Z,2μm								
JAGI	Jajag, Banyuwa	65.73	269		P		P	12 35 14.5	-1.2
	baz=67,SNR=16								
JAGI	Jajag, Banyuwa	65.73	269		eP		P	12 35 14.5	-1.2
	comp=Z,170nm,0.9s								
MYLDM	Lahad Datu	65.97	284	⇑	P		P	12 35 16.8	-0.4
MYLDM	Lahad Datu	65.97	284		eP		P	12 35 20.5	+3.3
	comp=Z,35nm,1.0s								
TSM	Tawau	66.23	283	⇑	P		P	12 35 18.6	-0.2
SDKM	Sandakan	67.35	284	⇑	P		P	12 35 26.0	+0.2
MJAR	Matsushiro Arr	67.61	324		P		P	12 35 26.6	-0.2
	comp=Z,44nm,0.7s,baz=158,slow=6.5,SNR=126								
MAJO	Matsushiro	67.61	324	c	iP		P	12 35 26.5	-0.3
MAJO					pmax		pmax		
	comp=Z,368nm,0.7s								
MAJO	Matsushiro	67.61	324		eP		P	12 35 26.5	-0.3
	comp=Z,65nm,0.8s								
MAT	Matsushiro	67.61	324		P		P	12 35 26.3	-0.5
KKM	Kota Kinabalu	68.40	284	⇑	P		P	12 35 32.5	+0.2
WOJI	Wonogiri, Jawa	68.97	268		P		P	12 35 34.4	-1.1
	comp=Z,180nm,0.9s								
ERM	Erimo	69.12	331	⇓	eP		P	12 35 36.7	+0.9
ERM					pmax		pmax		
	comp=Z,86nm,1.4s								
UGM	Wanagama	69.33	268		P		P	12 35 37.7	-0.1
	comp=Z,275nm,0.7s								
UGM	Wanagama	69.33	268	⇓	P		P	12 35 37.4	-0.4
	baz=70,SNR=15								
UGM	Wanagama	69.33	268		eP		P	12 35 38.0	+0.2
	comp=Z,160nm,0.7s								
ADK	Adak	69.38	1		eP		P	12 35 36.1	-1.0
ADK					pmax		pmax		
	comp=Z,375nm,1.4s								
ADK	Adak	69.38	1		eP		P	12 35 36.1	-1.0
	comp=Z,375nm,1.4s								
SMRI	Semarang	69.65	269		eP		P	12 35 40.4	+0.8
	comp=Z,72nm,0.8s								
JNU	Nakatsue	69.82	316		P		P	12 35 40.5	+0.2
	comp=Z,20nm,1.0s,baz=6.3,slow=4.0,SNR=7.5								
BTM	Bintulu	70.31	280	⇑	P		P	12 35 43.2	-0.4
FX1	Attu Island--F	70.71	355		eP		P	12 35 44.3	-0.7
FX1	Attu Island--F	70.71	355		P		P	12 35 44.1	-0.8
	comp=Z,76nm,0.6s,baz=182,slow=3.2,SNR=28								
FX1	Attu Island--F	70.71	355		eP		P	12 35 44.2	-0.7
SBUM	Sibu	70.87	279	⇑	P		P	12 35 47.4	+0.6
SBUM	Sibu	70.87	279		eP		P	12 35 47.9	+1.0
	comp=Z,16nm,0.8s								
ASAJ	Asahikawa	71.01	332		eP		P	12 35 47.6	+0.7
	comp=Z,24nm,0.9s								
KPJI	Karang Pucung	71.01	268		P		P	12 35 48.5	+0.9
	comp=Z,140nm,0.7s								
CISI	Cisompet, Garu	72.01	268		P		P	12 35 52.9	-0.7
	baz=73,SNR=9.2								
CISI	Cisompet, Garu	72.01	268		eP		P	12 35 53.0	-0.7
	comp=Z,152nm,0.8s								
UNV	Unalaska Valle	72.10	8		eP		P	12 35 52.0	-1.0
	comp=Z,117nm,0.9s								
QSPA	South Pole Qui	72.28	180		eP		P	12 35 55.1	+0.9
	comp=Z,104nm,0.9s								
KSM	Kuching	72.35	277	⇑	P		P	12 35 55.9	+0.4
KSM	Kuching	72.35	277		eP		P	12 35 56.5	+1.1
	comp=Z,107nm,0.9s								
YSS	Yuzh-Sakhalins	73.16	334		eP		P	12 36 00.0	+0.8
YSS	Yuzh-Sakhalins	73.16	334		eP		P	12 36 00.1	+0.8
	comp=Z,48nm,0.7s								
PET	Petropavlovsk	73.17	346		iP		P	12 35 58.4	-0.8
PET					pmax		pmax		
	comp=Z,73nm,0.7s								
PET	Petropavlovsk	73.17	346		eP		P	12 35 59.0	-0.2
	comp=Z,47nm,0.8s								
PETK	Petropavlovsk-	73.47	345		P		P	12 36 00.8	-0.2
	comp=Z,78nm,0.7s,baz=140,slow=9.0,SNR=110								
FALS	False Pass	73.51	9		eP		P	12 35 59.9	-1.2
	comp=Z,37nm,1.2s								
CGJI	Cibinong	74.30	268		P		P	12 36 04.9	-1.6
	comp=Z,447nm,0.7s,comp=Z,5μm								
KSRS	Korea Array	74.39	318		P		P	12 36 07.5	+1.0
	comp=Z,7.8nm,0.7s,baz=129,slow=6.3,SNR=22								
KSAR	Wonju Array Be	74.41	318		P		P	12 36 07.6	+0.9
KSAR	Wonju Array Be	74.41	318		P		P	12 36 07.5	+0.9
SDPT	Sand Point	74.47	11		eP		P	12 36 05.1	-1.4
	comp=Z,108nm,0.9s								
CHGN	Chignik	75.75	12		eP		P	12 36 12.4	-1.2
BSC	Santa Cruz Isl	76.25	47	⇑	P		P	12 36 17.6	+0.6
	baz=76,SNR=8.2								
USRK	Ussuriysk Ar.	76.33	326		P		P	12 36 18.2	+1.1
	comp=Z,16nm,0.8s,baz=117,slow=3.8,SNR=26								
SBC	Santa Barbara	76.44	47	⇓	P		P	12 36 18.6	+0.7
	baz=77								
SCI	San Clemente I	76.48	49	⇓	P		P	12 36 18.6	+0.3
	baz=77,SNR=7.6								
SAO	San Andreas Ge	76.55	44		eP		P	12 36 19.4	+0.8
SAO					pmax		pmax		
	comp=Z,75nm,0.8s								
SAO	San Andreas Ge	76.55	44		eP		P	12 36 19.4	+0.8
	comp=Z,75nm,0.8s								
SMMC	Simmler	76.72	46	⇑	P		P	12 36 20.3	+0.7
	baz=77,SNR=14								
CIS	Catalina Islan	76.81	48	⇑	P		P	12 36 20.3	+0.2
	baz=77,SNR=5.1								
SII	Sitkinak Islan	76.87	14		eP		P	12 36 19.6	-0.3
	comp=Z,174nm,0.7s								
KIPM	Iron Peak	77.01	41		eP		P	12 36 22.3	+1.1
	comp=Z,70nm,1.1s								
FMP	Fort Macarthur	77.05	48	⇓	P		P	12 36 21.7	+0.3
	baz=77								
KMRM	Mail Ridge	77.12	40		eP		P	12 36 23.2	+1.5
	comp=Z,139nm,0.8s								
DECC	Green Verdugo	77.31	48	⇓	P		P	12 36 22.8	0.0
	baz=78								
PASC	Pasadena Art C	77.37	48		eP		P	12 36 23.4	+0.3
	comp=Z,38nm,0.8s								
ARVC	Arvin	77.42	47	⇑	P		P	12 36 23.8	+0.5
	baz=78,SNR=13								
109C	Camp Elliot, M	77.47	49	⇑	P		P	12 36 24.1	+0.4
	baz=78								
MWC	Mount Wilson	77.48	48		eP		P	12 36 24.3	+0.4
MWC					pmax		pmax		
	comp=Z,58nm,0.8s								
MWC	Mount Wilson	77.48	48		eP		P	12 36 24.3	+0.4
	comp=Z,58nm,0.8s								
KHMM	Horse Mountain	77.49	40		eP		P	12 36 25.2	+1.4
	comp=Z,58nm,1.0s								
MNAI	Manna	77.55	269	⇑	P		P	12 36 24.5	0.0
	baz=79,SNR=4.6								
NJ2	Nanjing	77.61	310		eP		P	12 36 23.9	-0.5
NJ2					PMZ				
	comp=Z,50nm,0.8s								
VES	Vestal, Richgr	77.63	46	⇑	P		P	12 36 24.5	0.0
	baz=78,SNR=32								
OHAK	Old Harbor	77.68	14		eP		P	12 36 23.9	-0.2
	comp=Z,132nm,0.9s								
BAR	Barrett	77.68	50		eP		P	12 36 25.3	+0.5
HABR	Khabarovsk	77.74	331	c	eP		P	12 36 23.5	-1.2
HABR					e			12 36 30.5	
HABR								12 39 29.1	
HABR					PPP		PPP	12 41 21.5	
HABR					eS		S	12 45 29.5	-2.4
HABR					e			12 45 48.6	
HABR					pmax		pmax		
	comp=Z,132nm,1.3s								
HABR					pmax		pmax		
	comp=E,56nm,1.8s								
HABR					pmax		pmax		
	comp=N,27nm,1.3s								
HABR					MLR		MLR		
	comp=Z,43nm,19.0s								
MURC	Murrieta	77.77	49	⇑	P		P	12 36 25.7	+0.4
	baz=78,SNR=14								
BFSC	Mount Baldy Ra	77.77	48	⇓	P		P	12 36 25.5	0.0
	baz=78,SNR=26								
RCTC	Rector, Farmer	77.78	45	⇑	P		P	12 36 25.2	0.0
	baz=78								
EDW2	Edwards Air Fo	77.88	47	⇓	P		P	12 36 26.4	+0.5
	baz=78,SNR=86								
MDJ	Mudanjiang	77.89	325		P		P	12 36 26.6	+1.0
MDJ					pP		pP	12 38 24.5	+1.4
MDJ					sP		sP	12 39 21.4	+1.4
MDJ					S		S	12 45 39.1	+5.4
MDJ					ScS		ScS	12 45 54.3	+0.4
MDJ					PMZ				
	comp=Z,89nm,1.0s								
MDJ					PMZ				
	comp=Z,190nm,4.0s								
MDJ	Mudanjiang	77.89	325		eP		P	12 36 26.6	+1.0
	comp=Z,68nm,0.8s								
ISA	Isabella, Lake	77.95	46		eP		P	12 36 27.0	+0.7
ISA					pmax		pmax		
	comp=Z,73nm,0.9s								
ISA	Isabella, Lake	77.95	46	⇓	P		P	12 36 27.1	+0.7
	baz=78,SNR=94								
ISA	Isabella, Lake	77.95	46		eP		P	12 36 27.0	+0.7
	comp=Z,73nm,0.9s								
CMB	Columbia Colle	77.96	43		eP		P	12 36 26.7	+0.4
CMB					pmax		pmax		
	comp=Z,60nm,0.9s								
CMB	Columbia Colle	77.96	43		eP		P	12 36 26.6	+0.4
	comp=Z,60nm,0.9s								
MONP	Monument Peak,	77.97	50	⇑	P		P	12 36 27.2	+0.6
	baz=78,SNR=66								
OHCM	Honcut	77.99	42		eP		P	12 36 26.4	+0.2
OHCM					epP		pP	12 38 26.8	+3.1
WDC	Whiskeytown Da	78.05	40		eP		P	12 36 27.3	+0.7
WDC					pmax		pmax		
	comp=Z,71nm,1.4s								
WDC	Whiskeytown Da	78.05	40		eP		P	12 36 27.3	+0.7
	comp=Z,71nm,1.4s								
N02D	Trinity Center	78.18	40	⇑	P		P	12 36 28.2	+0.8
	baz=78,SNR=14								
BBRC	Big Bear Solar	78.31	48	⇓	P		P	12 36 28.8	+0.4
	baz=78,SNR=6.1								
PFO	Pinyon Flats O	78.31	49		eP		P	12 36 28.6	+0.3
PFO					pmax		pmax		
	comp=Z,30nm,1.3s								
PFO	Pinyon Flats O	78.31	49	⇓	P		P	12 36 28.4	+0.1
	baz=78,SNR=16								
PFO	Pinyon Flats O	78.31	49		eP		P	12 36 28.6	+0.3
	comp=Z,30nm,1.3s								
M02C	Callahan	78.33	40	⇑	P		P	12 36 29.0	+0.8
	baz=78,SNR=14								
L02D	Cave Junction,	78.34	39	⇑	P		P	12 36 28.7	+0.5
	baz=78								
KDAK	Kodiak Island	78.35	14		P		P	12 36 27.3	-0.4
	comp=Z,697nm,0.9s,SNR=14								
KDAK	Kodiak Island	78.35	14		eP		P	12 36 27.5	-0.2
KDAK					pmax		pmax		
	comp=Z,107nm,0.9s								
KDAK	Kodiak Island	78.35	14		eP		P	12 36 27.5	-0.2
	comp=Z,107nm,0.9s								
LRMC	Laurel Mtn Rad	78.40	47	⇑	P		P	12 36 29.2	+0.4
	baz=79,SNR=16								
SWSC	Sam W. Stewart	78.45	50	⇑	P		P	12 36 29.4	+0.5
	baz=79,SNR=21								
MYKOM	Kota Tinggi	78.57	276		eP		P	12 36 30.8	+0.8
	comp=Z,65nm,1.4s								
RRX	Edison Barstow	78.57	48	⇓	P		P	12 36 30.0	+0.4
	baz=79								
YBH	Yreka Blue Hor	78.62	39		eP		P	12 36 30.7	+1.0
YBH					pmax		pmax		
	comp=Z,56nm,0.9s								
YBH	Yreka Blue Hor	78.62	39		P		P	12 36 30.8	+1.0
	comp=Z,44nm,0.8s,baz=174,slow=4.6,SNR=70								
YBH	Yreka Blue Hor	78.62	39		eP		P	12 36 30.7	+1.0
	comp=Z,56nm,0.9s								
LPIG	La Paz	78.65	60		P		P	12 36 31.4	+1.2
	comp=Z,12nm,0.3s,baz=184,slow=5.0,SNR=4.8								
MLAC	Mammoth, Mammo	78.76	44	⇑	P		P	12 36 31.1	+0.3
	baz=79								
MTUM	Tungsten Hills	78.80	45		eP		P	12 36 31.8	+0.9
BELC	Belle Mtn. Jos	78.83	49	⇓	P		P	12 36 31.7	+0.6
	baz=79,SNR=28								
WAKR	Walker	78.84	43		eP		P	12 36 31.9	+0.7
TIN	Tinemaha, Big	78.86	45	⇓	P		P	12 36 31.9	+0.7
	baz=79,SNR=10								
DAC	Darwin (Calif)	78.88	46		eP		P	12 36 31.8	+0.4
DAC					pmax		pmax		
	comp=Z,93nm,1.7s								
DAC	Darwin (Calif)	78.88	46		eP		P	12 36 31.8	+0.4
	comp=Z,93nm,1.7s								
GSC	Goldstone, Bar	78.92	47		eP		P	12 36 32.0	+0.5
GSC					pmax		pmax		
	comp=Z,55nm,1.4s								
GSC	Goldstone, Bar	78.92	47	⇓	P		P	12 36 31.8	+0.3
	baz=79,SNR=23								
GSC	Goldstone, Bar	78.92	47		eP		P	12 36 32.0	+0.5
	comp=Z,55nm,1.4s								
HUMO	Hull Mountain	78.99	38		eP		P	12 36 32.7	+1.1
	comp=Z,66nm,1.0s								
HEC	Hector,Ludlow	79.02	48	⇑	P		P	12 36 32.3	+0.3
	baz=79,SNR=40								
BC3	Big Chuckawall	79.05	49	⇓	P		P	12 36 33.1	+0.8
	baz=79,SNR=19								
QIZ	Qiongzhong	79.11	294		P		P	12 36 33.3	+0.6
QIZ					pP		pP	12 38 30.8	+0.2
QIZ					sP		sP	12 39 29.9	+2.5
QIZ					S		S	12 45 46.9	-0.5
QIZ					sS		sS	12 49 17.8	+0.3
QIZ					PMZ				
	comp=Z,91nm,5.3s								
M04C	Macdoel	79.18	40	⇑	P		P	12 36 33.5	+0.7
	baz=79,SNR=18								
GLA	Glamis	79.21	50		eP		P	12 36 34.3	+1.3
GLA					pmax		pmax		
	comp=Z,51nm,0.9s								
GLA	Glamis	79.21	50	⇑	P		P	12 36 33.9	+0.9
	baz=79,SNR=10								
GLA	Glamis	79.21	50		eP		P	12 36 34.3	+1.3
	comp=Z,51nm,0.9s								
GRAC	Grapevine Rang	79.42	46	⇑	P		P	12 36 34.7	+0.7
	baz=80,SNR=16								
I03D	Drain, OR	79.42	37	⇓	P		P	12 36 34.1	+0.3
	baz=80,SNR=5.8								
GMRC	Granite Mounta	79.47	48	⇓	P		P	12 36 34.7	+0.2
	baz=80,SNR=25								
FURC	Furnace Creek,	79.49	46	⇑	P		P	12 36 34.9	+0.6
	baz=80,SNR=22								
IRM	Iron Mountain	79.52	49	⇑	P		P	12 36 35.2	+0.6
	ba

W13A **Hualapai Mount** 80.89 49 ⇊P P 12 36 42.5 +0.6
baz=81,SNR=12
TIA **Tai'an** 80.92 313 ⇊P P 12 36 42.8 +0.9
PINOR **Pine Mountain** 80.93 38 eP P 12 36 42.9 +1.2
comp=Z,112nm,1.2s
I05D **Terrebonne, OR** 80.97 38 ⇊P P 12 36 42.1 +0.2
baz=81,SNR=20
Y14A **Wickenburg** 80.97 50 ⇊P P 12 36 42.7 +0.5
baz=81
E03A **Leam** 81.03 35 eP P 12 36 38.5 -3.6
comp=Z,94nm,0.9s
F04D **Rainier, OR** 81.05 36 ⇑P P 12 36 43.1 +0.8
baz=81
SEW **Seward** 81.16 14 eP P 12 36 42.0 -0.4
comp=Z,58nm,0.8s
F04A **Amboy** 81.29 36 eP P 12 36 43.8 +0.3
comp=Z,122nm,1.4s
BMN **Battle Mountai** 81.32 43 eP P 12 36 44.6 +0.6
BMN pmax pmax
comp=Z,76nm,1.0s
BMN **Battle Mountai** 81.32 43 eP P 12 36 44.5 +0.6
comp=Z,76nm,1.0s
R11A **Troy Canyon, C** 81.32 45 ⇊P P 12 36 44.3 +0.2
baz=82,SNR=36
R11A **Troy Canyon, C** 81.32 45 eP P 12 36 44.4 +0.2
comp=Z,28nm,1.1s
NLWA **Neilton Lookou** 81.38 34 eP P 12 36 44.5 +0.5
comp=Z,62nm,1.1s
VLL **Laurance Lake** 81.43 37 P P 12 36 44.6 +0.3
GAMB **Gambell** 81.47 3 eP P 12 36 44.1 +0.2
comp=Z,53nm,0.7s
G05D **Wamic, OR** 81.50 37 ⇊P P 12 36 45.3 +0.6
baz=82,SNR=11
WVOR **Wild Horse Val** 81.51 40 eP P 12 36 45.4 +0.5
WVOR pmax pmax
comp=Z,97nm,1.0s
WVOR **Wild Horse Val** 81.51 40 eP P 12 36 45.4 +0.5
comp=Z,97nm,1.0s
SPU **Mount Spurr** 81.54 13 eP P 12 36 42.9 -1.5
TDL **Tradedollar La** 81.65 36 P P 12 36 46.2 +0.7
TUC **Tucson** 81.87 52 eP P 12 36 47.5 +0.6
TUC pmax pmax
comp=Z,59nm,1.0s
TUC **Tucson** 81.87 52 eP P 12 36 47.5 +0.6
comp=Z,59nm,1.0s
TUC ePP pP 12 38 49.2 +3.3
G06A **Carlson Farm,** 81.89 37 eP P 12 36 47.0 +0.3
comp=Z,34nm,0.9s
I07A **Izee** 81.90 39 eP P 12 36 46.7 -0.1
comp=Z,73nm,0.8s
RC01 **Rabbit Creek A** 81.97 14 eP P 12 36 45.9 -0.7
comp=Z,101nm,1.1s
IPM **Ipoh** 82.09 277 eP P 12 36 48.9 +0.6
comp=Z,75nm,1.1s
LON **Longmire** 82.11 36 eP P 12 36 47.6 -0.2
LON pmax pmax
comp=Z,14nm,0.8s
LON **Longmire** 82.11 36 eP P 12 36 47.6 -0.2
comp=Z,14nm,0.8s
D05A **Enumclaw** 82.27 35 eP P 12 36 49.3 +0.8
comp=Z,152nm,1.3s
FMW **Mount Fremont** 82.30 35 P P 12 36 49.0 +0.1
X16A **Lo Mia Camp, P** 82.34 50 ⇑P P 12 36 50.5 +1.1
baz=82
BBB **Bella Bella** 82.35 29 P P 12 36 49.0 +0.4
comp=Z,37nm,0.9s,baz=260,slow=2.1,SNR=7.1
PGC **Sidney** 82.37 33 eP P 12 36 49.0 +0.1
comp=Z,3.3nm,1.1s
ARUT **Antelope Range** 82.51 47 eP P 12 36 50.6 +0.4
ARUT pmax pmax
comp=Z,887nm,1.2s
ARUT **Antelope Range** 82.51 47 eP P 12 36 50.6 +0.4
comp=Z,887nm,1.2s
PMR **Palmer** 82.55 14 eP P 12 36 48.7 -0.8
PMR pmax pmax
comp=Z,137nm,1.3s
PMR **Palmer** 82.55 14 eP P 12 36 48.7 -0.8
comp=Z,138nm,1.3s
319A **Douglas** 82.60 54 ⇑P P 12 36 52.0 +1.4
baz=83
RAGM **Ragged Mountai** 82.61 16 eP P 12 36 49.7 -0.2
comp=Z,91nm,1.2s
U15A **North Rim** 82.67 48 ⇑P P 12 36 52.1 +1.1
baz=83
KULM **Kulim** 82.70 278 eP P 12 36 52.5 +1.1
comp=Z,20nm,0.9s
KULM ePP PP 12 40 10.8 -0.9
ELK **Elko** 82.78 43 eP P 12 36 51.9 +0.4
ELK pmax pmax
comp=Z,44nm,0.9s
ELK **Elko** 82.78 43 eP P 12 36 51.9 +0.4
comp=Z,44nm,0.9s
WUAZ **Wupatki** 82.90 49 ⇑P P 12 36 53.3 +1.2
baz=83
WUAZ **Wupatki** 82.90 49 eP P 12 36 53.1 +1.0
comp=Z,69nm,1.0s
G08A **Pilot Rock** 82.90 38 eP P 12 36 52.2 +0.3
comp=Z,61nm,1.0s
DIV **Divide** 82.95 15 eP P 12 36 51.1 -0.5
comp=Z,110nm,0.8s
LTY **Liberty** 83.04 36 eP P 12 36 52.3 -0.1
comp=Z,43nm,1.0s
PPLA **Purkeypile** 83.07 12 eP P 12 36 50.4 -1.9
comp=Z,47nm,1.3s
E07A **Sunnyside** 83.10 37 eP P 12 36 53.1 +0.5
comp=Z,86nm,1.0s
BMRM **Bremner River** 83.12 16 eP P 12 36 51.8 -0.6
comp=Z,81nm,0.8s
HAWA **Hanford** 83.19 37 eP P 12 36 53.3 +0.3
comp=Z,84nm,1.0s
A05A **Maple Falls** 83.30 34 eP P 12 36 53.4 -0.1
comp=Z,16nm,0.8s
B06A **Marblemount** 83.34 34 eP P 12 36 53.7 0.0
comp=Z,43nm,1.0s
ETW **Entiat** 83.43 35 P P 12 36 54.5 +0.1
BJT **Baijiatuau** 83.46 315 eP P 12 36 55.5 +0.9
BJT pmax pmax
comp=Z,15nm,0.4s
BJT **Baijiatuau** 83.46 315 eP P 12 36 55.5 +0.9
comp=Z,14nm,0.4s
BJI **Beijing** 83.47 316 P P 12 36 55.4 +0.8
BJI PMZ
comp=Z,36nm,0.9s
BJI PMZ
comp=Z,200nm,3.6s
TNA **Tin City** 83.48 5 eP P 12 36 54.1 0.0
comp=Z,102nm,1.0s
TNA ePP PP 12 40 15.2 -1.7
X18A **Snowflake** 83.49 51 ⇑P P 12 36 55.8 +0.7
baz=84
WRAK **Wrangell Islan** 83.52 24 eP P 12 36 55.2 +0.8
comp=Z,47nm,0.8s
PSI **Prapat** 83.56 275 P P 12 36 55.1 -0.8
comp=Z,18nm,0.5s,baz=124,slow=3.9,SNR=22
PSI **Prapat** 83.56 275 ⇊P P 12 36 54.6 -1.2
baz=84,SNR=14
CAST **Castle Rocks** 83.56 12 eP P 12 36 52.9 -1.7
SEY **Seymchan** 83.58 347 P P 12 36 54.3 -0.3
comp=Z,110nm,0.7s,baz=158,slow=5.1,SNR=656
BMO **Blue Mountains** 83.64 39 eP P 12 36 55.4 -0.1
BMO pmax pmax
comp=Z,24nm,0.9s
BMO **Blue Mountains** 83.64 39 eP P 12 36 55.4 -0.1
comp=Z,24nm,0.9s
WTV **Waterville** 83.69 36 P P 12 36 55.6 -0.1
MVU **Marysvale** 83.70 46 eP P 12 36 57.2 +1.0
comp=Z,37nm,1.0s
MFID **Camas Ranch** 83.78 41 eP P 12 36 56.7 +0.5
comp=Z,62nm,1.0s
MAW **Mawson** 83.88 200 P P 12 36 56.2 0.0
comp=Z,53nm,0.8s,baz=137,slow=3.8,SNR=9.1
D08A **Wollman Farm,** 83.91 36 eP P 12 36 57.0 +0.4
comp=Z,58nm,0.9s
W18A **Petrified Fore** 83.91 50 ⇊P P 12 36 57.7 +0.5
baz=84
W18A **Petrified Fore** 83.91 50 eP P 12 36 58.3 +1.2
comp=Z,45nm,1.3s
KTH **Kantishna Hill** 83.91 12 eP P 12 36 54.8 -1.6
comp=Z,72nm,0.9s
ENH **Enshi** 83.93 304 eP P 12 36 58.6 +1.4
comp=Z,23nm,1.0s
TRF **Thorofare Moun** 83.95 12 eP P 12 36 55.3 -1.4
comp=Z,138nm,0.8s
SAW **Saint Andrews** 84.00 36 P P 12 36 57.1 -0.1
E09A **Wood Farm, Sta** 84.05 37 eP P 12 36 57.5 +0.2
comp=Z,121nm,1.6s
DUG **Dugway, Tooele** 84.11 45 eP P 12 36 58.2 +0.2
DUG pmax pmax
comp=Z,46nm,1.7s
DUG **Dugway, Tooele** 84.11 45 ⇊P P 12 36 58.3 +0.2
baz=84
DUG **Dugway, Tooele** 84.11 45 eP P 12 36 58.2 +0.2
comp=Z,46nm,1.7s
OD2 **Odessa Site #2** 84.22 36 P P 12 36 58.3 +0.1
121A **Cookes Peak, D** 84.25 53 ⇊P P 12 36 59.9 +1.0
baz=84
121A **Cookes Peak, D** 84.25 53 eP P 12 36 59.5 +0.6
comp=Z,20nm,0.9s
F10A **Beach Ranch, E** 84.29 38 eP P 12 36 58.5 -0.2
comp=Z,101nm,1.0s
BGU **Big Grassy Mou** 84.32 44 eP P 12 36 59.3 +0.2
comp=Z,3.7nm,1.0s
BGU ePP PP 12 40 22.9 -1.6
MCK **McKinley** 84.48 13 eP P 12 36 58.1 -1.0
MCK pmax pmax
comp=Z,110nm,1.0s
MCK **McKinley** 84.48 13 eP P 12 36 58.1 -1.0
comp=Z,110nm,1.0s
NLU **North Lily Min** 84.49 45 eP P 12 37 00.7 +0.8
comp=Z,51nm,2.1s
PAX **Paxson** 84.60 15 eP P 12 36 58.7 -1.1
PAX pmax pmax
comp=Z,39nm,0.9s
PAX **Paxson** 84.60 15 eP P 12 36 58.7 -1.1
comp=Z,39nm,0.9s
SKAG **Skagway** 84.69 21 eP P 12 37 00.7 +0.6
comp=Z,155nm,1.7s
C09A **Chrisman Ranch** 84.69 36 eP P 12 37 00.8 +0.3
comp=Z,46nm,1.0s
GYA **Guiyang** 84.69 300 P P 12 37 01.0 -0.1
GYA pP pP 12 39 03.8 +2.6
GYA PP PP 12 40 29.8 +2.1
GYA SKS SKSac 12 46 28.5 -4.3
GYA S S 12 46 41.0 -2.2
GYA sS sS 12 50 16.3 -0.8
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,140nm,5.8s
HLID **Hailey** 84.74 41 ⇑P P 12 37 01.9 +0.8
baz=85,SNR=69
HLID **Hailey** 84.74 41 eP P 12 37 01.8 +0.7
comp=Z,42nm,0.9s
HLID ePP PP 12 40 25.8 -2.0
TMUT **Trail Mountain** 84.77 46 eP P 12 37 02.5 +1.0
comp=Z,32nm,0.9s
MPU **Maple Canyon** 84.82 45 eP P 12 37 02.2 +0.7
comp=Z,17nm,1.0s
SPUT **South Promonto** 84.89 44 eP P 12 37 02.6 +0.8
comp=Z,66nm,1.6s
SURA **Surathani** 84.90 281 P P 12 37 04.9 +2.7
comp=Z,25nm,0.9s,comp=Z,2μm
HVU **Hansel Valley** 84.90 43 eP P 12 37 02.3 +0.4
HVU e 12 40 28.8
HVU pmax pmax
comp=Z,82nm,1.5s
HVU **Hansel Valley** 84.90 43 eP P 12 37 02.3 +0.4
comp=Z,82nm,1.5s
HVU ePP PP 12 40 28.8 -0.3
MENT **Mentasta** 85.00 15 eP P 12 37 01.1 -0.5
HYT **Haines Junctio** 85.03 19 eP P 12 37 02.0 0.0
CTU **Camp Tracy** 85.06 45 eP P 12 37 03.3 +0.6
comp=Z,17nm,0.9s
SRU **San Rafael Swe** 85.15 46 eP P 12 37 03.6 +0.4
SRU pmax pmax
comp=Z,29nm,0.8s
SRU **San Rafael Swe** 85.15 46 eP P 12 37 03.6 +0.4
comp=Z,29nm,0.8s
Z22A **Elephant Butte** 85.18 53 ⇑P P 12 37 04.5 +1.2
baz=85
DAU **Daniels Canyon** 85.26 45 eP P 12 37 04.7 +0.9
DAU **Daniels Canyon** 85.26 45 eP P 12 37 04.7 +0.9
TCUT **Toone Canyon** 85.49 44 eP P 12 37 05.0 +0.2
comp=Z,17nm,0.6s
DOT **Dot Lake** 85.52 15 eP P 12 37 03.4 -0.7
comp=Z,61nm,0.8s
LAZ **Ladron** 85.53 52 eP P 12 37 05.8 +0.8
comp=Z,2.9nm,0.8s
LENM **Lemitar** 85.55 52 eP P 12 37 05.9 +0.7
Y22D **IRIS PASSCAL I** 85.55 52 ⇑P P 12 37 06.1 +0.9
baz=86
NEW **Newport** 85.59 36 eP P 12 37 04.6 -0.2
NEW pmax pmax
comp=Z,28nm,0.8s
NEW **Newport** 85.59 36 P P 12 37 04.7 -0.2
comp=Z,24nm,0.7s,baz=236,slow=4.5,SNR=51
NEW **Newport** 85.59 36 ⇑P P 12 37 04.8 0.0
baz=86,SNR=20
NEW **Newport** 85.59 36 eP P 12 37 04.6 -0.2
comp=Z,28nm,0.8s
IM04 **Indian Mountai** 85.59 10 eP P 12 37 03.6 -0.8
SURT **Suratani** 85.61 281 P P 12 37 08.7 +3.0
comp=Z,8.3nm,0.7s
HWUT **Hardware Ranch** 85.61 44 eP P 12 37 05.1 -0.3
comp=Z,9.7nm,0.8s
COLA **College** 85.71 13c iP P 12 37 03.4 -1.5
COLA pmax pmax
comp=Z,415nm,1.2s
COLA **College** 85.71 13 eP P 12 37 03.7 -1.3
comp=Z,158nm,1.4s
MVCO **Mesa Verde** 85.73 49 P P 12 37 06.5 +0.5
baz=86
MVCO **Mesa Verde** 85.73 49 eP P 12 37 06.1 0.0
comp=Z,48nm,2.0s
MNTX **Cornudas Mount** 85.76 55 eP P 12 37 06.9 +0.9
comp=Z,24nm,1.1s
ILAR **Eielson Array** 85.83 13 P P 12 37 04.7 -0.9
comp=Z,24nm,0.8s,baz=221,slow=5.0,SNR=223
ILAR PP PP 12 40 35.7 -0.1
comp=Z,4.6nm,1.0s,baz=219,slow=7.4,SNR=4.4
ILAR PKKPbc PKKPdf 12 55 02.2 +3.5
comp=Z,0.3nm,0.6s,baz=327,slow=2.4,SNR=6.0
DLBC **Dease Lake** 85.83 23 P P 12 37 06.1 +0.3
comp=Z,24nm,0.9s,baz=226,slow=4.9,SNR=32
LPM **Los Pinos Moun** 85.87 52 eP P 12 37 07.6 +0.9
XAN **Xi'an** 85.93 308 P P 12 37 07.9 +1.1
XAN PMZ
comp=Z,16nm,1.0s
PV04 **Paradox Valley** 85.96 48 eP P 12 37 07.5 +0.5
HIA **Hailar** 86.08 325c iP P 12 37 07.2 +0.1
HIA pmax pmax
comp=Z,42nm,1.6s
PV01 **Paradox Valley** 86.08 48 eP P 12 37 07.8 +0.1
comp=Z,1μm,0.7s
PV01 epP pP 12 39 09.5 +1.2
PBKT **Sadao Pong** 86.09 289 P P 12 37 09.9 +2.1
comp=Z,8.8nm,0.9s,comp=Z,1μm
TXAR **Lajitas Array** 86.19 58 P P 12 37 09.7 +1.5
comp=Z,34nm,0.8s,baz=223,slow=6.1,SNR=347
TXAR PKKP PKKPdf 12 54 56.8 0.0
comp=Z,0.3nm,0.8s,baz=45,slow=2.7,SNR=2.5
TXAR PKKPbc PKKPbc 12 55 03.9 +0.2
comp=Z,0.1nm,0.4s,baz=141,slow=2.8,SNR=6.1
ANMO **Albuquerque** 86.26 52ce P 12 37 08.8 +0.2
ANMO pmax pmax
comp=Z,109nm,1.2s
ANMO **Albuquerque** 86.26 52 P P 12 37 08.9 +0.4
comp=Z,25nm,1.1s,baz=218,slow=5.2,SNR=46
ANMO **Albuquerque** 86.26 52 eP P 12 37 09.0 +0.4
comp=Z,22nm,1.0s
ANMO epP pP 12 39 11.6 +2.3
BILL **Bilibino** 86.27 354c iP P 12 37 07.2 -0.3
BILL pmax pmax
comp=Z,93nm,1.2s
BILL **Bilibino** 86.27 354 eP P 12 37 07.2 -0.3
comp=Z,57nm,0.9s
V22A **San Miguel Ran** 86.33 51 ⇑P P 12 37 09.3 +0.3
baz=86
MCMT **McKenzie Canyo** 86.34 41 P P 12 37 09.4 +0.6
AHID **Auburn Hatcher** 86.46 43 eP P 12 37 10.1 +0.7
comp=Z,21nm,0.8s
U22A **Llaves** 86.56 50 ⇑P P 12 37 10.0 0.0
baz=87
Y24A **Capitan** 86.61 53 ⇑P P 12 37 10.1 -0.2
baz=87,SNR=75
MSO **Missoula** 86.68 38 ⇑P P 12 37 09.8 -0.3
baz=87,SNR=18
MSO **Missoula** 86.68 38 eP P 12 37 09.4 -0.7
comp=Z,15nm,1.0s
BSMT **Bassoo Peak** 86.70 37 eP P 12 37 10.1 -0.3
DLMT **Dillon** 86.76 40 eP P 12 37 11.2 +0.5
comp=Z,43nm,0.9s
V23A **Ortiz Mt. (NFS** 86.80 51 ⇊P P 12 37 12.2 +1.1
baz=87,SNR=17
TPAW **Teton Pass** 86.90 42 eP P 12 37 12.1 +0.6
comp=Z,42nm,0.9s
REDW **Red Top Meadow** 86.91 43 eP P 12 37 11.9 +0.4
comp=Z,80nm,1.0s
FXWY **Fox Creek** 86.92 42 eP P 12 37 12.0 +0.5
comp=Z,25nm,0.9s
FXWY ePP PP 12 40 43.6 -1.6
JTMT **Jette** 86.94 38 eP P 12 37 10.7 -0.7
HHC **Hu-ho-hao-te** 86.95 315 eP P 12 37 12.8 +1.2
HHC pP pP 12 39 12.3 -0.2
HHC sP sP 12 40 04.9 -3.6
HHC PP PP 12 40 47.9 +2.5
HHC SKS SKSac 12 46 47.6 +1.6
HHC S S 12 47 04.8 +0.8
HHC sS sS 12 50 34.9 -4.6
HHC PMZ
comp=Z,30nm,0.5s
HHC PMZ
comp=Z,380nm,6.2s
SWMT **Swartz Lake** 86.98 38 eP P 12 37 11.0 -0.6
U23A **El Rito** 87.03 50 ⇑P P 12 37 12.3 +0.1
baz=87,SNR=15
DAWY **Dawson** 87.05 16 eP P 12 37 11.0 -0.3
LRM **Limekiln Ridge** 87.07 40 eP P 12 37 12.3 +0.1
LRM ePP PP 12 40 44.1 -2.2
IMW **Indian Meadow** 87.10 42 eP P 12 37 13.2 +0.7
comp=Z,64nm,0.8s
IMW ePP PP 12 40 44.5 -2.1
CHMT **Chamberlain Mo** 87.13 39 eP P 12 37 12.1 -0.3
UTHA **Uthaitani** 87.14 287 P P 12 37 15.1 +2.3
comp=Z,3.6nm,0.8s
SLMT **Seeley Lake** 87.15 38 eP P 12 37 11.6 -0.8
W24A **Lazy 6 Ranch,** 87.16 52 ⇑P P 12 37 12.6 -0.2
baz=87,SNR=18
YBMT **Yellow Bay** 87.16 38 eP P 12 37 11.7 -0.7
S22A **4UR Ranch, Cre** 87.16 49 ⇑P P 12 37 13.4 +0.5
baz=87,SNR=35
EGAK **Eagle** 87.17 15 eP P 12 37 11.3 -0.5
comp=Z,30nm,0.8s
LOHW **Long Hollow** 87.18 42 eP P 12 37 13.3 +0.5
comp=Z,23nm,0.8s
LOHW ePP PP 12 40 44.9 -2.3
O20A **White River Ci** 87.19 46 ⇊P P 12 37 13.2 +0.4
baz=87,SNR=14
O20A **White River Ci** 87.19 46 eP P 12 37 13.3 +0.4
comp=Z,44nm,1.2s
QLMT **Earthquake Lak** 87.23 41 eP P 12 37 14.1 +1.1
FLWY **Flagg Ranch** 87.34 42 eP P 12 37 14.4 +0.9
comp=Z,65nm,0.9s
COLD **Coldfoot** 87.34 11 eP P 12 37 12.6 0.0
comp=Z,46nm,0.9s
I17A **Pilgrim Ck.** 87.34 42 ⇑P P 12 37 14.6 +1.2
baz=88,SNR=41
YFT **Old Faithful** 87.42 42 eP P 12 37 16.3 +2.4
comp=Z,46nm,0.9s
T23A **Casias Ranch,** 87.44 50 ⇊P P 12 37 14.4 +0.3
baz=88,SNR=6.3
X25A **Clemmons Ranch** 87.44 53 ⇊P P 12 37 13.8 -0.2
baz=88,SNR=9.1
YMR **Madison River** 87.44 41 eP P 12 37 15.2 +1.3
comp=Z,56nm,0.9s
V24A **Rampart Ranch,** 87.47 51 ⇊P P 12 37 14.6 +0.3
baz=88,SNR=15
BW06 **Boulder Array** 87.47 44 eP P 12 37 14.0 -0.1
comp=Z,52nm,1.1s
PDAR **Pinedale Array** 87.47 44 P P 12 37 14.4 +0.3
comp=Z,24nm,0.7s,baz=214,slow=3.2,SNR=198
PDAR PP PP 12 40 46.6 -2.9
comp=Z,3.3nm,1.0s,baz=248,slow=7.3,SNR=9.1
PDAR PKKPbc PKKPbc 12 54 58.6 -2.7
comp=Z,0.2nm,0.5s,baz=96,slow=5.5,SNR=3.7
PDAR SKKPbc SKKPbc 12 57 47.6 -1.1
comp=Z,0.7nm,0.8s,baz=94,slow=5.4,SNR=4.7
N20A **Spence Gulch,** 87.48 46 ⇊P P 12 37 14.5 +0.3
baz=88,SNR=23
KMI **Kunming** 87.49 297 P P 12 37 15.1 +0.5
KMI sP sP 12 40 13.4 +1.7
KMI S S 12 47 07.4 -2.5
KMI PMZ
comp=Z,13nm,1.0s
KMI PMZ
comp=Z,170nm,4.6s
BOZ **Bozeman (W)** 87.49 40 eP P 12 37 14.5 +0.4
BOZ pmax pmax
comp=Z,36nm,1.1s
BOZ **Bozeman (W)** 87.49 40 eP P 12 37 14.4 +0.4
comp=Z,36nm,1.1s
H17A **Grant Village** 87.56 42 ⇊P P 12 37 16.1 +1.5
baz=88,SNR=32
H17A **Grant Village** 87.56 42 eP P 12 37 16.5 +1.9
comp=Z,47nm,0.9s
YNR **Norris Junctio** 87.65 41 eP P 12 37 16.7 +1.8
comp=Z,33nm,1.1s
529A **Stev Forest Ra** 87.66 57 ⇑P P 12 37 15.5 +0.5
baz=88,SNR=17
SMCO **Snowmass** 87.66 48 eP P 12 37 15.7 +0.3
comp=Z,22nm,1.1s
KHLT **Khaolaem Dam** 87.67 286 P P 12 37 18.1 +2.8
comp=Z,4.0nm,1.1s,comp=Z,300nm
U24A **Moreno Valley** 87.74 51 ⇊P P 12 37 16.7 +1.1
baz=88
S23A **Nye Farm, Mont** 87.74 49 P P 12 37 16.2 +0.6
baz=88
WALA **Waterton Lakes** 87.82 37 eP P 12 37 15.5 +0.1
W25A **X Bar L Ranch,** 87.87 52 ⇑P P 12 37 16.1 0.0
baz=88,SNR=17
HRY **Holter Researc** 87.88 39 eP P 12 37 16.2 +0.4
UMPA **Umpang Tak** 87.88 288 P P 12 37 23.3 +7.0
comp=Z,58nm,0.5s,comp=Z,5μm
T24B **San Luis** 87.93 50 ⇑P P 12 37 17.0 +0.5
baz=88,SNR=6.7
LAMP **Lampang** 87.94 290 P P 12 37 18.4 +1.8
comp=Z,5.1nm,0.8s
P22A **Eagle** 87.99 47 ⇊P P 12 37 17.0 +0.4
baz=88,SNR=10
V25A **Rancho No Teng** 88.00 51 ⇑P P 12 37 16.9 +0.2
baz=88,SNR=12
J19A **Crowheart** 88.03 43 ⇑P P 12 37 16.8 +0.2
baz=88,SNR=48
R23A **Moffat** 88.06 49 P P 12 37 17.6 +0.6
baz=88
X26A **CR and CF Fran** 88.10 53 ⇊P P 12 37 17.4 +0.2
baz=88,SNR=6.7
429A **Davenport Ranc** 88.10 57 ⇊P P 12 37 17.8 +0.6
baz=88,SNR=80
228A **UT Block 9, Go** 88.11 56 ⇊P P 12 37 17.4 +0.3
baz=88,SNR=7.5
SDCO **Great Sand Dun** 88.12 49 eP P 12 37 17.9 +0.5
comp=Z,11nm,1.0s
H18A **Shoshone NF, C** 88.27 42 ⇊P P 12 37 18.3 +0.5
baz=88,SNR=11
S24A **Houchin Ranch,** 88.28 50 ⇊P P 12 37 18.6 +0.5
baz=88,SNR=11
Y27A **Causey** 88.33 54 ⇊P P 12 37 18.2 0.0
baz=88,SNR=19
W26A **Owens Ranch, T** 88.34 52 ⇑P P 12 37 18.0 -0.2
baz=88
329A **Wagon Wheel Ra** 88.35 56 ⇑P P 12 37 19.0 +0.7
baz=88
Q23A **Hartsel** 88.35 48 ⇊P P 12 37 19.2 +0.8
baz=88
O22A **Kremmling** 88.37 47 ⇊P P 12 37 18.9 +0.4
baz=88,SNR=31
530A **J-C Ranch, Com** 88.37 58 ⇑P P 12 37 19.0 +0.6
baz=88,SNR=19
U25A **Circle Dot Ran** 88.38 51 ⇊P P 12 37 18.4 0.0
baz=88,SNR=12
128A **Castleberry Fa** 88.38 55 ⇊P P 12 37 18.8 +0.4
baz=88,SNR=23
I19A **Meeteetse** 88.41 43 ⇊P P 12 37 19.0 +0.5
baz=89,SNR=20
CMAR **Chiang Mai Arr** 88.54 290 iP P 12 37 21.0 +1.6
CMAR pmax pmax
comp=Z,7.0nm,0.9s
CMAR **Chiang Mai Arr** 88.54 290 P P 12 37 21.0 +1.6
comp=Z,7.2nm,0.9s,baz=110,slow=2.7,SNR=43
P23A **Jefferson** 88.54 48 ⇊P P 12 37 19.8 +0.5
baz=89,SNR=9.7
R24A **Sanders Place,** 88.60 49 ⇑P P 12 37 19.6 +0.1
baz=89,SNR=8.3
V26A **Tequesquite Ra** 88.60 52 ⇑P P 12 37 19.1 -0.3
baz=89,SNR=7.6
CMMT **Chiang Mai** 88.65 290 P P 12 37 21.1 +1.2
comp=Z,13nm,1.0s
CHTO **Chiang Mai** 88.66 290 eP P 12 37 21.4 +1.5
CHTO pmax pmax
comp=Z,8.0nm,0.9s

CHTO	Chiang Mai	88.66	290	P		P	12 37 21.2 +1.3
	comp=Z,44nm,0.9s						
CHTO	Chiang Mai	88.66	290	eP		P	12 37 21.4 +1.5
	comp=Z,8.2nm,0.9s						
229A	Bryant Ranch,	88.67	56	⇓P		P	12 37 20.0 +0.3
	baz=89,SNR=10						
T25A	Trinidad	88.67	50	⇑P		P	12 37 21.0 +1.2
	baz=89,SNR=7.1						
MSTX	Muleshoe	88.67	54	⇑P		P	12 37 19.9 +0.1
	baz=89,SNR=16						
MSTX	Muleshoe	88.67	54	eP		P	12 37 20.0 +0.2
	comp=Z,42nm,0.9s						
X27A	F and S Farms,	88.68	53	⇓P		P	12 37 19.8 0.0
	baz=89,SNR=11						
430A	Baggett Ranch,	88.69	57	⇑P		P	12 37 20.2 +0.4
	baz=89,SNR=18						
H19A	Powell	88.70	42	⇑P		P	12 37 20.5 +0.8
	baz=89,SNR=37						
J20A	Shoshoni	88.70	44	⇓P		P	12 37 20.2 +0.5
	baz=89,SNR=29						
N22A	Wattenberg Ran	88.71	46	⇑P		P	12 37 20.3 +0.4
	baz=89,SNR=39						
Z28A	Tucker Farm, M	88.71	55	⇑P		P	12 37 19.7 -0.2
	baz=89,SNR=7.8						
631A	Perdido Creek	88.72	59	⇓P		P	12 37 20.6 +0.6
	baz=89,SNR=60						
RLMT	Red Lodge	88.72	42	eP		P	12 37 20.6 +0.7
	comp=Z,68nm,1.3s						
CD2	Chengdu	88.73	303	eP		P	12 37 20.3 +0.3
CD2				sP		sP	12 40 17.1 -0.3
CD2				PP		PP	12 41 01.9 +2.4
CD2				SKS		SKSac	12 46 56.0 -0.8
CD2				S		S	12 47 21.0 +0.3
CD2				sS		sS	12 50 56.3 -1.0
CD2				SS		SS	12 53 29.8 -0.1
CD2				PMZ			
	comp=Z,10.0nm,1.0s						
CD2				PMZ			
	comp=Z,150nm,9.5s						
832A	Faith Ranch, C	88.81	60	⇑P		P	12 37 21.0 +0.6
	baz=89,SNR=30						
O23A	Lake Granby, G	88.83	47	⇑P		P	12 37 20.9 +0.3
	baz=89,SNR=12						
S25A	Robets Cordova	88.86	50	⇓P		P	12 37 20.8 +0.1
	baz=89,SNR=13						
M22A	Cedar Creek Ra	88.86	46	⇑P		P	12 37 20.7 0.0
	baz=89,SNR=27						
Q24A	Divide	88.86	48	⇑P		P	12 37 21.3 +0.5
	baz=89,SNR=12						
W27A	Bowe Ranch, En	88.86	53	⇑P		P	12 37 20.6 -0.1
	baz=89,SNR=7.6						
U26A	Atchley Ranch,	88.87	51	⇑P		P	12 37 20.6 -0.2
	baz=89,SNR=11						
129A	Stewart Farms,	88.87	55	⇓P		P	12 37 20.9 +0.3
	baz=89,SNR=23						
ISCO	Idaho Springs	88.88	48	eP		P	12 37 21.6 +0.8
ISCO				pmax		pmax	
	comp=Z,42nm,1.8s						
ISCO	Idaho Springs	88.88	48	⇑P		P	12 37 21.4 +0.5
	baz=89,SNR=11						
ISCO	Idaho Springs	88.88	48	eP		P	12 37 21.6 +0.8
	comp=Z,42nm,1.8s						
CMAI	Chiengmai2	88.93	291	P		P	12 37 23.4 +2.1
	comp=Z,6.7nm,1.0s						
I20A	Worland	88.93	43	⇓P		P	12 37 21.0 +0.3
	baz=89,SNR=25						
K21A	Alcova	88.94	44	⇑P		P	12 37 21.2 +0.2
	baz=89,SNR=43						
330A	Mertzon	88.96	57	⇓P		P	12 37 20.9 -0.2
	baz=89,SNR=5.8						
732A	Laxson Ranch,	88.98	59	⇓P		P	12 37 21.8 +0.6
	baz=89,SNR=15						
531A	Rocksprings	89.02	58	⇑P		P	12 37 21.7 +0.3
	baz=89,SNR=44						
Y28A	McKinney Farm,	89.05	54	⇑P		P	12 37 21.5 0.0
	baz=89,SNR=8.2						
N23A	Red Feather La	89.10	46	⇑P		P	12 37 22.5 +0.7
	baz=89,SNR=29						
J21A	Lysite	89.12	44	⇓P		P	12 37 22.1 +0.4
	baz=89,SNR=48						
431A	Sonora	89.16	57	⇑P		P	12 37 22.0 0.0
	baz=89,SNR=6.3						
933A	Laredo	89.16	61	⇑P		P	12 37 23.0 +1.0
	baz=89,SNR=7.2						
R25A	Fountain Ranch	89.16	49	⇓P		P	12 37 22.3 +0.3
	baz=89						
230A	Sterling City	89.19	56	⇓P		P	12 37 22.3 +0.1
	baz=89,SNR=11						
SYO	Syowa Base	89.22	193	⇑/P		P	12 37 19.4 -2.1
Z29A	Hungry Hill Ra	89.23	55	⇓P		P	12 37 22.1 -0.2
	baz=89,SNR=9.1						
L22A	Ellis Ranch, M	89.23	45	⇓P		P	12 37 23.2 +0.8
	baz=89,SNR=28						
F19A	Roth Farm, Mol	89.26	41	⇓P		P	12 37 22.4 +0.2
	baz=89,SNR=16						
T26A	Comanche Natio	89.28	51	⇑P		P	12 37 22.7 +0.1
	baz=89						
V27A	Dan Oppiter Fa	89.30	52	⇑P		P	12 37 22.6 -0.1
	baz=89,SNR=6.1						
833A	Chaparral WMA,	89.31	60	⇓P		P	12 37 23.4 +0.7
	baz=89,SNR=10						
X28A	Dimmitt	89.32	53	⇑P		P	12 37 22.9 +0.1
	baz=90,SNR=8.2						
YAK	Yakutsk	89.33	338	eP		P	12 37 20.0 -2.0
YAK				pmax		pmax	
	comp=Z,23nm,1.1s						
YAK	Yakutsk	89.33	338	eP		P	12 37 21.0 -1.0
	comp=Z,259nm,2.2s						
O24A	Longmont	89.39	47	⇑P		P	12 37 23.9 +0.8
	baz=90						
632A	Uvalde	89.40	59	⇑P		P	12 37 24.1 +1.0
	baz=90,SNR=6.7						
I21A	Big Trails, Te	89.42	43	⇑P		P	12 37 23.1 +0.1
	baz=90,SNR=55						
K22A	Casper	89.43	45	⇓P		P	12 37 23.1 -0.1
	baz=90,SNR=11						
K22A	Casper	89.43	45	eP		P	12 37 23.4 +0.2
	comp=Z,45nm,1.3s						
G20A	Bridger	89.44	42	⇓P		P	12 37 23.2 +0.1
	baz=90,SNR=8.1						
034A	Hebbronville	89.46	61	⇓P		P	12 37 25.4 +1.9
	baz=90						
Y29A	Porterfield Fa	89.48	54	⇓P		P	12 37 23.4 -0.1
	baz=90,SNR=26						
M23A	Laramie	89.48	46	⇓P		P	12 37 23.6 0.0
	baz=90,SNR=6.0						
532A	Rocksprings	89.52	58	⇑P		P	12 37 24.0 +0.2
	baz=90,SNR=24						
331A	San Angelo	89.53	57	⇑P		P	12 37 23.5 -0.2
	baz=90,SNR=20						
733A	Divot King Ran	89.53	60	⇑P		P	12 37 24.5 +0.8
	baz=90,SNR=7.2						
S26A	Kim	89.55	50	⇑P		P	12 37 24.7 +0.9
	baz=90,SNR=9.4						
U27A	Thompson Grove	89.56	51	⇑P		P	12 37 24.4 +0.5
	baz=90,SNR=9.8						
130A	Snyder	89.56	56	⇓P		P	12 37 23.8 -0.1
	baz=90,SNR=5.6						
W28A	Vega	89.59	53	⇑P		P	12 37 23.9 -0.1
	baz=90						
E19A	Rath Farm, Rou	89.63	40	⇑P		P	12 37 24.4 +0.5
	baz=90,SNR=20						
X29A	Tulia	89.67	54	⇑P		P	12 37 24.4 0.0
	baz=90,SNR=11						
Z30A	Sanderson Ranc	89.69	55	⇓P		P	12 37 24.1 -0.3
	baz=90,SNR=11						
F20A	Billings	89.73	41	⇑P		P	12 37 24.7 +0.3
	baz=90,SNR=6.0						
JCT	Junction City	89.73	58	eP		P	12 37 24.9 +0.2
JCT				pmax		pmax	
	comp=Z,22nm,0.8s						
JCT	Junction City	89.73	58	⇓P		P	12 37 24.8 +0.1
	baz=90,SNR=16						
JCT	Junction City	89.73	58	eP		P	12 37 24.9 +0.2
	comp=Z,22nm,0.8s						
EGMT	Eagleton	89.74	39	⇓P		P	12 37 24.4 0.0
	baz=90,SNR=10						
EGMT	Eagleton	89.74	39	eP		P	12 37 24.3 -0.1
	comp=Z,26nm,1.2s						
V28A	Channing	89.76	52	⇓P		P	12 37 25.1 +0.3
	baz=90						
L23A	Garrett	89.77	45	⇓P		P	12 37 25.1 +0.3
	baz=90,SNR=49						
P25A	Willow Gulch B	89.78	48	⇑P		P	12 37 25.6 +0.7
	baz=90						
934A	Benavides	89.78	61	⇓P		P	12 37 26.3 +1.3
	baz=90						
J22A	Midwest	89.78	44	⇓P		P	12 37 24.7 -0.1
	baz=90,SNR=38						
N24A	Carr	89.80	47	⇑P		P	12 37 25.3 +0.3
	baz=90,SNR=17						
R26A	Arlington	89.83	50	⇑P		P	12 37 24.9 -0.2
	baz=90,SNR=13						
231A	Bronte	89.84	56	⇑P		P	12 37 24.9 -0.2
	baz=90,SNR=54						
AMTX	Amarillo	89.85	53	⇓P		P	12 37 25.2 +0.1
	baz=90						
AMTX	Amarillo	89.85	53	eP		P	12 37 25.3 +0.1
	comp=Z,33nm,1.0s						
432A	Menard	89.88	58	⇑P		P	12 37 25.5 +0.1
	baz=90,SNR=31						
T27A	Campo	89.88	51	⇑P		P	12 37 25.1 -0.2
	baz=90,SNR=6.7						
633A	Saathoff Ranch	89.88	59	⇑P		P	12 37 26.5 +1.1
	baz=90,SNR=18						
D19A	Cripps Ranch,	89.88	40	⇓P		P	12 37 25.5 +0.5
	baz=90,SNR=31						
035A	Encino	89.91	62	⇓P		P	12 37 26.9 +1.5
	baz=90						
H21A	Big Horn, Sher	89.93	43	⇑P		P	12 37 25.6 +0.2
	baz=90,SNR=13						
834A	Tilden	89.94	60	⇑P		P	12 37 26.8 +1.2
	baz=90						
W29A	Amarillo	89.96	53	⇓P		P	12 37 25.6 -0.1
	baz=90,SNR=12						
I22A	9 Mile Ranch,	89.98	44	⇑P		P	12 37 25.7 +0.1
	baz=90,SNR=34						
Q26A	Hugo	90.02	49	⇓P		P	12 37 25.8 -0.2
	baz=90						
C19A	Slack Wire Ran	90.03	39	⇑P		P	12 37 26.4 +0.6
	baz=90						
131A	Roby	90.04	56	⇓P		P	12 37 26.0 -0.1
	baz=90,SNR=9.3						
E20A	Meyer Farm, Mu	90.05	41	⇓P		P	12 37 26.3 +0.5
	baz=90,SNR=13						
O25A	Wiggins	90.05	48	⇑P		P	12 37 26.7 +0.6
	baz=90						
G21A	Lodge Grass	90.08	42	⇑P		P	12 37 26.2 +0.2
	baz=90						
K23A	Bowen Ranch, D	90.08	45	⇑P		P	12 37 26.1 -0.1
	baz=90,SNR=8.5						
Y30A	Stafford Cattl	90.08	54	⇑P		P	12 37 26.2 -0.1
	baz=90,SNR=16						
332A	Millersview	90.10	57	⇑P		P	12 37 26.6 +0.3
	baz=90,SNR=95						
M24A	Cheyenne	90.10	46	⇓P		P	12 37 27.0 +0.7
	baz=90,SNR=12						
734A	La Parita Cree	90.18	60	⇓P		P	12 37 28.0 +1.2
	baz=90						
533A	Kerrville	90.21	59	⇓P		P	12 37 27.0 +0.1
	baz=90,SNR=6.8						
EDM	Edmonton	90.22	33	eP		P	12 37 26.0 -0.4
EDM	Edmonton	90.22	33	eP		P	12 37 26.0 -0.4
L24A	Wheatland	90.26	46	⇓P		P	12 37 27.6 +0.6
	baz=90,SNR=12						
R27A	Eads	90.29	50	⇓P		P	12 37 28.3 +1.1
	baz=90,SNR=6.7						
D20A	Manuel Ranch,	90.31	40	⇓P		P	12 37 27.5 +0.5
	baz=90,SNR=30						
X30A	Coker Ranch, T	90.31	54	⇓P		P	12 37 27.1 -0.2
	baz=90,SNR=5.9						
V29A	Stinnett	90.33	52	⇑P		P	12 37 27.5 +0.1
	baz=90						
232A	Coleman	90.35	57	⇓P		P	12 37 27.7 +0.1
	baz=90,SNR=34						
N25A	Grover	90.35	47	⇓P		P	12 37 28.2 +0.7
	baz=90						
T28A	Walsh	90.35	51	⇑P		P	12 37 27.2 -0.3
	baz=90,SNR=9.0						
H22A	Clearmont	90.36	43	⇑P		P	12 37 27.7 +0.4
	baz=90,SNR=14						
P26A	Davis Ranch, A	90.39	48	⇓P		P	12 37 28.3 +0.7
	baz=90						
F21A	Absaloka Mine,	90.39	42	⇑P		P	12 37 28.0 +0.6
	baz=90,SNR=6.9						
433A	Art	90.40	58	⇑P		P	12 37 27.5 -0.3
	baz=90,SNR=57						
B19A	Brinkman Farms	90.42	39	⇓P		P	12 37 27.8 +0.3
	baz=91,SNR=32						
Z31A	Sharp Cattle R	90.47	55	⇑P		P	12 37 27.8 -0.2
	baz=91,SNR=20						
634A	China Grove, S	90.53	59	⇓P		P	12 37 29.3 +1.0
	baz=91						
LZH	Lanzhou	90.56	308	eP		P	12 37 29.8 +1.3
LZH				pP		pP	12 39 30.9 +0.6
LZH				sP		sP	12 40 23.5 -2.6
LZH				S		S	12 47 37.1 -0.2
LZH				sS		sS	12 51 10.3 -4.7
LZH				PMZ			
	comp=Z,36nm,1.0s						
LZH				PMZ			
	comp=Z,240nm,5.7s						
835A	Beeville	90.59	61	⇑P		P	12 37 30.7 +2.1
	baz=91						
Y31A	Rekieta Farm,	90.60	55	⇑P		P	12 37 28.4 -0.2
	baz=91,SNR=12						
K24A	Anderson Ranch	90.61	45	⇓P		P	12 37 29.1 +0.5
	baz=91						
ABTX	Abilene, Hawle	90.61	56	⇓P		P	12 37 29.0 +0.3
	baz=91,SNR=24						
ABTX	Abilene, Hawle	90.61	56	eP		P	12 37 29.1 +0.3
	comp=Z,67nm,1.0s						
M25A	Palm-Egli Farm	90.62	46	⇑P		P	12 37 29.0 +0.3
	baz=91,SNR=9.5						
534A	Blanco	90.65	59	⇓P		P	12 37 29.4 +0.5
	baz=91,SNR=38						
C20A	Veseth Ranch,	90.66	40	⇓P		P	12 37 29.1 +0.5
	baz=91,SNR=56						
G22A	Birney	90.66	42	⇑P		P	12 37 28.9 +0.1
	baz=91,SNR=6.6						
O26A	Horse Wrangler	90.67	48	⇑P		P	12 37 29.0 +0.1
	baz=91,SNR=7.3						
333A	Richland Sprin	90.69	57	⇓P		P	12 37 29.2 +0.1
	baz=91,SNR=16						
S28A	Manter	90.69	51	⇓P		P	12 37 29.0 0.0
	baz=91,SNR=6.3						
KSCO	Kaye Shedlock'	90.69	49	⇓P		P	12 37 29.9 +0.8
	baz=91						
E21A	Keefer Ranch,	90.72	41	⇑P		P	12 37 29.6 +0.7
	baz=91,SNR=11						
U29A	Oasis Ranch, S	90.73	52	⇓P		P	12 37 30.2 +0.9
	baz=91						
SNAA	Sanae	90.74	179	P		P	12 37 28.6 0.0
SNAA	Sanae	90.74	179	ceP		P	12 37 28.0 -0.6
SNAA				pmax		pmax	
	comp=Z,39nm,1.0s						
SNAA	Sanae	90.74	179	eP		P	12 37 28.2 -0.4
	comp=Z,48nm,1.2s						
A19A	Klindworth Far	90.75	38	⇓P		P	12 37 29.0 0.0
	baz=91,SNR=23						
735A	Kenedy	90.80	60	⇑P		P	12 37 30.9 +1.4
	baz=91						
VNA3	Neumayer Olymp	90.89	176	P		P	12 37 29.6 +0.4
F22A	Rosebud	90.92	42	⇓P		P	12 37 30.3 +0.5
	baz=91						
V30A	Spur Ranch, Mi	90.92	53	⇑P		P	12 37 30.5 +0.4
	baz=91,SNR=8.9						
P27A	Ficken Ranch,	90.93	49	⇑P		P	12 37 30.6 +0.5
	baz=91						
J24A	Dixon Ranch, L	90.96	45	⇓P		P	12 37 30.2 +0.1
	baz=91,SNR=8.2						
N26A	Koester Ranch,	90.96	47	⇑P		P	12 37 30.5 +0.2
	baz=91,SNR=11						
L25A	Engebretsen Ra	90.96	46	⇑P		P	12 37 31.0 +0.8
	baz=91,SNR=13						
B20A	Solberg Farm,	90.97	39	⇓P		P	12 37 30.3 +0.3
	baz=91,SNR=11						
T29A	Hugoton	90.97	51	⇑P		P	12 37 31.3 +0.9
	baz=91						
Z32A	Haskell	90.98	55	⇓P		P	12 37 30.7 +0.3
	baz=91,SNR=39						
233A	Rising Star	90.99	57	⇑P		P	12 37 30.6 +0.1
	baz=91,SNR=19						
D21A	La Casta Ranch	91.00	40	⇓P		P	12 37 30.7 +0.5
	baz=91,SNR=48						
635A	Leesville	91.01	60	⇓P		P	12 37 31.8 +1.2
	baz=91						
R28A	Tribune	91.03	50	⇑P		P	12 37 30.7 +0.1
	baz=91,SNR=16						
X31A	McDonald Ranch	91.06	54	⇑P		P	12 37 30.3 -0.4
	baz=91,SNR=9.9						
434A	Burnet	91.09	58	⇓P		P	12 37 31.1 +0.2
	baz=91,SNR=22						
133A	Hamilton Ranch	91.18	56	⇓P		P	12 37 31.8 +0.5
	baz=91,SNR=19						
I24A	Kuemmerle Ranc	91.19	44	⇓P		P	12 37 31.0 -0.2
	baz=91						
K25A	Mack Ranch, Ha	91.21	45	⇓P		P	12 37 31.9 +0.5
	baz=91,SNR=7.1						
A20A	Cobblestone Ra	91.21	39	⇓P		P	12 37 31.5 +0.4
	baz=91,SNR=38						
U30A	WK&E Inc. Balk	91.23	52	⇑P		P	12 37 31.9 +0.4
	baz=91						
G23A	Biddle	91.23	43	⇑P		P	12 37 31.5 +0.1
	baz=91,SNR=12						
O27A	Beecher Island	91.24	48	⇓P		P	12 37 31.6 +0.1
	baz=91						
Y32A	R-V Farms, Ver	91.26	55	⇑P		P	12 37 31.7 +0.1
	baz=91,SNR=13						
C21A	Desert Coulee	91.26	40	⇓P		P	12 37 31.7 +0.4
	baz=91,SNR=25						
M26A	McRoberts Ranc	91.26	47	⇓P		P	12 37 32.0 +0.4
	baz=91,SNR=5.0						
S29A	Ulysses	91.28	51	⇓P		P	12 37 31.7 0.0
	baz=91,SNR=5.6						
Q28A	Sharon Springs	91.28	49	⇓P		P	12 37 33.1 +1.3
	baz=91						
W31A	Holland Ranch,	91.28	53	⇓P		P	12 37 31.8 +0.1
	baz=91,SNR=24						
334A	Lometa	91.29	58	⇑P		P	12 37 32.2 +0.4
	baz=91,SNR=25						
LAO	LASA Array	91.32	41	eP		P	12 37 32.5 +0.8
	comp=Z,62nm,0.9s						
VNA2	Neumayer--Watz	91.33	177	P		P	12 37 31.3 0.0
NVL	N'lazarevskaya	91.38	183	eP		P	12 37 30.0 -1.5
NVL				pmax		pmax	
	comp=Z,11nm,0.6s						
E22A	Miles City	91.39	41	⇑P		P	12 37 32.3 +0.3
	baz=92,SNR=7.3						
535A	Dale	91.39	59	⇑P		P	12 37 33.1 +0.9
	baz=92						
N27A	Anderson Farm,	91.44	48	⇓P		P	12 37 32.5 +0.1
	baz=92,SNR=6.1						
F23A	Volborg	91.44	42	⇑P		P	12 37 32.5 +0.3
	baz=92,SNR=30						
T30A	Plains	91.51	52	⇑P		P	12 37 32.8 +0.1
	baz=92						
X32A	Elmer	91.52	54	⇓P		P	12 37 32.8 -0.1
	baz=92,SNR=6.6						
L26A	Underwood Farm	91.53	46	⇓P		P	12 37 33.4 +0.6
	baz=92,SNR=5.6						
P28A	Saint Francis	91.53	49	⇓P		P	12 37 32.8 0.0
	baz=92,SNR=6.7						
Z33A	Whitaker Ranch	91.54	56	⇓P		P	12 37 33.1 +0.2
	baz=92,SNR=13						
D22A	Cohagen	91.54	41	⇓P		P	12 37 33.1 +0.5
	baz=92,SNR=21						
R29A	Marienthal	91.55	50	⇓P		P	12 37 33.1 +0.1
	baz=92,SNR=5.5						
J25A	Sunshine Ranch	91.56	45	⇑P		P	12 37 32.8 -0.1
	baz=92,SNR=12						
VNA1	Neumayer--Stat	91.56	177	P		P	12 37 33.3 +1.0
B21A	Ellsworth Farm	91.56	39	⇑P		P	12 37 33.1 +0.4
	baz=92,SNR=12						
V31A	Spring Creek L	91.57	53	⇓P		P	12 37 33.7 +0.7
	baz=92,SNR=21						
234A	Clairette	91.60	57	⇓P		P	12 37 33.4 +0.1
	baz=92,SNR=10						
H24A	Dirks Ranch, A	91.60	43	⇓P		P	12 37 32.8 -0.3
	baz=92,SNR=42						
636A	Smothers Creek	91.63	60	⇑P		P	12 37 35.2 +1.8
	baz=92						
435B	Jarrell	91.63	58	⇑P		P	12 37 34.2 +0.9
	baz=92						
RSSD	Black Hills	91.69	44	eP		P	12 37 33.5 -0.1
RSSD				pmax		pmax	
	comp=Z,24nm,0.9s						
RSSD	Black Hills	91.69	44	eP		P	12 37 33.5 -0.1
	comp=Z,24nm,0.9s						
K26A	Motz Farm, Whi	91.71	46	⇑P		P	12 37 34.0 +0.4
	baz=92,SNR=24						
O28A	Krutsinger Ran	91.72	48	⇓P		P	12 37 33.7 0.0
	baz=92,SNR=5.7						
S30A	Montezuma	91.77	51	⇓P		P	12 37 33.8 -0.2
	baz=92,SNR=6.0						
U31A	Nine Bar Ranch	91.77	52	⇑P		P	12 37 34.6 +0.6
	baz=92						
W32A	Sentinel	91.80	54	⇑P		P	12 37 34.7 +0.6
	baz=92						
536A	Bastrop	91.82	59	⇓P		P	12 37 35.4 +1.1
	baz=92						
134A	White-Moore Ra	91.83	56	⇑P		P	12 37 34.7 +0.4
	baz=92						
Q29A	Oakley	91.84	50	⇑P		P	12 37 34.2 0.0
	baz=92,SNR=6.7						
I25A	Rochford	91.85	44	⇑P		P	12 37 34.3 0.0
	baz=92,SNR=21						
A21A	Bergtoll Ranch	91.86	39	⇑P		P	12 37 34.3 +0.3
	baz=92						
Y33A	Hilltop Ranch,	91.89	55	⇑P		P	12 37 34.8 +0.3
	baz=92						
G24A	Alzada	91.92	43	⇑P		P	12 37 34.7 +0.2
	baz=92						
335A	Moody	91.92	58	⇑P		P	12 37 35.0 +0.2
	baz=92						
C22A	Vida	91.97	40	⇑P		P	12 37 34.7 +0.1
	baz=92,SNR=21						
J26A	Sides Ranch, S	92.02	45	⇑P		P	12 37 35.1 +0.1
	baz=92,SNR=8.9						
WMOK	Wichita Mounta	92.02	54	eP		P	12 37 35.6 +0.5
WMOK				pmax		pmax	
	comp=Z,7.0nm,1.0s						
WMOK	Wichita Mounta	92.02	54	eP		P	12 37 35.6 +0.5
	comp=Z,7.2nm,1.0s						
L27A	T5 Ranch, Ells	92.07	46	⇓P		P	12 37 35.7 +0.4
	baz=92,SNR=13						
N28A	Pribbeno Ranch	92.09	48	⇑P		P	12 37 35.4 0.0
	baz=92,SNR=7.9						
F24A	Ekalaka	92.10	42	⇓P		P	12 37 35.4 +0.1
	baz=92,SNR=16						
B22A	Reddig Ranch S	92.13	40	⇑P		P	12 37 35.7 +0.4
	baz=92,SNR=24						
P29A	Atwood	92.13	49	⇑P		P	12 37 35.7 +0.1
	baz=92,SNR=7.3						
R30A	Dighton	92.14	50	⇑P		P	12 37 35.7 +0.1
	baz=92,SNR=9.7						
WHTX	Lake Whitney,	92.14	57	⇓P		P	12 37 36.1 +0.4
	baz=92						
WHTX	Lake Whitney,	92.14	57	eP		P	12 37 36.4 +0.7
	comp=Z,16nm,0.8s						
D23A	Lindsay	92.15	41	⇓P		P	12 37 36.0 +0.6
	baz=92,SNR=16						
T31A	Randall Ranch,	92.16	52	⇓P		P	12 37 35.9 +0.2
	baz=92,SNR=8.1						
V32A	Arapaho	92.16	53	⇓P		P	12 37 35.7 -0.1
	baz=92,SNR=5.5						
H25A	Fruitdale	92.17	44	⇓P		P	12 37 35.8 +0.1
	baz=92,SNR=13						
X33A	Lawton	92.17	55	⇓P		P	12 37 36.0 +0.2
	baz=92						
436A	Wall Ranch, Ga	92.27	59	⇑P		P	12 37 37.3 +1.0
	baz=92						
135A	Vickery Place,	92.36	57	⇓P		P	12 37 37.4 +0.6
	baz

D24A	Glendive	92.68	41	⇑P		P	12 37 38.2	+0.3
	baz=93,SNR=24							
R31A	Burdett	92.69	51	⇓P		P	12 37 38.1	0.0
	baz=93,SNR=6.4							
X34A	Smith Ranch, M	92.71	55	⇓P		P	12 37 38.9	+0.7
	baz=93							
H26A	Fairpoint	92.72	44	⇓P		P	12 37 38.1	0.0
	baz=93,SNR=9.5							
J27A	Elkhorn Farm,	92.72	45	⇓P		P	12 37 38.6	+0.4
	baz=93,SNR=12							
Z35A	Perchaven, San	92.74	56	⇓P		P	12 37 38.8	+0.4
	baz=93							
T32A	Huddler Ranch,	92.75	52	⇑P		P	12 37 38.6	+0.2
	baz=93,SNR=6.9							
F25A	Bowman	92.77	43	⇑P		P	12 37 38.7	+0.4
	baz=93,SNR=6.9							
V33A	Lossen Ranch,	92.77	53	⇓P		P	12 37 38.6	+0.1
	baz=93,SNR=7.1							
C24A	Savage	92.78	41	⇓P		P	12 37 38.8	+0.4
	baz=93,SNR=8.4							
N29A	Votaw Ranch, W	92.79	48	⇓P		P	12 37 39.4	+0.9
	baz=93							
B23A	Brockton	92.81	40	⇑P		P	12 37 39.5	+1.1
	baz=93							
ULN	Ulaanbaatar	92.85	320	*c iP*		P	12 37 38.5	-0.3
ULN				pmax	pmax			
	comp=Z,18nm,1.4s							
ULN	Ulaanbaatar	92.85	320	*e*P		P	12 37 39.0	+0.2
	comp=Z,10nm,0.9s							
S32A	Newby Ranch, P	92.92	51	⇓P		P	12 37 39.3	+0.1
	baz=93,SNR=5.7							
K28A	Ten Mile Ranch	92.96	46	⇓P		P	12 37 40.8	+1.5
	baz=93							
O30A	MW Ranch, Wils	92.97	49	⇓P		P	12 37 39.6	+0.2
	baz=93							
M29A	Burnside Ranch	92.97	47	⇑P		P	12 37 39.5	+0.1
	baz=93,SNR=6.0							
I27A	Quinn	92.99	45	⇓P		P	12 37 39.7	+0.3
	baz=93							
E25A	Miller Ranch,	93.03	42	⇓P		P	12 37 39.8	+0.3
	baz=93,SNR=7.5							
A23A	Redstone	93.07	39	⇑P		P	12 37 40.1	+0.5
	baz=93							
G26A	Maurine	93.09	43	⇑P		P	12 37 39.8	0.0
	baz=93,SNR=10.0							
N30A	Hueftle Ranch,	93.15	48	⇑P		P	12 37 41.0	+0.7
	baz=93							
337A	Centerville	93.18	58	⇑P		P	12 37 41.2	+0.7
	baz=93							
H27A	Howes	93.18	44	⇓P		P	12 37 40.2	0.0
	baz=93,SNR=7.2							
P31A	Stockton	93.22	50	⇓P		P	12 37 41.0	+0.5
	baz=93							
T33A	Patterson Ranc	93.23	52	⇑P		P	12 37 41.1	+0.4
	baz=93							
SONM	Songino Array	93.24	319	P		P	12 37 40.0	-0.6
	comp=Z,2.8nm,0.8s,baz=134,slow=4.5,SNR=23							
SONM				PP		PP	12 41 36.3	+2.0
	comp=Z,1.7nm,0.8s,baz=132,slow=5.3,SNR=6.8							
SONM				PKiKP		PKiKP	12 42 23.5	+0.2
	comp=Z,0.3nm,0.6s,baz=139,slow=2.9,SNR=2.0							
F26A	Lodgepole	93.25	43	⇓P		P	12 37 40.5	0.0
	baz=93,SNR=11							
J28A	Allard Ranch,	93.30	45	⇑P		P	12 37 40.9	0.0
	baz=93,SNR=6.8							
D25A	Fairfield	93.33	41	⇑P		P	12 37 42.2	+1.4
	baz=94							
438A	Sam Houston St	93.34	59	⇓P		P	12 37 42.8	+1.6
	baz=94							
L29A	Maesberg Ranch	93.34	47	⇓P		P	12 37 41.9	+0.9
	baz=94							
R32A	Long Quarter,	93.34	51	⇑P		P	12 37 41.3	+0.2
	baz=94,SNR=22							
BOD	Bodaibo	93.39	330	*e*P		P	12 37 39.8	-1.0
BOD				pmax	pmax			
	comp=Z,7.0nm,1.6s							
O31A	Woolen Ranch,	93.48	49	⇓P		P	12 37 42.2	+0.5
	baz=94							
U34A	Anderson Ranch	93.55	53	⇓P		P	12 37 42.5	+0.4
	baz=94							
U34A	Anderson Ranch	93.55	53	*e*P		P	12 37 42.7	+0.6
	comp=Z,22nm,0.8s							
G27A	Dupree	93.56	43	⇓P		P	12 37 41.9	0.0
	baz=94,SNR=6.7							
I28A	Midland	93.56	45	⇑P		P	12 37 41.8	-0.2
	baz=94,SNR=8.7							
C25A	Freed Ranch, W	93.58	41	⇑P		P	12 37 42.9	+0.9
	baz=94							
S33A	Kaszmaul Farm,	93.58	52	⇓P		P	12 37 42.9	+0.7
	baz=94							
A24A	Westby	93.59	40	⇓P		P	12 37 42.8	+0.8
	baz=94							
E26A	Carlson Angus	93.62	42	⇑P		P	12 37 42.6	+0.4
	baz=94							
Q32A	Meitler Ranch,	93.64	50	⇑P		P	12 37 42.8	+0.3
	baz=94,SNR=14							
F27A	Lemmon	93.68	43	⇓P		P	12 37 42.5	0.0
	baz=94,SNR=10							
K29A	Lazy Trails An	93.69	46	⇓P		P	12 37 44.0	+1.4
	baz=94							
P32A	Huiting Farm,	93.82	50	⇓P		P	12 37 43.7	+0.5
	baz=94							
L30A	Spencer Herefo	93.83	47	⇓P		P	12 37 43.6	+0.4
	baz=94							
R33A	Olander Ranch,	93.84	51	⇓P		P	12 37 43.7	+0.3
	baz=94,SNR=10							
D26A	Manning	93.84	42	⇓P		P	12 37 43.8	+0.6
	baz=94							
B25A	Knox Farm, Ray	93.86	40	⇓P		P	12 37 44.1	+0.9
	baz=94							
H28A	Mission Ridge	93.90	44	⇓P		P	12 37 44.2	+0.7
	baz=94							
J29A	Okreek	93.92	46	⇓P		P	12 37 44.3	+0.7
	baz=94							
N31A	Bailey Ranch,	93.98	48	⇓P		P	12 37 44.6	+0.6
	baz=94							
G28A	Parade	94.11	44	⇓P		P	12 37 44.5	+0.1
	baz=94							
A25A	Svangstu Ranch	94.14	40	⇑P		P	12 37 45.1	+0.7
	baz=94							
M31A	Lambtecht Ranc	94.14	48	⇑P		P	12 37 45.5	+0.8
	baz=94,SNR=17							
I29A	Vivian Onida	94.15	45	⇑P		P	12 37 44.5	-0.2
	baz=94,SNR=7.1							
Q33A	Connelly Farm,	94.18	50	⇓P		P	12 37 44.8	0.0
	baz=94,SNR=16							
O32A	Brockman Farm,	94.27	49	⇑P		P	12 37 45.5	+0.2
	baz=94,SNR=7.5							
YKA	Yellowknife Ar	94.34	25	P		P	12 37 44.5	-0.5
	comp=Z,12nm,0.8s,baz=246,slow=4.4,SNR=192							
YKA				PP		PP	12 41 36.6	-5.6
	comp=Z,2.9nm,1.1s,baz=243,slow=7.5,SNR=7.0							
YKA				PKiKP		PKiKP	12 42 24.0	-0.5
	comp=Z,0.2nm,0.6s,baz=270,slow=1.8,SNR=4.3							
YKA				PKKPbc		PKKPdf	12 54 40.5	-2.9
	comp=Z,0.3nm,0.4s,baz=48,slow=2.0,SNR=4.6							
YKA				SKKP			12 57 29.6	
	comp=Z,0.2nm,0.6s,baz=43,slow=2.0,SNR=6.3							
C26A	Wahner Farm, P	94.35	41	⇓P		P	12 37 46.4	+0.9
	baz=94							
H29A	Onida	94.42	45	⇑P		P	12 37 46.3	+0.4
	baz=95							
P33A	Williams Farm,	94.42	50	⇑P		P	12 37 46.3	+0.3
	baz=95,SNR=6.6							
N32A	Stulken Farm,	94.43	49	⇓P		P	12 37 46.7	+0.7
	baz=95							
D27A	Center	94.45	42	⇑P		P	12 37 46.4	+0.5
	baz=95							
J30A	Dallas	94.46	46	⇓P		P	12 37 46.0	-0.1
	baz=95,SNR=9.3							
F28A	McLaughlin	94.46	43	⇑P		P	12 37 46.2	+0.2
	baz=95							
B26A	Jensen Ranch,	94.47	41	⇓P		P	12 37 46.6	+0.6
	baz=95							
L31A	Butterfield Fa	94.52	47	⇓P		P	12 37 47.1	+0.7
	baz=95							
GTA	Gaotai	94.70	310	*e*P		P	12 37 48.1	+0.7
GTA				pP		pP	12 39 52.8	+3.2
GTA				S		S	12 48 12.9	-0.3
GTA				PMZ				
	comp=Z,9.0nm,1.3s							
GTA				PMZ				
	comp=Z,110nm,6.2s							
A26A	Wade Farm, Ken	94.78	40	⇓P		P	12 37 47.7	+0.3
	baz=95							
E28A	Huff	94.79	43	⇑P		P	12 37 47.6	+0.1
	baz=95							
D28A	Regan	95.09	42	⇓P		P	12 37 49.0	+0.2
	baz=95							
F29A	Eureka	95.10	44	⇓P		P	12 37 49.1	+0.2
	baz=95							
KSU1	Kansas State U	95.11	51	⇑P		P	12 37 49.9	+0.8
	baz=95							
KSU1	Kansas State U	95.11	51	*e*P		P	12 37 49.9	+0.8
	comp=Z,46nm,0.8s							
G30A	Faulkton	95.31	44	⇓P		P	12 37 49.5	-0.3
	baz=95							
B28A	Dugan Ranch, T	95.66	41	⇓P		P	12 37 51.4	+0.1
	baz=96							
D29A	Pettibone, Tap	95.67	42	⇑P		P	12 37 51.2	-0.2
	baz=96							
A28A	Rude Farm, Bot	95.88	41	⇑P		P	12 37 52.8	+0.4
	baz=96							
E30A	Jud	95.92	43	⇓P		P	12 37 52.5	-0.1
	baz=96							
MDND	Maddock	95.93	42	⇓P		P	12 37 52.5	-0.1
	baz=96							
TIXI	Tiksi	95.95	345	*c iP*		P	12 37 50.6	-1.4
TIXI				pmax	pmax			
	comp=Z,19nm,1.5s							
TIXI	Tiksi	95.95	345	*e*P		P	12 37 50.7	-1.4
TIXI				*e*PP		PP	12 41 50.4	-3.8
ZAK	Zakamensk	96.08	321	*e*P		P	12 37 52.5	-0.8
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
D30A	Buchanan	96.22	43	⇑Pdiff		P	12 37 54.0	0.0
	baz=96							
B29A	Wagenman Farm,	96.30	41	⇓Pdiff		P	12 37 54.1	-0.1
	baz=96							
TLY	Talaya	96.33	322	*e*P		P	12 37 53.9	-0.3
TLY				pmax	pmax			
	comp=Z,4.0nm,1.0s							
TLY	Talaya	96.33	322	P		P	12 37 54.0	-0.3
	comp=Z,2.0nm,0.7s,baz=136,slow=3.0,SNR=5.1							
TLY	Talaya	96.33	322	*e*P		P	12 37 54.0	-0.2
	comp=Z,4.4nm,1.0s							
ECSD	EROS Data Cent	96.57	46	⇑Pdiff		P	12 37 55.5	-0.1
	baz=97							
ECSD	EROS Data Cent	96.57	46	*e*P		P	12 37 54.8	-0.7
	comp=Z,12nm,0.9s							
C30A	Mose, Pekin	96.60	42	⇑Pdiff		P	12 37 55.2	-0.3
	baz=97							
A30A	Hoffart Farm,	97.11	41	⇓Pdiff	Pdif		12 37 57.7	-0.1
	baz=97							
AGMN	Agassiz Nation	98.45	42	⇑Pdiff	Pdif		12 38 03.4	-0.4
	baz=99							
ULM	Lac du Bonnet	99.01	40	P		Pdif	12 38 05.3	-1.0
	comp=Z,2.2nm,0.7s,baz=345,slow=4.8,SNR=4.4							
PBMO	Poplar Bluff	99.11	54	*e*pP		pP	12 40 09.5	-0.1
JFWS	Jewell Farm	100.80	48	*e*P		Pdif	12 38 14.7	+0.3
JFWS	Jewell Farm	100.80	48	*e*Pdif		Pdif	12 38 14.7	+0.3
ZALV	Zalesovo Beam	107.93	322	Pdiff		Pdif	12 38 45.4	-0.4
	comp=Z,0.5nm,0.5s,baz=147,slow=3.0,SNR=4.1							
ZALV				PKiKP		PKiKP	12 42 48.4	-1.0
	comp=Z,2.6nm,0.6s,baz=129,slow=0.9,SNR=16							
ZALV				PP		PP	12 43 19.3	-3.8
	comp=Z,1.9nm,0.8s,baz=86,slow=4.6,SNR=5.5							
ZALV				SKiKP		SKiKP	12 45 32.0	-0.3
	comp=Z,0.6nm,0.4s,baz=132,slow=2.1,SNR=3.9							
MKAR	Makanchi Array	108.81	314	Pdiff		Pdif	12 38 52.2	+2.2
	comp=Z,0.4nm,0.6s,baz=46,slow=4.2,SNR=4.1							
MKAR				PKiKP		PKiKP	12 42 50.7	-0.7
	comp=Z,2.4nm,0.5s,baz=318,slow=1.9,SNR=31							
MKAR				PP	PP		12 43 21.2	-8.4
	comp=Z,1.0nm,0.9s,baz=44,slow=4.4,SNR=2.5							
KURK	Kurchatov	111.51	318	*e*PKIKP		PKiKP	12 42 55.2	-1.1
KURK	Kurchatov	111.51	318	*e*PKPdf		PKiKP	12 42 55.2	-1.1
KSH	Kashi	112.74	306	*e*PKP		PKiKP	12 43 01.1	+1.9
KSH				PP	PP		12 44 06.0	+8.2
KSH				PKS		PKSdf	12 46 36.4	+0.5
KSH				SKS		SKSdf	12 49 22.8	+3.8
KSH				SKKS		SKKSac	12 50 01.9	+0.2
KSH				SS	SS		12 59 06.0	+7.2
KSH				PPMZ				
	comp=Z,64nm,5.5s							
AAK	Ala-Archa	114.05	309	⇓*i*PKIKP		PKiKP	12 43 01.0	-0.6
AAK				pmax	pmax			
	comp=Z,5.0nm,1.2s							
SCHQ	Schefferville	116.95	37	PKKPab		PKKPab	12 53 39.3	+0.2
	comp=Z,2.8nm,1.0s,baz=58,slow=13,SNR=3.8							
KKAR	Karatay Array	116.99	310	*e*PKIKP		PKPdf	12 43 06.5	-0.6
KKAR	Karatay Array	116.99	310	*e*PKPdf		PKPdf	12 43 06.5	-0.6
DAG	Danmarks Havn	120.10	5	*i* PKIKP		PKPdf	12 43 10.4	-1.7
DAG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
DAG	Danmarks Havn	120.10	5	*i* P		PKPdf	12 43 10.4	-1.7
	comp=Z,4.0nm,0.6s							
SVE	Sverdlovsk	121.35	326	*e*PKIKP		PKPdf	12 43 14.9	-0.1
SVE				pmax	pmax			
	comp=Z,17nm,0.8s							
SOKR	Solikamsk	122.38	330	*e*PKIKP		PKPdf	12 43 16.6	-0.2
SOKR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
ARU	Arti	122.56	326	*i* PKIKP		PKPdf	12 43 17.0	-0.3
ARU							12 45 07.5	
ARU							12 49 23.6	
ARU	Arti	122.56	326	*e*PKPdf		PKPdf	12 43 16.7	-0.7
ABKAR	Akbulak array	123.62	318	*e*PKPdf		PKPdf	12 43 19.0	-0.6
KEV	Kevo	125.67	349	*e*PKIKP		PKPdf	12 43 21.7	-1.2
KEV				pmax	pmax			
	comp=Z,7.0nm,0.7s							
KEV	Kevo	125.67	349	*e*pkp		PKPdf	12 43 21.7	-1.2
	comp=Z,7.2nm,0.7s							
ARCES	ARCESS Array B	126.13	350	PKP		PKPdf	12 43 23.4	-0.4
	comp=Z,12nm,0.8s,baz=114,slow=2.5,SNR=17							
ARCES				PKKPab		PKKPab	12 52 59.0	+0.1
	comp=Z,1.5nm,0.8s,baz=186,slow=2.4,SNR=6.9							
PRGR	Permogore	126.29	336	*e*PKIKP		PKPdf	12 43 21.6	-2.7
PRGR				*e*			12 45 23.4	
PRGR				*e*			12 45 31.7	
PRGR				pmax	pmax			
	comp=Z,14nm,0.7s							
GEYT	Alibeck	126.70	304	PKP		PKPdf	12 43 26.0	+0.1
	comp=Z,5.2nm,0.6s,baz=280,slow=0.9,SNR=8.6							
GEYT				SKP			12 46 11.1	
	comp=Z,2.2nm,0.4s,baz=259,slow=5.4,SNR=3.3							
SUR	Sutherland	126.73	201	PKP		PKPdf	12 43 26.9	+0.4
	comp=Z,6.4nm,0.8s,baz=299,slow=3.5,SNR=6.2							
SUR				SKPbc	SKiKP		12 45 53.3	-17
	comp=Z,14nm,0.8s,baz=128,slow=6.7,SNR=7.4							
BOSA	Boshof	128.38	207	PKP		PKPdf	12 43 30.7	+1.1
	comp=Z,4.9nm,0.9s,baz=102,slow=1.0,SNR=4.6							
BOSA				SKPbc	SKiKP		12 45 59.3	-15
	comp=Z,5.9nm,0.6s,baz=161,slow=3.8,SNR=11							
KLMR	Klimovskoe	129.11	337	*e*PKIKP		PKPdf	12 43 27.5	-2.2
KLMR				pmax	pmax			
	comp=Z,21nm,1.2s							
JOF	Joensuu	130.33	342	*e*PKIKP		PKPdf	12 43 30.5	-1.5
JOF				pmax	pmax			
	comp=Z,12nm,0.6s							
JOF	Joensuu	130.33	342	*e*pkp		PKPdf	12 43 30.5	-1.5
	comp=Z,12nm,0.6s							
LBTB	Lobatse	131.31	210	SKPbc		SKPab	12 46 10.9	+1.2
KAF	Kangasniemi	132.35	344	*e*PKIKP		PKPdf	12 43 34.3	-1.5
KAF				pmax	pmax			
	comp=Z,5.0nm,0.5s							
KAF	Kangasniemi	132.35	344	*e*pkp		PKPdf	12 43 34.3	-1.5
	comp=Z,5.3nm,0.5s							
FINES	FINESS Array B	132.97	344	PKhKP		PKPpre	12 43 28.7	
	comp=Z,2.0nm,0.5s,baz=75,slow=2.8,SNR=8.5							
FINES				PKP		PKPdf	12 43 36.5	-0.5
	comp=Z,7.0nm,0.7s,baz=79,slow=4.1,SNR=15							
FINES				SKPbc		SKPab	12 46 15.0	-0.5
	comp=Z,28nm,0.8s,baz=69,slow=4.6,SNR=38							
VRHR	Novokhopersk	133.89	325	*e*PKIKP		PKPdf	12 43 38.2	-0.8
VRHR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
VRHR				pmax	pmax			
	comp=N,20nm,1.7s							
VRHR				pmax	pmax			
	comp=E,10.0nm,0.7s							
OBN	Obninsk	134.03	332	*d iP*KIKP		PKPdf	12 43 39.4	+0.3
OBN				pmax	pmax			
	comp=Z,33nm,2.5s							
VSR	Storozhevoye	135.13	327	*e*PKIKP		PKPdf	12 43 40.2	-1.1
VSR				pmax	pmax			
	comp=N,10.0nm,0.8s							
VSR				pmax	pmax			
	comp=E,10.0nm,0.8s							
VSR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
VORD	Divnogorie	135.20	326	*e*PKIKP		PKPdf	12 43 40.4	-1.1
VORD				pmax	pmax			
	comp=N,10.0nm,0.8s							
VORD				pmax	pmax			
	comp=Z,10.0nm,0.8s							
VORD				pmax	pmax			
	comp=E,9.0nm,0.9s							
VSU	Vasula	135.25	341	⇑*e*PKIKP		PKPdf	12 43 39.7	-1.6
NB2	NORSAR Subarra	136.20	353	PKP		PKPpre	12 43 30.7	
	comp=Z,5.9nm,1.2s,baz=17,slow=2.6							
NOA	NORSAR Array B	136.20	353	PKhKP		PKPpre	12 43 31.1	
	comp=Z,2.3nm,0.8s,baz=38,slow=2.1,SNR=7.1							
NOA				PKP		PKPdf	12 43 42.9	-0.2
	comp=Z,3.9nm,0.7s,baz=13,slow=4.0,SNR=11							
NOA				SKPbc		SKPbc	12 46 25.5	+2.2
	comp=Z,14nm,1.0s,baz=6.3,slow=4.0,SNR=16							
NOA				SKPab		SKPab	12 46 31.2	+1.3
	comp=Z,4.6nm,0.8s,baz=11,slow=2.8,SNR=9.4							
KBZ	Khabaz	136.49	316	PKKP		PKKPdf	12 53 22.8	-0.3
	comp=Z,1.3nm,0.5s,baz=233,slow=10,SNR=4.9							
LSZ	Lusaka	137.77	221	PKhKP		PKPpre	12 43 39.1	
	comp=Z,1.4nm,0.5s,baz=85,slow=7.1,SNR=4.0							
LSZ				PKP		PKPdf	12 43 47.8	+0.3
	comp=Z,3.1nm,0.4s,baz=100,slow=5.7,SNR=6.3							
LSZ				SKPbc		SKPbc	12 46 29.8	+0.3
	comp=Z,2.7nm,0.4s,baz=58,slow=13,SNR=5.7							
NACGM	Naroch	138.10	338	*e*		PKPdf	12 43 43.0	-3.7
KMBO	Kilima Mbogo	139.90	246	PKhKP		PKPpre	12 43 45.6	
	comp=Z,0.9nm,0.4s,baz=54,slow=14,SNR=4.3							
KMBO				SKPbc		SKiKP	12 46 38.7	+0.8
	comp=Z,8.7nm,0.9s,baz=112,slow=1.4,SNR=13							
KAC	Achnashellach	140.04	6	*e*P		PKPpre	12 43 43.2	
MCD	Coleburn Disti	140.11	4	*e*P		PKPpre	12 43 43.0	
AKASG	Malin Array Be	140.29	332	PKhKP		PKPpre	12 43 43.7	
	comp=Z,2.8nm,0.5s,baz=39,slow=4.0,SNR=10							
AKASG				PKP		PKPdf	12 43 50.1	-0.7
	comp=Z,9.9nm,0.7s,baz=39,slow=2.9,SNR=8.4							
AKASG				SKPbc		SKiKP	12 46 36.4	-0.8
	comp=Z,10nm,1.0s,baz=36,slow=2.8,SNR=12							
AKASG				SKPab		SKPab	12 46 49.1	+0.9
	comp=Z,2.9nm,0.7s,baz=35,slow=4.6,SNR=4.9							
EAB	Aberfoyle	141.42	5	*e*P		PKPpre	12 43 47.6	
EBL	Broad Law	141.93	4⇑	*e*P		PKPpre	12 43 49.1	
BEL	Belsk	142.67	340	*e*PKIKP		PKPdf	12 43 52.8	-2.3
BEL	Belsk	142.67	340	*e*PKP		PKPdf	12 43 52.7	-2.3
GAL1	Galloway	142.69	6	*e*P		PKPdf	12 43 51.0	-3.9
KIS	Kishinev	143.07	328	*e*PKIKP		PKPbc	12 43 54.0	0.0
KIS	Kishinev	143.07	328	*e*P		PKPbc	12 43 54.0	0.0
LVV	L'vov	143.15	335	*e*PKHKP		PKPab	12 43 53.6	-0.2
BSEG	Bad Segeberg	143.23	351	*e*PKP		PKPab	12 43 54.0	+0.1
LEOM	Leova	143.72	328	⇓PKIKP		PKPdf	12 43 56.6	-0.4
LEOM	Leova	143.72	328	⇓*i*P		PKPdf	12 43 56.6	-0.4
HPK	Haverah Park	143.82	3⇑	*e*P		PKPbc	12 43 55.5	-0.6
KWP	Kalwaria Pacla	143.82	336	⇑PKIKP		PKPab	12 43 56.6	+0.2
KWP	Kalwaria Pacla	143.82	336	*i* PKPc		PKPab	12 43 56.5	+0.1
KWP	Kalwaria Pacla	143.82	336	⇑*i*P		PKPab	12 43 56.6	+0.2
ROOS	tl_alroos	143.95	304	*e*P		PKPdf	12 43 58.1	+0.2
RUE	Ruedersdorf	143.99	347	*e*PKPbc		PKPbc	12 43 56.4	-0.3
PRAR	RASCA	144.07	331	⇓*i*P		PKPdf	12 43 57.6	-0.1
WME	Myndd Eilian	144.19	6⇑	*i*P		PKPbc	12 43 56.6	-0.7
LHO	Holmfirth	144.22	3⇑	*i*P		PKPbc	12 43 56.7	-0.7
WLF1	Llynfaes	144.28	6⇑	*i*P		PKPbc	12 43 56.9	-0.7
TLCR		144.28	326	⇑PKIKP		PKPab	12 43 58.4	+0.2
TLCR		144.28	326	⇑*i*P		PKPab	12 43 58.4	+0.2
YRC	Rhoscolyn	144.30	6⇑	*i*P		PKPbc	12 43 56.9	-0.8
BURAR	Bucovina Array	144.35	332	⇑PKIKP		PKPab	12 43 58.5	-0.1
BURAR	Bucovina Array	144.35	332	⇑*i*P		PKPab	12 43 58.5	-0.1
WPM1	Penmaenmawr	144.36	5⇑	*i*P		PKPbc	12 43 57.2	-0.6
LMK	Market Rasen	144.37	2⇑	*i*P		PKPbc	12 43 57.3	-0.5
OJC	Ojcow	144.38	339	*i* PKIKP		PKPbc	12 43 57.9	-0.1
OJC	Ojcow	144.38	339	*i* PKP		PKPbc	12 43 57.9	-0.1
ARNB	Al Arnab	144.41	307	*e*P		PKPab	12 44 02.6	+3.4
BIDA	Albida	144.44	306	*e*P		PKPdf	12 43 58.4	-0.4
YLL	Llanberis	144.45	6⇑	*i*P		PKPdf	12 43 57.4	-0.7
BRTR	Keskin Array B	144.46	315	PKP		PKPdf	12 43 58.6	-0.1
	comp=Z,24nm,0.8s,baz=116,slow=2.9,SNR=82							
BRTR				SKPbc		SKiKP	12 46 47.0	+0.6
	comp=Z,3.0nm,0.8s,baz=116,slow=2.9,SNR=4.5							
BRTR				SKKPbc		SKKPbc	12 54 52.7	+1.4
	comp=Z,1.9nm,0.9s,baz=223,slow=4.6,SNR=4.2							
TESR	Tescani	144.48	329	⇓*i*P		PKPdf	12 43 58.1	-0.3
KBI1	Birley Grange	144.53	3⇑	*i*P		PKPdf	12 43 57.7	-0.5
HAWK	Haweek	144.54	305	*e*P		PKPbc	12 43 59.1	0.0
STHS	Stebnicka Huta	144.55	337	*e*PKIKP		PKPab	12 43 59.1	0.0
STHS	Stebnicka Huta	144.55	337	*

MLR	Muntele Rosu	145.55	329	⇑iP	PKPbc	12 44 01.5	-0.4
WTSB	Winterswijk	145.60	354	ePKPdf	PKPbc	12 44 01.4	-0.1
	comp=Z,110nm,0.8s						
PSN	Preselentsi	145.60	324	⇓PKP2	PKPab	12 44 02.8	-0.6
PSN	Preselentsi	145.60	324	⇓iP	PKPab	12 44 02.8	-0.6
PVCC	Panska Ves	145.63	345	ePKIKP	PKPbc	12 44 01.1	-0.6
PVCC				e		12 44 02.2	
PVCC	Panska Ves	145.63	345	ePKP	PKPbc	12 44 01.1	-0.6
PVCC				ex	x	12 44 02.2	
PVCC				ex	x	12 44 05.9	
PVCC				eSKP		12 46 50.2	
MCH1	Michaelchurch	145.69	5	⇑iP	PKPbc	12 44 01.1	-0.8
SECR		145.81	328	⇓iP	PKPbc	12 44 03.1	+0.6
MONM	Monmouth	145.86	4	⇑eP	PKPbc	12 44 01.8	-0.5
STRD	Stroud	145.97	4	eP	PKPbc	12 44 02.1	-0.5
VOIR		146.03	329	⇑PKP2	PKPbc	12 44 03.9	+0.8
VOIR		146.03	329	⇑iP	PKPbc	12 44 03.9	+0.8
OLDB	Oldbury-Upon-S	146.05	4	eP	PKPdf	12 44 01.7	+0.9
BUG	Bochum--Univer	146.07	353	ePKP	PKPbc	12 44 02.8	-0.1
DRGR		146.08	333	⇓PKP2	PKPbc	12 44 03.2	0.0
DRGR		146.08	333	⇓iP	PKPbc	12 44 03.2	0.0
PRA	Prague	146.08	345	ePKP2	PKPbc	12 44 03.4	+0.4
PRA	Prague	146.08	345	ePKP	PKPbc	12 44 03.4	+0.4
PRA				ex	x	12 44 05.7	
PRU	Pruhonice	146.13	345	ePKP2	PKPbc	12 44 03.3	+0.1
PRU	Pruhonice	146.13	345	ePKP	PKPbc	12 44 03.3	+0.1
PRU				ex	x	12 44 05.8	
PRU				eSKP		12 46 51.3	
MOX	Moxa	146.18	348	ePKP	PKPbc	12 44 03.3	0.0
VYHS	Vyhne	146.18	339	ePKP2	PKPbc	12 44 03.8	+0.4
VYHS	Vyhne	146.18	339	ePKP	PKPbc	12 44 03.8	+0.4
VRAC	Vranov	146.19	342	⇑PKP2	PKPbc	12 44 03.9	+0.5
VRAC	Vranov	146.19	342	⇑iP	PKPbc	12 44 03.9	+0.5
TANN	Tannenbergstha	146.22	347	ePKP	PKPbc	12 44 03.8	+0.3
SWN1	Swindon	146.25	3	eP	PKPbc	12 44 03.1	-0.3
ARR	Arges	146.28	330	⇑iP	PKPab	12 44 05.0	-1.1
BATH	Bath	146.29	4	eP	PKPbc	12 44 02.7	-0.8
PSZ	Piszkesteto	146.29	337	ePKP2	PKPbc	12 44 03.7	0.0
PSZ	Piszkesteto	146.29	337	⇓iP	PKPbc	12 44 04.2	+0.4
PSZ	Piszkesteto	146.29	337	⇑e	PKPbc	12 44 03.8	0.0
PSZ	Piszkesteto	146.29	337	ePKPbc	PKPbc	12 44 03.7	0.0
PSZ				ePKPab	PKPab	12 44 05.8	-0.3
PRD	Provadia	146.35	324	P	PKPbc	12 44 04.7	+0.7
WOL	Wolverton	146.48	3	⇑eP	PKPbc	12 44 03.4	-0.6
TREC	Trest	146.51	343	ePKP2	PKPbc	12 44 04.4	+0.1
TREC	Trest	146.51	343	ePKP	PKPbc	12 44 04.4	+0.1
TREC				ex	x	12 44 06.5	
HEX	Exmoor	146.54	6	⇑eP	PKPbc	12 44 03.7	-0.5
HTL	Hartland	146.54	7	eP	PKPbc	12 44 03.6	-0.6
LOT	Lotru	146.63	331	⇓iP	PKPbc	12 44 04.6	-0.2
ELSH	Elham, Standar	146.70	0	⇑iP	PKPbc	12 44 04.7	0.0
HUMR	Humele	146.72	328	⇑iP	PKPbc	12 44 05.1	+0.2
CSS	Prodhromos	146.75	307	ePKPdf	PKPdf	12 44 01.8	-0.9
CSS				ePKPbc	PKPbc	12 44 05.5	+0.1
CSS				ePKPab	PKPab	12 44 08.5	+0.2
BEBN	Eben Emael	146.87	355	PKPab	PKPab	12 44 07.8	-0.4
HGN	Heimansgroeve	146.88	355	ePKPdf	PKPbc	12 44 05.0	-0.1
	comp=Z,40nm,0.9s						
HGN				ePKPbc	PKPab	12 44 07.8	-0.3
	comp=Z,38nm,0.7s						
ROTZ	Rotzenmuhle	146.89	347	ePKP	PKPbc	12 44 05.8	+0.6
UCC	Uccle	146.96	356	PKPbc	PKPbc	12 44 05.3	0.0
UCC				PKPab	PKPab	12 44 08.2	-0.4
BUD	Budapest	146.97	338	⇑e	PKPbc	12 44 05.7	+0.2
MEM	Membach	147.02	354	PKPbc	PKPbc	12 44 05.5	-0.1
SZH	Strazhica	147.11	326	P	PKPbc	12 44 06.3	+0.3
TNS	Taunus Mts	147.12	351	ePKP	PKPbc	12 44 06.1	+0.2
GZR	Gura Zlata	147.13	332	⇓iP	PKPbc	12 44 06.2	+0.1
GRF	Grafenberg Arr	147.16	348	ePKP	PKPbc	12 44 06.4	+0.4
GRFO	Grafenberg	147.16	348	ePKIKP	PKPdf	12 44 02.2	-0.6
GRFO				e		12 44 09.8	
GRFO	Grafenberg	147.16	348	ePKPdf	PKPdf	12 44 02.2	-0.6
GRFO				ePKPbc	PKPbc	12 44 06.5	+0.6
GRFO				ePKPab	PKPab	12 44 09.8	+0.4
KHC	Kasperske Hory	147.17	345	ePKIKP	PKPdf	12 44 02.5	-0.4
KHC				e		12 44 09.9	
KHC	Kasperske Hory	147.17	345	ePKP	PKPdf	12 44 01.6	-1.3
KHC				i x	x	12 44 06.2	
KHC				ex	x	12 44 09.4	
KHC				eSKP		12 46 53.3	
KHC	Kasperske Hory	147.17	345	ePKPdf	PKPdf	12 44 02.5	-0.4
KHC				ePKPbc	PKPbc	12 44 06.2	+0.2
KHC				ePKPab	PKPab	12 44 09.9	+0.4
SNF	Seneffe	147.25	356	PKPbc	PKPbc	12 44 06.2	+0.1
SNF				PKPab	PKPab	12 44 09.1	-0.6
BCLA	Clavier	147.27	355	PKPbc	PKPbc	12 44 06.0	-0.1
BCLA				PKPab	PKPab	12 44 09.0	-0.8
PKSG		147.28	338	⇑e	PKPbc	12 44 06.2	-0.1
JMB	Yambol	147.29	324	⇓PKP2	PKPab	12 44 08.8	-1.4
JMB	Yambol	147.29	324	⇓iP	PKPab	12 44 08.8	-1.4
WET	Wettzell	147.32	346	ePKP	PKPbc	12 44 06.7	+0.3
GEC2	GERESS Array S	147.40	345	ePKP	PKPbc	12 44 07.0	+0.3
GERES	GERESS Array B	147.40	345	PKPbc	PKPbc	12 44 06.8	+0.1
	comp=Z,32nm,0.6s,baz=29,slow=3.0,SNR=170						
GERES				SKPbc	SKiKP	12 46 52.8	+0.7
	comp=Z,2.1nm,0.9s,baz=7.1,slow=4.0,SNR=3.6						
BZS	Buzias	147.47	333	⇑PKP2	PKPbc	12 44 06.8	-0.1
BZS	Buzias	147.47	333	⇑iP	PKPbc	12 44 06.8	-0.1
PKST	T"s	147.52	339	⇑eSKSac	PKPbc	12 44 06.6	-0.4
CONA	Conrad Observa	147.64	342	⇑iPKiKP	PKPbc	12 44 07.7	+0.4
	comp=Z,121nm,1.3s,SNR=44						
SOP	Sopron	147.64	341	⇑e	PKPbc	12 44 07.6	+0.4
DOU	Dourbes	147.64	356	PKPbc	PKPbc	12 44 07.4	+0.2
WLF	Walferdange	147.94	354	PKPbc	PKPbc	12 44 08.8	+0.9
WLF	Walferdange	147.94	354	ePKP2	PKPbc	12 44 08.6	+0.6
WLF	Walferdange	147.94	354	ePKP	PKPbc	12 44 08.8	+0.9
WLF	Walferdange	147.94	354	ePKPbc	PKPbc	12 44 08.6	+0.6
WLF				ePKPab	PKPab	12 44 12.9	+0.3
MOA	Molln	148.17	343	⇑iPKPbc	PKPbc	12 44 08.6	0.0
	comp=Z,123nm,1.8s,SNR=18						
MPEP	Malo Peshtene	148.18	328	P	PKPbc	12 44 09.0	+0.2
ARSA	Arzberg	148.34	341	i PKPbc	PKPbc	12 44 08.9	-0.2
	comp=Z,43nm,1.5s,SNR=7.2						
STU	Stuttgart	148.41	350	ePKP	PKPbc	12 44 09.5	+0.3
STU	Stuttgart	148.41	350	ePKPdf	PKPdf	12 44 05.6	+0.7
STU				ePKPbc	PKPbc	12 44 09.3	+0.2
STU				ePKPab	PKPab	12 44 14.3	-0.3
LANF	Langenberg	148.42	352	PKP	PKPbc	12 44 09.7	+0.5
KDZ	Kurdzhali	148.48	324	⇑iP	PKPbc	12 44 09.6	0.0
KDZ	Kurdzhali	148.48	324	P	PKPbc	12 44 09.1	-0.5
JSA	Saint Aubin	148.54	4	⇑iP	PKPbc	12 44 09.1	-0.3
FUR	Furstenfeldbru	148.60	347	ePKP	PKPbc	12 44 09.9	+0.2
RJOB	Jochberg	148.65	345	ePKP	PKPbc	12 44 09.7	-0.2
BFO	Black Forest	148.98	351	ePKIKP	PKPdf	12 44 05.8	0.0
BFO				e		12 44 17.0	
BFO	Black Forest	148.98	351	ePKP	PKPbc	12 44 10.6	0.0
BFO	Black Forest	148.98	351	ePKPdf	PKPdf	12 44 05.8	0.0
BFO				ePKPbc	PKPbc	12 44 10.3	-0.3
BFO				ePKPab	PKPab	12 44 17.0	0.0
VTS	Vitosha	149.01	328	⇓iP	PKPbc	12 44 11.5	+0.5
VTS	Vitosha	149.01	328	P	PKPbc	12 44 11.0	0.0
SOKA	Soboth	149.01	341	⇑iPKPbc	PKPbc	12 44 10.2	-0.6
	comp=Z,55nm,1.3s,SNR=21						
PERS	Pernice	149.02	341	i PKPbc	PKPbc	12 44 10.7	-0.1
PERS				i		12 44 16.1	
FLN	La Foliniere	149.06	2	ePKIKP	PKPdf	12 44 05.7	-0.2
	comp=Z,15nm,0.7s						
FLN	La Foliniere	149.06	2	ePKIKP	PKPdf	12 44 05.7	-0.2
FLN	La Foliniere	149.06	2	ePKPdf	PKPdf	12 44 05.7	-0.2
PAGF	Fort de Pagny	149.08	354	ePKIKP	PKPdf	12 44 05.0	-1.0
PAGF	Fort de Pagny	149.08	354	ePKPdf	PKPdf	12 44 05.0	-1.0
KBA	Koelnbreinsper	149.12	344	i PKPbc	PKPbc	12 44 10.4	-0.8
	comp=Z,26nm,0.9s,SNR=18						
LDF	La Druitiere	149.24	2	ePKIKP	PKPdf	12 44 05.9	-0.3
LDF	La Druitiere	149.24	2	ePKIKP	PKPdf	12 44 05.9	-0.3
LDF	La Druitiere	149.24	2	ePKPdf	PKPdf	12 44 05.9	-0.3
ECH	Echery	149.26	352	ePKIKP	PKPdf	12 44 05.5	-0.8
ECH				e		12 44 17.5	
ECH	Echery	149.26	352	PKP	PKPbc	12 44 11.0	-0.3
ECH	Echery	149.26	352	ePKPdf	PKPdf	12 44 05.5	-0.8
ECH				ePKPbc	PKPbc	12 44 10.9	-0.3
ECH				ePKPab	PKPab	12 44 17.5	-0.6
OBKA	Obir	149.31	342	⇑iPKPbc	PKPbc	12 44 10.7	-0.8
	comp=Z,51nm,1.7s,SNR=7.1						
WATA	Walderalm	149.32	346	⇑iPKPbc	PKPbc	12 44 11.3	-0.3
	comp=Z,55nm,1.2s,SNR=9.4						
RETA	Reutte	149.35	347	⇑iPKPbc	PKPbc	12 44 11.5	-0.1
	comp=Z,83nm,1.7s,SNR=18						
WTTA	Wattenberg	149.37	346	⇑iPKiKP	PKPbc	12 44 11.7	-0.1
	comp=Z,114nm,1.2s,SNR=23						
DIVS	Divibare	149.38	333	P	PKPbc	12 44 11.6	-0.2
THEF	They Montfort	149.38	354	PKP	PKPbc	12 44 11.8	+0.2
GRR	Gorron	149.42	3	ePKIKP	PKPdf	12 44 06.4	-0.1
	comp=Z,16nm,0.8s						
GRR	Gorron	149.42	3	ePKIKP	PKPdf	12 44 06.4	-0.1
GRR	Gorron	149.42	3	ePKPdf	PKPdf	12 44 06.4	-0.1
MOTA	Moosalm	149.42	347	⇑iPKPbc	PKPbc	12 44 11.6	-0.3
	comp=Z,41nm,1.0s,SNR=16						
KAVA	Kavala	149.42	324	P	PKPbc	12 44 11.4	-0.4
KAVA	Kavala	149.42	324	P	PKPbc	12 44 11.4	-0.4
MMB	Musomiste	149.44	326	⇑iP	PKPbc	12 44 12.1	+0.1
MMB	Musomiste	149.44	326	P	PKPbc	12 44 11.6	-0.4
MYKA	Terra Mystica	149.46	343	⇑iPKPbc	PKPbc	12 44 11.0	-0.9
	comp=Z,59nm,1.7s,SNR=22						
SFTF	Sexfontaines	149.49	355	ePKPbc	PKPbc	12 44 06.6	0.0
SFTF	Sexfontaines	149.49	355	ePKPdf	PKPdf	12 44 06.6	0.0
NVR	Nevrokopi	149.54	325	P	PKPbc	12 44 11.5	-0.7
NVR	Nevrokopi	149.54	325	P	PKPbc	12 44 11.5	-0.7
HAU	Haudompre	149.56	353	ePKIKP	PKPdf	12 44 06.6	-0.2
HAU	Haudompre	149.56	353	ePKIKP	PKPdf	12 44 06.6	-0.2
HAU	Haudompre	149.56	353	ePKPdf	PKPdf	12 44 06.6	-0.2
KKB	Krupnik	149.59	327	P	PKPbc	12 44 12.1	-0.2
MOF	Molkenrain	149.62	352	PKP	PKPbc	12 44 12.1	-0.1
ABTA	Abfaltersbach	149.65	345	i PKPbc	PKPbc	12 44 11.7	-0.6
	comp=Z,70nm,1.0s,SNR=23						
HINF	Hinteralfeld	149.69	353	ePKIKP	PKPdf	12 44 06.7	-0.3
HINF	Hinteralfeld	149.69	353	ePKIKP	PKPdf	12 44 06.7	-0.3
HINF	Hinteralfeld	149.69	353	ePKPdf	PKPdf	12 44 06.7	-0.3
DAVA	Damuels	149.72	348	⇑iPKiKP	PKPbc	12 44 12.5	-0.1
	comp=Z,74nm,1.1s,SNR=15						
LJU	Ljubljana	149.73	342	ePKPbc	PKPbc	12 44 11.0	-1.4
FETA	Feichten	149.81	347	⇑iPKiKP	PKPbc	12 44 12.7	-0.1
	comp=Z,55nm,1.1s,SNR=11						
VISS	Visnje	149.85	341	i PKPdf	PKPdf	12 44 07.0	-0.3
VISS				i PKPbc	PKPbc	12 44 12.6	-0.1
VISS				i PKPab	PKPab	12 44 20.4	-0.2
BOJS	Bojanci	149.99	340	i PKPdf	PKPdf	12 44 08.1	+0.6
BOJS				ePKPbc	PKPbc	12 44 13.2	+0.2
JAVS	Javornik	150.01	342	i PKPbc	PKPbc	12 44 12.7	-0.5
JAVS				ePKPab	PKPab	12 44 20.6	-0.8
LOMF	Lomont	150.15	352	PKP	PKPbc	12 44 13.6	+0.1
VAY	Valandovo	150.25	327	i PKP	PKPbc	12 44 13.0	-0.8
TRI	Trieste	150.26	342	ePKIKP	PKPbc	12 44 13.1	-0.5
TRI				e		12 44 21.8	
TRI	Trieste	150.26	342	ePKPbc	PKPbc	12 44 13.1	-0.5
TRI				ePKPab	PKPab	12 44 21.8	-0.5
SKO	Skopje	150.35	329	i PKP	PKPbc	12 44 13.6	-0.4
LOR	Lormes	150.51	356	ePKIKP	PKPdf	12 44 08.4	+0.2
LOR	Lormes	150.51	356	ePKIKP	PKPdf	12 44 08.4	+0.2
LOR	Lormes	150.51	356	ePKPdf	PKPdf	12 44 08.4	+0.2
TUE	Stuetta	150.61	349	ePKPdf	PKPdf	12 44 08.8	+0.2
TUE				ePKPbc	PKPbc	12 44 14.3	-0.5
TUE				ePKPab	PKPab	12 44 24.3	+0.3
SSF	Saint Saulge	150.73	357	ePKIKP	PKPdf	12 44 08.8	+0.2
	comp=Z,9.0nm,0.7s						
SSF	Saint Saulge	150.73	357	ePKIKP	PKPdf	12 44 08.8	+0.2
SSF	Saint Saulge	150.73	357	ePKPdf	PKPdf	12 44 08.8	+0.2
CABF	La Chapelle	150.97	353	ePKIKP	PKPdf	12 44 09.6	+0.5
	comp=Z,16nm,0.9s						
CABF	La Chapelle	150.97	353	ePKIKP	PKPdf	12 44 09.6	+0.5
CABF	La Chapelle	150.97	353	ePKPdf	PKPdf	12 44 09.6	+0.5
AVF	Avril sur Loir	151.01	357	ePKIKP	PKPdf	12 44 08.9	-0.1
AVF	Avril sur Loir	151.01	357	ePKIKP	PKPdf	12 44 08.9	-0.1
AVF	Avril sur Loir	151.01	357	ePKPdf	PKPdf	12 44 08.9	-0.1
PHP	Peshkopia	151.06	329	P	PKPbc	12 44 15.1	-0.6
PHP	Peshkopia	151.06	329	PKIKP	PKPbc	12 44 15.1	-0.6
PHP	Peshkopia	151.06	329	P	PKPbc	12 44 15.1	-0.6
LCHF	La Chataignera	151.14	3	PKP	PKPbc	12 44 16.2	+0.6
MFF	Saint Martin d	151.23	2	ePKIKP	PKPdf	12 44 09.2	-0.1
	comp=Z,17nm,0.9s						
MFF	Saint Martin d	151.23	2	ePKIKP	PKPdf	12 44 09.2	-0.1
MFF	Saint Martin d	151.23	2	ePKPdf	PKPdf	12 44 09.2	-0.1
FNA	Florina	151.26	327	P	PKPbc	12 44 15.5	-0.7
FNA	Florina	151.26	327	PKIKP	PKPbc	12 44 15.5	-0.7
FNA	Florina	151.26	327	P	PKPbc	12 44 15.5	-0.7
OHR	Ohrid	151.31	328	i PKP	PKPbc	12 44 15.0	-1.3
TCF	Toulx Ste Croi	151.56	359	ePKIKP	PKPdf	12 44 09.8	-0.1
TCF	Toulx Ste Croi	151.56	359	ePKIKP	PKPdf	12 44 09.8	-0.1
TCF	Toulx Ste Croi	151.56	359	ePKPdf	PKPdf	12 44 09.8	-0.1
NEST	Nestorio	151.70	327	P	PKPbc	12 44 16.8	-0.5
AGO	Saint Agoulin	151.76	357	PKP	PKPbc	12 44 16.6	-0.5
PLDF	La Plantade	151.82	357	PKP	PKPbc	12 44 16.9	-0.4
LPL	La Plagne	151.96	352	ePKIKP	PKPdf	12 44 12.3	+1.5
LPL	La Plagne	151.96	352	ePKIKP	PKPdf	12 44 12.3	+1.5
LPL	La Plagne	151.96	352	ePKPdf	PKPdf	12 44 12.3	+1.5
PYM	Petit Puy Mans	152.07	357	PKP	PKPbc	12 44 17.5	-0.4
MAKR	Makrakomi, Fth	152.11	324	P	PKPbc	12 44 17.6	-0.5
MAKR	Makrakomi, Fth	152.11	324	P	PKPbc	12 44 17.6	-0.5
BNI	Bardonecchia	152.43	352	ePKIKP	PKPdf	12 44 12.0	+0.6
BNI				e		12 44 32.1	
BNI	Bardonecchia	152.43	352	ePKPdf	PKPdf	12 44 11.9	+0.6
BNI				ePKPbc	PKiKP	12 44 19.3	+0.4
BNI				ePKPab	PKPab	12 44 32.1	+0.4
SSB	Saint Sauveur	152.44	355	ePKIKP	PKPdf	12 44 11.5	+0.3
SSB				e		12 44 31.5	
SSB	Saint Sauveur	152.44	355	PKP	PKPbc	12 44 18.8	+0.1
SSB	Saint Sauveur	152.44	355	ePKPdf	PKPdf	12 44 11.5	+0.3
SSB				ePKPbc	PKPbc	12 44 18.7	0.0
SSB				ePKPab	PKPab	12 44 31.5	-0.1
KALE	Kalithea	152.53	323	P	PKPbc	12 44 18.5	-0.6
KALE	Kalithea	152.53	323	P	PKPbc	12 44 18.5	-0.6
RJF	Les Rejaudoux	152.55	360	ePKIKP	PKPdf	12 44 11.4	+0.1
	comp=Z,19nm,0.9s						
RJF	Les Rejaudoux	152.55	360	ePKIKP	PKPdf	12 44 11.4	+0.1
RJF	Les Rejaudoux	152.55	360	ePKPdf	PKPdf	12 44 11.4	+0.1
LBL	Lubilhac	152.57	357	PKP	PKPbc	12 44 18.9	-0.1
ORIF	Oris-en-Rattie	152.66	353	ePKIKP	PKPdf	12 44 12.0	+0.4
ORIF	Oris-en-Rattie	152.66	353	ePKIKP	PKPdf	12 44 12.0	+0.4
ORIF	Oris-en-Rattie	152.66	353	ePKPdf	PKPdf	12 44 12.0	+0.4
GUR	Goura	152.71	322	P	PKPbc	12 44 18.8	-0.8
GUR	Goura	152.71	322	P	PKPbc	12 44 18.8	-0.8
MBDF	Montbardon	152.73	351	ePKIKP	PKPdf	12 44 12.1	+0.3
MBDF	Montbardon	152.73	351	ePKIKP	PKPdf	12 44 12.1	+0.3
MBDF	Montbardon	152.73	351	ePKPdf	PKPdf	12 44 12.1	+0.3
KLV	Kalavryta, Ach	152.75	322	P	PKPbc	12 44 18.4	-1.2
KLV	Kalavryta, Ach	152.75	322	P	PKPbc	12 44 18.4	-1.2
PDO	Prodromos	152.93	324	P	PKPbc	12 44 19.8	-0.1
OG26	St.-Nazaire-De	153.06	354	PKP	PKPbc	12 44 20.2	+0.1
RLS	Riolos of Patr	153.14	323	P	PKPbc	12 44 20.4	+0.1
RLS	Riolos of Patr	153.14	323	P	PKPbc	12 44 20.4	+0.1
SAOF	Saorge	153.33	353	PKP	PKPbc	12 44 20.3	-0.3
AUTN	L'Aution	153.34	350	PKP	PKPbc	12 44 20.6	-0.3
TOUF	Mont Tournerai	153.36	350	PKP	PKPbc	12 44 20.6	-0.3
PGAV	Gavieira, Arco	154.55	17	PKPab	PKPab	12 44 40.5	-0.3
PCAB	Cabril	154.85	17	PKPab	PKPab	12 44 42.1	+0.1
ETSF	Etsaut	154.91	3	ePKIKP	PKPdf	12 44 15.3	+0.5
	comp=Z,11nm,1.0s						
ETSF	Etsaut	154.91	3	ePKIKP	PKPdf	12 44 15.3	+0.5
ETSF	Etsaut	154.91	3	ePKPdf	PKPdf	12 44 15.3	+0.5
PBRG	Braganca	155.09	14	PKPab	PKPab	12 44 42.8	-0.2
POLO	Lamas de Olo	155.23	16	PKPdf	PKPdf	12 44 25.0	+10
POLO	Lamas de Olo	155.23	16	PKPab	PKPab	12 44 43.8	+0.1
PVRL	Vila Real	155.34	16	PKPab	PKPab	12 44 44.2	+0.1
MVO	Moncorvo	155.62	15	PKPdf	PKPdf	12 44 16.1	+0.3
MVO	Moncorvo	155.62	15	PKPab	PKPab	12 44 45.4	0.0
PVIS	Viseu	155.81	17	PKPab	PKPab	12 44 46.2	0.0
MTE	Manteigas	156.20	17	PKPab	PKPab	12 44 47.8	-0.1
PCAS	Casmilo, Conde	156.25	19	PKPab	PKPab	12 44 47.8	-0.2
PTOM	Tomar	156.67	19	PKPab	PKPab	12 44 49.7	-0.1
PCBR	Castelo Branco	156.74	17	PKPdf	PKPdf	12 44 16.4	-0.8
PCBR	Castelo Branco	156.74	17	PKPab	PKPab	12 44 49.6	-0.5
PMAFR	Mafra	156.98	21	PKPab	PKPab	12 44 51.2	0.0
PMTG	Montargil	157.23	19	PKPab	PKPab	12 44 51.9	-0.4
PESTR	Estremoz	157.61	18	PKPab	PKPab	12 44 53.7	-0.3
ESDC	Sonseca Array	157.71	11	PKP	PKPdf	12 44 18.6	+0.1
	comp=Z,0.2nm,0.3s,baz=341,slow=2.7,SNR=5.9						
ESDC				PKPab	PKPab	12 44 54.1	-0.3
	comp=Z,8.6nm,0.8s,baz=345,slow=4.2,SNR=22						
ESDC				PP	PP	12 48 31.9	-3.4
	comp=Z,0.5nm,0.4s,baz=335,slow=5.1,SNR=4.5						
EVO	Evora	157.79	20	PKPab	PKPab	12 44 54.4	-0.3
PNCL	Nicolau / Gran	158.00	21	PKPdf	PKPdf	12 44 19.4	+0.6
PNCL	Nicolau / Gran	158.00	21	PKPab	PKPab	12 44 55.4	-0.2
MESJ	Messejana	158.35	21	PKPdf	PKPdf	12 44 20.2	+1.0
MESJ	Messejana	158.35	21	PKPab	PKPab	12 44 56.8	-0.4
PBAR	Barrancos	158.41	18	PKPab	PKPab	12 44 57.6	+0.1
PVAQ	Vaqueiros	158.91	20	PKPab	PKPab	12 44 59.9	+0.3
KEST	Kesra	160.73	340	PKPab	PKPab	12 45 08.1	+0.3
	comp=Z,3.8nm,0.7s,baz=325,slow=2.1,SNR=5.4						
DBIC	Dimbokro	167.45	151	PKPab	PKPab	12 45 38.9	+1.2
	comp=Z,1.4nm,0.6s,baz=170,slow=6.1,SNR=2.5						
TORD	Torodi Ar. Bea	175.38	185	PKP	PKPdf	12 44 31.2	-1.1
	comp=Z,1.0nm,0.6s,baz=83,slow=0.3,SNR=6.8						
TORD				PKPab	PKPab	12 46 12.6	-0.2
	comp=Z,4.8nm,0.7s,baz=192,slow=3.5,SNR=21						
TORD				PP	PP	12 50 04.7	+0.4
	comp=Z,2.6nm,0.8s,baz=161,slow=5.2,SNR=6.6						

DJA 16 12:31:02.1±0.4, 3°S±4°×12°7E±°, h10km, M4.0/8, mb4.7/1, MLv3.6/8, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NLAI	Namlea	0.32	275	P	Pg	Pg	12 31 08.8	+0.3
NLAI				S	Sg	Sg	12 31 13.7	+0.9
MSAI	Masohi	1.51	93	P	Pn	Pn	12 31 29.0	-0.2
MSAI				S	Sb	Sb	12 31 49.3	-0.1
SANI	Sanana	1.88	310	P	Pn	Pn	12 31 33.7	-0.6
SANI				S	Sb	Sb	12 31 59.0	-1.0
LBMI	Labuha	2.62	2	P	Pn	Pn	12 31 44.9	+0.4
LBMI				S	Sn	Sn	12 32 17.0	+0.7
BNDI	Bandanaira	2.77	117	P	Pn	Pn	12 31 46.1	-0.5
SWI	Sorong	4.52	58	P	Pn	Pn	12 32 12.4	+1.7
SWI				S	Sn	Sn	12 33 03.6	+0.3
KMSI	Cibinong	5.14	318	P	Pn	Pn	12 32 19.4	+0.2

GUC 16 12:40:33.7±0.5, 36°.11S×73°.46W, h9km±2km, ML4.2, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
COCH	Cobquecura	0.55	93	⇓iP	Pg	Pg	12 40 43.6	-0.6
COCH				i S	Sg	Sg

EBER	**Berja**	4.49	278	P	Pn	13 09 50.8	+0.5
	SNR=7.9						
EMOS	**Mosqueruela**	4.66	329	⇑P	Pn	13 09 54.7	+2.0
	2.3nm,0.1s,SNR=18						
EMOS				S	Sn	13 10 45.1	-0.8
	2.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	4.66	329	P	Pn	13 09 54.7	+2.0
	2.3nm,0.1s,SNR=18						
EMOS				S	Sn	13 10 45.1	-0.8
	2.2nm,0.2s,SNR=7.9						
EMLI	**Melilla**	4.68	258	S	Sn	13 10 45.4	-0.9
	64nm,0.2s,SNR=7.9						
EMEL	**Melilla**	4.69	258	S	Sn	13 10 45.4	-1.0
	64nm,0.2s,SNR=7.9						
EQES	**Quesada**	4.79	289	P	Pn	13 09 55.0	+0.7
	0.2nm,0.2s,SNR=7.9						
EQES				S	Sn	13 10 46.6	-2.4
	0.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	4.79	289	P	Pn	13 09 55.0	+0.7
	0.2nm,0.2s,SNR=7.9						
EQES				S	Sn	13 10 46.6	-2.4
	0.3nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	4.90	339	P	Pn	13 09 57.4	+1.6
	0.4nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	4.90	339	P	Pn	13 09 57.4	+1.6
	0.4nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	5.36	358	P	Pn	13 10 04.4	+2.2
	0.5nm,0.1s,SNR=7.9						
CFON				S	Sn	13 11 02.6	-0.4
	0.3nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	5.36	358	P	Pn	13 10 04.4	+2.2
	0.5nm,0.1s,SNR=7.9						
CFON				S	Sn	13 11 02.6	-0.4
	0.3nm,0.1s,SNR=7.9						
EMIR	**Miracle**	5.58	351	⇑P	Pn	13 10 08.0	+2.8
	1.9nm,0.0s,SNR=18						
EMIR	**Miracle**	5.58	351	P	Pn	13 10 08.0	+2.8
	1.9nm,0.0s,SNR=18						
ETOR	**Torete**	5.75	322	P	Pn	13 10 11.0	+3.4
	0.4nm,0.0s,SNR=7.9						
ETOR	**Torete**	5.75	322	P	Pn	13 10 11.0	+3.4
	0.4nm,0.0s,SNR=7.9						

IDC 16 13:37:06.0±2.4, 62°22S×161°25E, h0km, mb3.8/2, mb1 4.0/3, ms1mx3.8/11, mbtmp3.8/3, ML3.4/1, MS3.9/9, Ms1 3.9/9, ms1mx3.7/20, Error ellipse: s-maj=121.5km s-min=40.2km az=68.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	15.38	180	Pn	Pn	13 40 44.2	+0.3
	0.1nm,0.3s,baz=352,slow=10,SNR=10						
VNDA				LR	LR	13 45 51.8	
	comp=Z,805nm,19.2s,baz=3.5,slow=34						
QSPA	**South Pole Qui**	27.87	180	LR	LR	13 52 51.2	
	comp=Z,387nm,18.2s,baz=19,slow=34						
STKA	**Stephens Creek**	32.89	328	LR	LR	13 55 00.5	
	comp=Z,506nm,19.6s,baz=197,slow=33						
MAW	**Mawson**	37.83	218	LR	LR	14 00 25.1	
	comp=Z,202nm,19.0s,baz=61,slow=37						
H01W1	**Cape Leeuwin H**	40.06	291	T	T	14 27 41.1	
	baz=146,slow=75,SNR=67						
H01W2	**Cape Leeuwin H**	40.07	291	T	T	14 27 41.5	
	baz=146,slow=75,SNR=96						
H01W3	**Cape Leeuwin H**	40.08	291	T	T	14 27 42.4	
	baz=146,slow=75,SNR=78						
ASAR	**Alice Springs**	42.76	322	P	P	13 45 05.2	+0.3
	2.0nm,0.8s,baz=160,slow=8.6,SNR=15						
WRA	**Warramunga Arr**	46.16	324	P	P	13 45 31.3	-0.8
	0.8nm,1.0s,baz=160,slow=6.2,SNR=3.2						
PMSA	**Palmer Station**	48.93	156	LR	LR	14 03 37.1	
	comp=Z,176nm,18.2s,baz=139,slow=32						
TBI	**Tubuai**	51.02	64	*e*T	T	14 40 23.8	
	5.9nm,0.3s						
TVO	**Taravao**	56.08	61	*e*T	T	14 46 40.2	
	0.8nm,0.3s						
PPT2	**Papeete2**	56.12	60	*e*S	S	13 54 44.7	+7.8
	50nm,25.5s						
PPT2				*e*LR	LR	14 02 48.7	
	111nm,28.0s						
PPT	**Papeete**	56.14	60	LR	LR	14 06 30.3	
	comp=Z,21nm,18.0s,baz=156,slow=31						
USHA	**Ushuaia**	56.97	148	LR	LR	14 05 16.8	
	comp=Z,76nm,20.1s,baz=223,slow=30						
RKT	**Rikitea**	57.62	78	*e*T	T	14 48 45.4	
	2.5nm,0.3s						
VAH	**Vaihoa**	59.03	61	*e*T	T	14 50 21.7	
	25nm,0.3s						
H08S2	**Diego Garcia H**	82.71	268	T	T	15 21 09.6	
	baz=146						
H08S1	**Diego Carcia H**	82.72	268	T	T	15 21 17.0	
	baz=146						
H08S3	**Diego Garcia H**	82.73	268	T	T	15 21 13.3	
	baz=146						
BOSA	**Boshof**	82.84	218	LR	LR	14 25 07.1	
	comp=Z,44nm,18.5s,baz=162,slow=35						
CMAR	**Chiang Mai Arr**	94.09	303	LR	LR	14 29 41.1	
	comp=Z,28nm,20.2s,baz=154,slow=34						
ILAR	**Eielson Array**	132.39	27	PKP	PKPdf	13 56 20.0	-0.4
	0.4nm,0.8s,baz=278,slow=3.4,SNR=4.2						

IDC 16 13:49:39.8±16.0, 56°05S×27°43W, h178km±143km, mb3.4/2, mb1 3.6/2, mb1mx3.2/18, mbtmp3.9/2, Error ellipse: s-maj=77.9km s-min=32.4km az=111.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	46.56	183	P	P	13 57 48.7	-0.1
	1.2nm,0.6s,baz=189,slow=7.6,SNR=8.3						
TORD	**Torodi Ar. Bea**	73.12	30	P	P	14 00 50.5	0.0
	0.5nm,0.5s,baz=201,slow=7.0,SNR=6.2						
YKA	**Yellowknife Ar**	136.08	318	PKP	PKPdf	14 08 36.8	-1.3
	0.2nm,0.6s,baz=115,slow=2.7,SNR=4.1						
ILAR	**Eielson Array**	150.02	312	PKPbc	PKPbc	14 09 07.3	-0.2
	1.4nm,0.8s,baz=131,slow=2.9,SNR=15						
SONM	**Songino Array**	150.86	87	PKPbc	PKPbc	14 09 10.0	-0.2
	0.7nm,0.4s,baz=211,slow=3.7,SNR=5.8						

IDC 16 13:59:59.5±2.4, 38°19S×73°33W, h0km, mb3.7/2, mb1 3.8/3, ms1mx3.6/15, mbtmp3.5/3, ML2.9/1, Error ellipse: s-maj=123.5km s-min=20.2km az=53.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	3.33	141	Pn	Pn	14 00 54.3	+1.3
	0.3nm,0.3s,baz=315,slow=12,SNR=6.4						
PLCA				Lg	Lg	14 01 44.1	
	4.9nm,0.3s,baz=58,slow=22,SNR=7.5						
TXAR	**Lajitas Array**	72.92	333	P	P	14 11 30.4	-0.2
	0.4nm,0.8s,baz=152,slow=7.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	86.61	71	P	P	14 12 45.2	+0.1
	0.6nm,0.8s,baz=225,slow=3.9,SNR=2.2						

*NEIC **16** 14:21:11.2, 36°65S×176°72E, h268km, MG4.0(WEL), After WEL.*

WEL 16 14:21:13.8±0.2, 36°70S×176°68E, h240km±3km, ML4.0/11, 4C-2D, Error ellipse: s-maj=4.8km s-min=4.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	1.37	140	PN	Pn	14 21 50.3	+0.2
HAZ				SN	S	14 22 18.3	-0.4
MXZ	**Matakaoa Point**	1.56	124	⇓PN	Pn	14 21 51.7	+0.2
MXZ				SN	S	14 22 21.0	-0.2
MXZ				AML	AML	14 22 23.8	
MXZ	**Matakaoa Point**	1.56	124	Pn	Pn	14 21 51.7	+0.2
URZ	**Urewera**	1.59	168	⇑PN	Pn	14 21 52.0	+0.2
URZ				*e*SN	S	14 22 22.0	+0.2
URZ				AML	AML	14 22 23.5	
URZ	**Urewera**	1.59	168	Pn	Pn	14 21 52.0	+0.2
MWZ	**Matawai**	1.76	158	PN	Pn	14 21 53.3	0.0
MWZ				SN	S	14 22 24.3	-0.2
MWZ				AML	AML	14 22 27.5	
MWZ				AML	AML	14 22 27.9	
MWZ				AML	AML	14 22 29.0	
MWZ	**Matawai**	1.76	158	Pn	Pn	14 21 53.4	+0.1
WMGZ	**Waiomatatini S**	1.78	129	⇑PN	Pn	14 21 53.6	+0.2
TWGZ	**Tauwhareparae**	1.80	145	PN	Pn	14 21 54.3	+0.6
PUZ	**Puketiti**	1.86	138	PN	Pn	14 21 54.1	0.0
PUZ				AML	AML	14 22 27.5	
PUZ				AML	AML	14 22 28.0	
PUZ	**Puketiti**	1.86	138	Pn	Pn	14 21 54.1	0.0
RAGZ	**Rawiri**	1.88	162	PN	Pn	14 21 55.0	+0.6
TKGZ	**Te Karaka**	1.96	152	PN	Pn	14 21 55.0	0.0
SNGZ	**Shannon Statio**	2.14	166	PN	Pn	14 21 56.9	+0.2
CNGZ	**Carnagh Statio**	2.15	146	PN	Pn	14 21 57.0	+0.2
CNGZ	**Carnagh Statio**	2.15	146	Pn	Pn	14 21 56.9	+0.1
RIGZ	**Rimuhau**	2.17	157	⇑PN	Pn	14 21 57.2	+0.2
RAHZ	**Arahi**	2.23	172	PN	Pn	14 21 58.1	+0.4
RAHZ	**Arahi**	2.23	172	Pn	Pn	14 21 58.1	+0.4
NMHZ	**Naumai**	2.39	178	⇓PN	Pn	14 21 59.9	+0.7
NMHZ	**Naumai**	2.39	178	Pn	Pn	14 21 60.0	+0.7
WHHZ	**Waihua**	2.41	170	PN	Pn	14 21 59.4	+0.1
KNZ	**Kokohu**	2.44	162	⇑PN	Pn	14 21 59.1	-0.5
KNZ	**Kokohu**	2.44	162	Pn	Pn	14 21 59.1	-0.5
BKZ	**Black Stump Fm**	2.46	183	PN	Pn	14 21 59.6	-0.4
BKZ				AML	AML	14 22 38.1	
BKZ				AML	AML	14 22 38.3	
BKZ	**Black Stump Fm**	2.46	183	Pn	Pn	14 21 59.6	-0.4
ARHZ	**Aropaoanui**	2.57	175	PN	Pn	14 22 00.9	0.0
MHGZ	**Mahia Peninsul**	2.63	159	PN	Pn	14 22 01.2	-0.4
MHGZ	**Mahia Peninsul**	2.63	159	Pn	Pn	14 22 01.2	-0.4
MCHZ	**McNeill Hill**	2.74	180	PN	Pn	14 22 02.8	0.0
MCHZ	**McNeill Hill**	2.74	180	Pn	Pn	14 22 02.8	0.0
TRVZ	**Turoa**	2.74	199	PN	Pn	14 22 03.5	+0.4
TRVZ	**Turoa**	2.74	199	Pn	Pn	14 22 03.5	+0.4
PKVZ	**Pokaka**	2.79	202	PN	Pn	14 22 04.2	+0.8
PKVZ	**Pokaka**	2.79	202	Pn	Pn	14 22 04.1	+0.7
MOVZ	**Moawhango**	2.80	195	PN	Pn	14 22 03.2	-0.3
MOVZ	**Moawhango**	2.80	195	Pn	Pn	14 22 03.2	-0.3
BHHZ	**Black Hill Sta**	2.82	190	PN	Pn	14 22 03.4	-0.4
KRHZ	**Kereru**	2.95	185	PN	Pn	14 22 04.2	-0.9
CKHZ	**Cape Kidnapper**	2.97	174	PN	Pn	14 22 04.4	-0.9
CKHZ	**Cape Kidnapper**	2.97	174	Pn	Pn	14 22 04.5	-0.7
KAHZ	**Kahuranaki**	3.09	177	PN	Pn	14 22 05.9	-0.8
KAHZ	**Kahuranaki**	3.09	177	Pn	Pn	14 22 05.9	-0.8
PNHZ	**Pukenui**	3.23	187	PN	Pn	14 22 06.7	-1.4
PNHZ	**Pukenui**	3.23	187	Pn	Pn	14 22 06.9	-1.3
PXZ	**Pawanui**	3.33	178	PN	Pn	14 22 07.8	-1.4
PXZ				AML	AML	14 22 52.3	
PXZ				AML	AML	14 22 52.3	
PXZ				AML	AML	14 22 53.5	
PXZ				AML	AML	14 22 53.6	
PXZ	**Pawanui**	3.33	178	Pn	Pn	14 22 07.8	-1.4
TSZ	**Takapari Road**	3.40	189	PN	Pn	14 22 08.7	-1.4
TSZ	**Takapari Road**	3.40	189	Pn	Pn	14 22 08.7	-1.4
DVHZ	**Dannevirke**	3.62	186	PN	Pn	14 22 11.0	-1.6
POWZ	**Post Office Ro**	3.75	191	PN	Pn	14 22 12.8	-1.3
POWZ	**Post Office Ro**	3.75	191	Pn	Pn	14 22 12.8	-1.3
ANWZ	**Angora Road**	3.76	182	*e*PN	Pn	14 22 12.6	-1.6
PRWZ	**Pori Road**	3.89	188	PN	Pn	14 22 14.2	-1.6
MRZ	**Mangatainoka R**	4.05	192	PN	Pn	14 22 15.2	-2.4
MRZ				AML	AML	14 23 07.3	
MRZ				AML	AML	14 23 07.3	
MRZ	**Mangatainoka R**	4.05	192	Pn	Pn	14 22 12.6	-5.0
TIWZ	**Tintock**	4.12	188	PN	Pn	14 22 16.7	-1.8
TIWZ				AML	AML	14 23 08.8	
TIWZ				AML	AML	14 23 09.4	
TIWZ	**Tintock**	4.12	188	Pn	Pn	14 22 16.7	-1.8
OGWZ	**Otaki Gorge**	4.28	196	PN	Pn	14 22 17.9	-2.4
OGWZ	**Otaki Gorge**	4.28	196	Pn	Pn	14 22 17.9	-2.4
HOWZ	**Holdsworth Sta**	4.29	192	PN	Pn	14 22 17.9	-2.6
HOWZ	**Holdsworth Sta**	4.29	192	Pn	Pn	14 22 15.2	-5.3
TMWZ	**Te Maipa**	4.44	188	*e*PN	Pn	14 22 18.1	-4.3
TMWZ	**Te Maipa**	4.44	188	Pn	Pn	14 22 18.0	-4.3
MTW	**Mount Morrison**	4.54	191	PN	Pn	14 22 20.8	-2.8
MTW				AML	AML	14 23 16.9	
MTW	**Mount Morrison**	4.54	191	Pn	Pn	14 22 20.8	-2.8
CAW	**Cannon Point**	4.58	195	PN	Pn	14 22 20.9	-3.0
CAW				AML	AML	14 23 45.0	
WEL	**Wellington**	4.81	197	PN	Pn	14 22 24.0	-2.8
WEL	**Wellington**	4.81	197	Pn	Pn	14 22 24.2	-2.7
MSWZ	**Moikau Station**	4.84	193	PN	Pn	14 22 23.8	-3.3
MSWZ				AML	AML	14 23 21.6	
TCW	**Tory Channel**	4.88	202	PN	Pn	14 22 25.0	-2.7
TCW	**Tory Channel**	4.88	202	Pn	Pn	14 22 25.1	-2.5
PLWZ	**Palliser**	4.99	192	PN	Pn	14 22 25.9	-3.1
PLWZ	**Palliser**	4.99	192	Pn	Pn	14 22 25.8	-3.3
TUWZ	**Tuamarina**	5.18	203	PN	Pn	14 22 28.5	-2.9
TUWZ	**Tuamarina**	5.18	203	Pn	Pn	14 22 28.5	-2.9
NNZ	**Nelson**	5.19	209	PN	Pn	14 22 29.0	-2.5
NNZ	**Nelson**	5.19	209	Pn	Pn	14 22 21.9	-10
QRZ	**Quartz Range**	5.24	217	*e*PN	Pn	14 22 30.2	-2.0
QRZ	**Quartz Range**	5.24	217	Pn	Pn	14 22 29.2	-3.0
THZ	**Tophouse**	5.84	209	*e*PN	Pn	14 22 36.8	-2.9
THZ	**Tophouse**	5.84	209	Pn	Pn	14 22 37.1	-2.6
KHZ	**Kahutara**	6.20	202	PN	Pn	14 22 40.9	-3.2
KHZ	**Kahutara**	6.20	202	Pn	Pn	14 22 40.9	-3.2
DSZ	**Denniston Nort**	6.30	215	PN	Pn	14 22 42.5	-2.9
DSZ	**Denniston Nort**	6.30	215	Pn	Pn	14 22 42.7	-2.8
LTZ	**Lake Taylor**	6.96	208	Pn	Pn	14 22 45.4	-8.4

IDC 16 14:39:27.4±2.7, 35°43S×73°28W, h0km, mb3.6/2, mb1 3.5/4, mb1mx3.5/17, mbtmp3.5/4, ML3.2/2, MS2.6/3, Ms1 2.7/3, ms1mx2.6/22, Error ellipse: s-maj=59.9km s-min=22.1km az=90.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	5.68	49	Pn	Pn	14 40 53.8	+0.6
	0.2nm,0.3s,baz=242,slow=18,SNR=6.9						
CFAA				Sn	Sn	14 41 59.5	+0.3
	0.2nm,0.3s,baz=270,slow=14,SNR=3.0						
CFAA				LR	LR	14 42 44.9	
	comp=Z,7.8nm,19.9s,baz=243,slow=35						
PLCA	**Paso Flores**	5.71	159	Pn	Pn	14 40 54.9	+1.2
	0.3nm,0.3s,baz=330,slow=11,SNR=11						
PLCA				Lg	Lg	14 42 27.6	
	0.6nm,0.3s,baz=291,slow=14,SNR=2.5						
PLCA				LR	LR	14 43 08.3	
	comp=Z,110nm,19.6s,baz=278,slow=39						
SIV	**San Ignacio**	22.23	33	P	P	14 44 25.7	-0.1
	2.4nm,0.8s,baz=240,slow=11,SNR=4.3						
SIV				LR	LR	14 54 38.6	
	comp=Z,78nm,20.3s,baz=236,slow=41						
TORD	**Torodi Ar. Bea**	85.65	71	P	P	14 52 08.1	-0.3
	0.4nm,0.8s,baz=245,slow=2.7,SNR=2.1						
ZALV	**Zalesovo Beam**	155.98	33	PKPab	PKPab	14 59 49.6	-0.5
	0.6nm,0.6s,baz=302,slow=3.3,SNR=4.5						

*IDC **16** 14:41:10.2±1.6, 0°91S×133°50E, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.7/39, mbtmp4.1/6, ML4.1/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/34, Error ellipse: s-maj=67.9km s-min=14.8km az=79.0*

*DJA **16** 14:41:14.8±0.4, 1°S±4°×13°3E±°, h10km, M4.5/10, mb4.7/6, mB5.0/2, MLv4.4/10, Mw(mB)4.3/2*

ISC 16 14:41:13.3±1.7, 0.72S±0.08×133°45E±0°08, h31km±15km, n24, σ1°15/26, mb4.0/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	1.08	137	P	Pb	14 41 34.8	+1.4
RKPI				S	Sb	14 41 54.0	+6.9
SWI	**Sorong**	2.19	266	P	Pn	14 41 47.6	0.0
SWI				S	Sn	14 42 11.5	-2.2
SWI	**Sorong**	2.19	266	P	Pn	14 41 47.5	-0.2
	baz=2.2,SNR=104						
SWI				S	Sn	14 42 14.1	+0.4
	baz=2.2,SNR=10.0						
FAKI	**Fak Fak**	2.49	209	P	Pn	14 41 51.9	+0.1
FAKI				S	Sn	14 42 22.0	+0.8
FAKI	**Fak Fak**	2.49	209	P	Pn	14 41 51.6	-0.3
	baz=2.3,SNR=273						
FAKI				S	Sn	14 42 21.1	-0.1
	baz=2.3,SNR=9.0						
SRPI	**Serui, Papua**	3.02	112	P	Pb	14 42 05.7	-0.7
BNDI	**Bandanaira**	5.18	223	P	Pn	14 42 30.2	+1.5
BNDI				S	Sn	14 43 27.9	+0.4
MSAI	**Masohi**	5.22	240	P	Pn	14 42 29.8	+0.5
LBMI	**Labuha**	5.95	271	P	Pn	14 42 40.3	+1.0
	35nm,0.9s,0.1nm						
NLAI	**Namlea**	6.82	248	P	Pn	14 42 51.2	-0.1
	48nm,0.7s,1μm0.2nm						
KDU	**Kakadu**	11.93	185	P	Pn	14 44 00.1	-1.3
	baz=12,SNR=28						
KDU				S	Sn	14 46 04.8	-8.8
	baz=12,SNR=8.1						
MTN	**Manton Dam**	12.27	191	P	Pn	14 44 04.1	-1.8
	baz=12,SNR=80						
MTN				S	Sn	14 46 13.7	-8.0
	baz=12,SNR=7.3						
SOEI	**Soe**	12.81	225	P	Pn	14 44 14.0	+0.5
	20nm,0.8s						
BATI	**Baumata**	13.55	226	P	Pn	14 44 22.8	-0.7
BATI	**Baumata**	13.55	226	Pn	Pn	14 44 23.1	-0.4
	4.2nm,0.3s,baz=153,slow=0.3,SNR=16						
BATI				LR	LR	14 49 16.7	
	comp=Z,79nm,19.3s,baz=7.5,slow=36						
KNRA	**Kununurra**	15.57	197	P	Pn	14 44 48.3	-2.4
	baz=15,SNR=21						
WRA	**Warramunga Arr**	19.13	177	P	P	14 45 33.7	-0.3
	0.3nm,0.3s,baz=357,slow=13,SNR=15						
WRA				S	Sn	14 48 59.3	-9.3
	0.2nm,0.3s,baz=352,slow=24,SNR=5.8						
ASAR	**Alice Springs**	22.82	179	P	P	14 46 13.8	-0.1
	4.0nm,0.8s,baz=5.6,slow=12,SNR=42						
ASAR				S	S	14 50 22.9	+1.6
	0.7nm,0.8s,baz=355,slow=20,SNR=3.8						
STKA	**Stephens Creek**	31.94	167	P	P	14 47 35.6	-0.8
	0.9nm,0.5s,baz=341,slow=10,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	38.57	56	T	T	15 29 52.8	
	baz=241						
H11N2	**WAKE ISLAND Hy**	38.58	56	T	T	15 29 53.9	
	baz=241						
H11N3	**WAKE ISLAND Hy**	38.58	56	T	T	15 29 58.5	
	baz=241						
MKAR	**Makanchi Array**	65.05	324	P	P	14 51 52.4	+1.6
	0.4nm,0.4s,baz=101,slow=7.5,SNR=7.6						
KURBB	**Kurchatov Arra**	69.11	326	P	P	14 52 20.7	+4.2
	0.8nm,0.2s,baz=120,slow=5.8,SNR=5.8						

*IDC **16** 14:45:07.9±1.1, 7°82N×127°00E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/27, mbtmp3.8/7, ML4.5/1, Error ellipse: s-maj=55.2km s-min=20.9km az=80.0*

*ISCJB **16** 14:45:16.0±0.7, 7°51N±0°05×126°64E±0°07, h71km, mb3.6/6, Error ellipse: s-maj=10.3km s-min=5.3km az=150.0*

*MAN **16** 14:45:16, 7°48N×126°60E, h41km, mb4.8, ML3.7, MS3.7*

ISC 16 14:45:17.4±0.8, 7°50N±0°05×126°64E±0°09, h71km, n16, σ1°53/22, mb3.6/6, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	0.67	214	*e*P	Pn	14 45 29.6	-2.4
MATI				*e*S	Sn	14 45 40.1	-2.7
BUKP	**Musuan**	1.60	284	*e*P	Pn	14 45 43.1	-0.8
BUKP				*e*S	Sn	14 46 03.0	-0.9
BUTP	**Butuan**	1.77	326	*e*P	Pn	14 45 44.9	-1.2
BUTP				*e*S	Sn	14 46 07.2	-0.6
CGP	**Cagayan de Oro**	2.14	296	*e*P	Pn	14 45 49.9	-1.1
CGP				*i* S	Sn	14 46 14.9	-1.9
CTBH	**Cotabato--PC H**	2.39	263	⇓*i*P	Pn	14 45 54.1	-0.3
SCPH	**Surigao**	2.54	334	⇓*e*P	Pn	14 45 57.1	+0.7
MSLP	**Maasin**	3.15	326	*e*P	Pn	14 46 03.6	-1.1
MSLP				*e*S	Sn	14 46 41.1	-0.1
PAGZ	**Pagadian**	3.24	276	*e*P	Pn	14 46 08.2	+2.2
TBP	**Tagbilaran**	3.50	309	*e*P	Pn	14 46 09.8	+0.2
TBP				*e*S	Sn	14 46 49.1	-0.7
BATI	**Baumata**	17.84	190	P	Pn	14 49 23.8	+2.8
	1.7nm,0.3s,baz=278,slow=4.6,SNR=4.4						
WRA	**Warramunga Arr**	28.30	165	P	P	14 51 05.2	+0.6
	0.5nm,0.7s,baz=347,slow=10,SNR=5.6						
ASAR	**Alice Springs**	31.78	167	P	P	14 51 36.4	+1.1
	0.3nm,0.5s,baz=348,slow=7.7,SNR=3.5						
NWAO	**Narrogin (SRO)**	41.19	192	P	P	14 52 56.5	+1.4
	4.2nm,0.8s,baz=0.0,slow=11,SNR=2.4						
STKA	**Stephens Creek**	41.68	161	P	P	14 52 59.7	+0.5
	0.7nm,0.5s,baz=349,slow=4.9,SNR=6.6						
MKAR	**Makanchi Array**	54.45	324	P	P	14 54 36.6	-1.0
	0.7nm,0.6s,baz=108,slow=4.7,SNR=7.5						
ILAR	**Eielson Array**	81.76	26	P	P	14 57 26.5	-1.8
	0.2nm,0.5s,baz=256,slow=3.6,SNR=4.9						

IDC 16 14:45:19.9±382.0, 66°07N×37°21E, h0km, Error ellipse: s-maj=178.3km s-min=149.0km az=63.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	9.39	180	*i*		15 43 37.8	
	baz=356,slow=339,SNR=0.8						
I31KZ	**AKTYUBINSK INF**	18.99	136	*i*		16 41 10.0	
	baz=341,slow=339,SNR=0.5						
I18DK	**QAANAAQ INFRAS**	30.03	335	*i*		17 47 20.0	
	baz=45,slow=328,SNR=0.6						
I53US	**FAIRBANKS INFR**	49.29	3	*i*		19 52 40.0	
	baz=356,slow=331,SNR=0.4						

*BJI **16** 14:53:07.9, 1°64N×127°21E, h78km, mB5.1/29, mb4.6/47, Ms4.6/19, Ms7 4.2/18*

*ISCJB **16** 14:53:11.0±0.4, 2°21N±0°02×127°30E±0°03, h76km±4km, mb4.8/71, Error ellipse: s-maj=5.1km s-min=3.3km az=156.9*

*IDC **16** 14:53:11.6±1.7, 2°15N×127°31E, h65km±14km, mb4.3/26, mb1 4.4/27, mb1mx4.4/31, mbtmp4.6/27, MS3.4/11, Ms1 3.5/11, ms1mx3.1/40, Error ellipse: s-maj=18.7km s-min=7.7km az=76.0*

*NEIC **16** 14:53:13.1±0.7, 2°13N×127°22E, h82km±6km, mb4.8/37, Error ellipse: s-maj=6.9km s-min=4.3km az=64.0*

*KLM **16

TTSI	Tana Toraja	9.15	235	P		Pn	14 55 33.6 +11
MYLDM	Lahad Datu	9.32	289	⇓P		Pn	14 55 24.8 +0.1
MYLDM	Lahad Datu	9.32	289	ePn		Pn	14 55 24.3 -0.3
TSM	Tawau	9.70	283	⇑P		Pn	14 55 27.7 -2.0
SPSI	Sidrap Palu	9.74	231	P		Pn	14 55 31.5 +1.2
	59nm,0.8s,837nm						
SRPI	Serui, Papua	9.75	114	P		Pn	14 55 36.0 +5.5
BNSI	Bone	9.76	228	P		Pn	14 55 28.4 -2.2
	63nm,1.0s						
BKSI	Bulukumba	10.38	224	P		Pn	14 55 40.1 +1.0
	49nm,0.7s,542nm						
SDKM	Sandakan	10.70	289	⇓P		Pn	14 55 42.2 -1.4
SAUI	Saumlaki	10.84	159	P		Pn	14 55 47.2 +1.8
	282nm,0.9s						
SAUI	Saumlaki	10.84	159	ePn		Pn	14 55 46.5 +1.1
KDM	Kudat	11.49	294	⇓P		Pn	14 55 56.5 +2.3
KKM	Kota Kinabalu	11.75	289	⇓P		Pn	14 55 57.0 -0.9
KKM	Kota Kinabalu	11.75	289	ePn		Pn	14 55 57.0 -0.9
MMRI	Maumere	11.90	205	P		Pn	14 56 10.4 +11
MMRI	Maumere	11.90	205	ePn		Pn	14 55 57.5 -2.2
EDFI	Ende, Flores	12.24	207	P		P	14 56 18.2 +4.3
SOEI	Soe	12.26	194	P		Pn	14 56 08.2 +3.5
	74nm,0.9s						
SOEI	Soe	12.26	194	⇑P		Pn	14 56 05.3 +0.5
	baz=12,SNR=12						
SOEI	Soe	12.26	194	ePn		Pn	14 56 07.7 +3.0
BATI	Baumata	12.85	197	P		Pn	14 56 16.3 +3.6
	40nm,0.8s						
BATI	Baumata	12.85	197	P		Pn	14 56 12.5 -0.2
	1.1nm,0.3s,baz=23,slow=7.7,SNR=4.0						
GENI	Genyem	13.66	110	P		P	14 56 34.4 +4.8
WBSI	Waikabubak, Su	14.18	214	P		P	14 56 37.5 +2.1
SBUM	Sibu	15.12	271	⇓P		Pn	14 56 43.4 +0.9
SBUM	Sibu	15.12	271	ePn		Pn	14 56 43.0 +0.5
	64nm,0.9s						
KDU	Kakadu	15.63	161	P		Pn	14 56 47.2 -1.5
	baz=16,SNR=23						
SRBI	Singaraja	15.84	230	P		P	14 56 56.4 +2.7
STKI	Sintang	16.01	263	P		Pn	14 56 53.1 -0.6
	33nm,1.2s,6µm						
KMMI	Kalianget	16.21	235	P		P	14 56 59.5 +1.6
	59nm,1.0s,1µm						
JAGI	Jajag, Banyuwa	16.89	231	P		P	14 57 10.2 +4.7
JAGI	Jajag, Banyuwa	16.89	231	⇓P		Pn	14 57 05.0 +0.4
	baz=17,SNR=7.4						
JAGI	Jajag, Banyuwa	16.89	231	ePn		Pn	14 57 02.8 -1.8
	62nm,1.1s						
BLJI	Banyuglugur	16.90	234	P		P	14 57 10.9 +5.3
KSM	Kuching	17.05	268	P		Pn	14 57 06.0 -0.7
	baz=17,SNR=5.2						
KSM	Kuching	17.05	268	⇑P		Pn	14 57 06.0 -0.7
KSM	Kuching	17.05	268	ePn		Pn	14 57 03.0 -3.6
	25nm,1.0s						
GMJI	Gumukmas	17.33	233	P		P	14 57 18.3 +8.0
KNRA	Kununurra	17.80	176	P		P	14 57 14.2 -1.2
	baz=18,SNR=109						
PWJI	Pagerwojo	18.53	237	P		Pn	14 57 29.5 +4.9
	56nm,0.9s						
KPJI	Karang Pucung	20.67	243	P		Pn	14 57 50.4 +0.6
	43nm,1.0s						
TWG	Pinlang	21.40	344	eP		P	14 57 52.6 -1.9
	2µm,2.6s						
TPUB	Ta-pu	21.98	343	eP		P	14 57 58.0 -2.8
	39nm,0.7s						
TPUB				eScS		ScS	15 09 14.1 +1.8
COEN	Coen	22.43	136	⇑P		P	14 58 05.7 0.0
	baz=22,SNR=4.6						
PMG	Port Moresby	22.84	121	LR		LR	15 07 29.1
	comp=Z,406nm,20.0s,baz=304,slow=38						
WRAB	Tennant Creek	23.03	163	eP		P	14 58 10.3 -1.5
	40nm,0.5s						
WRA	Warramunga Arr	23.04	163	P		P	14 58 10.6 -1.2
	45nm,0.6s,baz=342,slow=10,SNR=632						
WRA				PcP		PcP	15 01 59.2 +0.2
	2.1nm,0.5s,baz=333,slow=2.1,SNR=4.7						
WRA				S		S	15 02 18.1 +1.5
	5.5nm,0.9s,baz=346,slow=18,SNR=5.1						
WRA				ScP		ScP	15 05 30.5 +0.3
	1.2nm,0.7s,baz=338,slow=3.2,SNR=5.7						
WRA				LR		LR	15 08 25.9
	comp=Z,126nm,21.2s,baz=315,slow=40						
WB2	Warramunga Arr	23.04	163	eP		P	14 58 10.4 -1.5
QIZ	Qiongzhong	23.96	316	P		P	14 58 20.4 +0.1
QIZ				sP		sP	14 58 46.0 -1.4
QIZ				S		S	15 02 33.6 +1.9
QIZ				PMZ			
	20nm,2.2s						
QIZ				LZ			
	200nm,6.8s						
MDSI	Maura Dua	24.09	254	P		P	14 58 35.2 +14
MBWA	Marble Bar	24.37	197	eP		P	14 58 22.6 -1.4
	22nm,1.0s						
QIS	Mount Isa	25.59	153	⇑P		P	14 58 35.0 -0.2
	baz=26,SNR=19						
IPM	Ipoh	26.38	276	eP		P	14 58 40.6 -1.8
AS31	Alice Springs	26.48	166	eP		P	14 58 41.8 -1.3
ASAR	Alice Springs	26.48	166	P		P	14 58 42.0 -1.1
	16nm,0.5s,baz=351,slow=7.5,SNR=451						
ASAR				PcP		PcP	15 02 06.5 0.0
	7.1nm,0.5s,baz=351,slow=2.5,SNR=13						
ASAR				S		S	15 03 12.5 +0.9
	1.6nm,0.9s,baz=351,slow=18,SNR=3.7						
ASAR				ScP		ScP	15 05 40.7 +0.9
	2.7nm,0.7s,baz=346,slow=2.7,SNR=16						
ASAR				LR		LR	15 10 31.0
	comp=Z,98nm,20.7s,baz=354,slow=39						
AS01	Alice Springs	26.48	166	eP		P	14 58 41.8 -1.4
AS01				eScP		ScP	15 05 37.9 -1.9
WRKA	Warakurna	27.08	178	P		P	14 58 47.2 -1.3
	baz=27,SNR=113						
GIRL	Giralia	27.80	207	⇑P		P	14 58 55.2 +0.3
	baz=28,SNR=7.3						
PSI	Prapat	28.41	272	LR		LR	15 12 40.1
	comp=Z,53nm,18.3s,baz=106,slow=41						
CTA	Charters Tower	28.88	141	P		P	14 59 04.8 +0.2
	2.3nm,0.6s,baz=332,slow=14,SNR=3.5						
PBKT	Sadao Pong	29.63	300	P		P	14 59 10.0 -1.3
	9.6nm,0.8s						
MEEK	Meekatharra	29.87	196	P		P	14 59 12.4 -1.0
	baz=30,SNR=25						
UTTA	Uttaradit	30.51	302	P		P	14 59 18.6 -0.5
	4.6nm,0.8s						
UTHA	Uthaitani	30.55	297	P		P	14 59 18.2 -1.2
	5.1nm,0.8s						
NJ2	Nanjing	30.77	346	eP		P	14 59 21.9 +0.8
NJ2				PMZ			
	10.0nm,0.7s						
KHLT	Khaolaem Dam	31.03	295	P		P	14 59 23.2 -0.5
	5.0nm,0.8s						
GYA	Guiyang	31.26	322	eP		P	14 59 26.8 +1.1
GYA				pP		pP	14 59 46.4 +2.4
GYA				sP		sP	14 59 55.3 +2.3
GYA				PP		PnPn	15 00 32.8 +1.9
GYA				S		S	15 04 27.3 +0.3
GYA				sS		sS	15 05 00.5 +2.1
GYA				SS		SnSn	15 06 19.4 +2.0
GYA				PMZ			
	20nm,0.8s						
GYA				PMZ			
	120nm,4.9s						
GYA				LN			
	540nm,18.3s						
GYA				LE			
	480nm,18.9s						
GYA				LZ			
	520nm,17.6s						
UMPA	Umpang Tak	31.32	298	P		P	14 59 23.5 -2.8
	19nm,0.8s,2µm						
LAMP	Lampang	31.65	303	P		P	14 59 31.3 +2.2
	3.8nm,1.0s						
CRAI	Chiangrai	31.87	306	P		P	14 59 31.0 0.0
	139nm,1.6s,8µm						
CM01	Chiang Mai Arr	32.17	302	eP		P	14 59 31.8 -1.9
CMAR	Chiang Mai Arr	32.20	302	P		P	14 59 33.1 -0.9
	6.7nm,0.9s,baz=120,slow=7.0,SNR=44						
CMAR				PcP		PcP	15 02 22.6 +1.4
	1.1nm,0.9s,baz=164,slow=1.8,SNR=4.4						
CMAR				LR		LR	15 13 42.9
	comp=Z,30nm,21.3s,baz=144,slow=38						
CMMT	Chiang Mai	32.36	303	P		P	14 59 33.9 -1.4
	21nm,0.9s						
CHTO	Chiang Mai	32.36	303	P		P	14 59 34.0 -1.4
	72nm,1.0s						
CHTO	Chiang Mai	32.36	303	eP		P	14 59 33.0 -2.4
	13nm,0.9s						
FORT	Forrest	32.79	179	⇓P		P	14 59 37.8 -1.1
	baz=33,SNR=20						
FORT	Forrest	32.79	179	eP		P	14 59 37.4 -1.5
	71nm,1.2s						
CMAI	Chiengmai2	32.80	305	P		P	14 59 38.0 -1.4
	55nm,1.4s						
KMI	Kunming	32.91	316	P		P	14 59 40.0 -0.3
KMI				S		S	15 04 53.5 +0.6
KMI				PMZ			
	12nm,0.8s						
KMI				PMZ			
	110nm,4.4s						
KMI				LN			
	160nm,9.1s						
KMI				LE			
	170nm,10.1s						
KMI				LZ			
	170nm,18.7s						
MORW	Morawa	32.91	198	P		P	14 59 39.2 -0.8
	baz=33,SNR=12						
QLP	Quilpie	32.92	151	⇑P		P	14 59 39.8 -0.3
	baz=33,SNR=15						
MHMT	Maesarieng	32.94	301	P		P	14 59 39.6 -0.8
	13nm,0.9s,179nm						
KMBL	Kambalda	33.77	188	P		P	14 59 46.3 -1.2
	baz=34,SNR=11						
BLDU	Ballidu	34.16	196	P		P	14 59 49.8 -1.1
	baz=34,SNR=20						
HNR	Honiara	34.46	110	LR		LR	15 15 25.5
	comp=Z,85nm,18.4s,baz=310,slow=39						
KSAR	Wonju Array Be	35.09	1	P		P	14 59 59.5 +0.7
KSAR				PcP		PcP	15 02 29.8 +0.8
KSRS	Korea Array	35.10	1	P		P	14 59 59.5 +0.6
	1.3nm,0.6s,baz=176,slow=9.3,SNR=5.8						
KSRS				PcP		PcP	15 02 29.8 +0.8
	1.8nm,0.7s,baz=161,slow=2.5,SNR=5.3						
MAJO	Matsushiro	35.63	15	eP		P	15 00 01.2 -2.3
	259nm,2.3s						
MAT	Matsushiro	35.63	15	P		P	15 00 02.4 -1.0
MJAR	Matsushiro Arr	35.63	15	P		P	15 00 01.8 -1.6
	5.6nm,0.8s,baz=181,slow=9.8,SNR=13						
MJAR				LR		LR	15 12 40.1
	comp=Z,41nm,21.0s,baz=160,slow=33						
EIDS	Eidsvold	35.76	141	⇑P		P	15 00 04.8 +0.1
	baz=36,SNR=4.6						
BBOO	Buckleboo	35.77	167	P		P	15 00 03.7 -1.0
	baz=36,SNR=137						
BBOO	Buckleboo	35.77	167	eP		P	15 00 03.4 -1.2
	177nm,0.5s						
XAN	Xi'an	36.07	334	P		P	15 00 06.4 -0.9
XAN				pP		pP	15 00 25.1 -0.6
XAN				PMZ			
	3.0nm,1.1s						
XAN				PMZ			
	14nm,4.8s						
NWAO	Narrogin (SRO)	36.21	194	P		P	15 00 07.7 -0.8
	13nm,0.7s,baz=21,slow=7.3,SNR=10						
CD2	Chengdu	36.25	324	P		P	15 00 08.0 -0.9
CD2				pP		pP	15 00 27.3 -0.1
CD2				sP		sP	15 00 34.4 -2.0
CD2				PP		PnPn	15 01 34.5 +1.5
CD2				S		S	15 05 46.1 +2.2
CD2				sS		sS	15 06 17.0 +1.4
CD2				SS		SnSn	15 08 13.5 -4.6
CD2				PMZ			
	10.0nm,0.9s						
STKA	Stephens Creek	36.47	159	P		P	15 00 10.4 -0.3
	66nm,0.9s,baz=335,slow=8.1,SNR=188						
STKA				PcP		PcP	15 02 33.1 -0.1
	4.1nm,0.5s,baz=338,slow=5.4,SNR=3.7						
STKA				LR		LR	15 16 28.6
	comp=Z,110nm,19.2s,baz=11,slow=38						
STKA	Stephens Creek	36.47	159	⇓P		P	15 00 10.2 -0.5
	baz=37,SNR=153						
STKA	Stephens Creek	36.47	159	eP		P	15 00 10.2 -0.5
	7.8nm,0.8s						
STKA				PcP		PcP	15 02 33.1 -0.1
RKGY	Rocky Gully	37.88	194	⇑P		P	15 00 22.7 +0.2
	baz=38,SNR=16						
ARMA	Armidale	39.84	146	⇓P		P	15 00 39.3 +0.1
	baz=40,SNR=12						
LZH	Lanzhou	40.14	330	eP		P	15 00 43.0 +1.3
LZH				pP		pP	15 01 01.8 +1.4
LZH				sP		sP	15 01 11.5 +2.2
LZH				PMZ			
	16nm,1.0s						
ARPS	Mount Arapiles	41.03	162	⇑P		P	15 00 48.2 -0.6
	baz=41,SNR=33						
HHC	Hu-ho-hao-te	41.05	342	eP		P	15 00 49.8 +0.8
HHC				pP		pP	15 01 08.3 +0.5
HHC				PP		PnPn	15 02 28.3 -1.8
HHC				S		S	15 06 57.5 +1.5
HHC				sS		sS	15 07 29.4 +1.3
HHC				PMZ			
	18nm,0.6s						
HHC				PMZ			
	170nm,5.7s						
HHC				LN			
	270nm,15.3s						
HHC				LE			
	240nm,16.1s						
HHC				LZ			
	110nm,16.0s						
YNG	Young	41.34	153	⇑P		P	15 00 52.2 +0.9
	baz=42,SNR=7.2						
H11S3	WAKE ISLAND Hy	41.80	64	T		T	15 44 20.3
	baz=252,slow=75,SNR=12						
H11S2	WAKE ISLAND Hy	41.82	64	T		T	15 44 22.0
	baz=252,slow=75,SNR=4.3						
H11S1	WAKE ISLAND Hy	41.82	64	T		T	15 44 40.8
	baz=252,slow=75,SNR=6.1						
USRK	Ussurisk Ar.	42.04	5	P		P	15 00 56.6 -0.2
	2.8nm,0.8s,baz=157,slow=7.7,SNR=3.8						
USRK				LR		LR	15 17 31.0
	comp=Z,20nm,20.2s,baz=130,slow=35						
MDJ	Mudanjiang	42.30	2	P		P	15 00 59.4 +0.4
MDJ				pP		pP	15 01 16.1 -1.7
MDJ				sP		sP	15 01 25.0 -1.8
MDJ				ScP		ScP	15 06 36.1 +0.8
MDJ				S		S	15 07 15.3 +1.2
MDJ				PMZ			
	5.0nm,1.0s						
MDJ				PMZ			
	61nm,3.5s						
H11N1	WAKE ISLAND Hy	42.37	63	T		T	15 45 01.5
	baz=250,slow=75,SNR=9.1						
H11N2	WAKE ISLAND Hy	42.38	63	T		T	15 45 08.3
	baz=250,slow=75,SNR=4.4						
H11N3	WAKE ISLAND Hy	42.39	63	T		T	15 45 02.9
	baz=250,slow=75,SNR=8.4						
CAN	Canberra	42.46	153	eP		P	15 01 01.6 +1.1
	7.8nm,0.6s						
CNB	Canberra Magne	42.62	153	⇑P		P	15 01 02.0 +0.2
	baz=43,SNR=11						
TOO	Toolangi	42.98	159	⇑P		P	15 01 05.3 +0.6
	baz=43,SNR=13						
ASAJ	Asahikawa	43.89	16	P		P	15 01 12.3 +0.5
	10nm,0.8s,baz=260,slow=14,SNR=7.7						
ASAJ				LR		LR	15 18 39.0
	comp=Z,47nm,19.1s,baz=166,slow=35						
LSA	Lhasa	43.93	312	P		P	15 01 11.9 -1.0
LSA				PMZ			
	10.0nm,1.6s						
LSA	Lhasa	43.93	312	eP		P	15 01 13.0 0.0
	8.8nm,0.6s						
GTA	Gaotai	44.73	329	eP		P	15 01 19.3 +0.5
GTA				pP		pP	15 01 38.3 +0.5
GTA				sP		sP	15 01 47.3 +0.6
GTA				PcP		PcP	15 03 01.1 +1.1
GTA				PMZ			
	4.0nm,1.1s						
TAPN	Taplejung	45.44	307	eP		P	15 01 23.2 -1.6
	23nm,0.9s						
ODAN	Odare	45.48	306	eP		P	15 01 23.8 -1.2
	33nm,0.7s						
RAMN	Ramite	46.15	306	eP		P	15 01 29.3 -1.1
	34nm,0.8s						
JIRN	Jiri	46.78	307	eP		P	15 01 34.0 -1.5
	28nm,0.7s						
GUN	Gumba	47.14	307	eP		P	15 01 36.7 -1.5
	45nm,0.7s						
PKI	Pulchoki	47.37	306	eP		P	15 01 38.7 -1.3
PKIN	Phulchoki	47.39	306	eP		P	15 01 38.7 -1.3
	9.7nm,0.7s						
KKN	Kakani	47.57	306	eP		P	15 01 40.3 -1.1
	9.3nm,0.6s						
DMN	Daman	47.63	306	eP		P	15 01 40.6 -1.4
	24nm,0.9s						
GKN	Gorkha	48.17	306	eP		P	15 01 45.0 -1.0
	21nm,0.9s						
ULN	Ulaanbaatar	48.77	342	eP		P	15 01 50.9 +0.7
	11nm,0.8s						
KOLN	Koldanda	48.92	306	eP		P	15 01 50.7 -1.1
	30nm,0.8s						
SONM	Songino Array	48.95	341	P		P	15 01 52.5 +0.9
	4.2nm,0.7s,baz=153,slow=8.9,SNR=33						
SONM				PcP		PcP	15 03 15.2 +0.5
	2.1nm,0.8s,baz=155,slow=4.7,SNR=3.8						
SONM				ScP		ScP	15 07 04.7 +1.6
	1.1nm,0.8s,baz=159,slow=3.8,SNR=6.1						
SONA1	Songino Array	48.96	341	eP		P	15 01 51.9 +0.3
DANN	Dangsing	49.02	306	eP		P	15 01 51.3 -1.4
	31nm,0.7s						
HYB	Hyderabad	50.23	291	i P		P	15 02 03.0 +1.3
TLY	Talaya	53.18	342	eP		P	15 02 24.9 +1.8
	7.2nm,1.0s						
WMQ	Urumqi	54.34	325	eP		P	15 02 31.8 0.0
WMQ				pP		pP	15 02 52.1 +0.8
WMQ				PMZ			
	10.0nm,1.1s						
WMQ				PMZ			
	130nm,4.0s						
PEA0	Petropavlovsk-	56.62	21	eP		P	15 02 48.0 +0.2
PETK	Petropavlovsk-	56.62	21	P		P	15 02 48.9 +1.0
	9.6nm,0.8s,baz=184,slow=3.5,SNR=8.7						
PETK				PcP		PcP	15 03 43.8 +0.4
	5.2nm,0.9s,baz=188,slow=8.7,SNR=2.8						
MK01	Makanchi Array	59.15	325	eP		P	15 03 05.6 -0.1
MKAR	Makanchi Array	59.17	326	P		P	15 03 06.8 +0.9
	11nm,0.5s,baz=108,slow=4.7,SNR=85						
KSH	Kashi	59.57	315	P		P	15 03 10.4 +1.5
KSH				sP		sP	15 03 36.5 -0.9
KSH				PP		PP	15 05 22.8 +1.5
KSH				S		S	15 11 10.3 -3.0
KSH				sS		sS	15 11 44.8 -2.3
KSH				SS		SS	15 15 09.6 -0.4
KSH				PMZ			
	2.0nm,0.7s						
KSH				PMZ			
	130nm,4.9s						
KSH				LN			
	60nm,4.6s						
KSH				LE			
	73nm,4.3s						
KSH				LZ			
	140nm,5.9s						
YAK	Yakutsk	59.73	1	eP		P	15 03 08.3 -1.0
	47nm,0.7s						
TKM2	Tokmak 2	61.31	319	eP		P	15 03 20.1 -0.7
	6.9nm,0.6s						
AAK	Ala-Archa	61.91	318	P		P	15 03 24.5 -0.3
	1.0nm,0.7s,baz=139,slow=9.3,SNR=3.0						
AAK	Ala-Archa	61.91	318	eP		P	15 03 22.7 -2.1
	2.9nm,0.8s						
ZAA0	Zalesovo Array	62.24	333	eP		P	15 03 25.6 -0.9
ZALV	Zalesovo Beam	62.24	333	P		P	15 03 25.9 -0.6
	4.4nm,0.8s,baz=114,slow=6.6,SNR=20						
EKS2	Erkin-Say	62.41	318	eP		P	15 03 26.2 -1.8
	5.7nm,0.8s						
KBL	Kabul	62.95	308	eP		P	15 03 31.5 -0.4
	7.6nm,0.6s						
KURBB	Kurchatov Arra	63.37	328	P		P	15 03 34.4 +0.3
	11nm,0.5s,baz=128,slow=6.2,SNR=98						
KURK	Kurchatov	63.37	328	eP		P	15 03 33.3 -0.8
	12nm,0.6s						
SEY	Seymchan	63.39	13	P		P	15 03 35.4 +1.4
	2.5nm,0.7s,baz=237,slow=4.6,SNR=9.7						
KKAR	Karatay Array	64.78	317	eP		P	15 03 43.7 +0.1
BVAR	Borovoye Array	68.95	327	P		P	15 04 09.8 0.0
	7.4nm,0.8s,baz=142,slow=8.3,SNR=30						
TIXI	Tiksi	69.37	1	eP		P	15 04 11.4 -0.6
	5.2nm,0.8s						
GEYT	Alibeck	72.34	309	P		P	15 04 31.5 +0.6
	7.3nm,1.0s,baz=116,slow=3.4,SNR=11						
ABKAR	Akbulak array	73.73	321	eP		P	15 04 38.4 -0.3
GAMB	Gambell	75.55	24	eP		P	15 04 49.9 +1.0
	14nm,0.9s						
ARU	Arti	76.57	328	eP		P	15 04 53.7 -1.1
	7.4nm,0.9s						
TNA	Tin City	77.76	23	eP		P	15 05 02.6 +1.3
	4.8nm,1.0s						
SDPT	Sand Point	78.12	34	eP		P	15 05 04.0 +0.6
	48nm,0.6s						
RAYN	Ar Rayn	81.66	293	eP		P	15 05 23.1 -0.3
	9.8nm,0.8s						
VNDA	Vanda	81.83	173	P		P	15 05 22.8 -0.3
	9.3nm,0.6s,baz=317,slow=6.6,SNR=78						
VNDA				LR		LR	15 40 05.8
	comp=Z,28nm,19.3s,baz=278,slow=34						
OHAK	Old Harbor	82.40	33	eP		P	15 05 27.6 +1.2
	51nm,1.2s						
SBA	Scott Base	82.73	172	eP		P	15 05 28.6 +0.8
	142nm,2.8s						
IM04	Indian Mountai	83.48	24	eP		P	15 05 33.3 +1.4
PPLA	Purkeypile	83.71	27	eP		P	15 05 34.6 +1.3
	10nm,0.8s						
CAST	Castle Rocks	83.83	27	eP		P	15 05 35.5 +1.7
	8.8nm,0.6s						
TRF	Thorofare Moun	84.63	27	eP		P	15 05 38.1 +0.1
	37nm,1.6s						
RC01	Rabbit Creek A	84.66	29	eP		P	15 05 38.7 +0.7
	26nm,0.6s						
SEW	Seward	84.72	30	eP		P	15 05 38.7 +0.4
PMR	Palmer	84.99	28	eP		P	15 05 40.0 +0.4
	29nm,1.0s						
COLD	Coldfoot	85.06	23	eP		P	15 05 41.3 +1.4
	6.6nm,0.5s						
MCK	McKinley	85.26	26	eP		P	15 05 41.3 +0.3
	12nm,1.0s						
ILAR	Eielson Array	86.22	25	P		P	15 05 44.5 -1.2
	1.6nm,0.6s,baz=245,slow=5.0,SNR=44						
DIV	Divide	86.58	29	eP		P	15 05 49.1 +1.4
MENT	Mentasta	87.58	27	eP		P	15 05 52.7 +0.3
EGAK	Eagle	88.67	25	eP		P	15 05 58.0 +0.5
	5.7nm,0.9s						
DAWY	Dawson	89.48	26	eP		P	15 06 01.9 +0.5
	8.4nm,1.1s						
BRTR	Keskin Array B	91.48	310	P		P	15 06 10.1 -1.2
	0.3nm,0.5s,baz=101,slow=4.6,SNR=2.5						
QSPA	South Pole Qui	92.10	180	eP		P	15 06 13.8 +0.2
	167nm,2.8s						
ARCES	ARCESS Array B	92.10	340	P		P	15 06 11.6 -1.7
	4.0nm,0.8s,baz=77,slow=7.6,SNR=11						
AKASG	Malin Array Be	93.48	321	P		P	15 06 18.7 -1.3
	0.3nm,0.3s,baz=67,slow=5.1,SNR=2.3						
FINES	FINESS Array B	93.48	332	P		P	15 06 19.0 -0.8
	0.8nm,0.7s,baz=86,slow=1.8,SNR=3.8						
DLBC	Dease Lake	94.74	31	P		P	15 06 25.6 -0.2
	4.2nm,0.9s,baz=308,slow=7.6,SNR=5.9						
KOLS	Kolonicke sedl	98.22	320	PDIF		Pdif	15 06 42.2 +0.4
NOA	NORSAR Array B	100.44	334	P		Pdif	15 06 49.8 -1.5
	0.6nm,0.6s,baz=69,slow=4.6,SNR=3.1						
VYHS	Vyhne	100.53	320	PDIF		Pdif	15 06 51.4 -0.7
YKA	Yellowknife Ar	100.63	25	P		Pdif	15 06 52.6 +0.5
	0.7nm,0.6s,baz=295,slow=4.8,SNR=17						
YKA				PKiKP		PKiKP	15 11 18.2 +0.3
	0.2nm,0.5s,baz=283,slow=1.6,SNR=6.2						
YKB5	Yellowknife Ar	100.63	25	ePdif		Pdif	15 06 51.8 -0.4
PDAR

JTS	JuntasAbangare	145.53	68	PKPbc	PKPdf	15 12 42.4	-1.0
	6.9nm,0.6s,baz=333,slow=2.3,SNR=7.0						
JTS	JuntasAbangare	145.53	68	PKP	PKPab	15 12 44.1	+0.1
CFAA	Coronel Fontan	147.25	155	PKPbc	PKPbc	15 12 47.6	-0.6
	1.6nm,0.7s,baz=218,slow=2.9,SNR=9.0						
LCO	Las Campanas	148.26	149	*e*PKPbc	PKPbc	15 12 51.2	-0.1
LPAZ	La Paz	159.29	134	PKP	PKPdf	15 13 05.5	+1.2
	1.9nm,0.9s,baz=85,slow=4.5,SNR=4.4						
LPAZ				PKPab	PKPab	15 13 42.6	+0.9
	2.9nm,0.7s,baz=221,slow=4.3,SNR=6.3						
SIV	San Ignacio	163.97	149	PKPab	PKPab	15 14 01.7	+0.3
	1.8nm,0.7s,baz=214,slow=4.3,SNR=5.8						

IDC 16 14:56:07.8±3.9, 4°98S×147°76E, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, ML2.8/1, MS2.8/2, Ms1 2.8/2, ms1mx2.6/22, Error ellipse: s-maj=104.0km s-min=33.0km az=88.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.44	188	P	P	14 57 18.6	+2.2
	3.7nm,0.3s,baz=352,slow=11,SNR=12						
PMG				Sn	Sn	14 58 05.9	-3.0
	6.2nm,0.3s,baz=218,slow=19,SNR=2.3						
PMG				LR	LR	14 58 37.3	
	comp=Z,94nm,19.2s,baz=24,slow=34						
WRA	Warramunga Arr	19.80	220	P	P	15 00 39.5	-0.5
	baz=41,slow=12,SNR=3.3						
ASAR	Alice Springs	22.88	214	P	P	15 01 11.9	-1.4
	3.1nm,0.7s,baz=53,slow=8.4,SNR=2.4						
CMAR	Chiang Mai Arr	53.45	297	P	P	15 05 30.9	+0.8
	0.3nm,0.5s,baz=99,slow=5.6,SNR=2.4						
PETK	Petropavlovsk-	58.48	7	LR	LR	15 27 56.8	
	comp=Z,10nm,21.1s,baz=241,slow=33						
TORD	Torodi Ar. Bea	145.55	286	PKPbc	PKPdf	15 15 48.0	-1.2
	0.3nm,0.7s,baz=96,slow=2.9,SNR=2.4						

ISCJB 16 15:08:33.3±0.3, 24°64N±0°03×122°88E±0°02, h115km±2km, mb3.3/6, Error ellipse: s-maj=4.3km s-min=2.0km az=163.7
IDC 16 15:08:34.0±4.0, 24°84N×122°96E, h111km±39km, mb3.2/7, mb1 3.2/8, mb1mx3.0/46, mbtmp3.5/8, Error ellipse: s-maj=29.4km s-min=17.1km az=74.0
JMA 16 15:08:34.2±0.2, 24°58N×122°84E, h113km±2km, M3.8
TAP 16 15:08:34.8, 24°65N×122°81E, h113km, ML4.4, C
ISC 16 15:08:33.4±0.8, 24°65N±0°04×122°89E±0°02, h118km±5km, n85, σ1°21/157, mb3.2/6, 1C-13D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.20	166	P	Pn	15 08 50.1	+0.3
JYNG				S	Sn	15 09 01.7	-0.3
YOJ	Yonaguni jima	0.21	150	P	Pn	15 08 50.2	+0.4
YOJ				S	Sn	15 09 01.8	-0.3
IRIF	Iriomote-Funau	0.82	112	P	Pn	15 08 54.3	+0.8
IRIF				*e*S	Sn	15 09 08.9	+0.1
TWB1	Santiao Chiao	0.90	294	⇓*i*P	Pn	15 08 54.9	+0.7
	baz=292						
TWB1				S	Sn	15 09 08.4	-1.5
	baz=292						
TWC	Suao	0.95	268	*i* P	Pn	15 08 54.9	+0.2
	baz=262						
TWC				S	Sn	15 09 09.3	-1.5
	baz=262						
HATJ	Hateruma jima	1.02	125	P	Pn	15 08 56.7	+1.3
HATJ				S	Sn	15 09 12.4	+0.3
ILA	Ilan	1.05	277	P	Pn	15 08 56.5	+0.9
	baz=271						
ILA				S	Sn	15 09 12.1	-0.4
	baz=271						
ENA	Nanau	1.07	258	⇓P	Pn	15 08 56.3	+0.4
	baz=252						
ENA				*e*S	Sn	15 09 11.3	-1.7
	baz=252						
NWF	Wu-fen Shan	1.09	293	⇓*i*P	Pn	15 08 57.1	+0.9
	baz=287						
NWF				*i* S	Sn	15 09 13.0	-0.6
	baz=287						
JKRS	Kuro-shima	1.10	112	P	Pn	15 08 57.6	+1.4
JKRS				S	Sn	15 09 14.2	+0.8
JIJ	Ishigaki jima	1.17	104	P	Pn	15 08 57.9	+0.9
JIJ				S	Sn	15 09 14.4	-0.5
ENTT	Nioudou	1.21	270	⇓*i*P	Pn	15 08 58.3	+0.9
	baz=265						
ENTT				*e*S	Sn	15 09 15.1	-0.5
	baz=265						
TWA	Mucha	1.23	286	⇓*i*P	Pn	15 08 58.5	+0.8
	baz=278						
TWA				*e*S	Sn	15 09 14.9	-1.2
	baz=278						
JISG	Ishigakijimahi	1.29	92	P	Pn	15 08 59.2	+0.9
JISG				S	Sn	15 09 17.0	-0.2
TWD	Chiawan	1.31	245	⇓*i*P	Pn	15 08 58.5	0.0
	baz=236						
TWD				S	Sn	15 09 16.3	-1.3
	baz=236						
TWY	Chenhua	1.33	298	⇓*i*P	Pn	15 08 59.8	+1.1
	baz=292						
TWY				*e*S	Sn	15 09 16.8	-1.1
	baz=292						
HWA	Hwalien	1.35	241	⇓*i*P	Pn	15 08 59.2	+0.2
	baz=237						
HWA				*e*S	Sn	15 09 17.4	-1.0
	baz=237						
NSK	Sanguang	1.40	271	⇓*i*P	Pn	15 09 00.5	+0.9
	baz=275						
NSK				S	Sn	15 09 18.8	-0.6
	baz=275						
NNS	Nan Shan	1.40	262	⇓*i*P	Pn	15 09 00.1	+0.4
	baz=253						
NNS				*e*S	Sn	15 09 18.3	-1.3
	baz=253						
TWS1	Kuangyinshan	1.41	289	*e*P	Pn	15 09 00.4	+0.8
	baz=282						
TWS1				S	Sn	15 09 19.3	-0.3
	baz=282						
ESF	Shoufeng Towns	1.48	239	*e*P	Pn	15 09 00.7	+0.3
	baz=235						
ESF				*e*S	Sn	15 09 20.4	-0.7
	baz=235						
TEGC	Jichi Village	1.55	233	*e*P	Pn	15 09 01.3	0.0
	baz=236						
TEGC				*e*S	Sn	15 09 21.0	-1.5
	baz=236						
WHF	Hehuan Shan	1.57	252	⇓*i*P	Pn	15 09 02.4	+0.5
	baz=249						
WHF				S	Sn	15 09 22.2	-1.4
	baz=249						
ESL	Shilin	1.57	238	*e*P	Pn	15 09 01.3	-0.2
	baz=235						
ESL				S	Sn	15 09 21.3	-1.6
	baz=235						
NCU	National Centr	1.58	282	*e*P	Pn	15 09 02.3	+0.6
	baz=281						
NCU				S	Sn	15 09 23.2	+0.1
	baz=281						
TWT	Tachien	1.61	256	⇓*i*P	Pn	15 09 03.5	+1.3
	baz=251						
TWT				*e*S	Sn	15 09 23.8	-0.4
	baz=251						
JTJ	Tarama	1.65	90	P	Pn	15 09 03.7	+1.3
JTJ				S	Sn	15 09 24.7	+0.2
NSTT	Nanjuang	1.72	270	⇓P	Pn	15 09 04.1	+0.8
	baz=268						
NSTT				*e*S	Sn	15 09 25.4	-0.7
	baz=268						
HSN	Hsinchu	1.76	275	*e*P	Pn	15 09 04.3	+0.6
	baz=275						
HSN				*e*S	Sn	15 09 25.9	-0.9
	baz=275						
EHY	Hungye	1.83	232	*e*P	Pn	15 09 04.5	-0.2
	baz=228						
EHY				*e*S	Sn	15 09 26.7	-1.9
	baz=228						
TWF1	Yuli	1.95	229	⇑P	Pn	15 09 06.3	+0.2
	baz=232						
TWF1				*e*S	Sn	15 09 29.2	-2.0
	baz=232						
TWQ1	Liyutan	1.96	262	*e*P	Pn	15 09 07.3	+1.1
	baz=259						
TWQ1				*e*S	Sn	15 09 30.0	-1.2
	baz=259						
NSY	Sanyi	1.96	264	*e*P	Pn	15 09 07.2	+1.0
	baz=261						
NSY				S	Sn	15 09 31.3	0.0
	baz=261						
SMLT	Sun Moon Lake	1.97	248	*e*P	Pn	15 09 07.6	+1.1
	baz=240						
SMLT				*e*S	Sn	15 09 31.6	-0.2
	baz=240						
TYC	Yuchr	2.00	249	*e*P	Pn	15 09 08.1	+1.3
	baz=241						
TYC				*e*S	Sn	15 09 32.4	+0.1
	baz=241						
JIRB	Irabujima	2.08	85	P	Pn	15 09 09.0	+1.3
JIRB				S	Sn	15 09 34.1	+0.1
CHKT	Chengkung	2.08	223	*e*P	Pn	15 09 07.2	-0.5
	baz=214						
CHKT				*e*S	Sn	15 09 31.5	-2.6
	baz=214						
TCU	Taichung	2.08	257	*e*P	Pn	15 09 09.2	+1.5
	baz=263						
TCU				*e*S	Sn	15 09 35.1	+1.0
	baz=263						
YUS	Yu-Shan	2.12	237	*e*P	Pn	15 09 09.6	+0.9
	baz=229						
YUS				*e*S	Sn	15 09 34.8	-0.8
	baz=229						
JIKM	Ikemajima	2.16	82	P	Pn	15 09 10.3	+1.6
JIKM				S	Sn	15 09 36.2	+0.5
WNT	Mingjian	2.16	250	*e*P	Pn	15 09 10.6	+1.9
	baz=247						
WNT				*e*S	Sn	15 09 36.7	+1.0
	baz=247						
JMJ	Miyako jima 2	2.19	85	P	Pn	15 09 10.5	+1.4
JMJ				S	Sn	15 09 36.6	+0.1
ALS	Alishan	2.22	240	*e*P	Pn	15 09 11.3	+1.5
	baz=231						
ALS				*e*S	Sn	15 09 37.1	-0.6
	baz=231						
ELDTW	Lidau	2.25	230	*e*P	Pn	15 09 10.0	0.0
	baz=223						
ELDTW				*e*S	Sn	15 09 36.3	-1.8
	baz=223						
CHN5	Tsauling	2.28	243	*e*P	Pn	15 09 12.4	+2.0
	baz=234						
CHN5				*e*S	Sn	15 09 39.9	+1.3
	baz=234						
JOGS	Gusukube	2.29	87	P	Pn	15 09 12.2	+1.8
JOGS				S	Sn	15 09 39.1	+0.4
WGK	Gukeng	2.33	246	*e*P	Pn	15 09 12.8	+1.8
	baz=234						
WGK				*e*S	Sn	15 09 41.0	+1.2
	baz=234						
STYT	Tauyuan	2.45	233	*e*P	Pn	15 09 14.1	+1.6
	baz=226						
STYT				*e*S	Sn	15 09 42.0	-0.6
	baz=226						
CHN4	Tsaushan	2.47	239	*e*P	Pn	15 09 14.0	+1.3
	baz=235						
CHN4				*e*S	Sn	15 09 43.6	+0.8
	baz=235						
TWG	Pinlang	2.47	223	*e*P	Pn	15 09 12.5	-0.2
	baz=224						
TWG				*e*S	Sn	15 09 41.7	-1.2
	baz=224						
TWG	Pinlang	2.47	223	*e*ScS	Pn	15 09 12.3	-0.4
CHN2	Minshiung	2.47	244	*e*P	Pn	15 09 13.9	+1.1
	baz=252						
CHN2				*e*S	Sn	15 09 43.9	+1.0
	baz=252						
TTN	Taitung	2.47	221	*e*P	Pn	15 09 13.2	+0.5
	baz=213						
TTN				*e*S	Sn	15 09 42.9	-0.1
	baz=213						
WTCT	Ta-ch'eng	2.51	252	*e*P	Pn	15 09 14.9	+1.7
	baz=249						
WTCT				*e*S	Sn	15 09 43.7	-0.1
	baz=249						
WTP	Ta-pu	2.51	237	*e*P	Pn	15 09 14.7	+1.4
	baz=227						
WTP				*e*S	Sn	15 09 44.3	+0.4
	baz=227						
CHY	Chiayi	2.53	244	*e*P	Pn	15 09 15.1	+1.6
	baz=251						
CHY				*e*S	Sn	15 09 44.6	+0.3
	baz=251						
TWK	Hsinying	2.59	238	*e*P	Pn	15 09 16.0	+1.6
	baz=235						
TWK				*e*S	Sn	15 09 46.0	+0.1
	baz=235						
CHN1	Nanshi	2.61	237	*e*P	Pn	15 09 15.7	+1.2
	baz=233						
CHN1				*e*S	Sn	15 09 46.9	+0.7
	baz=233						
SGST	Jiashian	2.63	234	*e*P	Pn	15 09 16.3	+1.5
	baz=239						
SGST				*e*S	Sn	15 09 46.1	-0.5
	baz=239						
ECL	Taimali	2.71	221	*e*P	Pn	15 09 14.9	-0.9
	baz=218						
ECL				*e*S	Sn	15 09 45.2	-3.2
	baz=218						
CHN3	Shinhua	2.79	236	*e*P	Pn	15 09 18.9	+2.0
	baz=243						
SSD	Sandimen	2.81	228	*e*P	Pn	15 09 19.0	+1.9
	baz=224						
SSD				*e*S	Sn	15 09 50.6	-0.2
	baz=224						
LAY	Lan-yu	2.88	206	*e*P	Pn	15 09 17.8	-0.3
	baz=196						
LAY				*e*S	Sn	15 09 50.0	-2.5
	baz=196						
TWM1	Shoushan	2.90	232	*e*P	Pn	15 09 19.6	+1.3
	baz=237						
TWM1				*e*S	Sn	15 09 52.3	-0.8
	baz=237						
EAST	Anshuo	2.94	220	*e*P	Pn	15 09 18.1	-0.7
	baz=216						
EAST				*e*S	Sn	15 09 51.8	-2.0
	baz=216						
SCZT	Fangliau	3.08	223	*e*P	Pn	15 09 21.9	+1.3
	baz=214						
SCZT				*e*S	Sn	15 09 57.0	-0.1
	baz=214						
WDGT	Dungji	3.27	246	*e*P	Pn	15 09 22.9	-0.2
	baz=243						
TWK1	Hengchun	3.31	216	*e*P	Pn	15 09 24.6	+0.9
	baz=212						
TWK1				*e*S	Sn	15 10 01.9	-0.7
	baz=212						
JKE	Kume jima 2	3.89	64	P	Pn	15 09 32.7	+1.3
JKE				S	Sn	15 10 16.3	-0.2
KNM	Kinmen	4.07	268	*e*P	Pn	15 09 34.0	+0.3
	baz=266						
JJT2	Tamagusuku 2	4.63	70	P	Pn	15 09 42.3	+0.9
JJT2				S	Sn	15 10 35.1	+0.9
JNTH	Nagotoyohara	4.99	67	P	Pn	15 09 46.2	0.0
JNTH				S	Sn	15 10 40.2	-2.6
JIH	Iheya	5.15	61	P	Pn	15 09 48.6	+0.3
JIH				*e*S	Sn	15 10 45.1	-1.6
JOW	Kunigami	5.32	65	P	Pn	15 09 50.0	-0.6
JOW				S	Sn	15 10 48.7	-2.0
JOW	Kunigami	5.32	65	P	Pn	15 09 50.2	-0.4
	1.4nm,0.3s,baz=174,slow=13,SNR=17						
JOW				S	Sn	15 10 47.9	-2.8
	1.0nm,0.3s,baz=103,slow=27,SNR=6.2						
JOKE	Okinoerabujima	5.78	61	P	Pn	15 09 55.5	-1.3
JOKE				S	Sn	15 10 58.5	-3.4
JAMN	Amaminishikomi	6.67	56	P	Pn	15 10 07.3	-1.5
JAMN				S	Sn	15 11 19.1	-4.3
KSRS	Korea Array	13.47	17	P	P	15 11 43.3	-1.4
	1.1nm,0.3s,baz=198,slow=12,SNR=35						
USRK	Ussuriysk Ar.	20.87	19	P	P	15 13 06.2	+0.3
	1.8nm,0.8s,baz=181,slow=5.2,SNR=4.5						
ASAJ	Asahikawa	25.21	35	P	P	15 13 47.4	-0.7
	6.6nm,0.8s,baz=241,slow=10,SNR=6.5						
SONM	Songino Array	26.58	335	P	P	15 14 00.5	0.0
	0.3nm,0.8s,baz=154,slow=9.2,SNR=5.0						
MKAR	Makanchi Array	39.10	315	P	P	15 15 49.2	+0.1
	0.1nm,0.3s,baz=92,slow=8.1,SNR=5.9						
WRA	Warramunga Arr	45.70	165	P	P	15 16 44.2	+1.5
	0.2nm,0.4s,baz=347,slow=8.8,SNR=6.2						
ASAR	Alice Springs	49.20	167	P	P	15 17 13.3	+3.5
	0.1nm,0.3s,baz=348,slow=12,SNR=3.0						
YKA	Yellowknife Ar	81.93	23	P	P	15 20 40.2	+0.6
	0.2nm,0.5s,baz=306,slow=5.0,SNR=4.5						

TAP 16 15:09:00.2, 23°57N×120°65E, h14km±1km, ML1.2, 1C-1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN5	Tsauling	0.04	38	⇓*i*P	Pg	15 09 03.1	+0.2
	baz=37						
CHN5				*i* S	Sg	15 09 05.3	+0.6
	baz=37						
ALS	Alishan	0.15	111	⇑*i*P	Pb	15 09 04.9	-0.4
	baz=110						
ALS				S	Sb	15 09 08.0	-0.7
	baz=110						

IDC 16 15:35:33.3±0.9, 34°62N×24°00E, h0km, mb3.9/12, mb1 3.9/19, mb1mx3.8/36, mbtmp3.9/19, ML3.8/7, MS2.8/3, Ms1 2.8/3, ms1mx2.4/37, Error ellipse: s-maj=18.4km s-min=10.8km az=150.0
HLW 16 15:35:36.9, 34°88N×24°14E, h33km±39km, Ml3.5
ATH 16 15:35:41.1, 35°29N×24°30E, h4km±2km, MD3.6/26, ML3.2
CSEM 16 15:35:42.6±0.2, 35°19N×24°30E, h5km, MD3.6, Error ellipse: s-maj=6.5km s-min=3.5km az=20.0
THE 16 15:35:43.5, 35°14N×24°22E, h4km±1km, ML3.5/2, Error ellipse: s-maj=1.8km s-min=0.7km az=228.0
DDA 16 15:36:19.4, 36°39N×27°68E, h6km, MD3.8
ISC 16 15:35:43.4±1.0, 35°14N±0°03×24°25E±0°02, h11km±7km, n169, σ0°99/149, mb4.0/12, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	Vamos	0.27	352	P	Pg	15 35 48.7	-0.2
VAM				S	Sg	15 35 53.0	+0.4
VAM	Vamos	0.27	352	*e*PG	Pg	15 35 44.1	-4.8
VAM	Vamos	0.27	352	P	Pg	15 35 48.7	-0.2
VAM				S	Sg	15 35 53.0	+0.4
GVD	Gavdhos	0.33	203	P	Pg	15 35 50.1	0.0
GVD	Gavdhos	0.33	203	*e*PG	Pg	15 35 50.4	+0.3
GVD	Gavdhos	0.33	203	P	Pg	15 35 50.1	0.0
GVD	Gavdhos	0.33	203	*e*Pg	Pg	15 35 50.4	+0.3
KARN	Karanos	0.37	314	P	Pg	15 35 50.8	-0.1
KARN				S	Sg	15 35 55.8	0.0
KARN	Karanos	0.37	314	*e*PG	Pg	15 35 47.1	-3.7
KARN	Karanos	0.37	314	P	Pg	15 35 50.8	-0.1
KARN				S	Sg	15 35 55.8	0.0
SIVA	Sivas	0.48	105	*e*PG	Pg	15 35 51.3	-1.5
SIVA	Sivas	0.48	105	*e*Pg	Pg	15 35 51.3	-1.5
IDI	Anoyia	0.55	75	Pg	Pg	15 35 50.4	-3.7
	5.8nm,0.3s,baz=224,slow=15,SNR=34						
IDI				Pn	Pb	15 35 55.9	+0.9
	129nm,0.3s,baz=230,slow=17,SNR=147						
IDI				LR	LR	15 36 03.0	
	comp=Z,28nm,21.5s,baz=234,slow=30						
IDI				Lg	Lg	15 36 08.7	
	193nm,0.3s,baz=328,slow=22,SNR=14						
LAST	Lasithi	1.01	89	P	Pg	15 36 02.5	-0.4
LAST				S	Sb	15 36 17.9	+1.6
LAST	Lasithi	1.01	89	*e*PG	Pg	15 35 58.7	-4.2
LAST	Lasithi	1.01	89	P	Pg	15 36 02.5	-0.4
LAST				S	Sb	15 36 17.9	+1.6
ANKY	Antikythira Is	1.06	313	P	Pg	15 36 03.3	-0.4
ANKY				S	Sb	15 36 17.8	+0.3
ANKY	Antikythira Is	1.06	313	*e*PG	Pg	15 35 59.5	-4.2
ANKY	Antikythira Is	1.06	313	P	Pg	15 36 03.3	-0.4
NPS	Neapolis	1.13	84	P	Pg	15 36 04.5	-0.6
NPS	Neapolis	1.13	84	*e*PG	Pg	15 36 02.0	-3.1
NPS	Neapolis	1.13	84	*e*Pg	Pg	15 36 02.0	-3.1
NPS	Neapolis	1.13	84	P	Pg	15 36 04.5	-0.6
KYTH	Kithira	1.50	319	*e*PG	Pn	15 36 07.5	-2.8
KYTH	Kithira	1.50	319	*e*Pg	Pn	15 36 07.5	-2.8
SANT	Santorini	1.57	39	P	Pn	15 36 12.0	+0.7
SANT	Santorini	1.57	39	*e*PN	Pn	15 36 08.6	-2.7
SANT	Santorini	1.57	39	*e*Pn	Pn	15 36 08.6	-2.7
SANT	Santorini	1.57	39	P	Pn	15 36 12.0	+0.7
THR3	Thira Island,	1.57	36	P	Pn	15 36 12.0	+0.8
THR3	Thira Island,	1.57	36	P	Pn	15 36 12.0	+0.8
ZKR	Zakros	1.62	90	P	Pn	15 36 11.6	-0.2
ZKR				S	Sn	15 36 34.9	+2.3
ZKR	Zakros	1.62	90	*e*PG	Pn	15 36 10.4	-1.4
ZKR	Zakros	1.62	90	*e*Pg	Pn	15 36 10.4	-1.4
ZKR	Zakros	1.62	90	P	Pn	15 36 11.6	-0.2
ZKR				S	Sn	15 36 34.9	+2.3
VLI	Veliai	1.90	326	P	Pn	15 36 15.0	-0.7
VLI				S	Sn	15 36 40.0	+0.4
VLI	Veliai	1.90	326	*e*PN	Pn	15 36 13.5	-2.2
VLI	Veliai	1.90	326	*e*Pn	Pn	15 36 13.5	-2.2
VLI	Veliai	1.90	326	P	Pn	15 36 15.0	-0.7
VLI				S	Sn	15 36 40.0	+0.4
KARP	Karpathos	2.42	80	P	Pn	15 36 22.2	-0.7
KARP				S	Sn	15 36 54.3	+1.8
KARP	Karpathos	2.42	80	*e*PB	Pn	15 36 22.0	-0.9
KARP	Karpathos	2.42	80	P	Pn	15 36 22.2	-0.7
KARP				S	Sn	15 36 54.3	+1.8
PYL	PYLOS	2.68	311	*e*PN	Pn	15 36 26.5	+0.1
PYL	PYLOS	2.68	311	*e*Pn	Pn	15 36 26.5	+0.1
NAIG	Nisos Aigina	2.68	347	*e*PN	Pn	15 36 26.1	-0.4
NAIG	Nisos Aigina	2.68	347	*e*Pn	Pn	15 36 26.1	-0.4
VLX	Vlachokerasia	2.69	326	P	Pn	15 36 27.0	+0.4
VLX	Vlachokerasia	2.69	326	*e*PN	Pn	15 36 26.7	+0.1
VLX	Vlachokerasia	2.69	326	*e*Pn	Pn	15 36 26.7	+0.1
VLX	Vlachokerasia	2.69	326	P	Pn	15 36 27.0	+0.4
ITM	Ithomi	2.77	318	*e*PB	Pn	15 36 27.7	0.0
ITM	Ithomi	2.77	318	*e*Pb	Pn	15 36 27.7	0.0
ATH	Athens Observa	2.85	352	*e*PN	Pn	15 36 27.6	-1.2
ATH	Athens Observa	2.85	352	*e*Pn	Pn	15 36 27.6	-1.2
LTK	Loutraki	3.05	341	P	Pn	15 36 30.7	-0.9
LTK	Loutraki	3.05	341	*e*PN	Pn	15 36 30.6	-1.0
LTK	Loutraki	3.05	341	P	Pn	15 36 30.7	-0.9
AMT	Artemida-Makis	3.14	320	P	Pn	15 36 33.3	+0.5
AMT	Artemida-Makis	3.14	320	*e*PB	Pn	15 36 33.3	+0.5
AMT	Artemida-Makis	3.14	320	P	Pn	15 36 33.3	+0.5
GUR	Goura	3.18	332	P	Pn	15 36 32.9	-0.5
GUR	Goura	3.18	332	*e*PN	Pn	15 36 33.3	-0.1
GUR	Goura	3.18	332	P	Pn	15 36 32.9	-0.5
GUR	Goura	3.18	332	*e*Pn	Pn	15 36 33.3	-0.1
BDRM	Kayabasi	3.22	53	*i* P	Pn	15 36 32.5	-1.4
BDRM	Kayabasi	3.22	53	*i* P	Pn	15 36 32.5	-1.4
SMG	Samos	3.31	38	*e*PN	Pn	15 36 34.5	-0.6
SMG	Samos	3.31	38	*e*Pn	Pn	15 36 34.5	-0.6
ARG	Arkhangelos	3.33	70	*e*PN	Pn	15 36 34.9	-0.6
ARG	Arkhangelos	3.33	70	*e*Pn	Pn	15 36 34.9	-0.6
KLV	Kalavryta, Ach	3.35	330	P	Pn	15 36 35.7	0.0
KLV	Kalavryta, Ach	3.35	330	*e*PN	Pn	15 36 35.4	-0.3
KLV	Kalavryta, Ach	3.35	330	*e*Pn	Pn	15 36 35.4	-0.3
KLV	Kalavryta, Ach	3.35	330	P	Pn	15 36 35.7	0.0
DRO	Drossia	3.47	325	*e*PN	Pn	15 36 37.8	+0.5
DRO	Drossia	3.47	325	*e*Pn	Pn	15 36 37.8	+0.5
MRKA	Markates	3.59	352	*e*PN	Pn	15 36 38.7	-0.3
MRKA	Markates	3.59	352	*e*Pn	Pn	15 36 38.7	-0.3
LKR	Lokris	3.64	344	P	Pn	15 36 39.0	-0.6
LKR	Lokris	3.64	344	*e*PN	Pn	15 36 38.1	-1.5
LKR	Lokris	3.64	344	*e*Pn	Pn	15 36 38.1	-1.5
LKR	Lokris	3.64	344	P	Pn	15 36 39.0	-0.6
KALE	Kalithea	3.66	333	P	Pn	15 36 39.7	-0.2
KALE	Kalithea	3.66	333	*e*PN	Pn	15 36 39.4	-0.5
KALE	Kalithea	3.66	333	*e*Pn	Pn	15 36 39.4	-0.5
KALE	K

AGG	Agios Georgios	4.16	339	*e*PN	Pn	15 36 46.5	-0.4
AGG	Agios Georgios	4.16	339	*e*Pn	Pn	15 36 46.5	-0.4
FETY	Fethiye	4.20	68	*e*PN	Pn	15 36 46.0	-1.4
MAKR	Makrakomi, Fth	4.22	337	*e*PN	Pn	15 36 47.6	0.0
MAKR	Makrakomi, Fth	4.22	337	*e*Pn	Pn	15 36 47.6	0.0
PDO	Prodromos	4.23	325	*e*PN	Pn	15 36 49.2	+1.4
PDO	Prodromos	4.23	325	*e*Pn	Pn	15 36 49.2	+1.4
EVR	Evrytania	4.24	333	*e*PN	Pn	15 36 47.8	-0.2
EVR	Evrytania	4.24	333	*e*Pn	Pn	15 36 47.8	-0.2
AKAS	Kas	4.50	74	*i* P	Pn	15 36 48.8	-2.8
AKAS				*i* S	Sn	15 37 40.0	-3.9
AKAS	Kas	4.50	74	*i* P	Pn	15 36 48.8	-2.8
AKAS				*i* S	Sn	15 37 40.0	-3.9
DNZL	Cakiroluk	4.63	55	*i* P	Pn	15 36 53.8	+0.3
DNZL				*i* S	Sn	15 37 50.8	+3.5
DNZL	Cakiroluk	4.63	55	*i* P	Pn	15 36 53.8	+0.3
DNZL				*i* S	Sn	15 37 50.8	+3.5
LKD2	Lefkada island	4.63	323	*e*PN	Pn	15 36 52.6	-0.8
LKD2	Lefkada island	4.63	323	*e*Pn	Pn	15 36 52.6	-0.8
HMAT	Matruh baz=145	4.69	149	P	Pn	15 36 41.1	-13
HMAT				S	Sn	15 37 32.2	-16
	baz=145						
DSL	Palaion Diasel	4.71	329	*e*PN	Pn	15 36 53.3	-1.1
DSL	Palaion Diasel	4.71	329	*e*Pn	Pn	15 36 53.3	-1.1
THL	Klokotos Trika	4.76	339	*e*PN	Pn	15 36 53.9	-1.1
THL	Klokotos Trika	4.76	339	*e*Pn	Pn	15 36 53.9	-1.1
GOLH	Golhisar	4.78	63	*i* P	Pn	15 36 55.2	-0.2
GOLH				*i* S	Sn	15 37 48.6	-2.2
GOLH	Golhisar	4.78	63	*i* P	Pn	15 36 55.2	-0.2
GOLH				*i* S	Sn	15 37 48.6	-2.2
ELL	Elmali	4.87	69	*e*PN	Pn	15 36 55.5	-1.1
KULA	Kula-Manisa	4.88	45	*e*PN	Pn	15 36 57.5	+0.6
KORT	Korkueli	5.28	68	*i* P	Pn	15 37 01.2	-1.1
KORT				*i* S	Sn	15 38 02.7	-0.5
KORT	Korkueli	5.28	68	*i* P	Pn	15 37 01.2	-1.1
KORT				*i* S	Sn	15 38 02.7	-0.5
KHL	Karahalli	5.29	52	*e*PN	Pn	15 37 03.0	+0.5
HORT	Hortiatis	5.52	351	*e*PN	Pn	15 37 05.8	+0.2
HORT	Hortiatis	5.52	351	*e*Pn	Pn	15 37 05.8	+0.2
BCK	Bucak	5.62	64	*e*PN	Pn	15 37 06.6	-0.3
SWA2	baz=168	5.97	170	P	Pn	15 36 59.1	-13
SWA2				AMP		15 38 00.0	
	comp=E,100μm,0.4s,logA/T=5.4,baz=168						
TVSB	Tavsanli	5.98	43	*e*PN	Pn	15 37 12.8	+0.9
SHUT	Suhut-Afyon	6.09	54	*e*PN	Pn	15 37 13.8	+0.3
ALT	Altintas	6.10	48	*e*PN	Pn	15 37 14.2	+0.7
GAZI	Gazipasa	6.66	78	*i* P	Pn	15 37 16.9	-4.3
GAZI				*i* S	Sn	15 38 27.9	-9.1
KONT	Konya--Tatoy	7.11	64	*e*P	Pn	15 37 26.8	-0.5
ERMK	Ermenek	7.19	75	*i* P	Pn	15 37 26.5	-2.1
AWBH	baz=146	7.87	148	P	Pn	15 37 26.8	-11
KIZK	Mersin	8.15	78	*i* P	Pn	15 37 37.7	-3.9
GLL	Jalalah baz=127	8.40	129	P	Pn	15 37 35.5	-10
HFRF	Wahat Farafira baz=154	8.70	155	P	Pn	15 37 37.8	-11
BRTR	Keskin Array B	8.76	56	Pn	Pn	15 37 49.9	-0.2
	comp=E,0.2nm,0.3s,baz=240,slow=16,SNR=5.9						
AMAG	Maghara baz=116	8.77	118	P	Pn	15 37 40.9	-9.3
MMAI	Mount Meron Ar	9.49	100	Pn	Pn	15 37 51.6	-8.5
	comp=E,4.7nm,0.3s,baz=276,slow=13,SNR=7.0						
MMAI				Sn	Sn	15 39 35.4	-12
	comp=E,1.4nm,0.3s,baz=267,slow=13,SNR=1.8						
EIL	Elat	10.56	118	Pn	Pn	15 38 06.1	-8.6
	comp=E,0.9nm,0.3s,baz=292,slow=11,SNR=5.6						
EIL				Sn	Sn	15 39 57.4	-16
	comp=E,0.5nm,0.3s,baz=355,slow=17,SNR=2.1						
ASF	Jabal al Asfar	10.95	102	Pn	Pn	15 38 11.8	-8.3
	comp=E,0.4nm,0.3s,baz=9.5,slow=6.1,SNR=2.4						
ASF				Sn	Sn	15 40 10.7	-12
	comp=E,0.3nm,0.3s,baz=258,slow=16,SNR=1.4						
GERES	GERESS Array B	15.75	334	Pn	Pn	15 39 25.1	-0.1
	comp=E,0.2nm,0.3s,baz=154,slow=13,SNR=5.1						
AKASG	Malin Array Be	15.96	12	Pn	Pn	15 39 27.1	-0.7
	comp=E,0.9nm,0.3s,baz=207,slow=9.8,SNR=2.9						
KBZ	Khabaz	16.74	54	P	Pn	15 39 34.6	-3.1
	comp=E,0.1nm,0.3s,baz=270,slow=16,SNR=2.2						
KBZ				LR	LR	15 46 37.6	
	comp=E,18nm,19.7s,baz=102,slow=39						
ESDC	Sonseca Array	22.81	290	P	P	15 40 39.0	-7.2
	comp=E,0.2nm,0.3s,baz=131,slow=14,SNR=3.1						
ESDC				LR	LR	15 49 02.1	
	comp=E,25nm,21.6s,baz=200,slow=36						
MDT	Midelt	24.01	273	LR	LR	15 52 19.2	
	comp=E,54nm,19.3s,baz=6.5,slow=42						
HFS	Hagfors	25.93	348	P	P	15 41 10.3	-5.0
	comp=E,1.1nm,0.5s,baz=155,slow=11,SNR=7.2						
FINES	FINESS Array B	26.34	2	P	P	15 41 15.1	-3.9
	comp=E,0.6nm,0.6s,baz=173,slow=17,SNR=2.9						
NB2	NORSAR Subarra	27.23	346	P	P	15 41 22.3	-4.8
	comp=Z,1.3nm,0.9s,baz=159,slow=9.3						
NOA	NORSAR Array B	27.23	346	P	P	15 41 21.7	-5.5
	comp=Z,0.5nm,0.6s,baz=146,slow=9.4,SNR=6.6						
AKTO	Aktyubinsk	28.81	48	P	P	15 41 36.6	-4.7
	comp=Z,1.2nm,0.5s,baz=243,slow=7.2,SNR=5.7						
TORD	Torodi Ar. Bea	29.91	229	P	P	15 41 40.3	-11
	comp=Z,2.2nm,0.5s,baz=37,slow=8.6,SNR=27						
ARCES	ARCESS Array B	34.45	1	P	P	15 42 24.9	-5.8
	comp=Z,3.3nm,1.1s,baz=185,slow=10.0,SNR=6.6						
SPITS	Spitsbergen Ar	43.27	358	P	P	15 43 40.3	-4.1
	comp=Z,6.5nm,1.0s,baz=159,slow=11,SNR=7.1						
MKAR	Makanchi Array	44.41	56	P	P	15 43 49.3	-4.7
	comp=Z,0.8nm,0.3s,baz=268,slow=8.5,SNR=26						
ZALV	Zalesovo Beam	45.56	46	P	P	15 43 57.6	-5.4
	comp=Z,1.6nm,0.4s,baz=262,slow=9.4,SNR=7.9						
SONM	Songino Array	60.08	50	P	P	15 45 45.5	-5.1
	comp=Z,0.7nm,0.5s,baz=284,slow=7.8,SNR=13						
CMAR	Chiang Mai Arr	67.32	83	P	P	15 46 31.9	-6.7
	comp=Z,0.2nm,0.4s,baz=304,slow=6.4,SNR=3.4						

*ISCJB **16** 15:56:36.6±0.7, 18°.1S±0°.1×175°.2W±0°.1, h228km, mb4.0/11, Error ellipse: s-maj=20.6km s-min=12.1km az=136.8*

*IDC **16** 15:56:37.8±2.3, 18°.12S×175°.12W, h225km±20km, mb3.7/10, mb1 3.9/11, mb1mx3.7/21, mbtmp4.3/11, Error ellipse: s-maj=18.2km s-min=11.4km az=123.0*

ISC 16 15:56:38.0±0.7, 18°.1S±0°.1×175°.1W±0°.1, h228km, n38, σ0°.74/39, mb4.0/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue baz=4.7,SNR=8.4	5.01	102	P	Pn	15 57 45.3	-7.9
DZM	Mont Dzumac baz=76,slow=19	17.77	254	P	P	16 00 28.5	-1.1
URZ	Urewera 3.4nm,0.3s,baz=350,slow=6.1,SNR=13	21.20	197	P	P	16 01 05.3	-0.7
URZ				S	S	16 04 47.0	+0.1
	7.3nm,0.9s,baz=57,slow=7.3,SNR=1.6						
RMQ	Roma baz=35,SNR=6.7	34.36	249	P	P	16 03 04.3	+0.7
CMSA	Cobar Meteorol baz=38,SNR=12	37.80	242	P	P	16 03 32.5	-0.1
QLP	Quilpie baz=39,SNR=22	38.41	250	P	P	16 03 37.3	-0.5
TOO	Toolangi baz=40,SNR=4.7	39.51	232	P	P	16 03 46.3	-0.5
STKA	Stephens Creek 12nm,1.1s,baz=85,slow=9.4,SNR=11	41.30	242	P	P	16 04 01.5	+0.1
STKA	Stephens Creek baz=42,SNR=5.8	41.30	242	P	P	16 04 01.8	+0.3
BBOO	Buckleboo baz=46,SNR=14	46.06	242	P	P	16 04 39.0	-0.4
WRA	Warramunga Arr 8.5nm,0.5s,baz=98,slow=7.5,SNR=304	47.68	259	P	P	16 04 51.5	-0.5
WRA				PcP	PcP	16 06 18.3	+0.6
	1.0nm,0.6s,baz=95,slow=3.2,SNR=4.9						
ASAR	Alice Springs 60nm,0.6s,baz=89,slow=8.2,SNR=847	47.76	254	P	P	16 04 52.2	-0.4
ASAR				PcP	PcP	16 06 18.4	+0.4
	1.7nm,0.6s,baz=98,slow=4.0,SNR=5.1						
ASAR				S	S	16 11 31.3	-0.3
	0.7nm,0.9s,baz=91,slow=14,SNR=5.8						
KDU	Kakadu baz=51,SNR=9.0	50.69	268	P	P	16 05 14.4	-0.4
MTN	Manton Dam baz=52,SNR=5.8	51.93	268	P	P	16 05 23.4	-0.6
WRKA	Warakurna baz=53,SNR=67	52.77	252	P	P	16 05 29.8	-0.3
KNRA	Kununurra	53.59	264	P	P	16 05 35.6	-0.5
	baz=54,SNR=11						
FAKI	Fak Fak baz=54,SNR=5.2	53.70	280	P	P	16 05 43.1	+6.1
SOEI	Soe baz=60,SNR=13	59.21	269	P	P	16 06 17.2	+1.3
MEEK	Meekatharra baz=62,SNR=3.7	61.30	249	P	P	16 06 29.3	-0.5
JAGI	Jajag, Banyuwa baz=70,SNR=5.0	69.17	268	P	P	16 07 19.3	-1.1
QSPA	South Pole Qui 2.2nm,0.7s,baz=70,slow=1.2,SNR=9.5	71.95	180	P	P	16 07 37.6	+1.1
UGM	Wanagama baz=73,SNR=5.4	72.77	267	P	P	16 07 42.4	+0.3
PETK	Petropavlovsk- 2.3nm,0.8s,baz=134,slow=6.9,SNR=4.2	74.72	343	P	P	16 07 52.1	-0.4
KSRS	Korea Array 2.8nm,0.8s,baz=135,slow=5.9,SNR=7.3	76.97	317	P	P	16 08 07.3	+1.7
NVAR	Mina Array Bea 0.9nm,0.7s,baz=215,slow=10.0,SNR=6.3	77.43	42	P	P	16 08 07.8	-0.5
ILAR	Eielson Array 0.9nm,0.6s,baz=225,slow=5.8,SNR=25	85.41	12	P	P	16 08 48.3	-1.0
CMAR	Chiang Mai Arr 0.5nm,0.4s,baz=107,slow=2.8,SNR=5.3	91.92	289	P	P	16 09 22.7	+1.6
YKA	Yellowknife Ar 0.1nm,0.5s,baz=241,slow=4.5,SNR=3.6	93.22	24	P	P	16 09 25.5	-0.6
MKAR	Makanchi Array 0.3nm,0.5s,baz=73,slow=4.8,SNR=4.3	111.53	314	PKiKP	PKiKP	16 14 44.5	-0.7
ARCES	ARCESS Array B 1.3nm,0.8s,baz=10,slow=1.0,SNR=4.1	127.03	351	PKP	PKPdf	16 15 13.5	-0.8
AKASG	Malin Array Be 1.5nm,0.8s,baz=36,slow=3.8,SNR=2.3	142.14	335	PKhKP	PKPpre	16 15 37.5	
CLL	Collm	146.25	351	*i* PKP	PKPbc	16 15 51.7	+0.2
CLL				*e*		16 15 54.0	
BRG	Berggiesshubel 3.6nm,0.8s	146.52	350	*e*PKP	PKPbc	16 15 52.7	+0.4
DPC	Dobruska-Polom	146.56	347	*e*P	PKPbc	16 15 52.4	-0.1
KRLC	Kraliky	146.71	346	*e*P	PKPbc	16 15 53.6	+0.7
BRTR	Keskin Array B 1.9nm,0.6s,baz=130,slow=3.1,SNR=8.8	147.11	317	PKPbc	PKPbc	16 15 54.3	-0.2
KHC	Kasperske Hory	148.27	349	*e*P	PKPdf	16 15 54.6	+1.1
GERES	GERESS Array B 1.1nm,0.8s,baz=29,slow=3.0,SNR=6.5	148.52	349	PKPbc	PKPbc	16 15 57.8	0.0

IDC 16 16:14:50.9±4.3, 23°.60S×177°.93W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/23, mbtmp3.6/3, Error ellipse: s-maj=177.5km s-min=48.1km az=145.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 0.5nm,0.3s,baz=107,slow=14,SNR=5.6	36.59	248	P	P	16 21 57.3	-1.5
ASAR	Alice Springs 0.2nm,0.3s,baz=92,slow=7.4,SNR=6.8	43.95	260	P	P	16 23 00.5	+0.4
WRA	Warramunga Arr 0.4nm,0.6s,baz=99,slow=7.1,SNR=13	44.32	265	P	P	16 23 03.4	+0.4
HFS	Hagfors 1.1nm,0.4s,baz=54,slow=2.5,SNR=11	142.59	350	PKP	PKPdf	16 34 22.5	-2.9
AKASG	Malin Array Be 0.3nm,0.4s,baz=36,slow=3.8,SNR=1.9	145.71	329	PKPbc	PKPdf	16 34 31.2	+0.1

MDD 16 16:17:01.0±2.8, 35°.26N×1°.95E, h0km, mb3.8/4, Error ellipse: s-maj=24.4km s-min=15.6km az=142.0, PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETRT	Tiaret	0.55	284	P	Pg	16 17 11.0	-0.7
ETRT	Tiaret	0.55	284	P	Pg	16 17 11.0	-0.7
EANR	'Ain N'Sour	0.97	315	P	Pg	16 17 18.9	-0.9
EANR	'Ain N'Sour	0.97	315	P	Pg	16 17 18.9	-0.9
OKGL	Djebel Kef Gue 14nm,0.2s,SNR=7.9	1.31	306	P	Pg	16 17 25.0	-1.4
OKGL				S	Sg	16 17 42.6	-0.9
	7.7nm,0.1s,SNR=7.9						
EIBI	Ibiza 1.6nm,0.1s,SNR=7.9	3.79	353	P	Pn	16 17 59.3	-1.3
EIBI				S	Sn	16 18 41.8	-4.2
	1.2nm,0.2s,SNR=7.9						
EBER	Berja 0.5nm,0.2s,SNR=7.9	4.25	294	P	Pn	16 18 05.3	-1.9
ETOB	Tobarra 1.1nm,0.2s,SNR=7.9	4.38	321	P	Pn	16 18 08.0	-1.0
ETOB				S	Sn	16 18 57.5	-3.3
	0.2nm,0.2s,SNR=4.0						
EQES	Quesada 2.1nm,0.2s,SNR=7.9	4.77	304	P	Pn	16 18 15.7	+1.4
EMOS	Mosqueruela 0.4nm,0.1s,SNR=7.9	5.44	340	P	Pn	16 18 22.6	-1.0

*ISCJB **16** 16:19:49.1±0.6, 47°.6S±0°.1×32°.1E±0°.3, h10km, mb4.2/9, MS3.5/6, Error ellipse: s-maj=36.6km s-min=11.0km az=155.1*

*IDC **16** 16:19:49.2±0.8, 47°.61S×32°.17E, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.1/22, mbtmp4.2/9, ML4.3/2, MS3.5/8, Ms1 3.5/8, ms1mx3.2/24, Error ellipse: s-maj=45.9km s-min=16.8km az=66.0*

*NEIC **16** 16:19:50.7±0.5, 47°.59S×32°.14E, h10km, mb4.4/5, Error ellipse: s-maj=27.6km s-min=8.3km az=65.0*

ISC 16 16:19:50.7±0.8, 47°.6S±0°.1×32°.1E±0°.3, h10km, n21, σ0°.53/15, mb4.3/9, MS3.6/6, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland 1.9nm,0.3s,baz=151,slow=12,SNR=18	17.46	327	P	Pn	16 23 54.1	-0.4
SUR				S	Sn	16 26 55.5	-14
	0.4nm,0.3s,baz=167,slow=11,SNR=2.6						
SUR				LR	LR	16 29 07.2	
	comp=Z,167nm,21.0s,baz=156,slow=32						
SUR	Sutherland	17.46	327	*e*Pn	Pn	16 23 54.7	+0.3
SUR				S	Sn	16 26 55.5	-14
BOSA	Boshof 0.4nm,0.3s,baz=165,slow=12,SNR=14	19.69	342	P	P	16 24 20.2	+0.1
BOSA				LR	LR	16 30 33.4	
	comp=Z,93nm,21.3s,baz=166,slow=33						
BOSA	Boshof 16nm,0.9s	19.69	342	*e*P	P	16 24 20.0	-0.2
LBTB	Lobatse 5.4nm,0.9s,baz=180,slow=11,SNR=6.6	23.13	345	P	P	16 24 56.6	-0.4
LBTB				LR	LR	16 31 19.5	
	comp=Z,583nm,21.7s,baz=357,slow=30						
LBTB	Lobatse 4.3nm,0.6s	23.13	345	*e*P	P	16 24 56.6	-0.4
MAW	Mawson comp=Z,67nm,18.9s,baz=260,slow=35	25.47	153	LR	LR	16 34 35.9	
TSUM	Tsumeb 4.5nm,0.9s	30.70	332	*e*P	P	16 26 05.9	+0.1
LSZ	Lusaka 22nm,1.6s	32.40	353	*e*P	P	16 26 20.1	-0.6
QSPA	South Pole Qui 3.7nm,0.7s,baz=259,slow=3.4,SNR=24	42.62	180	P	P	16 27 46.2	-0.7
QSPA	South Pole Qui 12nm,1.3s	42.62	180	*e*P	P	16 27 46.1	-0.7
VNDA	Vanda 3.7nm,0.8s,baz=234,slow=5.9,SNR=18	51.36	168	P	P	16 28 55.0	+0.3
VNDA				LR	LR	16 49 16.5	
	comp=Z,74nm,20.4s,baz=218,slow=34						
H10S2	ASCENSION HYDR baz=142,slow=74,SNR=111	55.10	299	T	T	17 29 13.8	
H10S3	ASCENSION HYDR baz=142,slow=74,SNR=146	55.12	299	T	T	17 29 14.9	
H10S1	ASCENSION HYDR baz=142,slow=74,SNR=105	55.12	299	T	T	17 29 14.9	
TORD	Torodi Ar. Bea 1.4nm,0.6s,baz=160,slow=6.5,SNR=10	66.29	327	P	P	16 30 40.0	+0.9
STKA	Stephens Creek 2.2nm,0.7s,baz=219,slow=1.9,SNR=3.3	78.77	125	P	P	16 31 54.2	+0.7
STKA				LR	LR	16 59 13.9	
	comp=Z,44nm,21.5s,baz=202,slow=30						
ASAR	Alice Springs 1.0nm,0.7s,baz=227,slow=4.1,SNR=12	80.39	114	P	P	16 32 01.9	-0.6
WRA	Warramunga Arr 0.6nm,0.8s,baz=216,slow=4.0,SNR=3.8	83.42	112	P	P	16 32 18.5	+0.1
GEYT	Alibeck comp=Z,15nm,18.1s,baz=355,slow=36	88.27	20	LR	LR	17 12 34.6	
CMAR	Chiang Mai Arr comp=Z,8.3nm,18.2s,baz=175,slow=32	88.81	61	LR	LR	17 07 23.4	

WEL 16 16:28:27.8±0.7, 35°.09S×178°.06E, h33km, ML3.7/3, Error ellipse: s-maj=10.1km s-min=5.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	2.67	185	P*	Pn	16 29 09.5	+1.1
HAZ				S*	Sn	16 29 39.5	-0.1
WMGZ	Waiomatatini S	2.73	174	PN	Pn	16 29 08.5	-0.9
WMGZ				SN	Sn	16 29 39.9	-1.4
PUZ	Puketiti	2.98	177	PN	Pn	16 29 13.1	+0.4
URZ	Urewera	3.25	193	P*	Pn	16 29 16.8	+0.3
URZ				S*	Sn	16 29 53.0	-1.0
MWZ	Matawai	3.26	187	P*	Pn	16 29 16.7	0.0
CNGZ	Carnagh Statio	3.39	178	PN	Pn	16 29 17.9	-0.5
RAGZ	Rawiri	3.43	188	P*	Pn	16 29 18.9	-0.2
SNGZ	Shannon Statio	3.73	189	*e*PN	Pn	16 29 22.2	-0.9
NMHZ	Naumai	4.12	194	PN	Pn	16 29 27.4	-1.2

IDC 16 16:43:12.3±28.0, 23°.53S×173°.45W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/21, mbtmp4.0/4, Error ellipse: s-maj=522.0km s-min=161.3km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower 3.3nm,0.3s,baz=88,slow=11	37.48	267	P	P	16 50 28.2	+0.3
STKA	Stephens Creek 1.0nm,0.9s,baz=90,slow=12,SNR=3.4	40.43	248	P	P	16 50 52.2	-0.3
ASAR	Alice Springs 0.3nm,0.4s,baz=94,slow=7.4,SNR=15	48.00	259	P	P	16 51 53.2	-0.2
WRA	Warramunga Arr 1.2nm,0.4s,baz=104,slow=8.3,SNR=90	48.41	264	P	P	16 51 56.4	-0.3

GUC 16 16:50:13.0±0.3, 34°.40S×71°.90W, h38km±2km, ML3.5, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.60	43	*i* P	Pn	16 50 24.7	-0.4
LNV				*i* S	Sn	16 50 33.7	+0.1
NICH	Los Niches	0.82	138	*i* P	Pn	16 50 28.2	+0.1
NICH				*i* S	Sn	16 50 39.8	+0.8
TALC	Talca	1.02	168	↑*i* P	Pn	16 50 30.6	-0.2
TALC				*i* S	Sn	16 50 44.6	+0.7
TACH	Talagante	1.09	48	*i* P	Pn	16 50 32.3	+0.5
TACH				*i* S	Sn	16 50 47.2	+1.6
CACH	El Canelo	1.11	76	↓*i* P	Pn	16 50 33.5	+1.3
CACH				*i* S	Sn	16 50 49.1	+2.6
ANTU	Antumapu	1.34	52	*i* P	Pn	16 50 36.5	+1.3
ANTU				*i* S	Sn	16 50 54.4	+2.5
ANTU				IAML		16 50 59.9	
	comp=E,1μm,0.4s						
SAN	Santiago	1.40	48	*e*P	Pn	16 50 37.4	+1.4
SAN				*i* S	Sn	16 50 56.0	+2.8
LNCH	Linares	1.47	170	↓↓*i* P	Pn	16 50 38.6	+1.7
LNCH				*e*S	Sn	16 50 57.6	+2.7
CLCH	Cerro Calan comp=N,1μm,0.4s	1.51	49	IAML		16 51 04.8	
PEL	Peldehue	1.61	39	*e*P	Pn	16 50 40.8	+1.9
PEL				*i* S	Sn	16 51 01.7	+3.2
PEL				IAML		16 51 07.3	
	comp=E,1μm,0.8s						
FCH	Farellones comp=N,746nm,0.3s	1.71	52	IAML		16 51 28.1	

*IDC **16** 17:04:39.9±1.4, 35°.29N×23°.47E, h0km, mb3.7/5, mb1 3.6/6, mb1mx3.4/28, mbtmp3.6/6, ML2.6/1, MS2.6/1, Ms1 2.7/1, ms1mx2.0/32, Error ellipse: s-maj=207.5km s-min=23.5km az=140.0*

*ISCJB **16** 17:04:46.3±0.6, 34°.90N±0°.05×24°.13E±0°.04, h22km±4km, mb3.7/5, MS2.5/1, Error ellipse: s-maj=8.8km s-min=4.2km az=21.8*

*CSEM **16** 17:04:46.9±0.3, 34°.94N×24°.13E, h12km, ML2.8, Error ellipse: s-maj=6.6km s-min=2.8km az=21.0*

*ATH **16** 17:04:47.4, 35°.05N×24°.19E, h28km±1km, MD3.5/19*

*THE **16** 17:04:47.6, 34°.97N×24°.14E, h3km±1km, ML2.8/3, Error ellipse: s-maj=2.0km s-min=0.9km az=223.0*

ISC 16 17:04:46.5±0.8, 34°.96N±0°.04×24°.14E±0°.02, h17km±6km, n89, σ1°.10/110, mb3.8/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.13	199	P	Pg	17 04 50.6	+0.2
GVD				S	Sg	17 04 52.5	-0.4
GVD	Gavdhos	0.13	199	P	Pg	17 04 50.6	+0.2
GVD				S	Sg	17 04 52.5	-0.4
VAM	Vamos	0.45	6	P	Pg	17 04 55.1	-0.6
VAM				S	Sb	17 05 02.1	-0.4
VAM	Vamos	0.45	6	*e*PB	Pg	17 04 55.1	-0.6
VAM	Vamos	0.45	6	P	Pg	17 04 55.1	-0.6
VAM				S	Sb	17 05 02.1	-0.4
KARN	Karanos	0.48	338	P	Pb	17 04 57.0	+0.5
KARN				S	Sb	17 05 04.0	+0.7
KARN	Karanos	0.48	338	*e*PB	Pb	17 04 57.1	+0.5
KARN				*e*SB	Sb	17 05 03.6	+0.3
KARN	Karanos	0.48	338	P	Pb	17 04 57.0	+0.5
KARN				*e*Sb	Sb	17 05 03.6	+0.3
KARN				S	Sb	17 05 04.0	+0.7
SIVA	Sivas	0.56	84	*e*PN	Pb	17 04 58.2	+0.4
SIVA				*e*SN	Sb	17 05 05.8	+0.3
SIVA	Sivas	0.56	84	*e*Pn	Pb	17 04 58.2	+0.4
SIVA				*e*Sn	Sb	17 05 05.8	+0.3
LAST	Lasithi	1.12	79	P	Pg	17 05 08.8	+0.6
LAST				S	Sn	17 05 23.8	+1.2
LAST	Lasithi	1.12	79	*e*PN	Pb	17 05 07.9	+0.4
LAST	Lasithi	1.12	79	*e*Pn	Pb	17 05 07.9	+0.4
LAST	Lasithi	1.12	79	P	Pg	17 05 08.8	+0.6
LAST				S	Sn	17 05 23.8	+1.2
ANKY	Antikythira Is	1.14	323	P	Pg	17 05 08.7	+0.3
ANKY				S	Sn	17 05 24.9	+2.0
ANKY	Antikythira Is	1.14	323	*e*PN	Pg	17 05 08.8	+0.3
ANKY	Antikythira Is	1.14	323	*e*Pn	Pg	17 05 08.8	+0.3
ANKY				S	Sn	17 05 24.9	+2.0
NPS	Neapolis	1.25	76	P	Pg	17 05 11.0	+0.4
NPS				S	Sg	17 05 28.7	+1.8
NPS	Neapolis	1.25	76	*e*PN	Pn	17 05 10.0	+0.8
NPS	Neapol

KLV	**Kalavryta, Ach**	**3.47 333**	*e*Pn	**Pn**	**17 05 41.4**	**+1.6**
SMG	**Samos**	**3.50 38**	*e*PN	**Pn**	**17 05 39.8**	**-0.5**
SMG	**Samos**	**3.50 38**	*e*Pn	**Pn**	**17 05 39.8**	**-0.5**
DRO	**Drossia**	**3.57 327**	*e*PN	**Pn**	**17 05 42.0**	**+0.8**
DRO	**Drossia**	**3.57 327**	*e*Pn	**Pn**	**17 05 42.0**	**+0.8**
MRKA	**Markates**	**3.77 353**	*e*PN	**Pn**	**17 05 45.0**	**+1.1**
MRKA	**Markates**	**3.77 353**	*e*Pn	**Pn**	**17 05 45.0**	**+1.1**
KALE	**Kalithea**	**3.78 335**	*e*PN	**Pn**	**17 05 45.7**	**+1.6**
KALE	**Kalithea**	**3.78 335**	*e*Pn	**Pn**	**17 05 45.7**	**+1.6**
LKR	**Lokris**	**3.80 346**	*e*PN	**Pn**	**17 05 44.8**	**+0.5**
LKR	**Lokris**	**3.80 346**	*e*Pn	**Pn**	**17 05 44.8**	**+0.5**
EFP	**Efpalio**	**3.90 333**	*e*PN	**Pn**	**17 05 47.1**	**+1.4**
EFP	**Efpalio**	**3.90 333**	*e*Pn	**Pn**	**17 05 47.1**	**+1.4**
SKIA	**Skiathos**	**4.23 353**	*e*PN	**Pn**	**17 05 51.5**	**+1.2**
SKIA	**Skiathos**	**4.23 353**	*e*Pn	**Pn**	**17 05 51.5**	**+1.2**
VLS	**Valsamata**	**4.30 319**	*e*PN	**Pn**	**17 05 53.2**	**+2.0**
VLS	**Valsamata**	**4.30 319**	*e*Pn	**Pn**	**17 05 53.2**	**+2.0**
AGG	**Agios Georgios**	**4.31 341**	*e*PN	**Pn**	**17 05 52.8**	**+1.5**
AGG	**Agios Georgios**	**4.31 341**	*e*Pn	**Pn**	**17 05 52.8**	**+1.5**
PDO	**Prodromos**	**4.34 328**	*e*PN	**Pn**	**17 05 53.2**	**+1.5**
PDO	**Prodromos**	**4.34 328**	*e*Pn	**Pn**	**17 05 53.2**	**+1.5**
AKAS	**Kas**	**4.63 73**	*i* P	**Pn**	**17 05 55.7**	**-0.2**
AKAS			*i* S	**Sn**	**17 06 48.1**	**-1.3**
AKAS	**Kas**	**4.63 73**	*i* P	**Pn**	**17 05 55.7**	**-0.2**
AKAS			*i* S	**Sn**	**17 06 48.1**	**-1.3**
LKD2	**Lefkada island**	**4.73 325**	*e*PN	**Pn**	**17 05 58.0**	**+0.8**
LKD2	**Lefkada island**	**4.73 325**	*e*Pn	**Pn**	**17 05 58.0**	**+0.8**
GOLH	**Golhisar**	**4.94 61**	*i* P	**Pn**	**17 06 01.6**	**+1.4**
GOLH			*i* S	**Sn**	**17 06 57.4**	**+0.4**
GOLH	**Golhisar**	**4.94 61**	*i* P	**Pn**	**17 06 01.6**	**+1.4**
GOLH			*i* S	**Sn**	**17 06 57.4**	**+0.4**
BRTR	**Keskin Array B**	**8.94 55**	Pn	**Pn**	**17 06 56.8**	**+1.9**
	0.1nm,0.3s,baz=245,slow=16,SNR=2.8					
NOA	**NORSAR Array B**	**27.39 346**	LR	LR	17 22 58.9	
	comp=Z,11nm,18.6s,baz=255,slow=41					
TORD	**Torodi Ar. Bea**	**29.72 229**	P	P	17 10 46.4	-5.6
	0.3nm,0.4s,baz=37,slow=8.0,SNR=5.9					
KURBB	**Kurchatov Arra**	**41.90 51**	P	**P**	**17 12 33.5**	**-2.4**
	0.4nm,0.3s,baz=280,slow=8.5,SNR=9.6					
MKAR	**Makanchi Array**	**44.58 56**	P	**P**	**17 12 55.3**	**-2.4**
	0.4nm,0.3s,baz=270,slow=8.5,SNR=20					
ZALV	**Zalesovo Beam**	**45.75 46**	P	P	17 13 04.0	-2.7
	0.8nm,0.4s,baz=275,slow=9.9,SNR=5.0					
SONM	**Songino Array**	**60.26 50**	P	**P**	**17 14 51.9**	**-2.2**
	0.9nm,1.2s,baz=292,slow=9.9,SNR=3.7					

GUC 16 17:18:34.4±0.4, 34°.53S×71°.95W, h24km±7km, ML3.5, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.76**	**129**	*i* P	Pb	17 18 48.6	-0.4
NICH				*i* S	Sb	17 18 58.9	0.0
TALC	**Talca**	**0.91**	**164**	*i* P9	Pb	17 18 49.8	-1.7
TALC				*i* S	Sb	17 19 02.1	-1.0
LNCH	**Linares**	**1.35**	**168**	⇓*i*P	Pn	17 18 57.6	-0.1
LNCH				*i* S	Sn	17 19 15.1	+0.2
RCDM	**Rinconada Maip**	**1.40**	**43**	⇑*i*P	Pn	17 18 58.5	-0.1
RCDM				*i* S	Sn	17 19 16.6	+0.2
ANTU	**Antumapu**	**1.45**	**49**	*i* P	Pn	17 18 59.6	+0.3
ANTU				*i* S	Sb	17 19 18.3	-0.6
CLCH	**Cerro Calan**	**1.63**	**47**	IAML		17 19 30.3	
	comp=N,1μm,0.5s						
PEL	**Peldehue**	**1.73**	**38**	*e*P	Pn	17 19 03.6	+0.5
PEL				*e*S	Sb	17 19 26.4	-0.6
COCH	**Cobquecura**	**1.74**	**203**	*i* P9	Pn	17 19 02.8	-0.3
COCH				*i* S	Sn	17 19 25.3	+0.8
FCH	**Farellones**	**1.82**	**50**	IAML		17 19 32.8	
	comp=E,633nm,0.3s						

*IDC **16** 17:18:26.2±8.1, 2°.01N×125°.22E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/34, mbtmp3.4/3, Error ellipse: s-maj=190.4km s-min=125.3km az=69.0*
*ISCJB **16** 17:18:50.2±1.2, 0°.1N±0°.1×125°.69E±0°.09, h49km, mb3.2/3, Error ellipse: s-maj=17.2km s-min=9.5km az=34.9*
*DJA **16** 17:18:51.6±0.5, 0°N±4°×12°6E±°, h90km±30km, M3.6/9, MLv3.6/9*
ISC 16 17:18:51.4±1.5, 0°.1N±0°.1×125°.66E±0°.08, h49km, n9, σ1§02/9, mb3.1/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.75**	**286**	P	**Pn**	**17 19 19.9**	**+0.6**
LBMI	**Labuha**	**1.97**	**111**	P	**Pn**	**17 19 23.3**	**+0.9**
SANI	**Sanana**	**2.14**	**171**	P	**Pn**	**17 19 25.1**	**+0.4**
SANI				S	**Sn**	**17 19 51.0**	**+0.9**
LUWI	**Luwuk**	**3.10**	**249**	P	**Pn**	**17 19 38.3**	**+0.5**
MRSI	**Marisa**	**3.74**	**276**	P	Pn	17 20 01.0	+14
APSI	**Ampana**	**4.13**	**256**	P	**Pn**	**17 19 52.8**	**+0.8**
WRA	**Warramunga Arr**	**21.64**	**157**	P	**P**	**17 23 37.5**	**-0.3**
	0.3nm,0.4s,baz=337,slow=10,SNR=15						
ASAR	**Alice Springs**	**24.93**	**162**	P	**P**	**17 24 08.4**	**-1.7**
	0.1nm,0.4s,baz=344,slow=9.2,SNR=4.1						
STKA	**Stephens Creek**	**35.19**	**156**	P	**P**	**17 25 40.4**	**-0.4**
	1.7nm,1.1s,baz=312,slow=12,SNR=3.7						

MAN 16 17:41:28, 13°.92N×121°.27E, h15km, mb4.1, ML2.9, MS2.6, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.52**	**217**	⇓*e*P	Pb	17 41 39.1	+0.3

GUC 16 18:02:36.2±0.4, 36°.89S×73°.65W, h29km±3km, ML3.9, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.02**	**43**	*e*P	Pn	18 02 53.9	-0.8
COCH				*i* S	Sn	18 03 06.9	-1.1
COCH				IAML		18 03 09.5	
	comp=E,8μm,0.5s						
AGCH	**Angol**	**1.20**	**141**	*i* P	Pn	18 02 56.2	-0.8
AGCH				*i* S	Sn	18 03 11.9	-0.4
LNCH	**Linares**	**1.95**	**59**	*e*P9	Pn	18 03 07.5	+0.1
LNCH				*i* S	Sn	18 03 31.8	+0.8
TALC	**Talca**	**2.21**	**48**	⇑*i*P	Pn	18 03 11.8	+0.9
TALC				*e*S	Sn	18 03 38.4	+1.2
CLCH	**Cerro Calan**	**4.32**	**37**	⇑*i*P	Pn	18 03 40.0	-0.1
CLCH				*i* S	Sn	18 04 29.2	-0.3
PEL	**Peldehue**	**4.46**	**34**	*i* P	Pn	18 03 42.5	+0.5
PEL				*i* S	Sn	18 04 33.3	+0.4

IDC 16 18:05:38.8±6.8, 1°.68N×100°.15E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/26, mbtmp3.4/3, Error ellipse: s-maj=376.8km s-min=31.0km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.83**	**124**	P	P	18 13 14.2	-0.1
	0.5nm,0.4s,baz=303,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**41.38**	**130**	P	P	18 13 26.9	-0.2
	0.1nm,0.2s,baz=300,slow=7.8,SNR=3.1						
MKAR	**Makanchi Array**	**47.55**	**343**	P	P	18 14 16.0	-0.1
	0.1nm,0.3s,baz=157,slow=7.8,SNR=2.5						

IDC 16 18:09:01.8±1.9, 3°.93N×126°.91E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/33, mbtmp3.5/4, MS3.9/1, Ms1 3.9/1, ms1mx2.8/20, Error ellipse: s-maj=154.2km s-min=23.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.82**	**163**	P	P	18 14 25.5	-0.5
	1.0nm,0.6s,baz=343,slow=10,SNR=17						
ASAR	**Alice Springs**	**28.26**	**166**	P	P	18 14 57.2	+0.2
	0.2nm,0.2s,baz=345,slow=10,SNR=5.8						
STKA	**Stephens Creek**	**38.25**	**160**	P	P	18 16 24.0	+0.2
	1.1nm,0.6s,baz=328,slow=9.4,SNR=6.3						
SONM	**Songino Array**	**47.17**	**341**	LR	LR	18 41 36.0	
	comp=Z,133nm,18.3s,baz=159,slow=41						
MKAR	**Makanchi Array**	**57.49**	**325**	P	P	18 18 52.8	-0.1
	0.2nm,0.4s,baz=116,slow=6.6,SNR=6.3						

*CSEM **16** 18:28:30.2, 35°.17N×24°.54E, h39km, MD3.3*

ATH 16 18:28:30.2, 35°.17N×24°.54E, h39km±2km, MD3.3/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.27**	**124**	*e*PB	Pn	18 28 38.5	+0.2
SIVA	**Sivas**	**0.27**	**124**	*e*Pb	Pn	18 28 38.5	+0.2
VAM	**Vamos**	**0.36**	**310**	*e*PB	Pn	18 28 39.7	+0.6
VAM	**Vamos**	**0.36**	**310**	*e*Pb	Pn	18 28 39.7	+0.6
KARN	**Karanos**	**0.56**	**295**	*e*PN	Pn	18 28 42.2	+0.4
KARN	**Karanos**	**0.56**	**295**	*e*Pn	Pn	18 28 42.2	+0.4
LAST	**Lasithi**	**0.77**	**90**	*e*PN	Pn	18 28 45.4	+0.7
LAST	**Lasithi**	**0.77**	**90**	*e*Pn	Pn	18 28 45.4	+0.7
NPS	**Neapolis**	**0.88**	**84**	*e*PN	Pn	18 28 47.5	+1.3
NPS	**Neapolis**	**0.88**	**84**	*e*Pn	Pn	18 28 47.5	+1.3
ANKY	**Antikythira Is**	**1.23**	**305**	*e*PN	Pn	18 28 53.4	+2.6
ANKY	**Antikythira Is**	**1.23**	**305**	*e*Pn	Pn	18 28 53.4	+2.6
ZKR	**Zakros**	**1.38**	**92**	*e*PB	Pn	18 28 54.2	+1.3
ZKR	**Zakros**	**1.38**	**92**	*e*Pb	Pn	18 28 54.2	+1.3
KYTH	**Kithira**	**1.65**	**313**	*e*PN	Pn	18 28 58.5	+1.8
KYTH	**Kithira**	**1.65**	**313**	*e*Pn	Pn	18 28 58.5	+1.8

IDC 16 18:40:02.8±11.0, 31°.43N×59°.01E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/37, mbtmp3.4/4, ML3.5/1, MS2.7/2, Ms1 2.7/2, ms1mx2.3/26, Error ellipse: s-maj=216.1km s-min=46.7km az=13.0, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBZ	**Khabaz**	**17.68**	**319**	P	P	18 44 11.4	-0.1
	0.2nm,0.3s,baz=138,slow=16,SNR=3.8						
MKAR	**Makanchi Array**	**23.58**	**43**	P	P	18 45 17.1	+2.0
	0.2nm,0.4s,baz=252,slow=8.9,SNR=3.7						
IDI	**Anoyia**	**28.68**	**287**	LR	LR	18 59 52.8	
	comp=Z,25nm,20.9s,baz=126,slow=42						
ZALV	**Zalesovo Beam**	**29.14**	**32**	P	P	18 46 03.6	-1.8
	0.8nm,0.5s,baz=247,slow=9.5,SNR=4.7						
MLR	**Muntele Rosu**	**29.22**	**308**	LR	LR	18 59 08.5	
	comp=Z,8.9nm,19.9s,baz=354,slow=39						
SONM	**Songino Array**	**39.34**	**51**	P	P	18 47 33.8	-0.2
	0.3nm,0.8s,baz=260,slow=8.6,SNR=3.2						

*IDC **16** 18:43:14.8±2.4, 5°.01S×103°.98E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/40, mbtmp4.0/5, Error ellipse: s-maj=103.8km s-min=26.7km az=50.0*
*ISCJB **16** 18:43:32.1±0.6, 5°.14S±0°.05×104°.60E±0°.06, h128km±4km, mb3.8/4, Error ellipse: s-maj=12.0km s-min=5.5km az=138.6*
*DJA **16** 18:43:33.5±0.5, 5°S±3°×10°5E±°, h107km±4km, M3.5/14, MLv3.5/14*
ISC 16 18:43:33.0±0.9, 5°.10S±0°.06×104°.61E±0°.06, h125km±7km, n26, σ1§40/34, mb3.8/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLI	**Kotabumi**	**0.34**	**46**	P	**Pn**	**18 43 50.5**	**-0.2**
KLI				S	**Sn**	**18 44 03.4**	**-0.7**
KLSI		**0.42**	**16**	S	**Sn**	**18 44 05.1**	**+0.3**
KASI	**Kota Agung**	**0.43**	**195**	P	**Pn**	**18 43 50.6**	**-0.6**
KASI				S	**Sn**	**18 44 03.8**	**-1.1**
LWLI	**Liwa**	**0.56**	**279**	P	**Pn**	**18 43 51.8**	**-0.2**
LWLI				S	**Sn**	**18 44 10.8**	**+4.5**
BLSI	**Bandar Lampung**	**0.69**	**113**	P	**Pn**	**18 43 53.2**	**+0.5**
MDSI	**Maura Dua**	**0.75**	**325**	P	**Pn**	**18 43 52.4**	**-0.8**
MDSI				S	**Sn**	**18 44 08.4**	**-0.1**
LHSI	**Lahat**	**1.67**	**319**	P	**Pn**	**18 44 01.3**	**-1.4**
MNAI	**Manna**	**1.81**	**294**	P	**Pn**	**18 44 03.6**	**-0.8**
MNAI				S	**Sn**	**18 44 29.5**	**+1.2**
CGJI	**Cibinong**	**1.85**	**144**	P	**Pn**	**18 44 04.5**	**-0.4**
CGJI				S	**Sn**	**18 44 28.6**	**-0.6**
PMBI	**Palembang**	**2.17**	**4**	P	**Pn**	**18 44 07.5**	**-1.3**
PMBI				S	**Sn**	**18 44 38.0**	**+1.8**
TNG	**Tangerang**	**2.29**	**118**	P	**Pn**	**18 44 09.8**	**-0.5**
SKJI	**Sukabumi**	**2.71**	**134**	P	**Pn**	**18 44 15.8**	**+0.2**
CNJI	**Cibinong**	**3.33**	**131**	P	**Pn**	**18 44 23.5**	**-0.3**
CNJI				S	**Sn**	**18 45 03.1**	**+0.1**
LEM	**Lembang**	**3.45**	**120**	P	**Pn**	**18 44 27.5**	**+2.0**
LEM	**Lembang**	**3.45**	**120**	P	**Pn**	**18 44 28.1**	**+2.6**
	baz=3.5,SNR=5.0						
CISI	**Cisompet, Garu**	**4.01**	**128**	P	**Pn**	**18 44 32.8**	**-0.1**
CISI				S	**Sn**	**18 45 17.1**	**-2.2**
CISI	**Cisompet, Garu**	**4.01**	**128**	P	**Pn**	**18 44 33.1**	**+0.2**
	baz=3.9,SNR=23						
CISI				S	**Sn**	**18 45 17.1**	**-2.2**
	baz=3.9,SNR=5.6						
CMJI	**Cimerak**	**4.65**	**125**	P	**Pn**	**18 44 41.6**	**+0.2**
CMJI				S	**Sn**	**18 45 35.2**	**+0.7**
XMI	**Christmas Isla**	**5.42**	**169**	S	Sn	18 45 44.3	-8.7
	baz=5.0,SNR=5.0						
XMIS	**Christmas Isla**	**5.44**	**169**	P	Pn	18 44 46.6	-5.4
	baz=5.0,SNR=6.1						
XMIS				S	Sn	18 45 41.5	-12
	baz=5.0,SNR=12						
UGM	**Wanagama**	**6.50**	**116**	P	**Pn**	**18 45 07.7**	**+1.4**
	baz=6.5,SNR=5.4						
BATI	**Baumata**	**19.55**	**106**	P	**Pn**	**18 47 52.1**	**-1.5**
	6.9nm,0.4s,baz=280,slow=3.3,SNR=10						
WRA	**Warramunga Arr**	**32.47**	**120**	P	**P**	**18 49 51.6**	**-0.2**
	1.0nm,0.5s,baz=295,slow=9.7,SNR=37						
ASAR	**Alice Springs**	**33.72**	**126**	P	**P**	**18 50 02.5**	**-0.1**
	0.5nm,0.3s,baz=299,slow=8.0,SNR=23						
STKA	**Stephens Creek**	**43.67**	**132**	P	**P**	**18 51 26.4**	**+1.0**
	2.5nm,0.4s,baz=312,slow=7.8,SNR=28						
MKAR	**Makanchi Array**	**55.33**	**342**	P	P	18 52 48.3	-5.4
	0.1nm,0.4s,baz=160,slow=8.8,SNR=4.3						

*CSEM **16** 18:44:30.0±0.1, 40°.83N×28°.45E, h2km, MD2.7, Error ellipse: s-maj=2.8km s-min=1.9km az=146.0*
ISK 16 18:44:29.4, 40°.83N×28°.46E, h12km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKS	**Kestanelik-??a**	**0.41**	**5**	*e*PG	Pg	18 44 37.9	+0.4
CTKS	**Kestanelik-??a**	**0.41**	**5**	*e*Pg	Pg	18 44 37.9	+0.4
BGKT	**Bogazkoy**	**0.42**	**34**	*e*PG	Pb	18 44 38.5	-0.3
BGKT				*e*SG	Sb	18 44 44.4	-0.7
BGKT	**Bogazkoy**	**0.42**	**34**	*e*Pg	Pb	18 44 38.5	-0.3
BGKT				*e*Sg	Sb	18 44 44.4	-0.8
BUY	**Buyukada**	**0.50**	**87**	*i* P	Pb	18 44 40.4	+0.3
BUY	**Buyukada**	**0.50**	**87**	*i* P	Pb	18 44 40.4	+0.3
ISK	**Istanbul-Kandi**	**0.51**	**62**	*e*PG	Pb	18 44 40.3	0.0
ISK				*e*SG	Sb	18 44 47.4	-0.3
ISK	**Istanbul-Kandi**	**0.51**	**62**	*e*Pg	Pb	18 44 40.3	0.0
ISK				*e*Sg	Sb	18 44 47.4	-0.3
KCTX	**Karacabey (Bur**	**0.57**	**188**	*e*PG	Pb	18 44 41.1	-0.3
KCTX	**Karacabey (Bur**	**0.57**	**188**	*e*Pg	Pb	18 44 41.1	-0.3
KLYT	**Kilyos**	**0.61**	**46**	*e*PG	Pb	18 44 41.6	-0.3
KLYT	**Kilyos**	**0.61**	**46**	*e*Pg	Pb	18 44 41.7	-0.3
CRLT	**Corlu**	**0.63**	**299**	*e*PG	Pb	18 44 42.0	-0.2
CRLT	**Corlu**	**0.63**	**299**	*e*Pg	Pb	18 44 42.1	-0.2
CTYL	**Yal??k??y-??at**	**0.66**	**349**	*e*PG	Pg	18 44 42.5	+0.2
CTYL	**Yal??k??y-??at**	**0.66**	**349**	*e*Pg	Pg	18 44 42.5	+0.3
EDC	**Edincik**	**0.66**	**224**	*e*PG	Pb	18 44 42.7	-0.2
EDC	**Edincik**	**0.66**	**224**	*e*Pg	Pb	18 44 42.7	-0.2
GEMT	**Gemlik**	**0.68**	**125**	*e*PG	Pb	18 44 43.0	-0.3
GEMT	**Gemlik**	**0.68**	**125**	*e*Pg	Pb	18 44 43.0	-0.2
MRMT	**Marmara Adasi**	**0.70**	**251**	*e*PG	Pb	18 44 43.5	-0.1
MRMT	**Marmara Adasi**	**0.70**	**251**	*e*Pg	Pb	18 44 43.5	-0.1
HRT	**Hereke**	**0.92**	**90**	*e*PG	Pg	18 44 47.2	0.0
HRT	**Hereke**	**0.92**	**90**	*e*Pg	Pg	18 44 47.2	0.0
SILT	**Sile**	**0.95**	**70**	*e*PG	Pb	18 44 48.0	+0.1
SILT	**Sile**	**0.95**	**70**	*e*Pg	Pb	18 44 48.0	+0.2
RKY	**Sarkoy-Tekirda**	**0.99**	**262**	*e*PG	Pg	18 44 48.6	+0.1
RKY	**Sarkoy-Tekirda**	**0.99**	**262**	*e*Pg	Pg	18 44 48.6	+0.1
KRBG	**Karabiga-Canak**	**0.99**	**244**	*e*PG	Pb	18 44 48.1	-0.3
KRBG	**Karabiga-Canak**	**0.99**	**244**	*e*Pg	Pb	18 44 48.1	-0.3
DURS	**Dursunbey**	**1.23**	**180**	*i* S	Sg	18 45 10.6	+1.4
DURS	**Dursunbey**	**1.23**	**180**	*e*P	Sb	18 45 06.5	-2.1
DURS				*i* S	Sg	18 45 10.6	+1.4
BALY	**Balya**	**1.27**	**211**	*i* S	Sg	18 45 11.8	+1.5
BALY	**Balya**	**1.27**	**211**	*i* P	Sb	18 45 04.0	-5.5
BALY				*i* S	Sg	18 45 11.8	+1.5

*KRNET **16** 18:51:19.2±0.1, 39°.63N×77°.69E, h3km, mb4.3*
*NNC **16** 18:51:26.1±3.9, 39°.91N×77°.18E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=29.6km s-min=23.9km az=119.0*
ISC 16 18:51:12.4±4.2, 39°.5N±0°.2×77°.9E±0°.2, h17km, n14, σ1§07/14, 2C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**2.43**	**325**	*i* P	**Pg**	**18 51 58.4**	**-0.6**
	baz=325						
NRN				⇓*i*S	**Sb**	**18 52 24.8**	**-0.8**
	baz=325						
ULHL	**Ulahol**	**3.04**	**337**	P	**Pg**	**18 52 09.6**	**-1.1**
	SNR=27						
KZA	**Kyzart**	**3.28**	**324**	P	**Pg**	**18 52 14.7**	**-0.6**
	SNR=14						
BOOM	**Boomskoye usch**	**3.36**	**335**	*e*P	**Pb**	**18 52 12.8**	**+1.2**
	baz=336						
SFK	**Sufi-Kurgan**	**3.40**	**281**	*e*P	**Pb**	**18 52 12.7**	**+0.4**
	baz=278						
SFK				*e*S	**Sb**	**18 52 54.4**	**+1.0**
	baz=278						
ARLS	**Aral**	**3.60**	**313**	*i* P	**Pb**	**18 52 15.5**	**-0.2**
	baz=312						
UCH	**Uchtor**	**3.75**	**319**	P	**Pb**	**18 52 19.0**	**+0.6**
	SNR=7.3						
KNDC	**Almaty**	**3.82**	**350**	Pg	**Pg**	**18 52 25.5**	**0.0**
KNDC				Lg	Lg	18 53 10.0	
TKM2	**Tokmak 2**	**3.86**	**335**	Pn	**Pb**	**18 52 19.7**	**-0.4**
TKM2				⇑Lg	Lg	18 53 09.2	
	14nm,0.8s						
AAK	**Ala-Archa**	**4.06**	**322**	⇑Pg	Pb	18 52 27.1	+3.5
	4.6nm,0.7s						
AAK				⇓Lg	Lg	18 53 15.0	
	15nm,0.6s						
AML	**Almayashu**	**4.13**	**312**	P	**Pb**	**18 52 24.3**	**-0.7**
	SNR=16						
EKS2	**Erkin-Say**	**4.44**	**317**	P	**Pb**	**18 52 28.9**	**-1.1**
	SNR=9.3						
USP	**Ospenovka**	**4.57**	**328**	P	**Sb**	**18 53 29.1**	**+2.3**
	SNR=7.7						
KK31	**Karatay Array**	**6.62**	**306**	⇓Pg	Pg	18 53 14.9	-4.2
	1.3nm,0.7s,baz=125,slow=16,SNR=4.8						
KK31				⇓Lg	Lg	18 54 35.9	
	0.8nm,0.5s,baz=121,slow=30,SNR=4.0						

IDC 16 18:55:01.3±2.9, 1°.01N×98°.24E, h46km±10km, mb3.1/4, mb1 3.2/5, mb1mx3.1/27, mbtmp3.3/5, ML3.6/1, Error ellipse: s-maj=104.8km s-min=29.4km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.35**	**2**	P	P	18 59 00.8	-0.4
	0.1nm,0.3s,baz=185,slow=8.1,SNR=2.7						
H08S2	**Diego Garcia H**	**27.09**	**251**	T	T	19 28 06.0	
	baz=72,slow=75,SNR=8.0						
H08S3	**Diego Garcia H**	**27.09**	**251**	T	T	19 28 05.7	
	baz=72,slow=75,SNR=8.3						
H08S1	**Diego Carcia H**	**27.10**	**251**	T	T	19 28 06.8	
	baz=72,slow=75,SNR=8.5						
WRA	**Warramunga Arr**	**41.05**	**122**	P	P	19 02 40.5	-0.1
	0.5nm,1.1s,baz=302,slow=9.2,SNR=2.5						
SONM	**Songino Array**	**47.17**	**7**	P	P	19 03 29.5	+0.1
	0.3nm,0.5s,baz=189,slow=8.9,SNR=4.5						
SONM				pP	pP	19 03 42.3	+0.2
	0.1nm,0.4s,baz=198,slow=5.7,SNR=1.0						
MKAR	**Makanchi Array**	**47.68**	**345**	P	P	19 03 32.9	-0.4
	0.1nm,0.5s,baz=142,slow=7.3,SNR=3.8						
MKAR				pP	pP	19 03 46.2	+0.2
	0.4nm,0.7s,baz=145,slow=5.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**53.91**	**350**	P	P	19 04 19.7	-0.3
	0.2nm,0.4s,baz=170,slow=7.4,SNR=2.8						
ZALV				pP	pP	19 04 32.3	-0.6
	0.8nm,0.5s,baz=169,slow=8.0,SNR=4.0						

*IDC **16** 19:06:20.6±1.8, 36°.18S×73°.55W, h0km, mb4.0/5, mb1 4.1/6, mb1mx4.0/17, mbtmp4.0/6, ML3.3/1, MS3.6/5, Ms1 3.5/5, ms1mx3.3/18, Error ellipse: s-maj=46.9km s-min=35.9km az=138.0*
*ISCJB **16** 19:06:23.8±1.0, 36°.16S±0°.10×73°.6W±0°.1, h33km, mb4.1/5, MS3.6/5, Error ellipse: s-maj=18.4km s-min=12.3km az=29.8*
*NEIC **16** 19:06:26.2±3.2, 36°.09S×73°.53W, h36km±23km, mb4.6/1, Error ellipse: s-maj=35.0km s-min=13.4km az=76.0*
ISC 16 19:06:25.7±1.1, 36°.1S±0°.1×73°.7W±0°.1, h35km, n15, σ0§90/11, mb4.2/5, MS3.7/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**6.37**	**47**	Pn	**Pn**	**19 07 55.8**	**-1.3**
	0.7nm,0.3s,baz=221,slow=14,SNR=24						
CFAA				Sn	**Sn**	**19 09 09.9**	**+1.4**
	0.4nm,0.3s,baz=188,slow=18,SNR=2.1						
TRQA	**Tornquist**	**9.52**	**105**	*e*Pn	**Pn**	**19 08 40.3**	**-0.1**
	28nm,1.4s						
LPAZ	**La Paz**	**20.35**	**15**	P	**P**	**19

ROSC	El Rosal	39.41 356	LR	LR	19 32 38.1	
	comp=N,76nm,19.7s,baz=268,slow=35					
SNAA	Sanae	50.86 158	LR	LR	19 40 35.7	
	comp=N,24nm,18.2s,baz=43,slow=37					
SNAA	Sanae	50.86 158	P	P	19 18 31.6	-0.5
	comp=N,5.1nm,1.0s					
TXAR	Lajitas Array	70.45 331	P	P	19 20 46.2	+0.1
	comp=N,0.7nm,0.6s,baz=161,slow=8.0,SNR=7.0					
WVT	Waverly	72.03 346	*e*P	P	19 20 54.5	-1.0
	comp=N,6.0nm,0.8s					
TORD	Torodi Ar. Bea	84.23 70	P	P	19 22 04.3	+0.7
	comp=N,1.1nm,0.8s,baz=256,slow=5.8,SNR=3.5					
PDAR	Pinedale Array	84.48 333	P	P	19 22 05.4	+0.8
	comp=N,0.3nm,0.7s,baz=200,slow=7.7,SNR=2.5					
NVAR	Mina Array Bea	84.58 325	P	P	19 22 07.8	+2.7
	comp=N,0.2nm,0.3s,baz=146,slow=6.6,SNR=2.3					
WRA	Warramunga Arr	120.27 209	PKP	PKPdf	19 28 26.0	+2.5
	comp=N,0.3nm,0.8s,baz=160,slow=2.0,SNR=3.7					

*ROM **16** 19:09:40.6±0.2, 46°.24N×10°.57E, h7km±2km, Md1.9/8, Ml1.4/2, Error ellipse: s-maj=2.0km s-min=1.6km az=100.0*
*VIE **16** 19:09:41.0±0.3, 46°.25N×10°.57E, h8km±4km, mb1.3/2, ML1.8/4, Error ellipse: s-maj=2.5km s-min=1.4km az=32.0*
18 km WNW of Pinzolo
*ZUR **16** 19:09:41.5, 46°.24N×10°.55E, h0km±4km, ML1.5/3*
*CSEM **16** 19:09:41.3±0.1, 46°.24N×10°.57E, h10km, MD1.9, Error ellipse: s-maj=2.0km s-min=1.7km az=113.0*

ISC 16 19:09:41.5±0.9, 46°.23N±0°.02×10°.58E±0°.03, h9km±10km, n26, σ0s42/46, 2C-8D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MABI	Malga Bissina	0.18	194	Pg	Pg	19 09 45.3	-0.1
MABI				Sg	Sg	19 09 47.8	-0.3
MABI	Malga Bissina	0.18	194	Pg	Pg	19 09 45.3	-0.1
MABI				Sg	Sg	19 09 47.8	-0.3
MOSI	Grossmontoni	0.38	357	⇓*i*Pg	Pg	19 09 49.2	+0.1
MOSI				*i* Sg	Sg	19 09 55.0	+0.9
MOSI	Grossmontoni	0.38	357	Pg	Pg	19 09 49.1	0.0
MOSI				Sg	Sg	19 09 54.9	+0.7
MOSI	Grossmontoni	0.38	357	⇓*i*Pg	Pg	19 09 49.2	+0.1
MOSI				*i* Sg	Sg	19 09 55.0	+0.9
BERNI	Berninapass	0.42	295	⇓*i*Pg	Pg	19 09 49.9	0.0
	62nm,0.1s						
BERNI	Berninapass	0.42	295	Pg	Pg	19 09 49.9	0.0
BERNI				Sg	Sg	19 09 55.2	-0.3
BERNI	Berninapass	0.42	295	Pg	Pg	19 09 49.9	0.0
BERNI				Sg	Sg	19 09 55.2	-0.3
FUORN	Ofenpass-Fuorn	0.44	331	*e*Pg	Pg	19 09 50.1	-0.1
	49nm,0.3s						
FUORN	Ofenpass-Fuorn	0.44	331	Pg	Pg	19 09 50.1	-0.1
FUORN				Sg	Sg	19 09 56.2	+0.1
FUORN	Ofenpass-Fuorn	0.44	331	Pg	Pg	19 09 50.1	-0.1
FUORN				Sg	Sg	19 09 56.2	+0.1
MAGA	Magasa	0.46	176	Pg	Pg	19 09 50.2	-0.2
MAGA				Sg	Sg	19 09 57.6	+1.1
	28nm,0.5s						
MAGA	Magasa	0.46	176	Pg	Pg	19 09 50.2	-0.2
MAGA				Sg	Sg	19 09 57.6	+1.1
	28nm,0.5s						
APPI	Appiano	0.51	61	Pg	Pg	19 09 51.4	0.0
APPI				Sg	Sg	19 09 58.7	+0.5
	16nm,0.2s						
APPI	Appiano	0.51	61	Pg	Pg	19 09 51.4	0.0
APPI				Sg	Sg	19 09 58.7	+0.5
	16nm,0.2s						
PANI	Panarotta	0.54	110	⇓*e*Pg	Pb	19 09 53.1	-0.1
PANI	Panarotta	0.54	110	⇓*e*Pg	Pb	19 09 53.1	-0.1
ABSI	Aberstueckl	0.71	46	Pg	Pg	19 09 54.8	-0.4
ABSI				Sg	Sg	19 10 05.4	+0.8
ABSI	Aberstueckl	0.71	46	*e*Pg	Pg	19 09 55.0	-0.2
ABSI				*e*Sg	Sg	19 10 04.6	0.0
DAVOX	Davos/Dischmat	0.73	319	⇓*i*Pg	Pg	19 09 55.6	0.0
	19nm,0.9s						
DAVOX	Davos/Dischmat	0.73	319	⇓*i*Pg	Pg	19 09 55.6	0.0
	19nm,0.9s						
MDI	Monti di Nese	0.76	233	Pg	Pg	19 09 56.2	+0.1
MDI				Sg	Sg	19 10 06.5	+0.6
MDI	Monti di Nese	0.76	233	Pg	Pg	19 09 56.2	+0.1
MDI				Sg	Sg	19 10 06.5	+0.6
FETA	Feichten	0.79	7	⇑*i*Pg	Pg	19 09 56.7	-0.1
FETA				⇓*i*Sg	Sg	19 10 07.1	-0.1
	1.5nm,0.2s						
FETA	Feichten	0.79	7	Pg	Pg	19 09 56.7	-0.1
FETA				Sg	Sg	19 10 07.1	-0.1
	1.5nm,0.2s						
RISI	Rein	1.26	55	⇑*e*Pg	Pn	19 10 05.2	-0.2
RISI				*e*Sg	Sb	19 10 21.6	-0.2

*IDC **16** 19:09:49.9±1.6, 43°.96N×105°.48W, h0km, mb1 3.7/2, mb1mx3.3/28, mbtmp3.5/2, ML3.3/2, Error ellipse: s-maj=30.8km s-min=10.0km az=149.0*
*ISCJB **16** 19:09:50.5±0.2, 44°.06N±0°.01×105°.44W±0°.02, h0km, Error ellipse: s-maj=1.8km s-min=1.7km az=5.5*
*NEIC **16** 19:09:50.9±0.3, 44°.10N×105°.33W, h0km, ML3.0, Error ellipse: s-maj=5.6km s-min=4.4km az=142.0, Suspected Mining explosion.*
NEIC 25 km [15 miles] SSE of Gillette.

ISC 16 19:09:50.7±0.7, 44°.07N±0°.02×105°.40W±0°.02, h0km, n92, σ0s73/119, 43C-41D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	Meade Ranch, G	0.12	205	⇑P	Pg	19 09 53.4	+0.5
	baz=0.2,SNR=1000						
I23A				⇓S	Sg	19 09 55.1	+0.7
	baz=0.2						
H23A	Clabaugh Cattl	0.49	360	⇑P	Pg	19 10 00.4	+0.3
	baz=0.5,SNR=14						
H23A				⇑S	Sg	19 10 07.2	+0.6
	baz=0.5						
I24A	Kuemmerle Ranc	0.59	110	P	Pg	19 10 02.0	0.0
	baz=0.6,SNR=66						
J23A	Dilts Ranch, B	0.67	190	⇓P	Pg	19 10 03.5	-0.1
	baz=0.7,SNR=66						
J23A				⇑S	Sg	19 10 12.8	+0.5
	baz=0.7						
I22A	9 Mile Ranch,	0.81	258	P	Pg	19 10 06.1	0.0
	baz=0.9,SNR=119						
I22A				⇑S	Sg	19 10 16.2	-0.3
	baz=0.9						
H22A	Clearmont	0.87	308	⇓P	Pg	19 10 07.4	+0.1
	baz=0.9,SNR=44						
H22A				⇓Sb	Sb	19 10 21.0	+0.1
	baz=0.9						
J24A	Dixon Ranch, L	0.91	144	P	Pg	19 10 07.8	-0.2
	baz=0.9,SNR=272						
J24A				⇑S	Sb	19 10 21.4	-0.6
	baz=0.9						
H24A	Dirks Ranch, A	0.91	41	⇓P	Pg	19 10 07.7	-0.4
	baz=0.8,SNR=152						
RSSD	Black Hills	0.98	86	*e*Pg	Pg	19 10 09.1	-0.4
J22A	Midwest	1.02	231	⇑P	Pg	19 10 09.4	-0.8
	baz=1.1,SNR=255						
J22A				⇓S	Sg	19 10 23.8	+0.3
	baz=1.1						
G23A	Biddle	1.13	0	⇓P	Pg	19 10 12.0	-0.4
	baz=1.1,SNR=72						
I25A	Rochford	1.20	92	⇓P	Pg	19 10 13.6	-0.1
	baz=1.1,SNR=142						
H21A	Big Horn, Sher	1.31	296	⇓P	Pg	19 10 15.2	-0.6
	baz=1.3,SNR=38						
G22A	Birney	1.32	331	⇑P	Pg	19 10 15.4	-0.5
	baz=1.3,SNR=118						
K23A	Bowen Ranch, D	1.32	187	⇑P	Pg	19 10 15.2	-0.8
	baz=1.4,SNR=16						
J25A	Sunshine Ranch	1.34	120	⇓P	Pg	19 10 15.4	-0.9
	baz=1.3						
J25A				⇑S	Sn	19 10 35.2	-0.1
	baz=1.3						
I21A	Big Trails, Te	1.39	260	⇓P	Pn	19 10 15.9	-1.7
	baz=1.4,SNR=142						
H25A	Fruitdale	1.40	66	P	Pn	19 10 16.8	-0.8
	baz=1.3,SNR=28						
H25A				⇑S	Sn	19 10 37.1	+0.3
	baz=1.3						
K24A	Anderson Ranch	1.41	162	⇓P	Pn	19 10 16.8	-0.9
	baz=1.4,SNR=39						
K24A				⇓S	Sb	19 10 36.6	+0.2
	baz=1.4						
G24A	Alzada	1.44	29	P	Pn	19 10 17.6	-0.5
	baz=1.4,SNR=60						
K22A	Casper	1.64	211	⇑P	Pn	19 10 20.4	-0.5
	baz=1.7,SNR=142						
K22A				⇑S	Sn	19 10 42.6	-0.2
	baz=1.7						
K22A	Casper	1.64	211	*e*Pn	Pn	19 10 20.0	-0.9
J21A	Lysite	1.65	245	P	Pn	19 10 20.2	-0.9
	baz=1.7,SNR=144						
J21A				⇑S	Sn	19 10 42.4	-0.7
	baz=1.7						
F23A	Volborg	1.65	360	P	Pn	19 10 20.8	-0.2
	baz=1.6,SNR=199						
F23A				⇑S	Sb	19 10 43.6	+0.1
	baz=1.6						
G21A	Lodge Grass	1.74	312	⇑P	Pn	19 10 22.0	-0.2
	baz=1.7,SNR=72						
G21A				⇑Sb	Sg	19 10 46.9	+0.4
	baz=1.7						
G25A	Newell	1.81	51	⇓Sb	Sg	19 10 50.1	+1.4
	baz=1.7						
F22A	Rosebud	1.82	341	⇓P	Pn	19 10 23.0	-0.3
	baz=1.8,SNR=54						
F22A				⇓Sb	Sg	19 10 49.4	+0.3
	baz=1.8						
I26A	New Underwood	1.83	90	⇑Pb	Pb	19 10 24.9	-0.1
	baz=1.8,SNR=32						
I26A				⇓Sb	Sg	19 10 50.3	+0.9
	baz=1.8						
K25A	Mack Ranch, Ha	1.83	142	P	Pn	19 10 23.8	+0.3
	baz=1.8,SNR=62						
K25A				⇑Sb	Sg	19 10 49.9	+0.4
	baz=1.8						
J26A	Sides Ranch, S	1.84	113	⇑P	Pn	19 10 24.1	+0.5
	baz=1.8,SNR=96						
J26A				⇓S	Sb	19 10 48.7	-0.2
	baz=1.8						
F24A	Ekalaka	1.90	20	⇑P	Pn	19 10 24.8	+0.4
	baz=1.9						
F24A				⇑Sb	Sg	19 10 52.0	+0.2
	baz=1.9						
H20A	Greybull	1.92	284	⇓P	Pn	19 10 24.4	-0.3
	baz=2.0						
H20A				⇓S	Sn	19 10 50.0	+0.4
	baz=2.0						
H26A	Fairpoint	1.96	73	⇑Sb	Sg	19 10 54.1	+0.5
	baz=1.9						
L23A	Garrett	1.96	187	⇓P	Pn	19 10 25.4	-0.1
	baz=2.0,SNR=124						
L23A				⇓S	Sn	19 10 51.2	+0.3
	baz=2.0						
K21A	Alcova	1.97	224	⇑P	Pn	19 10 25.6	+0.1
	baz=2.0,SNR=102						
K21A				⇓S	Sn	19 10 50.7	-0.4
	baz=2.0						
I20A	Worland	1.98	268	⇑P	Pn	19 10 25.7	+0.2
	baz=2.0,SNR=109						
I20A				⇑Sb	Sb	19 10 52.7	-0.1
	baz=2.0						
J20A	Shoshoni	2.08	251	⇓Pb	Pb	19 10 28.5	-0.9
	baz=2.1						
J20A				⇓Sb	Sb	19 10 56.5	+0.7
	baz=2.1						
K26A	Motz Farm, Whi	2.12	129	⇓P	Pn	19 10 27.9	+0.5
	baz=2.1,SNR=22						
K26A				⇑Sb	Sb	19 10 57.8	+1.0
	baz=2.1						
F21A	Absaloka Mine,	2.14	326	⇑Sb	Sb	19 10 58.3	+0.7
	baz=2.1						
L22A	Ellis Ranch, M	2.17	201	⇑P	Pn	19 10 28.7	+0.4
	baz=2.2,SNR=14						
L22A				⇑Sb	Sb	19 10 59.2	+0.6
	baz=2.2						
L25A	Engebretsen Ra	2.18	151	⇑P	Pn	19 10 29.0	+0.7
	baz=2.2,SNR=25						
F25A	Bowman	2.31	36	⇓P	Pn	19 10 31.0	+0.9
	baz=2.3,SNR=35						
G20A	Bridger	2.32	301	⇓P	Pn	19 10 29.7	-0.6
	baz=2.3,SNR=43						
G26A	Maurine	2.34	57	⇑Sb	Sg	19 11 04.9	-1.0
	baz=2.3						
E22A	Miles City	2.40	351	⇑P	Pn	19 10 30.9	-0.4
	baz=2.4						
E22A				⇑Sb	Sb	19 11 05.3	+0.2
	baz=2.4						
I27A	Quinn	2.41	89	⇓Sb	Sg	19 11 07.0	-1.0
	baz=2.4						
E23A	Ismay	2.43	1	⇓P	Pn	19 10 31.7	0.0
	baz=2.4						
E23A				⇑Sb	Sb	19 11 06.8	+0.9
	baz=2.4						
H27A	Howes	2.45	75	⇓Sb	Sg	19 11 08.8	-0.4
	baz=2.4						
E24A	Baker	2.61	17	⇓P	Pn	19 10 34.8	+0.6
	baz=2.6,SNR=13						
F20A	Billings	2.61	313	⇑P	Pn	19 10 33.7	-0.6
	baz=2.6,SNR=10.0						
F20A				⇓Sb	Sb	19 11 11.8	+0.7
	baz=2.6						
M24A	Cheyenne	2.63	171	⇓P	Pn	19 10 35.4	+0.8
	baz=2.7,SNR=18						
LAO	LASA Array	2.69	348	*e*Pn	Pn	19 10 34.8	-0.4
G27A	Dupree	2.80	61	⇓P	Pn	19 10 37.5	+0.8
	baz=2.7,SNR=8.3						
RLMT	Red Lodge	2.96	292	*e*Pn	Pn	19 10 39.5	+0.4
F19A	Roth Farm, Mol	3.09	307	⇑P	Pn	19 10 40.9	+0.1
	baz=3.1,SNR=30						
D22A	Cohagen	3.13	350	⇑P	Pn	19 10 41.4	+0.1
	baz=3.1,SNR=9.9						
D24A	Glendive	3.14	13	⇑P	Pn	19 10 42.4	+0.9
	baz=3.1,SNR=12						
E26A	Carlson Angus	3.17	40	⇑P	Pn	19 10 42.7	+0.8
	baz=3.1,SNR=8.1						
BW06	Boulder Array	3.30	248	*e*Pn	Pn	19 10 44.5	+0.7
PDAR	Pinedale Array	3.30	248	Pn	Pn	19 10 44.9	+1.1
	3.2nm,0.3s,baz=74,slow=16,SNR=46						
PDAR				Lg	Lg	19 11 29.8	
	5.9nm,0.3s,baz=68,slow=36,SNR=16						
GCMT	Greycliff	3.49	301	*e*Pn	Pn	19 10 46.3	-0.1
H17A	Grant Village	3.74	277	*e*Pn	Pn	19 10 51.5	+1.6
M28A	Bar X Bar Ranc	3.99	131	⇓P	Pn	19 10 54.1	+0.9
	baz=4.0,SNR=5.7						
OGNE	Ogallala	3.99	140	⇑P	Pn	19 10 53.5	+0.4
	baz=4.0,SNR=5.6						
OGNE	Ogallala	3.99	140	*e*Pn	Pn	19 10 53.3	+0.2
ISCO	Idaho Springs	4.27	182	*e*Pn	Pn	19 10 58.3	+1.2
AHID	Auburn Hatcher	4.36	255	Pn	Pn	19 10 56.7	-1.5
O20A	White River Ci	4.46	209	*e*Pn	Pn	19 11 00.1	+0.3
B20A	Solberg Farm,	4.74	338	⇓P	Pn	19 11 03.3	-0.1
	baz=4.7,SNR=9.2						
P26A	Davis Ranch, A	4.76	161	⇓P	Pn	19 11 04.6	+0.8
	baz=4.8,SNR=20						
EGMT	Eagleton	4.99	324	Pn	Pn	19 11 07.1	+0.3
A21A	Bergtoll Ranch	5.04	348	⇓P	Pn	19 11 07.1	-0.4
	baz=5.0,SNR=8.7						
Q26A	Hugo	5.33	164	⇓P	Pn	19 11 11.8	+0.1
	baz=5.4,SNR=9.2						
TCUT	Toone Canyon	5.33	238	*e*Pn	Pn	19 11 12.7	+1.1
	53nm,0.5s						
MDND	Maddock	5.53	45	*e*Pn	Pn	19 11 14.0	-0.2
	14nm,0.4s						
DAU	Daniels Canyon	5.68	232	Pn	Pn	19 11 17.2	+0.7
	1.0nm,0.5s						
HVU	Hansel Valley	5.88	250	Pn	Pn	19 11 21.6	+2.4
	5.4nm,0.4s						
SPUT	South Promonto	5.88	244	*e*Pn	Pn	19 11 21.1	+1.8
	6.0nm,0.5s						
R26A	Arlington	5.95	165	⇑P	Pn	19 11 20.1	0.0
	baz=6.0,SNR=25						
CHMT	Chamberlain Mo	6.21	300	*e*Pn	Pn	19 11 23.4	-0.4
	0.9nm,0.3s						
PV04	Paradox Valley	6.25	206	*e*Pn	Pn	19 11 26.3	+1.9
SRU	San Rafael Swe	6.27	220	Pn	Pn	19 11 23.9	-0.6
	32nm,0.4s						
ECSD	EROS Data Cent	6.35	90	*e*Pn	Pn	19 11 24.5	-1.0
	5.8nm,0.9s						
PV01	Paradox Valley	6.39	203	Pn	Pn	19 11 27.8	+1.5
	692nm,0.4s						
TMUT	Trail Mountain	6.45	224	*e*Pn	Pn	19 11 28.6	+1.4
	15nm,0.4s						
S26A	Kim	6.60	167	⇓P	Pn	19 11 29.1	+0.1
	baz=6.6,SNR=6.6						
DUG	Dugway, Tooele	6.74	237	⇑P	Pn	19 11 31.2	+0.3
	baz=6.8,SNR=17						
DUG	Dugway, Tooele	6.74	237	*e*Pn	Pn	19 11 31.1	+0.2
	3.8nm,0.3s						
JTMT	Jette	7.21	304	*e*Pn	Pn	19 11 37.9	+0.5
I10CA	LAC DU BONNET	8.85	43	*i*		20 05 30.3	
	baz=224,slow=324,SNR=2.4						
ULM	Lac du Bonnet	8.96	43	Pn	Pn	19 12 00.1	-1.1
	0.6nm,0.3s,baz=227,slow=13,SNR=3.2						
ULM				Lg	Lg	19 14 28.6	
	0.3nm,0.3s,baz=325,slow=16,SNR=6.2						
NEW	Newport	9.15	301	Lg	Lg	19 14 33.8	
	0.1nm,0.3s,baz=258,slow=19,SNR=1.6						

WEL 16 19:21:18.6±0.4, 37°.86S×176°.30E, h154km±4km, ML3.6/7, 3D, Error ellipse: s-maj=3.2km s-min=2.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.75	122	⇓PN	Pn	19 21 41.7	-0.1
URZ				SN	Sn	19 21 59.0	-0.6
URZ				AML	AML	19 22 02.0	
MWZ	Matawai	1.08	117	PN	Pn	19 21 44.1	-0.3
MWZ				SN	Sn	19 22 03.9	-0.3
MWZ				AML	AML	19 22 07.7	
MWZ				AML	AML	19 22 09.9	
MWZ				AML	AML	19 22 09.9	
RAGZ	Rawiri	1.08	126	⇓PN	Pn	19 21 44.4	-0.1
RAGZ				SN	Sn	19 22 04.5	+0.1
HAZ	Te Kaha	1.18	85	PN	Pn	19 21 44.9	-0.3
RAHZ	Arahi	1.23	150	*e*PN	Pn	19 21 45.8	+0.1
SNGZ	Shannon Statio	1.23	139	*e*PN	Pn	19 21 45.5	-0.3
NMHZ	Naumai	1.30	162	PN	Pn	19 21 47.2	+0.7
BKZ	Black Stump Fm	1.32	174	PN	Pn	19 21 46.3	-0.3
BKZ				AML	AML	19 22 16.3	
BKZ				AML	AML	19 22 16.7	
TKGZ	Te Karaka	1.35	116	*e*PN	Pn	19 21 47.0	+0.1
TWGZ	Tauwhareparae	1.36	104	PN	Pn	19 21 47.3	+0.2
WHHZ	Waihua	1.42	149	PN	Pn	19 21 47.6	0.0
NGZ	Ngauruhoe	1.43	202	*e*PN	Pn	19 21 48.5	+0.7
RIGZ	Rimuhau	1.43	127	PN	Pn	19 21 47.7	0.0
WPVZ	Whakapapa	1.47	204	PN	Pn	19 21 48.7	+0.4
TUVZ	Tukino	1.50	200	PN	Pn	19 21 48.7	+0.1
ARHZ	Aropaoanui	1.50	159	PN	Pn	19 21 48.7	+0.2
TRVZ	Turoa	1.56	202	PN	Pn	19 21 49.8	+0.5
PUZ	Puketiti	1.56	99	PN	Pn	19 21 48.5	-0.5
KNZ	Kokohu	1.58	138	PN	Pn	19 21 49.0	-0.2
MOVZ	Moawhango	1.61	195	PN	Pn	19 21 49.1	-0.5
MCHZ	McNeill Hill	1.61	169	PN	Pn	19 21 49.8	+0.2
PKVZ	Pokaka	1.61	207	PN	Pn	19 21 50.0	+0.4
MXZ	Matakaoa Point	1.62	80	PN	Pn	19 21 49.8	+0.2
CNGZ	Carnagh Statio	1.63	113	PN	Pn	19 21 50.1	+0.4
BHHZ	Black Hill Sta	1.64	186	PN	Pn	19 21 49.5	-0.5
MTVZ	Mangateitei	1.66	203	PN	Pn	19 21 50.5	+0.3
WMGZ	Waiomatatini S	1.67	89	⇓PN	Pn	19 21 50.1	-0.1
KRHZ	Kereru	1.79	178	PN	Pn	19 21 50.9	-0.6
CKHZ	Cape Kidnapper	1.90	162	PN	Pn	19 21 52.5	-0.2
KAHZ	Kahuranaki	1.99	167	PN	Pn	19 21 53.6	-0.2
PNHZ	Pukenui	2.06	182	PN	Pn	19 21 53.6	-1.0
PXZ	Pawanui	2.21	169	*e*PN	Pn	19 21 55.9	-0.5
PXZ				AML	AML	19 22 28.1	
TSZ	Takapari Road	2.21	187	PN	Pn	19 21 55.3	-1.2
DVHZ	Dannevirke	2.44	182	PN	Pn	19 21 57.6	-1.6
POWZ	Post Office Ro	2.57	189	PN	Pn	19 21 59.0	-1.6
ANWZ	Angora Road	2.60	177	PN	Pn	19 21 59.9	-1.2
PRWZ	Pori Road	2.71	185	PN	Pn	19 22 01.1	-1.3
BFZ	Birch Farm	2.82	181	PN	Pn	19 22 02.2	-1.6
MRZ	Mangatainoka R	2.86	191	PN	Pn	19 22 02.1	-2.1
MRZ				AML	AML	19 22 21.8	
MRZ				AML	AML	19 22 39.2	
OGWZ	Otaki Gorge	3.08	196	PN	Pn	19 22 05.2	-1.9
HOWZ	Holdsworth Sta	3.10	191	PN	Pn	19 22 04.8	-2.5
KIW	Kapiti Island	3.19	199	PN	Pn	19 22 06.4	-2.0
TMWZ	Te Maipa	3.26	185	PN	Pn	19 22 06.9	-2.5
MTW	Mount Morrison	3.35	190	PN	Pn	19 22 07.6	-2.9
CAW	Cannon Point	3.38	196	PN	Pn	19 22 08.6	-2.3
DUWZ	D'Urville Isla	3.47	211	PN	Pn	19 22 10.0	-2.0
TRWZ	Traveller	3.57	187	PN	Pn	19 22 12.4	-2.8
TRWZ				AML	AML	19 22 54.2	
PAWZ	Paruwai Farm	3.58	191	PN	Pn	19 22 10.3	-3.2
MSWZ	Moikau Station	3.65	193	PN	Pn	19 22 11.3	-3.0
TCW	Tory Channel	3.70	204	AML	AML	19 23 01.4	
PLWZ	Palliser	3.79	192	*e*PN	Pn	19 22 12.9	-3.4
TUWZ	Tuamarina	4.01	206	PN	Pn	19 22 16.1	-2.8
NNZ	Nelson	4.04	213	PN	Pn	19 22 16.8	-2.6
QRZ	Quartz Range	4.16	223	PN	Pn	19 22 18.2	-2.8
BSWZ	Blackbirch Sta	4.28	205	*e*PN	Pn	19 22 19.8	-2.7
KHZ	Kahutara	5.02	204	PN	Pn	19 22 28.7	-3.5
OXZ	Oxford	6.35	209	PN	Pn	19 22 45.0	-4.9
MQZ	McQueen's Vall	6.47	204	PN	Pn	19 22 46.4	-5.0

*IDC **16** 19:37:54.0±18.0, 4°.77S×130°.48E, h100km±168km, mb3.1/2, mb1 3.8/5, mb1mx3.4/29, mbtmp4.0/5, ML4.2/3, MS2.6/1, Ms1 2.8/1, ms1mx2.4/11, Error ellipse: s-maj=180.7km s-min=28.5km az=50.0*
*ISCJB **16** 19:38:02.3±0.4, 5°.16S±0°.03×130°.02E±0°.05, h200km, mb3.2/2, Error ellipse: s-maj=6.9km s-min=4.4km az=165.0*
*DJA **16** 19:38:03.3±0.4, 5°.5S±3°.3×13°.0E±°, h191km±5km, M4.2/8, mb4.3/3, mB4.9/2, MLv4.0/8, Mw(mB)4.2/2*

ISC 16 19:38:03.1±0.8, 5°.16S±0°.05×130°.03E±0°.06, h200km, n19, σ1s33/28, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	0.65	349	P	Pn	19 38 31.4	+0.6
BNDI				S	Sn	19 38 52.3	-0.1
MSAI	Masohi	2.11	329	P	Pn	19 38 42.2	-0.6
MSAI				S	Sn	19 39 12.5	-1.3
SAUI	Saumlaki	3.07	156	P	Pn	19 38 54.3	+0.7
SAUI				S	Sn	19 39 32.7	-0.5
FAKI	Fak Fak	3.14	45	P	Pn	19 38 55.3	+0.9
FAKI				S	Sn	19 39 33.9	-0.7
FAKI	Fak Fak	3.14	45	P	Pn	19 38 55.4	+1.0
	baz=3.4,SNR=44						
FAKI				S

σ1§82/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**5.32**	**7**	P	Sn	19 48 02.6	+3.0
	baz=7.7,SNR=5.2						
MTN	**Manton Dam**	**6.64**	**176**	P	Pn	19 47 21.8	+4.2
	baz=4.5,SNR=3.8						
MTN				S	**Sn**	**19 48 30.7**	**-1.2**
	baz=4.5,SNR=7.7						
KDU	**Kakadu**	**6.72**	**164**	P	**Pn**	**19 47 20.8**	**+2.1**
	baz=4.7,SNR=25						
KDU				S	**Sn**	**19 48 31.6**	**-2.1**
	baz=4.7,SNR=7.9						
BATI	**Baumata**	**7.98**	**239**	P	**Pn**	**19 47 37.0**	**+1.2**
	0.6nm,0.3s,baz=349,slow=5.2,SNR=1.5						
KNRA	**Kununurra**	**9.62**	**191**	P	**Pn**	**19 47 57.8**	**-0.3**
	baz=7.4,SNR=5.1						
KNRA				S	Sn	19 49 37.0	-7.3
	baz=7.4,SNR=5.5						
WRA	**Warramunga Arr**	**14.15**	**166**	P	**Pn**	**19 48 58.9**	**+0.4**
	0.1nm,0.3s,baz=349,slow=14,SNR=5.4						
WRA				S	Sn	19 51 24.7	-10
	0.3nm,0.3s,baz=343,slow=22,SNR=5.2						
ASAR	**Alice Springs**	**17.67**	**170**	P	**Pn**	**19 49 44.2**	**+1.7**
	0.0nm,0.3s,baz=348,slow=12,SNR=3.1						
ASAR				S	Sn	19 52 47.5	-12
	0.0nm,0.3s,baz=357,slow=28,SNR=2.2						
SONM	**Songino Array**	**57.87**	**341**	P	P	19 55 24.0	-0.1
	0.2nm,0.5s,baz=145,slow=5.0,SNR=2.6						
MKAR	**Makanchi Array**	**67.89**	**326**	P	**P**	**19 56 29.1**	**-1.3**
	0.3nm,0.4s,baz=110,slow=8.4,SNR=11						

*ISCJB **16** 20:08:24.8±0.7, 29°.05N±0°.05×142°.1E±0°.2, h30km, mb4.0/16, Error ellipse: s-maj=25.3km s-min=5.6km az=169.9*
*IDC **16** 20:08:26.7±4.5, 29°.01N×142°.24E, h34km±36km, mb3.6/11, mb1 3.8/13, mb1mx3.5/57, mbtmp3.8/13, ML4.3/2, Error ellipse: s-maj=31.9km s-min=14.5km az=79.0*
*NEIC **16** 20:08:27.2±1.0, 29°.00N×142°.12E, h36km±10km, mb4.4/5, Error ellipse: s-maj=19.8km s-min=7.2km az=81.0*
ISC 16 20:08:26.5±0.9, 29°.01N±0°.07×142°.1E±0°.2, h30km, n20, σ0§68/22, **mb4.1/16, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.91**	**178**	Pn	**Pn**	**20 08 57.4**	**+0.3**
CBIJ				Sn	**Sn**	**20 09 20.0**	**-0.1**
JCJ	**Chichijima**	**1.91**	**178**	Pn	**Pn**	**20 08 57.4**	**+0.3**
	11nm,0.3s,baz=262,slow=23,SNR=8.8						
JCJ				Sn	**Sn**	**20 09 20.0**	**-0.1**
	26nm,0.3s,baz=296,slow=22,SNR=8.4						
MJAR	**Matsushiro Arr**	**8.19**	**337**	Pn	**Pn**	**20 10 22.7**	**-0.7**
	1.0nm,0.3s,baz=161,slow=11,SNR=9.1						
ASAJ	**Asahikawa**	**15.08**	**1**	Pn	**Pn**	**20 11 59.0**	**+1.5**
	3.3nm,0.3s,baz=188,slow=17,SNR=6.5						
SONM	**Songino Array**	**33.31**	**314**	P	**P**	**20 15 01.8**	**+0.1**
	0.9nm,0.8s,baz=102,slow=7.4,SNR=7.0						
CMAR	**Chiang Mai Arr**	**40.69**	**265**	P	**P**	**20 16 04.6**	**+0.1**
	0.5nm,0.7s,baz=50,slow=7.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**48.01**	**318**	P	**P**	**20 17 01.6**	**-1.1**
	0.5nm,0.4s,baz=76,slow=8.3,SNR=6.1						
MKAR	**Makanchi Array**	**49.22**	**308**	P	**P**	**20 17 12.3**	**+0.2**
	1.0nm,0.7s,baz=69,slow=7.9,SNR=11						
WRAB	**Tennant Creek**	**49.23**	**190**	*e*P	**P**	**20 17 12.2**	**-0.2**
	4.7nm,1.1s						
WRA	**Warramunga Arr**	**49.24**	**190**	P	**P**	**20 17 12.0**	**-0.5**
	1.7nm,0.7s,baz=6.8,slow=8.0,SNR=27						
KURK	**Kurchatov**	**51.61**	**313**	*e*P	**P**	**20 17 30.0**	**0.0**
	4.5nm,1.0s						
KURBB	**Kurchatov Arra**	**51.66**	**313**	P	**P**	**20 17 31.1**	**+0.6**
	3.1nm,0.6s,baz=91,slow=7.2,SNR=28						
ASAR	**Alice Springs**	**52.97**	**189**	P	**P**	**20 17 40.1**	**-0.3**
	0.2nm,0.6s,baz=4.1,slow=6.9,SNR=3.7						
BVAR	**Borovoye Array**	**56.60**	**317**	P	**P**	**20 18 07.0**	**+0.6**
	1.3nm,0.6s,baz=102,slow=8.0,SNR=16						
KKAR	**Karatay Array**	**57.92**	**305**	*e*P	**P**	**20 18 16.3**	**+0.4**
	1.8nm,0.7s						
ABKAR	**Akbulak array**	**63.72**	**314**	*e*P	**P**	**20 18 55.5**	**+0.3**
	1.2nm,0.4s						
AKTO	**Aktyubinsk**	**64.62**	**315**	P	**P**	**20 19 01.6**	**+0.5**
	0.9nm,0.7s,baz=64,slow=12,SNR=5.3						
YKA	**Yellowknife Ar**	**70.50**	**29**	P	**P**	**20 19 36.9**	**-1.1**
	0.2nm,0.6s,baz=285,slow=5.7,SNR=3.5						
RAYN	**Ar Rayn**	**84.31**	**294**	*e*P	**P**	**20 20 55.2**	**-0.9**
	9.2nm,1.0s						
BRTR	**Keskin Array B**	**84.65**	**313**	P	**P**	**20 20 58.6**	**+1.0**
	1.6nm,1.0s,baz=31,slow=8.6,SNR=3.6						

*SKHL **16** 20:12:46.8±1.1, 52°.20N×142°.30E, h11km±2km, mb4.4/9, ms4.0/2*
*ISCJB **16** 20:12:48.5±0.3, 52°.14N±0°.02×142°.28E±0°.05, h10km, mb3.9/27, MS3.5/2, Error ellipse: s-maj=4.6km s-min=2.9km az=169.0*
*MOS **16** 20:12:48.5±1.3, 52°.15N×142°.60E, h11km, mb4.2/17, Error ellipse: s-maj=13.7km s-min=7.5km az=91.0*
*NEIC **16** 20:12:50.5±0.5, 52°.19N×142°.38E, h10km, mb4.4/6, Error ellipse: s-maj=11.6km s-min=8.9km az=165.0*
*IDC **16** 20:12:50.3±1.9, 52°.46N×142°.33E, h0km, mb3.8/17, mb1 4.0/17, mb1mx3.7/64, mbtmp3.8/17, MS3.1/3, Ms1 3.1/3, ms1mx2.7/35, Error ellipse: s-maj=56.2km s-min=15.8km az=173.0*
ISC 16 20:12:50.7±0.4, 52°.22N±0°.02×142°.36E±0°.04, h10km, n75, σ1§69/84, **mb3.9/27, 6C-4D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.37**	**172**	*e*Pg	**Pn**	**20 13 13.1**	**-2.7**
TYV				AMB	AMB	20 13 14.5	
	198nm,0.8s						
TYV				AMB	AMB	20 13 14.5	
	347nm,0.8s						
TYV				pP	**Pg**	**20 13 17.0**	**+0.1**
TYV				AMB	AMB	20 13 19.0	
	2μm,3.0s						
TYV				sP	sP	20 13 21.3	
TYV				*e*Sg	**Sb**	**20 13 32.0**	**-1.9**
TYV				A	A	20 13 34.8	
	1μm,0.8s						
TYV				A	A	20 13 43.0	
	6μm,5.0s						
TYV				A	A	20 13 43.0	
	4μm,5.0s						
TYV				AMS	AMS	20 14 38.0	
	6μm,6.0s						
TYV				AMS	AMS	20 14 38.0	
	6μm,6.0s						
TYV				AMS	AMS	20 14 38.0	
	4μm,6.0s						
OKH	**Okha**	**1.38**	**14**	*i* PN	**Pg**	**20 13 16.9**	**-0.2**
OKH				*i* S	**Sg**	**20 13 36.0**	**+1.0**
OKH				smax	smax		
	comp=N,2.0nm,1.0s						
OKH				smax	smax		
	comp=E,1.0nm,1.0s						
OKH	**Okha**	**1.38**	**14**	⇓*i*Pg	**Pg**	**20 13 17.0**	**-0.2**
OKH				AMB	AMB	20 13 24.3	
	comp=E,750nm,0.8s						
OKH				*e*rx	rx	20 13 28.0	
OKH				*e*Sg	**Sg**	**20 13 37.3**	**+2.3**
OKH				A	A	20 13 39.0	
	comp=E,2μm,1.0s						
OKH				A	A	20 13 39.0	
	comp=E,1μm,1.0s						
NKL	**Nikolayevsk**	**1.39**	**313**	⇓*i*Pg	**Pn**	**20 13 14.3**	**-1.7**
NKL				AMB	AMB	20 13 15.0	
	comp=E,500nm,1.5s						
NKL				AMB	AMB	20 13 15.5	
	comp=E,160nm,0.3s						
NKL				AMB	AMB	20 13 15.5	
	comp=E,340nm,0.3s						
NKL				pP	**Pg**	**20 13 17.0**	**-0.2**
NKL				sP	sP	20 13 22.0	
NKL				*e*Sg	**Sb**	**20 13 34.0**	**-0.4**
NKL				A	A	20 13 37.0	
	comp=E,6μm,1.5s						
NKL				A	A	20 13 37.0	
	comp=E,2μm,1.5s						
NKL				AMS	AMS	20 14 40.5	
	comp=E,2μm,4.0s						
NKL				AMS	AMS	20 14 40.5	
	comp=E,2μm,4.0s						
NKL				AMS	AMS	20 14 40.5	
	comp=E,2μm,4.0s						
UGL	**Uglegorsk**	**3.15**	**184**	PN	**Pb**	**20 13 48.5**	**+1.8**
UGL				pmax	pmax		
	comp=Z,110nm,0.9s						
UGL	**Uglegorsk**	**3.15**	**184**	*e*Pg	**Pb**	**20 13 48.5**	**+1.8**
UGL				AMB	AMB	20 13 54.0	
	comp=Z,110nm,0.9s						
UGL				*e*rx	rx	20 13 59.0	
UGL				*e*rx	rx	20 14 07.5	
UGL				*e*Sg	**Sg**	**20 14 33.0**	**+1.3**
UGL				A	A	20 14 44.0	
	comp=Z,77nm,0.5s						
UGL				A	A	20 14 44.0	
	comp=Z,230nm,0.5s						
GRNR	**Gornyy**	**3.99**	**251**	*e*Pg	**Pb**	**20 14 00.5**	**-0.4**
GRNR				AMB	AMB	20 14 02.0	
	comp=Z,40nm,0.3s						
GRNR				*e*Sg	**Sb**	**20 14 53.0**	**+3.8**
GRNR				A	A	20 14 56.0	
	comp=Z,224nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.28**	**177**	⇑*e*Pn	**Pn**	**20 14 09.0**	**-0.5**
YSS				pmax	pmax		
	comp=N,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**5.28**	**177**	*e*P	**Pn**	**20 14 08.0**	**-1.5**
YSS				AMB	AMB	20 14 10.2	
	comp=Z,30nm,0.9s						
YSS				*e*Pg	**Pg**	**20 14 30.5**	**-1.1**
YSS				*e*S	**Sn**	**20 15 06.5**	**-3.8**
YSS				A	A	20 15 14.2	
	comp=Z,20nm,1.0s						
YSS				*e*Sg	**Sg**	**20 15 42.0**	**+2.1**
YSS				A	A	20 15 43.5	
	comp=Z,54nm,0.9s						
YSS	**Yuzh-Sakhalins**	**5.28**	**177**	*e*Pn	**Pn**	**20 14 07.9**	**-1.5**
	comp=Z,20nm,0.8s						
EKMR	**Ekimchan**	**5.79**	**282**	*e*P	**Pn**	**20 14 17.2**	**+0.6**
EKMR				*e*Pg	**Pg**	**20 14 39.0**	**-2.5**
EKMR				AMB	AMB	20 14 40.0	
	comp=Z,23nm,0.5s						
EKMR				*e*S	**Sn**	**20 15 18.1**	**-5.0**
EKMR				*e*Sg	**Sg**	**20 15 59.3**	**+2.8**
EKMR				A	A	20 16 04.5	
	comp=Z,180nm,0.6s						
EKMR				A	A	20 16 04.5	
	comp=Z,86nm,0.6s						
EKMR				A	A	20 16 04.5	
	comp=Z,120nm,0.6s						
BMKR	**Bomnak**	**8.45**	**293**	*e*Pg	Pg	20 15 28.0	-4.2
BMKR				AMB	AMB	20 15 29.5	
	comp=Z,11nm,0.9s						
BMKR				A	A	20 17 23.6	
	comp=Z,23nm,0.7s						
BMKR				*e*Sg	Sg	20 17 28.8	+7.4
BMKR				A	A	20 17 29.5	
	comp=Z,10.0nm,0.8s						
YASR	**Yasnyy**	**8.79**	**283**	*e*Sg	Sg	20 17 10.0	-23
YASR				A	A	20 17 22.0	
	comp=Z,86nm,0.8s						
YASR				A	A	20 17 22.0	
	comp=Z,22nm,0.8s						
YASR				A	A	20 17 22.0	
	comp=Z,5.0nm,0.8s						
ZEA	**Zeya**	**9.25**	**285**	*e*Pg	Pn	20 15 15.3	+11
ZEA				AMB	AMB	20 15 17.6	
	comp=Z,5.0nm,0.6s						
ZEA				*e*Sg	Sn	20 17 00.5	+13
ZEA				A	A	20 17 01.9	
	comp=Z,37nm,1.4s						
ZEA				AMS	AMS	20 18 17.0	
	comp=Z,400nm,5.0s						
PETK	**Petropavlovsk-**	**9.37**	**78**	LR	LR	20 18 52.9	
	comp=Z,52nm,20.7s,baz=237,slow=39						
KROS	**Kirovskiy**	**9.47**	**290**	*e*Sg	Sn	20 17 43.0	+49
KROS				A	A	20 17 56.3	
	comp=Z,44nm,1.0s						
PET	**Petropavlovsk**	**9.94**	**79**	⇑*i*PN	Pn	20 15 09.9	-3.5
ERM	**Erimo**	**10.22**	**177**	⇑*i*PN	**Pn**	**20 15 17.8**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.59**	**225**	LR	LR	20 19 52.9	
	comp=Z,88nm,19.3s,baz=3.9,slow=39						
YAK	**Yakutsk**	**11.98**	**330**	*e*PN	**Pn**	**20 15 43.1**	**+1.8**
YAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YAK				MLR	MLR		
	comp=N,33nm,10.0s						
YAK				MLR	MLR		
	comp=Z,25nm,10.0s						
BILL	**Biiibino**	**19.61**	**27**	⇑*e*P	**P**	**20 17 17.6**	**-1.1**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.5s						
BILL				MLR	MLR		
	comp=Z,57nm,19.0s						
TIXI	**Tiksi**	**20.41**	**348**	⇑*e*P	**P**	**20 17 27.7**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,11nm,1.0s						
TIXI	**Tiksi**	**20.41**	**348**	*e*P	**P**	**20 17 26.5**	**-0.9**
	comp=Z,11nm,1.1s						
ULN	**Ulaanbaatar**	**22.94**	**273**	⇓*e*P	**P**	**20 17 57.0**	**+2.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**22.94**	**273**	*e*P	**P**	**20 17 54.9**	**-0.1**
	comp=Z,1.2nm,0.8s						
SONM	**Songino Array**	**23.36**	**274**	P	**P**	**20 17 59.8**	**+0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**23.36**	**274**	P	**P**	**20 17 59.8**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=72,slow=7.5,SNR=5.0						
TLY	**Talaya**	**23.68**	**284**	*e*P	**P**	**20 18 04.0**	**+1.8**
TLY				*e*S	**S**	**20 22 23.5**	**+6.6**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,104nm,16.0s						
TLY	**Talaya**	**23.68**	**284**	P	**P**	**20 18 03.5**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=73,slow=11,SNR=3.1						
ZAK	**Zakamensk**	**24.31**	**281**	*e*P	**P**	**20 18 07.3**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s						
MCK	**McKinley**	**36.35**	**44**	*e*P	**P**	**20 19 54.7**	**+0.4**
MCK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MCK	**McKinley**	**36.35**	**44**	*e*P	**P**	**20 19 54.7**	**+0.4**
	comp=Z,5.6nm,1.0s						
COLA	**College**	**36.52**	**42**	*de*P	**P**	**20 19 55.9**	**+0.2**
COLA				pmax	pmax		
	comp=Z,16nm,1.0s						
ILAR	**Eielson Array**	**36.95**	**42**	P	**P**	**20 19 59.9**	**+0.5**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**36.95**	**42**	P	**P**	**20 19 59.9**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=281,slow=8.7,SNR=18						
MKAR	**Makanchi Array**	**38.40**	**287**	P	**P**	**20 20 12.0**	**0.0**
MKAR	**Makanchi Array**	**38.40**	**287**	P	**P**	**20 20 12.0**	**0.0**
	comp=Z,0.4nm,0.7s,baz=46,slow=8.3,SNR=4.5						
KURK	**Kurchatov**	**38.59**	**294**	P	**P**	**20 20 14.6**	**+1.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**38.59**	**294**	P	**P**	**20 20 14.6**	**+1.1**
KURBB	**Kurchatov Arra**	**38.69**	**294**	P	**P**	**20 20 14.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=67,slow=8.5,SNR=4.2						
BVAR	**Borovoye Array**	**41.99**	**301**	P	**P**	**20 20 41.7**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**41.99**	**301**	P	**P**	**20 20 41.7**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=53,slow=5.7,SNR=5.0						
ARU	**Arti**	**46.18**	**310**	*c iP*	**P**	**20 21 15.4**	**+0.3**
ARU						20 22 53.4	
ARU				S	**S**	**20 28 03.4**	**+2.5**
ARU				SS	**SS**	**20 31 20.5**	**-5.1**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ARU	**Arti**	**46.18**	**310**	*e*P	**P**	**20 21 14.4**	**-0.7**
	comp=Z,6.4nm,1.3s						
PRGR	**Permogore**	**48.84**	**321**	P	**P**	**20 21 34.5**	**-1.2**
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.4s						
YKA	**Yellowknife Ar**	**50.67**	**36**	P	**P**	**20 21 49.8**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.67**	**36**	P	**P**	**20 21 49.8**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=310,slow=7.4,SNR=10						
FINES	**FINESS Array B**	**55.91**	**329**	*i* P	**P**	**20 22 28.5**	**+0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**55.91**	**329**	P	**P**	**20 22 27.7**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=46,slow=8.2,SNR=7.8						
NB2	**NORSAR Subarra**	**60.55**	**335**	P	**P**	**20 23 00.7**	**0.0**
	comp=Z,2.3nm,0.9s,baz=31,slow=6.9						
NOA	**NORSAR Array B**	**60.55**	**335**	P	**P**	**20 22 59.3**	**-1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**60.55**	**335**	P	**P**	**20 22 59.3**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=31,slow=7.3,SNR=3.9						
HFS	**Hagfors**	**60.65**	**333**	P	**P**	**20 23 01.1**	**-0.2**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	**Hagfors**	**60.65**	**333**	P	**P**	**20 23 01.1**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=63,slow=7.0,SNR=6.3						
FFC	**Flin Flon**	**60.82**	**37**	*e*P	**P**	**20 23 02.1**	**-0.4**
FFC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FFC	**Flin Flon**	**60.82**	**37**	*e*P	**P**	**20 23 02.1**	**-0.4**
	comp=Z,3.2nm,0.8s						
FRB	**Frobisher Bay**	**61.88**	**15**	P	**P**	**20 23 08.0**	**-1.5**
FRB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FRB	**Frobisher Bay**	**61.88**	**15**	P	**P**	**20 23 08.0**	**-1.5**
	comp=Z,2.2nm,0.7s,baz=328,slow=5.0,SNR=3.4						
NVAR	**Mina Array Bea**	**65.82**	**58**	P	**P**	**20 23 37.0**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=297,slow=4.6,SNR=3.5						
PDAR	**Pinedale Array**	**66.87**	**50**	P	**P**	**20 23 43.3**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=320,slow=2.5,SNR=7.3						
DPC	**Dobruska-Polom**	**68.07**	**326**	*e*P	**P**	**20 23 51.2**	**+1.1**
DPC	**Dobruska-Polom**	**68.07**	**326**	*e*P	**P**	**20 23 51.2**	**+1.1**
MORC	**Moravsky Berou**	**68.13**	**325**	P	**P**	**20 23 50.2**	**-0.3**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MORC	**Moravsky Berou**	**68.13**	**325**	P	**P**	**20 23 50.2**	**-0.3**
	comp=Z,2.8nm,0.9s						
KRLC	**Kraliky**	**68.15**	**326**	*e*P	**P**	**20 23 52.5**	**+1.9**
KRLC	**Kraliky**	**68.15**	**326**	*e*P	**P**	**20 23 52.5**	**+1.9**
CLL	**Collm**	**68.36**	**329**	*e*P	**P**	**20 23 52.0**	**+0.2**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CLL	**Collm**	**68.36**	**329**	*e*P	**P**	**20 23 52.0**	**+0.2**
	comp=Z,4.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**69.07**	**340**	P	**P**	**20 23 56.2**	**0.0**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKA	**Eskdalemuir Ar**	**69.07**	**340**	P	**P**	**20 23 56.2**	**0.0**
	comp=Z,0.4nm,0.5s,baz=19,slow=5.3,SNR=4.1						
GERES	**GERESS Array B**	**70.25**	**327**	P	**P**	**20 24 05.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=7.4,slow=8.4,SNR=3.4						
TXAR	**Lajitas Array**	**80.44**	**54**	P	**P**	**20 25 03.2**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TXAR	**Lajitas Array**	**80.44**	**54**	P	**P**	**20 25 03.2**	**+0.5**
	comp=Z,1.6nm,1.0s,baz=301,slow=4.6,SNR=8.8						
LPIG	**La Paz**	**81.22**	**62**	LR	LR	20 59 36.2	
	comp=Z,20nm,18.2s,baz=32,slow=35						
ESDC	**Sonseca Array**	**83.91**	**335**	P	**P**	**20 25 19.1**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=5.7,slow=5.2,SNR=4.7						

*ISCJB **16** 20:19:10.5±1.2, 6°.04S±0°.06×149°.66E±0°.08, h55km±11km, mb4.2/17, MS3.3/6, Error ellipse: s-maj=13.9km s-min=7.8km az=25.1*
*IDC **16** 20:19:10.1±0.6, 6°.04S×149°.83E, h43km±5km, mb4.0/12, mb1 4.1/13, mb1mx4.1/18, mbtmp4.2/13, ML4.0/2, MS3.2/8, Ms1 3.2/8, ms1mx3.1/21, Error ellipse: s-maj=20.4km s-min=10.3km az=108.0*
*NEIC **16** 20:19:11.5±2.2, 6°.03S×149°.84E, h62km±19km, mb4.6/6, Error ellipse: s-maj=17.6km s-min=11.7km az=93.0*
NEIC Felt at Kimbe.
ISC 16 20:19:10.6±0.6, 6°.06S±0°.07×149°.74E±0°.09, h47km±5km, h47km: pP-P, n63, σ1§38/72, **mb4.2/17, MS3.3/6, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.05**	**53**	P	**Pn**	**20 19 58.1**	**+1.7**
	baz=3.4,SNR=170						
PMG	**Port Moresby**	**4.19**	**217**	P	**Pn**	**20 20 14.5**	**+2.6**
	100nm,0.3s,baz=26,slow=15.1,SNR=180						
PMG				S	**Sn**	**20 21 01.5**	**+1.8**
	58nm,0.3s,baz=54,slow=19,SNR=7.2						
PMG				LR	LR	20 21 42.0	
	comp=Z,254nm,18.9s,baz=356,slow=36						
PMG	**Port Moresby**	**4.19**	**217**	P	**Pn**	**20 20 14.6**	**+2.6**
	baz=4.2,SNR=91						
PMG				S	**Sn**	**20 21 01.5**	**+1.8**
	baz=4.2,SNR=6.9						
PMG	**Port Moresby**	**4.19**	**217**	*e*Pn	**Pn**	**20 20 14.0**	**+2.1**
PMG				*e*Sn	**Sn**	**20 20 58.8**	**-0.8**
PMG				S	**Sn**	**20 21 01.5**	**+1.8**
COEN	**Coen**	**10.16**	**219**	P	**Pn**	**20 21 34.9**	**+1.0**
COEN	baz=10,SNR=22						
COEN				S	**Sn**	**20 23 23.8**	**-2.8**
	baz=10,SNR=4.5						
HNR	**Honiara**	**10.66**	**109**	LR	LR	20 24 34.6	
	comp=Z,108nm,20.4s,baz=354,slow=31						
MTSU	**Mount Surprise**	**13.11**	**203**	S	**S**	**20 24 57.0**	**-4.8**
	baz=13,SNR=16						
CTA	**Charters Tower**	**14.35**	**193**	P	**Pn**	**20 22 31.9**	**+0.9**
	0.3nm,0.3s,baz=14,slow=11,SNR=3.6						
QIS	**Mount Isa**	**17.44**	**213**	P	**P**	**20 23 11.7**	**+0.3**
	baz=18,SNR=8.8						
KDU	**Kakadu**	**18.25**	**248**	P	**P**	**20 23 20.4**	**+0.1**
	baz=18,SNR=15						
EIDS	**Eidsvold**	**19.24**	**176**	P	**Pn**	**20 23 32.8**	**+0.4**
	baz=20,SNR=4.6						
MTN	**Manton Dam**	**19.54**	**248**	P	**P**	**20 23 35.2**	**+0.8**
	baz=19,SNR=22						
RMQ	**Roma**	**20.33**	**183**	P	Pn	20 23 45.5	+0.2
	baz=21,SNR=14						
WRAB	**Tennant Creek**	**20.34**	**226**	*e*P	**P**	**20 23 43.9**	**+0.8**
	45nm,0.6s						
WRAB				*e*		20 23 53.7	
WB2	**Warramunga Arr**	**20.34**	**226**	*e*P	**P**	**20 23 44.0**	**+0.9**
WB2				*e*		20 23 52.9	
WRA	**Warramunga Arr**	**20.35**	**226**	P	**P**	**20 23 44.4**	**+1.2**
	8.4nm,0.6s,baz=51,slow=11,SNR=58						
WRA				pP	**pP**	**20 23 54.6**	**+0.3**
	43nm,0.7s,baz=50,slow=11,SNR=49						
WRA				PcP	**PcP**	**20 27 54.7**	**-0.4**
	1.8nm,0.7s,baz=44,slow=2.4,SNR=6.6						
WRA				pPcP		20 28 07.8	
	1.9nm,0.6s,baz=42,slow=2.0,SNR=5.6						
QLP	**Quilpie**	**21.07**	**194**	P	**P**	**20 23 52.9**	**+2.0**
	baz=21,SNR=10						
KNRA	**Kununurra**	**22.68**	**243**	P	**P**	**20 24 07.6**	**-0.6**

KSRS LR LR 20 47 07.5
comp=Z,19nm,18.5s,baz=160,slow=35
KSAR Wonju Array Be 47.84 336 P P 20 27 44.4 +0.6
KSAR pP **pP 20 27 56.9 +0.2**
USRK Ussuriysk Ar. 52.53 344 pP pP 20 28 32.5 +0.3
3.9nm,0.8s,baz=178,slow=11,SNR=3.9
CMAR Chiang Mai Arr 55.69 297 P P 20 28 42.4 -0.2
0.3nm,0.4s,baz=121,slow=7.3,SNR=4.4
PETK Petropavlovsk- 59.33 6 P P 20 29 07.8 +0.2
4.3nm,0.5s,baz=168,slow=7.8,SNR=23
PETK LR LR 20 50 00.2
comp=Z,30nm,21.8s,baz=242,slow=31
SONM Songino Array 65.81 330 P **P 20 29 52.2 +1.0**
1.3nm,0.4s,baz=143,slow=4.7,SNR=28
TAPN Taplejung 68.47 302 *eP* **P 20 30 09.6 +1.0**
2.5nm,0.4s
ODAN Odare 68.58 302 *eP* **P 20 30 10.3 +1.0**
4.6nm,0.4s
RAMN Ramite 69.28 302 *eP* **P 20 30 14.5 +0.9**
5.2nm,0.5s
JIRN Jiri 69.85 302 *eP* **P 20 30 17.8 +0.5**
4.3nm,0.5s
GUN Gumba 70.19 302 *eP* **P 20 30 19.7 +0.4**
12nm,0.4s
PKI Pulchoki 70.48 302 *eP* **P 20 30 21.9 +0.8**
2.5nm,0.4s
PKIN Phulchoki 70.49 302 *eP* **P 20 30 21.5 +0.4**
2.2nm,0.5s
KKN Kakani 70.66 302 *eP* **P 20 30 22.7 +0.7**
4.8nm,0.5s
DMN Daman 70.75 302 *eP* **P 20 30 22.7 +0.1**
GKN Gorkha 71.26 302 *eP* **P 20 30 26.2 +0.6**
7.2nm,0.4s
VNDA Vanda 71.70 177 P **P 20 30 27.6 +0.5**
2.3nm,0.6s,baz=333,slow=7.0,SNR=23
VNDA pP **pP 20 30 40.2 -0.5**
3.2nm,0.7s,baz=318,slow=6.6,SNR=9.5
KOLN Koldanda 72.07 302 *eP* **P 20 30 31.3 +0.8**
5.2nm,0.5s
DANN Dangsing 72.11 302 *eP* **P 20 30 31.0 +0.1**
3.2nm,0.4s
MKAR Makanchi Array 79.29 320 P **P 20 31 10.3 -0.9**
0.3nm,0.5s,baz=57,slow=5.3,SNR=5.2
ZALV Zalesovo Beam 80.53 327 P **P 20 31 17.7 0.0**
1.1nm,0.4s,baz=113,slow=6.7,SNR=7.7
ZALV LR LR 21 07 23.3
comp=Z,13nm,19.2s,baz=61,slow=36
MCK McKinley 83.20 23 *eP* P 20 31 27.9 -3.7
3.8nm,0.8s
AAK Ala-Archa 83.33 314 P **P 20 31 34.2 +1.3**
1.0nm,0.9s
EKS2 Erkin-Say 83.85 314 P **P 20 31 33.6 -2.0**
QSPA South Pole Qui 83.90 180 *eP* **P 20 31 34.7 -0.6**
5.0nm,0.8s
QSPA *e* 20 31 47.9
ILAR Eielson Array 84.48 23 P P 20 31 34.5 -3.6
1.2nm,0.7s,baz=254,slow=5.3,SNR=4.1
DLBC Dease Lake 90.03 31 LR LR 21 08 30.8
comp=Z,23nm,20.2s,baz=200,slow=33
ARCES ARCESS Array B 107.16 342 PKKPbc PKKPbc 20 48 46.6 -4.1
1.4nm,0.9s,baz=242,slow=1.9,SNR=6.5
GERES GERESS Array B 123.48 327 PKP **PKPdf 20 38 01.9 -1.1**
0.2nm,0.3s,baz=90,slow=0.3,SNR=4.4
GERES pPKP **pPKPdf 20 38 14.7 -2.7**
0.4nm,0.6s,baz=0.0,slow=0.5,SNR=3.2
LPAZ La Paz 136.44 121 PKP **PKPdf 20 38 28.5 -0.6**
1.7nm,0.6s,baz=0.9,slow=4.0,SNR=5.6
TORD Torodi Ar. Bea 147.74 285 PKPbc **PKPbc 20 38 50.1 -1.1**
1.7nm,0.5s,baz=89,slow=2.5,SNR=19
TORD pPKPbc **pPKPbc 20 39 03.4 -2.2**
2.0nm,0.7s,baz=65,slow=2.8,SNR=5.6
BDFB Brasilia 152.18 141 PKPbc **PKPbc 20 39 01.9 -0.3**
8.5nm,0.6s,baz=253,slow=0.6,SNR=10
BDFB pPKPbc **pPKPbc 20 39 14.9 -1.6**
5.8nm,0.5s,baz=339,slow=3.9,SNR=4.6
DBIC Dimbokro 154.74 273 PKPab **PKPab 20 39 21.7 -1.1**
1.7nm,0.7s,baz=100,slow=3.8,SNR=3.2

MAN 16 20:39:37.18̊08N×120̊84E, h36km, mb4.9, ML3.8, MS3.9, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.32**	**320**	⇓	*i*	P	Pn	20 39 47.8	+2.6
PIP					*e*	S	Sn	20 39 53.6	+1.7
SIPP	**Brgy, Tapao**	**0.39**	**247**	⇑	*e*	P	Pn	20 39 48.9	+3.0

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*ISCJB **16** 20:45:53.8±0.6, 24̊42N±0̊06×36̊68E±0̊06, h10km, mb3.6/13, MS2.8/1, Error ellipse: s-maj=9.5km s-min=7.5km az=163.6*
*IDC **16** 20:45:54.0±1.1, 24̊32N×36̊61E, h0km, mb3.7/13, mb1 3.8/18, mb1mx3.7/49, mbtmp3.7/18, ML3.5/5, MS2.9/5, Ms1 2.9/5, ms1mx2.5/33, Error ellipse: s-maj=23.8km s-min=16.0km az=166.0*
*SGS **16** 20:45:55.4, 24̊46N×36̊56E, h29km*
*CSEM **16** 20:45:55.0, 24̊46N×36̊56E, h28km, ML3.9*
ISC 16 20:45:55.1±0.7, 24̊42N±0̊07×36̊76E±0̊06, h10km, n27, σ1§46/26, mb3.6/13, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UMJS	**Umm Lajj**	**0.95**	**32**	P			**Pb**	**20 46 13.0**	**-0.7**
UMJS				S			**Sg**	**20 46 25.0**	**-0.8**
UMJS	**Umm Lajj**	**0.95**	**32**	P			**Pg**	**20 46 12.5**	**-0.9**
YNBS	**Yanbu' al Bahr**	**1.13**	**94**	P			**Pb**	**20 46 15.0**	**-1.7**
YNBS	**Yanbu' al Bahr**	**1.13**	**94**	P			**Pb**	**20 46 15.0**	**-1.7**
YOBS		**1.81**	**92**	P			**Pn**	**20 46 26.0**	**-0.3**
YOBS		**1.81**	**92**	P			**Pn**	**20 46 25.9**	**-0.4**
BIDS	**Bi'r al Bayda'**	**2.44**	**4**	P			**Pn**	**20 46 33.0**	**-2.0**
BIDS	**Bi'r al Bayda'**	**2.44**	**4**	P			**Pn**	**20 46 33.1**	**-2.0**
EIL	**Elat**	**5.47**	**343**	Pn			**Pn**	**20 47 16.3**	**-0.4**
	0.9nm,0.3s,baz=150,slow=4.7,SNR=6.7								
EIL				Lg			Lg	20 48 50.6	
	1.2nm,0.3s,baz=194,slow=12,SNR=3.4								
EIL				LR			LR	20 49 14.7	
	comp=Z,73nm,21.4s,baz=79,slow=36								
ASF	**Jabal al Asfar**	**7.73**	**1**	Pn			**Pn**	**20 47 48.5**	**+0.8**
	1.1nm,0.3s,baz=209,slow=5.8,SNR=7.8								
ASF				Lg			Lg	20 49 58.0	
	0.6nm,0.3s,baz=290,slow=18,SNR=3.7								
ASF				LR			LR	20 50 56.6	
	comp=Z,240nm,20.9s,baz=354,slow=39								
MMAI	**Mount Meron Ar**	**8.65**	**352**	Pn			**Pn**	**20 48 01.0**	**+0.6**
	1.9nm,0.3s,baz=159,slow=15,SNR=11								
MMAI				LR			LR	20 50 53.6	
	comp=Z,32nm,21.5s,baz=135,slow=34								
IDI	**Anoyia**	**14.93**	**319**	Pn			**Pn**	**20 49 24.7**	**-1.6**
	0.3nm,0.3s,baz=156,slow=7.1,SNR=5.2								
BRTR	**Keskin Array B**	**15.49**	**351**	Pn			**P**	**20 49 36.2**	**-2.0**
	0.0nm,0.3s,baz=165,slow=15,SNR=3.6								
GNI	**Garni**	**17.06**	**21**	LR			LR	20 57 15.4	
	comp=Z,46nm,19.3s,baz=267,slow=40								
GEYT	**Alibeck**	**22.63**	**48**	P			**P**	**20 50 58.5**	**+2.2**
	1.3nm,0.7s,baz=258,slow=7.0,SNR=4.5								
GEYT				LR			LR	21 00 48.1	
	comp=Z,38nm,21.4s,baz=200,slow=39								
KEST	**Kesra**	**26.18**	**302**	P			**P**	**20 51 31.6**	**+1.7**
	1.7nm,0.7s,baz=111,slow=7.0,SNR=5.1								
AKASG	**Malin Array Be**	**26.88**	**349**	P			**P**	**20 51 38.4**	**+2.5**
	0.5nm,0.4s,baz=172,slow=8.6,SNR=3.8								
TORD	**Torodi Ar. Bea**	**34.94**	**258**	P			**P**	**20 52 46.5**	**-1.0**
	1.2nm,0.6s,baz=61,slow=7.9,SNR=8.8								
ESDC	**Sonseca Array**	**37.38**	**304**	P			**P**	**20 53 06.8**	**-1.4**
	1.3nm,0.6s,baz=96,slow=7.9,SNR=12								
FINES	**FINESS Array B**	**37.72**	**352**	P			**P**	**20 53 10.7**	**+0.1**
	0.7nm,0.7s,baz=161,slow=13,SNR=3.7								
NOA	**NORSAR Array B**	**40.59**	**341**	P			**P**	**20 53 35.4**	**+0.7**
	0.6nm,0.8s,baz=140,slow=9.0,SNR=3.3								
KURBB	**Kurchatov Arra**	**41.41**	**40**	P			**P**	**20 53 43.8**	**+2.2**
	1.1nm,0.8s,baz=253,slow=8.4,SNR=11								
MKAR	**Makanchi Array**	**42.48**	**47**	P			P	20 53 53.1	+2.7
	2.5nm,0.8s,baz=278,slow=9.3,SNR=21								
DBIC	**Dimbokro**	**43.58**	**253**	P			**P**	**20 53 59.1**	**-0.5**
	1.5nm,0.7s,baz=35,slow=8.3,SNR=4.3								
CMAR	**Chiang Mai Arr**	**57.78**	**83**	P			**P**	**20 55 47.5**	**+0.7**
	0.3nm,0.6s,baz=291,slow=7.5,SNR=3.6								
SONM	**Songino Array**	**58.83**	**48**	P			**P**	**20 55 55.1**	**+1.1**
	0.4nm,0.8s,baz=278,slow=5.7,SNR=5.5								
YKA	**Yellowknife Ar**	**90.42**	**347**	P			**P**	**20 58 57.3**	**+0.8**
	0.2nm,0.8s,baz=32,slow=5.1,SNR=3.7								

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*IDC **16** 20:51:11.3±1.0, 14̊37N×147̊05E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.8/42, mbtmp3.9/11, Error ellipse: s-maj=34.0km s-min=19.7km az=102.0*
*ISCJB **16** 20:51:14.6±0.8, 14̊4N±0̊1×146̊9E±0̊1, h33km, mb3.9/11, Error ellipse: s-maj=20.2km s-min=15.9km az=17.7*
ISC 16 20:51:16.3±1.0, 14̊4N±0̊2×147̊0E±0̊2, h33km, n27, σ0§56/27, mb3.9/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.28**	**200**	P			**P**	**20 58 16.3**	**-0.5**
	0.4nm,0.7s,baz=20,slow=9.6,SNR=5.6								
ASAR	**Alice Springs**	**39.89**	**199**	P			**P**	**20 58 47.5**	**+0.2**
	0.4nm,0.8s,baz=17,slow=11,SNR=3.8								
CMAR	**Chiang Mai Arr**	**46.18**	**282**	P			**P**	**20 59 39.3**	**+0.9**
	0.4nm,0.5s,baz=84,slow=5.5,SNR=4.2								
SONM	**Songino Array**	**47.34**	**323**	P			**P**	**20 59 47.0**	**-0.1**
	0.6nm,0.6s,baz=142,slow=8.8,SNR=6.7								
SEY	**Seymchan**	**48.67**	**3**	P			**P**	**20 59 57.6**	**+0.6**
	0.9nm,0.6s,baz=154,slow=4.9,SNR=5.5								
TAPN	**Taplejung**	**56.44**	**293**	*eP*			**P**	**21 00 55.3**	**-0.2**
	5.6nm,0.5s								
ODAN	**Odare**	**56.73**	**293**	*eP*			**P**	**21 00 57.1**	**-0.4**
	4.2nm,0.5s								
RAMN	**Ramite**	**57.43**	**293**	*eP*			**P**	**21 01 01.2**	**-1.3**
	3.0nm,0.5s								
JIRN	**Jiri**	**57.80**	**294**	*eP*			**P**	**21 01 05.2**	**0.0**
	8.0nm,0.8s								
GUN	**Gumba**	**58.07**	**294**	*eP*			**P**	**21 01 07.0**	**-0.1**
	8.4nm,0.6s								
PKI	**Pulchoki**	**58.49**	**294**	*eP*			**P**	**21 01 09.5**	**-0.5**
PKIN	**Phulchoki**	**58.50**	**294**	*eP*			**P**	**21 01 09.4**	**-0.6**
KKN	**Kakani**	**58.60**	**294**	*eP*			**P**	**21 01 10.5**	**-0.1**
DMN	**Daman**	**58.76**	**294**	*eP*			**P**	**21 01 11.2**	**-0.6**
	4.9nm,0.6s								
GKN	**Gorkha**	**59.17**	**294**	*eP*			**P**	**21 01 14.0**	**-0.5**
	6.7nm,0.5s								
DANN	**Dangsing**	**59.94**	**295**	*eP*			**P**	**21 01 20.1**	**+0.1**
	12nm,0.7s								
KOLN	**Koldanda**	**60.09**	**294**	*eP*			**P**	**21 01 20.5**	**-0.4**
	3.4nm,0.6s								
ZALV	**Zalesovo Beam**	**62.23**	**324**	P			**P**	**21 01 33.7**	**-0.9**
	1.0nm,0.5s,baz=115,slow=6.6,SNR=6.1								
MKAR	**Makanchi Array**	**62.40**	**315**	P			**P**	**21 01 36.2**	**+0.2**
	2.4nm,0.4s,baz=54,slow=6.3,SNR=78								
ILAR	**Eielson Array**	**67.00**	**25**	P			**P**	**21 02 05.2**	**-0.5**
	0.4nm,0.4s,baz=251,slow=5.7,SNR=7.5								
YKA	**Yellowknife Ar**	**81.23**	**28**	P			**P**	**21 03 29.1**	**+0.4**
	0.3nm,0.4s,baz=282,slow=5.1,SNR=6.1								
ARCES	**ARCESS Array B**	**87.00**	**343**	P			**P**	**21 03 58.1**	**+0.1**
	3.9nm,1.0s,baz=83,slow=7.4,SNR=4.2								
FINES	**FINESS Array B**	**91.34**	**336**	P			**P**	**21 04 17.6**	**-0.9**
	1.4nm,0.8s,baz=106,slow=6.2,SNR=4.2								
DBIC	**Dimbokro**	**145.14**	**305**	PKPbc			**PKPdf**	**21 10 51.5**	**+0.1**
	5.0nm,0.6s,baz=24,slow=4.2,SNR=14								
KIC	**Kosan Boka**	**145.23**	**304**	*e*PKP1			**PKPdf**	**21 10 52.0**	**+0.4**
	47nm,1.4s								
TIC	**Toumodi**	**145.28**	**305**	*e*PKP1			**PKPdf**	**21 10 52.0**	**+0.2**
	9.0nm,0.4s								
LIC	**Lamto**	**145.54**	**305**	*e*PKP1			**PKPab**	**21 10 53.0**	**+0.5**
	65nm,1.8s								

KRSC 16 20:56:49.2±1.3, 53̊18N×161̊82E, h65km±19km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.08**	**266**	*eP*			Pn	20 57 01.0	-7.5
MKZ	**Mys Kozlova**	**1.38**	**358**	*eS*			Sn	20 57 31.7	+1.9
KII	**Karymskiy**	**1.65**	**302**	*eP*			Pn	20 57 17.9	+1.8
KII				*eS*			Sn	20 57 37.5	+1.0
SDLR	**Sedlovina**	**1.77**	**274**	*i P*			Pn	20 57 20.0	+2.3
UGLR	**Uglovaya**	**1.80**	**272**	*i P*			Pn	20 57 20.7	+2.5
UGLR				*eS*			Sn	20 57 41.9	+1.7
SMAR	**Somma**	**1.81**	**274**	*eP*			Pn	20 57 20.6	+2.1
KRER	**Koryakskii**	**1.85**	**275**	*eP*			Pn	20 57 21.4	+2.5
KRER				*eS*			Sn	20 57 43.3	+1.8
AVH	**Avacha**	**1.85**	**274**	*eP*			Pn	20 57 21.5	+2.6
AVH				*eS*			Sn	20 57 43.0	+1.6
KRX	**Arik**	**1.91**	**277**	*eP*			Pn	20 57 21.9	+2.2
KRX				*eS*			Sn	20 57 44.1	+1.2
PET	**Petropavlovsk**	**1.91**	**267**	*eP*			Pn	20 57 21.6	+2.1
PET				*eS*			Sn	20 57 44.4	+1.8
KOK	**Koryaka**	**1.92**	**275**	*i P*			Pn	20 57 22.1	+2.4
KZV	**Kizimen**	**2.13**	**336**	*eP*			Pn	20 57 25.4	+2.6
RUS	**Russkaya**	**2.14**	**251**	*eP*			Pn	20 57 24.5	+1.9
RUS				*eS*			Sn	20 57 49.6	+1.5
MTVR	**Mutnovka**	**2.31**	**254**	*i P*			Pn	20 57 28.0	+2.8
MTVR				*i S*			Sn	20 57 54.7	+2.1
TUMR	**Tumrok**	**2.33**	**336**	*eP*			Pn	20 57 28.7	+3.4
TUMR				*eS*			Sn	20 57 55.5	+2.6
GNL	**Ganaly**	**2.38**	**284**	*eP*			Pn	20 57 29.2	+3.2
GNL				*eS*			Sn	20 57 57.1	+3.0
KMNR	**Kamenistaya**	**2.74**	**341**	P			Pn	20 57 33.1	+2.1
APC	**Apacha**	**2.82**	**267**	*eP*			Pn	20 57 35.8	+3.9
APC				*eS*			Sn	20 58 08.4	+3.7
KBTR	**Krutoberegovo**	**3.09**	**10**	*i P*			Pn	20 57 38.4	+2.8
BKI	**Bering**	**3.17**	**49**	*i P*			Pn	20 57 39.8	+3.1
BKI				*eS*			Sn	20 58 13.2	-0.1
ESO	**Esso**	**3.30**	**328**	*eP*			Pn	20 57 41.2	+2.8
SRDR	**Sredinnyy**	**3.37**	**340**	*eP*			Pn	20 57 42.3	+2.8
BDR	**Baidarnaya**	**3.42**	**354**	*eP*			Pn	20 57 43.7	+3.6
SMKR	**Semkarok**	**3.42**	**357**	*eP*			Pn	20 57 44.1	+4.0
SMKR				*eS*			Sn	20 58 22.1	+2.7
SRKR	**Sorokina**	**3.50**	**354**	*eP*			Pn	20 57 44.8	+3.5
SKR	**Severo-Kuril's**	**4.32**	**237**	*eS*			Sn	20 58 43.4	+2.0

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*NEIC **16** 21:04:26.6±0.6, 36̊30S×72̊48W, h35km, mb4.0/3, Error ellipse: s-maj=17.5km s-min=9.5km az=89.0*
*ISCJB **16** 21:04:27.0±0.7, 36̊31S±0̊06×72̊3W±0̊1, h58km, mb4.0/8, MS2.9/2, Error ellipse: s-maj=16.3km s-min=8.4km az=7.2*
*IDC **16** 21:04:27.9±0.8, 36̊33S×72̊22W, h45km±7km, mb3.8/7, mb1 4.0/9, mb1mx3.9/18, mbtmp4.1/9, ML4.0/2, MS2.7/4, Ms1 2.7/4, ms1mx2.6/22, Error ellipse: s-maj=27.4km s-min=17.0km az=93.0*
ISC 16 21:04:27.9±0.7, 36̊29S±0̊07×72̊5W±0̊1, h58km, n22, σ1§32/24, mb4.0/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.69**	**162**	P			**Pn**	**21 05 36.4**	**+0.2**
	3.5nm,0.3s,baz=329,slow=11,SNR=38								
PLCA				LR			LR	21 07 23.1	
	comp=Z,97nm,18.5s,baz=318,slow=38								
PLCA	**Paso Flores**	**4.69**	**162**	*e*Pn			**Pn**	**21 05 36.0**	**-0.2**
CFAA	**Coronel Fontan**	**5.86**	**38**	P			**Pn**	**21 05 52.3**	**+0.1**
	0.6nm,0.3s,baz=204,slow=6.1,SNR=37								
CFAA				S			**Sn**	**21 07 00.3**	**+2.3**
	0.8nm,0.3s,baz=220,slow=14,SNR=3.2								
CFAA				LR			LR	21 08 15.3	
	comp=Z,12nm,20.6s,baz=231,slow=40								
LCO	**Las Campanas**	**7.41**	**12**	*e*Pn			**Pn**	**21 06 13.1**	**-0.6**
	27nm,0.5s								
LCO				*e*Sn			**Sn**	**21 07 34.4**	**-2.1**
TRQA	**Tornquist**	**8.58**	**105**	*e*Pn			**Pn**	**21 06 28.4**	**-1.0**
	14nm,0.9s								
LVC	**Limon Verde**	**13.98**	**14**	*e*Pn			**Pn**	**21 07 42.7**	**-0.6**
LPAZ	**La Paz**	**20.30**	**12**	P			Pn	21 09 04.7	+2.5
	2.3nm,0.7s,baz=113,slow=3.0,SNR=6.6								
LPAZ				LR			LR	21 18 25.5	
	comp=Z,31nm,18.3s,baz=72,slow=41								
LPAZ	**La Paz**	**20.30**	**12**	*e*P			Pn	21 09 00.5	-1.6
	5.7nm,1.0s								
SIV	**San Ignacio**	**22.63**	**30**	P			**P**	**21 09 24.1**	**0.0**
	4.8nm,0.7s,baz=215,slow=10,SNR=11								
SAML	**Samuel**	**28.50**	**20**	*e*P			**P**	**21 10 16.9**	**-1.0**
	3.4nm,1.2s								
BDFB	**Brasilia**	**29.97**	**53**	LR			LR	21 23 51.8	
	comp=Z,40nm,19.2s,baz=204,slow=39								
QSPA	**South Pole Qui**	**53.95**	**180**	P			**P**	**21 13 46.6**	**+1.1**
	1.5nm,0.8s,baz=288,slow=1.7,SNR=10								
QSPA				pP			**pP**	**21 13 59.6**	**-1.3**
	3.6nm,1.0s,baz=136,slow=3.9,SNR=4.7								
QSPA	**South Pole Qui**	**53.95**	**180**	*e*P			**P**	**21 13 45.9**	**+0.4**
	5.1nm,1.0s								
QSPA				pP			**pP**	**21 13 59.6**	**-1.3**
TXAR	**Lajitas Array**	**71.56**	**332**	P			**P**	**21 15 45.2**	**+2.3**
	0.4nm,0.8s,baz=150,slow=7.3,SNR=3.0								
TXAR				pP			**pP**	**21 15 57.7**	**-1.2**
	0.4nm,0.5s,baz=154,slow=9.2,SNR=4.4								
DBIC	**Dimbokro**	**76.27**	**71**	P			**P**	**21 16 11.1**	**+0.4**
	4.5nm,0.6s,baz=206,slow=5.8,SNR=7.9								
BOSA	**Boshof**	**79.34**	**118**	P			**P**	**21 16 27.5**	**-0.4**
	3.5nm,0.8s,baz=259,slow=4.5,SNR=4.2								
TORD	**Torodi Ar. Bea**	**85.34**	**70**	P			**P**	**21 16 59.3**	**+0.3**
	0.8nm,0.7s,baz=237,slow=5.4,SNR=6.0								
TORD				pP			**pP**	**21 17 12.7**	**-2.8**
	0.8nm,0.8s,baz=219,slow=5.0,SNR=3.5								
NVAR	**Mina Array Bea**	**85.55**	**326**	P			P	21 17 03.1	+3.3
	0.8nm,0.8s,baz=148,slow=7.5,SNR=3.3								
WRA	**Warramunga Arr**	**118.58**	**209**	PKP			**PKPdf**	**21 23 09.7**	**0.0**
	0.8nm,1.1s,baz=150,slow=1.5,SNR=4.8								
ZALV	**Zalesovo Beam**	**156.34**	**35**	PKPab			**PKPab**	**21 24 45.6**	**+1.7**
	0.4nm,0.4s,baz=305,slow=5.1,SNR=2.9								
MKAR	**Makanchi Array**	**158.49**	**53**	PKPab			**PKPab**	**21 24 53.9**	**+0.4**
	0.6nm,0.8s,baz=312,slow=11,SNR=5.8								
SONM	**Songino Array**	**168.43**	**4**	PKPab			**PKPab**	**21 25 38.3**	**+1.2**
	0.4nm,0.9s,baz=321,slow=1.8,SNR=3.5								

IDC 16 21:08:03.0±4.3, 11̊50S×167̊00E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/30, mbtmp3.6/4, Error ellipse: s-maj=180.7km s-min=33.4km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.49**	**251**	P			P	21 14 36.0	+0.4
	0.4nm,0.5s,baz=85,slow=9.2,SNR=9.9								
ASAR	**Alice Springs**	**33.69**	**244**	P			P	21 14 46.0	-0.1
	0.3nm,0.4s,baz=68,slow=9.9,SNR=5.2								
ILAR	**Eielson Array**	**83.56**	**18**	P			P	21 20 33.2	+0.6
	0.3nm,0.5s,baz=239,slow=5.2,SNR=4.1								
MKAR	**Makanchi Array**	**94.69**	**317**	P			P	21 21 25.0	-1.3
	0.2nm,0.6s,baz=89,slow=8.8,SNR=4.4								

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*IDC **16** 21:42:54.8±0.7, 5̊62S×151̊67E, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.1/21, mbtmp4.1/13, ML4.0/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/24, Error ellipse: s-maj=30.3km s-min=17.2km az=102.0*
*ISCJB **16** 21:43:03.3±0.7, 5̊69S±0̊08×151̊5E±0̊1, h57km, mb3.9/13, MS3.4/2, Error ellipse: s-maj=20.5km s-min=7.3km az=29.2*
*NEIC **16** 21:43:02.4±2.3, 5̊74S×151̊59E, h55km±18km, mb4.0/3, Error ellipse: s-maj=19.2km s-min=10.8km az=95.0*
ISC 16 21:43:02.9±0.7, 5̊7S±0̊1×151̊6E±0̊1, h57km, n32, σ0§82/36, mb4.0/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.70**	**230**	Pn			**Pn**	**21 44 24.8**	**-0.2**
	26nm,0.3s,baz=41,slow=12,SNR=26								
PMG				Sn			**Sn**	**21 45 27.8**	**-1.4**
	17nm,0.3s,baz=152,slow=20,SNR=4.9								
PMG	**Port Moresby**	**5.70**	**230**	P			**Pn**	**21 44 25.3**	**+0.3**
	baz=7.7,SNR=19								
PMG				S			**Sn**	**21 45 31.0**	**+1.8**
	baz=7.7,SNR=4.0								
PMG	**Port Moresby**	**5.70**	**230**	*e*Pn			**Pn**	**21 44 24.9**	**-0.2**
	291nm,0.9s								
PMG				*e*Sn			**Sn**	**21 45 27.6**	**-1.6**
COEN	**Coen**	**11.63**	**225**	P			**Pn**	**21 45 45.7**	**-0.6**
	baz=14,SNR=3.9								
MTSU	**Mount Surprise**	**14.23**	**209**	S			**Sn**	**21 48 59.4**	**+1.3**
	baz=16,SNR=9.5								
QIS	**Mount Isa**	**18.78**	**217**	P			**P**	**21 47 18.1**	**+0.4**
	baz=20,SNR=4.5								
KDU	**Kakadu**	**20.06**	**248**	P			**P**	**21 47 31.1**	**-0.6**
	baz=22,SNR=7.0								
MTN	**Manton Dam**	**21.35**	**249**	P			**P**	**21 47 45.3**	**-0.3**
	baz=24,SNR=10								
MTN				S			Sn	21 52 19.4	+29
	baz=24,SNR=6.5								
DZM	**Mont Dzumac**	**21.73**	**140**	LR			LR	21 55 05.3	
	comp=Z,173nm,21.3s,baz=223,slow=34								
WRAB	**Tennant Creek**	**21.91**	**228**	*e*P			**P**	**21 47 50.9**	**-0.6**
	7.6nm,0.7s								
WB2	**Warramunga Arr**	**21.91**	**228**	*e*P			**P**	**21 47 51.4**	**-0.2**
WRA	**Warramunga Arr**	**21.92**	**228**	P			**P**	**21 47 50.8**	**-0.9**
	9.3nm,0.9s,baz=53,slow=10,SNR=44								
WRA				PcP			**PcP**	**21 51 50.0**	**+0.8**
	1.2nm,0.7s,baz=50,slow=2.3,SNR=9.2								
KNRA	**Kununurra**	**24.46**	**244**	P			**P**	**21 48 18.5**	**+1.7**
	baz=27,SNR=18								
AS31	**Alice Springs**	**24.65**	**222**	*e*P			**P**	**21 48 18.4**	**-0.1**
ASAR	**Alice Springs**	**24.65**	**222**	P			**P**	**21 48 18.9**	**+0.5**
	5.4nm,0.8s,baz=54,slow=9.1,SNR=42								
ASAR				PcP			**PcP**	**21 51 55.8**	**+0.9**
	0.2nm,0.3s,baz=41,slow=2.4

AML	**Almayashu**	**6.01**	**17**	P	**Pn**	**21 57 56.2 +0.8**
	SNR=109					
UCH	**Uchtor**	**6.32**	**22**	P	**Pn**	**21 58 00.3 +0.7**
	SNR=11					
KZA	**Kyzart**	**6.42**	**27**	P	**Pn**	**21 58 02.2 +1.2**
	SNR=5.9					
EKS2	**Erkin-Say**	**6.53**	**16**	P	**Pn**	**21 58 03.5 +1.3**
	SNR=6.7					
AAK	**Ala-Archa**	**6.68**	**20**	⇑P	**Pn**	**21 58 05.4 +1.1**
	4.9nm,0.3s					
AAK				S	**Sn**	**21 59 18.0 -1.0**
	8.7nm,0.6s					
AAK	**Ala-Archa**	**6.68**	**20**	P	**Pn**	**21 58 05.7 +1.5**
	SNR=25					
AAK	**Ala-Archa**	**6.68**	**20**	P	**Pn**	**21 58 05.8 +1.5**
	5.0nm,0.3s,baz=187,slow=4.6,SNR=78					
AAK				S	**Sn**	**21 59 19.6 +0.6**
	1.6nm,0.3s,baz=150,slow=21,SNR=14					
KK31	**Karatay Array**	**6.73**	**355**	P	**Pn**	**21 58 04.4 -0.5**
	6.3nm,0.3s,baz=175,slow=12,SNR=495					
KK31				⇓S	**Sn**	**21 59 14.9 -5.2**
	4.4nm,0.3s,baz=185,slow=23,SNR=5.1					
CHMS	**Chumysh**	**7.09**	**21**	P	**Pn**	**21 58 10.8 +1.1**
	SNR=6.5					
SMLA	**Simla**	**7.13**	**136**	*i* P	**Pn**	**21 58 11.2 +0.9**
SMLA				*i* S	**Sn**	**21 59 27.8 -2.1**
SMLA				*i* S	**Sn**	**21 59 28.4 -1.5**
SMLA				AML	AML	21 59 30.7
	comp=N,734nm,0.2s					
SMLA				AML	AML	21 59 31.5
	comp=E,876nm,0.2s					
USP	**Ospenovka**	**7.27**	**18**	P	**Pn**	**21 58 13.0 +0.8**
	SNR=10					
GEYT	**Alibeck**	**10.69**	**282**	P	**Pn**	**21 58 55.7 -2.7**
	comp=E,0.3nm,0.3s,baz=99,slow=8.9,SNR=2.4					
GEYT				S	Sn	22 00 46.6 -9.5
	comp=E,1.2nm,0.3s,baz=188,slow=8.7,SNR=5.6					
DANN	**Dangsing**	**13.18**	**124**	*e*P	**Pn**	**21 59 31.0 -0.7**
	comp=E,3.9nm,0.3s					
KOLN	**Koldanda**	**13.46**	**126**	*e*P	**Pn**	**21 59 33.9 -1.3**
GKN	**Gorkha**	**14.00**	**123**	*e*P	**Pn**	**21 59 40.7 -1.4**
	comp=E,10nm,0.5s					
PKIN	**Phulchoki**	**14.79**	**123**	*e*P	**Pn**	**21 59 51.5 -0.7**
	comp=E,3.1nm,0.4s					
PKI	**Pulchoki**	**14.80**	**123**	*e*P	**Pn**	**21 59 51.9 -0.6**
	comp=E,3.2nm,0.2s					
GUN	**Gumba**	**14.91**	**120**	*e*P	**Pn**	**21 59 51.8 -2.1**
JIRN	**Jiri**	**15.28**	**121**	*e*P	**Pn**	**21 59 57.8 -0.7**
	comp=E,4.9nm,0.3s					
AB31	**Akbulak array**	**15.32**	**331**	⇑P	**Pn**	**21 59 56.4 -2.1**
	comp=E,0.2nm,0.3s					
AB31				⇓S	Sn	22 02 34.0 -14
	comp=E,0.9nm,0.4s					
RAMN	**Ramite**	**16.01**	**122**	*e*P	**Pn**	**22 00 05.4 -2.1**
	comp=E,5.6nm,0.5s					
TAPN	**Taplejung**	**16.54**	**118**	*e*P	**Pn**	**22 00 12.0 -2.0**
	comp=E,6.7nm,0.7s					
ODAN	**Odare**	**16.61**	**120**	*e*P	**Pn**	**22 00 12.0 -2.9**
BVAR	**Borovoye Array**	**16.64**	**358**	P	**P**	**22 00 15.1 -0.2**
	comp=E,0.1nm,0.3s,baz=160,slow=9.3,SNR=4.6					
AKTO	**Aktyubinsk**	**17.02**	**330**	⇑P	**Pn**	**22 00 17.2 -2.3**
	comp=E,1.5nm,0.8s					
AKTO				⇓S	Sn	22 03 18.0 -11
	comp=E,2.9nm,1.4s					
AKTO	**Aktyubinsk**	**17.02**	**330**	P	**P**	**22 00 20.6 +1.1**
	comp=E,0.2nm,0.3s,baz=132,slow=16,SNR=3.7					
AKTO				S	Sn	22 03 18.0 -11
	comp=E,0.1nm,0.3s,baz=26,slow=18,SNR=3.6					
ZALV	**Zalesovo Beam**	**19.89**	**24**	P	**Pn**	**22 00 52.2 -1.2**
	comp=E,0.6nm,0.4s,baz=205,slow=11,SNR=5.2					
FINES	**FINESS Array B**	**37.74**	**326**	P	**P**	**22 03 35.0 +2.1**
	comp=E,0.4nm,0.4s,baz=119,slow=14,SNR=3.4					
ARCES	**ARCESS Array B**	**41.35**	**338**	P	**P**	**22 04 05.2 +2.4**
	comp=E,5.2nm,1.1s,baz=116,slow=10,SNR=4.4					
HFS	**Hagfors**	**43.33**	**322**	P	**P**	**22 04 20.8 +1.9**
	comp=E,0.5nm,0.4s,baz=92,slow=12,SNR=5.9					
NB2	**NORSAR Subarra**	**44.64**	**323**	P	**P**	**22 04 31.3 +1.8**
	comp=Z,0.4nm,0.4s,baz=100,slow=7.9					
NOA	**NORSAR Array B**	**44.64**	**323**	P	**P**	**22 04 31.6 +2.2**
	comp=Z,0.3nm,0.4s,baz=98,slow=7.8,SNR=4.4					
KEST	**Kesra**	**49.35**	**289**	P	**P**	**22 05 07.0 +0.5**
	comp=Z,7.7nm,0.8s,baz=82,slow=2.1,SNR=18					
TORD	**Torodi Ar. Bea**	**66.01**	**269**	P	**P**	**22 07 03.5 +0.3**
	comp=Z,0.5nm,0.6s,baz=48,slow=5.1,SNR=7.0					
BOSA	**Boshof**	**77.86**	**220**	P	**P**	**22 08 15.4 +1.7**
	comp=Z,3.3nm,0.9s,baz=32,slow=1.7,SNR=4.9					
YKA	**Yellowknife Ar**	**81.34**	**3**	P	**P**	**22 08 34.5 +2.6**
	comp=Z,0.2nm,0.4s,baz=348,slow=5.7,SNR=4.8					

CSEM ***16*** *22:00:55.3,37°.51N×21°.90E,h21km,MD2.5*
ATH 16 22:00:55.3,37°.51N×21°.90E,h21km±1km,MD2.5/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.15**	**278**	*e*PB	Pb	22 00 59.8	-1.6
AMT	**Artemida-Makis**	**0.15**	**278**	*e*Pb	Pb	22 00 59.8	-1.6
ITM	**Ithomi**	**0.33**	**176**	*e*PB	Pb	22 01 02.7	+0.2
ITM				*e*SB	Sb	22 01 08.0	+0.7
ITM	**Ithomi**	**0.33**	**176**	*e*Pb	Pb	22 01 02.7	+0.2
ITM				*e*Sb	Sb	22 01 08.0	+0.7
DRO	**Drossia**	**0.47**	**341**	*e*PB	Pb	22 01 04.8	0.0
DRO				*e*SB	Sb	22 01 12.0	+0.7
DRO	**Drossia**	**0.47**	**341**	*e*Pb	Pb	22 01 04.8	0.0
DRO				*e*Sb	Sb	22 01 12.0	+0.7
GUR	**Goura**	**0.55**	**39**	*e*PN	Pb	22 01 06.1	-0.4
GUR				*e*SN	Sb	22 01 14.5	+0.3
GUR	**Goura**	**0.55**	**39**	*e*Pn	Pb	22 01 06.1	-0.4
GUR				*e*Sn	Sb	22 01 14.5	+0.3
KLV	**Kalavryta, Ach**	**0.57**	**20**	*e*PN	Pb	22 01 06.6	-0.2
KLV				*e*SN	Sb	22 01 14.6	0.0
KLV	**Kalavryta, Ach**	**0.57**	**20**	*e*Pn	Pb	22 01 06.6	-0.2
KLV				*e*Sn	Sb	22 01 14.6	0.0
PYL	**PYLOS**	**0.63**	**192**	*e*PN	Pb	22 01 07.5	-0.1
PYL				*e*SN	Sb	22 01 16.9	+0.9
PYL	**PYLOS**	**0.63**	**192**	*e*Pn	Pb	22 01 07.5	-0.1
PYL				*e*Sn	Sb	22 01 16.9	+0.9
RLS	**Riolos of Patr**	**0.65**	**328**	*e*PN	Pb	22 01 08.0	0.0
RLS	**Riolos of Patr**	**0.65**	**328**	*e*Pn	Pb	22 01 08.0	0.0

HLW ***16*** *22:01:21.1,35°.11N×26°.71E,h10km±24km,Ml3.4*
IDC ***16*** *22:01:28.1±0.5,35°.08N×27°.61E,h0km,mb4.1/21, mb1 4.1/30,mb1mx4.0/50,mbtmp4.0/30,ML3.7/9,MS3.1/9, Ms1 3.2/9,ms1mx2.9/51,Error ellipse: s-maj=12.6km s-min=11.7km az=132.0*
NSSC ***16*** *22:01:29.3±1.3,35°.03N×27°.87E,h0km±105km,ML3.3*
MOS ***16*** *22:01:30.8±1.0,35°.03N×27°.56E,h33km,mb4.4/37,Error ellipse: s-maj=6.7km s-min=4.0km az=116.0*
NIC ***16*** *22:01:30.6,35°.10N×27°.60E,h51km,mb4.4,ML4.0*
BJI ***16*** *22:01:31.1,34°.57N×27°.66E,h43km,mb4.4/5,Ms4.9/2, Ms7 4.6/2*
CSEM ***16*** *22:01:31.0±0.2,34°.92N×27°.71E,h20km,mb4.2/36,Ms3.0, Error ellipse: s-maj=5.2km s-min=2.8km az=9.0*
ISK ***16*** *22:01:31.0,34°.98N×27°.65E,h38km,ML3.8*
ATH ***16*** *22:01:33.8,35°.21N×27°.52E,h28km±1km,ML3.8*
THE ***16*** *22:01:33.9,34°.99N×27°.73E,h22km±3km,ML3.6/6, Error ellipse: s-maj=4.0km s-min=0.9km az=142.0*
NEIC ***16*** *22:01:33.8,35°.21N×27°.52E,h28km,mb4.4/11, ML3.8(ATH),After ATH.*
DDA ***16*** *22:01:37.5,35°.64N×27°.99E,h7km,MD3.6*
ISC 16 22:01:31.0±0.8,34°.98N±0°.03×27°.69E±0°.02,h19km±2km, n641,σ1§67/685,mb4.2/55,MS3.4/5,14C-4D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.71**	**323**	P	**Pn**	**22 01 47.4**	**+1.3**
KARP				S	**Sn**	**22 01 56.8**	**+0.3**
KARP	**Karpathos**	**0.71**	**323**	*e*PB	**Pb**	**22 01 43.6**	**-1.2**
KARP				*e*SB	**Sb**	**22 01 50.5**	**-3.7**
KARP	**Karpathos**	**0.71**	**323**	P	**Pn**	**22 01 47.4**	**+1.3**
KARP				S	**Sn**	**22 01 56.8**	**+0.3**
ZKR	**Zakros**	**1.21**	**277**	P	**Pn**	**22 01 53.1**	**+0.2**
ZKR				S	**Sg**	**22 02 10.4**	**0.0**
ZKR	**Zakros**	**1.21**	**277**	*e*PN	**Pn**	**22 01 52.4**	**-0.5**
ZKR				*e*SN	**Sg**	**22 02 10.0**	**-0.4**
ZKR	**Zakros**	**1.21**	**277**	*e*Pn	**Pn**	**22 01 52.4**	**-0.5**
ZKR	**Zakros**	**1.21**	**277**	P	**Pn**	**22 01 53.1**	**+0.2**
ZKR				*e*Sn	**Sg**	**22 02 10.0**	**-0.4**
ARG	**Arkhangelos**	**1.29**	**16**	P	**Pg**	**22 01 55.5**	**-0.4**
ARG				S	**Sn**	**22 02 10.6**	**-0.1**
ARG	**Arkhangelos**	**1.29**	**16**	*e*PN	**Pg**	**22 01 55.5**	**-0.4**
ARG				*e*SN	**Sn**	**22 02 10.9**	**+0.2**
ARG	**Arkhangelos**	**1.29**	**16**	P	**Pg**	**22 01 55.5**	**-0.4**
ARG				S	**Sn**	**22 02 10.6**	**-0.1**
NIS1	**Nisyros Isl.**	**1.67**	**346**	P	**Pn**	**22 02 00.5**	**+1.2**
NIS1				S	**Sn**	**22 02 20.9**	**+0.7**
NIS1	**Nisyros Isl.**	**1.67**	**346**	*e*PN	**Pn**	**22 01 59.4**	**+0.1**
NIS1				*e*SN	**Sn**	**22 02 18.8**	**-1.4**
NIS1	**Nisyros Isl.**	**1.67**	**346**	*e*Pn	**Pn**	**22 01 59.4**	**+0.1**
NIS1				*e*Sn	**Sn**	**22 02 18.8**	**-1.4**
NIS1				S	**Sn**	**22 02 20.9**	**+0.7**
NPS	**Neapolis**	**1.72**	**280**	P	**Pb**	**22 02 01.8**	**-0.2**
NPS				S	**Sb**	**22 02 23.0**	**-0.3**
NPS	**Neapolis**	**1.72**	**280**	*e*PN	**Pb**	**22 02 01.9**	**-0.1**
NPS				*e*SN	**Sn**	**22 02 20.8**	**-0.6**
NPS	**Neapolis**	**1.72**	**280**	P	**Pb**	**22 02 01.8**	**-0.2**
NPS				*e*Sn	**Sn**	**22 02 20.8**	**-0.6**
NPS				S	**Sb**	**22 02 23.0**	**-0.3**
LAST	**Lasithi**	**1.82**	**276**	P	**Pb**	**22 02 03.6**	**-0.1**
LAST				S	**Sb**	**22 02 26.0**	**-0.2**
LAST	**Lasithi**	**1.82**	**276**	P	**Pb**	**22 02 03.6**	**-0.1**
LAST				S	**Sb**	**22 02 26.0**	**-0.2**
DALY	**Dalyan (Mu¨la**	**2.00**	**23**	*e*PN	**Pn**	**22 02 04.1**	**+0.4**
DALY	**Dalyan (Mu¨la**	**2.00**	**23**	*e*Pn	**Pn**	**22 02 04.1**	**+0.4**
AKAS	**Kas**	**2.00**	**51**	*i* P	**Pn**	**22 02 04.7**	**+0.8**
AKAS				*i* S	**Sb**	**22 02 31.3**	**-0.2**
AKAS	**Kas**	**2.00**	**51**	*i* P	**Pn**	**22 02 04.7**	**+0.8**
AKAS				*i* S	**Sb**	**22 02 31.3**	**-0.2**
FETY	**Fethiye**	**2.01**	**34**	*e*PN	**Pn**	**22 02 03.5**	**-0.4**
FETY				*e*SN	**Sn**	**22 02 27.5**	**-1.0**
FETY	**Fethiye**	**2.01**	**34**	*e*Pn	**Pn**	**22 02 03.5**	**-0.4**
FETY				*e*Sn	**Sn**	**22 02 27.5**	**-1.0**
BDRM	**Kayabasi**	**2.09**	**355**	*i* P	**Pn**	**22 02 05.6**	**+0.6**
BDRM	**Kayabasi**	**2.09**	**355**	*i* P	**Pn**	**22 02 05.6**	**+0.6**
BODT	**Bodrum**	**2.10**	**352**	*e*PN	**Pn**	**22 02 04.9**	**-0.3**
BODT	**Bodrum**	**2.10**	**352**	*e*Pn	**Pn**	**22 02 04.9**	**-0.3**
YER	**Yerkesik**	**2.21**	**12**	*e*PN	**Pn**	**22 02 06.7**	**0.0**
SANT	**Santorini**	**2.29**	**308**	P	**Pn**	**22 02 09.0**	**+1.3**
SANT	**Santorini**	**2.29**	**308**	*e*PB	**Pn**	**22 02 09.1**	**+1.3**
SANT	**Santorini**	**2.29**	**308**	*e*Pg	**Pn**	**22 02 09.2**	**+1.5**
SANT	**Santorini**	**2.29**	**308**	*e*Pg	**Pn**	**22 02 09.2**	**+1.5**
THR1	**Thera Island**	**2.29**	**308**	P	**Pn**	**22 02 09.3**	**+1.6**
THR1	**Thera Island**	**2.29**	**308**	P	**Pn**	**22 02 09.3**	**+1.6**
IDI	**Anoyia**	**2.31**	**279**	Pn	**Pb**	**22 02 10.9**	**-1.2**
	15nm,0.3s,baz=95,slow=16,SNR=124					
IDI				LR	LR	22 02 46.2
	comp=Z,112nm,18.6s,baz=105,slow=35					
THR6	**Thira Island,**	**2.32**	**307**	P	**Pn**	**22 02 09.4**	**+1.3**
THR6	**Thira Island,**	**2.32**	**307**	P	**Pn**	**22 02 09.4**	**+1.3**
THR7	**Fira-Santorini**	**2.34**	**309**	P	**Pn**	**22 02 09.8**	**+1.4**
THR3	**Thira Island,**	**2.34**	**308**	P	**Pn**	**22 02 10.1**	**+1.6**
THR3	**Thira Island,**	**2.34**	**308**	P	**Pn**	**22 02 10.1**	**+1.6**
THR2	**Thira island,**	**2.35**	**309**	P	**Pn**	**22 02 09.9**	**+1.4**
THR2	**Thira island,**	**2.35**	**309**	P	**Pn**	**22 02 09.9**	**+1.4**
SIVA	**Sivas**	**2.36**	**272**	P	**Pb**	**22 02 11.0**	**-1.9**
SIVA	**Sivas**	**2.36**	**272**	P	**Pb**	**22 02 11.0**	**-1.9**
THR5	**Thira Island,**	**2.38**	**308**	P	**Pn**	**22 02 10.4**	**+1.4**
THR5	**Thira Island,**	**2.38**	**308**	P	**Pn**	**22 02 10.4**	**+1.4**
ELL	**Elmali**	**2.53**	**45**	*e*PN	**Pn**	**22 02 11.2**	**+0.1**
ELL	**Elmali**	**2.53**	**45**	*e*Pn	**Pn**	**22 02 11.2**	**+0.1**
AYDN	**Tasoluk**	**2.68**	**3**	*i* P	**Pn**	**22 02 15.0**	**+1.8**
AYDN				*i* S	Sn	22 02 31.6	-14
AYDN	**Tasoluk**	**2.68**	**3**	*i* P	**Pn**	**22 02 15.0**	**+1.8**
AYDN				*i* S	Sn	22 02 31.6	-14
GOLH	**Golhisar**	**2.72**	**33**	*i* P	**Pn**	**22 02 16.0**	**+2.3**
GOLH	**Golhisar**	**2.72**	**33**	*i* P	**Pn**	**22 02 16.0**	**+2.3**
APE	**Apeiranthos**	**2.72**	**321**	P	**Pn**	**22 02 15.0**	**+1.3**
APE				S	**Sn**	**22 02 47.9**	**+1.8**
APE	**Apeiranthos**	**2.72**	**321**	*d* iP	**Pn**	**22 02 13.7**	**0.0**
APE	**Apeiranthos**	**2.72**	**321**	P	**Pn**	**22 02 15.0**	**+1.3**
APE				S	**Sn**	**22 02 47.9**	**+1.8**
SMG	**Samos**	**2.81**	**346**	P	**Pn**	**22 02 16.0**	**+1.1**
SMG				S	**Sn**	**22 02 48.4**	**+0.1**
SMG	**Samos**	**2.81**	**346**	*e*PN	**Pn**	**22 02 16.0**	**+1.1**
SMG	**Samos**	**2.81**	**346**	P	**Pn**	**22 02 16.0**	**+1.1**
SMG				S	**Sn**	**22 02 48.4**	**+0.1**
VAM	**Vamos**	**2.89**	**280**	P	**Pn**	**22 02 17.0**	**+1.1**
VAM	**Vamos**	**2.89**	**280**	*e*PN	**Pn**	**22 02 17.4**	**+1.5**
VAM	**Vamos**	**2.89**	**280**	P	**Pn**	**22 02 17.0**	**+1.1**
VAM	**Vamos**	**2.89**	**280**	*e*Pn	**Pn**	**22 02 17.4**	**+1.5**
DNZL	**Cakiroluk**	**2.92**	**22**	*i* P	**Pn**	**22 02 17.3**	**+0.7**
DNZL	**Cakiroluk**	**2.92**	**22**	*i* P	**Pn**	**22 02 17.3**	**+0.7**
KORT	**Korkueli**	**2.96**	**46**	*i* P	**Pn**	**22 02 18.9**	**+1.9**
KORT				*i* S	**Sb**	**22 02 57.6**	**-1.3**
KORT	**Korkueli**	**2.96**	**46**	*i* P	**Pn**	**22 02 18.9**	**+1.9**
KORT				*i* S	**Sb**	**22 02 57.6**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**2.97**	**3**	*e*PN	**Pn**	**22 02 17.1**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**2.97**	**3**	*e*Pn	**Pn**	**22 02 17.2**	**0.0**
ANTB	**Antalya**	**3.08**	**51**	*e*PN	**Pn**	**22 02 18.7**	**+0.2**
ANTB	**Antalya**	**3.08**	**51**	*e*Pn	**Pn**	**22 02 18.7**	**+0.2**
KARN	**Karanos**	**3.12**	**279**	P	**Pn**	**22 02 21.6**	**+2.5**
KARN	**Karanos**	**3.12**	**279**	P	**Pn**	**22 02 21.6**	**+2.5**
ZEY	**¨zmir**	**3.39**	**344**	*i* P	**Pn**	**22 02 24.3**	**+1.4**
BCK	**Bucak**	**3.41**	**43**	*e*PN	**Pn**	**22 02 23.8**	**+0.6**
BCK	**Bucak**	**3.41**	**43**	*e*Pn	**Pn**	**22 02 23.8**	**+0.6**
BLCB	**Balcova**	**3.44**	**352**	*e*PN	**Pn**	**22 02 23.9**	**+0.3**
BLCB	**Balcova**	**3.44**	**352**	*e*Pn	**Pn**	**22 02 23.9**	**+0.3**
KULA	**Kula-Manisa**	**3.62**	**12**	*e*PN	**Pn**	**22 02 26.3**	**+0.3**
KULA	**Kula-Manisa**	**3.62**	**12**	*e*Pn	**Pn**	**22 02 26.3**	**+0.3**
CHOS	**Chios island**	**3.65**	**339**	P	**Pn**	**22 02 27.6**	**+1.1**
CHOS				S	**Sn**	**22 03 10.2**	**+1.2**
CHOS	**Chios island**	**3.65**	**339**	*e*PN	**Pn**	**22 02 27.8**	**+1.3**
CHOS	**Chios island**	**3.65**	**339**	P	**Pn**	**22 02 27.6**	**+1.1**
CHOS				S	**Sn**	**22 03 10.2**	**+1.2**
ISP	**Isparta**	**3.65**	**38**	P	**Pn**	**22 02 27.8**	**+1.3**
ISP	**Isparta**	**3.65**	**38**	*e*P	**Pn**	**22 02 27.9**	**+1.4**
ISP	**Isparta**	**3.65**	**38**	*e*Pn	**Pn**	**22 02 27.9**	**+1.4**
ISP	**Isparta**	**3.65**	**38**	*e*Pn	**Pn**	**22 02 27.9**	**+1.4**
KHL	**Karahalli**	**3.65**	**23**	*e*PN	**Pn**	**22 02 27.0**	**+0.5**
KHL	**Karahalli**	**3.65**	**23**	*e*Pn	**Pn**	**22 02 27.0**	**+0.5**
ANKY	**Antikythira Is**	**3.69**	**285**	P	**Pn**	**22 02 28.6**	**+1.6**
ANKY				S	**Sn**	**22 03 11.5**	**+1.6**
ANKY	**Antikythira Is**	**3.69**	**285**	*e*PN	**Pn**	**22 02 28.1**	**+1.1**
ANKY	**Antikythira Is**	**3.69**	**285**	*e*Pn	**Pn**	**22 02 28.1**	**+1.1**
ANKY	**Antikythira Is**	**3.69**	**285**	P	**Pn**	**22 02 28.6**	**+1.6**
ANKY				S	**Sn**	**22 03 11.5**	**+1.6**
AKMC	**Akamas**	**3.81**	**88**	P	**Pn**	**22 02 28.7**	**0.0**
	baz=272					
AKMC	**Akamas**	**3.81**	**88**	P	**Pn**	**22 02 28.7**	**0.0**
PPCY	**Paphos**	**3.83**	**90**	P	**Pn**	**22 02 28.9**	**0.0**
	baz=274					
PPCY	**Paphos**	**3.83**	**90**	P	**Pn**	**22 02 28.9**	**0.0**
AKHS	**Akhisar**	**3.90**	**1**	*i* P	**Pn**	**22 02 30.0**	**+0.2**
AKHS				*i* S	Sn	22 02 48.4	-27
AKHS	**Akhisar**	**3.90**	**1**	*i* P	**Pn**	**22 02 30.0**	**+0.2**
AKHS				*i* S	Sn	22 02 48.4	-27
AKS	**Akhisar**	**3.90**	**1**	*e*PN	**Pn**	**22 02 30.3**	**+0.5**
AKS	**Akhisar**	**3.90**	**1**	*e*Pn	**Pn**	**22 02 30.3**	**+0.5**
GAZI	**Gazipasa**	**3.98**	**70**	*i* P	**Pn**	**22 02 30.6**	**-0.3**
GAZI				*i* S	**Sn**	**22 03 17.1**	**+0.1**
GAZI	**Gazipasa**	**3.98**	**70**	*i* P	**Pn**	**22 02 30.6**	**-0.3**
GAZI				*i* S	**Sn**	**22 03 17.1**	**+0.1**
KYTH	**Kithira**	**4.00**	**290**	P	**Pn**	**22 02 32.9**	**+1.6**
KYTH	**Kithira**	**4.00**	**290**	*e*PN	**Pn**	**22 02 33.0**	**+1.6**
KYTH	**Kithira**	**4.00**	**290**	P	**Pn**	**22 02 32.9**	**+1.6**
ALFC	**Alevga**	**4.03**	**86**	⇑P	**Pn**	**22 02 31.6**	**-0.1**
	baz=270					
ALFC				S	**Sn**	**22 03 19.3**	**+0.8**
ALFC	**Alevga**	**4.03**	**86**	⇑P	**Pn**	**22 02 31.6**	**-0.1**
ALFC				S	**Sn**	**22 03 19.3**	**+0.8**
VLI	**Veliai**	**4.23**	**296**	P	**Pn**	**22 02 35.4**	**+1.0**
VLI	**Veliai**	**4.23**	**296**	*e*PN	**Pn**	**22 02 35.3**	**+0.9**
VLI	**Veliai**	**4.23**	**296**	P	**Pn**	**22 02 35.4**	**+1.0**
SHUT	**Suhut-Afyon**	**4.25**	**32**	*e*PN	**Pn**	**22 02 35.4**	**+0.6**
LEF	**Lefka**	**4.27**	**87**	*e*PN	**Pn**	**22 02 35.6**	**+0.6**
LEF	**Lefka**	**4.27**	**87**	*e*Pn	**Pn**	**22 02 35.6**	**+0.6**
SZAC	**Souni-Zanaja**	**4.28**	**91**	P	**Pn**	**22 02 35.0**	**-0.1**
	baz=276					
SZAC				S	**Sn**	**22 03 25.9**	**+1.4**
SZAC	**Souni-Zanaja**	**4.28**	**91**	P	**Pn**	**22 02 35.0**	**-0.1**
SZAC				S	**Sn**	**22 03 25.9**	**+1.4**
PTL	**Penteli**	**4.34**	**316**	P	**Pn**	**22 02 38.1**	**+2.1**
PTL	**Penteli**	**4.34**	**316**	P	**Pn**	**22 02 38.1**	**+2.1**
GDZ	**Gediz**	**4.35**	**19**	*i* P	**Pn**	**22 02 36.5**	**+0.3**
GDZ	**Gediz**	**4.35**	**19**	*i* P	**Pn**	**22 02 36.5**	**+0.3**
ATH	**Athens Observa**	**4.38**	**314**	*e*PN	**Pn**	**22 02 37.8**	**+1.4**
ATH	**Athens Observa**	**4.38**	**314**	*e*Pn	**Pn**	**22 02 37.8**	**+1.4**
NAIG	**Nisos Aigina**	**4.38**	**311**	*e*PN	**Pn**	**22 02 38.0**	**+1.6**
NAIG	**Nisos Aigina**	**4.38**	**311**	*e*Pn	**Pn**	**22 02 38.0**	**+1.6**
PRK	**Paraskevi**	**4.41**	**346**	P	**Pn**	**22 02 37.9**	**+1.1**
PRK				S	**Sn**	**22 03 29.0**	**+1.4**
PRK	**Paraskevi**	**4.41**	**346**	*e*PN	**Pn**	**22 02 38.4**	**+1.6**
PRK	**Paraskevi**	**4.41**	**346**	P	**Pn**	**22 02 37.9**	**+1.1**
PRK	**Paraskevi**	**4.41**	**346**	*e*Pn	**Pn**	**22 02 38.4**	**+1.6**
PRK				S	**Sn**	**22 03 29.0**	**+1.4**
SIGR	**SIGRI**	**4.47**	**341**	*e*PN	**Pn**	**22 02 39.2**	**+1.5**
SIGR	**SIGRI**	**4.47**	**341**	*e*Pn	**Pn**	**22 02 39.2**	**+1.5**
ALT	**Altintas**	**4.51**	**25**	*e*PN	**Pn**	**22 02 39.3**	**+1.0**
ALT	**Altintas**	**4.51**	**25**	*e*Pn	**Pn**	**22 02 39.3**	**+1.0**
MAMC	**Mammari**	**4.54**	**86**	P	**Pn**	**22 02 38.8**	**+0.1**
	baz=270					
MAMC	**Mammari**	**4.54**	**86**	P	**Pn**	**22 02 38.8**	**+0.1**
ERMK	**Ermenek**	**4.56**	**67**	*i* P	**Pn**	**22 02 40.3**	**+1.1**
ERMK				*i* S	**Sn**	**22 03 36.3**	**+4.6**
ERMK	**Ermenek**	**4.56**	**67**	*i* P	**Pn**	**22 02 40.3**	**+1.1**
ERMK				*i* S	**Sn**	**22 03 36.3**	**+4.6**
CSS	**Prodhromos**	**4.63**	**89**	P	**Pn**	**22 02 39.8**	**-0.2**
CSS	**Prodhromos**	**4.63**	**89**	*e*Pn	**Pn**	**22 02 39.5**	**-0.5**
CSS	**Prodhromos**	**4.63**	**89**	P	**Pn**	**22 02 39.8**	**-0.2**
CSS				*e*Sn	Sn	22 03 26.6	-6.7
CSS	**Prodhromos**	**4.63**	**89**	*e*Pn	**Pn**	**22 02 39.5**	**-0.5**
CSS				*e*Sn	Sn	22 03 26.6	-6.7
BALB	**Balikesir**	**4.66**	**2**	*e*PN	**Pn**	**22 02 41.1**	**+0.9**
BALB	**Balikesir**	**4.66**	**2**	*e*Pn	**Pn**	**22 02 41.1**	**+0.9**
TVSB	**Tavsanli**	**4.68**	**17**	*e*PN	**Pn**	**22 02 40.9**	**+0.2**
TVSB	**Tavsanli**	**4.68**	**17**	*e*Pn	**Pn**	**22 02 40.9**	**+0.2**
BALY	**Balya**	**4.75**	**359**	*i* P	**Pn**	**22 02 41.9**	**+0.3**
BALY	**Balya**	**4.75**	**359**	*i* P	**Pn**	**22 02 41.9**	**+0.3**
KONT	**Konya--Tatoy**	**4.79**	**50**	*e*PN	**Pn**	**22 02 43.9**	**+1.7**
KONT	**Konya--Tatoy**	**4.79**	**50**	*e*Pn	**Pn**	**22 02 43.9**	**+1.7**
LTK	**Loutraki**	**4.87**	**310**	P	**Pn**	**22 02 45.4**	**+2.2**
LTK	**Loutraki**	**4.87**	**310**	*e*PN	**Pn**	**22 02 45.7**	**+2.5**
LTK	**Loutraki**	**4.87**	**310**	P	**Pn**	**22 02 45.4**	**+2.2**
LTK	**Loutraki**	**4.87**	**310**	*e*Pn	**Pn**	**22 02 45.7**	**+2.5**
VLX	**Vlachokerasia**	**4.91**	**301**	P	**Pn**	**22 02 45.7**	**+1.8**
VLX	**Vlachokerasia**	**4.91**	**301**	*e*PN	**Pn**	**22 02 45

BRTR pmax pmax
comp=Z,7.0nm,0.7s
BRTR Keskin Array B 6.70 43 Pn **Pn 22 03 08.2 -0.3**
comp=Z,0.8nm,0.3s,baz=220,slow=14,SNR=42
DSL Palaion Diasel 6.71 310 *e*PN **Pn 22 03 10.0 +1.6**
DSL Palaion Diasel 6.71 310 *e*Pn **Pn 22 03 10.0 +1.6**
THE Thessaloniki 6.77 328 *e*PN Pn 22 03 13.0 +3.7
LKD2 Lefkada island 6.80 306 *e*PN **Pn 22 03 12.0 +2.3**
LKD2 Lefkada island 6.80 306 *e*Pn **Pn 22 03 12.0 +2.3**
HWQ Hawqa 6.84 93 *e*P **Pn 22 03 10.2 -0.3**
HWQ Hawqa 6.84 93 *e*P **Pn 22 03 10.2 -0.3**
EDRB Edirne 6.90 354 *e*PN **Pn 22 03 11.7 +0.7**
EDRB Edirne 6.90 354 *e*Pn **Pn 22 03 11.7 +0.7**
RCY Rachaya 6.91 100 *e*P **Pn 22 03 10.3 -1.1**
RCY Rachaya 6.91 100 *e*P **Pn 22 03 10.3 -1.1**
SRS Serrai 6.93 333 *e*PN **Pn 22 03 13.5 +2.0**
SRS Serrai 6.93 333 *e*Pn **Pn 22 03 13.5 +2.0**
BRBR Barbar 7.02 101 *e*P **Pn 22 03 12.3 -0.7**
SNR=45
BRBR Barbar 7.02 101 *e*P **Pn 22 03 12.3 -0.7**
BRBR *e*S **Sn 22 04 27.3 -5.1**
BRBR AML AML 22 04 33.0
comp=N,68nm,0.6s
BRBR AML AML 22 04 34.6
comp=E,31nm,0.6s
CDAG Cicekdag 7.06 47 *i* P **Pn 22 03 15.0 +1.6**
CDAG Cicekdag 7.06 47 *i* P **Pn 22 03 15.0 +1.6**
BIDA Albida 7.09 87 *e*P **Pn 22 03 12.6 -1.1**
SNR=45
BIDA Albida 7.09 87 *e*P **Pn 22 03 12.6 -1.1**
BIDA *e*S Sn 22 04 27.5 -6.3
BIDA AML AML 22 04 34.3
comp=N,97nm,0.5s
BIDA AML AML 22 04 36.1
comp=E,106nm,0.6s
KZN Kozani 7.09 320 *e*PN **Pn 22 03 16.8 +3.0**
KZN Kozani 7.09 320 *e*Pn **Pn 22 03 16.8 +3.0**
WRDH Warideh 7.16 83 *e*P **Pn 22 03 14.5 -0.2**
SNR=45
WRDH Warideh 7.16 83 *e*P **Pn 22 03 14.5 -0.2**
WRDH *e*S **Sn 22 04 30.1 -5.5**
WRDH AML AML 22 04 40.2
comp=N,19nm,0.5s
WRDH AML AML 22 04 44.2
comp=E,36nm,0.5s
HAWK Haweek 7.19 91 *e*P **Pn 22 03 14.5 -0.7**
SNR=45
HAWK Haweek 7.19 91 *e*P **Pn 22 03 14.5 -0.7**
HAWK *e*S **Sn 22 04 30.8 -5.6**
HAWK AML AML 22 04 37.9
comp=N,44nm,0.6s
HAWK AML AML 22 04 39.3
comp=E,39nm,0.5s
BTCH Batrach 7.23 79 *e*P **Pn 22 03 15.7 0.0**
SNR=45
BTCH Batrach 7.23 79 *e*P **Pn 22 03 15.7 0.0**
BTCH *e*S Sn 22 04 31.1 -6.3
BTCH AML AML 22 04 47.1
comp=N,44nm,0.6s
BTCH AML AML 22 04 55.6
comp=E,44nm,0.6s
KNT Kendrikon 7.24 330 *e*PN Pn 22 03 19.6 +3.9
TCHB Talchebab 7.27 106 *e*P **Pn 22 03 15.9 -0.3**
SNR=45
TCHB Talchebab 7.27 106 *e*P **Pn 22 03 15.9 -0.3**
TCHB *e*S **Sn 22 04 32.9 -5.3**
GRG Griva 7.28 327 *e*PN Pn 22 03 19.7 +3.3
GRG Griva 7.28 327 *e*Pn Pn 22 03 19.7 +3.3
MARH Ras Al Marh 7.32 95 *e*P **Pn 22 03 17.4 +0.2**
SNR=45
MARH Ras Al Marh 7.32 95 *e*P **Pn 22 03 17.4 +0.2**
MARH *e*S **Sn 22 04 34.8 -5.1**
MARH AML AML 22 04 43.3
comp=N,42nm,0.5s
MARH AML AML 22 04 48.5
comp=E,34nm,0.6s
TOTH TOTAH 7.42 100 *e*P **Pn 22 03 17.5 -0.8**
SNR=45
TOTH TOTAH 7.42 100 *e*P **Pn 22 03 17.5 -0.8**
TOTH *e*S **Sn 22 04 36.6 -5.4**
TOTH AML AML 22 04 47.2
comp=N,42nm,0.9s
TOTH AML AML 22 05 00.2
comp=E,24nm,0.9s
KFRA Kufra 7.47 86 *e*P **Pn 22 03 19.2 +0.2**
SNR=45
KFRA Kufra 7.47 86 *e*P **Pn 22 03 19.2 +0.2**
KFRA AML AML 22 04 51.9
comp=N,68nm,0.4s
KFRA AML AML 22 04 52.1
comp=E,120nm,0.5s
VAY Valandovo 7.51 329 *e*Pn **Pn 22 03 21.3 +1.9**
VAY Valandovo 7.51 329 *e*Pn **Pn 22 03 21.3 +1.9**
FNA Florina 7.65 321 *e*PN **Pn 22 03 24.2 +2.8**
FNA Florina 7.65 321 *e*Pn **Pn 22 03 24.2 +2.8**
RABH Abou Rabah 7.86 91 *e*P **Pn 22 03 23.9 -0.4**
SNR=45
RABH Abou Rabah 7.86 91 *e*P **Pn 22 03 23.9 -0.4**
RABH *e*S **Sn 22 04 47.6 -5.2**
RABH AML AML 22 04 56.0
comp=E,26nm,0.7s
RABH AML AML 22 04 58.0
comp=N,12nm,0.8s
SALA Sala 7.86 104 *e*P **Pn 22 03 24.5 +0.1**
SNR=45
SALA Sala 7.86 104 *e*P **Pn 22 03 24.5 +0.1**
SALA *e*S **Sn 22 04 48.1 -4.9**
SALA AML AML 22 05 11.9
comp=N,17nm,0.6s
KEK Kerkira 7.86 309 *e*PN **Pn 22 03 23.7 -0.5**
KEK Kerkira 7.86 309 *e*Pn **Pn 22 03 23.7 -0.5**
EIL Elat 8.11 129 Pn **Pn 22 03 28.1 +0.4**
comp=N,1.3nm,0.3s,baz=333,slow=4.1,SNR=22
EIL Sn **Sn 22 04 53.5 -5.3**
comp=N,4.6nm,0.3s,baz=340,slow=22,SNR=6.4
EIL LR LR 22 07 56.2
comp=N,57nm,21.1s,baz=271,slow=47
ASF Jabal al Asfar 8.18 107 Pn **Pn 22 03 28.9 +0.1**
comp=N,0.4nm,0.3s,baz=246,slow=16,SNR=4.2
ASF Sn **Sn 22 04 58.5 -2.2**
comp=N,0.3nm,0.3s,baz=221,slow=20,SNR=2.8
OHR Ohrid 8.18 320 *e*Pn **Pn 22 03 30.0 +1.2**
OHR Ohrid 8.18 320 *e*Pn **Pn 22 03 29.9 +1.2**
BARS Barje 9.06 331 *e*Pn **Pn 22 03 43.6 +2.8**
TIP Timpagrande 9.68 299 *e*Pn **Pn 22 03 47.8 -1.6**
TIP Timpagrande 9.68 299 *e*Pn **Pn 22 03 47.8 -1.6**
CEL Celeste 10.03 292 *e*Pn **Pn 22 03 54.9 +0.9**
CEL Celeste 10.03 292 *e*Pn **Pn 22 03 54.9 +0.9**
MLR Muntele Rosu 10.59 353 Pn **Pn 22 04 01.7 0.0**
comp=N,0.0nm,0.3s,baz=108,slow=20,SNR=2.2
MLR LR LR 22 08 58.9
comp=N,67nm,18.7s,baz=246,slow=43
CUC Castrocucco 10.68 301 *e*Pn **Pn 22 04 01.4 -1.5**
CUC Castrocucco 10.68 301 *e*Pn **Pn 22 04 01.4 -1.5**
DIVS Divibare 10.87 329 ⇓*i*Pn **Pn 22 04 08.6 +3.0**
BBLS Lazići 10.94 327 *e*Pn **Pn 22 04 07.1 +0.6**
TEKS Tekeris 11.43 329 *i* Pn **Pn 22 04 15.3 +2.1**
FGSL Fruska Gora 11.81 332 *e*Pn **Pn 22 04 21.3 +2.9**
DRGR 12.38 344 ⇑*i*P **P 22 04 37.3 -0.9**
BOJS Bojanci 14.15 322 *e*Pn **Pn 22 04 48.9 -1.3**
UZH Uzhgorod 14.22 345 *e*P **Pn 22 04 54.0 +2.8**
UZH *e*S **Sn 22 07 32.0 +3.7**
UZH MLR MLR
comp=N,500nm,11.0s
UZH MLR MLR
comp=Z,400nm,11.0s
KOLS Kolonicke sedl 14.51 346 *e*P **P 22 05 02.6 +0.9**
KOLS Kolonicke sedl 14.51 346 *e*P **P 22 05 02.6 +0.9**
KOLS Kolonicke sedl 14.51 346 *e*P **P 22 05 02.6 +0.9**
VISS Visnje 14.56 322 *i* Pn **Pn 22 04 54.2 -1.8**
KIV Kislovodsk 14.63 48 *e*P **Pn 22 04 59.6 +2.6**
KIV *e*S **Sn 22 07 40.0 +1.4**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,44nm,11.0s
KIV Kislovodsk 14.63 48 *e*Pn P 22 05 08.4 +5.2
KIV Kislovodsk 14.63 48 *e*Pn P 22 05 08.4 +5.2
ZEI Tsey 14.83 53 *e*P **P 22 05 07.0 +1.5**
ZEI pmax pmax
comp=Z,13nm,1.3s
KEST Kesra 14.99 278 *e*Pn **P 22 05 08.4 +1.2**
KEST Kesra 14.99 278 *e*Pn **P 22 05 08.4 +1.2**
PERS Pernice 15.02 325 *e*Pn **Pn 22 05 02.3 +0.1**

VYHS Vyhne 15.02 337 *e*P **P 22 05 08.1 +0.7**
VYHS Vyhne 15.02 337 *e*P **P 22 05 08.1 +0.7**
VYHS Vyhne 15.02 337 *e*P **P 22 05 08.0 +0.7**
JAVS Javornik 15.03 321 *e*Pn **Pn 22 05 01.5 -0.8**
STHS Stebnicka Huta 15.19 344 *e*P **P 22 05 10.1 +0.8**
STHS Stebnicka Huta 15.19 344 *e*P **P 22 05 10.1 +0.8**
STHS Stebnicka Huta 15.19 344 *e*P **P 22 05 10.1 +0.8**
OBKA Obir 15.20 323 ⇑*i*Pn **Pn 22 05 04.6 0.0**
comp=Z,3.7nm,0.6s
KIEV Kiev 15.75 4 ⇑*e*P **Pn 22 05 11.4 -0.2**
KIEV Kiev 15.75 4 *e*P **Pn 22 05 11.4 -0.2**
AKASG Malin Array Be 15.76 4 P **Pn 22 05 10.9 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 15.76 4 Pn **Pn 22 05 10.8 -0.8**
comp=Z,0.6nm,0.3s,baz=188,slow=11,SNR=3.6
KBA Koelnbreinsper 16.19 323 ⇑*i*Pn **Pn 22 05 16.8 -0.7**
comp=Z,5.3nm,0.7s
KBA Koelnbreinsper 16.19 323 Pn **Pn 22 05 16.8 -0.7**
comp=Z,5.3nm,0.7s
ABTA Abfaltersbach 16.40 320 ⇑*i*Pn **Pn 22 05 18.7 -1.4**
comp=Z,9.0nm,0.6s
ABTA Abfaltersbach 16.40 320 Pn **Pn 22 05 18.7 -1.4**
comp=Z,9.0nm,0.6s
PGF Pioggiola 16.40 303 *e*P **Pn 22 05 18.9 -1.2**
comp=Z,56nm,1.3s
PGF Pioggiola 16.40 303 *e*P **Pn 22 05 18.9 -1.2**
PGF pmax pmax
comp=Z,56nm,1.3s
PGF Pioggiola 16.40 303 *e*P **Pn 22 05 18.9 -1.2**
comp=Z,56nm,1.3s
PGF Pioggiola 16.40 303 *e*P **Pn 22 05 18.9 -1.2**
comp=Z,56nm,1.3s
OKC Ostrava-Krasne 16.41 338 AMS AMS 22 13 00.0
comp=Z,400nm,10.1s
VRAC Vranov 16.49 334 Pn **Pn 22 05 20.6 -0.5**
comp=Z,0.1nm,0.3s,baz=141,slow=14,SNR=2.7
VRAC LR LR 22 12 28.9
comp=Z,86nm,19.0s,baz=166,slow=40
KRLC Kraliky 17.07 335 *e*P **P 22 05 31.1 +1.0**
KRLC Kraliky 17.07 335 *e*P **P 22 05 31.1 +1.0**
KRLC Kraliky 17.07 335 *e*P **P 22 05 31.1 +1.0**
GEC2 GERESS Array S 17.29 328 *e*P **Pn 22 05 31.5 +0.2**
GEC2 GERESS Array S 17.29 328 *e*P **Pn 22 05 31.5 +0.2**
GEC2 GERESS Array S 17.29 328 *e*P **Pn 22 05 31.4 +0.2**
GERES GERESS Array B 17.29 328 P **Pn 22 05 30.8 -0.5**
comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=25
DPC Dobruska-Polom 17.46 335 *e*P **Pn 22 05 29.9 -3.4**
DPC Dobruska-Polom 17.46 335 *e*P **Pn 22 05 29.9 -3.4**
DPC *ex* x 22 05 33.7
DPC *ep*P **pP 22 05 38.1 -1.7**
DPC Dobruska-Polom 17.46 335 *e*P **Pn 22 05 33.2 -0.1**
DPC Dobruska-Polom 17.46 335 *e*P **Pn 22 05 33.2 -0.1**
FETA Feichten 17.52 318 ⇑*i*Pn **Pn 22 05 34.6 +0.3**
comp=Z,10nm,0.7s
FETA Feichten 17.52 318 P **Pn 22 05 34.6 +0.3**
comp=Z,10nm,0.7s
KHC Kasperske Hory 17.56 328 *e*P **Pn 22 05 33.7 -0.9**
KHC MLR MLR
comp=Z,200nm,10.1s
KHC Kasperske Hory 17.56 328 *e*P **Pn 22 05 33.7 -0.9**
KHC *ex* x 22 05 37.9
KHC AMS AMS 22 13 50.0
comp=Z,200nm,10.1s
KHC Kasperske Hory 17.56 328 *e*P **Pn 22 05 33.7 -0.9**
comp=Z,6.3nm,0.8s
KHC Kasperske Hory 17.56 328 *e*P **Pn 22 05 33.7 -0.9**
comp=Z,6.3nm,0.8s
DAVOX Davos/Dischmat 17.85 317 P **Pn 22 05 38.3 0.0**
comp=Z,0.3nm,0.3s,baz=158,slow=18,SNR=3.5
DAVOX LR LR 22 15 09.5
comp=Z,61nm,20.9s,baz=106,slow=46
SAOF Saorge 17.92 306 *e*P **Pn 22 05 35.4 -3.7**
REVF Revere 17.95 305 *e*P **Pn 22 05 36.5 -3.0**
SBF Sospel 17.95 306 *e*P **Pn 22 05 38.1 -1.4**
comp=Z,37nm,0.8s
SBF Sospel 17.95 306 *e*P **Pn 22 05 38.1 -1.4**
SBF pmax pmax
comp=Z,37nm,0.8s
SBF Sospel 17.95 306 *e*P **Pn 22 05 38.1 -1.4**
comp=Z,19nm,0.8s
SBF Sospel 17.95 306 *e*P **Pn 22 05 38.1 -1.4**
comp=Z,37nm,0.8s
TUE Stuetta 17.98 315 *e*P **Pn 22 05 40.2 +0.2**
comp=Z,11nm,1.3s
TUE Stuetta 17.98 315 *e*P **Pn 22 05 40.2 +0.2**
comp=Z,11nm,1.3s
VORD Divnogorie 18.06 24 *e*P **Pn 22 05 40.9 +0.2**
VORD pmax pmax
comp=Z,7.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD Divnogorie 18.06 24 *e*P **Pn 22 05 40.9 +0.2**
comp=E,10.0nm,0.9s
TOUF Mont Tournerai 18.14 306 *e*P **Pn 22 05 39.4 -2.5**
DAVA Damuels 18.14 318 ⇓*i*P **Pn 22 05 40.9 -1.0**
comp=E,3.5nm,0.5s
DAVA Damuels 18.14 318 P **Pn 22 05 40.9 -1.0**
comp=E,3.5nm,0.5s
MVIF Mont Vial 18.15 306 *e*P **Pn 22 05 39.5 -2.6**
VSR Storozhevoye 18.23 24 *e*P **Pn 22 05 41.3 -1.5**
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=E,5.0nm,0.7s
VSR pmax pmax
comp=Z,6.0nm,0.7s
VSR Storozhevoye 18.23 24 *e*P **Pn 22 05 41.3 -1.5**
FRF La Foret Royal 18.37 304 *e*P **P 22 05 41.4 -3.1**
comp=Z,15nm,0.9s
FRF La Foret Royal 18.37 304 *e*P **P 22 05 41.4 -3.1**
FRF pmax pmax
comp=Z,15nm,0.9s
FRF La Foret Royal 18.37 304 *e*P **P 22 05 41.4 -3.1**
comp=Z,15nm,0.9s
FRF La Foret Royal 18.37 304 *e*P **P 22 05 41.4 -3.1**
comp=Z,15nm,0.9s
LMR La Mourre 18.39 303 *e*P **P 22 05 44.1 -0.6**
comp=Z,20nm,1.1s
LMR La Mourre 18.39 303 *e*P **P 22 05 44.1 -0.6**
LMR pmax pmax
comp=Z,20nm,1.1s
LMR La Mourre 18.39 303 *e*P **P 22 05 44.1 -0.6**
comp=Z,9.8nm,1.1s
LMR La Mourre 18.39 303 *e*P **P 22 05 44.1 -0.6**
comp=Z,20nm,1.1s
MBDF Montbardon 18.73 308 *e*P **P 22 05 46.9 -1.8**
comp=Z,11nm,0.7s
MBDF Montbardon 18.73 308 *e*P **P 22 05 46.9 -1.8**
MBDF pmax pmax
comp=Z,11nm,0.7s
MBDF Montbardon 18.73 308 *e*P **P 22 05 46.9 -1.8**
comp=Z,5.6nm,0.7s
MBDF Montbardon 18.73 308 *e*P **P 22 05 46.9 -1.8**
comp=Z,11nm,0.7s
BRG Berggiesshubel 18.75 332 *e*P **P 22 05 48.4 -0.3**
comp=Z,6.0nm,1.4s
BRG *e* 22 05 51.9
comp=Z,4.9nm,0.9s
BRG *e* 22 06 13.0
comp=Z,7.8nm,1.4s
BRG Berggiesshubel 18.75 332 *e*P **P 22 05 48.4 -0.3**
BRG pmax pmax
comp=Z,6.0nm,1.4s
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,8.0nm,1.4s
BRG Berggiesshubel 18.75 332 *e*P **P 22 05 48.4 -0.3**
comp=Z,8.0nm,1.4s
VRHR Novokhopersk 19.01 28 *e*P **Pn 22 05 53.8 +1.6**
VRHR pmax pmax
comp=Z,6.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.8s
GRFO Grafenberg 19.02 326 *e*P **Pn 22 05 53.3 +0.9**
GRFO pmax pmax
comp=Z,74nm,2.2s
GRFO Grafenberg 19.02 326 *e*P **Pn 22 05 53.3 +0.9**
comp=Z,74nm,2.2s
GRFO Grafenberg 19.02 326 *e*P **Pn 22 05 53.3 +0.9**
comp=Z,74nm,2.2s

LPG La Plagne 19.07 310 *e*P **P 22 05 51.8 -0.7**
comp=Z,16nm,0.9s
LPG La Plagne 19.07 310 *e*P **P 22 05 51.8 -0.7**
LPG pmax pmax
comp=Z,16nm,0.9s
LPG La Plagne 19.07 310 *e*P **P 22 05 51.8 -0.7**
comp=Z,7.8nm,0.9s
LPG La Plagne 19.07 310 *e*P **P 22 05 51.8 -0.7**
comp=Z,16nm,0.9s
LPL La Plagne 19.09 310 *e*P **P 22 05 52.3 -0.4**
comp=Z,6.0nm,0.4s
LPL La Plagne 19.09 310 *e*P **P 22 05 52.3 -0.4**
LPL pmax pmax
comp=Z,6.0nm,0.4s
LPL La Plagne 19.09 310 *e*P **P 22 05 52.3 -0.4**
comp=Z,3.0nm,0.4s
LPL La Plagne 19.09 310 *e*P **P 22 05 52.3 -0.4**
comp=Z,6.0nm,0.4s
SENIN Lac Senin/Sane 19.14 313 *e*Pn **P 22 05 52.7 -0.5**
SENIN Lac Senin/Sane 19.14 313 *e*Pn **P 22 05 52.7 -0.5**
ORIF Oris-en-Rattie 19.39 307 *e*P **P 22 05 54.2 -1.6**
comp=Z,9.6nm,0.9s
ORIF *e*R
comp=Z,143nm,23.0s
ORIF Oris-en-Rattie 19.39 307 *e*P **P 22 05 54.2 -1.6**
ORIF pmax pmax
comp=Z,10.0nm,0.9s
ORIF Oris-en-Rattie 19.39 307 *e*P **P 22 05 54.2 -1.6**
comp=Z,4.8nm,0.9s
ORIF Oris-en-Rattie 19.39 307 *e*P **P 22 05 54.2 -1.6**
comp=Z,9.6nm,0.9s
CLL Collm 19.46 331 *e*P **P 22 05 56.0 -0.4**
CLL Collm 19.46 331 *e*P **P 22 05 56.0 -0.4**
comp=Z,5.0nm,0.8s
CLL *ep*P **pP 22 06 03.0 +1.2**
CLL *es*S **Sn 22 09 40.0 +4.6**
CLL Collm 19.46 331 *e*P **P 22 05 56.0 -0.4**
CABF La Chapelle 19.99 312 *e*P **P 22 06 00.9 -1.4**
comp=Z,18nm,0.6s
CABF La Chapelle 19.99 312 *e*P **P 22 06 00.9 -1.4**
CABF pmax pmax
comp=Z,18nm,0.6s
CABF La Chapelle 19.99 312 *e*P **P 22 06 00.9 -1.4**
comp=Z,8.9nm,0.6s
CABF La Chapelle 19.99 312 *e*P **P 22 06 00.9 -1.4**
comp=Z,18nm,0.6s
HINF Hinteralfeld 20.14 316 *e*P **P 22 06 03.3 -0.6**
comp=Z,5.6nm,0.7s
HINF Hinteralfeld 20.14 316 *e*P **P 22 06 03.3 -0.6**
HINF pmax pmax
comp=Z,6.0nm,0.6s
HINF Hinteralfeld 20.14 316 *e*P **P 22 06 03.3 -0.6**
comp=Z,2.8nm,0.7s
HINF Hinteralfeld 20.14 316 *e*P **P 22 06 03.3 -0.6**
comp=Z,5.6nm,0.6s
VIVF Saint-Julien-l 20.16 306 *e*P **P 22 06 01.9 -2.2**
comp=Z,17nm,0.8s
VIVF Saint-Julien-l 20.16 306 *e*P **P 22 06 01.9 -2.2**
VIVF pmax pmax
comp=Z,17nm,0.8s
VIVF Saint-Julien-l 20.16 306 *e*P **P 22 06 01.9 -2.2**
comp=Z,8.3nm,0.8s
VIVF Saint-Julien-l 20.16 306 *e*P **P 22 06 01.9 -2.2**
comp=Z,17nm,0.8s
CDF Champ du Feu 20.23 318 *e*P **P 22 06 03.9 -1.0**
comp=Z,7.6nm,0.7s
CDF Champ du Feu 20.23 318 *e*P **P 22 06 03.9 -1.0**
CDF pmax pmax
comp=Z,8.0nm,0.7s
CDF Champ du Feu 20.23 318 *e*P **P 22 06 03.9 -1.0**
comp=Z,3.8nm,0.7s
CDF Champ du Feu 20.23 318 *e*P **P 22 06 03.9 -1.0**
comp=Z,7.6nm,0.7s
LASF Ste Croix 20.45 304 *e*P **P 22 06 08.3 +1.1**
comp=Z,24nm,1.0s
LASF Ste Croix 20.45 304 *e*P **P 22 06 08.3 +1.1**
comp=Z,12nm,1.0s
LASF Ste Croix 20.45 304 *e*P **P 22 06 08.3 +1.1**
comp=Z,24nm,1.0s
HAU Haudompre 20.53 316 *e*P **P 22 06 07.5 -0.6**
HAU *e*R
comp=Z,72nm,18.8s
HAU Haudompre 20.53 316 *e*P **P 22 06 07.5 -0.6**
HAU Haudompre 20.53 316 *e*P **P 22 06 07.5 -0.6**
HAU Haudompre 20.53 316 *e*P **P 22 06 07.5 -0.6**
THEF They Montfort 20.85 316 *e*P **P 22 06 11.6 0.0**
THEF They Montfort 20.85 316 *e*P **P 22 06 11.6 0.0**
OBN Obninsk 21.06 14 ⇑*e*P **P 22 06 13.3 -0.4**
OBN pmax pmax
comp=Z,8.0nm,0.8s
OBN Obninsk 21.06 14 P **P 22 06 12.7 -0.9**
comp=Z,6.3nm,0.5s,baz=196,slow=21,SNR=2.9
OBN Obninsk 21.06 14 *e*P **P 22 06 13.3 -0.4**
comp=Z,8.0nm,0.8s
OBN Obninsk 21.06 14 *e*Pn **P 22 06 16.1 +2.4**
comp=Z,11nm,0.7s
OBN Obninsk 21.06 14 *e*Pn **P 22 06 16.1 +2.4**
comp=Z,11nm,0.7s
PAGF Fort de Pagny 21.17 317 *e*P **P 22 06 13.9 -1.1**
comp=Z,7.3nm,1.2s
PAGF Fort de Pagny 21.17 317 *e*P **P 22 06 13.9 -1.1**
comp=Z,3.7nm,1.2s
PAGF Fort de Pagny 21.17 317 *e*P **P 22 06 13.9 -1.1**
comp=Z,7.3nm,1.2s
LBL Lubilhac 21.24 306 *e*P **P 22 06 14.4 -1.5**
LBL Lubilhac 21.24 306 *e*P **P 22 06 14.4 -1.5**
PLDF La Plantade 21.27 308 *e*P **P 22 06 13.7 -2.4**
PLDF La Plantade 21.27 308 *e*P **P 22 06 13.7 -2.4**
MTLF Montolieu 21.38 301 *e*P **P 22 06 15.2 -2.1**
comp=Z,12nm,1.0s
MTLF Montolieu 21.38 301 *e*P **P 22 06 15.2 -2.1**
MTLF pmax pmax
comp=Z,12nm,1.0s
MTLF Montolieu 21.38 301 *e*P **P 22 06 15.2 -2.1**
comp=Z,5.8nm,1.0s
MTLF Montolieu 21.38 301 *e*P **P 22 06 15.2 -2.1**
comp=Z,12nm,1.0s
SFTF Sexfontaines 21.39 315 *e*P **P 22 06 15.8 -1.5**
comp=Z,59nm,1.2s
SFTF Sexfontaines 21.39 315 *e*P **P 22 06 15.8 -1.5**
comp=Z,29nm,1.2s
SFTF Sexfontaines 21.39 315 *e*P **P 22 06 15.8 -1.5**
comp=Z,59nm,1.2s
SMF Signal de Mont 21.39 310 *e*P **P 22 06 15.1 -2.3**
comp=Z,20nm,1.0s
SMF Signal de Mont 21.39 310 *e*P **P 22 06 15.1 -2.3**
SMF pmax pmax
comp=Z,20nm,1.0s
SMF Signal de Mont 21.39 310 *e*P **P 22 06 15.1 -2.3**
comp=Z,10.0nm,1.0s
SMF Signal de Mont 21.39 310 *e*P **P 22 06 15.1 -2.3**
comp=Z,20nm,1.0s
MEZF Maizieres J'vi 21.53 316 *e*P **P 22 06 17.8 -1.0**
comp=Z,12nm,0.7s
MEZF Maizieres J'vi 21.53 316 *e*P **P 22 06 17.8 -1.0**
comp=Z,5.8nm,0.7s
MEZF Maizieres J'vi 21.53 316 *e*P **P 22 06 17.8 -1.0**
comp=Z,12nm,0.7s
PYM Petit Puy Mans 21.58 307 *e*P **P 22 06 17.6 -1.9**
PYM Petit Puy Mans 21.58 307 *e*P **P 22 06 17.6 -1.9**
AGO Saint Agoulin 21.61 308 *e*P **P 22 06 17.0 -2.8**
LOR Lormes 21.65 312 *e*P **P 22 06 17.9 -2.3**
comp=Z,12nm,0.9s
LOR *e*R
comp=Z,90nm,19.0s
LOR Lormes 21.65 312 *e*P **P 22 06 17.9 -2.3**
LOR pmax pmax
comp=Z,12nm,0.9s
LOR Lormes 21.65 312 *e*P **P 22 06 17.9 -2.3**
comp=Z,6.1nm,0.9s
LOR Lormes 21.65 312 *e*P **P 22 06 17.9 -2.3**
comp=Z,12nm,0.9s
AVF Avril sur Loir 21.76 310 *e*P **P 22 06 19.3 -2.0**
comp=Z,12nm,0.8s
AVF Avril sur Loir 21.76 310 *e*P **P 22 06 19.3 -2.0**
AVF pmax pmax
comp=Z,12nm,0.8s
AVF Avril sur Loir 21.76 310 *e*P **P 22 06 19.3 -2.0**
comp=Z,5.9nm,0.8s
AVF Avril sur Loir 21.76 310 *e*P **P 22 06 19.3 -2.0**
comp=Z,12nm,0.8s
SSF Saint Saulge 21.78 311 *e*P **P 22 06 19.6 -1.9**
comp=Z,16nm,0.7s
SSF Saint Saulge 21.78 311 *e*P **P 22 06 19.6 -1.9**
SSF pmax pmax
comp=Z,16nm,0.7s
SSF Saint Saulge 21.78 311 *e*P **P 22 06 19.6 -1.9**

comp=Z,7.8nm,0.7s
SSF Saint Saulge 21.78 311 *e*P **P 22 06 19.6 -1.9**
comp=Z,16nm,0.7s
CAF Calviac 21.93 305 *e*P **P 22 06 21.9 -1.3**
comp=Z,7.4nm,0.8s
CAF Calviac 21.93 305 *e*P **P 22 06 21.9 -1.3**
CAF pmax pmax
comp=Z,7.0nm,0.8s
CAF Calviac 21.93 305 *e*P **P 22 06 21.9 -1.3**
comp=Z,3.7nm,0.8s
CAF Calviac 21.93 305 *e*P **P 22 06 21.9 -1.3**
comp=Z,7.4nm,0.8s
BGF Bois d'Agland 21.99 309 *e*P **P 22 06 23.9 +0.1**
comp=Z,18nm,0.8s
BGF Bois d'Agland 21.99 309 *e*P **P 22 06 23.9 +0.1**
BGF pmax pmax
comp=Z,18nm,0.8s
BGF Bois d'Agland 21.99 309 *e*P **P 22 06 23.9 +0.1**
comp=Z,8.9nm,0.8s
BGF Bois d'Agland 21.99 309 *e*P **P 22 06 23.9 +0.1**
comp=Z,18nm,0.8s
MEM Membach 22.17 321 *e*P **P 22 06 28.4 +2.7**
MEM pmax pmax
comp=Z,7.0nm,0.8s
MEM Membach 22.17 321 *e*Pn **P 22 06 28.4 +2.7**
comp=Z,7.1nm,0.8s
MEM Membach 22.17 321 *e*Pn **P 22 06 28.4 +2.7**
comp=Z,7.1nm,0.8s
TCF Toulx Ste Croi 22.29 308 *e*P **P 22 06 26.8 -0.3**
TCF Toulx Ste Croi 22.29 308 *e*P **P 22 06 26.8 -0.3**
TCF Toulx Ste Croi 22.29 308 *e*P **P 22 06 26.8 -0.3**
TCF Toulx Ste Croi 22.29 308 *e*P **P 22 06 26.8 -0.3**
RJF Les Rejaudoux 22.42 305 *e*P **P 22 06 27.3 -1.1**
comp=Z,17nm,0.9s
RJF *e*R
comp=Z,103nm,18.0s
RJF Les Rejaudoux 22.42 305 *e*P **P 22 06 27.3 -1.1**
RJF pmax pmax
comp=Z,17nm,0.9s
RJF Les Rejaudoux 22.42 305 *e*P **P 22 06 27.3 -1.1**
comp=Z,8.6nm,0.9s
RJF Les Rejaudoux 22.42 305 *e*P **P 22 06 27.3 -1.1**
comp=Z,17nm,0.9s
EPF Esparros 22.65 299 *e*P **P 22 06 28.2 -2.8**
comp=Z,7.6nm,0.8s
EPF Esparros 22.65 299 *e*P **P 22 06 28.2 -2.8**
EPF pmax pmax
comp=Z,8.0nm,0.8s
EPF Esparros 22.65 299 *e*P **P 22 06 28.2 -2.8**
comp=Z,7.6nm,0.8s
EPF Esparros 22.65 299 *e*P **P 22 06 28.2 -2.8**
comp=Z,7.6nm,0.8s
BAIF Baives 22.81 319 *e*P **P 22 06 30.3 -2.2**
comp=Z,8.5nm,0.7s
BAIF Baives 22.81 319 *e*P **P 22 06 30.3 -2.2**
BAIF pmax pmax
comp=Z,9.0nm,0.7s
BAIF Baives 22.81 319 *e*P **P 22 06 30.3 -2.2**
comp=Z,4.2nm,0.7s
BAIF Baives 22.81 319 *e*P **P 22 06 30.3 -2.2**
comp=Z,8.5nm,0.7s
LFF La Frestale 22.83 304 *e*P **P 22 06 30.9 -1.9**
LFF La Frestale 22.83 304 *e*P **P 22 06 30.9 -1.9**
LFF La Frestale 22.83 304 *e*P **P 22 06 30.9 -1.9**
LFF La Frestale 22.83 304 *e*P **P 22 06 30.9 -1.9**
TAM Tamanrasset 22.83 244 *e*P **P 22 06 33.5 +0.3**
TAM pmax pmax
comp=Z,12nm,1.2s
TAM Tamanrasset 22.83 244 *e*P **P 22 06 33.5 +0.3**
comp=Z,12nm,1.2s
TAM Tamanrasset 22.83 244 *e*P **P 22 06 33.5 +0.3**
comp=Z,12nm,1.2s
ETSF Etsaut 23.27 298 *e*P **P 22 06 35.3 -2.1**
comp=Z,14nm,0.9s
ETSF Etsaut 23.27 298 *e*P **P 22 06 35.3 -2.1**
ETSF pmax pmax
comp=Z,14nm,0.9s
ETSF Etsaut 23.27 298 *e*P **P 22 06 35.3 -2.1**
comp=Z,6.8nm,0.9s
ETSF Etsaut 23.27 298 *e*P **P 22 06 35.3 -2.1**
comp=Z,14nm,0.9s
VSU Vasula 23.50 359⇑*e*P **P 22 06 37.9 -1.5**
VSU pmax pmax
comp=Z,9.0nm,0.9s
VSU Vasula 23.50 359 *e*P **P 22 06 37.9 -1.5**
comp=Z,9.0nm,0.9s
LARF Larrau 23.61 299 *e*P **P 22 06 40.8 +0.1**
LARF Larrau 23.61 299 *e*P **P 22 06 40.8 +0.1**
SJPF Ste Jean 23.79 299 *e*P **P 22 06 42.4 0.0**
comp=Z,54nm,1.0s
SJPF Ste Jean 23.79 299 *e*P **P 22 06 42.4 0.0**
SJPF pmax pmax
comp=Z,54nm,1.0s
SJPF Ste Jean 23.79 299 *e*P **P 22 06 42.4 0.0**
comp=Z,27nm,1.0s
SJPF Ste Jean 23.79 299 *e*P **P 22 06 42.4 0.0**
comp=Z,54nm,1.0s
OSSF Osses 23.84 299 *e*P **P 22 06 42.6 -0.3**
OSSF Osses 23.84 299 *e*P **P 22 06 42.6 -0.3**
MFF Saint Martin d 23.93 307 *e*P **P 22 06 41.8 -1.9**
comp=Z,30nm,1.1s
MFF Saint Martin d 23.93 307 *e*P **P 22 06 41.8 -1.9**
MFF pmax pmax
comp=Z,30nm,1.1s
MFF Saint Martin d 23.93 307 *e*P **P 22 06 41.8 -1.9**
comp=Z,15nm,1.1s
MFF Saint Martin d 23.93 307 *e*P **P 22 06 41.8 -1.9**
comp=Z,30nm,1.1s
LDF La Druitiere 24.64 312 *e*P **P 22 06 47.5 -2.7**
comp=Z,12nm,0.8s
LDF La Druitiere 24.64 312 *e*P **P 22 06 47.5 -2.7**
LDF pmax pmax
comp=Z,12nm,0.8s
LDF La Druitiere 24.64 312 *e*P **P 22 06 47.5 -2.7**
comp=Z,12nm,0.8s
FLN La Foliniere 24.92 312 *e*P **P 22 06 50.7 -2.0**
comp=Z,6.3nm,0.4s
FLN *e*R
comp=Z,104nm,17.0s
FLN La Foliniere 24.92 312 *e*P **P 22 06 50.7 -2.0**
FLN pmax pmax
comp=Z,6.0nm,0.4s
FLN La Foliniere 24.92 312 *e*P **P 22 06 50.7 -2.0**
comp=Z,3.2nm,0.4s
FLN La Foliniere 24.92 312 *e*P **P 22 06 50.7 -2.0**
comp=Z,6.3nm,0.4s
GRR Gorron 25.01 311 *e*P **P 22 06 50.9 -2.6**
comp=Z,41nm,1.0s
GRR Gorron 25.01 311 *e*P **P 22 06 50.9 -2.6**
GRR pmax pmax
comp=Z,41nm,1.0s
GRR Gorron 25.01 311 *e*P **P 22 06 50.9 -2.6**
comp=Z,21nm,1.0s
GRR Gorron 25.01 311 *e*P **P 22 06 50.9 -2.6**
comp=Z,41nm,1.0s
ESDC Sonseca Array 25.52 290 P **P 22 06 57.5 -0.9**
comp=Z,2.3nm,0.7s,baz=82,slow=9.6,SNR=13
SGMF Saint Gilles 26.02 310 *e*P **P 22 07 01.1 -1.6**
SGMF Saint Gilles 26.02 310 *e*P **P 22 07 01.1 -1.6**
SGMF Saint Gilles 26.02 310 *e*P **P 22 07 01.1 -1.6**
SGMF Saint Gilles 26.02 310 *e*P **P 22 07 01.1 -1.6**
QUIF Quistinic 26.30 309 *e*P **P 22 07 03.5 -1.7**
comp=Z,26nm,0.8s
QUIF Quistinic 26.30 309 *e*P **P 22 07 03.5 -1.7**
QUIF pmax pmax
comp=Z,26nm,0.8s
QUIF Quistinic 26.30 309 *e*P **P 22 07 03.5 -1.7**
comp=Z,13nm,0.8s
QUIF Quistinic 26.30 309 *e*P **P 22 07 03.5 -1.7**
comp=Z,26nm,0.8s
ROSF Rostrenen 26.50 310 *e*P **P 22 07 05.2 -1.9**
comp=Z,32nm,0.7s
ROSF Rostrenen 26.50 310 *e*P **P 22 07 05.2 -1.9**
ROSF pmax pmax
comp=Z,32nm,0.7s
ROSF Rostrenen 26.50 310 *e*P **P 22 07 05.2 -1.9**
comp=Z,16nm,0.7s
ROSF Rostrenen 26.50 310 *e*P **P 22 07 05.2 -1.9**
comp=Z,32nm,0.7s
FINES FINESS Array B 26.50 358 P **P 22 07 06.0 -0.9**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 26.50 358 P **P 22 07 06.0 -0.9**
comp=Z,1.1nm,0.5s,baz=172,slow=13,SNR=5.9
FINES FINESS Array B 26.50 358 P **P 22 07 06.0 -0.9**
comp=Z,1.0nm,0.5s
HFS Hagfors 26.77 344 P **P 22 07 07.5 -1.8**
HFS pmax pmax
comp=Z,6.0nm,0.8s
HFS Hagfors 26.77 344 P **P 22 07 07.5 -1.8**
comp=Z,5.8nm,0.8s,baz=153,slow=10.0,SNR=9.5
MDT Midelt 26.84 275 P **P 22 07 10.2 -0.2**
comp=Z,2.7nm,0.8s,baz=95,slow=12,SNR=6.2
AKTK Aktyubinsk 26.88 46 P **P 22 07 10.8 +0.4**
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 26.88 46 P **P 22 07 10.8 +0.4**
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 26.88 46 P **P 22 07 10.8 +0.4**
comp=Z,2.3nm,0.6s,baz=255,slow=10,SNR=9.3
KLMR Klimovskoe 26.99 13 *e*P **P 22 07 09.3 -2.0**
KLMR pmax pmax
comp=Z,28nm,1.9s
KLMR Klimovskoe 26.99 13 *e*P **P 22 07 09.3 -2.0**
comp=Z,28nm,1.9s
ABKAR Akbulak array 27.61 49 *e*P P 22 07 22.8 +5.8
ABKAR Akbulak array 27.61 49 *e*P P 22 07 22.8 +5.8
NB2 NORSAR Subarra 28.14 343 P P 22 07 18.8 -2.9
comp=Z,2.0nm,0.7s,baz=150,slow=9.3
NOA NORSAR Array B 28.14 343 P **P 22 07 19.4 -2.3**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,15nm,28.6s
NOA NORSAR Array B 28.14 343 P **P 22 07 19.4 -2.3**
comp=Z,3.3nm,0.8s,baz=142,slow=9.5,SNR=9.1
NOA LR LR 22 20 45.5
comp=Z,70nm,18.6s,baz=150,slow=41
TORD Torodi Ar. Bea 32.00 234 P **P 22 07 56.9 +0.7**
comp=Z,19nm,1.3s,baz=36,slow=7.9,SNR=32
KKAR Karatay Array 33.94 63 *e*P **P 22 08 13.5 +0.6**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 33.94 63 *e*P **P 22 08 13.5 +0.6**
comp=Z,0.8nm,0.6s
KKAR Karatay Array 33.94 63 *e*P **P 22 08 13.5 +0.6**
comp=Z,0.8nm,0.6s
ARCES ARCESS Array B 34.63 359 P **P 22 08 18.0 -0.6**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 34.63 359 P **P 22 08 18.0 -0.6**
comp=Z,2.2nm,0.8s,baz=176,slow=9.1,SNR=8.1
AAK Ala-Archa 36.88 64⇑*e*P **P 22 08 40.2 +1.8**
AAK pmax pmax
comp=Z,7.0nm,1.7s
KURBB Kurchatov Arra 39.63 51 P **P 22 09 01.1 -0.1**
comp=Z,1.1nm,0.7s,baz=274,slow=8.7,SNR=9.4
KURK Kurchatov 39.69 51 P **P 22 09 01.1 -0.6**
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 39.69 51 P **P 22 09 01.1 -0.6**
comp=Z,1.0nm,0.7s
KURK Kurchatov 39.69 51 P **P 22 09 01.1 -0.6**
DBIC Dimbokro 41.11 234 P **P 22 09 13.3 -0.5**
DBIC pmax pmax
comp=Z,3.0nm,0.5s
DBIC MLR MLR
comp=Z,46nm,18.9s
DBIC Dimbokro 41.11 234 P **P 22 09 13.3 -0.5**
comp=Z,3.2nm,0.5s,baz=35,slow=7.6,SNR=9.3
DBIC LR LR 22 30 03.8
comp=Z,46nm,18.9s,baz=11,slow=42
MKAR Makanchi Array 42.15 57 *c*e P **P 22 09 22.7 +0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 42.15 57 P **P 22 09 22.6 +0.5**
comp=Z,1.7nm,0.5s,baz=296,slow=9.3,SNR=23
NVS Novosibirsk 42.76 45 *e*P **P 22 09 26.2 -0.7**
NVS Novosibirsk 42.76 45 *e*P **P 22 09 26.2 -0.7**
SPITS Spitsbergen Ar 43.58 357 LR LR 22 26 47.3
comp=Z,24nm,20.1s,baz=315,slow=35
ZALV Zalesovo Beam 43.64 46 P **P 22 09 33.8 -0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 43.64 46 P **P 22 09 33.8 -0.2**
comp=Z,1.0nm,0.6s,baz=283,slow=8.0,SNR=7.7
DANN Dangsing 47.66 82 *e*P **P 22 10 07.6 +1.1**
comp=Z,20nm,0.6s
KOLN Koldanda 47.76 82 *e*P **P 22 10 07.5 +0.3**
comp=Z,5.0nm,0.5s
GKN Gorkha 48.51 82 *e*P **P 22 10 13.3 +0.4**
comp=Z,4.6nm,0.5s
DMN Daman 49.05 82 *e*P **P 22 10 17.9 +0.7**
HVS Khovu-Aksy 49.20 50⇑*e*P **P 22 10 18.9 +1.1**
HVS pmax pmax
comp=Z,17nm,0.8s
HVS Khvu-Aksy 49.20 50 *e*P **P 22 10 18.9 +1.1**
comp=Z,17nm,0.8s
PKIN Phulchoki 49.29 82 *e*P **P 22 10 19.6 +0.5**
comp=Z,3.5nm,0.5s
PKI Pulchoki 49.31 82 *e*P **P 22 10 19.3 0.0**
comp=Z,23nm,1.4s
JIRN Jiri 49.91 81 *e*P **P 22 10 24.6 +0.7**
comp=Z,4.8nm,0.6s
TAPN Taplejung 51.26 81 *e*P **P 22 10 33.9 -0.2**
TSUM Tsumeb 54.73 192 P **P 22 11 00.7 +1.4**
comp=Z,0.8nm,0.7s,baz=18,slow=15,SNR=3.1
SONM Songino Array 57.99 51 P **P 22 11 23.4 +0.9**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 57.99 51 P **P 22 11 23.4 +0.9**
comp=Z,0.7nm,0.6s,baz=283,slow=8.0,SNR=12
ULN Ulaanbaatar 58.40 51⇑*e*P **P 22 11 25.9 +0.6**
ULN pmax pmax
comp=Z,5.0nm,2.0s
ULN Ulaanbaatar 58.40 51 *e*P **P 22 11 25.9 +0.6**
comp=Z,5.0nm,2.0s
BOD Bodaibo 59.32 38 *e*P **P 22 11 30.5 -0.8**
BOD pmax pmax
comp=Z,4.0nm,0.8s
BOD Bodaibo 59.32 38 *e*P **P 22 11 30.5 -0.8**
comp=Z,4.0nm,0.8s
TIXI Tiksi 60.60 21⇓*e*P **P 22 11 39.6 -0.3**
TIXI pmax pmax
comp=Z,8.0nm,2.5s
TIXI Tiksi 60.60 21 *e*P **P 22 11 39.6 -0.3**
comp=Z,8.0nm,2.5s
BOSA Boshof 63.29 182 P **P 22 11 59.7 +1.1**
BOSA pmax pmax
comp=Z,3.0nm,0.7s
BOSA Boshof 63.29 182 P **P 22 11 59.7 +1.1**
comp=Z,2.6nm,0.7s,baz=0.0,slow=8.1,SNR=4.7
CMAR Chiang Mai Arr 64.53 85 P **P 22 12 07.2 +0.2**
comp=Z,0.2nm,0.3s,baz=298,slow=7.7,SNR=4.0
SCHQ Schefferville 64.66 320 P **P 22 12 06.3 -0.9**
comp=Z,7.0nm,0.7s,baz=77,slow=5.1,SNR=13
BILL Bilibino 72.72 15 *e*P **P 22 12 57.4 +0.2**
BILL *i* 22 13 12.5
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL MLR MLR
comp=Z,64nm,18.0s
BILL Bilibino 72.72 15 *e*P **P 22 12 57.4 +0.2**
comp=Z,2.0nm,1.1s
BILL Bilibino 72.72 15 *i* PcP **PcP 22 13 12.5 -2.0**
comp=Z,64nm,18.0s
USRK Ussurisk Ar. 75.49 46 P **P 22 13 14.3 +0.4**
comp=Z,1.3nm,0.7s,baz=318,slow=6.0,SNR=3.8
YKA Yellowknife Ar 78.24 343 P **P 22 13 27.8 -1.2**
comp=Z,0.4nm,0.7s,baz=34,slow=5.3,SNR=7.2
ILAR Eielson Array 80.49 358 P **P 22 13 41.2 0.0**
comp=Z,0.4nm,0.7s,baz=349,slow=2.8,SNR=3.6
ULM Lac du Bonnet 81.60 327 LR LR 22 51 20.4
comp=Z,58nm,18.0s,baz=297,slow=37
PPLA Purkeypile 82.46 360 *e*P **P 22 13 51.2 -0.7**
PPLA Purkeypile 82.46 360 *e*P **P 22 13 51.2 -0.7**

*ISK **16** 22:03:01.4, 42°.11N×33°.36E, h16km, MD3.3*
*ISCJB **16** 22:03:02.2±0.9, 42°.13N±0°.04×33°.40E±0°.05, h8km±6km, Error ellipse: s-maj=8.3km s-min=4.9km az=30.7*
*CSEM **16** 22:03:02.7±0.3, 42°.06N×33°.43E, h2km, MD3.3, Error ellipse: s-maj=10.0km s-min=6.5km az=31.0*
*DDA **16** 22:03:08.1, 41°.77N×33°.53E, h19km, MD3.1*
ISC 16 22:03:03.8±1.3, 42°.02N±0°.04×33°.43E±0°.03, h15km±10km, n31, σ0s70/44, 6C, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZK	**Bozkurt**	**0.43**	**97**	*e*PG	**Pb**	**22 03 11.9**	**-1.2**
BZK				*e*SG	**Sb**	**22 03 19.5**	**+0.2**
BZK	**Bozkurt**	**0.43**	**97**	*e*Pg	**Pb**	**22 03 11.9**	**-1.2**
SAFT	**Safranbolu**	**0.96**	**216**	*e*PG	**Pb**	**22 03 21.3**	**-0.8**
SAFT	**Safranbolu**	**0.96**	**216**	*e*Pg	**Pb**	**22 03 21.3**	**-0.8**
ILGA	**Ilgaz**	**0.99**	**167**	*i* P	**Pb**	**22 03 22.0**	**-0.7**
ILGA				*i* S	**Sn**	**22 03 37.4**	**+0.3**
ILGA	**Ilgaz**	**0.99**	**167**	*i* P	**Pb**	**22 03 22.0**	**-0.7**
ILGA				*i* S	**Sn**	**22 03 37.4**	**+0.3**
TOS	**Tosya**	**1.08**	**155**	*e*PN	**Pn**	**22 03 23.9**	**-0.5**
TOS	**Tosya**	**1.08**	**155**	*e*Pn	**Pn**	**22 03 23.9**	**-0.5**
BOYT	**Boyabat**	**1.25**	**118**	*i* P	**Pb**	**22 03 26.8**	**-0.4**
BOYT				*i* S	**Sg**	**22 03 45.0**	**+0.7**
BOYT	**Boyabat**	**1.25**	**118**	*i* P	**Pb**	**22 03 26.8**	**-0.4**
BOYT				*i* S	**Sg**	**22 03 45.0**	**+0.7**
DIKM	**Dikmen**	**1.41**	**104**	*e*PN	**Pn**	**22 03 28.3**	**-0.7**
DIKM				*e*SN	**Sb**	**22 03 47.7**	**0.0**
DIKM	**Dikmen**	**1.41**	**104**	*e*Pn	**Pn**	**22 03 28.3**	**-0.7**
DIKM				*e*Sn	**Sb**	**22 03 47.7**	**0.0**
CANT	**Cankiri**	**1.42**	**174**	*e*PN	**Pn**	**22 03 28.4**	**-0.6**
BCAM	**Yenicaga**	**1.58**	**221**	*i* P	**Pg**	**22 03 33.8**	**-0.4**
BCAM				*i* S	**Sg**	**22 03 55.3**	**+0.6**
BCAM	**Yenicaga**	**1.58**	**221**	*i* P	**Pg**	**22 03 33.8**	**-0.4**
BCAM				*i* S	**Sg**	**22 03 55.3**	**+0.6**
CTKT	**Corum**	**1.73**	**143**	*i* P	**Pg**	**22 03 36.3**	**-0.7**
CTKT				*i* S	**Sb**	**22 03 57.6**	**+0.7**
CTKT	**Corum**	**1.73**	**143**	*i* P	**Pg**	**22 03 36.3**	**-0.7**
CTKT				*i* S	**Sb**	**22 03 57.6**	**+0.7**
HAVZ	**Havza**	**1.96**	**118**	*i* P	**Pb**	**22 03 39.3**	**+0.1**
HAVZ				*i* S	**Sg**	**22 04 08.5**	**+1.7**
HAVZ	**Havza**	**1.96**	**118**	*i* P	**Pb**	**22 03 39.3**	**+0.1**
HAVZ				*i* S	**Sg**	**22 04 08.5**	**+1.7**
KVT	**Kavak**	**2.17**	**115**	*e*PN	**Pn**	**22 03 39.2**	**-0.2**
KVT	**Kavak**	**2.17**	**115**	*e*Pn	**Pn**	**22 03 39.2**	**-0.3**
YOZ	**Yozgat**	**2.77**	**148**	*e*PN	**Pn**	**22 03 48.3**	**+0.5**
YOZ	**Yozgat**	**2.77**	**148**	*e*Pn	**Pn**	**22 03 48.3**	**+0.5**
TIRR	**Tirgusor**	**4.40**	**305**⇑	*i* P	**Pn**	**22 04 10.8**	**+0.8**
TIRR	**Tirgusor**	**4.40**	**305**⇑	*i* P	**Pn**	**22 04 10.8**	**+0.8**
TLCR		**4.61**	**315**⇑	*i* P	**Pn**	**22 04 12.4**	**-0.5**
TLCR		**4.61**	**315**⇑	*i* P	**Pn**	**22 04 12.4**	**-0.5**
CFR	**Carcaliu**	**4.98**	**311**⇑	*i* P	**Pn**	**22 04 18.4**	**+0.5**
CFR	**Carcaliu**	**4.98**	**311**⇑	*i* P	**Pn**	**22 04 18.4**	**+0.5**
MLR	**Muntele Rosu**	**6.44**	**305**	S	**Sn**	**22 05 51.4**	**+0.1**
MLR	**Muntele Rosu**	**6.44**	**305**	Sn	**Sn**	**22 05 51.4**	**+0.1**
	0.1nm,0.3s,baz=212,slow=19,SNR=2.6						

*IDC **16** 22:14:36.6±0.9, 24°.26S×176°.09W, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.0/36, mbtmp4.3/9, ML4.5/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/29, Error ellipse: s-maj=30.4km s-min=23.1km az=52.0*
*ISCJB **16** 22:14:39.6±1.4, 24°.2S±0°.2×176°.2W±0°.2, h31km, mb4.3/9, MS3.3/2, Error ellipse: s-maj=32.3km s-min=17.7km az=135.0*
*NEIC **16** 22:14:51.4±2.4, 24°.47S×176°.40W, h115km±20km, mb4.6/5, Error ellipse: s-maj=21.4km s-min=17.8km az=70.0*
ISC 16 22:14:41.4±0.9, 24°.3S±0°.1×176°.1W±0°.2, h31km, n27, σ0s95/24, mb4.2/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.50**	**319**	*e*P	Pn	22 16 51.5	+9.1
	58nm,0.5s						
URZ	**Urewera**	**15.10**	**201**	Pn	**Pn**	**22 18 13.3**	**+0.9**
	1.8nm,0.3s,baz=73,slow=20,SNR=6.6						
PPT	**Papeete**	**25.63**	**80**	LR	LR	22 28 34.0	
	comp=Z,32nm,18.7s,baz=0.5,slow=33						
CTA	**Charters Tower**	**35.04**	**269**	P	**P**	**22 21 31.5**	**-0.1**
	5.8nm,0.8s,baz=83,slow=10,SNR=4.7						
CTAO	**Charters Tower**	**35.04**	**269**	*e*P	**P**	**22 21 30.9**	**-0.8**
	11nm,0.9s						
STKA	**Stephens Creek**	**37.91**	**249**	P	**P**	**22 21 57.5**	**+1.6**
	1.0nm,0.6s,baz=101,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**45.49**	**260**	P	**P**	**22 22 57.2**	**-1.0**
	0.6nm,0.4s,baz=91,slow=7.2,SNR=10.0						
WRAB	**Tennant Creek**	**45.93**	**265**	*e*P	**P**	**22 22 59.9**	**-1.8**
	2.2nm,0.4s						
WRA	**Warramunga Arr**	**45.94**	**265**	P	**P**	**22 22 59.8**	**-1.9**
	1.8nm,0.5s,baz=102,slow=8.0,SNR=32						
VNDA	**Vanda**	**54.34**	**186**	P	**P**	**22 24 04.7**	**+0.2**
	2.5nm,1.1s,baz=7.1,slow=3.2,SNR=4.3						
VNDA	**Vanda**	**54.34**	**186**	*e*P	**P**	**22 24 03.7**	**-0.8**
	3.1nm,1.0s						
JCJ	**Chichijima**	**65.03**	**319**	LR	LR	22 47 37.9	
	comp=Z,53nm,20.4s,slow=30						
QSPA	**South Pole Qui**	**65.81**	**180**	P	**P**	**22 25 23.8**	**+0.2**
	11nm,0.9s,baz=40,slow=1.2,SNR=24						
QSPA	**South Pole Qui**	**65.81**	**180**	*e*P	**P**	**22 25 22.7**	**-0.9**
	16nm,1.1s						
SNAA	**Sanae**	**84.20**	**178**	P	**P**	**22 27 09.0**	**-0.4**
SNAA	**Sanae**	**84.20**	**178**	P	**P**	**22 27 08.8**	**-0.6**
	2.8nm,0.8s,baz=197,slow=4.4,SNR=8.2						
VNA3	**Neumayer Olymp**	**84.27**	**176**	P	**P**	**22 27 09.2**	**-0.5**
VNA2	**Neumayer--Watz**	**84.73**	**176**	P	**P**	**22 27 11.9**	**-0.1**
	baz=190,slow=2.9						
CMAR	**Chiang Mai Arr**	**93.01**	**289**	P	**P**	**22 27 53.3**	**+1.0**
	0.9nm,0.9s,baz=133,slow=4.7,SNR=5.2						
MKAR	**Makanchi Array**	**115.04**	**312**	PKiKP	**PKPdf**	**22 33 18.4**	**-0.9**
	0.2nm,0.5s,baz=98,slow=2.9,SNR=3.1						
BVAR	**Borovoye Array**	**123.08**	**319**	PKP	**PKPdf**	**22 33 34.4**	**-0.1**
	0.5nm,0.4s,baz=45,slow=2.3,SNR=4.3						
ARCES	**ARCESS Array B**	**132.93**	**350**	PKP	**PKPdf**	**22 33 52.5**	**-0.3**
	2.0nm,0.7s,baz=45,slow=4.0,SNR=4.7						
HFS	**Hagfors**	**143.52**	**352**	PKP	PKPbc	22 34 09.8	0.0
	1.2nm,0.7s,baz=11,slow=1.5,SNR=5.1						
AKASG	**Malin Array Be**	**147.15**	**330**	PKPbc	**PKPbc**	**22 34 21.1**	**0.0**
	1.5nm,0.6s,baz=39,slow=3.5,SNR=5.6						
BRTR	**Keskin Array B**	**150.62**	**309**	PKPbc	**PKPbc**	**22 34 30.6**	**0.0**
	0.5nm,0.8s,baz=81,slow=2.7,SNR=3.3						
BRTR				PKPab	**PKPab**	**22 34 39.0**	**+1.5**
	0.4nm,0.6s,baz=90,slow=1.4,SNR=2.5						
BRG	**Berggiesshubel**	**152.33**	**346**	*e*(P)	**PKPbc**	**22 34 34.8**	**+0.9**
	3.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**168.74**	**169**	PKPab	**PKPab**	**22 35 56.4**	**+0.3**
	1.9nm,0.8s,baz=196,slow=4.5,SNR=6.6						

GUC 16 22:16:02.5±0.3, 35°.24S×71°.83W, h97km±4km, ML3.9, 2C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.22**	**134**	*i* P	Pn	22 16 16.9	+0.4
TALC				*i* S	Sn	22 16 27.6	+0.8
NICH	**Los Niches**	**0.55**	**64**	*i* P	Pn	22 16 19.0	+0.6
NICH				*i* S	Sn	22 16 31.6	+1.3
LNCH	**Linares**	**0.63**	**163**⇓	*i* P	Pn	22 16 25.5	+6.4
LNCH				*e*S	Sn	22 16 38.4	+7.0
COCH	**Cobquecura**	**1.18**	**221**⇑	*i* P	Pn	22 16 25.3	+0.6
COCH				*i* S	Sn	22 16 42.9	+1.4
CLCH	**Cerro Calan**	**2.13**	**30**	*i* P	Pn	22 16 37.9	+1.1
CLCH				*e*S	Sn	22 17 04.7	+1.7
CLCH				IAML		22 17 08.8	
	comp=N,718nm,0.5s						
PEL	**Peldehue**	**2.30**	**25**⇑	*i* P	Pn	22 16 40.1	+1.1
PEL				*i* S	Sn	22 17 08.6	+1.7
PEL				IAML		22 17 12.9	
	comp=N,742nm,0.5s						

*IDC **16** 22:20:30.1±1.4, 34°.64S×72°.15W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/33, mbtmp3.6/3, ML4.1/1, MS2.9/4, Ms1 2.9/4, ms1mx2.7/21, Error ellipse: s-maj=36.1km s-min=25.2km az=130.0*
*ISCJB **16** 22:20:31.9±1.4, 34°.83S±0°.05×72°.44W±0°.08, h21km±10km, mb3.5/2, MS3.1/2, Error ellipse: s-maj=12.6km s-min=5.9km az=34.0*
*GUC **16** 22:20:33.7±0.4, 34°.82S×72°.30W, h7km±2km, ML4.0*
ISC 16 22:20:30.9±2.1, 34°.80S±0°.04×72°.42W±0°.09, h3km±12km, n18, σ0s90/20, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.87**	**133**⇑	*i* P	**Pg**	**22 20 48.3**	**+0.7**
TALC				*i* S	**Sg**	**22 20 59.0**	**+0.1**
NICH	**Los Niches**	**0.99**	**102**	*e*P9	**Pb**	**22 20 50.5**	**-0.2**
NICH				*i* S	**Sg**	**22 21 02.7**	**-0.1**
LNV	**Longovilo**	**1.19**	**45**	*i* P	**Pg**	**22 20 53.2**	**-0.3**
LNV				*i* S	**Sg**	**22 21 08.9**	**-0.1**
LNCH	**Linares**	**1.24**	**148**	*i* P	**Pg**	**22 20 54.2**	**-0.4**
COCH	**Cobquecura**	**1.36**	**193**	*e*P9	Pn	22 20 55.4	-1.3
COCH				*i* S	**Sb**	**22 21 13.2**	**-1.5**
CACH	**El Canelo**	**1.65**	**66**	*e*P	**Pn**	**22 21 01.2**	**+0.4**
CACH				*i* S	**Sn**	**22 21 21.7**	**-0.8**
CHCH	**Chadas Angostu**	**1.70**	**60**⇑	*i* P	**Pn**	**22 21 01.6**	**+0.2**
CHCH				*i* S	**Sn**	**22 21 22.5**	**-1.1**

RCDM	**Rinconada Maip**	**1.87**	**46**	*i* P9	Pb	22 21 03.4	-2.2
RCDM				*i* S	**Sn**	**22 21 26.7**	**-1.1**
ANTU	**Antumapu**	**1.92**	**51**	⇑*i*P	**Pn**	**22 21 05.1**	**+0.6**
ANTU				*i* S	**Sn**	**22 21 29.0**	**-0.1**
ANTU				IAML		22 21 33.4	
	comp=N,2μm,0.5s						
CLCH	**Cerro Calan**	**2.10**	**49**	*e*P	**Pn**	**22 21 08.2**	**+1.2**
CLCH				*e*S	**Sn**	**22 21 34.3**	**+0.8**
CLCH				IAML		22 21 39.0	
	comp=N,2μm,0.7s						
PEL	**Peldehue**	**2.19**	**41**	IAML		22 21 40.7	
	comp=N,2μm,0.7s						
CFAA	**Coronel Fontan**	**4.74**	**49**	Pn	Pn	22 21 39.3	-3.9
	comp=N,0.1nm,0.3s,baz=210,slow=13,SNR=1.9						
CFAA				Lg	Lg	22 22 50.9	
	comp=N,0.5nm,0.3s,baz=303,slow=11,SNR=4.1						
CFAA				LR	LR	22 23 45.3	
	comp=N,20nm,18.9s,baz=238,slow=44						
PLCA	**Paso Flores**	**6.10**	**167**	Pn	**Pn**	**22 22 02.7**	**+0.8**
	comp=N,1.0nm,0.3s,baz=340,slow=12,SNR=22						
PLCA				Lg	Lg	22 23 39.8	
	comp=N,0.5nm,0.3s,baz=261,slow=19,SNR=3.0						
PLCA				LR	LR	22 24 27.8	
	comp=N,135nm,20.8s,baz=201,slow=38						
NNA	**Nana**	**23.07**	**349**	LR	LR	22 32 48.3	
	comp=N,34nm,19.4s,baz=184,slow=32						
BDFB	**Brasilia**	**29.05**	**55**	LR	LR	22 39 20.6	
	comp=N,95nm,18.4s,baz=215,slow=39						
TXAR	**Lajitas Array**	**70.28**	**331**	P	**P**	**22 31 45.0**	**-0.6**
	comp=N,0.3nm,0.5s,baz=155,slow=8.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**84.78**	**70**	P	P	22 33 05.4	-1.4
	comp=N,0.6nm,1.2s,baz=224,slow=4.3,SNR=2.5						
BVAR	**Borovoye Array**	**148.08**	**44**	PKPbc	**PKPdf**	**22 40 15.9**	**+1.8**
	comp=N,0.5nm,0.7s,baz=309,slow=3.0,SNR=3.9						

*ISCJB **16** 22:22:40.1±1.0, 19°.84S±0°.10×69°.0W±0°.2, h104km, mb3.9/5, Error ellipse: s-maj=21.8km s-min=12.8km az=14.7*
*IDC **16** 22:22:45.6±2.8, 19°.59S×68°.80W, h134km±23km, mb3.6/5, mb1 3.8/7, mb1mx3.3/37, mbtmp4.0/7, Error ellipse: s-maj=31.6km s-min=20.0km az=64.0*

ISC 16 22:22:41.9±0.9, 19°.8S±0°.1×68°.9W±0°.2, h104km, n11, σ1°29/12, mb3.8/5, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.60**	**12**	P	**Pn**	**22 23 38.7**	**+2.3**
	3.9nm,0.3s,baz=190,slow=8.1,SNR=73						
LPAZ				S	**Sn**	**22 24 18.0**	**-0.4**
	0.1nm,0.3s,baz=308,slow=18,SNR=2.1						
SIV	**San Ignacio**	**8.36**	**64**	P	**Pn**	**22 24 40.8**	**+0.4**
	4.0nm,0.3s,baz=264,slow=12,SNR=46						
TXAR	**Lajitas Array**	**59.29**	**325**	P	**P**	**22 32 32.2**	**-0.8**
	0.2nm,0.4s,baz=140,slow=7.1,SNR=2.8						
QSPA	**South Pole Qui**	**70.35**	**180**	P	**P**	**22 33 46.1**	**+1.8**
	0.8nm,0.5s,baz=326,slow=1.2,SNR=9.5						
ULM	**Lac du Bonnet**	**73.74**	**342**	P	**P**	**22 34 02.6**	**-1.9**
	0.8nm,0.3s,baz=146,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**76.78**	**71**	P	**P**	**22 34 22.1**	**-0.6**
	0.8nm,0.6s,baz=252,slow=5.3,SNR=13						
YKA	**Yellowknife Ar**	**89.63**	**341**	P	**P**	**22 35 27.2**	**-0.3**
	2.5nm,0.7s,baz=133,slow=4.7,SNR=55						
YKA				pP	**pP**	**22 35 55.4**	**+0.5**
	0.5nm,0.8s,baz=132,slow=4.5,SNR=3.1						
ASAR	**Alice Springs**	**131.39**	**208**	PKP	**PKPdf**	**22 41 41.8**	**-1.1**
	0.3nm,0.5s,baz=150,slow=1.9,SNR=5.5						
WRA	**Warramunga Arr**	**134.39**	**211**	PKP	**PKPdf**	**22 41 48.7**	**+0.1**
	0.4nm,0.5s,baz=147,slow=1.6,SNR=12						
MKAR	**Makanchi Array**	**144.26**	**35**	PKP	PKPbc	22 42 04.2	0.0
	0.4nm,0.8s,baz=342,slow=1.9,SNR=4.4						
SONM	**Songino Array**	**151.81**	**7**	PKPbc	**PKPbc**	**22 42 24.9**	**+0.2**
	1.2nm,0.4s,baz=298,slow=1.1,SNR=20						

IDC 16 22:37:34.0±10.0, 2°.65N×124°.52E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/35, mbtmp3.6/3, Error ellipse: s-maj=288.8km s-min=172.5km az=69.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.43**	**157**	P	P	22 42 53.6	-0.9
	0.6nm,0.5s,baz=336,slow=9.7,SNR=15						
ASAR	**Alice Springs**	**27.70**	**161**	P	P	22 43 23.8	-0.3
	0.3nm,0.5s,baz=344,slow=7.5,SNR=4.2						
STKA	**Stephens Creek**	**37.97**	**156**	P	P	22 44 54.8	+1.1
	1.1nm,0.5s,baz=324,slow=8.7,SNR=5.2						

*ISCJB **16** 22:38:32.4±1.2, 34°.74S±0°.10×72°.6W±0°.2, h10km, mb3.6/3, MS3.0/2, Error ellipse: s-maj=29.3km s-min=14.0km az=5.2*
*IDC **16** 22:38:32.5±1.7, 34°.73S×72°.52W, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.6/35, mbtmp3.8/5, ML4.0/2, MS2.8/4, Ms1 2.8/4, ms1mx2.7/20, Error ellipse: s-maj=43.3km s-min=29.4km az=92.0*

ISC 16 22:38:34.6±1.2, 34°.7S±0°.1×72°.4W±0°.2, h10km, n7, σ1°09/7, mb3.7/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.67**	**50**	Pn	**Pn**	**22 39 46.5**	**+1.3**
	0.2nm,0.3s,baz=213,slow=17,SNR=6.4						
CFAA				Sn	**Sb**	**22 40 52.0**	**-1.0**
	0.3nm,0.3s,baz=308,slow=15,SNR=4.5						
CFAA				LR	LR	22 41 42.3	
	comp=Z,12nm,18.5s,baz=228,slow=40						
PLCA	**Paso Flores**	**6.21**	**167**	Pn	**Pn**	**22 40 06.5**	**+0.2**
	1.6nm,0.3s,baz=345,slow=11,SNR=11						
PLCA				Lg	Lg	22 41 42.3	
	0.7nm,0.3s,baz=58,slow=18,SNR=2.6						
PLCA				LR	LR	22 42 51.5	
	comp=Z,114nm,20.4s,baz=303,slow=42						
LPAZ	**La Paz**	**18.73**	**13**	P	**Pn**	**22 42 55.5**	**+0.9**
	0.1nm,0.3s,baz=196,slow=13,SNR=7.7						
SIV	**San Ignacio**	**21.23**	**32**	P	**P**	**22 43 20.5**	**-0.3**
	3.2nm,0.7s,baz=203,slow=8.1,SNR=7.3						
SIV				LR	LR	22 52 58.9	
	comp=Z,48nm,19.8s,baz=244,slow=41						
ATAH	**Atahualpa**	**27.97**	**347**	LR	LR	22 52 32.8	
	comp=Z,42nm,20.3s,baz=323,slow=30						
TXAR	**Lajitas Array**	**70.19**	**331**	P	**P**	**22 49 47.1**	**-0.5**
	0.4nm,0.6s,baz=148,slow=8.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**84.75**	**70**	P	**P**	**22 51 08.4**	**-0.9**
	0.3nm,0.7s,baz=224,slow=4.0,SNR=4.5						

*NDI **16** 22:44:50.4±1.4, 31°.71N×78°.06E, h10km, ML3.1*

ISC 16 22:44:54.5±2.9, 31°.4N±0°.2×78°.1E±0°.1, h8km, n17, σ0°78/21, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**1.09**	**184**	*ex*	**Sg**	**22 45 29.3**	**-0.2**
NDI	**New Delhi**	**2.84**	**197**	*e*P	**Pn**	**22 45 39.0**	**-1.1**
NDI				*e*S	**Sn**	**22 46 15.0**	**+0.6**
SONA	**Sohna**	**3.28**	**197**	*e*P	**Pn**	**22 45 46.6**	**+0.5**
SONA				*e*S	**Sn**	**22 46 25.5**	**+0.1**
SONA				AML	AML	22 46 31.8	
	comp=N,27nm,0.2s						
SONA				AML	AML	22 46 38.1	
	comp=E,46nm,0.6s						
KUDL	**Kundal**	**3.56**	**204**	*e*P	**Pn**	**22 45 49.0**	**-1.0**
KUDL				*e*S	**Sn**	**22 46 32.2**	**0.0**
KUDL				AML	AML	22 46 43.1	
	comp=E,30nm,0.3s						
KUDL				AML	AML	22 46 43.5	
	comp=N,27nm,0.5s						
KHET	**Khetri**	**3.90**	**212**	*e*P	**Pn**	**22 45 53.7**	**-1.0**
KHET				*e*S	**Sn**	**22 46 40.4**	**-0.3**
KHET				AML	AML	22 46 48.4	
	comp=E,106nm,0.0s						
KHET				AML	AML	22 46 48.5	
	comp=N,126nm,0.3s						
AGRA	**Agra**	**4.17**	**182**	*e*S	**Sn**	**22 46 47.3**	**0.0**
AGRA				AML	AML	22 47 06.0	
	comp=N,67nm,0.7s						
AGRA				AML	AML	22 47 10.6	
	comp=E,63nm,0.3s						
DANN	**Dangsing**	**5.75**	**121**	*e*P	**Pn**	**22 46 20.9**	**+0.5**
	comp=E,8.0nm,0.3s						
KOLN	**Koldanda**	**5.98**	**126**	*e*P	**Pn**	**22 46 24.7**	**+1.2**
GKN	**Gorkha**	**6.59**	**119**	*e*P	**Pn**	**22 46 32.7**	**+0.9**
	comp=E,5.2nm,0.3s						
DMN	**Daman**	**7.15**	**120**	*e*P	**Pn**	**22 46 40.5**	**+0.9**
	comp=E,8.3nm,0.3s						
KKN	**Kakani**	**7.18**	**118**	*e*P	**Pn**	**22 46 40.4**	**+0.4**
	comp=E,8.8nm,0.5s						
PKIN	**Phulchoki**	**7.38**	**119**	*e*P	**Pn**	**22 46 43.3**	**+0.5**
	comp=E,11nm,0.3s						
PKI	**Pulchoki**	**7.40**	**119**	*e*P	**Pn**	**22 46 43.3**	**+0.2**
	comp=E,9.0nm,0.3s						
JIRN	**Jiri**	**7.94**	**116**	*e*P	**Pn**	**22 46 50.1**	**-0.5**
	comp=E,10.0nm,0.3s						
RAMN	**Ramite**	**8.62**	**119**	*e*P	**Pn**	**22 46 58.5**	**-1.3**
ODAN	**Odare**	**9.27**	**117**	*e*P	**Pn**	**22 47 07.8**	**-0.9**
TAPN	**Taplejung**	**9.27**	**113**	*e*P	**Pn**	**22 47 07.9**	**-0.9**
	comp=E,4.6nm,0.4s						

*BYKL **16** 22:49:08.3±1.0, 58°.15N×121°.39E*
*YARS **16** 22:49:08.4±0.4, 58°.14N±0°.03×121°.39E±0°.03, h10km, MSV3.2*
*IDC **16** 22:49:09.4±1.9, 58°.25N×121°.21E, h0km, mb3.3/5, mb1 3.5/7, mb1mx3.3/33, mbtmp3.4/7, ML3.0/2, Error ellipse: s-maj=59.5km s-min=19.1km az=155.0*

ISC 16 22:49:09.6±1.6, 58°.08N±0°.05×121°.40E±0°.03, h7km±11km, n19, σ1°72/36, mb3.2/4, 3C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**1.39**	**214**	⇑*i*Pg	**Pg**	**22 49 36.7**	**+0.4**
KHNR				*e*Sg	**Sb**	**22 49 53.7**	**-0.2**
YKLR	**Yuktali**	**1.50**	**175**	⇑*i*Pg	**Pg**	**22 49 38.9**	**+0.6**
YKLR				*e*		22 49 53.3	
YKLR				*e*Sg	**Sn**	**22 49 56.0**	**-0.7**
CRS	**Chara**	**2.06**	**236**	*e*Pg	**Pb**	**22 49 46.4**	**-1.0**
CRS				*e*Sg	**Sn**	**22 50 11.5**	**+0.8**
CRS				Pmax			
	35nm,0.3s						
CRS				Smax			
	336nm,0.3s						
ALDR	**Aldan**	**2.18**	**74**	*e*Pg	**Pb**	**22 49 48.4**	**-1.0**
ALDR				*e*Sg	**Sn**	**22 50 14.3**	**+0.8**
CLNS	**Chul'man**	**2.26**	**122**	⇓*i*Pg	**Pb**	**22 49 49.9**	**-0.9**
CLNS				*e*Sg	**Sn**	**22 50 16.7**	**+1.2**
TNDR	**Tynda**	**3.46**	**147**	*e*Sg	**Sb**	**22 50 56.7**	**+3.2**
NLYR	**Nelyaty**	**3.48**	**245**	*e*Pn	**Pn**	**22 50 05.4**	**+1.2**
NLYR				*e*Pg	**Pb**	**22 50 10.7**	**-0.8**
NLYR				*e*Sn	**Sn**	**22 50 43.8**	**-1.8**
NLYR				*e*Sg	**Sb**	**22 50 55.1**	**+1.2**
NLYR				Pmax			
	72nm,0.5s						
NLYR				Smax			
	407nm,1.4s						
TUP	**Tupik**	**3.75**	**193**	⇑*i*Pn	**Pn**	**22 50 08.1**	**+0.2**
TUP				*e*Pg	**Pb**	**22 50 17.1**	**+0.9**
TUP				*e*Sn	**Sn**	**22 50 50.0**	**-2.3**
TUP				*e*Sg	**Sg**	**22 51 07.0**	**-3.0**
TUP				Pmax			
	50nm,0.4s						
TUP				Smax			
	98nm,0.7s						
BOD	**Bodaibo**	**3.95**	**269**	*e*Pn	**Pn**	**22 50 11.3**	**+0.7**
BOD				*e*Pg	**Pb**	**22 50 19.1**	**-0.4**
BOD				*e*Sg	**Sb**	**22 51 08.4**	**+0.9**
BOD				Pmax			
	22nm,0.2s						
BOD				Smax			
	122nm,0.3s						
SVKR	**Severomuysk**	**4.71**	**249**	*e*Pn	**Pn**	**22 50 22.6**	**+1.5**
SVKR				*e*Pg	**Pb**	**22 50 34.0**	**+1.5**
SVKR				*e*Sn	**Sn**	**22 51 13.2**	**-2.7**
SVKR				*e*Sg	**Sb**	**22 51 33.5**	**+4.2**
SVKR				Pmax			
	23nm,0.3s						
SVKR				Smax			
	160nm,0.7s						
NIZ	**Nizh Angarsk**	**6.89**	**255**	*e*Pn	**Pn**	**22 50 53.5**	**+2.5**
NIZ				*e*		22 50 56.9	
NIZ				*e*Sn	**Sn**	**22 52 06.2**	**-3.3**
NIZ				*e*Sg	Sg	22 52 42.8	-7.8
NIZ				max			
	8.0nm,0.4s						
NIZ				Smax			
	40nm,0.8s						
KPC	**Khapcheranga**	**9.93**	**216**	*e*Pn	**Pn**	**22 51 32.4**	**-0.3**
KPC				*e*Sg	Sn	22 54 16.6	+52
KPC				Smax			
	12nm,0.9s						
SONM	**Songino Array**	**13.64**	**228**	Pn	**Pn**	**22 52 25.4**	**+1.9**
	0.0nm,0.3s,baz=24,slow=11,SNR=3.7						
SONM				Lg	Lg	22 56 19.3	
	0.2nm,0.3s,baz=39,slow=29,SNR=8.1						
SEY	**Seymchan**	**15.90**	**59**	Pn	**Pn**	**22 52 52.1**	**-1.5**
	0.1nm,0.3s,baz=319,slow=20,SNR=3.2						
ZALV	**Zalesovo Beam**	**20.69**	**274**	P	**P**	**22 53 50.5**	**+0.6**
	0.5nm,0.5s,baz=76,slow=12,SNR=5.2						
MKAR	**Makanchi Array**	**26.00**	**261**	P	**P**	**22 54 42.2**	**-0.7**
	0.4nm,0.8s,baz=43,slow=10,SNR=3.3						
ILAR	**Eielson Array**	**40.66**	**41**	P	**P**	**22 56 50.3**	**+0.5**
	0.6nm,1.1s,baz=285,slow=4.6,SNR=4.0						
FINES	**FINESS Array B**	**44.01**	**316**	P	**P**	**22 57 16.4**	**-0.7**
	0.5nm,0.5s,baz=51,slow=9.0,SNR=4.5						
YKA	**Yellowknife Ar**	**52.23**	**29**	P	**P**	**22 58 20.1**	**-0.5**
	0.1nm,0.5s,baz=330,slow=7.0,SNR=3.5						

GUC 16 23:08:32.1±0.5, 35°.09S×72°.22W, h23km±3km, ML3.9, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.57**	**123**	*e*P	Pb	23 08 43.2	-0.3
TALC				*i* S	Sb	23 08 51.1	-0.1
NICH	**Los Niches**	**0.82**	**84**	*e*P	Pb	23 08 46.9	-0.8
NICH				*i* S	Sb	23 08 58.6	+0.2
LNCH	**Linares**	**0.91**	**146**	⇑*i*P	Pb	23 08 48.6	-0.7
LNCH				*i* S	Sb	23 09 00.9	-0.1
COCH	**Cobquecura**	**1.14**	**204**	*i* P	Pn	23 08 51.6	-1.0
COCH				*i* S	Sb	23 09 07.1	-0.3
RCDM	**Rinconada Maip**	**1.98**	**37**	*i* P	Pn	23 09 05.0	+0.7
RCDM				*i* S	Sb	23 09 30.5	-1.3
ANTU	**Antumapu**	**2.01**	**41**	*i* P	Pn	23 09 06.1	+1.4
ANTU				*i* S	Sb	23 09 31.6	-1.0
ANTU				IAML		23 09 35.8	
	comp=E,1μm,0.4s						
CLCH	**Cerro Calan**	**2.19**	**40**	*i* P	Pn	23 09 08.4	+1.2
CLCH				*i* S	Sb	23 09 36.2	-1.8
CLCH				IAML		23 09 52.2	
	comp=E,986nm,0.8s						
PEL	**Peldehue**	**2.32**	**34**	*i* P	Pn	23 09 10.5	+1.5
PEL				*i* S	Sn	23 09 39.2	+2.2
PEL				IAML		23 09 52.4	
	comp=E,935nm,0.6s						

MAN 16 23:12:52, 11°.07N×124°.66E, h8km, mb4.3, ML3.1, MS2.9, 4D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.33**	**73**	⇓*e*P	Pg	23 12 59.3	+0.8
LLP	**Lapu-Lapu**	**1.01**	**223**	⇓*e*P	Pb	23 13 12.1	+0.3
LLP				*e*S	Sb	23 13 25.6	+0.3
TBP	**Tagbilaran**	**1.58**	**210**	⇓*e*P	Pn	23 13 20.2	-0.1
TBP				*e*S	Sg	23 13 44.1	+1.3
RCP	**Roxas**	**1.94**	**285**	⇓*e*P	Pb	23 13 26.6	-1.1
RCP				*e*S	Sn	23 13 50.9	+0.9

*ISCJB **16** 23:19:43.5±0.6, 13°.08N±0°.06×143°.9E±0°.1, h138km, mb3.8/18, Error ellipse: s-maj=16.9km s-min=9.1km az=179.8*
*IDC **16** 23:19:43.4±3.3, 13°.08N×143°.90E, h122km±28km, mb3.6/18, mb1 3.8/18, mb1mx3.7/38, mbtmp4.0/18, Error ellipse: s-maj=22.8km s-min=12.0km az=87.0*

ISC 16 23:19:45.1±0.7, 13°.09N±0°.09×143°.9E±0°.1, h138km, n31, σ0°59/33, mb3.9/18, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**23.21**	**331**	P	**P**	**23 24 39.4**	**-0.6**
	5.7nm,0.8s,baz=203,slow=7.7,SNR=3.1						
MJAR	**Matsushiro Arr**	**23.90**	**349**	P	**P**	**23 24 45.9**	**-0.3**
	1.3nm,0.5s,baz=165,slow=8.0,SNR=4.4						
LUWI	**Luwuk**	**25.23**	**238**	P	**P**	**23 24 59.5**	**+1.1**
	baz=20,SNR=3.8						
KSRS	**Korea Array**	**28.15**	**332**	P	**P**	**23 25 24.7**	**+0.4**
	1.1nm,0.4s,baz=142,slow=10,SNR=5.3						
WSI	**Waingapu**	**32.57**	**227**	P	P	23 26 11.4	+7.9
	baz=26,SNR=3.3						
WRA	**Warramunga Arr**	**34.15**	**196**	P	**P**	**23 26 17.1**	**-0.2**
	6.6nm,0.7s,baz=17,slow=9.3,SNR=103						
WRA				PcP	**PcP**	**23 28 52.3**	**+0.9**
	0.5nm,0.6s,baz=3.8,slow=3.5,SNR=4.0						
WRA				ScP	**ScP**	**23 32 24.3**	**+0.6**
	0.4nm,0.9s,baz=17,slow=3.7,SNR=4.6						
ASAR	**Alice Springs**	**37.82**	**195**	P	**P**	**23 26 48.5**	**0.0**
	1.7nm,0.6s,baz=21,slow=12,SNR=43						
WRKA	**Warakurna**	**40.84**	**202**	P	**P**	**23 27 13.6**	**+0.1**
	baz=34,SNR=12						
CMAR	**Chiang Mai Arr**	**43.51**	**283**	P	**P**	**23 27 34.5**	**-0.8**
	1.0nm,0.4s,baz=76,slow=7.5,SNR=3.8						
STKA	**Stephens Creek**	**44.77**	**183**	P	**P**	**23 27 43.2**	**-1.8**
	0.7nm,0.3s,baz=9.9,slow=9.1,SNR=7.4						
STKA	**Stephens Creek**	**44.77**	**183**	P	**P**	**23 27 44.5**	**-0.6**
	baz=38,SNR=6.0						
PSI	**Prapat**	**45.63**	**261**	P	**P**	**23 27 52.1**	**-0.1**
	4.4nm,0.8s,baz=61,slow=12,SNR=3.9						
BBOO	**Buckleboo**	**46.26**	**189**	P	**P**	**23 27 56.5**	**-0.2**
	baz=40,SNR=5.9						
MEEK	**Meekatharra**	**46.52**	**212**	P	**P**	**23 27 58.9**	**0.0**
	baz=40,SNR=3.7						
SONM	**Songino Array**	**46.60**	**326**	P	**P**	**23 27 59.5**	**0.0**
	0.4nm,0.5s,baz=143,slow=7.0,SNR=5.9						
SONM				PcP	**PcP**	**23 29 31.8**	**+0.6**
	0.2nm,0.8s,baz=145,slow=3.5,SNR=2.4						
MORW	**Morawa**	**49.81**	**212**	P	**P**	**23 28 24.3**	**+0.1**
	baz=43,SNR=4.1						
TAPN	**Taplejung**	**54.19**	**294**	*e*P	**P**	**23 28 57.2**	**+0.1**
RAMN	**Ramite**	**55.16**	**294**	*e*P	**P**	**23 29 04.8**	**+0.8**
	2.7nm,0.5s						
JIRN	**Jiri**	**55.56**	**295**	*e*P	**P**	**23 29 07.0**	**0.0**
	3.5nm,0.3s						
GUN	**Gumba**	**55.84**	**295**	*e*P	**P**	**23 29 09.1**	**+0.1**
	6.4nm,0.4s						
DANN	**Dangsing**	**57.73**	**295**	*e*P	**P**	**23 29 22.1**	**-0.2**
	5.9nm,0.5s						
MKAR	**Makanchi Array**	**61.20**	**316**	P	**P**	**23 29 45.9**	**+0.6**
	0.6nm,0.4s,baz=45,slow=6.3,SNR=16						
ZALV	**Zalesovo Beam**	**61.48**	**325**	P	**P**	**23 29 46.7**	**-0.4**
	0.4nm,0.5s,baz=92,slow=8.8,SNR=2.8						
KURBB	**Kurchatov Arra**	**64.40**	**320**	P	**P**	**23 30 06.3**	**-0.1**
	0.8nm,0.2s,baz=105,slow=6.5,SNR=6.6						
ILAR	**Eielson Array**	**69.42**	**25**	P	**P**	**23 30 38.0**	**+0.1**
	0.3nm,0.5s,baz=270,slow=5.3,SNR=3.5						
GEYT	**Alibeck**	**78.79**	**306**	P	**P**	**23 31 32.6**	**-0.3**
	1.5nm,0.7s,baz=108,slow=5.3,SNR=4.7						
YKA	**Yellowknife Ar**	**83.73**	**27**	P	**P**	**23 31 58.3**	**-0.2**
	0.1nm,0.5s,baz=286,slow=5.1,SNR=2.8						
ARCES	**ARCESS Array B**	**87.26**	**342**	P	**P**	**23 32 16.0**	**+0.1**
	4.0nm,1.1s,baz=58,slow=5.0,SNR=3.1						
NVAR	**Mina Array Bea**	**87.96**	**51**	P	**P**	**23 32 20.5**	**+0.4**
	0.5nm,0.7s,baz=272,slow=3.3,SNR=4.2						
FINES	**FINESS Array B**	**91.21**	**335**	P	**P**	**23 32 33.4**	**-1.0**
	0.9nm,0.7s,baz=72,slow=4.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**134.36**	**303**	PKP	**PKPdf**	**23 38 48.2**	**+0.4**
	0.3nm,0.7s,baz=48,slow=2.5,SNR=6.2						

MEX 16 23:23:14.5±0.4, 18°.05N×98°.35W, h55km±4km, MD3.7, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMTT	**Tlapaneco**	**0.32**	**219**	*i* P	Pn	23 23 22.8	-1.6
HMTT				*i* S	Sn	23 23 29.6	-1.9
TLIG	**Tlapa**	**0.52**	**203**	*i* P	Pn	23 23 24.8	-1.7
TLIG				*i* S	Sn	23 23 33.5	-1.7
TPIG	**Tehuac#an**	**1.01**	**68**	*e*P	Pn	23 23 31.3	-1.5
TPIG				*e*S	Sn	23 23 44.4	-1.8
YAIG	**Yautepec**	**1.06**	**320**	*e*P	Pn	23 23 32.0	-1.4
YAIG				*i* S	Sn	23 23 45.0	-2.4
PLIG	**Platanillo**	**1.15**	**288**	*e*P	Pn	23 23 33.1	-1.4
PLIG				*i* S	Sn	23 23 47.5	-1.8
PNIG	**Pinotepa**	**1.66**	**173**	*e*P	Pn	23 23 39.9	-1.4
PNIG				*e*S	Sn	23 23 59.7	-1.8
VHO	**Vista Hermosa**	**1.82**	**122**	*e*P	Pn	23 23 43.1	-0.7
VHO				*i* S	Sn	23 24 04.4	-1.5
ARIG	**Puente Sto Nin**	**1.91**	**277**	*i* P	Pn	23 23 43.7	-1.1
ARIG				*i* S	Sn	23 24 05.3	-2.5
CAIG	**El Cayaco**	**2.08**	**242**	*e*P	Pn	23 23 44.3	-2.7
CAIG				*e*S	Sn	23 24 10.0	-1.8

MAN 16 23:33:08, 11°.15N×124°.66E, h4km, mb4.1, ML2.9, MS2.7, 2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**1.07**	**219**	⇓*e*P	Pg	23 33 28.6	-0.1
LLP				*e*S	Sg	23 33 41.7	-1.0
TBP	**Tagbilaran**	**1.65**	**208**	*e*P	Pn	23 33 37.6	-0.2
TBP				*e*S	Sb	23 34 00.4	+0.2
RCP	**Roxas**	**1.92**	**282**	⇓*e*P	Pn	23 33 42.0	+0.5

*IDC **17** 00:05:16.5±2.8, 40°.55N×125°.24W, h0km, mb3.2/2, mb1 3.5/5, mb1mx3.3/29, mbtmp3.2/5, ML2.8/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/15, Error ellipse: s-maj=29.5km s-min=19.1km az=66.0*
*NEIC **17** 00:05:17.1, 40°.45N×125°.20W, h0km, MW3.7(BRK), After NCEDC.*

ISC 17 00:05:15.9±1.9, 40°.43N±0°.04×125°.23W±0°.07, h4km±9km, n49, σ1°49/60, 8C-7D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRM	**Mail Ridge**	**1.18**	**100**	*e*Pn	**Pb**	**00 05 39.9**	**+0.9**
KMRM				*e*Sn	**Sg**	**00 05 54.7**	**+0.8**
KHMM	**Horse Mountain**	**1.23**	**68**	*e*Pn	**Pg**	**

I04A				⇑S		Sn	00 07 02.2	-2.3
	baz=3.9								
K05A	**Summer Lake**	**3.98**	**53**	*e*Pn		**Pn**	**00 06 20.1**	**+2.3**
MOD	**Modoc Plateau**	**4.00**	**67**	*e*Pn		**Pn**	**00 06 18.9**	**+0.8**
MOD				*e*Sn		**Sn**	**00 07 05.2**	**-0.3**
J05D	**Fort Rock, OR**	**4.13**	**45**	⇓P		**Pn**	**00 06 22.0**	**+2.2**
	baz=4.0,SNR=63								
CMB	**Columbia Colle**	**4.46**	**121**	*e*Pn		**Pn**	**00 06 25.6**	**+1.3**
CMB				*e*Sn		**Sn**	**00 07 17.2**	**+0.6**
PINOR	**Pine Mountain**	**4.68**	**42**	*e*Pn		**Pn**	**00 06 30.3**	**+3.0**
H04A	**Detroit Lake**	**4.81**	**27**	*e*Pn		**Pn**	**00 06 31.0**	**+1.9**
H04A				*e*Sn		**Sn**	**00 07 24.8**	**-0.5**
I05D	**Terrebonne, OR**	**4.86**	**35**	⇓P		**Pn**	**00 06 31.6**	**+1.8**
	baz=4.8,SNR=5.4								
WAKR	**Walker**	**4.88**	**111**	*e*Pn		Pn	00 06 34.6	+4.3
WAKR				*e*Sn		Sn	00 07 18.5	-8.9
WVOR	**Wild Horse Val**	**5.35**	**66**	*e*Pn		Pn	00 06 33.7	-2.9
I07A	**Izee**	**5.60**	**47**	*e*Pn		**Pn**	**00 06 43.1**	**+3.1**
NVAR	**Mina Array Bea**	**5.72**	**108**	Pn		**Pn**	**00 06 43.5**	**+1.6**
	0.5nm,0.3s,baz=282,slow=15,SNR=9.3								
NVAR				Sn		**Sn**	**00 07 51.1**	**+3.0**
	0.1nm,0.3s,baz=298,slow=21,SNR=2.8								
G08A	**Pilot Rock**	**6.70**	**41**	*e*Pn		Pn	00 06 59.0	+3.9
LON	**Longmire**	**6.79**	**20**	*e*Pn		**Pn**	**00 06 56.2**	**-0.1**
NLWA	**Neilton Lookou**	**7.03**	**8**	*e*Pn		Pn	00 06 49.4	-10
ISA	**Isabella, Lake**	**7.15**	**130**	*e*Pn		**Pn**	**00 07 03.0**	**+1.7**
	1.9nm,0.4s								
HAWA	**Hanford**	**7.26**	**33**	*e*Pn		Pn	00 06 59.6	-3.1
DAC	**Darwin (Calif)**	**7.29**	**122**	*e*Pn		Pn	00 06 55.3	-8.0
BMO	**Blue Mountains**	**7.33**	**50**	*e*Pn		**Pn**	**00 07 06.9**	**+3.2**
MFID	**Camas Ranch**	**7.62**	**64**	*e*Pn		Pn	00 07 11.7	+3.9
HLID	**Hailey**	**8.64**	**65**	*e*Pn		Pn	00 07 25.8	+3.9
MSO	**Missoula**	**10.38**	**48**	*e*Pn		Pn	00 07 49.6	+4.0
BSMT	**Bassoo Peak**	**10.55**	**42**	*e*Pn		**Pn**	**00 07 49.4**	**+1.5**
	2.6nm,0.8s								
SLMT	**Seeley Lake**	**10.87**	**47**	*e*Pn		**Pn**	**00 07 51.9**	**-0.4**
PDAR	**Pinedale Array**	**11.97**	**74**	Pn		Pn	00 08 12.9	+5.5
	0.0nm,0.3s,baz=254,slow=8.4,SNR=3.2								
ULM	**Lac du Bonnet**	**22.72**	**55**	P		**P**	**00 10 18.8**	**+0.2**
	2.8nm,0.8s,baz=260,slow=7.7,SNR=5.8								
YKA	**Yellowknife Ar**	**23.00**	**13**	P		**P**	**00 10 22.4**	**+1.0**
	0.3nm,0.7s,baz=199,slow=9.6,SNR=3.7								

CSEM ***17*** *00:11:23.3,39.˚46N×20.˚64E, h5km, MD3.0*

ATH 17 00:11:23.3,39.˚46N×20.˚64E, h5km±2km, MD3.0/18,
Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.25**	**287**	*e*PG	Pg	00 11 27.7	-0.5
IGT				*e*SG	Sg	00 11 32.8	+1.3
IGT	**Igoumenitsa**	**0.25**	**287**	*e*Pg	Pg	00 11 27.7	-0.5
IGT				*e*Sg	Sg	00 11 32.8	+1.3
JAN	**Janina**	**0.26**	**40**	*e*PG	Pg	00 11 27.9	-0.5
JAN				*e*SG	Sg	00 11 33.2	+1.4
JAN	**Janina**	**0.26**	**40**	*e*Pg	Pg	00 11 27.9	-0.5
JAN				*e*Sg	Sg	00 11 33.2	+1.4
DSL	**Palaion Diasel**	**0.48**	**132**	*e*PB	Pg	00 11 32.0	-0.6
DSL	**Palaion Diasel**	**0.48**	**132**	*e*Pb	Pg	00 11 32.0	-0.6
LKD2	**Lefkada island**	**0.67**	**179**	*e*PG	Pg	00 11 35.8	-0.4
LKD2				*e*SB	Sb	00 11 46.6	-0.6
LKD2	**Lefkada island**	**0.67**	**179**	*e*Pg	Pg	00 11 35.8	-0.4
LKD2				*e*Sb	Sb	00 11 46.6	-0.6
KEK	**Kerkira**	**0.70**	**292**	*e*PB	Pg	00 11 37.0	+0.3
KEK				*e*SB	Sb	00 11 47.0	-0.9
KEK	**Kerkira**	**0.70**	**292**	*e*Pb	Pg	00 11 37.0	+0.3
KEK				*e*Sb	Sb	00 11 47.0	-0.9
PDO	**Prodromos**	**0.96**	**154**	*e*PG	Pg	00 11 41.4	-0.3
PDO	**Prodromos**	**0.96**	**154**	*e*Pg	Pg	00 11 41.4	-0.3
NEST	**Nestorio**	**1.00**	**18**	*e*PG	Pg	00 11 41.8	-0.9
NEST	**Nestorio**	**1.00**	**18**	*e*Pg	Pg	00 11 41.8	-0.9
EVR	**Evrytania**	**1.06**	**120**	*e*PG	Pg	00 11 43.1	-0.7
EVR	**Evrytania**	**1.06**	**120**	*e*Pg	Pg	00 11 43.1	-0.7
THL	**Klokotos Trika**	**1.07**	**84**	*e*PB	Pg	00 11 44.0	+0.2
THL	**Klokotos Trika**	**1.07**	**84**	*e*Pb	Pg	00 11 44.0	+0.2
KZN	**Kozani**	**1.21**	**45**	*e*PB	Pg	00 11 46.8	+0.1
KZN	**Kozani**	**1.21**	**45**	*e*Pb	Pg	00 11 46.8	+0.1
MAKR	**Makrakomi, Fth**	**1.24**	**111**	*e*PB	Pb	00 11 47.3	0.0
MAKR	**Makrakomi, Fth**	**1.24**	**111**	*e*Pb	Pb	00 11 47.3	0.0
AGG	**Agios Georgios**	**1.38**	**108**	*e*PG	Pn	00 11 49.0	-0.3
AGG				*e*SB	Sn	00 12 09.2	+1.2
AGG	**Agios Georgios**	**1.38**	**108**	*e*Pg	Pn	00 11 49.0	-0.3
AGG				*e*Sb	Sn	00 12 09.2	+1.2
EFP	**Efpalio**	**1.43**	**136**	*e*PB	Pg	00 11 50.9	+0.2
EFP	**Efpalio**	**1.43**	**136**	*e*Pb	Pg	00 11 50.9	+0.2
FNA	**Florina**	**1.44**	**23**	*e*PB	Pg	00 11 51.6	+0.6
FNA	**Florina**	**1.44**	**23**	*e*Pb	Pg	00 11 51.6	+0.6
RLS	**Riolos of Patr**	**1.54**	**155**	*e*PB	Pg	00 11 52.9	0.0
RLS	**Riolos of Patr**	**1.54**	**155**	*e*Pb	Pg	00 11 52.9	0.0
KALE	**Kalithea**	**1.58**	**132**	*e*PB	Pb	00 11 53.3	+0.1
KALE	**Kalithea**	**1.58**	**132**	*e*Pb	Pb	00 11 53.3	+0.1
DRO	**Drossia**	**1.72**	**151**	*e*PN	Pg	00 11 56.6	+0.2
DRO	**Drossia**	**1.72**	**151**	*e*Pn	Pg	00 11 56.6	+0.2
DSF	**Desfina**	**1.81**	**125**	*e*PN	Pg	00 11 58.1	+0.1
DSF	**Desfina**	**1.81**	**125**	*e*Pn	Pg	00 11 58.1	+0.1
KLV	**Kalavryta, Ach**	**1.84**	**140**	*e*PN	Pb	00 11 58.1	+0.5
KLV	**Kalavryta, Ach**	**1.84**	**140**	*e*Pn	Pb	00 11 58.1	+0.5
NEO	**Neokhori**	**2.01**	**94**	*e*PN	Pb	00 12 01.1	+0.7
NEO	**Neokhori**	**2.01**	**94**	*e*Pn	Pb	00 12 01.1	+0.7
GRG	**Griva**	**2.01**	**41**	*e*PG	Pb	00 12 00.5	0.0
GRG	**Griva**	**2.01**	**41**	*e*Pg	Pb	00 12 00.5	0.0
GUR	**Goura**	**2.02**	**138**	*e*PG	Pb	00 12 01.2	+0.5
GUR	**Goura**	**2.02**	**138**	*e*Pg	Pb	00 12 01.2	+0.5

IDC ***17*** *00:12:45.2±2.1, 6.˚14S×152.˚85E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, Error ellipse: s-maj=86.1km s-min=27.3km az=121.0*
ISCJB ***17*** *00:12:48.9±2.2, 6.˚1S±0.˚3×152.˚8E±0.˚5, h33km, mb3.4/5, Error ellipse: s-maj=81.5km s-min=22.1km az=28.8*

ISC 17 00:12:50.3±2.1, 6.˚2S±0.˚3×152.˚8E±0.˚5, h33km, n6, σ0°24/6, mb3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.57**	**231**	P	**P**	**00 17 47.8**	**-0.2**
	0.3nm,0.5s,baz=56,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**25.17**	**224**	P	**P**	**00 18 13.0**	**+0.1**
	0.6nm,0.5s,baz=57,slow=9.2,SNR=3.7						
SONM	**Songino Array**	**67.49**	**328**	P	**P**	**00 23 43.2**	**0.0**
	0.7nm,1.0s,baz=128,slow=3.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**82.30**	**326**	P	**P**	**00 25 08.5**	**0.0**
	0.4nm,0.6s,baz=130,slow=4.5,SNR=2.6						
ILAR	**Eielson Array**	**83.42**	**22**	P	**P**	**00 25 13.9**	**-0.2**
	0.2nm,0.6s,baz=251,slow=5.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**150.72**	**286**	PKPbc	**PKPbc**	**00 32 40.5**	**+0.3**
	1.1nm,0.7s,baz=80,slow=2.0,SNR=6.7						

SOF ***17*** *00:12:59.7, 43.˚24N×25.˚98E, h8km, MD2.8*
BEO ***17*** *00:13:00.1±0.8, 43.˚31N×26.˚02E, h0km±4km, ML2.9/1*
SKO ***17*** *00:13:00.2, 43.˚33N×26.˚03E, h0km, M2.6, ML3.2*
CSEM ***17*** *00:13:02.1±0.1, 43.˚26N×25.˚86E, h5km, ML2.7, Error ellipse: s-maj=3.9km s-min=3.4km az=92.0*
THE ***17*** *00:13:08.4, 42.˚81N×26.˚14E, h12km±20km, ML2.7/3, Error ellipse: s-maj=27.9km s-min=1.8km az=32.0*
ATH ***17*** *00:13:26.0, 41.˚43N×24.˚99E, h32km±1km, MD3.5/7*

ISC 17 00:13:00.1±1.0, 43.˚21N±0.˚01×25.˚99E±0.˚01, h5km±8km, n194, σ1°29/234, 37C-18D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZH	**Strazhica**	**0.07**	**322**	*i* Pg	**Pg**	**00 13 01.4**	**-0.3**
SZH	**Strazhica**	**0.07**	**322**	*i* Pg	**Pg**	**00 13 01.4**	**-0.3**
PVL	**Pavlikeni**	**0.48**	**271**	*i* Pg	**Pn**	**00 13 12.7**	**-1.0**
PVL	**Pavlikeni**	**0.48**	**271**	*i* Pg	**Pn**	**00 13 12.7**	**-1.0**
ZIMR		**0.64**	**314**	⇓*i*P	**Pb**	**00 13 13.9**	**+0.2**
ZIMR				S	**Sb**	**00 13 23.0**	**0.0**
ROIA	**ROIAK**	**1.02**	**96**	*i* Pg	**Pb**	**00 13 20.6**	**+0.3**
PRD	**Provadia**	**1.03**	**90**	*i* P	**Pg**	**00 13 19.8**	**0.0**
PRD	**Provadia**	**1.03**	**90**	*i* P	**Pg**	**00 13 19.8**	**0.0**
BUC1	**Bucharest**	**1.14**	**1**	⇑*i*P	**Pn**	**00 13 25.2**	**+2.5**
BUC1	**Bucharest**	**1.14**	**1**	S	**Sn**	**00 13 38.7**	**0.0**
BUC1	**Bucharest**	**1.14**	**1**	⇑*i*P	**Pn**	**00 13 25.2**	**+2.5**
BUC1				S	**Sn**	**00 13 38.7**	**0.0**
DIM	**Dimitrovgrad**	**1.21**	**196**	*i* Pg	**Pg**	**00 13 24.5**	**+1.2**
DIM	**Dimitrovgrad**	**1.21**	**196**	*i* Pg	**Pg**	**00 13 24.5**	**+1.2**
CIOR	**Ciorogarla**	**1.24**	**356**	S	**Sn**	**00 13 41.8**	**+0.6**
CIOR	**Ciorogarla**	**1.24**	**356**	S	**Sn**	**00 13 41.8**	**+0.6**
PLD	**Plovdiv**	**1.46**	**221**	*i* Pg	**Pb**	**00 13 27.7**	**0.0**
PLD	**Plovdiv**	**1.46**	**221**	*i* Pg	**Pg**	**00 13 28.3**	**+0.3**
PLD	**Plovdiv**	**1.46**	**221**	*i* Pg	**Pg**	**00 13 28.3**	**+0.3**
EDRB	**Edirne**	**1.47**	**158**	P	**Pb**	**00 13 27.8**	**-0.2**
EDRB				S	**Sn**	**00 13 44.1**	**-2.9**
EDRB	**Edirne**	**1.47**	**158**	*e*PG	**Pb**	**00 13 27.9**	**-0.1**
EDRB	**Edirne**	**1.47**	**158**	*e*Pg	**Pb**	**00 13 27.9**	**-0.1**
SULR		**1.48**	**7**	⇑*i*P	**Pb**	**00 13 28.2**	**+0.1**
SULR		**1.48**	**7**	S	**Sg**	**00 13 49.6**	**+2.0**
SULR		**1.48**	**7**	⇑*i*P	**Pb**	**00 13 28.2**	**+0.1**
SULR				S	**Sg**	**00 13 49.6**	**+2.0**
PGB	**Panagyurishte**	**1.50**	**244**	*i* Pg	**Pg**	**00 13 29.8**	**+1.0**
PGB	**Panagyurishte**	**1.50**	**244**	*i* Pg	**Pg**	**00 13 29.8**	**+1.0**
HUMR	**Humele**	**1.50**	**331**	⇓*i*P	**Pg**	**00 13 29.0**	**+0.1**
HUMR	**Humele**	**1.50**	**331**	S	**Sg**	**00 13 50.2**	**+1.7**
HUMR	**Humele**	**1.50**	**331**	⇓*i*P	**Pg**	**00 13 29.0**	**+0.1**
HUMR				S	**Sg**	**00 13 50.2**	**+1.7**
MSAB	**Monastry St. A**	**1.59**	**56**	⇓*i*P	**Pn**	**00 13 29.5**	**+0.5**
MSAB	**Monastry St. A**	**1.59**	**56**	S	**Sn**	**00 13 49.1**	**-0.9**
MSAB	**Monastry St. A**	**1.59**	**56**	⇓*i*P	**Pn**	**00 13 29.5**	**+0.5**
MSAB				S	**Sn**	**00 13 49.1**	**-0.9**
KDZ	**Kurdzhali**	**1.62**	**195**	⇑*i*P	**Pg**	**00 13 31.4**	**+0.3**
KDZ	**Kurdzhali**	**1.62**	**195**	S	**Sg**	**00 13 55.0**	**+2.9**
KDZ	**Kurdzhali**	**1.62**	**195**	⇑*i*P	**Pg**	**00 13 31.4**	**+0.3**
MPEP	**Malo Peshtene**	**1.65**	**276**	*i* Pg	**Pg**	**00 13 32.1**	**+0.4**
PSN	**Preselentsi**	**1.66**	**73**	⇑*i*P	**Pn**	**00 13 29.3**	**-0.7**
PSN	**Preselentsi**	**1.66**	**73**	S	**Sn**	**00 13 51.4**	**-0.3**
PSN	**Preselentsi**	**1.66**	**73**	*i* Pg	**Pn**	**00 13 29.1**	**-0.9**
PSN	**Preselentsi**	**1.66**	**73**	⇑*i*P	**Pn**	**00 13 29.3**	**-0.7**
SECR		**1.82**	**2**	S	**Sb**	**00 13 56.9**	**-0.3**
SECR		**1.82**	**2**	S	**Sb**	**00 13 56.9**	**-0.3**
PGOR	**Pogoanele**	**1.84**	**23**	⇓*i*P	**Pg**	**00 13 35.1**	**-0.3**
PGOR	**Pogoanele**	**1.84**	**23**	S	**Sg**	**00 13 59.5**	**+0.3**
PGOR	**Pogoanele**	**1.84**	**23**	⇓*i*P	**Pg**	**00 13 35.1**	**-0.3**
PGOR				S	**Sg**	**00 13 59.5**	**+0.3**
CVD	**Cernavoda**	**1.84**	**53**	⇓*i*P	**Pb**	**00 13 33.5**	**-0.8**
CVD	**Cernavoda**	**1.84**	**53**	S	**Sb**	**00 13 57.5**	**-0.2**
CVD	**Cernavoda**	**1.84**	**53**	⇓*i*P	**Pb**	**00 13 33.5**	**-0.8**
CVD				S	**Sb**	**00 13 57.5**	**-0.2**
PHSR	**Pinarhisar**	**1.94**	**144**	*e*PN	**Pg**	**00 13 37.6**	**+0.2**
PHSR				*e*SN	**Sn**	**00 13 59.5**	**+0.8**
PHSR	**Pinarhisar**	**1.94**	**144**	*e*Pn	**Pg**	**00 13 37.6**	**+0.2**
PHSR				*e*Sn	**Sn**	**00 13 59.5**	**+0.8**
ISR	**Istrita**	**1.95**	**12**	⇑*i*P	**Pb**	**00 13 36.2**	**+0.1**
ISR	**Istrita**	**1.95**	**12**	S	**Sb**	**00 14 01.4**	**+0.7**
ISR	**Istrita**	**1.95**	**12**	⇑*i*P	**Pb**	**00 13 36.2**	**+0.1**
ISR				S	**Sb**	**00 14 01.4**	**+0.7**
MANR	**Mangalia**	**1.98**	**71**	⇓*i*P	**Pb**	**00 13 36.0**	**-0.7**
MANR	**Mangalia**	**1.98**	**71**	S	**Sb**	**00 14 01.1**	**-0.6**
MANR	**Mangalia**	**1.98**	**71**	⇓*i*P	**Pb**	**00 13 36.0**	**-0.7**
MANR				S	**Sb**	**00 14 01.1**	**-0.6**
HARR	**Harsova**	**2.04**	**43**	⇓*i*P	**Pn**	**00 13 35.7**	**+0.6**
HARR	**Harsova**	**2.04**	**43**	⇓*i*P	**Pn**	**00 13 35.7**	**+0.6**
RDO	**Rodhopi**	**2.09**	**189**	P	**Pn**	**00 13 36.9**	**+1.1**
RDO				S	**Sn**	**00 14 00.2**	**-2.1**
RDO	**Rodhopi**	**2.09**	**189**	*e*PN	**Pn**	**00 13 36.9**	**+1.1**
RDO	**Rodhopi**	**2.09**	**189**	P	**Pn**	**00 13 36.9**	**+1.1**
VTS	**Vitosha**	**2.14**	**254**	*e*Pn	**Pb**	**00 13 38.3**	**-1.1**
VTS				*e*Sg	**Sg**	**00 14 08.8**	**+0.1**
VTS	**Vitosha**	**2.14**	**254**	⇑*i*P	**Pb**	**00 13 40.2**	**+0.8**
VTS	**Vitosha**	**2.14**	**254**	S	**Sb**	**00 14 07.4**	**+1.1**
VTS	**Vitosha**	**2.14**	**254**	*i* Pg	**Pb**	**00 13 40.1**	**+0.7**
VTS	**Vitosha**	**2.14**	**254**	*e*Pn	**Pb**	**00 13 38.3**	**-1.1**
VTS	**Vitosha**	**2.14**	**254**	⇑*i*P	**Pb**	**00 13 40.2**	**+0.8**
VTS				S	**Sb**	**00 14 07.4**	**+1.1**
VTS				*e*Sg	**Sg**	**00 14 08.8**	**+0.1**
TIRR	**Tirgusor**	**2.15**	**54**	⇑*i*P	**Pn**	**00 13 37.2**	**+0.6**
TIRR	**Tirgusor**	**2.15**	**54**	S	**Sb**	**00 14 05.1**	**-1.4**
TIRR	**Tirgusor**	**2.15**	**54**	⇑*i*P	**Pn**	**00 13 37.2**	**+0.6**
TIRR				S	**Sb**	**00 14 05.1**	**-1.4**
MLR	**Muntele Rosu**	**2.28**	**359**	⇑*i*P	**Pb**	**00 13 41.3**	**-0.5**
MLR	**Muntele Rosu**	**2.28**	**359**	S	**Sb**	**00 14 10.6**	**+0.2**
MLR	**Muntele Rosu**	**2.28**	**359**	⇑*i*P	**Pb**	**00 13 41.3**	**-0.5**
MLR				S	**Sb**	**00 14 10.6**	**+0.2**
ALN	**Alexandroupoli**	**2.31**	**179**	P	**Pn**	**00 13 40.3**	**+1.4**
ALN				S	**Sn**	**00 14 04.4**	**-3.3**
ALN	**Alexandroupoli**	**2.31**	**179**	*e*PN	**Pg**	**00 13 44.6**	**+0.2**
ALN	**Alexandroupoli**	**2.31**	**179**	P	**Pn**	**00 13 40.3**	**+1.4**
ALN	**Alexandroupoli**	**2.31**	**179**	*e*Pn	**Pg**	**00 13 44.6**	**+0.2**
VOIR		**2.33**	**343**	⇑*i*P	**Pb**	**00 13 41.8**	**-0.8**
VOIR		**2.33**	**343**	S	**Sb**	**00 14 12.0**	**+0.3**
VOIR		**2.33**	**343**	⇑*i*P	**Pb**	**00 13 41.8**	**-0.8**
VOIR				S	**Sb**	**00 14 12.0**	**+0.3**
MMB	**Musomiste**	**2.33**	**227**	⇓*i*P	**Pb**	**00 13 42.1**	**-0.6**
MMB	**Musomiste**	**2.33**	**227**	⇓*i*P	**Pb**	**00 13 42.1**	**-0.6**
ARR	**Arges**	**2.37**	**336**	S	**Sb**	**00 14 12.2**	**-0.6**
ARR	**Arges**	**2.37**	**336**	S	**Sb**	**00 14 12.2**	**-0.6**
CTYL	**Yal??k??y-??at**	**2.43**	**135**	*e*PN	**Pb**	**00 13 45.4**	**+1.1**
CTYL	**Yal??k??y-??at**	**2.43**	**135**	*e*Pn	**Pb**	**00 13 45.4**	**+1.1**
NVR	**Nevrokopi**	**2.44**	**221**	P	**Pb**	**00 13 45.0**	**+0.5**
NVR				S	**Sn**	**00 14 12.9**	**+1.9**
NVR	**Nevrokopi**	**2.44**	**221**	*e*PN	**Pn**	**00 13 42.4**	**+1.7**
NVR	**Nevrokopi**	**2.44**	**221**	*e*Pn	**Pn**	**00 13 42.4**	**+1.7**
NVR				S	**Sn**	**00 14 12.9**	**+1.9**
CRLT	**Corlu**	**2.45**	**148**	*e*PN	**Pb**	**00 13 44.6**	**-0.1**
CRLT	**Corlu**	**2.45**	**148**	*e*Pn	**Pb**	**00 13 44.6**	**-0.1**
ZAPS	**Zavoj**	**2.46**	**273**	*e*Pn	**Pn**	**00 13 42.3**	**+1.4**
ZAPS				*e*Sn	**Sn**	**00 14 13.1**	**+1.8**
ZAPS				*e*Sg	**Sg**	**00 14 18.4**	**-0.5**
KAVA	**Kavala**	**2.47**	**207**	*e*PN	**Pn**	**00 13 38.2**	**-2.9**
KAVA	**Kavala**	**2.47**	**207**	*e*Pn	**Pn**	**00 13 38.2**	**-2.9**
ENEZ	**Enez**	**2.48**	**177**	*e*PN	**Pb**	**00 13 43.5**	**-1.6**
ENEZ	**Enez**	**2.48**	**177**	*e*Pn	**Pb**	**00 13 43.5**	**-1.6**
CFR	**Carcaliu**	**2.50**	**37**	⇓*i*P	**Pb**	**00 13 43.9**	**-1.6**
CFR	**Carcaliu**	**2.50**	**37**	S	**Sn**	**00 14 13.8**	**+1.5**
CFR	**Carcaliu**	**2.50**	**37**	⇓*i*P	**Pb**	**00 13 43.9**	**-1.6**
CFR				S	**Sn**	**00 14 13.8**	**+1.5**
TKR	**Tekirdag**	**2.50**	**152**	*e*PN	**Pb**	**00 13 44.8**	**-0.7**
TKR	**Tekirdag**	**2.50**	**152**	*e*Pn	**Pb**	**00 13 44.8**	**-0.7**
KKB	**Krupnik**	**2.54**	**239**	*i* P	**Pn**	**00 13 43.2**	**+1.2**
KKB	**Krupnik**	**2.54**	**239**	*i* P	**Pn**	**00 13 43.2**	**+1.2**
ERIK	**Erikli-Kesan**	**2.57**	**171**	*e*PN	**Pb**	**00 13 45.0**	**-1.7**
ERIK	**Erikli-Kesan**	**2.57**	**171**	*e*Pn	**Pb**	**00 13 45.0**	**-1.7**
SLVT	**Silivri**	**2.58**	**140**	*e*PN	**Pb**	**00 13 46.9**	**+0.1**
SLVT	**Silivri**	**2.58**	**140**	*e*Pn	**Pb**	**00 13 46.9**	**+0.1**
RKY	**Sarkoy-Tekirda**	**2.67**	**160**	*e*PN	**Pb**	**00 13 46.9**	**-1.6**
RKY	**Sarkoy-Tekirda**	**2.67**	**160**	*e*Pn	**Pb**	**00 13 46.9**	**-1.6**
SART	**Tekirdag**	**2.67**	**160**	*i* P	**Pb**	**00 13 46.6**	**-1.9**
SART	**Tekirdag**	**2.67**	**160**	*i* P	**Pb**	**00 13 46.6**	**-1.9**
SART				*i* S	**Sg**	**00 14 26.7**	**+0.8**
PLOR	**Plostina**	**2.68**	**10**	⇑*i*P	**Pn**	**00 13 45.3**	**+1.3**
PLOR	**Plostina**	**2.68**	**10**	⇑*i*P	**Pn**	**00 13 45.3**	**+1.3**
VRI	**Vrincioaia**	**2.71**	**11**	⇑*i*P	**Pn**	**00 13 46.2**	**+1.9**
VRI	**Vrincioaia**	**2.71**	**11**	⇑*i*P	**Pn**	**00 13 46.2**	**+1.9**
CTKS	**Kestanelik-??a**	**2.72**	**136**	*e*PN	**Pb**	**00 13 49.0**	**-0.2**
CTKS	**Kestanelik-??a**	**2.72**	**136**	*e*Pn	**Pb**	**00 13 49.0**	**-0.2**
LOT	**Lotru**	**2.75**	**325**	⇑*i*P	**Pn**	**00 13 46.8**	**+1.8**
LOT	**Lotru**	**2.75**	**325**	⇑*i*P	**Sn**	**00 14 17.8**	**-0.8**
LOT	**Lotru**	**2.75**	**325**	⇑*i*P	**Pn**	**00 13 46.8**	**+1.8**
SRS	**Serrai**	**2.75**	**221**	*e*PB	**Pn**	**00 13 45.8**	**+0.9**
SMTH	**Samothraki Isl**	**2.76**	**187**	*e*PN	**Pn**	**00 13 45.8**	**+0.7**
SMTH	**Samothraki Isl**	**2.76**	**187**	*e*Pn	**Pn**	**00 13 45.8**	**+0.7**
DOPR	**Dopca**	**2.79**	**351**	⇑*i*P	**Pn**	**00 13 46.2**	**+0.7**
DOPR	**Dopca**	**2.79**	**351**	⇑*i*P	**Pn**	**00 13 46.2**	**+0.7**
TLCR		**2.83**	**45**	⇑*i*P	**Pn**	**00 13 46.9**	**+0.9**
TLCR		**2.83**	**45**	S	**Sn**	**00 14 21.6**	**+1.1**
TLCR		**2.83**	**45**	⇑*i*P	**Pn**	**00 13 46.9**	**+0.9**
TLCR				S	**Sn**	**00 14 21.6**	**+1.1**
GELI	**Tayfur-Gelibol**	**2.83**	**173**	*e*PN	**Pb**	**00 13 48.8**	**-2.4**
GELI	**Tayfur-Gelibol**	**2.83**	**173**	*e*Pn	**Pb**	**00 13 48.8**	**-2.4**
MRMT	**Marmara Adasi**	**2.87**	**155**	*e*PN	**Pb**	**00 13 49.8**	**-2.0**
MRMT	**Marmara Adasi**	**2.87**	**155**	*e*Pn	**Pb**	**00 13 49.8**	**-2.0**
LPK	**Lapseki**	**2.90**	**168**	*e*PN	**Pb**	**00 13 49.9**	**-2.3**
LPK	**Lapseki**	**2.90**	**168**	*e*Pn	**Pb**	**00 13 49.9**	**-2.3**
BGKT	**Bogazkoy**	**2.90**	**134**	*e*PN	**Pb**	**00 13 52.2**	**-0.1**
BGKT	**Bogazkoy**	**2.90**	**134**	*e*Pn	**Pb**	**00 13 52.2**	**-0.1**
KRBG	**Karabiga-Canak**	**2.98**	**160**	*e*PN	**Pb**	**00 13 51.5**	**-2.2**
KRBG	**Karabiga-Canak**	**2.98**	**160**	*e*Pn	**Pb**	**00 13 51.5**	**-2.2**
KLYT	**Kilyos**	**2.99**	**130**	*e*PN	**Pb**	**00 13 53.7**	**-0.2**
KLYT	**Kilyos**	**2.99**	**130**	*e*Pn	**Pb**	**00 13 53.7**	**-0.2**
BOLS	**Boljevac**	**3.00**	**283**	*e*PN	**Pn**	**00 13 48.5**	**+0.1**
BOLS	**Boljevac**	**3.00**	**283**	*e*Pn	**Pn**	**00 13 48.5**	**+0.1**
KNT	**Kendrikon**	**3.08**	**229**	*e*PN	**Pb**	**00 13 54.2**	**-1.2**
KNT	**Kendrikon**	**3.08**	**229**	*e*Pn	**Pb**	**00 13 54.2**	**-1.2**
BARS	**Barje**	**3.09**	**264**	*e*Pn	**Pn**	**00 13 50.6**	**+1.0**
BARS				*e*Sg	**Sg**	**00 14 39.5**	**+0.2**
BARS	**Barje**	**3.09**	**264**	*e*Pn	**Pn**	**00 13 50.6**	**+1.0**
BARS				*e*Sg	**Sg**	**00 14 39.5**	**+0.2**
SOH	**Sokhos**	**3.09**	**220**	*e*PN	**Pn**	**00 13 50.6**	**+0.9**
SOH	**Sokhos**	**3.09**	**220**	*e*Pn	**Pn**	**00 13 50.6**	**+0.9**
ISK	**Istanbul-Kandi**	**3.13**	**132**	*e*PN	**Pb**	**00 13 55.5**	**-0.7**
ISK	**Istanbul-Kandi**	**3.13**	**132**	*e*Pn	**Pb**	**00 13 55.6**	**-0.7**
VAY	**Valandovo**	**3.17**	**235**	*e*Pn	**Pn**	**00 13 51.8**	**+1.2**
VAY				*e*Sg	**Sg**	**00 14 43.0**	**+1.3**
VAY	**Valandovo**	**3.

comp=Z,60nm,18.6s,baz=160,slow=33
KSAR Wonju Array Be 81.18 318 P **P 00 34 43.8 -0.2**
GSC Goldstone, Bar 81.57 45 P **P 00 34 45.3 -0.9**
baz=82
HEC Hector,Ludlow 81.59 46 P **P 00 34 45.5 -0.9**
baz=82
WAKR Walker 81.93 41 *e*P **P 00 34 49.4 +1.1**
IRM Iron Mountain 81.96 47 P **P 00 34 48.6 +0.3**
baz=82
TUQ Turquoise Moun 82.22 45 P **P 00 34 49.5 -0.3**
baz=83
LDFC Landfair 82.54 46 *e*P **P 00 34 53.7 +2.3**
18nm,1.1s
NVAR Mina Array Bea 82.57 42 P **P 00 34 50.8 -0.8**
1.1nm,0.6s,baz=220,slow=8.6,SNR=11
NV11 Mina Array Sit 82.66 42 P P 00 34 48.1 -3.9
TPNV Topopah Spring 82.93 44 P **P 00 34 52.8 -0.7**
baz=83
USRK Ussuriysk Ar. 83.35 325 P **P 00 34 54.6 -0.6**
15nm,0.9s,baz=107,slow=2.0,SNR=19
SHPR Sheep Range 83.36 45 *e*P **P 00 34 58.0 +2.3**
NJ2 Nanjing 83.93 309 *e*P **P 00 34 58.3 -0.2**
NJ2 PMZ
10.0nm,0.9s
X16A Lo Mia Camp, P 84.61 48 P **P 00 35 01.1 -1.1**
baz=85
MDJ Mudanjiang 84.90 324 P **P 00 35 02.9 -0.2**
MDJ PMZ
16nm,1.0s
MDJ PMZ
73nm,3.9s
MDJ Mudanjiang 84.90 324 *e*P **P 00 35 03.3 +0.2**
20nm,1.1s
CCUT Cedar City 85.14 45 *e*P **P 00 35 05.2 +0.4**
6.4nm,1.1s
U15A North Rim 85.18 46 P **P 00 35 04.2 -1.0**
baz=86
ARUT Antelope Range 85.22 45 *e*P **P 00 35 04.0 -1.1**
39nm,0.6s
WUAZ Wupatki 85.28 48 P **P 00 35 05.2 -0.2**
baz=86
WUAZ Wupatki 85.28 48 *e*P **P 00 35 05.0 -0.4**
CN2 Changchun 86.64 322 *e*P **P 00 35 11.0 -0.8**
CN2 *es*P **sP 00 35 26.0 +1.1**
CN2 *e*S **SKKSac 00 45 43.8 -0.7**
CN2 PMZ
10.0nm,1.2s
CN2 PMZ
200nm,5.0s
CN2 LN
600nm,18.0s
CN2 LE
500nm,18.0s
CN2 LZ
1μm,19.0s
LTY Liberty 86.96 34 *e*P P 00 35 08.9 -4.5
9.8nm,0.6s
TIA Tai'an 87.41 312 ⇑P **P 00 35 15.4 -0.3**
TIA PMZ
20nm,0.9s
MNTX Cornudas Mount 87.45 54 *e*P **P 00 35 16.4 +0.4**
5.1nm,1.1s
MNTX *ep*P **pP 00 35 26.5 +0.8**
TMUT Trail Mountain 87.52 45 *e*P P 00 35 12.8 -3.8
8.1nm,1.0s
TXAR Lajitas Array 87.54 56 P **P 00 35 15.5 -1.1**
0.4nm,0.8s,baz=200,slow=7.7,SNR=3.8
TXAR LR LR 01 09 32.0
comp=Z,100nm,18.5s,baz=0.0,slow=32
ANMO Albuquerque 88.35 50 *e*P **P 00 35 21.5 +1.0**
14nm,1.7s
ANMO *ep*P **pP 00 35 30.6 +0.5**
W24A Lazy 6 Ranch, 89.22 50 P **P 00 35 23.9 -0.7**
baz=90
S22A 4UR Ranch, Cre 89.56 48 P **P 00 35 25.8 -0.4**
baz=90
ENH Enshi 89.90 303 *e*P **P 00 35 26.9 -0.7**
65nm,1.5s
BJI Beijing 90.10 315 P **P 00 35 29.3 +1.0**
BJI PMZ
13nm,0.9s
BJI LZ
53nm,19.2s
GYA Guiyang 90.33 299 *e*P **P 00 35 31.0 +1.1**
GYA pP **pP 00 35 42.6 +3.1**
GYA PP **PP 00 39 07.4 +2.9**
GYA SKS **SKSac 00 45 56.3 -3.1**
GYA S **S 00 46 20.8 -1.9**
GYA sS **sS 00 46 38.0 -0.7**
GYA SS **SS 00 52 22.6 -0.9**
GYA PMZ
20nm,1.0s
GYA PMZ
120nm,5.8s
GYA LN
560nm,19.3s
GYA LE
490nm,20.9s
GYA LZ
540nm,20.6s
PDAR Pinedale Array 90.50 42 P **P 00 35 29.5 -0.9**
0.2nm,0.4s,baz=235,slow=3.2,SNR=2.5
PDAR LR LR 01 13 09.1
comp=Z,70nm,19.5s,baz=282,slow=34
S24A Houchin Ranch, 90.60 48 P **P 00 35 29.5 -1.6**
baz=91
ILAR Eielson Array 91.74 12 P **P 00 35 33.0 -2.3**
0.6nm,0.8s,baz=215,slow=5.5,SNR=4.6
XAN Xi'an 92.11 307 P **P 00 35 37.9 +0.1**
XAN PMZ
3.0nm,1.0s
Z32A Haskell 92.58 55 P **P 00 35 40.1 +0.1**
baz=93
KMI Kunming 92.91 296 P **P 00 35 43.3 +1.3**
KMI *p*P **pP 00 35 54.0 +2.4**
KMI S **S 00 46 43.1 -3.2**
KMI PMZ
14nm,1.3s
KMI PMZ
78nm,3.1s
KMI LZ
49nm,15.9s
CMAR Chiang Mai Arr 93.30 289 P **P 00 35 45.0 +1.3**
8.4nm,0.8s,baz=133,slow=3.4,SNR=41
CMAR LR LR 01 16 18.0
comp=Z,12nm,19.9s,baz=130,slow=35
CHTO Chiang Mai 93.45 289 *e*P **P 00 35 44.4 0.0**
14nm,0.8s
CHTO *ep*P **pP 00 35 56.8 +2.8**
HHC Hu-ho-hao-te 93.53 314 *e*P **P 00 35 45.5 +1.2**
HHC pP **pP 00 35 56.1 +2.1**
HHC sP **sP 00 36 00.0 +2.5**
HHC PP **PP 00 39 33.0 +3.5**
HHC S **S 00 46 48.5 -2.4**
HHC sS **sS 00 47 06.3 -0.6**
HHC SS **SS 00 53 10.0 +0.9**
HHC PMZ
19nm,1.1s
HHC PMZ
190nm,5.0s
HHC LN
140nm,17.4s
HHC LE
270nm,17.4s
HHC LZ
120nm,18.7s
H24A Dirks Ranch, A 94.62 43 P **P 00 35 47.7 -1.5**
baz=95
LZH Lanzhou 96.74 306 *e*P **P 00 36 00.1 +0.9**
LZH pP **pP 00 36 10.3 +1.4**
LZH sP **sP 00 36 14.4 +2.1**
LZH PMZ
15nm,1.0s
YKA Yellowknife Ar 99.27 24 P **Pdif 00 36 07.7 -1.9**
0.1nm,0.7s,baz=246,slow=4.5,SNR=4.0
SONM Songino Array 100.04 318 P **Pdif 00 36 12.9 -0.8**
0.2nm,0.7s,baz=123,slow=5.3,SNR=2.3
GTA Gaotai 101.01 308 *e*P **Pdif 00 36 21.0 +2.8**
GTA pP pP 00 36 31.6 +3.6
GTA sP 00 36 35.4
GTA PMZ
2.0nm,1.1s
ZALV Zalesovo Beam 114.81 320 PKP PKPdf 00 41 06.1 -2.4
0.5nm,0.6s,baz=45,slow=2.9,SNR=3.7
MKAR Makanchi Array 115.35 312 PKP **PKPdf 00 41 07.1 -2.7**
0.5nm,0.8s,baz=46,slow=4.2,SNR=6.6
KSH Kashi 118.76 303 *e*PKP **PKPdf 00 41 18.3 +1.5**
KSH sPKP 00 41 31.8
KSH PP **PP 00 42 37.8 +2.2**
KSH PKS **PKSdf 00 44 54.4 +0.9**
KSH SKS **SKSdf 00 48 27.9 +1.0**
KSH SKKS **SKKSac 00 49 31.0 -2.5**
KSH SS **SS 00 58 56.3 +3.4**
KSH PPMZ
90nm,4.2s
KSH LN
49nm,4.2s
KSH LE
29nm,4.0s
KSH LZ
130nm,5.2s
KKAR Karatay Array 123.24 307 *e*PKPdf **PKPdf 00 41 23.7 -1.4**
ARCES ARCESS Array B 133.16 350 PKP **PKPdf 00 41 43.8 +0.6**
2.8nm,0.9s,baz=306,slow=4.1,SNR=4.7
FINES FINESS Array B 140.12 344 PKhKP PKPpre 00 41 48.9
0.9nm,0.8s,baz=120,slow=28,SNR=3.0
FINES PKP **PKPdf 00 41 57.0 +0.7**
1.2nm,0.7s,baz=137,slow=3.9,SNR=4.5
NOA NORSAR Array B 143.12 354 PKP PKPbc 00 42 00.3 +1.6
0.4nm,0.8s,baz=1.2,slow=2.3,SNR=3.7
HFS Hagfors 143.74 352 PKhKP PKPpre 00 41 57.6
1.7nm,0.7s,baz=251,slow=2.7,SNR=4.5
SUW Suwalki 147.24 339 *e*PKP **PKPdf 00 42 10.4 +1.4**
SUW Suwalki 147.24 339 *e*PKPab **PKPbc 00 42 11.8 +0.5**
AKASG Malin Array Be 147.43 330 PKPbc **PKPdf 00 42 10.0 +0.6**
4.3nm,0.6s,baz=40,slow=3.7,SNR=11
KIEV Kiev 147.45 330 *e*PKPdf **PKPdf 00 42 10.0 +0.6**
EKA Eskdalemuir Ar 148.70 8 PKPbc **PKPdf 00 42 12.6 +1.3**
1.9nm,0.8s,baz=33,slow=2.3,SNR=5.2
ASF Jabal al Asfar 150.26 292 PKPbc **PKPdf 00 42 17.6 +2.8**
2.5nm,0.8s,baz=37,slow=9.1,SNR=4.4
BRTR Keskin Array B 150.93 309 PKPbc **PKPbc 00 42 19.9 -1.4**
3.5nm,0.8s,baz=95,slow=1.9,SNR=17
KWP Kalwaria Pacla 151.00 335 *e*PKP **PKPbc 00 42 20.2 -0.8**
KWP Kalwaria Pacla 151.00 335 *e*PKPdf **PKPdf 00 42 15.1 -0.1**
MMAI Mount Meron Ar 151.40 294 PKPbc **PKPbc 00 42 22.1 -0.4**
3.5nm,0.8s,baz=91,slow=7.7,SNR=4.0
KOLS Kolonicke sedl 151.73 334 *e*PKP **PKPbc 00 42 22.2 -0.5**
KOLS *e* 00 42 31.1
STHS Stebnicka Huta 151.73 336 *e*PKP **PKPbc 00 42 21.9 -0.8**
KSP Ksiaz 152.05 343 *e*PKP **PKPbc 00 42 22.7 -0.6**
NIE Niedzica 152.07 337 *e*PKP **PKPbc 00 42 23.1 -0.4**
EIL Elat 152.15 288 PKPbc **PKPbc 00 42 22.9 -1.3**
2.7nm,0.7s,baz=0.0,slow=3.0,SNR=2.7
CLL Collm 152.35 348 ⇑*i*PKPbc **PKPbc 00 42 22.9 -1.1**
comp=Z,7.0nm,0.9s
CLL *e*PKiKP **PKiKP 00 42 25.0 +0.8**
comp=Z,8.0nm,0.9s
CLL *e* 00 42 26.0
comp=Z,8.0nm,0.9s
CLL *ep*PKPdf **PKPab 00 42 32.0 -2.0**
CLL Collm 152.35 348 *e*PKPdf **PKPbc 00 42 23.2 -0.8**
OKC Ostrava-Krasne 152.42 340 *e*PKPAB **PKPab 00 42 33.9 -0.5**
UPC Upice 152.43 344 ⇑*e*PKP **PKPbc 00 42 23.3 -0.9**
UPC *e*PKPAB **PKPab 00 42 35.0 +0.6**
DPC Dobruska-Polom 152.49 343 ⇑*e*PKP **PKPbc 00 42 23.7 -0.7**
DPC *e*PKPAB **PKPab 00 42 33.9 -0.8**
DPC Dobruska-Polom 152.49 343 *e*PKPdf **PKPbc 00 42 23.9 -0.5**
DPC *e*PKPab **PKPab 00 42 34.8 +0.1**
BRG Berggiesshubel 152.57 346 *e*PKP **PKPbc 00 42 23.6 -0.9**
comp=Z,6.0nm,0.9s
KRLC Kraliky 152.61 342 *e*PKPAB **PKPab 00 42 34.3 -0.9**
PRU Pruhonice 153.27 345 *e*PKPAB **PKPab 00 42 36.4 -1.5**
VRAC Vranov 153.36 342 PKPab **PKPab 00 42 36.7 -1.6**
comp=Z,1.1nm,0.6s,baz=357,slow=8.3,SNR=4.6
VYHS Vyhne 153.37 338 *e*PKP **PKPbc 00 42 24.7 -1.6**
VYHS *e* 00 42 38.2
PSZ Piszkesteto 153.48 336 *e*PKPab **PKPab 00 42 38.9 -0.1**
KHC Kasperske Hory 154.29 346 *e*PKPAB **PKPab 00 42 41.1 -1.2**
KHC *es*PKP 00 42 53.5
GERES GERESS Array B 154.53 345 PKPbc **PKPbc 00 42 26.9 -2.1**
comp=Z,0.3nm,0.7s,baz=201,slow=7.1,SNR=3.6
CONA Conrad Observa 154.81 341 ⇑*i*pPKPbc **PKPab 00 42 44.6 0.0**
comp=Z,8.6nm,1.3s
OBKA Obir 156.48 342 P PKPdf 00 42 29.0 +5.8
comp=Z,5.1nm,0.7s
TORD Torodi Ar. Bea 168.50 168 PKP **PKPdf 00 42 35.4 -0.5**
comp=Z,1.1nm,1.2s,baz=286,slow=2.3,SNR=3.1
TORD PKPab **PKPab 00 43 46.0 +1.1**
comp=Z,0.3nm,0.6s,baz=181,slow=4.5,SNR=2.2

IDC 17 00:35:51.8±4.8, 14°.65S×167°.22E, h154km±41km, mb3.4/6, mb1 3.6/7, mb1mx3.4/20, mbtmp3.8/7, Error ellipse: s-maj=31.8km s-min=29.1km az=167.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.42**	**186**	P	Pn	00 37 37.8	+0.2
	0.8nm,0.3s,baz=346,slow=22,SNR=8.1						
DZM				S	Sn	00 39 00.7	0.0
	0.4nm,0.3s,baz=135,slow=19,SNR=2.6						
STKA	**Stephens Creek**	**29.01**	**229**	P	P	00 41 38.5	+1.2
	2.2nm,0.6s,baz=73,slow=5.0,SNR=6.2						
STKA				PcP	PcP	00 44 41.9	-0.2
	1.0nm,0.6s,baz=63,slow=4.5,SNR=3.2						
WRA	**Warramunga Arr**	**31.80**	**256**	P	P	00 42 00.9	-1.1
	0.4nm,0.7s,baz=85,slow=8.7,SNR=3.8						
ASAR	**Alice Springs**	**32.66**	**249**	P	P	00 42 09.2	-0.3
	0.7nm,0.6s,baz=76,slow=9.3,SNR=7.0						
VNDA	**Vanda**	**62.94**	**181**	P	P	00 46 01.1	-0.3
	0.7nm,0.6s,baz=353,slow=6.3,SNR=7.1						
ILAR	**Eielson Array**	**86.47**	**18**	P	P	00 48 16.9	+0.1
	0.3nm,0.6s,baz=219,slow=5.3,SNR=4.1						
MKAR	**Makanchi Array**	**97.11**	**316**	P	Pdif	00 49 06.9	+0.3
	0.2nm,0.7s,baz=93,slow=5.8,SNR=3.2						
ARCES	**ARCESS Array B**	**120.16**	**345**	PKP	PKPdf	00 54 23.2	-0.7
	3.2nm,1.0s,baz=82,slow=2.3,SNR=17						
FINES	**FINESS Array B**	**125.63**	**338**	PKP	PKPdf	00 54 34.0	-0.5
	1.6nm,0.9s,baz=3.4,slow=4.7,SNR=3.6						
KEST	**Kesra**	**151.12**	**321**	PKPbc	PKPbc	00 55 27.7	+0.4
	0.9nm,0.6s,baz=63,slow=9.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**165.87**	**266**	PKPab	PKPab	00 56 39.4	-0.4
	0.4nm,0.9s,baz=85,slow=3.0,SNR=3.5						

GUC 17 00:49:14.3±0.7, 36°.17S×73°.49W, h9km±4km, ML4.2, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.57**	**86**	⇑*i*P	Pg	00 49 24.5	-0.8
COCH				*i*S	Sg	00 49 32.6	-0.1
CCSP	**San Pedro de C**	**0.74**	**156**	*e*P	Pg	00 49 27.5	-1.0
CCSP				*i*S	Sg	00 49 38.2	-0.1
CCSP				IAML		00 49 39.6	
	comp=E,23μm,0.4s						
LNCH	**Linares**	**1.56**	**79**	⇑*i*P	Pn	00 49 41.2	-1.1
LNCH				*i*S	Sn	00 50 01.0	-1.7
CLCH	**Cerro Calan**	**3.68**	**42**	IAML		00 51 18.6	
	comp=N,298nm,0.6s						

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*IDC **17** 00:52:16.6±1.2, 37°.22S×72°.49W, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.7/18, mbtmp3.7/6, ML2.9/1, Error ellipse: s-maj=48.5km s-min=26.5km az=110.0*
*ISCJB **17** 00:52:24.6±1.1, 37°.12S±0°.09×72°.3W±0°.2, h69km, mb3.6/5, Error ellipse: s-maj=29.1km s-min=10.0km az=16.6*
ISC 17 00:52:25.9±1.1, 37°.1S±0°.1×72°.4W±0°.2, h69km, n8, σ1s09/9, mb3.6/5, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.88**	**159**	Pn	**Pn**	**00 53 23.1**	**0.0**
	baz=0.0,slow=20,SNR=0.9						
PLCA				Lg	Lg	00 54 21.7	
	1.9nm,0.3s,baz=255,slow=19,SNR=1.8						
CFAA	**Coronel Fontan**	**6.47**	**33**	Pn	**Pn**	**00 53 56.7**	**-1.8**
	0.2nm,0.3s,baz=208,slow=14,SNR=13						
CFAA				Sn	**Sn**	**00 55 12.2**	**+1.3**
	0.1nm,0.3s,baz=108,slow=20,SNR=1.9						
SIV	**San Ignacio**	**23.30**	**28**	P	**P**	**00 57 28.5**	**+0.7**
	1.4nm,0.5s,baz=229,slow=8.8,SNR=3.5						
QSPA	**South Pole Qui**	**53.13**	**180**	P	**P**	**01 01 36.6**	**+0.3**
	1.2nm,0.9s,baz=120,slow=4.8,SNR=4.5						
TXAR	**Lajitas Array**	**72.33**	**332**	P	**P**	**01 03 44.7**	**+0.5**
	0.3nm,0.5s,baz=150,slow=7.3,SNR=3.1						
DBIC	**Dimbokro**	**76.44**	**71**	P	**P**	**01 04 08.6**	**+0.2**
	1.8nm,0.6s,baz=182,slow=6.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**85.52**	**70**	P	**P**	**01 04 56.9**	**+0.3**
	0.2nm,0.5s,baz=228,slow=5.5,SNR=4.3						
WRA	**Warramunga Arr**	**117.91**	**209**	PKP	**PKPdf**	**01 11 03.9**	**-1.1**
	0.1nm,0.3s,baz=166,slow=1.6,SNR=3.0						

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*IDC **17** 00:55:19.7±0.7, 34°.48S×71°.96W, h0km, mb4.1/11, mb1 4.2/13, mb1mx4.1/18, mbtmp4.1/13, ML4.1/2, MS3.8/2, Ms1 3.8/2, ms1mx2.9/25, Error ellipse: s-maj=27.3km s-min=17.1km az=98.0*
*ISCJB **17** 00:55:20.6±1.5, 34°.51S±0°.04×71°.9W±0°.1, h16km±10km, mb4.1/12, MS3.8/2, Error ellipse: s-maj=19.1km s-min=6.0km az=6.6*
*NEIC **17** 00:55:21.0, 34°.51S×71°.85W, h10km, mb4.8/1, ML4.4(GUC), After GUC.*
NEIC Felt [III] at Curico, Paredones, Pichilemu and Talca; [II] at Rancagua.
*GUC **17** 00:55:21.3±0.7, 34°.51S×71°.85W, h10km±4km, ML4.4*
ISC 17 00:55:20.5±1.8, 34°.50S±0°.03×71°.88W±0°.07, h6km±11km, n42, σ1s18/46, mb4.2/12, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.67**	**35**	⇑*i*P	**Pg**	**00 55 33.8**	**+0.5**
NICH	**Los Niches**	**0.73**	**133**	⇑*i*P	**Pg**	**00 55 35.0**	**+0.5**
NICH				*i*S1	**Sb**	**00 55 45.2**	**-0.7**
NICH				AML	AML	00 55 46.0	
	comp=N,42μm,0.4s						
TALC	**Talca**	**0.92**	**167**	⇓*i*P	**Pb**	**00 55 37.4**	**-1.4**
TALC				*i*S1	**Sb**	**00 55 49.8**	**-1.4**
TALC				AML	AML	00 55 50.5	
	comp=E,24μm,0.2s						
CACH	**El Canelo**	**1.12**	**70**	⇑*i*P	**Pb**	**00 55 41.7**	**-0.7**
CACH				*e*S1	**Sb**	**00 55 57.8**	**+0.4**
CHCH	**Chadas Angostu**	**1.16**	**61**	⇓*i*P	**Pb**	**00 55 42.1**	**-0.9**
RCDM	**Rinconada Maip**	**1.35**	**42**	*e*P1	**Pn**	**00 55 44.5**	**-1.3**
LNCH	**Linares**	**1.36**	**171**	⇓*i*P	**Pn**	**00 55 45.0**	**-1.0**
LNCH				*i*S1	**Sb**	**00 56 03.1**	**-0.9**
LNCH				AML	AML	00 56 06.1	
	comp=N,7μm,0.6s						
ANTU	**Antumapu**	**1.39**	**48**	*e*P1	**Pn**	**00 55 46.2**	**-0.3**
ANTU				*i*S1	**Sb**	**00 56 04.2**	**-0.7**
ANTU				AML	AML	00 56 07.3	
	comp=E,9μm,0.4s						
IHA	**Instituto Hidr**	**1.48**	**8**	*e*P1	**Pn**	**00 55 47.5**	**-0.1**
IHA				*i*S1	**Sn**	**00 56 07.0**	**-0.4**
LACH	**Col Las Americ**	**1.53**	**47**	*e*P1	**Pn**	**00 55 47.7**	**-0.7**
LACH				*e*S1	**Sb**	**00 56 08.6**	**-0.4**
CLCH	**Cerro Calan**	**1.57**	**46**	⇑*i*P	**Pn**	**00 55 48.5**	**-0.4**
CLCH				*i*S1	**Sb**	**00 56 09.3**	**-0.8**
CLCH				AML	AML	00 56 17.2	
	comp=E,8μm,0.6s						
PEL	**Peldehue**	**1.68**	**37**	⇓*i*P	**Pn**	**00 55 50.2**	**-0.3**
PEL				*e*S1	**Sn**	**00 56 11.7**	**-0.6**
PEL				AML	AML	00 56 16.1	
	comp=N,11μm,0.5s						
CFAA	**Coronel Fontan**	**4.21**	**48**	Pn	**Pn**	**00 56 27.9**	**+2.7**
	comp=N,0.5nm,0.3s,baz=205,slow=2.0,SNR=8.1						
CFAA				Sn	**Sb**	**00 57 22.2**	**-3.7**
	comp=N,0.8nm,0.3s,baz=13,slow=14,SNR=2.4						
LCO	**Las Campanas**	**5.56**	**11**	*e*Pn	**Pn**	**00 56 43.3**	**-0.8**
	comp=N,8.0nm,0.4s						
LCO				*e*Sn	**Sn**	**00 57 47.4**	**-1.1**
PLCA	**Paso Flores**	**6.31**	**171**	Pn	**Pn**	**00 56 56.0**	**+1.9**
	comp=N,2.0nm,0.3s,baz=335,slow=10,SNR=6.6						
PLCA				Lg	Lg	00 58 32.8	
	comp=N,0.0nm,0.3s,baz=290,slow=18,SNR=2.0						
PLCA	**Paso Flores**	**6.31**	**171**	*e*Pn	**Pn**	**00 56 55.4**	**+1.3**
PLCA				*e*Sn	**Sn**	**00 58 05.5**	**-1.0**
PLCA				Lg	Lg	00 58 32.8	
LPAZ	**La Paz**	**18.45**	**11**	P	**Pn**	**00 59 38.1**	**+0.6**
	comp=N,0.1nm,0.3s,baz=170,slow=11,SNR=2.4						
NNA	**Nana**	**22.86**	**347**	LR	LR	01 07 07.6	
	comp=N,56nm,21.1s,baz=212,slow=31						
BDFB	**Brasilia**	**28.51**	**55**	P	**P**	**01 01 16.5**	**-0.4**
	comp=N,2.8nm,0.7s,baz=204,slow=18,SNR=1.8						
PTGA	**Pitinga**	**35.40**	**21**	P	**P**	**01 02 18.5**	**+1.3**
	comp=N,2.4nm,0.5s,baz=182,slow=11,SNR=6.3						
QSPA	**South Pole Qui**	**55.74**	**180**	P	**P**	**01 04 58.5**	**+0.8**
	comp=N,2.2nm,0.7s,baz=162,slow=2.8,SNR=16						
VNDA	**Vanda**	**63.64**	**191**	P	**P**	**01 05 53.3**	**+1.5**
	comp=N,0.4nm,0.7s,baz=128,slow=5.9,SNR=5.2						
TXAR	**Lajitas Array**	**70.24**	**331**	P	**P**	**01 06 35.2**	**+0.7**
	comp=N,0.7nm,0.6s,baz=165,slow=7.5,SNR=4.2						
WVT	**Waverly**	**71.83**	**346**	*e*P	**P**	**01 06 43.5**	**-0.3**
	comp=N,6.5nm,0.7s						
DBIC	**Dimbokro**	**75.21**	**71**	P	**P**	**01 07 06.5**	**+2.2**
	comp=N,3.6nm,1.1s,baz=198,slow=9.6,SNR=3.2						
BOSA	**Boshof**	**79.72**	**118**	P	**P**	**01 07 29.3**	**-0.3**
	comp=N,4.0nm,1.0s,baz=247,slow=2.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**84.26**	**70**	P	**P**	**01 07 53.1**	**-0.2**
	comp=N,1.0nm,0.7s,baz=270,slow=4.5,SNR=10						
PDAR	**Pinedale Array**	**84.27**	**333**	P	**P**	**01 07 53.0**	**-0.1**
	comp=N,0.6nm,0.7s,baz=141,slow=5.7,SNR=5.1						
NVAR	**Mina Array Bea**	**84.37**	**325**	P	**P**	**01 07 54.1**	**+0.5**
	comp=N,0.4nm,0.6s,baz=153,slow=6.1,SNR=3.1						
RAO	**Raoul Island**	**85.72**	**237**	LR	LR	01 39 06.4	
	comp=N,209nm,18.8s,baz=142,slow=31						
ULM	**Lac du Bonnet**	**87.02**	**345**	P	**P**	**01 08 05.9**	**-0.3**
	comp=N,1.5nm,0.6s,baz=166,slow=6.2,SNR=3.6						
YKA	**Yellowknife Ar**	**102.58**	**341**	P	**Pdif**	**01 09 16.3**	**-0.9**
	comp=N,0.1nm,0.5s,baz=143,slow=4.8,SNR=3.4						
WRA	**Warramunga Arr**	**120.39**	**209**	PKP	**PKPdf**	**01 14 11.8**	**-1.6**
	comp=N,0.2nm,0.4s,baz=155,slow=1.8,SNR=9.4						
H11S2	**WAKE ISLAND Hyd**	**25.89**	**269**	T	T	03 32 39.1	
	baz=120,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hyd**	**25.91**	**269**	T	T	03 32 39.8	
	baz=120,slow=75,SNR=28						
H11S3	**WAKE ISLAND Hyd**	**25.91**	**269**	T	T	03 32 41.3	
	baz=120,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hyd**	**26.32**	**270**	T	T	03 33 16.7	
	baz=123						
H11N1	**WAKE ISLAND Hyd**	**26.33**	**270**	T	T	03 33 15.2	
	baz=123						
H11N2	**WAKE ISLAND Hyd**	**26.34**	**270**	T	T	03 33 14.3	
	baz=123						
KURBB	**Kurchatov Arra**	**153.14**	**44**	PKPbc	**PKPbc**	**01 15 18.2**	**-0.4**
	comp=N,0.5nm,0.6s,baz=300,slow=2.8,SNR=6.4						
KURK	**Kurchatov**	**153.15**	**44**	PKPbc	**PKPbc**	**01 15 18.2**	**-0.5**
ZALV	**Zalesovo Beam**	**154.57**	**33**	PKPbc	**PKPbc**	**01 15 20.2**	**-1.4**
	comp=N,0.5nm,0.6s,baz=5.5,slow=4.5,SNR=2.7						

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*ISCJB **17** 00:57:47.9±0.9, 34°.57N±0°.07×69°.9E±0°.1, h63km, mb3.3/7, Error ellipse: s-maj=13.0km s-min=9.1km az=33.2*
*NNC **17** 00:57:48.4±5.1, 34°.48N×69°.96E, h45km±83km, mb3.9, mpv3.8, Error ellipse: s-maj=47.2km s-min=36.4km az=48.0*
*IDC **17** 00:57:49.3±5.0, 34°.55N×69°.88E, h56km±37km, mb3.2/7, mb1 3.3/13, mb1mx3.2/33, mbtmp3.4/13, ML3.3/5, Error ellipse: s-maj=45.1km s-min=21.2km az=158.0*
ISC 17 00:57:49.6±1.3, 34°.5N±0°.1×69°.9E±0°.1, h63km, n19, σ1s24/23, mb3.4/7, 4C-4D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**4.35**	**349**	⇓Pn	**Pn**	**00 58 53.4**	**0.0**
DZET				⇓Sn	**Sn**	**00 59 43.8**	**+1.0**
KK31	**Karatay Array**	**8.57**	**3**	⇑Pn	**Pn**	**00 59 50.3**	**-0.7**
	0.9nm,0.3s,baz=193,slow=16,SNR=54						
KK31				Sn	**Sn**	**01 01 26.1**	**-0.1**
	0.7nm,0.2s,baz=202,slow=25,SNR=4.6						
AAK	**Ala-Archa**	**8.85**	**23**	⇑Pn	**Pn**	**00 59 55.1**	**+0.2**
	4.2nm,0.8s						
AAK				⇓Sn	**Sn**	**01 01 34.1**	**+1.0**
AAK	**Ala-Archa**	**8.85**	**23**	P	**Pn**	**00 59 54.9**	**+0.1**
	1.0nm,0.3s,baz=181,slow=7.0,SNR=17						
AAK				S	**Sn**	**01 01 33.8**	**+0.7**
	0.3nm,0.3s,baz=108,slow=20,SNR=3.1						
TKM2	**Tokmak 2**	**9.48**	**26**	⇑Pn	**Pn**	**01 00 01.2**	**-2.3**
	4.2nm,0.9s						
GEYT	**Alibeck**	**10.11**	**293**	P	**Pn**	**01 00 11.7**	**-0.3**
	0.1nm,0.3s,baz=121,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**15.41**	**34**	P	**Pn**	**01 01 21.8**	**-1.3**
	0.0nm,0.3s,baz=213,slow=16,SNR=2.3						
AB31	**Akbulak array**	**16.45**	**336**	⇑Pn	**Pn**	**01 01 33.5**	**-2.7**
	2.4nm,0.8s,baz=157,slow=12,SNR=32						
KURBB	**Kurchatov Arra**	**17.27**	**19**	P	**Pn**	**01 01 46.1**	**-0.2**
	baz=211,slow=8.6,SNR=2.8						
AKTO	**Aktyubinsk**	**18.11**	**335**	⇓Pn	**Pn**	**01 01 59.1**	**+2.4**
	4.4nm,1.1s						
AKTO	**Aktyubinsk**	**18.11**	**335**	P	**Pn**	**01 01 57.6**	**+0.9**
	0.2nm,0.3s,baz=138,slow=15,SNR=3.4						
BVAR	**Borovoye Array**	**18.49**	**1**	P	**P**	**01 01 59.8**	**-0.6**
	0.3nm,0.3s,baz=181,slow=12,SNR=3.7						

ZALV Zalesovo Beam 22.07 24 P **P 01 02 37.5 -1.6**
0.4nm,0.3s,baz=223,slow=11,SNR=3.6
SONM Songino Array 30.21 53 P **P 01 03 55.5 +1.3**
0.1nm,0.4s,baz=255,slow=8.7,SNR=2.8
FINES FINESS Array B 38.64 328 P **P 01 05 07.0 +0.5**
0.9nm,0.7s,baz=141,slow=9.0,SNR=3.0
ARCES ARCESS Array B 42.63 339 P **P 01 05 40.4 +1.0**
1.1nm,0.8s,baz=114,slow=8.0,SNR=4.3
NOA NORSAR Array B 45.43 324 P **P 01 06 01.3 -0.7**
0.6nm,0.9s,baz=20,slow=13,SNR=2.9
TORD Torodi Ar. Bea 64.78 269 P **P 01 08 21.9 0.0**
0.4nm,0.9s,baz=57,slow=6.7,SNR=5.4
YKA Yellowknife Ar 83.24 2 P **P 01 10 09.1 +0.3**
0.1nm,0.5s,baz=350,slow=5.2,SNR=4.6

NIED ***17*** *01:09:00,26°.10N×129°.60E,h5km,Mw4.1 Best double couple: M0 1.48000×10^15 NP1:φs236.00000°,δ26.00000°, λ-49.00000°. NP2:φs13.00000°,δ71.00000°, λ-107.00000°.*
JMA ***17*** *01:09:43.6±0.1,26°.12N×129°.57E,h45km,M4.1*
ISCJB ***17*** *01:09:44.7±0.4,26°.18N±0°.04×129°.47E±0°.04,h30km, mb3.9/17,MS3.5/2,Error ellipse: s-maj=5.4km s-min=4.9km az=171.2*
IDC ***17*** *01:09:47.5±0.8,26°.16N×129°.46E,h37km±4km,mb3.7/15, mb1 3.9/16,mb1mx3.8/26,mbtmp3.9/16,ML3.5/1,MS3.5/2, Ms1 3.5/2,ms1mx2.8/29,Error ellipse: s-maj=29.0km s-min=15.1km az=61.0*
ISC 17 01:09:47.0±0.7,26°.20N±0°.06×129°.43E±0°.06,h30km,n48, σ1§22/62,mb4.1/17,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.21**	**302**	P	**Pn**	**01 10 06.8**	**-1.2**
JOW				S	**Sn**	**01 10 22.5**	**-0.9**
JOW	**Kunigami**	**1.21**	**302**	Pn	**Pn**	**01 10 07.0**	**-1.0**
	37nm,0.3s,baz=118,slow=20,SNR=435						
JOW				Sn	**Sn**	**01 10 22.2**	**-1.2**
	67nm,0.3s,baz=143,slow=20,SNR=38						
JOW				LR	LR	01 10 47.5	
	comp=Z,83nm,19.0s,baz=115,slow=48						
JNTH	**Nagotoyohara**	**1.30**	**284**	P	**Pn**	**01 10 07.8**	**-1.4**
JNTH				eS	**Sn**	**01 10 23.8**	**-1.8**
JOKE	**Okinoerabujima**	**1.39**	**327**	P	**Pn**	**01 10 09.5**	**-0.9**
JOKE				S	**Sn**	**01 10 27.1**	**-0.7**
JJT2	**Tamagusuku 2**	**1.51**	**268**	P	**Pn**	**01 10 11.0**	**-1.1**
JJT2				S	**Sn**	**01 10 30.4**	**-0.4**
JIH	**Iheya**	**1.55**	**303**	P	**Pn**	**01 10 11.8**	**-0.8**
JIH				S	**Sn**	**01 10 30.9**	**-0.9**
JTK	**Tokunoshima**	**1.64**	**345**	P	**Pn**	**01 10 12.3**	**-1.5**
JTK				S	**Sn**	**01 10 31.4**	**-2.5**
JMZ	**Minamidaito 2**	**1.65**	**103**	P	Pn	01 10 08.9	-5.1
JMZ				S	Sn	01 10 26.0	-8.3
JAGN	**Aguni-jima**	**2.00**	**282**	P	**Pn**	**01 10 17.9**	**-0.9**
JAGN				S	**Sn**	**01 10 42.1**	**-0.7**
JAMN	**Amaminishikomi**	**2.05**	**354**	P	**Pn**	**01 10 17.9**	**-1.6**
JZK	**Kikaishima**	**2.16**	**13**	S	**Sn**	**01 10 45.3**	**-1.5**
JAM	**Amami Oshima**	**2.21**	**4**	P	**Pn**	**01 10 19.9**	**-1.8**
JKE	**Kume jima 2**	**2.38**	**274**	P	**Pn**	**01 10 22.2**	**-1.8**
JKE				eS	**Sn**	**01 10 50.1**	**-2.0**
JOGS	**Gusukube**	**3.91**	**249**	P	**Pn**	**01 10 43.5**	**-1.5**
JIKM	**Ikemajima**	**3.99**	**252**	P	**Pn**	**01 10 44.4**	**-1.7**
JIRB	**Irabujima**	**4.08**	**251**	P	**Pn**	**01 10 45.2**	**-2.2**
JNU	**Nakatsue**	**7.01**	**10**	Pn	**Pn**	**01 11 26.8**	**-1.0**
	0.8nm,0.3s,baz=229,slow=9.3,SNR=3.3						
SONM	**Songino Array**	**28.17**	**326**	P	**P**	**01 15 37.7**	**+0.8**
	0.6nm,0.8s,baz=139,slow=9.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**29.18**	**261**	LR	LR	01 28 01.8	
	comp=Z,28nm,18.2s,baz=95,slow=38						
ODAN	**Odare**	**37.50**	**281**	*e*Pn	**P**	**01 16 59.0**	**+0.4**
	16nm,0.7s						
RAMN	**Ramite**	**38.18**	**281**	*e*Pn	**P**	**01 17 04.6**	**+0.2**
JIRN	**Jiri**	**38.44**	**282**	*e*Pn	**P**	**01 17 07.4**	**+0.7**
	8.4nm,0.6s						
GUN	**Gumba**	**38.67**	**283**	*e*Pn	**P**	**01 17 09.7**	**+1.1**
	12nm,0.4s						
PKI	**Pulchoki**	**39.13**	**282**	*e*Pn	**P**	**01 17 12.6**	**+0.1**
PKIN	**Phulchoki**	**39.15**	**282**	*e*Pn	**P**	**01 17 13.0**	**+0.5**
KKN	**Kakani**	**39.22**	**283**	*e*Pn	**P**	**01 17 13.7**	**+0.7**
	9.1nm,0.5s						
DMN	**Daman**	**39.40**	**282**	*e*Pn	**P**	**01 17 14.9**	**+0.3**
GKN	**Gorkha**	**39.75**	**283**	*e*Pn	**P**	**01 17 18.1**	**+0.7**
DANN	**Dangsing**	**40.47**	**284**	*e*Pn	**P**	**01 17 24.6**	**+1.1**
	24nm,0.5s						
KOLN	**Koldanda**	**40.69**	**283**	*e*Pn	**P**	**01 17 25.8**	**+0.5**
	9.9nm,0.7s						
MKAR	**Makanchi Array**	**42.36**	**312**	P	**P**	**01 17 38.1**	**-0.3**
	1.3nm,0.6s,baz=79,slow=7.5,SNR=18						
MKAR				PcP	**PcP**	**01 19 30.8**	**-0.7**
	0.4nm,0.7s,baz=18,slow=5.0,SNR=3.1						
ZALV	**Zalesovo Beam**	**42.93**	**322**	P	**P**	**01 17 42.2**	**-0.6**
	1.3nm,0.5s,baz=101,slow=7.7,SNR=7.3						
ZALV				pP	**pP**	**01 17 53.0**	**+1.2**
	0.5nm,0.6s,baz=108,slow=9.5,SNR=3.5						
KURBB	**Kurchatov Arra**	**45.62**	**316**	P	**P**	**01 18 03.8**	**-0.7**
	1.2nm,0.5s,baz=102,slow=8.8,SNR=9.3						
KURBB				pP	**pP**	**01 18 15.3**	**+1.8**
	0.6nm,0.5s,baz=102,slow=8.7,SNR=4.0						
WRA	**Warramunga Arr**	**46.11**	**174**	P	**P**	**01 18 06.7**	**-2.0**
	0.8nm,0.7s,baz=355,slow=8.5,SNR=5.5						
ASAR	**Alice Springs**	**49.76**	**175**	P	**P**	**01 18 35.7**	**-1.2**
	0.5nm,0.4s,baz=1.7,slow=14,SNR=5.6						
STKA	**Stephens Creek**	**58.91**	**168**	P	**P**	**01 19 43.2**	**0.0**
	1.3nm,0.6s,baz=296,slow=5.9,SNR=2.9						
GEYT	**Alibeck**	**60.24**	**300**	P	**P**	**01 19 53.6**	**+1.0**
	2.2nm,0.7s,baz=48,slow=2.2,SNR=7.0						
ILAR	**Eielson Array**	**63.95**	**28**	pP	pP	01 20 27.4	+1.1
	0.5nm,0.7s,baz=251,slow=6.8,SNR=4.1						
KBZ	**Khabaz**	**70.01**	**310**	P	**P**	**01 20 57.1**	**+1.2**
	6.1nm,0.8s,baz=115,slow=4.6,SNR=12						
JOF	**Joensuu**	**70.59**	**331**	*ep*	**P**	**01 20 58.3**	**-0.8**
	2.9nm,0.8s						
KAF	**Kangasniemi**	**73.05**	**331**	*ep*	**P**	**01 21 12.9**	**-1.0**
	1.7nm,0.7s						
FINES	**FINESS Array B**	**73.42**	**331**	P	**P**	**01 21 15.8**	**-0.3**
	1.7nm,0.6s,baz=86,slow=5.8,SNR=10						
FINES				pP	**pP**	**01 21 27.0**	**+1.5**
	1.8nm,0.7s,baz=72,slow=6.2,SNR=4.6						
AKASG	**Malin Array Be**	**76.25**	**320**	P	**P**	**01 21 32.1**	**-0.6**
	1.4nm,0.5s,baz=59,slow=7.2,SNR=3.8						
AKASG				LR	LR	01 58 07.0	
	comp=Z,68nm,18.3s,baz=40,slow=38						
BRTR	**Keskin Array B**	**77.90**	**308**	P	**P**	**01 21 42.4**	**0.0**
	1.8nm,0.8s,baz=85,slow=3.4,SNR=8.5						
BRTR				pP	**PcP**	**01 21 54.5**	**+2.3**
	1.4nm,0.8s,baz=87,slow=6.4,SNR=5.2						
YKA	**Yellowknife Ar**	**78.10**	**25**	P	**P**	**01 21 42.9**	**+0.1**
	0.1nm,0.5s,baz=289,slow=5.8,SNR=2.7						
YKA				pP	**PcP**	**01 21 53.9**	**+1.6**
	0.3nm,0.7s,baz=296,slow=5.0,SNR=5.4						
NB2	**NORSAR Subarra**	**79.81**	**334**	P	**P**	**01 21 51.5**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=50,slow=4.8						
NOA	**NORSAR Array B**	**79.81**	**334**	P	**P**	**01 21 51.5**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=51,slow=5.3,SNR=5.5						
NOA				pP	**pP**	**01 22 03.2**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=51,slow=5.4,SNR=3.6						
GERES	**GERESS Array B**	**85.87**	**323**	P	**P**	**01 22 23.6**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=32,slow=7.8,SNR=4.8						
GERES				pP	**pP**	**01 22 35.2**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=31,slow=3.1,SNR=3.5						

ISCJB ***17*** *01:10:22.2±0.3,51°.47N±0°.02×6°.40E±0°.03,h0km,Error ellipse: s-maj=3.0km s-min=2.2km az=40.5*
BNS ***17*** *01:10:23.7±0.8,51°.56N×6°.58E,h1km,ML2.3*
BUG ***17*** *01:10:23.8,51°.42N×6°.57E,h1km,ML2.3*
CSEM ***17*** *01:10:23.2±0.2,51°.51N×6°.48E,h1km,ML3.1/27,Error ellipse: s-maj=4.1km s-min=3.0km az=143.0*
LDG ***17*** *01:10:24.4±0.1,51°.52N×6°.61E,h1km,Md3.1/3,Ml2.9/28, Error ellipse: s-maj=1.6km s-min=1.3km az=141.0, Suspected Mining induced.*
BGR ***17*** *01:10:25.0±0.6,51°.49N×6°.58E,h1km,ML2.4/6,Error ellipse: s-maj=10.0km s-min=4.4km az=118.0*
ISC 17 01:10:22.7±0.7,51°.48N±0°.02×6°.54E±0°.02,h0km,n130, σ1§19/230,4D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRHE	**Rheinberg**	**0.04**	**27**	Pg	**Pg**	**01 10 25.0**	**+1.5**
BRHE				Sg	**Sg**	**01 10 26.1**	**+2.1**
BRHE	**Rheinberg**	**0.04**	**27**	Pg	**Pg**	**01 10 25.0**	**+1.5**
LAUG	**Laupendahl**	**0.28**	**117**	*e*Pg	**Pb**	**01 10 29.7**	**-0.9**
LAUG				*e*Sg	**Sg**	**01 10 33.9**	**+2.2**
	190nm,0.2s						
LAUG	**Laupendahl**	**0.28**	**117**	Pg	**Pb**	**01 10 29.7**	**-0.9**
LAUG				Sg	**Sg**	**01 10 33.9**	**+2.2**
	190nm,0.2s						
RODG	**Roetgen-Dahlhe**	**0.40**	**214**	*e*Pg	**Pb**	**01 10 33.1**	**+0.5**
RODG				*e*Sg	**Sb**	**01 10 39.8**	**+0.4**
RODG	**Roetgen-Dahlhe**	**0.40**	**214**	Pg	**Pb**	**01 10 33.2**	**+0.5**
RODG				Sg	**Sb**	**01 10 39.8**	**+0.4**
RWB	**Wassenberg**	**0.45**	**213**	*e*Pg	**Pb**	**01 10 33.3**	**-0.1**
RWB				*e*Sg	**Sb**	**01 10 40.5**	**-0.2**
	194nm,0.2s						
RWB	**Wassenberg**	**0.45**	**213**	Pg	**Pb**	**01 10 33.3**	**-0.1**
RWB				Sg	**Sb**	**01 10 40.5**	**-0.2**
	194nm,0.2s						
JCK	**Jackerath**	**0.45**	**189**	*e*Sg	**Sb**	**01 10 40.4**	**-0.3**
	443nm,0.3s						
JCK	**Jackerath**	**0.45**	**189**	Sg	**Sb**	**01 10 40.4**	**-0.3**
	443nm,0.3s						
BUG	**Bochum--Univer**	**0.46**	**95**	*e*Pg	**Pb**	**01 10 33.0**	**-0.6**
BUG				Sg	**Sb**	**01 10 39.7**	**-1.2**
PLH	**Pulheim**	**0.51**	**160**	*e*Pg	**Pb**	**01 10 34.5**	**+0.1**
PLH				*e*Sg	**Sb**	**01 10 42.6**	**+0.3**
	200nm,0.3s						
PLH	**Pulheim**	**0.51**	**160**	Pg	**Pb**	**01 10 34.5**	**+0.1**
PLH				Sg	**Sb**	**01 10 42.6**	**+0.3**
	200nm,0.3s						
WTSB	**Winterswijk**	**0.51**	**18**	*e*Pg	**Pb**	**01 10 34.4**	**-0.2**
	baz=199						
WTSB				*e*Sg	**Sb**	**01 10 41.9**	**-0.7**
BNS	**Bensberg**	**0.65**	**142**	*e*Pg	**Pb**	**01 10 37.4**	**+0.5**
BNS				*e*Sg	**Sb**	**01 10 47.0**	**+0.4**
	188nm,0.9s						
BNS	**Bensberg**	**0.65**	**142**	Pg	**Pb**	**01 10 37.4**	**+0.5**
BNS				Sg	**Sb**	**01 10 47.0**	**+0.4**
	188nm,0.9s						
HOBG	**Hohbusch**	**0.70**	**135**	*e*Pg	**Pb**	**01 10 38.1**	**+0.3**
HOBG				*e*Sg	**Sb**	**01 10 48.3**	**+0.3**
	109nm,0.6s						
HOBG	**Hohbusch**	**0.70**	**135**	Pg	**Pb**	**01 10 38.1**	**+0.3**
HOBG				Sg	**Sb**	**01 10 48.3**	**+0.3**
	109nm,0.6s						
GSH	**Grosshau**	**0.75**	**188**	*e*Pg	**Pb**	**01 10 39.2**	**+0.6**
GSH				*e*Sg	**Sb**	**01 10 50.2**	**+0.8**
	65nm,0.2s						
GSH	**Grosshau**	**0.75**	**188**	Pg	**Pb**	**01 10 39.2**	**+0.6**
GSH				Sg	**Sb**	**01 10 50.2**	**+0.8**
	65nm,0.2s						
HGN	**Heimansgroeve**	**0.81**	**208**	*e*Pg	**Pn**	**01 10 42.0**	**+0.6**
	baz=27						
HGN				*e*Sg	**Sn**	**01 10 54.5**	**+0.4**
HGN	**Heimansgroeve**	**0.81**	**208**	*e*Pg	**Pn**	**01 10 42.0**	**+0.6**
HGN				*e*Sg	**Sn**	**01 10 54.5**	**+0.4**
DREG	**Dreilaegerbach**	**0.84**	**194**	*e*Pg	**Pb**	**01 10 40.8**	**+0.6**
DREG				*e*Sg	**Sn**	**01 10 54.1**	**-0.7**
	121nm,0.3s						
DREG	**Dreilaegerbach**	**0.84**	**194**	Pg	**Pb**	**01 10 40.8**	**+0.6**
KLL	**Kalltalsperre**	**0.85**	**190**	*e*Pg	**Pb**	**01 10 40.9**	**+0.6**
KLL				*e*Sg	**Sn**	**01 10 54.6**	**-0.4**
KLL	**Kalltalsperre**	**0.85**	**190**	Pg	**Pb**	**01 10 40.9**	**+0.6**
BEBN	**Eben Emael**	**0.87**	**219**	⇓P	**Pn**	**01 10 42.3**	**0.0**
BEBN				S	**Sb**	**01 10 53.7**	**+0.7**
	comp=N,88nm,0.3s						
BEBN	**Eben Emael**	**0.87**	**219**	P	**Pn**	**01 10 42.2**	**0.0**
BEBN				S	**Sb**	**01 10 53.6**	**+0.7**
	comp=N,88nm,0.3s						
STB	**Steinbach**	**0.91**	**168**	*e*Pg	**Pb**	**01 10 42.3**	**+1.1**
STB				*e*Sg	**Sn**	**01 10 56.0**	**-0.4**
	comp=N,80nm,0.4s						
STB	**Steinbach**	**0.91**	**168**	Pg	**Pb**	**01 10 42.3**	**+1.1**
STB				Sg	**Sn**	**01 10 56.0**	**-0.4**
	comp=N,80nm,0.4s						
MEM	**Membach**	**0.93**	**201**	⇓P	**Sn**	**01 10 57.0**	**-0.1**
MEM				S	**Sn**	**01 10 57.5**	**+0.4**
	comp=E,94nm,0.3s						
MEM	**Membach**	**0.93**	**201**	S	**Sn**	**01 10 57.5**	**+0.4**
	comp=E,94nm,0.3s						
TDN	**Todenfeld**	**0.94**	**164**	*e*Pg	**Pb**	**01 10 42.7**	**+0.9**
TDN				*e*Sg	**Sb**	**01 10 56.0**	**+1.1**
	comp=E,9.6nm,0.2s						
TDN	**Todenfeld**	**0.94**	**164**	Pg	**Pb**	**01 10 42.7**	**+0.9**
TDN				Sg	**Sb**	**01 10 56.0**	**+1.1**
	comp=E,9.6nm,0.2s						
OLFT	**Oleftalsperre**	**0.99**	**184**	*e*Pg	**Pb**	**01 10 43.6**	**+0.9**
OLFT				*e*Sg	**Sb**	**01 10 57.4**	**+1.1**
OLFT	**Oleftalsperre**	**0.99**	**184**	Pg	**Pb**	**01 10 43.6**	**+0.9**
OLFT				Sg	**Sb**	**01 10 57.4**	**+1.1**
IBBN	**Ibbenburen**	**1.12**	**42**	*e*Pg	**Pn**	**01 10 45.9**	**+0.2**
	SNR=3.1						
IBBN				*e*Sg	**Sb**	**01 11 00.9**	**+0.8**
	SNR=2.5						
IBBN	**Ibbenburen**	**1.12**	**42**	Pg	**Pn**	**01 10 45.8**	**+0.2**
	SNR=3.1						
IBBN				Sg	**Sb**	**01 11 00.9**	**+0.8**
	SNR=2.5						
HILG	**Hillesheim**	**1.19**	**176**	*e*Pg	**Pn**	**01 10 47.1**	**+0.5**
HILG				*e*Sg	**Sn**	**01 11 03.8**	**+0.3**
HILG	**Hillesheim**	**1.19**	**176**	Pg	**Pn**	**01 10 47.1**	**+0.5**
HILG				Sg	**Sn**	**01 11 03.8**	**+0.3**
BHE	**Schloss Buerre**	**1.20**	**160**	*e*Pg	**Pn**	**01 10 47.0**	**+0.3**
BHE				*e*Sg	**Sn**	**01 11 03.7**	**0.0**
BHE	**Schloss Buerre**	**1.20**	**160**	Pg	**Pn**	**01 10 47.0**	**+0.3**
BHE				Sg	**Sn**	**01 11 03.7**	**0.0**
LOH	**Wallersheim-Lo**	**1.30**	**180**	*e*Pg	**Pn**	**01 10 49.1**	**+1.0**
LOH				*e*Sg	**Sn**	**01 11 06.7**	**+0.5**
	comp=E,35nm,0.3s						
LOH	**Wallersheim-Lo**	**1.30**	**180**	Pg	**Pn**	**01 10 49.1**	**+1.0**
LOH				Sg	**Sn**	**01 11 06.7**	**+0.5**
	comp=E,35nm,0.3s						
BCLA	**Clavier**	**1.32**	**217**	⇓P	**Pn**	**01 10 50.0**	**+1.7**
BCLA				S	**Sn**	**01 11 08.0**	**+1.3**
	comp=E,27nm,0.2s						
BCLA	**Clavier**	**1.32**	**217**	P	**Pn**	**01 10 50.0**	**+1.7**
BCLA				S	**Sn**	**01 11 07.9**	**+1.3**
	comp=E,27nm,0.2s						
BGG	**Burgeitz**	**1.37**	**158**	*e*Sg	**Sb**	**01 11 07.9**	**+0.7**
BGG	**Burgeitz**	**1.37**	**158**	Sg	**Sb**	**01 11 07.9**	**+0.7**
TNS	**Taunus Mts**	**1.74**	**135**	*e*Pn	**Pb**	**01 10 56.2**	**+0.6**
	SNR=5.2						
TNS				*e*Pg	**Pg**	**01 10 57.3**	**+1.2**
	SNR=17						
TNS				*e*Sg	**Sg**	**01 11 20.4**	**+1.7**
	SNR=2.1						
TNS	**Taunus Mts**	**1.74**	**135**	Pn	**Pb**	**01 10 56.2**	**+0.6**
	SNR=5.2						
GIVF	**Givet**	**1.76**	**219**	*e*Pn	**Pn**	**01 10 55.0**	**+0.6**
GIVF	**Givet**	**1.76**	**219**	*e*P	**Pg**	**01 10 57.0**	**+0.7**
GIVF				*e*Sn	**Sn**	**01 11 17.6**	**+0.2**
	comp=E,63nm,0.3s						
GIVF	**Givet**	**1.76**	**219**	*e*Pn	**Pn**	**01 10 55.0**	**+0.6**
GIVF	**Givet**	**1.76**	**219**	*e*P	**Pg**	**01 10 57.0**	**+0.7**
GIVF				*e*Sn	**Sn**	**01 11 17.6**	**+0.2**
	comp=E,32nm,0.3s						
WLF	**Walferdange**	**1.83**	**188**	*e*Pg	**Pg**	**01 10 59.1**	**+1.3**
	SNR=6.3						
WLF				*e*Sg	**Sg**	**01 11 22.0**	**+0.5**
	SNR=5.5						
WLF	**Walferdange**	**1.83**	**188**	Pg	**Pg**	**01 10 59.1**	**+1.3**
	SNR=6.3						
WLF				Sg	**Sg**	**01 11 22.0**	**+0.5**
	SNR=5.5						
DOU	**Dourbes**	**1.85**	**222**	⇓P	**Pn**	**01 10 57.0**	**+1.3**
DOU				S	**Sn**	**01 11 20.7**	**+0.8**
	comp=E,20nm,0.3s						
DOU	**Dourbes**	**1.85**	**222**	P	**Pn**	**01 10 57.0**	**+1.3**
DOU				S	**Sn**	**01 11 20.6**	**+0.8**
	comp=E,20nm,0.3s						
BAIF	**Baives**	**2.05**	**227**	*e*Pn	**Pn**	**01 10 58.9**	**+0.5**
BAIF	**Baives**	**2.05**	**227**	*e*Pg	**Pg**	**01 11 03.6**	**+1.6**
BAIF				*e*Sn	**Sn**	**01 11 24.5**	**-0.2**
	comp=E,33nm,0.4s						
BAIF	**Baives**	**2.05**	**227**	*e*Pn	**Pn**	**01 10 58.9**	**+0.5**
BAIF	**Baives**	**2.05**	**227**	*e*Pg	**Pg**	**01 11 03.6**	**+1.6**
BAIF				*e*Sn	**Sn**	**01 11 24.5**	**-0.2**
	comp=E,16nm,0.4s						
CLZ	**Clausthal**	**2.41**	**80**	*e*Pg	**Pg**	**01 11 08.7**	**-0.2**
	SNR=5.8						
CLZ				*e*Sn	**Sn**	**01 11 33.0**	**-0.7**
	SNR=1.0						
CLZ				*e*Sg	**Sb**	**01 11 37.9**	**+0.6**
	SNR=2.6						
CLZ	**Clausthal**	**2.41**	**80**	Pg	**Pg**	**01 11 08.7**	**-0.2**
	SNR=5.8						
CLZ				Sn	**Sn**	**01 11 33.0**	**-0.7**
	SNR=1.0						
PAGF	**Fort de Pagny**	**2.97**	**191**	*e*Pn	**Pn**	**01 11 11.4**	**+0.3**
PAGF	**Fort de Pagny**	**2.97**	**191**	*e*Pg	**Pg**	**01 11 19.9**	**+0.2**
	baz=16						
PAGF				*e*Sg	**Sg**	**01 11 59.8**	**+1.6**
	comp=E,8.1nm,0.7s						
PAGF	**Fort de Pagny**	**2.97**	**191**	*e*Pn	**Pn**	**01 11 11.4**	**+0.3**
PAGF	**Fort de Pagny**	**2.97**	**191**	*e*Pg	**Pg**	**01 11 19.9**	**+0.2**
	baz=16						
PAGF				*e*Sg	**Sg**	**01 11 59.8**	**+1.6**
	comp=E,4.1nm,0.7s						
CDF	**Champ du Feu**	**3.11**	**171**	*e*Pn	**Pn**	**01 11 13.4**	**+0.4**
CDF	**Champ du Feu**	**3.11**	**171**	*e*Pg	**Pg**	**01 11 22.4**	**+0.2**
CDF				*e*Sg	**Sg**	**01 12 03.3**	**+0.9**
	comp=E,9.3nm,0.6s						
CDF	**Champ du Feu**	**3.11**	**171**	*e*Pn	**Pn**	**01 11 13.4**	**+0.4**
CDF	**Champ du Feu**	**3.11**	**171**	*e*Pg	**Pg**	**01 11 22.4**	**+0.2**
CDF				*e*Sg	**Sg**	**01 12 03.3**	**+0.9**
	comp=E,4.7nm,0.6s						
MEZF	**Maizieres J'vi**	**3.13**	**198**	*e*Pn	**Pn**	**01 11 14.1**	**+0.8**
	baz=20						
MEZF				*e*Sg	**Sg**	**01 12 04.7**	**+1.5**
	comp=E,20nm,0.4s						
MEZF	**Maizieres J'vi**	**3.13**	**198**	*e*Pn	**Pn**	**01 11 14.1**	**+0.8**
	baz=20						
MEZF				*e*Sg	**Sg**	**01 12 04.7**	**+1.5**
	comp=E,9.9nm,0.4s						
MOX	**Moxa**	**3.31**	**103**	*e*Pn	**Pn**	**01 11 16.7**	**+1.0**
	SNR=1.2						
MOX	**Moxa**	**3.31**	**103**	Pn	**Pn**	**01 11 16.7**	**+1.0**
	SNR=1.2						
BFO	**Black Forest**	**3.36**	**159**	*e*Pn	**Pn**	**01 11 17.5**	**+1.1**
	SNR=6.0						
BFO	**Black Forest**	**3.36**	**159**	Pn	**Pn**	**01 11 17.5**	**+1.1**
	SNR=6.0						
SFTF	**Sexfontaines**	**3.42**	**197**	*e*Pn	**Pn**	**01 11 17.5**	**+0.3**
SFTF	**Sexfontaines**	**3.42**	**197**	*e*Pg	**Pg**	**01 11 28.0**	**-0.2**
	baz=12						
SFTF				*e*Sg	**Sg**	**01 12 13.7**	**+1.2**
	comp=E,12nm,0.3s						
SFTF	**Sexfontaines**	**3.42**	**197**	*e*Pn	**Pn**	**01 11 17.5**	**+0.3**
SFTF	**Sexfontaines**	**3.42**	**197**	*e*Pg	**Pg**	**01 11 28.0**	**-0.2**
	baz=12						
SFTF				*e*Sg	**Sg**	**01 12 13.7**	**+1.2**
	comp=E,5.9nm,0.3s						
HAU	**Haudompre**	**3.48**	**182**	*e*Pn	**Pn**	**01 11 18.2**	**+0.1**
HAU	**Haudompre**	**3.48**	**182**	*e*Pg	**Pg**	**01 11 29.4**	**+0.1**
HAU				*e*Sg	**Sg**	**01 12 15.1**	**+0.7**
	comp=E,11nm,0.4s						
HAU	**Haudompre**	**3.48**	**182**	*e*Pn	**Pn**	**01 11 18.2**	**+0.1**
HAU	**Haudompre**	**3.48**	**182**	*e*Pg	**Pg**	**01 11 29.4**	**+0.1**
HAU				*e*Sg	**Sg**	**01 12 15.1**	**+0.7**
	comp=E,5.6nm,0.4s						
HINF	**Hinteralfeld**	**3.67**	**177**	*e*Pn	**Pn**	**01 11 20.5**	**-0.2**
HINF	**Hinteralfeld**	**3.67**	**177**	*e*Pg	**Pg**	**01 11 33.1**	**+0.1**
HINF				*e*Sg	**Sg**	**01 12 21.3**	**+0.7**
	comp=E,6.2nm,0.5s						
HINF	**Hinteralfeld**	**3.67**	**177**	*e*Pn	**Pn**	**01 11 20.5**	**-0.2**
HINF	**Hinteralfeld**	**3.67**	**177**	*e*Pg	**Pg**	**01 11 33.1**	**+0.1**
HINF				*e*Sg	**Sg**	**01 12 21.3**	**+0.7**
	comp=E,3.1nm,0.5s						
CLL	**Collm**	**4.05**	**90**	*e*Sg	**Sg**	**01 12 33.0**	**+0.3**
LOR	**Lormes**	**4.56**	**204**	*e*Pn	**Pn**	**01 11 33.4**	**+0.4**
	baz=28						
LOR	**Lormes**	**4.56**	**204**	*e*Pg	**Pg**	**01 11 49.7**	**-0.4**
	baz=29						
LOR				*e*Sn	**Sn**	**01 12 24.5**	**-2.2**
LOR				*e*Sg	**Sg**	**01 12 49.5**	**+0.3**
	comp=E,7.6nm,0.3s						
LOR	**Lormes**	**4.56**	**204**	*e*Pn	**Pn**	**01 11 33.4**	**+0.4**
	baz=28						
LOR	**Lormes**	**4.56**	**204**	*e*Pg	**Pg**	**01 11 49.7**	**-0.4**
	baz=29						
LOR				*e*Sn	**Sn**	**01 12 24.5**	**-2.2**
LOR				*e*Sg	**Sg**	**01 12 49.5**	**+0.3**
	comp=E,3.8nm,0.3s						
BRG	**Berggiesshubel**	**4.70**	**95**	SG	**Sg**	**01 12 48.4**	**-5.1**
	comp=E,10nm,1.4s						
SSF	**Saint Saulge**	**4.85**	**205**	*e*Pn	**Pn**	**01 11 37.1**	**+0.3**
SSF				*

*IDC **17** 01:31:06.4±0.7,36°.18S×73°.39W,h0km,mb4.3/12,*
mb1 4.5/15,mb1mx4.4/24,mbtmp4.3/15,ML3.8/3,MS3.1/3,
Ms1 3.1/3,ms1mx2.9/21,Error ellipse: s-maj=23.5km
s-min=16.5km az=86.0
*GUC **17** 01:31:07.5±0.7,36°.23S×73°.69W,h27km±5km,ML4.5*
*ISCJB **17** 01:31:08.6±1.0,36°.23S±0°.03×73°.57W±0°.06,h28km±6km,*
mb4.6/36,MS3.7/3,Error ellipse: s-maj=8.4km
s-min=5.8km az=5.4
*NEIC **17** 01:31:11.7±0.2,36°.14S×73°.17W,h35km,mb4.8/25,Error*
ellipse: s-maj=10.8km s-min=5.7km az=82.0
NEIC Felt at Chiguayante, Concepcion, Curico, Los Angeles,
Talcahuano and Tome.
*BJI **17** 01:31:11.2,36°.10S×73°.10W,h35km,mB4.9/3,Ms5.3/3,*
Ms7 5.3/3

ISC 17 01:31:10.5±0.8,36°.22S±0°.04×73°.44W±0°.06,h31km±5km,
n93,σ1°.30/112,mb4.8/36,MS3.6/3,3C-2D,Near coast of
central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.53**	**81**	⇑*iP*		**Pb**	**01 31 21.1**	**-0.3**
COCH				*i* S		**Sn**	**01 31 31.1**	**+1.2**
CCSP	**San Pedro de C**	**0.68**	**157**	⇑*iP*		**Pb**	**01 31 21.9**	**-2.0**
CCSP				*i* S		**Sb**	**01 31 31.9**	**-1.2**
CCSP				AML		AML	01 31 34.1	
	comp=E,36μm,0.5s							
LNCH	**Linares**	**1.54**	**77**	*e*P9		**Pn**	**01 31 35.6**	**-0.1**
LNCH				*e*S		**Sb**	**01 31 57.7**	**+0.4**
TALC	**Talca**	**1.68**	**61**	*e*P		**Pb**	**01 31 39.3**	**-1.4**
TALC				*i* S		**Sb**	**01 32 03.0**	**+1.6**
NICH	**Los Niches**	**2.17**	**57**	*e*P1		**Pn**	**01 31 46.2**	**+1.7**
NICH				*i* S		**Sb**	**01 32 14.8**	**-0.8**
CHCH	**Chadas Angostu**	**3.23**	**46**	⇓*iP*		**Pn**	**01 31 59.9**	**+0.9**
CLCH	**Cerro Calan**	**3.69**	**41**	⇑*iP*		**Pn**	**01 32 05.9**	**+0.5**
PEL	**Peldehue**	**3.81**	**37**	⇓*iP*		**Pn**	**01 32 07.4**	**+0.3**
PLCA	**Paso Flores**	**5.05**	**154**	Pn		**Pn**	**01 32 24.6**	**+0.5**
	comp=E,1.3nm,0.3s,baz=328,slow=11,SNR=32							
PLCA				Lg		Lg	01 33 49.4	
	comp=E,3.2nm,0.3s,baz=260,slow=16,SNR=5.5							
PLCA	**Paso Flores**	**5.05**	**154**	*e*Pn		**Pn**	**01 32 25.0**	**+1.0**
PLCA				*e*Sn		**Sn**	**01 33 22.5**	**+1.2**
PLCA				Lg		Lg	01 33 49.4	
CFAA	**Coronel Fontan**	**6.31**	**45**	Pn		**Pn**	**01 32 41.7**	**+0.3**
	comp=E,1.3nm,0.3s,baz=221,slow=12,SNR=60							
CFAA				Lg		Lg	01 34 18.3	
	comp=E,0.1nm,0.3s,baz=107,slow=15,SNR=3.8							
CFAA				LR		LR	01 35 11.3	
	comp=E,30nm,20.1s,baz=225,slow=39							
LCO	**Las Campanas**	**7.55**	**19**	*e*Pn		**Pn**	**01 32 56.5**	**-2.1**
TRQA	**Tornquist**	**9.34**	**105**	*e*Pn		**Pn**	**01 33 24.7**	**+1.8**
LVC	**Limon Verde**	**14.12**	**17**	*e*Pn		**Pn**	**01 34 25.8**	**-2.7**
USHA	**Ushuaia**	**18.94**	**171**	P		**Pn**	**01 35 30.4**	**+0.9**
	comp=E,0.1nm,0.3s,baz=46,slow=20,SNR=3.6							
LPAZ	**La Paz**	**20.40**	**15**	P		**P**	**01 35 46.6**	**+1.1**
	comp=E,10nm,0.7s,baz=191,slow=8.8,SNR=18							
LPAZ	**La Paz**	**20.40**	**15**	*e*P		Pn	01 35 47.0	-0.9
	comp=E,13nm,0.8s							
SIV	**San Ignacio**	**22.96**	**32**	P		**P**	**01 36 12.1**	**-0.2**
	comp=E,11nm,0.8s,baz=226,slow=9.6,SNR=42							
SIV				LR		LR	01 46 58.4	
	comp=E,238nm,19.5s,baz=222,slow=42							
NNA	**Nana**	**24.32**	**352**	P		**P**	**01 36 25.1**	**-0.4**
	comp=E,14nm,0.7s,baz=201,slow=10,SNR=8.4							
NNA				LR		LR	01 43 42.3	
	comp=E,44nm,20.6s,baz=174,slow=31							
NNA	**Nana**	**24.32**	**352**	*e*P		**P**	**01 36 25.6**	**+0.2**
	comp=E,23nm,0.9s							
SAML	**Samuel**	**28.70**	**21**	*e*P		**P**	**01 37 04.6**	**-0.3**
	comp=E,2.5nm,0.8s							
BDFB	**Brasilia**	**30.54**	**54**	P		**P**	**01 37 19.8**	**-1.5**
	comp=E,4.2nm,0.9s,baz=220,slow=11,SNR=5.1							
OTAV	**Otavalo**	**36.57**	**352**	*e*P		**P**	**01 38 14.6**	**+0.5**
	comp=E,3.0nm,0.8s							
PTGA	**Pitinga**	**37.46**	**23**	LR		LR	01 53 44.3	
	comp=E,657nm,21.8s,baz=143,slow=36							
PTGA	**Pitinga**	**37.46**	**23**	*e*P		**P**	**01 38 21.6**	**+0.5**
	comp=E,24nm,1.5s							
SDV	**Santo Domingo**	**44.94**	**4**	*e*P		**P**	**01 39 22.5**	**-0.3**
	comp=E,9.1nm,0.9s							
JTS	**JuntasAbangare**	**47.51**	**345**	*e*P		**P**	**01 39 42.2**	**-0.7**
	comp=E,16nm,1.3s							
VNA3	**Neumayer Olymp**	**47.76**	**157**	P		**P**	**01 39 45.1**	**+0.9**
VNA2	**Neumayer--Watz**	**48.43**	**156**	P		**P**	**01 39 50.2**	**+0.8**
GRGR	**Grenville**	**49.36**	**15**	*e*P		**P**	**01 39 57.4**	**+0.4**
	comp=E,332nm,1.2s							
SNAA	**Sanae**	**49.98**	**157**	P		**P**	**01 40 02.5**	**+1.2**
SNAA	**Sanae**	**49.98**	**157**	*e*P		**P**	**01 40 01.6**	**+0.3**
	comp=E,16nm,1.0s							
OBIP	**Obispado Ponce**	**54.35**	**8**	*e*P		**P**	**01 40 33.1**	**-1.0**
	comp=E,8.1nm,0.6s							
CBYP	**Canovanas**	**54.66**	**9**	*e*P		**P**	**01 40 35.7**	**-0.9**
	comp=E,15nm,0.9s							
GTBY	**Guantanamo Bay**	**55.86**	**358**	*e*P		**P**	**01 40 45.2**	**+0.2**
	comp=E,43nm,1.3s							
ASCN	**Ascension**	**60.51**	**77**	*e*P		**P**	**01 41 17.3**	**-0.5**
VNDA	**Vanda**	**61.71**	**192**	P		**P**	**01 41 26.7**	**+1.6**
	comp=E,0.7nm,0.7s,baz=187,slow=1.4,SNR=4.7							
VNDA	**Vanda**	**61.71**	**192**	*e*P		**P**	**01 41 26.6**	**+1.6**
	comp=E,13nm,1.8s							
TXAR	**Lajitas Array**	**71.13**	**332**	P		**P**	**01 42 27.4**	**+1.4**
	comp=E,2.1nm,0.7s,baz=154,slow=8.6,SNR=19							
ABTX	**Abilene, Hawle**	**72.74**	**337**	*e*P		**P**	**01 42 36.6**	**+1.1**
WVT	**Waverly**	**73.21**	**348**	*e*P		**P**	**01 42 38.4**	**+0.2**
	comp=E,11nm,1.1s							
MNTX	**Cornudas Mount**	**73.90**	**332**	*e*P		**P**	**01 42 42.4**	**+0.1**
	comp=E,1.8nm,0.9s							
SUR	**Sutherland**	**74.77**	**119**	*e*P		**P**	**01 42 48.1**	**+0.2**
	comp=E,73nm,1.7s							
SIUC	**Southern Illin**	**75.00**	**347**	*e*P		**P**	**01 42 48.4**	**-0.2**
LIC	**Lamto**	**76.56**	**72**	*e*P		**P**	**01 42 58.4**	**+0.3**
	comp=E,66nm,1.9s							
ACSO	**Alum Creek Sta**	**76.58**	**353**	*e*P		**P**	**01 42 57.5**	**0.0**
	comp=E,11nm,0.6s							
TIC	**Toumodi**	**76.83**	**72**	*e*P		**P**	**01 43 00.2**	**+0.6**
	comp=E,17nm,1.2s							
KIC	**Kosan Boka**	**76.86**	**72**	*e*P		**P**	**01 43 00.6**	**+0.8**
	comp=E,12nm,0.7s							
DBIC	**Dimbokro**	**76.97**	**72**	P		**P**	**01 43 01.1**	**+0.7**
	comp=E,3.6nm,0.6s,baz=208,slow=5.6,SNR=11							
DBIC	**Dimbokro**	**76.97**	**72**	*e*P		**P**	**01 43 01.0**	**+0.6**
	comp=E,4.6nm,0.6s							
ANMO	**Albuquerque**	**77.20**	**333**	*e*P		**P**	**01 43 03.1**	**+1.7**
	comp=E,2.1nm,1.0s							
BOSA	**Boshof**	**80.05**	**118**	P		**P**	**01 43 17.9**	**+0.4**
	comp=E,4.5nm,0.9s,baz=217,slow=5.9,SNR=5.7							
BOSA	**Boshof**	**80.05**	**118**	*e*P		**P**	**01 43 17.6**	**+0.1**
	comp=E,13nm,1.1s							
LDFC	**Landfair**	**80.86**	**326**	*e*P		**P**	**01 43 23.8**	**+2.5**
SMCO	**Snowmass**	**81.15**	**334**	*e*P		**P**	**01 43 25.8**	**+2.6**
	comp=E,18nm,1.8s							
CCUT	**Cedar City**	**82.19**	**329**	*e*P		**P**	**01 43 31.2**	**+2.7**
ECSD	**EROS Data Cent**	**82.32**	**343**	*e*P		**P**	**01 43 29.2**	**+0.5**
	comp=E,10nm,0.6s							
SRU	**San Rafael Swe**	**82.39**	**332**	*e*P		**P**	**01 43 31.3**	**+1.8**
	comp=E,3.1nm,0.8s							
LBTB	**Lobatse**	**82.41**	**115**	*e*P		**P**	**01 43 30.0**	**0.0**
	comp=E,12nm,1.2s							
NVAR	**Mina Array Bea**	**85.06**	**326**	P		**P**	**01 43 44.0**	**+0.8**
	comp=E,1.5nm,0.7s,baz=152,slow=6.2,SNR=13							
PDAR	**Pinedale Array**	**85.23**	**334**	P		**P**	**01 43 44.5**	**+0.6**
	comp=E,1.2nm,1.0s,baz=140,slow=5.3,SNR=5.8							
HVU	**Hansel Valley**	**85.56**	**332**	*e*P		**P**	**01 43 46.7**	**+1.2**
	comp=E,4.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**86.03**	**71**	P		**P**	**01 43 48.5**	**+0.2**
	comp=E,1.8nm,0.8s,baz=252,slow=2.7,SNR=9.0							
AGMN	**Agassiz Nation**	**86.49**	**345**	*e*P		**P**	**01 43 50.1**	**+0.5**
	comp=E,5.3nm,0.6s							
ULM	**Lac du Bonnet**	**88.35**	**346**	P		**P**	**01 43 58.3**	**-0.3**
	comp=E,4.7nm,0.8s,baz=172,slow=2.9,SNR=9.6							
FCC	**Fort Churchill**	**96.18**	**349**	*e*P		**P**	**01 44 35.0**	**+0.4**
	comp=E,0.3nm,0.8s							
SML	**Sawmill**	**114.68**	**330**	*e*PKP		PKPdf	01 49 47.5	+0.7
VYHS	**Vyhne**	**117.42**	**48**	*e*PKP		**PKPdf**	**01 49 51.1**	**-1.4**
WRA	**Warramunga Arr**	**118.27**	**210**	PKP		**PKPdf**	**01 49 54.6**	**-0.5**
	comp=E,0.5nm,0.8s,baz=159,slow=1.7,SNR=3.7							
WRAB	**Tennant Creek**	**118.28**	**210**	*e*PKPdf		**PKPdf**	**01 49 56.0**	**+0.9**
MBWA	**Marble Bar**	**121.59**	**194**	*e*PKPdf		**PKPdf**	**01 50 02.4**	**+1.0**
BRTR	**Keskin Array B**	**123.89**	**63**	PKP		**PKPdf**	**01 50 05.3**	**0.0**
	comp=E,0.8nm,0.8s,baz=190,slow=2.3,SNR=3.8							
KIV	**Kislovodsk**	**131.6**	**60**	*e*PKPdf		**PKPdf**	**01 50 21.0**	**+1.1**
GNI	**Garni**	**132.11**	**66**	*e*PKPdf		**PKPdf**	**01 50 19.6**	**-1.4**
ARU	**Arti**	**142.16**	**42**	*e*PKPdf		**PKPdf**	**01 50 38.9**	**+0.1**
TIXI	**Tiksi**	**142.65**	**349**	*e*PKPpre		PKPpre	01 50 34.6	
TIXI				*e*PKPdf		**PKPdf**	**01 50 39.4**	**+0.1**
PALK	**Pallekele**	**142.74**	**134**	*e*PKPdf		**PKPdf**	**01 50 41.2**	**-0.1**
ABKAR	**Akbulak array**	**143.93**	**54**	*e*PKPdf		PKPbc	01 50 40.4	+0.3
GSI	**Gunungsitoli**	**144.28**	**164**	*e*PKPdf		**PKPdf**	**01 50 43.2**	**-0.7**
HYB	**Hyderabad**	**148.94**	**120**	*i* PKP		**PKPbc**	**01 50 55.0**	**-0.7**
YAK	**Yakutsk**	**150.39**	**338**	*e*PKPbc		**PKPbc**	**01 50 58.3**	**+0.5**
YAK				*e*PKPab		**PKPab**	**01 51 04.2**	**-0.1**
KKAR	**Karatay Array**	**151.57**	**65**	*e*PKPdf		**PKPdf**	**01 50 55.1**	**+0.1**
KKAR				*e*PKPbc		**PKPbc**	**01 51 01.1**	**-0.1**
KKAR				*e*PKPab		**PKPab**	**01 51 09.8**	**-0.1**
KURK	**Kurchatov**	**155.26**	**45**	*e*PKPdf		**PKPdf**	**01 50 56.0**	**-4.0**
KURK				*e*PKPbc		PKPbc	01 51 07.4	
KURK				*e*PKPab		**PKPab**	**01 51 22.9**	**-2.3**
TKM2	**Tokmak 2**	**155.30**	**65**	*e*PKPdf		**PKPdf**	**01 50 58.9**	**-1.7**
KSH	**Kashi**	**155.69**	**73**	*e*PKP		**PKPdf**	**01 51 01.5**	**+0.3**
KSH				sPKP			01 51 15.3	
KSH				PKS		**PKSdf**	**01 54 35.9**	**+0.7**
KSH				PP		**PP**	**01 55 03.3**	**-1.9**
KSH				SKS		**SKSdf**	**01 58 05.8**	**+0.5**
KSH				SKKS		**SKKSac**	**02 01 52.6**	**+0.5**
KSH				SS		**SS**	**02 14 46.0**	**-4.5**
KSH				PPMZ				
	comp=E,36nm,4.6s							
KSH				LN				
	comp=E,41nm,4.6s							
KSH				LE				
	comp=E,46nm,4.7s							
KSH				LZ				
	comp=E,120nm,4.9s							
ZALV	**Zalesovo Beam**	**156.71**	**34**	PKP		**PKPdf**	**01 51 01.9**	**+0.1**
	comp=E,1.1nm,0.6s,baz=298,slow=3.2,SNR=6.4							
ZALV				PKPab		**PKPab**	**01 51 32.4**	**+1.1**
	comp=E,2.8nm,0.8s,baz=305,slow=5.2,SNR=8.5							
MKAR	**Makanchi Array**	**159.06**	**52**	PKP		**PKPdf**	**01 51 05.4**	**+0.4**
	comp=E,0.6nm,0.7s,baz=319,slow=3.5,SNR=9.1							
MKAR				PKPab		**PKPab**	**01 51 42.5**	**+0.7**
	comp=E,1.0nm,0.9s,baz=283,slow=6.1,SNR=5.0							
WMQ	**Urumqi**	**163.69**	**56**	*e*PKP		**PKPdf**	**01 51 09.8**	**-0.3**
WMQ				pPKP		**pPKPdf**	**01 51 21.0**	**+0.6**
ULN	**Ulaanbaatar**	**168.35**	**358**	*e*PKPab		**PKPab**	**01 52 22.8**	**+0.2**
SONM	**Songino Array**	**168.39**	**1**	PKPab		**PKPab**	**01 52 23.8**	**+1.1**
	comp=E,1.0nm,0.9s,baz=339,slow=4.9,SNR=6.2							
KMI	**Kunming**	**168.47**	**162**	PKP		**PKPdf**	**01 51 16.5**	**+1.9**
HHC	**Hu-ho-hao-te**	**173.94**	**321**	*e*PKP		**PKPdf**	**01 51 15.0**	**-1.8**
HHC				pPKP		**pPKPdf**	**01 51 25.8**	**-1.3**
HHC				sPKP			01 51 29.4	
HHC				PP		**PP**	**01 56 41.6**	**+2.1**
HHC				SKS		**SKSdf**	**01 58 12.9**	**-4.7**
HHC				SS		**SS**	**02 17 54.1**	**-1.5**
HHC				PPMZ				
	comp=E,110nm,7.9s							
HHC				LN				
	comp=E,240nm,17.4s							
HHC				LE				
	comp=E,230nm,17.4s							
HHC				LZ				
	comp=E,130nm,18.7s							
LZH	**Lanzhou**	**177.80**	**93**	*e*PKP		**PKPdf**	**01 51 18.3**	**+0.4**
LZH				pPKP		**pPKPdf**	**01 51 28.0**	**-0.2**
LZH				sPKP			01 51 32.4	
LZH				PKPab		PKPab	01 53 05.5	+0.3

*IDC **17** 01:37:38.8±1.7,34°.52S×72°.03W,h0km,mb3.5/2,*
mb1 3.6/4,mb1mx3.5/16,mbtmp3.3/4,ML3.6/1,Error
ellipse: s-maj=47.3km s-min=35.8km az=85.0
*ISCJB **17** 01:37:39.9±1.4,34°.51S±0°.04×72°.0W±0°.1,h15km±10km,*
mb3.5/2,Error ellipse: s-maj=15.0km s-min=4.7km
az=18.7
*GUC **17** 01:37:41.4±0.7,34°.51S×71°.96W,h14km±7km,ML3.6*

ISC 17 01:37:40.3±1.5,34°.53S±0°.04×71°.89W±0°.08,h12km±9km,
n16,σ0°.86/26,5C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.70**	**35**	⇑*iP*		**Pg**	**01 37 53.9**	**0.0**
LNV				*i* S1		**Sg**	**01 38 03.2**	**+0.3**
NICH	**Los Niches**	**0.72**	**131**	⇓*iP*		**Pb**	**01 37 55.2**	**+0.4**
NICH				*i* S		**Sb**	**01 38 05.2**	**+0.5**
TALC	**Talca**	**0.89**	**167**	⇑*iP*		**Pg**	**01 37 57.2**	**-0.3**
TALC				*i* S		**Sg**	**01 38 08.8**	**-0.3**
CACH	**El Canelo**	**1.14**	**69**	⇑*iP*		**Pb**	**01 38 02.0**	**-0.2**
CACH				*i* S1		**Sb**	**01 38 17.8**	**+0.8**
TACH	**Talagante**	**1.18**	**42**	*e*P1		**Pn**	**01 38 01.5**	**-1.2**
CHCH	**Chadas Angostu**	**1.18**	**60**	⇓*iP*		**Pn**	**01 38 02.3**	**-0.5**
CHCH				*i* S1		**Sb**	**01 38 18.1**	**0.0**
LNCH	**Linares**	**1.33**	**170**	⇑*iP*		**Pn**	**01 38 04.5**	**-0.3**
LNCH				*i* S		**Sb**	**01 38 22.2**	**-0.2**
RCDM	**Rinconada Maip**	**1.37**	**41**	*e*P		**Pn**	**01 38 04.6**	**-0.8**
RCDM				*i* S		**Sn**	**01 38 22.2**	**-1.4**
RCDM				IAML			01 38 27.7	
	comp=N,2μm,0.1s							
ANTU	**Antumapu**	**1.42**	**48**	*e*P		**Pn**	**01 38 05.9**	**-0.1**
ANTU				*i* S		**Sn**	**01 38 24.3**	**-0.3**
ANTU				IAML			01 38 29.0	
	comp=E,2μm,0.4s							
CLCH	**Cerro Calan**	**1.59**	**45**	⇑*iP*		**Pn**	**01 38 08.5**	**0.0**
CLCH				*i* S		**Sn**	**01 38 29.4**	**+0.3**
CLCH				IAML			01 38 37.1	
	comp=E,1μm,0.5s							
PEL	**Peldehue**	**1.71**	**36**	⇓*iP*		**Pn**	**01 38 10.0**	**0.0**
PEL				*i* S		**Sn**	**01 38 32.2**	**+0.3**
PEL				IAML			01 38 38.5	
	comp=N,1μm,0.4s							
COCH	**Cobquecura**	**1.76**	**205**	⇓*iP*		**Pn**	**01 38 10.4**	**-0.2**
CFAA	**Coronel Fontan**	**4.23**	**47**	Pn		**Pn**	**01 38 47.5**	**+2.8**
	comp=N,0.1nm,0.3s,baz=226,slow=15,SNR=5.3							
PLCA	**Paso Flores**	**6.28**	**171**	Pn		**Pn**	**01 39 14.4**	**+1.5**
	comp=N,0.3nm,0.3s,baz=343,slow=16,SNR=5.7							
PLCA				Lg		Lg	01 40 52.0	
	comp=N,0.2nm,0.3s,baz=255,slow=17,SNR=3.0							
TXAR	**Lajitas Array**	**70.26**	**331**	P		**P**	**01 48 53.8**	**+0.2**
	comp=N,0.2nm,0.5s,baz=162,slow=9.4,SNR=4.2							
TORD	**Torodi Ar. Bea**	**84.27**	**70**	P		**P**	**01 50 12.1**	**-0.3**
	comp=N,0.5nm,0.9s,baz=224,slow=4.0,SNR=4.8							

MAN 17 01:44:15,18°.09N×120°.83E,h36km,mb4.0,ML2.7,MS2.4,
1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.31**	**320**	⇓*iP*		Pn	01 44 25.9	+2.7
PIP				*e*S		Sn	01 44 31.7	+1.8
SIPP	**Brgy, Tapao**	**0.39**	**245**	⇑*eP*		Pn	01 44 27.3	+3.4
SIPP				*i* S		Sn	01 44 33.5	+3.0
ABRA	**Dolores**	**0.45**	**194**	*e*P		Pn	01 44 27.4	+2.6
ABRA				*e*S		Sn	01 44 34.4	+2.7
APYP	**Conner**	**0.45**	**120**	*e*P		Pn	01 44 27.8	+2.9
APYP				*e*S		Sn	01 44 34.9	+3.0

*IDC **17** 01:58:31.8±1.3,36°.22S×73°.37W,h0km,mb3.5/5,*
mb1 3.7/7,mb1mx3.6/19,mbtmp3.5/7,ML3.5/2,Error
ellipse: s-maj=40.6km s-min=22.4km az=95.0
*ISCJB **17** 01:58:34.9±1.0,36°.22S±0°.09×73°.3W±0°.2,h33km,mb3.5/4,*
Error ellipse: s-maj=22.1km s-min=10.4km az=22.6

ISC 17 01:58:36.8±1.2,36°.25S±0°.1×73°.4W±0°.2,h35km,n7,σ0°.74/8,
mb3.6/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.02**	**155**	Pn		**Pn**	**01 59 50.0**	**+0.3**
	0.6nm,0.3s,baz=333,slow=12,SNR=7.7							
PLCA				Lg		Lg	02 01 06.9	
	0.8nm,0.3s,baz=264,slow=19,SNR=1.8							
CFAA	**Coronel Fontan**	**6.29**	**44**	Pn		**Pn**	**02 00 07.0**	**0.0**
	0.7nm,0.3s,baz=214,slow=13,SNR=13							
CFAA				Sn		**Sn**	**02 01 18.6**	**+0.8**
	0.1nm,0.3s,baz=105,slow=20,SNR=2.0							
LPAZ	**La Paz**	**20.40**	**15**	P		**P**	**02 03 11.3**	**-0.1**
	0.7nm,0.6s,baz=182,slow=9.1,SNR=1.9							
SIV	**San Ignacio**	**22.94**	**32**	P		**P**	**02 03 37.5**	**-0.6**
	1.4nm,0.6s,baz=227,slow=13,SNR=4.9							
QSPA	**South Pole Qui**	**54.02**	**180**	P		**P**	**02 07 57.4**	**+0.2**
	0.9nm,0.8s,baz=189,slow=1.6,SNR=4.1							
TXAR	**Lajitas Array**	**71.16**	**332**	P		**P**	**02 09 52.5**	**+0.6**
	0.2nm,0.7s,baz=161,slow=8.5,SNR=2.8							
TORD	**Torodi Ar. Bea**	**86.00**	**71**	P		**P**	**02 11 12.8**	**-1.1**
	0.3nm,0.6s,baz=213,slow=4.6,SNR=3.1							

*ISCJB **17** 02:03:18.9±0.6,38°.39N±0°.08×135°.32E±0°.08,h366km,*
mb2.5/3,Error ellipse: s-maj=11.8km s-min=8.2km
az=22.2
*JMA **17** 02:03:18.5±0.3,37°.90N×135°.59E,h416km,M3.3*
*IDC **17** 02:03:19.3±1.4,38°.27N×135°.33E,h368km±17km,mb2.4/3,*
mb1 2.6/7,mb1mx2.5/31,mbtmp3.3/7,Error ellipse:
s-maj=35.9km s-min=19.7km az=174.0

ISC 17 02:03:19.2±0.9,38°.3N±0°.1×135°.41E±0°.08,h366km,n13,
σ1°.67/16,mb2.6/3,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**2.81**	**127**	P		**Pn**	**02 04 19.0**	**+0.8**
	0.4nm,0.3s,baz=310,slow=9.6,SNR=8.4							
JNG	**Nsakai**	**2.83**	**130**	P		**Pn**	**02 04 19.3**	**+0.9**
JNG				S		**S**	**02 05 09.1**	**+2.9**
JWT	**Wachi**	**2.97**	**180**	P		**Pn**	**02 04 20.8**	**+1.2**
JHS	**Saijyo**	**3.74**	**210**	P		**Pn**	**02 04 27.2**	**+0.5**
JFT	**Otama**	**3.97**	**99**	P		**Pn**	**02 04 30.0**	**+1.2**
JMM	**Marumori**	**4.27**	**94**	P		**Pn**	**02 04 32.5**	**+0.7**
JMM				S		**S**	**02 05 31.8**	**+1.3**
BSO1	**Boso 1**	**5.75**	**127**	P		**Pn**	**02 04 46.9**	**-0.3**
BSO1				S		**S**	**02 05 54.7**	**-4.1**
KSRS	**Korea Array**	**5.98**	**265**	P		**Pn**	**02 04 51.4**	**+1.2**
	0.4nm,0.3s,baz=78,slow=12,SNR=6.7							
USRK	**Ussuriysk Ar.**	**6.47**	**338**	P		**Pn**	**02 04 55.8**	**+0.1**
	0.3nm,0.3s,baz=154,slow=10,SNR=6.2							
ASAJ	**Asahikawa**	**7.97**	**41**	P		**Pn**	**02 05 12.7**	**-0.4**
	0.9nm,0.3s,baz=249,slow=8.6,SNR=4.0							
SONM	**Songino Array**	**23.15**	**304**	P		**P**	**02 07 53.6**	**-0.9**
	0.3nm,0.7s,baz=106,slow=11,SNR=2.5							
MKAR	**Makanchi Array**	**39.41**	**300**	P		**P**	**02 10 13.7**	**-1.2**
	0.1nm,0.4s,baz=52,slow=9.3,SNR=4.1							
ILAR	**Eielson Array**	**51.03**	**33**	P		**P**	**02 11 45.4**	**+0.6**
	0.2nm,0.6s,baz=267,slow=5.7,SNR=6.0							

*CSEM **17** 02:16:36.9±0.1,51°.17N×5°.94E,h16km±1km,ML0.4,Error*
ellipse: s-maj=5.3km s-min=2.2km az=118.0

UCC 17 02:16:37.5,51°.13N×5°.98E,h18km,ML0.4,1C-1D,The
Netherlands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HKB	**Herkenbosch**	**0.13**	**64**	P		Pg	02 16 41.7	+0.2
HKB				S		Sg	02 16 45.1	+1.0
HKB	**Herkenbosch**	**0.13**	**64**	P		Pb	02 16 40.8	-0.2
HKB				S		Sg	02 16 44.2	+0.1
BOPT	**Opiter**	**0.22**	**265**	P		Pb	02 16 43.2	+0.3
BOPT				S		Sb	02 16 47.2	+0.8
BOPT	**Opiter**	**0.22**	**265**	P		Pg	02 16 42.4	-0.3
BOPT				S		Sb	02 16 46.4	0.0
HGN	**Heimansgroeve**	**0.37**	**185**	*e*Pg		Pb	02 16 45.5	-0.1
	5.3nm,0.3s							
HGN				*e*Sg		Sb	02 16 51.4	+0.3
HGN	**Heimansgroeve**	**0.37**	**185**	*e*Pg		Pb	02 16 45.5	-0.1
	5.3nm,0.3s							
HGN				*e*Sg		Sb	02 16 51.4	+0.4
BEBN	**Eben Emael**	**0.39**	**210**	P		Pg	02 16 45.2	-0.4
BEBN				S		Sg	02 16 50.7	-0.2
	comp=E,1.8nm,0.0s							
BEBN	**Eben Emael**	**0.39**	**210**	P		Pb	02 16 46.0	+0.1
BEBN				S		Sb	02 16 51.5	-0.1
	comp=E,10nm,0.1s							
BEBN	**Eben Emael**	**0.39**	**210**	P		Pb	02 16 45.9	0.0
BEBN				S		Sb	02 16 51.4	-0.1
	comp=E,10nm,0.1s							
BEBN	**

ISCJB 17 02:49:51.7±1.3, 30°.8S±0°.1×178°.2W±0°.2, h46km, mb4.0/5, MS4.1/1, Error ellipse: s-maj=28.8km s-min=14.0km az=14.9
IDC 17 02:49:55.4±2.6, 30°.54S×178°.05W, h75km±24km, mb3.8/5, mb1 3.9/5, mb1mx3.7/19, mbtmp4.1/5, MS3.6/2, Ms1 3.6/2, ms1mx2.9/23, Error ellipse: s-maj=31.9km s-min=26.3km az=166.0
ISC 17 02:49:52.0±1.0, 30°.78S±0°.08×178°.1W±0°.2, h46km, n13, σ1°91/13, mb4.0/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.53**	**5**	P	**Pn**	**02 50 17.5**	**+0.6**
	98nm,0.3s,baz=104,slow=19,SNR=2.1						
RAO				S	**Sn**	**02 50 32.7**	**-2.9**
	237nm,0.3s,baz=75,slow=20,SNR=3.7						
URZ	**Urewera**	**8.46**	**207**	P	**Pn**	**02 51 51.6**	**-0.4**
	0.5nm,0.3s,baz=24,slow=12,SNR=2.4						
URZ				S	**Sn**	**02 53 22.2**	**-3.8**
	1.8nm,0.3s,baz=8.3,slow=23,SNR=8.5						
DZM	**Mont Dzumac**	**16.36**	**298**	LR	LR	02 58 59.0	
	comp=Z,59nm,19.1s,baz=232,slow=33						
CTA	**Charters Tower**	**33.81**	**280**	P	**P**	**02 56 31.6**	**+1.6**
	4.2nm,0.7s,baz=122,slow=17,SNR=2.7						
STKA	**Stephens Creek**	**34.34**	**258**	P	**P**	**02 56 35.9**	**+1.4**
	4.0nm,0.8s,baz=96,slow=9.2,SNR=9.2						
ASAR	**Alice Springs**	**43.04**	**267**	P	**P**	**02 57 47.3**	**-0.2**
	1.0nm,0.8s,baz=102,slow=7.2,SNR=8.8						
WRA	**Warramunga Arr**	**44.06**	**273**	P	**P**	**02 57 55.5**	**-0.2**
	0.7nm,0.3s,baz=111,slow=8.1,SNR=40						
QSPA	**South Pole Qui**	**59.33**	**180**	P	**P**	**02 59 51.5**	**+2.3**
	0.9nm,0.8s,baz=338,slow=3.3,SNR=4.2						
USHA	**Ushuaia**	**75.63**	**146**	LR	LR	03 26 56.7	
	comp=Z,104nm,20.1s,baz=204,slow=29						
KURBB	**Kurchatov Arra**	**121.31**	**314**	PKP	**PKPdf**	**03 08 38.4**	**-1.3**
	0.1nm,0.2s,baz=107,slow=1.9,SNR=4.9						
FINES	**FINESS Array B**	**145.49**	**340**	PKPbc	**PKPdf**	**03 09 23.2**	**-1.1**
	3.0nm,0.8s,baz=64,slow=3.2,SNR=17						
AKASG	**Malin Array Be**	**151.57**	**322**	PKPbc	**PKPbc**	**03 09 40.1**	**-0.6**
	0.8nm,0.5s,baz=53,slow=3.3,SNR=2.1						
TORD	**Torodi Ar. Bea**	**162.45**	**179**	PKPab	**PKPab**	**03 10 37.0**	**0.0**
	0.4nm,0.5s,baz=189,slow=4.8,SNR=5.3						

IDC 17 03:02:58.2±1.5, 5°.98N×126°.71E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/23, mbtmp3.8/6, Error ellipse: s-maj=203.7km s-min=20.5km az=69.0
ISCJB 17 03:03:05.7±0.9, 5°.9N±0°.1×126°.7E±0°.2, h71km, mb3.7/6, Error ellipse: s-maj=29.5km s-min=16.0km az=146.4
ISC 17 03:03:07.6±1.1, 5°.9N±0°.2×126°.6E±0°.2, h71km, n8, σ0°47/10, mb3.9/6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.64**	**277**	⇓*i*P	**Pn**	**03 03 34.6**	**0.0**
GSPH				*i* S	**Sn**	**03 03 34.6**	**0.0**
WRA	**Warramunga Arr**	**26.78**	**164**	P	**P**	**03 08 40.3**	**-0.7**
	0.5nm,0.5s,baz=344,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**30.23**	**167**	P	**P**	**03 09 12.2**	**+0.4**
	0.3nm,0.5s,baz=343,slow=6.8,SNR=5.9						
ASAR				PcP	**PcP**	**03 12 11.6**	**+0.4**
	0.5nm,0.6s,baz=353,slow=2.5,SNR=5.5						
MKAR	**Makanchi Array**	**55.72**	**324**	P	**P**	**03 12 37.0**	**+0.1**
	0.8nm,0.5s,baz=119,slow=7.9,SNR=15						
ZALV	**Zalesovo Beam**	**58.62**	**333**	P	**P**	**03 12 57.0**	**-0.2**
	0.4nm,0.4s,baz=111,slow=6.9,SNR=2.7						
ARCES	**ARCESS Array B**	**88.39**	**340**	P	**P**	**03 15 51.7**	**+0.3**
	2.2nm,0.8s,baz=51,slow=7.1,SNR=3.6						
FINES	**FINESS Array B**	**89.88**	**332**	P	**P**	**03 15 58.7**	**+0.2**
	0.3nm,0.4s,baz=76,slow=5.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**122.09**	**289**	PKP	**PKPdf**	**03 21 54.4**	**-0.8**
	0.3nm,0.5s,baz=27,slow=2.7,SNR=5.6						

NEIC 17 03:07:49.1, 35°.53S×178°.01E, h204km, MG4.1(WEL), After WEL.
WEL 17 03:07:55.8±0.7, 36°.01S×178°.02E, h183km±6km, ML3.9/9, 2C, Error ellipse: s-maj=8.7km s-min=8.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.57**	**172**	PN	Pn	03 08 28.4	-0.2
MXZ				SN	Sn	03 08 53.6	-0.5
MXZ	**Matakaoa Point**	**1.57**	**172**	PN	Pn	03 08 28.4	-0.2
HAZ	**Te Kaha**	**1.75**	**186**	⇑PN	Pn	03 08 30.5	+0.1
HAZ				SN	Sn	03 08 57.6	+0.2
WMGZ	**Waiomatatini S**	**1.83**	**170**	⇑PN	Pn	03 08 31.4	+0.2
PUZ	**Puketiti**	**2.07**	**175**	PN	Pn	03 08 33.5	-0.2
PUZ				AML	AML	03 09 12.3	
PUZ	**Puketiti**	**2.07**	**175**	Pn	Pn	03 08 33.5	-0.2
TWGZ	**Tauwhareparae**	**2.16**	**181**	PN	Pn	03 08 35.3	+0.5
TWGZ				SN	Sn	03 09 05.9	+0.6
MWZ	**Matawai**	**2.35**	**189**	PN	Pn	03 08 37.4	+0.4
MWZ				AML	AML	03 09 11.3	
MWZ	**Matawai**	**2.35**	**189**	Pn	Pn	03 08 37.4	+0.4
URZ	**Urewera**	**2.36**	**198**	PN	Pn	03 08 37.3	+0.4
URZ	**Urewera**	**2.36**	**198**	*e*Pn	Pn	03 08 37.3	+0.3
URZ				*e*S	Sn	03 09 10.9	+1.8
TKGZ	**Te Karaka**	**2.43**	**183**	PN	Pn	03 08 37.6	-0.1
CNGZ	**Carnagh Statio**	**2.47**	**177**	PN	Pn	03 08 38.4	+0.2
CNGZ	**Carnagh Statio**	**2.47**	**177**	Pn	Pn	03 08 38.5	+0.2
RIGZ	**Rimuhau**	**2.70**	**184**	PN	Pn	03 08 40.5	-0.4
SNGZ	**Shannon Statio**	**2.82**	**191**	PN	Pn	03 08 42.4	+0.1
RAHZ	**Arahi**	**2.99**	**194**	PN	Pn	03 08 44.4	-0.1
RAHZ	**Arahi**	**2.99**	**194**	Pn	Pn	03 08 44.4	-0.1
KNZ	**Kokohu**	**3.02**	**185**	PN	Pn	03 08 43.7	-0.9
KNZ	**Kokohu**	**3.02**	**185**	Pn	Pn	03 08 43.8	-0.9
MHGZ	**Mahia Peninsul**	**3.14**	**182**	PN	Pn	03 08 45.7	-0.5
NMHZ	**Naumai**	**3.23**	**197**	PN	Pn	03 08 47.7	+0.4
NMHZ	**Naumai**	**3.23**	**197**	Pn	Pn	03 08 47.8	+0.4
ARHZ	**Aropaoanui**	**3.35**	**194**	PN	Pn	03 08 48.5	-0.2
BKZ	**Black Stump Fm**	**3.38**	**201**	PN	Pn	03 08 49.4	+0.3
BKZ				AML	AML	03 09 34.1	
BKZ	**Black Stump Fm**	**3.38**	**201**	Pn	Pn	03 08 48.9	-0.3
BHHZ	**Black Hill Sta**	**3.80**	**203**	PN	Pn	03 08 53.5	-1.0
BHHZ	**Black Hill Sta**	**3.80**	**203**	Pn	Pn	03 08 53.5	-1.0
MOVZ	**Moawhango**	**3.84**	**207**	PN	Pn	03 08 54.0	-0.9
MOVZ	**Moawhango**	**3.84**	**207**	Pn	Pn	03 08 54.0	-0.9
KRHZ	**Kereru**	**3.85**	**199**	PN	Pn	03 08 54.0	-1.1
KRHZ				SN	Sn	03 09 40.2	-1.5
PNHZ	**Pukenui**	**4.15**	**200**	PN	Pn	03 08 57.4	-1.6
PNHZ	**Pukenui**	**4.15**	**200**	Pn	Pn	03 08 57.4	-1.6
MRZ	**Mangatainoka R**	**5.02**	**202**	PN	Pn	03 09 07.6	-2.5
MRZ				AML	AML	03 09 35.0	
MRZ	**Mangatainoka R**	**5.02**	**202**	Pn	Pn	03 09 07.6	-2.5
HOWZ	**Holdsworth Sta**	**5.26**	**201**	Pn	Pn	03 09 10.2	-2.9
TMWZ	**Te Maipa**	**5.36**	**197**	PN	Pn	03 09 11.5	-2.8
TMWZ	**Te Maipa**	**5.36**	**197**	Pn	Pn	03 09 11.6	-2.8
KIW	**Kapiti Island**	**5.42**	**206**	PN	Pn	03 09 12.4	-2.8
KIW	**Kapiti Island**	**5.42**	**206**	Pn	Pn	03 09 12.4	-2.8
CAW	**Cannon Point**	**5.59**	**204**	PN	Pn	03 09 14.2	-3.2
CAW	**Cannon Point**	**5.59**	**204**	Pn	Pn	03 09 14.2	-3.2
TUWZ	**Tuamarina**	**6.28**	**209**	PN	Pn	03 09 23.3	-3.0
TUWZ	**Tuamarina**	**6.28**	**209**	Pn	Pn	03 09 23.3	-3.0

IDC 17 03:17:26.3±1.1, 34°.44S×71°.78W, h0km, mb3.9/6, mb1 4.2/8, mb1mx4.0/17, mbtmp3.9/8, ML3.8/2, MS3.3/1, Ms1 3.2/1, ms1mx2.7/16, Error ellipse: s-maj=39.3km s-min=25.4km az=69.0
ISCJB 17 03:17:27.3±1.8, 34°.45S±0°.03×71°.94W±0°.06, h15km±12km, mb3.9/5, MS3.2/1, Error ellipse: s-maj=8.7km s-min=4.3km az=17.2
GUC 17 03:17:27.9±0.6, 34°.48S×71°.81W, h36km±6km, ML4.1
ISC 17 03:17:28.1±1.7, 34°.47S±0°.03×71°.81W±0°.08, h13km±11km, n25, σ1°06/35, mb4.0/5, 9C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.60**	**33**	⇑*i*P	**Pg**	**03 17 40.2**	**+0.3**
NICH	**Los Niches**	**0.72**	**139**	⇑*i*P	**Pg**	**03 17 42.2**	**+0.2**
NICH				*i* S	**Sb**	**03 17 52.7**	**+0.5**
TALC	**Talca**	**0.94**	**171**	⇓*i*P	**Pb**	**03 17 45.4**	**-0.9**
TALC				*i* S	**Sb**	**03 17 58.6**	**0.0**
CACH	**El Canelo**	**1.06**	**71**	⇑*i*P	**Pb**	**03 17 48.4**	**+0.1**
TACH	**Talagante**	**1.08**	**42**	*e*P1	**Pb**	**03 17 47.8**	**-1.0**
CHCH	**Chadas Angostu**	**1.09**	**61**	⇓*i*P	**Pb**	**03 17 48.7**	**-0.3**
RCDM	**Rinconada Maip**	**1.28**	**41**	⇑*i*P	**Pn**	**03 17 50.8**	**-1.0**
RCDM				*i* S	**Sn**	**03 18 08.8**	**+0.1**
RCDM				IAML		03 18 15.4	
	comp=E,2μm,0.6s						
ANTU	**Antumapu**	**1.32**	**48**	⇑*i*P	**Pn**	**03 17 52.3**	**0.0**
ANTU				*i* S	**Sn**	**03 18 10.0**	**+0.1**
ANTU				IAML		03 18 17.3	
	comp=E,5μm,0.6s						
SAN	**Santiago**	**1.39**	**44**	⇑*i*P	**Pn**	**03 17 53.5**	**+0.3**
SAN				*e*S	**Sb**	**03 18 12.1**	**+0.6**
LNCH	**Linares**	**1.39**	**173**	*e*P1	**Pn**	**03 17 52.4**	**-0.8**
LNCH				*i* S	**Sn**	**03 18 11.2**	**-0.2**
SJCH	**San Jose de Ma**	**1.46**	**56**	⇑*i*P	**Pn**	**03 17 53.9**	**-0.4**
SJCH				*i* S	**Sb**	**03 18 13.8**	**+0.1**
LACH	**Col Las Americ**	**1.47**	**47**	⇑*i*P	**Pn**	**03 17 54.1**	**-0.2**
LACH				*i* S	**Sb**	**03 18 14.2**	**+0.4**
CLCH	**Cerro Calan**	**1.50**	**45**	⇑*i*P	**Pn**	**03 17 54.8**	**0.0**
CLCH				*i* S	**Sb**	**03 18 14.8**	**0.0**
CLCH				IAML		03 18 23.9	
	comp=N,4μm,0.9s						
PEL	**Peldehue**	**1.62**	**36**	⇓*i*P	**Pn**	**03 17 56.4**	**0.0**
PEL				*i* S	**Sb**	**03 18 17.8**	**-0.3**
PEL				IAML		03 18 23.4	
	comp=N,10μm,0.7s						
CFAA	**Coronel Fontan**	**4.14**	**47**	Pn	**Pn**	**03 18 34.2**	**+3.2**
	comp=N,0.8nm,0.3s,baz=219,slow=12,SNR=23						
CFAA				Sn	**Sb**	**03 19 26.8**	**-4.0**
	comp=N,0.9nm,0.3s,baz=298,slow=21,SNR=4.4						
PLCA	**Paso Flores**	**6.33**	**171**	Pn	**Pn**	**03 19 03.1**	**+1.8**
	comp=N,1.0nm,0.3s,baz=337,slow=14,SNR=19						
PLCA				Lg	Lg	03 20 41.7	
	comp=N,0.2nm,0.3s,baz=261,slow=20,SNR=2.8						
LPAZ	**La Paz**	**18.40**	**11**	P	**Pn**	**03 21 44.4**	**+0.7**
	comp=N,0.0nm,0.3s,baz=182,slow=5.3,SNR=2.5						
SIV	**San Ignacio**	**20.77**	**30**	P	**P**	**03 22 09.0**	**0.0**
	comp=N,1.7nm,0.5s,baz=202,slow=6.5,SNR=6.3						
BDFB	**Brasilia**	**28.44**	**55**	LR	LR	03 36 23.2	
	comp=N,54nm,18.4s,baz=250,slow=40						
TXAR	**Lajitas Array**	**70.23**	**331**	P	**P**	**03 28 41.5**	**+0.6**
	comp=N,0.6nm,0.5s,baz=153,slow=8.6,SNR=18						
BOSA	**Boshof**	**79.68**	**118**	P	**P**	**03 29 35.8**	**-0.1**
	comp=N,4.8nm,1.0s,baz=218,slow=4.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**84.19**	**70**	P	**P**	**03 29 59.4**	**-0.1**
	comp=N,0.8nm,0.7s,baz=287,slow=5.9,SNR=7.2						
PDAR	**Pinedale Array**	**84.26**	**333**	P	**P**	**03 29 59.4**	**-0.2**
	comp=N,0.4nm,0.7s,baz=217,slow=1.5,SNR=4.0						
NVAR	**Mina Array Bea**	**84.38**	**325**	P	**P**	**03 30 00.1**	**-0.1**
	comp=N,0.6nm,0.8s,baz=145,slow=5.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**154.51**	**33**	PKPbc	**PKPbc**	**03 37 28.0**	**+0.1**
	comp=N,0.5nm,0.4s,baz=29,slow=3.3,SNR=3.4						

IDC 17 03:20:48.1±3.4, 32°.99S×179°.83W, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.6/16, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=76.5km s-min=43.2km az=53.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.82**	**204**	Pn	Pn	03 22 15.3	-0.3
	0.7nm,0.3s,baz=17,slow=14,SNR=4.5						
URZ				Sn	Sn	03 23 18.9	-4.2
	0.7nm,0.3s,baz=162,slow=15,SNR=2.2						
ASAR	**Alice Springs**	**41.49**	**271**	P	P	03 28 37.1	0.0
	0.5nm,0.7s,baz=112,slow=7.9,SNR=3.5						
WRA	**Warramunga Arr**	**42.72**	**276**	P	P	03 28 46.9	-0.2
	0.3nm,0.8s,baz=115,slow=7.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**160.20**	**184**	PKPab	PKPab	03 41 29.7	-0.3
	1.8nm,1.4s,baz=171,slow=3.0,SNR=2.6						

IDC 17 03:26:50.5±0.9, 13°.71N×92°.92E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/37, mbtmp3.8/10, ML3.6/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/50, Error ellipse: s-maj=32.3km s-min=18.3km az=51.0
ISCJB 17 03:26:53.6±0.8, 13°.8N±0°.1×93°.11E±0°.09, h32km, mb3.8/9, MS3.3/3, Error ellipse: s-maj=16.6km s-min=11.0km az=150.5
ISC 17 03:26:55.5±1.0, 13°.8N±0°.1×93°.0E±0°.1, h32km, n16, σ0°69/11, mb3.9/9, MS3.3/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.33**	**50**	Pn	**Pn**	**03 28 41.6**	**+1.1**
	0.3nm,0.3s,baz=236,slow=16,SNR=2.2						
CMAR				Sn	**Sn**	**03 30 01.4**	**-1.3**
	0.8nm,0.3s,baz=237,slow=27,SNR=7.6						
H08S3	**Diego Garcia H**	**29.48**	**225**	T	T	04 03 26.5	
	baz=42						
H08S2	**Diego Garcia H**	**29.48**	**225**	T	T	04 03 33.0	
	baz=42						
H08S1	**Diego Carcia H**	**29.50**	**225**	T	T	04 03 32.7	
	baz=42						
AAK	**Ala-Archa**	**32.90**	**334**	LR	LR	03 48 25.8	
	comp=Z,30nm,19.1s,baz=64,slow=39						
MKAR	**Makanchi Array**	**34.11**	**347**	P	**P**	**03 33 38.1**	**+0.8**
	1.0nm,0.8s,baz=180,slow=4.9,SNR=11						
SONM	**Songino Array**	**35.72**	**15**	P	**P**	**03 33 51.4**	**+0.1**
	0.4nm,0.8s,baz=186,slow=7.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**40.59**	**353**	P	**P**	**03 34 31.8**	**-0.2**
	0.8nm,0.6s,baz=168,slow=8.5,SNR=4.3						
WRA	**Warramunga Arr**	**52.68**	**129**	P	**P**	**03 36 07.1**	**-0.1**
	1.2nm,0.7s,baz=306,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**54.62**	**133**	P	**P**	**03 36 21.4**	**0.0**
	1.4nm,0.6s,baz=312,slow=6.9,SNR=19						
BRTR	**Keskin Array B**	**57.84**	**308**	P	**P**	**03 36 44.2**	**-0.2**
	1.2nm,0.8s,baz=112,slow=8.3,SNR=7.6						
FINES	**FINESS Array B**	**67.02**	**331**	P	**P**	**03 37 44.7**	**-0.4**
	1.2nm,0.7s,baz=87,slow=7.1,SNR=3.9						
GERES	**GERESS Array B**	**72.74**	**317**	P	**P**	**03 38 20.7**	**-0.1**
	0.7nm,0.7s,baz=72,slow=5.7,SNR=5.5						
SPITS	**Spitsbergen Ar**	**73.86**	**348**	LR	LR	04 17 12.8	
	comp=Z,15nm,18.1s,baz=190,slow=41						
JMIC	**Jan Mayen**	**80.79**	**341**	LR	LR	04 18 50.0	
	comp=Z,23nm,18.1s,baz=203,slow=39						
TORD	**Torodi Ar. Bea**	**88.20**	**283**	P	**P**	**03 39 44.1**	**-0.1**
	0.6nm,1.0s,baz=72,slow=4.7,SNR=3.1						

IDC 17 03:32:48.6±1.4, 3°.10N×126°.07E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/22, mbtmp3.6/4, Error ellipse: s-maj=148.7km s-min=21.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.30**	**161**	P	P	03 38 07.9	-0.1
	1.6nm,0.6s,baz=339,slow=11,SNR=22						
ASAR	**Alice Springs**	**27.68**	**164**	P	P	03 38 39.0	+0.4
	0.2nm,0.4s,baz=352,slow=7.1,SNR=5.7						
SONM	**Songino Array**	**47.69**	**342**	P	P	03 41 26.1	-1.0
	0.1nm,0.4s,baz=148,slow=8.5,SNR=2.3						
MKAR	**Makanchi Array**	**57.70**	**326**	P	P	03 42 41.3	+0.2
	0.4nm,0.5s,baz=119,slow=6.5,SNR=9.2						

CASC 17 03:36:13.9±4.1, 10°.33N×84°.33W, h108km±15km, MD3.7, 4C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGA2	**Cerro Gallo 2**	**0.34**	**203**	*e*P	Pn	03 36 29.4	-0.5
CGA2				*e*S	Sn	03 36 41.6	-0.3
FORC	**Fortuna**	**0.36**	**292**	*i* P	Pn	03 36 29.8	0.0
FORC				*i* S	Sn	03 36 40.8	-0.9
CASO	**Castillo**	**0.41**	**284**	*i* P	Pn	03 36 30.0	-0.1
CASO				*i* S	Sn	03 36 41.5	-0.8
SJS	**Escuela Geolog**	**0.47**	**145**	⇑*i*P	Pn	03 36 30.4	-0.2
SJS				*e*S	Sn	03 36 50.9	+7.8
AMAS	**Alto Masis**	**0.71**	**293**	*i* P	Pn	03 36 32.2	-0.2
URSC	**Urasca**	**0.73**	**132**	⇑*i*P	Pn	03 36 32.8	+0.2
URSC				*e*S	Sn	03 36 47.7	+0.9
PTEN	**Parque Tenorio**	**0.75**	**300**	*i* P	Pn	03 36 32.8	+0.1
CUI	**Cuipilapa**	**0.88**	**292**	*i* P	Pn	03 36 34.2	+0.3
JCR	**Jicaral**	**0.91**	**238**	*e*P	Pn	03 36 34.1	0.0
JCR				*e*S	Sn	03 36 49.7	+0.3
QCR	**Quepos**	**0.92**	**170**	⇑*e*P	Pn	03 36 34.6	+0.5
QCR				*e*S	Sn	03 36 49.3	-0.1
HORNC	**Hornillas**	**0.92**	**294**	*i* P	Pn	03 36 34.3	+0.1
COLC	**Colonia**	**0.92**	**291**	*i* P	Pn	03 36 34.5	+0.3
MESS	**Mesas**	**0.94**	**296**	*i* P	Pn	03 36 34.7	+0.2
BUS	**Buena Vista**	**0.95**	**144**	⇑*e*P	Pn	03 36 35.2	+0.1
BUS				*e*S	Sn	03 36 50.9	-0.1
LIM1	**Limonal**	**0.98**	**292**	*i* P	Pn	03 36 35.1	+0.3
BUEV	**Buena Vista**	**1.16**	**294**	*i* P	Pn	03 36 37.3	+0.5
LAPC	**Finca la Perla**	**1.17**	**292**	*i* P	Pn	03 36 37.1	+0.3
GBS3	**Finca Las Im¨¡**	**1.20**	**292**	*i* P	Pn	03 36 37.4	+0.3
ACR	**Cerro Adams**	**2.02**	**145**	*e*P	Pn	03 36 47.3	+0.1
ACR				*e*S	Sn	03 37 10.3	-2.3
BRU2	**Volcan**	**2.22**	**133**	*e*P	Pn	03 36 51.1	+1.2
BRU2				*e*S	Sn	03 37 19.2	+1.7
TBS2		**2.25**	**133**	*e*P	Pn	03 36 51.9	+1.6
TBS2				*e*S	Sn	03 37 18.9	+0.8

ISCJB 17 03:37:33.8±0.7, 10°.12S±0°.09×161°.5E±0°.1, h85km, mb3.5/5, Error ellipse: s-maj=17.5km s-min=8.0km az=139.1
IDC 17 03:37:37.2±1.2, 10°.14S×161°.24E, h110km±9km, mb3.4/6, mb1 3.8/7, mb1mx3.6/19, mbtmp3.9/7, Error ellipse: s-maj=27.9km s-min=21.2km az=124.0
ISC 17 03:37:35.3±0.8, 10°.1S±0°.1×161°.5E±0°.1, h85km, n15, σ2°12/15, mb3.7/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.66**	**294**	P	**Pn**	**03 38 03.2**	**+0.3**
	192nm,0.3s,baz=164,slow=4.6,SNR=18						
HNR				S	**Sn**	**03 38 24.1**	**+0.3**
	130nm,0.3s,baz=159,slow=7.7,SNR=5.2						
HNR				LR	LR	03 38 39.0	
	comp=Z,208nm,19.7s,baz=346,slow=42						
HNR	**Honiara**	**1.66**	**294**	*i* P	**Pn**	**03 38 02.0**	**-0.9**
HNR				*i* S	**Sn**	**03 38 24.5**	**+0.7**
DZM	**Mont Dzumac**	**12.80**	**159**	P	**Pn**	**03 40 35.8**	**+1.6**
	1.5nm,0.3s,baz=330,slow=18,SNR=9.4						
DZM				S	**Sn**	**03 42 53.9**	**-1.2**
	0.5nm,0.3s,baz=93,slow=18,SNR=3.4						
WRA	**Warramunga Arr**	**27.93**	**246**	P	**P**	**03 43 15.3**	**-2.6**
	1.2nm,0.6s,baz=74,slow=9.3,SNR=8.8						
WRA				pP	**pP**	**03 43 40.7**	**+3.3**
	1.8nm,0.6s,baz=76,slow=9.4,SNR=8.1						
H11S2	**WAKE ISLAND Hy**	**28.89**	**10**	T	T	04 12 24.1	
	baz=193						
H11S3	**WAKE ISLAND Hy**	**28.89**	**10**	T	T	04 12 32.4	
	baz=193						
H11S1	**WAKE ISLAND Hy**	**28.91**	**10**	T	T	04 12 32.3	
	baz=193						
ASAR	**Alice Springs**	**29.55**	**239**	P	**P**	**03 43 29.2**	**-3.0**
	0.3nm,0.5s,baz=75,slow=11,SNR=2.8						
ASAR				pP	**pP**	**03 43 53.9**	**+2.0**
	0.6nm,0.5s,baz=61,slow=9.7,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**30.12**	**10**	T	T	04 14 08.6	
	baz=193,slow=76,SNR=3.2						
H11N3	**WAKE ISLAND Hy**	**30.12**	**10**	T	T	04 14 11.0	
	baz=193						
H11N2	**WAKE ISLAND Hy**	**30.13**	**10**	T	T	04 14 09.5	
	baz=193,slow=76,SNR=3.9						
SONM	**Songino Array**	**75.48**	**325**	P	**P**	**03 49 09.2**	**-1.2**
	0.7nm,0.6s,baz=145,slow=5.5,SNR=6.4						
SONM				pP	**pP**	**03 49 36.2**	**+3.5**
	0.7nm,0.8s,baz=157,slow=11,SNR=2.2						
ILAR	**Eielson Array**	**84.01**	**20**	P	**P**	**03 49 55.0**	**-1.0**
	0.4nm,0.6s,baz=244,slow=5.0,SNR=7.1						
NVAR	**Mina Array Bea**	**88.66**	**51**	P	**P**	**03 50 20.6**	**+1.0**
	0.4nm,0.7s,baz=236,slow=6.4,SNR=3.6						
YKA	**Yellowknife Ar**	**96.09**	**28**	P	**P**	**03 50 51.9**	**-1.2**
	0.0nm,0.4s,baz=263,slow=4.8,SNR=4.4						

IDC 17 03:42:04.6±2.1, 15°.07S×173°.65W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.7/5, Error ellipse: s-maj=119.9km s-min=25.3km az=149.0
ISCJB 17 03:42:07.8±1.7, 15°.0S±0°.7×173°.8W±0°.4, h30km, mb3.7/5, Error ellipse: s-maj=110.4km s-min=21.7km az=150.7
ISC 17 03:42:09.2±1.8, 15°.1S±0°.7×173°.7W±0°.4, h30km, n13, σ0°46/7, mb3.6/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**38.53**	**329**	T	T	04 30 59.9	
	baz=147						
H11S3	**WAKE ISLAND Hy**	**38.54**	**329**	T	T	04 30 59.9	
	baz=147						
H11S1	**WAKE ISLAND Hy**	**38.55**	**329**	T	T	04 31 00.7	
	baz=147						
H11N3	**WAKE ISLAND Hy**	**39.48**	**331**	T	T	04 32 06.6	
	baz=152						
H11N1	**WAKE ISLAND Hy**	**39.48**	**330**	T

SWI				S	Sn	03 53 46.8	0.0
SWI	**Sorong**	2.83	43	P	**Pn**	03 53 13.7	+0.1
	baz=2.8,SNR=74						
FAKI	**Fak Fak**	2.90	89	P	**Pn**	03 53 15.5	+0.9
FAKI	**Fak Fak**	2.90	89	P	**Pn**	03 53 15.3	+0.7
	baz=2.7,SNR=70						
FAKI				S	**Sn**	03 53 47.9	-0.7
	baz=2.7,SNR=5.1						
FAKI	**Fak Fak**	2.90	89	*e*Pn	**Pn**	03 53 15.3	+0.7
FAKI				*e*S	Sn	03 53 40.6	-7.9
LBMI	**Labuha**	2.96	321	P	**Pn**	03 53 15.0	-0.4
LBMI				S	**Sn**	03 53 49.2	-0.8
SANI	**Sanana**	3.48	285	P	**Pn**	03 53 21.4	-1.2
TNTI	**Ternate**	4.20	332	P	**Pn**	03 53 31.8	-0.8
RKPI	**Ransiki, Papua**	5.04	73	P	**Pn**	03 53 45.7	+1.7
KMSI	**Cibinong**	6.41	303	P	**Pn**	03 54 04.4	+1.5
	254nm,0.6s,1.8nm						
LUWI	**Luwuk**	6.84	286	P	**Pn**	03 54 09.6	+0.7
	105nm,0.8s,0.5nm						
LUWI	**Luwuk**	6.84	286	*e*Pn	**Pn**	03 54 08.5	-0.4
	67nm,0.5s						
LUWI				*e*S	**Sn**	03 55 26.4	+0.5
GTOI	**Gorontalo**	7.27	299	P	**Pn**	03 54 17.1	+2.3
	122nm,0.8s,2μm0.6nm						
APSI	**Ampana**	7.96	285	P	**Pn**	03 54 24.4	+0.2
	232nm,1.1s,2μm0.8nm						
MRSI	**Marisa**	8.15	295	P	**Pn**	03 54 25.8	-1.1
	85nm,1.0s,1μm						
SOEI	**Soe**	8.43	217	P	Pb	03 54 44.2	-12
SOEI	**Soe**	8.43	217	*e*Pn	**Pn**	03 54 31.6	+0.9
	71nm,1.0s						
MMRI	**Maumere**	9.04	231	Pn	**Pn**	03 54 38.6	-0.5
BATI	**Baumata**	9.15	218	P	Pn	03 54 50.5	+10
BATI	**Baumata**	9.15	218	Pn	Pn	03 54 46.6	+6.1
	0.7nm,0.3s,baz=18,slow=10,SNR=1.9						
BATI				LR	LR	03 58 21.3	
	comp=Z,932nm,20.6s,baz=66,slow=39						
BNSI	**Bone**	9.33	261	P	Pn	03 54 52.3	+9.3
SMPI	**Sarmi**	9.40	84	P	**Pn**	03 54 45.6	+1.6
	49nm,1.1s						
BKSI	**Bulukumba**	9.49	255	P	Pn	03 54 48.9	+3.6
	38nm,1.9s,633nm						
SPSI	**Sidrap Palu**	9.61	264	P	Pn	03 54 54.4	+7.5
KAPI	**Kappang**	9.79	258	Pn	**Pn**	03 54 49.2	-0.1
	114nm,0.9s						
MTN	**Manton Dam**	9.98	170	P	**Pn**	03 54 53.5	+1.7
	baz=10.0,SNR=8.3						
MPSI	**Mapaga**	10.00	289	P	**Pn**	03 54 53.5	+1.3
KDU	**Kakadu**	10.15	162	P	**Pn**	03 54 54.1	0.0
	baz=10,SNR=22						
KNRA	**Kununurra**	12.65	183	P	**Pn**	03 55 29.7	+1.3
	baz=13,SNR=25						
COEN	**Coen**	17.49	129	P	**P**	03 56 34.6	+1.3
	baz=17,SNR=12						
COEN	**Coen**	17.49	129	*e*Pn	**Pn**	03 56 32.6	+0.3
	124nm,0.8s						
COEN				*e*S	**Sn**	03 59 41.9	-4.5
WRAB	**Tennant Creek**	17.56	164	*e*Pn	**Pn**	03 56 31.6	-1.6
	12nm,0.6s						
WRAB				*e*S	**Sn**	03 59 49.9	+1.8
WRA	**Warramunga Arr**	17.57	164	P	**Pn**	03 56 31.1	-2.2
	2.1nm,0.3s,baz=343,slow=12,SNR=40						
WRA				S	Sn	03 59 36.1	-12
	0.4nm,0.3s,baz=342,slow=21,SNR=4.1						
WB2	**Warramunga Arr**	17.57	164	*e*Pn	**Pn**	03 56 30.8	-2.5
WB2				*e*S	Sn	03 59 36.6	-12
PMG	**Port Moresby**	18.82	111	LR	LR	04 04 39.2	
	comp=Z,330nm,20.7s,baz=307,slow=39						
QIS	**Mount Isa**	20.15	151	P	**P**	03 57 03.0	+0.5
	baz=20,SNR=29						
MBWA	**Marble Bar**	20.37	207	*e*P	**P**	03 57 04.3	-0.6
	3.1nm,0.7s						
AS31	**Alice Springs**	21.05	168	*e*P	**P**	03 57 11.9	-0.4
ASAR	**Alice Springs**	21.05	168	P	**P**	03 57 12.4	+0.1
	29nm,0.6s,baz=350,slow=11,SNR=190						
ASAR				S	**S**	04 01 02.8	-2.6
	2.0nm,0.6s,baz=350,slow=22,SNR=4.8						
ASAR				LR	LR	04 06 10.3	
	comp=Z,259nm,18.5s,baz=356,slow=39						
WRKA	**Warakurna**	21.97	183	P	**P**	03 57 21.6	-0.6
	baz=22,SNR=54						
CTA	**Charters Tower**	23.71	137	P	**P**	03 57 40.0	-0.1
	9.6nm,1.0s,baz=339,slow=10,SNR=2.8						
MEEK	**Meekatharra**	25.69	203	P	**P**	03 58 00.4	+2.2
	baz=26,SNR=5.8						
BBOO	**Buckleboo**	30.35	169	P	**P**	03 58 39.2	-0.6
	baz=30,SNR=7.7						
PSI	**Prapat**	30.95	280	P	**P**	03 58 44.8	-0.6
	9.5nm,0.7s,baz=99,slow=9.9,SNR=5.9						
NWAO	**Narrogin (SRO)**	31.90	200	P	**P**	03 58 52.4	-1.0
	3.1nm,0.6s,baz=42,slow=12,SNR=2.8						
CMAR	**Chiang Mai Arr**	36.73	307	P	**P**	03 59 35.5	0.0
	0.9nm,0.3s,baz=139,slow=7.2,SNR=6.9						
CMAR				LR	LR	04 16 03.5	
	comp=Z,63nm,21.7s,baz=140,slow=39						
MJAR	**Matsushiro Arr**	40.16	11	LR	LR	04 16 29.9	
	comp=Z,56nm,20.3s,baz=180,slow=36						
KSAR	**Wonju Array Be**	40.22	358	P	**P**	04 00 05.8	+1.3
KSRS	**Korea Array**	40.23	358	P	**P**	04 00 05.8	+1.2
	0.5nm,0.3s,baz=179,slow=10,SNR=3.5						
KSRS				LR	LR	04 15 55.8	
	comp=Z,62nm,19.9s,baz=176,slow=35						
TAPN	**Taplejung**	50.18	310	*e*P	**P**	04 01 24.1	0.0
ODAN	**Odare**	50.18	309	*e*P	**P**	04 01 24.0	-0.1
RAMN	**Ramite**	50.84	309	*e*P	**P**	04 01 28.9	-0.2
	11nm,0.5s						
GUN	**Gumba**	51.86	309	*e*P	**P**	04 01 36.4	-0.5
	17nm,0.8s						
KOLN	**Koldanda**	53.58	308	*e*P	**P**	04 01 48.8	-0.6
	18nm,0.8s						
DANN	**Dangsing**	53.72	309	*e*P	**P**	04 01 49.6	-0.9
	23nm,0.9s						
SONM	**Songino Array**	54.43	341	P	**P**	04 01 54.9	-0.2
	0.5nm,0.8s,baz=134,slow=6.2,SNR=3.1						
SONM				LR	LR	04 26 22.2	
	comp=Z,46nm,19.9s,baz=157,slow=37						
PETK	**Petropavlovsk-**	60.73	19	P	**P**	04 02 39.8	+0.5
	5.3nm,0.8s,baz=198,slow=9.0,SNR=4.0						
MKAR	**Makanchi Array**	64.52	326	P	**P**	04 03 04.0	-0.7
	0.9nm,0.6s,baz=116,slow=6.6,SNR=11						
ZALV	**Zalesovo Beam**	67.70	333	P	**P**	04 03 23.1	-1.9
	0.8nm,0.3s,baz=106,slow=4.8,SNR=4.9						
SEY	**Seymchan**	67.99	11	P	**P**	04 03 26.3	-0.3
	1.4nm,0.2s,baz=202,slow=5.4,SNR=5.7						
KURBB	**Kurchatov Arra**	68.76	328	P	**P**	04 03 31.2	-0.4
	1.7nm,0.5s,baz=127,slow=5.8						
KURK	**Kurchatov**	68.76	328	*e*P	**P**	04 03 31.1	-0.5
	4.9nm,0.9s						
BVAR	**Borovoye Array**	74.33	327	P	**P**	04 04 05.1	-0.1
	0.5nm,0.5s,baz=149,slow=6.1,SNR=5.0						
VNDA	**Vanda**	76.51	173	P	**P**	04 04 16.4	-0.9
	0.5nm,0.6s,baz=315,slow=8.1,SNR=6.9						
VNDA	**Vanda**	76.51	173	*e*P	**P**	04 04 17.3	0.0
	0.8nm,0.8s						
AKTO	**Aktyubinsk**	80.50	322	P	**P**	04 04 41.8	+2.0
	1.0nm,0.4s,baz=101,slow=7.2,SNR=8.6						
PPT	**Papeete**	80.61	107	LR	LR	04 39 24.8	
	comp=Z,68nm,18.6s,baz=308,slow=35						
RAYN	**Ar Rayn**	85.53	294	*e*P	**P**	04 05 06.5	0.0
	15nm,1.2s						
QSPA	**South Pole Qui**	86.99	180	*e*P	**P**	04 05 11.4	-1.5
	1.9nm,1.2s						
TORD	**Torodi Ar. Bea**	127.29	284	PKP	**PKPdf**	04 11 33.0	-0.3
	0.1nm,0.4s,baz=81,slow=1.1,SNR=5.3						

MEX 17 03:53:49.6±0.9, 17°.05N×95°.13W, h123km±7km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	0.24	80	*i* P	Pn	03 54 05.2	-1.5
CMIG				*i* S	Sn	03 54 17.4	-2.2
VHO	**Vista Hermosa**	1.53	271	*e*P	Pn	03 54 17.0	-0.8
VHO				*e*S	Sn	03 54 37.8	-1.5
HUIG	**Huatulco**	1.58	216	*e*P	Pn	03 54 16.4	-1.8
HUIG				*e*S	Sn	03 54 38.7	-1.2
TGIG		1.94	98	*e*P	Pn	03 54 21.7	-0.9
TGIG				*i* S	Sn	03 54 45.8	-2.0
PCIG		2.27	126	*e*P	Pn	03 54 26.1	-0.5
PCIG				*e*S	Sn	03 54 53.4	-1.6
TPIG	**Tehuac#an**	2.52	303	*e*P	Pn	03 54 28.9	-1.2
TPIG				*i* S	Sn	03 54 59.0	-2.1
PNIG	**Pinotepa**	2.94	258	*e*P	Pn	03 54 32.6	-2.7
PNIG				*i* S	Sn	03 55 09.2	-1.3
TLIG	**Tlapa**	3.32	279	*e*P	Pn	03 54 39.3	-1.1
TLIG				*i* S	Sn	03 55 17.9	-1.7

IDC ***17*** *04:00:22.8±0.5, 27°.69S×113°.42W, h0km, mb4.5/18, mb1 4.7/18, mb1mx4.6/28, mbtmp4.5/18, MS4.6/24, Ms1 4.6/24, ms1mx4.6/34, Error ellipse: s-maj=18.8km s-min=14.5km az=63.0*

ISCJB ***17*** *04:00:23.6±0.3, 27°.63S±0°.04×113°.15W±0°.07, h10km, mb5.0/87, MS4.7/25, Error ellipse: s-maj=9.3km s-min=5.9km az=159.6*

MOS ***17*** *04:00:23.9±1.2, 27°.63S×113°.33W, h10km, mb5.3/22, Error ellipse: s-maj=15.9km s-min=7.6km az=87.7*

GCMT ***17*** *04:00:25.1±0.2, 27°.71S×113°.30W, h12km, MW5.3/121, Moment Tensor Solution. s87,c137; s121,c217; Duration: 1ꝑ1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.35±.02; $M_{\theta\theta}$-0.90±.02; $M_{\phi\phi}$0.55±.02; $M_{r\theta}$-0.26±.04; $M_{\theta\phi}$0.71±.01; $M_{\phi r}$0.07±.04; Best double couple: $M_0$1.04200×10^{17} NP1:ϕ_s67.00000°, δ86.00000°, λ-9.00000°. NP2:ϕ_s158.00000°, δ81.00000°, λ-176.00000°. Principal axes: T 0.8460, Plg4.0000°, Azm113.0000°; N 0.3920, Plg80.0000°, Azm222.0000°; P -1.2380, Plg10.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***17*** *04:00:25.1±0.2, 27°.74S×113°.22W, h10km, mb5.1/68 Error ellipse: s-maj=8.9km s-min=6.4km az=78.0*

BJI ***17*** *04:00:26.2, 27°.70S×113°.20W, h10km, mB5.3/16, Ms5.5/15, Ms7 5.2/16*

ISC 17 04:00:25.3±0.3, 27°.70S±0°.08×113°.14W±0°.07, h10km, n598, σ1ꝑ05/588, mb5.1/86, MS4.7/26, 149C-171D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	20.23	278	*e*LQ	LQ	04 08 44.3	
	5μm,27.8s						
RKT				*e*LR	LR	04 09 35.9	
	2μm,27.2s,baz=108						
RKT	**Rikitea**	20.23	278	*e*T	T	04 25 11.4	
	9.0nm,0.2s						
TBI	**Tubuai**	32.98	269	*e*T	T	04 41 08.8	
	21nm,0.3s						
MEH	**Mehetia**	33.55	279	*e*T	T	04 41 52.2	
	14nm,0.3s						
TIAR	**Tiarei**	34.80	279	*e*T	T	04 43 23.8	
	6.8nm,0.2s						
PPT2	**Papeete2**	34.98	279	*e*S	S	04 12 42.4	-7.8
	188nm,26.8s						
PPT2				*e*LQ	LQ	04 15 15.5	
	1μm,27.8s						
PPT2				*e*LR	LR	04 16 20.6	
	2μm,25.8s,baz=108						
PPT	**Papeete**	34.99	279	LR	LR	04 16 50.0	
	comp=Z,1μm,18.6s,baz=105,slow=28						
PLCA	**Paso Flores**	37.19	122	*e*P	P	04 07 40.4	+3.6
PLCA	**Paso Flores**	37.19	122	P	**P**	04 07 39.2	+2.5
	4.0nm,1.0s,baz=295,slow=8.3,SNR=5.0						
PLCA	**Paso Flores**	37.19	122	*e*P	P	04 07 40.4	+3.6
LCO	**Las Campanas**	37.23	102	*e*P	**P**	04 07 34.3	-3.1
NNA	**Nana**	37.38	73	*e*P	**P**	04 07 39.5	+0.9
NNA	**Nana**	37.38	73	*e*P	**P**	04 07 39.5	+0.9
ATAH	**Atahualpa**	38.74	65	P	**P**	04 07 52.4	+2.0
	6.5nm,0.8s,baz=230,slow=12,SNR=3.8						
ATAH				LR	LR	04 19 49.1	
	comp=Z,1μm,20.0s,baz=235,slow=30						
CFAA	**Coronel Fontan**	39.01	107	P	**P**	04 07 51.8	-0.4
	0.8nm,1.1s,baz=276,slow=7.1,SNR=7.7						
CFAA				LR	LR	04 20 45.6	
	comp=Z,163nm,18.5s,baz=320,slow=31						
ARE	**Arequipa**	40.01	83	P	**P**	04 08 03.0	+2.1
ARE	**Arequipa**	40.01	83	P	**P**	04 08 03.0	+2.1
LVC	**Limon Verde**	40.20	93	*e*P	**P**	04 08 00.7	-1.7
	23nm,1.1s						
USHA	**Ushuaia**	42.12	143	P	**P**	04 08 17.8	+0.3
	16nm,0.9s,baz=273,slow=6.7,SNR=4.1						
LPAZ	**La Paz**	43.04	84	*e*P	**P**	04 08 27.8	+1.6
LPAZ				pmax	pmax		
	comp=Z,33nm,1.4s						
LPAZ	**La Paz**	43.04	84	P	**P**	04 08 27.9	+1.7
	comp=Z,7.5nm,1.0s,baz=268,slow=5.3,SNR=14						
LPAZ				LR	LR	04 22 24.8	
	comp=Z,922nm,20.9s,baz=246,slow=30						
LPAZ	**La Paz**	43.04	84	*e*P	**P**	04 08 27.8	+1.6
	comp=Z,33nm,1.4s						
OTAV	**Otavalo**	43.35	56	*e*P	**P**	04 08 29.4	+0.8
	comp=Z,15nm,1.3s						
TRQA	**Tornquist**	43.71	117	*e*P	**P**	04 08 31.5	+0.8
	comp=Z,26nm,1.1s						
H06S1	**SOCORRO T**	46.21	3	T	T	04 58 07.2	
	SNR=21						
JTS	**JuntasAbangare**	46.61	40	P	**P**	04 08 56.0	+2.1
	comp=Z,176nm,1.1s,SNR=7.0						
JTS	**JuntasAbangare**	46.61	40	*d i* P	**P**	04 08 55.2	+1.3
JTS				pmax	pmax		
	comp=Z,95nm,1.7s						
JTS	**JuntasAbangare**	46.61	40	P	**P**	04 08 54.6	+0.8
	comp=Z,22nm,1.0s,baz=256,slow=4.7,SNR=11						
JTS				LR	LR	04 23 34.8	
	comp=Z,1μm,18.8s,baz=219,slow=30						
JTS	**JuntasAbangare**	46.61	40	*e*P	**P**	04 08 55.5	+1.6
	comp=Z,38nm,1.1s						
EFI	**East Falkland**	47.32	136	⇓*e*P	**P**	04 09 00.4	+1.4
EFI				pmax	pmax		
	comp=Z,752nm,2.9s						
APG	**El Apazote**	47.81	30	LR	LR	04 24 10.5	
	comp=Z,1μm,21.6s,baz=212,slow=30						
SIV	**San Ignacio**	49.40	88	P	**P**	04 09 16.3	+0.7
	comp=Z,6.1nm,0.7s,baz=252,slow=9.6,SNR=18						
SIV				LR	LR	04 26 35.1	
	comp=Z,719nm,20.2s,baz=246,slow=32						
ROSC	**El Rosal**	49.49	55	P	**P**	04 09 17.3	+0.6
	comp=Z,2.5nm,0.4s,baz=191,slow=1.5,SNR=5.3						
ROSC				LR	LR	04 25 52.1	
	comp=Z,756nm,20.2s,baz=260,slow=31						
SAML	**Samuel**	50.58	78	*e*P	**P**	04 09 23.6	-1.0
	comp=Z,118nm,2.5s						
SDV	**Santo Domingo**	54.91	55	*e*P	**P**	04 09 55.6	-1.2
	comp=Z,47nm,1.6s						
034A	**Hebbronville**	56.20	16	⇓P	**P**	04 10 07.4	+1.9
	baz=57,SNR=11						
035A	**Encino**	56.22	16	⇓P	**P**	04 10 06.6	+1.0
	baz=57						
933A	**Laredo**	56.59	15	⇓P	**P**	04 10 09.2	+0.9
	baz=57,SNR=11						
934A	**Benavides**	56.75	16	⇓P	**P**	04 10 09.7	+0.3
	baz=57						
832A	**Faith Ranch, C**	57.09	14	⇑P	**P**	04 10 12.1	+0.3
	baz=57						
833A	**Chaparral WMA,**	57.25	14	⇓P	**P**	04 10 13.2	+0.3
	baz=58,SNR=12						
834A	**Tilden**	57.25	15	⇓P	**P**	04 10 13.8	+0.9
	baz=58,SNR=15						
TXAR	**Lajitas Array**	57.44	10	P	**P**	04 10 14.6	+0.2
	comp=Z,3.7nm,1.1s,baz=182,slow=7.6,SNR=15						
TXAR				LR	LR	04 30 33.3	
	comp=Z,562nm,18.2s,baz=0.0,slow=32						
835A	**Beeville**	57.58	16	⇑P	**P**	04 10 16.0	+0.8
	baz=58						
631A	**Perdido Creek**	58.05	13	⇑P	**P**	04 10 18.8	+0.2
	baz=58						
632A	**Uvalde**	58.31	14	⇓P	**P**	04 10 20.6	+0.2
	baz=59,SNR=12						
633A	**Saathoff Ranch**	58.39	14	⇓P	**P**	04 10 21.3	+0.3
	baz=59						
529A	**Stev Forest Ra**	58.44	11	⇓P	**P**	04 10 21.5	+0.1
	baz=59,SNR=16						
530A	**J-C Ranch, Com**	58.62	12	⇓P	**P**	04 10 23.2	+0.5
	baz=59,SNR=22						
531A	**Rocksprings**	58.79	13	⇑P	**P**	04 10 24.1	+0.3
	baz=59,SNR=7.3						
319A	**Douglas**	58.87	4	⇓P	**P**	04 10 24.4	0.0
	baz=59,SNR=5.4						
532A	**Rocksprings**	58.88	13	⇑P	**P**	04 10 24.6	+0.1
	baz=59,SNR=19						
636A	**Smothers Creek**	58.91	16	⇓P	**P**	04 10 24.9	+0.3
	baz=59						
429A	**Davenport Ranc**	58.99	11	⇓P	**P**	04 10 25.0	-0.2
	baz=59,SNR=13						
533A	**Kerrville**	59.01	14	⇓P	**P**	04 10 25.1	-0.2
	baz=59						
534A	**Blanco**	59.10	15	⇑P	**P**	04 10 25.5	-0.4
	baz=60						
JCT	**Junction City**	59.24	13	*e*P	**P**	04 10 26.8	-0.2
JCT				pmax	pmax		
	comp=Z,43nm,1.1s						
JCT	**Junction City**	59.24	13	⇑P	**P**	04 10 26.6	-0.3
	baz=60,SNR=18						
JCT	**Junction City**	59.24	13	*e*P	**P**	04 10 26.8	-0.2
	comp=Z,43nm,1.1s						
430A	**Baggett Ranch,**	59.26	12	⇓P	**P**	04 10 26.4	-0.7
	baz=60						
431A	**Sonora**	59.28	13	⇓P	**P**	04 10 26.6	-0.6
	baz=60,SNR=24						
214A	**Organ Pipe Nat**	59.33	0	⇓P	**P**	04 10 27.0	-0.5
	baz=60,SNR=7.0						
214A	**Organ Pipe Nat**	59.33	0	*e*P	**P**	04 10 27.6	+0.1
	comp=Z,19nm,1.2s						
MNTX	**Cornudas Mount**	59.53	8	*e*P	**P**	04 10 28.6	-0.3
	comp=Z,12nm,1.3s						
433A	**Art**	59.66	14	⇓P	**P**	04 10 29.1	-0.7
	baz=60,SNR=14						
537A	**Green Hill Far**	59.67	17	⇓P	**P**	04 10 29.2	-0.6
	baz=60						
HKT	**Hockley**	59.67	17	*e*P	**P**	04 10 29.8	0.0
HKT				pmax	pmax		
	comp=Z,41nm,1.6s						
HKT	**Hockley**	59.67	17	*e*P	**P**	04 10 29.8	0.0
	comp=Z,41nm,1.6s						
TUC	**Tucson**	59.72	2	*e*P	**P**	04 10 29.7	-0.6
TUC				pmax	pmax		
	comp=Z,19nm,1.4s						
TUC	**Tucson**	59.72	2	*e*P	**P**	04 10 29.7	-0.6
	comp=Z,19nm,1.4s						
329A	**Wagon Wheel Ra**	59.82	11	⇑P	**P**	04 10 30.8	-0.1
	baz=60,SNR=17						
330A	**Mertzon**	59.88	12	⇑P	**P**	04 10 30.9	-0.5
	baz=60,SNR=15						
434A	**Burnet**	59.90	15	⇑P	**P**	04 10 30.7	-0.7
	baz=60,SNR=13						
331A	**San Angelo**	59.92	13	⇓P	**P**	04 10 31.0	-0.6
	baz=60,SNR=5.8						
121A	**Cookes Peak, D**	60.12	5	⇓P	**P**	04 10 32.4	-0.7
	baz=60,SNR=8.1						
121A	**Cookes Peak, D**	60.12	5	*e*P	**P**	04 10 33.0	-0.1
	comp=Z,27nm,1.4s						
332A	**Millersview**	60.13	13	⇓P	**P**	04 10 32.2	-0.8
	baz=60,SNR=10						
113A	**Mohawk Valley,**	60.14	359	⇓P	**P**	04 10 33.3	+0.3
	baz=60						
BAR	**Barrett**	60.15	357	*e*P	**P**	04 10 34.2	+1.1
436A	**Wall Ranch, Ga**	60.20	16	⇑P	**P**	04 10 33.9	+0.5
	baz=61						
333A	**Richland Sprin**	60.23	14	⇑P	**P**	04 10 33.2	-0.6
	baz=61,SNR=20						
229A	**Bryant Ranch,**	60.31	11	⇑P	**P**	04 10 34.0	-0.3
	baz=61						
228A	**UT Block 9, Go**	60.33	10	⇓P	**P**	04 10 33.7	-0.7
	baz=61						
MONP	**Monument Peak,**	60.34	357	⇑P	**P**	04 10 34.6	-0.1
	baz=61,SNR=5.7						
230A	**Sterling City**	60.36	12	⇓P	**P**	04 10 34.0	-0.6
	baz=61,SNR=8.2						
334A	**Lometa**	60.40	15	⇑P	**P**	04 10 33.7	-1.2
	baz=61,SNR=11						
231A	**Bronte**	60.55	13	⇓P	**P**	04 10 35.6	-0.3
	baz=61						
232A	**Coleman**	60.64	13	⇓P	**P**	04 10 37.1	+0.6
	baz=61						
128A	**Castleberry Fa**	60.84	10	⇑P	**P**	04 10 37.1	-0.8
	baz=61,SNR=18						
Z22A	**Elephant Butte**	60.91	6	⇑P	**P**	04 10 38.4	0.0
	baz=61,SNR=5.7						
233A	**Rising Star**	60.92	14	⇑P	**P**	04 10 38.0	-0.4
	baz=61,SNR=5.6						
129A	**Stewart Farms,**	60.95	11	⇓P	**P**	04 10 38.7	+0.1
	baz=61						
CIS	**Catalina Islan**	60.98	355	⇓P	**P**	04 10 39.0	+0.2
	baz=61						
SBA	**Scott Base**	61.04	194	*e*P	**P**	04 10 40.0	+1.4
SBA	**Scott Base**	61.04	194	*e*P	**P**	04 10 40.0	+1.4
PFO	**Pinyon Flats O**	61.06	357	*e*P	**P**	04 10 39.5	+0.1
PFO				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PFO	**Pinyon Flats O**	61.06	357	LR	LR	04 30 57.1	
	comp=Z,705nm,18.2s,baz=192,slow=30						
PFO	**Pinyon Flats O**	61.06	357	⇓P	**P**	04 10 39.6	+0.1
	baz=61						
PFO	**Pinyon Flats O**	61.06	357	*e*P	**P**	04 10 39.5	+0.1
	comp=Z,9.5nm,1.3s						
BC3	**Big Chuckawall**	61.06	358	⇓P	**P**	04 10 39.2	-0.2
	baz=61,SNR=9.7						
234A	**Clairette**	61.07	15	⇑P	**P**	04 10 39.0	-0.4
	baz=61						
130A	**Snyder**	61.08	12	⇓P	**P**	04 10 39.2	-0.3
	baz=61,SNR=5.2						
BDFB	**Brasilia**	61.11	93	P	**P**	04 10 40.8	+0.6
	comp=Z,3.7nm,1.1s,baz=174,slow=10,SNR=3.8						
BDFB				LR	LR	04 34 49.9	
	comp=Z,384nm,19.7s,baz=246,slow=34						
Y12C	**Blythe**	61.13	359	⇑P	**P**	04

baz=63,SNR=8.0
W13A Hualapai Mount 62.47 359 ⇊P P 04 10 49.3 +0.3
baz=63,SNR=7.8
QSPA South Pole Qui 62.47 180 eP P 04 10 47.5 -1.2
comp=Z,310nm,2.5s
LDFC Landfair 62.47 358 eP P 04 10 50.2 +1.3
comp=Z,57nm,1.3s
Y31A Rekieta Farm, 62.53 12 ⇊P P 04 10 49.1 -0.1
baz=63,SNR=8.1
X26A CR and CF Fran 62.54 9 ⇊P P 04 10 49.6 +0.1
baz=63
Z35A Perchaven, San 62.55 15 ⇊P P 04 10 49.5 +0.3
baz=63
ANMO Albuquerque 62.63 6⇑iP P 04 10 49.9 -0.1
ANMO pmax pmax
comp=Z,17nm,1.0s
ANMO Albuquerque 62.63 6 P P 04 10 49.5 -0.5
comp=Z,4.6nm,1.1s,baz=90,slow=18
ANMO Albuquerque 62.63 6 eP P 04 10 50.0 -0.1
Y32A R-V Farms, Ver 62.73 13 ⇊P P 04 10 50.8 +0.3
baz=63,SNR=8.4
X28A Dimmitt 62.75 10 ⇑P P 04 10 50.5 -0.2
baz=63,SNR=5.2
GSC Goldstone, Bar 62.76 357 eP P 04 10 52.0 +1.2
GSC Goldstone, Bar 62.76 357 ⇊P P 04 10 50.9 +0.1
baz=63,SNR=12
GSC Goldstone, Bar 62.76 357 eP P 04 10 52.0 +1.2
TUQ Turquoise Moun 62.85 357 ⇊P P 04 10 51.8 +0.3
baz=63,SNR=6.3
X30A Coker Ranch, T 62.90 11 ⇊P P 04 10 51.5 -0.1
baz=63
WUAZ Wupatki 62.90 2 ⇊P P 04 10 51.9 0.0
baz=63,SNR=8.6
WUAZ Wupatki 62.90 2 eP P 04 10 51.5 -0.4
comp=Z,11nm,1.1s
LRMC Laurel Mtn Rad 62.99 356 ⇊P P 04 10 52.5 +0.2
baz=63,SNR=9.3
W24A Lazy 6 Ranch, 63.00 7 ⇑P P 04 10 52.6 +0.1
baz=63,SNR=33
Y34A Reagan Ranch, 63.04 14 ⇑P P 04 10 52.1 -0.5
baz=63
W26A Owens Ranch, T 63.08 9 ⇑P P 04 10 52.7 -0.3
baz=64,SNR=15
W25A X Bar L Ranch, 63.12 8 ⇑P P 04 10 53.0 -0.2
baz=64,SNR=8.8
W27A Bowe Ranch, En 63.15 9 ⇊P P 04 10 53.3 -0.2
baz=64,SNR=7.0
X32A Elmer 63.17 13 ⇑P P 04 10 53.4 0.0
baz=64
AMTX Amarillo 63.19 11 ⇑P P 04 10 54.0 +0.3
baz=64
AMTX Amarillo 63.19 11 eP P 04 10 53.4 -0.2
comp=Z,26nm,1.4s
ISA Isabella, Lake 63.23 355 eP P 04 10 56.3 +2.4
ISA Isabella, Lake 63.23 355 ⇑P P 04 10 54.4 +0.5
baz=64
ISA Isabella, Lake 63.23 355 eP P 04 10 56.3 +2.4
X31A McDonald Ranch 63.24 12 ⇊P P 04 10 54.3 +0.4
baz=64
SHOC Shoshone, Teco 63.33 357 ⇑P P 04 10 55.1 +0.6
baz=64
V23A Ortiz Mt. (NFS 63.45 6 ⇊P P 04 10 55.9 +0.3
baz=64
VES Vestal, Richgr 63.45 355 ⇊P P 04 10 56.5 +1.2
baz=64
MPMC Manual Prospec 63.55 356 ⇊P P 04 10 56.3 +0.1
baz=64,SNR=16
X34A Smith Ranch, M 63.64 14 ⇊P P 04 10 56.6 0.0
baz=64
CRPR Cabo Rojo, PR 63.66 50 eP P 04 10 53.8 -3.2
comp=Z,59nm,1.3s
V25A Rancho No Teng 63.71 8 ⇑P P 04 10 57.0 -0.3
baz=64,SNR=7.4
V26A Tequesquite Ra 63.77 8 ⇊P P 04 10 57.5 -0.1
baz=64,SNR=15
DAC Darwin (Calif) 63.78 356 eP P 04 10 58.1 +0.4
DAC pmax pmax
comp=Z,16nm,1.2s
DAC Darwin (Calif) 63.78 356 eP P 04 10 58.1 +0.4
comp=Z,16nm,1.2s
U15A North Rim 63.80 1 ⇑P P 04 10 58.4 +0.5
baz=64,SNR=20
W32A Sentinel 63.85 13 ⇊P P 04 10 57.9 -0.1
baz=64
SHPR Sheep Range 63.90 358 eP P 04 10 59.3 +0.9
FURC Furnace Creek, 63.93 357 ⇑P P 04 10 58.5 +0.1
baz=64,SNR=5.5
U22A Llaves 64.01 6 ⇊P P 04 10 59.5 +0.2
baz=64,SNR=9.7
U23A El Rito 64.03 6 ⇑P P 04 10 59.2 -0.2
baz=64,SNR=18
W33A Caddo, Fort Co 64.04 13 ⇑P P 04 10 59.7 +0.5
baz=64,SNR=5.0
CELP Cerrillos 64.07 50 eP P 04 10 56.8 -2.9
U24A Moreno Valley 64.20 7 ⇑P P 04 11 01.0 +0.5
baz=65
U25A Circle Dot Ran 64.29 8 ⇑P P 04 11 00.8 -0.3
baz=65,SNR=6.6
U26A Atchley Ranch, 64.37 8 ⇑P P 04 11 01.8 +0.2
baz=65,SNR=7.4
V31A Spring Creek L 64.37 12 ⇑P P 04 11 01.7 +0.3
baz=65
TPNV Topopah Spring 64.38 357 eP P 04 11 02.6 +1.0
TPNV pmax pmax
comp=Z,254nm,2.8s
TPNV Topopah Spring 64.38 357 ⇊P P 04 11 01.8 +0.3
baz=65,SNR=14
TPNV Topopah Spring 64.38 357 eP P 04 11 02.6 +1.0
comp=Z,254nm,2.8s
SJG San Juan 64.39 50 LR LR 04 36 30.3
comp=Z,400nm,18.6s,baz=209,slow=34
V32A Arapaho 64.47 13 ⇑P P 04 11 02.5 +0.5
baz=65
GRAC Grapevine Rang 64.48 356 ⇑P P 04 11 02.6 +0.5
baz=65,SNR=5.3
U27A Thompson Grove 64.52 9 ⇑P P 04 11 02.8 +0.3
baz=65,SNR=6.1
U28A Mallet 64.57 10 ⇑P P 04 11 02.9 +0.2
baz=65
MIAR Mount Ida 64.62 18 eP P 04 11 00.1 -2.9
MIAR pmax pmax
comp=Z,74nm,2.3s
MIAR Mount Ida 64.62 18 eP P 04 11 00.1 -2.9
comp=Z,74nm,2.3s
MVCO Mesa Verde 64.72 4 ⇊P P 04 11 04.2 +0.3
baz=65,SNR=11
MVCO Mesa Verde 64.72 4 eP P 04 11 04.0 +0.1
comp=Z,28nm,1.2s
V33A Lossen Ranch, 64.72 13 ⇊P P 04 11 04.2 +0.5
baz=65
T23A Casias Ranch, 64.74 6 ⇊P P 04 11 04.2 +0.2
baz=65
T24B San Luis 64.83 7 ⇊P P 04 11 04.3 -0.4
baz=65,SNR=7.6
V34A Guthrie 64.89 14 ⇑P P 04 11 05.0 +0.3
baz=65
V34A Guthrie 64.89 14 eP P 04 11 07.0 +2.3
CCUT Cedar City 64.91 360 eP P 04 11 05.6 +0.5
U31A Nine Bar Ranch 64.95 12 ⇊P P 04 11 05.9 +0.8
baz=65
U30A WK&E Inc. Balk 64.97 11 ⇊P P 04 11 05.9 +0.6
baz=65
T25A Trinidad 65.02 8 ⇊P P 04 11 05.6 -0.2
baz=65,SNR=5.7
U32A Winter Ranch, 65.12 13 ⇑P P 04 11 06.1 -0.1
baz=66
ARUT Antelope Range 65.15 360 eP P 04 11 07.3 +0.7
ARUT pmax pmax
comp=Z,204nm,1.1s
ARUT Antelope Range 65.15 360 eP P 04 11 07.3 +0.7
comp=Z,204nm,1.1s
T26A Comanche Natio 65.16 8 ⇑P P 04 11 06.0 -0.6
baz=66,SNR=11
T27A Campo 65.16 9 ⇊P P 04 11 06.7 +0.1
baz=66,SNR=7.4
T28A Walsh 65.31 10 ⇑P P 04 11 07.8 +0.2
baz=66,SNR=9.6
LRAL Lakeview Retre 65.31 24 eP P 04 11 10.2 +2.7
comp=Z,22nm,1.4s
TUL1 Leonard 65.36 15 ⇑P P 04 11 07.8 0.0
baz=66,SNR=5.8
TUL1 Leonard 65.36 15 eP P 04 11 07.5 -0.3
S22A 4UR Ranch, Cre 65.38 6 ⇊P P 04 11 08.2 0.0
baz=66,SNR=6.9
S24A Houchin Ranch, 65.42 7 ⇊P P 04 11 08.5 0.0
baz=66,SNR=6.8
SDCO Great Sand Dun 65.50 7 eP P 04 11 09.0 0.0
comp=Z,16nm,1.2s

S25A Robets Cordova 65.53 8 ⇊P P 04 11 09.2 +0.1
baz=66,SNR=7.6
TPH Tonopah 65.55 356 eP P 04 11 10.0 +0.8
TPH pmax pmax
comp=Z,58nm,1.9s
TPH Tonopah 65.55 356 eP P 04 11 10.0 +0.8
comp=Z,58nm,1.9s
S26A Kim 65.61 8 ⇑P P 04 11 09.6 +0.1
baz=66,SNR=6.7
PV01 Paradox Valley 65.63 4 eP P 04 11 09.8 0.0
comp=Z,1μm,1.2s
T31A Randall Ranch, 65.69 12 ⇑P P 04 11 10.3 +0.4
baz=66
CMB Columbia Colle 65.75 354 eP P 04 11 11.3 +1.0
CMB Columbia Colle 65.75 354 eP P 04 11 11.3 +1.0
R11A Troy Canyon, C 65.75 358 ⇑P P 04 11 10.6 +0.2
baz=66,SNR=9.0
R11A Troy Canyon, C 65.75 358 eP P 04 11 11.1 +0.6
S27A Las Animas 65.75 9 ⇊P P 04 11 10.4 -0.1
baz=66
S28A Manter 65.80 10 ⇊P P 04 11 10.4 -0.3
baz=66,SNR=6.2
MVU Marysvale 65.87 1 eP P 04 11 12.1 +0.8
PV04 Paradox Valley 65.87 4 eP P 04 11 11.4 +0.2
NV11 Mina Array Sit 65.96 356 eP P 04 11 12.5 +0.7
NVAR Mina Array Bea 65.97 356 P P 04 11 12.5 +0.6
comp=Z,16nm,1.0s,baz=185,slow=8.3,SNR=35
R24A Sanders Place, 66.02 7 ⇊P P 04 11 11.9 -0.4
baz=66,SNR=5.9
R25A Fountain Ranch 66.03 8 ⇊P P 04 11 12.1 -0.2
baz=66
S30A Montezuma 66.08 11 ⇑P P 04 11 12.4 -0.1
baz=66
WAKR Walker 66.13 355 eP P 04 11 12.9 0.0
S31A Mullinville 66.23 12 ⇊P P 04 11 12.9 -0.5
baz=67,SNR=6.5
R26A Arlington 66.28 8 ⇑P P 04 11 13.7 -0.2
baz=67,SNR=5.8
R27A Eads 66.36 9 ⇊P P 04 11 14.0 -0.3
baz=67,SNR=6.7
S32A Newby Ranch, P 66.41 12 ⇊P P 04 11 14.6 0.0
baz=67
SRU San Rafael Swe 66.51 2 eP P 04 11 14.2 -1.2
SRU San Rafael Swe 66.51 2 eP P 04 11 14.2 -1.2
R28A Tribune 66.55 10 ⇊P P 04 11 15.4 -0.1
baz=67,SNR=7.2
R29A Marienthal 66.74 10 ⇑P P 04 11 17.1 +0.4
baz=67
R30A Dighton 66.74 11 ⇑P P 04 11 16.7 0.0
baz=67,SNR=7.2
Q24A Divide 66.74 7 ⇊P P 04 11 17.2 +0.2
baz=67
SMCO Snowmass 66.78 5 eP P 04 11 17.4 +0.1
comp=Z,9.3nm,0.9s
Q25A Bedland, Calha 66.79 8 ⇑P P 04 11 17.0 -0.1
baz=67,SNR=6.0
Q26A Hugo 66.89 8 ⇑P P 04 11 17.2 -0.6
baz=67
P23A Jefferson 67.08 6 ⇊P P 04 11 18.9 -0.3
baz=68,SNR=5.7
KSCO Kaye Shedlock' 67.09 9 ⇊P P 04 11 18.8 -0.2
baz=68,SNR=8.0
KSCO Kaye Shedlock' 67.09 9 eP P 04 11 19.3 +0.3
R32A Long Quarter, 67.15 12 ⇑P P 04 11 19.2 -0.1
baz=68
R33A Olander Ranch, 67.18 13 ⇊P P 04 11 19.3 -0.2
baz=68
P22A Eagle 67.22 5 ⇑P P 04 11 19.4 -0.5
baz=68,SNR=19
Q29A Oakley 67.22 10 ⇑P P 04 11 20.0 +0.3
baz=68
Q28A Sharon Springs 67.26 10 ⇑P P 04 11 20.4 +0.4
baz=68
NLU North Lily Min 67.32 1 eP P 04 11 21.7 +1.2
comp=Z,20nm,1.3s
P25A Willow Gulch B 67.39 8 ⇑P P 04 11 21.1 +0.2
baz=68
Q30A Quinter 67.42 11 ⇑P P 04 11 21.3 +0.3
baz=68
ISCO Idaho Springs 67.52 6 eP P 04 11 24.2 +2.3
ISCO pmax pmax
comp=Z,17nm,1.5s
ISCO Idaho Springs 67.52 6 ⇊P P 04 11 21.7 -0.2
baz=68,SNR=6.5
ISCO Idaho Springs 67.52 6 eP P 04 11 24.1 +2.3
comp=Z,17nm,1.5s
P26A Davis Ranch, A 67.54 8 ⇊P P 04 11 21.9 +0.1
baz=68,SNR=7.2
DUG Dugway, Tooele 67.55 0 eP P 04 11 21.9 0.0
DUG Dugway, Tooele 67.55 0 ⇑P P 04 11 22.0 0.0
baz=68,SNR=14
DUG Dugway, Tooele 67.55 0 eP P 04 11 21.9 0.0
Q31A Ellis 67.59 12 ⇑P P 04 11 22.2 +0.2
baz=68
P27A Ficken Ranch, 67.64 9 ⇑P P 04 11 22.3 -0.1
baz=68,SNR=5.3
O20A White River Ci 67.64 4 ⇊P P 04 11 22.5 -0.1
baz=68
O20A White River Ci 67.64 4 eP P 04 11 22.4 -0.1
comp=Z,22nm,1.4s
Q32A Meitler Ranch, 67.73 12 ⇑P P 04 11 23.1 +0.2
baz=68
P28A Saint Francis 67.77 9 ⇑P P 04 11 23.6 +0.4
baz=68
DAU Daniels Canyon 67.79 2 eP P 04 11 23.5 -0.1
DAU Daniels Canyon 67.79 2 eP P 04 11 23.5 -0.1
O22A Kremmling 67.80 5 ⇑P P 04 11 23.5 -0.1
baz=68
Q33A Connelly Farm, 67.88 13 ⇑P P 04 11 24.0 +0.2
baz=68
BMN Battle Mountai 67.89 357 eP P 04 11 24.5 +0.4
BMN Battle Mountai 67.89 357 eP P 04 11 24.5 +0.4
P29A Atwood 67.92 10 ⇊P P 04 11 24.5 +0.4
baz=68
P30A Selden 67.97 11 ⇑P P 04 11 24.5 0.0
baz=68
O25A Wiggins 67.99 7 ⇑P P 04 11 24.1 -0.5
baz=68,SNR=6.0
CTU Camp Tracy 68.06 1 eP P 04 11 24.9 -0.2
comp=Z,18nm,1.0s
P31A Stockton 68.10 11 ⇑P P 04 11 24.8 -0.4
baz=68,SNR=7.2
ELK Elko 68.13 358 eP P 04 11 27.9 +2.3
ELK Elko 68.13 358 eP P 04 11 27.9 +2.3
O26A Horse Wrangler 68.22 8 ⇑P P 04 11 26.1 +0.1
baz=69
VNA3 Neumayer Olymp 68.24 160 P P 04 11 26.7 +0.9
O27A Beecher Island 68.27 9 ⇑P P 04 11 26.5 +0.1
baz=69
BGU Big Grassy Mou 68.28 0 eP P 04 11 26.8 +0.4
O28A Krutsinger Ran 68.31 9 ⇊P P 04 11 26.8 +0.3
baz=69
P32A Huiting Farm, 68.34 12 ⇊P P 04 11 26.4 -0.3
baz=69,SNR=7.8
N20A Spence Gulch, 68.34 4 ⇊P P 04 11 26.1 -0.9
baz=69,SNR=9.3
CPCT Cooper Cave 68.38 25 eP P 04 11 26.1 -0.9
N22A Wattenberg Ran 68.44 5 ⇑P P 04 11 26.2 -1.4
baz=69,SNR=14
TCUT Toone Canyon 68.49 1 eP P 04 11 28.3 +0.4
comp=Z,32nm,1.3s
WDC Whiskeytown Da 68.50 352 eP P 04 11 27.4 -0.2
WDC Whiskeytown Da 68.50 352 eP P 04 11 27.4 -0.2
N23A Red Feather La 68.58 6 ⇊P P 04 11 27.5 -0.9
baz=69,SNR=7.4
O30A MW Ranch, Wils 68.62 11 ⇊P P 04 11 28.7 +0.2
baz=69
SIUC Southern Illin 68.84 20 eP P 04 11 30.7 +0.9
TKL Tuckaleechee C 68.85 25 LR LR 04 37 31.2
comp=Z,849nm,21.5s,baz=172,slow=32
N02D Trinity Center 68.90 352 ⇑P P 04 11 30.9 +0.6
baz=69
O32A Brockman Farm, 69.02 12 ⇑P P 04 11 31.3 +0.3
baz=69
VNA2 Neumayer--Watz 69.05 160 P P 04 11 30.3 -0.5
baz=303,slow=4.8
M23A Laramie 69.17 6 ⇑P P 04 11 32.3 +0.2
baz=70
M24A Cheyenne 69.25 7 ⇊P P 04 11 32.0 -0.6
baz=70,SNR=7.5
KMSC Kings Mountain 69.36 27 ⇊P P 04 11 33.6 +0.5
baz=70
MOD Modoc Plateau 69.57 354 eP P 04 11 35.5 +1.0
M04C Macdoel 69.60 353 ⇊P P 04 11 34.9 +0.2
baz=70
L22A Ellis Ranch, M 69.66 5 ⇊P P 04 11 34.8 -0.3
baz=70

L23A Garrett 69.81 6 ⇊P P 04 11 36.3 +0.2
baz=70
WVOR Wild Horse Val 69.97 356 eP P 04 11 38.2 +1.3
WVOR Wild Horse Val 69.97 356 eP P 04 11 38.1 +1.3
SNAA Sanae 70.04 162 P P 04 11 37.1 +0.1
SNAA Sanae 70.04 162⇊eP P 04 11 37.1 +0.1
SNAA pmax pmax
comp=Z,52nm,2.5s
SNAA Sanae 70.04 162 P P 04 11 36.4 -0.6
comp=Z,1.5nm,0.9s,baz=256,slow=7.9,SNR=6.0
SNAA LR LR 04 38 30.0
comp=Z,56nm,18.1s,baz=211,slow=33
SNAA Sanae 70.04 162 eP P 04 11 37.1 +0.1
comp=Z,28nm,1.4s
OLIL Olney 70.12 21 eP P 04 11 40.6 +2.9
comp=Z,16nm,1.0s
K21A Alcova 70.20 5 ⇊P P 04 11 37.1 -1.3
baz=71,SNR=7.8
BW06 Boulder Array 70.20 3 eP P 04 11 36.3 -2.2
comp=Z,16nm,1.1s
PDAR Pinedale Array 70.20 3 P P 04 11 37.2 -1.2
comp=Z,11nm,1.0s,baz=170,slow=6.4,SNR=22
PDAR LR LR 04 37 07.5
comp=Z,463nm,20.3s,baz=200,slow=31
K22A Casper 70.27 5 ⇑P P 04 11 38.2 -0.5
baz=71,SNR=11
K22A Casper 70.27 5 eP P 04 11 38.3 -0.5
comp=Z,43nm,1.2s
K05A Summer Lake 70.44 354 eP P 04 11 43.0 +3.1
K23A Bowen Ranch, D 70.45 6 ⇑P P 04 11 39.3 -0.5
baz=71,SNR=22
K25A Mack Ranch, Ha 70.49 7 ⇊P P 04 11 39.7 -0.4
baz=71
K26A Motz Farm, Whi 70.66 8 ⇊P P 04 11 40.1 -1.0
baz=71
J19A Crowheart 70.72 3 ⇑P P 04 11 40.7 -0.8
baz=71,SNR=10
REDW Red Top Meadow 70.75 2 eP P 04 11 41.1 -0.7
L31A Butterfield Fa 70.78 11 ⇑P P 04 11 41.9 +0.2
baz=71,SNR=5.5
K27A Flueckinger Fa 70.78 8 ⇊P P 04 11 41.3 -0.5
baz=71
MFID Camas Ranch 70.81 358 eP P 04 11 39.8 -2.2
J20A Shoshoni 70.86 4 ⇑P P 04 11 41.7 -0.6
baz=71,SNR=25
J21A Lysite 70.89 4 ⇊P P 04 11 41.9 -0.7
baz=71,SNR=18
K28A Ten Mile Ranch 70.90 9 ⇑P P 04 11 42.2 -0.3
baz=71
HLID Hailey 70.93 359 ⇊P P 04 11 42.7 -0.1
baz=71,SNR=38
HLID Hailey 70.93 359 eP P 04 11 42.6 -0.2
comp=Z,31nm,1.2s
LOHW Long Hollow 71.00 2 eP P 04 11 42.6 -0.7
FXWY Fox Creek 71.02 2 eP P 04 11 42.4 -1.0
J05D Fort Rock, OR 71.03 354 ⇑P P 04 11 43.3 -0.1
baz=71
J22A Midwest 71.03 5 ⇑P P 04 11 43.4 0.0
baz=71
K29A Lazy Trails An 71.11 10 ⇑P P 04 11 43.7 -0.1
baz=72,SNR=5.5
K30A Basset 71.13 11 ⇊P P 04 11 43.5 -0.4
baz=72,SNR=7.1
J25A Sunshine Ranch 71.26 7 ⇑P P 04 11 44.4 -0.3
baz=72,SNR=12
J26A Sides Ranch, S 71.27 8 ⇑P P 04 11 44.1 -0.7
baz=72,SNR=6.6
I17A Pilgrim Ck. 71.31 2 ⇊P P 04 11 44.9 -0.2
baz=72
J27A Elkhorn Farm, 71.35 9 ⇊P P 04 11 44.9 -0.3
baz=72,SNR=5.9
I21A Big Trails, Te 71.37 4 ⇊P P 04 11 45.0 -0.4
baz=72,SNR=37
I20A Worland 71.45 4 ⇊P P 04 11 44.9 -1.0
baz=72,SNR=11
I19A Meeteetse 71.49 3 ⇊P P 04 11 45.4 -0.8
baz=72,SNR=13
I22A 9 Mile Ranch, 71.51 5 ⇑P P 04 11 45.7 -0.5
baz=72,SNR=8.4
J28A Allard Ranch, 71.62 9 ⇊P P 04 11 46.8 -0.1
baz=72,SNR=9.8
I24A Kuemmerle Ranc 71.64 6 ⇑P P 04 11 46.8 -0.2
baz=72
SCIA State Center 71.67 16 eP P 04 11 48.7 +1.6
I07A Izee 71.67 355 eP P 04 11 49.8 +2.6
J29A Okreek 71.73 10 ⇊P P 04 11 47.1 -0.4
baz=72,SNR=21
J30A Dallas 71.78 10 ⇊P P 04 11 47.9 +0.1
baz=72
I25A Rochford 71.89 7 ⇑P P 04 11 48.0 -0.6
baz=72,SNR=8.6
SFIN Lafayette 71.93 21 ⇑P P 04 11 48.8 +0.1
baz=72
SFIN Lafayette 71.93 21 eP P 04 11 49.4 +0.7
comp=Z,21nm,1.3s
DZM Mont Dzumac 71.96 254 LR LR 04 36 01.0
comp=Z,238nm,20.8s,baz=339,slow=30
RSSD Black Hills 71.96 7 eP P 04 11 48.3 -0.8
RSSD pmax pmax
comp=Z,9.0nm,1.1s
RSSD Black Hills 71.96 7 eP P 04 11 48.3 -0.8
comp=Z,9.5nm,1.1s
LKWY Lake 71.96 2 eP P 04 11 49.1 0.0
LKWY Lake 71.96 2 eP P 04 11 49.1 0.0
H20A Greybull 71.99 4 ⇊P P 04 11 49.3 +0.2
baz=72
I26A New Underwood 72.00 8 ⇊P P 04 11 49.1 -0.1
baz=72,SNR=6.8
YMR Madison River 72.05 2 eP P 04 11 49.2 -0.4
I05D Terrebonne, OR 72.08 354 ⇊P P 04 11 49.0 -0.6
baz=72
H18A Shoshone NF, C 72.10 3 ⇑P P 04 11 49.4 -0.5
baz=72,SNR=5.9
H19A Powell 72.12 3 ⇊P P 04 11 49.6 -0.4
baz=72,SNR=6.4
I27A Quinn 72.14 8 ⇑P P 04 11 49.8 -0.2
baz=72,SNR=6.5
MCMT McKenzie Canyo 72.18 0 eP P 04 11 49.9 -0.5
comp=Z,9.2nm,1.1s
I28A Midland 72.19 9 ⇊P P 04 11 50.2 0.0
baz=73
QLMT Earthquake Lak 72.20 1 eP P 04 11 51.2 +0.7
I30A Oacoma 72.37 10 ⇊P P 04 11 51.6 +0.4
baz=73
H25A Fruitdale 72.50 7 ⇑P P 04 11 52.1 -0.1
baz=73,SNR=7.4
H24A Dirks Ranch, A 72.53 6 ⇊P P 04 11 52.2 -0.1
baz=73
RLMT Red Lodge 72.56 3 eP P 04 11 52.6 0.0
comp=Z,15nm,1.1s
ECSD EROS Data Cent 72.69 12 ⇑P P 04 11 52.4 -0.8
baz=73,SNR=5.6
ECSD EROS Data Cent 72.69 12 eP P 04 11 52.7 -0.5
H27A Howes 72.69 8 ⇑P P 04 11 52.7 -0.5
baz=73,SNR=6.3
G20A Bridger 72.71 4 ⇑P P 04 11 52.3 -1.1
baz=73,SNR=21
G21A Lodge Grass 72.78 4 ⇑P P 04 11 53.7 -0.1
baz=73
G08A Pilot Rock 72.84 356 eP P 04 11 54.1 0.0
G22A Birney 72.84 5 ⇑P P 04 11 54.2 0.0
baz=73
H28A Mission Ridge 72.88 9 ⇊P P 04 11 53.9 -0.4
baz=73,SNR=6.3
G23A Biddle 72.90 6 ⇊P P 04 11 53.7 -0.8
baz=73,SNR=9.4
G25A Newell 73.09 7 ⇊P P 04 11 55.3 -0.3
baz=74
G24A Alzada 73.11 6 ⇑P P 04 11 55.6 -0.2
baz=74
G26A Maurine 73.28 8 ⇑P P 04 11 55.9 -0.8
baz=74,SNR=6.9
G28A Parade 73.28 9 ⇊P P 04 11 56.2 -0.5
baz=74,SNR=5.9
F20A Billings 73.30 4 ⇑P P 04 11 56.0 -0.8
baz=74
F19A Roth Farm, Mol 73.31 3 ⇑P P 04 11 56.3 -0.6
baz=74,SNR=7.1
JFWS Jewell Farm 73.36 17 eP P 04 11 59.4 +2.2
JFWS Jewell Farm 73.36 17 eP P 04 11 59.4 +2.2
F23A Volborg 73.41 6 ⇑P P 04 11 56.7 -0.8
baz=74,SNR=13
G27A Dupree 73.45 8 ⇊P P 04 11 57.3 -0.4
baz=74
F24A Ekalaka 73.62 6 ⇑P P 04 11 57.8 -0.9
baz=74
F26A Lodgepole 73.82 8 ⇊P P 04 11 59.6 -0.3

baz=74,SNR=5.4
E19A Rath Farm, Rou 73.92 3 ⇓P P 04 12 00.7 +0.2
baz=74
F27A Lemmon 73.92 8 ⇓P P 04 12 00.5 +0.1
baz=74
E20A Meyer Farm, Mu 74.00 4 ⇓P P 04 12 00.4 -0.5
baz=74,SNR=5.5
F28A McLaughlin 74.06 9 ⇓P P 04 12 00.9 -0.3
baz=74,SNR=6.4
HRY Holter Researc 74.08 1 eP P 04 12 00.6 -0.8
comp=Z,13nm,1.1s
E22A Miles City 74.08 5 ⇑P P 04 12 01.6 +0.2
baz=74
F29A Eureka 74.18 10 ⇑P P 04 12 02.2 +0.2
baz=75
MSO Missoula 74.19 359 ⇓P P 04 12 01.6 -0.5
baz=75,SNR=8.0
CHMT Chamberlain Mo 74.27 360 eP P 04 12 02.2 -0.5
comp=Z,10nm,1.2s
LAO LASA Array 74.31 5 eP P 04 12 01.4 -1.3
comp=Z,15nm,1.0s
E24A Baker 74.35 6 ⇑P P 04 12 03.1 +0.2
baz=75
E25A Miller Ranch, 74.38 7 ⇑P P 04 12 03.2 +0.1
baz=75,SNR=7.3
E26A Carlson Angus 74.46 8 ⇑P P 04 12 03.4 -0.2
baz=75,SNR=7.2
E27A Carson 74.53 8 ⇓P P 04 12 03.8 -0.2
baz=75
D20A Manuel Ranch, 74.58 4 ⇑P P 04 12 04.1 -0.2
baz=75,SNR=5.4
SLMT Seeley Lake 74.60 360 eP P 04 12 04.3 -0.1
comp=Z,13nm,1.2s
D19A Cripps Ranch, 74.62 3 ⇑P P 04 12 04.3 -0.2
baz=75
D21A La Casta Ranch 74.63 4 ⇑P P 04 12 04.1 -0.4
baz=75,SNR=9.0
D22A Cohagen 74.77 5 ⇑P P 04 12 05.3 0.0
baz=75,SNR=7.5
AAM Ann Arbor 74.78 22 eP P 04 12 05.6 +0.1
AAM pmax pmax
comp=Z,22nm,1.0s
AAM Ann Arbor 74.78 22 eP P 04 12 05.6 +0.1
comp=Z,22nm,1.0s
E28A Huff 74.78 9 ⇑P P 04 12 05.7 +0.2
baz=75
SWMT Swartz Lake 74.87 359 eP P 04 12 05.8 -0.2
comp=Z,7.4nm,1.1s
D23A Lindsay 74.87 6 ⇓P P 04 12 06.2 +0.2
baz=75
D24A Glendive 74.89 6 ⇑P P 04 12 05.9 -0.1
baz=75,SNR=6.3
SPMN Marine on St. 74.91 15 ⇑P P 04 12 06.0 -0.2
baz=75
E29A Napoleon 74.93 10 ⇓P P 04 12 06.3 +0.1
baz=75
E30A Jud 74.97 10 ⇓P P 04 12 06.7 +0.2
baz=75
D26A Manning 75.01 8 ⇓P P 04 12 06.2 -0.5
baz=75,SNR=7.4
D25A Fairfield 75.03 7 ⇑P P 04 12 07.3 +0.5
baz=75
JTMT Jette 75.11 359 eP P 04 12 06.8 -0.6
comp=Z,13nm,1.1s
C19A Slack Wire Ran 75.18 3 ⇓P P 04 12 07.6 -0.2
baz=76,SNR=9.4
C20A Veseth Ranch, 75.21 4 ⇓P P 04 12 08.1 +0.2
baz=76
BSMT Bassoo Peak 75.22 359 eP P 04 12 07.9 -0.3
comp=Z,16nm,1.2s
YBMT Yellow Bay 75.22 359 eP P 04 12 08.4 +0.4
comp=Z,15nm,1.2s
C24A Savage 75.30 6 ⇑P P 04 12 08.1 -0.3
baz=76,SNR=5.7
BLMT Blacktail Moun 75.37 359 eP P 04 12 09.4 +0.4
comp=Z,17nm,1.2s
C21A Desert Coulee 75.38 4 ⇓P P 04 12 09.1 +0.2
baz=76
C22A Vida 75.38 5 ⇓P P 04 12 09.0 +0.1
baz=76
D28A Regan 75.41 9 ⇑P P 04 12 09.2 +0.2
baz=76
EGMT Eagleton 75.44 2 ⇓P P 04 12 09.3 +0.1
baz=76,SNR=8.1
EGMT Eagleton 75.44 2 eP P 04 12 09.1 -0.1
comp=Z,26nm,1.3s
C23A Lambert 75.50 6 ⇑P P 04 12 09.5 0.0
baz=76,SNR=6.9
D30A Buchanan 75.59 10 ⇓P P 04 12 09.9 -0.1
baz=76,SNR=5.8
C25A Freed Ranch, W 75.59 7 ⇓P P 04 12 09.9 -0.1
baz=76
NEW Newport 75.70 357 eP P 04 12 10.1 -0.6
NEW pmax pmax
comp=Z,32nm,1.3s
NEW Newport 75.70 357 ⇑P P 04 12 10.4 -0.3
baz=76,SNR=9.3
NEW Newport 75.70 357 eP P 04 12 10.1 -0.6
comp=Z,32nm,1.3s
C26A Wahner Farm, P 75.83 8 ⇓P P 04 12 11.1 -0.4
baz=76,SNR=9.3
B19A Brinkman Farms 75.90 3 ⇑P P 04 12 11.6 -0.3
baz=76,SNR=7.1
B20A Solberg Farm, 75.93 4 ⇓P P 04 12 12.1 +0.1
baz=76,SNR=7.6
RCBR Riachuelo 76.03 89 eP P 04 12 14.5 +1.1
comp=Z,20nm,1.2s
B25A Knox Farm, Ray 76.16 7 ⇑P P 04 12 13.6 +0.4
baz=76
B23A Brockton 76.17 6 ⇓P P 04 12 13.6 +0.2
baz=77
C30A Mose, Pekin 76.21 10 ⇓P P 04 12 14.0 +0.5
baz=77,SNR=8.1
A20A Cobblestone Ra 76.38 4 ⇑P P 04 12 14.9 +0.3
baz=77
A19A Klindworth Far 76.39 3 ⇓P P 04 12 14.9 +0.3
baz=77
B27A Peters Farms, 76.51 8 ⇑P P 04 12 15.6 +0.4
baz=77
A21A Bergtoll Ranch 76.55 4 ⇓P P 04 12 15.7 +0.2
baz=77,SNR=5.2
COWI Conover 76.62 17 eP P 04 12 15.2 -0.7
comp=Z,17nm,1.1s
A22A Carney Farms, 76.62 5 ⇓P P 04 12 15.8 -0.2
baz=77,SNR=6.3
B28A Dugan Ranch, T 76.67 9 ⇓P P 04 12 16.5 +0.4
baz=77,SNR=6.8
A23A Redstone 76.67 6 ⇓P P 04 12 16.3 +0.1
baz=77
A24A Westby 76.72 6 ⇑P P 04 12 17.0 +0.6
baz=77
A25A Svangstu Ranch 76.82 7 ⇑P P 04 12 17.6 +0.6
baz=77
B29A Wagenman Farm, 76.82 9 ⇑P P 04 12 17.6 +0.6
baz=77
A26A Wade Farm, Ken 76.90 7 ⇓P P 04 12 17.4 0.0
baz=77,SNR=6.9
B30A Myrvik Farm, E 76.96 10 ⇓P P 04 12 18.0 +0.2
baz=77,SNR=9.3
A28A Rude Farm, Bot 77.13 9 ⇑P P 04 12 18.7 0.0
baz=78
AGMN Agassiz Nation 77.23 12 ⇓P P 04 12 19.1 -0.1
baz=78,SNR=7.4
A29A Manning Farm, 77.29 9 ⇓P P 04 12 19.8 +0.2
baz=78
A30A Hoffart Farm, 77.44 10 ⇓P P 04 12 20.2 -0.3
baz=78,SNR=6.1
EYMN Ely 77.78 15 eP P 04 12 20.8 -1.6
comp=Z,18nm,1.2s
ULM Lac du Bonnet 79.11 11 P P 04 12 28.8 -0.8
comp=Z,3.5nm,0.8s,baz=206,slow=3.2,SNR=5.3
ULM LR LR 04 44 21.1
comp=Z,421nm,20.2s,baz=204,slow=33
EDM Edmonton 80.58 360 eP P 04 12 36.6 -1.1
EDM Edmonton 80.58 360 eP P 04 12 36.6 -1.1
FFC Flin Flon 82.65 7 eP P 04 12 49.2 +0.7
FFC Flin Flon 82.65 7 eP P 04 12 49.2 +0.7
HNR Honiara 82.97 263 LR LR 04 42 22.9
comp=Z,136nm,19.1s,baz=334,slow=30
MAW Mawson 84.94 178 LR LR 04 47 18.5
comp=Z,1μm,19.9s,baz=200,slow=33
DLBC Dease Lake 86.97 351 eP P 04 13 09.6 -0.7
CTAO Charters Tower 89.74 247 eP P 04 13 24.2 -0.2
CTAO pmax pmax
comp=Z,33nm,1.3s
CTAO Charters Tower 89.74 247 eP P 04 13 24.2 -0.2
comp=Z,33nm,1.3s
YKA Yellowknife Ar 89.89 359 P P 04 13 21.8 -2.0
comp=Z,1.6nm,0.9s,baz=176,slow=4.5,SNR=16
H11S2 WAKE ISLAND Hy 90.11 291 T T 05 53 09.7
baz=120,slow=75,SNR=40
H11S1 WAKE ISLAND Hy 90.12 291 T T 05 52 55.2
baz=120,slow=75,SNR=55
H11S3 WAKE ISLAND Hy 90.12 291 T T 05 53 08.8
baz=120,slow=75,SNR=31
H11N3 WAKE ISLAND Hy 90.53 292 T T 05 53 37.4
baz=121,slow=76,SNR=29
H11N1 WAKE ISLAND Hy 90.55 292 T T 05 53 39.5
baz=121,slow=76,SNR=118
H11N2 WAKE ISLAND Hy 90.55 292 T T 05 53 37.7
baz=121,slow=76,SNR=54
SCHQ Schefferville 91.31 25 P P 04 13 28.6 -2.1
comp=Z,3.6nm,1.1s,baz=238,slow=19,SNR=3.0
SCHQ LR LR 04 53 18.4
comp=Z,322nm,18.4s,baz=246,slow=35
SML Sawmill 93.61 344 eP P 04 13 40.5 -0.7
SML pmax pmax
comp=Z,3.0nm,0.7s
SML Sawmill 93.61 344 eP P 04 13 40.5 -0.7
comp=Z,2.9nm,0.7s
RSO Redoubt South 93.63 342 eP P 04 13 41.3 -0.3
comp=Z,31nm,1.1s
PMG Port Moresby 94.15 257 eP P 04 13 43.5 -1.4
PMG Port Moresby 94.15 257 eP P 04 13 43.5 -1.4
COEN Coen 95.32 251 eP P 04 13 50.0 -0.3
MCK McKinley 95.40 345 eP P 04 13 49.7 +0.3
MCK pmax pmax
comp=Z,17nm,1.3s
MCK McKinley 95.40 345 eP P 04 13 49.7 +0.3
comp=Z,17nm,1.3s
TRF Thorofare Moun 95.48 344 eP P 04 13 50.3 +0.3
comp=Z,18nm,1.3s
KTH Kantishna Hill 95.72 344 eP P 04 13 49.3 -1.7
comp=Z,27nm,1.1s
ILAR Eielson Array 95.85 346 P P 04 13 49.7 -1.7
comp=Z,2.1nm,1.0s,baz=197,slow=4.1,SNR=12
ILAR LR LR 04 49 33.2
comp=Z,86nm,19.1s,baz=146,slow=31
COLA College 96.14 346 ⇑iP P 04 13 53.2 +0.5
COLA pmax pmax
comp=Z,34nm,1.0s
COLA College 96.14 346 eP P 04 13 52.9 +0.2
comp=Z,14nm,1.3s
ASAR Alice Springs 97.61 238 LR LR 04 54 32.3
comp=Z,402nm,18.4s,baz=164,slow=33
COLD Coldfoot 98.66 346 eP Pdif 04 14 04.8 +0.7
comp=Z,4.7nm,1.1s
WRA Warramunga Arr 99.36 242 LR LR 04 54 14.3
comp=Z,338nm,20.2s,baz=130,slow=33
PAF Port-aux-Franc 103.23 182 SP SP 04 27 44.0 -2.4
PAF SS SKKPbc 04 33 43.0 -17
PAF L L 04 43 00.0
PAF R 04 50 00.0
H01W1 Cape Leeuwin H 103.35 218 T T 06 09 47.3
baz=138,slow=76,SNR=6.4
H01W2 Cape Leeuwin H 103.36 218 T T 06 09 51.2
baz=138,slow=76,SNR=6.6
H01W3 Cape Leeuwin H 103.37 218 T T 06 09 53.8
baz=138,slow=76,SNR=6.5
MBWA Marble Bar 109.48 232 ePKP PKiKP 04 18 57.3 +0.6
TSUM Tsumeb 113.30 129 ePKP PKiKP 04 19 04.2 0.0
LBTB Lobatse 114.22 139 ePKIKP PKPdf 04 19 07.9 +2.1
LBTB Lobatse 114.22 139 ePKP PKPdf 04 19 07.9 +2.1
ESDC Sonseca Array 121.26 59 PKP PKPdf 04 19 16.4 -2.3
comp=Z,0.2nm,0.4s,baz=240,slow=2.5,SNR=3.5
TIXI Tiksi 124.78 340⇓ePKIKP PKPdf 04 19 23.8 -0.6
TIXI Tiksi 124.78 340 ePKPdf PKPdf 04 19 23.2 -1.2
KSRS Korea Array 128.42 297 PKP PKPdf 04 19 33.2 +0.8
comp=Z,1.1nm,0.7s,baz=111,slow=5.4,SNR=3.5
KSAR Wonju Array Be 128.45 297 PKIKP PKPdf 04 19 33.2 +0.7
KSAR Wonju Array Be 128.45 297 PKP PKPdf 04 19 33.2 +0.7
KKM Kota Kinabalu 128.51 255 ePKPdf PKPdf 04 19 33.6 +0.1
CN2 Changchun 130.81 305 ePKP PKPdf 04 19 34.0 -2.7
CN2 ePP PP 04 21 54.5 +1.5
CN2 eSS SS 04 39 18.8 -4.4
CN2 PPMZ
comp=Z,200nm,7.0s
CN2 LN
comp=Z,300nm,20.0s
CN2 LE
comp=Z,500nm,20.0s
CN2 LZ
comp=Z,1μm,22.0s
WTTA Wattenberg 133.08 50⇑iPKIKP PKiKP 04 19 42.2 -0.2
comp=Z,13nm,1.6s
CLL Collm 133.49 44 eSS SS 04 39 54.0 -1.2
CLL eSSS SSS 04 44 54.0
CLL eSSSS 04 48 24.0
CLL Lm MLR 05 21 00.0
comp=N,100nm,22.0s
CLL Lm MLR 05 21 00.0
comp=E,100nm,21.9s
CLL Lm MLR 05 21 00.0
comp=Z,100nm,21.2s
KHC Kasperske Hory 134.18 47 ePKIKP PKPdf 04 19 42.7 -0.3
KHC Kasperske Hory 134.18 47 ePKPdf PKPdf 04 19 42.7 -0.3
GERES GERESS Array B 134.30 48 PKP PKPdf 04 19 42.8 -0.5
comp=Z,0.2nm,0.3s,baz=225,slow=0.4,SNR=4.0
BOD Bodaibo 135.51 326 ePKIKP PKPdf 04 19 41.3 -3.8
VYHS Vyhne 137.71 47 ePKIKP PKPdf 04 19 49.9 +0.3
VYHS Vyhne 137.71 47 ePKP PKPdf 04 19 49.9 +0.3
VSU Vasula 138.57 31⇓ePKIKP PKPdf 04 19 48.9 -1.8
KOLS Kolonicke sedl 139.82 46 ePKIKP PKPdf 04 19 52.9 -0.5
KOLS Kolonicke sedl 139.82 46 ePKP PKPdf 04 19 52.9 -0.5
KULM Kulim 140.91 241 ePKPdf PKPdf 04 19 57.2 +0.8
HHC Hu-ho-hao-te 141.20 302 ePKP PKPdf 04 19 53.3 -3.0
HHC PP PP 04 23 02.3 +3.7
HHC SKS SKSdf 04 26 58.8 -7.8
HHC SKKS SKKSac 04 29 46.6 -5.5
HHC SS SS 04 41 25.3 -2.5
HHC PPMZ
comp=Z,120nm,7.5s
HHC LN
comp=Z,180nm,15.6s
HHC LE
comp=Z,350nm,16.2s
HHC LZ
comp=Z,380nm,16.2s
KLMR Klimovskoe 142.07 21 ePKIKP PKPdf 04 19 54.9 -2.1
KLMR pmax pmax
comp=Z,17nm,1.8s
ULN Ulaanbaatar 142.93 314⇓ePKIKP PKPdf 04 19 55.3 -4.0
ULN Ulaanbaatar 142.93 314 ePKPdf PKPdf 04 19 55.2 -4.0
MLR Muntele Rosu 143.13 50 PKP PKPbc 04 19 57.3 +0.8
comp=Z,2.0nm,0.9s,baz=104,slow=7.6,SNR=5.1
PRGR Permogore 143.22 17 ePKIKP PKPab 04 19 55.0 +0.2
PRGR pmax pmax
comp=Z,62nm,1.6s
SONM Songino Array 143.36 314 PKP PKPab 04 19 56.3 +0.3
comp=Z,2.1nm,0.9s,baz=98,slow=2.1,SNR=12
KIEV Kiev 143.45 41⇓ePKIKP PKPbc 04 19 58.3 +1.3
AKASG Malin Array Be 143.46 41 PKP PKPab 04 19 56.4 +0.4
comp=Z,0.5nm,0.5s,baz=285,slow=3.6,SNR=2.6
TLY Talaya 143.51 321 ePKIKP PKPbc 04 19 57.6 +0.4
TLY pmax pmax
comp=Z,6.0nm,1.3s
TLY Talaya 143.51 321 PKP PKPab 04 19 56.3 0.0
comp=Z,1.5nm,0.5s,baz=288,slow=6.4,SNR=3.2
ZAK Zakamensk 144.29 319 ePKIKP PKPab 04 19 57.4 -2.0
ZAK pmax pmax
comp=Z,4.0nm,1.6s
GYA Guiyang 144.64 277 PKP PKPdf 04 20 02.8 0.0
GYA PP PP 04 23 21.0 +1.1
GYA PKS PKSdf 04 23 38.6 0.0
GYA SKKS 04 30 11.3
GYA SS SS 04 42 07.4 -1.1
GYA PPMZ
comp=Z,130nm,8.0s
GYA LN
comp=Z,130nm,20.4s
GYA LE
comp=Z,110nm,21.0s
GYA LZ
comp=Z,120nm,20.8s
OBN Obninsk 144.92 30⇓ePKIKP PKPab 04 20 00.9 -0.5
OBN pmax pmax
comp=Z,56nm,2.0s
OBN MLR MLR
comp=Z,199nm,21.0s
OBN Obninsk 144.92 30 ePKPdf PKPab 04 20 01.2 -0.1
MOS Moscow 144.98 29 ePKIKP PKPab 04 20 00.1 -1.5
MOS pmax pmax
comp=Z,30nm,0.6s
SLVN Son La 145.79 268 ePKPbc PKPdf 04 20 04.6 -0.3
LZH Lanzhou 147.66 294 ePKPbc PKPdf 04 20 06.1 -1.6
LZH pPKP PKPbc 04 20 10.5 0.0
LZH sPKP 04 20 14.1
LZH PKPab PKPab 04 20 14.8 +2.1
LZH LN
comp=Z,280nm,18.2s
LZH LE
comp=Z,440nm,17.6s
LZH LZ
comp=Z,450nm,20.4s
KMI Kunming 147.83 274 PKPbc PKPdf 04 20 08.4 0.0
KMI PP PP 04 23 40.4 +1.5
KMI SS SS 04 42 43.8 -1.2
KMI PPMZ
comp=Z,130nm,4.5s
KMI LZ
comp=Z,160nm,28.2s
VSR Storozhevoye 148.57 34 ePKP2 PKPdf 04 20 10.3 +1.8
VSR pmax pmax
comp=N,9.0nm,1.1s
VSR pmax pmax
comp=E,9.0nm,1.1s
VSR pmax pmax
comp=Z,30nm,1.1s
HVS Khovu-Aksy 149.04 326⇓ePKP2 PKPbc 04 20 11.9 -1.6
CMAR Chiang Mai Arr 149.16 260 PKPbc PKPbc 04 20 13.9 -0.8
comp=Z,9.4nm,0.8s,baz=158,slow=1.1,SNR=33
CHTO Chiang Mai 149.29 260 ePKP2 PKPbc 04 20 14.6 -0.4
CHTO Chiang Mai 149.29 260 ePKPbc PKPbc 04 20 14.6 -0.4
CHTO ePKPab PKPab 04 20 19.3 -0.3
ANTO Ankara 149.38 58 ePKP2 PKPbc 04 20 15.0 +0.3
ANTO Ankara 149.38 58 ePKPbc PKPbc 04 20 14.9 +0.3
ANTO ePKPab PKPab 04 20 19.7 +0.2
VRHR Novokhopersk 149.84 32 ePKHKP PKPpre 04 20 13.2
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,5.0nm,0.9s
VRHR pmax pmax
comp=Z,30nm,0.9s
BRTR Keskin Array B 150.05 58 PKPbc PKPdf 04 20 13.8 +2.3
comp=Z,2.6nm,0.9s,baz=232,slow=1.4,SNR=9.3
GTA Gaotai 150.32 302 ⇑PKPbc PKPbc 04 20 16.1 -1.0
GTA PKPab PKPab 04 20 29.3 +5.9
GTA PP PP 04 23 59.1 +6.4
GTA SKS SKSdf 04 27 22.6 +2.6
GTA SKKS SKKSac 04 30 47.8 +4.0
GTA SS SS 04 43 15.3 +3.6
GTA PPMZ
comp=Z,99nm,5.5s
GTA LN
comp=Z,120nm,19.0s
GTA LE
comp=Z,160nm,19.0s
GTA LZ
comp=Z,200nm,19.0s
NVS Novosibirsk 150.38 341 ⇑iPKIKP PKPdf 04 20 13.7 +2.5
NVS pmax pmax
comp=Z,36nm,1.7s
NVS pmax pmax
comp=N,5.0nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.6s
ZALV Zalesovo Beam 150.64 338 PKPbc PKPdf 04 20 14.2 +2.5
comp=E,5.3nm,0.8s,baz=17,slow=3.0,SNR=12
ARU Arti 150.69 9 iPKIKP PKPbc 04 20 16.6 -0.6
ARU 04 23 51.3
ARU Arti 150.69 9 ePKPbc PKPbc 04 20 16.4 -0.8
ARU ePKPab PKPab 04 20 23.3 -0.8
BVAR Borovoye Array 154.57 355 PKP PKPdf 04 20 17.4 -0.1
comp=E,1.5nm,0.9s,baz=349,slow=1.5,SNR=6.4
BVAR PKPab PKPab 04 20 39.2 -1.3
comp=E,7.6nm,0.9s,baz=340,slow=3.9,SNR=14
KIV Kislovodsk 154.70 44 ePKIKP PKPdf 04 20 15.9 -2.2
KIV e 04 24 15.8
KIV e 04 27 21.7
KIV eSS SS 04 43 59.7 +0.8
KIV eSSS SSS 04 49 50.6
KIV pmax pmax
comp=Z,8.0nm,1.1s
KURK Kurchatov 155.34 342 PKIKP PKPdf 04 20 16.4 -2.3
KURK e 04 20 19.2
KURK 04 20 42.0
KURK Kurchatov 155.34 342 PKP PKPdf 04 20 16.4 -2.3
KURK ePKPdf PKPdf 04 20 19.1 +0.5
KURK ePKPbc PKPbc 04 20 28.6
KURK PKPab PKPab 04 20 42.0 -1.9
KURK ePKPab PKPab 04 20 42.5 -1.3
KURBB Kurchatov Arra 155.45 342 PKP PKPdf 04 20 16.4 -2.4
comp=Z,1.4nm,1.1s,baz=354,slow=1.0,SNR=6.9
KURBB PKPab PKPab 04 20 42.0 -2.3
comp=Z,5.9nm,0.9s,baz=22,slow=4.0,SNR=16
PALK Pallekele 155.81 215 ePKIKP PKPdf 04 20 20.6 +0.1
PALK Pallekele 155.81 215 ePKPdf PKPdf 04 20 20.6 +0.1
PALK ePKPab PKPab 04 20 48.9 +1.9
WMQ Urumqi 156.76 319 ePKP PKPdf 04 20 22.4 +1.5
MKAR Makanchi Array 157.40 332 PKP PKPdf 04 20 20.1 -1.5
comp=Z,0.6nm,0.8s,baz=357,slow=5.8,SNR=5.3
MKAR PKPab PKPab 04 20 51.3 -1.6
comp=Z,1.1nm,1.0s,baz=104,slow=6.1,SNR=3.0
ABKAR Akbulak array 157.83 12 ePKPdf PKPdf 04 20 23.0 +1.1
ABKAR ePKPab PKPab 04 20 55.4 +0.8
TKM2 Tokmak 2 163.24 337 ePKIKP PKPdf 04 20 28.3 -0.1
TKM2 e 04 21 18.5
TKM2 Tokmak 2 163.24 337 ePKPdf PKPdf 04 20 28.3 -0.1
TKM2 ePKPab PKPab 04 21 18.4 -0.2
AAK Ala-Archa 163.86 339 PKIKP PKPdf 04 20 28.2 -0.7
AAK e 04 20 29.9
AAK Ala-Archa 163.86 339 PKP PKPdf 04 20 28.2 -0.7
comp=Z,1.7nm,0.8s,baz=72,slow=3.2,SNR=2.6
AAK Ala-Archa 163.86 339 PKP PKPdf 04 20 28.2 -0.7
AAK ePKPdf PKPdf 04 20 29.9 +0.9
AAK ePKPab PKPab 04 21 21.7 +0.4
EKS2 Erkin-Say 164.05 341 ePKIKP PKPdf 04 20 29.2 +0.2
EKS2 Erkin-Say 164.05 341 ePKPdf PKPdf 04 20 29.2 +0.2
EKS2 ePKPab PKPab 04 21 22.3 +0.2
KSH Kashi 165.99 330 PKP PKPdf 04 20 31.0 +0.2
KSH sPKP 04 20 35.6
KSH PKS PKSdf 04 24 03.8 +0.2
KSH PP PP 04 25 20.5 +2.9
KSH SKS SKSdf 04 27 35.1 0.0
KSH SKKS SKKSac 04 32 10.3 +4.4
KSH SS SS 04 46 02.3 +5.4
KSH PPMZ
comp=Z,120nm,5.3s
KSH LN
comp=Z,23nm,5.1s
KSH LE
comp=Z,38nm,4.6s
KSH LZ
comp=Z,160nm,5.0s
GEYT Alibeck 167.44 34 PKP PKPdf 04 20 32.1 +0.3
comp=Z,2.0nm,0.5s,baz=255,slow=4.3,SNR=3.0

KRSC 17 04:21:51.3±1.2s 55.05°N×164.53°E, h50km±24km, ML3.5,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	**Bering**	**0.84**	**79**	P	Pn	04 22 07.7	+0.8
BKI				S	Sn	04 22 17.9	-0.3
KBTR	**Krutoberegovo**	**1.51**	**321**	P	Pn	04 22 17.6	+1.7
KBTR				S	Sn	04 22 35.8	+1.3
KBG	**Krutoberegovo**	**1.59**	**320**	P	Pn	04 22 18.0	+1.0
KBG				S	Sn	04 22 36.8	+0.5
SMKR	**Semkarok**	**2.31**	**313**	P	Pn	04 22 30.6	+3.6
SMKR				S	Sn	04 22 58.1	+3.8
SRKR	**Sorokina**	**2.49**	**312**	P	Pn	04 22 33.4	+4.1
SRKR				S	Sn	04 23 02.9	+4.4
TUMR	**Tumrok**	**2.53**	**277**	P	Pn	04 22 34.3	+4.3
TUMR				S	Sn	04 23 04.3	+4.7
KMNR	**Kamenistaya**	**2.55**	**288**	P	Pn	04 22 34.5	+4.2
KMNR				S	Sn	04 23 04.4	+4.3
SRDR	**Sredinnyy**	**3.01**	**297**	P	Pn	04 22 41.2	+4.7
KII	**Karymskiy**	**3.13**	**253**	S	Sn	04 23 17.5	+3.1
ESO	**Esso**	**3.43**	**287**	P	Pn	04 22 46.6	+4.4
ESO				S	Sn	04 23 24.3	+2.6
SDLR	**Sedlovina**	**3.76**	**244**	P	Pn	04 22 51.2	+4.3
SDLR				S	Sn	04 23 32.4	+2.3
SMAR	**Somma**	**3.81**	**244**	P	Pn	04 22 52.3	+4.6
SMAR				S	Sn	04 23 34.3	+2.8

KRER	**Koryakskii**	**3.82 245**	P	Pn	04 22 52.6	+4.8
KRER			S	Sn	04 23 35.2	+3.6
UGLR	**Uglovaya**	**3.83 244**	P	Pn	04 22 52.5	+4.7
AVH	**Avacha**	**3.85 245**	P	Pn	04 22 52.6	+4.6
AVH			S	Sn	04 23 35.6	+3.6
KRX	**Arik**	**3.85 246**	P	Pn	04 22 52.7	+4.6
KRX			S	Sn	04 23 35.1	+3.0
KOK	**Koryaka**	**3.89 245**	P	Pn	04 22 53.3	+4.7
KOK			S	Sn	04 23 35.2	+2.2
PET	**Petropavlovsk**	**4.02 242**	S	Sn	04 23 38.2	+2.3
GNL	**Ganaly**	**4.08 253**	P	Pn	04 22 56.1	+4.8
OSSR	**Ossora**	**4.29 350**	S	Sn	04 23 45.5	+3.0
MTVR	**Mutnovka**	**4.56 238**	P	Pn	04 23 02.0	+4.1
MTVR			S	Sn	04 23 51.1	+1.4

*NEIC **17** 04:24:49.0, 36°.85S×177°.28E, h162km, MG4.1(WEL), After WEL.*
WEL 17 04:24:52.0±0.4**, 36°.97S×177°.30E, h140**km±3km**, ML4.0**/15**, 4C-2D, Error ellipse: s-maj=3.5km s-min=3.4km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.87**	**154**	⇑PN	Pn	04 25 14.6	-0.1
HAZ				SN	Sn	04 25 32.2	+0.3
MXZ	**Matakaoa Point**	**0.99**	**127**	⇑PN	Pn	04 25 15.7	0.0
MXZ				AML	AML	04 25 39.8	
MXZ				AML	AML	04 25 40.9	
MXZ	**Matakaoa Point**	**0.99**	**127**	Pn	Pn	04 25 15.7	0.0
OPRZ	**Ohinepanea**	**1.05**	**214**	PN	Pn	04 25 16.9	+0.7
OPRZ	**Ohinepanea**	**1.05**	**214**	Pn	Pn	04 25 16.9	+0.7
WMGZ	**Waiomatatini S**	**1.22**	**134**	PN	Pn	04 25 17.8	-0.1
WMGZ				SN	Sn	04 25 37.6	-0.1
URZ	**Urewera**	**1.29**	**187**	⇑PN	Pn	04 25 18.7	+0.1
URZ				SN	Sn	04 25 38.5	-0.4
URZ				AML	AML	04 25 44.4	
URZ	**Urewera**	**1.29**	**187**	*e*Pn	Pn	04 25 18.7	+0.1
URZ				*e*S	Sn	04 25 39.0	+0.1
TWGZ	**Tauwhareparae**	**1.32**	**156**	⇓PN	Pn	04 25 19.4	+0.4
TWGZ				SN	Sn	04 25 39.7	+0.2
PUZ	**Puketiti**	**1.33**	**146**	⇑PN	Pn	04 25 18.8	-0.3
PUZ				AML	AML	04 25 47.3	
PUZ				AML	AML	04 25 49.0	
PUZ	**Puketiti**	**1.33**	**146**	Pn	Pn	04 25 18.8	-0.3
MWZ	**Matawai**	**1.37**	**173**	PN	Pn	04 25 19.3	-0.2
MWZ				AML	AML	04 25 41.5	
MWZ				AML	AML	04 25 41.5	
MWZ				AML	AML	04 25 48.5	
MWZ				AML	AML	04 25 48.5	
MWZ	**Matawai**	**1.37**	**173**	Pn	Pn	04 25 19.3	-0.2
TKGZ	**Te Karaka**	**1.53**	**164**	⇓PN	Pn	04 25 20.9	-0.1
CNGZ	**Carnagh Statio**	**1.67**	**155**	PN	Pn	04 25 22.6	0.0
CNGZ	**Carnagh Statio**	**1.67**	**155**	Pn	Pn	04 25 22.6	0.0
RIGZ	**Rimuhau**	**1.77**	**168**	PN	Pn	04 25 23.3	-0.6
SNGZ	**Shannon Statio**	**1.81**	**179**	PN	Pn	04 25 23.8	-0.5
RAHZ	**Arahi**	**1.95**	**185**	PN	Pn	04 25 25.7	-0.2
RAHZ	**Arahi**	**1.95**	**185**	Pn	Pn	04 25 25.7	-0.2
PRGZ	**Paritu Road**	**2.00**	**167**	PN	Pn	04 25 25.8	-0.8
PRGZ	**Paritu Road**	**2.00**	**167**	Pn	Pn	04 25 25.8	-0.8
KNZ	**Kokohu**	**2.06**	**172**	PN	Pn	04 25 26.5	-0.7
KNZ	**Kokohu**	**2.06**	**172**	Pn	Pn	04 25 26.5	-0.7
WHHZ	**Waihua**	**2.10**	**181**	PN	Pn	04 25 27.5	-0.2
NMHZ	**Naumai**	**2.16**	**190**	PN	Pn	04 25 28.7	+0.2
NMHZ	**Naumai**	**2.16**	**190**	Pn	Pn	04 25 28.7	+0.2
MHGZ	**Mahia Peninsul**	**2.23**	**168**	PN	Pn	04 25 28.6	-0.7
BKZ	**Black Stump Fm**	**2.28**	**196**	*e*PN	Pn	04 25 30.2	+0.2
BKZ				AML	AML	04 26 08.1	
BKZ	**Black Stump Fm**	**2.28**	**196**	Pn	Pn	04 25 29.7	-0.3
ARHZ	**Aropaoanui**	**2.30**	**186**	PN	Pn	04 25 29.7	-0.4
HIZ	**Hauiti**	**2.48**	**231**	PN	Pn	04 25 34.0	+1.7
HIZ	**Hauiti**	**2.48**	**231**	Pn	Pn	04 25 33.8	+1.5
MCHZ	**McNeill Hill**	**2.51**	**191**	PN	Pn	04 25 32.4	-0.4
MCHZ	**McNeill Hill**	**2.51**	**191**	Pn	Pn	04 25 32.4	-0.4
FWVZ	**Far West T-bar**	**2.66**	**211**	PN	Pn	04 25 34.8	-0.1
FWVZ	**Far West T-bar**	**2.66**	**211**	Pn	Pn	04 25 34.8	-0.1
CKHZ	**Cape Kidnapper**	**2.69**	**184**	PN	Pn	04 25 33.5	-1.5
BHHZ	**Black Hill Sta**	**2.69**	**201**	PN	Pn	04 25 34.2	-1.0
BHHZ	**Black Hill Sta**	**2.69**	**201**	Pn	Pn	04 25 34.2	-1.0
WNVZ	**Wahianoa**	**2.71**	**209**	PN	Pn	04 25 35.2	-0.2
WNVZ	**Wahianoa**	**2.71**	**209**	Pn	Pn	04 25 35.2	-0.2
MOVZ	**Moawhango**	**2.72**	**206**	PN	Pn	04 25 34.4	-1.1
MOVZ	**Moawhango**	**2.72**	**206**	Pn	Pn	04 25 34.4	-1.1
KRHZ	**Kereru**	**2.77**	**195**	PN	Pn	04 25 34.6	-1.4
KAHZ	**Kahuranaki**	**2.84**	**187**	PN	Pn	04 25 35.6	-1.3
KAHZ	**Kahuranaki**	**2.84**	**187**	Pn	Pn	04 25 35.6	-1.3
PNHZ	**Pukenui**	**3.06**	**196**	PN	Pn	04 25 38.1	-1.7
PNHZ	**Pukenui**	**3.06**	**196**	Pn	Pn	04 25 38.1	-1.7
PXZ	**Pawanui**	**3.07**	**186**	PN	Pn	04 25 37.8	-2.1
PXZ				AML	AML	04 26 14.9	
PXZ				AML	AML	04 26 14.9	
PXZ				AML	AML	04 26 16.4	
PXZ				AML	AML	04 26 16.4	
PXZ	**Pawanui**	**3.07**	**186**	Pn	Pn	04 25 37.8	-2.1
WPHZ	**Waipukurau**	**3.16**	**192**	PN	Pn	04 25 39.6	-1.4
WPHZ	**Waipukurau**	**3.16**	**192**	Pn	Pn	04 25 39.6	-1.4
TSZ	**Takapari Road**	**3.26**	**198**	PN	Pn	04 25 40.1	-2.2
TSZ				AML	AML	04 26 19.6	
TSZ				AML	AML	04 26 20.3	
TSZ	**Takapari Road**	**3.26**	**198**	Pn	Pn	04 25 40.1	-2.2
WAZ	**Wanganui**	**3.32**	**213**	PN	Pn	04 25 42.4	-0.7
WAZ	**Wanganui**	**3.32**	**213**	Pn	Pn	04 25 42.7	-0.4
DVHZ	**Dannevirke**	**3.44**	**195**	PN	Pn	04 25 42.3	-2.3
DVHZ	**Dannevirke**	**3.44**	**195**	Pn	Pn	04 25 42.3	-2.3
ANWZ	**Angora Road**	**3.54**	**190**	PN	Pn	04 25 43.7	-2.3
POWZ	**Post Office Ro**	**3.62**	**199**	PN	Pn	04 25 44.6	-2.4
POWZ	**Post Office Ro**	**3.62**	**199**	Pn	Pn	04 25 44.6	-2.4
PRWZ	**Pori Road**	**3.73**	**196**	PN	Pn	04 25 45.9	-2.4
BFZ	**Birch Farm**	**3.79**	**192**	PN	Pn	04 25 46.5	-2.7
BFZ	**Birch Farm**	**3.79**	**192**	Pn	Pn	04 25 46.5	-2.7
MRZ	**Mangatainoka R**	**3.92**	**200**	PN	Pn	04 25 47.6	-3.3
MRZ				AML	AML	04 26 33.7	
MRZ				AML	AML	04 26 34.3	
MRZ	**Mangatainoka R**	**3.92**	**200**	Pn	Pn	04 25 47.7	-3.2
TIWZ	**Tintock**	**3.96**	**196**	PN	Pn	04 25 48.8	-2.6
TIWZ				AML	AML	04 26 35.5	
TIWZ				AML	AML	04 26 36.7	
TIWZ	**Tintock**	**3.96**	**196**	Pn	Pn	04 25 48.8	-2.6
HOWZ	**Holdsworth Sta**	**4.16**	**199**	PN	Pn	04 25 50.4	-3.7
HOWZ	**Holdsworth Sta**	**4.16**	**199**	Pn	Pn	04 25 50.4	-3.7
OGWZ	**Otaki Gorge**	**4.18**	**203**	PN	Pn	04 25 51.2	-3.2
OGWZ	**Otaki Gorge**	**4.18**	**203**	Pn	Pn	04 25 51.2	-3.2
TMWZ	**Te Maipa**	**4.27**	**194**	PN	Pn	04 25 51.9	-3.7
TMWZ	**Te Maipa**	**4.27**	**194**	Pn	Pn	04 25 51.9	-3.7
KIW	**Kapiti Island**	**4.31**	**205**	PN	Pn	04 25 51.5	-4.6
KIW				AML	AML	04 26 41.3	
KIW	**Kapiti Island**	**4.31**	**205**	Pn	Pn	04 25 51.5	-4.6
MTW	**Mount Morrison**	**4.41**	**198**	AML	AML	04 26 17.1	
CAW	**Cannon Point**	**4.48**	**202**	PN	Pn	04 25 54.4	-3.9
TRWZ	**Traveller**	**4.59**	**195**	PN	Pn	04 25 55.9	-3.9
TRWZ				AML	AML	04 26 47.9	
TRWZ	**Traveller**	**4.59**	**195**	Pn	Pn	04 25 55.9	-3.9
PAWZ	**Paruwai Farm**	**4.64**	**198**	PN	Pn	04 25 56.1	-4.2
PAWZ				AML	AML	04 26 48.4	
PAWZ				AML	AML	04 26 49.1	
PAWZ	**Paruwai Farm**	**4.64**	**198**	Pn	Pn	04 25 56.1	-4.2
MSWZ	**Moikau Station**	**4.71**	**199**	PN	Pn	04 25 57.2	-4.2
MSWZ				AML	AML	04 26 50.5	
MSWZ				AML	AML	04 26 52.2	
MSWZ	**Moikau Station**	**4.71**	**199**	Pn	Pn	04 25 57.2	-4.2
SNZO	**South Karori**	**4.78**	**204**	Pn	Pn	04 25 59.9	-2.3
SNZO				*e*S	Sn	04 26 51.9	-5.0
TCW	**Tory Channel**	**4.84**	**208**	PN	Pn	04 25 59.1	-4.0
TCW				AML	AML	04 26 54.2	
TCW	**Tory Channel**	**4.84**	**208**	Pn	Pn	04 25 59.1	-4.0
PLWZ	**Palliser**	**4.86**	**198**	PN	Pn	04 25 58.8	-4.5
PLWZ	**Palliser**	**4.86**	**198**	Pn	Pn	04 25 58.9	-4.5
TUWZ	**Tuamarina**	**5.16**	**209**	PN	Pn	04 26 03.5	-3.7
TUWZ	**Tuamarina**	**5.16**	**209**	Pn	Pn	04 26 03.5	-3.7
NNZ	**Nelson**	**5.22**	**215**	PN	Pn	04 26 04.7	-3.4
NNZ	**Nelson**	**5.22**	**215**	Pn	Pn	04 26 04.8	-3.4
QRZ	**Quartz Range**	**5.35**	**223**	PN	Pn	04 26 06.4	-3.6
QRZ	**Quartz Range**	**5.35**	**223**	Pn	Pn	04 26 06.4	-3.6
BSWZ	**Blackbirch Sta**	**5.43**	**208**	PN	Pn	04 26 07.0	-3.9
BSWZ	**Blackbirch Sta**	**5.43**	**208**	Pn	Pn	04 26 07.0	-3.9
THZ	**Tophouse**	**5.87**	**214**	PN	Pn	04 26 12.2	-4.8
KHZ	**Kahutara**	**6.16**	**207**	PN	Pn	04 26 17.1	-3.6
DSZ	**Denniston Nort**	**6.39**	**220**	PN	Pn	04 26 19.0	-4.9
DSZ	**Denniston Nort**	**6.39**	**220**	Pn	Pn	04 26 19.0	-4.9
LTZ	**Lake Taylor**	**6.97**	**212**	PN	Pn	04 26 26.4	-5.2
LTZ	**Lake Taylor**	**6.97**	**212**	Pn	Pn	04 26 26.4	-5.2
OXZ	**Oxford**	**7.51**	**211**	PN	Pn	04 26 33.1	-5.7
CTZ	**Chatham Island**	**8.19**	**147**	PN	Pn	04 26 49.1	+1.2
CTZ	**Chatham Island**	**8.19**	**147**	Pn	Pn	04 26 49.1	+1.3

*GUC **17** 04:25:39.3±0.7, 33°.66S×71°.98W, h20km±23km, ML3.4*
*ISCJB **17** 04:25:47.7±0.7, 34°.21S±0°.06×70°.9W±0°.2, h10km, mb3.8/7, Error ellipse: s-maj=22.2km s-min=7.5km az=14.9*
*IDC **17** 04:25:48.8±1.2, 34°.00S×70°.78W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.8/33, mbtmp3.9/7, ML2.8/1, Error ellipse: s-maj=31.5km s-min=22.3km az=152.0*
ISC 17 04:25:50.1±1.1**, 34°.02S**±0°.08×**70°.9W**±0°.1**, h10**km**, n15,** σ1§**90**/15**, mb3.9**/7**, 3C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTU	**Antumapu**	**0.49**	**24**	⇑*i*P	**Pb**	**04 26 00.7**	**-0.1**
ANTU				*e*S	Sb	04 26 16.3	+8.1
ANTU				IAML		04 26 22.3	
	comp=N,1μm,0.6s						
RCDM	**Rinconada Maip**	**0.53**	**6**	⇑*i*P	**Pg**	**04 25 58.1**	**-2.3**
RCDM				*i* S	**Sb**	**04 26 12.2**	**+3.0**
RCDM				IAML		04 26 17.8	
	comp=N,1μm,0.2s						
SJCH	**San Jose de Ma**	**0.57**	**49**	*e*P9	**Pn**	**04 26 03.5**	**-0.9**
SJCH				*i* S	Sn	04 26 22.4	+8.5
CLCH	**Cerro Calan**	**0.68**	**24**	*e*P	**Pg**	**04 26 02.2**	**-1.0**
CLCH				*e*S	**Sn**	**04 26 20.1**	**+3.5**
CLCH				IAML		04 26 25.4	
	comp=E,2μm,0.7s						
PEL	**Peldehue**	**0.89**	**10**	*e*P1	Pn	04 26 01.9	-6.8
PEL				*i* S	**Sn**	**04 26 18.8**	**-2.8**
PEL				IAML		04 26 19.7	
	comp=E,4μm,1.0s						
NICH	**Los Niches**	**1.03**	**197**	*e*P1	Pn	04 26 06.5	-4.1
TALC	**Talca**	**1.51**	**204**	⇑*i*P	Pn	04 26 10.2	-7.0
CFAA	**Coronel Fontan**	**3.27**	**43**	Pn	**Pn**	**04 26 39.6**	**-1.8**
	comp=E,1.1nm,0.3s,baz=223,slow=13,SNR=22						
CFAA				Lg	Lg	04 27 30.8	
	comp=E,1.1nm,0.3s,baz=38,slow=16,SNR=7.1						
TXAR	**Lajitas Array**	**70.23**	**330**	P	**P**	**04 37 05.0**	**+1.6**
	comp=E,0.4nm,0.6s,baz=152,slow=7.8,SNR=4.8						
ANMO	**Albuquerque**	**76.27**	**331**	P	**P**	**04 37 39.3**	**+0.2**
	comp=E,0.4nm,0.5s,baz=186,slow=6.0,SNR=4.3						
BOSA	**Boshof**	**79.20**	**117**	P	**P**	**04 37 55.5**	**-0.3**
	comp=E,3.0nm,0.8s,baz=260,slow=3.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**83.31**	**69**	P	**P**	**04 38 18.1**	**+0.7**
	comp=E,0.7nm,0.9s,baz=271,slow=5.4,SNR=2.9						
PDAR	**Pinedale Array**	**84.22**	**332**	P	**P**	**04 38 21.3**	**-0.5**
	comp=E,0.1nm,0.3s,baz=157,slow=4.9,SNR=2.8						
NVAR	**Mina Array Bea**	**84.46**	**324**	P	**P**	**04 38 23.4**	**+0.4**
	comp=E,0.5nm,0.7s,baz=145,slow=6.4,SNR=5.8						
ULM	**Lac du Bonnet**	**86.77**	**344**	P	**P**	**04 38 34.5**	**+0.5**
	comp=E,2.2nm,0.7s,baz=110,slow=2.6,SNR=4.8						

*ISK **17** 04:28:42.4, 39°.24N×27°.62E, h8km, MD2.9*
*ISCJB **17** 04:28:43.2±0.5, 39°.25N±0°.02×27°.64E±0°.04, h7km±4km, Error ellipse: s-maj=4.7km s-min=3.3km az=164.0*
*DDA **17** 04:28:43.1, 39°.25N×27°.67E, h7km, MD2.8*
*CSEM **17** 04:28:43.5±0.1, 39°.25N×27°.62E, h12km, MD2.9, Error ellipse: s-maj=3.3km s-min=2.7km az=79.0*
ISC 17 04:28:43.4±0.9**, 39°.25N**±0°.02×**27°.63E**±0°.02**, h13**km±8km**, n41**, σ0§**53**/60**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.39**	**159**	*e*PG	**Pg**	**04 28 50.7**	**-0.6**
AKS				*e*SG	**Sg**	**04 28 56.2**	**-0.4**
AKHS	**Akhisar**	**0.39**	**159**	*i* P	**Pg**	**04 28 51.5**	**+0.2**
AKHS				*i* S	**Sg**	**04 28 57.5**	**+0.9**
AKHS	**Akhisar**	**0.39**	**159**	*i* P	**Pg**	**04 28 51.5**	**+0.2**
AKHS				*i* S	**Sg**	**04 28 57.5**	**+0.9**
BALB	**Balikesir**	**0.44**	**26**	*e*PG	**Pg**	**04 28 51.5**	**-0.6**
BALB				*e*SG	**Sg**	**04 28 58.3**	**+0.3**
BALB	**Balikesir**	**0.44**	**26**	*e*Pg	**Pg**	**04 28 51.5**	**-0.6**
BALB				*e*Sg	**Sg**	**04 28 58.3**	**+0.3**
BALY	**Balya**	**0.49**	**359**	*i* P	**Pg**	**04 28 53.3**	**+0.1**
BALY				*i* S	**Sb**	**04 29 00.4**	**-0.8**
BALY	**Balya**	**0.49**	**359**	*i* P	**Pg**	**04 28 53.3**	**+0.1**
BALY				*i* S	**Sb**	**04 29 00.4**	**-0.8**
AYVA	**Ayvalik**	**0.73**	**275**	*i* P	**Pb**	**04 28 58.5**	**+0.4**
AYVA				*i* S	**Sn**	**04 29 10.6**	**0.0**
AYVA	**Ayvalik**	**0.73**	**275**	*i* P	**Pb**	**04 28 58.5**	**+0.4**
AYVA				*i* S	**Sn**	**04 29 10.6**	**0.0**
BLCB	**Balcova**	**0.98**	**208**	*e*PG	**Pg**	**04 29 01.2**	**-1.0**
BLCB				*e*SG	**Sb**	**04 29 15.1**	**+0.1**
MANT	**Manisa**	**1.04**	**136**	*i* P	**Pn**	**04 29 04.3**	**+0.3**
MANT				*i* S	**Sg**	**04 29 16.9**	**-0.4**
MANT	**Manisa**	**1.04**	**136**	*i* P	**Pn**	**04 29 04.3**	**+0.3**
MANT				*i* S	**Sg**	**04 29 16.9**	**-0.4**
KULA	**Kula-Manisa**	**1.09**	**132**	*e*PN	**Pg**	**04 29 03.6**	**-0.8**
KULA	**Kula-Manisa**	**1.09**	**132**	*e*Pn	**Pg**	**04 29 03.6**	**-0.8**
EDC	**Edincik**	**1.11**	**9**	*e*PN	**Pg**	**04 29 04.2**	**-0.7**
EDC	**Edincik**	**1.11**	**9**	*e*Pn	**Pg**	**04 29 04.2**	**-0.7**
KCTX	**Karacabey (Bur**	**1.16**	**29**	*e*PN	**Pg**	**04 29 05.1**	**-0.7**
KCTX	**Karacabey (Bur**	**1.16**	**29**	*e*Pn	**Pg**	**04 29 05.1**	**-0.7**
EZN	**Ezine**	**1.16**	**300**	*e*PN	**Pg**	**04 29 05.0**	**-0.9**
EZN				*e*SN	**Sn**	**04 29 21.4**	**+0.2**
EZN	**Ezine**	**1.16**	**300**	*e*Pn	**Pg**	**04 29 05.0**	**-0.9**
EZN				*e*Sn	**Sn**	**04 29 21.4**	**+0.2**
KRBG	**Karabiga-Canak**	**1.17**	**347**	*e*PN	**Pg**	**04 29 05.3**	**-0.7**
KRBG	**Karabiga-Canak**	**1.17**	**347**	*e*Pn	**Pg**	**04 29 05.3**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.31**	**171**	*e*PN	**Pn**	**04 29 07.5**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.31**	**171**	*e*Pn	**Pn**	**04 29 07.5**	**-0.2**
MRMT	**Marmara Adasi**	**1.35**	**359**	*e*PN	**Pn**	**04 29 08.3**	**+0.1**
MRMT	**Marmara Adasi**	**1.35**	**359**	*e*Pn	**Pn**	**04 29 08.3**	**+0.1**
BOZC	**Bozcaada**	**1.36**	**296**	*i* P	**Pg**	**04 29 09.8**	**+0.2**
BOZC				*i* S	**Sg**	**04 29 27.7**	**+0.5**
TVSB	**Tavsanli**	**1.43**	**81**	*e*PN	**Pn**	**04 29 09.4**	**+0.1**
TVSB	**Tavsanli**	**1.43**	**81**	*e*Pn	**Pn**	**04 29 09.4**	**+0.1**
GDZ	**Gediz**	**1.45**	**96**	*i* P	**Pb**	**04 29 10.7**	**+0.4**
GDZ				*i* S	**Sg**	**04 29 30.1**	**+0.1**
GDZ	**Gediz**	**1.45**	**96**	*i* P	**Pb**	**04 29 10.7**	**+0.4**
GDZ				*i* S	**Sg**	**04 29 30.1**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.46**	**323**	*e*PN	**Pn**	**04 29 09.6**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.46**	**323**	*e*Pn	**Pn**	**04 29 09.6**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.48**	**40**	*e*PN	**Pn**	**04 29 10.2**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.48**	**40**	*e*Pn	**Pn**	**04 29 10.3**	**+0.5**
AYDN	**Tasoluk**	**1.59**	**173**	*i* P	**Pb**	**04 29 12.6**	**-0.2**
AYDN				*i* S	**Sn**	**04 29 32.7**	**+0.7**
AYDN	**Tasoluk**	**1.59**	**173**	*i* P	**Pb**	**04 29 12.6**	**-0.2**
AYDN				*i* S	**Sn**	**04 29 32.7**	**+0.7**
ALT	**Altintas**	**1.94**	**95**	*e*PN	**Pn**	**04 29 16.7**	**+0.5**
ALT	**Altintas**	**1.94**	**95**	*e*Pn	**Pn**	**04 29 16.7**	**+0.5**
CTKS	**Kestanelik-??a**	**2.10**	**18**	*e*PN	**Pn**	**04 29 18.9**	**+0.6**
CTKS	**Kestanelik-??a**	**2.10**	**18**	*e*Pn	**Pn**	**04 29 18.9**	**+0.6**

*IDC **17** 04:28:44.2±2.5, 15°.77N×96°.91W, h0km, mb3.7/7, mb1 4.0/10, mb1mx3.7/38, mbtmp3.7/10, ML3.1/3, Error ellipse: s-maj=44.2km s-min=15.9km az=172.0*
*ISCJB **17** 04:28:49.9±0.6, 16°.08N±0°.03×96°.93W±0°.03, h28km±4km, mb4.1/12, Error ellipse: s-maj=5.6km s-min=3.9km az=24.5*
*NEIC **17** 04:28:52.3, 16°.04N×96°.98W, h16km, mb4.1/15, MD4.2(MEX), After MEX.*
NEIC Felt at Huatulco and Puerto Escondido.
*MEX **17** 04:28:52.3±0.5, 16°.04N×96°.98W, h16km±22km, MD4.2*
ISC 17 04:28:49.5±1.8**, 16°.11N**±0°.04×**96°.94W**±0°.03**, h16**km±13km**, n165,** σ1§**15**/185**, mb4.1**/13**, 58C-52D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.63**	**134**	*e*P	**Pb**	**04 29 02.2**	**+0.2**
PANG				*e*S	**Sg**	**04 29 09.9**	**-0.4**
HUIG	**Huatulco**	**0.87**	**113**	*e*P	**Pb**	**04 29 06.0**	**-0.2**
HUIG				*e*S	**Sb**	**04 29 16.8**	**-0.8**
HUIG	**Huatulco**	**0.87**	**113**	*e*P	**Pb**	**04 29 06.0**	**-0.2**
HUIG				*e*S	**Sb**	**04 29 16.8**	**-0.8**
OXBJ	**Oaxaca**	**0.98**	**12**	*e*P	**Pb**	**04 29 08.6**	**+0.4**
OXBJ				*i* S	**Sb**	**04 29 21.2**	**+0.4**
VHO	**Vista Hermosa**	**0.98**	**12**	*i* P	**Pb**	**04 29 08.6**	**+0.4**
VHO				*i* S	**Sb**	**04 29 21.3**	**+0.3**
OXX	**Oaxaca**	**0.99**	**12**	*i* P	**Pb**	**04 29 06.0**	**-2.4**
OXX				*i* S	**Sb**	**04 29 18.6**	**-2.6**
OXX	**Oaxaca**	**0.99**	**12**	*i* P	**Pb**	**04 29 06.0**	**-2.4**
OXX				*i* S	**Sb**	**04 29 18.6**	**-2.6**
PNIG	**Pinotepa**	**1.17**	**284**	*i* P	**Pn**	**04 29 09.9**	**-1.3**
PNIG				*i* S	**Sb**	**04 29 23.7**	**-2.7**
PNIG	**Pinotepa**	**1.17**	**284**	*i* P	**Pn**	**04 29 09.9**	**-1.3**
PNIG				*i* S	**Sb**	**04 29 23.7**	**-2.7**
TLIG	**Tlapa**	**2.12**	**313**	*e*P	**Pn**	**04 29 24.7**	**+0.3**
TLIG				*e*S	**Sn**	**04 29 49.3**	**-1.2**
CMIG	**Matias Romero**	**2.20**	**63**	*e*P	**Pn**	**04 29 25.1**	**-0.3**
CMIG				*e*S	**Sn**	**04 29 52.3**	**+0.1**
CMIG	**Matias Romero**	**2.20**	**63**	Pn	**Pn**	**04 29 24.6**	**-0.7**
	6.6nm,0.3s,baz=245,slow=13,SNR=60						
CMIG				Pg	**Pb**	**04 29 28.4**	**-0.5**
	50nm,0.3s,baz=233,slow=14,SNR=120						
CMIG				Lg	Lg	04 29 59.3	
	182nm,0.3s,baz=2.4,slow=14,SNR=13						
CMIG	**Matias Romero**	**2.20**	**63**	*e*P	**Pn**	**04 29 25.1**	**-0.3**
CMIG				*e*S	**Sn**	**04 29 52.3**	**+0.1**
HMTT	**Tlapaneco**	**2.29**	**318**	*e*P	**Pn**	**04 29 26.6**	**0.0**
HMTT				*e*S	**Sn**	**04 29 54.3**	**-0.1**
TPIG	**Tehuac#an**	**2.33**	**350**	*e*P	**Pn**	**04 29 28.9**	**+1.6**
TPIG				*e*S	**Sn**	**04 29 56.4**	**+0.7**
TPIG	**Tehuac#an**	**2.33**	**350**	*e*P	**Pn**	**04 29 28.9**	**+1.6**
TPIG				*e*S	**Sn**	**04 29 56.4**	**+0.7**
ACX	**Acapulco**	**2.90**	**286**	*e*P	**Pn**	**04 29 36.0**	**+1.0**
ACX				*e*S	**Sn**	**04 30 09.6**	**+0.1**
ACX	**Acapulco**	**2.90**	**286**	*e*P	**Pn**	**04 29 36.0**	**+1.0**
ACX				*e*S	**Sn**	**04 30 09.6**	**+0.1**
TUIG	**Tuzandepetl**	**3.08**	**51**	*e*P	**Pn**	**04 29 37.8**	**+0.4**
TUIG				*e*S	**Sn**	**04 30 14.0**	**+0.2**
TUIG	**Tuzandepetl**	**3.08**	**51**	*e*P	**Pn**	**04 29 37.8**	**+0.4**
TUIG				*e*S	**Sn**	**04 30 14.0**	**+0.2**
MEIG	**Mezcala**	**3.14**	**306**	*e*P	**Pn**	**04 29 39.4**	**+1.1**
MEIG				*e*S	**Sn**	**04 30 15.4**	**0.0**
MEIG	**Mezcala**	**3.14**	**306**	*e*P	**Pn**	**04 29 39.4**	**+1.1**
MEIG				*e*S	**Sn**	**04 30 15.4**	**0.0**
CAIG	**El Cayaco**	**3.32**	**287**	*e*P	**Pn**	**04 29 40.5**	**-0.3**
CAIG				*i* S	**Sn**	**04 30 18.8**	**-1.2**
CAIG	**El Cayaco**	**3.32**	**287**	*e*P	**Pn**	**04 29 40.5**	**-0.3**
CAIG				*i* S	**Sn**	**04 30 18.8**	**-1.2**
PCIG		**3.60**	**96**	*e*P	**Pn**	**04 29 45.1**	**+0.5**
PCIG				*i* S	**Sn**	**04 30 25.6**	**-1.3**
PCIG		**3.60**	**96**	*e*P	**Pn**	**04 29 45.1**	**+0.5**
PCIG				*i* S	**Sn**	**04 30 25.6**	**-1.3**
APG	**El Apazote**	**6.34**	**99**	Pn	Pn	04 30 18.3	-4.2
	0.3nm,0.3s,baz=354,slow=19,SNR=7.

U25A	Circle Dot Ran	21.27 343	⇑P	P	04 33 36.5 +1.1
	baz=21				
T28A	Walsh	21.43 349	⇑P	P	04 33 37.5 +0.6
	baz=22				
T27A	Campo	21.49 347	⇓P	P	04 33 38.2 +0.6
	baz=22				
WVT	Waverly	21.53 20	eP	P	04 33 36.4 -1.5
	5.9nm,0.9s				
X18A	Snowflake	21.75 330	⇓P	P	04 33 42.6 +2.1
	baz=22,SNR=6.6				
U23A	El Rito	21.76 339	⇑P	P	04 33 41.5 +0.9
	baz=22,SNR=8.9				
T26A	Comanche Natio	21.80 346	⇑P	P	04 33 41.2 +0.3
	baz=22				
T25A	Trinidad	21.97 344	⇓P	P	04 33 43.9 +1.0
	baz=22				
R33A	Olander Ranch,	22.13 358	⇓P	P	04 33 44.8 +0.4
	baz=22				
S26A	Kim	22.19 346	⇑P	P	04 33 46.3 +1.1
	baz=22				
R30A	Dighton	22.29 353	⇑P	P	04 33 47.7 +1.6
	baz=22				
X16A	Lo Mia Camp, P	22.41 327	⇓P	P	04 33 50.5 +2.9
	baz=22				
S25A	Robets Cordova	22.47 344	⇓P	P	04 33 49.2 +1.0
	baz=23				
S24A	Houchin Ranch,	22.66 343	⇑P	P	04 33 50.8 +0.5
	baz=23				
R27A	Eads	22.69 348	⇓P	P	04 33 50.6 +0.2
	baz=23				
TKL	Tuckaleechee C	22.74 29	P	P	04 33 50.3 -0.7
	2.1nm,0.6s,baz=181,slow=7.3,SNR=4.9				
R26A	Arlington	22.84 347	⇓P	P	04 33 53.3 +1.2
	baz=23,SNR=8.8				
SDCO	Great Sand Dun	22.84 342	eP	P	04 33 52.4 +0.2
	68nm,3.0s				
R25A	Fountain Ranch	22.89 345	⇑P	P	04 33 53.4 +0.8
	baz=23				
Q29A	Oakley	22.97 352	⇓P	P	04 33 54.3 +1.0
	baz=23				
R24A	Sanders Place,	23.18 343	⇑P	P	04 33 56.7 +1.1
	baz=23				
WUAZ	Wupatki	23.24 329	⇑P	P	04 33 58.2 +2.0
	baz=23,SNR=5.6				
WUAZ	Wupatki	23.24 329	eP	P	04 33 58.6 +2.4
	5.8nm,0.9s				
S22A	4UR Ranch, Cre	23.25 340	⇑P	P	04 33 57.8 +1.3
	baz=23				
MVCO	Mesa Verde	23.38 336	⇓P	P	04 33 59.3 +1.6
	baz=24				
MVCO	Mesa Verde	23.38 336	eP	P	04 33 57.7 0.0
	12nm,1.3s				
Q26A	Hugo	23.45 347	⇓P	P	04 33 58.9 +0.6
	baz=24				
P29A	Atwood	23.66 352	⇑P	P	04 34 00.8 +0.5
	baz=24				
P28A	Saint Francis	23.75 351	⇓P	P	04 34 01.6 +0.5
	baz=24				
P27A	Ficken Ranch,	23.88 349	⇑P	P	04 34 02.9 +0.5
	baz=24				
WCI	Wyandotte Cave	23.95 21	eP	P	04 34 02.1 -0.9
	11nm,0.8s				
P26A	Davis Ranch, A	24.03 348	⇓P	P	04 34 04.7 +0.9
	baz=24				
O31A	Woolen Ranch,	24.05 356	⇑P	P	04 34 04.2 +0.4
	baz=24				
O30A	MW Ranch, Wils	24.14 354	⇓P	P	04 34 05.1 +0.4
	baz=24				
P25A	Willow Gulch B	24.16 346	⇑P	P	04 34 06.1 +1.0
	baz=24				
PV01	Paradox Valley	24.22 337	eP	P	04 34 07.8 +2.1
	1μm,1.3s				
W13A	Hualapai Mount	24.25 324	⇑P	P	04 34 08.7 +2.7
	baz=24				
IRM	Iron Mountain	24.32 321	⇑P	P	04 34 09.0 +2.6
	baz=24				
U15A	North Rim	24.41 329	⇓P	P	04 34 09.7 +2.1
	baz=24,SNR=5.9				
P23A	Jefferson	24.45 343	⇓P	P	04 34 10.3 +2.3
	baz=25				
N32A	Stulken Farm,	24.59 358	⇑P	P	04 34 09.3 +0.4
	baz=25				
O26A	Horse Wrangler	24.68 348	⇓P	P	04 34 10.8 +1.0
	baz=25				
ISCO	Idaho Springs	24.79 344	⇓P	P	04 34 12.2 +1.2
	baz=25				
P22A	Eagle	24.92 342	⇓P	P	04 34 14.2 +2.1
	baz=25				
O23A	Lake Granby, G	25.25 344	⇑P	P	04 34 17.4 +2.2
	baz=26				
HEC	Hector,Ludlow	25.49 321	⇑P	P	04 34 19.9 +2.8
	baz=26				
SFIN	Lafayette	25.65 18	⇑P	P	04 34 17.4 -1.0
	baz=26				
TUQ	Turquoise Moun	25.66 322	⇑P	P	04 34 22.7 +4.1
	baz=26				
O20A	White River Ci	25.88 340	⇓P	P	04 34 22.6 +1.8
	baz=26				
K30A	Basset	26.57 356	⇑P	P	04 34 29.6 +2.8
	baz=27				
TPNV	Topopah Spring	26.90 324	⇑P	P	04 34 35.5 +5.5
	baz=27				
PDAR	Pinedale Array	28.68 340	P	P	04 34 46.7 +0.8
	0.4nm,0.8s,baz=188,slow=5.7,SNR=4.1				
NVAR	Mina Array Bea	29.10 324	P	P	04 34 51.5 +1.8
	1.5nm,0.9s,baz=148,slow=9.5,SNR=7.6				
H24A	Dirks Ranch, A	29.26 349	⇑P	P	04 34 51.7 +0.8
	baz=29				
G26A	Maurine	29.48 352	⇑P	P	04 34 53.1 +0.4
	baz=30				
I19A	Meeteetse	29.66 342	⇑P	P	04 34 55.4 +0.9
	baz=30				
G24A	Alzada	29.80 349	⇓P	P	04 34 56.6 +0.9
	baz=30				
I17A	Pilgrim Ck.	30.04 340	⇑P	P	04 34 59.7 +1.7
	baz=30				
G22A	Birney	30.07 347	⇓P	P	04 34 58.3 +0.2
	baz=30				
H19A	Powell	30.24 343	⇓P	P	04 35 00.8 +1.2
	baz=30				
E27A	Carson	30.48 354	⇑P	P	04 35 02.5 +0.9
	baz=31				
HLID	Hailey	31.14 335	⇑P	P	04 35 07.3 -0.3
	baz=31				
E20A	Meyer Farm, Mu	31.71 345	⇓P	P	04 35 12.9 +0.5
	baz=32				
E19A	Rath Farm, Rou	31.83 344	⇑P	P	04 35 14.1 +0.5
	baz=32				
D20A	Manuel Ranch,	32.26 346	⇓P	P	04 35 17.7 +0.4
	baz=32				
C23A	Lambert	32.33 350	⇓P	P	04 35 18.6 +0.7
	baz=32				
C22A	Vida	32.40 349	⇑P	P	04 35 19.0 +0.6
	baz=32				
D19A	Cripps Ranch,	32.51 345	⇑P	P	04 35 20.1 +0.6
	baz=33				
C21A	Desert Coulee	32.72 347	⇑P	P	04 35 21.7 +0.4
	baz=33				
C19A	Slack Wire Ran	33.08 345	⇑P	P	04 35 25.1 +0.6
	baz=33				
B19A	Brinkman Farms	33.73 346	⇓P	P	04 35 30.7 +0.6
	baz=34				
MSO	Missoula	33.73 339	⇓P	P	04 35 31.3 +1.1
	baz=34				
A21A	Bergtoll Ranch	33.80 348	⇓P	P	04 35 31.3 +0.7
	baz=34				
SCHQ	Schefferville	45.09 24	P	P	04 37 02.6 -2.1
	2.4nm,0.9s,baz=231,slow=15,SNR=3.3				
YKA	Yellowknife Ar	47.97 349	P	P	04 37 26.2 -0.9
	0.7nm,0.7s,baz=154,slow=7.3,SNR=12				
ILAR	Eielson Array	59.05 338	P	P	04 38 48.2 -0.2
	0.9nm,0.9s,baz=146,slow=3.9,SNR=10				

IDC 17 04:43:27.7±5.1, 2°10N×83°54W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/28, mbtmp3.6/5, ML3.6/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/30, Error ellipse: s-maj=204.7km s-min=85.0km az=90.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	8.26	350	Pn	Pn	04 45 30.4	+1.4
	0.7nm,0.3s,baz=260,slow=14,SNR=5.1						
JTS				LR	LR	04 47 52.4	
	comp=Z,318nm,21.0s,baz=190,slow=32						
APG	El Apazote	14.53	332	LR	LR	04 51 18.6	
	comp=Z,137nm,18.6s,baz=164,slow=32						
TKL	Tuckaleechee C	33.39	360	LR	LR	05 01 34.5	
	comp=Z,72nm,20.0s,baz=157,slow=32						
SADO	Sadowa	42.67	5	LR	LR	05 08 03.4	
	comp=Z,99nm,19.6s,baz=204,slow=35						
PDAR	Pinedale Array	46.69	334	P	P	04 51 57.6	-1.1
	0.5nm,0.9s,baz=162,slow=9.3,SNR=3.0						
ULM	Lac du Bonnet	49.11	350	P	P	04 52 16.7	-0.3
	1.6nm,0.8s,baz=153,slow=5.6,SNR=3.3						
YKA	Yellowknife Ar	64.56	345	P	P	04 54 06.0	-0.4
	0.4nm,0.9s,baz=136,slow=6.8,SNR=6.6						
ILAR	Eielson Array	77.00	337	P	P	04 55 23.2	+1.0
	0.3nm,0.9s,baz=130,slow=8.0,SNR=3.1						

*IDC **17** 04:44:10.5±4.6, 34°.88N×138°.89E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.3/47, mbtmp3.8/3, Error ellipse: s-maj=84.1km s-min=39.9km az=100.0*

*ISCJB **17** 04:44:15.5±0.6, 35°.70N±0°.04×140°.01E±0°.06, h70km±5km, mb3.7/3, Error ellipse: s-maj=8.8km s-min=5.0km az=143.2*

*JMA **17** 04:44:16.3±0.2, 35°.78N×140°.01E, h60km±2km, M3.0 Broadband fault plane solution: P waves. NP1: φs=217.00000°, δ82.00000°, λ=-100.00000°. NP2: φs=88.00000°, δ13.00000°, λ=-40.00000°. Principal axes: T Plg36.0000°, Azm316.0000°; N Plg10.0000°, Azm219.0000°; P Plg52.0000°, Azm116.0000°;*

ISC 17 04:44:16.5±1.1, 35°.71N±0°.04×139°.99E±0°.05, h67km±8km, n16, σ0°89/28, mb4.0/3, 1C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	Tokyo	0.19	263	⇓P	Pn	04 44 26.5	-0.1
TOK				S	Sn	04 44 34.1	0.0
JCN	Nagara	0.34	150	P	Pn	04 44 27.6	0.0
JCN				S	Sn	04 44 37.3	+1.6
JAG	Ashikaga	0.84	329	⇓P	Pn	04 44 31.8	-1.0
JAG				S	Sn	04 44 42.8	-2.1
JOD2	Odawara 2	0.86	239	P	Pn	04 44 32.7	-0.5
JOD2				S	Sn	04 44 44.3	-1.2
JRY	Ryogami san	0.94	289	⇓P	Pn	04 44 33.9	-0.2
JRY				S	Sn	04 44 47.4	+0.3
BSO3	Boso 3	1.00	155	⇑P	Pn	04 44 33.9	-0.7
BSO3				S	Sn	04 44 48.4	+0.4
JIM2	Oshima 3	1.09	205	P	Pn	04 44 35.4	-0.7
JIM2				S	Sn	04 44 49.5	-1.1
JYN	Shimob	1.20	260	⇓P	Pn	04 44 37.3	-0.2
JYN				S	Sn	04 44 53.2	0.0
JKT	Katashina	1.21	330	P	Pn	04 44 37.0	-0.7
JKT				S	Sn	04 44 52.8	-0.7
BSO1	Boso 1	1.33	142	P	Pn	04 44 37.6	-1.0
BSO1				S	Sn	04 44 54.8	-0.4
JIZS	Izushimoda	1.35	223	S	Sn	04 44 55.6	-0.9
MJAR	Matsushiro Arr	1.67	300	Pn	Pn	04 44 42.6	-1.0
	6.5nm,0.3s,baz=162,slow=14,SNR=21						
MJAR				Sn	Sn	04 45 04.7	+0.6
	12nm,0.3s,baz=202,slow=16,SNR=12						
MAT	Matsushiro	1.67	300	P	Pn	04 44 44.1	+0.5
MAT				S	Sn	04 45 05.1	+0.9
ZALV	Zalesovo Beam	41.98	313	P	P	04 52 01.4	+0.8
	1.6nm,0.6s,baz=86,slow=7.5,SNR=5.6						
MKAR	Makanchi Array	43.86	303	P	P	04 52 17.0	+0.9
	0.4nm,0.6s,baz=74,slow=11,SNR=5.3						
KURBB	Kurchatov Arra	45.92	309	P	P	04 52 32.8	+0.5
	1.5nm,0.7s,baz=86,slow=7.8,SNR=15						

*SZGRF **17** 04:46:02.4, 5°.47S×103°.39E, h33km, mb5.2, MS4.2, Southern Sumatera, Indonesia*

*MOS **17** 04:46:10.8±0.9, 4°.37S×102°.96E, h37km, mb5.6/78, Error ellipse: s-maj=8.8km s-min=4.2km az=116.6*

*BJI **17** 04:46:13.1, 4°.70S×102°.80E, h71km, mB5.2/46, mb5.5/66, Ms4.7/49, Ms7 4.4/46*

*ISCJB **17** 04:46:14.8±0.3, 4°.58S±0°.02×102°.88E±0°.02, h77km±2km, mb5.3/167, Error ellipse: s-maj=4.7km s-min=2.5km az=38.9*

*KLM **17** 04:46:15.0, 4°.78S×102°.63E, h67km, mb5.3, MS6.1*

*GCMT **17** 04:46:15.1±0.3, 4°.81S×102°.50E, h67km±2km, MW5.0/75, Moment Tensor Solution. s34, c39; s75, c96; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 3.34±.20; Mθθ -1.98±.15; Mφφ -1.36±.19; Mrθ 1.62±.11; Mφθ 3.22±.15; Mφr -0.28±.13; Best double couple: M=4.51400×10^16 NP1: φs=114.00000°, δ57.00000°, λ66.00000°. NP2: φs=334.00000°, δ40.00000°, λ122.00000°. Principal axes: T 3.8920, Plg68.0000°, Azm335.0000°; N 1.2440, Plg20.0000°, Azm128.0000°; P -5.1360, Plg9.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **17** 04:46:16.0±1.3, 4°.52S×102°.97E, h73km±10km, mb5.1/33, mb1 5.1/34, mb1mx5.1/36, mbtmp5.4/34, MS4.0/12, Ms1 4.1/12, ms1mx3.8/28 Error ellipse: s-maj=11.5km s-min=8.5km az=40.0*

*DJA **17** 04:46:15.2±0.2, 5°S±2°×10°3E±°, h58km±2km, M5.2/98, mb5.5/98, mB5.7/63, MLv5.6/28, Mw(mB)5.2/63, Mwp5.5/1*

*NEIC **17** 04:46:15.1±0.4, 4°.64S×102°.83E, h70km±3km, mb5.3/79, Error ellipse: s-maj=4.9km s-min=3.2km az=219.0*

NEIC Felt [IV] at Manna and Tais; [III] at Bengkulu, Kapahiang and Liwa. Also felt at Lahat.

ISC 17 04:46:14.9±0.3, 4°.64S±0°.03×102°.80E±0°.03, h69km±1km, h69km: pP-P, n1306, σ1°22/1385, mb5.4/170, 225C-210D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	0.32	30	P	Pn	04 46 25.3	-0.8
MNAI				S	Sn	04 46 33.8	-0.5
MNAI	Manna	0.32	30	⇓P	Pn	04 46 25.2	-0.8
	baz=0.4,SNR=1000						
MNAI				⇑S	Sn	04 46 34.4	+0.2
	baz=0.4,SNR=16						
MNAI	Manna	0.32	30	ePn	Pn	04 46 24.9	-1.1
MNAI				eSn	Sn	04 46 33.7	-0.5
LHSI	Lahat	1.08	42	P	Pn	04 46 34.9	+0.6
LWLI	Liwa	1.31	107	P	Pn	04 46 37.8	+0.3
LWLI				S	Sn	04 46 54.0	-0.4
MDSI	Maura Dua	1.39	84	P	Pn	04 46 38.5	+0.2
MDSI				S	Sn	04 46 57.0	+1.1
KASI	Kota Agung	1.91	118	P	Pn	04 46 44.4	-0.9
KASI				S	Sn	04 47 06.7	-1.7
KLI	Kotabumi	2.06	96	P	Pn	04 46 46.4	-1.0
BLSI	Bandar Lampung	2.54	107	P	Pn	04 46 54.6	+0.7
PMBI	Palembang	2.60	49	P	Pn	04 46 55.3	+0.7
PMBI	Palembang	2.60	49	⇓P	Pn	04 46 55.2	+0.5
	baz=2.7,SNR=28						
JMBI	JAMBI	3.10	16	P	Pn	04 47 03.4	+2.0
CGJI	Cibinong	3.49	124	P	Pn	04 47 06.9	+0.2
SBJI	Serang	3.63	114	P	Pn	04 47 14.1	+5.4
SDSI	Sungai Dareh	3.92	340	P	Pn	04 47 13.9	+1.2
TNG	Tangerang	4.12	112	P	Pn	04 47 18.5	+3.1
TNG	Tangerang	4.12	112	P	Pn	04 47 19.6	+4.2
PDSI	Padang	4.37	328	P	Pn	04 47 19.5	+0.6
SKJI	Sukabumi	4.42	122	P	Pn	04 47 28.5	+9.0
DSRI	Dabo	4.50	23	P	Pn	04 47 22.1	+1.6
CNJI	Cibinong	5.06	122	P	Pn	04 47 29.3	+1.0
	423nm,0.7s,9μm6.8nm						
TPI	Tanjungpandan	5.19	69	P	Pn	04 47 30.9	+0.8
	267nm,1.0s,4μm2.2nm						
BKNI	Bangkinang	5.23	340	P	Pn	04 47 33.0	+2.4
	1μm,0.7s,12μm8.1nm						
BKNI	Bangkinang	5.23	340	⇑P	Pn	04 47 32.4	+1.8
	baz=5.3,SNR=18						
BKNI	Bangkinang	5.23	340	ePn	Pn	04 47 31.2	+0.6
LEM	Lembang	5.27	115	P	Pn	04 47 32.5	+1.3
	827nm,0.8s,7μm2.8nm						
LEM	Lembang	5.27	115	⇓P	Pn	04 47 33.3	+2.1
	baz=5.3,SNR=7.1						
CISI	Cisompet, Garu	5.77	120	P	Pn	04 47 35.9	-2.1
	535nm,0.5s,12μm5.5nm						
CISI	Cisompet, Garu	5.77	120	⇓P	Pn	04 47 37.7	-0.3
	baz=5.8,SNR=11						
CISI	Cisompet, Garu	5.77	120	ePn	Pn	04 47 37.3	-0.7
CISI				eSn	Sn	04 48 39.4	-3.6
TPRI	Tanjung Pinang	5.78	17	P	Pn	04 47 39.4	+1.3
	621nm,0.8s,13μm3.4nm						
BTDF	Bukit Timah Da	6.04	9	⇓P	Pn	04 47 43.3	+1.7
	baz=6.1,SNR=19						
MNSI	Mandailing Nat	6.28	329	P	Pn	04 47 42.6	-2.3
	259nm,0.8s,7μm						
CMJI	Cimerak	6.43	119	P	Pn	04 47 47.1	+0.1
	309nm,1.0s,5μm2.3nm						
XMIS	Christmas Isla	6.46	154	ePn	Pn	04 47 40.2	-7.2
MYKOM	Kota Tinggi	6.47	9	⇓P	Pn	04 47 50.3	+2.7
MYKOM	Kota Tinggi	6.47	9	ePn	Pn	04 47 49.6	+2.0
KGM	Kluang	6.63	5	⇓P	Pn	04 47 52.2	+2.5
KPJI	Karang Pucung	6.66	114	P	Pn	04 47 51.3	+1.1
	156nm,0.8s,3μm0.7nm						
GSI	Gunungsitoli	7.88	318	P	Pn	04 48 03.9	-2.9
	374nm,0.6s,4μm1.8nm						
GSI	Gunungsitoli	7.88	318	ePn	Pn	04 48 05.5	-1.3
GSI				eSn	Sn	04 49 30.3	-4.2
FRIM	Kepong	7.91	351	⇓P	Pn	04 48 10.0	+2.8
SMRI	Semarang	7.97	108	P	Pn	04 48 09.7	+1.6
	265nm,1.0s						
SMRI	Semarang	7.97	108	ePn	Pn	04 48 09.5	+1.4
	259nm,1.0s						
PSI	Prapat	8.34	332	P	Pn	04 48 11.5	-1.7
PSI				pmax	pmax		
	comp=Z,7.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,608nm,20.8s						
PSI	Prapat	8.34	332	P	Pn	04 48 11.5	-1.7
	comp=Z,7.0nm,0.3s,baz=191,slow=7.5,SNR=13						
PSI				LR	LR	04 51 59.8	
	comp=Z,608nm,20.8s,baz=143,slow=42						
PSI	Prapat	8.34	332	P	Pn	04 48 11.6	-1.7
	baz=8.3,SNR=11						
UGM	Wanagama	8.34	113	P	Pn	04 48 14.0	+0.8
	comp=Z,228nm,0.8s						
UGM	Wanagama	8.34	113	P	Pn	04 48 13.6	+0.5
	baz=8.4,SNR=41						
UGM	Wanagama	8.34	113	ePn	Pn	04 48 13.7	+0.5
WOJI	Wonogiri, Jawa	8.68	112	P	Pn	04 48 18.3	+0.5
	comp=Z,122nm,0.7s						
NGJI	Ngawi	9.03	108	P	Pn	04 48 26.5	+3.9
	comp=Z,115nm,0.7s						
PCJI	Pacitan	9.05	113	P	Pn	04 48 23.4	+0.6
	comp=Z,141nm,0.5s						
IPM	Ipoh	9.22	349	⇓P	Pn	04 48 28.0	+2.7
IPM	Ipoh	9.22	349	ePn	Pn	04 48 27.4	+2.1
SNSI	Sinabang, Aceh	9.53	317	P	Pn	04 48 27.9	-1.4
	comp=Z,345nm,0.8s,comp=Z,5μm						
KCSI	Kotacane, Aceh	9.53	328	P	Pn	04 48 25.6	-3.8
	comp=Z,75nm,0.5s,comp=Z,1μmcomp=Z,11μm						
COCO	West Island	9.54	218	Pn	Pn	04 48 27.2	-2.4
	comp=Z,4μm,0.9s,SNR=11						
COCO	West Island	9.54	218	eP	Pn	04 48 27.0	-2.5
COCO	West Island	9.54	218	P	Pn	04 48 28.2	-1.4
	SNR=5.1						
COCO	West Island	9.54	218	ePn	Pn	04 48 27.0	-2.5
COCO				eSn	Sn	04 50 04.8	-10
PWJI	Pagerwojo	9.56	111	P	Pn	04 48 28.8	-1.0
	comp=Z,139nm,0.8s						
TPTI		9.64	324	P	Pn	04 48 29.9	-1.0
	comp=Z,39nm,0.6s,comp=Z,26μm						
KSM	Kuching	9.65	51	P	Pn	04 48 32.7	+1.6
	baz=9.8,SNR=6.7						
KSM	Kuching	9.65	51	⇑P	Pn	04 48 33.7	+2.6
KSM	Kuching	9.65	51	ePn	Pn	04 48 32.6	+1.6
STKI	Sintang	9.85	62	P	Pn	04 48 37.1	+3.3
GRJI	Gresik	9.90	104	P	Pn	04 48 36.8	+2.4
	comp=Z,147nm,0.7s,comp=Z,1μm						
KTGM	Kuala Trenggan	9.90	2	⇑P	Pn	04 48 38.5	+4.0
KULM	Kulim	10.09	348	⇓P	Pn	04 48 38.0	+0.9
KULM	Kulim	10.09	348	ePn	Pn	04 48 37.6	+0.6
BLJI	Banyuglugur	11.17	107	P	Pn	04 48 53.0	+1.2
	comp=Z,171nm,0.5s,comp=Z,8μm						
GMJI	Gumukmas	11.18	109	P	Pn	04 48 52.9	+1.0
	comp=Z,127nm,0.7s						
KMMI	Kalianget	11.37	103	P	Pn	04 48 55.1	+0.6
	comp=Z,101nm,0.7s						
LHMI	Lhok Sumawe	11.41	329	P	Pn	04 48 54.5	-0.5
	baz=12,SNR=4.1						
SBUM	Sibu	11.76	53	⇑P	Pn	04 49 03.4	+3.6
SBUM	Sibu	11.76	53	ePn	Pn	04 49 03.0	+3.2
ABJI	Asem Bagus	11.79	106	P	Pn	04 49 01.2	+0.9
	comp=Z,463nm,0.9s,comp=Z,5μm						
JAGI	Jajag, Banyuwa	11.91	109	P	Pn	04 48 59.8	-2.1
	comp=Z,336nm,0.8s,comp=Z,5μm						
JAGI	Jajag, Banyuwa	11.91	109	P	Pn	04 49 01.5	-0.4
	baz=12,SNR=20						
JAGI	Jajag, Banyuwa	11.91	109	ePn	Pn	04 49 01.2	-0.7
	comp=Z,274nm,0.6s						
JAGI				eSn	Sn	04 51 10.0	-3.0
BBKI	Banjar Baru	12.07	85	P	P	04 49 16.9	+2.5
MTKI	Muara Teweh, K	12.63	73	P	P	04 49 16.7	-3.9
SRBI	Singaraja	12.80	106	P	Pn	04 49 13.8	-0.3
	comp=Z,197nm,0.6s,comp=Z,3μm						
IGBI	Denpasar	12.95	109	P	Pn	04 49 14.4	-1.6
	comp=Z,426nm,0.7s,comp=Z,6μm						
DNP	Denpasar	12.96	109	P	Pn	04 49 14.9	-1.4
SRIT	Nakonsritamara	13.52	346	P	P	04 49 28.8	-1.7
SURA	Surathani	14.07	347	P	P	04 49 36.9	+0.3
SURT	Suratani	14.08	344	P	P	04 49 38.0	+1.3
BKB	Balikpapan	14.47	77	P	P	04 49 45.3	+4.2
SGKI	Sangatta, Kali	15.34	75	P	P	04 49 51.9	+1.1
	comp=Z,535nm,1.1s,comp=Z,6μm						
KAPI	Kappang	16.90	92	P	P	04 50 07.9	-0.1
	comp=Z,556nm,0.7s,SNR=14						
KAPI	Kappang	16.90	92	P	P	04 50 08.0	0.0
	SNR=21						
KAPI	Kappang	16.90	92	ePn	Pn	04 50 07.5	+0.5
SPSI	Sidrap Palu	16.94	88	P	Pn	04 50 05.0	-2.5
	comp=Z,155nm,0.9s,comp=Z,1μm						
TTSI	Tana Toraja	17.06	85	P	P	04 50 10.5	+0.7
	comp=Z,125nm,0.8s						
KKM	Kota Kinabalu	17.09	52	P	P	04 50 11.9	+1.6
	baz=17,SNR=4.7						
KKM	Kota Kinabalu	17.09	52	⇑P	P	04 50 12.0	+1.8
KKM	Kota Kinabalu	17.09	52	ePn	P	04 50 11.5	+1.3
BNSI	Bone	17.26	90	P	P	04 50 12.8	+0.8
	comp=Z,223nm,0.8s,comp=Z,2μm						
BKSI	Bulukumba	17.27	93	P	Pn	04 50 10.4	-1.3
	comp=Z,221nm,0.8s,comp=Z,2μm						
DLV	T Lat	17.41	19	eP	P	04 50 16.7	+2.7
TSM	Tawau	17.48	60	⇓P	P	04 50 17.3	+2.8
SDKM	Sandakan	17.63	55	⇓P	P	04 50 18.4	+2.2
MPSI	Mapaga	17.78	74	P	P	04 50 17.5	-0.3
	comp=Z,112nm,0.7s,comp=Z,3μm						
KDM	Kudat	18.11	51	⇑P	Pn	04 50 24.3	+2.5
MYLDM	Lahad Datu	18.47	58	ePn	Pn	04 50 28.9	+2.7
	comp=Z,180nm,0.8s						
BASI	Baing, Sumba	18.48	108	P	Pn	04 50 28.1	+1.8
	comp=Z,472nm,0.9s,comp=Z,6μm						
TOLI	Toli-Toli	18.87	73	eP	P	04 50 29.7	0.0
	comp=Z,218nm,0.5s						
NAYO	Nakonayok	18.88	356	P	P	04 50 29.9	0.0
	comp=Z,37nm,0.8s						
APSI	Ampana	19.19	79	P	Pn	04 50 34.6	-0.2
	comp=Z,460nm,0.9s,comp=Z,4μm						
EDFI	Ende, Flores	19.20	103	P	P	04 50 31.9	-1.6
	comp=Z,110nm,0.6s,comp=Z,1μm						
SRDT	SRDT	19.21	349	P	P

comp=Z,312nm,0.7s
SOEI Soe 21.89 105 P **P 04 51 00.5 -2.1**
comp=Z,198nm,0.9s,comp=Z,2µm
SOEI Soe 21.89 105 *e*P **P 04 51 00.3 -2.2**
comp=Z,153nm,0.6s
SOEI *e*S S 04 54 50.3 -11
LOEI Loei 22.06 356 P **P 04 51 03.2 -0.9**
comp=Z,31nm,0.8s,comp=Z,1µm
SUKH Sukhothai 22.20 352 P **P 04 51 05.7 +0.1**
comp=Z,32nm,0.8s,comp=Z,223nm
UTTA Uttaradit 22.35 354 P **P 04 51 06.9 -0.3**
comp=Z,28nm,0.7s,comp=Z,249nm
MHMT Maesarieng 23.17 348 P **P 04 51 14.8 -0.9**
comp=Z,43nm,0.8s
LAMP Lampang 23.22 352 P **P 04 51 15.8 -0.4**
comp=Z,30nm,0.7s,comp=Z,264nm
MBWA Marble Bar 23.24 136 *e*P **P 04 51 16.8 +0.3**
comp=Z,23nm,0.7s
CMAR Chiang Mai Arr 23.26 351 P **P 04 51 15.1 -1.5**
CMAR 04 55 04.0
CMAR pmax pmax
comp=Z,45nm,0.6s
CMAR pmax pmax
comp=Z,12nm,0.7s
CMAR pmax pmax
comp=N,5.0nm,1.0s
CMAR MLR MLR
comp=Z,333nm,20.6s
CMAR Chiang Mai Arr 23.26 351 P **P 04 51 15.1 -1.5**
comp=Z,44nm,0.6s,baz=186,slow=8.4,SNR=138
CMAR PcP **PcP 04 55 04.0 +1.6**
comp=Z,12nm,0.7s,baz=206,slow=3.1,SNR=18
CMAR ScP **ScP 04 58 34.8 +0.2**
comp=Z,5.1nm,1.0s,baz=208,slow=3.5,SNR=12
CMAR LR LR 05 00 25.6
comp=Z,332nm,20.6s,baz=175,slow=37
SANI Sanana 23.29 84 P **P 04 51 16.0 -1.0**
comp=Z,96nm,0.8s,comp=Z,1µm
CHTO Chiang Mai 23.61 351 *e*P **P 04 51 18.5 -1.3**
CHTO pmax pmax
comp=Z,63nm,0.9s
CHTO Chiang Mai 23.61 351 P **P 04 51 19.2 -0.6**
SNR=21
CHTO Chiang Mai 23.61 351 P **P 04 51 19.0 -0.8**
comp=Z,354nm,0.9s,comp=Z,3µm
CHTO Chiang Mai 23.61 351 *e*P **P 04 51 18.4 -1.3**
comp=Z,64nm,0.9s
PAGZ Pagadian 23.99 59 *e*P **P 04 51 24.6 +1.3**
NLAI Namlea 24.29 88 P **P 04 51 27.7 +1.7**
comp=Z,112nm,0.7s,comp=Z,1µm
CTBH Cotabato--PC H 24.43 61⇓*e*P **P 04 51 28.6 +1.3**
QIZ Qiongzhong 24.52 16 P **P 04 51 30.8 +2.8**
QIZ pP **pP 04 51 44.8 +0.4**
QIZ sP **sP 04 51 52.5 -0.1**
QIZ S **S 04 55 48.8 +4.9**
QIZ PMZ
comp=Z,53nm,1.1s
QIZ LN
comp=Z,390nm,20.3s
QIZ LZ
comp=Z,500nm,30.3s
QIZ Qiongzhong 24.52 16 *e*P **P 04 51 29.5 +1.5**
comp=Z,30nm,1.0s
CRAI Chiangrai 24.82 355 P **P 04 51 27.2 -3.6**
comp=Z,42nm,0.8s,comp=Z,851nm
GUIM Jordan 24.86 52 *e*P **P 04 51 32.0 +0.7**
LBMI Labuha 24.99 82 P **P 04 51 32.7 +0.2**
comp=Z,890nm,0.8s,comp=Z,6µm
PALK Pallekele 25.02 298 P **P 04 51 36.3 +3.5**
comp=Z,191nm,1.4s,SNR=5.2
PALK Pallekele 25.02 298 P **P 04 51 34.8 +2.0**
PALK pmax pmax
comp=Z,66nm,1.1s
PALK MLR MLR
comp=Z,16nm,28.6s
PALK Pallekele 25.02 298 P **P 04 51 34.8 +2.0**
comp=Z,66nm,1.1s,baz=127,slow=9.2,SNR=12
PALK LR LR 05 00 46.9
comp=Z,376nm,21.4s,baz=113,slow=35
PALK Pallekele 25.02 298 *e*P **P 04 51 33.2 +0.4**
comp=Z,34nm,1.0s
TNTI Ternate 25.13 78 P **P 04 51 33.3 -0.4**
comp=Z,222nm,0.9s
TNTI Ternate 25.13 78 *e*P **P 04 51 32.5 -1.2**
RCP Roxas 25.55 51⇓*e*P **P 04 51 38.9 +1.5**
SLVN Son La 25.83 2 *e*P **P 04 51 40.8 +0.8**
comp=Z,61nm,0.7s
SLVN *e*PcP **PcP 04 55 09.2 +1.2**
TGY Tagaytay City 25.89 44 P **P 04 51 41.2 +0.5**
TGY pmax pmax
comp=Z,158nm,0.3s
TGY Tagaytay City 25.89 44 P **P 04 51 41.2 +0.5**
comp=Z,158nm,0.3s,baz=312,slow=2.2,SNR=3.2
MSAI Masohi 26.10 88 P P 04 51 48.6 +6.1
comp=Z,15nm,0.7s,comp=Z,610nm
MEEK Meekatharra 26.59 147 P **P 04 51 47.9 +1.0**
baz=27,SNR=11
KNRA Kununurra 27.77 115 P **P 04 51 56.6 -0.9**
baz=28,SNR=96
SWI Sorong 28.67 83 P **P 04 52 06.5 +1.0**
comp=Z,64nm,1.1s
FAKI Fak Fak 29.44 88 P **P 04 52 11.9 -0.4**
baz=30,SNR=16
FAKI Fak Fak 29.44 88 *e*P **P 04 52 12.1 -0.2**
comp=Z,42nm,0.9s
KMI Kunming 29.58 360⇑P **P 04 52 15.1 +1.4**
KMI pP **pP 04 52 32.5 +2.3**
KMI S **S 04 57 07.8 +3.6**
KMI sS sS 04 57 37.6 +5.1
KMI SS **ScP 04 58 47.3 -6.1**
KMI PMZ
comp=Z,38nm,0.8s
KMI PMZ
comp=Z,56nm,3.1s
KMI LN
comp=Z,570nm,13.9s
KMI LE
comp=Z,340nm,15.1s
KMI LZ
comp=Z,600nm,13.9s
H08S2 Diego Garcia H 30.27 263 T T 05 23 34.0
baz=87,slow=75,SNR=12
H08S3 Diego Garcia H 30.28 263 T T 05 23 26.6
baz=87,slow=75,SNR=100
H08S1 Diego Carcia H 30.29 263 T T 05 23 36.1
baz=87,slow=75,SNR=101
GYA Guiyang 31.14 7 P P 04 52 31.3 +4.0
GYA pP pP 04 52 47.8 +3.9
GYA sP sP 04 52 56.0 +4.1
GYA PP **PP 04 53 36.4 -2.4**
GYA S **S 04 57 31.8 +3.5**
GYA sS sS 04 58 01.5 +4.8
GYA ScP **ScP 04 58 58.8 +0.5**
GYA SS **SnSn 04 59 22.3 +5.7**
GYA PMZ
comp=Z,30nm,0.8s
GYA PMZ
comp=Z,150nm,4.9s
GYA LN
comp=Z,870nm,17.8s
GYA LE
comp=Z,780nm,18.0s
GYA LZ
comp=Z,940nm,17.4s
WRKA Warakurna 31.80 132 P **P 04 52 34.2 +1.1**
baz=32,SNR=50
SHL Shillong 31.84 341⇑*i*P P 04 52 43.0 +9.5
SHL *e*S S 04 57 47.0 +7.6
H01W3 Cape Leeuwin H 31.88 162 T T 05 26 38.4
baz=339,slow=76,SNR=53
H01W2 Cape Leeuwin H 31.89 162 T T 05 26 36.3
baz=339,slow=76,SNR=69
H01W1 Cape Leeuwin H 31.89 162 T T 05 26 17.0
baz=339,slow=76,SNR=56
KMBL Kambalda 32.08 148 P **P 04 52 36.3 +0.9**
baz=32,SNR=17
HYB Hyderabad 32.45 313 *i*P **P 04 52 39.0 +0.1**
YULB Yu-li 33.20 32 *e*P **P 04 52 46.1 +0.8**
comp=Z,16nm,0.8s
SSLB Suanglung 33.34 31 *e*P **P 04 52 46.5 0.0**
comp=Z,12nm,0.5s
PALU Palau 33.78 70 P **P 04 52 49.7 -0.8**
baz=34,SNR=4.8
WRA Warramunga Arr 34.27 119 P **P 04 52 54.5 -0.2**
WRA 04 55 30.6
WRA S **S 04 58 13.4 -3.7**
WRA pmax pmax
comp=Z,26nm,0.7s
WRA pmax pmax
comp=Z,10.0nm,0.7s
WRA smax smax
comp=N,6.0nm,0.9s
WRA MLR MLR
comp=Z,16nm,28.6s
WRA Warramunga Arr 34.27 119 P **P 04 52 54.5 -0.2**
comp=Z,26nm,0.7s,baz=293,slow=11,SNR=112
WRA PcP **PcP 04 55 30.6 +0.6**
comp=Z,9.6nm,0.7s,baz=303,slow=2.3,SNR=7.3
WRA S **S 04 58 13.3 -3.7**
comp=Z,6.4nm,0.9s,baz=295,slow=17,SNR=5.9
WRA LR LR 05 08 52.0
comp=Z,98nm,20.4s,baz=125,slow=40
WRA P3KPbc 05 23 58.2
comp=Z,1.7nm,0.7s,baz=104,slow=4.3,SNR=18
WRAB Tennant Creek 34.27 119 P **P 04 52 54.9 +0.2**
comp=Z,380nm,0.8s,SNR=63
WRAB Tennant Creek 34.27 119 *e*P **P 04 52 54.4 -0.3**
WRAB *e* 04 55 29.5
WRAB *e*S **S 04 58 14.8 -2.4**
WRAB pmax pmax
comp=Z,38nm,0.6s
WRAB Tennant Creek 34.27 119 *e*P **P 04 52 54.4 -0.3**
comp=Z,38nm,0.6s
WRAB *e*PcP **PcP 04 55 29.5 -0.4**
WRAB *e*S **S 04 58 14.8 -2.4**
WB2 Warramunga Arr 34.28 119 *e*P **P 04 52 54.5 -0.3**
WB2 *e*PcP **PcP 04 55 30.1 +0.2**
WB2 *e*S **S 04 58 14.6 -2.7**
ODAN Odare 34.68 335 *e*P **P 04 52 58.8 +0.5**
comp=Z,143nm,0.6s
TAPN Taplejung 34.98 336 *e*P **P 04 53 01.5 +0.5**
comp=Z,129nm,0.6s
RAMN Ramite 35.09 334 *e*P **P 04 53 02.5 +0.6**
FORT Forrest 35.24 140 P **P 04 53 04.3 +1.4**
baz=35,SNR=12
FORT Forrest 35.24 140 *e*P **P 04 53 03.1 +0.2**
ENH Enshi 35.30 10 *e*P **P 04 53 03.1 -0.3**
comp=Z,12nm,0.4s
CD2 Chengdu 35.36 1⇑*i*P **P 04 53 03.6 -0.3**
CD2 pP **pP 04 53 20.8 +0.1**
CD2 sP **sP 04 53 28.4 -0.3**
CD2 PP **PP 04 54 30.3 +4.9**
CD2 PcP **PcP 04 55 32.0 -0.9**
CD2 S **S 04 58 33.5 0.0**
CD2 sS **sS 04 59 05.6 +3.5**
CD2 SS **SnSn 05 00 56.3 -2.4**
CD2 ScS **ScS 05 03 10.6 -6.8**
CD2 PMZ
comp=Z,160nm,0.7s
CD2 PMZ
comp=Z,120nm,4.2s
CD2 LN
comp=Z,640nm,17.8s
CD2 LE
comp=Z,450nm,19.0s
CD2 LZ
comp=Z,670nm,19.0s
ASAR Alice Springs 35.46 125 P **P 04 53 05.5 +0.6**
ASAR 04 55 34.4
ASAR S **S 04 58 34.5 -0.9**
ASAR pmax pmax
comp=Z,30nm,0.6s
ASAR pmax pmax
comp=Z,12nm,0.6s
ASAR smax smax
comp=N,4.0nm,0.8s
ASAR pmax pmax
comp=N,4.0nm,0.9s
ASAR Alice Springs 35.46 125 P **P 04 53 05.5 +0.6**
comp=N,30nm,0.6s,baz=298,slow=7.5,SNR=183
ASAR PcP **PcP 04 55 34.4 +1.0**
comp=N,12nm,0.6s,baz=312,slow=2.1,SNR=12
ASAR S **S 04 58 34.5 -0.9**
comp=N,4.0nm,0.8s,baz=301,slow=15,SNR=9.0
ASAR ScP **ScP 04 59 14.2 +0.7**
comp=N,4.2nm,0.9s,baz=289,slow=3.9,SNR=5.9
ASAR P3KPbc 05 23 51.8
comp=N,1.0nm,0.7s,baz=115,slow=4.4,SNR=11
AS31 Alice Springs 35.46 125 *e*P **P 04 53 05.2 +0.2**
JIRN Jiri 35.89 334 *e*P **P 04 53 09.4 +0.5**
comp=N,184nm,0.7s
LSA Lhasa 35.92 343 P **P 04 53 09.4 +0.1**
LSA PMZ
comp=N,40nm,0.9s
LSA Lhasa 35.92 343 *e*P **P 04 53 08.9 -0.3**
LSA *e* 04 55 35.2
LSA pmax pmax
comp=Z,42nm,0.8s
LSA Lhasa 35.92 343 *e*P **P 04 53 08.9 -0.3**
comp=Z,42nm,0.8s
LSA *e*PcP **PcP 04 55 35.2 +0.1**
PKI Pulchoki 36.15 333 *e*P **P 04 53 11.2 +0.1**
PKIN Phulchoki 36.16 333 *e*P **P 04 53 11.2 +0.1**
comp=Z,57nm,0.4s
GUN Gumba 36.24 334 *e*P **P 04 53 12.4 +0.5**
comp=Z,344nm,0.5s
DMN Daman 36.32 333 *e*P **P 04 53 12.9 +0.4**
KKN Kakani 36.40 333 *e*P **P 04 53 13.5 +0.4**
comp=Z,185nm,0.5s
POO Poona 36.66 310⇓*i*P **P 04 53 17.0 +1.8**
comp=Z,4.0nm,1.0s
POO *ex* x 07 39 36.0
GKN Gorkha 36.87 333 *e*P **P 04 53 17.5 +0.5**
comp=Z,204nm,0.5s
KOLN Koldanda 37.16 331 *e*P **P 04 53 20.3 +0.8**
comp=Z,417nm,0.7s
DANN Dangsing 37.57 332 *e*P **P 04 53 23.7 +0.6**
comp=Z,516nm,0.6s
PYUN Piuthan 37.73 331 *e*P **P 04 53 25.1 +0.7**
comp=Z,349nm,0.4s
XAN Xi'an 38.90 8 P **P 04 53 33.8 -0.1**
XAN pP **pP 04 53 49.8 -1.0**
XAN S **S 04 59 25.4 -1.9**
XAN PMZ
comp=Z,38nm,0.6s
XAN PMZ
comp=Z,50nm,4.9s
XAN LN
comp=Z,220nm,15.5s
XAN LE
comp=Z,100nm,17.3s
XAN LZ
comp=Z,140nm,18.6s
QIS Mount Isa 39.12 117 P **P 04 53 36.1 +0.1**
baz=39,SNR=49
QIS S **S 04 59 34.1 +3.1**
baz=39,SNR=5.9
NJ2 Nanjing 39.55 22 *e*P **P 04 53 39.3 0.0**
NJ2 S **S 04 59 41.0 +3.9**
NJ2 PMZ
comp=Z,40nm,0.7s
NJ2 LN
comp=Z,660nm,13.1s
NJ2 LE
comp=Z,160nm,17.0s
JOW Kunigami 39.83 37 P **P 04 53 41.1 -0.6**
comp=Z,1.4nm,0.4s,baz=183,slow=26,SNR=4.0
LGTI Lohaghat 40.21 329 *ex* P 04 53 53.1 +8.3
LZH Lanzhou 40.52 1⇑P **P 04 53 48.1 +0.6**
LZH pP **pP 04 54 03.4 -1.1**
LZH sP **sP 04 54 12.0 -0.4**
LZH PMZ
comp=Z,160nm,1.0s
LZH PMZ
comp=Z,130nm,6.2s
LZH LN
comp=Z,460nm,15.8s
LZH LE
comp=Z,320nm,14.8s
LZH LZ
comp=Z,350nm,14.4s
COEN Coen 40.85 106 P **P 04 53 48.9 -1.4**
baz=41,SNR=8.6
COEN Coen 40.85 106 *e*P **P 04 53 48.6 -1.7**
comp=Z,132nm,0.8s
COEN *e*PcP **PcP 04 55 50.7 +0.5**
ASOR Ausora 41.01 326 *e*P **P 04 53 52.7 +1.3**
ASOR AMB AMB 04 53 53.5
comp=Z,82nm,0.6s
SONA Sohna 41.02 324 *e*P **P 04 53 52.0 +0.6**
SONA AMB AMB 04 53 52.4
comp=Z,93nm,0.6s
BISR Bishrakh 41.06 325 *ex* P 04 53 43.0 -8.7
NDI New Delhi 41.27 325 *e*P **P 04 53 54.0 +0.5**
KUDL Kundal 41.29 324 *e*P **P 04 53 53.0 -0.7**
KUDL AMB AMB 04 53 54.4
comp=Z,61nm,1.1s
BHGR Bahadurgarh 41.43 325 *e*P **P 04 53 55.2 +0.4**
JOSI Joshimath 41.45 329 *ex* sP 04 54 19.2 -1.2
KHET Khetri 41.65 323 *e*P **P 04 53 57.4 +0.8**
KHET AMB AMB 04 53 59.2
comp=Z,51nm,0.5s
BBOO Buckleboo 41.83 136 P **P 04 53 58.7 +0.6**
baz=42,SNR=32
BBOO Buckleboo 41.83 136 *e*P **P 04 53 58.2 +0.1**
TIA Tai'an 42.79 17⇑⇑P **P 04 54 05.4 -0.4**
TIA PMZ
comp=Z,40nm,0.7s
SMLA Simla 43.17 327 *i*P **P 04 54 09.1 +0.2**
SDNR Sundarnagar 43.56 327 *e*P **P 04 54 12.5 +0.3**
BHK Bhakra 43.80 327 *e*P **P 04 54 15.5 +1.5**
GTA Gaotai 43.91 357⇑⇑P **P 04 54 15.4 +0.4**
GTA pP **pP 04 54 31.3 -0.9**
GTA sP **sP 04 54 38.1 -2.0**
GTA PcP **PcP 04 56 01.0 +1.0**
GTA ScP **ScP 04 59 46.0 +0.1**
GTA S **S 05 00 40.9 -0.7**
GTA sS **sS 05 01 07.5 -3.3**
GTA SS SS 05 03 51.1 -9.4
GTA PMZ
comp=Z,94nm,1.0s
GTA PMZ
comp=Z,190nm,6.4s
GTA LN
comp=Z,470nm,20.4s
GTA LE
comp=Z,470nm,21.4s
GTA LZ
comp=Z,580nm,20.4s
JASL Jaisalmer 43.99 317 *e*P **P 04 54 16.7 +1.1**
PMG Port Moresby 44.26 99*c i*P **P 04 54 18.6 +0.6**
PMG pmax pmax
comp=Z,43nm,0.7s
PMG Port Moresby 44.26 99 P **P 04 54 17.3 -0.7**
baz=44,SNR=6.9
PMG Port Moresby 44.26 99 *e*P **P 04 54 16.8 -1.2**
comp=Z,44nm,0.7s
CTAO Charters Tower 44.97 114 *e*P **P 04 54 23.9 +0.3**
CTAO pmax pmax
comp=Z,154nm,0.8s
CTAO Charters Tower 44.97 114 *e*P **P 04 54 23.9 +0.3**
comp=Z,154nm,0.8s
QLP Quilpie 45.18 123 P **P 04 54 26.4 +1.3**
baz=45,SNR=59
HHC Hu-ho-hao-te 45.97 9 *e*P **P 04 54 32.0 +0.7**
HHC pP **pP 04 54 50.6 +2.0**
HHC sP **sP 04 54 59.5 +3.0**
HHC PP **PP 04 56 21.6 +1.3**
HHC S **S 05 01 11.9 +0.7**
HHC sS **sS 05 01 44.1 +3.4**
HHC SS **SS 05 04 30.8 -6.3**
HHC PMZ
comp=Z,130nm,0.7s
HHC PMZ
comp=Z,180nm,4.9s
HHC LN
comp=Z,490nm,20.6s
HHC LE
comp=Z,870nm,17.6s
HHC LZ
comp=Z,880nm,20.2s
JNU Nakatsue 46.02 33 P **P 04 54 31.4 -0.4**
comp=Z,45nm,0.8s,baz=197,slow=2.4,SNR=22
JNU PcP **PcP 04 56 07.2 -0.2**
comp=Z,8.4nm,0.6s,baz=313,slow=2.8,SNR=4.8
JNU Nakatsue 46.02 33 *e*P **P 04 54 30.8 -1.0**
comp=Z,16nm,0.7s
JNU PcP **PcP 04 56 07.2 -0.2**
BJT Baijiatuau 46.11 14 *e*P **P 04 54 32.1 -0.1**
BJT *e* 04 56 08.0
BJT pmax pmax
comp=Z,144nm,0.7s
BJT Baijiatuau 46.11 14 *e*P **P 04 54 32.1 -0.1**
comp=Z,144nm,0.7s
BJT *e*PcP **PcP 04 56 08.0 +0.6**
BJI Beijing 46.13 14 P **P 04 54 32.6 +0.2**
BJI PcP **PcP 04 56 08.3 +0.9**
BJI S **S 05 01 09.0 -4.2**
BJI sS **sS 05 01 46.1 +3.4**
BJI PMZ
comp=Z,160nm,0.7s
BJI LN
comp=Z,450nm,20.5s
BJI LE
comp=Z,340nm,18.4s
BJI LZ
comp=Z,510nm,22.3s
TJN Taejon 46.83 27 *i*P **P 04 54 38.2 +0.3**
KSAR Wonju Array Be 47.94 27 P **P 04 54 46.9 +0.4**
KSAR 04 56 14.4
KSAR Wonju Array Be 47.94 27 P **P 04 54 46.9 +0.4**
KSAR PcP **PcP 04 56 14.3 +0.4**
KSRS Korea Array 47.97 27 P **P 04 54 46.9 +0.2**
KSRS 04 56 14.4
KSRS pmax pmax
comp=Z,13nm,0.7s
KSRS pmax pmax
comp=Z,10.0nm,0.8s
KSRS Korea Array 47.97 27 P **P 04 54 46.9 +0.2**
comp=Z,13nm,0.7s,baz=230,slow=7.3,SNR=32
KSRS PcP **PcP 04 56 14.3 +0.3**
comp=Z,9.8nm,0.8s,baz=217,slow=3.1,SNR=16
CMSA Cobar Meteorol 48.29 129 P **P 04 54 50.7 +1.2**
baz=48,SNR=142
RMQ Roma 48.96 121 P **P 04 54 56.3 +1.6**
baz=49,SNR=8.2
CBIJ Chichi jima 49.43 48 *e*P **P 04 54 55.6 -2.6**
JCJ Chichijima 49.43 48 P **P 04 54 55.8 -2.4**
comp=Z,97nm,0.7s,baz=117,slow=21,SNR=10
JCJ LR LR 05 17 11.2
comp=Z,271nm,19.6s,baz=271,slow=38
WMQ Urumqi 50.12 346 P **P 04 55 03.5 +0.3**
WMQ pP **pP 04 55 19.5 -1.2**
WMQ PcP **PcP 04 56 23.0 +1.2**
WMQ PP **PP 04 57 00.3 +1.2**
WMQ S **S 05 02 10.0 +0.3**
WMQ sS **sS 05 02 38.0 -1.5**
WMQ ScS **ScS 05 04 46.0 -2.1**
WMQ SS **SS 05 05 40.5 -3.5**
WMQ PMZ
comp=Z,170nm,1.0s
WMQ PMZ
comp=Z,180nm,4.0s
WMQ LN
comp=Z,97nm,25.0s
WMQ LE
comp=Z,250nm,26.0s
WMQ LZ
comp=Z,260nm,26.0s
KBL Kabul 50.30 323 *e*P **P 04 55 04.7 -0.2**
KBL pmax pmax
comp=Z,27nm,0.8s
KBL Kabul 50.30 323 P **P 04 55 05.1 +0.3**
baz=50,SNR=3.9
KBL Kabul 50.30 323 *e*P **P 04 55 04.7 -0.2**
comp=Z,27nm,0.8s
KSH Kashi 50.42 333⇑*i*P **P 04 55 04.6 -1.0**
KSH pP **pP 04 55 22.8 -0.3**
KSH PP **PP 04 57 03.3 +1.4**
KSH S S 05 02 07.9 -6.2
KSH sS **sS 05 02 40.1 -3.8**
KSH ScS ScS 05 04 41.1 -9.4
KSH SS SS 05 05 40.3 -8.7
KSH PMZ
comp=Z,72nm,0.6s
KSH LN
comp=Z,130nm,5.6s
KSH LE
comp=Z,140nm,5.2s
KSH LZ
comp=Z,180nm,5.9s
EIDS Eidsvold 50.63 119 P **P 04 55 08.2 +0.8**
baz=51,SNR=6.5
EIDS Eidsvold 50.63 119 *e*P **P 04 55 07.3 0.0**
comp=Z,18nm,0.6s
TOO Toolangi 50.89 136 P **P 04 55 11.6 +2.5**
baz=51,SNR=4.4

JMDO	**Jabal Madar**	**51.28**	**303**	P	**P**	**04 55 14.6 +2.4**
	SNR=5.2					
YNG	**Young**	**51.51**	**131**	P	**P**	**04 55 15.2 +1.4**
	baz=52,SNR=41					
SMDO	**Samad**	**51.63**	**304**	P	**P**	**04 55 17.2 +2.3**
	SNR=11					
SONM	**Songino Array**	**52.34**	**3**	P	**P**	**04 55 20.5 +0.7**
SONM						04 56 30.4
SONM				pmax	pmax	
	comp=Z,152nm,0.6s					
SONM				pmax	pmax	
	comp=Z,32nm,0.7s					
SONM	**Songino Array**	**52.34**	**3**	P	**P**	**04 55 20.5 +0.7**
	comp=Z,152nm,0.6s,baz=183,slow=9.4,SNR=1295					
SONM				PcP	**PcP**	**04 56 30.4 +0.3**
	comp=Z,32nm,0.7s,baz=191,slow=4.2,SNR=11					
CN2	**Changchun**	**52.36**	**21**	⇑P	**P**	**04 55 19.3 -0.6**
CN2				*e*sP	**sP**	**04 55 44.3 -1.0**
CN2				*e*S	**S**	**05 02 40.4 -0.1**
CN2				PMZ		
	comp=Z,60nm,0.7s					
CN2				PMZ		
	comp=Z,200nm,6.0s					
CAN	**Canberra**	**52.38**	**132**	*e*P	**P**	**04 55 21.3 +0.9**
CAN				*e*		04 56 31.0
CAN				pmax	pmax	
	comp=Z,36nm,1.0s					
CAN	**Canberra**	**52.38**	**132**	*e*P	**P**	**04 55 21.3 +0.9**
	comp=Z,36nm,1.0s					
CAN				*e*PcP	**PcP**	**04 56 31.0 +0.5**
ULN	**Ulaanbaatar**	**52.41**	**4***c*	*i*P	**P**	**04 55 20.8 +0.5**
ULN				pmax	pmax	
	comp=Z,77nm,1.0s					
ULN	**Ulaanbaatar**	**52.41**	**4**	P	**P**	**04 55 21.3 +1.0**
	SNR=20					
ULN	**Ulaanbaatar**	**52.41**	**4**	*e*P	**P**	**04 55 20.9 +0.5**
	comp=Z,53nm,0.7s					
ULN				*e*PcP	**PcP**	**04 56 30.3 -0.1**
HOQ	**Hoqain**	**52.47**	**304**	P	**P**	**04 55 23.5 +2.4**
	SNR=12					
ULHL	**Ulahol**	**52.54**	**335**	P	**P**	**04 55 21.6 +0.1**
	SNR=58					
ULHL	**Ulahol**	**52.54**	**335**	*i* P	**P**	**04 55 21.6 +0.1**
ARMA	**Armidale**	**52.61**	**125**	P	**P**	**04 55 24.4 +2.2**
	baz=53,SNR=13					
ARMA	**Armidale**	**52.61**	**125**	*e*P	**P**	**04 55 23.6 +1.5**
	comp=Z,37nm,1.0s					
ARMA				*e*PcP	**PcP**	**04 56 32.8 +1.2**
MAT	**Matsushiro**	**52.65**	**36**	P	**P**	**04 55 20.7 -1.5**
CNB	**Canberra Magne**	**52.65**	**132**	P	**P**	**04 55 23.7 +1.4**
	baz=53,SNR=6.7					
MAJO	**Matsushiro**	**52.65**	**36***d*	*i*P	**P**	**04 55 20.8 -1.4**
MAJO				pmax	pmax	
	comp=Z,515nm,2.5s					
MAJO	**Matsushiro**	**52.65**	**36**	*e*P	**P**	**04 55 20.2 -2.0**
	comp=Z,20nm,0.7s					
MJAR	**Matsushiro Arr**	**52.65**	**36**	P	**P**	**04 55 20.5 -1.7**
MJAR						04 56 31.3
MJAR				pmax	pmax	
	comp=Z,30nm,0.8s					
MJAR				pmax	pmax	
	comp=Z,10.0nm,0.8s					
MJAR				MLR	MLR	
	comp=Z,133nm,18.4s					
MJAR	**Matsushiro Arr**	**52.65**	**36**	P	**P**	**04 55 20.5 -1.7**
	comp=Z,30nm,0.8s,baz=216,slow=7.4,SNR=55					
MJAR				PcP	**PcP**	**04 56 31.3 -0.1**
	comp=Z,9.5nm,0.8s,baz=199,slow=5.1,SNR=7.8					
MJAR				LR	LR	05 18 20.0
	comp=Z,132nm,18.4s,baz=135,slow=37					
RBK	**Rabkut**	**52.76**	**296**	P	**P**	**04 55 25.7 +2.3**
	SNR=9.6					
KZA	**Kyzart**	**52.82**	**334**	P	**P**	**04 55 24.3 +0.5**
	SNR=85					
KZA	**Kyzart**	**52.82**	**334**	*i* P	**P**	**04 55 24.3 +0.5**
ARQ	**Araqi**	**53.01**	**304**	P	**P**	**04 55 27.3 +2.2**
	SNR=7.1					
MGCD	**Mangrove Creek**	**53.16**	**129**	P	**P**	**04 55 27.9 +1.8**
	baz=53,SNR=14					
UCH	**Uchtor**	**53.26**	**334**	P	**P**	**04 55 27.4 +0.3**
	SNR=61					
UCH	**Uchtor**	**53.26**	**334**	*i* P	**P**	**04 55 27.4 +0.3**
TKM2	**Tokmak 2**	**53.36**	**335**	P	**P**	**04 55 27.3 -0.2**
	SNR=94					
TKM2	**Tokmak 2**	**53.36**	**335**	*i* P	**P**	**04 55 27.3 -0.2**
TKM2	**Tokmak 2**	**53.36**	**335**	*e*P	**P**	**04 55 27.4 -0.2**
	comp=Z,147nm,0.5s					
KBK	**Karagaybulak**	**53.42**	**335**	P	**P**	**04 55 28.8 +0.8**
	SNR=68					
KBK	**Karagaybulak**	**53.42**	**335**	*i* P	**P**	**04 55 28.8 +0.8**
ABTO	**Aybut**	**53.53**	**295**	P	**P**	**04 55 31.2 +2.2**
	SNR=15					
AML	**Almayashu**	**53.55**	**333**	P	**P**	**04 55 29.6 +0.5**
	SNR=18					
AML	**Almayashu**	**53.55**	**333**	*i* P	**P**	**04 55 29.6 +0.5**
AAK	**Ala-Archa**	**53.60**	**334**	P	**P**	**04 55 29.3 +0.1**
	comp=Z,228nm,0.5s,SNR=28					
AAK	**Ala-Archa**	**53.60**	**334**	P	**P**	**04 55 29.7 +0.5**
	SNR=33					
AAK	**Ala-Archa**	**53.60**	**334***c*	*i*P	**P**	**04 55 29.4 +0.2**
AAK				pmax	pmax	
	comp=Z,37nm,0.6s					
AAK	**Ala-Archa**	**53.60**	**334**	P	**P**	**04 55 29.9 +0.6**
	SNR=9.2					
AAK	**Ala-Archa**	**53.60**	**334**	P	**P**	**04 55 29.7 +0.5**
	comp=Z,19nm,0.5s,baz=139,slow=6.0,SNR=47					
AAK				PcP	**PcP**	**04 56 36.1 +1.1**
	comp=Z,19nm,0.6s,baz=148,slow=4.4,SNR=5.8					
AAK	**Ala-Archa**	**53.60**	**334**	*e*P	**P**	**04 55 29.4 +0.2**
	comp=Z,19nm,0.6s					
AAK				*e*PcP	**PcP**	**04 56 35.9 +0.9**
CHMS	**Chumysh**	**53.78**	**335**	P	**P**	**04 55 30.4 -0.1**
	SNR=11					
CHMS	**Chumysh**	**53.78**	**335**	*i* P	**P**	**04 55 30.3 -0.1**
EKS2	**Erkin-Say**	**53.93**	**334**	P	**P**	**04 55 32.1 +0.5**
	SNR=87					
EKS2	**Erkin-Say**	**53.93**	**334**	*i* P	**P**	**04 55 32.1 +0.5**
EKS2	**Erkin-Say**	**53.93**	**334**	*e*P	**P**	**04 55 31.9 +0.3**
	comp=Z,110nm,0.6s					
ASHO	**Ashiyiah**	**53.98**	**305**	⇓*i*P	**P**	**04 55 33.9 +1.7**
	SNR=10.0					
HATD	**Hatta, Dubai**	**53.98**	**305**	⇓P	**P**	**04 55 34.2 +2.1**
USP	**Ospenovka**	**54.11**	**335**	P	**P**	**04 55 32.8 0.0**
	SNR=59					
USP	**Ospenovka**	**54.11**	**335**	*i* P	**P**	**04 55 32.8 0.0**
MKAR	**Makanchi Array**	**54.33**	**343**	P	**P**	**04 55 34.3 0.0**
	comp=Z,140nm,0.6s,baz=144,slow=5.2,SNR=972					
FAQ	**Al Faqa, Dubai**	**54.39**	**305**	⇑*i*P	**P**	**04 55 36.9 +1.8**
	SNR=5.8					
ASUD	**Al Ashush, Dub**	**54.55**	**305**	*i* P	**P**	**04 55 38.5 +2.2**
	SNR=5.4					
MDJ	**Mudanjiang**	**54.60**	**23**	P	**P**	**04 55 36.3 0.0**
MDJ				PMZ		
	comp=Z,16nm,0.7s					
MDJ				PMZ		
	comp=Z,140nm,3.6s					
MDJ	**Mudanjiang**	**54.60**	**23**	*e*P	**P**	**04 55 36.0 -0.3**
	comp=Z,10nm,0.7s					
ZAK	**Zakamensk**	**54.80**	**0**	⇓*i*P	**P**	**04 55 36.5 -1.2**
ZAK				*e*		04 56 38.7
ZAK				pmax	pmax	
	comp=Z,21nm,0.9s					
IDAH	**Dahanechah**	**55.12**	**316**	*e*P	**P**	**04 55 41.7 +1.1**
USRK	**Ussuriysk Ar.**	**55.24**	**25**	P	**P**	**04 55 40.7 -0.2**
	comp=Z,55nm,0.6s,baz=217,slow=5.7,SNR=131					
IKOO	**Kooshah**	**55.55**	**315**	*e*P	**P**	**04 55 43.5 -0.2**
HIA	**Hailar**	**55.67**	**13**	*e*P	**P**	**04 55 43.3 -0.7**
HIA				pmax	pmax	
	comp=Z,40nm,0.7s					
HIA	**Hailar**	**55.67**	**13**	*e*P	**P**	**04 55 43.3 -0.7**
	comp=Z,40nm,0.7s					
KK31	**Karatay Array**	**55.77**	**332**	*e*P	**P**	**04 55 44.0 -0.8**
KK31				pmax	pmax	
	comp=Z,6.0nm,0.4s					
KKAR	**Karatay Array**	**55.77**	**332**	*e*P	**P**	**04 55 44.2 -0.6**
KKAR				pmax	pmax	
	comp=Z,17nm,0.6s					
KKAR	**Karatay Array**	**55.77**	**332**	*e*P	**P**	**04 55 44.2 -0.6**
	comp=Z,17nm,0.6s					
ITEG	**Tejag**	**55.99**	**315**	*e*P	**P**	**04 55 46.5 -0.3**
HVS	**Khovu-Aksy**	**56.10**	**353***d*	*i*P	**P**	**04 55 46.6 -0.4**
HVS				pmax	pmax	
	comp=Z,100nm,1.0s					
TLY	**Talaya**	**56.10**	**1**	P	**P**	**04 55 48.5 +1.5**
	comp=Z,497nm,0.7s,SNR=12					
TLY	**Talaya**	**56.10**	**1**	*e*P	**P**	**04 55 48.0 +1.1**
TLY				pmax	pmax	
	comp=Z,55nm,0.6s					
TLY				MLR	MLR	
	comp=Z,141nm,15.0s					
TLY	**Talaya**	**56.10**	**1**	P	**P**	**04 55 48.3 +1.3**
	SNR=15					
TLY	**Talaya**	**56.10**	**1**	P	**P**	**04 55 48.1 +1.1**
	comp=Z,52nm,0.7s,baz=244,slow=3.8,SNR=45					
TLY	**Talaya**	**56.10**	**1**	*e*P	**P**	**04 55 47.4 +0.4**
	comp=Z,57nm,0.7s					
MOY	**Mondy**	**56.10**	**359**	*e*P	**P**	**04 55 47.6 +0.5**
MOY				pmax	pmax	
	comp=Z,36nm,2.7s					
IRK	**Irkutsk**	**56.67**	**1**	*e*P	**P**	**04 55 48.6 -2.4**
IRK				pmax	pmax	
	comp=Z,49nm,1.0s					
IMYA	**Miami**	**57.03**	**319**	*e*P	**P**	**04 55 53.1 -1.0**
IBAF	**Bafgh**	**57.60**	**312**	*e*P	**P**	**04 55 58.1 -0.1**
IPAY	**Payeh**	**57.82**	**319**	*e*P	**P**	**04 55 59.0 -0.7**
IAKL	**Akhelmad**	**58.07**	**319**	*e*P	**P**	**04 56 01.2 -0.3**
IMEH	**Mehriz**	**58.21**	**311**	*e*P	**P**	**04 56 01.7 -0.9**
ISRV	**Sarvestan**	**58.42**	**309**	*e*P	**P**	**04 56 05.1 +1.0**
IPAR	**Pars**	**58.68**	**309**	*e*P	**P**	**04 56 06.7 +0.8**
ICHK	**Chekchek**	**58.78**	**312**	*e*P	**P**	**04 56 06.5 0.0**
KURBB	**Kurchatov Arra**	**58.87**	**342**	P	**P**	**04 56 06.2 -0.2**
	comp=Z,81nm,0.7s,baz=159,slow=6.4,SNR=558					
KURBB				PcP	**PcP**	**04 56 55.7 +0.6**
	comp=Z,18nm,0.6s,baz=156,slow=3.3,SNR=10					
KURK	**Kurchatov**	**58.93**	**342**	P	**P**	**04 56 06.8 0.0**
	comp=Z,607nm,0.6s					
KURK	**Kurchatov**	**58.93**	**342**	P	**P**	**04 56 06.2 -0.6**
KURK						04 56 55.7
KURK				pmax	pmax	
	comp=Z,81nm,0.7s					
KURK				pmax	pmax	
	comp=Z,18nm,0.6s					
KURK	**Kurchatov**	**58.93**	**342**	P	**P**	**04 56 06.9 +0.1**
	SNR=33					
KURK	**Kurchatov**	**58.93**	**342**	P	**P**	**04 56 06.2 -0.6**
KURK				*e*PcP	**PcP**	**04 56 55.4 +0.1**
KURK				PcP	**PcP**	**04 56 55.7 +0.4**
OTUK	**Ortayu**	**59.03**	**337**	*i* P	**P**	**04 56 06.9 -0.7**
ERM	**Erimo**	**59.17**	**34**	⇓*e*P	**P**	**04 56 07.3 -1.3**
ERM				pmax	pmax	
	comp=Z,352nm,5.0s					
ABKT	**Ailbek**	**59.25**	**320**	P	**P**	**04 56 09.0 -0.4**
	comp=Z,317nm,1.0s,SNR=6.1					
GEYT	**Alibeck**	**59.25**	**320**	P	**P**	**04 56 09.7 +0.4**
	comp=Z,32nm,0.7s,baz=147,slow=6.5,SNR=42					
KLR	**Kul'dur**	**59.26**	**22**	*e*P	P	04 56 04.4 -4.7
KLR				pmax	pmax	
	comp=E,28nm,1.0s					
KLR				pmax	pmax	
	comp=Z,52nm,1.0s					
IKAZ	**Kazeroun**	**59.59**	**308**	*e*P	**P**	**04 56 13.0 +0.8**
HABR	**Khabarovsk**	**59.93**	**24**	P	P	04 56 10.5 -3.2
HABR				*e**PP	pP	04 56 26.6 -5.1
HABR				*e*		04 56 56.3
HABR				*e*PPP	PPP	04 59 45.8
HABR				*e*S	**S**	**05 04 18.9 -1.7**
HABR				*e*S	S	05 04 37.9 +17
HABR				*e**SS	sS	05 04 46.4 -4.8
HABR				*e*		05 05 55.4
HABR				*e*SS	**SS**	**05 08 16.5 -1.8**
HABR				pmax	pmax	
	comp=Z,41nm,1.5s					
HABR				pmax	pmax	
	comp=Z,56nm,1.6s					
HABR				MLR	MLR	
	comp=Z,188nm,18.0s					
ASAJ	**Asahikawa**	**60.27**	**32**	P	**P**	**04 56 16.3 +0.1**
ASAJ				pmax	pmax	
	comp=Z,30nm,0.4s					
ASAJ	**Asahikawa**	**60.27**	**32**	P	**P**	**04 56 16.2 +0.1**
	comp=Z,30nm,0.4s,baz=234,slow=8.3,SNR=35					
ASAJ	**Asahikawa**	**60.27**	**32**	*e*P	**P**	**04 56 15.1 -1.1**
	comp=Z,15nm,0.6s					
ZALV	**Zalesovo Beam**	**60.29**	**348**	P	**P**	**04 56 15.7 -0.4**
	comp=Z,268nm,0.7s,baz=165,slow=4.9,SNR=293					
ZALV				LR	LR	05 25 38.3
	comp=Z,263nm,19.7s,baz=70,slow=39					
IZEF	**Zefreh**	**60.63**	**312**	*e*P	**P**	**04 56 18.7 -0.5**
KRAR	**Krasnoyarsk**	**60.99**	**354**	⇓*e*P	**P**	**04 56 20.1 -0.7**
KRAR				pmax	pmax	
	comp=Z,47nm,0.5s					
IKLH	**Kolahrood**	**61.39**	**312**	*e*P	**P**	**04 56 25.6 +1.2**
NVS	**Novosibirsk**	**61.46**	**347**	⇑*i*P	**P**	**04 56 22.3 -1.7**
NVS				*e**PP	**pP**	**04 56 38.3 -3.8**
NVS				*i*		04 57 02.6
NVS				*i* S	S	05 04 33.5 -6.4
NVS				pmax	pmax	
	comp=N,30nm,0.7s					
NVS				pmax	pmax	
	comp=E,27nm,0.7s					
NVS				pmax	pmax	
	comp=Z,56nm,0.7s					
NVS				smax	smax	
	comp=N,17nm,2.0s					
NVS				smax	smax	
	comp=E,22nm,1.8s					
IPIR	**Pirpir**	**61.61**	**311**	*e*P	**P**	**04 56 25.0 -0.9**
IVRN	**Varamin**	**62.07**	**314**	*e*P	**P**	**04 56 28.4 -0.3**
YSS	**Yuzh-Sakhalins**	**62.30**	**30**	*e*P	**P**	**04 56 29.1 -0.7**
YSS				*e*		04 57 07.0
YSS				pmax	pmax	
	comp=Z,80nm,0.9s					
YSS	**Yuzh-Sakhalins**	**62.30**	**30**	*e*P	**P**	**04 56 29.4 -0.4**
	comp=Z,68nm,0.8s					
RAYN	**Ar Rayn**	**62.45**	**299**	P	**P**	**04 56 32.6 +1.2**
	comp=Z,156nm,0.6s,SNR=10					
RAYN	**Ar Rayn**	**62.45**	**299**	*e*P	**P**	**04 56 32.3 +0.9**
	comp=Z,16nm,0.5s					
RAYN				*e*PcP	**PcP**	**04 57 10.0 -0.2**
BOD	**Bodaibo**	**62.91**	**7**	⇓*i*P	**P**	**04 56 32.8 -0.8**
BOD				pmax	pmax	
	comp=Z,49nm,0.8s					
IRAZ	**Razeghan**	**63.56**	**313**	*e*P	**P**	**04 56 39.8 +1.0**
BVA0	**Borovoye Array**	**63.62**	**339**	P	**P**	**04 56 37.6 -0.9**
BVA0				pmax	pmax	
	comp=Z,66nm,0.7s					
BVAR	**Borovoye Array**	**63.62**	**339**	P	**P**	**04 56 37.9 -0.6**
BVAR				pmax	pmax	
	comp=Z,83nm,0.5s					
BVAR	**Borovoye Array**	**63.62**	**339**	P	**P**	**04 56 37.9 -0.6**
	comp=Z,83nm,0.5s,baz=144,slow=9.3,SNR=485					
IGZV	**Ghazvin**	**63.81**	**314**	*e*P	**P**	**04 56 40.6 +0.2**
DZM	**Mont Dzumac**	**63.87**	**112**	LR	LR	05 25 22.9
	comp=Z,90nm,21.5s,baz=263,slow=37					
AB31	**Akbulak array**	**65.28**	**331**	*i* P	**P**	**04 56 48.9 -0.5**
AB31				pmax	pmax	
	comp=Z,42nm,0.5s					
ABKAR	**Akbulak array**	**65.28**	**331**	*e*P	**P**	**04 56 48.8 -0.6**
	comp=Z,57nm,0.6s					
KMBO	**Kilima Mbogo**	**65.53**	**271**	*c**e*P	**P**	**04 56 54.5 +2.4**
KMBO				pmax	pmax	
	comp=Z,5.0nm,0.7s					
KMBO	**Kilima Mbogo**	**65.53**	**271**	P	**P**	**04 56 53.9 +1.8**
	comp=Z,4.6nm,0.7s,baz=68,slow=8.8,SNR=17					
KMBO	**Kilima Mbogo**	**65.53**	**271**	*e*P	**P**	**04 56 53.9 +1.8**
	comp=Z,7.3nm,1.1s					
AKTO	**Aktyubinsk**	**67.00**	**331**	P	**P**	**04 56 59.9 -0.5**
AKTO				pmax	pmax	
	comp=Z,14nm,0.5s					
AKTO	**Aktyubinsk**	**67.00**	**331**	P	**P**	**04 56 59.9 -0.5**
	comp=Z,14nm,0.5s,baz=131,slow=5.3,SNR=61					
MAW	**Mawson**	**68.47**	**195**	LR	LR	05 21 14.3
	comp=Z,305nm,20.6s,baz=60,slow=31					
CUKT	**Cukurca**	**68.96**	**313**	*e*PN	**P**	**04 57 12.9 -0.3**
GNI	**Garni**	**69.35**	**316**	*e*P	**P**	**04 57 16.0 +0.5**
GNI				pmax	pmax	
	comp=Z,35nm,0.7s					
GNI	**Garni**	**69.35**	**316**	*e*P	**P**	**04 57 16.0 +0.5**
	comp=Z,35nm,0.7s					
DGRG	**David-gareji**	**69.48**	**317**	P	**P**	**04 57 18.3 +2.1**
CLDR	**Caldiran**	**69.50**	**315**	*e*PN	**P**	**04 57 17.6 +0.9**
YAK	**Yakutsk**	**69.61**	**13**	*e*P	**P**	**04 57 14.3 -2.2**
YAK				pmax	pmax	
	comp=Z,64nm,0.9s					
YAK				pmax	pmax	
	comp=N,21nm,1.3s					
YAK				pmax	pmax	
	comp=E,17nm,1.2s					
YAK	**Yakutsk**	**69.61**	**13**	*e*P	**P**	**04 57 15.8 -0.6**
	comp=E,60nm,0.7s					
SVE	**Sverdlovsk**	**70.17**	**337**	⇓*e*P	**P**	**04 57 20.4 +0.4**
SVE				pmax	pmax	
	comp=Z,88nm,0.9s					
DUS	**Dusheti**	**70.21**	**318**	P	**P**	**04 57 23.5 +2.8**
AGRB	**Hanur-Agry**	**70.33**	**315**	*e*PN	**P**	**04 57 22.6 +0.9**
GUDG	**Gudauri**	**70.53**	**318**	P	**P**	**04 57 24.1 +1.3**
MZRK	**Al-Mazaregh**	**70.63**	**310**	*e*P	P	04 57 32.9 +10
	SNR=165					
MZRK	**Al-Mazaregh**	**70.63**	**310**	*e*P	P	04 57 32.9 +10
ARU	**Arti**	**70.73**	**336***c*	*i*P	**P**	**04 57 23.1 -0.3**
ARU				*PP	**pP**	**04 57 39.8 -2.1**
ARU						04 59 56.1
ARU				S	**S**	**05 06 36.1 +3.6**
ARU				pmax	pmax	
	comp=Z,45nm,0.8s					
ARU	**Arti**	**70.73**	**336**	*e*P	**P**	**04 57 22.8 -0.6**
	comp=Z,46nm,0.8s					
ZEI	**Tsey**	**71.05**	**318**	*e*P	**P**	**04 57 26.5 +0.5**
ZEI				pmax	pmax	
	comp=Z,33nm,0.6s					
KBSD	**Kabsdagh**	**71.13**	**312**	*e*P	**P**	**04 57 27.8 +1.4**
	SNR=156					
KBSD	**Kabsdagh**	**71.13**	**312**	*e*P	**P**	**04 57 27.8 +1.4**
SFNV	**Sufian**	**71.25**	**311**	*e*P	**P**	**04 57 28.4 +1.3**
	SNR=159					
SFNV	**Sufian**	**71.25**	**311**	*e*P	**P**	**04 57 28.4 +1.3**
EZM	**Erzurum**	**71.62**	**315**	*e*PN	**P**	**04 57 30.7 +1.2**
MNKR	**ALMNKUR**	**71.72**	**310**	*e*P	P	04 57 25.2 -4.7
	SNR=160					
MNKR	**ALMNKUR**	**71.72**	**310**	*e*P	P	04 57 25.2 -4.7
DYBB	**Diyarbakir**	**71.78**	**312**	*e*PN	**P**	**04 57 30.7 +0.5**
KSRV	**Kasrt alli**	**71.90**	**310**	*e*P	**P**	**04 57 32.2 +1.2**
	SNR=162					
KSRV	**Kasrt alli**	**71.90**	**310**	*e*P	**P**	**04 57 32.2 +1.2**
KBZ	**Khabaz**	**72.11**	**319**	P	**P**	**04 57 32.9 +0.9**
KBZ				pmax	pmax	
	comp=Z,40nm,0.8s					
KBZ	**Khabaz**	**72.11**	**319**	P	**P**	**04 57 32.9 +0.9**
	comp=Z,40nm,0.8s,baz=116,slow=4.9,SNR=68					
ZALF	**Zalf**	**72.26**	**307**	*e*P	**P**	**04 57 35.8 +2.6**
	SNR=150					
ZALF	**Zalf**	**72.26**	**307**	*e*P	**P**	**04 57 35.8 +2.6**
KIV	**Kislovodsk**	**72.35**	**319**	*e*P	**P**	**04 57 34.2 +0.6**
KIV				pmax	pmax	
	comp=Z,38nm,1.0s					
KIV	**Kislovodsk**	**72.35**	**319**	*e*P	**P**	**04 57 34.0 +0.4**
	comp=Z,31nm,0.8s					
BAYT	**Ayd'–ntepe-Bay**	**72.67**	**315**	*e*PN	**P**	**04 57 36.1 +0.4**
SALA	**Sala**	**72.68**	**306**	*e*P	**P**	**04 57 38.2 +2.3**
	SNR=147					
SALA	**Sala**	**72.68**	**306**	*e*P	**P**	**04 57 38.2 +2.3**
ROOS	**tl_alroos**	**72.68**	**308**	*e*P	**P**	**04 57 36.6 +0.9**
KHZ	**Kahutara**	**72.70**	**133**	*e*P	**P**	**04 57 35.5 -0.1**
	comp=Z,36nm,0.7s					
MALT	**Malatya**	**73.17**	**312**	⇓*i*P	**P**	**04 57 39.7 +1.1**
MARH	**Ras Al Marh**	**73.27**	**307**	*e*P	**P**	**04 57 40.3 +0.8**
	SNR=148					
MARH	**Ras Al Marh**	**73.27**	**307**	*e*P	**P**	**04 57 40.3 +0.8**
EIL	**Elat**	**73.28**	**303**	P	**P**	**04 57 41.1 +1.8**
	baz=73,SNR=26					
HAWK	**Haweek**	**73.48**	**308**	*e*P	**P**	**04 57 42.1 +1.6**
	SNR=147					
HAWK	**Haweek**	**73.48**	**308**	*e*P	**P**	**04 57 42.1 +1.6**
SOKR	**Solikamsk**	**73.56**	**338***c*	*i*P	**P**	**04 57 40.4 +0.2**
SOKR				pmax	pmax	
	comp=Z,50nm,1.1s					
PETK	**Petropavlovsk-**	**73.65**	**31**	P	**P**	**04 57 40.1 -0.9**
PETK				pmax	pmax	
	comp=Z,10.0nm,0.7s					
PETK				MLR	MLR	
	comp=Z,16nm,28.6s					
PETK	**Petropavlovsk-**	**73.65**	**31**	P	**P**	**04 57 40.0 -0.9**
	comp=Z,9.9nm,0.7s,baz=203,slow=6.7,SNR=8.8					
PETK				LR	LR	05 32 22.6
	comp=Z,54nm,18.3s,baz=221,slow=38					
BIDA	**Albida**	**73.70**	**308**	*e*P	**P**	**04 57 42.5 +0.8**
	SNR=146					
BIDA	**Albida**	**73.70**	**308**	*e*P	**P**	**04 57 42.5 +0.8**
ESPY	**Espiye-Giresun**	**73.86**	**315**	*e*PN	**P**	**04 57 42.8 +0.3**
BTCH	**Batrach**	**73.91**	**309**	*e*P	**P**	**04 57 43.9 +1.0**
	SNR=145					
BTCH	**Batrach**	**73.91**	**309**	*e*P	**P**	**04 57 43.9 +1.0**
PET	**Petropavlovsk**	**74.10**	**31**	*e*P	**P**	**04 57 42.8 -0.7**
PET				pmax	pmax	
	comp=Z,45nm,0.6s					
PET	**Petropavlovsk**	**74.10**	**31**	*e*P	**P**	**04 57 42.3 -1.2**
	comp=Z,27nm,0.4s					
ARNB	**Al Arnab**	**74.23**	**309**	*e*P	**P**	**04 57 44.0 -0.8**
	SNR=143					
ARNB	**Al Arnab**	**74.23**	**309**	*e*P	**P**	**04 57 44.0 -0.8**
RSDY	**Resadiye-TOKAT**	**74.68**	**314**	*e*PN	**P**	**04 57 48.1 +0.8**
YOZ	**Yozgat**	**75.89**	**313**	*e*PN	**P**	**04 57 54.8 +0.4**
CSS	**Prodhromos**	**76.03**	**308**	*e*P	**P**	**04 57 56.0 +0.8**
	comp=Z,18nm,0.9s					
VRHR	**Novokhopersk**	**76.07**	**325**	*e*P	**P**	**04 57 54.7 -0.2**
VRHR				*e*S	**S**	**05 07 28.6 -4.4**
VRHR				pmax	pmax	
	comp=N,6.0nm,0.6s					
VRHR				pmax	pmax	
	comp=E,20nm,0.6s					
VRHR				pmax	pmax	
	comp=Z,90nm,0.6s					
VRHR				smax	smax	
	comp=N,120nm,1.9s					
VRHR				smax	smax	
	comp=Z,10.0nm,1.4s					
VRHR				smax	smax	
	comp=E,70nm,1.9s					
SYO	**Syowa Base**	**76.30**	**199**	⇓*e*PcP	**PcP**	**04 58 10.4 +2.8**
LEF	**Lefka**	**76.42**	**308**	*e*PN	**P**	**04 57 58.0 +0.7**
LBTB	**Lobatse**	**76.46**	**246**	*e*P	**P**	**04 57 58.3 +0.4**
LBTB				pmax	pmax	
	comp=Z,8.0nm,0.9s					
LBTB	**Lobatse**	**76.46**	**246**	*e*P	**P**	**04 57 58.3 +0.4**
	comp=Z,8.0nm,0.9s					
SULT	**Sultanhani-AKS**	**76.80**	**311**	*e*PN	**P**	**04 58 00.6 +1.1**
BOSA	**Boshof**	**76.86**	**242**	P	**P**	**04 58 01.4 +1.3**
	comp=Z,3.6nm,0.6s,baz=102,slow=5.1,SNR=9.9					
BOSA				LR	LR	05 26 43.5
	comp=Z,206nm,18.7s,baz=116,slow=32					
BOSA	**Boshof**	**76.86**	**242**	*e*P	**P**	**04 58 00.9 +0.7**
	comp=Z,31nm,1.4s					
BYBT	**Boyabat**	**76.86**	**314**	*e*PN	**P**	**04 58 00.4 +0

SAFT Safranbolu 78.29 314 *e*PN **P 04 58 08.0 +0.4**
SIM Simferopol' 78.42 318 *e*P **P 04 58 09.4 +1.2**
SIM pmax pmax
comp=Z,76nm,0.7s
VNDA Vanda 79.06 169 P **P 04 58 12.6 +1.4**
comp=Z,2.1nm,0.8s,baz=314,slow=6.7,SNR=14
VNDA LR LR 05 28 14.4
comp=Z,124nm,20.5s,baz=301,slow=32
VNDA Vanda 79.06 169 *e*P **P 04 58 12.2 +1.0**
comp=Z,5.9nm,0.7s
PRGR Permogore 79.19 336 *e*P **P 04 58 11.7 -0.4**
PRGR *e* 04 58 20.1
PRGR *PP **pP 04 58 28.4 -2.4**
PRGR *e*S **S 05 08 04.4 -1.9**
PRGR *SS **sS 05 08 34.3 -3.9**
PRGR pmax pmax
comp=Z,137nm,0.7s
MOS Moscow 80.18 329 *e*P **P 04 58 17.8 +0.2**
MOS *e* 04 58 26.6
MOS pmax pmax
comp=Z,100nm,0.6s
OBN Obninsk 80.50 328*c i*P **P 04 58 19.7 +0.5**
OBN *i* 05 01 22.7
OBN pmax pmax
comp=Z,44nm,0.6s
OBN Obninsk 80.50 328 *e*P **P 04 58 19.4 +0.2**
comp=Z,34nm,0.6s
SUR Sutherland 80.77 238 *e*P **P 04 58 23.7 +2.1**
comp=Z,53nm,1.4s
AYDB Zeytinkoy-Aydi 81.02 309 *e*PN **P 04 58 23.6 +0.9**
KARP Karpathos 81.07 307 P **P 04 58 24.1 +1.2**
KARP Karpathos 81.07 307 *e*P **P 04 58 24.5 +1.6**
KARP Karpathos 81.07 307 *e*P **P 04 58 24.4 +1.6**
KARP Karpathos 81.07 307 P **P 04 58 24.1 +1.2**
KLMR Klimovskoe 81.41 334 *e*P **P 04 58 23.4 -0.6**
KLMR *e* 05 01 29.4
KLMR pmax pmax
comp=Z,17nm,0.6s
ZKR Zakros 81.74 306 *e*P **P 04 58 27.7 +1.4**
ZKR Zakros 81.74 306 *e*P **P 04 58 27.8 +1.4**
SMG Samos 81.78 309 *e*P **P 04 58 27.7 +1.2**
SMG Samos 81.78 309 *e*P **P 04 58 27.8 +1.2**
TLCR 82.08 317 ⇑P **P 04 58 29.5 +1.6**
PSN Preselentsi 82.15 315 ⇑P **P 04 58 30.0 +1.7**
TIRR Tirgusor 82.18 316 ⇑P **P 04 58 29.0 +0.6**
TIRR Tirgusor 82.18 316 ⇓*i*P **P 04 58 29.4 +1.0**
NPS Neapolis 82.25 306 P **P 04 58 30.0 +0.9**
NPS Neapolis 82.25 306 P **P 04 58 30.0 +0.9**
NPS Neapolis 82.25 306 *e*P **P 04 58 30.5 +1.4**
NPS Neapolis 82.25 306 *e*P **P 04 58 30.9 +1.8**
NPS Neapolis 82.25 306 P **P 04 58 30.0 +0.9**
LAST Lasithi 82.34 306 P **P 04 58 31.0 +1.3**
LAST Lasithi 82.34 306 *e*P **P 04 58 30.9 +1.3**
LAST Lasithi 82.34 306 *e*P **P 04 58 31.0 +1.3**
LAST Lasithi 82.34 306 P **P 04 58 31.0 +1.3**
LPK Lapseki 82.42 312 *e*PN **P 04 58 30.6 +0.8**
CHOS Chios island 82.53 310 P **P 04 58 31.7 +1.2**
CHOS Chios island 82.53 310 *e*P **P 04 58 31.6 +1.1**
CHOS Chios island 82.53 310 P **P 04 58 31.7 +1.2**
PRK Paraskevi 82.54 310 *e*P **P 04 58 31.2 +0.7**
CFR Carcaliu 82.55 317 ⇓P **P 04 58 31.4 +1.1**
CFR Carcaliu 82.55 317 ⇓*i*P **P 04 58 31.4 +1.1**
HARR Harsova 82.57 316 ⇓P **P 04 58 31.5 +1.0**
HARR Harsova 82.57 316 ⇑*i*P **P 04 58 32.0 +1.5**
SANT Santorini 82.59 307 *e*P **P 04 58 31.2 +0.4**
SANT Santorini 82.59 307 *e*P **P 04 58 31.3 +0.4**
SANT Santorini 82.59 307 *e*P **P 04 58 30.8 -0.1**
comp=Z,45nm,0.6s
APE Apeiranthos 82.67 308*c i*P **P 04 58 31.6 +0.3**
APE pmax pmax
comp=Z,33nm,0.7s
APE Apeiranthos 82.67 308 *e*P **P 04 58 31.6 +0.3**
APE Apeiranthos 82.67 308 *e*P **P 04 58 31.7 +0.4**
APE Apeiranthos 82.67 308 ⇓*i*P **P 04 58 32.1 +0.8**
LEOM Leova 82.79 318 ⇓P **P 04 58 32.8 +1.2**
SIGR SIGRI 82.85 310 *e*P **P 04 58 32.7 +0.6**
SIVA Sivas 82.85 306 P **P 04 58 33.7 +1.5**
SIVA Sivas 82.85 306 *e*P **P 04 58 33.5 +1.3**
SIVA Sivas 82.85 306 *e*P **P 04 58 33.7 +1.5**
SIVA Sivas 82.85 306 P **P 04 58 33.7 +1.5**
ALN Alexandroupoli 83.06 312 *e*P **P 04 58 34.0 +0.9**
AKASG Malin Array Be 83.26 322 P **P 04 58 33.9 0.0**
AKASG pmax pmax
comp=Z,20nm,0.8s
AKASG Malin Array Be 83.26 322 P **P 04 58 33.9 0.0**
comp=Z,20nm,0.8s,baz=86,slow=5.0,SNR=46
KIEV Kiev 83.27 322*c i*P **P 04 58 33.6 -0.4**
KIEV Kiev 83.27 322 *e*P **P 04 58 33.7 -0.2**
comp=Z,22nm,0.7s
SMTH Samothraki Isl 83.36 311 *e*P **P 04 58 35.4 +0.7**
SMTH Samothraki Isl 83.36 311 *e*P **P 04 58 35.1 +0.4**
VAM Vamos 83.42 306 P **P 04 58 34.9 -0.2**
VAM Vamos 83.42 306 P **P 04 58 34.9 -0.2**
VAM Vamos 83.42 306 *e*P **P 04 58 35.3 +0.2**
VAM Vamos 83.42 306 *e*P **P 04 58 35.1 0.0**
VAM Vamos 83.42 306 P **P 04 58 34.9 -0.2**
TMCR Tamitsa 83.45 336 *e*P **P 04 58 33.2 -1.4**
TMCR *e* 05 01 46.8
TMCR pmax pmax
comp=Z,18nm,0.7s
RDO Rodhopi 83.49 312 *e*P **P 04 58 36.4 +1.1**
LIA Limnos Island 83.50 311 P **P 04 58 35.0 -0.4**
LIA Limnos Island 83.50 311 *e*P **P 04 58 35.8 +0.4**
LIA Limnos Island 83.50 311 *e*P **P 04 58 36.0 +0.6**
LIA Limnos Island 83.50 311 P **P 04 58 35.0 -0.4**
ISR Istrita 83.63 316 ⇓P **P 04 58 38.2 +2.2**
ISR Istrita 83.63 316 ⇓*i*P **P 04 58 38.8 +2.8**
KARN Karanos 83.64 306 P **P 04 58 37.4 +1.1**
KARN Karanos 83.64 306 *e*P **P 04 58 37.7 +1.4**
KARN Karanos 83.64 306 *e*P **P 04 58 37.7 +1.4**
KARN Karanos 83.64 306 P **P 04 58 37.4 +1.1**
VRI Vrincioaia 83.67 317 ⇑P **P 04 58 37.8 +1.6**
VRI Vrincioaia 83.67 317 ⇓*i*P **P 04 58 37.7 +1.6**
KDZ Kurdzhali 83.68 313 ⇑P **P 04 58 37.0 +0.7**
KDZ Kurdzhali 83.68 313 ⇓*i*P **P 04 58 37.3 +1.0**
PLOR Plostina 83.72 317 ⇓P **P 04 58 38.0 +1.5**
TESR Tescani 83.87 318 ⇑*i*P **P 04 58 38.3 +1.1**
TSUM Tsumeb 83.98 251 *e*P **P 04 58 39.8 +1.3**
comp=Z,12nm,1.3s
MLR Muntele Rosu 84.12 316 ⇑P **P 04 58 39.9 +1.3**
MLR Muntele Rosu 84.12 316 ⇑*i*P **P 04 58 40.1 +1.5**
RZN Rozhen 84.20 313 *e*P **P 04 58 40.0 +0.8**
ANKY Antikythira Is 84.22 307 P **P 04 58 40.3 +1.2**
ANKY Antikythira Is 84.22 307 *e*P **P 04 58 40.3 +1.2**
ANKY Antikythira Is 84.22 307 *e*P **P 04 58 40.6 +1.5**
ANKY Antikythira Is 84.22 307 P **P 04 58 40.3 +1.2**
KAVA Kavala 84.22 312 *e*P **P 04 58 39.5 +0.5**
NAIG Nisos Aigina 84.40 309 *e*P **P 04 58 39.2 -0.8**
OUR Ouranopolis 84.49 311 *e*P **P 04 58 40.6 +0.2**
MRKA Markates 84.49 309 *e*P **P 04 58 40.1 -0.4**
KYTH Kithira 84.50 307 *e*P **P 04 58 41.2 +0.6**
DID Didima 84.55 308 *e*P **P 04 58 40.1 -0.8**
DOPR Dopca 84.60 317 ⇓*i*P **P 04 58 42.1 +1.2**
PAIG Paliouri 84.64 311 *e*P **P 04 58 41.7 +0.5**
VLI Veliai 84.65 307 *e*P **P 04 58 40.8 -0.5**
VLI Veliai 84.65 307 *e*P **P 04 58 41.1 -0.2**
BILL Bilibino 84.66 20 ⇓*i*P **P 04 58 40.0 -0.7**
BILL pmax pmax
comp=Z,14nm,1.6s
BILL Bilibino 84.66 20 *e*P **P 04 58 39.8 -0.9**
comp=Z,7.1nm,0.8s
VOIR 84.72 316 ⇑P **P 04 58 42.0 +0.4**
VOIR 84.72 316 ⇑*i*P **P 04 58 42.3 +0.7**
NVR Nevrokopi 84.77 312 *e*P **P 04 58 42.4 +0.5**
LTK Loutraki 84.85 309 *e*P **P 04 58 41.7 -0.6**
PLG Polygyros 84.90 311 *e*P **P 04 58 43.4 +0.8**
MMB Musomiste 84.91 312 ⇑P **P 04 58 43.0 +0.4**
MMB Musomiste 84.91 312 *e*P **P 04 58 45.0 +2.4**
SRS Serrai 84.92 312 *e*P **P 04 58 42.5 -0.1**
LKR Lokris 84.93 309 *e*P **P 04 58 43.1 +0.4**
LKR Lokris 84.93 309 *e*P **P 04 58 42.5 -0.2**
SOH Sokhos 85.05 312 *e*P **P 04 58 43.4 +0.1**
BURAR Bucovina Array 85.07 318 ⇑P **P 04 58 45.1 +1.8**
BURAR Bucovina Array 85.07 318 ⇓*i*P **P 04 58 45.6 +2.3**
HORT Hortiatis 85.20 311 *e*P **P 04 58 43.8 -0.3**
VLX Vlachokerasia 85.20 306 P **P 04 58 44.2 0.0**
VLX Vlachokerasia 85.20 308 *e*P **P 04 58 44.4 +0.2**
VLX Vlachokerasia 85.20 308 P **P 04 58 44.2 0.0**
MPEP Malo Peshtene 85.23 314 *e*P **P 04 58 45.0 +0.9**
DSF Desfina 85.26 309 *e*P **P 04 58 43.5 -0.9**
PUL Pulkovo 85.26 331 ⇓*e*P **P 04 58 45.8 +2.0**
PUL pmax pmax
comp=Z,62nm,0.5s
GUR Goura 85.32 309 P **P 04 58 44.9 +0.1**
GUR Goura 85.32 309 *e*P **P 04 58 45.0 +0.1**
GUR Goura 85.32 309 P **P 04 58 44.9 +0.1**
QSPA South Pole Qui 85.34 180 *e*P **P 04 58 43.8 -0.5**
comp=Z,5.4nm,0.9s
KKB Krupnik 85.44 313 *e*P **P 04 58 45.4 +0.2**
KNT Kendrikon 85.45 312 *e*P **P 04 58 45.4 +0.2**
VTS Vitosha 85.47 313 P **P 04 58 46.2 +0.7**
VTS Vitosha 85.47 313 ⇑P **P 04 58 46.4 +0.9**
VTS Vitosha 85.47 313 ⇓*i*P **P 04 58 45.8 +0.3**
VTS Vitosha 85.47 313 *e*P **P 04 58 46.0 +0.5**
VTS Vitosha 85.47 313 P **P 04 58 46.2 +0.7**
KLV Kalavryta, Ach 85.49 309 P **P 04 58 45.9 +0.3**
KLV Kalavryta, Ach 85.49 309 *e*P **P 04 58 46.1 +0.5**
KLV Kalavryta, Ach 85.49 309 *e*P **P 04 58 46.0 +0.3**
KLV Kalavryta, Ach 85.49 309 P **P 04 58 45.9 +0.3**
AGG Agios Georgios 85.51 310 *e*P **P 04 58 45.1 -0.5**
ITM Ithomi 85.53 308 *e*P **P 04 58 46.1 +0.4**
ITM Ithomi 85.53 308 *e*P **P 04 58 46.3 +0.6**
KALE Kalithea 85.55 309 P **P 04 58 46.0 +0.1**
KALE Kalithea 85.55 309 *e*P **P 04 58 45.8 -0.1**
KALE Kalithea 85.55 309 P **P 04 58 46.0 +0.1**
LIT Litokhoron 85.57 311 P **P 04 58 46.0 +0.1**
LIT Litokhoron 85.57 311 P **P 04 58 46.0 +0.1**
LIT Litokhoron 85.57 311 *e*P **P 04 58 45.7 -0.2**
LIT Litokhoron 85.57 311 P **P 04 58 46.0 +0.1**
PYL PYLOS 85.63 307 *e*P **P 04 58 46.4 +0.2**
MAKR Makrakomi, Fth 85.66 310 *e*P **P 04 58 46.0 -0.4**
EFP Efpalio 85.74 309 *e*P **P 04 58 47.0 +0.3**
AMT Artemida-Makis 85.75 308 *e*P **P 04 58 46.6 -0.3**
GRG Griva 85.78 312 *e*P **P 04 58 47.2 +0.3**
JOF Joensuu 85.78 334 *e*P **P 04 58 45.5 -0.9**
JOF pmax pmax
comp=Z,20nm,0.5s
JOF Joensuu 85.78 334 *e*p **P 04 58 45.5 -0.9**
comp=Z,20nm,0.5s
DRO Drossia 85.82 308 P **P 04 58 48.4 +1.2**
DRO Drossia 85.82 308 *e*P **P 04 58 48.0 +0.8**
THL Klokotos Trika 85.84 310 *e*P **P 04 58 46.6 -0.6**
THL Klokotos Trika 85.84 310 *e*P **P 04 58 46.8 -0.4**
EVR Evrytania 85.89 309 P **P 04 58 48.2 +0.6**
EVR Evrytania 85.89 309 *e*P **P 04 58 48.6 +1.0**
EVR Evrytania 85.89 309 *e*P **P 04 58 48.2 +0.6**
EVR Evrytania 85.89 309 P **P 04 58 48.2 +0.6**
IDID Didziasalis 85.90 326 *e*P **P 04 58 47.6 +0.4**
IDID AMB AMB 04 58 48.9
comp=Z,20nm,0.9s
CJR Cluj-Napoca 85.97 317 ⇓P **P 04 58 50.0 +2.2**
CJR Cluj-Napoca 85.97 317 ⇑*i*P **P 04 58 50.3 +2.5**
RLS Riolos of Patr 86.02 309 *e*P **P 04 58 49.2 +1.1**
RLS Riolos of Patr 86.02 309 *e*P **P 04 58 49.6 +1.5**
IIGN Ignalina 86.20 326 *e*P **P 04 58 49.0 +0.4**
IIGN AMB AMB 04 58 49.8
comp=Z,27nm,0.8s
GZR Gura Zlata 86.29 316 ⇓P **P 04 58 51.0 +1.6**
GZR Gura Zlata 86.29 316 ⇓*i*P **P 04 58 50.6 +1.2**
LVV L'vov 86.30 320 *i*P **P 04 58 49.6 +0.4**
ISAL Salakas 86.31 326 *e*P **P 04 58 49.6 +0.5**
ISAL AMB AMB 04 58 51.5
comp=Z,17nm,1.3s
PDO Prodromos 86.33 309 *e*P **P 04 58 50.3 +0.7**
DSL Palaion Diasel 86.48 310 P **P 04 58 51.4 +1.0**
DSL Palaion Diasel 86.48 310 *e*P **P 04 58 50.8 +0.4**
DSL Palaion Diasel 86.48 310 P **P 04 58 51.4 +1.0**
FNA Florina 86.52 311 *e*P **P 04 58 50.3 -0.3**
APA Apatity 86.53 339 ⇑*i*P **P 04 58 50.6 +0.6**
APA MLR MLR
comp=Z,400nm,15.0s
DRGR 86.58 317 ⇑P **P 04 58 52.3 +1.5**
DRGR 86.58 317 ⇓*i*P **P 04 58 52.3 +1.5**
VSU Vasula 86.68 329*c i*P **P 04 58 51.3 +0.4**
VSU pmax pmax
comp=Z,145nm,1.0s
NEST Nestorio 86.71 311 *e*P **P 04 58 51.8 +0.2**
VLS Valsamata 86.73 309 *e*P **P 04 58 52.1 +0.5**
JAN Janina 86.75 310 *e*P **P 04 58 52.8 +1.1**
LKD2 Lefkada island 86.76 309 P **P 04 58 52.5 +0.7**
LKD2 Lefkada island 86.76 309 *e*P **P 04 58 52.8 +1.0**
LKD2 Lefkada island 86.76 309 P **P 04 58 52.5 +0.7**
TRPA Tarpa 86.94 319 ⇓*i*P **P 04 58 53.8 +1.4**
KWP Kalwaria Pacla 87.10 320 ⇓P **P 04 58 54.6 +1.4**
KWP Kalwaria Pacla 87.10 320 *e*P **P 04 58 54.2 +1.0**
KWP Kalwaria Pacla 87.10 320 *e*P **P 04 58 54.1 +0.9**
comp=Z,14nm,0.5s
IGT Igoumenitsa 87.12 310 P **P 04 58 54.4 +0.9**
IGT Igoumenitsa 87.12 310 P **P 04 58 54.4 +0.9**
IGT Igoumenitsa 87.12 310 *e*P **P 04 58 54.7 +1.2**
IGT Igoumenitsa 87.12 310 P **P 04 58 54.4 +0.9**
BZS Buzias 87.13 316 ⇓P **P 04 58 54.3 +0.9**
BZS Buzias 87.13 316 ⇓*i*P **P 04 58 54.8 +1.4**
UZH Uzhgorod 87.19 319 *e*P **P 04 58 51.5 -2.1**
UZH *e* 04 59 01.5
UZH *e* 04 59 06.4
KOLS Kolonicke sedl 87.26 319 *e*P **P 04 58 55.5 +1.6**
KOLS pmax pmax
comp=Z,55nm,0.9s
KOLS Kolonicke sedl 87.26 319 *e*P **P 04 58 55.5 +1.6**
SRN Sarande 87.43 310 P **P 04 58 55.5 +0.6**
SRN Sarande 87.43 310 P **P 04 58 55.5 +0.6**
KEK Kerkira 87.56 310 *e*P **P 04 58 56.9 +1.3**
KEK Kerkira 87.56 310 *e*P **P 04 58 56.7 +1.1**
SUW Suwalki 87.64 324 *e*P **P 04 58 56.0 +0.4**
SUW Suwalki 87.64 324 *e*P **P 04 58 56.0 +0.4**
SUW Suwalki 87.64 324 *e*P **P 04 58 55.7 +0.1**
comp=Z,116nm,1.0s
SUW *e*pP **pP 04 59 15.1 +0.5**
FINES FINESS Array B 87.73 332 P **P 04 58 56.4 +0.5**
FINES pmax pmax
comp=Z,18nm,0.6s
FINES FINESS Array B 87.73 332 P **P 04 58 56.4 +0.5**
comp=Z,18nm,0.6s,baz=123,slow=5.3,SNR=114
KAF Kangasniemi 87.79 333 *e*P **P 04 58 55.6 -0.5**
KAF pmax pmax
comp=Z,9.0nm,0.4s
KAF Kangasniemi 87.79 333 *e*p **P 04 58 55.6 -0.5**
comp=Z,8.8nm,0.4s
STHS Stebnicka Huta 88.00 320 *e*P **P 04 58 59.2 +1.7**
STHS pmax pmax
comp=Z,33nm,0.7s
STHS Stebnicka Huta 88.00 320 *e*P **P 04 58 59.2 +1.7**
DIVS Divibare 88.04 314 P **P 04 58 59.0 +1.1**
NIE Niedzica 88.61 320 *e*P **P 04 59 01.9 +1.5**
NIE Niedzica 88.61 320 *e*P **P 04 59 01.9 +1.5**
PSZ Piszkesteto 88.66 318 ⇓P **P 04 59 02.0 +1.3**
PSZ Piszkesteto 88.66 318 ⇑*i*P **P 04 59 01.8 +1.0**
PSZ Piszkesteto 88.66 318 ⇑*e* **P 04 59 01.7 +1.0**
PSZ Piszkesteto 88.66 318 *e*P **P 04 59 01.4 +0.7**
comp=Z,18nm,1.0s
BEL Belsk 88.68 322 *e*P **P 04 59 02.0 +1.4**
BEL Belsk 88.68 322 *e*P **P 04 59 01.9 +1.4**
OJC Ojcow 89.05 320 *e*P **P 04 59 03.2 +0.8**
OJC Ojcow 89.05 320 *e*P **P 04 59 03.2 +0.8**
KEV Kevo 89.43 340 *e*P **P 04 59 03.1 -0.6**
KEV pmax pmax
comp=Z,13nm,0.8s
KEV Kevo 89.43 340 *e*p **P 04 59 03.1 -0.6**
comp=Z,12nm,0.8s
VYHS Vyhne 89.44 319 *e*P **P 04 59 05.1 +0.8**
VYHS pmax pmax
comp=Z,8.0nm,1.3s
VYHS Vyhne 89.44 319 *e*P **P 04 59 05.1 +0.8**
PKS9 Tamasi 89.57 317 ⇑*e*PKKPdf **P 04 59 06.1 +1.2**
PKSG 89.59 317 ⇑*e*PKKPdf **P 04 59 06.4 +1.4**
PKST T"s 89.82 317 ⇑*e*PKKPdf **P 04 59 07.2 +1.1**
TIP Timpagrande 89.83 309 *e*P **P 04 59 08.0 +1.6**
comp=Z,14nm,0.8s
ARCES ARCESS Array B 89.89 340 P **P 04 59 06.3 +0.4**
ARCES pmax pmax
comp=Z,8.0nm,0.4s
ARCES ARCESS Array B 89.89 340 P **P 04 59 06.3 +0.4**
comp=Z,8.4nm,0.4s,baz=103,slow=5.6,SNR=136
ARE0 ARCESS Array S 89.89 340 *e*P **P 04 59 06.8 +0.9**
ARE0 IAmb IAmb 04 59 07.8
comp=Z,21nm,1.0s
OKC Ostrava-Krasne 90.06 320 *i*P **P 04 59 08.6 +1.5**
OKC *e* 04 59 23.1
OKC Ostrava-Krasne 90.06 320 *i*P **P 04 59 08.6 +1.5**
OKC *e*pP **pP 04 59 23.1 -3.1**
CEL Celeste 90.41 308 *e*P **P 04 59 10.6 +1.5**
comp=Z,54nm,1.1s
MORC Moravsky Berou 90.44 320 ⇓P **P 04 59 10.4 +1.4**
MORC Moravsky Berou 90.44 320 ⇓*i*P **P 04 59 10.6 +1.6**
MORC Moravsky Berou 90.44 320 *e*P **P 04 59 09.6 +0.7**
comp=Z,15nm,0.8s
KTK1 Kautokeino 90.56 339 *e*P **P 04 59 09.6 +0.5**
KOGS Kog 90.94 316 *i*P **P 04 59 12.6 +1.3**
KRLC Kraliky 90.96 320 *i*P **P 04 59 13.2 +1.8**
KRLC Kraliky 90.96 320 *i*P **P 04 59 13.2 +1.8**
DPC Dobruska-Polom 91.28 320 *i*P **P 04 59 14.5 +1.6**
DPC *e* 04 59 33.1
DPC Dobruska-Polom 91.28 320 *i*P **P 04 59 14.5 +1.6**
DPC *e*pP **pP 04 59 33.1 +1.1**
KSP Ksiaz 91.35 321 ⇑*e*P **P 04 59 14.5 +1.4**
KSP Ksiaz 91.35 321 *e*P **P 04 59 14.5 +1.4**
CONA Conrad Observa 91.35 318 ⇑*i*PcP **PcP 04 59 14.0 -0.2**
comp=Z,5.7nm,1.0s
UPC Upice 91.50 320 *i*P **P 04 59 15.1 +1.3**
UPC Upice 91.50 320 *i*P **P 04 59 15.1 +1.3**
ARSA Arzberg 91.52 317 *i*PcP **PcP 04 59 15.2 +0.3**
comp=Z,8.4nm,0.8s,SNR=6.8
BOJS Bojanci 91.55 315 *i*P **P 04 59 15.4 +1.2**
HOPEN Hopen 91.64 347 *e*P **P 04 59 14.1 +0.2**
TREC Trest 91.72 319 *i*P **P 04 59 16.0 +1.1**
TREC Trest 91.72 319 *i*P **P 04 59 16.0 +1.1**
PERS Pernice 91.74 316 *i*P **P 04 59 16.3 +1.2**
SOKA Soboth 91.80 316 *i*PcP **PcP 04 59 16.7 +0.4**
comp=Z,15nm,0.8s,SNR=15
VNDS Vrh nad Dolski 91.98 316 *i*P **P 04 59 17.5 +1.3**
LJU Ljubljana 92.10 316 *i*P **P 04 59 18.2 +1.5**
OBKA Obir 92.12 316 ⇑*i*PcP **PcP 04 59 18.2 +0.5**
comp=Z,8.4nm,0.8s
PRU Pruhonice 92.39 320 *i*P **P 04 59 19.0 +1.1**
PRU Pruhonice 92.39 320 *i*P **P 04 59 19.0 +1.1**
PRU *es*P **sP 04 59 44.7 +0.2**
PRA Prague 92.47 320 *e*P **P 04 59 19.8 +1.5**
PRA Prague 92.47 320 *e*P **P 04 59 19.8 +1.5**
AQU L'Aquila 92.64 312 *e*P **P 04 59 20.2 +0.9**
AQU pmax pmax
comp=Z,15nm,0.8s
AQU L'Aquila 92.64 312 *e*P **P 04 59 20.2 +0.9**
comp=Z,15nm,0.8s
MYKA Terra Mystica 92.75 316 ⇑*i*PcP **PcP 04 59 20.6 +0.1**
comp=Z,4.6nm,0.8s
BRG Berggiesshubel 92.84 321 *i*P **P 04 59 21.1 +1.1**
comp=Z,9.9nm,0.7s
BRG PP PKiKP 05 04 01.0 -6.5
BRG SS SS 05 16 11.0 -24
BRG Berggiesshubel 92.84 321 *i*P **P 04 59 21.0 +1.1**
BRG pmax pmax
comp=Z,10.0nm,0.7s
BRG Berggiesshubel 92.84 321 *e*P **P 04 59 21.3 +1.3**
comp=Z,10.0nm,0.7s
GEC2 GERESS Array S 92.86 319 *e*P **P 04 59 21.3 +1.0**
comp=Z,8.0nm,0.8s
GERES GERESS Array B 92.86 319 P **P 04 59 21.2 +1.0**
GERES pmax pmax
comp=Z,4.0nm,0.6s
GERES GERESS Array B 92.86 319 P **P 04 59 21.2 +1.0**
comp=Z,4.3nm,0.6s,baz=92,slow=3.2,SNR=41
KHC Kasperske Hory 92.96 319 *i*P **P 04 59 21.2 +0.6**
KHC *e* 04 59 33.1
KHC Kasperske Hory 92.96 319 *i*P **P 04 59 21.2 +0.6**
KHC *ex* x 04 59 33.1
KHC Kasperske Hory 92.96 319 *e*P **P 04 59 21.0 +0.3**
comp=Z,3.8nm,0.6s
KBA Koelnbreinsper 92.99 317 ⇑*i*PcP **P 04 59 21.2 +0.2**
comp=Z,4.2nm,0.8s
STEI Steigen 93.34 338 *e*P **P 04 59 22.3 +0.4**
STEI IAmb IAmb 04 59 23.6
comp=Z,16nm,0.7s
WET Wettzell 93.42 319 *e*P **P 04 59 23.8 +1.1**
comp=Z,8.0nm,0.8s
WET *e*L L 05 55 58.4
comp=Z,76nm,20.2s
CLL Collm 93.45 321 ⇑*i*P **P 04 59 23.3 +0.5**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 93.45 321 *e*P **P 04 59 23.3 +0.5**
comp=Z,7.0nm,1.0s
CLL Collm 93.45 321 ⇑*i*P **P 04 59 23.3 +0.5**
comp=Z,7.0nm,1.0s
CLL *e*(pP) **pP 04 59 43.0 +1.1**
CLL Lm MLR 05 47 00.0
comp=Z,100nm,20.5s
ABTA Abfaltersbach 93.54 316 ⇑*i*P **P 04 59 23.5 +0.1**
comp=Z,5.0nm,0.9s
TANN Tannenbergstha 93.75 320 *e*P **P 04 59 25.1 +0.8**
comp=Z,4.0nm,0.8s
SPA0 Spitsbergen Ar 93.77 348 *e*P **P 04 59 23.1 -0.6**
SPA0 IAmb IAmb 04 59 23.7
comp=Z,16nm,0.8s
HSPB Hornsund (broa 93.87 347 *e*P **P 04 59 24.8 +0.7**
ROTZ Rotzenmuhle 93.89 319 *e*P **P 04 59 26.2 +1.3**
comp=Z,7.0nm,0.8s
TNA Tin City 93.89 25 *e*P **P 04 59 23.3 -1.1**
comp=Z,1.8nm,0.7s
WTTA Wattenberg 94.16 317 ⇑*i*PcP **P 04 59 26.6 +0.2**
comp=Z,5.0nm,0.5s
MOX Moxa 94.30 320 *e*P **P 04 59 27.6 +0.9**
comp=Z,5.0nm,0.9s
FUR Furstenfeldbru 94.44 318 *e*L L 05 50 39.6
comp=Z,91nm,19.8s
NSS Namsos 94.51 334 *e*P **P 04 59 27.7 +0.3**
GRF Grafenberg Arr 94.52 319 *e*P **P 04 59 29.3 +1.5**
comp=Z,11nm,0.7s
NC602 NORSAR Array S 94.63 330 *e*P **P 04 59 28.6 +0.6**
KBS Kingsbay 94.68 349 *e*P **P 04 59 27.2 -0.7**
RETA Reutte 94.76 317 ⇑*i*PcP **PcP 04 59 29.3 -0.1**
comp=Z,4.7nm,0.7s
FETA Feichten 94.77 317 ⇑*i*PcP **PcP 04 59 29.9 +0.5**
comp=Z,7.9nm,1.2s
NB2 NORSAR Subarra 94.79 331 P **P 04 59 28.6 -0.2**
comp=Z,2.5nm,0.6s,baz=95,slow=5.3
NB2 NORSAR Subarra 94.79 331 P **P 04 59 28.6 -0.2**
baz=95,slow=5.3
NOA NORSAR Array B 94.79 331 P **P 04 59 28.1 -0.7**
NOA 05 03 20.0
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 94.79 331 P **P 04 59 28.1 -0.7**
comp=Z,3.1nm,0.7s,baz=92,slow=4.7,SNR=15
NOA PP **PP 05 03 20.0 +1.9**
comp=Z,2.6nm,0.8s,baz=88,slow=7.5,SNR=5.9
NRDL Niedersach Rie 95.29 322 *e*P **P 04 59 32.3 +1.2**
comp=Z,9.0nm,1.1s
DAVA Damuels 95.36 317 ⇑*i*PcP **PcP 04 59 32.8 +0.7**
comp=Z,11nm,1.1s
KEST Kesra 95.48 305 P **P 04 59 33.6 +1.0**
comp=Z,3.0nm,0.8s,baz=14,slow=4.3,SNR=8.5
KONO Kongsberg 95.59 329 *e*P **P 04 59 33.6 +1.2**
PGF Pioggiola 95.90 312 *e*P **P 04 59 34.9 +0.5**
comp=Z,33nm,1.1s
PGF Pioggiola 95.90 312 *e*P **P 04 59 34.9 +0.5**
PGF pmax pmax
comp=Z,33nm,1.1s
PGF Pioggiola 95.90 312 *e*P **P 04 59 34.9 +0.5**
comp=Z,33nm,1.1s
TNS Taunus Mts 96.32 320 *e*P **P 04 59 36.8 +0.8**
comp=Z,11nm,0.9s
BFO Black Forest 96.41 318 *e*P **P 04 59 37.0 +0.6**
comp=Z,7.0nm,1.2s
SBF Sospel 97.05 313 *e*P Pdif 04 59 40.0 +0.4
comp=Z,16nm,0.7s
SBF Sospel 97.05 313 *e*P Pdif 04 59 40.0 +0.4
SBF pmax pmax
comp=Z,16nm,0.7s
SBF Sospel 97.05 313 *e*P Pdif 04 59 40.0 +0.4
comp=Z,16nm,0.7s
CDF Champ du Feu 97.11 318 *e*P Pdif 04 59 39.8 0.0
comp=Z,7.6nm,0.8s
CDF Champ du Feu 97.11 318 *e*P Pdif 04 59 39.8 0.0
CDF pmax pmax
comp=Z,8.0nm,0.8s
CDF Champ du Feu 97.11 318 *e*P Pdif 04 59 39.8 0.0
comp=Z,7.6nm,0.8s
HINF Hinteralfeld 97.40 317 *e*P Pdif 04 59 41.6 +0.6
HINF Hinteralfeld 97.40 317 *e*P Pdif 04 59 41.6 +0.6
HINF Hinteralfeld 97.40 317 *e*P Pdif 04 59 41.6 +0.6
LPG La Plagne 97.52 315 *e*P Pdif 04 59 42.3 +0.3
comp=Z,7.4nm,0.7s
LPG La Plagne 97.52 315 *e*P Pdif 04 59 42.3 +0.3
LPG pmax pmax
comp=Z,7.0nm,0.7s

LPG	La Plagne	97.52	315	eP		Pdif	04 59 42.3 +0.3
	comp=Z,7.4nm,0.7s						
MBDF	Montbardon	97.52	314	eP		P	04 59 41.5 -0.2
	comp=Z,2.8nm,0.6s						
MBDF	Montbardon	97.52	314	eP		P	04 59 41.5 -0.2
MBDF					pmax	pmax	
	comp=Z,3.0nm,0.6s						
MBDF	Montbardon	97.52	314	eP		P	04 59 41.5 -0.2
	comp=Z,2.8nm,0.6s						
LPL	La Plagne	97.53	315	eP		Pdif	04 59 42.3 +0.4
	comp=Z,7.2nm,0.7s						
LPL	La Plagne	97.53	315	eP		Pdif	04 59 42.3 +0.4
LPL					pmax	pmax	
	comp=Z,7.0nm,0.7s						
LPL	La Plagne	97.53	315	eP		Pdif	04 59 42.3 +0.4
	comp=Z,7.2nm,0.7s						
BNI	Bardonecchia	97.58	315	eP		P	04 59 41.9 -0.1
BNI					pmax	pmax	
	comp=Z,3.0nm,0.9s						
BNI	Bardonecchia	97.58	315	eP		P	04 59 41.9 -0.1
	comp=Z,3.1nm,0.9s						
FRF	La Foret Royal	97.63	313	eP		Pdif	04 59 42.4 +0.3
FRF	La Foret Royal	97.63	313	eP		Pdif	04 59 42.4 +0.3
FRF	La Foret Royal	97.63	313	eP		Pdif	04 59 42.4 +0.3
LMR	La Mourre	97.73	313	eP		Pdif	04 59 43.5 +1.0
LMR	La Mourre	97.73	313	eP		Pdif	04 59 43.5 +1.0
LMR	La Mourre	97.73	313	eP		Pdif	04 59 43.5 +1.0
HAU	Haudompre	97.74	318	eP		Pdif	04 59 42.6 +0.1
HAU				eR			
	comp=Z,78nm,17.2s						
HAU	Haudompre	97.74	318	eP		Pdif	04 59 42.6 +0.1
HAU	Haudompre	97.74	318	eP		Pdif	04 59 42.6 +0.1
PAGF	Fort de Pagny	98.14	318	eP		Pdif	04 59 44.4 +0.2
	comp=Z,2.7nm,0.5s						
PAGF	Fort de Pagny	98.14	318	eP		Pdif	04 59 44.4 +0.2
	comp=Z,2.7nm,0.5s						
ORIF	Oris-en-Rattie	98.15	315	eP		Pdif	04 59 45.2 +0.7
ORIF				eR			
	comp=Z,110nm,20.2s						
ORIF	Oris-en-Rattie	98.15	315	eP		Pdif	04 59 45.2 +0.7
ORIF	Oris-en-Rattie	98.15	315	eP		Pdif	04 59 45.2 +0.7
SMRF	Simiane la Rot	98.40	314	eP		Pdif	04 59 46.7 +1.2
SMRF	Simiane la Rot	98.40	314	eP		Pdif	04 59 46.7 +1.2
SFTF	Sexfontaines	98.61	318	eP		Pdif	04 59 46.7 +0.4
	comp=Z,20nm,0.7s						
SFTF	Sexfontaines	98.61	318	eP		Pdif	04 59 46.7 +0.4
	comp=Z,20nm,0.7s						
BAIF	Baives	99.05	320	eP		Pdif	04 59 48.8 +0.6
BAIF	Baives	99.05	320	eP		Pdif	04 59 48.8 +0.6
BAIF	Baives	99.05	320	eP		Pdif	04 59 48.8 +0.6
LOR	Lormes	99.45	317	eP		Pdif	04 59 50.5 +0.4
	comp=Z,9.7nm,0.8s						
LOR				eR			
	comp=Z,101nm,18.8s						
LOR	Lormes	99.45	317	eP		Pdif	04 59 50.5 +0.4
LOR					pmax	pmax	
	comp=Z,10.0nm,0.8s						
LOR	Lormes	99.45	317	eP		Pdif	04 59 50.5 +0.4
	comp=Z,9.7nm,0.8s						
SMF	Signal de Mont	99.50	316	eP		Pdif	04 59 50.7 +0.3
SMF	Signal de Mont	99.50	316	eP		Pdif	04 59 50.7 +0.3
SMF	Signal de Mont	99.50	316	eP		Pdif	04 59 50.7 +0.3
SSF	Saint Saulge	99.71	317	eP		Pdif	04 59 51.7 +0.5
SSF	Saint Saulge	99.71	317	eP		Pdif	04 59 51.7 +0.5
SSF	Saint Saulge	99.71	317	eP		Pdif	04 59 51.7 +0.5
DAG	Danmarks Havn	101.41	348	i P		Pdif	04 59 56.9 -1.3
DAG					pmax	pmax	
	comp=Z,4.0nm,0.7s						
DAG	Danmarks Havn	101.41	348	i P		Pdif	04 59 56.9 -1.3
	comp=Z,5.9nm,0.7s						
TORD	Torodi Ar. Bea	101.84	282	P		Pdif	05 00 02.7 +1.3
	comp=Z,0.8nm,0.9s,baz=88,slow=4.7,SNR=7.4						
TORD				PP		PKiKP	05 04 21.1 -3.3
	comp=Z,0.4nm,0.6s,baz=57,slow=1.4,SNR=6.2						
TORD				PKKPbc		PKKPbc	05 16 04.5 -2.1
	comp=Z,0.7nm,0.6s,baz=304,slow=2.2,SNR=11						
MCK	McKinley	102.18	26	eP		Pdif	05 00 02.2 +0.3
MCK					pmax	pmax	
	comp=Z,3.0nm,0.6s						
MCK	McKinley	102.18	26	eP		Pdif	05 00 02.2 +0.3
	comp=Z,3.0nm,0.6s						
ILAR	Eielson Array	102.76	24	P		Pdif	05 00 03.3 -1.2
ILAR							05 04 14.4
ILAR					pmax	pmax	
	comp=Z,1.0nm,0.7s						
ILAR					pmax	pmax	
	comp=Z,1.0nm,0.8s						
ILAR					pmax	pmax	
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	102.76	24	P		Pdif	05 00 03.2 -1.2
	comp=Z,0.5nm,0.7s,baz=295,slow=4.3,SNR=6.4						
ILAR				PP		PP	05 04 14.4 -4.2
	comp=Z,0.6nm,0.8s,baz=288,slow=6.9,SNR=5.1						
ILAR				PKKPbc		PKKPbc	05 16 03.8 -1.9
	comp=Z,0.6nm,0.9s,baz=181,slow=2.3,SNR=5.0						
H09N1	TRISTAN DA CUNI	06.87	229	T		T	06 59 56.8
	SNR=11						
LIC	Lamto	108.18	275	eP		Pdif	05 00 29.0 -0.6
	comp=Z,21nm,1.1s						
LIC	Lamto	108.18	275	eP		Pdif	05 00 29.0 -0.6
	comp=Z,21nm,1.1s						
RES	Resolute Bay	109.25	5	PKiKP		PKiKP	05 04 36.3 -0.1
	comp=Z,1.9nm,0.6s,baz=281,slow=1.7,SNR=12						
DLBC	Dease Lake	112.65	27	PKiKP		PKiKP	05 04 43.3 -0.1
	comp=Z,1.7nm,0.7s,baz=282,slow=2.6,SNR=5.4						
YKA	Yellowknife Ar	116.02	18	PKIKP		PKPdf	05 04 49.0 -0.7
YKA							05 05 52.6
YKA							05 15 27.2
YKA					pmax	pmax	
	comp=Z,2.0nm,0.8s						
YKA					pmax	pmax	
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	116.02	18	PKP		PKPdf	05 04 49.0 -0.7
	comp=Z,2.4nm,0.8s,baz=332,slow=2.3,SNR=34						
YKA				PP		PP	05 05 52.6 -1.8
	comp=Z,0.5nm,0.8s,baz=321,slow=7.1,SNR=4.0						
YKA				PKKPbc		PKKPab	05 15 27.2 +1.5
	comp=Z,0.2nm,0.6s,baz=128,slow=4.2,SNR=4.2						
ASCN	Ascension	116.08	259	ePKPdf		PKPdf	05 04 52.1 +0.9
FRB	Frobisher Bay	120.67	356	PKIKP		PKPdf	05 04 58.3 -0.3
FRB					pmax	pmax	
	comp=Z,8.0nm,0.6s						
FRB	Frobisher Bay	120.67	356	PKP		PKPdf	05 04 58.2 -0.3
	comp=Z,8.2nm,0.6s,baz=53,slow=2.5,SNR=42						
EDM	Edmonton	123.24	25	ePKIKP		PKPdf	05 05 03.7 -0.2
EDM	Edmonton	123.24	25	ePKPdf		PKPdf	05 05 03.7 -0.2
I03D	Drain, OR	123.79	39	⇑P		PKPdf	05 05 06.2 +1.0
	baz=124						
G05D	Wamic, OR	124.22	36	⇓P		PKPdf	05 05 06.9 +0.9
	baz=124						
I04A	Tendick Farm,	124.33	38	⇓P		PKPdf	05 05 07.0 +0.7
	baz=124						
L02D	Cave Junction,	124.39	41	⇑P		PKPdf	05 05 07.2 +0.7
	baz=124						
FCC	Fort Churchill	124.44	11	ePKIKP		PKPdf	05 05 05.2 -0.7
FCC	Fort Churchill	124.44	11	ePKPdf		PKPdf	05 05 05.2 -0.7
I05D	Terrebonne, OR	124.70	37	⇑P		PKPdf	05 05 08.0 +1.0
	baz=125						
NEW	Newport	124.79	31	PKIKP		PKPdf	05 05 07.0 0.0
NEW					pmax	pmax	
	comp=Z,6.0nm,0.8s						
NEW	Newport	124.79	31	PKP		PKPdf	05 05 07.0 0.0
	comp=Z,6.2nm,0.8s,baz=304,slow=1.4,SNR=11						
NEW	Newport	124.79	31	⇓P		PKPdf	05 05 08.2 +1.2
	baz=125						
J04D	Umpqua Nationa	124.80	39	⇓P		PKPdf	05 05 08.5 +1.1
	baz=125						
KHMM	Horse Mountain	124.92	42	ePKPdf		PKPdf	05 05 08.5 +0.8
M02C	Callahan	125.25	41	⇓P		PKPdf	05 05 09.6 +1.4
	baz=125						
J05D	Fort Rock, OR	125.32	38	⇓P		PKPdf	05 05 09.5 +1.2
	baz=125						
N02D	Trinity Center	125.55	42	⇑P		PKPdf	05 05 09.8 +1.0
	baz=126						
M04C	Macdoel	125.72	40	⇑P		PKPdf	05 05 09.7 +0.5
	baz=126						
FFC	Flin Flon	126.18	18	ePKIKP		PKPdf	05 05 09.3 -0.1
FFC	Flin Flon	126.18	18	ePKPdf		PKPdf	05 05 09.3 -0.1
BSMT	Bassoo Peak	126.25	31	ePKPdf		PKPdf	05 05 10.0 -0.1
JTMT	Jette	126.58	30	ePKPdf		PKPdf	05 05 10.7 +0.1
YBMT	Yellow Bay	126.64	30	ePKPdf		PKPdf	05 05 10.5 -0.2
SWMT	Swartz Lake	126.88	31	ePKPdf		PKPdf	05 05 10.8 -0.4
SLMT	Seeley Lake	127.31	30	ePKPdf		PKPdf	05 05 12.1 0.0
MSO	Missoula	127.36	31	⇑P		PKPdf	05 05 12.4 +0.4
	baz=127						
CHMT	Chamberlain Mo	127.66	31	ePKPdf		PKPdf	05 05 12.5 -0.3
A19A	Klindworth Far	128.36	26	⇑P		PKPdf	05 05 14.4 +0.5
	baz=128						
HRY	Holter Researc	128.51	30	ePKPdf		PKPdf	05 05 13.8 -0.5
EGMT	Eagleton	128.57	28	⇓P		PKPdf	05 05 15.1 +0.7
	baz=128						
EGMT	Eagleton	128.57	28	ePKPdf		PKPdf	05 05 14.2 -0.1
B19A	Brinkman Farms	128.62	27	⇑P		PKPdf	05 05 15.0 +0.6
	baz=128						
A20A	Cobblestone Ra	128.75	26	⇓P		PKPdf	05 05 15.2 +0.6
	baz=129						
WAKR	Walker	128.96	43	ePKPdf		PKPdf	05 05 16.4 +0.8
A21A	Bergtoll Ranch	129.09	25	⇑P		PKPdf	05 05 16.0 +0.8
	baz=129						
C19A	Slack Wire Ran	129.11	27	⇑P		PKPdf	05 05 16.4 +1.0
	baz=129						
HLID	Hailey	129.21	35	⇑P		PKPdf	05 05 17.0 +1.2
	baz=129						
SCHQ	Schefferville	129.25	352	PKP		PKPdf	05 05 15.9 +0.6
	comp=Z,11nm,0.7s,baz=11,slow=1.5,SNR=30						
MCMT	McKenzie Canyo	129.26	32	ePKPdf		PKPdf	05 05 16.9 +1.0
B21A	Ellsworth Farm	129.49	25	⇓P		PKPdf	05 05 17.3 +1.3
	baz=129						
A22A	Carney Farms,	129.51	24	⇑P		PKPdf	05 05 16.9 +0.9
	baz=129						
C20A	Veseth Ranch,	129.60	27	⇓P		PKPdf	05 05 17.2 +0.9
	baz=130						
D19A	Cripps Ranch,	129.61	28	⇓P		PKPdf	05 05 17.3 +0.9
	baz=130						
NVAR	Mina Array Bea	129.76	42	PKhKP		PKPpre	05 05 09.3
	comp=Z,0.8nm,0.7s,baz=260,slow=1.9,SNR=7.2						
NVAR				PKP		PKiKP	05 05 17.9 0.0
	comp=Z,5.6nm,0.5s,baz=308,slow=2.3,SNR=42						
NVAR				SKPbc		SKPbc	05 08 33.8 +0.2
	comp=Z,1.4nm,0.6s,baz=280,slow=4.6,SNR=7.3						
C21A	Desert Coulee	129.91	26	⇓P		PKPdf	05 05 17.7 +0.9
	baz=130						
A23A	Redstone	129.96	24	⇑P		PKPdf	05 05 17.8 +1.0
	baz=130						
D20A	Manuel Ranch,	130.00	27	⇑P		PKPdf	05 05 18.1 +1.0
	baz=130						
QLMT	Earthquake Lak	130.00	31	ePKPdf		PKPdf	05 05 18.3 +0.9
B22A	Reddig Ranch S	130.02	25	⇓P		PKPdf	05 05 18.0 +0.9
	baz=130						
E19A	Rath Farm, Rou	130.16	28	⇑P		PKPdf	05 05 17.7 +0.3
	baz=130						
B23A	Brockton	130.30	24	⇓P		PKPdf	05 05 18.5 +1.0
	baz=130						
A24A	Westby	130.33	23	⇑P		PKPdf	05 05 18.9 +1.3
	baz=130						
YMR	Madison River	130.36	31	ePKPdf		PKPdf	05 05 19.4 +1.4
E20A	Meyer Farm, Mu	130.44	28	⇑P		PKPdf	05 05 17.9 0.0
	baz=130						
ELK	Elko	130.44	38	PKIKP		PKPdf	05 05 19.3 +1.0
ELK					pmax	pmax	
	comp=Z,5.0nm,0.5s						
ELK	Elko	130.44	38	PKP		PKPdf	05 05 19.3 +1.0
	comp=Z,5.3nm,0.5s,baz=314,slow=1.2,SNR=31						
C22A	Vida	130.50	25	⇑P		PKPdf	05 05 19.1 +1.2
	baz=130						
VES	Vestal, Richgr	130.53	46	⇑P		PKPdf	05 05 19.1 +0.8
	baz=130						
F19A	Roth Farm, Mol	130.53	29	⇓P		PKPdf	05 05 17.4 -0.7
	baz=130						
D21A	La Casta Ranch	130.54	27	⇑P		PKPdf	05 05 19.2 +1.1
	baz=130						
YFT	Old Faithful	130.57	31	ePKPdf		PKPdf	05 05 19.4 +1.0
YFT				eSKP			05 08 37.1
YFT				eSKPdf		SKPdf	05 08 48.0 +0.1
A25A	Svangstu Ranch	130.66	22	⇓P		PKPdf	05 05 19.3 +1.2
	baz=130						
C23A	Lambert	130.75	25	⇑P		PKPdf	05 05 19.8 +1.3
	baz=131						
D22A	Cohagen	130.83	26	⇑P		PKPdf	05 05 20.0 +1.4
	baz=131						
E21A	Keefer Ranch,	130.90	27	⇑P		PKPdf	05 05 20.0 +1.2
	baz=131						
F20A	Billings	130.95	28	⇓P		PKPdf	05 05 20.1 +1.2
	baz=131						
H18A	Shoshone NF, C	131.02	30	⇑P		PKPdf	05 05 20.8 +1.5
	baz=131						
ISA	Isabella, Lake	131.04	45	⇑P		PKPdf	05 05 20.2 +0.9
	baz=131						
I17A	Pilgrim Ck.	131.07	32	⇑P		PKPdf	05 05 20.2 +0.8
	baz=131						
A26A	Wade Farm, Ken	131.09	22	⇓P		PKPdf	05 05 20.3 +1.3
	baz=131						
GRAC	Grapevine Rang	131.14	43	⇓P		PKPdf	05 05 20.7 +1.2
	baz=131						
LAO	LASA Array	131.17	26	ePKPdf		PKPdf	05 05 19.2 -0.1
B25A	Knox Farm, Ray	131.18	23	⇓P		PKPdf	05 05 20.5 +1.3
	baz=131						
D23A	Lindsay	131.23	25	⇑P		PKPdf	05 05 20.8 +1.4
	baz=131						
HVU	Hansel Valley	131.28	35	ePKIKP		PKPdf	05 05 20.2 +0.4
HVU	Hansel Valley	131.28	35	ePKPdf		PKPdf	05 05 20.2 +0.4
HVU				eSKP			05 08 39.4
C24A	Savage	131.28	24	⇓P		PKPdf	05 05 20.9 +1.5
	baz=131						
G20A	Bridger	131.34	29	⇑P		PKPdf	05 05 20.5 +0.8
	baz=131						
H19A	Powell	131.36	30	⇑P		PKPdf	05 05 21.1 +1.3
	baz=131						
F21A	Absaloka Mine,	131.41	28	⇓P		PKPdf	05 05 20.9 +1.1
	baz=131						
B26A	Jensen Ranch,	131.45	22	⇑P		PKPdf	05 05 20.7 +1.0
	baz=131						
E22A	Miles City	131.48	26	⇑P		PKPdf	05 05 21.4 +1.5
	baz=131						
MPMC	Manual Prospec	131.54	44	⇑P		PKPdf	05 05 21.6 +1.1
	baz=132						
C25A	Freed Ranch, W	131.60	23	⇓P		PKPdf	05 05 21.7 +1.6
	baz=132						
R11A	Troy Canyon, C	131.60	41	⇑P		PKPdf	05 05 21.7 +1.2
	baz=132						
R11A	Troy Canyon, C	131.60	41	ePKPdf		PKPdf	05 05 21.3 +0.8
R11A				eSKPbc		SKPbc	05 08 40.6 +0.5
D24A	Glendive	131.65	25	⇑P		PKPdf	05 05 21.8 +1.7
	baz=132						
LRMC	Laurel Mtn Rad	131.69	45	⇓P		PKPdf	05 05 21.6 +1.0
	baz=132						
A28A	Rude Farm, Bot	131.71	20	⇓P		PKPdf	05 05 20.8 +0.6
	baz=132						
E23A	Ismay	131.72	26	⇓P		PKPdf	05 05 21.6 +1.3
	baz=132						
FURC	Furnace Creek,	131.77	44	⇓P		PKPdf	05 05 21.8 +1.2
	baz=132						
EDW2	Edwards Air Fo	131.77	46	⇑P		PKPdf	05 05 21.8 +1.1
	baz=132						
I19A	Meeteetse	131.81	31	⇑P		PKPdf	05 05 22.0 +1.2
	baz=132						
G21A	Lodge Grass	131.82	28	⇓P		PKPdf	05 05 21.6 +1.0
	baz=132						
F22A	Rosebud	131.85	27	⇓P		PKPdf	05 05 21.5 +0.9
	baz=132						
ULM	Lac du Bonnet	131.90	16	PKIKP		PKPdf	05 05 20.1 -0.3
ULM					pmax	pmax	
	comp=Z,15nm,0.7s						
ULM					pmax	pmax	
	comp=N,4.0nm,0.7s						
ULM	Lac du Bonnet	131.90	16	PKP		PKPdf	05 05 20.1 -0.3
	comp=N,15nm,0.7s,baz=346,slow=2.5,SNR=31						
ULM				SKPbc		SKPbc	05 08 38.8 -1.7
	comp=N,4.3nm,0.7s,baz=346,slow=4.9,SNR=6.2						
TPNV	Topopah Spring	131.93	43	⇓P		PKPdf	05 05 21.9 +0.7
	baz=132						
C26A	Wahner Farm, P	131.96	22	⇑P		PKPdf	05 05 21.8 +1.1
	baz=132						
H20A	Greybull	131.98	30	⇑P		PKPdf	05 05 21.8 +0.8
	baz=132						
D25A	Fairfield	132.03	24	⇓P		PKPdf	05 05 22.5 +1.6
	baz=132						
A29A	Manning Farm,	132.05	19	⇓P		PKPdf	05 05 21.6 +0.8
	baz=132						
B28A	Dugan Ranch, T	132.07	21	⇑P		PKPdf	05 05 21.8 +0.9
	baz=132						
E24A	Baker	132.09	25	⇓P		PKPdf	05 05 22.5 +1.5
	baz=132						
CIS	Catalina Islan	132.17	48	⇑P		PKPdf	05 05 22.6 +1.1
	baz=132						
DUG	Dugway, Tooele	132.25	37	ePKIKP		PKPdf	05 05 22.4 +0.8
DUG	Dugway, Tooele	132.25	37	⇑P		PKPdf	05 05 22.8 +1.1
	baz=132						
DUG	Dugway, Tooele	132.25	37	ePKPdf		PKPdf	05 05 22.4 +0.8
G22A	Birney	132.25	28	⇑P		PKPdf	05 05 22.6 +1.2
	baz=132						
F23A	Volborg	132.27	27	⇓P		PKPdf	05 05 22.5 +1.1
	baz=132						
C27A	Sayler Ranch,	132.28	22	⇑P		PKPdf	05 05 22.7 +1.4
	baz=132						
I20A	Worland	132.31	30	⇑P		PKPdf	05 05 22.6 +1.0
	baz=132						
BFSC	Mount Baldy Ra	132.32	47	⇓P		PKPdf	05 05 23.1 +1.1
	baz=132						
J19A	Crowheart	132.32	31	⇑P		PKPdf	05 05 22.7 +1.0
	baz=132						
A30A	Hoffart Farm,	132.34	19	⇑P		PKPdf	05 05 22.0 +0.6
	baz=132						
H21A	Big Horn, Sher	132.34	29	⇑P		PKPdf	05 05 22.3 +0.7
	baz=132						
BW06	Boulder Array	132.41	32	ePKPdf		PKPdf	05 05 21.4 -0.5
GSC	Goldstone, Bar	132.41	45	ePKIKP		PKPdf	05 05 23.3 +1.3
GSC	Goldstone, Bar	132.41	45	⇑P		PKPdf	05 05 23.8 +1.8
	baz=132						
GSC	Goldstone, Bar	132.41	45	ePKPdf		PKPdf	05 05 23.3 +1.3
GSC				eSKPbc		SKPab	05 08 43.8 -0.4
PDAR	Pinedale Array	132.41	32	PKhKP		PKPpre	05 05 10.7
	comp=N,0.6nm,0.8s,baz=7.6,slow=4.5,SNR=4.7						
PDAR				PKP		PKPdf	05 05 21.8 -0.2
	comp=N,3.3nm,0.6s,baz=143,slow=1.3,SNR=22						
PDAR				SKPbc		SKPbc	05 08 41.4 -1.5
	comp=N,1.3nm,0.6s,baz=101,slow=0.7,SNR=6.3						
SHOC	Shoshone, Teco	132.46	44	⇓P		PKPdf	05 05 23.3 +1.3
	baz=132						
D26A	Manning	132.48	23	⇑P		PKPdf	05 05 22.9 +1.2
	baz=132						
TCUT	Toone Canyon	132.49	35	ePKPdf		PKPdf	05 05 22.4 +0.2
TCUT				eSKPbc		SKPbc	05 08 43.6 +0.3
TCUT				eSKPdf		SKPdf	05 08 52.2 +0.6
E25A	Miller Ranch,	132.52	24	⇓P		PKPdf	05 05 23.1 +1.3
	baz=132						
F24A	Ekalaka	132.60	26	⇑P		PKPdf	05 05 23.2 +1.2
	baz=132						
G23A	Biddle	132.68	27	⇑P		PKPdf	05 05 23.2 +1.0
	baz=133						
B30A	Myrvik Farm, E	132.76	19	⇓P		PKPdf	05 05 23.2 +1.0
	baz=133						
J20A	Shoshoni	132.76	31	⇓P		PKPdf	05 05 23.5 +1.0
	baz=133						
D27A	Center	132.77	23	⇓P		PKPdf	05 05 23.7 +1.4
	baz=133						
I21A	Big Trails, Te	132.82	30	⇑P		PKPdf	05 05 23.5 +0.9
	baz=133						
NLU	North Lily Min	132.84	37	ePKPdf		PKPdf	05 05 22.6 -0.2
BBRC	Big Bear Solar	132.84	46	⇓P		PKPdf	05 05 23.8 +0.8
	baz=133						
MDND	Maddock	132.85	20	⇑P		PKPdf	05 05 23.6 +1.3
	baz=133						
E26A	Carlson Angus	132.93	24	⇓P		PKPdf	05 05 24.0 +1.4
	baz=133						
TUQ	Turquoise Moun	132.95	44	⇓P		PKPdf	05 05 24.5 +1.4
	baz=133						
F25A	Bowman	132.96	25	⇑P		PKPdf	05 05 24.0 +1.3
	baz=133						
MURC	Murrieta	132.97	47	⇑P		PKPdf	05 05 24.4 +1.4
	baz=133						
HEC	Hector,Ludlow	132.98	45	⇓P		PKPdf	05 05 24.5 +1.4
	baz=133						
G24A	Alzada	133.02	26	⇓P		PKPdf	05 05 23.9 +1.1
	baz=133						
DAU	Daniels Canyon	133.03	36	ePKIKP		PKPdf	05 05 24.3 +1.0
DAU	Daniels Canyon	133.03	36	ePKPdf		PKPdf	05 05 24.3 +1.0
DAU				eSKPbc		SKPbc	05 08 45.1 -0.2
D28A	Regan	133.06	22	⇓P		PKPdf	05 05 24.1 +1.3
	baz=133						
J21A	Lysite	133.09	30	⇓P		PKPdf	05 05 23.9 +0.7
	baz=133						
I22A	9 Mile Ranch,	133.16	29	⇓P		PKPdf	05 05 24.0 +0.8
	baz=133						
H23A	Clabaugh Cattl	133.17	28	⇑P		PKPdf	05 05 23.6 +0.4
	baz=133						
E27A	Carson	133.32	23	⇑P		PKPdf	05 05 24.7 +1.4
	baz=133						
F26A	Lodgepole	133.34	24	⇓P		PKPdf	05 05 24.6 +1.1
	baz=133						
C30A	Mose, Pekin	133.36	20	⇑P		PKPdf	05 05 24.2 +0.9
	baz=133						
H24A	Dirks Ranch, A	133.41	27	⇑P		PKPdf	05 05 24.3 +0.6
	baz=133						
GMRC	Granite Mounta	133.48	45	⇑P		PKPdf	05 05 25.9 +1.8
	baz=133						
PFO	Pinyon Flats O	133.50	47	PKIKP		PKPdf	05 05 24.9 +0.7
PFO					pmax	pmax	
	comp=Z,7.0nm,0.8s						
PFO	Pinyon Flats O	133.50	47	PKP		PKPdf	05 05 24.9 +0.7
	comp=Z,6.5nm,0.8s,baz=280,slow=1.8,SNR=11						
PFO	Pinyon Flats O	133.50	47	⇓P		PKPdf	05 05 25.6 +1.5
	baz=133						
PFO	Pinyon Flats O	133.50	47	PKP		PKPdf	05 05 24.9 +0.7
PFO				ePKPdf		PKiKP	05 05 25.5 +0.1
J22A	Midwest	133.52	29	⇓P		PKPdf	05 05 24.5 +0.5
	baz=133						
D29A	Pettibone, Tap	133.53	21	⇓P		PKPdf	05 05 24.6 +1.0
	baz=133						
E28A	Huff	133.53	22	⇑P		PKPdf	05 05 24.8 +1.1
	baz=133						
G25A	Newell	133.56	26	⇓P		PKPdf	05 05 24.8 +1.0
	baz=133						
F27A	Lemmon	133.59	24	⇓P		PKPdf	05 05 25.0 +1.2
	baz=134						
BELC	Belle Mtn. J

	baz=135							
Y12C	Blythe	134.82	45	⇑P		PKPdf	05 05 28.0	+1.6
	baz=135							
U15A	North Rim	134.85	41	⇓P		PKPdf	05 05 28.6	+1.8
	baz=135							
L23A	Garrett	134.86	30	⇑P		PKPdf	05 05 27.9	+1.3
	baz=135							
M22A	Cedar Creek Ra	134.93	31	⇓P		PKPdf	05 05 28.1	+1.4
	baz=135							
O20A	White River Ci	134.94	34	⇑P		PKPdf	05 05 28.2	+1.4
	baz=135							
O20A	White River Ci	134.94	34	ePKPdf		PKPdf	05 05 27.3	+0.5
O20A				eSKPbc		SKPbc	05 08 52.1	+0.7
H28A	Mission Ridge	134.98	24	⇓P		PKPdf	05 05 27.9	+1.5
	baz=135							
G29A	Hoven	134.98	23	⇑P		PKPdf	05 05 28.0	+1.6
	baz=135							
I27A	Quinn	135.04	25	⇑P		PKPdf	05 05 27.4	+0.8
	baz=135							
EYMN	Ely	135.14	14	ePKPdf		PKPdf	05 05 27.5	+0.9
J26A	Sides Ranch, S	135.19	27	⇓P		PKPdf	05 05 28.2	+1.3
	baz=135							
TRQA	Tornquist	135.23	197	ePKPdf		PKPdf	05 05 26.0	-1.1
L24A	Wheatland	135.30	30	⇑P		PKPdf	05 05 28.4	+1.1
	baz=135							
M23A	Laramie	135.33	31	⇑P		PKPdf	05 05 28.6	+1.1
	baz=135							
G30A	Faulkton	135.33	22	⇓P		PKPdf	05 05 28.6	+1.5
	baz=135							
H29A	Onida	135.34	23	⇓P		PKPdf	05 05 28.1	+0.9
	baz=135							
K25A	Mack Ranch, Ha	135.37	28	⇑P		PKPdf	05 05 28.6	+1.2
	baz=135							
N22A	Wattenberg Ran	135.44	32	⇓P		PKPdf	05 05 29.0	+1.2
	baz=135							
I28A	Midland	135.47	25	⇑P		PKPdf	05 05 28.3	+0.8
	baz=135							
K26A	Motz Farm, Whi	135.63	27	⇓P		PKPdf	05 05 29.0	+1.2
	baz=136							
PV04	Paradox Valley	135.73	36	ePKPdf		PKPdf	05 05 28.7	+0.5
PV04				eSKPbc		SKPbc	05 08 54.5	+0.6
M24A	Cheyenne	135.78	30	⇑P		PKPdf	05 05 29.2	+0.9
	baz=136							
Y14A	Wickenburg	135.78	44	⇓P		PKPdf	05 05 29.7	+1.3
	baz=136							
I29A	Vivian Onida	135.81	24	⇑P		PKPdf	05 05 29.1	+1.1
	baz=136							
O22A	Kremmling	135.84	33	⇓P		PKPdf	05 05 29.6	+1.1
	baz=136							
113A	Mohawk Valley,	135.87	46	⇓P		PKPdf	05 05 29.9	+1.5
	baz=136							
J28A	Allard Ranch,	135.91	25	⇓P		PKPdf	05 05 29.1	+0.8
	baz=136							
WUAZ	Wupatki	135.99	41	⇑P		PKPdf	05 05 30.0	+1.1
	baz=136							
WUAZ	Wupatki	135.99	41	ePKPdf		PKPdf	05 05 29.5	+0.7
WUAZ				eSKPbc		SKPbc	05 08 55.8	+1.0
PV01	Paradox Valley	136.10	36	ePKPdf		PKPdf	05 05 29.0	0.0
PV01				eSKPbc		SKPbc	05 08 55.5	+0.4
PV01				eSKPab		SkiKP	05 09 01.7	+0.8
Z14A	Wintersburg	136.14	45	⇑P		PKPdf	05 05 30.7	+1.8
	baz=136							
O23A	Lake Granby, G	136.14	32	⇑P		PKPdf	05 05 31.0	+1.9
	baz=136							
M25A	Palm-Egli Farm	136.19	29	⇓P		PKPdf	05 05 30.4	+1.4
	baz=136							
N24A	Carr	136.23	31	⇓P		PKPdf	05 05 29.9	+0.8
	baz=136							
I30A	Oacoma	136.25	23	⇓P		PKPdf	05 05 29.8	+1.0
	baz=136							
J29A	Okreek	136.31	24	⇓P		PKPdf	05 05 29.6	+0.6
	baz=136							
K28A	Ten Mile Ranch	136.43	26	⇑P		PKPdf	05 05 30.9	+1.6
	baz=136							
X16A	Lo Mia Camp, P	136.59	43	⇓P		PKPdf	05 05 31.9	+1.9
	baz=136							
ISCO	Idaho Springs	136.60	32	⇑P		PKPdf	05 05 31.0	+1.0
	baz=136							
N25A	Grover	136.64	30	⇓P		PKPdf	05 05 31.2	+1.3
	baz=136							
J30A	Dallas	136.72	24	⇓P		PKPdf	05 05 30.5	+0.7
	baz=137							
P23A	Jefferson	136.79	33	⇓P		PKPdf	05 05 30.9	+0.5
	baz=137							
N26A	Koester Ranch,	137.06	29	⇓P		PKPdf	05 05 30.8	+0.3
	baz=137							
O25A	Wiggins	137.15	31	⇓P		PKPdf	05 05 31.3	+0.6
	baz=137							
K30A	Basset	137.21	24	⇑P		PKPdf	05 05 31.6	+0.9
	baz=137							
W18A	Petrified Fore	137.30	41	⇑P		PKPdf	05 05 32.7	+1.4
	baz=137							
W18A	Petrified Fore	137.30	41	ePKPdf		PKPdf	05 05 32.7	+1.4
SPMN	Marine on St.	137.33	16	⇓P		PKPdf	05 05 31.3	+0.5
	baz=137							
SPMN	Marine on St.	137.33	16	ePKPdf		PKPdf	05 05 30.4	-0.4
L29A	Maesberg Ranch	137.34	26	⇑P		PKPdf	05 05 32.3	+1.4
	baz=137							
S22A	4UR Ranch, Cre	137.37	35	⇓P		PKPdf	05 05 32.5	+1.0
	baz=137							
COWI	Conover	137.41	12	ePKPpre		PKPpre	05 05 24.8	
COWI				ePKPdf		PKPdf	05 05 30.3	-0.6
ECSD	EROS Data Cent	137.46	21	⇓P		PKPdf	05 05 32.9	+1.8
	baz=137							
ECSD	EROS Data Cent	137.46	21	ePKPpre		PKPpre	05 05 21.3	
ECSD				ePKPdf		PKPdf	05 05 30.8	-0.3
ECSD				eSKPbc		SKPbc	05 08 58.5	-0.2
O26A	Horse Wrangler	137.46	30	⇓P		PKPdf	05 05 31.9	+0.6
	baz=137							
X18A	Snowflake	137.51	41	⇓P		PKPdf	05 05 32.1	+0.4
	baz=137							
P25A	Willow Gulch B	137.57	31	⇓P		PKPdf	05 05 32.4	+0.7
	baz=137							
R23A	Moffat	137.63	34	⇓P		PKPdf	05 05 33.3	+1.3
	baz=138							
O27A	Beecher Island	137.91	29	⇓P		PKPdf	05 05 33.1	+0.9
	baz=138							
P26A	Davis Ranch, A	137.96	31	⇓P		PKPdf	05 05 33.1	+0.8
	baz=138							
N28A	Pribbeno Ranch	137.97	28	⇓P		PKPdf	05 05 33.3	+1.1
	baz=138							
Q25A	Bedland, Calha	137.97	32	⇓P		PKPdf	05 05 33.2	+0.7
	baz=138							
R24A	Sanders Place,	138.00	33	⇑P		PKPdf	05 05 33.6	+1.1
	baz=138							
TUC	Tucson	138.24	45	ePKHKP		PKPpre	05 05 25.7	
TUC				e			05 05 32.9	
TUC	Tucson	138.24	45	ePKPpre		PKPpre	05 05 25.6	
TUC				ePKPdf		PKPdf	05 05 32.9	-0.1
TUC				eSKPbc		SKPbc	05 09 02.1	+0.7
TUC				eSKPab		SKPab	05 09 09.4	-0.5
N29A	Votaw Ranch, W	138.28	27	⇑P		PKPdf	05 05 34.4	+1.6
	baz=138							
U22A	Llaves	138.29	37	⇓P		PKPdf	05 05 35.8	+2.7
	baz=138							
T23A	Casias Ranch,	138.32	35	⇓P		PKPdf	05 05 35.2	+2.0
	baz=138							
P27A	Ficken Ranch,	138.35	30	⇓P		PKPdf	05 05 33.2	+0.2
	baz=138							
Q26A	Hugo	138.35	31	⇑P		PKPdf	05 05 33.9	+0.8
	baz=138							
R25A	Fountain Ranch	138.51	33	⇓P		PKPdf	05 05 34.5	+1.1
	baz=138							
T24B	San Luis	138.68	35	⇓P		PKPdf	05 05 35.2	+1.3
	baz=139							
U23A	El Rito	138.71	36	⇑P		PKPdf	05 05 34.9	+1.0
	baz=139							
KSCO	Kaye Shedlock'	138.74	30	⇑P		PKPdf	05 05 34.9	+1.2
	baz=139							
P28A	Saint Francis	138.74	29	⇑P		PKPdf	05 05 34.2	+0.6
	baz=139							
S25A	Robets Cordova	138.78	33	⇑P		PKPdf	05 05 35.0	+1.1
	baz=139							
V23A	Ortiz Mt. (NFS	139.11	37	⇓P		PKPdf	05 05 36.3	+1.7
	baz=139							
T25A	Trinidad	139.17	34	⇓P		PKPdf	05 05 36.0	+1.3
	baz=139							
S26A	Kim	139.34	33	⇓P		PKPdf	05 05 35.7	+0.8
	baz=139							
N32A	Stulken Farm,	139.34	25	⇓P		PKPdf	05 05 35.3	+0.7
	baz=139							
LAZ	Ladron	139.41	39	ePKPdf		PKPdf	05 05 35.9	+0.7
ANMO	Albuquerque	139.48	38	PKIKP		PKPdf	05 05 34.4	-0.9
ANMO				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ANMO				pmax		pmax		
	comp=N,5.0nm,1.1s							
ANMO	Albuquerque	139.48	38	PKP		PKPdf	05 05 34.4	-0.9
	comp=N,1.2nm,0.6s,baz=292,slow=3.1,SNR=7.6							
ANMO				SKPbc		SKPbc	05 09 04.0	-0.9
	comp=N,5.4nm,1.1s,baz=282,slow=4.7,SNR=6.7							
T26A	Comanche Natio	139.60	33	⇑P		PKPdf	05 05 37.1	+1.7
	baz=140							
Q29A	Oakley	139.65	29	⇓P		PKPdf	05 05 36.5	+1.2
	baz=140							
R28A	Tribune	139.66	30	⇑P		PKPdf	05 05 37.2	+1.8
	baz=140							
V25A	Rancho No Teng	139.97	36	⇑P		PKPdf	05 05 37.5	+1.3
	baz=140							
SADO	Sadowa	139.99	2	PKhKP		PKPpre	05 05 28.4	
	comp=N,8.4nm,0.8s,baz=352,slow=7.8,SNR=5.4							
SADO				PKP		PKPdf	05 05 35.2	-0.5
	comp=N,9.7nm,0.6s,baz=332,slow=4.2,SNR=13							
SADO				SKPbc		SKPbc	05 09 05.3	-0.5
	comp=N,6.8nm,0.8s,baz=334,slow=5.1,SNR=5.8							
U26A	Atchley Ranch,	140.08	34	⇑P		PKPdf	05 05 37.7	+1.3
	baz=140							
LONY	Lake Ozonia	140.11	357	ePKPpre		PKPpre	05 05 27.3	
LONY				ePKPdf		PKPdf	05 05 35.7	-0.2
JFWS	Jewell Farm	140.16	15	ePKHKP		PKPpre	05 05 26.5	
JFWS				e			05 05 35.3	
JFWS	Jewell Farm	140.16	15	ePKPpre		PKPpre	05 05 26.4	
JFWS				ePKPdf		PKPdf	05 05 35.3	-0.7
JFWS				eSKPbc		SKPbc	05 09 05.9	-0.4
Z22A	Elephant Butte	140.25	41	⇓P		PKPdf	05 05 39.0	+2.3
	baz=140							
LBNH	Lisbon	140.28	354	ePKIKP		PKPdf	05 05 36.8	+0.6
LBNH	Lisbon	140.28	354	ePKPdf		PKPdf	05 05 36.8	+0.6
T28A	Walsh	140.43	32	⇓P		PKPdf	05 05 39.0	+2.1
	baz=140							
R30A	Dighton	140.46	29	⇑P		PKPdf	05 05 37.3	+0.5
	baz=140							
V26A	Tequesquite Ra	140.48	35	⇓P		PKPdf	05 05 38.1	+1.1
	baz=140							
W25A	X Bar L Ranch,	140.50	36	⇑P		PKPdf	05 05 38.1	+1.0
	baz=140							
MDV	Middlebury	140.64	355	ePKPdf		PKPdf	05 05 37.8	+1.0
Y24A	Capitan	140.79	38	⇑P		PKPdf	05 05 39.0	+1.3
	baz=141							
V27A	Dan Oppiter Fa	141.05	34	⇑P		PKPdf	05 05 38.7	+0.7
	baz=141							
X26A	CR and CF Fran	141.34	36	⇓P		PKPdf	05 05 39.5	+0.9
	baz=141							
W27A	Bowe Ranch, En	141.42	35	⇓P		PKPdf	05 05 39.9	+1.2
	baz=141							
AAM	Ann Arbor	142.06	8	ePKHKP		PKPpre	05 05 34.1	
AAM				e			05 05 39.3	
AAM	Ann Arbor	142.06	8	ePKPpre		PKPpre	05 05 34.1	
AAM				ePKPdf		PKPdf	05 05 39.2	-0.2
AMTX	Amarillo	142.33	34	ePKPpre		PKPpre	05 05 33.0	
MSTX	Muleshoe	142.36	36	ePKPpre		PKPpre	05 05 35.9	
BINY	Binghamton	142.58	359	ePKPpre		PKPpre	05 05 35.5	
BINY				ePKPdf		PKPdf	05 05 41.5	+1.1
CFAA	Coronel Fontan	142.96	193	PKhKP		PKPpre	05 05 38.9	
	comp=N,0.5nm,0.6s,baz=155,slow=2.1,SNR=1.9							
U34A	Anderson Ranch	143.25	28	⇓P		PKPbc	05 05 38.9	0.0
	baz=143							
U34A	Anderson Ranch	143.25	28	ePKPdf		PKPbc	05 05 38.4	-0.5
SFIN	Lafayette	143.31	13	⇑P		PKPbc	05 05 39.0	+0.1
	baz=143							
SFIN	Lafayette	143.31	13	ePKPdf		PKPbc	05 05 38.4	-0.5
V33A	Lossen Ranch,	143.38	29	⇑P		PKPbc	05 05 39.2	-0.1
	baz=143							
X31A	McDonald Ranch	143.44	32	⇑P		PKPbc	05 05 39.2	-0.3
	baz=143							
W32A	Sentinel	143.45	31	⇓P		PKPbc	05 05 39.7	+0.2
	baz=143							
128A	Castleberry Fa	143.48	37	⇓P		PKPbc	05 05 40.2	+0.5
	baz=143							
Z29A	Hungry Hill Ra	143.49	36	⇓P		PKPbc	05 05 40.0	+0.2
	baz=143							
Y30A	Stafford Cattl	143.50	34	⇓P		PKPbc	05 05 40.0	+0.3
	baz=143							
V34A	Guthrie	143.74	28	⇑P		PKPbc	05 05 40.2	-0.1
	baz=144							
V34A	Guthrie	143.74	28	ePKPdf		PKPab	05 05 39.6	+0.1
V34A				eSKPbc		SKPbc	05 09 15.8	+0.2
228A	UT Block 9, Go	143.76	38	⇑P		PKPbc	05 05 40.6	0.0
	baz=144							
Y31A	Rekieta Farm,	143.79	33	⇓P		PKPbc	05 05 40.6	+0.1
	baz=144							
Z30A	Sanderson Ranc	143.81	35	⇑P		PKPbc	05 05 40.6	0.0
	baz=144							
W33A	Caddo, Fort Co	143.82	30	⇑P		PKPbc	05 05 40.7	+0.2
	baz=144							
129A	Stewart Farms,	143.85	37	⇑P		PKPbc	05 05 41.2	+0.4
	baz=144							
X32A	Elmer	143.97	32	⇑P		PKPab	05 05 40.8	+0.3
	baz=144							
WMOK	Wichita Mounta	143.99	31	ePKIKP		PKPab	05 05 40.4	-0.1
WMOK	Wichita Mounta	143.99	31	ePKPdf		PKPab	05 05 40.4	-0.1
W34A	Bridge Creek,	144.10	29	⇓P		PKPbc	05 05 41.5	+0.1
	baz=144							
W34A	Bridge Creek,	144.10	29	ePKPdf		PKPab	05 05 41.0	+0.1
V35A	Meyer Ranch, C	144.12	28	⇑P		PKPbc	05 05 41.5	+0.1
	baz=144							
SSPA	Standing Stone	144.15	1	ePKPdf		PKPab	05 05 41.1	+0.2
ACSO	Alum Creek Sta	144.18	8	ePKPdf		PKPab	05 05 40.5	-0.5
ACSO				eSKPdf		SKPdf	05 09 11.7	-0.1
ACSO				eSKPbc		SKPbc	05 09 16.7	+0.3
Y32A	R-V Farms, Ver	144.21	33	⇑P		PKPab	05 05 41.5	+0.1
	baz=144							
X33A	Lawton	144.29	31	⇓P		PKPab	05 05 41.5	-0.1
	baz=144							
Z31A	Sharp Cattle R	144.34	34	⇑P		PKPbc	05 05 42.3	+0.1
	baz=144							
229A	Bryant Ranch,	144.35	37	⇑P		PKPbc	05 05 42.5	+0.2
	baz=144							
130A	Snyder	144.40	36	⇑P		PKPbc	05 05 42.4	-0.1
	baz=144							
TUL1	Leonard	144.47	26	⇑P		PKPbc	05 05 42.6	+0.1
	baz=144							
TUL1	Leonard	144.47	26	ePKPdf		PKPab	05 05 42.0	-0.2
329A	Wagon Wheel Ra	144.58	38	⇑P		PKPbc	05 05 43.2	+0.1
	baz=144							
X34A	Smith Ranch, M	144.58	30	⇑P		PKPab	05 05 42.6	-0.1
	baz=144							
Y33A	Hilltop Ranch,	144.64	32	⇑P		PKPab	05 05 42.5	-0.5
	baz=144							
OLIL	Olney	144.64	15	ePKPdf		PKPab	05 05 42.8	0.0
131A	Roby	144.68	35	⇓P		PKPbc	05 05 43.5	+0.1
	baz=145							
Z32A	Haskell	144.72	33	⇑P		PKPab	05 05 43.3	0.0
	baz=145							
BDFB	Brasilia	144.77	235	PKIKP		PKPdf	05 05 46.0	+0.9
BDFB				pmax		pmax		
	comp=Z,28nm,0.5s							
BDFB	Brasilia	144.77	235	PKP		PKPdf	05 05 46.0	+0.9
	comp=Z,28nm,0.5s,baz=113,slow=3.2,SNR=93							
230A	Sterling City	144.82	37	⇑P		PKPbc	05 05 44.0	+0.1
	baz=145							
TXAR	Lajitas Array	144.91	43	PKIKP		PKPdf	05 05 45.1	+0.1
TXAR				pmax		pmax		
	comp=Z,70nm,0.6s							
TXAR	Lajitas Array	144.91	43	PKP		PKPdf	05 05 45.0	+0.1
	comp=Z,70nm,0.6s,baz=281,slow=0.8,SNR=1095							
Z33A	Whitaker Ranch	145.12	33	⇓P		PKPbc	05 05 44.5	-0.2
	baz=145,SNR=53							
Y34A	Reagan Ranch,	145.12	31	⇑P		PKPbc	05 05 44.5	-0.2
	baz=145							
330A	Mertzon	145.12	37	⇓P		PKPbc	05 05 44.8	-0.1
	baz=145,SNR=95							
ABTX	Abilene, Hawle	145.14	34	⇑P		PKPdf	05 05 45.1	-0.1
	baz=145,SNR=47							
ABTX	Abilene, Hawle	145.14	34	ePKPbc		PKPdf	05 05 45.0	-0.1
429A	Davenport Ranc	145.22	39	⇓P		PKPab	05 05 45.4	+0.1
	baz=145,SNR=63							
231A	Bronte	145.26	36	⇑P		PKPbc	05 05 45.2	0.0
	baz=145,SNR=90							
SIUC	Southern Illin	145.29	17	ePKPbc		PKPbc	05 05 44.9	-0.2
SIUC				eSKPdf		SKPdf	05 09 14.2	+0.5
SIUC				eSKPbc		SKPbc	05 09 19.3	+0.3
529A	Stev Forest Ra	145.35	40	⇑P		PKPab	05 05 45.9	+0.1
	baz=145,SNR=97							
SDMD	Soldier's Deli	145.38	360	ePKPbc		PKPbc	05 05 44.8	-0.5
USIN	University of	145.48	15	ePKPbc		PKPdf	05 05 45.1	-0.4
Z34A	Collier Ranch,	145.50	32	⇓P		PKPdf	05 05 45.6	-0.2
	baz=145,SNR=28							
430A	Baggett Ranch,	145.52	38	⇑P		PKPbc	05 05 46.3	+0.2
	baz=145,SNR=60							
WCI	Wyandotte Cave	145.55	13	ePKIKP		PKPdf	05 05 45.5	-0.2
WCI				e			05 09 14.2	
WCI	Wyandotte Cave	145.55	13	ePKPbc		PKPdf	05 05 45.5	-0.2
WCI				eSKPdf		SKPdf	05 09 14.2	+0.1
WCI				eSKPbc		SKPbc	05 09 19.4	-0.3
133A	Hamilton Ranch	145.55	34	⇑P		PKPab	05 05 46.4	0.0
	baz=145,SNR=151							
331A	San Angelo	145.64	37	⇓P		PKPbc	05 05 46.5	0.0
	baz=146,SNR=63							
232A	Coleman	145.68	35	⇓P		PKPab	05 05 46.9	0.0
	baz=146,SNR=245							
Z35A	Perchaven, San	145.88	31	⇓P		PKPdf	05 05 46.7	+0.3
	baz=146,SNR=46							
530A	J-C Ranch, Com	145.90	39	⇓P		PKPab	05 05 48.2	+0.4
	baz=146,SNR=346							
LCO	Las Campanas	145.97	190	ePKPbc		PKPdf	05 05 47.2	+0.1
431A	Sonora	145.98	38	⇓P		PKPbc	05 05 47.4	-0.1
	baz=146,SNR=46							
332A	Millersview	145.99	36	⇑P		PKPab	05 05 48.0	-0.1
	baz=146,SNR=346							
233A	Rising Star	146.01	34	⇑P		PKPab	05 05 48.0	-0.1
	baz=146,SNR=254							
134A	White-Moore Ra	146.03	33	⇓P		PKPbc	05 05 47.6	0.0
	baz=146,SNR=46							
432A	Menard	146.33	37	⇓P		PKPbc	05 05 48.2	-0.3
	baz=146,SNR=53							
531A	Rocksprings	146.38	38	⇑P		PKPbc	05 05 49.0	+0.3
	baz=146,SNR=86							
135A	Vickery Place,	146.40	32	⇑P		PKPbc	05 05 48.5	-0.1
	baz=146,SNR=11							
234A	Clairette	146.44	33	⇓P		PKPbc	05 05 49.0	+0.2
	baz=146,SNR=55							
333A	Richland Sprin	146.47	35	⇓P		PKPbc	05 05 49.0	+0.1
	baz=146,SNR=149							
MIAR	Mount Ida	146.59	25	ePKP2		PKPbc	05 05 48.5	-0.6
MIAR	Mount Ida	146.59	25	ePKPbc		PKPbc	05 05 48.5	-0.6
MIAR				eSKPbc		SKPbc	05 09 22.3	+0.2
JCT	Junction City	146.61	37	ePKP2		PKPdf	05 05 48.5	+0.7
JCT				e			05 09 16.3	
JCT	Junction City	146.61	37	⇓P		PKPbc	05 05 49.5	+0.1
	baz=146,SNR=176							
JCT	Junction City	146.61	37	ePKPbc		PKPdf	05 05 48.5	+0.7
JCT				eSKPdf		SKPdf	05 09 16.2	+0.2
JCT				eSKPbc		SKPbc	05 09 22.6	+0.3
GNAR	Gosnell	146.66	19	ePKPbc		PKPbc	05 05 49.5	+0.2
532A	Rocksprings	146.80	38	⇓P		PKPbc	05 05 49.9	0.0
	baz=147,SNR=55							
WHTX	Lake Whitney,	146.82	33	⇑P		PKPbc	05 05 49.9	0.0
	baz=147,SNR=20							
WHTX	Lake Whitney,	146.82	33	ePKPdf		PKPdf	05 05 47.4	-0.6
WHTX				ePKPbc		PKPbc	05 05 49.3	-0.5
433A	Art	146.83	36	⇓P		PKPbc	05 05 49.7	-0.3
	baz=147,SNR=39							
631A	Perdido Creek	146.88	39	⇑P		PKPbc	05 05 50.3	+0.1
	baz=147,SNR=28							
334A	Lometa	146.89	34	⇓P		PKPbc	05 05 50.1	0.0
	baz=147,SNR=63							
JSRW	J. Sargeant Re	147.09	1	ePKPbc		PKPdf	05 05 49.1	+0.8
JSRW				eSKPbc		SKPbc	05 09 22.9	-0.1
WVT	Waverly	147.16	16	ePKIKP		PKPdf	05 05 48.4	-0.1
WVT				e			05 05 50.5	
WVT				e			05 09 23.2	
WVT	Waverly	147.16	16	ePKPdf		PKPdf	05 05 48.4	-0.1
WVT				ePKPbc		PKPbc	05 05 50.5	-0.2
WVT				eSKPbc		SKPbc	05 09 23.2	-0.1
137A	Heron Place, G	147.22	30	⇑P		PKPbc	05 05 50.5	-0.5
	baz=147							
434A	Burnet	147.26	35	⇑P		PKPbc	05 05 50.3	-0.9
	baz=147,SNR=42							
632A	Uvalde	147.31	38	⇑P		PKPbc	05 05 51.9	+0.5
	baz=147,SNR=51							
533A	Kerrville	147.36	37	⇓P		PKPbc	05 05 51.7	+0.2
	baz=147,SNR=17							
335A	Moody	147.38	33	⇓P		PKPbc	05 05 51.8	+0.3
	baz=147,SNR=41							
BLA	Blacksburg	147.44	5	ePKIKP		PKPdf	05 05 49.1	+0.1
BLA				e			05 05 50.9	
BLA	Blacksburg	147.44	5	ePKPdf		PKPdf	05 05 49.0	+0.1
BLA				ePKPbc		PKPbc	05 05 50.9	-0.6
BLA				ePKPab		PKPab	05 05 53.0	-0.6
138A	Matatall Enter	147.49	29	⇓P		PKPbc	05 05 52.5	+0.8
	baz=147							
336A	Riesel	147.61	32	⇓P		PKPbc	05 05 52.8	+0.7
	baz=148							
237A	Washetta, Mont	147.67	30	⇓P		PKPbc	05 05 53.0	+0.8
	baz=148							
435B	Jarrell	147.67	34	⇑P		PKPbc	05 05 52.6	+0.3
	baz=148,SNR=7.7							
633A	Saathoff Ranch	147.72	38	⇑P		PKPbc	05 05 52.8	+0.3
	baz=148,SNR=38							
534A	Blanco	147.73	36	⇓P		PKPbc	05 05 52.4	-0.1
	baz=148,SNR=46							
732A	Laxson Ranch,	147.74	40	⇑P		PKPbc	05 05 53.1	+0.5

034A	Hebbronville	149.71	40	⇑P	PKPbc	05 05 59.5	+1.9
	baz=150,SNR=15						
035A	Encino	150.17	40	⇓P	PKPbc	05 06 00.5	+1.8
	baz=150,SNR=7.6						
LRAL	Lakeview Retre	150.30	17	ePKPdf	PKPdf	05 05 53.7	0.0
LRAL				ePKPbc	PKPbc	05 05 58.1	-0.8
LRAL				ePKPab	PKPab	05 06 04.2	-0.9
035Z	Hargill	150.52	40	⇓P	PKPbc	05 06 01.2	+1.7
	baz=150,SNR=14						
GOGA	Godfrey	150.78	11	ePKIKP	PKPdf	05 05 54.9	+0.5
GOGA				e		05 06 06.6	
GOGA	Godfrey	150.78	11	ePKPdf	PKPdf	05 05 54.9	+0.5
GOGA				ePKPbc	PKPbc	05 05 60.0	0.0
GOGA				ePKPab	PKPab	05 06 06.6	-0.5
LVC	Limon Verde	151.73	196	ePKPbc	PKPbc	05 06 04.0	+1.1
RGRS	Roger Stewart	151.73	5	ePKPdf	PKPdf	05 05 56.0	+0.2
RGRS				ePKPbc	PKiKP	05 06 02.5	-0.1
RGRS				ePKPab	PKPab	05 06 10.2	-0.8
BRAL	Brewton	152.17	18	ePKPdf	PKPdf	05 05 57.2	+0.7
BRAL				ePKPbc	PKiKP	05 06 03.6	+0.1
BRAL				ePKPab	PKPab	05 06 12.5	-0.4
TIGA	Tifton	152.67	12	ePKPdf	PKPdf	05 05 57.9	+0.6
TIGA				ePKPbc	PKPbc	05 06 04.5	+0.1
TIGA				ePKPab	PKPab	05 06 14.6	-0.4
SIV	San Ignacio	154.02	218	PKP	PKPdf	05 05 59.9	+0.2
	comp=Z,2.8nm,0.8s,baz=170,slow=1.1,SNR=5.5						
SIV				PKPbc	PKiKP	05 06 08.7	+0.9
	comp=Z,3.6nm,0.8s,baz=126,slow=5.3,SNR=6.1						
SIV				PKPab	PKPab	05 06 23.0	+1.8
	comp=Z,2.1nm,0.7s,baz=136,slow=5.0,SNR=4.4						
LPAZ	La Paz	157.36	203	ePKIKP	PKPdf	05 06 04.6	-0.3
LPAZ				e		05 06 36.9	
LPAZ	La Paz	157.36	203	PKP	PKPdf	05 06 05.5	+0.7
	comp=Z,1.0nm,0.6s,baz=60,slow=3.6,SNR=4.9						
LPAZ				PKPab	PKPab	05 06 38.1	+2.0
	comp=Z,2.1nm,0.6s,baz=157,slow=7.0,SNR=5.3						
LPAZ	La Paz	157.36	203	ePKPdf	PKPdf	05 06 04.6	-0.3
LPAZ				PKP	PKPdf	05 06 05.5	+0.7
LPAZ				ePKPab	PKPab	05 06 36.9	+0.7
LPAZ				PKPab	PKPab	05 06 38.1	+2.0
SAML	Samuel	160.57	226	ePKPdf	PKPdf	05 06 07.1	-0.8
SAML				ePKPab	PKPab	05 06 50.2	+0.7
BCIP	Isla Barro Col	174.79	30	ePKPab	PKPab	05 07 48.6	-3.6
OTAV	Otavalo	175.46	164	ePKPdf	PKPdf	05 06 18.7	0.0

MAN 17 04:50:43, 9°.18N×125°.59E, h32km, mb4.2, ML3.0, MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	1.40	202	eP	Pn	04 51 06.6	+0.2
BUKP				eS	Sn	04 51 23.6	-0.2

IDC 17 05:08:51.6±2.8, 21°.74S×67°.93W, h124km±25km, mb3.2/2, mb1 3.4/5, mb1mx3.2/30, mbtmp3.7/5, Error ellipse: s-maj=29.8km s-min=22.7km az=98.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.43	358	P	Pn	05 10 11.4	+0.2
	2.8nm,0.3s,baz=162,slow=6.1,SNR=64						
LPAZ				S	Sn	05 11 13.7	+0.5
	0.2nm,0.3s,baz=212,slow=9.4,SNR=3.9						
SIV	San Ignacio	8.65	50	P	Pn	05 10 54.3	+0.4
	1.3nm,0.3s,baz=244,slow=12,SNR=15						
SIV				S	Sn	05 12 28.1	-1.8
	0.1nm,0.3s,baz=312,slow=23,SNR=6.8						
PLCA	Paso Flores	19.06	186	P	P	05 13 04.0	-0.4
	0.2nm,0.3s,baz=5.6,slow=7.2,SNR=5.4						
TORD	Torodi Ar. Bea	76.58	70	P	P	05 20 29.5	+0.6
	0.3nm,0.4s,baz=253,slow=5.6,SNR=16						
YKA	Yellowknife Ar	91.72	340	P	P	05 21 43.5	-1.1
	0.1nm,0.4s,baz=136,slow=4.8,SNR=4.9						
H11S2	WAKE ISLAND Hyd	28.81	277	T	T	07 48 53.3	
	baz=96,slow=75,SNR=1.8						
H11S1	WAKE ISLAND Hyd	28.82	277	T	T	07 48 57.6	
	baz=96						
H11S3	WAKE ISLAND Hyd	28.83	277	T	T	07 48 51.4	
	baz=96,slow=75,SNR=3.0						

IDC 17 05:09:48.5±1.8, 19°.58N×68°.52W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/36, mbtmp3.8/3, Error ellipse: s-maj=56.9km s-min=25.5km az=21.0
ISCJB 17 05:09:58.6±0.5, 18°.5N±0°.1×68°.55W±0°.04, h144km±3km, mb3.5/3, Error ellipse: s-maj=17.0km s-min=4.2km az=14.4.
RSPR 17 05:10:00.7, 18°.37N×68°.64W, h130km±1km, MD3.8/16
ISC 17 05:09:59.4±1.0, 18°.4N±0°.1×68°.58W±0°.06, h141km±6km, n50, σ0°.97/56, mb3.8/3, 15C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.23	55	⇑eP	Pn	05 10 19.1	+0.4
PCDR	Punta Cana, DR	0.23	55	eS	Sn	05 10 32.1	-1.2
IMO	Isla Mona	0.69	113	⇓eP	Pn	05 10 20.7	-0.2
IMO				eS	Sn	05 10 35.6	-1.6
DR12	Loma Pena Alta	0.86	298	⇓iP	Pn	05 10 21.4	-0.9
DR12				eS	Sn	05 10 38.2	-1.5
SMN1	Samana, DR	1.04	321	⇑eP	Pn	05 10 24.1	+0.4
SMN1	Samana, DR	1.04	321	eS	Sn	05 10 41.5	-0.9
IDE	Isla Desecheo	1.05	90	⇑eP	Pn	05 10 24.2	+0.4
IDE	Isla Desecheo	1.05	90	eS	Sn	05 10 42.8	+0.5
AGPR	Aguadilla, PR	1.39	86	⇑eP	Pn	05 10 28.2	+1.0
AGPR	Aguadilla, PR	1.39	86	eS	Sn	05 10 48.7	+0.3
LSP	Las Mesas	1.43	98	⇑eP	Pn	05 10 27.6	-0.1
LSP	Las Mesas	1.43	98	eS	Sn	05 10 50.1	+1.0
CRPR	Cabo Rojo, PR	1.44	105	⇑eP	Pn	05 10 27.3	-0.4
CRPR	Cabo Rojo, PR	1.44	105	eS	Sn	05 10 48.9	-0.4
LRS	Lares	1.65	93	⇑eP	Pn	05 10 30.0	0.0
LRS				eS	Sn	05 10 53.4	0.0
GBPR	Guanica, Bosqu	1.66	104	⇓eP	Pn	05 10 30.0	-0.1
GBPR	Guanica, Bosqu	1.66	104	eS	Sn	05 10 53.1	-0.5
AOPR	Arecibo Observ	1.73	91	⇓eP	Pn	05 10 31.7	+0.7
AOPR	Arecibo Observ	1.73	91	eS	Sn	05 10 55.2	+0.1
OBIP	Obispado Ponce	1.90	100	⇓eP	Pn	05 10 32.9	0.0
OBIP	Obispado Ponce	1.90	100	eS	Sn	05 10 58.3	-0.3
CELP	Cerrillos	1.92	99	⇑eP	Pn	05 10 32.9	-0.2
CELP				eS	Sn	05 11 00.1	+1.2
SJG	San Juan	2.32	96	⇑eP	Pn	05 10 37.7	-0.3
CBYP	Canovanas	2.59	92	⇑eP	Pn	05 10 40.9	-0.4
CBYP	Canovanas	2.59	92	eS	Sn	05 11 13.2	-0.3
HUMP	Col San Antoni	2.60	95	⇑eP	Pn	05 10 41.5	+0.1
HUMP	Col San Antoni	2.60	95	eS	Sn	05 11 13.3	-0.4
SDDR	Presa de Saban	2.64	284	⇓eP	Pn	05 10 42.8	+0.8
SDDR				eS	Sn	05 11 13.2	-1.5
STVI	Saint Thomas	3.44	90	⇑eP	Pn	05 10 52.3	+0.2
STVI	Saint Thomas	3.44	90	eS	Sn	05 11 31.5	-1.4
TBVI	Tortola	3.76	89	⇑eP	Pn	05 10 55.6	-0.7
TBVI				eS	Sn	05 11 39.7	-0.7
ABV	Anegada	4.04	84	⇑eP	Pn	05 10 59.9	-0.1
ABV	Anegada	4.04	84	eS	Sn	05 11 45.2	-1.9
SABA	Saba	5.13	98	⇓eP	Pn	05 11 17.8	+3.3
SABA	Saba	5.13	98	eS	Sn	05 12 10.7	-2.3
SMRT	St. Maarten	5.24	93	eP	Pn	05 11 15.3	-0.7
SMRT	St. Maarten	5.24	93	⇑eP	Pn	05 11 15.4	-0.5
SMRT	St. Maarten	5.24	93	eS	Sn	05 12 12.8	-2.8
ANWB	Willy Bob	6.50	95	eP	Pn	05 11 31.0	-1.7
MLG	Mont-d'or	6.96	108	eP	Pn	05 11 38.3	-0.7
SSG	Sans Toucher	6.97	108	eP	Pn	05 11 40.1	+0.8
FNG	Fond-Bernard	6.98	108	eP	Pn	05 11 40.0	+0.7
HMG	Houelmont	6.99	109	eP	Pn	05 11 39.0	-0.5
SEG	Port Louis	7.03	105	eP	Pn	05 11 40.9	+0.9
BBL	Barber's Block	7.37	112	eP	Pn	05 11 45.0	+0.5
H05N1	Guadeloupe/Mar	7.47	105	Pn	Pn	05 11 44.0	-1.8
	SNR=10						
H05N1				Sn	Sn	05 13 08.2	-1.0
	SNR=3.7						
H05S1	Guadeloupe/Mar	8.40	117	Pn	Pn	05 11 58.8	+0.4
TXAR	Lajitas Array	33.77	295	P	P	05 16 28.6	+0.6
	0.4nm,0.6s,baz=117,slow=10,SNR=7.6						
ESDC	Sonseca Array	59.10	54	P	P	05 19 46.1	+1.0
	0.6nm,0.5s,baz=269,slow=7.2,SNR=7.4						
FINES	FINESS Array B	76.24	30	P	P	05 21 32.2	+0.1
	1.2nm,0.7s,baz=298,slow=4.1,SNR=5.1						

SJA 17 05:10:21.4±0.7, 31°.61S×69°.05W, h98km±6km, MD3.6, ML2.8, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.29	228	iP	Pn	05 10 37.0	+0.9
RTLS				iP	Pn	05 10 37.0	+0.9
RTLL	Cerro Villicun	0.56	61	iP	Pn	05 10 38.1	+0.6
RTLL				iS	Sn	05 10 50.7	+1.1
AUSP	Uspallata	0.68	205	iP	Pn	05 10 39.9	+1.1
AUSP				iS	Sn	05 10 53.7	+1.8
CFAA	Coronel Fontan	0.69	90	iP	Pn	05 10 39.1	+0.5
CFAA				iP	Pn	05 10 39.3	+0.7
CFAA				iS	Sn	05 10 52.7	+1.2
CFAA				iS	Sn	05 10 52.8	+1.3
CFAA				AML	AML	05 10 53.1	
	comp=Z,101nm,0.3s						
ASAL	Salagasta	1.00	170	iP	Pn	05 10 42.9	+1.1
ARCO	CERRO ARCO	1.24	175	iP	Pn	05 10 45.8	+1.2
ARCO				iS	Sn	05 11 02.8	+0.7
ARCO				AML	AML	05 11 06.5	
	comp=Z,315nm,0.5s						
AAGR	Agrelo	1.49	173	iP	Pn	05 10 48.4	+0.9
AAGR				iS	Sn	05 11 09.2	+1.8

DJA 17 05:27:23.0±0.4, 6°.S±2°.×12°.1E±°, h27km±3km, M4.4/15, mb5.0/3, mB5.3/1, MLv4.1/15, Mw(mB)4.8/1, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	Bau Bau, Buton	0.13	242	P	Pn	05 27 29.7	+0.3
BSSI				S	Sb	05 27 33.8	+2.1
BKSI	Bulukumba	0.90	327	P	Pn	05 27 37.3	-2.5
BKSI				S	Sn	05 27 52.1	+0.2
BNSI	Bone	1.74	343	P	Pn	05 27 52.2	+0.7
BNSI				S	Sb	05 28 15.7	-0.1
SPSI	Sidrap Palu	2.26	338	P	Pn	05 27 58.7	0.0
MMRI	Maumere	3.01	148	P	Pn	05 28 09.2	+0.3
MMRI				S	Sn	05 28 45.7	+1.5
TTSI	Tana Toraja	3.12	345	P	Pn	05 28 10.4	0.0
TTSI				S	Sn	05 28 48.3	+1.5
WBSI	Waikabubak, Su	3.74	199	P	Pn	05 28 18.8	-0.2
WBSI				S	Sn	05 29 04.5	+2.2
SRBI	Singaraja	5.71	249	P	Pn	05 28 46.1	0.0
SRBI				S	Sn	05 29 50.4	-0.5

GUC 17 05:27:33.2±0.7, 36°.04S×73°.58W, h45km±5km, ML3.7, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.65	98	⇓iP	Pn	05 27 47.0	+1.0
COCH				iS	Sn	05 27 56.7	+1.5
COCH				IAML		05 27 59.1	
	comp=E,9μm,0.5s						
CCSP	San Pedro de C	0.89	155	eP4	Pn	05 27 53.4	+4.1
CCSP				eS4	Sn	05 28 07.5	+6.5
CCSP				IAML		05 28 13.0	
	comp=E,4μm,0.4s						
CCSP				IAML		05 28 14.2	
	comp=E,5μm,0.4s						
TALC	Talca	1.71	69	eP	Pn	05 28 01.9	+1.5
TALC				eS	Sn	05 28 24.5	+3.4
NICH	Los Niches	2.18	62	eP	Pn	05 28 08.8	+1.9
NICH				eS	Sn	05 28 36.7	+4.0

ISCJB 17 05:34:42.7±0.7, 24°.87N±0°.04×121°.84E±0°.02, h110km±4km, Error ellipse: s-maj=6.4km s-min=3.3km az=163.9
TAP 17 05:34:43.2, 24°.87N×121°.81E, h108km, ML3.7, B
JMA 17 05:34:43.1±0.1, 24°.80N×121°.80E, h105km±1km, M2.9
ISC 17 05:34:42.5±1.8, 24°.90N±0°.06×121°.82E±0°.04, h114km±9km, n48, σ0°.58/83, 3C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.12	116	P	Pn	05 34 58.4	+0.2
	baz=92						
EGS				eS	Sn	05 35 10.1	+0.1
	baz=92						
ILA	Ilan	0.14	205	P	Pn	05 34 58.8	+0.5
	baz=211						
ILA				S	Sn	05 35 10.7	+0.6
	baz=211						
NWF	Wu-fen Shan	0.18	350	⇓iP	Pn	05 34 58.7	+0.2
	baz=350						
NWF				iS	Sn	05 35 10.0	-0.4
	baz=350						
TWB1	Santiao Chiao	0.19	55	⇓iP	Pn	05 34 58.6	+0.3
	baz=58						
TWB1				eS	Sn	05 35 10.0	-0.3
	baz=58						
TWE	Neicheng	0.22	218	P	Pn	05 34 59.0	+0.5
	baz=232						
TWE				eS	Sn	05 35 10.9	+0.5
	baz=232						
TWA	Mucha	0.23	292	P	Pn	05 34 58.8	+0.3
	baz=283						
TWA				eS	Sn	05 35 10.1	-0.4
	baz=283						
TWC	Suao	0.29	174	⇓iP	Pn	05 34 59.3	+0.6
	baz=163						
TWC				eS	Sn	05 35 12.1	+1.3
	baz=163						
TAP1	Taipei	0.30	298	eP	Pn	05 34 58.5	-0.2
	baz=294						
TAP1				eS	Sn	05 35 10.1	-0.8
	baz=294						
TAP	Taipei	0.32	297	eP	Pn	05 34 58.5	-0.2
	baz=294						
TAP				eS	Sn	05 35 10.2	-0.8
	baz=294						
ENTT	Nioudou	0.34	222	P	Pn	05 34 59.1	+0.2
	baz=232						
TWS1	Kuangyinshan	0.41	299	iP	Pn	05 34 59.7	+0.4
	baz=293						
TWS1				S	Sn	05 35 11.7	-0.2
	baz=293						
TWY	Chenhua	0.42	333	P	Pn	05 34 59.7	+0.3
	baz=329						
TWY				S	Sn	05 35 12.0	0.0
	baz=329						
NSK	Sanguang	0.47	242	P	Pn	05 34 59.5	-0.2
	baz=237						
NSK				eS	Sn	05 35 11.0	-1.6
	baz=237						
ENA	Nanau	0.47	188	eP	Pn	05 35 00.3	+0.6
	baz=198						
NCU	National Centr	0.58	277	⇑iP	Pn	05 35 00.6	+0.3
	baz=280						
NCU				S	Sn	05 35 13.6	-0.1
	baz=280						
NNS	Nan Shan	0.61	222	P	Pn	05 35 00.9	+0.2
	baz=226						
NNS				eS	Sn	05 35 13.7	-0.6
	baz=226						
HSN	Hsinchu	0.78	263	eP	Pn	05 35 01.8	-0.1
	baz=267						
HSN				iS	Sn	05 35 15.6	-0.9
	baz=267						
NSTT	Nanjuang	0.79	251	⇑iP	Pn	05 35 02.2	+0.3
	baz=247						
NSTT				eS	Sn	05 35 15.8	-0.9
	baz=247						
TWD	Chiawan	0.84	194	eP	Pn	05 35 02.1	-0.3
	baz=203						
TWD				eS	Sn	05 35 16.3	-1.2
	baz=203						
TWT	Tachien	0.87	222	eP	Pn	05 35 03.8	+0.9
	baz=225						
TWT				eS	Sn	05 35 18.6	+0.3
	baz=225						
WHF	Hehuan Shan	0.90	214	⇓P	Pn	05 35 04.0	+0.5
	baz=211						
WHF				eS	Sn	05 35 19.6	+0.3
	baz=211						
NSY	Sanyi	1.07	244	P	Pn	05 35 05.4	+0.6
	baz=245						
NSY				S	Sn	05 35 21.6	0.0
	baz=245						
TWQ1	Liyutan	1.09	240	eP	Pn	05 35 04.9	-0.2
	baz=241						
JYNG	Yonagunijimaku	1.12	113	P	Pn	05 35 05.4	+0.2
JYNG				eS	Sn	05 35 21.7	-0.7
ESL	Shilin	1.13	198	eP	Pn	05 35 05.0	-0.5
	baz=192						
YOJ	Yonaguni jima	1.17	111	P	Pn	05 35 05.9	+0.1
YOJ				eS	Sn	05 35 23.1	-0.3
TCU	Taichung	1.28	235	eP	Pn	05 35 07.4	+0.4
	baz=235						
SMLT	Sun Moon Lake	1.31	220	P	Pn	05 35 07.9	+0.4
	baz=228						
SMLT				eS	Sn	05 35 26.5	+0.1
	baz=228						
TYC	Yuchr	1.32	222	⇑iP	Pn	05 35 08.1	+0.6
	baz=223						
TYC				eS	Sn	05 35 26.5	+0.2
	baz=223						
WNT	Mingjian	1.45	226	eP	Pn	05 35 08.9	-0.1
	baz=226						
EHY	Hungye	1.46	198	eP	Pn	05 35 08.5	-0.6
	baz=192						
YUS	Yu-Shan	1.61	210	eP	Pn	05 35 11.3	-0.1
	baz=220						
YUS				eS	Sn	05 35 34.3	+1.1
	baz=220						
TWF1	Yuli	1.61	197	eP	Pn	05 35 10.8	0.0
	baz=192						
CHN5	Tsauling	1.66	219	eP	Pn	05 35 11.9	+0.4
	baz=229						
CHN5				eS	Sn	05 35 32.6	-1.1
	baz=229						
ALS	Alishan	1.66	214	eP	Pn	05 35 12.1	+0.3
	baz=222						
IRIF	Iriomote-Funau	1.83	107	P	Pn	05 35 13.9	+0.4
IRIF				eS	Sn	05 35 36.4	-0.8
ELDTW	Lidau	1.85	203	eP	Pn	05 35 14.8	+0.9
	baz=198						
CHN4	Tsaushan	1.90	216	P	Pn	05 35 15.0	+0.6
	baz=218						
CHN4				eS	Sn	05 35 38.9	+0.1
	baz=218						
WTP	Ta-pu	1.98	214	eP	Pn	05 35 15.7	+0.3
	baz=214						
WTP				eS	Sn	05 35 40.4	-0.2
	baz=214						
STYT	Tauyuan	1.98	210	eP	Pn	05 35 16.1	+0.6
	baz=209						
HATJ	Hateruma jima	2.00	114	eS	Sn	05 35 40.5	-0.4
TWK	Hsinying	2.03	217	eP	Pn	05 35 16.4	+0.3
	baz=218						
TWK				eS	Sn	05 35 41.1	-0.6
	baz=218						
CHN1	Nanshi	2.07	215	eP	Pn	05 35 16.7	+0.1
	baz=217						
CHN1				eS	Sn	05 35 42.3	-0.4
	baz=217						
JKRS	Kuro-shima	2.10	108	P	Pn	05 35 17.7	+0.8
JKRS				eS	Sn	05 35 42.7	-0.6
TWG	Pinlang	2.18	198	eP	Pn	05 35 17.8	-0.2
	baz=189						
JIJ	Ishigaki jima	2.18	104	P	Pn	05 35 18.2	+0.2
JIJ				eS	Sn	05 35 43.7	-1.4
JISG	Ishigakijimahi	2.29	97	P	Pn	05 35 19.7	+0.4
JISG				eS	Sn	05 35 46.9	-0.7
JTJ	Tarama	2.64	95	P	Pn	05 35 24.9	+1.1
JTJ				eS	Sn	05 35 55.6	0.0

IDC 17 05:41:09.3±8.9, 3°.50S×83°.19W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/27, mbtmp3.4/3, Error ellipse: s-maj=344.3km s-min=46.7km az=31.0, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	Mina Array Bea	52.86	325	P	P	05 50 27.1	-0.2
	0.3nm,0.8s,baz=124,slow=9.2,SNR=3.4						
YKA	Yellowknife Ar	70.01	345	P	P	05 52 22.6	+0.1
	0.3nm,0.8s,baz=144,slow=6.2,SNR=7.1						
TORD	Torodi Ar. Bea	85.81	77	P	P	05 53 51.5	0.0
	0.5nm,1.1s,baz=267,slow=5.3,SNR=3.6						

IDC 17 06:04:42.2±1.6, 34°.80S×72°.42W, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.6/22, mbtmp3.4/6, ML3.7/2, Error ellipse: s-maj=40.9km s-min=29.1km az=91.0
ISCJB 17 06:04:44.0±1.9, 34°.86S±0°.04×72°.5W±0°.1, h26km±14km, mb3.5/3, Error ellipse: s-maj=16.8km s-min=7.4km az=5.6
GUC 17 06:04:45.9±0.6, 34°.88S×72°.49W, h29km±7km, ML4.3
ISC 17 06:04:44.1±3.7, 34°.88S±0°.05×72°.51W±0°.07, h17km±25km, n18, σ1°.00/24, mb3.5/3, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.88	126	⇓iP	Pb	06 05 01.0	+0.1
TALC				iS	Sb	06 05 12.2	-0.1
NICH	Los Niches	1.05	97	eP1	Pb	06 05 03.7	-0.1
NICH				eS1	Sb	06 05 17.4	0.0
LNCH	Linares	1.21	143	⇑iP	Pn	06 05 06.4	+0.2
LNCH				iS	Sb	06 05 22.0	+0.1
COCH	Cobquecura	1.27	190	⇑iP	Pn	06 05 06.8	-0.1
COCH				iS	Sb	06 05 23.4	0.0
LNV	Longovilo	1.29	45	⇓iP	Pn	06 05 07.4	+0.1
CACH	El Canelo	1.75	65	eP1	Pb	06 05 15.2	-0.6
CHCH	Chadas Angostu	1.80	59	eP1	Pb	06 05 15.9	-0.7
RCDM	Rinconada Maip	1.98	46	eP1	Pn	06 05 17.6	+0.8
ANTU	Antumapu	2.03	50	eP1	Pn	06 05 18.9	+1.4
ANTU				IAML		06 05 45.6	
	comp=N,2μm,0.6s						
LACH	Col Las Americ	2.17	49	eP1	Pn	06 05 20.6	+1.1
LACH				eS4	Sn	06 05 45.6	-0.4
CLCH	Cerro Calan	2.21	48	eP1	Pn	06 05 21.5	+1.5
CLCH				iS4	Sn	06 05 45.9	-1.0
CLCH				IAML		06 05 52.9	
	comp=E,3μm,1.1s						
CLCH				IAML		06 05 55.7	
	comp=N,2μm,0.8s						
PEL	Peldehue	2.30	42	⇑iP	Pn	06 05 22.6	+1.4
PEL				iS4	Sn	06 05 42.8	-6.4
PEL				IAML		06 05 47.3	
	comp=E,5μm,0.6s						
CFAA	Coronel Fontan	4.85	49	Pn	Pn	06 05 57.1	+0.9
	comp=E,0.2nm,0.3s,baz=213,slow=10.0,SNR=15						
CFAA				Lg	Lg	06 07 02.4	
	comp=E,1.1nm,0.3s,baz=151,slow=20,SNR=12						
PLCA	Paso Flores	6.04	166	Pn	Pn	06 06 14.2	+1.6
	comp=E,0.5nm,0.3s,baz=341,slow=14,SNR=19						
LPAZ	La Paz	18.93	13	P	P	06 09 02.6	-2.2
	comp=E,0.1nm,0.3s,baz=206,slow=8.7,SNR=5.0						
SIV	San Ignacio	21.43	31	P	P	06 09 30.9	-0.4
	comp=E,1.5nm,0.7s,baz=222,slow=13,SNR=6.2						
TXAR	Lajitas Array	70.32	331	P	P	06 15 58.0	+1.3
	comp=E,0.3nm,0.5s,baz=153,slow=8.2,SNR=7.7						
TORD	Torodi Ar. Bea	84.87	70	P	P	06 17 18.0	-0.2
	comp=E,0.2nm,0.6s,baz=268,slow=5.0,SNR=3.9						

GUC 17 06:08:49.3±0.5, 33°.92S×72°.61W, h34km±2km, ML3.5, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	Talagante	1.42	80	eP1	Pn	06 09 13.2	+0.5
RCDM	Rinconada Maip	1.56	74	eP1	Pn	06 09 15.0	+0.3
RCDM				iS	Sn	06 09 34.8	+1.0
NICH	Los Niches	1.57	134	⇓iP	Pn	06 09 15.2	+0.5
NICH				iS	Sn	06 09 35.5	+1.7

NICH	**Los Niches**	**0.89**	**136**	⇑*i*P	Pn	06 13 31.8	+1.3
NICH				*i* S	Sn	06 13 44.3	+2.1
TALC	**Talca**	**1.07**	**165**	⇑*i*P	Pn	06 13 34.0	+1.0
TALC				*i* S4	Sn	06 13 48.3	+1.7
TACH	**Talagante**	**1.11**	**51**	⇓*i*P	Pn	06 13 34.8	+1.1
CACH	**El Canelo**	**1.16**	**78**	⇑*i*P	Pn	06 13 36.6	+2.1
CACH				*i* S1	Sn	06 13 53.4	+4.0
CHCH	**Chadas Angostu**	**1.18**	**69**	⇑*i*P	Pn	06 13 36.4	+1.8
RCDM	**Rinconada Maip**	**1.30**	**48**	*e*P1	Pn	06 13 37.6	+1.3
RCDM				IAML		06 14 00.8	
	comp=N,2μm,0.1s						
IHA	**Instituto Hidr**	**1.36**	**12**	*e*P	Pn	06 13 39.1	+2.1
IHA				*i* S1	Sn	06 13 56.9	+3.1
ANTU	**Antumapu**	**1.37**	**55**	*e*P	Pn	06 13 39.1	+1.9
ANTU				*i* S	Sn	06 13 57.5	+3.4
ANTU				IAML		06 14 01.1	
	comp=N,2μm,0.3s						
SAN	**Santiago**	**1.42**	**51**	*e*S	Sn	06 13 59.4	+4.1
LACH	**Col Las Americ**	**1.51**	**53**	⇑*i*P	Pn	06 13 41.3	+2.1
LACH				*e*S	Sn	06 14 01.7	+4.2
LNCH	**Linares**	**1.51**	**168**	⇑*i*P	Pn	06 13 41.6	+2.4
LNCH				*i* S	Sn	06 14 01.2	+3.6
CLCH	**Cerro Calan**	**1.54**	**52**	⇑*i*P	Pn	06 13 41.8	+2.3
CLCH				*i* S	Sn	06 14 02.4	+4.1
CLCH				IAML		06 14 08.8	
	comp=E,980nm,0.4s						
PEL	**Peldehue**	**1.62**	**42**	⇑*i*P	Pn	06 13 43.0	+2.3
PEL				*i* S	Sn	06 14 04.6	+4.1
PEL				IAML		06 14 10.5	
	comp=N,2μm,0.6s						

GUC 17 06:19:27.4±0.7, 35°.37S×72°.76W, h28km±6km, ML4.3, 5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.76**	**182**	⇓*i*P	Pb	06 19 40.6	-1.4
COCH				*e*S	Sb	06 19 50.8	-1.1
TALC	**Talca**	**0.92**	**92**	⇓*i*P	Pn	06 19 43.6	-0.9
TALC				*i* S	Sb	06 19 55.1	-1.4
LNCH	**Linares**	**1.05**	**117**	⇓*i*P	Pb	06 19 47.0	0.0
LNCH				*i* S	Sb	06 20 00.5	0.0
NICH	**Los Niches**	**1.30**	**74**	⇓*i*P	Pn	06 19 49.6	-0.2
CACH	**El Canelo**	**2.17**	**55**	*e*P1	Pn	06 20 02.8	+0.8
CACH				*e*S1	Sb	06 20 30.0	-2.9
CHCH	**Chadas Angostu**	**2.25**	**51**	*e*P1	Pn	06 20 04.0	+1.0
CHCH				*i* S1	Sn	06 20 31.5	+1.7
ANTU	**Antumapu**	**2.51**	**45**	*e*P1	Pn	06 20 07.4	+0.8
ANTU				*e*S	Sn	06 20 37.1	+0.8
ANTU				IAML		06 20 45.5	
	comp=E,1μm,0.3s						
LACH	**Col Las Americ**	**2.66**	**44**	*e*P1	Pn	06 20 08.7	+0.2
CLCH	**Cerro Calan**	**2.69**	**44**	⇓*i*P	Pn	06 20 09.7	+0.7
CLCH				*i* S	Sn	06 20 42.3	+1.4
CLCH				IAML		06 20 53.6	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**2.81**	**38**	*e*P	Pn	06 20 11.2	+0.6
PEL				*i* S	Sn	06 20 45.0	+1.4
PEL				IAML		06 20 53.3	
	comp=N,1μm,0.5s						

MEX 17 06:22:40.2±0.4, 15°.87N×95°.59W, h46km±9km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.51**	**258**	*i* P	Pn	06 22 49.7	-1.7
HUIG				*i* S	Sn	06 22 57.5	-1.8
CMIG	**Matias Romero**	**1.39**	**29**	*e*P	Pn	06 23 01.6	-1.6
CMIG				*i* S	Sn	06 23 18.0	-2.3
VHO	**Vista Hermosa**	**1.62**	**317**	*e*P	Pn	06 23 05.3	-1.3
VHO				*e*S	Sn	06 23 24.2	-2.3
PNIG	**Pinotepa**	**2.50**	**282**	*e*P	Pn	06 23 16.8	-1.6
PNIG				*e*S	Sn	06 23 45.1	-2.6

*IDC **17** 06:37:15.7±1.0, 38°.64S×73°.85W, h0km, mb3.9/9, mb1 3.9/11, mb1mx3.8/29, mbtmp3.8/11, ML3.6/2, MS3.1/5, Ms1 3.1/5, ms1mx2.9/19, Error ellipse: s-maj=24.0km s-min=16.2km az=73.0*
*ISCJB **17** 06:37:19.4±0.9, 38°.6S±0°.1×73°.9W±0°.2, h33km, mb3.8/9, MS3.3/2, Error ellipse: s-maj=24.8km s-min=14.3km az=161.7*
ISC 17 06:37:21.3±1.0, 38°.6S±0°.1×73°.8W±0°.2, h35km, n13, σ1°.08/12, mb3.9/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.30**	**132**	Pn	**Pn**	**06 38 10.8**	**+0.2**
	3.2nm,0.3s,baz=311,slow=9.5,SNR=60						
PLCA				LR	LR	06 38 53.0	
	comp=Z,76nm,18.4s,baz=304,slow=30						
PLCA				Lg	Lg	06 38 58.7	
	23nm,0.3s,baz=45,slow=16,SNR=3.7						
CFAA	**Coronel Fontan**	**8.28**	**35**	Pn	**Pn**	**06 39 17.1**	**-1.8**
	0.2nm,0.3s,baz=213,slow=14,SNR=17						
CFAA				Lg	Lg	06 41 43.7	
	baz=304,slow=15,SNR=5.8						
CFAA				LR	LR	06 42 34.9	
	comp=Z,21nm,18.7s,baz=222,slow=38						
USHA	**Ushuaia**	**16.68**	**169**	LR	LR	06 47 15.3	
	comp=Z,383nm,18.2s,baz=314,slow=36						
LPAZ	**La Paz**	**22.73**	**14**	P	**P**	**06 42 20.9**	**0.0**
	0.7nm,0.3s,baz=242,slow=12,SNR=5.6						
SIV	**San Ignacio**	**25.09**	**30**	P	**P**	**06 42 42.0**	**-0.7**
	1.6nm,0.6s,baz=222,slow=5.8,SNR=5.1						
SIV				LR	LR	06 54 25.2	
	comp=Z,122nm,19.6s,baz=230,slow=41						
BDFB	**Brasilia**	**32.15**	**52**	P	**P**	**06 43 47.7**	**+2.0**
	2.2nm,0.8s,baz=214,slow=15,SNR=3.6						
BDFB				LR	LR	06 56 59.6	
	comp=Z,56nm,19.6s,baz=212,slow=37						
QSPA	**South Pole Qui**	**51.69**	**180**	P	**P**	**06 46 23.4**	**-1.2**
	1.2nm,0.9s,baz=120,slow=20,SNR=2.9						
TXAR	**Lajitas Array**	**73.08**	**333**	P	**P**	**06 48 48.5**	**+0.5**
	0.1nm,0.5s,baz=153,slow=8.4,SNR=4.1						
DBIC	**Dimbokro**	**77.96**	**71**	P	**P**	**06 49 16.9**	**+0.8**
	4.1nm,0.6s,baz=186,slow=5.7,SNR=11						
BOSA	**Boshof**	**79.19**	**118**	P	**P**	**06 49 22.8**	**-0.1**
	1.8nm,0.7s,baz=228,slow=4.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**87.05**	**71**	P	**P**	**06 50 03.6**	**+0.1**
	0.9nm,0.6s,baz=231,slow=5.0,SNR=10						
PDAR	**Pinedale Array**	**87.23**	**334**	P	**P**	**06 50 04.3**	**+0.3**
	0.2nm,0.8s,baz=121,slow=8.5,SNR=2.7						
MKAR	**Makanchi Array**	**160.62**	**57**	PKPab	**PKPab**	**06 57 58.2**	**-0.7**
	0.3nm,0.7s,baz=292,slow=7.6,SNR=3.2						

*ISCJB **17** 06:48:32.0±1.2, 39°.14N±0°.07×29°.03E±0°.09, h9km, Error ellipse: s-maj=13.0km s-min=5.5km az=138.0*
*CSEM **17** 06:48:32.3±0.2, 39°.15N×29°.02E, h2km, MD2.6, Error ellipse: s-maj=5.3km s-min=2.0km az=137.0*
*DDA **17** 06:48:34.1, 38°.93N×29°.21E, h7km, MD2.6*
ISC 17 06:48:32.1±1.3, 39°.14N±0°.06×29°.02E±0°.05, h9km, n8, σ0°.32/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.36**	**98**	*i* P	**Pg**	**06 48 39.2**	**0.0**
GDZ				*i* S	**Sg**	**06 48 44.1**	**+0.1**
GDZ	**Gediz**	**0.36**	**98**	*i* P	**Pg**	**06 48 39.2**	**0.0**
GDZ				*i* S	**Sg**	**06 48 44.1**	**+0.1**
TVSB	**Tavsanli**	**0.46**	**48**	*e*PG	**Pg**	**06 48 41.2**	**+0.1**
TVSB				*e*SG	**Sg**	**06 48 47.3**	**+0.1**
TVSB	**Tavsanli**	**0.46**	**48**	*e*Pg	**Pg**	**06 48 41.2**	**+0.1**
TVSB				*e*Sg	**Sg**	**06 48 47.3**	**+0.1**
MANT	**Manisa**	**0.74**	**209**	*i* P	**Pb**	**06 48 46.9**	**-0.4**
MANT				*i* S	**Sg**	**06 48 56.8**	**+0.6**
MANT	**Manisa**	**0.74**	**209**	*i* P	**Pb**	**06 48 47.0**	**-0.4**
MANT				*i* S	**Sg**	**06 48 56.8**	**+0.6**
ALT	**Altintas**	**0.85**	**95**	*e*PG	**Pb**	**06 48 49.0**	**0.0**
ALT	**Altintas**	**0.85**	**95**	*e*Pg	**Pb**	**06 48 49.1**	**0.0**

*JMA **17** 07:12:23.0±0.1, 34°.29N×137°.00E, h377km, M3.3*
*ISCJB **17** 07:12:24.6±0.6, 34°.31N±0°.09×137°.04E±0°.10, h359km±6km, mb3.2/8, Error ellipse: s-maj=14.8km s-min=12.1km az=25.0*
*IDC **17** 07:12:25.5±1.4, 34°.29N×137°.02E, h349km±16km, mb3.1/8, mb1 3.2/10, mb1mx3.0/42, mbtmp3.8/10, Error ellipse: s-maj=35.8km s-min=13.4km az=68.0*
ISC 17 07:12:25.7±0.9, 34°.3N±0°.1×137°.02E±0°.09, h351km±8km, n21, σ0°.73/27, mb3.2/8, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.26**	**281**	P	**Pn**	**07 13 10.1**	**+0.5**
JAA	**Atsumi**	**0.31**	**20**	P	**Pn**	**07 13 10.3**	**+0.7**
JWT	**Wachi**	**1.63**	**306**	P	**Pn**	**07 13 14.5**	**-0.1**
JKY	**Yasaka**	**2.03**	**310**	P	**Pn**	**07 13 17.0**	**-0.2**
JNG	**Nsakai**	**2.24**	**23**	P	**Pn**	**07 13 19.2**	**+0.3**
JNG				S	**S**	**07 14 01.2**	**-0.4**
JRY	**Ryogami san**	**2.28**	**42**	P	**Pn**	**07 13 19.8**	**+0.8**
JRY				S	**S**	**07 14 03.7**	**+1.8**
MJAR	**Matsushiro Arr**	**2.40**	**24**	P	**Pn**	**07 13 20.3**	**+0.3**
	4.2nm,0.3s,baz=198,slow=8.8,SNR=34						
MAT	**Matsushiro**	**2.40**	**24**	P	**Pn**	**07 13 20.3**	**+0.3**
MAT				S	**S**	**07 14 03.3**	**-0.4**
BSO4	**Boso 4**	**2.81**	**76**	P	**Pn**	**07 13 23.1**	**-0.2**
BSO4				S	**S**	**07 14 08.9**	**-0.7**
JAG	**Ashikaga**	**2.88**	**43**	P	**Pn**	**07 13 23.0**	**-1.0**
BSO3	**Boso 3**	**2.92**	**80**	P	**Pn**	**07 13 23.7**	**-0.3**
BSO3				S	**S**	**07 14 10.7**	**-0.3**
JHK	**Hiroka**	**3.33**	**29**	P	**Pn**	**07 13 28.4**	**+0.4**
JHK				*e*S	**S**	**07 14 17.1**	**-1.1**
KSRS	**Korea Array**	**8.01**	**295**	P	**Pn**	**07 14 19.6**	**-0.3**
	0.5nm,0.3s,baz=108,slow=12,SNR=7.9						
SONM	**Songino Array**	**26.53**	**310**	P	**P**	**07 17 32.6**	**+0.1**
	0.5nm,0.6s,baz=114,slow=9.2,SNR=5.6						
MKAR	**Makanchi Array**	**42.58**	**304**	P	**P**	**07 19 48.1**	**-0.2**
	0.8nm,0.7s,baz=57,slow=5.3,SNR=5.5						
KURBB	**Kurchatov Arra**	**44.90**	**310**	P	**P**	**07 20 06.0**	**-0.5**
	0.4nm,0.3s,baz=89,slow=7.0,SNR=6.1						
WRA	**Warramunga Arr**	**54.04**	**183**	P	**P**	**07 21 14.1**	**-1.0**
	0.7nm,0.3s,baz=0.4,slow=7.6,SNR=25						
ASAR	**Alice Springs**	**57.76**	**183**	P	**P**	**07 21 41.4**	**+0.2**
	0.2nm,0.3s,baz=11,slow=13,SNR=6.6						
AKTO	**Aktyubinsk**	**57.81**	**312**	P	**P**	**07 21 42.8**	**+1.4**
	0.6nm,0.5s,baz=79,slow=14,SNR=3.7						
ARCES	**ARCESS Array B**	**65.23**	**339**	P	**P**	**07 22 30.1**	**-0.1**
	3.7nm,0.9s,baz=59,slow=7.5,SNR=3.2						
FINES	**FINESS Array B**	**69.49**	**331**	P	**P**	**07 22 56.0**	**-0.7**
	0.4nm,0.4s,baz=96,slow=5.7,SNR=4.6						

*IDC **17** 07:19:32.4±1.0, 0°.17S×122°.58E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.9/31, mbtmp4.1/6, MS3.1/3, Ms1 3.2/3, ms1mx2.8/30, Error ellipse: s-maj=90.8km s-min=17.8km az=61.0*
*ISCJB **17** 07:19:33.5±0.4, 0°.21S±0°.03×122°.49E±0°.03, h10km, mb4.1/7, MS3.0/3, Error ellipse: s-maj=4.6km s-min=4.4km az=153.9*
*DJA **17** 07:19:35.8±0.4, 0°.S±2°.×12°.2E±°., h18km±5km, M4.7/18, mb4.8/8, mB5.2/7, MLv4.7/18, Mw(mB)4.6/7*
ISC 17 07:19:35.4±0.6, 0°.21S±0°.03×122°.46E±0°.04, h10km, n33, σ1°.69/37, mb4.1/7, MS3.0/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.86**	**323**	P	**Pg**	**07 19 50.7**	**-1.2**
MRSI				S	**Sg**	**07 20 02.4**	**-0.7**
LUWI	**Luwuk**	**0.88**	**160**	P	**Pg**	**07 19 50.9**	**-1.5**
LUWI				S	**Sg**	**07 20 02.4**	**-1.6**
LUWI	**Luwuk**	**0.88**	**160**	P	**Pg**	**07 19 50.7**	**-1.7**
	baz=1.7,SNR=561						
GTOI	**Gorontalo**	**1.00**	**33**	P	**Pg**	**07 19 53.5**	**-1.2**
APSI	**Ampana**	**1.07**	**229**	P	**Pg**	**07 19 55.6**	**-0.4**
APSI				S	**Sb**	**07 20 10.7**	**+0.6**
MPSI	**Mapaga**	**2.62**	**282**	P	**Pn**	**07 20 15.8**	**-2.0**
TTSI	**Tana Toraja**	**3.86**	**223**	P	**Pn**	**07 20 35.4**	**+0.5**
TTSI				S	**Sn**	**07 21 20.7**	**+0.3**
SANI	**Sanana**	**3.97**	**117**	P	**Pn**	**07 20 34.4**	**-2.0**
SPSI	**Sidrap Palu**	**4.60**	**216**	P	**Pn**	**07 20 44.8**	**-0.2**
SPSI				S	**Sn**	**07 21 39.6**	**+1.0**
BNSI	**Bone**	**4.78**	**209**	P	**Pn**	**07 20 46.8**	**-0.8**
LBMI	**Labuha**	**5.06**	**95**	P	**Pn**	**07 20 52.8**	**+1.5**
	115nm,1.0s,1μm1.5nm						
LBMI				S	**Sn**	**07 21 50.8**	**+0.9**
	115nm,1.0s,1μm1.5nm						
NLAI	**Namlea**	**5.53**	**123**	P	**Pn**	**07 20 58.2**	**+0.4**
	137nm,0.6s,5μm0.8nm						
BKSI	**Bulukumba**	**5.59**	**205**	P	**Pn**	**07 20 58.4**	**-0.3**
	29nm,0.7s,629nm0.2nm						
BSSI	**Bau Bau, Buton**	**6.21**	**198**	P	**Pn**	**07 21 07.5**	**+0.2**
	82nm,0.5s,3μm0.5nm						
EDFI	**Ende, Flores**	**8.52**	**185**	P	**Pn**	**07 21 38.7**	**-0.3**
WSI	**Waingapu**	**9.64**	**193**	P	Pn	07 21 50.2	-4.1
	baz=10,SNR=4.7						
SOEI	**Soe**	**9.65**	**169**	P	Pn	07 22 01.5	+6.9
FAKI	**Fak Fak**	**10.15**	**105**	P	**Pn**	**07 22 02.5**	**+1.3**
	baz=11,SNR=5.3						
MTN	**Manton Dam**	**15.21**	**146**	P	**P**	**07 23 13.5**	**-2.0**
	baz=16,SNR=3.8						
KNRA	**Kununurra**	**16.58**	**158**	P	**P**	**07 23 34.7**	**+4.0**
	baz=18,SNR=4.5						
MDSI	**Maura Dua**	**18.75**	**257**	P	**Pn**	**07 23 57.6**	**+2.5**
WRA	**Warramunga Arr**	**22.80**	**150**	P	**P**	**07 24 36.9**	**-1.7**
	7.2nm,0.8s,baz=331,slow=10,SNR=68						
WRA				LR	LR	07 33 58.2	
	comp=Z,56nm,18.6s,baz=255,slow=38						
MANU	**Manus Island**	**24.96**	**94**	P	P	07 25 09.3	+10
	baz=26,SNR=3.3						
MANU				S	**S**	**07 29 26.2**	**+2.8**
	baz=26,SNR=7.9						
WRKA	**Warakurna**	**25.32**	**168**	P	**P**	**07 25 00.7**	**-1.8**
	baz=26,SNR=13						
ASAR	**Alice Springs**	**25.83**	**155**	P	**P**	**07 25 05.5**	**-1.6**
	3.5nm,0.7s,baz=341,slow=15,SNR=41						
QIS	**Mount Isa**	**26.27**	**141**	P	**P**	**07 25 10.7**	**-0.5**
	baz=27,SNR=4.8						
MEEK	**Meekatharra**	**26.54**	**188**	P	**P**	**07 25 11.5**	**-2.0**
	baz=27,SNR=3.0						
CMAR	**Chiang Mai Arr**	**29.63**	**310**	P	**P**	**07 25 40.6**	**-0.7**
	0.9nm,0.5s,baz=136,slow=7.2,SNR=7.8						
CMAR				LR	LR	07 38 49.6	
	comp=Z,52nm,18.1s,baz=162,slow=39						
MJAR	**Matsushiro Arr**	**39.38**	**20**	LR	LR	07 43 14.7	
	comp=Z,13nm,20.3s,baz=175,slow=36						
GTA	**Gaotai**	**44.55**	**335**	*e*P	**P**	**07 27 49.4**	**+1.7**
GTA				pP	**pP**	**07 27 54.6**	**+3.8**
GTA				sP	sP	07 27 57.6	+5.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SONM	**Songino Array**	**49.85**	**346**	P	**P**	**07 28 27.8**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=160,slow=8.9,SNR=8.6						
MKAR	**Makanchi Array**	**58.51**	**329**	P	**P**	**07 29 30.8**	**-1.1**
	comp=Z,1.8nm,0.4s,baz=107,slow=4.8,SNR=53						
ZALV	**Zalesovo Beam**	**62.28**	**336**	P	**P**	**07 29 55.8**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=126,slow=7.3,SNR=3.2						

MAN 17 07:23:03, 18°.11N×122°.29E, h4km, mb4.5, ML3.3, MS3.2, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.27**	**301**	*e*P	Pb	07 23 09.4	-1.0
CVP	**Callao Caves**	**0.60**	**228**	⇑*i*P	Pb	07 23 16.7	+0.7
CVP				*e*S	Sn	07 23 26.7	-1.8
APYP	**Conner**	**1.02**	**256**	*e*P	Pb	07 23 23.1	-0.1
APYP				*e*S	Sn	07 23 39.0	+0.1
ABRA	**Dolores**	**1.57**	**253**	*e*P	Pn	07 23 31.6	0.0
ABRA				*e*S	Sg	07 23 55.0	+1.6
PIP	**Pasuquin**	**1.60**	**278**	⇑*i*P	Pn	07 23 31.6	-0.5
PIP				*e*S	Sg	07 23 54.7	+0.2
BALP	**Baler**	**2.45**	**196**	*e*P	Pn	07 23 45.4	+1.6

NNC 17 07:43:39.9±2.3, 37°.02N×70°.55E, h146km±21km, mb2.8, mpv3.6, 7C-3D, Error ellipse: s-maj=21.0km s-min=13.7km az=159.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.24**	**323**	⇓P	Pn	07 44 18.8	+1.1
DZET				S	Sn	07 44 46.9	0.0
KK31	**Karatay Array**	**6.07**	**360**	⇑P	Pn	07 45 07.7	+0.1
	1.9nm,0.3s,baz=179,slow=12,SNR=47						
KK31				⇑S	Sn	07 46 18.2	+2.2
	3.8nm,0.4s,baz=181,slow=18,SNR=17						
AAK	**Ala-Archa**	**6.37**	**27**	⇑P	Pn	07 45 10.4	-1.3
	4.5nm,0.8s						
AAK				⇑S	Sn	07 46 24.2	+0.6
	22nm,0.7s						
TKM2	**Tokmak 2**	**7.05**	**32**	⇑P	Pn	07 45 18.7	-2.2
	5.4nm,1.2s						
TKM2				⇓S	Sn	07 46 40.7	+0.7
	5.4nm,0.9s						
AB31	**Akbulak array**	**14.45**	**331**	P	Pn	07 46 56.1	-1.4
	0.4nm,0.5s,baz=145,slow=15,SNR=11						
AB31				⇑S	Sn	07 49 37.5	-0.1
	0.5nm,0.5s,baz=151,slow=24,SNR=6.6						
AKTO	**Aktyubinsk**	**16.15**	**330**	⇑P	Pn	07 47 18.5	0.0
AKTO				⇓S	Sn	07 50 17.7	-0.5
	1.0nm,0.7s						

GUC 17 08:17:27.2±0.6, 33°.83S×72°.33W, h37km±3km, ML3.6, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.78**	**100**	*e*P1	Pn	08 17 42.8	+1.2
RCDM	**Rinconada Maip**	**1.32**	**76**	*e*P	Pn	08 17 50.5	+1.4
RCDM				*i* S	Sn	08 18 08.8	+3.4
RCDM				IAML		08 18 13.5	
	comp=N,958nm,0.3s						
CHCH	**Chadas Angostu**	**1.40**	**95**	⇓*i*P	Pn	08 17 52.3	+2.1
ANTU	**Antumapu**	**1.44**	**80**	*e*P	Pn	08 17 52.9	+2.1
ANTU				*i* S	Sn	08 18 12.3	+3.8
ANTU				IAML		08 18 18.1	
	comp=E,2μm,0.5s						
NICH	**Los Niches**	**1.48**	**142**	⇑*i*P	Pn	08 17 53.5	+2.2
NICH				*i* S	Sn	08 18 13.4	+3.9
PEL	**Peldehue**	**1.54**	**64**	⇑*i*P	Pn	08 17 54.5	+2.3
PEL				*i* S	Sn	08 18 15.3	+4.4
PEL				IAML		08 18 23.9	
	comp=E,3μm,0.5s						
LACH	**Col Las Americ**	**1.55**	**76**	*e*P1	Pn	08 17 54.3	+2.0
LACH				*e*S	Sn	08 18 15.5	+4.3
CLCH	**Cerro Calan**	**1.56**	**74**	⇓*i*P	Pn	08 17 54.5	+2.1
CLCH				*i* S	Sn	08 18 15.6	+4.1
CLCH				IAML		08 18 27.7	
	comp=E,1μm,0.5s						
TALC	**Talca**	**1.67**	**160**	⇑*i*P	Pn	08 17 56.5	+2.7
TALC				*i* S	Sn	08 18 17.9	+3.9
LNCH	**Linares**	**2.10**	**164**	⇓*i*P	Pn	08 18 02.4	+2.6

IDC 17 08:31:33.6±7.0, 17°.87S×174°.82W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/31, mbtmp3.6/3, Error ellipse: s-maj=305.0km s-min=36.5km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.00**	**259**	P	P	08 40 14.7	-0.2
	0.3nm,0.3s,baz=97,slow=7.5,SNR=16						
ASAR	**Alice Springs**	**48.09**	**254**	P	P	08 40 15.5	0.0
	0.7nm,0.6s,baz=88,slow=8.4,SNR=11						
ILAR	**Eielson Array**	**85.12**	**12**	P	P	08 44 11.1	-0.1
	0.3nm,0.5s,baz=228,slow=6.7,SNR=7.1						

*IDC **17** 08:34:05.1±1.0, 38°.09S×74°.05W, h0km, mb4.1/9, mb1 4.1/11, mb1mx4.0/31, mbtmp4.0/11, ML3.6/2, MS3.9/5, Ms1 3.9/5, ms1mx3.5/25, Error ellipse: s-maj=31.0km s-min=19.9km az=88.0*
*ISCJB **17** 08:34:06.6±0.7, 37°.95S±0°.07×73°.9W±0°.2, h18km, mb4.1/11, MS4.0/5, Error ellipse: s-maj=17.2km s-min=9.7km az=171.8*
*NEIC **17** 08:34:10.6±0.6, 37°.96S×73°.95W, h35km, mb4.5/3, Error ellipse: s-maj=13.8km s-min=7.6km az=82.0*
ISC 17 08:34:08.0±0.8, 38°.00S±0°.09×74°.0W±0°.2, h18km, n27, σ0°.84/24, mb4.4/11, MS4.0/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.84**	**136**	Pn	**Pn**	**08 35 06.6**	**+0.3**
	1.9nm,0.3s,baz=295,slow=11,SNR=31						
PLCA	**Paso Flores**	**3.84**	**136**	*e*Pn	**Pn**	**08 35 06.9**	**+0.6**
CFAA	**Coronel Fontan**	**7.96**	**38**	Pn	**Pn**	**08 36 02.2**	**-0.6**
	0.2nm,0.3s,baz=203,slow=18,SNR=6.2						
CFAA				LR	LR	08 38 54.4	
	comp=Z,33nm,19.6s,baz=226,slow=36						
LCO	**Las Campanas**	**9.38**	**18**	*e*Pn	**Pn**	**08 36 21.6**	**-0.9**
	11nm,0.8s						
TRQA	**Tornquist**	**9.51**	**94**	*e*Pn	**Pn**	**08 36 24.6**	**+0.6**
	18nm,1.0s						
LVC	**Limon Verde**	**15.95**	**17**	*e*Pn	**Pn**	**08 37 50.7**	**-1.1**
LPAZ	**La Paz**	**22.24**	**15**	P	**P**	**08 39 06.5**	**+2.0**
	2.6nm,1.0s,baz=16,slow=2.3,SNR=8.7						
LPAZ	**La Paz**	**22.24**	**15**	*e*P	**P**	**08 39 05.7**	**+1.3**
	6.9nm,0.8s						
SIV	**San Ignacio**	**24.72**	**31**	P	**P**	**08 39 30.2**	**+1.9**
	1.1nm,0.6s,baz=236,slow=11,SNR=4.2						
PMSA	**Palmer Station**	**27.46**	**171**	LR	LR	08 49 55.1	
	comp=Z,182nm,18.1s,baz=306,slow=35						
BDFB	**Brasilia**	**31.98**	**53**	P	**P**	**08 40 32.6**	**-0.6**
	2.6nm,0.8s,baz=188,slow=9.8,SNR=3.6						
BDFB				LR	LR	08 53 05.7	
	comp=Z,264nm,18.3s,baz=222,slow=36						
PTGA	**Pitinga**	**39.28**	**23**	*e*P	**P**	**08 41 35.3**	**-0.4**
	16nm,1.8s						
SDV	**Santo Domingo**	**46.74**	**5**	*e*P	**P**	**08 42 36.4**	**0.0**
SNAA	**Sanae**	**48.54**	**156**	*e*P	**P**	**08 42 49.9**	**+0.3**
	4.3nm,0.7s						
QSPA	**South Pole Qui**	**52.25**	**180**	P	**P**	**08 43 17.2**

CELP	**Cerrillos**	**0.98 185**⇑	*e*P	Pg	08 34 50.0 -2.4
CELP	**Cerrillos**	**0.98 185**⇓	*e*P	Pn	08 34 53.3 0.0
CELP	**Cerrillos**	**0.98 185**⇑	*e*P	Pn	08 34 53.4 +0.2
CBYP	**Canovanas**	**0.98 142**⇑	*e*P	Pn	08 34 54.0 +0.6
CBYP			*e*S	Sg	08 35 05.0 -0.4
CBYP	**Canovanas**	**0.98 142**⇑	*e*P	Pn	08 34 54.0 +0.6
CBYP			*e*S	Sg	08 35 05.0 -0.4
SJG	**San Juan**	**0.99 161**⇓	*e*P	Pg	08 34 51.0 -1.6
SJG			⇓*e*P	Pn	08 34 53.6 +0.2
SJG			*e*S	Sg	08 35 03.8 -1.8
SJG			*e*S	Sb	08 35 06.4 +0.7
SJG	**San Juan**	**0.99 161**⇓	*e*P	Pg	08 34 51.0 -1.6
SJG			*e*S	Sg	08 35 03.8 -1.8
SJG	**San Juan**	**0.99 161**⇓	*e*P	Pn	08 34 53.6 +0.2
SJG			*e*S	Sb	08 35 06.4 +0.7
OBIP	**Obispado Ponce**	**1.01 187**⇑	*e*P	Pg	08 34 50.7 -2.4
OBIP			⇑*e*P	Pn	08 34 53.5 -0.2
OBIP			⇓*e*P	Pb	08 34 53.6 +0.5
OBIP			*e*S	Sg	08 35 03.5 -2.7
OBIP			*e*S	Sb	08 35 04.0 -2.4
OBIP			*e*S	Sn	08 35 06.3 -1.6
OBIP	**Obispado Ponce**	**1.01 187**⇑	*e*P	Pg	08 34 50.7 -2.4
OBIP	**Obispado Ponce**	**1.01 187**	*e*S	Sg	08 35 03.5 -2.7
OBIP	**Obispado Ponce**	**1.01 187**⇑	*e*P	Pn	08 34 53.5 -0.2
OBIP	**Obispado Ponce**	**1.01 187**	*e*S	Sg	08 35 06.3 0.0
OBIP	**Obispado Ponce**	**1.01 187**⇓	*e*P	Pn	08 34 53.6 -0.1
OBIP	**Obispado Ponce**	**1.01 187**	*e*S	Sg	08 35 04.0 -2.3
LSP	**Las Mesas**	**1.04 213**⇑	*e*P	Pb	08 34 50.7 -3.0
LSP			⇓*e*P	Pg	08 34 53.5 -0.3
LSP			*e*S	Sg	08 35 04.6 -2.8
LSP			*e*S	Sb	08 35 06.5 -0.9
LSP	**Las Mesas**	**1.04 213**⇑	*e*P	Pb	08 34 50.7 -3.0
LSP	**Las Mesas**	**1.04 213**	*e*S	Sg	08 35 04.6 -2.8
LSP	**Las Mesas**	**1.04 213**⇓	*e*P	Pb	08 34 53.5 -0.2
LSP	**Las Mesas**	**1.04 213**	*e*S	Sg	08 35 06.5 -0.9
LSP	**Las Mesas**	**1.04 213**⇓	*e*P	Pb	08 34 53.5 -0.2
LSP	**Las Mesas**	**1.04 213**	*e*S	Sg	08 35 04.7 -2.7
HUMP	**Col San Antoni**	**1.09 146**⇑	*e*P	Pb	08 34 54.1 -0.3
HUMP			*e*S	Sb	08 35 08.6 0.0
HUMP	**Col San Antoni**	**1.09 146**⇑	*e*P	Pb	08 34 54.1 -0.3
HUMP	**Col San Antoni**	**1.09 146**	*e*S	Sb	08 35 08.6 0.0
IDE	**Isla Desecheo**	**1.15 235**⇑	*e*P	Pb	08 34 54.6 -0.9
IDE			*e*S	Sb	08 35 07.7 -2.7
IDE			*e*S	Sg	08 35 09.5 -1.2
IDE	**Isla Desecheo**	**1.15 235**	*e*S	Sb	08 35 07.7 -2.7
IDE	**Isla Desecheo**	**1.15 235**⇑	*e*P	Pb	08 34 54.6 -0.9
IDE	**Isla Desecheo**	**1.15 235**	*e*S	Sb	08 35 09.5 -0.9
IDE	**Isla Desecheo**	**1.15 235**⇑	*e*P	Pb	08 34 54.6 -0.9
IDE	**Isla Desecheo**	**1.15 235**	*e*S	Sb	08 35 07.7 -2.7
CRPR	**Cabo Rojo, PR**	**1.20 210**⇑	*e*P	Pn	08 34 53.1 -3.2
CRPR			⇑*e*P	Pb	08 34 55.7 -0.6
CRPR			⇑*e*P	Pg	08 34 55.9 -0.8
CRPR			*e*S	Sb	08 35 08.4 -3.4
CRPR			*e*S	Sg	08 35 11.4 -0.8
CRPR	**Cabo Rojo, PR**	**1.20 210**⇑	*e*P	Pn	08 34 53.1 -3.2
CRPR	**Cabo Rojo, PR**	**1.20 210**	*e*S	Sb	08 35 08.4 -3.4
CRPR	**Cabo Rojo, PR**	**1.20 210**⇑	*e*P	Pn	08 34 55.7 -0.6
CRPR	**Cabo Rojo, PR**	**1.20 210**	*e*S	Sb	08 35 11.4 -0.4
CRPR	**Cabo Rojo, PR**	**1.20 210**⇑	*e*P	Pn	08 34 55.9 -0.4
CRPR	**Cabo Rojo, PR**	**1.20 210**	*e*S	Sb	08 35 08.5 -3.3
STVI	**Saint Thomas**	**1.61 115**⇑	*e*P	Pn	08 34 59.2 -2.7
STVI			⇑*e*P	Pb	08 35 01.6 -1.6
STVI			*e*S	Sn	08 35 18.4 -4.3
STVI			*e*S	Sb	08 35 20.8 -2.8
STVI	**Saint Thomas**	**1.61 115**⇑	*e*P	Pn	08 34 59.2 -2.7
STVI	**Saint Thomas**	**1.61 115**	*e*S	Sn	08 35 18.4 -4.3
STVI	**Saint Thomas**	**1.61 115**⇑	*e*P	Pn	08 35 01.6 -0.3
STVI	**Saint Thomas**	**1.61 115**	*e*S	Sn	08 35 20.8 -1.8

DJA 17 08:37:09.8±0.7, 9°S±12°×11°7E±°, h10km, M4.4/9, MLv4.4/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.96**	**102**	P	Pn	08 37 41.5	-1.6
DNP	**Denpasar**	**2.28**	**284**	P	Pn	08 37 47.8	+0.2
DNP				S	Sb	08 38 17.9	-1.5
IGBI	**Denpasar**	**2.31**	**280**	P	Pn	08 37 47.7	-0.3
IGBI				S	Sn	08 38 17.2	+0.7
SRBI	**Singaraja**	**2.49**	**297**	P	Pn	08 37 48.5	-1.9
WSI	**Waingapu**	**2.84**	**99**	P	Pb	08 38 01.5	+0.8
JAGI	**Jajag, Banyuwa**	**3.35**	**283**	P	Pn	08 38 01.7	-0.5
ABJI	**Asem Bagus**	**3.49**	**294**	P	Pn	08 38 04.2	0.0
GMJI	**Gumukmas**	**4.08**	**283**	P	Pn	08 38 12.2	0.0
KMMI	**Kalianget**	**4.08**	**302**	P	Pn	08 38 12.7	+0.4
BLJI	**Banyuglugur**	**4.09**	**291**	P	Pn	08 38 10.8	-1.7
BKSI	**Bulukumba**	**4.71**	**34**	P	Pn	08 38 17.6	-3.4

*IDC **17** 08:39:28.6±0.8, 9°.10S×117°.20E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.9/46, mbtmp4.0/12, ML4.1/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/32, Error ellipse: s-maj=28.9km s-min=16.9km az=60.0*
*ISCJB **17** 08:39:31.1±0.4, 9°.06S±0°.06×117°.54E±0°.03, h10km, mb4.0/10, MS3.1/1, Error ellipse: s-maj=8.7km s-min=3.9km az=2.6*
*DJA **17** 08:39:36.1±0.9, 9°S±5°×11°7E±°, h26km±11km, M4.7/23, mb4.8/5, mB5.2/1, MLv4.7/23, Mw(mB)4.6/1*
ISC 17 08:39:29.8±0.6, 9°.05N±0°.07×117°.32E±0°.04, h10km, n39, σ1§63/33, mb4.1/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**2.12**	**280**	P	**Pg**	**08 40 11.6**	**+1.1**
DNP				S	**Sg**	**08 40 40.9**	**+2.9**
WBSI	**Waikabubak, Su**	**2.12**	**106**	P	**Pn**	**08 40 04.0**	**-1.5**
IGBI	**Denpasar**	**2.16**	**276**	P	**Pg**	**08 40 10.7**	**-0.6**
IGBI				S	**Sg**	**08 40 40.1**	**+0.7**
SRBI	**Singaraja**	**2.30**	**295**	P	**Pg**	**08 40 11.9**	**-2.0**
SRBI				S	**Sg**	**08 40 42.0**	**-1.7**
JAGI	**Jajag, Banyuwa**	**3.19**	**280**	P	**Pb**	**08 40 24.9**	**-1.6**
JAGI				S	**Sb**	**08 41 05.7**	**+0.2**
ABJI	**Asem Bagus**	**3.30**	**292**	P	**Pb**	**08 40 27.3**	**-1.2**
BASI	**Baing, Sumba**	**3.41**	**110**	P	**Pg**	**08 40 34.0**	**-1.3**
KMMI	**Kalianget**	**3.87**	**301**	P	**Pb**	**08 40 35.3**	**-3.0**
BLJI	**Banyuglugur**	**3.91**	**289**	P	**Pb**	**08 40 36.4**	**-2.5**
GMJI	**Gumukmas**	**3.91**	**281**	P	Pb	08 40 35.2	-3.7
GMJI				S	**Sb**	**08 41 25.3**	**-1.0**
BSSI	**Bau Bau, Buton**	**4.27**	**48**	P	**Pn**	**08 40 36.0**	**+1.0**
EDFI	**Ende, Flores**	**4.33**	**86**	P	**Pn**	**08 40 37.3**	**+1.4**
BKSI	**Bulukumba**	**4.63**	**37**	P	**Pn**	**08 40 40.5**	**+0.6**
BKSI				S	**Sn**	**08 41 31.9**	**-2.0**
MMRI	**Maumere**	**4.88**	**85**	P	**Pn**	**08 40 45.7**	**+2.4**
GRJI	**Gresik**	**5.24**	**294**	P	Pn	08 40 53.7	+5.4
	167nm,0.7s,2μm0.7nm						
BNSI	**Bone**	**5.39**	**31**	P	**Pn**	**08 40 53.3**	**+3.0**
	54nm,0.6s,0.4nm						
PWJI	**Pagerwojo**	**5.55**	**280**	P	Pb	08 41 01.5	-5.4
BBKI	**Banjar Baru**	**6.08**	**336**	P	Pb	08 41 19.7	+3.8
BATI	**Baumata**	**6.36**	**101**	P	Pn	08 41 08.1	+4.4
	69nm,0.8s,0.2nm						
BATI	**Baumata**	**6.36**	**101**	Pn	**Pn**	**08 41 05.3**	**+1.6**
	15nm,0.3s,baz=270,slow=4.7,SNR=10						
UGM	**Wanagama**	**6.82**	**279**	P	Pn	08 41 15.8	+5.8
PCI	**Palu**	**8.47**	**17**	P	Pn	08 41 38.4	+5.7
MDSI	**Maura Dua**	**13.81**	**288**	P	P	08 42 58.7	+4.3
WRA	**Warramunga Arr**	**19.69**	**125**	P	**Pn**	**08 44 00.4**	**-0.5**
	0.4nm,0.3s,baz=298,slow=13,SNR=28						
WRA				LR	LR	08 51 25.0	
	comp=Z,98nm,21.6s,baz=285,slow=36						
ASAR	**Alice Springs**	**21.51**	**134**	P	**P**	**08 44 20.4**	**+1.2**
	3.0nm,0.7s,baz=308,slow=8.1,SNR=21						
ASAR				LR	LR	08 52 48.1	
	comp=Z,80nm,18.5s,baz=260,slow=37						
NWAO	**Narrogin (SRO)**	**23.76**	**180**	P	**P**	**08 44 43.4**	**+0.9**
	3.4nm,0.5s,baz=9.6,slow=8.6,SNR=5.6						
CMAR	**Chiang Mai Arr**	**32.81**	**326**	P	**P**	**08 46 03.5**	**-0.2**
	0.6nm,0.3s,baz=144,slow=6.7,SNR=4.4						
H08S2	**Diego Garcia H**	**44.35**	**268**	T	T	09 35 52.6	
	baz=95,slow=76,SNR=5.1						
H08S3	**Diego Garcia H**	**44.37**	**268**	T	T	09 35 53.4	
	baz=95,slow=76,SNR=5.3						
H08S1	**Diego Garcia H**	**44.37**	**268**	T	T	09 35 59.2	
	baz=95,slow=76,SNR=3.3						
KSRS	**Korea Array**	**47.32**	**11**	P	**P**	**08 48 04.3**	**+0.6**
	1.6nm,0.7s,baz=193,slow=7.4,SNR=5.8						
USRK	**Ussuriysk Ar.**	**54.65**	**13**	P	**P**	**08 48 58.5**	**-0.2**
	2.5nm,0.9s,baz=182,slow=6.2,SNR=4.4						
SONM	**Songino Array**	**57.46**	**351**	P	**P**	**08 49 19.5**	**+0.4**
	0.4nm,0.5s,baz=172,slow=9.2,SNR=4.5						
MKAR	**Makanchi Array**	**63.76**	**334**	P	**P**	**08 50 02.6**	**+0.6**
	0.3nm,0.4s,baz=145,slow=5.3,SNR=8.6						
ZALV	**Zalesovo Beam**	**68.51**	**340**	P	**P**	**08 50 34.1**	**+1.9**
	0.8nm,0.5s,baz=140,slow=6.1,SNR=3.5						
LSZ	**Lusaka**	**86.83**	**255**	P	**P**	**08 52 13.8**	**-1.7**
	2.4nm,0.8s,baz=115,slow=19,SNR=2.0						
BRTR	**Kesin Array B**	**90.90**	**310**	P	**P**	**08 52 36.2**	**+1.9**
	0.4nm,0.5s,baz=16,slow=7.5,SNR=3.5						
YKA	**Yellowknife Ar**	**114.91**	**24**	PKP	PKPdf	08 58 09.9	-0.7
	0.1nm,0.6s,baz=294,slow=1.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**116.84**	**280**	PKP	**PKPdf**	**08 58 14.9**	**-0.8**
	0.4nm,0.9s,baz=199,slow=3.1,SNR=2.6						

GUC 17 08:39:31.6±0.6, 35°.06S×72°.74W, h33km±8km, ML3.5, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.97**	**111**	⇑*i*P	Pn	08 39 48.0	-0.8
TALC				*i* S	Sn	08 40 00.9	-0.6
COCH	**Cobquecura**	**1.07**	**182**	⇑*i*P	Pn	08 39 50.0	-0.3
COCH				*i* S	Sn	08 40 03.8	-0.3
NICH	**Los Niches**	**1.24**	**88**	⇑*i*P	Pn	08 39 52.6	0.0
NICH				*i* S	Sn	08 40 08.9	+0.6
RCDM	**Rinconada Maip**	**2.24**	**46**	*e*P	Pn	08 40 06.8	+0.3
RCDM				*e*S	Sn	08 40 34.2	+1.2
RCDM				IAML		08 40 44.3	
	comp=E,255nm,0.1s						
CLCH	**Cerro Calan**	**2.47**	**48**	*e*P1	Pn	08 40 10.5	+0.8
CLCH				*e*S	Sn	08 40 40.1	+1.4
CLCH				IAML		08 40 49.2	
	comp=E,357nm,0.9s						
PEL	**Peldehue**	**2.56**	**42**	*e*P1	Pn	08 40 12.1	+1.2
PEL				IAML		08 40 53.9	
	comp=N,404nm,1.8s						

*IDC **17** 08:40:19.7±0.9, 8°.97S×117°.01E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.8/46, mbtmp4.0/8, ML4.0/2, MS3.2/2, Ms1 3.3/2, ms1mx2.7/28, Error ellipse: s-maj=44.2km s-min=18.6km az=59.0*
*ISCJB **17** 08:40:23.2±1.0, 8°.8S±0°.2×117°.3E±0°.2, h33km, mb3.9/6, MS2.9/1, Error ellipse: s-maj=32.0km s-min=13.5km az=138.6*
ISC 17 08:40:25.6±1.0, 8°.9S±0°.2×117°.3E±0°.2, h35km, n10, σ1§15/10, mb4.0/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.45**	**102**	P	**Pn**	**08 41 57.4**	**-0.8**
	14nm,0.3s,baz=259,slow=3.3,SNR=2.8						
BATI				LR	LR	08 45 41.3	
	comp=Z,314nm,18.1s,baz=244,slow=48						
WRA	**Warramunga Arr**	**19.85**	**126**	P	**P**	**08 44 54.7**	**+0.9**
	0.2nm,0.3s,baz=298,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**21.69**	**135**	P	**P**	**08 45 15.3**	**+1.7**
	3.6nm,0.8s,baz=309,slow=8.7,SNR=5.4						
ASAR				PcP	**PcP**	**08 49 14.7**	**+0.5**
	0.7nm,0.6s,baz=321,slow=1.8,SNR=6.6						
ASAR				ScP	**ScP**	**08 52 50.2**	**+1.4**
	0.6nm,0.7s,baz=326,slow=2.6,SNR=5.4						
CMAR	**Chiang Mai Arr**	**32.61**	**326**	LR	LR	09 01 47.2	
	comp=Z,24nm,18.5s,baz=186,slow=40						
USRK	**Ussuriysk Ar.**	**54.47**	**13**	P	**P**	**08 49 49.5**	**-0.2**
	2.3nm,0.7s,baz=201,slow=11,SNR=4.8						
SONM	**Songino Array**	**57.26**	**351**	P	**P**	**08 50 10.4**	**+0.6**
	1.0nm,0.7s,baz=168,slow=9.1,SNR=5.2						
MKAR	**Makanchi Array**	**63.56**	**334**	P	**P**	**08 50 52.1**	**-0.7**
	0.6nm,0.7s,baz=178,slow=5.5,SNR=2.7						
ZALV	**Zalesovo Beam**	**68.31**	**340**	P	**P**	**08 51 23.1**	**0.0**
	0.6nm,0.4s,baz=123,slow=5.5,SNR=3.7						
VNDA	**Vanda**	**72.39**	**171**	P	**P**	**08 51 46.3**	**-1.4**
	1.4nm,0.8s,baz=312,slow=7.4,SNR=7.7						
YKA	**Yellowknife Ar**	**114.76**	**24**	PKP	PKPdf	08 59 01.3	-0.8
	0.1nm,0.5s,baz=297,slow=2.0,SNR=4.1						

*ISCJB **17** 08:42:46.2±0.6, 36°.65N±0°.04×71°.30E±0°.08, h200km, Error ellipse: s-maj=9.9km s-min=4.3km az=151.5*
*NNC **17** 08:42:51.8±3.1, 37°.05N×71°.16E, h199km±21km, mb3.0, mpv4.0, Error ellipse: s-maj=29.4km s-min=16.2km az=158.0*
ISC 17 08:42:46.1±0.9, 36°.66N±0°.07×71°.30E±0°.08, h200km, n24, σ1§82/32, 9C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.90**	**318**	⇑P	**Pn**	**08 43 35.6**	**+1.0**
DZET				⇑S	**Sn**	**08 44 11.8**	**-0.8**
AML	**Almayashu**	**5.77**	**18**	P	**Pn**	**08 44 11.8**	**+1.2**
	SNR=117						
UCH	**Uchtor**	**6.09**	**23**	P	**Pn**	**08 44 16.0**	**+1.2**
	SNR=21						
KZA	**Kyzart**	**6.21**	**28**	P	**Pn**	**08 44 17.9**	**+1.5**
	SNR=9.2						
EKS2	**Erkin-Say**	**6.29**	**17**	P	**Pn**	**08 44 18.7**	**+1.6**
	SNR=16						
AAK	**Ala-Archa**	**6.45**	**21**	⇑P	**Pn**	**08 44 20.9**	**+1.6**
	12nm,0.4s						
AAK				⇓S	**Sn**	**08 45 32.2**	**-1.0**
	21nm,0.6s						
AAK	**Ala-Archa**	**6.45**	**21**	P	**Pn**	**08 44 20.9**	**+1.6**
	SNR=25						
KK31	**Karatay Array**	**6.46**	**355**	⇑P	**Pn**	**08 44 20.4**	**+1.2**
	3.5nm,0.3s,baz=175,slow=12,SNR=70						
KK31				S	**Sn**	**08 45 29.1**	**-4.0**
	13nm,0.5s,baz=181,slow=22,SNR=34						
CHMS	**Chumysh**	**6.86**	**22**	P	**Pn**	**08 44 26.7**	**+2.2**
	SNR=5.5						
USP	**Ospenovka**	**7.04**	**19**	P	**Pn**	**08 44 28.7**	**+1.9**
	SNR=11						
TKM2	**Tokmak 2**	**7.07**	**27**	⇑P	**Pn**	**08 44 28.9**	**+1.6**
	7.4nm,0.7s						
TKM2				⇑S	**Sn**	**08 45 46.3**	**-1.5**
	7.8nm,0.8s						
TKM2	**Tokmak 2**	**7.07**	**27**	P	**Pn**	**08 44 29.2**	**+1.8**
	SNR=11						
SMLA	**Simla**	**7.37**	**137**	*i* P	**Pn**	**08 44 32.1**	**+1.0**
SMLA				*i* S	**Sn**	**08 45 51.5**	**-3.0**
SMLA				*i* S	**Sn**	**08 45 52.0**	**-2.5**
SMLA				AML	AML	08 45 54.7	
	comp=N,458nm,0.3s						
SMLA				AML	AML	08 45 55.2	
	comp=E,649nm,0.3s						
PYUN	**Piuthan**	**13.05**	**128**	*e*P	**Pn**	**08 45 44.5**	**+0.1**
	comp=E,27nm,0.3s						
DANN	**Dangsing**	**13.38**	**125**	*e*P	**Pn**	**08 45 49.2**	**+0.6**
	comp=E,5.4nm,0.2s						
KKN	**Kakani**	**14.76**	**123**	*e*P	**P**	**08 46 06.2**	**-0.4**
DMN	**Daman**	**14.76**	**124**	*e*P	**P**	**08 46 06.6**	**0.0**
	comp=E,9.3nm,0.3s						
PKI	**Pulchoki**	**14.99**	**123**	*e*P	**P**	**08 46 10.0**	**+0.8**
	comp=E,9.8nm,0.3s						
AB31	**Akbulak array**	**15.06**	**330**	⇓P	**P**	**08 46 09.6**	**+0.2**
	comp=E,1.2nm,0.4s						
AB31				⇑S	**S**	**08 48 51.3**	**-4.5**
	comp=E,1.9nm,0.6s						
GUN	**Gumba**	**15.10**	**121**	*e*P	**P**	**08 46 11.0**	**+0.6**
	comp=E,18nm,0.2s						
JIRN	**Jiri**	**15.47**	**121**	*e*P	**P**	**08 46 15.9**	**+1.4**
	comp=E,28nm,0.3s						
RAMN	**Ramite**	**16.20**	**122**	*e*P	**Pn**	**08 46 23.6**	**+0.5**
	comp=E,9.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.76**	**329**	⇑P	**Pn**	**08 46 31.3**	**+2.1**
	comp=E,1.8nm,0.4s						
AKTO				⇑S	**S**	**08 49 33.9**	**+1.2**
	comp=E,1.4nm,0.7s						
ODAN	**Odare**	**16.80**	**121**	*e*P	**Pn**	**08 46 29.8**	**-0.4**
	comp=E,14nm,0.7s						

MEX 17 08:48:29.2±0.7, 18°.31N×100°.82W, h46km±9km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.45**	**93**	*e*P	Pn	08 48 38.0	-1.7
ARIG				*i* S	Sn	08 48 45.5	-1.6
ZIIG	**Zihuatanejo**	**0.93**	**221**	*e*P	Pn	08 48 43.9	-2.0
ZIIG				*e*S	Sn	08 48 56.0	-2.0
PLIG	**Platanillo**	**1.26**	**86**	*e*P	Pn	08 48 49.1	-1.4
PLIG				*e*S	Sn	08 49 03.7	-2.6
CAIG	**El Cayaco**	**1.36**	**157**	*e*P	Pn	08 48 50.0	-1.8
CAIG				*e*S	Sn	08 49 06.5	-2.1
YAIG	**Yautepec**	**1.75**	**71**	*e*P	Pn	08 48 56.0	-1.4
YAIG				*i* S	Sn	08 49 16.1	-2.6
TLIG	**Tlapa**	**2.27**	**109**	*e*P	Pn	08 49 03.9	-0.5
TLIG				*i* S	Sn	08 49 28.5	-2.9

*IDC **17** 08:56:08.8±1.6, 35°.41S×72°.70W, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/26, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=45.1km s-min=30.6km az=79.0*
*ISCJB **17** 08:56:11.3±1.5, 35°.35S±0°.07×72°.64W±0°.09, h24km±12km, mb3.3/2, Error ellipse: s-maj=15.4km s-min=6.8km az=37.9*
*GUC **17** 08:56:12.0±0.7, 35°.46S×72°.54W, h24km±6km, ML3.8*
ISC 17 08:56:12.4±1.5, 35°.41S±0°.06×72°.58W±0°.07, h23km±13km, n12, σ0§68/17, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.74**	**193**	⇑*i*P	**Pb**	**08 56 26.2**	**-0.4**
COCH				*i* S	**Sb**	**08 56 36.4**	**+0.2**
TALC	**Talca**	**0.78**	**89**	⇓*i*P	**Pb**	**08 56 26.7**	**-0.5**
TALC				*i* S	**Sb**	**08 56 37.3**	**0.0**
LNCH	**Linares**	**0.91**	**119**	⇓*i*P	**Pb**	**08 56 29.5**	**0.0**
LNCH				*i* S	**Sn**	**08 56 42.1**	**0.0**
NICH	**Los Niches**	**1.18**	**70**	⇓*i*P	**Pn**	**08 56 33.6**	**+0.1**
NICH				*i* S4	**Sb**	**08 56 49.3**	**+0.3**
CCSP	**San Pedro de C**	**1.49**	**196**	*e*P	**Pn**	**08 56 37.9**	**+0.1**
CCSP				*i* S	**Sb**	**08 56 57.9**	**0.0**
CCSP				IAML		08 57 05.1	
	comp=N,2μm,0.5s						
LNV	**Longovilo**	**1.74**	**34**	*e*P1	**Pn**	**08 56 42.5**	**+1.3**
CLCH	**Cerro Calan**	**2.63**	**41**	*i* S	**Sb**	**08 57 29.7**	**-0.9**
CLCH				IAML		08 57 36.3	
	comp=N,632nm,0.6s						
CFAA	**Coronel Fontan**	**5.25**	**45**	Pn	**Pn**	**08 57 30.5**	**+1.0**
	comp=N,0.1nm,0.3s,baz=217,slow=10,SNR=8.3						
PLCA	**Paso Flores**	**5.55**	**164**	Pn	**Pn**	**08 57 34.9**	**+1.3**
	comp=N,0.7nm,0.3s,baz=341,slow=12,SNR=17						
LPAZ	**La Paz**	**19.46**	**13**	P	**Pn**	**09 00 39.3**	**-0.1**
	comp=N,0.0nm,0.3s,baz=214,slow=7.3,SNR=5.5						
TXAR	**Lajitas Array**	**70.75**	**331**	P	**P**	**09 07 26.6**	**-0.2**
	comp=N,0.2nm,0.9s,baz=158,slow=7.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**85.11**	**70**	P	**P**	**09 08 46.2**	**-0.6**
	comp=N,0.3nm,0.7s,baz=233,slow=7.0,SNR=2.4						

IDC 17 09:00:54.2±5.8, 5°.30S×150°.91E, h71km±49km, mb3.4/3, mb1 3.8/4, mb1mx3.3/32, mbtmp3.8/4, ML3.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/11, Error ellipse: s-maj=114.9km s-min=34.0km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.53**	**222**	P	Pn	09 02 15.7	+1.7
	12nm,0.3s,baz=22,slow=14,SNR=32						
PMG				S	Sn	09 03 15.9	-0.3
	5.0nm,0.3s,baz=180,slow=20,SNR=6.0						
PMG	**Port Moresby**	**5.53**	**222**	P	Pn	09 02 17.5	+3.5
	baz=2.3,SNR=9.0						
KDU	**Kakadu**	**19.63**	**247**	P	Pn	09 05 18.9	-0.2
	baz=17,SNR=30						
MTN	**Manton Dam**	**20.91**	**248**	P	Pn	09 05 33.8	-0.5
	baz=18,SNR=11						
WRA	**Warramunga Arr**	**21.73**	**226**	P	P	09 05 39.6	-0.2
	1.1nm,0.4s,baz=52,slow=10,SNR=15						
DZM	**Mont Dzumac**	**22.45**	**139**	LR	LR	09 13 15.9	
	comp=Z,150nm,20.1s,baz=222,slow=33						
KNRA	**Kununurra**	**24.07**	**243**	P	P	09 06 04.5	+1.3
	baz=21,SNR=26						
ASAR	**Alice Springs**	**24.54**	**220**	P	P	09 06 07.5	+0.1
	1.4nm,0.6s,baz=58,slow=8.8,SNR=15						
WRKA	**Warakurna**	**29.26**	**226**	P	P	09 06 49.2	-0.6
	baz=26,SNR=7.1						
MEEK	**Meekatharra**	**37.41**	**232**	P	P	09 08 04.7	+4.0
	baz=34,SNR=11						
ILAR	**Eielson Array**	**83.33**	**22**	P	P	09 13 12.4	-0.7
	0.4nm,0.9s,baz=256,slow=4.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**148.66**	**287**	PKPbc	PKPbc	09 20 34.5	+0.2
	0.5nm,0.5s,baz=80,slow=2.5,SNR=4.4						

*IDC **17** 09:09:09.2±1.9, 13°.63N×88°.65W, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.7/40, mbtmp3.8/10, ML3.4/3, MS3.0/4, Ms1 3.0/4, ms1mx2.7/32, Error ellipse: s-maj=44.7km s-min=16.7km az=29.0*
*ISCJB **17** 09:09:12.1±0.5, 12°.87N±0°.04×89°.

JCT	**Junction City**	**20.08 332**	P	Pn	09 13 43.1	-0.8
	comp=Z,2.4nm,0.9s					
TXAR	**Lajitas Array**	**21.21 323**	P	**P**	**09 13 55.3**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=143,slow=10,SNR=20					
TKL	**Tuckaleechee C**	**23.13 11**	LR	LR	09 23 17.1	
	comp=Z,45nm,19.4s,baz=142,slow=38					
PFO	**Pinyon Flats O**	**32.32 314**	LR	LR	09 29 01.8	
	comp=Z,66nm,19.6s,baz=218,slow=37					
SADO	**Sadowa**	**32.85 13**	P	**P**	**09 15 38.6**	**-2.4**
	comp=Z,1.4nm,0.4s,baz=190,slow=6.1,SNR=3.4					
SAML	**Samuel**	**33.68 129**	P	**P**	**09 15 51.1**	**+2.5**
	comp=Z,0.5nm,0.4s					
PDAR	**Pinedale Array**	**34.61 333**	P	**P**	**09 15 57.3**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=50,slow=6.0,SNR=2.7					
PDAR			LR	LR	09 30 55.0	
	comp=Z,15nm,19.0s,baz=246,slow=38					
ULM	**Lac du Bonnet**	**37.63 353**	P	**P**	**09 16 20.4**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=142,slow=12,SNR=3.2					
MCMT	**McKenzie Canyo**	**37.70 332**	*e*P	**P**	**09 16 24.4**	**+1.3**
	comp=Z,0.8nm,0.8s					
SCHQ	**Schefferville**	**45.30 18**	P	**P**	**09 17 22.1**	**-2.7**
	comp=Z,2.9nm,0.8s,baz=211,slow=7.0,SNR=5.6					
YKA	**Yellowknife Ar**	**52.74 345**	P	**P**	**09 18 21.0**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=142,slow=7.7,SNR=29					
RES	**Resolute Bay**	**61.83 358**	P	**P**	**09 19 23.9**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=176,slow=12,SNR=7.4					
WRA	**Warramunga Arr**	**137.86 255**	PKP	**PKPdf**	**09 28 35.7**	**+3.8**
	comp=Z,0.4nm,0.7s,baz=87,slow=2.4,SNR=6.6					

WEL 17 09:10:22.1±0.6, 38°.29S×176°.10E, h145km±5km, ML3.5/14, 7C-2D, Error ellipse: s-maj=2.7km s-min=2.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALRZ	**Allen Road**	**0.34**	**145**	PN	Pn	09 10 42.4	+0.2
TOZ	**Tahuroa Road**	**0.73**	**320**	PN	Pn	09 10 44.8	+0.5
URZ	**Urewera**	**0.80**	**88**	⇑PN	Pn	09 10 44.2	-0.6
URZ				SN	Sn	09 11 01.1	-0.9
URZ				AML	AML	09 11 01.4	
BKZ	**Black Stump Fm**	**0.93**	**161**	⇑PN	Pn	09 10 45.7	-0.2
TWVZ	**Taurewa**	**0.94**	**213**	PN	Pn	09 10 46.2	+0.1
NMHZ	**Naumai**	**0.98**	**146**	PN	Pn	09 10 47.0	+0.6
RAHZ	**Arahi**	**1.00**	**129**	PN	Pn	09 10 46.8	+0.3
RAHZ				SN	Sn	09 11 05.4	+0.3
SNGZ	**Shannon Statio**	**1.09**	**117**	PN	Pn	09 10 47.4	+0.1
WNVZ	**Wahianoa**	**1.11**	**200**	⇑PN	Pn	09 10 47.7	0.0
MWZ	**Matawai**	**1.13**	**93**	PN	Pn	09 10 47.3	-0.3
MWZ				AML	AML	09 11 07.0	
MWZ				AML	AML	09 11 08.1	
MOVZ	**Moawhango**	**1.15**	**193**	PN	Pn	09 10 47.5	-0.4
MOVZ				SN	Sn	09 11 06.6	-1.1
PKVZ	**Pokaka**	**1.16**	**210**	PN	Pn	09 10 47.9	-0.1
BHHZ	**Black Hill Sta**	**1.20**	**181**	⇑PN	Pn	09 10 47.9	-0.4
BHHZ				SN	Sn	09 11 07.0	-1.6
ARHZ	**Aropaoanui**	**1.20**	**145**	PN	Pn	09 10 48.5	+0.2
MCHZ	**McNeill Hill**	**1.25**	**158**	PN	Pn	09 10 49.1	+0.4
RIGZ	**Rimuhau**	**1.37**	**108**	PN	Pn	09 10 50.0	0.0
KRHZ	**Kereru**	**1.37**	**171**	PN	Pn	09 10 49.8	-0.2
HAZ	**Te Kaha**	**1.43**	**69**	PN	Pn	09 10 49.4	-1.2
KNZ	**Kokohu**	**1.44**	**121**	PN	Pn	09 10 50.3	-0.3
KAHZ	**Kahuranaki**	**1.62**	**158**	PN	Pn	09 10 52.5	-0.2
PNHZ	**Pukenui**	**1.63**	**177**	PN	Pn	09 10 52.0	-0.8
MHGZ	**Mahia Peninsul**	**1.66**	**122**	PN	Pn	09 10 52.7	-0.3
WAZ	**Wanganui**	**1.70**	**210**	PN	Pn	09 10 53.3	-0.3
TSZ	**Takapari Road**	**1.77**	**183**	⇑PN	Pn	09 10 53.4	-0.9
WPHZ	**Waipukurau**	**1.80**	**172**	PN	Pn	09 10 53.8	-0.8
PXZ	**Pawanui**	**1.84**	**161**	PN	Pn	09 10 54.3	-0.8
PXZ				SN	Sn	09 11 18.4	-2.0
DVHZ	**Dannevirke**	**2.01**	**178**	⇑PN	Pn	09 10 55.7	-1.4
POWZ	**Post Office Ro**	**2.12**	**187**	PN	Pn	09 10 56.9	-1.4
ANWZ	**Angora Road**	**2.19**	**172**	PN	Pn	09 10 58.1	-1.1
PRWZ	**Pori Road**	**2.27**	**182**	PN	Pn	09 10 58.8	-1.4
BFZ	**Birch Farm**	**2.40**	**177**	PN	Pn	09 10 59.9	-1.8
MRZ	**Mangatainoka R**	**2.41**	**189**	⇑PN	Pn	09 10 59.9	-1.9
TIWZ	**Tintock**	**2.49**	**184**	⇓PN	Pn	09 11 01.1	-1.9
OGWZ	**Otaki Gorge**	**2.63**	**196**	PN	Pn	09 11 02.6	-2.0
HOWZ	**Holdsworth Sta**	**2.65**	**190**	PN	Pn	09 11 02.5	-2.4
KIW	**Kapiti Island**	**2.73**	**199**	PN	Pn	09 11 03.5	-2.3
TMWZ	**Te Maipa**	**2.82**	**183**	PN	Pn	09 11 04.6	-2.4
MTW	**Mount Morrison**	**2.91**	**189**	PN	Pn	09 11 05.3	-2.8
CAW	**Cannon Point**	**2.93**	**195**	⇓PN	Pn	09 11 05.8	-2.5
PAWZ	**Paruwai Farm**	**3.13**	**189**	PN	Pn	09 11 08.0	-3.0
MSWZ	**Moikau Station**	**3.19**	**192**	PN	Pn	09 11 08.7	-3.1
TCW	**Tory Channel**	**3.24**	**205**	PN	Pn	09 11 09.5	-2.8
PLLWZ	**Palliser**	**3.34**	**191**	PN	Pn	09 11 10.4	-3.4
TUWZ	**Tuamarina**	**3.55**	**207**	PN	Pn	09 11 13.2	-3.1

MEX 17 09:23:59.2±1.1, 17°.07N×94°.70W, h132km±8km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.18**	**278**	*i*P	Pn	09 24 16.2	-1.1
CMIG				*i*S	Sn	09 24 29.4	-1.6
TUIG	**Tuzandepetl**	**1.00**	**15**	*e*P	Pn	09 24 20.5	-1.8
TUIG				*i*S	Sn	09 24 37.9	-2.0
TGIG		**1.54**	**101**	*e*P	Pn	09 24 26.8	-1.2
TGIG				*i*S	Sn	09 24 47.3	-2.5
HUIG	**Huatulco**	**1.87**	**227**	*e*P	Pn	09 24 29.3	-2.5
HUIG				*e*S	Sn	09 24 55.0	-1.7
VHO	**Vista Hermosa**	**1.95**	**270**	*e*P	Pn	09 24 32.5	-0.5
VHO				*e*S	Sn	09 24 56.8	-1.9
PCIG		**1.96**	**133**	*e*P	Pn	09 24 32.5	-0.4
PCIG				*e*S	Sn	09 24 57.2	-1.4
CCIG	**Comitan**	**2.58**	**107**	*e*P	Pn	09 24 39.9	-0.8
CCIG				*i*S	Sn	09 25 10.8	-1.8
TPIG	**Tehuac#an**	**2.87**	**298**	*e*P	Pn	09 24 43.9	-0.6
TPIG				*i*S	Sn	09 25 17.1	-2.2
PNIG	**Pinotepa**	**3.35**	**259**	*e*P	Pn	09 24 48.1	-2.5
PNIG				*i*S	Sn	09 25 27.8	-2.4

IDC 17 09:26:17.0±1.7, 38°.04S×73°.38W, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.6/21, mbtmp3.4/5, ML3.6/2, MS3.0/4, Ms1 3.0/4, ms1mx2.9/14, Error ellipse: s-maj=35.6km s-min=18.3km az=69.0
ISCJB 17 09:26:21.2±0.9, 38°.14S±0°.05×73°.3W±0°.1, h42km±11km, mb3.5/3, MS3.4/2, Error ellipse: s-maj=20.3km s-min=6.5km az=14.5
GUC 17 09:26:21.5±0.4, 38°.15S×73°.30W, h41km±2km, ML4.2
ISC 17 09:26:20.6±1.8, 38°.12S±0°.04×73°.3W±0°.1, h26km±15km, n12, σ1.9 06/15, mb3.5/3, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.58**	**58**	*e*P	**Pn**	**09 26 32.8**	**-0.4**
AGCH				*i*S	**Sn**	**09 26 41.7**	**-0.2**
PSCH	**Puerto Saavedr**	**0.68**	**184**	⇑*i*P	**Pn**	**09 26 34.0**	**-0.6**
PSCH				*i*S	**Sb**	**09 26 43.2**	**+0.2**
CCSP	**San Pedro de C**	**1.28**	**8**	*e*P1	**Pn**	**09 26 43.5**	**+0.7**
CCSP				*i*S	**Sb**	**09 27 00.6**	**+0.4**
CCSP				IAML		09 27 01.6	
	comp=E,7μm,0.5s						
VLCH	**Valdivia**	**1.69**	**178**	⇓*i*P	**Pn**	**09 26 48.5**	**+0.1**
VLCH				*i*S	**Sn**	**09 27 08.9**	**-0.2**
VLCH				IAML		09 27 19.0	
	comp=N,5μm,0.5s						
LNCH	**Linares**	**2.65**	**32**	*e*P1	**Pn**	**09 27 03.0**	**+1.3**
LNCH				*e*S4	**Sb**	**09 27 38.0**	**-1.6**
PLCA	**Paso Flores**	**3.38**	**141**	Pn	**Pn**	**09 27 14.0**	**+2.2**
	comp=N,2.8nm,0.3s,baz=315,slow=10,SNR=93						
PLCA				Lg	Lg	09 28 06.9	
	comp=N,15nm,0.3s,baz=138,slow=13,SNR=8.3						
PLCA				LR	LR	09 28 54.1	
	comp=N,141nm,19.3s,baz=291,slow=45						
CFAA	**Coronel Fontan**	**7.72**	**34**	Pn	**Pn**	**09 28 10.2**	**-1.3**
	comp=N,0.1nm,0.3s,baz=227,slow=11,SNR=8.8						
CFAA				Lg	Lg	09 30 20.8	
	comp=N,0.1nm,0.3s,baz=114,slow=22,SNR=4.9						
CFAA				LR	LR	09 31 18.8	
	comp=N,21nm,20.6s,baz=212,slow=39						
LPAZ	**La Paz**	**22.22**	**13**	P	**P**	**09 31 16.1**	**+0.3**
	comp=N,1.0nm,1.2s,baz=206,slow=13,SNR=1.8						
SIV	**San Ignacio**	**24.55**	**29**	LR	LR	09 42 01.1	
	comp=N,81nm,19.2s,baz=236,slow=38						
BDFB	**Brasilia**	**31.61**	**52**	LR	LR	09 46 54.9	
	comp=N,97nm,18.1s,baz=237,slow=39						
TXAR	**Lajitas Array**	**72.86**	**333**	P	**P**	**09 37 47.2**	**+0.1**
	comp=N,0.3nm,0.6s,baz=149,slow=8.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**86.58**	**71**	P	**P**	**09 39 01.4**	**-0.3**
	comp=N,0.5nm,0.5s,baz=221,slow=5.0,SNR=8.2						

BJI 17 09:44:47.5, 3°.89N×95°.33E, h75km, mB5.0/16, mb4.6/28, Ms4.5/5, Ms7 4.4/5
ISCJB 17 09:44:54.1±0.4, 4°.46N±0°.03×95°.56E±0°.03, h82km±4km, mb4.4/39, Error ellipse: s-maj=6.3km s-min=3.4km az=144.9
IDC 17 09:44:54.4±0.6, 4°.68N×95°.66E, h66km±4km, mb4.1/20, mb1 4.2/22, mb1mx4.0/40, mbtmp4.4/22, MS3.3/10, Ms1 3.4/10, ms1mx3.2/31, Error ellipse: s-maj=21.7km s-min=8.6km az=38.0
NEIC 17 09:44:55.9±0.7, 4°.51N×95°.62E, h84km±6km, mb4.5/12, Error ellipse: s-maj=8.7km s-min=5.8km az=53.0
NEIC Felt at Banda Aceh and Meulaboh.
KLM 17 09:44:56.3, 4°.35N×95°.63E, h66km, mb4.7, ML4.4, MS6.1
DJA 17 09:44:57.7±0.4, 4°.N±2°.×9°.6E±°, h63km±5km, M4.9/17, mB5.3/7, mb5.0/17, MLv5.0/4, Mw(mB)4.7/7
ISC 17 09:44:54.8±0.4, 4°.47N±0°.04×95°.51E±0°.04, h75km±3km, h75km:pP-P, n147, σ1.9 34/178, mb4.4/39, 5C-11D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.62**	**62**	P	**Pn**	**09 45 22.1**	**+0.6**
LHMI				S	**Sn**	**09 45 41.4**	**-0.3**
LHMI	**Lhok Sumawe**	**1.62**	**62**	P	**Pn**	**09 45 21.3**	**-0.3**
	baz=1.3,SNR=36						
LHMI				S	**Sn**	**09 45 41.3**	**-0.4**
	baz=1.3,SNR=6.6						
LHMI	**Lhok Sumawe**	**1.62**	**62**	*e*Pn	**Pn**	**09 45 21.2**	**-0.3**
TPTI		**2.05**	**126**	P	**Pn**	**09 45 27.1**	**-0.2**
TPTI				S	**Sn**	**09 45 50.9**	**-1.1**
SNSI	**Sinabang, Aceh**	**2.20**	**158**	P	**Pn**	**09 45 29.2**	**-0.1**
SNSI				S	**Sn**	**09 45 55.2**	**-0.4**
KCSI	**Kotacane, Aceh**	**2.44**	**113**	P	**Pn**	**09 45 32.8**	**+0.3**
KCSI				S	**Sn**	**09 46 01.0**	**-0.5**
CMBY	**CAMPBELL BAY**	**2.98**	**328**	*e*P	**Pn**	**09 45 40.3**	**+0.5**
CMBY				*e*S	**Sn**	**09 46 15.9**	**+1.4**
TSI	**Tuntungan**	**3.19**	**107**	P	**Pn**	**09 45 43.5**	**+0.8**
TSI				S	**Sn**	**09 46 19.0**	**-0.7**
GSI	**Gunungsitoli**	**3.76**	**147**	P	**Pn**	**09 45 49.1**	**-1.3**
GSI				S	**Sn**	**09 46 32.8**	**-0.7**
GSI	**Gunungsitoli**	**3.76**	**147**	*e*Pn	**Pn**	**09 45 49.8**	**-0.6**
PSI	**Prapat**	**3.79**	**116**	P	**Pn**	**09 45 52.0**	**+1.1**
	47nm,0.3s,baz=309,slow=14,SNR=148						
PSI				S	**Sn**	**09 46 34.8**	**+0.4**
	45nm,0.3s,baz=302,slow=8.5,SNR=8.9						
PSI				LR	LR	09 47 46.2	
	comp=Z,527nm,20.4s,baz=22,slow=45						
PSI	**Prapat**	**3.79**	**116**	P	**Pn**	**09 45 52.1**	**+1.1**
	baz=3.4,SNR=85						
PKDT	**Phuket**	**4.41**	**39**	P	**Pn**	**09 45 58.7**	**-0.6**
KULM	**Kulim**	**5.18**	**81**	⇑P	**Pn**	**09 46 10.0**	**+0.1**
KULM	**Kulim**	**5.18**	**81**	*e*Pn	**Pn**	**09 46 09.6**	**-0.3**
MNSI	**Mandailing Nat**	**5.46**	**132**	P	**Pn**	**09 46 13.8**	**+0.1**
IPM	**Ipoh**	**5.50**	**90**	⇓P	**Pn**	**09 46 13.9**	**-0.3**
IPM	**Ipoh**	**5.50**	**90**	*e*Pn	**Pn**	**09 46 13.3**	**-0.9**
SURT	**Suratani**	**5.53**	**36**	P	**Pn**	**09 46 14.2**	**-0.4**
SRIT	**Nakonsritamara**	**5.77**	**45**	P	**Pn**	**09 46 17.3**	**-0.6**
SURA	**Surathani**	**6.20**	**41**	P	**Pn**	**09 46 23.1**	**-0.7**
	148nm,1.1s,2μm0.5nm						
FRIM	**Kepong**	**6.22**	**101**	⇓P	**Pn**	**09 46 23.8**	**-0.2**
BKNI	**Bangkinang**	**6.88**	**127**	P	**Pn**	**09 46 34.2**	**+1.0**
BKNI	**Bangkinang**	**6.88**	**127**	*e*Pn	**Pn**	**09 46 32.0**	**-1.1**
PDSI	**Padang**	**7.28**	**137**	P	**Pn**	**09 46 39.2**	**+0.6**
KTGM	**Kuala Trenggan**	**7.64**	**83**	⇓P	**Pn**	**09 46 43.3**	**-0.2**
KGM	**Kluang**	**8.16**	**107**	⇑P	**Pn**	**09 46 50.2**	**-0.4**
MYKOM	**Kota Tinggi**	**8.74**	**107**	*e*Pn	**Pn**	**09 46 58.3**	**-0.2**
DGPR	**DIGLIPUR**	**9.02**	**344**	*e*P	**Pn**	**09 47 00.5**	**-1.9**
DGPR				AMB	AMB	09 47 11.2	
	comp=Z,54nm,1.6s						
DGPR				*e*S	**Sn**	**09 48 45.1**	**+2.7**
KHLT	**Khaolaem Dam**	**10.70**	**16**	P	Pn	09 47 28.6	+3.3
	comp=Z,12nm,1.9s						
NAYO	**Nakonayok**	**11.34**	**30**	P	**Pn**	**09 47 36.5**	**+2.6**
	comp=Z,19nm,1.4s						
LHSI	**Lahat**	**11.49**	**136**	P	**Pn**	**09 47 34.4**	**-1.6**
	comp=Z,64nm,0.8s						
MNAI	**Manna**	**11.50**	**140**	P	**Pn**	**09 47 35.7**	**-0.5**
	comp=Z,243nm,0.9s						
MNAI	**Manna**	**11.50**	**140**	P	**Pn**	**09 47 34.8**	**-1.4**
	baz=11,SNR=6.2						
MNAI				S	Sn	09 49 36.1	-6.8
	baz=11,SNR=3.9						
MDSI	**Maura Dua**	**12.41**	**136**	P	**Pn**	**09 47 47.2**	**-1.4**
	comp=Z,55nm,0.9s						
CHAI	**Chaiyaphum**	**13.02**	**29**	P	**P**	**09 48 05.3**	**+0.8**
PBKT	**Sadao Pong**	**13.17**	**24**	P	**Pn**	**09 48 01.8**	**+3.0**
	comp=Z,25nm,0.7s						
SUKH	**Sukhothai**	**13.55**	**17**	P	**P**	**09 48 10.3**	**0.0**
	comp=Z,16nm,0.8s,comp=Z,137nm						
UTTA	**Uttaradit**	**14.09**	**20**	P	**Pn**	**09 48 12.8**	**+1.9**
	comp=Z,13nm,0.7s,comp=Z,112nm						
CMAR	**Chiang Mai Arr**	**14.30**	**13**	P	**Pn**	**09 48 15.0**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=200,slow=13,SNR=24						
CMAR				LR	LR	09 53 39.4	
	comp=Z,88nm,18.1s,baz=198,slow=37						
LAMP	**Lampang**	**14.54**	**16**	P	**P**	**09 48 22.0**	**+0.7**
	comp=Z,14nm,0.8s,comp=Z,112nm						
CHTO	**Chiang Mai**	**14.65**	**13**	P	**P**	**09 48 22.6**	**+0.1**
	comp=Z,114nm,0.9s						
CHTO	**Chiang Mai**	**14.65**	**13**	*e*Pn	**Pn**	**09 48 19.5**	**+1.3**
CMMT	**Chiang Mai**	**14.65**	**13**	P	**P**	**09 48 22.5**	**-0.1**
	comp=Z,33nm,0.9s						
DLV	**T Lat**	**14.83**	**59**	*e*Pn	**Pn**	**09 48 20.7**	**0.0**
PALK	**Pallekele**	**14.99**	**281**	P	**P**	**09 48 25.8**	**-0.6**
	comp=Z,2.3nm,0.3s,baz=104,slow=14,SNR=4.4						
PALK				S	Sn	09 50 56.7	-11
	comp=Z,3.4nm,0.3s,baz=185,slow=19,SNR=13						
KSM	**Kuching**	**15.07**	**101**	*e*P	**P**	**09 48 27.5**	**+0.2**
	comp=Z,23nm,0.9s						
CMAI	**Chiengmai2**	**15.75**	**12**	P	**P**	**09 48 34.6**	**-0.4**
	comp=Z,35nm,0.8s						
MDRS	**Chennai**	**17.33**	**301**	*e*P	**P**	**09 48 53.0**	**+0.8**
VIS	**Vishakhapatnam**	**17.77**	**319**	*e*P	**P**	**09 48 57.2**	**+0.1**
VIS				AMB	AMB	09 49 03.3	
	comp=Z,21nm,1.2s						
SLVN	**Son La**	**18.64**	**25**	*e*P	**P**	**09 49 06.7**	**-0.1**
	comp=Z,17nm,1.1s						
HYB	**Hyderabad**	**21.02**	**309**	*i*P	**P**	**09 49 34.5**	**+2.0**
HYB				*e*S	**S**	**09 53 18.0**	**-4.6**
HYB	**Hyderabad**	**21.02**	**309**	*e*P	**P**	**09 49 34.4**	**+1.8**
HYB				AMB	AMB	09 49 36.2	
	comp=Z,26nm,0.7s						
SHL	**Shillong**	**21.27**	**351**	*e*P	**P**	**09 49 32.8**	**-2.5**
BOK	**Bokaro**	**21.34**	**335**	*e*P	**P**	**09 49 35.8**	**-0.2**
BOK				AMB	AMB	09 49 41.4	
	comp=Z,12nm,0.7s						
SDKM	**Sandakan**	**21.63**	**86**	⇓P	**P**	**09 49 39.9**	**+0.8**
KMI	**Kunming**	**21.68**	**18**	⇑P	**P**	**09 49 41.9**	**+2.1**
KMI				pP	**pP**	**09 49 56.3**	**+1.0**
KMI				sP	**sP**	**09 50 05.8**	**+1.1**
KMI				S	**S**	**09 53 33.6**	**-2.3**
KMI				PMZ			
	comp=Z,22nm,0.8s						
KMI				PMZ			
	comp=Z,37nm,3.1s						
KMI				LN			
	comp=Z,170nm,7.4s						
KMI				LE			
	comp=Z,170nm,7.4s						
KMI				LZ			
	comp=Z,89nm,13.1s						
SRBI	**Singaraja**	**23.27**	**122**	P	**P**	**09 49 58.4**	**+2.2**
	comp=Z,64nm,0.9s						
ODAN	**Odare**	**23.58**	**342**	*e*P	**P**	**09 49 59.8**	**+0.6**
RAMN	**Ramite**	**23.92**	**340**	*e*P	**P**	**09 50 02.7**	**+0.4**
	comp=Z,12nm,0.5s						
TAPN	**Taplejung**	**23.94**	**343**	*e*P	**P**	**09 50 02.4**	**-0.1**
GOA	**Goa**	**23.98**	**299**	*e*P	**P**	**09 50 05.5**	**+2.9**
MPSI	**Mapaga**	**24.70**	**99**	P	**P**	**09 50 08.5**	**-0.7**
	comp=Z,59nm,1.0s,comp=Z,653nm						
JIRN	**Jiri**	**24.72**	**340**	*e*P	**P**	**09 50 09.6**	**0.0**
	comp=Z,31nm,0.6s						
GUN	**Gumba**	**25.05**	**340**	*e*P	**P**	**09 50 12.7**	**+0.1**
	comp=Z,28nm,0.6s						
KKN	**Kakani**	**25.16**	**338**	*e*P	**P**	**09 50 13.2**	**-0.3**
GKN	**Gorkha**	**25.59**	**337**	*e*P	**P**	**09 50 16.8**	**-0.5**
	comp=Z,19nm,0.5s						
KOLN	**Koldanda**	**25.80**	**335**	*e*P	**P**	**09 50 19.4**	**+0.1**
	comp=Z,34nm,0.8s						
H08S2	**Diego Garcia H**	**25.93**	**242**	T	T	10 17 31.2	
	baz=62,slow=76,SNR=194						
H08S3	**Diego Garcia H**	**25.93**	**242**	T	T	10 17 31.8	
	baz=62,slow=76,SNR=284						
H08S1	**Diego Carcia H**	**25.93**	**242**	T	T	10 17 35.0	
	baz=62,slow=76,SNR=400						
KAPI	**Kappang**	**25.98**	**111**	*e*P	**P**	**09 50 21.7**	**+0.9**
	comp=Z,106nm,0.9s						
DANN	**Dangsing**	**26.25**	**336**	*e*P	**P**	**09 50 23.2**	**-0.2**
	comp=Z,24nm,0.7s						
PYUN	**Piuthan**	**26.35**	**334**	*e*P	**P**	**09 50 24.5**	**+0.3**
	comp=Z,33nm,0.5s						
MRSI	**Marisa**	**26.69**	**98**	P	**P**	**09 50 29.4**	**+2.2**
	comp=Z,25nm,0.8s,comp=Z,606nm						
SMLA	**Simla**	**31.64**	**329**	*e*P	**P**	**09 51 10.6**	**-0.3**
SMLA				AMB	AMB	09 51 12.8	
	comp=Z,11nm,0.6s						
XAN	**Xi'an**	**31.96**	**21**	P	**P**	**09 51 11.9**	**-1.8**
XAN				PMZ			
	comp=Z,3.0nm,0.8s						
XAN				PMZ			
	comp=Z,22nm,3.6s						
LZH	**Lanzhou**	**32.39**	**13**	*e*P	**P**	**09 51 20.0**	**+2.4**
LZH				pP	**pP**	**09 51 37.4**	**+2.0**
LZH				sP	**sP**	**09 51 46.3**	**+2.1**
LZH				PMZ			
	comp=Z,13nm,1.0s						
GTA	**Gaotai**	**35.00**	**6**	*e*P	**P**	**09 51 40.3**	**+0.1**
GTA				pP	**pP**	**09 51 58.1**	**-0.1**
GTA				sP	**sP**	**09 52 07.9**	**+1.0**
GTA				PMZ			
	comp=Z,3.0nm,1.0s						
JOW	**Kunigami**	**38.38**	**51**	*e*P	**P**	**09 52 09.3**	**+0.3**
	comp=Z,5.3nm,0.6s						
KNRA	**Kununurra**	**38.52**	**122**	P	**P**	**09 52 09.7**	**-0.6**
	baz=38,SNR=3.6						
HHC	**Hu-ho-hao-te**	**38.99**	**19**	*e*P	**P**	**09 52 15.0**	**+1.0**
HHC				pP	**pP**	**09 52 33.4**	**+1.2**
HHC				sP	**sP**	**09 52 42.3**	**+1.4**
HHC				PP	**PnPn**	**09 53 50.3**	**+2.4**
HHC				S	**S**	**09 58 08.8**	**+1.3**
HHC				sS	**sS**	**09 58 40.3**	**+1.7**
HHC				SS	**SS**	**10 00 56.6**	**-5.7**
HHC				PMZ			
	comp=Z,67nm,0.8s						
HHC				PMZ			
	comp=Z,150nm,6.2s						
HHC				LN			
	comp=Z,170nm,11.1s						
HHC				LE			
	comp=Z,160nm,11.1s						
HHC				LZ			
	comp=Z,73nm,11.1s						
KSH	**Kashi**	**39.12**	**336**	*e*P	**P**	**09 52 12.6**	**-2.5**
KSH				PMZ			
	comp=Z,9.0nm,0.5s						
MTN	**Manton Dam**	**39.34**	**116**	P	**P**	**09 52 18.1**	**+0.9**
	baz=39,SNR=13						
WMQ	**Urumqi**	**39.80**	**351**	*e*P	**P**	**09 52 21.5**	**+0.9**
WMQ				pP	**pP**	**09 52 40.0**	**+1.2**
WMQ				PMZ			
	comp=Z,6.0nm,1.0s						
WMQ				PMZ			
	comp=Z,180nm,4.5s						
BJI	**Beijing**	**40.02**	**25**	P	**P**	**09 52 22.9**	**+0.4**
BJI				PMZ			
	comp=Z,21nm,1.1s						
BJI				PMZ			
	comp=Z,190nm,4.3s						
KDU	**Kakadu**	**40.48**	**115**	P	P	09 52 31.5	+4.9
	baz=40,SNR=3.1						
KDU				S	**S**	**09 58 27.9**	**-2.4**
	baz=40,SNR=8.1						
ULHL	**Ulahol**	**41.35**	**338**	P	**P**	**09 52 33.7**	**0.0**
	SNR=5.7						
UCH	**Uchtor**	**42.00**	**337**	P	**P**	**09 52 39.4**	**+0.2**
	SNR=10						
TKM2	**Tokmak 2**	**42.18**	**338**	*e*P	**P**	**09 52 40.6**	**+0.2**
	comp=Z,2.8nm,0.8s						
KBK	**Karagaybulak**	**42.20**	**337**	P	**P**	**09 52 41.5**	**+0.9**
	SNR=5.8						
AML	**Almayashu**	**42.25**	**336**	P	**P**	**09 52 41.2**	**0.0**
	SNR=12						
AAK	**Ala-Archa**	**42.35**	**337**	*e*P	**P**	**09 52 43.0**	**+1.2**
	comp=Z,4.0nm,0.7s						
USP	**Ospenovka**	**42.89**	**337**	P	**P**	**09 52 46.2**	**+0.2**
	SNR=5.4						
WRKA	**Warakurna**	**43.30**	**134**	P	**P**	**09 52 50.1**	**+0.6**
	baz=43,SNR=3.4						
MKAR	**Makanchi Array**	**43.69**	**347**	P	**P**	**09 52 51

DOPR	**Dopca**	**73.03 317**	⇓*i*P	P	09 56 26.2	+9.4
VOIR		**73.16 316**	⇑*i*P	**P**	**09 56 17.6**	**-0.1**
BURAR	**Bucovina Array**	**73.48 318**	⇓*i*P	**P**	**09 56 20.8**	**+1.3**
VTS	**Vitosha**	**73.98 313**	⇓*i*P	**P**	**09 56 23.3**	**+0.7**
JOF	**Joensuu**	**74.49 335**	*e*p	**P**	**09 56 23.3**	**-1.6**
	comp=Z,2.8nm,0.7s					
KOLS	**Kolonicke sedl**	**75.66 319**	*e*P	**P**	**09 56 33.7**	**+1.7**
FINES	**FINESS Array B**	**76.34 332**	P	**P**	**09 56 35.8**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=116,slow=8.9,SNR=14					
FINES			pP	**pP**	**09 56 53.4**	**-2.3**
	comp=Z,1.2nm,0.4s,baz=108,slow=6.2,SNR=3.0					
FINES			LR	LR	10 33 38.7	
	comp=Z,44nm,19.1s,baz=146,slow=38					
STHS	**Stebnicka Huta**	**76.40 320**	*e*P	**P**	**09 56 38.3**	**+2.1**
KAF	**Kangasniemi**	**76.43 333**	*e*p	**P**	**09 56 35.2**	**-0.8**
	comp=Z,2.8nm,0.6s					
VYHS	**Vyhne**	**77.84 319**	*e*P	**P**	**09 56 44.9**	**+0.6**
ARCES	**ARCESS Array B**	**78.91 340**	P	**P**	**09 56 49.7**	**0.0**
	comp=Z,2.1nm,0.6s,baz=99,slow=6.4,SNR=24					
ARCES			LR	LR	10 34 34.0	
	comp=Z,37nm,18.5s,baz=98,slow=38					
GERES	**GERESS Array B**	**81.26 319**	P	**P**	**09 57 03.4**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=90,slow=5.5,SNR=18					
GERES			pP	**pP**	**09 57 20.6**	**-2.7**
	comp=Z,1.2nm,0.8s,baz=81,slow=4.3,SNR=3.5					
HFS	**Hagfors**	**82.07 330**	P	**P**	**09 57 06.6**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=114,slow=9.6,SNR=7.6					
HFS			pP	**pP**	**09 57 25.5**	**-1.6**
	comp=Z,2.2nm,0.5s,baz=94,slow=5.8,SNR=4.9					
NB2	**NORSAR Subarra**	**83.35 331**	P	**P**	**09 57 12.9**	**-0.6**
	comp=Z,0.1nm,0.7s,baz=95,slow=5.6					
NOA	**NORSAR Array B**	**83.35 331**	P	**P**	**09 57 13.2**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=92,slow=5.7,SNR=4.4					
NOA			LR	LR	10 36 14.1	
	comp=Z,12nm,18.5s,baz=230,slow=37					
TORD	**Torodi Ar. Bea**	**92.70 283**	P	**P**	**09 58 01.1**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=94,slow=4.9,SNR=2.7					
ILAR	**Eielson Array**	**97.36 23**	P	**P**	**09 58 18.1**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=314,slow=4.9,SNR=3.4					
ULM	**Lac du Bonnet**	**124.62 9**	PKP	**PKPdf**	**10 03 44.6**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=39,slow=2.9,SNR=4.1					
NVAR	**Mina Array Bea**	**127.06 33**	PKP	**PKPdf**	**10 03 51.1**	**0.0**
	comp=Z,0.8nm,0.7s,baz=268,slow=2.2,SNR=6.5					
NVAR			pPKP	**pPKPdf**	**10 04 10.3**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=264,slow=2.5,SNR=3.0					
PDAR	**Pinedale Array**	**127.78 23**	PKP	**PKPdf**	**10 03 51.2**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=18,slow=0.5,SNR=3.8					
PDAR			pPKP	**pPKPdf**	**10 04 11.9**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=97,slow=4.1,SNR=2.4					
TXAR	**Lajitas Array**	**141.68 28**	PKP	**PKPdf**	**10 04 19.9**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=117,slow=1.0,SNR=5.3					

GUC 17 09:53:00.1±0.7, 34°.50S×71°.92W, h41km±4km, ML3.9, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.76**	**132**	⇓*i*P	Pn	09 53 15.5	+1.2
NICH				*i* S	Sn	09 53 26.4	+1.8
TALC	**Talca**	**0.93**	**165**	⇓*i*P	Pn	09 53 17.4	+0.7
TALC				*i* S4	Sn	09 53 29.7	+1.0
LNCH	**Linares**	**1.37**	**169**	⇑*i*P	Pn	09 53 25.1	+2.3
LNCH				*i* S	Sn	09 53 42.9	+3.3
ANTU	**Antumapu**	**1.41**	**49**	*e*P	Pn	09 53 25.5	+2.1
ANTU				*e*S	Sn	09 53 44.3	+3.4
ANTU				IAML		09 53 49.5	
	comp=E,2μm,0.4s						
IHA	**Instituto Hidr**	**1.49**	**9**	⇓*i*P	Pn	09 53 25.4	+1.1
IHA				*i* S1	Sn	09 53 45.0	+2.4
LACH	**Col Las Americ**	**1.56**	**48**	*e*P1	Pn	09 53 27.4	+2.0
LACH				*i* S	Sn	09 53 48.4	+3.9
SJCH	**San Jose de Ma**	**1.56**	**57**	*e*P	Pn	09 53 27.2	+1.8
SJCH				*i* S	Sn	09 53 48.2	+3.8
CLCH	**Cerro Calan**	**1.59**	**47**	⇑*i*P	Pn	09 53 28.2	+2.3
CLCH				*i* S	Sn	09 53 49.1	+3.8
CLCH				IAML		09 54 01.1	
	comp=N,3μm,0.7s						
PEL	**Peldehue**	**1.70**	**38**	⇓*i*P	Pn	09 53 29.7	+2.3
PEL				*i* S	Sn	09 53 51.8	+3.9
PEL				IAML		09 53 58.4	
	comp=N,3μm,0.7s						
YECH	**El Yeso**	**1.73**	**62**	*e*P1	Pn	09 53 31.0	+2.8
YECH				*i* S	Sn	09 53 53.9	+4.6
COCH	**Cobquecura**	**1.78**	**203**	⇑*i*P	Pn	09 53 29.9	+1.6
COCH				*i* S	Sn	09 53 53.6	+3.9
CMCH	**Combarbala**	**3.41**	**13**	*e*P1	Pn	09 53 53.4	+2.5

*HEL **17** 09:59:54.8±0.5, 64°.70N×30°.85E, h0km, ML1.9, ML1.2(UPP), Explosion*
*ISCJB **17** 09:59:55.4±0.7, 64°.79N±0°.03×30°.50E±0°.09, h0km, Error ellipse: s-maj=6.2km s-min=4.2km az=33.4*
*KOLA **17** 09:59:56.5, 64°.67N×31°.08E, h0km*
*CSEM **17** 09:59:57.7±0.7, 64°.86N×30°.47E, h1km, ML1.9, Error ellipse: s-maj=15.1km s-min=7.9km az=105.0, Mining explosion.*
*IDC **17** 09:59:58.6±1.9, 64°.81N×30°.60E, h0km, mb1 3.3/4, mb1mx3.0/41, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=26.9km s-min=7.3km az=99.0*
*NAO **17** 09:59:59.2±1.5, 64°.82N×30°.05E, ML2.7*
*BER **17** 09:59:59.2±4.8, 64°.81N×30°.39E, h0km, ML2.7(NAO), Suspected explosion*
*UPP **17** 10:00:00.3, 64°.94N×30°.34E, h0km, ML1.2, Suspected Mining explosion.*

ISC 17 09:59:56.2±1.0, 64°.84N±0°.03×30°.66E±0°.05, h0km, n57, σ1§41/83, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.23**	**345**	*e*P	**Pg**	**10 00 19.2**	**-0.6**
	baz=165						
KU6				*e*SB	**Sn**	**10 00 38.3**	**+0.2**
KU6	**Riekki**	**1.23**	**345**	P	**Pg**	**10 00 19.2**	**-0.6**
KU6				Sb	**Sn**	**10 00 38.3**	**+0.2**
MSF	**Maaselka**	**1.27**	**329**	*e*P	**Pg**	**10 00 20.2**	**-0.4**
MSF				*e*SB	**Sn**	**10 00 39.7**	**+0.7**
MSF				MSG		10 00 39.7	
	comp=Z,8.8nm,0.2s						
MSF	**Maaselka**	**1.27**	**329**	P	**Pg**	**10 00 20.2**	**-0.4**
MSF				Sb	**Sn**	**10 00 39.7**	**+0.7**
	comp=Z,8.8nm,0.2s						
OUL	**Oulu**	**2.04**	**279**	*e*PG	**Pn**	**10 00 33.0**	**+1.2**
	baz=87						
OUL				*e*SG	**Sb**	**10 01 00.8**	**+0.8**
OUL				MSG		10 01 00.8	
	comp=Z,4.4nm,0.2s						
OUL	**Oulu**	**2.04**	**279**	Pg	**Pn**	**10 00 33.0**	**+1.2**
OUL				Sg	**Sb**	**10 01 00.8**	**+0.8**
	comp=Z,4.4nm,0.2s						
RNF	**Rovaniemi**	**2.62**	**315**	*e*PB	**Pb**	**10 00 42.5**	**-1.5**
	baz=130						
RNF				MSG	**Sb**	**10 01 17.4**	**+0.9**
	comp=Z,10.0nm,0.2s						
RNF				*e*SB	**Sb**	**10 01 17.4**	**+0.9**
RNF	**Rovaniemi**	**2.62**	**315**	Pb	**Pb**	**10 00 42.4**	**-1.5**
SUF	**Sumiainen**	**2.92**	**225**	*e*PG	**Pn**	**10 00 45.7**	**+1.8**
SUF				*e*SG	**Sb**	**10 01 24.6**	**-0.7**
SUF				MSG		10 01 24.6	
	comp=Z,1.6nm,0.2s						
SUF	**Sumiainen**	**2.92**	**225**	Pg	**Pn**	**10 00 45.6**	**+1.8**
APA0	**Apatity Array**	**2.94**	**18**	P	**Pn**	**10 00 45.3**	**+1.2**
APA0				S	**Sn**	**10 01 21.8**	**+1.8**
VRF	**Varrio**	**2.95**	**352**	*e*P	**Pn**	**10 00 45.7**	**+1.3**
	baz=159						
VRF				MSG	**Sg**	**10 01 30.1**	**-0.9**
	comp=Z,1.4nm,0.2s						
VRF				*e*SG	**Sg**	**10 01 30.1**	**-0.9**
VRF	**Varrio**	**2.95**	**352**	P	**Pn**	**10 00 45.6**	**+1.3**
APA	**Apatity**	**2.96**	**21**	P	**Pn**	**10 00 45.5**	**+1.1**
APA				S	**Sn**	**10 01 22.1**	**+1.5**
SGF	**Sodankyl**	**3.11**	**329**	*e*PB	**Pn**	**10 00 49.3**	**+2.9**
SGF				*e*SB	**Sb**	**10 01 30.4**	**-0.3**
SGF				MSG		10 01 30.4	
	comp=Z,5.8nm,0.3s						
SGF	**Sodankyl**	**3.11**	**329**	Pb	**Pn**	**10 00 49.3**	**+2.9**
KALU	**Kalix**	**3.23**	**292**	*e*SG	**Sg**	**10 01 38.1**	**-1.7**
KAF	**Kangasniemi**	**3.36**	**217**	*e*PG	**Pb**	**10 00 53.4**	**-3.2**
PAJU	**Pajala**	**3.79**	**309**	*e*P	**Pn**	**10 00 56.9**	**+1.1**
PAJU				*e*S	**Sn**	**10 01 40.3**	**-0.8**
PAJU	**Pajala**	**3.79**	**309**	P	**Pn**	**10 00 56.9**	**+1.1**
PAJU				S	**Sn**	**10 01 40.3**	**-0.8**
ERTU	**Ertsjaerv**	**3.90**	**300**	*e*P	**Pn**	**10 01 00.2**	**+2.9**
	baz=123						
ERTU				*e*		10 01 49.1	
ERTU	**Ertsjaerv**	**3.90**	**300**	P	**Pn**	**10 00 58.4**	**+1.1**
VAF	**Ylistaro**	**3.96**	**247**	*e*	**Sn**	**10 01 48.4**	**+3.3**
VAF				MSG		10 01 48.4	
	comp=Z,1.2nm,0.2s						
FIA0	**FINESS Array S**	**3.99**	**213**	Pn	**Pn**	**10 00 59.0**	**+0.5**
	baz=46,slow=11						
FIA0				Pg	**Pb**	**10 01 06.4**	**-1.0**
	baz=24,slow=18						
FIA0				Sn	**Sn**	**10 01 46.5**	**+0.5**
	baz=30,slow=28						
FIA0				Lg	Lg	10 01 60.0	
	baz=27,slow=37						
FIA0	**FINESS Array S**	**3.99**	**213**	Pn	**Pn**	**10 00 59.0**	**+0.5**
	baz=46,slow=11						
FIA0				Pg	**Pb**	**10 01 06.4**	**-1.0**
	baz=24,slow=18						
FIA0				Sn	**Sn**	**10 01 46.5**	**+0.5**
	baz=30,slow=28						
FIA0				Lg	Lg	10 01 60.0	
	baz=27,slow=37						
FIA0	**FINESS Array S**	**3.99**	**213**	*e*PB	**Pn**	**10 00 59.2**	**+0.6**
	baz=31						
FIA0				*e*SB	**Sn**	**10 01 47.6**	**+1.6**
FIA0				MSG		10 01 47.6	
	comp=Z,2.5nm,0.4s						
FIA0	**FINESS Array S**	**3.99**	**213**	Pn	**Pn**	**10 00 59.0**	**+0.5**
	SNR=1.0						
FIA0				Sn	**Sn**	**10 01 46.5**	**+0.5**
	SNR=2.9						
FIA0				Sb	**Sn**	**10 01 47.6**	**+1.6**
	comp=Z,2.5nm,0.4s						
FIA0				Lg	Lg	10 02 00.0	
	SNR=7.8						
FINES	**FINESS Array B**	**3.99**	**213**	Pn	**Pn**	**10 00 59.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=31,slow=12,SNR=11						
FINES				Pg	**Pb**	**10 01 08.3**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=29,slow=15,SNR=16						
FINES				Sn	**Sn**	**10 01 45.4**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=38,slow=21,SNR=7.1						
FINES				Lg	Lg	10 02 00.7	
	comp=Z,4.2nm,0.3s,baz=35,slow=27,SNR=19						
HARU	**Harads**	**4.25**	**293**	*e*P	**Pn**	**10 01 03.1**	**+1.1**
HARU	**Harads**	**4.25**	**293**	P	**Pn**	**10 01 03.2**	**+1.1**
MASU	**Masugnsbyn**	**4.39**	**311**	*e*P	**Pn**	**10 01 06.1**	**+2.0**
MASU	**Masugnsbyn**	**4.39**	**311**	P	**Pn**	**10 01 06.1**	**+2.0**
UMAU	**Umeaa**	**4.44**	**262**	*e*S	**Sn**	**10 01 57.5**	**+0.5**
UMAU	**Umeaa**	**4.44**	**262**	S	**Sn**	**10 01 57.5**	**+0.5**
HEF	**Hetta**	**4.54**	**325**	*e*PG	Pb	10 01 20.4	+3.8
	baz=147						
HEF				*e*SG	**Sb**	**10 02 17.1**	**+5.2**
DUNU	**Dundret**	**4.72**	**304**	*e*P	**Pn**	**10 01 10.3**	**+1.7**
DUNU	**Dundret**	**4.72**	**304**	P	**Pn**	**10 01 10.2**	**+1.7**
LANU	**Lannavaara**	**4.74**	**317**	*e*P	**Pn**	**10 01 09.2**	**+0.3**
LANU	**Lannavaara**	**4.74**	**317**	P	**Pn**	**10 01 09.2**	**+0.3**
ARA0	**ARCESS Array S**	**5.12**	**339**	Pn	**Pn**	**10 01 14.5**	**+0.4**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**10 02 12.7**	**-1.2**
	baz=155,slow=28						
ARA0				Lg	Lg	10 02 36.1	
	baz=153,slow=37						
ARA0	**ARCESS Array S**	**5.12**	**339**	Pn	**Pn**	**10 01 14.5**	**+0.4**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**10 02 12.7**	**-1.2**
	baz=155,slow=28						
ARA0				Lg	Lg	10 02 36.1	
	baz=153,slow=37						
ARA0	**ARCESS Array S**	**5.12**	**339**	Pn	**Pn**	**10 01 14.5**	**+0.4**
	SNR=141						
ARA0				Sn	**Sn**	**10 02 12.7**	**-1.2**
	SNR=7.2						
ARA0				Lg	Lg	10 02 36.2	
	SNR=1.8						
ARCES	**ARCESS Array B**	**5.12**	**339**	Pn	**Pn**	**10 01 14.4**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=153,slow=13,SNR=57						
ARCES				Sn	**Sn**	**10 02 13.1**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=153,slow=25,SNR=9.7						
ARCES				Lg	Lg	10 02 36.1	
	comp=Z,3.2nm,0.3s,baz=153,slow=33,SNR=19						
KUA	**Kurravaara**	**5.19**	**312**	*e*P	**Pn**	**10 01 16.0**	**+0.9**
KUA	**Kurravaara**	**5.19**	**312**	P	**Pn**	**10 01 16.0**	**+0.9**
SALU	**Saltoluokta**	**5.56**	**303**	*e*P	**Pn**	**10 01 21.7**	**+1.6**
SALU	**Saltoluokta**	**5.56**	**303**	P	**Pn**	**10 01 21.7**	**+1.6**
NIKU	**Nikkaluokta**	**5.58**	**308**	*e*P	**Pn**	**10 01 21.6**	**+1.2**
NIKU	**Nikkaluokta**	**5.58**	**308**	P	**Pn**	**10 01 21.5**	**+1.2**
HFS	**Hagfors**	**9.14**	**247**	Sn	Sn	10 03 42.3	-10
HFS				Lg	Lg	10 04 34.5	
	baz=72,slow=28						
HFS	**Hagfors**	**9.14**	**247**	Sn	Sn	10 03 42.3	-10
HFS				Lg	Lg	10 04 34.5	
	baz=72,slow=28						
HFS	**Hagfors**	**9.14**	**247**	Pn	**Pn**	**10 02 08.2**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=48,slow=14,SNR=3.9						
HFS				Lg	Lg	10 04 41.2	
	comp=Z,0.7nm,0.3s,baz=62,slow=29,SNR=8.1						
HFS	**Hagfors**	**9.14**	**247**	Lg	Lg	10 04 34.5	
NB2	**NORSAR Subarra**	**9.63**	**256**	Pn	**Pn**	**10 02 16.4**	**+0.6**
	baz=57,slow=16						
NB2				Lg	Lg	10 04 55.9	
	baz=57,slow=37						
NB2	**NORSAR Subarra**	**9.63**	**256**	Pn	**Pn**	**10 02 16.4**	**+0.6**
	baz=57,slow=16						
NB2				Lg	Lg	10 04 55.9	
	baz=57,slow=37						
NB2	**NORSAR Subarra**	**9.63**	**256**	Pn	**Pn**	**10 02 16.5**	**+0.6**
	SNR=4.9						
NOA	**NORSAR Array B**	**9.63**	**256**	Pn	**Pn**	**10 02 15.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=59,slow=12,SNR=7.1						

MEX 17 10:05:15.0±0.5, 16°.46N×96°.71W, h50km±7km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXBJ	**Oaxaca**	**0.60**	**359**	*e*P	Pn	10 05 26.0	-1.8
OXBJ				*i* S	Sn	10 05 34.5	-2.5
VHO	**Vista Hermosa**	**0.61**	**358**	*i* P	Pn	10 05 26.0	-1.8
VHO				*i* S	Sn	10 05 34.9	-2.2
HUIG	**Huatulco**	**0.90**	**140**	*e*P	Pn	10 05 30.0	-1.4
HUIG				*e*S	Sn	10 05 41.2	-2.2
PNIG	**Pinotepa**	**1.36**	**267**	*e*P	Pn	10 05 35.7	-2.0
PNIG				*i* S	Sn	10 05 52.7	-1.9
CMIG	**Matias Romero**	**1.86**	**70**	*e*P	Pn	10 05 42.8	-1.7
CMIG				*e*S	Sn	10 06 04.5	-2.3
TPIG	**Tehuac#an**	**2.04**	**342**	*e*P	Pn	10 05 46.2	-1.0
TPIG				*i* S	Sn	10 06 10.2	-1.5
TLIG	**Tlapa**	**2.08**	**302**	*e*P	Pn	10 05 47.0	-0.7
TLIG				*i* S	Sn	10 06 11.1	-1.6
TGIG		**3.46**	**84**	*e*P	Pn	10 06 05.2	-1.3
TGIG				*i* S	Sn	10 06 43.7	-2.5

*IDC **17** 10:10:34.1±1.4, 35°.26S×72°.05W, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.8/17, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=45.0km s-min=25.8km az=86.0*
*ISCJB **17** 10:10:36.0±1.9, 35°.28S±0°.05×72°.0W±0°.2, h22km±12km, mb3.8/5, Error ellipse: s-maj=21.0km s-min=7.6km az=10.9*
*NEIC **17** 10:10:36.0, 35°.26S×71°.97W, h19km, ML4.2(GUC), After GUC.*
NEIC Felt [IV] at Cauquenes; [III] at Retiro, San Javier and Talca; [II] at Curico, Pichilemu and Rancagua.
*GUC **17** 10:10:36.8±0.7, 35°.27S×71°.97W, h19km±8km, ML4.2*

ISC 17 10:10:34.4±2.6, 35°.24S±0°.05×72°.1W±0°.1, h4km±15km, n21, σ1§11/26, mb3.8/5, 7C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.43**	**112**	⇑*i*P	**Pg**	**10 10 42.8**	**+0.2**
TALC				*i* S	**Sg**	**10 10 47.5**	**-0.7**
TALC				AML	AML	10 10 48.6	
	comp=N,37μm,0.6s						
LNCH	**Linares**	**0.74**	**145**	⇑*i*P	**Pg**	**10 10 48.9**	**+0.2**
LNCH				*e*S	**Sg**	**10 10 58.2**	**0.0**
NICH	**Los Niches**	**0.77**	**72**	⇑*i*P	**Pg**	**10 10 49.0**	**-0.2**
NICH				*i* S	**Sg**	**10 10 58.8**	**-0.4**
NICH				AML	AML	10 10 59.4	
	comp=N,26μm,0.2s						
CACH	**El Canelo**	**1.68**	**49**	⇑*i*P	**Pn**	**10 11 04.2**	**-0.5**
CHCH	**Chadas Angostu**	**1.78**	**43**	⇑*i*P	**Pn**	**10 11 06.0**	**-0.1**
ANTU	**Antumapu**	**2.07**	**37**	⇓*i*P	**Pn**	**10 11 11.1**	**+1.0**
ANTU				AML	AML	10 11 41.4	
	comp=N,4μm,0.4s						
CLCH	**Cerro Calan**	**2.26**	**36**	⇑*i*P	**Pn**	**10 11 13.6**	**+0.9**
CLCH				*i* S4	**Sn**	**10 11 42.9**	**+1.9**
CLCH				AML	AML	10 11 49.4	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**2.41**	**30**	⇑*i*P	**Pn**	**10 11 16.1**	**+1.4**
PEL				*i* S4	**Sn**	**10 11 46.7**	**+2.0**
PEL				AML	AML	10 11 55.2	
	comp=E,2μm,0.6s						
CFAA	**Coronel Fontan**	**4.87**	**43**	Pn	**Pn**	**10 11 50.1**	**+1.6**
	comp=E,0.3nm,0.3s,baz=220,slow=11,SNR=14						
CFAA				Sn	Sn	10 12 51.4	+6.0
	comp=E,0.3nm,0.3s,baz=297,slow=18,SNR=2.8						
PLCA	**Paso Flores**	**5.62**	**168**	Pn	**Pn**	**10 12 00.7**	**+1.8**
	comp=E,0.8nm,0.3s,baz=344,slow=12,SNR=21						
PLCA				Lg	Lg	10 13 23.5	
	comp=E,0.7nm,0.3s,baz=61,slow=19,SNR=1.7						
LCO	**Las Campanas**	**6.33**	**11**	*e*Pn	Pn	10 12 07.0	-1.8
LCO				*e*Sn	**Sn**	**10 13 19.2**	**-2.5**
TRQA	**Tornquist**	**8.62**	**112**	*e*Pn	**Pn**	**10 12 40.2**	**+0.2**
LPAZ	**La Paz**	**19.21**	**12**	P	**Pn**	**10 15 01.1**	**+0.1**
	baz=177,slow=6.9,SNR=3.0						
LPAZ	**La Paz**	**19.21**	**12**	*e*P	**Pn**	**10 15 01.2**	**+0.2**
SIV	**San Ignacio**	**21.57**	**30**	P	**P**	**10 15 25.4**	**+0.2**
	comp=E,1.6nm,0.7s,baz=246,slow=5.4,SNR=3.3						
SDV	**Santo Domingo**	**43.91**	**2**	*e*P	**P**	**10 18 41.7**	**-0.9**
	comp=E,0.9nm,0.6s						
TXAR	**Lajitas Array**	**70.78**	**331**	P	**P**	**10 21 52.9**	**+0.7**
	comp=E,0.4nm,0.8s,baz=151,slow=7.8,SNR=4.3						
BOSA	**Boshof**	**79.56**	**118**	P	**P**	**10 22 42.5**	**-0.6**
	comp=E,2.4nm,0.7s,baz=258,slow=4.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**84.70**	**70**	P	**P**	**10 23 09.6**	**-0.4**
	comp=E,1.3nm,0.8s,baz=246,slow=6.3,SNR=6.6						
ZALV	**Zalesovo Beam**	**155.30**	**34**	PKPab	**PKPab**	**10 30 53.7**	**0.0**
	comp=E,0.3nm,0.3s,baz=270,slow=4.3,SNR=2.6						
MKAR	**Makanchi Array**	**157.61**	**51**	PKPab	**PKPab**	**10 31 02.8**	**-1.1**
	comp=E,0.2nm,0.5s,baz=27,slow=1.6,SNR=2.7						

*NIED **17** 10:15:00, 23°.90N×121°.60E, h32km, Mw3.6 Best double couple: M0:2.47000×10^14 NP1:φ=273.00000°, δ=58.00000°, λ=-172.00000°. NP2:φ=178.00000°, δ=83.00000°, λ=-32.00000°.*
*IDC **17** 10:15:20.9±1.3, 23°.80N×124°.22E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/24, mbtmp3.3/4, Error ellipse: s-maj=92.1km s-min=25.3km az=76.0*
*ISCJB **17** 10:15:21.9±0.2, 23°.88N±0°.02×121°.68E±0°.02, h28km±2km, mb3.2/4, Error ellipse: s-maj=3.0km s-min=1.8km az=141.9*
*TAP **17** 10:15:21.8, 23°.90N×121°.62E, h38km, ML4.0, B*
*JMA **17** 10:15:21.1, 23°.87N×121°.60E, h33km±1km, M3.8*

ISC 17 10:15:20.9±1.0, 23°.85N±0°.02×121°.68E±0°.02, h15km±7km, n75, σ1§86/121, mb3.3/4, 10C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.14**	**331**	P	Pb	10 15 28.6	+3.3
	baz=352						
ESF	**Shoufeng Towns**	**0.16**	**277**	⇓*i*P	Pb	10 15 29.0	+3.4
	baz=266						
ESF				S	Sb	10 15 33.1	+4.4
	baz=266						
TEGC	**Jichi Village**	**0.19**	**222**	*e*P	Pb	10 15 30.3	+4.2
	baz=194						
ESL	**Shilin**	**0.23**	**260**	⇑*i*P	Pb	10 15 28.7	+1.9
	baz=252						
ESL				*e*S	**Sb**	**10 15 32.7**	**+2.0**
	baz=252						
TWD	**Chiawan**	**0.24**	**342**	⇑*i*P	Pb	10 15 28.8	+1.9
	baz=347						
TWD				S	**Sb**	**10 15 33.1**	**+2.1**
	baz=347						
EHP	**Heping Village**	**0.46**	**7**	*e*P	**Pn**	**10 15 32.5**	**-0.5**
	baz=19						
EHP				*e*S	**Sn**	**10 15 39.6**	**-1.3**
	baz=19						
EHY	**Hungye**	**0.48**	**223**	⇓*i*P	**Pb**	**10 15 31.6**	**+0.5**
	baz=214						
EHY				S	**Sb**	**10 15 38.3**	**+0.5**
	baz=214						
WHF	**Hehuan Shan**	**0.48**	**308**	⇑*i*P	**Pb**	**10 15 31.4**	**+0.1**
	baz=306						
WHF				*e*S	**Sb**	**10 15 38.0**	**-0.3**
	baz=306						
ENA	**Nanau**	**0.57**	**6**	P	**Pb**	**10 15 32.9**	**+0.2**
	baz=2.0						
ENA				*e*S	**Sb**	**10 15 40.3**	**-0.4**
	baz=2.0						
TWT	**Tachien**	**0.61**	**311**	⇑*i*P	**Pb**	**10 15 33.6**	**+0.2**
	baz=314						
TWT				S	**Sg**	**10 15 40.8**	**-0.3**
	baz=314						
TWF1	**Yuli**	**0.61**	**215**	⇓*i*P	**Pb**	**10 15 33.5**	**+0.2**
	baz=219						
TWF1				*e*S	**Sb**	**10 15 41.9**	**+0.2**
	baz=219						
NNS	**Nan Shan**	**0.65**	**335**	⇑P	**Pb**	**10 15 33.6**	**-0.4**
	baz=342						
NNS				*e*S	**Sg**	**10 15 41.4**	**-0.9**
	baz=342						
SMLT	**Sun Moon Lake**	**0.71**	**273**	⇑*i*P	**Pb**	**10 15 35.1**	**0.0**
	baz=269						
SMLT				*e*S	**Sb**	**10 15 45.0**	**+0.2**
	baz=269						
TYC	**Yuchr**	**0

WGK	**Gukeng**	**1.04 261**	⇓P		**Pn**	**10 15 40.9**	**0.0**
	baz=258						
STYT	**Tauyuan**	**1.09 231**	P		**Pb**	**10 15 41.6**	**+0.1**
	baz=220						
CHN4	**Tsaushan**	**1.11 244**	*e*P		**Pg**	**10 15 42.3**	**-0.2**
	baz=232						
CHN4			*e*S		**Sn**	**10 15 57.4**	**+0.4**
	baz=232						
TWA	**Mucha**	**1.13 356**	*e*P		**Pb**	**10 15 41.4**	**-0.7**
	baz=356						
TWA			*e*S		**Sb**	**10 15 54.6**	**-1.9**
	baz=356						
CHN2	**Minshiung**	**1.15 254**	*e*P		**Pg**	**10 15 42.8**	**-0.3**
	baz=252						
CHN2			*e*S		**Sn**	**10 15 59.6**	**+1.7**
	baz=252						
WTP	**Ta-pu**	**1.15 238**	⇓*i*P		**Pg**	**10 15 42.9**	**-0.2**
	baz=237						
WTP			S		**Sn**	**10 15 58.2**	**+0.3**
	baz=237						
TWG	**Pinlang**	**1.17 209**	⇓*e*P		**Pn**	**10 15 40.9**	**-1.9**
	baz=196						
TWB1	**Santiao Chiao**	**1.18 14**	*e*P		**Pn**	**10 15 42.7**	**-0.2**
	baz=26						
TWB1			*e*S		**Sg**	**10 15 59.6**	**+0.3**
	baz=26						
NCU	**National Centr**	**1.20 338**	*e*P		**Pb**	**10 15 43.2**	**-0.1**
	baz=337						
NCU			*e*S		**Sb**	**10 15 58.2**	**-0.5**
	baz=337						
CHY	**Chiayi**	**1.20 253**	*e*P		**Pb**	**10 15 43.6**	**+0.2**
	baz=251						
CHY			*e*S		**Sn**	**10 15 59.3**	**0.0**
	baz=251						
NWF	**Wu-fen Shan**	**1.22 4**	*e*P		**Pn**	**10 15 42.7**	**-0.8**
	baz=354						
TWK	**Hsinying**	**1.24 242**	P		**Pb**	**10 15 44.1**	**+0.1**
	baz=240						
TWK			S		**Sg**	**10 16 00.8**	**-0.2**
	baz=240						
CHN1	**Nanshi**	**1.25 238**	⇓P		**Pb**	**10 15 44.2**	**0.0**
	baz=237						
CHN1			*e*S		**Sg**	**10 16 01.5**	**+0.1**
	baz=237						
SGST	**Jiashian**	**1.27 233**	⇓*i*P		**Pb**	**10 15 44.7**	**+0.2**
	baz=232						
SGST			*e*S		**Sg**	**10 16 01.6**	**-0.3**
	baz=232						
TWS1	**Kuangyinshan**	**1.27 349**	*e*P		**Pn**	**10 15 43.7**	**-0.4**
	baz=358						
TWS1			*e*S		**Sb**	**10 15 59.6**	**-0.9**
	baz=358						
WTCT	**Ta-ch'eng**	**1.28 271**	*e*P		**Pn**	**10 15 43.9**	**-0.4**
	baz=279						
WTCT			*e*S		**Sg**	**10 16 01.6**	**-0.8**
	baz=279						
JYNG	**Yonagunijimaku**	**1.30 63**	P		**Pn**	**10 15 44.8**	**+0.3**
JYNG			S		**Sb**	**10 16 01.2**	**-0.4**
WSF	**Szhu**	**1.35 261**	*e*P		**Pn**	**10 15 45.3**	**+0.1**
	baz=259						
WSF			*e*S		**Sb**	**10 16 03.2**	**+0.2**
	baz=259						
YOJ	**Yonaguni jima**	**1.36 63**	P		**Pn**	**10 15 45.6**	**+0.3**
YOJ			S		**Sn**	**10 16 02.7**	**-0.4**
YOJ	**Yonaguni jima**	**1.36 63**	*e*P		**Pn**	**10 15 45.5**	**+0.1**
	baz=64						
YOJ			*e*S		**Sb**	**10 16 03.5**	**+0.2**
	baz=64						
TWY	**Chenhua**	**1.42 357**	*e*P		**Pb**	**10 15 46.6**	**-0.5**
	baz=357						
CHN8	**Yiju**	**1.44 250**	*e*P		**Pn**	**10 15 46.4**	**0.0**
	baz=249						
CHN8			*e*S		**Sb**	**10 16 05.6**	**+0.1**
	baz=249						
SSD	**Sandimen**	**1.46 221**	*e*P		**Pn**	**10 15 46.9**	**+0.2**
	baz=222						
SSD			*e*S		**Sb**	**10 16 06.5**	**+0.2**
	baz=222						
TWM1	**Shoushan**	**1.54 229**	*e*P		**Pg**	**10 15 50.3**	**-0.4**
	baz=238						
SGLT	**Jiouru**	**1.57 224**	*e*P		**Pb**	**10 15 50.4**	**+0.7**
	baz=223						
EAST	**Anshuo**	**1.65 208**	*e*P		**Pn**	**10 15 47.7**	**-1.7**
	baz=198						
SCZT	**Fangliau**	**1.77 214**	*e*P		**Pn**	**10 15 51.6**	**+0.7**
	baz=214						
LAY	**Lan-yu**	**1.81 184**	*e*P		**Pn**	**10 15 50.4**	**-1.2**
	baz=184						
IRIF	**Iriomote-Funau**	**1.94 75**	P		**Pn**	**10 15 53.9**	**+0.6**
IRIF			S		**Sn**	**10 16 17.6**	**+0.3**
WDGT	**Dungji**	**1.94 253**	*e*P		**Pn**	**10 15 52.9**	**-0.5**
	baz=250						
HATJ	**Hateruma jima**	**1.96 84**	P		**Pn**	**10 15 54.4**	**+0.8**
HATJ			S		**Sn**	**10 16 18.1**	**+0.3**
PNG	**Penghu**	**1.97 262**	*e*P		**Pn**	**10 15 52.7**	**-1.0**
	baz=261						
PNG			*e*S		**Sn**	**10 16 16.6**	**-1.4**
	baz=261						
TWK1	**Hengchun**	**2.06 203**	*e*P		**Pn**	**10 15 55.6**	**+0.5**
	baz=195						
JKRS	**Kuro-shima**	**2.17 79**	P		**Pn**	**10 15 57.8**	**+1.4**
JKRS			S		**Sn**	**10 16 23.5**	**+0.5**
JIJ	**Ishigaki jima**	**2.31 77**	P		**Pn**	**10 15 58.8**	**+0.4**
JIJ			S		**Sn**	**10 16 25.6**	**-0.9**
JISG	**Ishigakijimahi**	**2.51 73**	P		**Pn**	**10 16 01.3**	**+0.1**
JISG			S		**Sn**	**10 16 30.4**	**-1.1**
JTJ	**Tarama**	**2.87 74**	P		**Pn**	**10 16 06.8**	**+0.7**
JTJ			S		**Sn**	**10 16 40.1**	**-0.3**
KNM	**Kinmen**	**3.02 281**	*e*P		**Pn**	**10 16 07.7**	**-0.4**
	baz=279						
JIRB	**Irabujima**	**3.33 72**	P		**Pn**	**10 16 13.2**	**+0.7**
JIRB			S		**Sn**	**10 16 50.9**	**-0.9**
JIKM	**Ikemajima**	**3.42 71**	P		**Pn**	**10 16 14.3**	**+0.5**
JIKM			S		**Sn**	**10 16 53.8**	**-0.3**
JMJ	**Miyako jima 2**	**3.43 73**	S		**Sn**	**10 16 54.8**	**+0.5**
JOGS	**Gusukube**	**3.52 74**	S		**Sn**	**10 16 58.0**	**+1.6**
SONM	**Songino Array**	**26.85 337**	P		P	10 21 12.7	+12
	0.4nm,0.7s,baz=128,slow=8.8,SNR=2.4						
WRA	**Warramunga Arr**	**45.25 163**	P		**P**	**10 23 35.1**	**-2.7**
	0.2nm,0.6s,baz=344,slow=8.6,SNR=4.0						
ASAR	**Alice Springs**	**48.70 165**	P		**P**	**10 24 02.2**	**-2.6**
	0.3nm,0.8s,baz=344,slow=6.8,SNR=3.3						
YKA	**Yellowknife Ar**	**83.10 23**	P		**P**	**10 27 43.3**	**-2.5**
	0.2nm,0.8s,baz=316,slow=5.0,SNR=4.6						

*ISN **17** 10:16:17.9±0.3, 36°.38N×42°.23E, h0km, ML3.2*
*CSEM **17** 10:16:29.2±0.6, 37°.05N×44°.01E, h2km, MD3.5, Error ellipse: s-maj=14.2km s-min=9.6km az=71.0*
*NSSC **17** 10:16:30.7±2.5, 37°.47N×43°.95E, h0km±803km, ML2.8*
*DDA **17** 10:16:31.2, 37°.19N×43°.86E, h5km, MD3.2*
*ISK **17** 10:16:33.0, 37°.36N×43°.70E, h5km, MD3.5*
ISC 17 10:16:31.7±1.3, 37°.16N±0°.03×43°.85E±0°.04, h2km±10km, n35, σ1°42/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.21**	**294**	*e*PG	**Pg**	**10 16 35.5**	**-0.1**
CUKT				*e*SG	**Sg**	**10 16 38.8**	**+0.4**
CUKT	**Cukurca**	**0.21**	**294**	*e*Pg	**Pg**	**10 16 35.6**	**-0.1**
CUKT				*e*Sg	**Sg**	**10 16 38.8**	**+0.4**
HAKT	**HAKKARI**	**0.41**	**344**	*i* P	**Pg**	**10 16 39.6**	**0.0**
HAKT				*i* S	**Sg**	**10 16 45.9**	**+1.0**
HAKT	**HAKKARI**	**0.41**	**344**	*i* P	**Pg**	**10 16 39.6**	**0.0**
HAKT				*i* S	**Sg**	**10 16 45.9**	**+1.0**
SIRT	**Sirnak**	**1.17**	**287**	*e*PG	**Pg**	**10 16 53.6**	**-0.5**
SIRT				*e*SG	**Sg**	**10 17 08.6**	**-0.7**
SIRT	**Sirnak**	**1.17**	**287**	*e*Pg	**Pg**	**10 16 53.6**	**-0.5**
SIRT				*e*Sg	**Sg**	**10 17 08.6**	**-0.7**
SIRN	**S¨–rnak**	**1.19**	**287**	*i* P	**Pg**	**10 16 54.6**	**+0.1**
SIRN				*i* S	**Sn**	**10 17 11.7**	**-0.6**
SIRN	**S¨–rnak**	**1.19**	**287**	*i* P	**Pg**	**10 16 54.6**	**+0.1**
SIRN				*i* S	**Sn**	**10 17 11.7**	**-0.6**
GEVA	**Gevas**	**1.31**	**332**	*i* P	**Pg**	**10 16 56.4**	**-0.3**
GEVA				*i* S	**Sn**	**10 17 16.5**	**+1.2**
GEVA	**Gevas**	**1.31**	**332**	*i* P	**Pg**	**10 16 56.4**	**-0.3**
GEVA				*i* S	**Sn**	**10 17 16.4**	**+1.2**
VANB	**Van**	**1.48**	**346**	*e*PN	**Pn**	**10 16 58.1**	**-1.3**
VANB	**Van**	**1.48**	**346**	*e*Pn	**Pn**	**10 16 58.1**	**-1.3**
IKRK	**Kirkuk**	**1.80**	**167**	*e*Pg	**Pn**	**10 17 01.9**	**-1.9**
	baz=300						
IKRK				*e*Sg	**Sg**	**10 17 32.7**	**+3.1**
CLDR	**Caldiran**	**1.98**	**2**	*e*PN	**Pn**	**10 17 06.4**	**0.0**
CLDR	**Caldiran**	**1.98**	**2**	*e*Pn	**Pn**	**10 17 06.4**	**0.0**
BEST	**Besiri**	**2.17**	**290**	*i* P	**Pb**	**10 17 11.1**	**-0.6**
BEST				*i* S	**Sg**	**10 17 42.5**	**+1.0**
SVAN	**Silvan-Diyarba**	**2.32**	**296**	*e*PN	**Pn**	**10 17 11.2**	**+0.2**
MARD	**Mardin**	**2.45**	**274**	*i* P	**Pb**	**10 17 16.1**	**-0.5**
MARD				*i* S	**Sb**	**10 17 48.6**	**+1.3**
AGRB	**Hanur-Agry**	**2.50**	**345**	*e*PN	**Pn**	**10 17 13.3**	**-0.3**
AGRB	**Hanur-Agry**	**2.50**	**345**	*e*Pn	**Pn**	**10 17 13.3**	**-0.3**
KBSD	**Kabsdagh**	**2.65**	**267**	*e*P	**Pn**	**10 17 16.1**	**+0.6**
KBSD				*e*S	**Sn**	**10 17 50.5**	**+2.4**
KBSD				AML	AML	10 18 07.7	
	comp=Z,123nm,0.6s						
MAZI	**Mazidag**	**2.73**	**277**	*e*PN	**Pn**	**10 17 17.9**	**+1.3**
MAZI	**Mazidag**	**2.73**	**277**	*e*Pn	**Pn**	**10 17 17.9**	**+1.3**
BNGL	**BINGOL**	**2.78**	**311**	*i* P	**Pb**	**10 17 20.1**	**-2.1**
BNGL				*i* S	**Sg**	**10 17 58.6**	**-2.3**
EATA	**Eleskirt**	**2.90**	**339**	*i* P	**Pb**	**10 17 24.7**	**+0.4**
EATA				*i* S	**Sg**	**10 18 06.2**	**+1.4**
DIY	**Diyarbakir**	**2.97**	**285**	*e*Pn	**Pn**	**10 17 21.8**	**+1.9**
DYBB	**Diyarbakir**	**3.05**	**286**	*e*PN	**Pn**	**10 17 21.8**	**+0.8**
SFNV	**Sufian**	**3.09**	**257**	*e*P	**Pn**	**10 17 22.4**	**+0.9**
SFNV				*e*S	**Sn**	**10 18 00.6**	**+1.5**
SFNV				AML	AML	10 18 19.9	
	comp=Z,64nm,0.4s						
SFNV	**Sufian**	**3.09**	**257**	*e*P	**Pn**	**10 17 22.3**	**+0.8**
SFNV				*e*S	**Sn**	**10 17 53.8**	**-5.3**
BNGB	**Bing¨¶l**	**3.09**	**307**	*e*PN	**Pn**	**10 17 22.2**	**+0.5**
BINT	**Bingol**	**3.15**	**304**	*e*Pn	**Pn**	**10 17 22.2**	**-0.3**
SVRC	**Sivrice-ELAZID**	**3.80**	**290**	*e*PN	**Pn**	**10 17 32.3**	**+0.9**
SVRC	**Sivrice-ELAZID**	**3.80**	**290**	*e*Pn	**Pn**	**10 17 32.3**	**+0.9**
URFA	**Urfa**	**4.02**	**275**	*e*PN	**Pn**	**10 17 37.0**	**+2.7**
KSRV	**Kasrt alli**	**4.11**	**253**	*e*P	**Pb**	**10 17 42.9**	**-1.9**
KSRV				AML	AML	10 18 57.2	
	comp=Z,33nm,0.6s						

*NIED **17** 10:29:00, 43°.10N×145°.00E, h68km, Mw4.0 Best double couple: M0=1.19000×10^15^ NP1:φs=245.00000°, δ30.00000°, λ123.00000°. NP2:φs=28.00000°, δ65.00000°, λ72.00000°.*
*MOS **17** 10:29:03.8±1.0, 43°.09N×144°.96E, h77km, mb4.2/14, Error ellipse: s-maj=16.1km s-min=9.4km az=80.7*
*ISCJB **17** 10:29:03.5±0.4, 43°.07N±0°.04×145°.00E±0°.04, h70km±3km, mb3.9/18, Error ellipse: s-maj=7.6km s-min=4.3km az=151.4*
*IDC **17** 10:29:04.1±0.6, 43°.12N×144°.97E, h59km±5km, mb3.7/19, mb1 3.9/22, mb1mx3.9/29, mbtmp4.0/22, MS2.8/4, Ms1 2.8/4, ms1mx2.6/34, Error ellipse: s-maj=14.5km s-min=11.4km az=139.0*
*JMA **17** 10:29:04.6±0.1, 43°.08N×145°.01E, h61km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs=22.00000°, δ54.00000°, λ53.00000°. NP2:φs=254.00000°, δ50.00000°, λ129.00000°. Principal axes: T Plg61.0000°, Azm231.0000°; N Plg29.0000°, Azm46.0000°; P Plg2.0000°, Azm137.0000°;*
JMA Felt II J1.
*SKHL **17** 10:29:05.1±0.1, 42°.97N×145°.06E, h61km±4km, mb5.5/2*
ISC 17 10:29:04.1±0.5, 43°.06N±0°.05×145°.01E±0°.04, h60km±4km, n65, σ0°97/83, mb3.9/18, 5C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.24**	**254**	⇑P	**Pn**	**10 29 14.5**	**+0.8**
JAK				*e*S	**Sn**	**10 29 21.7**	**+1.1**
JNK	**Nakash**	**0.56**	**338**	⇓P	**Pn**	**10 29 16.7**	**0.0**
JNK				*e*S	**Sn**	**10 29 25.4**	**-0.5**
NEM2	**Nemuro 2**	**0.61**	**60**	⇑P	**Pn**	**10 29 17.6**	**+0.3**
NEM2				*e*S	**Sn**	**10 29 26.8**	**-0.1**
JOB	**Onbets**	**0.88**	**260**	⇓P	**Pn**	**10 29 21.2**	**+0.7**
JOB				*e*S	**Sn**	**10 29 33.4**	**+0.8**
JRA	**Rausu**	**0.88**	**5**	⇑P	**Pn**	**10 29 21.1**	**+0.6**
JRA				*e*S	**Sn**	**10 29 32.9**	**+0.3**
JAR	**Ashorobuto**	**0.94**	**285**	⇓P	**Pn**	**10 29 21.9**	**+0.6**
JAR				*e*S	**Sn**	**10 29 34.5**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**1.15**	**32***c*	*i*PN	**Pn**	**10 29 24.9**	**+0.8**
YUK				*i* S	**Sn**	**10 29 39.7**	**+0.7**
YUK				pmax	pmax		
	comp=Z,8μm,0.3s						
YUK				pmax	pmax		
	comp=N,644nm,0.2s						
YUK				pmax	pmax		
	comp=E,574nm,0.1s						
YUK				smax	smax		
	comp=N,11nm,0.3s						
YUK				smax	smax		
	comp=E,21nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.15**	**32**	*e*P	**Pn**	**10 29 24.9**	**+0.8**
YUK				AMB	AMB	10 29 25.2	
	comp=E,8μm,0.3s						
YUK				*e*S	**Sn**	**10 29 39.7**	**+0.7**
YUK				A	A	10 29 40.2	
	comp=E,11μm,0.3s						
YUK				A	A	10 29 40.2	
	comp=E,21μm,0.3s						
JTKR	**Abashiri--Toko**	**1.21**	**319**	⇓P	**Pn**	**10 29 25.8**	**+0.9**
JTKR				*e*S	**Sn**	**10 29 41.6**	**+1.2**
JCH	**Churui**	**1.29**	**250**	⇓P	**Pn**	**10 29 26.2**	**+0.3**
JCH				*e*S	**Sn**	**10 29 42.4**	**+0.1**
HRK	**Horoka**	**1.43**	**287**	*e*P	**Pn**	**10 29 28.8**	**+0.9**
JMP	**Maruseppu**	**1.53**	**309**	⇓P	**Pn**	**10 29 30.0**	**+0.9**
SHO	**Shikotan**	**1.55**	**58**	*e*P	**Pn**	**10 29 29.8**	**+0.4**
SHO				*e*S	**Sn**	**10 29 48.3**	**-0.2**
ASAJ	**Asahikawa**	**2.05**	**302**	P	**Pn**	**10 29 37.2**	**+1.1**
	comp=E,48nm,0.3s,baz=126,slow=13,SNR=217						
ASAJ				S	**Sn**	**10 30 05.3**	**+4.8**
	comp=E,42nm,0.3s,baz=254,slow=20,SNR=7.0						
ASAJ				LR	LR	10 30 43.6	
	comp=E,248nm,19.4s,baz=329,slow=50						
KUR	**Kuril'sk**	**2.99**	**42**	*e*PN	**Pn**	**10 29 50.9**	**+1.9**
KUR				*i* S	**Sn**	**10 30 25.8**	**+2.2**
KUR				pmax	pmax		
	comp=N,37nm,0.6s						
KUR				pmax	pmax		
	comp=E,69nm,0.6s						
KUR				pmax	pmax		
	comp=Z,203nm,0.6s						
KUR				smax	smax		
	comp=E,179nm,0.2s						
KUR				smax	smax		
	comp=N,461nm,0.6s						
KUR	**Kuril'sk**	**2.99**	**42**	*e*P	**Pn**	**10 29 50.9**	**+1.9**
KUR				AMB	AMB	10 29 53.2	
	comp=N,203nm,0.6s						
KUR				*e*S	**Sn**	**10 30 25.8**	**+2.2**
KUR				A	A	10 30 32.4	
	comp=N,179nm,0.2s						
KUR				A	A	10 30 32.4	
	comp=N,461nm,0.2s						
YSS	**Yuzh-Sakhalins**	**4.21**	**338**	⇑PN	**Pn**	**10 30 06.8**	**+1.2**
YSS				*e*S	**Sn**	**10 30 53.0**	**-0.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				smax	smax		
	comp=N,30nm,1.0s						
YSS				smax	smax		
	comp=E,20nm,0.8s						
MJAR	**Matsushiro Arr**	**8.35**	**221**	PN	**Pn**	**10 31 03.1**	**+0.6**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,42nm,21.1s						
MJAR	**Matsushiro Arr**	**8.35**	**221**	P	**Pn**	**10 31 03.1**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=28,slow=13,SNR=16						
MJAR				LR	LR	10 34 53.3	
	comp=Z,42nm,21.1s,baz=110,slow=42						
USRK	**Ussuriysk Ar.**	**9.51**	**281**	P	**Pn**	**10 31 19.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=85,slow=14,SNR=11						
PETK	**Petropavlovsk-**	**13.13**	**36**	P	**Pn**	**10 32 07.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=204,slow=14,SNR=2.5						
KSRS	**Korea Array**	**14.19**	**253**	LR	LR	10 36 55.1	
	comp=Z,9.9nm,20.3s,baz=180,slow=33						
SEY	**Seymchan**	**20.37**	**10**	P	**P**	**10 33 34.4**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=209,slow=19,SNR=2.5						
SONM	**Songino Array**	**27.31**	**294**	P	**P**	**10 34 42.4**	**-0.7**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,29nm,18.6s						
SONM	**Songino Array**	**27.31**	**294**	P	**P**	**10 34 42.4**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=86,slow=8.0,SNR=19						
SONM				LR	LR	10 47 00.0	
	comp=Z,29nm,18.6s,baz=220,slow=40						
H11N2	**WAKE ISLAND Hy 29.66**	**135**		T	T	11 06 07.4	
	baz=328,slow=75,SNR=613						
H11N1	**WAKE ISLAND Hy 29.67**	**135**		T	T	11 06 09.5	
	baz=328,slow=75,SNR=549						
H11N3	**WAKE ISLAND Hy 29.68**	**135**		T	T	11 06 09.4	
	baz=328,slow=75,SNR=479						
H11S1	**WAKE ISLAND Hy 30.58**	**136**		T	T	11 07 20.5	
	baz=329,slow=76,SNR=1242						
H11S3	**WAKE ISLAND Hy 30.59**	**136**		T	T	11 07 20.0	
	baz=329,slow=76,SNR=548						
H11S2	**WAKE ISLAND Hy 30.60**	**136**		T	T	11 07 19.0	
	baz=329,slow=76,SNR=419						
ZALV	**Zalesovo Beam**	**40.17**	**307**	P	**P**	**10 36 34.5**	**+0.4**
ZALV						10 38 36.9	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**40.17**	**307**	P	**P**	**10 36 34.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=96,slow=8.8,SNR=3.1						
ZALV				PcP	**PcP**	**10 38 36.9**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=85,slow=3.6,SNR=6.0						
ILAR	**Eielson Array**	**42.96**	**36**	P	**P**	**10 36 57.0**	**+0.2**
ILAR				*PP	**pP**	**10 37 11.5**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**42.96**	**36**	P	**P**	**10 36 57.0**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=260,slow=5.8,SNR=17						
ILAR				pP	**pP**	**10 37 11.5**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=261,slow=6.2,SNR=4.0						
MKAR	**Makanchi Array**	**43.52**	**298**	P	**P**	**10 37 01.2**	**-0.4**
MKAR						10 38 48.6	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**43.52**	**298**	P	**P**	**10 37 01.2**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=60,slow=8.5,SNR=20						
MKAR				PcP	**PcP**	**10 38 48.6**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=61,slow=5.1,SNR=2.6						
CMAR	**Chiang Mai Arr**	**45.83**	**252**	P	**P**	**10 37 20.7**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**45.83**	**252**	P	**P**	**10 37 20.7**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=42,slow=7.4,SNR=4.1						
RES	**Resolute Bay**	**56.07**	**16**	P	**P**	**10 38 35.9**	**-0.5**
RES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
RES	**Resolute Bay**	**56.07**	**16**	P	**P**	**10 38 35.9**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=310,slow=6.8,SNR=12						
YKA	**Yellowknife Ar**	**57.23**	**33**	P	**P**	**10 38 44.8**	**0.0**
YKA				*PP	**pP**	**10 38 59.7**	**-0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**57.23**	**33**	P	**P**	**10 38 44.8**	**0.0**
	comp=Z,0.5nm,0.8s,baz=302,slow=6.6,SNR=9.0						
YKA				pP	**pP**	**10 38 59.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=300,slow=6.8,SNR=4.6						
GEYT	**Alibeck**	**63.39**	**298**	P	**P**	**10 39 27.1**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=52,slow=5.7,SNR=3.6						
GEYT				LR	LR	11 07 52.1	
	comp=Z,24nm,19.1s,baz=235,slow=37						
WRA	**Warramunga Arr**	**63.46**	**191**	P	**P**	**10 39 27.6**	**-0.1**
WRA				*PP	**pP**	**10 39 43.6**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**63.46**	**191**	P	**P**	**10 39 27.6**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=7.0,slow=6.9,SNR=7.5						
WRA				pP	**pP**	**10 39 43.6**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=15,slow=7.1,SNR=2.6						
FINES	**FINESS Array B**	**64.77**	**332**	P	**P**	**10 39 34.9**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**64.77**	**332**	P	**P**	**10 39 34.9**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=38,slow=8.3,SNR=9.0						
ASAR	**Alice Springs**	**67.18**	**191**	P	**P**	**10 39 52.4**	**+0.6**
ASAR				*PP	**pP**	**10 40 08.5**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**67.18**	**191**	P	**P**	**10 39 52.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=8.4,slow=6.1,SNR=15						
ASAR				pP	**pP**	**10 40 08.5**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=18,slow=5.6,SNR=4.0						
KBZ	**Khabaz**	**69.08**	**311**	P	**P**	**10 40 03.8**	**+0.3**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**69.08**	**311**	P	**P**	**10 40 03.8**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=34,slow=5.3,SNR=3.9						
NVAR	**Mina Array Bea**	**69.26**	**57**	P	**P**	**10 40 05.9**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=267,slow=6.9,SNR=9.8						
NB2	**NORSAR Subarra**	**69.67**	**338**	P	**P**	**10 40 06.2**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=33,slow=6.5						
NOA	**NORSAR Array B**	**69.67**	**338**	P	**P**	**10 40 06.4**	**-0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**69.67**	**338**	P	**P**	**10 40 06.4**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=35,slow=6.0,SNR=6.9						
AKASG	**Malin Array Be**	**71.20**	**323**	P	**P**	**10 40 15.8**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.20**	**323**	P	**P**	**10 40 15.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=41,slow=6.1,SNR=3.0						
PDAR	**Pinedale Array**	**71.54**	**48**	P	**P**	**10 40 19.2**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=31,slow=0.8,SNR=15						
GERES	**GERESS Array B**	**78.98**	**330**	P	**P**	**10 40 59.5**	**-1.8**
GERES	

comp=N,36nm,0.3s,baz=109,slow=18,SNR=64
CFAA LR LR 10 41 54.5
comp=N,29nm,18.8s,baz=134,slow=41
CMCH Combarbala 2.05 328 ⇑*i* P **Pn 10 41 17.0 -0.7**
CMCH *i* S **Sn 10 41 43.0 -0.7**
PLCA Paso Flores 7.82 185 P **Pn 10 42 33.9 -0.9**
comp=N,0.7nm,0.3s,baz=350,slow=11,SNR=16
LPAZ La Paz 16.62 5 P **P 10 44 32.9 +1.7**
comp=N,0.2nm,0.3s,baz=165,slow=20,SNR=4.0
SIV San Ignacio 18.59 27 P **P 10 44 51.0 -1.1**
comp=N,0.2nm,0.3s,baz=200,slow=13,SNR=6.5
BDFB Brasilia 26.13 54 P **P 10 46 06.0 -1.4**
comp=N,2.8nm,0.6s,baz=254,slow=6.1,SNR=4.4
SNAA Sanae 51.86 158 P **P 10 49 40.1 +0.2**
comp=N,0.6nm,0.8s,baz=234,slow=17,SNR=2.2
QSPA South Pole Qui 57.31 180 P **P 10 50 20.3 +0.8**
comp=N,3.5nm,0.8s,baz=150,slow=8.1,SNR=21
TORD Torodi Ar. Bea 82.02 69 P **P 10 52 51.4 -0.1**
comp=N,0.6nm,0.6s,baz=244,slow=6.5,SNR=6.1
MDT Midelt 89.64 50 LR LR 11 33 58.8
comp=N,26nm,18.0s,baz=246,slow=36
WRA Warramunga Arr 122.62 207 pPKP pPKPdf 10 59 58.8 +1.3
comp=N,0.1nm,0.4s,baz=158,slow=1.7,SNR=0.8
ZALV Zalesovo Beam 152.28 33 PKPbc **PKPbc 11 00 26.0 +0.4**
ZALV pPKPbc **pPKPbc 11 00 58.0 +1.6**
comp=N,0.9nm,0.7s,baz=329,slow=1.7,SNR=2.6

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*ISCJB **17** 10:49:11.6±1.0, 33°.21N±0°.07×141°.07E±0°.09, h48km, mb3.6/2, MS3.6/1, Error ellipse: s-maj=11.6km s-min=8.7km az=37.0*
*IDC **17** 10:49:12.6±2.3, 32°.77N×137°.11E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.3/26, mbtmp3.6/2, ML2.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.3/41, Error ellipse: s-maj=227.7km s-min=32.6km az=100.0*
*JMA **17** 10:49:13.5±0.2, 33°.34N×140°.91E, h57km, M2.9*
ISC 17 10:49:13.4±1.5, 33°.25N±0°.08×141°.0E±0°.1, h48km, n12, σ0s84/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.99**	**262**	P	**Pn**	**10 49 30.9**	**0.0**
JHJ2				S	**Sn**	**10 49 44.1**	**+0.3**
JHCJ	**Hachijojimakas**	**1.01**	**260**	P	**Pn**	**10 49 31.0**	**-0.2**
JHCJ				S	**Sn**	**10 49 44.2**	**-0.1**
BSO1	**Boso 1**	**1.40**	**360**	P	**Pn**	**10 49 36.0**	**-0.1**
BSO3	**Boso 3**	**1.60**	**346**	P	**Pn**	**10 49 38.8**	**-0.2**
JIM2	**Oshima 3**	**1.95**	**319**	P	**Pn**	**10 49 43.3**	**-0.8**
JOD2	**Odawara 2**	**2.55**	**323**	P	**Pn**	**10 49 52.2**	**-0.1**
JYN	**Shimob**	**3.02**	**319**	P	**Pn**	**10 49 59.6**	**+0.8**
JRY	**Ryogami san**	**3.25**	**329**	P	**Pn**	**10 50 03.7**	**+1.8**
MJAR	**Matsushiro Arr**	**4.00**	**326**	Pn	**Pn**	**10 50 13.3**	**+1.1**
	0.4nm,0.3s,baz=193,slow=10.0,SNR=4.4						
MJAR				Sn	**Sn**	**10 50 56.5**	**-1.3**
	0.2nm,0.3s,baz=185,slow=23,SNR=3.1						
ZALV	**Zalesovo Beam**	**44.28**	**315**	LR	LR	11 13 50.4	
	comp=Z,72nm,18.4s,baz=253,slow=35						
WRA	**Warramunga Arr**	**53.27**	**188**	P	**P**	**10 58 27.0**	**-0.4**
	0.7nm,0.5s,baz=1.2,slow=7.7,SNR=15						
ASAR	**Alice Springs**	**57.00**	**188**	P	**P**	**10 58 54.5**	**+0.3**
	0.3nm,0.8s,baz=360,slow=6.0,SNR=6.9						

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*KRSC **17** 11:01:51.3±0.8, 56°.11N×161°.68E, h80km±9km, ML4.2*
*MOS **17** 11:01:51.4±1.2, 56°.15N×161°.62E, h82km, mb4.0/4, Error ellipse: s-maj=16.1km s-min=9.7km az=86.9*
*ISCJB **17** 11:01:52.0±0.3, 56°.15N±0°.02×161°.63E±0°.05, h85km±2km, mb3.6/15, Error ellipse: s-maj=5.1km s-min=3.4km az=25.7*
*IDC **17** 11:01:53.7±0.9, 56°.21N×161°.30E, h82km±8km, mb3.4/15, mb1 3.6/16, mb1mx3.4/29, mbtmp3.7/16, MS2.4/1, Ms1 2.4/1, ms1mx2.1/29, Error ellipse: s-maj=22.2km s-min=13.5km az=153.0*
ISC 17 11:01:53.1±0.6, 56°.12N±0°.03×161°.64E±0°.03, h79km±4km, n71, σ1s22/107, mb3.6/15, 1C, Near east of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMKR	**Semkarok**	**0.47**	**348**	*i* P	**Pn**	**11 02 06.4**	**-0.2**
SMKR				*e*S	**Sn**	**11 02 16.9**	**+0.3**
ZLN	**Zelenaya**	**0.48**	**258**	*i* P	**Pn**	**11 02 06.5**	**-0.2**
ZLN				*e*S	**Sn**	**11 02 16.5**	**-0.3**
BDR	**Baidarnaya**	**0.51**	**332**	*i* P	**Pn**	**11 02 06.7**	**-0.2**
BDR				*i* S	**Sn**	**11 02 17.4**	**+0.2**
LGNR	**Loginova**	**0.54**	**266**	*i* P	**Pn**	**11 02 07.1**	**-0.3**
LGNR				*i* S	**Sn**	**11 02 17.8**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**0.56**	**251**	*i* P	**Pn**	**11 02 07.4**	**-0.1**
BZGR				*i* S	**Sn**	**11 02 18.2**	**+0.1**
KLY	**Klyuchi**	**0.59**	**289**	PN	**Pn**	**11 02 05.8**	**-1.7**
KLY				S	**Sn**	**11 02 15.8**	**-2.4**
KLY	**Klyuchi**	**0.59**	**289**	*i* P	**Pn**	**11 02 05.8**	**-1.7**
KLY				*e*S	**Sn**	**11 02 15.8**	**-2.4**
SRKR	**Sorokina**	**0.59**	**334**	*i* P	**Pn**	**11 02 07.4**	**-0.3**
SRKR				*e*S	**Sn**	**11 02 18.3**	**-0.2**
KRSR	**Krestovskiy**	**0.61**	**279**	*i* P	**Pn**	**11 02 07.0**	**-0.9**
KRSR				*e*S	**Sn**	**11 02 17.4**	**-1.5**
KBTR	**Krutoberegovo**	**0.66**	**82**	PN	**Pn**	**11 02 08.4**	**+0.1**
KBTR				S	**Sn**	**11 02 20.2**	**+0.7**
KBTR	**Krutoberegovo**	**0.66**	**82**	*i* P	**Pn**	**11 02 08.4**	**+0.1**
KBTR				*e*S	**Sn**	**11 02 20.2**	**+0.7**
BZWR	**Bezymyannyi-We**	**0.66**	**257**	*i* P	**Pn**	**11 02 08.5**	**0.0**
BZWR				*i* S	**Sn**	**11 02 20.2**	**+0.3**
BZMR	**Bezymyannaya**	**0.68**	**254**	*i* P	**Pn**	**11 02 08.4**	**-0.2**
BZMR				*e*S	**Sn**	**11 02 20.0**	**-0.1**
KIRR	**Kirishev**	**0.75**	**257**	*e*P	**Pn**	**11 02 09.2**	**-0.2**
KIRR				*e*S	**Sn**	**11 02 21.1**	**-0.4**
KPT	**Kopyto**	**0.81**	**259**	*e*P	**Pn**	**11 02 09.7**	**-0.3**
KPT				*e*S	**Sn**	**11 02 22.2**	**-0.4**
KMNR	**Kamenistaya**	**0.87**	**246**	*e*P	**Pn**	**11 02 10.6**	**-0.1**
KMNR				*e*S	**Sn**	**11 02 23.8**	**0.0**
KOZR	**Kozyr**	**0.98**	**267**	PN	**Pn**	**11 02 11.7**	**-0.2**
KOZR				S	**Sn**	**11 02 25.6**	**-0.3**
KOZ	**Kozyrevsk**	**0.99**	**267**	*e*P	**Pn**	**11 02 11.7**	**-0.3**
KOZ				*e*S	**Sn**	**11 02 25.6**	**-0.6**
SRDR	**Sredinnyy**	**1.09**	**281**	*i* P	**Pn**	**11 02 12.5**	**-0.8**
SRDR				*e*S	**Sn**	**11 02 27.6**	**-0.8**
TUMR	**Tumrok**	**1.20**	**226**	*i* P	**Pn**	**11 02 14.7**	**+0.1**
TUMR				*e*S	**Sn**	**11 02 30.1**	**-0.6**
KZV	**Kizimen**	**1.27**	**218**	*e*P	**Pn**	**11 02 15.8**	**+0.2**
MKZ	**Mys Kozlova**	**1.57**	**178**	PN	**Pn**	**11 02 18.4**	**-0.9**
MKZ				S	**Sn**	**11 02 37.7**	**-1.3**
MKZ	**Mys Kozlova**	**1.57**	**178**	*e*P	**Pn**	**11 02 18.4**	**-0.9**
MKZ				*e*S	**Sn**	**11 02 37.7**	**-1.3**
ESO	**Esso**	**1.67**	**264**	PN	**Pn**	**11 02 20.0**	**-0.5**
ESO	**Esso**	**1.67**	**264**	*e*P	**Pn**	**11 02 20.0**	**-0.5**
KII	**Karymskiy**	**2.44**	**212**	*e*P	**Pn**	**11 02 31.0**	**+0.1**
KII				*e*S	**Sn**	**11 02 59.4**	**-0.5**
BKI	**Bering**	**2.62**	**109**	PN	**Pn**	**11 02 32.9**	**-0.3**
BKI				S	**Sn**	**11 03 02.5**	**-1.5**
BKI	**Bering**	**2.62**	**109**	*e*P	**Pn**	**11 02 32.9**	**-0.3**
BKI				*e*S	**Sn**	**11 03 02.5**	**-1.5**
PALN	**Palana**	**3.11**	**344**	P	**Pn**	**11 02 42.5**	**+2.7**
SPN	**Mys Shipunski**	**3.17**	**198**	*e*S	**Sn**	**11 03 14.0**	**-3.5**
OSSR	**Ossora**	**3.23**	**13**	*e*P	**Pn**	**11 02 41.4**	**0.0**
OSSR				*e*S	**Sn**	**11 03 17.6**	**-1.1**
GNL	**Ganaly**	**3.24**	**223**	*e*P	**Pn**	**11 02 42.0**	**+0.3**
KRX	**Arik**	**3.27**	**213**	*e*P	**Pn**	**11 02 43.5**	**+1.3**
SDLR	**Sedlovina**	**3.27**	**210**	*e*P	**Pn**	**11 02 43.3**	**+1.1**
SDLR				*e*S	**Sn**	**11 03 20.8**	**+0.8**
KRER	**Koryakskii**	**3.29**	**212**	*e*P	**Pn**	**11 02 44.1**	**+1.6**
KRER				*e*S	**Sn**	**11 03 21.8**	**+1.3**
SMAR	**Somma**	**3.31**	**211**	*e*P	**Pn**	**11 02 44.1**	**+1.4**
AVH	**Avacha**	**3.32**	**212**	*e*P	**Pn**	**11 02 44.6**	**+1.8**
AVH				S	**Sn**	**11 03 23.2**	**+2.0**
KOK	**Koryaka**	**3.33**	**213**	*e*P	**Pn**	**11 02 44.5**	**+1.5**
UGLR	**Uglovaya**	**3.35**	**210**	*e*P	**Pn**	**11 02 44.6**	**+1.4**
UGLR				*e*S	**Sn**	**11 03 22.9**	**+1.0**
PET	**Petropavlovsk**	**3.56**	**211**	⇑*e*PN	**Pn**	**11 02 47.2**	**+1.2**
PET				*e*S	**Sn**	**11 03 28.4**	**+1.6**
PET				pmax	pmax		
	comp=Z,180nm,0.5s						
PET				smax	smax		
	comp=E,122nm,0.5s						
PET				smax	smax		
	comp=N,176nm,0.6s						
PET	**Petropavlovsk**	**3.56**	**211**	*e*P	**Pn**	**11 02 46.8**	**+0.8**
PET				*e*S	**Sn**	**11 03 26.7**	**-0.1**
PETK	**Petropavlovsk-**	**3.79**	**219**	P	**Pn**	**11 02 49.5**	**+0.3**
	comp=N,7.0nm,0.3s,baz=63,slow=14,SNR=43						
PETK				S	Sn	11 03 42.6	+10
	comp=N,0.6nm,0.3s,baz=40,slow=21,SNR=2.2						
PETK				LR	LR	11 04 02.9	
	comp=N,51nm,18.7s,baz=73,slow=34						
RUS	**Russkaya**	**4.13**	**208**	PN	**Pn**	**11 02 54.2**	**+0.5**
RUS				S	**Sn**	**11 03 39.5**	**-1.2**
RUS	**Russkaya**	**4.13**	**208**	*e*P	**Pn**	**11 02 54.2**	**+0.5**
RUS				*e*S	**Sn**	**11 03 39.5**	**-1.2**
APC	**Apacha**	**4.13**	**221**	*e*P	**Pn**	**11 02 54.5**	**+0.7**
MTVR	**Mutnovka**	**4.17**	**210**	*e*P	**Pn**	**11 02 56.2**	**+1.8**
MTVR				*e*S	**Sn**	**11 03 42.9**	**+0.9**
FX1	**Attu Island--F**	**7.45**	**111**	P	**Pn**	**11 03 37.9**	**-1.1**
	comp=N,8.6nm,0.3s,baz=339,slow=8.6,SNR=14						
FX1				S	**Sn**	**11 04 57.0**	**-4.8**
	comp=N,9.9nm,0.3s,baz=172,slow=21,SNR=10						
SEY	**Seymchan**	**8.29**	**329**	P	**Pn**	**11 03 52.4**	**+2.0**
	comp=N,0.2nm,0.3s,baz=137,slow=19,SNR=4.1						
MJAR	**Matsushiro Arr**	**25.18**	**229**	P	**P**	**11 07 09.9**	**-1.2**
	comp=N,1.6nm,0.8s,baz=15,slow=10,SNR=3.3						
ILAR	**Eielson Array**	**26.10**	**50**	P	**P**	**11 07 19.6**	**+0.6**
	comp=N,0.6nm,0.9s,baz=260,slow=8.5,SNR=5.7						
ILAR				pP	**pP**	**11 07 39.8**	**+2.6**
	comp=N,0.9nm,0.8s,baz=267,slow=8.0,SNR=5.1						
SONM	**Songino Array**	**34.18**	**280**	P	**P**	**11 08 30.1**	**-0.6**
	comp=N,0.4nm,0.5s,baz=61,slow=8.5,SNR=4.9						
SONM				pP	**pP**	**11 08 48.3**	**-1.0**
	comp=N,0.2nm,0.4s,baz=148,slow=35,SNR=1.3						
H11N2	**WAKE ISLAND Hy**	**36.55**	**172**	T	T	11 46 32.0	
	baz=355,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**36.56**	**172**	T	T	11 46 33.0	
	baz=355,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**36.56**	**172**	T	T	11 46 31.8	
	baz=355,slow=76,SNR=14						
YKA	**Yellowknife Ar**	**40.35**	**45**	P	**P**	**11 09 23.4**	**+1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**40.35**	**45**	P	**P**	**11 09 23.4**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=300,slow=7.9,SNR=7.2						
KURK	**Kurchatov**	**46.94**	**300**	P	**P**	**11 10 14.1**	**-1.3**
KURBB	**Kurchatov Arra**	**47.04**	**300**	P	**P**	**11 10 14.1**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=54,slow=8.0,SNR=5.1						
MKAR	**Makanchi Array**	**47.70**	**294**	P	**P**	**11 10 19.9**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=54,slow=7.4,SNR=4.2						
ARCES	**ARCESS Array B**	**50.69**	**342**	P	**P**	**11 10 43.9**	**0.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**50.69**	**342**	P	**P**	**11 10 43.9**	**0.0**
	comp=Z,1.5nm,0.7s,baz=45,slow=10,SNR=2.6						
PDAR	**Pinedale Array**	**55.31**	**64**	P	**P**	**11 11 19.7**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=332,slow=2.5,SNR=3.8						
FINES	**FINESS Array B**	**57.69**	**337**	P	**P**	**11 11 33.1**	**-1.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**57.69**	**337**	P	**P**	**11 11 33.1**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=50,slow=9.3,SNR=4.8						
NOA	**NORSAR Array B**	**60.88**	**344**	P	**P**	**11 11 56.2**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**60.88**	**344**	P	**P**	**11 11 56.2**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=19,slow=6.7,SNR=3.1						
GEYT	**Alibeck**	**66.20**	**303**	P	**P**	**11 12 30.8**	**-1.4**
	comp=Z,2.6nm,0.7s,baz=340,slow=6.6,SNR=2.4						
TXAR	**Lajitas Array**	**68.66**	**69**	P	**P**	**11 12 49.5**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=302,slow=5.2,SNR=2.9						
TXAR				pP	**pP**	**11 13 09.5**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=313,slow=3.5,SNR=4.9						
BRTR	**Keskin Array B**	**74.84**	**321**	P	**P**	**11 13 24.2**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=42,slow=4.5,SNR=2.1						
WRA	**Warramunga Arr**	**79.21**	**206**	P	**P**	**11 13 50.1**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=24,slow=6.2,SNR=2.3						
ESDC	**Sonseca Array**	**83.79**	**349**	P	**P**	**11 14 12.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=11,slow=5.4,SNR=3.2						

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*IDC **17** 11:02:44.8±0.8, 38°.26S×75°.16W, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.1/18, mbtmp4.0/11, ML3.9/2, MS3.5/4, Ms1 3.5/4, ms1mx3.1/21, Error ellipse: s-maj=28.9km s-min=20.3km az=82.0*
*ISCJB **17** 11:02:48.6±0.6, 38°.18S±0°.09×75°.0W±0°.1, h33km, mb4.1/13, MS3.5/4, Error ellipse: s-maj=15.1km s-min=10.6km az=135.9*
*NEIC **17** 11:02:50.1±0.5, 38°.22S×75°.06W, h35km, mb4.3/5, Error ellipse: s-maj=14.3km s-min=10.7km az=46.0*
ISC 17 11:02:50.3±0.8, 38°.14S±0°.09×75°.1W±0°.1, h35km, n27, σ1s24/24, mb4.1/13, MS3.5/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.37**	**128**	Pn	**Pn**	**11 03 52.3**	**-2.0**
	1.7nm,0.3s,baz=304,slow=15,SNR=26						
PLCA				Sn	**Sn**	**11 04 46.5**	**+2.4**
	11nm,0.3s,baz=28,slow=18,SNR=9.6						
CFAA	**Coronel Fontan**	**8.62**	**43**	Pn	**Pn**	**11 04 50.5**	**-2.0**
	0.8nm,0.3s,baz=212,slow=13,SNR=21						
CFAA				Sn	**Sn**	**11 06 27.3**	**-1.2**
	0.3nm,0.3s,baz=232,slow=12,SNR=4.7						
TRQA	**Tornquist**	**10.35**	**94**	*e*Pn	**Pn**	**11 05 16.3**	**+0.2**
	6.0nm,0.7s						
LVC	**Limon Verde**	**16.36**	**21**	*e*P	**P**	**11 06 42.7**	**+2.5**
	4.4nm,0.8s						
LPAZ	**La Paz**	**22.61**	**18**	P	**P**	**11 07 50.1**	**+1.4**
	1.8nm,0.7s,baz=193,slow=7.9,SNR=6.1						
SIV	**San Ignacio**	**25.29**	**33**	P	**P**	**11 08 15.3**	**+1.8**
	2.3nm,0.6s,baz=210,slow=8.1,SNR=7.0						
NNA	**Nana**	**26.09**	**356**	LR	LR	11 15 51.8	
	comp=Z,40nm,19.8s,baz=170,slow=30						
PMSA	**Palmer Station**	**27.46**	**170**	LR	LR	11 17 38.3	
	comp=Z,87nm,20.6s,baz=287,slow=33						
QSPA	**South Pole Qui**	**52.10**	**180**	P	**P**	**11 11 56.1**	**-0.6**
	3.3nm,0.5s,baz=149,slow=2.6,SNR=33						
TXAR	**Lajitas Array**	**72.24**	**334**	P	**P**	**11 14 12.5**	**+0.6**
	1.1nm,0.7s,baz=155,slow=9.0,SNR=12						
TXAR				LR	LR	11 40 17.1	
	comp=Z,68nm,18.5s,baz=0.0,slow=31						
ABTX	**Abilene, Hawle**	**74.02**	**339**	*e*P	**P**	**11 14 22.7**	**+0.5**
	5.3nm,1.0s						
MIAR	**Mount Ida**	**74.32**	**344**	P	**P**	**11 14 24.0**	**+0.1**
	2.1nm,0.9s						
U34A	**Anderson Ranch**	**77.05**	**342**	*e*P	**P**	**11 14 40.0**	**+0.5**
	4.6nm,0.4s						
ANMO	**Albuquerque**	**78.32**	**334**	*e*P	**P**	**11 14 48.3**	**+1.4**
	3.3nm,1.1s						
DBIC	**Dimbokro**	**78.83**	**72**	P	**P**	**11 14 50.5**	**+0.6**
	2.2nm,0.6s,baz=203,slow=1.9,SNR=3.9						
BOSA	**Boshof**	**80.31**	**119**	P	**P**	**11 14 57.5**	**-0.5**
	3.9nm,1.1s,baz=188,slow=7.0,SNR=3.3						
TSUM	**Tsumeb**	**80.44**	**107**	LR	LR	11 43 42.9	
	comp=Z,27nm,20.1s,baz=100,slow=31						
NVAR	**Mina Array Bea**	**85.94**	**327**	P	**P**	**11 15 26.9**	**+0.1**
	0.5nm,0.9s,baz=144,slow=6.3,SNR=2.9						
PDAR	**Pinedale Array**	**86.40**	**335**	P	**P**	**11 15 28.4**	**-0.5**
	0.4nm,0.8s,baz=147,slow=5.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**87.91**	**72**	P	**P**	**11 15 36.2**	**-0.4**
	0.6nm,0.7s,baz=223,slow=5.0,SNR=4.1						
GEYT	**Alibeck**	**143.46**	**75**	PKhKP	PKPpre	11 22 17.3	
	4.2nm,0.8s,baz=242,slow=4.7,SNR=5.1						
TIXI	**Tiksi**	**144.25**	**347**	*e*PKPdf	**PKPab**	**11 22 18.6**	**-0.6**
AKTO	**Aktyubinsk**	**144.83**	**54**	PKP	PKPbc	11 22 22.4	+0.4
	7.6nm,1.3s,baz=262,slow=4.1,SNR=4.7						
ABKAR	**Akbulak array**	**146.12**	**56**	*e*PKPbc	**PKPbc**	**11 22 26.0**	**-0.2**
BVAR	**Borovoye Array**	**151.96**	**47**	PKPbc	**PKPbc**	**11 22 41.3**	**+0.3**
	1.5nm,0.6s,baz=306,slow=3.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**159.04**	**35**	PKPab	**PKPab**	**11 23 21.3**	**+0.7**
	0.6nm,0.5s,baz=316,slow=4.0,SNR=4.3						
MKAR	**Makanchi Array**	**161.26**	**55**	PKPab	**PKPab**	**11 23 30.7**	**+0.1**
	0.5nm,0.7s,baz=297,slow=6.3,SNR=3.8						

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*IDC **17** 11:03:36.4±7.6, 16°.09S×176°.46W, h293km±74km, mb3.4/7, mb1 3.7/7, mb1mx3.4/19, mbtmp4.0/7, Error ellipse: s-maj=26.9km s-min=20.2km az=148.0*
ISC 17 11:03:45.4±0.7, 16°.2S±0°.2×176°.5W±0°.2, h382km, n23, σ0s86/24, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.70**	**193**	P	**P**	**11 08 13.2**	**-2.4**
	7.0nm,0.6s,baz=339,slow=8.6,SNR=7.1						
URZ				S	S	11 12 14.4	+19
	17nm,1.1s,baz=358,slow=15,SNR=3.6						
ARMA	**Armidale**	**32.41**	**238**	P	**P**	**11 09 42.1**	**+0.5**
	baz=32,SNR=5.0						
CNB	**Canberra Magne**	**35.95**	**231**	P	**P**	**11 10 11.9**	**+0.4**
	baz=36,SNR=7.1						
CMSA	**Cobar Meteorol**	**37.62**	**239**	P	**P**	**11 10 25.3**	**0.0**
	baz=38,SNR=4.9						
QLP	**Quilpie**	**37.90**	**247**	P	**P**	**11 10 27.1**	**-0.7**
	baz=38,SNR=8.3						
QLP				S	S	11 16 20.5	+30
	baz=38,SNR=3.8						
COEN	**Coen**	**38.99**	**268**	P	**P**	**11 10 38.0**	**+1.1**
	baz=40,SNR=7.3						
TOO	**Toolangi**	**39.69**	**230**	P	**P**	**11 10 43.7**	**+1.3**
	baz=39,SNR=6.8						
BBOO	**Buckleboo**	**45.87**	**240**	P	**P**	**11 11 31.1**	**-0.2**
	baz=46,SNR=11						
WRA	**Warramunga Arr**	**46.79**	**258**	P	**P**	**11 11 37.9**	**-0.8**
	5.3nm,0.6s,baz=96,slow=7.8,SNR=133						
WRA				PcP	**PcP**	**11 13 05.5**	**+0.6**
	0.7nm,0.9s,baz=102,slow=3.5,SNR=3.0						
ASAR	**Alice Springs**	**47.06**	**253**	P	**P**	**11 11 40.2**	**-0.5**
	26nm,0.6s,baz=86,slow=8.1,SNR=451						
ASAR				PcP	**PcP**	**11 13 06.2**	**+0.4**
	0.8nm,0.8s,baz=84,slow=4.7,SNR=3.6						
KDU	**Kakadu**	**49.48**	**267**	P	**P**	**11 11 59.1**	**+0.1**
	baz=50,SNR=8.6						
MTN	**Manton Dam**	**50.73**	**266**	P	**P**	**11 12 08.2**	**-0.1**
	baz=51,SNR=5.5						
MTN				S	S	11 19 44.8	+51
	baz=51,SNR=3.7						
WRKA	**Warakurna**	**52.15**	**251**	P	**P**	**11 12 18.7**	**0.0**
	baz=52,SNR=23						
KNRA	**Kununurra**	**52.53**	**262**	P	**P**	**11 12 21.2**	**-0.3**
	baz=53,SNR=6.0						
MEEK	**Meekatharra**	**60.79**	**248**	P	**P**	**11 13 18.4**	**-0.4**
	baz=61,SNR=7.1						
MORW	**Morawa**	**62.88**	**245**	P	**P**	**11 13 32.5**	**0.0**
	baz=63,SNR=4.4						
QSPA	**South Pole Qui**	**73.86**	**180**	P	**P**	**11 14 40.5**	**+1.3**
	2.2nm,0.7s,baz=8.4,slow=1.5,SNR=6.9						
NVAR	**Mina Array Bea**	**76.90**	**43**	P	**P**	**11 14 57.1**	**+0.1**
	1.6nm,0.8s,baz=227,slow=8.0,SNR=13						
TXAR	**Lajitas Array**	**83.51**	**57**	P	**P**	**11 15 32.8**	**+1.0**
	0.3nm,0.7s,baz=223,slow=6.8,SNR=3.5						
ILAR	**Eielson Array**	**83.81**	**12**	P	**P**	**11 15 31.4**	**-1.1**
	0.6nm,0.8s,baz=222,slow=5.5,SNR=10.0						
YKA	**Yellowknife Ar**	**92.00**	**24**	P	**P**	**11 16 10.9**	**-0.4**
	0.1nm,0.6s,baz=246,slow=4.5,SNR=3.1						
ARCES	**ARCESS Array B**	**124.94**	**351**	PKP	**PKPdf**	**11 21 59.5**	**-0.5**
	3.4nm,1.0s,baz=18,slow=0.3,SNR=3.7						
BRTR	**Keskin Array B**	**144.83**	**318**	PKP	PKPbc	11 22 38.1	+0.2
	0.7nm,0.8s,baz=145,slow=3.5,SNR=2.7						

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*IDC **17** 11:06:58.4±1.4, 38°.23N×72°.75E, h0km, mb3.5/5, mb1 3.5/10, mb1mx3.4/31, mbtmp3.5/10, ML3.0/5, MS3.3/3, Ms1 3.3/3, ms1mx2.6/37, Error ellipse: s-maj=23.1km s-min=20.3km az=35.0*
*ISCJB **17** 11:07:02.2±1.1, 38°.37N±0°.07×72°.17E±0°.08, h30km, mb3.4/5, MS3.2/3, Error ellipse: s-maj=10.4km s-min=8.6km az=173.2*
*NNC **17** 11:07:07.3±3.7, 38°.67N×72°.35E, h7km±25km, mb4.2, mpv3.9, Error ellipse: s-maj=24.6km s-min=14.4km az=153.0*
ISC 17 11:07:02.3±1.2, 38°.26N±0°.10×72°.33E±0°.08, h30km, n27, σ1s82/27, mb3.5/5, MS3.5/3, 7C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.80**	**282**	⇑Pn	**Pb**	**11 07 52.6**	**+0.8**
DZET				⇑Lg	Lg	11 08 36.9	
AML	**Almayashu**	**4.00**	**15**	P	**Pn**	**11 08 01.5**	**-0.5**
	SNR=60						
UCH	**Uchtor**	**4.30**	**22**	P	**Pn**	**11 08 05.5**	**-0.6**
	SNR=19						
KZA	**Kyzart**	**4.42**	**29**	P	**Pn**	**11 08 10.4**	**+2.7**
	SNR=7.5						
EKS2	**Erkin-Say**	**4.53**	**14**	P	**Pn**	**11 08 10.2**	**+1.2**
	SNR=7.2						
AAK	**Ala-Archa**	**4.67**	**20**	⇓Pn	**Pn**	**11 08 12.2**	**+1.3**
	15nm,0.5s						
AAK				⇑Sn	**Sn**	**11 09 05.7**	**+1.7**
	49nm,0.8s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**284**	*i*		11 26 38.5	
	baz=100,slow=186,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.80**	**284**	Pn	**Pn**	**11 12 57.7**	**-1.0**
	9.8nm,0.3s,baz=102,slow=14,SNR=129						
ZALV				Sn	**Sn**	**11 13 24.5**	**+4.2**
	9.5nm,0.3s,baz=107,slow=22,SNR=4.7						
KURK	**Kurchatov**	**6.31**	**247**	⇑Pn	**Pn**	**11 13 59.9**	**-0.7**
	3.2nm,0.8s						
KURK				⇑Sn	**Sn**	**11 15 11.9**	**+0.6**
	5.0nm,0.7s						
KURBB	**Kurchatov Arra**	**6.40**	**247**	⇓Pn	**Pn**	**11 14 02.2**	**+0.3**
	12nm,0.9s						
KURBB				⇓Sn	**Sn**	**11 15 14.2**	**+0.6**
	32nm,0.8s						
KURBB	**Kurchatov Arra**	**6.40**	**247**	Pn	**Pn**	**11 14 02.2**	**+0.3**
	0.5nm,0.3s,baz=61,slow=14,SNR=18						
KURBB				Sn	**Sn**	**11 15 14.6**	**+0.9**
	0.1nm,0.3s,baz=64,slow=25,SNR=3.7						
KURBB				Lg	Lg	11 15 50.4	
	0.1nm,0.3s,baz=64,slow=33,SNR=6.6						
MKAR	**Makanchi Array**	**7.61**	**210**	Pn	**Pn**	**11 14 19.5**	**+1.0**
	0.8nm,0.3s,baz=22,slow=16,SNR=35						
MKAR				Sn	**Sn**	**11 15 44.4**	**+0.8**
	0.3nm,0.3s,baz=19,slow=18,SNR=9.9						
MKAR				Lg	Lg	11 16 26.5	
	0.3nm,0.3s,baz=25,slow=32,SNR=6.4						
MK04	**Makanchi Array**	**7.63**	**210**	⇓Pn	**Pn**	**11 14 19.6**	**+0.9**
	2.1nm,0.8s						
MK04				⇑Sn	**Sn**	**11 15 45.6**	**+1.6**
	7.1nm,1.0s						
MK04				⇑Lg	Lg	11 16 26.6	
	9.9nm,0.9s						
TLY	**Talaya**	**9.83**	**95**	Lg	Lg	11 17 34.0	
	0.0nm,0.3s,baz=244,slow=17,SNR=6.0						
BVA0	**Borovoye Array**	**10.43**	**274**	Pn	**Pn**	**11 14 58.1**	**+1.1**
	5.0nm,1.4s,baz=80,slow=13,SNR=7.2						
BVA0				⇑Sn	**Sn**	**11 16 50.3**	**-2.2**
	12nm,1.0s,baz=75,slow=19,SNR=9.2						
BVAR	**Borovoye Array**	**10.43**	**274**	Pn	**Pn**	**11 14 56.9**	**-0.1**
	0.5nm,0.3s,baz=79,slow=13,SNR=7.0						
BVAR				Sn	**Sn**	**11 16 48.9**	**-3.6**
	0.5nm,0.3s,baz=81,slow=19,SNR=14						
SONM	**Songino Array**	**13.10**	**108**	Lg	Lg	11 19 13.3	
	0.1nm,0.3s,baz=309,slow=25,SNR=3.8						
AAK	**Ala-Archa**	**14.04**	**224**	Lg	Lg	11 19 44.2	
	0.2nm,0.3s,baz=233,slow=19,SNR=2.7						

GUC 17 11:14:47.0±0.6, 35°.41S×72°.26W, h69km±14km, ML3.6, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.51**	**88**	⇑*iP*	Pn	11 15 00.3	+0.5
TALC				*i* S	Sn	11 15 10.7	+1.5
COCH	**Cobquecura**	**0.84**	**211**	⇑*iP*	Pn	11 15 03.9	+0.4
COCH				*i* S	Sn	11 15 17.1	+1.5
NICH	**Los Niches**	**0.94**	**64**	*e*P1	Pn	11 15 05.6	+1.0
NICH				*i* S	Sn	11 15 19.3	+1.6
ANTU	**Antumapu**	**2.28**	**37**	*e*S	Sn	11 15 51.7	+2.1
ANTU				IAML		11 15 58.6	
	comp=E,366nm,0.4s						
CLCH	**Cerro Calan**	**2.46**	**36**	*e*P1	Pn	11 15 26.4	+1.3
CLCH				*i* S	Sn	11 15 56.4	+2.2
CLCH				IAML		11 16 09.8	
	comp=N,332nm,0.7s						
PEL	**Peldehue**	**2.61**	**30**	*e*P	Pn	11 15 28.9	+1.9
PEL				*e*S	Sn	11 15 59.6	+1.9
PEL				IAML		11 16 07.1	
	comp=E,357nm,0.7s						

MAN 17 11:24:29.19°.00N×121°.15E, h7km, mb4.5, ML3.3, MS3.2, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.84**	**217**	⇑*iP*	Pb	11 24 46.0	+0.1
PIP				*e*S	Sn	11 25 00.0	+0.2
APYP	**Conner**	**1.14**	**175**	*e*P	Pn	11 24 51.3	0.0
APYP				*e*S	Sn	11 25 08.0	+0.8
SGCP	**Mt. Cagua**	**1.14**	**131**	*e*P	Pg	11 24 50.9	-0.1
SGCP				*e*S	Sg	11 25 05.5	-0.3
ABRA	**Dolores**	**1.41**	**197**	*e*P	Pg	11 24 56.8	+0.8
CVP	**Callao Caves**	**1.44**	**153**	⇓*e*P	Pn	11 24 55.2	-0.4
CVP				*e*S	Sg	11 25 17.1	+1.6

NNC 17 11:34:45.1±4.3, 37°.44N×69°.75E, h0km, mb3.6, mpv3.3, 1C-3D, Error ellipse: s-maj=47.2km s-min=32.3km az=67.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.69**	**6**	Pn	Pn	11 36 09.9	-1.0
	1.2nm,0.3s,baz=184,slow=13,SNR=15						
KK31				⇓Sn	Sn	11 37 18.2	+1.3
	7.4nm,0.7s,baz=180,slow=29,SNR=5.4						
AAK	**Ala-Archa**	**6.34**	**34**	⇑Pn	Pn	11 36 18.8	-1.2
	0.7nm,0.3s						
TKM2	**Tokmak 2**	**7.07**	**37**	⇓Pn	Pn	11 36 31.7	+1.5
	1.6nm,0.5s						
AB31	**Akbulak array**	**13.78**	**332**	⇓Pn	Pn	11 38 02.7	+1.0
	0.4nm,0.5s,baz=141,slow=13,SNR=11						

*IDC **17** 11:49:16.9±0.8, 1°.39N×127°.07E, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/21, mbtmp4.0/6, MS2.8/1, Ms1 3.0/1, ms1mx2.3/32, Error ellipse: s-maj=64.6km s-min=17.6km az=75.0*

*ISCJB **17** 11:49:26.8±0.6, 1°.35N±0°.05×126°.95E±0°.04, h103km, mb3.9/6, Error ellipse: s-maj=7.1km s-min=5.9km az=26.5*

*DJA **17** 11:49:27.2±0.6, 1°.N±3°×12°.7E±°, h39km±8km, M4.2/12, mb4.3/1, MLv4.1/12*

ISC 17 11:49:28.9±0.9, 1°.31N±0°.08×126°.92E±0°.06, h103km, n18, σ1§37/22, mb3.8/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.70**	**141**	P	Pn	11 49 42.7	-3.8
TNTI				S	Sn	11 49 53.1	-6.7
LBMI	**Labuha**	**2.02**	**163**	P	**Pn**	**11 50 00.2**	**-1.7**
LBMI				S	**Sn**	**11 50 27.1**	**0.0**
KMSI	**Cibinong**	**3.03**	**256**	P	**Pn**	**11 50 12.6**	**-2.5**
KMSI				S	**Sn**	**11 50 50.2**	**-0.6**
SANI	**Sanana**	**3.47**	**196**	P	**Pn**	**11 50 19.0**	**-2.0**
SANI				S	**Sn**	**11 51 02.0**	**+0.7**
GTOI	**Gorontalo**	**3.97**	**260**	P	**Pn**	**11 50 27.9**	**+0.2**
GTOI				S	**Sn**	**11 51 15.3**	**+2.0**
NLAI	**Namlea**	**4.53**	**178**	P	**Pn**	**11 50 34.8**	**-0.4**
NLAI				S	**Sn**	**11 51 26.7**	**-0.1**
LUWI	**Luwuk**	**4.76**	**241**	P	**Pn**	**11 50 36.7**	**-1.8**
LUWI				S	**Sn**	**11 51 32.9**	**+0.3**
SWI	**Sorong**	**4.84**	**116**	P	**Pn**	**11 50 38.6**	**-0.9**
MRSI	**Marisa**	**5.05**	**261**	P	**Pn**	**11 50 40.8**	**-1.5**
WRA	**Warramunga Arr**	**22.34**	**161**	P	**P**	**11 54 17.7**	**-0.7**
	2.9nm,0.4s,baz=340,slow=11,SNR=30						
WRA				PcP	**PcP**	**11 58 11.7**	**+1.4**
	0.2nm,0.5s,baz=320,slow=2.3,SNR=5.5						
ASAR	**Alice Springs**	**25.74**	**165**	P	**P**	**11 54 50.6**	**+0.6**
	1.3nm,0.4s,baz=343,slow=9.5,SNR=22						
ASAR				PcP	**PcP**	**11 58 19.0**	**+1.4**
	0.4nm,0.5s,baz=354,slow=2.1,SNR=7.3						
CMAR	**Chiang Mai Arr**	**32.31**	**304**	LR	LR	12 11 17.6	
	comp=Z,16nm,18.5s,baz=180,slow=41						
MJAR	**Matsushiro Arr**	**36.58**	**15**	P	**P**	**11 56 23.3**	**-1.6**
	0.5nm,0.3s,baz=186,slow=8.8,SNR=3.9						
SONM	**Songino Array**	**49.64**	**342**	P	P	11 58 11.0	+1.0
	0.5nm,0.5s,baz=156,slow=8.2,SNR=8.0						
MKAR	**Makanchi Array**	**59.65**	**326**	P	P	11 59 23.4	+1.1
	2.9nm,0.9s,baz=108,slow=4.7,SNR=15						
VNDA	**Vanda**	**81.02**	**173**	P	**P**	**12 01 32.6**	**+0.8**
	0.7nm,0.4s,baz=320,slow=6.1,SNR=9.6						
TXAR	**Lajitas Array**	**122.89**	**53**	PKP	**PKPdf**	**12 08 15.2**	**+1.4**
	0.2nm,0.7s,baz=174,slow=0.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**123.82**	**287**	PKP	**PKPdf**	**12 08 16.7**	**+0.9**
	0.5nm,0.6s,baz=71,slow=2.0,SNR=7.1						

NNC 17 12:05:22.3±5.2, 54°.49N×86°.20E, h16km±28km, mb3.6, mpv3.3, 9C-2D, Error ellipse: s-maj=33.9km s-min=27.3km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.97**	**234**	⇑Pn	Pn	12 06 51.2	+1.2
	1.0nm,0.4s						
KURK				⇑Sn	Sn	12 08 00.0	+2.1
	2.3nm,0.8s						
KURK				⇑Lg	Lg	12 08 30.9	
	4.8nm,0.8s						
KURBB	**Kurchatov Arra**	**6.07**	**233**	⇑Pn	Pn	12 06 52.8	+1.3
	3.1nm,0.4s,baz=55,slow=15						
KURBB				⇑Sn	Sn	12 08 01.9	+1.3
	6.1nm,0.6s						
KURBB				⇑Lg	Lg	12 08 34.2	
	17nm,0.6s						
MK04	**Makanchi Array**	**8.12**	**199**	⇓Pn	Pn	12 07 19.1	-0.4
	0.4nm,0.5s						
MK04				⇑Sn	Sn	12 08 51.0	0.0
	1.8nm,0.8s						
MK04				⇑Lg	Lg	12 09 39.1	
	1.5nm,0.7s						
BVA0	**Borovoye Array**	**9.48**	**268**	⇓Pn	Pn	12 07 36.5	-1.7
	1.0nm,0.8s,baz=77,slow=14,SNR=6.1						
BVA0				⇑Sn	Sn	12 09 22.1	-2.3
	3.5nm,1.2s,baz=78,slow=21,SNR=5.3						

IDC 17 12:13:18.6±2.6, 10°.21S×161°.44E, h101km±20km, mb3.4/3, mb1 3.7/4, mb1mx3.3/19, mbtmp3.8/4, Error ellipse: s-maj=32.5km s-min=23.7km az=62.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.66**	**297**	P	Pn	12 13 46.4	-0.5
	31nm,0.3s,baz=128,slow=19,SNR=2.4						
HNR				S	Sn	12 14 08.7	+0.1
	133nm,0.3s,baz=186,slow=18,SNR=9.0						
HNR				LR	LR	12 14 29.1	
	comp=Z,162nm,18.3s,baz=42,slow=42						
DZM	**Mont Dzumac**	**12.74**	**158**	P	Pn	12 16 16.9	+0.8
	1.1nm,0.3s,baz=344,slow=15,SNR=15						
WRA	**Warramunga Arr**	**27.86**	**247**	P	P	12 18 58.7	-0.3
	0.6nm,0.6s,baz=75,slow=9.8,SNR=10						
WRA				pP	pP	12 19 21.6	0.0
	0.7nm,0.8s,baz=77,slow=9.5,SNR=2.1						
SONM	**Songino Array**	**75.53**	**325**	P	P	12 24 53.0	+0.8
	0.9nm,0.7s,baz=138,slow=5.4,SNR=8.6						
ILAR	**Eielson Array**	**84.11**	**20**	P	P	12 25 37.1	-0.8
	0.4nm,0.9s,baz=244,slow=5.9,SNR=3.4						

*ISCJB **17** 12:15:15.4±0.5, 23°.69S±0°.07×179°.94E±0°.09, h532km, mb3.8/15, Error ellipse: s-maj=10.9km s-min=9.1km az=25.9*

*IDC **17** 12:15:16.9±2.4, 23°.69S×179°.99W, h540km±25km, mb3.4/15, mb1 3.6/17, mb1mx3.6/20, mbtmp4.3/17, Error ellipse: s-maj=14.9km s-min=14.2km az=54.0*

ISC 17 12:15:15.8±0.5, 23°.76S±0°.09×179°.93W±0°.09, h532km, n52, σ1§11/57, mb3.7/15, 6C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.67**	**275**	P	**P**	**12 18 03.2**	**+1.7**
	0.6nm,0.3s,baz=96,slow=19,SNR=3.8						
URZ	**Urewera**	**14.68**	**189**	P	**P**	**12 18 21.7**	**-0.3**
	0.7nm,0.3s,baz=45,slow=17,SNR=5.8						
URZ				S	**S**	**12 20 53.2**	**-2.4**
	0.5nm,0.3s,baz=72,slow=23,SNR=6.0						
ARMA	**Armidale**	**26.13**	**249**	P	**P**	**12 20 09.3**	**+1.6**
	baz=27,SNR=5.3						
EIDS	**Eidsvold**	**26.39**	**260**	P	**P**	**12 20 10.6**	**+0.7**
	baz=28,SNR=4.1						
RMQ	**Roma**	**28.45**	**258**	P	**P**	**12 20 29.3**	**+1.4**
	baz=30,SNR=4.7						
CMSA	**Cobar Meteorol**	**31.33**	**248**	P	**P**	**12 20 53.1**	**+0.5**
	baz=32,SNR=11						
CTA	**Charters Tower**	**31.54**	**270**	P	**P**	**12 20 55.1**	**+0.4**
	12nm,0.4s,baz=94,slow=11,SNR=43						
QLP	**Quilpie**	**32.49**	**257**	P	**P**	**12 21 02.9**	**+0.3**
	baz=34,SNR=3.7						
TOO	**Toolangi**	**32.58**	**237**	P	**P**	**12 21 04.0**	**+0.7**
	baz=33,SNR=9.3						
BBOO	**Buckleboo**	**39.56**	**247**	P	**P**	**12 22 00.6**	**-0.5**
	baz=40,SNR=11						
ASAR	**Alice Springs**	**42.12**	**260**	P	**P**	**12 22 21.5**	**-0.1**
	11nm,1.0s,baz=97,slow=7.4,SNR=126						
ASAR				PcP	**PcP**	**12 24 04.2**	**+0.3**
	0.4nm,0.4s,baz=99,slow=5.8,SNR=3.7						
ASAR				S	**S**	**12 28 02.8**	**-0.2**
	0.1nm,0.3s,baz=96,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**42.48**	**266**	P	**P**	**12 22 23.9**	**-0.6**
	7.3nm,0.5s,baz=93,slow=8.5,SNR=192						
WRA				PcP	**PcP**	**12 24 05.3**	**+0.2**
	1.1nm,0.8s,baz=100,slow=3.2,SNR=3.4						
WRA				S	**S**	**12 28 05.5**	**-2.7**
	1.0nm,0.8s,baz=105,slow=13,SNR=4.6						
KDU	**Kakadu**	**46.34**	**275**	P	**P**	**12 22 53.5**	**-0.7**
	baz=48,SNR=7.0						
FORT	**Forrest**	**46.42**	**249**	P	**P**	**12 22 54.0**	**-0.6**
	baz=47,SNR=16						
WRKA	**Warakurna**	**46.93**	**257**	P	**P**	**12 22 58.4**	**-0.3**
	baz=48,SNR=40						
MTN	**Manton Dam**	**47.51**	**274**	P	**P**	**12 23 02.2**	**-0.9**
	baz=49,SNR=5.2						
MTN				S	S	12 29 40.8	+22
	baz=49,SNR=6.2						
KNRA	**Kununurra**	**48.75**	**270**	P	**P**	**12 23 12.2**	**-0.1**
	baz=50,SNR=31						
FITZ	**Fitzroy Crossi**	**50.91**	**265**	P	**P**	**12 23 28.4**	**+0.3**
	baz=52,SNR=14						
VNDA	**Vanda**	**54.52**	**185**	P	**P**	**12 23 54.1**	**+1.1**
	1.1nm,0.7s,baz=18,slow=7.4,SNR=5.1						
VNDA				PcP	**PcP**	**12 24 49.0**	**+0.9**
	1.2nm,0.6s,baz=5.5,slow=4.9,SNR=5.5						
MEEK	**Meekatharra**	**55.22**	**253**	P	**P**	**12 23 58.6**	**-0.2**
	baz=56,SNR=3.4						
BLDU	**Ballidu**	**56.14**	**248**	P	**P**	**12 24 04.6**	**-0.5**
	baz=57,SNR=11						
MORW	**Morawa**	**56.98**	**250**	P	**P**	**12 24 10.8**	**-0.1**
	baz=58,SNR=7.8						
QSPA	**South Pole Qui**	**66.32**	**180**	P	**P**	**12 25 12.4**	**+1.1**
	5.5nm,0.7s,baz=22,slow=4.1,SNR=40						
MJAR	**Matsushiro Arr**	**71.82**	**326**	P	**P**	**12 25 44.7**	**+0.1**
	1.8nm,0.8s,baz=167,slow=8.4,SNR=4.2						
MAW	**Mawson**	**77.90**	**200**	P	**P**	**12 26 19.7**	**+1.5**
	15nm,0.8s,baz=243,slow=2.3,SNR=2.6						
KSRS	**Korea Array**	**78.18**	**320**	P	**P**	**12 26 20.6**	**+0.5**
	0.8nm,0.7s,baz=133,slow=6.8,SNR=2.9						
PETK	**Petropavlovsk-**	**78.98**	**346**	P	**P**	**12 26 24.0**	**-0.1**
	3.7nm,0.9s,baz=152,slow=6.7,SNR=5.1						
USRK	**Ussuriysk Ar.**	**80.68**	**327**	P	**P**	**12 26 33.5**	**+0.3**
	1.5nm,0.6s,baz=128,slow=5.3,SNR=4.3						
NVAR	**Mina Array Bea**	**84.61**	**44**	P	**P**	**12 26 54.5**	**+1.0**
	0.4nm,0.7s,baz=232,slow=6.6,SNR=3.2						
CMAR	**Chiang Mai Arr**	**89.54**	**290**	P	**P**	**12 27 18.1**	**+1.2**
	1.3nm,0.7s,baz=137,slow=3.2,SNR=8.1						
TXAR	**Lajitas Array**	**90.30**	**58**	P	**P**	**12 27 21.4**	**+1.1**
	0.3nm,0.7s,baz=224,slow=6.1,SNR=4.7						
ILAR	**Eielson Array**	**91.88**	**14**	P	**P**	**12 27 25.3**	**-1.3**
	0.2nm,0.6s,baz=229,slow=6.3,SNR=5.3						
PDAR	**Pinedale Array**	**92.54**	**44**	P	**P**	**12 27 30.5**	**0.0**
	0.2nm,0.6s,baz=251,slow=8.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**111.88**	**321**	PKiKP	**PKiKP**	**12 32 48.9**	**-1.1**
	0.4nm,0.4s,baz=250,slow=2.9,SNR=2.9						
MKAR	**Makanchi Array**	**112.11**	**313**	PKiKP	**PKiKP**	**12 32 49.6**	**-1.1**
	0.3nm,0.4s,baz=352,slow=2.2,SNR=5.9						
ARCES	**ARCESS Array B**	**131.76**	**348**	PKP	**PKPdf**	**12 33 27.1**	**-0.5**
	1.3nm,0.6s,baz=11,slow=1.8,SNR=6.9						
FINES	**FINESS Array B**	**138.33**	**342**	PKhKP	PKPpre	12 33 30.1	
	1.1nm,0.7s,baz=101,slow=1.9,SNR=4.1						
NB2	**NORSAR Subarra**	**141.95**	**351**	PKP	**PKPdf**	**12 33 42.2**	**-4.4**
	comp=Z,0.8nm,0.7s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**141.95**	**351**	PKhKP	PKPpre	12 33 41.5	
	comp=Z,0.4nm,0.5s,baz=11,slow=5.0,SNR=6.7						
AKASG	**Malin Array Be**	**144.89**	**327**	PKP	**PKPdf**	**12 33 51.7**	**-0.3**
	comp=Z,3.2nm,0.5s,baz=42,slow=4.0,SNR=13						
BRTR	**Keskin Array B**	**147.54**	**307**	PKPbc	**PKPbc**	**12 34 00.3**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=134,slow=4.5,SNR=6.4						
CFR	**Carcaliu**	**148.77**	**320**	⇑*iP*	**PKPbc**	**12 34 03.4**	**+0.2**
BURAR	**Bucovina Array**	**148.89**	**326**	⇑*iP*	**PKPbc**	**12 34 05.0**	**+1.4**
DOPR	**Dopca**	**149.86**	**324**	⇑*iP*	**PKPbc**	**12 34 06.6**	**+0.8**
VOIR		**150.37**	**323**	⇑*iP*	**PKPbc**	**12 34 07.4**	**+0.3**
ARR	**Arges**	**150.65**	**323**	⇑*iP*	**PKPbc**	**12 34 08.9**	**+1.2**
CLL	**Collm**	**150.74**	**343**	⇓*i*PKP	**PKPbc**	**12 34 07.5**	**-0.2**
	comp=Z,11nm,0.8s						
BRG	**Berggiesshubel**	**150.87**	**342**	*i* PKP	**PKPbc**	**12 34 08.2**	**+0.2**
	comp=Z,7.6nm,0.4s						
GZR	**Gura Zlata**	**151.62**	**325**	⇑*iP*	**PKPbc**	**12 34 09.8**	**-0.2**
BZS	**Buzias**	**152.07**	**327**	⇓*iP*	**PKPbc**	**12 34 10.6**	**-0.2**
GERES	**GERESS Array B**	**152.75**	**340**	PKPbc	**PKPbc**	**12 34 12.3**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=33,slow=2.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**169.33**	**189**	PKP	**PKPdf**	**12 34 21.0**	**-1.8**
	comp=Z,1.2nm,1.1s,baz=252,slow=0.6,SNR=3.6						
TORD				PKPab	**PKPab**	**12 35 38.5**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=162,slow=4.7,SNR=8.7						

*ISCJB **17** 12:15:54.7±0.8, 23°.69S±0°.09×179°.9E±0°.1, h526km, mb3.9/9, Error ellipse: s-maj=18.1km s-min=11.7km az=178.4*

*IDC **17** 12:15:54.3±5.2, 23°.70S×179°.98W, h513km±57km, mb3.5/9, mb1 3.7/10, mb1mx3.4/19, mbtmp4.4/10, Error ellipse: s-maj=32.9km s-min=24.2km az=34.0*

ISC 17 12:15:55.3±0.9, 23°.8S±0°.1×179°.9E±0°.1, h526km, n12, σ1§17/15, mb3.8/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.58**	**189**	P	**P**	**12 18 59.4**	**-1.1**
	2.4nm,0.3s,baz=149,slow=14,SNR=12						
URZ				S	**S**	**12 21 33.0**	**-0.4**
	1.2nm,0.3s,baz=233,slow=20,SNR=6.0						
CTA	**Charters Tower**	**31.42**	**270**	P	**P**	**12 21 34.8**	**+1.3**
	17nm,0.3s,baz=94,slow=10,SNR=22						
ASAR	**Alice Springs**	**41.99**	**261**	P	**P**	**12 23 00.7**	**+0.3**
	3.6nm,0.7s,baz=94,slow=7.6,SNR=9.7						
ASAR				S	**S**	**12 28 42.4**	**+1.1**
	0.6nm,0.9s,baz=103,slow=15,SNR=2.8						
WRA	**Warramunga Arr**	**42.35**	**266**	P	**P**	**12 23 03.7**	**+0.4**
	4.2nm,0.3s,baz=94,slow=8.5,SNR=25						
WRA				S	**S**	**12 28 44.0**	**-2.6**
	0.8nm,0.8s,baz=101,slow=13,SNR=3.9						
QSPA	**South Pole Qui**	**66.25**	**180**	P	**P**	**12 25 52.4**	**+1.6**
	1.3nm,0.6s,baz=34,slow=2.8,SNR=3.1						
MJAR	**Matsushiro Arr**	**71.81**	**326**	P	**P**	**12 26 23.3**	**-1.3**
	1.5nm,0.8s,baz=156,slow=5.2,SNR=4.3						
KSRS	**Korea Array**	**78.16**	**320**	P	**P**	**12 27 00.5**	**+0.5**
	0.8nm,0.6s,baz=148,slow=4.5,SNR=3.1						
PETK	**Petropavlovsk-**	**79.02**	**347**	P	**P**	**12 27 04.2**	**-0.1**
	3.0nm,0.7s,baz=153,slow=6.4,SNR=3.2						
CMAR	**Chiang Mai Arr**	**89.45**	**290**	P	**P**	**12 27 56.5**	**0.0**
	0.7nm,0.6s,baz=101,slow=3.0,SNR=4.6						
TXAR	**Lajitas Array**	**90.44**	**58**	P	**P**	**12 28 01.1**	**+0.1**
	0.5nm,0.7s,baz=216,slow=7.0,SNR=7.1						
AKASG	**Malin Array Be**	**144.88**	**327**	PKP	**PKPdf**	**12 34 31.4**	**-0.7**
	1.3nm,0.3s,baz=46,slow=4.7,SNR=5.7						
BRTR	**Keskin Array B**	**147.49**	**307**	PKPbc	**PKPbc**	**12 34 39.8**	**-0.7**
	0.6nm,0.6s,baz=59,slow=5.6,SNR=2.7						

*IDC **17** 12:34:39.6±2.1, 33°.28S×72°.26W, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, ML3.2/2, Error ellipse: s-maj=67.6km s-min=40.7km az=161.0*

*ISCJB **17** 12:34:42.3±3.2, 32°.79S±0°.08×72°.1W±0°.2, h15km±25km, mb3.7/1, Error ellipse: s-maj=24.7km s-min=11.1km az=158.6*

*GUC **17** 12:34:42.8±0.5, 32°.74S×71°.95W, h7km±2km, MD3.5, ML3.7*

ISC 17 12:34:42.8±2.7, 32°.81S±0°.06×71°.98W±0°.10, h10km±15km, n15, σ0§81/21, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.35**	**127**	⇓*iP*	**Pb**	**12 34 50.9**	**-0.3**
IHA				*i* S1	**Sb**	**12 34 56.7**	**-0.2**
PEL	**Peldehue**	**1.14**	**107**	⇑*iP*	**Pb**	**12 35 03.9**	**-0.7**
PEL				*i* S1	**Sn**	**12 35 19.7**	**-0.9**
PEL				AML	AML	12 35 24.8	
	comp=N,5μm,0.3s						
TACH	**Talagante**	**1.21**	**134**	⇑*iP*	**Pn**	**12 35 05.1**	**-0.7**
SAN	**Santiago**	**1.28**	**120**	⇑*iP*	**Pb**	**12 35 06.5**	**-0.5**
SAN				*i* S	**Sg**	**12 35 24.0**	**+0.1**
SAN				AML	AML	12 35 31.8	
	comp=N,1μm,0.6s						
CLCH	**Cerro Calan**	**1.34**	**116**	⇓*iP*	**Pn**	**12 35 07.3**	**-0.4**
CLCH				*i* S1	**Sn**	**12 35 25.5**	**-0.2**
CLCH				AML	AML	12 35 31.3	
	comp=N,3μm,0.5s						
ANTU	**Antumapu**	**1.36**	**124**	*e*P1	**Pn**	**12 35 07.5**	**-0.4**
ANTU				AML	AML	12 35 32.8	
	comp=N,1μm,0.6s						
PCH	**Pirque**	**1.47**	**124**	*i* P1	**Pn**	**12 35 09.8**	**+0.3**
CACH	**El Canelo**	**1.74**	**139**	⇓*iP*	**Pb**	**12 35 14.6**	**-0.3**
CACH				*i* S1	**Sg**	**12 35 38.9**	**+0.2**
CMCH	**Combarbala**	**1.84**	**27**	⇓*iP*	**Pn**	**12 35 13.4**	**-1.0**
CMCH				*i* S	**Sn**	**12 35 36.8**	**-1.0**
CMCH				AML	AML	12 35 46.4	
	comp=E,

3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.04**	**174**	⇑*iP*	Pn	12 42 42.6	+1.2
COCH				*i* S	Sn	12 42 56.9	+2.2
TALC	**Talca**	**1.09**	**107**	⇑*iP*	Pn	12 42 44.5	+2.4
TALC				*i* S	Sn	12 42 59.5	+3.5
LNCH	**Linares**	**1.31**	**125**	⇓*iP*	Pn	12 42 48.2	+3.1
LNCH				*i* S	Sn	12 43 06.1	+4.7
NICH	**Los Niches**	**1.39**	**87**	*eP*	Pn	12 42 48.2	+2.0
NICH				*i* S	Sn	12 43 06.9	+3.6
CLCH	**Cerro Calan**	**2.60**	**50**	*eP*1	Pn	12 43 06.3	+3.4
CLCH				IAML		12 43 55.9	
	comp=N,504nm,0.7s						
PEL	**Peldehue**	**2.69**	**44**	⇑*iP*	Pn	12 43 06.8	+2.6
PEL				IAML		12 43 52.6	
	comp=N,792nm,0.5s						

GUC 17 12:53:17.0±0.7, 34.72S×71.74W, h44km±2km, ML3.6, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.50**	**124**	*eP*1	Pn	12 53 28.7	+0.8
NICH				*i* S	Sn	12 53 37.2	+1.6
TALC	**Talca**	**0.68**	**173**	⇑*iP*	Pn	12 53 31.3	+1.0
TALC				*i* S	Sn	12 53 41.2	+1.4
LNV	**Longovilo**	**0.81**	**19**	⇑*iP*	Pn	12 53 32.9	+0.8
LNV				*i* S1	Sn	12 53 45.0	+2.1
CACH	**El Canelo**	**1.12**	**58**	⇓*iP*	Pn	12 53 38.3	+1.9
LNCH	**Linares**	**1.13**	**174**	*eP*	Pn	12 53 38.1	+1.7
LNCH				*i* S	Sn	12 53 53.4	+2.7
CHCH	**Chadas Angostu**	**1.19**	**49**	⇑*iP*	Pn	12 53 39.2	+1.9
CHCH				*i* S1	Sn	12 53 55.3	+2.9
ANTU	**Antumapu**	**1.47**	**39**	⇑*iP*	Pn	12 53 43.1	+2.0
ANTU				*i* S	Sn	12 54 02.5	+3.3
ANTU				IAML		12 54 03.9	
	comp=N,1μm,0.3s						
COCH	**Cobquecura**	**1.65**	**211**	*eP*1	Pn	12 53 45.4	+2.0
COCH				*eS*	Sn	12 54 06.5	+3.1
CLCH	**Cerro Calan**	**1.66**	**37**	⇑*iP*	Pn	12 53 45.8	+2.1
CLCH				*i* S	Sn	12 54 07.3	+3.5
CLCH				IAML		12 54 13.9	
	comp=N,986nm,0.7s						
PEL	**Peldehue**	**1.80**	**29**	⇓*iP*	Pn	12 53 48.1	+2.4
PEL				*i* S	Sn	12 54 10.8	+3.4
PEL				IAML		12 54 15.1	
	comp=E,930nm,0.4s						

*ISCJB **17** 12:54:44.6±0.4, 21.02S±0.04×69.47W±0.10, h90km±5km, mb3.8/6, Error ellipse: s-maj=15.4km s-min=6.2km az=173.0*
*NEIC **17** 12:54:44.0, 21.09S×69.64W, h84km, mb3.9/5, After GUC.*
NEIC Felt [III] at Pica.
*GUC **17** 12:54:44.7±0.7, 21.09S×69.64W, h84km±4km, ML4.1*
*IDC **17** 12:54:47.6±5.6, 21.10S×69.30W, h98km±42km, mb3.5/3, mb1 3.6/5, mb1mx3.4/18, mbtmp3.9/5, Error ellipse: s-maj=50.7km s-min=47.2km az=28.0*

ISC 17 12:54:45.1±0.7, 21.03S±0.04×69.54W±0.10, h83km±6km, n30, σ1°09/30, mb3.8/6, 4C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.05**	**112**	⇓*iP*	**Pn**	**12 54 57.3**	**+0.3**
PB01				*i* S	**Sn**	**12 55 06.1**	**+0.2**
PB01				AML	AML	12 55 08.3	
	comp=N,17μm,0.2s						
PB07	**IPOC Station P**	**0.77**	**205**	⇑*iP*	**Pn**	**12 55 01.5**	**-0.5**
PB07				*i* S	**Sn**	**12 55 13.4**	**-1.1**
PB07				AML	AML	12 55 14.1	
	comp=E,15μm,0.3s						
HMBC	**Humberstone**	**0.81**	**336**	⇓*iP*	**Pn**	**12 55 03.0**	**+0.6**
HMBC				*i* S	**Sn**	**12 55 16.3**	**+1.1**
HMBC				AML	AML	12 55 17.1	
	comp=E,7μm,0.4s						
PB04	**IPOC Station P**	**1.23**	**178**	⇑*iP*	**Pn**	**12 55 08.9**	**+1.7**
PB04				*i* S	**Sn**	**12 55 26.8**	**+2.9**
PB04				AML	AML	12 55 29.6	
	comp=E,2μm,0.5s						
PSGC	**Pisagua**	**1.52**	**339**	⇓*iP*	**Pn**	**12 55 11.3**	**+0.3**
PSGC				*i* S4	**Sn**	**12 55 30.6**	**+0.1**
PSGC				AML	AML	12 55 33.5	
	comp=E,2μm,0.2s						
PB06	**IPOC Station P**	**1.67**	**181**	⇑*iP*	**Pn**	**12 55 12.5**	**-0.5**
PB06				*i* S4	**Sn**	**12 55 32.6**	**-1.5**
LVC	**Limon Verde**	**1.68**	**160**	*e*Pn	**Pn**	**12 55 14.3**	**+1.0**
LVC				*e*Sn	**Sn**	**12 55 32.9**	**-1.5**
MNMC	**Minimini**	**1.89**	**358**	⇑*iP*	**Pn**	**12 55 17.3**	**+1.4**
MNMC				AML	AML	12 55 45.1	
	comp=N,5μm,0.2s						
CEN1	**Los Morros**	**2.43**	**195**	⇓*iP*	**Pn**	**12 55 24.9**	**+1.9**
LPAZ	**La Paz**	**4.90**	**16**	P	Pn	12 56 00.8	+3.9
	comp=N,2.4nm,0.3s,baz=203,slow=2.5,SNR=64						
LPAZ	**La Paz**	**4.90**	**16**	*e*Pn	Pn	12 56 01.2	+4.4
SIV	**San Ignacio**	**9.46**	**59**	P	**Pn**	**12 56 58.2**	**-0.4**
	comp=N,0.6nm,0.3s,baz=248,slow=12,SNR=6.8						
SAML	**Samuel**	**13.48**	**28**	Pn	**Pn**	**12 57 52.1**	**-0.9**
TRQA	**Tornquist**	**18.19**	**161**	*eP*	**P**	**12 58 51.0**	**-0.3**
	comp=N,3.2nm,0.6s						
PTGA	**Pitinga**	**22.23**	**26**	P	**P**	**12 59 35.5**	**+0.4**
	comp=N,5.3nm,0.3s,baz=198,slow=19,SNR=11						
PTGA	**Pitinga**	**22.23**	**26**	*eP*	**P**	**12 59 35.7**	**+0.7**
	comp=N,3.5nm,0.3s						
OTAV	**Otavalo**	**22.86**	**336**	P	**P**	**12 59 41.0**	**-1.2**
	comp=N,1.6nm,0.5s						
SDV	**Santo Domingo**	**29.74**	**358**	*eP*	**P**	**13 00 43.2**	**-0.8**
	comp=N,1.3nm,0.5s						
RCBR	**Riachuelo**	**35.92**	**70**	*eP*	**P**	**13 01 37.6**	**-0.2**
	comp=N,7.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**77.75**	**71**	P	**P**	**13 06 33.5**	**-0.1**
	comp=N,0.2nm,0.4s,baz=250,slow=4.9,SNR=3.8						
YKA	**Yellowknife Ar**	**90.55**	**341**	P	**P**	**13 07 38.2**	**+0.8**
	comp=N,0.1nm,0.5s,baz=136,slow=4.2,SNR=5.1						
YKA				pP	**pP**	**13 07 59.8**	**-0.1**
	comp=N,0.3nm,0.7s,baz=137,slow=4.7,SNR=4.5						
H11S2	**WAKE ISLAND Hyl27.24**	**278**		T	T	15 33 23.5	
	baz=102,slow=74,SNR=48						
H11S1	**WAKE ISLAND Hyl27.25**	**278**		T	T	15 33 21.9	
	baz=102,slow=74,SNR=32						
H11S3	**WAKE ISLAND Hyl27.25**	**278**		T	T	15 33 22.5	
	baz=102,slow=74,SNR=30						
H11N3	**WAKE ISLAND Hyl27.31**	**279**		T	T	15 33 33.2	
	baz=102,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hyl27.32**	**279**		T	T	15 33 39.3	
	baz=102,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hyl27.32**	**279**		T	T	15 33 42.4	
	baz=102,slow=75,SNR=10						
ASAR	**Alice Springs**	**130.06**	**208**	PKP	**PKPdf**	**13 13 46.1**	**0.0**
	comp=N,0.3nm,0.8s,baz=147,slow=2.2,SNR=4.4						
WRA	**Warramunga Arr**	**133.06**	**211**	PKP	**PKPdf**	**13 13 52.1**	**+0.3**
	comp=N,0.5nm,0.8s,baz=159,slow=1.9,SNR=8.4						
MKAR	**Makanchi Array**	**145.59**	**35**	PKPbc	**PKPab**	**13 14 14.8**	**+0.4**
	comp=N,0.2nm,0.4s,baz=20,slow=4.6,SNR=4.4						
MKAR				pPKPbc	pPKPbc	13 14 37.1	-0.1
	comp=N,0.8nm,0.7s,baz=316,slow=10,SNR=6.8						

GUC 17 12:55:43.0±0.7, 35.27S×71.96W, h21km±5km, ML3.6, 5C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.29**	**116**	⇑*iP*	Pb	12 55 50.1	+0.5
TALC				*i* S	Sb	12 55 55.2	+1.0
LNCH	**Linares**	**0.65**	**153**	⇑*iP*	Pb	12 55 56.1	+0.5
LNCH				*i* S	Sn	12 56 05.8	-0.7
NICH	**Los Niches**	**0.65**	**66**	⇑*iP*	Pb	12 55 56.2	+0.4
NICH				*i* S	Sn	12 56 06.2	-0.5
CACH	**El Canelo**	**1.60**	**45**	⇑*iP*	Pb	12 56 11.7	-0.4
CHCH	**Chadas Angostu**	**1.71**	**39**	⇓*iP*	Pb	12 56 13.3	-0.6
ANTU	**Antumapu**	**2.02**	**33**	*e*P1	Pb	12 56 18.2	-0.9
ANTU				*eS*	Sb	12 56 45.2	+1.4
ANTU				IAML		12 56 46.0	
	comp=N,770nm,0.7s						
CLCH	**Cerro Calan**	**2.21**	**33**	*e*P1	Pb	12 56 21.1	-1.2
CLCH				*i* S	Sb	12 56 50.2	+0.9
CLCH				IAML		12 56 51.5	
	comp=E,350nm,0.2s						
CLCH				IAML		12 56 55.2	
	comp=E,551nm,0.6s						
PEL	**Peldehue**	**2.37**	**27**	⇑*iP*	Pb	12 56 23.8	-1.2
PEL				*i* S	Sb	12 56 53.9	0.0
PEL				IAML		12 56 57.8	
	comp=E,332nm,0.3s						

*SJA **17** 13:04:51.5±0.3, 33.12S×70.66W, h447km±19km, ML3.6*
*ISCJB **17** 13:04:58.4±1.8, 34.47S±0.06×71.9W±0.1, h16km±12km, Error ellipse: s-maj=18.3km s-min=5.7km az=25.8*
*GUC **17** 13:04:58.2±0.6, 34.45S×71.97W, h9km±4km, ML3.7*

ISC 17 13:04:56.4±2.4, 34.44S±0.07×72.0W±0.1, h6km±15km, n17, σ1°09/27, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.69**	**46**	*e*P1	**Pb**	**13 05 10.4**	**-0.4**
NICH	**Los Niches**	**0.85**	**132**	⇓*iP*	**Pg**	**13 05 13.1**	**+0.3**
NICH				*i* S	**Sg**	**13 05 24.1**	**+0.3**
TALC	**Talca**	**1.01**	**163**	⇑*iP*	**Pg**	**13 05 15.3**	**-0.4**
TALC				*i* S	**Sg**	**13 05 28.7**	**-0.1**
TACH	**Talagante**	**1.18**	**49**	*e*P1	**Pn**	**13 05 18.7**	**-0.9**
CACH	**El Canelo**	**1.21**	**75**	⇓*iP*	**Pb**	**13 05 19.4**	**-0.3**
CHCH	**Chadas Angostu**	**1.23**	**66**	*e*P1	**Pn**	**13 05 19.2**	**-1.0**
ANTU	**Antumapu**	**1.43**	**53**	*e*P1	**Pn**	**13 05 22.6**	**-0.3**
ANTU				*i* S	**Sn**	**13 05 41.1**	**-1.0**
ANTU				IAML		13 05 46.5	
	comp=N,2μm,0.9s						
PCH	**Pirque**	**1.48**	**57**	*e*P1	**Pn**	**13 05 23.1**	**-0.6**
PCH				*i* S1	**Sn**	**13 05 42.2**	**-1.3**
SAN	**Santiago**	**1.48**	**49**	*e*P1	**Pn**	**13 05 23.4**	**-0.3**
SJCH	**San Jose de Ma**	**1.58**	**60**	*e*P1	**Pn**	**13 05 24.9**	**-0.3**
SJCH				*eS*	**Sn**	**13 05 44.6**	**-1.4**
CLCH	**Cerro Calan**	**1.60**	**50**	*e*P1	**Pn**	**13 05 25.3**	**-0.1**
CLCH				*eS*	**Sn**	**13 05 45.9**	**-0.6**
CLCH				IAML		13 05 55.3	
	comp=E,1μm,0.7s						
CLCH				IAML		13 05 55.9	
	comp=E,1μm,0.7s						
PEL	**Peldehue**	**1.69**	**41**	⇑*iP*	**Pn**	**13 05 26.7**	**+0.1**
PEL				*i* S	**Sn**	**13 05 48.6**	**-0.1**
PEL				IAML		13 05 51.7	
	comp=N,2μm,0.5s						
COCH	**Cobquecura**	**1.81**	**201**	*e*P1	**Pn**	**13 05 27.9**	**-0.2**
COCH				*i* S	**Sn**	**13 05 51.6**	**+0.2**
AAGR	**Agrelo**	**2.97**	**64**	*i* P	**Pb**	**13 05 49.8**	**0.0**
ARCO	**CERRO ARCO**	**3.02**	**59**	*i* P	**Pb**	**13 05 49.6**	**-1.0**
ARCO				*i* S	**Sg**	**13 06 32.6**	**-0.7**
ARCO				AML	AML	13 06 37.0	
	comp=Z,67nm,1.0s						
AUSP	**Uspallata**	**3.11**	**46**	*i* P	Pn	13 05 49.7	+3.4
AUSP				*i* S	**Sb**	**13 06 32.9**	**+2.3**
ASAL	**Salagasta**	**3.22**	**56**	*i* P	**Pn**	**13 05 50.2**	**+2.5**
ASAL				*i* P	**Pn**	**13 05 50.2**	**+2.5**

MAN 17 13:07:24, 12.07N×125.26E, h28km, mb4.5, ML3.3, MS3.2, 2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.50**	**160**	*eP*	Pn	13 07 35.8	+0.5
BESP				*eS*	Sn	13 07 44.1	+1.1
PLP	**Palo**	**0.94**	**197**	⇓*eP*	Pn	13 07 40.8	-0.7
PLP				*eS*	Sb	13 07 52.9	-1.1
PVCP	**Virac**	**1.86**	**325**	⇓*eP*	Pn	13 07 55.0	+0.9
MSLP	**Maasin**	**1.97**	**192**	*eP*	Pb	13 07 57.8	-1.4
MSLP				*eS*	Sn	13 08 20.7	+1.5

*ISCJB **17** 13:29:27.5±0.5, 6.69S±0.04×129.10E±0.05, h200km, mb3.6/3, Error ellipse: s-maj=7.3km s-min=5.4km az=19.3*
*IDC **17** 13:29:27.9±4.5, 6.70S×129.09E, h185km±39km, mb3.4/3, mb1 3.8/6, mb1mx3.4/22, mbtmp4.3/6, Error ellipse: s-maj=40.1km s-min=22.0km az=60.0*

ISC 17 13:29:28.4±0.7, 6.70S±0.05×129.18E±0.06, h200km, n19, σ2°09/25, mb3.4/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.84**	**39**	P	**Pn**	**13 30 40.8**	**-0.1**
	baz=4.9,SNR=17						
FAKI				S	**Sn**	**13 31 32.8**	**-5.2**
	baz=4.9,SNR=5.4						
SOEI	**Soe**	**5.74**	**238**	P	**Pn**	**13 30 52.1**	**-0.3**
	baz=5.7,SNR=20						
SOEI				S	**Sn**	**13 31 56.5**	**-2.3**
	baz=5.7,SNR=4.3						
SWI	**Sorong**	**6.16**	**20**	P	**Pn**	**13 30 58.1**	**+0.3**
	baz=6.2,SNR=4.4						
SWI				S	**Sn**	**13 32 06.4**	**-2.1**
	baz=6.2,SNR=4.4						
MTN	**Manton Dam**	**6.40**	**163**	P	**Pn**	**13 31 01.8**	**+0.9**
	baz=6.5,SNR=91						
MTN				S	**Sn**	**13 32 11.3**	**-3.0**
	baz=6.5,SNR=14						
BATI	**Baumata**	**6.48**	**237**	P	**Pn**	**13 31 00.9**	**-1.0**
	14nm,0.3s,baz=100,slow=7.9,SNR=19						
BATI				S	**Sn**	**13 32 12.5**	**-3.5**
	20nm,0.3s,baz=77,slow=18,SNR=10						
KDU	**Kakadu**	**6.78**	**152**	P	**Pn**	**13 31 06.8**	**+0.9**
	baz=6.9,SNR=26						
KDU				S	**Sn**	**13 32 20.1**	**-3.0**
	baz=6.9,SNR=8.5						
KNRA	**Kununurra**	**8.94**	**183**	P	**Pn**	**13 31 33.8**	**-0.1**
	baz=9.1,SNR=114						
KNRA				S	Sn	13 33 06.7	-7.4
	baz=9.1,SNR=14						
FITZ	**Fitzroy Crossi**	**11.85**	**197**	P	**Pn**	**13 32 11.2**	**-0.2**
	baz=12,SNR=15						
FITZ				S	Sn	13 34 16.9	-6.8
	baz=12,SNR=4.2						
WRA	**Warramunga Arr**	**14.09**	**160**	P	**Pn**	**13 32 39.1**	**-0.5**
	2.5nm,0.3s,baz=346,slow=12,SNR=85						
WRA				S	S	13 35 07.4	-9.1
	0.6nm,0.3s,baz=332,slow=22,SNR=7.3						
QIS	**Mount Isa**	**17.09**	**145**	P	**Pn**	**13 33 17.1**	**+1.2**
	baz=17,SNR=10						
ASAR	**Alice Springs**	**17.47**	**165**	P	**Pn**	**13 33 20.9**	**+0.5**
	1.9nm,0.3s,baz=344,slow=10,SNR=180						
ASAR				S	**S**	**13 36 28.9**	**-1.0**
	0.2nm,0.3s,baz=348,slow=20,SNR=6.4						
WRKA	**Warakurna**	**18.26**	**183**	P	**Pn**	**13 33 29.1**	**-0.5**
	baz=18,SNR=45						
WRKA				S	**S**	**13 36 49.5**	**+3.9**
	baz=18,SNR=3.1						
MTSU	**Mount Surprise**	**18.63**	**129**	S	S	13 37 01.1	+8.1
	baz=19,SNR=6.4						
QLP	**Quilpie**	**24.43**	**146**	P	**P**	**13 34 31.1**	**+2.3**
	baz=25,SNR=7.1						
NWAO	**Narrogin (SRO)**	**28.36**	**201**	P	**P**	**13 35 04.6**	**+0.6**
	4.3nm,0.8s,baz=41,slow=9.3,SNR=3.4						
CMSA	**Cobar Meteorol**	**29.14**	**150**	P	P	13 35 13.3	+2.4
	baz=29,SNR=8.4						
MKAR	**Makanchi Array**	**67.53**	**327**	P	**P**	**13 40 04.1**	**+0.9**
	0.3nm,0.3s,baz=130,slow=6.9,SNR=6.9						
KURBB	**Kurchatov Arra**	**71.83**	**329**	P	**P**	**13 40 30.5**	**+1.2**
	0.3nm,0.4s,baz=124,slow=5.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**127.95**	**281**	PKP	**PKPdf**	**13 48 11.7**	**+0.2**
	0.1nm,0.4s,baz=63,slow=1.8,SNR=2.5						

*IDC **17** 13:32:30.0±1.3, 30.89N×50.07E, h0km, mb3.6/15, mb1 3.7/17, mb1mx3.7/32, mbtmp3.6/17, ML3.7/1, MS2.9/3, Ms1 2.9/3, ms1mx2.4/37, Error ellipse: s-maj=31.1km s-min=18.3km az=176.0*
*THR **17** 13:32:30.7±0.5, 30.67N×50.26E, h17km±11km, ML3.5*
*ISCJB **17** 13:32:31.8±0.6, 30.74N±0.06×50.14E±0.06, h25km, mb3.6/14, MS3.4/1, Error ellipse: s-maj=9.4km s-min=6.2km az=31.1*
*CSEM **17** 13:32:31.1±0.3, 30.71N×50.19E, h2km, ML3.6, Error ellipse: s-maj=7.9km s-min=2.9km az=42.0*
*TEH **17** 13:32:34.2, 30.71N×50.22E, h23km, ML3.6*
*ISN **17** 13:33:03.2±2.1, 28.10N×44.70E, h0km±293km, ML4.2*

ISC 17 13:32:33.6±0.7, 30.76N±0.08×50.19E±0.06, h25km, n58, σ1°29/58, mb3.6/14, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**1.73**	**124**	*e*Pn	**Pn**	**13 33 02.8**	**+0.5**
IKAZ				*e*		13 33 35.2	
	comp=Z,17μm,0.2s						
IKAZ	**Kazeroun**	**1.73**	**124**	*e*Pn	**Pn**	**13 33 02.8**	**+0.5**
SHGR	**Shooshtar-Gavs**	**1.80**	**319**	*e*Pg	**Pb**	**13 33 05.3**	**-0.6**
SHGR				*e*Sg	**Sb**	**13 33 30.5**	**+2.5**
SHGR				AML	AML	13 33 36.1	
	comp=E,907nm,0.4s						
SHGR				AML	AML	13 33 43.7	
	comp=N,946nm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.80**	**319**	*e*Pg	**Pb**	**13 33 05.3**	**-0.6**
SHGR				*e*Sg	**Sb**	**13 33 30.5**	**+2.5**
	comp=N,947nm,0.6s						
IPAR	**Pars**	**2.63**	**110**	*e*Pn	**Pn**	**13 33 14.7**	**-0.1**
IPAR				*e*		13 34 11.9	
	comp=Z,2μm,0.4s						
IPAR	**Pars**	**2.63**	**110**	*e*Pn	**Pn**	**13 33 14.7**	**-0.1**
ISRV	**Sarvestan**	**2.88**	**118**	*e*Pn	**Pn**	**13 33 18.6**	**+0.4**
ISRV				*e*Sg	**Sb**	**13 34 03.0**	**+3.7**
ISRV				*e*		13 34 13.6	
	comp=Z,2μm,0.3s						
ISRV	**Sarvestan**	**2.88**	**118**	*e*Pn	**Pn**	**13 33 18.6**	**+0.4**
ISRV				*e*Sg	**Sb**	**13 34 03.0**	**+3.7**
KHMZ	**Khomeyn**	**2.98**	**356**	*e*Pn	**Pn**	**13 33 20.6**	**+1.0**
KHMZ	**Khomeyn**	**2.98**	**356**	*e*Pn	**Pn**	**13 33 20.5**	**+1.0**
NASN	**Na'in**	**3.02**	**47**	*e*Pn	**Pn**	**13 33 20.4**	**+0.3**
NASN	**Na'in**	**3.02**	**47**	*e*Pn	**Pn**	**13 33 20.4**	**+0.3**
NSR	**Nassriya**	**3.49**	**275**	*e*Pn	Pb	13 33 55.6	+21
NSR				*i* Sn	Sb	13 34 32.7	+16
ASAO	**Ashtian**	**3.79**	**358**	*e*Pn	**Pn**	**13 33 31.9**	**+1.3**
ASAO				AML	AML	13 34 41.5	
	comp=E,47nm,0.8s						
ASAO				AML	AML	13 34 46.4	
	comp=N,40nm,0.7s						
ASAO	**Ashtian**	**3.79**	**358**	*e*Pn	**Pn**	**13 33 31.9**	**+1.3**
	comp=N,40nm,0.7s						
GHVR	**GHOM**	**3.83**	**14**	*e*Pn	**Pn**	**13 33 32.1**	**+1.1**
GHVR				AML	AML	13 34 42.8	
	comp=N,32nm,0.5s						
GHVR				AML	AML	13 34 46.3	
	comp=E,43nm,0.8s						
GHVR	**GHOM**	**3.83**	**14**	*e*Pn	**Pn**	**13 33 32.1**	**+1.1**
	comp=E,43nm,0.8s						
IMEH	**Mehriz**	**3.84**	**79**	*e*Pn	**Pn**	**13 33 31.6**	**+0.2**
IMEH				*e*		13 34 21.9	
	comp=Z,666nm,0.2s						
IMEH	**Mehriz**	**3.84**	**79**	*e*Pn	**Pn**	**13 33 31.6**	**+0.2**
ICHK	**Chekchek**	**3.89**	**67**	*e*Pn	**Pn**	**13 33 32.2**	**+0.2**
ICHK				*e*		13 34 23.2	
	comp=Z,1μm,0.3s						
ICHK	**Chekchek**	**3.89**	**67**	*e*Pn	**Pn**	**13 33 32.2**	**+0.2**
IVRN	**Varamin**	**4.42**	**17**	*e*Pn	**Pn**	**13 33 40.0**	**+0.8**
IVRN				*e*		13 35 33.8	
	comp=Z,289nm,0.3s						
IVRN	**Varamin**	**4.42**	**17**	*e*Pn	**Pn**	**13 33 40.0**	**+0.8**
IRAZ	**Razeghan**	**4.64**	**357**	*e*Pn	**Pn**	**13 33 43.5**	**+1.2**
IRAZ				*e*		13 35 17.6	
	comp=Z,503nm,0.3s						
IRAZ	**Razeghan**	**4.64**	**357**	*e*Pn	**Pn**	**13 33 43.5**	**+1.2**
IBAF	**Bafgh**	**4.68**	**78**	*e*Pn	**Pn**	**13 33 42.5**	**-0.3**
IBAF				*e*		13 35 22.2	
	comp=Z,224nm,0.5s						
IBAF	**Bafgh**	**4.68**	**78**	*e*Pn	**Pn**	**13 33 42.5**	**-0.3**
IDMV	**Damavand**	**5.05**	**17**	*e*Pn	**Pn**	**13 33 48.5**	**+0.4**
IDMV				*e*		13 35 42.5	
	comp=Z,295nm,0.4s						
IDMV	**Damavand**	**5.05**	**17**	*e*Pn	**Pn**	**13 33 48.4**	**+0.4**
IDHR	**Dehrash**	**5.08**	**322**	*e*Pn	**Pn**	**13 33 48.6**	**+0.4**
IDHR				*e*		13 34 53.9	
	comp=Z,712nm,0.1s						
IDHR	**Dehrash**	**5.08**	**322**	*e*Pn	**Pn**	**13 33 48.6**	**+0.4**
DAMV	**Damavand**	**5.08**	**17**	*e*Pn	**Pn**	**13 33 49.2**	**+0.8**
DAMV	**Damavand**	**5.08**	**17**	*e*Pn	**Pn**	**13 33 49.2**	**+0.8**
IFIR	**Firoozkooh**	**5.33**	**23**	*e*Pn	**Pn**	**13 33 53.0**	**+1.2**
IFIR				*e*		13 34 26.4	
	comp=Z,178nm,0.2s						
IFIR	**Firoozkooh**	**5.33**	**23**	*e*Pn	**Pn**	**13 33 53.0**	**+1.2**
BHD	**Baghdad**	**5.54**	**298**	*e*PN	Pb	13 34 22.9	+13
BHD				*e*SN	**Sb**	**13 35 19.6**	**+4.1**
TABS	**Tabas**	**6.54**	**62**	*e*Pn	**Pn**	**13 34 08.4**	**+0.1**
TABS	**Tabas**	**6.54**	**62**	*e*Pn	**Pn**	**13 34 08.4**	**+0.1**
GEYT	**Alibeck**	**9.70**	**40**	Pn	**Pn**	**13 34 52.1**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=218,slow=9.4,SNR=6.2						
MMAI	**Mount Meron Ar**	**12.77**	**284**	LR	LR	13 41 48.7	
	comp=Z,27nm,19.1s,baz=125,slow=44						
EIL	**Elat**	**13.23**	**269**	LR	LR	13 42 00.4	
	comp=Z,43nm,19.1s,baz=84,slow=44						
BRTR	**Keskin Array B**	**16.20**	**308**	Pn	**Pn**	**13 36 19.0**	**-0.6**
	baz=138,slow=12,SNR=1.3						
AKTO	**Aktyubinsk**	**20.51**	**14**	P	**P**	**13 37 08.5**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=190,slow=7.7,SNR=3.2						
MLR	**Muntele Rosu**	**23.96**	**315**	P	**P**	**13 37 44.3**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=155,slow=14,SNR=2.3						
AKASG	**Malin Array Be**	**25.33**	**328**	P	**P**	**13 37 57.2**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=137,slow=9.1,SNR=4.4						
BVAR	**Borovoye Array**	**26.68**	**28**	P	**P**	**13 38 10.3**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=216,slow=7.3,SNR=5.1						
KURBB	**Kurchatov Arra**	**28.97**	**39**	P	**P**	**13 38 30.3**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=240,slow=9.7,SNR=3.6						
MKAR	**Makanchi Array**	**29.45**	**48**	P	**P**	**13 38 35.2**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=245,slow=12,SNR=4.5						
ZALV	**Zalesovo Beam**	**33.99**	**37**	P	**P**	**13 39 14.7**	**

*IDC **17** 14:06:50.1±8.5, 15°.10N×92°.80W, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/32, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=176.3km s-min=75.4km az=16.0*
*ISCJB **17** 14:07:01.8±0.8, 15°.36N±0°.07×93°.70W±0°.05, h66km±9km, mb3.3/2, Error ellipse: s-maj=12.2km s-min=7.2km az=13.2*
*MEX **17** 14:07:03.5±0.5, 15°.37N×93°.69W, h71km±7km, MD3.9*

ISC 17 14:07:02.6±1.2, 15°.36N±0°.08×93°.69W±0°.05, h61km±12km, n10, σ1§00/17, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.57**	**53**	*i* P	**Pn**	**14 07 15.6**	**+0.1**
PCIG				*i* S	**Sn**	**14 07 25.4**	**+0.6**
THIG		**1.45**	**108**	*e*P	**Pn**	**14 07 26.2**	**-0.5**
THIG				*i* S	**Sn**	**14 07 44.5**	**-0.2**
TGIG		**1.52**	**21**	*i* P	**Pn**	**14 07 27.3**	**-0.4**
TGIG				*i* S	**Sn**	**14 07 45.2**	**-1.2**
CCIG	**Comitan**	**1.76**	**58**	*e*P	**Pn**	**14 07 31.5**	**+0.5**
CCIG				*e*S	**Sn**	**14 07 51.8**	**-0.7**
CMIG	**Matias Romero**	**2.07**	**327**	*e*P	**Pn**	**14 07 35.5**	**+0.4**
CMIG				*e*S	**Sn**	**14 07 59.7**	**-0.1**
CMIG	**Matias Romero**	**2.07**	**327**	Pn	**Pn**	**14 07 36.1**	**+0.9**
	12nm,0.3s,baz=139,slow=11,SNR=88						
CMIG				Sn	**Sn**	**14 07 58.1**	**-1.8**
	30nm,0.3s,baz=112,slow=16,SNR=13						
HUIG	**Huatulco**	**2.37**	**280**	*e*P	**Pn**	**14 07 39.1**	**-0.1**
HUIG				*e*S	**Sn**	**14 08 06.0**	**-1.0**
TXAR	**Lajitas Array**	**16.68**	**328**	P	**P**	**14 10 54.5**	**+0.6**
	0.0nm,0.3s,baz=140,slow=13,SNR=7.0						
NVAR	**Mina Array Bea**	**31.59**	**321**	P	**P**	**14 13 21.5**	**+1.6**
	0.5nm,0.7s,baz=137,slow=8.3,SNR=2.4						
YKA	**Yellowknife Ar**	**49.34**	**347**	P	**P**	**14 15 44.1**	**-1.4**
	0.2nm,0.5s,baz=153,slow=7.5,SNR=3.9						

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*IDC **17** 14:19:52.0±2.8, 9°.77S×114°.56E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/27, mbtmp3.1/3, Error ellipse: s-maj=154.4km s-min=25.7km az=47.0*
*ISCJB **17** 14:20:00.1±1.4, 9°.68S±0°.09×115°.13E±0°.06, h44km±22km, mb3.0/3, Error ellipse: s-maj=15.6km s-min=9.0km az=7.9*
*DJA **17** 14:20:01.2±0.7, 10°S±3°×11°5E±°, h36km±7km, M3.6/15, MLv3.6/15*

ISC 17 14:20:01.2±1.7, 9°.6S±0°.1×115°.16E±0°.07, h58km±19km, n12, σ1§07/20, mb2.9/3, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.78**	**359**	P	**Pn**	**14 20 15.8**	**-0.6**
IGBI				S	**Sn**	**14 20 26.1**	**-1.4**
DNP	**Denpasar**	**0.92**	**3**	P	**Pn**	**14 20 18.0**	**-0.2**
DNP				S	**Sn**	**14 20 31.1**	**+0.4**
JAGI	**Jajag, Banyuwa**	**1.50**	**318**	P	**Pn**	**14 20 26.2**	**+0.2**
JAGI				S	**Sn**	**14 20 44.2**	**-0.4**
SRBI	**Singaraja**	**1.51**	**2**	P	**Pn**	**14 20 26.6**	**+0.5**
SRBI				S	**Sn**	**14 20 45.7**	**+1.0**
ABJI	**Asem Bagus**	**2.02**	**333**	P	**Pn**	**14 20 33.1**	**+0.2**
GMJI	**Gumukmas**	**2.15**	**308**	P	**Pn**	**14 20 36.0**	**+1.3**
GMJI				S	**Sn**	**14 21 01.0**	**+0.7**
BLJI	**Banyuglugur**	**2.41**	**320**	P	**Pn**	**14 20 39.0**	**+0.7**
BLJI				S	**Sn**	**14 21 07.9**	**+1.2**
KMMI	**Kalianget**	**2.80**	**335**	P	**Pn**	**14 20 43.8**	**+0.2**
KMMI				S	**Sn**	**14 21 17.8**	**+1.6**
PWJI	**Pagerwojo**	**3.67**	**295**	P	**Pn**	**14 20 54.9**	**-0.7**
PWJI				S	**Sn**	**14 21 37.0**	**-0.6**
WRA	**Warramunga Arr**	**21.18**	**121**	P	**P**	**14 24 43.6**	**+1.6**
	0.2nm,0.5s,baz=294,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**22.72**	**130**	P	**P**	**14 24 59.4**	**+0.8**
	0.2nm,0.4s,baz=306,slow=7.9,SNR=4.2						
MKAR	**Makanchi Array**	**63.34**	**335**	P	**P**	**14 30 22.5**	**-1.9**
	0.1nm,0.4s,baz=145,slow=5.3,SNR=5.5						

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*IDC **17** 14:24:35.5±1.4, 36°.50S×73°.39W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.8/18, mbtmp3.6/6, ML3.4/2, MS2.8/2, Ms1 2.8/2, ms1mx2.6/27, Error ellipse: s-maj=38.8km s-min=20.3km az=72.0*
*ISCJB **17** 14:24:37.5±0.8, 36°.57S±0°.05×73°.37W±0°.09, h27km, mb3.7/3, Error ellipse: s-maj=10.1km s-min=6.2km az=15.2*

ISC 17 14:24:39.0±1.0, 36°.54S±0°.05×73°.2W±0°.1, h27km, n11, σ1§29/16, mb3.9/3, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.31**	**165**	⇓*i*P	**Pb**	**14 24 45.2**	**-1.2**
CCSP				*i* S	**Sb**	**14 24 50.4**	**-1.0**
CCSP				IAML		14 24 51.2	
	comp=E,27μm,0.5s						
COCH	**Cobquecura**	**0.53**	**40**	⇑*i*P	**Pn**	**14 24 49.2**	**-1.7**
COCH				*i* S	**Sn**	**14 24 58.1**	**-0.9**
COCH				IAML		14 24 59.2	
	comp=E,7μm,0.4s						
LNCH	**Linares**	**1.48**	**62**	⇓*i*P	**Pb**	**14 25 04.7**	**-1.1**
LNCH				*i* S	**Sb**	**14 25 25.1**	**+1.0**
TALC	**Talca**	**1.71**	**49**	*e*P	**Pb**	**14 25 08.0**	**-1.8**
TALC				*i* S	**Sb**	**14 25 31.2**	**+0.2**
CLCH	**Cerro Calan**	**3.83**	**36**	⇑*i*P	**Pn**	**14 25 37.1**	**+0.8**
CLCH				*e*S	**Sn**	**14 26 23.3**	**+2.7**
PLCA	**Paso Flores**	**4.67**	**154**	Pn	**Pn**	**14 25 48.7**	**+0.8**
	comp=E,0.6nm,0.3s,baz=326,slow=13,SNR=21						
PLCA				Lg	Lg	14 27 07.8	
	comp=E,2.1nm,0.3s,baz=280,slow=23,SNR=5.0						
PLCA				LR	LR	14 27 36.0	
	comp=E,253nm,20.1s,baz=304,slow=38						
CFAA	**Coronel Fontan**	**6.42**	**41**	Pn	**Pn**	**14 26 11.4**	**-0.5**
	comp=E,0.4nm,0.3s,baz=218,slow=15,SNR=8.0						
CFAA				Sn	**Sn**	**14 27 24.7**	**+0.3**
	comp=E,0.2nm,0.3s,baz=188,slow=13,SNR=3.5						
CFAA				LR	LR	14 28 54.5	
	comp=E,30nm,19.7s,baz=228,slow=40						
LPAZ	**La Paz**	**20.67**	**14**	P	Pn	14 29 18.4	-1.6
	comp=E,0.9nm,0.8s,baz=198,slow=5.9,SNR=3.6						
SIV	**San Ignacio**	**23.14**	**31**	P	**P**	**14 29 44.0**	**+0.7**
	comp=E,3.2nm,0.9s,baz=219,slow=11,SNR=3.7						
TXAR	**Lajitas Array**	**71.51**	**332**	P	**P**	**14 35 57.2**	**-0.2**
	comp=E,0.7nm,0.6s,baz=150,slow=7.4,SNR=9.8						
NVAR	**Mina Array Bea**	**85.44**	**326**	P	**P**	**14 37 14.9**	**+0.7**
	comp=E,0.3nm,0.6s,baz=170,slow=5.5,SNR=3.4						

PRE 17 14:40:53.8±18.0, 26°.71S×26°.86E, h2km, ML2.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOAB	**Moab Khotsong**	**0.28**	**192**	*e*P	Pg	14 40 59.0	-0.4
MOAB				*e*S	Sg	14 41 00.4	-2.8
MOAB				AML	AML	14 41 00.7	
	comp=Z,2μm,0.2s						
TLEK	**Tau Lekoa**	**0.30**	**214**	*e*P	Pg	14 40 58.4	-1.4
TLEK				*e*S	Sg	14 40 59.3	-4.5
TLEK				AML	AML	14 40 59.8	
	comp=Z,1μm,0.2s						
PRYS	**Parys**	**0.49**	**115**	*e*P	Pn	14 41 07.1	-1.0
PRYS				*e*S	Sb	14 41 35.0	+22
PRYS				AML	AML	14 41 55.1	
	comp=Z,186nm,0.6s						
KSR	**Koster**	**0.86**	**2**	*e*P	Pn	14 41 12.8	-0.4
KSR				*e*S	Sn	14 41 26.8	+0.3
KSR				AML	AML	14 41 34.9	
	comp=Z,34nm,0.6s						
CRWM	**Crown Mines**	**1.14**	**66**	*e*P	Pn	14 41 19.0	+1.9
CRWM				*e*S	Sn	14 41 35.8	+2.4
CRWM				AML	AML	14 41 41.2	
	comp=Z,121nm,0.5s						
OBSV	**Observatory**	**1.21**	**64**	*e*P	Pg	14 41 15.4	-1.9
OBSV				*e*S	Sg	14 41 23.2	-10
OBSV				AML	AML	14 41 31.1	
	comp=Z,113nm,0.5s						
ERPM	**east rand prop**	**1.29**	**74**	*e*P	Pg	14 41 11.8	-7.1
ERPM				*e*S	Sg	14 41 21.4	-14
ERPM				AML	AML	14 41 26.4	
	comp=Z,92nm,0.4s						
SEK	**Senekal**	**1.74**	**157**	*e*P	Pb	14 41 26.5	-0.3
SEK				*e*S	Sn	14 41 47.3	-0.9
SEK				AML	AML	14 41 50.2	
	comp=Z,104nm,0.2s						
LBTB	**Lobatse**	**2.04**	**326**	*e*P	Pg	14 41 34.4	+1.3
LBTB				*e*S	Sb	14 41 58.1	+0.5
LBTB				AML	AML	14 42 03.6	
	comp=Z,57nm,0.5s						
BOSA	**Boshof**	**2.37**	**217**	*e*P	Pn	14 41 33.2	-0.7
BOSA				*e*S	Sn	14 42 02.1	-1.6
BOSA				AML	AML	14 42 13.9	
	comp=Z,15nm,0.3s						
BOSA	**Boshof**	**2.37**	**217**	*i* P	Pn	14 41 33.2	-0.7
BOSA				*i*		14 41 33.3	
	baz=39,slow=16						
BOSA				*i* S	Sn	14 41 55.9	-7.7
KSD	**Kokstad**	**4.42**	**150**	*e*P	Pb	14 42 12.6	+0.2
KSD				*e*S	Sn	14 42 41.0	-13
KSD				AML	AML	14 43 14.9	
	comp=Z,18nm,0.7s						

IDC 17 15:00:46.7±2.2, 20°.92S×69°.62W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, ML3.6/1, MS2.6/1, Ms1 2.7/1, ms1mx2.5/18, Error ellipse: s-maj=69.9km s-min=44.0km az=95.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.81**	**17**	Pn	Pn	15 01 59.9	-1.4
	1.4nm,0.3s,baz=195,slow=7.2,SNR=23						
LPAZ				Sn	Sn	15 03 01.4	+3.0
	0.3nm,0.3s,baz=204,slow=10.0,SNR=1.5						
LPAZ				LR	LR	15 04 02.2	
	comp=Z,70nm,20.9s,baz=242,slow=41						
TORD	**Torodi Ar. Bea**	**77.79**	**71**	P	P	15 12 46.6	+0.2
	0.3nm,0.5s,baz=248,slow=5.4,SNR=6.5						
YKA	**Yellowknife Ar**	**90.42**	**341**	P	P	15 13 49.9	+0.3
	0.1nm,0.4s,baz=132,slow=4.9,SNR=2.9						
H11S2	**WAKE ISLAND Hyl**	**27.14**	**278**	T	T	17 39 05.1	
	baz=99						
H11S1	**WAKE ISLAND Hyl**	**27.15**	**278**	T	T	17 39 10.2	
	baz=99						
H11S3	**WAKE ISLAND Hyl**	**27.16**	**278**	T	T	17 39 05.9	
	baz=99						
H11N3	**WAKE ISLAND Hyl**	**27.21**	**279**	T	T	17 39 03.2	
	baz=99						
H11N2	**WAKE ISLAND Hyl**	**27.23**	**279**	T	T	17 39 08.7	
	baz=99						
H11N1	**WAKE ISLAND Hyl**	**27.23**	**279**	T	T	17 38 57.5	
	baz=99						
MKAR	**Makanchi Array**	**145.54**	**35**	PKPbc	PKPdf	15 20 25.9	-1.1
	0.4nm,0.7s,baz=328,slow=5.1,SNR=5.2						

GUC 17 15:17:06.2±0.6, 35°.47S×73°.27W, h38km±6km, ML4.0, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.77**	**150**	⇑*i*P	Pn	15 17 21.4	+0.9
COCH				*i* S	Sn	15 17 32.5	+1.6
TALC	**Talca**	**1.33**	**88**	⇑*i*P	Pn	15 17 29.9	+1.7
TALC				*i* S	Sn	15 17 48.2	+3.4
LNCH	**Linares**	**1.41**	**106**	⇑*i*P	Pn	15 17 31.4	+2.1
LNCH				*i* S4	Sn	15 17 52.1	+5.4
NICH	**Los Niches**	**1.73**	**75**	*e*P1	Pn	15 17 36.6	+2.9
NICH				*i* S	Sn	15 17 59.0	+4.5
CHCH	**Chadas Angostu**	**2.64**	**55**	*e*P1	Pn	15 17 49.2	+2.9
CLCH	**Cerro Calan**	**3.06**	**48**	*e*P1	Pn	15 17 54.6	+2.5
CLCH				*i* S	Sn	15 18 31.7	+4.2
CLCH				IAML		15 18 54.2	
	comp=E,516nm,0.7s						
FCH	**Farellones**	**3.25**	**50**	*e*P1	Pn	15 17 58.6	+3.4
FCH				*e*S	Sn	15 18 37.9	+4.9
FCH				IAML		15 19 05.2	
	comp=N,195nm,0.8s						

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*AWI **17** 15:32:52.5, 55°.63S×28°.35W*
*ISCJB **17** 15:33:11.8±0.5, 58°.20S±0°.09×29°.8W±0°.2, h10km, mb4.7/15, MS3.9/12, Error ellipse: s-maj=14.8km s-min=10.8km az=141.3*
*IDC **17** 15:33:11.3±0.6, 58°.31S×29°.90W, h0km, mb4.5/9, mb1 4.5/10, mb1mx4.4/17, mbtmp4.4/10, ML2.6/1, MS3.9/13, Ms1 3.9/13, ms1mx3.8/20, Error ellipse: s-maj=22.5km s-min=18.7km az=79.0*
*BJI **17** 15:33:15.6, 58°.20S×29°.70W, h24km, mB5.2/4, Ms5.3/3, Ms7 5.0/3*
*NEIC **17** 15:33:18.8±2.4, 58°.27S×29°.74W, h51km±21km, mb5.0/6, Error ellipse: s-maj=12.9km s-min=9.5km az=215.0*

ISC 17 15:33:13.0±0.4, 58°.24S±0°.09×29°.68W±0°.10, h10km, n69, σ1§43/71, mb4.8/15, MS4.0/12, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.36**	**153**	P	**P**	**15 36 55.6**	**+1.4**
VNA3	**Neumayer Olymp**	**15.46**	**155**	P	**P**	**15 36 56.2**	**+0.8**
VNA2	**Neumayer--Watz**	**15.76**	**153**	P	**P**	**15 36 59.6**	**+1.0**
	baz=316,slow=12						
SNAA	**Sanae**	**17.37**	**151**	P	**P**	**15 37 17.3**	**+0.8**
SNAA	**Sanae**	**17.37**	**151**	P	**Pn**	**15 37 15.4**	**+0.2**
	0.0nm,0.3s,baz=309,slow=13,SNR=2.7						
SNAA				LR	LR	15 42 43.2	
	comp=Z,164nm,19.0s,baz=12,slow=33						
SNAA	**Sanae**	**17.37**	**151**	P	**P**	**15 37 17.3**	**+0.8**
USHA	**Ushuaia**	**21.43**	**262**	LR	LR	15 44 19.9	
	comp=Z,674nm,18.8s,baz=72,slow=31						
SYO	**Syowa Base**	**30.78**	**139**	⇑*e*pP	pP	15 39 33.2	+2.1
PLCA	**Paso Flores**	**31.18**	**286**	P	**P**	**15 39 30.4**	**-1.5**
	3.9nm,0.9s,baz=137,slow=9.1,SNR=5.0						
PLCA				LR	LR	15 52 01.5	
	comp=Z,284nm,18.4s,baz=122,slow=36						
PLCA	**Paso Flores**	**31.18**	**286**	*e*P	**P**	**15 39 31.1**	**-0.9**
QSPA	**South Pole Qui**	**32.01**	**180**	P	**P**	**15 39 39.2**	**0.0**
	18nm,1.1s,baz=190,slow=8.6,SNR=14						
QSPA	**South Pole Qui**	**32.01**	**180**	*e*P	**P**	**15 39 39.9**	**+0.7**
MAW	**Mawson**	**39.21**	**143**	LR	LR	15 55 24.4	
	comp=Z,248nm,20.0s,baz=240,slow=34						
LCO	**Las Campanas**	**40.62**	**298**	*e*P	**P**	**15 40 53.6**	**+0.4**
	37nm,1.4s						
VNDA	**Vanda**	**44.31**	**184**	P	**P**	**15 41 21.9**	**-0.3**
	10nm,1.2s,baz=193,slow=9.0,SNR=9.7						
VNDA	**Vanda**	**44.31**	**184**	*e*P	**P**	**15 41 23.4**	**+1.2**
BDFB	**Brasilia**	**44.68**	**334**	LR	LR	15 56 59.5	
	comp=Z,126nm,21.6s,baz=174,slow=32						
LVC	**Limon Verde**	**45.33**	**305**	*e*P	**P**	**15 41 32.1**	**+0.8**
	14nm,1.2s						
BOSA	**Boshof**	**47.81**	**76**	LR	LR	15 57 42.3	
	comp=Z,220nm,21.8s,baz=205,slow=31						
BOSA	**Boshof**	**47.81**	**76**	P	**P**	**15 41 51.7**	**+1.1**
	51nm,1.8s						
H10S2	**ASCENSION HYDR**	**50.51**	**19**	T	T	16 36 55.1	
	baz=185						
H10S3	**ASCENSION HYDR**	**50.51**	**19**	T	T	16 36 59.3	
	baz=185						
H10S1	**ASCENSION HYDR**	**50.52**	**19**	T	T	16 36 54.5	
	baz=185						
LPAZ	**La Paz**	**50.63**	**309**	P	**P**	**15 42 13.1**	**+0.3**
	5.0nm,0.9s,baz=156,slow=7.7,SNR=16						
LPAZ				LR	LR	16 06 45.4	
	comp=Z,94nm,18.6s,baz=152,slow=40						
LPAZ	**La Paz**	**50.63**	**309**	*e*P	**P**	**15 42 13.2**	**+0.4**
LBTB	**Lobatse**	**50.93**	**74**	P	**P**	**15 42 15.3**	**+0.9**
	8.2nm,1.1s,baz=205,slow=8.0,SNR=4.8						
LBTB				LR	LR	15 59 11.0	
	comp=Z,231nm,21.8s,baz=206,slow=30						
TSUM	**Tsumeb**	**51.92**	**62**	LR	LR	15 59 05.6	
	comp=Z,90nm,20.7s,baz=123,slow=30						
SAML	**Samuel**	**55.47**	**319**	*e*P	**P**	**15 42 47.1**	**-0.6**
	16nm,1.4s						
MSKU	**Masuku**	**65.84**	**49**	P	**P**	**15 43 59.9**	**+1.4**
	3.1nm,0.3s,baz=243,slow=12,SNR=3.9						
DBIC	**Dimbokro**	**67.73**	**27**	P	**P**	**15 44 11.6**	**+1.1**
	3.8nm,1.1s,baz=170,slow=6.1,SNR=2.2						
DBIC				LR	LR	16 08 16.3	
	comp=Z,32nm,18.9s,baz=154,slow=31						
OTAV	**Otavalo**	**69.81**	**307**	*e*P	**P**	**15 44 25.3**	**+1.2**
	36nm,1.4s						
ROSC	**El Rosal**	**72.33**	**313**	LR	LR	16 16 41.6	
	comp=Z,84nm,21.9s,baz=204,slow=36						
TORD	**Torodi Ar. Bea**	**75.63**	**32**	P	**P**	**15 44 58.8**	**+0.9**
	6.3nm,1.0s,baz=198,slow=6.2,SNR=25						
TORD				LR	LR	16 12 19.7	
	comp=Z,37nm,20.3s,baz=220,slow=31						
TAM	**Tamanrasset**	**85.87**	**32**	*e*P	**P**	**15 45 51.3**	**-1.4**
	17nm,1.7s						
PPT	**Papeete**	**89.82**	**236**	LR	LR	16 19 49.3	
	comp=Z,98nm,21.0s,baz=76,slow=31						
ASAR	**Alice Springs**	**97.26**	**165**	P	**P**	**15 46 44.6**	**-1.4**
	0.8nm,1.0s,baz=177,slow=4.0,SNR=7.5						
NVAR	**Mina Array Bea**	**121.02**	**294**	PKP	**PKPdf**	**15 52 03.4**	**-1.8**
	0.2nm,0.3s,baz=110,slow=3.9,SNR=3.0						
CMAR	**Chiang Mai Arr**	**125.48**	**114**	PKP	**PKPdf**	**15 52 14.2**	**+0.1**
	0.4nm,0.3s,baz=233,slow=4.3,SNR=6.4						
KSH	**Kashi**	**130.41**	**78**	*e*PKP	**PKPdf**	**15 52 24.0**	**+1.0**
KSH				sPKP		15 52 33.4	
KSH				PP	**PP**	**15 54 36.9**	**-0.9**
KSH				PKS	**PKSdf**	**15 55 59.6**	**+0.1**
KSH				SKS	**SKSdf**	**15 59 34.4**	**+0.1**
KSH				SKKS	**SKKSac**	**16 01 32.3**	**-1.3**
KSH				SS	**SS**	**16 12 03.3**	**-2.0**
KSH				PPMZ			
	56nm,5.6s						
KSH				LN			
	27nm,4.3s						
KSH				LE			
	47nm,4.4s						
KSH				LZ			
	91nm,6.8s						
KMI	**Kunming**	**132.98**	**114**	PKP	**PKPdf**	**15 52 30.3**	**+1.9**
YKA	**Yellowknife Ar**	**136.88**	**317**	PKhKP	PKPpre	15 52 25.0	
	0.3nm,0.5s,baz=198,slow=1.8,SNR=6.3						
YKA				PKP	**PKPdf**	**15 52 33.9**	**-0.2**
	1.4nm,0.6s,baz=127,slow=2.4,SNR=12						
CD2	**Chengdu**	**138.28**	**110**	*e*PKP	**PKPdf**	**15 52 39.1**	**+1.2**
MKAR	**Makanchi Array**	**138.81**	**75**	PKP	**PKPdf**	**15 52 37.5**	**-0.8**
	0.7nm,1.0s,baz=248,slow=1.6,SNR=4.5						
WMQ	**Urumqi**	**139.60**	**83**	*e*PKP	**PKPdf**	**15 52 41.1**	**+1.2**
WMQ				sPKP		15 52 55.0	
LZH	**Lanzhou**	**142.44**	**106**	*e*PKP	**PKPdf**	**15 52 43.3**	**-2.1**
LZH				sPKP		15 52 55.0	
GTA	**Gaotai**	**142.87**	**98**	*e*PKP	**PKPdf**	**15 52 44.9**	**-1.1**
GTA				pPKP	**pPKPdf**	**15 52 52.8**	**+3.3**
GTA				sPKP		15 52 56.1	
XAN	**Xi'an**	**143.35**	**113**	PKP	PKPbc	15 52 44.3	+0.2
ZALV	**Zalesovo Beam**	**144.50**	**68**	PKP	**PKPab**	**15 52 46.6**	**0.0**
	1.9nm,0.6s,baz=250,slow=3.0,SNR=15						
HYT	**Haines Junctio**	**145.00**	**306**	*e*PKP	**PKPdf**	**15 52 49.2**	**+0.1**
NJ2	**Nanjing**	**146.23**	**127**	*e*PKPbc	**PKPbc**	**15 52 53.3**	**+0.3**
DAWY	**Dawson**	**147.21**	**310**	*e*PKPdf	**PKPdf**	**15 52 50.5**	**-2.1**
DAWY				*e*PKPbc	**PKPbc**	**15 52 54.9**	**0.0**
BMRM	**Bremner River**	**148.17**	**303**	*e*PKPbc	**PKPbc**	**15 52 58.4**	**+0.8**
EGAK	**Eagle**	**148.19**	**311**	*e*PKPbc	**PKPbc**	**15 52 57.1**	**-0.4**
DIV	**Divide**	**148.75**	**303**	*e*PKPbc	**PKPbc**	**15 52 59.8**	**+0.6**
DOT	**Dot Lake**	**148.97**	**308**	*e*PKPbc	**PKPbc**	**15 52 59.9**	**+0.3**
DOT				*e*PKPab	**PKPab**	**15 53 06.4**	**+2.6**
PAX	**Paxson**	**149.32**	**306**	*e*PKPbc	**PKPbc**	**15 53 01.0**	**+0.4**
HHC	**Hu-ho-hao-te**	**149.98**	**108**	*e*PKPbc	**PKPdf**	**15 52 57.0**	**-0.9**
HHC				pPKP	**PKPab**	**15 53 07.8**	**-0.9**
HHC				sPKP		15 53 11.4	
HHC				PP	**PP**	**15 56 40.5**	**+2.8**
HHC				SKS	**SKSdf**	**15 59 59.6**	**-6.0**
HHC				SKKS	**SKKSac**	**16 03 24.4**	**-3.7**
HHC				SS	**SS**	**16 15 52.0**	**-2.2**
HHC				PPMZ			
	130nm,8.7s						
HHC				LN			
	240nm,14.9s						
HHC				LE			
	250nm,14.9s						
HHC				LZ			
	69nm,16.2s						
ILAR	**Eielson Array**	**150.51**	**309**	PKPbc	**PKPbc**	**15 53 03.1**	**-0.1**
	20nm,1.0s,baz=108,slow=2.0,SNR=116						
ILAR				PKPab	**PKPab**	**15 53 09.4**	**-0.6**
	17nm,0.9s,baz=151,slow=1.8,SNR=20						
COLA	**College**	**150.93**	**309**	*e*PKPbc	**PKPbc**	**15 53 04.4**	**+0.2**
MCK	**McKinley**	**151.05**	**307**	*e*PKPbc	**PKPbc**	**15 53 05.1**	**+0.5**
TRF	**Thorofare Moun**	**151.54**	**306**	*e*PKPbc	**PKPbc**	**15 53 06.3**	**+0.4**
BJI	**Beijing**	**151.63**	**115**	PKPbc	**PKPdf**	**15 53 00.3**	**0.0**
RSO	**Redoubt South**	**151.67**	**299**	*e*PKPbc	**PKPbc**	**15 53 06.3**	**0.0**
KTH	**Kantishna Hill**	**151.85**	**306**	*e*PKPbc	**PKPbc**	**15 53 06.8**	**+0.3**
SONM	**Songino Array**	**152.10**	**93**	PKPbc	**PKPbc**	**15 53 07.1**	**-0.6**
	2.0nm,0.8s,baz=208,slow=2.6,SNR=15						
PPLA	**Purkeypile**	**152.21**	**304**	*e*PKPbc	**PKPbc**	**15 53 08.6**	**+1.2**
COLD	**Coldfoot**	**152.41**	**314**	*e*PKPbc	**PKPbc**	**15 53 08.6**	**+1.1**
KSAR	**Wonju Array Be**	**154.54**	**135**	PKPab	**PKPab**	**15 53 27.3**	**-0.3**
KSRS	**Korea Array**	**154.56**	**135**	PKPab	**PKPab**	**15 53 27.3**	**-0.4**
	3.0nm,0.9s,baz=202,slow=3.8,SNR=5.8						

MEX 17 15:50:47.2±0.7, 17°.09N×95°.01W, h129km±8km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.12**	**89**	*i* P	Pn	15 51 03.6	-1.2
CMIG				*i* S	Sn	15 51 15.9	-2.1
VHO	**Vista Hermosa**	**1.65**	**270**	*e*P	Pn	15 51 16.2	-1.0
VHO				*e*S	Sn	15 51 38.2	-2.0
HUIG	**Huatulco**	**1.69**	**219**	*i* P	Pn	15 51 15.2	-2.1
HUIG				*i* S	Sn	15 51 39.0	-1.4
TGIG		**1.83**	**99**	*e*P	Pn	15 51 18.7	-0.5
TGIG				*e*S	Sn	15 51 41.7	-1.8
PCIG		**2.20**	**128**	*e*P	Pn	15 51 23.6	0.0
PCIG				*e*S	Sn	15 51 51.3	-0.2
PNIG	**Pinotepa**	**3.07**	**257**	*i* P	Pn	15 51 33.8	-0.9
PNIG				*i* S	Sn	15 52 09.4	-2.0

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*ISCJB **17** 15:52:45.7±0.9, 58°.2S±0°.1×29°.1W±0°.4, h10km, mb3.9/5, MS3.4/2, Error ellipse: s-maj=28.7km s-min=20.6km az=6.2*
*IDC **17** 15:52:45.8±0.8, 58°.27S×29°.46W, h0

PEL IAML 15 57 02.2
comp=N,542nm,0.5s

*MOS **17** 16:06:19.8±1.4, 49.°59N×155.°92E, h11km, mb4.4/15, Error ellipse: s-maj=11.0km s-min=5.3km az=75.9*
*SKHL **17** 16:06:25.5±0.3, 49.°57N×156.°16E, h78km±6km, mb5.4/4*
*ISCJB **17** 16:06:26.0±0.6, 49.°67N±0.°05×155.°89E±0.°08, h65km±4km, mb4.2/33, Error ellipse: s-maj=10.6km s-min=3.7km az=41.6*
*IDC **17** 16:06:25.7±0.5, 49.°71N×155.°84E, h46km±5km, mb3.8/20, mb1 4.0/24, mb1mx4.0/30, mbtmp4.1/24, MS3.5/12, Ms1 3.5/12, ms1mx3.3/30, Error ellipse: s-maj=18.0km s-min=9.8km az=145.0*
*KRSC **17** 16:06:25.7±1.8, 49.°68N×156.°67E, h25km±24km, ML4.9*
*NEIC **17** 16:06:25.7±0.3, 49.°65N×155.°86E, mb4.6/13, Error ellipse: s-maj=9.0km s-min=5.3km az=135.0*
ISC 17 16:06:25.8±0.6, 49.°62N±0.°06×156.°01E±0.°06, h53km±5km, h52km:pP-P, n165, σ1°25/182, mb4.2/33, MS3.7/9, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.07**	**4**	*i* PN	Pn	16 06 40.0	-4.5
SKR				*i* S	**Sn**	**16 06 53.9**	**-4.5**
SKR				pmax	pmax		
	comp=N,220nm,0.5s						
SKR				pmax	pmax		
	comp=E,110nm,0.5s						
SKR				pmax	pmax		
	comp=Z,430nm,0.5s						
SKR				smax	smax		
	comp=N,3μm,0.5s						
SKR				smax	smax		
	comp=E,1μm,0.5s						
SKR	**Severo-Kuril's**	**1.07**	**4**	*i* P	**Pn**	**16 06 44.6**	**+0.1**
SKR				*i* S	**Sn**	**16 06 58.6**	**+0.2**
SKR	**Severo-Kuril's**	**1.07**	**4**	*e*P	**Pn**	**16 06 44.6**	**+0.1**
SKR				AMB	AMB	16 06 48.4	
	comp=E,1μm,0.6s						
SKR				*e*S	**Sn**	**16 06 58.7**	**+0.3**
SKR				A	A	16 06 59.0	
	comp=E,1μm,0.5s						
SKR				A	A	16 06 59.0	
	comp=E,3μm,0.5s						
PAU	**Pauzhetka**	**1.92**	**15**	PN	**Pn**	**16 06 56.8**	**+0.7**
PAU				S	**Sn**	**16 07 19.3**	**+0.2**
PAU	**Pauzhetka**	**1.92**	**15**	*e*P	**Pn**	**16 06 56.8**	**+0.7**
PAU				*e*S	**Sn**	**16 07 19.3**	**+0.2**
PAU	**Pauzhetka**	**1.92**	**15**	*e*P	**Pn**	**16 06 56.8**	**+0.7**
PAU				*e*S	**Sn**	**16 07 20.5**	**+1.4**
PAU				A	A	16 07 26.0	
	comp=E,5μm,0.8s						
MIPR	**Malaya Ipel'ka**	**2.71**	**10**	P	**Pn**	**16 07 08.2**	**+1.4**
MTVR	**Mutnovka**	**3.18**	**25**	*e*P	**Pn**	**16 07 14.5**	**+1.0**
MTVR				*e*S	**Sn**	**16 07 49.8**	**-0.4**
RUS	**Russkaya**	**3.23**	**28**	PN	**Pn**	**16 07 14.4**	**+0.4**
RUS	**Russkaya**	**3.23**	**28**	*e*P	**Pn**	**16 07 14.4**	**+0.4**
RUS				*e*S	**Sn**	**16 07 49.4**	**-1.8**
APC	**Apacha**	**3.39**	**12**	*e*P	**Pn**	**16 07 17.8**	**+1.6**
PETK	**Petropavlovsk-**	**3.65**	**16**	PN	**Pn**	**16 07 21.7**	**+1.9**
PETK				S	**Sn**	**16 08 02.1**	**+0.5**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PETK				smax	smax		
	comp=N,4.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,231nm,19.3s						
PETK	**Petropavlovsk-**	**3.65**	**16**	P	**Pn**	**16 07 21.7**	**+1.9**
	comp=Z,3.7nm,0.3s,baz=182,slow=14,SNR=38						
PETK				S	**Sn**	**16 08 02.0**	**+0.5**
	comp=Z,3.5nm,0.3s,baz=204,slow=17,SNR=3.1						
PETK				LR	LR	16 09 18.8	
	comp=Z,231nm,19.3s,baz=204,slow=48						
PET	**Petropavlovsk**	**3.79**	**25**	*e*PN	**Pn**	**16 07 23.3**	**+1.6**
PET	**Petropavlovsk**	**3.79**	**25**	*e*P	**Pn**	**16 07 23.3**	**+1.6**
PET				AMB	AMB	16 07 24.4	
	comp=Z,307nm,0.6s						
PET				*e*S	**Sn**	**16 08 07.9**	**+2.9**
PET				A	A	16 08 12.9	
	comp=Z,516nm,0.6s						
PET	**Petropavlovsk**	**3.79**	**25**	*e*P	**Pn**	**16 07 22.7**	**+1.0**
UGLR	**Uglovaya**	**4.01**	**25**	*e*P	**Pn**	**16 07 27.3**	**+2.6**
UGLR				*e*S	**Sn**	**16 08 11.6**	**+1.2**
KOK	**Koryaka**	**4.03**	**23**	*e*P	**Pn**	**16 07 27.8**	**+2.7**
KOK				*e*S	**Sn**	**16 08 12.6**	**+1.6**
AVH	**Avacha**	**4.03**	**24**	*e*P	Pn	16 07 28.2	+3.1
AVH				*e*S	**Sn**	**16 08 13.3**	**+2.3**
SMAR	**Somma**	**4.05**	**24**	*e*P	**Pn**	**16 07 27.9**	**+2.5**
KRER	**Koryakskii**	**4.07**	**24**	*e*P	**Pn**	**16 07 27.7**	**+2.0**
KRER				*e*S	**Sn**	**16 08 12.4**	**+0.3**
SDLR	**Sedlovina**	**4.08**	**25**	*e*P	**Pn**	**16 07 27.2**	**+1.4**
SDLR				*e*S	**Sn**	**16 08 11.6**	**-0.7**
KRX	**Arik**	**4.09**	**23**	*e*P	**Pn**	**16 07 28.8**	**+2.8**
KRX				*e*S	**Sn**	**16 08 14.1**	**+1.4**
GNL	**Ganaly**	**4.26**	**16**	*e*P	Pn	16 07 31.4	+3.2
KII	**Karymskiy**	**4.91**	**24**	P	Pn	16 07 41.1	+4.0
MKZ	**Mys Kozlova**	**6.07**	**33**	PN	**Pn**	**16 07 53.5**	**+0.6**
MKZ	**Mys Kozlova**	**6.07**	**33**	*e*P	**Pn**	**16 07 53.5**	**+0.6**
MKZ				*e*S	**Sn**	**16 08 59.2**	**-1.8**
TUMR	**Tumrok**	**6.21**	**22**	*e*P	**Pn**	**16 07 57.5**	**+2.5**
ESO	**Esso**	**6.53**	**13**	PN	**Pn**	**16 08 02.2**	**+3.0**
ESO	**Esso**	**6.53**	**13**	P	**Pn**	**16 08 02.2**	**+3.0**
KUR	**Kuril'sk**	**7.05**	**235**	*i* PN	**Pn**	**16 08 08.1**	**+1.8**
KUR				*e*S	**Sn**	**16 09 27.5**	**+2.5**
KUR				pmax	pmax		
	comp=N,43nm,0.7s						
KUR				pmax	pmax		
	comp=E,28nm,0.7s						
KUR				smax	smax		
	comp=N,66nm,0.6s						
KUR				smax	smax		
	comp=E,33nm,0.6s						
KUR	**Kuril'sk**	**7.05**	**235**	*e*P	**Pn**	**16 08 08.1**	**+1.8**
KUR				AMB	AMB	16 08 17.9	
	comp=E,570nm,0.7s						
KUR				*e*S	**Sn**	**16 09 27.5**	**+2.5**
KUR				A	A	16 09 39.9	
	comp=E,330nm,0.6s						
KUR				A	A	16 09 39.9	
	comp=E,660nm,0.6s						
SRDR	**Sredinnyy**	**7.08**	**17**	P	**Pn**	**16 08 09.4**	**+2.7**
SMKR	**Semkarok**	**7.71**	**23**	P	**Pn**	**16 08 18.1**	**+2.7**
KBTR	**Krutoberegovo**	**7.78**	**29**	PN	**Pn**	**16 08 17.5**	**+1.2**
KBTR	**Krutoberegovo**	**7.78**	**29**	*e*P	**Pn**	**16 08 17.5**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**8.92**	**235**	*i* PN	**Pn**	**16 08 31.9**	**0.0**
YUK				pmax	pmax		
	comp=Z,161nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**8.92**	**235**	*e*P	**Pn**	**16 08 31.9**	**0.0**
YUK				AMB	AMB	16 08 33.5	
	comp=Z,160nm,0.4s						
YSS	**Yuzh-Sakhalins**	**9.23**	**258**	*e*PN	Pn	16 08 40.0	+3.8
YSS				*e*S	**Sn**	**16 10 23.0**	**+4.5**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax	smax		
	comp=N,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**9.23**	**258**	*e*P	**Pn**	**16 08 38.2**	**+2.0**
YSS				*e*S	**Sn**	**16 10 17.0**	**-1.5**
YSS	**Yuzh-Sakhalins**	**9.23**	**258**	*e*P	Pn	16 08 40.2	+4.0
	comp=N,14nm,0.6s						
ASAJ	**Asahikawa**	**10.70**	**244**	PN	**Pn**	**16 08 57.3**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,130nm,19.7s						
ASAJ	**Asahikawa**	**10.70**	**244**	P	**Pn**	**16 08 57.3**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=65,slow=15,SNR=16						
ASAJ				LR	LR	16 12 43.2	
	comp=Z,130nm,19.7s,baz=311,slow=36						
ASAJ	**Asahikawa**	**10.70**	**244**	*e*P	Pn	16 08 59.7	+3.5
FX1	**Attu Island--F**	**11.24**	**67**	*e*PN	**Pn**	**16 09 03.5**	**0.0**
FX1	**Attu Island--F**	**11.24**	**67**	P	**Pn**	**16 09 02.9**	**-0.7**
	comp=Z,2.6nm,0.3s,baz=288,slow=20,SNR=3.2						
FX1				S	Sn	16 10 56.1	-11
	comp=Z,3.0nm,0.3s,baz=75,slow=20,SNR=4.7						
FX1	**Attu Island--F**	**11.24**	**67**	*e*P	**Pn**	**16 09 03.5**	**0.0**
FX1				S	Sn	16 10 56.1	-11
ERM	**Erimo**	**11.74**	**235**	*e*PN	**Pn**	**16 09 10.9**	**+0.4**
ERM	**Erimo**	**11.74**	**235**	*e*P	**Pn**	**16 09 10.3**	**-0.2**
ERM	**Erimo**	**11.74**	**235**	*e*P	**Pn**	**16 09 10.9**	**+0.4**
SEY	**Seymchan**	**13.50**	**353**	P	**Pn**	**16 09 36.1**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=135,slow=14,SNR=10						
SEY	**Seymchan**	**13.50**	**353**	*e*P	**Pn**	**16 09 34.6**	**+0.3**
KLR	**Kul'dur**	**15.78**	**278**	*e*P	**Pn**	**16 10 02.8**	**-1.6**
USRK	**Ussuriysk Ar.**	**17.25**	**261**	P	**P**	**16 10 23.5**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=64,slow=10,SNR=7.4						
USRK				LR	LR	16 16 20.8	
	comp=Z,88nm,20.1s,baz=70,slow=35						
MAJO	**Matsushiro**	**18.37**	**231**	*e*P	**P**	**16 10 36.0**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,58nm,1.4s						
MAJO	**Matsushiro**	**18.37**	**231**	*e*P	**P**	**16 10 36.0**	**-0.2**
MJAR	**Matsushiro Arr**	**18.37**	**231**	P	**P**	**16 10 35.1**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,83nm,20.3s						
MJAR	**Matsushiro Arr**	**18.37**	**231**	P	**P**	**16 10 35.1**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=30,slow=10,SNR=8.9						
MJAR				LR	LR	16 18 01.1	
	comp=Z,83nm,20.3s,baz=45,slow=38						
YAK	**Yakutsk**	**19.14**	**320**	*e*P	**P**	**16 10 43.4**	**-1.0**
YAK				pmax	pmax		
	comp=Z,17nm,1.4s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.5s						
YAK	**Yakutsk**	**19.14**	**320**	*e*P	**P**	**16 10 43.7**	**-0.7**
	comp=E,11nm,0.7s						
BILL	**Bilibino**	**19.17**	**12**	*e*P	**P**	**16 10 44.2**	**-0.5**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BILL	**Bilibino**	**19.17**	**12**	*e*P	**P**	**16 10 44.2**	**-0.5**
BILL	**Bilibino**	**19.17**	**12**	*e*P	**P**	**16 10 44.6**	**-0.1**
	comp=Z,5.0nm,0.6s						
KSRS	**Korea Array**	**23.56**	**250**	P	**P**	**16 11 31.4**	**0.0**
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,58nm,20.0s						
KSRS	**Korea Array**	**23.56**	**250**	P	**P**	**16 11 31.4**	**0.0**
	comp=Z,5.7nm,0.8s,baz=42,slow=9.9,SNR=17						
KSRS				LR	LR	16 20 06.0	
	comp=Z,58nm,20.0s,baz=40,slow=35						
KSAR	**Wonju Array Be**	**23.59**	**250**	P	**P**	**16 11 31.4**	**-0.3**
KSAR	**Wonju Array Be**	**23.59**	**250**	P	**P**	**16 11 31.4**	**-0.3**
JNU	**Nakatsue**	**24.87**	**238**	P	**P**	**16 11 44.2**	**+0.8**
	comp=Z,7.3nm,0.7s,baz=90,slow=8.7,SNR=8.1						
TIK	**Tiksi**	**25.33**	**340**	*e*P	**P**	**16 11 45.6**	**-1.6**
TIXI	**Tiksi**	**25.34**	**340**	*e*P	**P**	**16 11 45.6**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TIXI	**Tiksi**	**25.34**	**340**	*e*P	**P**	**16 11 45.4**	**-1.8**
	comp=Z,6.9nm,0.6s						
BOD	**Bodaibo**	**25.80**	**305**	*e*P	**P**	**16 11 53.4**	**+1.8**
H11N2	**WAKE ISLAND Hy**	**31.08**	**160**	T	T	16 45 28.3	
	baz=346,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**31.08**	**160**	T	T	16 45 22.3	
	baz=346,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**31.08**	**160**	T	T	16 45 29.3	
	baz=346,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**32.20**	**161**	T	T	16 46 55.4	
	baz=347,slow=76,SNR=756						
H11S3	**WAKE ISLAND Hy**	**32.21**	**161**	T	T	16 46 56.2	
	baz=347,slow=76,SNR=566						
H11S2	**WAKE ISLAND Hy**	**32.22**	**161**	T	T	16 46 50.9	
	baz=347,slow=76,SNR=409						
SONM	**Songino Array**	**32.30**	**286**	PcP	**PcP**	**16 15 36.3**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=68,slow=0.8,SNR=9.0						
SONM				LR	LR	16 27 19.5	
	comp=Z,64nm,18.4s,baz=34,slow=39						
TLY	**Talaya**	**32.68**	**294**	*e*P	P	16 13 08.7	+16
TLY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,94nm,17.0s						
COLA	**College**	**32.69**	**41**	*e*P	**P**	**16 12 53.5**	**+0.9**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
COLA	**College**	**32.69**	**41**	*e*P	**P**	**16 12 52.0**	**-0.6**
COLA	**College**	**32.69**	**41**	*e*P	**P**	**16 12 53.5**	**+0.9**
	comp=Z,6.7nm,0.6s						
ILAR	**Eielson Array**	**33.10**	**41**	P	**P**	**16 12 56.5**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**33.10**	**41**	P	**P**	**16 12 56.5**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=263,slow=7.6,SNR=15						
ZALV	**Zalesovo Beam**	**42.55**	**304**	P	**P**	**16 14 15.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=72,slow=6.2,SNR=3.1						
ZALV				PcP	**PcP**	**16 16 07.7**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=35,slow=5.3,SNR=5.4						
MKAR	**Makanchi Array**	**47.38**	**296**	P	**P**	**16 14 53.9**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.38**	**296**	P	**P**	**16 14 53.9**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=60,slow=8.5,SNR=14						
KURK	**Kurchatov**	**47.42**	**303**	*e*P	**P**	**16 14 54.0**	**-0.7**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**47.42**	**303**	*e*P	**P**	**16 14 53.4**	**-1.3**
KURK	**Kurchatov**	**47.42**	**303**	*e*P	**P**	**16 14 54.0**	**-0.7**
	comp=Z,1.3nm,0.6s						
YKA	**Yellowknife Ar**	**47.47**	**39**	P	**P**	**16 14 55.3**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=298,slow=7.6,SNR=16						
YKA				pP	**pP**	**16 15 08.7**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=299,slow=7.7,SNR=15						
YKA	**Yellowknife Ar**	**47.47**	**39**	*e*P	**P**	**16 14 55.6**	**+0.7**
ARU	**Arti**	**54.22**	**317**	*d i* P	**P**	**16 15 44.1**	**-1.6**
ARU				S	**S**	**16 23 17.1**	**-1.6**
ARU				SS	**SS**	**16 27 00.3**	**0.0**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHTO	**Chiang Mai**	**54.66**	**257**	*e*P	**P**	**16 15 50.4**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CHTO	**Chiang Mai**	**54.66**	**257**	*e*P	**P**	**16 15 50.4**	**+1.0**
	comp=Z,5.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**54.92**	**257**	*i* P	**P**	**16 15 52.7**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**54.92**	**257**	P	**P**	**16 15 52.4**	**+1.1**
	comp=Z,3.2nm,0.8s,baz=33,slow=6.7,SNR=30						
ARCES	**ARCESS Array B**	**55.77**	**341**	LR	LR	16 42 35.4	
	comp=Z,49nm,21.1s,baz=4.5,slow=39						
ABKAR	**Akbulak array**	**58.08**	**310**	*e*P	**P**	**16 16 12.4**	**-0.9**
	comp=Z,1.9nm,0.6s						
NVAR	**Mina Array Bea**	**59.43**	**65**	P	**P**	**16 16 24.4**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=300,slow=6.6,SNR=5.2						
NVAR				pP	**pP**	**16 16 37.9**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=304,slow=6.4,SNR=4.6						
ELK	**Elko**	**59.69**	**62**	P	**P**	**16 16 27.0**	**+2.0**
ELK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ELK	**Elko**	**59.69**	**62**	P	**P**	**16 16 26.9**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=52,slow=8.5,SNR=3.9						
PDAR	**Pinedale Array**	**61.52**	**57**	P	**P**	**16 16 38.8**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=325,slow=2.3,SNR=12						
PDAR				pP	**pP**	**16 16 50.9**	**-1.0**
	comp=Z,2.4nm,0.8s,baz=318,slow=3.6,SNR=8.0						
FINES	**FINESS Array B**	**62.26**	**335**	P	**P**	**16 16 40.3**	**-1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,56nm,19.0s						
FINES	**FINESS Array B**	**62.26**	**335**	P	**P**	**16 16 40.3**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=36,slow=7.3,SNR=5.6						
FINES				LR	LR	16 45 59.1	
	comp=Z,56nm,19.0s,baz=42,slow=38						
NOA	**NORSAR Array B**	**66.12**	**342**	P	**P**	**16 17 06.4**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=26,slow=6.3,SNR=3.6						
NOA				LR	LR	16 50 25.7	
	comp=Z,45nm,18.7s,baz=10.0,slow=40						
GEYT	**Alibeck**	**66.78**	**302**	P	**P**	**16 17 11.7**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=35,slow=7.8,SNR=3.5						
SCHQ	**Schefferville**	**69.90**	**25**	P	**P**	**16 17 30.8**	**0.0**
	comp=Z,3.2nm,0.9s,baz=325,slow=5.8,SNR=7.1						
AKASG	**Malin Array Be**	**70.21**	**327**	P	**P**	**16 17 30.6**	**-2.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG				MLR	MLR		
	comp=Z,70nm,19.9s						
AKASG	**Malin Array Be**	**70.21**	**327**	P	**P**	**16 17 30.6**	**-2.2**
	comp=Z,0.6nm,0.5s,baz=32,slow=6.4,SNR=2.1						
AKASG				LR	LR	16 50 25.8	
	comp=Z,70nm,19.9s,baz=295,slow=38						
KBZ	**Khabaz**	**70.24**	**315**	P	**P**	**16 17 32.7**	**-0.3**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**70.24**	**315**	P	**P**	**16 17 32.7**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=18,slow=3.2,SNR=3.0						
WRA	**Warramunga Arr**	**71.87**	**201**	P	**P**	**16 17 43.3**	**+0.2**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**71.87**	**201**	P	**P**	**16 17 43.2**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=17,slow=6.3,SNR=16						
WRA				pP	**pP**	**16 17 55.6**	**-2.3**
	comp=Z,1.6nm,0.9s,baz=17,slow=6.6,SNR=4.1						
TXAR	**Lajitas Array**	**74.43**	**63**	P	**P**	**16 17 59.2**	**+0.8**
TXAR				*PP	**pP**	**16 18 13.0**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**74.43**	**63**	P	**P**	**16 17 59.2**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=305,slow=4.1,SNR=17						
TXAR				pP	**pP**	**16 18 13.0**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=300,slow=4.1,SNR=5.6						
AS31	**Alice Springs**	**75.56**	**201**	*e*P	**P**	**16 18 05.8**	**+1.1**
ASAR	**Alice Springs**	**75.56**	**201**	P	**P**	**16 18 05.6**	**+0.9**
ASAR				*PP	**pP**	**16 18 19.3**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**75.56**	**201**	P	**P**	**16 18 05.6**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=15,slow=4.8,SNR=19						
ASAR				pP	**pP**	**16 18 19.2**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=14,slow=5.3,SNR=3.1						
GERES	**GERESS Array B**	**76.69**	**335**	P	**P**	**16 18 11.1**	**+0.1**
GERES				MLR	MLR		
	comp=Z,15nm,28.6s						
GERES	**GERESS Array B**	**76.69**	**335**	P	**P**	**16 18 11.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=35,slow=3.9,SNR=3.7						
GERES				LR	LR	16 55 51.0	
	comp=Z,82nm,18.5s,baz=320,slow=39						
LDF	**La Druitiere**	**80.03**	**344**	*e*P	**P**	**16 18 29.9**	**+0.6**
LDF	**La Druitiere**	**80.03**	**344**	*e*P	**P**	**16 18 29.9**	**+0.6**
LDF	**La Druitiere**	**80.03**	**344**	*e*P	**P**	**16 18 29.9**	**+0.6**
GRR	**Gorron**	**80.36**	**345**	*e*P	**P**	**16 18 31.3**	**+0.2**
	comp=Z,8.7nm,0.5s						
GRR	**Gorron**	**80.36**	**345**	*e*P	**P**	**16 18 31.3**	**+0.2**
GRR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
GRR	**Gorron**	**80.36**	**345**	*e*P	**P**	**16 18 31.3**	**+0.2**
	comp=Z,8.7nm,0.5s						
LOR	**Lormes**	**80.53**	**341**	*e*P	**P**	**16 18 31.9**	**-0.2**
LOR	**Lormes**	**80.53**	**341**	*e*P	**P**	**16 18 31.9**	**-0.2**
LOR	**Lormes**	**80.53**	**341**	*e*P	**P**	**16 18 31.9**	**-0.2**
SGMF	**Saint Gilles**	**80.77**	**346**	*e*P	**P**	**16 18 33.6**	**+0.3**
	comp=Z,24nm,0.9s						
SGMF	**Saint Gilles**	**80.77**	**346**	*e*P	**P**	**16 18 33.6**	**+0.3**
SGMF				pmax	pmax		
	comp=Z,24nm,0.9s						
SGMF	**Saint Gilles**	**80.77**	**346**	*e*P	**P**	**16 18 33.6**	**+0.3**
	comp=Z,24nm,0.9s						
SSF	**Saint Saulge**	**80.80**	**341**	*e*P	**P**	**16 18 33.5**	**0.0**
SSF	**Saint Saulge**	**80.80**	**341**	*e*P	**P**	**16 18 33.5**	**0.0**
SSF	**Saint Saulge**	**80.80**	**341**	*e*P	**P**	**16 18 33.5**	**0.0**
AVF	**Avril sur Loir**	**81.09**	**341**	*e*P	**P**	**16 18 35.1**	**+0.1**
AVF	**Avril sur Loir**	**81.09**	**341**	*e*P	**P**	**16 18 35.1**	**+0.1**
AVF	**Avril sur Loir**	**81.09**	**341**	*e*P	**P**	**16 18 35.1**	**+0.1**
LPL	**La Plagne**	**81.55**	**339**	*e*P	**P**	**16 18 38.4**	**+0.6**
	comp=Z,5.7nm,0.7s						
LPL	**La Plagne**	**81.55**	**339**	*e*P	**P**	**16 18 38.4**	**+0.6**
LPL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LPL	**La Plagne**	**81.55**	**339**	*e*P	**P**	**16 18 38.4**	**+0.6**
	comp=Z,5.7nm,0.7s						
LPG	**La Plagne**	**81.56**	**339**	*e*P	**P**	**16 18 38.7**	**+0.8**
	comp=Z,7.8nm,0.6s						
LPG	**La Plagne**	**81.56**	**339**	*e*P	**P**	**16 18 38.7**	**+0.8**
LPG				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LPG	**La Plagne**	**81.56**	**339**	*e*P	**P**	**16 18 38.7**	**+0.8**
	comp=Z,7.8nm,0.6s						
TCF	**Toulx Ste Croi**	**81.80**	**342**	*e*P	**P**	**16 18 39.1**	**+0.2**
	comp=Z,2.2nm,0.4s						
TCF	**Toulx Ste Croi**	**81.80**	**342**	*e*P	**P**	**16 18 39.1**	**+0.2**
TCF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TCF	**Toulx Ste Croi**	**81.80**	**342**	*e*P	**P**	**16 18 39.1**	**+0.2**
	comp=Z,2.2nm,0.4s						
MFF	**Saint Martin d**	**81.95**	**344**	*e*P	**P**	**16 18 39.9**	**+0.3**
	comp=Z,9.6nm,0.9s						
MFF	**Saint Martin d**	**81.95**	**344**	*e*P	**P**	**16 18 39.9**	**+0.3**
MFF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MFF	**Saint Martin d**	**81.95**	**344**	*e*P	**P**	**16 18 39.9**	**+0.3**
	comp=Z,9.6nm,0.9s						
ORIF	**Oris-en-Rattie**	**82.31**	**339**	*e*P	**P**	**16 18 42.2**	**+0.6**
ORIF	**Oris

TAPN	Taplejung	54.06	272	*e*P	P	16 37 54.9 +0.5
	1.8nm,0.3s					
JIRN	Jiri	54.87	273	*e*P	P	16 38 00.4 +0.1
	4.0nm,0.3s					
GUN	Gumba	54.91	274	*e*P	P	16 38 00.5 -0.1
	5.5nm,0.3s					
RAMN	Ramite	55.07	273	*e*P	P	16 38 01.6 0.0
	6.6nm,0.3s					
KKN	Kakani	55.39	274	*e*P	P	16 38 04.2 +0.3
PKI	Pulchoki	55.45	274	*e*P	P	16 38 04.2 -0.2
	2.1nm,0.3s					
PKIN	Phulchoki	55.45	274	*e*P	P	16 38 03.9 -0.5
DMN	Daman	55.63	274	*e*P	P	16 38 05.5 -0.1
	3.2nm,0.3s					
GKN	Gorkha	55.68	275	*e*P	P	16 38 06.0 +0.2
	6.9nm,0.4s					
DANN	Dangsing	56.03	276	*e*P	P	16 38 09.0 +0.5
	10nm,0.5s					
ARCES	ARCESS Array B	56.38	340	P	P	16 38 09.6 -0.4
	6.8nm,1.1s,baz=40,slow=8.6,SNR=3.9					
KOLN	Koldanda	56.52	275	*e*P	P	16 38 12.1 +0.2
	4.0nm,0.4s					
JOF	Joensuu	59.94	333	*e*p	P	16 38 34.0 -0.8
	0.7nm,0.5s					
FINES	FINESS Array B	62.63	334	P	P	16 38 52.0 -0.9
	1.2nm,0.3s,baz=40,slow=6.3,SNR=31					
NB2	NORSAR Subarra	66.75	341	P	P	16 39 19.5 -0.2
	comp=Z,0.6nm,0.5s,baz=26,slow=6.5					
NOA	NORSAR Array B	66.75	341	P	P	16 39 19.4 -0.2
	comp=Z,0.9nm,0.7s,baz=27,slow=6.5,SNR=9.0					
WRA	Warramunga Arr	70.01	199	P	P	16 39 38.9 -1.4
	comp=Z,0.7nm,0.9s,baz=25,slow=6.5,SNR=11					
AKASG	Malin Array Be	70.26	326	P	P	16 39 40.7 -0.8
	comp=Z,0.5nm,0.4s,baz=33,slow=5.8,SNR=2.3					
ASAR	Alice Springs	73.71	198	P	P	16 40 02.1 -0.2
	comp=Z,0.6nm,0.7s,baz=13,slow=5.7,SNR=7.2					
GERES	GERESS Array B	77.06	334	P	P	16 40 21.3 -0.1
	comp=Z,0.9nm,0.5s,baz=26,slow=6.6,SNR=9.5					
BRTR	Keskin Array B	77.27	317	P	P	16 40 23.2 +0.5
	comp=Z,1.0nm,0.8s,baz=5.7,slow=8.0,SNR=3.2					

*NEIC **17** 16:41:00.9±6.6, 35°.04S×73°.80W, h4km±38km, mb4.1/3, Error ellipse: s-maj=25.3km s-min=11.0km az=79.0*
*IDC **17** 16:41:00.7±0.7, 35°.13S×73°.68W, h0km, mb4.2/7, mb1 4.3/9, mb1mx4.2/19, mbtmp4.2/9, ML3.8/2, MS3.6/4, Ms1 3.5/4, ms1mx3.1/23, Error ellipse: s-maj=29.1km s-min=18.4km az=101.0*
*GUC **17** 16:41:02.3±0.5, 35°.07S×73°.64W, h30km±12km, ML4.1*
*ISCJB **17** 16:41:03.6±0.7, 35°.07S±0°.05×73°.70W±0°.07, h33km, mb4.1/8, MS3.6/3, Error ellipse: s-maj=8.1km s-min=6.7km az=145.9*

ISC 17 16:41:05.8±0.7, 35°.11S±0°.06×73°.68W±0°.08, h35km, n32, σ0§90/36, mb4.2/8, MS3.5/3, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	1.25	145	⇑*i*P	Pn	16 41 24.5	-2.2
COCH				*i* S	Sn	16 41 40.7	-1.7
TALC	Talca	1.70	100	⇑*i*P	Pn	16 41 31.4	-1.5
TALC				*i* S	Sn	16 41 53.1	-0.2
LNCH	Linares	1.85	114	⇑*i*P	Pn	16 41 34.5	-0.4
LNCH				*i* S	Sn	16 41 58.3	+1.2
NICH	Los Niches	2.01	88	*e*P	Pn	16 41 35.7	-1.5
NICH				*i* S	Sn	16 42 01.2	+0.1
CLCH	Cerro Calan	3.11	58	⇑*i*P	Pn	16 41 50.7	-1.8
CLCH				*e*S4	Sn	16 42 27.5	-0.9
CLCH				IAML		16 42 38.5	
	comp=N,442nm,0.5s						
CFAA	Coronel Fontan	5.74	54	Pn	Pn	16 42 27.6	-0.9
	comp=N,1.5nm,0.3s,baz=228,slow=12,SNR=42						
CFAA				Sn	Sn	16 43 33.7	+0.6
	comp=N,0.4nm,0.3s,baz=126,slow=19,SNR=2.7						
CFAA				LR	LR	16 44 52.5	
	comp=N,24nm,21.3s,baz=215,slow=40						
PLCA	Paso Flores	6.13	157	LR	LR	16 45 08.5	
	comp=N,229nm,20.5s,baz=356,slow=40						
LCO	Las Campanas	6.58	23	*e*P	Pn	16 42 36.4	-4.0
	comp=N,17nm,0.4s						
TRQA	Tornquist	9.86	111	*e*P	Pn	16 43 25.9	+0.9
LPAZ	La Paz	19.39	16	P	Pn	16 45 30.5	-0.2
	comp=N,0.2nm,0.3s,baz=179,slow=7.4,SNR=16						
LPAZ	La Paz	19.39	16	*e*P	Pn	16 45 30.1	-0.5
	comp=N,9.6nm,0.9s						
USHA	Ushuaia	20.06	171	LR	LR	16 53 30.1	
	comp=N,222nm,18.1s,baz=249,slow=37						
SIV	San Ignacio	22.13	34	P	P	16 45 57.6	-0.9
	comp=N,7.5nm,1.0s,baz=232,slow=11,SNR=16						
SAML	Samuel	27.75	23	*e*P	P	16 46 50.1	-1.1
	comp=N,0.8nm,0.6s						
BDFB	Brasilia	30.07	56	LR	LR	17 00 18.4	
	comp=N,86nm,18.9s,baz=239,slow=38						
SNAA	Sanae	51.08	157	P	P	16 50 04.5	+0.2
	comp=N,1.2nm,1.0s,baz=241,slow=16,SNR=4.2						
QSPA	South Pole Qui	55.13	180	P	P	16 50 34.8	+0.4
	comp=N,3.3nm,1.0s,baz=138,slow=5.4,SNR=16						
TXAR	Lajitas Array	70.06	332	P	P	16 52 14.7	+0.5
	comp=N,0.8nm,0.6s,baz=152,slow=8.6,SNR=13						
DBIC	Dimbokro	76.81	72	P	P	16 52 55.0	+0.8
	comp=N,5.2nm,1.0s,baz=226,slow=6.0,SNR=4.1						
DBIC	Dimbokro	76.81	72	*e*P	P	16 52 54.9	+0.6
	comp=N,12nm,1.1s						
BOSA	Boshof	80.74	118	P	P	16 53 16.4	+0.5
	comp=N,4.8nm,0.8s,baz=240,slow=4.8,SNR=7.2						
BOSA				LR	LR	17 24 50.6	
	comp=N,47nm,18.8s,baz=172,slow=33						
TORD	Torodi Ar. Bea	85.85	71	P	P	16 53 42.3	+0.2
	comp=N,2.4nm,0.8s,baz=258,slow=4.3,SNR=12						
WRA	Warramunga Arr	119.13	210	PKP	PKPdf	16 59 50.5	-1.0
	comp=N,0.2nm,0.8s,baz=155,slow=1.5,SNR=4.8						
BRTR	Keskin Array B	123.55	62	PKP	PKPdf	16 59 59.6	+0.1
	comp=N,0.9nm,0.7s,baz=259,slow=1.5,SNR=4.1						
ABKAR	Akbulak array	143.43	53	*e*PKPpre	PKPpre	17 00 33.4	
KKAR	Karatay Array	151.26	63	*e*PKPbc	PKPbc	17 00 55.4	+0.1
AAK	Ala-Archa	154.21	63	PKPbc	PKPbc	17 01 02.5	+0.5
	baz=173,slow=2.5						
KURBB	Kurchatov Arra	154.60	44	PKP	PKPdf	17 00 54.3	+0.4
	comp=N,0.2nm,0.3s,baz=270,slow=0.8,SNR=2.9						
KURBB				PKPbc	PKiKP	17 01 02.7	+0.3
	comp=N,0.7nm,0.5s,baz=302,slow=2.7,SNR=5.2						
KURK	Kurchatov	154.61	44	PKP	PKPdf	17 00 54.3	+0.4
KURK				PKPbc	PKiKP	17 01 02.7	+0.3
ZALV	Zalesovo Beam	155.88	32	PKP	PKPdf	17 00 54.7	-0.8
	comp=N,0.9nm,0.7s,baz=281,slow=2.3,SNR=5.8						
MKAR	Makanchi Array	158.51	50	PKP	PKPdf	17 00 59.7	+0.5
	comp=N,1.1nm,1.1s,baz=336,slow=3.2,SNR=5.9						
MKAR				PKPab	PKPab	17 01 34.4	+0.2
	comp=N,0.7nm,0.6s,baz=290,slow=4.2,SNR=6.6						
SONM	Songino Array	167.28	360	PKPab	PKPab	17 02 13.3	+0.7
	comp=N,0.9nm,1.1s,baz=352,slow=3.2,SNR=6.0						

*ISCJB **17** 16:41:37.5±0.3, 40°.18N±0°.03×121°.35W±0°.04, h10km, Error ellipse: s-maj=5.7km s-min=2.9km az=44.3*
*NEIC **17** 16:41:37.9, 40°.19N×121°.33W, h7km, MW3.7(BRK), After NCEDC.*
NEIC Felt [II] at Chester, Mineral and Westwood. Also felt at Chico, Forest Ranch, Grass Valley, Magalia and Shingletown.
*IDC **17** 16:41:37.6±1.4, 40°.16N×121°.53W, h0km, mb1 3.4/3, mb1mx3.2/28, mbtmp3.0/3, ML3.5/1, Error ellipse: s-maj=25.7km s-min=5.8km az=47.0*

ISC 17 16:41:38.4±0.7, 40°.22N±0°.03×121°.36W±0°.03, h10km, n42, σ1§71/49, 7C-7D, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDC	Whiskeytown Da	0.97	292	*e*Pg	Pg	16 41 55.1	-1.9
WDC				*e*Sg	Sg	16 42 07.9	-1.6
N02D	Trinity Center	1.27	307	P	Pn	16 42 00.6	-1.7
	baz=1.3,SNR=630						
N02D				⇑S	Sb	16 42 17.7	-1.0
	baz=1.3						
M04C	Macdoel	1.60	347	⇑P	Pn	16 42 07.8	+1.0
	baz=1.6,SNR=110						
M04C				⇑S	Sb	16 42 30.2	+1.8
	baz=1.6						
M02C	Callahan	1.63	316	P	Pn	16 42 06.8	-0.3
	baz=1.7,SNR=411						
M02C				⇓S	Sn	16 42 29.3	+1.1
	baz=1.7						
KIPM	Iron Peak	1.68	256	*e*Pn	Pn	16 42 08.0	+0.1
KCPM	Cahto Peak	1.79	253	*e*Pn	Pn	16 42 08.8	-0.6
HOPS	Hopland Field	1.80	228	*e*Pn	Pn	16 42 08.6	-0.9
YBH	Yreka Blue Hor	1.82	326	Pn	Pn	16 42 10.2	+0.4
	baz=150,slow=8.1						
YBH				Lg	Lg	16 42 34.9	
	55nm,0.3s,baz=315,slow=19,SNR=7.2						
YBH	Yreka Blue Hor	1.82	326	*e*Pn	Pn	16 42 09.9	0.0
YBH				*e*Sn	Sn	16 42 34.5	+1.5
YBH				Lg	Lg	16 42 34.9	
MOD	Modoc Plateau	1.86	25	*e*Pn	Pn	16 42 10.7	+0.3
KHMM	Horse Mountain	1.92	291	*e*Pn	Pn	16 42 12.5	+1.3
WAKR	Walker	2.27	138	*e*Pn	Pn	16 42 16.3	+0.1
CMB	Columbia Colle	2.31	161	*e*Pn	Pn	16 42 15.6	-0.9
K04D	Chiloquin, OR	2.42	353	⇓Pb	Pb	16 42 21.8	-0.2
	baz=2.5,SNR=29						
HUMO	Hull Mountain	2.67	334	*e*Pn	Pn	16 42 22.6	+1.3
KBO	Bosley Butte	2.94	314	*e*Pg	Pb	16 42 32.9	+2.1
NVAR	Mina Array Bea	2.97	126	Pn	Pn	16 42 25.9	+0.1
	6.3nm,0.3s,baz=297,slow=14,SNR=130						
NVAR				Pg	Pg	16 42 33.0	-2.3
	16nm,0.3s,baz=297,slow=16,SNR=34						
NVAR				Lg	Lg	16 43 12.9	
	14nm,0.3s,baz=334,slow=31,SNR=6.0						
WVOR	Wild Horse Val	3.02	42	*e*P	Pn	16 42 24.1	-2.2
WVOR				*e*Pg	Pb	16 42 32.2	0.0
J05D	Fort Rock, OR	3.06	2	⇓Pb	Pb	16 42 32.3	-0.7
	baz=3.1,SNR=48						
NV11	Mina Array Sit	3.06	125	*e*Pn	Pn	16 42 27.1	+0.1
J04D	Umpqua Nationa	3.07	350	⇓Pb	Pb	16 42 32.2	-0.9
	baz=3.1,SNR=19						
BMN	Battle Mountai	3.17	85	*e*Pn	Pn	16 42 26.9	-1.6
BMN				*e*P*	Pb	16 42 33.0	-1.9
BMN				*e*Pg	Pg	16 42 37.6	-1.5
MLAC	Mammoth, Mammo	3.25	142	⇓Sg	Sg	16 43 23.3	+0.4
	baz=3.2						
SAO	San Andreas Ge	3.46	181	*e*Pn	Pn	16 42 32.1	-0.1
PINOR	Pine Mountain	3.60	6	*e*Pg	Pg	16 42 46.2	-1.2
TPH	Tonopah	3.87	122	*e*Pn	Pn	16 42 38.1	0.0
TIN	Tinemaha, Big	4.00	141	⇑Sb	Sg	16 43 41.4	-5.5
	baz=4.0						
ELK	Elko	4.70	82	Pn	Pn	16 42 51.9	+2.4
	baz=270,slow=1.0						
ELK				Pg	Pb	16 43 02.7	+1.8
	1.6nm,0.3s,baz=204,slow=6.4,SNR=3.9						
ELK				Lg	Lg	16 44 02.8	
	2.6nm,0.3s,baz=180,slow=20,SNR=9.7						
R11A	Troy Canyon, C	4.86	111	⇑P	Pn	16 42 52.0	+0.4
	baz=4.8						
R11A				⇑Sb	Sg	16 44 07.7	-6.7
	baz=4.8						
R11A	Troy Canyon, C	4.86	111	*e*Pn	Pn	16 42 51.8	+0.2
DAC	Darwin (Calif)	4.93	142	*e*P*	Pb	16 43 00.0	-4.9
ISA	Isabella, Lake	5.09	152	⇑Sb	Sb	16 44 11.3	+2.4
	baz=5.1						
ISA	Isabella, Lake	5.09	152	*e*Pn	Pn	16 42 54.9	+0.1
	10nm,0.6s						
MPMC	Manual Prospec	5.16	142	⇓Sb	Sb	16 44 13.4	+2.5
	baz=5.1						
EDW2	Edwards Air Fo	5.97	152	⇓Sb	Sb	16 44 37.8	+3.8
	baz=5.9						
GSC	Goldstone, Bar	6.10	142	*e*Pn	Pn	16 43 11.1	+2.5
	10nm,0.9s						
GSC				*e*Sg	Sg	16 44 51.1	-2.9
SHPR	Sheep Range	6.12	125	*e*Pn	Pn	16 43 10.1	+1.0
	3.3nm,0.4s						
CCUT	Cedar City	6.79	111	*e*Pn	Pn	16 43 17.1	-1.1
	4.6nm,0.8s						
MVU	Marysvale	7.29	101	*e*Pn	Pn	16 43 26.1	+0.9
	6.5nm,0.5s						
PFO	Pinyon Flats O	7.68	148	Lg	Lg	16 45 34.7	
	0.1nm,0.3s,baz=103,slow=18,SNR=4.3						
PDAR	Pinedale Array	9.22	70	Pg	Pn	16 44 22.1	+30
	0.1nm,0.3s,baz=256,slow=17,SNR=2.5						
TXAR	Lajitas Array	18.11	121	P	P	16 45 53.3	+2.8
	baz=288,slow=12,SNR=3.0						

*IDC **17** 16:43:54.4±1.7, 58°.53N×136°.97W, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.5/31, mbtmp3.7/6, ML3.4/3, MS3.4/3, Ms1 3.4/3, ms1mx2.8/50, Error ellipse: s-maj=33.9km s-min=10.2km az=16.0*
*NEIC **17** 16:43:57.5, 58°.84N×136°.64W, h6km, ML3.6(AEIC), ML3.8(OTT), After AEIC.*
*PGC **17** 16:43:57.6±2.5, 58°.77N×136°.64W, h1km, ML3.8/3, 89km Wsw of Haines, Ak Southeastern Alaska*

ISC 17 16:43:56.4±1.5, 58°.80N±0°.04×136°.66W±0°.04, h2km±11km, n56, σ1§06/60, mb4.0/3, 6D, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAG	Skagway	0.95	46	P	Pg	16 44 15.2	+0.6
SKAG				S	Sg	16 44 28.1	+1.1
BESE	Bessie Mountai	0.97	102	P	Pg	16 44 15.3	+0.4
BESE				S	Sn	16 44 31.0	-0.4
SIT	Sitka	1.89	157	P	Pb	16 44 31.4	-0.1
SIT				S	Sb	16 44 55.1	-0.3
WHY	Whitehorse	2.07	25	Pn	Pn	16 44 32.8	+0.6
WHY				⇓Sg	Sg	16 45 02.5	-0.4
WHY	Whitehorse	2.07	25	P	Pn	16 44 32.8	+0.6
WHY				S	Sn	16 44 59.1	+0.5
HYT	Haines Junctio	2.08	349	⇓Pn	Pn	16 44 32.5	+0.3
HYT				⇑Sg	Sg	16 45 02.7	-0.3
HYT	Haines Junctio	2.08	349	P	Pn	16 44 32.6	+0.3
HYT				S	Sb	16 45 00.5	-0.6
CHX	Chaix Hills	2.60	301	P	Pn	16 44 39.9	+0.4
CTGM	Chitina Glacie	3.20	315	P	Pn	16 44 48.2	+0.4
WRAK	Wrangell Islan	3.33	134	P	Pn	16 44 49.6	+0.2
DLBC	Dease Lake	3.49	93	⇓Pn	Pn	16 44 51.8	+0.1
DLBC				⇑Sn	Sn	16 45 33.0	-0.5
DLBC				⇓Sg	Sg	16 45 45.9	-2.5
DLBC	Dease Lake	3.49	93	Pn	Pn	16 44 51.6	0.0
	4.6nm,0.3s,baz=268,slow=12,SNR=37						
DLBC				Pg	Pb	16 44 59.5	+0.6
	24nm,0.3s,baz=275,slow=13,SNR=54						
DLBC				Lg	Lg	16 45 46.2	
	29nm,0.3s,baz=180,slow=20,SNR=9.2						
BALM	Baldy	3.63	311	P	Pn	16 44 53.8	+0.1
CRAG	Craig	3.86	148	P	Pn	16 44 57.5	+0.9
KAIM	Kayak Island	4.12	289	P	Pn	16 45 00.9	+0.7
RAGM	Ragged Mountai	4.37	295	P	Pn	16 45 04.0	+0.3
GOAT	Goat Mountain	4.46	297	P	Pn	16 45 06.5	+1.6
BMRM	Bremner River	4.55	302	P	Pn	16 45 06.8	+0.6
SGAM	Sherman Glacie	4.66	295	P	Pn	16 45 09.2	+1.6
EYAK	Cordova Ski Ar	4.93	295	P	Pn	16 45 12.1	+0.8
BCA3	Beaver Creek A	4.95	332	P	Pn	16 45 11.5	-0.2
DIV	Divide	5.14	301	P	Pn	16 45 15.6	+1.4
HIN	Hinchinbrook I	5.25	292	P	Pn	16 45 15.8	0.0
KLU	Klutina	5.36	304	P	Pn	16 45 18.9	+1.6
DAWY	Dawson	5.44	347	⇓Pn	Pn	16 45 19.6	+1.1
DAWY				⇓Sn	Sn	16 46 20.1	-1.4
DAWY				⇑Sg	Sg	16 46 47.7	-3.3
DAWY	Dawson	5.44	347	P	Pn	16 45 19.4	+1.0
GLI	Glacier Island	5.66	296	P	Pn	16 45 22.0	+0.7
DOT	Dot Lake	6.03	327	P	Pn	16 45 26.5	0.0
SCM	Sheep Creek Mo	6.11	304	P	Pn	16 45 29.0	+1.4
SCRK	Sand Creek	6.27	329	P	Pn	16 45 29.7	-0.1
EGAK	Eagle	6.37	342	P	Pn	16 45 32.2	+1.2
PTE	Portage	6.57	294	P	Pn	16 45 33.9	+0.1
RC01	Rabbit Creek A	6.96	295	*e*P	Pn	16 45 39.3	+0.1
	11nm,0.6s						
BRLK	Bradley Lake	7.35	284	P	Pn	16 45 45.0	+0.4
SUA	Susitna One	7.52	297	P	Pn	16 45 47.8	+0.8
ILAR	Eielson Array	7.70	325	Pn	Pn	16 45 48.1	-1.1
	0.1nm,0.3s,baz=142,slow=12,SNR=7.1						
ILAR				Lg	Lg	16 47 58.6	
	0.3nm,0.3s,baz=126,slow=26,SNR=5.9						
ILAR				LR	LR	16 49 05.3	
	comp=Z,132nm,18.2s,baz=166,slow=40						
SKT	Skwentna	8.02	300	P	Pn	16 45 53.7	0.0
STLK	Strandline Lak	8.04	296	P	Pn	16 45 54.1	+0.1
TRF	Thorofare Moun	8.07	311	P	Pn	16 45 55.0	+0.5
KTH	Kantishna Hill	8.37	311	*e*P	Pn	16 46 00.0	+1.5
KDAK	Kodiak Island	8.45	270	P	Pn	16 46 00.2	+0.6
PPLA	Purkeypile	8.61	305	*e*Pn	Pn	16 46 05.0	+3.1
	5.3nm,0.6s						
OHAK	Old Harbor	8.96	267	*e*Pn	Pn	16 46 05.9	-0.8
BM3	Burnt Mountain	9.36	341	P	Pn	16 46 13.6	+1.5
YKA	Yellowknife Ar	11.42	62	Pn	Pn	16 46 40.3	+0.1
	0.3nm,0.3s,baz=256,slow=13,SNR=12						
YKA				Sn	Sn	16 48 40.0	-8.1
	0.2nm,0.3s,baz=257,slow=22,SNR=5.9						
YKA				Lg	Lg	16 49 59.8	
	baz=256,slow=28,SNR=5.2						
RES	Resolute Bay	22.13	28	P	P	16 48 54.0	+1.3
	1.6nm,0.7s,baz=267,slow=17,SNR=4.1						
SEY	Seymchan	33.18	308	P	P	16 50 34.2	+0.5
	1.0nm,0.5s,baz=81,slow=13,SNR=10.0						
LPIG	La Paz	39.38	140	LR	LR	17 06 56.4	
	comp=Z,73nm,18.4s,baz=58,slow=35						
CMIG	Matias Romero	51.63	126	LR	LR	17 17 38.2	
	comp=Z,36nm,18.5s,baz=358,slow=39						
H11N2	WAKE ISLAND Hy	56.11	251	T	T	17 53 20.5	
	baz=32,slow=76,SNR=5.8						
H11N3	WAKE ISLAND Hy	56.11	251	T	T	17 53 20.3	
	baz=32,slow=76,SNR=5.1						
H11N1	WAKE ISLAND Hy	56.12	251	T	T	17 53 20.1	
	baz=32,slow=76,SNR=5.8						
H11S1	WAKE ISLAND Hy	57.24	250	T	T	17 54 37.3	
	baz=31,slow=74						
H11S2	WAKE ISLAND Hy	57.26	250	T	T	17 54 26.8	
	baz=31						
H11S3	WAKE ISLAND Hy	57.26	250	T	T	17 54 34.4	
	baz=31,slow=74						
CMAR	Chiang Mai Arr	90.60	308	P	P	16 56 59.0	-1.1
	0.8nm,0.7s,baz=356,slow=4.6,SNR=6.5						

*CSEM **17** 16:51:30.4±0.3, 33°.77N×4°.31W, h10km, mb3.8, Error ellipse: s-maj=7.5km s-min=4.2km az=104.0*
*MDD **17** 16:51:31.4±1.3, 33°.76N×4°.31W, h8km±8km, mb3.8/3, Error ellipse: s-maj=8.0km s-min=5.0km az=100.0, PRXIMO*
*CNRM **17** 16:51:31.2, 33°.73N×4°.27W, h1km, MD3.0*

ISC 17 16:51:31.9±1.3, 33°.79N±0°.03×4°.35W±0°.05, h26km±12km, n44, σ1§18/76, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGT	Taghat	0.65	296	P	Pb	16 51 44.0	-0.7
TGT				S	Sb	16 51 54.0	+0.5
TGT	Taghat	0.65	296	P	Pb	16 51 44.0	-0.7
TGT				S	Sb	16 51 54.0	+0.5
MIF	Mishlifen	0.83	243	P	Pb	16 51 46.5	-1.3
MIF				S	Sb	16 51 59.0	+0.4
MIF	Mishlifen	0.83	243	P	Pb	16 51 46.5	-1.3
MIF				S	Sb	16 51 59.0	+0.4
TOU	Touzarine	1.27	23	P	Pn	16 51 54.5	+0.5
TOU				S	Sb	16 52 13.0	+1.8
TOU	Touzarine	1.27	23	P	Pn	16 51 54.5	+0.5
TOU				*i* S	Sb	16 52 13.0	+1.8
RSA	Sarsar	1.64	312	P	Pn	16 52 01.0	+2.0
RSA				S	Sb	16 52 22.0	+0.3
RSA	Sarsar	1.64	312	P	Pn	16 52 01.0	+2.0
RSA				S	Sb	16 52 22.0	+0.3
ZFT	Errachidia	1.75	180	P	Pn	16 52 00.5	-0.2
ZFT				S	Sn	16 52 21.0	-1.2
ZFT	Errachidia	1.75	180	P	Pn	16 52 00.5	-0.2
ZFT				S	Sn	16 52 21.0	-1.2
KIB	El Ksiba	1.86	230	P	Pn	16 52 03.0	+0.9
KIB				S	Sn	16 52 26.0	+1.2
KIB	El Ksiba	1.86	230	P	Pn	16 52 03.0	+0.9
KIB				S	Sn	16 52 26.0	+1.2
TZC	Tazercounte	2.43	228	P	Pn	16 52 12.0	+1.9
TZC				S	Sn	16 52 39.5	+0.5
TZC	Tazercounte	2.43	228	P	Pn	16 52 12.0	+1.9
TZC				S	Sn	16 52 39.5	+0.5
ECAB	El Cabril	4.37	349	P	Pn	16 52 38.4	+1.8
	0.3nm,0.1s,SNR=7.9						
ECAB				S	Sn	16 53 27.9	+1.4
	1.1nm,0.2s,SNR=7.9						
ECAB	El Cabril	4.37	349	P	Pn	16 52 38.3	+1.8
	0.3nm,0.1s,SNR=7.9						
ECAB				S	Sn	16 53 27.9	+1.4
	1.1nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	4.40	335	P	Pn	16 52 38.0	+1.1
	0.8nm,0.1s,SNR=9.4						
EMIN				S	Sn	16 53 27.0	-0.2
	1.2nm,0.5s,SNR=7.9						
EMIN	Mina Concepcio	4.40	335	P	Pn	16 52 38.0	+1.1
	0.8nm,0.1s,SNR=9.4						
EMIN				S	Sn	16 53 27.0	-0.2
	1.2nm,0.5s,SNR=7.9						
PBDV	Barranco-do-Ve	4.52	321	*e*Pn	Pn	16 52 39.3	+0.7
PBDV				*e*Sn	Sn	16 53 30.2	-0.1
PBDV				A	A	16 53 34.8	
	4.4nm,0.7s						
PBDV	Barranco-do-Ve	4.52	321	P	Pn	16 52 39.3	+0.7
PBDV				S	Sn	16 53 30.2	-0.1
	4.4nm,0.7s						
PBDV	Barranco-do-Ve	4.52	321	P	Pn	16 52 39.3	+0.7
PBDV				S	Sn	16 53 30.2	-0.1
	4.4nm,0.7s						
EGRO	El Granado	4.53	327	P	Pn	16 52 39.0	+0.4
	0.8nm,0.1s,SNR=7.9						
EGRO				S	Sn	16 53 27.9	-2.5
	1.7nm,0.3s,SNR=7.9						
EGRO	El Granado	4.53	327	P	Pn	16 52 39.0	+0.4
	0.8nm,0.1s,SNR=7.9						
PVAQ	Vaqueiros	4.53	324	*e*Pn	Pn	16 52 38.7	-0.1
PVAQ				*e*Sn	Sn	16 53 28.6	-2.0
PVAQ				A	A	16 53 39.5	
	2.5nm,0.2s						
PVAQ	Vaqueiros

RDX				*e*S		**Sg**	**17 01 23.2 +1.4**
COK	**Cook Ranch**	**0.67**	**327⇑**	*e*P		**Pg**	**17 01 13.4 +0.2**
YMD	**Yuma Desert**	**0.69**	**67⇑**	*e*P		**Pg**	**17 01 13.7 +0.1**
RMX	**La Rumorosa**	**0.73**	**295⇓**	*e*P		**Pg**	**17 01 14.5 0.0**
RMX				*e*S		**Sg**	**17 01 24.9 +0.8**
RMX				⇑*e*			17 01 26.3
	comp=N,4μm,0.6s						
SWSC	**Sam W. Stewart**	**0.78**	**327**	P		**Pg**	**17 01 14.6 -0.6**
	baz=0.8						
CRR	**Carrizo Plain**	**0.82**	**316⇓**	*e*P		**Pg**	**17 01 15.9 -0.3**
ECBX	**El Chinero**	**0.84**	**166⇓**	*e*P		**Pg**	**17 01 16.1 -0.5**
ECBX				*e*S		**Sg**	**17 01 27.9 +0.4**
GLA	**Glamis**	**0.85**	**27**	P		**Pg**	**17 01 15.9 -0.9**
	baz=0.8						
GLA				S		**Sg**	**17 01 27.4 -0.5**
	baz=0.8						
GLA	**Glamis**	**0.85**	**27**	*e*Pg		**Pg**	**17 01 15.7 -1.1**
MONP	**Monument Peak,**	**1.12**	**302**	P		**Pg**	**17 01 20.8 -1.1**
	baz=1.1						
MONP				S		**Sg**	**17 01 36.1 -0.5**
	baz=1.1						
ZAX	**El Zacaton**	**1.14**	**227⇑**	*e*P		**Pg**	**17 01 22.1 -0.1**
ZAX				*e*S		**Sg**	**17 01 37.9 +0.9**
CBX	**Cerro Bola**	**1.16**	**271⇑**	*e*P		**Pg**	**17 01 22.4 -0.3**
CBX				*e*S		**Sg**	**17 01 37.8 +0.1**
BAR	**Barrett**	**1.23**	**289**	*e*Pn		**Pg**	**17 01 22.5 -1.4**
BAR				*e*Sn		**Sg**	**17 01 39.0 -0.8**
SPIG	**San Pedro Mart**	**1.25**	**187**	*e*P		**Pg**	**17 01 23.7 -0.6**
SPIG				*i* S		**Sg**	**17 01 40.3 -0.3**
SPIG	**San Pedro Mart**	**1.25**	**187**	*e*P		**Pg**	**17 01 23.7 -0.6**
SPIG				*i* S		**Sg**	**17 01 40.3 -0.3**
SPX	**San Pedro Mart**	**1.25**	**187⇑**	*e*P		**Pg**	**17 01 23.8 -0.6**
SPX				*e*S		**Sg**	**17 01 41.9 +1.2**
ECNX	**Esteban Cantu**	**1.28**	**241⇑**	*e*P		**Pg**	**17 01 24.4 -0.4**
ECNX				*e*S		**Sg**	**17 01 41.8 +0.4**
ECNX				⇑*e*			17 01 46.9
	comp=N,5μm,0.8s						
PBX	**Punta Banda**	**1.33**	**246⇑**	*e*P		**Pg**	**17 01 25.2 -0.7**
PBX				⇓*e*			17 01 45.2
	comp=N,4μm,0.6s						
BC3	**Big Chuckawall**	**1.37**	**354**	P		**Pg**	**17 01 23.6 -3.0**
	baz=1.3						
113A	**Mohawk Valley,**	**1.37**	**69**	P		**Pg**	**17 01 24.1 -2.6**
	baz=1.4						
PFO	**Pinyon Flats O**	**1.64**	**324**	Pn		**Pn**	**17 01 27.4 -1.9**
	comp=N,18nm,0.3s,baz=151,slow=14,SNR=68						
PFO				Lg		Lg	17 01 52.3
	comp=N,42nm,0.3s,baz=165,slow=11,SNR=6.9						
PFO	**Pinyon Flats O**	**1.64**	**324**	P		**Pn**	**17 01 27.4 -1.9**
	baz=1.6						
109C	**Camp Elliot, M**	**1.64**	**292**	Sb		**Sn**	**17 01 51.3 +0.8**
	baz=1.6						
MURC	**Murrieta**	**2.07**	**310**	P		**Pn**	**17 01 33.9 -1.3**
	baz=2.0						
MURC				Sb		**Sb**	**17 02 04.7 +1.0**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.13**	**98**	P		**Pn**	**17 01 34.3 -1.7**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.13**	**98**	*e*Pn		Pn	17 01 33.9 -2.2
LDFC	**Landfair**	**2.78**	**3**	*e*Pn		**Pn**	**17 01 46.8 +1.6**
MWC	**Mount Wilson**	**3.01**	**311**	*e*Pn		**Pn**	**17 01 51.2 +2.9**
PASC	**Pasadena Art C**	**3.06**	**309**	*e*Pn		**Pn**	**17 01 51.3 +2.5**
GSC	**Goldstone, Bar**	**3.26**	**338**	*e*Pn		**Pn**	**17 01 52.0 +0.5**
TUC	**Tucson**	**3.82**	**89**	*e*Pn		**Pn**	**17 02 00.6 +1.3**
TUC				*e*S		**Sn**	**17 02 44.0 -0.3**
SHPR	**Sheep Range**	**4.21**	**1**	*e*Pn		**Pn**	**17 02 06.9 +2.2**
DAC	**Darwin (Calif)**	**4.41**	**335**	*e*Pn		**Pn**	**17 02 09.5 +2.0**
WUAZ	**Wupatki**	**4.58**	**44**	*e*Pn		**Pn**	**17 02 10.9 +1.0**
W18A	**Petrified Fore**	**5.42**	**57**	*e*Pn		**Pn**	**17 02 22.2 +0.8**
	comp=N,64nm,0.9s						
CCUT	**Cedar City**	**5.48**	**16**	*e*Pn		**Pn**	**17 02 23.5 +1.2**
	comp=N,56nm,1.0s						
ARUT	**Antelope Range**	**5.69**	**15**	*e*Pn		**Pn**	**17 02 27.3 +2.2**
	comp=N,2μm,1.0s						
TPH	**Tonopah**	**5.98**	**345**	*e*Pg		**Pg**	**17 02 56.1 +1.2**
	comp=N,21nm,0.8s						
R11A	**Troy Canyon, C**	**6.05**	**358**	*e*Pn		**Pn**	**17 02 31.3 +1.2**
	comp=N,13nm,0.8s						
121A	**Cookes Peak, D**	**6.35**	**86**	*e*Pn		**Pn**	**17 02 34.3 +0.1**
	comp=N,20nm,0.5s						
NVAR	**Mina Array Bea**	**6.60**	**339**	Pn		**Pn**	**17 02 40.4 +2.8**
	comp=N,0.1nm,0.3s,baz=158,slow=15,SNR=3.3						
NVAR				Lg		Lg	17 04 45.4
	baz=165,slow=35,SNR=2.1						
MVU	**Marysvale**	**6.69**	**21**	*e*Pn		Pn	17 02 43.3 +4.4
	comp=N,21nm,0.8s						
LENM	**Lemitar**	**7.22**	**73**	*e*Pn		**Pn**	**17 02 48.2 +2.2**
	comp=N,4.5nm,0.4s						
MVCO	**Mesa Verde**	**7.44**	**47**	*e*Pn		**Pn**	**17 02 50.2 +1.0**
	comp=N,35nm,0.8s						
ANMO	**Albuquerque**	**7.83**	**68**	Pn		Pn	17 03 02.4 +7.9
	comp=N,0.2nm,0.3s,baz=278,slow=14,SNR=4.4						
ANMO				Lg		Lg	17 05 08.1
	comp=N,0.2nm,0.3s,baz=315,slow=17,SNR=2.0						
ANMO				LR		LR	17 06 12.6
	comp=N,145nm,19.7s,baz=255,slow=39						
PV04	**Paradox Valley**	**8.02**	**39**	*e*Pn		Pn	17 03 00.9 +3.9
ELK	**Elko**	**8.44**	**0**	Pn		Pn	17 03 06.9 +4.1
	comp=N,0.1nm,0.3s,baz=93,slow=18,SNR=3.1						
ELK				Lg		Lg	17 05 27.0
	comp=N,0.1nm,0.3s,baz=208,slow=15,SNR=2.6						
TXAR	**Lajitas Array**	**10.42**	**103**	Pn		**Pn**	**17 03 31.8 +1.8**
	comp=N,0.2nm,0.3s,baz=282,slow=13,SNR=20						
TXAR				Lg		Lg	17 06 32.2
	comp=N,0.1nm,0.3s,baz=286,slow=30,SNR=3.9						
PDAR	**Pinedale Array**	**11.40**	**22**	Pn		Pn	17 03 49.4 +6.0
	baz=203,slow=5.9,SNR=2.3						
PDAR				LR		LR	17 08 32.7
	comp=N,110nm,19.6s,baz=214,slow=39						
NEW	**Newport**	**16.02**	**356**	*e*P		**Pn**	**17 04 44.5 -1.2**
	comp=N,3.4nm,0.8s						
NEW				*e*			17 04 54.5
ILAR	**Eielson Array**	**37.86**	**339**	P		**P**	**17 08 15.9 -1.1**
	comp=N,0.1nm,0.6s,baz=151,slow=7.8,SNR=2.5						

DJA 17 17:08:38.4±0.5, 1°S±5°×13°3E±°, h17km, M3.8/7, mb4.2/2, MLv3.6/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.39**	**123**	P	Pn	17 09 02.0	-1.1
RKPI				S	Sb	17 09 21.4	-0.1
SWI	**Sorong**	**1.75**	**266**	P	Pn	17 09 06.6	-1.4
SWI				S	Sb	17 09 31.0	-0.9
FAKI	**Fak Fak**	**2.29**	**199**	P	Pn	17 09 14.9	-0.5
FAKI				S	Sn	17 09 43.7	+0.5
MSAI	**Masohi**	**4.83**	**238**	P	Pn	17 09 50.4	+0.1

GUC 17 17:13:38.8±0.5, 34°83S×72°22W, h22km±7km, ML3.7, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.74**	**140⇓**	*i*P	Pb	17 13 52.0	-1.0
TALC				*i* S	Sb	17 14 01.7	-1.1
LNV	**Longovilo**	**1.10**	**38⇓**	*i*P	Pn	17 13 57.1	-1.8
LNV				*i* S1	Sb	17 14 11.6	-1.4
LNCH	**Linares**	**1.14**	**154⇓**	*i*P	Pn	17 13 58.2	-1.2
LNCH				*i* S	Sb	17 14 12.7	-1.4
CACH	**El Canelo**	**1.51**	**62**	*e*P1	Pn	17 14 04.7	-0.1
CACH				*i* S1	Sb	17 14 24.3	-1.0
CHCH	**Chadas Angostu**	**1.57**	**56**	*e*P	Pn	17 14 05.4	-0.1
CHCH				*i* S1	Sn	17 14 25.6	+0.3
ANTU	**Antumapu**	**1.82**	**47**	*e*P1	Pn	17 14 09.3	+0.5
ANTU				*i* S	Sn	17 14 31.9	+0.6
SJCH	**San Jose de Ma**	**1.95**	**53**	*e*P9	Pn	17 14 10.1	-0.7
SJCH				*e*S	Sn	17 14 34.4	-0.2
SJCH				IAML		17 14 38.3	
	comp=E,682nm,0.4s						
CLCH	**Cerro Calan**	**2.00**	**45**	*e*P1	Pn	17 14 11.7	+0.3
CLCH				*i* S	Sn	17 14 36.8	+0.9
CLCH				IAML		17 14 41.1	
	comp=N,906nm,1.1s						
PEL	**Peldehue**	**2.11**	**38⇓**	*i*P	Pn	17 14 13.6	+0.7
PEL				*i* S	Sn	17 14 39.9	+1.4
PEL				IAML		17 14 42.6	
	comp=E,1μm,0.5s						

*IDC **17** 17:17:29.9±0.6, 36°21S×73°43W, h0km, mb4.5/16, mb1 4.6/18, mb1mx4.6/23, mbtmp4.5/18, ML4.3/2, MS3.3/5, Ms1 3.3/5, ms1mx3.2/29, Error ellipse: s-maj=20.8km s-min=14.2km az=87.0*

*GUC **17** 17:17:32.1±0.7, 36°27S×73°54W, h8km±10km, ML4.9*

*ISCJB **17** 17:17:34.6±1.0, 36°24S±0°03×73°32W±0°08, h33km±7km, mb4.6/38, MS3.6/3, Error ellipse: s-maj=10.5km s-min=5.7km az=4.1*

*NEIC **17** 17:17:34.5±3.0, 36°16S×73°25W, h26km±21km, mb4.9/26, Error ellipse: s-maj=15.1km s-min=7.3km az=78.0*

NEIC Felt [II] at Concepcion and Graneros. Also felt at Chiguayante, Coronel and Talcahuano.

*BJI **17** 17:17:36.0, 36°10S×73°20W, h35km, mB5.1/5, Ms5.4/4, Ms7 5.3/4*

ISC 17 17:17:35.8±0.6, 36°30S±0°04×73°40W±0°08, h40km±5km, h40km:pP-P, n102, σ1°36/112, mb4.6/39, MS3.7/3, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.53**	**71⇑**	*i*P	Pn	17 17 44.4	-2.5
COCH				*i* S	Sn	17 17 53.3	-1.4
CCSP	**San Pedro de C**	**0.59**	**156⇑**	*i*P	Pn	17 17 45.5	-2.3
CCSP				*i* S	Sn	17 17 55.2	-1.1
CCSP				AML	AML	17 17 56.9	
	comp=E,119μm,0.5s						
LNCH	**Linares**	**1.53**	**73**	*e*P1	Pn	17 18 00.0	-0.6
LNCH				*i* S	Sn	17 18 22.3	+3.0
AGCH	**Angol**	**1.61**	**160**	*e*P1	Pn	17 18 01.0	-0.7
AGCH				*i* S	Sn	17 18 23.5	+2.3
TALC	**Talca**	**1.70**	**58⇑**	*i*P	Pn	17 18 02.8	-0.1
TALC				*i* S	Sn	17 18 25.8	+2.4
NICH	**Los Niches**	**2.19**	**54**	*e*P1	Pn	17 18 10.6	+0.8
NICH				*i* S	Sn	17 18 40.2	+4.5
PLCA	**Paso Flores**	**4.96**	**154**	Pn	Pn	17 18 48.7	+0.9
	comp=E,4.3nm,0.3s,baz=332,slow=14,SNR=47						
PLCA				Lg	Lg	17 20 09.2	
	comp=E,5.1nm,0.3s,baz=233,slow=20,SNR=3.6						
PLCA				LR	LR	17 20 12.3	
	comp=E,101nm,20.1s,baz=281,slow=32						
PLCA	**Paso Flores**	**4.96**	**154**	*e*Pn	Pn	17 18 47.9	+0.1
PLCA				Lg	Lg	17 20 09.2	
CFAA	**Coronel Fontan**	**6.35**	**44**	Pn	Pn	17 19 05.5	-1.5
	comp=E,2.3nm,0.3s,baz=210,slow=15,SNR=11						
CFAA				Sn	Sn	17 20 17.9	-0.4
	comp=E,0.6nm,0.3s,baz=218,slow=18,SNR=1.9						
CFAA				LR	LR	17 21 34.5	
	comp=E,66nm,18.3s,baz=230,slow=39						
LCO	**Las Campanas**	**7.62**	**18**	*e*P	Pn	17 19 19.6	-4.9
	comp=E,33nm,0.6s						
TRQA	**Tornquist**	**9.28**	**104**	*e*Pn	Pn	17 19 48.1	+1.0
LVC	**Limon Verde**	**14.19**	**17**	*e*P	Pn	17 20 48.8	-5.6
USHA	**Ushuaia**	**18.84**	**171**	P	Pn	17 21 55.5	+2.5
	comp=E,0.4nm,0.3s,baz=319,slow=11,SNR=2.9						
EFI	**East Falkland**	**18.86**	**149**	*e*P	**P**	**17 21 52.0**	**-0.3**
LPAZ	**La Paz**	**20.48**	**15**	P	**P**	**17 22 11.1**	**+0.2**
	comp=E,10nm,0.8s,baz=195,slow=9.9,SNR=18						
SIV	**San Ignacio**	**23.02**	**32**	P	**P**	**17 22 35.5**	**-1.9**
	comp=E,11nm,0.8s,baz=216,slow=12,SNR=33						
SIV				LR	LR	17 33 12.3	
	comp=E,380nm,19.9s,baz=183,slow=41						
NNA	**Nana**	**24.41**	**352**	P	**P**	**17 22 49.2**	**-1.5**
	comp=E,14nm,0.8s,baz=172,slow=11,SNR=4.5						
NNA				LR	LR	17 30 28.3	
	comp=E,86nm,19.3s,baz=183,slow=32						
SAML	**Samuel**	**28.77**	**21**	*e*P	**P**	**17 23 29.2**	**-0.7**
	comp=E,27nm,2.3s						
ATAH	**Atahualpa**	**29.39**	**350**	P	**P**	**17 23 33.9**	**-1.9**
	comp=E,3.7nm,0.6s,baz=149,slow=5.9,SNR=2.5						
BDFB	**Brasilia**	**30.57**	**54**	P	**P**	**17 23 44.0**	**-1.9**
	comp=E,3.6nm,0.7s,baz=234,slow=8.7,SNR=3.9						
BDFB				LR	LR	17 36 58.7	
	comp=E,154nm,19.7s,baz=224,slow=38						
PTGA	**Pitinga**	**37.53**	**22**	P	**P**	**17 24 44.6**	**-1.5**
	comp=E,4.9nm,0.6s,baz=204,slow=10,SNR=5.8						
SDV	**Santo Domingo**	**45.02**	**4**	*e*P	**P**	**17 25 47.0**	**-0.8**
	comp=E,9.8nm,1.0s						
RCBR	**Riachuelo**	**45.81**	**58**	P	**P**	**17 25 54.2**	**+0.2**
	comp=E,5.0nm,0.6s,baz=211,slow=9.8,SNR=5.1						
VNA3	**Neumayer Olymp**	**47.67**	**157**	P	**P**	**17 26 09.0**	**+1.1**
VNA2	**Neumayer--Watz**	**48.34**	**156**	P	**P**	**17 26 14.0**	**+1.0**
SNAA	**Sanae**	**49.89**	**157**	P	**P**	**17 26 25.9**	**+1.0**
SNAA	**Sanae**	**49.89**	**157**	P	**P**	**17 26 25.9**	**+1.0**
	comp=E,8.4nm,0.8s,baz=256,slow=9.3,SNR=31						
SNAA	**Sanae**	**49.89**	**157**	*e*P	**P**	**17 26 25.9**	**+1.0**
	comp=E,29nm,1.0s						
VNDA	**Vanda**	**61.63**	**192**	P	**P**	**17 27 49.2**	**+0.4**
	comp=E,1.5nm,0.9s,baz=138,slow=4.4,SNR=4.7						
SYO	**Syowa Base**	**64.14**	**158⇓**	*e*P	**P**	**17 28 04.4**	**-1.2**
TXAR	**Lajitas Array**	**71.22**	**332**	P	**P**	**17 28 50.8**	**0.0**
	comp=E,2.2nm,0.8s,baz=153,slow=8.8,SNR=20						
CPCT	**Cooper Cave**	**72.14**	**350**	*e*P	**P**	**17 28 58.9**	**+2.9**
WVT	**Waverly**	**73.30**	**348**	*e*P	**P**	**17 29 02.5**	**-0.4**
	comp=E,12nm,1.0s						
WVT				*e*pP	PcP	17 29 24.4	+5.3
MNTX	**Cornudas Mount**	**73.99**	**332**	*e*P	**P**	**17 29 06.5**	**-0.6**
	comp=E,2.7nm,1.0s						
ACSO	**Alum Creek Sta**	**76.67**	**352**	*e*P	**P**	**17 29 21.9**	**-0.3**
	comp=E,15nm,0.7s						
DBIC	**Dimbokro**	**76.97**	**72**	P	**P**	**17 29 24.9**	**+0.3**
	comp=E,7.5nm,0.7s,baz=199,slow=4.6,SNR=13						
ANMO	**Albuquerque**	**77.29**	**333**	*e*P	**P**	**17 29 27.3**	**+1.1**
	comp=E,6.1nm,1.3s						
BOSA	**Boshof**	**79.98**	**118**	P	**P**	**17 29 41.7**	**+0.4**
	comp=E,5.8nm,0.9s,baz=236,slow=6.5,SNR=7.5						
SMCO	**Snowmass**	**81.24**	**334**	*e*P	**P**	**17 29 49.2**	**+1.3**
CCUT	**Cedar City**	**82.28**	**329**	*e*P	**P**	**17 29 55.1**	**+2.0**
	comp=E,49nm,2.4s						
LBTB	**Lobatse**	**82.34**	**115**	P	**P**	**17 29 54.0**	**+0.1**
ECSD	**EROS Data Cent**	**82.41**	**343**	*e*P	**P**	**17 29 53.2**	**-0.2**
	comp=E,11nm,0.8s						
DAC	**Darwin (Calif)**	**83.06**	**325**	*e*P	**P**	**17 30 00.3**	**+3.1**
	comp=E,49nm,2.6s						
R11A	**Troy Canyon, C**	**83.89**	**328**	*e*P	**P**	**17 30 03.0**	**+1.6**
	comp=E,47nm,3.0s						
DAU	**Daniels Canyon**	**83.89**	**332**	*e*P	**P**	**17 30 02.1**	**+0.6**
	comp=E,2.6nm,0.8s						
DUG	**Dugway, Tooele**	**84.31**	**331**	*e*P	**P**	**17 30 03.4**	**-0.1**
	comp=E,9.8nm,0.9s						
DUG				*e*pP	pP	17 30 21.5	+5.9
CTU	**Camp Tracy**	**84.33**	**332**	*e*P	**P**	**17 30 04.4**	**+0.8**
CTU				*e*pP	**pP**	**17 30 16.9**	**+1.2**
TPH	**Tonopah**	**84.38**	**327**	*e*P	**P**	**17 30 05.4**	**+1.5**
	comp=E,56nm,2.5s						
RSSD	**Black Hills**	**84.74**	**338**	*e*P	**P**	**17 30 05.8**	**+0.2**
	comp=E,4.3nm,0.9s						
NVAR	**Mina Array Bea**	**85.15**	**326**	P	**P**	**17 30 08.6**	**+0.7**
	comp=E,1.4nm,0.6s,baz=149,slow=6.2,SNR=14						
PDAR	**Pinedale Array**	**85.33**	**334**	P	**P**	**17 30 08.4**	**-0.2**
	comp=E,0.7nm,0.3s,baz=140,slow=4.4,SNR=6.5						
HVU	**Hansel Valley**	**85.65**	**332**	*e*P	**P**	**17 30 10.6**	**+0.4**
	comp=E,8.4nm,1.0s						
HVU				*e*pP	pP	17 30 35.0	+13
TORD	**Torodi Ar. Bea**	**86.04**	**71**	P	**P**	**17 30 12.2**	**-0.3**
	comp=E,3.7nm,1.0s,baz=244,slow=3.8,SNR=14						
LOHW	**Long Hollow**	**86.44**	**334**	*e*P	**P**	**17 30 14.5**	**+0.4**
	comp=E,2.7nm,0.8s						
TPAW	**Teton Pass**	**86.45**	**334**	*e*P	**P**	**17 30 14.8**	**+0.6**
	comp=E,5.0nm,0.8s						
AGMN	**Agassiz Nation**	**86.58**	**345**	*e*P	**P**	**17 30 14.0**	**-0.3**
	comp=E,6.6nm,0.6s						
FXWY	**Fox Creek**	**86.61**	**334**	*e*P	**P**	**17 30 15.4**	**+0.5**
	comp=E,14nm,2.0s						
IMW	**Indian Meadow**	**86.80**	**334**	*e*P	**P**	**17 30 16.5**	**+0.5**
	comp=E,5.8nm,1.0s						
FLWY	**Flagg Ranch**	**86.88**	**334**	*e*P	**P**	**17 30 16.6**	**+0.4**
	comp=E,7.5nm,0.8s						
YMR	**Madison River**	**87.48**	**334**	*e*P	**P**	**17 30 20.8**	**+1.7**
	comp=E,8.2nm,1.0s						
HLID	**Hailey**	**87.81**	**331**	*e*P	**P**	**17 30 21.6**	**+1.0**
	comp=E,4.2nm,1.1s						
MCMT	**McKenzie Canyo**	**88.30**	**333**	*e*P	**P**	**17 30 23.8**	**+0.7**
	comp=E,2.6nm,1.3s						
ULM	**Lac du Bonnet**	**88.44**	**346**	P	**P**	**17 30 22.2**	**-1.0**
	comp=E,7.1nm,0.8s,baz=179,slow=4.5,SNR=12						
ULM	**Lac du Bonnet**	**88.44**	**346**	*e*P	**P**	**17 30 22.5**	**-0.7**
	comp=E,7.4nm,0.9s						
YKA	**Yellowknife Ar**	**103.88**	**342**	Pdiff	**Pdif**	**17 31 32.4**	**-0.7**
	comp=E,0.1nm,0.4s,baz=146,slow=4.5,SNR=3.7						
ASAR	**Alice Springs**	**115.01**	**208**	PKKPbc	PKKPbc	17 46 48.1	0.0
	comp=E,0.4nm,0.6s,baz=332,slow=3.3,SNR=8.7						
WRA	**Warramunga Arr**	**118.21**	**210**	PKP	**PKPdf**	**17 36 18.1**	**-1.1**
	comp=E,1.0nm,1.1s,baz=128,slow=1.8,SNR=4.8						
BRTR	**Keskin Array B**	**123.91**	**63**	PKP	**PKPdf**	**17 36 28.9**	**-0.7**
	comp=E,2.2nm,1.2s,baz=279,slow=3.1,SNR=3.8						
H11S2	**WAKE ISLAND Hyl**	**24.60**	**268**	T	T	19 53 35.9	
	baz=118,slow=74,SNR=18						
H11S1	**WAKE ISLAND Hyl**	**24.61**	**268**	T	T	19 53 35.1	
	baz=118,slow=74,SNR=12						
H11S3	**WAKE ISLAND Hyl**	**24.62**	**268**	T	T	19 53 35.1	
	baz=118,slow=74,SNR=10						
H11N3	**WAKE ISLAND Hyl**	**25.07**	**270**	T	T	19 54 04.8	
	baz=123						
H11N1	**WAKE ISLAND Hyl**	**25.08**	**270**	T	T	19 54 01.4	
	baz=123						
H11N2	**WAKE ISLAND Hyl**	**25.09**	**270**	T	T	19 54 00.6	
	baz=123						
SEY	**Seymchan**	**141.43**	**328**	PKhKP	PKPpre	17 36 56.1	
	comp=E,1.0nm,0.8s,baz=21,slow=1.8,SNR=3.7						
TIXI	**Tiksi**	**142.74**	**349**	*e*PKPpre	PKPpre	17 36 52.4	
ABKAR	**Akbulak array**	**143.96**	**54**	*e*PKPpre	PKPpre	17 37 03.9	
PSI	**Prapat**	**145.92**	**166**	PKPbc	**PKPdf**	**17 37 10.9**	**-0.2**
	comp=E,20nm,0.9s,baz=166,slow=4.3,SNR=18						
HYB	**Hyderabad**	**148.87**	**120**	*i* PKP	**PKPbc**	**17 37 18.5**	**-1.2**
KKAR	**Karatay Array**	**151.58**	**65**	*e*PKPbc	**PKPbc**	**17 37 25.4**	**-0.1**
AAK	**Ala-Archa**	**154.53**	**66**	*e*PKPdf	**PKPdf**	**17 37 24.6**	**+0.9**
KSH	**Kashi**	**155.68**	**73**	PKP	**PKPdf**	**17 37 25.4**	**+0.1**
KSH				sPKP		17 37 39.0	
KSH				PKS	**PKSdf**	**17 40 59.3**	**-0.1**
KSH				PP	**PP**	**17 41 27.3**	**-2.1**
KSH				SKS	**SKSdf**	**17 44 29.8**	**+1.2**
KSH				SKKS	**SKKSac**	**17 48 17.0**	**+1.6**
KSH				SS	**SS**	**18 01 10.6**	**-3.3**
KSH				PPMZ			
	comp=E,82nm,5.1s						
KSH				LZ			
	comp=E,110nm,4.9s						
ZALV	**Zalesovo Beam**	**156.76**	**34**	PKP	**PKPdf**	**17 37 25.6**	**-0.5**
	comp=E,2.8nm,0.8s,baz=286,slow=2.6,SNR=12						
ZALV				PKPab	**PKPab**	**17 37 56.1**	**+0.4**
	comp=E,4.1nm,0.8s,baz=312,slow=5.4,SNR=10						
KOLN	**Koldanda**	**158.77**	**107**	*e*P	**PKPab**	**17 38 04.6**	**-0.9**
	comp=E,14nm,0.7s						
MKAR	**Makanchi Array**	**159.09**	**52**	PKP	**PKPdf**	**17 37 28.8**	**-0.5**
	comp=E,1.5nm,0.8s,baz=306,slow=4.8,SNR=14						
MKAR				PKPab	**PKPab**	**17 38 05.2**	**-0.9**
	comp=E,1.7nm,0.9s,baz=299,slow=6.3,SNR=5.7						
DANN	**Dangsing**	**159.17**	**106**	*e*P	**PKPab**	**17 38 06.9**	**-0.5**
	comp=E,16nm,0.9s						
GKN	**Gorkha**	**159.68**	**108**	*e*P	**PKPab**	**17 38 09.3**	**-0.1**
	comp=E,35nm,1.1s						
DMN	**Daman**	**159.84**	**109**	*e*P	**PKPab**	**17 38 10.5**	**+0.2**
	comp=E,29nm,1.1s						
PKIN	**Phulchoki**	**160.05**	**110**	*e*P	**PKPab**	**17 38 11.1**	**-0.1**
PKI	**Pulchoki**	**160.05**	**110**	*e*P	**PKPab**	**17 38 10.8**	**-0.5**
	comp=E,12nm,0.7s						
KKN	**Kakani**	**160.07**	**109**	*e*P	**PKPab**	**17 38 11.1**	**-0.1**
	comp=E,28nm,1.1s						
GUN	**Gumba**	**160.58**	**110**	*e*P	**PKPab**	**17 38 13.3**	**-0.3**
RAMN	**Ramite**	**160.62**	**113**	*e*P	**PKPab**	**17 38 13.6**	**0.0**
JIRN	**Jiri**	**160.69**	**111**	*e*P	**PKPab**	**17 38 13.8**	**-0.3**
ODAN	**Odare**	**161.15**	**115**	*e*P	**PKPab**	**17 38 15.7**	**-0.2**
WMQ	**Urumqi**	**163.72**	**57**	*e*PKP	**PKPdf**	**17 37 33.1**	**-1.1**
WMQ				pPKP	**pPKPdf**	**17 37 49.5**	**+2.6**
KMI	**Kunming**	**168.38**	**162**	PKP	**PKPdf**	**17 37 39.4**	**+0.7**
SONM	**Songino Array**	**168.48**	**1**	PKPab	**PKPab**	**17 38 47.3**	**0.0**
	comp=E,1.3nm,0.9s,baz=351,slow=4.9,SNR=8.7						
NJ2	**Nanjing**	**169.00**	**251**	*e*PKP	**PKPdf**	**17 37 40.9**	**+2.3**
GTA	**Gaotai**	**173.80**	**58**	*e*PKP	**PKPdf**	**17 37 40.9**	**0.0**
GTA				pPKP	**pPKPdf**	**17 37 51.8**	**-1.9**
GTA				sPKP		17 37 55.3	
GTA				PKPab	**PKPab**	**17 39 12.5**	**+1.1**
HHC	**Hu-ho-hao-te**	**174.02**	**321**	*e*PKP	**PKPdf**	**17 37 41.0**	**+0.1**
HHC				pPKP	**pPKPdf**	**17 37 51.8**	**-1.9**
HHC				sPKP		17 37 55.4	

mb5.2/62, MS5.2/36, Error ellipse: s-maj=9.0km s-min=5.7km az=163.4
MOS ***17*** *17:38:36.9±0.9, 43°.63S×73°.14W, h33km, mb5.3/25, MS5.3/7, Error ellipse: s-maj=26.8km s-min=10.7km az=89.3*
BJI ***17*** *17:38:37.3, 43°.90S×72°.70W, h35km, mB5.1/23, Ms5.5/25, Ms7 5.3/26*
ISC 17 17:38:37.0±0.3, 43°.92S±0°.04×72°.62W±0°.07, h35km, n515, σ1.9 04/544, mb5.2/62, MS5.3/36, 139C-132D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FUTA	**Futaleufœ**	**0.92**	**38**	⇑*i*P		**Pn**	**ISC**	**17 38 52.7**	**-0.7**
FUTA				*i* S		**Sn**	**Sn**	**17 39 08.8**	**+3.4**
AYCH	**Puerto Aysen**	**1.48**	**182**	⇑*i*P		Pn	Pn	17 38 52.9	-8.3
AYCH				*i* S		Sn	Sn	17 39 10.9	-8.5
COYC	**Coyhaique**	**1.70**	**167**	⇑*i*P		Pn	Pn	17 38 58.7	-5.4
COYC				*i* S1		**Sn**	**Sn**	**17 39 19.8**	**-4.9**
COYC				AML		AML	AML	17 39 21.7	
	comp=E,22μm,0.5s								
PMCH	**Puerto Montt**	**2.44**	**355**	*e*P1		**Pn**	**Pn**	**17 39 16.0**	**+1.7**
PMCH				*i* S4		Sn	Sn	17 39 49.9	+7.1
PMCH				AML		AML	AML	17 39 59.1	
	comp=E,16μm,0.6s								
CHRN	**Cochrane**	**3.23**	**182**	*e*P9		**Pn**	**Pn**	**17 39 25.9**	**+0.7**
CHRN				*i* S1		**Sn**	**Sn**	**17 40 07.4**	**+5.0**
CHRN				AML		AML	AML	17 40 13.6	
	comp=E,3μm,0.3s								
PLCA	**Paso Flores**	**3.53**	**26**	Pn		**Pn**	**Pn**	**17 39 31.4**	**+2.0**
	comp=E,4.2nm,0.3s,baz=197,slow=9.8,SNR=38								
PLCA				Lg		Lg	Lg	17 40 29.1	
	comp=E,111nm,0.3s,baz=294,slow=19,SNR=9.7								
PLCA				LR		LR	LR	17 41 07.0	
	comp=E,18μm,20.7s,baz=200,slow=44								
PLCA	**Paso Flores**	**3.53**	**26**	Pn		**Pn**	**Pn**	**17 39 31.4**	**+2.0**
PLCA				*e*S			Sn	17 40 25.0	+15
PLCA				Lg			Lg	17 40 29.1	
TRQA	**Tornquist**	**9.94**	**58**	*e*P		**Pn**	**Pn**	**17 40 59.8**	**+2.4**
	comp=E,57nm,0.9s								
USHA	**Ushuaia**	**11.26**	**168**	Pn		**Pn**	**Pn**	**17 41 16.6**	**+1.4**
	comp=E,0.5nm,0.3s,baz=350,slow=12,SNR=8.0								
USHA				Lg			Lg	17 44 37.6	
	comp=E,0.9nm,0.3s,baz=249,slow=17,SNR=3.7								
USHA				LR			LR	17 45 26.0	
	comp=E,9μm,18.2s,baz=288,slow=37								
EFI	**East Falkland**	**12.47**	**134**	*e*P		**Pn**	**Pn**	**17 41 31.6**	**-0.2**
EFI	**East Falkland**	**12.47**	**134**	*e*P		**Pn**	**Pn**	**17 41 31.6**	**-0.2**
CFAA	**Coronel Fontan**	**12.77**	**17**	Pn		**Pn**	**Pn**	**17 41 35.1**	**-0.9**
	comp=E,0.1nm,0.3s,baz=202,slow=14,SNR=5.5								
CFAA				Lg			Lg	17 45 21.8	
	comp=E,0.0nm,0.3s,baz=266,slow=19,SNR=2.5								
CFAA				LR			LR	17 46 22.3	
	comp=E,2μm,19.3s,baz=183,slow=37								
LCO	**Las Campanas**	**14.96**	**7**	*e*P		**Pn**	**Pn**	**17 42 08.2**	**+2.2**
	comp=E,112nm,1.1s								
PMSA	**Palmer Station**	**21.45**	**170**	P		**P**	**P**	**17 43 21.9**	**+0.1**
	comp=E,42nm,1.2s,baz=0.0,slow=10,SNR=2.8								
PMSA				LR			LR	17 50 51.6	
	comp=E,6μm,19.6s,baz=329,slow=34								
LVC	**Limon Verde**	**21.47**	**9**	*e*P		**P**	**P**	**17 43 22.9**	**+0.2**
	comp=E,40nm,0.8s								
LPAZ	**La Paz**	**27.80**	**9**	*e*P		**P**	**P**	**17 44 22.2**	**-1.3**
LPAZ								17 47 40.1	
LPAZ				pmax			pmax		
	comp=Z,15nm,0.9s								
LPAZ	**La Paz**	**27.80**	**9**	P			**P**	**17 44 22.5**	**-1.0**
	comp=Z,10nm,0.8s,baz=176,slow=7.6,SNR=17								
LPAZ				PcP			**PcP**	**17 47 40.1**	**+0.8**
	comp=Z,2.6nm,0.7s,baz=204,slow=3.8,SNR=5.2								
LPAZ				LR			LR	17 57 43.6	
	comp=Z,4μm,20.2s,baz=158,slow=42								
LPAZ	**La Paz**	**27.80**	**9**	*e*P		**P**	**P**	**17 44 22.2**	**-1.3**
	comp=Z,15nm,0.9s								
LPAZ				PcP			**PcP**	**17 47 40.1**	**+0.8**
SIV	**San Ignacio**	**29.52**	**23**	P		**P**	**P**	**17 44 36.6**	**-1.5**
	comp=Z,5.9nm,0.7s,baz=198,slow=12,SNR=11								
SIV				LR			LR	17 57 23.1	
	comp=Z,5μm,18.6s,baz=214,slow=38								
NNA	**Nana**	**32.02**	**352**	P		**P**	**P**	**17 44 59.3**	**-0.9**
NNA	**Nana**	**32.02**	**352**	P		**P**	**P**	**17 44 59.3**	**-0.9**
BDFB	**Brasilia**	**35.09**	**44**	P		**P**	**P**	**17 45 25.6**	**-1.4**
	comp=Z,3.8nm,0.7s,baz=198,slow=12,SNR=5.0								
BDFB				PcP			**PcP**	**17 47 58.8**	**+0.6**
	comp=Z,3.8nm,0.7s,baz=135,slow=5.7,SNR=3.2								
BDFB				LR			LR	18 01 14.3	
	comp=Z,11μm,18.3s,baz=200,slow=39								
SAML	**Samuel**	**35.79**	**16**	*e*P		**P**	**P**	**17 45 31.4**	**-1.5**
	comp=Z,23nm,1.1s								
ATAH	**Atahualpa**	**36.99**	**350**	P		**P**	**P**	**17 45 42.5**	**-1.0**
	comp=Z,7.7nm,0.7s,baz=141,slow=8.2,SNR=4.7								
VNA2	**Neumayer--Watz**	**41.21**	**153**	P		**P**	**P**	**17 46 18.8**	**+0.9**
SNAA	**Sanae**	**42.72**	**154**	P		**P**	**P**	**17 46 32.1**	**+1.8**
SNAA	**Sanae**	**42.72**	**154**	*e*P		**P**	**P**	**17 46 29.1**	**-1.1**
SNAA								17 48 21.2	
SNAA				pmax			pmax		
	comp=Z,53nm,1.3s								
SNAA	**Sanae**	**42.72**	**154**	P			**P**	**17 46 29.1**	**-1.1**
	comp=Z,14nm,1.2s,baz=272,slow=7.5,SNR=9.7								
SNAA				PcP			**PcP**	**17 48 21.2**	**-0.1**
	comp=Z,2.5nm,1.0s,baz=286,slow=2.8,SNR=3.5								
SNAA	**Sanae**	**42.72**	**154**	*e*P		**P**	**P**	**17 46 29.1**	**-1.1**
	comp=Z,53nm,1.3s								
SNAA				PcP			**PcP**	**17 48 21.2**	**-0.1**
OTAV	**Otavalo**	**44.27**	**352**	*e*P		**P**	**P**	**17 46 45.1**	**+1.4**
	comp=Z,113nm,1.8s								
PTGA	**Pitinga**	**44.45**	**18**	P		**P**	**P**	**17 46 43.0**	**-1.7**
	comp=Z,17nm,0.8s,baz=205,slow=10,SNR=20								
PTGA	**Pitinga**	**44.45**	**18**	*e*P		**P**	**P**	**17 46 42.6**	**-2.1**
	comp=Z,31nm,1.1s								
QSPA	**South Pole Qui**	**46.33**	**180**	P		**P**	**P**	**17 46 57.6**	**-1.6**
	comp=Z,21nm,0.9s,baz=150,slow=6.5,SNR=48								
QSPA				PcP			**PcP**	**17 48 34.5**	**+0.7**
	comp=Z,5.6nm,0.7s,baz=168,slow=1.7,SNR=3.3								
NVL	**N'lazarevskaya**	**47.52**	**153**	⇓*i*P		**P**	**P**	**17 47 07.4**	**-0.8**
NVL				*e*SSS			SSS	17 57 33.3	
NVL				pmax			pmax		
	comp=Z,13nm,0.8s								
ROSC	**El Rosal**	**48.57**	**358**	P		**P**	**P**	**17 47 17.7**	**+0.3**
	comp=Z,17nm,0.4s,baz=131,slow=5.4,SNR=5.9								
ROSC				LR			LR	18 07 32.8	
	comp=Z,3μm,18.2s,baz=198,slow=36								
SDV	**Santo Domingo**	**52.58**	**2**	*e*P		**P**	**P**	**17 47 45.4**	**-2.1**
	comp=Z,28nm,0.9s								
VNDA	**Vanda**	**54.32**	**193**	*e*P		**P**	**P**	**17 48 00.3**	**+1.1**
VNDA				pmax			pmax		
	comp=Z,30nm,1.4s								
VNDA	**Vanda**	**54.32**	**193**	P		**P**	**P**	**17 47 60.0**	**+0.7**
	comp=Z,11nm,1.2s,baz=138,slow=7.8,SNR=8.3								
VNDA				LR			LR	18 09 16.1	
	comp=Z,1μm,18.0s,baz=138,slow=34								
VNDA	**Vanda**	**54.32**	**193**	*e*P		**P**	**P**	**17 48 00.3**	**+1.1**
	comp=Z,30nm,1.4s								
RKT	**Rikitea**	**54.65**	**271**	*e*LQ		LQ	LQ	18 01 31.9	
	comp=Z,1μm,32.5s								
RKT				*e*LR			LR	18 03 50.9	
	comp=Z,930nm,25.2s								
JTS	**JuntasAbangare**	**55.10**	**345**	⇑*i*P		**P**	**P**	**17 48 06.3**	**+0.6**
JTS				pmax			pmax		
	comp=Z,51nm,1.3s								
JTS	**JuntasAbangare**	**55.10**	**345**	*e*P		**P**	**P**	**17 48 06.4**	**+0.7**
	comp=Z,37nm,1.3s								
SYO	**Syowa Base**	**56.88**	**157**	⇓*e*P		P	P	17 48 13.2	-4.5
BBGH	**Gun Hill**	**58.02**	**15**	PFAKE				17 48 40.0	+14
BBGH				LR			LR		
	comp=Z,3μm,22.0s								
CRPR	**Cabo Rojo, PR**	**61.83**	**6**	*e*P		**P**	**P**	**17 48 51.1**	**-1.2**
	comp=Z,41nm,1.0s								
ASCN	**Ascension**	**61.88**	**73**	PFAKE				17 49 00.0	+7.0
ASCN				LR			LR		
	comp=Z,833nm,20.0s								
OBIP	**Obispado Ponce**	**61.90**	**6**	*e*P		**P**	**P**	**17 48 51.7**	**-1.2**
	comp=Z,79nm,1.2s								
CELP	**Cerrillos**	**61.94**	**7**	*e*P		**P**	**P**	**17 48 51.9**	**-1.3**
LRS	**Lares**	**62.13**	**6**	*e*P		**P**	**P**	**17 48 51.5**	**-3.0**
SMN1	**Samana, DR**	**62.87**	**4**	*e*P		**P**	**P**	**17 48 56.8**	**-2.6**
MAW	**Mawson**	**63.84**	**163**	LR		LR	LR	18 17 12.1	
	comp=Z,2μm,18.9s,baz=216,slow=36								
CMIG	**Matias Romero**	**64.04**	**336**	LR		LR	LR	18 10 53.1	
	comp=Z,2μm,20.1s,baz=140,slow=30								
PPT2	**Papeete2**	**68.71**	**266**	*e*LR		LR	LR	18 10 18.2	
	comp=Z,611nm,22.5s								
PPT	**Papeete**	**68.72**	**266**	LR		LR	LR	18 13 32.2	
	comp=Z,618nm,18.6s,baz=134,slow=31								
035A	**Encino**	**74.28**	**336**	⇑P		**P**	**P**	**17 50 11.5**	**+1.0**
	baz=75								
034A	**Hebbronville**	**74.57**	**336**	⇓P		**P**		**17 50 12.9**	**+0.8**
	baz=75								
934A	**Benavides**	**75.03**	**336**	⇓P		**P**	**P**	**17 50 15.7**	**+0.9**
	baz=75								
933A	**Laredo**	**75.26**	**336**	⇑P		**P**	**P**	**17 50 16.9**	**+0.8**
	baz=76								
738A	**Farr-Stevens R**	**75.42**	**339**	⇑P		**P**	**P**	**17 50 18.2**	**+1.3**
	baz=76								
835A	**Beeville**	**75.48**	**337**	⇓P		**P**	**P**	**17 50 18.4**	**+1.1**
	baz=76								
834A	**Tilden**	**75.53**	**336**	⇑P		**P**	**P**	**17 50 18.6**	**+1.0**
	baz=76,SNR=5.3								
833A	**Chaparral WMA,**	**75.96**	**336**	⇑P		**P**	**P**	**17 50 20.1**	**0.0**
	baz=76,SNR=6.8								
BOSA	**Boshof**	**75.98**	**116**	P		**P**	**P**	**17 50 20.4**	**-0.3**
	comp=Z,6.9nm,0.7s,baz=220,slow=5.9,SNR=13								
BOSA				LR			LR	18 20 49.2	
	comp=Z,1μm,18.7s,baz=222,slow=33								
LPIG	**La Paz**	**76.00**	**325**	LR		LR	LR	18 16 37.0	
	comp=Z,2μm,19.4s,baz=167,slow=30								
735A	**Kenedy**	**76.01**	**337**	⇑P		**P**	**P**	**17 50 21.2**	**+0.8**
	baz=76								
832A	**Faith Ranch, C**	**76.10**	**335**	⇑P		**P**	**P**	**17 50 21.3**	**+0.4**
	baz=76								
734A	**La Parita Cree**	**76.21**	**337**	⇑P		**P**	**P**	**17 50 22.3**	**+0.8**
	baz=76								
733A	**Divot King Ran**	**76.31**	**336**	⇑P		**P**	**P**	**17 50 23.0**	**+0.9**
	baz=77								
636A	**Smothers Creek**	**76.40**	**338**	⇑P		**P**	**P**	**17 50 23.5**	**+1.0**
	baz=77								
HKT	**Hockley**	**76.52**	**339**	*e*P		**P**	**P**	**17 50 22.9**	**-0.3**
HKT				pmax			pmax		
	comp=Z,16nm,1.4s								
HKT	**Hockley**	**76.52**	**339**	*e*P		**P**	**P**	**17 50 22.9**	**-0.3**
	comp=Z,16nm,1.4s								
URZ	**Urewera**	**76.75**	**229**	LR		LR	LR	18 16 53.4	
	comp=Z,866nm,19.6s,baz=178,slow=30								
537A	**Green Hill Far**	**76.77**	**339**	⇑P		**P**	**P**	**17 50 25.3**	**+0.7**
	baz=77								
536A	**Bastrop**	**76.96**	**338**	⇓P		**P**	**P**	**17 50 26.2**	**+0.5**
	baz=77								
633A	**Saathoff Ranch**	**76.97**	**336**	⇑P		**P**	**P**	**17 50 26.3**	**+0.6**
	baz=77								
535A	**Dale**	**77.05**	**338**	⇑P		**P**	**P**	**17 50 27.1**	**+0.9**
	baz=77								
632A	**Uvalde**	**77.19**	**336**	⇓P		**P**	**P**	**17 50 27.2**	**+0.2**
	baz=78,SNR=10								
534A	**Blanco**	**77.30**	**337**	⇑P		**P**	**P**	**17 50 27.9**	**+0.2**
	baz=78								
631A	**Perdido Creek**	**77.34**	**335**	⇓P		**P**	**P**	**17 50 28.1**	**+0.3**
	baz=78								
533A	**Kerrville**	**77.50**	**337**	⇑P		**P**	**P**	**17 50 29.0**	**+0.2**
	baz=78,SNR=5.6								
339A	**Huntington**	**77.53**	**341**	⇑P		**P**	**P**	**17 50 29.7**	**+0.8**
	baz=78								
436A	**Wall Ranch, Ga**	**77.55**	**339**	⇓P		**P**	**P**	**17 50 30.0**	**+1.0**
	baz=78								
GOGA	**Godfrey**	**77.59**	**351**	*e*P		**P**	**P**	**17 50 28.2**	**-1.0**
GOGA				pmax			pmax		
	comp=Z,25nm,1.1s								
GOGA	**Godfrey**	**77.59**	**351**	*e*P		**P**	**P**	**17 50 28.2**	**-1.0**
	comp=Z,25nm,1.1s								
LRAL	**Lakeview Retre**	**77.70**	**348**	*e*P		**P**	**P**	**17 50 28.6**	**-1.1**
	comp=Z,27nm,1.0s								
338A	**Crockett**	**77.73**	**340**	⇑P		**P**	**P**	**17 50 31.2**	**+1.2**
	baz=78								
435B	**Jarrell**	**77.77**	**338**	⇓P		**P**	**P**	**17 50 31.1**	**+0.9**
	baz=78								
532A	**Rocksprings**	**77.81**	**336**	⇓P		**P**	**P**	**17 50 30.7**	**+0.2**
	baz=78,SNR=13								
434A	**Burnet**	**77.99**	**338**	⇓P		**P**	**P**	**17 50 31.8**	**+0.3**
	baz=78								
531A	**Rocksprings**	**78.03**	**336**	⇓P		**P**	**P**	**17 50 32.2**	**+0.4**
	baz=78,SNR=9.4								
JCT	**Junction City**	**78.11**	**336**	*e*P		**P**	**P**	**17 50 32.1**	**-0.1**
JCT				pmax			pmax		
	comp=Z,29nm,1.0s								
JCT	**Junction City**	**78.11**	**336**	⇓P		**P**	**P**	**17 50 32.3**	**+0.1**
	baz=78,SNR=10								
JCT	**Junction City**	**78.11**	**336**	*e*P		**P**	**P**	**17 50 32.1**	**-0.1**
	comp=Z,29nm,1.0s								
336A	**Riesel**	**78.15**	**339**	⇓P		**P**	**P**	**17 50 32.0**	**-0.3**
	baz=78								
433A	**Art**	**78.16**	**337**	⇑P		**P**	**P**	**17 50 31.6**	**-0.8**
	baz=78,SNR=11								
335A	**Moody**	**78.20**	**338**	⇑P		**P**	**P**	**17 50 32.3**	**-0.4**
	baz=78								
TXAR	**Lajitas Array**	**78.25**	**333**	P		**P**	**P**	**17 50 32.0**	**-1.1**
TXAR	**Lajitas Array**	**78.25**	**333**	P		**P**	**P**	**17 50 32.0**	**-1.1**
	comp=Z,5.5nm,0.9s,baz=153,slow=6.7,SNR=34								
TXAR				LR			LR	18 18 57.9	
	comp=Z,2μm,21.6s,baz=0.0,slow=31								
530A	**J-Ranch, Com**	**78.26**	**335**	⇓P		**P**	**P**	**17 50 33.1**	**+0.1**
	baz=78,SNR=11								
334A	**Lometa**	**78.47**	**338**	⇓P		**P**	**P**	**17 50 34.1**	**0.0**
	baz=79								
432A	**Menard**	**78.47**	**336**	⇓P		**P**	**P**	**17 50 34.4**	**+0.1**
	baz=79								
529A	**Stev Forest Ra**	**78.51**	**334**	⇓P		**P**	**P**	**17 50 34.7**	**+0.3**
	baz=79								
431A	**Sonora**	**78.53**	**336**	⇑P		**P**	**P**	**17 50 34.3**	**-0.2**
	baz=79,SNR=8.7								
LBTB	**Lobatse**	**78.64**	**114**	*e*P		**P**	**P**	**17 50 34.6**	**-1.0**
LBTB				pmax			pmax		
	comp=Z,12nm,0.9s								
LBTB	**Lobatse**	**78.64**	**114**	*e*P		**P**	**P**	**17 50 34.6**	**-1.0**
	comp=Z,12nm,0.9s								
333A	**Richland Sprin**	**78.67**	**337**	⇑P		**P**	**P**	**17 50 35.2**	**-0.1**
	baz=79								
430A	**Baggett Ranch,**	**78.82**	**335**	⇑P		**P**	**P**	**17 50 36.4**	**+0.3**
	baz=79,SNR=8.0								
429A	**Davenport Ranc**	**78.87**	**335**	⇑P		**P**	**P**	**17 50 36.0**	**-0.4**
	baz=79,SNR=7.8								
WHTX	**Lake Whitney,**	**78.88**	**339**	⇑P		**P**	**P**	**17 50 36.4**	**0.0**
	baz=79								
WHTX	**Lake Whitney,**	**78.88**	**339**	*e*P		**P**	**P**	**17 50 35.9**	**-0.5**
	comp=Z,20nm,0.8s								
138A	**Matatall Enter**	**78.93**	**341**	⇓P		**P**	**P**	**17 50 36.9**	**+0.3**
	baz=79								
DBIC	**Dimbokro**	**78.94**	**70**	P		**P**	**P**	**17 50 36.9**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=198,slow=7.4,SNR=5.3								
332A	**Millersview**	**78.94**	**337**	⇑P		**P**	**P**	**17 50 36.3**	**-0.5**
	baz=79,SNR=5.4								
137A	**Heron Place, G**	**79.03**	**340**	⇓P		**P**	**P**	**17 50 37.9**	**+0.8**
	baz=79								
331A	**San Angelo**	**79.06**	**336**	⇑P		**P**	**P**	**17 50 37.0**	**-0.5**
	baz=79								
234A	**Clairette**	**79.08**	**338**	⇑P		**P**	**P**	**17 50 37.1**	**-0.4**
	baz=79								
KMSC	**Kings Mountain**	**79.09**	**353**	⇓P		**P**	**P**	**17 50 37.3**	**-0.1**
	baz=79								
KMSC	**Kings Mountain**	**79.09**	**353**	*e*P		**P**	**P**	**17 50 36.5**	**-0.8**
	comp=Z,11nm,0.8s								
233A	**Rising Star**	**79.30**	**337**	⇓P		**P**	**P**	**17 50 38.5**	**-0.2**
	baz=80								
330A	**Mertzon**	**79.38**	**335**	⇓P		**P**	**P**	**17 50 38.9**	**-0.3**
	baz=80								
232A	**Coleman**	**79.38**	**337**	⇓P		**P**	**P**	**17 50 39.2**	**0.0**
	baz=80								
OXF	**Oxford**	**79.54**	**346**	*e*P		**P**	**P**	**17 50 39.3**	**-0.6**
OXF				pmax			pmax		
	comp=Z,48nm,1.0s								
OXF	**Oxford**	**79.54**	**346**	*e*P		**P**	**P**	**17 50 39.3**	**-0.6**
	comp=Z,48nm,1.0s								
134A	**White-Moore Ra**	**79.60**	**338**	⇑P		**P**	**P**	**17 50 40.3**	**0.0**
	baz=80								
231A	**Bronte**	**79.62**	**336**	⇑P		**P**	**P**	**17 50 40.2**	**-0.2**
	baz=80								
329A	**Wagon Wheel Ra**	**79.70**	**335**	⇑P		**P**	**P**	**17 50 40.9**	**-0.1**
	baz=80,SNR=10								
230A	**Sterling City**	**79.81**	**336**	⇓P		**P**	**P**	**17 50 41.5**	**0.0**
	baz=80								
TKL	**Tuckaleechee C**	**79.85**	**351**	*e*P		**P**	**P**	**17 50 40.4**	**-1.2**
TKL	**Tuckaleechee C**	**79.85**	**351**	*e*P		**P**	**P**	**17 50 40.4**	**-1.2**
133A	**Hamilton Ranch**	**79.86**	**338**	⇑P		**P**	**P**	**17 50 41.9**	**+0.2**
	baz=80								
ABTX	**Abilene, Hawle**	**80.07**	**337**	⇓P		**P**	**P**	**17 50 43.1**	**+0.2**
	baz=80								
ABTX	**Abilene, Hawle**	**80.07**	**337**	*e*P		**P**	**P**	**17 50 42.6**	**-0.3**
	comp=Z,17nm,1.0s								
229A	**Bryant Ranch,**	**80.09**	**335**	⇓P		**P**	**P**	**17 50 43.3**	**+0.2**
	baz=80								
Z35A	**Perchaven, San**	**80.10**	**339**	⇓P		**P**	**P**	**17 50 43.5**	**+0.5**
	baz=80								
131A	**Roby**	**80.33**	**337**	⇑P		**P**	**P**	**17 50 44.3**	**0.0**
	baz=81								
130A	**Snyder**	**80.43**	**336**	⇓P		**P**	**P**	**17 50 44.9**	**+0.1**
	baz=81								
Z33A	**Whitaker Ranch**	**80.46**	**338**	⇑P		**P**	**P**	**17 50 45.1**	**+0.2**
	baz=81								
228A	**UT Block 9, Go**	**80.47**	**335**	⇓P		**P**	**P**	**17 50 45.7**	**+0.5**
	baz=81								
Z32A	**Haskell**	**80.67**	**337**	⇓P		**P**	**P**	**17 50 46.3**	**+0.2**
	baz=81								
129A	**Stewart Farms,**	**80.73**	**335**	⇑P		**P**	**P**	**17 50 46.2**	**-0.3**
	baz=81								
Y34A	**Reagan Ranch,**	**80.82**	**339**	⇓P		**P**	**P**	**17 50 46.9**	**0.0**
	baz=81								
WVT	**Waverly**	**80.86**	**348**	*e*P		**P**	**P**	**17 50 45.8**	**-1.2**
WVT				pmax			pmax		
	comp=Z,46nm,1.5s								
WVT	**Waverly**	**80.86**	**348**	*e*P		**P**	**P**	**17 50 45.8**	**-1.2**
	comp=Z,46nm,1.5s								
128A	**Castleberry Fa**	**80.91**	**335**	⇑P		**P**	**P**	**17 50 47.4**	**-0.1**
	baz=81								
Y33A	**Hilltop Ranch,**	**81.10**	**338**	⇑P		**P**	**P**	**17 50 48.4**	**+0.1**
	baz=81								
Z30A	**Sanderson Ranc**	**81.12**	**336**	⇓P		**P**	**P**	**17 50 48.5**	**0.0**
	baz=81								
Z29A	**Hungry Hill Ra**	**81.27**	**336**	⇓P		**P**	**P**	**17 50 48.8**	**-0.6**
	baz=82,SNR=9.1								
Y32A	**R-V Farms, Ver**	**81.32**	**338**	⇑P		**P**	**P**	**17 50 49.6**	**+0.1**
	baz=82								
JSRW	**J. Sargeant Re**	**81.37**	**356**	*e*P		**P**	**P**	**17 50 49.1**	**-0.5**
X34A	**Smith Ranch, M**	**81.45**	**339**	⇑P		**P**	**P**	**17 50 50.3**	**+0.2**
	baz=82								
Z28A	**Tucker Farm, M**	**81.50**	**335**	⇓P		**P**	**P**	**17 50 50.5**	**-0.1**
	baz=82								
Y31A	**Rekieta Farm,**	**81.50**	**337**	⇓P		**P**	**P**	**17 50 50.6**	**+0.1**
	baz=82								
PAF	**Port-aux-Franc**	**81.58**	**156**	S		S	S	18 00 46.0	-14
PAF				SS		SS	SS	18 06 05.0	-11
PAF				L		L	L	18 13 00.0	
PAF				R				18 16 00.0	
Y30A	**Stafford Cattl**	**81.61**	**337**	⇑P		**P**	**P**	**17 50 51.3**	**+0.3**
	baz=82								
X32A	**Elmer**	**81.67**	**338**	⇓P		**P**	**P**	**17 50 51.6**	**+0.2**
	baz=82								
Y29A	**Porterfield Fa**	**81.82**	**336**	⇑P		**P**	**P**	**17 50 52.5**	**+0.3**
	baz=82								
WMOK	**Wichita Mounta**	**81.83**	**338**	*e*P		**P**	**P**	**17 50 51.4**	**-0.8**
WMOK				pmax			pmax		
	comp=Z,18nm,1.1s								
WMOK	**Wichita Mounta**	**81.83**	**338**	*e*P		**P**	**P**	**17 50 51.4**	**-0.8**
	comp=Z,18nm,1.1s								
Y28A	**McKinney Farm,**	**82.03**	**335**	⇓P		**P**	**P**	**17 50 53.1**	**-0.3**
	baz=82,SNR=7.0								
X31A	**McDonald Ranch**	**82.06**	**338**	⇓P		**P**	**P**	**17 50 53.8**	**+0.5**
	baz=82								
319A	**Douglas**	**82.08**	**329**	⇓P		**P**	**P**	**17 50 54.2**	**+0.5**
	baz=82								
X30A	**Coker Ranch, T**	**82.13**	**337**	⇑P		**P**	**P**	**17 50 54.2**	**+0.4**
	baz=82								
W33A	**Caddo, Fort Co**	**82.14**	**339**	⇑P		**P**	**P**	**17 50 54.5**	**+0.8**
	baz=82								
TUL1	**Leonard**	**82.20**	**341**	⇓P		**P**	**P**	**17 50 54.4**	**+0.3**
	baz=82								
TUL1	**Leonard**	**82.20**	**341**	*e*P		**P**	**P**	**17 50 53.5**	**-0.5**
	comp=Z,48nm,0.9s								
MSTX	**Muleshoe**	**82.25**	**335**	⇑P		**P**	**P**	**17 50 53.9**	**-0.6**
	baz=82,SNR=7.9								
MSTX	**Muleshoe**	**82.25**	**335**	*e*P		**P**	**P**	**17 50 53.5**	**-1.0**

T28A	Walsh	84.98	337	⇓P		P	17 51 08.9 +0.4
	baz=85						
U25A	Circle Dot Ran	85.00	335	⇓P		P	17 51 08.9 +0.2
	baz=85,SNR=14						
R33A	Olander Ranch,	85.01	340	⇑P		P	17 51 09.4 +1.0
	baz=85						
S30A	Montezuma	85.01	338	⇓P		P	17 51 09.3 +0.8
	baz=85						
113A	Mohawk Valley,	85.06	326	⇑P		P	17 51 09.1 +0.3
	baz=85						
T27A	Campo	85.11	336	⇑P		P	17 51 10.0 +0.9
	baz=85						
X18A	Snowflake	85.16	330	⇓P		P	17 51 10.0 +0.5
	baz=85						
R32A	Long Quarter,	85.30	340	⇓P		P	17 51 10.6 +0.7
	baz=86						
V22A	San Miguel Ran	85.35	333	⇑P		P	17 51 11.4 +0.9
	baz=86						
S28A	Manter	85.36	337	⇓P		P	17 51 10.7 +0.3
	baz=86						
R31A	Burdett	85.38	339	⇑P		P	17 51 10.8 +0.5
	baz=86						
KSU1	Kansas State U	85.44	341	⇓P		P	17 51 11.7 +1.2
	baz=86						
ALLY	Alegheny Colle	85.45	354	*e*P		P	17 51 10.2 -0.3
	comp=Z,94nm,1.6s						
T26A	Comanche Natio	85.47	336	⇓P		P	17 51 11.7 +0.7
	baz=86						
U23A	El Rito	85.50	333	⇓P		P	17 51 12.1 +0.9
	baz=86,SNR=7.4						
R30A	Dighton	85.57	339	⇓P		P	17 51 11.6 +0.3
	baz=86						
W18A	Petrified Fore	85.61	330	⇓P		P	17 51 12.3 +0.5
	baz=86						
X16A	Lo Mia Camp, P	85.61	329	⇓P		P	17 51 12.7 +1.0
	baz=86						
Q33A	Connelly Farm,	85.63	341	⇓P		P	17 51 12.4 +0.9
	baz=86						
T25A	Trinidad	85.68	335	⇓P		P	17 51 11.9 -0.1
	baz=86,SNR=8.4						
GLA	Glamis	85.74	326	⇓P		P	17 51 13.7 +1.4
	baz=86						
U22A	Llaves	85.76	333	⇓P		P	17 51 13.4 +0.9
	baz=86						
Y14A	Wickenburg	85.78	327	⇑P		P	17 51 13.1 +0.6
	baz=86						
BINY	Binghamton	85.79	357	PFAKE			17 51 20.0 +7.8
BINY				LR		LR	
	comp=Z,759nm,19.0s						
Q32A	Meitler Ranch,	85.80	340	⇑P		P	17 51 12.7 +0.4
	baz=86						
S26A	Kim	85.84	336	⇑P		P	17 51 13.1 +0.4
	baz=86,SNR=7.8						
T24B	San Luis	85.91	334	⇓P		P	17 51 13.8 +0.5
	baz=86						
R29A	Marienthal	85.93	338	⇑P		P	17 51 13.9 +0.8
	baz=86						
P33A	Williams Farm,	86.01	341	⇑P		P	17 51 14.2 +0.8
	baz=86						
Q31A	Ellis	86.02	339	⇑P		P	17 51 14.1 +0.6
	baz=86						
R28A	Tribune	86.04	337	⇓P		P	17 51 14.1 +0.5
	baz=86						
SWSC	Sam W. Stewart	86.04	325	⇑P		P	17 51 14.8 +1.1
	baz=86						
T23A	Casias Ranch,	86.09	334	⇓P		P	17 51 14.6 +0.4
	baz=86						
S25A	Robets Cordova	86.17	335	⇑P		P	17 51 14.1 -0.3
	baz=86,SNR=7.6						
Q30A	Quinter	86.21	339	⇑P		P	17 51 14.8 +0.4
	baz=86						
MONP	Monument Peak,	86.26	324	⇑P		P	17 51 15.3 +0.3
	baz=86						
R27A	Eads	86.27	337	⇓P		P	17 51 15.1 +0.3
	baz=87						
Q29A	Oakley	86.33	338	⇑P		P	17 51 15.4 +0.4
	baz=87						
S24A	Houchin Ranch,	86.39	335	⇓P		P	17 51 16.3 +0.6
	baz=87,SNR=9.6						
AAM	Ann Arbor	86.41	352	PFAKE			17 51 30.0 +15
AAM				LR		LR	
	comp=Z,865nm,20.0s						
P32A	Huiting Farm,	86.41	340	⇑P		P	17 51 15.8 +0.5
	baz=87						
R26A	Arlington	86.47	336	⇓P		P	17 51 16.2 +0.4
	baz=87						
P31A	Stockton	86.50	340	⇓P		P	17 51 16.6 +0.7
	baz=87						
BC3	Big Chuckawall	86.52	325	⇑P		P	17 51 16.0 -0.2
	baz=87						
WUAZ	Wupatki	86.56	329	⇓P		P	17 51 17.2 +0.7
	baz=87						
WUAZ	Wupatki	86.56	329	*e*P		P	17 51 17.1 +0.7
	comp=Z,19nm,1.3s						
P30A	Selden	86.75	339	⇓P		P	17 51 18.1 +1.0
	baz=87						
IRM	Iron Mountain	86.83	326	⇓P		P	17 51 18.5 +0.9
	baz=87						
PFO	Pinyon Flats O	86.89	325	*e*P		P	17 51 19.2 +1.2
PFO				pmax		pmax	
	comp=Z,22nm,1.4s						
PFO	Pinyon Flats O	86.89	325	⇑P		P	17 51 18.8 +0.8
	baz=87						
PFO	Pinyon Flats O	86.89	325	*e*P		P	17 51 19.2 +1.2
	comp=Z,22nm,1.4s						
R24A	Sanders Place,	86.90	335	⇓P		P	17 51 18.7 +0.7
	baz=87,SNR=9.0						
ACCN	Adirondack Com	86.92	359	*e*P		P	17 51 17.4 -0.4
	comp=Z,12nm,1.0s						
O32A	Brockman Farm,	86.93	341	⇓P		P	17 51 18.4 +0.5
	baz=87						
S22A	4UR Ranch, Cre	87.00	333	⇓P		P	17 51 19.1 +0.5
	baz=87,SNR=9.7						
BELC	Belle Mtn. Jos	87.04	325	⇓P		P	17 51 19.7 +0.9
	baz=87						
MVCO	Mesa Verde	87.06	332	⇑P		P	17 51 19.9 +1.0
	baz=87						
MVCO	Mesa Verde	87.06	332	*e*P		P	17 51 19.4 +0.5
	comp=Z,21nm,1.3s						
Q26A	Hugo	87.07	336	⇑P		P	17 51 19.6 +0.8
	baz=87						
R23A	Moffat	87.08	334	⇓P		P	17 51 19.8 +0.8
	baz=87						
LSZ	Lusaka	87.12	108	*e*P		P	17 51 21.0 +1.3
LSZ				pmax		pmax	
	comp=Z,22nm,1.4s						
LSZ	Lusaka	87.12	108	*e*P		P	17 51 21.0 +1.3
	comp=Z,22nm,1.4s						
W13A	Hualapai Mount	87.15	327	⇓P		P	17 51 20.3 +1.0
	baz=87						
N32A	Stulken Farm,	87.41	341	⇑P		P	17 51 21.5 +1.2
	baz=88						
SCIA	State Center	87.42	345	*e*P		P	17 51 20.0 -0.2
	comp=Z,62nm,1.4s						
MDV	Middlebury	87.53	360	*e*P		P	17 51 20.6 0.0
	comp=Z,66μm,0.6s						
CIS	Catalina Islan	87.55	323	⇑P		P	17 51 21.7 +0.6
	baz=88						
GMRC	Granite Mounta	87.58	326	⇑P		P	17 51 21.8 +0.4
	baz=88						
Q24A	Divide	87.59	335	⇓P		P	17 51 21.8 +0.3
	baz=88						
LDFC	Landfair	87.61	326	*e*P		P	17 51 21.6 +0.2
U15A	North Rim	87.71	329	⇑P		P	17 51 22.5 +0.5
	baz=88						
P25A	Willow Gulch B	87.80	336	⇓P		P	17 51 23.3 +1.0
	baz=88						
JFWS	Jewell Farm	87.88	347	*e*P		P	17 51 21.8 -0.6
JFWS				pmax		pmax	
	comp=Z,32nm,1.1s						
JFWS	Jewell Farm	87.88	347	*e*P		P	17 51 21.8 -0.6
	comp=Z,32nm,1.1s						
HEC	Hector,Ludlow	87.89	325	⇑P		P	17 51 23.9 +1.1
	baz=88						
PV01	Paradox Valley	87.92	332	*e*P		P	17 51 23.6 +0.6
	comp=Z,1μm,1.2s						
BFSC	Mount Baldy Ra	87.94	324	⇓P		P	17 51 24.0 +1.0
	baz=88						
TORD	Torodi Ar. Bea	88.05	70	P		P	17 51 23.4 -0.4
	comp=Z,3.6nm,0.8s,baz=229,slow=3.9,SNR=15						
TORD				LR		LR	18 29 57.4
	comp=Z,583nm,18.6s,baz=230,slow=35						
M31A	Lambtecht Ranc	88.13	340	⇓P		P	17 51 24.1 +0.4
	baz=88						
LONY	Lake Ozonia	88.17	359	*e*P		P	17 51 23.5 -0.2
	comp=Z,28nm,1.4s						
P23A	Jefferson	88.17	335	⇓P		P	17 51 25.1 +0.8
	baz=88						
TUQ	Turquoise Moun	88.25	326	⇓P		P	17 51 25.8 +1.3
	baz=88						
ISCO	Idaho Springs	88.50	335	*e*P		P	17 51 26.1 +0.3
ISCO	Idaho Springs	88.50	335	⇓P		P	17 51 26.2 +0.5
	baz=89						
ISCO	Idaho Springs	88.50	335	*e*P		P	17 51 26.1 +0.3
GSC	Goldstone, Bar	88.50	325	⇓P		P	17 51 26.6 +1.0
	baz=89						
EDW2	Edwards Air Fo	88.63	324	⇓P		P	17 51 26.8 +0.6
	baz=89						
P22A	Eagle	88.66	334	⇑P		P	17 51 27.0 +0.5
	baz=89						
SHPR	Sheep Range	88.88	327	*e*P		P	17 51 28.5 +1.0
	comp=Z,64nm,2.1s						
L31A	Butterfield Fa	88.88	341	⇓P		P	17 51 28.1 +1.0
	baz=89						
O23A	Lake Granby, G	88.97	335	⇓P		P	17 51 28.8 +0.9
	baz=89						
LRMC	Laurel Mtn Rad	89.02	325	⇓P		P	17 51 29.1 +1.0
	baz=89						
O22A	Kremmling	89.11	335	⇓P		P	17 51 28.9 +0.3
	baz=89,SNR=7.3						
L29A	Maesberg Ranch	89.18	340	⇑P		P	17 51 29.4 +0.8
	baz=90						
ISA	Isabella, Lake	89.50	324	⇑P		P	17 51 31.1 +0.8
	baz=90						
MVU	Marysvale	89.52	330	*e*P		P	17 51 31.1 +0.6
	comp=Z,20nm,1.6s						
FURC	Furnace Creek,	89.53	326	⇓P		P	17 51 31.1 +0.9
	baz=90						
K30A	Basset	89.54	340	⇓P		P	17 51 30.7 +0.5
	baz=90						
M25A	Palm-Egli Farm	89.55	337	⇓P		P	17 51 30.6 +0.1
	baz=90						
N23A	Red Feather La	89.60	335	⇑P		P	17 51 30.8 -0.1
	baz=90,SNR=8.1						
O20A	White River Ci	89.62	333	⇑P		P	17 51 31.4 +0.4
	baz=90						
N22A	Wattenberg Ran	89.67	335	⇑P		P	17 51 31.7 +0.5
	baz=90						
TPNV	Topopah Spring	89.69	326	⇑P		P	17 51 32.1 +0.8
	baz=90						
M24A	Cheyenne	89.80	336	⇓P		P	17 51 32.3 +0.7
	baz=90						
ECSD	EROS Data Cent	89.86	343	⇑P		P	17 51 31.6 -0.1
	baz=90						
ECSD	EROS Data Cent	89.86	343	*e*P		P	17 51 30.4 -1.3
VES	Vestal, Richgr	89.92	324	⇑P		P	17 51 32.3 +0.2
	baz=90						
M23A	Laramie	90.06	336	⇓P		P	17 51 32.7 -0.3
	baz=90						
J30A	Dallas	90.12	341	⇓P		P	17 51 32.9 0.0
	baz=90						
J29A	Okreek	90.40	340	⇓P		P	17 51 34.5 +0.2
	baz=91						
J28A	Allard Ranch,	90.64	340	⇑P		P	17 51 35.8 +0.4
	baz=91						
L23A	Garrett	90.65	336	⇑P		P	17 51 35.8 +0.1
	baz=91						
R11A	Troy Canyon, C	90.65	328	⇓P		P	17 51 35.9 +0.2
	baz=91						
I30A	Oacoma	90.66	341	⇑P		P	17 51 35.6 +0.1
	baz=91						
COWI	Conover	90.82	349	*e*P		P	17 51 35.3 -0.8
	comp=Z,13nm,1.0s						
DAU	Daniels Canyon	90.88	332	*e*P		P	17 51 37.2 +0.3
DAU	Daniels Canyon	90.88	332	*e*P		P	17 51 37.2 +0.3
I29A	Vivian Onida	90.97	340	⇓P		P	17 51 37.4 +0.5
	baz=91						
I28A	Midland	91.17	340	⇑P		P	17 51 38.4 +0.6
	baz=92						
K23A	Bowen Ranch, D	91.21	336	⇓P		P	17 51 38.7 +0.5
	baz=92						
DUG	Dugway, Tooele	91.23	330	⇓P		P	17 51 38.5 +0.2
	baz=92						
K22A	Casper	91.38	336	⇑P		P	17 51 39.1 0.0
	baz=92						
K22A	Casper	91.38	336	*e*P		P	17 51 39.0 0.0
H29A	Onida	91.52	341	⇑P		P	17 51 39.7 +0.2
	baz=92						
TCUT	Toone Canyon	91.56	332	*e*P		P	17 51 40.8 +0.8
K21A	Alcova	91.58	335	⇑P		P	17 51 39.9 -0.1
	baz=92,SNR=7.8						
NVAR	Mina Array Bea	91.80	326	P		P	17 51 41.4 +0.3
	comp=Z,1.5nm,0.9s,baz=145,slow=6.3,SNR=7.9						
G28A	Parade	92.11	340	⇑P		P	17 51 42.3 +0.1
	baz=92						
J21A	Lysite	92.29	335	⇑P		P	17 51 43.1 -0.1
	baz=93						
BW06	Boulder Array	92.42	334	*e*P		P	17 51 42.7 -1.2
PDAR	Pinedale Array	92.42	334	P		P	17 51 42.5 -1.5
	comp=Z,4.0nm,1.0s,baz=145,slow=5.4,SNR=14						
PDAR				LR		LR	18 28 42.4
	comp=Z,970nm,18.1s,baz=151,slow=33						
J20A	Shoshoni	92.49	335	⇓P		P	17 51 44.1 0.0
	baz=93,SNR=16						
I22A	9 Mile Ranch,	92.51	336	⇑P		P	17 51 43.9 -0.3
	baz=93						
I21A	Big Trails, Te	92.67	336	⇓P		P	17 51 44.0 -0.9
	baz=93,SNR=7.9						
J19A	Crowheart	92.71	334	⇓P		P	17 51 44.7 -0.4
	baz=93,SNR=8.6						
G26A	Maurine	92.74	339	⇑P		P	17 51 44.5 -0.6
	baz=93						
H24A	Dirks Ranch, A	92.75	338	⇑P		P	17 51 44.6 -0.5
	baz=93						
AHID	Auburn Hatcher	92.93	333	PFAKE			17 52 00.0 +14
AHID				LR		LR	
	comp=Z,1μm,20.0s						
I20A	Worland	93.05	335	⇑P		P	17 51 47.2 +0.6
	baz=93						
H22A	Clearmont	93.11	337	⇓P		P	17 51 47.8 +0.9
	baz=93						
F27A	Lemmon	93.13	340	⇑P		P	17 51 47.3 +0.4
	baz=94						
I19A	Meeteetse	93.39	335	⇑P		P	17 51 48.5 +0.2
	baz=94						
D30A	Buchanan	93.54	342	⇑P		P	17 51 49.3 +0.7
	baz=94						
AGMN	Agassiz Nation	94.08	345	PFAKE			17 52 00.0 +8.9
AGMN				LR		LR	
	comp=Z,739nm,20.0s						
H18A	Shoshone NF, C	94.18	334	⇑P		P	17 51 52.1 +0.2
	baz=94						
D26A	Manning	94.32	340	⇑P		P	17 51 53.3 +1.1
	baz=95						
HLID	Hailey	94.76	331	⇓P		P	17 51 55.1 +0.5
	baz=95						
A30A	Hoffart Farm,	95.18	343	⇑P		P	17 51 56.2 0.0
	baz=96						
A29A	Manning Farm,	95.36	343	⇑P		P	17 51 57.1 +0.1
	baz=96						
E20A	Meyer Farm, Mu	95.36	336	⇑P		P	17 51 56.9 -0.2
	baz=96						
E19A	Rath Farm, Rou	95.52	336	⇓P		P	17 51 58.6 +0.8
	baz=96						
C23A	Lambert	95.73	339	⇑P		P	17 52 00.1 +1.4
	baz=96						
D20A	Manuel Ranch,	95.90	336	⇓P		P	17 52 00.2 +0.7
	baz=96						
ULM	Lac du Bonnet	95.95	345	P		P	17 51 58.8 -0.8
	comp=Z,2.6nm,0.8s,baz=133,slow=2.6,SNR=3.9						
ABPO	Ambohimpanom	96.68	124	PFAKE			17 52 20.0 +16
ABPO				LR		LR	
	comp=Z,1μm,19.0s						
BMO	Blue Mountains	96.92	330	PFAKE			17 52 20.0 +16
BMO				LR		LR	
	comp=Z,1μm,19.0s						
SCHQ	Schefferville	98.50	3	LR		LR	18 38 39.5
	comp=Z,551nm,20.6s,baz=177,slow=37						
ASAR	Alice Springs	108.48	206	PKKPbc		PKKPbc	18 08 10.9 +0.4
	comp=Z,0.7nm,1.0s,baz=345,slow=3.3,SNR=4.3						
YKA	Yellowknife Ar	111.27	341	PKiKP		**PKiKP**	**17 57 06.7 +0.9**
	comp=Z,0.1nm,0.3s,baz=141,slow=2.3,SNR=5.4						
WRA	Warramunga Arr	111.82	207	PKiKP		**PKiKP**	**17 57 07.8 -0.7**
	comp=Z,1.0nm,0.8s,baz=172,slow=1.6,SNR=4.8						
WRA				PKKPbc		**PKKPbc**	**18 08 01.1 +1.3**
	comp=Z,0.3nm,0.6s,baz=347,slow=3.2,SNR=4.7						
AQU	L'Aquila	115.26	55	PFAKE			17 57 30.0 +16
AQU				LR		LR	
	comp=Z,965nm,22.0s						
BFO	Black Forest	116.03	47	PFAKE			17 57 30.0 +14
BFO				LR		LR	
	comp=Z,1μm,22.0s						
MOA	Molln	118.97	50	⇑*i*PKPdf		**PKPdf**	**17 57 21.3 +0.1**
	comp=Z,3.0nm,0.8s						
GERES	GERESS Array B	119.23	49	PKP		**PKPdf**	**17 57 21.4 -0.3**
	comp=Z,2.6nm,0.7s,baz=222,slow=1.3,SNR=20						
CLL	Collm	120.23	46	*e*PS		PS	18 08 34.0 -6.0
CLL				*e*PPS		PPS	18 10 36.0
CLL				*e*SS		SS	18 15 18.0 +2.8
CLL				*e*SSS		SSS	18 19 42.0
CLL				*e*SSSS			18 23 30.0
BRG	Berggiesshubel	120.48	47	*e*(P)		**PKPdf**	**17 57 25.2 +1.2**
	comp=Z,2.5nm,0.8s						
BRG				*e*			17 57 30.8
	comp=Z,3.4nm,0.9s						
BRG	Berggiesshubel	120.48	47	*e*PKIKP		**PKPdf**	**17 57 25.2 +1.2**
BRG				*e*			17 57 30.8
BRG				pmax		pmax	
	comp=Z,3.0nm,0.9s						
BRG				pmax		pmax	
	comp=Z,3.0nm,0.9s						
MORC	Moravsky Berou	121.84	50	⇑PKIKP		**PKPdf**	**17 57 28.1 +1.4**
MORC	Moravsky Berou	121.84	50	⇑*i*P		**PKPdf**	**17 57 28.0 +1.4**
VYHS	Vyhne	121.89	52	*e*PKIKP		**PKPdf**	**17 57 27.3 +0.5**
VYHS	Vyhne	121.89	52	*e*PKP		**PKPdf**	**17 57 27.3 +0.5**
BZS	Buzias	121.99	56	⇓PKIKP		**PKPdf**	**17 57 28.3 +1.3**
BZS	Buzias	121.99	56	⇓*i*P		**PKPdf**	**17 57 28.3 +1.3**
GZR	Gura Zlata	122.57	56	⇓PKIKP		**PKPdf**	**17 57 29.2 +1.0**
GZR	Gura Zlata	122.57	56	⇓*i*P		**PKPdf**	**17 57 29.2 +1.0**
ILAR	Eielson Array	122.72	331	PKP		**PKPdf**	**17 57 27.4 -0.4**
	comp=Z,1.7nm,0.8s,baz=168,slow=2.1,SNR=18						
ARR	Arges	123.68	57	⇓*i*P		**PKPdf**	**17 57 31.7 +1.3**
STHS	Stebnicka Huta	123.73	52	*e*PKIKP		**PKPdf**	**17 57 30.7 +0.4**
STHS	Stebnicka Huta	123.73	52	*e*PKP		**PKPdf**	**17 57 30.7 +0.4**
TRPA	Tarpa	123.83	53	⇑*i*P		**PKPdf**	**17 57 31.8 +1.4**
VOIR		123.97	57	⇑PKIKP		**PKPdf**	**17 57 32.4 +1.5**
VOIR		123.97	57	⇑*i*P		**PKPdf**	**17 57 32.3 +1.4**
KOLS	Kolonicke sedl	124.07	52	*e*PKIKP		**PKPdf**	**17 57 32.5 +1.6**
KOLS	Kolonicke sedl	124.07	52	*e*PKP		**PKPdf**	**17 57 32.5 +1.6**
NB2	NORSAR Subarra	124.47	36	PKPdf		**PKPdf**	**17 57 30.7 -0.7**
	comp=Z,5.3nm,1.2s,baz=241,slow=1.9						
NOA	NORSAR Array B	124.47	36	PKP		**PKPdf**	**17 57 31.2 -0.1**
	comp=Z,4.2nm,0.9s,baz=244,slow=2.0,SNR=11						
MLR	Muntele Rosu	124.54	58	⇓PKIKP		**PKPdf**	**17 57 33.3 +1.2**
MLR	Muntele Rosu	124.54	58	⇓*i*P		**PKPdf**	**17 57 33.3 +1.2**
BURAR	Bucovina Array	125.14	55	⇓PKIKP		**PKPdf**	**17 57 34.8 +1.6**
BURAR	Bucovina Array	125.14	55	⇓*i*P		**PKPdf**	**17 57 34.8 +1.6**
VRI	Vrincioaia	125.20	58	⇑PKIKP		**PKPdf**	**17 57 34.1 +0.8**
VRI	Vrincioaia	125.20	58	⇑*i*P		**PKPdf**	**17 57 34.0 +0.8**
TESR	Tescani	125.47	57	⇑*i*P		**PKPdf**	**17 57 33.6 -0.1**
CFR	Carcaliu	125.73	59	⇓PKIKP		**PKPdf**	**17 57 35.3 +1.1**
CFR	Carcaliu	125.73	59	⇓*i*P		**PKPdf**	**17 57 35.3 +1.1**
RAYN	Ar Rayn	125.94	91	*e*PKPdf		**PKPdf**	**17 57 36.5 +1.1**
ANTO	Ankara	126.10	67	PFAKE			17 57 50.0 +15
ANTO				LR		LR	
	comp=Z,369nm,20.0s						
BRTR	Keskin Array B	126.58	67	PKP		**PKPdf**	**17 57 36.2 0.0**
	comp=Z,4.1nm,0.8s,baz=228,slow=1.6,SNR=18						
SUW	Suwalki	126.95	47	*e*PKIKP		**PKPdf**	**17 57 37.4 +1.2**
SUW	Suwalki	126.95	47	*e*PKPdf		**PKPdf**	**17 57 37.4 +1.2**
KIS	Kishinev	127.01	57	*e*PKIKP		**PKPdf**	**17 57 39.0 +2.4**
KIS				MLR		MLR	
	comp=Z,700nm,20.0s						
KIS				MLR		MLR	
	comp=Z,600nm,22.0s						
KIS	Kishinev	127.01	57	*e*PKP		**PKPdf**	**17 57 39.0 +2.4**
KIS				LRM		MLR	18 55 05.0
	comp=Z,600nm,22.0s						
KIEV	Kiev	128.87	53	*e*PKIKP		**PKPdf**	**17 57 39.3 -0.7**
KIEV	Kiev	128.87	53	*e*PKPdf		**PKPdf**	**17 57 39.3 -0.7**
AKASG	Malin Array Be	128.88	53	PKP		**PKPdf**	**17 57 40.2 +0.2**
	comp=Z,1.8nm,0.6s,baz=263,slow=2.7,SNR=9.4						
MALT	Malatya	129.12	71	⇑PKIKP		**PKPdf**	**17 57 43.0 +1.9**
MALT	Malatya	129.12	71	⇑*i*P		**PKPdf**	**17 57 43.0 +1.9**
FINES	FINESS Array B	131.20	39	PKP		**PKPdf**	**17 57 44.0 -0.1**
	comp=Z,2.9nm,0.8s,baz=103,slow=2.5,SNR=11						
KAF	Kangasniemi	131.51	38	*e*PKIKP		**PKPdf**	**17 57 44.4 -0.3**
KAF				pmax		pmax	
	comp=Z,4.0nm,0.8s						
KAF	Kangasniemi	131.51	38	*e*p		**PKPdf**	**17 57 44.4 -0.3**
	comp=Z,3.6nm,0.8s						
GAMB	Gambell	132.06	324	*e*PKPdf		**PKPdf**	**17 57 46.9 +1.2**
ARCES	ARCESS Array B	133.07	28	PKP		**PKPdf**	**17 57 47.1 -0.4**
	comp=Z,1.6nm,0.7s,baz=280,slow=2.7,SNR=4.1						
JOF	Joensuu	133.96	38	*e*PKIKP		**PKPdf**	**17 57 47.7 -1.6**
JOF				pmax		pmax	
	comp=Z,3.0nm,0.8s						
JOF	Joensuu	133.96	38	*e*p		**PKPdf**	**17 57 47.7 -1.6**
	comp=Z,3.2nm,0.8s						
KIV	Kislovodsk	134.52	66	*i*PKIKP		**PKPdf**	**17 57 51.2 +0.1**
KIV				pmax		pmax	
	comp=Z,9.0nm,1.0s						
KIV				MLR		MLR	
	comp=Z,360nm,21.0s						
KBZ	Khabaz	134.57	67	PKP		**PKPdf**	**17 57 48.8 -2.2**
	comp=Z,3.1nm,0.9s,baz=264,slow=1.3,SNR=5.0						
OBN	Obninsk	134.60	50	⇑*e*PKIKP		**PKPdf**	**17 57 51.3 +0.6**
OBN				pmax		pmax	
	comp=Z,15nm,1.1s						
OBN				MLR		MLR	
	comp=Z,537nm,19.0s						
VORD	Divnogorie	134.91	56	*e*PKIKP		**PKPdf**	**17 57 52.1 +0.7**
VORD				pmax		pmax	
	comp=Z,6.0nm,1.0s						
VORD				pmax		pmax	
	comp=N,5.0nm,0.8s						
VORD				pmax		pmax	
	comp=E,4.0nm,1.0s						
VSR	Storozhevoye	134.91	56	*e*PKIKP		**PKPdf**	**17 57 52.1 +0.7**
VSR				pmax		pmax	
	comp=N,7.0nm,1.2s						
VSR				pmax		pmax	
	comp=Z,8.0nm,1.2s						
VSR				pmax		pmax	
	comp=E,9.0nm,1.1s						
VRHR	Novokhopersk	136.35	56	*e*PKIKP		**PKPdf**	**17 57 54.3 +0.2**
VRHR				pmax		pmax	
	comp=Z,10.0nm,1.1s						
VRHR				pmax		pmax	
	comp=N,10.0nm,1.0s						
VRHR				pmax		pmax	
	comp=E,10.0nm,1.1s						
KLMR	Klimovskoe	137.39	42	*e*PKIKP		**PKPdf**	**17 57 56.0 +0.3**
KLMR				pmax		pmax	
	comp=Z,22nm,1.2s						
KLMR		

KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 153.38 79 *e*PKIKP **PKPdf 17 58 22.8 -0.6**
KKAR Karatay Array 153.38 79 *e*PKPdf **PKPdf 17 58 22.8 -0.6**
CMAR Chiang Mai Arr 153.64 162 PKP **PKPdf 17 58 25.4 +0.9**
comp=Z,1.8nm,0.9s,baz=190,slow=1.6,SNR=8.2
CMAR PKPbc **PKiKP 17 58 32.6 +0.3**
comp=Z,6.7nm,0.8s,baz=217,slow=4.0,SNR=30
CHTO Chiang Mai 153.99 162 *e*PKIKP **PKPdf 17 58 25.7 +0.7**
CHTO Chiang Mai 153.99 162 *e*PKPdf **PKPdf 17 58 25.7 +0.7**
BVA0 Borovoye Array 154.09 56 PKIKP **PKPdf 17 58 24.8 +0.7**
BVA0 pmax pmax
comp=Z,12nm,1.2s
BVAR Borovoye Array 154.09 56 PKP **PKPdf 17 58 24.6 +0.5**
comp=Z,6.8nm,0.9s,baz=260,slow=1.4,SNR=35
KOLN Koldanda 155.00 122 *e*P **PKPdf 17 58 26.5 +0.1**
comp=Z,17nm,0.7s
QIZ Qiongzhong 155.10 186 PKP **PKPdf 17 58 26.0 -0.5**
QIZ PP **PP 18 02 26.9 +0.8**
QIZ SS SS 18 22 09.6 +3.0
QIZ PPMZ
comp=Z,56nm,3.9s
QIZ LZ
comp=Z,470nm,22.4s
MJAR Matsushiro Arr 155.44 263 PKPab **PKPab 17 58 51.3 -0.9**
comp=Z,5.5nm,1.1s,baz=145,slow=4.4,SNR=6.0
DANN Dangsing 155.52 122 *e*P **PKPdf 17 58 27.0 -0.2**
comp=Z,45nm,0.7s
EKS2 Erkin-Say 155.60 81 *e*PKIKP **PKPdf 17 58 27.1 +0.5**
EKS2 Erkin-Say 155.60 81 *e*PKPdf **PKPdf 17 58 27.1 +0.5**
DMN Daman 155.79 125 *e*P **PKPdf 17 58 27.2 -0.4**
GKN Gorkha 155.80 123 *e*P **PKPdf 17 58 26.4 -1.0**
comp=Z,40nm,1.3s
PKIN Phulchoki 155.94 125 *e*P **PKPdf 17 58 28.1 +0.3**
PKI Pulchoki 155.94 125 *e*P **PKPdf 17 58 27.5 -0.3**
KKN Kakani 156.03 125 *e*P **PKPdf 17 58 27.0 -0.8**
AAK Ala-Archa 156.10 82 PKIKP **PKPdf 17 58 28.5 +1.1**
AAK MLR MLR
comp=Z,534nm,21.0s
AAK Ala-Archa 156.10 82 PKP **PKPdf 17 58 28.5 +1.1**
comp=Z,1.8nm,0.6s,baz=196,slow=4.2,SNR=8.3
AAK Ala-Archa 156.10 82 PKP **PKPdf 17 58 28.5 +1.1**
AAK LR LR
comp=Z,534nm,21.0s
RAMN Ramite 156.16 128 *e*P **PKPdf 17 58 28.7 +0.7**
comp=Z,67nm,1.3s
KSH Kashi 156.23 90 PKP **PKPdf 17 58 27.4 -0.2**
KSH sPKP 17 58 41.1
KSH PKS **PKSdf 18 02 01.8 +0.2**
KSH PP **PP 18 02 31.4 -2.6**
KSH SKS **SKSdf 18 05 31.4 +0.3**
KSH SS **SS 18 22 20.1 -1.5**
KSH PPMZ
comp=Z,69nm,4.6s
KSH LN
comp=Z,40nm,4.4s
KSH LE
comp=Z,35nm,3.9s
KSH LZ
comp=Z,130nm,8.7s
JIRN Jiri 156.47 127 *e*P **PKPdf 17 58 28.0 -0.6**
comp=Z,16nm,0.9s
GUN Gumba 156.47 126 *e*P **PKPdf 17 58 28.8 +0.2**
ODAN Odare 156.53 130 *e*P **PKPdf 17 58 29.1 +0.6**
TKM2 Tokmak 2 156.96 81 *e*PKIKP **PKPdf 17 58 29.0 +0.5**
TKM2 Tokmak 2 156.96 81 *e*PKPdf **PKPdf 17 58 29.0 +0.5**
TAPN Taplejung 157.09 130 *e*P **PKPdf 17 58 29.7 +0.4**
comp=Z,25nm,1.3s
KURBB Kurchatov Arra 159.39 61 PKP **PKPdf 17 58 31.7 +0.8**
comp=Z,4.8nm,1.1s,baz=270,slow=1.5,SNR=14
KURBB PKPab **PKPab 17 59 09.5 +0.6**
comp=Z,1.2nm,0.5s,baz=278,slow=5.5,SNR=4.2
KURBB PP PP 18 03 01.8 +11
comp=Z,0.5nm,0.3s,baz=279,slow=6.1,SNR=4.3
KURK Kurchatov 159.44 61 *e*PKIKP **PKPdf 17 58 31.2 +0.3**
KURK 17 59 09.5
KURK 18 03 01.8
KURK Kurchatov 159.44 61 *e*PKPdf **PKPdf 17 58 31.2 +0.3**
KURK PKP **PKPdf 17 58 31.7 +0.8**
KURK PKPab **PKPab 17 59 09.5 +0.4**
KURK PP PP 18 03 01.8 +11
LSA Lhasa 160.81 132 *e*PKIKP **PKPdf 17 58 33.7 -0.1**
LSA Lhasa 160.81 132 *e*PKPdf **PKPdf 17 58 33.7 -0.1**
KMI Kunming 160.87 167 PKP **PKPdf 17 58 32.9 -0.8**
KMI PP **PP 18 03 01.8 +3.7**
KMI SKKS 18 09 41.4
KMI SS **SS 18 23 07.3 -1.4**
KMI PPMZ
comp=Z,11nm,14.5s
KMI LN
comp=Z,490nm,15.0s
KMI LE
comp=Z,320nm,16.9s
KMI LZ
comp=Z,550nm,16.9s
NVS Novosibirsk 160.96 46 *e*PKIKP **PKPdf 17 58 33.7 +1.2**
MKAR Makanchi Array 162.15 72 PKP **PKPdf 17 58 34.4 +0.3**
comp=Z,1.9nm,1.0s,baz=252,slow=0.5,SNR=9.8
MKAR PKPab **PKPab 17 59 22.1 +0.9**
comp=Z,2.0nm,0.7s,baz=260,slow=3.9,SNR=7.2
ZALV Zalesovo Beam 162.17 48 PKP **PKPdf 17 58 34.6 +0.8**
comp=Z,0.9nm,0.8s,baz=290,slow=3.8,SNR=4.8
ZALV PKPab **PKPab 17 59 20.7 -0.2**
comp=Z,2.7nm,0.7s,baz=306,slow=3.4,SNR=6.0
GYA Guiyang 162.57 178 PKP **PKPdf 17 58 34.0 -1.3**
GYA pPKP **pPKPdf 17 58 45.8 -1.0**
GYA PKPab **PKPab 17 59 25.0 +1.6**
GYA PKS **PKSdf 18 02 04.3 -4.3**
GYA PP **PP 18 03 10.3 +3.3**
GYA SS SS 18 23 27.4 +1.3
GYA PPMZ
comp=Z,130nm,8.3s
GYA LN
comp=Z,130nm,20.5s
GYA LE
comp=Z,120nm,21.0s
GYA LZ
comp=Z,150nm,20.8s
KSRS Korea Array 163.16 254 PKP **PKPdf 17 58 33.9 -1.4**
comp=Z,1.0nm,0.8s,baz=90,slow=2.4,SNR=4.5
KSRS PKPab **PKPab 17 59 25.1 -0.6**
comp=Z,6.6nm,1.2s,baz=108,slow=4.0,SNR=6.8
KSAR Wonju Array Be 163.18 254 PKIKP **PKPdf 17 58 33.9 -1.4**
KSAR 17 59 25.1
KSAR Wonju Array Be 163.18 254 PKP **PKPdf 17 58 33.9 -1.4**
KSAR PKPab **PKPab 17 59 25.1 -0.8**
NJ2 Nanjing 165.12 221 *e*PKP **PKPdf 17 58 38.6 +1.3**
BOD Bodaibo 165.48 346 *e*PKIKP **PKPdf 17 58 32.6 -4.1**
BOD *e* 17 59 30.7
BOD pmax pmax
comp=Z,7.0nm,1.3s
WMQ Urumqi 165.79 84 *e*PKP **PKPdf 17 58 37.9 +0.3**
WMQ pPKP **pPKPdf 17 58 49.0 -0.1**
WMQ PKPab **PKPab 17 59 38.5 +1.2**
WMQ PKS **PKSdf 18 02 09.3 -1.0**
WMQ PP **PP 18 03 28.0 +2.8**
WMQ SKS **SKSdf 18 05 36.5 -2.3**
WMQ SKKS **SKKSac 18 10 09.8 +0.5**
WMQ SS **SS 18 24 01.0 -0.7**
WMQ PPMZ
comp=Z,130nm,6.0s
WMQ LN
comp=Z,740nm,22.0s
WMQ LE
comp=Z,470nm,23.0s
WMQ LZ
comp=Z,1μm,22.0s
CD2 Chengdu 166.70 166 *e*PKP **PKPdf 17 58 39.5 +0.8**
CN2 Changchun 166.96 276 *e*PKP **PKPdf 17 58 38.1 -0.3**
CN2 *ep*PKP **pPKPdf 17 58 49.0 -0.9**
CN2 *e*PP **PP 18 03 33.1 +2.0**
CN2 *e*SS SS 18 24 12.1 -1.2
CN2 PPMZ
comp=Z,200nm,8.0s
CN2 LN
comp=Z,300nm,20.0s
CN2 LE
comp=Z,400nm,20.0s
CN2 LZ
comp=Z,600nm,22.0s
XAN Xi'an 170.06 187 PKP **PKPdf 17 58 42.4 +1.6**
XAN SKS **SKSdf 18 05 40.3 -1.3**
XAN PPMZ
comp=Z,20nm,5.6s
XAN LN
comp=Z,360nm,20.1s
XAN LE
comp=Z,160nm,19.4s
XAN LZ
comp=Z,140nm,20.8s
MOY Mondy 171.14 27 *e*PKIKP **PKPdf 17 58 40.1 -0.8**
IRK Irkutsk 171.41 13 *e*PKIKP **PKPdf 17 58 41.7 +0.8**
IRK *e* 18 00 01.2
IRK pmax pmax
comp=Z,28nm,2.2s
LZH Lanzhou 171.72 160 *e*PKP **PKPdf 17 58 42.6 +0.8**
LZH pPKP **pPKPdf 17 58 52.8 -0.5**
LZH sPKP 17 58 56.4
LZH PKPab **PKPab 18 00 06.5 +2.9**
LZH LN
comp=Z,940nm,19.6s
LZH LE
comp=Z,780nm,19.9s
LZH LZ
comp=Z,730nm,20.2s
TLY Talaya 171.84 17 *e*PKIKP **PKPdf 17 58 40.7 -0.4**
TLY *e*SS SS 18 24 52.5 -7.1
TLY pmax pmax
comp=Z,14nm,1.8s
TLY Talaya 171.84 17 PKP **PKPdf 17 58 40.8 -0.4**
comp=Z,1.8nm,0.8s,baz=326,slow=3.6,SNR=6.3
TLY PKPab **PKPab 18 00 03.5 -0.1**
comp=Z,1.9nm,0.5s,baz=14,slow=2.7,SNR=3.3
TLY Talaya 171.84 17 *e*PKPdf **PKPdf 17 58 39.8 -1.3**
TLY PKP 17 58 40.8
TLY PKPab **PKPab 18 00 03.5 -0.1**
GTA Gaotai 172.76 126 *e*PKP **PKPdf 17 58 42.4 +0.3**
GTA pPKP **pPKPdf 17 58 52.8 -0.8**
GTA sPKP 17 58 56.8
GTA PKPab **PKPab 18 00 09.3 +1.0**
GTA PP **PP 18 04 03.9 +3.9**
GTA SKS **SKSdf 18 05 39.8 -2.8**
GTA SKKS **SKKSac 18 10 45.5 +1.8**
GTA SS **SS 18 25 11.8 +1.4**
GTA PPMZ
comp=Z,140nm,5.5s
GTA LN
comp=Z,390nm,20.4s
GTA LE
comp=Z,410nm,20.4s
GTA LZ
comp=Z,450nm,23.3s
ZAK Zakamensk 172.96 22 *e*PKIKP **PKPdf 17 58 38.2 -3.6**
ZAK *e* 18 00 07.5
ZAK pmax pmax
comp=Z,3.0nm,1.6s
HHC Hu-ho-hao-te 175.64 227 *e*PKP **PKPdf 17 58 43.3 +0.3**
HHC sPKP 17 58 58.6
HHC SKS **SKSdf 18 05 40.8 -2.4**
HHC SKKS **SKKSac 18 11 00.6 +3.4**
HHC SS **SS 18 25 34.3 -3.4**
HHC PPMZ
comp=Z,200nm,6.4s
HHC LN
comp=Z,540nm,21.6s
HHC LE
comp=Z,400nm,22.2s
HHC LZ
comp=Z,680nm,22.8s
SONM Songino Array 176.02 10 PKP **PKPdf 17 58 41.6 -1.3**
comp=Z,1.9nm,1.1s,baz=152,slow=2.0,SNR=8.8
SONM PKPab **PKPab 18 00 22.6 +0.2**
comp=Z,2.0nm,0.9s,baz=352,slow=2.8,SNR=8.8
SONM PP PP 18 04 25.6 +11
comp=Z,0.6nm,0.9s,baz=67,slow=4.8,SNR=4.8
ULN Ulaanbaatar 176.04 3 *e*PKIKP **PKPdf 17 58 41.3 -1.6**
ULN Ulaanbaatar 176.04 3 *e*PKPdf **PKPdf 17 58 41.3 -1.6**

IDC 17 17:41:24.5±3.0, 5°.50S×151°.65E, h564km±30km, mb2.6/3, mb1 3.0/4, mb1mx2.6/18, mbtmp3.7/4, Error ellipse: s-maj=118.4km s-min=28.1km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.91**	**229**	P	P	17 43 02.5	-0.5
	8.6nm,0.3s,baz=37,slow=5.1,SNR=43						
WRA	**Warramunga Arr**	**22.13**	**228**	P	P	17 45 38.5	-0.7
	0.3nm,0.5s,baz=57,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**24.87**	**222**	P	P	17 46 04.5	+1.0
	0.2nm,0.3s,baz=46,slow=8.7,SNR=8.6						
ILAR	**Eielson Array**	**83.24**	**22**	P	P	17 52 52.1	+0.3
	0.8nm,0.7s,baz=251,slow=5.0,SNR=12						
TORD	**Torodi Ar. Bea**	**149.43**	**287**	PKPbc	PKPbc	18 00 10.5	-0.9
	0.5nm,0.8s,baz=74,slow=2.5,SNR=3.0						

CSEM 17 17:42:58.0, 37°.47N×24°.75W, h0km, ML2.5

PDA 17 17:42:58.0±0.7, 37°.47N×24°.75W, h0km, MD3.5, ML2.5, Error ellipse: s-maj=7.1km s-min=1.6km az=79.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.46**	**313**	*e*P	Pg	17 43 06.4	-0.5
BART				*e*S	Sg	17 43 12.5	-0.5
BART				A	A	17 43 14.1	
	155nm,0.2s						
BART	**Pico Bartolome**	**0.46**	**313**	*e*P	Pg	17 43 06.4	-0.5
BART				*e*S	Sg	17 43 12.5	-0.5
PSMN	**Pico do Norte,**	**0.53**	**209**	*e*P	Pg	17 43 07.5	-0.6
PSMN				*e*S	Sg	17 43 14.7	-0.3
PSMN				A	A	17 43 16.5	
	48nm,0.2s						
PSMN	**Pico do Norte,**	**0.53**	**209**	*e*P	Pg	17 43 07.5	-0.6
PSMN				*e*S	Sg	17 43 14.7	-0.3
PSMA	**Santa Maria**	**0.56**	**213**	*e*P	Pg	17 43 08.1	-0.6
PSMA				*e*S	Sg	17 43 15.4	-0.6
PSMA				A	A	17 43 16.2	
	89nm,0.2s						
GRON	**Grota Negra**	**0.69**	**296**	*e*S	Sg	17 43 16.6	-3.9
GRON				A	A	17 43 17.1	
	83nm,0.1s						
PDA	**Ponta Delgada**	**0.78**	**291**	*e*P	Pg	17 43 11.3	-1.7
PDA				*e*S	Sg	17 43 21.5	-1.6
PDA				A	A	17 43 22.3	
	140nm,0.1s						
PDA	**Ponta Delgada**	**0.78**	**291**	*e*P	Pg	17 43 11.3	-1.7
PDA				*e*S	Sg	17 43 21.5	-1.6
PSET	**Sete Cidades**	**0.85**	**295**	*e*P	Pg	17 43 12.6	-1.8
PSET				*e*S	Sg	17 43 23.2	-2.3
PSET				A	A	17 43 25.9	
	107nm,0.3s						
PSET	**Sete Cidades**	**0.85**	**295**	*e*P	Pg	17 43 12.6	-1.8
PSET				*e*S	Sg	17 43 23.2	-2.3

IDC 17 18:05:19.4±2.3, 43°.69N×105°.48W, h0km, mb3.9/6, mb1 3.8/10, mb1mx3.6/30, mbtmp3.7/10, ML3.3/4, MS4.7/2, Ms1 4.7/2, ms1mx3.1/51, Error ellipse: s-maj=75.3km s-min=11.2km az=146.0

ISCJB 17 18:05:20.3±0.2, 43°.71N±0°.01×105°.34W±0°.02, h0km, mb4.0/6, MS4.8/2, Error ellipse: s-maj=1.9km s-min=1.8km az=146.9

NEIC 17 18:05:20.2±0.3, 43°.79N×105°.22W, h0km, ML3.4, Error ellipse: s-maj=5.1km s-min=4.3km az=143.0, Suspected Mining explosion.

NEIC 60 km [40 miles] SSE of Gillette.

ISC 17 18:05:20.0±0.6, 43°.71N±0°.02×105°.33W±0°.02, h0km, n138, σ1§18/150, mb4.0/6, 42C-42D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.27**	**339**	P	**Pg**	**18 05 26.8**	**+1.6**
	baz=0.2,SNR=253						
I23A				⇓S	**Sg**	**18 05 30.6**	**+2.0**
	baz=0.2						
J23A	**Dilts Ranch, B**	**0.35**	**208**	P	**Pg**	**18 05 27.8**	**+1.0**
	baz=0.5,SNR=262						
I24A	**Kuemmerle Ranc**	**0.53**	**74**	P	**Pg**	**18 05 30.9**	**+0.7**
	baz=0.4,SNR=343						
I24A				⇓S	**Sg**	**18 05 38.0**	**+1.0**
	baz=0.4						
J24A	**Dixon Ranch, L**	**0.62**	**128**	P	**Pg**	**18 05 32.2**	**+0.3**
	baz=0.6,SNR=96						
J24A				⇑S	**Sg**	**18 05 41.0**	**+1.1**
	baz=0.6						
H23A	**Clabaugh Cattl**	**0.85**	**357**	P	**Pg**	**18 05 36.8**	**+0.4**
	baz=0.8,SNR=31						
H23A				⇑S	**Sb**	**18 05 49.6**	**-0.1**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.85**	**282**	P	**Pg**	**18 05 37.1**	**+0.7**
	baz=0.9,SNR=529						
K23A	**Bowen Ranch, D**	**0.98**	**193**	⇑P	**Pg**	**18 05 39.1**	**+0.3**
	baz=1.1,SNR=14						
RSSD	**Black Hills**	**1.02**	**66**	*e*Pn	**Pg**	**18 05 39.2**	**-0.4**
K24A	**Anderson Ranch**	**1.06**	**159**	P	**Pg**	**18 05 40.2**	**-0.1**
	baz=1.1,SNR=247						
H22A	**Clearmont**	**1.15**	**320**	⇓P	**Pg**	**18 05 42.5**	**+0.4**
	baz=1.1,SNR=270						
J25A	**Sunshine Ranch**	**1.16**	**106**	⇑P	**Pg**	**18 05 42.1**	**-0.1**
	baz=1.1,SNR=198						
H24A	**Dirks Ranch, A**	**1.18**	**28**	P	**Pg**	**18 05 42.2**	**-0.4**
	baz=1.1,SNR=420						
H24A				⇑S	**Sg**	**18 05 58.7**	**+0.9**
	baz=1.1						
I25A	**Rochford**	**1.20**	**75**	P	**Pg**	**18 05 42.6**	**-0.3**
	baz=1.1,SNR=128						
I25A				⇓S	**Sb**	**18 06 00.7**	**+0.9**
	baz=1.1						
K22A	**Casper**	**1.38**	**220**	P	**Pg**	**18 05 45.8**	**-0.6**
	baz=1.5,SNR=162						
K22A				⇓S	**Sn**	**18 06 05.7**	**+0.1**
	baz=1.5						
K22A	**Casper**	**1.38**	**220**	*e*Pn	**Pg**	**18 05 45.4**	**-1.0**
I21A	**Big Trails, Te**	**1.43**	**275**	P	**Pn**	**18 05 46.5**	**-0.8**
	baz=1.5,SNR=307						
I21A				⇑S	**Sb**	**18 06 06.7**	**+0.3**
	baz=1.5						
G23A	**Biddle**	**1.49**	**358**	P	**Pn**	**18 05 48.0**	**-0.1**
	baz=1.4,SNR=168						
G23A				⇓S	**Sn**	**18 06 09.4**	**+1.1**
	baz=1.4						
K25A	**Mack Ranch, Ha**	**1.53**	**135**	⇑P	**Pb**	**18 05 49.5**	**0.0**
	baz=1.5,SNR=89						
K25A				⇓S	**Sg**	**18 06 10.8**	**+1.5**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.54**	**307**	⇑P	**Pn**	**18 05 49.2**	**+0.4**
	baz=1.6,SNR=115						
H21A				⇑S	**Sg**	**18 06 10.5**	**+1.1**
	baz=1.6						
H25A	**Fruitdale**	**1.54**	**53**	⇓P	**Pn**	**18 05 49.2**	**+0.3**
	baz=1.4,SNR=45						
H25A				⇑S	**Sg**	**18 06 11.0**	**+1.4**
	baz=1.4						
J21A	**Lysite**	**1.58**	**257**	P	**Pn**	**18 05 49.2**	**-0.3**
	baz=1.7,SNR=32						
J21A				⇑S	**Sg**	**18 06 11.9**	**+1.0**
	baz=1.7						
L23A	**Garrett**	**1.62**	**190**	P	**Pn**	**18 05 50.0**	**-0.2**
	baz=1.7,SNR=614						
L23A				⇑S	**Sg**	**18 06 13.2**	**+1.1**
	baz=1.7						
G22A	**Birney**	**1.66**	**336**	⇓P	**Pb**	**18 05 51.4**	**-0.1**
	baz=1.6,SNR=263						
J26A	**Sides Ranch, S**	**1.69**	**103**	P	**Pn**	**18 05 51.5**	**+0.6**
	baz=1.6,SNR=93						
J26A				⇑S	**Sg**	**18 06 15.2**	**+0.9**
	baz=1.6						
L24A	**Wheatland**	**1.69**	**170**	⇓P	**Pn**	**18 05 51.4**	**+0.4**
	baz=1.8						
L24A				⇑S	**Sg**	**18 06 15.2**	**+0.8**
	baz=1.8						
G24A	**Alzada**	**1.74**	**22**	P	**Pb**	**18 05 52.6**	**-0.4**
	baz=1.6,SNR=82						
K21A	**Alcova**	**1.77**	**233**	⇓P	**Pn**	**18 05 52.8**	**+0.7**
	baz=1.9,SNR=563						
K21A				⇑S	**Sb**	**18 06 17.1**	**+0.7**
	baz=1.9						
I26A	**New Underwood**	**1.81**	**79**	⇓P	**Pb**	**18 05 53.7**	**-0.5**
	baz=1.7,SNR=37						
L25A	**Engebretsen Ra**	**1.85**	**147**	P	**Pb**	**18 05 54.6**	**-0.2**
	baz=1.9,SNR=61						
L22A	**Ellis Ranch, M**	**1.87**	**206**	⇓P	**Pn**	**18 05 54.3**	**+0.9**
	baz=2.0,SNR=76						
K26A	**Motz Farm, Whi**	**1.87**	**122**	⇓P	**Pn**	**18 05 54.4**	**+1.0**
	baz=1.8,SNR=19						
F23A	**Volborg**	**2.01**	**358**	P	**Pn**	**18 05 56.0**	**+0.7**
	baz=1.9,SNR=453						
G25A	**Newell**	**2.02**	**42**	⇓P	**Pn**	**18 05 56.6**	**+1.2**
	baz=1.9,SNR=19						
G21A	**Lodge Grass**	**2.02**	**319**	⇓P	**Pn**	**18 05 56.5**	**+1.0**
	baz=2.0,SNR=87						
J20A	**Shoshoni**	**2.04**	**261**	⇑Pb	**Pb**	**18 05 58.1**	**+0.1**
	baz=2.1,SNR=95						
I20A	**Worland**	**2.04**	**278**	⇑P	**Pn**	**18 05 56.8**	**+1.0**
	baz=2.1,SNR=200						
H26A	**Fairpoint**	**2.05**	**63**	⇑P	**Pn**	**18 05 56.7**	**+0.9**
	baz=1.9,SNR=20						
H20A	**Greybull**	**2.07**	**293**	⇓P	**Pn**	**18 05 57.2**	**+1.0**
	baz=2.1,SNR=14						
F22A	**Rosebud**	**2.17**	**343**	⇑P	**Pn**	**18 05 58.2**	**+0.7**
	baz=2.1,SNR=81						
F24A	**Ekalaka**	**2.22**	**16**	⇑P	**Pb**	**18 06 00.1**	**-1.0**
	baz=2.1,SNR=32						
M23A	**Laramie**	**2.26**	**188**	⇑P	**Pn**	**18 06 00.6**	**+1.7**
	baz=2.4,SNR=22						
M24A	**Cheyenne**	**2.27**	**170**	⇑P	**Pn**	**18 06 00.8**	**+1.7**
	baz=2.3,SNR=98						
L26A	**Underwood Farm**	**2.35**	**135**	⇓P	**Pn**	**18 06 01.9**	**+1.8**
	baz=2.4,SNR=14						
I27A	**Quinn**	**2.40**	**80**	⇑P	**Pn**	**18 06 02.4**	**+1.8**
	baz=2.3,SNR=44						
I27A				⇑Sb	**Sg**	**18 06 37.1**	**+0.1**
	baz=2.3						
J27A	**Elkhorn Farm,**	**2.46**	**100**	⇓P	**Pn**	**18 06 03.4**	**+1.9**
	baz=2.4,SNR=29						
J27A				⇓Sb	**Sg**	**18 06 38.8**	**-0.3**
	baz=2.4						
M25A	**Palm-Egli Farm**	**2.46**	**157**	⇓P	**Pn**	**18 06 03.3**	**+1.7**
	baz=2.5						
M25A				⇑Sb	**Sg**	**18 06 39.1**	**-0.1**
	baz=2.5						
F21A	**Absaloka Mine,**	**2.47**	**329**	⇓P	**Pb**	**18 06 03.7**	**-1.6**
	baz=2.4,SNR=8.1						
K27A	**Flueckinger Fa**	**2.48**	**113**	⇓P	**Pn**	**18 06 03.4**	**+1.7**
	baz=2.4,SNR=12						
M22A	**Cedar Creek Ra**	**2.49**	**202**	⇓P	**Pn**	**18 06 03.8**	**+1.8**
	baz=2.6,SNR=188						
G26A	**Maurine**	**2.51**	**50**	⇑P	**Pn**	**18 06 03.9**	**+1.7**
	baz=2.4,SNR=46						
H27A	**Howes**	**2.51**	**67**	⇑P	**Pn**	**18 06 03.9**	**+1.6**
	baz=2.4,SNR=35						
G20A	**Bridger**	**2.56**	**307**	⇓P	**Pn**	**18 06 03.1**	**+0.3**
	baz=2.6,SNR=88						
F25A	**Bowman**	**2.58**	**30**	⇑P	**Pn**	**18 06 04.8**	**+1.6**
	baz=2.5,SNR=25						
I19A	**Meeteetse**	**2.67**	**278**	⇑P	**Pn**	**18 06 06.1**	**+1.6**
	baz=2.7,SNR=45						
J19A	**Crowheart**	**2.75**	**262**	⇓P	**Pn**	**18 06 07.4**	**+1.9**
	baz=2.8,SNR=308						
E22A	**Miles City**	**2.76**	**351**	P	**Pn**	**18 06 05.9**	**+0.3**
	baz=2.7,SNR=9.8						
H19A	**Powell**	**2.80**	**291**	⇓P	**Pn**	**18 06 07.6**	**+1.4**
	baz=2.8,SNR=36						
N23A	**Red Feather La**	**2.85**	**189**	⇓P	**Pn**	**18 06 08.6**	**+1.5**
	baz=2.9,SNR=62						
F20A	**Billings**	**2.90**	**317**	⇑P	**Pn**	**18 06 08.2**	**+0.6**
	baz=2.9,SNR=20						
E24A	**Baker**	**2.94**	**14**	P	**Pn**	**18 06 09.5**	**+1.5**
	baz=2.8,SNR=43						
N22A	**Wattenberg Ran**	**3.03**	**196**	⇑P	**Pn**	**18 06 11.7**	**+2.2**
	baz=3.1,SNR=85						
LAO	**LASA Array**	**3.04**	**348**	*e*Pn	**Pn**	**18 06 09.1**	**-0.3**
RLMT	**Red Lodge**	**3.15**	**298**	*e*Pn	**Pn**	**18 06 11.9**	**+0.8**
BW06	**Boulder Array**	**3.23**	**254**	*e*Pn	**Pn**	**18 06 13.4**	**+1.1**
PDAR	**Pinedale Array**	**3.23**	**254**	Pn	**Pn**	**18 06 13.4**	**+1.1**
	3.7nm,0.3s,baz=73,slow=16,SNR=55						
PDAR				Lg	Lg	18 06 58.8	
	6.3nm,0.3s,baz=67,slow=28,SNR=7.5						
H18A	**Shoshone NF, C**	**3.26**	**289**	⇓P	**Pn**	**18 06 13.3**	**+0.6**
	baz=3.3,SNR=13						
F19A	**Roth Farm, Mol**	**3.35**	**311**	⇓P	**Pn**	**18 06 14.7**	**+1.0**
	baz=3.4,SNR=161						
D23A	**Lindsay**	**3.46**	**1**	P	**Pn**	**18 06 16.6**	**+1.3**
	baz=3.4,SNR=31						
D24A	**Glendive**	**3.47**	**11**	⇓P	**Pn**	**18 06 17.1**	**+1.7**
	baz=3.4,SNR=20						
D22A	**Cohagen**	**3.49**	**350**	⇑P	**Pn**	**18 06 16.4**	**+0.8**
	baz=3.4,SNR=6.3						
N27A	**Anderson Farm,**	**3.57**	**144**	⇓P	**Pn**	**18 06 17.8**	**+1.0**
	baz=3.6,SNR=7.1						
O22A	**Kremmling**	**3.66**	**195**	⇓P	**Pn**	**18 06 20.3**	**+2.0**
	baz=3.8,SNR=13						
OGNE	**Ogallala**	**3.69**	**137**	⇑P	**Pn**	**18 06 19.0**	**+0.6**

baz=3.7,SNR=8.9
OGNE Ogallala 3.69 137 *e*Pn **Pn 18 06 19.7 +1.3**
GCMT Greycliff 3.72 305 *e*Pn **Pn 18 06 19.9 +1.0**
H17A Grant Village 3.84 282 *e*Pn **Pn 18 06 23.2 +2.5**
C24A Savage 3.87 9 ⇓P **Pn 18 06 22.5 +1.7**
baz=3.8,SNR=11
ISCO Idaho Springs 3.92 183 ⇑P **Pn 18 06 23.3 +1.5**
baz=4.0,SNR=10
ISCO Idaho Springs 3.92 183 *e*Pn **Pn 18 06 22.6 +0.8**
YNR Norris Junctio 3.98 286 *e*Pg **Pg 18 06 34.4 -1.8**
YFT Old Faithful 4.04 282 *e*Pg **Pg 18 06 37.1 -0.3**
C23A Lambert 4.09 1 P **Pn 18 06 25.5 +1.7**
baz=4.0,SNR=55
N28A Pribbeno Ranch 4.13 136 ⇑P **Pn 18 06 25.5 +1.1**
baz=4.1,SNR=8.7
O20A White River Ci 4.18 212 *e*Pn **Pn 18 06 26.2 +0.9**
C25A Freed Ranch, W 4.25 19 ⇓P **Pn 18 06 27.8 +1.7**
baz=4.2,SNR=8.0
AHID Auburn Hatcher 4.32 259 *e*Pn **Pn 18 06 29.2 +2.0**
P26A Davis Ranch, A 4.41 160 ⇓P **Pn 18 06 29.3 +0.9**
baz=4.5,SNR=23
O28A Krutsinger Ran 4.46 142 P **Pn 18 06 29.6 +0.6**
baz=4.5,SNR=14
P27A Ficken Ranch, 4.64 153 ⇓P **Pn 18 06 32.3 +0.8**
baz=4.7,SNR=19
B23A Brockton 4.76 3 ⇑P **Pn 18 06 34.4 +1.4**
baz=4.7,SNR=17
C19A Slack Wire Ran 4.79 328 ⇑P **Pn 18 06 34.7 +1.2**
baz=4.8,SNR=5.6
B25A Knox Farm, Ray 4.80 18 ⇓P **Pn 18 06 35.3 +1.6**
baz=4.7,SNR=12
BOZ Bozeman (W) 4.89 295 *e*Pn Pn 18 06 38.8 +3.8
P28A Saint Francis 4.93 146 ⇑P **Pn 18 06 36.0 +0.5**
baz=4.9,SNR=14
KSCO Kaye Shedlock' 5.12 156 *e*Pn **Pn 18 06 38.6 +0.5**
15nm,0.4s
TCUT Toone Canyon 5.19 242 *e*Pn **Pn 18 06 40.5 +1.3**
20nm,0.4s
P29A Atwood 5.26 140 ⇑P **Pn 18 06 40.3 +0.2**
baz=5.3,SNR=8.5
EGMT Eagleton 5.30 326 *e*Pn Pn 18 06 45.2 +4.6
36nm,0.6s
Q28A Sharon Springs 5.34 149 ⇓P **Pn 18 06 41.6 +0.5**
baz=5.4,SNR=5.5
R24A Sanders Place, 5.48 178 ⇑P **Pn 18 06 44.7 +1.6**
baz=5.6,SNR=6.1
HRY Holter Researc 5.48 305 *e*Pn **Pn 18 06 44.1 +1.0**
11nm,0.3s
LRM Limekiln Ridge 5.49 295 *e*Pn **Pn 18 06 44.0 +0.7**
27nm,0.3s
DAU Daniels Canyon 5.51 235 *e*Pn **Pn 18 06 46.4 +2.8**
0.6nm,0.5s
R26A Arlington 5.59 165 ⇑P **Pn 18 06 45.1 +0.5**
baz=5.7,SNR=33
MDND Maddock 5.75 42 *e*Pg Pg 18 07 06.2 -4.1
32nm,0.4s
SPUT South Promonto 5.79 248 *e*Pn **Pn 18 06 48.9 +1.6**
2.2nm,0.4s
HVU Hansel Valley 5.81 253 *e*Pn **Pn 18 06 48.8 +1.2**
6.2nm,0.7s
PV04 Paradox Valley 5.96 208 *e*Pn **Pn 18 06 51.5 +1.7**
MPU Maple Canyon 5.98 234 *e*Pg **Pg 18 07 13.2 -1.5**
10nm,0.8s
R28A Tribune 5.99 152 ⇓P **Pn 18 06 50.3 +0.2**
baz=6.0,SNR=16
S25A Robets Cordova 6.08 173 ⇑P **Pn 18 06 51.8 +0.3**
baz=6.2,SNR=6.1
PV01 Paradox Valley 6.09 205 *e*Pn **Pn 18 06 53.9 +2.4**
474nm,0.7s
ECSD EROS Data Cent 6.32 87 ⇓P **Pn 18 06 55.1 +0.7**
baz=6.2,SNR=7.8
ECSD EROS Data Cent 6.32 87 *e*Pn **Pn 18 06 54.8 +0.4**
6.2nm,0.4s
CHMT Chamberlain Mo 6.44 303 *e*Pn **Pn 18 06 57.1 +0.9**
2.5nm,0.4s
DUG Dugway, Tooele 6.59 240 ⇓P **Pn 18 06 59.7 +1.4**
baz=6.7,SNR=13
DUG Dugway, Tooele 6.59 240 *e*Pn **Pn 18 06 59.8 +1.4**
5.9nm,0.8s
HLID Hailey 6.59 272 *e*Pn **Pn 18 07 01.3 +2.9**
2.4nm,0.7s
SWMT Swartz Lake 7.17 305 *e*Pn **Pn 18 07 06.7 +0.6**
2.8nm,0.3s
YBMT Yellow Bay 7.35 307 *e*Pn **Pn 18 07 10.3 +1.6**
3.8nm,0.3s
MVU Marysvale 7.35 227 *e*P **Pn 18 07 10.8 +1.9**
3.7nm,0.6s
JTMT Jette 7.45 306 *e*Pn **Pn 18 07 11.1 +1.1**
2.6nm,0.5s
ELK Elko 7.93 251 Pn **Pn 18 07 17.3 +0.6**
0.2nm,0.3s,baz=22,slow=4.3,SNR=5.0
ELK Lg Lg 18 09 28.8
0.1nm,0.3s,baz=3.4,slow=19,SNR=2.3
AGMN Agassiz Nation 8.03 52 *e*Pg Pb 18 07 46.8 +6.9
10.0nm,0.4s
ANMO Albuquerque 8.80 186 Lg Lg 18 09 55.4
0.0nm,0.3s,baz=66,slow=20,SNR=2.1
I10CA LAC DU BONNET 9.08 41 *i* 19 00 43.9
baz=225,slow=318,SNR=2.3
ULM Lac du Bonnet 9.19 41 Pn **Pn 18 07 32.4 -1.3**
0.8nm,0.3s,baz=233,slow=14,SNR=6.0
ULM Lg Lg 18 10 05.6
0.7nm,0.3s,baz=133,slow=19,SNR=3.3
ULM LR LR 18 11 08.6
comp=Z,102nm,20.3s,baz=340,slow=38
WUAZ Wupatki 9.42 212 *e*Pn **Pn 18 07 38.1 +1.0**
4.3nm,0.5s
FFC Flin Flon 11.23 10 *e*Pn **Pn 18 08 00.3 -1.5**
2.3nm,0.6s
TXAR Lajitas Array 14.41 174 Lg Lg 18 12 43.0
0.1nm,0.3s,baz=359,slow=30,SNR=4.1
YKA Yellowknife Ar 19.58 347 P **P 18 09 48.6 -0.7**
0.1nm,0.3s,baz=162,slow=12,SNR=6.1
ARCES ARCESS Array B 61.45 18 P **P 18 15 36.5 -1.2**
3.0nm,1.0s,baz=328,slow=6.9,SNR=7.4
FINES FINESS Array B 68.07 23 P **P 18 16 20.7 -0.2**
1.7nm,1.1s,baz=316,slow=5.8,SNR=5.0
AKASG Malin Array Be 78.00 28 P **P 18 17 19.4 -0.5**
0.5nm,0.3s,baz=330,slow=5.4,SNR=2.8
AKASG LR LR 18 54 29.4
comp=Z,368nm,19.0s,baz=250,slow=38
ZALV Zalesovo Beam 82.33 354 P **P 18 17 42.2 -1.1**
0.6nm,0.5s,baz=341,slow=6.6,SNR=2.9
SONM Songino Array 84.65 339 P **P 18 17 56.1 +0.6**
0.2nm,0.4s,baz=16,slow=3.6,SNR=4.2
MKAR Makanchi Array 89.62 355 P **P 18 18 18.9 -0.6**
0.5nm,0.8s,baz=353,slow=6.2,SNR=5.1
GEYT Alibeck 97.36 13 LR LR 19 06 47.9
comp=Z,418nm,20.0s,baz=255,slow=38

*IDC **17** 18:19:26.0±1.4, 35°.56S×73°.48W, h0km, mb4.2/4, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, ML3.8/3, MS4.1/1, Ms1 4.1/1, ms1mx3.4/30, Error ellipse: s-maj=49.7km s-min=25.5km az=101.0*
*NEIC **17** 18:19:30.8±0.9, 35°.44S×73°.43W, h35km, mb4.3/3, Error ellipse: s-maj=22.3km s-min=12.4km az=90.0*
ISC 17 18:19:31.0±1.2, 35°.4S±0°.1×73°.5W±0°.2, h35km, n17, σ1s00/17, mb4.2/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.76**	**157**	Pn	**Pn**	**18 20 53.6**	**-0.5**
	0.6nm,0.3s,baz=334,slow=15,SNR=25						
PLCA				Lg	Lg	18 22 24.9	
	2.4nm,0.3s,baz=260,slow=19,SNR=4.9						
CFAA	**Coronel Fontan**	**5.80**	**50**	Pn	**Pn**	**18 20 54.0**	**-0.6**
	0.9nm,0.3s,baz=220,slow=13,SNR=35						
CFAA				Lg	Lg	18 22 23.5	
	0.3nm,0.3s,baz=233,slow=20,SNR=4.5						
LCO	**Las Campanas**	**6.82**	**21**	*e*P	**Pn**	**18 21 06.3**	**-2.5**
	16nm,0.6s						
TRQA	**Tornquist**	**9.58**	**109**	*e*Pn	**Pn**	**18 21 45.8**	**-0.5**
	29nm,1.1s						
LPAZ	**La Paz**	**19.66**	**15**	P	**Pn**	**18 24 00.3**	**+1.2**
	0.3nm,0.3s,baz=184,slow=2.4,SNR=5.3						
LPAZ	**La Paz**	**19.66**	**15**	*e*P	**Pn**	**18 23 59.8**	**+0.8**
	6.7nm,0.9s						
SIV	**San Ignacio**	**22.31**	**33**	P	**P**	**18 24 26.2**	**+0.7**
	4.5nm,0.9s,baz=226,slow=14,SNR=7.1						
PTGA	**Pitinga**	**36.74**	**23**	LR	LR	18 43 55.4	
	comp=Z,261nm,19.2s,baz=44,slow=40						
DBIC	**Dimbokro**	**76.74**	**72**	P	**P**	**18 31 19.7**	**+0.7**
	1.5nm,0.6s,baz=239,slow=7.2,SNR=3.3						
DBIC	**Dimbokro**	**76.74**	**72**	*e*P	**P**	**18 31 18.6**	**-0.5**
	2.5nm,0.8s						
BOSA	**Boshof**	**80.43**	**118**	P	**P**	**18 31 39.5**	**0.0**
	4.3nm,0.9s,baz=225,slow=4.3,SNR=4.0						
BOSA	**Boshof**	**80.43**	**118**	*e*P	**P**	**18 31 40.0**	**+0.6**
	8.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**85.79**	**71**	P	**P**	**18 32 07.3**	**+0.3**
	1.4nm,0.9s,baz=224,slow=4.9,SNR=6.7						
WRA	**Warramunga Arr**	**118.94**	**210**	PKP	**PKPdf**	**18 38 16.2**	**-0.2**
	0.2nm,0.6s,baz=157,slow=1.7,SNR=4.6						
ABKAR	**Akbulak array**	**143.48**	**53**	*e*PKPdf	PKPbc	18 38 59.5	+0.7
ZALV	**Zalesovo Beam**	**156.06**	**33**	PKP	**PKPdf**	**18 39 21.0**	**0.0**
	0.2nm,0.4s,baz=329,slow=5.0,SNR=2.9						
ZALV				PKPab	**PKPab**	**18 39 50.0**	**+1.5**
	1.3nm,0.9s,baz=318,slow=4.1,SNR=3.5						
MKAR	**Makanchi Array**	**158.58**	**51**	PKP	**PKPdf**	**18 39 23.8**	**-0.6**
	0.2nm,0.6s,baz=264,slow=1.4,SNR=4.0						
MKAR				PKPab	**PKPab**	**18 40 00.3**	**+0.6**
	0.4nm,0.7s,baz=300,slow=3.2,SNR=5.2						

WEL 17 18:24:10.7±0.8, 35°.46S×178°.91E, h33km, ML3.7/6, Error ellipse: s-maj=14.5km s-min=7.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.15**	**193**	P*	Pn	18 24 44.3	+0.1
MXZ				S*	Sn	18 25 08.8	-1.0
HAZ	**Te Kaha**	**2.46**	**201**	P*	Pn	18 24 49.8	+1.3
HAZ				S*	Sn	18 25 19.9	+2.5
PUZ	**Puketiti**	**2.66**	**191**	PN	Pn	18 24 50.6	-0.7
PUZ				SN	Sn	18 25 20.0	-2.4
PUZ				AML	AML	18 25 25.2	
CNGZ	**Carnagh Statio**	**3.07**	**190**	PN	Pn	18 24 55.9	-1.0
MWZ	**Matawai**	**3.07**	**201**	P*	Pn	18 24 56.6	-0.4
MWZ				AML	AML	18 25 50.2	
MWZ				AML	AML	18 25 52.7	
URZ	**Urewera**	**3.14**	**207**	P*	Pn	18 24 57.6	-0.2
URZ				S*	Sn	18 25 34.0	-0.2
URZ				AML	AML	18 25 43.5	
RAGZ	**Rawiri**	**3.25**	**201**	P*	Pn	18 24 59.3	-0.2
SNGZ	**Shannon Statio**	**3.54**	**200**	PN	Pn	18 25 02.7	-0.7
BKZ	**Black Stump Fm**	**4.17**	**207**	P*	Pn	18 25 10.5	-1.5
BFZ	**Birch Farm**	**5.62**	**201**	PN	Pn	18 25 28.2	-3.6
KIW	**Kapiti Island**	**6.24**	**209**	AML	AML	18 26 40.9	

*DJA **17** 18:28:47.4±0.5, 1°.S±8°.×13°.3E±°, h10km, M3.8/7, mb4.1/3, MLv3.7/7*
*ISCJB **17** 18:28:49.4±1.3, 0°.8S±0°.1×133°.15E±0°.06, h33km, Error ellipse: s-maj=14.9km s-min=7.0km az=17.4*
ISC 17 18:28:50.6±1.2, 0°.92S±0°.09×133°.14E±0°.05, h35km, n12, σ2s32/14, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.19**	**119**	P	**Pn**	**18 29 09.6**	**-1.3**
RKPI				S	**Sn**	**18 29 27.7**	**+1.8**
SWI	**Sorong**	**1.88**	**272**	P	**Pn**	**18 29 19.4**	**-0.8**
SWI				S	**Sn**	**18 29 43.9**	**+1.2**
SWI	**Sorong**	**1.88**	**272**	P	**Pn**	**18 29 19.3**	**-1.0**
	baz=1.6,SNR=41						
FAKI	**Fak Fak**	**2.17**	**204**	P	**Pn**	**18 29 25.2**	**+0.8**
FAKI	**Fak Fak**	**2.17**	**204**	P	**Pn**	**18 29 23.8**	**-0.5**
	baz=1.7,SNR=32						
FAKI				S	**Sn**	**18 29 52.3**	**+2.2**
	baz=1.7,SNR=5.3						
MSAI	**Masohi**	**4.85**	**240**	P	Pn	18 30 03.9	+2.8
LBMI	**Labuha**	**5.64**	**273**	P	**Pn**	**18 30 11.9**	**-0.2**
	23nm,1.4s,0.1nm						
KDU	**Kakadu**	**11.71**	**183**	P	**Pn**	**18 31 32.9**	**-2.4**
	baz=11,SNR=5.4						
MTN	**Manton Dam**	**12.01**	**189**	P	**Pn**	**18 31 36.8**	**-2.7**
	baz=12,SNR=7.6						
MANU	**Manus Island**	**14.27**	**95**	P	**P**	**18 32 18.8**	**+1.7**
	baz=15,SNR=8.0						
KNRA	**Kununurra**	**15.29**	**196**	P	**Pn**	**18 32 19.5**	**-4.4**
	baz=15,SNR=20						
FITZ	**Fitzroy Crossi**	**18.59**	**203**	P	**Pn**	**18 33 08.6**	**+3.1**
	baz=18,SNR=4.0						

*IDC **17** 18:29:33.7±0.5, 35°.49S×73°.08W, h0km, mb4.4/14, mb1 4.5/17, mb1mx4.4/22, mbtmp4.4/17, ML4.2/3, MS4.5/17, Ms1 4.5/17, ms1mx4.2/31, Error ellipse: s-maj=21.6km s-min=13.7km az=99.0*
*GUC **17** 18:29:34.1±0.7, 35°.49S×73°.40W, h40km±6km, ML5.1*
*ISCJB **17** 18:29:35.2±0.3, 35°.45S±0°.03×73°.27W±0°.04, h17km, mb4.7/38, MS4.5/17, Error ellipse: s-maj=5.4km s-min=4.7km az=144.4*
*NEIC **17** 18:29:37.6±0.3, 35°.44S×73°.04W, mb4.9/20, Error ellipse: s-maj=10.3km s-min=6.8km az=84.0*
*GCMT **17** 18:29:37.6±0.3, 35°.47S×73°.56W, h20km±1km, MW5.1/65, Moment Tensor Solution. s34,c41; s65,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.03±.29; $M_{\theta\theta}$=0.26±.17; $M_{\phi\phi}$=-3.77±.19; $M_{r\theta}$=0.47±.29; $M_{\phi\phi}$=-1.34±.11; $M_{\phi r}$=3.97±.37; Best double couple: M_0=5.74800×10^{16} NP1:ϕ_s=190.00000°, δ67.00000°, λ83.00000°. NP2: ϕ_s=27.00000°, δ24.00000°, λ106.00000°. Principal axes: T 5.6960, Plg67.0000°, Azm88.0000°; N 0.1040, Plg6.0000°, Azm193.0000°; P -5.7990, Plg22.0000°, Azm286.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 17 18:29:36.4±0.4, 35°.51S±0°.04×73°.21W±0°.05, h17km, n93, σ1s26/87, mb4.8/38, MS4.5/17, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.70**	**151**	⇓*i*P	**Pg**	**18 29 49.9**	**-0.4**
COCH				*i* S	**Sn**	**18 30 01.2**	**-0.8**
TALC	**Talca**	**1.29**	**85**	⇑*i*P	**Pb**	**18 30 00.0**	**-0.2**
TALC				*i* S	**Sg**	**18 30 19.1**	**+1.0**
LNCH	**Linares**	**1.35**	**105**	⇑*i*P	**Pn**	**18 30 00.7**	**+0.2**
LNCH				*i* S	**Sg**	**18 30 20.5**	**+0.5**
NICH	**Los Niches**	**1.69**	**73**	⇓*i*P	**Pn**	**18 30 05.5**	**+0.2**
NICH				*i* S	**Sb**	**18 30 29.3**	**+1.1**
ANTU	**Antumapu**	**2.88**	**48**	*e*P1	**Pn**	**18 30 21.3**	**-0.2**
ANTU				IAML		18 31 14.1	
	comp=N,6μm,0.8s						
CLCH	**Cerro Calan**	**3.05**	**47**	*e*P1	**Pn**	**18 30 23.9**	**-0.1**
CLCH				*e*S	**Sn**	**18 31 01.4**	**+1.2**
CLCH				IAML		18 31 22.7	
	comp=N,7μm,1.4s						
FCH	**Farellones**	**3.25**	**49**	*e*P9	**Pb**	**18 30 34.4**	**+0.5**
FCH				*i* S	**Sb**	**18 31 14.8**	**+1.5**
FCH				IAML		18 31 37.9	
	comp=E,2μm,1.6s						
PLCA	**Paso Flores**	**5.62**	**159**	Pn	**Pn**	**18 30 59.9**	**+0.7**
	comp=E,1.9nm,0.3s,baz=324,slow=12,SNR=6.8						
PLCA				Lg	Lg	18 32 30.6	
	comp=E,2.9nm,0.3s,baz=258,slow=19,SNR=2.4						
CFAA	**Coronel Fontan**	**5.69**	**48**	Pn	**Pn**	**18 30 59.9**	**-0.4**
	comp=E,2.9nm,0.3s,baz=9.5,slow=4.5,SNR=71						
CFAA				Sn	**Sn**	**18 32 05.0**	**-0.3**
	comp=E,2.1nm,0.3s,baz=3.4,slow=17,SNR=3.2						
CFAA				Lg	Lg	18 32 27.9	
	comp=E,1.0nm,0.3s,baz=90,slow=19,SNR=3.1						
LCO	**Las Campanas**	**6.82**	**19**	*e*P	Pn	18 31 12.8	-3.2
	comp=E,85nm,0.8s						
TRQA	**Tornquist**	**9.36**	**109**	*e*P	**Pn**	**18 31 52.4**	**+1.8**
	comp=E,49nm,0.9s						
LVC	**Limon Verde**	**13.39**	**17**	*e*P	**Pn**	**18 32 45.1**	**-0.8**
	comp=E,15nm,0.8s						
USHA	**Ushuaia**	**19.60**	**172**	P	**Pn**	**18 34 05.7**	**+0.7**
	comp=E,0.4nm,0.3s,baz=331,slow=11,SNR=3.1						
LPAZ	**La Paz**	**19.68**	**15**	P	**P**	**18 34 06.2**	**+0.8**
	comp=E,0.4nm,0.3s,baz=184,slow=6.7,SNR=27						
SIV	**San Ignacio**	**22.26**	**32**	P	**P**	**18 34 31.2**	**-1.6**
	comp=E,24nm,1.0s,baz=233,slow=8.0,SNR=19						
SIV				LR	LR	18 45 03.3	
	comp=E,4μm,18.4s,baz=231,slow=42						
NNA	**Nana**	**23.65**	**351**	LR	LR	18 42 06.4	
	comp=E,403nm,18.4s,baz=176,slow=32						
SAML	**Samuel**	**27.98**	**21**	*e*P	**P**	**18 35 24.6**	**-1.8**
	comp=E,13nm,1.1s						
ATAH	**Atahualpa**	**28.64**	**349**	LR	LR	18 44 41.0	
	comp=E,455nm,18.6s,baz=191,slow=32						
PMSA	**Palmer Station**	**29.81**	**172**	LR	LR	18 47 43.2	
	comp=E,2μm,18.4s,baz=350,slow=36						
BDFB	**Brasilia**	**29.98**	**55**	P	**P**	**18 35 42.7**	**-1.6**
	comp=E,5.6nm,0.8s,baz=250,slow=11,SNR=5.1						
BDFB				LR	LR	18 49 19.5	
	comp=E,2μm,18.4s,baz=224,slow=40						
PTGA	**Pitinga**	**36.74**	**23**	P	**P**	**18 36 41.8**	**-1.2**
	comp=E,9.9nm,0.6s,baz=206,slow=8.9,SNR=14						
SDV	**Santo Domingo**	**44.23**	**4**	*e*P	**P**	**18 37 44.5**	**-0.6**
	comp=E,5.2nm,0.8s						
RCBR	**Riachuelo**	**45.26**	**58**	P	**P**	**18 37 53.1**	**-0.1**
	comp=E,1.9nm,0.4s,baz=218,slow=8.3,SNR=2.8						
VNA3	**Neumayer Olymp**	**48.33**	**157**	P	**P**	**18 38 17.3**	**+0.7**
VNA2	**Neumayer--Watz**	**49.00**	**157**	P	**P**	**18 38 22.4**	**+0.7**
	baz=290,slow=9.5						
SNAA	**Sanae**	**50.56**	**157**	P	**P**	**18 38 33.4**	**-0.3**
SNAA	**Sanae**	**50.56**	**157**	P	**P**	**18 38 33.9**	**+0.3**
	comp=E,5.9nm,1.0s,baz=293,slow=9.0,SNR=20						
RKT	**Rikitea**	**54.47**	**265**	*e*LR	LR	18 54 48.7	
	comp=E,442nm,28.2s						
QSPA	**South Pole Qui**	**54.73**	**180**	P	**P**	**18 39 05.1**	**+0.5**
	comp=E,5.5nm,0.9s,baz=162,slow=1.7,SNR=8.2						
QSPA	**South Pole Qui**	**54.73**	**180**	*e*P	**P**	**18 39 05.2**	**+0.5**
	comp=E,18nm,1.1s						
VNDA	**Vanda**	**62.43**	**192**	P	**P**	**18 40 00.2**	**+2.2**
	comp=E,0.8nm,1.0s,baz=143,slow=15,SNR=1.6						
PPT2	**Papeete2**	**69.08**	**263**	*e*LR	LR	19 01 42.8	
	comp=E,568nm,26.0s						
PPT	**Papeete**	**69.09**	**263**	LR	LR	19 05 20.7	
	comp=E,312nm,18.4s,baz=126,slow=31						
JCT	**Junction City**	**70.25**	**336**	*e*P	**P**	**18 40 49.8**	**+1.2**
	comp=E,27nm,1.3s						
TXAR	**Lajitas Array**	**70.60**	**332**	P	**P**	**18 40 51.3**	**+0.5**
	comp=E,0.7nm,0.6s,baz=156,slow=8.2,SNR=11						
TXAR				LR	LR	19 07 10.6	
	comp=E,246nm,18.2s,baz=0.0,slow=32						
OXF	**Oxford**	**71.29**	**346**	*e*P	**P**	**18 40 55.8**	**+1.0**
	comp=E,22nm,1.0s						
MAW	**Mawson**	**72.00**	**164**	LR	LR	19 13 56.6	
	comp=E,657nm,18.2s,baz=232,slow=37						
ABTX	**Abilene, Hawle**	**72.17**	**337**	*e*P	**P**	**18 41 03.2**	**+3.1**
	comp=E,32nm,1.2s						
WVT	**Waverly**	**72.57**	**348**	*e*P	**P**	**18 41 01.8**	**-0.7**
	comp=E,11nm,0.8s						
TUL1	**Leonard**	**74.11**	**341**	*e*P	P	18 41 16.7	+5.1
	comp=E,18nm,0.9s						
AMTX	**Amarillo**	**74.91**	**336**	*e*P	**P**	**18 41 17.2**	**+0.8**
	comp=E,28nm,1.0s						
121A	**Cookes Peak, D**	**75.06**	**330**	*e*P	**P**	**18 41 19.5**	**+2.2**
	comp=E,12nm,1.0s						
ACSO	**Alum Creek Sta**	**75.91**	**352**	*e*P	**P**	**18 41 21.6**	**-0.2**
	comp=E,9.1nm,0.7s						
LIC	**Lamto**	**76.16**	**72**	*e*P	**P**	**18 41 23.6**	**-0.3**
	comp=E,72nm,1.6s						
TIC	**Toumodi**	**76.43**	**72**	*e*P	**P**	**18 41 25.2**	**-0.2**
	comp=E,6.2nm,0.2s						
KIC	**Kosan Boka**	**76.47**	**72**	*e*P	**P**	**18 41 25.4**	**-0.2**
	comp=E,73nm,1.3s						
DBIC	**Dimbokro**	**76.57**	**72**	P	**P**	**18 41 26.0**	**-0.2**
	comp=E,5.9nm,0.6s,baz=207,slow=5.5,SNR=14						
DBIC				LR	LR	19 12 01.9	
	comp=E,221nm,21.1s,baz=220,slow=33						
ANMO	**Albuquerque**	**76.66**	**332**	*e*P	**P**	**18 41 27.5**	**+1.0**
	comp=E,11nm,1.1s						
ANMO				*e*pP	**pP**	**18 41 34.1**	**+2.0**
WUAZ	**Wupatki**	**79.12**	**329**	*e*P	P	18 41 45.7	+5.6
	comp=E,7.4nm,0.9s						
TSUM	**Tsumeb**	**79.72**	**106**	P	**P**	**18 41 43.9**	**0.0**
	comp=E,2.7nm,1.0s,baz=251,slow=8.3,SNR=3.6						
TSUM				LR	LR	19 14 39.8	
	comp=E,351nm,18.2s,baz=222,slow=34						
SADO	**Sadowa**	**80.09**	**356**	LR	LR	19 19 59.0	
	comp=E,163nm,18.8s,baz=220,slow=38						
BOSA	**Boshof**	**80.21**	**118**	P	**P**	**18 41 46.2**	**-0.2**
	comp=E,8.8nm,0.7s,baz=243,slow=3.2,SNR=19						
BOSA				LR	LR	19 14 06.9	
	comp=E,160nm,19.5s,baz=238,slow=33						
PV01	**Paradox Valley**	**80.27**	**332**	*e*P	**P**	**18 41 47.1**	**+0.7**
	comp=E,700nm,1.0s						
PV01				*e*pP	**PcP**	**18 41 54.0**	**+0.4**
SHPR	**Sheep Range**	**81.59**	**327**	*e*P	**P**	**18 41 53.6**	**+0.2**
	comp=E,10.0nm,1.2s						
ECSD	**EROS Data Cent**	**81.70**	**343**	*e*P	**P**	**18 41 53.0**	**-0.5**
	comp=E,7.4nm,0.6s						
MVU	**Marysvale**	**82.02**	**330**	*e*P	**P**	**18 41 57.4**	**+1.7**
	comp=E,9.7nm,1.2s						
DAU	**Daniels Canyon**	**83.28**	**332**	*e*P	**P**	**18 42 02.6**	**+0.3**
	comp=E,14nm,1.3s						
TPH	**Tonopah**	**83.81**	**327**	*e*P	**P**	**18 42 06.2**	**+1.3**
	comp=E,19nm,1.3s						
NVAR	**Mina Array Bea**	**84.59**	**326**	P	**P**	**18 42 10.7**	**+1.8**
	comp=E,0.6nm,0.7s,baz=149,slow=6.0,SNR=11						
PDAR	**Pinedale Array**	**84.69**	**334**	P	P	18 42 12.7	+3.4
	comp=E,3.4nm,1.2s,baz=145,slow=5.4,SNR=8.6						
ELK	**Elko**	**85.16**	**329**	LR	LR	19 17 42.3	
	comp=E,101nm,19.7s,baz=182,slow=34						
TORD	**Torodi Ar. Bea**	**85.62**	**71**	P	**P**	**18 42 13.5**	**-0.8**
	comp=E,3.3nm,0.9s,baz=247,slow=3.6,SNR=16						
TORD				LR	LR	19 18 28.4	
	comp=E,323nm,19.6s,baz=265,slow=34						
QLMT	**Earthquake Lak**	**87.15**	**334**	P	**P**	**18 42 22.2**	**+0.8**
	comp=E,1.0nm,1.1s						
QLMT				*e*pP	**pP**	**18 42 29.5**	**+2.4**
MCMT	**McKenzie Canyo**	**87.67**	**333**	*e*P	**P**	**18 42 24.8**	**+0.9**
	comp=E,5.6nm,1.2s						
MCMT				*e*pP	**pP**	**18 42 32.3**	**+2.6**
ULM	**Lac du Bonnet**	**87.72**	**346**	P	**P**	**18 42 23.4**	**-0.4**
	comp=E,1.1nm,0.4s,baz=149,slow=5.8,SNR=4.0						
NEW	**Newport**	**92.15**	**332**	LR	LR	19 20 19.7	
	comp=E,144nm,18.7s,baz=113,slow=33						
ESDC	**Sonseca Array**	**98.31**	**47**	LR	LR	19 26 31.6	
	comp=E,245nm,19.0s,baz=165,slow=35						
FRB	**Frobisher Bay**	**99.00**	**2**	LR	LR	19 27 59.4	
	comp=E,110nm,20.4s,baz=194,slow=35						
YKA	**Yellowknife Ar**	**103.18**	**342**	Pdiff	**Pdif**	**18 43 39.7**	**+5.7**
	comp=E,0.1nm,0.4s,baz=148,slow=3.6,SNR=3.4						
ASAR	**Alice Springs**	**115.78**	**208**	PKP	**PKPdf**	**18 48 16.9**	**-1.6**
	comp=E,0.3nm,0.6s,baz=141,slow=2.0,SNR=3.5						
WRA	**Warramunga Arr**	**118.97**	**210**	PKP	**PKPdf**	**18 48 23.3**	**-1.4**
	comp=E,0.5nm,0.6s,baz=166,slow=1.5,SNR=9.4						
MICGM	**Minsk**	**124.14**	**44**	*e*LR	LR	18 45 38.0	
FINES	**FINESS Array B**	**124.78**	**35**	PKP	**

NICH				*i* S		Sn	18 36 25.8	+1.4
TALC	**Talca**	**0.75**	**177**	⇑*i*P		Pn	18 36 18.7	+0.8
TALC				*i* S		Sn	18 36 30.5	+1.4
LNCH	**Linares**	**1.20**	**177**	⇑*i*P		Pn	18 36 22.7	-0.9
LNCH				*i* S		Sn	18 36 39.5	+0.3
ANTU	**Antumapu**	**1.39**	**39**	*e*P		Pn	18 36 27.7	+1.5
CLCH	**Cerro Calan**	**1.57**	**38**	*e*P1		Pn	18 36 30.1	+1.4
CLCH				*e*S		Sn	18 36 50.5	+2.3
CLCH				IAML			18 36 56.6	
	comp=E,1μm,1.0s							
PEL	**Peldehue**	**1.72**	**29**	⇓*i*P		Pn	18 36 31.8	+1.2
PEL				*e*S		Sn	18 36 53.9	+2.2
PEL				IAML			18 36 59.6	
	comp=N,2μm,0.4s							

ISCJB ***17*** *18:37:47.3±0.5, 35°.43S±0°.05×73°.34W±0°.05, h17km, mb4.7/17, Error ellipse: s-maj=7.0km s-min=6.0km az=38.9*
IDC ***17*** *18:37:47.2±0.6, 35°.48S×72°.90W, h0km, mb4.5/11, mb1 4.6/14, mb1mx4.4/21, mbtmp4.5/14, ML4.2/3, Error ellipse: s-maj=26.7km s-min=13.3km az=89.0*
GUC ***17*** *18:37:48.3±0.6, 35°.50S×73°.28W, h38km±4km, ML5.0*
NEIC ***17*** *18:37:52.3±0.4, 35°.43S×72°.96W, h35km, mb4.7/5, Error ellipse: s-maj=14.8km s-min=8.9km az=79.0*
ISC 17 18:37:49.2±0.5, 35°.45S±0°.05×73°.17W±0°.06, h17km, n63, σ0.92/57, mb4.6/17, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.75**	**156**	⇓*i*P	**Pb**	**18 38 03.2**	**-0.5**
COCH				*i* S	**Sg**	**18 38 13.9**	**+0.2**
TALC	**Talca**	**1.25**	**88**	⇑*i*P	**Pb**	**18 38 12.2**	**-0.1**
TALC				*i* S	**Sg**	**18 38 30.6**	**+0.9**
LNCH	**Linares**	**1.34**	**108**	⇑*i*P	**Pb**	**18 38 13.6**	**-0.2**
LNCH				*i* S	**Sg**	**18 38 32.8**	**+0.4**
NICH	**Los Niches**	**1.65**	**75**	*e*P1	**Pn**	**18 38 18.7**	**+1.3**
NICH				*i* S	**Sg**	**18 38 41.3**	**-1.0**
ANTU	**Antumapu**	**2.81**	**49**	IAML		18 39 26.4	
	comp=E,4μm,1.1s						
CLCH	**Cerro Calan**	**2.99**	**47**	IAML		18 39 39.8	
	comp=N,4μm,2.1s						
CFAA	**Coronel Fontan**	**5.62**	**48**	Lg	Lg	18 40 40.0	
	comp=N,0.4nm,0.3s,baz=300,slow=20,SNR=2.6						
PLCA	**Paso Flores**	**5.66**	**159**	Pn	**Pn**	**18 39 13.1**	**+0.5**
	comp=N,2.3nm,0.3s,baz=331,slow=14,SNR=9.3						
PLCA				Lg	Lg	18 40 43.1	
	comp=N,2.6nm,0.3s,baz=270,slow=20,SNR=2.7						
TRQA	**Tornquist**	**9.35**	**109**	*e*P	**Pn**	**18 40 04.5**	**+1.3**
LVC	**Limon Verde**	**13.32**	**17**	P	Pn	18 40 50.5	-7.3
	comp=N,21nm,1.1s						
LPAZ	**La Paz**	**19.61**	**15**	P	**Pn**	**18 42 18.8**	**+0.1**
	comp=N,0.2nm,0.3s,baz=172,slow=6.6,SNR=18						
LPAZ	**La Paz**	**19.61**	**15**	*e*P	**P**	**18 42 17.3**	**-0.1**
	comp=N,17nm,1.0s						
USHA	**Ushuaia**	**19.66**	**172**	P	**Pn**	**18 42 18.5**	**+0.1**
	comp=N,0.6nm,0.3s,baz=354,slow=10,SNR=4.7						
SIV	**San Ignacio**	**22.19**	**32**	P	**P**	**18 42 43.7**	**-1.1**
	comp=N,16nm,0.9s,baz=191,slow=10,SNR=16						
BDFB	**Brasilia**	**29.92**	**55**	P	**P**	**18 43 54.8**	**-1.6**
	comp=N,6.4nm,0.8s,baz=228,slow=11,SNR=5.6						
PTGA	**Pitinga**	**36.66**	**22**	P	**P**	**18 44 54.6**	**-0.5**
	comp=N,7.2nm,0.7s,baz=205,slow=8.4,SNR=8.0						
PTGA	**Pitinga**	**36.66**	**22**	*e*P	**P**	**18 44 54.8**	**-0.3**
VNA3	**Neumayer Olymp**	**48.38**	**157**	P	**P**	**18 46 30.6**	**+0.9**
VNA1	**Neumayer--Stat**	**48.72**	**156**	P	**P**	**18 46 33.8**	**+1.6**
VNA2	**Neumayer--Watz**	**49.05**	**157**	P	**P**	**18 46 35.9**	**+1.1**
	baz=296,slow=8.8						
SNAA	**Sanae**	**50.60**	**157**	P	**P**	**18 46 47.4**	**+0.7**
SNAA	**Sanae**	**50.60**	**157**	*e*P	**P**	**18 46 47.2**	**+0.5**
	comp=N,9.5nm,1.1s,baz=281,slow=7.9,SNR=20						
SNAA	**Sanae**	**50.60**	**157**	*e*P	**P**	**18 46 47.2**	**+0.5**
	comp=N,58nm,1.3s						
QSPA	**South Pole Qui**	**54.79**	**180**	P	**P**	**18 47 18.3**	**+0.5**
	comp=N,4.9nm,0.8s,baz=163,slow=2.1,SNR=18						
LIC	**Lamto**	**76.11**	**72**	*e*P	**P**	**18 49 36.6**	**+0.2**
	comp=N,46nm,1.3s						
TIC	**Toumodi**	**76.38**	**72**	*e*P	**P**	**18 49 38.3**	**+0.4**
	comp=N,5.7nm,0.2s						
KIC	**Kosan Boka**	**76.42**	**72**	*e*P	**P**	**18 49 38.6**	**+0.5**
	comp=N,32nm,0.8s						
DBIC	**Dimbokro**	**76.52**	**72**	P	**P**	**18 49 39.1**	**+0.4**
	comp=N,10nm,0.7s,baz=204,slow=5.3,SNR=17						
BOSA	**Boshof**	**80.22**	**118**	P	**P**	**18 49 59.1**	**0.0**
	comp=N,12nm,1.0s,baz=232,slow=4.9,SNR=12						
ECSD	**EROS Data Cent**	**81.65**	**343**	*e*P	**P**	**18 50 06.9**	**+0.9**
	comp=N,7.2nm,0.8s						
LBTB	**Lobatse**	**82.53**	**115**	*e*P	**P**	**18 50 09.4**	**-2.1**
	comp=N,27nm,1.5s						
NVAR	**Mina Array Bea**	**84.55**	**326**	P	P	18 50 24.9	+3.4
	comp=N,1.0nm,1.0s,baz=152,slow=4.1,SNR=7.2						
PDAR	**Pinedale Array**	**84.64**	**334**	P	**P**	**18 50 24.6**	**+2.7**
	comp=N,0.2nm,0.3s,baz=151,slow=6.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**85.57**	**71**	P	**P**	**18 50 26.9**	**0.0**
	comp=N,3.3nm,0.8s,baz=246,slow=3.8,SNR=16						
MCMT	**McKenzie Canyo**	**87.62**	**333**	P	**P**	**18 50 38.1**	**+1.5**
	comp=N,1.8nm,1.0s						
ULM	**Lac du Bonnet**	**87.66**	**346**	P	**P**	**18 50 36.7**	**+0.5**
	comp=N,1.1nm,0.4s,baz=185,slow=5.1,SNR=3.7						
YKA	**Yellowknife Ar**	**103.13**	**342**	Pdiff	**Pdif**	**18 51 45.5**	**-1.0**
	comp=N,0.1nm,0.3s,baz=148,slow=5.1,SNR=3.9						
GERES	**GERESS Array B**	**113.83**	**46**	PKiKP	**PKiKP**	**18 56 25.7**	**-0.9**
	comp=N,0.2nm,0.3s,baz=225,slow=0.2,SNR=3.9						
ASAR	**Alice Springs**	**115.86**	**208**	PKP	**PKPdf**	**18 56 30.3**	**-1.0**
	comp=N,0.4nm,0.7s,baz=191,slow=1.5,SNR=3.6						
WRA	**Warramunga Arr**	**119.05**	**210**	PKP	**PKPdf**	**18 56 36.3**	**-1.3**
	comp=N,0.5nm,0.6s,baz=166,slow=1.5,SNR=7.5						
BRTR	**Keskin Array B**	**123.34**	**62**	PKP	**PKPdf**	**18 56 44.8**	**-0.5**
	comp=N,0.9nm,0.7s,baz=253,slow=1.9,SNR=5.7						
FINES	**FINESS Array B**	**124.71**	**35**	PKP	**PKPdf**	**18 56 46.2**	**-0.7**
	comp=N,1.4nm,0.8s,baz=276,slow=2.7,SNR=4.6						
H11S2	**WAKE ISLAND Hyl**	**24.81**	**269**	T	T	21 15 12.5	
	baz=123						
H11S1	**WAKE ISLAND Hyl**	**24.83**	**269**	T	T	21 15 10.4	
	baz=123						
H11S3	**WAKE ISLAND Hyl**	**24.83**	**269**	T	T	21 15 13.7	
	baz=123						
H11N3	**WAKE ISLAND Hyl**	**25.26**	**270**	T	T	21 15 33.1	
	baz=116,slow=74						
H11N1	**WAKE ISLAND Hyl**	**25.28**	**270**	T	T	21 15 34.4	
	baz=116						
H11N2	**WAKE ISLAND Hyl**	**25.28**	**270**	T	T	21 15 34.4	
	baz=116,slow=74						
SEY	**Seymchan**	**140.81**	**329**	PKP	**PKPdf**	**18 57 18.7**	**+1.6**
	comp=N,1.0nm,0.2s,baz=18,slow=20,SNR=3.8						
AKTO	**Aktyubinsk**	**141.97**	**51**	PKhKP	PKPpre	18 57 15.9	
	comp=N,1.0nm,0.7s,baz=318,slow=3.0,SNR=6.1						
ABKAR	**Akbulak array**	**143.30**	**53**	*e*PKPpre	PKPpre	18 57 18.7	
BVAR	**Borovoye Array**	**148.97**	**44**	PKP	**PKPdf**	**18 57 32.3**	**+0.7**
	comp=N,6.6nm,0.7s,baz=336,slow=3.2,SNR=28						
BVAR				PKPbc	**PKiKP**	**18 57 36.3**	**-0.6**
	comp=N,6.6nm,0.7s,baz=289,slow=3.5,SNR=36						
HYB	**Hyderabad**	**149.12**	**118**	*i* PKP	**PKPbc**	**18 57 35.5**	**-1.6**
YAK	**Yakutsk**	**149.76**	**339**	*e*PKPdf	**PKPbc**	**18 57 36.5**	**-0.7**
KKAR	**Karatay Array**	**151.04**	**64**	*e*PKPdf	**PKPbc**	**18 57 40.3**	**-0.6**
EKS2	**Erkin-Say**	**153.46**	**64**	*e*PKPbc	**PKPbc**	**18 57 46.8**	**+0.2**
KURBB	**Kurchatov Arra**	**154.56**	**45**	PKPbc	**PKPbc**	**18 57 48.6**	**+0.1**
	comp=N,2.7nm,0.8s,baz=299,slow=2.7,SNR=15						
KURK	**Kurchatov**	**154.57**	**44**	PKPbc	**PKPbc**	**18 57 48.6**	**+0.1**
ZALV	**Zalesovo Beam**	**155.94**	**33**	PKP	**PKPdf**	**18 57 41.5**	**-0.3**
	comp=N,2.5nm,0.9s,baz=302,slow=2.7,SNR=6.5						
ZALV				PKPab	**PKPab**	**18 58 09.3**	**+0.4**
	comp=N,3.4nm,0.7s,baz=305,slow=5.0,SNR=7.3						
MKAR	**Makanchi Array**	**158.41**	**51**	PKP	**PKPdf**	**18 57 45.3**	**+0.1**
	comp=N,0.3nm,0.5s,baz=316,slow=4.0,SNR=5.2						
MKAR				PKPab	**PKPab**	**18 58 19.8**	**-0.1**
	comp=N,2.0nm,0.8s,baz=286,slow=5.8,SNR=8.3						
CMAR	**Chiang Mai Arr**	**161.69**	**156**	PKP	**PKPdf**	**18 57 49.8**	**+0.1**
	comp=N,0.3nm,0.8s,baz=211,slow=5.1,SNR=3.1						
CMAR				PKPab	**PKPab**	**18 58 33.3**	**-1.4**
	comp=N,0.6nm,0.9s,baz=205,slow=3.7,SNR=3.0						
SONM	**Songino Array**	**167.62**	**1**	PKPab	**PKPab**	**18 59 00.6**	**+0.4**
	comp=N,0.9nm,0.8s,baz=345,slow=5.1,SNR=7.2						
ENH	**Enshi**	**174.38**	**204**	PFAKE		18 58 10.0	+12
ENH				LR	LR		
	comp=Z,203nm,20.0s						

IDC 17 18:52:00.6±2.2, 26°.91S×176°.65W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/16, mbtmp3.4/2, ML4.8/1, Error ellipse: s-maj=62.2km s-min=29.4km az=114.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.59**	**205**	Pn	Pn	18 52 43.6	-0.1
	192nm,0.3s,baz=37,slow=20,SNR=2.8						
RAO				Sn	Sn	18 53 15.7	-0.1
	605nm,0.3s,baz=72,slow=20,SNR=5.3						
URZ	**Urewera**	**12.48**	**203**	Sn	Sn	18 57 02.0	-17
	0.8nm,0.3s,baz=90,slow=20,SNR=4.4						
ASAR	**Alice Springs**	**44.60**	**263**	P	P	19 00 14.7	-0.2
	0.2nm,0.3s,baz=102,slow=7.7,SNR=4.9						
WRA	**Warramunga Arr**	**45.28**	**268**	P	P	19 00 20.5	+0.2
	0.4nm,0.6s,baz=104,slow=8.5,SNR=6.3						
NOA	**NORSAR Array B**	**145.47**	**353**	PKPbc	PKPbc	19 11 39.3	-0.8
	0.5nm,0.7s,baz=12,slow=4.4,SNR=3.5						
AKASG	**Malin Array Be**	**149.13**	**327**	PKPbc	PKPbc	19 11 49.9	-0.7
	0.4nm,0.4s,baz=32,slow=2.4,SNR=2.2						

MOS ***17*** *18:57:42.2±1.4, 49°.59N×156°.11E, h14km, mb4.2/1, Error ellipse: s-maj=81.2km s-min=8.6km az=77.4*
KRSC 17 18:57:50.1±1.9, 49°.98N×156°.94E, h41km±27km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.88**	**324**	*e*PN	Pn	18 58 01.2	-4.8
SKR				*i* S	Sn	18 58 12.3	-5.3
SKR				smax	smax		
	comp=N,3μm,0.4s						
SKR	**Severo-Kuril's**	**0.88**	**324**	*i* P	Pn	18 58 05.5	-0.5
SKR				*i* S	Sn	18 58 16.8	-0.8
PAU	**Pauzhetka**	**1.49**	**357**	PN	Pn	18 58 15.9	+1.5
PAU	**Pauzhetka**	**1.49**	**357**	*e*P	Pn	18 58 15.9	+1.5
PAU				*e*S	Sn	18 58 35.2	+2.5
MTVR	**Mutnovka**	**2.63**	**17**	P	Pn	18 58 33.8	+3.6
MTVR				S	Sn	18 59 05.2	+4.2
RUS	**Russkaya**	**2.65**	**21**	PN	Pn	18 58 33.1	+2.8
RUS	**Russkaya**	**2.65**	**21**	*e*P	Pn	18 58 33.1	+2.8
RUS				*e*S	Sn	18 59 04.0	+2.9
PET	**Petropavlovsk**	**3.23**	**19**	S	Sn	18 59 20.7	+5.2
UGLR	**Uglovaya**	**3.44**	**19**	P	Pn	18 58 46.4	+5.1
AVH	**Avacha**	**3.48**	**18**	PN	Pn	18 58 45.8	+4.0
AVH	**Avacha**	**3.48**	**18**	P	Pn	18 58 45.8	+4.0
KOK	**Koryaka**	**3.48**	**17**	PN	Pn	18 58 46.6	+4.7
KOK	**Koryaka**	**3.48**	**17**	P	Pn	18 58 46.6	+4.7
SMAR	**Somma**	**3.49**	**19**	PN	Pn	18 58 46.6	+4.5
SMAR	**Somma**	**3.49**	**19**	P	Pn	18 58 46.6	+4.5
KRER	**Koryakskii**	**3.52**	**18**	P	Pn	18 58 46.5	+4.0
SDLR	**Sedlovina**	**3.52**	**19**	PN	Pn	18 58 45.9	+3.5
SDLR	**Sedlovina**	**3.52**	**19**	P	Pn	18 58 45.9	+3.5
KRX	**Arik**	**3.55**	**17**	P	Pn	18 58 47.2	+4.4
GNL	**Ganaly**	**3.77**	**9**	PN	Pn	18 58 50.0	+4.1
GNL	**Ganaly**	**3.77**	**9**	P	Pn	18 58 50.0	+4.1
TUMR	**Tumrok**	**5.66**	**19**	PN	Pn	18 59 16.3	+4.5
TUMR	**Tumrok**	**5.66**	**19**	P	Pn	18 59 16.3	+4.5
KBTR	**Krutoberegovo**	**7.17**	**27**	PN	Pn	18 59 35.1	+2.8
KBTR	**Krutoberegovo**	**7.17**	**27**	P	Pn	18 59 35.1	+2.8

IDC ***17*** *19:00:02.2±0.5, 36°.67S×73°.00W, h0km, mb4.6/21, mb1 4.8/22, mb1mx4.7/27, mbtmp4.6/22, ML3.6/2, MS4.0/14, Ms1 4.0/14, ms1mx3.9/28, Error ellipse: s-maj=19.2km s-min=13.8km az=70.0*
GUC ***17*** *19:00:04.2±0.7, 36°.75S×73°.32W, h44km±35km, ML5.2*
ISCJB ***17*** *19:00:05.2±1.0, 36°.62S±0°.04×72°.95W±0°.06, h26km±7km, mb4.8/76, MS4.0/11, Error ellipse: s-maj=8.1km s-min=6.6km az=9.4*
NEIC ***17*** *19:00:06.8±0.2, 36°.60S×72°.91W, mb5.0/56, ML5.2(GUC), Error ellipse: s-maj=8.2km s-min=5.9km az=66.0*
NEIC Felt [V] at Concepcion and [IV] at Talcahuano. Also felt at Chiguayante, Coronel and Tome.
MOS ***17*** *19:00:06.4±1.0, 36°.60S×72°.83W, h33km, mb5.3/21, Error ellipse: s-maj=23.3km s-min=9.3km az=102.6*
BJI ***17*** *19:00:07.5, 36°.50S×72°.90W, h35km, mB5.1/8, Ms5.2/8, Ms7 5.0/6*
ISC 17 19:00:06.4±0.5, 36°.65S±0°.05×73°.10W±0°.06, h30km±3km, h30km: pP-P, n451, σ1.32/466, mb4.9/76, MS4.0/11, 130C-136D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.20**	**182**	⇑*i*P	**Pb**	**19 00 12.0**	**-0.6**
CCSP				*i* S4	**Sb**	**19 00 15.8**	**-1.0**
LNCH	**Linares**	**1.45**	**57**	⇑*i*P	**Pb**	**19 00 32.9**	**+0.1**
LNCH				*i* S1	**Sb**	**19 00 53.1**	**+2.2**
LNCH				AML	AML	19 01 00.5	
	comp=E,27μm,0.7s						
TALC	**Talca**	**1.72**	**44**	*e*P1	**Pn**	**19 00 35.1**	**+0.7**
TALC				*i* S1	**Sb**	**19 00 58.8**	**+0.1**
NICH	**Los Niches**	**2.24**	**43**	AML	AML	19 01 30.9	
	comp=E,23μm,0.7s						
LNV	**Longovilo**	**3.02**	**28**	*e*P1	**Pn**	**19 00 52.6**	**+0.4**
CACH	**El Canelo**	**3.25**	**40**	⇓*i*P	**Pn**	**19 00 56.4**	**+0.9**
CLCH	**Cerro Calan**	**3.87**	**34**	⇑*i*P	**Pn**	**19 01 04.8**	**+0.8**
PEL	**Peldehue**	**4.02**	**30**	⇓*i*P	**Pn**	**19 01 06.3**	**+0.2**
PLCA	**Paso Flores**	**4.54**	**155**	P	Pb	19 01 19.4	-6.0
PLCA	**Paso Flores**	**4.54**	**155**	LR	LR	19 03 08.9	
	comp=E,2μm,18.1s,baz=350,slow=42						
PLCA	**Paso Flores**	**4.54**	**155**	P	Pb	19 01 19.4	-6.0
CFAA	**Coronel Fontan**	**6.45**	**40**	Pn	**Pn**	**19 01 39.6**	**+0.3**
	comp=E,0.9nm,0.3s,baz=211,slow=14,SNR=12						
CFAA				Sn	**Sn**	**19 02 53.4**	**+1.5**
	comp=E,0.7nm,0.3s,baz=210,slow=17,SNR=2.1						
CFAA				LR	LR	19 04 19.1	
	comp=E,203nm,18.1s,baz=222,slow=40						
LCO	**Las Campanas**	**7.88**	**16**	*e*Pn	**Pn**	**19 01 57.9**	**-1.3**
TRQA	**Tornquist**	**8.97**	**102**	*e*P	**Pn**	**19 02 15.6**	**+1.7**
LVC	**Limon Verde**	**14.45**	**16**	*e*P	**Pn**	**19 03 26.6**	**-2.5**
USHA	**Ushuaia**	**18.47**	**171**	P	**Pn**	**19 04 20.5**	**+0.7**
	comp=E,0.2nm,0.3s,baz=208,slow=4.2,SNR=3.2						
USHA				LR	LR	19 11 01.8	
	comp=E,628nm,19.3s,baz=24,slow=36						
LPAZ	**La Paz**	**20.75**	**14**	*e*P	Pn	19 04 47.2	-0.9
LPAZ	**La Paz**	**20.75**	**14**	P	Pn	19 04 47.0	-1.1
	comp=E,17nm,0.8s,baz=188,slow=8.5,SNR=30						
LPAZ	**La Paz**	**20.75**	**14**	*e*Pn	Pn	19 04 47.2	-0.9
SIV	**San Ignacio**	**23.19**	**31**	P	**P**	**19 05 10.6**	**-0.1**
	comp=E,26nm,1.0s,baz=215,slow=11,SNR=30						
SIV				LR	LR	19 15 23.5	
	comp=E,471nm,20.0s,baz=202,slow=40						
NNA	**Nana**	**24.79**	**351**	P	**P**	**19 05 26.2**	**+0.4**
	comp=E,13nm,0.8s,baz=200,slow=6.7,SNR=3.9						
NNA				LR	LR	19 12 50.6	
	comp=E,343nm,19.2s,baz=185,slow=31						
PMSA	**Palmer Station**	**28.68**	**172**	LR	LR	19 17 03.0	
	comp=E,660nm,19.1s,baz=318,slow=36						
SAML	**Samuel**	**29.01**	**21**	*e*P	**P**	**19 06 04.0**	**+0.3**
	comp=E,29nm,1.9s						
ATAH	**Atahualpa**	**29.77**	**349**	LR	LR	19 15 11.4	
	comp=E,271nm,20.1s,baz=205,slow=30						
BDFB	**Brasilia**	**30.57**	**53**	P	**P**	**19 06 16.8**	**-0.9**
	comp=E,4.2nm,0.5s,baz=180,slow=7.1,SNR=4.3						
BDFB				LR	LR	19 19 51.0	
	comp=E,526nm,18.2s,baz=221,slow=39						
RPN	**Rapa Nui**	**32.04**	**277**	LR	LR	19 15 42.7	
	comp=E,194nm,19.6s,baz=112,slow=29						
OTAV	**Otavalo**	**37.04**	**351**	P	**P**	**19 07 12.1**	**-2.1**
	comp=E,50nm,1.6s						
ROSC	**El Rosal**	**41.30**	**358**	LR	LR	19 23 36.3	
	comp=E,147nm,18.4s,baz=267,slow=34						
SDV	**Santo Domingo**	**45.35**	**3**	*e*P	**P**	**19 08 19.8**	**-2.4**
	comp=E,12nm,0.9s						
VNA3	**Neumayer Olymp**	**47.26**	**157**	P	**P**	**19 08 38.2**	**+1.8**
VNA2	**Neumayer--Watz**	**47.93**	**156**	P	**P**	**19 08 42.8**	**+1.2**
JTS	**JuntasAbangare**	**48.00**	**344**	*e*P	**P**	**19 08 44.6**	**+1.9**
JTS	**JuntasAbangare**	**48.00**	**344**	*e*P	**P**	**19 08 44.7**	**+1.9**
	comp=E,16nm,1.1s						
SNAA	**Sanae**	**49.48**	**157**	P	**P**	**19 08 54.8**	**+1.2**
SNAA	**Sanae**	**49.48**	**157**	*e*P	**P**	**19 08 53.4**	**-0.2**
SNAA				*e*PP	**pP**	**19 09 02.0**	**-0.7**
SNAA	**Sanae**	**49.48**	**157**	P	**P**	**19 08 53.8**	**+0.3**
	comp=E,1.8nm,0.8s,baz=264,slow=9.6,SNR=4.1						
SNAA	**Sanae**	**49.48**	**157**	*e*P	**P**	**19 08 53.4**	**-0.2**
SNAA				*e*pP	**pP**	**19 09 02.0**	**-0.7**
QSPA	**South Pole Qui**	**53.59**	**180**	*e*P	**P**	**19 09 25.6**	**+1.1**
	comp=E,38nm,1.3s						
QSPA				*e*pP	**pP**	**19 09 33.5**	**-0.2**
APG	**El Apazote**	**53.93**	**339**	LR	LR	19 27 07.4	
	comp=E,157nm,18.3s,baz=94,slow=30						
NVL	**N'lazarevskaya**	**54.25**	**156**	*e*P	**P**	**19 09 29.5**	**+0.5**
NVL				pmax	pmax		
	comp=Z,13nm,1.1s						
CMIG	**Matias Romero**	**57.27**	**335**	LR	LR	19 28 15.5	
	comp=Z,103nm,18.4s,baz=178,slow=30						
VNDA	**Vanda**	**61.34**	**192**	P	**P**	**19 10 20.0**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=105,slow=6.8,SNR=3.4						
SYO	**Syowa Base**	**63.73**	**158**	⇓*e*P	**P**	**19 10 33.2**	**-1.5**
SYO	**Syowa Base**	**63.73**	**158**	⇓*e*pP	pP	19 10 41.6	-2.5
035A	**Encino**	**67.49**	**336**	⇑P	**P**	**19 11 01.5**	**+2.0**
	baz=68						
034A	**Hebbronville**	**67.80**	**335**	⇓P	**P**	**19 11 03.7**	**+2.2**
	baz=68						
TIGA	**Tifton**	**68.44**	**350**	⇑P	**P**	**19 11 05.5**	**+0.2**
	baz=69						
933A	**Laredo**	**68.50**	**335**	⇓P	**P**	**19 11 08.1**	**+2.2**
	baz=69						
834A	**Tilden**	**68.74**	**336**	⇓P	**P**	**19 11 09.4**	**+2.1**
	baz=69						
735A	**Kenedy**	**69.17**	**337**	⇑P	**P**	**19 11 11.9**	**+1.9**
	baz=70						
833A	**Chaparral WMA,**	**69.20**	**335**	⇓P	**P**	**19 11 11.9**	**+1.8**
	baz=70						
832A	**Faith Ranch, C**	**69.36**	**335**	⇑P	**P**	**19 11 12.5**	**+1.4**
	baz=70						
734A	**La Parita Cree**	**69.41**	**336**	⇓P	**P**	**19 11 12.8**	**+1.4**
	baz=70						
636A	**Smothers Creek**	**69.53**	**338**	⇓P	**P**	**19 11 13.8**	**+1.7**
	baz=70,SNR=6.0						
HKT	**Hockley**	**69.60**	**339**	P	**P**	**19 11 11.1**	**-1.4**
HKT				pmax	pmax		
	comp=Z,6.0nm,1.2s						
HKT	**Hockley**	**69.60**	**339**	P	**P**	**19 11 11.1**	**-1.4**
	comp=Z,6.5nm,1.2s						
732A	**Laxson Ranch,**	**69.77**	**335**	⇓P	**P**	**19 11 15.2**	**+1.5**
	baz=70						
537A	**Green Hill Far**	**69.86**	**339**	⇓P	**P**	**19 11 15.6**	**+1.4**
	baz=70						
633A	**Saathoff Ranch**	**70.17**	**336**	⇓P	**P**	**19 11 17.3**	**+1.1**
	baz=70						
535A	**Dale**	**70.19**	**338**	⇓P	**P**	**19 11 18.0**	**+1.8**
	baz=70						
GOGA	**Godfrey**	**70.37**	**351**	*e*P	**P**	**19 11 17.1**	**-0.1**
GOGA				pmax	pmax		
	comp=Z,11nm,0.8s						
GOGA	**Godfrey**	**70.37**	**351**	*e*P	**P**	**19 11 17.1**	**-0.1**
	comp=Z,11nm,0.8s						
632A	**Uvalde**	**70.42**	**335**	⇓P	**P**	**19 11 18.7**	**+1.0**
	baz=71,SNR=9.2						
631A	**Perdido Creek**	**70.60**	**335**	⇑P	**P**	**19 11 19.9**	**+1.1**
	baz=71						
436A	**Wall Ranch, Ga**	**70.65**	**338**	⇓P	**P**	**19 11 20.7**	**+1.7**
	baz=71						
533A	**Kerrville**	**70.69**	**336**	⇑P	**P**	**19 11 21.1**	**+1.7**
	baz=71						
MAW	**Mawson**	**70.89**	**164**	LR	LR	19 41 33.6	
	comp=Z,206nm,21.1s,baz=238,slow=35						
532A	**Rocksprings**	**71.03**	**336**	⇑P	**P**	**19 11 22.6**	**+1.2**
	baz=71,SNR=17						
434A	**Burnet**	**71.14**	**337**	⇑P	**P**	**19 11 22.7**	**+0.6**
	baz=72,SNR=5.4						
239A	**Gary**	**71.18**	**341**	⇓P	**P**	**19 11 23.7**	**+1.6**
	baz=72						
336A	**Riesel**	**71.24**	**339**	⇑P	**P**	**19 11 23.9**	**+1.3**
	baz=72						
531A	**Rocksprings**	**71.28**	**335**	⇑P	**P**	**19 11 24.0**	**+1.1**
	baz=72,SNR=7.6						
JCT	**Junction City**	**71.32**	**336**	*e*P	**P**	**19 11 24.0**	**+0.8**
JCT				pmax	pmax		
	comp=Z,23nm,0.8s						
JCT	**Junction City**	**71.32**	**336**	⇑P	**P**	**19 11 23.9**	**+0.8**
	baz=72,SNR=8.2						
JCT	**Junction City**	**71.32**	**336**	*e*P	**P**	**19 11 24.0**	**+0.8**
	comp=Z,23nm,0.8s						

baz=75
Z28A Tucker Farm, M 74.76 335 ⇑P P 19 11 44.1 +0.6
baz=75
X32A Elmer 74.80 338 ⇓P P 19 11 44.4 +0.8
baz=75
Y29A Porterfield Fa 75.04 336 ⇓P P 19 11 45.8 +0.7
baz=75
X31A McDonald Ranch 75.21 337 ⇓P P 19 11 46.8 +0.8
baz=76
TUL1 Leonard 75.21 341 ⇓P P 19 11 46.6 +0.7
baz=76
W33A Caddo, Fort Co 75.24 339 ⇓P P 19 11 47.2 +1.1
baz=76
Y28A McKinney Farm, 75.28 335 ⇑P P 19 11 47.5 +0.9
baz=76
W32A Sentinel 75.44 338 ⇓P P 19 11 48.1 +0.8
baz=76
MSTX Muleshoe 75.51 335 ⇑P P 19 11 48.5 +0.7
baz=76
Y27A Causey 75.57 335 ⇓P P 19 11 49.0 +0.8
baz=76
X29A Tulia 75.59 336 ⇑P P 19 11 49.1 +0.8
baz=76
V34A Guthrie 75.60 340 ⇓P P 19 11 49.0 +0.8
baz=76
319A Douglas 75.68 329 ⇑P P 19 11 50.2 +1.2
baz=76
W31A Holland Ranch, 75.71 338 ⇑P P 19 11 49.8 +0.9
baz=76
V33A Lossen Ranch, 75.81 339 ⇓P P 19 11 50.3 +0.9
baz=76
X28A Dimmitt 75.82 336 ⇑P P 19 11 51.0 +1.4
baz=76
V32A Arapaho 75.94 338 ⇑P P 19 11 51.2 +1.0
baz=76
AMTX Amarillo 75.98 336 ⇓P P 19 11 51.6 +1.1
baz=76
AMTX Amarillo 75.98 336 eP P 19 11 49.9 -0.6
comp=Z,19nm,1.1s
121A Cookes Peak, D 76.08 330 ⇑P P 19 11 52.7 +1.5
baz=76,SNR=7.4
121A Cookes Peak, D 76.08 330 eP P 19 11 52.7 +1.5
comp=Z,9.1nm,0.9s
U34A Anderson Ranch 76.17 340 ⇓P P 19 11 52.0 +0.6
baz=76
V31A Spring Creek L 76.22 338 ⇑P P 19 11 53.3 +1.5
baz=77
X26A CR and CF Fran 76.40 334 ⇑P P 19 11 54.0 +1.0
baz=77,SNR=6.1
Z22A Elephant Butte 76.40 331 ⇑P P 19 11 54.6 +1.6
baz=77,SNR=9.7
Y24A Capitan 76.42 333 ⇑P P 19 11 54.2 +1.1
baz=77,SNR=7.5
DBIC Dimbokro 76.85 71 eP P 19 11 55.8 0.0
DBIC e*PP pP 19 12 04.6 -0.7
DBIC pmax pmax
comp=Z,86nm,2.1s
DBIC Dimbokro 76.85 71 P P 19 11 56.3 +0.5
comp=Z,6.3nm,0.6s,baz=201,slow=5.6,SNR=13
DBIC LR LR 19 43 42.4
comp=Z,67nm,18.3s,baz=242,slow=34
DBIC Dimbokro 76.85 71 eP P 19 11 55.8 0.0
comp=Z,86nm,2.1s
DBIC epP pP 19 12 04.6 -0.7
W26A Owens Ranch, T 76.87 335 ⇓P P 19 11 57.5 +1.9
baz=77
T33A Patterson Ranc 76.97 340 ⇓P P 19 11 57.0 +1.1
baz=77
ACSO Alum Creek Sta 77.05 352 eP P 19 11 56.3 0.0
comp=Z,25nm,0.7s
TUC Tucson 77.13 328 eP P 19 11 59.1 +2.1
TUC pmax pmax
comp=Z,10.0nm,1.1s
TUC Tucson 77.13 328 eP P 19 11 59.1 +2.1
comp=Z,10nm,1.1s
LPM Los Pinos Moun 77.21 332 eP P 19 11 59.5 +1.9
W25A X Bar L Ranch, 77.23 334 ⇓P P 19 11 58.2 +0.6
baz=78,SNR=6.5
S33A Kaszmaul Farm, 77.39 340 ⇑P P 19 11 59.3 +1.1
baz=78
U28A Mallet 77.53 336 ⇑P P 19 12 00.4 +1.2
baz=78
W24A Lazy 6 Ranch, 77.56 333 ⇑P P 19 12 00.3 +0.8
baz=78,SNR=8.0
ANMO Albuquerque 77.71 332 ⇑iP P 19 12 01.7 +1.3
ANMO pmax pmax
comp=Z,67nm,1.2s
ANMO Albuquerque 77.71 332 P P 19 12 01.8 +1.5
comp=Z,8.7nm,1.0s,baz=146,slow=7.3,SNR=17
ANMO Albuquerque 77.71 332 eP P 19 12 01.5 +1.1
comp=Z,15nm,1.1s
214A Organ Pipe Nat 77.71 326 ⇑P P 19 12 01.7 +1.5
baz=78
S32A Newby Ranch, P 77.75 339 ⇓P P 19 12 01.8 +1.5
baz=78
U27A Thompson Grove 77.76 336 ⇓P P 19 12 01.8 +1.3
baz=78
S31A Mullinville 77.83 339 ⇓P P 19 12 01.9 +1.1
baz=78
V25A Rancho No Teng 77.84 334 ⇓P P 19 12 01.8 +0.7
baz=78,SNR=9.2
V24A Rampart Ranch, 77.97 334 ⇑P P 19 12 02.6 +0.8
baz=78,SNR=5.6
U26A Atchley Ranch, 78.04 335 ⇓P P 19 12 03.4 +1.2
baz=78
S30A Montezuma 78.14 338 ⇓P P 19 12 04.0 +1.5
baz=78
T28A Walsh 78.17 337 ⇓P P 19 12 03.8 +1.1
baz=78
U25A Circle Dot Ran 78.28 335 ⇑P P 19 12 04.4 +0.9
baz=79,SNR=5.2
T27A Campo 78.31 336 ⇑P P 19 12 04.9 +1.3
baz=79
Q33A Connelly Farm, 78.66 341 ⇓P P 19 12 06.1 +0.8
baz=79
T26A Comanche Natio 78.70 336 ⇑P P 19 12 07.1 +1.3
baz=79
V22A San Miguel Ran 78.73 333 ⇓P P 19 12 08.0 +1.9
baz=79,SNR=17
113A Mohawk Valley, 78.83 326 ⇓P P 19 12 08.5 +2.1
baz=79
Q32A Meitler Ranch, 78.85 340 ⇑P P 19 12 07.1 +0.8
baz=79
T25A Trinidad 78.94 335 ⇑P P 19 12 09.0 +1.8
baz=79
R29A Marienthal 79.06 338 ⇓P P 19 12 09.2 +1.6
baz=79
S26A Kim 79.07 336 ⇓P P 19 12 09.2 +1.5
baz=79
Q31A Ellis 79.09 339 ⇑P P 19 12 08.9 +1.1
baz=79
W18A Petrified Fore 79.12 330 ⇑P P 19 12 10.3 +2.2
baz=80
W18A Petrified Fore 79.12 330 eP P 19 12 10.3 +2.2
comp=Z,18nm,1.0s
U22A Llaves 79.13 333 ⇓P P 19 12 10.3 +2.1
baz=80
R28A Tribune 79.19 337 ⇓P P 19 12 09.7 +1.3
baz=80
T24B San Luis 79.21 334 ⇑P P 19 12 10.7 +1.9
baz=80
X16A Lo Mia Camp, P 79.22 329 ⇑P P 19 12 10.4 +1.6
baz=80,SNR=7.3
Q30A Quinter 79.30 339 ⇓P P 19 12 10.5 +1.6
baz=80
TSUM Tsumeb 79.32 106 P P 19 12 10.6 +0.9
comp=Z,1.5nm,0.5s,baz=216,slow=7.6,SNR=7.0
T23A Casias Ranch, 79.42 334 ⇑P P 19 12 11.5 +1.7
baz=80
S25A Robets Cordova 79.42 335 ⇑P P 19 12 11.3 +1.6
baz=80
Q29A Oakley 79.45 338 ⇓P P 19 12 10.6 +0.9
baz=80
P32A Huiting Farm, 79.45 340 ⇑P P 19 12 10.8 +1.2
baz=80
R27A Eads 79.45 337 ⇓P P 19 12 10.8 +1.0
baz=80
Y14A Wickenburg 79.48 327 ⇓P P 19 12 12.0 +2.0
baz=80
GLA Glamis 79.55 325 ⇑P P 19 12 12.6 +2.3
baz=80
BOSA Boshof 79.61 118 P P 19 12 11.5 +0.4
comp=Z,10nm,0.9s,baz=224,slow=6.1,SNR=9.1
S24A Houchin Ranch, 79.67 335 ⇑P P 19 12 13.2 +1.9
baz=80
R26A Arlington 79.68 336 ⇓P P 19 12 13.1 +2.0
baz=80
Q28A Sharon Springs 79.86 338 ⇓P P 19 12 13.5 +1.6
baz=80
SDCO Great Sand Dun 79.86 334 eP P 19 12 12.1 -0.2
comp=Z,5.8nm,1.1s
P29A Atwood 80.09 339 ⇑P P 19 12 14.4 +1.2
baz=80
BAR Barrett 80.10 324 eP P 19 12 15.5 +2.2
comp=Z,13nm,1.3s
WUAZ Wupatki 80.14 329 ⇓P P 19 12 15.6 +1.9
baz=80,SNR=7.5
WUAZ Wupatki 80.14 329 eP P 19 12 15.2 +1.5
comp=Z,15nm,1.1s
MONP Monument Peak, 80.15 324 ⇓P P 19 12 15.9 +2.1
baz=80
R24A Sanders Place, 80.17 335 ⇓P P 19 12 15.7 +1.9
baz=80
Q26A Hugo 80.27 336 ⇓P P 19 12 16.2 +2.0
baz=81
S22A 4UR Ranch, Cre 80.33 333 ⇑P P 19 12 16.4 +1.5
baz=81
BC3 Big Chuckawall 80.34 325 ⇓P P 19 12 16.4 +1.7
baz=81,SNR=5.3
R23A Moffat 80.38 334 ⇓P P 19 12 16.8 +1.8
baz=81
MVCO Mesa Verde 80.47 332 ⇓P P 19 12 17.0 +1.5
baz=81,SNR=6.3
MVCO Mesa Verde 80.47 332 eP P 19 12 17.2 +1.7
comp=Z,8.5nm,0.9s
Q25A Bedland, Calha 80.50 336 ⇑P P 19 12 17.2 +1.6
baz=81
IRM Iron Mountain 80.62 326 ⇑P P 19 12 17.8 +1.6
baz=81,SNR=5.2
PFO Pinyon Flats O 80.76 325 P P 19 12 18.9 +1.9
comp=Z,6.7nm,0.8s,baz=137,slow=5.8,SNR=9.9
PFO Pinyon Flats O 80.76 325 ⇓P P 19 12 19.2 +2.2
baz=81,SNR=7.3
P26A Davis Ranch, A 80.79 337 ⇓P P 19 12 18.9 +1.8
baz=81
Q24A Divide 80.84 335 ⇑P P 19 12 19.0 +1.5
baz=81
W13A Hualapai Mount 80.84 327 ⇑P P 19 12 19.5 +1.9
baz=81,SNR=6.3
PTN Potsdam (NY) 80.86 359 eP P 19 12 17.9 +0.9
PTN pmax pmax
comp=Z,19nm,0.9s
PTN Potsdam (NY) 80.86 359 eP P 19 12 17.9 +0.9
comp=Z,19nm,0.9s
BELC Belle Mtn. Jos 80.87 325 ⇓P P 19 12 19.8 +2.1
baz=81
LONY Lake Ozonia 80.90 359 eP P 19 12 17.8 +0.5
comp=Z,12nm,0.9s
BGNE Belgrade 81.00 341 ⇓P P 19 12 19.3 +1.4
baz=81
P25A Willow Gulch B 81.01 336 ⇓P P 19 12 20.4 +2.2
baz=81
MURC Murrieta 81.10 324 ⇓P P 19 12 20.6 +1.9
baz=81
M31A Lambtecht Ranc 81.16 341 ⇓P P 19 12 20.7 +1.9
baz=82
SADO Sadowa 81.23 356 P P 19 12 18.8 -0.2
comp=Z,8.2nm,0.9s,baz=179,slow=2.6,SNR=5.5
U15A North Rim 81.30 329 ⇑P P 19 12 22.0 +2.0
baz=82,SNR=13
GMRC Granite Mounta 81.37 326 ⇑P P 19 12 22.3 +2.1
baz=82,SNR=8.3
CIS Catalina Islan 81.52 323 ⇑P P 19 12 22.9 +2.0
baz=82
SMCO Snowmass 81.66 334 eP P 19 12 23.5 +1.5
comp=Z,13nm,1.0s
PV04 Paradox Valley 81.67 332 eP P 19 12 23.8 +2.0
N27A Anderson Farm, 81.68 338 ⇑P P 19 12 23.3 +1.7
baz=82
HEC Hector,Ludlow 81.71 325 ⇓P P 19 12 24.3 +2.4
baz=82
M29A Burnside Ranch 81.72 339 ⇓P P 19 12 23.2 +1.3
baz=82
ISCO Idaho Springs 81.75 335 eP P 19 12 23.8 +1.5
ISCO pmax pmax
comp=Z,16nm,1.8s
ISCO Idaho Springs 81.75 335 ⇓P P 19 12 23.8 +1.5
baz=82
ISCO Idaho Springs 81.75 335 eP P 19 12 23.8 +1.5
comp=Z,16nm,1.8s
BFSC Mount Baldy Ra 81.84 324 ⇑P P 19 12 24.5 +1.8
baz=82
L31A Butterfield Fa 81.90 341 ⇓P P 19 12 24.0 +1.2
baz=82
N26A Koester Ranch, 81.91 337 ⇑P P 19 12 24.4 +1.5
baz=82
P22A Eagle 81.96 334 ⇑P P 19 12 24.8 +1.5
baz=82
LBTB Lobatse 81.97 115 eP P 19 12 23.9 +0.1
LBTB e*PP pP 19 12 32.0 -1.4
LBTB pmax pmax
comp=Z,16nm,0.7s
LBTB Lobatse 81.97 115 eP P 19 12 23.9 +0.1
comp=Z,16nm,0.7s
LBTB epP pP 19 12 32.0 -1.4
TUQ Turquoise Moun 82.03 326 ⇓P P 19 12 25.6 +1.9
baz=82,SNR=6.8
O23A Lake Granby, G 82.22 335 ⇑P P 19 12 26.3 +1.5
baz=83
GSC Goldstone, Bar 82.32 325 eP P 19 12 27.4 +2.2
GSC pmax pmax
comp=Z,5.0nm,0.8s
GSC Goldstone, Bar 82.32 325 ⇓P P 19 12 27.4 +2.2
baz=83
GSC Goldstone, Bar 82.32 325 eP P 19 12 27.4 +2.2
comp=Z,4.7nm,0.8s
O22A Kremmling 82.39 335 ⇑P P 19 12 27.2 +1.5
baz=83
EDW2 Edwards Air Fo 82.53 324 ⇑P P 19 12 27.7 +1.5
baz=83
K30A Basset 82.57 341 ⇓P P 19 12 27.8 +1.6
baz=83
SHPR Sheep Range 82.59 327 eP P 19 12 28.6 +2.0
CCUT Cedar City 82.70 329 eP P 19 12 29.9 +2.7
comp=Z,14nm,1.1s
ECSD EROS Data Cent 82.81 343 ⇓P P 19 12 28.2 +0.8
baz=83
ECSD EROS Data Cent 82.81 343 eP P 19 12 27.8 +0.4
comp=Z,16nm,0.8s
N23A Red Feather La 82.84 336 ⇓P P 19 12 30.0 +2.0
baz=83
LRMC Laurel Mtn Rad 82.87 325 ⇑P P 19 12 30.2 +2.1
baz=83
N22A Wattenberg Ran 82.93 335 ⇑P P 19 12 30.1 +1.7
baz=83
O20A White River Ci 82.96 334 ⇑P P 19 12 30.2 +1.8
baz=83
O20A White River Ci 82.96 334 eP P 19 12 30.1 +1.6
comp=Z,7.4nm,0.8s
M24A Cheyenne 82.99 337 ⇓P P 19 12 30.0 +1.4
baz=83
MVU Marysvale 83.04 330 eP P 19 12 30.8 +1.7
comp=Z,7.2nm,0.8s
MPMC Manual Prospec 83.26 325 ⇓P P 19 12 31.3 +1.2
baz=84
M23A Laramie 83.28 336 ⇓P P 19 12 31.3 +1.1
baz=84
K27A Flueckinger Fa 83.33 339 ⇑P P 19 12 31.7 +1.5
baz=84
ISA Isabella, Lake 83.39 324 ⇑P P 19 12 32.5 +1.8
baz=84,SNR=6.4
TPNV Topopah Spring 83.44 327 eP P 19 12 33.1 +2.1
TPNV pmax pmax
comp=Z,14nm,1.2s
TPNV Topopah Spring 83.44 327 ⇑P P 19 12 33.0 +2.0
baz=84,SNR=8.8
TPNV Topopah Spring 83.44 327 eP P 19 12 33.1 +2.1
comp=Z,14nm,1.2s
J29A Okeek 83.44 340 ⇓P P 19 12 31.9 +1.2
baz=84
DAC Darwin (Calif) 83.49 325 eP P 19 12 33.6 +2.3
DAC pmax pmax
comp=Z,12nm,1.0s
DAC Darwin (Calif) 83.49 325 eP P 19 12 33.6 +2.3
comp=Z,12nm,1.0s
M22A Cedar Creek Ra 83.52 335 ⇑P P 19 12 33.1 +1.7
baz=84
N20A Spence Gulch, 83.58 334 ⇓P P 19 12 33.0 +1.2
baz=84
I30A Oacoma 83.68 341 ⇑P P 19 12 32.6 +0.7
baz=84
J27A Elkhorn Farm, 83.77 339 ⇑P P 19 12 34.1 +1.7
baz=84
L23A Garrett 83.86 336 ⇑P P 19 12 34.1 +1.0
baz=84
L22A Ellis Ranch, M 84.02 336 ⇑P P 19 12 35.3 +1.4
baz=84
MPU Maple Canyon 84.12 331 eP P 19 12 36.2 +1.7
comp=Z,20nm,1.0s
K24A Anderson Ranch 84.12 337 ⇑P P 19 12 35.8 +1.4
baz=84
J26A Sides Ranch, S 84.13 338 ⇓P P 19 12 35.8 +1.5
baz=84
I28A Midland 84.22 340 ⇓P P 19 12 35.8 +1.1
baz=85
R11A Troy Canyon, C 84.31 328 ⇑P P 19 12 37.7 +2.2
baz=85
R11A Troy Canyon, C 84.31 328 eP P 19 12 37.3 +1.9
comp=Z,9.1nm,0.9s
DAU Daniels Canyon 84.31 332 eP P 19 12 36.9 +1.3
DAU Daniels Canyon 84.31 332 eP P 19 12 36.9 +1.3
K23A Bowen Ranch, D 84.41 337 ⇓P P 19 12 37.2 +1.4
baz=85
J25A Sunshine Ranch 84.42 338 ⇑P P 19 12 36.8 +1.0
baz=85
H29A Onida 84.54 341 ⇑P P 19 12 37.4 +1.1
baz=85
K22A Casper 84.61 336 ⇓P P 19 12 38.2 +1.4
baz=85
K22A Casper 84.61 336 eP P 19 12 37.5 +0.7
comp=Z,18nm,0.9s
J24A Dixon Ranch, L 84.63 337 ⇑P P 19 12 38.4 +1.6
baz=85
DUG Dugway, Tooele 84.73 331 eP P 19 12 39.1 +1.6
DUG pmax pmax
comp=Z,23nm,1.3s
DUG Dugway, Tooele 84.73 331 ⇑P P 19 12 39.0 +1.6
baz=85
DUG Dugway, Tooele 84.73 331 eP P 19 12 39.1 +1.6
comp=Z,23nm,1.3s
TPH Tonopah 84.80 327 eP P 19 12 39.9 +1.9
TPH pmax pmax
comp=Z,16nm,1.0s
TPH Tonopah 84.80 327 eP P 19 12 39.9 +1.9
comp=Z,16nm,1.0s
H28A Mission Ridge 84.81 340 ⇓P P 19 12 38.6 +1.0
baz=85
K21A Alcova 84.83 335 ⇓P P 19 12 39.1 +1.1
baz=85
I25A Rochford 84.97 338 ⇓P P 19 12 39.7 +1.0
baz=85
H27A Howes 85.06 340 ⇓P P 19 12 39.7 +0.8
baz=85
I24A Kuemmerle Ranc 85.09 338 ⇓P P 19 12 40.2 +1.0
baz=85
G28A Parade 85.15 341 ⇓P P 19 12 40.4 +1.1
baz=86
RSSD Black Hills 85.15 338 eP P 19 12 40.1 +0.5
RSSD pmax pmax
comp=Z,10.0nm,0.9s
RSSD Black Hills 85.15 338 eP P 19 12 40.1 +0.5
comp=Z,10nm,0.9s
BGU Big Grassy Mou 85.44 331 eP P 19 12 42.3 +1.2
comp=Z,34nm,2.7s
H25A Fruitdale 85.48 339 ⇑P P 19 12 42.3 +1.3
baz=86
J21A Lysite 85.53 336 ⇓P P 19 12 42.6 +1.1
baz=86
NVAR Mina Array Bea 85.58 326 P P 19 12 43.5 +1.6
comp=Z,5.0nm,0.8s,baz=157,slow=6.2,SNR=38
I22A 9 Mile Ranch, 85.71 336 ⇓P P 19 12 42.9 +0.7
baz=86
PDAR Pinedale Array 85.74 334 P P 19 12 42.9 +0.3
comp=Z,4.2nm,0.9s,baz=145,slow=5.4,SNR=20
J20A Shoshoni 85.75 335 ⇓P P 19 12 44.0 +1.5
baz=86
G26A Maurine 85.81 340 ⇓P P 19 12 43.4 +0.8
baz=86
H24A Dirks Ranch, A 85.88 338 ⇑P P 19 12 43.4 +0.4
baz=86
I21A Big Trails, Te 85.90 336 ⇑P P 19 12 43.9 +0.6
baz=86
TORD Torodi Ar. Bea 85.92 70 P P 19 12 43.4 -0.4
comp=Z,3.6nm,1.0s,baz=250,slow=4.6,SNR=14
G25A Newell 85.95 339 ⇑P P 19 12 44.4 +1.0
baz=86
J19A Crowheart 86.00 335 ⇑P P 19 12 44.5 +0.7
baz=86
HVU Hansel Valley 86.08 331 eP P 19 12 44.7 +0.5
HVU pmax pmax
comp=Z,14nm,0.8s
HVU Hansel Valley 86.08 331 eP P 19 12 44.6 +0.5
comp=Z,14nm,0.8s
ELK Elko 86.18 329 P P 19 12 45.8 +1.0
comp=Z,4.9nm,0.9s,baz=169,slow=3.0,SNR=12
F27A Lemmon 86.18 340 ⇑P P 19 12 45.0 +0.6
baz=86
H22A Clearmont 86.29 337 ⇑P P 19 12 45.7 +0.6
baz=87
I20A Worland 86.30 335 ⇓P P 19 12 46.1 +0.9
baz=87
F26A Lodgepole 86.34 340 ⇓P P 19 12 46.0 +0.8
baz=87
G24A Alzada 86.36 338 ⇑P P 19 12 46.4 +1.0
baz=87
MSKU Masuku 86.38 89 P P 19 12 46.7 +0.5
comp=Z,2.6nm,0.5s,baz=252,slow=9.6,SNR=4.6
E28A Huff 86.48 341 ⇓P P 19 12 46.6 +0.7
baz=87
D30A Buchanan 86.50 343 ⇑P P 19 12 46.6 +0.7
baz=87
G23A Biddle 86.54 338 ⇑P P 19 12 46.8 +0.5
baz=87
H21A Big Horn, Sher 86.54 336 ⇑P P 19 12 46.8 +0.4
baz=87
F25A Bowman 86.63 339 ⇓P P 19 12 47.8 +1.1
baz=87
I19A Meeteetse 86.66 335 ⇓P P 19 12 48.0 +0.9
baz=87
REDW Red Top Meadow 86.72 333 eP P 19 12 47.9 +0.5
comp=Z,5.4nm,0.8s
BMN Battle Mountai 86.75 328 eP P 19 12 48.8 +1.3
BMN pmax pmax
comp=Z,3.0nm,0.9s
BMN Battle Mountai 86.75 328 eP P 19 12 48.8 +1.3
comp=Z,2.5nm,0.9s
G22A Birney 86.83 337 ⇓P P 19 12 47.8 +0.1
baz=87
F24A Ekalaka 86.84 339 ⇓P P 19 12 48.5 +0.7
baz=87
E26A Carlson Angus 86.85 340 ⇓P P 19 12 48.5 +0.8
baz=87
LOHW Long Hollow 86.85 334 eP P 19 12 49.0 +0.9
comp=Z,5.5nm,0.8s
TPAW Teton Pass 86.87 333 eP P 19 12 48.9 +0.7
comp=Z,11nm,0.9s
AGMN Agassiz Nation 86.97 345 ⇑P P 19 12 49.0 +0.8
baz=87
C30A Mose, Pekin 86.99 343 ⇑P P 19 12 49.1 +0.8
baz=87
F23A Volborg 87.02 338 ⇑P P 19 12 48.9 +0.4
baz=87
FXWY Fox Creek 87.03 333 eP P 19 12 49.9 +1.0
comp=Z,3.7nm,0.9s
G21A Lodge Grass 87.13 337 ⇑P P 19 12 50.0 +0.8
baz=88
E25A Miller Ranch, 87.14 340 ⇓P P 19 12 50.4 +1.3
baz=88
H19A Powell 87.22 335 ⇓P P 19 12 50.2 +0.5
baz=88
IMW Indian Meadow 87.22 334 eP P 19 12 51.0 +1.1
comp=Z,8.7nm,1.0s
FLWY Flagg Ranch 87.30 334 eP P 19 12 51.5 +1.4
comp=Z,14nm,1.0s
F22A Rosebud 87.33 337 ⇑P P 19 12 50.7 +0.6
baz=88
D26A Manning 87.36 340 ⇓P P 19 12 50.9 +0.8
baz=88
MDND Maddock 87.39 342 ⇓P P 19 12 50.9 +0.7
baz=88
MDND Maddock 87.39 342 eP P 19 12 51.2 +1.0
comp=Z,11nm,1.3s
G20A Bridger 87.45 336 ⇑P P 19 12 50.8 0.0
baz=88
H18A Shoshone NF, C 87.46 335 ⇑P P 19 12 51.8 +0.9
baz=88
B30A Myrvik Farm, E 87.66 344 ⇑P P 19 12 52.3 +0.8
baz=88
D25A Fairfield 87.71 340 ⇓P P 19 12 53.0 +1.1
baz=88
B29A Wagenman Farm, 87.91 343 ⇑P P 19 12 53.5 +0.8
baz=88
F20A Billings 87.94 336 ⇑P P 19 12 53.9 +0.8
baz=88

D24A Glendive 87.96 339 ⇓P P 19 12 54.2 +1.1
baz=88
C26A Wahner Farm, P 88.00 341 ⇑P P 19 12 54.1 +0.9
baz=88
A30A Hoffart Farm, 88.11 344 ⇓P P 19 12 54.3 +0.7
baz=88
B28A Dugan Ranch, T 88.14 342 ⇓P P 19 12 54.8 +1.0
baz=88
QLMT Earthquake Lak 88.21 334 *e*P **P 19 12 53.8 -0.7**
comp=Z,0.3nm,0.6s
HLID Hailey 88.22 331 ⇓P P 19 12 56.0 +1.4
baz=89
HLID Hailey 88.22 331 *e*P **P 19 12 56.1 +1.6**
comp=Z,4.8nm,1.0s
D23A Lindsay 88.27 339 ⇓P P 19 12 55.6 +1.1
baz=89
A29A Manning Farm, 88.31 343 ⇑P P 19 12 55.5 +0.9
baz=89
C24A Savage 88.37 339 ⇑P P 19 12 56.2 +1.2
baz=89
D22A Cohagen 88.53 338 ⇑P P 19 12 56.7 +1.0
baz=89
A28A Rude Farm, Bot 88.54 342 ⇓P P 19 12 56.7 +1.0
baz=89
E20A Meyer Farm, Mu 88.56 337 ⇓P P 19 12 56.9 +0.9
baz=89
E19A Rath Farm, Rou 88.73 336 ⇓P P 19 12 57.2 +0.4
baz=89
C23A Lambert 88.83 339 ⇑P P 19 12 58.2 +1.1
baz=89
ULM Lac du Bonnet 88.83 346 *e*P **P 19 12 57.3 +0.3**
ULM Lac du Bonnet 88.83 346 P **P 19 12 56.4 -0.6**
comp=Z,5.5nm,0.7s,baz=160,slow=2.7,SNR=7.8
ULM Lac du Bonnet 88.83 346 *e*P **P 19 12 57.3 +0.3**
A26A Wade Farm, Ken 88.97 341 ⇑P P 19 12 59.0 +1.3
baz=89
MOD Modoc Plateau 89.29 327 *e*P **P 19 13 01.4 +1.8**
comp=Z,20nm,1.4s
LSZ Lusaka 89.79 109 P **P 19 13 02.0 -0.6**
comp=Z,0.8nm,0.5s,baz=234,slow=8.7,SNR=5.6
M04C Macdoel 89.88 326 ⇓P P 19 13 03.8 +1.5
baz=90
I07A Izee 90.71 329 *e*P **P 19 13 07.9 +1.8**
comp=Z,146nm,2.9s
A19A Klindworth Far 90.90 337 ⇑P P 19 13 07.3 +0.4
baz=91
G08A Pilot Rock 91.47 330 *e*P **P 19 13 11.2 +1.6**
YKA Yellowknife Ar 104.29 341 Pdiff **Pdif 19 14 07.4 +0.5**
comp=Z,0.7nm,1.1s,baz=142,slow=4.5,SNR=3.8
YKA PP **PKiKP 19 18 23.1 -0.1**
comp=Z,0.2nm,0.8s,baz=141,slow=7.5,SNR=3.8
GERES GERESS Array B 114.62 47 PKP PKPdf 19 18 43.2 0.0
comp=Z,1.4nm,0.9s,baz=225,slow=0.6,SNR=9.7
ASAR Alice Springs 114.82 207 PKKPbc PKKPbc 19 29 21.2 +0.5
comp=Z,0.4nm,0.5s,baz=341,slow=3.1,SNR=10
VYHS Vyhne 117.51 49 *e*PKiKP **PKPdf 19 18 48.9 +0.2**
VYHS Vyhne 117.51 49 *e*PKP **PKPdf 19 18 48.8 +0.1**
WRA Warramunga Arr 118.03 209 PKP **PKPdf 19 18 50.1 -0.7**
comp=Z,0.5nm,0.6s,baz=160,slow=1.7,SNR=11
TRPA Tarpa 119.62 50⇑*i*P **PKPdf 19 18 53.4 +0.6**
BURAR Bucovina Array 121.09 51⇑*i*P **PKPdf 19 18 56.4 +0.6**
CFR Carcaliu 122.07 55⇑*i*P **PKPdf 19 18 58.0 +0.4**
BRTR Keskin Array B 123.85 63 PKP **PKPdf 19 19 01.2 -0.2**
comp=Z,1.9nm,0.8s,baz=262,slow=1.0,SNR=8.5
AKASG Malin Array Be 124.60 49 PKP **PKPdf 19 19 01.1 -1.1**
comp=Z,1.3nm,0.6s,baz=260,slow=3.0,SNR=4.7
H11S2 WAKE ISLAND Hyl 24.83 268 T T 21 36 23.6
baz=123
H11S1 WAKE ISLAND Hyl 24.85 268 T T 21 36 14.8
baz=123
H11S3 WAKE ISLAND Hyl 24.85 268 T T 21 36 14.8
baz=123
H11N3 WAKE ISLAND Hyl 25.31 269 T T 21 36 45.1
baz=123
H11N1 WAKE ISLAND Hyl 25.33 269 T T 21 36 45.9
baz=123
H11N2 WAKE ISLAND Hyl 25.33 269 T T 21 36 59.4
baz=123
FINES FINESS Array B 125.65 36 PKP **PKPdf 19 19 03.4 -0.5**
comp=Z,2.5nm,1.0s,baz=308,slow=6.7,SNR=5.0
RAYN Ar Rayn 126.10 86 *e*PKPdf **PKPdf 19 19 06.6 +0.5**
MALT Malatya 126.80 66⇑*i*P **PKPdf 19 19 08.1 +1.0**
KLMR Klimovskoe 132.04 37 *e*PKIKP **PKPdf 19 19 14.6 -1.5**
KLMR pmax pmax
comp=Z,22nm,1.6s
BILL Bilibino 134.81 333 *i*PKIKP **PKPdf 19 19 21.9 +0.7**
BILL pmax pmax
comp=Z,6.0nm,1.5s
PRGR Permogore 134.97 36 PKIKP **PKPdf 19 19 21.1 -0.5**
PRGR pmax pmax
comp=Z,32nm,1.5s
GEYT Alibeck 141.52 73 PKhKP PKPpre 19 19 29.5
comp=Z,0.9nm,0.8s,baz=280,slow=4.2,SNR=3.2
ARU Arti 142.29 43 *i*PKIKP **PKPdf 19 19 31.9 -3.3**
AKTO Aktyubinsk 142.67 53 PKhKP PKPpre 19 19 31.1
comp=Z,1.3nm,0.7s,baz=303,slow=3.0,SNR=9.3
TIXI Tiksi 143.13 349 *i*PKHKP PKPpre 19 19 31.7
TIXI Tiksi 143.13 349 *e*PKPpre PKPpre 19 19 30.9
AB31 Akbulak array 143.96 54 *i*PKIKP PKPab 19 19 35.9 +0.2
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 143.96 54 *e*PKPpre PKPpre 19 19 35.9
HYB Hyderabad 148.49 120 *i*PKP **PKPbc 19 19 50.0 -0.6**
BVA0 Borovoye Array 149.78 46 *i*PKP2 **PKPbc 19 19 52.7 -0.1**
BVA0 pmax pmax
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 149.78 46 PKP **PKPdf 19 19 48.8 +0.8**
comp=Z,3.1nm,0.7s,baz=262,slow=4.5,SNR=4.2
BVAR PKPbc **PKiKP 19 19 53.7 -0.1**
comp=Z,5.3nm,0.7s,baz=308,slow=3.3,SNR=39
YAK Yakutsk 150.89 338 *e*PKIKP **PKPbc 19 19 54.2 -0.9**
YAK pmax pmax
comp=Z,34nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.5s
YAK pmax pmax
comp=E,4.0nm,1.5s
YAK Yakutsk 150.89 338 *e*PKPbc **PKPbc 19 19 54.6 -0.5**
YAK *e*pPKP **PKPab 19 20 03.1 +0.6**
KKAR Karatay Array 151.50 66 *e*PKIKP **PKPbc 19 19 56.9 -0.3**
KKAR Karatay Array 151.50 66 *e*PKPbc **PKPbc 19 19 56.9 -0.3**
YSS Yuzh-Sakhalins 151.58 303 *e*PKIKP **PKPbc 19 19 57.0 -0.2**
EKS2 Erkin-Say 153.91 66 *e*PKIKP **PKPdf 19 19 55.7 +0.9**
EKS2 *e* 19 20 02.5
EKS2 Erkin-Say 153.91 66 *e*PKPbc **PKPdf 19 19 55.7 +0.9**
EKS2 *e*pPKP **PKPbc 19 20 02.5 -0.2**
AAK Ala-Archa 154.44 66 PKP **PKPdf 19 19 56.1 +0.6**
comp=E,1.6nm,0.9s,baz=190,slow=4.6,SNR=6.7
AAK PKPbc **PKiKP 19 20 04.5 +0.5**
comp=E,3.5nm,0.8s,baz=181,slow=1.9,SNR=16
KURBB Kurchatov Arra 155.35 47 PKP **PKPdf 19 19 56.6 +0.3**
comp=E,1.2nm,0.9s,baz=299,slow=2.1,SNR=6.3
KURBB PKPbc PKPbc 19 20 05.0
comp=E,2.4nm,0.8s,baz=296,slow=2.7,SNR=10
KURBB PKPab **PKPab 19 20 21.6 -0.1**
comp=E,4.2nm,0.8s,baz=288,slow=4.6,SNR=15
KURK Kurchatov 155.37 46 PKIKP **PKPdf 19 19 56.6 +0.3**
KURK 19 20 05.1
KURK 19 20 21.6
KURK Kurchatov 155.37 46 PKP **PKPdf 19 19 56.6 +0.3**
KURK PKPbc PKPbc 19 20 05.0
KURK PKPab **PKPab 19 20 21.6 -0.2**
KSH Kashi 155.55 74 *e*PKPbc **PKPdf 19 19 57.3 +0.2**
KSH sPKP 19 20 10.8
KSH PKS **PKSdf 19 23 31.5 +0.3**
KSH PP **PP 19 23 57.3 -3.2**
KSH SKS **SKSdf 19 27 01.6 +0.2**
KSH SKKS **SKKSac 19 30 48.5 +0.9**
KSH SS **SS 19 43 41.3 -3.9**
KSH PPMZ
comp=E,90nm,5.4s
KSH LN
comp=E,27nm,4.1s
KSH LE
comp=E,39nm,5.0s
KSH LZ
comp=E,110nm,7.7s
NVS Novosibirsk 155.63 34 *e*PKP2 **PKPab 19 20 23.0 +0.2**
ZALV Zalesovo Beam 156.91 35 PKP **PKPdf 19 19 57.9 -0.3**
comp=E,3.6nm,0.8s,baz=274,slow=2.3,SNR=18
ZALV PKPab **PKPab 19 20 28.5 +0.2**
comp=E,4.5nm,0.8s,baz=305,slow=5.1,SNR=9.7
BOD Bodaibo 158.30 350 *e*PKP2 PKPab 19 20 19.4 -15
BOD pmax pmax
comp=Z,8.0nm,1.1s
MKAR Makanchi Array 159.10 53 PKP **PKPdf 19 20 01.3 +0.1**
comp=Z,1.9nm,0.9s,baz=289,slow=4.4,SNR=14
MKAR PKPab **PKPab 19 20 37.6 -0.5**
comp=Z,3.3nm,0.7s,baz=297,slow=6.3,SNR=13
CMAR Chiang Mai Arr 160.57 157 PKP **PKPdf 19 20 03.9 +0.2**
comp=Z,0.2nm,0.3s,baz=321,slow=1.2,SNR=4.8
CMAR PKPab **PKPab 19 20 43.4 -1.7**
comp=Z,0.3nm,0.3s,baz=212,slow=4.3,SNR=4.8
WMQ Urumqi 163.70 58 *e*PKP **PKPdf 19 20 05.8 -0.4**
WMQ pPKP **pPKPdf 19 20 17.0 +0.8**
WMQ PKPab **PKPab 19 20 59.1 +0.7**
WMQ PKS **PKSdf 19 23 37.8 -1.3**
WMQ PP **PP 19 24 45.5 +1.2**
WMQ SKS **SKSdf 19 27 05.3 -3.2**
WMQ SKKS **SKKSac 19 31 28.0 -1.7**
WMQ SS **SS 19 45 06.5 -4.1**
WMQ PPMZ
comp=Z,130nm,6.7s
WMQ LN
comp=Z,27nm,24.0s
WMQ LE
comp=Z,54nm,20.0s
WMQ LZ
comp=Z,51nm,20.0s
TLY Talaya 164.79 8 *e*PKP2 **PKPab 19 21 04.3 +1.6**
TLY pmax pmax
comp=Z,5.0nm,1.5s
KMI Kunming 167.97 162 PKP **PKPdf 19 20 08.9 -1.5**
SONM Songino Array 168.82 2 PKPab **PKPab 19 21 21.1 +0.4**
comp=Z,1.9nm,0.9s,baz=344,slow=4.2,SNR=13
GYA Guiyang 169.84 179 PKP **PKPdf 19 20 11.0 -0.4**
GYA pPKP **pPKPdf 19 20 22.6 +1.2**
GYA PKPab **PKPab 19 21 28.4 +2.7**
GYA PKS **PKSdf 19 23 42.0 -2.1**
GYA PP **PP 19 25 18.5 +3.8**
GYA SKKS 19 32 01.8
GYA SS **SS 19 46 12.8 +2.3**
GYA PPMZ
comp=Z,120nm,8.0s
GYA LN
comp=Z,120nm,20.5s
GYA LE
comp=Z,110nm,21.0s
GYA LZ
comp=Z,130nm,20.8s
GTA Gaotai 173.76 62 *e*PKP **PKPdf 19 20 13.3 +0.4**
GTA pPKP **pPKPdf 19 20 23.9 +1.0**
GTA sPKP 19 20 27.5
GTA PKPab **PKPab 19 21 43.6 +0.4**
HHC Hu-ho-hao-te 174.44 320 *e*PKP **PKPdf 19 20 11.0 -2.1**
HHC pPKP **pPKPdf 19 20 21.8 -1.3**
HHC sPKP 19 20 25.4
HHC PP **PP 19 25 39.5 +1.4**
HHC SKS **SKSdf 19 27 08.8 -5.2**
HHC SS **SS 19 46 54.1 -2.7**
HHC PPMZ
comp=Z,250nm,9.9s
HHC LN
comp=Z,190nm,18.7s
HHC LE
comp=Z,230nm,18.8s
HHC LZ
comp=Z,160nm,18.7s
LZH Lanzhou 177.47 102 *e*PKP **PKPdf 19 20 14.1 +0.1**
LZH pPKP **pPKPdf 19 20 24.3 +0.3**
LZH sPKP 19 20 28.5
LZH PKPab PKPab 19 22 00.3 +0.5

ISCJB ***17*** *19:10:17.9±0.3,33°.85S±0°.04×70°.03W±0°.04,h117km±1km, mb4.3/23, Error ellipse: s-maj=6.5km s-min=5.4km az=43.0*
SJA ***17*** *19:10:17.6±0.8,33°.90S×69°.94W,h125km±8km,ML3.9*
GUC ***17*** *19:10:18.4±0.9,33°.86S×70°.17W,h116km±6km,ML4.5*
NEIC ***17*** *19:10:18.0,33°.85S×70°.17W,h116km,mb4.5/9, After GUC.*
NEIC Felt [II] at El Quisco, Pichilemu, Rancagua, San Fernando and Santiago. Also felt at San Antonio, San Bernardo and Vina del Mar.
IDC ***17*** *19:10:19.2±1.6,33°.80S×69°.92W,h117km±13km,mb4.0/17, mb1 4.1/19,mb1mx4.1/26,mbtmp4.4/19, Error ellipse: s-maj=17.8km s-min=10.6km az=86.0*
ISC 17 19:10:18.8±0.6,**33°.85S**±0°.04×**70°.08W**±0°.04,**h115**km±5km,
n274,$_6$**0°77/285,mb4.3/23,98C-115D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YECH	**El Yeso**	**0.18**	**360**	AML	AML	19 10 46.5	
comp=N,12μm,0.6s							
CHCH	**Chadas Angostu**	**0.48**	**260**	⇓*i*P	**Pn**	**19 10 35.6**	**-0.6**
CACH	**El Canelo**	**0.51**	**238**	⇓*i*P	**Pn**	**19 10 36.1**	**-0.4**
FSR	**Penalolen**	**0.53**	**315**	⇓*i*P	Pn	19 10 37.5	+0.9
FSR				*i* S1	**Sn**	**19 10 50.7**	**+0.8**
ANTU	**Antumapu**	**0.54**	**301**	⇑*i*P	**Pn**	**19 10 36.0**	**-0.6**
ANTU				*i* S	**Sn**	**19 10 49.7**	**-0.3**
ANTU				AML	AML	19 10 50.9	
comp=N,31μm,0.7s							
LACH	**Col Las Americ**	**0.55**	**317**	⇓*i*P	**Pn**	**19 10 36.1**	**-0.5**
LACH				*i* S1	**Sn**	**19 10 50.2**	**+0.1**
LACH				AML	AML	19 10 50.5	
comp=N,10μm,0.2s							
FCH	**Farellones**	**0.55**	**341**	⇑*i*P	Pn	19 10 39.6	+2.6
FCH				*i* S1	Sn	19 10 53.2	+2.5
FCH				AML	AML	19 10 54.6	
comp=E,16μm,0.3s							
CLCH	**Cerro Calan**	**0.59**	**320**	⇑*i*P	**Pn**	**19 10 36.8**	**-0.2**
CLCH				*i* S	**Sn**	**19 10 50.4**	**-0.3**
CLCH				AML	AML	19 10 51.9	
comp=E,43μm,0.5s							
PEL	**Peldehue**	**0.87**	**324**	⇓*i*P	**Pn**	**19 10 39.0**	**-0.3**
PEL				*i* S	**Sn**	**19 10 54.1**	**-0.5**
PEL				AML	AML	19 10 55.0	
comp=N,30μm,0.5s							
LNV	**Longovilo**	**1.11**	**264**	⇑*i*P	**Pn**	**19 10 40.3**	**-1.3**
AAGR	**Agrelo**	**1.30**	**54**	*i* P	**Pn**	**19 10 43.8**	**0.0**
AAGR				*i* P	**Pn**	**19 10 43.8**	**0.0**
AAGR				*i* S	**Sn**	**19 11 02.4**	**-0.2**
ARCO	**CERRO ARCO**	**1.39**	**44**	*i* P	**Pn**	**19 10 44.9**	**0.0**
ARCO				*i* S	**Sn**	**19 11 04.5**	**-0.1**
ARCO				AML	AML	19 11 08.6	
comp=Z,670nm,0.6s							
NICH	**Los Niches**	**1.49**	**219**	*e*P9	**Pn**	**19 10 45.8**	**-0.1**
NICH				*i* S1	**Sn**	**19 11 06.5**	**+0.1**
NICH				AML	AML	19 11 14.7	
comp=N,13μm,0.3s							
IHA	**Instituto Hidr**	**1.54**	**302**	⇑*i*P	**Pn**	**19 10 45.9**	**-0.6**
IHA				*i* S1	**Sn**	**19 11 06.2**	**-1.3**
AUSP	**Uspallata**	**1.72**	**20**	*i* P	**Pn**	**19 10 49.1**	**+0.2**
TALC	**Talca**	**2.01**	**219**	⇓*i*P	**Pn**	**19 10 51.3**	**-0.8**
TALC				*i* S1	**Sn**	**19 11 15.9**	**-1.7**
TALC				AML	AML	19 11 16.7	
comp=N,7μm,0.4s							
RTLS	**Leoncito**	**2.15**	**18**	*i* P	**Pn**	**19 10 55.6**	**+1.3**
LNCH	**Linares**	**2.35**	**212**	⇓*i*P	**Pn**	**19 10 56.1**	**-0.4**
LNCH				*i* S1	**Sn**	**19 11 25.0**	**-0.5**
LNCH				AML	AML	19 11 26.1	
comp=E,2μm,0.3s							
CFAA	**Coronel Fontan**	**2.73**	**35**	P	**Pn**	**19 11 01.3**	**-0.2**
comp=E,2.9nm,0.3s,baz=198,slow=14,SNR=80							
CFAA				S	**Sn**	**19 11 32.2**	**-2.0**
comp=E,3.1nm,0.3s,baz=202,slow=15,SNR=5.6							
CFAA	**Coronel Fontan**	**2.73**	**35**	*i* P	**Pn**	**19 11 01.3**	**-0.2**
CFAA				*i* S	**Sn**	**19 11 33.9**	**-0.3**
ACAN	**Cantantal**	**2.89**	**58**	*i* P	**Pn**	**19 11 02.7**	**-0.9**
AMOG	**MOGNA**	**3.20**	**25**	*i* P	**Pn**	**19 11 07.4**	**-0.3**
ACHE	**Chepes**	**3.94**	**48**	*i* P	**Pn**	**19 11 17.4**	**-0.2**
LCO	**Las Campanas**	**4.85**	**354**	*e*P	**Pn**	**19 11 28.2**	**-1.8**
TCA	**Tanti**	**5.26**	**63**	*i* P	**Pn**	**19 11 33.9**	**-1.5**
TCA				*i* P	**Pn**	**19 11 34.6**	**-0.8**
TCA				AML	AML	19 12 34.1	
comp=Z,90nm,0.8s							
TCA				AML	AML	19 12 34.9	
comp=N,95nm,0.7s							
PLCA	**Paso Flores**	**6.88**	**183**	P	**Pn**	**19 11 57.6**	**+0.5**
comp=N,0.4nm,0.3s,baz=2.9,slow=10,SNR=4.2							
PLCA	**Paso Flores**	**6.88**	**183**	*e*P	**Pn**	**19 11 58.3**	**+1.1**
comp=N,15nm,1.4s							
TRQA	**Tornquist**	**7.79**	**125**	*e*P	**Pn**	**19 12 08.4**	**-1.1**
comp=N,49nm,0.8s							
LPAZ	**La Paz**	**17.58**	**6**	P	**P**	**19 14 16.5**	**-0.1**
comp=N,0.8nm,0.3s,baz=180,slow=8.9,SNR=19							
LPAZ	**La Paz**	**17.58**	**6**	*e*P	**P**	**19 14 16.2**	**-0.4**
comp=N,9.9nm,0.7s							
SIV	**San Ignacio**	**19.55**	**27**	P	**P**	**19 14 37.0**	**-0.6**
comp=N,0.3nm,0.3s,baz=204,slow=13,SNR=2.8							
USHA	**Ushuaia**	**21.01**	**177**	P	**P**	**19 14 53.6**	**+0.7**
comp=N,18nm,0.8s,baz=3.8,slow=12,SNR=4.3							
NNA	**Nana**	**22.62**	**343**	P	**P**	**19 15 10.4**	**+0.2**
comp=N,11nm,0.7s,baz=172,slow=9.8,SNR=5.7							
NNA	**Nana**	**22.62**	**343**	*e*P	**P**	**19 15 10.2**	**+0.1**
BDFB	**Brasilia**	**26.92**	**53**	P	**P**	**19 15 48.0**	**-1.5**
comp=N,15nm,0.7s,baz=217,slow=9.5,SNR=15							
OTAV	**Otavalo**	**34.81**	**345**	P	**P**	**19 16 59.6**	**+0.5**
SDV	**Santo Domingo**	**42.50**	**359**	*e*P	**P**	**19 18 01.3**	**-1.8**
comp=N,10nm,1.0s							
JTS	**JuntasAbangare**	**46.12**	**339**	P	**P**	**19 18 32.7**	**+1.1**
comp=N,4.5nm,0.7s,baz=32,slow=3.0,SNR=3.7							
VNA3	**Neumayer Olymp**	**48.89**	**158**	P	**P**	**19 18 53.7**	**+1.2**
VNA2	**Neumayer--Watz**	**49.52**	**157**	P	**P**	**19 18 58.0**	**+0.7**
SNAA	**Sanae**	**51.11**	**158**	P	**P**	**19 19 10.0**	**+0.7**
SNAA	**Sanae**	**51.11**	**158**	P	**P**	**19 19 09.6**	**+0.3**
comp=N,1.7nm,0.9s,baz=258,slow=9.3,SNR=12							
CELP	**Cerrillos**	**51.74**	**4**	*e*P	**P**	**19 19 13.9**	**-0.6**
QSPA	**South Pole Qui**	**56.39**	**180**	P	**P**	**19 19 48.6**	**+0.8**
comp=N,3.6nm,1.1s,baz=177,slow=2.2,SNR=17							
035A	**Encino**	**66.05**	**333**	⇑P	**P**	**19 20 54.3**	**+1.1**
baz=66							
034A	**Hebbronville**	**66.38**	**332**	⇓P	**P**	**19 20 56.5**	**+1.1**
baz=67							
933A	**Laredo**	**67.10**	**332**	⇑P	**P**	**19 21 01.2**	**+1.2**
baz=67							
834A	**Tilden**	**67.28**	**333**	⇑P	**P**	**19 21 02.7**	**+1.6**
baz=68							
833A	**Chaparral WMA,**	**67.79**	**332**	⇑P	**P**	**19 21 05.4**	**+1.2**
baz=68							
636A	**Smothers Creek**	**67.96**	**335**	⇓P	**P**	**19 21 07.2**	**+2.0**
baz=68							
832A	**Faith Ranch, C**	**67.98**	**332**	⇓P	**P**	**19 21 05.8**	**+0.4**
baz=68							
732A	**Laxson Ranch,**	**68.37**	**332**	⇓P	**P**	**19 21 08.6**	**+0.8**
baz=69							
536A	**Bastrop**	**68.51**	**335**	⇓P	**P**	**19 21 09.4**	**+0.8**
baz=69							
633A	**Saathoff Ranch**	**68.72**	**333**	⇑P	**P**	**19 21 11.0**	**+1.0**
baz=69							
632A	**Uvalde**	**69.00**	**332**	⇓P	**P**	**19 21 12.5**	**+0.7**
baz=69							
533A	**Kerrville**	**69.22**	**333**	⇑P	**P**	**19 21 13.8**	**+0.6**
baz=70							
631A	**Perdido Creek**	**69.22**	**332**	⇓P	**P**	**19 21 13.1**	**0.0**
baz=70							
337A	**Centerville**	**69.24**	**337**	⇑P	**P**	**19 21 13.3**	**+0.2**
baz=70							
435B	**Jarrell**	**69.33**	**335**	⇑P	**P**	**19 21 14.1**	**+0.4**
baz=70							
239A	**Gary**	**69.43**	**338**	⇓P	**P**	**19 21 14.5**	**+0.2**
baz=70							
532A	**Rocksprings**	**69.60**	**333**	⇓P	**P**	**19 21 16.3**	**+0.8**
baz=70,SNR=12							
434A	**Burnet**	**69.61**	**334**	⇑P	**P**	**19 21 15.9**	**+0.4**
baz=70,SNR=5.2							
336A	**Riesel**	**69.63**	**336**	⇓P	**P**	**19 21 16.3**	**+0.8**
baz=70							
335A	**Moody**	**69.73**	**335**	⇓P	**P**	**19 21 17.0**	**+0.8**
baz=70							
433A	**Art**	**69.85**	**334**	⇓P	**P**	**19 21 17.1**	**+0.1**
baz=70,SNR=5.9							
JCT	**Junction City**	**69.87**	**333**	⇓P	**P**	**19 21 17.8**	**+0.6**
baz=70							
JCT	**Junction City**	**69.87**	**333**	*e*P	**P**	**19 21 17.4**	**+0.2**
comp=N,6.2nm,0.7s							
531A	**Rocksprings**	**69.88**	**332**	⇓P	**P**	**19 21 18.2**	**+1.0**
baz=70							
334A	**Lometa**	**70.06**	**335**	⇓P	**P**	**19 21 18.8**	**+0.5**
baz=70,SNR=8.6							
530A	**J-C Ranch, Com**	**70.17**	**331**	⇑P	**P**	**19 21 19.9**	**+0.9**
baz=70							
432A	**Menard**	**70.22**	**333**	⇓P	**P**	**19 21 19.5**	**+0.2**
baz=70							
TKL	**Tuckaleechee C**	**70.32**	**348**	P	**P**	**19 21 19.0**	**-0.8**
comp=N,2.2nm,0.5s,baz=147,slow=8.9,SNR=4.0							
333A	**Richland Sprin**	**70.33**	**334**	⇓P	**P**	**19 21 19.8**	**-0.1**
baz=71,SNR=5.5							
431A	**Sonora**	**70.36**	**332**	⇓P	**P**	**19 21 20.9**	**+0.7**
baz=71							
137A	**Heron Place, G**	**70.38**	**337**	⇓P	**P**	**19 21 20.9**	**+0.8**
baz=71							
OXF	**Oxford**	**70.38**	**343**	*e*P	**P**	**19 21 19.5**	**-0.5**
comp=N,18nm,0.4s							
WHTX	**Lake Whitney,**	**70.39**	**335**	⇑P	**P**	**19 21 20.8**	**+0.6**
baz=71							
TXAR	**Lajitas Array**	**70.42**	**329**	P	**P**	**19 21 20.9**	**+0.3**
comp=N,2.5nm,0.5s,baz=161,slow=8.6,SNR=31							
529A	**Stev Forest Ra**	**70.51**	**331**	⇓P	**P**	**19 21 21.6**	**+0.5**
baz=71							
234A	**Clairette**	**70.64**	**335**	⇓P	**P**	**19 21 22.4**	**+0.6**
baz=71							
332A	**Millersview**	**70.66**	**333**	⇑P	**P**	**19 21 22.1**	**+0.2**
baz=71							
430A	**Baggett Ranch,**	**70.70**	**332**	⇓P	**P**	**19 21 22.6**	**+0.4**
baz=71							
429A	**Davenport Ranc**	**70.82**	**331**	⇓P	**P**	**19 21 23.8**	**+0.9**
baz=71							
331A	**San Angelo**	**70.85**	**333**	⇓P	**P**	**19 21 23.6**	**+0.5**
baz=71							
233A	**Rising Star**	**70.92**	**334**	⇑P	**P**	**19 21 23.9**	**+0.4**
baz=71,SNR=6.5							
232A	**Coleman**	**71.08**	**334**	⇓P	**P**	**19 21 24.5**	**0.0**
baz=71,SNR=8.4							
330A	**Mertzon**	**71.22**	**332**	⇓P	**P**	**19 21 25.3**	**0.0**
baz=72							
231A	**Bronte**	**71.37**	**333**	⇑P	**P**	**19 21 26.4**	**+0.2**
baz=72,SNR=9.3							
133A	**Hamilton Ranch**	**71.46**	**335**	⇑P	**P**	**19 21 27.0**	**+0.3**
baz=72							
Z35A	**Perchaven, San**	**71.54**	**336**	⇓P	**P**	**19 21 27.4**	**+0.2**
baz=72							
329A	**Wagon Wheel Ra**	**71.61**	**332**	⇑P	**P**	**19 21 28.1**	**+0.4**
baz=72							
ABTX	**Abilene, Hawle**	**71.74**	**334**	⇓P	**P**	**19 21 28.9**	**+0.6**
baz=72							
229A	**Bryant Ranch,**	**71.97**	**332**	⇓P	**P**	**19 21 30.5**	**+0.7**
baz=72							
Z33A	**Whitaker Ranch**	**72.02**	**335**	⇑P	**P**	**19 21 30.7**	**+0.7**
baz=72							
131A	**Roby**	**72.06**	**333**	⇑P	**P**	**19 21 30.6**	**+0.3**
baz=72							
130A	**Snyder**	**72.20**	**333**	⇑P	**P**	**19 21 31.2**	**0.0**
baz=72							
Y34A	**Reagan Ranch,**	**72.28**	**336**	⇓P	**P**	**19 21 31.7**	**+0.1**
baz=73							
Z32A	**Haskell**	**72.29**	**334**	⇑P	**P**	**19 21 31.9**	**+0.2**
baz=73,SNR=5.3							
228A	**UT Block 9, Go**	**72.41**	**331**	⇑P	**P**	**19 21 32.6**	**+0.1**
baz=73							
Z31A	**Sharp Cattle R**	**72.54**	**334**	⇓P	**P**	**19 21 33.4**	**+0.3**
baz=73,SNR=13							
Y33A	**Hilltop Ranch,**	**72.62**	**335**	⇑P	**P**	**19 21 33.9**	**+0.3**
baz=73							
128A	**Castleberry Fa**	**72.81**	**332**	⇑P	**P**	**19 21 35.1**	**+0.2**
baz=73,SNR=6.0							
Z30A	**Sanderson Ranc**	**72.88**	**333**	⇑P	**P**	**19 21 35.2**	**0.0**
baz=73,SNR=5.7							
X34A	**Smith Ranch, M**	**72.89**	**336**	⇓P	**P**	**19 21 35.6**	**+0.4**
baz=73							
Y32A	**R-V Farms, Ver**	**72.91**	**335**	⇑P	**P**	**19 21 35.8**	**+0.6**
baz=73							
Z29A	**Hungry Hill Ra**	**73.08**	**333**	⇑P	**P**	**19 21 36.2**	**-0.2**
baz=73,SNR=10.0							
Y31A	**Rekieta Farm,**	**73.16**	**334**	⇑P	**P**	**19 21 37.6**	**+0.8**
baz=74							
X32A	**Elmer**	**73.23**	**335**	⇓P	**P**	**19 21 37.4**	**+0.3**
baz=74							
Z28A	**Tucker Farm, M**	**73.36**	**332**	⇓P	**P**	**19 21 38.2**	**+0.1**
baz=74							
TUL1	**Leonard**	**73.44**	**338**	⇑P	**P**	**19 21 38.6**	**+0.2**
baz=74							
DBIC	**Dimbokro**	**73.59**	**70**	P	**P**	**19 21 39.6**	**-0.2**
comp=N,2.7nm,0.7s,baz=203,slow=7.8,SNR=4.4							
Y29A	**Porterfield Fa**	**73.60**	**333**	⇑P	**P**	**19 21 39.5**	**+0.1**
baz=74,SNR=9.2							
W33A	**Caddo, Fort Co**	**73.61

	baz=74				
MSTX	Muleshoe	74.11 332	⇑P	P	19 21 42.3 -0.1
	baz=74,SNR=5.9				
MSTX	Muleshoe	74.11 332	eP	P	19 21 42.5 0.0
	comp=N,8.8nm,0.8s				
X29A	Tulia	74.13 333	⇓P	P	19 21 42.6 +0.1
	baz=74				
W31A	Holland Ranch,	74.15 335	⇑P	P	19 21 42.9 +0.3
	baz=74				
V33A	Lossen Ranch,	74.16 336	⇓P	P	19 21 42.7 +0.2
	baz=74				
Y27A	Causey	74.19 332	⇓P	P	19 21 42.8 -0.2
	baz=74				
U34A	Anderson Ranch	74.47 337	⇑P	P	19 21 44.5 +0.1
	baz=75				
319A	Douglas	74.67 326	⇓P	P	19 21 47.2 +1.4
	baz=75				
W29A	Amarillo	74.71 334	⇓P	P	19 21 46.5 +0.6
	baz=75				
U32A	Winter Ranch,	74.90 336	⇑P	P	19 21 47.3 +0.4
	baz=75				
121A	Cookes Peak, D	74.96 328	⇓P	P	19 21 48.4 +0.9
	baz=75				
121A	Cookes Peak, D	74.96 328	eP	P	19 21 48.8 +1.3
	comp=N,11nm,1.1s				
X26A	CR and CF Fran	75.03 332	⇓P	P	19 21 48.7 +0.9
	baz=75				
Z22A	Elephant Butte	75.22 329	⇑P	P	19 21 50.1 +1.2
	baz=76				
T33A	Patterson Ranc	75.29 337	⇑P	P	19 21 49.6 +0.5
	baz=76				
W26A	Owens Ranch, T	75.49 332	⇓P	P	19 21 51.2 +0.8
	baz=76				
W25A	X Bar L Ranch,	75.87 332	⇑P	P	19 21 52.9 +0.3
	baz=76,SNR=5.6				
S32A	Newby Ranch, P	76.08 337	⇓P	P	19 21 54.3 +0.7
	baz=76				
S31A	Mullinville	76.19 336	⇑P	P	19 21 54.7 +0.5
	baz=76				
W24A	Lazy 6 Ranch,	76.25 331	⇓P	P	19 21 55.0 +0.2
	baz=76,SNR=5.7				
U27A	Thompson Grove	76.30 333	⇑P	P	19 21 55.5 +0.5
	baz=77				
ANMO	Albuquerque	76.45 330	P	P	19 21 56.5 +0.5
	comp=N,2.4nm,0.8s,baz=144,slow=4.5,SNR=5.8				
V25A	Rancho No Teng	76.47 332	⇑P	P	19 21 56.6 +0.6
	baz=77,SNR=8.7				
U26A	Atchley Ranch,	76.62 333	⇑P	P	19 21 57.6 +0.7
	baz=77,SNR=5.2				
V24A	Rampart Ranch,	76.64 331	⇓P	P	19 21 57.5 +0.4
	baz=77				
T28A	Walsh	76.66 334	⇓P	P	19 21 57.4 +0.5
	baz=77				
S29A	Ulysses	76.75 335	⇑P	P	19 21 58.3 +0.8
	baz=77				
T27A	Campo	76.83 334	⇑P	P	19 21 58.6 +0.7
	baz=77				
214A	Organ Pipe Nat	76.84 324	⇑P	P	19 21 59.7 +1.7
	baz=77				
U25A	Circle Dot Ran	76.88 332	⇓P	P	19 21 59.2 +0.9
	baz=77,SNR=8.5				
Q32A	Meitler Ranch,	77.14 338	⇓P	P	19 22 00.2 +0.7
	baz=77				
T26A	Comanche Natio	77.25 333	⇓P	P	19 22 01.2 +0.8
	baz=78				
Q31A	Ellis	77.42 337	⇓P	P	19 22 02.1 +1.0
	baz=78				
V22A	San Miguel Ran	77.47 330	⇑P	P	19 22 03.4 +1.7
	baz=78,SNR=12				
T25A	Trinidad	77.53 333	⇓P	P	19 22 03.1 +1.1
	baz=78,SNR=8.0				
S26A	Kim	77.60 333	⇓P	P	19 22 03.1 +0.9
	baz=78,SNR=8.6				
R28A	Tribune	77.64 335	⇑P	P	19 22 02.7 +0.3
	baz=78				
Q30A	Quinter	77.66 336	⇓P	P	19 22 03.3 +0.9
	baz=78				
Q29A	Oakley	77.84 336	⇑P	P	19 22 03.8 +0.4
	baz=78				
T24B	San Luis	77.84 332	⇑P	P	19 22 05.0 +1.2
	baz=78,SNR=6.5				
U22A	Llaves	77.84 330	⇑P	P	19 22 04.9 +1.2
	baz=78				
P31A	Stockton	77.88 337	⇓P	P	19 22 04.3 +0.7
	baz=78				
R27A	Eads	77.94 334	⇓P	P	19 22 04.6 +0.5
	baz=78				
113A	Mohawk Valley,	77.97 323	⇑P	P	19 22 05.7 +1.5
	baz=78				
S25A	Robets Cordova	78.00 333	⇑P	P	19 22 05.2 +0.7
	baz=78				
P30A	Selden	78.18 337	⇑P	P	19 22 06.1 +0.8
	baz=78				
R26A	Arlington	78.19 334	⇑P	P	19 22 06.6 +1.1
	baz=78				
X16A	Lo Mia Camp, P	78.20 326	⇓P	P	19 22 07.2 +1.5
	baz=78				
O32A	Brockman Farm,	78.21 338	⇓P	P	19 22 05.8 +0.4
	baz=78				
S24A	Houchin Ranch,	78.28 332	⇑P	P	19 22 07.2 +1.0
	baz=79,SNR=6.9				
R25A	Fountain Ranch	78.37 333	⇓P	P	19 22 07.1 +0.6
	baz=79				
SADO	Sadowa	78.68 353	P	P	19 22 07.3 -0.5
	comp=N,1.3nm,0.3s,baz=58,slow=9.5,SNR=4.4				
BOSA	Boshof	78.69 117	P	P	19 22 08.5 -0.2
	comp=N,2.3nm,0.6s,baz=261,slow=5.7,SNR=6.8				
R24A	Sanders Place,	78.75 333	⇓P	P	19 22 10.1 +1.4
	baz=79				
Q26A	Hugo	78.77 334	⇑P	P	19 22 09.3 +0.6
	baz=79				
R23A	Moffat	79.00 332	⇑P	P	19 22 11.3 +1.2
	baz=79				
S22A	4UR Ranch, Cre	79.01 331	⇓P	P	19 22 11.4 +1.2
	baz=79				
Q25A	Bedland, Calha	79.03 333	⇓P	P	19 22 10.6 +0.4
	baz=79				
WUAZ	Wupatki	79.08 327	⇑P	P	19 22 11.9 +1.4
	baz=79				
BGNE	Belgrade	79.22 339	⇑P	P	19 22 11.2 +0.3
	baz=80				
MVCO	Mesa Verde	79.24 330	⇑P	P	19 22 12.0 +0.6
	baz=80				
Q24A	Divide	79.41 333	⇑P	P	19 22 13.6 +1.2
	baz=80				
M31A	Lambtecht Ranc	79.41 338	⇑P	P	19 22 12.6 +0.6
	baz=80				
P25A	Willow Gulch B	79.52 334	⇓P	P	19 22 13.7 +0.9
	baz=80				
BC3	Big Chuckawall	79.53 323	⇓P	P	19 22 13.8 +0.9
	baz=80				
IRM	Iron Mountain	79.78 323	⇑P	P	19 22 15.1 +1.0
	baz=80				
O26A	Horse Wrangler	79.86 335	⇓P	P	19 22 15.8 +1.3
	baz=80				
W13A	Hualapai Mount	79.91 325	⇓P	P	19 22 16.0 +0.9
	baz=80				
PFO	Pinyon Flats O	80.00 322	P	P	19 22 16.9 +1.4
	comp=N,5.6nm,0.9s,baz=114,slow=4.9,SNR=5.9				
PFO	Pinyon Flats O	80.00 322	⇓P	P	19 22 17.2 +1.8
	baz=80				
L31A	Butterfield Fa	80.13 339	⇓P	P	19 22 16.1 +0.2
	baz=80				
U15A	North Rim	80.25 327	⇓P	P	19 22 18.1 +1.1
	baz=80				
ISCO	Idaho Springs	80.31 333	⇑P	P	19 22 18.0 +0.8
	baz=81				
GMRC	Granite Mounta	80.52 323	⇓P	P	19 22 19.8 +1.5
	baz=81				
O23A	Lake Granby, G	80.78 333	⇑P	P	19 22 20.9 +1.2
	baz=81				
HEC	Hector,Ludlow	80.90 323	⇓P	P	19 22 21.9 +1.7
	baz=81				
ECSD	EROS Data Cent	80.92 341	⇑P	P	19 22 20.0 0.0
	baz=81				
O22A	Kremmling	80.98 333	⇓P	P	19 22 21.2 +0.4
	baz=81				
TUQ	Turquoise Moun	81.18 324	⇓P	P	19 22 23.0 +1.3
	baz=81				
N23A	Red Feather La	81.39 333	⇓P	P	19 22 24.1 +1.2
	baz=82				
M24A	Cheyenne	81.48 334	⇑P	P	19 22 24.1 +0.9
	baz=82				
N22A	Wattenberg Ran	81.50 333	⇓P	P	19 22 24.6 +1.1
	baz=82				
J29A	Okreek	81.70 338	⇑P	P	19 22 24.7 +0.5
	baz=82				
L25A	Engebretsen Ra	81.78 335	⇓P	P	19 22 25.7 +1.0
	baz=82				
M23A	Laramie	81.81 334	⇓P	P	19 22 26.5 +1.5
	baz=82				
J27A	Elkhorn Farm,	82.09 337	⇑P	P	19 22 27.3 +1.0
	baz=82				
I28A	Midland	82.50 338	⇓P	P	19 22 28.8 +0.5
	baz=83				
J26A	Sides Ranch, S	82.50 336	⇑P	P	19 22 29.0 +0.7
	baz=83				
TPNV	Topopah Spring	82.54 324	⇓P	P	19 22 30.1 +1.3
	baz=83				
L22A	Ellis Ranch, M	82.56 334	⇑P	P	19 22 29.9 +1.0
	baz=83				
TORD	Torodi Ar. Bea	82.63 69	P	P	19 22 29.4 -0.2
	comp=N,2.3nm,0.8s,baz=232,slow=4.9,SNR=12				
TORD			pP	pP	19 22 59.4 +0.3
	comp=N,1.2nm,0.9s,baz=242,slow=4.3,SNR=2.6				
ISA	Isabella, Lake	82.64 322	⇑P	P	19 22 30.8 +1.5
	baz=83				
H29A	Onida	82.77 339	⇑P	P	19 22 29.8 +0.1
	baz=83				
J25A	Sunshine Ranch	82.81 336	⇑P	P	19 22 30.6 +0.5
	baz=83				
K23A	Bowen Ranch, D	82.89 334	⇓P	P	19 22 31.4 +0.9
	baz=83				
J24A	Dixon Ranch, L	83.06 335	⇓P	P	19 22 32.3 +1.0
	baz=83				
H28A	Mission Ridge	83.06 338	⇓P	P	19 22 31.8 +0.6
	baz=83				
I26A	New Underwood	83.07 337	⇑P	P	19 22 31.7 +0.4
	baz=83				
K22A	Casper	83.13 334	⇓P	P	19 22 32.2 +0.4
	baz=83				
R11A	Troy Canyon, C	83.34 326	⇓P	P	19 22 34.0 +1.0
	baz=84,SNR=5.8				
I25A	Rochford	83.35 336	⇓P	P	19 22 33.6 +0.7
	baz=84				
H27A	Howes	83.36 338	⇓P	P	19 22 33.1 +0.4
	baz=84				
K21A	Alcova	83.38 333	⇑P	P	19 22 33.1 0.0
	baz=84				
G28A	Parade	83.39 339	⇑P	P	19 22 33.1 +0.3
	baz=84				
I24A	Kuemmerle Ranc	83.51 336	⇑P	P	19 22 34.1 +0.5
	baz=84				
DUG	Dugway, Tooele	83.58 328	⇑P	P	19 22 34.3 +0.2
	baz=84				
G26A	Maurine	84.11 338	⇓P	P	19 22 37.1 +0.5
	baz=84				
I22A	9 Mile Ranch,	84.19 334	⇓P	P	19 22 37.0 -0.1
	baz=84				
H24A	Dirks Ranch, A	84.27 336	⇑P	P	19 22 37.4 0.0
	baz=85				
G25A	Newell	84.28 337	⇓P	P	19 22 38.0 +0.5
	baz=85				
J20A	Shoshoni	84.31 333	⇑P	P	19 22 38.7 +1.0
	baz=85				
E29A	Napoleon	84.37 340	⇓P	P	19 22 37.9 +0.1
	baz=85				
PDAR	Pinedale Array	84.38 332	P	P	19 22 37.8 -0.5
	comp=N,1.7nm,0.8s,baz=139,slow=5.9,SNR=9.7				
I21A	Big Trails, Te	84.41 334	⇓P	P	19 22 38.6 +0.3
	baz=85				
F27A	Lemmon	84.45 338	⇑P	P	19 22 38.6 +0.4
	baz=85				
J19A	Crowheart	84.61 333	⇓P	P	19 22 39.6 +0.3
	baz=85				
E28A	Huff	84.68 339	⇓P	P	19 22 39.4 0.0
	baz=85				
NVAR	Mina Array Bea	84.70 324	P	P	19 22 40.8 +0.8
	comp=N,1.6nm,0.8s,baz=159,slow=6.2,SNR=10				
NVAR			sP	sP	19 23 23.4 +1.5
	comp=N,0.9nm,0.8s,baz=157,slow=4.9,SNR=3.2				
D29A	Pettibone, Tap	84.81 340	⇓P	P	19 22 39.8 -0.1
	baz=85				
I20A	Worland	84.84 333	⇓P	P	19 22 41.0 +0.6
	baz=85				
F25A	Bowman	84.95 337	⇓P	P	19 22 40.8 0.0
	baz=85				
G23A	Biddle	84.95 336	⇑P	P	19 22 40.9 +0.1
	baz=85				
C30A	Mose, Pekin	85.09 341	⇓P	P	19 22 41.6 +0.2
	baz=85				
ELK	Elko	85.10 327	P	P	19 22 42.4 +0.5
	comp=N,1.7nm,0.7s,baz=176,slow=4.6,SNR=8.5				
I19A	Meeteetse	85.24 333	⇓P	P	19 22 42.9 +0.4
	baz=86				
D26A	Manning	85.61 338	⇓P	P	19 22 44.4 +0.4
	baz=86				
I17A	Pilgrim Ck.	85.75 332	⇓P	P	19 22 45.9 +0.8
	baz=86				
H19A	Powell	85.78 333	⇓P	P	19 22 45.4 +0.4
	baz=86				
G20A	Bridger	85.96 334	⇑P	P	19 22 45.7 -0.2
	baz=86				
H18A	Shoshone NF, C	86.04 333	⇑P	P	19 22 46.3 -0.1
	baz=86				
A29A	Manning Farm,	86.41 341	⇓P	P	19 22 48.0 +0.1
	baz=87				
D23A	Lindsay	86.62 337	⇑P	P	19 22 49.3 +0.3
	baz=87				
HLID	Hailey	87.02 329	⇓P	P	19 22 52.1 +1.0
	baz=87				
HLID	Hailey	87.02 329	eP	P	19 22 52.0 +0.9
	comp=N,1.0nm,1.0s				
E20A	Meyer Farm, Mu	87.03 335	⇑P	P	19 22 51.2 +0.2
	baz=87				
C23A	Lambert	87.16 337	⇑P	P	19 22 51.9 +0.3
	baz=88				
A26A	Wade Farm, Ken	87.17 340	⇑P	P	19 22 52.0 +0.4
	baz=88				
E19A	Rath Farm, Rou	87.23 334	⇑P	P	19 22 52.0 0.0
	baz=88				
D20A	Manuel Ranch,	87.54 335	⇓P	P	19 22 53.2 -0.2
	baz=88				
D19A	Cripps Ranch,	87.86 335	⇑P	P	19 22 55.4 +0.4
	baz=88				
A22A	Carney Farms,	88.44 337	⇓P	P	19 22 57.8 +0.2
	baz=89				
B20A	Solberg Farm,	88.66 336	⇑P	P	19 22 58.9 +0.3
	baz=89				
B19A	Brinkman Farms	88.99 335	⇑P	P	19 23 00.6 +0.4
	baz=89				
A20A	Cobblestone Ra	89.00 336	⇓P	P	19 23 01.0 +0.7
	baz=89				
ASAR	Alice Springs	118.42 205	PKP	PKPdf	19 28 52.2 -1.1
	comp=N,0.3nm,0.7s,baz=145,slow=3.4,SNR=4.0				
WRA	Warramunga Arr	121.66 207	PKP	PKPdf	19 28 58.7 -0.8
	comp=N,0.6nm,0.5s,baz=165,slow=1.6,SNR=27				
FINES	FINESS Array B	121.95 34	PKP	PKPdf	19 28 58.0 -0.7
	comp=N,1.1nm,0.8s,baz=306,slow=1.2,SNR=5.1				
ARCES	ARCESS Array B	123.20 25	PKP	PKPdf	19 29 00.1 -0.7
	comp=N,3.6nm,1.0s,baz=262,slow=1.8,SNR=4.3				
H11S2	WAKE ISLAND Hyl	27.40 268	T	T	21 48 24.6
	baz=118				
H11S1	WAKE ISLAND Hyl	27.41 268	T	T	21 48 25.5
	baz=119				
H11S3	WAKE ISLAND Hyl	27.42 268	T	T	21 48 25.8
	baz=118				
KKAR	Karatay Array	148.04 61	ePKPbc	PKPbc	19 29 50.8 +0.1
AAK	Ala-Archa	151.00 62	ePKPbc	PKPbc	19 29 59.0 +0.8
TKM2	Tokmak 2	151.78 61	ePKPbc	PKPbc	19 29 59.9 -0.1
ZALV	Zalesovo Beam	153.21 34	PKPbc	PKPbc	19 30 02.6 +0.1
	comp=N,2.2nm,0.5s,baz=309,slow=2.8,SNR=14				
ZALV			pPKPbc	pPKPbc	19 30 34.9 +1.2
	comp=N,0.9nm,0.6s,baz=303,slow=3.0,SNR=3.0				
MKAR	Makanchi Array	155.43 50	PKPbc	PKPdf	19 30 07.3 +8.9
	comp=N,0.3nm,0.6s,baz=305,slow=5.1,SNR=4.2				
MKAR			PKPab	PKPab	19 30 24.5 0.0
	comp=N,0.3nm,0.5s,baz=300,slow=5.8,SNR=7.4				
SONM	Songino Array	165.78 10	PKPab	PKPab	19 31 09.0 -0.6
	comp=N,0.4nm,0.9s,baz=337,slow=2.8,SNR=3.8				

GUC 17 19:18:04.1±0.7,34°.44S×71°.99W,h14km±5km,ML3.6,
3C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.68	45	⇑iP	Pg	19 18 16.6	-0.9
LNV				i S1	Sb	19 18 26.2	-1.0
NICH	Los Niches	0.84	132	⇓iP	Pg	19 18 19.3	-1.2
NICH				i S	Sg	19 18 31.1	-0.5
NICH				AML	AML	19 18 34.5	
	comp=N,5μm,0.5s						
TALC	Talca	1.00	163	eP1	Pb	19 18 22.0	-1.2
TALC				i S	Sb	19 18 35.3	-1.0
TACH	Talagante	1.18	48	eP1	Pn	19 18 24.3	-1.9
TACH				eS1	Sb	19 18 40.0	-1.4
CACH	El Canelo	1.20	75	⇓iP	Pn	19 18 25.5	-1.1
CACH				i S1	Sn	19 18 42.2	-0.7
CHCH	Chadas Angostu	1.22	66	⇑iP	Pn	19 18 25.7	-1.2
CHCH				i S1	Sg	19 18 42.0	-1.8
ANTU	Antumapu	1.43	53	i S	Sn	19 18 47.9	-0.4
ANTU				AML	AML	19 18 51.6	
	comp=N,1μm,0.4s						
LNCH	Linares	1.44	167	⇑iP	Pn	19 18 29.1	-0.7
CLCH	Cerro Calan	1.60	50	eP	Pn	19 18 31.4	-0.6
CLCH				i S	Sn	19 18 52.1	-0.5
CLCH				AML	AML	19 19 01.0	
	comp=E,1μm,0.5s						
PEL	Peldehue	1.69	40	i P1	Pn	19 18 33.5	+0.2
PEL				i S	Sn	19 18 55.2	+0.3
PEL				AML	AML	19 18 59.9	
	comp=N,2μm,0.5s						

*ISCJB **17** 19:34:30.7±0.8,7°.98S±0°.05×104°.21E±0°.05,h33km,*
mb3.5/6,Error ellipse: s-maj=8.9km s-min=4.6km
az=140.4
*IDC **17** 19:34:31.6±3.2,7°.99S×104°.76E,h0km,mb3.6/6,*
mb1 3.8/7,mb1mx3.6/24,mbtmp3.7/7,ML4.3/1,Error
ellipse: s-maj=116.0km s-min=20.5km az=49.0
*DJA **17** 19:34:33.8±2.1,8°.5±4°.4×10°.4E±°.1,h29km±29km,M4.4/15,*
mb4.6/6,MLv4.4/15

ISC 17 19:34:33.3±1.4,7°.93S±0°.09×104°.27E±0°.09,h35km,n34,
σ19°32/35,mb3.6/6,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	1.92	47	P	Pn	19 35 03.4	-0.1
CGJI				S	Sn	19 35 25.9	-0.6
KASI	Kota Agung	2.40	5	P	Pn	19 35 09.6	-0.5
KASI				S	Sn	19 35 37.3	-0.9
SKJI	Sukabumi	2.45	68	P	Pn	19 35 11.5	+0.7
SKJI				S	Sn	19 35 39.9	+0.4
XMI	Christmas Isla	2.88	151	P	Pn	19 35 11.3	-5.4
	baz=2.8,SNR=7.5						
LWLI	Liwa	2.90	356	P	Pn	19 35 16.4	-0.6
LWLI				S	Sn	19 35 50.5	-0.2
CNJI	Cibinong	2.90	78	P	Pn	19 35 17.2	+0.2
MDSI	Maura Dua	3.42	359	P	Pn	19 35 23.9	-0.2
MDSI				S	Sn	19 36 03.4	0.0
LEM	Lembang	3.50	72	P	Pn	19 35 26.5	+1.1
LEM				S	Sn	19 36 08.3	+2.6
LEM	Lembang	3.50	72	P	Pn	19 35 29.9	+4.5
	baz=3.9,SNR=5.7						
CISI	Cisompet, Garu	3.54	84	P	Pn	19 35 26.5	+0.7
CISI	Cisompet, Garu	3.54	84	P	Pn	19 35 25.8	0.0
	baz=3.9,SNR=14						
MNAI	Manna	3.77	340	P	Pn	19 35 27.9	-1.1
MNAI	Manna	3.77	340	P	Pn	19 35 28.0	-1.1
	baz=4.0,SNR=6.0						
MNAI				S	Sn	19 36 14.2	+2.0
	baz=4.0,SNR=6.3						
CMJI	Cimerak	4.14	88	P	Pn	19 35 35.0	+0.9
CMJI				S	Sn	19 36 22.5	+1.1
KPJI	Karang Pucung	4.66	83	P	Pn	19 35 40.9	-0.3
UGM	Wanagama	6.20	90	P	Pn	19 36 03.3	+0.9
	132nm,1.7s,0.7nm						
UGM	Wanagama	6.20	90	P	Pn	19 36 02.7	+0.3
	baz=6.5,SNR=22						
PCJI	Pacitan	6.85	93	P	Pn	19 36 11.5	+0.2
	45nm,1.1s,0.2nm						
PWJI	Pagerwojo	7.47	91	P	Pn	19 36 20.5	+0.7
	51nm,0.5s,0.2nm						
GMJI	Gumukmas	9.09	93	P	Pn	19 36 43.2	+1.1
	14nm,1.2s						
JAGI	Jajag, Banyuwa	9.80	94	P	Pn	19 36 51.9	+0.1
JAGI	Jajag, Banyuwa	9.80	94	P	Pn	19 36 51.7	-0.2
	baz=10,SNR=9.1						
JAGI				S	Sn	19 38 39.3	-1.4
	baz=10,SNR=3.8						
BATI	Baumata	19.29	98	P	P	19 38 52.2	-3.1
	0.8nm,0.3s,baz=281,slow=10,SNR=3.3						
SOEI	Soe	19.85	97	P	Pn	19 39 02.5	-0.8
	baz=20,SNR=4.5						
KNRA	Kununurra	25.16	110	P	P	19 39 56.1	+0.5
	baz=25,SNR=4.2						
CMAR	Chiang Mai Arr	26.74	349	P	P	19 40 14.1	+4.4
	0.5nm,0.6s,baz=181,slow=9.0,SNR=3.6						
WRA	Warramunga Arr	31.47	115	P	P	19 40 51.7	-0.3
	1.1nm,0.5s,baz=289,slow=9.9,SNR=16						
H08S2	Diego Garcia H	31.48	268	T	T	20 15 07.6	
	baz=90						
H08S3	Diego Garcia H	31.49	268	T	T	20 15 11.2	
	baz=90						
H08S1	Diego Carcia H	31.50	268	T	T	20 15 07.1	
	baz=90						
ASAR	Alice Springs	32.42	122	P	P	19 40 59.1	-1.2
	0.2nm,0.8s,baz=293,slow=7.9,SNR=3.1						
SONM	Songino Array	55.55	2	P	P	19 44 09.4	+4.2
	0.9nm,0.9s,baz=173,slow=7.5,SNR=7.8						
MKAR	Makanchi Array	57.88	342	P	P	19 44 26.4	+4.7
	0.2nm,0.5s,baz=149,slow=6.7,SNR=3.8						
ZALV	Zalesovo Beam	63.79	347	P	P	19 45 06.7	+5.1
	0.5nm,0.4s,baz=143,slow=5.1,SNR=3.0						

*IDC **17** 19:40:50.2±1.8,20°.07S×168°.77E,h0km,mb4.1/4,*
mb1 4.3/4,mb1mx3.9/16,mbtmp4.0/4,ML2.8/1,Error
ellipse: s-maj=71.3km s-min=28.8km az=147.0
*ISCJB **17** 19:40:52.9±1.4,20°.1S±0°.2×168°.6E±0°.3,h25km,mb4.0/4,*
Error ellipse: s-maj=47.3km s-min=12.8km az=41.7

ISC 17 19:40:54.1±1.5,20°.1S±0°.3×168°.7E±0°.3,h25km,n6,
σ0°98/7,mb4.0/4,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.89	227	Pn	Pn	19 41 39.7	+1.1
	1.3nm,0.3s,baz=104,slow=17,SNR=8.4						
DZM				Sn	Sn	19 42 11.3	-1.3
	6.1nm,0.3s,baz=287,slow=19,SNR=8.9						
WRA	Warramunga Arr	32.28	264	P	P	19 47 20.5	-0.7
	1.0nm,0.8s,baz=94,slow=8.4,SNR=9.0						
ASAR	Alice Springs	32.46	257	P	P	19 47 23.3	+0.6
	3.5nm,0.7s,baz=85,slow=9.1,SNR=52						
SONM	Songino Array	87.64	323	P	P	19 53 40.7	+0.3
	0.5nm,0.9s,baz=108,slow=4.7,SNR=3.3						
TXAR	Lajitas Array	97.60	62	P	P	19 54 26.4	-0.5
	0.6nm,0.7s,baz=242,slow=1.9,SNR=5.6						
GERES	GERESS Array B	145.03	331	PKPbc	PKPbc	20 00 28.5	-0.2
	0.3nm,0.6s,baz=26,slow=5.4,SNR=3.7						

*IDC **17** 19:58:48.4±0.8,37°.27S×73°.89W,h0km,mb4.2/9,*
mb1 4.3/10,mb1mx4.2/19,mbtmp4.2/10,ML3.7/2,MS3.9/3,
Ms1 3.9/3,ms1mx3.3/21,Error ellipse: s-maj=29.9km
s-min=17.6km az=87.0
*ISCJB **17** 19:58:52.5±0.6,37°.18S±0°.06×73°.7W±0°.1,h33km,*
mb4.4/12,MS3.9/1,Error ellipse: s-maj=14.4km
s-min=7.5km az=13.5
*NEIC **17** 19:58:52.2±3.5,37°.19S×73°.85W,h24km±24km,mb4.3/2,*
Error ellipse: s-maj=20.2km s-min=8.6km az=84.0

ISC 17 19:58:54.0±0.7,37°.19S±0°.08×73°.8W±0°.1,h35km,n29,
σ0°92/28,mb4.4/12,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.35	145	Pn	Pn	19 59 57.4	-0.3
	1.8nm,0.3s,baz=315,slow=14,SNR=5.2						
PLCA				Lg	Lg	20 01 07.7	
	1.6nm,0.3s,baz=252,slow=20,SNR=1.9						
PLCA				LR	LR	20 01 41.2	
	comp=Z,1μm,19.2s,baz=318,slow=40						
CFAA	Coronel Fontan	7.22	41	Pn	Pn	20 00 35.6	-1.4
	0.3nm,0.3s,baz=211,slow=14,SNR=6.1						
CFAA				Sn	Sn	20 01 57.7	0.0
	0.2nm,0.3s,baz=196,slow=14,SNR=3.2						
LCO	Las Campanas	8.56	19	eP	Pn	20 00 53.8	-1.9
	15nm,0.6s						
TRQA	Tornquist	9.41	99	eP	Pn	20 01 07.9	+0.8
	16nm,0.8s						
LVC	Limon Verde	15.12	18	eP	Pn	20 02 24.8	-0.5
	14nm,1.0s						
USHA

3.7nm,0.8s,baz=228,slow=14,SNR=13
SIV LR LR 20 15 23.3
comp=Z,360nm,19.4s,baz=216,slow=41
VNA3 Neumayer Olymp 46.98 157 P **P 20 07 21.1 0.0**
VNA2 Neumayer--Watz 47.66 156 P **P 20 07 26.5 +0.1**
SNAA Sanae 49.20 157 P **P 20 07 38.2 -0.1**
SNAA Sanae 49.20 157 P **P 20 07 37.8 -0.5**
3.1nm,0.8s,baz=284,slow=11
QSPA South Pole Qui 53.05 180 P **P 20 08 06.7 -0.7**
3.3nm,0.9s,baz=132,slow=6.3,SNR=7.6
QSPA South Pole Qui 53.05 180 *e*P **P 20 08 06.3 -1.1**
VNDA Vanda 60.70 192 P **P 20 09 02.2 +1.0**
TXAR Lajitas Array 71.86 333 P **P 20 10 13.5 +0.1**
0.9nm,0.6s,baz=156,slow=8.3,SNR=10
LIC Lamto 77.13 72 *e*PKP2 **P 20 10 45.1 +0.9**
36nm,1.3s
TIC Toumodi 77.41 72 *e*PKP2 **P 20 10 46.7 +0.9**
4.6nm,0.2s
KIC Kosan Boka 77.44 72 *e*PKP2 **P 20 10 46.2 +0.3**
30nm,1.0s
DBIC Dimbokro 77.55 72 P **P 20 10 46.9 +0.4**
6.1nm,0.9s,baz=206,slow=3.3,SNR=6.4
BOSA Boshof 79.84 118 P **P 20 10 59.3 +0.1**
3.4nm,0.8s,baz=254,slow=4.4,SNR=4.0
NVAR Mina Array Bea 85.71 326 P **P 20 11 30.3 +0.9**
0.5nm,0.7s,baz=170,slow=5.5,SNR=3.6
TORD Torodi Ar. Bea 86.62 71 P **P 20 11 34.1 0.0**
2.0nm,0.7s,baz=222,slow=4.3,SNR=17
WRA Warramunga Arr 117.29 210 PKP **PKPdf 20 17 34.2 -1.9**
0.3nm,0.9s,baz=152,slow=1.6,SNR=3.8
ABKAR Abkulak array 144.73 55 *e*PKPdf PKPbc 20 18 25.2 -0.2
ZALV Zalesovo Beam 157.67 35 PKPab **PKPab 20 19 18.6 +0.2**
1.1nm,0.6s,baz=310,slow=4.5,SNR=4.4
MKAR Makanchi Array 159.87 54 PKPab **PKPab 20 19 28.5 +0.2**
0.7nm,0.7s,baz=289,slow=4.4,SNR=5.4
SONM Songino Array 169.36 359 PKPab **PKPab 20 20 09.6 -0.3**
0.3nm,0.8s,baz=323,slow=2.2,SNR=3.3

IDC 17 20:03:48.3±3.6, 5°.03S×151°.42E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/17, mbtmp3.2/2, MS3.9/1, Ms1 3.9/1, ms1mx2.9/11, Error ellipse: s-maj=142.3km s-min=48.5km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.28**	**227**	P	P	20 08 47.5	+0.2
0.2nm,0.4s,baz=52,slow=10.0,SNR=5.3							
ASAR	**Alice Springs**	**25.07**	**221**	P	P	20 09 14.2	-0.5
0.6nm,0.7s,baz=59,slow=8.9,SNR=6.8							
URZ	**Urewera**	**40.50**	**148**	LR	LR	20 26 44.8	
comp=Z,147nm,19.7s,baz=347,slow=34							
TORD	**Torodi Ar. Bea**	**149.06**	**287**	PKPbc	PKPbc	20 23 39.3	-0.3
0.2nm,0.7s,baz=92,slow=2.8,SNR=3.1							

ISCJB 17 20:04:06.3±1.8, 34°.54S±0°.03×71°.86W±0°.07, h14km±11km, mb4.3/11, Error ellipse: s-maj=10.6km s-min=4.3km az=13.4
NEIC 17 20:04:06.0, 34°.53S×71°.86W, h13km, mb4.4/3, ML4.9(GUC), After GUC.
NEIC Felt [IV] at Pichilemu and San Fernando; [II] at El Tabo, Rancagua, San Antonio and Santiago.
IDC 17 20:04:06.1±0.7, 34°.64S×71°.62W, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.4/19, mbtmp4.4/12, ML3.6/2, Error ellipse: s-maj=24.8km s-min=17.5km az=79.0
GUC 17 20:04:06.8±0.7, 34°.53S×71°.86W, h13km±5km, ML4.9
ISC 17 20:04:05.8±1.6, 34°.53S±0°.03×71°.80W±0°.08, h1km±10km, n42, σ1°.07/42, mb4.5/11, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.66**	**29**	⇑*iP*	**Pb**	**20 04 19.4**	**-0.7**
NICH	**Los Niches**	**0.66**	**135**	⇓*iP*	**Pb**	**20 04 20.1**	**-0.1**
NICH				*i* S	**Sb**	**20 04 30.2**	**+0.3**
NICH				AML	AML	20 04 32.5	
comp=E,130μm,0.5s							
TALC	**Talca**	**0.88**	**171**	⇓*iP*	**Pg**	**20 04 22.8**	**+0.1**
TALC				*i* S	**Sg**	**20 04 34.9**	**+0.9**
CACH	**El Canelo**	**1.07**	**68**	⇑*iP*	**Pb**	**20 04 27.1**	**-0.2**
CHCH	**Chadas Angostu**	**1.12**	**58**	⇓*iP*	**Pb**	**20 04 27.6**	**-0.4**
LNCH	**Linares**	**1.32**	**173**	⇑*iP*	**Pn**	**20 04 29.7**	**-1.8**
LNCH				*i* S	**Sg**	**20 04 47.7**	**-0.7**
ANTU	**Antumapu**	**1.36**	**45**	⇑*iP*	**Pn**	**20 04 31.6**	**-0.5**
ANTU				*i* S	**Sn**	**20 04 49.6**	**-1.1**
ANTU				AML	AML	20 04 54.7	
comp=N,26μm,0.4s							
LACH	**Col Las Americ**	**1.50**	**45**	*e*P	**Pn**	**20 04 33.6**	**-0.4**
LACH				*e*S	**Sg**	**20 04 53.8**	**-0.4**
CLCH	**Cerro Calan**	**1.54**	**43**	⇓*iP*	**Pn**	**20 04 34.3**	**-0.2**
CLCH				*i* S	**Sg**	**20 04 54.9**	**-0.5**
CLCH				AML	AML	20 05 03.2	
comp=E,34μm,0.6s							
PEL	**Peldehue**	**1.67**	**34**	⇑*iP*	**Pn**	**20 04 35.9**	**-0.3**
PEL				AML	AML	20 05 02.6	
comp=E,32μm,0.5s							
CFAA	**Coronel Fontan**	**4.18**	**47**	Pn	**Pn**	**20 05 12.9**	**+2.1**
comp=E,0.9nm,0.3s,baz=192,slow=12,SNR=30							
CFAA				Lg	Lg	20 06 16.5	
comp=E,3.5nm,0.3s,baz=302,slow=22,SNR=18							
LCO	**Las Campanas**	**5.58**	**10**	*e*P	**Pn**	**20 05 29.8**	**-0.4**
PLCA	**Paso Flores**	**6.27**	**171**	Pn	**Pn**	**20 05 41.5**	**+2.0**
comp=E,2.5nm,0.3s,baz=344,slow=9.2,SNR=13							
PLCA				Lg	Lg	20 07 14.4	
comp=E,1.8nm,0.3s,baz=285,slow=16,SNR=3.2							
PLCA	**Paso Flores**	**6.27**	**171**	*e*P	**Pn**	**20 05 41.6**	**+2.0**
comp=E,12nm,0.8s							
PLCA				Lg	Lg	20 07 14.4	
TRQA	**Tornquist**	**8.67**	**117**	*e*P	**Pn**	**20 06 13.9**	**+1.5**
comp=E,24nm,0.8s							
LPAZ	**La Paz**	**18.46**	**11**	P	**Pn**	**20 08 24.1**	**+0.4**
comp=E,0.2nm,0.3s,baz=177,slow=8.4,SNR=17							
LPAZ	**La Paz**	**18.46**	**11**	*e*P	**Pn**	**20 08 23.9**	**+0.2**
comp=E,11nm,0.8s							
USHA	**Ushuaia**	**20.43**	**174**	P	**P**	**20 08 42.8**	**-1.6**
comp=E,11nm,0.7s,baz=16,slow=2.6,SNR=2.4							
SIV	**San Ignacio**	**20.83**	**30**	P	**P**	**20 08 48.0**	**-0.9**
comp=E,8.7nm,1.0s,baz=227,slow=10,SNR=8.7							
NNA	**Nana**	**22.91**	**347**	P	**P**	**20 09 12.3**	**+1.0**
comp=E,7.7nm,0.6s,baz=191,slow=13,SNR=4.3							
SAML	**Samuel**	**26.66**	**19**	*e*P	**P**	**20 09 47.0**	**+0.7**
comp=E,5.9nm,0.6s							
BDFB	**Brasilia**	**28.47**	**55**	P	**P**	**20 10 03.9**	**+1.2**
comp=E,9.0nm,0.8s,baz=209,slow=5.9,SNR=6.4							
SNAA	**Sanae**	**51.02**	**158**	P	**P**	**20 13 09.4**	**+0.4**
comp=E,1.1nm,0.8s,baz=252,slow=9.6,SNR=7.5							
QSPA	**South Pole Qui**	**55.71**	**180**	*e*P	**P**	**20 13 44.0**	**+0.3**
comp=E,12nm,1.2s							
SBA	**Scott Base**	**62.60**	**192**	*e*P	**P**	**20 14 29.8**	**-1.2**
TXAR	**Lajitas Array**	**70.30**	**331**	P	**P**	**20 15 22.9**	**+1.9**
comp=E,1.9nm,0.5s,baz=155,slow=8.8,SNR=29							
DBIC	**Dimbokro**	**75.16**	**71**	P	**P**	**20 15 49.7**	**-0.5**
comp=E,1.7nm,0.5s,baz=180,slow=5.1,SNR=2.3							
BOSA	**Boshof**	**79.65**	**118**	P	**P**	**20 16 15.2**	**-0.1**
comp=E,4.6nm,0.6s,baz=254,slow=3.3,SNR=11							
TORD	**Torodi Ar. Bea**	**84.20**	**70**	P	**P**	**20 16 38.4**	**-0.9**
comp=E,2.5nm,0.8s,baz=261,slow=4.3,SNR=9.4							
PDAR	**Pinedale Array**	**84.33**	**333**	P	**P**	**20 16 41.5**	**+1.9**
comp=E,0.9nm,0.7s,baz=155,slow=4.4,SNR=7.9							
NVAR	**Mina Array Bea**	**84.43**	**325**	P	P	20 16 43.0	+2.8
comp=E,1.1nm,0.7s,baz=158,slow=6.8,SNR=9.6							
YKA	**Yellowknife Ar**	**102.62**	**341**	P	**Pdif**	**20 18 04.0**	**+0.4**
comp=E,0.2nm,0.7s,baz=134,slow=4.6,SNR=3.3							
WRA	**Warramunga Arr**	**120.39**	**209**	PKP	**PKPdf**	**20 22 57.9**	**-1.6**
comp=E,0.2nm,0.5s,baz=156,slow=1.7,SNR=11							
H11S2	**WAKE ISLAND Hyl**	**25.96**	**269**	T	T	22 41 29.6	
baz=120,slow=76,SNR=19							
H11S1	**WAKE ISLAND Hyl**	**25.97**	**269**	T	T	22 41 29.6	
baz=120,slow=76,SNR=18							
H11S3	**WAKE ISLAND Hyl**	**25.98**	**269**	T	T	22 41 29.6	
baz=120,slow=76,SNR=13							
H11N3	**WAKE ISLAND Hyl**	**26.39**	**270**	T	T	22 41 59.8	
baz=121,slow=76,SNR=17							
H11N1	**WAKE ISLAND Hyl**	**26.40**	**270**	T	T	22 42 00.4	
baz=121,slow=76,SNR=40							
H11N2	**WAKE ISLAND Hyl**	**26.41**	**270**	T	T	22 42 00.4	
baz=121,slow=76,SNR=22							
ZALV	**Zalesovo Beam**	**154.56**	**33**	PKP	**PKPdf**	**20 23 58.6**	**-0.7**
comp=E,0.3nm,0.3s,baz=307,slow=0.7,SNR=2.5							
ZALV				PKPbc	**PKiKP**	**20 24 07.4**	**-0.4**
comp=E,1.0nm,0.6s,baz=308,slow=3.6,SNR=4.4							
MKAR	**Makanchi Array**	**156.96**	**50**	PKPab	**PKPab**	**20 24 32.4**	**-0.6**
comp=E,0.5nm,0.7s,baz=316,slow=8.1,SNR=3.0							
SONM	**Songino Array**	**166.64**	**5**	PKP	**PKPdf**	**20 24 12.7**	**-0.1**
comp=E,0.2nm,0.3s,baz=20,slow=4.6,SNR=4.0							

DJA 17 20:05:26.4±0.4, 1°.N±4°.×12°.2E±°, h11km, M3.8/9, MLv3.8/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.69**	**161**	P	Pg	20 05 38.5	-1.2
MRSI				S	Sg	20 05 48.6	-0.1
MPSI	**Mapaga**	**1.98**	**247**	P	Pn	20 05 59.3	-0.6
APSI	**Ampana**	**2.03**	**182**	P	Pn	20 06 00.0	-0.5
KMSI	**Cibinong**	**2.33**	**104**	P	Pn	20 06 04.0	-0.6
LUWI	**Luwuk**	**2.40**	**154**	P	Pn	20 06 05.8	+0.1
LUWI				S	Sb	20 06 37.7	-1.6

WEL 17 20:14:01.0±0.5, 38°.37S×176°.02E, h158km±4km, ML3.6/12, 11C-2D, Error ellipse: s-maj=2.4km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**0.38**	**276**	⇑PN	Pn	20 14 23.1	+0.3
KATZ	**Kakaramea**	**0.65**	**203**	PN	Pn	20 14 24.2	0.0
KRVZ	**Karewarewa**	**0.78**	**202**	PN	Pn	20 14 24.8	-0.3
WTVZ	**West Tongariro**	**0.81**	**204**	PN	Pn	20 14 25.2	-0.1
TWVZ	**Taurewa**	**0.83**	**213**	PN	Pn	20 14 25.2	-0.1
OTVZ	**Oturere**	**0.84**	**199**	⇑PN	Pn	20 14 25.6	+0.1
NGZ	**Ngauruhoe**	**0.87**	**202**	PN	Pn	20 14 25.6	0.0
URZ	**Urewera**	**0.87**	**83**	⇓PN	Pn	20 14 25.0	-0.5
URZ				SN	Sn	20 14 42.7	-1.4
URZ				AML	AML	20 14 43.8	
BKZ	**Black Stump Fm**	**0.88**	**155**	PN	Pn	20 14 25.3	-0.4
BKZ				SN	Sn	20 14 43.1	-1.5
BKZ				AML	AML	20 14 45.3	
WPVZ	**Whakapapa**	**0.91**	**204**	PN	Pn	20 14 25.8	-0.1
HIZ	**Hauiti**	**0.92**	**261**	⇑PN	Pn	20 14 26.0	+0.1
TUVZ	**Tukino**	**0.94**	**197**	PN	Pn	20 14 26.2	0.0
NMHZ	**Naumai**	**0.95**	**140**	PN	Pn	20 14 27.0	+0.7
NMHZ				SN	Sn	20 14 46.3	+0.6
FWVZ	**Far West T-bar**	**0.95**	**202**	PN	Pn	20 14 26.5	0.0
WHVZ	**Whangaehu Hut**	**0.97**	**200**	PN	Pn	20 14 26.3	-0.3
TRVZ	**Turoa**	**1.00**	**201**	PN	Pn	20 14 26.6	-0.1
RAHZ	**Arahi**	**1.00**	**123**	PN	Pn	20 14 27.0	+0.5
RAHZ				SN	Sn	20 14 46.2	+0.1
MOVZ	**Moawhango**	**1.05**	**191**	⇑PN	Pn	20 14 26.5	-0.5
MTVZ	**Mangateitei**	**1.10**	**203**	⇑PN	Pn	20 14 27.2	-0.2
RAGZ	**Rawiri**	**1.11**	**97**	PN	Pn	20 14 27.5	0.0
SNGZ	**Shannon Statio**	**1.12**	**112**	PN	Pn	20 14 27.8	+0.3
BHHZ	**Black Hill Sta**	**1.12**	**178**	⇑PN	Pn	20 14 27.1	-0.5
ARHZ	**Aropaoanui**	**1.17**	**140**	PN	Pn	20 14 28.4	+0.4
MWZ	**Matawai**	**1.19**	**89**	⇓PN	Pn	20 14 27.9	-0.3
MWZ				AML	AML	20 14 48.1	
MWZ				AML	AML	20 14 49.1	
MCHZ	**McNeill Hill**	**1.20**	**154**	PN	Pn	20 14 28.8	+0.6
KRHZ	**Kereru**	**1.30**	**168**	⇑PN	Pn	20 14 29.0	-0.2
RIGZ	**Rimuhau**	**1.41**	**104**	PN	Pn	20 14 30.3	0.0
KNZ	**Kokohu**	**1.45**	**117**	PN	Pn	20 14 30.6	0.0
HAZ	**Te Kaha**	**1.52**	**67**	PN	Pn	20 14 30.5	-0.8
CKHZ	**Cape Kidnapper**	**1.53**	**148**	PN	Pn	20 14 31.6	+0.2
PNHZ	**Pukenui**	**1.55**	**175**	PN	Pn	20 14 31.0	-0.7
TWGZ	**Tauwhareparae**	**1.56**	**83**	PN	Pn	20 14 31.8	0.0
KAHZ	**Kahuranaki**	**1.57**	**155**	PN	Pn	20 14 31.9	0.0
WAZ	**Wanganui**	**1.60**	**210**	PN	Pn	20 14 31.7	-0.5
TSZ	**Takapari Road**	**1.69**	**181**	⇑PN	Pn	20 14 32.4	-0.7
TSZ				AML	AML	20 14 32.6	
WPHZ	**Waipukurau**	**1.72**	**169**	PN	Pn	20 14 32.7	-0.8
CNGZ	**Carnagh Statio**	**1.73**	**94**	PN	Pn	20 14 33.7	+0.2
PXZ	**Pawanui**	**1.78**	**159**	PN	Pn	20 14 33.7	-0.4
PXZ				AML	AML	20 14 48.4	
PUZ	**Puketiti**	**1.79**	**81**	PN	Pn	20 14 33.5	-0.7
PUZ				AML	AML	20 14 59.2	
DVHZ	**Dannevirke**	**1.93**	**177**	⇑PN	Pn	20 14 34.7	-1.1
PRHZ	**Porangahau**	**1.95**	**166**	PN	Pn	20 14 35.4	-0.7
WMGZ	**Waiomatatini S**	**1.97**	**74**	PN	Pn	20 14 35.6	-0.6
MXZ	**Matakaoa Point**	**1.98**	**67**	PN	Pn	20 14 36.1	-0.3
ANWZ	**Angora Road**	**2.12**	**170**	PN	Pn	20 14 37.0	-0.9
PRWZ	**Pori Road**	**2.18**	**181**	PN	Pn	20 14 37.6	-1.1
MRZ	**Mangatainoka R**	**2.31**	**188**	⇑PN	Pn	20 14 38.5	-1.7
MRZ				AML	AML	20 15 09.5	
MRZ				AML	AML	20 15 09.6	
BFZ	**Birch Farm**	**2.31**	**176**	PN	Pn	20 14 38.8	-1.5
TIWZ	**Tintock**	**2.41**	**182**	PN	Pn	20 14 39.7	-1.6
TIWZ				AML	AML	20 15 11.4	
TIWZ				AML	AML	20 15 11.9	
OGWZ	**Otaki Gorge**	**2.53**	**195**	⇑PN	Pn	20 14 41.0	-1.8
HOWZ	**Holdsworth Sta**	**2.55**	**189**	PN	Pn	20 14 41.1	-2.1
KIW	**Kapiti Island**	**2.63**	**199**	PN	Pn	20 14 41.8	-2.3
TMWZ	**Te Maipa**	**2.73**	**182**	PN	Pn	20 14 43.2	-2.2
MTW	**Mount Morrison**	**2.81**	**188**	PN	Pn	20 14 43.8	-2.5
CAW	**Cannon Point**	**2.83**	**195**	PN	Pn	20 14 44.2	-2.3
CAW				AML	AML	20 15 19.6	
CAW				AML	AML	20 15 20.8	
TRWZ	**Traveller**	**3.04**	**185**	PN	Pn	20 14 46.6	-2.4
TRWZ				AML	AML	20 15 24.6	
PAWZ	**Paruwai Farm**	**3.04**	**188**	PN	Pn	20 14 46.5	-2.7
MSWZ	**Moikau Station**	**3.10**	**191**	AML	AML	20 14 39.9	
MSWZ				PN	Pn	20 14 47.1	-2.8
MSWZ				AML	AML	20 15 28.8	
TCW	**Tory Channel**	**3.14**	**205**	PN	Pn	20 14 47.6	-2.7
TCW				AML	AML	20 15 25.9	
TCW				AML	AML	20 15 26.4	
PLWZ	**Palliser**	**3.25**	**190**	PN	Pn	20 14 48.7	-3.1

GUC 17 20:22:02.8±0.6, 32°.06S×70°.03W, h146km±6km, MD3.3, ML3.6, 1C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.21**	**317**	⇑*iP*	Pn	20 22 29.5	+0.3
CMCH				*i* S	Sn	20 22 49.8	+0.5
CMCH				AML	AML	20 22 51.2	
comp=N,2μm,0.7s							
PEL	**Peldehue**	**1.22**	**207**	*e*P1	Pn	20 22 29.4	+0.2
PEL				*i* S	Sn	20 22 49.5	-0.1
PEL				AML	AML	20 22 51.5	
comp=E,896nm,0.3s							
FCH	**Farellones**	**1.29**	**190**	⇓*iP*	Pn	20 22 27.7	-2.6
FCH				*i* S1	Sn	20 22 48.7	-2.7
FCH				AML	AML	20 22 50.0	
comp=E,338nm,0.4s							
CLCH	**Cerro Calan**	**1.40**	**197**	⇓*iP*	Pn	20 22 31.5	+0.4
CLCH				*i* S	Sn	20 22 53.2	+0.3
CLCH				AML	AML	20 22 54.9	
comp=E,814nm,0.4s							
ANTU	**Antumapu**	**1.59**	**198**	*i* S1	Sn	20 22 56.7	+0.3
ANTU				AML	AML	20 22 58.2	
comp=N,700nm,0.3s							
CHCH	**Chadas Angostu**	**1.94**	**195**	*i* P1	Pn	20 22 37.4	+0.3
CHCH				*i* S1	Sn	20 23 04.2	+0.7
CACH	**El Canelo**	**2.11**	**193**	*e*P1	Pn	20 22 40.0	+0.9
CACH				*i* S1	Sn	20 23 08.5	+1.4
LNV	**Longovilo**	**2.22**	**211**	⇓*iP*	Pn	20 22 40.3	0.0
LNV				*i* S1	Sn	20 23 09.5	+0.3

MEX 17 20:25:20.6±0.6, 15°.41N×96°.47W, h23km±23km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.50**	**45**	*i* P	Pb	20 25 28.9	-1.9
HUIG				*i* S	Sb	20 25 35.9	-1.7
VHO	**Vista Hermosa**	**1.67**	**351**	*e*P	Pn	20 26 46.4	-2.3
VHO				*e*S	Sn	20 26 05.3	-4.3
PNIG	**Pinotepa**	**1.87**	**302**	*e*P	Pn	20 25 48.2	-3.0
PNIG				*e*S	Sn	20 26 11.3	-2.8
CMIG	**Matias Romero**	**2.26**	**42**	*e*P	Pn	20 25 55.0	-1.6
CMIG				*e*S	Sn	20 26 20.7	-3.1

IDC 17 20:26:27.5±1.4, 34°.70S×71°.87W, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.7/18, mbtmp3.7/6, ML3.4/2, Error ellipse: s-maj=43.0km s-min=26.2km az=89.0
ISCJB 17 20:26:28.9±1.8, 34°.50S±0°.03×71°.93W±0°.07, h12km±13km, mb3.7/3, Error ellipse: s-maj=9.9km s-min=5.0km az=18.3
GUC 17 20:26:29.3±0.8, 34°.53S×71°.83W, h32km±6km, ML4.1
ISC 17 20:26:29.9±1.4, 34°.58S±0°.04×71°.76W±0°.07, h15km±9km, n21, σ1°.00/29, mb3.8/3, 8C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.61**	**134**	⇑*iP*	**Pn**	**20 26 43.5**	**-0.5**
NICH				*i* S	**Sn**	**20 26 53.2**	**-0.3**
LNV	**Longovilo**	**0.68**	**25**	⇓*iP*	**Pg**	**20 26 42.5**	**-0.8**
TALC	**Talca**	**0.82**	**173**	⇑*iP*	**Pb**	**20 26 46.0**	**+0.1**
TALC				*i* S4	**Sn**	**20 26 58.3**	**-0.6**
CACH	**El Canelo**	**1.06**	**65**	⇑*iP*	**Pn**	**20 26 50.5**	**+0.1**
CHCH	**Chadas Angostu**	**1.12**	**55**	⇑*iP*	**Pb**	**20 26 50.8**	**-0.1**
LNCH	**Linares**	**1.27**	**174**	*e*P9	**Pb**	**20 26 53.9**	**+0.3**
LNCH				*i* S	**Sg**	**20 27 12.1**	**+1.1**
ANTU	**Antumapu**	**1.37**	**43**	*e*P1	**Pn**	**20 26 54.3**	**-0.2**
ANTU				*e*S	**Sn**	**20 27 12.7**	**+0.3**
ANTU				IAML		20 27 16.0	
comp=E,4μm,0.4s							
SJCH	**San Jose de Ma**	**1.49**	**52**	⇓*iP*	**Pn**	**20 26 56.1**	**-0.2**
SJCH				*i* S	**Sn**	**20 27 16.3**	**+0.8**
LACH	**Col Las Americ**	**1.52**	**43**	⇑*iP*	**Pn**	**20 26 56.1**	**-0.4**
LACH				*e*S	**Sn**	**20 27 16.8**	**+0.8**
IHA	**Instituto Hidr**	**1.55**	**4**	*e*P1	**Pn**	**20 26 55.7**	**-1.2**
CLCH	**Cerro Calan**	**1.55**	**41**	⇓*iP*	**Pn**	**20 26 57.2**	**+0.1**
CLCH				*i* S	**Sn**	**20 27 17.8**	**+0.8**
CLCH				IAML		20 27 23.6	
comp=N,3μm,1.1s							
YECH	**El Yeso**	**1.66**	**57**	⇑*iP*	**Pb**	**20 27 01.2**	**+0.9**
YECH				*i* S	**Sg**	**20 27 25.0**	**+1.5**
YECH				IAML		20 27 29.8	
comp=E,4μm,1.0s							
PEL	**Peldehue**	**1.69**	**32**	⇑*iP*	**Pn**	**20 26 58.9**	**0.0**
PEL				*i* S	**Sn**	**20 27 21.4**	**+1.2**
PEL				IAML		20 27 25.2	
comp=E,4μm,0.3s							
COCH	**Cobquecura**	**1.77**	**208**	⇑*iP*	**Pn**	**20 27 00.1**	**+0.2**
CFAA	**Coronel Fontan**	**4.18**	**46**	Pn	Pn	20 27 36.8	+3.6
comp=E,0.8nm,0.3s,baz=216,slow=14,SNR=11							
CFAA				Sn	**Sb**	**20 28 30.1**	**-3.5**
comp=E,0.6nm,0.3s,baz=319,slow=12,SNR=4.4							
PLCA	**Paso Flores**	**6.22**	**172**	Pn	Pn	20 28 04.4	+3.2
comp=E,1.0nm,0.3s,baz=356,slow=12,SNR=12							
LPAZ	**La Paz**	**18.50**	**11**	P	**Pn**	**20 30 46.9**	**+0.5**
comp=E,0.1nm,0.3s,baz=150,slow=2.3,SNR=5.5							
SIV	**San Ignacio**	**20.85**	**30**	P	**P**	**20 31 11.3**	**0.0**
comp=E,1.4nm,0.6s,baz=217,slow=9.4,SNR=3.8							
SNAA	**Sanae**	**50.96**	**158**	P	**P**	**20 35 29.7**	**-0.8**
comp=E,1.5nm,0.9s,baz=252,slow=6.4,SNR=2.9							
TXAR	**Lajitas Array**	**70.35**	**331**	P	**P**	**20 37 43.9**	**+0.7**
comp=E,0.4nm,0.6s,baz=156,slow=7.6,SNR=6.2							
TORD	**Torodi Ar. Bea**	**84.19**	**70**	P	**P**	**20 39 01.6**	**+0.7**
comp=E,0.4nm,0.9s,baz=249,slow=3.9,SNR=8.1							

GCMT 17 20:27:04.0±0.3, 42°.63S×83°.57W, h19km±1km, MW5.0/75, Moment Tensor Solution. s21,c23; s75,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-3.31±.23; Mθθ0.06±.13; Mφφ3.25±.15; Mrθ0.50±.33; Mθφ-1.42±.10; Mφr-0.08±.27; **Best double couple:** M$_0$3.59300×10^{16} **NP1:**φ$_s$331.00000°,δ48.00000°, λ-102.00000°. **NP2:**φ$_s$168.00000°,δ44.00000°, λ-77.00000°. **Principal axes:** T 3.7990, Plg2.0000°, Azm69.0000°; N -0.4170, Plg9.0000°, Azm339.0000°; P -3.3860, Plg81.0000°, Azm172.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. West Chile Rise**

ISCJB 17 20:38:54.9±0.9, 42°.9S±0°.1×83°.2W±0°.2, h10km, mb4.0/8, MS3.9/5 Error ellipse: s-maj=26.7km s-min=18.2km az=22.2
IDC 17 20:38:54.2±0.9, 42°.94S×83°.37W, h0km, mb4.0/7, mb1 4.1/8, mb1mx4.1/17, mbtmp3.9/8, ML3.2/1, MS3.9/8, Ms1 3.9/8, ms1mx3.7/19, Error ellipse: s-maj=33.3km s-min=24.6km az=115.0
NEIC 17 20:38:55.9±0.5, 42°.89S×83°.34W, h10km, mb4.3/2, Error ellipse: s-maj=18.4km s-min=13.2km az=125.0
ISC 17 20:38:55.8±0.8, 42°.9S±0°.1×83°.3W±0°.2, h10km, n23, σ0°.87/16, mb4.1/8, MS4.1/5, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.79**	**81**	LR	LR	20 44 29.6	
comp=Z,2μm,18.9s,baz=284,slow=34							
USHA	**Ushuaia**	**15.40**	**146**	LR	LR	20 47 32.4	
comp=Z,329nm,19.6s,baz=313,slow=34							
CFAA	**Coronel Fontan**	**16.46**	**52**	Pn	**Pn**	**20 42 46.3**	**-0.6**
0.1nm,0.3s,baz=217,slow=9.7,SNR=3.4							
CFAA				LR	LR	20 47 44.9	
comp=Z,120nm,22.0s,baz=200,slow=32							
LPAZ	**La Paz**	**29.55**

comp=N,51nm,0.6s
SMLA Simla 4.86 228 *e*P Pn 21 07 04.0 +3.5
SMLA *e*S Sn 21 08 02.8 +6.0
SMLA AML AML 21 08 38.4
comp=N,17nm,0.1s
SMLA AML AML 21 08 39.3
comp=E,20nm,1.1s
DLH Dalhousie 4.91 249 *e*P Pn 21 07 05.0 +3.6
KSH Kashi 6.65 321 Pn **Pn** **21 07 26.8 +1.5**
KSH Sn **Sn** **21 08 45.8 +4.6**
KSH LN
comp=E,310nm,4.1s
KSH LE
comp=E,310nm,4.9s
KSH LZ
comp=E,430nm,5.0s
CHCP Chirah Chowk 6.78 266 P **Pn** **21 07 28.2 +1.2**
KUDL Kundal 7.55 215 *e*P **Pn** **21 07 38.8 +1.2**
KUDL *e*S **Sn** **21 09 04.6 +1.4**
KUDL AML AML 21 09 20.7
comp=N,6.5nm,0.4s
KUDL AML AML 21 09 21.2
comp=E,8.0nm,0.9s
CEP Cherat 7.88 268 P **Pn** **21 07 44.2 +2.1**
KHET Khetri 7.95 218 *e*P **Pn** **21 07 44.7 +1.7**
KHET *e*S **Sn** **21 09 12.5 -0.5**
KHET AML AML 21 09 18.3
comp=N,107nm,0.2s
KHET AML AML 21 09 21.8
comp=E,120nm,0.2s
THW Thamme Wali 8.21 261 P **Pn** **21 07 47.8 +1.3**
LSA Lhasa 9.55 117 P Pn 21 08 12.0 +6.7
LSA Lhasa 9.55 117 *e*P **Pn** **21 08 04.7 -0.6**
LSA pmax pmax
comp=Z,25nm,1.1s
LSA Lhasa 9.55 117 *e*Pn **Pn** **21 08 04.7 -0.6**
comp=Z,25nm,1.1s
TKM2 Tokmak 2 9.58 334 *e*P **Pn** **21 08 06.2 +0.6**
TKM2 *e* 21 09 51.3
TKM2 pmax pmax
comp=Z,4.0nm,0.5s
TKM2 Tokmak 2 9.58 334 *e*Pn **Pn** **21 08 06.2 +0.6**
comp=Z,3.6nm,0.5s
TKM2 *e*Sn **Sn** **21 09 51.2 -2.2**
AAK Ala-Archa 9.78 329 *e*P **Pn** **21 08 07.0 -1.2**
AAK pmax pmax
comp=Z,11nm,0.8s
AAK Ala-Archa 9.78 329 Pn **Pn** **21 08 10.6 +2.4**
comp=Z,0.2nm,0.3s,baz=146,slow=7.3,SNR=6.5
AAK Lg Lg 21 10 54.5
comp=Z,0.1nm,0.3s,baz=197,slow=14,SNR=3.4
AAK LR LR 21 12 12.0
comp=Z,144nm,19.9s,baz=123,slow=40
AAK Ala-Archa 9.78 329 *e*Pn **Pn** **21 08 07.0 -1.2**
comp=Z,11nm,0.8s
AAK Lg Lg 21 10 54.5
FRU Bishkek 9.89 330 *e*P **Pn** **21 08 12.0 +2.3**
EKS2 Erkin-Say 10.12 326 *e*P **Pn** **21 08 11.5 -1.4**
EKS2 pmax pmax
comp=Z,5.0nm,0.6s
EKS2 Erkin-Say 10.12 326 *e*Pn **Pn** **21 08 11.5 -1.4**
comp=Z,5.1nm,0.6s
KBL Kabul 10.18 274 *e*P **Pn** **21 08 12.6 -1.2**
KBL pmax pmax
comp=Z,9.0nm,0.5s
KBL Kabul 10.18 274 *e*Pn **Pn** **21 08 12.6 -1.2**
comp=Z,8.8nm,0.5s
WMQ Urumqi 10.56 26 P **Pn** **21 08 21.0 +2.2**
WMQ PMZ
comp=Z,10.0nm,1.1s
MKAR Makanchi Array 12.35 3 P **Pn** **21 08 42.9 -0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 12.35 3 Pn **Pn** **21 08 42.9 -0.3**
comp=Z,1.1nm,0.3s,baz=182,slow=12,SNR=85
GTA Gaotai 15.54 66 *e*P **P** **21 09 33.8 +2.7**
GTA pP **pP** **21 09 37.6 +3.7**
GTA sP sP 21 09 40.6 +5.4
GTA PMZ
comp=Z,8.0nm,0.8s
KURBB Kurchatov Arra 16.29 354 Pn **Pn** **21 09 33.8 -2.4**
comp=Z,0.0nm,0.3s,baz=176,slow=12,SNR=9.0
KURK Kurchatov 16.38 354 *e*P **Pn** **21 09 35.1 -2.1**
KURK pmax pmax
comp=Z,12nm,1.2s
KURK Kurchatov 16.38 354 *e*Pn **Pn** **21 09 35.0 -2.1**
comp=Z,12nm,1.2s
GEYT Alibeck 19.08 287 P **Pn** **21 10 10.9 0.0**
comp=Z,0.3nm,0.3s,baz=106,slow=11,SNR=5.0
GEYT LR LR 21 19 00.8
comp=Z,114nm,19.3s,baz=155,slow=42
ZALV Zalesovo Beam 19.64 6 P **P** **21 10 15.8 -0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 19.64 6 P **P** **21 10 15.8 -0.2**
comp=Z,0.5nm,0.3s,baz=193,slow=12,SNR=9.3
BVAR Borovoye Array 20.15 340 P **P** **21 10 21.6 0.0**
BVAR pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 20.15 340 P **P** **21 10 21.6 0.0**
comp=Z,4.0nm,0.8s,baz=142,slow=9.3,SNR=16
NVS Novosibirsk 20.43 3 *e*P **P** **21 10 24.0 -0.5**
NVS pmax pmax
comp=N,4.0nm,0.6s
NVS pmax pmax
comp=Z,3.0nm,0.6s
NVS pmax pmax
comp=E,3.0nm,0.8s
KMI Kunming 20.71 111 ⇑P Pn 21 10 30.5 0.0
KMI PMZ
comp=E,19nm,0.7s
KMI PMZ
comp=E,110nm,3.1s
KMI LZ
comp=E,62nm,18.5s
ABKAR Akbulak array 21.66 320 *e*Pn **P** **21 10 36.3 -1.6**
comp=E,1.5nm,0.6s
CHTO Chiang Mai 22.06 130 *e*P **P** **21 10 42.4 -0.1**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 22.06 130 *e*Pn **P** **21 10 42.4 -0.1**
comp=Z,3.9nm,0.8s
CMAR Chiang Mai Arr 22.33 131 *ce*P **P** **21 10 47.5 +2.2**
CMAR pmax pmax
comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 22.33 131 P **P** **21 10 47.2 +1.9**
comp=Z,4.5nm,0.6s,baz=308,slow=11,SNR=19
CMAR LR LR 21 20 52.4
comp=Z,57nm,18.8s,baz=174,slow=40
SONM Songino Array 22.98 47 P **P** **21 10 53.3 +1.2**
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 22.98 47 P **P** **21 10 53.3 +1.2**
comp=Z,3.4nm,0.9s,baz=241,slow=8.2,SNR=28
AKTO Aktyubinsk 23.35 320 P **P** **21 10 56.2 +0.4**
AKTO pmax pmax
comp=Z,1.0nm,0.4s
AKTO Aktyubinsk 23.35 320 P **P** **21 10 56.2 +0.4**
comp=Z,0.6nm,0.4s,baz=99,slow=13,SNR=3.2
ULN Ulaanbaatar 23.39 47 *i* P **P** **21 10 55.7 -0.6**
ULN pmax pmax
comp=Z,5.0nm,1.3s
HHC Hu-ho-hao-te 24.66 66 *e*P **P** **21 11 04.1 -4.3**
HHC sP **sP** **21 11 10.3 -2.4**
HHC PP **PnPn** **21 11 39.0 -0.8**
HHC S S 21 15 19.4 -11
QIZ Qiongzhong 29.57 114 P **P** **21 11 51.9 -0.6**
QIZ pP pP 21 12 07.4 +12
QIZ S **S** **21 16 43.8 -3.8**
QIZ PMZ
comp=Z,15nm,2.1s
KSAR Wonju Array Be 37.47 72 P **P** **21 13 01.6 +0.5**
KSAR Wonju Array Be 37.47 72 P **P** **21 13 01.6 +0.5**
KSRS Korea Array 37.50 72 P **P** **21 13 01.6 +0.3**
KSRS pmax pmax
comp=Z,1.0nm,0.6s
KSRS Korea Array 37.50 72 P **P** **21 13 01.6 +0.3**
comp=Z,1.1nm,0.6s,baz=286,slow=7.2,SNR=4.4
BRTR Keskin Array B 38.09 292 P **P** **21 13 07.4 +0.9**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 38.09 292 P **P** **21 13 07.4 +0.9**
comp=Z,1.5nm,0.9s,baz=83,slow=10,SNR=6.0
AKASG Malin Array Be 40.80 310 P **P** **21 13 27.1 -1.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 40.80 310 P **P** **21 13 27.1 -1.6**
comp=Z,1.4nm,0.5s,baz=76,slow=8.3,SNR=4.0
JOF Joensuu 41.97 328 *e*P **P** **21 13 37.8 -0.4**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 41.97 328 *e*p **P** **21 13 37.8 -0.4**
comp=Z,2.4nm,0.6s
FINES FINESS Array B 43.95 325 P **P** **21 13 54.1 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 43.95 325 P **P** **21 13 54.1 -0.2**
comp=Z,2.1nm,0.6s,baz=110,slow=8.2,SNR=14
MJAR Matsushiro Arr 45.74 70 P **P** **21 14 09.7 +0.8**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 45.74 70 P **P** **21 14 09.7 +0.8**
comp=Z,1.9nm,0.8s,baz=285,slow=11,SNR=4.7
KEV Kevo 45.93 337 *e*P P 21 14 04.5 -5.4
KEV Kevo 45.93 337 *e*p P 21 14 04.5 -5.4
comp=Z,0.3nm,0.4s
STHS Stebnicka Huta 45.96 308 *e*P **P** **21 14 10.3 -0.1**
STHS pmax pmax
comp=Z,4.0nm,1.6s
STHS Stebnicka Huta 45.96 308 *e*P **P** **21 14 10.3 -0.1**
ARCES ARCESS Array B 46.35 336 P **P** **21 14 13.2 0.0**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 46.35 336 P **P** **21 14 13.2 0.0**
comp=Z,2.6nm,0.7s,baz=97,slow=7.8,SNR=11
VYHS Vyhne 47.63 307 *e*P **P** **21 14 24.8 +1.3**
VYHS Vyhne 47.63 307 *e*P **P** **21 14 24.8 +1.3**
CONA Conrad Observa 49.68 307 ⇑*i*P **P** **21 14 38.8 -0.6**
comp=Z,3.8nm,0.9s
SOKA Soboth 50.46 305 ⇑*i*pP **P** **21 14 45.5 +0.1**
comp=Z,5.0nm,0.7s
BRG Berggiesshubel 50.46 311 *e*P **P** **21 14 45.3 +0.1**
comp=Z,2.1nm,0.6s
BRG *e* 21 14 48.3
comp=Z,3.5nm,0.9s
BRG Berggiesshubel 50.46 311 *e*P **P** **21 14 45.3 +0.1**
BRG pmax pmax
comp=Z,2.0nm,0.6s
BRG pmax pmax
comp=Z,4.0nm,0.9s
MOA Molln 50.75 307 ⇑*i*pP **P** **21 14 47.5 +0.1**
comp=Z,2.9nm,1.0s
GERES GERESS Array B 50.94 308 P **P** **21 14 49.4 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 50.94 308 P **P** **21 14 49.4 +0.4**
comp=Z,1.1nm,0.7s,baz=60,slow=6.3,SNR=12
NB2 NORSAR Subarra 51.07 324 P **P** **21 14 48.8 -0.8**
comp=Z,1.2nm,0.5s,baz=86,slow=7.4
NOA NORSAR Array B 51.07 324 P **P** **21 14 49.1 -0.6**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 51.07 324 P **P** **21 14 49.0 -0.6**
comp=Z,1.4nm,0.5s,baz=88,slow=7.5,SNR=12
SEY Seymchan 51.40 34 P **P** **21 14 53.0 +0.9**
SEY pmax pmax
comp=Z,1.0nm,0.4s
SEY Seymchan 51.40 34 P **P** **21 14 53.0 +0.9**
comp=Z,0.5nm,0.4s,baz=289,slow=8.7,SNR=5.7
KMBO Kilima Mbogo 54.41 239 *ce*P **P** **21 15 17.1 +1.9**
KMBO pmax pmax
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 54.41 239 P **P** **21 15 16.1 +0.9**
comp=Z,1.1nm,0.5s,baz=38,slow=8.8,SNR=4.9
CDF Champ du Feu 55.20 309 *e*P **P** **21 15 20.8 +0.5**
CDF Champ du Feu 55.20 309 *e*P **P** **21 15 20.8 +0.5**
CDF Champ du Feu 55.20 309 *e*P **P** **21 15 20.8 +0.5**
HINF Hinteralfeld 55.62 308 *e*P **P** **21 15 22.9 -0.5**
HINF Hinteralfeld 55.62 308 *e*P **P** **21 15 22.9 -0.5**
HINF Hinteralfeld 55.62 308 *e*P **P** **21 15 22.9 -0.5**
LPG La Plagne 56.33 305 *e*P **P** **21 15 28.8 0.0**
comp=Z,5.8nm,0.7s
LPG La Plagne 56.33 305 *e*P **P** **21 15 28.8 0.0**
LPG pmax pmax
comp=Z,6.0nm,0.6s
LPG La Plagne 56.33 305 *e*P **P** **21 15 28.8 0.0**
comp=Z,5.8nm,0.6s
LPL La Plagne 56.34 305 *e*P **P** **21 15 28.8 +0.1**
comp=Z,12nm,0.6s
LPL La Plagne 56.34 305 *e*P **P** **21 15 28.8 +0.1**
LPL pmax pmax
comp=Z,12nm,0.6s
LPL La Plagne 56.34 305 *e*P **P** **21 15 28.8 +0.1**
comp=Z,12nm,0.6s
SBF Sospel 56.35 303 *e*P **P** **21 15 28.3 -0.3**
comp=Z,20nm,0.8s
SBF Sospel 56.35 303 *e*P **P** **21 15 28.3 -0.3**
SBF pmax pmax
comp=Z,21nm,0.8s
SBF Sospel 56.35 303 *e*P **P** **21 15 28.3 -0.3**
comp=Z,20nm,0.8s
MEZF Maizieres J'vi 56.60 309 *e*P **P** **21 15 30.2 -0.1**
MEZF Maizieres J'vi 56.60 309 *e*P **P** **21 15 30.2 -0.1**
SFTF Sexfontaines 56.69 309 *e*P **P** **21 15 30.4 -0.5**
SFTF Sexfontaines 56.69 309 *e*P **P** **21 15 30.4 -0.5**
FRF La Foret Royal 56.98 303 *e*P **P** **21 15 32.5 -0.6**
FRF La Foret Royal 56.98 303 *e*P **P** **21 15 32.5 -0.6**
FRF La Foret Royal 56.98 303 *e*P **P** **21 15 32.5 -0.6**
ORIF Oris-en-Rattie 57.09 305 *e*P **P** **21 15 33.1 -0.8**
ORIF Oris-en-Rattie 57.09 305 *e*P **P** **21 15 33.1 -0.8**
ORIF Oris-en-Rattie 57.09 305 *e*P **P** **21 15 33.1 -0.8**
SMF Signal de Mont 57.92 307 *e*P **P** **21 15 39.0 -0.7**
comp=Z,3.3nm,0.6s
SMF Signal de Mont 57.92 307 *e*P **P** **21 15 39.0 -0.7**
SMF pmax pmax
comp=Z,3.0nm,0.6s
SMF Signal de Mont 57.92 307 *e*P **P** **21 15 39.0 -0.7**
comp=Z,3.3nm,0.6s
SSF Saint Saulge 58.02 308 *e*P **P** **21 15 39.5 -0.8**
SSF Saint Saulge 58.02 308 *e*P **P** **21 15 39.5 -0.8**
SSF Saint Saulge 58.02 308 *e*P **P** **21 15 39.5 -0.8**
AVF Avril sur Loir 58.20 308 *e*P **P** **21 15 41.4 -0.2**
AVF Avril sur Loir 58.20 308 *e*P **P** **21 15 41.4 -0.2**
AVF Avril sur Loir 58.20 308 *e*P **P** **21 15 41.4 -0.2**
BGF Bois d'Agland 58.60 308 *e*P **P** **21 15 43.7 -0.7**
BGF Bois d'Agland 58.60 308 *e*P **P** **21 15 43.7 -0.7**
BGF Bois d'Agland 58.60 308 *e*P **P** **21 15 43.7 -0.7**
TCF Toulx Ste Croi 59.11 307 *e*P **P** **21 15 47.7 -0.3**
TCF Toulx Ste Croi 59.11 307 *e*P **P** **21 15 47.7 -0.3**
TCF Toulx Ste Croi 59.11 307 *e*P **P** **21 15 47.7 -0.3**
CAF Calviac 59.66 306 *e*P **P** **21 15 51.6 -0.2**
CAF Calviac 59.66 306 *e*P **P** **21 15 51.6 -0.2**
CAF Calviac 59.66 306 *e*P **P** **21 15 51.6 -0.2**
LDF La Druitiere 59.85 311 *e*P **P** **21 15 52.6 -0.4**
comp=Z,3.6nm,0.6s
LDF La Druitiere 59.85 311 *e*P **P** **21 15 52.6 -0.4**
LDF pmax pmax
comp=Z,4.0nm,0.6s
LDF La Druitiere 59.85 311 *e*P **P** **21 15 52.6 -0.4**
comp=Z,3.6nm,0.6s
GRR Gorron 60.38 311 *e*P **P** **21 15 56.1 -0.5**
GRR Gorron 60.38 311 *e*P **P** **21 15 56.1 -0.5**
GRR Gorron 60.38 311 *e*P **P** **21 15 56.1 -0.5**
LFF La Frestale 60.53 306 *e*P **P** **21 15 56.9 -0.8**
LFF La Frestale 60.53 306 *e*P **P** **21 15 56.9 -0.8**
LFF La Frestale 60.53 306 *e*P **P** **21 15 56.9 -0.8**
ETSF Etsaut 62.15 305 *e*P **P** **21 16 08.6 -0.2**
ETSF Etsaut 62.15 305 *e*P **P** **21 16 08.6 -0.2**
ETSF Etsaut 62.15 305 *e*P **P** **21 16 08.6 -0.2**
SJPF Ste Jean 62.52 305 *e*P **P** **21 16 11.8 +0.6**
SJPF Ste Jean 62.52 305 *e*P **P** **21 16 11.8 +0.6**
SJPF Ste Jean 62.52 305 *e*P **P** **21 16 11.8 +0.6**
ESDC Sonseca Array 65.80 303 P **P** **21 16 32.4 -0.5**
comp=Z,0.2nm,0.5s,baz=56,slow=7.4,SNR=3.8
WRA Warramunga Arr 73.90 129 *i* P **P** **21 17 23.2 +0.4**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 73.90 129 P **P** **21 17 23.3 +0.6**
comp=Z,1.3nm,0.5s,baz=326,slow=5.6,SNR=36
ILAR Eielson Array 74.15 19 P **P** **21 17 23.2 -0.4**
comp=Z,0.4nm,0.6s,baz=314,slow=5.1,SNR=7.1
TORD Torodi Ar. Bea 74.25 275 P **P** **21 17 24.4 -0.6**
comp=Z,1.5nm,0.7s,baz=50,slow=4.8,SNR=18
ASAR Alice Springs 76.34 132 P **P** **21 17 37.6 +0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 76.34 132 P **P** **21 17 37.5 +0.8**
comp=Z,1.3nm,0.6s,baz=319,slow=5.7,SNR=23
BOSA Boshof 82.14 227 P **P** **21 18 08.4 -0.1**
BOSA pmax pmax
comp=Z,3.0nm,0.6s
BOSA Boshof 82.14 227 P **P** **21 18 08.4 -0.1**
comp=Z,3.4nm,0.6s,baz=6.2,slow=3.3,SNR=8.4
YKA Yellowknife Ar 82.53 7 P **P** **21 18 08.6 -1.4**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 82.53 7 P **P** **21 18 08.6 -1.4**
comp=Z,2.1nm,0.7s,baz=341,slow=5.1,SNR=46
DBIC Dimbokro 83.17 273 LR LR 22 01 46.0
comp=Z,50nm,21.2s,baz=169,slow=40

GUC 17 21:12:09.9±0.7, 34°.54S×71°.80W, h32km±5km, ML4.1, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.66**	**135**	⇑*i*P		Pb	21 12 23.9	+0.9
NICH				*i* S		Sn	21 12 33.7	+1.5
LNV	**Longovilo**	**0.67**	**29**	⇓*i*P		Pn	21 12 22.9	-0.2
TALC	**Talca**	**0.86**	**171**	⇑*i*P		Pb	21 12 26.7	+0.2
TALC				*i* S		Sb	21 12 39.0	+1.2
CACH	**El Canelo**	**1.08**	**67**	⇑*i*P		Pb	21 12 30.7	+0.4
CHCH	**Chadas Angostu**	**1.13**	**58**	⇓*i*P		Pb	21 12 31.2	+0.3
LNCH	**Linares**	**1.31**	**173**	⇑*i*P		Pb	21 12 34.7	+0.7
LNCH				*i* S		Sb	21 12 52.6	+2.1
ANTU	**Antumapu**	**1.37**	**45**	*e*P1		Pb	21 12 34.7	-0.3
ANTU				*e*S		Sb	21 12 53.1	+0.8
ANTU				IAML			21 12 57.1	
comp=N,5μm,0.6s								
SJCH	**San Jose de Ma**	**1.50**	**53**	*i* S		Sb	21 12 56.7	+0.7
CLCH	**Cerro Calan**	**1.55**	**43**	⇑*i*P		Pb	21 12 37.8	-0.4
CLCH				*i* S		Sb	21 12 58.5	+1.0
CLCH				IAML			21 13 03.1	
comp=N,6μm,0.9s								
PEL	**Peldehue**	**1.68**	**34**	⇑*i*P		Pb	21 12 39.1	-1.1
PEL				*i* S		Sb	21 13 01.9	+0.9
PEL				IAML			21 13 05.8	
comp=N,7μm,0.7s								
FCH	**Farellones**	**1.74**	**46**	⇓*i*P		Pb	21 12 48.5	+6.7
FCH				*e*S		Sb	21 13 12.6	+9.1
FCH				IAML			21 13 16.9	
comp=N,2μm,0.5s								
COCH	**Cobquecura**	**1.78**	**207**	⇑*i*P		Pb	21 12 40.6	-1.3
COCH				*e*S4		Sb	21 13 02.3	-1.5

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*IDC **17** 21:18:32.3±0.9, 36°.81S×73°.95W, h0km, mb3.9/8, mb1 4.2/9, mb1mx4. 1/19, mbtmp4.0/9, ML3.7/2, MS3.9/5, Ms1 3.9/5, ms1mx3.4/23, Error ellipse: s-maj=25.6km s-min=16.4km az=86.0*
*ISCJB **17** 21:18:35.5±0.7, 36°.77S±0°.05×73°.8W±0°.1, h33km, mb4.0/8, MS3.9/4, Error ellipse: s-maj=13.0km s-min=7.4km az=177.1*
*NEIC **17** 21:18:37.3±0.6, 36°.77S×73°.73W, h35km, mb4.4/4, Error ellipse: s-maj=19.8km s-min=10.8km az=91.0*
ISC 17 21:18:37.2±0.8, 36.77S±0°.07×73°.9W±0°.1, h35km, n22, σ1§02/20, mb3.9/9, MS3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.72**	**148**	Pn		**Pn**	**21 19 45.4**	**-0.7**
1.9nm,0.3s,baz=317,slow=12,SNR=32								
PLCA				Lg		Lg	21 21 01.8	
3.0nm,0.3s,baz=6.4,slow=6.7,SNR=3.1								
PLCA	**Paso Flores**	**4.72**	**148**	*e*Pn		**Pn**	**21 19 44.9**	**-1.1**
PLCA				*e*Sn		**Sn**	**21 20 40.2**	**+0.6**
PLCA				Lg		Lg	21 21 01.8	
CFAA	**Coronel Fontan**	**6.94**	**44**	Pn		**Pn**	**21 20 15.9**	**-0.6**
0.2nm,0.3s,baz=217,slow=10,SNR=5.2								
CFAA				Sn		**Sn**	**21 21 34.9**	**+0.7**
0.2nm,0.3s,baz=11,slow=16,SNR=2.5								
CFAA				Lg		Lg	21 22 16.9	
baz=304,slow=8.4,SNR=4.2								
LCO	**Las Campanas**	**8.18**	**20**	*e*Pn		**Pn**	**21 20 31.0**	**-2.6**
USHA	**Ushuaia**	**18.45**	**170**	LR		LR	21 30 42.6	
comp=Z,304nm,19.0s,baz=286,slow=40								
LPAZ	**La Paz**	**21.02**	**15**	P		**P**	**21 23 19.9**	**+1.3**
2.9nm,0.8s,baz=158,slow=8.0,SNR=8.9								
LPAZ	**La Paz**	**21.02**	**15**	*e*P		**P**	**21 23 18.8**	**+0.3**
12nm,1.2s								
SIV	**San Ignacio**	**23.60**	**32**	P		**P**	**21 23 45.4**	**+0.4**
2.3nm,0.6s,baz=230,slow=5.0,SNR=4.3								
SIV				LR		LR	21 34 55.1	
comp=Z,307nm,18.9s,baz=224,slow=42								
BDFB	**Brasilia**	**31.13**	**54**	LR		LR	21 37 14.7	
comp=Z,102nm,18.1s,baz=229,slow=36								
PTGA	**Pitinga**	**38.09**	**23**	P		**P**	**21 25 53.0**	**+0.2**
1.7nm,0.6s,baz=208,slow=17,SNR=3.8								
PTGA	**Pitinga**	**38.09**	**23**	*e*P		**P**	**21 25 52.9**	**+0.1**
3.8nm,0.8s								
SDV	**Santo Domingo**	**45.51**	**4**	*e*P		**P**	**21 26 53.5**	**-0.1**
3.6nm,0.7s								
QSPA	**South Pole Qui**	**53.47**	**180**	P		**P**	**21 27 54.2**	**+0.5**
4.6nm,0.9s,baz=137,slow=4.3,SNR=8.5								
QSPA	**South Pole Qui**	**53.47**	**180**	*e*P		**P**	**21 27 53.2**	**-0.5**
8.1nm,1.1s								
TXAR	**Lajitas Array**	**71.47**	**333**	P		**P**	**21 29 55.5**	**+1.2**
0.7nm,0.6s,baz=150,slow=8.1,SNR=6.2								
BOSA	**Boshof**	**80.08**	**118**	LR		LR	22 01 28.1	
comp=Z,36nm,19.8s,baz=176,slow=32								
NVAR	**Mina Array Bea**	**85.34**	**327**	P		**P**	**21 31 10.0**	**-0.8**
0.6nm,0.8s,baz=134,slow=4.3,SNR=3.8								
PDAR	**Pinedale Array**	**85.59**	**334**	P		**P**	**21 31 11.6**	**-0.4**
2.1nm,1.2s,baz=169,slow=3.0,SNR=5.9								
TORD	**Torodi Ar. Bea**	**86.53**	**71**	P		**P**	**21 31 17.3**	**+0.4**
0.7nm,1.0s,baz=332,slow=3.7,SNR=5.7								
NEW	**Newport**	**93.03**	**333**	LR		LR	22 09 33.7	
comp=Z,264nm,19.1s,baz=314,slow=33								
ABKAR	**Akbulak array**	**144.52**	**55**	PKPdf		**PKPdf**	**21 38 09.1**	**-0.3**
SONM	**Songino Array**	**168.94**	**359**	PKPab		**PKPab**	**21 39 53.1**	**+1.7**
0.6nm,1.1s,baz=41,slow=2.7,SNR=3.0								

GUC 17 21:32:26.5±0.4, 35°.29S×70°.63W, h8km±4km, ML3.7, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**1.17**	**1**	⇑*i*P		Pb	21 32 47.5	-1.6
CACH				*i* S1		Sn	21 33 04.1	-1.4
LNV	**Longovilo**	**1.48**	**334**	⇑*i*P		Pn	21 32 53.3	0.0
LNV				*i* S1		Sn	21 33 13.7	+0.9
ANTU	**Antumapu**	**1.71**	**360**	*e*P1		Pn	21 32 57.6	+1.0
ANTU				*i* S		Sg	21 33 21.3	-0.4
ANTU				IAML			21 33 22.1	
comp=E,1μm,0.5s								
CLCH	**Cerro Calan**	**1.89**	**2**	*e*P		Pb	21 33 00.7	-0.6
CLCH				*e*S		Sg	21 33 26.2	-1.1
CLCH				IAML			21 33 32.2	
comp=E,810nm,0.6s								
PEL	**Peldehue**	**2.14**	**359**	*e*P		Pb	21 33 04.8	-0.8
PEL				*i* S		Sb	21 33 33.7	+1.5
PEL				IAML			21 33 37.5	
comp=N,1μm,0.4s								

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*IDC **17** 21:42:17.2±1.6, 7°.13S×129°.57E, h0km, mb3.5/2, mb1 3.9/5, mb1mx3.6/24, mbtmp3.8/5, ML4.0/3, Error ellipse: s-maj=49.6km s-min=27.8km az=82.0*
*ISCJB **17** 21:42:29.1±0.9, 7°.77S±0°.07×129°.14E±0°.07, h131km, mb3.4/2, Error ellipse: s-maj=11.3km s-min=6.8km az=42.5*
ISC 17 21:42:30.7±1.1, 7°.84S±0°.09×129°.14E±0°.08, h131km, n10, σ1§68/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.17**	**248**	P		**Pn**	**21 43 46.3**	**0.0**
baz=5.4,SNR=8.9								
MTN	**Manton Dam**	**5.35**	**159**	P		**Pn**	**21 43 50.6**	**+2.0**
baz=5.6,SNR=13								
MTN				S		**Sn**	**21 44 50.3**	**+1.1**
baz=5.6,SNR=5.3								
FAKI	**Fak Fak**	**5.78**	**33**	P		Pn	21 43 48.3	-6.1
baz=5.5,SNR=4.1								
KDU	**Kakadu**	**5.83**	**146**	P		**Pn**	**21 43 55.5**	**+0.5**
baz=6.0,SNR=43								
KDU				S		**Sn**	**21 45 00.7**	**-0.1**
baz=6.0,SNR=6.2								
BATI	**Baumata**	**5.89**	**246**	Pn		**Pn**	**21 43 56.2**	**+0.3**
11nm,0.3s,baz=77,slow=18,SNR=30								
BATI				Sn		**Sn**	**21 45 02.3**	**0.0**
5.5nm,0.3s,baz=112,slow=18,SNR=7.9								
KNRA	**Kununurra**	**7.80**	**183**	P		**Pn**	**21 44 22.6**	**+1.1**

baz=8.1,SNR=27
KNRA S **Sn** **21 45 47.4 -0.9**
baz=8.1,SNR=15
WRA Warramunga Arr 13.05 158 Pn **Pn** **21 45 30.7 -0.6**
0.6nm,0.3s,baz=343,slow=13,SNR=31
WRA Sn Sn 21 47 48.8 -6.5
1.3nm,0.3s,baz=336,slow=22,SNR=11
ASAR Alice Springs 16.39 164 Pn **P** **21 46 16.2 +2.5**
0.2nm,0.3s,baz=343,slow=8.5,SNR=13
ASAR Sn **Sn** **21 49 11.9 -3.9**
0.4nm,0.3s,baz=338,slow=19,SNR=6.9
SONM Songino Array 58.96 342 P **P** **21 52 16.2 -0.2**
0.3nm,0.8s,baz=145,slow=5.3,SNR=2.7
MKAR Makanchi Array 68.46 327 P **P** **21 53 17.5 -1.1**
0.6nm,0.6s,baz=126,slow=7.3,SNR=6.9

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*ISCJB **17** 21:45:54.5±1.2, 41°.6N±0°.1×142°.4E±0°.2, h59km, mb3.5/6, Error ellipse: s-maj=21.2km s-min=15.2km az=14.1*
*IDC **17** 21:46:00.2±4.0, 41°.47N×142°.10E, h92km±35km, mb3.3/6, mb1 3.3/9, mb1mx3.1/28, mbtmp3.5/9, Error ellipse: s-maj=38.0km s-min=24.2km az=76.0*
ISC 17 21:45:56.5±1.3, 41°.6N±0°.1×142°.4E±0°.2, h59km, n15, σ1§33/9, mb3.6/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.01**	**214**	P	**Pn**	**21 47 23.8**	**+1.0**
	0.2nm,0.3s,baz=29,slow=18,SNR=3.0						
USRK	**Ussuriysk Ar.**	**8.09**	**292**	P	**Pn**	**21 47 51.0**	**-0.2**
	0.2nm,0.3s,baz=108,slow=14,SNR=5.7						
KSRS	**Korea Array**	**11.93**	**254**	P	**Pn**	**21 48 45.6**	**+1.9**
	0.2nm,0.3s,baz=70,slow=13,SNR=3.7						
SONM	**Songino Array**	**26.18**	**296**	P	**P**	**21 51 24.7**	**-0.7**
	0.4nm,0.8s,baz=82,slow=8.7,SNR=5.0						
H11N2	**WAKE ISLAND Hy 30.11**	**129**	T	T		22 23 42.3	
	baz=321,slow=76,SNR=9.2						
H11N1	**WAKE ISLAND Hy 30.12**	**129**	T	T		22 23 42.9	
	baz=321,slow=76,SNR=3.9						
H11N3	**WAKE ISLAND Hy 30.13**	**129**	T	T		22 23 40.0	
	baz=321,slow=76,SNR=6.4						
H11S1	**WAKE ISLAND Hy 30.96**	**131**	T	T		22 24 43.0	
	baz=322,slow=76,SNR=8.2						
H11S3	**WAKE ISLAND Hy 30.97**	**131**	T	T		22 24 41.3	
	baz=322,slow=76,SNR=4.1						
H11S2	**WAKE ISLAND Hy 30.98**	**131**	T	T		22 24 39.0	
	baz=322,slow=76,SNR=6.0						
ZALV	**Zalesovo Beam**	**39.56**	**308**	P	**P**	**21 53 20.8**	**-0.8**
	0.6nm,0.3s,baz=87,slow=7.4,SNR=2.3						
MKAR	**Makanchi Array**	**42.51**	**298**	P	**P**	**21 53 45.0**	**-0.9**
	0.8nm,0.9s,baz=79,slow=7.6,SNR=3.6						
RES	**Resolute Bay**	**58.01**	**15**	P	**P**	**21 55 44.0**	**+1.5**
	0.4nm,0.5s,baz=299,slow=5.1,SNR=3.3						
WRA	**Warramunga Arr**	**61.67**	**189**	P	**P**	**21 56 07.0**	**-1.3**
	0.3nm,0.9s,baz=5.2,slow=6.9,SNR=3.5						
FINES	**FINESS Array B**	**65.17**	**332**	P	**P**	**21 56 31.3**	**+0.4**
	1.3nm,0.8s,baz=58,slow=7.5,SNR=5.1						

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*NIED **17** 22:06:00, 29°.20N×130°.40E, h29km, Mw4.1 Best double couple: M0:1.54000×10^15 NP1:φs=347.00000°, δ21.00000°, λ-133.00000°. NP2:φs=212.00000°, δ75.00000°, λ-75.00000°.*
*ISCJB **17** 22:06:55.6±0.6, 29°.16N±0°.03×130°.42E±0°.08, h52km±5km, mb3.7/12, MS3.4/2, Error ellipse: s-maj=12.5km s-min=3.7km az=20.0*
*JMA **17** 22:06:55.6, 29°.18N×130°.37E, h64km±2km, M3.6*
*IDC **17** 22:06:56.1±0.8, 29°.18N×130°.48E, h40km±7km, mb3.5/12, mb1 3.7/14, mb1mx3.6/30, mbtmp3.7/14, ML2.8/2, MS3.0/7, Ms1 3.0/7, ms1mx2.9/33, Error ellipse: s-maj=23.7km s-min=13.8km az=83.0*
ISC 17 22:06:56.2±0.8, 29°.15N±0°.04×130°.43E±0°.07, h41km±7km, n33, σ0§73/42, mb3.8/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.84**	**325**	P	**Pn**	**22 07 11.4**	**-0.2**
JNN				*e*S	**Sn**	**22 07 23.0**	**+0.2**
JZK	**Kikaishima**	**0.93**	**206**	P	**Pn**	**22 07 13.1**	**+0.4**
JZK				*e*S	**Sn**	**22 07 25.7**	**+0.9**
JAM	**Amami Oshima**	**1.03**	**225**	P	**Pn**	**22 07 14.1**	**-0.1**
JAM				*e*S	**Sn**	**22 07 28.1**	**+0.7**
JTAJ	**Takarajima**	**1.07**	**270**	P	**Pn**	**22 07 14.3**	**-0.4**
JYAK	**Yakushimahirau**	**1.08**	**4**	P	**Pn**	**22 07 15.0**	**+0.1**
JYAK				*e*S	**Sn**	**22 07 28.9**	**+0.2**
JKC	**Kuchinoerabu**	**1.32**	**351**	P	**Pn**	**22 07 18.3**	**+0.2**
JKC				*e*S	**Sn**	**22 07 35.3**	**+0.8**
JAMN	**Amaminishikomi**	**1.43**	**231**	P	**Pn**	**22 07 19.6**	**0.0**
JAMN				*e*S	**Sn**	**22 07 37.4**	**+0.3**
JTN	**Tanegashima 3**	**1.57**	**18**	P	**Pn**	**22 07 21.4**	**-0.2**
JTN				*e*S	**Sn**	**22 07 41.6**	**+0.8**
JTK	**Tokunoshima**	**1.88**	**224**	P	**Pn**	**22 07 25.9**	**0.0**
JTK				*e*S	**Sn**	**22 07 48.8**	**+0.4**
JTSR	**Tashiro 2**	**2.05**	**12**	P	**Pn**	**22 07 28.3**	**+0.1**
JTSR				*e*S	**Sn**	**22 07 52.3**	**-0.3**
JOKE	**Okinoerabujima**	**2.42**	**223**	P	**Pn**	**22 07 33.4**	**+0.1**
JOW	**Kunigami**	**3.00**	**220**	P	**Pn**	**22 07 40.7**	**-0.5**
JOW	**Kunigami**	**3.00**	**220**	Pn	**Pn**	**22 07 41.0**	**-0.2**
JOW				Sn	Sn	22 08 22.9	+7.1
	1.2nm,0.3s,baz=9.2,slow=19,SNR=3.6						
JOW				LR	LR	22 09 16.0	
	comp=Z,30nm,19.8s,baz=21,slow=46						
JIH	**Iheya**	**3.03**	**226**	P	**Pn**	**22 07 41.3**	**-0.3**
JNTH	**Nagotoyohara**	**3.38**	**220**	P	**Pn**	**22 07 46.0**	**-0.4**
JNU	**Nakatsue**	**3.98**	**5**	Pn	**Pn**	**22 07 55.9**	**+1.2**
	2.5nm,0.3s,baz=185,slow=12,SNR=31						
JNU				Sn	**Sn**	**22 08 39.1**	**-1.0**
	3.0nm,0.3s,baz=202,slow=5.4,SNR=4.0						
JNU				LR	LR	22 08 57.4	
	comp=Z,52nm,19.3s,baz=214,slow=31						
KSRS	**Korea Array**	**8.54**	**346**	Pn	**Pn**	**22 08 58.8**	**+1.5**
	baz=159,slow=14,SNR=3.8						
KSRS				LR	LR	22 12 25.1	
	comp=Z,105nm,20.9s,baz=178,slow=39						
USRK	**Ussuriysk Ar.**	**15.07**	**4**	LR	LR	22 16 11.8	
	comp=Z,85nm,19.6s,baz=105,slow=37						
ASAJ	**Asahikawa**	**17.81**	**30**	LR	LR	22 18 20.8	
	comp=Z,70nm,20.4s,baz=16,slow=38						
SONM	**Songino Array**	**26.32**	**322**	P	**P**	**22 12 29.4**	**+1.3**
	0.5nm,0.6s,baz=129,slow=7.8,SNR=3.0						
CMAR	**Chiang Mai Arr**	**30.62**	**257**	LR	LR	22 25 22.7	
	comp=Z,64nm,19.0s,baz=84,slow=36						
MKAR	**Makanchi Array**	**41.13**	**309**	P	**P**	**22 14 36.4**	**0.0**
	0.6nm,0.8s,baz=79,slow=6.3,SNR=4.8						
KURBB	**Kurchatov Arra**	**44.16**	**314**	P	**P**	**22 15 00.6**	**-0.2**
	0.9nm,0.4s,baz=98,slow=9.0,SNR=12						
WRA	**Warramunga Arr**	**48.95**	**175**	P	**P**	**22 15 38.6**	**+0.1**
	2.8nm,0.8s,baz=353,slow=8.2,SNR=15						
WRA				pP	**pP**	**22 15 49.5**	**-0.6**
	1.2nm,0.7s,baz=355,slow=8.2,SNR=5.0						
BVAR	**Borovoye Array**	**49.45**	**316**	P	**P**	**22 15 41.9**	**-0.2**
	1.1nm,0.6s,baz=92,slow=9.2,SNR=10.0						
ASAR	**Alice Springs**	**52.62**	**176**	P	**P**	**22 16 06.8**	**+0.7**
	1.3nm,0.8s,baz=3.0,slow=7.5,SNR=12						
ASAR				pP	**pP**	**22 16 18.6**	**+0.7**
	0.8nm,0.6s,baz=7.8,slow=14,SNR=6.6						
AKTO	**Aktyubinsk**	**57.21**	**314**	P	**P**	**22 16 40.7**	**+1.6**
	0.6nm,0.5s,baz=54,slow=7.7,SNR=4.3						
ILAR	**Eielson Array**	**60.95**	**29**	P	**P**	**22 17 03.6**	**-1.1**
	0.5nm,0.8s,baz=284,slow=7.7,SNR=5.7						
FINES	**FINESS Array B**	**71.29**	**331**	P	**P**	**22 18 09.2**	**-1.8**
	0.3nm,0.4s,baz=96,slow=6.3,SNR=5.6						
AKASG	**Malin Array Be**	**74.58**	**320**	LR	LR	22 52 34.7	
	comp=Z,30nm,19.9s,baz=35,slow=37						
YKA	**Yellowknife Ar**	**75.06**	**26**	P	**P**	**22 18 33.5**	**+0.1**
	0.3nm,0.7s,baz=304,slow=5.4,SNR=7.0						
YKA				pP	**pP**	**22 18 44.6**	**-0.9**
	0.3nm,0.8s,baz=302,slow=5.4,SNR=4.0						
BRTR	**Keskin Array B**	**76.78**	**308**	P	**P**	**22 18 43.3**	**-0.5**
	0.6nm,0.6s,baz=69,slow=4.0,SNR=2.6						
NVAR	**Mina Array Bea**	**87.09**	**47**	P	**P**	**22 19 38.6**	**+0.5**
	0.4nm,0.6s,baz=278,slow=6.3,SNR=3.1						

IDC 17 22:28:18.6±16.0, 10°.20N×92°.69E, h96km±110km, mb3.4/3, mb1 3.6/4, mb1mx3.1/27, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=191.1km s-min=27.9km az=71.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.21**	**36**	P	Pn	22 30 42.4	+0.2
	0.5nm,0.3s,baz=227,slow=15,SNR=6.2						

H08S3	**Diego Garcia H**	**26.80**	**229**	T	T	23 01 39.3	
	baz=48						
H08S2	**Diego Garcia H**	**26.80**	**229**	T	T	23 01 36.7	
	baz=48						
H08S1	**Diego Garcia H**	**26.82**	**229**	T	T	23 01 34.4	
	baz=48						
SONM	**Songino Array**	**39.26**	**15**	P	P	22 35 37.7	-0.3
	0.1nm,0.3s,baz=193,slow=5.9,SNR=3.1						
WRA	**Warramunga Arr**	**50.78**	**126**	P	P	22 37 09.4	-0.1
	0.6nm,0.5s,baz=305,slow=8.7,SNR=4.9						
ASAR	**Alice Springs**	**52.50**	**130**	P	P	22 37 22.2	-0.1
	0.9nm,0.5s,baz=306,slow=7.2,SNR=10						

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*ISCJB **17** 22:28:40.5±0.3, 0°.44N±0°.03×120°.26E±0°.03, h55km, mb4.2/12, Error ellipse: s-maj=4.7km s-min=3.6km az=20.1*
*NEIC **17** 22:28:41.1±2.3, 0°.25N×120°.28E, h63km±25km, mb4.5/2, Error ellipse: s-maj=41.2km s-min=10.4km az=65.0*
*DJA **17** 22:28:42.3±0.4, 0°N±2°×12°0E±°, h36km±6km, M4.7/6, mb4.9/5, mB5.1/3, MLv4.6/6, Mw(mB)4.5/3*
*IDC **17** 22:28:48.8±13.0, 0°.14N×120°.31E, h141km±137km, mb3.8/10, mb1 3.9/10, mb1mx3.6/27, mbtmp4.2/10, Error ellipse: s-maj=50.1km s-min=18.5km az=60.0*
ISC 17 22:28:41.5±0.7, 0°.45N±0°.05×120°.28E±0°.04, h55km, n44, σ1§19/50, mb4.3/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.39**	**253**	P	**Pn**	**22 28 52.5**	**+0.6**
TOLI	**Toli-Toli**	**0.85**	**38**	*e*Pn	**Pn**	**22 28 58.0**	**+0.7**
MRSI	**Marisa**	**1.67**	**89**	P	**Pn**	**22 29 08.9**	**+0.6**
MRSI				S	**Sn**	**22 29 29.5**	**+0.9**
APSI	**Ampana**	**1.93**	**135**	P	**Pn**	**22 29 11.8**	**-0.1**
APSI				S	**Sn**	**22 29 34.1**	**-0.9**
GTOI	**Gorontalo**	**2.74**	**86**	P	**Pn**	**22 29 22.2**	**-0.8**
SGKI	**Sangatta, Kali**	**2.84**	**250**	P	**Pn**	**22 29 26.0**	**+1.6**
SGKI				S	**Sn**	**22 29 56.1**	**-1.4**
LUWI	**Luwuk**	**2.90**	**121**	P	**Pn**	**22 29 25.8**	**+0.6**
LUWI				S	**Sn**	**22 29 59.9**	**+1.0**
LUWI	**Luwuk**	**2.90**	**121**	*e*Pn	**Pn**	**22 29 25.3**	**+0.1**
SMKI	**Samarinda**	**3.19**	**254**	P	**Pn**	**22 29 29.3**	**+0.1**
TTSI	**Tana Toraja**	**3.50**	**187**	P	**Pn**	**22 29 36.6**	**+3.2**
KMSI	**Cibinong**	**3.71**	**88**	P	**Pn**	**22 29 37.7**	**+1.4**
KMSI				S	**Sn**	**22 30 20.6**	**+1.9**
BKB	**Balikpapan**	**3.78**	**243**	P	**Pn**	**22 29 37.7**	**+0.4**
SPSI	**Sidrap Palu**	**4.41**	**187**	P	**Pn**	**22 29 46.2**	**+0.2**
SPSI				S	**Sn**	**22 30 37.2**	**+1.1**
BNSI	**Bone**	**4.82**	**182**	P	**Pn**	**22 29 52.6**	**+1.1**
BNSI				S	**Sn**	**22 30 47.9**	**+1.8**
MTKI	**Muara Teweh, K**	**5.55**	**256**	P	**Pn**	**22 30 02.0**	**+0.4**
BKSI	**Bulukumba**	**5.74**	**182**	P	**Pn**	**22 30 03.9**	**-0.2**
SANI	**Sanana**	**6.23**	**114**	P	**Pn**	**22 30 10.8**	**0.0**
BBKI	**Banjar Baru**	**6.68**	**234**	P	**Pn**	**22 30 17.3**	**+0.3**
	55nm,0.7s,1μm						
NLAI	**Namlea**	**7.74**	**118**	P	**Pn**	**22 30 32.1**	**+0.5**
	123nm,0.8s,1μm						
WRA	**Warramunga Arr**	**24.51**	**147**	P	**P**	**22 33 52.9**	**-3.0**
	8.2nm,0.8s,baz=332,slow=9.5,SNR=79						
ASAR	**Alice Springs**	**27.39**	**152**	P	**P**	**22 34 19.1**	**-2.9**
	1.1nm,0.5s,baz=328,slow=7.7,SNR=16						
CMAR	**Chiang Mai Arr**	**27.55**	**312**	P	**P**	**22 34 24.8**	**+1.4**
	1.7nm,0.3s,baz=139,slow=8.4,SNR=3.8						
NWAO	**Narrogin (SRO)**	**33.32**	**185**	P	P	22 35 10.2	-3.9
	3.9nm,0.8s,baz=353,slow=7.6,SNR=3.7						
LSA	**Lhasa**	**40.19**	**319**	*e*P	**P**	**22 36 14.4**	**+1.2**
	5.5nm,0.6s						
ODAN	**Odare**	**41.09**	**312**	*e*P	**P**	**22 36 21.3**	**+0.9**
	13nm,0.8s						
TAPN	**Taplejung**	**41.13**	**313**	*e*P	**P**	**22 36 21.9**	**+1.1**
	8.9nm,0.4s						
RAMN	**Ramite**	**41.73**	**312**	*e*P	**P**	**22 36 26.9**	**+1.3**
	22nm,0.9s						
JIRN	**Jiri**	**42.42**	**313**	*e*P	**P**	**22 36 32.5**	**+1.1**
	24nm,0.6s						
GUN	**Gumba**	**42.79**	**313**	*e*P	**P**	**22 36 35.4**	**+1.0**
	38nm,0.7s						
PKI	**Pulchoki**	**42.95**	**312**	*e*P	**P**	**22 36 36.3**	**+0.6**
	10nm,0.6s						
PKIN	**Phulchoki**	**42.96**	**312**	*e*P	**P**	**22 36 36.4**	**+0.7**
	4.4nm,0.5s						
KKN	**Kakani**	**43.17**	**312**	*e*P	**P**	**22 36 38.2**	**+0.9**
DMN	**Daman**	**43.20**	**312**	*e*P	**P**	**22 36 38.4**	**+0.8**
	16nm,0.6s						
GKN	**Gorkha**	**43.76**	**312**	*e*P	**P**	**22 36 42.6**	**+0.6**
	18nm,0.6s						
KOLN	**Koldanda**	**44.41**	**311**	*e*P	**P**	**22 36 47.9**	**+0.6**
	16nm,0.6s						
DANN	**Dangsing**	**44.60**	**312**	*e*P	**P**	**22 36 49.6**	**+0.7**
	28nm,0.7s						
SONM	**Songino Array**	**48.71**	**348**	P	**P**	**22 37 21.2**	**+0.7**
	1.2nm,0.6s,baz=169,slow=8.8,SNR=8.7						
MKAR	**Makanchi Array**	**56.83**	**330**	P	**P**	**22 38 21.1**	**+0.7**
	1.1nm,0.4s,baz=122,slow=5.2,SNR=20						
KBL	**Kabul**	**58.58**	**311**	*e*P	**P**	**22 38 31.2**	**-1.9**
	1.3nm,0.4s						
AAK	**Ala-Archa**	**58.67**	**322**	P	**P**	**22 38 34.1**	**+0.6**
	1.7nm,0.5s,baz=120,slow=4.9,SNR=9.2						
ZALV	**Zalesovo Beam**	**60.81**	**337**	P	**P**	**22 38 47.2**	**-0.5**
	1.5nm,0.6s,baz=143,slow=5.2,SNR=6.2						
KURBB	**Kurchatov Arra**	**61.23**	**331**	P	**P**	**22 38 50.4**	**-0.3**
	1.0nm,0.3s,baz=140,slow=6.5,SNR=9.2						
KURK	**Kurchatov**	**61.25**	**331**	P	**P**	**22 38 50.4**	**-0.5**
BVAR	**Borovoye Array**	**66.71**	**330**	P	**P**	**22 39 26.1**	**-0.6**
	0.7nm,0.5s,baz=123,slow=6.9,SNR=6.1						

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*IDC **17** 22:34:12.7±1.5, 14°.68S×166°.93E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/19, mbtmp3.6/5, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/25, Error ellipse: s-maj=50.2km s-min=29.7km az=122.0*
*ISCJB **17** 22:34:19.1±1.3, 15°.01S±0°.08×167°.0E±0°.2, h67km, mb3.3/4, Error ellipse: s-maj=33.1km s-min=11.6km az=176.9*
ISC 17 22:34:20.8±1.3, 15°.05±0°.1×167°.0E±0°.3, h67km, n7, σ1§44/7, mb3.4/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.09**	**184**	Pn	**Pn**	**22 36 02.5**	**+0.5**
	0.6nm,0.3s,baz=74,slow=2.8,SNR=9.7						
DZM				Sn	**Sn**	**22 37 20.6**	**-0.5**
	0.4nm,0.3s,baz=311,slow=19,SNR=3.3						
DZM				LR	LR	22 38 41.8	
	comp=Z,226nm,18.5s,baz=212,slow=37						
HNR	**Honiara**	**8.81**	**308**	LR	LR	22 39 17.4	
	comp=Z,139nm,18.2s,baz=242,slow=36						
WRA	**Warramunga Arr**	**31.51**	**256**	P	**P**	**22 40 35.3**	**-1.4**
	0.6nm,1.0s,baz=84,slow=7.9,SNR=3.7						
ASAR	**Alice Springs**	**32.34**	**249**	P	**P**	**22 40 44.3**	**+0.3**
	0.6nm,0.9s,baz=76,slow=8.7,SNR=3.4						
SONM	**Songino Array**	**82.53**	**324**	P	**P**	**22 46 37.8**	**+1.3**
	0.1nm,0.4s,baz=114,slow=6.6,SNR=2.4						
ILAR	**Eielson Array**	**86.83**	**18**	P	**P**	**22 46 56.0**	**-1.6**
	0.5nm,0.9s,baz=236,slow=6.4,SNR=3.6						
ARCES	**ARCESS Array B**	**120.41**	**345**	PKP	**PKPdf**	**22 53 05.2**	**+1.2**
	1.0nm,0.6s,baz=46,slow=2.6,SNR=16						

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*IDC **17** 22:47:42.5±1.0, 9°.96S×116°.48E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, ML3.1/1, Error ellipse: s-maj=54.6km s-min=18.5km az=62.0*
*DJA **17** 22:47:45.3±0.9, 11°S±11°×11°6E±°, h82km±37km, M4.0/11, MLv4.0/11*
ISC 17 22:47:46.8±0.9, 10°.4S±0°.1×116°.12E±0°.07, h35km, n18, σ2§04/22, mb3.9/6, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.81**	**328**	P	**Pn**	**22 48 16.8**	**+1.2**
IGBI				S	**Sn**	**22 48 41.9**	**+4.6**
SRBI	**Singaraja**	**2.44**	**338**	P	**Pn**	**22 48 25.6**	**+1.4**
JAGI	**Jajag, Banyuwa**	**2.70**	**314**	P	**Pn**	**22 48 28.0**	**+0.1**
WBSI	**Waikabubak, Su**	**3.30**	**78**	P	**Pn**	**22 48 36.0**	**-0.1**
WBSI				S	**Sn**	**22 49 16.9**	**+2.7**
GMJI	**Gumukmas**	**3.36**	**308**	P	**Pn**	**22 48 37.3**	**+0.4**
GMJI				S	**Sn**	**22 49 11.9**	**-3.7**
BATI	**Baumata**	**7.43**	**89**	Sn	**Sn**	**22 50 54.2**	**-1.7**
	2.1nm,0.3s,baz=299,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**19.98**	**121**	P	**P**	**22 52 16.2**	**-0.2**
	0.1nm,0.3s,baz=290,slow=13,SNR=3.2						
ASAR	**Alice Springs**	**21.51**	**130**	P	**P**	**22 52 33.0**	**+0.1**
	0.6nm,0.4s,baz=306,slow=10,SNR=10						

NWAO	**Narrogin (SRO)**	**22.48**	**178**	P	**P**	**22 52 47.8**	**+4.6**
	22nm,1.3s,baz=1.6,slow=12,SNR=2.9						
CMAR	**Chiang Mai Arr**	**33.28**	**329**	P	**P**	**22 54 21.8**	**+0.5**
	0.5nm,0.3s,baz=158,slow=7.0,SNR=5.5						
TAPN	**Taplejung**	**46.52**	**324**	*e*P	**P**	**22 56 10.9**	**-0.6**
JIRN	**Jiri**	**47.64**	**323**	*e*P	**P**	**22 56 19.5**	**-0.8**
	5.8nm,0.5s						
GUN	**Gumba**	**48.01**	**323**	*e*P	**P**	**22 56 21.7**	**-1.4**
GKN	**Gorkha**	**48.82**	**322**	*e*P	**P**	**22 56 27.8**	**-1.3**
	3.2nm,0.3s						
DANN	**Dangsing**	**49.60**	**322**	*e*P	**P**	**22 56 34.1**	**-1.2**
	6.8nm,0.7s						
SONM	**Songino Array**	**58.58**	**352**	P	**P**	**22 57 39.3**	**-0.9**
	0.4nm,0.5s,baz=174,slow=8.6,SNR=7.1						
SONM				PcP	**PcP**	**22 58 29.6**	**-0.6**
	0.4nm,0.6s,baz=190,slow=4.7,SNR=2.6						
MKAR	**Makanchi Array**	**64.43**	**335**	P	**P**	**22 58 18.9**	**-0.7**
	0.5nm,0.4s,baz=155,slow=4.8,SNR=13						
ZALV	**Zalesovo Beam**	**69.34**	**341**	P	**P**	**22 58 49.4**	**-1.3**
	2.1nm,0.5s,baz=131,slow=4.1,SNR=6.6						

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*NEIC **17** 22:52:29.0, 36°.90S×73°.12W, h35km, ML4.8(GUC), After GUC.*
NEIC Felt [III] at Concepcion.
*GUC **17** 22:52:29.1±0.5, 36°.90S×73°.12W, h35km±3km, ML4.8*
*ISCJB **17** 22:52:31.0±1.4, 36°.78S±0°.05×72°.9W±0°.2, h55km±12km, mb4.1/11, MS3.5/5, Error ellipse: s-maj=20.4km s-min=8.1km az=179.3*
*IDC **17** 22:52:30.3±0.7, 36°.83S×72°.89W, h30km±5km, mb3.9/10, mb1 4.1/12, mb1mx4.0/19, mbtmp4.0/12, ML3.3/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/27, Error ellipse: s-maj=28.1km s-min=15.2km az=91.0*
ISC 17 22:52:31.7±1.8, 36°.81S±0°.05×73°.0W±0°.1, h52km±16km, n36, σ1§43/37, mb4.0/11, MS3.5/5, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.06**	**236**	*e*P1	Pn	22 52 35.1	-4.6
CCSP				*e*S1	Sn	22 52 39.0	-6.4
LNCH	**Linares**	**1.51**	**51**	↑*i*P	**Pn**	**22 52 56.5**	**+0.1**
LNCH				*i* S1		22 53 17.4	
LNCH				AML	AML	22 53 19.9	
	comp=N,12μm,0.5s						
TALC	**Talca**	**1.81**	**39**	↓↓*i*P	**Pn**	**22 53 00.7**	**+0.1**
TALC				*i* S	**Sn**	**22 53 24.4**	**+2.1**
TALC				AML	AML	22 53 30.1	
	comp=N,14μm,0.6s						
NICH	**Los Niches**	**2.33**	**40**	AML	AML	22 53 51.9	
	comp=E,6μm,0.4s						
CLCH	**Cerro Calan**	**3.98**	**32**	↓↓*i*P	**Pn**	**22 53 29.7**	**-0.5**
CLCH				*i* S1	**Sn**	**22 54 16.7**	**+1.0**
PEL	**Peldehue**	**4.14**	**29**	↓↓*i*P	**Pn**	**22 53 32.3**	**-0.1**
PEL				*e*S1	**Sn**	**22 54 20.9**	**+1.4**
PLCA	**Paso Flores**	**4.38**	**154**	Pn	**Pn**	**22 53 35.7**	**0.0**
	comp=E,0.6nm,0.3s,baz=32,slow=22,SNR=8.0						
PLCA				Lg	Lg	22 54 39.5	
	comp=E,5.2nm,0.3s,baz=263,slow=21,SNR=3.5						
PLCA				LR	LR	22 55 35.0	
	comp=E,237nm,20.2s,baz=320,slow=43						
PLCA	**Paso Flores**	**4.38**	**154**	*e*Pn	**Pn**	**22 53 33.3**	**-2.5**
PLCA				*e*Sn	**Sn**	**22 54 28.5**	**+3.1**
PLCA				Lg	Lg	22 54 39.5	
CFAA	**Coronel Fontan**	**6.54**	**39**	Pn	**Pn**	**22 54 04.2**	**-1.2**
	comp=E,0.3nm,0.3s,baz=210,slow=11,SNR=16						
CFAA				Sn	**Sn**	**22 55 18.6**	**-0.1**
	comp=E,0.6nm,0.3s,baz=348,slow=14,SNR=3.9						
CFAA				Lg	Lg	22 55 53.6	
	comp=E,0.3nm,0.3s,baz=251,slow=9.9,SNR=3.6						
CFAA				LR	LR	22 56 14.9	
	comp=E,4.7nm,21.8s,baz=216,slow=35						
LCO	**Las Campanas**	**8.02**	**15**	*e*Pn	**Pn**	**22 54 23.8**	**-2.2**
	comp=E,38nm,0.9s						
LCO				*e*Sn	**Sn**	**22 55 53.8**	**-1.6**
TRQA	**Tornquist**	**8.89**	**101**	*e*Pn	**Pn**	**22 54 35.2**	**-2.3**
LPAZ	**La Paz**	**20.90**	**13**	P	**P**	**22 57 11.8**	**+1.4**
	comp=E,3.5nm,0.7s,baz=188,slow=2.7,SNR=5.9						
LPAZ				sP	sP	22 57 23.1	-5.7
	comp=E,3.4nm,0.8s,baz=21,slow=4.6,SNR=5.1						
LPAZ	**La Paz**	**20.90**	**13**	*e*P	**P**	**22 57 10.3**	**-0.2**
	comp=E,3.2nm,0.7s						
SIV	**San Ignacio**	**23.30**	**30**	P	**P**	**22 57 34.8**	**-0.3**
	comp=E,4.9nm,0.9s,baz=230,slow=11,SNR=9.3						
NNA	**Nana**	**24.95**	**351**	P	**P**	**22 57 51.4**	**+1.0**
	comp=E,3.8nm,0.3s,baz=153,slow=2.3,SNR=3

0.9nm,0.6s,baz=184,slow=8.7,SNR=9.5
PDAR Pinedale Array 65.43 2 P P 23 11 40.2 -1.0
0.5nm,0.7s,baz=176,slow=8.9,SNR=4.0
DZM Mont Dzumac 74.03 252 LR LR 23 38 28.2
comp=Z,147nm,18.7s,baz=172,slow=30
YKA Yellowknife Ar 85.16 359 P **P 23 13 33.9 -0.1**
0.4nm,0.8s,baz=174,slow=5.0,SNR=7.8
H11S2 WAKE ISLAND Hy 89.14 290 T T 00 53 07.9
baz=118
H11S1 WAKE ISLAND Hy 89.15 290 T T 00 53 10.7
baz=118
H11S3 WAKE ISLAND Hy 89.15 290 T T 00 53 07.9
baz=118
ZALV Zalesovo Beam 146.44 342 PKPbc **PKPdf 23 20 37.9 +0.1**
0.9nm,0.3s,baz=46,slow=4.2,SNR=2.9
BRTR Keskin Array B 146.71 52 PKPbc **PKPdf 23 20 38.0 -0.9**
0.6nm,0.8s,baz=222,slow=1.9,SNR=2.7
CMAR Chiang Mai Arr 150.45 267 PKPbc **PKPbc 23 20 51.6 +0.9**
1.1nm,0.3s,baz=73,slow=0.4,SNR=8.3
MKAR Makanchi Array 153.45 337 PKPbc **PKPbc 23 20 55.6 -1.1**
0.3nm,0.6s,baz=5.2,slow=3.2,SNR=4.1

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*ISCJB **17** 23:08:27.2±0.2, 37°.82S±0°.04×72°.92W±0°.06, h33km, mb4.6/34, MS3.7/6, Error ellipse: s-maj=7.0km s-min=5.5km az=171.7*
*GUC **17** 23:08:27.4±0.5, 37°.89S×73°.12W, h41km±2km, ML4.6*
*NEIC **17** 23:08:28.7±0.3, 37°.80S×72°.99W, h35km, mb4.6/21, Error ellipse: s-maj=10.0km s-min=7.2km az=66.0*
NEIC Felt [IV] at Concepcion. Also felt at Chiguayante, Los Angeles, Penco, Temuco and Villarrica.
*IDC **17** 23:08:28.4±0.8, 37°.83S×73°.00W, h35km±5km, mb4.3/14, mb1 4.4/16, mb1mx4.3/22, mbtmp4.4/16, ML4.3/2, MS3.7/7, Ms1 3.7/7, ms1mx3.5/21, Error ellipse: s-maj=21.2km s-min=14.2km az=81.0*
*BJI **17** 23:08:29.7, 37°.60S×73°.00W, h35km, mB4.9/2, Ms5.1/2, Ms7 4.9/2*
ISC 17 23:08:28.0±0.6, 37°.89S±0°.05×73°.09W±0°.06, h34km±2km, h34km:pP-P, n258, σ1°18/277, mb4.6/35, MS3.8/6, 106C-79D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.32**	**76**	↑*i*P			**Pn**	**23 08 36.5**	**+0.2**
AGCH				*i*S			**Sb**	**23 08 42.7**	**+0.9**
CCSP	**San Pedro de C**	**1.04**	**359**	↑*i*P			**Pn**	**23 08 46.3**	**+0.1**
CCSP				*i*S			**Sb**	**23 09 00.3**	**-0.7**
CCSP				AML			AML	23 09 03.2	
	comp=E,28μm,0.5s								
COCH	**Cobquecura**	**1.77**	**8**	↑*i*P			**Pn**	**23 08 56.2**	**+0.1**
COCH				*e*S			**Sn**	**23 09 18.8**	**+1.3**
VLCH	**Valdivia**	**1.92**	**184**	*e*P			**Pn**	**23 08 58.5**	**+0.2**
LNCH	**Linares**	**2.36**	**31**	*e*P1			**Pn**	**23 09 04.9**	**+0.6**
TALC	**Talca**	**2.75**	**26**	↑*i*P			**Pn**	**23 09 10.0**	**+0.4**
PLCA	**Paso Flores**	**3.46**	**146**	Pn			**Pn**	**23 09 21.4**	**+1.9**
	comp=E,12nm,0.3s,baz=321,slow=10,SNR=105								
PLCA				Lg			Lg	23 10 10.9	
	comp=E,32nm,0.3s,baz=26,slow=21,SNR=3.8								
PLCA				LR			LR	23 10 52.3	
	comp=E,897nm,20.1s,baz=310,slow=42								
PLCA	**Paso Flores**	**3.46**	**146**	*e*Pn			**Pn**	**23 09 22.0**	**+2.5**
PLCA				*e*Sn			**Sb**	**23 10 06.7**	**-3.5**
PLCA				Lg			Lg	23 10 10.9	
PEL	**Peldehue**	**5.12**	**23**	*i*P4			**Pn**	**23 09 41.8**	**-0.5**
CFAA	**Coronel Fontan**	**7.43**	**34**	Pn			**Pn**	**23 10 14.0**	**-0.1**
	comp=E,0.9nm,0.3s,baz=200,slow=12,SNR=13								
CFAA				Sn			**Sn**	**23 11 36.0**	**-1.1**
	comp=E,0.1nm,0.3s,baz=198,slow=9.8,SNR=3.4								
CFAA				LR			LR	23 13 13.3	
	comp=E,43nm,21.9s,baz=212,slow=39								
TRQA	**Tornquist**	**8.78**	**95**	*e*Pn			**Pn**	**23 10 34.0**	**+1.6**
TRQA				*e*Sn			Sn	23 12 17.9	+7.7
LCO	**Las Campanas**	**9.07**	**13**	*e*Pn			**Pn**	**23 10 34.5**	**-2.3**
LCO				*e*Sn			Sn	23 12 10.8	-7.1
LVC	**Limon Verde**	**15.64**	**14**	*e*Pn			**Pn**	**23 12 03.7**	**-2.5**
	comp=E,11nm,1.1s								
LPAZ	**La Paz**	**21.96**	**13**	P			**P**	**23 13 20.2**	**+0.7**
	comp=E,3.1nm,0.8s,baz=188,slow=5.6,SNR=18								
LPAZ				LR			LR	23 23 25.0	
	comp=E,117nm,18.6s,baz=217,slow=41								
LPAZ	**La Paz**	**21.96**	**13**	*e*Pn			**P**	**23 13 18.5**	**-1.0**
	comp=E,8.6nm,0.8s								
SIV	**San Ignacio**	**24.25**	**29**	P			**P**	**23 13 41.1**	**-0.9**
	comp=E,8.5nm,0.8s,baz=230,slow=11,SNR=19								
NNA	**Nana**	**26.01**	**352**	P			**P**	**23 13 57.7**	**-0.2**
	comp=E,6.7nm,0.6s,baz=190,slow=13,SNR=4.2								
NNA				LR			LR	23 22 05.4	
	comp=E,91nm,18.8s,baz=180,slow=32								
PMSA	**Palmer Station**	**27.45**	**172**	LR			LR	23 24 18.8	
	comp=E,342nm,18.7s,baz=314,slow=35								
SAML	**Samuel**	**30.17**	**20**	*e*P			**P**	**23 14 34.5**	**-0.4**
	comp=E,16nm,1.5s								
BDFB	**Brasilia**	**31.32**	**52**	P			**P**	**23 14 43.7**	**-1.6**
	comp=E,2.7nm,0.4s,baz=181,slow=7.8,SNR=3.9								
BDFB				LR			LR	23 28 36.1	
	comp=E,224nm,18.1s,baz=224,slow=39								
OTAV	**Otavalo**	**38.26**	**351**	*e*P			**P**	**23 15 47.2**	**+1.7**
	comp=E,11nm,1.3s								
VNA3	**Neumayer Olymp**	**46.12**	**156**	P			**P**	**23 16 49.2**	**+0.8**
RCBR	**Riachuelo**	**46.47**	**56**	P			**P**	**23 16 52.3**	**+0.4**
	comp=E,9.7nm,0.9s,baz=201,slow=15,SNR=2.6								
VNA2	**Neumayer--Watz**	**46.80**	**156**	P			**P**	**23 16 54.9**	**+1.2**
	baz=280,slow=9.2								
SNAA	**Sanae**	**48.34**	**157**	P			**P**	**23 17 06.7**	**+0.8**
SNAA	**Sanae**	**48.34**	**157**	P			**P**	**23 17 06.6**	**+0.8**
	comp=E,6.4nm,0.8s,baz=230,slow=5.2,SNR=23								
SNAA	**Sanae**	**48.34**	**157**	*e*P			**P**	**23 17 06.7**	**+0.8**
	comp=E,20nm,1.0s								
QSPA	**South Pole Qui**	**52.36**	**180**	P			**P**	**23 17 37.5**	**+1.2**
	comp=E,14nm,1.0s,baz=323,slow=2.1,SNR=33								
833A	**Chaparral WMA,**	**70.33**	**335**	↑P			**P**	**23 19 39.0**	**+1.0**
	baz=71								
832A	**Faith Ranch, C**	**70.48**	**335**	↓P			**P**	**23 19 40.4**	**+1.4**
	baz=71								
732A	**Laxson Ranch,**	**70.89**	**335**	↑P			**P**	**23 19 42.4**	**+1.0**
	baz=71								
633A	**Saathoff Ranch**	**71.31**	**336**	↑P			**P**	**23 19 44.9**	**+1.0**
	baz=72								
631A	**Perdido Creek**	**71.72**	**335**	↑P			**P**	**23 19 47.3**	**+0.8**
	baz=72								
533A	**Kerrville**	**71.83**	**336**	↓P			**P**	**23 19 48.2**	**+1.1**
	baz=72								
532A	**Rocksprings**	**72.16**	**336**	↑P			**P**	**23 19 49.8**	**+0.7**
	baz=72,SNR=9.2								
434A	**Burnet**	**72.28**	**337**	↑P			**P**	**23 19 50.8**	**+1.0**
	baz=73								
336A	**Riesel**	**72.40**	**339**	↓P			**P**	**23 19 51.6**	**+1.2**
	baz=73								
531A	**Rocksprings**	**72.40**	**335**	↓P			**P**	**23 19 51.4**	**+0.8**
	baz=73,SNR=5.6								
JCT	**Junction City**	**72.45**	**336**	↑P			**P**	**23 19 51.7**	**+0.9**
	baz=73								
JCT	**Junction City**	**72.45**	**336**	*e*P			**P**	**23 19 51.8**	**+0.9**
	comp=E,9.6nm,0.9s								
433A	**Art**	**72.48**	**337**	↑P			**P**	**23 19 51.1**	**+0.1**
	baz=73,SNR=6.4								
530A	**J-C Ranch, Com**	**72.66**	**335**	↑P			**P**	**23 19 53.0**	**+0.9**
	baz=73,SNR=11								
TXAR	**Lajitas Array**	**72.74**	**332**	P			**P**	**23 19 53.4**	**+0.7**
	comp=E,2.8nm,0.7s,baz=153,slow=8.9,SNR=32								
TXAR				pP			**pP**	**23 20 03.5**	**+0.1**
	comp=E,2.3nm,0.9s,baz=154,slow=11,SNR=9.1								
334A	**Lometa**	**72.76**	**338**	↓P			**P**	**23 19 52.9**	**+0.3**
	baz=73,SNR=8.8								
431A	**Sonora**	**72.90**	**335**	↑P			**P**	**23 19 54.5**	**+0.9**
	baz=73,SNR=5.4								
529A	**Stev Forest Ra**	**72.94**	**334**	↑P			**P**	**23 19 54.5**	**+0.7**
	baz=73								
333A	**Richland Sprin**	**72.98**	**337**	↓P			**P**	**23 19 54.3**	**+0.4**
	baz=73								
KMSC	**Kings Mountain**	**73.06**	**353**	↓P			**P**	**23 19 54.2**	**-0.1**
	baz=73								
WHTX	**Lake Whitney,**	**73.14**	**339**	↑P			**P**	**23 19 55.2**	**+0.3**
	baz=73								
430A	**Baggett Ranch,**	**73.21**	**335**	↓P			**P**	**23 19 55.8**	**+0.4**
	baz=74								
137A	**Heron Place, G**	**73.24**	**340**	↑P			**P**	**23 19 56.1**	**+0.7**
	baz=74								
332A	**Millersview**	**73.27**	**336**	↑P			**P**	**23 19 55.8**	**+0.1**
	baz=74,SNR=6.1								
429A	**Davenport Ranc**	**73.28**	**334**	↓P			**P**	**23 19 56.4**	**+0.6**
	baz=74,SNR=8.3								
234A	**Clairette**	**73.35**	**338**	↓P			**P**	**23 19 56.9**	**+0.8**
	baz=74								
331A	**San Angelo**	**73.42**	**336**	↑P			**P**	**23 19 56.8**	**+0.2**
	baz=74,SNR=9.1								
233A	**Rising Star**	**73.60**	**337**	↑P			**P**	**23 19 58.4**	**+0.8**
	baz=74								
232A	**Coleman**	**73.71**	**337**	↓P			**P**	**23 19 58.8**	**+0.5**
	baz=74								
330A	**Mertzon**	**73.75**	**335**	↑P			**P**	**23 19 59.1**	**+0.5**
	baz=74								
134A	**White-Moore Ra**	**73.87**	**338**	↓P			**P**	**23 20 00.1**	**+0.9**
	baz=74								
231A	**Bronte**	**73.96**	**336**	↓P			**P**	**23 20 00.3**	**+0.5**
	baz=74								
329A	**Wagon Wheel Ra**	**74.10**	**335**	↑P			**P**	**23 20 01.1**	**+0.4**
	baz=74,SNR=5.3								
133A	**Hamilton Ranch**	**74.15**	**338**	↑P			**P**	**23 20 01.6**	**+0.8**
	baz=74								
230A	**Sterling City**	**74.18**	**335**	↑P			**P**	**23 20 01.8**	**+0.7**
	baz=74								
Z35A	**Perchaven, San**	**74.34**	**339**	↑P			**P**	**23 20 02.4**	**+0.5**
	baz=75								
ABTX	**Abilene, Hawle**	**74.39**	**337**	↓P			**P**	**23 20 02.6**	**+0.4**
	baz=75								
229A	**Bryant Ranch,**	**74.48**	**335**	↑P			**P**	**23 20 03.3**	**+0.5**
	baz=75								
Z34A	**Collier Ranch,**	**74.57**	**339**	↑P			**P**	**23 20 04.1**	**+0.8**
	baz=75								
131A	**Roby**	**74.67**	**336**	↓P			**P**	**23 20 04.6**	**+0.8**
	baz=75								
Z33A	**Whitaker Ranch**	**74.74**	**338**	↑P			**P**	**23 20 04.7**	**+0.5**
	baz=75								
130A	**Snyder**	**74.78**	**336**	↓P			**P**	**23 20 04.8**	**+0.3**
	baz=75								
228A	**UT Block 9, Go**	**74.88**	**334**	↓P			**P**	**23 20 05.8**	**+0.6**
	baz=75								
WVT	**Waverly**	**74.90**	**348**	*e*P			**P**	**23 20 04.4**	**-0.6**
	comp=E,8.5nm,1.0s								
Z32A	**Haskell**	**74.97**	**337**	↓P			**P**	**23 20 06.0**	**+0.4**
	baz=75								
Y34A	**Reagan Ranch,**	**75.07**	**339**	↑P			**P**	**23 20 06.6**	**+0.5**
	baz=75								
Z31A	**Sharp Cattle R**	**75.19**	**337**	↑P			**P**	**23 20 07.5**	**+0.7**
	baz=76								
128A	**Castleberry Fa**	**75.31**	**335**	↓P			**P**	**23 20 07.8**	**+0.2**
	baz=76,SNR=5.3								
Y33A	**Hilltop Ranch,**	**75.37**	**338**	↑P			**P**	**23 20 08.4**	**+0.6**
	baz=76								
Z30A	**Sanderson Ranc**	**75.47**	**336**	↓P			**P**	**23 20 08.5**	**0.0**
	baz=76,SNR=5.2								
MNTX	**Cornudas Mount**	**75.50**	**332**	*e*P			**P**	**23 20 08.4**	**-0.2**
	comp=E,2.9nm,0.9s								
Y32A	**R-V Farms, Ver**	**75.61**	**338**	↓P			**P**	**23 20 10.1**	**+0.8**
	baz=76								
Z29A	**Hungry Hill Ra**	**75.63**	**336**	↓P			**P**	**23 20 09.4**	**0.0**
	baz=76,SNR=6.1								
X34A	**Smith Ranch, M**	**75.70**	**339**	↓P			**P**	**23 20 10.6**	**+0.9**
	baz=76								
Y31A	**Rekieta Farm,**	**75.82**	**337**	↑P			**P**	**23 20 11.3**	**+0.8**
	baz=76								
X33A	**Lawton**	**75.83**	**339**	↑P			**P**	**23 20 11.2**	**+0.7**
	baz=76								
Z28A	**Tucker Farm, M**	**75.88**	**335**	↓P			**P**	**23 20 11.6**	**+0.7**
	baz=76								
Y30A	**Stafford Cattl**	**75.94**	**336**	↓P			**P**	**23 20 11.8**	**+0.7**
	baz=76								
WMOK	**Wichita Mounta**	**76.09**	**338**	*e*P			**P**	**23 20 12.0**	**+0.1**
	comp=E,7.3nm,1.3s								
Y29A	**Porterfield Fa**	**76.17**	**336**	↑P			**P**	**23 20 13.3**	**+0.7**
	baz=76								
W34A	**Bridge Creek,**	**76.27**	**339**	↓P			**P**	**23 20 14.0**	**+1.0**
	baz=77								
X31A	**McDonald Ranch**	**76.35**	**337**	↑P			**P**	**23 20 13.9**	**+0.5**
	baz=77								
TUL1	**Leonard**	**76.38**	**341**	↑P			**P**	**23 20 14.1**	**+0.6**
	baz=77								
W33A	**Caddo, Fort Co**	**76.39**	**339**	↑P			**P**	**23 20 14.5**	**+0.9**
	baz=77								
Y28A	**McKinney Farm,**	**76.41**	**335**	↑P			**P**	**23 20 14.6**	**+0.7**
	baz=77								
X30A	**Coker Ranch, T**	**76.46**	**337**	↑P			**P**	**23 20 14.9**	**+0.8**
	baz=77								
V35A	**Meyer Ranch, C**	**76.52**	**340**	↓P			**P**	**23 20 14.4**	**+0.1**
	baz=77								
W32A	**Sentinel**	**76.59**	**338**	↑P			**P**	**23 20 15.4**	**+0.6**
	baz=77								
MSTX	**Muleshoe**	**76.64**	**335**	↑P			**P**	**23 20 15.8**	**+0.6**
	baz=77								
MSTX	**Muleshoe**	**76.64**	**335**	*e*P			**P**	**23 20 15.7**	**+0.5**
	comp=E,6.2nm,0.8s								
Y27A	**Causey**	**76.69**	**335**	↓P			**P**	**23 20 16.1**	**+0.6**
	baz=77								
X29A	**Tulia**	**76.72**	**336**	↓P			**P**	**23 20 16.4**	**+0.8**
	baz=77								
319A	**Douglas**	**76.74**	**329**	↓P			**P**	**23 20 16.7**	**+0.9**
	baz=77								
LIC	**Lamto**	**76.82**	**71**	*e*P			**P**	**23 20 16.4**	**-0.2**
	comp=E,43nm,1.3s								
W31A	**Holland Ranch,**	**76.86**	**338**	↓P			**P**	**23 20 17.0**	**+0.7**
	baz=77								
V32A	**Arapaho**	**77.09**	**339**	↓P			**P**	**23 20 18.7**	**+1.1**
	baz=77								
TIC	**Tumodi**	**77.10**	**71**	*e*P			**P**	**23 20 18.0**	**-0.2**
	comp=E,4.4nm,0.2s								
AMTX	**Amarillo**	**77.12**	**336**	↓P			**P**	**23 20 19.0**	**+1.1**
	baz=77								
AMTX	**Amarillo**	**77.12**	**336**	*e*P			**P**	**23 20 18.6**	**+0.8**
	comp=E,11nm,0.8s								
KIC	**Kosan Boka**	**77.12**	**71**	*e*P			**P**	**23 20 18.2**	**-0.1**
	comp=E,12nm,0.6s								
121A	**Cookes Peak, D**	**77.16**	**330**	↑P			**P**	**23 20 19.8**	**+1.6**
	baz=77								
DBIC	**Dimbokro**	**77.24**	**71**	P			**P**	**23 20 18.9**	**0.0**
	comp=E,4.2nm,0.6s,baz=202,slow=5.7,SNR=13								
W29A	**Amarillo**	**77.32**	**336**	↑P			**P**	**23 20 19.6**	**+0.6**
	baz=78								
V31A	**Spring Creek L**	**77.37**	**338**	↓P			**P**	**23 20 21.0**	**+1.8**
	baz=78								
Z22A	**Elephant Butte**	**77.49**	**331**	↓P			**P**	**23 20 21.4**	**+1.4**
	baz=78								
X26A	**CR and CF Fran**	**77.52**	**334**	↑P			**P**	**23 20 20.8**	**+0.7**
	baz=78,SNR=5.7								
Y24A	**Capitan**	**77.52**	**333**	↓P			**P**	**23 20 20.9**	**+0.6**
	baz=78,SNR=5.0								
U32A	**Winter Ranch,**	**77.69**	**339**	↑P			**P**	**23 20 21.7**	**+0.8**
	baz=78								
X25A	**Clemmons Ranch**	**77.79**	**334**	↑P			**P**	**23 20 22.2**	**+0.5**
	baz=78								
T33A	**Patterson Ranc**	**78.14**	**340**	↑P			**P**	**23 20 24.1**	**+0.7**
	baz=78								
W25A	**X Bar L Ranch,**	**78.34**	**334**	↑P			**P**	**23 20 25.1**	**+0.3**
	baz=79,SNR=5.3								
S33A	**Kaszmaul Farm,**	**78.55**	**340**	↑P			**P**	**23 20 26.3**	**+0.7**
	baz=79								
V26A	**Tequesquite Ra**	**78.64**	**335**	↓P			**P**	**23 20 27.3**	**+1.0**
	baz=79								
W24A	**Lazy 6 Ranch,**	**78.67**	**333**	↓P			**P**	**23 20 27.1**	**+0.5**
	baz=79,SNR=7.2								
214A	**Organ Pipe Nat**	**78.74**	**326**	↑P			**P**	**23 20 28.6**	**+1.7**
	baz=79								
ANMO	**Albuquerque**	**78.81**	**333**	*e*P			**P**	**23 20 28.6**	**+1.2**
	comp=E,5.8nm,1.0s								
U27A	**Thompson Grove**	**78.89**	**336**	↑P			**P**	**23 20 28.6**	**+0.9**
	baz=79								
V25A	**Rancho No Teng**	**78.96**	**334**	↑P			**P**	**23 20 28.8**	**+0.6**
	baz=79,SNR=6.7								
TSUM	**Tsumeb**	**78.98**	**106**	LR			LR	23 50 06.3	
	comp=E,63nm,18.9s,baz=190,slow=32								
BOSA	**Boshof**	**79.03**	**118**	P			**P**	**23 20 28.5**	**-0.4**
	comp=E,6.1nm,0.8s,baz=233,slow=3.3,SNR=13								
BOSA				LR			LR	23 55 57.1	
	comp=E,32nm,18.1s,baz=168,slow=36								
V24A	**Rampart Ranch,**	**79.08**	**334**	↑P			**P**	**23 20 29.6**	**+0.7**
	baz=79								
T28A	**Walsh**	**79.31**	**337**	↑P			**P**	**23 20 30.7**	**+0.8**
	baz=80								
U25A	**Circle Dot Ran**	**79.40**	**335**	↓P			**P**	**23 20 31.2**	**+0.6**
	baz=80,SNR=5.0								
R32A	**Long Quarter,**	**79.52**	**340**	↑P			**P**	**23 20 31.8**	**+0.8**
	baz=80								
S28A	**Manter**	**79.67**	**337**	↑P			**P**	**23 20 32.6**	**+0.7**
	baz=80								
Q33A	**Connelly Farm,**	**79.83**	**341**	↑P			**P**	**23 20 33.3**	**+0.7**
	baz=80								
T26A	**Comanche Natio**	**79.83**	**336**	↑P			**P**	**23 20 34.1**	**+1.2**
	baz=80								
R30A	**Dighton**	**79.83**	**339**	↓P			**P**	**23 20 33.5**	**+0.8**
	baz=80								
V22A	**San Miguel Ran**	**79.83**	**333**	↓P			**P**	**23 20 34.3**	**+1.3**
	baz=80,SNR=6.4								
U23A	**El Rito**	**79.95**	**333**	↑P			**P**	**23 20 35.7**	**+2.1**
	baz=80								
T25A	**Trinidad**	**80.07**	**335**	↑P			**P**	**23 20 35.3**	**+1.1**
	baz=80,SNR=5.9								
S27A	**Las Animas**	**80.07**	**336**	↓P			**P**	**23 20 35.2**	**+1.1**
	baz=80								
S26A	**Kim**	**80.20**	**336**	↓P			**P**	**23 20 35.9**	**+1.1**
	baz=80,SNR=7.8								
W18A	**Petrified Fore**	**80.20**	**330**	↓P			**P**	**23 20 36.9**	**+2.0**
	baz=80								
X16A	**Lo Mia Camp, P**	**80.28**	**329**	↑P			**P**	**23 20 37.1**	**+1.7**
	baz=81								
T24B	**San Luis**	**80.33**	**334**	↑P			**P**	**23 20 37.4**	**+1.6**
	baz=81								
Q30A	**Quinter**	**80.46**	**339**	↓P			**P**	**23 20 37.3**	**+1.3**
	baz=81								
Y14A	**Wickenburg**	**80.52**	**327**	↓P			**P**	**23 20 38.1**	**+1.6**
	baz=81								
S25A	**Robets Cordova**	**80.55**	**335**	↑P			**P**	**23 20 37.8**	**+1.0**
	baz=81								
R27A	**Eads**	**80.59**	**337**	↑P			**P**	**23 20 37.8**	**+0.9**
	baz=81								
Q29A	**Oakley**	**80.60**	**338**	↑P			**P**	**23 20 38.1**	**+1.2**
	baz=81								
S24A	**Houchin Ranch,**	**80.79**	**335**	↑P			**P**	**23 20 39.5**	**+1.3**
	baz=81,SNR=5.5								
R26A	**Arlington**	**80.81**	**336**	↓P			**P**	**23 20 39.9**	**+1.9**
	baz=81								
SDCO	**Great Sand Dun**	**80.98**	**335**	*e*P			**P**	**23 20 39.5**	**+0.3**
	comp=E,49nm,3.0s								
P30A	**Selden**	**80.99**	**339**	↑P			**P**	**23 20 39.6**	**+0.6**
	baz=81								
WUAZ	**Wupatki**	**81.20**	**329**	↓P			**P**	**23 20 42.4**	**+2.1**
	baz=82								
P29A	**Atwood**	**81.24**	**339**	↑P			**P**	**23 20 41.9**	**+1.6**
	baz=82								
R24A	**Sanders Place,**	**81.29**	**335**	↑P			**P**	**23 20 41.7**	**+1.0**
	baz=82,SNR=6.4								
BC3	**Big Chuckawall**	**81.36**	**325**	↑P			**P**	**23 20 42.8**	**+1.8**
	baz=82								
S22A	**4UR Ranch, Cre**	**81.44**	**334**	↓P			**P**	**23 20 43.1**	**+1.4**
	baz=82								
O30A	**MW Ranch, Wils**	**81.53**	**339**	↑P			**P**	**23 20 43.0**	**+1.3**
	baz=82								
MVCO	**Mesa Verde**	**81.57**	**332**	↑P			**P**	**23 20 43.6**	**+1.3**
	baz=82								
Q25A	**Bedland, Calha**	**81.63**	**336**	↑P			**P**	**23 20 44.3**	**+1.8**
	baz=82								
PFO	**Pinyon Flats O**	**81.77**	**325**	↓P			**P**	**23 20 45.3**	**+2.0**
	baz=82								
W13A	**Hualapai Mount**	**81.89**	**327**	↑P			**P**	**23 20 45.9**	**+1.9**
	baz=82								
P26A	**Davis Ranch, A**	**81.93**	**337**	↑P			**P**	**23 20 45.4**	**+1.4**
	baz=82								
P25A	**Willow Gulch B**	**82.14**	**336**	↑P			**P**	**23 20 46.9**	**+1.7**
	baz=82								
U15A	**North Rim**	**82.36**	**329**	↑P			**P**	**23 20 48.4**	**+1.9**
	baz=83								
SMCO	**Snowmass**	**82.77**	**334**	*e*P			**P**	**23 20 50.5**	**+1.8**
	comp=E,5.2nm,1.0s								
SMCO				*e*pP			**pP**	**23 21 00.7**	**+1.1**
BFSC	**Mount Baldy Ra**	**82.85**	**324**	↑P			**P**	**23 20 50.7**	**+1.8**
	baz=83								
ISCO	**Idaho Springs**	**82.87**	**335**	↑P			**P**	**23 20 50.7**	**+1.5**
	baz=83								
ISCO	**Idaho Springs**	**82.87**	**335**	*e*P			**P**	**23 20 49.9**	**+0.8**
	comp=E,3.9nm,1.1s								
TUQ	**Turquoise Moun**	**83.06**	**326**	↑P			**P**	**23 20 51.8**	**+1.9**
	baz=83								
O23A	**Lake Granby, G**	**83.34**	**335**	↓P			**P**	**23 20 52.6**	**+1.1**
	baz=84								
O22A	**Kremmling**	**83.51**	**335**	↑P			**P**	**23 20 53.3**	**+0.9**
	baz=84								
BSC	**Santa Cruz Isl**	**83.58**	**323**	↓P			**P**	**23 20 54.0**	**+1.5**
	baz=84								
K30A	**Basset**	**83.74**	**341**	↓P			**P**	**23 20 54.6**	**+1.4**
	baz=84								
CCUT	**Cedar City**	**83.76**	**329**	*e*P			**P**	**23 20 55.9**	**+2.2**
	comp=E,4.7nm,1.0s								
LRMC	**Laurel Mtn Rad**	**83.89**	**325**	↓P			**P**	**23 20 55.9**	**+1.7**
	baz=84								
N23A	**Red Feather La**	**83.97**	**336**	↓P			**P**	**23 20 55.8**	**+1.1**
	baz=84								
ECSD	**EROS Data Cent**	**84.00**	**343**	↑P			**P**	**23 20 54.9**	**+0.5**
	baz=84								
ECSD	**EROS Data Cent**	**84.00**	**343**	*e*P			**P**	**23 20 54.5**	**+0.1**
	comp=E,15nm,1.

baz=88
TPAW Teton Pass 87.98 333 eP P 23 21 15.5 +1.1
comp=E,47nm,2.5s
E26A Carlson Angus 88.02 340 ⇓P P 23 21 14.5 +0.3
baz=88
AGMN Agassiz Nation 88.17 345 ⇑P P 23 21 15.4 +0.5
baz=88
C30A Mose, Pekin 88.17 343 ⇓P P 23 21 15.7 +0.8
baz=88
F22A Rosebud 88.47 337 ⇓P P 23 21 16.9 +0.5
baz=89
D26A Manning 88.53 340 ⇓P P 23 21 17.2 +0.6
baz=89
MDND Maddock 88.57 342 ⇑P P 23 21 17.5 +0.7
baz=89
H18A Shoshone NF, C 88.58 335 ⇑P P 23 21 17.4 +0.3
baz=89
G20A Bridger 88.58 336 ⇑P P 23 21 17.7 +0.6
baz=89
B30A Myrvik Farm, E 88.84 344 ⇑P P 23 21 18.6 +0.5
baz=89
A30A Hoffart Farm, 89.30 344 ⇑P P 23 21 20.3 +0.1
baz=90
HLID Hailey 89.31 331 ⇑P P 23 21 22.2 +1.7
baz=90
A29A Manning Farm, 89.49 343 ⇑P P 23 21 21.5 +0.4
baz=90
E20A Meyer Farm, Mu 89.70 337 ⇓P P 23 21 22.3 +0.1
baz=90
ULM Lac du Bonnet 90.03 346 P **P 23 21 23.6 +0.1**
comp=E,1.1nm,0.5s,baz=186,slow=3.1,SNR=4.5
A22A Carney Farms, 91.27 339 ⇓P P 23 21 29.7 +0.3
baz=92
ASAR Alice Springs 113.72 207 PKKPbc PKKPbc 23 37 45.2 0.0
comp=E,0.2nm,0.4s,baz=350,slow=3.1,SNR=4.6
GERES GERESS Array B 115.46 47 PKP **PKPdf 23 27 05.4 -0.4**
comp=E,0.5nm,0.7s,baz=211,slow=1.7,SNR=4.8
WRA Warramunga Arr 116.96 209 PKP **PKPdf 23 27 08.9 -0.7**
comp=E,0.7nm,0.7s,baz=172,slow=1.8,SNR=5.5
ILAR Eielson Array 117.25 332 PKP **PKPdf 23 27 08.3 -0.3**
comp=E,0.3nm,0.7s,baz=156,slow=3.7,SNR=5.0
VYHS Vyhne 118.31 49 *e* **PKPdf 23 27 15.4 +4.2**
KOLS Kolonicke sedl 120.56 50 *e*PKP **PKPdf 23 27 14.5 -1.0**
KOLS *e* 23 41 50.5
BRTR Keskin Array B 124.40 64 PKP **PKPdf 23 27 22.6 -0.7**
comp=E,0.9nm,0.6s,baz=233,slow=2.2,SNR=5.2
GEYT Alibeck 141.86 74 PKhKP PKPpre 23 27 50.8
comp=E,0.7nm,0.5s,baz=277,slow=3.9,SNR=6.1
TIXI Tiksi 144.34 348 *e*PKPdf **PKPab 23 27 56.5 -0.8**
ABKAR Akbulak array 144.66 56 *e*PKPdf **PKPab 23 27 59.0 -0.2**
HYB Hyderabad 147.85 122 *i* PKP **PKPbc 23 28 08.5 -1.3**
KBL Kabul 149.41 85 *e*PKPab **PKPbc 23 28 15.0 +1.3**
KKAR Karatay Array 151.99 68 *e*PKPdf **PKPbc 23 28 19.2 0.0**
KKAR *e*PKPab **PKPab 23 28 26.8 -1.9**
AAK Ala-Archa 154.91 69 *e*PKPdf **PKPdf 23 28 17.9 +0.8**
AAK *e*PKPab **PKPab 23 28 41.4 +0.1**
TKM2 Tokmak 2 155.71 68 *e*PKPab **PKPab 23 28 44.4 -0.4**
KSH Kashi 155.86 76 *e*PKP **PKPdf 23 28 20.3 +1.9**
KSH sPKP 23 28 33.3
KSH PKS **PKSdf 23 31 54.3 +1.9**
KSH PP **PP 23 32 22.8 -0.4**
KSH SKS **SKSdf 23 35 24.1 +2.0**
KSH SKKS **SKKSac 23 39 12.4 +2.7**
KSH SS **SS 23 52 06.6 -2.5**
KSH PPMZ
comp=E,61nm,4.3s
KSH LN
comp=E,26nm,4.7s
KSH LE
comp=E,29nm,4.1s
KSH LZ
comp=E,110nm,4.8s
ZALV Zalesovo Beam 157.91 36 PKP **PKPdf 23 28 19.4 -1.0**
comp=E,0.8nm,0.3s,baz=293,slow=4.1,SNR=3.2
ZALV PKPab **PKPab 23 28 53.9 +0.3**
comp=E,1.4nm,0.5s,baz=295,slow=4.4,SNR=2.6
MKAR Makanchi Array 159.81 56 PKP **PKPdf 23 28 22.4 -0.4**
comp=E,0.8nm,0.9s,baz=331,slow=5.4,SNR=5.5
MKAR PKPab **PKPab 23 29 01.5 -0.6**
comp=E,2.1nm,0.7s,baz=308,slow=7.1,SNR=13
NJ2 Nanjing 168.61 243 *e*PKP **PKPdf 23 28 33.4 +2.2**
SONM Songino Array 170.05 2 PKP **PKPdf 23 28 30.2 -1.6**
comp=E,0.2nm,0.7s,baz=86,slow=4.6,SNR=2.6
SONM PKPab **PKPab 23 29 46.8 -0.3**
comp=E,0.9nm,0.7s,baz=342,slow=3.7,SNR=8.2
GTA Gaotai 174.24 73 *e*PKP **PKPdf 23 28 34.3 +0.4**
GTA pPKP **pPKPdf 23 28 45.0 -0.3**
GTA sPKP 23 28 48.5
HHC Hu-ho-hao-te 175.34 311 *e*PKP **PKPdf 23 28 32.0 -2.2**
HHC pPKP **pPKPdf 23 28 42.8 -2.7**
HHC sPKP 23 28 46.4
HHC PP **PP 23 34 03.8 +0.2**
HHC SKS **SKSdf 23 35 29.8 -4.8**
HHC SS **SS 23 55 21.6 -4.8**
HHC PPMZ
comp=E,110nm,9.9s
HHC LN
comp=E,200nm,17.3s
HHC LE
comp=E,190nm,16.0s
HHC LZ
comp=E,81nm,16.0s

KRSC 17 23:31:28.2±0.8, 51°.64N×159°.15E, h68km±13km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.89**	**334**	*i* P	Pn	23 31 46.6	+1.4
RUS				*e*S	Sn	23 31 59.1	+1.4
MTVR	**Mutnovka**	**1.03**	**325**	*e*P	Pn	23 31 49.0	+1.8
MTVR				*e*S	Sn	23 32 03.3	+1.9
PET	**Petropavlovsk**	**1.42**	**348**	*e*S	Sn	23 32 11.1	+1.2
PAU	**Pauzhetka**	**1.47**	**264**	*e*S	Sn	23 32 14.3	+3.2
UGLR	**Uglovaya**	**1.58**	**353**	*e*P	Pn	23 31 55.6	+1.2
SMAR	**Somma**	**1.64**	**353**	P	Pn	23 31 56.7	+1.4
AVH	**Avacha**	**1.65**	**351**	*e*P	Pn	23 31 57.3	+2.1
AVH				*e*S	Sn	23 32 17.5	+1.9
SDLR	**Sedlovina**	**1.65**	**354**	P	Pn	23 31 56.9	+1.6
SDLR				*e*S	Sn	23 32 17.1	+1.4
KOK	**Koryaka**	**1.69**	**349**	*e*P	Pn	23 31 57.8	+2.1
KOK				*e*S	Sn	23 32 18.7	+2.2
KRER	**Koryakskii**	**1.69**	**352**	*e*P	Pn	23 31 57.7	+1.9
KRER				*e*S	Sn	23 32 18.4	+1.7
KRX	**Arik**	**1.75**	**350**	*e*P	Pn	23 31 58.5	+1.9
KRX				*e*S	Sn	23 32 19.4	+1.2
APC	**Apacha**	**1.78**	**317**	*e*P	Pn	23 31 59.4	+2.6
SKR	**Severo-Kuril's**	**2.14**	**245**	*e*P	Pn	23 32 03.4	+1.8
SKR				*e*S	Sn	23 32 28.3	+1.2
GNL	**Ganaly**	**2.19**	**341**	*e*P	Pn	23 32 05.3	+2.8
GNL				*e*S	Sn	23 32 31.8	+3.2
TUMR	**Tumrok**	**3.70**	**9**	P	Pn	23 32 25.6	+2.6

*SJA **17** 23:47:36.3±0.6, 34°.93S×69°.10W, h480km±6km, ML3.4*
*GUC **17** 23:47:45.6±0.7, 34°.72S×72°.34W, h34km±8km, ML3.5*
ISC 17 23:47:43.6±2.2, 34.70S±0.05×72.46W±0.09, h5km±14km, n16, σ1§29/27, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.97**	**136**	⇑*i*P	**Pg**	**23 48 02.7**	**+0.4**
TALC				*i* S	**Sg**	**23 48 15.2**	**+0.3**
NICH	**Los Niches**	**1.06**	**107**	⇓*i*P	**Pg**	**23 48 04.2**	**+0.4**
NICH				*i* S	**Sg**	**23 48 17.9**	**+0.4**
LNV	**Longovilo**	**1.14**	**50**	*e*P1	**Pb**	**23 48 05.2**	**-0.7**
LNCH	**Linares**	**1.34**	**149**	⇑*i*P	**Pn**	**23 48 08.8**	**-0.3**
LNCH				*i* S	**Sg**	**23 48 26.3**	**-0.5**
COCH	**Cobquecura**	**1.46**	**191**	⇑*i*P	**Pn**	**23 48 09.9**	**-0.7**
COCH				*i* S	**Sb**	**23 48 29.8**	**-0.3**
CACH	**El Canelo**	**1.64**	**70**	⇓*i*P	**Pn**	**23 48 13.7**	**+0.4**
CHCH	**Chadas Angostu**	**1.68**	**63**	⇓*i*P	**Pn**	**23 48 14.0**	**+0.2**
CHCH				*i* S1	**Sb**	**23 48 35.3**	**-1.2**
ANTU	**Antumapu**	**1.89**	**54**	*e*S	**Sn**	**23 48 41.0**	**+0.1**
ANTU				IAML		23 48 44.9	
comp=E,682nm,0.6s							
CLCH	**Cerro Calan**	**2.06**	**51**	*e*P1	**Pb**	**23 48 19.8**	**-1.7**
CLCH				*i* S	**Sn**	**23 48 45.5**	**+0.4**
CLCH				IAML		23 48 54.8	
comp=E,463nm,0.7s							
PEL	**Peldehue**	**2.14**	**44**	⇓*i*P	**Pn**	**23 48 21.4**	**+1.3**
PEL				*e*S	**Sn**	**23 48 48.2**	**+1.1**
PEL				IAML		23 48 54.8	

comp=N,556nm,0.4s
CANA Caviahue 3.38 161 *i* P **Pg 23 48 49.9 +1.6**
CANA *i* P **Pg 23 48 49.9 +1.6**
AAGR Agrelo 3.42 63 *i* P Pn 23 48 39.4 +1.6
AAGR *i* S **Sb 23 49 26.8 0.0**
ARCO CERRO ARCO 3.47 59 *i* P **Pn 23 48 41.2 +2.7**
ARCO *i* S **Sb 23 49 29.0 +0.7**
ARCO AML AML 23 49 39.7
comp=Z,26nm,0.6s
AUSP Uspallata 3.56 47 *i* P **Pb 23 48 45.4 -1.9**
AUSP *i* S **Sg 23 49 36.5 -1.6**
ASAL Salagasta 3.68 56 *i* P **Pn 23 48 42.5 +1.1**
ASAL *i* S **Sb 23 49 31.5 -2.8**
RTLS Leoncito 3.92 43 *i* P Pn 23 48 49.0 +4.3
RTLS *i* S **Sb 23 49 42.3 +1.0**

DJA 17 23:51:41.6±2.5, 0°.N±7°.×12°.4E±°, h17km±36km, M3.5/5, MLv3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**1.47**	**292**	P	Pg	23 52 09.3	-0.7
GTOI				S	Sg	23 52 31.8	+2.6
LUWI	**Luwuk**	**1.96**	**235**	P	Pn	23 52 13.7	-0.4
LUWI				S	Sb	23 52 40.2	-0.9
MRSI	**Marisa**	**2.47**	**279**	P	Pn	23 52 20.3	-0.8
SANI	**Sanana**	**2.67**	**143**	P	Pn	23 52 24.8	+1.0
APSI	**Ampana**	**2.91**	**250**	P	Pn	23 52 25.5	-1.6
APSI				S	Sn	23 53 02.8	+1.1

IDC 17 23:51:50.6±1.8, 34°.77S×73°.77W, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.5/25, mbtmp3.4/5, ML3.1/3, Error ellipse: s-maj=45.5km s-min=32.2km az=73.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.61**	**57**	Pn	Pn	23 53 15.3	-0.1
0.2nm,0.3s,baz=230,slow=13,SNR=8.1							
PLCA	**Paso Flores**	**6.47**	**158**	Pn	Pn	23 53 27.5	+0.2
0.1nm,0.3s,baz=338,slow=19,SNR=2.0							
LPAZ	**La Paz**	**19.09**	**17**	P	P	23 56 15.8	+0.1
0.1nm,0.3s,baz=186,slow=9.8,SNR=7.3							
TXAR	**Lajitas Array**	**69.73**	**332**	P	P	00 03 02.5	0.0
0.2nm,0.5s,baz=161,slow=7.4,SNR=4.4							
TORD	**Torodi Ar. Bea**	**85.81**	**71**	P	P	00 04 32.2	-0.1
0.5nm,1.1s,baz=225,slow=4.3,SNR=3.5							

IDC 17 23:53:31.0±1.1, 44°.00S×73°.11W, h0km, mb3.9/6, mb1 4.1/7, mb1mx4.0/17, mbtmp3.9/7, ML3.5/1, MS3.5/4, Ms1 3.5/4, ms1mx3.3/17, Error ellipse: s-maj=40.9km s-min=18.3km az=111.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.77**	**31**	Pn	Pn	23 54 31.8	+1.3
0.9nm,0.3s,baz=208,slow=14,SNR=10							
PLCA				Pg	Pb	23 54 40.1	+1.6
5.9nm,0.3s,baz=207,slow=18,SNR=45							
PLCA				Lg	Lg	23 55 30.2	
5.0nm,0.3s,baz=253,slow=8.1,SNR=3.7							
USHA	**Ushuaia**	**11.26**	**166**	LR	LR	00 00 12.2	
comp=Z,230nm,18.7s,baz=266,slow=36							
LPAZ	**La Paz**	**27.94**	**10**	P	P	23 59 23.8	0.0
1.0nm,0.6s,baz=190,slow=7.2,SNR=5.4							
LPAZ				LR	LR	00 11 11.1	
comp=Z,75nm,18.3s,baz=81,slow=38							
SIV	**San Ignacio**	**29.73**	**24**	LR	LR	00 12 33.0	
comp=Z,63nm,19.7s,baz=120,slow=38							
BDFB	**Brasilia**	**35.40**	**45**	LR	LR	00 16 13.8	
comp=Z,135nm,18.8s,baz=200,slow=38							
ATAH	**Atahualpa**	**37.01**	**351**	P	P	00 00 41.6	-1.2
5.3nm,0.7s,baz=172,slow=3.4,SNR=3.3							
QSPA	**South Pole Qui**	**46.26**	**180**	P	P	00 01 57.6	-0.2
2.1nm,0.9s,baz=149,slow=5.9,SNR=5.3							
TXAR	**Lajitas Array**	**78.15**	**333**	P	P	00 05 32.8	+0.8
0.5nm,0.7s,baz=165,slow=7.5,SNR=5.7							
TORD	**Torodi Ar. Bea**	**88.40**	**70**	P	P	00 06 24.7	-0.4
0.4nm,0.8s,baz=197,slow=5.2,SNR=2.5							
PDAR	**Pinedale Array**	**92.34**	**334**	P	P	00 06 43.3	+0.2
0.3nm,0.6s,baz=148,slow=5.3,SNR=3.2							
ILAR	**Eielson Array**	**122.61**	**331**	PKP	PKPdf	00 12 26.9	-0.4
0.2nm,0.6s,baz=172,slow=2.6,SNR=3.3							

*IDC **18** 00:00:15.7±2.3, 6°.59S×130°.67E, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=134.0km s-min=31.4km az=71.0*
ISC 18 00:00:16.6±1.2, 6°.67S±0°.06×130°.8E±0°.2, h10km, n9, σ1§09/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.00**	**22**	S	**Sb**	**00 02 16.2**	**+0.5**
baz=4.2,SNR=4.8							
SWI	**Sorong**	**5.79**	**5**	S	**Sn**	**00 02 48.1**	**-0.9**
baz=5.7,SNR=5.0							
MTN	**Manton Dam**	**6.15**	**177**	P	Pn	00 01 54.5	+6.9
baz=6.5,SNR=3.8							
MTN				S	**Sn**	**00 02 57.3**	**-0.6**
baz=6.5,SNR=7.2							
KDU	**Kakadu**	**6.21**	**165**	P	Pn	00 01 54.5	+6.1
baz=6.7,SNR=48							
KDU				S	**Sn**	**00 02 58.0**	**-1.5**
baz=6.7,SNR=7.4							
KNRA	**Kununurra**	**9.17**	**192**	P	Pn	00 02 33.2	+4.1
baz=9.3,SNR=7.3							
KNRA				S	Sn	00 04 06.1	-6.3
baz=9.3,SNR=6.5							
WSI	**Waingapu**	**10.79**	**253**	P	Pn	00 02 41.8	-10
baz=10,SNR=4.8							
WRA	**Warramunga Arr**	**13.64**	**166**	Pn	**Pn**	**00 03 31.0**	**+0.7**
0.2nm,0.3s,baz=349,slow=13,SNR=8.7							
WRA				Sn	Sn	00 05 52.4	-10
0.7nm,0.3s,baz=341,slow=22,SNR=12							
ASAR	**Alice Springs**	**17.17**	**170**	P	**P**	**00 04 19.2**	**+0.8**
0.3nm,0.3s,baz=344,slow=12,SNR=14							
ASAR				S	Sn	00 07 15.9	-12
0.2nm,0.3s,baz=352,slow=27,SNR=4.5							
MKAR	**Makanchi Array**	**68.38**	**326**	P	**P**	**00 11 18.4**	**-0.1**
0.1nm,0.4s,baz=111,slow=7.9,SNR=2.4							

*BJI **18** 00:04:32.1, 1°.64N×96°.30E, h15km, mB4.9/5, mb4.5/12*
*IDC **18** 00:04:36.0±1.1, 2°.12N×96°.12E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.9/37, mbtmp4.0/11, ML4.1/2, MS3.1/4, Ms1 3.2/4, ms1mx2.9/36, Error ellipse: s-maj=37.4km s-min=18.1km az=44.0*
*ISCJB **18** 00:04:39.0±0.5, 2°.16N±0°.05×96°.22E±0°.05, h28km, mb4.1/12, MS3.3/1, Error ellipse: s-maj=7.8km s-min=5.2km az=43.8*
*DJA **18** 00:04:39.3±2.0, 2°.N±3°.×9°.6E±1°.0, h22km±19km, M4.4/7, mb4.7/5, mB5.1/1, MLv4.2/7, Mw(mB)4.4/1*
*NEIC **18** 00:04:43.3±1.6, 2°.21N×96°.35E, h51km±13km, mb4.2/5, Error ellipse: s-maj=19.4km s-min=7.7km az=65.0*
ISC 18 00:04:40.7±0.7, 2°.21N±0°.06×96°.27E±0°.07, h28km, n51, σ0§97/52, mb4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**1.39**	**41**	P	**Pn**	**00 05 03.9**	**-0.3**
TPTI				S	**Sb**	**00 05 24.0**	**+0.7**
GSI	**Gunungsitoli**	**1.59**	**125**	P	**Pn**	**00 05 07.8**	**+0.8**
GSI	**Gunungsitoli**	**1.59**	**125**	*e*Pn	**Pn**	**00 05 07.9**	**+0.9**
GSI				*e*Sn	**Sn**	**00 05 26.0**	**-0.6**
PSI	**Prapat**	**2.72**	**77**	Pn	**Pn**	**00 05 23.2**	**+0.6**
6.5nm,0.3s,baz=277,slow=4.0,SNR=30							
PSI				LR	LR	00 06 14.1	
comp=Z,233nm,19.5s,baz=322,slow=34							
LHMI	**Lhok Sumawe**	**3.07**	**13**	P	**Pn**	**00 05 27.4**	**-0.1**
LHMI				S	**Sn**	**00 06 04.3**	**+1.0**
LHMI	**Lhok Sumawe**	**3.07**	**13**	*e*Pn	**Pn**	**00 05 30.2**	**+2.8**
LHMI				*e*Sn	**Sn**	**00 06 01.2**	**-2.1**
IPM	**Ipoh**	**5.26**	**64**	*e*Pn	**Pn**	**00 05 58.7**	**+1.2**
IPM				*e*Sn	**Sn**	**00 06 56.8**	**-0.5**
KULM	**Kulim**	**5.34**	**55**	*e*Pn	**Pn**	**00 05 59.3**	**+0.7**
MNAI	**Manna**	**9.34**	**134**	P	**Pn**	**00 06 54.5**	**+0.9**
110nm,1.2s							
MDSI	**Maura Dua**	**10.33**	**130**	P	**Pn**	**00 07 08.2**	**+1.0**
PALK	**Pallekele**	**16.30**	**288**	LR	LR	00 12 37.7	
comp=Z,36nm,20.6s,baz=113,slow=30							

CMAR Chiang Mai Arr 16.36 9 Pn **Pn 00 08 29.3 +0.7**
0.6nm,0.3s,baz=194,slow=11,SNR=12
CMAR LR LR 00 15 30.4
comp=Z,148nm,18.7s,baz=198,slow=40
CHTO Chiang Mai 16.71 9 *e*Pn **Pn 00 08 33.1 +0.1**
2.1nm,0.8s
SLVN Son La 20.41 21 *e*P **P 00 09 15.0 -0.9**
9.9nm,1.0s
KMI Kunming 23.62 15 P **P 00 09 51.3 +1.4**
KMI pP **pP 00 09 57.5 -0.4**
KMI PMZ
12nm,1.0s
H08S2 Diego Garcia H 25.66 247 T T 00 36 38.7
baz=68,slow=75,SNR=95
H08S3 Diego Garcia H 25.66 247 T T 00 36 36.9
baz=68,slow=75,SNR=70
H08S1 Diego Carcia H 25.68 247 T T 00 36 38.0
baz=68,slow=75,SNR=63
ODAN Odare 25.95 342 *e*P **P 00 10 12.2 +1.0**
RAMN Ramite 26.29 340 *e*P **P 00 10 14.6 +0.3**
16nm,0.6s
TAPN Taplejung 26.31 343 *e*P **P 00 10 15.5 +1.0**
25nm,0.9s
JIRN Jiri 27.08 340 *e*P **P 00 10 22.5 +0.9**
24nm,0.7s
PKI Pulchoki 27.28 339 *e*P **P 00 10 23.7 +0.4**
PKIN Phulchoki 27.29 339 *e*P **P 00 10 23.7 +0.4**
GUN Gumba 27.42 340 *e*P **P 00 10 24.9 +0.3**
20nm,0.7s
KKN Kakani 27.52 339 *e*P **P 00 10 26.3 +0.9**
16nm,0.7s
GKN Gorkha 27.95 338 *e*P **P 00 10 29.9 +0.7**
15nm,0.6s
KOLN Koldanda 28.16 336 *e*P **P 00 10 31.7 +0.7**
10nm,0.6s
DANN Dangsing 28.61 337 *e*P **P 00 10 35.2 +0.1**
12nm,0.7s
XAN Xi'an 33.80 19 P **P 00 11 19.8 -0.7**
XAN PMZ
4.0nm,0.9s
XAN PMZ
16nm,6.1s
GTA Gaotai 37.17 5 *e*P **P 00 11 49.8 +0.3**
GTA pP **pP 00 11 56.3 -1.5**
GTA sP **sP 00 11 58.9 -2.3**
GTA PMZ
6.0nm,1.2s
H01W3 Cape Leeuwin H 40.53 157 T T 00 55 31.6
baz=332,slow=76,SNR=108
H01W2 Cape Leeuwin H 40.54 157 T T 00 55 23.4
baz=332,slow=76,SNR=132
H01W1 Cape Leeuwin H 40.54 157 T T 00 55 30.5
baz=332,slow=76,SNR=113
WRA Warramunga Arr 43.36 122 P **P 00 12 40.9 -0.1**
0.9nm,0.7s,baz=299,slow=9.2,SNR=5.9
AAK Ala-Archa 44.71 337 *e*P **P 00 12 51.5 -0.1**
6.4nm,1.5s
ASAR Alice Springs 44.74 127 P **P 00 12 52.1 0.0**
0.6nm,0.6s,baz=298,slow=7.9,SNR=8.6
EKS2 Erkin-Say 45.02 336 *e*P **P 00 12 55.8 +1.7**
22nm,2.3s
KSRS Korea Array 45.56 36 LR LR 00 32 27.6
comp=Z,36nm,20.6s,baz=205,slow=37
MK01 Makanchi Array 46.02 347 *e*P **P 00 13 01.9 +0.1**
MKAR Makanchi Array 46.05 347 P **P 00 13 02.1 +0.1**
2.7nm,0.6s,baz=165,slow=6.0,SNR=34
SONM Songino Array 46.28 9 P **P 00 13 03.7 -0.3**
2.8nm,0.9s,baz=188,slow=9.1,SNR=18
SONM PcP **PcP 00 14 39.7 +0.6**
1.0nm,0.7s,baz=186,slow=3.3,SNR=5.3
SONA1 Songino Array 46.30 9 *e*P **P 00 13 04.3 +0.2**
TLY Talaya 49.69 6 *e*P **P 00 13 31.9 +1.8**
4.6nm,1.2s
GEYT Alibeck 49.85 320 P **P 00 13 31.4 -0.2**
1.2nm,0.5s,baz=139,slow=7.5,SNR=5.5
ZAA0 Zalesovo Array 52.42 351 *e*P **P 00 13 50.7 +0.1**
ZALV Zalesovo Beam 52.42 351 P **P 00 13 50.4 -0.2**
4.8nm,0.5s,baz=173,slow=7.2,SNR=17
BRTR Keskin Array B 67.75 312 P **P 00 15 35.3 -1.0**
0.6nm,0.8s,baz=79,slow=7.5,SNR=2.9
FINES FINESS Array B 78.68 333 P **P 00 16 40.0 -0.1**
0.8nm,0.6s,baz=104,slow=8.0,SNR=8.8
ARCES ARCESS Array B 81.28 340 P **P 00 16 54.0 0.0**
0.8nm,0.5s,baz=107,slow=4.2,SNR=11
TXAR Lajitas Array 143.28 30 PKP **PKPdf 00 24 12.1 -1.3**
0.3nm,0.7s,baz=298,slow=1.9,SNR=4.0

*IDC **18** 00:17:02.6±1.0, 5°.08S×152°.84E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/27, mbtmp4.0/10, ML3.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=36.0km s-min=19.3km az=122.0*
*NEIC **18** 00:17:08.0±0.6, 5°.12S×152°.75E, h35km, mb4.1/1, Error ellipse: s-maj=22.3km s-min=8.7km az=124.0*
*ISCJB **18** 00:17:08.8±1.1, 5°.1S±0°.2×152°.6E±0°.2, h55km, mb3.9/10, Error ellipse: s-maj=38.9km s-min=10.1km az=36.6*
ISC 18 00:17:10.2±1.1, 5°.2S±0°.2×152°.7E±0°.2, h55km, n18, σ0§91/20, mb3.9/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.92**	**232**	Pn	**Pn**	**00 18 49.7**	**+0.6**
1.7nm,0.3s,baz=6.3,slow=9.2,SNR=3.5							
PMG				Sn	**Sn**	**00 20 04.5**	**-2.0**
0.8nm,0.3s,baz=102,slow=20,SNR=2.5							
PMG	**Port Moresby**	**6.92**	**232**	*e*Pn	**Pn**	**00 18 48.1**	**-1.0**
PMG				*e*Sn	**Sn**	**00 20 08.1**	**+1.5**
HNR	**Honiara**	**8.34**	**121**	LR	LR	00 22 31.9	
comp=Z,156nm,18.8s,baz=310,slow=40							
WRAB	**Tennant Creek**	**23.11**	**229**	*e*P	**P**	**00 22 11.8**	**+0.1**
3.5nm,0.5s							
WRA	**Warramunga Arr**	**23.13**	**229**	P	**P**	**00 22 11.1**	**-0.8**
0.8nm,0.3s,baz=52,slow=9.7,SNR=9.3							
ASAR	**Alice Springs**	**25.81**	**223**	P	**P**	**00 22 37.4**	**+0.9**
0.7nm,0.5s,baz=57,slow=9.0,SNR=10							
CMAR	**Chiang Mai Arr**	**57.95**	**295**	P	**P**	**00 26 58.4**	**+0.9**
1.6nm,0.4s,baz=123,slow=5.1,SNR=9.5							
PETK	**Petropavlovsk-**	**58.22**	**4**	P	**P**	**00 26 58.3**	**-0.4**
5.3nm,0.9s,baz=168,slow=8.2,SNR=3.4							
SONM	**Songino Array**	**66.59**	**328**	P	**P**	**00 27 55.5**	**+0.6**
0.6nm,0.4s,baz=142,slow=4.6,SNR=8.7							
SONM				PcP	**PcP**	**00 28 24.3**	**+0.4**
0.4nm,0.6s,baz=165,slow=5.2,SNR=3.4							
MKAR	**Makanchi Array**	**80.54**	**319**	P	**P**	**00 29 16.5**	**-0.3**
0.3nm,0.5s,baz=90,slow=7.2,SNR=5.8							
ZALV	**Zalesovo Beam**	**81.41**	**326**	P	**P**	**00 29 20.5**	**-0.6**
0.8nm,0.3s,baz=111,slow=4.6,SNR=4.3							
ILAR	**Eielson Array**	**82.54**	**22**	P	**P**	**00 29 25.7**	**-1.2**
0.8nm,0.6s,baz=253,slow=5.0,SNR=12							
KURK	**Kurchatov**	**84.00**	**322**	*e*P	**P**	**00 29 34.0**	**-0.7**
YKA	**Yellowknife Ar**	**95.80**	**28**	P	**P**	**00 30 30.4**	**+0.1**
0.2nm,0.5s,baz=276,slow=5.1,SNR=4.8							
GERES	**GERESS Array B**	**124.32**	**328**	PKP	**PKPdf**	**00 36 03.8**	**+0.5**
0.5nm,0.6s,baz=90,slow=2.7,SNR=7.3							
TORD	**Torodi Ar. Bea**	**150.33**	**287**	PKPbc	**PKPbc**	**00 36 56.4**	**-0.1**
1.0nm,0.4s,baz=68,slow=2.2,SNR=26							
BDFB	**Brasilia**	**150.87**	**136**	PKPbc	**PKPbc**	**00 36 58.7**	**+0.8**
0.8nm,0.3s,baz=236,slow=11,SNR=2.6							
DBIC	**Dimbokro**	**157.63**	**275**	PKPab	**PKPab**	**00 37 33.9**	**0.0**
1.7nm,0.7s,baz=42,slow=3.9,SNR=4.3							

*HEL **18** 00:30:13.7, 67°.85N×20°.15E, h0km, ML1.5, Explosion*
*CSEM **18** 00:30:14.2±0.2, 67°.83N×20°.21E, h0km±2km, ML1.5, Error ellipse: s-maj=4.7km s-min=3.7km az=162.0, Mining explosion.*
UPP 18 00:30:14.4, 67°.83N×20°.21E, h0km, ML1.4, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**22**	*i* P	Pg	00 30 17.2	+0.2
KUA				*i* S	Sg	00 30 19.1	+0.4
KUA	**Kurravaara**	**0.13**	**22**	P	Pg	00 30 17.1	+0.1
KUA				S	Sg	00 30

baz=187
KIF eSN Sn 00 30 58.1 +2.9
KIF Kilpisjarvi 1.20 10 Pb Pg 00 30 37.3 0.0
PAJU Pajala 1.39 125 eP Pg 00 30 39.8 -1.2
PAJU Pajala 1.39 125 P Pg 00 30 39.8 -1.2
HEF Hetta 1.42 64 eP Pn 00 30 36.1 -5.3
ERTU Ertsjaerv 1.50 148 ePG Pn 00 30 41.7 -0.8
ERTU Ertsjaerv 1.50 148 P Pn 00 30 41.7 -0.8
HARU Harads 1.70 169 eP Pn 00 30 45.4 +0.1
HARU Harads 1.70 169 P Pn 00 30 45.3 0.0
SGF Sodankyl 2.45 96 eP Pn 00 30 56.4 +0.9
SGF Sodankyl 2.45 96 P Pn 00 30 56.4 +0.9

*CSEM **18** 00:30:19.3, 67°.83N×20°.24E, h0km, ML1.3, Mining explosion.*
UPP 18 00:30:19.3, 67°.83N×20°.24E, h0km, ML1.3, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**17**	P	Pg	00 30 22.0	+0.1
KUA				S	Sg	00 30 23.9	+0.3
NIKU	**Nikkaluokta**	**0.46**	**275**	P	Pg	00 30 28.0	-0.1
SALU	**Saltoluokta**	**0.80**	**237**	P	Pg	00 30 34.3	-0.4
PAJU	**Pajala**	**1.37**	**125**	P	Pg	00 30 44.7	-0.9
RNF	**Rovaniemi**	**2.56**	**116**	ePB	Pn	00 30 59.3	-2.7
RNF				MSG	Sg	00 31 33.4	-8.1
	comp=Z,2.4nm,0.2s						
RNF				eSG	Sg	00 31 33.4	-8.1
ARE0	**ARCESS Array S**	**2.58**	**46**	ePB	Pn	00 30 58.7	-3.5
	baz=223						
ARE0				eSB	Sn	00 31 31.7	-2.5
ARE0				MSG		00 31 31.7	
	comp=Z,0.8nm,0.2s						
KEV	**Kevo**	**3.13**	**49**	ePB	Pn	00 31 09.3	-0.5

WEL 18 00:31:58.6±0.6, 37°.97S×176°.18E, h154km±5km, ML3.5/9, 4C, Error ellipse: s-maj=6.7km s-min=5.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.79**	**112**	⇑PN	Pn	00 32 22.3	+0.2
URZ				SN	Sn	00 32 40.3	+0.2
MWZ	**Matawai**	**1.12**	**109**	⇑PN	Pn	00 32 24.8	0.0
MWZ				SN	Sn	00 32 44.6	-0.4
RAHZ	**Arahi**	**1.18**	**143**	PN	Pn	00 32 25.7	+0.4
SNGZ	**Shannon Statio**	**1.22**	**132**	PN	Pn	00 32 25.9	+0.2
BKZ	**Black Stump Fm**	**1.22**	**169**	⇑PN	Pn	00 32 25.5	-0.2
BKZ				AML	AML	00 32 46.2	
NMHZ	**Naumai**	**1.23**	**157**	PN	Pn	00 32 26.7	+0.8
HAZ	**Te Kaha**	**1.29**	**81**	PN	Pn	00 32 25.9	-0.4
HAZ				SN	Sn	00 32 46.7	-0.8
TWGZ	**Tauwhareparae**	**1.44**	**99**	PN	Pn	00 32 28.3	+0.5
ARHZ	**Aropaoanui**	**1.44**	**154**	PN	Pn	00 32 28.0	+0.1
RIGZ	**Rimuhau**	**1.45**	**121**	PN	Pn	00 32 28.0	0.0
BHHZ	**Black Hill Sta**	**1.52**	**183**	PN	Pn	00 32 28.2	-0.5
KNZ	**Kokohu**	**1.57**	**132**	PN	Pn	00 32 28.8	-0.4
PUZ	**Puketiti**	**1.64**	**94**	PN	Pn	00 32 29.6	-0.4
PUZ				SN	Sn	00 32 52.4	-1.7
KRHZ	**Kereru**	**1.68**	**175**	PN	Pn	00 32 29.8	-0.6
WMGZ	**Waiomatatini S**	**1.77**	**86**	PN	Pn	00 32 31.1	-0.2
MHGZ	**Mahia Peninsul**	**1.80**	**132**	PN	Pn	00 32 31.1	-0.5
KAHZ	**Kahuranaki**	**1.90**	**164**	PN	Pn	00 32 32.2	-0.7
PNHZ	**Pukenui**	**1.94**	**180**	PN	Pn	00 32 32.2	-1.1
TSZ	**Takapari Road**	**2.09**	**185**	PN	Pn	00 32 33.8	-1.3
WPHZ	**Waipukurau**	**2.10**	**175**	ePN	Pn	00 32 33.9	-1.3
PXZ	**Pawanui**	**2.13**	**166**	⇑PN	Pn	00 32 34.1	-1.3
PXZ				SN	Sn	00 33 00.9	-2.9
MRZ	**Mangatainoka R**	**2.73**	**190**	PN	Pn	00 32 40.3	-2.4
MRZ				SN	Sn	00 33 12.1	-4.8
OGWZ	**Otaki Gorge**	**2.95**	**195**	PN	Pn	00 32 43.1	-2.3
KIW	**Kapiti Island**	**3.05**	**198**	ePN	Pn	00 32 43.9	-2.8
TCW	**Tory Channel**	**3.56**	**204**	PN	Pn	00 32 50.2	-3.0
TUWZ	**Tuamarina**	**3.86**	**206**	AML	AML	00 33 38.2	
MQZ	**McQueen's Vall**	**6.32**	**204**	eSN	Sn	00 34 29.5	-11

*IDC **18** 00:32:04.2±1.4, 8°.12S×125°.61E, h0km, mb4.0/4, mb1 4.2/7, mb1mx3.9/28, mbtmp4.1/7, ML4.1/3, Error ellipse: s-maj=45.7km s-min=24.5km az=77.0*
*ISCJB **18** 00:32:06.6±0.5, 8°.21S±0°.04×125°.51E±0°.04, h26km, mb4.0/4, Error ellipse: s-maj=7.5km s-min=4.6km az=135.7*
*DJA **18** 00:32:12.8±0.5, 8°S±4°×12°5E±°, h61km±20km, M4.2/10, mb4.5/5, mB5.0/1, MLv4.0/10, Mw(mB)4.4/1*
ISC 18 00:32:09.2±0.7, 8°20S±0°05×125°37E±0°05, h26km, n22, σ1ª73/28, mb4.0/4, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.89**	**215**	P	**Pn**	**00 32 41.0**	**+1.0**
SOEI				S	**Sn**	**00 33 01.1**	**-2.0**
SOEI	**Soe**	**1.89**	**215**	P	**Pn**	**00 32 41.2**	**+1.2**
	baz=1.1,SNR=12						
SOEI				S	Sn	00 32 47.5	-16
	baz=1.1,SNR=15						
BATI	**Baumata**	**2.61**	**220**	P	**Pn**	**00 32 49.8**	**0.0**
BATI				S	**Sn**	**00 33 21.1**	**+0.4**
BATI	**Baumata**	**2.61**	**220**	Pn	**Pn**	**00 32 50.8**	**+1.0**
	16nm,0.3s,baz=131,slow=1.7,SNR=10.0						
BATI				Sn	**Sn**	**00 33 22.7**	**+2.0**
	33nm,0.3s,baz=136,slow=21,SNR=10						
MMRI	**Maumere**	**3.13**	**262**	P	**Pn**	**00 32 57.4**	**+0.5**
EDFI	**Ende, Flores**	**3.68**	**261**	P	**Pn**	**00 33 04.9**	**+0.3**
BBSI	**Bau Bau**	**3.87**	**314**	P	**Pn**	**00 33 08.6**	**+1.5**
BBSI				S	**Sn**	**00 33 52.4**	**+0.6**
SANI	**Sanana**	**6.14**	**6**	P	**Pn**	**00 33 41.1**	**+2.8**
	16nm,0.9s,0.1nm						
BNSI	**Bone**	**6.45**	**305**	P	**Pn**	**00 33 43.9**	**+1.3**
	40nm,0.8s,0.1nm						
BNSI				S	**Sn**	**00 34 51.7**	**-3.7**
	40nm,0.8s,0.1nm						
MTN	**Manton Dam**	**7.31**	**130**	P	**Pn**	**00 33 56.2**	**+1.9**
	baz=7.1,SNR=15						
MTN				S	**Sn**	**00 35 14.3**	**-2.2**
	baz=7.1,SNR=13						
KNRA	**Kununurra**	**8.14**	**156**	P	**Pn**	**00 34 06.0**	**+0.3**
	baz=7.6,SNR=41						
KNRA				S	**Sn**	**00 35 34.7**	**-2.2**
	baz=7.6,SNR=5.9						
KDU	**Kakadu**	**8.29**	**123**	P	Pn	00 34 14.4	+6.6
	baz=8.2,SNR=3.0						
KDU				S	**Sn**	**00 35 39.4**	**-1.2**
	baz=8.2,SNR=4.5						
WRA	**Warramunga Arr**	**14.55**	**144**	Pn	Pn	00 35 29.8	-3.8
	1.1nm,0.3s,baz=318,slow=13,SNR=55						
WRA				Sn	Sn	00 38 01.0	-13
	0.4nm,0.3s,baz=316,slow=25,SNR=4.5						
WRKA	**Warakurna**	**16.98**	**171**	P	**Pn**	**00 36 03.5**	**-1.6**
	baz=16,SNR=6.8						
WRKA				S	Sn	00 38 59.9	-13
	baz=16,SNR=3.5						
ASAR	**Alice Springs**	**17.42**	**153**	P	**Pn**	**00 36 09.2**	**-1.5**
	0.5nm,0.3s,baz=323,slow=10,SNR=39						
ASAR				S	Sn	00 39 10.0	-14
	0.2nm,0.3s,baz=316,slow=17,SNR=6.3						
QIS	**Mount Isa**	**18.45**	**133**	P	**Pn**	**00 36 25.3**	**+2.0**
	baz=18,SNR=5.8						
MEEK	**Meekatharra**	**19.43**	**198**	P	**Pn**	**00 36 38.2**	**+3.2**
	baz=19,SNR=3.7						
MTSU	**Mount Surprise**	**20.90**	**120**	S	**S**	**00 40 42.8**	**+0.9**
	baz=21,SNR=14						
CMAR	**Chiang Mai Arr**	**37.17**	**316**	P	**P**	**00 39 18.3**	**-0.1**
	0.8nm,0.4s,baz=150,slow=7.3,SNR=4.7						
SONM	**Songino Array**	**58.26**	**345**	P	**P**	**00 42 01.4**	**-0.3**
	0.9nm,0.9s,baz=160,slow=8.2,SNR=7.0						
MKAR	**Makanchi Array**	**66.81**	**329**	P	**P**	**00 42 58.2**	**-0.5**
	1.7nm,0.7s,baz=116,slow=3.4,SNR=17						
ZALV	**Zalesovo Beam**	**70.71**	**336**	P	**P**	**00 43 21.3**	**-1.5**
	0.5nm,0.3s,baz=138,slow=7.0,SNR=3.4						

IDC 18 00:43:27.6±3.7, 44°35N×129°22W, h0km, mb3.0/3, mb1 3.5/4, mb1mx3.3/34, mbtmp3.1/4, ML3.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/8, Error ellipse: s-maj=96.7km s-min=23.2km az=53.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBH	**Yreka Blue Hor**	**5.44**	**116**	Pn	Pn	00 44 51.4	+1.4
	0.2nm,0.3s,baz=293,slow=7.7,SNR=3.8						
YBH				LR	LR	00 46 45.7	
	comp=Z,136nm,20.2s,baz=262,slow=36						
YKA	**Yellowknife Ar**	**20.07**	**20**	P	P	00 48 01.7	-0.5
	0.5nm,0.8s,baz=206,slow=11,SNR=6.5						
ILAR	**Eielson Array**	**22.73**	**340**	P	P	00 48 30.8	0.0
	0.6nm,0.9s,baz=155,slow=7.7,SNR=7.2						
TXAR	**Lajitas Array**	**25.21**	**118**	P	P	00 48 55.0	-0.2
	0.3nm,0.8s,baz=312,slow=8.8,SNR=2.5						
H11N3	**WAKE ISLAND Hy**	**57.91**	**267**	T	T	01 55 52.6	
	baz=49,slow=75,SNR=58						
H11N2	**WAKE ISLAND Hy**	**57.91**	**267**	T	T	01 55 54.3	
	baz=49,slow=75,SNR=41						
H11N1	**WAKE ISLAND Hy**	**57.92**	**267**	T	T	01 55 46.1	
	baz=49,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**58.84**	**266**	T	T	01 57 01.3	
	baz=48,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**58.85**	**266**	T	T	01 57 01.2	
	baz=48,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**58.86**	**266**	T	T	01 57 00.2	
	baz=48,slow=75,SNR=9.6						

*ISCJB **18** 00:47:53.9±1.0, 47°.0N±0°.2×152°.9E±0°.2, h67km, mb3.4/6, Error ellipse: s-maj=28.4km s-min=18.2km az=159.8*
*IDC **18** 00:47:57.9±8.4, 46°.93N×152°.70E, h88km±75km, mb3.2/7, mb1 3.4/8, mb1mx3.2/28, mbtmp3.5/8, ML2.5/1, Error ellipse: s-maj=28.4km s-min=25.3km az=113.0*
ISC 18 00:47:55.4±1.1, 46°.9N±0°.2×152°.6E±0°.2, h67km, n15, σ0ª56/10, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Ar.**	**14.67**	**267**	P	**P**	**00 51 22.9**	**-0.7**
	0.2nm,0.3s,baz=70,slow=9.1,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**29.52**	**152**	T	T	01 25 13.1	
	baz=340,slow=76,SNR=96						
H11N1	**WAKE ISLAND Hy**	**29.54**	**152**	T	T	01 25 17.3	
	baz=340,slow=76,SNR=60						
H11N3	**WAKE ISLAND Hy**	**29.54**	**152**	T	T	01 25 17.2	
	baz=340,slow=76,SNR=46						
H11S1	**WAKE ISLAND Hy**	**30.60**	**153**	T	T	01 26 49.0	
	baz=341,slow=76,SNR=117						
H11S3	**WAKE ISLAND Hy**	**30.61**	**153**	T	T	01 26 48.9	
	baz=341,slow=76,SNR=89						
H11S2	**WAKE ISLAND Hy**	**30.62**	**153**	T	T	01 26 37.8	
	baz=341,slow=76,SNR=116						
MKAR	**Makanchi Array**	**46.54**	**297**	P	**P**	**00 56 16.2**	**+0.1**
	0.2nm,0.6s,baz=69,slow=7.9,SNR=3.3						
MKAR				PcP	**PcP**	**00 57 50.0**	**+0.7**
	0.2nm,0.5s,baz=328,slow=5.1,SNR=3.5						
YKA	**Yellowknife Ar**	**51.03**	**37**	P	**P**	**00 56 49.9**	**-0.3**
	0.0nm,0.3s,baz=302,slow=6.7,SNR=3.6						
FINES	**FINESS Array B**	**63.75**	**334**	P	**P**	**00 58 19.8**	**+0.1**
	0.9nm,0.4s,baz=43,slow=6.3,SNR=14						
NB2	**NORSAR Subarra**	**67.97**	**341**	P	**P**	**00 58 47.3**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.97**	**341**	P	**P**	**00 58 47.4**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=28,slow=6.3,SNR=4.5						
AKASG	**Malin Array Be**	**71.22**	**326**	P	**P**	**00 59 07.0**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=32,slow=6.1,SNR=2.3						
ASAR	**Alice Springs**	**72.23**	**198**	P	**P**	**00 59 13.6**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=29,slow=5.9,SNR=3.3						
TXAR	**Lajitas Array**	**77.74**	**60**	P	**P**	**00 59 44.7**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=285,slow=3.5,SNR=2.2						

IDC 18 01:11:51.5±11.0, 15°.12S×175°.28W, h256km±113km, mb3.3/5, mb1 3.6/5, mb1mx3.3/22, mbtmp3.9/5, Error ellipse: s-maj=116.6km s-min=25.1km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.14**	**257**	P	P	01 20 06.0	-0.4
	0.3nm,0.5s,baz=89,slow=7.0,SNR=3.3						
ASAR	**Alice Springs**	**48.47**	**252**	P	P	01 20 09.0	+0.1
	2.1nm,0.4s,baz=88,slow=8.1,SNR=34						
NVAR	**Mina Array Bea**	**75.35**	**43**	P	P	01 23 07.4	+0.2
	0.4nm,0.4s,baz=233,slow=7.5,SNR=5.7						
ILAR	**Eielson Array**	**82.53**	**12**	P	P	01 23 45.5	+0.2
	0.3nm,0.5s,baz=226,slow=5.5,SNR=8.8						
PDAR	**Pinedale Array**	**83.28**	**43**	P	P	01 23 49.7	-0.3
	0.9nm,0.8s,baz=203,slow=4.4,SNR=3.6						
ARCES	**ARCESS Array B**	**124.07**	**351**	PKP	PKPdf	01 30 18.1	-0.7
	4.0nm,0.9s,baz=3.8,slow=2.7,SNR=3.9						
BRTR	**Keskin Array B**	**144.78**	**320**	PKP	PKPdf	01 30 58.8	+0.5
	0.8nm,0.8s,baz=35,slow=3.0,SNR=3.6						
GERES	**GERESS Array B**	**145.56**	**349**	PKPbc	PKPdf	01 30 58.9	-0.4
	0.3nm,0.5s,baz=12,slow=6.0,SNR=3.8						

IDC 18 01:22:27.7±5.4, 20°.72S×66°.88W, h236km±42km, mb3.8/2, mb1 3.5/5, mb1mx3.2/20, mbtmp4.2/5, Error ellipse: s-maj=65.4km s-min=21.6km az=10.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.56**	**345**	P	Pn	01 23 38.7	+0.3
	0.7nm,0.3s,baz=163,slow=6.8,SNR=21						
LPAZ				S	S	01 24 35.0	+0.7
	0.0nm,0.3s,baz=258,slow=20,SNR=3.2						
SIV	**San Ignacio**	**7.25**	**51**	P	Pn	01 24 10.8	-0.7
	4.3nm,0.3s,baz=243,slow=11,SNR=39						
SIV				S	S	01 25 34.3	-0.4
	0.7nm,0.3s,baz=312,slow=23,SNR=9.7						
BDFB	**Brasilia**	**18.62**	**77**	P	P	01 26 29.1	+0.9
	1.3nm,0.3s,baz=266,slow=12,SNR=11						
DBIC	**Dimbokro**	**66.70**	**73**	P	P	01 32 53.9	0.0
	4.9nm,1.2s,baz=229,slow=6.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**75.31**	**70**	P	P	01 33 45.6	+0.1
	1.5nm,0.5s,baz=253,slow=5.5,SNR=44						
WRA	**Warramunga Arr**	**134.56**	**209**	PKP	PKPdf	01 41 16.9	-1.8
	0.4nm,0.7s,baz=150,slow=2.2,SNR=2.6						
MKAR	**Makanchi Array**	**143.88**	**37**	PKP	PKPdf	01 41 34.3	-0.6
	0.4nm,0.8s,baz=234,slow=1.2,SNR=3.3						

MAN 18 01:25:43, 13°.51N×120°.51E, h37km, mb4.2, ML3.0, MS2.8, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**311**	eP	Pn	01 25 54.4	+3.0
LUBP				eS	Sn	01 26 00.5	+2.3
PGP	**Puerto Galera**	**0.43**	**90**	⇑eP	Pn	01 25 54.2	+1.8
SJMP	**San Jose**	**1.20**	**150**	eP	Pn	01 26 04.0	+0.8
SJMP				eS	Sn	01 26 21.1	+3.0
BUSP	**Coron**	**1.52**	**192**	eP	Pn	01 26 08.4	+0.7

*ISCJB **18** 01:32:56.0±1.1, 20°.1S±0°.1×68°.9W±0°.2, h104km, mb4.1/4, Error ellipse: s-maj=23.5km s-min=16.0km az=21.8*
*IDC **18** 01:32:57.5±1.1, 20°.00S×68°.98W, h110km±6km, mb3.9/6, mb1 3.9/8, mb1mx3.5/27, mbtmp4.2/8, Error ellipse: s-maj=25.4km s-min=21.7km az=135.0*
ISC 18 01:32:57.4±1.0, 20°.1S±0°.1×68°.9W±0°.1, h104km, n16, σ1ª14/13, mb4.2/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.85**	**11**	P	**Pn**	**01 33 56.4**	**+1.1**
	2.8nm,0.3s,baz=188,slow=7.7,SNR=66						
SIV	**San Ignacio**	**8.50**	**63**	P	**Pn**	**01 34 57.3**	**-0.4**
	3.0nm,0.3s,baz=264,slow=11,SNR=50						
BDFB	**Brasilia**	**20.37**	**81**	P	**P**	**01 37 26.1**	**+0.1**
	5.0nm,0.4s,baz=261,slow=11,SNR=8.6						
PLCA	**Paso Flores**	**20.63**	**184**	P	**P**	**01 37 29.9**	**+1.4**
	3.1nm,0.7s,baz=6.5,slow=12,SNR=11						
RCBR	**Riachuelo**	**35.06**	**71**	P	**P**	**01 39 41.6**	**+0.9**
	3.7nm,0.5s,baz=197,slow=3.6,SNR=8.1						
DBIC	**Dimbokro**	**68.34**	**74**	P	**P**	**01 43 47.6**	**-0.5**
	3.1nm,0.8s,baz=239,slow=6.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**76.89**	**71**	P	**P**	**01 44 37.6**	**-1.1**
	0.7nm,0.3s,baz=254,slow=5.5,SNR=34						
TORD				pP	**pP**	**01 45 06.4**	**+1.1**
	1.0nm,0.7s,baz=252,slow=5.4,SNR=3.4						
TORD				sP	**sP**	**01 45 18.2**	**+1.7**
	0.6nm,0.7s,baz=251,slow=5.5,SNR=1.7						
YKA	**Yellowknife Ar**	**89.86**	**341**	P	**P**	**01 45 42.7**	**-1.4**
	0.9nm,0.6s,baz=133,slow=4.9,SNR=22						
YKA				pP	**pP**	**01 46 11.1**	**-0.2**
	0.3nm,0.6s,baz=133,slow=4.9,SNR=3.5						
H11S2	**WAKE ISLAND Hy**	**127.69**	**278**	T	T	04 11 40.0	
	baz=101,slow=74,SNR=26						
H11S1	**WAKE ISLAND Hy**	**127.69**	**278**	T	T	04 11 32.0	
	baz=101,slow=74,SNR=23						
H11S3	**WAKE ISLAND Hy**	**127.70**	**278**	T	T	04 11 41.1	
	baz=101,slow=74,SNR=24						
H11N3	**WAKE ISLAND Hy**	**127.74**	**280**	T	T	04 11 43.1	
	baz=101,slow=74,SNR=15						
H11N2	**WAKE ISLAND Hy**	**127.74**	**280**	T	T	04 11 46.0	
	baz=101,slow=74,SNR=13						
H11N1	**WAKE ISLAND Hy**	**127.74**	**280**	T	T	04 11 36.4	
	baz=101,slow=74,SNR=11						
WRA	**Warramunga Arr**	**134.16**	**211**	PKP	**PKPdf**	**01 52 03.0**	**-0.7**
	0.3nm,0.6s,baz=161,slow=2.2,SNR=3.8						
SONM	**Songino Array**	**152.06**	**7**	PKPbc	**PKPbc**	**01 52 39.8**	**-0.9**
	0.4nm,0.5s,baz=317,slow=1.3,SNR=5.6						

*ISCJB **18** 01:57:28.2±0.7, 36°.58S±0°.03×72°.78W±0°.04, h26km±5km, mb5.0/90, MS4.3/18, Error ellipse: s-maj=6.0km s-min=5.3km az=12.7*
*GUC **18** 01:57:28.1±0.7, 36°.51S×73°.18W, h28km±4km, ML5.5*
*NEIC **18** 01:57:29.6±0.2, 36°.57S×72°.77W, mb5.1/75, ML5.5(GUC), Error ellipse: s-maj=7.2km s-min=4.5km az=69.0*
NEIC Felt [V] at Concepcion and San Carlos; [IV] at Angol, Chanco and Curacautin; [III] at Parral, Pucon, Talcahuano and Temuco; [II] at Chillan, Linares, Longavi, Retiro, San Clemente, San Fernando, Santiago and Talca. Also felt at Buin, Chiguayante, Los Angeles, Quilpue, Tome and Yumbel.
*IDC **18** 01:57:29.4±0.7, 36°.58S×72°.80W, h28km±4km, mb4.7/18, mb1 4.7/21, mb1mx4.6/30, mbtmp4.8/21, ML3.9/3, MS4.2/19, Ms1 4.2/19, ms1mx4.2/22, Error ellipse: s-maj=18.9km s-min=12.5km az=73.0*
*BJI **18** 01:57:29.4, 36°.59S×72°.82W, h26km, mB5.3/12, Ms5.5/9, Ms7 5.2/14*
*MOS **18** 01:57:29.4±1.0, 36°.52S×72°.70W, h33km, mb5.4/26, Error ellipse: s-maj=20.4km s-min=8.9km az=103.0*
*GCMT **18** 01:57:31.3±0.3, 36°.65S×72°.98W, h26km±1km, MW5.2/59, Moment Tensor Solution. s35,c46; s59,c70; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.00±.20; $M_{\theta\theta}$0.48±.14; $M_{\phi\phi}$-2.48±.16; $M_{r\theta}$-1.20±.29; $M_{\theta\phi}$0.17±.10; $M_{\phi r}$-8.35±.51; Best double couple: $M_0$8.73400×10^{16} NP1:ϕ_s188.00000°, δ83.00000°, λ94.00000°. NP2: ϕ_s340.00000°, δ8.00000°, λ63.00000°. Principal axes: T 8.5450, Plg52.0000°, Azm102.0000°; N 0.3820, Plg4.0000°, Azm7.0000°; P -8.9230, Plg38.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 18 01:57:29.4±0.5, 36°.57S±0°.04×72°.90W±0°.06, h30km±3km, h29km:pP-P, n577, σ1ª26/592, mb5.1/90, MS4.3/18, 162C-161D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.32**	**212**	⇑iP	**Pb**	**01 57 36.2**	**-0.9**
CCSP				i S	**Sb**	**01 57 41.2**	**-1.1**
LNCH	**Linares**	**1.27**	**56**	⇓iP	**Pn**	**01 57 51.9**	**+0.7**
LNCH				i S	**Sb**	**01 58 10.8**	**+2.0**
LNCH				AML	AML	01 58 17.1	
	comp=N,75μm,0.7s						
TALC	**Talca**	**1.56**	**42**	⇑iP	**Pn**	**01 57 56.0**	**+0.9**
TALC				i S	**Sb**	**01 58 18.0**	**+1.1**
TALC				AML	AML	01 58 26.6	
	comp=N,68μm,0.8s						
NICH	**Los Niches**	**2.07**	**41**	⇑iP	**Pn**	**01 58 03.9**	**+1.7**
NICH				i S	**Sb**	**01 58 31.2**	**-0.5**
NICH				AML	AML	01 58 42.3	
	comp=N,32μm,0.5s						
VLCH	**Valdivia**	**3.24**	**185**	⇑iP	**Pn**	**01 58 18.7**	**+0.4**
VLCH				AML	AML	01 59 21.8	
	comp=E,24μm,0.7s						
TACH	**Talagante**	**3.33**	**29**	⇓iP	**Pn**	**01 58 20.6**	**+1.1**
CLCH	**Cerro Calan**	**3.71**	**32**	⇑iP	**Pn**	**01 58 26.1**	**+1.2**
CLCH				eS4	**Sb**	**01 59 16.8**	**-2.2**
PEL	**Peldehue**	**3.87**	**29**	⇑iP	**Pn**	**01 58 28.1**	**+1.0**
PLCA	**Paso Flores**	**4.54**	**157**	eP	**Pn**	**01 58 36.8**	**+0.5**
PLCA	**Paso Flores**	**4.54**	**157**	Pn	**Pn**	**01 58 37.5**	**+1.2**
	comp=E,1.4nm,0.3s,baz=320,slow=12,SNR=3.5						
PLCA				Lg	Lg	01 59 46.6	
	comp=E,33nm,0.3s,baz=58,slow=16,SNR=3.5						
PLCA				LR	LR	02 00 38.1	
	comp=E,4μm,18.2s,baz=325,slow=42						
PLCA	**Paso Flores**	**4.54**	**157**	ePn	**Pn**	**01 58 36.8**	**+0.5**
PLCA				Lg	Lg	01 59 46.6	
CFAA	**Coronel Fontan**	**6.28**	**39**	Pn	**Pn**	**01 59 00.2**	**+0.1**
	comp=E,1.5nm,0.3s,baz=212,slow=13,SNR=43						
CFAA				Sn	**Sn**	**02 00 12.2**	**+1.2**
	comp=E,1.9nm,0.3s,baz=205,slow=14,SNR=2.6						
CFAA				LR	LR	02 01 39.7	
	comp=E,300nm,19.7s,baz=230,slow=40						
LCO	**Las Campanas**	**7.76**	**14**	ePn	**Pn**	**01 59 19.1**	**-1.6**
LCO				eSn	**Sn**	**02 00 43.7**	**-4.0**
TRQA	**Tornquist**	**8.83**	**103**	ePn	**Pn**	**01 59 37.4**	**+2.4**
LVC	**Limon Verde**	**14.33**	**15**	ePn	**Pn**	**02 00 50.6**	**0.0**
LVC				eLg	Lg	02 04 05.2	
USHA	**Ushuaia**	**18.52**	**172**	P	**Pn**	**02 01 45.1**	**+1.5**
	comp=E,0.7nm,0.3s,baz=331,slow=5.8,SNR=9.0						
USHA				LR	LR	02 09 03.8	
	comp=E,802nm,18.8s,baz=322,slow=38						
LPAZ	**La Paz**	**20.64**	**13**	eP	Pn	02 02 08.8	-1.1
LPAZ				pmax	pmax		
	comp=Z,34nm,1.0s						
LPAZ	**La Paz**	**20.64**	**13**	P	Pn	02 02 09.0	-0.8
	comp=Z,20nm,0.8s,baz=187,slow=

RKT	Rikitea	54.64	266	eT	T	03 05 03.6
	comp=Z,5.1nm,0.2s					
OBIP	Obispado Ponce	54.64	7	eP	P	02 06 55.0 -0.5
	comp=Z,47nm,1.0s					
CELP	Cerrillos	54.68	7	eP	P	02 06 55.6 -0.1
CBYP	Canovanas	54.95	8	eP	P	02 06 58.7 +1.0
	comp=Z,41nm,1.1s					
SDDR	Presa de Saban	55.27	2	eP	P	02 07 01.2 +1.2
	comp=Z,10nm,0.9s					
SMN1	Samana, DR	55.56	4	eP	P	02 07 01.8 -0.3
GTBY	Guantanamo Bay	56.23	357	eP	P	02 07 07.8 +1.0
	comp=Z,31nm,0.9s					
VNDA	Vanda	61.45	192	LR	LR	02 30 02.9
	comp=Z,104nm,20.1s,baz=116,slow=32					
SYO	Syowa Base	63.74	158⇑	eP	P	02 07 48.6 -9.3
TBI	Tubuai	66.06	258	eT	T	03 19 24.5
	comp=Z,18nm,0.4s					
035A	Encino	67.48	336	⇓P	P	02 08 23.9 +1.4
	baz=68					
034A	Hebbronville	67.80	335	⇓P	P	02 08 26.1 +1.6
	baz=68					
TIGA	Tifton	68.39	350	⇑P	P	02 08 29.2 +1.1
	baz=69					
933A	Laredo	68.50	335	⇑P	P	02 08 30.9 +2.0
	baz=69					
835A	Beeville	68.64	336	⇓P	P	02 08 31.8 +2.0
	baz=69					
834A	Tilden	68.73	336	⇓P	P	02 08 32.3 +2.0
	baz=69					
TIAR	Tiarei	69.03	263	eT	T	03 23 03.8
	comp=Z,9.7nm,0.2s					
PAE	Paea	69.16	263	eT	T	03 23 13.7
	comp=Z,30nm,0.4s					
735A	Kenedy	69.17	337	⇑P	P	02 08 34.6 +1.6
	baz=70					
833A	Chaparral WMA,	69.19	335	⇑P	P	02 08 34.2 +1.0
	baz=70,SNR=7.9					
PPT2	Papeete2	69.20	263	eLR	LR	02 29 44.9
	comp=Z,868nm,24.5s					
PPT	Papeete	69.21	263	LR	LR	02 32 32.6
	comp=Z,485nm,18.5s,baz=118,slow=30					
832A	Faith Ranch, C	69.36	335	⇑P	P	02 08 35.2 +1.0
	baz=70					
734A	La Parita Cree	69.40	336	⇓P	P	02 08 35.6 +1.1
	baz=70					
636A	Smothers Creek	69.51	338	⇓P	P	02 08 36.4 +1.3
	baz=70,SNR=6.2					
733A	Divot King Ran	69.53	335	⇓P	P	02 08 37.1 +1.9
	baz=70					
635A	Leesville	69.65	337	⇓P	P	02 08 37.9 +1.9
	baz=70					
732A	Laxson Ranch,	69.76	335	⇓P	P	02 08 37.8 +1.1
	baz=70,SNR=7.7					
537A	Green Hill Far	69.85	338	⇓P	P	02 08 38.8 +1.7
	baz=70					
536A	Bastrop	70.07	338	⇑P	P	02 08 40.3 +1.8
	baz=70					
633A	Saathoff Ranch	70.17	336	⇑P	P	02 08 41.3 +2.1
	baz=70					
438A	Sam Houston St	70.24	339	⇑P	P	02 08 41.2 +1.7
	baz=71					
632A	Uvalde	70.42	335	⇑P	P	02 08 41.7 +1.0
	baz=71,SNR=6.8					
534A	Blanco	70.47	337	⇑P	P	02 08 42.5 +1.5
	baz=71					
LRAL	Lakeview Retre	70.49	347	eP	P	02 08 41.6 +0.5
	comp=Z,14nm,0.4s					
339A	Huntington	70.53	340	⇑P	P	02 08 42.3 +0.9
	baz=71					
631A	Perdido Creek	70.60	335	⇓P	P	02 08 43.2 +1.3
	baz=71					
533A	Kerrville	70.69	336	⇓P	P	02 08 43.6 +1.2
	baz=71					
338A	Crockett	70.76	340	⇑P	P	02 08 44.3 +1.5
	baz=71					
MAW	Mawson	70.92	164	LR	LR	02 39 12.4
	comp=Z,274nm,20.2s,baz=238,slow=35					
532A	Rocksprings	71.03	335	⇑P	P	02 08 45.1 +0.7
	baz=71,SNR=15					
434A	Burnet	71.13	337	⇑P	P	02 08 46.0 +1.0
	baz=72,SNR=8.1					
239A	Gary	71.16	341	⇓P	P	02 08 46.8 +1.7
	baz=72					
336A	Riesel	71.23	338	⇑P	P	02 08 46.5 +0.9
	baz=72,SNR=6.2					
531A	Rocksprings	71.28	335	⇓P	P	02 08 47.2 +1.2
	baz=72,SNR=7.4					
335A	Moody	71.31	338	⇑P	P	02 08 47.0 +0.9
	baz=72					
JCT	Junction City	71.32	336	eP	P	02 08 46.6 +0.4
JCT				pmax	pmax	
	comp=Z,35nm,1.1s					
JCT	Junction City	71.32	336	⇓P	P	02 08 47.4 +1.2
	baz=72,SNR=5.3					
JCT	Junction City	71.32	336	eP	P	02 08 46.6 +0.4
	comp=Z,35nm,1.1s					
238A	Jacksonville	71.32	340	⇑P	P	02 08 47.7 +1.6
	baz=72					
433A	Art	71.34	336	⇓P	P	02 08 47.3 +1.0
	baz=72,SNR=10					
237A	Washetta, Mont	71.51	340	⇑P	P	02 08 48.5 +1.3
	baz=72					
530A	J-C Ranch, Com	71.54	334	⇓P	P	02 08 48.6 +1.1
	baz=72,SNR=16					
334A	Lometa	71.60	337	⇓P	P	02 08 48.7 +0.9
	baz=72,SNR=7.0					
TXAR	Lajitas Array	71.65	332	P	P	02 08 48.5 +0.3
	comp=Z,3.4nm,0.7s,baz=153,slow=8.4,SNR=28					
TXAR				pP	pP	02 08 57.6 0.0
	comp=Z,7.2nm,0.8s,baz=153,slow=6.4,SNR=18					
TXAR				LR	LR	02 35 38.2
	comp=Z,250nm,18.5s,baz=0.0,slow=32					
432A	Menard	71.68	336	⇑P	P	02 08 49.7 +1.3
	baz=72					
431A	Sonora	71.77	335	⇑P	P	02 08 50.1 +1.2
	baz=72,SNR=5.7					
KMSC	Kings Mountain	71.78	353	⇑P	P	02 08 50.2 +1.4
	baz=72					
KMSC	Kings Mountain	71.78	353	eP	P	02 08 49.3 +0.5
	comp=Z,15nm,0.9s					
529A	Stev Forest Ra	71.83	333	⇑P	P	02 08 50.1 +0.8
	baz=72					
333A	Richland Sprin	71.83	337	⇑P	P	02 08 50.2 +1.0
	baz=72,SNR=6.0					
138A	Matatall Enter	71.93	340	⇑P	P	02 08 50.8 +1.1
	baz=72					
WHTX	Lake Whitney,	71.98	338	⇓P	P	02 08 50.9 +0.8
	baz=72					
WHTX	Lake Whitney,	71.98	338	eP	P	02 08 50.0 -0.1
	comp=Z,33nm,1.0s					
430A	Baggett Ranch,	72.08	335	⇓P	P	02 08 51.7 +0.9
	baz=72,SNR=14					
332A	Millersview	72.13	336	⇓P	P	02 08 52.0 +1.0
	baz=72,SNR=8.5					
429A	Davenport Ranc	72.17	334	⇑P	P	02 08 52.1 +0.8
	baz=72,SNR=11					
234A	Clairette	72.19	338	⇓P	P	02 08 51.9 +0.5
	baz=73					
331A	San Angelo	72.28	335	⇓P	P	02 08 52.5 +0.5
	baz=73,SNR=12					
OXF	Oxford	72.38	346	eP	P	02 08 51.6 -0.7
OXF				pmax	pmax	
	comp=Z,53nm,1.2s					
OXF	Oxford	72.38	346	eP	P	02 08 51.6 -0.7
	comp=Z,52nm,1.2s					
233A	Rising Star	72.44	337	⇑P	P	02 08 54.0 +1.1
	baz=73					
SWET	Sewanee	72.45	349	eP	P	02 08 52.4 -0.5
	comp=Z,70nm,1.2s					
CPCT	Cooper Cave	72.47	350	eP	P	02 08 56.0 +3.0
135A	Vickery Place,	72.49	338	⇑P	P	02 08 54.0 +0.9
	baz=73					
232A	Coleman	72.56	336	⇓P	P	02 08 54.2 +0.6
	baz=73,SNR=5.7					
TKL	Tuckaleechee C	72.57	351	eP	P	02 08 52.5 -1.0
TKL	Tuckaleechee C	72.57	351	eP	P	02 08 52.5 -1.0
330A	Mertzon	72.63	335	⇑P	P	02 08 54.4 +0.3
	baz=73,SNR=5.8					
231A	Bronte	72.82	336	⇓P	P	02 08 55.3 +0.1
	baz=73,SNR=8.9					
329A	Wagon Wheel Ra	72.98	334	⇑P	P	02 08 56.6 +0.4
	baz=73,SNR=6.6					
133A	Hamilton Ranch	73.00	337	⇑P	P	02 08 56.8 +0.6
	baz=73,SNR=5.8					
230A	Sterling City	73.05	335	⇓P	P	02 08 57.6 +1.1
	baz=73					
Z35A	Perchaven, San	73.17	339	⇓P	P	02 08 57.8 +0.7
	baz=74					
ABTX	Abilene, Hawle	73.24	337	⇑P	P	02 08 58.0 +0.4
	baz=74					
ABTX	Abilene, Hawle	73.24	337	eP	P	02 08 57.4 -0.2
	comp=Z,48nm,1.2s					
229A	Bryant Ranch,	73.36	335	⇓P	P	02 08 59.0 +0.7
	baz=74					
Z34A	Collier Ranch,	73.40	338	⇑P	P	02 08 59.7 +1.2
	baz=74					
131A	Roby	73.53	336	⇓P	P	02 09 00.0 +0.7
	baz=74					
Z33A	Whitaker Ranch	73.58	338	⇓P	P	02 08 60.0 +0.4
	baz=74,SNR=6.9					
130A	Snyder	73.65	336	⇑P	P	02 09 00.9 +0.8
	baz=74					
WVT	Waverly	73.65	347	eP	P	02 08 59.7 -0.2
WVT				pmax	pmax	
	comp=Z,52nm,1.1s					
WVT	Waverly	73.65	347	eP	P	02 08 59.7 -0.2
	comp=Z,52nm,1.1s					
228A	UT Block 9, Go	73.77	334	⇑P	P	02 09 01.6 +0.8
	baz=74					
Z32A	Haskell	73.82	337	⇑P	P	02 09 01.5 +0.5
	baz=74,SNR=7.8					
Y34A	Reagan Ranch,	73.90	339	⇑P	P	02 09 02.4 +0.9
	baz=74					
129A	Stewart Farms,	73.98	335	⇓P	P	02 09 02.8 +0.8
	baz=74					
Z31A	Sharp Cattle R	74.04	337	⇑P	P	02 09 02.9 +0.6
	baz=74,SNR=6.4					
128A	Castleberry Fa	74.19	334	⇓P	P	02 09 03.9 +0.6
	baz=75,SNR=6.4					
Y33A	Hilltop Ranch,	74.21	338	⇓P	P	02 09 03.8 +0.5
	baz=75					
SUR	Sutherland	74.21	119	P	P	02 09 02.8 -1.0
	comp=Z,18nm,0.9s					
SUR	Sutherland	74.21	119	eP	P	02 09 03.7 -0.2
	comp=Z,33nm,1.1s					
Z30A	Sanderson Ranc	74.33	336	⇓P	P	02 09 04.7 +0.7
	baz=75					
MNTX	Cornudas Mount	74.42	332	eP	P	02 09 03.9 -0.6
Y32A	R-V Farms, Ver	74.45	337	⇓P	P	02 09 05.1 +0.4
	baz=75					
Z29A	Hungry Hill Ra	74.50	335	⇓P	P	02 09 05.2 +0.2
	baz=75,SNR=8.2					
X34A	Smith Ranch, M	74.52	339	⇓P	P	02 09 06.1 +1.0
	baz=75					
X33A	Lawton	74.66	338	⇑P	P	02 09 07.0 +1.2
	baz=75					
Y31A	Rekieta Farm,	74.67	337	⇓P	P	02 09 07.0 +1.0
	baz=75					
Z28A	Tucker Farm, M	74.76	335	⇑P	P	02 09 07.6 +1.0
	baz=75					
X32A	Elmer	74.79	338	⇓P	P	02 09 07.3 +0.6
	baz=75					
Y30A	Stafford Cattl	74.80	336	⇓P	P	02 09 07.7 +0.9
	baz=75					
WMOK	Wichita Mounta	74.93	338	eP	P	02 09 08.0 +0.5
WMOK				pmax	pmax	
	comp=Z,19nm,1.3s					
WMOK	Wichita Mounta	74.93	338	eP	P	02 09 08.0 +0.5
	comp=Z,19nm,1.3s					
Y29A	Porterfield Fa	75.04	336	⇑P	P	02 09 08.7 +0.5
	baz=75,SNR=5.8					
TUL1	Leonard	75.19	341	⇓P	P	02 09 09.7 +0.8
	baz=76					
TUL1	Leonard	75.19	341	eP	P	02 09 09.1 +0.3
	comp=Z,30nm,1.0s					
X31A	McDonald Ranch	75.20	337	⇓P	P	02 09 09.6 +0.6
	baz=76,SNR=5.3					
W33A	Caddo, Fort Co	75.22	339	⇓P	P	02 09 10.1 +1.0
	baz=76					
Y28A	McKinney Farm,	75.28	335	⇑P	P	02 09 10.4 +0.9
	baz=76					
X30A	Coker Ranch, T	75.31	336	⇓P	P	02 09 10.8 +1.1
	baz=76					
V35A	Meyer Ranch, C	75.33	340	⇑P	P	02 09 10.7 +1.1
	baz=76					
W32A	Sentinel	75.43	338	⇓P	P	02 09 11.3 +1.0
	baz=76					
MSTX	Muleshoe	75.51	335	⇓P	P	02 09 11.8 +0.9
	baz=76					
MSTX	Muleshoe	75.51	335	eP	P	02 09 11.6 +0.6
	comp=Z,28nm,1.2s					
Y27A	Causey	75.57	334	⇑P	P	02 09 12.4 +1.1
	baz=76					
X29A	Tulia	75.58	336	⇑P	P	02 09 12.2 +0.9
	baz=76					
V34A	Guthrie	75.59	340	⇑P	P	02 09 12.1 +0.9
	baz=76					
319A	Douglas	75.70	328	⇓P	P	02 09 13.5 +1.4
	baz=76					
W31A	Holland Ranch,	75.70	337	⇓P	P	02 09 13.1 +1.2
	baz=76					
V33A	Lossen Ranch,	75.79	339	⇑P	P	02 09 13.4 +1.0
	baz=76					
AMTX	Amarillo	75.98	336	⇑P	P	02 09 14.4 +0.9
	baz=76					
AMTX	Amarillo	75.98	336	eP	P	02 09 14.4 +0.9
	comp=Z,44nm,1.2s					
121A	Cookes Peak, D	76.09	330	⇑P	P	02 09 15.0 +0.6
	baz=76					
121A	Cookes Peak, D	76.09	330	eP	P	02 09 13.9 -0.5
	comp=Z,26nm,1.1s					
U34A	Anderson Ranch	76.16	340	⇑P	P	02 09 15.4 +1.0
	baz=76					
U34A	Anderson Ranch	76.16	340	eP	P	02 09 15.1 +0.7
	comp=Z,32nm,1.1s					
W29A	Amarillo	76.18	336	⇑P	P	02 09 15.7 +1.0
	baz=77					
V31A	Spring Creek L	76.21	338	⇓P	P	02 09 16.1 +1.3
	baz=77,SNR=5.6					
LIC	Lamto	76.26	71	eP	P	02 09 15.2 -0.3
	comp=Z,60nm,1.0s					
U33A	Lingo Farm, Me	76.31	339	⇓P	P	02 09 16.7 +1.4
	baz=77					
X26A	CR and CF Fran	76.40	334	⇓P	P	02 09 17.6 +1.6
	baz=77					
Z22A	Elephant Butte	76.41	331	⇑P	P	02 09 17.6 +1.5
	baz=77,SNR=7.6					
Y24A	Capitan	76.42	333	⇓P	P	02 09 17.3 +1.1
	baz=77,SNR=7.3					
V30A	Spur Ranch, Mi	76.46	337	⇑P	P	02 09 17.8 +1.6
	baz=77					
W28A	Vega	76.49	336	⇑P	P	02 09 17.7 +1.3
	baz=77					
U32A	Winter Ranch,	76.52	339	⇑P	P	02 09 17.9 +1.4
	baz=77					
TIC	Toumodi	76.53	71	eP	P	02 09 17.0 -0.1
	comp=Z,26nm,0.7s					
KIC	Kosan Boka	76.56	72	eP	P	02 09 17.5 +0.2
	comp=Z,59nm,0.8s					
DBIC	Dimbokro	76.67	71	eP	P	02 09 17.6 -0.2
DBIC	Dimbokro	76.67	71	eP	P	02 09 17.4 -0.4
DBIC				pmax	pmax	
	comp=Z,24nm,0.9s					
DBIC	Dimbokro	76.67	71	P	P	02 09 17.2 -0.7
	comp=Z,23nm,0.9s,baz=209,slow=6.0,SNR=23					
DBIC				LR	LR	02 42 02.7
	comp=Z,228nm,18.1s,baz=200,slow=35					
DBIC	Dimbokro	76.67	71	eP	P	02 09 17.4 -0.4
	comp=Z,24nm,0.9s					
W26A	Owens Ranch, T	76.87	334	⇑P	P	02 09 19.7 +1.1
	baz=77					
V28A	Channing	76.95	336	⇓P	P	02 09 20.3 +1.3
	baz=77					
T33A	Patterson Ranc	76.96	339	⇑P	P	02 09 20.3 +1.4
	baz=77					
ACSO	Alum Creek Sta	76.99	352	eP	P	02 09 18.9 -0.1
	comp=Z,20nm,0.8s					
TUC	Tucson	77.15	328	eP	P	02 09 21.8 +1.6
TUC				pmax	pmax	
	comp=Z,20nm,1.2s					
TUC	Tucson	77.15	328	eP	P	02 09 21.8 +1.6
	comp=Z,20nm,1.2s					
U30A	WK&E Inc. Balk	77.16	337	⇑P	P	02 09 21.7 +1.6
	baz=78					
LPM	Los Pinos Moun	77.22	332	eP	P	02 09 22.7 +2.1
W25A	X Bar L Ranch,	77.23	334	⇑P	P	02 09 21.5 +0.8
	baz=78,SNR=5.7					
T32A	Huddler Ranch,	77.24	339	⇑P	P	02 09 21.9 +1.4
	baz=78					
S33A	Kaszmaul Farm,	77.37	340	⇑P	P	02 09 22.9 +1.6
	baz=78					
T31A	Randall Ranch,	77.39	338	⇓P	P	02 09 23.0 +1.6
	baz=78					
CASY	Casey	77.44	181	eP	P	02 09 22.1 +0.7
	comp=Z,78nm,1.2s					
V26A	Tequesquite Ra	77.52	335	⇑P	P	02 09 23.6 +1.3
	baz=78					
U28A	Mallet	77.52	336	⇓P	P	02 09 23.1 +0.9
	baz=78					
W24A	Lazy 6 Ranch,	77.56	333	⇑P	P	02 09 23.6 +1.0
	baz=78,SNR=7.6					
ANMO	Albuquerque	77.71	332⇑	iP	P	02 09 24.4 +1.0
ANMO				pmax	pmax	
	comp=Z,53nm,1.4s					
ANMO	Albuquerque	77.71	332	eP	P	02 09 24.6 +1.2
	comp=Z,23nm,1.2s					
214A	Organ Pipe Nat	77.73	326	⇓P	P	02 09 25.0 +1.6
	baz=78					
214A	Organ Pipe Nat	77.73	326	eP	P	02 09 24.4 +1.0
	comp=Z,6.8nm,1.1s					
U27A	Thompson Grove	77.76	336	⇓P	P	02 09 25.2 +1.6
	baz=78					
V25A	Rancho No Teng	77.84	334	⇓P	P	02 09 24.9 +0.7
	baz=78,SNR=5.1					
V24A	Rampart Ranch,	77.97	334	⇑P	P	02 09 26.2 +1.3
	baz=78					
R33A	Olander Ranch,	78.03	340	⇓P	P	02 09 26.6 +1.6
	baz=78					
U26A	Atchley Ranch,	78.04	335	⇓P	P	02 09 26.6 +1.4
	baz=78					
S30A	Montezuma	78.13	338	⇑P	P	02 09 27.1 +1.6
	baz=78					
T28A	Walsh	78.16	337	⇑P	P	02 09 27.0 +1.3
	baz=78					
U25A	Circle Dot Ran	78.27	334	⇓P	P	02 09 27.7 +1.1
	baz=79					
T27A	Campo	78.31	336	⇓P	P	02 09 28.1 +1.5
	baz=79					
V23A	Ortiz Mt. (NFS	78.32	333	⇓P	P	02 09 28.4 +1.6
	baz=79					
R32A	Long Quarter,	78.34	340	⇓P	P	02 09 27.6 +1.0
	baz=79					
KSU1	Kansas State U	78.41	341	⇓P	P	02 09 28.5 +1.5
	baz=79					
R31A	Burdett	78.45	339	⇑P	P	02 09 28.7 +1.5
	baz=79					
S28A	Manter	78.52	337	⇓P	P	02 09 29.0 +1.3
	baz=79					
Q33A	Connelly Farm,	78.64	340	⇑P	P	02 09 29.6 +1.4
	baz=79					
T26A	Comanche Natio	78.70	335	⇑P	P	02 09 30.0 +1.1
	baz=79					
X18A	Snowflake	78.71	330	⇑P	P	02 09 30.5 +1.6
	baz=79					
V22A	San Miguel Ran	78.74	332	⇑P	P	02 09 31.1 +1.9
	baz=79,SNR=9.6					
Q32A	Meitler Ranch,	78.83	340	⇓P	P	02 09 30.8 +1.5
	baz=79					
U23A	El Rito	78.84	333	⇑P	P	02 09 30.8 +1.1
	baz=79,SNR=5.3					
113A	Mohawk Valley,	78.85	326	⇑P	P	02 09 31.3 +1.8
	baz=79					
T25A	Trinidad	78.94	335	⇑P	P	02 09 31.7 +1.5
	baz=79,SNR=6.0					
Z14A	Wintersburg	78.99	327	⇓P	P	02 09 31.4 +1.1
	baz=79					
R29A	Marienthal	79.05	338	⇓P	P	02 09 31.4 +0.8
	baz=79					
S26A	Kim	79.06	336	⇓P	P	02 09 32.0 +1.2
	baz=79,SNR=5.1					
U22A	Llaves	79.13	333	⇑P	P	02 09 33.0 +1.7
	baz=80,SNR=5.7					
W18A	Petrified Fore	79.14	330	eP	P	02 09 32.2 +0.9
	comp=Z,37nm,1.2s					
R28A	Tribune	79.19	337	⇓P	P	02 09 32.6 +1.3
	baz=80,SNR=5.2					
TSUM	Tsumeb	79.19	106	P	P	02 09 32.0 -0.1
	comp=Z,6.5nm,0.9s,baz=266,slow=8.9,SNR=7.8					
TSUM	Tsumeb	79.19	106	eP	P	02 09 32.0 -0.1
TSUM				epP	pP	02 09 41.5 +0.1
	comp=Z,34nm,1.3s					
T24B	San Luis	79.21	334	⇓P	P	02 09 33.3 +1.5
	baz=80					
X16A	Lo Mia Camp, P	79.24	328	⇓P	P	02 09 33.5 +1.7
	baz=80,SNR=8.1					
Q30A	Quinter	79.29	339	⇓P	P	02 09 32.6 +0.7
	baz=80					
T23A	Casias Ranch,	79.42	334	⇓P	P	02 09 34.5 +1.6
	baz=80					
S25A	Robets Cordova	79.42	335	⇓P	P	02 09 34.3 +1.5
	baz=80					
P32A	Huiting Farm,	79.43	340	⇓P	P	02 09 33.9 +1.4
	baz=80					
Q29A	Oakley	79.43	338	⇑P	P	02 09 33.5 +0.8
	baz=80					
R27A	Eads	79.45	336	⇓P	P	02 09 34.2 +1.4
	baz=80					
Y14A	Wickenburg	79.50	327	⇓P	P	02 09 34.7 +1.5
	baz=80					
BOSA	Boshof	79.50	118	eP	P	02 09 33.1 -0.5
BOSA				AMB	AMB	02 09 33.6
	comp=Z,31nm,1.1s					
BOSA				AMS	AMS	02 38 06.1
	comp=Z,300nm,10.3s					
BOSA	Boshof	79.50	118	eP	P	02 09 32.9 -0.7
BOSA				pmax	pmax	
	comp=Z,33nm,1.0s					
BOSA	Boshof	79.50	118	P	P	02 09 32.9 -0.7
	comp=Z,27nm,0.9s,baz=257,slow=4.1,SNR=21					
BOSA				LR	LR	02 42 52.3
	comp=Z,195nm,18.4s,baz=216,slow=34					
BOSA	Boshof	79.50	118	eP	P	02 09 32.9 -0.7
	comp=Z,33nm,1.0s					
P31A	Stockton	79.55	339	⇓P	P	02 09 34.9 +1.6
	baz=80					
GLA	Glamis	79.57	325	⇑P	P	02 09 35.1 +1.5
	baz=80					
S24A	Houchin Ranch,	79.67	334	⇓P	P	02 09 36.0 +1.7
	baz=80,SNR=6.0					
R26A	Arlington	79.67	336	⇑P	P	02 09 35.8 +1.7
	baz=80					
P30A	Selden	79.82	339	⇓P	P	02 09 36.7 +1.9
	baz=80					
SDCO	Great Sand Dun	79.86	334	eP	P	02 09 37.4 +2.1
Y12C	Blythe	80.02	326	⇓P	P	02 09 37.7 +1.9
	baz=80					
KSCO	Kaye Shedlock'	80.05	337	eP	P	02 09 36.5 +0.4
	comp=Z,28nm,1.1s					
P29A	Atwood	80.08	338	⇓P	P	02 09 38.1 +1.9
	baz=80					
WUAZ	Wupatki	80.15	329	⇑P	P	02 09 38.3 +1.6
	baz=80,SNR=6.5					
WUAZ	Wupatki	80.15	329	eP	P	02 09 38.4 +1.6
	comp=Z,31nm,1.3s					
R24A	Sanders Place,	80.16	335	⇑P	P	02 09 38.9 +2.1
	baz=80					
MONP	Monument Peak,	80.18	324	⇑P	P	02 09 39.0 +1.9
	baz=80					
PDMCI	Parker Dam,Lak	80.31	326	⇑P	P	02 09 39.6 +2.1
	baz=81					
S22A	4UR Ranch, Cre	80.34	333	⇓P	P	02 09 39.8 +1.9
	baz=81					
O30A	MW Ranch, Wils	80.36	339	⇓P	P	02 09 40.2 +2.6
	baz=81					
BC3	Big Chuckawall	80.36	325	⇑P	P	02 09 39.6 +1.7
	baz=81,SNR=5.5					
R23A	Moffat	80.38	334	⇓P	P	02 09 40.3 +2.2
	baz=81					
MVCO	Mesa Verde	80.48	332	⇓P	P	02 09 40.1 +1.5
	baz=81					
MVCO	Mesa Verde	80.48	332	eP	P	02 09 40.2 +1.5
	comp=Z,20nm,1.2s					
Q25A	Bedland, Calha	80.49	336	⇓P	P	02 09 40.6 +2.1
	baz=81					
IRM	Iron Mountain	80.64	326	⇑P	P	02 09 40.9 +1.6
	baz=81,SNR=6.1					
JFWS	Jewell Farm	80.67	347	eP	P	02 09 39.8 +0.6
JFWS				pmax	pmax	
	comp=Z,25nm,1.1s					
JFWS	Jewell Farm	80.67	347	eP	P	02 09 39.8 +0.6
	comp=Z,25nm,1.1s					
P26A	Davis Ranch, A	80.78	337	⇑P	P	02 09 42.3 +2.3
	baz=81					
PFO	Pinyon Flats O	80.79	324	eP	P	02 09 41.6 +1.4
PFO				pmax	pmax	
	comp=Z,27nm,1.3s					
PFO	Pinyon Flats O	80.79

BELC **Belle Mtn. Jos** 80.90 325 ⇓P P 02 09 42.6 +1.8
baz=81
P25A **Willow Gulch B** 81.00 336 ⇓P P 02 09 43.1 +1.9
baz=81,SNR=5.2
N29A **Votaw Ranch, W** 81.11 339 ⇓P P 02 09 43.3 +1.7
baz=82
MURC **Murrieta** 81.14 324 ⇓P P 02 09 43.5 +1.6
baz=82
SCI **San Clemente I** 81.28 323 ⇑P P 02 09 44.7 +2.0
baz=82
U15A **North Rim** 81.31 329 ⇓P P 02 09 45.3 +2.1
baz=82,SNR=8.5
PV01 **Paradox Valley** 81.32 332 *e*P P 02 09 44.0 +1.0
SEK **Senekal** 81.35 119 *e*P P 02 09 42.9 -0.8
SEK AMB AMB 02 09 45.0
comp=Z,20nm,1.1s
SEK **Senekal** 81.35 119 P P 02 09 42.9 -0.8
comp=Z,20nm,1.1s
O26A **Horse Wrangler** 81.39 337 ⇓P P 02 09 45.3 +2.0
baz=82
GMRC **Granite Mounta** 81.39 326 ⇓P P 02 09 45.2 +1.8
baz=82,SNR=5.6
LDFC **Landfair** 81.39 326 *e*P P 02 09 45.3 +1.9
comp=Z,16nm,1.3s
OGNE **Ogallala** 81.64 338 ⇑P P 02 09 46.6 +2.1
baz=82
N27A **Anderson Farm,** 81.67 338 ⇓P P 02 09 46.5 +1.8
baz=82
PV04 **Paradox Valley** 81.67 332 *e*P P 02 09 45.5 +0.6
HEC **Hector,Ludlow** 81.74 325 ⇓P P 02 09 47.1 +2.0
baz=82,SNR=6.0
ISCO **Idaho Springs** 81.74 335 ⇑P P 02 09 47.3 +1.9
baz=82
M28A **Bar X Bar Ranc** 81.86 339 ⇑P P 02 09 47.5 +1.9
baz=82
LBTB **Lobatse** 81.86 115 *e*P P 02 09 46.0 -0.3
LBTB AMB AMB 02 09 47.0
comp=Z,43nm,2.9s
LBTB AMS AMS 02 45 58.1
comp=Z,315nm,6.5s
LBTB **Lobatse** 81.86 115 *e*P P 02 09 45.6 -0.7
LBTB pmax pmax
comp=Z,27nm,0.6s
LBTB **Lobatse** 81.86 115 P P 02 09 45.6 -0.7
comp=Z,35nm,0.7s,baz=253,slow=5.8,SNR=82
LBTB **Lobatse** 81.86 115 *e*P P 02 09 45.5 -0.7
comp=Z,27nm,0.6s
BFSC **Mount Baldy Ra** 81.88 324 ⇓P P 02 09 47.2 +1.2
baz=82
L31A **Butterfield Fa** 81.88 341 ⇓P P 02 09 47.3 +1.7
baz=82
P22A **Eagle** 81.96 334 ⇑P P 02 09 48.1 +1.8
baz=82
TUQ **Turquoise Moun** 82.06 326 ⇓P P 02 09 48.6 +1.8
baz=82,SNR=5.5
O23A **Lake Granby, G** 82.22 335 ⇓P P 02 09 49.6 +1.8
baz=83,SNR=5.4
KSR **Koster** 82.31 116 *e*P P 02 09 47.9 -0.8
KSR AMB AMB 02 09 52.8
comp=Z,9.7nm,1.6s
KSR **Koster** 82.31 116 P P 02 09 47.9 -0.8
comp=Z,9.7nm,1.6s
GSC **Goldstone, Bar** 82.35 325 ⇑P P 02 09 49.9 +1.6
baz=83
O22A **Kremmling** 82.39 335 ⇑P P 02 09 50.4 +1.7
baz=83,SNR=5.8
K30A **Basset** 82.55 340 ⇑P P 02 09 50.7 +1.5
baz=83
EDW2 **Edwards Air Fo** 82.56 324 ⇓P P 02 09 50.7 +1.3
baz=83
SHPR **Sheep Range** 82.61 327 *e*P P 02 09 51.5 +1.7
comp=Z,31nm,1.3s
CCUT **Cedar City** 82.72 329 *e*P P 02 09 52.3 +1.9
comp=Z,28nm,1.3s
ECSD **EROS Data Cent** 82.78 343 ⇑P P 02 09 51.8 +1.5
baz=83
ECSD **EROS Data Cent** 82.78 343 *e*P P 02 09 49.6 -0.7
comp=Z,36nm,1.1s
K29A **Lazy Trails An** 82.82 340 ⇑P P 02 09 52.6 +2.0
baz=83
N23A **Red Feather La** 82.84 335 ⇓P P 02 09 52.6 +1.6
baz=83
LRMC **Laurel Mtn Rad** 82.90 325 ⇑P P 02 09 53.0 +1.7
baz=83
N22A **Wattenberg Ran** 82.93 335 ⇓P P 02 09 53.5 +2.1
baz=83,SNR=5.3
O20A **White River Ci** 82.96 333 ⇑P P 02 09 53.3 +1.8
baz=83
M24A **Cheyenne** 82.98 336 ⇑P P 02 09 53.5 +1.8
baz=83
MVU **Marysvale** 83.06 330 *e*P P 02 09 53.9 +1.7
comp=Z,17nm,1.2s
K28A **Ten Mile Ranch** 83.07 339 ⇓P P 02 09 54.0 +2.1
baz=84
J30A **Dallas** 83.12 341 ⇑P P 02 09 54.0 +1.9
baz=84
M23A **Laramie** 83.28 336 ⇓P P 02 09 55.1 +1.9
baz=84
MPMC **Manual Prospec** 83.29 325 ⇓P P 02 09 55.0 +1.6
baz=84
K27A **Flueckinger Fa** 83.31 339 ⇑P P 02 09 55.0 +1.8
baz=84
FURC **Furnace Creek,** 83.34 326 ⇓P P 02 09 55.3 +2.0
baz=84
SLR **Silverton** 83.37 117 *e*P P 02 09 53.6 -0.6
SLR AMB AMB 02 43 51.6
comp=Z,325nm,8.2s
SLR **Silverton** 83.37 117 P P 02 09 53.6 -0.6
SLR pmax pmax
comp=Z,325nm,8.2s
SLR **Silverton** 83.37 117 P P 02 09 53.6 -0.6
comp=Z,325nm,8.2s
SPMN **Marine on St.** 83.38 346 *e*P P 02 09 53.0 -0.4
comp=Z,14nm,1.1s
J29A **Okreek** 83.42 340 ⇓P P 02 09 55.8 +2.2
baz=84
ISA **Isabella, Lake** 83.42 324 ⇓P P 02 09 55.9 +2.0
baz=84
TPNV **Topopah Spring** 83.46 326 ⇓P P 02 09 55.9 +1.7
baz=84,SNR=6.6
M22A **Cedar Creek Ra** 83.51 335 ⇑P P 02 09 56.3 +1.8
baz=84
DAC **Darwin (Calif)** 83.52 325 *e*P P 02 09 55.9 +1.4
DAC pmax pmax
comp=Z,23nm,1.2s
DAC **Darwin (Calif)** 83.52 325 *e*P P 02 09 55.9 +1.4
comp=Z,23nm,1.2s
COWI **Conover** 83.58 349 *e*P P 02 09 54.0 -0.4
comp=Z,18nm,1.4s
N20A **Spence Gulch,** 83.58 334 ⇓P P 02 09 56.4 +1.6
baz=84
K26A **Motz Farm, Whi** 83.59 338 ⇓P P 02 09 55.9 +1.3
baz=84
I30A **Oacoma** 83.65 341 ⇑P P 02 09 56.1 +1.3
baz=84
J28A **Allard Ranch,** 83.69 340 ⇑P P 02 09 56.2 +1.1
baz=84,SNR=5.2
J27A **Elkhorn Farm,** 83.75 339 ⇑P P 02 09 57.4 +2.0
baz=84,SNR=5.4
L23A **Garrett** 83.85 336 ⇑P P 02 09 57.6 +1.5
baz=84
VES **Vestal, Richgr** 83.86 324 ⇓P P 02 09 58.3 +2.3
baz=84
I29A **Vivian Onida** 83.99 340 ⇑P P 02 09 58.2 +1.7
baz=84
GRAC **Grapevine Rang** 84.01 326 ⇑P P 02 09 58.4 +1.6
baz=84,SNR=6.1
MPU **Maple Canyon** 84.13 331 *e*P P 02 09 58.7 +1.1
comp=Z,29nm,1.1s
I28A **Midland** 84.20 340 ⇑P P 02 09 59.3 +1.6
baz=85
NLU **North Lily Min** 84.25 331 *e*P P 02 09 59.2 +1.1
comp=Z,5.8nm,1.1s
DAU **Daniels Canyon** 84.32 332 *e*P P 02 10 00.0 +1.3
DAU *e**PP pP 02 10 08.7 +0.5
DAU pmax pmax
comp=Z,3.0nm,0.9s
DAU **Daniels Canyon** 84.32 332 *e*P P 02 10 00.0 +1.3
comp=Z,2.7nm,0.9s
DAU *e*pP pP 02 10 08.7 +0.5
R11A **Troy Canyon, C** 84.33 328 ⇓P P 02 10 00.6 +1.9
baz=85
R11A **Troy Canyon, C** 84.33 328 *e*P P 02 09 59.9 +1.2
comp=Z,22nm,1.2s
K23A **Bowen Ranch, D** 84.40 336 ⇑P P 02 10 00.4 +1.6
baz=85
J25A **Sunshine Ranch** 84.41 338 ⇓P P 02 10 00.3 +1.5
baz=85

H29A **Onida** 84.52 341 ⇓P P 02 10 00.9 +1.7
baz=85
K22A **Casper** 84.60 336 ⇑P P 02 10 00.8 +0.9
baz=85,SNR=6.1
K22A **Casper** 84.60 336 *e*P P 02 10 00.6 +0.7
comp=Z,8.3nm,1.0s
K22A *e*pP pP 02 10 09.4 +0.1
DUG **Dugway, Tooele** 84.74 330 *e*P P 02 10 01.7 +1.1
DUG pmax pmax
comp=Z,41nm,1.3s
DUG **Dugway, Tooele** 84.74 330 ⇑P P 02 10 02.4 +1.8
baz=85
DUG **Dugway, Tooele** 84.74 330 *e*P P 02 10 01.7 +1.1
comp=Z,41nm,1.3s
TPH **Tonopah** 84.82 326 *e*P P 02 10 02.9 +1.7
TPH pmax pmax
comp=Z,43nm,1.2s
TPH **Tonopah** 84.82 326 *e*P P 02 10 02.9 +1.7
comp=Z,44nm,1.2s
K21A **Alcova** 84.83 335 ⇑P P 02 10 02.3 +1.2
baz=85
I25A **Rochford** 84.96 338 ⇑P P 02 10 02.9 +1.3
baz=85
TCUT **Toone Canyon** 84.99 332 *e*P P 02 10 01.6 -0.4
comp=Z,2.7nm,0.4s
I24A **Kuemmerle Ranc** 85.08 338 ⇑P P 02 10 04.2 +2.0
baz=86
G28A **Parade** 85.13 340 ⇓P P 02 10 04.1 +1.9
baz=86
RSSD **Black Hills** 85.14 338 *e*P P 02 10 03.2 +0.6
RSSD pmax pmax
comp=Z,12nm,1.1s
RSSD **Black Hills** 85.14 338 *e*P P 02 10 03.1 +0.6
comp=Z,12nm,1.1s
J22A **Midwest** 85.27 336 ⇑P P 02 10 04.6 +1.4
baz=86
H25A **Fruitdale** 85.47 339 ⇓P P 02 10 05.6 +1.6
baz=86
J21A **Lysite** 85.53 335 ⇑P P 02 10 06.1 +1.6
baz=86
SPUT **South Promonto** 85.55 331 *e*P P 02 10 05.0 +0.3
comp=Z,12nm,1.3s
NVAR **Mina Array Bea** 85.60 326 P P 02 10 06.3 +1.2
comp=Z,2.5nm,0.7s,baz=155,slow=6.1,SNR=19
I22A **9 Mile Ranch,** 85.70 336 ⇓P P 02 10 05.9 +0.6
baz=86,SNR=5.7
TORD **Torodi Ar. Bea** 85.74 70 P P 02 10 05.2 -0.8
comp=Z,7.4nm,0.9s,baz=244,slow=4.0,SNR=33
PDAR **Pinedale Array** 85.74 334 P P 02 10 05.8 +0.1
comp=Z,5.1nm,1.3s,baz=159,slow=4.6,SNR=11
PDAR pP pP 02 10 14.5 -0.6
comp=Z,6.5nm,1.1s,baz=159,slow=4.6,SNR=15
PDAR PKKP PKKPbc 02 28 07.0 -1.7
comp=Z,1.4nm,1.0s,baz=113,slow=2.1,SNR=5.8
PDAR LR LR 02 44 09.2
comp=Z,216nm,21.3s,baz=181,slow=33
J20A **Shoshoni** 85.75 335 ⇓P P 02 10 06.7 +1.2
baz=86,SNR=5.6
EYMN **Ely** 85.77 348 *e*P P 02 10 05.5 +0.2
comp=Z,17nm,1.3s
G26A **Maurine** 85.79 339 ⇑P P 02 10 06.7 +1.1
baz=86
F28A **McLaughlin** 85.81 341 ⇑P P 02 10 07.0 +1.4
baz=86
H24A **Dirks Ranch, A** 85.86 338 ⇑P P 02 10 06.7 +0.6
baz=86
I21A **Big Trails, Te** 85.89 336 ⇑P P 02 10 07.2 +0.9
baz=86,SNR=5.6
G25A **Newell** 85.94 339 ⇑P P 02 10 07.4 +1.1
baz=86
J19A **Crowheart** 86.00 334 ⇑P P 02 10 08.1 +1.2
baz=86,SNR=5.5
HVU **Hansel Valley** 86.08 331 *e*P P 02 10 07.4 +0.1
HVU pmax pmax
comp=Z,21nm,1.1s
HVU **Hansel Valley** 86.08 331 *e*P P 02 10 07.4 +0.1
comp=Z,21nm,1.1s
MSKU **Masuku** 86.22 89 P P 02 10 08.7 +0.2
comp=Z,18nm,0.9s,baz=240,slow=4.7,SNR=8.5
H22A **Clearmont** 86.28 337 ⇓P P 02 10 08.9 +0.7
baz=87
I20A **Worland** 86.29 335 ⇓P P 02 10 09.4 +1.2
baz=87
F26A **Lodgepole** 86.32 340 ⇑P P 02 10 09.3 +1.1
baz=87
G24A **Alzada** 86.35 338 ⇓P P 02 10 09.7 +1.3
baz=87
D30A **Buchanan** 86.47 343 ⇓P P 02 10 10.0 +1.1
baz=87
G23A **Biddle** 86.53 338 ⇓P P 02 10 10.7 +1.4
baz=87
F25A **Bowman** 86.61 339 ⇑P P 02 10 11.1 +1.4
baz=87
I19A **Meeteetse** 86.66 335 ⇑P P 02 10 11.3 +1.2
baz=87
MSNA **Messina** 86.70 115 *e*P P 02 10 11.1 +0.3
MSNA AMB AMB 02 10 13.1
comp=Z,12nm,1.6s
MSNA **Messina** 86.70 115 P P 02 10 11.1 +0.3
comp=Z,12nm,1.6s
H20A **Greybull** 86.72 336 ⇓P P 02 10 11.7 +1.5
baz=87,SNR=5.2
G22A **Birney** 86.83 337 ⇑P P 02 10 12.2 +1.5
baz=87
F24A **Ekalaka** 86.83 339 ⇓P P 02 10 11.9 +1.1
baz=87
E26A **Carlson Angus** 86.83 340 ⇓P P 02 10 12.1 +1.4
baz=87
AGMN **Agassiz Nation** 86.94 345 *e*P P 02 10 10.4 -0.7
comp=Z,4.3nm,0.6s
C30A **Mose, Pekin** 86.96 343 ⇓P P 02 10 12.7 +1.5
baz=87
F23A **Volborg** 87.00 338 ⇑P P 02 10 12.5 +0.9
baz=87
I17A **Pilgrim Ck.** 87.11 334 ⇑P P 02 10 13.7 +1.4
baz=88,SNR=5.3
E25A **Miller Ranch,** 87.12 339 ⇑P P 02 10 12.9 +0.8
baz=88
H19A **Powell** 87.22 335 ⇑P P 02 10 14.2 +1.5
baz=88
D26A **Manning** 87.34 340 ⇑P P 02 10 14.2 +1.1
baz=88
MDND **Maddock** 87.37 342 ⇓P P 02 10 14.4 +1.2
baz=88
MDND **Maddock** 87.37 342 *e*P P 02 10 13.8 +0.6
comp=Z,12nm,1.2s
E24A **Baker** 87.44 339 ⇑P P 02 10 14.6 +1.0
baz=88
G20A **Bridger** 87.44 336 ⇓P P 02 10 14.7 +0.9
baz=88,SNR=5.1
H18A **Shoshone NF, C** 87.45 335 ⇑P P 02 10 15.0 +1.0
baz=88
B30A **Myrvik Farm, E** 87.63 343 ⇑P P 02 10 15.8 +1.3
baz=88
D25A **Fairfield** 87.69 340 ⇑P P 02 10 16.6 +1.8
baz=88
YMR **Madison River** 87.90 334 *e*P P 02 10 17.0 +0.9
comp=Z,6.0nm,1.2s
C26A **Wahner Farm, P** 87.98 341 ⇑P P 02 10 17.4 +1.3
baz=88
A30A **Hoffart Farm,** 88.08 344 ⇑P P 02 10 17.9 +1.3
baz=88
B28A **Dugan Ranch, T** 88.11 342 ⇓P P 02 10 18.1 +1.3
baz=88
QLMT **Earthquake Lak** 88.21 334 *e*P P 02 10 19.5 +2.0
comp=Z,2.8nm,1.4s
HLID **Hailey** 88.23 331 ⇓P P 02 10 18.9 +1.3
baz=89,SNR=6.7
F19A **Roth Farm, Mol** 88.25 336 ⇓P P 02 10 18.6 +1.0
baz=89
D23A **Lindsay** 88.25 339 ⇓P P 02 10 18.3 +0.7
baz=89,SNR=5.6
A29A **Manning Farm,** 88.28 343 ⇑P P 02 10 19.0 +1.5
baz=89
C24A **Savage** 88.35 339 ⇑P P 02 10 19.3 +1.4
baz=89
D22A **Cohagen** 88.52 338 ⇓P P 02 10 19.9 +1.1
baz=89
E20A **Meyer Farm, Mu** 88.55 337 ⇓P P 02 10 20.0 +1.1
baz=89
B25A **Knox Farm, Ray** 88.67 340 ⇑P P 02 10 20.7 +1.3
baz=89
D21A **La Casta Ranch** 88.70 337 ⇑P P 02 10 20.6 +1.0
baz=89
MCMT **McKenzie Canyo** 88.72 333 *e*P P 02 10 20.9 +0.9
comp=Z,7.9nm,1.2s
E19A **Rath Farm, Rou** 88.73 336 ⇓P P 02 10 20.7 +0.9
baz=89

ULM **Lac du Bonnet** 88.80 345 P P 02 10 20.6 +0.7
comp=Z,3.1nm,0.9s,baz=138,slow=4.1,SNR=5.2
A26A **Wade Farm, Ken** 88.95 341 ⇓P P 02 10 22.0 +1.3
baz=89
WVOR **Wild Horse Val** 89.02 328 *e*P P 02 10 22.8 +1.5
WVOR pmax pmax
comp=Z,22nm,1.3s
WVOR **Wild Horse Val** 89.02 328 *e*P P 02 10 22.8 +1.5
comp=Z,22nm,1.3s
D20A **Manuel Ranch,** 89.08 337 ⇑P P 02 10 22.5 +1.1
baz=90
A25A **Svangstu Ranch** 89.27 341 ⇓P P 02 10 23.1 +0.9
baz=90
LRM **Limekiln Ridge** 89.43 334 *e*P P 02 10 23.6 +0.3
comp=Z,40nm,1.2s
LSZ **Lusaka** 89.66 109 P P 02 10 26.2 +1.1
comp=Z,6.3nm,0.9s,baz=135,slow=3.4,SNR=11
A22A **Carney Farms,** 90.10 339 ⇓P P 02 10 27.0 +0.9
baz=90
A21A **Bergtoll Ranch** 90.39 338 ⇓P P 02 10 28.7 +1.2
baz=91
A20A **Cobblestone Ra** 90.60 338 ⇓P P 02 10 30.5 +2.1
baz=91
CHMT **Chamberlain Mo** 90.65 334 *e*P P 02 10 27.3 -1.7
comp=Z,3.4nm,1.3s
J05D **Fort Rock, OR** 90.83 327 ⇓P P 02 10 31.4 +1.6
baz=91
SCHQ **Schefferville** 91.19 4 LR LR 02 51 41.6
comp=Z,67nm,20.1s,baz=121,slow=36
BSMT **Bassoo Peak** 92.00 333 *e*P P 02 10 36.1 +0.9
comp=Z,3.6nm,1.0s
TAM **Tamanrasset** 94.56 65 *e*P P 02 10 46.4 -1.1
TAM *e* 02 11 00.1
TAM pmax pmax
comp=Z,3.0nm,1.0s
TAM **Tamanrasset** 94.56 65 *e*P P 02 10 46.4 -1.1
comp=Z,3.4nm,1.0s
TAM *e* 02 11 00.1
ESDC **Sonseca Array** 98.86 47 LR LR 02 55 56.9
comp=Z,54nm,18.8s,baz=245,slow=36
YKA **Yellowknife Ar** 104.26 341 Pdiff **Pdif** 02 11 29.6 -2.2
comp=Z,0.1nm,0.4s,baz=139,slow=4.8,SNR=3.4
YKA PKKPbc **PKKPbc** 02 27 16.9 -1.9
comp=Z,0.1nm,0.3s,baz=328,slow=3.1,SNR=4.0
GERES **GERESS Array B** 114.45 46 PKP PKPdf 02 16 05.6 -0.4
comp=Z,1.1nm,0.7s,baz=191,slow=1.4,SNR=10.0
ASAR **Alice Springs** 114.96 207 PKKPbc PKKPbc 02 26 42.2 -1.1
comp=Z,0.2nm,0.4s,baz=342,slow=3.8,SNR=4.1
ILAR **Eielson Array** 116.16 333 PKP **PKPdf** 02 16 08.2 -0.5
comp=Z,0.2nm,0.8s,baz=188,slow=1.8,SNR=3.1
DPC **Dobruska-Polom** 116.65 46 *e*PKIKP **PKPdf** 02 16 10.3 +0.2
DPC **Dobruska-Polom** 116.65 46 *e*PKPdf **PKPdf** 02 16 10.3 +0.2
MORC **Moravsky Berou** 117.11 47 *e*PKIKP **PKPdf** 02 16 11.5 +0.4
MORC **Moravsky Berou** 117.11 47 *e*PKPdf **PKPdf** 02 16 11.5 +0.4
VYHS **Vyhne** 117.33 48 *e*PKIKP **PKPdf** 02 16 11.3 -0.2
VYHS *e* 02 16 21.3
VYHS **Vyhne** 117.33 48 *e*PKP **PKPdf** 02 16 11.3 -0.2
VYHS *e* 02 16 21.3
BZS **Buzias** 117.84 52 ⇓PKIKP **PKPdf** 02 16 12.1 -0.4
BZS **Buzias** 117.84 52 ⇓*i*P **PKPdf** 02 16 12.1 -0.4
WRA **Warramunga Arr** 118.18 209 PKP **PKPdf** 02 16 12.6 -1.5
comp=Z,0.5nm,0.7s,baz=160,slow=1.6,SNR=6.8
WRAB **Tennant Creek** 118.18 209 *e*PKIKP **PKPdf** 02 16 15.1 +1.0
WRAB **Tennant Creek** 118.18 209 *e*PKPdf **PKPdf** 02 16 15.1 +1.0
NOA **NORSAR Array B** 118.56 33 PKKPbc PKKPbc 02 26 43.0 +12
comp=Z,0.9nm,0.8s,baz=61,slow=4.5,SNR=3.3
DRGR 119.02 51 ⇑PKIKP **PKPdf** 02 16 14.3 -0.6
DRGR 119.02 51 ⇑*i*P **PKPdf** 02 16 14.3 -0.6
STHS **Stebnicka Huta** 119.16 48 *e*PKIKP **PKPdf** 02 16 15.3 +0.3
STHS **Stebnicka Huta** 119.16 48 *e*PKP **PKPdf** 02 16 15.3 +0.3
TRPA **Tarpa** 119.44 50 ⇑*i*P **PKPdf** 02 16 14.7 -0.8
KOLS **Kolonicke sedl** 119.59 49 *e*PKIKP **PKPdf** 02 16 16.1 +0.3
KOLS **Kolonicke sedl** 119.59 49 *e*PKP **PKPdf** 02 16 16.1 +0.3
ARR **Arges** 119.68 54 ⇓*i*P **PKPdf** 02 16 15.9 -0.3
DOPR **Dopca** 120.40 53 ⇓*i*P **PKPdf** 02 16 19.1 +1.6
MLR **Muntele Rosu** 120.58 54 ⇓PKIKP **PKPdf** 02 16 16.8 -1.2
MLR **Muntele Rosu** 120.58 54 ⇓*i*P **PKPdf** 02 16 16.8 -1.2
BURAR **Bucovina Array** 120.91 51 ⇓PKIKP **PKPdf** 02 16 18.4 -0.1
BURAR **Bucovina Array** 120.91 51 ⇓*i*P **PKPdf** 02 16 18.4 -0.1
MBWA **Marble Bar** 121.36 194 *e*PKPdf **PKPdf** 02 16 21.3 +1.1
TESR **Tescani** 121.42 53 ⇓*i*P **PKPdf** 02 16 19.0 -0.4
TIRR **Tirgusor** 121.81 56 ⇑PKIKP **PKPdf** 02 16 19.9 -0.3
TIRR **Tirgusor** 121.81 56 ⇑*i*P **PKPdf** 02 16 19.9 -0.3
CFR **Carcaliu** 121.90 55 ⇑PKIKP **PKPdf** 02 16 20.3 0.0
CFR **Carcaliu** 121.90 55 ⇑*i*P **PKPdf** 02 16 20.3 0.0
SUW **Suwalki** 121.95 44 *e*PKIKP **PKPdf** 02 16 19.6 -0.5
SUW **Suwalki** 121.95 44 *e*PKP **PKPdf** 02 16 19.6 -0.5
SUW **Suwalki** 121.95 44 *e*PKPdf **PKPdf** 02 16 19.3 -0.8
BRTR **Keskin Array B** 123.67 63 PKP **PKPdf** 02 16 23.9 -0.3
comp=Z,2.1nm,0.8s,baz=191,slow=4.2,SNR=13
BRTR pPKP **pPKPdf** 02 16 33.8 -0.2
comp=Z,1.4nm,0.7s,baz=182,slow=4.1,SNR=5.7
AKASG **Malin Array Be** 124.43 49 PKP **PKPdf** 02 16 23.7 -1.3
comp=Z,2.1nm,0.6s,baz=262,slow=2.6,SNR=6.4
AKASG pPKP **pPKPdf** 02 16 34.0 -0.8
comp=Z,2.1nm,0.6s,baz=261,slow=2.5,SNR=3.6
H11S2 **WAKE ISLAND Hyl** 125.00 268 T T 04 34 00.8
baz=118,SNR=17
H11S1 **WAKE ISLAND Hyl** 125.01 268 T T 04 34 11.2
baz=118,slow=74,SNR=12
H11S3 **WAKE ISLAND Hyl** 125.02 268 T T 04 33 57.8
baz=118,slow=74,SNR=8.2
H11N3 **WAKE ISLAND Hyl** 125.47 269 T T 04 34 09.4
baz=123
H11N1 **WAKE ISLAND Hyl** 125.49 269 T T 04 34 14.1
baz=123,slow=74
H11N2 **WAKE ISLAND Hyl** 125.49 269 T T 04 34 14.9
baz=123,slow=74
FINES **FINESS Array B** 125.49 36*c* *i*PKIKP **PKPdf** 02 16 27.2 +0.5
FINES pmax pmax
comp=Z,3.0nm,1.1s
FINES **FINESS Array B** 125.49 36 PKP **PKPdf** 02 16 25.9 -0.8
comp=Z,2.9nm,1.1s,baz=96,slow=1.9,SNR=5.0
MALT **Malatya** 126.62 66 ⇓PKIKP **PKPdf** 02 16 30.3 +0.5
MALT **Malatya** 126.62 66 ⇓*i*P **PKPdf** 02 16 30.3 +0.5
ARCES **ARCESS Array B** 126.64 26 PKP **PKPdf** 02 16 28.2 -0.5
comp=Z,1.0nm,0.8s,baz=240,slow=2.4,SNR=5.2
OBN **Obninsk** 129.77 45 ⇑*i*PKIKP **PKPdf** 02 16 34.9 -0.1
OBN *e*SS SS 02 36 09.4 +0.6
OBN pmax pmax
comp=Z,7.0nm,0.9s
KIV **Kislovodsk** 131.41 60 *i*PKIKP **PKPdf** 02 16 39.8 +1.1
KIV pmax pmax
comp=Z,8.0nm,1.1s
GNI **Garni** 131.86 66 *e*PKIKP **PKPdf** 02 16 40.7 +0.9
GNI **Garni** 131.86 66 *e*PKPdf **PKPdf** 02 16 40.7 +0.9
PRGR **Permogore** 134.81 36 PKIKP **PKPdf** 02 16 41.4 -3.0
PRGR pmax pmax
comp=Z,36nm,1.3s
BILL **Bilibino** 134.82 333 *i*PKIKP PKPdf 02 16 55.1 +11
BILL pmax pmax
comp=Z,7.0nm,1.3s
BILL **Bilibino** 134.82 333 *e*PKPdf **PKPdf** 02 16 44.8 +0.6
KAPI **Kappang** 136.97 199 *e*PKPdf **PKPdf** 02 16 52.5 +2.5
SEY **Seymchan** 141.87 328 PKhKP PKPpre 02 16 52.6
comp=Z,1.3nm,0.6s,baz=43,slow=6.9,SNR=4.6
SEY PKP **PKPdf** 02 16 58.7 +1.4
comp=Z,2.5nm,0.8s,baz=133,slow=4.7,SNR=6.8
PALK **Pallekele** 142.18 134 *e*PKIKP **PKPdf** 02 16 59.8 +0.3
PALK **Pallekele** 142.18 134 *e*PKPdf **PKPdf** 02 16 59.8 +0.3
TIXI **Tiksi** 143.08 349 *e*PKHKP PKPpre 02 16 54.0
TIXI *e* 02 17 00.1
TIXI **Tiksi** 143.08 349 *e*PKPpre PKPpre 02 16 54.0
TIXI *e*PKPdf **PKPdf** 02 17 00.1 +0.9
AB31 **Akbulak array** 143.79 54 *i*PKIKP PKPab 02 16 57.8 -0.3
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR **Akbulak array** 143.79 54 *e*PKPpre PKPab 02 16 57.4 -0.7
KSM **Kuching** 144.95 186 *e*PKPdf **PKPab** 02 17 03.0 -0.5
KSM LR LR
comp=Z,157nm,20.0s
PSI **Prapat** 145.56 165 PKPbc **PKPdf** 02 17 04.8 -0.7
comp=Z,38nm,0.9s,baz=153,slow=2.4,SNR=23
POO **Poona** 145.71 113 ⇓*i*P **PKPdf** 02 17 04.0 -1.4
comp=Z,3.0nm,1.0s
IPM **Ipoh** 147.58 169 *e*PKPbc **PKPbc** 02 17 10.7 -0.7
KULM **Kulim** 148.31 168 *e*PKPbc **PKPbc** 02 17 12.8 -0.5
HYB **Hyderabad** 148.39 119 *i*PKP **PKPbc** 02 17 12.0 -1.4
HYB *e* 02 17 22.5
KKM **Kota Kinabalu** 148.49 198 *e*PKPbc **PKPbc** 02 17 13.5 -0.4
KKM LR LR
comp=Z,87nm,19.0s
KBL **Kabul** 149.10 82 *e*PKP2 **PKPbc** 02 17 14.4 -0.7
KBL **Kabul** 149.10 82 *e*PKPbc **PKPbc** 02 17 14.4 -0.7
BVA0 **Borovoye Array** 149.61 46 *i*PKP2 **PKPbc** 02 17 15.6 +0.2

BVA0 pmax pmax
comp=Z,11nm,0.8s
BVAR Borovoye Array 149.61 46 PKP **PKPdf 02 17 10.6 -0.2**
comp=Z,2.4nm,1.1s,baz=198,slow=4.2,SNR=11
BVAR PKPbc **PKPbc 02 17 15.5 +0.1**
comp=Z,6.9nm,0.7s,baz=320,slow=3.8,SNR=35
YAK Yakutsk 150.88 338 *e*PKIKP **PKPbc 02 17 16.9 -1.2**
YAK *e* 02 17 29.5
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK Yakutsk 150.88 338 *e*PKPbc **PKPbc 02 17 18.4 +0.3**
YAK *e*PKPab **PKPab 02 17 26.8 +1.3**
KK31 Karatay Array 151.32 65 PKIKP **PKPbc 02 17 18.8 -1.1**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 151.32 65 *e*PKIKP **PKPdf 02 17 14.2 +0.4**
KKAR *e* 02 17 19.8
KKAR *e* 02 17 27.5
KKAR Karatay Array 151.32 65 *e*PKPdf **PKPdf 02 17 14.2 +0.4**
KKAR *e*PKPbc **PKPbc 02 17 19.8 -0.1**
KKAR *e*PKPab **PKPab 02 17 27.5 -0.6**
YSS Yuzh-Sakhalins 151.68 303 *e*PKIKP **PKPab 02 17 29.4 0.0**
ASAJ Asahikawa 152.08 297 PKPab **PKPab 02 17 30.6 -0.6**
comp=Z,23nm,0.9s,baz=273,slow=11,SNR=5.5
EKS2 Erkin-Say 153.73 66 *e*PKIKP **PKPdf 02 17 17.5 0.0**
EKS2 *e* 02 17 25.2
EKS2 Erkin-Say 153.73 66 *e*PKPdf **PKPdf 02 17 17.5 0.0**
EKS2 *e*PKPbc **PKPbc 02 17 25.2 -0.2**
AAK Ala-Archa 154.26 66 *e*PKIKP **PKPdf 02 17 18.6 +0.3**
AAK *e* 02 17 27.1
AAK *e* 02 17 40.0
AAK Ala-Archa 154.26 66 *e*PKPdf **PKPdf 02 17 18.6 +0.3**
AAK *e*PKPbc **PKiKP 02 17 27.1 +0.4**
AAK *e*PKPab **PKPab 02 17 40.0 -0.7**
TKM2 Tokmak 2 155.06 66 *e*PKIKP **PKPdf 02 17 19.4 -0.1**
TKM2 *e* 02 17 28.6
TKM2 *e* 02 17 43.4
TKM2 Tokmak 2 155.06 66 *e*PKPdf **PKPdf 02 17 19.4 -0.1**
TKM2 *e*PKPbc PKPbc 02 17 28.6
TKM2 *e*PKPab **PKPab 02 17 43.4 -0.7**
KURBB Kurchatov Arra 155.18 47 PKP **PKPdf 02 17 18.9 -0.2**
comp=Z,2.0nm,0.9s,baz=289,slow=2.2,SNR=9.1
KURBB PKPab **PKPab 02 17 44.4 +0.3**
comp=Z,6.0nm,0.8s,baz=288,slow=4.6,SNR=14
KURK Kurchatov 155.20 46 PKIKP **PKPdf 02 17 18.9 -0.2**
KURK *e* 02 17 28.4
KURK *e* 02 17 44.0
KURK Kurchatov 155.20 46 PKP **PKPdf 02 17 18.9 -0.2**
KURK *e*PKPdf **PKPdf 02 17 19.1 0.0**
KURK *e*PKPbc PKPbc 02 17 28.4
KURK *e*PKPab **PKPab 02 17 44.0 -0.1**
KURK PKPab PKPab 02 17 44.4 +0.3
KSH Kashi 155.37 74 PKPbc **PKPdf 02 17 20.5 +0.6**
KSH sPKP 02 17 29.3
KSH PKS **PKSdf 02 20 54.8 +0.8**
KSH PP **PP 02 21 20.0 -2.6**
KSH SKS **SKSdf 02 24 26.3 +2.0**
KSH PPMZ
comp=Z,130nm,4.4s
KSH LN
comp=Z,34nm,4.0s
KSH LE
comp=Z,52nm,5.1s
KSH LZ
comp=Z,170nm,6.2s
NVS Novosibirsk 155.47 34 *e*PKIKP **PKPdf 02 17 18.4 -0.9**
ZALV Zalesovo Beam 156.75 35 PKP **PKPdf 02 17 19.8 -1.3**
comp=Z,4.0nm,0.8s,baz=318,slow=2.0,SNR=14
ZALV PKPab **PKPab 02 17 51.1 +0.4**
comp=Z,6.2nm,0.9s,baz=292,slow=5.6,SNR=5.5
BOD Bodaibo 158.25 350 *e*PKP2 PKPab 02 17 42.2 -15
BOD pmax pmax
comp=Z,8.0nm,1.2s
MKAR Makanchi Array 158.92 53 PKP **PKPdf 02 17 23.8 -0.3**
comp=Z,2.5nm,0.9s,baz=332,slow=4.9,SNR=19
MKAR PKPab **PKPab 02 18 00.4 0.0**
comp=Z,4.2nm,0.8s,baz=288,slow=3.2,SNR=8.6
QIZ Qiongzhong 162.36 189 PKP **PKPdf 02 17 26.5 -2.1**
QIZ PP **PP 02 22 00.4 +1.5**
QIZ SS SS 02 42 22.8 +5.4
QIZ PPMZ
comp=Z,190nm,5.2s
QIZ LZ
comp=Z,65nm,20.2s
WMQ Urumqi 163.52 58 *e*PKP **PKPdf 02 17 28.1 -1.0**
WMQ pPKP **pPKPdf 02 17 38.5 -0.4**
WMQ PKPab **PKPab 02 18 21.5 +0.8**
WMQ PP **PP 02 22 07.8 +1.4**
WMQ SKS **SKSdf 02 24 27.5 -3.9**
WMQ SKKS **SKKSac 02 28 50.0 -1.9**
WMQ SS **SS 02 42 28.0 -3.8**
WMQ PPMZ
comp=Z,32nm,5.4s
WMQ LN
comp=Z,76nm,21.0s
WMQ LE
comp=Z,120nm,21.0s
WMQ LZ
comp=Z,78nm,23.0s
TLY Talaya 164.69 8 *e*PKP2 **PKPab 02 18 27.6 +2.2**
TLY pmax pmax
comp=Z,7.0nm,1.8s
KMI Kunming 167.99 161 PKP **PKPdf 02 17 35.3 +1.8**
KMI LZ
comp=Z,85nm,21.7s
SONM Songino Array 168.73 2 PKP **PKPdf 02 17 32.6 -0.5**
comp=Z,0.1nm,0.3s,baz=270,slow=1.4,SNR=4.0
SONM PKPab **PKPab 02 18 43.6 +0.2**
comp=Z,1.3nm,0.9s,baz=334,slow=2.6,SNR=7.1
NJ2 Nanjing 169.29 249 *e*PKP **PKPdf 02 17 35.3 +1.5**
WHN Wuhan 171.47 227 PKP **PKPdf 02 17 33.6 -1.5**
BJI Beijing 172.07 299 PKP **PKPdf 02 17 36.1 +1.1**
BJI LZ
comp=Z,91nm,25.9s
GTA Gaotai 173.59 62 *e*PKP **PKPdf 02 17 34.3 -1.6**
GTA pPKP **pPKPdf 02 17 45.1 -0.7**
GTA sPKP 02 17 48.5
GTA PKPab **PKPab 02 19 06.4 +1.0**
CD2 Chengdu 173.71 153 *e*PKP **PKPdf 02 17 37.1 +1.0**
HHC Hu-ho-hao-te 174.48 322 *e*PKP **PKPdf 02 17 35.0 -1.1**
HHC pPKP **pPKPdf 02 17 45.8 -0.2**
HHC sPKP 02 17 49.4
HHC PP **PP 02 23 03.6 +2.3**
HHC SKS **SKSdf 02 24 32.8 -4.3**
HHC SS **SS 02 44 18.0 -2.2**
HHC PPMZ
comp=Z,47nm,7.4s
HHC LN
comp=Z,190nm,19.7s
HHC LE
comp=Z,300nm,17.3s
HHC LZ
comp=Z,160nm,17.3s
LZH Lanzhou 177.33 99 *e*PKP **PKPdf 02 17 34.3 -2.7**
LZH pPKP **pPKPdf 02 17 44.4 -2.5**
LZH sPKP 02 17 47.6

*ISCJB **18** 02:03:45.7±1.5, 15°.2S±0°.3×66°.6E±0°.3, h10km, mb3.8/8, MS3.5/7, Error ellipse: s-maj=46.1km s-min=24.3km az=136.4*
*IDC **18** 02:03:45.9±1.5, 15°.25S×66°.54E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/41, mbtmp3.7/7, MS3.5/7, Ms1 3.6/7, ms1mx3.3/31, Error ellipse: s-maj=49.0km s-min=26.3km az=47.0*
ISC 18 02:03:47.5±1.7, 15°.4S±0°.3×66°.5E±0°.3, h10km, n21, σ1°52/9, mb3.8/8, MS3.5/7, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.68**	**38**	T	T	02 15 17.2	
	baz=217,slow=75,SNR=390						
H08S2	**Diego Garcia H**	**9.69**	**38**	T	T	02 15 17.9	
	baz=217,slow=75,SNR=505						
H08S3	**Diego Garcia H**	**9.69**	**38**	T	T	02 15 18.5	
	baz=217,slow=75,SNR=385						
KMBO	**Kilima Mbogo**	**32.11**	**293**	LR	LR	02 21 59.3	
	comp=Z,85nm,18.0s,baz=106,slow=34						
PSI	**Prapat**	**36.85**	**63**	LR	LR	02 23 42.6	
	comp=Z,124nm,18.4s,baz=220,slow=33						
LSZ	**Lusaka**	**36.88**	**265**	LR	LR	02 22 13.5	
	comp=Z,32nm,21.9s,baz=142,slow=30						
CMAR	**Chiang Mai Arr**	**46.41**	**45**	P	**P**	**02 12 14.8**	**+0.2**
	1.0nm,0.2s,baz=217,slow=7.4,SNR=3.6						
CMAR				LR	LR	02 28 24.1	
	comp=Z,134nm,21.8s,baz=224,slow=32						
H01W3	**Cape Leeuwin H**	**46.85**	**124**	T	T	03 02 18.9	
	baz=283,slow=75,SNR=11						
H01W2	**Cape Leeuwin H**	**46.85**	**124**	T	T	03 02 21.2	
	baz=283,slow=75,SNR=10						
H01W1	**Cape Leeuwin H**	**46.87**	**124**	T	T	03 02 21.3	
	baz=283,slow=75,SNR=11						
AAK	**Ala-Archa**	**58.18**	**7**	LR	LR	02 35 57.5	
	comp=Z,39nm,20.9s,baz=199,slow=33						
MKAR	**Makanchi Array**	**63.49**	**12**	P	**P**	**02 14 15.9**	**-1.8**
	0.3nm,0.5s,baz=197,slow=4.4,SNR=4.6						
ASAR	**Alice Springs**	**63.62**	**109**	P	**P**	**02 14 18.7**	**-0.5**
	0.4nm,0.8s,baz=272,slow=5.5,SNR=3.6						
WRA	**Warramunga Arr**	**64.47**	**105**	P	**P**	**02 14 24.4**	**-0.5**
	0.2nm,0.3s,baz=263,slow=6.5,SNR=5.3						
AKTO	**Aktyubinsk**	**65.93**	**354**	LR	LR	02 40 51.5	
	comp=Z,22nm,21.4s,baz=83,slow=34						
KURBB	**Kurchatov Arra**	**66.55**	**8**	P	**P**	**02 14 36.8**	**-0.7**
	0.6nm,0.3s,baz=198,slow=5.8,SNR=4.0						
BVAR	**Borovoye Array**	**68.19**	**3**	P	**P**	**02 14 46.6**	**-1.3**
	0.3nm,0.4s,baz=177,slow=5.1,SNR=2.4						
SONM	**Songino Array**	**72.32**	**27**	P	**P**	**02 15 16.2**	**+2.7**
	1.0nm,1.0s,baz=214,slow=7.2,SNR=5.9						
KSRS	**Korea Array**	**78.04**	**46**	LR	LR	02 51 44.6	
	comp=Z,27nm,18.1s,baz=135,slow=37						
ESDC	**Sonseca Array**	**85.29**	**313**	P	**P**	**02 16 25.4**	**+0.5**
	0.1nm,0.3s,baz=110,slow=5.0,SNR=4.2						
PDAR	**Pinedale Array**	**152.48**	**354**	PKPbc	**PKPbc**	**02 23 44.9**	**+0.3**
	1.4nm,0.8s,baz=76,slow=1.2,SNR=4.5						

*IDC **18** 02:11:09.5±1.4, 38°.20S×73°.82W, h0km, mb3.8/3, mb1 3.6/5, mb1mx3.5/26, mbtmp3.5/5, MLA.0/2, MS3.4/2, Ms1 3.3/2, ms1mx2.8/20, Error ellipse: s-maj=36.4km s-min=18.1km az=71.0*
*ISCJB **18** 02:11:11.0±1.6, 38°.1S±0°.1×73°.7W±0°.3, h18km, mb3.8/3, MS4.0/1, Error ellipse: s-maj=37.3km s-min=11.4km az=20.8*
ISC 18 02:11:12.5±1.3, 38°.18S±0°.08×73°.8W±0°.2, h18km, n9, σ0°96/10, mb3.8/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.56**	**137**	Pn	**Pn**	**02 12 07.9**	**+1.0**
	0.5nm,0.3s,baz=311,slow=16,SNR=10						
PLCA				Pg	**Pb**	**02 12 14.4**	**-0.5**
	1.6nm,0.3s,baz=314,slow=17,SNR=17						
PLCA				Lg	Lg	02 13 02.6	
	2.0nm,0.3s,baz=248,slow=18,SNR=3.4						
PLCA				LR	LR	02 13 33.5	
	comp=Z,178nm,21.3s,baz=284,slow=40						
CFAA	**Coronel Fontan**	**7.98**	**36**	Pn	**Pn**	**02 13 06.1**	**-1.4**
	0.1nm,0.3s,baz=232,slow=12,SNR=3.7						
CFAA				Sn	**Sn**	**02 14 38.3**	**+1.0**
	0.0nm,0.3s,baz=240,slow=16,SNR=2.4						
LPAZ	**La Paz**	**22.37**	**14**	P	**P**	**02 16 11.7**	**+1.4**
	1.7nm,0.8s,baz=188,slow=10,SNR=6.5						
QSPA	**South Pole Qui**	**52.06**	**180**	P	**P**	**02 20 20.8**	**-0.1**
	2.7nm,1.0s,baz=149,slow=1.7,SNR=5.8						
PFO	**Pinyon Flats O**	**81.71**	**325**	LR	LR	02 52 43.4	
	comp=Z,77nm,21.9s,baz=240,slow=30						
TORD	**Torodi Ar. Bea**	**86.93**	**71**	P	**P**	**02 23 56.3**	**-0.3**
	0.5nm,0.8s,baz=224,slow=5.7,SNR=4.2						
AKTO	**Aktyubinsk**	**144.00**	**54**	PKP	**PKPab**	**02 30 43.9**	**+0.2**
	0.8nm,0.6s,baz=291,slow=6.7,SNR=6.2						
BVAR	**Borovoye Array**	**151.22**	**47**	PKPbc	**PKPbc**	**02 31 04.0**	**0.0**
	0.6nm,0.5s,baz=286,slow=3.8,SNR=3.8						
MKAR	**Makanchi Array**	**160.41**	**56**	PKPab	**PKPab**	**02 31 51.2**	**-0.5**
	0.2nm,0.6s,baz=303,slow=6.3,SNR=2.9						

*ISCJB **18** 02:12:43.4±0.4, 13°.78N±0°.06×120°.6E±0°.1, h175km±4km, mb3.7/10, Error ellipse: s-maj=20.5km s-min=7.8km az=162.4*
*IDC **18** 02:12:44.1±0.5, 13°.78N×120°.93E, h173km±3km, mb3.4/9, mb1 3.6/9, mb1mx3.3/36, mbtmp3.9/9, MS3.7/1, Ms1 3.7/1, ms1mx2.8/23, Error ellipse: s-maj=32.8km s-min=12.3km az=64.0*
*MAN **18** 02:12:44, 13°.80N×120°.60E, h155km, mb4.5, ML3.4, MS3.3*
ISC 18 02:12:44.3±0.7, 13°.79N±0°.06×120°.65E±0°.09, h171km±6km, n23, σ1°19/27, mb3.8/10, 2C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.39**	**262**	*e*P	**Pn**	**02 13 08.1**	**+0.5**
PGP	**Puerto Galera**	**0.41**	**134**	‖*e*P	**Pn**	**02 13 07.8**	**+0.1**
TGY	**Tagaytay City**	**0.42**	**42**	P	**Pn**	**02 13 08.8**	**+1.0**
	523nm,0.3s,baz=276,slow=2.1,SNR=32						
TGY				S	**Sn**	**02 13 26.6**	**+0.8**
	304nm,0.3s,baz=261,slow=3.3,SNR=11						
TGY	**Tagaytay City**	**0.42**	**42**	↑*i*P	**Pn**	**02 13 08.8**	**+1.0**
TGY				*i*S	**Sn**	**02 13 25.3**	**-0.6**
SJMP	**San Jose**	**1.40**	**161**	*e*P	**Pn**	**02 13 14.6**	**+0.1**
SJMP				*e*S	**Sn**	**02 13 36.4**	**-1.5**
GQP	**Guinayangan**	**1.75**	**86**	‖*e*P	**Pn**	**02 13 19.0**	**+0.9**
PCPH	**Palayan**	**1.82**	**14**	‖*e*P	**Pn**	**02 13 19.0**	**+0.3**
BUSP	**Coron**	**1.83**	**194**	*e*P	**Pn**	**02 13 19.5**	**+0.6**
OTRP	**Odiongan**	**1.95**	**136**	*e*P	**Pn**	**02 13 20.1**	**-0.1**
SCZP	**Santa Cruz**	**2.10**	**340**	*e*P	**Pn**	**02 13 21.2**	**-0.7**
SCZP				*e*S	**Sn**	**02 13 49.0**	**-2.1**
CUYO	**Cuyo Island**	**2.94**	**173**	*e*P	**Pn**	**02 13 32.7**	**+0.8**
RCP	**Roxas**	**3.02**	**137**	‖*e*P	**Pn**	**02 13 34.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**21.36**	**285**	P	**P**	**02 17 21.3**	**+2.9**
	4.0nm,0.6s,baz=98,slow=8.2,SNR=16						
BATI	**Baumata**	**24.03**	**173**	P	**P**	**02 17 43.1**	**-0.6**
	17nm,0.5s,baz=315,slow=7.1,SNR=3.7						
WRA	**Warramunga Arr**	**36.12**	**158**	P	**P**	**02 19 28.3**	**-2.0**
	2.2nm,0.6s,baz=337,slow=9.6,SNR=19						
ASAR	**Alice Springs**	**39.42**	**161**	P	**P**	**02 19 56.5**	**-1.3**
	2.0nm,0.4s,baz=336,slow=6.8,SNR=33						
ASAR				LR	LR	02 39 52.0	
	comp=Z,86nm,18.0s,baz=248,slow=41						
MKAR	**Makanchi Array**	**45.93**	**324**	P	**P**	**02 20 50.6**	**+0.5**
	0.7nm,0.8s,baz=98,slow=2.9,SNR=3.5						
KURBB	**Kurchatov Arra**	**50.09**	**326**	P	**P**	**02 21 23.1**	**+1.3**
	0.4nm,0.3s,baz=129,slow=7.1,SNR=4.1						
ARCES	**ARCESS Array B**	**78.98**	**339**	P	**P**	**02 24 27.3**	**-1.6**
	3.7nm,1.0s,baz=80,slow=6.5,SNR=5.1						
FINES	**FINESS Array B**	**80.18**	**331**	P	**P**	**02 24 35.9**	**+0.5**
	0.4nm,0.5s,baz=72,slow=4.5,SNR=5.2						
NOA	**NORSAR Array B**	**87.16**	**333**	P	**P**	**02 25 10.6**	**-0.4**
	0.3nm,0.6s,baz=70,slow=6.6,SNR=3.2						
YKA	**Yellowknife Ar**	**92.71**	**22**	P	**P**	**02 25 37.0**	**+0.3**
	0.1nm,0.7s,baz=306,slow=4.6,SNR=5.5						
TXAR	**Lajitas Array**	**119.44**	**44**	PKP	**PKPdf**	**02 31 14.4**	**+0.1**
	0.2nm,0.7s,baz=182,slow=2.5,SNR=2.7						

WEL 18 02:20:29.0±0.7, 45°.95S×165°.62E, h33km, ML3.5/5, Error ellipse: s-maj=7.5km s-min=3.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.18**	**67**	PN	Pn	02 20 48.7	-0.5
DCZ				SN	Sn	02 21 02.6	-1.3
DCZ				AML	AML	02 21 04.9	
DCZ				AML	AML	02 21 08.3	
DCZ				AML	AML	02 21 08.3	
WHZ	**Wether Hill Ro**	**1.63**	**89**	PN	Pn	02 20 55.1	-0.3
WHZ				SN	Sn	02 21 14.9	-0.4
WHZ				AML	AML	02 21 15.9	
APZ	**The Paps**	**1.87**	**119**	PN	Pn	02 20 58.0	-0.8
APZ				SN	Sn	02 21 19.6	-1.7
MLZ	**Mavora Lakes**	**1.89**	**73**	PN	Pn	02 21 00.1	+1.1
MLZ				AML	AML	02 21 28.3	
MLZ				AML	AML	02 21 36.2	
SYZ	**Scrubby Hill**	**2.52**	**105**	PN	Pn	02 21 08.9	+1.3
WKZ	**Wanaka**	**2.64**	**66**	*e*PN	Pb	02 21 12.9	-2.9
EAZ	**Earnscleugh**	**2.69**	**76**	PN	Pn	02 21 12.5	+2.5
EAZ				AML	AML	02 21 45.9	
EAZ				AML	AML	02 21 56.1	
JCZ	**Jackson Bay**	**2.91**	**51**	*e*PN	Pb	02 21 17.3	-3.0
JCZ				AML	AML	02 22 07.5	

WEL 18 02:28:15.0±0.2, 45°.65S×167°.21E, h5km, ML3.5/9, 2C-2D, Error ellipse: s-maj=2.1km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.17**	**346**	PG	Pg	02 28 18.4	0.0
DCZ				SG	Sg	02 28 21.5	+0.8
DCZ				AML	AML	02 28 21.5	
DCZ				AML	AML	02 28 21.5	
DCZ				AML	AML	02 28 21.7	
WHZ	**Wether Hill Ro**	**0.57**	**116**	‖PG	Pg	02 28 26.6	+0.5
WHZ				SG	Sg	02 28 34.5	+1.0
WHZ				AML	AML	02 28 36.5	
MLZ	**Mavora Lakes**	**0.74**	**67**	↑↑P*	Pg	02 28 28.4	-0.9
MLZ				SG	Sg	02 28 37.9	-1.0
MLZ				AML	AML	02 28 39.0	
MSZ	**Milford Sound**	**1.10**	**28**	P*	Pg	02 28 34.0	-2.0
MSZ				AML	AML	02 28 48.8	
MSZ				AML	AML	02 28 48.8	
MSZ				AML	AML	02 28 50.3	
MSZ				AML	AML	02 28 50.4	
APZ	**The Paps**	**1.30**	**156**	P*	Pn	02 28 38.9	-1.1
APZ				AML	AML	02 28 58.6	
APZ				AML	AML	02 28 59.4	
WKZ	**Wanaka**	**1.51**	**58**	↑PN	Pn	02 28 42.5	-0.4
WKZ				AML	AML	02 29 03.8	
WKZ				AML	AML	02 29 03.9	
WKZ				AML	AML	02 29 03.9	
EAZ	**Earnscleugh**	**1.53**	**75**	PN	Pn	02 28 42.6	-0.4
EAZ				AML	AML	02 29 04.2	
EAZ				AML	AML	02 29 04.2	
EAZ				AML	AML	02 29 05.2	
EAZ				AML	AML	02 29 05.5	
SYZ	**Scrubby Hill**	**1.61**	**124**	PN	Pn	02 28 43.9	-0.2
SYZ				AML	AML	02 29 07.3	
SYZ				AML	AML	02 29 07.3	
SYZ				AML	AML	02 29 09.9	
TUZ	**Tuapeka**	**1.72**	**101**	PN	Pn	02 28 45.9	+0.3
JCZ	**Jackson Bay**	**1.92**	**36**	PN	Pn	02 28 48.2	-0.3
JCZ				AML	AML	02 28 52.2	
JCZ				AML	AML	02 29 20.0	
LBZ	**Lake Benmore**	**2.46**	**60**	PN	Pn	02 28 54.9	-0.9
ODZ	**Otahua Downs**	**2.49**	**77**	‖PN	Pn	02 28 55.4	-0.8
FOZ	**Fox Glacier**	**2.73**	**41**	PN	Pn	02 29 01.1	+1.6
DSZ	**Denniston Nort**	**5.12**	**42**	PN	Pn	02 29 31.2	-1.3

*CSEM **18** 02:45:51.9±0.1, 42°.67N×13°.03E, h19km, ML2.3/9, Error ellipse: s-maj=2.0km s-min=1.6km az=52.0*
ROM 18 02:45:51.9±0.1, 42°.67N×13°.04E, h10km±1km, Md2.4/14, Ml1.9/14, Error ellipse: s-maj=0.9km s-min=0.9km az=96.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.17**	**20**	Pg	Pg	02 45 56.3	+0.5
NRCA				Sg	Sg	02 45 59.2	+0.7
	524nm,0.2s						
NRCA	**Norcia**	**0.17**	**20**	Pg	Pg	02 45 56.3	+0.5
NRCA				Sg	Sg	02 45 59.2	+0.7
	524nm,0.2s						
SMA1	**SAN MARTINO**	**0.23**	**100**	Pg	Pg	02 45 57.5	+0.8
SMA1				Sg	Sg	02 46 01.5	+1.5
	866nm,0.4s						
CAMP	**Campotosto**	**0.31**	**116**	Pg	Pg	02 45 58.6	+0.4
CAMP				Sg	Sg	02 46 03.6	+1.1
	52nm,0.3s						
CAMP	**Campotosto**	**0.31**	**116**	Pg	Pg	02 45 58.6	+0.4
CAMP				Sg	Sg	02 46 03.6	+1.1
	52nm,0.3s						
CESX	**Cesi**	**0.34**	**260**	Pg	Pg	02 45 59.1	+0.4
CESX				Sg	Sb	02 46 04.5	-1.1
	137nm,0.2s						
CESX	**Cesi**	**0.34**	**260**	Pg	Pg	02 45 59.1	+0.4
CESX				Sg	Sb	02 46 04.5	-1.1
	137nm,0.2s						
CESI	**CESI - Serrava**	**0.35**	**344**	Pg	Pg	02 45 59.5	+0.5
CESI				Sg	Sb	02 46 05.2	-0.8
	28nm,0.3s						
CESI	**CESI - Serrava**	**0.35**	**344**	Pg	Pg	02 45 59.5	+0.5
CESI				Sg	Sb	02 46 05.2	-0.8
	28nm,0.3s						
FDMO	**Fiordimonte**	**0.37**	**6**	Pg	Pg	02 45 59.8	+0.5
FDMO				Sg	Sb	02 46 05.6	-0.9
	109nm,0.2s						
FDMO	**Fiordimonte**	**0.37**	**6**	Pg	Pg	02 45 59.8	+0.5
FDMO				Sg	Sb	02 46 05.6	-0.9
	109nm,0.2s						
T0104	**Madonna delle**	**0.38**	**144**	Pg	Pg	02 45 59.9	+0.4
T0104				Sg	Sb	02 46 06.2	-0.7
MNS	**Montasola**	**0.39**	**223**	Pg	Pg	02 46 00.0	+0.4
MNS				Sg	Sb	02 46 06.1	-0.9
	163nm,0.2s						
MNS	**Montasola**	**0.39**	**223**	Pg	Pg	02 46 00.0	+0.4
MNS				Sg	Sb	02 46 06.1	-0.9
	163nm,0.2s						
FIAM	**Fiamignano**	**0.41**	**171**	Pg	Pg	02 46 00.5	+0.5
FIAM				Sg	Sb	02 46 06.9	-0.8
	37nm,0.4s						
FIAM	**Fiamignano**	**0.41**	**171**	Pg	Pg	02 46 00.5	+0.5
FIAM				Sg	Sb	02 46 06.9	-0.8
	37nm,0.4s						
AQU	**L'Aquila**	**0.42**	**139**	Pg	Pg	02 46 00.6	+0.4
AQU				Sg	Sb	02 46 07.5	-0.4
	59nm,0.3s						
AQU	**L'Aquila**	**0.42**	**139**	Pg	Pg	02 46 00.6	+0.4
AQU				Sg	Sb	02 46 07.5	-0.4
	59nm,0.3s						
TERO	**Teramo**	**0.42**	**96**	Pg	Pg	02 46 00.5	+0.2
TERO				Sg	Sg	02 46 06.8	+0.9
	81nm,0.2s						
TERO	**Teramo**	**0.42**	**96**	Pg	Pg	02 46 00.5	+0.2
TERO				Sg	Sg	02 46 06.8	+0.9
	81nm,0.2s						
OFFI	**Offida**	**0.55**	**61**	Pg	Pb	02 46 03.8	+0.2
OFFI	**Offida**	**0.55**	**61**	Pg	Pb	02 46 03.8	+0.2
FAGN	**Fagnano**	**0.57**	**135**	Pg	Pg	02 46 03.4	+0.3
	76nm,0.4s						
FAGN	**Fagnano**	**0.57**	**135**	Pg	Pg	02 46 03.4	+0.3
	76nm,0.4s						
VCEL	**Villa Celiera**	**0.66**	**114**	Pg	Pg	02 46 05.1	+0.3
	55nm,0.3s						
VCEL	**Villa Celiera**	**0.66**	**114**	Pg	Pg	02 46 05.1	+0.3
	55nm,0.3s						
MURB	**Monte Urbino**	**0.70**	**328**	Pg	Pg	02 46 05.9	+0.3
	88nm,0.3s						
MURB	**Monte Urbino**	**0.70**	**328**	Pg	Pg	02 46 05.9	+0.3
	88nm,0.3s						
CERT	**Cerreto**	**0.72**	**183**	Pg	Pg	02 46 05.7	-0.2
CERT	**Cerreto**	**0.72**	**183**	Pg	Pg	02 46 05.7	-0.2
MGAB	**Montegabbione**	**0.72**	**290**	Pg	Pb	02 46 06.4	-0.2
	65nm,0.5s						
MGAB	**Montegabbione**	**0.72**	**290**	Pg	Pb	02 46 06.4	-0.2
	65nm,0.5s						

*ISCJB **18** 02:47:53.0±0.8, 52°.37N±0°.06×167°.06W±0°.08, h25km, mb3.7/7, Error ellipse: s-maj=8.4km s-min=6.9km az=158.5*
*NEIC **18** 02:47:55.2, 52°.40N×167°.05W, h24km, ML3.0(AEIC), After AEIC.*
*IDC **18** 02:48:02.1±7.0, 52°.98N×167°.02W, h70km±66km, mb3.4/7, mb1 3.5/8, mb1mx3.2/38, mbtmp3.6/8, MLA.2/1, Error ellipse: s-maj=46.2km s-min=18.8km az=16.0*
ISC 18 02:47:55.5±1.0, 52°.54N±0°.08×167°.08W±0°.05, h25km, n24, σ1°17/24, mb3.7/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.00**	**330**	P	**Pb**	**02 48 13.9**	**-0.4**
OKFG				S	**Sn**	**02 48 29.1**	**+1.8**
NIKH	**Nikolski High**	**1.16**	**293**	P	**Pn**	**02 48 15.3**	**-0.9**
NIKH				S	**Sb**	**02 48 31.9**	**+0.4**
MREP	**Makushin Rep't**	**1.29**	**9

SDPT	Sand Point	4.81	52	P		Pn	02 49 06.6	+0.4
SDPT				S		Sn	02 49 59.3	-1.8
ILAR	Eielson Array	16.04	32	P		Pn	02 51 37.3	-1.8
	0.0nm,0.3s,baz=240,slow=8.2,SNR=3.7							
PETK	Petropavlovsk-	21.16	286	P		P	02 52 40.9	+2.3
	1.6nm,0.5s,baz=82,slow=11,SNR=4.3							
NVAR	Mina Array Bea	36.27	93	P		P	02 54 58.6	+1.7
	0.4nm,0.9s,baz=322,slow=12,SNR=2.6							
NVAR				pP		pP	02 55 09.5	+5.1
	0.6nm,0.8s,baz=309,slow=7.3,SNR=3.5							
H11N2	WAKE ISLAND Hy	38.49	222	T		T	03 37 07.9	
	baz=26							
H11N3	WAKE ISLAND Hy	38.49	222	T		T	03 36 54.1	
	baz=26							
H11N1	WAKE ISLAND Hy	38.51	222	T		T	03 36 53.6	
	baz=28							
H11S1	WAKE ISLAND Hy	39.67	221	T		T	03 38 38.3	
	baz=28							
H11S2	WAKE ISLAND Hy	39.68	221	T		T	03 38 35.8	
	baz=28							
H11S3	WAKE ISLAND Hy	39.68	221	T		T	03 38 28.2	
	baz=28							
TXAR	Lajitas Array	51.35	91	P		P	02 56 58.9	+1.0
	0.2nm,0.5s,baz=294,slow=4.8,SNR=4.7							
SONM	Songino Array	52.40	302	P		P	02 57 05.2	-0.3
	0.3nm,0.6s,baz=64,slow=6.6,SNR=3.2							
ARCES	ARCESS Array B	57.89	355	P		P	02 57 42.9	-1.7
	4.0nm,1.0s,baz=22,slow=9.7,SNR=3.7							
MKAR	Makanchi Array	64.69	315	P		P	02 58 30.0	-1.0
	0.5nm,0.6s,baz=52,slow=9.5,SNR=5.4							
FINES	FINESS Array B	65.88	353	P		P	02 58 37.3	-1.1
	1.1nm,0.5s,baz=10,slow=8.5,SNR=10							

IDC 18 02:48:46.6±1.9, 38°.21S×73°.90W, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.4/19, mbtmp3.2/5, ML3.0/2, MS2.9/2, Ms1 2.8/2, ms1mx2.5/10, Error ellipse: s-maj=49.0km s-min=17.6km az=57.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.62	135	Pn	Pn	02 49 45.5	+1.4
	0.7nm,0.3s,baz=311,slow=10,SNR=14						
PLCA				Pg	Pb	02 49 52.0	+0.4
	1.4nm,0.3s,baz=313,slow=14,SNR=25						
PLCA				Lg	Lg	02 50 42.2	
	3.1nm,0.3s,baz=282,slow=15,SNR=3.8						
PLCA				LR	LR	02 50 48.6	
	comp=Z,55nm,20.5s,baz=246,slow=34						
CFAA	Coronel Fontan	8.06	37	Pn	Pn	02 50 43.0	-2.0
	0.0nm,0.3s,baz=210,slow=15,SNR=4.6						
CFAA				Sn	Sn	02 52 13.6	-3.3
	0.1nm,0.3s,baz=328,slow=18,SNR=3.5						
LPAZ	La Paz	22.41	15	P	P	02 53 49.5	+1.8
	0.7nm,0.6s,baz=188,slow=4.2,SNR=2.8						
SIV	San Ignacio	24.84	31	LR	LR	03 06 04.5	
	comp=Z,81nm,18.4s,baz=110,slow=42						
TXAR	Lajitas Array	72.73	333	P	P	03 00 16.5	-0.1
	0.1nm,0.6s,baz=157,slow=8.4,SNR=5.1						
TORD	Torodi Ar. Bea	87.03	71	P	P	03 01 33.3	-1.0
	0.1nm,0.5s,baz=247,slow=3.0,SNR=2.1						

IDC 18 02:56:34.6±2.6, 34°.21S×73°.78W, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.5/20, mbtmp3.3/4, ML2.9/2, Error ellipse: s-maj=62.5km s-min=36.0km az=176.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.34	62	Pn	Pn	02 57 55.9	+0.3
	0.1nm,0.3s,baz=240,slow=9.3,SNR=7.4						
CFAA				Sn	Sn	02 58 57.2	-0.7
	baz=162,slow=20,SNR=1.2						
LPAZ	La Paz	18.56	17	P	Pn	03 00 54.1	+0.2
	0.0nm,0.3s,baz=194,slow=5.2,SNR=3.3						
TXAR	Lajitas Array	69.23	332	P	P	03 07 43.1	-0.3
	0.4nm,0.8s,baz=152,slow=8.1,SNR=4.5						
TORD	Torodi Ar. Bea	85.64	71	P	P	03 09 15.6	+0.1
	0.2nm,0.8s,baz=247,slow=5.1,SNR=3.2						

*NSSC **18** 02:58:32.9±9.8, 38°.93N×40°.10E, h0km±163km, ML3.1*
*ISK **18** 02:58:36.9, 38°.65N×39°.71E, h5km, ML3.6*
*DDA **18** 02:58:37.7, 38°.68N×39°.66E, h13km, ML3.6*
*CSEM **18** 02:58:38.5±0.2, 38°.65N×39°.64E, h2km, ML3.6, Error ellipse: s-maj=4.2km s-min=3.9km az=88.0*

ISC 18 02:58:38.8±0.9, 38°.66N±0°.02×39°.65E±0°.02, h12km±8km, n88, σ1°54/127, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	Pertek	0.30	319	ePG	Pg	02 58 44.8	-0.4
PTK				eSG	Sb	02 58 50.9	-0.5
PTK	Pertek	0.30	319	ePg	Pg	02 58 44.8	-0.4
PTK				eSg	Sb	02 58 50.9	-0.5
SVRC	Sivrice-ELAZID	0.39	224	ePG	Pg	02 58 46.0	-0.7
SVRC				eSG	Sg	02 58 53.1	+1.1
SVRC	Sivrice-ELAZID	0.39	224	ePg	Pg	02 58 46.0	-0.7
SVRC				eSg	Sg	02 58 53.1	+1.1
ELZG	Elazig	0.55	253	iP	Pg	02 58 48.3	-1.2
ELZG	Elazig	0.55	253	iP	Pg	02 58 48.3	-1.2
ELZG				iS	Sn	02 59 03.2	+1.6
BINT	Bingol	0.69	72	ePg	Pn	02 58 53.7	-0.8
DYBB	Diyarbakir	0.81	151	ePG	Pg	02 58 53.5	-1.0
DIYA	Diyarbakir	0.83	153	iP	Pg	02 58 54.2	-0.6
DIYA				iS	Sg	02 59 06.0	+0.3
DIYA	Diyarbakir	0.83	153	iP	Pg	02 58 54.2	-0.6
DIYA				iS	Sg	02 59 06.0	+0.3
BNGB	Bing^¶l	0.87	67	ePG	Pg	02 58 53.7	-2.0
BNGB				eSG	Sg	02 59 06.2	-0.9
ERZN	Erzincan	0.93	4	ePG	Pg	02 58 55.3	-1.5
MALT	Malatya	1.02	250	ePG	Pg	02 58 56.9	-1.6
MALT	Malatya	1.02	250	ePg	Pg	02 58 56.9	-1.6
EUZM	Uzumlu	1.04	2	iP	Pg	02 58 56.9	-2.1
EUZM				iS	Sn	02 59 13.5	-0.5
EUZM	Uzumlu	1.04	2	iP	Pg	02 58 56.9	-2.1
EUZM				iS	Sn	02 59 13.5	-0.5
KEMA	Kemaliye	1.08	304	iP	Pg	02 58 58.1	-1.7
KEMA				iS	Sn	02 59 15.1	+0.2
KEMA	Kemaliye	1.08	304	iP	Pg	02 58 58.1	-1.7
KEMA				iS	Sn	02 59 15.1	+0.2
ILIC	ilic-Erzincan	1.15	313	ePN	Pn	02 59 01.0	+0.1
ILIC	ilic-Erzincan	1.15	313	ePn	Pn	02 59 01.0	+0.1
BNGL	BINGOL	1.21	76	iP	Pb	02 59 00.7	-1.0
BNGL				iS	Sn	02 59 22.4	+4.2
SVAN	Silvan-Diyarba	1.32	112	ePN	Pn	02 59 02.5	-0.6
MAZI	Mazidag	1.36	152	ePN	Pn	02 59 02.8	-0.9
MAZI	Mazidag	1.36	152	ePn	Pn	02 59 02.8	-0.9
URFA	Urfa	1.38	208	ePN	Pb	02 59 04.6	0.0
URFA	Urfa	1.38	208	ePn	Pb	02 59 04.6	0.0
AKCD	Akcadag	1.40	255	iP	Pn	02 59 03.4	-0.9
AKCD				iS	Sg	02 59 28.1	+4.1
AKCD	Akcadag	1.40	255	iP	Pn	02 59 03.4	-0.9
AKCD				iS	Sg	02 59 28.1	+4.1
BEST	Besiri	1.49	121	iP	Pn	02 59 05.3	-0.2
BEST				iS	Sb	02 59 25.7	+0.3
VRTB	Varto-Mus	1.50	70	ePN	Pn	02 59 05.8	+0.2
VRTB	Varto-Mus	1.50	70	ePn	Pn	02 59 05.8	+0.2
KOPT	Kop Dagi	1.50	26	iP	Pb	02 59 06.2	-0.6
KOPT	Kop Dagi	1.50	26	iP	Pb	02 59 06.2	-0.6
KOPT				iS	Sg	02 59 39.7	+12
KELT	Kelkit	1.52	349	iP	Pb	02 59 06.3	-0.7
KELT				iS	Sb	02 59 25.7	-0.5
KELT	Kelkit	1.52	349	iP	Pb	02 59 06.3	-0.7
KELT				iS	Sb	02 59 25.7	-0.5
MARD	Mardin	1.62	146	iP	Pn	02 59 06.9	-0.3
MARD				iS	Sn	02 59 28.8	+0.7
DARE	Darende-Malaty	1.70	268	ePN	Pb	02 59 09.6	-0.4
DARE	Darende-Malaty	1.70	268	ePn	Pb	02 59 09.6	-0.4
BAYT	Ayd¨–ntepe-Bay	1.77	12	ePN	Pb	02 59 10.8	-0.5
BAYT	Ayd¨–ntepe-Bay	1.77	12	ePn	Pb	02 59 10.8	-0.5
GUMT	Gumushane	1.80	356	ePN	Pb	02 59 10.7	-1.1
GUMT	Gumushane	1.80	356	ePn	Pb	02 59 10.7	-1.1
KBSD	Kabsdagh	1.80	157	eP	Pb	02 59 10.9	-0.9
KBSD	SNR=45			eS	Sb	02 59 34.8	+0.5
	504nm,0.5s,SNR=40						
KBSD	Kabsdagh	1.80	157	eP	Pb	02 59 10.9	-0.9
KBSD				eS	Sb	02 59 34.0	-0.3
KBSD				eS	Sb	02 59 34.8	+0.5
KBSD				AML	AML	02 59 46.3	
	comp=Z,504nm,0.5s						
ERZM	Erzurum	1.82	47	iP	Pb	02 59 11.5	-0.7
ERZM	Erzurum	1.82	47	iP	Pb	02 59 11.5	-0.7
ERZM				iS	Sg	02 59 41.3	+3.9
EKAR	Karacoban	1.97	72	iP	Pb	02 59 15.4	+0.6
EKAR	Karacoban	1.97	72	iP	Pb	02 59 15.4	+0.6
EKAR				iS	Sg	02 59 48.8	+6.4
TATV	Tatvan	2.06	93	iP	Pn	02 59 14.4	+1.0
TATV				iS	Sg	02 59 44.9	-0.1
TATV	Tatvan	2.06	93	iP	Pn	02 59 14.4	+1.0
TATV				iS	Sg	02 59 44.9	-0.1
SFNV	Sufian	2.27	171	eP	Pn	02 59 16.1	-0.1
SFNV	SNR=45			eS	Sb	02 59 49.1	+1.3
	comp=Z,196nm,0.5s,SNR=40						
SFNV	Sufian	2.27	171	eP	Pn	02 59 16.1	-0.1
SFNV				eS	Sb	02 59 49.1	+1.3
SFNV				AML	AML	02 59 59.4	
	comp=Z,196nm,0.5s						
KTUT	Trabzon	2.32	2	ePN	Pn	02 59 18.2	+1.4
KTUT	Trabzon	2.32	2	ePn	Pn	02 59 18.2	+1.4
ESPY	Espiye-Giresun	2.36	343	ePN	Pb	02 59 19.5	-1.8
ESPY	Espiye-Giresun	2.36	343	ePn	Pb	02 59 19.5	-1.8
SVSK	Karacayir	2.41	302	ePN	Pb	02 59 20.6	-1.4
SVSK	Karacayir	2.41	302	ePn	Pb	02 59 20.6	-1.4
KMRS	Kahramanmaras	2.46	243	ePN	Pn	02 59 20.6	+1.9
KMRS	Kahramanmaras	2.46	243	ePn	Pn	02 59 20.6	+1.9
SIRT	Sirnak	2.49	117	ePN	Pn	02 59 19.5	+0.3
SIRT	Sirnak	2.49	117	ePn	Pn	02 59 19.5	+0.3
RSDY	Resadiye-TOKAT	2.49	315	ePN	Pn	02 59 20.9	+1.7
RSDY	Resadiye-TOKAT	2.49	315	ePn	Pn	02 59 21.0	+1.7
MNKR	ALMNKUR	2.73	186	eP	Pn	02 59 19.8	-2.7
MNKR	SNR=45			eS	Sb	03 00 00.2	-0.8
	SNR=40						
MNKR	ALMNKUR	2.73	186	eP	Pn	02 59 19.8	-2.7
MNKR				eS	Sb	03 00 00.2	-0.8
MNKR				eS	Sb	03 00 00.3	-0.8
MNKR				AML	AML	03 00 10.8	
	comp=Z,196nm,0.5s						
AGRB	Hanur-Agry	2.76	70	ePN	Pn	02 59 24.2	+1.2
AGRB	Hanur-Agry	2.76	70	ePn	Pn	02 59 24.2	+1.2
SLMH	Al Salmeh	2.80	210	eP	Pn	02 59 23.2	-0.2
SLMH	SNR=45			eS	Sb	03 00 04.6	+1.6
	comp=Z,96nm,0.6s,SNR=40						
SLMH	Al Salmeh	2.80	210	eP	Pn	02 59 23.2	-0.2
SLMH				eS	Sb	03 00 04.6	+1.6
SLMH				AML	AML	03 00 30.8	
	comp=Z,96nm,0.6s						
KSRV	Kasrt alli	2.84	191	eP	Pn	02 59 25.7	+1.7
	SNR=45						
KSRV	Kasrt alli	2.84	191	eP	Pn	02 59 25.7	+1.7
KSRV				eS	Sg	03 00 09.9	-0.1
KSRV				AML	AML	03 00 17.4	
	comp=N,176nm,1.1s						
KSRV				AML	AML	03 00 21.5	
	comp=Z,137nm,0.5s						
VANB	Van	2.93	90	ePN	Pn	02 59 26.5	+1.2
VANB	Van	2.93	90	ePn	Pn	02 59 26.5	+1.2
MZRK	Al-Mazaregh	2.94	164	eP	Pn	02 59 25.9	+0.6
MZRK	SNR=45			eS	Sn	03 00 03.7	+3.1
	comp=Z,213nm,0.7s,SNR=40						
MZRK	Al-Mazaregh	2.94	164	eP	Pn	02 59 25.9	+0.6
MZRK				eS	Sn	03 00 03.7	+3.1
MZRK				AML	AML	03 00 22.1	
	comp=Z,213nm,0.7s						
JHLN	Al Jahlan	3.14	198	eP	Pn	02 59 26.7	-1.3
	SNR=45						
JHLN	Al Jahlan	3.14	198	eP	Pn	02 59 26.7	-1.3
JHLN				eS	Sn	03 00 01.4	-4.0
JHLN				eS	Sn	03 00 01.9	-3.6
JHLN				AML	AML	03 00 23.7	
	comp=Z,128nm,0.6s						
KOZT	Kozan	3.24	250	ePN	Pn	02 59 31.4	+2.0
KOZT	Kozan	3.24	250	ePn	Pn	02 59 31.4	+2.0
HKR	Hakkari	3.40	107	ePN	Pn	02 59 32.9	+1.0
HKR	Hakkari	3.40	107	ePn	Pn	02 59 32.9	+1.0
BTCH	Batrach	3.65	225	eP	Pn	02 59 36.3	+1.1
BTCH	SNR=45			eS	Sb	03 00 25.7	-1.8
	comp=Z,165nm,0.6s,SNR=40						
BTCH	Batrach	3.65	225	eP	Pn	02 59 36.3	+1.1
BTCH				eS	Sb	03 00 25.7	-1.8
BTCH				AML	AML	03 00 47.0	
	comp=E,128nm,0.5s						
BTCH				AML	AML	03 00 47.8	
	comp=Z,80nm,0.6s						
BTCH				AML	AML	03 00 49.2	
	comp=N,165nm,0.6s						
ARNB	Al Arnab	4.05	227	eP	Pn	02 59 43.8	+3.1
	SNR=45						
ARNB	Al Arnab	4.05	227	eP	Pn	02 59 43.8	+3.1
ARNB				eS	Sb	03 00 37.0	-2.1
ARNB				AML	AML	03 00 57.1	
	comp=E,45nm,0.5s						
ARNB				AML	AML	03 01 01.9	
	comp=N,19nm,0.7s						
WRDH	Warideh	4.08	220	eP	Pn	02 59 45.2	+4.2
	SNR=45						
WRDH	Warideh	4.08	220	eP	Pn	02 59 45.1	+4.2
WRDH				eS	Sb	03 00 36.5	-3.2
WRDH				AML	AML	03 00 56.2	
	comp=N,42nm,0.6s						
WRDH				AML	AML	03 01 02.6	
	comp=E,79nm,0.6s						

*CSEM **18** 03:01:32.4, 38°.49N×28°.27E, h7km, MD2.9*

DDA 18 03:01:32.4, 38°.49N×28°.27E, h7km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	Manisa	0.23	89	iP	Pg	03 01 37.8	+0.6
MANT				iS	Sg	03 01 41.0	+0.5
MANT	Manisa	0.23	89	iP	Pg	03 01 37.8	+0.6
MANT				iS	Sg	03 01 41.0	+0.5
AKHS	Akhisar	0.53	318	iP	Pg	03 01 42.9	+0.3
AKHS				iS	Sb	03 01 50.8	-1.1
AKHS	Akhisar	0.53	318	iP	Pg	03 01 42.9	+0.3
AKHS				iS	Sb	03 01 50.8	-1.1
AYDN	Tasoluk	0.88	201	iP	Pg	03 01 49.3	-0.1
AYDN				iS	Sb	03 02 02.5	+0.4
AYDN	Tasoluk	0.88	201	iP	Pg	03 01 49.3	-0.1
AYDN				iS	Sb	03 02 02.5	+0.4
DNZL	Cakiroluk	1.00	142	iP	Pb	03 01 52.3	-0.1
DNZL				iS	Sb	03 02 06.6	+0.6
DNZL	Cakiroluk	1.00	142	iP	Pb	03 01 52.3	0.0
DNZL				iS	Sb	03 02 06.6	+0.6
GDZ	Gediz	1.12	57	iP	Pg	03 01 53.3	-0.8
GDZ				iS	Sb	03 02 09.3	+0.1
GDZ	Gediz	1.12	57	iP	Pg	03 01 53.3	-0.8
GDZ				iS	Sb	03 02 09.3	0.0
BALY	Balya	1.35	338	iP	Pg	03 01 58.5	+0.1
BALY	Balya	1.35	338	iP	Pg	03 01 58.5	+0.1

*IDC **18** 03:18:18.6±0.6, 34°.47S×71°.90W, h0km, mb4.9/13, mb1 5.1/14, mb1mx5.0/18, mbtmp4.9/14, ML4.7/1, MS4.4/13, Ms1 4.4/13, ms1mx4.1/27, Error ellipse: s-maj=22.7km s-min=18.8km az=47.0*
*GUC **18** 03:18:22.1±0.7, 34°.36S×72°.01W, h35km±3km, ML5.3*
*NEIC **18** 03:18:22.0, 34°.36S×72°.01W, h35km, mb5.1/75, ML5.3(GUC), After GUC.*
NEIC Felt [V] in Colchagua and at Constitucion, Curico, Pichilemu, Rancagua, Santa Cruz and Talca; [IV] at Cauquenes, Chepica, El Tabo, Linares, Parral and San Antonio; [III] at Maipo, Melipilla and San Felipe; [II] at Puente Alto, Quillota, Santiago, Talagante, Valparaiso and Vina del Mar. Also felt at Buin, Los Andes, Paine, Rengo, San Bernardo, San Fernando and San Vicente.
*MOS **18** 03:18:23.3±1.0, 34°.32S×71°.92W, h34km, mb5.1/23, Error ellipse: s-maj=20.8km s-min=8.1km az=101.5*
*ISCJB **18** 03:18:23.9±0.6, 34°.33S±0°.03×71°.83W±0°.06, h40km±5km, mb5.0/89, MS4.5/13, Error ellipse: s-maj=8.1km s-min=4.7km az=170.7*
*GCMT **18** 03:18:25.4±0.4, 34°.49S×72°.42W, h31km±2km, MW5.1/56, Moment Tensor Solution. s29,c33; s56,c72; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-3.44±.31; $M_{\theta\theta}$0.69±.22; $M_{\phi\phi}$2.75±.19; $M_{r\theta}$-0.83±.35; $M_{\theta\phi}$1.01±.13; $M_{r\phi}$4.51±.37; Best double couple: $M_0$5.60800×10^16 NP1:ϕ_s177.00000°, δ73.00000°, λ-103.00000°. NP2: ϕ_s35.00000°, δ21.00000°, λ-54.00000°. Principal axes: T 5.1830, Plg27.0000°, Azm277.0000°; N 0.8450, Plg12.0000°, Azm181.0000°; P -6.0330, Plg60.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **18** 03:18:25.1, 34°.23S×72°.51W, h48km, mB5.1/13, Ms5.4/11, Ms7 4.9/13*

ISC 18 03:18:23.9±0.8, 34°.39S±0°.03×71°.92W±0°.05, h32km±4km, n683, σ0°98/713, mb5.1/89, MS4.5/14, 200C-196D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.60	45	⇑iP	Pb	03 18 34.4	-1.7
NICH	Los Niches	0.84	137	⇑iP	Pn	03 18 38.7	-0.8
NICH				iS	Sn	03 18 50.8	+0.1
NICH				AML	AML	03 18 51.6	
	comp=N,445μm,0.5s						
TALC	Talca	1.04	167	⇑iP	Pn	03 18 40.9	-1.3
TALC				iS4	Sn	03 18 55.0	-0.7
TALC				AML	AML	03 18 55.8	
	comp=N,84μm,0.1s						
CACH	El Canelo	1.13	77	⇓iP	Pb	03 18 43.8	-1.2
CHCH	Chadas Angostu	1.14	67	⇑iP	Pn	03 18 43.4	-0.4
ANTU	Antumapu	1.34	53	⇓iP	Pn	03 18 46.3	-0.2
ANTU				iS1	Sg	03 19 05.0	+1.8
ANTU				AML	AML	03 19 09.4	
	comp=E,73μm,0.4s						
FSR	Penalolen	1.47	52	eP9	Pn	03 18 49.6	+1.3
FSR				iS1	Sg	03 19 09.7	+3.4
LNCH	Linares	1.48	170	⇑iP	Pn	03 18 48.1	-0.3
LNCH				iS	Sb	03 19 08.4	-1.0
LNCH				AML	AML	03 19 12.4	
	comp=N,69μm,0.6s						
LACH	Col Las Americ	1.48	52	⇑iP	Pn	03 18 48.3	-0.1
LACH				iS1	Sb	03 19 08.1	-1.4
CLCH	Cerro Calan	1.52	50	⇓iP	Pn	03 18 49.0	+0.1
CLCH				iS	Sb	03 19 09.4	-1.0
CLCH				AML	AML	03 19 18.0	
	comp=E,63μm,0.8s						
PEL	Peldehue	1.61	40	⇑iP	Pn	03 18 50.2	+0.1
PEL				iS1	Sn	03 19 10.9	+1.0
PEL				AML	AML	03 19 18.8	
	comp=N,115μm,0.7s						
YECH	El Yeso	1.69	65	⇓iP	Pn	03 18 51.9	+0.4
YECH				iS1	Sb	03 19 14.4	-1.1
YECH				AML	AML	03 19 19.5	
	comp=E,30μm,0.5s						
CMCH	Combarbala	3.29	14	iP1	Pn	03 19 12.4	-1.0
CFAA	Coronel Fontan	4.16	49	Pn	Pn	03 19 26.7	+1.5
	comp=E,5.7nm,0.3s,baz=215,slow=11,SNR=150						
CFAA				Lg	Lg	03 20 26.2	
	comp=E,12nm,0.3s,baz=341,slow=3.7,SNR=5.2						
CFAA				LR	LR	03 21 16.3	
	comp=E,1μm,18.1s,baz=225,slow=42						
LCO	Las Campanas	5.46	11	ePn	Pn	03 19 42.0	-1.3
LCO				eSn	Sn	03 20 39.9	-5.2
PLCA	Paso Flores	6.43	171	eP	Pn	03 19 57.7	+1.3
PLCA	Paso Flores	6.43	171	Pn	Pn	03 19 57.4	+1.0
	comp=E,7.2nm,0.3s,baz=340,slow=10,SNR=101						
PLCA				Lg	Lg	03 21 39.8	
	comp=E,5.5nm,0.3s,baz=48,slow=8.7,SNR=5.3						
PLCA				LR	LR	03 22 48.6	
	comp=E,2μm,19.9s,baz=352,slow=43						
PLCA	Paso Flores	6.43	171	ePn	Pn	03 19 57.7	+1.3
PLCA				eLg	Lg	03 21 30.3	
PLCA				Lg	Lg	03 21 39.8	
TRQA	Tornquist	8.83	117	ePn	Pn	03 20 31.2	+1.9
TRQA				eLg	Lg	03 22 57.1	
LVC	Limon Verde	12.02	13	ePn	Pn	03 21 06.9	-6.4
LVC				eLg	Lg	03 23 51.2	
LPAZ	La Paz	18.34	12	P	P	03 22 36.2	-0.1
	comp=E,1.1nm,0.3s,baz=182,slow=8.1,SNR=70						
LPAZ	La Paz	18.34	12	ePn	P	03 22 36.2	-0.1
	comp=E,238nm,1.6s						
EFI	East Falkland	19.97	154	P	P	03 22 52.0	-1.3
	comp=E,454nm,0.5s,SNR=12						
EFI	East Falkland	19.97	154	eP	P	03 22 52.5	-0.8
EFI				pmax	pmax		
	comp=Z,57nm,0.8s						
EFI	East Falkland	19.97	154	eP	P	03 22 52.5	-0.8
	comp=Z,57nm,0.8s						
USHA	Ushuaia	20.59	174	P	P	03 23 00.8	+0.8
	comp=Z,39nm,0.8s,baz=26,slow=3.3,SNR=8.7						
USHA				LR	LR	03 31 48.2	
	comp=Z,2μm,19.0s,baz=329,slow=40						
SIV	San Ignacio	20.75	31	P	P	03 23 00.9	-1.2
	comp=Z,28nm,0.9s,baz=225,slow=10,SNR=67						
SIV				LR	LR	03 32 27.3	
	comp=Z,2μm,18.2s,baz=222,slow=41						
NNA	Nana	22.74	347	eP	P	03 23 23.9	+0.5
NNA				pmax	pmax		
	comp=Z,53nm,1.1s						
NNA	Nana	22.74	347	P	P	03 23 23.8	+0.3
	comp=Z,27nm,0.9s,baz=190,slow=10,SNR=11						
NNA	Nana	22.74	347	eP	P	03 23 23.9	+0.5
	comp=Z,53nm,1.1s						
SAML	Samuel	26.56	20	eP	P	03 23 58.6	-0.4
	comp=Z,36nm,1.1s						
ATAH	Atahualpa	27.77	346	P	P	03 24 11.3	+1.0
	comp=Z,5.7nm,0.8s,baz=56,slow=1.5,SNR=4.3						
BDFB	Brasilia	28.47	55	P	P	03 24 15.1	-1.2
	comp=Z,28nm,0.8s,baz=240,slow=7.5,SNR=13						
BDFB				LR	LR	03 35 42.9	
	comp=Z,698nm,21.6s,baz=223,slow=37						
PMSA	Palmer Station	30.80	173	LR	LR	03 36 47.8	
	comp=Z,783nm,19.2s,baz=338,slow=36						
OTAV	Otavalo	34.98	349	eP	P	03 25 15.6	+1.7
	comp=Z,25nm,1.3s						
OTAV				ePcP	PcP	03 27 46.6	+0.8
PTGA	Pitinga	35.30	21	eP	P	03 25 15.6	-0.4
	comp=Z,76nm,1.0s						
ROSC	El Rosal	39.10	356	P	P	03 25 52.2	+3.6
	comp=Z,9.0nm,0.7s,baz=188,slow=2.3,SNR=7.8						
ROSC	El Rosal	39.10	356	eP	P	03 25 52.5	+3.8
SDV	Santo Domingo	43.05	2	eP	P	03 26 20.5	-0.5
	comp=Z,28nm,0.9s						
RCBR	Riachuelo	43.76	58	eP	P	03 26 25.1	-1.5
	comp=

VNDA Vanda 63.74 191 LR LR 03 53 36.3
comp=Z,143nm,19.1s,baz=127,slow=33
SYO Syowa Base 65.47 158⇑eP P 03 29 01.0 -2.3
035A Encino 65.84 334 ⇓P P 03 29 07.9 +1.8
baz=66
034A Hebbronville 66.17 334 ⇑P P 03 29 10.0 +1.8
baz=66
933A Laredo 66.88 334 ⇑P P 03 29 14.3 +1.5
baz=67
835A Beeville 66.98 335 ⇓P P 03 29 15.3 +1.9
baz=67
834A Tilden 67.09 335 ⇓P P 03 29 15.3 +1.2
baz=67,SNR=9.5
735A Kenedy 67.49 336 ⇓P P 03 29 18.0 +1.3
baz=68
833A Chaparral WMA, 67.57 334 ⇓P P 03 29 18.1 +0.9
baz=68,SNR=7.7
832A Faith Ranch, C 67.75 333 ⇓P P 03 29 19.1 +0.8
baz=68,SNR=6.2
636A Smothers Creek 67.82 336 ⇓P P 03 29 19.9 +1.2
baz=68,SNR=6.7
HKT Hockley 67.86 338 eP P 03 29 20.1 +1.2
HKT Hockley 67.86 338 eP P 03 29 20.1 +1.2
537A Green Hill Far 68.13 337 ⇓P P 03 29 22.1 +1.5
baz=68
732A Laxson Ranch, 68.15 334 ⇓P P 03 29 21.8 +1.0
baz=68
GOGA Godfrey 68.31 350 eP P 03 29 21.4 -0.3
GOGA pmax pmax
comp=Z,27nm,1.3s
GOGA Godfrey 68.31 350 eP P 03 29 21.4 -0.3
comp=Z,27nm,1.3s
536A Bastrop 68.37 337 ⇓P P 03 29 23.2 +1.1
baz=69
438A Sam Houston St 68.49 338 ⇓P P 03 29 23.9 +1.0
baz=69
535A Dale 68.49 336 ⇓P P 03 29 23.7 +0.8
baz=69
633A Saathoff Ranch 68.52 335 ⇓P P 03 29 23.8 +0.7
baz=69,SNR=7.5
LRAL Lakeview Retre 68.54 346 eP P 03 29 23.2 +0.1
340A Bronson 68.65 340 ⇑P P 03 29 24.8 +1.0
baz=69
339A Huntington 68.76 339 ⇑P P 03 29 25.6 +1.0
baz=69,SNR=5.0
632A Uvalde 68.79 334 ⇑P P 03 29 25.7 +0.9
baz=69,SNR=6.8
631A Perdido Creek 68.99 333 ⇑P P 03 29 27.2 +1.1
baz=69
338A Crockett 69.00 339 ⇓P P 03 29 27.4 +1.4
baz=69
533A Kerrville 69.03 335 ⇓P P 03 29 27.5 +1.1
baz=69
239A Gary 69.38 340 ⇓P P 03 29 29.5 +1.1
baz=70
532A Rocksprings 69.39 334 ⇑P P 03 29 29.4 +0.8
baz=70,SNR=11
434A Burnet 69.45 336 ⇓P P 03 29 29.2 +0.3
baz=70,SNR=8.7
CNNC Cliffs of the 69.49 355 eP P 03 29 29.7 +0.7
336A Riesel 69.51 337 ⇓P P 03 29 29.4 +0.2
baz=70,SNR=6.2
238A Jacksonville 69.55 339 ⇑P P 03 29 30.5 +1.0
baz=70
335A Moody 69.60 337 ⇓P P 03 29 30.6 +0.8
baz=70
531A Rocksprings 69.66 334 ⇑P P 03 29 31.1 +0.9
baz=70,SNR=7.7
433A Art 69.67 335 ⇑P P 03 29 30.3 0.0
baz=70,SNR=13
JCT Junction City 69.67 334 eP P 03 29 30.9 +0.6
JCT pmax pmax
comp=Z,17nm,1.0s
JCT Junction City 69.67 334 ⇓P P 03 29 30.6 +0.3
baz=70,SNR=7.8
JCT Junction City 69.67 334 eP P 03 29 30.9 +0.6
comp=Z,18nm,1.0s
KMSC Kings Mountain 69.72 352 ⇓P P 03 29 30.2 -0.2
baz=70
KMSC Kings Mountain 69.72 352 eP P 03 29 30.5 0.0
334A Lometa 69.91 336 ⇑P P 03 29 32.0 +0.3
baz=70,SNR=8.8
530A J-C Ranch, Com 69.94 333 ⇓P P 03 29 32.3 +0.3
baz=70,SNR=13
432A Menard 70.03 335 ⇑P P 03 29 33.1 +0.6
baz=70
TIAR Tiarei 70.10 262 eT T 04 45 48.7
comp=Z,10nm,0.2s
TXAR Lajitas Array 70.12 331 P P 03 29 33.5 +0.3
comp=Z,1.1nm,0.5s,baz=155,slow=7.0,SNR=21
TXAR LR LR 03 56 06.3
comp=Z,222nm,18.1s,baz=0.0,slow=32
431A Sonora 70.15 334 ⇓P P 03 29 33.7 +0.5
baz=70
333A Richland Sprin 70.16 336 ⇑P P 03 29 33.4 +0.2
baz=70,SNR=7.9
529A Stev Forest Ra 70.25 332 ⇓P P 03 29 34.7 +0.8
baz=70,SNR=8.5
WHTX Lake Whitney, 70.26 337 ⇑P P 03 29 33.7 -0.1
baz=70,SNR=6.2
WHTX Lake Whitney, 70.26 337 eP P 03 29 33.8 0.0
comp=Z,21nm,1.2s
PPT2 Papeete2 70.28 262 eLR LR 03 51 05.0
comp=Z,659nm,24.0s
PPT Papeete 70.29 262 LR LR 03 51 34.0
comp=Z,352nm,19.1s,baz=125,slow=28
137A Heron Place, G 70.30 339 ⇑P P 03 29 34.4 +0.4
baz=71
CPCT Cooper Cave 70.47 349 eP P 03 29 37.9 +2.9
OXF Oxford 70.47 345 eP P 03 29 35.0 0.0
OXF pmax pmax
comp=Z,59nm,0.9s
OXF Oxford 70.47 345 eP P 03 29 35.0 0.0
comp=Z,59nm,0.9s
SWET Sewanee 70.47 348 eP P 03 29 34.5 -0.6
comp=Z,66nm,1.1s
430A Baggett Ranch, 70.47 333 ⇓P P 03 29 35.6 +0.3
baz=71,SNR=8.2
332A Millersview 70.47 335 ⇓P P 03 29 35.3 +0.2
baz=71
234A Clairette 70.50 337 ⇑P P 03 29 35.6 +0.3
baz=71,SNR=7.8
TKL Tuckaleechee C 70.56 350 eP P 03 29 35.3 -0.3
TKL Tuckaleechee C 70.56 350 eP P 03 29 35.2 -0.3
429A Davenport Ranc 70.57 333 ⇑P P 03 29 36.2 +0.3
baz=71,SNR=7.9
331A San Angelo 70.65 334 ⇑P P 03 29 36.2 -0.1
baz=71,SNR=7.2
233A Rising Star 70.76 336 ⇓P P 03 29 37.1 +0.2
baz=71
232A Coleman 70.90 335 ⇓P P 03 29 37.7 -0.1
baz=71,SNR=6.1
134A White-Moore Ra 71.00 337 ⇑P P 03 29 38.4 +0.1
baz=71
330A Mertzon 71.01 334 ⇑P P 03 29 38.3 -0.1
baz=71
231A Bronte 71.18 335 ⇓P P 03 29 39.5 0.0
baz=71,SNR=6.2
133A Hamilton Ranch 71.31 336 ⇑P P 03 29 40.4 +0.2
baz=72,SNR=5.4
329A Wagon Wheel Ra 71.38 333 ⇑P P 03 29 40.7 0.0
baz=72,SNR=6.7
TZTN Tazewell 71.39 350 eP P 03 29 40.4 -0.2
Z35A Perchaven, San 71.44 338 ⇑P P 03 29 41.1 +0.1
baz=72,SNR=5.9
MIAR Mount Ida 71.51 341 eP P 03 29 39.9 -1.4
MIAR pmax pmax
comp=Z,14nm,1.3s
MIAR Mount Ida 71.51 341 eP P 03 29 39.9 -1.4
comp=Z,14nm,1.3s
ABTX Abilene, Hawle 71.57 336 ⇓P P 03 29 41.9 +0.1
baz=72,SNR=6.5
ABTX Abilene, Hawle 71.57 336 eP P 03 29 41.3 -0.5
comp=Z,24nm,1.1s
Z34A Collier Ranch, 71.68 337 ⇑P P 03 29 42.8 +0.4
baz=72
WVT Waverly 71.71 346 eP P 03 29 42.0 -0.5
WVT pmax pmax
comp=Z,75nm,0.8s
WVT Waverly 71.71 346 eP P 03 29 42.0 -0.5
comp=Z,75nm,0.8s
229A Bryant Ranch, 71.75 334 ⇓P P 03 29 43.3 +0.4
baz=72
131A Roby 71.87 335 ⇓P P 03 29 43.9 +0.3
baz=72
Z33A Whitaker Ranch 71.88 337 ⇑P P 03 29 43.5 -0.2
baz=72,SNR=8.2
JSRW J. Sargeant Re 71.93 355 eP P 03 29 43.7 0.0

130A Snyder 72.01 334 ⇑P P 03 29 44.5 0.0
baz=72
UTMT University of 72.12 346 eP P 03 29 45.5 +0.5
Z32A Haskell 72.14 336 ⇑P P 03 29 45.1 0.0
baz=72,SNR=11
228A UT Block 9, Go 72.17 333 ⇑P P 03 29 45.5 -0.1
baz=72,SNR=5.8
Y34A Reagan Ranch, 72.17 338 ⇑P P 03 29 45.9 +0.5
baz=72
Z31A Sharp Cattle R 72.37 335 ⇓P P 03 29 46.4 -0.2
baz=73,SNR=7.4
128A Castleberry Fa 72.58 333 ⇓P P 03 29 47.9 0.0
baz=73,SNR=5.6
PARMO Parma 72.61 345 eP P 03 29 48.6 +0.7
Z30A Sanderson Ranc 72.69 335 ⇑P P 03 29 48.4 -0.1
baz=73,SNR=6.0
Y32A R-V Farms, Ver 72.76 336 ⇑P P 03 29 49.1 +0.2
baz=73
MAW Mawson 72.78 163 LR LR 04 03 13.8
comp=Z,300nm,19.0s,baz=237,slow=37
X34A Smith Ranch, M 72.79 338 ⇑P P 03 29 49.3 +0.2
baz=73,SNR=5.7
Z29A Hungry Hill Ra 72.87 334 ⇓P P 03 29 49.9 +0.2
baz=73
MNTX Cornudas Mount 72.89 331 eP P 03 29 49.4 -0.3
Y31A Rekieta Farm, 73.00 336 ⇓P P 03 29 50.6 +0.3
baz=73
X32A Elmer 73.09 337 ⇓P P 03 29 51.1 +0.2
baz=73
Y30A Stafford Cattl 73.14 335 ⇓P P 03 29 51.3 +0.1
baz=73
Z28A Tucker Farm, M 73.14 334 ⇓P P 03 29 51.3 +0.1
baz=73
WMOK Wichita Mounta 73.22 337 eP P 03 29 50.4 -1.2
WMOK pmax pmax
comp=Z,7.0nm,1.1s
WMOK Wichita Mounta 73.22 337 eP P 03 29 50.4 -1.2
comp=Z,7.1nm,1.1s
W34A Bridge Creek, 73.36 338 ⇓P P 03 29 52.3 -0.1
baz=74
Y29A Porterfield Fa 73.40 334 ⇓P P 03 29 52.4 -0.4
baz=74,SNR=5.7
TUL1 Leonard 73.40 340 ⇑P P 03 29 52.0 -0.6
baz=74,SNR=5.8
TUL1 Leonard 73.40 340 eP P 03 29 51.5 -1.1
comp=Z,19nm,1.0s
USIN University of 73.46 347 eP P 03 29 51.7 -1.1
comp=Z,49nm,1.1s
W33A Caddo, Fort Co 73.50 338 ⇑P P 03 29 53.5 +0.2
baz=74,SNR=11
X31A McDonald Ranch 73.51 336 ⇑P P 03 29 53.3 0.0
baz=74,SNR=7.8
SIUC Southern Illin 73.52 346 eP P 03 29 52.6 -0.6
comp=Z,43nm,1.1s
V35A Meyer Ranch, C 73.56 339 ⇑P P 03 29 53.4 -0.2
baz=74,SNR=5.6
X30A Coker Ranch, T 73.65 335 ⇓P P 03 29 54.7 +0.5
baz=74
W32A Sentinel 73.72 337 ⇓P P 03 29 54.5 0.0
baz=74,SNR=20
V34A Guthrie 73.83 339 ⇓P P 03 29 54.9 -0.2
baz=74,SNR=6.8
V34A Guthrie 73.83 339 eP P 03 29 54.6 -0.6
comp=Z,20nm,1.0s
MSTX Muleshoe 73.89 334 ⇓P P 03 29 55.8 +0.1
baz=74
MSTX Muleshoe 73.89 334 eP P 03 29 55.6 -0.1
comp=Z,11nm,0.9s
Y27A Causey 73.96 333 ⇑P P 03 29 56.0 -0.1
baz=74
W31A Holland Ranch, 74.01 336 ⇓P P 03 29 56.4 +0.2
baz=74
V33A Lossen Ranch, 74.06 338 ⇑P P 03 29 56.7 +0.2
baz=74,SNR=9.4
X28A Dimitt 74.18 334 ⇓P P 03 29 57.7 +0.3
baz=74
V32A Arapaho 74.20 337 ⇓P P 03 29 57.8 +0.5
baz=74
319A Douglas 74.28 327 ⇑P P 03 29 58.7 +0.7
baz=74
OLIL Olney 74.28 347 eP P 03 29 57.1 -0.6
AMTX Amarillo 74.33 335 ⇑P P 03 29 58.6 +0.5
baz=75
AMTX Amarillo 74.33 335 eP P 03 29 58.1 -0.1
comp=Z,21nm,1.1s
U34A Anderson Ranch 74.40 339 ⇑P P 03 29 58.8 +0.4
baz=75
U34A Anderson Ranch 74.40 339 eP P 03 29 58.4 -0.1
comp=Z,27nm,1.1s
BLO Bloomington 74.43 348 eP P 03 29 58.0 -0.5
BLO Bloomington 74.43 348 eP P 03 29 58.0 -0.5
V31A Spring Creek L 74.51 337 ⇑P P 03 29 60.0 +0.8
baz=75,SNR=6.5
W29A Amarillo 74.53 335 ⇓P P 03 29 59.7 +0.3
baz=75
SUR Sutherland 74.56 119 P P 03 30 01.8 +1.8
comp=Z,353nm,0.9s,SNR=8.4
SUR Sutherland 74.56 119 eP P 03 30 01.2 +1.3
comp=Z,49nm,0.9s
U33A Lingo Farm, Me 74.57 338 ⇓P P 03 29 59.6 +0.1
baz=75
121A Cookes Peak, D 74.62 329 ⇓P P 03 30 00.9 +0.9
baz=75,SNR=8.9
121A Cokes Peak, D 74.62 329 eP P 03 30 01.1 +1.1
comp=Z,9.3nm,0.9s
V30A Spur Ranch, Mi 74.78 336 ⇑P P 03 30 01.9 +1.1
baz=75
U32A Winter Ranch, 74.80 338 ⇑P P 03 30 01.9 +1.1
baz=75
X26A CR and CF Fran 74.80 333 ⇓P P 03 30 01.7 +0.8
baz=75
LIC Lamto 74.80 71 eP P 03 30 01.5 +0.2
comp=Z,61nm,0.7s
Y24A Capitan 74.87 332 ⇓P P 03 30 02.1 +0.7
baz=75,SNR=7.2
Z22A Elephant Butte 74.90 330 ⇑P P 03 30 03.3 +1.7
baz=75
ACSO Alum Creek Sta 74.95 351 eP P 03 30 01.2 -0.3
comp=Z,31nm,0.7s
U31A Nine Bar Ranch 75.06 337 ⇑P P 03 30 03.5 +1.2
baz=75
TIC Toumodi 75.07 71 eP P 03 30 03.1 +0.2
comp=Z,15nm,0.2s
KIC Kosan Boka 75.11 71 eP P 03 30 03.5 +0.4
comp=Z,108nm,0.8s
ODNJ Ogdensburg 75.14 358 eP P 03 30 03.5 +0.9
V29A Stinnett 75.16 335 ⇑P P 03 30 04.1 +1.1
baz=75
T33A Patterson Ranc 75.21 338 ⇑P P 03 30 03.4 +0.3
baz=76,SNR=7.0
DBIC Dimbokro 75.21 71 ⇓⇓P P 03 30 04.1 +0.4
DBIC Dimbokro 75.21 71 eP P 03 30 03.9 +0.2
DBIC pmax pmax
comp=Z,42nm,0.8s
DBIC Dimbokro 75.21 71 P P 03 30 03.8 +0.1
comp=Z,38nm,0.7s,baz=208,slow=5.7,SNR=63
DBIC LR LR 04 01 02.7
comp=Z,292nm,19.5s,baz=216,slow=34
DBIC Dimbokro 75.21 71 eP P 03 30 03.9 +0.2
comp=Z,42nm,0.8s
W26A Owens Ranch, T 75.26 333 ⇓P P 03 30 04.3 +0.7
baz=76,SNR=5.7
V28A Channing 75.30 335 ⇑P P 03 30 04.9 +1.1
baz=76
U30A WK&E Inc. Balk 75.47 336 ⇓P P 03 30 05.7 +1.0
baz=76
T32A Huddler Ranch, 75.51 338 ⇑P P 03 30 05.8 +1.0
baz=76
V27A Dan Oppiter Fa 75.52 334 ⇑P P 03 30 05.9 +0.8
baz=76
S33A Kazzmaul Farm, 75.61 339 ⇑P P 03 30 06.2 +0.8
baz=76
W25A X Bar L Ranch, 75.63 333 ⇑P P 03 30 05.8 0.0
baz=76,SNR=6.5
T31A Randall Ranch, 75.67 337 ⇓P P 03 30 06.6 +0.8
baz=76
TUC Tucson 75.74 327 eP P 03 30 07.1 +0.7
TUC pmax pmax
comp=Z,6.0nm,1.2s
TUC Tucson 75.74 327 eP P 03 30 07.1 +0.7
comp=Z,6.3nm,1.2s
U28A Mallet 75.86 335 ⇓P P 03 30 07.5 +0.5
baz=76
V26A Tequesquite Ra 75.90 334 ⇓P P 03 30 07.8 +0.5
baz=76
W24A Lazy 6 Ranch, 75.99 332 ⇓P P 03 30 08.4 +0.5
baz=76,SNR=6.3
S32A Newby Ranch, P 75.99 338 ⇑P P 03 30 08.2 +0.6
baz=76

S31A Mullinville 76.09 338 ⇑P P 03 30 08.6 +0.5
baz=76
U27A Thompson Grove 76.11 335 ⇑P P 03 30 09.0 +0.6
baz=76
ANMO Albuquerque 76.17 331 ceP P 03 30 08.8 -0.1
ANMO pmax pmax
comp=Z,37nm,1.2s
ANMO Albuquerque 76.17 331 eP P 03 30 09.9 +1.0
V25A Rancho No Teng 76.24 333 ⇑P P 03 30 09.5 +0.2
baz=76,SNR=9.8
T29A Hugoton 76.25 336 ⇑P P 03 30 09.8 +0.6
baz=76
R33A Olander Ranch, 76.27 339 ⇑P P 03 30 09.5 +0.4
baz=77
214A Organ Pipe Nat 76.39 325 ⇓P P 03 30 11.0 +1.0
baz=77
V24A Rampart Ranch, 76.39 333 ⇑P P 03 30 10.2 0.0
baz=77
S30A Montezuma 76.42 337 ⇓P P 03 30 10.4 +0.3
baz=77
U26A Atchley Ranch, 76.42 334 ⇓P P 03 30 10.5 +0.2
baz=77
ERPA Erie 76.49 354 eP P 03 30 09.7 -0.6
comp=Z,6.8nm,0.4s
T28A Walsh 76.49 336 ⇑P P 03 30 10.9 +0.4
baz=77,SNR=9.3
R32A Long Quarter, 76.59 339 ⇑P P 03 30 11.1 +0.1
baz=77,SNR=6.2
S29A Ulysses 76.61 337 ⇑P P 03 30 12.2 +1.0
baz=77
T27A Campo 76.65 335 ⇓P P 03 30 11.9 +0.4
baz=77,SNR=6.8
U25A Circle Dot Ran 76.66 334 ⇓P P 03 30 12.1 +0.5
baz=77,SNR=6.0
R31A Burdett 76.71 338 ⇓P P 03 30 11.9 +0.2
baz=77,SNR=5.8
TRY Troy 76.76 359 eP P 03 30 12.3 +0.5
S28A Manter 76.84 336 ⇑P P 03 30 12.8 +0.2
baz=77,SNR=12
Q33A Connelly Farm, 76.86 340 ⇑P P 03 30 13.0 +0.5
baz=77
U24A Moreno Valley 77.00 333 ⇑P P 03 30 14.5 +0.8
baz=77
T26A Comanche Natio 77.06 335 ⇓P P 03 30 14.2 +0.4
baz=77,SNR=10
Q32A Meitler Ranch, 77.07 339 ⇓P P 03 30 13.9 +0.3
baz=77,SNR=7.4
V22A San Miguel Ran 77.19 331 ⇓P P 03 30 16.1 +1.4
baz=78,SNR=14
P33A Williams Farm, 77.23 340 ⇓P P 03 30 15.3 +0.8
baz=78
X18A Snowflake 77.25 329 ⇑P P 03 30 16.2 +1.1
baz=78
U23A El Rito 77.27 332 ⇓P P 03 30 16.4 +1.3
baz=78,SNR=7.0
T25A Trinidad 77.32 334 ⇑P P 03 30 16.4 +1.1
baz=78,SNR=19
Q31A Ellis 77.33 338 ⇓P P 03 30 15.8 +0.6
baz=78,SNR=6.5
R29A Marienthal 77.35 337 ⇓P P 03 30 16.1 +0.8
baz=78
S26A Kim 77.41 335 ⇓P P 03 30 16.7 +0.9
baz=78,SNR=17
R28A Tribune 77.50 336 ⇑P P 03 30 16.7 +0.5
baz=78,SNR=12
Q30A Quinter 77.56 338 ⇓P P 03 30 17.0 +0.6
baz=78,SNR=7.7
U22A Llaves 77.57 332 ⇓P P 03 30 18.2 +1.4
baz=78
T24B San Luis 77.61 333 ⇑P P 03 30 17.8 +0.7
baz=78,SNR=11
P32A Hulting Farm, 77.66 339 ⇑P P 03 30 17.9 +0.9
baz=78
W18A Petrified Fore 77.66 329 ⇓P P 03 30 18.3 +1.0
baz=78
Q29A Oakley 77.72 337 ⇑P P 03 30 17.8 +0.4
baz=78,SNR=5.3
R27A Eads 77.78 336 ⇓P P 03 30 18.1 +0.3
baz=78,SNR=11
S25A Robets Cordova 77.79 334 ⇑P P 03 30 19.1 +1.1
baz=78,SNR=8.9
P31A Stockton 77.80 339 ⇓P P 03 30 18.1 +0.3
baz=78,SNR=7.8
X16A Lo Mia Camp, P 77.81 327 ⇑P P 03 30 19.6 +1.5
baz=78,SNR=10
T23A Casias Ranch, 77.83 333 ⇓P P 03 30 19.3 +1.0
baz=78
R26A Arlington 78.01 335 ⇑P P 03 30 19.6 +0.4
baz=78,SNR=8.1
MDV Middlebury 78.02 359 eP P 03 30 18.5 -0.3
S24A Houchin Ranch, 78.06 334 ⇓P P 03 30 20.7 +1.1
baz=78,SNR=15
P30A Selden 78.09 338 ⇓P P 03 30 20.2 +0.8
baz=78
Y14A Wickenburg 78.12 326 ⇓P P 03 30 21.2 +1.5
baz=78
Q28A Sharon Springs 78.15 337 ⇑P P 03 30 20.8 +1.0
baz=78
O32A Brockman Farm, 78.16 340 ⇓P P 03 30 21.1 +1.4
baz=78
P29A Atwood 78.35 338 ⇑P P 03 30 21.8 +0.9
baz=79,SNR=8.8
O31A Woolen Ranch, 78.36 339 ⇓P P 03 30 21.9 +1.0
baz=79
KSCO Kaye Shedlock' 78.37 336 ⇑P P 03 30 22.4 +1.3
baz=79
SCIA State Center 78.40 344 eP P 03 30 20.7 -0.3
comp=Z,29nm,1.0s
S23A Nye Farm, Mont 78.41 333 ⇑P P 03 30 22.7 +1.2
baz=79
R24A Sanders Place, 78.54 334 ⇓P P 03 30 22.7 +0.6
baz=79,SNR=15
P28A Saint Francis 78.59 337 ⇓P P 03 30 23.6 +1.4
baz=79
Q26A Hugo 78.60 335 ⇓P P 03 30 23.5 +1.1
baz=79,SNR=5.8
O30A MW Ranch, Wils 78.61 338 ⇑P P 03 30 23.2 +0.9
baz=79
Y12C Blythe 78.68 325 ⇓P P 03 30 24.3 +1.5
baz=79
WUAZ Wupatki 78.71 328 ⇑P P 03 30 24.1 +1.0
baz=79,SNR=6.1
JFWS Jewell Farm 78.73 346 eP P 03 30 22.4 -0.4
JFWS pmax pmax
comp=Z,12nm,0.6s
JFWS Jewell Farm 78.73 346 eP P 03 30 22.4 -0.4
comp=Z,12nm,0.6s
S22A 4UR Ranch, Cre 78.76 332 ⇓P P 03 30 24.3 +0.8
baz=79,SNR=5.4
R23A Moffat 78.77 333 ⇓P P 03 30 24.2 +0.7
baz=79,SNR=5.9
Q25A Bedland, Calha 78.84 335 ⇓P P 03 30 25.1 +1.3
baz=79
P27A Ficken Ranch, 78.85 336 ⇑P P 03 30 24.9 +1.2
baz=79
MONP Monument Peak, 78.90 323 ⇑P P 03 30 25.9 +1.6
baz=79
MVCO Mesa Verde 78.95 331 ⇓P P 03 30 25.4 +1.0
baz=79,SNR=7.0
MVCO Mesa Verde 78.95 331 eP P 03 30 24.7 +0.3
comp=Z,7.6nm,1.0s
PDMCI Parker Dam,Lak 78.95 325 ⇑P P 03 30 25.5 +1.3
baz=79
TSUM Tsumeb 79.02 106 eP P 03 30 25.8 +0.5
comp=Z,56nm,1.3s
BC3 Big Chuckawall 79.05 324 ⇑P P 03 30 26.0 +1.1
baz=79
O28A Krutsinger Ran 79.10 337 ⇓P P 03 30 26.1 +1.1
baz=79
P26A Davis Ranch, A 79.11 336 ⇑P P 03 30 25.9 +0.8
baz=79,SNR=6.8
BGNE Belgrade 79.19 340 ⇑P P 03 30 26.1 +0.7
baz=80
N30A Hueftle Ranch, 79.19 339 ⇑P P 03 30 26.7 +1.3
baz=80
Q24A Divide 79.21 334 ⇓P P 03 30 26.7 +0.8
baz=80,SNR=7.5
IRM Iron Mountain 79.31 325 ⇑P P 03 30 27.7 +1.4
baz=80
P25A Willow Gulch B 79.35 335 ⇑P P 03 30 27.7 +1.2
baz=80,SNR=16
M31A Lambtecht Ranc 79.36 340 ⇓P P 03 30 27.4 +1.1
baz=80
N29A Votaw Ranch, W 79.37 338 ⇑P P 03 30 27.7 +1.3
baz=80
O27A Beecher Island 79.39 337 ⇑P P 03 30 27.9 +1.3
baz=80

W13A **Hualapai Mount** 79.49 326 ⇑P P 03 30 28.7 +1.3
baz=80
PFO **Pinyon Flats O** 79.50 323 *e*P P 03 30 28.7 +1.3
PFO pmax pmax
comp=Z,6.0nm,0.8s
PFO **Pinyon Flats O** 79.50 323 ⇑P P 03 30 28.9 +1.5
baz=80
PFO **Pinyon Flats O** 79.50 323 *e*P P 03 30 28.7 +1.3
comp=Z,5.5nm,0.8s
N28A **Pribbeno Ranch** 79.53 338 ⇑P P 03 30 28.7 +1.4
baz=80
BELC **Belle Mtn. Jos** 79.59 324 ⇑P P 03 30 29.5 +1.6
baz=80
O26A **Horse Wrangler** 79.71 336 ⇓P P 03 30 30.2 +1.8
baz=80
PV01 **Paradox Valley** 79.77 331 *e*P P 03 30 29.6 +0.7
M30A **Dale-Ortello V** 79.80 339 ⇑P P 03 30 30.7 +1.9
baz=80
BOSA **Boshof** 79.81 118 ⇓*i*P P 03 30 30.1 +0.7
BOSA AMB AMB 03 30 31.1
comp=Z,76nm,0.9s
BOSA **Boshof** 79.81 118 *e*P P 03 30 29.7 +0.3
BOSA pmax pmax
comp=Z,87nm,0.9s
BOSA **Boshof** 79.81 118 P P 03 30 29.9 +0.5
comp=Z,72nm,0.8s,baz=242,slow=4.0,SNR=80
BOSA LR LR 04 03 47.5
comp=Z,199nm,18.4s,baz=228,slow=34
BOSA **Boshof** 79.81 118 *e*P P 03 30 29.6 +0.3
comp=Z,87nm,0.9s
P23A **Jefferson** 79.82 334 ⇓P P 03 30 30.6 +1.4
baz=80
MURC **Murrieta** 79.86 323 ⇑P P 03 30 31.1 +1.9
baz=80
O25A **Wiggins** 79.87 335 ⇑P P 03 30 30.5 +1.3
baz=80,SNR=6.6
U15A **North Rim** 79.88 328 ⇓P P 03 30 30.9 +1.3
baz=80
M29A **Burnside Ranch** 79.96 338 ⇓P P 03 30 30.9 +1.3
baz=80
N27A **Anderson Farm,** 79.96 337 ⇓P P 03 30 30.9 +1.2
baz=80
LDFC **Landfair** 80.04 325 *e*P P 03 30 32.0 +1.8
comp=Z,9.3nm,0.9s
GMRC **Granite Mounta** 80.06 325 ⇑P P 03 30 32.0 +1.6
baz=80
L31A **Butterfield Fa** 80.09 340 ⇓P P 03 30 31.2 +1.0
baz=80,SNR=8.9
ISCO **Idaho Springs** 80.11 334 *e*P P 03 30 31.4 +0.6
ISCO pmax pmax
comp=Z,9.0nm,1.3s
ISCO **Idaho Springs** 80.11 334 ⇑P P 03 30 31.1 +0.3
baz=80,SNR=6.0
ISCO **Idaho Springs** 80.11 334 *e*P P 03 30 31.4 +0.6
comp=Z,9.1nm,1.3s
M28A **Bar X Bar Ranc** 80.12 338 ⇓P P 03 30 31.7 +1.1
baz=80
L30A **Spencer Herefo** 80.13 339 ⇓P P 03 30 31.8 +1.3
baz=80
N26A **Koester Ranch,** 80.21 336 ⇓P P 03 30 32.7 +1.7
baz=80
O24A **Longmont** 80.21 335 ⇑P P 03 30 32.5 +1.4
baz=80
BBRC **Big Bear Solar** 80.25 324 ⇑P P 03 30 33.0 +1.4
baz=80
P22A **Eagle** 80.35 333 ⇑P P 03 30 33.6 +1.6
baz=81
O23A **Lake Granby, G** 80.59 334 ⇑P P 03 30 34.2 +0.9
baz=81,SNR=13
BFSC **Mount Baldy Ra** 80.60 323 ⇑P P 03 30 34.6 +1.3
baz=81
TUQ **Turquoise Moun** 80.72 325 ⇑P P 03 30 35.4 +1.5
baz=81
K30A **Basset** 80.77 340 ⇓P P 03 30 34.9 +0.9
baz=81,SNR=14
O22A **Kremmling** 80.77 334 ⇑P P 03 30 34.9 +0.5
baz=81,SNR=10
ECSD **EROS Data Cent** 80.94 342 ⇑P P 03 30 34.8 0.0
baz=81,SNR=16
ECSD **EROS Data Cent** 80.94 342 *e*P P 03 30 34.5 -0.3
comp=Z,39nm,0.9s
M25A **Palm-Egli Farm** 81.03 336 ⇓P P 03 30 36.7 +1.2
baz=81
GSC **Goldstone, Bar** 81.03 324 ⇓P P 03 30 36.8 +1.2
baz=81
L27A **T5 Ranch, Ells** 81.05 338 ⇓P P 03 30 36.8 +1.3
baz=81
K29A **Lazy Trails An** 81.06 339 ⇓P P 03 30 36.7 +1.3
baz=81
N23A **Red Feather La** 81.20 335 ⇓P P 03 30 37.0 +0.5
baz=82,SNR=5.7
SHPR **Sheep Range** 81.23 326 *e*P P 03 30 38.0 +1.3
comp=Z,7.3nm,1.0s
EDW2 **Edwards Air Fo** 81.27 323 ⇑P P 03 30 38.1 +1.3
baz=82
N22A **Wattenberg Ran** 81.30 334 ⇑P P 03 30 38.0 +1.0
baz=82,SNR=9.9
M24A **Cheyenne** 81.32 336 ⇑P P 03 30 38.1 +1.1
baz=82,SNR=5.4
K28A **Ten Mile Ranch** 81.32 338 ⇑P P 03 30 37.8 +0.9
baz=82,SNR=10
J30A **Dallas** 81.33 340 ⇓P P 03 30 36.9 0.0
baz=82,SNR=8.1
O20A **White River Ci** 81.38 333 ⇓P P 03 30 37.8 +0.4
baz=82,SNR=5.2
SPMN **Marine on St.** 81.47 345 ⇑P P 03 30 37.2 -0.3
baz=82,SNR=6.9
SPMN **Marine on St.** 81.47 345 *e*P P 03 30 36.6 -0.9
comp=Z,20nm,0.9s
ARUT **Antelope Range** 81.51 328 *e*P P 03 30 39.7 +1.6
ARUT pmax pmax
comp=Z,86nm,0.9s
ARUT **Antelope Range** 81.51 328 *e*P P 03 30 39.7 +1.6
comp=Z,86nm,0.9s
K27A **Flueckinger Fa** 81.58 338 ⇓P P 03 30 39.5 +1.2
baz=82
LRMC **Laurel Mtn Rad** 81.60 324 ⇑P P 03 30 39.8 +1.2
baz=82
COWI **Conover** 81.61 348 *e*P P 03 30 37.8 -0.4
comp=Z,9.6nm,0.9s
M23A **Laramie** 81.63 335 ⇑P P 03 30 40.1 +1.4
baz=82
L25A **Engebretsen Ra** 81.64 336 ⇓P P 03 30 40.1 +1.4
baz=82
J29A **Okreek** 81.65 339 ⇓P P 03 30 39.1 +0.6
baz=82,SNR=29
SEK **Senekal** 81.70 119 *e*P P 03 30 40.4 +0.8
SEK AMB AMB 03 30 41.3
comp=Z,65nm,1.2s
SEK **Senekal** 81.70 119 P P 03 30 40.4 +0.8
comp=Z,65nm,1.2s
I30A **Oacoma** 81.86 340 ⇑P P 03 30 39.6 0.0
baz=82,SNR=15
K26A **Motz Farm, Whi** 81.88 337 ⇑P P 03 30 40.9 +1.1
baz=82
M22A **Cedar Creek Ra** 81.88 334 ⇓P P 03 30 41.4 +1.3
baz=82
J28A **Allard Ranch,** 81.93 339 ⇑P P 03 30 40.7 +0.7
baz=82,SNR=16
MPMC **Manual Prospec** 81.97 324 ⇓P P 03 30 41.5 +0.8
baz=82
N20A **Spence Gulch,** 81.99 333 ⇑P P 03 30 41.9 +1.2
baz=82
FURC **Furnace Creek,** 82.00 325 ⇑P P 03 30 42.1 +1.7
baz=82
J27A **Elkhorn Farm,** 82.01 338 ⇑P P 03 30 41.8 +1.2
baz=82,SNR=12
LBTB **Lobatse** 82.06 115 ⇓*i*P P 03 30 41.9 +0.4
comp=Z,315nm,6.5s
LBTB AMB AMB 03 30 43.0
comp=Z,56nm,1.4s
LBTB **Lobatse** 82.06 115 *e*P P 03 30 41.7 +0.2
LBTB pmax pmax
comp=Z,20nm,0.5s
LBTB **Lobatse** 82.06 115 *e*P P 03 30 41.7 +0.2
comp=Z,20nm,0.5s
TPNV **Topopah Spring** 82.10 326 ⇑P P 03 30 42.8 +1.5
baz=82
ISA **Isabella, Lake** 82.14 323 *e*P P 03 30 41.9 +0.5
ISA pmax pmax
comp=Z,4.0nm,0.8s
ISA **Isabella, Lake** 82.14 323 ⇑P P 03 30 43.1 +1.7
baz=82
ISA **Isabella, Lake** 82.14 323 *e*P P 03 30 41.9 +0.5
comp=Z,4.4nm,0.8s
L23A **Garrett** 82.19 335 ⇑P P 03 30 42.3 +0.6
baz=82
I29A **Vivian Onida** 82.21 340 ⇑P P 03 30 41.5 +0.1
baz=82,SNR=8.1
BRSD **Miller** 82.22 341 ⇑P P 03 30 42.1 +0.6
baz=82
BRSD **Miller** 82.22 341 *e*P P 03 30 41.4 -0.1
comp=Z,18nm,0.6s
L22A **Ellis Ranch, M** 82.37 335 ⇓P P 03 30 43.7 +1.0
baz=83
J26A **Sides Ranch, S** 82.39 338 ⇑P P 03 30 43.3 +0.7
baz=83,SNR=7.8
I28A **Midland** 82.44 339 ⇑P P 03 30 43.0 +0.3
baz=83,SNR=19
KSR **Koster** 82.56 116 *e*P P 03 30 44.5 +0.3
KSR AMB AMB 03 30 45.2
comp=Z,27nm,1.1s
KSR **Koster** 82.56 116 P P 03 30 44.5 +0.3
comp=Z,27nm,1.1s
VES **Vestal, Richgr** 82.58 323 ⇑P P 03 30 45.0 +1.5
baz=83
SMMC **Simmler** 82.62 322 ⇓P P 03 30 45.1 +1.2
baz=83
WDLM **Western Deep L** 82.62 117 *e*P P 03 30 45.0 +0.5
WDLM AMB AMB 03 30 45.5
comp=Z,23nm,0.9s
J25A **Sunshine Ranch** 82.70 337 ⇓P P 03 30 44.8 +0.7
baz=83
K23A **Bowen Ranch, D** 82.73 336 ⇓P P 03 30 44.6 +0.2
baz=83,SNR=5.6
H29A **Onida** 82.74 340 ⇑P P 03 30 44.4 +0.2
baz=83,SNR=13
I27A **Quinn** 82.76 339 ⇓P P 03 30 45.2 +0.8
baz=83
DAU **Daniels Canyon** 82.80 331 *e*P P 03 30 45.6 +0.6
DAU pmax pmax
comp=Z,5.0nm,0.9s
DAU **Daniels Canyon** 82.80 331 *e*P P 03 30 45.6 +0.6
comp=Z,4.6nm,0.9s
G30A **Faulkton** 82.91 341 ⇑P P 03 30 45.8 +0.7
baz=83
J24A **Dixon Ranch, L** 82.92 337 ⇑P P 03 30 46.5 +1.2
baz=83
R11A **Troy Canyon, C** 82.93 327 ⇑P P 03 30 46.6 +1.0
baz=83
K22A **Casper** 82.95 335 ⇑P P 03 30 46.0 +0.5
baz=83,SNR=7.3
K22A **Casper** 82.95 335 *e*P P 03 30 46.1 +0.5
comp=Z,12nm,1.1s
I26A **New Underwood** 82.98 338 ⇓P P 03 30 46.6 +1.1
baz=83
H28A **Mission Ridge** 83.01 340 ⇓P P 03 30 46.0 +0.3
baz=83,SNR=9.8
G29A **Hoven** 83.18 340 ⇓P P 03 30 47.2 +0.7
baz=84
K21A **Alcova** 83.19 335 ⇑P P 03 30 47.4 +0.5
baz=84,SNR=13
I25A **Rochford** 83.24 337 ⇓P P 03 30 47.6 +0.6
baz=84,SNR=9.3
DUG **Dugway, Tooele** 83.25 330 *e*P P 03 30 47.9 +0.7
DUG pmax pmax
comp=Z,9.0nm,1.1s
DUG **Dugway, Tooele** 83.25 330 ⇓P P 03 30 47.8 +0.7
baz=84,SNR=9.8
DUG **Dugway, Tooele** 83.25 330 *e*P P 03 30 47.9 +0.7
comp=Z,9.2nm,1.1s
H27A **Howes** 83.28 339 ⇑P P 03 30 47.2 +0.2
baz=84,SNR=15
G28A **Parade** 83.35 340 ⇓P P 03 30 47.8 +0.4
baz=84,SNR=16
I24A **Kuemmerle Ranc** 83.38 337 ⇑P P 03 30 48.5 +0.8
baz=84
RSSD **Black Hills** 83.43 337 *e*P P 03 30 47.6 -0.4
RSSD pmax pmax
comp=Z,9.0nm,0.9s
RSSD **Black Hills** 83.43 337 *e*P P 03 30 47.6 -0.4
comp=Z,8.9nm,0.9s
J22A **Midwest** 83.61 335 ⇑P P 03 30 49.6 +0.7
baz=84
SLR **Silverton** 83.65 117 *e*P P 03 30 50.0 +0.3
SLR AMB AMB 03 30 51.0
comp=Z,55nm,4.5s
SLR **Silverton** 83.65 117 P P 03 30 50.1 +0.3
SLR pmax pmax
comp=Z,55nm,4.5s
SLR **Silverton** 83.65 117 P P 03 30 50.0 +0.3
comp=Z,55nm,4.5s
H25A **Fruitdale** 83.74 338 ⇑P P 03 30 50.0 +0.6
baz=84,SNR=6.8
F29A **Eureka** 83.74 341 ⇓P P 03 30 50.2 +0.8
baz=84
MLAC **Mammoth, Mammo** 83.87 324 ⇑P P 03 30 51.8 +1.3
baz=84
J21A **Lysite** 83.88 335 ⇑P P 03 30 50.9 +0.5
baz=84
G27A **Dupree** 83.92 339 ⇓P P 03 30 50.3 0.0
baz=84,SNR=5.1
F28A **McLaughlin** 84.02 340 ⇑P P 03 30 50.9 0.0
baz=84,SNR=12
I22A **9 Mile Ranch,** 84.03 336 ⇑P P 03 30 51.1 +0.1
baz=84
SPUT **South Promonto** 84.04 331 *e*P P 03 30 51.4 +0.2
comp=Z,16nm,1.2s
G26A **Maurine** 84.04 339 ⇓P P 03 30 51.1 +0.1
baz=84,SNR=11
E30A **Jud** 84.11 342 ⇓P P 03 30 51.8 +0.6
baz=84
J20A **Shoshoni** 84.12 334 ⇑P P 03 30 52.1 +0.6
baz=84,SNR=12
PDAR **Pinedale Array** 84.15 333 P P 03 30 51.8 0.0
comp=Z,3.3nm,0.8s,baz=149,slow=5.5,SNR=25
PDAR PKKPbc **PKKPbc** 03 49 04.7 -2.2
comp=Z,0.4nm,0.6s,baz=40,slow=1.5,SNR=3.7
H24A **Dirks Ranch, A** 84.15 337 ⇑P P 03 30 51.4 -0.2
baz=84,SNR=6.2
G25A **Newell** 84.20 338 ⇓P P 03 30 52.1 +0.4
baz=84,SNR=14
I21A **Big Trails, Te** 84.24 335 ⇑P P 03 30 52.3 +0.2
baz=84,SNR=6.3
TORD **Torodi Ar. Bea** 84.25 70 P P 03 30 52.6 -0.1
comp=Z,41nm,0.8s,baz=252,slow=4.3,SNR=209
TORD LR LR 04 07 41.5
comp=Z,383nm,18.1s,baz=240,slow=35
NVAR **Mina Array Bea** 84.25 325 P P 03 30 53.3 +0.9
comp=Z,3.1nm,0.9s,baz=157,slow=5.9,SNR=18
E29A **Napoleon** 84.37 341 ⇓P P 03 30 53.3 +0.8
baz=85
J19A **Crowheart** 84.39 334 ⇑P P 03 30 53.2 +0.3
baz=85,SNR=13
F27A **Lemmon** 84.39 339 ⇑P P 03 30 53.1 +0.4
baz=85,SNR=26
F26A **Lodgepole** 84.56 339 ⇑P P 03 30 53.8 +0.2
baz=85,SNR=7.8
HVU **Hansel Valley** 84.56 331 *e*P P 03 30 53.9 +0.1
HVU pmax pmax
comp=Z,10.0nm,1.0s
HVU **Hansel Valley** 84.56 331 *e*P P 03 30 53.9 +0.1
comp=Z,9.9nm,1.0s
H22A **Clearmont** 84.61 336 ⇓P P 03 30 54.2 +0.3
baz=85
G24A **Alzada** 84.63 338 ⇓P P 03 30 54.5 +0.5
baz=85
D30A **Buchanan** 84.64 342 ⇑P P 03 30 54.2 +0.3
baz=85,SNR=6.7
I20A **Worland** 84.65 335 ⇑P P 03 30 54.5 +0.3
baz=85,SNR=7.3
E28A **Huff** 84.66 341 ⇑P P 03 30 54.8 +0.8
baz=85
E27A **Carson** 84.77 340 ⇑P P 03 30 54.9 +0.3
baz=85,SNR=7.7
D29A **Pettibone, Tap** 84.81 341 ⇓P P 03 30 55.1 +0.3
baz=85
G23A **Biddle** 84.83 337 ⇑P P 03 30 55.1 +0.2
baz=85
F25A **Bowman** 84.87 338 ⇑P P 03 30 55.8 +0.7
baz=85
H21A **Big Horn, Sher** 84.87 336 ⇓P P 03 30 55.5 +0.2
baz=85
I19A **Meeteetse** 85.04 334 ⇓P P 03 30 56.7 +0.5
baz=85
AGMN **Agassiz Nation** 85.05 344 ⇓P P 03 30 56.0 +0.1
baz=85,SNR=7.9
AGMN **Agassiz Nation** 85.05 344 *e*P P 03 30 55.5 -0.4
comp=Z,12nm,0.7s
E26A **Carlson Angus** 85.07 339 ⇓P P 03 30 56.2 +0.1
baz=85,SNR=7.6
H20A **Greybull** 85.08 335 ⇓P P 03 30 56.1 -0.1
baz=85,SNR=13
F24A **Ekalaka** 85.10 338 ⇓P P 03 30 56.5 +0.2
baz=85,SNR=5.6
C30A **Mose, Pekin** 85.12 342 ⇓P P 03 30 56.7 +0.4
baz=85,SNR=9.5
G22A **Birney** 85.14 336 ⇓P P 03 30 57.1 +0.5
baz=85
D28A **Regan** 85.19 341 ⇑P P 03 30 57.5 +0.8
baz=86
F23A **Volborg** 85.29 337 ⇑P P 03 30 57.3 +0.1
baz=86,SNR=11
E25A **Miller Ranch,** 85.37 339 ⇓P P 03 30 58.5 +0.8
baz=86
G21A **Lodge Grass** 85.45 336 ⇓P P 03 30 58.2 +0.1
baz=86,SNR=5.7
I17A **Pilgrim Ck.** 85.52 333 ⇓P P 03 30 59.4 +0.8
baz=86,SNR=10
MDND **Maddock** 85.54 342 ⇑P P 03 30 59.0 +0.7
baz=86
D26A **Manning** 85.56 340 ⇑P P 03 30 59.2 +0.6
baz=86,SNR=6.4
H19A **Powell** 85.58 334 ⇑P P 03 30 59.1 +0.3
baz=86,SNR=9.5
F22A **Rosebud** 85.62 337 ⇓P P 03 30 59.2 +0.3
baz=86,SNR=6.3
C28A **Hausauer Farms** 85.62 341 ⇑P P 03 30 58.8 0.0
baz=86
E24A **Baker** 85.70 338 ⇓P P 03 30 59.8 +0.6
baz=86,SNR=5.0
B30A **Myrvik Farm, E** 85.78 343 ⇓P P 03 30 60.0 +0.4
baz=86,SNR=15
G20A **Bridger** 85.79 335 ⇓P P 03 30 59.8 -0.1
baz=86,SNR=20
H18A **Shoshone NF, C** 85.83 334 ⇓P P 03 31 00.1 -0.1
baz=86,SNR=26
C27A **Sayler Ranch,** 85.92 340 ⇑P P 03 31 01.2 +0.9
baz=86
H17A **Grant Village** 85.93 333 ⇓P P 03 31 01.4 +0.8
baz=86
D25A **Fairfield** 85.93 339 ⇓P P 03 31 00.7 +0.3
baz=86,SNR=9.0
F21A **Absaloka Mine,** 85.95 336 ⇓P P 03 31 01.2 +0.6
baz=86
E23A **Ismay** 85.95 338 ⇓P P 03 31 01.1 +0.6
baz=86
YFT **Old Faithful** 86.07 333 *e*P P 03 31 02.5 +1.1
comp=Z,7.6nm,0.8s
RLMT **Red Lodge** 86.08 335 *e*P P 03 31 01.4 +0.1
comp=Z,5.2nm,0.5s
E22A **Miles City** 86.10 337 ⇓P P 03 31 01.1 -0.2
baz=86,SNR=5.9
C26A **Wahner Farm, P** 86.19 340 ⇓P P 03 31 02.4 +0.8
baz=86
D24A **Glendive** 86.20 338 ⇑P P 03 31 02.4 +0.7
baz=86
A30A **Hoffart Farm,** 86.22 343 ⇑P P 03 31 01.4 -0.3
baz=86,SNR=8.1
F20A **Billings** 86.27 336 ⇓P P 03 31 02.5 +0.4
baz=87
B28A **Dugan Ranch, T** 86.29 341 ⇓P P 03 31 02.9 +0.8
baz=87
YMR **Madison River** 86.30 333 *e*P P 03 31 03.4 +0.9
comp=Z,23nm,1.0s
LAO **LASA Array** 86.41 337 *e*P P 03 31 02.7 -0.1
comp=Z,22nm,1.0s
C25A **Freed Ranch, W** 86.42 339 ⇑P P 03 31 03.5 +0.7
baz=87
A29A **Manning Farm,** 86.44 342 ⇑P P 03 31 03.1 +0.3
baz=87,SNR=8.9
D23A **Lindsay** 86.52 338 ⇑P P 03 31 04.0 +0.7
baz=87,SNR=30
E21A **Keefer Ranch,** 86.56 337 ⇑P P 03 31 03.8 +0.3
baz=87,SNR=10
F19A **Roth Farm, Mol** 86.59 335 ⇑P P 03 31 03.7 0.0
baz=87,SNR=5.5
C24A **Savage** 86.60 339 ⇑P P 03 31 04.1 +0.5
baz=87,SNR=9.3
QLMT **Earthquake Lak** 86.62 333 *e*P P 03 31 04.9 +0.9
comp=Z,0.9nm,1.0s
A28A **Rude Farm, Bot** 86.69 342 ⇓P P 03 31 04.9 +0.9
baz=87
HLID **Hailey** 86.72 331 ⇓P P 03 31 05.3 +0.8
baz=87,SNR=11
B26A **Jensen Ranch,** 86.73 340 ⇓P P 03 31 05.4 +1.1
baz=87
GCMT **Greycliff** 86.79 335 *e*P P 03 31 04.7 -0.1
comp=Z,3.3nm,0.9s
D22A **Cohagen** 86.81 337 ⇑P P 03 31 05.3 +0.6
baz=87,SNR=13
E20A **Meyer Farm, Mu** 86.88 336 ⇓P P 03 31 05.5 +0.4
baz=87,SNR=24
ULM **Lac du Bonnet** 86.89 345 P P 03 31 04.2 -0.7
comp=Z,14nm,0.9s,baz=167,slow=4.9,SNR=20
B25A **Knox Farm, Ray** 86.90 340 ⇓P P 03 31 06.3 +1.2
baz=87
MSNA **Messina** 86.90 115 *e*P P 03 31 07.4 +1.4
MSNA AMB AMB 03 31 07.8
comp=Z,27nm,0.9s
MSNA **Messina** 86.90 115 P P 03 31 07.4 +1.4
comp=Z,27nm,0.9s
E19A **Rath Farm, Rou** 87.07 335 ⇓P P 03 31 06.1 +0.1
baz=87,SNR=22
C23A **Lambert** 87.08 338 ⇓P P 03 31 06.3 +0.3
baz=87,SNR=24
A26A **Wade Farm, Ken** 87.15 341 ⇓P P 03 31 06.9 +0.6
baz=87
MCMT **McKenzie Canyo** 87.15 332 *e*P P 03 31 07.5 +0.9
comp=Z,6.6nm,1.0s
D20A **Manuel Ranch,** 87.39 336 ⇑P P 03 31 07.6 0.0
baz=88,SNR=18
A25A **Svangstu Ranch** 87.49 340 ⇑P P 03 31 08.4 +0.5
baz=88,SNR=5.4
B23A **Brockton** 87.61 339 ⇓P P 03 31 08.7 +0.2
baz=88,SNR=7.4
C21A **Desert Coulee** 87.70 337 ⇓P P 03 31 08.8 -0.2
baz=88,SNR=12
D19A **Cripps Ranch,** 87.71 336 ⇓P P 03 31 09.1 0.0
baz=88,SNR=7.7
A24A **Westby** 87.73 339 ⇑P P 03 31 09.4 +0.3
baz=88,SNR=5.7
B22A **Reddig Ranch S** 87.77 338 ⇑P P 03 31 09.5 +0.1
baz=88,SNR=14
LRM **Limekiln Ridge** 87.84 333 *e*P P 03 31 10.3 +0.3
comp=Z,52nm,1.0s
C20A **Veseth Ranch,** 87.89 337 ⇓P P 03 31 10.2 +0.3
baz=88,SNR=12
MOD **Modoc Plateau** 87.94 326 *e*P P 03 31 11.0 +0.5
comp=Z,3.2nm,0.6s
A23A **Redstone** 88.02 339 ⇑P P 03 31 10.8 +0.3
baz=88
B21A **Ellsworth Farm** 88.20 337 ⇓P P 03 31 11.5 +0.2
baz=88,SNR=5.5
C19A **Slack Wire Ran** 88.26 336 ⇓P P 03 31 11.9 +0.2
baz=88
A22A **Carney Farms,** 88.36 338 ⇓P P 03 31 12.4 +0.3
baz=89,SNR=16
B20A **Solberg Farm,** 88.53 337 ⇑P P 03 31 13.6 +0.6
baz=89
A21A **Bergtoll Ranch** 88.67 338 ⇑P P 03 31 14.1 +0.5
baz=89
B19A **Brinkman Farms** 88.85 336 ⇑P P 03 31 14.9 +0.5
baz=89
A20A **Cobblestone Ra** 88.89 337 ⇑P P 03 31 14.6 0.0
baz=89,SNR=8.9
SCHQ **Schefferville** 88.96 3 P P 03 31 13.8 -0.9
comp=Z,6.8nm,1.0s,baz=236,slow=5.3,SNR=3.6
A19A **Klindworth Far** 89.20 337 ⇓P P 03 31 16.7 +0.6
baz=90
MSO **Missoula** 89.25 333 ⇓P P 03 31 17.3 +0.9
baz=90
J05D **Fort Rock, OR** 89.45 326 ⇓P P 03 31 18.5 +1.1
baz=90
J04D **Umpqua Nationa** 89.82 326 ⇓P P 03 31 20.3 +1.0
baz=90
BSMT **Bassoo Peak** 90.42 333 *e*P P 03 31 22.4 +0.4
NEW **Newport** 91.65 332 ⇑P P 03 31 28.4 +0.9
baz=92
TAM **Tamanrasset** 92.90 64 *e*P P 03 31 34.6 +0.6
TAM pmax pmax
comp=Z,11nm,1.3s
TAM **Tamanrasset** 92.90 64 *e*P P 03 31 34.6 +0.6
comp=Z,11nm,1.3s
FCC **Fort Churchill** 94.62 349 *e*P P 03 31 40.7 -0.1
FCC **Fort Churchill** 94.62 349 *e*P P 03 31 40.7 -0.1
ESDC **Sonseca Array** 96.77 46 P P 03 31 51.0 -0.3
comp=Z,1.5nm,0.8s,baz=243,slow=3.9,SNR=7.0
YKA **Yellowknife Ar** 102.45 341 P Pdif 03 32 15.4 -0.5
comp=Z,0.8nm,0.7s,baz=141,slow=4.3,SNR=21
GERES **GERESS Array B** 112.35 45 PKiKP **PKiKP** 03 36 55.2 -0.9
comp=Z,0.6nm,0.6s,baz=180,slow=1.1,SNR=4.8
CLL **Collm** 113.06 43 *e*PS PS 03 47 24.0 +1.5
CLL *e*(SSSS) 04 01 48.0

CLL Lm MLR 04 23 00.0
comp=Z,200nm,19.5s
ILAR Eielson Array 114.58 333 PKP PKPdf 03 36 58.9 -1.0
comp=Z,1.2nm,0.9s,baz=204,slow=1.2,SNR=9.7
VYHS Vyhne 115.28 47 *e*PKIKP **PKPdf 03 37 02.0 +0.3**
VYHS Vyhne 115.28 47 *e*PKP **PKPdf 03 37 02.0 +0.3**
DRGR 117.02 50 ⇓PKIKP **PKPdf 03 37 05.3 +0.1**
DRGR 117.02 50 ⇓*i*P **PKPdf 03 37 05.3 +0.1**
ASAR Alice Springs 117.27 207 PKP **PKPdf 03 37 04.8 -1.6**
comp=Z,0.7nm,0.6s,baz=140,slow=1.7,SNR=9.5
ASAR PKKPbc **PKKPbc 03 47 29.9 +0.4**
comp=Z,0.9nm,0.6s,baz=333,slow=2.9,SNR=8.7
TRPA Tarpa 117.42 49 ⇓*i*P **PKPdf 03 37 05.9 +0.2**
KWP Kalwaria Pacla 118.07 47 *e*PKIKP **PKPdf 03 37 07.6 +0.6**
KWP Kalwaria Pacla 118.07 47 *e*PKP **PKPdf 03 37 07.6 +0.6**
BURAR Bucovina Array 118.91 50 ⇓PKIKP **PKPdf 03 37 07.6 -1.2**
BURAR Bucovina Array 118.91 50 ⇓*i*P **PKPdf 03 37 07.6 -1.2**
SUW Suwalki 119.82 43 *e*PKIKP **PKPdf 03 37 09.5 -0.7**
SUW Suwalki 119.82 43 *e*PKP **PKPdf 03 37 09.8 -0.4**
SUW Suwalki 119.82 43 *e*PKPdf **PKPdf 03 37 09.5 -0.7**
TIRR Tirgusor 119.91 54 ⇑PKIKP **PKPdf 03 37 10.0 -0.7**
TIRR Tirgusor 119.91 54 ⇑*i*P **PKPdf 03 37 10.0 -0.7**
CFR Carcaliu 119.97 54 ⇑PKIKP **PKPdf 03 37 10.3 -0.4**
CFR Carcaliu 119.97 54 ⇑*i*P **PKPdf 03 37 10.3 -0.4**
WB2 Warramunga Arr 120.47 209 *e*PKPdf **PKPdf 03 37 11.7 -1.0**
WRA Warramunga Arr 120.47 209 PKP **PKPdf 03 37 11.8 -0.9**
comp=Z,2.3nm,0.5s,baz=161,slow=1.7,SNR=39
WRA PKKPbc **PKKPbc 03 47 19.0 +1.1**
comp=Z,0.9nm,0.9s,baz=339,slow=4.4,SNR=6.0
WRAB Tennant Creek 120.48 209 *e*PKIKP **PKPdf 03 37 11.3 -1.4**
WRAB Tennant Creek 120.48 209 *e*PKPdf **PKPdf 03 37 11.3 -1.4**
BRTR Keskin Array B 121.93 61 PKP **PKPdf 03 37 14.8 -0.1**
comp=Z,2.6nm,0.7s,baz=192,slow=3.5,SNR=16
BRTR PP **PP 03 38 51.8 +2.1**
comp=Z,1.4nm,1.1s,baz=207,slow=7.8,SNR=4.6
AKASG Malin Array Be 122.38 48 PKP **PKPdf 03 37 14.2 -1.1**
comp=Z,2.6nm,0.7s,baz=260,slow=2.6,SNR=6.9
TNA Tin City 123.17 330 *e*PKPdf **PKPdf 03 37 16.2 -0.1**
FINES FINESS Array B 123.25 35 PKP **PKPdf 03 37 16.2 -0.3**
comp=Z,3.0nm,0.9s,baz=219,slow=2.4,SNR=7.0
MBWA Marble Bar 123.66 193 *e*PKPdf **PKPdf 03 37 17.9 -0.9**
ARCES ARCESS Array B 124.32 25 PKP **PKPdf 03 37 18.1 -0.3**
comp=Z,1.5nm,0.6s,baz=253,slow=3.0,SNR=8.6
RAYN Ar Rayn 124.94 84 *e*PKPdf **PKPdf 03 37 21.2 +0.2**
MALT Malatya 124.98 64 ⇓PKIKP **PKPdf 03 37 21.6 +0.8**
MALT Malatya 124.98 64 ⇓*i*P **PKPdf 03 37 21.5 +0.8**
H11S2 WAKE ISLAND Hyl 25.86 269 T T 05 55 43.6
baz=120,slow=75,SNR=38
H11S1 WAKE ISLAND Hyl 25.87 269 T T 05 55 39.9
baz=120,slow=75,SNR=45
H11S3 WAKE ISLAND Hyl 25.88 269 T T 05 55 42.8
baz=120,slow=75,SNR=45
H11N3 WAKE ISLAND Hyl 26.28 270 T T 05 56 14.5
baz=116,slow=78,SNR=38
H11N1 WAKE ISLAND Hyl 26.30 270 T T 05 56 15.2
baz=116,slow=78,SNR=70
H11N2 WAKE ISLAND Hyl 26.30 270 T T 05 56 13.4
baz=116,slow=78,SNR=57
OBN Obninsk 127.65 43 ⇑*i*PKIKP **PKPdf 03 37 25.5 +0.4**
OBN pmax pmax
comp=Z,13nm,1.0s
OBN MLR MLR
comp=Z,152nm,19.0s
KIV Kislovodsk 129.61 58 *i*PKIKP **PKPdf 03 37 30.4 +1.0**
KIV *e* 03 39 40.5
KIV *e*PS **PS 03 49 44.6 -6.2**
KIV *e*SS SS 03 57 02.8 +1.1
KIV pmax pmax
comp=Z,13nm,0.9s
KIV MLR MLR
comp=Z,86nm,20.0s
KIV Kislovodsk 129.61 58 *e*PKPdf **PKPdf 03 37 30.3 +0.8**
KLMR Klimovskoe 129.66 36 *e*PKIKP **PKPdf 03 37 27.7 -1.1**
KLMR pmax pmax
comp=Z,32nm,1.4s
PRGR Permogore 132.58 35 PKIKP **PKPdf 03 37 32.5 -1.8**
PRGR pmax pmax
comp=Z,39nm,1.5s
BILL Bilibino 133.22 334 ⇑*e*PKIKP **PKPdf 03 37 36.2 +0.8**
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 133.22 334 *e*PKPdf **PKPdf 03 37 36.0 +0.6**
KAPI Kappang 139.29 198 *e*PKPdf **PKPdf 03 37 49.7 +1.3**
GEYT Alibeck 139.89 70 PKP **PKPdf 03 37 47.5 -1.2**
comp=Z,5.1nm,0.8s,baz=252,slow=7.3,SNR=6.0
ARU Arti 139.97 41 PKHKP PKPpre 03 37 39.2
SEY Seymchan 140.41 330 PKP **PKPdf 03 37 49.0 +0.2**
comp=Z,6.1nm,0.8s,baz=135,slow=2.1,SNR=16
AKTO Aktyubinsk 140.51 50 PKhKP PKPpre 03 37 41.6
comp=Z,1.7nm,0.7s,baz=270,slow=3.6,SNR=8.8
TIXI Tiksi 141.09 350 *e*PKIKP **PKPdf 03 37 52.4 +2.6**
TIXI pmax pmax
comp=Z,4.0nm,0.7s
TIXI Tiksi 141.09 350 *e*PKPpre PKPpre 03 37 42.3
TIXI *e*PKPdf **PKPdf 03 37 50.3 +0.5**
AB31 Akbulak array 141.84 52 *i*PKHKP PKPpre 03 37 46.3
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 141.84 52 *e*PKPpre PKPpre 03 37 45.6
PALK Pallekele 143.06 131 *e*PKIKP **PKPdf 03 37 55.7 +0.5**
PALK Pallekele 143.06 131 *e*PKPdf **PKPdf 03 37 55.7 +0.5**
KSM Kuching 147.19 184 *e*PKPbc **PKPbc 03 38 04.7 +0.2**
BVA0 Borovoye Array 147.49 43 *i*PKP2 **PKPbc 03 38 04.8 +0.7**
BVA0 pmax pmax
comp=Z,47nm,1.1s
BVAR Borovoye Array 147.49 43 PKPbc **PKPbc 03 38 05.3 +1.2**
HYB Hyderabad 148.68 115 *i*PKP **PKPbc 03 38 07.5 -0.8**
YAK Yakutsk 149.12 340 *e*PKIKP **PKPdf 03 38 03.4 -0.4**
YAK *e* 03 38 12.7
YAK pmax pmax
comp=Z,35nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK Yakutsk 149.12 340 *e*PKPdf **PKPdf 03 38 04.2 +0.4**
YAK *e*PKPbc **PKPbc 03 38 08.2 +0.2**
YAK *e*PKPab **PKPab 03 38 13.1 +0.6**
IPM Ipoh 149.53 166 *e*PKPbc **PKPbc 03 38 09.8 -0.8**
IPM *e*PKPab **PKPab 03 38 15.2 -0.2**
KK31 Karatay Array 149.64 62 *i*PKP2 **PKPbc 03 38 09.9 -0.1**
KK31 pmax pmax
comp=Z,20nm,1.0s
KKAR Karatay Array 149.64 62 *e*PKP2 **PKPbc 03 38 09.9 -0.1**
KKAR Karatay Array 149.64 62 *e*PKPbc **PKPbc 03 38 09.9 -0.1**
KULM Kulim 150.24 165 *e*PKPdf **PKPdf 03 38 06.3 -0.8**
KULM *e*PKPbc **PKPbc 03 38 11.8 -0.5**
KKM Kota Kinabalu 150.81 197 *e*PKPbc **PKPbc 03 38 13.4 -0.3**
YSS Yuzh-Sakhalins 151.10 306 *e*PKIKP **PKPdf 03 38 07.8 +0.4**
YSS *e* 03 38 13.7
YSS Yuzh-Sakhalins 151.10 306 *e*PKPdf **PKPdf 03 38 07.8 +0.4**
YSS *e*PKPbc **PKPbc 03 38 13.7 +0.4**
ASAJ Asahikawa 151.74 300 PKPbc **PKPbc 03 38 14.9 0.0**
comp=Z,14nm,1.0s,baz=220,slow=5.2,SNR=4.7
AML Almayashu 152.06 64 P **PKPbc 03 38 16.9 +0.7**
SNR=14
EKS2 Erkin-Say 152.07 63 P **PKPbc 03 38 16.5 +0.6**
SNR=13
EKS2 Erkin-Say 152.07 63 *e*PKIKP **PKPdf 03 38 09.9 +0.6**
EKS2 *e* 03 38 16.1
EKS2 *e* 03 38 25.8
EKS2 Erkin-Say 152.07 63 *e*PKPdf **PKPdf 03 38 09.8 +0.6**
EKS2 *e*PKPbc **PKPbc 03 38 16.1 +0.2**
EKS2 *e*PKPab **PKPab 03 38 25.8 +0.3**
USP Ospenovka 152.53 61 P **PKPbc 03 38 17.6 +0.8**
SNR=8.9
AAK Ala-Archa 152.60 62 P **PKPbc 03 38 18.2 +1.1**
SNR=16
AAK Ala-Archa 152.60 62 *e*PKIKP **PKPbc 03 38 17.7 +0.6**
AAK *e* 03 38 27.4
AAK Ala-Archa 152.60 62 PKPbc **PKPbc 03 38 17.8 +0.6**
comp=Z,21nm,0.8s,baz=219,slow=3.0,SNR=5.9
AAK Ala-Archa 152.60 62 *e*PKPbc **PKPbc 03 38 17.7 +0.6**
AAK *e*PKPab **PKPab 03 38 27.4 -0.4**
UCH Uchtor 152.65 63 P **PKPbc 03 38 18.6 +1.0**
SNR=14
FRU Bishkek 152.67 62 *e*PKIKP **PKPbc 03 38 17.5 +0.4**
FRU pmax pmax
comp=Z,60nm,1.8s
CHMS Chumysh 152.74 62 P **PKPbc 03 38 18.0 +0.7**
SNR=5.1
KBK Karagaybulak 152.93 62 P **PKPbc 03 38 19.1 +1.2**
SNR=6.7
KURBB Kurchatov Arra 153.08 44 PKP **PKPdf 03 38 10.7 +0.5**
comp=Z,0.9nm,0.3s,baz=311,slow=1.8,SNR=2.6
KURBB PKPbc **PKPbc 03 38 17.5 -0.2**
comp=Z,5.7nm,0.5s,baz=301,slow=3.0,SNR=6.5
KURBB PP **PP 03 42 07.4 +4.5**
comp=Z,1.1nm,0.3s,baz=282,slow=6.5,SNR=4.4
KURK Kurchatov 153.09 44 PKIKP **PKPdf 03 38 10.7 +0.4**
KURK *e* 03 38 17.4
KURK 03 42 07.4
KURK Kurchatov 153.09 44 PKP **PKPdf 03 38 10.7 +0.4**
KURK *e*PKPbc **PKPbc 03 38 17.4 -0.3**
KURK PP **PP 03 42 07.4 +4.4**
NVS Novosibirsk 153.21 33 ⇓*i*PKIKP **PKPbc 03 38 17.3 -0.5**
NVS pmax pmax
comp=Z,32nm,1.0s
NVS pmax pmax
comp=N,4.0nm,1.1s
NVS pmax pmax
comp=E,9.0nm,1.1s
TKM2 Tokmak 2 153.37 62 *e*PKIKP **PKPdf 03 38 11.6 +0.3**
TKM2 *e* 03 38 19.1
TKM2 *e* 03 38 30.3
TKM2 Tokmak 2 153.37 62 *e*PKPdf **PKPdf 03 38 11.6 +0.3**
TKM2 *e*PKPbc **PKiKP 03 38 19.1 +0.1**
TKM2 *e*PKPab **PKPab 03 38 30.3 -0.8**
KSH Kashi 153.92 69 PKPbc **PKPdf 03 38 12.0 -0.1**
KSH sPKP 03 38 25.8
KSH PKS **PKSdf 03 41 46.3 -0.1**
KSH PP **PP 03 42 06.9 -1.6**
KSH SS SS 04 01 41.3 -3.2
KSH PPMZ
comp=E,81nm,5.1s
KSH LN
comp=E,46nm,5.0s
KSH LE
comp=E,47nm,4.4s
KSH LZ
comp=E,140nm,5.6s
ZALV Zalesovo Beam 154.50 33 PKP **PKPdf 03 38 11.9 -0.3**
comp=E,2.9nm,0.7s,baz=300,slow=3.3,SNR=10
ZALV PKPbc **PKPbc 03 38 20.0 -0.6**
comp=E,14nm,0.8s,baz=298,slow=3.2,SNR=30
ZALV PKPab **PKPab 03 38 35.2 +0.1**
comp=E,18nm,0.7s,baz=308,slow=5.5,SNR=16
MJAR Matsushiro Arr 155.41 284 PKPbc PKPdf 03 38 25.0 +11
comp=E,1.6nm,0.8s,baz=98,slow=4.0,SNR=3.2
MJAR PKPab **PKPab 03 38 40.2 +0.4**
comp=E,0.9nm,0.6s,baz=75,slow=3.3,SNR=3.1
BOD Bodaibo 156.22 352 *e*PKIKP PKPdf 03 38 23.6 +9.2
BOD *e* 03 38 41.8
BOD pmax pmax
comp=Z,16nm,1.1s
MKAR Makanchi Array 156.94 50 PKP **PKPdf 03 38 15.9 +0.1**
comp=Z,1.8nm,0.9s,baz=316,slow=4.0,SNR=11
MKAR PKPab **PKPab 03 38 45.4 -0.6**
comp=Z,8.1nm,0.8s,baz=307,slow=5.2,SNR=16
PYUN Piuthan 157.68 99 *e*P **PKPdf 03 38 16.6 -0.9**
comp=Z,25nm,0.9s
KOLN Koldanda 158.05 101 *e*P **PKPdf 03 38 17.5 -0.5**
DANN Dangsing 158.41 100 *e*P **PKPdf 03 38 18.5 0.0**
comp=Z,35nm,0.8s
GKN Gorkha 158.99 101 *e*P **PKPdf 03 38 18.8 -0.2**
DMN Daman 159.20 103 *e*P **PKPdf 03 38 18.4 -1.0**
KKN Kakani 159.42 102 *e*P **PKPdf 03 38 18.4 -1.2**
PKIN Phulchoki 159.43 103 *e*P **PKPdf 03 38 18.6 -1.1**
comp=Z,6.1nm,0.5s
PKI Pulchoki 159.43 103 *e*P **PKPdf 03 38 19.0 -0.8**
GUN Gumba 159.95 103 *e*P **PKPdf 03 38 19.7 -0.7**
JIRN Jiri 160.10 104 *e*P **PKPdf 03 38 20.7 +0.1**
RAMN Ramite 160.12 106 *e*P **PKPdf 03 38 20.7 +0.2**
comp=Z,9.3nm,0.6s
ODAN Odare 160.70 107 *e*P **PKPdf 03 38 21.0 -0.1**
comp=Z,9.8nm,0.4s
TAPN Taplejung 161.18 106 *e*P **PKPdf 03 38 22.0 +0.3**
WMQ Urumqi 161.63 53 *e*PKP **PKPdf 03 38 20.9 -0.5**
WMQ pPKP **pPKPdf 03 38 31.4 -0.7**
WMQ PKPab **PKPab 03 39 07.8 +1.3**
WMQ PKS **PKSdf 03 41 53.0 -1.5**
WMQ PP **PP 03 42 52.0 +1.6**
WMQ SKS **SKSdf 03 45 21.0 -2.8**
WMQ SKKS **SKKSac 03 49 35.0 -1.0**
WMQ SS **SS 04 03 02.5 -3.3**
WMQ PPMZ
comp=Z,69nm,5.5s
WMQ LN
comp=Z,54nm,24.0s
WMQ LE
comp=Z,160nm,24.0s
WMQ LZ
comp=Z,110nm,21.0s
CMAR Chiang Mai Arr 162.17 151 PKIKP **PKPdf 03 38 21.0 -1.6**
CMAR Chiang Mai Arr 162.17 151 PKP **PKPdf 03 38 20.9 -1.6**
comp=Z,1.0nm,0.3s,baz=224,slow=2.5,SNR=8.3
ZAK Zakamensk 163.63 11 *e*PKP2 **PKPab 03 39 15.1 +0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
QIZ Qiongzhong 164.62 186 PKP **PKPdf 03 38 23.8 -1.1**
QIZ SS SS 04 03 39.0 +4.4
QIZ PPMZ
comp=Z,120nm,5.9s
QIZ LZ
comp=Z,73nm,21.9s
SONM Songino Array 166.50 5 PKP **PKPdf 03 38 25.4 -0.4**
comp=Z,1.0nm,0.9s,baz=253,slow=0.8,SNR=6.2
SONM PKPab **PKPab 03 39 28.2 +0.5**
comp=Z,3.2nm,0.9s,baz=350,slow=3.8,SNR=14
SONM PP **PP 03 43 13.7 -1.2**
comp=Z,0.6nm,0.9s,baz=339,slow=6.5,SNR=4.9
ULN Ulaanbaatar 166.51 3 *e*PKIKP **PKPdf 03 38 25.2 -0.6**
ULN *e* 03 39 28.0
ULN Ulaanbaatar 166.51 3 *e*PKPdf **PKPdf 03 38 25.2 -0.6**
ULN *e*PKPab **PKPab 03 39 28.0 +0.2**
KMI Kunming 169.67 152 PKP **PKPdf 03 38 31.1 +2.4**
KMI LZ
comp=Z,65nm,23.4s
BJI Beijing 171.43 314 PKP **PKPdf 03 38 26.9 -2.0**
BJI LZ
comp=Z,79nm,24.6s
GTA Gaotai 171.70 50 ⇑PKP **PKPdf 03 38 30.4 +1.2**
GTA pPKP **pPKPdf 03 38 41.3 +1.3**
GTA sPKP 03 38 44.6
GTA PKPab **PKPab 03 39 52.3 +1.2**
GTA PP **PP 03 43 46.3 +4.1**
GTA SKS **SKSdf 03 45 28.8 -1.4**
GTA SKKS **SKKSac 03 50 28.0 +1.5**
GTA SS **SS 04 04 46.9 -0.9**
GTA PPMZ
comp=Z,220nm,5.9s
GTA LN
comp=Z,170nm,20.0s
GTA LE
comp=Z,190nm,20.4s
GTA LZ
comp=Z,180nm,20.4s
TIA Tai'an 172.38 286 PKP **PKPdf 03 38 29.9 +0.4**
HHC Hu-ho-hao-te 172.98 338 *e*PKP **PKPdf 03 38 30.5 +0.8**
HHC pPKP **pPKPdf 03 38 41.3 +0.8**
HHC sPKP 03 38 44.9
HHC PP **PP 03 43 51.6 +3.9**
HHC SKS **SKSdf 03 45 28.4 -2.1**
HHC PPMZ
comp=Z,90nm,7.4s
HHC LN
comp=Z,170nm,18.5s
HHC LE
comp=Z,160nm,17.3s
HHC LZ
comp=Z,190nm,17.3s
CD2 Chengdu 174.97 132 *e*PKP **PKPdf 03 38 31.5 +0.8**

*NEIC **18** 03:25:32.3±0.3, 35.°91S×72.°16W, mb4.8/23, Error ellipse: s-maj=9.5km s-min=5.3km az=78.0*
NEIC Felt [V] at Constitucion, Linares, Parral and San Carlos; [IV] at Chanco, Curanipe and Talca. Also felt at Santiago.
*IDC **18** 03:25:32.5±0.6, 35.°93S×72.°03W, h48km±5km, mb4.2/12, mb1 4.3/16, mb1mx4.2/24, mbtmp4.4/16, MS4.2/4, Ms1 4.2/4, ms1mx3.5/27, Error ellipse: s-maj=20.1km s-min=13.0km az=82.0*
*GUC **18** 03:25:32.0±0.5, 36.°03S×72.°12W, h59km±6km, ML4.9*
*ISCJB **18** 03:25:47.8±0.8, 35.°1S±0.°1×71.°1W±0.°2, h49km, mb4.7/34, MS4.2/4, Error ellipse: s-maj=23.1km s-min=16.1km az=42.6*

*BJI **18** 03:25:50.1, 34.°60S×71.°30W, h35km, mB5.2/4, Ms5.1/5, Ms7 5.0/4*
ISC 18 03:25:32.1±0.5, 35.°95S±0.°05×72.°24W±0.°07, h52km±4km, h52km:pP-P, n386, σ0.98/87, mb4.7/34, MS4.3/4, 156C-155D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.53**	**80**	⇓*i*P	**Pn**	**03 25 43.8**	**-0.1**
LNCH				*i*S	**Sn**	**03 25 52.4**	**+0.1**
LNCH				AML	AML	03 25 55.1	
	comp=E,61μm,0.4s						
TALC	**Talca**	**0.74**	**42**	⇓*i*P	**Pn**	**03 25 47.1**	**+0.7**
TALC				*i*S	**Sn**	**03 25 58.1**	**+1.3**
TALC				AML	AML	03 26 00.4	
	comp=E,106μm,0.2s						
CCSP	**San Pedro de C**	**1.14**	**218**	⇑*i*P	**Pn**	**03 25 52.0**	**+0.3**
NICH	**Los Niches**	**1.25**	**42**	*e*P1	**Pn**	**03 25 53.8**	**+0.6**
NICH				*i*S	**Sn**	**03 26 10.1**	**+1.1**
NICH				AML	AML	03 26 19.5	
	comp=N,29μm,0.4s						
ANTU	**Antumapu**	**2.72**	**30**	⇑*i*P	**Pn**	**03 26 14.3**	**+1.0**
ANTU				AML	AML	03 27 04.3	
	comp=N,9μm,0.5s						
VLCH	**Valdivia**	**3.93**	**191**	*e*P1	**Pn**	**03 26 29.5**	**-0.4**
PLCA	**Paso Flores**	**4.96**	**165**	P	**Pn**	**03 26 45.8**	**+1.8**
	comp=N,7.6nm,0.3s,baz=348,slow=12,SNR=44						
PLCA				Lg	Lg	03 27 58.0	
	comp=N,5.9nm,0.3s,baz=282,slow=8.8,SNR=3.0						
CFAA	**Coronel Fontan**	**5.46**	**39**	P	**Pn**	**03 26 51.5**	**+0.6**
	comp=N,1.4nm,0.3s,baz=209,slow=14,SNR=30						
CFAA				S	**Sn**	**03 27 54.1**	**+1.5**
	comp=N,2.0nm,0.3s,baz=252,slow=20,SNR=3.7						
LCO	**Las Campanas**	**7.04**	**11**	*e*Pn	**Pn**	**03 27 11.8**	**-1.0**
LCO				*e*Lg	Lg	03 28 29.0	
TRQA	**Tornquist**	**8.48**	**107**	*e*Pn	**Pn**	**03 27 33.2**	**+1.0**
LVC	**Limon Verde**	**13.60**	**13**	*e*Pn	**Pn**	**03 28 42.9**	**+0.4**
LVC				*e*Lg	Lg	03 31 38.5	
EFI	**East Falkland**	**18.70**	**152**	*e*Pn	**P**	**03 29 45.9**	**0.0**
USHA	**Ushuaia**	**19.07**	**173**	P	**Pn**	**03 29 52.1**	**+0.9**
	comp=N,0.5nm,0.3s,baz=329,slow=5.9,SNR=3.8						
LPAZ	**La Paz**	**19.92**	**12**	P	**Pn**	**03 30 02.0**	**-0.1**
	comp=N,0.7nm,0.3s,baz=179,slow=7.4,SNR=19						
LPAZ	**La Paz**	**19.92**	**12**	*e*P	**Pn**	**03 30 01.8**	**-0.3**
	comp=N,29nm,0.9s						
SIV	**San Ignacio**	**22.23**	**30**	P	**P**	**03 30 24.4**	**-0.1**
	comp=N,20nm,0.6s,baz=208,slow=8.3,SNR=32						
NNA	**Nana**	**24.21**	**349**	P	**P**	**03 30 44.8**	**+0.9**
	comp=N,3.1nm,0.2s,baz=186,slow=19,SNR=3.2						
NNA				LR	LR	03 37 35.4	
	comp=N,281nm,19.6s,baz=140,slow=30						
SAML	**Samuel**	**28.11**	**19**	*e*P	**P**	**03 31 18.3**	**-0.8**
	comp=N,4.2nm,1.1s						
BDFB	**Brasilia**	**29.60**	**53**	P	**P**	**03 31 31.2**	**-1.2**
	comp=N,4.0nm,0.6s,baz=213,slow=8.2,SNR=9.5						
ROSC	**El Rosal**	**40.63**	**357**	P	**P**	03 33 11.0	+3.5
	comp=N,1.7nm,0.3s,baz=94,slow=19,SNR=3.3						
SDV	**Santo Domingo**	**44.62**	**2**	*e*P	**P**	**03 33 39.7**	**+0.1**
	comp=N,7.1nm,0.7s						
RCBR	**Riachuelo**	**44.83**	**57**	P	**P**	**03 33 40.4**	**-0.8**
	comp=N,11nm,1.2s						
VNA3	**Neumayer Olymp**	**47.63**	**157**	P	**P**	**03 34 03.3**	**+0.8**
VNA2	**Neumayer--Watz**	**48.29**	**157**	P	**P**	**03 34 06.8**	**-0.8**
SNAA	**Sanae**	**49.85**	**157**	P	**P**	**03 34 20.2**	**+0.6**
SNAA	**Sanae**	**49.85**	**157**	P	**P**	**03 34 19.8**	**+0.2**
	comp=N,2.2nm,0.8s,baz=239,slow=6.8,SNR=7.9						
SNAA	**Sanae**	**49.85**	**157**	*e*P	**P**	**03 34 19.4**	**-0.2**
	comp=N,12nm,1.1s						
FDF	**Fort de France**	**51.48**	**14**	*e*P	**P**	**03 34 31.2**	**-1.2**
	comp=N,28nm,0.9s						
QSPA	**South Pole Qui**	**54.30**	**180**	P	**P**	**03 34 53.9**	**+1.1**
	comp=N,5.6nm,0.8s,baz=147,slow=1.4,SNR=16						
QSPA	**South Pole Qui**	**54.30**	**180**	*e*P	**P**	**03 34 54.0**	**+1.2**
	comp=N,4.7nm,0.6s						
SYO	**Syowa Base**	**64.12**	**158**	⇑*e*P	pP	03 36 23.0	+8.1
035A	**Encino**	**67.14**	**335**	⇑P	pP	03 36 36.1	+1.2
	baz=66						
034A	**Hebbronville**	**67.46**	**335**	⇑P	pP	03 36 38.2	+1.3
	baz=67						
834A	**Tilden**	**68.38**	**335**	⇓P	pP	03 36 44.2	+1.5
	baz=68						
735A	**Kenedy**	**68.81**	**336**	⇓P	pP	03 36 46.8	+1.5
	baz=68						
833A	**Chaparral WMA,**	**68.86**	**334**	⇑P	pP	03 36 46.8	+1.1
	baz=68						
832A	**Faith Ranch, C**	**69.03**	**334**	⇑P	pP	03 36 47.9	+1.2
	baz=68						
734A	**La Parita Cree**	**69.05**	**335**	⇑P	pP	03 36 48.2	+1.3
	baz=68						
636A	**Smothers Creek**	**69.14**	**337**	⇓P	pP	03 36 49.0	+1.5
	baz=68						
732A	**Laxson Ranch,**	**69.43**	**334**	⇓P	pP	03 36 50.1	+0.8
	baz=69						
535A	**Dale**	**69.81**	**337**	⇓P	pP	03 36 52.4	+0.8
	baz=69						
633A	**Saathoff Ranch**	**69.82**	**335**	⇑P	pP	03 36 52.6	+1.0
	baz=69						
438A	**Sam Houston St**	**69.84**	**339**	⇑P	pP	03 36 52.9	+1.1
	baz=69						
LRAL	**Lakeview Retre**	**70.00**	**347**	*e*P	**P**	**03 36 36.5**	**-1.4**
	comp=N,7.1nm,0.9s						
340A	**Bronson**	**70.02**	**340**	⇓P	pP	03 36 53.6	+0.8
	baz=69						
632A	**Uvalde**	**70.08**	**335**	⇓P	pP	03 36 54.4	+1.1
	baz=70						
339A	**Huntington**	**70.13**	**340**	⇑P	pP	03 36 54.3	+0.8
	baz=69						
631A	**Perdido Creek**	**70.27**	**334**	⇓P	pP	03 36 55.3	+0.8
	baz=70						
533A	**Kerrville**	**70.34**	**335**	⇑P	pP	03 36 55.7	+0.8
	baz=70						
338A	**Crockett**	**70.36**	**339**	⇓P	pP	03 36 56.5	+1.5
	baz=70						
532A	**Rocksprings**	**70.68**	**335**	⇑P	pP	03 36 58.1	+1.1
	baz=70						
434A	**Burnet**	**70.77**	**336**	⇑P	pP	03 36 58.1	+0.6
	baz=70						
336A	**Riesel**	**70.85**	**338**	⇑P	pP	03 36 59.0	+1.0
	baz=70						
335A	**Moody**	**70.93**	**337**	⇓P	pP	03 36 59.4	+1.0
	baz=70						
531A	**Rocksprings**	**70.94**	**334**	⇑P	pP	03 36 59.5	+0.9
	baz=70						
JCT	**Junction City**	**70.97**	**335**	⇓P	pP	03 36 59.7	+1.0
	baz=70						
JCT	**Junction City**	**70.97**	**335**	*e*P	**P**	**03 36 43.7**	**-0.4**
JCT				*e*pP	**pP**	**03 36 59.3**	**+0.6**
433A	**Art**	**70.98**	**336**	⇑P	pP	03 36 59.4	+0.6
	baz=70						
237A	**Washetta, Mont**	**71.11**	**339**	⇑P	pP	03 37 00.5	+1.0
	baz=70						
530A	**J-C Ranch, Com**	**71.21**	**334**	⇑P	pP	03 37 01.5	+1.3
	baz=71						
KMSC	**Kings Mountain**	**71.23**	**352**	⇑P	pP	03 37 00.0	-0.1
	baz=70						
334A	**Lometa**	**71.23**	**337**	⇑P	pP	03 37 01.1	+0.8
	baz=71						
432A	**Menard**	**71.33**	**335**	⇑P	pP	03 37 01.9	+1.0
	baz=71						
TXAR	**Lajitas Array**	**71.35**	**331**	P	**P**	**03 36 48.0**	**+1.5**
	comp=N,1.1nm,0.6s,baz=158,slow=9.2,SNR=20						
TXAR				pP	**pP**	**03 37 01.6**	**+0.5**
	comp=N,2.6nm,0.6s,baz=152,slow=8.8,SNR=23						
431A	**Sonora**	**71.43**	**334**	⇓P	pP	03 37 02.8	+1.2
	baz=71						
333A	**Richland Sprin**	**71.47**	**336**	⇑P	pP	03 37 02.5	+0.7
	baz=71						
529A	**Stev Forest Ra**	**71.51**	**333**	⇑P	pP	03 37 02.9	+0.8
	baz=71						
138A	**Matatall Enter**	**71.53**	**340**	⇑P	pP	03 37 03.2	+1.2
	baz=71						
WHTX	**Lake Whitney,**	**71.60**	**338**	⇓P	pP	03 37 03.4	+1.0
	baz=71						
137A	**Heron Place, G**	**71.66**	**339**	⇑P	pP	03 37 04.0	+1.2
	baz=71						
430A	**Baggett Ranch,**	**71.75**	**334**	⇓P	pP	03 37 04.4	+0.9
	baz=71						
332A	**Millersview**	**71.78**	**335**	⇑P	pP	03 37 04.1	+0.5
	baz=71						
234A	**Clairette**	**71.82**	**337**	⇑P	pP	03 37 04.4	+0.5
	baz=71						
429A	**Davenport Ranc**	**71.84**	**333**	⇓P	pP	03 37 05.0	+0.9
	baz=71						
OXF	**Oxford**	**71.90**	**345**	*e*P	pP	03 37 04.0	-0.3
SWET	**Sewanee**	**71.94**	**348**	*e*P	**P**	**03 36 50.5**	**+0.7**
	comp=N,5.8nm,0.6s						
SWET				*e*pP	**pP**	**03 37 04.3**	**-0.2**

331A	San Angelo baz=71	71.94 335	⇑P	pP	03 37 05.3 +0.7
233A	Rising Star baz=71	72.08 336	⇓P	pP	03 37 06.0 +0.6
232A	Coleman baz=72	72.21 336	⇓P	pP	03 37 06.7 +0.5
330A	Mertzon baz=72	72.29 334	⇓P	pP	03 37 07.1 +0.4
134A	White-Moore Ra baz=72	72.33 337	⇑P	pP	03 37 07.2 +0.3
231A	Bronte baz=72	72.48 335	⇑P	pP	03 37 08.1 +0.3
133A	Hamilton Ranch baz=72	72.63 337	⇓P	pP	03 37 08.9 +0.2
329A	Wagon Wheel Ra baz=72	72.65 334	⇑P	pP	03 37 09.5 +0.6
230A	Sterling City baz=72	72.71 335	⇓P	pP	03 37 09.8 +0.6
Z35A	Perchaven, San baz=72	72.78 338	⇓P	pP	03 37 09.9 +0.4
ABTX	Abilene, Hawle baz=72	72.88 336	⇑P	pP	03 37 10.9 +0.7
ABTX	Abilene, Hawle comp=N,13nm,0.8s	72.88 336	*e*P	P	**03 36 56.1 +0.7**
ABTX			*ep*P	pP	**03 37 10.0 -0.2**
Z34A	Collier Ranch, baz=72	73.02 338	⇑P	pP	03 37 11.3 +0.3
229A	Bryant Ranch, baz=72	73.03 334	⇑P	pP	03 37 11.9 +0.8
WVT	Waverly comp=N,6.9nm,0.8s	73.16 347	*e*P	P	**03 36 57.0 +0.1**
WVT			*ep*P	pP	**03 37 11.3 -0.4**
131A	Roby baz=72	73.18 335	⇓P	pP	03 37 12.4 +0.5
Z33A	Whitaker Ranch baz=72	73.21 337	⇑P	pP	03 37 12.7 +0.6
130A	Snyder baz=73	73.30 335	⇑P	pP	03 37 12.8 +0.1
228A	UT Block 9, Go baz=73	73.44 333	⇓P	pP	03 37 14.1 +0.5
Z32A	Haskell baz=73	73.45 336	⇑P	pP	03 37 13.9 +0.3
Y34A	Reagan Ranch, baz=73	73.52 338	⇓P	pP	03 37 14.1 +0.2
129A	Stewart Farms, baz=73	73.65 334	⇓P	pP	03 37 15.2 +0.4
Z31A	Sharp Cattle R baz=73	73.68 336	⇑P	pP	03 37 15.4 +0.5
128A	Castleberry Fa baz=73	73.86 334	⇓P	pP	03 37 16.5 +0.5
Z30A	Sanderson Ranc baz=73	73.99 335	⇓P	pP	03 37 16.9 +0.1
SUR	Sutherland comp=N,14nm,0.9s	74.04 119	*e*P	P	**03 37 03.9 +1.1**
Y32A	R-V Farms, Ver baz=73	74.08 337	⇑P	pP	03 37 17.6 +0.3
X34A	Smith Ranch, M baz=74	74.14 338	⇑P	pP	03 37 18.0 +0.4
Z29A	Hungry Hill Ra baz=74	74.16 335	⇑P	pP	03 37 18.1 +0.3
X33A	Lawton baz=74	74.28 338	⇑P	pP	03 37 18.3 -0.1
Y31A	Rekieta Farm, baz=74	74.31 336	⇓P	pP	03 37 19.2 +0.6
X32A	Elmer baz=74	74.42 337	⇓P	pP	03 37 19.6 +0.4
Z28A	Tucker Farm, M baz=74	74.42 334	⇓P	pP	03 37 20.1 +0.7
Y30A	Stafford Cattl baz=74	74.45 336	⇓P	pP	03 37 20.1 +0.6
Y29A	Porterfield Fa baz=74	74.69 335	⇓P	pP	03 37 21.2 +0.3
W34A	Bridge Creek, baz=74	74.71 339	⇑P	pP	03 37 20.8 -0.1
TUL1	Leonard baz=74,SNR=6.1	74.78 340	⇑P	pP	03 37 20.9 -0.3
TUL1	Leonard comp=N,17nm,0.8s	74.78 340	*e*P	P	**03 37 07.3 +0.9**
TUL1			*e*		03 37 20.8
X31A	McDonald Ranch baz=74	74.83 337	⇑P	pP	03 37 22.0 +0.3
W33A	Caddo, Fort Co baz=74,SNR=5.6	74.84 338	⇑P	pP	03 37 22.1 +0.5
V35A	Meyer Ranch, C baz=74	74.93 339	⇓P	pP	03 37 22.1 0.0
W32A	Sentinel baz=74,SNR=6.0	75.05 337	⇓P	pP	03 37 22.9 +0.1
MSTX	Muleshoe baz=75	75.18 334	⇓P	pP	03 37 24.0 +0.2
V34A	Guthrie baz=74	75.19 339	⇑P	pP	03 37 23.5 -0.2
V34A	Guthrie comp=N,11nm,0.8s	75.19 339	*e*P	P	**03 37 09.2 +0.4**
V34A			*e*		03 37 23.0
Y27A	Causey baz=75	75.24 334	⇓P	pP	03 37 24.9 +0.7
W31A	Holland Ranch, baz=75	75.33 337	⇓P	pP	03 37 24.6 +0.1
V33A	Lossen Ranch, baz=75,SNR=5.9	75.41 338	⇓P	pP	03 37 24.9 0.0
319A	Douglas baz=75	75.45 328	⇑P	pP	03 37 26.9 +1.5
X28A	Dimmitt baz=75	75.47 335	⇓P	pP	03 37 26.1 +0.7
V32A	Arapaho baz=75	75.54 338	⇓P	pP	03 37 26.5 +0.8
LIC	Lamto comp=N,52nm,1.3s	75.55 71	*e*P	P	**03 37 11.2 -0.2**
AMTX	Amarillo baz=75	75.63 335	⇑P	pP	03 37 27.0 +0.7
AMTX	Amarillo comp=N,10nm,0.6s	75.63 335	*e*P	P	**03 37 12.7 +1.3**
AMTX			*e*		03 37 25.8
U34A	Anderson Ranch baz=75	75.76 339	⇑P	pP	03 37 27.6 +0.7
121A	Cookes Peak, D baz=75	75.82 330	⇓P	pP	03 37 29.1 +1.6
TIC	Toumodi comp=N,16nm,0.2s	75.83 71	*e*P	P	**03 37 12.9 -0.1**
W29A	Amarillo baz=75	75.83 335	⇓P	pP	03 37 28.1 +0.7
V31A	Spring Creek L baz=75	75.84 337	⇓P	pP	03 37 28.4 +1.0
KIC	Kosan Boka comp=N,114nm,1.4s	75.86 71	*e*P	P	**03 37 13.2 0.0**
U33A	Lingo Farm, Me baz=75	75.92 339	⇑P	pP	03 37 28.0 +0.1
DBIC	Dimbokro comp=N,9.6nm,0.7s,baz=205,slow=6.0,SNR=17	75.97 71 P		P	**03 37 13.9 +0.1**
DBIC	Dimbokro comp=N,4.7nm,0.7s	75.97 71	*e*P	P	**03 37 13.7 -0.1**
X26A	CR and CF Fran baz=76	76.07 334	⇓P	pP	03 37 30.1 +1.2
V30A	Spur Ranch, Mi baz=76	76.10 336	⇓P	pP	03 37 30.1 +1.1
Y24A	Capitan baz=76	76.12 332	⇓P	pP	03 37 30.5 +1.2
Z22A	Elephant Butte baz=76	76.12 331	⇓P	pP	03 37 30.6 +1.4
U32A	Winter Ranch, baz=76	76.14 338	⇓P	pP	03 37 29.9 +0.8
ACSO	Alum Creek Sta comp=N,17nm,0.6s	76.45 352	*e*P	P	**03 37 16.2 +0.4**
ACSO			*ep*P	pP	**03 37 30.4 -0.3**
W26A	Owens Ranch, T baz=76	76.54 334	⇓P	pP	03 37 32.7 +1.2
T33A	Patterson Ranc baz=76	76.56 339	⇑P	pP	03 37 32.5 +1.0
V28A	Channing baz=76	76.60 335	⇑P	pP	03 37 32.9 +1.1
U30A	WK&E Inc. Balk baz=76	76.79 337	⇓P	pP	03 37 33.6 +0.8
V27A	Dan Oppiter Fa baz=76	76.81 335	⇑P	pP	03 37 34.2 +1.1
T32A	Huddler Ranch, baz=76	76.86 338	⇓P	pP	03 37 34.1 +0.9
W25A	X Bar L Ranch, baz=76	76.90 333	⇓P	pP	03 37 34.3 +0.7
T31A	Randall Ranch, baz=76	77.01 338	⇑P	pP	03 37 34.4 +0.4
U28A	Mallet baz=76	77.17 336	⇑P	pP	03 37 35.6 +0.6
V26A	Tequesquite Ra baz=77	77.18 334	⇓P	pP	03 37 35.8 +0.7
W24A	Lazy 6 Ranch, baz=77	77.25 333	⇓P	pP	03 37 36.8 +1.2
S32A	Newby Ranch, P baz=77,SNR=5.2	77.34 339	⇑P	pP	03 37 36.1 +0.2
U27A	Thompson Grove baz=77	77.41 335	⇑P	pP	03 37 37.0 +0.6
S31A	Mullinville baz=77	77.43 338	⇓P	pP	03 37 36.9 +0.5
V25A	Rancho No Teng baz=77,SNR=6.2	77.52 334	⇓P	pP	03 37 37.2 0.0
214A	Organ Pipe Nat baz=77	77.52 326	⇑P	pP	03 37 38.8 +1.8
T29A	Hugoton baz=77	77.57 337	⇓P	pP	03 37 38.2 +0.9
R33A	Olander Ranch, baz=77	77.63 340	⇓P	pP	03 37 38.1 +0.6
V24A	Rampart Ranch, baz=77	77.65 333	⇓P	pP	03 37 38.9 +0.9
U26A	Atchley Ranch, baz=77	77.70 334	⇓P	pP	03 37 38.9 +0.7
S30A	Montezuma baz=77	77.75 337	⇑P	pP	03 37 39.1 +0.9
T28A	Walsh baz=77,SNR=5.7	77.81 336	⇓P	pP	03 37 39.1 +0.5
S29A	Ulysses baz=77	77.94 337	⇓P	pP	03 37 40.2 +0.9
U25A	Circle Dot Ran baz=77	77.94 334	⇑P	pP	03 37 40.5 +1.0
R32A	Long Quarter, baz=77	77.94 339	⇑P	pP	03 37 40.2 +0.9
T27A	Campo baz=77	77.95 335	⇓P	pP	03 37 40.4 +1.0
V23A	Ortiz Mt. (NFS baz=77	78.01 332	⇑P	pP	03 37 41.2 +1.3
R31A	Burdett baz=77	78.06 338	⇓P	pP	03 37 40.8 +0.9
S28A	Manter baz=78	78.16 336	⇓P	pP	03 37 41.4 +0.8
Q33A	Connelly Farm, baz=78	78.23 340	⇓P	pP	03 37 41.4 +0.7
U24A	Moreno Valley baz=78	78.27 333	⇑P	pP	03 37 42.9 +1.5
R30A	Dighton baz=78	78.28 338	⇑P	pP	03 37 41.9 +0.8
T26A	Comanche Natio baz=78	78.35 335	⇑P	pP	03 37 42.8 +1.1
Q32A	Meitler Ranch, baz=78	78.43 339	⇑P	pP	03 37 42.5 +0.6
V22A	San Miguel Ran baz=78,SNR=8.0	78.44 332	⇑P	pP	03 37 43.8 +1.5
X18A	Snowflake baz=78	78.45 329	⇑P	pP	03 37 43.9 +1.6
U23A	El Rito baz=78	78.53 333	⇑P	pP	03 37 44.3 +1.5
P33A	Williams Farm, baz=78	78.60 340	⇓P	pP	03 37 43.5 +0.6
T25A	Trinidad baz=78,SNR=6.4	78.61 334	⇑P	pP	03 37 44.3 +1.1
R29A	Marienthal baz=78	78.68 337	⇑P	pP	03 37 44.4 +1.1
Q31A	Ellis baz=78	78.68 339	⇑P	pP	03 37 44.3 +1.0
S26A	Kim baz=78,SNR=5.6	78.71 335	⇓P	pP	03 37 44.5 +0.8
R28A	Tribune baz=78	78.82 337	⇑P	pP	03 37 45.1 +1.0
U22A	Llaves baz=78	78.82 332	⇑P	pP	03 37 45.6 +1.2
TSUM	Tsumeb comp=N,3.7nm,0.8s	78.85 106	*e*P	P	**03 37 29.7 -0.3**
W18A	Petrified Fore baz=78	78.87 329	⇓P	pP	03 37 46.2 +1.6
T24B	San Luis baz=78	78.88 334	⇑P	pP	03 37 46.0 +1.2
Q30A	Quinter baz=78,SNR=5.3	78.91 338	⇓P	pP	03 37 45.1 +0.5
X16A	Lo Mia Camp, P baz=78,SNR=5.5	78.99 328	⇓P	pP	03 37 46.8 +1.5
P32A	Huiting Farm, baz=78	79.03 340	⇓P	pP	03 37 45.9 +0.7
Q29A	Oakley baz=78	79.06 338	⇑P	pP	03 37 45.9 +0.4
S25A	Robets Cordova baz=78	79.08 334	⇑P	pP	03 37 47.2 +1.4
R27A	Eads baz=78,SNR=5.3	79.09 336	⇑P	pP	03 37 46.5 +0.8
T23A	Casias Ranch, baz=78	79.10 333	⇑P	pP	03 37 47.0 +1.1
P31A	Stockton baz=78	79.16 339	⇑P	pP	03 37 46.8 +0.9
Y14A	Wickenburg baz=79	79.27 326	⇓P	pP	03 37 48.1 +1.4
R26A	Arlington baz=79	79.32 335	⇑P	pP	03 37 48.4 +1.4
BOSA	Boshof comp=N,13nm,0.8s,baz=244,slow=3.6,SNR=21	79.32 117 P		P	**03 37 32.5 0.0**
BOSA	Boshof comp=N,11nm,0.7s	79.32 117	*e*P	P	**03 37 32.4 -0.1**
S24A	Houchin Ranch, baz=79,SNR=5.0	79.34 334	⇓P	pP	03 37 48.3 +0.9
P30A	Selden baz=79	79.43 338	⇑P	pP	03 37 48.4 +0.9
Q28A	Sharon Springs baz=79	79.48 337	⇓P	pP	03 37 48.8 +1.0
P29A	Atwood baz=79,SNR=6.2	79.69 338	⇓P	pP	03 37 49.5 +0.6
O31A	Woolen Ranch, baz=79	79.72 339	⇓P	pP	03 37 50.1 +1.1
SWSC	Sam W. Stewart baz=79	79.73 324	⇑P	pP	03 37 51.4 +2.2
WUAZ	Wupatki baz=79	79.89 328	⇓P	pP	03 37 52.1 +1.9
Q26A	Hugo baz=79	79.91 336	⇓P	pP	03 37 51.7 +1.5
P28A	Saint Francis baz=79	79.92 337	⇓P	pP	03 37 51.7 +1.5
O30A	MW Ranch, Wils baz=79	79.96 339	⇑P	pP	03 37 51.6 +1.3
S22A	4UR Ranch, Cre baz=79	80.02 333	⇓P	pP	03 37 52.3 +1.3
R23A	Moffat baz=80	80.05 334	⇓P	pP	03 37 52.3 +1.1
BC3	Big Chuckawall baz=80	80.16 325	⇑P	pP	03 37 53.3 +1.6
MVCO	Mesa Verde baz=80	80.18 331	⇑P	pP	03 37 53.0 +1.2
P26A	Davis Ranch, A baz=80	80.42 336	⇑P	pP	03 37 54.4 +1.4
IRM	Iron Mountain baz=80	80.43 325	⇑P	pP	03 37 55.2 +2.2
O28A	Krutsinger Ran baz=80	80.43 337	⇑P	pP	03 37 54.0 +1.1
Q24A	Divide baz=80	80.50 335	⇑P	pP	03 37 54.8 +1.2
PFO	Pinyon Flats O baz=80	80.60 324	⇑P	pP	03 37 56.0 +2.0
W13A	Hualapai Mount baz=80	80.64 326	⇑P	pP	03 37 55.9 +1.6
P25A	Willow Gulch B baz=80,SNR=5.7	80.65 336	⇓P	pP	03 37 55.2 +0.9
BELC	Belle Mtn. Jos baz=80	80.70 324	⇑P	pP	03 37 56.5 +1.9
O27A	Beecher Island baz=80	80.71 337	⇑P	pP	03 37 56.0 +1.5
N29A	Votaw Ranch, W baz=80	80.72 339	⇑P	pP	03 37 55.5 +1.1
M31A	Lambtecht Ranc baz=80	80.73 340	⇓P	pP	03 37 55.6 +1.1
N28A	Pribbeno Ranch baz=80	80.88 338	⇓P	pP	03 37 56.3 +1.0
MURC	Murrieta baz=80	80.95 323	⇑P	pP	03 37 57.4 +1.6
O26A	Horse Wrangler baz=80	81.03 336	⇓P	pP	03 37 57.2 +1.0
U15A	North Rim baz=81	81.06 328	⇓P	pP	03 37 58.6 +2.0
P23A	Jefferson baz=80	81.11 334	⇑P	pP	03 37 58.1 +1.2
M30A	Dale-Ortello V baz=80	81.16 339	⇑P	pP	03 37 57.7 +0.9
O25A	Wiggins baz=80	81.18 336	⇓P	pP	03 37 58.6 +1.6
GMRC	Granite Mounta baz=81	81.18 325	⇓P	pP	03 37 59.2 +2.1
N27A	Anderson Farm, baz=81	81.29 337	⇓P	pP	03 37 58.8 +1.3
M29A	Burnside Ranch baz=81	81.31 339	⇓P	pP	03 37 58.7 +1.1
ISCO	Idaho Springs baz=81	81.41 335	⇓P	pP	03 37 59.5 +1.1
L31A	Butterfield Fa baz=81	81.47 340	⇓P	pP	03 37 59.3 +1.0
L30A	Spencer Herefo baz=81	81.50 340	⇑P	pP	03 37 59.6 +1.0
HEC	Hector,Ludlow baz=81	81.54 325	⇑P	pP	03 38 01.2 +2.2
P22A	Eagle baz=81	81.63 334	⇓P	pP	03 38 00.5 +1.0
LBTB	Lobatse comp=N,5.6nm,0.5s	81.64 115	*e*P	P	**03 37 44.8 -0.2**
LBTB			*ep*P	pP	**03 37 59.9 -0.1**
BFSC	Mount Baldy Ra baz=81	81.69 323	⇓P	pP	03 38 01.6 +1.8
TUQ	Turquoise Moun baz=81	81.84 325	⇑P	pP	03 38 02.2 +1.6
O23A	Lake Granby, G baz=81	81.88 335	⇓P	pP	03 38 01.7 +0.8
O22A	Kremmling baz=82	82.05 334	⇑P	pP	03 38 02.9 +1.0
K30A	Basset baz=81	82.14 340	⇑P	pP	03 38 03.2 +1.3
GSC	Goldstone, Bar baz=82	82.14 325	⇓P	pP	03 38 04.1 +2.0
URZ	Urewera comp=N,164nm,18.7s,baz=150,slow=31	82.23 228 LR		LR	04 08 07.1
ECSD	EROS Data Cent baz=82	82.35 342	⇑P	pP	03 38 03.0 +0.1
ECSD	EROS Data Cent comp=N,13nm,0.8s	82.35 342	*e*P	P	**03 37 48.4 +0.5**
ECSD			*ep*P	pP	**03 38 02.6 -0.3**
EDW2	Edwards Air Fo baz=82	82.37 324	⇓P	pP	03 38 04.8 +1.5
K29A	Lazy Trails An baz=82	82.42 340	⇑P	pP	03 38 04.2 +0.8
N23A	Red Feather La baz=82	82.49 335	⇓P	pP	03 38 05.1 +1.0
N22A	Wattenberg Ran baz=82	82.59 335	⇓P	pP	03 38 05.9 +1.3
M24A	Cheyenne baz=82	82.63 336	⇓P	pP	03 38 05.9 +1.2
O20A	White River Ci baz=82	82.64 333	⇑P	pP	03 38 05.6 +0.8
K28A	Ten Mile Ranch baz=82	82.68 339	⇑P	pP	03 38 05.9 +1.1
LRMC	Laurel Mtn Rad baz=82	82.71 324	⇑P	pP	03 38 06.7 +1.6
J30A	Dallas baz=82	82.71 340	⇓P	pP	03 38 05.2 +0.3
SPMN	Marine on St. baz=82	82.91 346	⇓P	pP	03 38 05.4 -0.4
J29A	Okreek baz=82	83.02 340	⇑P	pP	03 38 07.1 +0.6
MPMC	Manual Prospec baz=83	83.08 325	⇑P	pP	03 38 08.9 +1.7
FURC	Furnace Creek, baz=83	83.12 325	⇑P	pP	03 38 09.2 +2.1
M22A	Cedar Creek Ra baz=83	83.17 335	⇑P	pP	03 38 09.1 +1.5
ISA	Isabella, Lake baz=83	83.23 324	⇓P	pP	03 38 09.8 +2.0
TPNV	Topopah Spring baz=83	83.24 326	⇓P	pP	03 38 09.8 +1.9
I30A	Oacoma baz=82	83.24 341	⇓P	pP	03 38 07.8 +0.2
N20A	Spence Gulch, baz=83	83.26 333	⇑P	pP	03 38 08.9 +0.9
J28A	Allard Ranch, baz=83	83.29 339	⇓P	pP	03 38 08.8 +0.9
K25A	Mack Ranch, Ha baz=83	83.35 337	⇓P	pP	03 38 09.5 +1.2
J27A	Elkhorn Farm, baz=83	83.36 339	⇓P	pP	03 38 09.6 +1.3
L23A	Garrett baz=83	83.50 336	⇓P	pP	03 38 09.8 +0.6
I29A	Vivian Onida baz=83	83.58 340	⇑P	pP	03 38 10.3 +1.0
BRSD	Miller baz=83	83.61 341	⇑P	pP	03 38 09.9 +0.5
L22A	Ellis Ranch, M baz=83	83.67 335	⇑P	pP	03 38 11.0 +0.9
J26A	Sides Ranch, S baz=83	83.74 338	⇑P	pP	03 38 11.0 +0.7
I28A	Midland baz=83	83.80 339	⇓P	pP	03 38 11.3 +0.8
J25A	Sunshine Ranch baz=83	84.03 337	⇓P	pP	03 38 12.6 +0.9
K23A	Bowen Ranch, D baz=83	84.05 336	⇑P	pP	03 38 13.0 +1.0
R11A	Troy Canyon, C baz=84	84.09 327	⇑P	pP	03 38 14.0 +1.7
H29A	Onida baz=83	84.11 340	⇑P	pP	03 38 12.4 +0.4
J24A	Dixon Ranch, L baz=84	84.25 337	⇑P	pP	03 38 14.1 +1.2
K22A	Casper baz=84	84.25 335	⇓P	pP	03 38 14.0 +1.0
K22A	Casper comp=N,12nm,1.4s	84.25 335	*e*P	P	**03 37 59.6 +1.7**
I26A	New Underwood baz=84	84.32 338	⇓P	pP	03 38 13.9 +0.7
H28A	Mission Ridge baz=84	84.38 340	⇓P	pP	03 38 13.7 +0.3
DUG	Dugway, Tooele baz=84	84.47 330	⇓P	pP	03 38 15.2 +1.0
K21A	Alcova baz=84	84.49 335	⇑P	pP	03 38 14.8 +0.6
I25A	Rochford baz=84	84.58 338	⇑P	pP	03 38 15.4 +0.8
H27A	Howes baz=84	84.64 339	⇑P	pP	03 38 15.1 +0.4
RAO	Raoul Island comp=N,284nm,21.5s,baz=145,slow=29	84.69 238 LR		LR	04 06 07.1
I24A	Kuemmerle Ranc baz=84	84.71 337	⇓P	pP	03 38 16.0 +0.8
G28A	Parade baz=84	84.72 340	⇓P	pP	03 38 15.8 +0.7
J22A	Midwest baz=84	84.92 336	⇓P	pP	03 38 16.3 0.0
MLAC	Mammoth, Mammo baz=85	84.99 325	⇓P	pP	03 38 18.9 +2.0
TORD	Torodi Ar. Bea comp=N,2.8nm,0.8s,baz=256,slow=5.3,SNR=28	85.03 70 P		P	**03 38 01.9 -0.4**
TORD			pP	pP	**03 38 15.7 -1.7**
H25A	Fruitdale comp=N,2.0nm,0.8s,baz=279,slow=4.1,SNR=6.5 baz=84	85.08 338	⇑P	pP	03 38 17.9 +0.9
F29A	Eureka baz=84	85.12 341	⇓P	pP	03 38 17.5 +0.4
J21A	Lysite baz=85	85.18 335	⇑P	pP	03 38 19.2 +1.5
G27A	Dupree baz=85	85.28 339	⇓P	pP	03 38 18.5 +0.5
I22A	9 Mile Ranch, baz=85	85.34 336	⇓P	pP	03 38 18.7 +0.3
NVAR	Mina Array Bea comp=N,1.1nm,0.8s,baz=155,slow=6.4,SNR=8.1	85.39 325 P		P	**03 38 05.8 +2.0**
NVAR			pP	pP	**03 38 19.9 +1.0**
G26A	Maurine comp=N,2.7nm,0.8s,baz=160,slow=6.1,SNR=15 baz=85	85.40 339	⇑P	pP	03 38 18.6 0.0
F28A	McLaughlin baz=85	85.40 340	⇓P	pP	03 38 19.6 +1.1
J20A	Shoshoni baz=85	85.41 335	⇓P	pP	03 38 19.5 +0.7
PDAR	Pinedale Array comp=N,1.3nm,1.1s,baz=122,slow=1.9,SNR=4.4	85.42 333 P		P	**03 38 04.2 +0.3**
H24A	Dirks Ranch, A baz=85	85.49 338	⇓P	pP	03 38 19.2 +0.1
I21A	Big Trails, Te baz=85	85.54 335	⇓P	pP	03 38 19.7 +0.3
G25A	Newell baz=85	85.55 338	⇑P	pP	03 38 19.9 +0.5
J19A	Crowheart baz=85	85.67 334	⇑P	pP	03 38 20.8 +0.6
F27A	Lemmon baz=85	85.76 340	⇓P	pP	03 38 20.4 0.0
H22A	Clearmont baz=85	85.92 336	⇓P	pP	03 38 21.6 +0.3
F26A	Lodgepole baz=85	85.93 339	⇓P	pP	03 38 21.5 +0.3
I20A	Worland baz=85	85.95 335	⇑P	pP	03 38 21.8 +0.4
G24A	Alzada baz=85	85.97 338	⇓P	pP	03 38 21.8 +0.3
D30A	Buchanan baz=85	86.04 342	⇓P	pP	03 38 21.5 -0.1
E28A	Huff baz=85	86.04 341	⇑P	pP	03 38 21.7 0.0
E27A	Carson baz=85	86.14 340	⇑P	pP	03 38 22.2 0.0

G23A	Biddle	86.16	337	⇓P		pP	03 38 22.3 -0.1
	baz=86						
H21A	Big Horn, Sher	86.18	336	⇑P		pP	03 38 22.5 -0.1
	baz=86						
F25A	Bowman	86.22	339	⇓P		pP	03 38 22.7 +0.1
	baz=86						
I19A	Meeteetse	86.33	334	⇑P		pP	03 38 23.6 +0.2
	baz=86						
H20A	Greybull	86.38	335	⇑P		pP	03 38 23.9 +0.4
	baz=86						
E26A	Carlson Angus	86.43	340	⇓P		pP	03 38 23.9 +0.3
	baz=86						
F24A	Ekalaka	86.44	338	⇑P		pP	03 38 24.0 +0.2
	baz=86						
G22A	Birney	86.46	337	⇑P		pP	03 38 24.1 +0.2
	baz=86						
AGMN	Agassiz Nation	86.48	344	⇓P		pP	03 38 23.6 -0.2
	baz=86						
C30A	Mose, Pekin	86.52	343	⇑P		pP	03 38 24.0 0.0
	baz=86						
F23A	Volborg	86.63	337	⇑P		pP	03 38 25.0 +0.3
	baz=86						
E25A	Miller Ranch,	86.73	339	⇓P		pP	03 38 25.3 +0.2
	baz=86						
D27A	Center	86.75	340	⇓P		pP	03 38 25.2 0.0
	baz=86						
G21A	Lodge Grass	86.76	336	⇑P		pP	03 38 25.5 +0.1
	baz=86						
I17A	Pilgrim Ck.	86.79	333	⇓P		pP	03 38 26.7 +1.0
	baz=86						
H19A	Powell	86.88	335	⇓P		pP	03 38 26.4 +0.4
	baz=86						
D26A	Manning	86.94	340	⇓P		pP	03 38 26.5 +0.4
	baz=86						
F22A	Rosebud	86.95	337	⇓P		pP	03 38 27.1 +0.8
	baz=86						
E24A	Baker	87.05	338	⇓P		pP	03 38 27.2 +0.5
	baz=86						
G20A	Bridger	87.09	335	⇓P		pP	03 38 26.9 -0.1
	baz=86						
H18A	Shoshone NF, C	87.12	334	⇑P		pP	03 38 27.8 +0.4
	baz=86						
B30A	Myrvik Farm, E	87.19	343	⇓P		pP	03 38 27.5 +0.3
	baz=86						
D25A	Fairfield	87.30	339	⇓P		pP	03 38 29.0 +1.1
	baz=87						
C27A	Sayler Ranch,	87.31	341	⇓P		pP	03 38 28.4 +0.5
	baz=87						
E22A	Miles City	87.44	337	⇓P		pP	03 38 28.1 -0.5
	baz=87						
D24A	Glendive	87.56	339	⇑P		pP	03 38 29.5 +0.4
	baz=87						
C26A	Wahner Farm, P	87.57	340	⇓P		pP	03 38 30.0 +0.8
	baz=87						
A30A	Hoffart Farm,	87.64	343	⇑P		pP	03 38 29.4 0.0
	baz=87						
B28A	Dugan Ranch, T	87.69	342	⇑P		pP	03 38 30.2 +0.5
	baz=87						
A29A	Manning Farm,	87.84	343	⇓P		pP	03 38 30.5 +0.1
	baz=87						
D23A	Lindsay	87.87	338	⇓P		pP	03 38 31.3 +0.7
	baz=87						
E21A	Keefer Ranch,	87.89	337	⇑P		pP	03 38 31.2 +0.4
	baz=87						
F19A	Roth Farm, Mol	87.90	335	⇓P		pP	03 38 31.1 +0.2
	baz=87						
HLID	Hailey	87.95	331	⇑P		pP	03 38 32.2 +0.9
	baz=87						
C24A	Savage	87.96	339	⇑P		pP	03 38 31.5 +0.4
	baz=87						
A28A	Rude Farm, Bot	88.09	342	⇑P		pP	03 38 32.0 +0.3
	baz=87						
E20A	Meyer Farm, Mu	88.20	336	⇑P		pP	03 38 32.6 +0.3
	baz=88						
ULM	Lac du Bonnet	88.33	345	P		**P**	**03 38 17.2 -0.3**
	comp=N,0.9nm,0.5s,baz=154,slow=5.5,SNR=3.0						
ULM				pP		**pP**	**03 38 31.9 -0.8**
	comp=N,7.0nm,0.9s,baz=159,slow=6.2,SNR=8.8						
ULM				LR		LR	04 18 11.3
	comp=N,73nm,18.7s,baz=117,slow=36						
E19A	Rath Farm, Rou	88.38	336	⇑P		pP	03 38 33.2 +0.1
	baz=88						
MCMT	McKenzie Canyo	88.41	332	*e*P		**P**	**03 38 19.9 +1.5**
	comp=N,0.5nm,0.6s						
MCMT				*e*pP		**pP**	**03 38 34.4 +0.8**
C23A	Lambert	88.43	338	⇑P		pP	03 38 34.0 +0.7
	baz=88						
A26A	Wade Farm, Ken	88.53	341	⇑P		pP	03 38 34.2 +0.4
	baz=88						
D20A	Manuel Ranch,	88.71	336	⇑P		pP	03 38 35.0 +0.3
	baz=88						
B23A	Brockton	88.97	339	⇑P		pP	03 38 37.1 +1.3
	baz=88						
C19A	Slack Wire Ran	89.58	336	⇓P		pP	03 38 39.8 +1.1
	baz=89						
YKA	Yellowknife Ar	103.84	341	pP		pPdif	03 39 42.7 -0.3
	comp=N,0.3nm,0.9s,baz=138,slow=4.1,SNR=2.9						
ASAR	Alice Springs	115.76	207	pPKP		pPKiKP	03 44 23.2 -1.6
	comp=N,1.0nm,1.0s,baz=188,slow=2.7,SNR=3.8						
WRA	Warramunga Arr	118.98	209	PKP		**PKPdf**	**03 44 14.8 -0.6**
	comp=N,0.3nm,0.5s,baz=157,slow=1.7,SNR=5.9						
WRAB	Tennant Creek	118.98	209	*e*PKPdf		**PKPdf**	**03 44 14.7 -0.7**
ARCES	ARCESS Array B	125.84	25	PKP		**PKPdf**	**03 44 26.9 0.0**
	comp=N,1.4nm,0.7s,baz=266,slow=1.9,SNR=4.1						
ABKAR	Akbulak array	142.99	54	*e*PKPdf		**PKPdf**	**03 44 56.2 -3.2**
BVAR	Borovoye Array	148.79	45	PKPbc		**PKPbc**	**03 45 13.7 +0.6**
	comp=N,1.5nm,0.4s,baz=276,slow=4.1,SNR=11						
KKAR	Karatay Array	150.58	64	*e*PKPbc		**PKPbc**	**03 45 18.2 +0.3**
AAK	Ala-Archa	153.52	65	PKPbc		**PKPbc**	**03 45 25.3 +0.6**
	comp=N,3.7nm,0.8s,baz=143,slow=1.2,SNR=9.8						
KURBB	Kurchatov Arra	154.37	46	PKPab		**PKPab**	**03 45 40.7 +0.3**
	comp=N,1.0nm,0.7s,baz=290,slow=4.4,SNR=6.0						
KURK	Kurchatov	154.38	46	PKPab		**PKPab**	**03 45 40.7 +0.3**
KSH	Kashi	154.68	72	*e*PKPbc		**PKPab**	**03 45 38.1 -4.2**
KSH				sPKP			03 45 51.5
KSH				PKS		PP	03 49 12.3 -6.3
KSH				PP		PP	03 49 32.3 +14
KSH				SKS		SKSdf	03 52 42.8 +22
KSH				SKKS		SKKSac	03 56 21.1 +17
KSH				SS		SS	04 09 05.6 +8.8
KSH				PPMZ			
	comp=N,96nm,5.3s						
KSH				LN			
	comp=N,21nm,4.4s						
KSH				LE			
	comp=N,21nm,3.8s						
KSH				LZ			
	comp=N,110nm,5.5s						
ZALV	Zalesovo Beam	155.94	34	PKPab		**PKPab**	**03 45 47.1 +0.2**
	comp=N,1.5nm,0.4s,baz=337,slow=3.4,SNR=5.0						
ZALV				pPKPab		**pPKPab**	**03 46 01.6 -0.6**
	comp=N,1.7nm,0.5s,baz=305,slow=4.8,SNR=3.0						
MKAR	Makanchi Array	158.12	52	PKP		**PKPdf**	**03 45 22.9 +0.1**
	comp=N,0.4nm,0.6s,baz=352,slow=5.8,SNR=3.3						
MKAR				PKPab		**PKPab**	**03 45 56.2 -0.6**
	comp=N,1.9nm,0.8s,baz=339,slow=3.7,SNR=8.5						
WMQ	Urumqi	162.74	57	*e*PKP		PKPdf	03 45 46.6 +19
WMQ				pPKP		pPKPdf	03 45 57.5 +14
WMQ				LN			
	comp=N,86nm,19.0s						
WMQ				LE			
	comp=N,150nm,20.0s						
WMQ				LZ			
	comp=N,110nm,19.0s						
SONM	Songino Array	168.08	4	PKPab		**PKPab**	**03 46 41.3 +0.9**
	comp=N,0.4nm,0.8s,baz=321,slow=3.8,SNR=5.1						
GTA	Gaotai	172.82	59	*e*PKP		PKPdf	03 45 56.0 +21
GTA				pPKP		pPKPdf	03 46 06.5 +15
GTA				sPKP			03 46 10.3
GTA				PKPab		PKPab	03 47 19.8 +18
HHC	Hu-ho-hao-te	174.26	330	*e*PKP		PKPdf	03 45 56.6 +21
HHC				pPKP		pPKPdf	03 46 05.6 +14
HHC				sPKP			03 46 12.1
HHC				PP		PP	03 51 15.0 +15
HHC				SKS		SKSdf	03 52 56.3 +22
HHC				SKKS		SKKSac	03 57 58.8 +17
HHC				SS		SS	04 12 29.0 +14
HHC				PPMZ			
	comp=N,140nm,8.4s						
HHC				LN			
	comp=N,200nm,17.7s						
HHC				LE			
	comp=N,410nm,16.3s						
HHC				LZ			
	comp=N,150nm,20.2s						
LZH	Lanzhou	176.82	86	*e*PKP		PKPdf	03 45 56.3 +20
LZH				pPKP		pPKPdf	03 46 07.3 +15
LZH				sPKP			03 46 11.0

MEX 18 03:41:52.4±0.5, 14°.65N×94°.35W, h17km±999km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.51**	**46**	*i* P	Pn	03 42 15.1	-3.6
PCIG				*i* S	Sn	03 42 33.1	-5.0
HUIG	**Huatulco**	**2.03**	**303**	*i* P	Pn	03 42 23.4	-2.5
HUIG				*e*S	Sn	03 42 46.4	-4.5
TGIG		**2.42**	**29**	*e*P	Pn	03 42 29.0	-2.4
TGIG				*e*S	Sn	03 42 57.0	-3.7
CMIG	**Matias Romero**	**2.48**	**348**	*e*P	Pn	03 42 30.1	-2.0
CMIG				*e*S	Sn	03 42 57.9	-4.2
CCIG	**Comitan**	**2.68**	**52**	*e*P	Pn	03 42 33.0	-2.0
CCIG				*e*S	Sn	03 43 03.7	-3.6

DDA ***18*** *03:53:43.7, 37°.05N×43°.97E, h9km, MD3.4, ML3.7*
ISK ***18*** *03:53:46.5, 37°.25N×43°.82E, h5km, MD3.3*
CSEM ***18*** *03:53:46.2±0.8, 37°.20N×43°.91E, h5km, MD3.3, Error ellipse: s-maj=15.5km s-min=8.4km az=133.0*

ISC 18 03:53:42.4±2.8, 37°.07N±0°.09×44°.00E±0°.10, h6km±10km, n27, σ1°49/42, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.36**	**299**	*e*PG	**Pg**	**03 53 50.6**	**+1.1**
CUKT				*e*SG	**Sg**	**03 53 53.9**	**-0.3**
CUKT	**Cukurca**	**0.36**	**299**	*e*Pg	**Pg**	**03 53 50.6**	**+1.1**
CUKT				*e*Sg	**Sg**	**03 53 53.9**	**-0.3**
HAKT	**HAKKARI**	**0.54**	**334**	*i* P	**Pb**	**03 53 54.3**	**-0.2**
HAKT				*i* S	**Sb**	**03 53 59.9**	**-2.7**
HAKT	**HAKKARI**	**0.54**	**334**	*i* P	**Pb**	**03 53 54.3**	**-0.2**
HAKT				*i* S	**Sb**	**03 53 59.9**	**-2.7**
HKR	**Hakkari**	**0.55**	**338**	*e*PG	**Pb**	**03 53 54.3**	**-0.3**
HKR				*e*SG	**Sb**	**03 54 00.0**	**-2.8**
HKR	**Hakkari**	**0.55**	**338**	*e*Pg	**Pb**	**03 53 54.3**	**-0.3**
HKR				*e*Sg	**Sb**	**03 54 00.0**	**-2.8**
SIRT	**Sirnak**	**1.32**	**290**	*e*PN	**Pn**	**03 54 09.2**	**+1.7**
SIRT				*e*SN	**Sn**	**03 54 25.8**	**+0.3**
SIRT	**Sirnak**	**1.32**	**290**	*e*Pn	**Pn**	**03 54 09.2**	**+1.7**
SIRT				*e*Sn	**Sn**	**03 54 25.8**	**+0.3**
SIRN	**S¨–rnak**	**1.34**	**289**	*i* P	**Pn**	**03 54 09.3**	**+1.5**
SIRN				*i* S	**Sn**	**03 54 27.0**	**+1.1**
SIRN	**S¨–rnak**	**1.34**	**289**	*i* P	**Pn**	**03 54 09.3**	**+1.5**
SIRN				*i* S	**Sn**	**03 54 27.0**	**+1.1**
GEVA	**Gevas**	**1.45**	**329**	*i* P	**Pg**	**03 54 10.6**	**+0.4**
GEVA				*i* S	**Sn**	**03 54 32.0**	**+3.2**
GEVA	**Gevas**	**1.45**	**329**	*i* P	**Pg**	**03 54 10.6**	**+0.4**
GEVA				*i* S	**Sn**	**03 54 32.0**	**+3.2**
VANB	**Van**	**1.60**	**343**	*e*PN	**Pg**	**03 54 13.3**	**+0.2**
VANB	**Van**	**1.60**	**343**	*e*Pn	**Pg**	**03 54 13.3**	**+0.2**
BTMT	**Batman**	**2.29**	**300**	*e*PN	**Pb**	**03 54 23.8**	**-0.4**
BTMT	**Batman**	**2.29**	**300**	*e*Pn	**Pb**	**03 54 23.8**	**-0.4**
BEST	**Besiri**	**2.32**	**291**	*i* P	**Pn**	**03 54 22.5**	**+1.2**
BEST				*i* S	**Sg**	**03 54 57.9**	**+0.9**
TUTA	**Tutak**	**2.51**	**338**	*i* P	**Pn**	**03 54 24.2**	**+0.2**
TUTA	**Tutak**	**2.51**	**338**	*i* P	**Pn**	**03 54 24.2**	**+0.2**
TUTA				*i* S	**Sg**	**03 55 04.1**	**+1.1**
MARD	**Mardin**	**2.58**	**276**	*i* P	**Pn**	**03 54 24.6**	**-0.4**
MARD				*i* S	**Sg**	**03 55 07.0**	**+1.5**
AGRB	**Hanur-Agry**	**2.62**	**343**	*e*PN	**Pb**	**03 54 28.6**	**-1.4**
AGRB	**Hanur-Agry**	**2.62**	**343**	*e*Pn	**Pb**	**03 54 28.6**	**-1.4**
EKAR	**Karacoban**	**2.66**	**326**	*i* P	**Pg**	**03 54 34.5**	**+1.0**
EKAR				*i* S	Sg	03 55 13.2	+5.1
MAZI	**Mazidag**	**2.86**	**279**	*e*PN	**Pb**	**03 54 32.7**	**-1.3**
MAZI	**Mazidag**	**2.86**	**279**	*e*Pn	**Pb**	**03 54 32.7**	**-1.3**
DYBB	**Diyarbakir**	**3.19**	**287**	*e*PN	Pn	03 54 37.2	+3.9
DIYA	**Diyarbakir**	**3.20**	**287**	*i* P	**Pg**	**03 54 42.7**	**-1.1**
DIYA				*i* S	**Sg**	**03 55 24.3**	**-1.0**

IDC ***18*** *03:56:36.8±1.4, 2°.80N×84°.04W, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.6/29, mbtmp3.6/6, ML3.8/1, MS3.2/5, Ms1 3.2/5, ms1mx3.0/25, Error ellipse: s-maj=90.8km s-min=21.7km az=56.0*

ISC 18 03:56:42.1±1.2, 2°.8N±0°.3×84°.1W±0°.5, h35km, n13, σ0°80/7, mb3.5/5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**7.53**	**353**	Pn	Pn	03 58 34.6	+5.1
	0.8nm,0.3s,baz=235,slow=9.0,SNR=10.0						
ATAH	**Atahualpa**	**11.35**	**150**	Pn	**Pn**	**03 59 22.6**	**+0.3**
	0.7nm,0.3s,baz=339,slow=8.6,SNR=3.6						
APG	**El Apazote**	**13.70**	**333**	LR	LR	04 04 21.4	
	comp=Z,177nm,19.0s,baz=116,slow=34						
NNA	**Nana**	**16.32**	**154**	LR	LR	04 06 06.9	
	comp=Z,53nm,18.7s,baz=306,slow=35						
CMIG	**Matias Romero**	**17.77**	**324**	LR	LR	04 06 18.6	
	comp=Z,36nm,21.6s,baz=168,slow=33						
PTGA	**Pitinga**	**24.34**	**98**	LR	LR	04 10 57.6	
	comp=Z,55nm,20.6s,baz=349,slow=35						
LPAZ	**La Paz**	**24.63**	**141**	P	**P**	**04 02 00.1**	**-0.2**
	1.2nm,0.8s,baz=314,slow=12,SNR=3.0						
TXAR	**Lajitas Array**	**32.33**	**327**	LR	LR	04 15 04.7	
	comp=Z,69nm,18.5s,baz=0.0,slow=34						
PDAR	**Pinedale Array**	**45.86**	**334**	P	**P**	**04 05 02.1**	**+0.8**
	0.2nm,0.7s,baz=110,slow=7.8,SNR=2.3						
YKA	**Yellowknife Ar**	**63.78**	**345**	P	**P**	**04 07 10.2**	**-0.1**
	0.5nm,0.9s,baz=139,slow=6.4,SNR=9.5						
ILAR	**Eielson Array**	**76.18**	**337**	P	**P**	**04 08 26.4**	**-0.1**
	0.6nm,1.0s,baz=112,slow=4.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**85.25**	**77**	P	**P**	**04 09 16.2**	**+0.1**
	0.9nm,1.2s,baz=276,slow=6.5,SNR=2.3						
SONM	**Songino Array**	**128.78**	**351**	PKP	**PKPdf**	**04 15 45.0**	**-1.3**
	0.5nm,0.9s,baz=90,slow=5.9,SNR=3.3						

IDC ***18*** *04:07:02.6±1.6, 38°.24S×72°.93W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.8/16, mbtmp3.7/5, ML4.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.8/17, Error ellipse: s-maj=51.6km s-min=29.4km az=53.0*

ISC 18 04:07:05.8±1.5, 38°.7S±0°.2×72°.9W±0°.3, h33km, n7, σ1°05/7, mb3.8/5, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.72**	**138**	Pn	**Pb**	**04 07 53.7**	**0.0**
	5.1nm,0.3s,baz=322,slow=14,SNR=40						
PLCA				Lg	Lg	04 08 36.3	
	7.6nm,0.3s,baz=32,slow=18,SNR=3.1						
PLCA				LR	LR	04 09 14.6	
	comp=Z,189nm,19.2s,baz=347,slow=43						
LPAZ	**La Paz**	**22.75**	**12**	P	**P**	**04 12 06.8**	**+1.0**
	3.4nm,0.9s,baz=190,slow=3.1,SNR=12						
SIV	**San Ignacio**	**24.93**	**28**	P	**P**	**04 12 24.3**	**-1.7**
	2.0nm,0.8s,baz=228,slow=11,SNR=5.2						
TXAR	**Lajitas Array**	**73.54**	**332**	P	**P**	**04 18 35.1**	**-0.2**
	0.2nm,0.6s,baz=159,slow=7.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**86.50**	**70**	P	**P**	**04 19 46.0**	**+0.5**
	0.5nm,0.5s,baz=222,slow=4.2,SNR=12						
PDAR	**Pinedale Array**	**87.67**	**334**	P	**P**	**04 19 50.6**	**-0.2**
	0.6nm,0.9s,baz=147,slow=5.5,SNR=3.1						
MKAR	**Makanchi Array**	**160.16**	**58**	PKPab	**PKPab**	**04 27 42.0**	**+0.4**
	0.5nm,0.7s,baz=291,slow=6.1,SNR=5.3						

IDC 18 04:47:08.9±3.2, 32°.58S×178°.69W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/20, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=71.7km s-min=46.6km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.63**	**210**	Pn	Pn	04 48 46.7	-0.9
	0.5nm,0.3s,baz=63,slow=2.3,SNR=3.7						
URZ				Sn	Sn	04 49 58.4	-5.4
	0.5nm,0.3s,baz=270,slow=19,SNR=2.9						
ASAR	**Alice Springs**	**42.46**	**270**	P	P	04 55 05.1	-0.8
	0.2nm,0.5s,baz=109,slow=7.9,SNR=3.3						
WRA	**Warramunga Arr**	**43.64**	**275**	P	P	04 55 16.1	+0.6
	0.2nm,0.3s,baz=114,slow=8.0,SNR=7.5						
FINES	**FINESS Array B**	**146.96**	**338**	PKPbc	PKPbc	05 06 52.0	-0.6
	0.3nm,0.4s,baz=20,slow=4.4,SNR=4.3						

DJA ***18*** *04:53:01.7±0.7, 3°.N±11°.×12°.5E±°, h10km, M4.5/6, mb4.3/3, mB5.3/2, MLv4.6/6, Mw(mB)4.8/2*
ISCJB ***18*** *04:53:27.1±1.0, 1°.3N±0°.1×126°.6E±0°.1, h10km, mb3.6/4, Error ellipse: s-maj=22.9km s-min=10.2km az=42.6*
IDC ***18*** *04:53:27.5±1.3, 1°.27N×126°.61E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/25, mbtmp3.6/4, Error ellipse: s-maj=137.2km s-min=20.7km az=69.0*

ISC 18 04:53:28.8±1.1, 1°.3N±0°.1×126°.7E±0°.2, h10km, n7, σ0°59/7, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.87**	**124**	P	Pn	04 53 51.8	+4.7
TNTI				S	**Sg**	**04 53 56.7**	**-0.2**
LBMI	**Labuha**	**2.07**	**156**	P	**Pg**	**04 54 09.0**	**+0.5**
NLAI	**Namlea**	**4.49**	**174**	P	**Pn**	**04 54 36.3**	**-0.7**
	22nm,0.8s,4μm0.2nm						
WRA	**Warramunga Arr**	**22.38**	**161**	P	**P**	**04 58 27.4**	**-0.1**
	1.5nm,0.5s,baz=339,slow=11,SNR=15						
ASAR	**Alice Springs**	**25.76**	**165**	P	**P**	**04 59 00.8**	**+0.8**
	1.2nm,0.8s,baz=338,slow=9.4,SNR=9.7						
SONM	**Songino Array**	**49.60**	**342**	P	**P**	**05 02 20.3**	**-0.2**
	0.2nm,0.3s,baz=163,slow=8.5,SNR=2.5						
MKAR	**Makanchi Array**	**59.54**	**326**	P	**P**	**05 03 32.8**	**+0.2**
	0.5nm,0.6s,baz=110,slow=6.7,SNR=6.8						

IDC 18 05:16:28.4±8.6, 16°.55S×173°.10W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/21, mbtmp3.8/3, Error ellipse: s-maj=388.6km s-min=34.8km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.87**	**258**	P	P	05 25 23.6	-0.4
	1.1nm,1.0s,baz=97,slow=7.0,SNR=6.2						
ASAR	**Alice Springs**	**50.04**	**253**	P	P	05 25 25.1	-0.2
	3.1nm,0.7s,baz=86,slow=8.4,SNR=28						
ILAR	**Eielson Array**	**83.51**	**11**	P	P	05 28 57.2	-0.6
	0.2nm,0.7s,baz=216,slow=4.5,SNR=2.8						
BRTR	**Keskin Array B**	**147.22**	**320**	PKPbc	PKPbc	05 36 14.7	+0.5
	0.8nm,0.8s,baz=107,slow=3.5,SNR=3.8						

IDC ***18*** *05:37:09.3±0.7, 34°.32S×71°.94W, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.2/33, mbtmp4.2/15, ML4.3/2, MS3.3/3, Ms1 3.3/3, ms1mx3.1/17, Error ellipse: s-maj=25.4km s-min=17.1km az=66.0*
GUC ***18*** *05:37:11.8±1.0, 34°.32S×72°.06W, h32km±13km, ML4.5*
ISCJB ***18*** *05:37:13.3±0.8, 34°.31S±0°.03×71°.95W±0°.10, h36km±7km, mb4.5/26, MS3.6/1, Error ellipse: s-maj=13.4km s-min=5.7km az=0.1*
NEIC ***18*** *05:37:14.9±0.3, 34°.29S×71°.96W, h35km, mb4.5/13, ML4.5(GUC), Error ellipse: s-maj=9.4km s-min=6.6km az=72.0*
NEIC Felt [III] at Pichilemu and [II] at Santiago and Talca.

ISC 18 05:37:14.4±0.5, 34°.35S±0°.04×72°.05W±0°.09, h35km±6km, n58, σ1°08/61, mb4.5/26, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.94**	**134**	⇑*i* P	**Pn**	**05 37 29.2**	**-1.9**
NICH				*i* S1	**Sb**	**05 37 42.8**	**-0.5**
NICH				AML	AML	05 37 43.4	
	comp=N,35μm,0.7s						
TALC	**Talca**	**1.10**	**162**	⇓*i* P	**Pn**	**05 37 31.5**	**-1.8**
TALC				*i* S	**Sn**	**05 37 46.6**	**-0.7**
TALC				AML	AML	05 37 47.2	
	comp=E,33μm,0.1s						
IHA	**Instituto Hidr**	**1.36**	**15**	⇑*i* P	**Pn**	**05 37 35.2**	**-1.6**
ANTU	**Antumapu**	**1.41**	**57**	⇓*i* P	**Pn**	**05 37 36.1**	**-1.4**
ANTU				*i* S1	**Sn**	**05 37 54.4**	**-0.5**
ANTU				AML	AML	05 37 56.5	
	comp=E,16μm,0.5s						
FSR	**Penalolen**	**1.53**	**56**	*e*P9	**Pn**	**05 37 38.9**	**-0.4**
FSR				*i* S1	**Sb**	**05 37 59.2**	**+1.2**
LNCH	**Linares**	**1.54**	**166**	⇓*i* P	**Pn**	**05 37 39.0**	**-0.4**
LNCH				*i* S	**Sn**	**05 37 59.6**	**+1.4**
LNCH				AML	AML	05 38 05.9	
	comp=E,8μm,0.6s						
LACH	**Col Las Americ**	**1.55**	**55**	⇓*i* P	**Pn**	**05 37 38.0**	**-1.5**
LACH				*i* S1	**Sb**	**05 37 58.6**	**+0.2**
YECH	**El Yeso**	**1.77**	**68**	⇓*i* P	**Pn**	**05 37 43.2**	**+0.4**
YECH				*i* S1	Sg	05 38 06.8	
YECH				AML	AML	05 38 08.5	
	comp=N,6μm,0.3s						
CMCH	**Combarbala**	**3.29**	**16**	⇓*i* P	**Pn**	**05 38 02.0**	**-1.4**
CFAA	**Coronel Fontan**	**4.21**	**51**	Pn	**Pn**	**05 38 17.2**	**+1.1**
	comp=N,1.0nm,0.3s,baz=228,slow=11,SNR=29						
CFAA				Lg	Lg	05 39 15.4	
	comp=N,3.6nm,0.3s,baz=99,slow=22,SNR=3.3						
CFAA				LR	LR	05 40 05.8	
	comp=N,93nm,18.8s,baz=232,slow=43						
LCO	**Las Campanas**	**5.44**	**13**	*e*Pn	**Pn**	**05 38 31.3**	**-1.9**
PLCA	**Paso Flores**	**6.48**	**170**	Pn	**Pn**	**05 38 47.9**	**+0.6**
	comp=N,1.6nm,0.3s,baz=347,slow=9.5,SNR=26						
PLCA				Lg	Lg	05 40 28.6	
	comp=N,0.8nm,0.3s,baz=75,slow=20,SNR=2.8						
PLCA				LR	LR	05 41 28.5	
	comp=N,336nm,20.2s,baz=328,slow=40						
TRQA	**Tornquist**	**8.94**	**117**	*e*Pn	**Pn**	**05 39 22.4**	**+1.5**
LPAZ	**La Paz**	**18.32**	**12**	P	**Pn**	**05 41 26.4**	**0.0**
	comp=N,0.3nm,0.3s,baz=182,slow=5.7,SNR=18						
LPAZ	**La Paz**	**18.32**	**12**	*e*Pn	**Pn**	**05 41 26.6**	**+0.2**
	comp=N,14nm,0.9s						
SIV	**San Ignacio**	**20.77**	**31**	P	**P**	**05 41 50.9**	**-1.6**
	comp=N,5.1nm,0.7s,baz=222,slow=14,SNR=13						
NNA	**Nana**	**22.68**	**348**	P	**P**	**05 42 13.6**	**+0.6**
	comp=N,3.6nm,0.3s,baz=205,slow

WRA	Warramunga Arr	120.45	209	PKP	PKPdf	05 56 01.9	-0.8
	comp=N,0.3nm,0.6s,baz=146,slow=1.8,SNR=5.0						
H11S2	WAKE ISLAND Hyt	25.76	269	T	T	08 14 32.7	
	baz=120,slow=75,SNR=14						
H11S1	WAKE ISLAND Hyt	25.77	269	T	T	08 14 33.7	
	baz=120,slow=75,SNR=29						
H11S3	WAKE ISLAND Hyt	25.78	269	T	T	08 14 34.0	
	baz=120,slow=75,SNR=22						
H11N3	WAKE ISLAND Hyt	26.18	270	T	T	08 15 05.6	
	baz=115,slow=78,SNR=15						
H11N1	WAKE ISLAND Hyt	26.19	270	T	T	08 15 07.1	
	baz=115,slow=78,SNR=26						
H11N2	WAKE ISLAND Hyt	26.20	270	T	T	08 15 06.7	
	baz=115,slow=78,SNR=24						
ZALV	Zalesovo Beam	154.52	33	PKPbc	PKPbc	05 57 10.8	+0.1
	comp=N,1.0nm,0.3s,baz=290,slow=6.1,SNR=4.4						
ZALV				PKPab	PKPab	05 57 24.6	-0.7
	comp=N,3.6nm,0.7s,baz=306,slow=5.1,SNR=6.3						
MKAR	Makanchi Array	157.00	50	PKPab	PKPab	05 57 35.8	-0.4
	comp=N,1.5nm,0.8s,baz=305,slow=4.3,SNR=8.5						
SONM	Songino Array	166.47	4	PKPab	PKPab	05 58 18.2	+0.6
	comp=N,0.7nm,0.9s,baz=343,slow=4.6,SNR=4.3						
HHC	Hu-ho-hao-te	172.91	337	*e*PKP	PKPdf	05 57 20.4	+0.7
HHC				pPKP	pPKPdf	05 57 32.6	+1.3
HHC				PP	PP	06 02 43.5	+6.1
HHC				SKS	SKSdf	06 04 17.1	-3.2

*ISCJB **18** 05:41:17.3±0.5, 32°.33N±0°.02×115°.26W±0°.03, h10km±4km, Error ellipse: s-maj=4.1km s-min=3.7km az=169.6*
*NEIC **18** 05:41:18.5, 32°.31N×115°.25W, h4km, ML3.2(PAS), ML3.5(ECX), After ECX.*
*ECX **18** 05:41:18.5±0.4, 32°.31N×115°.25W, h4km, MD3.3, ML3.5*
ISC 18 05:41:17.6±0.9, 32°.30N±0°.02×115°.29W±0°.02, h11km±7km, n27, σ1.9 06/39, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.11	353	⇓*e*P	Pg	05 41 20.7	+0.2
CPBX				*e*S	Sg	05 41 22.9	+0.3
CPBX				⇑*e*		05 41 29.1	
	comp=N,72μm,0.6s						
SGL	Mount Signal	0.51	313	⇓*i*P	Pg	05 41 27.8	+0.3
YUH	Yuha Desert	0.64	303	⇑*i*P	Pg	05 41 30.1	+0.1
COK	Cook Ranch	0.66	326	⇑*i*P	Pg	05 41 30.5	+0.1
RDX	Rancho Dawling	0.67	236	*e*P	Pg	05 41 30.9	+0.2
RDX				*e*S	Sb	05 41 40.5	-0.4
RDX				⇑*e*		05 41 42.8	
	comp=N,1μm,0.5s						
RMX	La Rumorosa	0.73	294	*e*P	Pb	05 41 32.4	-0.1
SWSC	Sam W. Stewart	0.77	326	P	Pg	05 41 31.9	-0.5
	baz=0.8						
CRR	Carrizo Plain	0.82	315	⇓*i*P	Pg	05 41 33.1	-0.3
GLA	Glamis	0.84	27	S	Sg	05 41 44.2	-0.7
	baz=0.8						
GLA	Glamis	0.84	27	Pg	Pg	05 41 33.9	0.0
GLA				*e*Sg	Sg	05 41 44.5	-0.4
ECBX	El Chinero	0.85	166	*e*P	Pg	05 41 33.6	-0.5
ECBX				*e*S	Sg	05 41 45.3	0.0
ECBX				*e*		05 41 46.5	
	comp=E,1μm,0.3s						
MONP	Monument Peak,	1.12	302	S	Sg	05 41 53.3	-0.5
	baz=1.1						
ZAX	El Zacaton	1.15	227	*e*P	Pg	05 41 39.2	-0.5
ZAX				*e*S	Sg	05 41 55.0	+0.3
CBX	Cerro Bola	1.17	271	*e*P	Pg	05 41 39.5	-0.5
CBX				*e*S	Sb	05 41 55.6	+0.6
BAR	Barrett	1.23	288	*e*Pg	Pb	05 41 40.4	-0.5
BAR				*e*Sg	Sg	05 41 56.1	-1.1
SPX	San Pedro Mart	1.26	187	*e*P	Pn	05 41 40.7	-0.9
SPX				*e*S	Sb	05 41 58.2	+0.1
SPX				⇓*e*		05 42 00.6	
	comp=E,285nm,0.5s						
ECNX	Esteban Cantu	1.29	240	*e*P	Pn	05 41 41.3	-0.3
ECNX				*e*S	Sg	05 41 59.2	+0.2
PBX	Punta Banda	1.34	246	*e*P	Pn	05 41 42.5	+0.2
PBX				*e*S	Sg	05 42 01.0	+0.1
BC3	Big Chuckawall	1.35	354	P	Pn	05 41 40.7	-1.9
	baz=1.4						
113A	Mohawk Valley,	1.37	70	S	Sb	05 41 58.5	-2.2
	baz=1.3						
PFO	Pinyon Flats O	1.63	323	P	Pn	05 41 44.6	-1.9
	baz=1.7						
PFO	Pinyon Flats O	1.63	323	P	Pg	05 41 50.0	+1.0
109C	Camp Elliot, M	1.64	291	Sb	Sn	05 42 08.4	+0.8
	baz=1.7						
MURC	Murrieta	2.06	309	Sb	Sb	05 42 21.9	+1.1
	baz=2.1						
214A	Organ Pipe Nat	2.13	99	Pn	Pn	05 41 53.9	+0.7
214A				*e*Sg	Sg	05 42 29.0	+2.9
MWC	Mount Wilson	3.01	310	*e*Pn	Pn	05 42 05.7	+0.2
MWC				*e*Sg	Sb	05 42 51.4	+3.2
WUAZ	Wupatki	4.57	44	Pg	Pg	05 42 45.4	+0.2

*ISCJB **18** 05:45:14.9±0.4, 28°.24N±0°.05×128°.80E±0°.09, h96km±5km, mb3.5/5, Error ellipse: s-maj=15.7km s-min=4.9km az=29.2*
*JMA **18** 05:45:15.9±0.2, 28°.34N×128°.62E, h73km±3km, M3.5*
JMA Felt I J1.
*IDC **18** 05:45:17.7±3.3, 28°.25N×128°.85E, h114km±28km, mb3.3/5, mb1 3.6/7, mb1mx3.3/31, mbtmp3.8/7, Error ellipse: s-maj=31.1km s-min=24.5km az=78.0*
ISC 18 05:45:15.5±0.8, 28°.28N±0°.06×128°.69E±0°.08, h84km±8km, n19, σ1.9 47/29, mb3.6/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	Amaminishikomi	0.43	95	P	Pn	05 45 29.0	0.0
JAMN				S	Sn	05 45 38.8	-0.3
JTK	Tokunoshima	0.54	155	P	Pn	05 45 30.2	+0.2
JTK				S	Sn	05 45 41.1	+0.3
JAM	Amami Oshima	0.82	80	P	Pn	05 45 32.5	-0.2
JAM				S	Sn	05 45 44.9	-0.6
JOKE	Okinoerabujima	0.92	187	P	Pn	05 45 34.3	+0.4
JOKE				S	Sn	05 45 48.0	+0.4
JTAJ	Takarajima	0.98	27	P	Pn	05 45 34.1	-0.4
JTAJ				*e*S	Sn	05 45 48.3	-0.5
JZK	Kikaishima	1.13	88	P	Pn	05 45 38.1	+1.8
JZK				S	Sn	05 45 56.4	+4.4
JIH	Iheya	1.40	208	P	Pn	05 45 40.4	+0.8
JIH				S	Sn	05 45 58.3	+0.5
JOW	Kunigami	1.49	194	P	Pn	05 45 41.3	+0.5
JOW				*e*S	Sn	05 46 00.9	+1.0
JNTH	Nagotoyohara	1.85	199	P	Pn	05 45 46.3	+0.8
JNN	Nakanoshima	1.87	33	P	Pn	05 45 46.4	+0.6
JNN				*e*S	Sn	05 46 10.4	+1.5
JAGN	Aguni-jima	2.12	218	P	Pn	05 45 50.0	+1.0
JAGN				*e*S	Sn	05 46 16.1	+1.4
JJT2	Tamagusuku 2	2.29	202	P	Pn	05 45 53.4	+2.1
JNU	Nakatsue	5.18	21	P	Pn	05 46 33.0	+2.4
	4.5nm,0.3s,baz=278,slow=1.8,SNR=19						
KSRS	Korea Array	9.17	356	P	Pn	05 47 26.9	+2.1
	0.2nm,0.3s,baz=176,slow=14,SNR=11						
SONM	Songino Array	26.09	324	P	P	05 50 42.6	+1.3
	0.9nm,0.6s,baz=138,slow=11,SNR=9.6						
MKAR	Makanchi Array	40.51	310	P	P	05 52 45.4	-0.7
	0.3nm,0.3s,baz=60,slow=7.2,SNR=4.4						
WRA	Warramunga Arr	48.25	173	P	P	05 53 46.8	-1.2
	0.8nm,0.6s,baz=354,slow=8.3,SNR=5.0						
ILAR	Eielson Array	62.45	29	P	P	05 55 27.7	-1.7
	0.4nm,0.7s,baz=294,slow=9.2,SNR=9.8						
YKA	Yellowknife Ar	76.50	25	P	P	05 56 54.9	-1.0
	0.3nm,0.5s,baz=307,slow=6.1,SNR=9.7						

*IDC **18** 05:45:20.1±3.6, 1°.27N×97°.12E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/34, mbtmp3.7/4, ML4.3/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/33, Error ellipse: s-maj=124.3km s-min=27.9km az=61.0*
*DJA **18** 05:45:23.8±1.1, 1°.N±10°.×9°.7E±°, h10km, M3.5/5, MLv3.5/5*
ISC 18 05:45:25.1±1.4, 1°.6N±0°.1×97°.2E±0°.1, h28km, n16, σ1.9 58/8, mb3.8/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	1.19	315	P	Pn	05 45 45.3	-0.5
TPTI		1.69	1	P	Pn	05 45 52.9	+0.1
KCSI	Kotacane, Aceh	2.04	17	P	Pb	05 45 59.8	-1.8
MNSI	Mandailing Nat	2.53	107	P	Pn	05 46 04.8	+0.4
CMAR	Chiang Mai Arr	16.89	6	P	P	05 49 23.0	+1.6

	0.4nm,0.3s,baz=196,slow=13,SNR=6.7						
H08S2	Diego Garcia H	26.25	249	T	T	06 17 59.7	
	baz=71,slow=75,SNR=1013						
H08S3	Diego Garcia H	26.25	249	T	T	06 17 59.9	
	baz=71,slow=75,SNR=1036						
H08S1	Diego Carcia H	26.27	249	T	T	06 18 01.0	
	baz=71,slow=75,SNR=687						
H01W3	Cape Leeuwin H	39.59	158	T	T	06 34 51.3	
	baz=332						
H01W2	Cape Leeuwin H	39.60	158	T	T	06 35 00.4	
	baz=332						
H01W1	Cape Leeuwin H	39.60	158	T	T	06 34 54.6	
	baz=332						
WRA	Warramunga Arr	42.26	122	P	P	05 53 14.6	-1.8
	0.5nm,0.9s,baz=302,slow=8.9,SNR=4.9						
SONM	Songino Array	46.79	9	P	P	05 53 53.4	+1.1
	1.3nm,0.9s,baz=191,slow=9.1,SNR=9.4						
MKAR	Makanchi Array	46.89	346	P	P	05 53 54.2	+1.3
	0.9nm,0.8s,baz=157,slow=7.8,SNR=7.0						
BVAR	Borovoye Array	55.90	341	LR	LR	06 22 31.3	
	comp=Z,33nm,18.9s,slow=40						
ASAJ	Asahikawa	58.40	37	LR	LR	06 20 43.0	
	comp=Z,118nm,18.4s,slow=36						

*IDC **18** 05:56:18.7±1.2, 18°.20N×62°.54W, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/28, mbtmp3.7/6, ML2.8/1, Error ellipse: s-maj=43.7km s-min=22.8km az=16.0*
*NEIC **18** 05:56:25.5±1.6, 17°.93N×62°.49W, h139km±14km, mb3.8/1, Error ellipse: s-maj=24.2km s-min=7.8km az=217.0*
NEIC Felt at Cul de Sac, Sint Maarten.
*TRN **18** 05:56:25.4, 17°.81N×62°.68W, h119km, MD3.0, M3.5(FDF)*
*ISCJB **18** 05:56:27.6±0.4, 17°.74N±0°.06×62°.71W±0°.04, h107km±4km, mb3.7/5, Error ellipse: s-maj=11.6km s-min=4.4km az=27.9*
ISC 18 05:56:29.1±0.8, 17°.77N±0°.07×62°.73W±0°.05, h102km±6km, n40, σ1.9 77/51, mb3.8/5, 4C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEUS	St. Eustatius	0.36	220	⇑*i*P	Pn	05 56 43.1	-1.1
SEUS				*e*S	Sn	05 56 53.6	-1.9
SMRT	St. Maarten	0.43	311	⇑*i*P	Pn	05 56 44.5	-0.1
SMRT				*e*S	Sn	05 56 55.7	-0.5
BSK	Brimstone Hill	0.43	194	*e*P	Pn	05 56 45.1	+0.5
BSK				*e*S	Sn	05 56 58.2	+2.0
BSK	Brimstone Hill	0.43	194	*e*P	Pn	05 56 46.5	+1.8
BSK				*e*S	Sn	05 56 58.2	+2.0
SABA	Saba	0.51	253	⇑*i*P	Pn	05 56 44.6	-0.5
NVBH	Bath Hotel, Ne	0.66	170	*e*P	Pn	05 56 46.3	0.0
NVBH				*e*S	Sn	05 57 00.6	+1.4
ANWB	Willy Bob	0.91	96	⇓*e*P	Pn	05 56 47.3	-1.4
ANWB	Willy Bob	0.91	96	*e*Pn	Pn	05 56 47.1	-1.6
ANWB				*e*Sn	Sn	05 57 02.1	-1.3
SEG	Port Louis	1.80	139	*e*P	Pn	05 56 57.3	-1.8
LZG	Guadaloupe-1	1.86	150	*e*P	Pn	05 56 58.2	-1.8
CDVI	St. Croix	1.94	270	*e*Pn	Pn	05 57 02.4	+1.5
SSG	Sans Toucher	1.95	149	*e*P	Pn	05 56 59.7	-1.6
MLG	Mont-d'or	1.96	150	*e*P	Pn	05 56 59.8	-1.5
FNG	Fond-Bernard	1.98	149	*e*P	Pn	05 56 59.9	-1.6
CRG	Carmichael	1.99	149	*e*P	Pn	05 57 00.4	-1.5
SCG	Saint Claude	2.00	150	⇑*i*P	Pn	05 57 00.5	-1.4
ECG	Echelle	2.01	149	*e*P	Pn	05 57 00.4	-1.6
DOG	Dongo Capester	2.03	148	*e*P	Pn	05 57 00.9	-1.3
PHG	Guadaloupe-2	2.04	149	*e*P	Pn	05 57 01.1	-1.2
HMG	Houelmont	2.04	151	*e*P	Pn	05 57 01.1	-1.2
H05N1	Guadeloupe/Mar	2.16	132	Pn	Pn	05 57 01.2	-2.7
H05N1				Sn	Sn	05 57 25.3	-5.1
	SNR=139						
TBG	Guadaloupe-3	2.17	151	*e*P	Pn	05 57 02.5	-1.6
STVI	Saint Thomas	2.19	286	*e*Pn	Pn	05 57 03.6	-0.6
BBL	Barber's Block	2.54	151	*e*P	Pn	05 57 07.3	-1.5
MTP	Monte Pirata	2.70	277	*e*Pn	Pn	05 57 11.0	+0.1
CBYP	Canovanas	3.01	280	*e*Pn	Pn	05 57 15.3	+0.2
SJG	San Juan	3.27	276	*e*Pn	Pn	05 57 19.2	+0.7
SJG				*e*Sn	Sn	05 57 56.4	-0.2
FDF	Fort de France	3.38	153	*e*Pn	Pn	05 57 18.1	-2.0
CELP	Cerrillos	3.67	275	*e*Pn	Pn	05 57 24.6	+0.7
LRS	Lares	3.94	278	*e*Pn	Pn	05 57 28.2	+0.6
LRS				*e*Sn	Sn	05 58 11.4	-1.6
LSP	Las Mesas	4.16	276	*e*Pn	Pn	05 57 31.1	+0.6
SMN1	Samana, DR	6.36	284	*e*Pn	Pn	05 57 59.5	-0.8
SMN1				*e*Sn	Sn	05 59 07.9	-3.7
SDDR	Presa de Saban	8.21	280	*e*Pn	Pn	05 58 24.2	-1.3
SDDR				*e*Sn	Sn	05 59 53.8	-2.9
SDV	Santo Domingo	11.70	222	Pn	Pn	05 59 11.8	-1.3
	1.3nm,0.4s						
ROSC	El Rosal	17.13	223	P	Pn	06 00 27.0	+4.3
	0.7nm,0.3s,baz=77,slow=19,SNR=3.5						
TXAR	Lajitas Array	39.06	295	P	P	06 03 45.9	-0.5
	0.2nm,0.5s,baz=105,slow=9.4,SNR=4.6						
PDAR	Pinedale Array	46.74	312	P	P	06 04 49.4	+1.1
	0.9nm,0.6s,baz=113,slow=8.9,SNR=10.0						
YKA	Yellowknife Ar	57.19	334	P	P	06 06 05.7	+0.4
	0.2nm,0.7s,baz=113,slow=7.8,SNR=2.8						
DBIC	Dimbokro	57.43	93	P	P	06 06 08.5	+0.8
	2.1nm,0.6s,baz=270,slow=12,SNR=3.8						
TORD	Torodi Ar. Bea	62.02	84	P	P	06 06 39.6	+0.4
	0.6nm,0.6s,baz=289,slow=7.0,SNR=5.2						

MEX 18 06:04:12.4±1.0, 15°.44N×91°.86W, h206km±9km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.66	217	*e*P	Pn	06 04 38.8	-2.1
THIG				*i* S	S	06 05 01.4	-1.7
CCIG	Comitan	0.88	342	*i* P	Pn	06 04 41.4	-1.0
CCIG				*i* S	S	06 05 02.5	-3.1
PCIG		1.33	282	*i* P	Pn	06 04 43.8	-1.5
PCIG				*i* S	S	06 05 08.6	-2.0
TGIG		1.80	318	*e*P	Pn	06 04 48.8	-0.8
TGIG				*e*S	S	06 05 16.0	-2.1
CMIG	Matias Romero	3.34	300	*e*P	Pn	06 05 05.3	-1.1
CMIG				*i* S	S	06 05 45.9	-2.2
HUIG	Huatulco	4.11	275	*e*P	Pn	06 05 13.8	-1.9
HUIG				*i* S	S	06 06 03.3	-1.8

*BJI **18** 06:24:14.7, 48°.70S×165°.33E, h10km, mB5.5/5, mb5.4/11, Ms5.2/4, Ms7 4.9/4*
*IDC **18** 06:24:15.2±0.5, 48°.51S×164°.85E, h0km, mb4.7/13, mb1 4.8/14, mb1mx4.7/19, mbtmp4.7/14, ML3.8/1, Error ellipse: s-maj=25.8km s-min=16.6km az=58.0*
*NEIC **18** 06:24:16.7±0.3, 48°.62S×164°.86E, h10km, mb4.9/5, Error ellipse: s-maj=7.7km s-min=6.3km az=134.0*
*GCMT **18** 06:24:16.7±0.3, 48°.71S×164°.56E, h30km±1km, MW5.3/59, Moment Tensor Solution. s54,c65; s59,c77; Duration: 1s1 Moment tensor: Scale 10^17Nm; M_{rr}0.88±.04; $M_{\theta\theta}$0.11±.04; $M_{\phi\phi}$-0.99±.03; $M_{r\theta}$0.46±.07; $M_{\theta\phi}$-0.09±.03; $M_{\phi r}$-0.26±.05; Best double couple: $M_0$1.07800×10^17 NP1:ϕ_s161.00000°, δ57.00000°, λ60.00000°. NP2: ϕ_s27.00000°, δ43.00000°, λ127.00000°. Principal axes: T 1.1300, Plg64.0000°, Azm17.0000°; N -0.1040, Plg25.0000°, Azm178.0000°; P -1.0260, Plg7.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **18** 06:24:19.1±0.5, 48°.48S±0°.07×164°.97E±0°.06, h33km, mb4.8/19 Error ellipse: s-maj=11.1km s-min=4.3km az=156.3*
ISC 18 06:24:20.5±0.4, 48°.61S±0°.06×165°.10E±0°.06, h35km, n123, σ1.9 55/122, mb4.8/19, 8C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	The Paps	2.64	49	⇓PN	Pn	06 25 00.8	+0.1
APZ				SN	Sn	06 25 32.8	+1.3
WHZ	Wether Hill Ro	3.34	37	PN	Pn	06 25 10.1	-0.2
WHZ	Wether Hill Ro	3.34	37	*e*Pn	Pn	06 25 10.4	+0.1
SYZ	Scrubby Hill	3.44	54	PN	Pn	06 25 12.0	+0.5
SYZ				*e*SN	Sn	06 25 51.0	+0.1
DCZ	Deep Cove	3.44	25	*e*PN	Pn	06 25 11.0	-0.5
DCZ	Deep Cove	3.44	25	*e*Pn	Pn	06 25 11.4	-0.2
MLZ	Mavora Lakes	3.89	34	PN	Pn	06 25 17.6	-0.2
TUZ	Tuapeka	4.07	51	PN	Pn	06 25 20.6	+0.3
MSZ	Milford Sound	4.40	27	*e*PN	Pn	06 25 25.5	+0.8
EAZ	Earnscleugh	4.45	42	PN	Pn	06 25 25.0	-0.5

HHSZ	Highcliff Hill	4.63	56	*e*PN	Pn	06 25 29.0	+0.9
WKZ	Wanaka	4.65	37	PN	Pn	06 25 28.9	+0.6
JCZ	Jackson Bay	5.20	31	*e*PN	Pn	06 25 36.9	+1.1
ODZ	Otahua Downs	5.22	49	*e*PN	Pn	06 25 35.0	-1.0
ODZ	Otahua Downs	5.22	49	*e*Pn	Pn	06 25 36.0	-0.1
LBZ	Lake Benmore	5.50	42	*e*PN	Pn	06 25 37.9	-2.0
FOZ	Fox Glacier	5.97	34	*e*PN	Pn	06 25 47.8	+1.4
RPZ	Rata Peaks	6.41	42	PN	Pn	06 25 49.5	-2.9
RPZ	Rata Peaks	6.41	42	*e*Pn	Pn	06 25 50.4	-2.0
WVZ	Waitaha Valley	6.79	37	PN	Pn	06 25 57.0	-0.6
MCQ	Macquarie Isla	7.02	211	*e*Pn	Pn	06 25 58.0	-2.7
	15μm,0.6s						
OXZ	Oxford	7.17	45	*e*PN	Pn	06 26 01.3	-1.5
MQZ	McQueen's Vall	7.18	50	*e*PN	Pn	06 26 02.0	-1.0
DSZ	Denniston Nort	8.34	37	PN	Pn	06 26 17.2	-1.7
KHZ	Kahutara	8.57	47	*e*Pn	Pn	06 26 23.6	+1.6
QRZ	Quartz Range	9.41	37	*e*PN	Pn	06 26 32.9	-0.6
BFZ	Birch Farm	11.21	49	*e*Pn	Pn	06 27 00.9	+2.6
URZ	Urewera	13.52	44	Pn	Pn	06 27 29.2	-0.6
	0.5nm,0.3s,baz=244,slow=11,SNR=3.0						
URZ				Sn	Sn	06 29 53.4	-5.2
	0.2nm,0.3s,baz=93,slow=18,SNR=2.6						
TAU	Tasmania Unive	13.65	288	*e*Pn	Pn	06 27 25.3	-6.1
CAN	Canberra	17.83	312	*e*Pn	Pn	06 28 24.6	-1.2
	67nm,1.2s						
ARMA	Armidale	20.88	326	*e*Pn	P	06 29 00.8	+1.2
	43nm,1.3s						
EIDS	Eidsvold	25.68	330	*e*P	P	06 29 47.5	+0.4
DZM	Mont Dzumac	26.51	3	P	P	06 29 57.0	+2.3
	14nm,0.8s,baz=181,slow=18,SNR=3.1						
CTA	Charters Tower	32.25	325	P	P	06 30 45.2	-0.4
	16nm,0.9s,baz=156,slow=6.9,SNR=6.4						
FORT	Forrest	33.19	289	*e*P	P	06 30 52.4	-1.4
	18nm,0.6s						
ASAR	Alice Springs	35.01	304	P	P	06 31 08.1	-1.5
	6.5nm,0.7s,baz=135,slow=7.8,SNR=55						
ASAR				PcP	PcP	06 33 39.4	-1.8
	3.0nm,1.1s,baz=144,slow=3.3,SNR=4.8						
AS31	Alice Springs	35.01	304	*e*P	P	06 31 08.3	-1.3
WB2	Warramunga Arr	37.80	308	*e*P	P	06 31 31.2	-2.2
WRA	Warramunga Arr	37.80	308	P	P	06 31 31.2	-2.3
	7.6nm,0.9s,baz=143,slow=8.2,SNR=32						
WRA				PcP	PcP	06 33 48.8	-0.8
	3.7nm,0.9s,baz=141,slow=2.7,SNR=5.3						
WRAB	Tennant Creek	37.80	308	*e*P	P	06 31 31.0	-2.5
	28nm,1.2s						
NWAO	Narrogin (SRO)	38.82	276	P	P	06 31 39.5	-2.5
	6.7nm,0.8s,baz=123,slow=10,SNR=3.7						
H01W1	Cape Leeuwin H	39.67	271	T	T	07 13 47.1	
	baz=127,slow=75,SNR=15						
H01W2	Cape Leeuwin H	39.67	271	T	T	07 13 48.9	
	baz=127,slow=75,SNR=14						
H01W3	Cape Leeuwin H	39.69	271	T	T	07 13 47.1	
	baz=127,slow=75,SNR=14						
QSPA	South Pole Qui	41.51	180	P	P	06 32 05.6	+1.6
	6.9nm,0.9s,baz=0.5,slow=3.9,SNR=11						
PMG	Port Moresby	41.89	333	P	P	06 32 06.2	-1.2
	12nm,0.6s,baz=108,slow=6.4,SNR=2.8						
MBWA	Marble Bar	45.28	291	*e*P	P	06 32 33.3	-1.4
	36nm,0.9s						
KAPI	Kappang	58.02	303	*e*P	P	06 34 10.0	+0.1
	196nm,1.8s						
SNAA	Sanae	59.71	184	P	P	06 34 27.8	+6.8
SNAA	Sanae	59.71	184	P	P	06 34 21.8	+0.8
	2.1nm,1.0s,baz=194,slow=6.1,SNR=3.1						
SNAA	Sanae	59.71	184	*e*P	P	06 34 21.1	+0.1
	15nm,1.0s						
VNA3	Neumayer Olymp	60.39	182	P	P	06 34 32.0	+6.4
VNA2	Neumayer--Watz	60.65	183	P	P	06 34 34.3	+7.0
VNA1	Neumayer--Stat	60.95	183	P	P	06 34 36.2	+6.8
PSI	Prapat	76.62	290	P	P	06 36 05.5	-2.3
	4.3nm,0.7s,baz=123,slow=6.9,SNR=4.9						
PLCA	Paso Flores	78.36	140	P	P	06 36 18.9	+1.7
	3.3nm,1.0s,baz=225,slow=14,SNR=3.6						
H08S2	Diego Garcia H	86.04	263	T	T	08 11 27.2	
	baz=139,slow=76,SNR=70						
H08S1	Diego Carcia H	86.06	263	T	T	08 11 25.3	
	baz=139,slow=76,SNR=67						
H08S3	Diego Garcia H	86.06	263	T	T	08 11 26.5	
	baz=139,slow=76,SNR=63						
JNU	Nakatsue	86.92	332	P	P	06 37 01.0	-0.4
	16nm,1.0s,baz=234,slow=6.2,SNR=3.7						
H08N1	Diego Carcia H	87.99	263	T	T	08 13 51.4	
	baz=144,slow=75,SNR=44						
H08N3	Diego Garcia H	88.00	263	T	T	08 13 56.0	
	baz=144,slow=75,SNR=53						
H08N2	Diego Garcia H	88.01	263	T	T	08 13 54.5	
	baz=144,slow=75,SNR=47						
MJAR	Matsushiro Arr	88.10	339	P	P	06 37 07.5	+0.6
	3.9nm,0.8s,baz=170,slow=6.3,SNR=9.2						
MAT	Matsushiro	88.10	339	P	P	06 37 07.3	+0.3
SLVN	Son La	88.42	305	*e*P	P	06 37 08.7	-0.2
	17nm,1.4s						
CMAR	Chiang Mai Arr	88.90	300	P	P	06 37 10.9	-0.2
	6.2nm,0.9s,baz=158,slow=3.5,SNR=

KSH LZ
160nm,5.1s
ILAR Eielson Array 119.05 21 PKP **PKPdf 06 43 04.1 0.0**
1.9nm,1.0s,baz=284,slow=3.8,SNR=18
MKAR Makanchi Array 119.11 309 PKP **PKPdf 06 43 04.0 -0.8**
0.8nm,0.9s,baz=125,slow=2.7,SNR=16
AAK Ala-Archa 120.66 301 PKP **PKPdf 06 43 06.9 -1.2**
0.5nm,0.5s,baz=163,slow=11,SNR=2.3
ZALV Zalesovo Beam 122.49 316 PKP **PKPdf 06 43 09.9 -1.2**
1.0nm,0.3s,baz=197,slow=3.0,SNR=2.3
EDM Edmonton 122.62 45 *e*PKPdf **PKPdf 06 43 11.5 +0.1**
KKAR Karatay Array 123.24 299 *e*PKPdf **PKPdf 06 43 12.8 -0.1**
KURBB Kurchatov Arra 123.46 310 PKP **PKPdf 06 43 12.5 -0.5**
3.4nm,0.9s,baz=130,slow=1.6,SNR=14
KURK Kurchatov 123.47 310 PKP **PKPdf 06 43 12.5 -0.5**
ECSD EROS Data Cent 125.78 62 *e*PKPdf **PKPdf 06 43 17.8 +0.1**
YKA Yellowknife Ar 127.64 35 PKP **PKPdf 06 43 20.2 -0.4**
1.1nm,0.9s,baz=230,slow=1.7,SNR=14
WCI Wyandotte Cave 128.89 74 *e*PKPdf **PKPdf 06 43 24.1 +0.2**
BVAR Borovoye Array 128.98 309 PKP **PKPdf 06 43 23.3 -0.2**
2.2nm,0.9s,baz=125,slow=4.2,SNR=10
ULM Lac du Bonnet 129.82 56 PKP **PKPdf 06 43 24.9 -0.2**
1.3nm,0.7s,baz=140,slow=0.5,SNR=2.4
DBIC Dimbokro 137.34 195 PKP **PKPdf 06 43 40.9 +0.4**
3.2nm,0.9s,baz=184,slow=14,SNR=2.5
TORD Torodi Ar. Bea 142.05 207 PKhKP PKPpre 06 43 43.1
0.3nm,0.5s,baz=153,slow=4.0,SNR=4.4
TORD PKP **PKPdf 06 43 50.3 +1.3**
1.0nm,0.8s,baz=154,slow=2.3,SNR=6.2
BRTR Keskin Array B 144.59 274 PKP **PKPab 06 43 51.2 -0.4**
15nm,0.9s,baz=140,slow=3.6,SNR=49
SCHQ Schefferville 147.88 59 PKPbc **PKPbc 06 43 59.8 -1.0**
7.0nm,1.1s,baz=348,slow=1.5,SNR=6.2
KULLO Kullorsuaq 148.44 20 *i* P **PKPbc 06 44 01.9 +0.2**
33nm,0.9s
TAM Tamanrasset 149.55 219 *e*PKPdf **PKPdf 06 44 02.0 +0.2**
TIRR Tirgusor 150.22 279 ⇑*i*P **PKPbc 06 44 07.2 +0.2**
ARCES ARCESS Array B 151.40 332 PKPbc **PKPbc 06 44 09.4 +0.3**
16nm,0.9s,baz=122,slow=1.6,SNR=22
AKASG Malin Array Be 151.67 291 PKPbc **PKPbc 06 44 09.5 -0.7**
8.8nm,0.8s,baz=80,slow=2.4,SNR=15
DAG Danmarks Havn 151.70 2 *i* P **PKPbc 06 44 08.7 -0.9**
9.4nm,0.8s
MLR Muntele Rosu 152.23 279 ⇑*i*P **PKPbc 06 44 11.2 -0.7**
VOIR 152.80 278 ⇑*i*P **PKPbc 06 44 12.8 -0.3**
VTS Vitosha 152.87 272 ⇑*i*P **PKPbc 06 44 12.8 -0.6**
FINES FINESS Array B 153.74 315 PKPbc **PKPbc 06 44 14.1 -0.3**
6.0nm,0.9s,baz=103,slow=6.1,SNR=16
SFJD Kangerlussuaq 154.11 32 *i* P PKPdf 06 43 57.6 -9.3
8.1nm,0.8s
GZR Gura Zlata 154.28 277 ⇓*i*P **PKPab 06 44 30.3 -0.2**
KEST Kesra 158.00 243 PKPab **PKPab 06 44 47.9 +1.1**
3.4nm,0.9s,baz=221,slow=3.0,SNR=8.3
KEST Kesra 158.00 243 *e*PKPab **PKPab 06 44 47.7 +1.0**
ARSA Arzberg 159.63 278 ⇑*i*PKPab **PKPab 06 44 53.6 +0.1**
13nm,1.2s
DPC Dobruska-Polom 159.71 287 *e*PKPAB **PKPab 06 44 54.0 +0.3**
DPC *ep*PKP pPKPdf 06 44 59.8 +34
SOKA Soboth 159.79 276 ⇑*i*PKPab **PKPab 06 44 53.0 -1.3**
11nm,1.0s
NB2 NORSAR Subarra 160.65 320 PKP **PKPab 06 44 55.9 -1.5**
comp=Z,3.8nm,0.9s,baz=62,slow=4.4
NOA NORSAR Array B 160.65 320 PKPab **PKPab 06 44 55.5 -2.0**
comp=Z,2.4nm,0.8s,baz=62,slow=4.5,SNR=5.6
GERES GERESS Array B 161.17 282 PKPab **PKPab 06 44 59.0 -1.2**
comp=Z,1.4nm,0.8s,baz=108,slow=4.3,SNR=11
BRG Berggiesshubel 161.27 288 *e*PKP **PKPab 06 45 01.1 +0.6**
comp=Z,2.8nm,0.8s
BRG *e* 06 45 08.8
comp=Z,9.0nm,1.4s
BRG *i* 06 48 53.0
BRG *e* 06 49 33.9
comp=Z,5.6nm,1.0s
CLL Collm 161.89 289 *e*(pPKPab) pPKPab 06 45 12.0 -2.3
FETA Feichten 162.73 274 ⇑*i*PKPab **PKPab 06 45 06.1 -1.1**
comp=Z,8.6nm,1.1s
DAVA Damuels 163.36 275 ⇑*i*PKPab **PKPab 06 45 08.9 -1.1**
comp=Z,17nm,1.4s
ESDC Sonseca Array 168.11 225 PKPab **PKPab 06 45 30.3 -0.6**
comp=Z,0.2nm,0.3s,baz=154,slow=6.0,SNR=2.5

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*IDC **18** 06:26:22.6±0.8, 34.°21S×73.°81W, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.1/18, mbtmp4.1/9, ML4.1/2, MS2.5/2, Ms1 2.5/2, ms1mx2.5/18, Error ellipse: s-maj=28.0km s-min=19.4km az=80.0*
*ISCJB **18** 06:26:25.3±0.5, 34.°28S±0.°08×73.°75W±0.°09, h33km, mb4.2/14, MS4.5/1, Error ellipse: s-maj=11.6km s-min=9.8km az=141.8*
*NEIC **18** 06:26:27.6±0.4, 34.°24S×73.°75W, h35km, mb4.3/6, Error ellipse: s-maj=12.9km s-min=8.3km az=75.0*
ISC 18 06:26:27.4±0.7, 34.°22S±0.°09×73.°8W±0.°1, h35km, n21, σ1§**18**/22, **mb4.2**/14, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.33**	**62**	Pn	**Pn**	**06 27 44.4**	**-0.1**
	0.2nm,0.3s,baz=242,slow=12,SNR=11						
CFAA				Sn	**Sn**	**06 28 46.5**	**+1.8**
	0.4nm,0.3s,baz=148,slow=23,SNR=6.4						
CFAA				LR	LR	06 29 47.0	
	comp=Z,9.1nm,18.7s,baz=242,slow=38						
PLCA	**Paso Flores**	**6.98**	**160**	Pn	**Pn**	**06 28 05.8**	**-1.4**
	0.9nm,0.3s,baz=328,slow=12,SNR=4.7						
PLCA				LR	LR	06 30 47.1	
	comp=Z,182nm,21.6s,baz=288,slow=38						
LPAZ	**La Paz**	**18.56**	**17**	P	**Pn**	**06 30 42.7**	**+0.3**
	0.2nm,0.3s,baz=188,slow=7.2,SNR=13						
SIV	**San Ignacio**	**21.45**	**35**	P	**P**	**06 31 08.9**	**-3.9**
	1.9nm,0.7s,baz=243,slow=6.9,SNR=2.6						
SNAA	**Sanae**	**51.92**	**158**	P	**P**	**06 35 32.9**	**+0.6**
	1.1nm,0.8s,baz=297,slow=9.0,SNR=2.6						
QSPA	**South Pole Qui**	**56.01**	**180**	P	**P**	**06 36 03.1**	**+0.8**
	2.2nm,0.7s,baz=129,slow=1.1,SNR=9.0						
TXAR	**Lajitas Array**	**69.25**	**332**	P	**P**	**06 37 31.1**	**+0.2**
	1.9nm,0.7s,baz=152,slow=8.4,SNR=26						
ABTX	**Abilene, Hawle**	**70.81**	**337**	*e*P	**P**	**06 37 40.1**	**-0.2**
	22nm,1.5s						
WVT	**Waverly**	**71.21**	**348**	*e*P	**P**	**06 37 42.0**	**-0.7**
	23nm,1.5s						
WMOK	**Wichita Mounta**	**72.49**	**339**	*e*P	**P**	**06 37 49.7**	**-0.7**
	1.5nm,0.7s						
MSTX	**Muleshoe**	**73.09**	**335**	*e*P	**P**	**06 37 54.0**	**-0.1**
	2.9nm,0.7s						
ANMO	**Albuquerque**	**75.31**	**333**	*e*P	**P**	**06 38 07.9**	**+0.8**
	2.6nm,1.2s						
ISCO	**Idaho Springs**	**79.32**	**336**	*e*P	**P**	**06 38 30.1**	**+0.5**
	1.0nm,0.6s						
URZ	**Urewera**	**82.44**	**229**	LR	LR	07 05 55.1	
	comp=Z,223nm,20.0s,baz=353,slow=29						
NVAR	**Mina Array Bea**	**83.26**	**326**	P	**P**	**06 38 51.6**	**+1.1**
	0.5nm,0.6s,baz=151,slow=6.2,SNR=5.8						
PDAR	**Pinedale Array**	**83.33**	**334**	P	**P**	**06 38 50.8**	**0.0**
	0.9nm,1.0s,baz=145,slow=5.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**85.63**	**71**	P	**P**	**06 39 03.0**	**+0.3**
	2.5nm,1.1s,baz=278,slow=4.5,SNR=8.1						
ULM	**Lac du Bonnet**	**86.36**	**346**	P	**P**	**06 39 05.0**	**-0.4**
	1.3nm,0.7s,baz=153,slow=9.0,SNR=3.2						
BVAR	**Borovoye Array**	**148.41**	**42**	PKPbc	**PKPbc**	**06 46 10.2**	**+0.6**
	0.8nm,0.8s,baz=205,slow=3.1,SNR=4.0						
MKAR	**Makanchi Array**	**157.98**	**48**	PKPab	**PKPab**	**06 46 54.2**	**+0.6**
	0.7nm,0.7s,baz=299,slow=5.0,SNR=5.5						
SONM	**Songino Array**	**166.40**	**360**	PKP	**PKPdf**	**06 46 29.7**	**+1.0**
	0.3nm,0.9s,baz=31,slow=3.9,SNR=2.2						
SONM				PKPab	**PKPab**	**06 47 30.7**	**+0.4**
	0.8nm,0.9s,baz=355,slow=5.1,SNR=5.0						

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*BJI **18** 06:28:47.7, 49.°17S×164.°89E, h10km, mB5.7/16, mb5.5/18, Ms5.3/19, Ms7 5.1/20*
*IDC **18** 06:28:48.6±0.6, 48.°67S×164.°74E, h0km, mb4.7/13, mb1 4.8/14, mb1mx4.8/19, mbtmp4.7/14, ML4.3/1, MS5.0/21, Ms1 5.0/21, ms1mx4.8/28, Error ellipse: s-maj=26.0km s-min=19.2km az=57.0*
*NEIC **18** 06:28:50.3±0.3, 48.°73S×164.°67E, h10km, mb5.5/5, MS5.3/117, MW5.5, ML5.7(WEL), Error ellipse: s-maj=8.4km s-min=6.2km az=153.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^17Nm; Mrr2.09; Mθθ-0.18; Mφφ-1.91; Mrθ1.00; Mθφ-0.37; Mφr-1.32; Best double couple: M0=2.60000×10^17 NP1:ϕs167.00000°, δ64.00000°, λ69.00000°. NP2:ϕs28.00000°, δ33.00000°, λ127.00000°. Principal axes: T 2.8600, Plg64.0000°, Azm39.0000°; N -0.5500, Plg19.0000°, Azm176.0000°; P -2.3100, Plg16.0000°, Azm272.0000°;*
NEIC Felt at Riverton.
*GCMT **18** 06:28:50.3±0.1, 48.°61S×164.°51E, h22km, MW5.6/119, Moment Tensor Solution. s104,c197; s119,c305; Duration: 1§5 Moment tensor: Scale 10^17Nm; Mrr2.01±.04; Mθθ0.81±.03; Mφφ-2.82±.03; Mrθ0.67±.07; Mθφ-0.30±.03; Mφr-0.78±.06; Best double couple: M0=2.69900×10^17 NP1:ϕs163.00000°, δ58.00000°, λ62.00000°. NP2:ϕs29.00000°, δ42.00000°, λ127.00000°. Principal axes: T 2.4450, Plg65.0000°, Azm21.0000°; N 0.5040, Plg24.0000°, Azm179.0000°; P -2.9540, Plg9.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **18** 06:28:52.5±0.3, 48.°49S±0.°05×165.°00E±0.°05, h33km, mb4.9/22, MS5.2/138 Error ellipse: s-maj=7.1km s-min=3.4km az=153.8*
*MOS **18** 06:28:54.4±1.8, 48.°64S×164.°14E, h33km, mb5.3/5, MS5.2/9, Error ellipse: s-maj=21.0km s-min=10.6km az=112.4*
ISC 18 06:28:54.6±0.3, **48.°69S**±0.°05×**164.°95E**±0.°05, **h35**km, **n393,** σ1§**78**/271, **mb4.9**/22, **MS5.2**/138, **15C-20D, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**2.77**	**49**	PN	**Pn**	**06 29 33.7**	**-2.7**
APZ				SN	**Sn**	**06 30 04.8**	**-3.8**
APZ				SN		06 30 05.5	
WHZ	**Wether Hill Ro**	**3.46**	**37**	PN	**Pn**	**06 29 43.2**	**-2.7**
DCZ	**Deep Cove**	**3.55**	**26**	PN	**Pn**	**06 29 44.6**	**-2.4**
DCZ				*e*SN	Sn	06 30 21.6	-6.2
SYZ	**Scrubby Hill**	**3.56**	**54**	PN	**Pn**	**06 29 45.0**	**-2.2**
MLZ	**Mavora Lakes**	**4.00**	**35**	PN	**Pn**	**06 29 50.6**	**-2.8**
MLZ				SN	**Sn**	**06 30 35.2**	**-4.0**
TUZ	**Tuapeka**	**4.20**	**51**	PN	**Pn**	**06 29 53.9**	**-2.1**
TUZ				*e*SN	**Sn**	**06 30 40.0**	**-3.8**
MSZ	**Milford Sound**	**4.51**	**28**	PN	**Pn**	**06 29 58.7**	**-1.6**
EAZ	**Earnscleugh**	**4.57**	**42**	*e*PN	**Pn**	**06 29 58.2**	**-2.9**
HHSZ	**Highcliff Hill**	**4.76**	**56**	PN	**Pn**	**06 30 02.4**	**-1.3**
WKZ	**Wanaka**	**4.77**	**37**	*e*PN	**Pn**	**06 30 02.0**	**-1.9**
JCZ	**Jackson Bay**	**5.32**	**31**	*e*PN	**Pn**	**06 30 10.2**	**-1.3**
ODZ	**Otahua Downs**	**5.34**	**49**	PN	Pn	06 30 08.3	-3.5
LBZ	**Lake Benmore**	**5.62**	**42**	*e*PN	Pn	06 30 11.1	-4.5
FOZ	**Fox Glacier**	**6.09**	**34**	*e*PN	**Pn**	**06 30 20.7**	**-1.3**
RPZ	**Rata Peaks**	**6.53**	**43**	PN	Pn	06 30 22.5	-5.7
MCQ	**Macquarie Isla**	**6.91**	**210**	*e*P	**Pn**	**06 30 31.8**	**-1.4**
MCQ	**Macquarie Isla**	**6.91**	**210**	*e*Pn	**Pn**	**06 30 31.8**	**-1.4**
	14μm,0.5s						
OXZ	**Oxford**	**7.29**	**45**	*e*PN	Pn	06 30 34.2	-4.2
MQZ	**McQueen's Vall**	**7.31**	**50**	*e*PN	Pn	06 30 35.1	-3.6
LTZ	**Lake Taylor**	**7.82**	**44**	*e*PN	Pn	06 30 41.4	-4.4
DSZ	**Denniston Nort**	**8.46**	**37**	*e*PN	Pn	06 30 49.2	-5.3
KHZ	**Kahutara**	**8.70**	**47**	*e*PN	Pn	06 30 53.7	-4.0
KHZ	**Kahutara**	**8.70**	**47**	*e*Pn	**Pn**	**06 30 59.4**	**+1.6**
THZ	**Tophouse**	**8.91**	**42**	*e*PN	Pn	06 30 57.3	-3.5
THZ				*e*SN	Sn	06 32 33.4	-6.5
NNZ	**Nelson**	**9.56**	**42**	*e*PN	**Pn**	**06 31 06.6**	**-3.0**
TCW	**Tory Channel**	**9.97**	**45**	*e*PN	**Pn**	**06 31 15.2**	**-0.1**
SNZO	**South Karori**	**10.10**	**47**	*e*Pn	**Pn**	**06 31 17.9**	**+0.9**
CAW	**Cannon Point**	**10.43**	**47**	*e*PN	**Pn**	**06 31 19.6**	**-1.9**
MRZ	**Mangatainoka R**	**11.02**	**47**	*e*PN	Pn	06 31 25.3	-4.4
MRZ				*e*SN	Sn	06 33 23.3	-8.3
BFZ	**Birch Farm**	**11.34**	**49**	*e*Pn	**Pn**	**06 31 33.9**	**0.0**
HIZ	**Hauiti**	**12.44**	**39**	*e*PN	Pn	06 31 45.0	-3.9
BKZ	**Black Stump Fm**	**12.63**	**45**	*e*Pn	**Pn**	**06 31 51.2**	**-0.4**
TAU	**Tasmania Unive**	**13.58**	**289**	Pn	Pn	06 31 59.9	-4.6
	580nm,1.0s,SNR=15						
TAU	**Tasmania Unive**	**13.58**	**289**	*e*P	Pn	06 31 59.2	-5.3
TAU	**Tasmania Unive**	**13.58**	**289**	*e*Pn	Pn	06 31 59.2	-5.3
URZ	**Urewera**	**13.64**	**45**	Pn	**Pn**	**06 32 02.4**	**-3.0**
	1.6nm,0.3s,baz=224,slow=11,SNR=7.9						
URZ				Sn	Sn	06 34 25.5	-10
	4.5nm,0.3s,baz=87,slow=19,SNR=6.5						
URZ				LR	LR	06 37 42.9	
	comp=Z,18μm,21.2s,baz=235,slow=39						
URZ	**Urewera**	**13.64**	**45**	*e*Pn	**Pn**	**06 32 05.8**	**+0.3**
URZ				Sn	Sn	06 34 25.4	-10
MKAZ	**Moumakai**	**13.77**	**37**	*e*PN	**Pn**	**06 32 04.3**	**-2.8**
OUZ	**Omahuta**	**14.90**	**29**	*e*PN	**Pn**	**06 32 21.8**	**-0.7**
OUZ	**Omahuta**	**14.90**	**29**	*e*Pn	**Pn**	**06 32 23.0**	**+0.5**
	586nm,1.4s						
MILA	**Mila**	**16.37**	**309**	P	**Pn**	**06 32 37.6**	**-4.0**
	baz=16,SNR=24						
CNB	**Canberra Magne**	**17.64**	**314**	⇓P	**Pn**	**06 32 55.9**	**-1.6**
	baz=18,SNR=12						
LHI	**Lord Howe Isla**	**17.72**	**343**	⇑P	**P**	**06 32 58.7**	**-0.3**
	baz=18						
CAN	**Canberra**	**17.81**	**313**	*e*P	**Pn**	**06 32 57.7**	**-1.9**
CAN	**Canberra**	**17.81**	**313**	⇑P	**Pn**	**06 32 58.1**	**-1.4**
	baz=18						
CAN	**Canberra**	**17.81**	**313**	*e*P	**Pn**	**06 32 57.7**	**-1.9**
TOO	**Toolangi**	**17.98**	**301**	P	**Pn**	**06 32 59.9**	**-1.7**
	baz=18,SNR=21						
RIV	**Riverview**	**18.06**	**320**	⇓P	**P**	**06 33 01.5**	**-1.2**
	baz=18						
MGCD	**Mangrove Creek**	**18.62**	**321**	P	**Pn**	**06 33 09.2**	**-0.1**
	baz=19,SNR=9.3						
YNG	**Young**	**18.93**	**313**	⇓P	**Pn**	**06 33 11.7**	**-1.4**
	baz=19,SNR=5.3						
ARMA	**Armidale**	**20.88**	**326**	⇑P	**P**	**06 33 32.6**	**-1.1**
	baz=21,SNR=5.5						
ARMA	**Armidale**	**20.88**	**326**	*e*P	**P**	**06 33 33.8**	**+0.1**
CMSA	**Cobar Meteorol**	**22.49**	**313**	⇓P	**P**	**06 33 49.2**	**-1.6**
	baz=23,SNR=8.1						
RAO	**Raoul Island**	**23.44**	**40**	LR	LR	06 42 25.9	
	comp=Z,7μm,21.1s,baz=198,slow=35						
RMQ	**Roma**	**25.51**	**325**	P	**P**	**06 34 19.3**	**-0.2**
	baz=26,SNR=24						
EIDS	**Eidsvold**	**25.69**	**330**	P	**P**	**06 34 20.6**	**-0.7**
	baz=26,SNR=4.3						
EIDS	**Eidsvold**	**25.69**	**330**	*e*P	**P**	**06 34 20.9**	**-0.3**
DZM	**Mont Dzumac**	**26.59**	**3**	P	**P**	**06 34 30.0**	**+0.6**
	19nm,0.8s,baz=174,slow=13,SNR=6.3						
DZM				LR	LR	06 43 22.5	
	comp=Z,4μm,19.1s,baz=184,slow=33						
BBOO	**Buckleboo**	**26.82**	**296**	⇓P	**P**	**06 34 30.3**	**-1.1**
	baz=27						
QLP	**Quilpie**	**27.33**	**316**	P	**P**	**06 34 35.5**	**-0.5**
	baz=27,SNR=6.5						
VNDA	**Vanda**	**28.96**	**181**	LR	LR	06 44 01.3	
	comp=Z,3μm,20.2s,baz=4.0,slow=32						
SBA	**Scott Base**	**29.28**	**179**	PFAKE		06 35 00.0	+7.1
SBA				LR	LR		
	comp=Z,5μm,19.0s						
CTA	**Charters Tower**	**32.26**	**326**	P	**P**	**06 35 17.7**	**-2.0**
	comp=Z,9.8nm,0.7s,baz=167,slow=9.5,SNR=6.2						
CTA	**Charters Tower**	**32.26**	**326**	⇓P	**P**	**06 35 19.2**	**-0.5**
	baz=32						
CTAO	**Charters Tower**	**32.26**	**326**	PFAKE		06 35 30.0	+10
CTAO				LR	LR		
	comp=Z,5μm,19.0s						
MSVF	**Nonsavu**	**32.67**	**24**	PFAKE		06 35 40.0	+17
MSVF				LR	LR		
	comp=Z,6μm,20.0s						
CASY	**Casey**	**32.76**	**217**	PFAKE		06 35 30.0	+6.3
CASY				LR	LR		
	comp=Z,4μm,19.0s						
FORT	**Forrest**	**33.12**	**289**	*e*P	**P**	**06 35 25.3**	**-1.9**
	comp=Z,33nm,0.8s						
QIS	**Mount Isa**	**34.65**	**315**	P	**P**	**06 35 39.3**	**-1.2**
	baz=35,SNR=6.2						
ASAR	**Alice Springs**	**34.97**	**304**	P	**P**	**06 35 41.8**	**-1.6**
	comp=Z,6.5nm,0.7s,baz=136,slow=7.8,SNR=43						
ASAR				LR	LR	06 48 26.2	
	comp=Z,2μm,19.6s,baz=144,slow=34						
AS31	**Alice Springs**	**34.97**	**304**	*e*P	**P**	**06 35 41.6**	**-1.7**
WRKA	**Warakurna**	**37.11**	**296**	⇓P	**P**	**06 35 59.8**	**-1.9**
	baz=37,SNR=13						
WB2	**Warramunga Arr**	**37.77**	**309**	*e*P	**P**	**06 36 04.8**	**-2.4**
WRA	**Warramunga Arr**	**37.77**	**309**	P	**P**	**06 36 05.0**	**-2.2**
	comp=Z,5.1nm,0.7s,baz=139,slow=8.4,SNR=36						
WRA				LR	LR	06 50 49.5	
	comp=Z,2μm,18.2s,baz=145,slow=35						
WRAB	**Tennant Creek**	**37.77**	**309**	P	**P**	**06 36 04.5**	**-2.7**
	comp=Z,130nm,0.8s,SNR=12						
WRAB	**Tennant Creek**	**37.77**	**309**	⇑*e*P	**P**	**06 36 04.5**	**-2.7**
WRAB				pmax	pmax		
	comp=Z,68nm,1.3s						
WRAB	**Tennant Creek**	**37.77**	**309**	*e*P	**P**	**06 36 04.5**	**-2.7**
WRAB				LR	LR		
	comp=Z,3μm,20.0s						
NWAO	**Narrogin (SRO)**	**38.73**	**276**	P	P	06 36 10.2	-5.0
	comp=Z,9.3nm,0.9s,baz=117,slow=4.5,SNR=2.7						
NWAO				LR	LR	06 50 08.7	
	comp=Z,2μm,18.2s,baz=94,slow=33						
HNR	**Honiara**	**39.35**	**352**	LR	LR	06 51 31.9	
	comp=Z,2μm,18.1s,baz=180,slow=35						
H01W1	**Cape Leeuwin H**	**39.57**	**271**	T	T	07 18 51.1	
	baz=125,slow=75,SNR=32						
H01W2	**Cape Leeuwin H**	**39.58**	**271**	T	T	07 18 51.5	
	baz=125,slow=75,SNR=35						
H01W3	**Cape Leeuwin H**	**39.59**	**271**	T	T	07 19 20.0	
	baz=125,slow=75,SNR=30						
QSPA	**South Pole Qui**	**41.43**	**180**	P	**P**	**06 36 39.5**	**+2.1**
	comp=Z,11nm,1.0s,baz=5.4,slow=5.3,SNR=7.3						
QSPA				LR	LR	06 51 22.4	
	comp=Z,1μm,19.1s,baz=22,slow=33						
PMG	**Port Moresby**	**41.91**	**333**	P	**P**	**06 36 41.0**	**-0.6**
PMG				pmax	pmax		
	comp=Z,149nm,2.7s						
PMG	**Port Moresby**	**41.91**	**333**	P	**P**	**06 36 42.7**	**+1.1**
	comp=Z,21nm,0.8s,baz=144,slow=8.7,SNR=5.7						
PMG				LR	LR	06 51 10.0	
	comp=Z,2μm,20.7s,baz=159,slow=32						
MEEK	**Meekatharra**	**41.97**	**284**	P	**P**	**06 36 41.0**	**-1.1**
	baz=42,SNR=3.2						
MORW	**Morawa**	**41.99**	**280**	⇓P	**P**	**06 36 41.4**	**-0.8**
	baz=42,SNR=3.5						
TBI	**Tubuai**	**43.84**	**71**	*e*S	**S**	**06 43 30.8**	**+5.1**
	comp=Z,1μm,30.5s						
TBI				*e*LR	LR	06 49 11.9	
	comp=Z,2μm,23.0s						
FITZ	**Fitzroy Crossi**	**44.03**	**300**	⇓P	**P**	**06 36 57.5**	**-1.3**
	baz=44						
KNRA	**Kununurra**	**44.25**	**305**	⇓P	**P**	**06 36 59.4**	**-1.1**
	baz=44,SNR=4.2						
KDU	**Kakadu**	**44.85**	**312**	⇓P	**P**	**06 37 03.6**	**-1.7**
	baz=45,SNR=3.0						
MBWA	**Marble Bar**	**45.22**	**291**	*e*P	**P**	**06 37 06.4**	**-1.8**
	comp=Z,57nm,1.2s						
MBWA				LR	LR		
	comp=Z,2μm,19.0s						
PPT2	**Papeete2**	**48.08**	**66**	*e*S	**S**	**06 44 31.3**	**+4.4**
	comp=Z,1μm,31.0s						
PPT2				*e*LR	LR	06 51 15.7	
	comp=Z,3μm,22.0s,baz=216						
PPT	**Papeete**	**48.09**	**66**	LR	LR	06 55 04.8	
	comp=Z,2μm,18.9s,baz=232,slow=33						
MAW	**Mawson**	**50.31**	**209**	LR	LR	06 57 09.9	
	comp=Z,3μm,19.2s,baz=111,slow=34						
JAY	**Jayapura**	**50.49**	**328**	LR	LR	06 59 11.9	
	comp=Z,2μm,18.6s,baz=4.5,slow=36						
BATI	**Baumata**	**51.54**	**304**	LR	LR	07 00 03.2	
	comp=Z,4μm,18.4s,baz=173,slow=36						
RKT	**Rikitea**	**53.37**	**84**	*e*S	**S**	**06 45 44.5**	**+4.5**
	comp=Z,2μm,27.0s						
RKT				*e*LR	LR	06 53 42.5	
	comp=Z,2μm,29.8s,baz=222						
SYO	**Syowa Base**	**55.91**	**201**	⇓*ep*P	**P**	**06 38 31.4**	**+3.1**
PAF	**Port-aux-Franc**	**57.94**	**230**	P	P	06 38 40.0	-2.9
PAF				PP	PP	06 42 17.0	+86
PAF				S	**S**	**06 46 37.0**	**-3.3**
PAF				SS	**SS**	**06 50 27.0**	**-3.8**
PAF				L	L	06 52 00.0	
PAF				R		06 55 00.0	
PAF	**Port-aux-Franc**	**57.94**	**230**	PFAKE		06 38 50.0	+7.1
PAF				LR	LR		
	comp=Z,4μm,20.0s						
KAPI	**Kappang**	**57.98**	**304**	*e*P	**P**	**06 38 43.1**	**-0.5**
	comp=Z,122nm,1.1s						
KAPI				LR	LR		
	comp=Z,2μm,21.0s						
SNAA	**Sanae**	**59.63**	**184**	P	**P**	**06 38 54.5**	**+0.1**
SNAA	**Sanae**	**59.63**	**184**	*i* P	**P**	**06 38 54.1**	**-0.4**
SNAA				pmax	pmax		
	comp=Z,53nm,3.3s						
SNAA	**Sanae**	**59.63**	**184**	P	**P**	**06 38 53.3**	**-1.2**
	comp=Z,1.7nm,0.9s,baz=231,slow=6.5,SNR=3.1						
VNA3	**Neumayer Olymp**	**60.31**	**182**	P	**P**	**06 39 02.1**	**+3.0**
VNA2	**Neumayer--Watz**	**60.57**	**183**	P	P	06 39 05.1	+4.3
PMSA	**Palmer Station**	**60.63**	**158**	PFAKE		06 39 10.0	+8.7
PMSA				LR	LR		
	comp=Z,2μm,22.0s						
VNA1	**Neumayer--Stat**	**60.87**	**183**	P	**P**	**06 39 04.6**	**+1.7**
AIS	**Amsterdam Isla**	**61.24**	**245**	S	S	06 47 17.0	-6.2
AIS				R		06 57 00.0	
DAV	**Davao City (W)**	**65.36**	**316**	PFAKE		06 39 40.0	+6.7
DAV				LR	LR		
	comp=Z,1μm,19.0s						
COCO	**West Island**	**66.51**	**278**	PFAKE		06 39 50.0	+9.3
COCO				LR	LR		
	comp=Z,1μm,20.0s						
CRZF	**Crozet Islands**	**68.83**	**223**	S	S	06 48 30.0	-26
CRZF				R		07 01 00.0	
TGY	**Tagaytay City**	**73.68**	**315**	P	**P**	**06 40 23.2**	**-1.5**
	comp=Z,134nm,0.3s,baz=153,slow=11,SNR=2.4						
PSI	**Prapat**	**76.55**	**290**	P	**P**	**06 40 39.0**	**-2.4**
PSI	**Prapat**	**76.55**	**290**	P	**P**	**06 40 39.0**	**-2.4**
	comp=Z,4.1nm,0.7

CMAR	**Chiang Mai Arr**	**88.85 300**	P	**P**	**06 41 44.0**	**-1.0**
	comp=Z,5.1nm,0.8s,baz=161,slow=3.6,SNR=20					
CMAR			LR	LR	07 25 26.3	
	comp=Z,285nm,18.3s,baz=144,slow=38					
CHTO	**Chiang Mai**	**89.13 300**	PFAKE		06 42 00.0	+14
CHTO			LR	LR		
	comp=Z,444nm,19.0s					
NJ2	**Nanjing**	**90.31 322**	*e*P	**P**	**06 41 52.5**	**+1.1**
NJ2			sP	sP	06 41 56.3	-1.0
NJ2			S	**ScS**	**06 52 44.5**	**-2.1**
NJ2			SS	**SS**	**06 58 49.0**	**+4.9**
NJ2			PMZ			
	comp=Z,60nm,0.8s					
NJ2			PMZ			
	comp=Z,400nm,7.5s					
NJ2			LN			
	comp=Z,1μm,15.9s					
NJ2			LE			
	comp=Z,1μm,23.8s					
NJ2			LZ			
	comp=Z,1μm,23.9s					
WHN	**Wuhan**	**90.91 318**	P	P	06 41 48.3	-6.0
GYA	**Guiyang**	**91.12 310**	P	**P**	**06 41 57.0**	**+1.4**
GYA			PP	**PP**	**06 45 36.3**	**+3.3**
GYA			SKS	**SKSac**	**06 52 28.4**	**+3.5**
GYA			S	**ScS**	**06 52 53.8**	**-0.2**
GYA			SS	**SS**	**06 59 01.0**	**+4.7**
GYA			PMZ			
	comp=Z,30nm,1.0s					
GYA			PMZ			
	comp=Z,150nm,5.7s					
GYA			LN			
	comp=Z,780nm,19.0s					
GYA			LE			
	comp=Z,560nm,20.4s					
GYA			LZ			
	comp=Z,830nm,19.8s					
PALK	**Pallekele**	**91.62 279**	P	**P**	**06 41 58.2**	**+0.1**
	comp=Z,6.6nm,0.7s,baz=153,slow=4.5,SNR=2.2					
KSRS	**Korea Array**	**91.86 331**	P	**P**	**06 41 59.5**	**+1.0**
	comp=Z,5.3nm,0.8s,baz=148,slow=5.9,SNR=9.8					
KSRS			LR	LR	07 20 56.9	
	comp=Z,354nm,20.1s,baz=150,slow=34					
KSAR	**Wonju Array Be**	**91.86 331**	P	**P**	**06 41 59.5**	**+1.0**
KSAR	**Wonju Array Be**	**91.86 331**	P	**P**	**06 41 59.5**	**+1.0**
KMI	**Kunming**	**92.07 307**	P	**P**	**06 42 00.5**	**+0.4**
KMI			pP	**PcP**	**06 42 05.1**	**+4.2**
KMI			sP	sP	06 42 06.4	-8.8
KMI			PP	**PP**	**06 45 43.4**	**+2.8**
KMI			S	**ScS**	**06 53 01.0**	**-1.2**
KMI			SS	**SS**	**06 59 13.9**	**+3.7**
KMI			PMZ			
	comp=Z,11nm,0.9s					
KMI			PMZ			
	comp=Z,150nm,4.8s					
KMI			LN			
	comp=Z,200nm,28.0s					
KMI			LE			
	comp=Z,440nm,18.9s					
KMI			LZ			
	comp=Z,640nm,19.5s					
INCN	**Inchon**	**92.31 330**	PFAKE		06 42 10.0	+9.4
INCN			LR	LR		
	comp=Z,532nm,19.0s					
ERM	**Erimo**	**92.34 344**	PFAKE		06 42 10.0	+9.4
ERM			LR	LR		
	comp=Z,949nm,20.0s					
ABPO	**Ambohimpanom**	**92.81 237**	PFAKE		06 42 10.0	+6.2
ABPO			LR	LR		
	comp=Z,782nm,22.0s					
ENH	**Enshi**	**92.90 314**	PFAKE		06 42 10.0	+6.4
ENH			LR	LR		
	comp=Z,201nm,21.0s					
SUR	**Sutherland**	**93.17 210**	PFAKE		06 42 20.0	+15
SUR			LR	LR		
	comp=Z,1μm,19.0s					
OPO	**Ambohidratompo**	**93.19 237**	P	**P**	**06 42 04.1**	**-1.4**
	comp=Z,4.4nm,0.8s,baz=246,slow=10.0,SNR=2.2					
BOSA	**Boshof**	**95.02 215**	LR	LR	07 18 35.5	
	comp=Z,809nm,20.4s,baz=156,slow=32					
CD2	**Chengdu**	**96.22 311**	*e*P	**P**	**06 42 20.8**	**+2.0**
CD2			sP	sP	06 42 27.1	-6.8
CD2			PP	**PP**	**06 46 15.3**	**+2.5**
CD2			SKS	**SKSac**	**06 52 55.8**	**+3.4**
CD2			S	**ScS**	**06 53 38.4**	**+2.3**
CD2			SS	**SS**	**07 00 11.3**	**+2.3**
CD2			PMZ			
	comp=Z,20nm,0.8s					
CD2			PMZ			
	comp=Z,140nm,7.1s					
CD2			LN			
	comp=Z,440nm,21.4s					
CD2			LE			
	comp=Z,460nm,16.6s					
CD2			LZ			
	comp=Z,440nm,15.5s					
YSS	**Yuzh-Sakhalins**	**97.20 345**	PFAKE		06 42 30.0	+7.2
YSS			LR	LR		
	comp=Z,394nm,20.0s					
MDJ	**Mudanjiang**	**97.95 335**	P	Pdif	06 42 27.6	+1.4
MDJ			PP	**PP**	**06 46 26.9**	**+1.1**
MDJ			S	**S**	**06 53 53.8**	**+4.2**
MDJ			SS	**SS**	**07 00 38.3**	**+5.4**
MDJ			PMZ			
	comp=Z,4.0nm,0.9s					
MDJ			PMZ			
	comp=Z,74nm,5.8s					
MDJ			LE			
	comp=Z,270nm,12.4s					
MDJ			LZ			
	comp=Z,380nm,17.1s					
BJT	**Baijiatuau**	**98.30 324**	PFAKE		06 42 40.0	+12
BJT			LR	LR		
	comp=Z,474nm,22.0s					
BJI	**Beijing**	**98.32 324**	P	Pdif	06 42 28.3	+0.4
BJI			S	S	06 53 59.8	+6.9
BJI			SS	SS	07 00 46.8	+8.6
BJI			PMZ			
	comp=Z,9.0nm,0.8s					
BJI			LN			
	comp=Z,410nm,21.9s					
BJI			LE			
	comp=Z,230nm,22.9s					
BJI			LZ			
	comp=Z,520nm,22.9s					
NNA	**Nana**	**98.74 119**	PFAKE		06 42 40.0	+9.3
NNA			LR	LR		
	comp=Z,885nm,21.0s					
MSEY	**Mahe Island**	**99.18 252**	PFAKE		06 42 40.0	+7.4
MSEY			LR	LR		
	comp=Z,1μm,19.0s					
LZH	**Lanzhou**	**100.36 314**	*e*P	**Pdif**	**06 42 40.1**	**+2.7**
LZH			pP	pP	06 42 45.0	-3.6
LZH			sP	sP	06 42 47.3	-5.3
LZH			PMZ			
	comp=Z,16nm,1.0s					
HHC	**Hu-ho-hao-te**	**100.85 322**	*e*P	**Pdif**	**06 42 41.5**	**+2.1**
HHC			PP	PP	06 46 52.8	+4.7
HHC			S	**Sdif**	**06 54 15.8**	**+1.4**
HHC			sS	sS	06 54 24.0	-9.0
HHC			SS	**SS**	**07 01 18.4**	**+4.6**
HHC			PMZ			
	comp=Z,40nm,1.2s					
HHC			PMZ			
	comp=Z,190nm,7.4s					
HHC			LN			
	comp=Z,720nm,19.0s					
HHC			LE			
	comp=Z,560nm,17.3s					
HHC			LZ			
	comp=Z,830nm,21.0s					
ADK	**Adak**	**101.42 11**	PFAKE		06 42 50.0	+8.6
ADK			LR	LR		
	comp=Z,2μm,21.0s					
GTA	**Gaotai**	**104.94 313**	*e*P	**Pdif**	**06 43 00.9**	**+3.3**
GTA			pP		06 43 05.8	
GTA			sP		06 43 07.9	
TSUM	**Tsumeb**	**106.41 212**	PFAKE		06 47 30.0	
TSUM			LR	LR		
	comp=Z,986nm,19.0s					
OTAV	**Otavalo**	**107.44 110**	PFAKE		06 47 30.0	
OTAV			LR	LR		
	comp=Z,476nm,19.0s					
PFO	**Pinyon Flats O**	**107.66 59**	PFAKE		06 47 30.0	
PFO			LR	LR		
	comp=Z,1μm,20.0s					
ULN	**Ulaanbaatar**	**108.46 323**	PFAKE		06 47 30.0	
ULN			LR	LR		
	comp=Z,331nm,20.0s					
SONM	**Songino Array**	**108.69 323**	Pdiff	**Pdif**	**06 43 09.6**	**-4.5**
	comp=Z,0.3nm,0.9s,baz=174,slow=2.9,SNR=3.5					
SONM			PKKP	**PKKPdf**	**06 58 41.8**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=280,slow=0.9,SNR=3.6					
SAML	**Samuel**	**108.74 129**	PFAKE		06 47 30.0	
SAML			LR	LR		
	comp=Z,353nm,19.0s					
TUC	**Tucson**	**110.02 64**	PFAKE		06 47 30.0	
TUC			LR	LR		
	comp=Z,1μm,19.0s					
JTS	**JuntasAbangare**	**110.92 98**	PFAKE		06 47 40.0	
JTS			LR	LR		
	comp=Z,574nm,19.0s					
KDAK	**Kodiak Island**	**111.75 23**	PFAKE		06 47 40.0	
KDAK			LR	LR		
	comp=Z,1μm,22.0s					
TXAR	**Lajitas Array**	**112.27 71**	PKKP	**PKKPdf**	**06 58 34.0**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=91,slow=3.6,SNR=3.5					
TLY	**Talaya**	**112.83 324**	PFAKE		06 47 40.0	
TLY			LR	LR		
	comp=Z,459nm,22.0s					
WVOR	**Wild Horse Val**	**112.85 51**	PFAKE		06 47 40.0	
WVOR			LR	LR		
	comp=Z,831nm,19.0s					
KMBO	**Kilima Mbogo**	**112.98 239**	PFAKE		06 47 40.0	
KMBO			LR	LR		
	comp=Z,691nm,19.0s					
BCIP	**Isla Barro Col**	**113.41 103**	PFAKE		06 47 40.0	
BCIP			LR	LR		
	comp=Z,478nm,20.0s					
NLWA	**Neilton Lookou**	**113.85 45**	PFAKE		06 47 40.0	
NLWA			LR	LR		
	comp=Z,924nm,22.0s					
YAK	**Yakutsk**	**113.92 343**	PFAKE		06 47 40.0	
YAK			LR	LR		
	comp=Z,393nm,20.0s					
WMQ	**Urumqi**	**114.26 309**	*e*PKP	PKPdf	06 47 29.8	+0.1
WMQ			PP	**PP**	**06 48 29.3**	**+3.1**
WMQ			PKS	**PKSdf**	**06 51 05.3**	**-1.0**
WMQ			SKS	**SKSdf**	**06 54 40.8**	**+2.0**
WMQ			SKKS	**SKKSac**	**06 55 21.8**	**-2.3**
WMQ			SS	**SS**	**07 04 15.8**	**+0.4**
WMQ			PPMZ			
	comp=Z,170nm,6.0s					
WMQ			LN			
	comp=Z,370nm,23.0s					
WMQ			LE			
	comp=Z,290nm,25.0s					
WMQ			LZ			
	comp=Z,300nm,22.0s					
DUG	**Dugway, Tooele**	**114.39 56**	PFAKE		06 47 40.0	+10
DUG			LR	LR		
	comp=Z,1μm,19.0s					
ANMO	**Albuquerque**	**114.44 64**	PFAKE		06 47 40.0	+10
ANMO			LR	LR		
	comp=Z,1μm,20.0s					
SHEL	**Horse Pasture**	**115.11 190**	*i* PKIKP	**PKPdf**	**06 47 31.6**	**-0.6**
SHEL	**Horse Pasture**	**115.11 190**	PFAKE		06 47 40.0	+7.8
SHEL			LR	LR		
	comp=Z,2μm,20.0s					
HAWA	**Hanford**	**115.21 48**	PFAKE		06 47 40.0	+8.7
HAWA			LR	LR		
	comp=Z,956nm,21.0s					
BMO	**Blue Mountains**	**115.24 50**	PFAKE		06 47 40.0	+8.4
BMO			LR	LR		
	comp=Z,965nm,19.0s					
TNA	**Tin City**	**115.83 12**	*e*PKPdf	**PKPdf**	**06 47 32.8**	**+1.0**
BILL	**Bilibino**	**116.41 1**	PFAKE		06 47 40.0	+7.1
BILL			LR	LR		
	comp=Z,315nm,21.0s					
HVS	**Khovu-Aksy**	**116.58 318**	*i* PKIKP	**PKPdf**	**06 47 36.0**	**+2.1**
WRAK	**Wrangell Islan**	**116.99 34**	PFAKE		06 47 50.0	+16
WRAK			LR	LR		
	comp=Z,740nm,19.0s					
AHID	**Auburn Hatcher**	**117.08 55**	PFAKE		06 47 50.0	+15
AHID			LR	LR		
	comp=Z,952nm,19.0s					
N20A	**Spence Gulch,**	**117.37 59**	P	**PKPdf**	**06 47 36.5**	**+0.5**
	baz=118					
NEW	**Newport**	**117.69 48**	PFAKE		06 47 50.0	+14
NEW			LR	LR		
	comp=Z,1μm,21.0s					
KSH	**Kashi**	**117.74 299**	PKP	**PKPdf**	**06 47 37.3**	**+0.7**
KSH			PP	**PP**	**06 48 50.5**	**-0.3**
KSH			PKS	**PKSdf**	**06 51 14.5**	**+1.2**
KSH			SKS	**SKSdf**	**06 54 49.4**	**+3.6**
KSH			SS	**SS**	**07 05 04.3**	**+3.1**
KSH			PPMZ			
	comp=Z,170nm,5.2s					
KSH			LN			
	comp=Z,130nm,4.7s					
KSH			LE			
	comp=Z,51nm,4.2s					
KSH			LZ			
	comp=Z,160nm,6.0s					
BW06	**Boulder Array**	**117.93 56**	PFAKE		06 47 50.0	+13
BW06			LR	LR		
	comp=Z,887nm,20.0s					
PDAR	**Pinedale Array**	**117.93 56**	PKP	**PKPdf**	**06 47 38.1**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=222,slow=1.2,SNR=3.2					
PDAR			PP	**PP**	**06 48 51.5**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=190,slow=2.6,SNR=3.1					
ISCO	**Idaho Springs**	**118.20 61**	PFAKE		06 47 50.0	+12
ISCO			LR	LR		
	comp=Z,1μm,19.0s					
LKWY	**Lake**	**118.66 54**	PFAKE		06 47 50.0	+12
LKWY			LR	LR		
	comp=Z,781nm,19.0s					
BOZ	**Bozeman (W)**	**118.72 53**	PFAKE		06 47 50.0	+12
BOZ			LR	LR		
	comp=Z,647nm,20.0s					
WMOK	**Wichita Mounta**	**118.98 69**	PFAKE		06 47 50.0	+11
WMOK			LR	LR		
	comp=Z,1μm,19.0s					
COLA	**College**	**119.02 21**	⇑ *i* PKIKP	**PKPdf**	**06 47 37.4**	**-0.6**
COLA	**College**	**119.02 21**	PFAKE		06 47 50.0	+12
COLA			LR	LR		
	comp=Z,879nm,20.0s					
SDV	**Santo Domingo**	**119.02 111**	PFAKE		06 47 50.0	+10
SDV			LR	LR		
	comp=Z,580nm,19.0s					
X33A	**Lawton**	**119.02 70**	P	**PKPdf**	**06 47 38.3**	**-0.7**
	baz=119					
MKAR	**Makanchi Array**	**119.08 309**	PKP	**PKPdf**	**06 47 37.4**	**-1.4**
	comp=Z,2.7nm,0.9s,baz=53,slow=0.6,SNR=13					
ILAR	**Eielson Array**	**119.16 21**	PKP	**PKPdf**	**06 47 36.7**	**-1.6**
	comp=Z,2.0nm,0.8s,baz=289,slow=3.5,SNR=20					
RLMT	**Red Lodge**	**119.63 54**	PFAKE		06 47 50.0	+10
RLMT			LR	LR		
	comp=Z,838nm,19.0s					
TKM2	**Tokmak 2**	**120.18 302**	PFAKE		06 47 50.0	+8.7
TKM2			LR	LR		
	comp=Z,270nm,20.0s					
COLD	**Coldfoot**	**120.46 19**	*e*PKPdf	**PKPdf**	**06 47 41.2**	**+0.5**
AAK	**Ala-Archa**	**120.62 301**	*i* PKIKP	**PKPdf**	**06 47 42.0**	**-0.1**
AAK	**Ala-Archa**	**120.62 301**	PKP	**PKPdf**	**06 47 42.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=153,slow=6.8,SNR=3.9					
AAK	**Ala-Archa**	**120.62 301**	PKP	**PKPdf**	**06 47 42.3**	**+0.2**
AAK			LR	LR		
	comp=Z,352nm,21.0s					
EGAK	**Eagle**	**120.62 24**	PFAKE		06 47 50.0	+8.9
EGAK			LR	LR		
	comp=Z,1μm,22.0s					
E19A	**Rath Farm, Rou**	**120.75 53**	P	**PKPdf**	**06 47 42.6**	**+0.5**
	baz=121					
EKS2	**Erkin-Say**	**121.04 301**	PFAKE		06 47 50.0	+7.2
EKS2			LR	LR		
	comp=Z,339nm,20.0s					
E20A	**Meyer Farm, Mu**	**121.13 54**	P	**PKPdf**	**06 47 43.4**	**+0.5**
	baz=122					
D19A	**Cripps Ranch,**	**121.15 53**	P	**PKPdf**	**06 47 43.4**	**+0.6**
	baz=122					
EGMT	**Eagleton**	**121.24 51**	PFAKE		06 47 50.0	+7.0
EGMT			LR	LR		
	comp=Z,688nm,20.0s					
C19A	**Slack Wire Ran**	**121.42 52**	P	**PKPdf**	**06 47 43.3**	**-0.1**
	baz=122					
D20A	**Manuel Ranch,**	**121.50 53**	P	**PKPdf**	**06 47 43.7**	**+0.2**
	baz=122					
MTDJ	**Mount Denham**	**121.59 98**	PFAKE		06 48 00.0	+15
MTDJ			LR	LR		
	comp=Z,352nm,19.0s					
J26A	**Sides Ranch, S**	**121.91 59**	P	**PKPdf**	**06 47 44.6**	**+0.1**
	baz=122					
B19A	**Brinkman Farms**	**121.93 51**	P	**PKPdf**	**06 47 44.6**	**+0.3**
	baz=122					
C20A	**Veseth Ranch,**	**121.96 53**	P	**PKPdf**	**06 47 44.5**	**+0.2**
	baz=122					
H24A	**Dirks Ranch, A**	**121.98 57**	P	**PKPdf**	**06 47 44.3**	**-0.2**
	baz=122					
MIAR	**Mount Ida**	**122.11 73**	PFAKE		06 48 00.0	+15
MIAR			LR	LR		
	comp=Z,644nm,19.0s					
LAO	**LASA Array**	**122.27 54**	PFAKE		06 48 00.0	+15
LAO			LR	LR		
	comp=Z,707nm,20.0s					
ZALV	**Zalesovo Beam**	**122.48 316**	PKIKP	**PKPdf**	**06 47 44.0**	**-1.0**
ZALV	**Zalesovo Beam**	**122.48 316**	PKP	**PKPdf**	**06 47 44.0**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=104,slow=1.8,SNR=3.0					
ZALV	**Zalesovo Beam**	**122.48 316**	PKP	**PKPdf**	**06 47 44.0**	**-1.0**
C21A	**Desert Coulee**	**122.51 53**	P	**PKPdf**	**06 47 45.9**	**+0.5**
	baz=123					
D22A	**Cohagen**	**122.58 54**	P	**PKPdf**	**06 47 46.2**	**+0.6**
	baz=123					
RCBR	**Riachuelo**	**122.72 155**	PFAKE		06 48 00.0	+13
RCBR			LR	LR		
	comp=Z,521nm,19.0s					
TIXI	**Tiksi**	**122.74 347**	⇑ *i* PKIKP	**PKPdf**	**06 47 44.4**	**-0.6**
TIXI	**Tiksi**	**122.74 347**	*e*PKPdf	**PKPdf**	**06 47 44.4**	**-0.6**
TIXI			LR	LR		
	comp=Z,527nm,20.0s					
EDM	**Edmonton**	**122.75 45**	*e*PKIKP	**PKPdf**	**06 47 44.9**	**-0.7**
EDM	**Edmonton**	**122.75 45**	*e*PKPdf	**PKPdf**	**06 47 44.9**	**-0.7**
KSU1	**Kansas State U**	**123.10 67**	PFAKE		06 48 00.0	+13
KSU1			LR	LR		
	comp=Z,1μm,19.0s					
A21A	**Bergtoll Ranch**	**123.32 52**	P	**PKPdf**	**06 47 46.5**	**-0.4**
	baz=124					
G26A	**Maurine**	**123.40 58**	P	**PKPdf**	**06 47 46.6**	**-0.6**
	baz=124					
KURBB	**Kurchatov Arra**	**123.44 310**	PKP	**PKPdf**	**06 47 46.1**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=126,slow=1.8,SNR=16					
KURK	**Kurchatov**	**123.45 311**	PKIKP	**PKPdf**	**06 47 46.1**	**-0.9**
KURK			MLR	MLR		
	comp=Z,185nm,21.0s					
KURK	**Kurchatov**	**123.45 311**	PKP	**PKPdf**	**06 47 46.1**	**-0.9**
KURK			LR	LR		
	comp=Z,185nm,21.0s					
J29A	**Okreek**	**123.55 61**	P	**PKPdf**	**06 47 47.1**	**-0.4**
	baz=124					
ASCN	**Ascension**	**123.62 181**	PFAKE		06 48 00.0	+11
ASCN			LR	LR		
	comp=Z,989nm,19.0s					
E25A	**Miller Ranch,**	**123.69 56**	P	**PKPdf**	**06 47 48.0**	**+0.3**
	baz=124					
F26A	**Lodgepole**	**123.70 57**	P	**PKPdf**	**06 47 47.7**	**-0.1**
	baz=124					
A22A	**Carney Farms,**	**123.85 52**	P	**PKPdf**	**06 47 48.1**	**+0.2**
	baz=124					
B23A	**Brockton**	**124.02 53**	P	**PKPdf**	**06 47 48.1**	**-0.1**
	baz=124					
BRAL	**Brewton**	**124.04 80**	PFAKE		06 48 00.0	+11
BRAL			LR	LR		
	comp=Z,495nm,22.0s					
F27A	**Lemmon**	**124.08 57**	P	**PKPdf**	**06 47 47.4**	**-1.1**
	baz=124					
D25A	**Fairfield**	**124.13 56**	P	**PKPdf**	**06 47 48.7**	**+0.1**
	baz=124					
E26A	**Carlson Angus**	**124.19 57**	P	**PKPdf**	**06 47 48.5**	**-0.2**
	baz=125					
G28A	**Parade**	**124.22 59**	P	**PKPdf**	**06 47 48.2**	**-0.5**
	baz=125					
GTBY	**Guantanamo Bay**	**124.40 99**	PFAKE		06 48 00.0	+10
GTBY			LR	LR		
	comp=Z,481nm,19.0s					
E27A	**Carson**	**124.67 57**	P	**PKPdf**	**06 47 49.6**	**+0.1**
	baz=125					
A24A	**Westby**	**124.82 53**	P	**PKPdf**	**06 47 50.2**	**+0.4**
	baz=125					
E28A	**Huff**	**125.24 57**	P	**PKPdf**	**06 47 51.0**	**+0.3**
	baz=126					
A25A	**Svangstu Ranch**	**125.30 54**	P	**PKPdf**	**06 47 51.2**	**+0.5**
	baz=126					
ECSD	**EROS Data Cent**	**125.90 62**	P	**PKPdf**	**06 47 51.2**	**-0.8**
	baz=126					
ECSD	**EROS Data Cent**	**125.90 62**	*e*PKPdf	**PKPdf**	**06 47 51.0**	**-0.9**
ECSD			LR	LR		
	comp=Z,753nm,19.0s					
SDDR	**Presa de Saban**	**126.20 103**	PFAKE		06 48 10.0	+17
SDDR			LR	LR		
	comp=Z,344nm,20.0s					
SCIA	**State Center**	**126.86 66**	PFAKE		06 48 10.0	+16
SCIA			LR	LR		
	comp=Z,1μm,20.0s					
GRGR	**Grenville**	**126.99 117**	PFAKE		06 48 10.0	+15
GRGR			LR	LR		
	comp=Z,429nm,19.0s					
GEYT	**Alibeck**	**127.60 287**	PKP	**PKPdf**	**06 47 55.1**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=104,slow=6.1,SNR=3.1					
YKA	**Yellowknife Ar**	**127.75 35**	PKP	**PKPdf**	**06 47 53.6**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=240,slow=1.9,SNR=13					
GOGA	**Godfrey**	**127.91 80**	PFAKE		06 48 10.0	+14
GOGA			LR	LR		
	comp=Z,458nm,20.0s					
GRTK	**Grand Turk**	**128.12 101**	PFAKE		06 48 10.0	+13
GRTK			LR	LR		
	comp=Z,457nm,19.0s					
AGMN	**Agassiz Nation**	**128.92 58**	PFAKE		06 48 10.0	+12
AGMN			LR	LR		
	comp=Z,610nm,19.0s					
BVAR	**Borovoye Array**	**128.95 309**	PKP	**PKPdf**	**06 47 56.9**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=123,slow=5.5,SNR=9.9					
WCI	**Wyandotte Cave**	**129.00 74**	*e*PKIKP	**PKPdf**	**06 47 57.3**	**-0.8**
WCI	**Wyandotte Cave**	**129.00 74**	*e*PKPdf	**PKPdf**	**06 47 57.3**	**-0.8**
FFC	**Flin Flon**	**129.10 48**	PFAKE		06 48 10.0	+12
FFC			LR	LR		
	comp=Z,776nm,19.0s					
FDF	**Fort de France**	**129.33 116**	PFAKE		06 48 10.0	+11
FDF			LR	LR		
	comp=Z,313nm,19.0s					
NHSC	**New Hope**	**129.87 83**	PFAKE		06 48 10.0	+10
NHSC			LR	LR		
	comp=Z,391nm,19.0s					
EYMN	**Ely**	**131.21 60**	PFAKE		06 48 10.0	+8.0
EYMN			LR	LR		
	comp=Z,774nm,19.0s					
COWI	**Conover**	**131.63 64**	PFAKE		06 48 10.0	+7.2
COWI			LR	LR		
	comp=Z,1μm,20.0s					
BLA	**Blacksburg**	**132.18 78**	PFAKE		06 48 20.0	+16
BLA			LR	LR		
	comp=Z,889nm,19.0s					
ACSO	**Alum Creek Sta**	**132.26 73**	PFAKE		06 48 20.0	+16
ACSO			LR	LR		
	comp=Z,1μm,19.0s					
CNNC	**Cliffs of the**	**132.67 82**	PFAKE		06 48 20.0	+15
CNNC			LR	LR		
	comp=Z,538nm,19.0s					
AAM	**Ann Arbor**	**132.96 71**	PFAKE		06 48 20.0	+15
AAM			LR	LR		
	comp=Z,1μm,19.0s					
ERPA	**Erie**	**135.18 73**	PFAKE		06 48 20.0	+10
ERPA			LR	LR		
	comp=Z,702nm,21.0s					
ARU	**Arti**	**136.60 309**	*i* PKIKP	**PKPdf**	**06 48 13.5**	**+1.8**
ARU					06 50 54.2	
ARU	**Arti**	**136.60 309**	PFAKE		06 48 20.0	+8.3
ARU			LR	LR		
	comp=Z,357nm,21.0s					
GNI	**Garni**	**137.44 282**	PFAKE		06 48 30.0	+16
GNI			LR	LR		
	comp=Z,454nm,20.0s					
BINY	**Binghamton**	**137.77 75**	PFAKE		06 48 30.0	+16
BINY			LR	LR		
	comp=Z,876nm,19.0s					
NCB	**Newcomb**	**139.76 74**	PFAKE		06 48 30.0	+12
NCB			LR	LR		
	comp=Z,809nm,19.0s					
LONY	**Lake Ozonia**	**139.84 73**	PFAKE		06 48 30.0	+12
LONY			LR	LR		
	comp=Z,1μm,20.0s					
KBZ	**Khabaz**	**140.43 285**	PKP	**PKPdf**	**06 48 18.3**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=117,slow=4.5,SNR=2.6					
KIV	**Kislovodsk**	**140.67 286**	PFAKE		06 48 30.0	+10
KIV			LR	LR		
	comp=Z,373nm,20.0s					
LBNH	**Lisbon**	**141.35 75**	PFAKE		06 48 30.0	+9.1
LBNH			LR	LR		

comp=Z,747nm,19.0s
TORD Torodi Ar. Bea 141.94 207 PKhKP PKPpre 06 48 16.1
comp=Z,0.7nm,0.6s,baz=170,slow=3.4,SNR=4.1
TORD PKP **PKPdf 06 48 21.7 -1.1**
comp=Z,2.1nm,0.7s,baz=129,slow=1.2,SNR=3.9
CSS Prodhromos 142.06 267 PFAKE 06 48 30.0 +7.5
CSS LR LR
comp=Z,99nm,20.0s
VRHR Novokhopersk 144.18 296 *e*PKHKP PKPpre 06 48 21.0
VRHR pmax pmax
comp=Z,7.0nm,0.8s
VRHR pmax pmax
comp=N,7.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
PRGR Permogore 144.39 314 PKIKP **PKPdf 06 48 27.9 +2.3**
PRGR pmax pmax
comp=Z,62nm,1.7s
BRTR Keskin Array B 144.50 274 PKP **PKPab 06 48 24.8 -0.4**
comp=Z,14nm,0.9s,baz=140,slow=4.1,SNR=45
ANTO Ankara 145.13 274 *e*PKIKP **PKPbc 06 48 27.2 -0.2**
ANTO MLR MLR
comp=Z,303nm,20.0s
ANTO Ankara 145.13 274 *e*PKPdf **PKPbc 06 48 27.2 -0.2**
ANTO LR LR
comp=Z,303nm,20.0s
ISP Isparta 145.55 269 PFAKE 06 48 40.0 +11
ISP LR LR
comp=Z,390nm,19.0s
SACV Santiago Islan 145.64 165 PFAKE 06 48 40.0 +10
SACV LR LR
comp=Z,511nm,21.0s
VSR Storozhevoye 145.69 295 *e*PKP2 **PKPdf 06 48 26.7 -1.5**
VSR pmax pmax
comp=Z,30nm,0.9s
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=E,20nm,0.9s
SIM Simferopol' 146.62 282 *i* PKP2 **PKPbc 06 48 31.0 -0.7**
SIM pmax pmax
comp=Z,150nm,7.8s
KLMR Klimovskoe 147.26 312 *e*PKIKP **PKPdf 06 48 31.1 +0.6**
KLMR pmax pmax
comp=Z,47nm,1.1s
MOS Moscow 147.66 303 *e*PKIKP **PKPdf 06 48 32.2 +0.8**
TMCR Tamitsa 147.95 319 *e*PKP2 **PKPbc 06 48 34.1 -0.6**
TMCR *e* 06 52 03.8
TMCR pmax pmax
comp=Z,35nm,1.1s
SCHQ Schefferville 148.00 59 PKPbc **PKPbc 06 48 34.3 -0.9**
comp=Z,4.3nm,0.8s,baz=253,slow=7.1,SNR=6.1
SANT Santorini 148.08 263 PFAKE 06 48 40.0 +1.1
SANT LR LR
comp=Z,332nm,20.0s
KBS Kingsbay 148.10 350 PFAKE 06 48 40.0 +2.2
KBS LR LR
comp=Z,496nm,20.0s
OBN Obninsk 148.14 301 ⇓*i* PKP2 **PKPbc 06 48 35.4 -0.1**
OBN *i* 06 52 08.4
OBN pmax pmax
comp=Z,131nm,2.3s
OBN MLR MLR
comp=Z,333nm,20.0s
OBN Obninsk 148.14 301 PFAKE 06 48 40.0 +1.5
OBN LR LR
comp=Z,462nm,19.0s
KULLO Kullorsuaq 148.54 20 *i* PKIKP **PKPbc 06 48 35.6 -0.4**
KULLO pmax pmax
comp=Z,36nm,0.9s
KULLO Kullorsuaq 148.54 20 *i* P **PKPbc 06 48 35.6 -0.4**
comp=Z,36nm,0.8s
LVZ Lovozero 148.81 326 PFAKE 06 48 40.0 -0.9
LVZ LR LR
comp=Z,482nm,22.0s
APA Apatity 149.34 326 ⇑*i* PKIKP **PKPdf 06 48 34.6 +0.8**
APA MLR MLR
comp=Z,600nm,17.0s
TAM Tamanrasset 149.43 220 *e*PKIKP **PKPdf 06 48 36.0 +0.4**
TAM *e* 06 48 40.1
TAM MLR MLR
comp=Z,1μm,19.0s
TAM Tamanrasset 149.43 220 *e*PKPdf **PKPdf 06 48 36.0 +0.4**
TAM *e*PKPbc **PKPbc 06 48 40.1 +0.1**
TAM LR LR
comp=Z,1μm,19.0s
TIRR Tirgusor 150.13 278 PKP2 **PKPbc 06 48 40.2 -0.6**
TIRR Tirgusor 150.13 278 *i* P **PKPbc 06 48 40.2 -0.6**
MSAB Monastry St. A 150.37 277 ⇑*i* P **PKPab 06 48 51.7 +3.7**
CFR Carcaliu 150.59 280 PKIKP **PKPbc 06 48 41.9 0.0**
CFR Carcaliu 150.59 280 *i* P **PKPbc 06 48 41.8 -0.1**
KIS Kishinev 150.81 283 *e*PKIKP **PKPbc 06 48 43.0 +0.6**
KIS Kishinev 150.81 283 *e*P **PKPbc 06 48 43.0 +0.6**
KEV Kevo 150.85 331 *e*PKIKP **PKPbc 06 48 41.1 -0.7**
KEV Kevo 150.85 331 *e*p **PKPbc 06 48 41.1 -0.7**
KEV Kevo 150.85 331 PFAKE 06 48 50.0 +0.8
KEV LR LR
comp=Z,423nm,19.0s
JOF Joensuu 151.07 317 *e*PKIKP **PKPbc 06 48 41.9 -0.5**
JOF Joensuu 151.07 317 *e*p **PKPbc 06 48 41.9 -0.5**
ARCES ARCESS Array B 151.42 331 PKPbc **PKPbc 06 48 42.7 -0.4**
comp=Z,16nm,0.8s,baz=66,slow=0.5,SNR=24
ARCES PKPab **PKPab 06 48 50.2 -1.4**
comp=Z,18nm,0.7s,baz=69,slow=4.0,SNR=12
AKASG Malin Array Be 151.61 291 PKPbc **PKPbc 06 48 43.0 -1.1**
comp=Z,11nm,0.8s,baz=83,slow=2.4,SNR=20
VRI Vrincioaia 151.77 280 PKIKP **PKPbc 06 48 44.0 -0.7**
VRI Vrincioaia 151.77 280 *i* P **PKPbc 06 48 44.0 -0.7**
DAG Danmarks Havn 151.78 2 *i* PKIKP **PKPbc 06 48 42.2 -1.6**
DAG pmax pmax
comp=Z,10.0nm,0.8s
DAG Danmarks Havn 151.78 2 *i* P **PKPbc 06 48 42.2 -1.6**
comp=Z,13nm,0.8s
MLR Muntele Rosu 152.14 279 ⇓PKIKP **PKPbc 06 48 45.2 -0.5**
MLR Muntele Rosu 152.14 279 ⇓*i* P **PKPbc 06 48 45.2 -0.5**
VOIR 152.71 278 ⇑PKIKP **PKPbc 06 48 44.9 -2.0**
VOIR 152.71 278 ⇑*i* P **PKPbc 06 48 44.9 -2.0**
VTS Vitosha 152.78 272 ⇑PKIKP **PKPab 06 48 57.3 -1.0**
VTS Vitosha 152.78 272 ⇑*i* P **PKPab 06 48 57.3 -1.0**
BURAR Bucovina Array 153.33 283 ⇓PKP2 **PKPab 06 49 01.7 +1.3**
BURAR Bucovina Array 153.33 283 ⇓*i* P **PKPab 06 49 01.7 +1.3**
FINES FINESS Array B 153.72 314 PKPbc **PKPbc 06 48 48.1 -0.3**
comp=Z,5.8nm,0.8s,baz=104,slow=8.0,SNR=16
FINES PKPab **PKPab 06 48 59.0 -2.4**
comp=Z,4.1nm,0.9s,baz=106,slow=4.5,SNR=8.1
DRGR 154.70 280 ⇑PKIKP **PKPbc 06 48 51.0 -0.1**
DRGR 154.70 280 ⇑*i* P **PKPbc 06 48 51.0 -0.1**
WDD Wield Dalam 154.82 250 PFAKE 06 48 50.0 -1.6
WDD LR LR
comp=Z,523nm,20.0s
TIP Timpagrande 155.35 259 PFAKE 06 48 50.0 +6.3
TIP LR LR
comp=Z,311nm,21.0s
CEL Celeste 155.40 257 PFAKE 06 48 50.0 +6.2
CEL LR LR
comp=Z,582nm,20.0s
KWP Kalwaria Pacla 155.46 287 PFAKE 06 48 50.0 +6.6
KWP LR LR
comp=Z,621nm,20.0s
KOLS Kolonicke sedl 155.57 285 *e*PKP2 **PKPab 06 49 10.4 +0.5**
KOLS Kolonicke sedl 155.57 285 *e*PKP **PKPab 06 49 10.4 +0.5**
STHS Stebnicka Huta 156.34 286 *e*PKP2 **PKPab 06 49 12.5 -0.6**
STHS Stebnicka Huta 156.34 286 *e*PKP **PKPab 06 49 12.5 -0.6**
CUC Castrocucco 156.41 260 PFAKE 06 49 00.0 -14
CUC LR LR
comp=Z,311nm,19.0s
PSZ Piszkesteto 156.86 281 PFAKE 06 49 00.0 +15
PSZ LR LR
comp=Z,487nm,22.0s
VYHS Vyhne 157.69 282 *e*PKP2 **PKPab 06 49 18.7 -0.3**
VYHS Vyhne 157.69 282 *e*PKP **PKPab 06 49 18.7 -0.3**
KEST Kesra 157.88 243 PKPab **PKPab 06 49 19.8 -0.4**
comp=Z,3.7nm,0.8s,baz=319,slow=1.9,SNR=10
AQU L'Aquila 159.16 263 PFAKE 06 49 00.0 +12
AQU LR LR
comp=Z,479nm,20.0s
ARSA Arzberg 159.54 278 ⇓*i* PKPab **PKPab 06 49 26.8 -0.3**
comp=Z,11nm,1.2s
DPC Dobruska-Polom 159.64 287 *e*PKP2 **PKPab 06 49 27.7 +0.3**
DPC Dobruska-Polom 159.64 287 *e*PKPAB **PKPab 06 49 27.7 +0.3**
DPC *ex* x 06 49 38.2
SOKA Soboth 159.71 276 ⇓*i* PKPab **PKPab 06 49 27.6 -0.3**
comp=Z,10nm,1.1s
VSL Villasalto 160.26 251 PFAKE 06 49 00.0 +10
VSL LR LR
comp=Z,454nm,20.0s
BSD Bornholm Skovb 160.53 301 *e*PKIKP PKPdf 06 49 00.9 +12
BSD pmax pmax
comp=Z,14nm,1.0s
BSD Bornholm Skovb 160.53 301 *i* P PKPdf 06 49 00.9 +12
comp=Z,14nm,1.0s
NB2 NORSAR Subarra160.64 319 PKP **PKPab 06 49 29.4 -2.0**
comp=Z,3.8nm,0.8s,baz=62,slow=4.4
NOA NORSAR Array B 160.64 319 PKP2 **PKPab 06 49 30.0 -1.4**
NOA NORSAR Array B 160.64 319 PKPab **PKPab 06 49 30.0 -1.4**
comp=Z,2.7nm,0.8s,baz=60,slow=4.5,SNR=8.7
GERES GERESS Array B 161.09 281 PKPab **PKPab 06 49 32.8 -1.1**
comp=Z,1.5nm,0.7s,baz=93,slow=4.7,SNR=9.8
KHC Kasperske Hory 161.22 282 *e*PKP2 **PKPab 06 49 35.4 +1.0**
KHC Kasperske Hory 161.22 282 *e*PKPAB **PKPab 06 49 35.4 +1.0**
KHC *ex* x 06 49 45.6
CLL Collm 161.82 289 *e*PKIKP **PKPdf 06 48 52.0 +1.1**
CLL *e* 06 49 36.0
CLL *e* 06 53 17.0
CLL pmax pmax
comp=Z,3.0nm,0.7s
CLL MLR MLR
comp=Z,500nm,20.3s
CLL Collm 161.82 289 *e*PKPdf **PKPdf 06 48 52.0 +1.1**
CLL *e*PKPab **PKPab 06 49 36.0 -0.9**
comp=Z,3.0nm,0.7s
CLL *e*PP **PP 06 53 17.0 -4.4**
CLL *e*PPP PPP 06 56 54.0
CLL *e*PPS PPS 07 06 49.0
CLL *e*SS SS 07 13 35.0 -2.5
CLL *e*PSS PSS 07 14 38.0
CLL *e*SSS SSS 07 19 42.0
CLL LmV 08 07 00.0
comp=Z,500nm,20.3s
CLL LmH 08 08 00.0
comp=N,500nm,20.7s
CLL LmH 08 08 00.0
comp=E,200nm,19.9s
VLC Villacollemand 161.92 265 PFAKE 06 49 00.0 +8.7
VLC LR LR
comp=Z,482nm,21.0s
KONO Kongsberg 161.99 317 PFAKE 06 49 00.0 +9.2
KONO LR LR
comp=Z,534nm,19.0s
FETA Feichten 162.64 274 ⇑*i* PKPab **PKPab 06 49 40.2 -0.6**
comp=Z,11nm,1.3s
TUE Stuetta 163.41 272 PFAKE 06 49 00.0 +7.1
TUE LR LR
comp=Z,746nm,22.0s
BORG Borgarnes 163.55 10 *e*PKIKP **PKPdf 06 48 52.8 +0.6**
BORG Borgarnes 163.55 10 *e*PKPdf **PKPdf 06 48 52.8 +0.6**
RTC Rabat Centre 164.09 206 PFAKE 06 49 00.0 +6.3
RTC LR LR
comp=Z,1μm,20.0s
BFO Black Forest 164.51 277 PFAKE 06 49 00.0 +6.4
BFO LR LR
comp=Z,555nm,19.0s
BNI Bardonecchia 164.71 264 PFAKE 06 49 00.0 +5.9
BNI LR LR
comp=Z,660nm,19.0s
ECH Echery 165.26 277 PFAKE 06 49 00.0 +5.7
ECH LR LR
comp=Z,724nm,22.0s
WLF Walferdange 166.10 282 PFAKE 06 49 10.0 +15
WLF LR LR
comp=Z,647nm,19.0s
SSB Saint Sauveur 166.20 263 PFAKE 06 49 10.0 +15
SSB LR LR
comp=Z,572nm,19.0s
PAB San Pablo 168.06 224 PFAKE 06 49 10.0 +13
PAB LR LR
comp=Z,822nm,20.0s
MTE Manteigas 170.13 216 PFAKE 06 49 10.0 +12
MTE LR LR
comp=Z,916nm,21.0s
ESK Eskdalemuir 170.14 317 PFAKE 06 49 10.0 +13
ESK LR LR
comp=Z,385nm,19.0s

BJI ***18*** *06:42:06.3,49.°08S×165.°06E,h10km,mB5.7/10,mb5.5/13, Ms5.3/8,Ms7 4.9/8*
IDC ***18*** *06:42:07.5±0.6,48.°49S×164.°81E,h0km,mb4.6/8, mb1 4.8/9,mb1mx4.5/28,mbtmp4.6/9,ML4.2/1,MS4.8/8, Ms1 4.7/8,ms1mx4.3/25,Error ellipse: s-maj=29.5km s-min=19.5km az=43.0*
NEIC ***18*** *06:42:08.8±0.2,48.°52S×164.°90E,h10km,mb5.1/4,Error ellipse: s-maj=7.7km s-min=5.6km az=156.0*
GCMT ***18*** *06:42:08.8±0.2,48.°62S×164.°51E,h21km,MW5.3/98, Moment Tensor Solution. s32,c41; s98,c152; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.65±.05; Mθθ0.30±.02; Mφφ-0.95±.03; Mrθ0.39±.05; Mφθ-0.11±.02; Mφr-0.33±.04; Best double couple: M0.99000×10^17 NP1:φs157.00000°,δ63.00000°,λ.55.00000°. NP2: φs34.00000°,δ44.00000°,λ138.00000°. Principal axes: T 0.9630, Plg57.0000°, Azm19.0000°; N 0.0540, Plg31.0000°, Azm175.0000°; P -1.0160, Plg11.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***18*** *06:42:10.6±0.3,48.°54S±0.°05×165.°02E±0.°05,h33km, mb4.9/15,MS4.7/7 Error ellipse: s-maj=7.7km s-min=3.4km az=150.7*

ISC 18 06:42:13.1±0.4,48.°59S±0.°06×165.°14E±0.°05,h35km,n163, σ1⁑47/157,mb4.8/15,MS4.7/7,1C-1D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**2.60**	**49**	PN	**Pn**	**06 42 52.5**	**-0.2**
APZ				*e*SN	**Sn**	**06 43 22.9**	**-0.2**
WHZ	**Wether Hill Ro**	**3.30**	**36**	PN	**Pn**	**06 43 01.8**	**-0.5**
WHZ				*e*SN	**Sn**	**06 43 41.1**	**+0.8**
WHZ	**Wether Hill Ro**	**3.30**	**36**	*e*Pn	**Pn**	**06 43 02.0**	**-0.3**
WHZ				*e*Sn	**Sn**	**06 43 42.3**	**+2.0**
SYZ	**Scrubby Hill**	**3.40**	**54**	PN	**Pn**	**06 43 03.7**	**+0.2**
SYZ				SN	**Sn**	**06 43 43.2**	**+0.7**
DCZ	**Deep Cove**	**3.40**	**25**	PN	**Pn**	**06 43 02.8**	**-0.8**
MLZ	**Mavora Lakes**	**3.85**	**34**	PN	**Pn**	**06 43 09.7**	**-0.1**
TUZ	**Tuapeka**	**4.03**	**51**	*e*PN	**Pn**	**06 43 12.3**	**0.0**
TUZ				*e*SN	**Sn**	**06 44 00.0**	**+1.7**
MSZ	**Milford Sound**	**4.36**	**27**	*e*PN	**Pn**	**06 43 17.7**	**+0.9**
EAZ	**Earnscleugh**	**4.41**	**42**	PN	**Pn**	**06 43 16.8**	**-0.6**
HHSZ	**Highcliff Hill**	**4.59**	**56**	*e*PN	**Pn**	**06 43 21.5**	**+1.5**
WKZ	**Wanaka**	**4.61**	**37**	PN	**Pn**	**06 43 20.5**	**+0.3**
JCZ	**Jackson Bay**	**5.16**	**30**	PN	**Pn**	**06 43 28.5**	**+0.6**
ODZ	**Otahua Downs**	**5.18**	**49**	PN	**Pn**	**06 43 26.7**	**-1.4**
ODZ	**Otahua Downs**	**5.18**	**49**	*e*Pn	**Pn**	**06 43 27.6**	**-0.4**
ODZ	319nm,0.9s			*e*Sn	**Sn**	**06 44 29.8**	**+3.3**
LBZ	**Lake Benmore**	**5.46**	**42**	PN	**Pn**	**06 43 29.6**	**-2.2**
FOZ	**Fox Glacier**	**5.93**	**34**	*e*PN	**Pn**	**06 43 39.7**	**+1.3**
RPZ	**Rata Peaks**	**6.37**	**42**	*e*Pn	**Pn**	**06 43 42.1**	**-2.3**
RPZ	140nm,0.6s			*e*Sn	**Sn**	**06 44 53.2**	**-2.8**
WVZ	**Waitaha Valley**	**6.75**	**37**	*e*PN	**Pn**	**06 43 49.1**	**-0.6**
MCQ	**Macquarie Isla**	**7.06**	**211**	P	Pn	06 43 50.9	-2.9
MCQ	**Macquarie Isla**	**7.06**	**211**	*e*Pn	Pn	06 43 51.0	-2.9
OXZ	**Oxford**	**7.12**	**45**	*e*PN	**Pn**	**06 43 52.8**	**-2.0**
MQZ	**McQueen's Vall**	**7.14**	**50**	*e*PN	**Pn**	**06 43 53.5**	**-1.5**
DSZ	**Denniston Nort**	**8.30**	**37**	*e*PN	**Pn**	**06 44 09.0**	**-1.9**
KHZ	**Kahutara**	**8.53**	**47**	*e*Pn	**Pn**	**06 44 12.7**	**-1.4**
KHZ	62nm,0.9s			*e*Sn	**Sn**	**06 45 47.8**	**-1.2**
THZ	**Tophouse**	**8.75**	**42**	*e*PN	**Pn**	**06 44 16.0**	**-1.1**
QRZ	**Quartz Range**	**9.37**	**37**	*e*PN	**Pn**	**06 44 25.3**	**-0.2**
URZ	**Urewera**	**13.48**	**44**	Pn	**Pn**	**06 45 21.3**	**-0.5**
URZ	1.1nm,0.3s,baz=230,slow=7.9,SNR=5.8			Sn	Sn	06 47 43.9	-6.3
URZ	0.5nm,0.3s,baz=343,slow=20,SNR=2.2			LR	LR	06 50 50.7	
TAU	comp=Z,7μm,21.7s,baz=234,slow=39 **Tasmania Unive**	**13.66**	**288**	Pn	Pn	06 45 19.7	-4.6
MOO	109nm,0.8s **Moorlands**	**13.99**	**289**	P	Pn	06 45 22.6	-6.1
MILA	baz=14,SNR=4.2 **Mila**	**16.40**	**309**	P	**Pn**	**06 45 56.6**	**-3.9**
CNB	baz=16,SNR=9.0 **Canberra Magne**	**17.66**	**313**	P	**P**	**06 46 16.2**	**-0.8**
	baz=17,SNR=17						
CAN	**Canberra**	**17.83**	**312**	Pn	**Pn**	**06 46 15.9**	**-2.5**
	163nm,1.4s						
TOO	**Toolangi**	**18.03**	**300**	P	**Pn**	**06 46 19.0**	**-1.8**
	baz=18,SNR=26						
MGCD	**Mangrove Creek**	**18.62**	**320**	P	P	06 46 22.2	-5.2
	baz=18,SNR=4.7						
CMSA	**Cobar Meteorol**	**22.51**	**312**	P	**P**	**06 47 09.6**	**0.0**
	baz=22,SNR=11						
RAO	**Raoul Island**	**23.28**	**40**	LR	LR	06 55 44.8	
	comp=Z,3μm,19.7s,baz=210,slow=35						
RMQ	**Roma**	**25.50**	**324**	P	**P**	**06 47 39.1**	**+1.1**
	baz=25,SNR=7.0						
DZM	**Mont Dzumac**	**26.48**	**3**	P	**P**	**06 47 49.6**	**+2.6**
	28nm,1.1s,baz=173,slow=11,SNR=3.2						
FORT	**Forrest**	**33.21**	**289**	P	**P**	**06 48 45.3**	**-1.2**
	baz=33,SNR=7.5						
FORT	**Forrest**	**33.21**	**289**	*e*P	**P**	**06 48 44.9**	**-1.6**
	38nm,0.9s						
QIS	**Mount Isa**	**34.67**	**315**	P	**P**	**06 48 59.5**	**+0.2**
	baz=34,SNR=4.7						
MTSU	**Mount Surprise**	**34.76**	**324**	S	S	06 54 21.7	-6.5
	baz=34,SNR=10						
AS31	**Alice Springs**	**35.01**	**304**	*e*P	**P**	**06 49 00.4**	**-1.8**
ASAR	**Alice Springs**	**35.01**	**304**	P	**P**	**06 49 00.5**	**-1.8**
	5.9nm,0.6s,baz=136,slow=8.0,SNR=40						
ASAR				LR	LR	07 03 26.1	
	comp=Z,2μm,18.1s,baz=151,slow=37						
WRKA	**Warakurna**	**37.18**	**296**	P	**P**	**06 49 19.1**	**-1.7**
	baz=37,SNR=19						
WB2	**Warramunga Arr**	**37.80**	**308**	*e*P	**P**	**06 49 23.1**	**-3.0**
WRA	**Warramunga Arr**	**37.81**	**308**	P	**P**	**06 49 23.6**	**-2.4**
	15nm,1.2s,baz=142,slow=9.0,SNR=34						
WRA				LR	LR	07 03 11.7	
	comp=Z,948nm,19.1s,baz=155,slow=34						
WRAB	**Tennant Creek**	**37.81**	**308**	P	**P**	**06 49 23.5**	**-2.6**
	111nm,1.0s,SNR=7.6						
WRAB	**Tennant Creek**	**37.81**	**308**	*e*P	**P**	**06 49 23.4**	**-2.6**
	23nm,0.9s						
NWAO	**Narrogin (SRO)**	**38.84**	**276**	P	P	06 49 30.7	-4.0
	16nm,1.0s,baz=126,slow=8.2,SNR=4.8						
NWAO				LR	LR	07 02 48.0	
	comp=Z,1μm,18.5s,baz=100,slow=32						
H01W1	**Cape Leeuwin H**	**39.70**	**271**	T	T	07 31 32.6	
	baz=127,slow=75,SNR=19						
H01W2	**Cape Leeuwin H**	**39.71**	**271**	T	T	07 31 37.9	
	baz=127,slow=75,SNR=21						
H01W3	**Cape Leeuwin H**	**39.72**	**271**	T	T	07 31 33.9	
	baz=127,slow=75,SNR=17						
QSPA	**South Pole Qui**	**41.54**	**180**	P	**P**	**06 49 57.9**	**+1.1**
	8.4nm,1.0s,baz=359,slow=5.3,SNR=11						
PMG	**Port Moresby**	**41.88**	**333**	LR	LR	07 06 39.5	
	comp=Z,245nm,19.5s,baz=135,slow=35						
MEEK	**Meekatharra**	**42.07**	**284**	P	**P**	**06 49 59.8**	**-1.6**
	baz=42,SNR=5.9						
MORW	**Morawa**	**42.10**	**279**	P	**P**	**06 50 00.4**	**-1.2**
	baz=42,SNR=3.2						
TBI	**Tubuai**	**43.68**	**71**	*e*LR	LR	07 02 19.6	
	1μm,29.2s						
FITZ	**Fitzroy Crossi**	**44.09**	**300**	*e*P	**P**	**06 50 15.5**	**-2.3**
KNRA	**Kununurra**	**44.29**	**305**	P	**P**	**06 50 18.7**	**-0.8**
	baz=44,SNR=3.3						
KDU	**Kakadu**	**44.87**	**312**	P	P	06 50 30.2	+6.2
	baz=45,SNR=3.3						
MBWA	**Marble Bar**	**45.30**	**291**	*e*P	**P**	**06 50 25.7**	**-1.7**
	38nm,0.9s						
PPT2	**Papeete2**	**47.92**	**66**	*e*LR	LR	07 04 18.4	
	1μm,21.5s						
PPT	**Papeete**	**47.93**	**66**	LR	LR	07 08 34.1	
	comp=Z,762nm,19.2s,baz=240,slow=33						
MAW	**Mawson**	**50.46**	**209**	LR	LR	07 10 47.0	
	comp=Z,1μm,18.2s,baz=104,slow=34						
RKT	**Rikitea**	**53.23**	**84**	*e*LR	LR	07 06 45.6	
	964nm,29.0s						
SYO	**Syowa Base**	**56.05**	**201**	⇑*e*P	**P**	**06 51 46.0**	**-1.8**
SYO	**Syowa Base**	**56.05**	**201**	⇓*e*pP	**P**	**06 51 50.0**	**+2.2**
KAPI	**Kappang**	**58.03**	**303**	*e*P	**P**	**06 52 02.3**	**-0.2**
	201nm,1.3s						
BNSI	**Bone**	**58.34**	**304**	P	P	06 52 12.7	+8.0
SPSI	**Sidrap Palu**	**58.89**	**304**	P	P	06 52 14.1	+5.6
SNAA	**Sanae**	**59.74**	**184**	P	**P**	**06 52 14.3**	**+0.5**
SNAA	**Sanae**	**59.74**	**184**	*e*P	**P**	**06 52 14.3**	**+0.5**
	23nm,1.1s						
VNA3	**Neumayer Olymp**	**60.42**	**182**	P	**P**	**06 52 18.3**	**-0.1**
VNA2	**Neumayer--Watz**	**60.68**	**183**	P	**P**	**06 52 20.6**	**+0.5**
VNA1	**Neumayer--Stat**	**60.98**	**183**	P	**P**	**06 52 22.8**	**+0.7**
MPSI	**Mapaga**	**62.41**	**307**	P	**P**	**06 52 31.2**	**-1.3**
PLCA	**Paso Flores**	**78.37**	**140**	P	**P**	**06 54 10.8**	**+1.0**
	3.3nm,1.1s,baz=225,slow=8.6,SNR=4.1						
QIZ	**Qiongzhong**	**83.38**	**308**	P	**P**	**06 54 36.8**	**+0.3**
QIZ				S	**S**	**07 04 58.5**	**+3.4**
QIZ				PMZ			
	100nm,3.7s						
H08S2	**Diego Garcia H**	**86.08**	**263**	T	T	08 29 17.8	
	baz=139,slow=76,SNR=156						
H08S1	**Diego Garcia H**	**86.09**	**263**	T	T	08 29 23.1	
	baz=139,slow=76,SNR=77						
H08S3	**Diego Garcia H**	**86.09**	**263**	T	T	08 29 19.3	
	baz=139,slow=76,SNR=136						
H08N1	**Diego Garcia H**	**88.02**	**263**	T	T	08 31 48.7	
	baz=144,slow=75,SNR=110						
H08N3	**Diego Garcia H**	**88.03**	**263**	T	T	08 31 46.9	
	baz=144,slow=75,SNR=128						
H08N2	**Diego Garcia H**	**88.04**	**263**	T	T	08 31 52.0	
	baz=144,slow=75,SNR=73						
MJAR	**Matsushiro Arr**	**88.08**	**339**	P	**P**	**06 54 57.5**	**-1.9**
	1.3nm,0.3s,baz=177,slow=6.5,SNR=6.4						
SLVN	**Son La**	**88.43**	**305**	*e*P	**P**	**06 55 01.9**	**+0.4**
	16nm,1.5s						
CMAR	**Chiang Mai Arr**	**88.91**	**300**	P	**P**	**06 55 03.8**	**0.0**
	3.3nm,0.9s,baz=159,slow=3.6,SNR=13						
NJ2	**Nanjing**	**90.30**	**322**	*e*P	**P**	**06 55 10.1**	**+0.2**
NJ2				PMZ			
	30nm,0.6s						
GYA	**Guiyang**	**91.15**	**310**	*e*P	**P**	**06 55 15.3**	**+1.1**
GYA				PP	**PP**	**06 58 53.8**	**+2.0**
GYA				SKS	**SKSac**	**07 05 46.6**	**+3.0**
GYA				S	**ScS**	**07 06 12.4**	**-0.4**
GYA				SS	**SS**	**07 12 20.0**	**+4.7**
GYA				PMZ			
	10.0nm,1.0s						
GYA				PMZ			
	120nm,5.4s						
GYA				LN			
	580nm,19.2s						
GYA				LE			
	460nm,20.0s						
GYA				LZ			
	530nm,19.6s						
KSRS	**Korea Array**	**91.83**	**331**	P	**P**	**06 55 17.4**	**+0.5**
	4.7nm,1.0s,baz=140,slow=5.3,SNR=7.4						
KSAR	**Wonju Array Be**	**91.83**	**331**	P	**P**	**06 55 17.4**	**+0.5**
KMI	**Kunming**	**92.11**	**306**	P	**P**	**06 55 19.4**	**+0.6**
KMI				pP	**PcP**	**06 55 22.3**	**+2.7**
KMI				sP	sP	06 55 24.5	-9.5
KMI				S	**ScS**	**07 06 19.3**	**-1.8**
KMI				PMZ			
	12nm,0.8s						
KMI				PMZ			
	42nm,3.9s						
KMI				LN			
	220nm,20.7s						
KMI				LE			
	260nm,17.7s						
KMI				LZ			
	410nm,20.0s						
MDJ	**Mudanjiang**	**97.91**	**335**	P	Pdif	06 55 47.3	+2.7
MDJ				PMZ			
	5.0nm,1.1s						
MDJ				PMZ			
	120nm,6.2s						
BJI	**Beijing**	**98.31**	**324**	P	Pdif	06 55 47.3	+0.8
BJI				PMZ			
	8.0nm,0.8s						
LZH	**Lanzhou**	**100.38**	**314**	*e*P	**Pdif**	**06 55 56.5**	**+0.5**
LZH				pP	pP	06 56 01.3	-5.9
LZH				sP	sP	06 56 03.4	-7.8
LZH				PMZ			
	15nm,1.0s						
HHC	**Hu-ho-hao-te**	**100.84**	**322**	*e*P	**Pdif**	**06 55 58.5**	**+0.6**
HHC				PP	**PP**	**07 00 09.8**	**+3.2**
HHC				S	**Sdif**	**07 07 32.8**	**-0.1**
HHC				SS	**SS**	**07 14 35.4**	**+3.1**
HHC				PMZ			
	34nm,1.1s						
HHC				PMZ			
	330nm,6.2s						

HHC LN
250nm,18.5s
HHC LE
190nm,18.2s
HHC LZ
140nm,17.3s
TXAR Lajitas Array 112.12 70 PKKPab PKKPab 07 11 40.9 -2.1
0.4nm,1.0s,baz=95,slow=2.2,SNR=2.4
PDAR Pinedale Array 117.77 56 PKP **PKPdf 07 00 56.2 +0.9**
0.3nm,0.9s,baz=214,slow=6.3,SNR=2.6
KSH Kashi 117.80 299 *e*PKP **PKPdf 07 00 55.8 +0.5**
KSH PP **PP 07 02 09.3 -0.4**
KSH PKS **PKSdf 07 04 32.3 +0.3**
KSH SKS **SKSdf 07 08 07.8 +3.3**
KSH SKKS **SKKSac 07 09 06.9 +0.2**
KSH SS **SS 07 18 24.3 +3.8**
KSH PPMZ
130nm,4.7s
KSH LN
78nm,5.7s
KSH LE
68nm,5.6s
KSH LZ
280nm,6.4s
ISCO Idaho Springs 118.03 61 *e*PKPdf **PKPdf 07 00 56.0 +0.1**
YBMT Yellow Bay 118.80 49 *e*PKPdf **PKPdf 07 00 57.0 +0.1**
ILAR Eielson Array 119.02 21 PKP **PKPdf 07 00 56.7 +0.1**
2.0nm,1.1s,baz=286,slow=3.3,SNR=4.3
MKAR Makanchi Array 119.11 309 PKP **PKPdf 07 00 56.2 -1.2**
2.4nm,1.1s,baz=115,slow=1.7,SNR=9.4
O27A Beecher Island 120.12 62 P **PKPdf 07 00 59.3 -0.3**
baz=120
E19A Rath Farm, Rou 120.59 53 P **PKPdf 07 01 01.8 +1.4**
baz=121
AAK Ala-Archa 120.67 301 PKP **PKPdf 07 01 00.0 -0.7**
0.5nm,0.4s,baz=108,slow=16,SNR=2.1
EGMT Eagleton 121.08 51 P **PKPdf 07 01 01.3 +0.1**
baz=121
K26A Motz Farm, Whi 121.31 60 P **PKPdf 07 01 01.7 -0.2**
baz=122
D20A Manuel Ranch, 121.33 53 P **PKPdf 07 01 02.3 +0.6**
baz=122
J26A Sides Ranch, S 121.75 59 P **PKPdf 07 01 02.9 +0.2**
baz=122
B19A Brinkman Farms 121.77 51 P **PKPdf 07 01 03.2 +0.7**
baz=122
C20A Veseth Ranch, 121.80 52 P **PKPdf 07 01 03.3 +0.7**
baz=122
H24A Dirks Ranch, A 121.81 57 P **PKPdf 07 01 03.7 +0.9**
baz=122
I25A Rochford 121.82 58 P **PKPdf 07 01 03.3 +0.4**
baz=122
I26A New Underwood 122.32 59 P **PKPdf 07 01 03.8 +0.1**
baz=123
C21A Desert Coulee 122.35 53 P **PKPdf 07 01 03.7 +0.1**
baz=123
A20A Cobblestone Ra 122.56 51 P **PKPdf 07 01 04.3 +0.3**
baz=123
EDM Edmonton 122.58 45 *e*PKPdf **PKPdf 07 01 03.8 0.0**
H27A Howes 123.13 58 P **PKPdf 07 01 05.2 0.0**
baz=124
A21A Bergtoll Ranch 123.15 52 P **PKPdf 07 01 05.5 +0.4**
baz=124
G26A Maurine 123.24 57 P **PKPdf 07 01 05.5 0.0**
baz=124
KKAR Karatay Array 123.25 299 *e*PKPdf **PKPdf 07 01 05.1 -0.3**
C23A Lambert 123.35 54 P **PKPdf 07 01 06.2 +0.7**
baz=124
D24A Glendive 123.39 55 P **PKPdf 07 01 07.6 +2.0**
baz=124
KURBB Kurchatov Arra 123.46 310 PKP **PKPdf 07 01 03.9 -1.7**
2.1nm,0.9s,baz=131,slow=1.7,SNR=7.8
KURK Kurchatov 123.47 310 PKP **PKPdf 07 01 03.9 -1.7**
E25A Miller Ranch, 123.53 56 P **PKPdf 07 01 06.8 +0.8**
baz=124
F26A Lodgepole 123.54 57 P **PKPdf 07 01 06.6 +0.6**
baz=124
A22A Carney Farms, 123.68 52 P **PKPdf 07 01 07.3 +1.1**
baz=124
H28A Mission Ridge 123.76 59 P **PKPdf 07 01 07.0 +0.6**
baz=124
I29A Vivian Onida 123.77 60 P **PKPdf 07 01 06.7 +0.3**
baz=124
J30A Dallas 123.82 61 P **PKPdf 07 01 06.7 +0.1**
baz=124
B23A Brockton 123.85 53 P **PKPdf 07 01 07.0 +0.5**
baz=124
F27A Lemmon 123.92 57 P **PKPdf 07 01 07.0 +0.3**
baz=124
D25A Fairfield 123.96 55 P **PKPdf 07 01 07.9 +1.1**
baz=124
E26A Carlson Angus 124.03 56 P **PKPdf 07 01 06.6 -0.3**
baz=124
G28A Parade 124.06 59 P **PKPdf 07 01 07.4 +0.4**
baz=124
E27A Carson 124.50 57 P **PKPdf 07 01 07.7 -0.1**
baz=125
F28A McLaughlin 124.58 58 P **PKPdf 07 01 08.3 +0.3**
baz=125
A24A Westby 124.65 53 P **PKPdf 07 01 09.1 +1.1**
baz=125
E28A Huff 125.07 57 P **PKPdf 07 01 09.2 +0.3**
baz=125
A25A Svangstu Ranch 125.14 54 P **PKPdf 07 01 10.2 +1.3**
baz=126
ECSD EROS Data Cent 125.74 62 P **PKPdf 07 01 10.2 0.0**
baz=126
ECSD EROS Data Cent 125.74 62 *e*PKPdf **PKPdf 07 01 09.9 -0.3**
B28A Dugan Ranch, T 126.34 55 P **PKPdf 07 01 11.9 +0.7**
baz=127
C30A Mose, Pekin 126.96 57 P **PKPdf 07 01 12.9 +0.4**
baz=127
YKA Yellowknife Ar 127.59 35 PKP **PKPdf 07 01 12.4 -0.7**
0.7nm,0.8s,baz=223,slow=2.1,SNR=13
WCI Wyandotte Cave 128.85 73 *e*PKPdf **PKPdf 07 01 15.6 -0.8**
ULM Lac du Bonnet 129.78 56 PKP **PKPdf 07 01 16.9 -0.8**
1.1nm,0.6s,baz=342,slow=3.2,SNR=2.5
TORD Torodi Ar. Bea 142.09 207 PKhKP PKPpre 07 01 34.7
0.5nm,0.8s,baz=169,slow=1.4,SNR=3.6
TORD PKP **PKPdf 07 01 41.5 -0.1**
1.1nm,0.7s,baz=167,slow=1.8,SNR=5.7
BRTR Keskin Array B 144.62 274 PKP **PKPab 07 01 43.4 -0.8**
6.1nm,0.9s,baz=131,slow=3.9,SNR=21
SCHQ Schefferville 147.84 59 PKPbc **PKPbc 07 01 53.7 +0.4**
5.7nm,1.0s,baz=312,slow=4.1,SNR=5.2
TAM Tamanrasset 149.59 219 *e*PKPbc **PKPbc 07 01 59.3 +0.4**
ARCES ARCESS Array B 151.39 332 PKPbc **PKPbc 07 02 01.5 -0.1**
13nm,1.0s,baz=87,slow=2.6,SNR=15
AKASG Malin Array Be 151.69 291 PKPbc **PKPbc 07 02 01.8 -1.0**
2.9nm,0.7s,baz=76,slow=3.0,SNR=11
MICGM Minsk 153.10 299 *e* **PKPab 07 02 13.0 -4.6**
FINES FINESS Array B 153.74 315 PKPbc **PKPbc 07 02 06.2 -0.9**
3.3nm,0.9s,baz=2.9,slow=3.8,SNR=6.5
KOLS Kolonicke sedl 155.67 285 *e*PKP **PKPab 07 02 29.1 +0.3**
VYHS Vyhne 157.79 283 *e*PKP **PKPdf 07 02 04.1 -0.9**
VYHS *e* 07 02 36.7
NB2 NORSAR Subarra160.64 320 PKP **PKPab 07 02 47.9 -2.1**
comp=Z,6.0nm,1.1s,baz=62,slow=4.4
NOA NORSAR Array B160.64 320 PKPab **PKPab 07 02 48.5 -1.5**
comp=Z,1.7nm,0.9s,baz=60,slow=4.4,SNR=3.3
GERES GERESS Array B 161.19 282 PKPab **PKPab 07 02 51.5 -1.4**
comp=Z,1.0nm,0.6s,baz=108,slow=4.3,SNR=6.5

IDC 18 06:57:58.6±2.2, 2°.90S×129°.72E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/36, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=173.7km s-min=25.2km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.53**	**165**	Pn	Pn	07 02 03.5	-1.2
	0.2nm,0.3s,baz=348,slow=12,SNR=9.2						
ASAR	**Alice Springs**	**21.04**	**169**	P	P	07 02 44.9	+0.5
	1.9nm,0.4s,baz=348,slow=9.9,SNR=23						
MKAR	**Makanchi Array**	**64.67**	**326**	P	P	07 08 38.5	0.0
	0.1nm,0.3s,baz=119,slow=6.4,SNR=4.7						
KURBB	**Kurchatov Arra**	**68.89**	**328**	P	P	07 09 05.2	0.0
	0.3nm,0.4s,baz=116,slow=6.4,SNR=2.8						

IDC 18 07:05:54.5±0.9, 15°.63S×173°.81W, h43km±7km, mb3.8/5, mb1 4.1/5, mb1mx3.7/19, mbtmp4.0/5, Error ellipse: s-maj=50.1km s-min=20.5km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.92**	**198**	P	P	07 11 05.3	+0.9
	12nm,0.9s,baz=56,slow=3.9,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	**38.96**	**330**	T	T	07 55 25.4	
	baz=149,slow=76,SNR=2.3						
H11S3	**WAKE ISLAND Hy**	**38.98**	**330**	T	T	07 55 15.3	
	baz=149,slow=76,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**38.98**	**330**	T	T	07 55 03.9	
	baz=149,slow=76,SNR=2.6						
H11N3	**WAKE ISLAND Hy**	**39.92**	**331**	T	T	07 56 17.7	
	baz=150,slow=76,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	**39.93**	**331**	T	T	07 56 18.3	
	baz=150,slow=76,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**39.94**	**331**	T	T	07 56 17.4	
	baz=150,slow=76,SNR=4.5						
ASAR	**Alice Springs**	**49.66**	**252**	P	P	07 14 40.6	-1.9
	2.6nm,0.6s,baz=90,slow=7.4,SNR=2.1						
ASAR				pP	pP	07 14 53.8	-0.8
	2.6nm,0.5s,baz=97,slow=8.1,SNR=2.5						
NVAR	**Mina Array Bea**	**74.76**	**42**	P	P	07 17 30.0	-0.5
	0.9nm,0.8s,baz=228,slow=10,SNR=8.5						
NVAR				pP	pP	07 17 43.2	0.0
	0.7nm,0.8s,baz=228,slow=11,SNR=3.5						
PDAR	**Pinedale Array**	**82.70**	**42**	P	P	07 18 12.9	-1.1
	0.8nm,0.7s,baz=192,slow=2.7,SNR=7.4						
PDAR				pP	pP	07 18 27.0	0.0
	0.3nm,0.7s,baz=206,slow=3.5,SNR=2.3						
ILAR	**Eielson Array**	**82.75**	**11**	P	P	07 18 13.8	+0.4
	0.4nm,0.9s,baz=214,slow=6.3,SNR=6.7						
ILAR				pP	pP	07 18 27.1	+0.8
	0.4nm,0.6s,baz=211,slow=6.9,SNR=3.2						
BRTR	**Keskin Array B**	**146.09**	**320**	PKPbc	PKPab	07 25 31.5	+0.5
	0.6nm,0.7s,baz=57,slow=5.3,SNR=3.0						

BJI ***18*** *07:07:26.5, 0°.64N×126°.46E, h59km, mB5.1/40, mb5.0/59, Ms4.7/37, Ms7 4.4/40*
MOS ***18*** *07:07:28.5±1.2, 1°.34N×126°.19E, h33km, mb5.4/47, Error ellipse: s-maj=10.4km s-min=5.2km az=112.8*
IDC ***18*** *07:07:29.7±2.8, 1°.25N×126°.20E, h30km±19km, mb4.7/36, mb1 4.7/36, mb1mx4.6/56, mbtmp4.9/36, Error ellipse: s-maj=14.6km s-min=8.7km az=70.0*
ISCJB ***18*** *07:07:30.7±0.4, 1°.34N±0°.02×126°.33E±0°.02, h56km±3km, mb5.1/117, MS4.8/6, Error ellipse: s-maj=3.3km s-min=3.0km az=152.0*
DJA ***18*** *07:07:31.9±0.2, 1°N±2°×12°6E±°, h51km±2km, M5.3/58, mB5.7/18, mb5.2/58, MLv5.7/1, Mw(mB)5.2/18*
KLM ***18*** *07:07:31.7, 1°.33N×126°.43E, h53km, mb5.2, ML5.0, MS6.4*
NEIC ***18*** *07:07:32.7±0.6, 1°.32N×126°.34E, h58km±5km, mb5.1/50, Error ellipse: s-maj=5.6km s-min=4.2km az=58.0*
NEIC Felt at Bitung, Indonesia.
ISC 18 07:07:33.1±0.3, 1°.32N±0°.03×126°.34E±0°.03, h61km±2km, h61km:pP-P, n644, σ1°37/704, mb5.0/117, 129C-146D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.16**	**118**	P	**Pn**	**07 07 50.6**	**-2.7**
TNTI				S	**Sn**	**07 08 04.6**	**-3.7**
TNTI	**Ternate**	**1.16**	**118**	*e*Pn	**Pn**	**07 07 50.5**	**-2.8**
TNTI				*e*Sn	**Sn**	**07 08 07.1**	**-1.2**
LBMI	**Labuha**	**2.26**	**149**	P	**Pn**	**07 08 06.4**	**-1.8**
LBMI				S	**Sn**	**07 08 34.7**	**-0.2**
KMSI	**Cibinong**	**2.47**	**253**	P	**Pn**	**07 08 09.6**	**-1.4**
KMSI				S	**Sn**	**07 08 38.1**	**-2.0**
SGSI	**Sangihe**	**2.49**	**341**	P	**Pn**	**07 08 09.4**	**-1.9**
SGSI				S	**Sn**	**07 08 39.3**	**-1.3**
SANI	**Sanana**	**3.36**	**186**	P	**Pn**	**07 08 21.6**	**-1.6**
SANI				S	Px	07 08 37.6	
GTOI	**Gorontalo**	**3.40**	**259**	P	**Pn**	**07 08 23.3**	**-0.4**
LUWI	**Luwuk**	**4.27**	**237**	P	**Pn**	**07 08 32.9**	**-2.7**
LUWI	**Luwuk**	**4.27**	**237**	P	**Pn**	**07 08 33.9**	**-1.7**
	baz=4.3,SNR=26						
LUWI	**Luwuk**	**4.27**	**237**	*e*Pn	**Pn**	**07 08 35.8**	**+0.2**
LUWI				*e*Sn	**Sn**	**07 09 24.9**	**+0.7**
MRSI	**Marisa**	**4.48**	**259**	P	**Pn**	**07 08 37.8**	**-0.7**
NLAI	**Namlea**	**4.59**	**170**	P	**Pn**	**07 08 39.4**	**-0.6**
GSPH	**General Santos**	**4.94**	**344**	↑*i*P	**Pn**	**07 08 41.8**	**-3.2**
GSPH				*i* S	Sn	07 09 34.6	-6.3
APSI	**Ampana**	**5.19**	**245**	P	**Pn**	**07 08 48.4**	**+0.2**
MSAI	**Masohi**	**5.30**	**151**	P	**Pn**	**07 08 50.8**	**+1.0**
SWI	**Sorong**	**5.37**	**114**	P	**Pn**	**07 08 49.8**	**-0.9**
SWI	**Sorong**	**5.37**	**114**	P	**Pn**	**07 08 50.2**	**-0.5**
	baz=5.2,SNR=9.1						
TOLI	**Toli-Toli**	**5.55**	**268**	*e*Pn	**Pn**	**07 08 53.0**	**-0.1**
	425nm,0.6s						
TOLI				*e*Sn	**Sn**	**07 09 57.5**	**+1.9**
CTBH	**Cotabato--PC H**	**6.23**	**340**	↑*i*P	**Pn**	**07 09 01.7**	**-0.8**
MPSI	**Mapaga**	**6.51**	**261**	P	**Pn**	**07 09 07.1**	**+0.7**
FAKI	**Fak Fak**	**7.25**	**125**	P	**Pn**	**07 09 16.6**	**+0.1**
FAKI	**Fak Fak**	**7.25**	**125**	P	**Pn**	**07 09 16.6**	**+0.1**
	baz=7.1,SNR=14						
FAKI	**Fak Fak**	**7.25**	**125**	*e*Pn	**Pn**	**07 09 16.7**	**+0.2**
CGP	**Cagayan de Oro**	**7.28**	**347**	*e*P	**Pn**	**07 09 16.7**	**-0.2**
BBSI	**Bau Bau**	**7.74**	**209**	P	**Pn**	**07 09 25.0**	**+1.9**
	513nm,0.8s,3μm1.6nm						
TTSI	**Tana Toraja**	**7.83**	**236**	P	**Pn**	**07 09 23.8**	**-0.6**
SPSI	**Sidrap Palu**	**8.40**	**231**	P	**Pn**	**07 09 33.0**	**+0.7**
BNSI	**Bone**	**8.43**	**228**	P	**Pn**	**07 09 32.3**	**-0.3**
MYLDM	**Lahad Datu**	**8.72**	**296**	⇓P	**Pn**	**07 09 37.9**	**+1.3**
MYLDM	**Lahad Datu**	**8.72**	**296**	*e*Pn	**Pn**	**07 09 37.0**	**+0.4**
TSM	**Tawau**	**8.96**	**289**	⇑P	**Pn**	**07 09 38.5**	**-1.4**
BKSI	**Bulukumba**	**9.06**	**223**	P	**Pn**	**07 09 41.2**	**0.0**
KAPI	**Kappang**	**9.10**	**226**	Pn	**Pn**	**07 09 43.0**	**+1.2**
	686nm,0.5s,SNR=15						
KAPI	**Kappang**	**9.10**	**226**	*e*Pn	**Pn**	**07 09 41.4**	**-0.4**
KAPI				*e*Sn	**Sn**	**07 11 24.2**	**+1.3**
BSSI	**Bau Bau, Buton**	**9.44**	**218**	P	**Pn**	**07 09 47.6**	**+1.2**
PALU	**Palau**	**10.08**	**53**	S	**Sn**	**07 11 47.0**	**+0.2**
	baz=10,SNR=6.2						
SDKM	**Sandakan**	**10.09**	**295**	⇓P	**Pn**	**07 09 54.2**	**-1.2**
MMRI	**Maumere**	**10.70**	**202**	*e*Pn	**Pn**	**07 10 05.4**	**+1.8**
MMRI				*e*Sn	**Sn**	**07 12 02.6**	**+0.6**
KDM	**Kudat**	**10.99**	**301**	⇓P	**Pn**	**07 10 07.5**	**-0.2**
EDFI	**Ende, Flores**	**11.02**	**205**	P	**Pn**	**07 10 08.1**	**-0.1**
	61nm,0.9s						
KKM	**Kota Kinabalu**	**11.14**	**295**	P	Pn	07 10 13.5	+3.7
	baz=11,SNR=7.8						
KKM	**Kota Kinabalu**	**11.14**	**295**	*e*Pn	**Pn**	**07 10 10.9**	**+1.1**
KKM				*e*Sn	**Sn**	**07 12 13.8**	**+0.9**
SOEI	**Soe**	**11.19**	**191**	P	Pn	07 10 17.5	+7.0
	baz=11,SNR=14						
SOEI	**Soe**	**11.19**	**191**	*e*Pn	**Pn**	**07 10 11.4**	**+0.9**
SOEI				*e*Sn	**Sn**	**07 12 15.3**	**+1.2**
MTKI	**Muara Teweh, K**	**11.66**	**259**	P	**Pn**	**07 10 17.4**	**+0.6**
	65nm,0.5s,6μm						
BATI	**Baumata**	**11.75**	**193**	P	Pn	07 10 22.5	+4.4
BATI	**Baumata**	**11.75**	**193**	Pn	Pn	07 10 21.4	+3.3
	2.5nm,0.3s,baz=251,slow=4.3,SNR=10						
BBKI	**Banjar Baru**	**12.44**	**248**	P	**P**	**07 10 35.9**	**-1.4**
WBSI	**Waikabubak, Su**	**12.90**	**212**	P	**Pn**	**07 10 34.6**	**+0.8**
	84nm,0.8s						
SBUM	**Sibu**	**14.16**	**275**	*e*Pn	**P**	**07 10 54.7**	**-1.8**
GENI	**Genyem**	**14.36**	**106**	P	**Pn**	**07 10 52.5**	**-0.8**
	101nm,1.1s						
SRBI	**Singaraja**	**14.50**	**230**	P	**P**	**07 10 58.4**	**-1.9**
	82nm,0.9s						
MTN	**Manton Dam**	**14.85**	**161**	P	**Pn**	**07 10 56.9**	**-2.7**
	baz=15,SNR=8.1						
KMMI	**Kalianget**	**14.88**	**236**	P	**P**	**07 11 02.9**	**-1.6**
	218nm,0.9s,3μm						
DNP	**Denpasar**	**14.89**	**228**	P	**P**	**07 11 05.9**	**+1.4**
STKI	**Sintang**	**14.91**	**265**	P	**Pn**	**07 11 01.2**	**+0.6**
	97nm,1.4s						
IGBI	**Denpasar**	**15.03**	**228**	P	**P**	**07 11 05.7**	**-0.4**
ABJI	**Asem Bagus**	**15.09**	**233**	P	**P**	**07 11 05.9**	**-0.9**
	113nm,1.2s						
KDU	**Kakadu**	**15.18**	**157**	P	**Pn**	**07 11 00.9**	**-3.1**
	baz=15,SNR=10						
JAGI	**Jajag, Banyuwa**	**15.56**	**231**	P	**P**	**07 11 10.7**	**-1.3**
	196nm,1.2s,2μm						
JAGI	**Jajag, Banyuwa**	**15.56**	**231**	P	**P**	**07 11 14.4**	**+2.3**
	baz=16,SNR=5.5						
JAGI	**Jajag, Banyuwa**	**15.56**	**231**	*e*Pn	**Pn**	**07 11 09.3**	**+0.5**
	166nm,0.9s						
BLJI	**Banyuglugur**	**15.58**	**235**	P	**P**	**07 11 12.1**	**-0.1**
	153nm,1.3s,2μm						
GMJI	**Gumukmas**	**16.00**	**233**	P	**P**	**07 11 17.9**	**+1.0**
	127nm,1.2s,2μm						
KSM	**Kuching**	**16.03**	**271**	P	**P**	**07 11 17.9**	**+0.7**
	baz=16,SNR=6.1						
KSM	**Kuching**	**16.03**	**271**	*e*Pn	**Pn**	**07 11 15.4**	**+0.6**
TBJI	**Tambak Boyo**	**16.57**	**241**	P	P	07 11 29.9	+6.7
KNRA	**Kununurra**	**17.05**	**172**	P	**Pn**	**07 11 26.5**	**-1.0**
	baz=17,SNR=72						
NGJI	**Ngawi**	**17.17**	**240**	P	**Pn**	**07 11 27.6**	**-1.4**
	83nm,1.3s						
PWJI	**Pagerwojo**	**17.21**	**237**	P	**Pn**	**07 11 29.3**	**-0.2**
	114nm,0.8s						
PCJI	**Pacitan**	**17.83**	**238**	P	**Pn**	**07 11 37.5**	**+0.4**
	172nm,0.8s						
WOJI	**Wonogiri, Jawa**	**17.86**	**239**	P	**P**	**07 11 35.9**	**-1.6**
	95nm,0.9s						
UGM	**Wanagama**	**18.25**	**240**	P	Pn	07 11 47.6	+5.4
	baz=18,SNR=3.2						
TPI	**Tanjungpandan**	**19.11**	**258**	P	**Pn**	**07 11 54.7**	**+2.0**
	35nm,1.4s						
KPJI	**Karang Pucung**	**19.38**	**243**	P	**P**	**07 11 52.5**	**-1.6**
	81nm,1.1s						
CMJI	**Cimerak**	**20.00**	**243**	P	**P**	**07 12 01.3**	**+0.3**
	72nm,1.0s						
LEM	**Lembang**	**20.36**	**246**	P	Pn	07 12 09.4	+1.8
	60nm,0.9s						
CISI	**Cisompet, Garu**	**20.47**	**244**	P	Pn	07 12 11.3	+2.5
CISI	**Cisompet, Garu**	**20.47**	**244**	*e*P	**P**	**07 12 07.2**	**+1.1**
	64nm,0.7s						
DLV	**T Lat**	**20.62**	**302**	*e*P	**P**	**07 12 08.7**	**+0.9**
	93nm,1.1s						
CNJI	**Cibinong**	**21.00**	**246**	P	Pn	07 12 14.6	-0.3
	111nm,1.1s						
TWG	**Pinlang**	**21.98**	**347**	*e*P	**P**	**07 12 20.2**	**-2.0**
	159nm,0.6s						
CGJI	**Cibinong**	**22.06**	**249**	P	**P**	**07 12 20.5**	**-2.6**
	55nm,0.7s,7μm						
MYKOM	**Kota Tinggi**	**22.49**	**271**	⇓P	**P**	**07 12 27.5**	**-0.2**
MYKOM	**Kota Tinggi**	**22.49**	**271**	*e*P	**P**	**07 12 27.6**	**-0.2**
	99nm,1.1s						
WRAB	**Tennant Creek**	**22.53**	**160**	P	**P**	**07 12 26.0**	**-2.1**
	942nm,1.1s						
WRAB	**Tennant Creek**	**22.53**	**160**	⇓*e*P	**P**	**07 12 26.8**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,433nm,1.0s						
WRAB	**Tennant Creek**	**22.53**	**160**	*e*P	**P**	**07 12 27.1**	**-1.1**
	comp=Z,239nm,1.2s						
WRA	**Warramunga Arr**	**22.54**	**160**	P	**P**	**07 12 27.4**	**-0.8**
	comp=Z,108nm,0.9s,baz=338,slow=11,SNR=252						
WRA				S	**S**	**07 16 30.6**	**-0.7**
	comp=Z,20nm,1.1s,baz=342,slow=16,SNR=5.6						
WRA				ScP	**ScP**	**07 19 56.6**	**+3.9**
	comp=Z,2.4nm,1.0s,baz=328,slow=3.4,SNR=5.6						
COEN	**Coen**	**22.55**	**133**	P	**P**	**07 12 25.6**	**-2.7**
	baz=22,SNR=6.5						
COEN	**Coen**	**22.55**	**133**	*e*P	**P**	**07 12 24.7**	**-3.7**
	comp=Z,195nm,0.9s						
KASI	**Kota Agung**	**22.85**	**253**	P	**P**	**07 12 27.8**	**-3.7**
MDSI	**Maura Dua**	**22.88**	**255**	P	**P**	**07 12 29.3**	**-2.6**
	comp=Z,40nm,0.8s						
SSLB	**Suanglung**	**22.94**	**347**	*e*P	**P**	**07 12 31.1**	**-1.3**
KGM	**Kluang**	**23.02**	**272**	⇑P	**P**	**07 12 32.8**	**-0.5**
YOJ	**Yonaguni jima**	**23.23**	**352**	*e*P	**P**	**07 12 33.7**	**-1.5**
YOJ				pmax	pmax		
	comp=Z,58nm,1.0s						
YOJ	**Yonaguni jima**	**23.23**	**352**	*e*P	**P**	**07 12 33.7**	**-1.5**
	comp=Z,58nm,1.0s						
MBWA	**Marble Bar**	**23.25**	**196**	*e*P	**P**	**07 12 34.1**	**-1.4**
	comp=Z,37nm,0.7s						
PMG	**Port Moresby**	**23.31**	**118**	*e*P	**P**	**07 12 35.6**	**-0.5**
PMG				pmax	pmax		
	comp=Z,36nm,1.1s						
PMG	**Port Moresby**	**23.31**	**118**	P	**P**	**07 12 37.2**	**+1.2**
	comp=Z,35nm,0.9s,baz=330,slow=8.1,SNR=3.1						
PMG	**Port Moresby**	**23.31**	**118**	*e*P	**P**	**07 12 35.6**	**-0.5**
	comp=Z,36nm,1.1s						
KTGM	**Kuala Trenggan**	**23.50**	**280**	⇓P	**P**	**07 12 37.9**	**0.0**
XMIS	**Christmas Isla**	**23.69**	**240**	*e*P	**P**	**07 12 39.6**	**0.0**
	comp=Z,813nm,1.3s						
QIZ	**Qiongzhong**	**23.90**	**318**	P	**P**	**07 12 40.8**	**-0.7**
QIZ				sP	**sP**	**07 13 00.6**	**-2.8**
QIZ				S	**S**	**07 16 53.8**	**+0.1**
QIZ				PMZ			
	comp=Z,29nm,1.8s						
QIZ				LZ			
	comp=Z,440nm,14.6s						
FRIM	**Kepong**	**24.77**	**275**	⇑P	**P**	**07 12 49.7**	**+0.3**
UBPT	**Khong Chiam**	**24.84**	**305**	P	P	07 12 55.3	+5.3
	comp=Z,37nm,1.1s						
SDSI	**Sungai Dareh**	**25.01**	**265**	P	**P**	**07 12 50.4**	**-1.2**
	comp=Z,68nm,0.8s						
QIS	**Mount Isa**	**25.32**	**150**	P	**P**	**07 12 54.9**	**+0.5**
	baz=25,SNR=38						
JOW	**Kunigami**	**25.44**	**4**	P	**P**	**07 12 56.5**	**+1.2**
	comp=Z,7.4nm,0.8s,baz=193,slow=9.4						
JOW	**Kunigami**	**25.44**	**4**	*e*P	**P**	**07 12 56.1**	**+0.8**
	comp=Z,28nm,0.8s						
IPM	**Ipoh**	**25.48**	**278**	⇓P	**P**	**07 12 55.2**	**-0.7**
IPM	**Ipoh**	**25.48**	**278**	*e*P	**P**	**07 12 54.6**	**-1.3**
	comp=Z,27nm,0.8s						
AS31	**Alice Springs**	**25.90**	**164**	*e*P	**P**	**07 12 59.3**	**-0.3**
ASAR	**Alice Springs**	**25.90**	**164**	P	**P**	**07 12 59.4**	**-0.2**
	comp=Z,14nm,0.7s,baz=347,slow=6.5,SNR=125						
ASAR				PcP	**PcP**	**07 16 28.6**	**+1.3**
	comp=Z,5.8nm,0.8s,baz=348,slow=2.0,SNR=7.9						
ASAR				S	**S**	**07 17 28.2**	**+2.7**
	comp=Z,2.6nm,0.9s,baz=348,slow=17,SNR=4.9						
PDSI	**Padang**	**25.97**	**265**	P	**P**	**07 12 57.4**	**-3.0**
	comp=Z,32nm,0.7s,comp=Z,7μm						
WRKA	**Warakurna**	**26.27**	**176**	P	**P**	**07 13 03.2**	**+0.4**
	baz=26,SNR=102						
GIRL	**Giralia**	**26.58**	**206**	P	**P**	**07 13 07.4**	**+1.7**
	baz=27,SNR=4.3						
MNSI	**Mandailing Nat**	**26.76**	**269**	P	**P**	**07 13 05.3**	**-2.2**
	comp=Z,43nm,0.8s,comp=Z,13μm						
PSI	**Prapat**	**27.44**	**274**	P	**P**	**07 13 11.7**	**-2.0**
	comp=Z,23nm,0.9s,baz=98,slow=4.0,SNR=14						
PSI	**Prapat**	**27.44**	**274**	P	**P**	**07 13 12.8**	**-0.9**
	baz=28,SNR=7.8						
NAYO	**Nakonayok**	**27.90**	**299**	P	**P**	**07 13 19.5**	**+1.9**
	comp=Z,42nm,0.8s,comp=Z,2μm						
KCSI	**Kotacane, Aceh**	**28.63**	**275**	P	**P**	**07 13 22.5**	**-1.7**
	comp=Z,19nm,0.9s						
MEEK	**Meekatharra**	**28.77**	**194**	P	**P**	**07 13 25.0**	**-0.3**
	baz=29,SNR=21						
CTA	**Charters Tower**	**28.87**	**138**	P	**P**	**07 13 25.1**	**-1.2**
	comp=Z,9.6nm,0.9s,baz=312,slow=14,SNR=3.2						
CTAO	**Charters Tower**	**28.87**	**138**	*e*P	**P**	**07 13 25.2**	**-1.1**
CTAO	**Charters Tower**

CMMT	**Chiang Mai**	**31.99**	**305**	P	**P**	**07 13 53.5**	**-0.4**
	comp=Z,16nm,0.6s						
CHTO	**Chiang Mai**	**32.00**	**305**	*e*P	**P**	**07 13 52.9**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CHTO	**Chiang Mai**	**32.00**	**305**	P	**P**	**07 13 54.4**	**+0.5**
	comp=Z,51nm,0.7s						
CHTO	**Chiang Mai**	**32.00**	**305**	*e*P	**P**	**07 13 52.9**	**-1.0**
	comp=Z,8.3nm,0.6s						
CMAI	**Chiengmai2**	**32.48**	**307**	P	**P**	**07 13 59.3**	**+1.0**
	comp=Z,11nm,1.1s,comp=Z,4μm						
MHMT	**Maesarieng**	**32.53**	**303**	P	**P**	**07 13 59.9**	**+1.3**
	comp=Z,9.3nm,0.7s,comp=Z,404nm						
QLP	**Quilpie**	**32.67**	**149**	P	**P**	**07 13 59.3**	**-0.3**
	baz=33,SNR=4.5						
KMBL	**Kambalda**	**32.78**	**187**	P	**P**	**07 14 00.5**	**-0.1**
	baz=33,SNR=17						
KMI	**Kunming**	**32.85**	**318**	P	**P**	**07 14 03.3**	**+1.8**
KMI				PMZ			
	comp=Z,20nm,0.9s						
BLDU	**Ballidu**	**33.05**	**195**	P	**P**	**07 14 02.8**	**-0.1**
	baz=33,SNR=14						
NWAO	**Narrogin (SRO)**	**35.13**	**193**	P	**P**	**07 14 20.1**	**-0.8**
	comp=Z,19nm,0.6s,baz=18,slow=9.5,SNR=10						
NWAO	**Narrogin (SRO)**	**35.13**	**193**	P	**P**	**07 14 21.2**	**+0.4**
	baz=35,SNR=7.4						
BBOO	**Buckleboo**	**35.16**	**166**	P	**P**	**07 14 21.0**	**-0.2**
	baz=35,SNR=29						
BBOO	**Buckleboo**	**35.16**	**166**	*e*P	**P**	**07 14 21.2**	**0.0**
	comp=Z,369nm,0.8s						
TIA	**Tai'an**	**35.76**	**347**	⇓P	**P**	**07 14 26.6**	**+0.3**
TIA				PMZ			
	comp=Z,10.0nm,1.2s						
KSAR	**Wonju Array Be**	**35.98**	**2**	P	**P**	**07 14 29.2**	**+1.1**
KSAR						07 16 55.4	
KSAR	**Wonju Array Be**	**35.98**	**2**	P	**P**	**07 14 29.2**	**+1.1**
KSAR				PcP	**PcP**	**07 16 55.4**	**+1.6**
KSRS	**Korea Array**	**35.99**	**2**	P	**P**	**07 14 29.2**	**+1.0**
	comp=Z,4.0nm,0.6s,baz=180,slow=9.9,SNR=19						
KSRS				PcP	**PcP**	**07 16 55.4**	**+1.6**
	comp=Z,2.6nm,0.7s,baz=194,slow=2.1,SNR=5.9						
CD2	**Chengdu**	**36.39**	**326**	P	**P**	**07 14 30.8**	**-1.0**
CD2				pP	**pP**	**07 14 45.4**	**-1.6**
CD2				sP	**sP**	**07 14 52.8**	**-1.3**
CD2				PP	**PP**	**07 15 54.5**	**-1.1**
CD2				S	**S**	**07 20 10.0**	**+1.0**
CD2				PMZ			
	comp=Z,40nm,1.2s						
CD2				PMZ			
	comp=Z,130nm,9.5s						
CD2				LN			
	comp=Z,440nm,17.8s						
CD2				LE			
	comp=Z,460nm,17.8s						
CD2				LZ			
	comp=Z,440nm,15.5s						
XAN	**Xi'an**	**36.41**	**335**	P	**P**	**07 14 30.1**	**-1.8**
XAN				PMZ			
	comp=Z,3.0nm,0.9s						
XAN				PMZ			
	comp=Z,19nm,5.5s						
MAJO	**Matsushiro**	**36.73**	**16**⇓	*e*P	**P**	**07 14 34.1**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,49nm,0.6s						
MAJO	**Matsushiro**	**36.73**	**16**	*e*P	**P**	**07 14 34.2**	**-0.4**
	comp=Z,405nm,3.0s						
MAT	**Matsushiro**	**36.73**	**16**	P	**P**	**07 14 33.0**	**-1.6**
MJAR	**Matsushiro Arr**	**36.73**	**16**	P	**P**	**07 14 34.1**	**-0.5**
	comp=Z,4.5nm,0.7s,baz=178,slow=10.0,SNR=9.6						
MJAR				PcP	**PcP**	**07 16 57.7**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=188,slow=3.1,SNR=5.0						
RKGY	**Rocky Gully**	**36.80**	**193**	P	**P**	**07 14 36.9**	**+1.8**
	baz=37,SNR=9.9						
CMSA	**Cobar Meteorol**	**37.48**	**152**	P	**P**	**07 14 41.4**	**+0.4**
	baz=37,SNR=8.9						
BJI	**Beijing**	**39.64**	**348**	P	**P**	**07 14 58.3**	**-0.6**
BJI				PMZ			
	comp=Z,23nm,0.9s						
BJI				PMZ			
	comp=Z,150nm,3.8s						
ARMA	**Armidale**	**39.70**	**145**	P	**P**	**07 15 01.3**	**+1.5**
	baz=40,SNR=10						
ARMA	**Armidale**	**39.70**	**145**	*e*P	**P**	**07 14 59.8**	**0.0**
	comp=Z,68nm,1.4s						
LZH	**Lanzhou**	**40.40**	**331**	*e*P	**P**	**07 15 07.0**	**+1.4**
LZH				pP	**pP**	**07 15 23.6**	**+2.6**
LZH				sP	**sP**	**07 15 28.4**	**+0.4**
LZH				PP	**PP**	**07 16 41.1**	**+1.5**
LZH				S	**S**	**07 21 11.4**	**+1.7**
LZH				sS	**sS**	**07 21 35.3**	**-0.5**
LZH				PMZ			
	comp=Z,82nm,1.4s						
LZH				PMZ			
	comp=Z,240nm,4.6s						
LZH				LN			
	comp=Z,850nm,15.3s						
LZH				LE			
	comp=Z,970nm,16.5s						
LZH				LZ			
	comp=Z,1μm,17.0s						
YNG	**Young**	**41.04**	**152**	P	**P**	**07 15 11.8**	**+1.2**
	baz=41,SNR=6.1						
HHC	**Hu-ho-hao-te**	**41.57**	**343**	*e*P	**P**	**07 15 16.5**	**+1.5**
HHC				pP	**pP**	**07 15 33.3**	**+2.8**
HHC				sP	**sP**	**07 15 37.6**	**+0.1**
HHC				PP	**PnPn**	**07 16 58.6**	**+1.3**
HHC				S	**S**	**07 21 25.1**	**-1.7**
HHC				sS	**sS**	**07 21 57.3**	**+4.3**
HHC				SS	**SS**	**07 24 34.8**	**+1.0**
HHC				PMZ			
	comp=Z,32nm,0.9s						
HHC				PMZ			
	comp=Z,190nm,7.0s						
HHC				LN			
	comp=Z,480nm,15.7s						
HHC				LE			
	comp=Z,400nm,16.2s						
HHC				LZ			
	comp=Z,600nm,17.2s						
VLA	**Vladivostok**	**41.91**	**6**⇑	*i*P	**P**	**07 15 16.4**	**-1.2**
VLA				*e*		07 16 54.1	
VLA				*e*		07 17 10.4	
VLA				*e*S	**S**	**07 21 31.0**	**-0.6**
VLA				pmax	pmax		
	comp=Z,51nm,1.2s						
VLA				smax	smax		
	comp=N,675nm,0.8s						
CAN	**Canberra**	**42.16**	**152**	*e*P	**P**	**07 15 18.0**	**-1.8**
CAN				pmax	pmax		
	comp=Z,15nm,0.8s						
CAN	**Canberra**	**42.16**	**152**	*e*P	**P**	**07 15 18.0**	**-1.8**
	comp=Z,15nm,0.8s						
CN2	**Changchun**	**42.31**	**359**	*e*P	**P**	**07 15 21.1**	**+0.2**
CN2				*e*pP	**pP**	**07 15 36.5**	**+0.1**
CNB	**Canberra Magne**	**42.32**	**152**	P	**P**	**07 15 23.5**	**+2.3**
	baz=42,SNR=4.5						
TOO	**Toolangi**	**42.56**	**157**	P	**P**	**07 15 25.2**	**+2.1**
	baz=42,SNR=6.1						
USRK	**Ussuriysk Ar.**	**42.99**	**6**	P	**P**	**07 15 27.2**	**+0.8**
	comp=Z,24nm,0.7s,baz=191,slow=7.0,SNR=52						
MDJ	**Mudanjiang**	**43.21**	**3**	P	**P**	**07 15 28.5**	**+0.3**
MDJ				pP	**pP**	**07 15 42.8**	**-0.9**
MDJ				sP	**sP**	**07 15 50.8**	**0.0**
MDJ				PP	**PP**	**07 17 10.5**	**+0.9**
MDJ				ScP	**ScP**	**07 21 00.9**	**-1.9**
MDJ				PcS	**PcS**	**07 21 08.4**	**-0.6**
MDJ				S	**S**	**07 21 52.3**	**+1.7**
MDJ				PMZ			
	comp=Z,43nm,0.9s						
MDJ				PMZ			
	comp=Z,160nm,6.7s						
MDJ				LN			
	comp=Z,240nm,8.1s						
MDJ				LZ			
	comp=Z,280nm,8.2s						
LSA	**Lhasa**	**43.77**	**314**	P	**P**	**07 15 33.0**	**-0.5**
LSA	**Lhasa**	**43.77**	**314**	*e*P	**P**	**07 15 32.7**	**-0.8**
LSA				pmax	pmax		
	comp=Z,15nm,0.6s						
LSA	**Lhasa**	**43.77**	**314**	*e*P	**P**	**07 15 32.7**	**-0.8**
	comp=Z,15nm,0.6s						
GTA	**Gaotai**	**44.98**	**331**	*e*P	**P**	**07 15 41.9**	**-0.7**
GTA				pP	**pP**	**07 15 57.4**	**-0.8**
GTA				sP	**sP**	**07 16 04.8**	**-0.4**
GTA				PcP	**PcP**	**07 17 24.4**	**+1.5**
GTA				S	**S**	**07 22 16.6**	**-0.2**
GTA				sS	**sS**	**07 22 43.4**	**+0.2**
GTA				ScS	**ScS**	**07 25 27.8**	**-6.7**
GTA				PMZ			
	comp=Z,4.0nm,1.0s						
GTA				PMZ			
	comp=Z,170nm,6.2s						
GTA				LN			
	comp=Z,250nm,16.6s						
GTA				LE			
	comp=Z,430nm,16.6s						
GTA				LZ			
	comp=Z,340nm,16.6s						
ASAJ	**Asahikawa**	**45.00**	**17**	P	**P**	**07 15 43.1**	**+0.6**
	comp=Z,7.3nm,0.4s,baz=222,slow=8.3,SNR=4.7						
ASAJ	**Asahikawa**	**45.00**	**17**	*e*P	**P**	**07 15 41.9**	**-0.6**
	comp=Z,19nm,1.1s						
TAPN	**Taplejung**	**45.16**	**308**	*e*P	**P**	**07 15 43.6**	**-0.9**
	comp=Z,13nm,0.5s						
ODAN	**Odare**	**45.19**	**308**	*e*P	**P**	**07 15 43.1**	**-1.5**
	comp=Z,84nm,1.1s						
RAMN	**Ramite**	**45.85**	**307**	*e*P	**P**	**07 15 48.5**	**-1.4**
PALK	**Pallekele**	**45.87**	**279**	P	**P**	**07 15 48.7**	**-1.2**
	comp=Z,15nm,1.0s,baz=97,slow=9.5,SNR=2.8						
JIRN	**Jiri**	**46.50**	**308**	*e*P	**P**	**07 15 53.6**	**-1.5**
	comp=Z,31nm,0.6s						
GUN	**Gumba**	**46.86**	**308**	*e*P	**P**	**07 15 56.1**	**-1.8**
	comp=Z,51nm,0.7s						
PKI	**Pulchoki**	**47.08**	**307**	*e*P	**P**	**07 15 58.7**	**-0.9**
PKIN	**Phulchoki**	**47.09**	**307**	*e*P	**P**	**07 15 58.6**	**-1.0**
	comp=Z,17nm,0.7s						
KKN	**Kakani**	**47.28**	**308**	*e*P	**P**	**07 15 59.8**	**-1.2**
DMN	**Daman**	**47.34**	**307**	*e*P	**P**	**07 15 59.7**	**-1.8**
HABR	**Khabarovsk**	**47.57**	**8**	*e*P	**P**	**07 16 01.0**	**-1.6**
HABR				*e*		07 17 29.4	
HABR				*e*SS	SS	07 26 23.1	+0.9
HABR				*e*		07 27 31.7	
HABR				pmax	pmax		
	comp=Z,106nm,1.8s						
HABR				MLR	MLR		
	comp=Z,262nm,17.0s						
YSS	**Yuzh-Sakhalins**	**47.66**	**15**	*e*P	**P**	**07 16 04.0**	**+0.7**
YSS				*e*		07 16 22.0	
GKN	**Gorkha**	**47.88**	**308**	*e*P	**P**	**07 16 03.6**	**-2.0**
	comp=Z,74nm,1.2s						
KLR	**Kul'dur**	**47.96**	**5**	*e*P	P	07 16 01.8	-3.8
KLR				pmax	pmax		
	comp=Z,56nm,1.2s						
HIA	**Hailar**	**48.10**	**354**	*ce*P	**P**	**07 16 07.2**	**+0.4**
HIA				pmax	pmax		
	comp=Z,36nm,1.1s						
HIA	**Hailar**	**48.10**	**354**	*e*P	**P**	**07 16 07.7**	**+0.9**
	comp=Z,20nm,0.9s						
KOLN	**Koldanda**	**48.61**	**307**	*e*P	**P**	**07 16 09.8**	**-1.4**
	comp=Z,51nm,0.6s						
DANN	**Dangsing**	**48.73**	**307**	*e*P	**P**	**07 16 10.5**	**-1.8**
	comp=Z,78nm,0.7s						
PYUN	**Piuthan**	**49.24**	**307**	*e*P	**P**	**07 16 14.6**	**-1.5**
	comp=Z,145nm,0.6s						
ULN	**Ulaanbaatar**	**49.29**	**343**⇓	*e*P	**P**	**07 16 15.8**	**-0.2**
ULN				pmax	pmax		
	comp=Z,11nm,1.2s						
ULN	**Ulaanbaatar**	**49.29**	**343**	*e*P	**P**	**07 16 15.4**	**-0.6**
	comp=Z,6.9nm,0.8s						
SONM	**Songino Array**	**49.46**	**342**	P	**P**	**07 16 16.6**	**-0.7**
	comp=Z,4.0nm,0.7s,baz=160,slow=6.6,SNR=20						
SONM				PcP	**PcP**	**07 17 39.6**	**+0.9**
	comp=Z,6.3nm,0.7s,baz=162,slow=5.0,SNR=9.9						
HYB	**Hyderabad**	**49.60**	**292**	*i* P	**P**	**07 16 16.5**	**-2.3**
CIT	**Chita**	**51.66**	**350**	*e*P	**P**	**07 16 32.6**	**-1.1**
CIT				*e*		07 16 42.9	
CIT				pmax	pmax		
	comp=Z,136nm,1.6s						
ZAK	**Zakamensk**	**52.67**	**342**	*e*P	P	07 16 36.5	-4.8
ZAK				*e*		07 17 51.3	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s						
TLY	**Talaya**	**53.70**	**343**	*e*P	**P**	**07 16 49.7**	**+1.0**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TLY				MLR	MLR		
	comp=Z,173nm,17.0s						
TLY	**Talaya**	**53.70**	**343**	P	**P**	**07 16 49.3**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=186,slow=6.4,SNR=9.2						
TLY				PcP	**PcP**	**07 17 55.4**	**+1.2**
	comp=Z,3.5nm,0.7s,baz=224,slow=5.1,SNR=3.2						
IRK	**Irkutsk**	**54.01**	**343**	*e*P	**P**	**07 16 49.6**	**-1.4**
IRK				pmax	pmax		
	comp=Z,28nm,2.0s						
WMQ	**Urumqi**	**54.49**	**326**	P	**P**	**07 16 54.1**	**-0.6**
WMQ				pP	**pP**	**07 17 10.4**	**-0.3**
WMQ				PcP	**PcP**	**07 17 56.9**	**-0.6**
WMQ				PP	**PP**	**07 18 58.5**	**+1.0**
WMQ				S	**S**	**07 24 26.8**	**-2.5**
WMQ				sS	**sS**	**07 24 54.0**	**-2.4**
WMQ				ScS	**ScS**	**07 26 34.0**	**-4.7**
WMQ				SS	**SS**	**07 28 09.5**	**-3.1**
WMQ				PMZ			
	comp=Z,22nm,1.0s						
WMQ				PMZ			
	comp=Z,140nm,4.0s						
WMQ				LN			
	comp=Z,280nm,26.0s						
WMQ				LE			
	comp=Z,360nm,23.0s						
WMQ				LZ			
	comp=Z,300nm,21.5s						
MOY	**Mondy**	**54.51**	**341**	*e*P	**P**	**07 16 57.0**	**+2.2**
CLNS	**Chul'man**	**55.37**	**359**	*e*P	**P**	**07 17 01.8**	**+1.0**
CLNS				*e*		07 18 02.0	
CLNS				*e*		07 19 05.6	
CLNS				*e*PPP	PPP	07 20 23.6	
CLNS				pmax	pmax		
	comp=Z,33nm,0.8s						
CLNS				pmax	pmax		
	comp=E,11nm,0.8s						
CLNS				pmax	pmax		
	comp=N,23nm,0.9s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.6s						
CLNS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,3.0nm,1.1s						
HVS	**Khovu-Aksy**	**56.76**	**336**⇓	*e*P	**P**	**07 17 10.7**	**-0.2**
HVS				pmax	pmax		
	comp=Z,36nm,0.8s						
BOD	**Bodaibo**	**57.19**	**352**	*e*P	**P**	**07 17 13.6**	**0.0**
BOD				pmax	pmax		
	comp=Z,26nm,1.4s						
PETK	**Petropavlovsk-**	**57.80**	**22**	P	**P**	**07 17 18.2**	**+0.2**
	comp=Z,9.3nm,0.9s,baz=178,slow=5.5,SNR=7.8						
PET	**Petropavlovsk**	**58.09**	**22**	P	**P**	**07 17 21.7**	**+1.6**
MK31	**Makanchi Array**	**59.32**	**326**	P	**P**	**07 17 27.7**	**-1.1**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MKAR	**Makanchi Array**	**59.32**	**326**	P	**P**	**07 17 27.8**	**-1.0**
	comp=Z,11nm,0.5s,baz=120,slow=7.6,SNR=94						
MKAR				PcP	**PcP**	**07 18 16.6**	**+0.3**
	comp=Z,9.8nm,0.8s,baz=125,slow=5.5,SNR=5.9						
MKAR				PKP2bc		07 47 08.9	
	comp=Z,1.2nm,1.0s,baz=264,slow=1.4,SNR=4.0						
KSH	**Kashi**	**59.49**	**316**	P	**P**	**07 17 30.6**	**+0.4**
KSH				sP	**sP**	**07 17 53.6**	**+0.2**
KSH				PP	**PP**	**07 19 45.6**	**+3.4**
KSH				S	**S**	**07 25 32.3**	**-3.1**
KSH				sS	**sS**	**07 26 00.5**	**-2.4**
KSH				ScS	ScS	07 27 08.0	-7.4
KSH				PMZ			
	comp=Z,5.0nm,0.7s						
KSH				PMZ			
	comp=Z,94nm,3.9s						
KSH				LN			
	comp=Z,110nm,7.9s						
KSH				LE			
	comp=Z,170nm,6.0s						
KSH				LZ			
	comp=Z,210nm,16.6s						
YAK	**Yakutsk**	**60.62**	**2**	*e*P	**P**	**07 17 37.1**	**-0.2**
YAK				*e*PP	**pP**	**07 17 54.7**	**+1.1**
YAK				*e*		07 18 18.5	
YAK				*e*		07 19 52.8	
YAK				*e*S	**S**	**07 25 47.5**	**-1.3**
YAK				pmax	pmax		
	comp=Z,70nm,1.0s						
YAK				pmax	pmax		
	comp=N,31nm,1.4s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.5s						
YAK				smax	smax		
	comp=N,82nm,4.1s						
YAK				smax	smax		
	comp=E,121nm,5.3s						
YAK	**Yakutsk**	**60.62**	**2**	*e*P	**P**	**07 17 38.1**	**+0.8**
	comp=E,62nm,0.8s						
URZ	**Urewera**	**61.07**	**136**	P	**P**	**07 17 40.6**	**-0.3**
	comp=E,15nm,0.9s,baz=328,slow=15,SNR=3.0						
TKM2	**Tokmak 2**	**61.30**	**320**	*e*P	**P**	**07 17 41.5**	**-1.2**
TKM2				pmax	pmax		
	comp=Z,14nm,0.8s						
TKM2	**Tokmak 2**	**61.30**	**320**	*e*P	**P**	**07 17 41.5**	**-1.2**
	comp=Z,14nm,0.8s						
AAK	**Ala-Archa**	**61.89**	**319**	P	**P**	**07 17 46.0**	**-0.6**
	comp=Z,54nm,1.0s,SNR=5.2						
AAK	**Ala-Archa**	**61.89**	**319**	*c i*P	**P**	**07 17 46.0**	**-0.6**
AAK				pmax	pmax		
	comp=Z,19nm,1.2s						
AAK	**Ala-Archa**	**61.89**	**319**	P	**P**	**07 17 46.3**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=137,slow=6.1,SNR=6.8						
AAK	**Ala-Archa**	**61.89**	**319**	*e*P	**P**	**07 17 46.3**	**-0.3**
	comp=Z,14nm,1.1s						
EKS2	**Erkin-Say**	**62.38**	**319**	*e*P	**P**	**07 17 49.6**	**-0.2**
EKS2				pmax	pmax		
	comp=Z,18nm,0.9s						
EKS2	**Erkin-Say**	**62.38**	**319**	*e*P	**P**	**07 17 49.6**	**-0.2**
	comp=Z,18nm,0.9s						
ZALV	**Zalesovo Beam**	**62.56**	**334**	*i* P	**P**	**07 17 49.2**	**-1.4**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ZALV	**Zalesovo Beam**	**62.56**	**334**	P	**P**	**07 17 49.2**	**-1.4**
	comp=Z,4.9nm,0.4s,baz=137,slow=6.0,SNR=9.2						
KBL	**Kabul**	**62.69**	**309**	*e*P	**P**	**07 17 50.6**	**-1.6**
KBL				pmax	pmax		
	comp=Z,17nm,0.8s						
KBL	**Kabul**	**62.69**	**309**	*e*P	**P**	**07 17 50.6**	**-1.6**
	comp=Z,17nm,0.8s						
KURBB	**Kurchatov Arra**	**63.56**	**328**	P	**P**	**07 17 56.6**	**-0.7**
	comp=Z,20nm,0.6s,baz=128,slow=6.1,SNR=143						
KURK	**Kurchatov**	**63.57**	**328**	P	**P**	**07 17 56.5**	**-0.8**
	comp=Z,244nm,0.6s,SNR=22						
KURK	**Kurchatov**	**63.57**	**328**	*e*P	**P**	**07 17 56.6**	**-0.8**
KURK	**Kurchatov**	**63.57**	**328**	*e*P	**P**	**07 17 56.6**	**-0.7**
NVS	**Novosibirsk**	**63.84**	**334**⇑	*i*P	**P**	**07 17 57.2**	**-1.9**
NVS				pmax	pmax		
	comp=Z,17nm,1.0s						
NVS				pmax	pmax		
	comp=N,5.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.5s						
SEY	**Seymchan**	**64.46**	**13**⇑	*e*P	**P**	**07 18 04.8**	**+1.9**
KK31	**Karatay Array**	**64.74**	**318**	*i* P	**P**	**07 18 03.9**	**-1.3**
KK31				pmax	pmax		
	comp=Z,16nm,0.9s						
KKAR	**Karatay Array**	**64.74**	**318**	*e*P	**P**	**07 18 04.1**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KKAR	**Karatay Array**	**64.74**	**318**	*e*P	**P**	**07 18 04.1**	**-1.1**
	comp=Z,8.3nm,0.8s						
BVA0	**Borovoye Array**	**69.13**	**328**	*i* P	**P**	**07 18 32.0**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,12nm,0.9s						
BVAR	**Borovoye Array**	**69.13**	**328**	P	**P**	**07 18 32.3**	**-0.6**
	comp=Z,4.8nm,0.5s,baz=132,slow=8.8,SNR=24						
IDAH	**Dahanechah**	**69.60**	**304**	*e*P	**P**	**07 18 35.9**	**-0.7**
IMYA	**Miami**	**70.20**	**308**	*e*P	**P**	**07 18 37.9**	**-2.2**
TIXI	**Tiksi**	**70.25**	**1**	*c i*P	**P**	**07 18 38.7**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,37nm,1.2s						
TIXI	**Tiksi**	**70.25**	**1**	*e*P	**P**	**07 18 39.0**	**-0.4**
	comp=Z,26nm,0.9s						
BILL	**Bilibino**	**71.97**	**15**⇓	*e*P	**P**	**07 18 50.8**	**+0.9**
BILL				*e*S	SKiKP	07 28 32.9	+11
BILL				*e*SS	**SS**	**07 32 41.7**	**-2.4**
BILL				pmax	pmax		
	comp=Z,19nm,2.4s						
GEYT	**Alibeck**	**72.11**	**309**	P	**P**	**07 18 50.9**	**-0.5**
	comp=Z,7.7nm,0.9s,baz=108,slow=3.9,SNR=12						
ABKAR	**Akbulak array**	**73.77**	**321**	*e*P	**P**	**07 18 59.7**	**-1.2**
	comp=Z,5.1nm,0.6s						
ISAD	**Sadrabad**	**74.61**	**303**	*e*P	**P**	**07 19 04.7**	**-1.9**
IPAR	**Pars**	**74.87**	**300**	*e*P	**P**	**07 19 05.7**	**-2.4**
AKTO	**Aktyubinsk**	**75.31**	**322**	P	**P**	**07 19 09.2**	**-0.6**
	comp=Z,18nm,0.9s,baz=99,slow=7.5,SNR=37						
SVE	**Sverdlovsk**	**75.81**	**329**	*de*P	**P**	**07 19 12.2**	**-0.3**
SVE				pmax	pmax		
	comp=Z,79nm,1.1s						
ARU	**Arti**	**76.76**	**328**	P	**P**	**07 19 17.8**	**-0.1**
	comp=Z,274nm,0.6s,SNR=6.3						
ARU	**Arti**	**76.76**	**328**	*c i*P	**P**	**07 19 17.0**	**-0.9**
ARU				*PP	**PcP**	**07 19 31.8**	**+2.8**
ARU						07 22 06.7	
ARU				S	**S**	**07 29 00.8**	**+0.5**
ARU				SS	**SS**	**07 33 57.9**	**+0.6**
ARU				pmax	pmax		
	comp=Z,56nm,1.2s						
ARU	**Arti**	**76.76**	**328**	*e*P	**P**	**07 19 17.1**	**-0.9**
	comp=Z,29nm,0.6s						
IPIR	**Pirpir**	**77.05**	**303**	*e*P	**P**	**07 19 18.2**	**-2.3**
TNA	**Tin City**	**78.95**	**23**	*e*P	**P**	**07 19 28.6**	**-1.3**
	comp=Z,3.2nm,0.9s						
ABPO	**Ambohimpanom**	**80.14**	**251**	*e*P	**P**	**07 19 37.4**	**-0.2**
ABPO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ABPO	**Ambohimpanom**	**80.14**	**251**	*e*P	**P**	**07 19 37.4**	**-0.2**
	comp=Z,7.7nm,0.8s						
ISRB	**Sarab**	**80.25**	**308**	*e*P	**P**	**07 19 36.9**	**-0.9**
IDHR	**Dehrash**	**80.99**	**305**	*e*P	P	07 19 38.6	-3.3
RAYN	**Ar Rayn**	**81.07**	**293**	P	**P**	**07 19 41.1**	**-1.2**
	comp=Z,84nm,0.6s,SNR=6.3						
RAYN	**Ar Rayn**	**81.07**	**293**	*e*P	**P**	**07 19 41.4**	**-1.0**
	comp=Z,15nm,0.6s						
VNDA	**Vanda**	**81.10**	**173**	P	**P**	**07 19 41.4**	**+0.1**
	comp=Z,5.5nm,0.8s,baz=325,slow=7.4,SNR=7.1						
IMRD	**Marand**	**81.87**	**309**	*e*P	**P**	**07 19 45.0**	**-1.4**
GNI	**Garni**	**82.73**	**310**	P	**P**	**07 19 53.0**	**+2.2**
GNI				pmax	pmax		
	comp=Z,28nm,1.3s						
GNI	**Garni**	**82.73**	**310**	P	**P**	**07 19 52.3**	**+1.5**
	comp=Z,14nm,0.3s,baz=149,slow=11,SNR=3.7						
ZEI	**Tsey**	**83.55**	**313**	*e*P	**P**	**07 19 53.6**	**-1.5**
ZEI				pmax	pmax		
	comp=Z,55nm,1.4s						
OHAK	**Old Harbor**	**83.68**	**33**	*e*P	**P**	**07 19 55.6**	**+0.5**
	comp=Z,17nm,0.6s						
KDAK	**Kodiak Island**	**84.13**	**32**	P	**P**	**07 19 59.0**	**+1.6**
	comp=Z,246nm,0.9s,SNR=7.5						
KDAK	**Kodiak Island**	**84.13**	**32**	*i* P	**P**	**07 19 59.4**	**+2.0**
KDAK	**Kodiak Island**	**84.13**	**32**	*e*P	**P**	**07 19 57.5**	**+0.2**
	comp=Z,

comp=Z,7.1nm,0.8s
COLA College 87.03 25⇓*e*P P 07 20 12.0 +0.4
COLA pmax pmax
comp=Z,13nm,0.6s
COLA College 87.03 25 *e*P P 07 20 11.7 0.0
comp=Z,7.9nm,1.1s
VORD Divnogorie 87.12 321 *e*P P 07 20 10.7 -1.7
VORD pmax pmax
comp=Z,30nm,0.8s
VORD pmax pmax
comp=N,8.0nm,0.7s
VORD pmax pmax
comp=E,20nm,0.8s
VSR Storozhevoye 87.21 321 *e*P P 07 20 11.4 -1.4
VSR pmax pmax
comp=Z,20nm,0.7s
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,30nm,0.8s
KLMR Klimovskoe 87.31 331 *e*P P 07 20 11.6 -1.5
KLMR pmax pmax
comp=Z,34nm,1.1s
ILAR Eielson Array 87.44 25 P P 07 20 13.0 -0.7
comp=Z,2.5nm,0.7s,baz=235,slow=5.3,SNR=33
MALT Malatya 87.55 308 ⇑P P 07 20 15.7 +0.8
MALT Malatya 87.55 308 ⇑*i*P P 07 20 15.7 +0.8
DIV Divide 87.83 29 *e*P P 07 20 15.4 -0.3
comp=Z,7.6nm,0.8s
PAX Paxson 88.01 27 *e*P P 07 20 17.3 +0.8
PAX pmax pmax
comp=Z,5.0nm,0.8s
PAX Paxson 88.01 27 *e*P P 07 20 17.3 +0.8
comp=Z,5.2nm,0.8s
TMCR Tamitsa 88.08 334 *e*P P 07 20 16.0 -0.7
TMCR *e* 07 23 44.4
TMCR pmax pmax
comp=Z,6.0nm,0.2s
MOS Moscow 88.20 326 *e*P P 07 20 16.6 -0.8
ANN Anapa 88.31 315 *e*P P 07 20 03.1 -15
ANN *e*PP **PcP** 07 20 20.4 +0.6
ANN pmax pmax
comp=Z,81nm,1.1s
DOT Dot Lake 88.65 27 *e*P P 07 20 19.6 +0.1
comp=Z,7.8nm,0.8s
OBN Obninsk 88.80 325⇓*i*P P 07 20 19.8 -0.5
OBN pmax pmax
comp=Z,47nm,1.3s
MENT Mentasta 88.81 27 *e*P P 07 20 21.1 +0.8
KMBO Kilima Mbogo 89.11 269 *e*P P 07 20 24.0 +1.0
KMBO Kilima Mbogo 89.11 269 P P 07 20 23.3 +0.3
comp=Z,5.9nm,0.8s,baz=59,slow=7.6,SNR=13
KMBO Kilima Mbogo 89.11 269 *e*P P 07 20 24.0 +1.0
EGAK Eagle 89.89 25 *e*P P 07 20 26.0 +0.8
comp=Z,3.6nm,0.8s
SYO Syowa Base 90.05 201⇑*e*P P 07 20 25.6 -0.2
DAWY Dawson 90.70 26 *e*P P 07 20 30.3 +1.2
JOF Joensuu 91.14 333 *e*P P 07 20 30.6 -0.4
JOF Joensuu 91.14 333 *e*p P 07 20 30.6 -0.4
BRTR Keskin Array B 91.25 310*ce*P P 07 20 31.5 -0.8
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 91.25 310 P P 07 20 31.4 -0.8
comp=Z,4.2nm,0.8s,baz=126,slow=5.3,SNR=20
HYT Haines Junctio 91.87 29 *e*P P 07 20 36.4 +1.7
ARCES ARCESS Array B 92.56 340 P P 07 20 37.0 -0.6
ARCES ARCESS Array B 92.56 340 P P 07 20 37.0 -0.6
comp=Z,11nm,0.8s,baz=69,slow=6.6,SNR=14
SKAG Skagway 93.12 30 *e*P P 07 20 42.4 +2.1
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 93.51 321*ce*P P 07 20 40.7 -1.6
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 93.51 321 P P 07 20 40.8 -1.4
comp=Z,0.7nm,0.5s,baz=80,slow=2.6,SNR=5.4
FINES FINESS Array B 93.76 332 *i*P P 07 20 44.2 +1.0
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 93.76 332 P P 07 20 42.0 -1.2
comp=Z,2.0nm,0.6s,baz=90,slow=3.8,SNR=8.8
H02S1 DAWSON INLET T 95.65 36 T T 09 07 23.7
SNR=5.7
TESR Tescani 95.72 317⇓*i*P P 07 20 52.4 -0.2
VRI Vrincioaia 95.76 316 ⇑P P 07 20 53.0 +0.2
VRI Vrincioaia 95.76 316 ⇑*i*P P 07 20 53.0 +0.2
DLBC Dease Lake 96.00 31 P P 07 20 55.4 +1.8
comp=Z,4.6nm,0.9s,baz=257,slow=6.8,SNR=6.9
MLR Muntele Rosu 96.36 316 ⇓P P 07 20 56.8 +1.2
MLR Muntele Rosu 96.36 316⇓*i*P P 07 20 56.8 +1.2
BURAR Bucovina Array 96.53 318 ⇑P P 07 20 56.3 0.0
BURAR Bucovina Array 96.53 318⇑*i*P P 07 20 56.3 0.0
UZH Uzhgorod 98.28 319 *e*P P 07 21 03.3 -0.7
UZH *e* 07 21 14.7
DRGR 98.36 318 ⇑P Pdif 07 21 05.0 +0.4
DRGR 98.36 318⇑*i*P Pdif 07 21 05.0 +0.4
GZR Gura Zlata 98.57 316 ⇓P P 07 21 05.4 -0.1
GZR Gura Zlata 98.57 316⇓*i*P P 07 21 05.4 -0.1
CRVS Cervenica-Dubn 98.76 320 *e*P P 07 21 06.1 -0.1
CRVS Cervenica-Dubn 98.76 320 PDIF P 07 21 06.1 -0.1
STHS Stebnicka Huta 98.79 320 *e*P Pdif 07 21 07.6 +1.2
STHS Stebnicka Huta 98.79 320 PDIF Pdif 07 21 07.6 +1.2
BOSA Boshof 100.36 241 P **Pdif** 07 21 12.6 -1.3
comp=Z,5.7nm,1.1s,baz=100,slow=11,SNR=2.7
VYHS Vyhne 100.55 320 *e*P **Pdif** 07 21 14.9 +0.7
VYHS Vyhne 100.55 320 PDIF **Pdif** 07 21 14.9 +0.7
OKC Ostrava-Krasne 100.65 321 AMS AMS 08 12 10.0
comp=Z,400nm,16.8s
NB2 NORSAR Subarra 100.76 333 P **Pdif** 07 21 13.3 -1.6
comp=Z,2.1nm,0.9s,baz=73,slow=4.4
NB2 NORSAR Subarra 100.76 333 P **Pdif** 07 21 13.3 -1.6
baz=73,slow=4.4
NOA NORSAR Array B 100.76 333 P **Pdif** 07 21 13.5 -1.4
comp=Z,1.0nm,0.8s,baz=71,slow=4.4,SNR=5.4
YKA Yellowknife Ar 101.84 24 P **Pdif** 07 21 20.7 +1.1
comp=Z,1.0nm,0.7s,baz=296,slow=4.5,SNR=14
YKA PKiKP **PKiKP** 07 25 43.8 +1.5
comp=Z,0.5nm,0.6s,baz=300,slow=2.0,SNR=8.3
YKA PKKPbc **PKKPbc** 07 37 25.0 -2.4
comp=Z,0.4nm,0.7s,baz=110,slow=2.8,SNR=7.2
TREC Trest 102.46 321 AMS AMS 08 07 50.0
comp=Z,600nm,22.4s
PRU Pruhonice 102.84 322 AMS AMS 08 15 00.0
comp=Z,500nm,16.2s
CLL Collm 103.35 324 *e*PP PP 07 25 38.0 -4.3
KHC Kasperske Hory 103.70 321 AMS AMS 08 09 50.0
comp=Z,700nm,19.5s
GERES GERESS Array B 103.72 321 Pdiff **Pdif** 07 21 29.4 +1.0
comp=Z,0.4nm,0.6s,baz=149,slow=37,SNR=2.5
GERES PKiKP **PP** 07 25 44.7 -0.6
comp=Z,0.9nm,0.8s,baz=29,slow=2.2,SNR=4.6
YBH Yreka Blue Hor 104.62 46 Pdiff **Pdif** 07 21 32.0 -0.6
comp=Z,3.9nm,1.1s,baz=210,slow=2.9,SNR=2.1
NEW Newport 106.35 39 Pdiff **Pdif** 07 21 40.2 +0.2
comp=Z,1.4nm,0.9s,baz=340,slow=2.0,SNR=3.3
NVAR Mina Array Bea 108.79 49 Pdiff **Pdif** 07 21 52.6 +1.2
comp=Z,0.5nm,0.8s,baz=245,slow=4.2,SNR=3.7
NVAR PKiKP **PKiKP** 07 25 56.7 +0.5
comp=Z,0.3nm,0.7s,baz=30,slow=0.7,SNR=3.7
NVAR PKKPbc **PKKPbc** 07 37 04.8 -0.9
comp=Z,0.8nm,0.8s,baz=156,slow=4.7,SNR=4.2
NVAR PKKPab **PKKPab** 07 37 18.2 0.0
comp=Z,2.4nm,0.9s,baz=141,slow=4.2,SNR=8.3
MSO Missoula 108.89 39 ⇑P **PKiKP** 07 25 56.9 +0.9
baz=109
VES Vestal, Richgr 108.94 51 ⇓P **PKiKP** 07 25 57.1 +0.8
baz=109
HLID Hailey 109.84 42 ⇑P **PKiKP** 07 25 59.7 +1.8
baz=110
HEC Hector,Ludlow 111.38 52 ⇑P **PKiKP** 07 26 02.3 +1.3
baz=111
C19A Slack Wire Ran 111.50 37 ⇓P **PKiKP** 07 26 02.5 +1.6
baz=111
B20A Solberg Farm, 111.77 36 ⇓P **PKiKP** 07 26 02.7 +1.4
baz=112
BELC Belle Mtn. Jos 111.89 52 ⇓P **PKiKP** 07 26 03.7 +1.7
baz=112
GMRC Granite Mounta 111.92 52 ⇑P **PKiKP** 07 26 03.3 +1.2
baz=112
A21A Bergtoll Ranch 112.13 35 ⇓P **PKiKP** 07 26 02.5 +0.6
baz=112
C20A Veseth Ranch, 112.13 36 ⇓P **PKiKP** 07 26 03.2 +1.2
baz=112
DUG Dugway, Tooele 112.21 45 ⇑P **PKiKP** 07 26 03.5 +0.9
baz=112
E19A Rath Farm, Rou 112.25 38 ⇓P **PKiKP** 07 26 03.1 +0.8
baz=112
BC3 Big Chuckawall 112.43 53 ⇓P **PKiKP** 07 26 04.6 +1.6
baz=112
F19A Roth Farm, Mol 112.43 38 ⇑P **PKiKP** 07 26 04.2 +1.5
baz=112
IRM Iron Mountain 112.52 52 ⇓P **PKiKP** 07 26 04.9 +1.8
baz=112
C21A Desert Coulee 112.61 36 ⇑P **PKiKP** 07 26 03.7 +0.8
baz=112
A22A Carney Farms, 112.70 34 ⇓P **PKiKP** 07 26 04.6 +1.5
baz=113
G20A Bridger 113.18 39 ⇑P **PKiKP** 07 26 05.0 +0.8
baz=113
W13A Hualapai Mount 113.20 51 ⇑P **PKiKP** 07 26 05.2 +0.6
baz=113
PDAR Pinedale Array 113.41 42 PKiKP **PKiKP** 07 26 04.0 -0.8
comp=Z,0.3nm,0.6s,baz=193,slow=3.6,SNR=2.6
PDAR PKKPbc **PKKPbc** 07 36 50.0 -0.8
comp=Z,0.9nm,0.7s,baz=119,slow=5.2,SNR=5.6
PDAR PKKPab **PKKPab** 07 36 57.0 -0.6
comp=Z,3.6nm,0.9s,baz=119,slow=5.6,SNR=15
D22A Cohagen 113.49 36 ⇑P **PKiKP** 07 26 06.7 +2.1
baz=113
B23A Brockton 113.50 35 ⇑P **PKiKP** 07 26 06.0 +1.5
baz=113
J19A Crowheart 113.53 41 ⇑P **PKiKP** 07 26 05.8 +0.8
baz=113
LAO LASA Array 113.69 37 *e*PKPdf **PKiKP** 07 26 07.0 +2.0
C23A Lambert 113.73 35 ⇑P **PKiKP** 07 26 07.0 +1.9
baz=114
A24A Westby 113.81 34 ⇑P **PKiKP** 07 26 06.5 +1.3
baz=114
I20A Worland 113.82 40 ⇓P **PKiKP** 07 26 06.6 +1.2
baz=114
U15A North Rim 113.97 49 ⇓P **PKiKP** 07 26 08.4 +2.3
baz=114
D23A Lindsay 114.05 36 ⇓P **PKiKP** 07 26 07.7 +2.0
baz=114
J20A Shoshoni 114.12 41 ⇑P PKPdf 07 26 07.5 +1.4
baz=114
I21A Big Trails, Te 114.42 40 ⇑P PKPdf 07 26 06.3 -0.4
baz=114
F23A Volborg 114.67 37 ⇓P PKPdf 07 26 07.7 +0.8
baz=115
E24A Baker 114.89 36 ⇓P PKPdf 07 26 08.5 +1.2
baz=115
K21A Alcova 114.99 41 ⇑P PKPdf 07 26 08.5 +0.7
baz=115
N20A Spence Gulch, 115.12 43 ⇓P **PKPdf** 07 26 09.0 +0.8
baz=115
J22A Midwest 115.13 40 ⇓P **PKPdf** 07 26 07.9 -0.1
baz=115
F24A Ekalaka 115.18 37 ⇑P **PKPdf** 07 26 08.9 +0.9
baz=115
X16A Lo Mia Camp, P 115.33 51 ⇓P **PKPdf** 07 26 10.0 +1.3
baz=115
O20A White River Ci 115.44 44 ⇓P **PKPdf** 07 26 10.0 +1.2
baz=115
E25A Miller Ranch, 115.45 36 ⇑P **PKPdf** 07 26 09.6 +1.2
baz=115
K22A Casper 115.46 41 ⇑P **PKPdf** 07 26 09.6 +0.9
baz=115
H24A Dirks Ranch, A 115.68 38 ⇓P **PKPdf** 07 26 09.6 +0.7
baz=116
A28A Rue Farm, Bot 115.85 32 ⇓P **PKPdf** 07 26 09.9 +0.8
baz=116
E26A Carlson Angus 116.02 35 ⇑P **PKPdf** 07 26 11.0 +1.5
baz=116
F26A Lodgepole 116.23 36 ⇑P **PKPdf** 07 26 11.1 +1.1
baz=116
RSSD Black Hills 116.32 38 *e*PKIKP **PKPdf** 07 26 10.6 +0.2
RSSD Black Hills 116.32 38 *e*PKPdf **PKPdf** 07 26 10.6 +0.2
J24A Dixon Ranch, L 116.33 39 ⇓P **PKPdf** 07 26 11.3 +1.0
baz=116
A29A Manning Farm, 116.39 32 ⇓P **PKPdf** 07 26 10.6 +0.5
baz=116
MVCO Mesa Verde 116.48 47 ⇓P **PKPdf** 07 26 11.4 +0.5
baz=116
E27A Carson 116.56 35 ⇓P **PKPdf** 07 26 11.6 +1.1
baz=116
I25A Rochford 116.56 38 ⇓P **PKPdf** 07 26 11.3 +0.5
baz=116
G26A Maurine 116.58 37 ⇓P **PKPdf** 07 26 10.9 +0.3
baz=116
N23A Red Feather La 116.66 42 ⇓P **PKPdf** 07 26 11.7 +0.5
baz=117
H26A Fairpoint 116.83 37 ⇑P **PKPdf** 07 26 12.0 +0.9
baz=117
MDND Maddock 116.83 33 ⇑P **PKPdf** 07 26 12.0 +1.0
baz=117
A30A Hoffart Farm, 116.86 31 ⇓P **PKPdf** 07 26 11.9 +0.9
baz=117
G27A Dupree 116.92 36 ⇓P **PKPdf** 07 26 12.0 +0.7
baz=117,SNR=9.7
O23A Lake Granby, G 117.00 43 ⇓P **PKPdf** 07 26 13.5 +1.6
baz=117
I26A New Underwood 117.09 38 ⇓P **PKPdf** 07 26 12.6 +1.0
baz=117
H27A Howes 117.24 37 ⇓P **PKPdf** 07 26 12.6 +0.7
baz=117,SNR=6.0
ULM Lac du Bonnet 117.25 29 PKP **PKPdf** 07 26 11.3 -0.3
comp=Z,4.0nm,0.8s,baz=297,slow=4.3,SNR=6.3
F28A McLaughlin 117.32 35 ⇓P **PKPdf** 07 26 12.9 +0.9
baz=117
J26A Sides Ranch, S 117.33 39 ⇑P **PKPdf** 07 26 12.7 +0.6
baz=117
ISCO Idaho Springs 117.39 43 *e*PKIKP **PKPdf** 07 26 14.2 +1.5
ISCO Idaho Springs 117.39 43 *e*PKPdf **PKPdf** 07 26 14.2 +1.5
S22A 4UR Ranch, Cre 117.46 46 ⇑P **PKPdf** 07 26 14.5 +1.6
baz=117
C30A Mose, Pekin 117.53 32 ⇑P **PKPdf** 07 26 13.3 +1.0
baz=117
I27A Quinn 117.56 37 ⇓P **PKPdf** 07 26 13.1 +0.6
baz=117
G28A Parade 117.69 36 ⇓P **PKPdf** 07 26 13.3 +0.5
baz=118
D30A Buchanan 117.73 33 ⇓P **PKPdf** 07 26 13.5 +0.8
baz=118
H28A Mission Ridge 117.85 36 ⇑P **PKPdf** 07 26 14.0 +0.9
baz=118
R23A Moffat 117.98 45 ⇓P **PKPdf** 07 26 15.7 +1.9
baz=118
J27A Elkhorn Farm, 118.03 38 ⇑P **PKPdf** 07 26 14.4 +0.9
baz=118
U22A Llaves 118.03 47 ⇑P **PKPdf** 07 26 16.4 +2.5
baz=118
319A Douglas 118.10 53 ⇓P **PKPdf** 07 26 16.0 +1.9
baz=118
I28A Midland 118.14 37 ⇓P **PKPdf** 07 26 14.2 +0.6
baz=118,SNR=5.0
V22A San Miguel Ran 118.18 48 ⇓P **PKPdf** 07 26 16.9 +2.7
baz=118
T23A Casias Ranch, 118.34 46 ⇓P **PKPdf** 07 26 17.1 +2.6
baz=118
J28A Allard Ranch, 118.41 38 ⇑P **PKPdf** 07 26 14.9 +0.7
baz=118
P25A Willow Gulch B 118.51 43 ⇑P **PKPdf** 07 26 16.2 +1.5
baz=118
AGMN Agassiz Nation 118.53 31 ⇓P **PKPdf** 07 26 14.1 -0.1
baz=118
U23A El Rito 118.53 47 ⇓P **PKPdf** 07 26 17.0 +2.2
baz=118
I29A Vivian Onida 118.64 37 ⇑P **PKPdf** 07 26 15.2 +0.6
baz=118,SNR=5.6
S24A Houchin Ranch, 118.66 45 ⇓P **PKPdf** 07 26 15.8 +0.6
baz=119
G30A Faulkton 118.69 35 ⇓P **PKPdf** 07 26 15.8 +1.2
baz=119
K28A Ten Mile Ranch 118.71 38 ⇑P **PKPdf** 07 26 16.0 +1.1
baz=119
O26A Horse Wrangler 118.73 42 ⇑P **PKPdf** 07 26 15.8 +0.7
baz=119
V23A Ortiz Mt. (NFS 118.79 47 ⇑P **PKPdf** 07 26 17.0 +1.6
baz=119
T24B San Luis 118.80 46 ⇓P **PKPdf** 07 26 18.0 +2.5
baz=119
121A Cookes Peak, D 118.86 51 ⇓P **PKPdf** 07 26 16.9 +1.4
baz=119
ANMO Albuquerque 118.92 48⇑*i*PKIKP **PKPdf** 07 26 17.3 +1.7
ANMO pmax pmax
comp=Z,10.0nm,1.0s
J29A Okreek 118.97 37 ⇓P **PKPdf** 07 26 15.7 +0.5
baz=119
ESDC Sonseca Array 118.99 318 PKP **PKPdf** 07 26 13.9 -1.5
comp=Z,0.2nm,0.3s,baz=114,slow=2.0,SNR=2.6
P26A Davis Ranch, A 119.05 42 ⇓P **PKPdf** 07 26 16.9 +1.3
baz=119
S25A Robets Cordova 119.20 45 ⇑P **PKPdf** 07 26 17.2 +1.1
baz=119
Z22A Elephant Butte 119.22 50 ⇑P **PKPdf** 07 26 17.9 +1.7
baz=119
I30A Oacoma 119.22 36 ⇓P **PKPdf** 07 26 16.7 +1.0
baz=119
K29A Lazy Trails An 119.33 38 ⇓P **PKPdf** 07 26 17.0 +1.0
baz=119
T25A Trinidad 119.45 45 ⇑P **PKPdf** 07 26 18.5 +1.9
baz=119
V24A Rampart Ranch, 119.46 47 ⇑P **PKPdf** 07 26 19.1 +2.4
baz=119
J30A Dallas 119.52 37 ⇓P **PKPdf** 07 26 16.8 +0.5
baz=119
W24A Lazy 6 Ranch, 119.59 48 ⇓P **PKPdf** 07 26 19.1 +2.1
baz=120
R26A Arlington 119.59 44 ⇑P **PKPdf** 07 26 18.3 +1.6
baz=120
N28A Pribbeno Ranch 119.67 40 ⇑P **PKPdf** 07 26 17.7 +0.9
baz=120
U25A Circle Dot Ran 119.79 46 ⇑P **PKPdf** 07 26 18.9 +1.6
baz=120
K30A Basset 119.81 38 ⇓P **PKPdf** 07 26 18.0 +1.1
baz=120
V25A Rancho No Teng 119.89 47 ⇑P **PKPdf** 07 26 19.3 +1.8
baz=120
S26A Kim 119.89 44 ⇓P **PKPdf** 07 26 18.6 +1.3
baz=120
T26A Comanche Natio 120.02 45 ⇓P **PKPdf** 07 26 19.1 +1.4
baz=120
R27A Eads 120.04 43 ⇓P **PKPdf** 07 26 18.8 +1.2
baz=120
P28A Saint Francis 120.11 42 ⇓P **PKPdf** 07 26 19.0 +1.4
baz=120
Y24A Capitan 120.11 49 ⇑P **PKPdf** 07 26 19.6 +1.6
baz=120
L30A Spencer Herefo 120.15 38 ⇓P **PKPdf** 07 26 19.1 +1.5
baz=120
U26A Atchley Ranch, 120.27 46 ⇓P **PKPdf** 07 26 19.7 +1.5
baz=120
W25A X Bar L Ranch, 120.28 47 ⇑P **PKPdf** 07 26 19.4 +1.2
baz=120
Q28A Sharon Springs 120.31 42 ⇓P **PKPdf** 07 26 19.3 +1.2
baz=120
O29A 4D Ranch, Culb 120.45 41 ⇑P **PKPdf** 07 26 19.5 +1.3
baz=120
V26A Tequesquite Ra 120.52 46 ⇑P **PKPdf** 07 26 19.3 +0.7
baz=120
L31A Butterfield Fa 120.57 38 ⇑P **PKPdf** 07 26 19.3 +0.9
baz=120
P29A Atwood 120.64 41 ⇓P **PKPdf** 07 26 19.5 +0.8
baz=120
T27A Campo 120.69 45 ⇓P **PKPdf** 07 26 20.0 +1.1
baz=121
R28A Tribune 120.69 43 ⇑P **PKPdf** 07 26 20.1 +1.3
baz=121
W26A Owens Ranch, T 120.85 47 ⇓P **PKPdf** 07 26 20.2 +1.0
baz=121
U27A Thompson Grove 120.92 45 ⇓P **PKPdf** 07 26 20.7 +1.4
baz=121
M31A Lambtecht Ranc 120.95 39 ⇓P **PKPdf** 07 26 19.9 +0.7
baz=121
Q29A Oakley 120.97 42 ⇑P **PKPdf** 07 26 19.9 +0.6
baz=121
ECSD EROS Data Cent 120.98 35 ⇑P **PKPdf** 07 26 19.9 +0.8
baz=121
ECSD EROS Data Cent 120.98 35 *e*PKPdf **PKPdf** 07 26 19.3 +0.2
S28A Manter 121.00 44 ⇑P **PKPdf** 07 26 20.7 +1.2
baz=121
X26A CR and CF Fran 121.06 48 ⇓P **PKPdf** 07 26 20.6 +0.9
baz=121
T28A Walsh 121.08 44 ⇑P **PKPdf** 07 26 20.7 +1.2
baz=121
P30A Selden 121.12 41 ⇑P **PKPdf** 07 26 20.9 +1.4
baz=121
BGNE Belgrade 121.43 38 ⇓P **PKPdf** 07 26 20.3 +0.3
baz=121
BGNE Belgrade 121.43 38 *e*PKPdf **PKPdf** 07 26 20.1 +0.1
S29A Ulysses 121.53 43 ⇓P **PKPdf** 07 26 21.4 +1.0
baz=121
T29A Hugoton 121.64 44 ⇓P **PKPdf** 07 26 22.1 +1.4
baz=122
P31A Stockton 121.70 41 ⇓P **PKPdf** 07 26 21.5 +0.8
baz=122
R30A Dighton 121.76 42 ⇑P **PKPdf** 07 26 21.6 +0.8
baz=122
Y27A Causey 121.83 48 ⇑P **PKPdf** 07 26 22.8 +1.6
baz=122
O32A Brockman Farm, 122.00 39 ⇑P **PKPdf** 07 26 21.8 +0.7
baz=122
MSTX Muleshoe 122.08 48 ⇑P **PKPdf** 07 26 22.9 +1.2
baz=122
MSTX Muleshoe 122.08 48 *e*PKPdf **PKPdf** 07 26 22.9 +1.2
V29A Stinnett 122.10 45 ⇑P **PKPdf** 07 26 23.0 +1.4
baz=122
SPMN Marine on St. 122.13 32 ⇑P **PKPdf** 07 26 22.1 +0.9
baz=122
SPMN Marine on St. 122.13 32 *e*PKPdf **PKPdf** 07 26 21.7 +0.5
P32A Huiting Farm, 122.14 40 ⇓P **PKPdf** 07 26 22.7 +1.3
baz=122
T30A Plains 122.22 44 ⇑P **PKPdf** 07 26 22.7 +1.0
baz=122
R31A Burdett 122.26 42 ⇓P **PKPdf** 07 26 23.0 +1.3
baz=122
X28A Dimmitt 122.26 47 ⇓P **PKPdf** 07 26 23.1 +1.2
baz=122
U30A WK&E Inc. Balk 122.39 44 ⇑P **PKPdf** 07 26 23.6 +1.5
baz=122
AMTX Amarillo 122.46 46 ⇑P **PKPdf** 07 26 23.2 +0.9
baz=122
Y28A McKinney Farm, 122.50 48 ⇓P **PKPdf** 07 26 23.1 +0.7
baz=122
Q32A Meitler Ranch, 122.52 41 ⇓P **PKPdf** 07 26 22.9 +0.7
baz=122
MDT Midelt 122.65 311 PKP **PKPdf** 07 26 24.4 +1.6
comp=Z,3.0nm,1.0s,baz=34,slow=3.2,SNR=5.6
X29A Tulia 122.65 47 ⇓P **PKPdf** 07 26 24.2 +1.5
baz=123
Z28A Tucker Farm, M 122.68 48 ⇓P **PKPdf** 07 26 23.3 +0.6
baz=123
R32A Long Quarter, 122.73 41 ⇑P **PKPdf** 07 26 23.9 +1.3
baz=123,SNR=5.6
P33A Williams Farm, 122.83 40 ⇑P **PKPdf** 07 26 23.8 +1.0
baz=123
128A Castleberry Fa 122.90 49 ⇑P **PKPdf** 07 26 23.6 +0.4
baz=123
Y29A Porterfield Fa 122.95 47 ⇓P **PKPdf** 07 26 24.6 +1.3
baz=123
Q33A Connelly Farm, 122.99 40 ⇓P **PKPdf** 07 26 23.4 +0.3
baz=123
SCHQ Schefferville 123.00 9 PKP **PKPdf** 07 26 23.4 +0.8
comp=Z,5.9nm,0.7s,baz=343,slow=1.6,SNR=15
228A UT Block 9, Go 123.04 50 ⇑P **PKPdf** 07 26 24.3 +0.8
baz=123
Z29A Hungry Hill Ra 123.20 48 ⇓P **PKPdf** 07 26 24.7 +0.9
baz=123
T32A Huddler Ranch, 123.25 43 ⇑P **PKPdf** 07 26 25.2 +1.5
baz=123
X30A Coker Ranch, T 123.25 46 ⇑P **PKPdf** 07 26 25.2 +1.5
baz=123
TORD Torodi Ar. Bea 123.26 287 PKP **PKPdf** 07 26 24.9 +0.8
comp=Z,12nm,0.8s,baz=58,slow=2.0,SNR=74
TORD PKKPab **PKKPab** 07 36 16.5 +2.0
comp=Z,2.1nm,0.8s,baz=273,slow=3.5,SNR=12
R33A Olander Ranch, 123.27 41 ⇓P **PKPdf** 07 26 24.8 +1.2
baz=123
V31A Spring Creek L 123.34 45 ⇑P **PKPdf** 07 26 26.1 +2.2
baz=123
TXAR Lajitas Array 123.36 53 PKP **PKPdf** 07 26 25.6 +1.4
comp=Z,2.5nm,0.8s,baz=227,slow=1.0,SNR=32
TXAR PKKPbc **PKKPab** 07 36 13.2 -0.9
comp=Z,0.8nm,0.8s,baz=123,slow=4.6,SNR=4.3
129A Stewart Farms, 123.36 49 ⇑P **PKPdf** 07 26 25.0 +0.9
baz=123
COWI Conover 123.37 29 *e*PKPdf **PKPdf** 07 26 24.3 +0.7
Y30A Stafford Cattl 123.51 47 ⇓P **PKPdf** 07 26 25.3 +1.0
baz=123
W31A Holland Ranch, 123.56 45 ⇓P **PKPdf** 07 26 26.0 +1.6
baz=124
U32A Winter Ranch, 123.61 44 ⇑P **PKPdf** 07 26 25.6 +1.2
baz=124
Z30A Sanderson Ranc 123.62 48 ⇓P **PKPdf** 07 26 24.9 +0.4
baz=124,SNR=5.0
229A Bryant Ranch, 123.70 50 ⇓P **PKPdf** 07 26 25.7 +0.9
baz=124
329A Wagon Wheel Ra 123.78 50 ⇑P **PKPdf** 07 26 25.9 +1.0
baz=124
X31A McDonald Ranch 123.81 46 ⇓P **PKPdf** 07 26 26.0 +1.2
baz=124,SNR=7.2
V32A Arapaho 123.92 44 ⇓P **PKPdf** 07 26 26.4 +1.4

	baz=124						
Y31A	Rekieta Farm,	123.93	47	⇑P	PKPdf	07 26 26.2	+1.1
	baz=124						
130A	Snyder	124.06	48	⇓P	PKPdf	07 26 26.7	+1.4
	baz=124						
W32A	Sentinel	124.09	45	⇓P	PKPdf	07 26 26.0	+0.7
	baz=124						
529A	Stev Forest Ra	124.18	52	⇑P	PKPdf	07 26 27.4	+1.7
	baz=124						
U33A	Lingo Farm, Me	124.19	43	⇑P	PKPdf	07 26 26.7	+1.2
	baz=124						
429A	Davenport Ranc	124.23	51	⇑P	PKPdf	07 26 27.1	+1.3
	baz=124						
230A	Sterling City	124.27	49	⇓P	PKPdf	07 26 26.6	+0.8
	baz=124						
Z31A	Sharp Cattle R	124.33	47	⇑P	PKPdf	07 26 26.7	+0.9
	baz=124						
V33A	Lossen Ranch,	124.40	44	⇓P	PKPdf	07 26 27.1	+1.2
	baz=124						
X32A	Elmer	124.41	46	⇓P	PKPdf	07 26 26.7	+0.8
	baz=124						
330A	Mertzon	124.44	50	⇓P	PKPdf	07 26 27.3	+1.1
	baz=124						
131A	Roby	124.45	48	⇓P	PKPdf	07 26 26.8	+0.7
	baz=124						
Y32A	R-V Farms, Ver	124.51	46	⇑P	PKPdf	07 26 27.0	+0.9
	baz=124						
U34A	Anderson Ranch	124.59	43	⇓P	PKPdf	07 26 27.8	+1.6
	baz=124						
430A	Baggett Ranch,	124.67	51	⇑P	PKPdf	07 26 27.8	+1.2
	baz=125,SNR=8.2						
231A	Bronte	124.85	49	⇓P	PKPdf	07 26 27.5	+0.7
	baz=125,SNR=5.2						
530A	J-C Ranch, Com	124.86	51	⇑P	PKPdf	07 26 28.3	+1.3
	baz=125,SNR=10						
X33A	Lawton	124.91	45	⇓P	PKPdf	07 26 27.9	+1.0
	baz=125						
V34A	Guthrie	124.92	43	⇓P	PKPdf	07 26 28.4	+1.5
	baz=125						
ABTX	Abilene, Hawle	125.03	48	⇑P	PKPdf	07 26 27.9	+0.7
	baz=125						
JFWS	Jewell Farm	125.05	32	*e*PKIKP	PKPdf	07 26 26.4	-0.5
JFWS	Jewell Farm	125.05	32	*e*PKPdf	PKPdf	07 26 26.4	-0.5
331A	San Angelo	125.05	50	⇓P	PKPdf	07 26 27.6	+0.3
	baz=125,SNR=7.9						
W34A	Bridge Creek,	125.06	44	⇓P	PKPdf	07 26 28.0	+0.8
	baz=125						
Y33A	Hilltop Ranch,	125.09	46	⇑P	PKPdf	07 26 28.0	+0.8
	baz=125						
431A	Sonora	125.20	50	⇑P	PKPdf	07 26 28.2	+0.6
	baz=125,SNR=6.8						
USHA	Ushuaia	125.30	170	PKP	PKPdf	07 26 28.8	+1.8
	comp=Z,13nm,1.0s,baz=143,slow=5.1,SNR=4.3						
Z33A	Whitaker Ranch	125.35	47	⇓P	PKPdf	07 26 29.3	+1.5
	baz=125						
X34A	Smith Ranch, M	125.35	45	⇓P	PKPdf	07 26 29.6	+1.8
	baz=125						
232A	Coleman	125.37	49	⇓P	PKPdf	07 26 29.0	+1.1
	baz=125						
V35A	Meyer Ranch, C	125.43	43	⇑P	PKPdf	07 26 29.0	+1.2
	baz=125						
531A	Rocksprings	125.47	51	⇓P	PKPdf	07 26 29.6	+1.4
	baz=125,SNR=9.4						
332A	Millersview	125.54	49	⇓P	PKPdf	07 26 29.5	+1.2
	baz=125,SNR=5.9						
133A	Hamilton Ranch	125.57	47	⇓P	PKPdf	07 26 29.5	+1.2
	baz=126						
432A	Menard	125.73	50	⇑P	PKPdf	07 26 29.4	+0.8
	baz=126						
Y34A	Reagan Ranch,	125.74	45	⇓P	PKPdf	07 26 30.3	+1.8
	baz=126						
631A	Perdido Creek	125.78	52	⇑P	PKPdf	07 26 29.8	+1.1
	baz=126,SNR=5.9						
233A	Rising Star	125.87	48	⇑P	PKPdf	07 26 30.1	+1.3
	baz=126						
JCT	Junction City	125.91	50	*e*PKIKP	PKPdf	07 26 29.8	+0.8
JCT	Junction City	125.91	50	⇓P	PKPdf	07 26 30.1	+1.1
	baz=126						
JCT	Junction City	125.91	50	*e*PKPdf	PKPdf	07 26 29.8	+0.8
532A	Rocksprings	125.99	51	⇓P	PKPdf	07 26 30.0	+0.9
	baz=126,SNR=5.6						
333A	Richland Sprin	126.14	49	⇑P	PKPdf	07 26 30.4	+1.0
	baz=126,SNR=8.8						
433A	Art	126.32	50	⇑P	PKPdf	07 26 29.8	+0.1
	baz=126,SNR=6.4						
632A	Uvalde	126.36	51	⇑P	PKPdf	07 26 31.4	+1.6
	baz=126,SNR=5.4						
Z35A	Perchaven, San	126.42	46	⇓P	PKPdf	07 26 30.8	+1.0
	baz=126						
234A	Clairette	126.44	48	⇑P	PKPdf	07 26 31.0	+1.1
	baz=126						
732A	Laxson Ranch,	126.55	52	⇓P	PKPdf	07 26 32.3	+2.1
	baz=126						
533A	Kerrville	126.68	50	⇓P	PKPdf	07 26 31.4	+1.0
	baz=127						
334A	Lometa	126.69	49	⇓P	PKPdf	07 26 31.5	+1.1
	baz=127						
135A	Vickery Place,	126.70	47	⇑P	PKPdf	07 26 31.5	+1.1
	baz=127						
832A	Faith Ranch, C	126.74	53	⇓P	PKPdf	07 26 32.2	+1.6
	baz=127,SNR=9.7						
633A	Saathoff Ranch	126.85	51	⇓P	PKPdf	07 26 32.4	+1.6
	baz=127						
434A	Burnet	126.92	49	⇓P	PKPdf	07 26 31.7	+0.8
	baz=127,SNR=6.3						
WHTX	Lake Whitney,	126.95	47	⇑P	PKPdf	07 26 32.1	+1.2
	baz=127						
733A	Divot King Ran	127.09	52	⇓P	PKPdf	07 26 33.1	+1.9
	baz=127						
534A	Blanco	127.13	50	⇑P	PKPdf	07 26 32.5	+1.2
	baz=127,SNR=5.8						
833A	Chaparral WMA,	127.19	52	⇑P	PKPdf	07 26 32.7	+1.3
	baz=127,SNR=5.3						
933A	Laredo	127.59	53	⇑P	PKPdf	07 26 34.8	+2.7
	baz=128						
734A	La Parita Cree	127.61	51	⇓P	PKPdf	07 26 34.2	+2.0
	baz=128						
535A	Dale	127.82	50	⇑P	PKPdf	07 26 34.4	+1.8
	baz=128						
834A	Tilden	127.94	52	⇑P	PKPdf	07 26 35.6	+2.7
	baz=128						
635A	Leesville	127.97	50	⇓P	PKPdf	07 26 35.3	+2.4
	baz=128						
237A	Washetta, Mont	128.15	46	⇓P	PKPdf	07 26 35.7	+2.6
	baz=128						
536A	Bastrop	128.19	49	⇑P	PKPdf	07 26 35.8	+2.5
	baz=128						
735A	Kenedy	128.19	51	⇓P	PKPdf	07 26 35.8	+2.5
	baz=128						
934A	Benavides	128.20	53	⇑P	PKPdf	07 26 35.8	+2.5
	baz=128						
034A	Hebbronville	128.30	53	⇑P	PKPdf	07 26 37.0	+3.5
	baz=128						
835A	Beeville	128.44	52	⇑P	PKPdf	07 26 36.3	+2.5
	baz=128						
636A	Smothers Creek	128.48	50	⇑P	PKPdf	07 26 36.7	+2.9
	baz=128						
SFIN	Lafayette	128.51	33	⇓P	PKPdf	07 26 34.6	+1.0
	baz=128						
SADO	Sadowa	128.82	23	PKP	PKPdf	07 26 35.1	+1.1
	comp=Z,4.0nm,0.8s,baz=319,slow=7.7,SNR=3.1						
035A	Encino	128.82	53	⇑P	PKPdf	07 26 37.5	+3.0
	baz=129						
OLIL	Olney	129.10	35	*e*PKPdf	PKPdf	07 26 35.9	+1.2
KIC	Kosan Boka	130.58	279	*e*PKP1	PKPdf	07 26 39.6	+1.4
	comp=Z,13nm,0.7s						
DBIC	Dimbokro	130.65	280	PKP	PKPdf	07 26 39.5	+1.2
	comp=Z,8.0nm,0.8s,baz=53,slow=2.1,SNR=8.7						
ACSO	Alum Creek Sta	130.74	30	*e*PKPdf	PKPdf	07 26 38.8	+0.9
TIC	Toumodi	130.82	280	*e*PKP1	PKPdf	07 26 39.5	+0.8
	comp=Z,6.3nm,0.2s						
LIC	Lamto	130.88	279	*e*PKP1	PKPdf	07 26 40.2	+1.4
	comp=Z,37nm,1.0s						
SSPA	Standing Stone	132.77	25	*e*PKPdf	PKPdf	07 26 42.5	+0.9
LRAL	Lakeview Retre	133.57	40	*e*PKPdf	PKPdf	07 26 43.2	-0.1
TKL	Tuckaleechee C	133.71	34	PKP	PKPdf	07 26 44.6	+1.0
	comp=Z,13nm,0.9s,baz=136,slow=4.0,SNR=12						
KMSC	Kings Mountain	135.44	33	⇓P	PKPdf	07 26 48.3	+1.5
	baz=135						
PLCA	Paso Flores	137.88	161	PKP	PKPdf	07 26 52.2	+0.9
	comp=Z,5.5nm,0.9s,baz=254,slow=2.5,SNR=7.2						
TRQA	Tornquist	142.65	169	*e*PKPdf	PKPdf	07 26 57.1	-2.9
JTS	JuntasAbangare	146.79	69	*e*PKP2	PKPdf	07 27 08.6	+0.9
JTS	JuntasAbangare	146.79	69	PKPbc	PKPbc	07 27 09.3	-0.2
	comp=Z,13nm,0.9s,baz=331,slow=3.5,SNR=8.6						
JTS	JuntasAbangare	146.79	69	*e*PKPbc	PKPdf	07 27 08.6	+0.9
LCO	Las Campanas	148.02	151	*e*PKPbc	PKPdf	07 27 11.1	+1.4
LCO				*e*PKPab	PKiKP	07 27 14.7	+0.1
GTBY	Guantanamo Bay	150.19	44	*e*PKPbc	PKPbc	07 27 16.3	-1.8
GTBY				*e*PKPab	PKPab	07 27 22.7	-1.6
LVC	Limon Verde	154.16	146	*e*PKPdf	PKPdf	07 27 18.4	-0.9
LVC				*e*PKPbc	PKiKP	07 27 29.6	+2.2
LVC				*e*PKPab	PKPab	07 27 39.4	-1.7
ROSC	El Rosal	158.46	73	PKP	PKPdf	07 27 27.0	+1.7
	comp=Z,5.4nm,0.7s,baz=86,slow=7.5,SNR=6.7						
LPAZ	La Paz	159.39	137	*e*PKIKP	PKPdf	07 27 26.4	-0.1
LPAZ	La Paz	159.39	137	PKP	PKPdf	07 27 28.4	+1.8
	comp=Z,4.0nm,0.8s,baz=4.3,slow=1.1,SNR=13						
LPAZ	La Paz	159.39	137	*e*PKPdf	PKPdf	07 27 26.4	-0.1
LPAZ				PKP	PKPdf	07 27 28.4	+1.8
SDV	Santo Domingo	160.28	59	*e*PKPdf	PKPdf	07 27 27.0	-0.1
SIV	San Ignacio	163.69	154	PKP	PKPdf	07 27 30.9	+0.6
	comp=Z,4.7nm,0.9s,baz=230,slow=1.3,SNR=6.9						
SIV				PKPab	PKPab	07 28 22.3	+0.1
	comp=Z,3.5nm,0.8s,baz=223,slow=3.9,SNR=5.8						
BDFB	Brasilia	164.72	201	PKP	PKPdf	07 27 31.7	+0.4
	comp=Z,3.7nm,0.9s,baz=180,slow=8.1,SNR=3.1						
SAML	Samuel	167.86	129	*e*PKPdf	PKPdf	07 27 34.7	+1.0

*ISCJB **18** 07:11:02.6±0.3, 43.°08N±0.°02×0.°03W±0.°02, h4km±4km, Error ellipse: s-maj=3.4km s-min=2.4km az=4.9*
*CSEM **18** 07:11:03.2±0.1, 43.°02N×0.°04W, h10km, ML2.2/8, Error ellipse: s-maj=1.7km s-min=1.2km az=10.0*
*LDG **18** 07:11:03.7±0.1, 43.°00N×0.°07W, h5km, Md2.3/3, Ml2.3/6, Error ellipse: s-maj=1.2km s-min=0.9km az=15.0*
*STR **18** 07:11:03.7±0.1, 43.°00N×0.°04W, h5km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*MRB **18** 07:11:04.0, 43.°07N×0.°05W, h12km±19km, ML2.0/3, Error ellipse: s-maj=1.6km s-min=0.5km az=21.0*
*MDD **18** 07:11:04.1±0.2, 43.°01N×0.°06W, h5km±6km, mbLg1.8/18, Error ellipse: s-maj=3.1km s-min=1.6km az=11.0, PRXIMO*
ISC 18 07:11:03.6±0.8, 43.°02N±0.°02×0.°06W±0.°01, h11km±5km, n87,σ0°64/113, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	Labassere	0.10	73	Pg	Pg	07 11 06.2	-0.1
LABF	Labassere	0.10	73	Pg	Pg	07 11 06.2	-0.1
LABF				Sg	Sg	07 11 08.0	-0.3
LABF	Labassere	0.10	73	Pg	Pg	07 11 06.2	-0.1
LABF				Sg	Sg	07 11 08.0	-0.3
VIEF	Viey	0.15	157	Pg	Pg	07 11 06.9	-0.1
VIEF				Lg	Lg	07 11 09.1	
VIEF	Viey	0.15	157	Pg	Pg	07 11 06.9	-0.1
VIEF				Sg	Sg	07 11 08.7	-0.7
VIEF	Viey	0.15	157	Pg	Pg	07 11 06.9	-0.1
VIEF				Sg	Sg	07 11 08.7	-0.7
VIEF				Lg	Lg	07 11 09.1	
REYF	Montagne du Re	0.25	282	Pg	Pg	07 11 08.5	-0.4
REYF				Lg	Lg	07 11 12.5	
REYF	Montagne du Re	0.25	282	Pg	Pg	07 11 08.8	-0.1
REYF				Sg	Sg	07 11 12.6	+0.2
REYF	Montagne du Re	0.25	282	Pg	Pg	07 11 08.5	-0.4
REYF				Lg	Lg	07 11 12.5	
EPF	Esparros	0.29	87	*e*Pg	Pg	07 11 09.2	-0.3
EPF				*e*Sg	Sg	07 11 13.2	-0.3
	37nm,0.3s						
EPF	Esparros	0.29	87	Pg	Pg	07 11 09.2	-0.3
EPF				Lg	Lg	07 11 13.2	
	18nm,0.3s						
EPF	Esparros	0.29	87	Pg	Pg	07 11 09.2	-0.3
EPF				*e*Sg	Sg	07 11 13.2	-0.3
	18nm,0.3s						
ETSF	Etsaut	0.39	252	*e*Pg	Pg	07 11 10.8	-0.6
ETSF				*e*Sg	Sg	07 11 15.5	-1.0
	77nm,0.2s						
ETSF	Etsaut	0.39	252	Pg	Pg	07 11 10.8	-0.6
ETSF				Lg	Lg	07 11 15.5	
	38nm,0.2s						
ETSF	Etsaut	0.39	252	Pg	Pg	07 11 10.8	-0.6
ETSF				*e*Sg	Sg	07 11 15.5	-1.0
	38nm,0.2s						
ATE	Arette	0.48	278	Pg	Pg	07 11 12.9	-0.1
	6.5nm,0.0s,SNR=7.9						
ATE				Lg	Lg	07 11 19.2	
	35nm,0.0s,SNR=7.9						
ATE	Arette	0.48	278	Pg	Pg	07 11 13.3	+0.3
ATE				Sg	Sg	07 11 19.6	+0.3
ATE	Arette	0.48	278	P	Pg	07 11 12.9	-0.1
ATE				Lg	Lg	07 11 19.2	
	35nm,0.0s,SNR=7.9						
ATE				Sg	Sg	07 11 19.6	+0.3
MELF	Melles	0.61	103	Pg	Pg	07 11 14.9	-0.7
MELF				Lg	Lg	07 11 23.8	
MELF	Melles	0.61	103	Pg	Pg	07 11 15.0	-0.6
MELF				Sg	Sg	07 11 23.7	0.0
MELF	Melles	0.61	103	Pg	Pg	07 11 15.0	-0.6
MELF				Sg	Sg	07 11 23.7	0.0
ORDF	Ordiarp	0.67	287	Pg	Pg	07 11 16.7	0.0
ORDF				Lg	Lg	07 11 26.4	
ORDF	Ordiarp	0.67	287	Pg	Pg	07 11 16.7	0.0
ORDF				Sg	Sb	07 11 26.9	+0.1
ORDF	Ordiarp	0.67	287	Pg	Pg	07 11 16.7	0.0
ORDF				Lg	Lg	07 11 26.5	
LARF	Larrau	0.68	272	Lg	Lg	07 11 26.6	
LARF	Larrau	0.68	272	Pg	Pb	07 11 17.7	+0.1
LARF				Sg	Sg	07 11 26.5	+0.6
LARF	Larrau	0.68	272	Pg	Pb	07 11 17.7	+0.1
LARF				Sg	Sg	07 11 26.5	+0.6
SJPF	Ste Jean	0.86	277	*e*Pg	Pg	07 11 19.7	-0.6
SJPF				*e*Sg	Sg	07 11 30.7	-0.8
	4.4nm,0.2s						
SJPF	Ste Jean	0.86	277	Pg	Pg	07 11 19.7	-0.6
SJPF				Lg	Lg	07 11 30.7	
	2.2nm,0.2s						
SJPF	Ste Jean	0.86	277	Pg	Pg	07 11 19.7	-0.6
SJPF				*e*Sg	Sg	07 11 30.7	-0.8
	2.2nm,0.2s						
IELO	Elcoad	0.89	259	Pg	Pg	07 11 20.3	-0.4
	0.9nm,0.1s,SNR=7.9						
IELO				Lg	Lg	07 11 31.7	
	0.8nm,0.1s,SNR=7.9						
IELO	Elcoad	0.89	259	Pg	Pg	07 11 20.3	-0.4
	0.9nm,0.1s,SNR=7.9						
IELO				Lg	Lg	07 11 31.7	
	0.8nm,0.1s,SNR=7.9						
IEPA	Eparoz	0.92	255	Pg	Pg	07 11 21.4	0.0
	0.8nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	07 11 34.2	
	8.6nm,0.2s,SNR=7.9						
IEPA	Eparoz	0.92	255	Pg	Pg	07 11 21.4	0.0
	0.8nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	07 11 34.2	
	8.6nm,0.2s,SNR=7.9						
CTRE	Tremp	0.92	138	Pg	Pg	07 11 21.1	-0.3
CTRE				Lg	Lg	07 11 34.3	
CTRE	Tremp	0.92	138	P	Pg	07 11 21.2	-0.2
CTRE				S	Sb	07 11 34.3	+0.2
CEST	Esterri de Car	1.05	113	Pg	Pg	07 11 23.0	-0.8
CEST				Lg	Lg	07 11 38.0	
	9.0nm,0.1s						
CEST	Esterri de Car	1.05	113	P	Pg	07 11 23.1	-0.8
CEST				S	Sg	07 11 38.0	+0.5
	9.0nm,0.1s						
CSOR	Sort	1.09	126	Pg	Pg	07 11 24.1	-0.4
	0.5nm,0.1s,SNR=12						
CSOR				Lg	Lg	07 11 38.6	
	4.7nm,0.2s,SNR=12						
CSOR	Sort	1.09	126	P	Pg	07 11 24.2	-0.4
CSOR				Lg	Lg	07 11 38.6	
	4.7nm,0.2s,SNR=12						
CSOR				S	Sg	07 11 38.8	+0.1
	24nm,0.2s						
IUNC	Unciti	1.09	257	Pg	Pg	07 11 24.4	-0.2
	0.5nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	07 11 39.2	
	2.6nm,0.2s,SNR=7.9						
IUNC	Unciti	1.09	257	Pg	Pg	07 11 24.4	-0.2
	0.5nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	07 11 39.2	
	2.6nm,0.2s,SNR=7.9						
IUSE	Utxeti	1.10	267	Pg	Pg	07 11 24.8	+0.1
	0.9nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	07 11 39.6	
	8.4nm,0.2s,SNR=7.9						
IUSE	Utxeti	1.10	267	Pg	Pg	07 11 24.8	+0.1
	0.9nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	07 11 39.6	
	8.4nm,0.2s,SNR=7.9						
GRBF	Gourbit	1.18	98	Lg	Lg	07 11 42.6	
GRBF	Gourbit	1.18	98	Lg	Lg	07 11 42.6	
CAVN	Les Avellanes	1.28	152	Pg	Pn	07 11 27.9	+0.3
CAVN				Lg	Lg	07 11 45.5	
	17nm,0.2s						
CAVN	Les Avellanes	1.28	152	Pg	Pn	07 11 27.9	+0.3
CAVN				S	Sn	07 11 45.6	+0.8
	34nm,0.2s						
CORG	Organya	1.28	127	Pg	Pn	07 11 27.6	0.0
CORG				Lg	Lg	07 11 45.2	
CORG	Organya	1.28	127	P	Pn	07 11 27.6	0.0
CORG				S	Sb	07 11 45.2	+0.8
ARBS	La Rabassa	1.31	115	P	Pn	07 11 28.1	-0.1
ARBS				S	Sg	07 11 45.6	-0.3
CLLI	Llivia	1.59	109	Pg	Pb	07 11 33.2	+0.1
	1.6nm,0.3s,SNR=12						
CLLI				Lg	Lg	07 11 55.4	
	0.4nm,0.1s						
CLLI	Llivia	1.59	109	Pg	Pb	07 11 33.2	+0.1
	1.6nm,0.3s,SNR=12						
CLLI				Lg	Lg	07 11 55.4	
	0.4nm,0.1s						
EMIR	Miracle	1.61	133	Pg	Pb	07 11 34.0	+0.6
	0.5nm,0.1s,SNR=6.2						
EMIR				Lg	Lg	07 11 54.9	
	1.4nm,0.1s						
EMIR	Miracle	1.61	133	Pg	Pb	07 11 34.0	+0.6
	0.5nm,0.1s,SNR=6.2						
EMIR				Lg	Lg	07 11 54.9	
	1.4nm,0.1s						
VALF	Valcebollere	1.65	111	Lg	Lg	07 11 58.8	
VALF	Valcebollere	1.65	111	Lg	Lg	07 11 58.8	
MTLF	Montolieu	1.69	78	*e*Pg	Pb	07 11 35.7	+0.9
MTLF				*e*Sg	Sg	07 11 57.6	-0.5
	3.4nm,0.2s						
MTLF	Montolieu	1.69	78	Pg	Pb	07 11 35.7	+0.9
MTLF				Lg	Lg	07 11 57.6	
	1.7nm,0.2s						
MTLF	Montolieu	1.69	78	Pg	Pb	07 11 35.7	+0.9
MTLF				*e*Sg	Sg	07 11 57.6	-0.5
	1.7nm,0.2s						
EPOB	Poblet	1.86	153	Pg	Pb	07 11 38.0	+0.2
	0.3nm,0.1s,SNR=6.5						
EPOB				Lg	Lg	07 12 02.0	
	2.6nm,0.2s						
EPOB	Poblet	1.86	153	Pg	Pb	07 11 38.0	+0.2
	0.3nm,0.1s,SNR=6.5						
EPOB				Lg	Lg	07 12 02.0	
	2.6nm,0.2s						
LFF	La Frestale	2.00	16	*e*Pn	Pn	07 11 36.9	-0.6
LFF	La Frestale	2.00	16	*e*Pg	Pb	07 11 41.3	+1.2
LFF				*e*Sg	Sg	07 12 07.4	-0.7
	9.8nm,0.4s						
LFF	La Frestale	2.00	16	Pn	Pn	07 11 36.9	-0.6
LFF				Pg	Pb	07 11 41.3	+1.2
LFF				Lg	Lg	07 12 07.4	
	4.9nm,0.4s						
LFF	La Frestale	2.00	16	Pn	Pn	07 11 36.9	-0.6
LFF	La Frestale	2.00	16	Pg	Pb	07 11 41.3	+1.2
LFF				*e*Sg	Sg	07 12 07.4	-0.7
	4.9nm,0.4s						
ERTA	Horta de San J	2.08	172	Pg	Pb	07 11 41.4	0.0
	0.5nm,0.1s,SNR=7.9						
ERTA				Lg	Lg	07 12 08.3	
	0.3nm,0.0s,SNR=7.9						
ERTA	Horta de San J	2.08	172	Pg	Pb	07 11 41.4	0.0
	0.5nm,0.1s,SNR=7.9						
ERTA				Lg	Lg	07 12 08.3	
	0.3nm,0.0s,SNR=7.9						
SJAF	Saint Jean de	2.23	103	Lg	Lg	07 12 15.9	
	4.6nm,0.1s,SNR=7.9						
SJAF	Saint Jean de	2.23	103	Lg	Lg	07 12 15.9	
	4.6nm,0.1s,SNR=7.9						
CFON	Fontmartina	2.23	123	Pg	Pb	07 11 45.2	+1.1
	0.8nm,0.2s,SNR=4.0						
CFON				Lg	Lg	07 12 14.5	
	2.5nm,0.1s,SNR=7.8						
CFON	Fontmartina	2.23	123	Pg	Pb	07 11 45.2	+1.1
	0.8nm,0.2s,SNR=4.0						
CFON				Lg	Lg	07 12 14.5	
	2.5nm,0.1s,SNR=7.8						
EJON	La Jonquera	2.24	104	Lg	Lg	07 12 16.7	
	0.4nm,0.1s,SNR=7.9						
EJON	La Jonquera	2.24	104	Lg	Lg	07 12 16.7	
	0.4nm,0.1s,SNR=7.9						
CAF	Calviac	2.44	38	*e*Pn	Pn	07 11 43.1	-0.5
CAF	Calviac	2.44	38	*e*Pg	Pg	07 11 49.6	-0.9
CAF				*e*Sg	Sg	07 12 21.3	-0.9
	3.6nm,0.2s						
CAF	Calviac	2.44	38	Pn	Pn	07 11 43.1	-0.5
CAF				Pg	Pg	07 11 49.6	-0.9
CAF				Lg	Lg	07 12 21.3	
	1.8nm,0.2s						
CAF	Calviac	2.44	38	Pn	Pn	07 11 43.1	-0.5
CAF	Calviac	2.44	38	Pg	Pg	07 11 49.6	-0.9
CAF				*e*Sg	Sg	07 12 21.3	-0.9
	1.8nm,0.2s						
RJF	Les Rejaudoux	2.55	26	*e*Pn	Pn	07 11 44.5	-0.5
RJF	Les Rejaudoux	2.55	26	*e*Pg	Pb	07 11 51.3	+1.9
RJF				*e*Sg	Sg	07 12 24.5	-1.0
	2.5nm,0.2s						
RJF	Les Rejaudoux	2.55	26	Pn	Pn	07 11 44.5	-0.5
RJF				Pg	Pb	07 11 51.3	+1.9
RJF				Lg	Lg	07 12 24.5	
	1.2nm,0.2s						
RJF	Les Rejaudoux	2.55	26	Pn	Pn	07 11 44.5	-0.5
RJF	Les Rejaudoux	2.55	26	Pg	Pb	07 11 51.3	+1.9
RJF				*e*Sg	Sg	07 12 24.5	-1.0
	1.2nm,0.2s						
EMOS	Mosqueruela	2.67	187	Sn	Sn	07 12 19.0	-0.3
	0.1nm,0.1s,SNR=7.9						
EMOS		

D05A	**Enumclaw**	6.09	57	*e*Pn	Pn	07 17 53.2	+0.4
RCM	**Mount Rainier-**	6.10	61	P	Pn	07 17 53.3	0.0
RCS	**Mount Rainier-**	6.12	61	P	Pn	07 17 53.2	-0.2
FMW	**Mount Fremont**	6.18	60	P	Pn	07 17 53.7	-0.5
G06A	**Carlson Farm,**	6.43	77	*e*Pn	Pn	07 17 56.7	-0.7
JCW	**Jim Creek**	6.65	50	P	Pn	07 18 00.7	+0.3
CMW	**Cultus Mountai**	6.68	47	P	Pn	07 18 01.5	+0.5
LTY	**Liberty**	6.94	60	*e*Pn	Pn	07 18 04.2	-0.3
MBW	**Mount Baker**	7.02	46	P	Pn	07 18 06.6	+1.0
A05A	**Maple Falls**	7.06	44	*e*Pn	Pn	07 18 06.7	+0.7
VDB	**Vedder Mountai**	7.07	44	P	Pn	07 18 06.7	+0.5
B06A	**Marblemount**	7.08	49	*e*Pn	Pn	07 18 06.5	+0.2
MOD	**Modoc Plateau**	7.11	105	*e*Pn	Pn	07 18 07.9	+1.0
MOD				*e*Sn	Sn	07 19 26.1	-1.5
HAWA	**Hanford**	7.40	69	*e*Pn	Pn	07 18 10.6	-0.1
HAWA				*e*Sn	Sn	07 19 32.4	-2.1
G08A	**Pilot Rock**	7.61	78	*e*Pn	Pn	07 18 12.8	-0.9
D08A	**Wollman Farm,**	7.99	65	*e*Pn	Pn	07 18 18.5	-0.2
C09A	**Chrisman Ranch**	8.65	61	*e*Pn	Pn	07 18 27.2	-0.6
F10A	**Beach Ranch, E**	8.89	74	*e*Pn	Pn	07 18 34.7	+3.4
NEW	**Newport** 0.3nm,0.3s,baz=234,slow=9.8,SNR=7.0	9.53	60	Pn	Pn	07 18 39.0	-1.0
NEW	**Newport** baz=9.4	9.53	60	⇑P	Pn	07 18 39.8	-0.2
NEW	**Newport**	9.53	60	*e*Pn	Pn	07 18 39.9	-0.2
NEW				*e*Sn	Sn	07 20 28.7	+1.7
NVAR	**Mina Array Bea** 0.0nm,0.3s,baz=277,slow=15,SNR=2.3	10.18	120	Pn	Pn	07 18 49.6	+0.5
MTUM	**Tungsten Hills**	10.71	125	*e*Pn	Pn	07 18 54.9	-1.4
HLID	**Hailey** baz=11,SNR=9.2	10.93	88	⇑P	Pn	07 19 01.6	+2.4
HLID	**Hailey**	10.93	88	*e*Pn	Pn	07 19 02.0	+2.8
MSO	**Missoula** baz=11	11.26	71	⇓P	Pn	07 19 03.6	-0.1
SWMT	**Swartz Lake**	11.34	67	*e*Pn	Pn	07 19 06.9	+2.1
SLMT	**Seeley Lake**	11.63	69	*e*Pn	Pn	07 19 10.7	+1.8
IMW	**Indian Meadow**	13.38	85	*e*Pn	Pn	07 19 35.9	+3.1
FLWY	**Flagg Ranch**	13.53	84	*e*Pn	Pn	07 19 37.6	+2.9
ARUT	**Antelope Range** 105nm,1.3s	13.69	112	*e*Pn	Pn	07 19 40.3	+3.3
ARUT				*e*Sn	Sn	07 22 09.4	+0.3
GCMT	**Greycliff** 4.6nm,0.8s	14.15	76	Pn	Pn	07 19 44.1	+0.9
GCMT				*e*Sn	Sn	07 22 26.4	+6.3
RLMT	**Red Lodge** 3.8nm,0.9s	14.46	79	*e*P	P	07 19 56.5	+2.3
PDAR	**Pinedale Array** 0.0nm,0.3s,baz=280,slow=16,SNR=2.6	14.56	88	Pn	Pn	07 19 50.7	+1.7
C19A	**Slack Wire Ran** baz=14	14.68	69	⇑P	Pn	07 19 50.8	+0.3
D19A	**Cripps Ranch,** baz=14	14.74	71	⇑P	Pn	07 19 51.9	+0.6
U15A	**North Rim** baz=15	15.22	115	⇑P	Pn	07 19 59.6	+1.8
B20A	**Solberg Farm,** baz=15	15.46	66	⇓P	Pn	07 20 01.7	+0.9
J20A	**Shoshoni** baz=15	15.51	85	⇑P	Pn	07 20 02.0	+0.5
SKAG	**Skagway** 16nm,1.0s	15.75	349	*e*Pn	Pn	07 20 02.5	-1.9
N20A	**Spence Gulch,** baz=16	16.02	95	⇑P	Pn	07 20 08.8	+0.6
O20A	**White River Ci** baz=16,SNR=5.4	16.27	97	⇓P	P	07 20 15.3	+0.9
O20A	**White River Ci** 8.2nm,0.9s	16.27	97	*e*P	P	07 20 16.4	+2.0
J22A	**Midwest** baz=16	16.65	84	⇓P	Pn	07 20 17.5	+1.3
PV01	**Paradox Valley** 417nm,1.0s	16.86	104	*e*Pn	Pn	07 20 19.8	+0.8
MVCO	**Mesa Verde** baz=17	17.36	106	⇑P	P	07 20 27.5	+1.0
O22A	**Kremmling** baz=17,SNR=6.4	17.48	95	⇓P	P	07 20 28.5	+0.7
S22A	**4UR Ranch, Cre** baz=18	18.26	103	⇓P	P	07 20 37.2	+0.6
P23A	**Jefferson** baz=18	18.27	97	⇑P	P	07 20 37.3	+0.6
ISCO	**Idaho Springs** baz=18	18.27	95	⇑P	P	07 20 37.4	+0.7
I25A	**Rochford** baz=18	18.51	81	⇑P	P	07 20 39.2	+0.1
R23A	**Moffat** baz=19	18.77	100	⇓P	Pn	07 20 43.1	+0.5
U22A	**Llaves** baz=19,SNR=7.9	18.91	106	⇓P	Pn	07 20 45.7	+1.4
J26A	**Sides Ranch, S** baz=19	19.11	83	⇑P	Pn	07 20 46.2	-0.2
V22A	**San Miguel Ran** baz=19	19.12	108	⇓P	Pn	07 20 47.4	+0.7
G26A	**Maurine** baz=19	19.14	77	⇑P	P	07 20 46.0	+0.1
T23A	**Casias Ranch,** baz=19	19.15	104	⇓P	Pn	07 20 47.4	+0.1
SDCO	**Great Sand Dun** 2.9nm,0.9s	19.20	101	*e*Pn	Pn	07 20 48.6	+0.8
U23A	**El Rito** baz=19	19.40	106	⇓P	P	07 20 49.3	+0.4
H27A	**Howes** baz=19	19.59	79	⇓P	P	07 20 51.3	+0.5
V23A	**Ortiz Mt. (NFS** baz=20,SNR=5.9	19.71	107	⇓P	Pn	07 20 55.0	+1.2
ANMO	**Albuquerque** 0.1nm,0.3s,baz=336,slow=11,SNR=4.0	19.96	109	P	Pn	07 20 56.5	-0.3
S25A	**Robets Cordova** baz=20	19.99	100	⇓P	Pn	07 20 57.0	-0.1
T25A	**Trinidad** baz=20	20.25	102	⇓P	Pn	07 20 60.0	-0.3
YKA	**Yellowknife Ar** 0.8nm,0.8s,baz=207,slow=11,SNR=11	20.34	20	P	P	07 20 59.7	+1.0
V24A	**Rampart Ranch,** baz=20	20.35	106	⇓P	Pn	07 21 00.8	-0.7
R26A	**Arlington** baz=20	20.41	98	⇓P	Pn	07 21 01.4	-0.6
W24A	**Lazy 6 Ranch,** baz=20,SNR=5.9	20.53	107	⇑P	Pn	07 21 02.8	-0.7
121A	**Cookes Peak, D** baz=20	20.54	117	⇓P	Pn	07 21 02.8	-0.9
U25A	**Circle Dot Ran** baz=20	20.61	103	⇑P	P	07 21 03.1	+1.0
Z22A	**Elephant Butte** baz=20	20.62	114	⇑P	Pn	07 21 03.8	-0.8
FFC	**Flin Flon** 6.6nm,0.9s	20.67	49	*e*P	P	07 21 03.0	+0.6
S26A	**Kim** baz=20	20.69	99	⇑P	P	07 21 03.4	+0.4
V25A	**Rancho No Teng** baz=21,SNR=5.7	20.74	105	⇓P	Pn	07 21 05.3	-0.7
T26A	**Comanche Natio** baz=21	20.81	101	⇓P	P	07 21 05.3	+1.0
R27A	**Eads** baz=21	20.88	97	⇑P	P	07 21 05.4	+0.4
N28A	**Pribbeno Ranch** baz=21	20.90	90	⇑P	P	07 21 05.0	-0.1
U26A	**Atchley Ranch,** baz=21	21.07	103	⇓P	P	07 21 07.7	+0.5
Y24A	**Capitan** baz=21	21.23	110	⇑P	P	07 21 10.1	+1.2
A29A	**Manning Farm,** baz=21	21.30	66	⇓P	P	07 21 09.9	+0.7
V26A	**Tequesquite Ra** baz=21	21.34	104	⇑P	P	07 21 11.4	+1.4
T27A	**Campo** baz=21	21.48	100	⇓P	P	07 21 12.4	+0.9
R28A	**Tribune** baz=21	21.57	96	⇓P	P	07 21 13.0	+0.6
D30A	**Buchanan** baz=21,SNR=5.3	21.65	71	⇑P	P	07 21 15.1	+2.1
J30A	**Dallas** baz=21	21.66	82	⇑P	P	07 21 13.4	+0.1
Q30A	**Quinter** baz=22	22.45	93	⇓P	P	07 21 22.0	+0.2
ILAR	**Eielson Array** 0.8nm,0.8s,baz=150,slow=9.3,SNR=5.9	22.86	341	P	P	07 21 29.6	+3.8
Y28A	**McKinney Farm,** baz=23	23.42	107	⇑P	P	07 21 32.0	+0.1
ULM	**Lac du Bonnet** 1.8nm,0.6s,baz=277,slow=10.0,SNR=3.9	23.52	63	P	P	07 21 32.9	+0.2
W32A	**Sentinel** baz=25	24.88	101	⇓P	P	07 21 45.9	+0.5
X32A	**Elmer** baz=25	25.21	102	⇓P	P	07 21 49.2	+0.8
TXAR	**Lajitas Array** 0.8nm,1.0s,baz=317,slow=7.2,SNR=4.9	25.31	117	P	P	07 21 50.0	+0.6
WMOK	**Wichita Mounta** 3.4nm,0.8s	25.40	101	*e*P	P	07 21 51.6	+1.4
429A	**Davenport Ranc** baz=26	25.62	112	⇑P	P	07 21 53.6	+1.4
529A	**Stev Forest Ra** baz=26,SNR=7.8	25.72	114	⇓P	P	07 21 55.1	+1.9
JCT	**Junction City** 8.9nm,0.8s	27.11	110	*e*P	P	07 22 01.6	-4.1
OXF	**Oxford** 22nm,0.9s	32.21	93	*e*P	P	07 22 51.5	+0.8
SADO	**Sadowa** comp=Z,404nm,20.9s,baz=248,slow=38	35.50	71	LR	LR	07 38 56.3	
H11N3	**WAKE ISLAND Hy** baz=49,slow=75,SNR=924	57.68	267	T	T	08 28 49.4	
H11N2	**WAKE ISLAND Hy** baz=49,slow=75,SNR=564	57.68	267	T	T	08 28 49.5	
H11N1	**WAKE ISLAND Hy** baz=49,slow=75,SNR=532	57.70	267	T	T	08 28 41.9	
H11S1	**WAKE ISLAND Hy** baz=48,slow=75,SNR=59	58.61	266	T	T	08 29 51.9	
H11S2	**WAKE ISLAND Hy** baz=48,slow=75,SNR=51	58.62	266	T	T	08 30 05.8	
H11S3	**WAKE ISLAND Hy** baz=48,slow=75,SNR=57	58.63	266	T	T	08 30 04.7	
SONM	**Songino Array** 0.6nm,0.8s,baz=46,slow=4.3,SNR=4.6	76.06	325	P	P	07 28 12.3	+2.1
HHC	**Hu-ho-hao-te**	79.16	317	*e*P	P	07 28 25.9	-1.7
HHC				pP	pP	07 28 30.6	-1.3
HHC				sP	sP	07 28 32.9	-0.5
HHC				PP	PP	07 31 26.1	-0.3
HHC				S	S	07 38 22.0	-5.0
HHC	**Hu-ho-hao-te**	79.16	317	sS	S	07 38 29.9	+2.9
HHC	**Hu-ho-hao-te**	79.16	317	SKS	SKSac	07 38 35.6	-7.7
HHC	**Hu-ho-hao-te**	79.16	317	SS	SS	07 43 29.4	-2.7
WMQ	**Urumqi**	86.35	334	*e*P	P	07 29 04.1	-0.7
WMQ				pP	pP	07 29 08.5	-0.6

IDC 18 07:21:46.0±19.0, 14°.15S×177°.73W, h203km±184km, mb3.3/6, mb1 3.7/6, mb1mx3.2/40, mbtmp3.8/6, MS4.0/1, Ms1 4.0/1, ms1mx3.3/11, Error ellipse: s-maj=97.7km s-min=32.6km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** comp=Z,466nm,18.8s,baz=234,slow=32	16.97	240	LR	LR	07 30 54.0	
WRA	**Warramunga Arr** 1.0nm,0.8s,baz=89,slow=7.6,SNR=5.9	46.07	256	P	P	07 29 49.5	-0.6
ASAR	**Alice Springs** 1.8nm,1.0s,baz=84,slow=8.6,SNR=16	46.54	251	P	P	07 29 53.9	+0.1
H06E1	**SOCORRO T-PHAS** SNR=8.2	73.48	65	T	T	08 53 05.3	
NVAR	**Mina Array Bea** 0.8nm,0.7s,baz=222,slow=11,SNR=7.0	76.28	44	P	P	07 33 13.3	+0.5
ILAR	**Eielson Array** 0.5nm,1.0s,baz=228,slow=5.4,SNR=3.8	82.10	13	P	P	07 33 43.7	+0.2
TXAR	**Lajitas Array** 0.6nm,1.1s,baz=185,slow=5.4,SNR=3.2	83.44	58	P	P	07 33 51.7	+0.4
PDAR	**Pinedale Array** 1.0nm,0.9s,baz=266,slow=2.6,SNR=6.7	84.19	43	P	P	07 33 53.3	-1.7
BRTR	**Keskin Array B** 1.5nm,0.8s,baz=107,slow=1.3,SNR=5.3	142.51	319	PKP	PKPdf	07 40 55.1	-0.1

*BJI **18** 07:24:09.6, 19°.09S×177°.27W, h511km, mB4.9/17, mb4.4/27*
*ISCJB **18** 07:24:10.1±0.7, 19°.49S±0°.04×177°.67W±0°.03, h512km±7km, mb4.6/65, Error ellipse: s-maj=7.1km s-min=4.0km az=151.2*
*NEIC **18** 07:24:11.8±0.2, 19°.42S×177°.66W, mb4.7/38, Error ellipse: s-maj=7.7km s-min=5.1km az=136.0*
*IDC **18** 07:24:12.4±0.6, 19°.30S×177°.69W, h529km±6km, mb4.1/25, mb1 4.2/26, mb1mx4.1/39, mbtmp4.9/26, Error ellipse: s-maj=9.7km s-min=8.3km az=166.0*
ISC 18 07:24:11.2±0.3, 19°.48S±0°.05×177°.57W±0°.05, h518km±2km, h518km:pP-P, n462, σ1°.09/549, mb4.6/65, 123C-113D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	4.50	292	*e*P	P	07 25 33.9	-1.2
MSVF				*e*S	S	07 26 44.0	+0.7
NIUE	**Niue** baz=7.2,SNR=3.4	7.23	88	P	P	07 26 00.1	-0.2
AFI	**Afiamalu**	7.84	46	*e*P	P	07 26 02.4	-4.3
AFI				*e*S	S	07 27 32.6	-8.6
RAO	**Raoul Island** baz=90,slow=20,SNR=3.2	9.73	182	S	S	07 28 14.8	-1.7
DZM	**Mont Dzumac** 2.3nm,0.3s,baz=116,slow=15,SNR=15	15.17	257	P	P	07 27 24.2	+1.1
DZM	**Mont Dzumac**	15.17	257	*e*P	P	07 27 24.5	+1.4
DZM				*e*S	S	07 30 04.5	+3.2
OUZ	**Omahuta**	17.52	205	PN	P	07 27 48.2	+2.1
OUZ	**Omahuta** 371nm,0.9s	17.52	205	*e*P	P	07 27 48.5	+2.4
URZ	**Urewera** 29nm,0.3s,baz=283,slow=2.9,SNR=112	19.27	193	P	P	07 28 00.8	-1.3
URZ				S	S	07 31 04.1	-5.8
URZ	**Urewera**	19.27	193	PN	P	07 27 59.9	-2.2
BKZ	**Black Stump Fm** 219nm,2.4s	20.28	193	*e*P	P	07 28 10.0	-1.3
DSZ	**Denniston Nort**	23.96	200	*e*PN	P	07 28 43.2	-1.1
KHZ	**Kahutara**	24.07	196	PN	P	07 28 44.0	-1.2
KHZ	**Kahutara** 251nm,2.1s	24.07	196	*e*P	P	07 28 44.2	-1.0
LHI	**Lord Howe Isla** baz=24,SNR=3.2	24.20	236	P	P	07 28 47.9	+1.4
WVZ	**Waitaha Valley**	25.50	200	*e*PN	P	07 28 56.9	-1.0
RPZ	**Rata Peaks** 16nm,0.4s	25.98	199	*e*P	P	07 29 01.3	-0.8
RPZ				*e*S	S	07 32 52.4	-3.4
JCZ	**Jackson Bay**	27.06	202	*e*PN	P	07 29 10.6	-1.1
WKZ	**Wanaka**	27.63	201	*e*PN	P	07 29 15.7	-1.0
EAZ	**Earnscleugh**	27.89	200	*e*PN	P	07 29 18.6	-0.3
MLZ	**Mavora Lakes**	28.37	201	PN	P	07 29 24.3	+1.1
DCZ	**Deep Cove**	28.84	203	*e*PN	P	07 29 27.4	+0.3
DCZ	**Deep Cove** 118nm,1.1s	28.84	203	*e*P	P	07 29 27.7	+0.5
WHZ	**Wether Hill Ro**	28.93	201	PN	P	07 29 29.3	+1.3
WHZ	**Wether Hill Ro** 164nm,0.8s	28.93	201	*e*P	P	07 29 28.5	+0.6
WHZ				*e*S	S	07 33 43.2	+1.5
EIDS	**Eidsvold** baz=30,SNR=7.4	29.52	253	P	P	07 29 33.3	-0.2
ARMA	**Armidale** baz=30,SNR=15	29.88	243	P	P	07 29 37.3	+0.6
ARMA	**Armidale** 27nm,0.8s	29.88	243	*e*P	P	07 29 37.2	+0.6
ARMA				*e*S	S	07 33 57.1	-0.2
MGCD	**Mangrove Creek** baz=31,SNR=11	31.08	238	P	P	07 29 48.0	+1.2
RMQ	**Roma** baz=32,SNR=11	31.71	251	P	P	07 29 53.0	+0.8
CNB	**Canberra Magne** baz=33,SNR=41	33.13	235	P	P	07 30 05.1	+0.7
CAN	**Canberra** 33nm,0.8s	33.42	235	*e*P	P	07 30 06.2	-0.5
YNG	**Young** baz=34,SNR=6.6	33.57	237	P	P	07 30 08.8	+0.8
MILA	**Mila** baz=34,SNR=5.1	33.91	232	P	P	07 30 11.3	+0.4
CTA	**Charters Tower** 98nm,0.7s,baz=93,slow=11,SNR=142	34.01	263	P	P	07 30 11.9	+0.1
CTA				S	S	07 34 57.9	-2.5
CTAO	**Charters Tower** 94nm,0.6s	34.01	263	*e*P	P	07 30 11.8	-0.1
CMSA	**Cobar Meteorol** baz=35,SNR=33	35.10	243	P	P	07 30 21.0	+0.2
PMG	**Port Moresby** 28nm,0.9s,baz=102,slow=10,SNR=6.2	35.52	281	P	P	07 30 24.5	-0.1
QLP	**Quilpie** baz=36,SNR=48	35.75	251	P	P	07 30 26.2	-0.1
TOO	**Toolangi** baz=37,SNR=38	36.83	233	P	P	07 30 35.5	+0.5
COEN	**Coen** baz=38,SNR=19	37.93	272	P	P	07 30 44.7	+0.2
COEN	**Coen** 279nm,0.7s	37.93	272	*e*P	P	07 30 44.5	+0.1
QIS	**Mount Isa** baz=40,SNR=7.1	40.17	261	P	P	07 31 01.6	-0.9
BBOO	**Buckleboo** baz=43,SNR=132	43.37	243	P	P	07 31 27.4	-0.2
BBOO	**Buckleboo** 2μm,0.8s	43.37	243	*e*P	P	07 31 27.5	-0.1
JAY	**Jayapura** 50nm,0.9s,baz=164,slow=10,SNR=12	44.12	287	P	P	07 31 34.3	+0.6
WB2	**Warramunga Arr** baz=44,SNR=7.4	45.14	261	*e*P	P	07 31 40.4	-1.1
WB2				*e*PcP	PcP	07 33 11.2	+0.1
WRAB	**Tennant Creek** 37nm,0.8s	45.14	261	*e*P	P	07 31 40.7	-0.8
WRAB				*e*PcP	PcP	07 33 11.3	+0.2
WRA	**Warramunga Arr** 20nm,0.3s,baz=96,slow=7.7,SNR=1038	45.15	261	P	P	07 31 40.7	-0.8
WRA				PcP	PcP	07 33 11.2	+0.1
WRA	5.1nm,0.6s,baz=94,slow=4.6,SNR=8.4			S	S	07 37 41.1	-2.2
AS31	**Alice Springs** 4.7nm,0.9s,baz=91,slow=15,SNR=14	45.15	256	*e*P	P	07 31 41.1	-0.4
AS31				*e*PcP	PcP	07 33 11.3	+0.1
ASAR	**Alice Springs** 134nm,0.8s,baz=90,slow=8.4,SNR=719	45.15	256	P	P	07 31 41.6	+0.1
ASAR				PcP	PcP	07 33 10.9	-0.3
ASAR	11nm,0.7s,baz=102,slow=3.9,SNR=9.7			S	S	07 37 41.5	-1.8
KDU	**Kakadu** baz=48,SNR=17	48.34	270	P	P	07 32 05.2	-0.5
MTN	**Manton Dam** baz=50,SNR=22	49.56	270	P	P	07 32 14.0	-0.8
MTN				S	S	07 39 11.8	+27
FORT	**Forrest** baz=50,SNR=70	50.07	246	P	P	07 32 17.8	-0.5
FORT	**Forrest** 135nm,0.7s	50.07	246	*e*P	P	07 32 17.6	-0.7
WRKA	**Warakurna** baz=50,SNR=178	50.14	253	P	P	07 32 18.5	-0.5
WRKA				S	S	07 38 50.9	-1.3
KNRA	**Kununurra** baz=51,SNR=35	51.14	265	P	P	07 32 25.9	-0.4
KNRA				S	S	07 39 02.7	-3.0
FITZ	**Fitzroy Crossi** 8.5nm,0.4s	53.57	262	*e*P	P	07 32 43.5	-0.2
SOEI	**Soe** baz=57,SNR=18	56.88	271	P	P	07 33 08.2	+1.1
SOEI	**Soe** 107nm,0.8s	56.88	271	*e*P	P	07 33 08.2	+1.1
BATI	**Baumata** 9.1nm,0.4s,baz=24,slow=20,SNR=3.2	57.32	270	S	S	07 40 29.1	+2.0
MBWA	**Marble Bar** 36nm,0.5s	58.47	257	*e*P	P	07 33 16.9	-0.8
VNDA	**Vanda** 16nm,0.7s,baz=359,slow=7.5,SNR=24	58.95	185	P	P	07 33 22.3	+2.4
VNDA	**Vanda**	58.95	185	*e*P	P	07 33 22.5	+2.6
CASY	**Casey** 56nm,1.0s	65.05	205	*e*P	P	07 34 00.2	+0.4
MJAR	**Matsushiro Arr** 9.7nm,0.8s,baz=159,slow=6.3,SNR=20	69.64	323	P	P	07 34 27.8	-0.6
MAJO	**Matsushiro** 14nm,1.0s	69.64	323	*e*P	P	07 34 27.8	-0.7
UGM	**Wanagama** baz=70,SNR=5.5	70.39	268	P	P	07 34 33.2	-0.3
QSPA	**South Pole Qui** 82nm,0.8s,baz=26,slow=0.9,SNR=243	70.58	180	P	P	07 34 35.5	+1.8
FX1	**Attu Island--F** 26nm,0.8s,baz=90,slow=3.0,SNR=2.7	72.51	354	P	P	07 34 42.6	-2.2
ASAJ	**Asahikawa** 17nm,1.1s,baz=145,slow=12,SNR=4.0	73.03	331	P	P	07 34 46.5	-1.7
KSM	**Kuching** 216nm,2.3s	73.68	278	*e*P	P	07 34 53.2	+0.7
PETK	**Petropavlovsk-** 11nm,0.7s,baz=149,slow=9.5,SNR=8.4	75.40	345	P	P	07 35 00.7	-0.6
KSRS	**Korea Array** 1.1nm,0.5s,baz=134,slow=8.7,SNR=2.7	76.40	318	pP	pP	07 37 00.5	+2.9
VES	**Vestal, Richgr** baz=78	78.03	45	⇑P	P	07 35 16.3	+0.2
MURC	**Murrieta** baz=78	78.07	48	⇓P	P	07 35 16.6	+0.1
BFSC	**Mount Baldy Ra** baz=78	78.10	47	⇑P	P	07 35 16.9	+0.1
EDW2	**Edwards Air Fo** baz=78	78.23	46	⇑P	P	07 35 17.7	+0.4
MONP	**Monument Peak,** baz=78	78.24	49	⇓P	P	07 35 17.8	+0.2
ISA	**Isabella, Lake** baz=78	78.34	46	⇑P	P	07 35 18.9	+1.0
USRK	**Ussuriysk Ar.** 5.6nm,1.0s,baz=122,slow=3.6,SNR=5.3	78.36	326	P	P	07 35 17.4	-0.3
LRMC	**Laurel Mtn Rad** baz=79	78.77	46	⇓P	P	07 35 20.7	+0.5
BELC	**Belle Mtn. Jos** baz=79	79.13	48	⇑P	P	07 35 22.9	+0.7
MPMC	**Manual Prospec** baz=79	79.22	46	⇑P	P	07 35 23.0	+0.2
GSC	**Goldstone, Bar** baz=80	79.27	47	⇑P	P	07 35 23.7	+0.8
BC3	**Big Chuckawall** baz=80	79.33	49	⇑P	P	07 35 24.1	+0.8
HEC	**Hector,Ludlow** baz=80	79.34	47	⇑P	P	07 35 24.2	+0.9
NJ2	**Nanjing** 40nm,0.6s	79.55	309	*e*P	P	07 35 23.9	-0.4
NJ2				PMZ			
GMRC	**Granite Mounta** baz=80	79.78	48	⇓P	P	07 35 26.4	+0.7
IRM	**Iron Mountain** baz=80	79.81	48	⇑P	P	07 35 26.8	+1.1
GRAC	**Grapevine Rang** baz=80	79.82	45	⇑P	P	07 35 27.1	+1.4
MDJ	**Mudanjiang** 11nm,1.1s	79.92	325	P	P	07 35 24.6	-1.4
MDJ				PMZ			
MDJ	190nm,5.3s			PMZ			
NVAR	**Mina Array Bea** 1.5nm,0.6s,baz=223,slow=7.9,SNR=15	80.01	43	P	P	07 35 26.9	0.0
NVAR	0.2nm,0.5s,baz=73,slow=3.0,SNR=4.4			PKKPbc	PKKPbc	07 54 09.2	+0.6
113A	**Mohawk Valley,** baz=80	80.08	50	⇓P	P	07 35 28.1	+1.1
214A	**Organ Pipe Nat** baz=81	80.37	51	⇓P	P	07 35 30.0	+1.3
J04D	**Umpqua Nationa** baz=81	80.53	38	⇓P	P	07 35 30.0	+0.6
TPNV	**Topopah Spring** baz=81	80.55	45	⇑P	P	07 35 30.0	+0.4
PDMCI	**Parker Dam,Lak** baz=81	80.60	49	⇓P	P	07 35 30.4	+0.6
MOD	**Modoc Plateau** 25nm,1.8s	80.78	40	*e*P	P	07 35 31.1	+0.3
QIZ	**Qiongzhong**	80.81	294	P	P	07 35 31.1	-0.1
QIZ				pP	pP	07 37 18.8	-4.3
QIZ				S	S	07 44 54.8	-2.2
QIZ				PMZ			
QIZ	11nm,1.5s			PMZ			
Z14A	**Wintersburg** baz=81	80.97	50	⇓P	P	07 35 32.4	+0.7
J05D	**Fort Rock, OR** baz=81	81.06	38	⇑P	P	07 35 32.7	+0.6
W13A	**Hualapai Mount** baz=81	81.19	48	⇓P	P	07 35 34.0	+0.9
Y14A	**Wickenburg** baz=81	81.22	49	⇑P	P	07 35 34.0	+1.0
I05D	**Terrebonne, OR** baz=82	81.64	37	⇓P	P	07 35 35.2	+0.2
CN2	**Changchun** 10.0nm,0.9s	81.75	322	*e*P	P	07 35 34.1	-1.3
CN2				PMZ			
TUC	**Tucson** 9.9nm,1.1s	82.04	52	*e*P	P	07 35 38.5	+1.1
PMSA	**Palmer Station** 25nm,1.0s,baz=199,slow=12,SNR=3.4	82.06	157	P	P	07 35 37.9	+1.2
WVOR	**Wild Horse Val** 8.5nm,1.3s	82.10	40	*e*P	P	07 35 37.5	0.0
X16A	**Lo Mia Camp, P** baz=83,SNR=6.4	82.58	50	⇓P	P	07 35 41.6	+1.4
MAW	**Mawson** 45nm,1.0s,baz=153,slow=4.5,SNR=3.4	82.65	200	P	P	07 35 39.5	-0.2
319A	**Douglas** baz=83	82.72	53	⇓P	P	07 35 41.9	+1.1
CCUT	**Cedar City** 71nm,2.9s	82.82	46	*e*P	P	07 35 42.8	+1.4
U15A	**North Rim** baz=83	82.98	48	⇑P	P	07 35 43.3	+1.1
WUAZ	**Wupatki** baz=83	83.17	49	⇑P	P	07 35 44.1	+1.1
IPM	**Ipoh**	83.40	277	*e*P	P	07 35 44.9	+0.3

34nm,0.7s
G08A **Pilot Rock** 83.57 37 eP P 07 35 45.1 +0.3
4.5nm,0.8s
PMR **Palmer** 83.94 13 eP P 07 35 44.9 -1.1
5.9nm,0.6s
121A **Cookes Peak, D** 84.38 53 ⇓P P 07 35 50.5 +1.4
baz=85
BMRM **Bremner River** 84.45 15 eP P 07 35 47.8 -0.9
12nm,1.1s
USHA **Ushuaia** 84.75 147 P P 07 35 50.6 +0.2
8.2nm,1.0s,baz=218,slow=18,SNR=1.9
PSI **Prapat** 84.81 275 P P 07 35 51.2 -0.4
baz=85,SNR=6.0
F10A **Beach Ranch, E** 84.95 37 eP P 07 35 51.2 -0.3
5.8nm,0.9s
F10A epP pP 07 37 47.9 +3.0
TNA **Tin City** 85.10 4 eP P 07 35 51.0 -0.6
3.5nm,0.7s
HLID **Hailey** 85.30 41 ⇑P P 07 35 54.5 +1.1
baz=86
HLID **Hailey** 85.30 41 eP P 07 35 54.2 +0.8
3.5nm,1.1s
Z22A **Elephant Butte** 85.32 52 ⇓P P 07 35 54.6 +0.9
baz=86
TRF **Thorofare Moun** 85.38 12 eP P 07 35 51.7 -1.5
TRF epP pP 07 37 43.0 -3.8
BJI **Beijing** 85.46 315 P P 07 35 52.1 -1.9
BJI PMZ
7.0nm,0.9s
SEY **Seymchan** 85.48 347 P P 07 35 52.3 -1.3
7.5nm,0.9s,baz=148,slow=5.4,SNR=21
MNTX **Cornudas Mount** 85.83 54 eP P 07 35 57.0 +0.9
4.6nm,0.9s
TXAR **Lajitas Array** 86.17 57 P P 07 35 58.8 +1.0
2.7nm,0.6s,baz=221,slow=6.5,SNR=44
TXAR pP pP 07 37 53.0 +1.4
1.1nm,1.0s,baz=217,slow=4.4,SNR=4.8
TXAR PKKPbc PKKPbc 07 53 54.7 +1.1
0.3nm,0.8s,baz=68,slow=9.9,SNR=4.2
ANMO **Albuquerque** 86.46 51 eP P 07 35 59.5 +0.4
4.6nm,1.1s
ANMO epP pP 07 37 55.9 +2.9
GYA **Guiyang** 86.50 299 eP P 07 36 00.8 +1.4
GYA pP pP 07 37 53.3 0.0
GYA sP sP 07 38 45.0 -1.0
GYA PP PP 07 39 31.6 +0.8
GYA SKS SKSac 07 45 35.8 -1.0
GYA S ScS 07 45 58.4 0.0
GYA PMZ
10.0nm,1.0s
Y24A **Capitan** 86.76 52 ⇓P P 07 36 00.9 +0.3
baz=87,SNR=13
U22A **Llaves** 86.81 50 ⇑P P 07 36 01.3 +0.5
baz=87
GDL2 **Guadalupe Moun** 86.83 54 eP P 07 36 02.3 +1.4
MCMT **McKenzie Canyo** 86.92 40 eP P 07 36 01.5 +0.4
3.8nm,1.1s
MCMT epP pP 07 37 54.9 -0.3
V23A **Ortiz Mt. (NFS** 87.01 51 ⇑P P 07 36 02.2 +0.5
baz=87
COLA **College** 87.13 12 eP P 07 35 59.8 -1.5
6.6nm,0.5s
COLA epP pP 07 37 54.1 -1.4
ILAR **Eielson Array** 87.24 13 P P 07 36 00.3 -1.6
1.4nm,0.5s,baz=229,slow=5.3,SNR=48
ILAR PKiKP PKiKP 07 41 01.1 -1.3
0.1nm,0.5s,baz=228,slow=4.1,SNR=5.3
ILAR PKKPbc PKKPdf 07 53 48.9 +2.5
0.3nm,0.5s,baz=350,slow=2.6,SNR=11
U23A **El Rito** 87.27 50 ⇓P P 07 36 03.4 +0.5
baz=87
MSO **Missoula** 87.32 38 ⇑P P 07 36 03.2 +0.4
baz=88
W24A **Lazy 6 Ranch,** 87.34 51 ⇑P P 07 36 03.3 0.0
baz=88
REDW **Red Top Meadow** 87.41 42 eP P 07 36 04.6 +1.1
S22A **4UR Ranch, Cre** 87.45 49 ⇓P P 07 36 04.3 +0.4
baz=88
IMW **Indian Meadow** 87.62 42 eP P 07 36 05.9 +1.3
4.2nm,1.0s
529A **Stev Forest Ra** 87.64 57 ⇑P P 07 36 05.6 +0.9
baz=88
V24A **Rampart Ranch,** 87.67 51 ⇓P P 07 36 05.8 +0.9
baz=88
PBKT **Sadao Pong** 87.69 288 P P 07 36 07.4 +2.4
13nm,0.8s,23μm
T23A **Casias Ranch,** 87.69 49 ⇑P P 07 36 05.8 +0.8
baz=88
LOHW **Long Hollow** 87.69 42 eP P 07 36 05.8 +1.0
QLMT **Earthquake Lak** 87.79 41 eP P 07 36 06.7 +1.5
SYO **Syowa Base** 87.80 193⇑eP P 07 36 02.5 -2.1
SYO **Syowa Base** 87.80 193 ⇓/PcP PcP 07 36 05.8 -0.1
XAN **Xi'an** 87.84 307 P P 07 36 05.8 +0.3
XAN PMZ
4.0nm,1.1s
XAN PMZ
19nm,4.9s
I17A **Pilgrim Ck.** 87.86 42 ⇓P P 07 36 06.5 +1.0
baz=88
FLWY **Flagg Ranch** 87.87 42 eP P 07 36 07.2 +1.6
N20A **Spence Gulch,** 87.88 45 ⇓P P 07 36 06.5 +0.7
baz=88
PDAR **Pinedale Array** 87.95 43 P P 07 36 05.0 -1.0
1.0nm,0.6s,baz=212,slow=3.2,SNR=8.1
PDAR PKKPbc PKKPbc 07 53 48.6 -1.5
0.7nm,0.8s,baz=91,slow=5.9,SNR=6.1
YMR **Madison River** 87.99 41 eP P 07 36 08.0 +1.8
9.5nm,0.5s
W25A **X Bar L Ranch,** 88.05 52 ⇑P P 07 36 06.7 +0.1
baz=88
H17A **Grant Village** 88.10 41 ⇓P P 07 36 07.8 +1.1
baz=88
429A **Davenport Ranc** 88.10 57 ⇓P P 07 36 07.2 +0.4
baz=88,SNR=13
228A **UT Block 9, Go** 88.16 55 ⇑P P 07 36 07.9 +0.8
baz=88
T24B **San Luis** 88.17 50 ⇑P P 07 36 07.9 +0.6
baz=88
LKWY **Lake** 88.29 41 eP P 07 36 03.2 -4.4
7.6nm,0.3s
P22A **Eagle** 88.33 47 ⇑P P 07 36 08.7 +0.8
baz=88
530A **J-C Ranch, Com** 88.35 57 ⇑P P 07 36 08.5 +0.6
baz=88
R23A **Moffat** 88.35 48 ⇑P P 07 36 08.8 +0.7
baz=88
329A **Wagon Wheel Ra** 88.38 56 ⇓P P 07 36 08.9 +0.8
baz=89
128A **Castleberry Fa** 88.45 55 ⇑P P 07 36 09.3 +0.9
baz=89
Y27A **Causey** 88.45 53 ⇑P P 07 36 09.2 +0.7
baz=89
W26A **Owens Ranch, T** 88.51 52 ⇓P P 07 36 09.6 +0.9
baz=89
J19A **Crowheart** 88.51 43 ⇓P P 07 36 09.4 +0.9
baz=89
EGAK **Eagle** 88.53 15 eP P 07 36 07.7 -0.2
14nm,1.6s
S24A **Houchin Ranch,** 88.55 49 ⇓P P 07 36 09.5 +0.5
baz=89
631A **Perdido Creek** 88.67 58 ⇓P P 07 36 09.9 +0.5
baz=89,SNR=6.8
430A **Baggett Ranch,** 88.69 57 ⇓P P 07 36 09.3 -0.2
baz=89
229A **Bryant Ranch,** 88.71 55 ⇑P P 07 36 09.3 -0.3
baz=89
832A **Faith Ranch, C** 88.72 59 ⇑P P 07 36 09.9 +0.3
baz=89
O22A **Kremmling** 88.73 46 ⇓P P 07 36 10.3 +0.5
baz=89
MSTX **Muleshoe** 88.78 53 ⇓P P 07 36 09.8 -0.1
baz=89
V26A **Tequesquite Ra** 88.79 51 ⇑P P 07 36 10.3 +0.3
baz=89
Z28A **Tucker Farm, M** 88.80 54 ⇓P P 07 36 10.3 +0.2
baz=89
H18A **Shoshone NF, C** 88.81 41 ⇑P P 07 36 10.7 +0.7
baz=89
P23A **Jefferson** 88.87 47 ⇓P P 07 36 10.9 +0.4
baz=89
R24A **Sanders Place,** 88.88 49 ⇓P P 07 36 11.1 +0.6
baz=89
732A **Laxson Ranch,** 88.89 59 ⇑P P 07 36 11.2 +0.8
baz=89
T25A **Trinidad** 88.91 50 ⇑P P 07 36 11.2 +0.6
baz=89
I19A **Meeteetse** 88.92 42 ⇑P P 07 36 10.9 +0.5
baz=89
129A **Stewart Farms,** 88.93 55 ⇓P P 07 36 11.0 +0.4
baz=89
HHC **Hu-ho-hao-te** 88.94 314 eP P 07 36 12.1 +1.6
HHC pP pP 07 38 05.8 +0.7
HHC sP sP 07 38 56.3 -1.2
HHC PP PP 07 39 53.1 +3.4
HHC S S 07 46 15.6 +0.9
HHC sS sS 07 49 36.3 -2.8
HHC SS SS 07 52 27.3 +3.8
HHC PMZ
19nm,1.0s
HHC PMZ
190nm,7.4s
330A **Mertzon** 88.98 56 ⇓P P 07 36 10.7 -0.2
baz=89
531A **Rocksprings** 88.99 58 ⇑P P 07 36 11.0 +0.1
baz=89,SNR=6.6
SNAA **Sanae** 89.01 178 P P 07 36 10.2 -0.1
SNAA **Sanae** 89.01 178 P P 07 36 10.2 -0.1
5.7nm,0.8s,baz=207,slow=9.2,SNR=34
SNAA **Sanae** 89.01 178 eP P 07 36 10.4 +0.1
20nm,0.9s
933A **Laredo** 89.03 60 ⇓P P 07 36 11.6 +0.5
baz=89
U26A **Atchley Ranch,** 89.07 51 ⇓P P 07 36 11.8 +0.5
baz=89
N22A **Wattenberg Ran** 89.08 46 ⇑P P 07 36 12.0 +0.6
baz=89
VNA3 **Neumayer Olymp** 89.12 176 P P 07 36 11.0 +0.2
Y28A **McKinney Farm,** 89.16 54 ⇓P P 07 36 11.9 +0.2
baz=89
J20A **Shoshoni** 89.18 43 ⇓P P 07 36 11.9 +0.3
baz=89
O23A **Lake Granby, G** 89.19 47 ⇑P P 07 36 11.9 0.0
baz=89
H19A **Powell** 89.23 42 ⇑P P 07 36 12.5 +0.7
baz=89
KMI **Kunming** 89.25 297 P P 07 36 13.9 +1.4
KMI PMZ
11nm,1.1s
M22A **Cedar Creek Ra** 89.26 45 ⇑P P 07 36 12.5 +0.3
baz=89
Z29A **Hungry Hill Ra** 89.31 54 ⇑P P 07 36 13.1 +0.7
baz=90
632A **Uvalde** 89.34 58 ⇓P P 07 36 13.0 +0.4
baz=90
K21A **Alcova** 89.39 44 ⇓P P 07 36 13.2 +0.5
baz=90
I20A **Worland** 89.43 43 ⇓P P 07 36 13.0 +0.3
baz=90
733A **Divot King Ran** 89.43 59 ⇓P P 07 36 12.8 -0.2
baz=90
X28A **Dimmitt** 89.44 53 ⇑P P 07 36 13.1 +0.1
baz=90
N23A **Red Feather La** 89.47 46 ⇑P P 07 36 13.6 +0.4
baz=90
532A **Rocksprings** 89.48 58 ⇓P P 07 36 13.4 +0.2
baz=90
331A **San Angelo** 89.53 57 ⇑P P 07 36 13.2 -0.2
baz=90
LAMP **Lampang** 89.57 290 P P 07 36 15.3 +1.5
6.6nm,0.9s
VNA2 **Neumayer--Watz** 89.57 177 P P 07 36 13.5 +0.7
Y29A **Porterfield Fa** 89.58 54 ⇑P P 07 36 13.5 -0.1
baz=90
J21A **Lysite** 89.59 43 ⇑P P 07 36 13.5 -0.1
baz=90
130A **Snyder** 89.61 55 ⇓P P 07 36 12.9 -0.9
baz=90
PLCA **Paso Flores** 89.67 133 P P 07 36 15.4 +1.4
4.3nm,1.0s,baz=221,slow=8.0,SNR=5.9
JCT **Junction City** 89.70 58 ⇑P P 07 36 12.7 -1.6
baz=90,SNR=7.4
JCT **Junction City** 89.70 58 eP P 07 36 13.0 -1.2
13nm,0.6s
U27A **Thompson Grove** 89.76 51 ⇑P P 07 36 14.1 -0.3
baz=90
Z30A **Sanderson Ranc** 89.76 55 ⇑P P 07 36 14.1 -0.4
baz=90
S26A **Kim** 89.79 50 ⇓P P 07 36 14.8 +0.2
baz=90
VNA1 **Neumayer--Stat** 89.79 176 P P 07 36 14.8 +1.0
633A **Saathoff Ranch** 89.81 59 ⇓P P 07 36 15.1 +0.4
baz=90,SNR=7.6
F19A **Roth Farm, Mol** 89.82 41 ⇓P P 07 36 15.1 +0.6
baz=90
231A **Bronte** 89.86 56 ⇓P P 07 36 14.7 -0.3
baz=90,SNR=8.7
432A **Menard** 89.86 57 ⇓P P 07 36 15.1 +0.2
baz=90
I21A **Big Trails, Te** 89.90 43 ⇓P P 07 36 14.6 -0.4
baz=90
G20A **Bridger** 89.97 41 ⇓P P 07 36 14.7 -0.6
baz=90
AMTX **Amarillo** 89.98 53 ⇓P P 07 36 14.9 -0.6
baz=90
R26A **Arlington** 90.09 49 ⇑P P 07 36 15.8 -0.2
baz=90
131A **Roby** 90.09 55 ⇑P P 07 36 16.0 0.0
baz=90
332A **Millersview** 90.10 57 ⇑P P 07 36 16.0 0.0
baz=90,SNR=7.3
W29A **Amarillo** 90.10 53 ⇓P P 07 36 16.3 +0.3
baz=90
533A **Kerrville** 90.16 58 ⇑P P 07 36 15.8 -0.6
baz=90
CMAR **Chiang Mai Arr** 90.16 289 P P 07 36 15.9 -0.6
4.1nm,0.6s,baz=120,slow=3.2,SNR=19
CMAR pP pP 07 38 13.5 +2.1
1.8nm,0.5s,baz=109,slow=3.3,SNR=1.7
CMAR PKKPbc PKKPbc 07 53 43.0 -0.4
1.6nm,0.3s,baz=274,slow=4.4,SNR=7.2
L23A **Garrett** 90.18 45 ⇓P P 07 36 16.2 -0.2
baz=90
E19A **Rath Farm, Rou** 90.20 40 ⇑P P 07 36 17.1 +0.9
baz=90
J22A **Midwest** 90.24 44 ⇑P P 07 36 17.0 +0.5
baz=90
CHTO **Chiang Mai** 90.28 290 P P 07 36 18.0 +0.9
68nm,1.2s
CHTO **Chiang Mai** 90.28 290 eP P 07 36 18.0 +0.9
8.9nm,0.7s
Q26A **Hugo** 90.30 49 ⇑P P 07 36 17.6 +0.7
baz=90
232A **Coleman** 90.37 56 ⇑P P 07 36 17.7 +0.5
baz=90
433A **Art** 90.37 58 ⇑P P 07 36 17.0 -0.3
baz=90,SNR=6.8
I22A **9 Mile Ranch,** 90.46 43 ⇑P P 07 36 17.0 -0.5
baz=91
D19A **Cripps Ranch,** 90.48 39 ⇑P P 07 36 17.9 +0.4
baz=91
Z31A **Sharp Cattle R** 90.53 55 ⇓P P 07 36 18.4 +0.4
baz=91
R27A **Eads** 90.55 49 ⇓P P 07 36 18.1 +0.1
baz=91
T28A **Walsh** 90.57 51 ⇓P P 07 36 18.2 +0.1
baz=91
CMAI **Chiengmai2** 90.58 291 P P 07 36 19.5 +0.9
17nm,0.6s,5μm
CD2 **Chengdu** 90.58 303 eP P 07 36 19.0 +0.7
534A **Blanco** 90.59 58 ⇑P P 07 36 18.4 0.0
baz=91,SNR=15
ABTX **Abilene, Hawle** 90.65 56 ⇑P P 07 36 18.6 0.0
baz=91
ABTX **Abilene, Hawle** 90.65 56 eP P 07 36 18.8 +0.2
C19A **Slack Wire Ran** 90.66 39 ⇑P P 07 36 19.2 +1.0
baz=91
333A **Richland Sprin** 90.67 57 ⇓P P 07 36 18.6 0.0
baz=91
D20A **Manuel Ranch,** 90.90 40 ⇓P P 07 36 20.8 +1.4
baz=91
S28A **Manter** 90.91 50 ⇓P P 07 36 20.3 +0.6
baz=91
KSCO **Kaye Shedlock'** 90.97 49 ⇑P P 07 36 21.1 +1.1
baz=91
233A **Rising Star** 91.00 56 ⇑P P 07 36 20.0 -0.2
baz=91
Z32A **Haskell** 91.04 55 ⇓P P 07 36 20.7 +0.4
baz=91
434A **Burnet** 91.05 58 ⇑P P 07 36 20.7 +0.3
baz=91
G22A **Birney** 91.18 42 ⇓P P 07 36 21.4 +0.7
baz=91
T29A **Hugoton** 91.18 51 ⇑P P 07 36 21.4 +0.4
baz=91
133A **Hamilton Ranch** 91.21 56 ⇑P P 07 36 21.7 +0.6
baz=91
C20A **Veseth Ranch,** 91.27 39 ⇓P P 07 36 21.9 +0.8
baz=92
334A **Lometa** 91.27 57 ⇑P P 07 36 22.0 +0.6
baz=91
R28A **Tribune** 91.28 50 ⇓P P 07 36 22.1 +0.7
baz=92
Y32A **R-V Farms, Ver** 91.34 54 ⇓P P 07 36 22.1 +0.4
baz=92
A19A **Klindworth Far** 91.40 38 ⇓P P 07 36 22.6 +1.0
baz=92
W31A **Holland Ranch,** 91.41 53 ⇓P P 07 36 22.1 0.0
baz=92
636A **Smothers Creek** 91.53 59 ⇓P P 07 36 23.3 +0.7
baz=92
Q28A **Sharon Springs** 91.56 49 ⇑P P 07 36 23.6 +1.0
baz=92
Z33A **Whitaker Ranch** 91.59 55 ⇑P P 07 36 23.2 +0.4
baz=92
234A **Clairette** 91.60 57 ⇓P P 07 36 23.1 +0.2
baz=92
X32A **Elmer** 91.62 54 ⇑P P 07 36 23.1 +0.2
baz=92
V31A **Spring Creek L** 91.71 53 ⇓P P 07 36 24.2 +0.8
baz=92
G23A **Biddle** 91.74 42 ⇑P P 07 36 24.3 +0.9
baz=92
536A **Bastrop** 91.74 59 ⇓P P 07 36 24.1 +0.6
baz=92
R29A **Marienthal** 91.80 50 ⇑P P 07 36 24.8 +1.1
baz=92
P28A **Saint Francis** 91.82 49 ⇓P P 07 36 24.6 +0.7
baz=92
A20A **Cobblestone Ra** 91.86 38 ⇓P P 07 36 24.1 +0.3
baz=92
W32A **Sentinel** 91.91 53 ⇑P P 07 36 24.6 +0.3
baz=92
F23A **Volborg** 91.96 42 ⇓P P 07 36 25.0 +0.7
baz=92
Y33A **Hilltop Ranch,** 91.97 55 ⇑P P 07 36 25.2 +0.7
baz=92
O28A **Krutsinger Ran** 92.03 48 ⇑P P 07 36 25.2 +0.4
baz=92
H24A **Dirks Ranch, A** 92.08 43 ⇓P P 07 36 25.4 +0.5
baz=92
K26A **Motz Farm, Whi** 92.12 45 ⇓P P 07 36 25.8 +0.7
baz=92
X33A **Lawton** 92.26 54 ⇑P P 07 36 25.8 -0.1
baz=92
I25A **Rochford** 92.30 44 ⇑P P 07 36 26.4 +0.4
baz=92
P29A **Atwood** 92.41 49 ⇓P P 07 36 27.7 +1.1
baz=93
LZH **Lanzhou** 92.48 307 eP P 07 36 27.8 +0.8
LZH pP pP 07 38 22.0 -0.1
LZH sP sP 07 39 12.5 -1.8
LZH PMZ
14nm,1.0s
A21A **Bergtoll Ranch** 92.49 38 ⇑P P 07 36 27.5 +0.8
baz=93
H25A **Fruitdale** 92.64 43 ⇓P P 07 36 28.2 +0.8
baz=93
Q30A **Quinter** 92.67 50 ⇓P P 07 36 28.4 +0.6
baz=93
D23A **Lindsay** 92.72 41 ⇓P P 07 36 28.9 +1.1
baz=93
K27A **Flueckinger Fa** 92.75 46 ⇑P P 07 36 29.3 +1.3
baz=93
P30A **Selden** 92.88 49 ⇓P P 07 36 29.3 +0.6
baz=93
G25A **Newell** 93.00 43 ⇓P P 07 36 29.4 +0.3
baz=93
C23A **Lambert** 93.00 40 ⇓P P 07 36 29.5 +0.5
baz=93
J27A **Elkhorn Farm,** 93.13 45 ⇓P P 07 36 30.4 +0.7
baz=93
B23A **Brockton** 93.41 40 ⇓P P 07 36 31.7 +0.9
baz=94
P31A **Stockton** 93.49 49 ⇓P P 07 36 32.5 +1.1
baz=94
R32A **Long Quarter,** 93.56 51 ⇓P P 07 36 32.6 +0.8
baz=94
Q32A **Meitler Ranch,** 93.88 50 ⇑P P 07 36 33.7 +0.5
baz=94
I28A **Midland** 93.98 45 ⇓P P 07 36 34.4 +0.9
baz=94
R33A **Olander Ranch,** 94.04 51 ⇑P P 07 36 34.7 +0.7
baz=94
J29A **Okreek** 94.31 45 ⇑P P 07 36 35.5 +0.4
baz=94
K30A **Basset** 94.52 46 ⇑P P 07 36 36.3 +0.3
baz=95
I29A **Vivian Onida** 94.56 45 ⇑P P 07 36 35.8 -0.4
baz=95
G28A **Parade** 94.57 44 ⇓P P 07 36 36.1 -0.1
baz=95
F28A **McLaughlin** 94.94 43 ⇓P P 07 36 39.5 +1.6
baz=95
SONM **Songino Array** 95.26 319 P P 07 36 39.3 -0.1
0.4nm,0.6s,baz=130,slow=3.7,SNR=3.2
SONM pP pP 07 38 35.5 +0.9
0.3nm,0.4s,baz=127,slow=3.8,SNR=3.7
SONM PP PP 07 40 43.1 +4.6
1.1nm,1.0s,baz=101,slow=7.5,SNR=4.0
SONM PKiKP PKiKP 07 41 16.2 -0.6
0.2nm,0.3s,baz=108,slow=3.2,SNR=3.0
YKA **Yellowknife Ar** 95.42 25 P P 07 36 38.3 -1.2
0.6nm,0.9s,baz=239,slow=4.3,SNR=6.5
YKA pP pP 07 38 37.1 +2.3
0.2nm,0.8s,baz=238,slow=3.5,SNR=2.2
YKA PKKPbc PKKPbc 07 53 28.4 -3.1
0.6nm,0.5s,baz=39,slow=2.3,SNR=14
GTA **Gaotai** 96.64 309 eP P 07 36 46.4 +0.5
GTA pP pP 07 38 40.8 -0.4
GTA sP sP 07 39 30.9 -2.5
GTA PMZ
3.0nm,1.1s
ZALV **Zalesovo Beam** 109.95 321 PKiKP PKiKP 07 41 41.8 -1.4
3.5nm,0.6s,baz=184,slow=2.9,SNR=5.7
MKAR **Makanchi Array** 110.79 314 Pdiff Pdif 07 37 48.6 +0.2
0.1nm,0.5s,baz=101,slow=2.9,SNR=3.1
MKAR PKiKP PKiKP 07 41 43.8 -1.3
3.5nm,0.5s,baz=142,slow=1.4,SNR=85
MKAR SKP 07 44 32.6
0.9nm,0.8s,baz=114,slow=1.3,SNR=4.6
MKAR PKKPbc PKKPbc 07 52 45.2 -0.6
0.7nm,0.7s,baz=274,slow=3.0,SNR=6.3
KURK **Kurchatov** 113.52 318 PKKPbc PKKPbc 07 52 35.3 -1.6
KURBB **Kurchatov Arra** 113.58 318 PKKPbc PKKPbc 07 52 35.3 -1.4
0.6nm,0.5s,baz=269,slow=3.7,SNR=2.8
KSH **Kashi** 114.64 305 ePKP PKPdf 07 41 53.3 +0.5
KSH PP PP 07 43 01.5 +1.4
KSH PKS PKSdf 07 45 30.1 +0.5
KSH SKS SKSdf 07 48 16.3 +0.5
KSH SKKS SKKSac 07 49 06.5 -0.7
KSH SS SS 07 58 19.3 +4.5
KSH PPMZ
96nm,5.8s
TKM2 **Tokmak 2** 115.19 309 eP PKPdf 07 41 52.9 -0.9
SCHQ **Schefferville** 117.63 38 PKP PKPdf 07 41 57.5 -0.4
1.1nm,0.7s,baz=233,slow=5.1,SNR=2.6
BDFB **Brasilia** 119.34 122 PKP PKPdf 07 42 02.7 +0.2
1.0nm,0.5s,baz=239,slow=5.9,SNR=2.7
OPO **Ambohidratompo** 122.04 232 PKP PKPdf 07 42 07.6 -0.1
5.0nm,0.6s,baz=92,slow=5.1,SNR=5.7
SUR **Sutherland** 125.51 199 PKP PKPdf 07 42 14.5 +0.4
20nm,0.7s,baz=262,slow=0.3,SNR=24
ABKAR **Akbulak array** 125.62 317 ePKPdf PKPdf 07 42 13.0 -0.4
BOSA **Boshof** 127.34 205 PKP PKPdf 07 42 17.9 +0.3
6.0nm,0.6s,baz=145,slow=2.6,SNR=9.6
ARCES **ARCESS Array B** 128.00 350 PKP PKPdf 07 42 16.9 -0.5
5.9nm,0.5s,baz=15,slow=1.4,SNR=63
GEYT **Alibeck** 128.57 303 PKP PKPdf 07 42 19.4 -0.1
3.0nm,0.6s,baz=270,slow=1.5,SNR=7.0
FINES **FINESS Array B** 134.91 344 PKhKP PKPpre 07 42 18.9
0.7nm,0.6s,baz=29,slow=3.2,SNR=6.1
FINES PKP PKPdf 07 42 30.1 -0.5
3.3nm,0.5s,baz=56,slow=3.5,SNR=15
FINES SKPab SKPbc 07 45 13.4 +1.0
3.8nm,0.8s,baz=54,slow=2.4,SNR=9.3
LSZ **Lusaka** 137.16 218 PKP PKPdf 07 42 38.1 +1.7
6.0nm,0.6s,baz=49,slow=4.1,SNR=12
LSZ **Lusaka** 137.16 218 PKP PKPdf 07 42 38.1 +1.7
LSZ ePKPdf PKiKP 07 42 38.4 +0.1
NB2 **NORSAR Subarra** 138.02 354 PKP PKPpre 07 42 29.2
comp=Z,1.6nm,0.5s,baz=17,slow=2.6
NOA **NORSAR Array B** 138.02 354 PKhKP PKPpre 07 42 28.6
comp=Z,1.3nm,0.7s,baz=16,slow=5.0,SNR=6.4

NOA			PKP	**PKPdf**	07 42 36.5	0.0
	comp=Z,1.2nm,0.6s,baz=19,slow=4.1,SNR=8.8					
NOA			SKPab	**SKiKP**	07 45 24.9	-0.6
	comp=Z,0.9nm,0.9s,baz=6.3,slow=4.1,SNR=3.1					
KBZ	**Khabaz**	**138.48 315**	PKP	**PKPdf**	**07 42 37.6**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=198,slow=3.2,SNR=3.5					
TSUM	**Tsumeb**	**138.78 202**	PKhKP	PKPpre	07 42 31.2	
	comp=Z,1.0nm,0.4s,baz=304,slow=11,SNR=3.3					
TSUM			PKP	**PKPdf**	**07 42 39.7**	**+0.4**
	comp=Z,3.9nm,0.5s,baz=147,slow=3.8,SNR=7.2					
KMBO	**Kilima Mbogo**	**140.16 243**	PKhKP	PKPpre	07 42 35.8	
	comp=Z,1.0nm,0.4s,baz=72,slow=9.6,SNR=3.2					
KMBO			PKP	**PKPdf**	**07 42 43.0**	**+0.9**
	comp=Z,2.0nm,0.5s,baz=39,slow=4.2,SNR=6.8					
KMBO	**Kilima Mbogo**	**140.16 243**	PKPpre	PKPpre	07 42 35.8	
KMBO			*e*PKPdf	**PKPdf**	**07 42 42.5**	**+0.4**
KMBO			PKP	**PKPdf**	**07 42 43.0**	**+0.9**
AKASG	**Malin Array Be**	**142.32 332**	PKhKP	PKPpre	07 42 39.4	
	comp=Z,3.9nm,0.4s,baz=41,slow=4.2,SNR=20					
AKASG			PKP	**PKPdf**	**07 42 44.3**	**-0.2**
	comp=Z,2.8nm,0.5s,baz=44,slow=3.8,SNR=7.8					
AKASG			SKPbc	**SKPbc**	**07 45 30.6**	**-2.7**
	comp=Z,2.8nm,0.8s,baz=42,slow=3.2,SNR=7.0					
KIEV	**Kiev**	**142.33 332**	*e*PKPdf	**PKPdf**	**07 42 39.5**	**-4.9**
MALT	**Malatya**	**143.62 309**	⇓*i*P	PKPbc	07 42 46.3	+0.2
GKP	**Gorka Klasztor**	**144.38 345**	*e*PKP	PKPbc	07 42 47.7	-0.1
BEL	**Belsk**	**144.65 340**	*e*PKP	PKPbc	07 42 48.8	+0.2
BSEG	**Bad Segeberg**	**145.08 352**	*e*PKP	**PKPbc**	**07 42 49.6**	**-0.3**
KIS	**Kishinev**	**145.10 328**	*e*P	**PKPbc**	**07 42 50.0**	**-0.2**
KWP	**Kalwaria Pacla**	**145.82 336**	*e*PKP	**PKPbc**	**07 42 52.3**	**0.0**
KWP	**Kalwaria Pacla**	**145.82 336**	⇓*i*P	**PKPbc**	**07 42 52.2**	**0.0**
TLCR		**146.31 325**	⇓*i*P	**PKPbc**	**07 42 53.7**	**0.0**
OJC	**Ojcow**	**146.36 340**	*i*PKP	**PKPbc**	**07 42 53.4**	**-0.3**
BURAR	**Bucovina Array**	**146.37 332**	⇑*i*P	**PKPbc**	**07 42 54.2**	**-0.2**
BRTR	**Keskin Array B**	**146.44 314**	PKP	**PKPdf**	**07 42 51.3**	**-0.8**
	comp=Z,11nm,0.6s,baz=117,slow=2.4,SNR=51					
BRTR			PKPbc	**PKPbc**	**07 42 53.8**	**-0.7**
	comp=Z,11nm,0.6s,baz=133,slow=4.3,SNR=48					
TESR	**Tescani**	**146.51 329**	⇑*i*P	**PKPbc**	**07 42 54.1**	**-0.2**
STHS	**Stebnicka Huta**	**146.54 338**	*e*PKP	**PKPbc**	**07 42 54.7**	**+0.4**
KOLS	**Kolonicke sedl**	**146.56 336**	*e*PKP	**PKPbc**	**07 42 54.5**	**+0.2**
KOLS			*e*		07 44 58.3	
CFR	**Carcaliu**	**146.68 326**	⇑*i*P	**PKPbc**	**07 42 54.7**	**0.0**
KSP	**Ksiaz**	**146.84 344**	*e*PKP	**PKPbc**	**07 42 55.3**	**+0.3**
NIE	**Niedzica**	**146.87 338**	*i*PKP	**PKPbc**	**07 42 55.5**	**+0.3**
CRVS	**Cervenica-Dubn**	**146.89 337**	*e*PKP	**PKPbc**	**07 42 55.1**	**-0.1**
CRVS			*e*		07 44 55.3	
CRVS			*e*		08 00 54.7	
VRI	**Vrincioaia**	**146.93 328**	⇓*i*P	**PKPbc**	**07 42 55.6**	**+0.2**
ANTO	**Ankara**	**146.95 314**	*e*PKPdf	**PKPdf**	**07 42 52.6**	**-0.2**
ANTO			*e*PKPbc	**PKPbc**	**07 42 55.9**	**+0.1**
ANTO			*e*PKPab	**PKPab**	**07 42 58.4**	**-0.4**
PLOR	**Plostina**	**146.98 328**	⇑*i*P	**PKPbc**	**07 42 55.5**	**-0.1**
TIRR	**Tirgusor**	**147.01 325**	⇑*i*P	**PKPbc**	**07 42 55.3**	**-0.3**
TRPA	**Tarpa**	**147.10 335**	⇓*i*P	**PKPbc**	**07 42 55.8**	**0.0**
TRPA	**Tarpa**	**147.10 335**	⇑*e*	**PKPbc**	**07 42 55.7**	**0.0**
CLZ	**Clausthal**	**147.11 351**	*e*PKP	**PKPbc**	**07 42 55.5**	**-0.2**
HARR	**Harsova**	**147.11 326**	⇓*i*P	**PKPbc**	**07 42 56.1**	**+0.2**
CLL	**Collm**	**147.16 348**	*e*PKP	**PKPbc**	**07 42 55.5**	**-0.3**
CLL	**Collm**	**147.16 348**	*e*PKP	**PKPbc**	**07 42 55.0**	**-0.8**
CLL			⇓*i*PKPbc	**PKiKP**	**07 42 55.8**	**-1.8**
	comp=Z,36nm,0.9s					
CLL			*e*PKPab	**PKPab**	**07 42 58.0**	**-1.1**
CLL			*e*		07 43 14.0	
CLL			*ep*PKPab	**pPKPab**	**07 44 56.0**	**-0.7**
CLL			*e*SKPbc	**SKiKP**	**07 45 46.0**	**+1.5**
	comp=Z,10.0nm,1.2s					
OKC	**Ostrava-Krasne**	**147.21 341**	⇑*e*PKP	**PKPbc**	**07 42 55.7**	**-0.3**
OKC			*e*PKPAB	**PKPab**	**07 43 00.2**	**+0.8**
OKC			*ep*PKP	**pPKPdf**	**07 44 57.0**	**+1.6**
OKC			*ex*	x	07 45 02.1	
UPC	**Upice**	**147.22 344**	⇑*e*PKP	**PKPbc**	**07 42 56.0**	**0.0**
UPC			*e*PKPAB	**PKPab**	**07 42 59.5**	**+0.1**
UPC			*ep*PKP	**pPKPdf**	**07 44 57.1**	**+1.7**
DPC	**Dobruska-Polom**	**147.28 343**	⇑*e*PKP	**PKPbc**	**07 42 55.8**	**-0.4**
DPC			*e*PKPAB	**PKPab**	**07 42 59.9**	**+0.2**
DPC			*ep*PKP	**pPKPdf**	**07 44 56.5**	**+0.9**
BRG	**Berggiesshubel**	**147.38 346**	*e*PKP	**PKPdf**	**07 42 53.2**	**0.0**
	comp=Z,19nm,0.8s					
BRG			*i*		07 42 56.7	
	comp=Z,19nm,0.8s					
BRG			*ep*PKP	**pPKPdf**	**07 44 56.9**	**+1.2**
	comp=Z,15nm,1.3s					
BRG			*e*		07 45 45.9	
	comp=Z,2.7nm,0.7s					
BRG	**Berggiesshubel**	**147.38 346**	*e*PKP	**PKPbc**	**07 42 56.3**	**-0.1**
KRLC	**Kraliky**	**147.40 343**	⇑*e*PKP	**PKPbc**	**07 42 56.4**	**-0.2**
MORC	**Moravsky Berou**	**147.45 342**	⇓*i*P	**PKPbc**	**07 42 57.4**	**+0.7**
DOPR	**Dopca**	**147.51 330**	⇓*i*P	**PKPbc**	**07 42 57.5**	**+0.5**
ISR	**Istrita**	**147.55 327**	⇑*i*P	**PKPbc**	**07 42 57.8**	**+0.7**
PVCC	**Panska Ves**	**147.56 346**	*e*PKPDF	**PKPdf**	**07 42 53.9**	**+0.5**
PVCC			⇑*e*PKP	**PKPbc**	**07 42 57.1**	**+0.2**
PVCC			*e*PKPAB	**PKPab**	**07 42 59.7**	**-1.1**
PVCC			*ep*PKP	**pPKPdf**	**07 44 58.4**	**+2.4**
MLR	**Muntele Rosu**	**147.58 328**	⇑*i*P	**PKPbc**	**07 42 56.8**	**-0.5**
CJR	**Cluj-Napoca**	**147.77 332**	⇑*i*P	**PKPbc**	**07 42 57.6**	**0.0**
SECR		**147.84 328**	⇓*i*P	**PKPbc**	**07 42 58.0**	**+0.2**
PRA	**Prague**	**148.01 345**	⇑*e*PKP	**PKPbc**	**07 42 58.3**	**+0.2**
VOIR		**148.06 329**	⇑*i*P	**PKPbc**	**07 42 58.3**	**-0.2**
MOX	**Moxa**	**148.06 349**	*e*PKP	**PKPbc**	**07 42 58.0**	**-0.2**
PRU	**Pruhonice**	**148.06 345**	⇑*e*PKP	**PKPbc**	**07 42 58.0**	**-0.2**
PRU			*e*PKPAB	**PKPab**	**07 43 02.8**	**0.0**
PRU			*ep*PKP	**pPKPdf**	**07 45 01.2**	**+4.3**
PRU			*ex*	x	07 45 07.8	
DRGR		**148.10 333**	⇑*i*P	**PKPbc**	**07 42 58.2**	**-0.3**
TANN	**Tannenbergstha**	**148.12 348**	*e*PKP	**PKPbc**	**07 42 58.2**	**-0.2**
UBBA	**Unterbreizbach**	**148.16 351**	*e*PKP	**PKPbc**	**07 42 58.2**	**-0.1**
VYHS	**Vyhne**	**148.17 339**	*e*PKP	**PKPbc**	**07 42 58.5**	**0.0**
VYHS			*e*		07 44 58.5	
PSZ	**Piszkesteto**	**148.29 337**	⇓*i*P	**PKPbc**	**07 42 59.1**	**+0.2**
PSZ	**Piszkesteto**	**148.29 337**	⇑*e*	**PKPbc**	**07 42 58.9**	**0.0**
ARR	**Arges**	**148.31 330**	⇑*i*P	**PKPbc**	**07 42 59.8**	**+0.7**
TREC	**Trest**	**148.46 344**	⇑*e*PKP	**PKPbc**	**07 42 59.0**	**-0.3**
ROTZ	**Rotzenmuhle**	**148.79 348**	*e*PKP	**PKPbc**	**07 43 00.1**	**+0.1**
MEM	**Membach**	**148.81 356**	PKPbc	**PKPbc**	**07 42 60.0**	**-0.1**
TNS	**Taunus Mts**	**148.96 352**	*e*PKP	**PKPbc**	**07 43 00.3**	**-0.2**
BCLA	**Clavier**	**149.05 356**	PKPbc	**PKPbc**	**07 43 00.4**	**-0.2**
GRF	**Grafenberg Arr**	**149.05 349**	*e*PKP	**PKPbc**	**07 43 00.5**	**-0.2**
KHC	**Kasperske Hory**	**149.09 346**	*e*PKPDF	**PKPdf**	**07 42 56.4**	**+0.4**
KHC			⇑*e*PKP	**PKPbc**	**07 43 00.4**	**-0.4**
KHC			*e*PKPAB	**PKPab**	**07 43 06.9**	**-0.3**
KHC			*ep*PKP	**pPKPdf**	**07 45 03.6**	**+4.9**
KHC			*ex*	x	07 45 10.6	
KHC	**Kasperske Hory**	**149.09 346**	*e*PKPdf	**PKPdf**	**07 42 55.5**	**-0.5**
KHC			*e*PKPbc	**PKPbc**	**07 43 00.5**	**-0.3**
KHC			*e*PKPab	**PKPab**	**07 43 07.8**	**+0.6**
SZH	**Strazhica**	**149.14 325**	P	**PKPbc**	**07 43 00.5**	**-0.6**
GZR	**Gura Zlata**	**149.15 331**	⇑*i*P	**PKPbc**	**07 43 00.6**	**-0.5**
WET	**Wettzell**	**149.24 347**	*e*PKP	**PKPbc**	**07 43 01.2**	**0.0**
GEC2	**GERESS Array S**	**149.33 345**	*e*PKP	**PKPbc**	**07 43 01.3**	**-0.2**
GERES	**GERESS Array B**	**149.33 345**	PKP	**PKPdf**	**07 42 56.2**	**-0.3**
	comp=Z,11nm,0.6s,baz=43,slow=1.7,SNR=27					
GERES			PKPbc	**PKPbc**	**07 43 01.3**	**-0.2**
	comp=Z,11nm,0.6s,baz=35,slow=2.4,SNR=63					
GERES			pPKPbc	**pPKPbc**	**07 45 03.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=44,slow=3.0,SNR=2.4					
DOU	**Dourbes**	**149.41 357**	PKPbc	**PKPbc**	**07 43 01.0**	**-0.4**
DOU			PKPab	**PKPab**	**07 43 07.8**	**-0.5**
BZS	**Buzias**	**149.49 333**	⇑*i*P	**PKPbc**	**07 43 01.3**	**-0.5**
PKST	**T"s**	**149.50 339**	⇑*e*	**PKPbc**	**07 43 01.4**	**-0.4**
SRE	**Strehaia**	**149.51 330**	⇓*i*P	**PKPbc**	**07 43 01.5**	**-0.4**
PKS6	**Bocsa**	**149.52 336**	*e*	**PKPdf**	**07 42 56.1**	**-0.6**
CONA	**Conrad Observa**	**149.60 342**	⇓*i*PKiKP	**PKPbc**	**07 43 02.1**	**-0.1**
	comp=Z,48nm,1.1s,SNR=15					
SOP	**Sopron**	**149.61 341**	⇑*e*	**PKPbc**	**07 43 02.3**	**+0.3**
WLF	**Walferdange**	**149.74 355**	PKPbc	**PKPbc**	**07 43 03.1**	**+0.8**
WLF	**Walferdange**	**149.74 355**	*e*PKP	**PKPbc**	**07 43 02.7**	**+0.4**
MOA	**Molln**	**150.11 344**	⇓*i*PKPbc	**PKPbc**	**07 43 02.5**	**-0.7**
	comp=Z,12nm,0.6s,SNR=6.7					
DIM	**Dimitrovgrad**	**150.18 324**	*i*P	**PKPbc**	**07 43 03.6**	**0.0**
MPEP	**Malo Peshtene**	**150.22 328**	*i*P	**PKPbc**	**07 43 03.8**	**+0.2**
LANF	**Langenberg**	**150.26 353**	PKP	**PKPbc**	**07 43 03.9**	**+0.3**
STU	**Stuttgart**	**150.28 351**	*e*PKP	**PKPbc**	**07 43 03.4**	**-0.2**
FUR	**Furstenfeldbru**	**150.50 348**	*e*PKP	**PKPbc**	**07 43 03.8**	**-0.4**
KDZ	**Kurdzhali**	**150.51 324**	⇓*i*P	**PKPbc**	**07 43 03.7**	**-0.7**
RJOB	**Jochberg**	**150.58 346**	*e*PKP	**PKPbc**	**07 43 03.8**	**-0.6**
KOGS	**Kog**	**150.81 340**	*i*PKPbc	**PKPbc**	**07 43 04.4**	**-0.5**
BFO	**Black Forest**	**150.83 352**	*e*PKP	**PKPbc**	**07 43 04.5**	**-0.4**
SOKA	**Soboth**	**150.97 342**	⇓*i*PKPbc	**PKPbc**	**07 43 04.6**	**-0.7**
	comp=Z,29nm,1.1s,SNR=11					
VTS	**Vitosha**	**151.04 327**	⇑*i*P	**PKPbc**	**07 43 05.2**	**-0.5**
VTS	**Vitosha**	**151.04 327**	*i*P	**PKPbc**	**07 43 05.3**	**-0.5**
KBA	**Koelnbreinsper**	**151.06 344**	⇓*i*PKPbc	**PKPbc**	**07 43 04.7**	**-1.0**
	comp=Z,27nm,0.6s,SNR=17					
ECH	**Echery**	**151.08 353**	PKP	**PKPbc**	**07 43 05.3**	**-0.2**
WATA	**Walderalm**	**151.23 347**	⇑*i*PKPbc	**PKPbc**	**07 43 05.1**	**-1.0**
	comp=Z,21nm,0.5s,SNR=6.7					
RETA	**Reutte**	**151.25 348**	⇑*i*PKiKP	**PKPbc**	**07 43 05.6**	**-0.4**
	comp=Z,9.5nm,0.6s,SNR=5.4					
OBKA	**Obir**	**151.26 342**	⇓*i*PKPbc	**PKPbc**	**07 43 04.9**	**-1.2**
	comp=Z,9.9nm,0.6s					
WTTA	**Wattenberg**	**151.29 347**	⇑*i*PKPbc	**PKPbc**	**07 43 05.6**	**-0.6**
	comp=Z,48nm,0.6s,SNR=16					
MOTA	**Moosalm**	**151.32 348**	⇑*i*PKPbc	**PKPbc**	**07 43 05.0**	**-1.2**
	comp=Z,17nm,0.7s,SNR=9.0					
MYKA	**Terra Mystica**	**151.40 344**	⇑*i*PKPbc	**PKPbc**	**07 43 05.1**	**-1.3**
	comp=Z,23nm,0.6s,SNR=10					
MOF	**Molkenrain**	**151.44 353**	PKP	**PKPbc**	**07 43 05.2**	**-1.2**
MMB	**Musomiste**	**151.48 325**	⇓*i*P	**PKPbc**	**07 43 06.1**	**-0.5**
MMB	**Musomiste**	**151.48 325**	*i*P	**PKPbc**	**07 43 05.9**	**-0.7**
ABTA	**Abfaltersbach**	**151.58 345**	*i*PKPbc	**PKPbc**	**07 43 05.7**	**-1.0**
	comp=Z,46nm,0.6s,SNR=14					
DAVA	**Damuels**	**151.61 349**	⇑*i*PKiKP	**PKPbc**	**07 43 06.4**	**-0.5**
	comp=Z,16nm,0.7s,SNR=6.5					
LJU	**Ljubljana**	**151.69 342**	*i*PKPbc	**PKPbc**	**07 43 06.7**	**-0.2**
FETA	**Feichten**	**151.71 348**	⇑*i*PKiKP	**PKPbc**	**07 43 06.6**	**-0.5**
	comp=Z,25nm,1.0s,SNR=7.0					
CADS	**Cadrg**	**151.75 343**	*i*PKPbc	**PKPbc**	**07 43 06.0**	**-1.1**
BOJS	**Bojanci**	**151.96 341**	*e*PKPdf	**PKPdf**	**07 43 00.4**	**-0.1**
BOJS			*i*PKPbc	**PKiKP**	**07 43 07.7**	**0.0**
VAY	**Valandovo**	**152.28 326**	*e*PKP	**PKPbc**	**07 43 06.9**	**-1.5**
SKO	**Skopje**	**152.38 328**	*e*PKP	**PKPbc**	**07 43 08.3**	**-0.3**
OHR	**Ohrid**	**153.34 328**	*e*PKP	**PKPbc**	**07 43 09.0**	**-1.8**
MSKU	**Masuku**	**156.29 209**	PKP	**PKPdf**	**07 43 07.4**	**-0.1**
	comp=Z,2.7nm,0.4s,baz=187,slow=8.1,SNR=3.9					
MSKU			PKPab	**PKPab**	**07 43 38.9**	**+0.3**
	comp=Z,7.6nm,0.5s,baz=156,slow=5.5,SNR=4.0					
ESDC	**Sonseca Array**	**159.14 14**	PKP	**PKPdf**	**07 43 10.3**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=318,slow=2.4,SNR=4.1					
LIC	**Lamto**	**164.96 150**	*e*PKIKP	**PKPdf**	**07 43 16.0**	**-0.7**
	comp=Z,42nm,1.2s					
KIC	**Kosan Boka**	**165.21 151**	*e*PKIKP	**PKPdf**	**07 43 16.3**	**-0.6**
	comp=Z,72nm,1.4s					
TIC	**Toumodi**	**165.33 149**	*e*PKIKP	**PKPdf**	**07 43 16.3**	**-0.7**
	comp=Z,18nm,0.7s					
DBIC	**Dimbokro**	**165.43 150**	PKP	**PKPdf**	**07 43 16.5**	**-0.6**
	comp=Z,6.1nm,0.6s,baz=209,slow=1.3,SNR=11					
DBIC			PKPab	**PKPab**	**07 44 18.4**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=193,slow=5.5,SNR=4.4					
DBIC	**Dimbokro**	**165.43 150**	*e*PKPdf	**PKPdf**	**07 43 16.5**	**-0.6**
DBIC			PKP	**PKPdf**	**07 43 16.5**	**-0.6**
DBIC			PKPab	**PKPab**	**07 44 18.4**	**-0.1**
DBIC			*e*PKPab	PKPab	07 44 19.4	+0.9
TORD	**Torodi Ar. Bea**	**173.66 174**	PKP	**PKPdf**	**07 43 20.9**	**-0.9**
	comp=Z,5.3nm,0.9s,baz=321,slow=1.0,SNR=25					
TORD			PKPab	**PKPab**	**07 44 55.3**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=173,slow=4.1,SNR=15					
TORD			PP	**PP**	**07 48 45.7**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=190,slow=5.3,SNR=7.6					

*ISCJB **18** 07:25:51.6±0.8, 36°.84N±0°.05×140°.76E±0°.06, h95km±4km, mb3.4/3, Error ellipse: s-maj=9.9km s-min=5.8km az=40.6*
*JMA **18** 07:25:52.4±0.1, 36°.82N×140°.74E, h91km±1km, M3.6*
JMA Felt I J1.
*IDC **18** 07:25:53.4±3.5, 36°.85N×140°.70E, h98km±40km, mb3.2/3, mb1 3.3/5, mb1mx3.1/39, mbtmp3.5/5, Error ellipse: s-maj=98.0km s-min=33.0km az=173.0*
ISC 18 07:25:52.3±1.1, 36°.82N±0°.06×140°.75E±0°.07, h92km±7km, n25, σ1°09/33, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.25**	**215**	P	**Pn**	**07 26 05.8**	**0.0**
JHO				S	**Sn**	**07 26 15.6**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.29**	**8**	P	**Pn**	**07 26 06.0**	**0.0**
ONAJ				S	**Sn**	**07 26 15.9**	**-0.3**
JFK	**Kawauchi**	**0.56**	**11**	P	**Pn**	**07 26 07.7**	**-0.1**
JFK				S	**Sn**	**07 26 18.4**	**-0.9**
JFT	**Otama**	**0.77**	**335**	P	**Pn**	**07 26 09.9**	**+0.1**
JFT				S	**Sn**	**07 26 22.5**	**-0.3**
JFY	**Yanaizu**	**1.02**	**306**	P	**Pn**	**07 26 12.6**	**+0.2**
JFY				S	**Sn**	**07 26 27.9**	**+0.4**
JMM	**Marumori**	**1.05**	**2**	P	**Pn**	**07 26 12.3**	**-0.4**
JMM				S	**Sn**	**07 26 27.0**	**-1.0**
JAG	**Ashikaga**	**1.11**	**250**	P	**Pn**	**07 26 13.6**	**+0.2**
JAG				*e*S	**Sn**	**07 26 29.0**	**-0.3**
JKT	**Katashina**	**1.20**	**268**	P	**Pn**	**07 26 15.2**	**+0.6**
JKT				S	**Sn**	**07 26 32.5**	**+1.1**
JHK	**Hiroka**	**1.45**	**288**	P	**Pn**	**07 26 18.0**	**+0.5**
JHK				S	**Sn**	**07 26 36.6**	**0.0**
JYS	**Shiratake**	**1.50**	**339**	S	**Sn**	**07 26 37.7**	**-0.1**
JNS	**Sasagawa**	**1.51**	**312**	P	**Pn**	**07 26 18.2**	**-0.1**
JNS				S	**Sn**	**07 26 37.7**	**-0.3**
JOU	**Okura**	**1.55**	**358**	P	**Pn**	**07 26 18.7**	**-0.1**
JOU				S	**Sn**	**07 26 37.9**	**-0.9**
JRY	**Ryogami san**	**1.69**	**242**	P	**Pn**	**07 26 20.9**	**+0.3**
JRY				S	**Sn**	**07 26 41.7**	**-0.4**
MJAR	**Matsushiro Arr**	**2.06**	**263**	P	**Pn**	**07 26 25.8**	**+0.4**
	7.4nm,0.3s,baz=79,slow=12,SNR=26						
MJAR				S	**Sn**	**07 26 45.8**	**-4.8**
	9.8nm,0.3s,baz=80,slow=17,SNR=16						
MAT	**Matsushiro**	**2.06**	**263**	P	**Pn**	**07 26 26.1**	**+0.7**
MAT				S	**Sn**	**07 26 48.6**	**-2.0**
KSRS	**Korea Array**	**10.26**	**277**	P	**Pn**	**07 28 17.4**	**+0.9**
	0.3nm,0.3s,baz=94,slow=12,SNR=3.8						
SONM	**Songino Array**	**27.46**	**304**	P	**P**	**07 31 30.1**	**+0.4**
	0.8nm,0.6s,baz=103,slow=8.7,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	08 01 49.5	
	baz=312,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.51**	**120**	T	T	08 01 52.4	
	baz=312,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	08 01 51.3	
	baz=312,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**29.20**	**122**	T	T	08 02 45.3	
	baz=314,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hy**	**29.20**	**122**	T	T	08 02 39.1	
	baz=314,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy**	**29.21**	**122**	T	T	08 02 44.2	
	baz=314,slow=75,SNR=18						
MKAR	**Makanchi Array**	**43.78**	**302**	P	**P**	**07 33 48.5**	**-0.1**
	0.3nm,0.4s,baz=84,slow=9.6,SNR=6.3						
ILAR	**Eielson Array**	**49.96**	**32**	P	**P**	**07 34 36.9**	**+0.3**
	0.5nm,0.8s,baz=267,slow=6.6,SNR=8.5						

*ISCJB **18** 07:44:03.7±0.7, 37°.63N±0°.04×35°.60E±0°.04, h9km±6km, Error ellipse: s-maj=7.1km s-min=4.5km az=147.3*
*ISK **18** 07:44:03.4, 37°.63N×35°.58E, h8km, ML3.4*
*DDA **18** 07:44:04.3, 37°.50N×35°.63E, h14km, ML3.4*
*CSEM **18** 07:44:04.0±0.2, 37°.60N×35°.61E, h10km, ML3.4, Error ellipse: s-maj=4.1km s-min=3.5km az=164.0*
ISC 18 07:44:04.4±1.0, 37°.57N±0°.04×35°.62E±0°.03, h14km±9km, n37, σ0°59/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.19**	**118**	*e*PG	**Pg**	**07 44 08.8**	**-0.1**
KOZT	**Kozan**	**0.19**	**118**	*e*Pg	**Pg**	**07 44 08.8**	**-0.1**
KARA	**Karaisali**	**0.54**	**236**	*e*PG	**Pg**	**07 44 14.7**	**-0.4**
KARA				*e*SG	**Sg**	**07 44 22.9**	**+0.6**
KARA	**Karaisali**	**0.54**	**236**	*e*Pg	**Pg**	**07 44 14.7**	**-0.4**
KARA				*e*Sg	**Sg**	**07 44 22.9**	**+0.6**
CEYT	**Ceyhan**	**0.57**	**169**	*e*PG	**Pb**	**07 44 16.0**	**-0.1**
CEYT				*e*SG	**Sb**	**07 44 25.6**	**+1.5**
CEYT	**Ceyhan**	**0.57**	**169**	*e*Pg	**Pb**	**07 44 16.0**	**-0.1**
CEYT				*e*Sg	**Sb**	**07 44 25.6**	**+1.5**
ANDN	**Andirin**	**0.58**	**89**	*i*P	**Pg**	**07 44 15.3**	**-0.6**
ANDN				*i*S	**Sb**	**07 44 24.7**	**+0.2**
ANDN	**Andirin**	**0.58**	**89**	*i*P	**Pg**	**07 44 15.3**	**-0.6**
ANDN				*i*S	**Sb**	**07 44 24.7**	**+0.2**
GULE	**Gulek**	**0.73**	**247**	*i*P	**Pg**	**07 44 18.3**	**-0.3**
GULE				*i*S	**Sg**	**07 44 28.6**	**+0.4**
GULE	**Gulek**	**0.73**	**247**	*i*P	**Pg**	**07 44 18.3**	**-0.3**
GULE				*i*S	**Sg**	**07 44 28.6**	**+0.4**
KAMA	**Osmaniye**	**0.92**	**114**	*i*P	**Pb**	**07 44 21.5**	**-0.7**
KMRS	**Kahramanmaras**	**1.02**	**93**	*e*PG	**Pb**	**07 44 24.1**	**+0.2**
KMRS	**Kahramanmaras**	**1.02**	**93**	*e*Pg	**Pb**	**07 44 24.1**	**+0.2**
MERS	**Mersin**	**1.12**	**232**	*e*PN	**Pn**	**07 44 25.8**	**+0.1**
MERS	**Mersin**	**1.12**	**232**	*e*Pn	**Pn**	**07 44 25.8**	**+0.1**
BNN	**Bunyan**	**1.29**	**8**	*e*PN	**Pn**	**07 44 27.8**	**-0.4**
BNN	**Bunyan**	**1.29**	**8**	*e*Pn	**Pn**	**07 44 27.8**	**-0.4**
KUZU	**Kuzuini**	**1.41**	**124**	*i*P	**Pn**	**07 44 29.6**	**-0.1**
KUZU	**Kuzuini**	**1.41**	**124**	*i*P	**Pn**	**07 44 29.6**	**-0.1**
YAYL	**Yayladag**	**1.58**	**165**	*i*P	**Pn**	**07 44 30.9**	**-1.2**
YAYL	**Yayladag**	**1.58**	**165**	*i*P	**Pn**	**07 44 30.9**	**-1.2**
KIZK	**Mersin**	**1.60**	**228**	*i*P	**Pb**	**07 44 33.5**	**-0.2**
KIZK				*i*S	**Sg**	**07 44 55.4**	**-0.6**
KIZK	**Mersin**	**1.60**	**228**	*i*P	**Pb**	**07 44 33.5**	**-0.2**
KIZK				*i*S	**Sg**	**07 44 55.4**	**-0.6**
SULT	**Sultanhani-AKS**	**1.78**	**291**	*e*PN	**Pn**	**07 44 33.8**	**-0.9**
SULT	**Sultanhani-AKS**	**1.78**	**291**	*e*Pn	**Pn**	**07 44 33.8**	**-0.9**
DARE	**Darende-Malaty**	**1.78**	**55**	*e*PN	**Pn**	**07 44 35.3**	**+0.4**
DARE	**Darende-Malaty**	**1.78**	**55**	*e*Pn	**Pn**	**07 44 35.3**	**+0.4**
YOZ	**Yozgat**	**2.08**	**354**	*e*PN	**Pn**	**07 44 38.4**	**-0.6**
YOZ	**Yozgat**	**2.08**	**354**	*e*Pn	**Pn**	**07 44 38.4**	**-0.6**
SVSK	**Karacayir**	**2.58**	**24**	*e*PN	**Pn**	**07 44 45.9**	**+0.2**
SVSK	**Karacayir**	**2.58**	**24**	*e*Pn	**Pn**	**07 44 45.9**	**+0.2**
KONT	**Konya--Tatoy**	**2.61**	**279**	*e*PN	**Pn**	**07 44 46.4**	**+0.3**
KONT	**Konya--Tatoy**	**2.61**	**279**	*e*Pn	**Pn**	**07 44 46.4**	**+0.3**
CORM	**Corum**	**2.72**	**344**	*e*PN	**Pn**	**07 44 47.5**	**-0.1**
CORM	**Corum**	**2.72**	**344**	*e*Pn	**Pn**	**07 44 47.6**	**-0.1**
LOD	**Lodumlu**	**3.21**	**317**	*e*PN	**Pn**	**07 44 54.8**	**+

1.0nm,1.0s,baz=252,slow=5.0,SNR=3.5
TORD Torodi Ar. Bea 146.94 281 PKPbc PKPbc 08 10 20.5 +0.1
1.7nm,0.7s,baz=79,slow=2.7,SNR=13
TORD pPKPbc pPKPbc 08 10 46.0 -1.5
0.6nm,0.5s,baz=50,slow=2.3,SNR=2.7
BDFB Brasilia 150.95 146 PKP PKPdf 08 10 25.1 +0.2
1.2nm,0.4s,baz=260,slow=6.1,SNR=3.9
BDFB PKPbc **PKiKP 08 10 31.1 -0.1**
4.4nm,0.6s,baz=188,slow=1.8,SNR=6.1
DBIC Dimbokro 153.35 268 PKPbc PKPbc 08 10 36.2 +0.3
1.9nm,0.7s,baz=92,slow=2.0,SNR=3.7

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*LDG **18** 07:52:23.7±0.1,34°.38N×81°.56E,h10km,Mb4.9/26, Ms3.2/1,Error ellipse: s-maj=4.6km s-min=3.4km az=86.0*
*IDC **18** 07:52:23.2±0.4,34°.28N×81°.75E,h0km,mb4.5/26, mb1 4.6/31,mb1mx4.6/35,mbtmp4.5/31,ML3.9/5,MS3.7/2, Ms1 3.7/2,ms1mx3.1/35,Error ellipse: s-maj=14.8km s-min=10.3km az=46.0*
*BJI **18** 07:52:24.8,34°.37N×81°.78E,h9km,mB4.6/21,mb4.5/35, ML3.9/2,Ms4.2/31,Ms7 4.0/30*
*MOS **18** 07:52:26.2±1.0,34°.34N×81°.79E,h29km,mb5.0/58,Error ellipse: s-maj=8.0km s-min=3.5km az=122.8*
*ISCJB **18** 07:52:27.0±0.8,34°.36N±0°.02×81°.72E±0°.02,h32km±6km, mb4.7/115,MS3.6/2,Error ellipse: s-maj=3.7km s-min=2.2km az=148.0*
*NDI **18** 07:52:28.5±2.6,34°.10N×81°.82E,h10km,mb5.0, mb5.0(NEIC)*
*NEIC **18** 07:52:29.1±0.6,34°.33N×81°.76E,h37km±5km,mb5.0/44, Error ellipse: s-maj=5.7km s-min=3.7km az=211.0*
ISC 18 07:52:25.9±0.4,**34°.34N**±0°.03×**81°.68E**±0°.03,**h12**km±2km, **n391**,σ1°**59**/444,**mb4.8**/116,**40C-18D,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
SDNR	**Sundarnagar**	**4.87**	**236**	*e*P	Pn	07 53 43.0		+4.1
SDNR				*ex*	Sb	07 54 43.0		-6.6
DHRM	**DHARAMSHALA**	**4.96**	**247**	*e*P	Pn	07 53 43.8		+3.4
DHRM				*e*S	**Sn**	**07 54 38.1**		**+0.3**
SMLA	**Simla**	**4.97**	**231**	*i* P	**Pn**	**07 53 43.3**		**+3.0**
SMLA				*e*S	**Sn**	**07 54 36.1**		**-1.6**
LGTI	**Lohaghat**	**5.03**	**194**	*ex*	**Pb**	**07 53 55.1**		**+1.3**
DLH	**Dalhousie**	**5.10**	**251**	*e*P	**Pn**	**07 53 44.0**		**+1.7**
DLH				*ex*	Sb	07 54 50.0		-6.5
BHK	**Bhakra**	**5.30**	**238**	*ex*	Pb	07 53 54.0		-4.5
DANN	**Dangsing**	**6.23**	**163**	*e*Pn	**Pn**	**07 53 59.3**		**+1.4**
DANN				*e*Sn	**Sn**	**07 55 12.6**		**+3.3**
204nm,0.8s								
PYUN	**Piuthan**	**6.32**	**169**	*e*Pn	**Pn**	**07 54 00.5**		**+1.4**
PYUN				*e*Sn	**Sn**	**07 55 12.5**		**+1.1**
KOLN	**Koldanda**	**6.76**	**165**	*e*Pn	**Pn**	**07 54 06.3**		**+1.3**
KOLN				*e*Sn	**Sn**	**07 55 23.8**		**+1.8**
109nm,0.5s								
NDI	**New Delhi**	**6.81**	**215**	*e*P	**Pn**	**07 54 07.0**		**+1.5**
NDI				*ex*	**Sn**	**07 55 28.0**		**+5.0**
GKN	**Gorkha**	**6.81**	**157**	*e*Pn	**Pn**	**07 54 07.3**		**+1.6**
GKN				*e*Sn	**Sn**	**07 55 26.0**		**+2.8**
242nm,1.1s								
KSH	**Kashi**	**6.89**	**320**	Pn	**Pn**	**07 54 09.3**		**+2.5**
KSH				Sn	**Sn**	**07 55 30.4**		**+5.2**
CHCP	**Chirah Chowk**	**7.02**	**267**	P	Pn	07 54 11.8		+3.3
KKN	**Kakani**	**7.22**	**154**	*e*Pn	**Pn**	**07 54 14.0**		**+2.5**
KKN				*e*Sn	**Sn**	**07 55 35.2**		**+1.6**
195nm,0.8s								
DMN	**Daman**	**7.33**	**155**	*e*Pn	**Pn**	**07 54 15.3**		**+2.4**
DMN				*e*Sn	**Sn**	**07 55 39.0**		**+2.8**
401nm,1.0s								
GUN	**Gumba**	**7.35**	**150**	*e*Pn	**Pn**	**07 54 16.4**		**+3.0**
PKIN	**Phulchoki**	**7.46**	**154**	*e*Pn	**Pn**	**07 54 17.0**		**+2.2**
PKIN				*e*Sn	**Sn**	**07 55 41.6**		**+2.2**
288nm,0.8s								
PKI	**Pulchoki**	**7.47**	**154**	*e*Pn	**Pn**	**07 54 16.9**		**+1.9**
PKI				*e*Sn	**Sn**	**07 55 42.5**		**+2.7**
356nm,0.9s								
JIRN	**Jiri**	**7.70**	**149**	*e*Pn	**Pn**	**07 54 20.6**		**+2.4**
JIRN				*e*Sn	**Sn**	**07 55 46.9**		**+1.3**
221nm,0.6s								
CEP	**Cherat**	**8.12**	**269**	P	**Pn**	**07 54 23.7**		**0.0**
CEP				S	**Sn**	**07 55 57.0**		**+1.5**
THW	**Thamme Wali**	**8.44**	**262**	P	**Pn**	**07 54 29.3**		**+1.4**
RAMN	**Ramite**	**8.50**	**149**	*e*Pn	**Pn**	**07 54 30.6**		**+1.6**
RAMN				*e*Sn	**Sn**	**07 56 05.6**		**+0.6**
474nm,0.9s								
TAPN	**Taplejung**	**8.68**	**142**	*e*Pn	**Pn**	**07 54 33.6**		**+2.0**
TAPN				*e*Sn	**Sn**	**07 56 10.3**		**+0.7**
137nm,1.0s								
ODAN	**Odare**	**8.93**	**145**	*e*Pn	**Pn**	**07 54 36.0**		**+1.1**
ODAN				*e*Sn	**Sn**	**07 56 16.5**		**+0.9**
224nm,0.9s								
KZA	**Kyzart**	**9.23**	**329**	P	Pn	07 54 42.6		+3.4
SNR=26								
KZA	**Kyzart**	**9.23**	**329**	*i* P	Pn	07 54 42.5		+3.4
LSA	**Lhasa**	**9.28**	**117**	P	Pn	07 54 43.1		+3.3
LSA	**Lhasa**	**9.28**	**117**	*e*P	**Pn**	**07 54 38.6**		**-1.2**
LSA				pmax	pmax			
comp=Z,32nm,0.9s								
LSA	**Lhasa**	**9.28**	**117**	*e*Pn	**Pn**	**07 54 38.6**		**-1.2**
comp=Z,32nm,0.9s								
UCH	**Uchtor**	**9.68**	**327**	P	**Pn**	**07 54 48.2**		**+2.9**
SNR=37								
UCH	**Uchtor**	**9.68**	**327**	*i* P	**Pn**	**07 54 48.1**		**+2.9**
TKM2	**Tokmak 2**	**9.79**	**333**	P	Pn	07 54 50.7		+4.0
SNR=36								
TKM2	**Tokmak 2**	**9.79**	**333**	*e*P	**Pn**	**07 54 49.1**		**+2.4**
TKM2				*e*		07 56 43.2		
TKM2	**Tokmak 2**	**9.79**	**333**	*e*Pn	**Pn**	**07 54 49.1**		**+2.4**
TKM2				*e*Sn	Sn	07 56 43.2		+6.6
KBK	**Karagaybulak**	**9.83**	**330**	P	Pn	07 54 51.1		+4.0
SNR=25								
KBK	**Karagaybulak**	**9.83**	**330**	*i* P	Pn	07 54 51.1		+4.0
AJM	**Ajmer**	**9.91**	**220**	*e*P4	**Pn**	**07 54 50.0**		**+1.8**
AJM				*i* S4	**Sn**	**07 56 38.0**		**-1.4**
AML	**Almayashu**	**9.99**	**323**	P	**Pn**	**07 54 51.1**		**+1.6**
SNR=22								
AML	**Almayashu**	**9.99**	**323**	*i* P	**Pn**	**07 54 51.1**		**+1.6**
AAK	**Ala-Archa**	**10.01**	**328**	P	Pn	07 54 52.8		+3.3
SNR=11								
AAK	**Ala-Archa**	**10.01**	**328**	Pn	**Pn**	**07 54 52.7**		**+3.2**
comp=Z,0.6nm,0.3s,baz=139,slow=13,SNR=16								
FRU	**Bishkek**	**10.12**	**329**	*i* P	**Pn**	**07 54 54.0**		**+3.1**
FRU				pmax	pmax			
comp=Z,330nm,1.8s								
CHMS	**Chumysh**	**10.20**	**330**	P	Pn	07 54 55.8		+3.7
SNR=19								
CHMS	**Chumysh**	**10.20**	**330**	*i* P	Pn	07 54 55.7		+3.7
EKS2	**Erkin-Say**	**10.35**	**326**	P	Pn	07 54 58.1		+3.8
SNR=6.1								
EKS2	**Erkin-Say**	**10.35**	**326**	*e*P	**Pn**	**07 54 57.3**		**+3.0**
EKS2	**Erkin-Say**	**10.35**	**326**	*e*Pn	**Pn**	**07 54 57.3**		**+3.0**
KBL	**Kabul**	**10.44**	**275**	*e*P	**Pn**	**07 54 58.7**		**+3.2**
KBL	**Kabul**	**10.44**	**275**	*e*Pn	**Pn**	**07 54 58.7**		**+3.2**
USP	**Ospenovka**	**10.52**	**330**	P	**Pn**	**07 54 59.6**		**+3.1**
SNR=8.5								
USP	**Ospenovka**	**10.52**	**330**	*i* P	**Pn**	**07 54 59.5**		**+3.1**
WMQ	**Urumqi**	**10.55**	**24**	P	**Pn**	**07 54 58.9**		**+2.0**
WMQ				pP		07 55 01.8		
WMQ				PP	**PnPn**	**07 55 07.3**		**+2.6**
WMQ				S	**Sn**	**07 56 58.5**		**+3.5**
WMQ				sS		07 57 01.8		
WMQ				SS	**SnSn**	**07 57 11.8**		**+4.8**
BOK	**Bokaro**	**11.13**	**160**	*e*P	**Pn**	**07 55 03.8**		**-1.1**
BHPL	**Bhopal**	**11.67**	**200**	*e*P	**Pn**	**07 55 12.0**		**-0.3**
KK31	**Karatay Array**	**12.34**	**318**	*i* P	**Pn**	**07 55 22.1**		**+0.8**
KK31				pmax	pmax			
comp=Z,2.0nm,0.4s								
KKAR	**Karatay Array**	**12.34**	**318**	*e*Sn	**Sn**	**07 57 37.9**		**-0.8**
KKAR				*e*Sn	**Sn**	**07 57 37.9**		**-0.8**
SHL	**Shillong**	**12.43**	**132**	*e*P	**Pn**	**07 55 20.7**		**-2.2**
SHL				*ex*	Sn	07 57 34.2		-7.1
MK31	**Makanchi Array**	**12.45**	**2**	*e*P	**Pn**	**07 55 22.6**		**-0.1**
MK31				*e*		07 57 42.0		
MK31	**Makanchi Array**	**12.45**	**2**	*e*Pn	**Pn**	**07 55 22.6**		**-0.1**
MK31				*e*Sn	**Sn**	**07 57 42.0**		**+0.6**
MKAR	**Makanchi Array**	**12.45**	**2**	P	**Pn**	**07 55 22.8**		**0.0**
MKAR						07 57 39.9		
MKAR				pmax	pmax			
comp=Z,3.0nm,0.3s								
MKAR	**Makanchi Array**	**12.45**	**2**	Pn	**Pn**	**07 55 22.8**		**0.0**
comp=Z,3.3nm,0.3s,baz=179,slow=13,SNR=280								
MKAR				Sn	**Sn**	**07 57 39.9**		**-1.5**
baz=177,slow=29,SNR=2.2								
NGP	**Nagpur**	**13.35**	**191**	*e*P	**Pn**	**07 55 34.3**		**-0.8**
NGP				*ex*	**Sn**	**07 58 02.2**		**-1.3**
GTA	**Gaotai**	**15.36**	**66**	*e*P	**Pn**	**07 56 02.5**		**-0.1**
GTA				pP	**P**	**07 56 06.1**		**-1.2**
GTA				sP	**sP**	**07 56 08.5**		**-3.8**
GTA				S	**Sn**	**07 58 55.8**		**+3.1**
GTA				sS	S	07 59 01.0		-8.0
GTA				SS	**SnSn**	**07 59 14.3**		**+8.9**
KURBB	**Kurchatov Arra**	**16.43**	**353**	Pn	**Pn**	**07 56 14.9**		**-1.2**
comp=Z,0.1nm,0.3s,baz=172,slow=12,SNR=15								
KURBB				Sn	**Sn**	**07 59 11.4**		**-6.9**
comp=Z,0.2nm,0.3s,baz=193,slow=20,SNR=4.5								
KURK	**Kurchatov**	**16.52**	**353**	P	**Pn**	**07 56 14.9**		**-2.3**
KURK						07 59 11.4		
KURK	**Kurchatov**	**16.52**	**353**	*e*Pn	**Pn**	**07 56 15.5**		**-1.7**
KURK				Sn	Sn	07 59 11.4		-8.9
HYB	**Hyderabad**	**17.09**	**190**	*e*P	Pn	07 56 19.5		-5.1
HYB				*e*S	**Sn**	**07 59 33.0**		**-1.6**
HYB	**Hyderabad**	**17.09**	**190**	*i* P	Pn	07 56 19.5		-5.1
HYB				*e*		07 59 23.0		
HYB				*e*S	**Sn**	**07 59 33.0**		**-1.6**
HYB	**Hyderabad**	**17.09**	**190**	*e*P	**Pn**	**07 56 23.5**		**-1.1**
HYB				AMB	AMB	07 56 28.5		
comp=Z,28nm,0.6s								
HYB	**Hyderabad**	**17.09**	**190**	*e*P	Pn	07 56 19.5		-5.1
HYB				*e*		07 59 23.0		
HYB				*e*S	**Sn**	**07 59 33.0**		**-1.6**
POO	**Poona**	**17.23**	**206**	*e*P	**Pn**	**07 56 26.7**		**+0.3**
LZH	**Lanzhou**	**18.19**	**78**	*e*P	**Pn**	**07 56 37.4**		**-1.0**
LZH				pP	**pP**	**07 56 41.8**		**-0.3**
LZH				sP	**sP**	**07 56 44.9**		**+1.2**
CD2	**Chengdu**	**18.90**	**94**	*e*P	**Pn**	**07 56 46.6**		**-0.4**
CD2				sP	**sP**	**07 56 52.6**		**+1.2**
CD2				sS	**Sn**	**08 00 17.9**		**-0.6**
HVS	**Khovu-Aksy**	**18.92**	**24**	P	**Pn**	**07 56 47.5**		**+0.4**
HVS				pmax	pmax			
comp=Z,20nm,0.8s								
GEYT	**Alibeck**	**19.35**	**287**	P	**P**	**07 56 51.4**		**+0.2**
comp=Z,0.8nm,0.3s,baz=104,slow=12,SNR=40								
GEYT				LR	LR	08 05 46.7		
comp=Z,510nm,18.6s,baz=300,slow=41								
ZALV	**Zalesovo Beam**	**19.73**	**6**	P	**P**	**07 56 54.9**		**-0.2**
ZALV				pmax	pmax			
comp=Z,1.0nm,0.3s								
ZALV	**Zalesovo Beam**	**19.73**	**6**	P	**P**	**07 56 54.9**		**-0.2**
comp=Z,1.2nm,0.3s,baz=191,slow=13,SNR=14								
BVA0	**Borovoye Array**	**20.34**	**340**	*i* P	**P**	**07 57 02.7**		**+0.9**
BVA0				pmax	pmax			
comp=Z,82nm,1.1s								
BVAR	**Borovoye Array**	**20.34**	**340**	P	Pn	07 57 02.9		-0.9
BVAR						08 01 13.9		
BVAR				pmax	pmax			
comp=Z,38nm,0.8s								
BVAR				pmax	pmax			
comp=Z,2.0nm,0.7s								
BVAR	**Borovoye Array**	**20.34**	**340**	P	Pn	07 57 02.9		-0.9
comp=Z,38nm,0.8s,baz=146,slow=11,SNR=128								
BVAR				PcP	**PcP**	**08 01 13.9**		**-0.7**
comp=Z,1.6nm,0.7s,baz=160,slow=4.6,SNR=4.2								
KMI	**Kunming**	**20.44**	**111**	P	**P**	**07 57 03.5**		**+0.2**
KMI				pP	**pP**	**07 57 08.5**		**+1.7**
KMI				sP	**sP**	**07 57 11.3**		**+2.9**
KMI				PP	**PnPn**	**07 57 24.6**		**+4.1**
KMI				S	**S**	**08 00 48.5**		**-3.6**
KMI				sS	**sS**	**08 00 57.3**		**-0.4**
KMI				SS	**SnSn**	**08 01 17.3**		**+6.9**
NVS	**Novosibirsk**	**20.52**	**3⇑**	*i*P	**P**	**07 57 03.2**		**-0.6**
NVS				pmax	pmax			
comp=N,22nm,1.2s								
NVS				pmax	pmax			
comp=Z,33nm,1.2s								
NVS				pmax	pmax			
comp=E,4.0nm,0.6s								
CMAI	**Chiengmai2**	**21.05**	**129**	P	**P**	**07 57 10.3**		**+0.4**
comp=E,25nm,1.3s								
CRAI	**Chiangrai**	**21.71**	**126**	P	**P**	**07 57 16.5**		**-0.4**
comp=E,11nm,0.9s								
CHTO	**Chiang Mai**	**21.80**	**131**	*e*P	**P**	**07 57 17.3**		**-0.5**
CHTO				pmax	pmax			
comp=Z,13nm,0.7s								
CHTO	**Chiang Mai**	**21.80**	**131**	P	**P**	**07 57 17.5**		**-0.4**
comp=Z,97nm,0.7s								
CHTO	**Chiang Mai**	**21.80**	**131**	*e*P	**P**	**07 57 17.3**		**-0.5**
comp=Z,13nm,0.7s								
CMMT	**Chiang Mai**	**21.81**	**131**	P	**P**	**07 57 17.4**		**-0.5**
comp=Z,28nm,0.7s								
AB31	**Akbulak array**	**21.90**	**319**	*i* P	**P**	**07 57 18.5**		**-0.2**
AB31				pmax	pmax			
comp=Z,50nm,0.9s								
ABKAR	**Akbulak array**	**21.90**	**319**	*e*P	**P**	**07 57 18.4**		**-0.2**
comp=Z,25nm,0.7s								
CMAR	**Chiang Mai Arr**	**22.07**	**131**	P	**P**	**07 57 20.7**		**0.0**
CMAR						08 01 17.8		
CMAR				pmax	pmax			
comp=Z,32nm,0.8s								
CMAR				pmax	pmax			
comp=Z,1.0nm,0.4s								
CMAR	**Chiang Mai Arr**	**22.07**	**131**	P	**P**	**07 57 20.7**		**0.0**
comp=Z,32nm,0.8s,baz=314,slow=12,SNR=56								
CMAR				PcP	**PcP**	**08 01 17.8**		**-0.7**
comp=Z,1.1nm,0.4s,baz=286,slow=6.5,SNR=4.7								
LAMP	**Lampang**	**22.45**	**130**	P	**P**	**07 57 28.9**		**+4.1**
comp=Z,6.5nm,0.8s								
ZAK	**Zakamensk**	**22.49**	**38**	*e*P	**P**	**07 57 24.2**		**-1.0**
ZAK				pmax	pmax			
comp=Z,4.0nm,1.2s								
XAN	**Xi'an**	**22.52**	**83**	P	**P**	**07 57 27.0**		**+1.5**
SONM	**Songino Array**	**22.87**	**46**	P	**P**	**07 57 29.1**		**-0.1**
SONM						08 01 19.2		
SONM				pmax	pmax			
comp=Z,7.0nm,0.9s								
SONM				pmax	pmax			
comp=Z,2.0nm,0.8s								
SONM				MLR	MLR			
comp=Z,97nm,21.1s								
SONM	**Songino Array**	**22.87**	**46**	P	**P**	**07 57 29.1**		**-0.1**
comp=Z,6.8nm,0.9s,baz=233,slow=9.9,SNR=18								
SONM				PcP	**PcP**	**08 01 19.2**		**-0.6**
comp=Z,1.5nm,0.8s,baz=227,slow=2.1,SNR=8.9								
SONM				LR	LR	08 07 24.3		
comp=Z,96nm,21.1s,baz=84,slow=39								
GYA	**Guiyang**	**22.90**	**103⇑**	*i*P	**P**	**07 57 33.4**		**+3.7**
GYA				PP	**PnPn**	**07 57 58.0**		**+3.9**
GYA				S	**S**	**08 01 34.3**		**-5.1**
GYA				SS	**SnSn**	**08 02 17.8**		**+7.2**
ULN	**Ulaanbaatar**	**23.28**	**47**	P	**P**	**07 57 34.0**		**+0.6**
ULN				pmax	pmax			
comp=Z,11nm,1.2s								
ULN	**Ulaanbaatar**	**23.28**	**47**	*e*P	**P**	**07 57 34.5**		**+1.1**
comp=Z,9.4nm,1.1s								
TLY	**Talaya**	**23.48**	**36**	*e*P	**P**	**07 57 37.2**		**+2.0**
TLY				pmax	pmax			
comp=Z,4.0nm,1.3s								
TLY	**Talaya**	**23.48**	**36**	P	**P**	**07 57 38.0**		**+2.7**
comp=Z,1.4nm,0.6s,baz=228,slow=14,SNR=3.8								
AKTO	**Aktyubinsk**	**23.60**	**320**	P	**P**	**07 57 36.4**		**0.0**
AKTO				pmax	pmax			
comp=Z,19nm,0.9s								
AKTO	**Aktyubinsk**	**23.60**	**320**	P	**P**	**07 57 36.4**		**0.0**
comp=Z,19nm,0.9s,baz=121,slow=8.7,SNR=36								
UTTA	**Uttaradit**	**23.61**	**130**	P	**P**	**07 57 37.4**		**+0.6**
HHC	**Hu-ho-hao-te**	**24.48**	**66**	*e*P	**P**	**07 57 43.9**		**-1.0**
HHC				pP	**pP**	**07 57 48.1**		**-0.5**
HHC				sP	**sP**	**07 57 50.9**		**+0.7**
HHC				PP	**PnPn**	**07 58 19.4**		**+3.9**
HHC				S	**S**	**08 02 00.3**		**-4.6**
HHC				sS	**sS**	**08 02 07.3**		**-3.7**
HHC				SS	**SnSn**	**08 02 54.3**		**+5.3**
SVE	**Sverdlovsk**	**26.67**	**334**	*e*P	**P**	**07 58 05.3**		**+0.9**
SVE				pmax	pmax			
comp=Z,26nm,1.2s								
ARU	**Arti**	**27.16**	**331**	*d*iP	**P**	**07 58 09.2**		**+0.4**
ARU						07 58 49.9		
ARU				S	**S**	**08 02 50.2**		**+3.2**
ARU				pmax	pmax			
comp=Z,8.0nm,0.7s								
ARU	**Arti**	**27.16**	**331**	*e*P	**P**	**07 58 09.6**		**+0.7**
comp=Z,9.0nm,0.9s								
BJI	**Beijing**	**27.95**	**68**	P	**P**	**07 58 14.8**		**-1.2**
BJI				S	**S**	**08 02 59.9**		**+0.3**
QIZ	**Qiongzhong**	**29.30**	**114**	P	**P**	**07 58 25.8**		**-2.4**
QIZ				S	S	08 03 11.8		-9.4
GNI	**Garni**	**29.82**	**292**	P	**P**	**07 58 36.0**		**+3.1**
GNI				pmax	pmax			
comp=Z,5.0nm,0.6s								
NJ2	**Nanjing**	**31.08**	**84**	*e*P	**P**	**07 58 43.6**		**-0.3**
KBZ	**Khabaz**	**31.30**	**299**	P	**P**	**07 58 45.4**		**-0.3**
KBZ				pmax	pmax			
comp=Z,3.0nm,1.0s								
KBZ	**Khabaz**	**31.30**	**299**	P	**P**	**07 58 45.4**		**-0.3**
comp=Z,2.7nm,0.9s,baz=180,slow=4.0,SNR=2.7								
GOF	**Gofitskoye**	**31.32**	**302**	*e*P	P	07 58 49.2		+3.3
RAYN	**Ar Rayn**	**33.29**	**261**	*e*P	**P**	**07 59 04.2**		**+0.7**
comp=Z,135nm,3.0s								
VRHR	**Novokhopersk**	**33.36**	**312**	*e*P	**P**	**07 59 02.9**		**-0.8**
VRHR				pmax	pmax			
comp=Z,30nm,0.7s								
VRHR				pmax	pmax			
comp=N,10.0nm,0.8s								
VRHR				pmax	pmax			
comp=E,30nm,0.9s								
VORD	**Divnogorie**	**34.77**	**312**	*e*P	**P**	**07 59 15.2**		**-0.7**
VORD				pmax	pmax			
comp=Z,20nm,0.8s								
VORD				pmax	pmax			
comp=N,20nm,0.9s								
VORD				pmax	pmax			
comp=E,40nm,0.8s								
VSR	**Storozhevoye**	**34.90**	**312**	*e*P	**P**	**07 59 16.2**		**-0.8**
VSR				pmax	pmax			
comp=N,7.0nm,0.8s								
VSR				pmax	pmax			
comp=E,20nm,0.8s								
VSR				pmax	pmax			
comp=Z,20nm,0.8s								
PSI	**Prapat**	**35.26**	**149**	PcP	**PcP**	**08 01 50.8**		**-0.6**
comp=Z,3.3nm,0.6s,baz=333,slow=4.5,SNR=4.5								
ANN	**Anapa**	**35.28**	**301**	*e*P	P	07 59 11.1		-9.3
ANN				pmax	pmax			
comp=Z,55nm,0.9s								
PRGR	**Permogore**	**35.62**	**331**	P	**P**	**07 59 22.5**		**-0.6**
MOS	**Moscow**	**36.92**	**319**	*e*P	**P**	**07 59 34.0**		**-0.3**
OBN	**Obninsk**	**37.33**	**318⇑**	*e*P	**P**	**07 59 38.6**		**+0.8**
OBN				*i*		08 01 00.1		
OBN				*e*		08 01 57.3		
OBN				pmax	pmax			
comp=Z,30nm,1.2s								
OBN				MLR	MLR			
comp=Z,275nm,18.0s								
KLMR	**Klimovskoe**	**37.82**	**328**	*e*P	**P**	**07 59 40.1**		**-1.8**
KLMR				pmax	pmax			
comp=Z,17nm,1.4s								
BRTR	**Keskin Array B**	**38.36**	**292**	P	**P**	**07 59 48.5**		**+1.6**
BRTR						08 02 00.1		
BRTR				pmax	pmax			
comp=Z,5.0nm,0.9s								
BRTR				pmax	pmax			
comp=Z,1.0nm,0.6s								
BRTR	**Keskin Array B**	**38.36**	**292**	P	**P**	**07 59 48.5**		**+1.6**
comp=Z,4.7nm,0.9s,baz=117,slow=7.4,SNR=17								
BRTR				PcP	**PcP**	**08 02 00.1**		**-0.3**
comp=Z,0.8nm,0.6s,baz=99,slow=4.1,SNR=3.0								
YAK	**Yakutsk**	**40.87**	**32**	P	**P**	**08 00 07.4**		**+0.2**
AKASG	**Malin Array Be**	**41.06**	**310**	P	**P**	**08 00 09.1**		**+0.1**
AKASG						08 02 06.7		
AKASG				pmax	pmax			
comp=Z,3.0nm,0.5s								
AKASG				pmax	pmax			
comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**41.06**	**310**	P	**P**	**08 00 09.1**		**+0.1**
comp=Z,3.1nm,0.5s,baz=76,slow=8.2,SNR=9.3								
AKASG				PcP	**PcP**	**08 02 06.7**		**-1.9**
comp=Z,0.8nm,0.5s,baz=92,slow=2.1,SNR=3.8								
KIEV	**Kiev**	**41.07**	**310**	*e*P	**P**	**08 00 09.0**		**-0.1**
KIEV				pmax	pmax			
comp=Z,5.0nm,0.6s								
KIEV	**Kiev**	**41.07**	**310**	*e*P	**P**	**08 00 08.9**		**-0.1**
comp=Z,4.6nm,0.6s								
CFR	**Carcaliu**	**41.86**	**302⇑**	P	**P**	**08 00 17.1**		**+1.4**
CFR	**Carcaliu**	**41.86**	**302⇑**	*i*P	**P**	**08 00 17.0**		**+1.4**
JOF	**Joensuu**	**42.20**	**328**	*e*P	**P**	**08 00 18.9**		**+0.8**
JOF				pmax	pmax			
comp=Z,9.0nm,0.6s								
JOF	**Joensuu**	**42.20**	**328**	*e*p	**P**	**08 00 18.9**		**+0.8**
comp=Z,8.5nm,0.6s								
VRI	**Vrincioaia**	**42.80**	**303⇑**	P	**P**	**08 00 25.4**		**+2.1**
VRI	**Vrincioaia**	**42.80**	**303⇑**	*i*P	**P**	**08 00 25.4**		**+2.1**
TESR	**Tescani**	**42.81**	**304⇓**	*i*P	**P**	**08 00 24.2**		**+0.8**
PLOR	**Plostina**	**42.85**	**303⇑**	P	**P**	**08 00 26.1**		**+2.3**
PLOR	**Plostina**	**42.85**	**303⇑**	*i*P	**P**	**08 00 26.1**		**+2.3**
VSU	**Vasula**	**43.32**	**321⇑**	*i*P	**P**	**08 00 28.0**		**+0.7**
VSU				pmax	pmax			
comp=Z,68nm,1.0s								
MLR	**Muntele Rosu**	**43.38**	**302⇑**	P	**P**	**08 00 30.7**		**+2.5**
MLR	**Muntele Rosu**	**43.38**	**302⇑**	*i*P	**P**	**08 00 30.7**		**+2.5**
BURAR	**Bucovina Array**	**43.71**	**305⇑**	P	**P**	**08 00 31.8**		**+1.0**
BURAR	**Bucovina Array**	**43.71**

UPC	Upice	49.47 310	eP	P	08 01 16.3	+0.5
CONA	Conrad Observa	49.94 307⇑	iP	P	08 01 20.4	+0.9
	comp=Z,17nm,1.1s					
PRU	Pruhonice	50.48 310	eP	P	08 01 24.4	+1.0
PRU	Pruhonice	50.48 310	eP	P	08 01 24.4	+1.0
CRES	Cresnjev	50.60 304	iP	P	08 01 25.8	+1.4
CRES	Cresnjev	50.60 304	iP	P	08 01 25.8	+1.3
PERS	Pernice	50.67 305	eP	P	08 01 25.9	+0.9
PERS	Pernice	50.67 305	eP	P	08 01 26.0	+1.0
BRG	Berggiesshubel	50.72 311	eP	P	08 01 25.8	+0.5
	comp=Z,11nm,1.0s					
BRG	Berggiesshubel	50.72 311	eP	P	08 01 25.8	+0.5
BRG			pmax	pmax		
	comp=Z,11nm,1.0s					
BRG	Berggiesshubel	50.72 311	eP	P	08 01 26.0	+0.7
	comp=Z,4.0nm,0.8s					
SOKA	Soboth	50.72 305⇑	iP	P	08 01 26.2	+0.8
	comp=Z,25nm,1.1s					
MOA	Molln	51.01 307⇑	iP	P	08 01 28.3	+0.7
	comp=Z,8.2nm,0.9s					
OBKA	Obir	51.08 305⇑	iP	P	08 01 28.5	+0.3
	comp=Z,12nm,1.3s					
LJU	Ljubljana	51.19 305	iP	P	08 01 30.6	+1.7
LJU	Ljubljana	51.19 305	iP	P	08 01 30.6	+1.7
GEC2	GERESS Array S	51.20 308	eP	P	08 01 29.9	+0.8
GEC2	GERESS Array S	51.20 308	eP	P	08 01 29.6	+0.5
	comp=Z,8.0nm,1.1s					
GEC2	GERESS Array S	51.20 308	eP	P	08 01 29.9	+0.8
GERES	GERESS Array B	51.20 308	P	P	08 01 29.6	+0.5
GERES					08 02 43.8	
GERES			pmax	pmax		
	comp=Z,2.0nm,0.7s					
GERES	GERESS Array B	51.20 308	P	P	08 01 29.6	+0.5
	comp=Z,2.1nm,0.7s,baz=79,slow=7.1,SNR=19					
GERES			PcP	PcP	08 02 43.8	-0.5
	comp=Z,0.3nm,0.3s,baz=129,slow=3.6,SNR=3.7					
KHC	Kasperske Hory	51.23 309	eP	P	08 01 29.3	+0.1
KHC			e		08 01 40.7	
KHC	Kasperske Hory	51.23 309	eP	P	08 01 29.3	+0.1
KHC			ePP	pP	08 01 40.7	+7.6
KHC	Kasperske Hory	51.23 309	eP	P	08 01 30.2	+1.0
	comp=Z,18nm,1.6s					
CLL	Collm	51.24 311	eP	P	08 01 30.0	+0.8
CLL			e		08 03 26.0	
CLL			pmax	pmax		
	comp=Z,7.0nm,1.3s					
CLL			pmax	pmax		
	comp=Z,4.0nm,0.9s					
CLL	Collm	51.24 311	eP	P	08 01 29.6	+0.4
	comp=Z,2.0nm,0.7s					
CLL	Collm	51.24 311	eP	P	08 01 30.0	+0.8
	comp=Z,7.0nm,1.3s					
CLL			ePP	PP	08 03 26.0	+0.2
	comp=Z,4.0nm,0.9s					
NB2	NORSAR Subarra	51.30 324	P	P	08 01 29.3	-0.2
	comp=Z,1.9nm,0.7s,baz=88,slow=7.4					
NOA	NORSAR Array B	51.30 324	P	P	08 01 28.8	-0.7
NOA					08 02 43.3	
NOA			pmax	pmax		
	comp=Z,3.0nm,0.8s					
NOA			pmax	pmax		
	comp=Z,1.0nm,0.9s					
NOA	NORSAR Array B	51.30 324	P	P	08 01 28.8	-0.7
	comp=Z,3.2nm,0.8s,baz=88,slow=7.4,SNR=11					
NOA			PcP	PcP	08 02 43.3	-1.1
	comp=Z,1.4nm,0.9s,baz=88,slow=7.5,SNR=2.4					
SEY	Seymchan	51.36 34⇑	iP	P	08 01 30.0	+0.1
WET	Wettzell	51.68 309	eP	P	08 01 33.5	+0.9
	comp=Z,3.0nm,0.8s					
CUC	Castrocucco	51.73 297	eP	P	08 01 33.9	+0.8
	comp=Z,10nm,1.0s					
ROBS	Robic	51.84 305	eP	P	08 01 34.1	+0.4
ROBS	Robic	51.84 305	eP	P	08 01 34.2	+0.5
ROTZ	Rotzenmuhle	52.00 310	eP	P	08 01 36.2	+1.3
	comp=Z,4.0nm,1.0s					
RJOB	Jochberg	52.01 307	eP	P	08 01 35.6	+0.5
	comp=Z,5.0nm,0.8s					
MOX	Moxa	52.22 311	eP	P	08 01 37.5	+1.0
	comp=Z,3.0nm,1.0s					
BSEG	Bad Segeberg	52.47 315	eP	P	08 01 39.9	+1.7
	comp=Z,6.0nm,0.9s					
CLZ	Clausthal	52.77 312	eP	P	08 01 41.5	+0.9
	comp=Z,11nm,1.1s					
NRDL	Niedersach Rie	52.82 313	eP	P	08 01 42.1	+1.3
	comp=Z,6.0nm,0.8s					
WTTA	Wattenberg	52.88 307⇑	iP	P	08 01 41.8	+0.2
	comp=Z,14nm,1.2s					
FUR	Furstenfeldbru	52.92 308	eP	P	08 01 43.1	+1.4
	comp=Z,24nm,0.7s					
MOTA	Moosalm	53.21 307⇑	iP	P	08 01 44.0	-0.1
	comp=Z,12nm,0.9s					
RETA	Reutte	53.41 307⇑	iP	P	08 01 44.9	-0.5
	comp=Z,5.2nm,0.6s					
FETA	Feichten	53.53 306⇑	iP	P	08 01 46.4	0.0
	comp=Z,12nm,1.1s					
FUORN	Ofenpass-Fuorn	53.94 306	eP	P	08 01 49.7	+0.2
DAVA	Damuels	54.03 307⇑	iP	P	08 01 50.5	+0.4
	comp=Z,20nm,0.9s					
KMBO	Kilima Mbogo	54.56 239	P	P	08 01 55.5	+1.1
KMBO					08 02 57.5	
KMBO			pmax	pmax		
	comp=Z,1.0nm,0.3s					
KMBO			pmax	pmax		
	comp=Z,1.0nm,0.3s					
KMBO	Kilima Mbogo	54.56 239	P	P	08 01 55.5	+1.1
	comp=Z,0.6nm,0.3s,baz=34,slow=14,SNR=2.9					
KMBO			PcP	PcP	08 02 57.5	-0.2
	comp=Z,0.5nm,0.3s,baz=90,slow=2.0,SNR=2.8					
TUE	Stuetta	54.59 306	eP	P	08 01 54.1	-0.2
CDF	Champ du Feu	55.46 309	eP	P	08 02 00.5	+0.2
CDF	Champ du Feu	55.46 309	eP	P	08 02 00.5	+0.2
CDF	Champ du Feu	55.46 309	eP	P	08 02 00.5	+0.2
MEM	Membach	55.72 312	P	P	08 02 03.3	+1.2
HINF	Hinteralfeld	55.89 308	eP	P	08 02 03.4	0.0
	comp=Z,18nm,0.8s					
HINF	Hinteralfeld	55.89 308	eP	P	08 02 03.4	0.0
HINF			pmax	pmax		
	comp=Z,19nm,0.8s					
HINF	Hinteralfeld	55.89 308	eP	P	08 02 03.4	0.0
	comp=Z,18nm,0.8s					
PGF	Pioggiola	55.92 302⇓	iP	P	08 02 03.6	-0.1
	comp=Z,24nm,0.8s					
PGF	Pioggiola	55.92 302⇓	iP	P	08 02 03.6	-0.1
PGF			pmax	pmax		
	comp=Z,24nm,0.8s					
PGF	Pioggiola	55.92 302⇓	iP	P	08 02 03.6	-0.1
	comp=Z,24nm,0.8s					
HAU	Haudompre	56.16 309	eP	P	08 02 05.6	+0.3
	comp=Z,12nm,0.7s					
HAU	Haudompre	56.16 309	eP	P	08 02 05.6	+0.3
HAU			pmax	pmax		
	comp=Z,12nm,0.7s					
HAU	Haudompre	56.16 309	eP	P	08 02 05.6	+0.3
	comp=Z,12nm,0.7s					
PAGF	Fort de Pagny	56.42 309	eP	P	08 02 07.3	+0.2
PAGF	Fort de Pagny	56.42 309	eP	P	08 02 07.3	+0.2
GIVF	Givet	56.58 311	eP	P	08 02 08.8	+0.6
GIVF	Givet	56.58 311	eP	P	08 02 08.8	+0.6
GIVF	Givet	56.58 311	eP	P	08 02 08.8	+0.6
LPG	La Plagne	56.60 306	eP	P	08 02 09.2	+0.4
	comp=Z,55nm,0.8s					
LPG	La Plagne	56.60 306	eP	P	08 02 09.2	+0.4
LPG			pmax	pmax		
	comp=Z,55nm,0.8s					
LPG	La Plagne	56.60 306	eP	P	08 02 09.2	+0.4
	comp=Z,55nm,0.8s					
LPL	La Plagne	56.60 306	eP	P	08 02 09.3	+0.5
	comp=Z,71nm,0.8s					
LPL	La Plagne	56.60 306	eP	P	08 02 09.3	+0.5
LPL			pmax	pmax		
	comp=Z,71nm,0.8s					
LPL	La Plagne	56.60 306	eP	P	08 02 09.3	+0.5
	comp=Z,71nm,0.8s					
SBF	Sospel	56.61 304	eP	P	08 02 08.9	+0.3
	comp=Z,72nm,0.9s					
SBF	Sospel	56.61 304	eP	P	08 02 08.9	+0.3
SBF			pmax	pmax		
	comp=Z,72nm,0.9s					
SBF	Sospel	56.61 304	eP	P	08 02 08.9	+0.3
	comp=Z,72nm,0.9s					
BILL	Bilibino	56.66 27⇑	eP	P	08 02 09.1	+0.6
BILL			pmax	pmax		
	comp=Z,9.0nm,1.3s					
CABF	La Chapelle	56.72 307	eP	P	08 02 09.4	0.0
CABF	La Chapelle	56.72 307	eP	P	08 02 09.4	0.0
CABF	La Chapelle	56.72 307	eP	P	08 02 09.4	0.0
BNI	Bardonecchia	56.78 305	eP	P	08 02 10.0	+0.1
BNI			pmax	pmax		
	comp=Z,11nm,0.9s					
BNI	Bardonecchia	56.78 305	eP	P	08 02 10.0	+0.1
	comp=Z,11nm,0.9s					
MBDF	Montbardon	56.81 305	eP	P	08 02 09.6	-0.5
	comp=Z,20nm,0.8s					
MBDF	Montbardon	56.81 305	eP	P	08 02 09.6	-0.5
MBDF			pmax	pmax		
	comp=Z,20nm,0.8s					
MBDF	Montbardon	56.81 305	eP	P	08 02 09.6	-0.5
	comp=Z,20nm,0.8s					
FRF	La Foret Royal	57.25 303	eP	P	08 02 13.1	0.0
	comp=Z,18nm,0.8s					
FRF	La Foret Royal	57.25 303	eP	P	08 02 13.1	0.0
FRF			pmax	pmax		
	comp=Z,18nm,0.8s					
FRF	La Foret Royal	57.25 303	eP	P	08 02 13.1	0.0
	comp=Z,18nm,0.8s					
ORIF	Oris-en-Rattie	57.36 305	eP	P	08 02 14.1	+0.2
	comp=Z,8.9nm,0.6s					
ORIF	Oris-en-Rattie	57.36 305	eP	P	08 02 14.1	+0.2
ORIF			pmax	pmax		
	comp=Z,9.0nm,0.6s					
ORIF	Oris-en-Rattie	57.36 305	eP	P	08 02 14.1	+0.2
	comp=Z,8.9nm,0.6s					
SMRF	Simiane la Rot	57.86 304	eP	P	08 02 17.6	+0.2
SMRF	Simiane la Rot	57.86 304	eP	P	08 02 17.6	+0.2
KEST	Kesra	57.94 294	P	P	08 02 16.9	-1.2
	comp=Z,1.6nm,0.8s,baz=278,slow=4.5,SNR=3.9					
LOR	Lormes	57.99 308	eP	P	08 02 17.7	-0.5
	comp=Z,12nm,0.8s					
LOR	Lormes	57.99 308	eP	P	08 02 17.7	-0.5
LOR			pmax	pmax		
	comp=Z,12nm,0.8s					
LOR	Lormes	57.99 308	eP	P	08 02 17.7	-0.5
	comp=Z,12nm,0.8s					
SMF	Signal de Mont	58.19 308	eP	P	08 02 19.4	-0.3
	comp=Z,36nm,1.0s					
SMF	Signal de Mont	58.19 308	eP	P	08 02 19.4	-0.3
SMF			pmax	pmax		
	comp=Z,36nm,1.0s					
SMF	Signal de Mont	58.19 308	eP	P	08 02 19.4	-0.3
	comp=Z,36nm,1.0s					
VIVF	Saint-Julien-l	58.19 305	eP	P	08 02 19.8	+0.1
	comp=Z,18nm,0.9s					
VIVF	Saint-Julien-l	58.19 305	eP	P	08 02 19.8	+0.1
VIVF			pmax	pmax		
	comp=Z,18nm,0.9s					
VIVF	Saint-Julien-l	58.19 305	eP	P	08 02 19.8	+0.1
	comp=Z,18nm,0.9s					
SSF	Saint Saulge	58.28 308	eP	P	08 02 20.0	-0.3
	comp=Z,20nm,0.8s					
SSF	Saint Saulge	58.28 308	eP	P	08 02 20.0	-0.3
SSF			pmax	pmax		
	comp=Z,20nm,0.8s					
SSF	Saint Saulge	58.28 308	eP	P	08 02 20.0	-0.3
	comp=Z,20nm,0.8s					
AVF	Avril sur Loir	58.46 308⇓	iP	P	08 02 21.3	-0.2
	comp=Z,12nm,0.7s					
AVF	Avril sur Loir	58.46 308⇓	iP	P	08 02 21.3	-0.2
AVF			pmax	pmax		
	comp=Z,12nm,0.7s					
AVF	Avril sur Loir	58.46 308⇓	iP	P	08 02 21.3	-0.2
	comp=Z,12nm,0.7s					
LASF	Ste Croix	59.00 305	eP	P	08 02 25.6	+0.3
	comp=Z,12nm,0.7s					
LASF	Ste Croix	59.00 305	eP	P	08 02 25.6	+0.3
	comp=Z,12nm,0.7s					
DAG	Danmarks Havn	59.18 345	iP	P	08 02 25.6	-0.5
DAG			pmax	pmax		
	comp=Z,2.0nm,0.9s					
DAG	Danmarks Havn	59.18 345	iP	P	08 02 25.6	-0.5
	comp=Z,2.5nm,0.9s					
DAG			i		08 02 56.5	
TCF	Toulx Ste Croi	59.37 308⇓	iP	P	08 02 28.1	+0.2
	comp=Z,25nm,0.9s					
TCF	Toulx Ste Croi	59.37 308⇓	iP	P	08 02 28.1	+0.2
TCF			pmax	pmax		
	comp=Z,25nm,0.9s					
TCF	Toulx Ste Croi	59.37 308⇓	iP	P	08 02 28.1	+0.2
	comp=Z,25nm,0.9s					
BATI	Baumata	59.56 130	P	P	08 02 27.0	-2.6
	comp=Z,11nm,0.4s,baz=27,slow=14,SNR=2.4					
CAF	Calviac	59.92 306	eP	P	08 02 32.0	+0.3
	comp=Z,9.6nm,0.7s					
CAF	Calviac	59.92 306	eP	P	08 02 32.0	+0.3
CAF			pmax	pmax		
	comp=Z,10.0nm,0.7s					
CAF	Calviac	59.92 306	eP	P	08 02 32.0	+0.3
	comp=Z,9.6nm,0.7s					
LDF	La Druitiere	60.11 311	eP	P	08 02 32.6	-0.3
	comp=Z,13nm,0.6s					
LDF	La Druitiere	60.11 311	eP	P	08 02 32.6	-0.3
LDF			pmax	pmax		
	comp=Z,13nm,0.6s					
LDF	La Druitiere	60.11 311	eP	P	08 02 32.6	-0.3
	comp=Z,13nm,0.6s					
RJF	Les Rejaudoux	60.16 307	eP	P	08 02 33.7	+0.4
	comp=Z,13nm,0.8s					
RJF	Les Rejaudoux	60.16 307	eP	P	08 02 33.7	+0.4
RJF			pmax	pmax		
	comp=Z,13nm,0.8s					
RJF	Les Rejaudoux	60.16 307	eP	P	08 02 33.7	+0.4
	comp=Z,13nm,0.8s					
MTLF	Montolieu	60.37 304	eP	P	08 02 34.7	-0.1
	comp=Z,4.0nm,0.6s					
MTLF	Montolieu	60.37 304	eP	P	08 02 34.7	-0.1
MTLF			pmax	pmax		
	comp=Z,4.0nm,0.6s					
MTLF	Montolieu	60.37 304	eP	P	08 02 34.7	-0.1
	comp=Z,4.0nm,0.6s					
GRR	Gorron	60.64 311	eP	P	08 02 36.1	-0.4
	comp=Z,9.2nm,0.5s					
GRR	Gorron	60.64 311	eP	P	08 02 36.1	-0.4
GRR			pmax	pmax		
	comp=Z,9.0nm,0.5s					
GRR	Gorron	60.64 311	eP	P	08 02 36.1	-0.4
	comp=Z,9.2nm,0.5s					
SGMF	Saint Gilles	61.75 311	eP	P	08 02 43.8	-0.3
	comp=Z,28nm,0.9s					
SGMF	Saint Gilles	61.75 311	eP	P	08 02 43.8	-0.3
SGMF			pmax	pmax		
	comp=Z,28nm,0.9s					
SGMF	Saint Gilles	61.75 311	eP	P	08 02 43.8	-0.3
	comp=Z,28nm,0.9s					
EPF	Esparros	61.76 305	eP	P	08 02 44.0	-0.3
	comp=Z,6.1nm,0.7s					
EPF	Esparros	61.76 305	eP	P	08 02 44.0	-0.3
EPF			pmax	pmax		
	comp=Z,6.0nm,0.7s					
EPF	Esparros	61.76 305	eP	P	08 02 44.0	-0.3
	comp=Z,6.1nm,0.7s					
ROSF	Rostrenen	62.17 311	eP	P	08 02 46.7	-0.2
ROSF	Rostrenen	62.17 311	eP	P	08 02 46.7	-0.2
ROSF	Rostrenen	62.17 311	eP	P	08 02 46.7	-0.2
ETSF	Etsaut	62.42 305	eP	P	08 02 48.8	+0.1
	comp=Z,6.2nm,0.7s					
ETSF	Etsaut	62.42 305	eP	P	08 02 48.8	+0.1
ETSF			pmax	pmax		
	comp=Z,6.0nm,0.7s					
ETSF	Etsaut	62.42 305	eP	P	08 02 48.8	+0.1
	comp=Z,6.2nm,0.7s					
SUMG	Summit	65.77 343	iP	P	08 03 10.4	-0.3
SUMG			pmax	pmax		
	comp=Z,9.0nm,0.9s					
SUMG	Summit	65.77 343	iP	P	08 03 10.4	-0.3
	comp=Z,8.6nm,0.9s					
ESDC	Sonseca Array	66.07 303	P	P	08 03 11.9	-0.8
	comp=Z,0.6nm,0.4s,baz=62,slow=7.2,SNR=8.3					
TNA	Tin City	67.00 25	eP	P	08 03 18.4	+0.3
	comp=Z,6.0nm,1.1s					
KULLO	Kullorsuaq	68.02 349	iP	P	08 03 24.2	-0.2
KULLO			pmax	pmax		
	comp=Z,9.0nm,0.9s					
KULLO	Kullorsuaq	68.02 349	iP	P	08 03 24.2	-0.2
	comp=Z,9.4nm,0.9s					
LSZ	Lusaka	70.85 235	eP	P	08 03 42.8	-0.1
LSZ			pmax	pmax		
	comp=Z,1.0nm,0.3s					
LSZ	Lusaka	70.85 235	eP	P	08 03 42.8	-0.1
	comp=Z,1.5nm,0.3s					
COLD	Coldfoot	71.43 19	eP	P	08 03 45.6	0.0
	comp=Z,9.0nm,0.8s					
SFJD	Kangerlussuaq	72.69 342	iP	P	08 03 52.3	-0.8
SFJD			pmax	pmax		
	comp=Z,7.0nm,0.8s					
SFJD	Kangerlussuaq	72.69 342	iP	P	08 03 52.3	-0.8
	comp=Z,7.0nm,0.7s					
WRA	Warramunga Arr	73.64 129	P	P	08 03 58.5	-0.9
WRA			pmax	pmax		
	comp=Z,5.0nm,0.8s					
WRA	Warramunga Arr	73.64 129	P	P	08 03 58.5	-0.9
	comp=Z,4.8nm,0.8s,baz=326,slow=5.9,SNR=39					
WRAB	Tennant Creek	73.64 129⇑	iP	P	08 03 57.8	-1.6
WRAB			pmax	pmax		
	comp=Z,27nm,1.2s					
WRAB	Tennant Creek	73.64 129	eP	P	08 03 58.4	-0.9
	comp=Z,4.5nm,0.7s					
COLA	College	73.83 20	dP	P	08 03 59.3	-0.5
COLA			pmax	pmax		
	comp=Z,74nm,0.8s					
KTH	Kantishna Hill	73.91 22	eP	P	08 04 00.3	-0.2
	comp=Z,11nm,1.0s					
PPLA	Purkeypile	74.00 23	eP	P	08 04 01.0	-0.1
	comp=Z,6.3nm,0.7s					
ILAR	Eielson Array	74.17 20	P	P	08 04 01.0	-0.9
ILAR			pmax	pmax		
	comp=Z,10.0nm,0.9s					
ILAR	Eielson Array	74.17 20	P	P	08 04 00.9	-0.9
	comp=Z,10nm,0.9s,baz=319,slow=5.3,SNR=67					
TORD	Torodi Ar. Bea	74.51 275	P	P	08 04 04.2	-0.5
	comp=Z,8.4nm,0.7s,baz=43,slow=5.0,SNR=65					
NWAO	Narrogin (SRO)	74.79 150	P	P	08 04 03.7	-2.1
NWAO			pmax	pmax		
	comp=Z,8.0nm,0.6s					
NWAO	Narrogin (SRO)	74.79 150	P	P	08 04 03.7	-2.1
	comp=Z,8.4nm,0.6s,baz=315,slow=1.4,SNR=6.7					
EGAK	Eagle	75.67 17	eP	P	08 04 10.0	-0.6
	comp=Z,6.0nm,0.8s					
AS31	Alice Springs	76.08 132	eP	P	08 04 12.5	-0.9
ASAR	Alice Springs	76.08 132	P	P	08 04 12.7	-0.8
ASAR			pmax	pmax		
	comp=Z,4.0nm,0.8s					
ASAR	Alice Springs	76.08 132	P	P	08 04 12.7	-0.8
	comp=Z,3.5nm,0.8s,baz=316,slow=5.5,SNR=39					
RC01	Rabbit Creek A	76.11 23	eP	P	08 04 12.8	-0.3
	comp=Z,18nm,1.0s					
DAWY	Dawson	76.70 17	eP	P	08 04 16.0	-0.5
KDAK	Kodiak Island	77.57 26	iP	P	08 04 22.0	+0.7
SKAG	Skagway	81.64 18	eP	P	08 04 44.0	+0.5
	comp=Z,8.0nm,0.8s					
CTA	Charters Tower	81.83 121	P	P	08 04 44.7	-0.3
CTA			pmax	pmax		
	comp=Z,10.0nm,0.9s					
CTA	Charters Tower	81.83 121	P	P	08 04 44.7	-0.3
	comp=Z,9.9nm,0.9s,baz=304,slow=9.5,SNR=2.4					
BOSA	Boshof	82.25 228	P	P	08 04 46.2	-1.0
BOSA			pmax	pmax		
	comp=Z,7.0nm,0.8s					
BOSA	Boshof	82.25 228	P	P	08 04 46.2	-1.0
	comp=Z,6.9nm,0.8s,baz=46,slow=5.1,SNR=13					
YKA	Yellowknife Ar	82.61 8	P	P	08 04 47.3	-1.2
YKA			pmax	pmax		
	comp=Z,7.0nm,0.7s					
YKA	Yellowknife Ar	82.61 8	P	P	08 04 47.3	-1.2
	comp=Z,6.8nm,0.7s,baz=341,slow=5.1,SNR=131					
DBIC	Dimbokro	83.43 274	eP	P	08 04 53.4	-0.2
DBIC	Dimbokro	83.43 274	P	P	08 04 52.9	-0.7
	comp=Z,13nm,0.8s,baz=28,slow=6.6,SNR=14					
DBIC	Dimbokro	83.43 274	eP	P	08 04 53.4	-0.2
KIC	Kosan Boka	83.50 273	eP	P	08 04 53.7	-0.3
	comp=Z,47nm,0.9s					
TIC	Toumodi	83.58 274	eP	P	08 04 53.9	-0.5
	comp=Z,29nm,0.8s					
LIC	Lamto	83.81 273	eP	P	08 04 55.1	-0.5
	comp=Z,50nm,1.0s					
SCHQ	Schefferville	87.15 342	P	P	08 05 09.8	-1.7
	comp=Z,2.2nm,0.8s,baz=331,slow=2.6,SNR=5.9					
FFC	Flin Flon	91.24 2	eP	P	08 05 29.7	-1.1
FFC			pmax	pmax		
	comp=Z,10.0nm,1.3s					
FFC	Flin Flon	91.24 2	eP	P	08 05 29.7	-1.1
	comp=Z,9.7nm,1.3s					
EDM	Edmonton	91.82 9	eP	P	08 05 33.0	-0.6
EDM	Edmonton	91.82 9	eP	P	08 05 33.0	-0.6
TXAR	Lajitas Array	116.47 5	PKP	PKPdf	08 11 08.7	-1.4
	comp=Z,0.2nm,0.5s,baz=203,slow=2.3,SNR=3.7					
SDV	Santo Domingo	129.63 323	ePKPdf	PKPdf	08 11 34.5	-1.2
ROSC	El Rosal	134.91 325	PKP	PKPdf	08 11 45.1	-0.9
	comp=Z,3.8nm,0.6s,baz=95,slow=12,SNR=4.6					
LPAZ	La Paz	147.50 296	ePKIKP	PKPdf	08 12 08.1	-0.5
LPAZ			e		08 12 12.0	
LPAZ			e		08 12 13.4	
LPAZ	La Paz	147.50 296	PKPbc	PKPdf	08 12 08.0	-0.5
	comp=Z,2.8nm,0.5s,baz=36,slow=2.5,SNR=11					
LPAZ	La Paz	147.50 296	ePKPdf	PKPdf	08 12 08.1	-0.5
LPAZ			ePKPbc	PKPbc	08 12 12.0	+0.9
LPAZ			ePKPab	PKiKP	08 12 13.4	+0.1
TRQA	Tornquist	150.56 252	ePKPdf	PKPdf	08 12 12.6	+0.5
TRQA			ePKPbc	PKPbc	08 12 17.4	-0.1
TRQA			ePKPab	PKPab	08 12 24.9	+0.6
USHA	Ushuaia	150.82 216	PKP	PKPdf	08 12 12.3	+0.4
	comp=Z,6.8nm,0.8s,baz=349,slow=5.2,SNR=2.6					
LVC	Limon Verde	151.73 287	ePKPdf	PKPdf	08 12 15.2	+0.5
LVC			ePKPbc	PKiKP	08 12 21.1	-0.3
LVC			ePKPab	PKPab	08 12 31.1	+1.2
CFAA	Coronel Fontan	154.66 268	PKP	PKPdf	08 12 18.9	+0.5
	comp=Z,0.5nm,0.6s,baz=186,slow=9.2,SNR=4.0					
CFAA			PKPab	PKPab	08 12 40.7	-1.0
	comp=Z,0.5nm,0.6s,baz=44,slow=4.1,SNR=4.2					

*ISK **18** 08:03:47.8, 39°.28N×29°.12E, h5km, MD3.0*
*DDA **18** 08:03:48.7, 39°.29N×29°.07E, h10km, ML3.7*
*CSEM **18** 08:03:48.9±0.1, 39°.28N×29°.11E, h2km, ML3.7, Error ellipse: s-maj=2.8km s-min=2.5km az=25.0*
ISC 18 08:03:49.2±1.1, 39°.29N±0°.02×29°.10E±0°.02, h5km±10km, n83, σ0.9 54/105, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	Gediz	0.36	124	iP	Pg	08 03 56.0	-0.2
GDZ				iS	Sg	08 04 01.1	+0.2
GDZ	Gediz	0.36	124	iP	Pg	08 03 56.0	-0.2
GDZ				iS	Sg	08 04 01.1	+0.2
ORLT	Orhaneli	0.77	348	ePG	Pg	08 04 03.5	-0.6
ORLT				eSG	Sb	08 04 15.9	-0.1
ORLT	Orhaneli	0.77	348	ePg	Pg	08 04 03.5	-0.6
ORLT				eSg	Sb	08 04 15.9	-0.1
ALT	Altintas	0.82	106	ePG	Pg	08 04 04.1	-0.9
ALT				eSG	Sg	08 04 15.7	+0.1
ALT	Altintas	0.82	106	ePg	Pg	08 04 04.1	-0.9
ALT				eSg	Sg	08 04 15.7	+0.1
KULA	Kula-Manisa	0.85	204	ePG	Pg	08 04 05.0	-0.5
KULA	Kula-Manisa	0.85	204	ePg	Pg	08 04 05.0	-0.5
MANT	Manisa	0.90	208	iP	Pg	08 04 06.0	-0.5
MANT				iS	Sg	08 04 17.6	-0.7
MANT	Manisa	0.90	208	iP	Pg	08 04 06.0	-0.5
MANT				iS	Sg	08 04 17.6	-0.7
BALB	Balikesir	1.01	291	ePG	Pg	08 04 08.3	-0.2
BALB	Balikesir	1.01	291	ePg	Pg	08 04 08.3	-0.2
KHL	Karahalli	1.02	161	ePG	Pg	08 04 08.4	-0.4
KHL	Karahalli	1.02	161	ePg	Pg

SHUT	Suhut-Afyon	1.35	123	*e*PN	Pn	08 04 15.0	+0.2
SHUT	Suhut-Afyon	1.35	123	*e*Pn	Pn	08 04 15.0	+0.2
GPA	Golpazari	1.37	43	*e*PN	Pn	08 04 14.8	-0.2
GPA	Golpazari	1.37	43	*e*Pn	Pn	08 04 14.8	-0.2
ESKT	Eskisehir	1.38	80	*e*PN	Pn	08 04 14.8	-0.4
ESKT	Eskisehir	1.38	80	*e*Pn	Pn	08 04 14.8	-0.4
BNT	Bandirma	1.40	320	*e*PN	Pn	08 04 15.7	+0.3
BNT	Bandirma	1.40	320	*e*Pn	Pn	08 04 15.7	+0.3
EDC	Edincik	1.42	318	*e*PN	Pn	08 04 15.8	+0.1
EDC	Edincik	1.42	318	*e*Pn	Pn	08 04 15.8	+0.1
HRT	Hereke	1.59	16	*e*PN	Pn	08 04 18.3	+0.2
HRT	Hereke	1.59	16	*e*Pn	Pn	08 04 18.3	+0.2
DNZL	Cakiroluk	1.60	182	*i* P	Pb	08 04 19.4	+0.1
DNZL	Cakiroluk	1.60	182	*i* P	Pb	08 04 19.4	+0.1
DNZL				*i* S	Sg	08 04 43.0	+2.5
SPNC	Sapanca-Adapaz	1.68	33	*e*PN	Pn	08 04 19.3	+0.1
SPNC	Sapanca-Adapaz	1.68	33	*e*Pn	Pn	08 04 19.3	+0.1
MRMT	Marmara Adasi	1.75	319	*e*PN	Pb	08 04 21.6	-0.2
MRMT	Marmara Adasi	1.75	319	*e*Pn	Pb	08 04 21.7	-0.2
KRBG	Karabiga-Canak	1.77	309	*e*PN	Pn	08 04 21.5	+1.0
KRBG	Karabiga-Canak	1.77	309	*e*Pn	Pn	08 04 21.5	+1.0
ISK	Istanbul-Kandi	1.77	359	*e*PN	Pn	08 04 21.0	+0.4
ISK	Istanbul-Kandi	1.77	359	*e*Pn	Pn	08 04 21.0	+0.4
AYVA	Ayvalik	1.87	271	*i* P	Pg	08 04 25.3	+0.2
AYVA				*i* S	Sg	08 04 49.3	0.0
SVRH	Sivrihisar-ESK	1.89	84	*e*PN	Pn	08 04 22.3	+0.2
SVRH	Sivrihisar-ESK	1.89	84	*e*Pn	Pn	08 04 22.3	+0.2
AYDN	Tasoluk	1.89	211	*i* P	Pg	08 04 24.9	-0.4
AYDN				*i* S	Sg	08 04 50.3	+0.4
BGKT	Bogazkoy	1.91	353	*e*PN	Pn	08 04 22.9	+0.6
BGKT	Bogazkoy	1.91	353	*e*Pn	Pn	08 04 22.9	+0.6
SILT	Sile	1.91	12	*e*PN	Pn	08 04 22.9	+0.5
SILT	Sile	1.91	12	*e*Pn	Pn	08 04 22.9	+0.5
BTAS	Taskesti	1.94	48	*i* P	Pb	08 04 25.9	+0.7
BTAS				*i* S	Sg	08 04 51.7	0.0
KLYT	Kilyos	1.96	359	*e*PN	Pn	08 04 23.6	+0.5
KLYT	Kilyos	1.96	359	*e*Pn	Pn	08 04 23.6	+0.5
MDUB	Mudurnu	2.00	53	*e*PN	Pn	08 04 24.4	+0.6
MDUB	Mudurnu	2.00	53	*e*Pn	Pn	08 04 24.4	+0.6
SART	Tekirdag	2.03	314	*i* P	Pb	08 04 26.1	-0.6
SART				*i* S	Sn	08 04 49.1	-0.8
SART	Tekirdag	2.03	314	*i* P	Pb	08 04 26.1	-0.6
SART				*i* S	Sn	08 04 49.1	-0.8
RKY	Sarkoy-Tekirda	2.03	314	*e*PN	Pn	08 04 24.9	+0.8
RKY	Sarkoy-Tekirda	2.03	314	*e*Pn	Pn	08 04 25.0	+0.8
KIZT	Kizilcal	2.20	100	*e*PN	Pn	08 04 26.7	+0.2
KIZT	Kizilcal	2.20	100	*e*Pn	Pn	08 04 26.7	+0.2
CTYL	Yal??k??y-??at	2.27	344	*e*PN	Pn	08 04 27.9	+0.6
CTYL	Yal??k??y-??at	2.27	344	*e*Pn	Pn	08 04 27.9	+0.6
ZEY	ˇzmir	2.29	243	*i* P	Pb	08 04 31.4	+0.6
ZEY				*i* S	Sg	08 05 02.4	-0.2
GELI	Tayfur-Gelibol	2.31	300	*e*PN	Pn	08 04 28.7	+0.9
GELI	Tayfur-Gelibol	2.31	300	*e*Pn	Pn	08 04 28.7	+0.9
BOZC	Bozcaada	2.42	284	*i* P	Pn	08 04 29.1	-0.3
BOZC				*i* S	Sn	08 04 59.4	0.0
ERIK	Erikli-Kesan	2.42	306	*e*PN	Pn	08 04 30.5	+1.1
ERIK	Erikli-Kesan	2.42	306	*e*Pn	Pn	08 04 30.5	+1.1

*IDC **18** 08:05:59.7±1.2, 30°.62N×83°.89E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.4/37, mbtmp3.5/5, MS3.2/3, Ms1 3.2/3, ms1mx2.9/41, Error ellipse: s-maj=35.9km s-min=33.8km az=147.0*

ISC 18 08:06:04.7±0.8, 30°.9N±0°.1×84°.0E±0°.1, h26km, n11, σ1$32/10, mb3.5/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	Lohaghat	3.55	248	*e*PN	Pb	08 07 08.8	+1.9
LGTI				*e*SN	Sb	08 07 56.1	+6.6
NDI	New Delhi	6.29	251	*e*P	Pb	08 07 53.0	-0.6
AAK	Ala-Archa	13.99	330	Pn	P	08 09 28.6	-0.5
	0.1nm,0.3s,baz=162,slow=20,SNR=2.5						
AAK				LR	LR	08 15 35.5	
	comp=Z,142nm,19.7s,baz=38,slow=41						
MKAR	Makanchi Array	15.96	356	Pn	P	08 09 50.7	-0.1
	0.1nm,0.3s,baz=185,slow=15,SNR=4.9						
CMAR	Chiang Mai Arr	18.33	129	P	Pn	08 10 17.6	+0.5
	0.3nm,0.3s,baz=319,slow=12,SNR=5.8						
CMAR				LR	LR	08 19 11.4	
	comp=Z,26nm,20.4s,baz=5.0,slow=43						
SONM	Songino Array	24.09	39	P	P	08 11 19.7	+1.6
	1.3nm,0.8s,baz=227,slow=9.7,SNR=10.0						
WRA	Warramunga Arr	69.92	130	P	P	08 17 12.5	-1.3
	0.7nm,0.9s,baz=322,slow=6.2,SNR=3.9						
PMG	Port Moresby	72.52	113	LR	LR	08 56 26.8	
	comp=Z,30nm,18.3s,baz=354,slow=42						
ILAR	Eielson Array	76.77	20	P	P	08 17 54.9	+1.3
	0.3nm,0.8s,baz=331,slow=3.5,SNR=3.3						
TORD	Torodi Ar. Bea	76.86	278	P	P	08 17 53.9	-1.0
	0.4nm,0.9s,baz=50,slow=3.9,SNR=2.9						
YKA	Yellowknife Ar	85.77	9	P	P	08 18 40.5	-0.8
	0.3nm,0.7s,baz=340,slow=4.8,SNR=4.3						

MEX 18 08:17:22.7±0.4, 13°.89N×92°.43W, h21km±24km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.03	9	*i* P	Pb	08 17 38.5	-3.2
THIG				*i* S	Sb	08 17 51.1	-3.7
PCIG		1.96	337	*e*P	Pn	08 17 52.3	-2.4
PCIG				*e*S	Sn	08 18 14.7	-4.0
CCIG	Comitan	2.40	7	*i* P	Pn	08 17 58.7	-2.3
CCIG				*e*S	Sn	08 18 26.8	-3.1
TGIG		2.95	347	*e*P	Pn	08 18 06.6	-1.8
TGIG				*e*S	Sn	08 18 39.9	-3.4
CMIG	Matias Romero	3.96	324	*i* P	Pn	08 18 20.6	-1.7
CMIG				*e*S	Sn	08 19 04.6	-3.7

*IDC **18** 08:19:16.4±1.1, 34°.52S×72°.09W, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.9/25, mbtmp3.8/7, ML3.0/2, MS3.7/1, Ms1 3.7/1, ms1mx2.8/26, Error ellipse: s-maj=35.6km s-min=22.1km az=111.0*

*NEIC **18** 08:19:20.0, 34°.42S×71°.93W, h29km, mb4.1/5, ML3.9(GUC), After GUC.*

NEIC Felt [IV] at Pichilemu.

*GUC **18** 08:19:20.1±0.7, 34°.42S×71°.93W, h29km±11km, MD3.7, ML3.9*

ISC 18 08:19:18.8±3.1, 34°.41S±0°.03×71°.96W±0°.07, h14km±20km, n36, σ1$35/41, mb4.0/7, 6C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.84	135	⇓*i*P	Pb	08 19 35.1	-0.1
NICH				*i* S1	Sb	08 19 46.2	-0.3
NICH				AML	AML	08 19 50.1	
	comp=E,11μm,0.6s						
TALC	Talca	1.02	165	⇑*i*P	Pb	08 19 37.6	-0.7
TALC				*i* S4	Sb	08 19 50.3	-1.2
TALC				AML	AML	08 19 51.7	
	comp=E,14μm,0.1s						
TACH	Talagante	1.14	49	⇓*i*P	Pn	08 19 39.9	-0.6
ANTU	Antumapu	1.39	53	*e*P1	Pn	08 19 44.1	+0.3
ANTU				*i* S1	Sn	08 20 01.7	-0.3
ANTU				AML	AML	08 20 07.1	
	comp=N,3μm,0.5s						
IHA	Instituto Hidr	1.41	11	⇑*i*P	Pn	08 19 44.0	0.0
PCH	Pirque	1.44	57	*e*P1	Pb	08 19 45.0	-0.4
PCH				*e*S1	Sn	08 20 03.6	+0.2
SAN	Santiago	1.44	49	⇑*i*P	Pb	08 19 45.2	-0.3
SAN				*i* S1	Sn	08 20 03.7	+0.3
SAN				AML	AML	08 20 07.5	
	comp=N,2μm,0.8s						
LNCH	Linares	1.46	169	⇓*i*P	Pn	08 19 44.9	+0.1
LNCH				*i* S	Sn	08 20 03.9	+0.1
LACH	Col Las Americ	1.53	51	⇑*i*P	Pn	08 19 46.2	+0.4
LACH				*i* S	Sn	08 20 05.6	+0.1
LACH				AML	AML	08 20 10.6	
	comp=N,1μm,0.5s						
CLCH	Cerro Calan	1.56	50	⇑*i*P	Pb	08 19 47.0	-0.5
CLCH				*i* S	Sb	08 20 06.9	-0.2
CLCH				AML	AML	08 20 14.6	
	comp=N,3μm,0.9s						
PEL	Peldehue	1.65	40	⇓*i*P	Pn	08 19 48.4	+0.9
PEL				*i* S	Sb	08 20 09.3	-0.5
PEL				AML	AML	08 20 15.0	
	comp=E,4μm,0.5s						

YECH	El Yeso	1.73	65	⇑*i*P	Pb	08 19 50.4	-0.1
YECH				*i* S4	Sb	08 20 12.2	0.0
YECH				AML	AML	08 20 21.7	
	comp=N,2μm,0.6s						
CMCH	Combarbala	3.33	14	⇓*i*P	Pn	08 20 11.6	+1.0
CFAA	Coronel Fontan	4.20	49	Pn	Pn	08 20 25.4	+2.9
	comp=N,0.2nm,0.3s,baz=221,slow=11,SNR=32						
CFAA				Sn	Sb	08 21 17.2	-5.9
	comp=N,0.5nm,0.3s,baz=295,slow=13,SNR=6.0						
LCO	Las Campanas	5.49	12	*e*Pn	Pn	08 20 41.1	+0.6
	comp=N,32nm,0.8s						
PLCA	Paso Flores	6.41	170	Pn	Pn	08 20 54.4	+1.5
	comp=N,1.6nm,0.3s,baz=336,slow=11,SNR=49						
PLCA				Lg	Lg	08 22 37.6	
	comp=N,0.4nm,0.3s,baz=103,slow=22,SNR=4.4						
PLCA	Paso Flores	6.41	170	*e*Pn	Pn	08 20 54.4	+1.5
	comp=N,12nm,0.8s						
PLCA				*e*Sn	Sn	08 22 04.5	-1.4
PLCA				Lg	Lg	08 22 37.6	
LPAZ	La Paz	18.37	12	P	Pn	08 23 35.7	+1.8
	comp=N,0.1nm,0.3s,baz=198,slow=7.9,SNR=8.0						
LPAZ	La Paz	18.37	12	*e*P	Pn	08 23 35.8	+1.8
	comp=N,4.1nm,0.9s						
USHA	Ushuaia	20.57	174	LR	LR	08 32 52.3	
	comp=N,193nm,18.6s,baz=301,slow=40						
SIV	San Ignacio	20.79	31	P	P	08 24 00.7	+0.9
	comp=N,2.7nm,0.8s,baz=249,slow=5.2,SNR=4.5						
SAML	Samuel	26.59	20	*e*P	P	08 24 56.4	-0.4
	comp=N,1.6nm,0.7s						
PTGA	Pitinga	35.34	21	P	P	08 26 13.6	-0.2
	comp=N,4.7nm,0.7s,baz=165,slow=20,SNR=7.2						
PTGA	Pitinga	35.34	21	*e*P	P	08 26 13.7	-0.2
	comp=N,3.7nm,0.7s						
QSPA	South Pole Qui	55.82	180	P	P	08 28 54.7	-0.8
	comp=N,1.2nm,0.9s,baz=162,slow=6.4,SNR=4.9						
QSPA	South Pole Qui	55.82	180	*e*P	P	08 28 55.5	0.0
	comp=N,2.5nm,1.0s						
TXAR	Lajitas Array	70.13	331	P	P	08 30 29.9	-1.0
	comp=N,0.3nm,0.5s,baz=158,slow=9.2,SNR=6.7						
WVT	Waverly	71.73	347	*e*P	P	08 30 40.4	+0.1
	comp=N,4.1nm,0.7s						
PDAR	Pinedale Array	84.16	333	P	P	08 31 51.2	+1.6
	comp=N,0.2nm,0.7s,baz=134,slow=8.9,SNR=2.5						
TORD	Torodi Ar. Bea	84.29	70	P	P	08 31 50.2	-0.4
	comp=N,1.1nm,1.1s,baz=250,slow=4.3,SNR=3.9						
H11S2	WAKE ISLAND Hyl	25.83	269	T	T	10 56 43.8	
	baz=120,slow=75,SNR=20						
H11S1	WAKE ISLAND Hyl	25.84	269	T	T	10 56 41.9	
	baz=120,slow=75,SNR=45						
H11S3	WAKE ISLAND Hyl	25.85	269	T	T	10 56 43.0	
	baz=120,slow=75,SNR=25						
H11N3	WAKE ISLAND Hyl	26.25	270	T	T	10 57 14.1	
	baz=117						
H11N1	WAKE ISLAND Hyl	26.27	270	T	T	10 57 15.0	
	baz=117						
H11N2	WAKE ISLAND Hyl	26.27	270	T	T	10 57 15.8	
	baz=117						

*IDC **18** 08:22:18.4±1.1, 14°.16N×92°.87E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/27, mbtmp3.6/7, ML3.9/1, Error ellipse: s-maj=47.0km s-min=21.1km az=48.0*

*ISCJB **18** 08:22:20.9±0.9, 14°.2N±0°.2×92°.9E±0°.1, h32km, mb3.7/6, Error ellipse: s-maj=24.1km s-min=17.9km az=34.7*

ISC 18 08:22:23.3±1.1, 14°.2N±0°.2×92°.9E±0°.2, h32km, n7, σ0$95/8, mb3.7/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.19	53	Pn	Pn	08 24 06.8	+0.4
	0.5nm,0.3s,baz=243,slow=14,SNR=3.4						
MKAR	Mananchi Array	33.70	347	P	P	08 29 00.7	-0.9
	0.5nm,0.7s,baz=176,slow=7.9,SNR=4.9						
WRA	Warramunga Arr	53.03	129	P	P	08 31 37.3	-0.4
	0.9nm,0.8s,baz=308,slow=7.8,SNR=5.7						
WRA				PcP	PcP	08 32 47.0	+0.9
	0.2nm,0.6s,baz=318,slow=3.4,SNR=5.7						
ASAR	Alice Springs	54.98	133	P	P	08 31 51.2	-0.7
	0.2nm,0.3s,baz=316,slow=7.0,SNR=4.3						
BRTR	Keskin Array B	57.49	308	P	P	08 32 11.1	+1.3
	0.5nm,0.6s,baz=93,slow=7.4,SNR=3.0						
FINES	FINESS Array B	66.61	331	P	P	08 33 10.1	-0.3
	1.5nm,0.9s,baz=114,slow=1.7,SNR=2.9						
GERES	GERESS Array B	72.37	317	P	P	08 33 46.0	-0.4
	0.2nm,0.2s,baz=92,slow=3.0,SNR=4.4						

*IDC **18** 08:33:06.7±4.8, 47°.89S×165°.82E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.6/11, mbtmp3.4/2, MS4.0/1, Ms1 4.0/1, ms1mx3.3/10, Error ellipse: s-maj=404.6km s-min=66.4km az=44.0*

*ISCJB **18** 08:33:11.2±2.0, 48°.5S±0°.2×165°.0E±0°.1, h33km, mb3.3/2, MS3.9/1, Error ellipse: s-maj=36.8km s-min=9.4km az=162.7*

ISC 18 08:33:12.8±1.8, 48°.5S±0°.2×165°.0E±0°.1, h35km, n23, σ1$41/21, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	The Paps	2.62	51	PN	Pn	08 33 53.0	+0.5
APZ				SN	Sn	08 34 23.1	0.0
WHZ	Wether Hill Ro	3.29	38	PN	Pn	08 34 02.2	+0.3
DCZ	Deep Cove	3.37	26	PN	Pn	08 34 03.6	+0.7
SYZ	Scrubby Hill	3.42	56	PN	Pn	08 34 04.4	+0.9
SYZ				SN	Sn	08 34 42.4	-0.3
MLZ	Mavora Lakes	3.83	35	PN	Pn	08 34 10.0	+0.7
TUZ	Tuapeka	4.05	52	*e*PN	Pn	08 34 13.6	+1.4
EAZ	Earnscleugh	4.41	43	PN	Pn	08 34 17.4	+0.3
WKZ	Wanaka	4.60	38	*e*PN	Pn	08 34 21.8	+2.0
HHSZ	Highcliff Hill	4.62	57	PN	Pn	08 34 22.4	+2.4
JCZ	Jackson Bay	5.14	31	PN	Pn	08 34 29.2	+1.9
ODZ	Otahua Downs	5.19	50	*e*PN	Pn	08 34 27.3	-0.5
LBZ	Lake Benmore	5.46	43	*e*PN	Pn	08 34 30.2	-1.3
FOZ	Fox Glacier	5.92	35	*e*PN	Pn	08 34 40.0	+2.1
RPZ	Rata Peaks	6.37	43	*e*PN	Pn	08 34 41.9	-2.2
LTZ	Lake Taylor	7.66	44	*e*PN	Pn	08 34 59.4	-2.4
DSZ	Denniston Nort	8.29	38	*e*PN	Pn	08 35 10.1	-0.4
ASAR	Alice Springs	34.92	304	P	P	08 40 01.2	+0.1
	0.5nm,0.8s,baz=139,slow=8.6,SNR=2.8						
ASAR				LR	LR	08 54 02.0	
	comp=Z,231nm,20.4s,baz=320,slow=36						
WRA	Warramunga Arr	37.72	308	P	P	08 40 23.8	-1.2
	0.4nm,0.9s,baz=135,slow=7.9,SNR=2.3						
H08S2	Diego Garcia H	86.02	263	T	T	10 20 21.1	
	baz=141						
H08S1	Diego Carcia H	86.03	263	T	T	10 20 21.9	
	baz=141						
H08S3	Diego Garcia H	86.04	263	T	T	10 20 28.8	
	baz=141						
BRTR	Keskin Array B	144.55	274	PKPbc	PKPbc	08 52 43.3	-0.5
	0.5nm,0.6s,baz=108,slow=4.3,SNR=2.4						
AKASG	Malin Array Be	151.60	291	PKPbc	PKPbc	08 53 02.9	+0.6
	0.2nm,0.3s,baz=75,slow=2.2,SNR=1.4						

*BJI **18** 08:36:17.4, 0°.29N×120°.82E, h24km, mB5.0/37, mb4.7/50, Ms4.6/24, Ms7 4.4/23*

*ISCJB **18** 08:36:22.7±0.2, 0°.86N±0°.02×120°.70E±0°.03, h33km, mb4.8/70, MS3.7/5, Error ellipse: s-maj=4.0km s-min=2.6km az=161.0*

*MOS **18** 08:36:22.2±1.0, 0°.79N×120°.65E, h33km, mb5.2/26, Error ellipse: s-maj=12.5km s-min=5.9km az=116.3*

*DJA **18** 08:36:23.8±0.2, 1°.N±2°.×12°.1E±°., h10km, M5.0/32, mB5.4/19, mb5.2/32, MLv5.3/25, Mw(mB)4.9/19, Mwp5.8/1*

*NEIC **18** 08:36:23.6±1.1, 0°.85N×120°.73E, h29km±8km, mb5.0/22, Error ellipse: s-maj=8.3km s-min=5.4km az=58.0*

NEIC Felt [III] at Tolitoli.

*KLM **18** 08:36:24.8, 0°.96N×120°.65E, h59km, mb5.0, ML4.7, MS6.2*

*IDC **18** 08:36:26.6±4.1, 0°.70N×120°.65E, h57km±38km, mb4.4/27, mb1 4.5/27, mb1mx4.5/29, mbtmp4.7/27, MS3.8/5, Ms1 3.9/5, ms1mx3.4/43, Error ellipse: s-maj=17.3km s-min=11.0km az=72.0*

ISC 18 08:36:23.9±0.3, 0°.87N±0°.03×120°.74E±0°.04, h30km±2km, n233, σ1$78/269, mb4.9/70, MS3.9/5, 11C-11D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI	Toli-Toli	0.26	13	*e*Pn	Pb	08 36 28.3	-2.5
TOLI				*e*Sn	Sb	08 36 32.2	-3.3
MPSI	Mapaga	0.99	238	P	Pn	08 36 36.0	-5.8
MRSI	Marisa	1.26	108	P	Pb	08 36 46.9	-0.2
MRSI				S	Sb	08 37 06.4	+3.4
APSI	Ampana	1.99	153	P	Pn	08 36 55.5	-0.1
APSI				S	Sb	08 37 27.5	+3.7
LUWI	Luwuk	2.78	133	P	Pb	08 37 10.5	-2.5
LUWI	Luwuk	2.78	133	P	Pb	08 37 10.7	-2.3
	baz=2.7,SNR=146						
LUWI				S	Sb	08 37 49.7	+3.1
	baz=2.7,SNR=7.3						
LUWI	Luwuk	2.78	133	*e*Pn	Pb	08 37 10.2	-2.7
LUWI				*e*Sn	Sn	08 37 40.9	+1.8
KMSI	Cibinong	3.26	95	P	Pb	08 37 17.6	-3.4
SGKI	Sangatta, Kali	3.43	246	P	Pn	08 37 09.2	-6.2
TTSI	Tana Toraja	4.00	193	P	Pn	08 37 24.7	+1.5
BKB	Balikpapan	4.39	241	P	Pn	08 37 25.8	-2.7
TSM	Tawau	4.45	320	⇑P	Pn	08 37 27.6	-1.8
MYLDM	Lahad Datu	4.83	332	*e*Pn	Pn	08 37 35.9	+1.2
SPSI	Sidrap Palu	4.90	191	P	Pn	08 37 36.3	+0.7
BNSI	Bone	5.27	187	P	Pn	08 37 42.4	+1.6
	558nm,0.9s,4μm1.7nm						
SDKM	Sandakan	5.91	323	⇓P	Pn	08 37 49.2	-0.4
KAPI	Kappang	5.93	190	Pn	Pn	08 37 50.0	+0.2
	3μm,0.8s,SNR=66						
KAPI	Kappang	5.93	190	*e*Pn	Pn	08 37 50.9	+1.1
KAPI				*e*Sn	Sn	08 38 58.5	+1.8
SANI	Sanana	6.00	119	P	Pn	08 37 53.6	+2.9
	182nm,1.3s,2μm0.9nm						
MTKI	Muara Teweh, K	6.11	253	P	Pn	08 37 49.5	-2.8
	233nm,0.7s,1.0nm						
BKSI	Bulukumba	6.18	186	P	Pn	08 37 53.7	+0.5
	300nm,0.7s,2μm1.0nm						
BBSI	Bau Bau	6.58	164	P	Pn	08 38 01.3	+2.6
	661nm,0.8s,5μm1.8nm						
TNTI	Ternate	6.63	91	*e*Pn	Pn	08 37 57.7	-1.7
TNTI				*e*Sn	Sn	08 39 10.1	-3.9
KKM	Kota Kinabalu	6.84	319	P	Pn	08 38 09.6	+7.2
	baz=7.0,SNR=3.4						
KKM	Kota Kinabalu	6.84	319	⇓P	Pn	08 38 02.2	-0.2
KKM	Kota Kinabalu	6.84	319	*e*Pn	Pn	08 38 02.0	-0.4
LBMI	Labuha	6.93	102	P	Pn	08 38 05.2	+1.7
	438nm,0.8s,4μm3.0nm						
BSSI	Bau Bau, Buton	6.97	182	P	Pn	08 38 06.9	+2.8
	190nm,0.7s,3μm0.7nm						
BBKI	Banjar Baru	7.30	234	P	Pn	08 38 07.4	-1.2
	143nm,0.8s,0.7nm						
NLAI	Namlea	7.56	123	P	Pn	08 38 17.2	+5.1
	352nm,0.6s,4μm1.6nm						
SBUM	Sibu	8.66	281	*e*Pn	Pn	08 38 27.5	+0.2
MSAI	Masohi	9.20	117	P	Pn	08 38 42.1	+7.4
	63nm,1.2s						
KMMI	Kalianget	10.37	221	P	Pn	08 38 59.9	+9.1
WBSI	Waikabubak, Su	10.53	187	P	Pn	08 38 54.6	+1.6
	166nm,1.0s,1μm						
BNDI	Bandanaira	10.61	120	P	Pn	08 39 01.1	+7.1
	758nm,1.1s,9μm						
SWI	Sorong	10.66	99	P	Pn	08 39 02.3	+7.6
	68nm,1.0s						
IGBI	Denpasar	11.12	210	P	Pn	08 39 06.1	+5.1
SOEI	Soe	11.12	162	P	Pn	08 39 07.5	+6.3
	212nm,1.0s,2μm						
SOEI	Soe	11.12	162	P	Pn	08 39 07.5	+6.3
	baz=11,SNR=18						
SOEI	Soe	11.12	162	*e*Pn	Pn	08 39 01.6	+0.4
SOEI				*e*Sn	Sn	08 41 03.3	-1.4
JAGI	Jajag, Banyuwa	11.37	215	P	Pn	08 39 06.1	+1.7
	53nm,1.2s						
JAGI	Jajag, Banyuwa	11.37	215	*e*Pn	Pn	08 39 06.0	+1.7
	74nm,1.1s						
JAGI				*e*Sn	Sn	08 41 12.9	+2.4
BATI	Baumata	11.38	165	P	Pn	08 39 11.2	+6.5
	98nm,1.3s,961nm						
BATI	Baumata	11.38	165	P	Pn	08 39 10.8	+6.1
	4.8nm,0.3s,baz=192,slow=2.2,SNR=33						
BATI				LR	LR	08 44 01.1	
	comp=Z,1μm,20.7s,baz=349,slow=40						
GMJI	Gumukmas	11.63	219	P	Pn	08 39 18.4	+10
FAKI	Fak Fak	12.11	108	P	Pn	08 39 19.1	+4.6
	baz=12,SNR=8.1						
FAKI	Fak Fak	12.11	108	*e*Pn	Pn	08 39 12.7	-1.9
FAKI				*e*Sn	Sn	08 41 28.2	-0.5
PWJI	Pagerwojo	12.54	225	P	Pn	08 39 24.9	+4.4
	51nm,0.8s						
WOJI	Wonogiri, Jawa	13.06	228	P	P	08 39 37.4	-0.1
KPJI	Karang Pucung	14.32	235	P	Pn	08 39 45.6	+0.8
	64nm,1.0s,2μm						
CMJI	Cimerak	14.97	235	P	P	08 39 59.3	+0.5
PALU	Palau	15.13	64	P	P	08 40 01.9	+1.4
	baz=15,SNR=4.7						
LEM	Lembang	15.16	240	P	P	08 40 15.2	+14
CISI	Cisompet, Garu	15.37	237	P	P	08 40 04.9	+1.6
CISI	Cisompet, Garu	15.37	237	*e*P	P	08 40 02.9	-0.4
	67nm,1.0s						
CNJI	Cibinong	15.82	239	P	P	08 40 10.0	+1.7
CGJI	Cibinong	16.75	243	P	P	08 40 20.4	+1.8
MTN	Manton Dam	17.09	143	P	Pn	08 40 20.0	-0.7
	baz=17,S

QIS	**Mount Isa**	**28.19 140**	P	**P**	**08 42 13.4**	**-0.7**
	baz=28,SNR=7.1					
CMAI	**Chiengmai2**	**28.45 313**	P	P	08 42 22.6	+5.9
	comp=Z,5.0nm,1.0s					
GYA	**Guiyang**	**28.82 333**	P	P	08 42 23.0	+3.2
GYA			pP	pP	08 42 30.5	+2.0
GYA			PP	**PnPn**	**08 43 17.8**	**+6.3**
GYA			S	**S**	**08 47 10.0**	**+1.9**
GYA			sS	sS	08 47 22.6	+0.2
GYA			SS	**SnSn**	**08 48 39.3**	**+8.1**
GYA			PMZ			
	comp=Z,20nm,0.8s					
GYA			PMZ			
	comp=Z,120nm,4.8s					
GYA			LN			
	comp=Z,580nm,13.8s					
GYA			LE			
	comp=Z,470nm,14.0s					
GYA			LZ			
	comp=Z,520nm,12.4s					
KMI	**Kunming**	**29.73 326**	P	**P**	**08 42 29.6**	**+1.6**
KMI			pP	**pP**	**08 42 35.9**	**-0.8**
KMI			sP	**sP**	**08 42 38.4**	**-1.9**
KMI			PMZ			
	comp=Z,12nm,0.7s					
WHN	**Wuhan**	**30.13 349**	P	P	08 42 35.4	+4.2
NJ2	**Nanjing**	**31.07 357**	*e*P	**P**	**08 42 40.3**	**+0.8**
NJ2			PMZ			
	comp=Z,90nm,1.1s					
FORT	**Forrest**	**32.24 168**	*e*P	**P**	**08 42 48.4**	**-1.4**
	comp=Z,26nm,0.8s					
CTA	**Charters Tower**	**32.54 131**	P	**P**	**08 42 53.2**	**+0.5**
	comp=Z,11nm,1.0s,baz=313,slow=9.2,SNR=3.4					
CTAO	**Charters Tower**	**32.54 131**	*e*P	**P**	**08 42 53.0**	**+0.3**
CTAO			pmax	pmax		
	comp=Z,25nm,1.2s					
CTAO	**Charters Tower**	**32.54 131**	*e*P	**P**	**08 42 53.0**	**+0.3**
	comp=Z,25nm,1.2s					
CBIJ	**Chichi jima**	**33.23 36**	P	**P**	**08 42 59.2**	**+0.7**
JCJ	**Chichijima**	**33.23 37**	P	**P**	**08 42 59.2**	**+0.7**
	comp=Z,29nm,0.4s,baz=355,slow=12,SNR=5.3					
NWAO	**Narrogin (SRO)**	**33.78 185**	P	**P**	**08 43 01.1**	**-2.1**
	comp=Z,11nm,0.7s,baz=0.5,slow=8.2,SNR=5.3					
CD2	**Chengdu**	**33.94 333**	⇓*i*P	**P**	**08 43 05.8**	**+1.1**
CD2			pP	**pP**	**08 43 10.5**	**-2.9**
CD2			sP	**sP**	**08 43 15.3**	**-1.7**
CD2			PP	**PP**	**08 44 20.6**	**-1.4**
CD2			PcP	**PcP**	**08 45 43.3**	**+0.5**
CD2			S	**S**	**08 48 29.3**	**+1.4**
CD2			ScS	**ScS**	**08 53 22.6**	**-5.1**
CD2			PMZ			
	comp=Z,20nm,0.9s					
CD2			PMZ			
	comp=Z,120nm,5.1s					
CD2			LN			
	comp=Z,440nm,17.8s					
CD2			LE			
	comp=Z,370nm,15.5s					
CD2			LZ			
	comp=Z,330nm,22.6s					
XAN	**Xi'an**	**34.80 343**	P	**P**	**08 43 12.0**	**-0.2**
XAN			PMZ			
	comp=Z,2.0nm,0.9s					
XAN			PMZ			
	comp=Z,16nm,4.4s					
QLP	**Quilpie**	**35.47 142**	P	**P**	**08 43 17.9**	**0.0**
	baz=35,SNR=18					
BBOO	**Buckleboo**	**36.49 158**	P	**P**	**08 43 25.7**	**-0.9**
	baz=36,SNR=9.6					
BBOO	**Buckleboo**	**36.49 158**	*e*P	**P**	**08 43 25.4**	**-1.2**
	comp=Z,335nm,0.8s					
KSAR	**Wonju Array Be**	**36.98 9**	P	**P**	**08 43 33.2**	**+2.5**
KSAR					08 45 51.7	
KSAR	**Wonju Array Be**	**36.98 9**	P	**P**	**08 43 33.2**	**+2.5**
KSAR			PcP	**PcP**	**08 45 51.7**	**+0.2**
KSRS	**Korea Array**	**37.00 10**	P	**P**	**08 43 33.2**	**+2.3**
	comp=Z,8.9nm,0.7s,baz=191,slow=8.1,SNR=31					
KSRS			PcP	**PcP**	**08 45 51.7**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=198,slow=2.4,SNR=4.1					
LZH	**Lanzhou**	**38.39 338**	*e*P	**P**	**08 43 44.3**	**+1.4**
LZH			pP	**pP**	**08 43 50.5**	**-1.2**
LZH			sP	**sP**	**08 43 54.0**	**-1.3**
LZH			PP	**PnPn**	**08 45 20.0**	**+7.0**
LZH			PcP	**PcP**	**08 45 56.3**	**+0.2**
LZH			*e*S	**S**	**08 49 34.4**	**-1.7**
LZH			SS	**SnSn**	**08 52 19.1**	**-4.1**
LZH			PMZ			
	comp=Z,21nm,1.0s					
LZH			PMZ			
	comp=Z,91nm,4.5s					
LZH			LN			
	comp=Z,620nm,13.7s					
LZH			LE			
	comp=Z,860nm,13.0s					
LZH			LZ			
	comp=Z,970nm,14.6s					
MJAR	**Matsushiro Arr**	**39.01 23**	P	**P**	**08 43 47.8**	**-0.1**
	comp=Z,8.2nm,0.8s,baz=196,slow=9.3,SNR=28					
MJAR			PcP	**PcP**	**08 45 57.5**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=232,slow=6.2,SNR=4.2					
MAJO	**Matsushiro**	**39.01 23**	⇓*i*P	**P**	**08 43 47.2**	**-0.7**
MAJO			pmax	pmax		
	comp=Z,91nm,1.3s					
MAJO	**Matsushiro**	**39.01 23**	*e*P	**P**	**08 43 47.6**	**-0.3**
	comp=Z,15nm,1.0s					
MAT	**Matsushiro**	**39.01 23**	P	**P**	**08 43 46.9**	**-1.0**
BJI	**Beijing**	**39.21 354**	P	**P**	**08 43 50.6**	**+1.2**
BJI			PMZ			
	comp=Z,14nm,1.2s					
BJI			LN			
	comp=Z,190nm,15.5s					
BJI			LE			
	comp=Z,170nm,19.1s					
BJI			LZ			
	comp=Z,100nm,20.9s					
CMSA	**Cobar Meteorol**	**39.98 146**	P	**P**	**08 43 56.0**	**-0.1**
	baz=40,SNR=25					
HHC	**Hu-ho-hao-te**	**40.66 349**	*e*P	**P**	**08 44 02.8**	**+1.2**
HHC			pP	**pP**	**08 44 12.6**	**+2.1**
HHC			sP	**sP**	**08 44 16.6**	**+2.6**
HHC			PP	**PnPn**	**08 45 40.9**	**+1.1**
HHC			S	**S**	**08 50 11.4**	**+1.5**
HHC			sS	**sS**	**08 50 27.6**	**+3.2**
HHC			SS	**SS**	**08 53 08.3**	**-2.6**
HHC			PMZ			
	comp=Z,36nm,0.9s					
HHC			PMZ			
	comp=Z,130nm,7.4s					
HHC			LN			
	comp=Z,260nm,16.0s					
HHC			LE			
	comp=Z,150nm,15.5s					
HHC			LZ			
	comp=Z,150nm,17.3s					
SNY	**Shenyang**	**40.85 3**	⇑P	**P**	**08 44 04.3**	**+1.2**
SNY			PMZ			
	comp=Z,26nm,1.0s					
ODAN	**Odare**	**41.16 312**	*e*P	**P**	**08 44 07.0**	**+0.9**
TAPN	**Taplejung**	**41.19 313**	*e*P	**P**	**08 44 06.1**	**-0.4**
	comp=Z,17nm,0.9s					
RAMN	**Ramite**	**41.80 311**	*e*P	**P**	**08 44 11.5**	**+0.1**
	comp=Z,22nm,0.8s					
JIRN	**Jiri**	**42.48 312**	*e*P	**P**	**08 44 17.5**	**+0.3**
	comp=Z,17nm,0.6s					
ARMA	**Armidale**	**42.81 139**	P	**P**	**08 44 20.7**	**+1.3**
	baz=43,SNR=6.6					
GUN	**Gumba**	**42.85 312**	*e*P	**P**	**08 44 20.4**	**+0.3**
	comp=Z,25nm,0.7s					
GTA	**Gaotai**	**42.86 336**	*e*P	**P**	**08 44 21.4**	**+1.7**
GTA			pP	**pP**	**08 44 29.0**	**+0.4**
GTA			sP	**sP**	**08 44 32.3**	**+0.2**
GTA			PcP	**PcP**	**08 46 11.3**	**+0.8**
GTA			S	**S**	**08 50 44.9**	**+2.4**
GTA			sS	**sS**	**08 50 58.3**	**+1.2**
GTA			SS	**SS**	**08 53 50.9**	**-3.6**
GTA			PMZ			
	comp=Z,7.0nm,1.1s					
GTA			PMZ			
	comp=Z,130nm,4.3s					
GTA			LN			
	comp=Z,120nm,15.9s					
GTA			LE			
	comp=Z,130nm,17.8s					
GTA			LZ			
	comp=Z,160nm,16.6s					
CN2	**Changchun**	**42.95 5**	*e*P	**P**	**08 44 20.3**	**+0.1**
CN2			*e*pP	**pP**	**08 44 27.6**	**-1.5**
CN2			*e*S	**S**	**08 50 43.8**	**+0.3**
CN2			PMZ			
	comp=Z,10.0nm,0.7s					
CN2			PMZ			
	comp=Z,400nm,6.0s					
PKI	**Pulchoki**	**43.02 311**	*e*P	**P**	**08 44 21.8**	**+0.3**
PKIN	**Phulchoki**	**43.03 311**	*e*P	**P**	**08 44 21.3**	**-0.2**
	comp=Z,14nm,0.8s					
VLA	**Vladivostok**	**43.23 12**	⇓*e*P	**P**	**08 44 21.9**	**-0.6**
VLA			*e*		08 46 01.2	
VLA			*i*		08 46 09.3	
VLA			*e*S	**S**	**08 50 45.9**	**-1.7**
VLA			pmax	pmax		
	comp=Z,37nm,0.8s					
KKN	**Kakani**	**43.23 311**	*e*P	**P**	**08 44 22.9**	**-0.2**
DMN	**Daman**	**43.27 311**	*e*P	**P**	**08 44 23.7**	**+0.3**
	comp=Z,19nm,0.8s					
GKN	**Gorkha**	**43.83 311**	*e*P	**P**	**08 44 28.1**	**+0.3**
	comp=Z,20nm,0.7s					
MDJ	**Mudanjiang**	**44.26 9**	P	**P**	**08 44 32.5**	**+1.7**
MDJ			pP	**pP**	**08 44 39.5**	**-0.2**
MDJ			sP	**sP**	**08 44 41.9**	**-1.3**
MDJ			PP	**PcP**	**08 46 15.3**	**+0.4**
MDJ			sS	**sS**	**08 51 17.8**	**+0.5**
MDJ			ScS	**ScS**	**08 54 30.0**	**+2.9**
MDJ			PMZ			
	comp=Z,18nm,1.2s					
MDJ			PMZ			
	comp=Z,100nm,5.0s					
MDJ			LN			
	comp=Z,230nm,10.8s					
MDJ			LE			
	comp=Z,100nm,9.3s					
MDJ			LZ			
	comp=Z,320nm,9.3s					
MDJ	**Mudanjiang**	**44.26 9**	*e*P	**P**	**08 44 32.5**	**+1.7**
	comp=Z,17nm,0.9s					
USRK	**Ussuriysk Ar.**	**44.29 12**	P	**P**	**08 44 32.5**	**+1.5**
	comp=Z,9.5nm,0.9s,baz=183,slow=7.5,SNR=10					
KOLN	**Koldanda**	**44.50 310**	*e*P	**P**	**08 44 33.0**	**-0.2**
	comp=Z,27nm,0.7s					
HYB	**Hyderabad**	**44.62 294**	*i*P	**P**	**08 44 33.0**	**-1.1**
CAN	**Canberra**	**44.64 147**	*e*P	**P**	**08 44 34.8**	**+0.7**
CAN			pmax	pmax		
	comp=Z,12nm,0.6s					
CAN	**Canberra**	**44.64 147**	*e*P	**P**	**08 44 34.8**	**+0.7**
	comp=Z,12nm,0.6s					
DANN	**Dangsing**	**44.67 311**	*e*P	**P**	**08 44 34.5**	**-0.2**
	comp=Z,47nm,0.9s					
CNB	**Canberra Magne**	**44.84 146**	P	P	08 44 30.4	-5.2
	baz=45,SNR=5.1					
PYUN	**Piuthan**	**45.13 310**	*e*P	**P**	**08 44 38.8**	**+0.6**
	comp=Z,136nm,0.8s					
HIA	**Hailar**	**48.22 359**	P	**P**	**08 45 02.0**	**+0.1**
HIA			pmax	pmax		
	comp=Z,16nm,1.6s					
ULN	**Ulaanbaatar**	**48.29 348**	*d*iP	**P**	**08 45 03.8**	**+1.2**
ULN			pmax	pmax		
	comp=Z,26nm,1.7s					
ULN	**Ulaanbaatar**	**48.29 348**	*e*P	**P**	**08 45 03.6**	**+1.0**
	comp=Z,14nm,1.0s					
SONM	**Songino Array**	**48.41 347**	P	**P**	**08 45 04.6**	**+1.1**
	comp=Z,6.4nm,0.9s,baz=160,slow=8.4,SNR=36					
SONM			PcP	**PcP**	**08 46 29.1**	**-0.5**
	comp=Z,6.7nm,0.8s,baz=162,slow=4.3,SNR=10					
YUK	**Yuzh-Kuril'sk**	**48.44 24**	*c i*P	P	08 45 14.0	+10
YUK			*i*		08 46 35.7	
YUK			*i*S	**S**	**08 52 06.3**	**+3.7**
YUK			MLR	MLR		
	comp=N,112nm,20.0s					
YUK			MLR	MLR		
	comp=E,183nm,20.0s					
YUK			MLR	MLR		
	comp=Z,115nm,20.0s					
KLR	**Kul'dur**	**49.10 10**	*e*P	P	08 45 05.0	-3.6
ZAK	**Zakamensk**	**51.52 346**	⇓*i*P	**P**	**08 45 27.7**	**+0.7**
ZAK			pmax	pmax		
	comp=Z,4.0nm,1.6s					
WMQ	**Urumqi**	**51.90 330**	P	**P**	**08 45 30.9**	**+1.0**
WMQ			pP	**pP**	**08 45 38.4**	**-0.5**
WMQ			PcP	**PcP**	**08 46 44.6**	**+2.2**
WMQ			PMZ			
	comp=Z,8.0nm,1.0s					
WMQ			PMZ			
	comp=Z,130nm,4.8s					
TLY	**Talaya**	**52.64 347**	PcP	**PcP**	**08 46 44.7**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=162,slow=6.4,SNR=1.8					
HVS	**Khovu-Aksy**	**55.05 340**	⇑*e*P	**P**	**08 45 53.8**	**+0.8**
HVS			pmax	pmax		
	comp=Z,30nm,1.0s					
KSH	**Kashi**	**56.03 319**	P	**P**	**08 46 01.4**	**+1.1**
KSH			sP	**sP**	**08 46 12.4**	**-0.5**
KSH			PP	**PP**	**08 48 08.3**	**+2.8**
KSH			S	**S**	**08 53 44.3**	**-2.9**
KSH			ScS	**ScS**	**08 55 41.3**	**-6.5**
KSH			PMZ			
	comp=Z,9.0nm,0.8s					
KSH			PMZ			
	comp=Z,130nm,3.8s					
KSH			LN			
	comp=Z,91nm,5.3s					
KSH			LE			
	comp=Z,110nm,4.9s					
KSH			LZ			
	comp=Z,160nm,6.8s					
MK31	**Makanchi Array**	**56.70 329**	*i*P	**P**	**08 46 05.0**	**+0.2**
MK31			pmax	pmax		
	comp=Z,3.0nm,0.6s					
MK31	**Makanchi Array**	**56.70 329**	*e*P	**P**	**08 46 05.6**	**+0.8**
MK31	**Makanchi Array**	**56.70 329**	*e*P	**P**	**08 46 05.6**	**+0.8**
MKAR	**Makanchi Array**	**56.70 329**	P	**P**	**08 46 05.7**	**+0.8**
	comp=Z,5.4nm,0.9s,baz=128,slow=8.3,SNR=38					
MKAR			PcP	**PcP**	**08 47 00.4**	**-0.3**
	comp=Z,5.9nm,0.8s,baz=122,slow=5.5,SNR=7.1					
BOD	**Bodaibo**	**57.03 356**	*e*P	**P**	**08 46 07.5**	**+0.6**
BOD			pmax	pmax		
	comp=Z,11nm,1.4s					
TKM2	**Tokmak 2**	**58.11 322**	P	**P**	**08 46 15.8**	**+0.8**
	SNR=11					
TKM2	**Tokmak 2**	**58.11 322**	*i*P	**P**	**08 46 15.8**	**+0.8**
TKM2	**Tokmak 2**	**58.11 322**	*e*P	**P**	**08 46 15.7**	**+0.6**
	comp=Z,13nm,1.0s					
KBK	**Karagaybulak**	**58.37 322**	P	**P**	**08 46 17.9**	**+1.1**
	SNR=19					
KBK	**Karagaybulak**	**58.37 322**	*i*P	**P**	**08 46 17.9**	**+1.1**
UCH	**Uchtor**	**58.41 321**	P	**P**	**08 46 17.8**	**+0.4**
	SNR=8.4					
UCH	**Uchtor**	**58.41 321**	*i*P	**P**	**08 46 17.8**	**+0.4**
AAK	**Ala-Archa**	**58.63 321**	P	**P**	**08 46 19.2**	**+0.5**
	comp=Z,87nm,0.7s,SNR=13					
AAK	**Ala-Archa**	**58.63 321**	*d*iP	**P**	**08 46 19.6**	**+0.9**
AAK			pmax	pmax		
	comp=Z,28nm,0.8s					
AAK	**Ala-Archa**	**58.63 321**	*e*P	**P**	**08 46 19.5**	**+0.9**
	comp=Z,11nm,0.9s					
KBL	**Kabul**	**58.66 311**	*e*P	**P**	**08 46 18.7**	**-0.3**
KBL			pmax	pmax		
	comp=Z,18nm,1.0s					
KBL	**Kabul**	**58.66 311**	*e*P	**P**	**08 46 18.7**	**-0.3**
	comp=Z,18nm,1.0s					
AML	**Almayashu**	**58.88 321**	P	**P**	**08 46 21.5**	**+0.8**
	SNR=15					
AML	**Almayashu**	**58.88 321**	*i*P	**P**	**08 46 21.5**	**+0.8**
USP	**Ospenovka**	**58.97 322**	P	**P**	**08 46 21.7**	**+0.9**
	SNR=8.8					
USP	**Ospenovka**	**58.97 322**	*i*P	**P**	**08 46 21.7**	**+0.9**
EKS2	**Erkin-Say**	**59.10 321**	P	**P**	**08 46 22.9**	**+1.0**
	SNR=11					
EKS2	**Erkin-Say**	**59.10 321**	*i*P	**P**	**08 46 22.8**	**+1.0**
EKS2	**Erkin-Say**	**59.10 321**	*e*P	**P**	**08 46 22.6**	**+0.8**
	comp=Z,8.9nm,1.0s					
PETK	**Petropavlovsk-**	**60.41 25**	P	**P**	**08 46 32.3**	**+1.8**
	comp=Z,2.2nm,0.8s,baz=241,slow=2.6,SNR=2.2					
ZALV	**Zalesovo Beam**	**60.61 337**	P	**P**	**08 46 31.6**	**-0.1**
	comp=Z,7.8nm,0.9s,baz=129,slow=5.7,SNR=14					
KURK	**Kurchatov**	**61.11 331**	P	**P**	**08 46 35.3**	**0.0**
	comp=Z,85nm,0.9s,SNR=8.8					
KURK	**Kurchatov**	**61.11 331**	*e*P	**P**	**08 46 35.8**	**+0.5**
KURK			pmax	pmax		
	comp=Z,13nm,0.9s					
KURK	**Kurchatov**	**61.11 331**	*e*P	**P**	**08 46 35.8**	**+0.5**
	comp=Z,13nm,0.9s					
YAK	**Yakutsk**	**61.38 5**	*e*P	**P**	**08 46 38.3**	**+1.4**
KKAR	**Karatay Array**	**61.40 320**	*e*P	**P**	**08 46 36.6**	**-0.8**
KKAR			pmax	pmax		
	comp=Z,3.0nm,0.6s					
KKAR	**Karatay Array**	**61.40 320**	*e*P	**P**	**08 46 36.6**	**-0.8**
	comp=Z,2.6nm,0.6s					
NVS	**Novosibirsk**	**61.89 336**	*e*P	**P**	**08 46 39.2**	**-1.3**
RPZ	**Rata Peaks**	**63.09 141**	*e*PN	**P**	**08 46 48.8**	**0.0**
RPZ	**Rata Peaks**	**63.09 141**	*e*P	**P**	**08 46 48.7**	**0.0**
	comp=Z,92nm,1.1s					
THZ	**Tophouse**	**63.33 139**	*e*PN	**P**	**08 46 50.8**	**+0.3**
SEY	**Seymchan**	**66.25 15**	P	**P**	**08 47 10.2**	**+1.3**
BVAR	**Borovoye Array**	**66.58 330**	P	**P**	**08 47 11.2**	**-0.1**
	comp=Z,8.1nm,0.8s,baz=120,slow=8.8,SNR=30					
GEYT	**Alibeck**	**68.11 311**	P	**P**	**08 47 21.7**	**+0.4**
	comp=Z,4.3nm,0.7s,baz=108,slow=9.3,SNR=8.3					
AB31	**Akbulak array**	**70.67 323**	*i* P	**P**	**08 47 36.5**	**-0.4**
AB31			pmax	pmax		
	comp=Z,14nm,0.8s					
ABKAR	**Akbulak array**	**70.67 323**	*e*P	**P**	**08 47 36.8**	**-0.1**
	comp=Z,12nm,0.8s					
TIXI	**Tiksi**	**70.86 3**	P	**P**	**08 47 37.0**	**-0.6**
TIXI			pmax	pmax		
	comp=Z,13nm,1.6s					
TIXI	**Tiksi**	**70.86 3**	*e*P	**P**	**08 47 37.9**	**+0.3**
	comp=Z,15nm,0.8s					
SVE	**Sverdlovsk**	**73.35 330**	⇓*i*P	**P**	**08 47 53.3**	**+0.5**
SVE			pmax	pmax		
	comp=Z,50nm,0.9s					
BILL	**Bilibino**	**73.89 16**	⇓*e*P	**P**	**08 47 56.4**	**+0.6**
BILL			pmax	pmax		
	comp=Z,1.0nm,0.6s					
ARU	**Arti**	**74.23 329**	*c i*P	**P**	**08 47 57.3**	**-0.6**
ARU			S	**S**	**08 57 29.9**	**+0.3**
ARU			SS	**SS**	**09 02 09.6**	**-5.9**
ARU			pmax	pmax		
	comp=Z,41nm,1.0s					
ARU	**Arti**	**74.23 329**	*e*P	**P**	**08 47 57.2**	**-0.8**
	comp=Z,40nm,0.9s					
SOKR	**Solikamsk**	**76.33 332**	*e*P	**P**	**08 48 09.2**	**-0.7**
SOKR			pmax	pmax		
	comp=Z,10.0nm,0.6s					
GNI	**Garni**	**78.75 311**	⇓*e*P	**P**	**08 48 22.5**	**-1.6**
GNI			pmax	pmax		
	comp=Z,10.0nm,1.4s					
MAW	**Mawson**	**79.06 199**	P	**P**	**08 48 22.7**	**-2.3**
	comp=Z,54nm,1.0s,baz=98,slow=7.1,SNR=2.5					
ZEI	**Tsey**	**79.76 313**	*e*P	**P**	**08 48 28.6**	**-1.0**
ZEI			pmax	pmax		
	comp=Z,9.0nm,0.5s					
KBZ	**Khabaz**	**80.61 314**	P	**P**	**08 48 33.6**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=212,slow=3.6,SNR=3.9					
VNDA	**Vanda**	**81.42 172**	P	**P**	**08 48 35.5**	**-2.1**
	comp=Z,4.4nm,1.0s,baz=332,slow=3.1,SNR=3.3					
PRGR	**Permogore**	**82.19 332**	*e*P	**P**	**08 48 39.7**	**-2.2**
PRGR			pmax	pmax		
	comp=Z,74nm,1.0s					
VRHR	**Novokhopersk**	**82.48 321**	*e*P	**P**	**08 48 41.9**	**-1.8**
VRHR			pmax	pmax		
	comp=N,8.0nm,0.8s					
VRHR			pmax	pmax		
	comp=Z,10.0nm,0.8s					
VRHR			pmax	pmax		
	comp=E,10.0nm,1.3s					
KMBO	**Kilima Mbogo**	**83.50 269**	P	**P**	**08 48 49.6**	**-0.5**
	comp=E,3.9nm,0.8s,baz=75,slow=5.7,SNR=11					
VORD	**Divnogorie**	**83.93 321**	*e*P	**P**	**08 48 49.0**	**-2.1**
VORD			pmax	pmax		
	comp=Z,10.0nm,0.9s					
VORD			pmax	pmax		
	comp=N,20nm,0.8s					
VORD			pmax	pmax		
	comp=E,20nm,0.7s					
VSR	**Storozhevoye**	**84.04 321**	*e*P	**P**	**08 48 49.7**	**-2.0**
VSR			pmax	pmax		
	comp=Z,10.0nm,0.8s					
VSR			pmax	pmax		
	comp=N,6.0nm,0.9s					
VSR			pmax	pmax		
	comp=E,10.0nm,1.0s					
KLMR	**Klimovskoe**	**84.96 331**	*e*P	**P**	**08 48 55.1**	**-1.0**
KLMR			pmax	pmax		
	comp=Z,45nm,0.8s					
OBN	**Obninsk**	**85.95 325**	⇑*i*P	**P**	**08 49 00.7**	**-0.4**
OBN			pmax	pmax		
	comp=Z,49nm,1.7s					
BRTR	**Keskin Array B**	**87.21 310**	*c e*P	**P**	**08 49 06.8**	**-1.2**
BRTR			pmax	pmax		
	comp=Z,4.0nm,0.9s					
BRTR	**Keskin Array B**	**87.21 310**	P	**P**	**08 49 06.8**	**-1.2**
	comp=Z,3.7nm,0.9s,baz=122,slow=6.0,SNR=16					
SYO	**Syowa Base**	**87.63 201**	⇑*e*P	**P**	**08 49 08.2**	**-0.9**
COLA	**College**	**89.82 25**	P	**P**	**08 49 20.0**	**+0.5**
COLA			pmax	pmax		
	comp=Z,9.0nm,0.9s					
ILAR	**Eielson Array**	**90.24 25**	P	**P**	**08 49 18.8**	**-2.7**
	comp=Z,0.3nm,0.7s,baz=244,slow=5.0,SNR=7.1					
AKASG	**Malin Array Be**	**90.30 321**	*c e*P	**P**	**08 49 20.2**	**-1.8**
AKASG			pmax	pmax		
	comp=Z,3.0nm,0.7s					
AKASG	**Malin Array Be**	**90.30 321**	P	**P**	**08 49 20.3**	**-1.8**
	comp=Z,1.8nm,0.6s,baz=74,slow=4.6,SNR=5.2					
QSPA	**South Pole Qui**	**90.80 180**	P	**P**	**08 49 22.6**	**-1.6**
	comp=Z,2.8nm,0.8s,baz=267,slow=1.7,SNR=15					
ARCES	**ARCESS Array B**	**91.03 339**	P	**P**	**08 49 25.1**	**0.0**
	comp=Z,3.1nm,1.0s,baz=89,slow=11,SNR=5.1					
FINES	**FINESS Array B**	**91.48 331**	*i* P	**P**	**08 49 25.0**	**-2.3**
FINES			pmax	pmax		
	comp=Z,2.0nm,0.7s					
FINES	**FINESS Array B**	**91.48 331**	P	**P**	**08 49 25.4**	**-2.0**
	comp=Z,1.9nm,0.6s,baz=79,slow=10,SNR=7.3					
NVL	**N'lazarevskaya**	**96.98 198**	*e*P	**P**	**08 49 51.8**	**-0.6**
NVL			pmax	pmax		
	comp=Z,32nm,1.5s					
NOA	**NORSAR Array B**	**98.60 332**	P	**P**	**08 49 59.0**	**-0.9**
NOA	**NORSAR Array B**	**98.60 332**	P	**P**	**08 49 59.0**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=78,slow=18,SNR=2.7					
DLBC	**Dease Lake**	**99.23 30**	LR	LR	09 42 24.0	
	comp=Z,35nm,18.1s,baz=236,slow=40					
PDAR	**Pinedale Array**	**117.40 40**	PKKPbc	PKKPbc	09 05 30.4	-1.3
	comp=Z,0.6nm,1.0s,baz=129,slow=7.1,SNR=3.8					
TORD	**Torodi Ar. Bea**	**118.00 285**	PKP	**PKPdf**	**08 55 06.4**	**-2.5**
	comp=Z,0.7nm,1.0s,baz=354,slow=1.0,SNR=3.0					
TORD			PKKPbc	**PKKPbc**	**09 05 28.1**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=283,slow=2.5,SNR=2.3					
ANMO	**Albuquerque**	**123.34 46**	*i* PKIKP	**PKPdf**	**08 55 19.0**	**+0.1**
ANMO			pmax	pmax		
	comp=Z,12nm,1.2s					
TXAR	**Lajitas Array**	**128.05 51**	PKP	**PKPdf**	**08 55 28.2**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=281,slow=1.5,SNR=5.1					
APG	**El Apazote**	**145.34 62**	PKPbc	**PKPdf**	**08 56 00.6**	**+0.3**
	comp=Z,5.6nm,0.4s,baz=173,slow=4.4,SNR=4.3					
CFAA	**Coronel Fontan**	**148.27 165**	PKPbc	**PKPbc**	**08 56 06.4**	**-1.6**
	comp=Z,0.9nm,0.9s,baz=191,slow=7.1,SNR=3.0					

DJA 18 08:44:33.8±0.6, 1°N±5°×12°1E±°, h10km, M3.8/6, MLv3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.85**	**226**	P	Pg	08 44 48.4	-1.8
MRSI	**Marisa**	**1.50**	**107**	P	Pn	08 44 59.6	-1.2
MRSI				S	Sn	08 45 18.3	-2.1
APSI	**Ampana**	**2.15**	**148**	P	Pn	08 45 09.2	-0.6
GTOI	**Gorontalo**	**2.52**	**97**	P	Pn	08 45 13.1	-1.7
LUWI	**Luwuk**	**2.99**	**131**	P	Pn	08 45 23.8	+2.5

*ISCJB **18** 08:45:18.1±0.5, 60°.26S±0°.08×28°.2W±0°.2, h10km, mb4.4/12, MS3.9/4, Error ellipse: s-maj=18.7km s-min=7.6km az=151.5*

*IDC **18** 08:45:18.5±0.7, 60°.22S×28°.16W, h0km, mb4.4/8, mb1 4.4/9, mb1mx4. 1/32, mbtmp4.3/9, ML3.7/1, MS3.9/5, Ms1 3.9/5, ms1mx3.5/18, Error ellipse: s-maj=35.9km s-min=18.5km az=93.0*

*NEIC **18** 08:45:25.0±2.5, 60°.27S×28°.24W, h49km±23km, mb4.7/4, Error ellipse: s-maj=16.3km s-min=11.4km

baz=299,slow=16
SNAA Sanae 15.26 149 P **Pn 08 48 55.5 +0.4**
SNAA Sanae 15.26 149 Pn **Pn 08 48 54.8 -0.2**
0.3nm,0.3s,baz=331,slow=16,SNR=29
SNAA Sanae 15.26 149 *e*Pn **Pn 08 48 55.4 +0.4**
SNAA *e*Sn **Sn 08 51 44.9 +1.1**
PMSA Palmer Station 16.96 239 LR LR 08 54 37.9
comp=Z,564nm,19.1s,baz=53,slow=33
USHA Ushuaia 21.96 266 LR LR 08 56 33.0
comp=Z,280nm,20.1s,baz=72,slow=31
QSPA South Pole Qui 29.99 180 P **P 08 51 29.9 +1.7**
7.5nm,0.9s,baz=208,slow=1.5,SNR=28
TRQA Tornquist 30.74 301 *e*P **P 08 51 34.8 -0.1**
VNDA Vanda 42.34 183 P **P 08 53 14.8 +1.6**
3.9nm,0.7s,baz=193,slow=2.2,SNR=3.0
VNDA LR LR 09 09 47.3
comp=Z,81nm,18.7s,baz=179,slow=35
BDFB Brasilia 46.81 333 P **P 08 53 51.2 +1.6**
5.1nm,0.8s,baz=112,slow=5.4,SNR=6.5
BOSA Boshof 47.65 73 P **P 08 53 56.9 +0.8**
2.2nm,1.0s,baz=207,slow=6.8,SNR=2.6
BOSA LR LR 09 10 44.1
comp=Z,153nm,18.6s,baz=272,slow=32
H10S2 ASCENSION HYDR 52.19 17 T T 09 51 14.4
baz=189,slow=74,SNR=12
H10S3 ASCENSION HYDR 52.20 17 T T 09 51 26.3
baz=189,slow=74,SNR=14
H10S1 ASCENSION HYDR 52.21 17 T T 09 51 25.5
baz=189,slow=74,SNR=13
H10N1 ASCENSION HYDR 53.31 17 T T 09 52 49.5
baz=189,slow=76,SNR=5.1
H10N3 ASCENSION HYDR 53.31 17 T T 09 52 37.7
baz=189,slow=76,SNR=11
H10N2 ASCENSION HYDR 53.33 17 T T 09 52 44.1
baz=189,slow=76,SNR=8.6
SAML Samuel 57.46 318 *e*P **P 08 55 08.0 -0.7**
9.3nm,1.1s
LSZ Lusaka 60.46 68 *e*P **P 08 55 30.4 +0.7**
3.9nm,0.8s
DBIC Dimbokro 69.23 25 P **P 08 56 26.3 -0.3**
2.4nm,0.8s,baz=169,slow=10,SNR=2.4
DBIC LR LR 09 19 19.4
comp=Z,132nm,21.7s,baz=147,slow=30
OTAV Otavalo 71.60 306 *e*P **P 08 56 41.6 -0.1**
5.0nm,1.1s
SDV Santo Domingo 76.64 317 *e*P **P 08 57 11.1 +0.3**
9.2nm,0.9s
TORD Torodi Ar. Bea 76.99 30 P **P 08 57 13.0 +0.5**
2.5nm,0.4s,baz=198,slow=6.3,SNR=53
ASAR Alice Springs 95.13 164 P **P 08 58 42.4 -0.8**
0.9nm,0.8s,baz=186,slow=3.3,SNR=10
WRA Warramunga Arr 98.85 163 P **P 08 58 58.4 -1.6**
0.7nm,0.8s,baz=190,slow=4.0,SNR=3.9
CMAR Chiang Mai Arr 123.98 114 PKP **PKPdf 09 04 17.6 -0.3**
2.4nm,0.3s,baz=216,slow=4.5,SNR=5.0
ARCES ARCESS Array B 135.04 24 PKP **PKPdf 09 04 36.0 -1.4**
3.8nm,1.0s,baz=347,slow=12,SNR=3.0
MKAR Makanchi Array 138.59 77 PKP **PKPdf 09 04 43.6 -1.1**
0.3nm,0.8s,baz=258,slow=5.6,SNR=3.0
YKA Yellowknife Ar 138.84 315 PKP **PKPdf 09 04 44.1 -0.4**
0.2nm,0.7s,baz=128,slow=2.3,SNR=3.4
ZALV Zalesovo Beam 144.55 70 PKP **PKPab 09 04 52.8 -0.8**
1.0nm,0.3s,baz=221,slow=5.9,SNR=4.1
SONM Songino Array 151.24 95 PKPbc **PKPbc 09 05 12.3 -0.1**
1.5nm,0.8s,baz=208,slow=3.4,SNR=9.5
ILAR Eielson Array 152.32 306 PKPbc **PKPbc 09 05 13.3 -0.9**
0.8nm,0.9s,baz=174,slow=2.7,SNR=6.9

WEL 18 08:49:09.2±0.4, 35°.99S×178°.99E, h182km±5km, ML3.7/10, 1D, Error ellipse: s-maj=7.0km s-min=6.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.88**	**194**	PN	Pn	08 49 45.2	+0.1
HAZ	**Te Kaha**	**2.01**	**208**	PN	Pn	08 49 45.6	-0.8
HAZ				*e*SN	Sn	08 50 15.8	+0.3
PUZ	**Puketiti**	**2.16**	**195**	⇓PN	Pn	08 49 48.0	-0.1
PUZ				*e*SN	Sn	08 50 16.7	-2.0
PUZ				AML	AML	08 50 19.5	
TWGZ	**Tauwhareparae**	**2.33**	**200**	PN	Pn	08 49 50.6	+0.6
CNGZ	**Carnagh Statio**	**2.57**	**194**	PN	Pn	08 49 53.4	+0.7
TKGZ	**Te Karaka**	**2.61**	**200**	PN	Pn	08 49 53.3	+0.1
MWZ	**Matawai**	**2.62**	**206**	PN	Pn	08 49 53.6	+0.3
MWZ				SN	Sn	08 50 28.9	+1.0
URZ	**Urewera**	**2.72**	**213**	PN	Pn	08 49 54.6	+0.1
URZ				SN	Sn	08 50 30.3	+0.4
RIGZ	**Rimuhau**	**2.88**	**199**	PN	Pn	08 49 56.6	+0.1
SNGZ	**Shannon Statio**	**3.08**	**205**	PN	Pn	08 50 00.4	+1.5
KNZ	**Kokoho**	**3.20**	**199**	*e*PN	Pn	08 49 60.0	-0.3
MHGZ	**Mahia Peninsul**	**3.27**	**195**	PN	Pn	08 50 01.7	+0.5
RAHZ	**Arahi**	**3.29**	**207**	PN	Pn	08 50 02.2	+0.8
WHHZ	**Waihua**	**3.38**	**204**	PN	Pn	08 50 03.0	+0.4
NMHZ	**Naumai**	**3.56**	**209**	PN	Pn	08 50 05.7	+0.9
BKZ	**Black Stump Fm**	**3.74**	**211**	PN	Pn	08 50 07.1	0.0
MCHZ	**McNeill Hill**	**3.90**	**207**	PN	Pn	08 50 09.6	+0.6
KRHZ	**Kereru**	**4.20**	**209**	PN	Pn	08 50 12.5	-0.3
TSZ	**Takapari Road**	**4.71**	**210**	PN	Pn	08 50 18.5	-1.0
TIWZ	**Tintock**	**5.37**	**206**	AML	AML	08 51 31.4	
MRZ	**Mangatainoka R**	**5.38**	**209**	PN	Pn	08 50 26.8	-1.2
MRZ				*e*SN	Sn	08 51 28.3	-1.9
HOWZ	**Holdsworth Sta**	**5.61**	**208**	*e*PN	Pn	08 50 29.0	-2.0
OGWZ	**Otaki Gorge**	**5.68**	**211**	PN	Pn	08 50 30.7	-1.2
KIW	**Kapiti Island**	**5.82**	**212**	PN	Pn	08 50 32.6	-1.2
CAW	**Cannon Point**	**5.96**	**210**	*e*PN	Pn	08 50 34.2	-1.4
THZ	**Tophouse**	**7.46**	**218**	PN	Pn	08 50 54.1	-1.3
KHZ	**Kahutara**	**7.66**	**212**	AML	AML	08 51 31.2	
MQZ	**McQueen's Vall**	**9.12**	**210**	*e*SN	Sn	08 52 50.7	-8.0

*IDC **18** 08:49:42.1±1.2, 34°.78S×72°.53W, h0km, mb3.8/5, mb1 4.1/7, mb1mx4.0/16, mbtmp3.8/7, ML4.0/2, MS2.5/2, Ms1 2.6/2, ms1mx2.5/30, Error ellipse: s-maj=31.9km s-min=29.6km az=93.0*
*ISCJB **18** 08:49:43.6±1.3, 34°.82S±0°.04×72°.53W±0°.06, h22km±9km, mb4.0/11, Error ellipse: s-maj=8.5km s-min=7.1km az=7.0*
*GUC **18** 08:49:45.4±0.4, 34°.80S×72°.34W, h34km±3km, ML4.1*
*NEIC **18** 08:49:47.4±0.5, 34°.73S×72°.35W, h35km, mb4.3/6, Error ellipse: s-maj=13.1km s-min=8.9km az=67.0*
ISC 18 08:49:43.0±1.7, 34°.78S±0°.05×72°.49W±0°.06, h8km±11km, n31, σ1§18/40, mb4.1/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.93**	**131**	*e*P	**Pg**	**08 50 01.3**	**+0.3**
TALC				*e*S4	**Sg**	**08 50 11.1**	**-1.9**
NICH	**Los Niches**	**1.06**	**102**	*e*P	**Pg**	**08 50 03.3**	**-0.1**
NICH				*e*S	**Sg**	**08 50 16.7**	**-0.4**
LNCH	**Linares**	**1.29**	**146**	*e*P	**Pn**	**08 50 07.5**	**+0.2**
LNCH				*e*S	**Sb**	**08 50 24.2**	**0.0**
COCH	**Cobquecura**	**1.37**	**190**	*e*P4	**Pn**	**08 50 08.5**	**+0.1**
COCH				*e*S4	**Sg**	**08 50 27.8**	**+0.8**
ANTU	**Antumapu**	**1.96**	**52**	*e*P	**Pn**	**08 50 17.8**	**+1.2**
ANTU				*e*S	**Sn**	**08 50 42.4**	**+1.1**
ANTU				IAML		08 50 52.4	
	comp=N,3μm,0.5s						
SJCH	**San Jose de Ma**	**2.10**	**58**	*e*P4	**Pn**	**08 50 19.1**	**+0.5**
SJCH				*e*S4	**Sn**	**08 50 43.9**	**-1.1**
SJCH				IAML		08 50 53.5	
	comp=N,2μm,0.6s						
CLCH	**Cerro Calan**	**2.13**	**50**	*e*P	**Pn**	**08 50 20.4**	**+1.4**
CLCH				*e*S	**Sn**	**08 50 46.6**	**+1.0**
CLCH				IAML		08 50 53.8	
	comp=E,2μm,0.5s						
PEL	**Peldehue**	**2.22**	**43**	IAML		08 50 56.4	
	comp=N,2μm,0.4s						
CFAA	**Coronel Fontan**	**4.77**	**50**	Pn	**Pn**	**08 50 57.2**	**+1.9**
	comp=N,0.3nm,0.3s,baz=220,slow=14,SNR=10						
CFAA				Sn	**Sn**	**08 51 53.0**	**+2.3**
	comp=N,0.4nm,0.3s,baz=174,slow=14,SNR=3.0						
CFAA				Lg	Lg	08 52 05.2	
	comp=N,1.4nm,0.3s,baz=102,slow=19,SNR=8.0						
CFAA				LR	LR	08 53 00.7	
	comp=N,16nm,19.6s,baz=338,slow=41						
LCO	**Las Campanas**	**5.95**	**15**	*e*Pn	**Pn**	**08 51 11.0**	**-0.7**
LCO				*e*Sn	**Sn**	**08 52 17.2**	**-3.0**
PLCA	**Paso Flores**	**6.13**	**166**	Pn	**Pn**	**08 51 16.0**	**+2.0**
	comp=N,0.8nm,0.3s,baz=340,slow=12,SNR=23						
PLCA				Lg	Lg	08 52 51.8	
	comp=N,0.3nm,0.3s,baz=240,slow=18,SNR=4.1						
PLCA				LR	LR	08 53 53.2	
	comp=N,147nm,19.6s,baz=347,slow=41						
PLCA	**Paso Flores**	**6.13**	**166**	*e*Pn	**Pn**	**08 51 15.7**	**+1.7**
	comp=N,2.1nm,0.8s						
PLCA				Lg	Lg	08 52 51.8	
TRQA	**Tornquist**	**9.08**	**114**	*e*Pn	**Pn**	**08 51 53.9**	**-0.4**
TRQA				*e*Sn	**Sn**	**08 53 37.8**	**+1.1**
LPAZ	**La Paz**	**18.83**	**13**	P	**Pn**	**08 54 05.6**	**+1.2**
	comp=N,0.2nm,0.3s,baz=201,slow=7.4,SNR=7.6						
LPAZ	**La Paz**	**18.83**	**13**	*e*P	**P**	**08 54 04.3**	**+0.3**
OTAV	**Otavalo**	**35.28**	**350**	*e*P	**P**	**08 56 37.6**	**-1.4**
RCBR	**Riachuelo**	**44.37**	**58**	*e*P	**P**	**08 57 52.6**	**-1.6**
	comp=N,11nm,1.1s						
TXAR	**Lajitas Array**	**70.24**	**331**	P	**P**	**09 00 57.6**	**+0.9**
	comp=N,0.7nm,0.7s,baz=154,slow=8.5,SNR=11						
MIAR	**Mount Ida**	**71.74**	**342**	*e*P	**P**	**09 01 05.7**	**+0.2**
	comp=N,14nm,1.6s						
WVT	**Waverly**	**71.99**	**347**	*e*P	**P**	**09 01 06.8**	**-0.1**
	comp=N,3.7nm,0.8s						
WMOK	**Wichita Mounta**	**73.41**	**338**	*e*P	**P**	**09 01 16.1**	**+0.6**
	comp=N,1.8nm,0.9s						
ANMO	**Albuquerque**	**76.29**	**332**	*e*P	**P**	**09 01 33.7**	**+1.3**
	comp=N,1.7nm,1.0s						
TSUM	**Tsumeb**	**79.36**	**106**	*e*P	**P**	**09 01 49.3**	**-0.7**
	comp=N,2.5nm,0.9s						
PDAR	**Pinedale Array**	**84.29**	**334**	P	**P**	**09 02 15.5**	**+0.1**
	comp=N,0.3nm,0.7s,baz=157,slow=4.9,SNR=3.2						
NVAR	**Mina Array Bea**	**84.32**	**326**	P	**P**	**09 02 16.4**	**+0.8**
	comp=N,0.5nm,0.8s,baz=134,slow=7.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**84.83**	**70**	P	**P**	**09 02 18.1**	**-0.3**
	comp=N,0.3nm,0.6s,baz=251,slow=4.4,SNR=2.9						
ULM	**Lac du Bonnet**	**87.16**	**345**	P	**P**	**09 02 28.4**	**-0.7**
	comp=N,1.3nm,0.6s,baz=120,slow=8.1,SNR=2.9						
EKS2	**Erkin-Say**	**152.67**	**63**	*e*PKPdf	**PKPdf**	**09 09 33.5**	**+0.3**
AAK	**Ala-Archa**	**153.20**	**63**	*e*PKPbc	**PKPbc**	**09 09 42.2**	**+0.8**
AAK				*e*PKPab	**PKPab**	**09 09 53.3**	**0.0**
TKM2	**Tokmak 2**	**153.97**	**62**	*e*PKPdf	PKPdf	09 09 28.3	-6.8
MKAR	**Makanchi Array**	**157.55**	**50**	PKPab	**PKPab**	**09 10 10.9**	**-0.7**
	comp=N,0.2nm,0.5s,baz=343,slow=1.5,SNR=2.2						

IDC 18 08:55:58.3±10.0, 13°.38S×167°.00E, h250km±124km, mb3.4/3, mb1 3.7/4, mb1mx3.2/38, mbtmp4.0/4, Error ellipse: s-maj=101.1km s-min=27.9km az=158.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.66**	**183**	P	Pn	08 58 00.2	+0.1
	0.7nm,0.3s,baz=296,slow=23,SNR=6.7						
DZM				S	S	08 59 38.4	+0.1
	0.3nm,0.3s,baz=100,slow=17,SNR=2.2						
WRA	**Warramunga Arr**	**31.93**	**254**	P	P	09 02 00.9	-0.1
	1.0nm,0.6s,baz=85,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**32.93**	**247**	P	P	09 02 09.7	-0.1
	1.8nm,0.5s,baz=76,slow=9.1,SNR=46						
ILAR	**Eielson Array**	**85.33**	**18**	P	P	09 08 06.8	-0.1
	0.7nm,0.6s,baz=240,slow=5.1,SNR=22						

*NIED **18** 09:01:00.24°.30N×121°.90E, h29km, Mw4.3 Best double couple: M0=3.29000×10^15 NP1:φ=333.00000°, δ=43.00000°, λ=106.00000°. NP2:φ=131.00000°, δ=49.00000°, λ=75.00000°.*
*NEIC **18** 09:01:31.8±0.4, 24°.41N×122°.29E, h10km, mb4.5/6, Error ellipse: s-maj=7.7km s-min=6.2km az=125.0*
NEIC Felt at T'ao-yuan and Taipei. Recorded [3 TAP] in Hua-lien and I-lan; [2 TAP] in Nan-t'ou and T'ai-chung; [1 TAP] in T'ao-yuan.
*BJI **18** 09:01:33.2, 24°.44N×121°.97E, h8km, mB4.3/5, mb4.2/17, ML4.4/7, Ms4.2/5, Ms7 3.8/6*
*MOS **18** 09:01:33.6±1.1, 24°.33N×121°.91E, h33km, mb4.8/9, Error ellipse: s-maj=16.0km s-min=8.6km az=105.4*
*JMA **18** 09:01:35.8±0.2, 24°.32N×121.95E, h48km±3km, M4.4*
*ISCJB **18** 09:01:36.7±0.2, 24°.42N±0°.01×122°.04E±0°.02, h32km±2km, mb4.2/27, MS3.6/3, Error ellipse: s-maj=2.7km s-min=2.0km az=44.3*
*TAP **18** 09:01:36.4, 24°.39N×121°.96E, h31km, ML4.7, B*
*IDC **18** 09:01:40.2±4.5, 24°.45N×122°.19E, h76km±41km, mb3.8/17, mb1 3.9/18, mb1mx3.8/40, mbtmp4.1/18, ML3.3/1, MS3.8/5, Ms1 3.8/5, ms1mx3.3/47, Error ellipse: s-maj=20.0km s-min=15.1km az=70.0*
ISC 18 09:01:35.4±0.5, 24°.36N±0°.02×122°.01E±0°.02, h30km±4km, n151, σ1§58/214, mb4.3/27, MS3.6/3, 21C-8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.25**	**259**	*e*P	**Pn**	**09 01 44.1**	**+1.1**
	baz=245						
EHP				*e*S	**Sn**	**09 01 50.1**	**+2.1**
	baz=245						
ENA	**Nanau**	**0.26**	**286**	⇓*e*P	**Pb**	**09 01 42.9**	**+0.5**
	baz=280						
ENA				*e*S	**Sn**	**09 01 48.2**	**+0.2**
	baz=280						
TWC	**Suao**	**0.29**	**330**	⇓P	**Pb**	**09 01 43.2**	**+0.5**
	baz=336						
NACB	**Ninganchiao**	**0.42**	**244**	*e*Pg	**Pn**	**09 01 45.4**	**0.0**
NACB				*e*Sg	**Sn**	**09 01 53.4**	**+1.2**
TWD	**Chiawan**	**0.47**	**234**	⇓*i*P	**Pn**	**09 01 46.5**	**+0.5**
	baz=224						
TWD				S	**Sn**	**09 01 54.7**	**+1.4**
	baz=224						
ILA	**Ilan**	**0.47**	**330**	*e*P	**Pn**	**09 01 46.1**	**+0.1**
	baz=331						
ILA				*e*S	**Sn**	**09 01 53.8**	**+0.5**
	baz=331						
TWE	**Neicheng**	**0.48**	**319**	⇓P	**Pn**	**09 01 46.1**	**-0.1**
	baz=322						
TWE				S	**Sn**	**09 01 53.3**	**-0.2**
	baz=322						
EGS		**0.49**	**352**	⇑*i*P	**Pn**	**09 01 47.0**	**+0.7**
EGS				*i* S	**Sn**	**09 01 53.9**	**+0.1**
ENTT	**Nioudou**	**0.49**	**305**	⇑P	**Pn**	**09 01 46.3**	**-0.1**
	baz=305						
HWA	**Hwalien**	**0.53**	**224**	⇑P	**Pn**	**09 01 47.9**	**+1.0**
	baz=216						
HWA				*e*S	**Sn**	**09 01 58.8**	**+4.0**
	baz=216						
NNS	**Nan Shan**	**0.59**	**278**	⇑P	**Pn**	**09 01 47.8**	**0.0**
	baz=275						
NNS				S	**Sn**	**09 01 56.8**	**+0.4**
	baz=275						
TWB1	**Santiao Chiao**	**0.65**	**358**	⇑P	**Pn**	**09 01 48.9**	**+0.4**
	baz=4.0						
TWB1				S	**Sn**	**09 01 58.3**	**+0.6**
	baz=4.0						
YHNB	**Yeheng**	**0.66**	**298**	*e*Pg	**Pb**	**09 01 48.6**	**+0.1**
YHNB				*e*Sg	**Sb**	**09 01 57.7**	**+0.3**
ESF	**Shoufeng Towns**	**0.67**	**224**	*e*P	**Pb**	**09 01 50.4**	**+1.8**
	baz=217						
ESF				*e*S	**Sn**	**09 02 01.0**	**+2.8**
	baz=217						
NSK	**Sanguang**	**0.67**	**298**	⇑*i*P	**Pb**	**09 01 49.1**	**+0.4**
	baz=297						
NSK				*i* S	**Sn**	**09 01 58.4**	**-0.1**
	baz=297						
WHF	**Hehuan Shan**	**0.71**	**253**	⇑*i*P	**Pn**	**09 01 50.0**	**+0.2**
	baz=248						
TWA	**Mucha**	**0.73**	**328**	⇓*i*P	**Pb**	**09 01 51.1**	**+1.4**
	baz=324						
TWA				*i* S	**Sn**	**09 02 01.1**	**+1.3**
	baz=324						
NWF	**Wu-fen Shan**	**0.74**	**344**	⇓*e*P	**Pb**	**09 01 50.9**	**+1.0**
	baz=341						
NWF				S	**Sn**	**09 02 01.7**	**+1.6**
	baz=341						
ESL	**Shilin**	**0.76**	**224**	*e*P	**Pn**	**09 01 50.4**	**+0.4**
	baz=231						
ESL				*e*S	**Sb**	**09 02 02.5**	**+2.4**
	baz=231						
TWT	**Tachien**	**0.77**	**262**	⇑*e*P	**Pb**	**09 01 51.4**	**+0.9**
	baz=258						
TWT				*e*S	**Sb**	**09 02 02.0**	**+1.4**
	baz=258						
TATO	**Taipei**	**0.78**	**322**	*e*Pg	**Pb**	**09 01 50.6**	**+0.2**
TATO				*e*Sg	**Sn**	**09 02 00.3**	**-0.6**
TEGC	**Jichi Village**	**0.78**	**214**	*e*P	**Pb**	**09 01 52.4**	**+2.0**
	baz=207						
TEGC				*e*S	**Sb**	**09 02 04.4**	**+3.7**
	baz=207						
TAP1	**Taipei**	**0.81**	**327**	P	**Pb**	**09 01 51.9**	**+0.9**
	baz=328						
TAP1				S	**Sb**	**09 02 03.2**	**+1.7**
	baz=328						
TAP	**Taipei**	**0.82**	**326**	P	**Pb**	**09 01 51.9**	**+0.7**
	baz=328						
TAP				S	**Sb**	**09 02 03.1**	**+1.3**
	baz=328						
JYNG	**Yonaguni jima**	**0.86**	**84**	P	**Pb**	**09 01 52.6**	**+0.8**
JYNG				S	**Sb**	**09 02 05.7**	**+2.8**
TWS1	**Kuangyinshan**	**0.91**	**324**	*e*P	**Pb**	**09 01 52.9**	**+0.2**
	baz=336						
TWS1				S	**Sb**	**09 02 07.1**	**+2.5**
	baz=336						
YOJ	**Yonaguni jima**	**0.92**	**83**	*e*P	**Pb**	**09 01 53.1**	**+0.3**
YOJ				*e*		09 02 06.5	
YOJ	**Yonaguni jima**	**0.92**	**83**	P	**Pb**	**09 01 53.5**	**+0.7**
YOJ				*e*S	**Sb**	**09 02 05.8**	**+1.1**
YOJ	**Yonaguni jima**	**0.92**	**83**	⇓*i*P	**Pb**	**09 01 53.9**	**+1.1**
	baz=75						
YOJ				*i* S	**Sb**	**09 02 07.5**	**+2.9**
	baz=75						
YOJ	**Yonaguni jima**	**0.92**	**83**	*e*Pg	**Pb**	**09 01 53.1**	**+0.3**
YOJ				*e*Sg	**Sb**	**09 02 06.5**	**+1.9**
NSTT	**Nanjuang**	**0.96**	**287**	⇑P	**Pb**	**09 01 54.3**	**+0.8**
	baz=284						
NSTT				S	**Sb**	**09 02 07.6**	**+1.8**
	baz=284						
NCU	**National Centr**	**0.96**	**309**	*e*P	**Pb**	**09 01 54.2**	**+0.6**
	baz=309						
NCU				S	**Sb**	**09 02 08.6**	**+2.6**
	baz=309						
TWY	**Chenhua**	**0.99**	**338**	*e*P	**Pb**	**09 01 54.5**	**+0.6**
	baz=341						
TWY				*e*S	**Sb**	**09 02 07.5**	**+0.9**
	baz=341						
HSN	**Hsinchu**	**1.04**	**295**	*e*P	**Pb**	**09 01 55.2**	**+0.2**
	baz=295						
HSN				*e*S	**Sb**	**09 02 10.2**	**+1.9**
	baz=295						
EHY	**Hungye**	**1.06**	**217**	*e*P	**Pn**	**09 01 54.6**	**+0.4**
	baz=210						
EHY				*e*S	**Sb**	**09 02 09.9**	**+1.3**
	baz=210						
SMLT	**Sun Moon Lake**	**1.12**	**245**	⇑P	**Pb**	**09 01 56.9**	**+0.7**
	baz=233						
SMLT				*e*S	**Sb**	**09 02 11.9**	**+1.4**
	baz=233						
SSLB	**Suanglung**	**1.12**	**240**	*e*P	**Pb**	**09 01 56.1**	**-0.1**
SSLB				*e*S	**Sb**	**09 02 11.3**	**+0.8**
TWQ1	**Liyutan**	**1.13**	**270**	⇑P	**Pb**	**09 01 57.8**	**+1.5**
	baz=266						
TWQ1				S	**Sb**	**09 02 13.1**	**+2.4**
	baz=266						
NSY	**Sanyi**	**1.14**	**273**	P	**Pb**	**09 01 58.1**	**+1.6**
	baz=269						
NSY				S	**Sb**	**09 02 14.1**	**+3.0**
	baz=269						
TYC	**Yuchr**	**1.15**	**247**	⇑*i*P	**Pb**	**09 01 57.2**	**+0.6**
	baz=242						
TYC				S	**Sb**	**09 02 12.4**	**+1.2**
	baz=242						
YULB	**Yu-li**	**1.16**	**214**	*e*P	**Pn**	**09 01 56.1**	**+0.5**
YULB				*e*S	**Sb**	**09 02 11.9**	**+0.3**
TWF1	**Yuli**	**1.20**	**213**	*e*P	**Pn**	**09 01 56.6**	**+0.6**
	baz=221						
TCU	**Taichung**	**1.24**	**260**	P	**Pb**	**09 01 59.1**	**+1.0**
	baz=256						
TCU				*e*S	**Sb**	**09 02 16.1**	**+2.4**
	baz=256						
PCYT	**Pengchaiyu**	**1.27**	**2**	*e*P	**Pn**	**09 01 57.6**	**+0.6**
	baz=8.0						
PCYT				*e*S	**Sb**	**09 02 14.4**	**-0.2**
	baz=8.0						
YUS	**Yu-Shan**	**1.30**	**228**	⇑P	**Pb**	**09 01 59.8**	**+0.3**
	baz=224						
WNT	**Mingjian**	**1.30**	**249**	⇑*i*P	**Pb**	**09 02 00.8**	**+1.6**
	baz=244						
WNT				*e*S	**Sb**	**09 02 19.6**	**+4.0**
	baz=244						
CHKT	**Chengkung**	**1.39**	**205**	*e*P	**Pn**	**09 01 58.8**	**+0.1**
	baz=187						
ALS	**Alishan**	**1.39**	**233**	⇑*i*P	**Pb**	**09 02 01.3**	**+0.4**
	baz=217						
ALS				*e*S	**Sb**	**09 02 20.5**	**+2.1**
	baz=217						
CHN5	**Tsauling**	**1.44**	**238**	*e*P	**Pb**	**09 02 02.5**	**+0.9**
	baz=234						
CHN5				*e*S	**Sb**	**09 02 21.7**	**+2.2**
	baz=234						
ELDTW	**Lidau**	**1.48**	**218**	*e*P	**Pn**	**09 02 01.2**	**+1.2**
	baz=203						
WGK	**Gukeng**	**1.48**	**243**	P	**Pb**	**09 02 03.3**	**+1.0**
	baz=238						
WGK				*e*S	**Sb**	**09 02 24.5**	**+3.7**
	baz=238						
IRIF	**Iriomote-Funau**	**1.57**	**91**	P	**Pb**	**09 02 03.1**	**-0.7**
IRIF				S	**Sb**	**09 02 23.3**	**+0.1**
CHN2	**Minshiung**	**1.63**	**240**	*e*P	**Pb**	**09 02 05.6**	**+0.8**
	baz=235						
CHN2				*e*S	**Sb**	**09 02 28.1**	**+3.2**
	baz=235						
CHN4	**Tsaushan**	**1.64**	**233**	*e*P	**Pb**	**09 02 05.3**	**+0.3**
	baz=213						
CHN4				*e*S	**Sb**	**09 02 29.0**	**+3.7**
	baz=213						
TPUB	**Ta-pu**	**1.65**	**230**	*e*Pn	**Pb**	**09 02 04.9**	**-0.3**
TPUB				*e*Sn	**Sb**	**09 02 25.9**	**+0.4**
STYT	**Tauyuan**	**1.65**	**224**	⇑*i*P	**Pb**	**09 02 05.0**	**-0.3**
	baz=210						
STYT				*e*S	**Sb**	**09 02 27.6**	**+1.8**
	baz=210						
WTCT	**Ta-ch'eng**	**1.66**	**253**	*e*P	**Pn**	**09 02 03.8**	**+1.5**
	baz=249						
WTCT				*e*S	**Sb**	**09 02 25.5**	**-0.2**
	baz=249						
HATJ	**Hateruma jima**	**1.67**	**100**	P	**Pb**	**09 02 06.6**	**+1.2**
HATJ				S	**Sb**	**09 02 28.8**	**+2.8**
CHY	**Chiayi**	**1.69**	**240**	P	**Pb**	**09 02 06.0**	**+0.3**
	baz=235						
CHY				*e*S	**Sb**	**09 02 28.7**	**+2.1**
	baz=235						
WTP	**Ta-pu**	**1.69**	**229**	⇑*i*P	**Pb**	**09 02 05.9**	**0.0**
	baz=209						
WTP				*e*S	**Sb**	**09 02 29.5**	**+2.6**
	baz=209						
TWG	**Pinlang**	**1.76**	**210**	*e*P	**Pn**	**09 02 04.0**	**+0.1**
	baz=193						
TWG	**Pinlang**	**1.76**	**210**	*e*Pn	**Pn**	**09 02 03.9**	**+0.1**
TWK	**Hsinying**	**1.77**	**232**	*e*P	**Pb**	**09 02 07.1**	**-0.1**
	baz=227						
TWK				*e*S	**Sb**	**09 02 30.1**	**+1.1**
	baz=227						
TTN	**Taitung**	**1.78**	**207**	*e*P	**Pn**	**09 02 03

baz=214
SGLT eS **Sb** **09 02 42.7 +3.0**
baz=214
EAST Anshuo 2.24 209 eP **Pn** **09 02 10.6 +0.2**
baz=195
LAY Lan-yu 2.35 190 eP **Pn** **09 02 11.9 0.0**
baz=175
SCZT Fangliau 2.35 213 eP **Pn** **09 02 14.6 +2.6**
baz=195
PNG Penghu 2.38 251 eP **Pn** **09 02 13.6 +1.3**
baz=248
WDGT Dungji 2.41 244 eP **Pn** **09 02 14.1 +1.3**
baz=239
WDGT eS **Sn** **09 02 43.4 +2.0**
baz=239
JTJ Tarama 2.47 83 P **Pn** **09 02 15.9 +2.4**
TWP Hsiaoliuchiu 2.51 217 eP **Pb** **09 02 18.4 -1.4**
baz=211
HEN Hengchun 2.62 207 eP **Pb** **09 02 19.2 -2.5**
baz=190
TWK1 Hengchun 2.65 205 eP **Pn** **09 02 17.3 +1.3**
baz=185
TWK1 eS **Sn** **09 02 49.2 +2.1**
baz=185
TSEB Hengchuen, Pin 2.65 203 eP **Pn** **09 02 19.2 +3.1**
baz=189
JIRB Irabujima 2.92 80 P **Pn** **09 02 22.4 +2.7**
JIKM Ikemajima 3.00 79 P **Pn** **09 02 23.6 +2.8**
JOGS Gusukube 3.12 82 P Pn 09 02 25.9 +3.4
QZH Quanzhou 3.16 281⇓ i Pn **Pn** **09 02 23.8 +0.7**
QZH Sn **Sn** **09 02 56.6 -3.2**
QZH SMN
2μm,1.1s
QZH SME
910nm,1.0s
QZH LN
3μm,5.9s
QZH LE
2μm,5.5s
QZH LZ
2μm,20.6s
KNM Kinmen 3.26 272 eP **Pn** **09 02 26.8 +2.3**
baz=269
JKE Kume jima 2 4.74 65 P Pn 09 02 48.2 +3.4
JIH Iheya 6.00 62 P Pn 09 03 08.9 +6.8
JOW Kunigami 6.17 65 P **Pn** **09 03 06.0 +1.6**
JAMN Amaminishikomi 7.50 57 P **Pn** **09 03 22.0 -0.7**
GZH Guangzhou 8.04 263 Pg **Pn** **09 03 27.5 -2.7**
GZH Sg Sn 09 04 51.5 -8.6
GZH smax smax
comp=N,280nm,0.7s
GZH smax smax
comp=E,200nm,1.0s
WHN Wuhan 9.18 314 P Pn 09 03 49.9 +4.2
WHN S **Sn** **09 05 28.5 +0.6**
WHN LZ
comp=E,790nm,17.5s
KSAR Wonju Array Be 13.98 20 P **Pn** **09 04 53.2 +1.9**
KSAR Wonju Array Be 13.98 20 P **Pn** **09 04 53.2 +1.9**
KSRS Korea Array 14.00 20 P **Pn** **09 04 53.2 +1.6**
comp=E,0.2nm,0.3s,baz=197,slow=13,SNR=4.4
KSRS LR LR 09 11 03.3
comp=E,238nm,18.5s,baz=209,slow=41
GYA Guiyang 14.03 282 P **P** **09 04 58.5 -1.2**
GYA PMZ
comp=E,10.0nm,0.8s
GYA LN
comp=E,510nm,5.3s
GYA LE
comp=E,200nm,5.9s
GYA LZ
comp=E,280nm,5.6s
JCJ Chichijima 18.38 77 LR LR 09 11 19.4
comp=E,1μm,19.4s,baz=260,slow=32
MJAR Matsushiro Arr 18.47 45 LR LR 09 13 34.8
comp=E,127nm,21.1s,baz=160,slow=39
HHC Hu-ho-hao-te 18.62 334 eP **P** **09 05 49.8 -0.8**
HHC pP **pP** **09 05 57.1 -1.6**
HHC S **Sn** **09 09 17.1 -1.3**
HHC sS **S** **09 09 20.8 -0.4**
HHC SS **SnSn** **09 09 40.3 +7.7**
HHC PMZ
comp=E,51nm,0.9s
HHC LN
comp=E,470nm,13.9s
HHC LE
comp=E,370nm,10.8s
HHC LZ
comp=E,370nm,13.9s
VLA Vladivostok 20.41 21 i P **P** **09 06 10.1 +0.3**
VLA pmax pmax
comp=Z,61nm,0.7s
USRK Ussuriysk Ar. 21.41 20 P **P** **09 06 20.6 -0.1**
comp=Z,1.2nm,0.5s,baz=199,slow=8.9,SNR=4.9
CMAR Chiang Mai Arr 22.25 259 P **P** **09 06 33.4 +3.4**
comp=Z,0.9nm,0.3s,baz=66,slow=9.3,SNR=4.2
CMAR LR LR 09 16 06.4
comp=Z,171nm,18.2s,baz=80,slow=39
GTA Gaotai 24.00 314 eP **P** **09 06 48.6 +1.0**
GTA pP **pP** **09 06 56.3 -0.1**
GTA sP **sP** **09 07 00.1 0.0**
GTA PMZ
comp=Z,8.0nm,1.4s
HIA Hailar 24.93 356 P **P** **09 06 56.0 +0.2**
HIA pmax pmax
comp=Z,4.0nm,0.6s
ULN Ulaanbaatar 26.29 337 c i P **P** **09 07 08.7 +0.4**
ULN pmax pmax
comp=Z,13nm,1.2s
ULN Ulaanbaatar 26.29 337 eP **P** **09 07 08.6 +0.2**
comp=Z,7.1nm,0.8s
SONM Songino Array 26.51 336 P **P** **09 07 10.4 +0.2**
comp=Z,8.3nm,0.9s,baz=150,slow=8.5,SNR=27
SONM LR LR 09 18 58.2
comp=Z,149nm,18.9s,baz=169,slow=39
TLY Talaya 30.70 337 eP **P** **09 07 47.7 +0.3**
TLY eS S 09 12 56.6 +8.5
TLY pmax pmax
comp=Z,6.0nm,0.8s
TLY MLR MLR
comp=Z,147nm,19.0s
HVS Khovu-Aksy 34.47 328 P **P** **09 08 22.0 +1.5**
HVS pmax pmax
comp=Z,21nm,1.2s
YAK Yakutsk 38.02 6 P **P** **09 08 52.1 +1.6**
MKAR Makanchi Array 38.74 315 P **P** **09 08 57.5 +0.6**
comp=Z,2.8nm,0.6s,baz=101,slow=10,SNR=31
MKAR PcP **PcP** **09 11 07.3 -0.9**
comp=Z,1.4nm,0.7s,baz=90,slow=4.7,SNR=6.6
ZALV Zalesovo Beam 40.51 327 P **P** **09 09 11.0 -0.5**
comp=Z,5.9nm,0.8s,baz=119,slow=7.3,SNR=13
H11N1 WAKE ISLAND Hy 41.73 87 T T 09 54 44.4
baz=283,slow=74,SNR=6.5
H11N2 WAKE ISLAND Hy 41.73 87 T T 09 54 43.6
baz=283,slow=74,SNR=6.3
H11N3 WAKE ISLAND Hy 41.74 87 T T 09 54 44.5
baz=283,slow=74,SNR=6.4
H11S3 WAKE ISLAND Hy 41.86 89 T T 09 54 46.6
baz=282,slow=74,SNR=18
H11S1 WAKE ISLAND Hy 41.87 89 T T 09 54 47.6
baz=282,slow=74,SNR=6.9
H11S2 WAKE ISLAND Hy 41.88 89 T T 09 54 47.6
baz=282,SNR=8.9
AAK Ala-Archa 43.00 307⇑ eP **P** **09 09 34.3 +2.0**
AAK pmax pmax
comp=Z,14nm,2.5s
AAK Ala-Archa 43.00 307 ePKPdf **P** **09 09 34.2 +2.0**
WRA Warramunga Arr 45.64 164 P **P** **09 09 52.9 -0.4**
comp=Z,1.4nm,0.7s,baz=346,slow=8.8,SNR=13
KKAR Karatay Array 45.97 307 eP **P** **09 09 55.6 -0.1**
KKAR pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 45.97 307 eP **P** **09 09 55.6 -0.1**
comp=Z,1.1nm,0.5s
TIXI Tiksi 47.48 3 P **P** **09 10 05.6 -1.5**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
TIXI Tiksi 47.48 3 P **P** **09 10 05.6 -1.5**
comp=Z,4.9nm,0.9s
ASAR Alice Springs 49.12 166 P **P** **09 10 20.7 +0.4**
comp=Z,0.3nm,0.5s,baz=351,slow=13,SNR=7.8
ABKAR Akbulak array 53.86 314 eP **P** **09 10 55.8 +0.2**
comp=Z,4.3nm,0.6s
GEYT Alibeck 55.36 300 P **P** **09 11 08.0 +1.3**
comp=Z,1.3nm,0.3s,baz=107,slow=2.0,SNR=5.0
ARU Arti 55.42 323 eP **P** **09 11 06.5 -0.3**
ARU pmax pmax
comp=Z,4.0nm,0.4s
ARU Arti 55.42 323 eP **P** **09 11 06.5 -0.3**
comp=Z,3.6nm,0.4s
PRGR Permogore 62.42 328 P **P** **09 11 53.3 -1.9**
KLMR Klimovskoe 65.42 328 eP **P** **09 12 13.0 -2.0**
KLMR pmax pmax
comp=Z,12nm,1.5s
KBZ Khabaz 65.96 309 P **P** **09 12 19.0 +0.2**
KBZ Khabaz 65.96 309 P **P** **09 12 18.9 +0.2**
comp=Z,3.2nm,0.9s,baz=87,slow=13,SNR=3.7
ILAR Eielson Array 68.71 27 P **P** **09 12 34.2 -1.6**
comp=Z,0.8nm,0.8s,baz=296,slow=8.1,SNR=17
ARCES ARCESS Array B 69.66 338 P **P** **09 12 41.1 -0.6**
comp=Z,3.5nm,1.0s,baz=62,slow=8.4,SNR=3.6
FINES FINESS Array B 71.67 330 P **P** **09 12 53.0 -1.0**
FINES FINESS Array B 71.67 330 P **P** **09 12 53.0 -1.0**
comp=Z,0.5nm,0.3s,baz=58,slow=5.1,SNR=6.7
AKASG Malin Array Be 73.24 318 P **P** **09 13 02.7 -0.9**
comp=Z,2.1nm,0.6s,baz=58,slow=6.1,SNR=4.6
BRTR Keskin Array B 73.67 307 P **P** **09 13 07.0 +0.4**
BRTR Keskin Array B 73.67 307 P **P** **09 13 07.0 +0.4**
comp=Z,2.0nm,0.8s,baz=101,slow=6.5,SNR=9.6
NOA NORSAR Array B 78.42 332 P **P** **09 13 32.1 -1.0**
comp=Z,2.2nm,1.1s,baz=63,slow=5.0,SNR=2.5
YKA Yellowknife Ar 82.52 23 P **P** **09 13 54.0 -0.9**
YKA Yellowknife Ar 82.52 23 P **P** **09 13 53.9 -0.9**
comp=Z,0.9nm,0.6s,baz=313,slow=5.0,SNR=18
BSMT Bassoo Peak 91.90 34 eP **P** **09 14 41.6 +0.5**
comp=Z,1.3nm,0.7s
NVAR Mina Array Bea 95.79 43 P **P** **09 14 58.6 -0.6**
comp=Z,0.5nm,0.8s,baz=283,slow=5.5,SNR=2.9

GUC 18 09:12:20.6±0.6, 27.°57S×70.°65W, h50km±12km, ML4.7, 3C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.34**	**51**↑	i P		Pn	09 12 30.3	+0.1
CPCH				i S		Sn	09 12 37.7	+0.8
CPCH				AML		AML	09 12 38.4	
comp=N,96μm,0.1s								
CDCH	**Caldera**	**0.52**	**343**⇓	i P		Pn	09 12 32.4	+0.2
CDCH				i S		Sn	09 12 41.0	+0.6
VACH	**Vallenar**	**1.01**	**186**↑	i P		Pn	09 12 39.2	+0.7
VACH				i S		Sn	09 12 52.8	+1.1
LCO	**Las Campanas**	**1.44**	**182**↑	i P		Pn	09 12 45.0	+0.4
LCO				i S		Sn	09 13 04.2	+1.5

MOS ***18*** *09:14:02.2±0.9, 22.°96S×177.°25W, h125km, mb5.2/27, Error ellipse: s-maj=10.1km s-min=8.2km az=64.1*
ISCJB ***18*** *09:14:04.9±1.0, 23.°41S±0.°03×177.°22W±0.°02, h158km±9km, mb5.3/176, Error ellipse: s-maj=5.8km s-min=3.2km az=159.5*
NEIC ***18*** *09:14:05.9±0.1, 23.°32S×177.°18W, mb5.2/109, MW5.6, Error ellipse: s-maj=5.7km s-min=3.4km az=143.0, Moment Tensor Solution. s16 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.70; $M_{\theta\theta}$-0.81; $M_{\phi\phi}$2.51; $M_{r\theta}$-1.19; $M_{r\phi}$ 1.88; $M_{\theta\phi}$~1.98; Best double couple: $M_0$3.70000×10^{17} NP1: ϕ_s36.00000°, δ67.00000°, λ-76.00000°. NP2:ϕ_s183.00000°, δ26.00000°, λ-120.00000°. Principal axes: T 4.2400, Plg21.0000°, Azm115.0000°; N -1.6000, Plg13.0000°, Azm210.0000°; P -2.6500, Plg64.0000°, Azm329.0000°;*
BJI ***18*** *09:14:05.6, 22.°70S×176.°75W, h162km, mb5.5/35, mb5.2/43*
IDC ***18*** *09:14:06.6±0.5, 23.°11S×177.°22W, h158km±4km, mb4.8/23, mb1 5.0/23, mb1mx5.0/24, mbtmp5.2/23, MS4.2/11, Ms1 4.2/11, ms1mx3.9/31, Error ellipse: s-maj=10.4km s-min=8.8km az=156.0*
GCMT ***18*** *09:14:09.3±0.1, 23.°24S×176.°75W, h162km, MW5.5/127, Moment Tensor Solution. s105,c193; s127,c268; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.29±.03; $M_{\theta\theta}$0.12±.04; $M_{\phi\phi}$ 1.17±.04; $M_{r\theta}$-0.52±.03; $M_{\theta\phi}$0.19±.04; $M_{r\phi}$-2.13±.03; Best double couple: $M_0$2.52300×10^{17} NP1:ϕ_s13.00000°, δ75.00000°, λ-88.00000°. NP2:ϕ_s187.00000°, δ15.00000°, λ-96.00000°. Principal axes: T 2.4780, Plg30.0000°, Azm102.0000°; N 0.0950, Plg1.0000°, Azm193.0000°; P -2.5680, Plg60.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 18 09:14:07.1±0.3, 23.°32S±0.°04×177.°10W±0.°05, h169km±2km, h168km:pP-P, n1273, σ1.°18/1384, mb5.3/176, 235C-297D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.96**	**187**	S		**Sn**	**09 16 41.8**	**+0.7**
682nm,0.3s,baz=273,slow=23,SNR=13								
MSVF	**Nonsavu**	**7.18**	**320**	Pn		**Pn**	**09 15 50.0**	**+0.3**
5μm,0.9s,SNR=66								
MSVF	**Nonsavu**	**7.18**	**320**	eP		**Pn**	**09 15 50.2**	**+0.5**
MSVF	**Nonsavu**	**7.18**	**320**	ePn		**Pn**	**09 15 50.2**	**+0.5**
NIUE	**Niue**	**7.91**	**59**	P		Pn	09 15 51.4	-7.9
baz=7.7,SNR=33								
OUZ	**Omahuta**	**14.36**	**212**	ePN		**P**	**09 17 25.7**	**+0.7**
OUZ	**Omahuta**	**14.36**	**212**	eP		**P**	**09 17 25.2**	**+0.3**
HAZ	**Te Kaha**	**15.05**	**196**	ePN		Pn	09 17 24.0	-7.2
HAZ				SN		Sn	09 20 03.7	-15
NORM	**Noumea**	**15.18**	**271**	eP		**P**	**09 17 36.8**	**+2.6**
PUZ	**Puketiti**	**15.24**	**194**	ePN		Pn	09 17 27.2	-6.4
PUZ				eSN		Sn	09 20 05.9	-18
DZM	**Mont Dzumac**	**15.24**	**271**	P		**P**	**09 17 38.2**	**+3.3**
14nm,0.3s,baz=79,slow=18,SNR=68								
NOUC	**Port Laguerre**	**15.37**	**271**	eP		**P**	**09 17 40.5**	**+4.3**
MWZ	**Matawai**	**15.66**	**196**	ePN		**Pn**	**09 17 35.4**	**-3.4**
MWZ				eSN		Sn	09 20 17.2	-16
URZ	**Urewera**	**15.70**	**197**	P		**Pn**	**09 17 36.5**	**-2.7**
8.4nm,0.3s,baz=278,slow=1.8,SNR=27								
URZ				S		S	09 20 19.4	-15
8.4nm,0.3s,baz=241,slow=20,SNR=11								
URZ	**Urewera**	**15.70**	**197**	ePN		Pn	09 17 32.9	-6.3
URZ				eSN		S	09 20 17.9	-16
URZ	**Urewera**	**15.70**	**197**	eP		**Pn**	**09 17 36.3**	**-2.8**
64nm,0.8s								
URZ				S		S	09 20 19.4	-15
RAGZ	**Rawiri**	**15.84**	**196**	ePN		**Pn**	**09 17 38.4**	**-2.6**
RAGZ				eSN		S	09 20 21.2	-16
RIGZ	**Rimuhau**	**15.96**	**195**	ePN		**Pn**	**09 17 39.6**	**-2.8**
SNGZ	**Shannon Statio**	**16.13**	**196**	ePN		**Pn**	**09 17 41.9**	**-2.6**
SNGZ				eSN		S	09 20 27.6	-16
HIZ	**Hauiti**	**16.64**	**203**	ePN		**P**	**09 17 50.0**	**0.0**
BKZ	**Black Stump Fm**	**16.72**	**198**	eSN		S	09 20 40.9	-15
BKZ	**Black Stump Fm**	**16.72**	**198**	eP		**P**	**09 17 49.8**	**-1.2**
38nm,1.0s								
PXZ	**Pawanui**	**17.43**	**196**	ePN		P	09 17 51.8	-7.0
PXZ				SN		S	09 20 52.3	-19
TSZ	**Takapari Road**	**17.70**	**198**	ePN		P	09 17 55.3	-6.4
TSZ				eSN		S	09 21 00.7	-16
BFZ	**Birch Farm**	**18.20**	**196**	ePN		**P**	**09 18 04.4**	**-2.7**
BFZ				SN		S	09 21 11.4	-15
BFZ	**Birch Farm**	**18.20**	**196**	ePn		**P**	**09 18 07.1**	**-0.1**
152nm,1.4s								
MRZ	**Mangatainoka R**	**18.36**	**198**	ePN		P	09 18 03.3	-5.6
MRZ				eSN		S	09 21 12.8	-17
HOWZ	**Holdsworth Sta**	**18.60**	**198**	ePN		**P**	**09 18 07.9**	**-3.6**
HOWZ				eSN		S	09 21 19.6	-15
TCW	**Tory Channel**	**19.26**	**200**	ePN		**P**	**09 18 14.1**	**-4.5**
PLWZ	**Palliser**	**19.30**	**198**	ePN		**P**	**09 18 15.6**	**-3.5**
NNZ	**Nelson**	**19.56**	**202**	ePN		P	09 18 17.0	-4.9
NNZ				eSN		S	09 21 40.8	-13
THZ	**Tophouse**	**20.20**	**202**	ePN		**P**	**09 18 24.9**	**-4.0**
THZ				eSN		S	09 21 54.6	-12
KHZ	**Kahutara**	**20.58**	**200**	ePN		**P**	**09 18 29.7**	**-3.1**
KHZ	**Kahutara**	**20.58**	**200**	eP		**P**	**09 18 29.7**	**-3.1**
98nm,1.1s								
DSZ	**Denniston Nort**	**20.59**	**204**	ePN		**P**	**09 18 29.3**	**-3.6**
DSZ				eSN		S	09 22 04.2	-10
LTZ	**Lake Taylor**	**21.33**	**202**	ePN		**P**	**09 18 40.3**	**-0.5**
OXZ	**Oxford**	**21.89**	**202**	ePN		**P**	**09 18 41.9**	**-4.8**
MQZ	**McQueen's Vall**	**22.02**	**200**	ePN		**P**	**09 18 44.0**	**-4.0**
MQZ				eSN		**S**	**09 22 32.0**	**-6.8**
WVZ	**Waitaha Valley**	**22.13**	**204**	ePN		**P**	**09 18 45.7**	**-3.4**
RPZ	**Rata Peaks**	**22.57**	**203**	ePN		**P**	**09 18 49.4**	**-3.8**
RPZ	**Rata Peaks**	**22.57**	**203**	eP		**P**	**09 18 49.8**	**-3.4**
59nm,0.6s								
FOZ	**Fox Glacier**	**22.95**	**205**	PN		**P**	**09 18 53.0**	**-3.6**
LBZ	**Lake Benmore**	**23.46**	**203**	ePN		**P**	**09 18 58.0**	**-3.3**
JCZ	**Jackson Bay**	**23.75**	**206**	PN		**P**	**09 19 02.1**	**-1.9**
ODZ	**Otahua Downs**	**23.87**	**202**	eP		**P**	**09 19 04.2**	**-0.9**
WKZ	**Wanaka**	**24.28**	**205**	ePN		**P**	**09 19 06.7**	**-2.1**
MSZ	**Milford Sound**	**24.58**	**206**	ePN		**P**	**09 19 11.3**	**-0.1**
TBI	**Tubuai**	**25.37**	**96**	eS		**S**	**09 23 29.4**	**-3.4**
849nm,29.5s								
TBI				eLR		LR	09 25 53.1	
2μm,24.5s								
DCZ	**Deep Cove**	**25.55**	**206**	eP		**P**	**09 19 20.2**	**0.0**
379nm,2.3s								
WHZ	**Wether Hill Ro**	**25.58**	**205**	PN		**P**	**09 19 19.2**	**-1.3**
WHZ	**Wether Hill Ro**	**25.58**	**205**	eP		**P**	**09 19 19.3**	**-1.3**
62nm,0.7s								
PPT2	**Papeete2**	**26.39**	**83**	eLR		LR	09 26 15.8	
2μm,26.2s								
ARMA	**Armidale**	**28.71**	**249**⇓	P		**P**	**09 19 50.5**	**+1.7**
baz=29,SNR=51								
ARMA	**Armidale**	**28.71**	**249**	eP		**P**	**09 19 50.8**	**+2.0**
147nm,1.0s								
EIDS	**Eidsvold**	**29.03**	**259**	P		**P**	**09 19 52.9**	**+1.4**
baz=29,SNR=34								
EIDS	**Eidsvold**	**29.03**	**259**	eP		**P**	**09 19 53.0**	**+1.5**
119nm,0.9s								
MGCD	**Mangrove Creek**	**29.59**	**243**⇑	P		**P**	**09 19 58.1**	**+1.8**
baz=30,SNR=37								
RIV	**Riverview**	**29.67**	**242**⇑	P		**P**	**09 19 58.5**	**+1.5**
baz=30								
RMQ	**Roma**	**31.08**	**257**⇓	P		**P**	**09 20 11.6**	**+2.1**
baz=31,SNR=46								
CNB	**Canberra Magne**	**31.44**	**240**	P		**P**	**09 20 14.2**	**+1.5**
baz=32,SNR=50								
CAN	**Canberra**	**31.73**	**240**	eP		**P**	**09 20 16.1**	**+0.8**
CAN				pmax		pmax		
comp=Z,281nm,1.4s								
CAN	**Canberra**	**31.73**	**240**⇓	P		**P**	**09 20 16.5**	**+1.2**
baz=32								
CAN	**Canberra**	**31.73**	**240**	eP		**P**	**09 20 16.1**	**+0.8**
comp=Z,281nm,1.4s								
YNG	**Young**	**32.01**	**242**	P		**P**	**09 20 19.1**	**+1.4**
baz=32,SNR=47								
MILA	**Mila**	**32.04**	**237**⇓	P		**P**	**09 20 19.3**	**+1.4**
baz=32,SNR=29								
CMSA	**Cobar Meteorol**	**33.90**	**248**⇓	P		**P**	**09 20 34.6**	**+0.5**
baz=34,SNR=159								
CTA	**Charters Tower**	**34.14**	**268**	P		**P**	**09 20 37.5**	**+1.2**
comp=Z,465nm,0.4s,baz=94,slow=11,SNR=686								
CTA				pP		**pP**	**09 21 15.4**	**+3.5**
comp=Z,61nm,0.7s,baz=114,slow=12,SNR=2.0								
CTA				PcP		**PcP**	**09 23 09.7**	**0.0**
comp=Z,18nm,0.8s,baz=95,slow=3.7,SNR=4.1								
CTA	**Charters Tower**	**34.14**	**268**⇑	P		**P**	**09 20 37.6**	**+1.2**
baz=34								
CTAO	**Charters Tower**	**34.14**	**268**	eP		**P**	**09 20 37.3**	**+1.0**
CTAO				pmax		pmax		
comp=Z,509nm,0.5s								
CTAO	**Charters Tower**	**34.14**	**268**	eP		**P**	**09 20 37.3**	**+1.0**
comp=Z,510nm,0.5s								
TOO	**Toolangi**	**35.00**	**237**⇑	P		**P**	**09 20 44.3**	**+0.8**
baz=35,SNR=60								
QLP	**Quilpie**	**35.12**	**257**⇑	P		**P**	**09 20 45.2**	**+0.6**
baz=35,SNR=186								
MOO	**Moorlands**	**35.20**	**229**⇓	P		**P**	**09 20 46.4**	**+1.3**
baz=35,SNR=11								
PMG	**Port Moresby**	**36.85**	**286**	d i P		**P**	**09 20 59.7**	**+0.2**
PMG				pmax		pmax		
comp=Z,824nm,1.0s								
PMG	**Port Moresby**	**36.85**	**286**	P		**P**	**09 20 59.5**	**+0.1**
comp=Z,642nm,0.9s,baz=108,slow=8.1,SNR=108								
PMG				pP		**pP**	**09 21 35.7**	**+0.3**
comp=Z,221nm,0.8s,baz=115,slow=4.8,SNR=2.6								
PMG	**Port Moresby**	**36.85**	**286**⇓	P		**P**	**09 21 00.1**	**+0.6**
baz=37,SNR=24								
PMG	**Port Moresby**	**36.85**	**286**	eP		**P**	**09 20 59.7**	**+0.2**
comp=Z,706nm,0.9s								
PMG				pP		**pP**	**09 21 35.7**	**+0.3**
RKT	**Rikitea**	**38.62**	**98**	eS		**S**	**09 26 54.9**	**-3.1**
comp=Z,562nm,29.5s								
RKT				eLR		LR	09 32 02.2	
comp=Z,1μm,23.5s								
COEN	**Coen**	**38.67**	**277**⇑	P		**P**	**09 21 15.8**	**+1.1**
baz=39,SNR=59								
COEN	**Coen**	**38.67**	**277**	eP		**P**	**09 21 15.2**	**+0.5**
comp=Z,2μm,1.0s								
BBOO	**Buckleboo**	**42.12**	**246**⇓	P		**P**	**09 21 42.0**	**-0.8**
baz=42,SNR=148								
BBOO	**Buckleboo**	**42.12**	**246**	eP		**P**	**09 21 42.0**	**-0.8**
comp=Z,2μm,0.9s								
MMPI	**Merauke**	**43.29**	**283**	P		**P**	**09 21 52.7**	**+0.2**
comp=Z,536nm,1.1s,comp=Z,20μm								
AS17	**Alice Springs**	**44.68**	**259**⇑	P		**P**	**09 22 03.6**	**+0.1**
baz=45								
AS08	**Alice Springs**	**44.70**	**259**⇓	P		**P**	**09 22 03.8**	**+0.1**
baz=45								
AS02	**Alice Springs**	**44.72**	**259**⇓	P		**P**	**09 22 04.0**	**+0.1**
baz=45								
AS03	**Alice Springs**	**44.74**	**259**⇓	P		**P**	**09 22 04.2**	**+0.2**
baz=45								
AS14	**Alice Springs**	**44.75**	**259**⇑	P		**P**	**09 22 04.2**	**+0.1**
baz=45								
AS31	**Alice Springs**	**44.75**	**259**	eP		**P**	**09 22 03.9**	**-0.2**
ASAR	**Alice Springs**	**44.76**	**259**	P		**P**	**09 22 03.9**	**-0.2**
comp=Z,148nm,0.9s,baz=97,slow=7.1,SNR=465								
ASAR				pP		**pP**	**09 22 41.0**	**-0.3**
comp=Z,30nm,0.8s,baz=104,slow=7.7,SNR=1.8								
ASAR				PcP		**PcP**	**09 23 44.2**	**+0.8**
comp=Z,18nm,0.7s,baz=105,slow=4.5,SNR=6.4								
ASAR				S		**S**	**09 28 27.2**	**-1.3**
comp=Z,1.6nm,0.8s,baz=105,slow=11,SNR=4.5								
ASAR				PKiKP		**PKiKP**	**09 30 41.2**	**-1.2**
comp=Z,0.6nm,0.6s,baz=65,slow=1.2,SNR=3.8								
ASAR				LR		LR	09 38 53.8	
comp=Z,583nm,19.0s,baz=88,slow=33								
WR0	**Warramunga Arr**	**44.92**	**265**⇓	P		**P**	**09 22 04.6**	**-0.8**
baz=45								
WR9	**Warramunga Arr**	**44.94**	**265**⇓	P		**P**	**09 22 05.0**	**-0.5**
baz=45								
WB2	**Warramunga Arr**	**45.09**	**265**	eP		**P**	**09 22 06.2**	**-0.6**
WB4	**Warramunga Arr**	**45.10**	**265**⇓	P		**P**	**09 22 06.2**	**-0.6**
baz=45								
WRAB	**Tennant Creek**	**45.10**	**265**	P		**P**	**09 22 06.0**	**-0.8**
comp=Z,2μm,0.7s,SNR=84								
WRAB	**Tennant Creek**	**45.10**	**265**	d i P		**P**	**09 22 06.1**	**-0.8**
WRAB				pmax		pmax		
comp=Z,2μm,1.6s								
WRAB	**Tennant Creek**	**45.10**	**265**	eP		**P**	**09 22 06.0**	**-0.8**
comp=Z,455nm,1.0s								
WRA	**Warramunga Arr**	**45.10**	**265**	P		**P**	**09 22 05.7**	**-1.2**
comp=Z,218nm,0.7s,baz=103,slow=8.1,SNR=680								
WRA				PcP		**PcP**	**09 23 45.4**	**+0.8**
comp=Z,26nm,1.1s,baz=98,slow=4.1,SNR=6.3								
WRA				ScP		**ScP**	**09 27 23.4**	**+2.0**
comp=Z,5.7nm,0.9s,baz=100,slow=4.5,SNR=5.4								
WRA				S		**S**	**09 28 30.4**	**-3.2**
comp=Z,5.0nm,0.9s,baz=101,slow=14,SNR=4.6								
WRA				PKiKP		**PKiKP**	**09 30 41.4**	**-1.3**
comp=Z,0.6nm,0.7s,baz=112,slow=0.5,SNR=7.2								
WRA				LR		LR	09 39 12.1	
comp=Z,423nm,19.3s,baz=110,slow=33								
JAY	**Jayapura**	**45.77**	**291**	P		**P**	**09 22 11.4**	**-0.7**
comp=Z,172nm,0.9s,baz=119,slow=3.1,SNR=18								
JAY				pP		**pP**	**09 22 50.3**	**+0.8**
comp=Z,185nm,1.1s,baz=0.1,slow=22,SNR=5.8								
JAY	**Jayapura**	**45.77**	**291**⇑	P		**P**	**09 22 11.8**	**-0.3**
baz=46,SNR=8.1								
SMPI	**Sarmi**	**47.75**	**290**	P		**P**	**09 22 27.0**	**-0.5**
comp=Z,162nm,1.2s								
KIP	**Kipapa**	**48.20**	**24**	P		**P**	**09 22 29.0**	**-1.7**
KIP				pmax		pmax		
comp=Z,411nm,2.6s								
KDU	**Kakadu**	**48.90**	**273**⇑	P		**P**	**09 22 35.4**	**-0.9**
baz=49,SNR=153								
FORT	**Forrest**	**49.00**	**249**⇓	P		**P**	**09 22 36.0**	**-0.9**
baz=49,SNR=216								
FORT	**Forrest**	**49.00**	**249**	eP		**P**	**09 22 35.7**	**-1.2**
comp=Z,228nm,0.6s								
WRKA	**Warakurna**	**49.56**	**256**

FAKI	Fak Fak	52.98	285	P		P	09 23 06.5 -0.3
	comp=Z,195nm,1.0s,comp=Z,2µm						
FAKI	Fak Fak	52.98	285	eP		P	09 23 05.5 -1.3
	comp=Z,202nm,1.0s						
FITZ	Fitzroy Crossi	53.53	264	⇓P		P	09 23 10.8 +0.1
	baz=54						
KMBL	Kambalda	54.21	247	P		P	09 23 14.8 -0.7
	baz=54,SNR=13						
BNDI	Bandaaira	54.38	282	P		P	09 23 17.0 +0.1
	comp=Z,809nm,0.9s,comp=Z,7µm						
SWI	Sorong	54.81	286	P		P	09 23 19.8 -0.3
	comp=Z,1µm,0.9s,comp=Z,7µm						
SWI	Sorong	54.81	286	⇑P		P	09 23 19.7 -0.3
	baz=55,SNR=9.2						
VNDA	Vanda	55.20	185	P		P	09 23 24.4 +2.6
	comp=Z,4.9nm,0.5s,baz=19,slow=5.9,SNR=14						
MSAI	Masohi	55.76	282	P		P	09 23 26.4 -0.5
	comp=Z,61nm,0.9s						
PALU	Palau	56.28	297	⇑P		P	09 23 31.1 +0.6
	baz=56,SNR=16						
NLAI	Namlea	57.45	282	P		P	09 23 38.8 0.0
	comp=Z,247nm,0.9s,comp=Z,3µm						
SOEI	Soe	57.46	273	P		P	09 23 40.0 +1.0
	comp=Z,1µm,1.1s,comp=Z,12µm						
SOEI	Soe	57.46	273	⇓P		P	09 23 40.1 +1.1
	baz=58,SNR=94						
SOEI	Soe	57.46	273	eP		P	09 23 39.8 +0.8
	comp=Z,1µm,1.0s						
MEEK	Meekatharra	57.83	252	⇑P		P	09 23 40.2 -1.1
	baz=58,SNR=56						
BATI	Baumata	57.85	272	P		P	09 23 42.8 +1.2
	comp=Z,290nm,0.9s,comp=Z,3µm						
BATI	Baumata	57.85	272	P		P	09 23 42.8 +1.2
	comp=Z,292nm,0.6s,baz=168,slow=1.8,SNR=83						
RKGY	Rocky Gully	57.87	243	P		P	09 23 41.3 -0.2
	baz=58,SNR=15						
NWAO	Narrogin (SRO)	57.89	245	P		P	09 23 41.0 -0.6
NWAO	Narrogin (SRO)	57.89	245	P		P	09 23 41.0 -0.6
	comp=Z,32nm,0.8s,baz=124,slow=6.3,SNR=16						
NWAO	Narrogin (SRO)	57.89	245	P		P	09 23 41.1 -0.6
	baz=58,SNR=20						
MBWA	Marble Bar	58.09	259	P		P	09 23 42.7 -0.5
	SNR=13						
MBWA	Marble Bar	58.09	259	eP		P	09 23 42.2 -1.0
	comp=Z,178nm,0.9s						
LBMI	Labuha	58.24	285	P		P	09 23 44.4 +0.1
	comp=Z,368nm,1.0s,comp=Z,3µm						
BLDU	Ballidu	58.71	247	P		P	09 23 46.5 -0.9
	baz=59,SNR=39						
SANI	Sanana	58.97	282	P		P	09 23 48.7 -0.6
	comp=Z,258nm,0.8s,comp=Z,2µm						
TNTI	Ternate	59.01	286	P		P	09 23 49.7 +0.1
	comp=Z,637nm,1.1s,comp=Z,7µm						
TNTI	Ternate	59.01	286	eP		P	09 23 48.5 -1.0
	comp=Z,560nm,1.0s						
MORW	Morawa	59.57	249	⇓P		P	09 23 52.8 -0.5
	baz=60,SNR=23						
MMRI	Maumere	59.73	274	P		P	09 23 54.4 -0.2
	comp=Z,317nm,0.9s,comp=Z,4µmcomp=Z,12µm						
MMRI	Maumere	59.73	274	eP		P	09 23 53.5 -1.0
	comp=Z,161nm,0.6s						
EDFI	Ende, Flores	60.19	273	P		P	09 23 57.4 -0.4
	comp=Z,364nm,1.1s,comp=Z,4µm						
BASI	Baing, Sumba	60.68	271	P		P	09 24 02.0 +1.0
	comp=Z,600nm,1.2s,comp=Z,7µm						
CASY	Casey	61.80	206	eP		P	09 24 08.5 +0.8
	comp=Z,96nm,1.0s						
WBSI	Waikabubak, Su	61.98	271	P		P	09 24 09.9 +0.1
	comp=Z,254nm,1.4s,comp=Z,3µm						
BSSI	Bau Bau, Buton	62.28	275	P		P	09 24 12.7 +1.0
	comp=Z,178nm,1.0s,comp=Z,4µm						
LUWI	Luwuk	62.30	282	P		P	09 24 12.6 +0.8
	comp=Z,317nm,1.3s						
LUWI	Luwuk	62.30	282	eP		P	09 24 11.2 -0.6
	comp=Z,276nm,1.0s						
GIRL	Giralia	62.64	256	P		P	09 24 14.8 +0.8
	baz=63,SNR=16						
BKSI	Bulukumba	62.94	276	P		P	09 24 15.1 -1.0
	comp=Z,147nm,1.1s,comp=Z,2µm						
BNSI	Bone	63.32	277	P		P	09 24 18.7 +0.1
	comp=Z,173nm,1.6s,comp=Z,2µm						
APSI	Ampana	63.37	281	P		P	09 24 20.0 +1.1
	comp=Z,163nm,0.9s,comp=Z,2µm						
KAPI	Kappang	63.40	276	P		P	09 24 19.0 -0.1
	comp=Z,254nm,1.9s,SNR=11						
KAPI	Kappang	63.40	276	P		P	09 24 19.7 +0.5
	SNR=13						
KAPI	Kappang	63.40	276	eP		P	09 24 18.4 -0.7
	comp=Z,928nm,1.7s						
MRSI	Marisa	63.71	283	P		P	09 24 20.5 -0.6
	comp=Z,53nm,1.3s						
SPSI	Sidrap Palu	63.80	277	P		P	09 24 20.5 -1.3
	comp=Z,76nm,0.9s,comp=Z,1µm						
TTSI	Tana Toraja	64.13	278	P		P	09 24 24.1 +0.2
	comp=Z,52nm,1.6s,comp=Z,1µm						
CTBH	Cotabato--PC H	64.83	291	⇑iP		P	09 24 27.7 -0.7
TOLI	Toli-Toli	65.02	283	eP		P	09 24 29.2 -0.5
	comp=Z,142nm,0.4s						
MPSI	Mapaga	65.48	282	P		P	09 24 31.6 -1.1
	comp=Z,111nm,0.9s,comp=Z,1µm						
IGBI	Denpasar	66.18	270	P		P	09 24 38.1 +1.0
	comp=Z,599nm,1.3s,comp=Z,7µm						
SRBI	Singaraja	66.39	271	P		P	09 24 38.7 +0.3
	comp=Z,155nm,1.3s,comp=Z,3µm						
QSPA	South Pole Qui	66.77	180	P		P	09 24 41.8 +1.6
	comp=Z,35nm,0.5s,baz=19,slow=1.2,SNR=484						
JAGI	Jajag, Banyuwa	67.22	270	P		P	09 24 43.1 -0.6
	comp=Z,141nm,1.2s,comp=Z,2µm						
JAGI	Jajag, Banyuwa	67.22	270	⇑P		P	09 24 43.2 -0.6
	baz=67,SNR=10						
JAGI	Jajag, Banyuwa	67.22	270	eP		P	09 24 41.9 -1.8
	comp=Z,120nm,0.9s						
ABJI	Asem Bagus	67.39	271	P		P	09 24 45.1 +0.3
MIR	Mirnyy	68.81	205	⇓iP		P	09 24 55.0 +2.3
MIR				pmax		pmax	
	comp=Z,364nm,2.0s						
UGM	Wanagama	70.76	270	⇑P		P	09 25 05.2 -0.4
	baz=71,SNR=4.5						
SMRI	Semarang	71.16	270	eP		P	09 25 07.3 -0.7
	comp=Z,113nm,0.8s						
KKM	Kota Kinabalu	71.30	285	⇓P		P	09 25 08.8 -0.1
	baz=71,SNR=4.4						
KKM	Kota Kinabalu	71.30	285	eP		P	09 25 08.2 -0.7
	comp=Z,22nm,0.5s						
BTM	Bintulu	72.85	281	⇑P		P	09 25 19.9 +1.8
MJAR	Matsushiro Arr	72.96	324	P		P	09 25 16.4 -1.8
	comp=Z,14nm,0.8s,baz=158,slow=6.1,SNR=25						
MJAR				LR		LR	09 52 38.9
	comp=Z,105nm,21.6s,baz=145,slow=32						
MAJO	Matsushiro	72.97	324	⇓eP		P	09 25 16.7 -1.5
MAJO				pmax		pmax	
	comp=Z,163nm,1.3s						
MAJO	Matsushiro	72.97	324	eP		P	09 25 16.5 -1.7
	comp=Z,21nm,0.9s						
MAT	Matsushiro	72.97	324	P		P	09 25 16.5 -1.7
MAT				S		S	09 34 29.0 -2.2
SBUM	Sibu	73.31	280	⇓P		P	09 25 22.7 +2.0
CISI	Cisompet, Garu	73.38	269	⇑P		P	09 25 19.8 -1.5
	baz=74,SNR=4.3						
CISI	Cisompet, Garu	73.38	269	eP		P	09 25 19.8 -1.5
	comp=Z,298nm,1.3s						
LEM	Lembang	73.84	269	⇑P		P	09 25 24.0 -0.1
	baz=74,SNR=5.3						
XMI	Christmas Isla	74.27	265	⇓P		P	09 25 26.6 +0.2
	baz=74,SNR=4.8						
XMIS	Christmas Isla	74.29	265	⇑P		P	09 25 26.8 +0.3
	baz=74,SNR=6.1						
KSM	Kuching	74.64	278	⇑P		P	09 25 28.5 0.0
	baz=75,SNR=12						
KSM	Kuching	74.64	278	eP		P	09 25 27.9 -0.6
	comp=Z,72nm,0.8s						
JNU	Nakatsue	74.89	317	LR		LR	09 55 57.2
	comp=Z,104nm,19.9s,baz=106,slow=34						
TWG	Pinlang	75.60	303	eP		P	09 25 31.6 -2.2
	comp=Z,89nm,0.6s						
TPUB	Ta-pu	76.20	303	eP		P	09 25 35.3 -1.9
	comp=Z,60nm,0.7s						
SSLB	Suanglung	76.22	304	eP		P	09 25 35.0 -2.2
	comp=Z,40nm,0.7s						
FX1	Attu Island--F	76.35	354	P		P	09 25 35.1 -2.1
	comp=Z,35nm,0.9s,baz=132,slow=16,SNR=4.2						
FX1				LR		LR	09 51 55.0
	comp=Z,119nm,20.5s,baz=192,slow=30						
YHNB	Yeheng	76.39	305	eP		P	09 25 37.1 -1.1
	comp=Z,36nm,0.9s						
UNV	Unalaska Valle	77.39	6	eP		P	09 25 41.6 -1.4
	comp=Z,84nm,0.9s						
QZH	Quanzhou	78.65	303	⇓iP		P	09 25 49.8 -0.9
QZH				PMZ			
	comp=Z,90nm,0.8s						
QZH				PMZ			
	comp=Z,720nm,4.0s						
YSS	Yuzh-Sakhalins	78.78	333	eP		P	09 25 50.0 -0.8
YSS				e			09 26 37.0
YSS				e			09 36 27.0
YSS				pmax		pmax	
	comp=Z,70nm,1.0s						
YSS	Yuzh-Sakhalins	78.78	333	eP		P	09 25 50.4 -0.4
	comp=Z,18nm,0.6s						
PET	Petropavlovsk	78.89	345	P		P	09 25 52.8 +1.5
PET				pmax		pmax	
	comp=Z,123nm,2.1s						
BSC	Santa Cruz Isl	78.95	46	⇓P		P	09 25 53.7 +1.5
	baz=79						
PETK	Petropavlovsk-	79.19	345	P		P	09 25 52.2 -0.8
	comp=Z,20nm,0.7s,baz=144,slow=8.6,SNR=17						
PETK				LR		LR	09 55 26.7
	comp=Z,124nm,21.4s,baz=142,slow=31						
MAW	Mawson	79.21	200	P		P	09 25 55.1 +2.1
	comp=Z,40nm,0.6s,baz=130,slow=8.9,SNR=11						
CIS	Catalina Islan	79.41	47	⇑P		P	09 25 55.3 +0.7
	baz=80						
SAO	San Andreas Ge	79.52	42	eP		P	09 25 55.8 +0.7
SAO				pmax		pmax	
	comp=Z,28nm,0.9s						
SAO	San Andreas Ge	79.52	42	eP		P	09 25 55.8 +0.7
	comp=Z,28nm,0.9s						
SMMC	Simmler	79.52	44	⇓P		P	09 25 57.0 +1.7
	baz=80						
KSRS	Korea Array	79.54	318	P		P	09 25 55.0 -0.3
	comp=Z,6.8nm,0.9s,baz=136,slow=5.9,SNR=20						
KSRS				pP		pP	09 26 33.4 -3.2
	comp=Z,1.4nm,0.9s,baz=209,slow=16,SNR=2.8						
KSRS				LR		LR	09 57 38.9
	comp=Z,188nm,21.5s,baz=139,slow=33						
KSAR	Wonju Array Be	79.56	318	P		P	09 25 55.0 -0.3
KSAR	Wonju Array Be	79.56	318	P		P	09 25 55.0 -0.3
KSAR				pP		pP	09 26 33.4 -3.3
SDPT	Sand Point	79.63	10	eP		P	09 25 54.5 -0.7
	comp=Z,132nm,0.8s						
DECC	Green Verdugo	79.96	46	⇓P		P	09 25 58.5 +0.9
	baz=80						
109C	Camp Elliot, M	79.97	48	⇑P		P	09 25 58.5 +0.9
	baz=80						
PASC	Pasadena Art C	80.01	46	eP		P	09 25 58.1 +0.3
	comp=Z,28nm,0.8s						
MWC	Mount Wilson	80.12	46	eP		P	09 25 59.1 +0.4
MWC				pmax		pmax	
	comp=Z,33nm,0.8s						
MWC	Mount Wilson	80.12	46	eP		P	09 25 59.1 +0.4
	comp=Z,33nm,0.8s						
ARVC	Arvin	80.16	45	⇑P		P	09 25 59.7 +1.1
	baz=80,SNR=9.5						
MURC	Murrieta	80.33	47	⇓P		P	09 26 00.5 +0.8
	baz=81,SNR=9.9						
BFSC	Mount Baldy Ra	80.40	46	⇓P		P	09 26 00.7 +0.6
	baz=81,SNR=12						
VES	Vestal, Richgr	80.43	44	⇓P		P	09 26 00.9 +0.9
	baz=81,SNR=20						
MONP	Monument Peak,	80.44	48	⇓P		P	09 26 01.4 +0.9
	baz=81,SNR=12						
BTDF	Bukit Timah Da	80.56	276	⇑P		P	09 26 01.8 +0.6
	baz=81						
EDW2	Edwards Air Fo	80.56	46	⇑P		P	09 26 01.8 +0.9
	baz=81,SNR=45						
RCTC	Rector, Farmer	80.62	44	⇓P		P	09 26 01.9 +0.9
	baz=81						
MYKOM	Kota Tinggi	80.66	276	⇓P		P	09 26 03.1 +1.3
ISA	Isabella, Lake	80.72	45	eP		P	09 26 02.3 +0.6
ISA				pmax		pmax	
	comp=Z,35nm,0.8s						
ISA	Isabella, Lake	80.72	45	⇑P		P	09 26 02.8 +1.1
	baz=81,SNR=42						
ISA	Isabella, Lake	80.72	45	eP		P	09 26 02.3 +0.6
	comp=Z,34nm,0.8s						
DLV	T Lat	80.75	287	eP		P	09 26 02.2 -0.3
	comp=Z,28nm,0.6s						
PFO	Pinyon Flats O	80.84	47	P		P	09 26 03.3 +0.8
	comp=Z,109nm,0.9s,SNR=9.4						
PFO	Pinyon Flats O	80.84	47	eP		P	09 26 03.0 +0.5
PFO	Pinyon Flats O	80.84	47	P		P	09 26 03.0 +0.5
	comp=Z,14nm,0.8s,baz=259,slow=3.6,SNR=21						
PFO	Pinyon Flats O	80.84	47	⇓P		P	09 26 03.1 +0.7
	baz=81,SNR=16						
PFO	Pinyon Flats O	80.84	47	eP		P	09 26 03.0 +0.5
SWSC	Sam W. Stewart	80.90	48	⇑P		P	09 26 03.4 +0.8
	baz=81,SNR=8.7						
BBRC	Big Bear Solar	80.91	47	⇓P		P	09 26 03.9 +0.9
	baz=81						
CMB	Columbia Colle	80.97	42	eP		P	09 26 03.3 +0.3
CMB				pmax		pmax	
	comp=Z,11nm,0.9s						
CMB	Columbia Colle	80.97	42	eP		P	09 26 03.3 +0.3
	comp=Z,11nm,0.9s						
VLA	Vladivostok	81.06	325	⇑eP		P	09 26 03.7 +0.5
VLA				eS		S	09 35 58.4 0.0
VLA				pmax		pmax	
	comp=Z,42nm,0.7s						
VLA				smax		smax	
	comp=N,2µm,0.6s						
LRMC	Laurel Mtn Rad	81.12	45	⇓P		P	09 26 04.9 +1.0
	baz=81,SNR=23						
WDC	Whiskeytown Da	81.32	39	eP		P	09 26 05.7 +1.0
WDC				pmax		pmax	
	comp=Z,14nm,0.8s						
WDC	Whiskeytown Da	81.32	39	eP		P	09 26 05.7 +1.0
	comp=Z,14nm,0.8s						
BELC	Belle Mtn. Jos	81.37	47	⇓P		P	09 26 06.3 +1.0
	baz=82,SNR=27						
N02D	Trinity Center	81.48	38	⇑P		P	09 26 07.2 +1.5
	baz=82						
BC3	Big Chuckawall	81.54	48	⇑P		P	09 26 07.2 +1.0
	baz=82,SNR=13						
GSC	Goldstone, Bar	81.59	46	⇑P		P	09 26 07.5 +1.1
	baz=82,SNR=20						
MPMC	Manual Prospec	81.59	45	⇓P		P	09 26 07.4 +0.9
	baz=82,SNR=26						
GLA	Glamis	81.63	49	eP		P	09 26 07.8 +1.3
GLA				pmax		pmax	
	comp=Z,57nm,1.4s						
GLA	Glamis	81.63	49	⇓P		P	09 26 07.9 +1.3
	baz=82,SNR=8.9						
GLA	Glamis	81.63	49	eP		P	09 26 07.8 +1.3
	comp=Z,57nm,1.4s						
HEC	Hector,Ludlow	81.63	47	⇑P		P	09 26 07.7 +1.1
	baz=82,SNR=32						
DAC	Darwin (Calif)	81.66	45	eP		P	09 26 07.2 +0.4
DAC				pmax		pmax	
	comp=Z,10.0nm,0.8s						
DAC	Darwin (Calif)	81.66	45	eP		P	09 26 07.2 +0.4
	comp=Z,10nm,0.8s						
M02C	Callahan	81.67	38	⇓P		P	09 26 08.0 +1.4
	baz=82						
MLAC	Mammoth, Mammo	81.68	43	⇓P		P	09 26 08.4 +1.4
	baz=82						
TIN	Tinemaha, Big	81.72	44	⇓P		P	09 26 08.5 +1.5
	baz=82						
USRK	Ussuriysk Ar.	81.75	326	P		P	09 26 06.6 -0.2
	comp=Z,18nm,0.7s,baz=118,slow=2.9,SNR=42						
USRK				PKKPbc		PKKPbc	09 44 39.3 -0.1
	comp=Z,1.0nm,0.6s,baz=353,slow=5.3,SNR=5.4						
USRK				LR		LR	09 59 28.9
	comp=Z,91nm,19.4s,baz=137,slow=33						
L02D	Cave Junction,	81.75	37	⇓P		P	09 26 08.7 +1.8
	baz=82						
WAKR	Walker	81.85	42	eP		P	09 26 08.7 +0.9
	comp=Z,14nm,0.9s						
IRM	Iron Mountain	82.04	48	⇑P		P	09 26 09.8 +1.1
	baz=82,SNR=26						
GMRC	Granite Mounta	82.05	47	⇑P		P	09 26 09.9 +1.0
	baz=82,SNR=23						
113A	Mohawk Valley,	82.21	49	⇓P		P	09 26 10.7 +1.3
	baz=82,SNR=11						
GRAC	Grapevine Rang	82.23	44	⇓P		P	09 26 11.0 +1.4
	baz=82,SNR=7.0						
Y12C	Blythe	82.23	48	⇑P		P	09 26 10.9 +1.3
	baz=82,SNR=9.4						
FURC	Furnace Creek,	82.25	45	⇑P		P	09 26 10.6 +1.1
	baz=82,SNR=19						
TUQ	Turquoise Moun	82.26	46	⇓P		P	09 26 11.0 +1.2
	baz=82,SNR=29						
SHOC	Shoshone, Teco	82.29	46	⇑P		P	09 26 11.0 +1.1
	baz=82,SNR=5.4						
HUMO	Hull Mountain	82.41	37	eP		P	09 26 11.1 +0.7
	comp=Z,5.8nm,0.8s						
214A	Organ Pipe Nat	82.43	51	⇓P		P	09 26 12.0 +1.3
	baz=83,SNR=10						
M04C	Macdoel	82.50	38	⇑P		P	09 26 12.3 +1.3
	baz=83						
NVAR	Mina Array Bea	82.50	43	P		P	09 26 11.8 +0.6
	comp=Z,8.8nm,0.7s,baz=223,slow=8.6,SNR=86						
NVAR				pP		pP	09 26 50.6 -2.3
	comp=Z,1.4nm,0.9s,baz=199,slow=36,SNR=2.2						
NVAR				PKKPbc		PKKPbc	09 44 37.7 +0.1
	comp=Z,0.5nm,0.6s,baz=74,slow=4.6,SNR=6.0						
NEE2	Needles Airpor	82.75	47	⇑P		P	09 26 13.7 +1.4
	baz=83						
QIZ	Qiongzhong	82.77	294	P		P	09 26 12.4 -0.3
QIZ				S		S	09 36 17.8 +0.9
QIZ				PMZ			
	comp=Z,12nm,1.0s						
QIZ				PMZ			
	comp=Z,190nm,8.3s						
PDMCI	Parker Dam,Lak	82.81	48	⇑P		P	09 26 13.9 +1.3
	baz=83,SNR=21						
I03D	Drain, OR	82.92	36	⇑P		P	09 26 14.5 +1.6
	baz=83						
TPNV	Topopah Spring	82.93	45	⇑P		P	09 26 14.3 +0.9
	baz=83,SNR=18						
TPH	Tonopah	82.97	43	eP		P	09 26 14.3 +0.7
TPH				pmax		pmax	
	comp=Z,20nm,1.1s						
TPH	Tonopah	82.97	43	eP		P	09 26 14.2 +0.7
	comp=Z,20nm,1.1s						
K04D	Chiloquin, OR	83.09	38	⇓P		P	09 26 15.5 +1.5
	baz=83						
Z14A	Wintersburg	83.11	49	⇓P		P	09 26 15.9 +1.7
	baz=83,SNR=24						
MDJ	Mudanjiang	83.29	325	P		P	09 26 14.8 0.0
MDJ				pP		pP	09 26 54.6 -1.9
MDJ				PP		PP	09 29 28.0 -1.2
MDJ				S		S	09 36 22.3 +1.1
MDJ				sS		sS	09 37 30.3 -3.3
MDJ				PMZ			
	comp=Z,30nm,1.0s						
MDJ				PMZ			
	comp=Z,260nm,7.0s						
MDJ				LE			
	comp=Z,140nm,4.3s						
MDJ				LZ			
	comp=Z,190nm,5.1s						
HABR	Khabarovsk	83.30	330	eP		P	09 26 13.2 -1.5
HABR				e*PP		pP	09 26 55.6 -0.8
HABR				e			09 29 26.9
HABR				ePPP		PPP	09 31 19.1
HABR				eS		S	09 36 18.1 -2.9
HABR				eS		pS	09 37 12.1 -0.7
HABR				e*SS		sS	09 37 32.8 -0.6
HABR				eSS		SS	09 41 48.9 -1.7
HABR				pmax		pmax	
	comp=Z,69nm,1.3s						
HABR				MLR		MLR	
	comp=Z,190nm,18.0s						
J04D	Umpqua Nationa	83.30	37	⇑P		P	09 26 16.4 +1.3
	baz=84						
KDAK	Kodiak Island	83.36	13	iP		P	09 26 15.1 +0.3
SHPR	Sheep Range	83.38	46	eP		P	09 26 16.5 +0.8
	comp=Z,17nm,1.2s						
Y14A	Wickenburg	83.39	49	⇓P		P	09 26 16.8 +1.1
	baz=84,SNR=49						
W13A	Hualapai Mount	83.43	47	⇓P		P	09 26 17.3 +1.2
	baz=84,SNR=39						
MOD	Modoc Plateau	83.46	39	eP		P	09 26 16.2 +0.3
	comp=Z,20nm,0.8s						
I04A	Tendick Farm,	83.49	36	⇑P		P	09 26 16.8 +0.8
	baz=84						
J05D	Fort Rock, OR	83.81	37	⇓P		P	09 26 19.4 +1.7
	baz=84						
G03D	McMinnville, O	83.97	35	⇑P		P	09 26 19.6 +1.3
	baz=84						
TUC	Tucson	84.07	51	eP		P	09 26 20.2 +1.0
TUC				pmax		pmax	
	comp=Z,38nm,0.8s						
TUC	Tucson	84.07	51	eP		P	09 26 20.2 +1.0
	comp=Z,38nm,0.8s						
R11A	Troy Canyon, C	84.17	44	⇓P		P	09 26 20.4 +0.8
	baz=84						
SYO	Syowa Base	84.17	192	⇑eP		P	09 26 18.2 -0.8
SYO	Syowa Base	84.17	192	⇓eP		P	09 26 22.6 +3.6
IPM	Ipoh	84.32	277	eP		P	09 26 20.6 -0.2
	comp=Z,124nm,0.6s						
PINOR	Pine Mountain	84.35	37	eP		P	09 26 21.1 +0.9
	comp=Z,13nm,0.7s						
BMN	Battle Mountai	84.38	42	eP		P	09 26 21.1 +0.4
BMN				pmax		pmax	
	comp=Z,19nm,0.8s						
BMN	Battle Mountai	84.38	42	eP		P	09 26 21.1 +0.4
	comp=Z,19nm,0.8s						
I05D	Terrebonne, OR	84.43	37	⇑P		P	09 26 22.1 +1.4
	baz=85						
319A	Douglas	84.67	53	⇓P		P	09 26 23.8 +1.5
	baz=85,SNR=17						
F04D	Rainier, OR	84.68	34	⇓P		P	09 26 23.7 +2.0
	baz=85						
X16A	Lo Mia Camp, P	84.73	49	⇑P		P	09 26 24.4 +1.8
	baz=85,SNR=52						
WVOR	Wild Horse Val	84.76	39	eP		P	09 26 22.7 +0.3
WVOR				pmax		pmax	
	comp=Z,18nm,0.9s						
WVOR	Wild Horse Val	84.76	39	eP		P	09 26 22.7 +0.3
	comp=Z,18nm,0.9s						
WHN	Wuhan	84.78	306	P		P	09 26 23.6 +1.0
SNY	Shenyang	84.89	320	⇓P		P	09 26 22.4 -0.5
SNY				PMZ			
	comp=Z,18nm,1.6s						
LVP	Lakeview Peak	84.99	35	P		P	09 26 24.4 +1.0
G05D	Wamic, OR	85.03	36	⇑P		P	09 26 24.8 +1.2
	baz=85						
CN2	Changchun	85.03	322	eP		P	09 26 22.9 -0.7
CN2				eS		S	09 36 37.6 -0.9
CN2				PMZ			
	comp=Z,30nm,1.4s						
CN2				PMZ			
	comp=Z,500nm,4.0s						
FL2	Flat Top 2	85.10	35	P		P	09 26 25.5 +1.5
CCUT	Cedar City	85.16	46	eP		P	09 26 25.8 +1.1
	comp=Z,19nm,0.8s						
ERK	Elk Rock	85.18	35	P		P	09 26 25.8 +1.4
SNAA	Sanae	85.18	178	P		P	09 26 24.3 +0.3
SNAA	Sanae	85.18	178	eP		P	09 26 24.4 +0.3
SNAA				pmax		pmax	
	comp=Z,39nm,1.1s						
SNAA	Sanae	85.18	178	P		P	09 26 25.0 +0.9
	comp=Z,3.4nm,0.6s,baz=209,slow=9.3,

VNA1 **Neumayer--Stat** 85.96 176 P P 09 26 28.9 +1.1
GSM **Grass Mountain** 86.05 34 P P 09 26 29.7 +1.0
GSM **Grass Mountain** 86.05 34 P P 09 26 29.7 +1.0
GSI **Gunungsitoli** 86.22 273 ⇓P P 09 26 30.6 +0.4
baz=86
PAF **Port-aux-Franc** 86.22 217 S SKSac 09 36 27.0 -13
PAF L L 09 50 00.0
PAF R 09 54 00.0
W18A **Petrified Fore** 86.29 49 ⇓P P 09 26 31.8 +1.5
baz=86
W18A **Petrified Fore** 86.29 49 *e*P P 09 26 30.4 +0.1
comp=Z,29nm,1.2s
121A **Cookes Peak, D** 86.35 52 ⇓P P 09 26 31.9 +1.3
baz=87
121A **Cookes Peak, D** 86.35 52 *e*P P 09 26 31.5 +0.9
comp=Z,26nm,1.1s
MVU **Marysvale** 86.44 45 *e*P P 09 26 31.9 +0.9
comp=Z,20nm,1.3s
HAWA **Hanford** 86.72 36 *e*P P 09 26 32.4 +0.5
comp=Z,8.7nm,0.8s
PLCA **Paso Flores** 86.74 133 *e*P P 09 26 33.4 +1.0
PLCA pmax pmax
comp=Z,30nm,1.1s
PLCA **Paso Flores** 86.74 133 P P 09 26 34.3 +1.9
comp=Z,20nm,1.0s,baz=240,slow=5.0,SNR=29
PLCA pP pP 09 27 13.2 -1.2
comp=Z,4.8nm,0.9s,baz=240,slow=8.5,SNR=2.3
PLCA **Paso Flores** 86.74 133 *e*P P 09 26 33.4 +1.0
comp=Z,30nm,1.1s
PLCA pP pP 09 27 13.2 -1.2
H2OWA **Water** 86.78 36 P P 09 26 33.1 +1.0
RC01 **Rabbit Creek A** 86.98 13 *e*P P 09 26 32.2 -0.5
comp=Z,338nm,2.2s
DUG **Dugway, Tooele** 86.99 44 ⇑P P 09 26 34.2 +0.7
baz=87
MFID **Camas Ranch** 86.99 40 *e*P P 09 26 33.2 -0.2
comp=Z,5.1nm,0.8s
BMO **Blue Mountains** 87.00 38 *e*P P 09 26 33.4 0.0
BMO pmax pmax
comp=Z,6.0nm,0.9s
BMO **Blue Mountains** 87.00 38 *e*P P 09 26 33.4 0.0
comp=Z,6.1nm,0.9s
Z22A **Elephant Butte** 87.31 52 ⇓P P 09 26 36.7 +1.5
baz=88
WTV **Waterville** 87.33 35 P P 09 26 35.3 +0.5
NLW **Nelson Butte** 87.37 34 P P 09 26 35.6 +0.5
SURA **Surathani** 87.47 281 P P 09 26 39.4 +3.2
comp=Z,62nm,1.1s
SAW **Saint Andrews** 87.62 35 P P 09 26 36.8 +0.7
MPU **Maple Canyon** 87.65 44 *e*P P 09 26 37.2 +0.5
comp=Z,9.2nm,0.8s
LAZ **Ladron** 87.76 51 *e*P P 09 26 38.3 +0.9
comp=Z,8.4nm,1.2s
OD2 **Odessa Site #2** 87.79 35 P P 09 26 37.7 +0.7
TXAR **Lajitas Array** 87.88 57 P P 09 26 39.1 +1.2
comp=Z,8.1nm,0.8s,baz=217,slow=7.5,SNR=136
TXAR pP pP 09 27 18.2 -1.9
comp=Z,3.4nm,0.8s,baz=222,slow=9.7,SNR=3.2
TXAR PKKP PKKPdf 09 44 14.1 -4.6
comp=Z,0.2nm,0.5s,baz=137,slow=3.8,SNR=3.9
DIV **Divide** 87.88 15 *e*P P 09 26 35.0 -2.1
comp=Z,41nm,0.7s
HVU **Hansel Valley** 87.90 42 *e*P P 09 26 38.0 +0.2
HVU pmax pmax
comp=Z,24nm,1.3s
HVU **Hansel Valley** 87.90 42 *e*P P 09 26 38.0 +0.2
comp=Z,24nm,1.3s
HLID **Hailey** 87.92 40 ⇑P P 09 26 38.8 +0.9
baz=88,SNR=13
BMRM **Bremner River** 88.02 15 *e*P P 09 26 37.5 -0.3
comp=Z,41nm,0.7s
LPM **Los Pinos Moun** 88.08 51 *e*P P 09 26 39.4 +0.6
comp=Z,14nm,1.0s
DAU **Daniels Canyon** 88.10 44 *e*P P 09 26 39.5 +0.5
DAU pmax pmax
comp=Z,14nm,1.0s
DAU **Daniels Canyon** 88.10 44 *e*P P 09 26 39.5 +0.5
comp=Z,14nm,1.0s
SURT **Suratani** 88.14 280 P P 09 26 41.9 +2.5
comp=Z,39nm,1.0s,comp=Z,437nm
PPLA **Purkeypile** 88.17 11 *e*P P 09 26 37.0 -1.6
comp=Z,13nm,0.7s
MVCO **Mesa Verde** 88.24 48 ⇓P P 09 26 40.7 +1.0
baz=88
TCUT **Toone Canyon** 88.39 44 *e*P P 09 26 40.4 +0.1
comp=Z,21nm,0.8s
BJI **Beijing** 88.47 315 P P 09 26 40.9 +0.6
BJI pP pP 09 27 22.1 -0.4
BJI SS SS 09 43 05.5 -1.2
BJI PMZ
comp=Z,36nm,0.7s
BJI PMZ
comp=Z,280nm,4.4s
ANMO **Albuquerque** 88.52 51 *e*P P 09 26 41.5 +0.6
ANMO pmax pmax
comp=Z,17nm,1.0s
ANMO **Albuquerque** 88.52 51 pP pP 09 27 21.4 -1.7
comp=Z,5.6nm,1.0s,baz=221,slow=4.2,SNR=2.5
ANMO **Albuquerque** 88.52 51 *e*P P 09 26 41.5 +0.6
comp=Z,17nm,1.0s
ANMO pP pP 09 27 21.4 -1.7
PV04 **Paradox Valley** 88.57 47 *e*P P 09 26 41.2 +0.1
PV01 **Paradox Valley** 88.66 47 *e*P P 09 26 41.6 -0.1
comp=Z,564nm,0.7s
V22A **San Miguel Ran** 88.68 50 ⇓P P 09 26 42.7 +1.0
baz=89
Y24A **Capitan** 88.75 52 ⇓P P 09 26 43.3 +1.2
baz=89
GYA **Guiyang** 88.76 299 P P 09 26 42.8 +0.6
GYA pP pP 09 27 24.3 -0.1
GYA sP sP 09 27 43.0 +1.0
GYA PP PP 09 30 15.6 +1.7
GYA SKS SKSac 09 36 53.4 -2.6
GYA S S 09 37 13.3 -2.0
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,190nm,5.6s
SLVN **Son La** 88.78 294 *e*P P 09 26 41.5 -0.8
comp=Z,12nm,1.0s
TNA **Tin City** 88.87 4 *e*P P 09 26 41.4 -0.1
comp=Z,47nm,0.9s
U22A **Llaves** 88.95 49 ⇓P P 09 26 44.0 +1.0
baz=89
KTH **Kantishna Hill** 89.00 11 *e*P P 09 26 40.9 -1.4
comp=Z,47nm,0.8s
TRF **Thorofare Moun** 89.02 12 *e*P P 09 26 41.9 -0.7
comp=Z,128nm,0.7s
V23A **Ortiz Mt. (NFS** 89.11 50 ⇓P P 09 26 45.1 +1.4
baz=89
NEW **Newport** 89.17 35 *e*P P 09 26 43.2 -0.3
NEW pmax pmax
comp=Z,3.0nm,0.7s
NEW **Newport** 89.17 35 LR LR 10 00 23.3
comp=Z,123nm,18.4s,baz=9.0,slow=31
NEW **Newport** 89.17 35 ⇑P P 09 26 43.7 +0.2
baz=89,SNR=6.7
NEW **Newport** 89.17 35 *e*P P 09 26 43.2 -0.3
comp=Z,3.1nm,0.7s
SEY **Seymchan** 89.30 347 P P 09 26 43.4 -0.2
comp=Z,28nm,0.6s,baz=149,slow=5.3,SNR=157
SEY PKKPbc PKKPdf 09 44 19.6 +2.1
comp=Z,0.8nm,0.4s,baz=236,slow=23,SNR=5.8
SKAG **Skagway** 89.33 20 *e*P P 09 26 44.8 +1.0
comp=Z,193nm,1.7s
529A **Stev Forest Ra** 89.36 57 ⇑P P 09 26 45.3 +0.4
baz=90,SNR=8.1
U23A **El Rito** 89.39 50 ⇓P P 09 26 45.9 +0.9
baz=90,SNR=9.1
W24A **Lazy 6 Ranch,** 89.40 51 ⇓P P 09 26 46.0 +1.0
baz=90,SNR=23
LOEI **Loei** 89.43 289 P P 09 26 45.3 -0.1
comp=Z,25nm,1.2s
MCK **McKinley** 89.53 12 *e*P P 09 26 44.1 -0.7
MCK pmax pmax
comp=Z,59nm,1.0s
MCK **McKinley** 89.53 12 *e*P P 09 26 44.1 -0.7
comp=Z,59nm,1.0s
MCMT **McKenzie Canyo** 89.56 40 P P 09 26 46.5 +0.9
PAX **Paxson** 89.57 14 *e*P P 09 26 44.5 -0.6
PAX pmax pmax
comp=Z,135nm,2.0s
PAX **Paxson** 89.57 14 *e*P P 09 26 44.5 -0.6
comp=Z,135nm,2.0s
X25A **Clemmons Ranch** 89.60 52 ⇑P P 09 26 46.6 +0.6
baz=90,SNR=19
S22A **4UR Ranch, Cre** 89.65 48 ⇑P P 09 26 47.0 +0.7
baz=90,SNR=13
V24A **Rampart Ranch,** 89.74 51 ⇓P P 09 26 47.7 +0.9
baz=90,SNR=22
429A **Davenport Ranc** 89.84 56 ⇑P P 09 26 47.6 +0.6
baz=90,SNR=36
T23A **Casias Ranch,** 89.85 49 ⇑P P 09 26 47.9 +0.7
baz=90,SNR=7.1
O20A **White River Ci** 89.91 46 ⇑P P 09 26 47.9 +0.5
baz=90,SNR=6.9
O20A **White River Ci** 89.91 46 *e*P P 09 26 47.4 0.0
comp=Z,7.2nm,0.8s
228A **UT Block 9, Go** 89.99 55 ⇑P P 09 26 48.3 +0.5
baz=90,SNR=5.6
530A **J-C Ranch, Com** 90.05 57 ⇓P P 09 26 48.5 +0.4
baz=90,SNR=7.0
MSO **Missoula** 90.06 38 ⇓P P 09 26 48.1 +0.3
baz=90
U24A **Moreno Valley** 90.07 50 ⇑P P 09 26 50.9 +2.6
baz=90
W25A **X Bar L Ranch,** 90.08 51 ⇓P P 09 26 48.7 +0.5
baz=90,SNR=27
UTTA **Uttaradit** 90.14 289 P P 09 26 50.8 +2.2
comp=Z,10nm,1.2s,comp=Z,96nm
329A **Wagon Wheel Ra** 90.17 56 ⇑P P 09 26 49.2 +0.6
baz=90,SNR=7.9
BSMT **Bassoo Peak** 90.19 37 *e*P P 09 26 48.3 -0.1
comp=Z,3.1nm,0.8s
S23A **Nye Farm, Mont** 90.20 49 ⇑P P 09 26 49.7 +0.9
baz=90
X26A **CR and CF Fran** 90.23 52 ⇑P P 09 26 49.4 +0.5
baz=90
N20A **Spence Gulch,** 90.26 45 ⇓P P 09 26 49.5 +0.5
baz=90,SNR=11
V25A **Rancho No Teng** 90.26 51 ⇓P P 09 26 49.7 +0.6
baz=90,SNR=16
832A **Faith Ranch, C** 90.28 59 ⇓P P 09 26 49.5 +0.4
baz=90,SNR=14
128A **Castleberry Fa** 90.31 54 ⇑P P 09 26 50.0 +0.7
baz=90,SNR=15
631A **Perdido Creek** 90.31 58 ⇓P P 09 26 49.9 +0.7
baz=90,SNR=28
DLBC **Dease Lake** 90.31 23 P P 09 26 49.5 +0.9
comp=Z,22nm,0.8s,baz=223,slow=4.9,SNR=41
DLBC LR LR 10 02 06.3
comp=Z,127nm,18.8s,baz=164,slow=32
T24B **San Luis** 90.32 49 ⇓P P 09 26 50.5 +1.0
baz=91,SNR=8.9
LRM **Limekiln Ridge** 90.35 39 *e*P P 09 26 49.5 +0.2
comp=Z,53nm,0.8s
Y27A **Causey** 90.39 53 ⇓P P 09 26 50.2 +0.6
baz=91,SNR=22
QLMT **Earthquake Lak** 90.40 40 *e*P P 09 26 50.5 +1.0
comp=Z,2.8nm,0.8s
430A **Baggett Ranch,** 90.41 57 ⇓P P 09 26 49.9 +0.2
baz=91,SNR=6.4
I17A **Pilgrim Ck.** 90.42 42 ⇑P P 09 26 50.9 +1.3
baz=91,SNR=16
BW06 **Boulder Array** 90.44 43 *e*P P 09 26 49.6 -0.2
comp=Z,11nm,0.8s
PDAR **Pinedale Array** 90.44 43 P P 09 26 49.6 -0.1
comp=Z,10nm,0.8s,baz=211,slow=3.0,SNR=96
PDAR PKKP PKKPbc 09 44 17.9 -0.7
comp=Z,0.7nm,0.6s,baz=101,slow=3.8,SNR=6.4
DOT **Dot Lake** 90.47 14 *e*P P 09 26 49.1 0.0
comp=Z,27nm,0.8s
732A **Laxson Ranch,** 90.48 59 ⇑P P 09 26 50.7 +0.7
baz=91,SNR=11
XAN **Xi'an** 90.49 307 P P 09 26 50.3 +0.3
XAN pP pP 09 27 31.5 -0.8
XAN sP sP 09 27 50.3 +0.4
XAN PP PP 09 30 32.5 +5.1
XAN SKS SKSac 09 37 05.4 -0.2
XAN S S 09 37 32.0 +1.1
XAN sS sS 09 38 43.0 -1.4
XAN PMZ
comp=Z,6.0nm,0.9s
XAN PMZ
comp=Z,59nm,6.4s
CHMT **Chamberlain Mo** 90.50 38 P P 09 26 50.0 0.0
229A **Bryant Ranch,** 90.51 55 ⇑P P 09 26 50.9 +0.7
baz=91
W26A **Owens Ranch, T** 90.52 52 ⇓P P 09 26 50.9 +0.6
baz=91
933A **Laredo** 90.54 60 ⇑P P 09 26 50.9 +0.6
baz=91,SNR=12
SLMT **Seeley Lake** 90.55 38 *e*P P 09 26 49.4 -0.7
YFT **Old Faithful** 90.55 41 *e*P P 09 26 51.0 +0.7
comp=Z,9.0nm,0.7s
R23A **Moffat** 90.56 48 ⇓P P 09 26 51.2 +0.7
baz=91,SNR=9.7
YMR **Madison River** 90.59 41 *e*P P 09 26 51.1 +0.6
comp=Z,15nm,0.7s
P22A **Eagle** 90.62 47 ⇑P P 09 26 51.4 +0.7
baz=91
531A **Rocksprings** 90.67 57 ⇑P P 09 26 51.7 +0.8
baz=91,SNR=19
H17A **Grant Village** 90.68 41 ⇑P P 09 26 52.9 +2.0
baz=91,SNR=13
H17A **Grant Village** 90.68 41 *e*P P 09 26 52.6 +1.7
comp=Z,10nm,0.8s
U25A **Circle Dot Ran** 90.68 50 ⇑P P 09 26 51.5 +0.5
baz=91,SNR=12
Z28A **Tucker Farm, M** 90.69 54 ⇓P P 09 26 51.4 +0.4
baz=91,SNR=11
S24A **Houchin Ranch,** 90.72 49 ⇑P P 09 26 52.1 +0.8
baz=91,SNR=7.6
MSTX **Muleshoe** 90.72 53 ⇓P P 09 26 51.6 +0.5
baz=91,SNR=17
MSTX **Muleshoe** 90.72 53 *e*P P 09 26 51.1 0.0
comp=Z,26nm,0.7s
BOZ **Bozeman (W)** 90.73 40 *e*P P 09 26 51.5 +0.5
BOZ pmax pmax
comp=Z,22nm,0.8s
BOZ **Bozeman (W)** 90.73 40 *e*P P 09 26 51.5 +0.5
comp=Z,22nm,0.8s
330A **Mertzon** 90.74 56 ⇓P P 09 26 51.4 +0.2
baz=91,SNR=5.3
833A **Chaparral WMA,** 90.76 59 ⇓P P 09 26 51.8 +0.5
baz=91,SNR=11
COLA **College** 90.77 12 *d*/P P 09 26 49.6 -0.8
COLA pmax pmax
comp=Z,335nm,1.9s
COLA **College** 90.77 12 *e*P P 09 26 49.7 -0.7
comp=Z,50nm,1.0s
129A **Stewart Farms,** 90.77 55 ⇓P P 09 26 52.1 +0.7
baz=91,SNR=8.4
034A **Hebbronville** 90.78 61 ⇓P P 09 26 53.3 +1.9
baz=91,SNR=20
V26A **Tequesquite Ra** 90.84 51 ⇑P P 09 26 52.0 +0.3
baz=91,SNR=8.9
431A **Sonora** 90.85 57 ⇓P P 09 26 52.2 +0.4
baz=91
ILAR **Eielson Array** 90.87 12 P P 09 26 50.0 -0.9
comp=Z,10nm,0.8s,baz=222,slow=5.6,SNR=102
ILAR pP pP 09 27 29.3 -3.9
comp=Z,13nm,1.2s,baz=227,slow=5.1,SNR=3.1
ILAR PP PP 09 30 23.1 -6.5
comp=Z,1.2nm,0.7s,baz=223,slow=9.2,SNR=4.9
ILAR PKKP PKKPdf 09 44 15.5 +0.7
comp=Z,0.4nm,0.6s,baz=350,slow=3.0,SNR=7.5
632A **Uvalde** 90.97 58 ⇓P P 09 26 53.2 +0.9
baz=91,SNR=18
230A **Sterling City** 91.01 56 ⇓P P 09 26 52.8 +0.3
baz=91,SNR=6.2
035Z **Hargill** 91.01 62 ⇑P P 09 26 53.5 +1.0
baz=91
J19A **Crowheart** 91.02 43 ⇓P P 09 26 52.8 +0.4
baz=91,SNR=25
T25A **Trinidad** 91.03 50 ⇓P P 09 26 53.0 +0.4
baz=91,SNR=8.7
O22A **Kremmling** 91.05 46 ⇑P P 09 26 53.3 +0.5
baz=91,SNR=6.1
R24A **Sanders Place,** 91.07 49 ⇓P P 09 26 53.6 +0.8
baz=91,SNR=8.2
Y28A **McKinney Farm,** 91.08 53 ⇑P P 09 26 53.3 +0.5
baz=91,SNR=7.9
P23A **Jefferson** 91.13 47 ⇑P P 09 26 54.1 +0.9
baz=91,SNR=5.9
532A **Rocksprings** 91.15 58 ⇓P P 09 26 53.8 +0.6
baz=91,SNR=27
U26A **Atchley Ranch,** 91.15 51 ⇑P P 09 26 53.7 +0.5
baz=91,SNR=13
Z29A **Hungry Hill Ra** 91.18 54 ⇑P P 09 26 53.6 +0.4
baz=91,SNR=10
035A **Encino** 91.19 61 ⇓P P 09 26 54.8 +1.5
baz=91,SNR=8.5
HRY **Holter Researc** 91.20 39 *e*P P 09 26 53.3 +0.3
comp=Z,12nm,0.7s
LAMP **Lampang** 91.26 290 P P 09 26 55.2 +1.4
comp=Z,38nm,0.7s,comp=Z,295nm
S25A **Robets Cordova** 91.27 49 ⇓P P 09 26 54.3 +0.6
baz=92,SNR=11
331A **San Angelo** 91.27 56 ⇓P P 09 26 53.9 +0.2
baz=92,SNR=6.7
CRAI **Chiangrai** 91.32 291 P P 09 26 52.6 -1.5
comp=Z,17nm,1.1s,comp=Z,778nm
834A **Tilden** 91.34 60 ⇑P P 09 26 55.4 +1.4
baz=92,SNR=14
KMI **Kunming** 91.36 297 P P 09 26 55.5 +1.0
KMI SKS SKSac 09 37 13.0 +1.7
KMI S ScS 09 37 41.3 -0.8
KMI sS sS 09 38 46.4 -6.8
KMI SS SS 09 43 45.4 -4.1
KMI PMZ
comp=Z,10.0nm,1.0s
KMI PMZ
comp=Z,260nm,4.5s
KMI LN
comp=Z,130nm,21.0s
KMI LE
comp=Z,120nm,24.9s
KMI LZ
comp=Z,140nm,18.5s
H18A **Shoshone NF, C** 91.38 41 ⇑P P 09 26 55.0 +0.9
baz=92,SNR=9.1
JCT **Junction City** 91.38 57 *e*P P 09 26 54.3 +0.1
JCT pmax pmax
comp=Z,9.0nm,0.8s
JCT **Junction City** 91.38 57 ⇑P P 09 26 54.5 +0.3
baz=92,SNR=6.4
JCT **Junction City** 91.38 57 *e*P P 09 26 54.3 +0.1
comp=Z,8.5nm,0.8s
X28A **Dimmitt** 91.39 53 ⇑P P 09 26 54.8 +0.5
baz=92,SNR=7.4
Q24A **Divide** 91.40 48 ⇑P P 09 26 55.2 +0.8
baz=92
633A **Saathoff Ranch** 91.42 59 ⇓P P 09 26 55.2 +0.8
baz=92
N22A **Wattenberg Ran** 91.43 46 ⇓P P 09 26 55.3 +0.8
baz=92
130A **Snyder** 91.44 55 ⇓P P 09 26 54.9 +0.5
baz=92
I19A **Meeteetse** 91.45 42 ⇑P P 09 26 55.6 +1.1
baz=92,SNR=13
HIA **Hailar** 91.46 324 *i*P P 09 26 51.9 -2.2
HIA pmax pmax
comp=Z,8.0nm,0.9s
Y29A **Porterfield Fa** 91.48 54 ⇓P P 09 26 55.4 +0.7
baz=92,SNR=15
O23A **Lake Granby, G** 91.49 46 ⇓P P 09 26 55.7 +0.9
baz=92,SNR=6.3
ISCO **Idaho Springs** 91.49 47 *e*P P 09 26 54.7 -0.1
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO **Idaho Springs** 91.49 47 ⇑P P 09 26 55.3 +0.4
baz=92,SNR=7.7
ISCO **Idaho Springs** 91.49 47 *e*P P 09 26 54.7 -0.1
comp=Z,4.2nm,0.8s
V27A **Dan Oppiter Fa** 91.50 52 ⇓P P 09 26 55.8 +1.0
baz=92
432A **Menard** 91.56 57 ⇑P P 09 26 55.2 +0.2
baz=92,SNR=16
R25A **Fountain Ranch** 91.60 49 ⇑P P 09 26 55.4 +0.2
baz=92
T26A **Comanche Natio** 91.62 50 ⇓P P 09 26 56.0 +0.6
baz=92
Z30A **Sanderson Ranc** 91.62 54 ⇑P P 09 26 55.5 +0.3
baz=92,SNR=11
231A **Bronte** 91.63 56 ⇓P P 09 26 55.6 +0.2
baz=92,SNR=31
M22A **Cedar Creek Ra** 91.63 45 ⇓P P 09 26 56.7 +1.3
baz=92,SNR=7.1
J20A **Shoshoni** 91.67 43 ⇑P P 09 26 56.4 +1.0
baz=92,SNR=25
X29A **Tulia** 91.72 53 ⇓P P 09 26 56.4 +0.6
baz=92,SNR=10
H19A **Powell** 91.79 41 ⇓P P 09 26 57.1 +1.2
baz=92,SNR=19
533A **Kerrville** 91.80 58 ⇑P P 09 26 56.7 +0.5
baz=92,SNR=11
N23A **Red Feather La** 91.81 46 ⇑P P 09 26 57.6 +1.4
baz=92
U27A **Thompson Grove** 91.82 51 ⇑P P 09 26 56.2 0.0
baz=92,SNR=6.3
332A **Millersview** 91.83 57 ⇑P P 09 26 56.7 +0.5
baz=92,SNR=42
K21A **Alcova** 91.83 44 ⇓P P 09 26 56.6 +0.4
baz=92,SNR=17
CMAR **Chiang Mai Arr** 91.83 289 P P 09 26 57.9 +1.3
comp=Z,38nm,0.9s,baz=136,slow=3.3,SNR=60
CMAR PP PP 09 30 34.6 -3.5
comp=Z,6.5nm,1.1s,baz=125,slow=5.5,SNR=4.1
CMAR PKKP PKKPbc 09 44 14.9 +1.4
comp=Z,1.3nm,0.5s,baz=264,slow=4.9,SNR=5.3
RLMT **Red Lodge** 91.86 41 *e*P P 09 26 56.2 -0.1
comp=Z,8.0nm,0.9s
131A **Roby** 91.91 55 ⇑P P 09 26 56.8 +0.2
baz=92,SNR=13
HHC **Hu-ho-hao-te** 91.91 314 *e*P P 09 26 57.0 +0.5
HHC pP pP 09 27 41.0 +2.2
HHC sP sP 09 27 59.5 +3.1
HHC PP PP 09 30 41.5 +3.0
HHC S S 09 37 40.6 -2.9
HHC sS sS 09 38 57.8 +0.5
HHC PMZ
comp=Z,30nm,1.0s
HHC PMZ
comp=Z,220nm,7.4s
BILL **Bilibino** 91.91 354 *d*/P P 09 26 55.5 -0.2
BILL *e*S SKSac 09 37 17.3 +5.3
BILL pmax pmax
comp=Z,89nm,1.5s
BILL **Bilibino** 91.91 354 *e*P P 09 26 55.0 -0.7
comp=Z,51nm,0.9s
S26A **Kim** 91.92 50 ⇓P P 09 26 57.1 +0.4
baz=92,SNR=5.1
DAWY **Dawson** 91.93 16 *e*P P 09 26 55.9 0.0
AMTX **Amarillo** 91.94 53 ⇑P P 09 26 57.5 +0.8
baz=92
AMTX **Amarillo** 91.94 53 *e*P P 09 26 56.9 +0.1
comp=Z,9.5nm,0.8s
V28A **Channing** 91.94 52 ⇑P P 09 26 57.7 +0.9
baz=92
I20A **Worland** 91.94 42 ⇑P P 09 26 57.3 +0.7
baz=92,SNR=18
GCMT **Greycliff** 91.97 40 *e*P P 09 26 57.1 +0.4
comp=Z,12nm,1.2s
CMMT **Chiang Mai** 91.97 290 P P 09 26 58.0 +0.8
comp=Z,87nm,1.3s,comp=Z,993nm
CHTO **Chiang Mai** 91.98 290 *e*P P 09 26 57.9 +0.7
CHTO pmax pmax
comp=Z,47nm,0.8s
CHTO **Chiang Mai** 91.98 290 P P 09 26 58.4 +1.3
SNR=23
CHTO **Chiang Mai** 91.98 290 P P 09 26 58.1 +0.9
comp=Z,302nm,1.3s,comp=Z,3μm
CHTO **Chiang Mai** 91.98 290 *e*P P 09 26 57.9 +0.7
comp=Z,47nm,0.8s
835A **Beeville** 91.98 60 ⇑P P 09 26 58.5 +1.5
baz=92,SNR=5.3
Q25A **Bedland, Calha** 91.99 48 ⇓P P 09 26 57.3 +0.3
baz=92,SNR=6.0
O24A **Longmont** 92.01 47 ⇑P P 09 26 58.1 +1.0
baz=92
936A **North Padre Is** 92.03 61 ⇓P P 09 26 58.7 +1.5
baz=92
L22A **Ellis Ranch, M** 92.05 45 ⇓P P 09 26 58.6 +1.4
baz=92
433A **Art** 92.05 57 ⇑P P 09 26 57.7 +0.4
baz=92,SNR=47
Y30A **Stafford Cattl** 92.06 54 ⇓P P 09 26 57.7 +0.4
baz=92,SNR=9.1
J21A **Lysite** 92.06 43 ⇓P P 09 26 58.3 +1.1
baz=92,SNR=25
W29A **Amarillo** 92.07 53 ⇑P P 09 26 58.1 +0.8
baz=92
EGAK **Eagle** 92.10 15 *e*P P 09 26 56.5 -0.1
comp=Z,33nm,0.9s
232A **Coleman** 92.12 56 ⇑P P 09 26 58.2 +0.6
baz=92,SNR=33
T27A **Campo** 92.19 50 ⇓P P 09 26 58.3 +0.4
baz=92
534A **Blanco** 92.22 58 ⇓P P 09 26 58.7 +0.6
baz=92,SNR=42
U28A **Mallet** 92.23 51 ⇓P P 09 26 58.5 +0.4

baz=92
M23A **Laramie** 92.24 45 ⇓P P 09 26 59.6 +1.5
baz=92
735A **Kenedy** 92.24 60 ⇑P P 09 26 59.3 +1.2
baz=92,SNR=7.0
R26A **Arlington** 92.25 49 ⇓P P 09 26 58.8 +0.6
baz=92
H20A **Greybull** 92.30 42 ⇑P P 09 26 58.6 +0.4
baz=92,SNR=17
K22A **Casper** 92.30 44 ⇓P P 09 26 58.7 +0.3
baz=92,SNR=8.6
K22A **Casper** 92.30 44 eP P 09 26 58.6 +0.3
comp=Z,12nm,0.9s
P25A **Willow Gulch B** 92.33 48 ⇑P P 09 26 59.5 +0.9
baz=93,SNR=10
X30A **Coker Ranch, T** 92.33 53 ⇓P P 09 26 58.6 0.0
baz=93
CMAI **Chiengmai2** 92.34 291 P P 09 26 59.8 +0.8
comp=Z,57nm,1.0s,comp=Z,625nm
Z31A **Sharp Cattle R** 92.38 55 ⇑P P 09 26 59.1 +0.4
baz=93,SNR=24
333A **Richland Sprin** 92.38 57 ⇓P P 09 26 59.1 +0.3
baz=93,SNR=17
I21A **Big Trails, Te** 92.40 43 ⇓P P 09 26 59.1 +0.4
baz=93,SNR=27
F19A **Roth Farm, Mol** 92.43 40 ⇓P P 09 26 59.3 +0.5
baz=93,SNR=6.8
ABTX **Abilene, Hawle** 92.45 56 ⇑P P 09 26 59.4 +0.4
baz=93,SNR=11
ABTX **Abilene, Hawle** 92.45 56 eP P 09 26 59.3 +0.2
comp=Z,27nm,1.0s
N24A **Carr** 92.48 46 ⇑P P 09 27 00.2 +1.0
baz=93
COLD **Coldfoot** 92.49 10 eP P 09 26 58.0 -0.4
comp=Z,13nm,1.0s
635A **Leesville** 92.50 59 ⇓P P 09 27 00.3 +1.0
baz=93
Q26A **Hugo** 92.50 48 ⇑P P 09 26 59.9 +0.6
baz=93
V29A **Stinnett** 92.50 52 ⇓P P 09 26 59.9 +0.5
baz=93
G20A **Bridger** 92.54 41 ⇓P P 09 26 59.9 +0.6
baz=93,SNR=5.2
L23A **Garrett** 92.57 45 ⇓P P 09 27 00.2 +0.6
baz=93,SNR=9.2
Y31A **Rekieta Farm,** 92.57 54 ⇑P P 09 27 00.3 +0.7
baz=93,SNR=11
MHMT **Maesarieng** 92.60 289 P P 09 27 02.6 +2.6
comp=Z,15nm,1.0s,comp=Z,500nm
T28A **Walsh** 92.64 51 ⇓P P 09 27 00.3 +0.3
baz=93
O25A **Wiggins** 92.65 47 ⇑P P 09 27 01.0 +1.0
baz=93
R27A **Eads** 92.70 49 ⇑P P 09 27 00.4 +0.2
baz=93,SNR=6.9
J22A **Midwest** 92.71 43 ⇓P P 09 27 00.5 +0.4
baz=93,SNR=22
434A **Burnet** 92.72 58 ⇓P P 09 27 00.5 +0.2
baz=93,SNR=22
233A **Rising Star** 92.75 56 ⇑P P 09 27 01.1 +0.6
baz=93,SNR=14
M24A **Cheyenne** 92.83 46 ⇑P P 09 27 02.2 +1.4
baz=93
E19A **Rath Farm, Rou** 92.84 40 ⇓P P 09 27 01.4 +0.8
baz=93,SNR=10
Z32A **Haskell** 92.87 55 ⇑P P 09 27 01.8 +0.8
baz=93,SNR=20
F20A **Billings** 92.88 41 ⇓P P 09 27 01.9 +1.0
baz=93
P26A **Davis Ranch, A** 92.91 48 ⇓P P 09 27 02.1 +0.8
baz=93
535A **Dale** 92.93 59 ⇑P P 09 27 02.0 +0.7
baz=93
K23A **Bowen Ranch, D** 92.93 44 ⇑P P 09 27 01.8 +0.6
baz=93,SNR=6.8
I22A **9 Mile Ranch,** 92.94 43 ⇓P P 09 27 02.0 +0.8
baz=93,SNR=15
H21A **Big Horn, Sher** 92.96 42 ⇑P P 09 27 02.1 +0.8
baz=93,SNR=8.3
334A **Lometa** 92.96 57 ⇑P P 09 27 02.0 +0.6
baz=93,SNR=35
133A **Hamilton Ranch** 92.99 56 ⇓P P 09 27 02.0 +0.5
baz=93,SNR=13
CD2 **Chengdu** 93.00 302 eP P 09 27 02.5 +0.8
CD2 sP **sP** 09 27 59.9 -1.7
CD2 PP **PP** 09 30 46.8 -0.4
CD2 SKS **SKSac** 09 37 18.6 -1.3
CD2 S **S** 09 37 51.9 -1.6
CD2 SS **SS** 09 44 09.1 -3.4
CD2 PMZ
comp=Z,10.0nm,1.3s
CD2 PMZ
comp=Z,300nm,6.5s
S28A **Manter** 93.01 50 ⇑P P 09 27 02.6 +1.0
baz=93
L24A **Wheatland** 93.03 45 ⇑P P 09 27 03.2 +1.6
baz=93
V30A **Spur Ranch, Mi** 93.06 52 ⇑P P 09 27 03.3 +1.4
baz=93
X31A **McDonald Ranch** 93.08 54 ⇓P P 09 27 02.3 +0.4
baz=93,SNR=7.5
EGMT **Eagleton** 93.10 38 ⇑P P 09 27 02.9 +1.1
baz=93
636A **Smothers Creek** 93.10 59 ⇓P P 09 27 02.9 +0.8
baz=93
D19A **Cripps Ranch,** 93.15 39 ⇑P P 09 27 03.1 +1.1
baz=93
KSCO **Kaye Shedlock'** 93.15 49 ⇓P P 09 27 02.9 +0.6
baz=93
G21A **Lodge Grass** 93.16 42 ⇑P P 09 27 03.0 +0.8
baz=93
Y32A **R-V Farms, Ver** 93.20 54 ⇓P P 09 27 03.0 +0.5
baz=93,SNR=16
435B **Jarrell** 93.24 58 ⇓P P 09 27 03.3 +0.5
baz=93
E20A **Meyer Farm, Mu** 93.25 40 ⇓P P 09 27 03.6 +1.1
baz=94,SNR=6.8
O26A **Horse Wrangler** 93.26 47 ⇓P P 09 27 03.9 +1.1
baz=94
M25A **Palm-Egli Farm** 93.32 46 ⇑P P 09 27 04.5 +1.5
baz=94
234A **Clairette** 93.33 57 ⇑P P 09 27 03.6 +0.5
baz=94,SNR=25
W31A **Holland Ranch,** 93.35 53 ⇑P P 09 27 03.7 +0.5
baz=94,SNR=13
C19A **Slack Wire Ran** 93.35 39 ⇑P P 09 27 03.9 +1.0
baz=94,SNR=6.6
Z33A **Whitaker Ranch** 93.40 55 ⇑P P 09 27 03.9 +0.5
baz=94,SNR=11
R28A **Tribune** 93.42 50 ⇓P P 09 27 04.2 +0.7
baz=94
U30A **WK&E Inc. Balk** 93.43 52 ⇓P P 09 27 04.1 +0.5
baz=94
K24A **Anderson Ranch** 93.44 45 ⇓P P 09 27 04.3 +0.8
baz=94
P27A **Ficken Ranch,** 93.44 48 ⇑P P 09 27 04.3 +0.7
baz=94
X32A **Elmer** 93.50 54 ⇑P P 09 27 04.2 +0.3
baz=94,SNR=18
D20A **Manuel Ranch,** 93.55 40 ⇑P P 09 27 04.8 +1.0
baz=94,SNR=7.0
335A **Moody** 93.57 58 ⇓P P 09 27 04.3 +0.1
baz=94,SNR=6.7
134A **White-Moore Ra** 93.61 56 ⇓P P 09 27 05.3 +0.8
baz=94,SNR=5.7
V31A **Spring Creek L** 93.68 53 ⇑P P 09 27 05.9 +1.2
baz=94,SNR=6.6
G22A **Birney** 93.72 42 ⇓P P 09 27 05.4 +0.7
baz=94
Q28A **Sharon Springs** 93.73 49 ⇑P P 09 27 05.5 +0.6
baz=94
B19A **Brinkman Farms** 93.78 38 ⇓P P 09 27 05.9 +1.0
baz=94
O27A **Beecher Island** 93.80 48 ⇓P P 09 27 06.1 +0.9
baz=94,SNR=5.1
Y33A **Hilltop Ranch,** 93.81 55 ⇓P P 09 27 05.8 +0.5
baz=94
J24A **Dixon Ranch, L** 93.83 44 ⇑P P 09 27 06.0 +0.7
baz=94
W32A **Sentinel** 93.83 53 ⇓P P 09 27 06.1 +0.7
baz=94,SNR=14
WHTX **Lake Whitney,** 93.85 57 ⇓P P 09 27 05.9 +0.5
baz=94,SNR=5.1
WHTX **Lake Whitney,** 93.85 57 eP P 09 27 05.3 -0.2
comp=Z,6.6nm,0.6s
E21A **Keefer Ranch,** 93.90 41 ⇑P P 09 27 06.6 +1.2
baz=94
M26A **McRoberts Ranc** 93.94 46 ⇓P P 09 27 06.6 +0.8
baz=94
C20A **Veseth Ranch,** 93.94 39 ⇓P P 09 27 06.7 +1.1
baz=94
738A **Farr-Stevens R** 93.96 60 ⇑P P 09 27 06.6 +0.6
baz=94
K25A **Mack Ranch, Ha** 94.00 45 ⇓P P 09 27 07.3 +1.2
baz=94
P28A **Saint Francis** 94.01 49 ⇓P P 09 27 06.8 +0.6
baz=94,SNR=7.0
EDM **Edmonton** 94.01 33 eP P 09 27 05.3 -0.5
EDM **Edmonton** 94.01 33 eP P 09 27 05.3 -0.5
F22A **Rosebud** 94.02 42 ⇑P P 09 27 07.0 +1.0
baz=94
N27A **Anderson Farm,** 94.04 47 ⇓P P 09 27 07.0 +0.6
baz=94
336A **Riesel** 94.07 58 ⇑P P 09 27 06.9 +0.4
baz=94
Z34A **Collier Ranch,** 94.08 55 ⇑P P 09 27 07.1 +0.6
baz=94
I24A **Kuemmerle Ranc** 94.10 44 ⇑P P 09 27 06.8 +0.2
baz=94
135A **Vickery Place,** 94.12 56 ⇓P P 09 27 07.3 +0.6
baz=94
X33A **Lawton** 94.14 54 ⇑P P 09 27 07.0 +0.3
baz=94,SNR=9.2
A19A **Klindworth Far** 94.14 38 ⇑P P 09 27 07.0 +0.5
baz=94
V32A **Arapaho** 94.24 53 ⇑P P 09 27 08.2 +0.9
baz=94
O28A **Krutsinger Ran** 94.25 48 ⇓P P 09 27 07.8 +0.5
baz=94
G23A **Biddle** 94.27 42 ⇑P P 09 27 07.6 +0.4
baz=94,SNR=6.2
T31A **Randall Ranch,** 94.38 52 ⇑P P 09 27 08.4 +0.6
baz=95
J25A **Sunshine Ranch** 94.41 44 ⇑P P 09 27 08.6 +0.7
baz=95
W33A **Caddo, Fort Co** 94.42 54 ⇓P P 09 27 09.0 +0.9
baz=95
OGNE **Ogallala** 94.44 47 ⇑P P 09 27 08.3 +0.2
baz=95
Y34A **Reagan Ranch,** 94.45 55 ⇓P P 09 27 08.7 +0.5
baz=95
R30A **Dighton** 94.47 50 ⇑P P 09 27 08.9 +0.6
baz=95
K26A **Motz Farm, Whi** 94.49 45 ⇓P P 09 27 08.8 +0.5
baz=95
F23A **Volborg** 94.51 42 ⇑P P 09 27 08.7 +0.5
baz=95,SNR=7.5
C21A **Desert Coulee** 94.53 39 ⇓P P 09 27 09.0 +0.7
baz=95
U32A **Winter Ranch,** 94.56 52 ⇑P P 09 27 09.2 +0.5
baz=95
Z35A **Perchaven, San** 94.56 56 ⇓P P 09 27 09.0 +0.2
baz=95
H24A **Dirks Ranch, A** 94.57 43 ⇓P P 09 27 08.8 +0.1
baz=95,SNR=24
A20A **Cobblestone Ra** 94.58 38 ⇑P P 09 27 09.4 +0.8
baz=95
P29A **Atwood** 94.59 49 ⇓P P 09 27 09.6 +0.7
baz=95
RSSD **Black Hills** 94.60 44 eP P 09 27 08.7 -0.3
RSSD pmax pmax
comp=Z,21nm,0.8s
RSSD **Black Hills** 94.60 44 eP P 09 27 08.7 -0.3
comp=Z,21nm,0.8s
N28A **Pribbeno Ranch** 94.66 48 ⇓P P 09 27 09.6 +0.5
baz=95,SNR=7.9
X34A **Smith Ranch, M** 94.66 54 ⇑P P 09 27 09.8 +0.6
baz=95,SNR=8.5
D22A **Cohagen** 94.73 40 ⇓P P 09 27 10.2 +0.9
baz=95
S31A **Mullinville** 94.74 51 ⇓P P 09 27 09.7 +0.2
baz=95
I25A **Rochford** 94.75 44 ⇓P P 09 27 10.2 +0.6
baz=95,SNR=21
J26A **Sides Ranch, S** 94.84 45 ⇑P P 09 27 10.1 +0.2
baz=95
V33A **Lossen Ranch,** 94.84 53 ⇓P P 09 27 10.3 +0.3
baz=95
B21A **Ellsworth Farm** 94.88 39 ⇑P P 09 27 10.6 +0.7
baz=95
O29A **4D Ranch, Culb** 94.92 48 ⇓P P 09 27 10.7 +0.4
baz=95
G24A **Alzada** 94.93 43 ⇓P P 09 27 10.8 +0.5
baz=95
T32A **Huddler Ranch,** 94.95 52 ⇓P P 09 27 11.0 +0.5
baz=95
W34A **Bridge Creek,** 94.97 54 ⇑P P 09 27 11.1 +0.5
baz=95
R31A **Burdett** 95.00 50 ⇑P P 09 27 11.1 +0.5
baz=95
YAK **Yakutsk** 95.03 338 eP P 09 27 06.5 -3.6
YAK pmax pmax
comp=Z,21nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=N,5.0nm,1.3s
P30A **Selden** 95.04 49 ⇓P P 09 27 11.6 +0.7
baz=95
K27A **Flueckinger Fa** 95.11 46 ⇑P P 09 27 11.9 +0.8
baz=95,SNR=6.3
H25A **Fruitdale** 95.11 43 ⇑P P 09 27 11.7 +0.6
baz=95,SNR=11
237A **Washetta, Mont** 95.12 57 ⇓P P 09 27 11.1 -0.2
baz=95
LZH **Lanzhou** 95.13 307 eP P 09 27 12.3 +0.8
LZH pP **pP** 09 27 49.8 -4.0
LZH sP **sP** 09 28 07.3 -4.1
LZH PMZ
comp=N,22nm,1.0s
LZH PMZ
comp=N,85nm,4.3s
F24A **Ekalaka** 95.16 42 ⇑P P 09 27 12.1 +0.8
baz=95,SNR=6.5
S32A **Newby Ranch, P** 95.17 51 ⇓P P 09 27 12.1 +0.7
baz=95
A21A **Bergtoll Ranch** 95.21 38 ⇓P P 09 27 12.3 +1.0
baz=96
I26A **New Underwood** 95.31 44 ⇑P P 09 27 13.1 +1.1
baz=96,SNR=6.8
N29A **Votaw Ranch, W** 95.34 48 ⇑P P 09 27 13.0 +0.7
baz=96
B22A **Reddig Ranch S** 95.41 39 ⇑P P 09 27 13.2 +0.9
baz=96
G25A **Newell** 95.49 43 ⇑P P 09 27 13.7 +0.9
baz=96
J27A **Elkhorn Farm,** 95.50 45 ⇓P P 09 27 14.1 +1.2
baz=96,SNR=15
M29A **Burnside Ranch** 95.57 47 ⇑P P 09 27 14.1 +0.9
baz=96
H26A **Fairpoint** 95.63 44 ⇑P P 09 27 13.8 +0.4
baz=96
R32A **Long Quarter,** 95.64 51 ⇑P P 09 27 14.1 +0.6
baz=96,SNR=5.4
C23A **Lambert** 95.64 40 ⇓P P 09 27 14.1 +0.8
baz=96
U34A **Anderson Ranch** 95.65 53 ⇑P P 09 27 14.0 +0.4
baz=96
K28A **Ten Mile Ranch** 95.68 46 ⇓P P 09 27 14.5 +0.8
baz=96
N30A **Hueftle Ranch,** 95.69 48 ⇑P P 09 27 14.9 +1.1
baz=96
A22A **Carney Farms,** 95.79 39 ⇓P P 09 27 14.4 +0.4
baz=96
F25A **Bowman** 95.80 42 ⇑P P 09 27 15.1 +0.9
baz=96
D24A **Glendive** 95.83 41 ⇑P P 09 27 15.2 +1.0
baz=96
I27A **Quinn** 95.84 44 ⇑P P 09 27 15.2 +0.8
baz=96
V35A **Meyer Ranch, C** 95.89 54 ⇑P P 09 27 15.5 +0.7
baz=96
O31A **Woolen Ranch,** 95.94 49 ⇑P P 09 27 15.4 +0.5
baz=96
C24A **Savage** 95.96 41 ⇓P P 09 27 15.7 +0.9
baz=96
Q32A **Meitler Ranch,** 95.99 50 ⇓P P 09 27 15.8 +0.7
baz=96
L29A **Maesberg Ranch** 95.99 47 ⇑P P 09 27 15.7 +0.6
baz=96
G26A **Maurine** 96.05 43 ⇑P P 09 27 16.2 +0.9
baz=96
B23A **Brockton** 96.07 40 ⇑P P 09 27 16.3 +1.0
baz=96
H27A **Howes** 96.08 44 ⇓P P 09 27 16.1 +0.6
baz=96
J28A **Allard Ranch,** 96.08 45 ⇓P P 09 27 16.4 +0.9
baz=96
E25A **Miller Ranch,** 96.10 42 ⇓P P 09 27 16.3 +0.8
baz=96
R33A **Olander Ranch,** 96.11 51 ⇑P P 09 27 16.5 +0.8
baz=96
F26A **Lodgepole** 96.26 43 ⇑P P 09 27 17.2 +1.0
baz=96
I28A **Midland** 96.38 45 ⇓P P 09 27 17.5 +0.7
baz=97
K29A **Lazy Trails An** 96.40 46 ⇓P P 09 27 18.0 +1.0
baz=97
L30A **Spencer Herefo** 96.45 47 ⇓P P 09 27 18.2 +1.0
baz=97
D25A **Fairfield** 96.45 41 ⇓P P 09 27 18.5 +1.4
baz=97
Q33A **Connelly Farm,** 96.50 50 ⇓P P 09 27 18.6 +1.2
baz=97
G27A **Dupree** 96.51 43 ⇓P P 09 27 18.1 +0.7
baz=97
E26A **Carlson Angus** 96.67 42 ⇑P P 09 27 19.0 +0.9
baz=97
J29A **Okreek** 96.67 46 ⇓P P 09 27 18.8 +0.7
baz=97
M31A **Lambtecht Ranc** 96.69 48 ⇑P P 09 27 19.5 +1.2
baz=97
C25A **Freed Ranch, W** 96.75 41 ⇑P P 09 27 19.2 +0.8
baz=97
K30A **Basset** 96.83 46 ⇑P P 09 27 19.9 +1.0
baz=97
A24A **Westby** 96.87 39 ⇑P P 09 27 20.1 +1.2
baz=97
D26A **Manning** 96.94 42 ⇓P P 09 27 20.2 +0.9
baz=97
I29A **Vivian Onida** 96.95 45 ⇓P P 09 27 19.8 +0.4
baz=97
L31A **Butterfield Fa** 97.14 47 ⇓P Pdif 09 27 20.9 +0.5
baz=97
J30A **Dallas** 97.19 46 ⇑P Pdif 09 27 21.0 +0.5
baz=97
E27A **Carson** 97.20 42 ⇓P Pdif 09 27 21.0 +0.4
baz=97
H29A **Onida** 97.27 45 ⇑P Pdif 09 27 21.3 +0.4
baz=98
F28A **McLaughlin** 97.43 43 ⇓P Pdif 09 27 21.7 +0.2
baz=98
I30A **Oacoma** 97.48 45 ⇑P Pdif 09 27 22.3 +0.5
baz=98
C26A **Wahner Farm, P** 97.50 41 ⇑P Pdif 09 27 22.8 +1.0
baz=98
D27A **Center** 97.53 42 ⇑P Pdif 09 27 22.9 +1.0
baz=98
B26A **Jensen Ranch,** 97.66 40 ⇑Pdiff Pdif 09 27 23.3 +0.7
baz=98
E28A **Huff** 97.81 43 ⇓Pdiff Pdif 09 27 23.9 +0.7
baz=98
A26A **Wade Farm, Ken** 98.01 40 ⇓Pdiff Pdif 09 27 24.8 +0.8
baz=98
ULN **Ulaanbaatar** 98.03 319 ⇑eP **P** **09 27 23.3 -1.0**
ULN pmax pmax
comp=Z,9.0nm,2.2s
ULN **Ulaanbaatar** 98.03 319 eP **P** **09 27 23.2 -1.1**
comp=Z,3.0nm,0.9s
SONM **Songino Array** 98.41 319 P **P** **09 27 25.7 -0.3**
comp=Z,0.9nm,0.8s,baz=123,slow=3.9,SNR=6.5
SONM PKiKP **PKiKP** **09 31 56.8 -0.4**
comp=Z,0.5nm,0.5s,baz=153,slow=2.1,SNR=4.1
SONM PKKP **PKKPbc** **09 43 57.0 -0.4**
comp=Z,0.6nm,0.6s,baz=273,slow=2.5,SNR=4.1
SONM LR LR 10 05 30.5
comp=Z,89nm,20.9s,baz=132,slow=31
YKA **Yellowknife Ar** 98.71 25 P **P** **09 27 26.4 -0.3**
comp=Z,3.1nm,0.8s,baz=240,slow=4.4,SNR=57
YKA PKiKP **PKiKP** **09 31 56.4 -0.7**
comp=Z,0.1nm,0.3s,baz=223,slow=29,SNR=7.4
YKA PKKP **PKKPdf** **09 44 01.7 +1.4**
comp=Z,0.9nm,0.5s,baz=34,slow=2.5,SNR=9.9
ECSD **EROS Data Cent** 99.26 46 ⇓Pdiff **Pdif** **09 27 30.4 +0.7**
baz=100
GTA **Gaotai** 99.39 309 eP **Pdif** **09 27 32.0 +1.5**
GTA pP **pP** **09 28 14.1 +1.1**
GTA sP **sP** **09 28 32.3 +1.7**
GTA PP **PP** **09 31 41.3 +4.9**
GTA SKS **SKSac** **09 37 52.9 -0.1**
GTA S **S** **09 38 48.3 +0.1**
GTA PMZ
comp=Z,6.0nm,1.1s
GTA PMZ
comp=Z,69nm,5.5s
GTA LN
comp=Z,84nm,16.9s
GTA LE
comp=Z,150nm,17.3s
GTA LZ
comp=Z,190nm,19.5s
A29A **Manning Farm,** 99.69 41 ⇓Pdiff **Pdif** **09 27 32.1 +0.6**
baz=100
LPAZ **La Paz** 100.21 113 P **Pdif** **09 27 37.8 +2.4**
comp=Z,2.4nm,0.8s,baz=293,slow=2.9,SNR=8.0
A30A **Hoffart Farm,** 100.26 41 ⇓Pdiff **Pdif** **09 27 34.6 +0.6**
baz=100
TIXI **Tiksi** 101.67 345 P **Pdif** **09 27 38.0 -1.7**
TIXI pmax pmax
comp=Z,5.0nm,1.4s
TAPN **Taplejung** 104.70 294 eP **PKiKP** **09 32 09.5 0.0**
comp=Z,42nm,1.1s
ODAN **Odare** 104.82 293 eP **PKiKP** **09 32 09.4 -0.2**
comp=Z,26nm,0.8s
RAMN **Ramite** 105.51 293 eP **PKiKP** **09 32 11.1 +0.2**
comp=Z,15nm,0.6s
JIRN **Jiri** 106.08 294 eP **PKiKP** **09 32 11.9 -0.2**
comp=Z,16nm,0.6s
GUN **Gumba** 106.42 294 eP **PKiKP** **09 32 12.3 -0.4**
PKI **Pulchoki** 106.71 293 eP **PKiKP** **09 32 12.7 -0.6**
comp=Z,18nm,0.7s
PKIN **Phulchoki** 106.73 293 eP **PKiKP** **09 32 12.1 -1.1**
comp=Z,17nm,0.7s
KKN **Kakani** 106.89 293 eP **PKiKP** **09 32 13.0 -0.4**
comp=Z,13nm,0.5s
DMN **Daman** 106.98 293 eP **PKiKP** **09 32 13.3 -0.4**
comp=Z,12nm,0.5s
GKN **Gorkha** 107.50 293 eP **PKiKP** **09 32 13.2 -1.3**
KOLN **Koldanda** 108.30 293 eP **PKiKP** **09 32 15.2 -0.9**
comp=Z,13nm,0.7s
DANN **Dangsing** 108.34 294 eP **PKiKP** **09 32 15.2 -1.0**
comp=Z,24nm,0.6s
RES **Resolute Bay** 110.26 16 PKiKP **PKiKP** **09 32 16.9 -1.2**
comp=Z,2.0nm,0.6s,baz=245,slow=7.0,SNR=11
ZALV **Zalesovo Beam** 113.19 320 PKiKP **PKiKP** **09 32 23.4 -0.8**
comp=Z,8.2nm,0.6s,baz=164,slow=0.8,SNR=27
MK31 **Makanchi Array** 113.72 312 i PKiKP **PKiKP** **09 32 24.2 -1.3**
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MKAR **Makanchi Array** 113.72 312 PKiKP **PKiKP** **09 32 24.9 -0.6**
comp=Z,6.3nm,0.6s,baz=192,slow=0.7,SNR=44
MKAR PKKPbc **PKKPbc** **09 43 09.9 0.0**
comp=Z,1.9nm,0.6s,baz=274,slow=3.9,SNR=17
NVS **Novosibirsk** 114.23 321 ePKiKP PKPdf 09 32 24.6 -1.5
KURK **Kurchatov** 116.61 316 ePKiKP **PKPdf** **09 32 29.5 -1.4**
KURK **Kurchatov** 116.61 316 ePKPdf **PKPdf** **09 32 29.5 -1.4**
KURK PKP **PKiKP** **09 32 30.1 -0.7**
KURBB **Kurchatov Arra** 116.66 316 PKP **PKPdf** **09 32 30.1 -0.8**
comp=Z,9.1nm,0.8s,baz=109,slow=1.7,SNR=7.6
KSH **Kashi** 117.16 304 PKP **PKPdf** **09 32 33.4 +0.9**
KSH PP **PP** **09 33 45.8 +0.3**
KSH PKS **PKSdf** **09 36 10.3 +1.1**
KSH SKS **SKSdf** **09 39 30.1 +1.3**
KSH PPMZ
comp=Z,92nm,4.1s
KSH LN
comp=Z,76nm,4.4s
KSH LE
comp=Z,85nm,4.4s
KSH LZ
comp=Z,130nm,8.3s
TKM2 **Tokmak 2** 117.90 307 P **PKPdf** **09 32 33.1 -0.8**
SNR=14
TKM2 **Tokmak 2** 117.90 307 ePKiKP **PKPdf** **09 32 32.5 -1.4**
TKM2 **Tokmak 2** 117.90 307 ePKPdf **PKPdf** **09 32 32.5 -1.4**
KBK **Karagaybulak** 118.34 307 P **PKPdf** **09 32 34.8 +0.1**
SNR=10.0
CHMS **Chumysh** 118.52 307 P **PKPdf** **09 32 34.4 -0.5**
SNR=7.4
UCH **Uchtor** 118.61 307 P **PKPdf** **09 32 35.8 +0.2**
SNR=16
AAK **Ala-Archa** 118.67 307 d i PKiKP **PKPdf** **09 32 34.9 -0.5**
AAK pmax pmax

comp=Z,28nm,1.2s
AAK Ala-Archa 118.67 307 PKP **PKPdf 09 32 34.8 -0.6**
comp=Z,4.0nm,0.7s,baz=120,slow=3.8,SNR=8.8
AAK PKKPbc **PKKPbc 09 42 52.2 -0.4**
comp=Z,1.5nm,0.7s,baz=182,slow=3.4,SNR=6.3
USP Ospenovka 118.73 308 P **PKPdf 09 32 35.0 -0.3**
SNR=9.1
EKS2 Erkin-Say 119.20 307 P **PKPdf 09 32 36.6 +0.3**
SNR=6.9
EKS2 Erkin-Say 119.20 307 *e*PKIKP **PKPdf 09 32 35.4 -0.9**
EKS2 Erkin-Say 119.20 307 *e*PKPdf **PKPdf 09 32 35.4 -0.9**
AML Almayashu 119.21 306 P **PKPdf 09 32 36.7 0.0**
SNR=23
KULLO Kullorsuaq 120.12 16 *i* PKIKP **PKPdf 09 32 36.3 -0.6**
KULLO pmax pmax
comp=Z,7.0nm,0.7s
KULLO Kullorsuaq 120.12 16 *i* P **PKPdf 09 32 36.3 -0.6**
comp=Z,7.3nm,0.7s
SCHQ Schefferville 120.35 39 PKP **PKPdf 09 32 36.5 -1.5**
comp=Z,2.4nm,0.7s,baz=85,slow=6.9,SNR=4.3
SCHQ PKKPbc **PKKPbc 09 42 46.1 -0.5**
comp=Z,3.5nm,0.7s,baz=80,slow=4.0,SNR=12
KK31 Karatay Array 121.63 307 PKIKP **PKPdf 09 32 40.2 -0.6**
KK31 pmax pmax
comp=Z,16nm,0.7s
KKAR Karatay Array 121.63 307 *e*PKIKP **PKPdf 09 32 40.3 -0.5**
KKAR Karatay Array 121.63 307 *e*PKPdf **PKPdf 09 32 40.3 -0.5**
MSEY Mahe Island 121.66 248 *i* PKIKP **PKPdf 09 32 43.2 +1.4**
BVA0 Borovoye Array 121.75 319 PKIKP **PKPdf 09 32 39.9 -0.8**
BVA0 pmax pmax
comp=Z,18nm,0.8s
BVAR Borovoye Array 121.75 319 PKP **PKPdf 09 32 40.1 -0.6**
comp=Z,16nm,0.5s,baz=131,slow=1.4,SNR=92
KBL Kabul 121.94 297 *e*PKIKP **PKPdf 09 32 41.9 0.0**
KBL Kabul 121.94 297 *e*PKPdf **PKPdf 09 32 41.9 0.0**
BOSA Boshof 124.06 204 PKIKP **PKPdf 09 32 47.0 +0.8**
BOSA Boshof 124.06 204 PKP **PKPdf 09 32 47.0 +0.8**
comp=Z,6.8nm,0.6s,baz=167,slow=2.4,SNR=26
ILULI Ilulissat 124.09 20 *i* PKIKP **PKPdf 09 32 43.6 -1.1**
ILULI pmax pmax
comp=Z,18nm,0.7s
ILULI Ilulissat 124.09 20 *i* P **PKPdf 09 32 43.6 -1.1**
comp=Z,18nm,0.7s
SFJD Kangerlussuaq 125.22 23 *i* PKIKP **PKPdf 09 32 46.3 -0.6**
SFJD Kangerlussuaq 125.22 23 *i* P **PKPdf 09 32 46.3 -0.6**
DAG Danmarks Havn 125.44 6 *i* PKIKP **PKPdf 09 32 46.0 -1.1**
DAG pmax pmax
comp=Z,8.0nm,0.8s
DAG Danmarks Havn 125.44 6 *i* P **PKPdf 09 32 46.0 -1.1**
comp=Z,11nm,0.8s
SUMG Summit 125.67 14 *i* PKIKP **PKPdf 09 32 48.4 +0.2**
SUMG pmax pmax
comp=Z,13nm,0.9s
SUMG Summit 125.67 14 *i* P **PKPdf 09 32 48.4 +0.2**
comp=Z,13nm,0.9s
SUMG Summit 125.67 14 *e*PKPdf **PKPdf 09 32 47.9 -0.3**
SVE Sverdlovsk 126.77 325 *e*PKIKP **PKPdf 09 32 50.3 +0.1**
SVE pmax pmax
comp=Z,43nm,1.3s
SOKR Solikamsk 127.91 329*c* *i*PKIKP **PKPdf 09 32 52.5 +0.3**
SOKR pmax pmax
comp=Z,30nm,0.6s
ARU Arti 127.98 324 *i* PKIKP **PKPdf 09 32 52.8 +0.3**
ARU 09 34 56.9
ARU 09 39 42.5
ARU Arti 127.98 324 *e*PKPdf **PKPdf 09 32 52.4 -0.1**
AB31 Akbulak array 128.68 315 PKIKP **PKPdf 09 32 53.6 -0.5**
AB31 pmax pmax
comp=Z,10.0nm,0.8s
ABKAR Akbulak array 128.68 315 *e*PKPdf **PKPdf 09 32 53.4 -0.6**
SMDO Samad 129.58 281 PKPdf **PKPdf 09 32 57.3 +0.5**
SNR=7.9
AKTO Aktyubinsk 129.70 317 PKP **PKPdf 09 32 56.0 +0.1**
comp=Z,11nm,0.6s,baz=48,slow=1.5,SNR=42
GEYT Alibeck 130.97 301 PKP **PKPdf 09 32 59.3 +0.4**
comp=Z,8.5nm,0.6s,baz=270,slow=3.0,SNR=12
HATD Hatta, Dubai 131.63 283 PKPdf **PKPdf 09 33 00.8 +0.3**
SNR=5.8
ASHO Ashiyiah 131.67 283 PKPdf **PKPdf 09 33 00.8 +0.2**
SNR=6.2
ASHO Ashiyiah 131.67 283 *i* PKIKP **PKPdf 09 33 00.5 -0.1**
SNR=11
RBK Rabkut 131.77 273 PKPdf **PKPdf 09 33 01.5 +0.6**
SNR=8.9
ARCES ARCESS Array B 131.83 350 PKP **PKPdf 09 32 58.9 -0.6**
comp=Z,28nm,0.7s,baz=33,slow=1.1,SNR=58
ARCES SKP 09 36 12.3
comp=Z,22nm,1.1s,baz=38,slow=6.1,SNR=9.2
APA Apatity 131.87 345 *e*PKIKP **PKPdf 09 33 03.4 +3.8**
APA MLR MLR
comp=Z,400nm,28.0s
PRGR Permogore 131.94 334 *e*PKIKP **PKPdf 09 32 56.7 -3.1**
PRGR *e* 09 33 42.0
PRGR pmax pmax
comp=Z,36nm,0.8s
ABTO Aybut 132.56 273 PKPdf **PKPdf 09 33 02.2 -0.3**
SNR=7.7
KLMR Klimovskoe 134.78 336 *e*PHKKP PKPpre 09 32 56.5
KLMR pmax pmax
comp=Z,40nm,1.5s
TSUM Tsumeb 135.38 200 *e*PKPdf **PKPdf 09 33 05.9 -2.0**
KMBO Kilima Mbogo 138.69 239 PKhKP PKPpre 09 33 04.9
comp=Z,3.8nm,0.7s,baz=87,slow=5.1,SNR=9.7
KMBO PKP **PKPdf 09 33 15.2 +0.9**
comp=Z,5.2nm,0.9s,baz=103,slow=1.1,SNR=5.0
KMBO SKP 09 36 37.0
comp=Z,1.4nm,0.4s,baz=117,slow=2.9,SNR=7.8
FINES FINESS Array B 138.70 343 PKhKP PKPpre 09 33 00.3
comp=Z,3.3nm,0.6s,baz=191,slow=3.1,SNR=15
FINES PKP **PKiKP 09 33 13.8 -0.8**
comp=Z,12nm,0.7s,baz=107,slow=1.5,SNR=17
FINES SKP 09 36 33.6
comp=Z,2.8nm,0.7s,baz=192,slow=1.8,SNR=4.9
MOS Moscow 138.76 331 *e*PKIKP **PKPdf 09 33 12.3 -0.4**
VRHR Novokhopersk 139.26 323 *e*PKIKP **PKPdf 09 33 13.1 -0.7**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.7s
OBN Obninsk 139.62 331⇑ *i*PKIKP **PKPdf 09 33 14.3 0.0**
OBN *i* 09 33 59.2
OBN pmax pmax
comp=Z,36nm,1.2s
OBN Obninsk 139.62 331 PKP **PKPdf 09 33 13.9 -0.4**
comp=Z,23nm,0.5s,baz=249,slow=6.3,SNR=6.0
OBN SKP 09 36 37.0
comp=Z,7.9nm,0.3s,baz=145,slow=12,SNR=4.2
VSR Storozhevoye 140.55 324 *e*PKIKP **PKPdf 09 33 14.5 -1.6**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,4.0nm,0.6s
VORD Divnogorie 140.61 324 *e*PKIKP **PKPdf 09 33 16.2 0.0**
VORD pmax pmax
comp=Z,30nm,1.7s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,20nm,0.7s
VSU Vasula 140.97 340⇓ *i*PKIKP **PKPdf 09 33 14.7 -2.0**
ZEI Tsey 141.00 310 *i* PKIKP **PKPdf 09 33 19.3 +1.8**
ZEI pmax pmax
comp=Z,55nm,2.1s
RAYN Ar Rayn 141.01 279 *e*PKPdf PKPdf 09 33 12.0 -5.9
GNI Garni 141.05 306⇓ *i*PKIKP **PKIKP 09 33 18.6 +0.9**
GNI pmax pmax
comp=Z,30nm,1.2s
GNI Garni 141.05 306 PKP **PKPdf 09 33 17.6 -0.1**
comp=Z,6.8nm,0.4s,baz=63,slow=2.3,SNR=4.5
GNI Garni 141.05 306 *e*PKPdf **PKPdf 09 33 17.5 -0.2**
KBZ Khabaz 141.41 312 PKhKP PKPpre 09 33 12.6
comp=Z,2.0nm,0.6s,baz=29,slow=2.2,SNR=5.0
KIV Kislovodsk 141.48 312 *i* PKIKP **PKPdf 09 33 17.3 -0.9**
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,107nm,21.0s
NB2 NORSAR Subarra141.86 353 PKP PKPpre 09 33 12.6
comp=Z,20nm,1.2s,baz=16,slow=3.2
NOA NORSAR Array B141.86 353 PKhKP PKPpre 09 33 12.5
comp=Z,6.6nm,0.8s,baz=12,slow=2.3,SNR=19
CLDR Caldiran 141.89 304 *e*P **PKPdf 09 33 15.9 -3.4**

HFS Hagfors 142.44 351 PKhKP PKPpre 09 33 13.9
comp=Z,13nm,0.5s,baz=64,slow=3.4,SNR=60
KONO Kongsberg 143.39 354 *e*PKIKP PKPab 09 33 17.7 +0.3
KONO Kongsberg 143.39 354 *e*PKPdf PKPab 09 33 17.6 +0.2
IDID Didziasalis 143.48 337 *e*P PKPab 09 33 17.0 -0.9
IDID AMB AMB 09 33 24.1
comp=Z,14nm,1.4s
ISAL Salakas 143.49 338 *e*P PKPab 09 33 18.0 +0.1
ISAL AMB AMB 09 33 19.7
comp=Z,14nm,1.3s
EZM Erzurum 143.63 306 *e*P PKPbc 09 33 20.6 +0.3
IIGN Ignalina 143.63 338 *e*P PKPab 09 33 18.2 -0.4
IIGN AMB AMB 09 33 24.1
comp=Z,19nm,1.0s
MICGM Minsk 143.68 335⇑ *e*P PKPab 09 33 18.0 -0.7
NACGM Naroch 143.78 337 *e*P PKPab 09 33 17.0 -2.1
BNGB Bing¶ll 144.38 305 *e*P **PKPab 09 33 21.4 -0.7**
BAYT Ayd¨–ntepe-Bay 144.39 307 *e*P PKPbc 09 33 23.0 +0.6
ANN Anapa 144.64 316 *i* PKHKP PKPpre 09 33 16.5
ANN *e* 09 40 13.4
ANN pmax pmax
comp=Z,254nm,1.8s
GUMT Gumushane 144.85 308 *e*P **PKPdf 09 33 24.6 +0.3**
MAZI Mazidag 144.92 302 *e*P PKPbc 09 33 23.4 -0.7
ERZN Erzincan 144.93 306 *e*P **PKPdf 09 33 24.7 +0.3**
ESPY Espiye-Giresun 145.25 309 *e*P **PKPdf 09 33 23.4 -1.5**
PTK Pertek 145.37 305 *e*P **PKPbc 09 33 25.8 +0.2**
SFNV Sufian 145.41 301 *e*P **PKPab 09 33 25.9 -0.1**
SVRC Sivrice-ELAZID 145.57 304 *e*P **PKPab 09 33 26.6 -0.2**
SUW Suwalki 145.76 339 *e*PKP2 **PKPbc 09 33 26.1 +0.1**
SUW Suwalki 145.76 339 *e*PKP **PKPbc 09 33 26.0 +0.1**
SUW Suwalki 145.76 339 *e*PKPdf **PKPdf 09 33 25.4 +0.2**
ILIC ilic-Erzincan 145.83 307 *e*P **PKPab 09 33 31.6 +4.0**
AKASG Malin Array Be 145.87 330 PKPbc **PKPdf 09 33 25.2 -0.3**
comp=Z,38nm,0.5s,baz=42,slow=4.1,SNR=163
AKASG pPKPbc pPKPbc 09 34 06.8 -3.2
comp=Z,11nm,0.7s,baz=38,slow=3.5,SNR=1.4
AKASG PP **PP 09 36 51.9 +3.1**
comp=Z,4.3nm,0.6s,baz=46,slow=3.0,SNR=5.4
URFA Urfa 146.18 303 *e*P **PKPbc 09 33 28.2 +0.2**
MALT Malatya 146.26 305⇓ *e*PKP2 **PKPbc 09 33 28.6 +0.4**
MALT Malatya 146.26 305⇓ *i*P **PKPbc 09 33 28.6 +0.4**
RSDY Resadiye-TOKAT 146.43 309 *e*P **PKPab 09 33 29.4 -0.3**
MUD Monsted U'grnd 146.58 354⇓ *i*PKP2 **PKPbc 09 33 28.5 +0.2**
MUD pmax pmax
comp=Z,100nm,0.8s
MUD Monsted U'grnd 146.58 354⇓ *i*P **PKPbc 09 33 28.5 +0.2**
comp=Z,100nm,0.8s
SIM Simferopol' 146.66 318*d* *i*PKP2 **PKPbc 09 33 29.0 +0.1**
SIM *e* 09 36 52.0
SIM pmax pmax
comp=Z,113nm,0.8s
SIM pmax pmax
comp=Z,40nm,7.0s
SVSK Karacayir 146.83 308 *e*P **PKPdf 09 33 28.3 +0.8**
DARE Darende-Malaty 146.89 305 *e*P **PKPdf 09 33 28.3 +0.5**
COP Copenhagen 146.91 350 *i* PKP2 **PKPbc 09 33 28.8 -0.4**
COP pmax pmax
comp=Z,44nm,0.8s
COP Copenhagen 146.91 350 *i* P **PKPbc 09 33 28.8 -0.4**
comp=Z,44nm,0.7s
BSD Bornholm Skovb 147.01 347⇓ *i*PKP2 **PKPbc 09 33 29.3 -0.2**
BSD pmax pmax
comp=Z,120nm,0.8s
BSD Bornholm Skovb 147.01 347⇓ *i*P **PKPbc 09 33 29.3 -0.2**
comp=Z,125nm,0.8s
SLMH Al Salmeh 147.17 301 *e*P **PKPbc 09 33 31.7 +1.0**
LLD Lille Linde 147.28 350 *i* PKP2 **PKPbc 09 33 30.6 +0.3**
LLD Lille Linde 147.28 350 *i* P **PKPbc 09 33 30.6 +0.3**
LLD *i* 09 34 04.0
KMRS Kahramanmaras 147.64 304 *e*P **PKPdf 09 33 29.5 +0.5**
EKA Eskdalemuir Ar 147.71 6 PKPbc **PKPbc 09 33 31.2 -0.3**
comp=Z,55nm,0.8s,baz=345,slow=2.7,SNR=78
ESK Eskdalemuir 147.72 7 *e*PKP2 **PKPbc 09 33 30.8 -0.7**
ESK Eskdalemuir 147.72 7 *e*PKPbc **PKPbc 09 33 30.8 -0.7**
BYBT Boyabat 147.82 312 *e*P **PKPbc 09 33 32.9 +0.6**
BNN Bunyan 148.02 307 *e*P **PKPdf 09 33 29.1 -0.7**
GKP Gorka Klasztor 148.17 344 *e*PKP2 **PKPbc 09 33 33.1 +0.3**
GKP Gorka Klasztor 148.17 344 *e*PKP **PKPbc 09 33 33.0 +0.3**
BTCH Batrach 148.37 301 *e*P **PKPbc 09 33 33.9 -0.1**
BEL Belsk 148.37 339 *e*PKP2 **PKPbc 09 33 34.1 +0.8**
BEL Belsk 148.37 339 *e*PKP **PKPbc 09 33 34.1 +0.8**
CORM Corum 148.43 310 *e*P **PKPbc 09 33 34.3 +0.3**
KOZT Kozan 148.47 304 *e*P **PKPbc 09 33 34.4 +0.3**
KIS Kishinev 148.53 325⇓ *i*PKP2 **PKPbc 09 33 34.0 +0.1**
KIS pmax pmax
comp=Z,1μm,1.5s
KIS pmax pmax
comp=Z,700nm,2.0s
KIS Kishinev 148.53 325⇓ *i*PKP **PKPbc 09 33 34.0 +0.1**
KIS M M 09 33 34.5
comp=Z,1μm,1.5s
WRDH Warideh 148.53 300 *e*P **PKPbc 09 33 34.9 +0.5**
CEYT Ceyhan 148.66 303 *e*P **PKPdf 09 33 31.1 +0.5**
BIDA Albida 148.72 299 *e*P **PKPbc 09 33 35.8 +0.9**
ASF Jabal al Asfar 148.75 294 PKPbc **PKPbc 09 33 36.1 +1.0**
comp=Z,49nm,0.8s,baz=63,slow=1.9,SNR=46
HAWK Haweek 148.75 299 *e*P **PKPbc 09 33 36.0 +1.0**
LVV L'vov 148.79 333⇑ *i*PKP2 **PKPbc 09 33 34.3 -0.2**
MARH Ras Al Marh 148.79 298 *e*P **PKPbc 09 33 36.7 +1.3**
BSEG Bad Segeberg 148.92 351 *ep*PKPbc **PKPbc 09 33 35.3 +0.7**
KARA Karaisali 149.12 304 *e*P **PKPdf 09 33 31.7 +0.3**
LEOM Leova 149.16 325⇓ *i*PKP2 **PKPbc 09 33 36.0 +0.5**
LEOM Leova 149.16 325⇓ *i*P **PKPbc 09 33 36.0 +0.5**
HWQ Hawqa 149.18 298 *e*P **PKPbc 09 33 36.3 +0.2**
BRTR Keskin Array B 149.31 309 PKPbc **PKPbc 09 33 35.6 -0.6**
comp=Z,50nm,0.7s,baz=140,slow=4.8,SNR=138
SAFT Safranbolu 149.33 313 *e*P **PKPbc 09 33 36.6 +0.5**
RCY Rachaya 149.42 297 *e*P **PKPbc 09 33 37.6 +0.8**
TCHB Talchebab 149.45 295 *e*P **PKPbc 09 33 37.4 +0.7**
KWP Kalwaria Pacla 149.47 334 *e*PKHKP PKPpre 09 33 31.8
KWP Kalwaria Pacla 149.47 334 *e*PKP **PKPbc 09 33 36.7 +0.5**
KWP Kalwaria Pacla 149.47 334 *e*PKPdf **PKPdf 09 33 31.8 +0.3**
KWP *e*PKPbc **PKPbc 09 33 36.3 +0.1**
BHL Bhannes 149.49 298 *e*P **PKPbc 09 33 37.5 +0.6**
MERS Mersin 149.64 304 *e*P **PKPdf 09 33 31.9 -0.4**
TLCR 149.66 322⇓ *i*PKP2 **PKPbc 09 33 37.5 +0.8**
TLCR 149.66 322⇓ *i*P **PKPbc 09 33 37.5 +0.8**
VAL Valentia 149.69 16⇓ *i*P **PKPbc 09 33 37.4 +0.8**
RUE Ruedersdorf 149.72 347 *e*PKPbc **PKPbc 09 33 36.9 +0.3**
AFSR Af´ar-Bala (A 149.82 309 *e*P **PKPbc 09 33 37.9 +0.4**
ANTO Ankara 149.85 310⇓ *i*PKP2 **PKPbc 09 33 38.0 +0.5**
ANTO Ankara 149.85 310⇓ *i*P **PKPbc 09 33 38.0 +0.5**
ANTO Ankara 149.85 310 PKPdf **PKPbc 09 33 38.3 +0.8**
SNR=30
ANTO Ankara 149.85 310 *e*PKPdf **PKPdf 09 33 32.8 +0.2**
ANTO *e*PKPbc **PKPbc 09 33 37.7 +0.2**
LOD Lodumlu 149.86 310 *e*P **PKPbc 09 33 37.9 +0.3**
MMAI Mount Meron Ar 149.86 296 PKPbc **PKPbc 09 33 38.4 +0.7**
comp=Z,124nm,0.7s,baz=66,slow=5.0,SNR=83
BURAR Bucovina Array 149.91 329⇓ *i*P **PKPdf 09 33 34.9 +2.5**
TESR Tescani 149.97 326⇓ *i*P **PKPbc 09 33 37.7 +0.2**
CFR Carcaliu 150.04 323⇓ *i*P **PKPdf 09 33 33.0 +0.5**
OJC Ojcow 150.07 338 *e*PKP2 **PKPbc 09 33 37.9 +0.3**
OJC Ojcow 150.07 338 *e*PKP **PKPbc 09 33 37.9 +0.3**
KOLS Kolonicke sedl 150.20 334 *e*PKP **PKPdf 09 33 33.2 +0.5**
STHS Stebnicka Huta 150.22 336 *e*PKP **PKPdf 09 33 33.8 +1.1**
TIRR Tirgusor 150.32 321 *e*PKIKP **PKPdf 09 33 32.8 -0.2**
TIRR Tirgusor 150.32 321⇓ *i*P **PKPbc 09 33 38.7 +0.3**
TIRR Tirgusor 150.32 321 *e*PKPdf **PKPdf 09 33 32.8 -0.2**
TIRR *e*PKPbc **PKPbc 09 33 38.1 -0.2**
NRDL Niedersach Rie 150.35 351 *ep*PKPbc **PKPbc 09 33 38.6 +0.5**
VRI Vrincioaia 150.36 325⇓ *i*P **PKPbc 09 33 38.5 0.0**
PLOR Plostina 150.41 325⇓ *i*PKIKP **PKPbc 09 33 38.5 -0.1**
PLOR Plostina 150.41 325⇓ *i*P **PKPbc 09 33 38.5 -0.1**
UZH Uzhgorod 150.43 333 *e*PKIKP **PKPbc 09 33 36.7 -1.8**
CRVS Cervenica-Dubn 150.55 335 *e*PKIKP **PKPdf 09 33 33.2 -0.1**
CRVS Cervenica-Dubn 150.55 335 *e*PKP **PKPdf 09 33 33.2 -0.1**
NIE Niedzica 150.56 337 *e*PKIKP **PKPbc 09 33 39.4 +0.5**
NIE Niedzica 150.56 337 *e*PKP **PKPbc 09 33 39.4 +0.5**
MANR Mangalia 150.60 320⇓ *i*P **PKPbc 09 33 39.7 +0.7**
KSP Ksiaz 150.62 343⇓ *i*PKIKP **PKPbc 09 33 39.6 +0.7**
KSP *e* 09 34 23.4
KSP Ksiaz 150.62 343 *e*PKP **PKPbc 09 33 39.7 +0.8**
EIL Elat 150.69 289 PKPbc **PKPbc 09 33 40.4 +0.7**
comp=Z,84nm,0.7s,baz=36,slow=3.0,SNR=45
MDUB Mudurnu 150.69 312 *e*P **PKPbc 09 33 39.3 -0.3**
TRPA Tarpa 150.72 333⇓ *i*P **PKPdf 09 33 34.1 +0.6**
TRPA Tarpa 150.72 333⇓ *e* **PKPbc 09 33 39.4 +0.2**
LADK Ladik-KONYA 150.81 307 *e*P **PKPbc 09 33 39.3 -0.6**
IBBN Ibbenburen 150.82 354 *ep*PKPbc **PKPbc 09 33 40.0 +0.7**
LFK Lefkose 150.87 301 *e*P **PKPbc 09 33 39.6 -0.5**

KIZT Kizilcal 150.89 309 *e*P **PKPbc 09 33 40.4 +0.3**
KONT Konya--Tatoy 150.91 307 *e*P **PKPbc 09 33 39.8 -0.2**
SVRH Sivrihisar-ESK 150.91 310 *e*P **PKPdf 09 33 32.1 -2.1**
PSN Preselentsi 150.92 320⇓ PKIKP **PKPbc 09 33 40.5 +0.7**
PSN Preselentsi 150.92 320⇓ *i*P **PKPbc 09 33 40.5 +0.7**
PSN Preselentsi 150.92 320 *i* P **PKPbc 09 33 40.1 +0.3**
CLZ Clausthal 150.95 350 *ep*PKPbc **PKPbc 09 33 40.4 +0.7**
ISR Istrita 150.95 324⇓ PKIKP **PKPbc 09 33 40.2 +0.3**
ISR Istrita 150.95 324⇓ *i*P **PKPbc 09 33 40.2 +0.3**
OKC Ostrava-Krasne 150.95 339 *e*PKIKP **PKPdf 09 33 34.3 +0.5**
OKC *e* 09 33 47.4
OKC *e* 09 34 24.1
OKC Ostrava-Krasne 150.95 339 *e*PKPDF **PKPdf 09 33 34.3 +0.5**
OKC ⇑*e*PKP **PKiKP 09 33 40.2 0.0**
OKC *e*PKPAB **PKPab 09 33 47.4 -0.3**
OKC *ep*PKP **pPKPdf 09 34 24.1 +5.9**
DOPR Dopca 150.98 327⇓ *i*P **PKPbc 09 33 40.4 +0.5**
CLL Collm 150.98 347⇓ *e*PKIKP **PKPdf 09 33 34.0 +0.2**
CLL *e* 09 34 24.0
CLL pmax pmax
comp=Z,198nm,0.8s
CLL Collm 150.98 347 *ep*PKPbc **PKPbc 09 33 40.2 +0.5**
CLL Collm 150.98 347 *e*PKPdf **PKPdf 09 33 34.0 +0.2**
CLL ⇓*i*PKPbc **PKiKP 09 33 40.1 -0.1**
comp=Z,198nm,0.8s
CLL *i* (PKiKP) 09 33 42.4
CLL *e*PKPab **PKPab 09 33 47.0 -0.7**
comp=Z,99nm,0.8s
CLL *ep*PKPbc **pPKPbc 09 34 24.0 +0.2**
CLL *ep*PKPab **pPKPab 09 34 28.0 -2.5**
CLL *es*PKiKP sPKiKP 09 34 40.0 -1.6
CLL *e*SKSP 09 47 18.0
CLL *e*PPS PPS 09 50 12.0
CLL *e* 09 52 36.0
CLL *e*SS **SS 09 56 30.0 +4.6**
CLL *e*SPS SPS 09 57 12.0
CLL Lm MLR 10 40 00.0
comp=Z,400nm,21.9s
UPC Upice 151.00 343 *e*PKIKP **PKPdf 09 33 34.0 +0.1**
UPC *e* 09 33 46.4
UPC *e* 09 34 24.4
UPC Upice 151.00 343 *e*PKPDF **PKPdf 09 33 34.0 +0.1**
UPC ⇑*e*PKP **PKiKP 09 33 40.1 -0.2**
UPC *e*PKPAB **PKPab 09 33 46.4 -1.4**
UPC *ep*PKP **pPKPdf 09 34 24.4 +6.1**
MLR Muntele Rosu 151.02 325⇓ *i*P **PKPbc 09 33 40.2 0.0**
MLR Muntele Rosu 151.02 325 PKPbc **PKPbc 09 33 39.5 -0.6**
comp=Z,18nm,1.1s,baz=90,slow=5.1,SNR=46
DPC Dobruska-Polom 151.05 342 *e*PKIKP **PKPdf 09 33 34.3 +0.3**
DPC *e* 09 33 48.0
DPC *e* 09 34 22.0
DPC Dobruska-Polom 151.05 342 *e*PKPDF **PKPdf 09 33 34.3 +0.3**
DPC ⇑*e*PKP **PKiKP 09 33 40.6 +0.1**
DPC *e*PKPAB **PKPab 09 33 48.0 -0.1**
DPC *ep*PKP **pPKPdf 09 34 22.0 +3.6**
CSS Prodhromos 151.11 301 P **PKPbc 09 33 40.2 -0.4**
CSS Prodhromos 151.11 301 *e*PKPbc **PKPbc 09 33 40.0 -0.6**
KRLC Kraliky 151.16 341 *e*PKIKP **PKPbc 09 33 40.5 +0.2**
KRLC *e* 09 33 46.8
KRLC *e* 09 34 25.2
KRLC Kraliky 151.16 341⇑ *e*PKP **PKPbc 09 33 40.5 +0.2**
KRLC *e*PKPAB **PKPab 09 33 46.8 -1.8**
KRLC *ep*PKP **pPKPdf 09 34 25.2 +6.6**
BRG Berggiesshubel 151.18 345 *e*PKP **PKPdf 09 33 34.8 +0.6**
comp=Z,46nm,1.7s
BRG *i* 09 33 40.2
comp=Z,149nm,0.7s
BRG *e* 09 33 47.8
comp=Z,63nm,0.9s
BRG *i* pPKP **pPKPdf 09 34 25.0 +6.5**
comp=Z,37nm,1.1s
BRG Berggiesshubel 151.18 345 *e*PKIKP **PKPdf 09 33 34.8 +0.6**
BRG *e* 09 33 47.8
BRG *i* 09 34 25.0
BRG pmax pmax
comp=Z,46nm,1.7s
BRG pmax pmax
comp=Z,149nm,0.7s
BRG pmax pmax
comp=Z,63nm,0.9s
BRG pmax pmax
comp=Z,37nm,1.1s
BRG Berggiesshubel 151.18 345 *ep*PKPbc **PKPbc 09 33 40.8 +0.6**
MORC Moravsky Berou 151.20 340⇑ PKIKP **PKPdf 09 33 35.7 +1.4**
MORC Moravsky Berou 151.20 340⇑ *i*P **PKPdf 09 33 35.7 +1.4**
MORC Moravsky Berou 151.20 340 *e*PKPdf **PKPdf 09 33 34.6 +0.3**
MORC *e*PKPbc **PKPbc 09 33 40.4 0.0**
WTSB Winterswijk 151.24 355 *e*PKPdf **PKPdf 09 33 34.6 +0.4**
WTSB *e*PKPbc **PKPbc 09 33 40.5 +0.2**
comp=Z,197nm,0.6s
WTSB *e*PKPab **PKPab 09 33 48.4 -0.3**
SECR 151.26 325⇓ *i*P **PKPbc 09 33 40.8 +0.2**
CJR Cluj-Napoca 151.32 330⇓ PKIKP **PKPbc 09 33 40.7 0.0**
CJR Cluj-Napoca 151.32 330⇓ *i*P **PKPbc 09 33 40.7 0.0**
PVCC Panska Ves 151.35 344 *e*PKIKP **PKPdf 09 33 33.9 -0.5**
PVCC *e* 09 33 49.1
PVCC *e* 09 34 24.1
PVCC Panska Ves 151.35 344 *e*PKPDF **PKPdf 09 33 33.9 -0.5**
PVCC ⇑*e*PKP **PKiKP 09 33 41.2 +0.2**
PVCC *e*PKPAB **PKPab 09 33 49.1 -0.2**
PVCC *ep*PKP **pPKPdf 09 34 24.1 +5.3**
LEF Lefka 151.41 301 *e*P **PKPbc 09 33 41.4 +0.1**
VOIR 151.52 326⇓ PKIKP **PKPbc 09 33 40.9 -0.4**
VOIR 151.52 326⇓ *i*P **PKPbc 09 33 40.9 -0.4**
HRT Hereke 151.55 314 *e*P **PKPbc 09 33 41.0 -0.4**
ADVT Abdulvahap 151.69 313 *e*P **PKPbc 09 33 40.5 -1.2**
BUG Bochum--Univer 151.72 354 *ep*PKPbc **PKPbc 09 33 41.7 +0.3**
ARR Arges 151.78 326⇓ *i*P **PKPbc 09 33 42.9 +1.1**
PRA Prague 151.81 344 *e*PKIKP **PKPbc 09 33 42.4 +0.8**
PRA *e* 09 33 47.5
PRA *e* 09 34 26.7
PRA Prague 151.81 344⇑ *e*PKP **PKPbc 09 33 42.4 +0.8**
PRA *ex* x 09 33 47.5
PRA *e*PKPAB **PKPab 09 33 50.7 -0.5**
PRA *ex* x 09 34 26.7
PRU Pruhonice 151.86 344 *e*PKIKP **PKPdf 09 33 35.3 +0.1**
PRU *e* 09 33 47.6
PRU *e* 09 34 26.7
PRU Pruhonice 151.86 344 *e*PKPDF **PKPdf 09 33 35.3 +0.1**
PRU ⇑*e*PKP **PKPbc 09 33 41.9 +0.1**
PRU *ex* x 09 33 47.6
PRU *e*PKPAB **PKPab 09 33 51.5 +0.1**
PRU *ex* x 09 34 26.7
VYHS Vyhne 151.87 337 *e*PKIKP **PKPdf 09 33 35.1 -0.2**
VYHS Vyhne 151.87 337 *e*PKP **PKPdf 09 33 35.1 -0.2**
MOX Moxa 151.89 348 *ep*PKPbc **PKPbc 09 33 42.2 +0.4**
VRAC Vranov 151.90 341⇓ PKIKP **PKPbc 09 33 42.6 +0.6**
VRAC Vranov 151.90 341⇓ *i*P **PKPbc 09 33 42.5 +0.6**
VRAC Vranov 151.90 341 PKPbc **PKPbc 09 33 41.8 -0.1**
comp=Z,24nm,0.9s,baz=335,slow=1.4,SNR=16
TANN Tannenbergstha 151.94 347 *ep*PKPbc **PKPbc 09 33 42.4 +0.4**
PSZ Piszkesteto 151.96 335⇓ PKIKP **PKPbc 09 33 42.3 +0.1**
PSZ Piszkesteto 151.96 335⇓ *i*P **PKPbc 09 33 42.3 +0.1**
PSZ Piszkesteto 151.96 335⇓ *e* **PKPbc 09 33 42.2 +0.1**
PSZ Piszkesteto 151.96 335 *e*PKPbc **PKPbc 09 33 41.8 -0.3**
SHUT Suhut-Afyon 151.98 309 *e*P **PKPbc 09 33 41.7 -0.9**
UBBA Unterbreizbach 152.00 350 *ep*PKPbc **PKPbc 09 33 42.1 +0.2**
ALT Altintas 152.07 311 P **PKPbc 09 33 42.6 -0.2**
ALT Altintas 152.07 311 *e*P **PKPdf 09 33 32.7 -3.3**
LOT Lotru 152.16 328⇓ *i*P **PKPbc 09 33 42.3 -0.5**
HUMR Humele 152.17 325⇑ *i*P **PKPbc 09 33 42.5 -0.2**
TREC Trest 152.24 342 *e*PKIKP **PKPdf 09 33 36.1 +0.3**
TREC Trest 152.24 342 *e*PKPDF **PKPdf 09 33 36.1 +0.3**
TREC ⇑*e*PKP **PKiKP 09 33 43.0 +0.1**
TREC *ex* x 09 33 48.2
TREC *e*PKPAB **PKPab 09 33 52.6 -0.5**
ISP Isparta 152.29 308 P **PKPbc 09 33 42.7 -0.6**
ISP Isparta 152.29 308⇓ PKIKP **PKPbc 09 33 42.7 -0.6**
ISP Isparta 152.29 308⇓ *i*P **PKPbc 09 33 42.7 -0.6**
ISP Isparta 152.29 308 *e*PKPbc **PKPbc 09 33 42.3 -1.0**
TVSB Tavsanli 152.34 312 *e*P **PKPbc 09 33 43.5 +0.2**
BEBN Eben Emael 152.48 356 PKPbc **PKPbc 09 33 43.8 +0.7**
BEBN PKPab **PKPab 09 33 53.9 -0.1**
HGN Heimansgroeve 152.50 356 *e*PKPdf **PKPdf 09 33 36.6 +0.5**
HGN *e*PKPbc **PKiKP 09 33 43.4 0.0**
comp=Z,50nm,0.8s
HGN *e*PKP

ROTZ	Rotzenmuhle	152.61	347	*e*PKPbc	PKPbc	09 33 44.0	+0.5
BUD	Budapest	152.65	336	⇓*e*	PKPbc	09 33 44.0	+0.4
MEM	Membach	152.65	356	PKPbc	PKPbc	09 33 43.9	+0.3
GZR	Gura Zlata	152.68	329	⇓PKIKP	PKPbc	09 33 43.5	-0.3
GZR	Gura Zlata	152.68	329	⇓*i*P	PKPbc	09 33 43.5	-0.3
KCTX	Karacabey (Bur	152.69	314	*e*P	PKPdf	09 33 36.0	-0.8
TNS	Taunus Mts	152.80	352	*e*pPKPbc	PKPbc	09 33 44.4	+0.5
PKSN	Nyarlorinc	152.80	334	⇓*e*	PKPbc	09 33 44.5	+0.6
SNF	Seneffe	152.84	358	PKPbc	PKPbc	09 33 44.3	+0.4
SNF				PKPab	PKPab	09 33 55.5	0.0
EDRB	Edirne	152.85	319	P	PKPbc	09 33 43.5	-0.7
GRF	Grafenberg Arr	152.88	348	*e*pPKPbc	PKPbc	09 33 44.5	+0.4
GRFO	Grafenberg	152.88	348	*e*PKIKP	PKPbc	09 33 44.2	+0.1
GRFO	Grafenberg	152.88	348	*e*PKPbc	PKPbc	09 33 44.2	+0.1
BCLA	Clavier	152.88	357	PKPbc	PKPbc	09 33 44.4	+0.4
BCLA				PKPab	PKPab	09 33 55.4	-0.3
KHC	Kasperske Hory	152.89	345	*e*PKIKP	PKPdf	09 33 36.8	0.0
KHC				*e*		09 33 54.9	
KHC				*e*		09 34 27.4	
KHC	Kasperske Hory	152.89	345	*e*PKPDF	PKPdf	09 33 36.8	0.0
KHC			⇑	*e*PKP	PKPbc	09 33 44.2	0.0
KHC				*ex*	x	09 33 49.8	
KHC				*e*PKPAB	PKPab	09 33 54.9	-1.0
KHC				*e*pPKP	pPKPdf	09 34 27.4	+6.2
KHC	Kasperske Hory	152.89	345	*e*PKPdf	PKPdf	09 33 36.8	0.0
KHC				*e*PKPbc	PKPbc	09 33 44.1	-0.1
KHC				*e*PKPab	PKPab	09 33 55.9	+0.1
PKS7	Kunszentmiklos	152.96	335	⇓*e*	PKPbc	09 33 44.0	-0.3
PKSG		152.96	336	⇓*e*	PKPbc	09 33 43.7	-0.6
SRE	Strehaia	153.00	327	⇓PKIKP	PKPbc	09 33 45.6	+1.1
SRE	Strehaia	153.00	327	⇓*i*P	PKPbc	09 33 45.6	+1.1
MRMT	Marmara Adasi	153.01	316	*e*P	PKPbc	09 33 43.8	-0.9
WET	Wettzell	153.05	345	*e*pPKPbc	PKPbc	09 33 44.7	+0.2
WET				*e*PKPab	PKPab	09 33 56.6	+0.1
BZS	Buzias	153.06	330	⇓PKIKP	PKPbc	09 33 44.8	+0.2
BZS	Buzias	153.06	330	⇓*i*P	PKPbc	09 33 44.8	+0.2
GEC2	GERESS Array S	153.13	344	*e*pPKPbc	PKPbc	09 33 45.0	+0.2
GEC2				*e*PKPab	PKPab	09 33 56.9	0.0
GERES	GERESS Array B	153.13	344	PKP	PKPdf	09 33 37.4	+0.2
	comp=Z,3.1nm,0.8s,baz=135,slow=0.6,SNR=23						
GERES				PKPbc	PKPbc	09 33 44.6	-0.1
	comp=Z,13nm,0.7s,baz=29,slow=2.1,SNR=40						
ELL	Elmali	153.16	306	*e*P	PKPbc	09 33 45.1	-0.1
PKS6	Bocsa	153.16	334	⇓*e*	PKPbc	09 33 44.6	-0.1
PKST	T`s	153.20	337	⇓*e*PKPdf	PKPbc	09 33 44.7	-0.2
DOU	Dourbes	153.24	358	PKPbc	PKPbc	09 33 45.3	+0.5
DOU				PKPab	PKPab	09 33 57.1	-0.1
KULA	Kula-Manisa	153.33	311	P	PKPbc	09 33 45.8	+0.3
SOP	Sopron	153.35	339	⇓*e*	PKPbc	09 33 45.7	+0.6
CONA	Conrad Observa	153.35	340	*i* PKPdf	PKPdf	09 33 37.8	+0.2
	comp=Z,15nm,1.6s,SNR=5.0						
CONA				⇓*i*PKIKP	PKiKP	09 33 45.7	+0.4
	comp=Z,31nm,0.8s						
CONA				⇓*i*PKPab	PKPab	09 33 58.4	+0.5
	comp=Z,73nm,2.0s						
PKS2	Kecel	153.39	334	*e*	PKPbc	09 33 44.9	-0.3
WLF	Walferdange	153.58	355	PKPbc	PKPbc	09 33 46.9	+1.3
WLF				PKPab	PKPab	09 33 59.1	+0.4
WLF	Walferdange	153.58	355	*e*PKIKP	PKPbc	09 33 46.1	+0.5
WLF				*e*		09 33 58.5	
WLF	Walferdange	153.58	355	*e*pPKPbc	PKPbc	09 33 46.4	+0.8
WLF				*e*PKPab	PKPab	09 33 58.9	+0.2
WLF	Walferdange	153.58	355	*e*PKPbc	PKPbc	09 33 46.1	+0.5
WLF				*e*PKPab	PKPab	09 33 58.5	-0.2
MPEP	Malo Peshtene	153.62	324	*i* P	PKPbc	09 33 46.4	+0.5
PKS9	Tamasi	153.68	336	⇓*e*	PKPbc	09 33 45.4	-0.5
KDZ	Kurdzhali	153.77	320	⇑PKIKP	PKPbc	09 33 46.4	+0.1
KDZ	Kurdzhali	153.77	320	⇑*i*P	PKPbc	09 33 46.4	+0.1
ALN	Alexandroupoli	153.83	318	P	PKPbc	09 33 45.9	-0.5
ALN	Alexandroupoli	153.83	318	*e*P	PKPbc	09 33 45.9	-0.5
MOA	Molln	153.89	342	⇑*i*PKPdf	PKPdf	09 33 38.1	-0.1
	comp=Z,8.1nm,1.1s						
MOA				⇑*i*PKPab	PKPab	09 34 00.6	+0.4
	comp=Z,54nm,1.4s						
PLD	Plovdiv	153.91	321	*i* P	PKPdf	09 33 41.5	+3.1
RDO	Rodhopi	154.00	318	P	PKPbc	09 33 46.5	-0.2
RDO	Rodhopi	154.00	318	*e*P	PKPbc	09 33 46.8	+0.1
LANF	Langenberg	154.09	353	PKP	PKPab	09 34 00.7	-0.2
STU	Stuttgart	154.11	350	*e*pPKPbc	PKPbc	09 33 47.1	+0.3
STU				*e*PKPab	PKPab	09 34 00.7	-0.3
FUR	Furstenfeldbru	154.32	347	*e*pPKPbc	PKPbc	09 33 47.5	+0.2
FUR				*e*PKPab	PKPab	09 34 01.9	0.0
BEHE	Becsehely	154.33	338	⇓*e*PKPdf	PKPbc	09 33 47.6	+0.3
RJOB	Jochberg	154.38	344	*e*pPKPbc	PKPbc	09 33 47.3	-0.1
RJOB				*e*PKPab	PKPab	09 34 02.7	+0.4
SMTH	Samothraki Isl	154.39	317	*e*P	PKPbc	09 33 47.1	-0.5
VTS	Vitosha	154.43	324	⇓PKIKP	PKPdf	09 33 41.3	+1.9
VTS	Vitosha	154.43	324	⇓*i*P	PKPdf	09 33 41.3	+1.9
VTS	Vitosha	154.43	324	*i* P	PKPbc	09 33 47.6	-0.2
FLN	La Foliniere	154.47	5	*e*PKIKP	PKPdf	09 33 38.3	-0.7
FLN	La Foliniere	154.47	5	*e*PKIKP	PKPdf	09 33 38.3	-0.7
FLN	La Foliniere	154.47	5	*e*PKPdf	PKPdf	09 33 38.3	-0.7
KOGS	Kog	154.53	338	*i* PKPdf	PKPdf	09 33 38.8	-0.3
KOGS				*i*		09 33 52.6	
KOGS				*i* PKPab	PKPab	09 34 02.4	-0.4
ROSF	Rostrenen	154.55	10	*e*PKIKP	PKPdf	09 33 38.0	-1.1
	comp=Z,40nm,1.1s						
ROSF	Rostrenen	154.55	10	*e*PKIKP	PKPdf	09 33 38.0	-1.1
ROSF	Rostrenen	154.55	10	*e*PKPdf	PKPdf	09 33 38.0	-1.1
LDF	La Druitiere	154.66	5	*e*PKIKP	PKPdf	09 33 38.6	-0.7
LDF	La Druitiere	154.66	5	*e*PKIKP	PKPdf	09 33 38.6	-0.7
LDF	La Druitiere	154.66	5	*e*PKPdf	PKPdf	09 33 38.6	-0.7
BFO	Black Forest	154.67	352	*e*PKIKP	PKPdf	09 33 39.1	-0.3
BFO	Black Forest	154.67	352	*e*pPKPbc	PKPbc	09 33 48.3	+0.3
BFO				*e*PKPab	PKPab	09 34 03.0	-0.4
BFO	Black Forest	154.67	352	*e*PKPdf	PKPdf	09 33 39.1	-0.3
BFO				*e*PKPbc	PKPbc	09 33 47.5	-0.4
KAVA	Kavala	154.70	319	*e*P	PKPdf	09 33 42.1	+2.5
PAGF	Fort de Pagny	154.71	356	*e*PKIKP	PKPdf	09 33 38.3	-1.1
	comp=Z,3.6nm,0.6s						
PAGF	Fort de Pagny	154.71	356	*e*PKPdf	PKPdf	09 33 38.3	-1.1
SOKA	Soboth	154.72	340	*i* PKPdf	PKPdf	09 33 38.9	-0.7
	comp=Z,20nm,1.6s,SNR=9.1						
SOKA				⇓*i*PKPab	PKPab	09 34 04.1	+0.3
	comp=Z,45nm,1.7s						
MMB	Musomiste	154.80	321	⇓PKIKP	PKPbc	09 33 48.0	-0.5
MMB	Musomiste	154.80	321	⇓*i*P	PKPbc	09 33 48.0	-0.5
MMB	Musomiste	154.80	321	*i* P	PKPbc	09 33 47.9	-0.5
GRR	Gorron	154.80	6	*e*PKIKP	PKPdf	09 33 36.8	-2.7
	comp=Z,23nm,0.8s						
GRR	Gorron	154.80	6	*e*PKIKP	PKPdf	09 33 36.8	-2.7
GRR	Gorron	154.80	6	*e*PKPdf	PKPdf	09 33 36.8	-2.7
MEZF	Maizieres J'vi	154.81	357	*e*PKIKP	PKPdf	09 33 39.5	0.0
MEZF	Maizieres J'vi	154.81	357	*e*PKPdf	PKPdf	09 33 39.5	0.0
KBA	Koelnbreinsper	154.85	343	⇑*i*PKPdf	PKPdf	09 33 39.3	-0.5
	comp=Z,15nm,1.2s						
KBA				⇑*i*PKiKP	PKiKP	09 33 52.4	+3.8
	comp=Z,22nm,0.8s						
KBA				⇑*i*PKPab	PKPab	09 34 04.9	+0.5
	comp=Z,56nm,1.8s						
NVR	Nevrokopi	154.87	321	*e*P	PKPbc	09 33 48.1	-0.6
ECH	Echery	154.92	353	PKP	PKPab	09 34 04.2	-0.3
KKB	Krupnik	154.98	322	*i* P	PKPbc	09 33 48.8	0.0
THEF	They Montfort	155.02	355	PKP	PKPab	09 34 04.6	-0.3
OBKA	Obir	155.02	341	⇑*i*PKPdf	PKPdf	09 33 40.9	+0.9
	comp=Z,4.5nm,0.8s						
WATA	Walderalm	155.04	346	⇑*i*PKPdf	PKPdf	09 33 39.9	-0.1
	comp=Z,12nm,1.0s						
WATA				⇑*i*PKPab	PKPab	09 34 05.2	0.0
	comp=Z,66nm,1.2s						
RETA	Reutte	155.07	347	⇑*i*PKPdf	PKPdf	09 33 39.8	-0.2
	comp=Z,11nm,1.2s						
RETA				⇑*i*PKPab	PKPab	09 34 05.1	-0.1
	comp=Z,61nm,1.2s,SNR=6.4						
WTTA	Wattenberg	155.10	346	⇑*i*PKPdf	PKPdf	09 33 40.0	-0.2
	comp=Z,29nm,1.6s						
WTTA				⇑*i*PKiKP	PKiKP	09 33 49.4	
	comp=Z,35nm,1.2s						
WTTA				⇑*i*PKPab	PKPab	09 34 05.7	+0.3
	comp=Z,56nm,0.9s						
SFTF	Sexfontaines	155.10	357	*e*PKIKP	PKPdf	09 33 39.8	-0.1
SFTF	Sexfontaines	155.10	357	*e*PKPdf	PKPdf	09 33 39.8	-0.1
MOTA	Moosalm	155.14	347	⇑*i*PKPdf	PKPdf	09 33 39.9	-0.3
	comp=Z,14nm,1.0s						
MOTA				⇑*i*PKiKP	PKiKP	09 33 49.1	
	comp=Z,14nm,0.8s						
MOTA				⇑*i*PKPab	PKPab	09 34 05.6	0.0
	comp=Z,29nm,0.6s						
MYKA	Terra Mystica	155.18	342	⇓*i*PKPdf	PKPdf	09 33 39.3	-0.9
	comp=Z,9.0nm,1.0s						
MYKA				⇑*i*PKPab	PKPab	09 34 05.0	-0.7
	comp=Z,29nm,1.2s						
CHOS	Chios island	155.18	313	*e*P	PKPdf	09 33 49.5	+9.1
HAU	Haudompre	155.21	354	*e*PKIKP	PKPdf	09 33 39.6	-0.5
HAU	Haudompre	155.21	354	*e*PKIKP	PKPdf	09 33 39.6	-0.5
HAU	Haudompre	155.21	354	*e*PKPdf	PKPdf	09 33 39.6	-0.5
MOF	Molkenrain	155.28	353	PKP	PKPab	09 34 05.7	-0.4
HINF	Hinteralfeld	155.35	354	*e*PKIKP	PKPdf	09 33 39.7	-0.6
HINF	Hinteralfeld	155.35	354	*e*PKIKP	PKPdf	09 33 39.7	-0.6
HINF	Hinteralfeld	155.35	354	*e*PKPdf	PKPdf	09 33 39.7	-0.6
ABTA	Abfaltersbach	155.37	344	*i* PKPdf	PKPdf	09 33 39.8	-0.6
	comp=Z,27nm,0.9s,SNR=11						
ABTA				⇓*i*PKPab	PKPab	09 34 06.4	-0.2
	comp=Z,33nm,0.9s						
DAVA	Damuels	155.44	349	⇑*i*PKPdf	PKPdf	09 33 40.8	+0.2
	comp=Z,6.7nm,0.8s						
DAVA				⇑*i*PKPab	PKPab	09 34 06.7	-0.2
	comp=Z,26nm,0.7s						
LJU	Ljubljana	155.45	340	*i* PKPdf	PKPdf	09 33 40.4	0.0
FETA	Feichten	155.53	347	⇑*i*PKPdf	PKPdf	09 33 40.9	+0.1
	comp=Z,27nm,1.0s,SNR=13						
FETA				⇑*i*PKPab	PKPab	09 34 07.4	+0.1
	comp=Z,45nm,1.2s						
FETA	Feichten	155.53	347	P	PKPdf	09 33 50.0	+9.2
	comp=Z,24nm,0.9s						
KNT	Kendrikon	155.55	321	*e*P	PKPab	09 33 54.5	-13
VAY	Valandovo	155.63	322	*e*PKP	PKPdf	09 33 42.5	+1.7
VAY				*e*PKP	PKPab	09 34 07.3	-0.4
BOJS	Bojanci	155.69	339	*i* PKPdf	PKPdf	09 33 40.8	+0.1
SKO	Skopje	155.81	325	*e*PKP	PKPdf	09 33 42.8	+1.7
LOMF	Lomont	155.81	353	PKP	PKPab	09 34 08.3	-0.1
DAVOX	Davos/Dischmat	155.92	348	PKP	PKPdf	09 33 41.7	+0.4
	comp=Z,9.6nm,1.0s,baz=158,slow=0.8,SNR=12						
DAVOX				PKPbc	PKPbc	09 33 51.4	
	comp=Z,10nm,0.7s,baz=340,slow=6.9,SNR=10.0						
DAVOX				PKPab	PKPab	09 34 08.4	-0.6
	comp=Z,31nm,1.0s,baz=45,slow=2.2,SNR=10						
GRG	Griva	155.97	322	*e*P	PKPdf	09 33 51.5	+10
LOR	Lormes	156.09	358	*e*PKIKP	PKPdf	09 33 41.0	-0.3
	comp=Z,83nm,1.4s						
LOR	Lormes	156.09	358	*e*PKIKP	PKPdf	09 33 41.0	-0.3
LOR	Lormes	156.09	358	*e*PKPdf	PKPdf	09 33 41.0	-0.3
SSF	Saint Saulge	156.30	359	*e*PKIKP	PKPdf	09 33 41.4	-0.1
	comp=Z,49nm,1.2s						
SSF	Saint Saulge	156.30	359	*e*PKP1	PKPdf	09 33 51.3	+10
SSF	Saint Saulge	156.30	359	*e*PKP2	PKPab	09 34 10.3	-0.1
SSF	Saint Saulge	156.30	359	*e*PKIKP	PKPdf	09 33 41.4	-0.1
SSF				*e*		09 33 51.3	
SSF				*e*		09 34 10.3	
SSF	Saint Saulge	156.30	359	*e*PKPdf	PKPdf	09 33 41.4	-0.1
SSF				*e*PKPbc	PKPbc	09 33 51.3	
SSF				*e*PKPab	PKPab	09 34 10.3	-0.1
TUE	Stuetta	156.32	349	*e*PKPdf	PKPdf	09 33 41.2	-0.7
AVF	Avril sur Loir	156.58	359	*e*PKPbc	PKPdf	09 33 41.4	-0.5
AVF	Avril sur Loir	156.58	359	*e*PKIKP	PKPdf	09 33 41.4	-0.5
AVF	Avril sur Loir	156.58	359	*e*PKPdf	PKPdf	09 33 41.4	-0.5
CABF	La Chapelle	156.62	354	*e*PKIKP	PKPdf	09 33 42.2	+0.1
	comp=Z,46nm,1.0s						
CABF	La Chapelle	156.62	354	*e*PKIKP	PKPdf	09 33 42.2	+0.1
CABF	La Chapelle	156.62	354	*e*PKPdf	PKPdf	09 33 42.2	+0.1
FNA	Florina	156.66	323	*e*P	PKPdf	09 33 41.9	-0.4
SMF	Signal de Mont	156.71	358	*e*PKIKP	PKPdf	09 33 41.8	-0.3
	comp=Z,37nm,1.2s						
SMF	Signal de Mont	156.71	358	*e*PKIKP	PKPdf	09 33 41.8	-0.3
SMF	Signal de Mont	156.71	358	*e*PKPdf	PKPdf	09 33 41.8	-0.3
BGF	Bois d'Agland	156.81	0	*e*PKIKP	PKPdf	09 33 42.1	-0.1
BGF	Bois d'Agland	156.81	0	*e*PKIKP	PKPdf	09 33 42.1	-0.1
BGF	Bois d'Agland	156.81	0	*e*PKPdf	PKPdf	09 33 42.1	-0.1
TCF	Toulx Ste Croi	157.07	1	*e*PKIKP	PKPdf	09 33 42.3	-0.3
	comp=Z,48nm,1.2s						
TCF	Toulx Ste Croi	157.07	1	*e*PKIKP	PKPdf	09 33 42.3	-0.3
TCF	Toulx Ste Croi	157.07	1	*e*PKPdf	PKPdf	09 33 42.3	-0.3
NEST	Nestorio	157.09	322	*e*P	PKPdf	09 33 45.4	+2.5
AGO	Saint Agoulin	157.32	360	PKP	PKPab	09 34 14.7	-0.1
PLDF	La Plantade	157.39	359	PKP	PKPab	09 34 15.2	0.0
RSL	Roselend	157.48	353	PKP	PKPab	09 34 15.8	+0.1
PYM	Petit Puy Mans	157.62	360	PKP	PKPab	09 34 16.1	-0.1
LPL	La Plagne	157.63	353	*e*PKIKP	PKPdf	09 33 43.5	-0.1
LPL	La Plagne	157.63	353	*e*PKIKP	PKPdf	09 33 43.5	-0.1
LPL	La Plagne	157.63	353	*e*PKPdf	PKPdf	09 33 43.5	-0.1
LPG	La Plagne	157.65	353	*e*PKIKP	PKPdf	09 33 43.6	-0.1
LPG	La Plagne	157.65	353	*e*PKIKP	PKPdf	09 33 43.6	-0.1
LPG	La Plagne	157.65	353	*e*PKPdf	PKPdf	09 33 43.6	-0.1
GUR	Goura	157.88	316	*e*P	PKPdf	09 33 50.3	+6.3
RJF	Les Rejaudoux	158.04	3	*e*PKIKP	PKPdf	09 33 43.5	-0.3
	comp=Z,64nm,1.5s						
RJF	Les Rejaudoux	158.04	3	*e*PKIKP	PKPdf	09 33 43.5	-0.3
RJF	Les Rejaudoux	158.04	3	*e*PKPdf	PKPdf	09 33 43.5	-0.3
BNI	Bardonecchia	158.10	353	*e*PKIKP	PKPdf	09 33 44.2	+0.1
BNI	Bardonecchia	158.10	353	*e*PKPdf	PKPdf	09 33 44.2	+0.1
LBL	Lubilhac	158.14	359	PKP	PKPab	09 34 18.5	0.0
OG22	Abries	158.29	352	PKP	PKPab	09 34 19.3	0.0
ORIF	Oris-en-Rattie	158.31	354	*e*PKIKP	PKPdf	09 33 44.1	-0.2
	comp=Z,9.8nm,0.8s						
ORIF	Oris-en-Rattie	158.31	354	*e*PKIKP	PKPdf	09 33 44.1	-0.2
ORIF	Oris-en-Rattie	158.31	354	*e*PKPdf	PKPdf	09 33 44.1	-0.2
LFF	La Frestale	158.36	4	*e*PKIKP	PKPdf	09 33 44.6	+0.4
LFF	La Frestale	158.36	4	*e*PKIKP	PKPdf	09 33 44.6	+0.4
LFF	La Frestale	158.36	4	*e*PKPdf	PKPdf	09 33 44.6	+0.4
MBDF	Montbardon	158.41	352	*e*PKIKP	PKPdf	09 33 44.2	-0.3
	comp=Z,19nm,1.0s						
MBDF	Montbardon	158.41	352	*e*PKIKP	PKPdf	09 33 44.2	-0.3
MBDF	Montbardon	158.41	352	*e*PKPdf	PKPdf	09 33 44.2	-0.3
CAF	Calviac	158.43	2	*e*PKIKP	PKPdf	09 33 44.4	+0.1
CAF	Calviac	158.43	2	*e*PKIKP	PKPdf	09 33 44.4	+0.1
CAF	Calviac	158.43	2	*e*PKPdf	PKPdf	09 33 44.4	+0.1
VIVF	Saint-Julien-l	158.47	357	*e*PKIKP	PKPdf	09 33 44.4	0.0
	comp=Z,21nm,1.1s						
VIVF	Saint-Julien-l	158.47	357	*e*PKIKP	PKPdf	09 33 44.4	0.0
VIVF	Saint-Julien-l	158.47	357	*e*PKPdf	PKPdf	09 33 44.4	0.0
OG26	St.-Nazaire-De	158.70	355	PKP	PKPab	09 34 21.3	+0.4
OG25	Le Caire	158.84	354	PKP	PKPab	09 34 20.9	-0.7
PYL	PYLOS	158.87	314	*e*P	PKPdf	09 33 50.9	+5.9
SBF	Sospel	159.17	351	*e*PKIKP	PKPdf	09 33 44.5	-0.8
	comp=Z,72nm,1.2s						
SBF	Sospel	159.17	351	*e*PKIKP	PKPdf	09 33 44.5	-0.8
SBF	Sospel	159.17	351	*e*PKPdf	PKPdf	09 33 44.5	-0.8
SMRF	Simiane la Rot	159.28	355	*e*PKIKP	PKPdf	09 33 45.6	+0.2
	comp=Z,51nm,1.2s						
SMRF	Simiane la Rot	159.28	355	*e*PKPdf	PKPdf	09 33 45.6	+0.2
LASF	Ste Croix	159.28	358	*e*PKIKP	PKPdf	09 33 45.5	+0.2
LASF	Ste Croix	159.28	358	*e*PKPdf	PKPdf	09 33 45.5	+0.2
PCAB	Cabril	159.51	24	*e*PKPab	PKPab	09 34 25.0	+0.5
LMR	La Mourre	159.81	352	*e*PKIKP	PKPdf	09 33 45.5	-0.4
LMR	La Mourre	159.81	352	*e*PKIKP	PKPdf	09 33 45.5	-0.4
LMR	La Mourre	159.81	352	*e*PKPdf	PKPdf	09 33 45.5	-0.4
PBRG	Braganca	159.88	21	PKPab	PKPab	09 34 25.7	-0.4
POLO	Lamas de Olo	159.89	24	*e*PKPab	PKPab	09 34 26.6	+0.4
SJPF	Ste Jean	159.96	9	*e*PKIKP	PKPdf	09 33 46.5	+0.4
	comp=Z,24nm,1.1s						
SJPF	Ste Jean	159.96	9	*e*PKIKP	PKPdf	09 33 46.5	+0.4
SJPF	Ste Jean	159.96	9	*e*PKPdf	PKPdf	09 33 46.5	+0.4
PVRL	Vila Real	160.00	24	*e*PKPab	PKPab	09 34 27.0	+0.3
MTLF	Montolieu	160.02	1	*e*PKIKP	PKPdf	09 33 46.0	-0.2
	comp=Z,14nm,0.9s						
MTLF	Montolieu	160.02	1	*e*PKIKP	PKPdf	09 33 46.0	-0.2
MTLF	Montolieu	160.02	1	*e*PKPdf	PKPdf	09 33 46.0	-0.2
PGF	Pioggiola	160.16	347	*e*PKIKP	PKPdf	09 33 45.2	-1.3
	comp=Z,30nm,1.1s						
PGF	Pioggiola	160.16	347	*e*PKIKP	PKPdf	09 33 45.2	-1.3
PGF	Pioggiola	160.16	347	*e*PKPdf	PKPdf	09 33 45.2	-1.3
EPF	Esparros	160.22	6	*e*PKIKP	PKPdf	09 33 46.5	0.0
	comp=Z,28nm,1.1s						
EPF	Esparros	160.22	6	*e*PKIKP	PKPdf	09 33 46.5	0.0
EPF	Esparros	160.22	6	*e*PKPdf	PKPdf	09 33 46.5	0.0
ETSF	Etsaut	160.26	8	*e*PKIKP	PKPdf	09 33 46.9	+0.4
	comp=Z,13nm,0.8s						
ETSF	Etsaut	160.26	8	*e*PKIKP	PKPdf	09 33 46.9	+0.4
ETSF	Etsaut	160.26	8	*e*PKPdf	PKPdf	09 33 46.9	+0.4
TIP	Timpagrande	160.28	327	*e*PKPdf	PKPdf	09 33 46.5	-0.2
MVO	Moncorvo	160.35	23	*e*PKPdf	PKPdf	09 33 49.1	+2.4
MVO	Moncorvo	160.35	23	*e*PKPab	PKPab	09 34 28.6	+0.4
PVIS	Viseu	160.41	25	PKPdf	PKPdf	09 33 47.5	+0.7
PVIS	Viseu	160.41	25	*e*PKPab	PKPab	09 34 28.7	+0.2
PCAS	Casmilo, Conde	160.73	27	*e*PKPab	PKPab	09 34 30.1	+0.2
MTE	Manteigas	160.82	25	*e*PKPdf	PKPdf	09 33 48.3	+1.1
MTE	Manteigas	160.82	25	*e*PKPab	PKPab	09 34 30.3	0.0
PTOM	Tomar	161.13	28	*e*PKPdf	PKPdf	09 33 48.3	+0.8
PCBR	Castelo Branco	161.33	26	*e*PKPdf	PKPdf	09 33 48.9	+1.2
PCBR	Castelo Branco	161.33	26	*e*PKPab	PKPab	09 34 32.3	-0.1
LIC	Lamto	161.37	155	*e*PKIKP	PKPdf	09 33 48.5	0.0
	comp=Z,12nm,0.7s						
LIC	Lamto	161.37	155	*e*PKIKP	PKPdf	09 33 48.3	-0.2
	comp=Z,15nm,0.6s						
LIC	Lamto	161.37	155	*e*PKPdf	PKPdf	09 33 48.5	0.0
KIC	Kosan Boka	161.61	155	*e*PKIKP	PKPdf	09 33 48.6	-0.2
	comp=Z,82nm,1.7s						
PMTG	Montargil	161.66	29	*e*PKPab	PKPab	09 34 32.5	-1.4
PMRV	Marv??o	161.72	26	PKPab	PKPab	09 34 33.9	-0.3
TIC	Toumodi	161.75	154	*e*PKIKP	PKPdf	09 33 48.7	-0.2
	comp=Z,6.8nm,0.2s						
DBIC	Dimbokro	161.84	155	PKP	PKPdf	09 33 49.2	+0.3
	comp=Z,5.1nm,0.6s,baz=147,slow=2.3,SNR=11						
DBIC				PKPab	PKPab	09 34 36.8	+1.5
	comp=Z,4.6nm,0.6s,baz=148,slow=7.1,SNR=5.3						
EVOP	Sao Brissos	162.15	29	*e*PKIKP	PKPdf	09 33 48.5	-0.1
EVOP	Sao Brissos	162.15	29	*e*PKPdf	PKPdf	09 33 48.5	-0.1
EVO	Evora	162.20	29	*e*PKIKP	PKPdf	09 33 48.5	-0.1
	comp=Z,16nm,0.8s						
MESJ	Messejana	162.67	31	*e*PKPdf	PKPdf	09 33 50.5	+1.4
MESJ	Messejana	162.67	31	*e*PKPab	PKPab	09 34 40.2	+1.8
ESDC	Sonseca Array	162.69	18	PKP	PKPdf	09 33 50.2	+1.1
	comp=Z,0.4nm,0.4s,baz=347,slow=3.3,SNR=8.0						
ESDC				PKP

comp=E,608nm,20.5s,baz=162,slow=31
BDFB Brasilia 35.28 44 P **P 09 39 16.8 -1.5**
comp=E,6.2nm,0.8s,baz=175,slow=3.6,SNR=6.5
BDFB LR LR 09 55 05.0
comp=E,4µm,18.7s,baz=193,slow=38
SAML Samuel 35.98 16 *e*P **P 09 39 22.5 -1.6**
comp=E,20nm,1.0s
ATAH Atahualpa 37.13 351 P **P 09 39 34.3 -0.2**
comp=E,4.6nm,0.7s,baz=185,slow=4.4,SNR=5.5
VNA2 Neumayer--Watz 41.10 153 P **P 09 40 05.4 -1.3**
baz=287,slow=9.7
SNAA Sanae 42.61 154 P **P 09 40 18.5 -0.5**
SNAA Sanae 42.61 154⇓*e*P P 09 40 22.5 +3.4
SNAA pmax pmax
comp=Z,45nm,1.4s
SNAA Sanae 42.61 154 P **P 09 40 18.6 -0.5**
comp=Z,8.9nm,1.2s,baz=318,slow=9.3,SNR=3.0
SNAA LR LR 09 58 33.2
comp=Z,72nm,18.0s,baz=281,slow=37
SNAA Sanae 42.61 154 *e*P **P 09 40 18.8 -0.3**
comp=Z,45nm,1.3s
OTAV Otavalo 44.42 352 *e*P **P 09 40 34.5 -0.2**
comp=Z,48nm,1.5s
QSPA South Pole Qui 46.16 180 P **P 09 40 47.8 +0.2**
comp=Z,14nm,1.0s,baz=158,slow=2.5,SNR=28
ROSC El Rosal 48.74 358 P **P 09 41 08.8 +0.3**
comp=Z,14nm,0.7s,baz=102,slow=7.7,SNR=10.0
ROSC LR LR 10 01 32.1
comp=Z,1µm,18.1s,baz=190,slow=36
VNDA Vanda 54.13 193 P **P 09 41 49.7 +2.0**
comp=Z,9.8nm,1.1s,baz=104,slow=7.8,SNR=3.7
VNDA LR LR 10 03 05.0
comp=Z,514nm,18.1s,baz=138,slow=34
JTS JuntasAbangare 55.24 345*c i*P **P 09 41 55.8 -0.6**
JTS pmax pmax
comp=Z,61nm,2.0s
JTS JuntasAbangare 55.24 345 LR LR 10 01 28.6
comp=Z,389nm,18.6s,baz=176,slow=32
ICMP Isla Caja de M 61.93 7 *e*P **P 09 42 41.9 -1.0**
SJG San Juan 62.19 7 *e*P **P 09 42 43.1 -1.6**
SJG San Juan 62.19 7 *e*P **P 09 42 43.0 -1.6**
MAW Mawson 63.70 163 LR LR 10 10 50.9
comp=Z,753nm,19.1s,baz=224,slow=36
GTBY Guantanamo Bay 63.73 358 *e*P **P 09 42 54.4 -0.5**
comp=Z,32nm,0.8s
TBI Tubuai 64.82 261 *e*LR LR 10 02 29.0
comp=Z,595nm,28.2s
035A Encino 74.40 337 ⇓P **P 09 44 00.4 -0.6**
baz=75
034A Hebbronville 74.68 336 ⇑P **P 09 44 02.5 -0.2**
baz=75,SNR=8.2
934A Benavides 75.14 336 ⇑P **P 09 44 05.5 +0.2**
baz=76
933A Laredo 75.37 336 ⇓P **P 09 44 07.2 +0.5**
baz=76
738A Farr-Stevens R 75.54 339 ⇓P **P 09 44 08.4 +0.8**
baz=76
835A Beeville 75.59 337 ⇑P **P 09 44 08.2 +0.3**
baz=76
834A Tilden 75.64 337 ⇓P **P 09 44 08.4 +0.2**
baz=76,SNR=14
BOSA Boshof 75.99 116 P **P 09 44 10.2 -0.5**
comp=Z,4.7nm,0.9s,baz=216,slow=6.0,SNR=4.3
BOSA LR LR 10 14 38.6
comp=Z,429nm,18.4s,baz=223,slow=33
833A Chaparral WMA, 76.08 336 ⇑P **P 09 44 10.3 -0.4**
baz=76,SNR=10
735A Kenedy 76.13 338 ⇑P **P 09 44 10.9 -0.1**
baz=76
832A Faith Ranch, C 76.21 335 ⇑P **P 09 44 10.7 -0.8**
baz=77,SNR=6.8
734A La Parita Cree 76.33 337 ⇑P **P 09 44 12.2 +0.1**
baz=77
636A Smothers Creek 76.52 338 ⇑P **P 09 44 13.0 -0.1**
baz=77,SNR=11
635A Leesville 76.62 338 ⇓P **P 09 44 13.2 -0.6**
baz=77
732A Laxson Ranch, 76.63 336 ⇑P **P 09 44 13.3 -0.6**
baz=77,SNR=15
HKT Hockley 76.64 340 *e*P **P 09 44 14.0 +0.2**
HKT pmax pmax
comp=Z,42nm,2.0s
HKT Hockley 76.64 340 *e*P **P 09 44 14.0 +0.2**
comp=Z,42nm,2.0s
537A Green Hill Far 76.89 339 ⇓P **P 09 44 14.9 -0.4**
baz=77
633A Saathoff Ranch 77.08 337 ⇑P **P 09 44 15.8 -0.6**
baz=78,SNR=9.6
536A Bastrop 77.08 339 ⇑P **P 09 44 16.0 -0.3**
baz=78
535A Dale 77.17 338 ⇑P **P 09 44 16.7 -0.2**
baz=78
632A Uvalde 77.30 336 ⇓P **P 09 44 17.2 -0.5**
baz=78,SNR=6.7
534A Blanco 77.42 337 ⇓P **P 09 44 17.4 -0.9**
baz=78,SNR=5.8
631A Perdido Creek 77.45 335 ⇑P **P 09 44 17.7 -0.8**
baz=78,SNR=9.5
533A Kerrville 77.62 337 ⇓P **P 09 44 18.8 -0.7**
baz=78,SNR=5.7
339A Huntington 77.66 341 ⇓P **P 09 44 19.3 -0.2**
baz=78
GOGA Godfrey 77.74 351 *e*P **P 09 44 19.1 -0.9**
GOGA pmax pmax
comp=Z,19nm,0.8s
GOGA Godfrey 77.74 351 *e*P **P 09 44 19.1 -0.9**
comp=Z,18nm,0.8s
LRAL Lakeview Retre 77.84 348 *e*P **P 09 44 20.0 -0.5**
comp=Z,24nm,1.0s
338A Crockett 77.86 340 ⇑P **P 09 44 20.1 -0.6**
baz=78,SNR=6.2
435B Jarrell 77.89 338 ⇑P **P 09 44 20.8 -0.1**
baz=78
532A Rocksprings 77.92 336 ⇓P **P 09 44 20.5 -0.6**
baz=78,SNR=11
434A Burnet 78.10 338 ⇓P **P 09 44 21.3 -0.8**
baz=78,SNR=17
531A Rocksprings 78.14 336 ⇓P **P 09 44 21.8 -0.6**
baz=78,SNR=13
JCT Junction City 78.22 336 *e*P **P 09 44 22.3 -0.5**
JCT pmax pmax
comp=Z,18nm,0.8s
JCT Junction City 78.22 336 ⇓P **P 09 44 22.0 -0.7**
baz=79,SNR=9.5
JCT Junction City 78.22 336 *e*P **P 09 44 22.2 -0.5**
comp=Z,18nm,0.8s
336A Riesel 78.27 339 ⇓P **P 09 44 22.2 -0.7**
baz=79,SNR=8.4
433A Art 78.28 337 ⇑P **P 09 44 21.8 -1.2**
baz=79,SNR=9.0
335A Moody 78.32 339 ⇓P **P 09 44 22.3 -0.9**
baz=79
TXAR Lajitas Array 78.35 333 P **P 09 44 22.9 -0.7**
comp=Z,5.5nm,0.9s,baz=154,slow=8.0,SNR=29
TXAR LR LR 10 12 48.8
comp=Z,715nm,22.0s,baz=0.0,slow=31
530A J-C Ranch, Com 78.37 335 ⇑P **P 09 44 23.1 -0.5**
baz=79,SNR=14
334A Lometa 78.59 338 ⇓P **P 09 44 24.1 -0.7**
baz=79,SNR=20
432A Menard 78.59 336 ⇑P **P 09 44 23.7 -1.1**
baz=79,SNR=13
237A Washetta, Mont 78.60 340 ⇑P **P 09 44 23.7 -1.0**
baz=79
529A Stev Forest Ra 78.62 334 ⇓P **P 09 44 24.3 -0.7**
baz=79
431A Sonora 78.65 336 ⇑P **P 09 44 24.2 -0.9**
baz=79,SNR=13
LBTB Lobatse 78.66 114 *e*P **P 09 44 27.1 +1.4**
LBTB pmax pmax
comp=Z,46nm,1.5s
LBTB Lobatse 78.66 114 *e*P **P 09 44 27.1 +1.4**
comp=Z,46nm,1.5s
333A Richland Sprin 78.78 337 ⇓P **P 09 44 24.5 -1.4**
baz=79,SNR=9.1
430A Baggett Ranch, 78.93 335 ⇓P **P 09 44 26.0 -0.7**
baz=79,SNR=12
429A Davenport Ranc 78.98 335 ⇑P **P 09 44 26.5 -0.5**
baz=79
WHTX Lake Whitney, 79.00 339 ⇓P **P 09 44 26.4 -0.5**
baz=79
WHTX Lake Whitney, 79.00 339 *e*P **P 09 44 26.2 -0.7**
comp=Z,18nm,0.9s
332A Millersview 79.05 337 ⇑P **P 09 44 26.1 -1.2**
baz=80,SNR=14
138A Matatall Enter 79.05 341 ⇓P **P 09 44 26.6 -0.7**
baz=80
DBIC Dimbokro 79.08 70 P **P 09 44 29.3 +1.4**
comp=Z,5.1nm,0.9s,baz=222,slow=6.2,SNR=4.3
137A Heron Place, G 79.15 340 ⇑P **P 09 44 27.0 -0.7**
baz=80
331A San Angelo 79.18 336 ⇓P **P 09 44 27.1 -0.9**
baz=80,SNR=13
234A Clairette 79.19 338 ⇓P **P 09 44 27.0 -1.0**
baz=80,SNR=8.4
KMSC Kings Mountain 79.24 353 ⇓P **P 09 44 26.8 -1.4**
baz=80
KMSC Kings Mountain 79.24 353 *e*P **P 09 44 27.5 -0.7**
comp=Z,12nm,0.8s
233A Rising Star 79.41 338 ⇑P **P 09 44 28.3 -1.0**
baz=80,SNR=8.2
330A Mertzon 79.49 336 ⇑P **P 09 44 29.2 -0.5**
baz=80
232A Coleman 79.50 337 ⇓P **P 09 44 28.7 -1.1**
baz=80,SNR=9.1
OXF Oxford 79.68 346 *e*P **P 09 44 29.8 -0.8**
OXF pmax pmax
comp=Z,29nm,0.9s
OXF Oxford 79.68 346 *e*P **P 09 44 29.8 -0.8**
comp=Z,28nm,0.9s
134A White-Moore Ra 79.72 338 ⇓P **P 09 44 30.2 -0.6**
baz=80
231A Bronte 79.73 336 ⇑P **P 09 44 30.1 -0.9**
baz=80
329A Wagon Wheel Ra 79.81 335 ⇑P **P 09 44 30.8 -0.7**
baz=80,SNR=14
CPCT Cooper Cave 79.88 350 *e*P **P 09 44 33.0 +1.3**
230A Sterling City 79.92 336 ⇓P **P 09 44 31.3 -0.8**
baz=80
133A Hamilton Ranch 79.97 338 ⇓P **P 09 44 31.6 -0.7**
baz=80,SNR=7.8
ABTX Abilene, Hawle 80.19 337 ⇑P **P 09 44 32.5 -0.9**
baz=81
ABTX Abilene, Hawle 80.19 337 *e*P **P 09 44 32.7 -0.8**
comp=Z,10.0nm,0.8s
229A Bryant Ranch, 80.20 335 ⇑P **P 09 44 32.6 -1.0**
baz=81,SNR=7.1
Z35A Perchaven, San 80.22 339 ⇓P **P 09 44 32.7 -0.9**
baz=81
131A Roby 80.45 337 ⇓P **P 09 44 33.8 -1.0**
baz=81,SNR=8.8
130A Snyder 80.54 336 ⇓P **P 09 44 34.3 -1.1**
baz=81,SNR=5.6
Z33A Whitaker Ranch 80.58 338 ⇓P **P 09 44 34.7 -0.8**
baz=81,SNR=7.0
228A UT Block 9, Go 80.58 335 ⇑P **P 09 44 35.0 -0.7**
baz=81
Z32A Haskell 80.79 338 ⇓P **P 09 44 35.6 -1.1**
baz=81,SNR=9.1
129A Stewart Farms, 80.84 335 ⇓P **P 09 44 36.4 -0.6**
baz=81
Y34A Reagan Ranch, 80.95 339 ⇑P **P 09 44 36.7 -0.7**
baz=81
Z31A Sharp Cattle R 80.98 337 ⇓P **P 09 44 36.8 -0.9**
baz=81,SNR=12
WVT Waverly 81.01 348 *e*P **P 09 44 36.2 -1.5**
WVT pmax pmax
comp=Z,11nm,0.8s
WVT Waverly 81.01 348 *e*P **P 09 44 36.2 -1.5**
comp=Z,11nm,0.8s
128A Castleberry Fa 81.02 335 ⇑P **P 09 44 37.8 -0.2**
baz=81
GNAR Gosnell 81.21 346 *e*P **P 09 44 38.5 -0.2**
Y33A Hilltop Ranch, 81.22 338 ⇑P **P 09 44 38.2 -0.7**
baz=82
GDL2 Guadalupe Moun 81.22 333 *e*P **P 09 44 39.7 +0.5**
Z30A Sanderson Ranc 81.23 336 ⇑P **P 09 44 38.3 -0.8**
baz=82
GLAT Glass 81.38 347 *e*P **P 09 44 39.9 +0.2**
Z29A Hungry Hill Ra 81.38 336 ⇑P **P 09 44 38.6 -1.3**
baz=82,SNR=12
Y32A R-V Farms, Ver 81.44 338 ⇑P **P 09 44 39.2 -0.9**
baz=82,SNR=9.7
JSRW J. Sargeant Re 81.53 356 *e*P **P 09 44 39.7 -0.8**
X34A Smith Ranch, M 81.58 339 ⇓P **P 09 44 40.1 -0.7**
baz=82
Z28A Tucker Farm, M 81.61 335 ⇓P **P 09 44 40.6 -0.5**
baz=82
Y31A Rekieta Farm, 81.62 337 ⇓P **P 09 44 40.3 -0.8**
baz=82,SNR=8.0
X33A Lawton 81.69 339 ⇓P **P 09 44 40.6 -0.8**
baz=82
Y30A Stafford Cattl 81.72 337 ⇑P **P 09 44 41.1 -0.5**
baz=82
X32A Elmer 81.79 338 ⇓P **P 09 44 41.1 -0.8**
baz=82,SNR=9.2
PARMO Parma 81.84 346 *e*P **P 09 44 41.8 -0.3**
Y29A Porterfield Fa 81.93 336 ⇓P **P 09 44 41.9 -0.9**
baz=82,SNR=5.1
WMOK Wichita Mounta 81.95 339 *e*P **P 09 44 41.4 -1.4**
WMOK pmax pmax
comp=Z,12nm,1.0s
WMOK Wichita Mounta 81.95 339 *e*P **P 09 44 41.4 -1.4**
comp=Z,12nm,1.0s
Y28A McKinney Farm, 82.14 336 ⇑P **P 09 44 43.2 -0.7**
baz=82,SNR=14
W34A Bridge Creek, 82.16 340 ⇓P **P 09 44 43.1 -0.7**
baz=83
W34A Bridge Creek, 82.16 340 *e*P **P 09 44 43.3 -0.5**
comp=Z,18nm,0.8s
X31A McDonald Ranch 82.17 338 ⇑P **P 09 44 43.3 -0.6**
baz=83,SNR=15
319A Douglas 82.18 329 ⇓P **P 09 44 44.4 +0.2**
baz=82
X30A Coker Ranch, T 82.25 337 ⇓P **P 09 44 43.6 -0.8**
baz=83,SNR=18
W33A Caddo, Fort Co 82.26 339 ⇓P **P 09 44 44.1 -0.3**
baz=83,SNR=17
TUL1 Leonard 82.33 341 ⇑P **P 09 44 43.9 -0.8**
baz=83
TUL1 Leonard 82.33 341 *e*P **P 09 44 43.9 -0.8**
MSTX Muleshoe 82.36 335 ⇑P **P 09 44 44.6 -0.5**
baz=83,SNR=16
MSTX Muleshoe 82.36 335 *e*P **P 09 44 44.1 -1.0**
comp=Z,20nm,0.8s
Y27A Causey 82.40 335 ⇓P **P 09 44 44.6 -0.7**
baz=83
V35A Meyer Ranch, C 82.43 340 ⇓P **P 09 44 44.6 -0.6**
baz=83
W32A Sentinel 82.44 338 ⇑P **P 09 44 44.7 -0.7**
baz=83,SNR=14
X29A Tulia 82.48 336 ⇓P **P 09 44 45.1 -0.6**
baz=83,SNR=13
V34A Guthrie 82.67 340 ⇑P **P 09 44 45.8 -0.8**
baz=83
V34A Guthrie 82.67 340 *e*P **P 09 44 45.7 -0.8**
comp=Z,27nm,0.8s
121A Cookes Peak, D 82.68 331 ⇑P **P 09 44 47.0 +0.1**
baz=83
W31A Holland Ranch, 82.69 338 ⇑P **P 09 44 45.9 -0.8**
baz=83
X28A Dimmitt 82.70 336 ⇓P **P 09 44 46.6 -0.3**
baz=83
SIUC Southern Illin 82.78 347 *e*P **P 09 44 45.7 -1.3**
comp=Z,22nm,1.0s
WCI Wyandotte Cave 82.85 349 *e*P **P 09 44 45.0 -2.4**
WCI pmax pmax
comp=Z,56nm,2.0s
WCI Wyandotte Cave 82.85 349 *e*P **P 09 44 45.0 -2.4**
comp=Z,56nm,2.0s
V33A Lossen Ranch, 82.85 339 ⇑P **P 09 44 46.6 -0.8**
baz=83,SNR=9.3
AMTX Amarillo 82.89 336 ⇑P **P 09 44 47.3 -0.5**
baz=83
AMTX Amarillo 82.89 336 *e*P **P 09 44 47.3 -0.5**
comp=Z,22nm,1.1s
V32A Arapaho 82.95 339 ⇑P **P 09 44 47.7 -0.3**
baz=83,SNR=10
Z22A Elephant Butte 83.05 332 ⇑P **P 09 44 48.8 +0.1**
baz=83
W29A Amarillo 83.10 336 ⇓P **P 09 44 48.7 -0.1**
baz=84
Y24A Capitan 83.16 333 ⇑P **P 09 44 49.0 -0.3**
baz=84,SNR=7.9
V31A Spring Creek L 83.21 338 ⇑P **P 09 44 49.1 -0.3**
baz=84,SNR=11
X26A CR and CF Fran 83.22 335 ⇓P **P 09 44 49.0 -0.6**
baz=84,SNR=8.0
U34A Anderson Ranch 83.25 340 ⇓P **P 09 44 48.8 -0.7**
baz=84
U34A Anderson Ranch 83.25 340 *e*P **P 09 44 48.9 -0.6**
comp=Z,13nm,0.7s
U33A Lingo Farm, Me 83.39 340 ⇓P **P 09 44 49.8 -0.4**
baz=84
X25A Clemmons Ranch 83.46 334 ⇓P **P 09 44 50.4 -0.4**
baz=84,SNR=7.4
U32A Winter Ranch, 83.56 339 ⇓P **P 09 44 51.0 -0.2**
baz=84
TUC Tucson 83.58 328 *e*P **P 09 44 51.2 -0.2**
TUC pmax pmax
comp=Z,3.0nm,0.8s
TUC Tucson 83.58 328 *e*P **P 09 44 51.2 -0.2**
comp=Z,2.7nm,0.8s
OLIL Olney 83.60 348 *e*P **P 09 44 49.4 -1.8**
comp=Z,21nm,0.9s
BLO Bloomington 83.81 349 *e*P **P 09 44 50.6 -1.7**
BLO pmax pmax
comp=Z,24nm,0.8s
BLO Bloomington 83.81 349 *e*P **P 09 44 50.6 -1.7**
comp=Z,24nm,0.8s
V28A Channing 83.85 336 ⇓P **P 09 44 52.8 0.0**
baz=84
LENM Lemitar 83.89 332 *e*P **P 09 44 54.1 +1.0**
LPM Los Pinos Moun 83.90 332 *e*P **P 09 44 53.5 +0.4**
T33A Patterson Ranc 84.03 340 ⇑P **P 09 44 53.3 -0.2**
baz=84,SNR=18
W25A X Bar L Ranch, 84.03 334 ⇑P **P 09 44 53.4 -0.3**
baz=84,SNR=17
214A Organ Pipe Nat 84.05 327 ⇑P **P 09 44 54.5 +0.7**
baz=84
214A Organ Pipe Nat 84.05 327 *e*P **P 09 44 53.9 +0.2**
comp=Z,11nm,1.0s
U30A WK&E Inc. Balk 84.14 338 ⇓P **P 09 44 53.9 -0.3**
baz=85,SNR=13
LAZ Ladron 84.16 332 *e*P **P 09 44 54.6 +0.1**
comp=Z,13nm,1.4s
T32A Huddler Ranch, 84.30 339 ⇑P **P 09 44 54.3 -0.6**
baz=85
W24A Lazy 6 Ranch, 84.33 334 ⇑P **P 09 44 54.9 -0.4**
baz=85,SNR=11
V26A Tequesquite Ra 84.36 335 ⇓P **P 09 44 55.1 -0.3**
baz=85,SNR=8.1
T31A Randall Ranch, 84.41 339 ⇑P **P 09 44 55.0 -0.5**
baz=85
ANMO Albuquerque 84.42 333⇑*i*P **P 09 44 55.4 -0.4**
ANMO pmax pmax
comp=Z,59nm,0.9s
ANMO Albuquerque 84.42 333 *e*P **P 09 44 55.6 -0.1**
comp=Z,16nm,1.0s
ACSO Alum Creek Sta 84.44 352 *e*P **P 09 44 54.1 -1.3**
comp=Z,17nm,0.8s
U28A Mallet 84.44 336 ⇓P **P 09 44 55.2 -0.5**
baz=85,SNR=6.6
S33A Kaszmaul Farm, 84.46 340 ⇓P **P 09 44 55.1 -0.6**
baz=85
SSPA Standing Stone 84.47 356 *e*P **P 09 44 54.9 -0.7**
comp=Z,14nm,1.2s
T30A Plains 84.60 338 ⇑P **P 09 44 56.2 -0.3**
baz=85
U27A Thompson Grove 84.65 336 ⇓P **P 09 44 56.4 -0.5**
baz=85
V25A Rancho No Teng 84.65 334 ⇓P **P 09 44 56.2 -0.7**
baz=85,SNR=8.6
V24A Rampart Ranch, 84.76 334 ⇓P **P 09 44 57.1 -0.4**
baz=85,SNR=8.0
S32A Newby Ranch, P 84.79 339 ⇑P **P 09 44 57.0 -0.4**
baz=85
S31A Mullinville 84.86 339 ⇑P **P 09 44 57.1 -0.7**
baz=85
U26A Atchley Ranch, 84.90 335 ⇓P **P 09 44 57.4 -0.8**
baz=85
T29A Hugoton 84.91 337 ⇓P **P 09 44 57.4 -0.6**
baz=85
V23A Ortiz Mt. (NFS 85.07 333 ⇓P **P 09 44 58.9 -0.2**
baz=86,SNR=6.4
SFIN Lafayette 85.07 349 ⇑P **P 09 44 57.7 -0.9**
baz=86
T28A Walsh 85.10 337 ⇑P **P 09 44 58.3 -0.7**
baz=86,SNR=6.8
U25A Circle Dot Ran 85.11 335 ⇓P **P 09 44 59.0 -0.2**
baz=86,SNR=19
R33A Olander Ranch, 85.13 340 ⇑P **P 09 44 58.5 -0.6**
baz=86
S30A Montezuma 85.13 338 ⇑P **P 09 44 59.1 0.0**
baz=86,SNR=7.6
113A Mohawk Valley, 85.14 326 ⇑P **P 09 44 59.5 +0.3**
baz=86
T27A Campo 85.22 336 ⇓P **P 09 44 58.9 -0.7**
baz=86
X18A Snowflake 85.25 330 ⇑P **P 09 45 00.4 +0.5**
baz=86
S29A Ulysses 85.29 338 ⇑P **P 09 44 59.7 -0.2**
baz=86
U24A Moreno Valley 85.39 334 ⇓P **P 09 45 00.5 -0.2**
baz=86,SNR=6.4
R32A Long Quarter, 85.42 340 ⇓P **P 09 45 00.3 -0.2**
baz=86,SNR=9.8
V22A San Miguel Ran 85.46 333 ⇓P **P 09 45 01.1 +0.1**
baz=86,SNR=20
S28A Manter 85.48 337 ⇓P **P 09 45 00.4 -0.5**
baz=86,SNR=6.8
R31A Burdett 85.50 339 ⇓P **P 09 45 00.5 -0.4**
baz=86,SNR=10.0
T26A Comanche Natio 85.58 336 ⇓P **P 09 45 01.4 -0.1**
baz=86,SNR=6.3
U23A El Rito 85.60 333 ⇓P **P 09 45 02.2 +0.4**
baz=86,SNR=16
ALLY Alegheny Colle 85.61 354 *e*P **P 09 45 00.2 -1.2**
comp=Z,13nm,0.6s
R30A Dighton 85.69 339 ⇓P **P 09 45 01.4 -0.5**
baz=86
X16A Lo Mia Camp, P 85.70 329 ⇓P **P 09 45 02.6 +0.4**
baz=86,SNR=7.3
W18A Petrified Fore 85.71 330 ⇑P **P 09 45 02.8 +0.6**
baz=86
Q33A Connelly Farm, 85.75 341 ⇓P **P 09 45 01.6 -0.5**
baz=86
T25A Trinidad 85.79 335 ⇓P **P 09 45 02.6 0.0**
baz=86,SNR=12
GLA Glamis 85.82 326 *e*P **P 09 45 03.8 +1.2**
GLA pmax pmax
comp=Z,6.0nm,0.8s
GLA Glamis 85.82 326 ⇓P **P 09 45 03.3 +0.7**
baz=86
GLA Glamis 85.82 326 *e*P **P 09 45 03.8 +1.2**
comp=Z,5.9nm,0.8s
U22A Llaves 85.86 333 ⇓P **P 09 45 03.4 +0.4**
baz=86,SNR=6.9
Y14A Wickenburg 85.87 327 ⇑P **P 09 45 03.5 +0.6**
baz=86
Q32A Meitler Ranch, 85.92 340 ⇑P **P 09 45 02.6 -0.4**
baz=86,SNR=7.0
S26A Kim 85.96 336 ⇓P **P 09 45 03.3 -0.1**
baz=86
T24B San Luis 86.02 334 ⇓P **P 09 45 03.6 -0.3**
baz=86
R29A Marienthal 86.05 338 ⇓P **P 09 45 03.6 -0.1**
baz=86
SWSC Sam W. Stewart 86.12 325 ⇑P **P 09 45 04.6 +0.6**
baz=86
P33A Williams Farm, 86.14 341 ⇓P **P 09 45 03.7 -0.3**
baz=87
Q31A Ellis 86.14 340 ⇓P **P 09 45 03.8 -0.3**
baz=87
R28A Tribune 86.16 337 ⇑P **P 09 45 03.8 -0.5**
baz=87,SNR=12
T23A Casias Ranch, 86.20 334 ⇓P **P 09 45 04.5 -0.2**
baz=87
S25A Robets Cordova 86.28 335 ⇓P **P 09 45 04.7 -0.3**
baz=87
Y12C Blythe 86.31 326 ⇑P **P 09 45 05.8 +0.9**
baz=87
Q30A Quinter 86.33 339 ⇓P **P 09 45 04.5 -0.5**
baz=87,SNR=8.6
R27A Eads 86.38 337 ⇓P **P 09 45 04.9 -0.4**
baz=87
Q29A Oakley 86.44 338 ⇑P **P 09 45 06.0 +0.4**
baz=87
S24A Houchin Ranch, 86.50 335 ⇓P **P 09 45 06.3 +0.1**
baz=87,SNR=10
P32A Huiting Farm, 86.53 340 ⇓P **P 09 45 05.8 -0.1**
baz=87,SNR=11
R26A Arlington 86.58 336 ⇓P **P 09 45 06.1 -0.3**
baz=87
BC3 Big Chuckawall 86.60 325 ⇓P **P 09 45 07.2 +0.6**
baz=87
P31A Stockton 86.63 340 ⇓P **P 09 45 05.6 -0.9**
baz=87
PDMCI Parker Dam,Lak 86.64 327 ⇓P **P 09 45 07.3 +0.7**
baz=87
WUAZ Wupatki 86.66 329 ⇑P **P 09 45 06.9 +0.1**
baz=87
WUAZ Wupatki 86.66 329 *e*P **P 09 45 07.4 +0.5**
comp=Z,20nm,1.3s

SDCO **Great Sand Dun** 86.68 335 *e*P P 09 45 06.7 -0.4
comp=Z,6.0nm,0.8s
S23A **Nye Farm, Mont** 86.80 334 ⇑P P 09 45 07.1 -0.6
baz=87
P30A **Selden** 86.87 339 ⇑P P 09 45 07.1 -0.6
baz=87
IRM **Iron Mountain** 86.92 326 ⇓P P 09 45 08.7 +0.7
baz=87
PFO **Pinyon Flats O** 86.97 325 *e*P P 09 45 08.3 -0.1
PFO pmax pmax
comp=Z,6.0nm,1.0s
PFO **Pinyon Flats O** 86.97 325 ⇑P P 09 45 08.5 +0.1
baz=87
PFO **Pinyon Flats O** 86.97 325 *e*P P 09 45 08.3 -0.1
comp=Z,6.2nm,1.0s
KSCO **Kaye Shedlock'** 87.01 337 ⇑P P 09 45 08.6 +0.2
baz=87
KSCO **Kaye Shedlock'** 87.01 337 *e*P P 09 45 08.8 +0.3
comp=Z,12nm,1.0s
R24A **Sanders Place,** 87.01 335 ⇓P P 09 45 08.6 0.0
baz=87
O32A **Brockman Farm,** 87.06 341 ⇑P P 09 45 07.8 -0.8
baz=88,SNR=5.2
ACCN **Adirondack Com** 87.09 359 *e*P P 09 45 07.9 -0.7
comp=Z,14nm,1.1s
P29A **Atwood** 87.10 339 ⇑P P 09 45 08.7 -0.1
baz=88
S22A **4UR Ranch, Cre** 87.10 334 ⇓P P 09 45 09.3 +0.1
baz=88,SNR=11
BELC **Belle Mtn. Jos** 87.12 325 ⇓P P 09 45 09.8 +0.6
baz=88
LSZ **Lusaka** 87.16 108 P P 09 45 09.7 -0.2
comp=Z,2.3nm,0.9s,baz=99,slow=13,SNR=3.4
MVCO **Mesa Verde** 87.16 332 ⇑P P 09 45 09.3 0.0
baz=88
MVCO **Mesa Verde** 87.16 332 *e*P P 09 45 09.4 0.0
comp=Z,54nm,2.0s
R23A **Moffat** 87.19 334 ⇓P P 09 45 09.2 -0.4
baz=88
W13A **Hualapai Mount** 87.24 327 ⇑P P 09 45 09.7 -0.1
baz=88,SNR=7.1
MURC **Murrieta** 87.28 324 ⇓P P 09 45 10.7 +0.9
baz=88
P28A **Saint Francis** 87.29 338 ⇑P P 09 45 09.2 -0.6
baz=88
SCI **San Clemente I** 87.32 323 ⇓P P 09 45 11.2 +1.2
baz=88
Q25A **Bedland, Calha** 87.38 336 ⇑P P 09 45 10.4 0.0
baz=88
O30A **MW Ranch, Wils** 87.42 339 ⇓P P 09 45 10.2 -0.1
baz=88
SCIA **State Center** 87.56 345 *e*P P 09 45 10.6 -0.2
comp=Z,21nm,0.9s
GMRC **Granite Mounta** 87.66 326 ⇑P P 09 45 12.5 +0.7
baz=88
Q24A **Divide** 87.70 335 ⇑P P 09 45 11.8 -0.2
baz=88
MDV **Middlebury** 87.70 360 *e*P P 09 45 11.4 -0.1
P26A **Davis Ranch, A** 87.72 337 ⇑P P 09 45 11.7 -0.2
baz=88
U15A **North Rim** 87.80 329 ⇓P P 09 45 12.6 +0.1
baz=88
O28A **Krutsinger Ran** 87.82 338 ⇓P P 09 45 12.1 -0.2
baz=88
BFSC **Mount Baldy Ra** 88.02 324 ⇓P P 09 45 14.0 +0.6
baz=88
JFWS **Jewell Farm** 88.02 347 *e*P P 09 45 12.1 -0.9
JFWS pmax pmax
comp=Z,21nm,0.9s
JFWS **Jewell Farm** 88.02 347 *e*P P 09 45 12.1 -0.9
comp=Z,21nm,0.9s
PV01 **Paradox Valley** 88.03 333 *e*P P 09 45 12.9 -0.6
BGNE **Belgrade** 88.12 341 ⇑P P 09 45 13.0 -0.6
baz=89
BGNE **Belgrade** 88.12 341 *e*P P 09 45 13.0 -0.6
P24A **Kohler Place,** 88.13 336 ⇑P P 09 45 13.6 -0.3
baz=88
TORD **Torodi Ar. Bea** 88.19 70 P P 09 45 13.1 -1.5
comp=Z,3.0nm,0.9s,baz=230,slow=4.2,SNR=11
TORD LR LR 10 23 38.0
comp=Z,214nm,18.8s,baz=230,slow=35
M31A **Lambtecht Ranc** 88.25 341 ⇓P P 09 45 14.0 -0.2
baz=89
PTN **Potsdam (NY)** 88.29 358 *e*P P 09 45 13.6 -0.6
PTN pmax pmax
comp=Z,31nm,1.0s
PTN **Potsdam (NY)** 88.29 358 *e*P P 09 45 13.6 -0.6
comp=Z,31nm,1.0s
LONY **Lake Ozonia** 88.33 359 *e*P P 09 45 14.9 +0.4
comp=Z,29nm,1.5s
TUQ **Turquoise Moun** 88.34 326 ⇑P P 09 45 15.5 +0.6
baz=89,SNR=9.8
PV04 **Paradox Valley** 88.37 332 *e*P P 09 45 15.4 +0.4
SMCO **Snowmass** 88.46 334 *e*P P 09 45 15.9 +0.2
comp=Z,13nm,1.1s
GSC **Goldstone, Bar** 88.58 325 *e*P P 09 45 16.6 +0.6
GSC **Goldstone, Bar** 88.58 325 ⇑P P 09 45 16.3 +0.3
baz=89,SNR=6.4
GSC **Goldstone, Bar** 88.58 325 *e*P P 09 45 16.6 +0.6
ISCO **Idaho Springs** 88.61 335 *e*P P 09 45 16.8 +0.5
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO **Idaho Springs** 88.61 335 ⇓P P 09 45 15.9 -0.4
baz=89
ISCO **Idaho Springs** 88.61 335 *e*P P 09 45 16.8 +0.5
comp=Z,3.3nm,0.8s
EDW2 **Edwards Air Fo** 88.71 324 ⇑P P 09 45 17.2 +0.6
baz=89,SNR=5.5
M29A **Burnside Ranch** 88.77 339 ⇑P P 09 45 16.3 -0.5
baz=89
P22A **Eagle** 88.77 334 ⇑P P 09 45 17.0 0.0
baz=89
M28A **Bar X Bar Ranc** 88.90 339 ⇓P P 09 45 17.9 +0.5
baz=89
SHPR **Sheep Range** 88.97 327 *e*P P 09 45 18.6 +0.7
L30A **Spencer Herefo** 89.00 340 ⇑P P 09 45 17.3 -0.5
baz=89,SNR=5.7
L31A **Butterfield Fa** 89.01 341 ⇓P P 09 45 17.4 -0.4
baz=89,SNR=11
LRMC **Laurel Mtn Rad** 89.10 325 ⇑P P 09 45 19.1 +0.6
baz=90,SNR=8.0
CCUT **Cedar City** 89.19 329 *e*P P 09 45 20.2 +1.1
comp=Z,36nm,2.2s
O22A **Kremmling** 89.22 335 ⇓P P 09 45 18.7 -0.5
baz=90
ISA **Isabella, Lake** 89.58 324 *e*P P 09 45 21.5 +0.8
ISA pmax pmax
comp=Z,7.0nm,0.9s
ISA **Isabella, Lake** 89.58 324 ⇓P P 09 45 21.4 +0.7
baz=90,SNR=8.4
ISA **Isabella, Lake** 89.58 324 *e*P P 09 45 21.5 +0.8
comp=Z,7.0nm,0.9s
FURC **Furnace Creek,** 89.61 326 ⇑P P 09 45 21.4 +0.7
baz=90,SNR=7.4
K30A **Basset** 89.66 341 ⇓P P 09 45 20.5 -0.3
baz=90,SNR=7.5
N23A **Red Feather La** 89.71 335 ⇓P P 09 45 21.3 -0.1
baz=90
O20A **White River Ci** 89.73 334 ⇓P P 09 45 21.5 +0.1
baz=90
O20A **White River Ci** 89.73 334 *e*P P 09 45 21.5 +0.1
comp=Z,15nm,1.3s
DAC **Darwin (Calif)** 89.74 325 *e*P P 09 45 22.2 +0.6
DAC **Darwin (Calif)** 89.74 325 *e*P P 09 45 22.2 +0.6
TPNV **Topopah Spring** 89.78 327 *e*P P 09 45 22.4 +0.7
TPNV pmax pmax
comp=Z,13nm,1.4s
TPNV **Topopah Spring** 89.78 327 ⇑P P 09 45 22.1 +0.4
baz=90
TPNV **Topopah Spring** 89.78 327 *e*P P 09 45 22.4 +0.7
comp=Z,13nm,1.4s
N22A **Wattenberg Ran** 89.78 335 ⇓P P 09 45 21.4 -0.3
baz=90
M24A **Cheyenne** 89.91 336 ⇑P P 09 45 21.9 -0.3
baz=90
K29A **Lazy Trails An** 89.92 340 ⇑P P 09 45 21.7 -0.3
baz=90
ECSD **EROS Data Cent** 89.99 343 ⇑P P 09 45 21.1 -1.3
baz=90,SNR=13
ECSD **EROS Data Cent** 89.99 343 *e*P P 09 45 21.2 -1.1
comp=Z,12nm,0.8s
VES **Vestal, Richgr** 89.99 324 ⇑P P 09 45 23.7 +1.2
baz=90
K28A **Ten Mile Ranch** 90.13 339 ⇓P P 09 45 22.9 -0.2
baz=91
J30A **Dallas** 90.25 341 ⇓P P 09 45 23.5 -0.1
baz=91
GRAC **Grapevine Rang** 90.27 326 ⇑P P 09 45 24.3 +0.5
baz=91
L25A **Engebretsen Ra** 90.30 337 ⇑P P 09 45 24.0 0.0
baz=91
K27A **Flueckinger Fa** 90.35 339 ⇑P P 09 45 24.1 0.0
baz=91
N20A **Spence Gulch,** 90.37 334 ⇑P P 09 45 24.3 -0.2
baz=91
SPMN **Marie on St.** 90.69 346 ⇑P P 09 45 24.9 -0.6
baz=91
K25A **Mack Ranch, Ha** 90.70 338 ⇑P P 09 45 25.2 -0.6
baz=91
R11A **Troy Canyon, C** 90.74 328 ⇑P P 09 45 26.1 0.0
baz=91
R11A **Troy Canyon, C** 90.74 328 *e*P P 09 45 26.9 +0.7
comp=Z,9.4nm,1.6s
MPU **Maple Canyon** 90.76 331 *e*P P 09 45 27.2 +0.9
comp=Z,5.2nm,1.0s
L23A **Garrett** 90.76 336 ⇓P P 09 45 25.0 -1.2
baz=91
J28A **Allard Ranch,** 90.77 340 ⇑P P 09 45 25.7 -0.3
baz=91
I30A **Oacoma** 90.79 341 ⇓P P 09 45 24.9 -1.2
baz=91,SNR=19
J27A **Elkhorn Farm,** 90.80 339 ⇓P P 09 45 25.4 -0.8
baz=91
L22A **Ellis Ranch, M** 90.90 336 ⇓P P 09 45 26.2 -0.6
baz=91
COWI **Conover** 90.97 349 *e*P P 09 45 25.8 -1.0
comp=Z,9.1nm,0.8s
DAU **Daniels Canyon** 90.98 332 *e*P P 09 45 27.6 +0.2
DAU **Daniels Canyon** 90.98 332 *e*P P 09 45 27.6 +0.2
I29A **Vivian Onida** 91.10 341 ⇑P P 09 45 26.9 -0.6
baz=92
J26A **Sides Ranch, S** 91.14 338 ⇓P P 09 45 26.9 -0.9
baz=92
TPH **Tonopah** 91.14 326 *e*P P 09 45 28.4 +0.3
TPH **Tonopah** 91.14 326 *e*P P 09 45 28.4 +0.3
I28A **Midland** 91.29 340 ⇓P P 09 45 27.5 -0.9
baz=92
DUG **Dugway, Tooele** 91.33 330 *e*P P 09 45 29.0 +0.2
DUG pmax pmax
comp=Z,5.0nm,1.1s
DUG **Dugway, Tooele** 91.33 330 ⇓P P 09 45 29.1 +0.2
baz=92
DUG **Dugway, Tooele** 91.33 330 *e*P P 09 45 29.0 +0.2
comp=Z,4.7nm,1.1s
K22A **Casper** 91.49 336 ⇓P P 09 45 29.3 -0.2
baz=92
K22A **Casper** 91.49 336 *e*P P 09 45 28.2 -1.3
comp=Z,10nm,1.0s
H29A **Onida** 91.65 341 ⇑P P 09 45 29.4 -0.6
baz=92
K21A **Alcova** 91.69 335 ⇓P P 09 45 29.9 -0.6
baz=92
I26A **New Underwood** 91.75 339 ⇓P P 09 45 29.7 -0.9
baz=92
G30A **Faulkton** 91.88 342 ⇓P P 09 45 30.1 -0.9
baz=92
NVAR **Mina Array Bea** 91.88 326 P P 09 45 31.6 +0.1
comp=Z,1.5nm,0.7s,baz=160,slow=3.8,SNR=9.0
H28A **Mission Ridge** 91.89 340 ⇑P P 09 45 30.5 -0.6
baz=92
G28A **Parade** 92.24 340 ⇑P P 09 45 32.3 -0.5
baz=93
J21A **Lysite** 92.40 335 ⇓P P 09 45 33.4 -0.3
baz=93
H25A **Fruitdale** 92.49 339 ⇓P P 09 45 33.0 -1.0
baz=93
PDAR **Pinedale Array** 92.53 334 P P 09 45 33.1 -1.3
comp=Z,4.0nm,0.8s,baz=137,slow=5.0,SNR=18
PDAR LR LR 10 22 14.0
comp=Z,427nm,19.4s,baz=159,slow=32
J20A **Shoshoni** 92.60 335 ⇑P P 09 45 34.4 -0.2
baz=93
I22A **9 Mile Ranch,** 92.62 336 ⇑P P 09 45 33.8 -0.9
baz=93
HVU **Hansel Valley** 92.72 331 *e*P P 09 45 34.7 -0.5
HVU pmax pmax
comp=Z,8.0nm,0.9s
HVU **Hansel Valley** 92.72 331 *e*P P 09 45 34.7 -0.5
comp=Z,7.6nm,0.9s
G27A **Dupree** 92.77 340 ⇓P P 09 45 34.0 -1.2
baz=93
I21A **Big Trails, Te** 92.78 336 ⇑P P 09 45 34.2 -1.3
baz=93
J19A **Crowheart** 92.82 334 ⇑P P 09 45 35.1 -0.6
baz=93
G26A **Maurine** 92.86 339 ⇓P P 09 45 34.3 -1.4
baz=93
H24A **Dirks Ranch, A** 92.86 338 ⇓P P 09 45 34.9 -0.8
baz=93
F28A **McLaughlin** 92.94 341 ⇓P P 09 45 35.2 -0.8
baz=93
G25A **Newell** 92.98 339 ⇑P P 09 45 35.3 -1.0
baz=93
I20A **Worland** 93.16 335 ⇓P P 09 45 36.4 -0.7
baz=94
F27A **Lemmon** 93.26 340 ⇑P P 09 45 36.8 -0.6
baz=94
F26A **Lodgepole** 93.40 340 ⇓P P 09 45 37.9 -0.2
baz=94
I19A **Meeteetse** 93.50 335 ⇑P P 09 45 38.2 -0.7
baz=94
G23A **Biddle** 93.51 338 ⇑P P 09 45 38.0 -0.7
baz=94
H20A **Greybull** 93.61 336 ⇓P P 09 45 38.0 -1.2
baz=94
TPAW **Teton Pass** 93.63 333 *e*P P 09 45 38.6 -0.9
comp=Z,28nm,1.9s
G22A **Birney** 93.78 337 ⇑P P 09 45 39.4 -0.5
baz=94
F24A **Ekalaka** 93.85 338 ⇓P P 09 45 39.8 -0.5
baz=94
I17A **Pilgrim Ck.** 93.89 334 ⇓P P 09 45 40.1 -0.5
baz=94
E26A **Carlson Angus** 93.93 340 ⇑P P 09 45 40.0 -0.5
baz=94
G21A **Lodge Grass** 94.05 336 ⇓P P 09 45 40.7 -0.5
baz=94
H19A **Powell** 94.07 335 ⇑P P 09 45 40.0 -1.4
baz=94
FLWY **Flagg Ranch** 94.08 334 *e*P P 09 45 41.4 -0.1
E25A **Miller Ranch,** 94.19 339 ⇓P P 09 45 41.2 -0.6
baz=95
AGMN **Agassiz Nation** 94.22 345 ⇓P P 09 45 40.0 -1.7
baz=95
AGMN **Agassiz Nation** 94.22 345 *e*P P 09 45 40.0 -1.7
comp=Z,4.5nm,0.7s
F22A **Rosebud** 94.28 337 ⇓P P 09 45 41.2 -1.0
baz=95
H18A **Shoshone NF, C** 94.29 335 ⇑P P 09 45 41.6 -0.8
baz=95
G20A **Bridger** 94.34 336 ⇓P P 09 45 41.3 -1.3
baz=95
D26A **Manning** 94.44 340 ⇓P P 09 45 42.0 -0.9
baz=95
E24A **Baker** 94.48 339 ⇑P P 09 45 42.4 -0.7
baz=95
YMR **Madison River** 94.69 334 *e*P P 09 45 43.9 -0.4
comp=Z,6.7nm,1.0s
F20A **Billings** 94.84 336 ⇑P P 09 45 44.2 -0.6
baz=95
B30A **Myrvik Farm, E** 94.85 343 ⇓P P 09 45 44.0 -0.7
baz=95
HLID **Hailey** 94.86 331 ⇓P P 09 45 44.8 -0.3
baz=95
HLID **Hailey** 94.86 331 *e*P P 09 45 44.7 -0.3
comp=Z,2.5nm,0.9s
D24A **Glendive** 95.00 339 ⇓P P 09 45 44.6 -0.8
baz=95
C24A **Savage** 95.41 339 ⇑P P 09 45 46.2 -1.1
baz=96
E20A **Meyer Farm, Mu** 95.48 336 ⇑P P 09 45 46.7 -1.0
baz=96
A29A **Manning Farm,** 95.49 343 ⇑P P 09 45 46.4 -1.2
baz=96
E19A **Rath Farm, Rou** 95.63 336 ⇑P P 09 45 47.3 -1.1
baz=96
C23A **Lambert** 95.86 339 ⇑P P 09 45 48.1 -1.2
baz=96
D20A **Manuel Ranch,** 96.01 337 ⇑P P 09 45 49.5 -0.6
baz=96
ULM **Lac du Bonnet** 96.09 345 P P 09 45 48.8 -1.4
comp=Z,2.6nm,0.8s,baz=43,slow=0.8,SNR=4.1
SCHQ **Schefferville** 98.67 3 LR LR 10 32 29.9
comp=Z,176nm,20.6s,baz=212,slow=36
WRAB **Tennant Creek** 111.63 207 *i* PKIKP **PKiKP** 09 50 58.0 -0.2
GERES **GERESS Array B** 119.41 49 PKP **PKPdf** 09 51 11.8 -0.4
comp=Z,0.9nm,0.6s,baz=211,slow=1.6,SNR=8.0
KHC **Kasperske Hory** 119.50 49 AMS AMS 10 43 20.0
comp=Z,400nm,18.3s
PRU **Pruhonice** 120.50 48 AMS AMS 10 38 20.0
comp=Z,400nm,19.5s
TREC **Trest** 120.64 50 AMS AMS 10 39 40.0
comp=Z,300nm,17.8s
PVCC **Panska Ves** 120.81 48 AMS AMS 10 39 10.0
comp=Z,600nm,21.2s
DPC **Dobruska-Polom** 121.66 49 AMS AMS 10 39 10.0
ILAR **Eielson Array** 122.82 331 PKP **PKPdf** 09 51 16.8 -1.4
comp=Z,1.4nm,0.8s,baz=162,slow=2.1,SNR=20
COLA **College** 123.22 330 *i* PKIKP **PKPdf** 09 51 19.0 +0.1
NB2 **NORSAR Subarra** 124.67 36 PKPdf **PKPdf** 09 51 21.7 -0.2
comp=Z,5.1nm,1.2s,baz=248,slow=1.9
NB2 **NORSAR Subarra** 124.67 36 PKPdf **PKPdf** 09 51 21.7 -0.2
baz=248,slow=1.9
NOA **NORSAR Array B** 124.67 36 PKP **PKPdf** 09 51 21.4 -0.5
comp=Z,1.5nm,0.8s,baz=242,slow=2.1,SNR=4.6
BRTR **Keskin Array B** 126.74 67 PKP **PKPdf** 09 51 27.3 +0.6
comp=Z,1.7nm,0.8s,baz=132,slow=1.8,SNR=8.0
AKASG **Malin Array Be** 129.06 53 *i* PKIKP **PKPdf** 09 51 33.4 +2.9
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG **Malin Array Be** 129.06 53 PKP **PKPdf** 09 51 29.9 -0.6
comp=Z,0.5nm,0.4s,baz=260,slow=2.5,SNR=6.3
FINES **FINESS Array B** 131.39 39 PKP **PKPdf** 09 51 33.8 -0.8
comp=Z,1.4nm,0.8s,baz=225,slow=1.3,SNR=3.9
ARCES **ARCESS Array B** 133.27 29 PKP **PKPdf** 09 51 37.1 -0.9
comp=Z,2.1nm,0.9s,baz=5.7,slow=3.6,SNR=3.6
OBN **Obninsk** 134.79 50 ⇑ *i* PKIKP **PKPdf** 09 51 41.9 +0.7
OBN *i* 09 51 52.5
OBN pmax pmax
comp=Z,7.0nm,1.2s
KLMR **Klimovskoe** 137.58 42 *e*PKIKP **PKPdf** 09 51 45.7 -0.5
KLMR pmax pmax
comp=Z,41nm,1.6s
PRGR **Permogore** 140.60 41 PKIKP **PKPdf** 09 51 47.2 -4.5
BILL **Bilibino** 141.44 329 *i* PKIKP **PKPdf** 09 51 53.2 +0.1
BILL pmax pmax
comp=Z,14nm,1.7s
GEYT **Alibeck** 142.87 82 PKP **PKPdf** 09 51 56.7 0.0
comp=Z,2.8nm,0.6s,baz=273,slow=2.5,SNR=3.7
HYB **Hyderabad** 144.07 129 *i* PKP **PKPab** 09 51 56.0 -0.8
PETK **Petropavlovsk-** 146.07 304 PKPbc **PKPdf** 09 52 00.7 -1.0
comp=Z,8.3nm,0.9s,baz=115,slow=6.7,SNR=4.3
SOKR **Solikamsk** 146.13 45 *i* PKP2 **PKPab** 09 52 03.8 +0.7
SOKR pmax pmax
comp=Z,30nm,1.2s
AKTO **Aktyubinsk** 146.51 61 PKIKP **PKPdf** 09 52 02.5 0.0
AKTO pmax pmax
comp=Z,32nm,1.6s
ARU **Arti** 147.22 50 *i* PKP2 **PKPbc** 09 52 05.8 0.0
ARU 09 55 28.4
ARU SS SS 10 14 34.1 +0.3
ARU MLR MLR
comp=Z,368nm,20.0s
ARU **Arti** 147.22 50 *e*PKPdf **PKPdf** 09 52 03.4 0.0
AB31 **Akbulak array** 147.56 64 *i* PKIKP **PKPdf** 09 52 04.9 +0.7
AB31 pmax pmax
comp=Z,28nm,0.9s
ABKAR **Akbulak array** 147.56 64 *e*PKPbc **PKPdf** 09 52 05.0 +0.8
SEY **Seymchan** 148.11 322 PKPbc **PKPdf** 09 52 04.4 -0.3
comp=Z,16nm,1.0s,baz=107,slow=3.9,SNR=13
SVE **Sverdlovsk** 148.35 50 *e*PKP2 **PKPbc** 09 52 09.0 +0.2
SVE pmax pmax
comp=Z,38nm,1.5s
TIXI **Tiksi** 150.44 346 PKIKP **PKPbc** 09 52 11.0 -2.5
TIXI **Tiksi** 150.44 346 *e*PKPbc **PKPbc** 09 52 11.6 -1.9
CMAR **Chiang Mai Arr** 153.51 162 PKP **PKPdf** 09 52 13.9 -0.6
comp=Z,1.3nm,0.3s,baz=229,slow=3.1,SNR=4.7
CMAR PKPbc **PKPbc** 09 52 20.1 -2.0
comp=Z,3.4nm,0.6s,baz=216,slow=3.9,SNR=11
BVA0 **Borovoye Array** 154.27 57 *i* PKIKP **PKPdf** 09 52 15.2 +0.7
BVA0 pmax pmax
comp=Z,9.0nm,1.5s
QIZ **Qiongzhong** 154.92 186 PKP **PKPdf** 09 52 16.4 0.0
QIZ PP **PP** 09 56 17.4 +2.3
QIZ SS SS 10 16 03.8 +6.3
QIZ LZ
comp=Z,83nm,18.0s
AAK **Ala-Archa** 156.22 82 ⇑ *e*PKIKP **PKPdf** 09 52 18.5 +0.8
AAK **Ala-Archa** 156.22 82 *e*PKPdf **PKPdf** 09 52 18.4 +0.7
KSH **Kashi** 156.32 90 PKP **PKPdf** 09 52 17.6 -0.3
KSH sPKP 09 52 22.3
KSH PKS **PKSdf** 09 55 51.3 -0.6
KSH PP **PP** 09 56 22.0 -2.5
KSH SKS **SKSdf** 09 59 23.8 -0.6
KSH SKKS **SKKSac** 10 03 14.4 +0.6
KSH SS **SS** 10 16 12.8 -2.6
KSH PPMZ
comp=Z,83nm,8.5s
KSH LN
comp=Z,40nm,4.4s
KSH LE
comp=Z,57nm,4.7s
KSH LZ
comp=Z,110nm,11.3s
KMI **Kunming** 160.73 168 PKP **PKPdf** 09 52 22.6 -1.1
KMI pPKP **pPKPdf** 09 52 27.3 +1.0
KMI sPKP 09 52 29.8
KMI LN
comp=Z,200nm,19.9s
KMI LE
comp=Z,140nm,21.6s
KMI LZ
comp=Z,240nm,22.5s
NVS **Novosibirsk** 161.14 47 *e*PKP2 **PKPab** 09 53 06.0 -0.4
MKAR **Makanchi Array** 162.30 72 PKP **PKPdf** 09 52 24.2 -0.3
comp=Z,1.2nm,1.0s,baz=0.0,slow=0.6,SNR=6.7
MKAR PKPab **PKPab** 09 53 12.1 +0.3
comp=Z,1.1nm,0.7s,baz=285,slow=2.8,SNR=6.7
ZALV **Zalesovo Beam** 162.36 48 PKP **PKPdf** 09 52 24.5 +0.4
comp=Z,1.2nm,0.3s,baz=229,slow=5.7,SNR=4.5
ZALV PKPab **PKPab** 09 53 11.7 0.0
comp=Z,1.0nm,0.3s,baz=270,slow=4.3,SNR=3.7
GYA **Guiyang** 162.41 178 PKP **PKPdf** 09 52 25.0 -0.3
GYA PKPab **PKPab** 09 53 16.3 +3.6
GYA PKS **PKSdf** 09 55 57.6 -1.0
GYA PP PP 09 57 02.0 +5.9
GYA SKKS 10 03 47.4
GYA SS **SS** 10 17 22.8 +5.6
GYA PPMZ
comp=Z,130nm,8.0s
GYA LN
comp=Z,130nm,20.2s
GYA LE
comp=Z,120nm,21.0s
GYA LZ
comp=Z,140nm,20.4s
MDJ **Mudanjiang** 164.01 280 PKP **PKPdf** 09 52 24.4 -1.7
BOD **Bodaibo** 165.62 345 *e*PKP2 **PKPab** 09 53 21.9 -4.0
BOD pmax pmax
comp=Z,7.0nm,1.7s
WMQ **Urumqi** 165.91 84 *e*PKP **PKPdf** 09 52 29.6 +1.8
WMQ PKPab **PKPab** 09 53 31.3 +3.4
WMQ PKS **PKSdf** 09 56 01.0 +0.5
WMQ PP **PP** 09 57 19.3 +3.5
WMQ SKS **SKSdf** 09 59 32.3 +0.2
WMQ SKKS **SKKSac** 10 04 05.1 +2.1
WMQ SS **SS** 10 17 56.1 +0.5
WMQ PPMZ
comp=Z,130nm,7.0s
WMQ LN
comp=Z,250nm,22.0s
WMQ LE
comp=Z,350nm,25.0s
WMQ LZ
comp=Z,460nm,23.0s
CD2 **Chengdu** 166.56 167 *e*PKP **PKPdf** 09 52 30.5 +1.7
HVS **Khovu-Aksy** 168.47 48 PKIKP **PKPdf** 09 52 30.0 +0.5
BJI **Beijing** 172.23 242 PKP **PKPdf** 09 52 31.8 0.0
BJI PP **PP** 09 57 49.8 +2.5
BJI SS SS 10 18 56.9 -1.0
BJI LN
comp=Z,270nm,23.0s
BJI LE
comp=Z,180nm,25.7s
BJI LZ
comp=Z,210nm,23.0s
GTA **Gaotai** 172.74 128 *e*PKP **PKPdf** 09 52 35.8 +3.5
GTA PKPab PKPab 09 54 05.5 +7.3
GTA PP PP 09 57 56.8 +6.9
GTA SKS **SKSdf** 09 59 37.3 +1.5
GTA SKKS **SKKSac** 10 04 42.6 +5.9

GTA				SS	SS	10 19 07.0	+4.1
GTA				PPMZ			
	comp=Z,160nm,5.9s						
GTA				LN			
	comp=Z,170nm,21.8s						
GTA				LE			
	comp=Z,170nm,20.9s						
GTA				LZ			
	comp=Z,210nm,21.4s						
HHC	**Hu-ho-hao-te**	**175.46**	**226**	*e*PKP	**PKPdf**	**09 52 30.3**	**-2.8**
HHC				pPKP	**pPKPdf**	**09 52 41.1**	**+5.4**
HHC				PP	**PP**	**09 58 05.0**	**+2.1**
HHC				SS	SS	10 19 25.3	-3.5
HHC				PPMZ			
	comp=Z,87nm,9.9s						
HHC				LN			
	comp=Z,340nm,18.5s						
HHC				LE			
	comp=Z,250nm,17.3s						
HHC				LZ			
	comp=Z,200nm,16.0s						
SONM	**Songino Array**	**176.20**	**9**	PKPab	**PKPab**	**09 54 13.5**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=342,slow=3.9,SNR=6.1						

IDC 18 09:41:37.2±1.1, 15°.12S×173°.71W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/39, mbtmp3.9/5, Error ellipse: s-maj=50.6km s-min=23.1km az=134.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.44**	**198**	P	P	09 46 57.9	+0.1
	6.3nm,0.7s,baz=26,slow=13,SNR=5.3						
WRA	**Warramunga Arr**	**49.62**	**257**	P	P	09 50 30.6	-0.3
	0.5nm,0.6s,baz=96,slow=7.9,SNR=17						
ASAR	**Alice Springs**	**49.92**	**252**	P	P	09 50 33.0	-0.2
	2.6nm,0.6s,baz=86,slow=7.9,SNR=45						
NVAR	**Mina Array Bea**	**74.32**	**42**	P	P	09 53 17.2	+0.2
	0.7nm,0.8s,baz=234,slow=8.8,SNR=3.3						
ILAR	**Eielson Array**	**82.23**	**11**	P	P	09 53 58.9	-1.0
	0.3nm,0.8s,baz=221,slow=3.5,SNR=3.8						
BRTR	**Keskin Array B**	**145.75**	**321**	PKPbc	PKPab	10 01 19.4	+0.3
	1.0nm,0.8s,baz=74,slow=3.2,SNR=5.5						

KRSC 18 09:45:51.1±1.6, 49°.32N×156°.32E, h80km±25km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.37**	**355**	*e*P	Pn	09 46 16.2	+1.5
SKR				*e*S	Sn	09 46 33.7	+1.2
PAU	**Pauzhetka**	**2.17**	**8**	*e*P	Pn	09 46 27.1	+1.8
PAU				*e*S	Sn	09 46 53.4	+2.0
MTVR	**Mutnovka**	**3.38**	**20**	*e*P	Pn	09 46 44.7	+2.9
MTVR				*e*S	Sn	09 47 24.0	+3.1
RUS	**Russkaya**	**3.42**	**23**	*e*P	Pn	09 46 44.1	+2.1
RUS				*e*S	Sn	09 47 23.5	+2.2
APC	**Apacha**	**3.65**	**8**	*e*P	Pn	09 46 47.2	+2.0
UGLR	**Uglovaya**	**4.20**	**21**	*e*P	Pn	09 46 56.4	+3.5
AVH	**Avacha**	**4.23**	**20**	*e*P	Pn	09 46 56.7	+3.5
KOK	**Koryaka**	**4.24**	**19**	*e*P	Pn	09 46 56.8	+3.5
KRX	**Arik**	**4.30**	**19**	*e*P	Pn	09 46 57.2	+2.9
GNL	**Ganaly**	**4.50**	**12**	*e*P	Pn	09 46 59.1	+2.2
KBTR	**Krutoberegovo**	**7.95**	**27**	*e*P	Pn	09 47 45.6	+1.9

*ISCJB **18** 09:47:36.8±0.4, 9°.00S±0°.08×117°.90E±0°.03, h113km±6km, mb3.6/3, Error ellipse: s-maj=13.2km s-min=3.9km az=15.6*
*DJA **18** 09:47:38.6±0.3, 9°.S±4°.×11°.8E±°, h64km±8km, M4.4/22, mb4.6/1, MLv4.3/22*
*IDC **18** 09:47:42.0±3.5, 8°.79S×118°.13E, h151km±26km, mb3.2/3, mb1 3.3/5, mb1mx3.2/34, mbtmp3.8/5, Error ellipse: s-maj=56.1km s-min=10.5km az=47.0*
ISC 18 09:47:37.6±0.9, 9.05S±0°.08×117.89E±0°.04, h113km±10km, n26, σ1^{0}03/34, mb3.7/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.60**	**112**	P	**Pn**	**09 48 05.3**	**-0.5**
WBSI				S	**Sn**	**09 48 26.0**	**-1.2**
WSI	**Waingapu**	**2.46**	**105**	P	**Pn**	**09 48 16.6**	**0.0**
WSI				S	**Sn**	**09 48 46.9**	**+0.4**
WSI	**Waingapu**	**2.46**	**105**	P	Pn	09 48 13.1	-3.5
	baz=2.4,SNR=4.1						
DNP	**Denpasar**	**2.67**	**278**	P	**Pn**	**09 48 19.4**	**0.0**
IGBI	**Denpasar**	**2.72**	**275**	P	**Pn**	**09 48 20.7**	**+0.7**
IGBI				S	**Sn**	**09 48 53.0**	**+0.4**
SRBI	**Singaraja**	**2.81**	**290**	P	**Pn**	**09 48 21.2**	**0.0**
SRBI				S	**Sn**	**09 48 55.0**	**+0.2**
BASI	**Baing, Sumba**	**2.90**	**114**	P	**Pn**	**09 48 22.2**	**-0.1**
BASI				S	**Sn**	**09 48 56.5**	**-0.3**
JAGI	**Jajag, Banyuwa**	**3.74**	**279**	P	**Pn**	**09 48 33.3**	**-0.2**
JAGI				S	**Sn**	**09 49 16.7**	**-0.1**
JAGI	**Jajag, Banyuwa**	**3.74**	**279**	P	**Pn**	**09 48 33.4**	**-0.2**
	baz=3.8,SNR=39						
JAGI				S	**Sn**	**09 49 15.6**	**-1.2**
	baz=3.8,SNR=12						
EDFI	**Ende, Flores**	**3.77**	**86**	P	**Pn**	**09 48 34.4**	**+0.3**
ABJI	**Asem Bagus**	**3.82**	**289**	P	**Pn**	**09 48 35.7**	**+1.0**
BSSI	**Bau Bau, Buton**	**3.87**	**42**	P	**Pn**	**09 48 35.4**	**0.0**
BKSI	**Bulukumba**	**4.32**	**31**	P	**Pn**	**09 48 41.4**	**+0.1**
MMRI	**Maumere**	**4.32**	**85**	P	**Pn**	**09 48 41.6**	**+0.3**
KMMI	**Kalianget**	**4.36**	**297**	P	**Pn**	**09 48 42.9**	**+1.0**
BLJI	**Banyuglugur**	**4.44**	**287**	P	**Pn**	**09 48 44.1**	**+1.2**
GMJI	**Gumukmas**	**4.46**	**280**	P	**Pn**	**09 48 42.9**	**-0.3**
BATI	**Baumata**	**5.81**	**102**	P	**Pn**	**09 49 00.9**	**-0.6**
BATI	**Baumata**	**5.81**	**102**	P	**Pn**	**09 49 02.0**	**+0.5**
	9.3nm,0.3s,baz=277,slow=3.3,SNR=15						
BATI				S	**Sn**	**09 50 09.6**	**+2.7**
	4.8nm,0.3s,baz=266,slow=19,SNR=3.5						
KNRA	**Kununurra**	**12.50**	**123**	P	**Pn**	**09 50 31.3**	**-0.3**
	baz=12,SNR=11						
KDU	**Kakadu**	**14.77**	**105**	P	**Pn**	**09 51 00.6**	**-0.4**
	baz=15,SNR=5.8						
MEEK	**Meekatharra**	**17.51**	**178**	P	Pn	09 51 43.7	+9.0
	baz=18,SNR=6.1						
WRA	**Warramunga Arr**	**19.24**	**126**	P	**Pn**	**09 51 55.1**	**-0.3**
	0.1nm,0.3s,baz=302,slow=12,SNR=7.9						
WRA				S	**S**	**09 55 22.8**	**-2.5**
	0.1nm,0.3s,baz=296,slow=20,SNR=5.1						
ASAR	**Alice Springs**	**21.12**	**135**	P	**P**	**09 52 15.7**	**+2.2**
	1.1nm,0.5s,baz=313,slow=8.5,SNR=23						
ASAR				S	**S**	**09 56 03.9**	**+1.6**
	0.1nm,0.3s,baz=308,slow=21,SNR=2.5						
SONM	**Songino Array**	**57.55**	**351**	P	**P**	**09 57 14.8**	**-0.7**
	0.4nm,0.5s,baz=162,slow=8.1,SNR=4.6						
MKAR	**Makanchi Array**	**64.01**	**334**	P	**P**	**09 57 58.0**	**-1.1**
	0.6nm,0.4s,baz=155,slow=6.3,SNR=13						

*ISCJB **18** 09:49:04.6±2.3, 34°.53S±0°.03×71°.88W±0°.05, h11km±15km, mb4.4/19, Error ellipse: s-maj=7.6km s-min=4.5km az=9.3*
*IDC **18** 09:49:04.1±0.7, 34°.63S×71°.97W, h0km, mb4.3/11, mb1 4.5/14, mb1mx4.3/26, mbtmp4.3/14, ML4.0/3, Error ellipse: s-maj=24.1km s-min=15.3km az=77.0*
*GUC **18** 09:49:06.4±0.6, 34°.56S×71°.76W, h41km±4km, ML4.9*
*NEIC **18** 09:49:09.2±0.5, 34°.59S×71°.91W, h35km, mb4.6/8, Error ellipse: s-maj=15.3km s-min=10.4km az=76.0*
ISC 18 09:49:04.7±1.9, 34°.55S±0°.04×71°.89W±0°.06, h4km±12km, n49, σ1^{0}27/54, mb4.5/19, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.71**	**130**	*e*P	**Pg**	**09 49 18.6**	**+0.2**
NICH				*e*S	**Sg**	**09 49 27.7**	**+0.1**
NICH				IAML		09 49 29.3	
	comp=N,90μm,0.4s						
TALC	**Talca**	**0.88**	**166**	*e*P9	**Pg**	**09 49 21.3**	**-0.3**
TALC				*e*S	**Sg**	**09 49 33.2**	**+0.2**
LNCH	**Linares**	**1.32**	**170**	*e*P	**Pn**	**09 49 28.9**	**-1.1**
LNCH				*e*S	**Sb**	**09 49 45.8**	**-1.7**
ANTU	**Antumapu**	**1.43**	**47**	*e*P	**Pn**	**09 49 30.1**	**-1.4**
ANTU				*e*S	**Sn**	**09 49 48.3**	**-2.5**
ANTU				IAML		09 49 51.5	
	comp=N,26μm,0.6s						
SAN	**Santiago**	**1.49**	**44**	*e*P	**Pn**	**09 49 31.4**	**-1.0**
SJCH	**San Jose de Ma**	**1.56**	**55**	*e*P	**Pn**	**09 49 31.9**	**-1.5**
SJCH				*i* S	**Sn**	**09 49 51.7**	**-2.5**
LACH	**Col Las Americ**	**1.57**	**46**	*e*P	**Pn**	**09 49 32.7**	**-0.8**
LACH				*e*S	**Sn**	**09 49 51.9**	**-2.4**
CLCH	**Cerro Calan**	**1.61**	**45**	⇓*i*P	**Pn**	**09 49 33.1**	**-0.9**
CLCH				*e*P9	**Pn**	**09 49 33.9**	**-0.1**
CLCH				*e*S	**Sn**	**09 49 53.0**	**-2.2**
CLCH				*e*S	**Sn**	**09 49 54.8**	**-0.4**
CLCH				IAML		09 49 57.3	
	comp=N,31μm,0.9s						
PEL	**Peldehue**	**1.72**	**36**	⇑*i*P	**Pn**	**09 49 34.7**	**-0.8**
PEL				*e*S4	**Sn**	**09 49 56.8**	**-1.2**
PEL				IAML		09 50 01.4	
	comp=N,24μm,1.1s						
YECH	**El Yeso**	**1.74**	**60**	*e*P4	**Pn**	**09 49 36.9**	**+0.9**
YECH				*e*S4	**Sn**	**09 49 58.5**	**-0.3**
COCH	**Cobquecura**	**1.74**	**205**	*e*P4	**Pn**	**09 49 35.8**	**0.0**
COCH				*e*S4	**Sn**	**09 49 57.7**	**-0.8**
CFAA	**Coronel Fontan**	**4.24**	**47**	Pn	**Pn**	**09 50 12.7**	**+2.5**
	comp=N,1.1nm,0.3s,baz=222,slow=11,SNR=39						
CFAA				Lg	Lg	09 51 16.8	
	comp=N,4.6nm,0.3s,baz=146,slow=16,SNR=9.9						
LCO	**Las Campanas**	**5.61**	**11**	*e*Pn	**Pn**	**09 50 28.6**	**-0.6**
	comp=N,533nm,2.6s						
PLCA	**Paso Flores**	**6.27**	**171**	Pn	**Pn**	**09 50 35.4**	**-2.7**
	comp=N,1.8nm,0.3s,baz=215,slow=20,SNR=6.8						
PLCA				Lg	Lg	09 52 19.8	
	comp=N,2.4nm,0.3s,baz=76,slow=23,SNR=6.0						
TRQA	**Tornquist**	**8.73**	**117**	*e*Pn	**Pn**	**09 51 13.6**	**+1.7**
LPAZ	**La Paz**	**18.49**	**11**	P	**Pn**	**09 53 23.1**	**+0.5**
	comp=N,0.3nm,0.3s,baz=171,slow=7.3,SNR=17						
SIV	**San Ignacio**	**20.88**	**30**	P	**P**	**09 53 47.1**	**-0.8**
	comp=N,12nm,0.9s,baz=222,slow=12,SNR=17						
NNA	**Nana**	**22.90**	**347**	P	**P**	**09 54 08.7**	**-1.0**
	comp=N,6.5nm,0.7s,baz=212,slow=13,SNR=2.9						
SAML	**Samuel**	**26.70**	**19**	*e*P	**P**	**09 54 47.4**	**+2.2**
	comp=N,8.7nm,0.8s						
BDFB	**Brasilia**	**28.54**	**55**	P	**P**	**09 55 02.6**	**+0.8**
	comp=N,8.0nm,0.7s,baz=195,slow=8.2,SNR=10						
SDV	**Santo Domingo**	**43.21**	**2**	*e*P	**P**	**09 57 06.3**	**-0.9**
	comp=N,9.2nm,1.2s						
VNA2	**Neumayer--Watz**	**49.46**	**157**	P	**P**	**09 57 56.2**	**+0.5**
	baz=298,slow=8.9						
SNAA	**Sanae**	**51.04**	**158**	P	P	09 58 01.9	-5.7
SNAA	**Sanae**	**51.04**	**158**	P	**P**	**09 58 07.6**	**0.0**
	comp=N,1.8nm,0.9s,baz=279,slow=7.5,SNR=5.9						
TXAR	**Lajitas Array**	**70.27**	**331**	P	**P**	**10 00 19.9**	**+0.7**
	comp=N,1.2nm,0.5s,baz=158,slow=8.0,SNR=20						
ABTX	**Abilene, Hawle**	**71.72**	**336**	*e*P	**P**	**10 00 28.1**	**+0.1**
	comp=N,5.7nm,0.8s						
WVT	**Waverly**	**71.87**	**346**	*e*P	**P**	**10 00 27.9**	**-0.8**
	comp=N,9.1nm,0.6s						
MSTX	**Muleshoe**	**74.05**	**334**	*e*P	**P**	**10 00 41.4**	**-0.5**
	comp=N,5.4nm,0.8s						
DBIC	**Dimbokro**	**75.24**	**71**	P	**P**	**10 00 51.0**	**+2.0**
	comp=N,2.8nm,0.6s,baz=211,slow=7.6,SNR=4.8						
DRV	**Dumont d'Urvil**	**76.20**	**193**	L	L	10 00 00.0	
DRV				R		10 04 00.0	
BOSA	**Boshof**	**79.71**	**118**	P	**P**	**10 01 14.3**	**+0.1**
	comp=N,5.1nm,0.7s,baz=224,slow=4.2,SNR=10.0						
ECSD	**EROS Data Cent**	**81.10**	**342**	*e*P	**P**	**10 01 20.4**	**-0.4**
	comp=N,9.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**84.28**	**70**	P	**P**	**10 01 37.9**	**-0.3**
	comp=N,2.8nm,0.8s,baz=281,slow=5.9,SNR=16						
PDAR	**Pinedale Array**	**84.30**	**333**	P	**P**	**10 01 37.5**	**-0.4**
	comp=N,1.3nm,1.0s,baz=132,slow=4.2,SNR=6.9						
NVAR	**Mina Array Bea**	**84.40**	**325**	P	**P**	**10 01 39.7**	**+1.3**
	comp=N,1.5nm,0.8s,baz=142,slow=7.5,SNR=12						
YMR	**Madison River**	**86.46**	**333**	*e*P	**P**	**10 01 48.9**	**+0.3**
	comp=N,6.3nm,0.8s						
LAO	**LASA Array**	**86.57**	**337**	*e*P	**P**	**10 01 48.5**	**-0.4**
	comp=N,3.2nm,0.9s						
ULM	**Lac du Bonnet**	**87.06**	**345**	P	**P**	**10 01 51.3**	**+0.2**
	comp=N,2.5nm,0.8s,baz=186,slow=3.7,SNR=3.8						
YBH	**Yreka Blue Hor**	**89.08**	**325**	P	**P**	**10 02 03.8**	**+2.7**
	comp=N,3.0nm,0.9s,baz=90,slow=6.1,SNR=3.4						
WRA	**Warramunga Arr**	**120.34**	**209**	PKP	**PKPdf**	**10 07 56.8**	**-1.1**
	comp=N,1.4nm,1.1s,baz=155,slow=1.8,SNR=10						
H11S2	**WAKE ISLAND Hyl**	**25.88**	**269**	T	T	12 26 31.6	
	baz=126,slow=78,SNR=14						
H11S1	**WAKE ISLAND Hyl**	**25.89**	**269**	T	T	12 26 29.4	
	baz=126,slow=78,SNR=28						
H11S3	**WAKE ISLAND Hyl**	**25.90**	**269**	T	T	12 26 26.6	
	baz=126,slow=78,SNR=18						
H11N3	**WAKE ISLAND Hyl**	**26.31**	**270**	T	T	12 27 00.1	
	baz=115,slow=78,SNR=15						
H11N1	**WAKE ISLAND Hyl**	**26.32**	**270**	T	T	12 27 01.1	
	baz=115,slow=78,SNR=19						
H11N2	**WAKE ISLAND Hyl**	**26.33**	**270**	T	T	12 27 03.0	
	baz=115,slow=78,SNR=17						
SEY	**Seymchan**	**140.56**	**330**	PKP	**PKPdf**	**10 08 34.8**	**+0.2**
	comp=N,1.3nm,0.7s,baz=148,slow=6.9,SNR=5.5						
MKAR	**Makanchi Array**	**157.03**	**50**	PKP	**PKPdf**	**10 09 00.4**	**-0.9**
	comp=N,0.4nm,0.7s,baz=347,slow=3.3,SNR=3.4						
MKAR				PKPab	**PKPab**	**10 09 31.8**	**+0.1**
	comp=N,0.8nm,0.9s,baz=276,slow=3.5,SNR=3.7						
SONM	**Songino Array**	**166.66**	**5**	PKPab	**PKPab**	**10 10 14.2**	**+0.5**
	comp=N,0.4nm,0.8s,baz=294,slow=1.4,SNR=2.7						

*IDC **18** 10:25:31.4±2.9, 36°.02N×70°.71E, h86km±25km, mb3.5/12, mb1 3.7/17, mb1mx3.5/31, mbtmp3.9/17, Error ellipse: s-maj=20.6km s-min=14.9km az=5.0*
*ISCJB **18** 10:25:32.0±0.4, 36°.14N±0°.03×70°.86E±0°.06, h102km, mb3.5/11, Error ellipse: s-maj=7.1km s-min=3.3km az=153.6*
*NNC **18** 10:25:39.9±2.7, 36°.68N×70°.55E, h150km±21km, mb3.5, mpv4.5, Error ellipse: s-maj=24.1km s-min=15.1km az=168.0*
ISC 18 10:25:33.2±0.5, 36°.17N±0°.05×70°.80E±0°.06, h102km, n59, σ1^{0}97/71, mb3.5/11, 5C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.51**	**158**	⇓P	**Pn**	**10 26 15.7**	**+3.0**
CEP				S	**Sn**	**10 26 46.0**	**+3.1**
DZET	**Dzherino**	**3.06**	**330**	⇓P	**Pn**	**10 26 20.9**	**+1.0**
DZET				⇓S	**Sn**	**10 26 54.3**	**-1.6**
CHCP	**Chirah Chowk**	**3.22**	**140**	P	**Pn**	**10 26 24.9**	**+2.9**
THW	**Thamme Wali**	**3.46**	**167**	P	**Pn**	**10 26 27.6**	**+2.5**
SARP	**Sargodha**	**4.51**	**159**	P	**Pn**	**10 26 39.9**	**+0.5**
DLH	**Dalhousie**	**5.60**	**129**	*e*P	**Pn**	**10 26 55.0**	**+0.7**
DLH				*e*S	**Sn**	**10 27 55.0**	**-2.4**
DHRM	**DHARAMSHALA**	**6.00**	**129**	*e*P	**Pn**	**10 27 00.9**	**+1.1**
DHRM				*e*S	**Sn**	**10 28 04.7**	**-2.5**
DHRM				AML	AML	10 28 08.3	
	comp=N,749nm,0.2s						
DHRM				AML	AML	10 28 08.7	
	comp=E,760nm,0.2s						
AML	**Almayashu**	**6.36**	**20**	P	**Pn**	**10 27 05.7**	**+1.0**
	SNR=172						
BHK	**Bhakra**	**6.66**	**134**	*e*S	**Sn**	**10 28 20.0**	**-2.9**
UCH	**Uchtor**	**6.70**	**24**	P	**Pn**	**10 27 10.3**	**+0.9**
	SNR=45						
KZA	**Kyzart**	**6.84**	**29**	P	**Pn**	**10 27 11.8**	**+0.7**
	SNR=41						
EKS2	**Erkin-Say**	**6.88**	**19**	P	**Pn**	**10 27 12.6**	**+1.2**
	SNR=39						
KK31	**Karatay Array**	**6.93**	**358**	⇓P	**Pn**	**10 27 12.3**	**+0.3**
	comp=E,11nm,0.3s,baz=183,slow=13,SNR=450						
KK31				⇓S	**Sn**	**10 28 24.6**	**-4.7**
	comp=E,3.3nm,0.3s,baz=192,slow=24,SNR=4.4						
SDNR	**Sundarnagar**	**6.93**	**130**	*e*P	**Pn**	**10 27 14.0**	**+1.8**
SDNR				*e*S	**Sn**	**10 28 24.6**	**-4.9**
AAK	**Ala-Archa**	**7.06**	**23**	⇓P	**Pn**	**10 27 15.2**	**+1.2**
	comp=E,15nm,0.4s						
AAK				⇑S	**Sn**	**10 28 33.0**	**+0.3**
	comp=E,18nm,0.7s						
AAK	**Ala-Archa**	**7.06**	**23**	P	**Pn**	**10 27 15.3**	**+1.2**
	SNR=42						
AAK	**Ala-Archa**	**7.06**	**23**	P	**Pn**	**10 27 15.1**	**+1.2**
	comp=E,12nm,0.3s,baz=156,slow=6.3,SNR=115						
AAK				S	**Sn**	**10 28 33.6**	**+0.9**
	comp=E,2.5nm,0.3s,baz=297,slow=22,SNR=7.5						
KBK	**Karagaybulak**	**7.23**	**25**	P	**Pn**	**10 27 18.1**	**+1.8**
	SNR=14						
SMLA	**Simla**	**7.31**	**132**	*e*P	**Pn**	**10 27 19.6**	**+2.3**
SMLA				*e*S	**Sn**	**10 28 34.7**	**-4.0**
SMLA				AML	AML	10 28 38.7	
	comp=N,214nm,0.2s						
SMLA				AML	AML	10 28 40.0	
	comp=E,262nm,0.2s						
ULHL	**Ulahol**	**7.39**	**33**	P	**Pn**	**10 27 19.5**	**+0.9**
	SNR=20						
CHMS	**Chumysh**	**7.47**	**23**	P	**Pn**	**10 27 20.4**	**+1.0**
	SNR=27						
USP	**Ospenovka**	**7.64**	**21**	P	**Pn**	**10 27 22.9**	**+1.2**
	SNR=9.9						
TKM2	**Tokmak 2**	**7.69**	**27**	⇑P	**Pn**	**10 27 23.7**	**+1.1**
	comp=E,12nm,0.4s						
TKM2				⇑S	**Sn**	**10 28 46.7**	**-1.5**
	comp=E,13nm,0.8s						
TKM2	**Tokmak 2**	**7.69**	**27**	P	**Pn**	**10 27 23.8**	**+1.1**
	SNR=13						
NDI	**New Delhi**	**9.22**	**142**	*ex*	**Pn**	**10 27 46.0**	**+2.7**
NDI				*e*S	**Sn**	**10 29 21.0**	**-4.3**
GEYT	**Alibeck**	**10.29**	**284**	P	**Pn**	**10 27 56.6**	**-1.2**
	comp=E,1.2nm,0.3s,baz=100,slow=15,SNR=3.6						
GEYT				S	**Sn**	**10 29 46.7**	**-4.5**
	comp=E,4.7nm,0.3s,baz=89,slow=12,SNR=7.6						
DANN	**Dangsing**	**13.45**	**122**	*e*P	**Pn**	**10 28 37.9**	**-2.2**
MKAR	**Makanchi Array**	**13.65**	**35**	P	**Pn**	**10 28 41.9**	**-0.5**
	comp=E,0.2nm,0.3s,baz=216,slow=14,SNR=14						
MK31	**Makanchi Array**	**13.65**	**35**	P	**Pn**	**10 28 41.7**	**-0.7**
	comp=E,1.0nm,0.6s,baz=225,slow=14,SNR=28						
KOLN	**Koldanda**	**13.71**	**124**	*e*P	**Pn**	**10 28 41.9**	**-1.6**
	comp=E,10nm,0.4s						
BHPL	**Bhopal**	**14.11**	**154**	*e*P	**Pn**	**10 28 49.6**	**+1.1**
BHPL				*ex*	x	10 31 11.6	
GKN	**Gorkha**	**14.27**	**121**	*e*P	**Pn**	**10 28 48.1**	**-2.6**
	comp=E,21nm,0.4s						
DMN	**Daman**	**14.84**	**121**	*e*P	**Pn**	**10 28 56.9**	**-1.1**
	comp=E,12nm,0.4s						
KKN	**Kakani**	**14.85**	**120**	*e*P	**Pn**	**10 28 56.7**	**-1.4**
	comp=E,19nm,0.6s						
PKIN	**Phulchoki**	**15.06**	**121**	*e*P	**Pn**	**10 28 59.8**	**-1.0**
	comp=E,9.7nm,0.3s						
PKI	**Pulchoki**	**15.07**	**121**	*e*P	**Pn**	**10 28 59.3**	**-1.8**
	comp=E,7.8nm,0.3s						
GUN	**Gumba**	**15.20**	**119**	*e*P	**Pn**	**10 29 00.1**	**-2.6**
	comp=E,18nm,0.4s						
AB31	**Akbulak array**	**15.30**	**332**	⇑P	**Pn**	**10 29 02.7**	**-0.6**
	comp=E,2.0nm,0.3s						
AB31				⇑S	Sn	10 31 41.1	-11
	comp=E,1.3nm,0.6s,baz=148,slow=27,SNR=5.1						
KURBB	**Kurchatov Arra**	**15.49**	**19**	P	**Pn**	**10 29 02.9**	**-2.8**
	comp=E,0.1nm,0.3s,baz=213,slow=13,SNR=4.9						
JIRN	**Jiri**	**15.57**	**119**	*e*P	**Pn**	**10 29 05.7**	**-1.6**
	comp=E,41nm,0.4s						
RAMN	**Ramite**	**16.29**	**120**	*e*P	**Pn**	**10 29 15.4**	**-0.8**
TAPN	**Taplejung**	**16.84**	**117**	*e*P	**Pn**	**10 29 21.1**	**-1.9**
	comp=E,22nm,0.5s						
BVA0	**Borovoye Array**	**16.86**	**359**	P	**Pn**	**10 29 23.0**	**+0.4**
	comp=E,2.5nm,0.8s,baz=176,slow=13,SNR=11						
BVAR	**Borovoye Array**	**16.86**	**359**	P	**Pn**	**10 29 22.7**	**0.0**
	comp=E,0.7nm,0.3s,baz=166,slow=9.4,SNR=10						
ODAN	**Odare**	**16.90**	**119**	*e*P	**Pn**	**10 29 22.9**	**-0.8**
	comp=E,14nm,0.5s						
AKTO	**Aktyubinsk**	**16.99**	**331**	⇓P	**P**	**10 29 25.8**	**+1.2**
	comp=E,6.4nm,0.6s						
AKTO				⇓S	Sn	10 32 22.2	-11
	comp=E,4.1nm,1.0s						
AKTO	**Aktyubinsk**	**16.99**	**331**	P	**P**	**10 29 25.1**	**+0.5**
	comp=E,0.7nm,0.3s,baz=127,slow=12,SNR=25						
ZALV	**Zalesovo Beam**	**20.28**	**24**	P	**P**	**10 30 01.9**	**+1.4**
	comp=E,6.0nm,0.3s,baz=216,slow=11,SNR=21						
SONM	**Songino Array**	**28.66**	**55**	P	**P**	**10 31 21.8**	**+1.6**
	comp=E,0.3nm,0.7s,baz=244,slow=9.7,SNR=4.1						
CMAR	**Chiang Mai Arr**	**30.44**	**118**	P	**P**	**10 31 37.7**	**+1.5**
	comp=E,1.3nm,0.3s,baz=291,slow=8.2,SNR=4.5						
FINES	**FINESS Array B**	**37.67**	**326**	P	**P**	**10 32 39.8**	**+1.7**
	comp=E,0.4nm,0.5s,baz=126,slow=11,SNR=1.4						
ARCES	**ARCESS Array B**	**41.39**	**338**	P	**P**	**10 33 10.9**	**+2.0**
	comp=E,2.2nm,0.9s,baz=108,slow=8.8,SNR=1.8						
NOA	**NORSAR Array B**	**44.55**	**323**	P	**P**	**10 33 35.3**	**+0.8**
	comp=E,0.6nm,0.7s,baz=104,slow=7.5,SNR=2.7						
KSRS	**Korea Array**	**45.14**	**71**	P	**P**	**10 33 40.2**	**+0.7**
	comp=E,0.9nm,0.4s,baz=269,slow=7.5,SNR=5.8						
TORD	**Torodi Ar. Bea**	**65.55**	**269**	P	**P**	**10 36 04.8**	**-1.4**
	comp=E,0.2nm,0.4s,baz=41,slow=5.6,SNR=5.1						
ILAR	**Eielson Array**	**75.14**	**16**	P	**P**	**10 37 03.7**	**-0.1**
	comp=E,0.2nm,0.8s,baz=312,slow=4.7,SNR=4.0						
YKA	**Yellowknife Ar**	**81.58**	**3**	P	**P**	**10 37 40.2**	**+1.0**
	comp=E,0.3nm,0.4s,baz=350,slow=5.4,SNR=10						
WRA	**Warramunga Arr**	**81.96**	**122**	P	**P**	**10 37 40.9**	**-0.9**
	comp=E,0.5nm,0.4s,baz=324,slow=5.0,SNR=7.5						
ASAR	**Alice Springs**	**84.20**	**125**	P

s-min=16.8km az=81.0
*ISCJB **18** 10:48:38.2±0.6, 35°.21S±0°.04×72°.72W±0°.06, h20km, mb3.8/7, Error ellipse: s-maj=6.6km s-min=6.3km az=1.5*
*GUC **18** 10:48:41.4±0.9, 35°.31S×72°.58W, h48km±40km, ML3.4*
ISC 18 10:48:39.6±0.7, 35°.27S±0°.06×72°.64W±0°.06, h20km, n16, σ0°83/20, mb3.8/7, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.83**	**99**	*e*P9	**Pb**	**10 48 55.5**	**+0.1**
TALC				*e*S	**Sb**	**10 49 06.5**	**+0.3**
COCH	**Cobquecura**	**0.87**	**188**	⇑*i*P	**Pb**	**10 48 55.9**	**-0.2**
COCH				*e*S	**Sb**	**10 49 06.8**	**-0.4**
COCH				IAML		10 49 09.3	
	comp=E,2μm,0.4s						
LNCH	**Linares**	**1.03**	**125**	⇓*i*P	**Pn**	**10 48 58.9**	**0.0**
LNCH				*e*S	**Sn**	**10 49 12.4**	**-0.3**
NICH	**Los Niches**	**1.19**	**78**	*e*P	**Pb**	**10 49 01.6**	**+0.2**
NICH				*e*S	**Sn**	**10 49 17.3**	**+0.7**
CFAA	**Coronel Fontan**	**5.19**	**46**	Pn	**Pn**	**10 49 56.0**	**-0.2**
	comp=E,0.6nm,0.3s,baz=220,slow=11,SNR=19						
CFAA				Lg	Lg	10 51 13.6	
	comp=E,0.5nm,0.3s,baz=100,slow=20,SNR=4.0						
CFAA				LR	LR	10 52 03.9	
	comp=E,12nm,18.0s,baz=240,slow=41						
PLCA	**Paso Flores**	**5.70**	**164**	Pn	**Pn**	**10 50 04.2**	**+1.0**
	comp=E,0.7nm,0.3s,baz=334,slow=10,SNR=24						
PLCA				Lg	Lg	10 51 35.5	
	comp=E,1.1nm,0.3s,baz=292,slow=19,SNR=3.4						
PLCA				LR	LR	10 52 23.7	
	comp=E,95nm,22.0s,baz=294,slow=40						
LPAZ	**La Paz**	**19.33**	**13**	P	**P**	**10 53 04.1**	**-0.2**
	comp=E,0.1nm,0.3s,baz=186,slow=9.2,SNR=2.7						
SIV	**San Ignacio**	**21.81**	**31**	P	**P**	**10 53 28.6**	**-2.0**
	comp=E,2.4nm,0.6s,baz=270,slow=3.2,SNR=7.1						
QSPA	**South Pole Qui**	**54.97**	**180**	P	**P**	**10 58 09.7**	**+0.6**
	comp=E,1.8nm,0.9s,baz=4.0,slow=14,SNR=3.1						
TXAR	**Lajitas Array**	**70.60**	**332**	P	**P**	**10 59 54.1**	**+0.6**
	comp=E,0.5nm,0.6s,baz=157,slow=9.3,SNR=11						
BOSA	**Boshof**	**79.92**	**118**	P	**P**	**11 00 47.4**	**-0.1**
	comp=E,2.2nm,0.9s,baz=186,slow=18,SNR=2.5						
NVAR	**Mina Array Bea**	**84.64**	**326**	P	**P**	**11 01 12.8**	**+1.0**
	comp=E,0.4nm,0.8s,baz=164,slow=4.7,SNR=3.8						
PDAR	**Pinedale Array**	**84.67**	**334**	P	**P**	**11 01 12.9**	**+1.0**
	comp=E,0.3nm,0.8s,baz=84,slow=11,SNR=2.5						
TORD	**Torodi Ar. Bea**	**85.11**	**70**	P	**P**	**11 01 13.5**	**-0.9**
	comp=E,0.5nm,0.8s,baz=266,slow=5.7,SNR=5.9						
WRA	**Warramunga Arr**	**119.42**	**209**	PKP	**PKPdf**	**11 07 26.8**	**-1.4**
	comp=E,0.4nm,1.0s,baz=172,slow=1.7,SNR=3.1						
BVAR	**Borovoye Array**	**148.54**	**44**	PKPbc	**PKPbc**	**11 08 24.3**	**-0.2**
	comp=E,0.4nm,0.5s,baz=352,slow=2.9,SNR=3.4						

*ISCJB **18** 11:01:19.9±0.9, 36°.18S±0°.06×71°.7W±0°.3, h10km, mb3.5/4, MS3.3/2, Error ellipse: s-maj=29.2km s-min=8.8km az=0.6*
*IDC **18** 11:01:19.7±1.4, 36°.17S×71°.67W, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.7/31, mbtmp3.5/6, ML3.0/2, MS3.1/3, Ms1 3.1/3, ms1mx2.9/16, Error ellipse: s-maj=41.1km s-min=27.7km az=94.0*
ISC 18 11:01:21.3±1.1, 36°.11S±0°.08×71°.8W±0°.2, h10km, n9, σ1°00/8, mb3.6/4, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.72**	**7**	⇑*i*P	**Pg**	**11 01 33.9**	**-1.2**
TALC				IAML		11 01 34.6	
	comp=N,1μm,0.1s						
TALC				*i* S	**Sb**	**11 01 46.6**	**+0.9**
PLCA	**Paso Flores**	**4.71**	**169**	Pn	**Pn**	**11 02 32.6**	**+0.2**
	comp=N,0.4nm,0.3s,baz=330,slow=13,SNR=11						
PLCA				Lg	Lg	11 03 50.8	
	comp=N,3.3nm,0.3s,baz=258,slow=20,SNR=6.6						
CFAA	**Coronel Fontan**	**5.36**	**34**	Pn	**Pn**	**11 02 42.5**	**+1.2**
	comp=N,0.1nm,0.3s,baz=188,slow=15,SNR=3.0						
CFAA				LR	LR	11 05 27.9	
	comp=N,33nm,19.4s,baz=225,slow=46						
LPAZ	**La Paz**	**20.00**	**10**	P	Pn	11 05 57.1	+0.4
	comp=N,1.2nm,0.8s,baz=237,slow=7.8,SNR=3.0						
SIV	**San Ignacio**	**22.18**	**28**	P	**P**	**11 06 17.0**	**-0.7**
	comp=N,2.6nm,0.8s,baz=78,slow=2.7,SNR=2.7						
SIV				LR	LR	11 16 56.6	
	comp=N,146nm,18.0s,baz=132,slow=42						
BDFB	**Brasilia**	**29.38**	**52**	LR	LR	11 20 06.2	
	comp=N,56nm,19.5s,baz=214,slow=38						
TXAR	**Lajitas Array**	**71.69**	**331**	P	**P**	**11 12 43.9**	**+0.5**
	comp=N,0.2nm,0.6s,baz=154,slow=11,SNR=4.0						
TORD	**Torodi Ar. Bea**	**84.71**	**70**	P	**P**	**11 13 55.0**	**-0.8**
	comp=N,0.8nm,1.1s,baz=241,slow=4.6,SNR=3.0						
NVAR	**Mina Array Bea**	**85.75**	**325**	P	**P**	**11 14 00.9**	**+0.2**
	comp=N,0.1nm,0.5s,baz=138,slow=8.3,SNR=3.1						

IDC 18 11:16:25.0±1.9, 37°.69S×74°.08W, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.6/20, mbtmp3.4/5, ML3.3/2, MS2.8/3, Ms1 2.8/3, ms1mx2.7/16, Error ellipse: s-maj=49.4km s-min=31.2km az=61.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.09**	**139**	Pn	Pn	11 17 29.7	+0.8
	0.5nm,0.3s,baz=307,slow=14,SNR=9.1						
PLCA				LR	LR	11 18 26.7	
	comp=Z,88nm,21.9s,baz=302,slow=30						
CFAA	**Coronel Fontan**	**7.75**	**40**	Pn	Pn	11 18 18.8	-0.3
	0.2nm,0.3s,baz=213,slow=11,SNR=5.3						
CFAA				LR	LR	11 21 12.5	
	comp=Z,22nm,18.8s,baz=229,slow=37						
LPAZ	**La Paz**	**21.96**	**15**	P	P	11 21 21.7	+0.6
	2.5nm,1.0s,baz=219,slow=6.5,SNR=4.6						
BDFB	**Brasilia**	**31.82**	**53**	LR	LR	11 36 45.6	
	comp=Z,82nm,19.0s,baz=234,slow=38						
TXAR	**Lajitas Array**	**72.20**	**333**	P	P	11 27 51.8	0.0
	0.5nm,1.0s,baz=156,slow=6.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**87.00**	**71**	P	P	11 29 12.0	-0.5
	0.2nm,0.5s,baz=219,slow=5.4,SNR=2.6						

*IDC **18** 11:36:01.0±1.5, 8°.42S×128°.84E, h0km, mb3.3/2, mb1 3.7/5, mb1mx3.6/26, mbtmp3.6/5, ML3.7/3, Error ellipse: s-maj=36.3km s-min=23.6km az=71.0*
*ISCJB **18** 11:36:03.3±0.7, 8°.39S±0°.06×128°.90E±0°.06, h33km, mb3.3/2, Error ellipse: s-maj=9.2km s-min=7.3km az=135.6*
ISC 18 11:36:05.9±0.9, 8°.37S±0°.08×128°.90E±0°.09, h35km, n11, σ1°18/12, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.78**	**253**	P	**Pn**	**11 37 15.7**	**+0.2**
	baz=4.8,SNR=8.1						
MTN	**Manton Dam**	**4.95**	**154**	P	Pn	11 37 22.1	+4.3
	baz=5.0,SNR=35						
BATI	**Baumata**	**5.48**	**250**	Pn	**Pn**	**11 37 24.8**	**-0.3**
	5.6nm,0.3s,baz=104,slow=8.3,SNR=4.5						
BATI				Sn	**Sn**	**11 38 27.0**	**0.0**
	3.1nm,0.3s,baz=78,slow=20,SNR=2.8						
KDU	**Kakadu**	**5.54**	**141**	P	Pn	11 37 20.9	-5.0
	baz=5.6,SNR=9.0						
FAKI	**Fak Fak**	**6.36**	**32**	P	**Pn**	**11 37 36.7**	**-0.5**
	baz=6.4,SNR=6.6						
KNRA	**Kununurra**	**7.26**	**181**	P	**Pn**	**11 37 52.4**	**+2.9**
	baz=7.3,SNR=33						
WSI	**Waingapu**	**8.59**	**261**	P	**Pn**	**11 38 07.2**	**-0.7**
	baz=8.6,SNR=3.4						
WRA	**Warramunga Arr**	**12.65**	**156**	Pn	**Pn**	**11 39 02.7**	**-0.7**
	0.6nm,0.3s,baz=330,slow=14,SNR=30						
WRA				Sn	**Sn**	**11 41 23.2**	**+0.1**
	0.5nm,0.3s,baz=330,slow=22,SNR=8.2						
ASAR	**Alice Springs**	**15.95**	**163**	Pn	**Pn**	**11 39 47.1**	**-0.6**
	0.1nm,0.3s,baz=336,slow=13,SNR=12						
ASAR				Sn	**Sn**	**11 42 42.2**	**-1.3**
	0.1nm,0.3s,baz=340,slow=25,SNR=4.0						
SONM	**Songino Array**	**59.40**	**343**	P	**P**	**11 46 05.8**	**+0.8**
	0.3nm,0.6s,baz=156,slow=5.5,SNR=3.6						
MKAR	**Makanchi Array**	**68.78**	**328**	P	**P**	**11 47 06.7**	**+0.3**
	0.1nm,0.4s,baz=126,slow=7.3,SNR=3.4						

*IDC **18** 11:53:06.8±3.5, 13°.00N×123°.91E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.2/32, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/13, Error ellipse: s-maj=300.6km s-min=26.3km az=64.0*
*ISCJB **18** 11:53:09.1±0.8, 12°.82N±0°.04×123°.57E±0°.06, h23km, mb3.3/3, MS3.4/1, Error ellipse: s-maj=9.7km s-min=6.7km az=161.6*
*MAN **18** 11:53:09, 12°.87N×123°.51E, h44km, mb4.5, ML3.3, MS3.2*
ISC 18 11:53:09.9±1.4, 12°.80N±0°.04×123°.53E±0°.05, h19km±4km, n13, σ1°33/17, mb3.5/3, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.45**	**168**	⇑*i*P	**Pg**	**11 53 18.0**	**-1.2**
MMPH				*i* S	**Sb**	**11 53 25.2**	**-0.4**
AUQP	**San Andres**	**0.98**	**302**	*e*P	**Pb**	**11 53 27.3**	**-0.9**
AUQP				*e*S	**Sg**	**11 53 43.8**	**+1.9**
PVCP	**Virac**	**1.00**	**38**	⇑*i*P	**Pb**	**11 53 26.8**	**-1.7**
PVCP				*i* S	**Sn**	**11 53 44.8**	**+2.5**
CNP	**Catarman**	**1.15**	**105**	*e*P	**Pb**	**11 53 30.5**	**-0.5**
RCP	**Roxas**	**1.45**	**212**	⇑*e*P	**Pn**	**11 53 34.3**	**-0.8**
RCP				*e*S	**Sn**	**11 53 54.0**	**+0.4**
GQP	**Guinayangan**	**1.52**	**316**	⇓*e*P	**Pn**	**11 53 34.6**	**-1.4**
GQP				*e*S	**Sn**	**11 53 55.7**	**+0.5**
OTRP	**Odiongan**	**1.54**	**254**	*e*P	**Pn**	**11 53 35.0**	**-1.2**
GUIM	**Jordan**	**2.35**	**203**	*e*P	**Pn**	**11 53 48.4**	**+1.0**
SJMP	**San Jose**	**2.38**	**262**	*e*P	**Pn**	**11 53 47.9**	**+0.2**
WRA	**Warramunga Arr**	**34.24**	**162**	P	**P**	**11 59 56.0**	**+1.3**
	0.5nm,0.8s,baz=343,slow=8.8,SNR=3.2						
ASAR	**Alice Springs**	**37.64**	**164**	P	**P**	**12 00 23.6**	**-0.2**
	0.1nm,0.6s,baz=344,slow=6.9,SNR=3.1						
MKAR	**Makanchi Array**	**48.40**	**323**	P	**P**	**12 01 51.2**	**+0.5**
	0.6nm,0.7s,baz=124,slow=8.8,SNR=6.9						
PETK	**Petropavlovsk-**	**48.53**	**27**	LR	LR	12 21 16.2	
	comp=Z,38nm,21.2s,baz=74,slow=35						

GUC 18 11:56:07.5±0.5, 34°.94S×72°.63W, h18km±3km, ML3.7, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.94**	**120**	⇓*i*P	Pb	11 56 25.4	+0.2
TALC				*i* S	Sn	11 56 38.7	0.0
NICH	**Los Niches**	**1.15**	**94**	*i* P	Pb	11 56 29.2	+0.3
NICH				*i* S	Sg	11 56 45.5	+0.6
COCH	**Cobquecura**	**1.20**	**186**	⇑*i*P	Pn	11 56 29.0	-0.3
COCH				*i* S	Sg	11 56 45.8	-0.5
LNCH	**Linares**	**1.23**	**137**	⇓*i*P	Pb	11 56 30.5	+0.2
LNCH				*e*S	Sg	11 56 47.9	+0.3
LNV	**Longovilo**	**1.41**	**46**	*i* P	Pb	11 56 33.0	-0.3
LNV				*i* S	Sg	11 56 52.4	-0.6
CACH	**El Canelo**	**1.87**	**64**	⇑*i*P	Pb	11 56 41.2	-0.1
CACH				⇓*i*S	Sg	11 57 06.8	-1.1
CHCH	**Chadas Angostu**	**1.92**	**59**	⇑*i*P	Pb	11 56 41.5	-0.6
CHCH				*i* S	Sb	11 57 07.4	+1.6
CLCH	**Cerro Calan**	**2.32**	**49**	*i* P	Pb	11 56 47.8	-1.2
CLCH				*i* S	Sb	11 57 18.1	+0.7
CLCH				IAML		11 57 29.2	
	comp=E,908nm,0.6s						

MEX 18 11:59:39.8±0.4, 15°.86N×94°.58W, h52km±14km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.26**	**347**	*i* P	Pn	11 59 59.5	-1.7
CMIG				*i* S	Sn	12 00 15.1	-1.9
PCIG		**1.32**	**96**	*e*P	Pn	12 00 00.2	-1.7
PCIG				*e*S	Sn	12 00 16.5	-1.9
HUIG	**Huatulco**	**1.48**	**267**	*i* P	Pn	12 00 02.8	-1.2
HUIG				*e*S	Sn	12 00 19.9	-2.4
CCIG	**Comitan**	**2.38**	**79**	*e*P	Pn	12 00 15.2	-1.5
CCIG				*e*S	Sn	12 00 42.8	-2.1
VHO	**Vista Hermosa**	**2.40**	**301**	*e*P	Pn	12 00 15.5	-1.4
VHO				*e*S	Sn	12 00 43.4	-1.9
PNIG	**Pinotepa**	**3.45**	**279**	*e*P	Pn	12 00 30.0	-1.1
PNIG				*e*S	Sn	12 01 08.8	-2.1

*NEIC **18** 12:05:23.2, 40°.65N×125°.48W, h9km, ML3.3(NCEDC), After NCEDC.*
ISC 18 12:05:27.2±1.8, 40°.71N±0°.06×125°.1W±0°.1, h14km, n22, σ1°40/29, 7C-11D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**1.05**	**80**	*e*Pn	**Pn**	**12 05 46.2**	**-1.4**
KSXB	**Camp Six Broad**	**1.45**	**39**	P	**Pn**	**12 05 51.5**	**-1.6**
M02C	**Callahan**	**1.83**	**67**	⇓P	**Pn**	**12 05 57.8**	**-0.4**
	baz=1.8,SNR=87						
M02C				⇑S	**Sn**	**12 06 18.8**	**-2.4**
	baz=1.8						
N02D	**Trinity Center**	**1.83**	**81**	P	**Pn**	**12 05 57.1**	**-1.2**
	baz=1.7,SNR=104						
N02D				⇓S	**Sn**	**12 06 19.6**	**-1.7**
	baz=1.7						
L02D	**Cave Junction,**	**1.83**	**37**	⇓P	**Pn**	**12 05 57.3**	**-1.0**
	baz=1.9,SNR=64						
L02D				⇓S	**Sn**	**12 06 20.5**	**-0.8**
	baz=1.9						
WDC	**Whiskeytown Da**	**1.94**	**93**	*e*Pn	**Pn**	**12 05 58.6**	**-1.2**
YBH	**Yreka Blue Hor**	**2.07**	**59**	*e*Pn	**Pn**	**12 06 01.5**	**-0.1**
YBH				*e*Sn	**Sn**	**12 06 27.8**	**+0.6**
LAMM	**Antelope Mount**	**2.07**	**63**	P	**Pn**	**12 06 01.7**	**-0.1**
HUMO	**Hull Mountain**	**2.48**	**39**	*e*Pn	**Pn**	**12 06 06.5**	**-0.8**
M04C	**Macdoel**	**2.68**	**65**	⇓Pb	**Pn**	**12 06 11.8**	**+1.7**
	baz=2.6						
M04C				⇑Sb	**Sn**	**12 06 44.5**	**+2.1**
	baz=2.6						
K04D	**Chiloquin, OR**	**3.15**	**51**	⇓P	**Pn**	**12 06 16.0**	**-0.5**
	baz=3.1						
K04D				⇓Sb	**Sn**	**12 06 57.7**	**+3.7**
	baz=3.1						
I03D	**Drain, OR**	**3.26**	**23**	⇑P	**Pn**	**12 06 17.8**	**-0.1**
	baz=3.3,SNR=21						
I03D				⇑S	**Sn**	**12 06 56.6**	**+0.2**
	baz=3.3						
J04D	**Umpqua Nationa**	**3.37**	**40**	⇓P	**Pn**	**12 06 21.1**	**+1.5**
	baz=3.4,SNR=13						
I04A	**Tendick Farm,**	**3.67**	**32**	⇑P	**Pn**	**12 06 24.7**	**+1.1**
	baz=3.7,SNR=62						
I04A				⇓S	**Sn**	**12 07 05.7**	**-1.0**
	baz=3.7						
J05D	**Fort Rock, OR**	**3.86**	**47**	⇓P	**Pn**	**12 06 27.6**	**+1.3**
	baz=3.9,SNR=24						
I05D	**Terrebonne, OR**	**4.57**	**36**	⇓P	**Pn**	**12 06 37.0**	**+1.1**
	baz=4.6,SNR=5.2						
WAKR	**Walker**	**4.89**	**115**	*e*Pn	**Pn**	**12 06 41.9**	**+1.4**
	4.4nm,0.5s						
MLAC	**Mammoth, Mammo**	**5.75**	**120**	⇑S	**Sn**	**12 07 58.5**	**+0.3**
	baz=5.5						
ISA	**Isabella, Lake**	**7.24**	**132**	⇑P	**Pn**	**12 07 13.4**	**+0.7**
	baz=7.0						
ISA	**Isabella, Lake**	**7.24**	**132**	*e*Pn	**Pn**	**12 07 12.7**	**0.0**
	3.4nm,0.5s						
BMRM	**Bremner River**	**23.56**	**336**	*e*P	P	12 10 38.9	+1.9
	7.2nm,0.4s						
KTH	**Kantishna Hill**	**27.47**	**335**	P	**P**	**12 11 12.0**	**-0.6**
	11nm,0.5s						

*IDC **18** 12:13:37.5±1.1, 34°.97S×72°.71W, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.6/24, mbtmp3.5/5, ML3.2/3, MS2.0/1, Ms1 2.0/1, ms1mx2.0/21, Error ellipse: s-maj=41.7km s-min=23.1km az=96.0*
*GUC **18** 12:13:41.5±0.3, 34°.93S×72°.67W, h33km±3km, ML4.1*
ISC 18 12:13:39.9±1.8, 34°.92S±0°.06×72°.65W±0°.07, h15km±11km, n13, σ0°87/17, mb3.8/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.96**	**120**	*e*P9	**Pg**	**12 13 58.5**	**0.0**
TALC				*e*S	**Sn**	**12 14 11.6**	**-0.5**
NICH	**Los Niches**	**1.17**	**94**	*e*P	**Pg**	**12 14 02.5**	**+0.1**
NICH				*e*S	**Sg**	**12 14 18.3**	**+0.6**
COCH	**Cobquecura**	**1.21**	**185**	*e*P	**Pb**	**12 14 02.3**	**-0.2**
COCH				*e*S	**Sg**	**12 14 18.5**	**-0.6**
LNCH	**Linares**	**1.26**	**137**	*e*P	**Pb**	**12 14 03.5**	**+0.2**
LNCH				*e*S	**Sg**	**12 14 20.4**	**-0.3**
CLCH	**Cerro Calan**	**2.32**	**50**	*e*P	**Pb**	**12 14 20.1**	**-1.3**
CLCH				*e*S	**Sb**	**12 14 49.2**	**-0.7**
CLCH				IAML		12 15 02.7	
	comp=E,1μm,0.6s						
PEL	**Peldehue**	**2.41**	**43**	IAML		12 14 58.8	
	comp=N,1μm,0.2s						
CFAA	**Coronel Fontan**	**4.96**	**49**	Pn	**Pn**	**12 14 55.5**	**+1.7**
	comp=N,0.1nm,0.3s,baz=232,slow=15,SNR=4.8						
CFAA				LR	LR	12 17 02.3	
	comp=N,15nm,18.8s,baz=170,slow=41						
PLCA	**Paso Flores**	**6.04**	**165**	Pn	**Pn**	**12 15 08.0**	**-0.6**
	comp=N,0.3nm,0.3s,baz=341,slow=13,SNR=3.1						
LPAZ	**La Paz**	**18.99**	**13**	P	**Pn**	**12 18 03.0**	**+0.7**
	comp=N,0.1nm,0.3s,baz=208,slow=12,SNR=2.3						
QSPA	**South Pole Qui**	**55.32**	**180**	P	**P**	**12 23 13.3**	**+0.6**
	comp=N,0.3nm,0.6s,baz=269,slow=1.7,SNR=3.7						
TXAR	**Lajitas Array**	**70.29**	**331**	P	**P**	**12 24 53.2**	**+0.5**
	comp=N,0.5nm,0.7s,baz=147,slow=7.5,SNR=5.8						
TORD	**Torodi Ar. Bea**	**85.00**	**70**	P	**P**	**12 26 14.3**	**-0.6**
	comp=N,0.6nm,1.0s,baz=242,slow=5.3,SNR=3.9						
WRA	**Warramunga Arr**	**119.71**	**209**	PKP	**PKPdf**	**12 32 28.6**	**-1.2**
	comp=N,0.4nm,1.0s,baz=160,slow=1.8,SNR=2.7						

*IDC **18** 12:15:45.8±5.5, 31°.95S×179°.79E, h328km±41km, mb3.3/3, mb1 3.4/4, mb1mx3.2/18, mbtmp4.0/4, Error ellipse: s-maj=58.7km s-min=20.6km az=46.0*
ISC 18 12:15:50.8±1.6, 32°.3S±0°.1×179°.0E±0°.2, h350km, n21, σ1°64/28, mb3.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.58**	**185**	*e*PN	**Pn**	**12 17 18.6**	**+1.9**
HAZ	**Te Kaha**	**5.59**	**190**	*e*PN	**Pn**	**12 17 18.5**	**+1.7**
HAZ				*e*SN	**S**	**12 18 28.7**	**+2.1**
PUZ	**Puketiti**	**5.85**	**186**	*e*SN	**S**	**12 18 32.0**	**+0.1**
MWZ	**Matawai**	**6.20**	**191**	*e*PN	**Pn**	**12 17 23.4**	**-0.4**
MWZ				*e*SN	**S**	**12 18 41.3**	**+2.1**
URZ	**Urewera**	**6.20**	**194**	P	**Pn**	**12 17 25.1**	**+1.3**
	2.2nm,0.3s,baz=0.0,slow=11,SNR=24						
URZ				S	**S**	**12 18 41.4**	**+2.2**
	3.3nm,0.3s,baz=80,slow=23,SNR=16						
URZ	**Urewera**	**6.20**	**194**	*e*PN	**Pn**	**12 17 25.0**	**+1.3**
URZ				SN	**S**	**12 18 41.1**	**+1.8**
BKZ	**Black Stump Fm**	**7.21**	**196**	PN	**Pn**	**12 17 33.9**	**-1.6**
BHHZ	**Black Hill Sta**	**7.62**	**198**	*e*PN	**Pn**	**12 17 40.9**	**+0.5**
KRHZ	**Kereru**	**7.69**	**196**	*e*PN	**Pn**	**12 17 42.2**	**+1.0**
TSZ	**Takapari Road**	**8.18**	**197**	*e*PN	**Pn**	**12 17 44.6**	**-2.4**
TSZ				*e*SN	**S**	**12 19 21.9**	**+0.1**
MRZ	**Mangatainoka R**	**8.85**	**197**	*e*PN	**Pn**	**12 17 52.4**	**-2.4**
MRZ				*e*SN	**S**	**12 19 34.5**	**-1.8**
CAW	**Cannon Point**	**9.40**	**199**	*e*PN	**Pn**	**12 17 59.8**	**-1.6**
TCW	**Tory Channel**	**9.73**	**202**	*e*PN	**Pn**	**12 18 05.0**	**-0.4**
NNZ	**Nelson**	**10.04**	**205**	*e*PN	**Pn**	**12 18 09.6**	**+0.6**
KHZ	**Kahutara**	**11.05**	**202**	*e*PN	**Pn**	**12 18 20.7**	**-0.4**
OXZ	**Oxford**	**12.36**	**205**	*e*PN	**P**	**12 18 36.0**	**-0.3**
OXZ				*e*SN	**S**	**12 20 51.4**	**-1.8**
MQZ	**McQueen's Vall**	**12.49**	**202**	*e*PN	**P**	**12 18 36.9**	**-0.8**
ASAR	**Alice Springs**	**40.53**	**270**	P	**P**	**12 22 59.4**	**+2.0**
	0.4nm,0.5s,baz=106,slow=7.3,SNR=16						
WRA	**Warramunga Arr**	**41.70**	**276**	P	**P**	**12 23 08.5**	**+1.7**
	0.6nm,0.3s,baz=112,slow=8.1,SNR=50						
QSPA	**South Pole Qui**	**57.87**	**180**	P	**P**	**12 25 06.0**	**-0.7**
	6.5nm,1.2s,baz=217,slow=1.2,SNR=19						
FINES	**FINESS Array B**	**145.93**	**337**	PKPbc	**PKPdf**	**12 34 44.8**	**-2.7**
	0.7nm,0.7s,baz=326,slow=0.5,SNR=2.8						

IDC 18 12:20:27.4±5.3, 20°.95S×178°.90W, h0km, mb4.2/2, mb1 4.4/2, mb1mx3.8/17, mbtmp4.2/2, Error ellipse: s-maj=292.8km s-min=75.2km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.60**	**257**	P	P	12 28 33.0	-0.8
	1.9nm,0.7s,baz=99,slow=6.8,SNR=29						
WRA	**Warramunga Arr**	**43.70**	**263**	P	P	12 28 35.1	+0.4
	1.9nm,0.3s,baz=96,slow=8.4,SNR=174						
HFS	**Hagfors**	**139.84**	**350**	PKP	PKPdf	12 39 55.6	-1.5
	4.2nm,1.0s,baz=117,slow=1.7,SNR=5.3						
AKASG	**Malin Array Be**	**142.99**	**330**	PKP	PKPdf	12 40 03.5	+0.5
	0.5nm,0.5s,baz=42,slow=4.0,SNR=2.5						

*IDC **18** 12:43:37.6±2.6, 3°.77S×133°.26E, h0km, mb3.7/1, mb1 4.0/3, mb1mx3.6/21, mbtmp3.8/3, ML3.6/2, Error ellipse: s-maj=128.9km s-min=29.1km az=75.0*
*ISCJB **18** 12:43:38.7±0.7, 3°.95S±0°.05×133°.20E±0°.07, h33km, mb3.7/1, Error ellipse: s-maj=9.8km s-min=7.2km az=4.2*
ISC 18 12:43:40.5±1.1, 3°.95S±0°.07×133°.15E±0°.10, h35km, n15, σ2°30/18, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.36**	**319**	P	**Pn**	**12 44 02.0**	**-1.0**
	baz=1.3,SNR=163						
SWI	**Sorong**	**3.60**	**328**	P	**Pn**	**12 44 32.9**	**-1.0**
	baz=3.6,SNR=6.6						
JAY	**Jayapura**	**7.68**	**80**	S	**Sn**	**12 46 55.3**	**-0.5**
	baz=7.8,SNR=3.1						
KDU	**Kakadu**	**8.70**	**184**	P	**Pn**	**12 45 46.0**	**+2.0**
	baz=8.7,SNR=34

*IDC **18** 13:03:55.1±5.8, 7°61′S×119°74′E, h168km±64km, mb3.0/3, mb1 3.0/4, mb1mx2.9/30, mbtmp3.4/4, Error ellipse: s-maj=154.2km s-min=12.7km az=49.0*
*DJA **18** 13:04:02.8±1.1, 8°S±5°×12°0E±°, h205km±9km, M3.2/6, MLv3.2/6*
*ISCJB **18** 13:04:03.7±1.0, 7°92S±0°07×119°70E±0°09, h184km, mb3.4/4, Error ellipse: s-maj=12.9km s-min=9.5km az=158.9*

ISC 18 13:04:03.0±1.4, 7°99S±0°07×119°74E±0°09, h184km, n9, σ2°75/10, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.68**	**192**	P	**Pn**	**13 04 37.8**	**+0.8**
WBSI				S	**Sn**	**13 05 06.6**	**+3.0**
EDFI	**Ende, Flores**	**2.08**	**111**	P	**Pn**	**13 04 42.6**	**+1.3**
BKSI	**Bulukumba**	**2.68**	**8**	P	**Pn**	**13 04 48.2**	**+0.2**
BNSI	**Bone**	**3.59**	**6**	P	**Pn**	**13 05 00.5**	**+1.5**
SOEI	**Soe**	**4.81**	**112**	P	**Pn**	**13 05 15.1**	**+0.4**
SOEI				S	**Sn**	**13 06 14.1**	**+3.1**
WRA	**Warramunga Arr**	**18.47**	**132**	P	**P**	**13 08 01.1**	**-4.0**
	0.1nm,0.3s,baz=304,slow=12,SNR=15						
WRA				S	**S**	**13 11 26.3**	**-0.1**
	0.1nm,0.3s,baz=312,slow=25,SNR=6.4						
ASAR	**Alice Springs**	**20.68**	**141**	P	**P**	**13 08 25.2**	**-3.6**
	0.8nm,0.4s,baz=316,slow=8.7,SNR=19						
MKAR	**Makanchi Array**	**63.90**	**332**	P	P	13 14 08.6	-7.6
	0.3nm,0.4s,baz=156,slow=6.8,SNR=3.3						
KURBB	**Kurchatov Arra**	**68.40**	**333**	P	P	13 14 35.5	-9.1
	0.3nm,0.5s,baz=147,slow=6.3,SNR=2.6						

IDC 18 13:16:45.3±5.0, 29°65S×178°81W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/19, mbtmp3.6/2, Error ellipse: s-maj=215.4km s-min=79.8km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.45**	**266**	P	P	13 24 41.4	-0.8
	0.2nm,0.3s,baz=104,slow=7.8,SNR=6.2						
WRA	**Warramunga Arr**	**43.37**	**272**	P	P	13 24 50.2	+0.5
	0.5nm,0.3s,baz=112,slow=8.0,SNR=27						
H10S3	**ASCENSION HYDR**	**38.70**	**156**	T	T	16 12 17.8	
	baz=203,slow=75,SNR=6.4						
H10S2	**ASCENSION HYDR**	**38.70**	**156**	T	T	16 12 20.6	
	baz=203,slow=75,SNR=11						
H10S1	**ASCENSION HYDR**	**38.72**	**156**	T	T	16 12 26.7	
	baz=203,slow=75,SNR=9.8						
H10N3	**ASCENSION HYDR**	**39.79**	**155**	T	T	16 13 50.3	
	baz=203,slow=74						
H10N1	**ASCENSION HYDR**	**39.79**	**156**	T	T	16 13 50.7	
	baz=203						
H10N2	**ASCENSION HYDR**	**39.80**	**155**	T	T	16 13 49.9	
	baz=203,slow=74						
FINES	**FINESS Array B**	**144.20**	**340**	PKP	PKPdf	13 36 21.6	-0.9
	1.2nm,0.7s,baz=56,slow=3.5,SNR=5.7						

MAN 18 13:18:08, 17°51N×122°34E, h1km, mb4.4, ML3.3, MS3.1, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.53**	**291**	⇓P	Pb	13 18 19.7	-0.4
CVP				*i* S	Sb	13 18 29.0	+0.8
SGCP	**Mt. Cagua**	**0.78**	**339**	*e*P	Pg	13 18 23.6	+0.7
SGCP				*e*S	Sb	13 18 34.6	-0.8
APYP	**Conner**	**1.10**	**289**	*e*P	Pb	13 18 30.1	+0.3
APYP				*e*S	Sn	13 18 47.0	+0.5
ABRA	**Dolores**	**1.56**	**275**	*e*P	Pb	13 18 37.6	0.0
BALP	**Baler**	**1.91**	**203**	*e*P	Pn	13 18 42.3	+0.6

*CSEM **18** 13:25:40.6±0.2, 37°27N×28°29E, h5km, MD2.5, Error ellipse: s-maj=5.8km s-min=3.4km az=57.0*
*DDA **18** 13:25:43.2, 37°33N×28°07E, h7km, MD2.8*

ISK 18 13:25:39.5, 37°28N×28°31E, h3km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.14**	**190**	*e*PG	Pg	13 25 43.1	+0.7
YER				*e*SG	Sg	13 25 45.6	+1.2
YER	**Yerkesik**	**0.14**	**190**	*e*Pg	Pg	13 25 43.1	+0.7
YER				*e*Sg	Sg	13 25 45.6	+1.3
AYDN	**Tasoluk**	**0.52**	**318**	*i* P	Pb	13 25 51.2	-0.1
AYDN	**Tasoluk**	**0.52**	**318**	*i* P	Pb	13 25 51.2	-0.2
AYDN				*i* S	Sb	13 25 59.0	-0.4
DALY	**Dalyan (Mu¯la**	**0.53**	**149**	*e*PG	Pb	13 25 50.7	-0.8
DALY				*e*SG	Sb	13 25 58.7	-0.8
DALY	**Dalyan (Mu¯la**	**0.53**	**149**	*e*Pg	Pb	13 25 50.7	-0.8
DALY				*e*Sg	Sb	13 25 58.7	-0.8
BDRM	**Kayabasi**	**0.72**	**253**	*i* P	Pb	13 25 54.2	-0.6
BDRM				*i* S	Sg	13 26 02.9	0.0
BDRM	**Kayabasi**	**0.72**	**253**	*i* P	Pb	13 25 54.2	-0.6
BDRM				*i* S	Sg	13 26 02.9	0.0
AYDB	**Zeytinkoy-Aydi**	**0.75**	**334**	*e*PG	Pg	13 25 54.6	+0.5
AYDB	**Zeytinkoy-Aydi**	**0.75**	**334**	*e*Pg	Pg	13 25 54.6	+0.5
BODT	**Bodrum**	**0.83**	**255**	*e*PG	Pb	13 25 56.2	-0.4
BODT	**Bodrum**	**0.83**	**255**	*e*Pg	Pb	13 25 56.2	-0.4
GOLH	**Golhisar**	**1.00**	**92**	*i* P	Pn	13 26 06.4	+5.9
GOLH				*i* S	Sn	13 26 22.7	+7.5

*ISCJB **18** 13:27:59.7±1.7, 5°1S±0°2×68°6E±0°2, h13km, mb3.7/6, MS3.2/2, Error ellipse: s-maj=46.0km s-min=9.8km az=139.2*
*IDC **18** 13:28:01.2±2.2, 4°95S×68°62E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/26, mbtmp3.7/6, MS3.3/3, Ms1 3.4/3, ms1mx3.0/30, Error ellipse: s-maj=58.2km s-min=33.4km az=46.0*

ISC 18 13:28:01.9±1.7, 5°1S±0°2×68°6E±0°2, h13km, n15, σ1°12/16, mb3.8/6, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**2.70**	**116**	Pn	**Pn**	**13 28 43.5**	**-1.3**
H08N2				Sn	**Sb**	**13 29 23.8**	**+0.8**
H08N2				T	T	13 31 31.0	
	baz=351,slow=74						
H08N3	**Diego Garcia H**	**2.70**	**116**	Pn	**Pn**	**13 28 43.3**	**-1.5**
H08N3				Sn	**Sb**	**13 29 23.8**	**+0.8**
H08N3				T	T	13 31 26.5	
	baz=351,slow=74						
H08N1	**Diego Garcia H**	**2.72**	**116**	Pn	**Pn**	**13 28 43.7**	**-1.3**
H08N1				Sn	**Sb**	**13 29 23.8**	**+0.3**
H08N1				T	T	13 31 32.9	
	baz=351						
H08S3	**Diego Garcia H**	**4.62**	**123**	Pn	**Pn**	**13 29 10.6**	**-0.6**
H08S3				Sn	Sn	13 29 50.6	-14
	baz=315,slow=19,SNR=50						
H08S3				T	T	13 33 53.4	
	baz=310,slow=75,SNR=18						
H08S1	**Diego Garcia H**	**4.62**	**123**	Pn	**Pn**	**13 29 10.2**	**-1.0**
H08S1				Sn	Sn	13 29 50.6	-14
	baz=315,slow=19,SNR=46						
H08S1				T	T	13 33 49.9	
	baz=310,slow=75,SNR=18						
H08S2	**Diego Garcia H**	**4.64**	**123**	Pn	**Pn**	**13 29 10.4**	**-1.1**
H08S2				Sn	Sn	13 29 50.6	-14
	baz=315,slow=19,SNR=32						
H08S2				T	T	13 33 56.9	
	baz=310,slow=75,SNR=20						
PALK	**Pallekele**	**17.29**	**45**	LR	LR	13 36 48.7	
	comp=Z,191nm,21.2s,baz=214,slow=31						
CMAR	**Chiang Mai Arr**	**38.04**	**51**	P	**P**	**13 35 20.7**	**+0.3**
	0.5nm,0.7s,baz=250,slow=10,SNR=4.7						
CMAR				LR	LR	13 48 06.3	
	comp=Z,23nm,21.0s,baz=65,slow=32						
BOSA	**Boshof**	**47.18**	**235**	LR	LR	13 52 43.1	
	comp=Z,47nm,20.1s,baz=152,slow=31						
MKAR	**Makanchi Array**	**53.12**	**12**	P	**P**	**13 37 18.4**	**-0.9**
	0.4nm,0.8s,baz=186,slow=5.8,SNR=4.2						
BRTR	**Keskin Array B**	**55.02**	**327**	P	**P**	**13 37 34.0**	**+0.6**
	0.5nm,0.7s,baz=140,slow=7.6,SNR=2.4						
ZALV	**Zalesovo Beam**	**60.43**	**11**	P	**P**	**13 38 09.2**	**-1.8**
	0.5nm,0.3s,baz=177,slow=5.3,SNR=2.3						
SONM	**Songino Array**	**62.34**	**28**	P	**P**	**13 38 25.2**	**+0.9**
	1.3nm,0.9s,baz=220,slow=6.1,SNR=8.9						
WRA	**Warramunga Arr**	**65.51**	**109**	P	**P**	**13 38 46.5**	**+1.0**
	1.0nm,0.9s,baz=284,slow=6.0,SNR=6.0						
NVAR	**Mina Array Bea**	**146.28**	**10**	PKPbc	**PKPab**	**13 47 44.2**	**+0.4**
	1.2nm,0.9s,baz=26,slow=2.3,SNR=5.0						

IDC 18 13:45:19.2±3.9, 44°69N×128°82W, h0km, mb3.4/2, mb1 3.5/5, mb1mx3.2/41, mbtmp3.2/5, ML3.2/3, MS2.8/2, Ms1 2.8/2, ms1mx2.6/20, Error ellipse: s-maj=78.2km s-min=22.4km az=47.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBH	**Yreka Blue Hor**	**5.36**	**121**	Pn	Pn	13 46 41.5	+1.0
	0.1nm,0.3s,baz=302,slow=13,SNR=5.9						
YBH				Sn	Sn	13 47 37.5	-5.5
	0.1nm,0.3s,baz=180,slow=7.1,SNR=2.0						
YBH				LR	LR	13 48 35.4	
	comp=Z,153nm,18.5s,baz=250,slow=37						
NEW	**Newport**	**8.83**	**62**	LR	LR	13 49 54.8	
	comp=Z,28nm,18.5s,baz=220,slow=31						
PDAR	**Pinedale Array**	**14.06**	**91**	Pn	P	13 48 44.2	-3.8
	0.0nm,0.3s,baz=289,slow=11,SNR=3.9						
YKA	**Yellowknife Ar**	**19.64**	**20**	P	Pn	13 49 50.4	0.0
	0.0nm,0.3s,baz=210,slow=11,SNR=4.5						
ILAR	**Eielson Array**	**22.50**	**340**	P	P	13 50 19.8	-0.1
	0.7nm,1.1s,baz=155,slow=7.0,SNR=5.5						
RES	**Resolute Bay**	**33.59**	**16**	P	P	13 51 59.9	-0.7
	0.7nm,0.6s,baz=239,slow=12,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**58.21**	**267**	T	T	14 57 39.9	
	baz=49,slow=75,SNR=106						
H11N2	**WAKE ISLAND Hy**	**58.21**	**267**	T	T	14 57 38.0	
	baz=49,slow=75,SNR=76						
H11N1	**WAKE ISLAND Hy**	**58.23**	**267**	T	T	14 57 42.2	
	baz=49,slow=75,SNR=70						
H11S1	**WAKE ISLAND Hy**	**59.15**	**266**	T	T	14 58 49.4	
	baz=49,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**59.16**	**266**	T	T	14 58 49.7	
	baz=49,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hy**	**59.17**	**266**	T	T	14 58 45.3	
	baz=49,slow=75,SNR=30						

*ISK **18** 13:46:10.7, 38°79N×40°09E, h7km, ML3.5*
*CSEM **18** 13:46:10.9±0.1, 38°80N×40°08E, h2km, ML3.5, Error ellipse: s-maj=3.6km s-min=3.4km az=73.0*
*DDA **18** 13:46:10.8, 38°83N×40°03E, h21km, MD3.3*

ISC 18 13:46:11.5±1.1, 38°79N±0°02×40°06E±0°02, h7km±9km, n73, σ0°89/98, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bing¯¶l**	**0.52**	**67**	*e*PG	**Pg**	**13 46 20.9**	**-0.7**
BNGB				*e*SG	**Sg**	**13 46 28.4**	**0.0**
PTK	**Pertek**	**0.54**	**282**	*e*PG	**Pg**	**13 46 20.7**	**-1.1**
PTK				*e*SG	**Sg**	**13 46 30.0**	**+1.1**
PTK	**Pertek**	**0.54**	**282**	*e*Pg	**Pg**	**13 46 20.7**	**-1.1**
PTK				*e*Sg	**Sg**	**13 46 30.0**	**+1.1**
SVRC	**Sivrice-ELAZID**	**0.72**	**236**	*e*PG	**Pg**	**13 46 25.4**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.72**	**236**	*e*Pg	**Pg**	**13 46 25.4**	**+0.1**
DYBB	**Diyarbakir**	**0.83**	**176**	*e*PG	**Pg**	**13 46 27.2**	**-0.3**
DYBB				*e*SG	**Sb**	**13 46 39.3**	**-0.5**
ERZN	**Erzincan**	**0.84**	**342**	*e*PG	**Pg**	**13 46 27.0**	**-0.7**
DIYA	**Diyarbakir**	**0.86**	**177**	*i* P	**Pb**	**13 46 28.6**	**-0.2**
DIYA				*i* S	**Sb**	**13 46 41.2**	**+0.6**
DIYA	**Diyarbakir**	**0.86**	**177**	*i* P	**Pb**	**13 46 28.6**	**-0.2**
DIYA				*i* S	**Sb**	**13 46 41.2**	**+0.6**
BNGL	**BINGOL**	**0.86**	**79**	*i* P	**Pg**	**13 46 27.1**	**-1.0**
BNGL				*i* S	**Sb**	**13 46 41.2**	**+0.4**
DIY	**Diyarbakir**	**0.90**	**172**	*e*Pg	**Pg**	**13 46 27.2**	**-1.5**
DIY				*e*Sg	**Sg**	**13 46 39.3**	**-1.1**
EUZM	**Uzumlu**	**0.96**	**343**	*i* P	**Pg**	**13 46 28.6**	**-1.4**
EUZM				*i* S	**Sb**	**13 46 43.6**	**0.0**
EUZM	**Uzumlu**	**0.96**	**343**	*i* P	**Pg**	**13 46 28.6**	**-1.4**
EUZM				*i* S	**Sb**	**13 46 43.6**	**0.0**
SVAN	**Silvan-Diyarba**	**1.09**	**125**	*e*PG	**Pg**	**13 46 31.8**	**-0.7**
VRTB	**Varto-Mus**	**1.15**	**71**	*e*PN	**Pg**	**13 46 32.7**	**-0.8**
VRTB	**Varto-Mus**	**1.15**	**71**	*e*Pn	**Pg**	**13 46 32.7**	**-0.8**
BTMT	**Batman**	**1.27**	**117**	*e*PN	**Pn**	**13 46 35.1**	**-0.6**
BTMT	**Batman**	**1.27**	**117**	*e*Pn	**Pn**	**13 46 35.1**	**-0.6**
KOPT	**Kop Dagi**	**1.27**	**15**	*i* P	**Pn**	**13 46 35.0**	**-1.0**
KOPT				*i* S	**Sn**	**13 46 54.9**	**+1.3**
KOPT	**Kop Dagi**	**1.27**	**15**	*i* P	**Pn**	**13 46 35.0**	**-1.0**
KOPT				*i* S	**Sn**	**13 46 54.9**	**+1.3**
BEST	**Besiri**	**1.30**	**133**	*i* P	**Pn**	**13 46 35.7**	**-0.5**
BEST				*i* S	**Sn**	**13 46 53.9**	**0.0**
KEMA	**Kemaliye**	**1.31**	**292**	*i* P	**Pn**	**13 46 34.1**	**-2.3**
KEMA				*i* S	**Sb**	**13 46 52.2**	**-1.5**
KEMA	**Kemaliye**	**1.31**	**292**	*i* P	**Pn**	**13 46 34.1**	**-2.3**
KEMA				*i* S	**Sb**	**13 46 52.2**	**-1.5**
ILIC	**ilic-Erzincan**	**1.34**	**300**	*e*PN	**Pn**	**13 46 36.9**	**+0.1**
ILIC	**ilic-Erzincan**	**1.34**	**300**	*e*Pn	**Pn**	**13 46 36.9**	**+0.1**
MAZI	**Mazidag**	**1.36**	**167**	*e*PN	**Pn**	**13 46 35.9**	**-1.1**
MAZI	**Mazidag**	**1.36**	**167**	*e*Pn	**Pn**	**13 46 35.9**	**-1.1**
MALT	**Malatya**	**1.37**	**250**	*e*PN	**Pn**	**13 46 37.1**	**0.0**
MALT	**Malatya**	**1.37**	**250**	*e*Pn	**Pn**	**13 46 37.1**	**0.0**
KELT	**Kelkit**	**1.50**	**336**	*i* P	**Pn**	**13 46 38.2**	**-0.8**
KELT				*i* S	**Sn**	**13 46 57.7**	**-1.3**
KELT	**Kelkit**	**1.50**	**336**	*i* P	**Pn**	**13 46 38.2**	**-0.8**
KELT				*i* S	**Sn**	**13 46 57.7**	**-1.3**
EZM	**Erzurum**	**1.50**	**42**	*e*PN	**Pn**	**13 46 38.6**	**-0.5**
ERZM	**Erzurum**	**1.51**	**42**	*i* P	**Pn**	**13 46 38.8**	**-0.4**
ERZM	**Erzurum**	**1.51**	**42**	*i* P	**Pn**	**13 46 38.8**	**-0.4**
ERZM				*i* S	**Sg**	**13 47 03.0**	**+3.0**
MARD	**Mardin**	**1.57**	**159**	*i* P	**Pn**	**13 46 39.9**	**-0.1**
MARD				*i* S	**Sn**	**13 46 59.6**	**-1.1**
BAYT	**Ayd¯–ntepe-Bay**	**1.61**	**2**	*e*PN	**Pn**	**13 46 40.2**	**-0.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.61**	**2**	*e*Pn	**Pn**	**13 46 40.2**	**-0.3**
EKAR	**Karacoban**	**1.63**	**73**	*i* P	**Pb**	**13 46 41.9**	**-0.1**
EKAR	**Karacoban**	**1.63**	**73**	*i* P	**Pb**	**13 46 41.9**	**-0.1**
EKAR				*i* S	Sg	13 47 10.8	+7.0
URFA	**Urfa**	**1.66**	**216**	*e*PN	**Pn**	**13 46 41.0**	**-0.2**
URFA	**Urfa**	**1.66**	**216**	*e*Pn	**Pn**	**13 46 41.0**	**-0.2**
GUMT	**Gumushane**	**1.73**	**345**	*e*PN	**Pn**	**13 46 42.3**	**+0.1**
GUMT	**Gumushane**	**1.73**	**345**	*e*Pn	**Pn**	**13 46 42.3**	**+0.1**
ATAB	**Bozova**	**1.92**	**227**	*i* P	**Pg**	**13 46 48.7**	**+0.5**
ATAB				*i* S	**Sb**	**13 47 10.4**	**-0.6**
ATAB	**Bozova**	**1.92**	**227**	*i* P	**Pg**	**13 46 48.7**	**+0.5**
ATAB				*i* S	**Sb**	**13 47 10.4**	**-0.6**
SUSE	**Susehri**	**2.02**	**315**	*i* P	**Pn**	**13 46 46.7**	**+0.5**
SUSE				*i* S	**Sb**	**13 47 14.3**	**+0.2**
SUSE	**Susehri**	**2.02**	**315**	*i* P	**Pn**	**13 46 46.7**	**+0.5**
SUSE				*i* S	**Sb**	**13 47 14.3**	**+0.2**
DARE	**Darende-Malaty**	**2.03**	**265**	*e*PN	**Pn**	**13 46 46.9**	**+0.6**
DARE	**Darende-Malaty**	**2.03**	**265**	*e*Pn	**Pn**	**13 46 46.9**	**+0.6**
EATA	**Eleskirt**	**2.17**	**60**	*i* P	**Pb**	**13 46 51.3**	**0.0**
EATA	**Eleskirt**	**2.17**	**60**	*i* P	**Pb**	**13 46 51.3**	**0.0**
EATA				*i* S	**Sg**	**13 47 22.9**	**+1.7**
KTUT	**Trabzon**	**2.21**	**354**	*e*PN	**Pn**	**13 46 48.8**	**+0.2**
KTUT	**Trabzon**	**2.21**	**354**	*e*Pn	**Pn**	**13 46 48.8**	**+0.2**
SIRT	**Sirnak**	**2.27**	**124**	*e*PN	**Pn**	**13 46 49.5**	**0.0**
SIRT	**Sirnak**	**2.27**	**124**	*e*Pn	**Pn**	**13 46 49.5**	**0.0**
ESPY	**Espiye-Giresun**	**2.36**	**335**	*e*PN	**Pn**	**13 46 51.1**	**+0.4**
ESPY	**Espiye-Giresun**	**2.36**	**335**	*e*Pn	**Pn**	**13 46 51.1**	**+0.4**
GEVA	**Gevas**	**2.40**	**100**	*i* P	**Pn**	**13 46 52.6**	**+1.3**
GEVA	**Gevas**	**2.40**	**100**	*i* P	**Pn**	**13 46 52.6**	**+1.3**
GEVA				*i* S	**Sb**	**13 47 25.4**	**+0.5**
AGRB	**Hanur-Agry**	**2.41**	**70**	*e*PN	**Pn**	**13 46 51.5**	**-0.1**
AGRB	**Hanur-Agry**	**2.41**	**70**	*e*Pn	**Pn**	**13 46 51.5**	**-0.1**
SVSK	**Karacayir**	**2.63**	**296**	*e*PN	**Pn**	**13 46 55.1**	**+0.7**
SVSK	**Karacayir**	**2.63**	**296**	*e*Pn	**Pn**	**13 46 55.1**	**+0.7**
RSDY	**Resadiye-TOKAT**	**2.66**	**308**	*e*PN	**Pn**	**13 46 55.4**	**+0.6**
RSDY	**Resadiye-TOKAT**	**2.66**	**308**	*e*Pn	**Pn**	**13 46 55.4**	**+0.6**
KMRS	**Kahramanmaras**	**2.80**	**244**	*e*PN	**Pn**	**13 46 57.5**	**+0.8**
KMRS	**Kahramanmaras**	**2.80**	**244**	*e*Pn	**Pn**	**13 46 57.6**	**+0.8**
BCA	**Borcka**	**2.91**	**24**	*e*PN	**Pn**	**13 46 58.0**	**-0.3**
BCA	**Borcka**	**2.91**	**24**	*e*Pn	**Pn**	**13 46 58.0**	**-0.3**
BNN	**Bunyan**	**3.29**	**272**	*e*PN	**Pn**	**13 47 04.7**	**+1.0**
BNN	**Bunyan**	**3.29**	**272**	*e*Pn	**Pn**	**13 47 04.7**	**+1.0**
KOZT	**Kozan**	**3.59**	**250**	*e*PN	**Pn**	**13 47 08.8**	**+1.3**
KOZT	**Kozan**	**3.59**	**250**	*e*Pn	**Pn**	**13 47 08.8**	**+1.3**

*ISCJB **18** 13:46:59.1±0.9, 3°09N±0°06×74°58W±0°06, h46km±8km, mb3.7/8, MS3.5/1, Error ellipse: s-maj=9.6km s-min=9.2km az=31.6*
*NEIC **18** 13:47:01.0, 3°18N×74°68W, h24km, mb3.7/1, ML4.3(RSNC), After RSNC.*
NEIC Felt [IV] at Neiva and [III] at Ibague and Villavicencio. Also felt at Armenia, Belalcazar, Bogota and San Juan de Arama.
*IDC **18** 13:47:02.1±0.8, 3°19N×74°49W, h49km±6km, mb3.5/8, mb1 3.8/9, mb1mx3.6/22, mbtmp3.8/9, MS3.3/3, Ms1 3.2/3, ms1mx2.9/20, Error ellipse: s-maj=23.3km s-min=7.8km az=97.0*

ISC 18 13:47:00.8±0.7, 3°15N±0°08×74°64W±0°06, h39km±5km, n25, σ1°16/30, mb3.6/8, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRAC	**Prado**	**0.60**	**334**	*i* P	**Pn**	**13 47 12.8**	**-0.2**
PRAC				*e*S	**Sn**	**13 47 20.6**	**-1.0**
TOLC	**Tolima**	**1.59**	**334**	*e*P	**Pn**	**13 47 26.7**	**-0.1**
TOLC				*e*S	**Sn**	**13 47 46.8**	**+0.5**
ROSC	**El Rosal**	**1.72**	**10**	P	**Pn**	**13 47 29.0**	**+0.3**
	187nm,0.3s,baz=212,slow=0.9,SNR=138						
ROSC				S	**Sn**	**13 47 49.7**	**+0.1**
	257nm,0.3s,baz=248,slow=19,SNR=21						
ROSC				LR	LR	13 47 56.8	
	comp=Z,37nm,19.9s,baz=239,slow=33						
ROSC	**El Rosal**	**1.72**	**10**	*e*P	**Pn**	**13 47 29.6**	**+0.9**
ROSC				*e*S	**Sn**	**13 47 50.8**	**+1.1**
CHIC	**Chingaza**	**1.73**	**32**	*e*P	**Pn**	**13 47 29.2**	**+0.5**
CHIC				*e*S	**Sn**	**13 47 51.5**	**+1.7**
OTAV	**Otavalo**	**4.78**	**233**	Pn	**Pn**	**13 48 11.1**	**+0.3**
SDV	**Santo Domingo**	**6.95**	**35**	*e*Pn	**Pn**	**13 48 39.5**	**-0.9**
	126nm,0.4s						
SDV				*e*Sn	**Sn**	**13 49 58.4**	**+0.1**
BCIP	**Isla Barro Col**	**7.90**	**319**	Pn	**Pn**	**13 48 52.2**	**-1.0**
JTS	**JuntasAbangare**	**12.46**	**305**	LR	LR	13 54 38.2	
	comp=Z,74nm,20.3s,baz=134,slow=36						
PTGA	**Pitinga**	**15.16**	**104**	P	**Pn**	**13 50 30.5**	**-1.9**
	0.9nm,0.3s,baz=309,slow=18,SNR=5.5						
SAML	**Samuel**	**16.58**	**137**	*e*Pn	**Pn**	**13 50 48.8**	**-1.7**
	3.8nm,0.6s						
SJG	**San Juan**	**17.04**	**29**	LR	LR	13 57 41.6	
	comp=Z,84nm,21.8s,baz=106,slow=38						
SIV	**San Ignacio**	**23.27**	**145**	pP	pP	13 52 19.2	+3.7
	2.8nm,0.7s,baz=326,slow=11,SNR=5.4						
BDFB	**Brasilia**	**32.29**	**126**	LR	LR	14 06 35.1	
	comp=Z,89nm,18.3s,baz=294,slow=36						
TXAR	**Lajitas Array**	**37.91**	**316**	P	**P**	**13 54 16.0**	**+1.3**
	0.2nm,0.4s,baz=128,slow=10,SNR=4.0						
PDAR	**Pinedale Array**	**50.22**	**327**	P	**P**	**13 55 53.6**	**+0.3**
	0.4nm,0.8s,baz=141,slow=5.8,SNR=3.6						
SCHQ	**Schefferville**	**51.91**	**6**	P	**P**	**13 56 04.8**	**-0.7**
	2.5nm,0.5s,baz=215,slow=10,SNR=8.2						
NVAR	**Mina Array Bea**	**53.05**	**317**	P	**P**	**13 56 16.6**	**+2.0**
	0.9nm,0.7s,baz=121,slow=6.7,SNR=7.3						
NVAR				PcP	**PcP**	**13 57 21.6**	**-1.1**
	0.3nm,0.3s,baz=126,slow=2.5,SNR=1.4						
NEW	**Newport**	**57.82**	**328**	P	**P**	**13 56 48.7**	**+0.3**
	0.9nm,0.4s,baz=59,slow=12,SNR=2.6						
YKA	**Yellowknife Ar**	**66.19**	**341**	P	**P**	**13 57 43.3**	**-1.0**
	0.3nm,0.4s,baz=135,slow=6.2,SNR=8.9						
TORD	**Torodi Ar. Bea**	**75.99**	**77**	P	**P**	**13 58 43.7**	**-0.9**
	0.3nm,0.5s,baz=289,slow=5.4,SNR=7.1						
TORD				pP	**PcP**	**13 58 59.6**	**+2.7**
	0.4nm,0.6s,baz=275,slow=5.2,SNR=2.4						
ILAR	**Eielson Array**	**79.64**	**335**	P	**P**	**13 59 03.4**	**-0.5**
	0.3nm,0.7s,baz=112,slow=3.6,SNR=6.3						
MKAR	**Makanchi Array**	**126.26**	**20**	PKP	**PKPdf**	**14 05 58.8**	**-0.8**
	0.1nm,0.4s,baz=294,slow=1.4,SNR=1.1						
ASAR	**Alice Springs**	**145.69**	**231**	PKPbc	**PKPab**	**14 06 37.6**	**+0.8**
	2.4nm,0.7s,baz=119,slow=3.6,SNR=24						
ASAR				pPKPbc	pPKPbc	14 06 50.4	+1.6
	0.7nm,0.5s,baz=122,slow=3.8,SNR=3.9						
WRA	**Warramunga Arr**	**147.17**	**237**	PKPbc	**PKPab**	**14 06 42.1**	**-0.4**
	2.8nm,0.7s,baz=111,slow=2.8,SNR=37						
WRA				pPKPbc	**pPKPbc**	**14 06 54.3**	**+1.1**
	1.5nm,0.8s,baz=110,slow=3.0,SNR=5.3						

IDC 18 13:59:45.3±1.7, 3°50N×122°32E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/30, mbtmp3.6/3, Error ellipse: s-maj=221.3km s-min=25.1km az=62.0, Celebes Sea

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

	baz=17,SNR=22						
QIS				S	Sn	14 12 45.0	-6.7
	baz=17,SNR=4.2						
AS31	Alice Springs	16.97	166	eP	Pn	14 09 54.6	+2.9
ASAR	Alice Springs	16.97	166	P	Pn	14 09 53.7	+2.0
	5.2nm,0.3s,baz=346,slow=11,SNR=492						
WRKA	Warakurna	17.82	183	P	Pn	14 10 03.8	+1.9
	baz=18,SNR=103						
CTA	Charters Tower	20.77	130	P	P	14 10 34.4	+1.8
	7.1nm,0.8s,baz=317,slow=19,SNR=2.6						
FORT	Forrest	23.54	183	eP	P	14 11 00.9	+0.7
	30nm,0.6s						
PSI	Prapat	32.02	287	P	P	14 12 14.9	-1.2
	12nm,0.8s,baz=137,slow=7.3,SNR=15						
PSI	Prapat	32.02	287	P	P	14 12 16.0	-0.1
	baz=32,SNR=7.7						
CMAR	Chiang Mai Arr	39.40	311	P	P	14 13 18.5	-0.5
	3.4nm,0.9s,baz=140,slow=7.7,SNR=17						
CMAR				PcP	PcP	14 15 24.7	+0.1
	0.3nm,0.3s,baz=149,slow=2.1,SNR=4.1						
CHTO	Chiang Mai	39.62	311	eP	P	14 13 18.6	-2.2
	4.8nm,1.0s						
ODAN	Odare	52.93	311	eP	P	14 15 04.0	-1.0
	14nm,0.5s						
TAPN	Taplejung	52.97	312	eP	P	14 15 04.4	-0.9
	9.3nm,0.4s						
RAMN	Ramite	53.57	311	eP	P	14 15 09.1	-0.6
	28nm,0.6s						
JIRN	Jiri	54.27	312	eP	P	14 15 13.6	-1.2
	7.0nm,0.4s						
GUN	Gumba	54.63	312	eP	P	14 15 16.4	-1.1
	22nm,0.7s						
PKI	Pulchoki	54.80	311	eP	P	14 15 17.5	-1.2
	8.9nm,0.5s						
PKIN	Phulchoki	54.81	311	eP	P	14 15 17.4	-1.3
KKN	Kakani	55.01	311	eP	P	14 15 18.7	-1.4
	9.7nm,0.5s						
DMN	Daman	55.05	311	eP	P	14 15 19.2	-1.2
	8.6nm,0.7s						
GKN	Gorkha	55.61	311	eP	P	14 15 23.3	-0.9
	17nm,0.4s						
KOLN	Koldanda	56.27	310	eP	P	14 15 28.2	-0.8
	9.4nm,0.4s						
DANN	Dangsing	56.45	311	eP	P	14 15 29.2	-1.2
	14nm,0.8s						
SONM	Songino Array	58.41	342	P	P	14 15 43.2	-0.3
	0.6nm,0.6s,baz=152,slow=5.8,SNR=6.6						
MKAR	Makanchi Array	68.05	327	P	P	14 16 46.5	-0.4
	1.3nm,0.6s,baz=122,slow=7.8,SNR=22						
ZALV	Zalesovo Beam	71.47	334	P	P	14 17 06.6	-1.1
	1.4nm,0.6s,baz=116,slow=6.5,SNR=5.2						
TORD	Torodi Ar. Bea	128.29	281	PKP	PKPdf	14 24 53.2	-0.4
	0.2nm,0.5s,baz=110,slow=3.0,SNR=2.3						

*ISCJB **18** 14:33:55.7±1.2, 47.°4S±0.°1×165.°83E±0.°07, h16km, mb3.9/2, Error ellipse: s-maj=21.1km s-min=6.2km az=172.8*
*WEL **18** 14:33:57.8±1.2, 47.°48S×165.°70E, h33km, ML4.5/14, Error ellipse: s-maj=10.2km s-min=7.5km az=0.0*
*IDC **18** 14:33:58.3±1.9, 48.°11S×164.°30E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/18, mbtmp3.8/2, Error ellipse: s-maj=210.9km s-min=47.6km az=38.0*
ISC 18 14:33:57.9±1.1, 47.°4S±0.°1×165.°93E±0.°06, h16km, n39, σ1§38/30, 2C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.51**	**70**	PN	**Pn**	**14 34 23.6**	**-0.7**
APZ				SN	**Sb**	**14 34 44.5**	**+0.1**
APZ				AML	AML	14 34 46.2	
WHZ	**Wether Hill Ro**	**2.03**	**44**	PN	**Pn**	**14 34 31.3**	**-0.1**
WHZ				AML	AML	14 34 58.6	
WHZ				AML	AML	14 34 59.2	
DCZ	**Deep Cove**	**2.08**	**25**	PN	**Pn**	**14 34 31.3**	**-0.7**
DCZ				AML	AML	14 35 04.1	
DCZ				AML	AML	14 35 04.1	
DCZ				AML	AML	14 35 06.2	
DCZ				AML	AML	14 35 13.8	
SYZ	**Scrubby Hill**	**2.35**	**70**	PN	**Pn**	**14 34 36.3**	**+0.4**
SYZ				SN	**Sn**	**14 35 04.5**	**+0.1**
SYZ				AML	AML	14 35 11.0	
SYZ				AML	AML	14 35 12.2	
SYZ				AML	AML	14 35 18.9	
MLZ	**Mavora Lakes**	**2.55**	**38**	PN	**Pn**	**14 34 38.7**	**0.0**
MLZ				AML	AML	14 35 12.3	
MLZ				AML	AML	14 35 13.4	
TUZ	**Tuapeka**	**2.92**	**62**	PN	**Pn**	**14 34 44.2**	**+0.6**
MSZ	**Milford Sound**	**3.04**	**28**	PN	**Pn**	**14 34 45.8**	**+0.5**
MSZ				AML	AML	14 35 34.4	
MSZ				AML	AML	14 35 34.4	
MSZ				AML	AML	14 35 41.4	
MSZ				AML	AML	14 35 41.5	
EAZ	**Earnscleugh**	**3.17**	**49**	⇑PN	**Pn**	**14 34 47.0**	**-0.1**
EAZ				AML	AML	14 35 29.5	
EAZ				AML	AML	14 35 32.2	
EAZ				AML	AML	14 35 33.5	
EAZ				AML	AML	14 35 44.9	
WKZ	**Wanaka**	**3.33**	**41**	PN	**Pn**	**14 34 50.3**	**+1.0**
WKZ				AML	AML	14 35 34.6	
WKZ				AML	AML	14 35 35.5	
WKZ				AML	AML	14 35 38.1	
WKZ				AML	AML	14 35 38.3	
HHSZ	**Highcliff Hill**	**3.55**	**67**	PN	**Pn**	**14 34 53.1**	**+0.9**
JCZ	**Jackson Bay**	**3.85**	**32**	PN	**Pn**	**14 34 58.0**	**+1.5**
JCZ				AML	AML	14 35 52.2	
JCZ				AML	AML	14 35 58.2	
ODZ	**Otahua Downs**	**4.02**	**56**	⇑PN	**Pn**	**14 34 57.2**	**-1.5**
LBZ	**Lake Benmore**	**4.21**	**46**	⇓PN	**Pn**	**14 34 59.9**	**-1.5**
LBZ				AML	AML	14 36 11.6	
LBZ				AML	AML	14 36 37.9	
FOZ	**Fox Glacier**	**4.64**	**36**	PN	**Pn**	**14 35 08.4**	**+1.2**
FOZ				AML	AML	14 36 14.1	
FOZ				AML	AML	14 36 51.4	
RPZ	**Rata Peaks**	**5.13**	**46**	PN	**Pn**	**14 35 11.4**	**-2.7**
RPZ				AML	AML	14 36 31.5	
RPZ				AML	AML	14 37 03.7	
WVZ	**Waitaha Valley**	**5.48**	**40**	PN	**Pn**	**14 35 19.5**	**+0.7**
OXZ	**Oxford**	**5.91**	**49**	PN	**Pn**	**14 35 22.4**	**-2.3**
MQZ	**McQueen's Vall**	**5.98**	**55**	ePN	**Pn**	**14 35 23.8**	**-1.8**
LTZ	**Lake Taylor**	**6.42**	**47**	AML	AML	14 37 29.6	
DSZ	**Denniston Nort**	**7.02**	**39**	ePN	**Pn**	**14 35 38.6**	**-1.3**
THZ	**Tophouse**	**7.50**	**44**	ePN	**Pn**	**14 35 45.9**	**-0.7**
THZ				AML	AML	14 37 18.4	
QRZ	**Quartz Range**	**8.08**	**38**	PN	**Pn**	**14 35 54.3**	**-0.2**
MOO	**Moorlands**	**14.16**	**284**	P	**Pn**	**14 37 16.6**	**-1.0**
	baz=14,SNR=3.4						
TOO	**Toolangi**	**17.93**	**296**	P	**Pn**	**14 38 06.8**	**+0.4**
	baz=18,SNR=4.9						
ASAR	**Alice Springs**	**34.80**	**302**	P	**P**	**14 40 47.1**	**-0.7**
	1.8nm,0.7s,baz=135,slow=8.0,SNR=22						
WRA	**Warramunga Arr**	**37.50**	**306**	P	**P**	**14 41 08.7**	**-2.2**
	0.9nm,0.9s,baz=140,slow=8.1,SNR=5.8						
H01W1	**Cape Leeuwin H**	**40.23**	**269**	T	T	15 24 01.7	
	baz=124,slow=75,SNR=137						
H01W2	**Cape Leeuwin H**	**40.24**	**269**	T	T	15 24 02.4	
	baz=124,slow=75,SNR=128						
H01W3	**Cape Leeuwin H**	**40.25**	**269**	T	T	15 24 10.5	
	baz=124,slow=75,SNR=128						
H08S2	**Diego Garcia H**	**86.76**	**262**	T	T	16 22 05.5	
	baz=138,slow=76,SNR=30						
H08S1	**Diego Carcia H**	**86.77**	**262**	T	T	16 21 56.2	
	baz=138,slow=76,SNR=28						
H08S3	**Diego Garcia H**	**86.78**	**262**	T	T	16 22 02.6	
	baz=138,slow=76,SNR=30						
H08N1	**Diego Carcia H**	**88.70**	**262**	T	T	16 24 22.7	
	baz=145,slow=76,SNR=10.0						
H08N3	**Diego Garcia H**	**88.72**	**262**	T	T	16 24 26.6	
	baz=145,slow=76,SNR=17						
H08N2	**Diego Garcia H**	**88.72**	**262**	T	T	16 24 25.5	
	baz=145,slow=76,SNR=11						
TORD	**Torodi Ar. Bea**	**143.41**	**206**	PKP	PKPbc	14 53 30.7	+1.8
	0.3nm,0.9s,baz=151,slow=3.3,SNR=2.5						
BRTR	**Keskin Array B**	**145.05**	**275**	PKP	**PKPbc**	**14 53 33.4**	**-0.1**
	0.7nm,0.5s,baz=127,slow=3.3,SNR=5.6						
ARCES	**ARCESS Array B**	**150.56**	**333**	PKPbc	**PKPbc**	**14 53 50.8**	**+3.3**
	0.8nm,0.7s,baz=100,slow=1.1,SNR=2.3						
AKASG	**Malin Array Be**	**151.72**	**293**	PKPbc	**PKPbc**	**14 53 52.4**	**+1.7**
	0.6nm,0.5s,baz=84,slow=3.2,SNR=2.5						

*IDC **18** 14:35:30.0±7.5, 46.°22S×167.°80E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/21, mbtmp3.5/2, Error ellipse: s-maj=408.5km s-min=43.6km az=49.0*
*ISCJB **18** 14:35:34.7±1.2, 47.°5S±0.°1×165.°91E±0.°09, h16km, mb3.5/2, Error ellipse: s-maj=16.8km s-min=8.2km az=164.5*
*WEL **18** 14:35:35.9±0.9, 47.°61S×165.°77E, h33km, ML4.2/8, Error ellipse: s-maj=9.0km s-min=6.7km az=90.0*
ISC 18 14:35:36.0±1.8, 47.°5S±0.°1×165.°96E±0.°09, h16km, n24, σ0§96/17, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.53**	**66**	PN	**Pn**	**14 36 02.5**	**-0.2**
APZ				eSN	**Sn**	**14 36 22.0**	**-0.3**
APZ				AML	AML	14 36 23.5	
WHZ	**Wether Hill Ro**	**2.09**	**42**	PN	**Pn**	**14 36 10.2**	**-0.2**
WHZ				eSN	**Sn**	**14 36 36.4**	**+0.3**
WHZ				AML	AML	14 36 37.3	
DCZ	**Deep Cove**	**2.16**	**23**	ePN	**Pn**	**14 36 10.8**	**-0.5**
DCZ				AML	AML	14 36 44.4	
DCZ				AML	AML	14 36 47.4	
SYZ	**Scrubby Hill**	**2.37**	**68**	ePN	**Pn**	**14 36 15.1**	**+0.9**
SYZ				eSN	**Sn**	**14 36 41.3**	**-1.7**
SYZ				AML	AML	14 36 49.4	
MLZ	**Mavora Lakes**	**2.62**	**37**	ePN	**Pn**	**14 36 17.3**	**-0.4**
MLZ				SN	**Sn**	**14 36 49.6**	**+0.4**
MLZ				AML	AML	14 36 50.4	
TUZ	**Tuapeka**	**2.95**	**60**	ePN	**Pn**	**14 36 22.7**	**+0.5**
MSZ	**Milford Sound**	**3.12**	**27**	ePN	**Pn**	**14 36 26.4**	**+1.9**
MSZ				AML	AML	14 37 07.2	
MSZ				AML	AML	14 37 08.2	
EAZ	**Earnscleugh**	**3.23**	**47**	PN	**Pn**	**14 36 26.0**	**0.0**
EAZ				AML	AML	14 37 08.3	
EAZ				AML	AML	14 37 08.7	
WKZ	**Wanaka**	**3.40**	**40**	PN	**Pn**	**14 36 30.0**	**+1.6**
WKZ				AML	AML	14 37 12.9	
WKZ				AML	AML	14 37 13.8	
HHSZ	**Highcliff Hill**	**3.57**	**65**	ePN	**Pn**	**14 36 31.7**	**+1.0**
JCZ	**Jackson Bay**	**3.93**	**31**	ePN	**Pn**	**14 36 35.0**	**-0.6**
ASAR	**Alice Springs**	**34.87**	**302**	P	**P**	**14 42 26.9**	**+0.3**
	0.6nm,0.6s,baz=134,slow=8.3,SNR=3.2						
WRA	**Warramunga Arr**	**37.57**	**306**	P	**P**	**14 42 49.0**	**-0.7**
	0.4nm,0.8s,baz=138,slow=8.1,SNR=2.6						
H01W1	**Cape Leeuwin H**	**40.25**	**269**	T	T	15 25 40.7	
	baz=124,slow=75,SNR=17						
H01W2	**Cape Leeuwin H**	**40.26**	**269**	T	T	15 25 41.9	
	baz=124,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**40.27**	**269**	T	T	15 25 38.5	
	baz=124,slow=75,SNR=23						
H08S2	**Diego Garcia H**	**86.76**	**262**	T	T	16 23 36.7	
	baz=143						
H08S1	**Diego Carcia H**	**86.77**	**262**	T	T	16 23 36.8	
	baz=143						
H08S3	**Diego Garcia H**	**86.78**	**262**	T	T	16 23 32.6	
	baz=143						
H08N1	**Diego Carcia H**	**88.71**	**262**	T	T	16 26 01.8	
	baz=124						
H08N3	**Diego Garcia H**	**88.72**	**262**	T	T	16 26 00.8	
	baz=124						
H08N2	**Diego Garcia H**	**88.73**	**262**	T	T	16 25 58.3	
	baz=124						
TORD	**Torodi Ar. Bea**	**143.33**	**206**	PKPbc	PKPbc	14 55 07.7	+0.9
	0.3nm,0.8s,baz=170,slow=2.7,SNR=2.6						
BRTR	**Keskin Array B**	**145.08**	**275**	PKPbc	PKPbc	14 55 11.4	-0.3
	0.8nm,0.8s,baz=132,slow=2.1,SNR=2.5						

*IDC **18** 14:43:45.3±1.2, 13.°00N×87.°21W, h158km±27km, mb3.2/5, mb1 3.4/8, mb1mx3.2/24, mbtmp3.7/8, Error ellipse: s-maj=57.9km s-min=14.9km az=39.0*
*CASC **18** 14:43:47.0±2.7, 12.°11N×87.°99W, h13km±15km, MD4.0*
ISC 18 14:43:45.0±0.8, 13.°0N±0.°1×87.°3W±0.°1, h150km, n20, σ1§28/23, mb3.5/5, 3C, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.54**	**297**	eP	**Pn**	**14 44 07.6**	**+0.9**
VSM	**San Miguel**	**0.99**	**294**	⇑eP	**Pn**	**14 44 10.7**	**+0.7**
SNVI	**San Vicente**	**1.57**	**292**	eP	**Pn**	**14 44 15.8**	**+0.4**
SNVI				eS	**Sn**	**14 44 39.9**	**+1.2**
LFRS	**El Faro**	**1.77**	**290**	⇑iP	**Pn**	**14 44 17.7**	**+0.1**
LFRS				eS	**Sn**	**14 44 42.7**	**0.0**
LFU	**La Fuente**	**1.86**	**293**	⇑eP	**Pn**	**14 44 18.9**	**+0.3**
BOQS	**Boqueron**	**2.01**	**291**	eP	**Pn**	**14 44 20.9**	**+0.4**
SBLS	**San Blas**	**2.36**	**290**	eP	**Pn**	**14 44 24.7**	**+0.1**
JTS	**JuntasAbangare**	**3.59**	**139**	P	**Pn**	**14 44 41.1**	**+1.1**
	16nm,0.3s,baz=313,slow=17,SNR=41						
JTS				S	**Sn**	**14 45 20.7**	**-2.0**
	9.4nm,0.3s,baz=311,slow=22,SNR=9.0						
APG	**El Apazote**	**3.61**	**303**	P	Pn	14 44 44.0	+3.7
	0.7nm,0.3s,baz=135,slow=14,SNR=3.8						
JCR	**Jicaral**	**3.84**	**145**	eP	**Pn**	**14 44 45.4**	**+2.1**
JCR				eS	**Sn**	**14 45 25.1**	**-3.4**
CGA2	**Cerro Gallo 2**	**4.11**	**136**	eP	Pn	14 44 50.8	+3.9
CGA2				eS	**Sn**	**14 45 36.9**	**+1.9**
BUS	**Buena Vista**	**4.93**	**134**	eP	Pn	14 45 01.5	+3.6
BUS				eS	**Sn**	**14 45 56.6**	**+1.9**
CMIG	**Matias Romero**	**8.33**	**300**	P	**Pn**	**14 45 42.9**	**+0.1**
	0.7nm,0.3s,baz=139,slow=9.2,SNR=5.1						
TXAR	**Lajitas Array**	**22.20**	**319**	P	**P**	**14 48 29.6**	**+0.2**
	0.3nm,0.5s,baz=143,slow=9.1,SNR=3.6						
PDAR	**Pinedale Array**	**35.32**	**331**	P	**P**	**14 50 26.1**	**+0.1**
	0.4nm,0.4s,baz=126,slow=9.1,SNR=4.4						
ULM	**Lac du Bonnet**	**37.77**	**351**	P	**P**	**14 50 45.4**	**-1.0**
	1.7nm,0.6s,baz=173,slow=7.9,SNR=2.9						
SCHQ	**Schefferville**	**44.70**	**17**	P	**P**	**14 51 42.4**	**-0.5**
	1.7nm,0.7s,baz=216,slow=19,SNR=3.1						
YKA	**Yellowknife Ar**	**53.08**	**345**	P	**P**	**14 52 46.7**	**+0.1**
	0.2nm,0.5s,baz=145,slow=6.7,SNR=7.2						
WRA	**Warramunga Arr**	**139.53**	**255**	PKP	**PKPdf**	**15 02 55.5**	**-0.1**
	0.5nm,0.5s,baz=88,slow=2.6,SNR=17						
ASAR	**Alice Springs**	**139.58**	**249**	PKP	**PKPdf**	**15 02 55.5**	**-0.1**
	0.3nm,0.6s,baz=91,slow=2.1,SNR=8.9						

*MOS **18** 14:58:10.9±1.1, 49.°08N×156.°21E, h18km, mb4.0/10, Error ellipse: s-maj=18.5km s-min=6.9km az=81.7*
*IDC **18** 14:58:10.1±0.8, 49.°17N×156.°15E, h0km, mb3.7/15, mb1 3.9/17, mb1mx3.8/39, mbtmp3.7/17, ML3.0/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/52, Error ellipse: s-maj=24.4km s-min=16.1km az=133.0*
*KRSC **18** 14:58:11.0±2.3, 48.°95N×157.°24E, h17km±14km, ML4.5*
*ISCJB **18** 14:58:13.1±0.5, 49.°00N±0.°05×156.°2E±0.°1, h34km, mb3.8/17, MS3.4/1, Error ellipse: s-maj=12.2km s-min=3.5km az=31.0*
*SKHL **18** 14:58:14.2±0.5, 48.°90N×156.°55E, h58km±7km, mb5.2/2*
ISC 18 14:58:15.1±0.6, 49.°04N±0.°07×156.°31E±0.°07, h34km, n76, σ1§37/89, mb3.9/17, 4C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.65**	**356**	ePN	Pn	14 58 36.5	-5.1
SKR				*i* S	**Sn**	**14 58 58.0**	**-3.6**
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				pmax	pmax		
	comp=N,190nm,0.3s						
SKR				pmax	pmax		
	comp=E,100nm,0.3s						
SKR				smax	smax		
	comp=N,420nm,0.4s						
SKR				smax	smax		
	comp=E,820nm,0.5s						
SKR	**Severo-Kuril's**	**1.65**	**356**	eP	**Pn**	**14 58 42.0**	**+0.4**
SKR				eS	**Sn**	**14 59 03.3**	**+1.7**
SKR	**Severo-Kuril's**	**1.65**	**356**	eP	**Pn**	**14 58 42.1**	**+0.4**
SKR				AMB	AMB	14 58 48.0	
	comp=E,266nm,0.4s						
SKR				eS	**Sn**	**14 59 03.4**	**+1.8**
SKR				A	A	14 59 07.8	
	comp=E,1μm,0.9s						
PAU	**Pauzhetka**	**2.45**	**7**	PN	**Pn**	**14 58 53.2**	**+0.6**
PAU				S	**Sn**	**14 59 23.0**	**+1.6**
PAU	**Pauzhetka**	**2.45**	**7**	eP	**Pn**	**14 58 53.2**	**+0.6**
PAU				eS	**Sn**	**14 59 23.0**	**+1.6**
PAU	**Pauzhetka**	**2.45**	**7**	ePn	**Pn**	**14 58 53.8**	**+1.2**
PAU				eS	**Sn**	**14 59 23.2**	**+1.8**
MTVR	**Mutnovka**	**3.65**	**18**	eP	**Pn**	**14 59 09.7**	**+0.5**
MTVR				eS	**Sn**	**14 59 51.5**	**+0.4**
RUS	**Russkaya**	**3.67**	**22**	PN	**Pn**	**14 59 09.1**	**-0.3**
RUS				S	**Sn**	**14 59 51.1**	**-0.4**
RUS	**Russkaya**	**3.67**	**22**	eP	**Pn**	**14 59 09.1**	**-0.3**
RUS				eS	**Sn**	**14 59 51.1**	**-0.4**
APC	**Apacha**	**3.92**	**7**	eP	**Pn**	**14 59 15.1**	**+2.2**
APC				eS	**Sn**	**15 00 00.8**	**+3.1**
PETK	**Petropavlovsk-**	**4.17**	**12**	PN	**Pn**	**14 59 17.4**	**+1.2**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.17**	**12**	Pn	**Pn**	**14 59 17.4**	**+1.2**
	comp=Z,2.1nm,0.3s,baz=179,slow=14,SNR=37						
PET	**Petropavlovsk**	**4.25**	**19**	ePN	**Pn**	**14 59 18.1**	**+0.6**
PET				eS	**Sn**	**15 00 06.2**	**+0.4**
PET				pmax	pmax		
	comp=Z,23nm,0.5s						
PET				smax	smax		
	comp=N,132nm,0.5s						
PET				smax	smax		
	comp=E,193nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,12.0s						
PET	**Petropavlovsk**	**4.25**	**19**	eP	**Pn**	**14 59 18.0**	**+0.6**
PET				eS	**Sn**	**15 00 05.8**	**0.0**
PET	**Petropavlovsk**	**4.25**	**19**	eP	**Pn**	**14 59 18.0**	**+0.6**
PET				AMB	AMB	14 59 22.3	
	comp=Z,304nm,0.2s						
PET				eS	**Sn**	**15 00 06.8**	**+1.0**
PET				A	A	15 00 18.7	
	comp=Z,150nm,0.4s						
UGLR	**Uglovaya**	**4.46**	**20**	eP	**Pn**	**14 59 21.4**	**+1.0**
UGLR				eS	**Sn**	**15 00 12.6**	**+1.4**
AVH	**Avacha**	**4.50**	**19**	eP	**Pn**	**14 59 22.4**	**+1.6**
AVH				eS	**Sn**	**15 00 13.6**	**+1.7**
KOK	**Koryaka**	**4.50**	**18**	eP	**Pn**	**14 59 22.8**	**+1.9**
KOK				eS	**Sn**	**15 00 14.1**	**+2.0**
SMAR	**Somma**	**4.51**	**19**	eP	**Pn**	**14 59 22.7**	**+1.6**
SMAR				eS	**Sn**	**15 00 14.6**	**+2.2**
KRER	**Koryakskii**	**4.54**	**19**	eP	**Pn**	**14 59 22.6**	**+1.1**
KRER				eS	**Sn**	**15 00 14.6**	**+1.5**
SDLR	**Sedlovina**	**4.54**	**20**	eP	**Pn**	**14 59 22.6**	**+1.1**
SDLR				eS	**Sn**	**15 00 14.6**	**+1.5**
KRX	**Arik**	**4.57**	**18**	P	**Pn**	**14 59 23.5**	**+1.6**
KRX				eS	**Sn**	**15 00 15.7**	**+1.9**
GNL	**Ganaly**	**4.77**	**12**	eP	**Pn**	**14 59 26.6**	**+2.0**
MKZ	**Mys Kozlova**	**6.46**	**29**	PN	**Pn**	**14 59 47.0**	**-0.7**
MKZ	**Mys Kozlova**	**6.46**	**29**	eP	**Pn**	**14 59 47.0**	**-0.7**
TUMR	**Tumrok**	**6.68**	**19**	eP	**Pn**	**14 59 52.9**	**+2.1**
KBTR	**Krutoberegovo**	**8.19**	**26**	PN	**Pn**	**15 00 10.7**	**-0.8**
KBTR	**Krutoberegovo**	**8.19**	**26**	eP	**Pn**	**15 00 10.7**	**-0.8**
ASAJ	**Asahikawa**	**10.65**	**248**	Pn	**Pn**	**15 00 45.7**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=80,slow=12,SNR=4.2						
USRK	**Ussuriysk Ar.**	**17.37**	**263**	P	**Pn**	**15 02 11.8**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=75,slow=14,SNR=3.3						
MJAR	**Matsushiro Arr**	**18.18**	**233**	P	**Pn**	**15 02 23.4**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=20,slow=8.2,SNR=4.3						
BILL	**Bilibino**	**19.70**	**11**	eP	**P**	**15 02 41.0**	**-0.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL	**Bilibino**	**19.70**	**11**	eP	**P**	**15 02 41.1**	**-0.1**
YAK	**Yakutsk**	**19.72**	**321**	⇑eP	**P**	**15 02 40.5**	**-0.9**
YAK	**Yakutsk**	**19.72**	**321**	eP	**P**	**15 02 40.4**	**-0.9**
KSRS	**Korea Array**	**23.56**	**251**	eP	**P**	**15 03 25.9**	**+3.6**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSRS	**Korea Array**	**23.56**	**251**	P	**P**	**15 03 23.0**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=40,slow=10,SNR=4.6						
TIK	**Tiksi**	**25.94**	**340**	eP	**P**	**15 03 42.5**	**-1.3**
TIXI	**Tiksi**	**25.95**	**341**	⇓eP	**P**	**15 03 42.5**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**31.60**	**161**	T	T	15 38 56.0	
	baz=347,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**31.61**	**161**	T	T	15 38 57.4	
	baz=347,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**31.61**	**161**	T	T	15 38 57.3	
	baz=347,slow=76,SNR=15						
TLY	**Talaya**	**33.10**	**295**	⇑P	**P**	**15 04 47.6**	**0.0**
TLY	**Talaya**	**33.10**	**295**	eP	**P**	**15 04 47.5**	**0.0**
ILAR	**Eielson Array**	**33.41**	**41**	P	**P**	**15 04 49.1**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=284,slow=5.5,SNR=2.8						
WHN	**Wuhan**	**36.59**	**255**	P	**P**	**15 05 20.8**	**+3.0**
KMI	**Kunming**	**47.77**	**260**	P	**P**	**15 06 48.5**	**-0.7**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
YKA	**Yellowknife Ar**	**47.79**	**39**	P	**P**	**15 06 48.6**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=296,slow=6.8,SNR=5.3						
YKA	**Yellowknife Ar**	**47.79**	**39**	eP	**P**	**15 06 49.0**	**+0.4**
MKAR	**Makanchi Array**	**47.81**	**297**	cePP	P	15 06 53.0	+3.9
MKAR	**Makanchi Array**	**47.81**	**297**	P	**P**	**15 06 47.3**	**-1.8**
	comp=Z,1.0nm,0.8s,baz=67,slow=6.7,SNR=11						
MKAR				LR	LR	15 27 27.5	
	comp=Z,40nm,19.4s,baz=59,slow=37						
MKAR	**Makanchi Array**	**47.81**	**297**	eP	P	15 06 53.0	+3.9
KURK	**Kurchatov**	**47.90**	**303**	eP	P	15 06 47.2	-2.4
ARU	**Arti**	**54.77**	**318**	⇑P	**P**	**15 07 39.3**	**-1.8**
ARU	**Arti**	**54.77**	**318**	eP	**P**	**15 07 39.2**	**-1.8**
CMAR	**Chiang Mai Arr**	**54.99**	**257**	P	**P**	**15 07 44.1**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**54.99**	**257**	P	**P**	**15 07 44.1**	**+1.0**
	comp=Z,0.6nm,

baz=245,slow=75
H11N3 WAKE ISLAND Hy 24.40 67 T T 15 42 04.6
baz=245,slow=75
JNU Nakatsue 24.66 335 P **P 15 17 20.8 -1.0**
14nm,1.1s,baz=207,slow=4.5,SNR=3.7
MJAR Matsushiro Arr 25.73 351 P **P 15 17 30.4 -1.0**
0.8nm,0.5s,baz=165,slow=9.4,SNR=4.0
WRAB Tennant Creek 32.04 196 P **P 15 18 27.6 -0.1**
WRA Warramunga Arr 32.05 196 P **P 15 18 27.6 -0.2**
1.2nm,1.0s,baz=19,slow=9.6,SNR=4.0
USRK Ussuriysk Ar. 34.37 346 P **P 15 18 49.6 +1.8**
1.3nm,0.7s,baz=181,slow=9.8,SNR=3.4
ASAR Alice Springs 35.72 195 P **P 15 18 59.1 -0.6**
0.1nm,0.3s,baz=23,slow=11,SNR=3.4
CMAR Chiang Mai Arr 43.31 285 P **P 15 20 03.1 0.0**
1.4nm,0.5s,baz=86,slow=6.2,SNR=6.9
PSI Prapat 44.65 263 P **P 15 20 13.8 -0.2**
3.8nm,0.5s,baz=103,slow=6.3,SNR=3.7
SONM Songino Array 47.86 327 P **P 15 20 37.9 -1.0**
0.3nm,0.6s,baz=133,slow=8.0,SNR=4.6
MKAR Makanchi Array 62.16 317 P **P 15 22 22.4 +0.3**
0.6nm,0.5s,baz=97,slow=7.5,SNR=8.8
ZALV Zalesovo Beam 62.71 326 P **P 15 22 26.2 +0.7**
1.0nm,0.4s,baz=97,slow=6.7,SNR=2.8
KURK Kurchatov 65.44 321 P **P 15 22 43.0 -0.5**
1.7nm,0.8s
KURBB Kurchatov Arra 65.48 321 P **P 15 22 43.8 +0.1**
1.8nm,0.5s,baz=106,slow=7.1,SNR=3.7
TKM2 Tokmak 2 66.13 312 P **P 15 22 45.5 -2.9**
BVAR Borovoye Array 70.87 322 P **P 15 23 17.7 +0.2**
1.2nm,0.5s,baz=99,slow=7.3,SNR=11
ILAR Eielson Array 71.51 25 P **P 15 23 20.5 -0.7**
0.4nm,0.4s,baz=253,slow=6.1,SNR=9.8
YKA Yellowknife Ar 85.81 27 P **P 15 24 40.2 +0.4**
0.2nm,0.5s,baz=289,slow=5.1,SNR=5.0
ARCES ARCESS Array B 88.93 342 P **P 15 24 57.2 +2.4**
2.5nm,1.0s,baz=67,slow=7.1,SNR=4.6
NVAR Mina Array Bea 89.75 51 P **P 15 25 00.3 +0.7**
0.6nm,0.6s,baz=271,slow=5.1,SNR=5.9

MEX 18 15:14:38.6±0.4, 14°.98N×93°.28W, h64km±7km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.72**	**4**	*i* P	Pn	15 14 51.9	-1.5
PCIG				*i* S	Sn	15 15 02.4	-1.8
THIG		**0.98**	**94**	*e*P	Pn	15 14 54.9	-1.6
THIG				*i* S	Sn	15 15 08.1	-1.7
CCIG	**Comitan**	**1.70**	**40**	*e*P	Pn	15 15 05.2	-1.1
CCIG				*e*S	Sn	15 15 25.2	-2.1
TGIG		**1.79**	**5**	*e*P	Pn	15 15 05.6	-1.9
TGIG				*i* S	Sn	15 15 27.2	-2.1
CMIG	**Matias Romero**	**2.61**	**324**	*e*P	Pn	15 15 17.6	-0.9
CMIG				*e*S	Sn	15 15 47.5	-1.5
HUIG	**Huatulco**	**2.84**	**286**	*e*P	Pn	15 15 20.9	-0.7
HUIG				*e*S	Sn	15 15 52.7	-2.0

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*IDC **18** 15:19:41.8±1.5, 35°.58S×72°.66W, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.8/28, mbtmp3.8/5, ML4.1/2, MS3.4/6, Ms1 3.4/6, ms1mx3.2/26, Error ellipse: s-maj=37.3km s-min=19.7km az=86.0*
*ISCJB **18** 15:19:44.9±1.0, 35°.57S±0°.05×72°.80W±0°.09, h36km±12km, mb4.0/4, MS3.4/4, Error ellipse: s-maj=12.5km s-min=6.5km az=25.8*
*GUC **18** 15:19:45.5±0.5, 35°.56S×72°.73W, h15km±5km, ML4.5*
*NEIC **18** 15:19:46.7±1.0, 35°.49S×72°.82W, h35km, mb4.9/1, Error ellipse: s-maj=21.7km s-min=11.1km az=81.0*
ISC 18 15:19:46.0±1.3, 35°.62S±0°.05×72°.68W±0°.07, h28km±10km, n22, σ1§42/22, mb3.9/4, MS3.4/4, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.52**	**189**	*i* P	**Pb**	**15 19 56.5**	**-0.3**
COCH				*i* S	**Sb**	**15 20 04.4**	**+0.3**
TALC	**Talca**	**0.88**	**76**	⇓*i*P	**Pn**	**15 20 01.8**	**-0.8**
TALC				*i* S	**Sb**	**15 20 13.6**	**-0.6**
LNCH	**Linares**	**0.91**	**105**	*e*P9	**Pn**	**15 20 03.8**	**+0.8**
LNCH				*i* S	**Sn**	**15 20 16.7**	**+1.5**
NICH	**Los Niches**	**1.34**	**63**	*i* P	**Pn**	**15 20 08.8**	**-0.1**
NICH				*i* S	**Sb**	**15 20 26.4**	**-0.8**
NICH				IAML		15 20 31.0	
	comp=N,12μm,0.7s						
CLCH	**Cerro Calan**	**2.83**	**39**	IAML		15 21 19.1	
	comp=E,2μm,0.8s						
PEL	**Peldehue**	**2.97**	**34**	*e*P	**Pn**	**15 20 32.5**	**+1.1**
PEL				*e*S	**Sn**	**15 21 08.7**	**+2.6**
PEL				IAML		15 21 24.0	
	comp=E,2μm,0.8s						
PLCA	**Paso Flores**	**5.38**	**162**	Pn	**Pn**	**15 21 05.9**	**+1.3**
	comp=E,1.3nm,0.3s,baz=341,slow=13,SNR=12						
PLCA				Lg	Lg	15 22 32.8	
	comp=E,1.1nm,0.3s,baz=66,slow=20,SNR=6.6						
PLCA				LR	LR	15 23 06.9	
	comp=E,203nm,19.1s,baz=32,slow=38						
PLCA	**Paso Flores**	**5.38**	**162**	*e*Pn	**Pn**	**15 21 05.8**	**+1.3**
	comp=E,0.4nm,0.4s						
PLCA				*e*Sg	Sb	15 22 31.8	+8.4
PLCA				Lg	Lg	15 22 32.8	
CFAA	**Coronel Fontan**	**5.45**	**44**	Pn	**Pn**	**15 21 04.8**	**-0.8**
	comp=E,0.1nm,0.3s,baz=215,slow=14,SNR=9.3						
CFAA				Sn	**Sn**	**15 22 09.1**	**+1.7**
	comp=E,0.3nm,0.3s,baz=221,slow=15,SNR=3.6						
CFAA				LR	LR	15 23 39.7	
	comp=E,20nm,18.3s,baz=203,slow=44						
LCO	**Las Campanas**	**6.79**	**15**	*e*Pn	**Pn**	**15 21 21.9**	**-2.3**
	comp=E,12nm,0.7s						
LCO				*e*S	**Sb**	**15 23 07.0**	**+2.6**
TRQA	**Tornquist**	**8.92**	**109**	*e*Pn	Pn	15 21 57.2	+4.1
	comp=E,12nm,1.0s						
TRQA				*e*Sg	Sn	15 24 25.2	+53
USHA	**Ushuaia**	**19.44**	**173**	LR	LR	15 32 49.3	
	comp=E,190nm,18.5s,baz=14,slow=40						
LPAZ	**La Paz**	**19.67**	**13**	P	**P**	**15 24 13.3**	**-0.3**
	comp=E,0.3nm,0.3s,baz=186,slow=3.9,SNR=9.8						
SIV	**San Ignacio**	**22.13**	**31**	P	**P**	**15 24 38.4**	**-1.1**
	comp=E,4.0nm,0.8s,baz=220,slow=10.0,SNR=9.0						
NNA	**Nana**	**23.82**	**350**	LR	LR	15 31 52.5	
	comp=E,52nm,19.6s,baz=176,slow=31						
NNA	**Nana**	**23.82**	**350**	P	**P**	**15 24 55.7**	**-1.1**
PMSA	**Palmer Station**	**29.65**	**173**	LR	LR	15 37 14.1	
	comp=E,143nm,18.6s,baz=344,slow=35						
BDFB	**Brasilia**	**29.69**	**54**	LR	LR	15 38 53.6	
	comp=E,104nm,20.2s,baz=228,slow=39						
SNAA	**Sanae**	**50.30**	**157**	P	**P**	**15 28 39.9**	**+0.2**
	comp=E,21nm,1.6s						
TXAR	**Lajitas Array**	**70.89**	**332**	P	**P**	**15 31 00.7**	**+0.1**
	comp=E,0.5nm,0.7s,baz=155,slow=7.9,SNR=6.8						
TKL	**Tuckaleechee C**	**71.66**	**350**	LR	LR	16 03 34.5	
	comp=E,22nm,19.3s,baz=12,slow=37						
TORD	**Torodi Ar. Bea**	**85.25**	**70**	P	**P**	**15 32 19.1**	**-1.3**
	comp=E,0.6nm,0.8s,baz=246,slow=3.8,SNR=4.0						

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*IPEC **18** 15:45:36.9±0.3, 51°.63N×16°.25E, h0km, ML3.2/3, Error ellipse: s-maj=3.1km s-min=1.7km az=66.0*
*ISCJB **18** 15:45:36.4±0.2, 51°.52N±0°.02×16°.14E±0°.02, h0km, mb3.2/3, Error ellipse: s-maj=2.3km s-min=2.0km az=11.4*
*CSEM **18** 15:45:38.5±0.1, 51°.50N×16°.12E, h2km, ML4.1/14, Error ellipse: s-maj=2.7km s-min=2.3km az=11.0*
*BGR **18** 15:45:39.4±0.6, 51°.58N×16°.11E, h1km, ML3.6/6, Error ellipse: s-maj=7.8km s-min=4.4km az=157.0*
*IDC **18** 15:45:39.1±0.6, 51°.47N×16°.04E, h0km, mb3.3/3, mb1 3.5/10, mb1mx3.3/57, mbtmp3.4/10, ML3.2/7, Error ellipse: s-maj=11.1km s-min=6.7km az=101.0*
*UPP **18** 15:45:42.4, 51°.81N×15°.72E, h0km, ML2.4, Suspected Mining explosion.*
*VIE **18** 15:45:42.3±0.4, 51°.21N×16°.09E, h0km, mb3.0/10, ML3.2/12, Error ellipse: s-maj=2.4km s-min=1.9km az=6.0*
65 km WNW of Wroclaw Suspected Mining induced.
ISC 18 15:45:37.3±0.6, 51°.52N±0°.02×16°.18E±0°.02, h0km, n136, σ1§42/207, mb3.4/3, 16C-19D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**174**	*e*Pg	**Pb**	**15 45 52.2**	**+0.2**
KSP				*e*Sg	**Sb**	**15 46 02.1**	**+0.1**
KSP	**Ksiaz**	**0.68**	**174**	⇓*i*Pg	**Pb**	**15 45 52.3**	**+0.2**
KSP				*e*Sg	**Sb**	**15 46 01.7**	**-0.3**
UPC	**Upice**	**1.02**	**186**	⇓*i*PG	**Pb**	**15 45 58.3**	**+0.5**
UPC				*e*SG	**Sg**	**15 46 10.6**	**+0.6**
	comp=Z,172nm,0.2s						
UPC	**Upice**	**1.02**	**186**	Pg	**Pb**	**15 45 58.3**	**+0.5**
UPC				Sg	**Sg**	**15 46 10.6**	**+0.6**
	172nm,0.2s						
DPC	**Dobruska-Polom**	**1.18**	**176**	⇓*i*PG	**Pn**	**15 46 01.1**	**0.0**
DPC				*e*SG	**Sb**	**15 46 16.0**	**-0.3**
DPC				AMS	AMS	15 46 30.0	
DPC	**Dobruska-Polom**	**1.18**	**176**	Pg	**Pn**	**15 46 01.1**	**0.0**
DPC				Sg	**Sb**	**15 46 16.0**	**-0.3**
PVCC	**Panska Ves**	**1.42**	**226**	⇓*e*PG	**Pb**	**15 46 05.0**	**+0.3**
PVCC				*e*SG	**Sb**	**15 46 23.6**	**+0.2**
	comp=Z,947nm,0.3s						
PVCC	**Panska Ves**	**1.42**	**226**	Pg	**Pb**	**15 46 05.0**	**+0.3**
PVCC				Sg	**Sb**	**15 46 23.6**	**+0.2**
	947nm,0.3s						
KRLC	**Kraliky**	**1.50**	**165**	⇓*i*PG	**Pg**	**15 46 06.4**	**+0.4**
KRLC				*e*SG	**Sn**	**15 46 26.0**	**+0.3**
KRLC	**Kraliky**	**1.50**	**165**	Pg	**Pg**	**15 46 06.4**	**+0.4**
KRLC				Sg	**Sn**	**15 46 26.0**	**+0.3**
BRG	**Berggiesshubel**	**1.55**	**246**	PN	**Pn**	**15 46 05.9**	**-0.3**
BRG				PG	**Pg**	**15 46 07.6**	**+0.6**
BRG				SG	**Sg**	**15 46 28.1**	**+1.0**
	518nm,0.5s						
BRG	**Berggiesshubel**	**1.55**	**246**	*e*Pn	**Pb**	**15 46 06.7**	**-0.2**
	SNR=72						
BRG				*e*Pg	**Pg**	**15 46 07.9**	**+0.9**
	SNR=3.7						
BRG				*e*Sg	**Sg**	**15 46 28.2**	**+1.1**
	SNR=6.6						
BRG	**Berggiesshubel**	**1.55**	**246**	Pn	**Pb**	**15 46 06.7**	**-0.2**
	SNR=72						
RUE	**Ruedersdorf**	**1.77**	**304**	*e*Pn	**Pn**	**15 46 09.3**	**+0.2**
	SNR=13						
RUE	**Ruedersdorf**	**1.77**	**304**	Pn	**Pn**	**15 46 09.3**	**+0.2**
	SNR=13						
PRA	**Prague**	**1.83**	**218**	⇓*e*PG	**Pn**	**15 46 10.7**	**+0.7**
PRA				*e*SG	**Sb**	**15 46 35.3**	**+0.3**
PRA	**Prague**	**1.83**	**218**	Pg	**Pn**	**15 46 10.7**	**+0.7**
PRA				Sg	**Sb**	**15 46 35.3**	**+0.3**
PRU	**Pruhonice**	**1.85**	**215**	⇓*e*PN	**Pn**	**15 46 10.7**	**+0.4**
PRU				*e*PG	**Pg**	**15 46 12.8**	**0.0**
PRU				*e*SG	**Sg**	**15 46 36.6**	**-0.2**
	comp=Z,260nm,0.3s						
PRU				AMS	AMS	15 46 50.0	
	comp=Z,400nm,3.7s						
PRU	**Pruhonice**	**1.85**	**215**	Pn	**Pn**	**15 46 10.7**	**+0.4**
PRU	**Pruhonice**	**1.85**	**215**	Pg	**Pg**	**15 46 12.8**	**0.0**
PRU				Sg	**Sg**	**15 46 36.6**	**-0.2**
	260nm,0.3s						
GKP	**Gorka Klasztor**	**1.87**	**20**	*e*Pn	**Pg**	**15 46 14.6**	**+1.5**
GKP				*e*Pg	Pb	15 46 18.2	+5.9
GKP				*e*Sn	**Sg**	**15 46 37.5**	**+0.2**
GKP				*e*Sg	**Sb**	**15 46 41.8**	**+5.6**
GKP	**Gorka Klasztor**	**1.87**	**20**	*e*Pn	**Pg**	**15 46 14.6**	**+1.5**
FBE	**Freiberg**	**1.88**	**252**	*e*Pg	**Pg**	**15 46 13.8**	**+0.6**
FBE				*e*Sg	**Sg**	**15 46 37.8**	**+0.3**
	SNR=4.5						
FBE	**Freiberg**	**1.88**	**252**	Pg	**Pg**	**15 46 13.8**	**+0.6**
FBE				Sg	**Sg**	**15 46 37.8**	**+0.3**
	SNR=4.5						
MORC	**Moravsky Berou**	**1.95**	**153**	⇑*i*P	**Pb**	**15 46 12.9**	**-0.8**
MORC	**Moravsky Berou**	**1.95**	**153**	S	Sn	15 46 29.3	-7.6
MORC	**Moravsky Berou**	**1.95**	**153**	*e*Pn	**Pn**	**15 46 12.4**	**+0.7**
MORC	**Moravsky Berou**	**1.95**	**153**	⇑*i*P	**Pb**	**15 46 12.9**	**-0.8**
MORC				*e*Sg	**Sg**	**15 46 40.5**	**+0.6**
	116nm,0.4s,baz=337						
CLL	**Collm**	**2.00**	**265**	*e*Pn	**Pn**	**15 46 12.4**	**0.0**
	SNR=61						
CLL				*e*Pg	**Pg**	**15 46 15.6**	**-0.1**
	SNR=12						
CLL				*e*Sg	**Sg**	**15 46 41.6**	**0.0**
	SNR=4.6						
CLL	**Collm**	**2.00**	**265**	*e*Pn	**Pn**	**15 46 12.0**	**-0.4**
CLL				*i* Pg	**Pg**	**15 46 15.8**	**+0.1**
CLL				*e*		15 46 20.0	
CLL				*e*Sg	**Sg**	**15 46 41.0**	**-0.6**
	comp=Z,305nm,0.8s						
CLL	**Collm**	**2.00**	**265**	Pn	**Pn**	**15 46 12.4**	**0.0**
	SNR=61						
OKC	**Ostrava-Krasne**	**2.10**	**143**	⇓*e*PN	**Pn**	**15 46 14.2**	**+0.5**
OKC				*e*PG	**Pg**	**15 46 18.0**	**+0.5**
OKC				*e*SG	**Sg**	**15 46 45.0**	**+0.3**
	comp=Z,103nm,0.5s						
OKC	**Ostrava-Krasne**	**2.10**	**143**	Pn	**Pn**	**15 46 14.2**	**+0.5**
OKC	**Ostrava-Krasne**	**2.10**	**143**	Pg	**Pg**	**15 46 18.0**	**+0.5**
OKC				Sg	**Sg**	**15 46 45.0**	**+0.3**
	comp=Z,103nm,0.5s						
CHZP	**Chorzow**	**2.16**	**124**	*e*Pg	**Pg**	**15 46 19.6**	**+0.9**
CHZP				*e*Sg	**Sg**	**15 46 49.4**	**+2.6**
VRAC	**Vranov**	**2.23**	**173**	⇓*i*P	**Pn**	**15 46 16.8**	**+1.3**
VRAC	**Vranov**	**2.23**	**173**	S	Sn	15 46 34.2	-10
VRAC	**Vranov**	**2.23**	**173**	Pn	**Pn**	**15 46 16.8**	**+1.3**
	comp=Z,6.4nm,0.3s,baz=351,slow=16,SNR=19						
VRAC				Lg	Lg	15 46 49.0	
	comp=Z,24nm,0.3s,baz=91,slow=21,SNR=9.4						
VRAC	**Vranov**	**2.23**	**173**	*e*Pn	**Pn**	**15 46 16.6**	**+1.1**
VRAC				*e*Sg	**Sg**	**15 46 49.8**	**+0.9**
	comp=Z,133nm,0.5s,baz=355						
TREC	**Trest**	**2.27**	**192**	⇓*e*PN	**Pn**	**15 46 17.4**	**+1.3**
TREC				*e*PG	**Pb**	**15 46 20.0**	**+0.8**
TREC				*e*SG	**Sg**	**15 46 49.9**	**-0.4**
	comp=Z,157nm,0.2s						
TREC	**Trest**	**2.27**	**192**	Pn	**Pn**	**15 46 17.4**	**+1.3**
TREC	**Trest**	**2.27**	**192**	Pg	**Pb**	**15 46 20.0**	**+0.8**
TREC				Sg	**Sg**	**15 46 49.9**	**-0.4**
	comp=Z,157nm,0.2s						
KRUC	**Moravsky**	**2.46**	**177**	*e*Pn	**Pn**	**15 46 20.0**	**+1.3**
	baz=358						
KRUC				*e*Sg	**Sg**	**15 46 57.6**	**+1.1**
	comp=Z,94nm,0.6s,baz=358						
TANN	**Tannenbergstha**	**2.60**	**246**	*e*Pn	**Pn**	**15 46 21.4**	**+0.8**
	SNR=60						
TANN				*e*Pg	**Pg**	**15 46 28.6**	**+1.5**
	SNR=19						
TANN	**Tannenbergstha**	**2.60**	**246**	Pn	**Pn**	**15 46 21.4**	**+0.8**
	SNR=60						
OJC	**Ojcow**	**2.63**	**118**	*e*Pn	**Pn**	**15 46 20.7**	**-0.4**
OJC				*e*Pg	**Pg**	**15 46 29.1**	**+1.3**
OJC				*e*Sg	**Sg**	**15 47 04.6**	**+2.7**
OJC	**Ojcow**	**2.63**	**118**	*e*Pn	**Pn**	**15 46 20.7**	**-0.4**
WERD	**Werda**	**2.67**	**248**	*e*Pn	**Pn**	**15 46 22.3**	**+0.6**
	SNR=51						
WERD				*e*Pg	**Pg**	**15 46 29.2**	**+0.7**
	SNR=7.2						
WERD	**Werda**	**2.67**	**248**	Pn	**Pn**	**15 46 22.3**	**+0.6**
	SNR=51						
GUNZ	**Gunzen**	**2.70**	**246**	*e*Pn	**Pn**	**15 46 23.0**	**+1.0**
	SNR=31						
GUNZ				*e*Pg	**Pg**	**15 46 30.4**	**+1.5**
	SNR=6.5						
GUNZ	**Gunzen**	**2.70**	**246**	Pn	**Pn**	**15 46 23.0**	**+1.0**
	SNR=31						
WERN	**Wernitzgruen**	**2.71**	**244**	*e*Pn	**Pn**	**15 46 23.2**	**+1.1**
	SNR=31						
WERN				*e*Sg	**Sg**	**15 47 04.8**	**+0.6**
	SNR=6.2						
WERN	**Wernitzgruen**	**2.71**	**244**	Pn	**Pn**	**15 46 23.2**	**+1.1**
	SNR=31						
WERN				Sg	**Sg**	**15 47 04.8**	**+0.6**
	SNR=6.2						
PLN	**Plauen**	**2.75**	**249**	*e*Pn	**Pn**	**15 46 23.3**	**+0.7**
	SNR=15						
PLN				*e*Pg	**Pg**	**15 46 30.9**	**+1.0**
	SNR=3.6						
PLN	**Plauen**	**2.75**	**249**	Pn	**Pn**	**15 46 23.3**	**+0.7**
	SNR=15						
NEUB	**Neuenburg**	**2.78**	**265**	*e*Pg	**Pg**	**15 46 31.1**	**+0.5**
NEUB				*e*Sg	**Sg**	**15 47 07.5**	**+0.9**
	SNR=11						
NEUB	**Neuenburg**	**2.78**	**265**	Pg	**Pg**	**15 46 31.1**	**+0.5**
NEUB				Sg	**Sg**	**15 47 07.5**	**+0.9**
	SNR=11						
KHC	**Kasperske Hory**	**2.92**	**216**	⇓*e*PN	**Pn**	**15 46 25.3**	**+0.3**
KHC				*e*PG	**Pb**	**15 46 31.5**	**+1.3**
KHC				*e*SN	**Sn**	**15 46 59.6**	**-1.1**
KHC				*e*SG	**Sg**	**15 47 09.7**	**-1.3**
	comp=Z,77nm,0.4s						
KHC	**Kasperske Hory**	**2.92**	**216**	Pn	**Pn**	**15 46 25.3**	**+0.3**
KHC	**Kasperske Hory**	**2.92**	**216**	Pg	**Pb**	**15 46 31.5**	**+1.3**
KHC				Sn	**Sn**	**15 46 59.6**	**-1.1**
KHC				Sg	**Sg**	**15 47 09.7**	**-1.3**
	comp=Z,77nm,0.4s						
MANZ	**Manzenberg**	**3.01**	**241**	*e*Pn	**Pn**	**15 46 27.1**	**+0.8**
	SNR=15						
MANZ				*e*Pg	**Pg**	**15 46 35.8**	**+0.8**
	SNR=15						
MANZ	**Manzenberg**	**3.01**	**241**	Pn	**Pn**	**15 46 27.1**	**+0.8**
	SNR=15						
MOX	**Moxa**	**3.01**	**255**	*e*Sg	**Sg**	**15 47 14.6**	**+0.6**
	SNR=5.9						
MOX	**Moxa**	**3.01**	**255**	Sg	**Sg**	**15 47 14.6**	**+0.6**
	SNR=5.9						
GERES	**GERESS Array B**	**3.12**	**212**	Pn	**Pn**	**15 46 28.3**	**+0.5**
	comp=Z,3.6nm,0.3s,baz=32,slow=12,SNR=81						
GERES				Pg	Pb	15 46 29.6	-4.0
	comp=Z,3.6nm,0.3s,baz=32,slow=12,SNR=79						
GERES				Lg	Lg	15 47 15.1	
	comp=Z,20nm,0.3s,baz=26,slow=25,SNR=11						
LANS	**Liptovska Anna**	**3.17**	**137**	*e*Pn	**Pn**	**15 46 30.2**	**+1.7**
NIE	**Niedzica**	**3.38**	**127**	*e*P	**Pg**	**15 46 42.4**	**+0.4**
NIE				*e*S	**Sg**	**15 47 27.5**	**+1.8**
VYHS	**Vyhne**	**3.48**	**150**	*e*Pn	**Pn**	**15 46 33.4**	**+0.7**
VYHS	**Vyhne**	**3.48**	**150**	*e*PN	**Pn**	**15 46 33.4**	**+0.7**
VYHS				*e*SN	Sn	15 47 05.9	-8.7
VYHS				*e*LG	Lg	15 48 12.0	
CONA	**Conrad Observa**	**3.60**	**183**	⇑*i*Pn	**Pn**	**15 46 35.2**	**+0.7**
	SNR=8.1						
CONA				⇑*i*Sg	**Sg**	**15 47 31.2**	**-1.8**
	comp=Z,120nm,0.8s						
CONA	**Conrad Observa**	**3.60**	**183**	Pn	**Pn**	**15 46 35.2**	**+0.7**
	SNR=8.1						
CONA				Sg	**Sg**	**15 47 31.2**	**-1.8**
	comp=Z,120nm,0.8s						
GRA1	**Grafenberg Arr**	**3.65**	**242**	Sg	**Sg**	**15 47 34.9**	**+0.4**
	SNR=6.5						
GRF	**Grafenberg Arr**	**3.65**	**242**	*e*Sg	**Sg**	**15 47 34.9**	**+0.4**
	SNR=6.5						
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	**Pn**	**15 46 34.8**	**-0.6**
BSD				*i* S	**Sn**	**15 47 15.9**	**-3.5**
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	**Pn**	**15 46 34.8**	**-0.6**
BSD				*i* S	**Sn**	**15 47 15.9**	**-3.5**
SOP	**Sopron**	**3.85**	**176**	*e*	**Sg**	**15 47 46.0**	**+5.1**
STHS	**Stebnicka Huta**	**3.86**	**121**	*e*Pn	**Pn**	**15 46 39.4**	**+1.5**
STHS	**Stebnicka Huta**	**3.86**	**121**	*e*PN	**Pn**	**15 46 39.3**	**+1.4**
STHS				*e*PG	**Pg**	**15 46 52.7**	**+1.5**
STHS				*e*LG	Lg	15 48 10.6	
MOA	**Molln**	**3.88**	**199**	⇑*i*Pn	**Pn**	**15 46 39.6**	**+1.4**
	SNR=8.5						
MOA				⇑*i*Sg	**Sg**	**15 47 41.4**	**-0.5**
	comp=Z,71nm,0.5s						
MOA	**Molln**	**3.88**	**199**	Pn	**Pn**	**15 46 39.6**	**+1.4**
	SNR=8.5						
MOA				Sg	**Sg**	**15 47 41.4**	**-0.5**
	comp=Z,71nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.29**	**126**	*e*Pn	**Pn**	**15 46 45.8**	**+2.0**
CRVS	**Cervenica-Dubn**	**4.29**	**126**	*e*PN	**Pn**	**15 46 45.8**	**+2.0**
CRVS				*e*PG	**Pg**	**15 47 01.6**	**+2.2**
ARSA	**Arzberg**	**4.29**	**186**	⇑*i*Pn	**Pn**	**15 46 44.9**	**+1.0**
ARSA				⇑*i*Sg	**Sg**	**15 47 53.4**	**-1.9**
	comp=Z,40nm,0.5s						
ARSA	**Arzberg**	**4.29**	**186**	Pn	**Pn**	**15 46 44.9**	**+1.0**
ARSA				Sg	**Sg**	**15 47 53.4**	**-1.9**
	comp=Z,40nm,0.5s						
PSZ	**Piszkesteto**	**4.33**	**145**	⇑*i*P	**Pn**	**15 46 45.6**	**+1.1**
PSZ	**Piszkesteto**	**4.33**	**145**	⇑*i*P	**Pn**	**15 46 45.6**	**+1.1**
PSZ	**Piszkesteto**	**4.33**	**145**	⇓*e*Pn	**Pn**	**15 46 46.6**	**+2.1**
PSZ	**Piszkesteto**	**4.33**	**145**	⇓*e*	**Pn**	**15 46 46.6**	**+2.1**
KWP	**Kalwaria Pacla**	**4.57**	**112**	*e*Pb	**Pg**	**15 47 03.5**	**-1.3**
KWP				*e*Pg	Pb	15 47 08.0	+10
KWP				*e*Sg	Sg	15 48 12.7	+8.7
KWP	**Kalwaria Pacla**	**4.57**	**112**	*e*Pb	**Pg**	**15 47 03.5**	**-1.3**
KOLS	**Kolonicke sedl**	**4.69**	**121**	*e*Pn	**Pn**	**15 46 50.0**	**+0.7**
KOLS	**Kolonicke sedl**	**4.69**	**121**	*e*PN	**Pn**	**15 46 50.0**	**+0.7**
KOLS				*e*PG	**Pg**	**15 47 09.0**	**+1.9**
BLEU	**Blekinge**	**4.80**	**358**	P	**Pn**	**15 46 50.6**	**-0.2**
BLEU	**Blekinge**	**4.80**	**358**	P	**Pn**	**15 46 50.6**	**-0.2**
BLEU				S	**Sn**	**15 47 42.8**	**-4.2**
KBA	**Koelnbreinsper**	**4.82**	**204**	⇑*i*Pn	**Pn**	**15 46 52.9**	**+1.7**
	SNR=5.8						
KBA				⇓*i*Sg	**Sg**	**15 48 11.4**	**-0.6**
	comp=Z,45nm,0.6s						
KBA	**Koelnbreinsper**	**4.82**	**204**	Pn	**Pn**	**15 46 52.9**	**+1.7**
	SNR=5.8						
KBA				Sg	**Sg**	**15 48 11.4**	**-0.6**
	comp=Z,45nm,0.6s						
SOKA	**Soboth**	**4.91**	**189**	⇓*i*Pn	**Pn**	**15 46 52.8**	**+0.5**
SOKA				⇑*i*Sg	**Sg**	**15 48 14.2**	**-0.6**
	comp=Z,29nm,0.7s						
SOKA	**Soboth**	**4.91**	**189**	Pn	**Pn**	**15 46 52.8**	**+0.5**
SOKA				Sg	**Sg**	**15 48 14.2**	**-0.6**
	comp=Z,29nm,0.7s						
BJUU	**Bjuv**	**4.93**	**339**	P	**Pn**	**15 46 51.4**	**-1.2**
BJUU	**Bjuv**	**4.93**	**339**	P	**Pn**	**15 46 51.4**	**-1.2**
BJUU				S	**Sn**	**15 47 45.4**	**-4.9**
DEL	**Delary**	**5.14**	**346**	P	**Pn**	**15 46 55.0**	**-0.5**

MRMT			*e*Sg	Sg	16 01 50.1	-0.4
KRBG	**Karabiga-Canak**	**0.28 220**	*e*PG	Pb	16 01 54.7	-0.9
KRBG			*e*SG	Sb	16 01 59.6	-1.0
KRBG	**Karabiga-Canak**	**0.28 220**	*e*Pg	Pb	16 01 54.7	-0.9
KRBG			*e*Sg	Sb	16 01 59.6	-1.0
SART	**Tekirdag**	**0.28 287**	*i* P	Pg	16 01 54.2	+0.5
SART			*i* S	Sb	16 01 59.6	-1.2
SART	**Tekirdag**	**0.28 287**	*i* P	Pg	16 01 54.2	+0.6
SART			*i* S	Sb	16 01 59.6	-1.2
RKY	**Sarkoy-Tekirda**	**0.28 286**	*e*PG	Pg	16 01 54.2	+0.5
RKY			*e*SG	Sb	16 01 59.6	-1.2
RKY	**Sarkoy-Tekirda**	**0.28 286**	*e*Pg	Pg	16 01 54.2	+0.5
RKY			*e*Sg	Sb	16 01 59.6	-1.2
EDC	**Edincik**	**0.36 136**	*e*PG	Pg	16 01 56.1	+0.9
EDC	**Edincik**	**0.36 136**	*e*Pg	Pg	16 01 56.1	+0.9
LPK	**Lapseki**	**0.63 248**	*e*PG	Pb	16 02 01.5	-0.2
LPK	**Lapseki**	**0.63 248**	*e*Pg	Pb	16 02 01.5	-0.2
ERIK	**Erikli-Kesan**	**0.78 275**	*e*PG	Pb	16 02 04.4	+0.3
ERIK	**Erikli-Kesan**	**0.78 275**	*e*Pg	Pb	16 02 04.4	+0.3
GELI	**Tayfur-Gelibol**	**0.83 256**	*e*PG	Pb	16 02 05.5	+0.4
GELI	**Tayfur-Gelibol**	**0.83 256**	*e*Pg	Pb	16 02 05.5	+0.4
ARMT	**Armutlu**	**1.01 92**	*e*PG	Pb	16 02 08.3	+0.1
ARMT	**Armutlu**	**1.01 92**	*e*Pg	Pb	16 02 08.3	+0.1
KLYT	**Kilyos**	**1.31 60**	*e*PN	Pg	16 02 14.4	+1.2
KLYT	**Kilyos**	**1.31 60**	*e*Pn	Pg	16 02 14.4	+1.1
BOZC	**Bozcaada**	**1.37 236**	*i* P	Pg	16 02 15.0	+0.7
BOZC			*i* S	Sn	16 02 35.2	+2.9
EDRB	**Edirne**	**1.37 335**	*e*PN	Pg	16 02 15.3	+0.8
EDRB	**Edirne**	**1.37 335**	*e*Pn	Pg	16 02 15.3	+0.9

GUC 18 16:05:12.2±0.7, 36°.05S×72°.85W, h25km±20km, ML4.1, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.09**	**149**	⇓*i*P	Pb	16 05 18.6	+1.8
COCH				*e*S4	Sb	16 05 21.5	+1.6
COCH				IAML		16 05 22.7	
	comp=E,66μm,0.3s						
CCSP	**San Pedro de C**	**0.82**	**195**	*e*P	Pb	16 05 27.2	-0.5
CCSP				*e*S	Sb	16 05 38.0	-0.5
CCSP				IAML		16 05 39.7	
	comp=E,15μm,0.5s						
LNCH	**Linares**	**1.03**	**79**	*e*P	Pn	16 05 30.7	-0.4
LNCH				*e*S	Sn	16 05 44.6	-0.1
TALC	**Talca**	**1.18**	**57**	*e*P	Pn	16 05 32.8	-0.4
TALC				*e*S	Sn	16 05 48.1	-0.4
NICH	**Los Niches**	**1.68**	**52**	*e*P	Pn	16 05 41.2	+1.1
NICH				*e*S	Sb	16 06 02.8	-0.5
NICH				IAML		16 06 09.2	
	comp=E,3μm,0.4s						

GUC 18 16:11:41.6±0.4, 34°.28S×72°.15W, h8km±2km, ML3.6, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.69**	**62**	*i* P	Pg	16 11 54.2	-0.8
LNV				*i* S	Sg	16 12 03.5	-0.5
NICH	**Los Niches**	**1.04**	**134**	*i* P	Pg	16 11 59.6	-2.1
NICH				*i* S	Sg	16 12 13.8	-1.4
CHCH	**Chadas Angostu**	**1.29**	**75**	*i* P	Pn	16 12 03.8	-2.2
CHCH				*i* S	Sb	16 12 20.9	-2.1
CACH	**El Canelo**	**1.29**	**83**	⇑*i*P	Pn	16 12 04.2	-1.9
CACH				*i* S	Sb	16 12 22.0	-1.3
RCDM	**Rinconada Maip**	**1.37**	**55**	*i* P	Pn	16 12 05.0	-2.1
RCDM				*i* S	Sb	16 12 22.5	-2.6
ANTU	**Antumapu**	**1.45**	**61**	*i* P	Pn	16 12 06.4	-1.7
ANTU				*i* S	Sn	16 12 25.1	-2.3
ANTU				IAML		16 12 31.8	
	comp=E,1μm,0.4s						
PCH	**Pirque**	**1.51**	**65**	*i* P	Pn	16 12 07.6	-1.5
PCH				*i* S	Sn	16 12 27.3	-1.8
CLCH	**Cerro Calan**	**1.61**	**57**	*i* P	Pn	16 12 08.9	-1.5
CLCH				*i* S	Sn	16 12 29.5	-1.8
CLCH				IAML		16 12 40.2	
	comp=E,1μm,0.7s						
PEL	**Peldehue**	**1.67**	**47**	*e*P	Pn	16 12 09.9	-1.2
PEL				*i* S	Sn	16 12 31.1	-1.7
PEL				IAML		16 12 36.8	
	comp=N,2μm,0.6s						
FCH	**Farellones**	**1.82**	**59**	⇑*i*P	Pn	16 12 10.5	-3.1
FCH				*i* S	Sn	16 12 34.1	-3.0
FCH				IAML		16 12 39.1	
	comp=N,707nm,0.1s						

*IDC **18** 16:16:10.8±1.0, 1°.94S×120°.30E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.9/23, mbtmp4.0/9, Error ellipse: s-maj=51.0km s-min=17.1km az=61.0*
*DJA **18** 16:16:15.6±1.0, 2°.5±3°.3×12°.1E±°, h17km±12km, M4.6/21, mb4.8/7, mB5.1/4, MLv4.6/21, Mw(mB)4.4/4*
*NEIC **18** 16:16:18.4±1.1, 1°.72S×120°.80E, h57km±13km, mb4.2/3, Error ellipse: s-maj=20.2km s-min=9.6km az=69.0*
ISC 18 16:16:13.8±2.1, 1°.68S±0°.04×120°.66E±0°.05, h11km±14km, n36, σ1§44/42, mb4.1/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.25**	**52**	P	**Pn**	**16 16 37.7**	**+0.4**
APSI				S	**Sn**	**16 16 56.3**	**+2.1**
TTSI	**Tana Toraja**	**1.59**	**212**	P	**Pn**	**16 16 40.7**	**-1.3**
TTSI				S	**Sg**	**16 17 05.2**	**+0.1**
MPSI	**Mapaga**	**2.14**	**339**	P	**Pn**	**16 16 48.6**	**-1.0**
LUWI	**Luwuk**	**2.21**	**73**	P	**Pn**	**16 16 50.3**	**-0.2**
LUWI				S	**Sb**	**16 17 20.6**	**-0.7**
LUWI	**Luwuk**	**2.21**	**73**	*e*Pn	**Pn**	**16 16 49.9**	**-0.6**
LUWI				*e*Sn	**Sg**	**16 17 24.8**	**-0.1**
SPSI	**Sidrap Palu**	**2.43**	**201**	P	**Pn**	**16 16 54.4**	**+0.8**
SPSI				S	**Sb**	**16 17 28.5**	**+0.8**
MRSI	**Marisa**	**2.50**	**31**	P	**Pn**	**16 16 54.8**	**+0.3**
BNSI	**Bone**	**2.75**	**191**	P	**Pn**	**16 16 58.7**	**+0.7**
TOLI	**Toli-Toli**	**2.79**	**3**	*e*Pn	**Pn**	**16 17 00.4**	**+1.9**
TOLI				*e*Sn	**Sb**	**16 17 38.6**	**+0.6**
GTOI	**Gorontalo**	**3.29**	**46**	P	**Pn**	**16 17 06.2**	**+0.8**
KAPI	**Kappang**	**3.43**	**195**	*e*Pn	**Pn**	**16 17 07.0**	**-0.3**
KAPI				*e*Sn	**Sn**	**16 17 48.8**	**+0.9**
BKSI	**Bulukumba**	**3.65**	**188**	P	**Pn**	**16 17 10.1**	**-0.3**
BKB	**Balikpapan**	**3.78**	**276**	P	**Pn**	**16 17 12.7**	**+0.6**
KMSI	**Cibinong**	**4.01**	**56**	P	**Pn**	**16 17 18.2**	**+2.9**
SANI	**Sanana**	**5.34**	**94**	P	**Pn**	**16 17 32.1**	**-1.5**
MTKI	**Muara Teweh, K**	**5.80**	**277**	P	**Pn**	**16 17 40.5**	**+0.5**
	104nm,0.7s,4μm0.5nm						
BBKI	**Banjar Baru**	**6.07**	**253**	P	**Pn**	**16 17 43.8**	**+0.2**
	46nm,0.6s,0.2nm						
LBMI	**Labuha**	**6.92**	**81**	P	**Pn**	**16 17 54.6**	**-0.8**
	51nm,0.6s,964nm0.3nm						
KKM	**Kota Kinabalu**	**8.86**	**330**	*e*Pn	Pn	16 18 28.5	+6.4
BATI	**Baumata**	**8.98**	**161**	Pn	**Pn**	**16 18 26.3**	**+2.7**
	0.9nm,0.3s,baz=325,slow=10,SNR=1.9						
SWI	**Sorong**	**10.63**	**86**	P	**Pn**	**16 18 47.2**	**+0.9**
WRAB	**Tennant Creek**	**22.55**	**144**	*e*P	**P**	**16 21 12.3**	**-1.8**
	8.3nm,1.0s						
WRA	**Warramunga Arr**	**22.55**	**145**	P	**P**	**16 21 12.5**	**-1.7**
	6.9nm,0.9s,baz=320,slow=12,SNR=35						
WB2	**Warramunga Arr**	**22.55**	**144**	*e*P	**P**	**16 21 12.3**	**-1.9**
ASAR	**Alice Springs**	**25.35**	**151**	P	**P**	**16 21 39.6**	**-1.4**
	1.5nm,0.5s,baz=331,slow=8.6,SNR=32						
CMAR	**Chiang Mai Arr**	**29.27**	**314**	P	**P**	**16 22 16.1**	**-0.3**
	1.5nm,0.6s,baz=139,slow=7.6,SNR=14						
KSAR	**Wonju Array Be**	**39.50**	**9**	P	**P**	**16 23 47.2**	**+2.6**
KSRS	**Korea Array**	**39.52**	**9**	P	**P**	**16 23 47.2**	**+2.5**
	0.8nm,0.7s,baz=207,slow=8.4,SNR=2.8						
USRK	**Ussuriysk Ar.**	**46.79**	**11**	P	**P**	**16 24 44.5**	**+1.1**
	1.1nm,0.6s,baz=205,slow=5.1,SNR=5.3						
TAU	**Tasmania Unive**	**47.46**	**153**	P	**P**	**16 24 49.1**	**+0.4**
	15nm,1.0s						
SONM	**Songino Array**	**50.86**	**348**	P	**P**	**16 25 14.5**	**-0.4**
	0.8nm,0.7s,baz=161,slow=8.0,SNR=8.4						
MKAR	**Makanchi Array**	**58.85**	**330**	P	**P**	**16 26 11.3**	**-1.4**
	1.5nm,0.6s,baz=128,slow=7.3,SNR=26						
AAK	**Ala-Archa**	**60.58**	**322**	P	**P**	**16 26 24.0**	**-0.8**
ZALV	**Zalesovo Beam**	**62.90**	**337**	P	**P**	**16 26 39.4**	**-0.6**
	0.6nm,0.3s,baz=116,slow=6.6,SNR=2.1						
KURBB	**Kurchatov Arra**	**63.27**	**331**	P	**P**	**16 26 40.1**	**-2.4**
	1.2nm,0.9s,baz=145,slow=6.1,SNR=8.1						
KURK	**Kurchatov**	**63.29**	**332**	*e*P	**P**	**16 26 39.9**	**-2.8**
	1.2nm,0.8s						

*IDC **18** 16:18:52.4±1.8, 9°.39S×111°.92E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.9/22, mbtmp3.9/9, ML4.1/1, Error ellipse: s-maj=51.0km s-min=18.5km az=52.0*
*DJA **18** 16:18:56.3±0.6, 10°.5±5°.1×11°.2E±°, h46km±33km, M4.0/13, mb4.6/1, MLv3.7/13*
ISC 18 16:18:55.9±1.1, 9°.8S±0°.1×111°.73E±0°.05, h35km, n28, σ1§88/26, mb4.0/9, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.73**	**342**	P	**Pn**	**16 19 22.6**	**-0.8**
PCJI				S	**Sn**	**16 19 46.1**	**+1.9**
WOJI	**Wonogiri, Jawa**	**2.15**	**338**	P	**Pn**	**16 19 27.4**	**-1.8**
WOJI				S	**Sn**	**16 19 54.4**	**-0.2**
UGM	**Wanagama**	**2.26**	**328**	P	**Pn**	**16 19 31.3**	**+0.5**
UGM				S	**Sn**	**16 20 00.0**	**+2.6**
GMJI	**Gumukmas**	**2.30**	**48**	P	**Pn**	**16 19 32.6**	**+1.3**
NGJI	**Ngawi**	**2.47**	**354**	P	**Pn**	**16 19 36.1**	**+2.4**
JAGI	**Jajag, Banyuwa**	**2.75**	**61**	P	**Pn**	**16 19 37.5**	**-0.1**
JAGI				S	**Sn**	**16 20 11.6**	**+2.0**
BLJI	**Banyuglugur**	**2.78**	**42**	P	**Pn**	**16 19 37.6**	**-0.3**
GRJI	**Gresik**	**3.00**	**14**	P	**Pn**	**16 19 41.8**	**+0.8**
ABJI	**Asem Bagus**	**3.20**	**51**	P	**Pn**	**16 19 44.8**	**+1.1**
KPJI	**Karang Pucung**	**3.72**	**312**	P	**Pn**	**16 19 52.6**	**+1.7**
KPJI				S	**Sn**	**16 20 38.6**	**+5.0**
CMJI	**Cimerak**	**3.83**	**302**	P	**Pn**	**16 19 52.0**	**-0.4**
CMJI				S	**Sn**	**16 20 37.5**	**+1.2**
SRBI	**Singaraja**	**3.86**	**63**	P	**Pn**	**16 19 53.9**	**+1.1**
BATI	**Baumata**	**11.76**	**93**	Pn	**Pn**	**16 21 40.2**	**-1.0**
	1.2nm,0.3s,baz=265,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**24.02**	**117**	P	**P**	**16 24 09.7**	**+2.0**
	4.1nm,0.5s,baz=293,slow=11,SNR=46						
ASAR	**Alice Springs**	**25.24**	**126**	P	**P**	**16 24 21.5**	**+2.7**
	2.2nm,0.5s,baz=303,slow=9.2,SNR=43						
TGY	**Tagaytay City**	**25.48**	**21**	P	**P**	**16 24 18.5**	**-2.5**
	123nm,0.5s,baz=14,slow=0.8,SNR=5.4						
CMAR	**Chiang Mai Arr**	**30.82**	**336**	P	**P**	**16 25 07.8**	**-0.9**
	0.3nm,0.7s,baz=171,slow=7.1,SNR=3.7						
H08S2	**Diego Garcia H**	**38.83**	**270**	T	T	17 08 09.0	
	baz=94,slow=75,SNR=35						
H08S3	**Diego Garcia H**	**38.84**	**270**	T	T	17 08 03.4	
	baz=94,slow=75,SNR=34						
H08S1	**Diego Carcia H**	**38.84**	**270**	T	T	17 08 06.6	
	baz=94,slow=75,SNR=28						
H08N1	**Diego Carcia H**	**40.44**	**272**	T	T	17 10 47.3	
	baz=80,slow=9.9						
H08N2	**Diego Garcia H**	**40.46**	**272**	T	T	17 10 41.1	
	baz=80,slow=9.9,SNR=20						
H08N3	**Diego Garcia H**	**40.46**	**272**	T	T	17 10 41.1	
	baz=80,slow=9.9,SNR=28						
KSRS	**Korea Array**	**49.44**	**17**	P	P	16 27 40.2	-2.2
	0.7nm,0.7s,baz=196,slow=8.2,SNR=3.6						
MJAR	**Matsushiro Arr**	**52.43**	**27**	P	P	16 28 02.1	-3.0
	0.8nm,0.6s,baz=212,slow=8.8,SNR=4.2						
USRK	**Ussuriysk Ar.**	**56.84**	**17**	P	**P**	**16 28 35.8**	**-1.1**
	2.2nm,0.8s,baz=176,slow=5.4,SNR=6.4						
SONM	**Songino Array**	**57.62**	**356**	P	**P**	**16 28 41.1**	**-1.4**
	0.4nm,0.6s,baz=164,slow=7.1,SNR=3.8						
MKAR	**Makanchi Array**	**62.21**	**338**	P	**P**	**16 29 13.4**	**-0.5**
	0.4nm,0.3s,baz=149,slow=7.4,SNR=14						

*ISCJB **18** 16:18:57.3±0.7, 16°.30N±0°.09×9°.91W±0°.06, h10km, mb3.5/3, Error ellipse: s-maj=12.5km s-min=8.7km az=1.6*
*IDC **18** 16:18:59.1±1.1, 16°.45N×9°.87W, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.5/30, mbtmp3.8/6, ML3.7/3, Error ellipse: s-maj=23.5km s-min=20.7km az=2.0*
ISC 18 16:18:59.7±0.8, 16°.28N±0°.09×9°.87W±0°.08, h10km, n11, σ1§53/12, mb3.5/3, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**6.62**	**257**	Pn	**Pn**	**16 20 37.8**	**+0.7**
	2.4nm,0.3s,baz=102,slow=6.9,SNR=7.1						
BBTS				Sn	**Sn**	**16 21 51.5**	**-1.2**
	3.0nm,0.3s,baz=6.0,slow=19,SNR=4.8						
BBTS				Lg	Lg	16 22 31.3	
	3.4nm,0.3s,baz=32,slow=22,SNR=5.7						
TIC	**Toumodi**	**10.69**	**153**	*e*P	Pn	16 21 41.2	+8.2
	35nm,0.2s						
DBIC	**Dimbokro**	**10.74**	**152**	Pn	**Pn**	**16 21 35.4**	**+1.7**
	0.8nm,0.3s,baz=322,slow=14,SNR=12						
DBIC				Sn	**Sn**	**16 23 31.0**	**-3.0**
	1.2nm,0.3s,baz=43,slow=21,SNR=8.4						
DBIC				Lg	Lg	16 24 41.4	
	0.9nm,0.3s,baz=49,slow=20,SNR=7.8						
LIC	**Lamto**	**11.06**	**154**	*e*P	**Pn**	**16 21 39.6**	**+1.5**
	21nm,0.9s						
KIC	**Kosan Boka**	**11.06**	**152**	*e*P	**Pn**	**16 21 38.9**	**+0.7**
	15nm,0.9s						
TORD	**Torodi Ar. Bea**	**11.61**	**104**	Pn	**Pn**	**16 21 45.8**	**+0.1**
	0.2nm,0.3s,baz=286,slow=13,SNR=13						
TORD				Sn	Sn	16 23 48.5	-7.0
	0.2nm,0.3s,baz=293,slow=21,SNR=8.5						
TORD				Lg	Lg	16 25 13.1	
	0.1nm,0.3s,baz=288,slow=24,SNR=3.1						
GERES	**GERESS Array B**	**37.75**	**26**	P	**P**	**16 26 14.5**	**-1.4**
	0.6nm,0.7s,baz=217,slow=8.0,SNR=4.5						
FINES	**FINESS Array B**	**51.83**	**21**	P	**P**	**16 28 07.2**	**-0.6**
	0.9nm,0.8s,baz=178,slow=7.8,SNR=3.4						
MKAR	**Makanchi Array**	**79.77**	**44**	P	**P**	**16 31 08.8**	**+0.5**
	0.2nm,0.7s,baz=279,slow=6.6,SNR=3.5						
ASAR	**Alice Springs**	**145.24**	**108**	PKPbc	**PKPdf**	**16 38 39.6**	**+1.1**
	0.5nm,0.8s,baz=265,slow=2.5,SNR=7.0						
WRA	**Warramunga Arr**	**145.83**	**102**	PKPbc	**PKPab**	**16 38 41.2**	**+0.7**
	0.3nm,0.8s,baz=288,slow=2.6,SNR=5.0						

IDC 18 16:21:57.3±1.6, 37°.61S×72°.01W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/30, mbtmp3.5/4, ML3.4/1, MS2.3/1, Ms1 2.3/1, ms1mx2.2/11, Error ellipse: s-maj=60.5km s-min=29.1km az=71.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.32**	**161**	Pn	Pn	16 22 50.0	-0.7
	0.8nm,0.3s,baz=290,slow=8.5,SNR=11						
PLCA				Lg	Lg	16 23 50.4	
	4.9nm,0.3s,baz=14,slow=11,SNR=8.1						
PLCA				LR	LR	16 23 54.2	
	comp=Z,444nm,19.6s,baz=220,slow=35						
LPAZ	**La Paz**	**21.51**	**10**	P	P	16 26 47.8	-0.8
	0.8nm,0.9s,baz=135,slow=1.4,SNR=2.6						
TXAR	**Lajitas Array**	**72.89**	**331**	P	P	16 33 28.4	+0.2
	0.5nm,0.6s,baz=150,slow=9.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**85.42**	**70**	P	P	16 34 37.6	+0.6
	0.6nm,1.0s,baz=225,slow=3.3,SNR=2.8						
MKAR	**Makanchi Array**	**158.94**	**56**	PKPab	PKPab	16 42 32.4	-0.7
	0.3nm,0.6s,baz=281,slow=4.6,SNR=4.7						

GUC 18 16:34:29.6±0.4, 37°.12S×73°.36W, h17km±3km, ML4.3, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.34**	**36**	⇓*i*P	Pb	16 34 36.9	-0.1
CCSP				*e*S	Sg	16 34 41.7	+0.2
CCSP				IAML		16 34 42.6	
	comp=E,58μm,0.2s						
AGCH	**Angol**	**0.87**	**143**	*i* P	Pb	16 34 44.8	-1.4
AGCH				*e*S	Sb	16 34 55.7	-1.8
COCH	**Cobquecura**	**1.08**	**25**	*i* P	Pb	16 34 47.9	-1.9
COCH				*i* S	Sb	16 35 01.8	-1.8
LNCH	**Linares**	**1.90**	**49**	*i* P	Pn	16 35 00.9	-0.3
LNCH				*i* S	Sn	16 35 24.8	+0.2
LNCH				IAML		16 35 27.8	
	comp=N,3μm,0.2s						
TALC	**Talca**	**2.21**	**40**	*i* P	Pn	16 35 05.7	+0.3
TALC				*i* S	Sn	16 35 33.3	+1.0
FCH	**Farellones**	**4.54**	**34**	*i* P9	Pn	16 35 39.7	+1.9
FCH				*i* S	Sn	16 36 32.4	+1.9

*IDC **18** 16:46:37.8±1.0, 35°.08S×72°.32W, h0km, mb4.1/6, mb1 4.1/9, mb1mx4.0/25, mbtmp4.0/9, ML4.0/3, MS3.0/3, Ms1 3.0/3, ms1mx2.9/25, Error ellipse: s-maj=34.7km s-min=17.4km az=87.0*
*ISCJB **18** 16:46:40.0±1.4, 35°.01S±0°.04×72°.56W±0°.07, h27km±9km, mb4.0/6, MS3.5/1, Error ellipse: s-maj=9.7km s-min=5.5km az=25.0*
*GUC **18** 16:46:41.4±0.5, 34°.99S×72°.51W, h32km±3km, ML4.5*
ISC 18 16:46:40.5±1.6, 35°.03S±0°.04×72°.51W±0°.06, h20km±6km, n32, σ0§73/28, mb4.1/6, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.80**	**118**	⇓*i*P	**Pg**	**16 46 55.9**	**-0.3**
TALC				*i* S	**Sg**	**16 47 06.9**	**-0.1**
NICH	**Los Niches**	**1.05**	**89**	⇓*i*P	**Pb**	**16 46 59.8**	**-0.1**
NICH				*i* S	**Sb**	**16 47 13.3**	**0.0**
LNCH	**Linares**	**1.10**	**138**	⇓*i*P	**Pb**	**16 47 01.0**	**+0.1**
LNCH				*i* S	**Sn**	**16 47 15.2**	**-0.3**
COCH	**Cobquecura**	**1.12**	**192**	*e*P	**Pn**	**16 47 01.0**	**-0.1**
COCH				*i* S	**Sn**	**16 47 16.0**	**0.0**
LNV	**Longovilo**	**1.40**	**41**	*e*P	**Pn**	**16 47 04.6**	**-0.3**
LNV				*i* S	**Sn**	**16 47 21.7**	**-1.1**
CACH	**El Canelo**	**1.82**	**61**	*e*P	**Pn**	**16 47 11.8**	**+1.0**
CACH				*i* S	**Sb**	**16 47 34.4**	**-1.1**
CCSP	**San Pedro de C**	**1.88**	**195**	IAML		16 47 48.3	
	comp=N,4μm,0.3s						
RCDM	**Rinconada Maip**	**2.08**	**43**	*e*P	**Pn**	**16 47 14.2**	**-0.2**
RCDM				*i* S	**Sn**	**16 47 39.5**	**-0.2**
ANTU	**Antumapu**	**2.13**	**47**	IAML		16 47 47.6	
	comp=N,4μm,0.4s						
CLCH	**Cerro Calan**	**2.31**	**46**	IAML		16 48 02.1	
	comp=N,4μm,0.8s						
PEL	**Peldehue**	**2.41**	**39**	IAML		16 48 00.3	
	comp=N,4μm,0.4s						
YECH	**El Yeso**	**2.42**	**57**	*e*P9	**Pn**	**16 47 20.7**	**+1.5**
YECH				*i* S	**Sn**	**16 47 50.0**	**+1.5**
YECH				IAML		16 47 55.4	
	comp=N,3μm,0.5s						
FCH	**Farellones**	**2.50**	**48**	IAML		16 48 11.7	
	comp=E,2μm,0.3s						
CFAA	**Coronel Fontan**	**4.94**	**47**	Pn	**Pn**	**16 47 54.3**	**+0.6**
	comp=E,0.7nm,0.3s,baz=228,slow=12,SNR=37						
CFAA				Lg	Lg	16 49 05.8	
	comp=E,1.9nm,0.3s,baz=24,slow=15,SNR=12						
CFAA				LR	LR	16 49 57.2	
	comp=E,33nm,18.1s,baz=226,slow=41						
PLCA	**Paso Flores**	**5.90**	**165**	Pn	**Pn**	**16 48 07.3**	**+0.4**
	comp=E,3.4nm,0.3s,baz=343,slow=11,SNR=63						
PLCA				Lg	Lg	16 49 40.6	
	comp=E,1.8nm,0.3s,baz=76,slow=18,SNR=3.2						
PLCA				LR	LR	16 50 24.8	
	comp=E,168nm,18.4s,baz=304,slow=39						
LPAZ	**La Paz**	**19.07**	**13**	P	**Pn**	**16 51 03.4**	**+0.1**
	comp=E,0.1nm,0.3s,baz=192,slow=7.5,SNR=2.6						
SIV	**San Ignacio**	**21.55**	**31**	P	**P**	**16 51 28.2**	**-0.5**
	comp=E,4.5nm,0.7s,baz=208,slow=8.5,SNR=10						
BDFB	**Brasilia**	**29.23**	**55**	LR	LR	17 05 31.4	
	comp=E,116nm,18.1s,baz=176,slow=39						
QSPA	**South Pole Qui**	**55.21**	**180**	P	**P**	**16 56 12.2**	**+0.5**
	comp=E,1.7nm,0.9s,baz=177,slow=3.8,SNR=3.6						
TXAR	**Lajitas Array**	**70.44**	**331**	P	**P**	**16 57 54.7**	**+1.2**
	comp=E,0.6nm,0.5s,baz=154,slow=8.7,SNR=12						
DBIC	**Dimbokro**	**75.87**	**71**	P	**P**	**16 58 25.5**	**-0.4**
	comp=E,2.0nm,0.6s,baz=106,slow=14,SNR=3.5						
BOSA	**Boshof**	**79.93**	**118**	P	**P**	**16 58 48.6**	**0.0**
	comp=E,1.4nm,0.6s,baz=198,slow=6.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**84.92**	**70**	P	**P**	**16 59 13.4**	**-1.1**
	comp=E,0.9nm,0.6s,baz=283,slow=5.7,SNR=8.5						
H11S2	**WAKE ISLAND Hyl**	**25.37**	**269**	T	T	19 23 42.8	
	baz=123						
H11S1	**WAKE ISLAND Hyl**	**25.38**	**269**	T	T	19 23 47.9	
	baz=123						
H11S3	**WAKE ISLAND Hyl**	**25.38**	**269**	T	T	19 23 38.5	
	baz=123						
H11N3	**WAKE ISLAND Hyl**	**25.81**	**270**	T	T	19 24 13.5	
	baz=121						
H11N1	**WAKE ISLAND Hyl**	**25.82**	**270**	T	T	19 24 12.5	
	baz=121						
H11N2	**WAKE ISLAND Hyl**	**25.82**	**270**	T	T	19 24 09.4	
	baz=121						
BVAR	**Borovoye Array**	**148.29**	**44**	PKPbc	**PKPbc**	**17 06 25.3**	**+0.6**
	comp=E,0.3nm,0.6s,baz=341,slow=3.1,SNR=3.2						
KURBB	**Kurchatov Arra**	**153.88**	**44**	PKPbc	**PKPbc**	**17 06 37.8**	**0.0**
	comp=E,0.4nm,0.7s,baz=300,slow=3.2,SNR=4.4						
MKAR	**Makanchi Array**	**157.72**	**51**	PKPab	**PKPab**	**17 07 07.3**	**-0.5**
	comp=E,0.2nm,0.5s,baz=308,slow=1.9,SNR=3.9						

IDC 18 16:49:05.9±2.8, 15°.34S×173°.78W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=67.4km s-min=45.5km az=90.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.20**	**198**	P	P	16 54 24.4	+0.

	baz=334					
NACB	Ninganchiao	0.41 241	ePg		Pb	16 54 09.2 +0.1
NACB			eSg		Sn	16 54 17.3 +1.0
ILA	Ilan	0.45 330	eP		Pn	16 54 10.2 +0.1
ILA	baz=329		S		Sn	16 54 17.9 +0.8
TWE	Neicheng	0.46 319	⇓iP		Pb	16 54 10.0 +0.2
TWE	baz=321		iS		Sn	16 54 16.9 -0.3
TWD	Chiawan	0.47 231	⇑iP		Pn	16 54 10.4 0.0
TWD	baz=224		iS		Sn	16 54 18.4 +0.9
ENTT	Nioudou	0.47 304	⇑iP		Pn	16 54 10.3 -0.1
ENTT	baz=303		eS		Sn	16 54 17.6 -0.1
EGS		0.47 353	⇑iP		Pn	16 54 10.5 +0.1
EGS	baz=359		S		Sn	16 54 17.6 -0.1
HWA	Hwalien	0.53 222	P		Pn	16 54 11.6 +0.3
HWA	baz=216		eS		Sn	16 54 21.8 +2.7
NNS	Nan Shan	0.57 277	⇑P		Pb	16 54 11.8 +0.2
NNS	baz=274		S		Sn	16 54 20.3 0.0
TWB1	Santiao Chiao	0.63 360	⇑iP		Pn	16 54 13.0 +0.4
TWB1	baz=3.0		S		Sn	16 54 21.4 -0.1
YHNB	Yeheng	0.63 298	ePg		Pb	16 54 12.6 0.0
NSK	Sanguang	0.65 298	⇑iP		Pn	16 54 13.0 +0.1
NSK	baz=296		iS		Sb	16 54 22.0 +0.1
ESF	Shoufeng Towns	0.67 222	eP		Pb	16 54 14.6 +1.4
ESF	baz=232		eS		Sn	16 54 24.8 +2.3
WHF	Hehuan Shan	0.70 251	⇑iP		Pn	16 54 14.2 +0.2
WHF	baz=247		S		Sb	16 54 24.2 +0.6
TWA	Mucha	0.71 328	⇓iP		Pb	16 54 14.5 +0.6
TWA	baz=323		eS		Sn	16 54 26.0 +2.5
NWF	Wu-fen Shan	0.72 344	P		Pb	16 54 14.8 +0.7
NWF	baz=338		S		Sn	16 54 24.9 +1.1
TATO	Taipei	0.75 323	ePg		Pb	16 54 15.0 +0.4
TATO			eSg		Sn	16 54 26.1 +1.5
TWT	Tachien	0.76 261	⇑iP		Pb	16 54 15.3 +0.6
TWT	baz=257		S		Sn	16 54 26.0 +1.1
ESL	Shilin	0.76 223	⇑P		Pn	16 54 14.3 -0.1
ESL	baz=232		eS		Sn	16 54 25.8 +1.1
TEGC	Jichi Village	0.78 212	eP		Pb	16 54 16.5 +1.4
TEGC	baz=207		eS		Sb	16 54 28.8 +3.4
TAP1	Taipei	0.79 327	⇓iP		Pb	16 54 15.8 +0.6
TAP1	baz=327		iS		Sb	16 54 26.9 +1.3
TAP	Taipei	0.80 326	⇓P		Pb	16 54 15.8 +0.5
TAP	baz=327		S		Sb	16 54 26.8 +1.0
JYNG	Yonagunijimaku	0.87 85	P		Pb	16 54 16.3 -0.2
JYNG			eS		Sb	16 54 28.9 +1.0
TWS1	Kuangyinshan	0.89 324	⇓P		Pb	16 54 17.2 +0.3
TWS1	baz=334		S		Sb	16 54 30.4 +1.9
YOJ	Yonaguni jima	0.93 84	P		Pb	16 54 17.3 -0.2
YOJ			S		Sb	16 54 31.0 +1.3
YOJ	Yonaguni jima	0.93 84	⇓iP		Pb	16 54 17.4 -0.2
YOJ	baz=75		iS		Sb	16 54 30.9 +1.3
YOJ	Yonaguni jima	0.93 84	eP		Pb	16 54 17.4 -0.2
YOJ			eS		Sb	16 54 30.9 +1.3
NSTT	Nanjuang	0.94 286	⇓P		Pb	16 54 18.2 +0.5
NSTT	baz=284		iS		Sb	16 54 30.5 +0.7
NCU	National Centr	0.94 309	eP		Pb	16 54 17.8 0.0
NCU	baz=309		S		Sb	16 54 31.9 +1.9
TWY	Chenhua	0.96 338	eP		Pb	16 54 17.9 -0.2
TWY	baz=340		eS		Sb	16 54 31.7 +1.2
HSN	Hsinchu	1.02 295	eP		Pb	16 54 19.0 -0.1
HSN	baz=296		eS		Sb	16 54 33.7 +1.4
EHY	Hungye	1.06 215	⇑P		Pn	16 54 18.3 -0.3
SMLT	Sun Moon Lake	1.11 244	⇑iP		Pb	16 54 20.4 -0.3
SMLT	baz=234		eS		Sb	16 54 36.2 +1.3
TWQ1	Liyutan	1.11 269	⇓eP		Pb	16 54 20.8 +0.2
TWQ1	baz=266		eS		Sb	16 54 35.9 +1.1
SSLB	Suanglung	1.11 239	ePg		Pn	16 54 19.8 +0.5
SSLB			eS		Sn	16 54 33.8 +0.2
NSY	Sanyi	1.12 272	P		Pb	16 54 21.4 +0.6
NSY	baz=269		S		Sb	16 54 37.6 +2.5
TYC	Yuchr	1.14 246	⇑iP		Pb	16 54 20.7 -0.3
TYC	baz=231		eS		Sb	16 54 36.0 +0.5
YULB	Yu-li	1.17 213	ePn		Pn	16 54 19.6 -0.4
TWF1	Yuli	1.20 212	eP		Pn	16 54 20.4 -0.1
TCU	Taichung	1.22 260	⇑P		Pb	16 54 23.0 +0.5
WNT	Mingjian	1.29 248	⇑iP		Pb	16 54 24.2 +0.6
WNT	baz=243		S		Sb	16 54 42.8 +2.8
YUS	Yu-Shan	1.30 227	⇑iP		Pn	16 54 23.4 +1.2
ALS	Alishan	1.39 232	⇑P		Pb	16 54 25.0 -0.4
ALS	baz=217		eS		Sb	16 54 44.6 +1.7
CHKT	Chengkung	1.39 204	eP		Pn	16 54 22.6 -0.5
CHN5	Tsauling	1.43 237	⇑eP		Pb	16 54 25.9 -0.2
CHN5	baz=219		S		Sb	16 54 46.1 +2.2
WGK	Gukeng	1.48 243	⇑P		Pb	16 54 26.9 +0.1
ELDTW	Lidau	1.48 217	eP		Pn	16 54 24.5 +0.1
IRIF	baz=203					
IRIF	Iriomote-Funau	1.58 91	P		Pn	16 54 26.2 +0.5
CHN2			eS		Sn	16 54 46.0 +0.9
CHN2	Minshiung	1.62 239	eP		Pb	16 54 29.5 +0.3
CHN2	baz=235		eS		Sb	16 54 51.9 +2.5
CHN4	Tsaushan	1.64 232	⇓P		Pb	16 54 29.5 0.0
CHN4	baz=212		eS		Sb	16 54 52.4 +2.6
TPUB	Ta-pu	1.64 230	ePn		Pb	16 54 28.5 -1.1
TPUB			eS		Sb	16 54 51.2 +1.2
WTCT	Ta-ch'eng	1.65 252	eP		Pn	16 54 28.0 +1.5
	baz=264					
STYT	Tauyuan	1.66 223	⇑iP		Pb	16 54 28.6 -1.2
STYT	baz=210		eS		Sb	16 54 51.4 +1.1
CHY	Chiayi	1.68 239	⇑P		Pb	16 54 30.0 -0.2
CHY	baz=234		S		Sb	16 54 52.5 +1.6
HATJ	Hateruma jima	1.68 100	P		Pn	16 54 28.3 +1.2
HATJ			eS		Sn	16 54 48.2 +0.6
WTP	Ta-pu	1.69 229	⇑P		Pb	16 54 29.7 -0.7
WTP	baz=209		eS		Sb	16 54 52.9 +1.6
TWG	Pinlang	1.76 209	eP		Pn	16 54 28.0 -0.1
TWG	baz=193					
TWK	Pinlang	1.76 209	ePn		Pn	16 54 28.1 -0.1
TWK	Hsinying	1.77 232	⇑P		Pb	16 54 30.9 -0.8
TWK	baz=226		eS		Sb	16 54 54.5 +1.1
WSF	Szhu	1.78 246	eP		Pb	16 54 30.4 -1.5
WSF	baz=256		eS		Sb	16 54 54.3 +0.5
CHN1	Nanshi	1.79 229	⇑eP		Pb	16 54 31.0 -1.1
TTN	baz=224					
SGST	Taitung	1.79 206	eP		Pn	16 54 26.6 -1.9
SGST	baz=201					
SGST	Jiashian	1.82 225	⇑iP		Pb	16 54 31.9 -0.7
SGST	baz=207		eS		Sb	16 54 56.5 +1.4
JKRS	Kuro-shima	1.84 94	P		Pn	16 54 30.3 +1.0
JKRS			eS		Sn	16 54 53.1 +1.6
CHN8	Yiju	1.93 238	eP		Pb	16 54 32.7 -1.7
CHN8	baz=218		eS		Sb	16 54 59.3 +1.3
JIJ	Ishigaki jima	1.96 90	P		Pn	16 54 31.2 +0.3
JIJ			eS		Sn	16 54 56.1 +1.7
CHN3	Shinhua	1.98 229	eP		Pn	16 54 32.2 +1.1
CHN3	baz=223		eS		Sb	16 55 00.9 +1.5
ECL	Taimali	2.01 209	eP		Pn	16 54 31.2 -0.3
ECL	baz=195					
SCLT	Jiali	2.04 234	eP		Pb	16 54 34.4 -1.8
SCLT	baz=213		eS		Sb	16 55 01.4 +0.3
SSD	Sandimen	2.05 218	eP		Pn	16 54 34.0 +1.9
SSD	baz=211		eS		Sb	16 55 00.1 -1.4
TAI1	Yung-k'ang	2.09 231	eP		Pn	16 54 34.9 +2.2
TAI1	baz=226					
JISG	Ishigakijimahi	2.12 84	P		Pn	16 54 33.4 +0.3
JISG			eS		Sn	16 54 59.7 +1.3
SGLT	Jiouru	2.14 220	eP		Pb	16 54 36.3 -1.8
SGLT	baz=214					
EAST	Anshuo	2.25 208	eP		Pn	16 54 35.3 +0.4
EAST	baz=195					
TAW	Tawu	2.25 207	eP		Pn	16 54 35.6 +0.8
TAW	baz=202					
SCZT	Fangliau	2.36 213	eP		Pn	16 54 38.9 +2.5
SCZT	baz=196					
LAY	Lan-yu	2.36 190	eP		Pn	16 54 35.5 -1.0
LAY	baz=185					
PNG	Penghu	2.37 251	eP		Pn	16 54 36.7 +0.2
PNG	baz=247					
WDGT	Dungji	2.41 243	eP		Pn	16 54 38.1 +1.0
WDGT	baz=238		eS		Sn	16 55 06.9 +1.5
JTJ	Tarama	2.48 83	P		Pn	16 54 39.6 +1.5
JTJ			eS		Sn	16 55 09.1 +1.9
TWP	Hsiaoliuchiu	2.52 217	eP		Pb	16 54 42.8 -1.6
TWP	baz=210					
TWK1	Hengchun	2.66 205	eP		Pn	16 54 42.9 +2.4
TWK1	baz=190					
TSEB	Hengchuen, Pin	2.66 202	eP		Pn	16 54 42.4 +1.9
TSEB	baz=189					
JIRB	Irabujima	2.93 80	P		Pn	16 54 45.7 +1.5
JIRB			eS		Sn	16 55 21.5 +3.2
JIKM	Ikemajima	3.01 79	P		Pn	16 54 47.5 +2.2
JMJ	Miyako jima 2	3.04 81	eP		Pb	16 54 49.8 -3.4
JMJ	baz=86					
JOGS	Gusukube	3.13 82	P		Pn	16 54 49.4 +2.4
QZH	Quanzhou	3.15 281	⇓iPn		Pn	16 54 47.3 +0.1
QZH			Sn		Sn	16 55 22.8 -0.8
QZH			SMN			
	1μm,0.8s					
QZH			SME			
	730nm,1.0s					
QZH			LN			
	2μm,4.2s					
QZH			LE			
	1μm,5.7s					
QZH			LZ			
	2μm,20.3s					
KNM	Kinmen	3.25 271	eP		Pn	16 54 50.2 +1.7
	baz=268					
JKE	Kume jima 2	4.75 65	P		Pn	16 55 11.6 +2.3
JAGN	Aguni-jima	5.23 64	P		Pn	16 55 19.4 +3.5
JOW	Kunigami	6.18 65	P		Pn	16 55 29.4 +0.5
JOW	Kunigami	6.18 65	eP		Pn	16 55 29.5 +0.6
	baz=73					
JOW	Kunigami	6.18 65	ePn		Pn	16 55 29.2 +0.3
JOKE	Okinoerabujima	6.63 62	P		Pn	16 55 35.3 +0.2
NJ2	Nanjing	8.13 341	eP		Pn	16 55 56.1 +0.4
NJ2			S		Sn	16 57 23.3 -3.2
NJ2			PMZ			
	50nm,0.8s					
NJ2			LN			
	680nm,10.0s					
NJ2			LE			
	780nm,11.1s					
NJ2			LZ			
	710nm,12.6s					
KSRS	Korea Array	13.99 20	P		Pn	16 57 15.9 +0.1
	0.1nm,0.3s,baz=203,slow=12,SNR=3.0					
KSRS			LR		LR	17 03 35.7
	comp=Z,129nm,18.2s,baz=155,slow=41					
SLVN	Son La	16.94 263	P		Pn	16 57 54.2 -0.5
	3.5nm,0.8s					
HHC	Hu-ho-hao-te	18.60 335	eP		Pn	16 58 17.3 +2.3
HHC			sP		sP	16 58 25.0 -2.2
HHC			PP		PnPn	16 58 34.3 +7.0
HHC			S		Sn	17 01 39.3 -2.8
HHC			sS		S	17 01 50.3 +5.3
HHC			SS		SnSn	17 02 07.5 +11
HHC			PMZ			
	28nm,1.0s					
HHC			LN			
	320nm,12.2s					
HHC			LE			
	260nm,12.9s					
HHC			LZ			
	370nm,15.5s					
LZH	Lanzhou	19.51 311	eP		Pn	16 58 28.0 +1.9
LZH			pP		pP	16 58 33.1 -0.1
LZH			sP		sP	16 58 35.8 -1.5
LZH			PMZ			
	15nm,1.0s					
CN2	Changchun	19.59 7	eP		Pn	16 58 30.8 +4.1
CN2			PMZ			
	10.0nm,0.9s					
USRK	Ussuriysk Ar.	21.40 20	P		P	16 58 45.4 +0.5
	1.8nm,0.8s,baz=190,slow=7.3,SNR=3.6					
CHTO	Chiang Mai	22.12 260	eP		P	16 58 54.7 +1.8
	6.2nm,1.2s					
CMAR	Chiang Mai Arr	22.24 259	P		P	16 58 56.4 +2.3
	0.8nm,0.3s,baz=58,slow=8.7,SNR=11					
CMAR			LR		LR	17 08 21.9
	comp=Z,93nm,21.2s,baz=60,slow=38					
GTA	Gaotai	23.98 314	eP		P	16 59 12.4 +0.8
GTA			pP		pP	16 59 23.8 +3.0
GTA			PMZ			
	7.0nm,1.3s					
GTA			PMZ			
	180nm,4.8s					
GTA			LN			
	160nm,18.5s					
GTA			LE			
	150nm,19.0s					
GTA			LZ			
	95nm,18.5s					
ULN	Ulaanbaatar	26.27 337	eP		P	16 59 32.2 -0.2
	5.4nm,0.8s					
SONM	Songino Array	26.49 336	P		P	16 59 34.4 +0.1
	6.4nm,0.9s,baz=149,slow=6.9,SNR=30					
SONM			LR		LR	17 11 13.0
	comp=Z,157nm,18.8s,baz=140,slow=39					
TAPN	Taplejung	30.94 283	eP		P	17 00 15.3 +0.9
	17nm,1.0s					
ODAN	Odare	31.24 282	eP		P	17 00 17.9 +0.9
RAMN	Ramite	31.94 282	eP		P	17 00 24.2 +1.0
	15nm,1.1s					
JIRN	Jiri	32.27 284	eP		P	17 00 27.2 +1.0
	9.9nm,0.8s					
GUN	Gumba	32.54 284	eP		P	17 00 29.5 +1.0
	12nm,0.9s					
KKN	Kakani	33.07 284	eP		P	17 00 33.4 +0.4
	8.1nm,0.8s					
GKN	Gorkha	33.63 284	eP		P	17 00 38.2 +0.4
	16nm,1.1s					
DANN	Dangsing	34.39 285	eP		P	17 00 44.8 +0.2
	11nm,1.0s					
KOLN	Koldanda	34.56 284	eP		P	17 00 46.3 +0.3
MKAR	Makanchi Array	38.72 315	P		P	17 01 20.7 -0.2
	4.1nm,0.8s,baz=103,slow=10,SNR=34					
MKAR			PcP		PcP	17 03 30.7 -1.6
	1.1nm,0.8s,baz=98,slow=4.7,SNR=6.8					
MKAR			LR		LR	17 17 51.8
	comp=Z,65nm,21.0s,baz=92,slow=37					
PETK	Petropavlovsk-	39.30 34	LR		LR	17 16 55.5
	comp=Z,62nm,20.8s,baz=207,slow=35					
ZALV	Zalesovo Beam	40.49 327	P		P	17 01 34.4 -1.2
	4.4nm,0.8s,baz=116,slow=8.4,SNR=13					
TKM2	Tokmak 2	42.23 308	eP		P	17 01 50.6 +0.3
	1.8nm,0.7s					
KURBB	Kurchatov Arra	42.44 320	P		P	17 01 51.2 -0.4
	1.8nm,0.9s,baz=107,slow=9.6,SNR=9.7					
KURBB			PcP		PcP	17 03 42.3 -1.9
	0.6nm,1.0s,baz=105,slow=3.6,SNR=4.2					
AAK	Ala-Archa	42.98 307	P		P	17 01 57.1 +0.8
	1.1nm,0.9s,baz=22,slow=5.4,SNR=3.4					
AAK			PcP		PcP	17 03 45.5 -0.8
	0.9nm,0.7s,baz=123,slow=5.1,SNR=5.1					
WRA	Warramunga Arr	45.66 164	P		P	17 02 16.5 -1.2
	1.0nm,0.7s,baz=344,slow=8.0,SNR=4.6					
TIXI	Tiksi	47.46 3	eP		P	17 02 28.9 -2.3
	3.5nm,0.9s					
BVAR	Borovoye Array	47.99 320	P		P	17 02 35.1 -0.6
	1.3nm,0.6s,baz=94,slow=7.0,SNR=9.0					
BVAR			PcP		PcP	17 04 02.1 -1.2
	0.8nm,0.6s,baz=116,slow=3.4,SNR=4.4					
ASAR	Alice Springs	49.13 166	P		P	17 02 44.5 -0.2
	0.2nm,0.3s,baz=348,slow=7.6,SNR=6.7					
AKTO	Aktyubinsk	55.15 316	P		P	17 03 28.1 -1.1
	1.8nm,0.7s,baz=117,slow=7.4,SNR=6.1					
GEYT	Alibeck	55.34 300	P		P	17 03 31.0 +0.2
	2.1nm,0.7s,baz=79,slow=7.7,SNR=5.5					
ARU	Arti	55.40 323	eP		P	17 03 29.4 -1.4
	4.2nm,0.9s					
ILAR	Eielson Array	68.70 27	P		P	17 04 59.2 -0.8
	0.3nm,0.6s,baz=297,slow=9.5,SNR=6.0					
SPITS	Spitsbergen Ar	69.45 348	P		P	17 05 03.6 -0.9
	3.5nm,0.8s,baz=123,slow=5.3,SNR=3.2					
FINES	FINESS Array B	71.65 330	P		P	17 05 17.3 -0.8
	0.7nm,0.6s,baz=42,slow=5.9,SNR=3.8					
AKASG	Malin Array Be	73.22 318	P		P	17 05 26.2 -1.4
	0.8nm,0.5s,baz=57,slow=6.1,SNR=3.1					
BRTR	Keskin Array B	73.65 307	P		P	17 05 30.1 -0.5
	1.7nm,0.9s,baz=81,slow=7.6,SNR=7.7					
NOA	NORSAR Array B	78.40 332	LR		LR	17 42 35.4
	comp=Z,34nm,18.2s,baz=280,slow=37					
YKA	Yellowknife Ar	82.51 23	P		P	17 06 17.4 -1.7
	0.7nm,0.7s,baz=310,slow=5.2,SNR=13					

*IDC **18** 16:56:55.3±1.0, 35°.91S×72°.96W, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.9/27, mbtmp3.9/9, ML3.6/2, MS2.3/2, Ms1 2.4/2, ms1mx2.3/22, Error ellipse: s-maj=37.6km s-min=18.0km az=91.0*

*ISCJB **18** 16:56:57.3±0.6, 35°.88S±0°.04×73°.06W±0°.07, h28km, mb4.0/7, Error ellipse: s-maj=8.9km s-min=5.3km az=15.5*

*NEIC **18** 16:56:59.8±0.8, 35°.90S×72°.95W, h35km, mb4.7/3, Error ellipse: s-maj=26.0km s-min=10.7km az=89.0*

*GUC **18** 16:56:59.9±0.3, 36°.02S×72°.77W, h35km±1km, ML4.1*

ISC 18 16:56:58.7±0.7, 35°.88S±0°.05×72°.98W±0°.08, h28km, n21, σ139/25, mb3.9/7, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.30	149	⇑iP	Pb	16 57 05.3	-0.6
COCH				eS	Sb	16 57 09.2	-1.6
COCH				IAML		16 57 09.6	
	comp=N,37μm,0.1s						
CCSP	San Pedro de C	0.97	186	eP	Pn	16 57 15.6	-0.9
CCSP				eS	Sb	16 57 27.7	-1.6
CCSP				IAML		16 57 31.4	
	comp=N,12μm,0.2s						
TALC	Talca	1.20	67	eP	Pn	16 57 19.6	+0.1
TALC				eS	Sn	16 57 34.4	-0.4
NICH	Los Niches	1.67	59	eP	Pb	16 57 27.6	-1.2
NICH				eS	Sb	16 57 48.7	-0.8
PLCA	Paso Flores	5.21	159	Pn	Pn	16 58 16.1	+1.3
	comp=N,1.2nm,0.3s,baz=347,slow=9.6,SNR=23						
PLCA				Lg	Lg	16 59 30.9	
	comp=N,1.2nm,0.3s,baz=333,slow=11,SNR=2.2						
PLCA				LR	LR	17 00 29.8	
	comp=N,83nm,18.6s,baz=266,slow=41						
PLCA	Paso Flores	5.21	159	ePn	Pn	16 58 15.9	+1.1
	comp=N,15nm,0.5s						
PLCA				Lg	Lg	16 59 30.9	
PLCA				eSg	Sb	16 59 32.9	+1.7
CFAA	Coronel Fontan	5.81	44	Pn	Pn	16 58 23.8	+0.8
	comp=N,0.2nm,0.3s,baz=222,slow=15,SNR=5.5						
CFAA				Lg	Lg	16 59 44.1	
	comp=N,0.5nm,0.3s,baz=121,slow=19,SNR=8.3						
CFAA				LR	LR	17 00 37.9	
	comp=N,11nm,18.5s,baz=230,slow=38						
LCO	Las Campanas	7.11	16	ePn	Pn	16 58 40.8	-0.3
	comp=N,7.5nm,0.6s						
EFI	East Falkland	19.05	151	P	P	17 01 16.9	-1.7
	comp=N,52nm,1.0s						
LPAZ	La Paz	19.98	14	P	Pn	17 01 31.0	-0.4
	comp=N,1.3nm,0.7s,baz=162,slow=3.2,SNR=4.2						
SIV	San Ignacio	22.48	31	P	P	17 01 56.3	+0.4
	comp=N,2.3nm,0.8s,baz=227,slow=15,SNR=7.7						
JTS	JuntasAbangare	47.29	344	P	P	17 05 27.9	-1.9
SNAA	Sanae	50.15	157	P	P	17 05 50.4	-0.8
	comp=N,1.2nm,1.0s,baz=247,slow=7.7,SNR=13						
SNAA	Sanae	50.15	157	eP	P	17 05 48.8	-2.4
	comp=N,8.8nm,1.3s						
QSPA	South Pole Qui	54.36	180	P	P	17 06 23.7	+1.0
	comp=N,1.4nm,1.0s,baz=308,slow=1.1,SNR=8.9						
TXAR	Lajitas Array	71.01	332	P	P	17 08 15.9	+2.0
	comp=N,0.5nm,0.7s,baz=146,slow=7.6,SNR=5.2						
BOSA	Boshof	79.88	118	P	P	17 09 07.9	+2.7
	comp=N,3.5nm,0.9s,baz=13,slow=4.5,SNR=3.3						
BOSA	Boshof	79.88	118	eP	P	17 09 06.3	+1.2
	comp=N,12nm,1.4s						
TORD	Torodi Ar. Bea	85.57	70	P	P	17 09 34.8	+0.2
	comp=N,0.6nm,0.9s,baz=251,slow=4.4,SNR=2.7						
ULM	Lac du Bonnet	88.11	346	P	P	17 09 46.4	+0.3
	comp=N,1.3nm,0.4s,baz=155,slow=8.0,SNR=3.1						
MKAR	Makanchi Array	158.55	52	PKPab	PKPab	17 17 28.8	+0.5
	comp=N,0.3nm,0.8s,baz=280,slow=4.0,SNR=2.8						

*ISCJB **18** 17:04:06.3±1.5, 45°.87N±0°.08×147°.22E±0°.09, h10km, Error ellipse: s-maj=13.3km s-min=6.7km az=33.3*

*JMA **18** 17:04:07.9±0.3, 45°.75N×147°.14E, h10km, M3.6*

*SKHL **18** 17:04:08.8±0.4, 45°.86N×147°.63E, h54km±9km, mb4.6/2*

ISC 18 17:04:07.7±1.9, 45°.8N±0°.1×147°.19E±0°.08, h10km, n8, σ0995/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.72	139	eP	Pg	17 04 21.6	0.0
KUR				AMB	AMB	17 04 21.7	
	393nm,0.5s						
KUR				eS	Sg	17 04 31.2	+0.2
KUR				A	A	17 04 31.7	
	483nm,0.2s						
KUR				A	A	17 04 31.7	
	315nm,0.2s						
SHO	Shikotan	1.92	188	eP	Pn	17 04 41.0	+0.6
SHO				eS	Sb	17 05 05.5	-1.3

YUK	**Yuzh-Kuril'sk**	**1.98 209**	*e*P	**Pb**	**17 04 42.9**	**-0.9**
YUK			AMB	AMB	17 04 43.1	
	120nm,0.3s					
YUK			*e*S	**Sb**	**17 05 08.4**	**-0.1**
YUK			A	A	17 05 11.3	
	166nm,0.5s					
YUK			A	A	17 05 11.3	
	117nm,0.5s					
JRA	**Rausu**	**2.36 219**	P	**Pn**	**17 04 46.9**	**+0.5**
NEM2	**Nemuro 2**	**2.62 204**	P	**Pn**	**17 04 50.7**	**+0.6**
JTKR	**Abashiri--Toko**	**2.95 233**	P	**Pn**	**17 04 55.4**	**+0.8**
JTKR			*e*S	**Sn**	**17 05 30.8**	**+0.8**
YSS	**Yuzh-Sakhalins**	**3.29 293**	*e*rx	rx	17 05 12.6	
YSS			*e*S	**Sn**	**17 05 37.6**	**-0.8**
JAK	**Akkeshi**	**3.31 214**	P	**Pn**	**17 05 01.0**	**+1.6**

*IDC **18** 17:08:45.2±3.0,34°.72S×179°.45W,h0km,mb3.7/2, mb1 4.0/3,mb1mx3.7/22,mbtmp3.8/3,ML3.8/1,Error ellipse: s-maj=71.2km s-min=45.1km az=126.0*
*ISCJB **18** 17:08:49.9±1.6,35°.0S±0°.1×179°.4W±0°.2,h54km±23km, mb3.5/2,Error ellipse: s-maj=34.8km s-min=15.4km az=34.2*

ISC 18 17:08:53.0±4.4,35°.1S±0°.2×179°.5W±0°.2,h66km±38km,n27, σ1§05/30,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.05**	**216**	*e*PN	**Pn**	**17 09 37.9**	**-0.9**
MXZ				*e*SN	**Sn**	**17 10 14.6**	**+0.5**
WMGZ	**Waiomatatini S**	**3.21**	**212**	*e*PN	**Pn**	**17 09 42.4**	**+1.4**
HAZ	**Te Kaha**	**3.46**	**219**	*e*PN	**Pn**	**17 09 43.0**	**-1.4**
HAZ				*e*SN	**Sn**	**17 10 25.6**	**+1.4**
PUZ	**Puketiti**	**3.49**	**211**	*e*PN	**Pn**	**17 09 45.2**	**+0.4**
PUZ				SN	**Sn**	**17 10 26.6**	**+1.6**
TWGZ	**Tauwhareparae**	**3.70**	**213**	*e*PN	**Pn**	**17 09 48.1**	**+0.4**
CNGZ	**Carnagh Statio**	**3.87**	**208**	*e*PN	**Pn**	**17 09 50.6**	**+0.7**
TKGZ	**Te Karaka**	**3.98**	**212**	*e*PN	**Pn**	**17 09 51.0**	**-0.4**
MWZ	**Matawai**	**4.04**	**216**	PN	**Pn**	**17 09 52.0**	**-0.4**
URZ	**Urewera**	**4.19**	**220**	Pn	**Pn**	**17 09 54.2**	**-0.2**
	5.1nm,0.3s,baz=271,slow=3.1,SNR=48						
URZ				Sn	**Sn**	**17 10 42.1**	**0.0**
	6.6nm,0.3s,baz=70,slow=21,SNR=8.3						
URZ	**Urewera**	**4.19**	**220**	PN	**Pn**	**17 09 53.9**	**-0.5**
URZ				*e*SN	**Sn**	**17 10 41.3**	**-0.8**
RAGZ	**Rawiri**	**4.22**	**216**	PN	**Pn**	**17 09 54.6**	**-0.2**
RIGZ	**Rimuhau**	**4.24**	**211**	PN	**Pn**	**17 09 54.7**	**-0.3**
PRGZ	**Paritu Road**	**4.37**	**208**	*e*PN	**Pn**	**17 09 56.7**	**-0.1**
SNGZ	**Shannon Statio**	**4.48**	**214**	*e*PN	**Pn**	**17 09 58.4**	**0.0**
KNZ	**Kokohu**	**4.54**	**210**	*e*PN	**Pn**	**17 09 58.0**	**-1.1**
MHGZ	**Mahia Peninsul**	**4.56**	**207**	*e*PN	**Pn**	**17 09 58.9**	**-0.6**
MKAZ	**Moumakai**	**4.80**	**244**	*e*PN	**Pn**	**17 10 02.2**	**-0.4**
TOZ	**Tahuroa Road**	**4.84**	**236**	*e*PN	**Pn**	**17 10 03.1**	**-0.1**
ARHZ	**Aropaoanui**	**5.03**	**213**	PN	**Pn**	**17 10 05.4**	**-0.4**
BKZ	**Black Stump Fm**	**5.19**	**217**	*e*PN	**Pn**	**17 10 07.6**	**-0.5**
KAHZ	**Kahuranaki**	**5.52**	**211**	*e*PN	**Pn**	**17 10 10.3**	**-2.3**
TSZ	**Takapari Road**	**6.15**	**215**	*e*PN	Pn	17 10 17.9	-3.2
MRZ	**Mangatainoka R**	**6.80**	**214**	*e*PN	**Pn**	**17 10 27.1**	**-3.0**
MRZ				*e*SN	Sn	17 11 39.2	-6.8
MQZ	**McQueen's Vall**	**10.54**	**213**	*e*SN	Sn	17 13 05.8	-12
ASAR	**Alice Springs**	**41.87**	**273**	P	**P**	**17 16 37.4**	**+0.5**
	0.3nm,0.3s,baz=117,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**43.29**	**278**	P	**P**	**17 16 48.2**	**-0.1**
	0.6nm,0.4s,baz=118,slow=7.8,SNR=18						
FINES	**FINESS Array B**	**149.04**	**336**	PKPbc	**PKPbc**	**17 28 33.0**	**+0.4**
	0.4nm,0.4s,baz=54,slow=7.1,SNR=6.3						

*IDC **18** 17:14:46.1±1.7,38°.53S×73°.63W,h0km,mb3.8/5, mb1 3.9/7,mb1mx3.8/21,mbtmp3.7/7,ML3.4/2,Error ellipse: s-maj=41.3km s-min=18.1km az=60.0*

ISC 18 17:14:48.8±1.4,38°.68S±0°.10×73°.4W±0°.2,h18km,n7, σ1§02/8,mb3.7/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.98**	**134**	Pn	**Pb**	**17 15 40.5**	**-1.0**
	2.1nm,0.3s,baz=307,slow=8.7,SNR=42						
PLCA				Lg	Lg	17 16 28.8	
	11nm,0.3s,baz=36,slow=14,SNR=3.5						
CFAA	**Coronel Fontan**	**8.21**	**32**	Pn	**Pn**	**17 16 47.5**	**+0.4**
	0.1nm,0.3s,baz=209,slow=13,SNR=13						
CFAA				Sn	**Sn**	**17 18 19.0**	**-0.5**
	0.1nm,0.3s,baz=158,slow=16,SNR=2.5						
LPAZ	**La Paz**	**22.78**	**13**	P	**P**	**17 19 50.0**	**-1.0**
	0.4nm,0.4s,baz=176,slow=14,SNR=1.7						
TXAR	**Lajitas Array**	**73.34**	**333**	P	**P**	**17 26 18.6**	**-0.9**
	0.4nm,0.8s,baz=156,slow=6.9,SNR=3.8						
DBIC	**Dimbokro**	**77.70**	**71**	P	**P**	**17 26 45.8**	**+1.1**
	1.4nm,0.6s,baz=219,slow=6.5,SNR=3.7						
BOSA	**Boshof**	**78.85**	**118**	P	**P**	**17 26 51.8**	**+0.7**
	1.5nm,0.7s,baz=249,slow=3.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**86.80**	**71**	P	**P**	**17 27 32.8**	**+0.6**
	0.3nm,0.6s,baz=222,slow=4.4,SNR=4.5						

GUC 18 17:21:21.9±0.6,34°.51S×72°.00W,h37km±2km,ML3.6, 5C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.80**	**128**	⇑*i*P	Pn	17 21 36.4	-0.3
NICH				*i* S	Sn	17 21 47.7	+0.2
TALC	**Talca**	**0.94**	**162**	⇑*i*P	Pn	17 21 38.4	-0.2
TALC				⇓*i*P	Pn	17 21 38.4	-0.2
TALC				*i* S	Sn	17 21 50.6	-0.2
LNCH	**Linares**	**1.38**	**166**	⇑*i*P	Pn	17 21 45.7	+1.2
LNCH				*i* S	Sn	17 22 03.5	+1.9
RCDM	**Rinconada Maip**	**1.42**	**45**	*i* P	Pn	17 21 45.4	+0.2
RCDM				*i* S	Sn	17 22 03.4	+0.8
RCDM				IAML		17 22 11.6	
	comp=E,1μm,0.1s						
ANTU	**Antumapu**	**1.47**	**51**	⇑*i*P	Pn	17 21 47.0	+1.1
ANTU				*i* S	Sn	17 22 05.5	+1.6
ANTU				IAML		17 22 08.5	
	comp=E,1μm,0.5s						
SJCH	**San Jose de Ma**	**1.61**	**58**	*i* P	Pn	17 21 48.6	+0.6
SJCH				*i* S	Sn	17 22 09.2	+1.5
CLCH	**Cerro Calan**	**1.64**	**48**	⇓*i*P	Pn	17 21 49.4	+1.1
CLCH				*i* S	Sn	17 22 09.7	+1.5
CLCH				IAML		17 22 12.9	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**1.74**	**39**	*e*P	Pn	17 21 50.6	+1.0
PEL				*i* S	Sn	17 22 12.4	+1.7
PEL				IAML		17 22 18.6	
	comp=N,1μm,0.3s						
COCH	**Cobquecura**	**1.75**	**201**	⇑*i*P	Pn	17 21 50.4	+0.8
COCH				*i* S	Sn	17 22 12.1	+1.5
FCH	**Farellones**	**1.84**	**51**	*i* P9	Pn	17 21 55.4	+4.0
FCH				*i* S	Sn	17 22 18.4	+4.6
FCH				IAML		17 22 24.2	
	comp=E,789nm,0.1s						

*NIED **18** 17:23:00,24°.50N×122°.50E,h8km,Mw4.1 Best double couple: M0:1.72000×10^15 NP1:φs61.00000°,δ77.00000°, λ-179.00000°. NP2:φs331.00000°,δ89.00000°, λ-13.00000°.*
*BJI **18** 17:23:17.7,24°.54N×122°.73E,h8km,mB4.3/4,mb4.0/13, ML3.8/3*
*JMA **18** 17:23:21.7,24°.48N×122°.52E,h16km±2km,M4.3*
*TAP **18** 17:23:21.4,24°.54N×122°.53E,h12km,ML4.1,C*
*ISCJB **18** 17:23:22.2±0.3,24°.59N±0°.02×122°.58E±0°.01,h18km±3km, mb3.7/13,MS3.4/6,Error ellipse: s-maj=3.8km s-min=2.0km az=3.6*
*IDC **18** 17:23:33.2±5.1,24°.63N×122°.52E,h114km±48km, mb3.4/12,mb1 3.5/13,mb1mx3.4/48,mbtmp3.8/13,MS3.4/8, Ms1 3.4/8,ms1mx3.2/25,Error ellipse: s-maj=27.5km s-min=14.4km az=65.0*

ISC 18 17:23:22.8±0.7,24°.51N±0°.03×122°.55E±0°.02,h24km±5km, n102,σ1§32/138,mb3.8/13,MS3.4/6,14C-4D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.37**	**98**	P	**Pb**	**17 23 29.5**	**-1.3**
JYNG				*e*S	**Sb**	**17 23 35.3**	**-1.0**
YOJ	**Yonaguni jima**	**0.43**	**96**	P	**Pb**	**17 23 30.5**	**-1.3**
YOJ				S	**Sb**	**17 23 36.9**	**-1.0**
YOJ	**Yonaguni jima**	**0.43**	**96**	⇓*i*P	**Pb**	**17 23 30.6**	**-1.2**
	baz=100						
YOJ				*i* S	**Sb**	**17 23 37.0**	**-0.9**
	baz=100						
TWC	**Suao**	**0.64**	**279**	⇑*i*P	**Pb**	**17 23 33.2**	**-2.2**
	baz=284						
EGS		**0.65**	**301**	P	**Pb**	**17 23 33.9**	**-1.6**
	baz=299						
EGS				S	**Sb**	**17 23 43.2**	**-1.1**
	baz=299						
TWB1	**Santiao Chiao**	**0.71**	**315**	*e*P	**Pb**	**17 23 35.2**	**-1.3**
	baz=313						
TWB1				*e*S	**Sb**	**17 23 43.6**	**-2.4**
	baz=313						
ENA	**Nanau**	**0.74**	**264**	⇑*i*P	**Pb**	**17 23 35.4**	**-1.6**
	baz=267						
EHP	**Heping Village**	**0.76**	**255**	*e*P	**Pb**	**17 23 37.1**	**-0.3**
	baz=252						
ILA	**Ilan**	**0.77**	**290**	*e*P	**Pb**	**17 23 35.6**	**-1.9**
	baz=287						
TWE	**Neicheng**	**0.83**	**285**	⇑*i*P	**Pb**	**17 23 36.9**	**-1.6**
	baz=282						
TWE				S	**Sb**	**17 23 48.9**	**-0.4**
	baz=282						
NWF	**Wu-fen Shan**	**0.89**	**309**	⇑*i*P	**Pb**	**17 23 39.1**	**-0.7**
	baz=323						
NWF				S	**Sb**	**17 23 50.7**	**-0.6**
	baz=323						
ENTT	**Nioudou**	**0.90**	**279**	⇑P	**Pb**	**17 23 38.2**	**-1.6**
	baz=276						
ENTT				*e*S	**Sb**	**17 23 51.2**	**-0.2**
	baz=276						
TWD	**Chiawan**	**0.96**	**244**	*e*P	**Pb**	**17 23 40.3**	**-0.6**
	baz=251						
TWD				*e*S	**Sn**	**17 23 55.0**	**+1.2**
	baz=251						
TWA	**Mucha**	**0.99**	**299**	⇑*i*P	**Pb**	**17 23 40.8**	**-0.6**
	baz=296						
TWA				S	**Sb**	**17 23 53.4**	**-0.7**
	baz=296						
HWA	**Hwalien**	**1.01**	**239**	*e*P	**Pn**	**17 23 42.0**	**+0.6**
	baz=215						
NNS	**Nan Shan**	**1.07**	**267**	⇑P	**Pn**	**17 23 41.4**	**-1.0**
	baz=264						
NNS				*e*S	**Sb**	**17 23 55.3**	**-1.0**
	baz=264						
TAP1	**Taipei**	**1.07**	**300**	*i* P	**Pn**	**17 23 41.9**	**-0.4**
	baz=297						
TAP1				*e*S	**Sb**	**17 23 55.8**	**-0.5**
	baz=297						
TAP	**Taipei**	**1.08**	**300**	P	**Pn**	**17 23 41.8**	**-0.6**
	baz=297						
TAP				S	**Sn**	**17 23 56.5**	**-0.2**
	baz=297						
NSK	**Sanguang**	**1.09**	**279**	⇑P	**Pn**	**17 23 41.9**	**-0.8**
	baz=276						
NSK				S	**Sb**	**17 23 56.1**	**-0.9**
	baz=276						
IRIF	**Iriomote-Funau**	**1.09**	**99**	P	**Pn**	**17 23 41.8**	**-0.8**
IRIF				S	**Sb**	**17 23 56.9**	**0.0**
TWY	**Chenhua**	**1.15**	**312**	⇑P	**Pn**	**17 23 42.8**	**-0.6**
	baz=310						
TWY				S	**Sb**	**17 23 57.7**	**-0.8**
	baz=310						
TWS1	**Kuangyinshan**	**1.18**	**300**	*e*P	**Pn**	**17 23 43.4**	**-0.4**
	baz=298						
TWS1				*e*S	**Sb**	**17 23 59.7**	**+0.2**
	baz=298						
PCYT	**Pengchaiyu**	**1.20**	**339**	*e*P	**Pn**	**17 23 42.5**	**-1.5**
	baz=338						
WHF	**Hehuan Shan**	**1.22**	**253**	⇑*i*P	**Pn**	**17 23 44.6**	**-0.2**
	baz=250						
WHF				*e*S	**Sb**	**17 24 01.4**	**+0.4**
	baz=250						
ESL	**Shilin**	**1.23**	**236**	⇓P	**Pn**	**17 23 44.2**	**-0.3**
	baz=216						
HATJ	**Hateruma jima**	**1.23**	**111**	P	**Pb**	**17 23 45.0**	**-0.5**
HATJ				S	**Sn**	**17 24 00.3**	**-0.1**
TWT	**Tachien**	**1.27**	**259**	*e*P	**Pb**	**17 23 45.8**	**-0.4**
	baz=256						
NCU	**National Centr**	**1.32**	**291**	*e*P	**Pn**	**17 23 45.5**	**-0.2**
	baz=289						
NCU				*e*S	**Sb**	**17 24 04.2**	**+0.8**
	baz=289						
JKRS	**Kuro-shima**	**1.36**	**101**	P	**Pn**	**17 23 46.0**	**-0.3**
JKRS				S	**Sn**	**17 24 04.0**	**+0.4**
NSTT	**Nanjuang**	**1.41**	**275**	P	**Pb**	**17 23 47.5**	**-1.0**
	baz=287						
NSTT				*e*S	**Sb**	**17 24 07.9**	**+1.8**
	baz=287						
HSN	**Hsinchu**	**1.46**	**282**	*e*P	**Pb**	**17 23 49.3**	**-0.1**
	baz=300						
JIJ	**Ishigaki jima**	**1.46**	**95**	P	**Pn**	**17 23 48.3**	**+0.6**
JIJ				*e*S	**Sn**	**17 24 05.8**	**-0.3**
EHY	**Hungye**	**1.50**	**229**	*e*P	**Pn**	**17 23 47.8**	**-0.4**
	baz=211						
EHY				*e*S	**Sn**	**17 24 06.1**	**-0.8**
	baz=211						
JISG	**Ishigakijimahi**	**1.61**	**87**	*e*S	**Sn**	**17 24 09.8**	**+0.1**
TWF1	**Yuli**	**1.62**	**225**	*e*P	**Pn**	**17 23 49.6**	**-0.3**
	baz=208						
TWQ1	**Liyutan**	**1.62**	**265**	*e*P	**Pb**	**17 23 52.0**	**-0.1**
	baz=262						
TWQ1				*e*S	**Sb**	**17 24 14.8**	**+2.6**
	baz=262						
SMLT	**Sun Moon Lake**	**1.62**	**248**	⇑P	**Pb**	**17 23 51.5**	**-0.7**
	baz=230						
SMLT				*e*S	**Sb**	**17 24 12.8**	**+0.4**
	baz=230						
NSY	**Sanyi**	**1.63**	**267**	*e*P	**Pb**	**17 23 52.0**	**-0.2**
	baz=264						
NSY				*e*S	**Sb**	**17 24 15.8**	**+3.5**
	baz=264						
TYC	**Yuchr**	**1.65**	**249**	⇑*i*P	**Pb**	**17 23 51.8**	**-0.8**
	baz=232						
TYC				*e*S	**Sb**	**17 24 13.3**	**+0.3**
	baz=232						
TCU	**Taichung**	**1.74**	**259**	*e*P	**Pb**	**17 23 53.5**	**-0.6**
	baz=254						
CHKT	**Chengkung**	**1.77**	**218**	*e*P	**Pn**	**17 23 51.1**	**-0.8**
	baz=214						
YUS	**Yu-Shan**	**1.77**	**236**	⇓*i*P	**Pb**	**17 23 53.5**	**-1.5**
	baz=233						
YUS				S	**Sb**	**17 24 16.0**	**-1.0**
	baz=233						
WNT	**Mingjian**	**1.81**	**250**	*e*P	**Pb**	**17 23 55.2**	**-0.1**
	baz=247						
WNT				*e*S	**Sb**	**17 24 18.9**	**+1.4**
	baz=247						
ALS	**Alishan**	**1.87**	**238**	⇑P	**Pb**	**17 23 55.4**	**-1.2**
	baz=219						
ELDTW	**Lidau**	**1.92**	**227**	*e*P	**Pn**	**17 23 53.7**	**-0.4**
	baz=223						
CHN5	**Tsauling**	**1.93**	**242**	*e*P	**Pb**	**17 23 56.3**	**-1.1**
	baz=239						
CHN5				*e*S	**Sb**	**17 24 21.8**	**+0.7**
	baz=239						
JTJ	**Tarama**	**1.97**	**86**	*e*S	**Sn**	**17 24 19.7**	**+1.1**
WGK	**Gukeng**	**1.99**	**246**	*e*P	**Pb**	**17 23 56.6**	**-1.6**
	baz=242						
STYT	**Tauyuan**	**2.11**	**231**	⇓*e*P	**Pn**	**17 23 57.9**	**+1.2**
	baz=216						
STYT				*e*S	**Sb**	**17 24 24.9**	**-1.5**
	baz=216						
CHN4	**Tsaushan**	**2.12**	**238**	P	**Pb**	**17 23 59.4**	**-1.2**
	baz=222						
CHN4				*e*S	**Sb**	**17 24 27.1**	**+0.6**
	baz=222						
CHN2	**Minshiung**	**2.13**	**243**	*e*P	**Pb**	**17 23 59.6**	**-1.1**
	baz=240						
CHN2				*e*S	**Sb**	**17 24 29.1**	**+2.5**
	baz=240						
TWG	**Pinlang**	**2.15**	**219**	*e*P	**Pn**	**17 23 55.8**	**-1.4**
	baz=215						
WTCT	**Ta-ch'eng**	**2.16**	**253**	*e*P	**Pn**	**17 23 58.5**	**+1.1**
	baz=250						
WTCT				*e*S	**Sb**	**17 24 28.1**	**+0.4**
	baz=250						
WTP	**Ta-pu**	**2.17**	**235**	*e*P	**Pn**	**17 23 59.0**	**+1.6**
	baz=219						
CHY	**Chiayi**	**2.18**	**243**	*e*P	**Pb**	**17 23 59.7**	**-2.0**
	baz=239						
TWK	**Hsinying**	**2.25**	**237**	*e*P	**Pb**	**17 24 00.9**	**-1.9**
	baz=233						
CHN1	**Nanshi**	**2.27**	**235**	*e*P	**Pb**	**17 24 01.1**	**-2.0**
	baz=232						
CHN1				*e*S	**Sb**	**17 24 31.0**	**+0.3**
	baz=232						
SGST	**Jiashian**	**2.29**	**232**	*e*P	**Pb**	**17 24 01.5**	**-1.9**
	baz=229						
SGST				*e*S	**Sb**	**17 24 30.0**	**-1.3**
	baz=229						
WSF	**Szhu**	**2.29**	**248**	*e*P	**Pb**	**17 24 01.2**	**-2.3**
	baz=245						
WSF				*e*S	**Sb**	**17 24 31.8**	**+0.4**
	baz=245						
ECL	**Taimali**	**2.40**	**218**	*e*P	**Pn**	**17 23 58.9**	**-1.6**
	baz=214						
JIRB	**Irabujima**	**2.41**	**82**	*e*S	**Sn**	**17 24 31.9**	**+2.4**
CHN3	**Shinhua**	**2.45**	**235**	*e*P	**Pb**	**17 24 04.1**	**-2.1**
	baz=231						
SSD	**Sandimen**	**2.48**	**225**	*e*P	**Pn**	**17 24 02.7**	**+1.1**
	baz=210						
SSD				*e*S	**Sb**	**17 24 35.5**	**-1.3**
	baz=210						
JIKM	**Ikemajima**	**2.49**	**80**	*e*S	**Sn**	**17 24 34.2**	**+2.7**
JMJ	**Miyako jima 2**	**2.52**	**82**	*e*S	**Sn**	**17 24 34.1**	**+1.9**
SGLT	**Jiouru**	**2.59**	**227**	*e*P	**Pb**	**17 24 05.8**	**-2.7**
	baz=209						
LAY	**Lan-yu**	**2.62**	**201**	*e*P	**Pn**	**17 24 02.5**	**-1.2**
	baz=197						
EAST	**Anshuo**	**2.63**	**217**	*e*P	**Pn**	**17 24 03.5**	**-0.2**
	baz=212						
SCZT	**Fangliau**	**2.76**	**220**	*e*P	**Pn**	**17 24 07.7**	**+2.1**
	baz=204						
SCZT				*e*S	**Sb**	**17 24 42.8**	**-2.2**
	baz=204						
PNG	**Penghu**	**2.89**	**252**	*e*P	**Pn**	**17 24 07.6**	**+0.3**
	baz=247						
WDGT	**Dungji**	**2.92**	**245**	*e*P	**Pn**	**17 24 09.0**	**+1.3**
	baz=241						
TWP	**Hsiaoliuchiu**	**2.94**	**223**	*e*P	**Pb**	**17 24 11.6**	**-2.9**
	baz=219						
HEN	**Hengchun**	**2.99**	**214**	*e*P	**Pn**	**17 24 11.5**	**+2.8**
	baz=210						
TSEB	**Hengchuen, Pin**	**3.00**	**211**	*e*P	**Pn**	**17 24 08.2**	**-0.7**
	baz=207						
TWK1	**Hengchun**	**3.01**	**212**	*e*P	**Pn**	**17 24 09.5**	**+0.5**
	baz=208						
QZH	**Quanzhou**	**3.62**	**278**	⇑*i*Pn	**Pn**	**17 24 17.8**	**+0.4**
QZH				Sn	**Sn**	**17 24 59.4**	**+0.1**
QZH				SMN			
	270nm,0.9s						
QZH				SME			
	200nm,0.9s						
KNM	**Kinmen**	**3.75**	**269**	*e*P	**Pn**	**17 24 20.8**	**+1.6**
	baz=264						
JKE	**Kume jima 2**	**4.24**	**64**	P	**Pn**	**17 24 28.4**	**+2.5**
JOW	**Kunigami**	**5.67**	**65**	*e*P	**Pn**	**17 24 46.3**	**+0.8**
	baz=70						
NJ2	**Nanjing**	**8.19**	**337**	*e*P	Pn	17 25 13.8	-6.3
NJ2				S	Sn	17 26 34.0	-18
NJ2				pmax	pmax		
	comp=Z,40nm,0.8s						
NJ2				smax	smax		
	comp=N,160nm,0.9s						
NJ2				smax	smax		
	comp=E,70nm,0.9s						
NJ2				LR	LR		
	comp=N,910nm,9.9s						
NJ2				LR	LR		
	comp=E,1μm,10.2s						
NJ2				LR	LR		
	comp=Z,1μm,9.8s						
KSRS	**Korea Array**	**13.70**	**18**	P	**P**	**17 26 41.5**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=198,slow=12,SNR=4.1						
KSRS				LR	LR	17 32 28.6	
	comp=Z,158nm,18.2s,baz=160,slow=40						
MJAR	**Matsushiro Arr**	**18.03**	**45**	LR	LR	17 35 47.6	
	comp=Z,59nm,21.3s,baz=200,slow=41						
USRK	**Ussuriysk Ar.**	**21.11**	**19**	P	P	17 28 11.5	+6.0
	comp=Z,2.3nm,0.8s,baz=215,slow=9.7,SNR=3.3						
CMAR	**Chiang Mai Arr**	**22.76**	**259**	P	**P**	**17 28 25.4**	**+1.9**
	comp=Z,0.2nm,0.4s,baz=59,slow=8.3,SNR=3.3						
GTA	**Gaotai**	**24.25**	**313**	*e*P	**P**	**17 28 39.8**	**+1.7**
GTA				pP	**pP**	**17 28 46.4**	**+1.0**
GTA				sP	**sP**	**17 28 49.8**	**+1.4**
GTA				PMZ			
	comp=Z,4.0nm,1.1s						
ASAJ	**Asahikawa**	**25.51**	**35**	LR	LR	17 39 04.8	
	comp=Z,86nm,18.7s,baz=59,slow=37						
SONM	**Songino Array**	**26.57**	**335**	P	**P**	**17 28 59.7**	**+0.7**
	comp=Z,4.2nm,0.8s,baz=150,slow=9.8,SNR=31						
PSI	**Prapat**	**31.39**	**230**	LR	LR	17 41 13.7	
	comp=Z,74nm,20.5s,baz=66,slow=34						
PETK	**Petropavlovsk-**	**38.91**	**34**	LR	LR	17 47 24.8	
	comp=Z,44nm,18.1s,baz=175,slow=37						
MKAR	**Makanchi Array**	**38.98**	**315**	P	**P**	**17 30 47.1**	**0.0**
	comp=Z,1.0nm,0.8s,baz=108,slow=10,SNR=11						
MKAR				PcP	**PcP**	**17 32 56.5**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=92,slow=5.5,SNR=6.2						
ZALV	**Zalesovo Beam**	**40.66**	**326**	P	**P**	**17 31 00.2**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=99,slow=9.2,SNR=7.2						
KURBB	**Kurchatov Arra**	**42.67**	**319**	P	**P**	**17 31 18.2**	**+0.8**
	comp=Z,0.5nm,0.2s,baz=113,slow=8.2,SNR=6.0						
AAK	**Ala-Archa**	**43.30**	**307**	P	**P**	**17 31 24.1**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=146,slow=5.9,SNR=5.4						
WRA	**Warramunga Arr**	**45.65**	**164**	P	**P**	**17 31 43.0**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=347,slow=8.8,SNR=9.4						
BVAR	**Borovoye Array**	**48.22**	**320**	P	**P**	**17 32 01.0**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=94,slow=5.8,SNR=3.3						
BVAR				PcP	**PcP**	**17 33 27.4**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=48,slow=2.2,SNR=4.9						
ASAR	**Alice Springs**	**49.14**	**166**	P	**P**	**17 32 10.9**	**+2.2**
	comp=Z,2.4nm,0.9s,baz=344,slow=7.0,SNR=10						
AKTO	**Aktyubinsk**	**55.41**	**315**	LR	LR	17 56 39.2	
	comp=Z,56nm,21.9s,baz=80,slow=36						
GEYT	**Alibeck**	**55.71**	**300**	P	**P**	**17 32 57.3**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=104,slow=6.1,SNR=3.7						
BRTR	**Keskin Array B**	**73.98**	**307**	P	**P**	**17 34 55.2**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=113,slow=3.9,SNR=3.8						
MMAI	**Mount Meron Ar**	**74.82**	**300**	LR	LR	18 13 26.5	
	comp=Z,20nm,18.9s,baz=40,slow=40						
NOA	**NORSAR Array B**	**78.52**	**332**	LR	LR	18 14 28.9	
	comp=Z,25nm,16.5s,baz=60,slow=39						
YKA	**Yellowknife Ar**	**82.19**	**23**	P	**P**	**17 35 39.9**	**-1.6**
	comp=Z,0.1nm,0.5s,baz=314,sl

UPM					*e*Sg	Sg	17 28 46.0	-1.1
UPM	**Unac-Piva**	0.61	190	⇓*i*Pg		Pg	17 28 38.1	-0.9
UPM					*e*Sg	Sg	17 28 46.0	-1.1
DIVS	**Divibare**	0.74	66	P		Pg	17 28 41.4	0.0
DIVS				S		Sg	17 28 50.2	-0.8
DIVS	**Divibare**	0.74	66	⇓*i*Pg		Pg	17 28 41.4	0.0
DIVS				*i* Sg		Sg	17 28 50.7	-0.3
DIVS	**Divibare**	0.74	66	P		Pg	17 28 41.4	0.0
DIVS				S		Sg	17 28 50.2	-0.8
TEKS	**Tekeris**	0.82	25	*i* Pg		Pb	17 28 44.0	+0.2
TEKS	**Tekeris**	0.82	25	*i* Pg		Pb	17 28 44.0	+0.2
IVAS	**Ivanjica**	0.83	106	*i* Pg		Pg	17 28 42.0	-1.2
IVAS	**Ivanjica**	0.83	106	*i* Pg		Pg	17 28 42.0	-1.2
SJES	**Sjenica**	0.86	129	⇑*i*Pg		Pg	17 28 42.1	-1.7
SJES				*e*Sg		Sg	17 28 53.5	-1.5
NKY	**Niksic**	0.99	182	⇑*i*Pg		Pg	17 28 44.8	-1.5
NKY				*e*Sg		Sg	17 28 59.0	-0.2
NKY	**Niksic**	0.99	182	⇑P		Pg	17 28 44.9	-1.4
NKY				S		Sg	17 28 58.4	-0.8
NKY				*e*Sg		Sg	17 28 59.0	-0.2
NKY	**Niksic**	0.99	182	⇑P		Pg	17 28 44.9	-1.4
NKY				S		Sg	17 28 58.4	-0.8
NKME	**Niksic**	1.04	184	⇓*i*Pg		Pg	17 28 45.7	-1.5
NKME				*e*Sg		Sg	17 29 00.4	-0.3
NKME	**Niksic**	1.04	184	⇓*i*Pg		Pg	17 28 45.7	-1.5
NKME				*e*Sg		Sg	17 29 00.4	-0.3
TRUS	**Trudelj**	1.06	66	*e*Pg		Pg	17 28 46.3	-1.3
TRUS	**Trudelj**	1.06	66	*e*Pg		Pg	17 28 46.3	-1.3
BEY	**Berane**	1.12	146	⇓*i*Pg		Pg	17 28 47.0	-1.7
BEY				*e*Sg		Sg	17 29 02.8	-0.4
IVA	**Berane**	1.12	146	⇓*i*Pg		Pg	17 28 47.0	-1.7
IVA				*e*Sg		Sg	17 29 02.8	-0.4
TREB	**Trebinje**	1.20	205	⇓*i*Pg		Pg	17 28 48.1	-2.2
TREB				*e*Sg		Sg	17 29 05.3	-0.6
TREB	**Trebinje**	1.20	205	⇓*i*Pg		Pg	17 28 48.1	-2.2
TREB				*e*Sg		Sg	17 29 05.3	-0.6
TREB	**Trebinje**	1.20	205	*e*Pg		Pg	17 28 48.1	-2.2
TREB				*e*Sg		Sg	17 29 05.3	-0.6
GRUS	**Gruza**	1.21	86	*e*Pg		Pg	17 28 49.7	-0.6
GRUS				*e*Sg		Sg	17 29 05.7	-0.3
GRUS	**Gruza**	1.21	86	*e*Pg		Pg	17 28 49.7	-0.6
GRUS				*e*Sg		Sg	17 29 05.7	-0.3
GRUS	**Gruza**	1.21	86	*e*Pg		Pg	17 28 49.7	-0.6
GRUS				*e*Sg		Sg	17 29 05.7	-0.3
STON	**Ston**	1.36	227	*i* Pg		Pn	17 28 50.5	-2.1
STON				Sg		Sb	17 29 09.4	-1.1
STON	**Ston**	1.36	227	⇓*i*Pg		Pn	17 28 51.0	-1.6
STON	**Ston**	1.36	227	⇓*i*Pg		Pn	17 28 51.0	-1.6
STON				Sg		Sb	17 29 09.4	-1.1
PVY	**Plav**	1.38	151	⇑*i*Pg		Pn	17 28 51.6	-1.5
PVY				*e*Sg		Sb	17 29 11.6	+0.2
PVY	**Plav**	1.38	151	⇑P		Pn	17 28 51.5	-1.5
PVY				*e*Sg		Sb	17 29 11.6	+0.2
PVY	**Plav**	1.38	151	⇑P		Pn	17 28 51.5	-1.5
PVY				S		Sb	17 29 11.6	+0.2
PDG	**Podgorica**	1.39	174	P		Pn	17 28 51.6	-1.3
PDG	**Podgorica**	1.39	174	*e*Pg		Pn	17 28 51.7	-1.2
PDG				*i* Sg		Sb	17 29 09.9	-1.3
PDG	**Podgorica**	1.39	174	Pn		Pn	17 28 51.6	-1.3
PDG				Sn		Sb	17 29 10.0	-1.3
	2µm,0.9s							
PDG	**Podgorica**	1.39	174	P		Pn	17 28 51.6	-1.3
PDG				Sn		Sb	17 29 10.0	-1.3
	2µm,0.9s							
PDG				*e*Sg		Sb	17 29 11.6	+0.3
TTG	**Podgorica**	1.39	174	⇓*i*Pg		Pn	17 28 51.6	-1.3
TTG				*e*Sg		Sb	17 29 11.6	+0.3
HCY	**Herceg Novi**	1.42	197	⇓*i*Pg		Pn	17 28 52.4	-1.1
HCY				*e*Sg		Sb	17 29 13.2	+0.9
HCY	**Herceg Novi**	1.42	197	⇑P		Pn	17 28 52.0	-1.4
HCY	**Herceg Novi**	1.42	197	⇓*i*Pg		Pn	17 28 52.4	-1.1
HCY				*e*Sg		Sb	17 29 13.2	+0.9
HCY	**Herceg Novi**	1.42	197	⇑P		Pn	17 28 52.0	-1.4
HCY				S		Sg	17 29 13.8	+1.0
BEO	**Beograd**	1.43	45	*e*Pg		Pb	17 28 54.1	-0.1
BEO	**Beograd**	1.43	45	*e*Pg		Pb	17 28 54.1	-0.1
FGSL	**Fruska Gora**	1.46	22	*e*Pg		Pg	17 28 55.7	+0.6
FGSL				*e*Sg		Sg	17 29 14.6	+0.6
FRGS	**Fruska Gora**	1.46	22	*e*Pg		Pg	17 28 55.7	+0.6
FRGS				*e*Sg		Sg	17 29 14.6	+0.6
FRGS	**Fruska Gora**	1.46	22	*e*Pg		Pg	17 28 55.7	+0.6
FRGS				*e*Sg		Sg	17 29 14.6	+0.6
BUM	**Brajici-Budva**	1.51	184	⇑*i*Pg		Pn	17 28 53.8	-1.0
BUM				*e*Sg		Sb	17 29 16.0	+1.0
BUM	**Brajici-Budva**	1.51	184	⇓P		Pn	17 28 53.7	-1.0
BUM				*e*Sg		Sb	17 29 16.0	+1.0
BUM	**Brajici-Budva**	1.51	184	⇓P		Pn	17 28 53.7	-1.1
BUM				S		Sn	17 29 15.8	+1.1
SELS	**Selova**	1.61	111	⇑*i*Pg		Pb	17 28 57.1	-0.3
SELS	**Selova**	1.61	111	⇑*i*Pg		Pb	17 28 57.1	-0.3
BCI	**Bajram Curri**	1.62	152	*i* PG		Pn	17 28 56.0	-0.3
BCI				*i* SG		Sn	17 29 10.7	-6.7
BCI	**Bajram Curri**	1.62	152	*i* Pg		Pn	17 28 56.0	-0.3
DRME	**Dracevica, Mon**	1.62	177	⇓*i*Pg		Pn	17 28 56.1	-0.1
DRME				*e*Sg		Sn	17 29 18.4	+1.0
DRME	**Dracevica, Mon**	1.62	177	⇓*i*Pg		Pn	17 28 56.1	-0.1
DRME				*e*Sg		Sn	17 29 18.4	+1.0
SVIS	**Svilajnac**	1.63	73	*e*Pn		Pn	17 28 55.8	-0.5
SVIS	**Svilajnac**	1.63	73	*e*Pn		Pn	17 28 55.8	-0.5
BLY	**Banja Luka**	1.64	306	*e*Pn		Pn	17 28 56.6	+0.1
BLY				*e*Sn		Sn	17 29 17.2	-0.6
BLY	**Banja Luka**	1.64	306	Pn		Pn	17 28 56.5	+0.1
BLY	**Banja Luka**	1.64	306	*e*Pn		Pn	17 28 56.6	+0.1
BLY				*e*Sn		Sn	17 29 17.2	-0.6
ULC	**Ulcinj**	1.85	176	⇓*i*Pn		Pn	17 28 59.6	+0.2
ULC				*e*Sn		Sb	17 29 24.8	+0.1
ULC	**Ulcinj**	1.85	176	⇓*i*Pn		Pn	17 28 59.6	+0.2
ULC	**Ulcinj**	1.85	176	⇓P		Pn	17 29 00.7	+1.3
ULC				*e*Sn		Sb	17 29 24.8	+0.1
ULC				S		Sb	17 29 26.3	+1.6
ULC	**Ulcinj**	1.85	176	⇓P		Pn	17 29 00.7	+1.3
ULC				S		Sb	17 29 26.3	+1.6
PUK	**Puka**	1.87	160	*i* PN		Pn	17 29 00.8	+1.1
PUK				*i* SN		Sn	17 29 21.5	-2.1
PUK	**Puka**	1.87	160	*i* Pn		Pn	17 29 00.8	+1.1
PUK				*i* Sn		Sn	17 29 21.5	-2.1
BOLS	**Boljevac**	2.10	88	⇑*i*Pn		Pn	17 29 00.8	-2.0
BOLS	**Boljevac**	2.10	88	⇑*i*Pn		Pn	17 29 00.8	-2.0
BANR	**Banloc**	2.17	43	⇓*i*P		Pn	17 29 02.8	-0.9
BANR	**Banloc**	2.17	43	P		Pn	17 29 02.8	-0.9
BANR	**Banloc**	2.17	43	P		Pn	17 29 02.8	-0.9
BARS	**Barje**	2.25	115	⇑*i*Pn		Pn	17 29 04.3	-0.5
BARS	**Barje**	2.25	115	⇑*i*Pn		Pn	17 29 04.3	-0.5
PHP	**Peshkopia**	2.35	154	*i* PN		Pn	17 29 08.4	+2.0
PHP				*i* SN		Sn	17 29 33.9	-1.7
PHP	**Peshkopia**	2.35	154	P		Pn	17 29 07.8	+1.4
PHP	**Peshkopia**	2.35	154	P		Pn	17 29 07.8	+1.4
PHP	**Peshkopia**	2.35	154	*i* Pn		Pn	17 29 08.4	+2.0
PHP				*i* Sn		Sn	17 29 33.9	-1.7
TIM	**Timisoara**	2.47	38	⇑*i*P		Pg	17 29 15.2	+0.6
UDBI	**Udbina**	2.47	288	*e*Pn		Pn	17 29 09.0	+1.0
UDBI				Sn		Sn	17 29 39.9	+1.4
UDBI	**Udbina**	2.47	288	*e*Pn		Pn	17 29 09.0	+1.0
UDBI				Sn		Sn	17 29 39.9	+1.4
SISC	**Sisak**	2.54	312	*e*Pn		Pn	17 29 08.0	-0.8
SISC				Sn		Sn	17 29 39.8	-0.1
SISC	**Sisak**	2.54	312	*e*Pn		Pn	17 29 07.9	-0.8
SISC				Sn		Sn	17 29 39.8	-0.1
SKO	**Skopje**	2.54	135	P		Pn	17 29 07.7	-1.1
SKO	**Skopje**	2.54	135	*i* Pn		Pn	17 29 08.7	-0.2
SKO				*e*Sg		Sg	17 29 55.7	+7.0
SKO				*e*Lg		Lg	17 29 57.9	
	comp=N,555nm,2.2s							
SKO				*e*Lg		Lg	17 29 59.0	
	comp=E,578nm,2.5s							
SKO	**Skopje**	2.54	135	P		Pn	17 29 07.7	-1.1
SKO	**Skopje**	2.54	135	*i* Pn		Pn	17 29 08.6	-0.2
SKO				*e*Lg		Lg	17 29 58.9	
	comp=E,578nm,2.5s							
BZS	**Buzias**	2.57	44	⇓*i*Pn		Pn	17 29 08.3	-1.0
BZS	**Buzias**	2.57	44	⇓*i*P		Pn	17 29 08.6	-0.7
BZS	**Buzias**	2.57	44	S		Sn	17 29 39.2	-1.6
BZS	**Buzias**	2.57	44	⇓*i*Pn		Pn	17 29 08.3	-1.0
BZS	**Buzias**	2.57	44	P		Pn	17 29 08.6	-0.7
BZS				S		Sn	17 29 39.2	-1.6
BZS	**Buzias**	2.57	44	P		Pn	17 29 08.6	-0.7
BZS				S		Sn	17 29 39.2	-1.6
ZAPS	**Zavoj**	2.66	100	⇑*i*Pn		Pn	17 29 10.7	+0.2
PKS2	**Kecel**	2.69	2	*e*Pn		Pn	17 29 10.9	0.0
PKS2	**Kecel**	2.69	2	*e*Pn		Pn	17 29 10.9	0.0
PKS2				*e*SKKPbc		Sg	17 29 54.0	+0.5
RMGR	**Halanga-Turnu**	2.75	71	S		Sn	17 29 45.2	-0.1
RMGR	**Halanga-Turnu**	2.75	71	S		Sn	17 29 45.2	-0.1
PKS6	**Bocsa**	2.82	7	*e*Pn		Pn	17 29 11.7	-0.9
PKS6	**Bocsa**	2.82	7	*e*Pn		Pn	17 29 11.7	-0.9
PKS9	**Tamasi**	2.83	349	⇑*e*Pn		Pn	17 29 12.7	-0.2
PKS9	**Tamasi**	2.83	349	⇑*e*Pn		Pn	17 29 12.7	-0.2
OHR	**Ohrid**	2.99	154	*i* Pn		Pn	17 29 15.3	+0.2
OHR				*e*Sg		Sg	17 30 04.3	+1.2
OHR				*e*Lg		Lg	17 30 07.1	
	comp=E,422nm,1.3s							
OHR				*e*Lg		Lg	17 30 08.4	
	comp=N,321nm,1.2s							
OHR	**Ohrid**	2.99	154	*i* Pn		Pn	17 29 15.2	+0.2
OHR				*e*Sg		Sg	17 30 04.3	+1.2
OHR				*e*Lg		Lg	17 30 08.4	
	comp=N,321nm,1.2s							
GZR	**Gura Zlata**	3.10	58	⇑*i*P		Pn	17 29 16.3	-0.3
GZR	**Gura Zlata**	3.10	58	S		Sn	17 29 50.9	-3.0
GZR	**Gura Zlata**	3.10	58	P		Pn	17 29 16.3	-0.3
GZR				S		Sn	17 29 50.9	-3.0
GZR	**Gura Zlata**	3.10	58	P		Pn	17 29 16.3	-0.3
GZR				S		Sn	17 29 50.9	-3.0
NVLJ	**Novalja**	3.10	286	*i* Pn		Pn	17 29 17.4	+0.8
NVLJ				Sn		Sn	17 29 55.0	+1.2
NVLJ	**Novalja**	3.10	286	*i* Pn		Pn	17 29 17.3	+0.8
NVLJ				Sn		Sn	17 29 55.0	+1.2
SRE	**Strehaia**	3.10	73	⇑*i*P		Pn	17 29 17.1	+0.5
SRE	**Strehaia**	3.10	73	P		Pn	17 29 17.1	+0.5
SRE	**Strehaia**	3.10	73	P		Pn	17 29 17.1	+0.5
MS1	**Monte Sant'Ang**	3.11	229	*e*P		Pn	17 29 19.0	+2.3
BEHE	**Becsehely**	3.11	330	⇓*e*Pn		Pn	17 29 17.3	+0.6
BEHE				*e*Sn		Sn	17 29 52.8	-1.4
BEHE	**Becsehely**	3.11	330	⇓*e*Pn		Pn	17 29 17.3	+0.6
MSAG	**Monte S. Angel**	3.12	229	Pn		Pn	17 29 17.7	+0.8
MSAG	**Monte S. Angel**	3.12	229	Pn		Pn	17 29 17.7	+0.8
BAI	**Bari**	3.14	212	*e*P		Pn	17 29 18.4	+1.3
SGRT	**San Giovanni R**	3.18	231	Pn		Pn	17 29 17.6	-0.2
	comp=N,267nm,1.0s							
SGRT	**San Giovanni R**	3.18	231	Pn		Pn	17 29 17.6	-0.2
	comp=N,267nm,1.0s							
BOJS	**Bojanci**	3.20	303	*e*Pn		Pn	17 29 18.6	+0.7
BOJS	**Bojanci**	3.20	303	*e*Pn		Pn	17 29 18.6	+0.7
PE1	**Pezze di Greco**	3.23	202	*e*P		Pn	17 29 16.2	-2.2
PKS7	**Kunszentmiklos**	3.24	1	⇑*e*Pn		Pn	17 29 18.2	-0.3
PKS7				*e*Sn		Sn	17 29 55.6	-1.7
PKS7	**Kunszentmiklos**	3.24	1	⇑*e*Pn		Pn	17 29 18.2	-0.3
PKS7				*e*			17 29 55.6	
VTS	**Vitosha**	3.27	110	P		Pn	17 29 21.4	+2.3
VTS	**Vitosha**	3.27	110	⇑*i*P		Pn	17 29 18.9	-0.2
VTS	**Vitosha**	3.27	110	S		Sb	17 30 03.9	-1.9
VTS	**Vitosha**	3.27	110	⇑*i*P		Pn	17 29 18.9	-0.2
KOGS	**Kog**	3.30	324	*i* Pn		Pn	17 29 19.3	0.0
KOGS	**Kog**	3.30	324	*i* Pn		Pn	17 29 19.3	0.0
CESS	**Cesta pri Krsk**	3.35	312	*e*Pn		Pn	17 29 20.2	+0.3
CESS	**Cesta pri Krsk**	3.35	312	*e*Pn		Pn	17 29 20.2	+0.3
NOCI	**Noci**	3.36	207	Pn		Pn	17 29 19.7	-0.4
	comp=N,166nm,1.0s							
NOCI	**Noci**	3.36	207	Pn		Pn	17 29 19.7	-0.4
	comp=N,166nm,1.0s							
CDT	**Castel del Mon**	3.41	218	*e*P		Pn	17 29 20.9	0.0
AMUR	**Altamura**	3.42	213	Pn		Pn	17 29 20.5	-0.5
	comp=N,67nm,0.5s							
AMUR	**Altamura**	3.42	213	Pn		Pn	17 29 20.5	-0.5
	comp=N,67nm,0.5s							
KBN	**Korca**	3.43	157	*i* PN		Pb	17 29 30.8	+2.4
KBN				*i* SN		Sn	17 30 06.6	+4.4
KBN	**Korca**	3.43	157	P		Pb	17 29 29.1	+0.7
DEV	**Deva**	3.44	52	⇑*i*P		Pn	17 29 20.9	-0.3
DEV	**Deva**	3.44	52	⇑*i*P		Pn	17 29 20.9	-0.3
MRVN	**Minervino Murg**	3.46	219	Pn		Pn	17 29 21.5	-0.1
	comp=N,289nm,1.9s							
MRVN	**Minervino Murg**	3.46	219	Pn		Pn	17 29 21.5	-0.1
	comp=N,289nm,1.9s							
FNA	**Florina**	3.48	149	P		Pn	17 29 21.6	-0.2
FNA	**Florina**	3.48	149	P		Pn	17 29 21.6	-0.2
PKST	**T¨s**	3.52	349	⇑*e*Pn		Pn	17 29 22.3	-0.1
PKST				*e*Sn		Sn	17 30 01.1	-3.3
PKST	**T¨s**	3.52	349	⇑*e*Pn		Pn	17 29 22.3	-0.1
PKST				*e*			17 30 01.1	
MELA	**Melanico ??? S**	3.57	235	Pn		Pn	17 29 24.6	+1.6
	comp=N,541nm,1.0s							
MELA	**Melanico ??? S**	3.57	235	Pn		Pn	17 29 24.6	+1.6
	comp=N,541nm,1.0s							
VAY	**Valandovo**	3.59	133	*i* Pn		Pn	17 29 24.4	+1.0
VAY				*e*Sg		Sg	17 30 35.1	+12
VAY				*e*Lg		Lg	17 30 48.2	
	comp=E,85nm,1.0s							
VAY				*e*Lg		Lg	17 30 48.4	
	comp=N,84nm,0.9s							
VAY	**Valandovo**	3.59	133	*i* Pn		Pn	17 29 24.3	+1.0
VAY				*e*Lg		Lg	17 30 48.3	
	comp=N,84nm,0.9s							
MATE	**Matera**	3.60	210	Pn		Pn	17 29 22.8	-0.7
	comp=N,133nm,0.8s							
MATE	**Matera**	3.60	210	Pn		Pn	17 29 22.8	-0.7
	comp=N,133nm,0.8s							
LTRZ	**Laterza**	3.61	208	Pn		Pn	17 29 23.1	-0.4
	comp=N,5µm,6.8s							
LTRZ	**Laterza**	3.61	208	Pn		Pn	17 29 23.1	-0.4
	comp=N,5µm,6.8s							
PKSG		3.62	353	⇓*e*Pn		Pn	17 29 23.6	0.0
PKSG				*e*Sn		Sn	17 30 03.6	-2.9
PKSG		3.62	353	⇓*e*Pn		Pn	17 29 23.6	0.0
PKSG				*e*			17 30 03.6	
BUD	**Budapest**	3.68	360	*e*Pn		Pn	17 29 24.6	+0.1
BUD				*e*Sn		Sn	17 30 05.4	-2.7
BUD	**Budapest**	3.68	360	*e*Pn		Pn	17 29 24.6	+0.1
BUD				*e*			17 30 05.4	
NEST	**Nestorio**	3.70	156	P		Pb	17 29 34.9	+1.9
LOT	**Lotru**	3.75	62	⇑*i*P		Pn	17 29 26.2	+0.6
LOT	**Lotru**	3.75	62	S		Sn	17 30 07.8	-2.2
LOT	**Lotru**	3.75	62	⇑*i*P		Pn	17 29 26.2	+0.6
LOT				S		Sn	17 30 07.8	-2.2
MOCO	**Biccari - m.te**	3.77	231	Pn		Pn	17 29 26.4	+0.6
	comp=N,212nm,1.2s							
GRG	**Griva**	3.78	138	P		Pn	17 29 25.6	-0.3
GRG	**Griva**	3.78	138	P		Pn	17 29 25.6	-0.3
GATE	**Gambatesa**	3.82	235	Pn		Pn	17 29 28.3	+1.8
	comp=N,70nm,0.8s							
GATE	**Gambatesa**	3.82	235	Pn		Pn	17 29 28.3	+1.8
	comp=N,70nm,0.8s							
TRIV	**Trivento**	3.89	240	Pn		Pn	17 29 28.9	+1.4
	comp=N,655nm,1.7s							
TRIV	**Trivento**	3.89	240	Pn		Pn	17 29 28.9	+1.4
	comp=N,655nm,1.7s							
LJU	**Ljubljana**	3.91	306	*i* Pn		Pn	17 29 28.3	+0.5
LJU	**Ljubljana**	3.91	306	*i* Pn		Pn	17 29 28.3	+0.5
DRGR		3.95	40	⇑*i*P		Pn	17 29 27.7	-0.6
DRGR		3.95	40	S		Sn	17 30 11.3	-3.5
DRGR		3.95	40	⇑*i*P		Pn	17 29 27.7	-0.6
DRGR				S		Sn	17 30 11.3	-3.5
PERS	**Pernice**	3.97	317	*i* Pn		Pn	17 29 28.5	0.0
PERS				*e*Sn		Sn	17 30 12.2	-3.2
PERS								
	comp=Z,150nm,0.3s							
PERS	**Pernice**	3.97	317	*i* Pn		Pn	17 29 28.5	0.0
PERS				*e*Sn		Sn	17 30 12.1	-3.2
	comp=Z,150nm,0.3s							
LPEL	**Lama dei Pelig**	3.98	245	Pn		Pn	17 29 30.1	+1.3
	comp=Z,484nm,1.8s							
LPEL	**Lama dei Pelig**	3.98	245	Pn		Pn	17 29 30.1	+1.3
	comp=Z,484nm,1.8s							
SKDS	**Skadanscina**	3.99	298	*i* Pn		Pn	17 29 29.9	+1.0
SKDS	**Skadanscina**	3.99	298	*i* Pn		Pn	17 29 29.9	+1.0
MRLC	**Muro Lucano**	4.04	222	Pn		Pn	17 29 30.0	+0.6
	comp=Z,96nm,0.8s							
MRLC	**Muro Lucano**	4.04	222	Pn		Pn	17 29 30.0	+0.6
	comp=Z,96nm,0.8s							
SOKA	**Soboth**	4.04	317	⇑*i*Pn		Pn	17 29 29.4	-0.1
	SNR=27							
SOKA				⇑*i*Sn		Sn	17 30 13.9	-3.2
SOKA	**Soboth**	4.04	317	Pn		Pn	17 29 29.4	-0.1
	SNR=27							
SOKA				Sn		Sn	17 30 13.9	-3.2
SNAL	**S. Angelo Dei**	4.05	226	Pn		Pn	17 29 29.7	0.0
SNAL	**S. Angelo Dei**	4.05	226	Pn		Pn	17 29 29.7	0.0
PSB1	**Pescosannita**	4.06	232	Pn		Pn	17 29 30.2	+0.4
	comp=Z,144nm,1.1s							
PSB1	**Pescosannita**	4.06	232	Pn		Pn	17 29 30.2	+0.4
	comp=Z,144nm,1.1s							
CRNS	**Crni Vrh**	4.09	305	*i* Pn		Pn	17 29 30.8	+0.6
MMB	**Musomiste**	4.10	121	⇓*i*P		Pn	17 29 30.9	+0.6
MMB	**Musomiste**	4.10	121	⇓*i*P		Pn	17 29 30.9	+0.6
PTRJ	**Pietraroja**	4.14	235	Pn		Pn	17 29 31.3	+0.4
	comp=Z,159nm,0.5s							
PTRJ	**Pietraroja**	4.14	235	Pn		Pn	17 29 31.3	+0.4
	comp=Z,159nm,0.5s							
MIDA	**Miranda**	4.14	240	Pn		Pn	17 29 31.8	+0.8
	comp=Z,222nm,1.2s							
MIDA	**Miranda**	4.14	240	Pn		Pn	17 29 31.8	+0.8
	comp=Z,222nm,1.2s							
PSZ	**Piszkesteto**	4.15	8	⇑*i*P		Pn	17 29 30.3	-0.8
PSZ	**Piszkesteto**	4.15	8	S		Sn	17 30 16.9	-3.1
PSZ	**Piszkesteto**	4.15	8	⇑*i*P		Pn	17 29 30.3	-0.8
PSZ				*e*Sn		Sn	17 30 16.7	-3.3
PSZ	**Piszkesteto**	4.15	8	⇓*e*Pn		Pn	17 29 30.5	-0.6
PSZ				*e*			17 30 16.7	
PSZ	**Piszkesteto**	4.15	8	*e*Pn		Pn	17 29 30.2	-0.9
TERO	**Teramo**	4.15	255	Pn		Pn	17 29 31.9	+0.8
	comp=Z,225nm,1.3s							
TERO	**Teramo**	4.15	255	Pn		Pn	17 29 31.9	+0.8
	comp=Z,225nm,1.3s							
MCRV	**Calabrutti - M**	4.17	225	Pn		Pn	17 29 31.2	-0.2
	comp=Z,52nm,0.7s							
MCRV	**Calabrutti - M**	4.17	225	Pn		Pn	17 29 31.2	-0.2
	comp=Z,52nm,0.7s							
OBKA	**Obir**	4.18	312	*i* Pn		Pn	17 29 31.9	+0.4
	SNR=9.8							
OBKA	**Obir**	4.18	312	Pn		Pn	17 29 31.9	+0.4
	SNR=9.8							
INTR	**Introdacqua**	4.18	246	Pn		Pn	17 29 32.9	+1.4
	comp=Z,508nm,1.1s							
INTR	**Introdacqua**	4.18	246	Pn		Pn	17 29 32.9	+1.4
	comp=Z,508nm,1.1s							
SGG	**Gregorio Mates**	4.21	237	Pn		Pn	17 29 32.8	+0.9
	comp=Z,81nm,0.7s							
SGG	**Gregorio Mates**	4.21	237	Pn		Pn	17 29 32.8	+0.9

MOA	Molln	5.25	322	⇑iPn	Pn	17 29 46.7	+0.6
	SNR=15						
MOA				⇑iSn	Sn	17 30 44.5	-2.3
MOA	Molln	5.25	322	Pn	Pn	17 29 46.7	+0.6
	SNR=15						
MOA				Sn	Sn	17 30 44.5	-2.3
SULR		5.25	78	S	Sn	17 30 44.7	-2.1
SULR		5.25	78	S	Sn	17 30 44.7	-2.1
CRVS	Cervenica-Dubn	5.36	17	ePn	Pn	17 29 47.6	0.0
CRVS				eSn	Sn	17 30 47.4	-2.2
CRVS	Cervenica-Dubn	5.36	17	ePN	Pn	17 29 47.6	0.0
CRVS				eSN	Sn	17 30 47.4	-2.2
ABTA	Abfaltersbach	5.47	305	⇑iPn	Pn	17 29 50.3	+1.1
	SNR=19						
ABTA	Abfaltersbach	5.47	305	Pn	Pn	17 29 50.3	+1.1
	SNR=19						
ISR	Istrita	5.52	74	⇓iP	Pb	17 29 58.4	-5.5
KOLS	Kolonicke sedl	5.59	22	ePn	Pn	17 29 51.1	+0.3
KOLS	Kolonicke sedl	5.59	22	ePn	Pn	17 29 51.1	+0.3
KOLS				eLG	Lg	17 32 17.9	
JMB	Yambol	5.67	101	⇑iP	Pn	17 29 53.8	+1.9
JMB	Yambol	5.67	101	⇑iP	Pn	17 29 53.8	+1.9
NIE	Niedzica	5.68	8	ePn	Pn	17 29 57.0	+5.0
BURAR	Bucovina Array	5.76	46	⇓iP	Pn	17 29 53.7	+0.6
BURAR	Bucovina Array	5.76	46	⇓iP	Pn	17 29 53.7	+0.6
VRAC	Vranov	5.76	344	⇑iP	Pn	17 29 52.2	-0.9
VRAC	Vranov	5.76	344	S	Sn	17 30 55.5	-3.9
VRAC	Vranov	5.76	344	Pn	Pn	17 29 53.4	+0.3
	comp=Z,0.6nm,0.3s,baz=173,slow=14,SNR=3.6						
VRAC				Sn	Sn	17 30 52.5	-6.9
	comp=Z,1.7nm,0.3s,baz=195,slow=19,SNR=4.7						
VRAC	Vranov	5.76	344	⇑iP	Pn	17 29 52.2	-0.9
STHS	Stebnicka Huta	5.81	14	ePn	Pn	17 29 54.5	+0.7
STHS	Stebnicka Huta	5.81	14	ePN	Pn	17 29 54.5	+0.7
TREC	Trest	6.01	337	AMS	AMS	17 32 30.0	
	comp=Z,500nm,7.6s						
MORC	Moravsky Berou	6.06	351	⇑iP	Pn	17 29 57.0	-0.3
MORC	Moravsky Berou	6.06	351	S	Sn	17 31 03.6	-3.3
MORC	Moravsky Berou	6.06	351	ePn	Pn	17 29 57.2	-0.1
MORC	Moravsky Berou	6.06	351	ePn	Pn	17 29 57.2	-0.1
OKC	Ostrava-Krasne	6.06	354	ePN	Pn	17 29 56.7	-0.6
OKC				ex	x	17 30 03.8	
OKC				ex	x	17 30 09.7	
OKC				eSN	Sn	17 31 03.2	-3.7
OKC	Ostrava-Krasne	6.06	354	Pn	Pn	17 29 56.7	-0.6
WTTA	Wattenberg	6.25	306	⇑iPn	Pn	17 30 00.3	+0.3
	SNR=18						
WTTA	Wattenberg	6.25	306	Pn	Pn	17 30 00.3	+0.3
	SNR=18						
GERES	GERESS Array B	6.25	326	Pn	Pn	17 30 00.8	+0.8
	comp=Z,1.2nm,0.3s,baz=151,slow=14,SNR=54						
GERES				Sn	Sn	17 31 07.3	-4.4
	comp=Z,2.6nm,0.3s,baz=152,slow=23,SNR=6.4						
GERES				LR	LR	17 32 26.2	
	comp=Z,42nm,20.8s,baz=308,slow=39						
WATA	Walderalm	6.32	307	⇓iPn	Pn	17 30 01.1	+0.1
	SNR=19						
WATA	Walderalm	6.32	307	Pn	Pn	17 30 01.1	+0.1
	SNR=19						
OJC	Ojcow	6.43	4	ePn	Pn	17 30 08.4	+6.0
KRLC	Kraliky	6.46	347	ePN	Pn	17 30 02.1	-0.6
KRLC				ex	x	17 30 15.0	
KRLC				eSN	Sn	17 31 12.7	-4.0
KRLC	Kraliky	6.46	347	Pn	Pn	17 30 02.1	-0.6
KHC	Kasperske Hory	6.53	327	ePN	Pn	17 30 03.0	-0.7
KHC				ex	x	17 30 11.6	
KHC				ePB	Pb	17 30 19.7	-1.4
KHC				eSN	Sn	17 31 15.1	-3.3
KHC				ex	x	17 31 28.6	
KHC	Kasperske Hory	6.53	327	Pn	Pn	17 30 03.0	-0.7
KHC	Kasperske Hory	6.53	327	ePn	Pn	17 30 03.0	-0.7
MOTA	Moosalm	6.60	305	⇑iPn	Pn	17 30 05.1	+0.3
	SNR=38						
MOTA	Moosalm	6.60	305	Pn	Pn	17 30 05.1	+0.3
	SNR=38						
CFR	Carcaliu	6.64	75	⇓iP	Pn	17 30 05.5	+0.3
CFR	Carcaliu	6.64	75	⇓iP	Pn	17 30 05.5	+0.3
FETA	Feichten	6.68	302	⇑iPn	Pn	17 30 07.0	+1.1
FETA				⇑iSn	Sn	17 31 20.1	-2.2
FETA	Feichten	6.68	302	Pn	Pn	17 30 07.0	+1.1
DPC	Dobruska-Polom	6.80	345	ePN	Pn	17 30 06.8	-0.7
DPC				ex	x	17 30 21.2	
DPC				eSN	Sn	17 31 20.6	-4.6
DPC	Dobruska-Polom	6.80	345	Pn	Pn	17 30 06.8	-0.7
RETA	Reutte	6.88	305	⇑iPn	Pn	17 30 08.5	0.0
	SNR=8.6						
RETA	Reutte	6.88	305	Pn	Pn	17 30 08.5	0.0
	SNR=8.6						
PRU	Pruhonice	6.91	335	ePN	Pn	17 30 08.4	-0.5
PRU				ex	x	17 30 17.3	
PRU				ex	x	17 30 24.9	
PRU				eSN	Sn	17 31 22.2	-5.5
PRU				ex	x	17 31 34.4	
PRU				AMS	AMS	17 33 00.0	
	comp=Z,400nm,7.3s						
PRU	Pruhonice	6.91	335	Pn	Pn	17 30 08.4	-0.5
UPC	Upice	7.01	344	eSN	Sn	17 31 25.7	-4.6
UPC				ex	x	17 31 30.0	
DAVOX	Davos/Dischmat	7.12	298	Pn	Pn	17 30 13.2	+1.3
	comp=Z,1.5nm,0.3s,baz=89,slow=16,SNR=21						
DAVA	Damuels	7.32	302	⇑iPn	Pn	17 30 15.3	+0.7
DAVA	Damuels	7.32	302	Pn	Pn	17 30 15.3	+0.7
TUE	Stuetta	7.36	295	ePn	Pn	17 30 13.6	-1.7
TUE	Stuetta	7.36	295	ePn	Pn	17 30 13.6	-1.7
PGF	Pioggiola	7.46	264	ePn	Pn	17 30 13.6	-2.9
PGF	Pioggiola	7.46	264	ePn	Pn	17 30 13.6	-2.9
SAOF	Saorge	8.31	275	P	Pn	17 30 28.6	+0.5
SAOF				S	Sn	17 31 57.8	-4.3
SAOF	Saorge	8.31	275	P	Pn	17 30 28.6	+0.5
SPAK	Spaichingen-Ko	8.34	305	P	Pn	17 30 29.1	+0.5
AUTN	L'Aution	8.40	275	P	Pn	17 30 29.7	+0.2
AUTN	L'Aution	8.40	275	P	Pn	17 30 29.7	+0.2
SBF	Sospel	8.40	274	ePn	Pn	17 30 26.4	-3.0
SBF	Sospel	8.40	274	ePn	Pn	17 30 26.4	-3.0
STU	Stuttgart	8.44	309	ePn	Pn	17 30 28.5	-1.3
STU	Stuttgart	8.44	309	ePn	Pn	17 30 28.5	-1.3
REVF	Revere	8.46	274	P	Pn	17 30 31.7	+1.5
REVF				S	Sn	17 32 01.2	-4.7
REVF	Revere	8.46	274	P	Pn	17 30 31.7	+1.5
TOUF	Mont Tournerai	8.53	275	P	Pn	17 30 31.6	+0.4
TOUF	Mont Tournerai	8.53	275	P	Pn	17 30 31.6	+0.4
CLL	Collm	8.54	334	ePn	Pn	17 30 30.0	-1.3
CLL				eSn	Sn	17 31 54.0	-14
CLL				i		17 32 20.6	
CLL				eSb	Sg	17 32 28.0	-33
CLL				eSg	Sg	17 32 54.0	-7.3
MVIF	Mont Vial	8.60	275	P	Pn	17 30 32.7	+0.5
MVIF	Mont Vial	8.60	275	P	Pn	17 30 32.7	+0.5
BFO	Black Forest	8.72	305	ePn	Pn	17 30 33.6	-0.1
BFO	Black Forest	8.72	305	ePn	Pn	17 30 33.6	-0.1
FELD	Feldberg im Sc	8.72	302	P	Pn	17 30 33.5	-0.3
MBDF	Montbardon	8.86	280	ePn	Pn	17 30 33.1	-2.7
MBDF				eSn	Sn	17 32 07.2	-8.8
	comp=Z,12nm,0.7s						
MBDF	Montbardon	8.86	280	ePn	Pn	17 30 33.1	-2.7
MBDF				eSn	Sn	17 32 07.2	-8.8
	comp=Z,6.0nm,0.7s						
BBS	Basel-Blauen	8.87	298	P	Pn	17 30 35.4	-0.5
LPG	La Plagne	8.93	285	ePn	Pn	17 30 33.9	-3.0
LPG				eSn	Sn	17 32 09.0	-8.8
	comp=Z,40nm,1.1s						
LPG	La Plagne	8.93	285	ePn	Pn	17 30 33.9	-3.0
LPG				eSn	Sn	17 32 09.0	-8.8
	comp=Z,20nm,1.1s						
LPL	La Plagne	8.95	285	ePn	Pn	17 30 34.2	-2.8
LPL				eSn	Sn	17 32 09.3	-8.8
	comp=Z,23nm,0.9s						
LPL	La Plagne	8.95	285	ePn	Pn	17 30 34.2	-2.8
LPL				eSn	Sn	17 32 09.3	-8.8
	comp=Z,11nm,0.9s						
FRF	La Foret Royal	8.99	273	ePn	Pn	17 30 34.4	-3.1
FRF	La Foret Royal	8.99	273	ePn	Pn	17 30 34.4	-3.1
LMR	La Mourre	9.12	271	ePn	Pn	17 30 36.1	-3.1
LMR	La Mourre	9.12	271	ePn	Pn	17 30 36.1	-3.1
MOF	Molkenrain	9.25	300	P	Pn	17 30 40.6	-0.5
MOF	Molkenrain	9.25	300	P	Pn	17 30 40.6	-0.5
ECH	Echery	9.37	302	P	Pn	17 30 42.7	0.0
ECH				S	Sn	17 32 23.4	-4.9
ECH	Echery	9.37	302	P	Pn	17 30 42.7	0.0
CDF	Champ du Feu	9.38	303	ePn	Pn	17 30 39.6	-3.3
CDF				eSn	Sn	17 32 19.4	-9.3
	comp=Z,0.8nm,0.4s						
HINF	Hinteralfeld	9.41	299	ePn	Pn	17 30 40.1	-3.1
HINF	Hinteralfeld	9.41	299	ePn	Pn	17 30 40.1	-3.1
ORIF	Oris-en-Rattie	9.50	281	ePn	Pn	17 30 41.3	-3.2
ORIF				eSn	Sn	17 32 22.8	-8.8
	comp=Z,17nm,0.8s						
ORIF	Oris-en-Rattie	9.50	281	ePn	Pn	17 30 41.3	-3.2
ORIF				eSn	Sn	17 32 22.8	-8.8
	comp=Z,8.7nm,0.8s						
CABF	La Chapelle	9.57	292	ePn	Pn	17 30 42.2	-3.3
CABF	La Chapelle	9.57	292	ePn	Pn	17 30 42.2	-3.3
SMRF	Simiane la Rot	9.73	276	ePn	Pn	17 30 44.4	-3.3
SMRF	Simiane la Rot	9.73	276	ePn	Pn	17 30 44.4	-3.3
HAU	Haudompre	9.80	300	ePn	Pn	17 30 45.1	-3.4
HAU	Haudompre	9.80	300	ePn	Pn	17 30 45.1	-3.4
THEF	They Montfort	10.10	300	P	Pn	17 30 51.9	-0.8
THEF	They Montfort	10.10	300	P	Pn	17 30 51.9	-0.8
RUP	Ruppelstein	10.12	310	P	Pn	17 30 53.3	+0.4
VIVF	Saint-Julien-l	10.36	281	ePn	Pn	17 30 52.8	-3.4
VIVF	Saint-Julien-l	10.36	281	ePn	Pn	17 30 52.8	-3.4
PAGF	Fort de Pagny	10.39	302	ePn	Pn	17 30 53.0	-3.5
LASF	Ste Croix	10.96	277	ePn	Pn	17 31 01.4	-3.1
LASF	Ste Croix	10.96	277	ePn	Pn	17 31 01.4	-3.1
SMF	Signal de Mont	11.10	290	ePn	Pn	17 31 02.8	-3.5
SMF	Signal de Mont	11.10	290	ePn	Pn	17 31 02.8	-3.5
LOR	Lormes	11.20	293	ePn	Pn	17 31 04.3	-3.4
	baz=121						
LOR				eSn	Sn	17 33 02.8	-10
	comp=Z,1.3nm,0.5s						
LOR	Lormes	11.20	293	ePn	Pn	17 31 04.3	-3.4
LOR				eSn	Sn	17 33 02.8	-10
	comp=Z,0.6nm,0.5s						
SSF	Saint Saulge	11.40	292	ePn	Pn	17 31 06.8	-3.6
AVF	Avril sur Loir	11.45	291	ePn	Pn	17 31 07.7	-3.4
AVF	Avril sur Loir	11.45	291	ePn	Pn	17 31 07.7	-3.4
GIVF	Givet	11.57	308	ePn	Pn	17 31 09.1	-3.7
GIVF	Givet	11.57	308	ePn	Pn	17 31 09.1	-3.7
BGF	Bois d'Agland	11.76	289	ePn	Pn	17 31 11.9	-3.5
BGF	Bois d'Agland	11.76	289	ePn	Pn	17 31 11.9	-3.5
BAIF	Baives	11.91	307	ePn	Pn	17 31 13.7	-3.6
BAIF	Baives	11.91	307	ePn	Pn	17 31 13.7	-3.6
CAF	Calviac	12.21	281	ePn	Pn	17 31 18.3	-3.3
CAF	Calviac	12.21	281	ePn	Pn	17 31 18.3	-3.3
MTLF	Montolieu	12.22	274	ePn	Pn	17 31 18.4	-3.3
MTLF	Montolieu	12.22	274	ePn	Pn	17 31 18.4	-3.3
EPF	Esparros	13.63	273	ePn	Pn	17 31 37.5	-3.4
FINES	FINESS Array B	18.15	11	P	P	17 32 40.5	+0.6
	comp=Z,0.1nm,0.3s,baz=183,slow=14,SNR=5.1						
DBIC	Dimbokro	42.52	217	P	P	17 36 24.9	+1.5
	comp=Z,2.3nm,1.0s,baz=34,slow=3.6,SNR=2.9						
MKAR	Makanchi Array	43.52	63	P	P	17 36 31.1	-0.1
	comp=Z,0.5nm,0.7s,baz=280,slow=7.3,SNR=5.3						
SONM	Songino Array	57.84	53	P	P	17 38 22.2	+2.8
	comp=Z,0.6nm,0.8s,baz=288,slow=7.2,SNR=4.5						
YKA	Yellowknife Ar	67.73	339	P	P	17 39 24.3	-0.6
	comp=Z,0.3nm,0.9s,baz=315,slow=7.3,SNR=3.3						

WEL 18 17:39:27.0±0.3, 37°.35S×176°.90E, h146km±2km, ML3.9/11, 3C-6D, Error ellipse: s-maj=2.2km s-min=2.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.81	120	⇑PN	Pn	17 39 50.0	+0.1
HAZ				eSN	Sn	17 40 08.2	+0.9
URZ	Urewera	0.92	170	⇑PN	Pn	17 39 50.5	-0.3
URZ				SN	Sn	17 40 09.1	+0.2
URZ				AML	AML	17 40 10.2	
MWZ	Matawai	1.10	153	⇓PN	Pn	17 39 52.1	-0.2
MWZ				SN	Sn	17 40 11.7	-0.1
MWZ				AML	AML	17 40 19.7	
MWZ				AML	AML	17 40 19.8	
MWZ				AML	AML	17 40 19.8	
MXZ	Matakaoa Point	1.14	101	PN	Pn	17 39 52.5	-0.1
MXZ				AML	AML	17 40 19.8	
MXZ				AML	AML	17 40 20.9	
RAGZ	Rawiri	1.21	160	⇓PN	Pn	17 39 53.7	+0.2
WMGZ	Waiomatatini S	1.29	112	PN	Pn	17 39 54.6	+0.5
PUZ	Puketiti	1.29	124	PN	Pn	17 39 54.4	+0.2
PUZ				SN	Sn	17 40 15.0	-0.1
PUZ				AML	AML	17 40 26.1	
TLZ	Tolley Road	1.45	227	⇓PN	Pn	17 39 56.1	+0.3
SNGZ	Shannon Statio	1.47	166	PN	Pn	17 39 56.0	+0.1
RIGZ	Rimuhau	1.51	154	PN	Pn	17 39 56.4	0.0
RAHZ	Arahi	1.57	175	PN	Pn	17 39 57.5	+0.5
WHHZ	Waihua	1.74	171	PN	Pn	17 39 58.7	-0.3
NMHZ	Naumai	1.75	182	PN	Pn	17 39 59.3	+0.2
PRGZ	Paritu Road	1.75	154	PN	Pn	17 39 59.1	+0.1
KNZ	Kokohu	1.77	160	PN	Pn	17 39 58.9	-0.4
KNZ				eSN	Sn	17 40 21.8	-2.3
BKZ	Black Stump Fm	1.84	190	PN	Pn	17 39 59.0	-1.1
BKZ				SN	Sn	17 40 24.1	-1.6
BKZ				AML	AML	17 40 30.5	
ARHZ	Aropaoanui	1.91	178	PN	Pn	17 40 00.7	-0.1
MHGZ	Mahia Peninsul	1.97	157	PN	Pn	17 40 01.3	-0.2
NGZ	Ngauruhoe	2.09	209	PN	Pn	17 40 03.0	-0.2
MCHZ	McNeill Hill	2.10	184	PN	Pn	17 40 02.5	-0.5
TUVZ	Tukino	2.15	207	⇓PN	Pn	17 40 03.3	-0.6
FWVZ	Far West T-bar	2.18	209	⇓PN	Pn	17 40 03.8	-0.5
WHVZ	Whangaehu Hut	2.19	208	PN	Pn	17 40 03.7	-0.7
TRVZ	Turoa	2.22	208	PN	Pn	17 40 04.1	-0.7
WNVZ	Wahianoa	2.22	207	PN	Pn	17 40 04.0	-0.8
BHHZ	Black Hill Sta	2.23	197	PN	Pn	17 40 03.2	-1.6
MOVZ	Moawhango	2.24	203	PN	Pn	17 40 03.4	-1.4
CKHZ	Cape Kidnapper	2.31	177	PN	Pn	17 40 04.6	-0.9
MTVZ	Mangateitei	2.32	209	PN	Pn	17 40 05.1	-0.7
KRHZ	Kereru	2.33	190	PN	Pn	17 40 04.6	-1.2
KAHZ	Kahuranaki	2.44	180	PN	Pn	17 40 06.1	-1.2
PNHZ	Pukenui	2.62	192	PN	Pn	17 40 07.5	-1.9
PXZ	Pawanui	2.68	181	⇓PN	Pn	17 40 08.3	-1.8
PXZ				SN	Sn	17 40 36.8	-6.6
PXZ				AML	AML	17 40 42.3	
PXZ				AML	AML	17 40 43.7	
PXZ				AML	AML	17 40 43.7	
WPHZ	Waipukurau	2.73	187	PN	Pn	17 40 08.8	-2.1
TSZ	Takapari Road	2.80	195	⇑PN	Pn	17 40 09.5	-2.3
TSZ				AML	AML	17 40 46.6	
WAZ	Wanganui	2.83	211	ePN	Pn	17 40 10.7	-1.4
PRHZ	Porangahau	2.92	184	PN	Pn	17 40 11.2	-2.0
DVHZ	Dannevirke	3.00	191	PN	Pn	17 40 11.4	-2.8
ANWZ	Angora Road	3.12	186	PN	Pn	17 40 13.4	-2.3
PRWZ	Pori Road	3.28	192	PN	Pn	17 40 15.4	-2.4
BFZ	Birch Farm	3.36	189	PN	Pn	17 40 15.9	-3.0
MRZ	Mangatainoka R	3.46	197	PN	Pn	17 40 16.7	-3.4
MRZ				AML	AML	17 40 58.1	
MRZ				AML	AML	17 40 58.8	
TIWZ	Tintock	3.51	193	PN	Pn	17 40 17.7	-3.1
TIWZ				AML	AML	17 41 00.8	
TIWZ				AML	AML	17 41 01.5	
HOWZ	Holdsworth Sta	3.70	196	PN	Pn	17 40 19.5	-3.8
OGWZ	Otaki Gorge	3.71	201	PN	Pn	17 40 20.0	-3.4
KIW	Kapiti Island	3.83	203	PN	Pn	17 40 21.3	-3.6
TMWZ	Te Maipa	3.83	191	PN	Pn	17 40 21.2	-3.8
MTW	Mount Morrison	3.95	195	PN	Pn	17 40 22.2	-4.3
CAW	Cannon Point	4.01	200	PN	Pn	17 40 23.0	-4.2
CAW				AML	AML	17 41 09.6	
MSWZ	Moikau Station	4.25	197	PN	Pn	17 40 26.0	-4.4
TCW	Tory Channel	4.36	207	PN	Pn	17 40 27.7	-4.1
TCW				AML	AML	17 41 19.0	
TCW				AML	AML	17 41 19.8	
PLWZ	Palliser	4.40	196	PN	Pn	17 40 27.7	-4.7
TUWZ	Tuamarina	4.67	208	PN	Pn	17 40 31.3	-4.6
NNZ	Nelson	4.73	214	PN	Pn	17 40 32.1	-4.6
THZ	Tophouse	5.38	214	ePN	Pn	17 40 40.9	-4.5
LTZ	Lake Taylor	6.48	212	PN	Pn	17 40 54.8	-5.2
OXZ	Oxford	7.03	210	PN	Pn	17 41 01.0	-6.3
MQZ	McQueen's Vall	7.12	206	PN	Pn	17 41 01.7	-6.9
ODZ	Otahua Downs	9.01	210	ePN	Pn	17 41 27.5	-6.3

GUC 18 17:43:02.1±0.5, 35°.52S×72°.69W, h36km±5km, ML3.8, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.61	188	⇓iP	Pn	17 43 14.2	-0.3
COCH				eS	Sn	17 43 22.9	-0.2
TALC	Talca	0.87	82	eP	Pn	17 43 17.8	0.0
LNCH	Linares	0.94	111	eP	Pn	17 43 19.0	+0.2
LNCH				eS	Sn	17 43 32.0	+1.0
NICH	Los Niches	1.30	67	eP	Pn	17 43 24.8	+1.1
NICH				eS	Sn	17 43 42.3	+2.5
NICH				IAML		17 43 51.5	
	comp=N,3μm,0.3s						
CCSP	San Pedro de C	1.36	194	IAML		17 43 50.8	
	comp=E,2μm,0.4s						
PEL	Peldehue	2.89	36	eP	Pn	17 43 47.6	+1.9
PEL				eS	Sn	17 44 22.6	+3.4
PEL				IAML		17 44 30.6	
	comp=N,419nm,0.5s						

*ISCJB **18** 18:00:21.5±0.4, 67°.06N±0°.02×21°.02E±0°.08, h0km, Error ellipse: s-maj=4.3km s-min=3.3km az=4.8*
*UPP **18** 18:00:22.4, 67°.07N×20°.96E, h0km, ML2.2, Mining explosion.*
*CSEM **18** 18:00:22.5±0.2, 67°.09N×20°.96E, h2km, ML2.2, Error ellipse: s-maj=4.3km s-min=3.5km az=98.0, Mining explosion.*
*IDC **18** 18:00:23.7±0.9, 67°.07N×21°.17E, h0km, mb1 2.8/4, mb1mx2.7/47, mbtmp2.8/4, ML2.3/4, Error ellipse: s-maj=16.5km s-min=7.3km az=108.0*
*HEL **18** 18:00:23.1±0.1, 67°.07N×20°.96E, h0km, ML2.0, ML2.2(UPP), Explosion*

ISC 18 18:00:22.3±0.8, 67°.07N±0°.02×20°.93E±0°.03, h0km, n63, σ0.94/79, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAJU	Pajala	0.86	92	i P	Pg	18 00 38.3	-0.4
PAJU	Pajala	0.86	92	P	Pg	18 00 38.3	-0.4
PAJU	Pajala	0.86	92	P	Pg	18 00 38.3	-0.4
HARU	Harads	0.91	179	eP	Pg	18 00 39.2	-0.5
HARU	Harads	0.91	179	P	Pg	18 00 39.2	-0.5
HARU	Harads	0.91	179	P	Pg	18 00 39.2	-0.5
SALU	Saltoluokta	0.99	289	eP	Pg	18 00 41.2	0.0
SALU	Saltoluokta	0.99	289	P	Pg	18 00 41.2	0.0
SALU	Saltoluokta	0.99	289	P	Pg	18 00 41.2	0.0
LANU	Lannavaara	1.06	22	eP	Pg	18 00 41.9	-0.6
LANU	Lannavaara	1.06	22	P	Pg	18 00 42.0	-0.6
LANU	Lannavaara	1.06	22	P	Pg	18 00 42.0	-0.6
NIKU	Nikkaluokta	1.08	318	eP	Pg	18 00 42.8	-0.2
NIKU	Nikkaluokta	1.08	318	P	Pg	18 00 42.7	-0.2
NIKU	Nikkaluokta	1.08	318	P	Pg	18 00 42.8	-0.2
KALU	Kalix	1.56	140	ePG	Pn	18 00 51.1	-0.1
KALU				eS	Sn	18 01 10.2	-1.9
KALU	Kalix	1.56	140	P	Pn	18 00 51.0	-0.1
KALU				S	Sn	18 01 10.2	-1.9
KALU	Kalix	1.56	140	P	Pn	18 00 51.0	-0.1
SJUU	Sjulsmark	1.59	170	eP	Pn	18 00 51.4	-0.3
SJUU	Sjulsmark	1.59	170	P	Pn	18 00 51.4	-0.3
SJUU	Sjulsmark	1.59	170	P	Pn	18 00 51.4	-0.3
HEF	Hetta	1.70	37	eP	Pn	18 00 53.0	-0.1
HEF				MSG	Sg	18 01 17.7	+1.0
	comp=Z,13nm,0.2s						
HEF				eSN	Sg	18 01 17.7	+1.0
HEF	Hetta	1.70	37	P	Pn	18 00 53.0	-0.1
HEF				Sn	Sg	18 01 17.7	+1.0
LILU	Lilltraesk	1.85	194	eP	Pn	18 00 55.5	+0.4
LILU	Lilltraesk	1.85	194	P	Pn	18 00 55.5	+0.4
LILU	Lilltraesk	1.85	194	P	Pn	18 00 55.5	+0.4
KIF	Kilpisjarvi	1.94	359	ePB	Pb	18 00 58.0	-0.4
KIF				eSG	Sg	18 01 25.0	+0.4
KIF				MSG		18 01 25.0	
	comp=Z,7.8nm,0.2s						
KIF	Kilpisjarvi	1.94	359	Pb	Pb	18 00 58.0	-0.4
KIF				Sg	Sg	18 01 25.0	+0.4
	comp=Z,7.8nm,0.2s						
RNF	Rovaniemi	2.06	101	ePB	Pn	18 00 59.2	+1.1
RNF				MSG	Sb	18 01 27.7	+1.0
	comp=Z,14nm,0.3s						
RNF				eSG	Sb	18 01 27.7	+1.0
RNF	Rovaniemi	2.06	101	Pb	Pn	18 00 59.2	+1.1
RNF				Sg	Sb	18 01 27.7	+1.0
SGF	Sodankyl	2.21	78	ePG	Pg	18 01 04.7	+0.1
SGF				eSG	Sg	18 01 32.8	-0.4
SGF				MSG		18 01 32.8	
	comp=Z,15nm,0.3s						
SGF	Sodankyl	2.21	78	Pg	Pg	18 01 04.6	+0.1
SGF				Sg	Sg	18 01 32.7	-0.4
	comp=Z,15nm,0.3s						
BURU	Burvik	2.51	176	eP	Pn	18 01 05.3	+1.1
BURU	Burvik	2.51	176	P	Pn	18 01 05.2	+1.1
BURU	Burvik	2.51	176	P	Pn	18 01 05.3	+1.1
SVAU	Svanoeiden	2.65	193	eP	Pn	18 01 07.0	+0.9
SVAU	Svanoei

UPM	**Unac-Piva**	**0.61**	**190**	⇑*i*Pg	**Pg**	**18 06 01.6**	**-1.0**
UPM				*e*Sg	**Sg**	**18 06 09.9**	**-0.8**
UPM	**Unac-Piva**	**0.61**	**190**	⇑*i*Pg	**Pg**	**18 06 01.6**	**-1.0**
UPM				*e*Sg	**Sg**	**18 06 09.9**	**-0.8**
DIVS	**Divibare**	**0.74**	**67**	⇓*i*Pg	**Pg**	**18 06 04.8**	**-0.1**
DIVS				*e*Sg	**Sg**	**18 06 14.8**	**+0.2**
DIVS	**Divibare**	**0.74**	**67**	⇓*i*Pg	**Pg**	**18 06 04.8**	**-0.1**
DIVS				*e*Sg	**Sg**	**18 06 14.8**	**+0.2**
TEKS	**Tekeris**	**0.82**	**25**	*i* Pg	**Pb**	**18 06 07.4**	**+0.4**
TEKS				*e*Sg	**Sb**	**18 06 18.5**	**+0.4**
TEKS	**Tekeris**	**0.82**	**25**	*i* Pg	**Pb**	**18 06 07.4**	**+0.4**
TEKS				*e*Sg	**Sb**	**18 06 18.5**	**+0.4**
IVAS	**Ivanjica**	**0.83**	**106**	*e*Pg	**Pg**	**18 06 05.5**	**-1.2**
IVAS	**Ivanjica**	**0.83**	**106**	*e*Pg	**Pg**	**18 06 05.5**	**-1.2**
SJES	**Sjenica**	**0.87**	**129**	⇑*i*Pg	**Pg**	**18 06 05.9**	**-1.5**
SJES				*e*Sg	**Sg**	**18 06 17.2**	**-1.5**
NKY	**Niksic**	**1.00**	**182**	⇑*i*Pg	**Pg**	**18 06 08.9**	**-0.9**
NKY				*e*Sg	**Sg**	**18 06 22.7**	**-0.1**
NKY	**Niksic**	**1.00**	**182**	⇑*i*Pg	**Pg**	**18 06 08.9**	**-0.9**
NKY				*e*Sg	**Sg**	**18 06 22.7**	**-0.1**
NKME	**Niksic**	**1.04**	**184**	⇑*i*Pg	**Pg**	**18 06 09.6**	**-1.1**
NKME				*e*Sg	**Sg**	**18 06 24.3**	**0.0**
NKME	**Niksic**	**1.04**	**184**	⇑*i*Pg	**Pg**	**18 06 09.6**	**-1.1**
NKME				*e*Sg	**Sg**	**18 06 24.3**	**0.0**
TRUS	**Trudelj**	**1.06**	**67**	⇑*i*Pg	**Pg**	**18 06 10.0**	**-1.1**
TRUS				*e*Sg	**Sn**	**18 06 26.6**	**0.0**
TRUS	**Trudelj**	**1.06**	**67**	⇑*i*Pg	**Pg**	**18 06 10.0**	**-1.1**
TRUS				*e*Sg	**Sn**	**18 06 26.6**	**0.0**
BEY	**Berane**	**1.12**	**146**	⇑*i*Pg	**Pg**	**18 06 10.6**	**-1.6**
BEY				*e*Sg	**Sg**	**18 06 26.9**	**+0.1**
IVA	**Berane**	**1.12**	**146**	⇑*i*Pg	**Pg**	**18 06 10.6**	**-1.6**
IVA				*e*Sg	**Sg**	**18 06 26.9**	**+0.1**
TREB	**Trebinje**	**1.21**	**205**	*e*Pg	**Pg**	**18 06 12.6**	**-1.2**
TREB				*e*Sg	**Sg**	**18 06 29.4**	**0.0**
TREB	**Trebinje**	**1.21**	**205**	*e*Pg	**Pg**	**18 06 12.6**	**-1.2**
TREB				*e*Sg	**Sg**	**18 06 29.4**	**0.0**
GRUS	**Gruza**	**1.21**	**86**	⇑*i*Pg	**Pg**	**18 06 13.6**	**-0.2**
GRUS	**Gruza**	**1.21**	**86**	⇑*i*Pg	**Pg**	**18 06 13.6**	**-0.2**
STON	**Ston**	**1.36**	**227**	*i* Pn	**Pn**	**18 06 14.6**	**-1.1**
STON				Sn	**Sn**	**18 06 35.9**	**+2.1**
STON	**Ston**	**1.36**	**227**	⇓*i*Pg	**Pn**	**18 06 14.5**	**-1.2**
STON				*e*Sg	**Sn**	**18 06 34.6**	**+0.8**
STON	**Ston**	**1.36**	**227**	*i* Pn	**Pn**	**18 06 14.6**	**-1.1**
STON				*e*Sg	**Sn**	**18 06 34.6**	**+0.8**
STON				Sn	**Sn**	**18 06 35.9**	**+2.1**
PVY	**Plav**	**1.38**	**151**	⇑*i*Pg	**Pn**	**18 06 14.9**	**-1.3**
PVY				*e*Sg	**Sg**	**18 06 35.4**	**+0.2**
PVY	**Plav**	**1.38**	**151**	⇑*i*Pg	**Pn**	**18 06 14.9**	**-1.3**
PVY				*e*Sg	**Sg**	**18 06 35.4**	**+0.2**
PDG	**Podgorica**	**1.39**	**174**	⇓*i*Pg	**Pn**	**18 06 15.2**	**-0.9**
PDG				*e*Sg	**Sb**	**18 06 34.1**	**-0.3**
PDG	**Podgorica**	**1.39**	**174**	⇓*i*Pg	**Pn**	**18 06 15.2**	**-0.9**
PDG				*e*Sg	**Sb**	**18 06 34.1**	**-0.3**
TTG	**Podgorica**	**1.39**	**174**	⇑*i*Pg	**Pn**	**18 06 14.9**	**-1.2**
TTG				*e*Sg	**Sg**	**18 06 35.6**	**+0.4**
HCY	**Herceg Novi**	**1.42**	**197**	⇓*i*Pg	**Pn**	**18 06 17.0**	**+0.4**
HCY				*e*Sg	**Sg**	**18 06 37.6**	**+1.3**
HCY	**Herceg Novi**	**1.42**	**197**	⇓*i*Pg	**Pn**	**18 06 17.0**	**+0.4**
HCY				*e*Sg	**Sg**	**18 06 37.6**	**+1.3**
BEO	**Beograd**	**1.43**	**45**	⇑*i*Pg	**Pb**	**18 06 17.6**	**+0.2**
BEO	**Beograd**	**1.43**	**45**	⇑*i*Pg	**Pb**	**18 06 17.6**	**+0.2**
FGSL	**Fruska Gora**	**1.45**	**22**	*e*Pg	**Pg**	**18 06 19.0**	**+0.4**
FGSL				*e*Sg	**Sg**	**18 06 37.5**	**+0.1**
FRGS	**Fruska Gora**	**1.45**	**22**	*e*Pg	**Pg**	**18 06 19.0**	**+0.4**
FRGS				*e*Sg	**Sg**	**18 06 37.5**	**+0.1**
BUM	**Brajici-Budva**	**1.51**	**184**	*e*Pg	**Pn**	**18 06 18.3**	**+0.4**
BUM				*e*Sg	**Sb**	**18 06 38.6**	**+0.4**
BUM	**Brajici-Budva**	**1.51**	**184**	*e*Pg	**Pn**	**18 06 18.3**	**+0.4**
BUM				*e*Sg	**Sb**	**18 06 38.6**	**+0.4**
SELS	**Selova**	**1.62**	**111**	⇑*i*Pg	**Pn**	**18 06 18.7**	**-0.6**
DRME	**Dracevica, Mon**	**1.62**	**176**	*e*Pg	**Pn**	**18 06 19.9**	**+0.5**
DRME				*e*Sg	**Sb**	**18 06 42.3**	**+1.0**
DRME	**Dracevica, Mon**	**1.62**	**176**	*e*Pg	**Pn**	**18 06 19.9**	**+0.5**
DRME				*e*Sg	**Sb**	**18 06 42.3**	**+1.0**
BLY	**Banja Luka**	**1.64**	**306**	*e*Pg	**Pn**	**18 06 19.9**	**+0.3**
BLY	**Banja Luka**	**1.64**	**306**	*e*Pg	**Pn**	**18 06 19.9**	**+0.3**
ULC	**Ulcinj**	**1.85**	**175**	*e*Pn	**Pn**	**18 06 22.6**	**+0.1**
ULC				*e*Sn	**Sn**	**18 06 47.2**	**+1.2**
ULC	**Ulcinj**	**1.85**	**175**	*e*Pn	**Pn**	**18 06 22.6**	**+0.1**
ULC				*e*Sn	**Sn**	**18 06 47.2**	**+1.2**
BOLS	**Boljevac**	**2.10**	**88**	*e*Sn	**Sb**	**18 06 55.8**	**+0.7**
BOLS	**Boljevac**	**2.10**	**88**	*e*Sn	**Sb**	**18 06 55.8**	**+0.7**
BANR	**Banloc**	**2.17**	**43**	⇓*i*P	**Pn**	**18 06 27.1**	**+0.3**
BANR	**Banloc**	**2.17**	**43**	⇓*i*P	**Pn**	**18 06 27.1**	**+0.3**
UDBI	**Udbina**	**2.47**	**288**	*e*Pn	**Pn**	**18 06 30.8**	**-0.3**
UDBI				Sn	**Sn**	**18 07 01.4**	**0.0**
UDBI	**Udbina**	**2.47**	**288**	*e*Pn	**Pn**	**18 06 30.8**	**-0.3**
UDBI				Sn	**Sn**	**18 07 01.4**	**0.0**
BZS	**Buzias**	**2.57**	**44**	*e*Pn	**Pn**	**18 06 31.6**	**-0.8**
BZS	**Buzias**	**2.57**	**44**	⇑*i*P	**Pn**	**18 06 32.0**	**-0.4**
BZS	**Buzias**	**2.57**	**44**	*e*Pn	**Pn**	**18 06 31.6**	**-0.8**
BZS	**Buzias**	**2.57**	**44**	⇑*i*P	**Pn**	**18 06 32.0**	**-0.4**
ZAPS	**Zavoj**	**2.66**	**100**	*e*Pn	**Pn**	**18 06 34.4**	**+0.7**
GZR	**Gura Zlata**	**3.10**	**58**	⇑*i*P	**Pn**	**18 06 39.9**	**+0.2**
GZR	**Gura Zlata**	**3.10**	**58**	S	**Sn**	**18 07 16.2**	**-0.7**
GZR	**Gura Zlata**	**3.10**	**58**	⇑*i*P	**Pn**	**18 06 39.9**	**+0.2**
GZR				S	**Sn**	**18 07 16.2**	**-0.7**
NVLJ	**Novalja**	**3.10**	**286**	*e*Pn	**Pn**	**18 06 40.0**	**+0.3**
NVLJ				Sn	**Sn**	**18 07 18.5**	**+1.8**
NVLJ	**Novalja**	**3.10**	**286**	*e*Pn	**Pn**	**18 06 39.9**	**+0.3**
NVLJ				Sn	**Sn**	**18 07 18.5**	**+1.8**
BOJS	**Bojanci**	**3.20**	**303**	*e*Pn	**Pn**	**18 06 41.9**	**+0.9**
BOJS	**Bojanci**	**3.20**	**303**	*e*Pn	**Pn**	**18 06 41.9**	**+0.9**
CRES	**Cresnjev**	**3.26**	**310**	*i* Pg	**Pn**	**18 06 42.7**	**+0.9**
VTS	**Vitosha**	**3.27**	**110**	⇑*i*P	**Pb**	**18 06 49.1**	**+0.1**
VTS	**Vitosha**	**3.27**	**110**	S	**Sb**	**18 07 32.2**	**+3.2**
VAY	**Valandovo**	**3.60**	**133**	*e*Pn	**Pn**	**18 06 49.2**	**+2.7**
VAY	**Valandovo**	**3.60**	**133**	*e*Pn	**Pn**	**18 06 49.2**	**+2.7**
DRGR		**3.94**	**40**	⇑*i*P	**Pb**	**18 07 02.2**	**+1.8**
DRGR		**3.94**	**40**	S	**Sn**	**18 07 36.1**	**-1.7**
DRGR		**3.94**	**40**	S	**Sn**	**18 07 36.1**	**-1.7**
SOKA	**Soboth** SNR=7.1	**4.03**	**317**	*i* Pn	**Pn**	**18 06 52.8**	**+0.2**
SOKA				⇓*i*Sn	**Sn**	**18 07 37.8**	**-2.2**
SOKA	**Soboth** SNR=7.1	**4.03**	**317**	Pn	**Pn**	**18 06 52.8**	**+0.2**
SOKA				Sn	**Sn**	**18 07 37.8**	**-2.2**
PSZ	**Piszkesteto**	**4.15**	**8**	⇓*i*P	Pn	18 06 49.4	-4.8
OBKA	**Obir** SNR=4.9	**4.17**	**312**	⇓*i*Pn	**Pn**	**18 06 55.5**	**+1.0**
OBKA	**Obir** SNR=4.9	**4.17**	**312**	Pn	**Pn**	**18 06 55.5**	**+1.0**
ARSA	**Arzberg**	**4.24**	**325**	*e*Pn	**Pn**	**18 06 55.7**	**+0.3**
ARSA	**Arzberg** SNR=13	**4.24**	**325**	⇓*i*Pn	**Pn**	**18 06 55.6**	**+0.2**
ARSA				⇓*i*Sn	**Sn**	**18 07 42.4**	**-2.5**
ARSA	**Arzberg** SNR=13	**4.24**	**325**	Pn	**Pn**	**18 06 55.6**	**+0.2**
ARSA				Sn	**Sn**	**18 07 42.4**	**-2.5**
VOIR		**4.58**	**67**	⇓*i*P	**Pn**	**18 07 01.6**	**+1.5**
VOIR		**4.58**	**67**	⇓*i*P	**Pn**	**18 07 01.6**	**+1.5**
VYHS	**Vyhne**	**4.69**	**358**	*e*PN	Pn	18 06 55.4	-6.1
VYHS				*e*SN	**Sn**	**18 07 51.1**	**-4.9**
MOA	**Molln** SNR=5.5	**5.24**	**322**	⇑*i*Pn	**Pn**	**18 07 09.6**	**+0.4**
MOA				⇑*i*Sn	**Sn**	**18 08 07.3**	**-2.4**
MOA	**Molln** SNR=5.5	**5.24**	**322**	Pn	**Pn**	**18 07 09.6**	**+0.4**
MOA				Sn	**Sn**	**18 08 07.3**	**-2.4**
WTTA	**Wattenberg**	**6.25**	**306**	⇓*i*Pn	**Pn**	**18 07 23.6**	**+0.5**
WTTA	**Wattenberg**	**6.25**	**306**	Pn	**Pn**	**18 07 23.6**	**+0.5**
WATA	**Walderalm**	**6.32**	**307**	⇑*i*Pn	**Pn**	**18 07 24.6**	**+0.5**
WATA	**Walderalm**	**6.32**	**307**	Pn	**Pn**	**18 07 24.6**	**+0.5**
KHC	**Kasperske Hory**	**6.53**	**327**	*e*PN	**Pn**	**18 07 27.6**	**+0.8**
KHC				*e*PB	**Pb**	**18 07 42.7**	**-1.6**
MOTA	**Moosalm** SNR=5.6	**6.60**	**305**	⇑*i*Pn	**Pn**	**18 07 28.8**	**+0.9**
MOTA	**Moosalm** SNR=5.6	**6.60**	**305**	Pn	**Pn**	**18 07 28.8**	**+0.9**

CSEM ***18*** *18:06:13.7, 40°.63N×30°.17E, h9km, MD2.5*

ISK 18 18:06:13.7, 40°.63N×30°.17E, h9km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPNC	**Sapanca-Adapaz**	**0.12**	**61**	*e*PG	Pg	18 06 16.8	+0.3
SPNC				*e*SG	Sg	18 06 19.1	+0.7
SPNC	**Sapanca-Adapaz**	**0.12**	**61**	*e*Pg	Pg	18 06 16.8	+0.3
SPNC				*e*Sg	Sg	18 06 19.1	+0.7
HRT	**Hereke**	**0.43**	**297**	*e*PG	Pg	18 06 22.6	+0.4
HRT				*e*SG	Sb	18 06 29.1	-1.1
HRT	**Hereke**	**0.43**	**297**	*e*Pg	Pg	18 06 22.6	+0.4
HRT				*e*Sg	Sb	18 06 29.1	-1.1
SILT	**Sile**	**0.66**	**323**	*e*PG	Pb	18 06 27.0	-0.5
SILT				*e*SG	Sb	18 06 36.5	-0.2
SILT	**Sile**	**0.66**	**323**	*e*Pg	Pb	18 06 27.0	-0.4
SILT				*e*Sg	Sb	18 06 36.5	-0.2
MDUB	**Mudurnu**	**0.80**	**101**	*e*PG	Pg	18 06 29.5	+0.2
MDUB	**Mudurnu**	**0.80**	**101**	*e*Pg	Pg	18 06 29.5	+0.3
ARMT	**Armutlu**	**1.00**	**267**	*e*PG	Pn	18 06 33.8	-0.1
ARMT	**Armutlu**	**1.00**	**267**	*e*Pg	Pn	18 06 33.8	-0.2
KLYT	**Kilyos**	**1.06**	**306**	*e*PG	Pn	18 06 34.5	-0.3
KLYT	**Kilyos**	**1.06**	**306**	*e*Pg	Pn	18 06 34.5	-0.2
BGKT	**Bogazkoy**	**1.20**	**298**	*e*PN	Pg	18 06 36.9	+0.2
BGKT	**Bogazkoy**	**1.20**	**298**	*e*Pn	Pg	18 06 36.9	+0.2
CTKS	**Kestanelik-??a**	**1.40**	**296**	*e*PN	Pb	18 06 40.0	0.0
CTKS	**Kestanelik-??a**	**1.40**	**296**	*e*Pn	Pb	18 06 40.0	0.0

WEL 18 18:10:48.6±0.3, 38°.68S×175°.82E, h114km±2km, ML3.6/16, 29C-5D, Error ellipse: s-maj=1.4km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.07**	**245**	⇑PN	Pn	18 11 04.2	-0.1
RATZ	**Rangitukua**	**0.19**	**191**	⇑PN	Pn	18 11 04.3	-0.3
RITZ	**Rihia Road**	**0.30**	**174**	PN	Pn	18 11 05.0	+0.1
TLZ	**Tolley Road**	**0.41**	**327**	⇑PN	Pn	18 11 05.3	-0.2
TLZ				SN	Sn	18 11 17.8	-0.3
ALRZ	**Allen Road**	**0.42**	**75**	PN	Pn	18 11 04.8	-0.7
KRVZ	**Karewarewa**	**0.44**	**198**	PN	Pn	18 11 05.5	-0.2
WTVZ	**West Tongariro**	**0.47**	**202**	⇑PN	Pn	18 11 05.7	-0.2
TWVZ	**Taurewa**	**0.49**	**217**	⇑PN	Pn	18 11 05.9	-0.1
NGZ	**Ngauruhoe**	**0.53**	**199**	PN	Pn	18 11 06.0	-0.3
COVZ	**Chateau Observ**	**0.56**	**202**	⇑PN	Pn	18 11 06.4	-0.1
WPVZ	**Whakapapa**	**0.57**	**202**	PN	Pn	18 11 06.5	-0.1
TUVZ	**Tukino**	**0.60**	**192**	⇑PN	Pn	18 11 06.8	0.0
FWVZ	**Far West T-bar**	**0.61**	**200**	PN	Pn	18 11 06.6	-0.4
WHVZ	**Whangaehu Hut**	**0.63**	**197**	PN	Pn	18 11 06.9	-0.3
RRRZ	**Republican Roa**	**0.64**	**59**	⇓PN	Pn	18 11 06.5	-0.4
TRVZ	**Turoa**	**0.66**	**199**	PN	Pn	18 11 07.1	-0.2
WNVZ	**Wahianoa**	**0.67**	**195**	PN	Pn	18 11 07.3	-0.1
PKVZ	**Pokaka**	**0.71**	**211**	⇑PN	Pn	18 11 07.5	-0.1
BKZ	**Black Stump Fm**	**0.72**	**133**	⇑PN	Pn	18 11 07.2	-0.4
BKZ				SN	Sn	18 11 21.2	-0.7
BKZ				AML	AML	18 11 27.3	
MOVZ	**Moawhango**	**0.73**	**184**	⇑PN	Pn	18 11 07.3	-0.4
MTVZ	**Mangateitei**	**0.76**	**201**	⇑PN	Pn	18 11 07.9	0.0
HIZ	**Hauiti**	**0.77**	**282**	⇑PN	Pn	18 11 07.8	-0.2
HIZ				SN	Sn	18 11 23.1	+0.5
BHHZ	**Black Hill Sta**	**0.83**	**167**	⇑PN	Pn	18 11 08.2	-0.4
NMHZ	**Naumai**	**0.88**	**119**	PN	Pn	18 11 09.6	+0.5
VRZ	**Vera Road**	**0.94**	**241**	PN	Pn	18 11 09.7	+0.1
TOZ	**Tahuroa Road**	**0.98**	**345**	⇓PN	Pn	18 11 09.8	-0.1
OPRZ	**Ohinepanea**	**1.01**	**35**	PN	Pn	18 11 09.8	-0.4
RAHZ	**Arahi**	**1.02**	**104**	⇑PN	Pn	18 11 10.5	+0.2
MCHZ	**McNeill Hill**	**1.03**	**139**	PN	Pn	18 11 11.2	+0.8
KRHZ	**Kereru**	**1.06**	**156**	PN	Pn	18 11 10.8	0.0
ARHZ	**Aropaoanui**	**1.09**	**123**	PN	Pn	18 11 11.2	+0.2
URZ	**Urewera**	**1.09**	**68**	⇓PN	Pn	18 11 10.1	-0.9
URZ				AML	AML	18 11 27.6	
URZ				AML	AML	18 11 28.8	
WHHZ	**Waihua**	**1.17**	**110**	PN	Pn	18 11 12.3	+0.4
SNGZ	**Shannon Statio**	**1.19**	**95**	PN	Pn	18 11 12.6	+0.4
WAZ	**Wanganui**	**1.26**	**211**	⇑PN	Pn	18 11 13.0	+0.2
RAGZ	**Rawiri**	**1.26**	**82**	*e*PN	Pn	18 11 13.0	0.0
PNHZ	**Pukenui**	**1.27**	**167**	⇓PN	Pn	18 11 12.8	-0.2
LREZ	**Lake Rotokare**	**1.35**	**234**	PN	Pn	18 11 14.3	+0.4
MWZ	**Matawai**	**1.38**	**76**	PN	Pn	18 11 13.5	-0.8
MWZ				AML	AML	18 11 40.4	
MWZ				AML	AML	18 11 42.7	
CKHZ	**Cape Kidnapper**	**1.39**	**135**	PN	Pn	18 11 14.6	+0.3
TSZ	**Takapari Road**	**1.39**	**176**	PN	Pn	18 11 13.9	-0.5
TSZ				AML	AML	18 11 33.7	
TSZ				AML	AML	18 11 39.5	
KAHZ	**Kahuranaki**	**1.39**	**144**	PN	Pn	18 11 14.5	+0.2
WPHZ	**Waipukurau**	**1.47**	**161**	⇑PN	Pn	18 11 14.9	-0.4
NEZ	**North Egmont**	**1.47**	**246**	*e*PN	Pn	18 11 15.9	+0.5
KNZ	**Kokohu**	**1.49**	**104**	PN	Pn	18 11 15.2	-0.2
RIGZ	**Rimuhau**	**1.52**	**92**	PN	Pn	18 11 15.7	-0.2
KHEZ	**Kahui Hut**	**1.54**	**246**	PN	Pn	18 11 16.4	+0.3
PXZ	**Pawanui**	**1.58**	**149**	⇑PN	Pn	18 11 16.1	-0.4
PXZ				AML	AML	18 11 37.6	
PXZ				AML	AML	18 11 37.6	
PXZ				AML	AML	18 11 38.0	
PXZ				AML	AML	18 11 38.0	
TKGZ	**Te Karaka**	**1.61**	**82**	PN	Pn	18 11 16.9	0.0
PRGZ	**Paritu Road**	**1.63**	**99**	⇑PN	Pn	18 11 16.9	-0.4
DVHZ	**Dannevirke**	**1.64**	**171**	⇑PN	Pn	18 11 16.4	-0.9
MHGZ	**Mahia Peninsul**	**1.70**	**107**	PN	Pn	18 11 17.8	-0.2
PRHZ	**Porangahau**	**1.71**	**159**	⇑PN	Pn	18 11 17.6	-0.5
HAZ	**Te Kaha**	**1.80**	**60**	PN	Pn	18 11 17.7	-1.5
ANWZ	**Angora Road**	**1.85**	**164**	⇑PN	Pn	18 11 19.2	-0.6
PRWZ	**Pori Road**	**1.88**	**176**	PN	Pn	18 11 19.4	-0.9
CNGZ	**Carnagh Statio**	**1.88**	**85**	PN	Pn	18 11 19.7	-0.5
MRZ	**Mangatainoka R**	**1.99**	**185**	⇑PN	Pn	18 11 20.2	-1.4
MRZ				SN	Sn	18 11 43.5	-3.4
MRZ				AML	AML	18 11 46.4	
PUZ	**Puketiti**	**2.01**	**73**	PN	Pn	18 11 20.8	-1.0
PUZ				AML	AML	18 11 47.2	
BFZ	**Birch Farm**	**2.03**	**171**	⇓PN	Pn	18 11 20.9	-1.2
TIWZ	**Tintock**	**2.10**	**179**	PN	Pn	18 11 21.6	-1.4
TIWZ				AML	AML	18 11 22.1	
TIWZ				AML	AML	18 11 49.9	
OGWZ	**Otaki Gorge**	**2.20**	**193**	⇑PN	Pn	18 11 22.8	-1.4
WMGZ	**Waiomatatini S**	**2.22**	**68**	⇑PN	Pn	18 11 23.4	-1.0
HOWZ	**Holdsworth Sta**	**2.23**	**186**	⇑PN	Pn	18 11 22.9	-1.8
MXZ	**Matakaoa Point**	**2.25**	**61**	PN	Pn	18 11 24.3	-0.6
KIW	**Kapiti Island**	**2.29**	**198**	⇑PN	Pn	18 11 23.6	-1.8
KIW				AML	AML	18 11 52.1	
KIW				AML	AML	18 11 53.6	
TMWZ	**Te Maipa**	**2.43**	**179**	PN	Pn	18 11 25.3	-2.0
MTW	**Mount Morrison**	**2.49**	**186**	⇑PN	Pn	18 11 25.8	-2.2
MTW				AML	AML	18 11 56.5	
MTW				AML	AML	18 11 56.8	
CAW	**Cannon Point**	**2.50**	**193**	PN	Pn	18 11 26.0	-2.1
CAW				AML	AML	18 11 57.0	
CAW				AML	AML	18 11 57.4	
DUWZ	**D'Urville Isla**	**2.58**	**214**	PN	Pn	18 11 28.2	-1.0
PAWZ	**Paruwai Farm**	**2.72**	**186**	PN	Pn	18 11 28.4	-2.5
TRWZ	**Traveller**	**2.72**	**182**	PN	Pn	18 11 28.7	-2.3
TRWZ				AML	AML	18 12 02.1	
TRWZ				AML	AML	18 12 02.1	
WEL	**Wellington**	**2.73**	**197**	PN	Pn	18 11 28.4	-2.7
MSWZ	**Moikau Station**	**2.77**	**189**	⇑PN	Pn	18 11 29.0	-2.6
MSWZ				AML	AML	18 12 02.2	
MSWZ				AML	AML	18 12 02.2	
TCW	**Tory Channel**	**2.80**	**205**	PN	Pn	18 11 29.5	-2.5
TCW				AML	AML	18 12 03.6	
TCW				AML	AML	18 12 05.1	
BHW	**Baring Head**	**2.82**	**195**	⇑PN	Pn	18 11 29.7	-2.6
BHW				AML	AML	18 12 03.7	
PLWZ	**Palliser**	**2.92**	**188**	PN	Pn	18 11 30.8	-2.9
TUWZ	**Tuamarina**	**3.10**	**207**	PN	Pn	18 11 33.2	-2.8
TUWZ				AML	AML	18 12 10.6	
TUWZ				AML	AML	18 12 10.9	
NNZ	**Nelson**	**3.16**	**216**	*e*PN	Pn	18 11 34.3	-2.4
MQZ	**McQueen's Vall**	**5.56**	**204**	*e*PN	Pn	18 12 03.4	-5.5
ODZ	**Otahua Downs**	**7.44**	**210**	PN	Pn	18 12 28.3	-6.1

IDC ***18*** *18:23:22.4±0.9, 34°.24N×81°.62E, h0km, mb3.6/8, mb1 3.8/11, mb1mx3.5/38, mbtmp3.6/11, ML3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/36, Error ellipse: s-maj=26.9km s-min=17.7km az=54.0*

ISCJB ***18*** *18:23:25.9±0.8, 34°.3N±0°.1×81°.6E±0°.1, h33km, mb3.5/7, MS2.8/1, Error ellipse: s-maj=18.9km s-min=12.4km az=141.3*

ISC 18 18:23:27.8±0.9, 34°.3N±0°.1×81°.7E±0°.1, h35km, n13, σ1§12/11, mb3.6/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa** 0.1nm,0.3s,baz=186,slow=19,SNR=2.7	**10.04**	**328**	Pn	**Pn**	**18 25 51.6**	**+2.0**
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=180,slow=13,SNR=41	**12.48**	**2**	Pn	**Pn**	**18 26 22.3**	**-0.5**
MKAR	0.1nm,0.3s,baz=188,slow=26,SNR=5.9			Lg	Lg	18 30 03.3	
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=176,slow=11,SNR=22	**16.47**	**353**	Pn	**P**	**18 27 18.0**	**-0.3**
GEYT	**Alibeck** 0.2nm,0.3s,baz=158,slow=4.3,SNR=3.6	**19.37**	**288**	P	**Pn**	**18 27 51.2**	**-0.6**
BVAR	**Borovoye Array** 2.3nm,0.8s,baz=139,slow=9.8,SNR=12	**20.37**	**340**	P	Pn	18 28 02.0	-1.5
CMAR	**Chiang Mai Arr** 2.5nm,0.7s,baz=309,slow=11,SNR=30	**22.04**	**131**	P	**P**	**18 28 20.2**	**+0.8**
SONM	**Songino Array** 0.2nm,0.7s,baz=238,slow=8.3,SNR=3.6	**22.89**	**46**	P	**P**	**18 28 30.2**	**+1.9**
TLY	**Talaya** comp=Z,32nm,19.1s,baz=120,slow=37	**23.50**	**36**	LR	LR	18 37 51.6	
FINES	**FINESS Array B** 1.0nm,0.8s,baz=145,slow=9.9,SNR=2.8	**44.22**	**325**	P	**P**	**18 31 32.6**	**-0.6**
ILAR	**Eielson Array** 0.7nm,0.8s,baz=324,slow=4.5,SNR=6.6	**74.20**	**20**	P	**P**	**18 35 00.1**	**-0.4**
TORD	**Torodi Ar. Bea** 0.4nm,0.6s,baz=47,slow=4.9,SNR=5.4	**74.52**	**275**	P	**P**	**18 35 03.0**	**-0.2**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=339,slow=4.6,SNR=3.8	**76.05**	**132**	P	**P**	**18 35 11.5**	**-0.2**
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=344,slow=4.8,SNR=6.4	**82.65**	**8**	P	**P**	**18 35 46.4**	**-0.7**

ISCJB ***18*** *18:26:04.0±0.6, 52°.10N±0°.02×142°.10E±0°.05, h5km±5km, mb3.5/7, Error ellipse: s-maj=5.8km s-min=3.9km az=159.7*

SKHL ***18*** *18:26:03.0±1.0, 52°.20N×142°.30E, h10km, mb4.3/6, ms2.9/2*

IDC ***18*** *18:26:04.5±1.0, 52°.06N×142°.18E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.4/37, mbtmp3.5/7, Error ellipse: s-maj=29.2km s-min=25.6km az=177.0*

MOS ***18*** *18:26:04.2±1.1, 52°.08N×142°.12E, h11km, mb4.0/1, Error ellipse: s-maj=30.5km s-min=10.4km az=93.3*

ISC 18 18:26:06.2±1.2, 52°.11N±0°.03×142°.19E±0°.04, h10km±8km, n25, σ1§55/34, mb3.5/8, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.28**	**167**	PN	**Pg**	**18 26 28.2**	**-2.5**
TYV				*e*S	**Sb**	**18 26 46.0**	**-0.9**
TYV	**Tymovskoe**	**1.28**	**167**	*e*Pg	**Pg**	**18 26 29.0**	**-1.7**
TYV		

σ1§65/15, mb3.7/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.25	53	eP	Pb	18 32 20.5	+0.1
PCIG				eS	Sb	18 32 40.1	+3.9
HUIG	Huatulco	1.96	295	eP	Pn	18 32 24.0	-4.9
HUIG				i S	Sn	18 32 43.7	-8.9
TGIG		2.12	31	eP	Pb	18 32 33.7	-1.5
TGIG				eS	Sb	18 33 01.5	+0.3
CMIG	Matias Romero	2.21	344	eP	Pn	18 32 31.7	-0.7
CMIG				eS	Sn	18 32 57.2	-1.6
CMIG	Matias Romero	2.21	344	Pn	Pn	18 32 31.9	-0.4
	12nm,0.3s,baz=157,slow=11,SNR=89						
CMIG				Lg	Lg	18 32 59.3	
	44nm,0.3s,baz=303,slow=24,SNR=9.7						
CMIG				LR	LR	18 33 09.9	
	comp=Z,154nm,18.1s,baz=222,slow=37						
CCIG	Comitan	2.43	57	eP	Pb	18 32 38.3	-2.4
CCIG				eS	Sb	18 33 10.9	+0.6
APG	El Apazote	3.67	89	Pn	Pn	18 32 51.2	-1.3
	2.2nm,0.3s,baz=265,slow=4.9,SNR=18						
TXAR	Lajitas Array	16.75	330	Pn	P	18 35 51.7	-0.5
	0.1nm,0.3s,baz=148,slow=11,SNR=8.3						
PDAR	Pinedale Array	30.68	338	P	P	18 38 11.3	+1.3
	0.4nm,0.8s,baz=156,slow=7.8,SNR=3.7						
ULM	Lac du Bonnet	35.23	358	P	P	18 38 48.9	-0.4
	1.1nm,0.5s,baz=180,slow=9.1,SNR=3.0						
YKA	Yellowknife Ar	49.62	348	P	P	18 40 46.8	+0.7
	0.7nm,0.7s,baz=153,slow=7.3,SNR=10						
ILAR	Eielson Array	61.12	337	P	P	18 42 09.9	+1.0
	0.4nm,0.8s,baz=153,slow=4.4,SNR=6.4						

WEL 18 18:32:44.5±0.9, 47°.47S×165°.66E, h33km, ML3.9/8, Error ellipse: s-maj=8.6km s-min=6.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	The Paps	1.71	69	PN	Pn	18 33 10.9	-1.1
APZ				eSN	Sn	18 33 30.7	-2.0
APZ				AML	AML	18 33 33.0	
WHZ	Wether Hill Ro	2.23	46	PN	Pn	18 33 18.4	-0.6
WHZ				eSN	Sn	18 33 44.1	-1.3
WHZ				AML	AML	18 33 46.2	
DCZ	Deep Cove	2.24	28	PN	Pn	18 33 18.1	-1.1
DCZ				AML	AML	18 33 58.7	
DCZ				AML	AML	18 34 07.4	
SYZ	Scrubby Hill	2.55	70	PN	Pn	18 33 23.5	+0.1
SYZ				eSN	Sn	18 33 51.9	-1.5
SYZ				AML	AML	18 34 07.4	
SYZ				AML	AML	18 34 09.5	
SYZ				AML	AML	18 34 15.9	
MLZ	Mavora Lakes	2.74	40	PN	Pn	18 33 25.7	-0.4
MLZ				eSN	Sn	18 33 57.0	-1.2
MLZ				AML	AML	18 33 59.8	
TUZ	Tuapeka	3.12	62	PN	Pn	18 33 31.0	-0.3
EAZ	Earnscleugh	3.37	50	PN	Pn	18 33 34.1	-0.6
EAZ				AML	AML	18 34 21.6	
EAZ				AML	AML	18 34 21.6	
EAZ				AML	AML	18 34 23.0	
EAZ				AML	AML	18 34 23.0	
WKZ	Wanaka	3.52	43	PN	Pn	18 33 37.5	+0.6
WKZ				AML	AML	18 34 24.4	
WKZ				AML	AML	18 34 29.7	
JCZ	Jackson Bay	4.03	34	PN	Pn	18 33 45.2	+1.3
JCZ				AML	AML	18 34 44.8	
JCZ				AML	AML	18 34 52.0	
ODZ	Otahua Downs	4.22	57	PN	Pn	18 33 44.3	-2.1
FOZ	Fox Glacier	4.82	37	PN	Pn	18 33 56.3	+1.7
WVZ	Waitaha Valley	5.67	41	PN	Pn	18 34 09.6	+3.3

*ISCJB **18** 18:51:49.2±0.5, 22°.38S±0°.03×179°.53W±0°.05, h597km±6km, mb4.8/97, Error ellipse: s-maj=6.6km s-min=5.0km az=178.8*
*BJI **18** 18:51:49.7, 22°.07S×179°.24W, h603km, mB4.9/25, mb4.7/42*
*MOS **18** 18:51:50.6±1.3, 22°.18S×179°.58W, h601km, mb5.1/11, Error ellipse: s-maj=11.5km s-min=10.5km az=111.7*
*NEIC **18** 18:51:51.2±0.6, 22°.27S×179°.56W, h606km±6km, mb5.0/37, Error ellipse: s-maj=6.6km s-min=5.8km az=143.0*
*IDC **18** 18:51:52.5±1.1, 22°.27S×179°.67W, h613km±12km, mb3.8/22, mb1 4.0/23, mb1mx3.8/45, mbtmp4.7/23, Error ellipse: s-maj=10.8km s-min=9.8km az=168.0*
ISC 18 18:51:51.4±0.3, 22°.38S±0°.05×179°.60W±0°.06, h607km±2km, h607km:pP-P, n452, σ1§37/528, mb4.9/97, 74C-20D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.13	334	P	P	18 53 24.0	-1.9
	5μm,0.4s						
MSVF	Nonsavu	5.13	334	eP	P	18 53 24.1	-1.9
MSVF				eS	S	18 54 38.8	-4.1
MSVF	Nonsavu	5.13	334	eP	P	18 53 24.1	-1.9
MSVF				eS	S	18 54 38.8	-4.1
RAO	Raoul Island	7.01	168	eP	P	18 53 43.5	+1.8
RAO	Raoul Island	7.01	168	P	P	18 53 44.1	+2.4
	502nm,0.3s,baz=104,slow=23,SNR=10						
RAO	Raoul Island	7.01	168	eP	P	18 53 43.5	+1.8
AFI	Afiamalu	11.23	43	eP	P	18 54 17.1	-5.7
AFI				eS	S	18 56 11.6	-15
AFI	Afiamalu	11.23	43	eP	P	18 54 17.1	-5.7
AFI				eS	S	18 56 11.6	-15
DZM	Mont Dzumac	12.93	269	P	P	18 54 39.9	+0.3
	3.6nm,0.3s,baz=305,slow=20,SNR=23						
OUZ	Omahuta	14.11	203	eP	P	18 54 52.4	+1.4
HAZ	Te Kaha	15.49	188	ePN	P	18 55 03.7	+0.1
URZ	Urewera	16.08	189	P	P	18 55 06.9	-2.1
	6.1nm,0.3s,baz=275,slow=4.7,SNR=32						
URZ				S	S	18 57 44.1	-5.8
	2.3nm,0.3s,baz=89,slow=19,SNR=13						
URZ	Urewera	16.08	189	PN	P	18 55 07.3	-1.7
URZ				eSN	S	18 57 44.6	-5.3
URZ	Urewera	16.08	189	eP	P	18 55 06.5	-2.4
URZ				eS	S	18 57 39.5	-10
MWZ	Matawai	16.09	188	ePN	P	18 55 07.9	-1.2
MWZ				eSN	S	18 57 47.1	-3.2
NMHZ	Naumai	16.95	190	ePN	P	18 55 16.0	-1.0
BKZ	Black Stump Fm	17.06	190	ePN	P	18 55 15.9	-2.2
BKZ				eSN	S	18 57 59.0	-7.1
BKZ	Black Stump Fm	17.06	190	eP	P	18 55 17.5	-0.6
	17nm,0.7s						
BHHZ	Black Hill Sta	17.45	191	ePN	P	18 55 19.7	-1.9
TSZ	Takapari Road	18.02	191	ePN	P	18 55 26.2	-0.6
TSZ				eSN	S	18 58 18.8	-2.8
BFZ	Birch Farm	18.58	190	ePN	P	18 55 31.7	-0.2
MRZ	Mangatainoka R	18.68	192	ePN	P	18 55 30.9	-1.8
MRZ				eSN	S	18 58 26.1	-5.9
KIW	Kapiti Island	19.00	193	ePN	P	18 55 34.8	-0.8
SNZO	South Karori	19.47	193	P	P	18 55 39.0	-0.8
	69nm,1.2s						
NNZ	Nelson	19.69	196	ePN	P	18 55 41.6	-0.3
NNZ				eSN	S	18 58 44.2	-3.9
TUWZ	Tuamarina	19.76	194	ePN	P	18 55 42.0	-0.5
THZ	Tophouse	20.33	196	ePN	P	18 55 47.3	-0.4
DSZ	Denniston Nort	20.62	199	ePN	P	18 55 50.4	+0.2
KHZ	Kahutara	20.79	194	ePN	P	18 55 50.5	-1.2
OXZ	Oxford	22.01	196	ePN	P	18 56 01.9	-0.8
WVZ	Waitaha Valley	22.15	199	ePN	P	18 56 00.9	-2.9
FOZ	Fox Glacier	22.92	200	ePN	P	18 56 09.7	-1.0
JCZ	Jackson Bay	23.68	201	PN	P	18 56 17.7	+0.2
ARMA	Armidale	26.93	247	P	P	18 56 48.6	+2.2
	baz=27,SNR=50						
ARMA	Armidale	26.93	247	eP	P	18 56 48.4	+2.0
	38nm,0.7s						
EIDS	Eidsvold	26.95	258	P	P	18 56 47.6	+1.1
	baz=27,SNR=14						
EIDS	Eidsvold	26.95	258	eP	P	18 56 47.4	+0.9
	52nm,1.3s						
MGCD	Mangrove Creek	27.98	241	P	P	18 56 57.9	+2.5
	baz=28,SNR=26						
RMQ	Roma	29.06	255	P	P	18 57 06.8	+2.0
	baz=29,SNR=47						
CNB	Canberra Magne	29.95	238	P	P	18 57 14.6	+2.1
	baz=30,SNR=33						
YNG	Young	30.44	240	P	P	18 57 18.6	+1.9
	baz=31,SNR=8.1						
CTA	Charters Tower	31.87	268	P	P	18 57 29.7	+0.8
	31nm,0.3s,baz=93,slow=11,SNR=64						
CTA				PcP	PcP	19 00 01.8	+1.2
	5.7nm,0.7s,baz=118,slow=4.5,SNR=4.1						
CTAO	Charters Tower	31.87	268	eP	P	18 57 29.3	+0.3
CTAO				pmax	pmax		
	comp=Z,42nm,0.6s						
CTAO	Charters Tower	31.87	268	eP	P	18 57 29.3	+0.3
	comp=Z,42nm,0.6s						
CMSA	Cobar Meteorol	32.15	246	P	P	18 57 32.4	+1.4
	baz=32,SNR=54						
QLP	Quilpie	33.11	255	P	P	18 57 40.2	+0.9
	baz=33,SNR=34						
TOO	Toolangi	33.60	235	P	P	18 57 44.8	+1.5
	baz=34,SNR=15						
TAU	Tasmania Unive	34.25	225	eP	P	18 57 49.8	+1.3
TAU	Tasmania Unive	34.25	225	eP	P	18 57 49.8	+1.3
PMG	Port Moresby	34.38	287	deP	P	18 57 50.0	0.0
PMG				pmax	pmax		
	comp=Z,84nm,0.8s						
PMG	Port Moresby	34.38	287	P	P	18 57 50.1	0.0
	baz=35,SNR=6.9						
PMG	Port Moresby	34.38	287	eP	P	18 57 49.9	0.0
	comp=Z,90nm,0.9s						
COEN	Coen	36.27	277	P	P	18 58 06.4	+0.8
	baz=36,SNR=10						
QIS	Mount Isa	37.93	265	P	P	18 58 19.2	+0.1
	baz=38,SNR=5.0						
BBOO	Buckleboo	40.40	245	P	P	18 58 39.1	+0.5
	baz=41,SNR=28						
BBOO				P	P	18 58 39.3	+0.6
	baz=41,SNR=46						
BBOO	Buckleboo	40.40	245	eP	P	18 58 38.8	+0.2
	comp=Z,198nm,0.8s						
MMPI	Merauke	40.84	283	P	P	18 58 42.5	+0.2
	baz=41,SNR=4.7						
AS01	Alice Springs	42.63	259	eP	P	18 58 56.0	-0.3
AS31	Alice Springs	42.67	259	eP	P	18 58 56.9	+0.2
AS31				ePcP	PcP	19 00 32.2	-2.1
ASAR	Alice Springs	42.67	259	P	P	18 58 57.1	+0.4
	comp=Z,64nm,0.7s,baz=101,slow=7.6,SNR=703						
ASAR				PcP	PcP	19 00 35.0	+0.7
	comp=Z,7.5nm,0.6s,baz=103,slow=3.6,SNR=8.8						
ASAR				S	S	19 04 36.5	-1.1
	comp=Z,12nm,1.0s,baz=96,slow=15,SNR=24						
WB2	Warramunga Arr	42.89	264	eP	P	18 58 57.9	-0.6
WB2				eS	S	19 04 33.7	-7.1
WRAB	Tennant Creek	42.89	264	P	P	18 58 58.0	-0.4
	comp=Z,618nm,0.8s						
WRAB	Tennant Creek	42.89	264	⇓eP	P	18 58 58.1	-0.4
WRAB				pmax	pmax		
	comp=Z,196nm,0.9s						
WRAB	Tennant Creek	42.89	264	eP	P	18 58 57.7	-0.8
WRAB				eS	S	19 04 37.4	-3.3
WRA	Warramunga Arr	42.90	264	P	P	18 58 58.4	-0.1
	comp=Z,58nm,0.7s,baz=91,slow=6.0,SNR=884						
WRA				PcP	PcP	19 00 35.9	+0.8
	comp=Z,5.9nm,0.9s,baz=100,slow=4.0,SNR=5.5						
WRA				ScP	ScP	19 03 30.2	+1.0
	comp=Z,5.3nm,1.0s,baz=98,slow=4.2,SNR=8.2						
WRA				S	S	19 04 39.0	-1.9
	comp=Z,4.8nm,1.0s,baz=100,slow=12,SNR=9.7						
JAY	Jayapura	43.28	291	P	P	18 59 01.4	-0.1
	comp=Z,52nm,0.8s						
JAY	Jayapura	43.28	291	P	P	18 59 01.4	-0.1
	comp=Z,53nm,0.7s,baz=191,slow=5.2,SNR=18						
JAY	Jayapura	43.28	291	P	P	18 59 01.2	-0.4
	baz=44,SNR=6.9						
GENI	Genyem	43.71	291	P	P	18 59 04.5	-0.3
	comp=Z,107nm,1.0s						
KDU	Kakadu	46.54	274	P	P	18 59 26.0	-0.3
	baz=47,SNR=66						
FORT	Forrest	47.20	248	P	P	18 59 31.4	+0.3
	baz=48,SNR=35						
FORT	Forrest	47.20	248	eP	P	18 59 30.8	-0.2
	comp=Z,92nm,0.7s						
FORT				eS	S	19 05 38.2	-2.5
SRPI	Serui, Papua	47.48	289	P	P	18 59 33.5	+0.1
	comp=Z,101nm,1.0s						
WRKA	Warakurna	47.55	256	P	P	18 59 34.1	+0.3
	baz=48,SNR=112						
MTN	Manton Dam	47.73	273	P	P	18 59 34.8	-0.4
	baz=48,SNR=39						
KNRA	Kununurra	49.08	268	P	P	18 59 45.4	+0.2
	baz=49,SNR=83						
SAUI	Saumlaki	49.28	279	eP	P	18 59 46.2	-0.5
	comp=Z,191nm,1.0s						
FAKI	Fak Fak	50.52	285	P	P	18 59 55.4	-0.4
	baz=51,SNR=10						
FITZ	Fitzroy Crossi	51.33	264	P	P	19 00 02.0	+0.5
	baz=52,SNR=105						
FITZ	Fitzroy Crossi	51.33	264	eP	P	19 00 01.6	+0.1
	comp=Z,62nm,1.3s						
SWI	Sorong	52.33	287	P	P	19 00 08.5	-0.2
	comp=Z,334nm,0.8s,comp=Z,2μm						
SWI	Sorong	52.33	287	P	P	19 00 08.7	0.0
	baz=53,SNR=57						
PALU	Palau	53.81	298	P	P	19 00 19.4	+0.3
	baz=54,SNR=8.9						
NLAI	Namlea	55.01	282	P	P	19 00 27.7	+0.2
	comp=Z,64nm,1.1s,comp=Z,900nm						
SOEI	Soe	55.10	274	P	P	19 00 29.9	+1.5
	comp=Z,236nm,1.0s,comp=Z,2μm						
SOEI	Soe	55.10	274	eP	P	19 00 29.7	+1.3
	comp=Z,161nm,0.8s						
BATI	Baumata	55.51	273	P	P	19 00 32.9	+1.9
	comp=Z,56nm,0.7s						
LBMI	Labuha	55.78	285	P	P	19 00 33.4	+0.5
	comp=Z,87nm,0.8s						
MEEK	Meekatharra	55.91	252	P	P	19 00 33.6	-0.1
	baz=56,SNR=12						
VNDA	Vanda	55.92	185	eP	P	19 00 34.8	+2.0
VNDA				e		19 01 23.4	
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VNDA	Vanda	55.92	185	P	P	19 00 35.2	+2.4
	comp=Z,4.0nm,0.6s,baz=1.2,slow=5.3,SNR=11						
VNDA	Vanda	55.92	185	eP	P	19 00 34.8	+2.0
	comp=Z,4.6nm,0.7s						
VNDA				ePcP	PcP	19 01 23.4	+1.2
MBWA	Marble Bar	56.01	259	eP	P	19 00 34.0	-0.4
	comp=Z,58nm,0.8s						
NWAO	Narrogin (SRO)	56.21	245	P	P	19 00 36.3	+0.7
	baz=56,SNR=6.7						
RKGY	Rocky Gully	56.25	243	⇓P	P	19 00 36.8	+1.0
	baz=56,SNR=4.9						
SANI	Sanana	56.52	283	P	P	19 00 37.6	-0.3
	comp=Z,54nm,0.9s						
TNTI	Tenate	56.53	287	P	P	19 00 37.8	-0.3
	comp=Z,122nm,1.2s,comp=Z,1μm						
TNTI	Ternate	56.53	287	eP	P	19 00 37.7	-0.4
	comp=Z,116nm,1.0s						
BLDU	Ballidu	56.94	247	P	P	19 00 41.0	+0.3
	baz=57,SNR=56						
MMRI	Maumere	57.37	274	eP	P	19 00 43.1	-0.7
	comp=Z,94nm,1.1s						
WSI	Waingapu	58.80	272	P	P	19 00 53.2	-0.2
	comp=Z,304nm,1.0s,comp=Z,4μm						
WSI	Waingapu	58.80	272	⇑P	P	19 00 54.1	+0.7
	baz=59,SNR=7.0						
BKSI	Bulukumba	60.54	277	P	P	19 01 04.8	-0.1
	comp=Z,39nm,0.8s						
GIRL	Giralia	60.63	256	⇑P	P	19 01 07.0	+1.6
	baz=61,SNR=6.0						
BNSI	Bone	60.91	278	P	P	19 01 07.4	+0.1
	comp=Z,50nm,0.9s						
APSI	Ampana	60.92	282	P	P	19 01 07.6	+0.2
	comp=Z,85nm,1.1s						
MRSI	Marisa	61.25	284	P	P	19 01 08.7	-0.8
	comp=Z,16nm,0.9s						
SPSI	Sidrap Palu	61.39	278	P	P	19 01 09.5	-1.0
	comp=Z,27nm,0.9s						
CASY	Casey	61.63	206	P	P	19 01 11.8	+0.6
	comp=Z,33nm,0.9s						
CTBH	Cotabato--PC H	62.34	292	⇓iP	P	19 01 16.5	-0.1
TOLI	Toli-Toli	62.56	284	eP	P	19 01 18.1	0.0
	comp=Z,86nm,0.4s						
MPSI	Mapaga	63.03	282	P	P	19 01 20.9	-0.2
	comp=Z,49nm,0.9s						
IGBI	Denpasar	63.86	271	P	P	19 01 26.9	+0.6
	comp=Z,256nm,1.0s						
SRBI	Singaraja	64.06	272	P	P	19 01 27.7	+0.1
	comp=Z,78nm,0.8s						
JAGI	Jajag, Banyuwa	64.90	271	P	P	19 01 32.1	-0.8
	comp=Z,79nm,1.4s						
JAGI	Jajag, Banyuwa	64.90	271	P	P	19 01 32.1	-0.8
	baz=65,SNR=9.2						
JAGI	Jajag, Banyuwa	64.90	271	eP	P	19 01 31.6	-1.3
	comp=Z,71nm,1.0s						
ABJI	Asem Bagus	65.07	272	P	P	19 01 34.1	+0.2
	comp=Z,58nm,1.0s						
GMJI	Gumukmas	65.63	271	P	P	19 01 37.1	-0.3
	comp=Z,50nm,0.8s						
BLJI	Banyuglugur	65.68	271	P	P	19 01 38.0	+0.3
	comp=Z,81nm,0.7s						
TSM	Tawau	66.57	285	⇑P	P	19 01 43.6	+0.3
GRJI	Gresik	67.01	272	P	P	19 01 47.0	+1.1
	comp=Z,151nm,0.8s,comp=Z,1μm						
PWJI	Pagerwojo	67.23	271	P	P	19 01 47.6	+0.3
	comp=Z,84nm,0.7s						
QSPA	South Pole Qui	67.69	180	P	P	19 01 51.0	+1.6
	comp=Z,20nm,0.8s,baz=331,slow=0.5,SNR=82						
QSPA	South Pole Qui	67.69	180	P	P	19 01 51.0	+1.6
PCJI	Pacitan	67.75	270	P	P	19 01 50.7	+0.2
	comp=Z,290nm,0.6s,comp=Z,3μm						
SDKM	Sandakan	67.78	286	⇑P	P	19 01 50.0	-0.6
WOJI	Wonogiri, Jawa	68.11	270	P	P	19 01 53.3	+0.6
	comp=Z,124nm,1.2s,comp=Z,7μm						
UGM	Wanagama	68.46	270	P	P	19 01 54.9	+0.1
	baz=69,SNR=4.2						
KKM	Kota Kinabalu	68.83	286	⇑P	P	19 01 56.5	-0.5
KKM	Kota Kinabalu	68.83	286	eP	P	19 01 57.2	+0.1
	comp=Z,18nm,0.6s						
KPJI	Karang Pucung	70.14	270	P	P	19 02 04.9	+0.1
	comp=Z,56nm,0.8s,comp=Z,2μm						
JOW	Kunigami	70.26	311	eP	P	19 02 05.2	0.0
	comp=Z,29nm,0.8s						
MJAR	Matsushiro Arr	70.86	325	P	P	19 02 08.2	-0.4
	comp=Z,7.4nm,0.8s,baz=162,slow=5.8,SNR=26						
MAJO	Matsushiro	70.87	325	i P	P	19 02 08.3	-0.2
MAJO				pmax	pmax		
	comp=Z,47nm,0.6s						
MAJO	Matsushiro	70.87	325	eP	P	19 02 07.2	-1.3
	comp=Z,9.3nm,0.8s						
MAT	Matsushiro	70.87	325	P	P	19 02 07.4	-1.1
LEM	Lembang	71.54	270	P	P	19 02 13.7	+0.6
	comp=Z,143nm,0.9s						
LEM	Lembang	71.54	270	P	P	19 02 13.9	+0.8
	baz=72,SNR=12						
CNJI	Cibinong	71.81	269	P	P	19 02 13.8	-0.7
	comp=Z,78nm,0.9s						
KSM	Kuching	72.22	279	eP	P	19 02 17.3	+0.4
	comp=Z,44nm,0.7s						
NACB	Ninganchiao	73.52	305	eP	P	19 02 23.4	-0.7
	comp=Z,42nm,0.9s						
TPUB	Ta-pu	73.77	304	eP	P	19 02 24.1	-1.4
	comp=Z,47nm,0.8s						
SSLB	Suanglung	73.79	305	eP	P	19 02 24.3	-1.3
	comp=Z,26nm,0.6s						
YHNB	Yeheng	73.97	306	eP	P	19 02 26.1	-0.6
	comp=Z,37nm,1.1s						
TATO	Taipei	74.05	306	eP	P	19 02 26.5	-0.6
	comp=Z,56nm,0.9s						
YSS	Yuzh-Sakhalins	76.93	335	eP	P	19 02 42.0	-0.4
YSS				pmax	pmax		
	comp=Z,50nm,1.2s						
YSS	Yuzh-Sakhalins	76.93	335	eP	P	19 02 41.8	-0.6
KSRS	Korea Array	77.33	320	P	P	19 02 45.8	+0.9
	comp=Z,4.2nm,0.9s,baz=136,slow=5.8,SNR=12						
KSAR	Wonju Array Be	77.34	320	P	P	19 02 45.8	+0.9
KSAR	Wonju Array Be	77.34	320	P	P	19 02 45.8	+0.9
KS01	Wonju Array Si	77.36	320	eP	P	19 02 45.0	0.0
PEA0	Petropavlovsk-	77.72	346	eP	P	19 02 45.6	-1.0
PETK	Petropavlovsk-	77.72	346	P	P	19 02 46.1	-0.4
	comp=Z,14nm,0.7s,baz=139,slow=7.0,SNR=12						
USRK	Ussuriysk Ar.	79.70	327	P	P	19 02 57.8	+0.6
	comp=Z,12nm,1.0s,baz=148,slow=4.0,SNR=13						
QIZ	Qiongzhong	80.29	295	P	P	19 03 01.1	+0.2
QIZ				pP	pP	19 05 06.3	-1.6
QIZ				S	S	19 12 18.5	+0.5
QIZ				PMZ			
	comp=Z,11nm,1.8s						
MDJ	Mudanjiang	81.22	326	P	P	19 03 05.8	+0.7
MDJ				PMZ			
	comp=Z,14nm,1.0s						
MDJ				PMZ			
	comp=Z,98nm,4.8s						
MDJ	Mudanjiang	81.22	326	eP	P	19 03 05.4	+0.3
	comp=Z,9.8nm,1.1s						
HABR	Khabarovsk	81.36	331	deP	P	19 03 04.9	-0.8
HABR				e*SP	sP	19 06 11.9	-2.5
HABR				e		19 08 23.8	
HABR				eS	S	19 12 26.5	-1.0
HABR				eSS	SS	19 18 02.0	-0.7
HABR				eSSS	SSS	19 21 36.5	
HABR				pmax	pmax		
	comp=N,9.0nm,1.1s						
HABR				pmax	pmax		
	comp=Z,27nm,1.1s						
HABR				pmax	pmax		
	comp=E,21nm,2.3s						
ISA	Isabella, Lake	81.71	46	eP	P	19 03 08.1	+0.2
ISA	Isabella, Lake	81.71	46	eP	P	19 03 08.1	+0.2
IPM	Ipoh	81.91	278	eP	P	19 03 09.9	+0.5
	comp=E,32nm,0.8s						
WHN	Wuhan	82.38	307	P	P	19 03 10.8	-0.5
KULM	Kulim	82.57	279	eP	P	19 03 13.3	+0.6
	comp=E,12nm,0.7s						
YBH	Yreka Blue Hor	82.68	39	P	P	19 03 13.4	+0.7
	comp=E,2.2nm,0.7s,baz=243,slow=6.8,SNR=3.7						
GLA	Glamis	82.77	50	eP	P	19 03 11.4	-1.9
GLA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GLA	Glamis	82.77	50	eP	P	19 03 11.4	-1.9
	comp=Z,8.1nm,0.8s						
CN2	Changchun	82.89	323	eP	P	19 03 13.9	+0.3
CN2				epP	pP	19 05 22.3	+0.5
CN2				PP	PP	19 06 37.8	+1.7
CN2				eS	S	19 12 43.9	+0.9
CN2				PMZ			
	comp=Z,20nm,1.1s						
CN2				PMZ			
	comp=Z,400nm,10.0s						
PSI	Prapat	83.19	276	P	P	19 03 15.7	-0.3
	comp=Z,3.9nm,0.6s,baz=133,slow=4.0,SNR=11						
NV01	Mina Array Sit	83.41	44	eP	P	19 03 17.0	+0.5
NVAR	Mina Array Bea	83.41	44	P	P	19 03 17.1	+0.5
	comp=Z,1.8nm,0.9s,baz=221,slow=8.3,SNR=6.2						
GSI	Gunungsitoli	83.86	274	eP	P	19 03 20.1	+1.0
	comp=Z,26nm,0.6s						
SYO	Syowa Base	84.57	193	⇑eP	P	19 03 20.2	-1.3
SRIT	Nakonsritamara	84.83	281	P	P	19 03 26.7	+2.9
	comp=Z,81nm,0.7s						
SURT	Suratani	85.70	281	P	P	19 03 30.4	+2.4
	comp=Z,18nm,1.5s						
ENH	Enshi

UTTA	Uttaradit	87.66	290	P		P	19 03 39.0	+1.9
	comp=Z,4.6nm,1.0s,comp=Z,51nm							
SEY	Seymchan	87.87	348	P		P	19 03 37.1	+0.1
	comp=Z,8.7nm,0.9s,baz=146,slow=6.4							
XAN	Xi'an	88.10	308	P		P	19 03 39.3	+0.4
XAN				PMZ				
	comp=Z,6.0nm,0.9s							
TNA	Tin City	88.12	5	*e*P		P	19 03 37.8	-0.2
	comp=Z,4.4nm,0.8s							
CAST	Castle Rocks	88.21	12	*e*P		P	19 03 37.5	-1.1
F10A	Beach Ranch, E	88.39	38	*e*P		P	19 03 40.7	+0.7
F10A				*ep*P		pP	19 05 54.2	+3.8
KTH	Kantishna Hill	88.56	12	*e*P		P	19 03 39.3	-1.0
TRF	Thorofare Moun	88.60	13	*e*P		P	19 03 38.9	-1.8
	comp=Z,14nm,0.8s							
LAMP	Lampang	88.78	290	P		P	19 03 44.3	+2.0
	comp=Z,19nm,0.9s,comp=Z,152nm							
CRAI	Chiangrai	88.83	292	P		P	19 03 41.3	-1.2
	comp=Z,255nm,1.4s							
KMI	Kunming	88.89	298	P		P	19 03 44.5	+1.6
KMI				PMZ				
	comp=Z,16nm,1.0s							
PLCA	Paso Flores	89.05	134	P		P	19 03 43.8	+0.4
	comp=Z,1.4nm,1.0s,baz=354,slow=11,SNR=3.2							
MCK	McKinley	89.13	13	*e*P		P	19 03 42.1	-0.8
MCK	McKinley	89.13	13	*e*P		P	19 03 42.1	-0.8
TXAR	Lajitas Array	89.31	58	P		P	19 03 44.5	-0.2
	comp=Z,1.2nm,0.8s,baz=205,slow=11,SNR=4.9							
TXAR				pP		pP	19 05 56.9	+1.6
	comp=Z,1.3nm,1.0s,baz=220,slow=5.5,SNR=5.2							
CM01	Chiang Mai Arr	89.32	290	*e*P		P	19 03 46.5	+1.7
CMAR	Chiang Mai Arr	89.35	290	P		P	19 03 46.8	+1.8
	comp=Z,18nm,0.8s,baz=135,slow=3.3,SNR=126							
CMAR				PP		PP	19 07 28.2	+0.5
	comp=Z,0.7nm,0.8s,baz=128,slow=6.0,SNR=4.6							
CMAR				PKKPbc		PKKPbc	19 21 16.1	-0.6
	comp=Z,0.5nm,0.6s,baz=283,slow=3.8,SNR=4.3							
HIA	Hailar	89.37	325	P		P	19 03 43.7	-0.7
HIA	Hailar	89.37	325	P		P	19 03 43.7	-0.7
CMMT	Chiang Mai	89.49	290	P		P	19 03 47.0	+1.4
	comp=Z,47nm,0.9s							
CHTO	Chiang Mai	89.49	290	*e*P		P	19 03 47.0	+1.4
CHTO				pmax		pmax		
	comp=Z,26nm,0.8s							
CHTO	Chiang Mai	89.49	290	*e*P		P	19 03 47.0	+1.4
	comp=Z,26nm,0.8s							
HHC	Hu-ho-hao-te	89.61	315	*e*P		P	19 03 46.4	+0.6
HHC				pP		pP	19 05 56.9	+0.3
HHC				sP		sP	19 06 55.8	-1.0
HHC				PP		PP	19 07 32.4	+3.0
HHC				S		S	19 13 46.4	-0.2
HHC				sS		sS	19 17 37.8	-2.2
HHC				SS		SS	19 20 07.1	+4.4
HHC				PMZ				
	comp=Z,22nm,1.2s							
HHC				PMZ				
	comp=Z,240nm,9.9s							
ANMO	Albuquerque	89.73	52	P		P	19 03 46.0	-0.6
ANMO				pmax		pmax		
	comp=Z,50nm,4.2s							
CMAI	Chiengmai2	89.85	292	P		P	19 03 48.9	+1.4
	comp=Z,67nm,0.7s							
MHMT	Maesarieng	90.12	290	P		P	19 03 50.7	+2.2
	comp=Z,7.1nm,1.1s							
COLA	College	90.36	13	⇓*e*P		P	19 03 48.0	-0.5
COLA				pmax		pmax		
	comp=Z,74nm,2.0s							
COLA	College	90.36	13	*e*P		P	19 03 46.9	-1.6
IL1	Eielson Array	90.47	13	*e*P		P	19 03 47.5	-1.6
ILAR	Eielson Array	90.47	13	P		P	19 03 47.8	-1.3
	comp=Z,1.1nm,0.7s,baz=225,slow=5.3,SNR=6.6							
CD2	Chengdu	90.56	303	*e*P		P	19 03 50.6	+0.3
CD2				sP		sP	19 07 01.0	-0.5
CD2				PP		PP	19 07 39.1	+2.1
CD2				S		S	19 13 54.8	-0.5
CD2				sS		sS	19 17 49.5	+0.1
CD2				PMZ				
	comp=Z,10.0nm,1.2s							
BILL	Bilibino	90.75	355	⇓*e*P		P	19 03 50.0	-0.3
BILL				pmax		pmax		
	comp=Z,13nm,1.2s							
BILL	Bilibino	90.75	355	*e*P		P	19 03 49.7	-0.6
	comp=Z,7.2nm,0.9s							
PDAR	Pinedale Array	91.34	44	P		P	19 03 54.2	+0.3
	comp=Z,0.5nm,0.7s,baz=243,slow=4.0,SNR=2.5							
LZH	Lanzhou	92.74	308	*e*P		P	19 03 58.6	-1.8
LZH				pP		pP	19 06 10.4	-1.1
LZH				sP		sP	19 07 06.5	-5.2
LZH				PMZ				
	comp=Z,18nm,1.0s							
YAK	Yakutsk	93.30	339	*e*P		P	19 04 01.5	-0.6
YAK	Yakutsk	93.30	339	*e*P		P	19 04 01.5	-0.6
ULN	Ulaanbaatar	95.82	320	⇑*e*P		P	19 04 13.8	-0.2
ULN				pmax		pmax		
	comp=Z,3.0nm,1.5s							
ULN	Ulaanbaatar	95.82	320	*e*P		P	19 04 13.3	-0.8
TRQA	Tornquist	96.10	135	*e*P		P	19 04 13.8	-1.7
SONM	Songino Array	96.20	319	P		P	19 04 15.2	-0.6
	comp=Z,0.5nm,0.7s,baz=134,slow=8.5,SNR=4.1							
GTA	Gaotai	97.02	310	*e*P		P	19 04 20.3	+0.7
GTA				pP		pP	19 06 31.5	+0.3
GTA				sP		sP	19 07 30.3	-0.9
GTA				PMZ				
	comp=Z,4.0nm,1.2s							
ZALV	Zalesovo Beam	111.02	321	PKiKP		PKiKP	19 09 15.3	-1.2
	comp=Z,1.4nm,0.6s,baz=202,slow=1.6,SNR=6.2							
MKAR	Makanchi Array	111.40	313	PKiKP		PKiKP	19 09 16.6	-1.0
	comp=Z,1.4nm,0.5s,baz=149,slow=0.5,SNR=4.2							
MKAR				PKKPbc		PKKPbc	19 20 14.4	-0.8
	comp=Z,0.4nm,0.6s,baz=268,slow=3.9,SNR=4.4							
KURK	Kurchatov	114.36	317	*e*PKiKP		PKPdf	19 09 21.8	-1.2
KURK	Kurchatov	114.36	317	*e*PKPdf		PKPdf	19 09 21.8	-1.2
KSH	Kashi	114.73	304	*e*PKP		PKPdf	19 09 24.8	+0.5
KSH				PP		PP	19 10 35.8	+1.4
KSH				PKS		PKSdf	19 13 01.1	0.0
KSH				SKS		SKSdf	19 15 40.1	+0.3
KSH				SKKS		SKKSac	19 16 29.8	-2.9
KSH				SS		SS	19 25 49.3	+4.9
KSH				PPMZ				
	comp=Z,110nm,5.2s							
TKM2	Tokmak 2	115.51	308	*e*PKiKP		PKPdf	19 09 24.7	-1.1
TKM2	Tokmak 2	115.51	308	*e*PKPdf		PKPdf	19 09 24.7	-1.1
AAK	Ala-Archa	116.28	308	⇑*i*PKiKP		PKPdf	19 09 26.7	-0.6
AAK				pmax		pmax		
	comp=Z,14nm,2.5s							
OPO	Ambohidratompo	118.77	232	PKP		PKPdf	19 09 33.3	+0.5
	comp=Z,4.3nm,0.8s,baz=56,slow=3.6,SNR=3.8							
KKAR	Karatay Array	119.24	308	*e*PKiKP		PKPdf	19 09 31.8	-0.9
KKAR	Karatay Array	119.24	308	*e*PKPdf		PKPdf	19 09 31.8	-0.9
KBL	Kabul	119.47	298	*e*PKiKP		PKPdf	19 09 33.2	-0.5
KBL	Kabul	119.47	298	*e*PKPdf		PKPdf	19 09 33.2	-0.5
BVAR	Borovoye Array	119.54	319	PKP		PKPdf	19 09 32.2	-0.7
	comp=Z,3.1nm,0.3s,baz=120,slow=1.6,SNR=24							
BOSA	Boshof	123.92	206	PKP		PKPdf	19 09 43.1	+0.7
	comp=Z,3.3nm,1.0s,baz=188,slow=3.2,SNR=4.2							
DAG	Danmarks Havn	124.74	5	*e*PKiKP		PKPdf	19 09 40.8	-1.5
DAG				pmax		pmax		
	comp=Z,2.0nm,0.8s							
DAG	Danmarks Havn	124.74	5	*i* P		PKPdf	19 09 40.8	-1.5
	comp=Z,2.8nm,0.8s							
SFJD	Kangerlussuaq	125.23	22	*e*PKiKP		PKPdf	19 10 02.2	+19
SFJD				pmax		pmax		
	comp=Z,8.0nm,0.8s							
SFJD	Kangerlussuaq	125.23	22	*i* P		PKPdf	19 10 02.2	+19
	comp=Z,8.2nm,0.8s							
SUMG	Summit	125.32	13	*e*PKiKP		PKPdf	19 09 44.4	+0.4
SUMG				pmax		pmax		
	comp=Z,4.0nm,0.9s							
SUMG	Summit	125.32	13	*i* P		PKPdf	19 09 44.4	+0.4
	comp=Z,3.9nm,0.9s							
ARU	Arti	125.88	324	*i* PKiKP		PKPdf	19 09 44.8	-0.2
ARU							19 11 47.1	
ARU							19 15 52.6	
ARU	Arti	125.88	324	*e*PKPdf		PKPdf	19 09 44.8	-0.2
SOKR	Solikamsk	125.91	328	*e*PKiKP		PKPdf	19 09 45.0	+0.1
SOKR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
AKTO	Aktyubinsk	127.45	317	PKP		PKPdf	19 09 48.5	+0.3
	comp=Z,3.8nm,0.6s,baz=91,slow=2.4,SNR=18							
GEYT	Alibeck	128.51	301	PKP		PKPdf	19 09 51.6	+0.9
	comp=Z,7.4nm,1.0s,baz=284,slow=1.2,SNR=11							
GEYT				PP		PP	19 12 04.3	-2.0
	comp=Z,2.8nm,1.0s,baz=99,slow=9.2,SNR=4.7							
ARCES	ARCESS Array B	130.48	349	PKP		PKPdf	19 09 52.6	-0.8
	comp=Z,5.6nm,0.8s,baz=24,slow=1.6,SNR=15							
ARCES				SKPab		SKPab	19 12 23.2	+1.3
	comp=Z,4.5nm,1.1s,baz=57,slow=7.4,SNR=4.6							
LSZ	Lusaka	133.72	218	*e*PKiKP		PKPdf	19 10 03.0	+1.7
LSZ	Lusaka	133.72	218	*e*PKPdf		PKPdf	19 10 03.0	+1.7
FINES	FINESS Array B	137.13	342	*c i*PKiKP		PKPdf	19 10 05.5	-0.5
FINES				pmax		pmax		
	comp=Z,2.0nm,0.6s							
FINES	FINESS Array B	137.13	342	PKhKP		PKPpre	19 09 54.1	
	comp=Z,0.7nm,0.5s,baz=72,slow=3.2,SNR=7.2							
FINES				PKP		PKPdf	19 10 05.1	-1.0
	comp=Z,2.8nm,0.7s,baz=121,slow=3.8,SNR=7.9							
FINES				SKPbc		SKPbc	19 12 43.0	0.0
	comp=Z,1.1nm,0.6s,baz=23,slow=10,SNR=4.2							
KMBO	Kilima Mbogo	137.15	242	PKHKP		PKPpre	19 10 00.0	
KMBO				*e*			19 10 08.6	
KMBO	Kilima Mbogo	137.15	242	PKhKP		PKPpre	19 09 60.0	
	comp=Z,0.5nm,0.4s,baz=9.5,slow=1.8,SNR=4.4							
KMBO				PKP		PKiKP	19 10 09.9	0.0
	comp=Z,1.7nm,0.7s,baz=87,slow=2.6,SNR=8.2							
KMBO				SKPbc		SKiKP	19 12 48.0	-1.3
	comp=Z,0.6nm,0.6s,baz=56,slow=4.9,SNR=3.6							
KMBO	Kilima Mbogo	137.15	242	PKPpre		PKPpre	19 09 60.0	
KMBO				*e*PKPdf		PKPdf	19 10 08.6	+0.7
KMBO				SKPbc		SKiKP	19 12 48.0	-1.3
OBN	Obninsk	137.66	330	*i* PKiKP		PKPdf	19 10 07.1	-0.1
OBN				pmax		pmax		
	comp=Z,20nm,1.6s							
HAKT	HAKKARI	139.91	302	*i* P		PKPdf	19 10 06.7	-5.5
DAGI	Agillar	140.51	308	*i* P		PKPdf	19 10 09.2	-3.9
NB2	NORSAR Subarra	140.64	352	PKP		PKPpre	19 10 06.3	
	comp=Z,0.9nm,0.6s,baz=10,slow=3.2							
NOA	NORSAR Array B	140.64	352	PKhKP		PKPpre	19 10 05.8	
	comp=Z,0.4nm,0.5s,baz=8.6,slow=3.6,SNR=7.8							
DBAD	Bademkaya	140.69	308	*i* P		PKPdf	19 10 08.9	-4.4
KELT	Kelkit	142.72	307	*i* P		PKPdf	19 10 15.8	-1.3
HCB	Kahramanmara~	142.92	303	*i* P		PKPdf	19 10 22.8	+5.5
SUSE	Susehri	143.47	308	*i* P		PKPbc	19 10 17.3	0.0
KEMA	Kemaliye	143.53	306	*i* P		PKPdf	19 10 18.4	0.0
MALT	Malatya	143.83	305	⇑PKiKP		PKPdf	19 10 19.5	+0.5
MALT	Malatya	143.83	305	⇑*i*P		PKPdf	19 10 19.5	+0.5
AKASG	Malin Array Be	143.89	329	PKP		PKPbc	19 10 16.8	-1.1
	comp=Z,7.4nm,0.4s,baz=44,slow=4.2,SNR=42							
AKASG				SKPbc		SKPbc	19 13 00.4	-0.5
	comp=Z,1.9nm,0.7s,baz=45,slow=3.2,SNR=5.6							
KIEV	Kiev	143.90	329	*e*PKiKP		PKPbc	19 10 16.6	-1.4
KIEV	Kiev	143.90	329	*e*PKPdf		PKPbc	19 10 16.6	-1.4
SUW	Suwalki	144.03	337	*e*PKiKP		PKPbc	19 10 17.8	-0.5
SUW	Suwalki	144.03	337	*e*PKP		PKPbc	19 10 17.8	-0.5
SUW	Suwalki	144.03	337	*e*PKPdf		PKPbc	19 10 17.8	-0.5
SIM	Simferopol'	144.42	317	*c i*PKiKP		PKPbc	19 10 20.0	+0.2
SIM				pmax		pmax		
	comp=Z,11nm,0.7s							
GZT	Gaziantep	144.74	304	*i* P		PKPbc	19 10 21.5	+0.3
HAVZ	Havza	144.97	310	*i* P		PKPab	19 10 22.2	-0.5
MUD	Monsted U'grnd	145.36	351	*i* PKiKP		PKPdf	19 10 21.3	+0.5
MUD				pmax		pmax		
	comp=Z,18nm,1.0s							
MUD	Monsted U'grnd	145.36	351	*i* P		PKPdf	19 10 21.3	+0.5
	comp=Z,18nm,1.0s							
BOYT	Boyabat	145.41	311	*i* P		PKPbc	19 10 23.7	+0.7
KAMA	Osmaniye	145.47	304	*i* P		PKPbc	19 10 23.4	+0.1
BSD	Bornholm Skovb	145.56	345	*i* PKiKP		PKPdf	19 10 21.3	+0.1
BSD				pmax		pmax		
	comp=Z,32nm,0.9s							
BSD	Bornholm Skovb	145.56	345	*i* P		PKPdf	19 10 21.3	+0.1
	comp=Z,32nm,0.9s							
ANDN	Andirin	145.62	304	*i* P		PKPbc	19 10 24.2	+0.5
CTKT	Corum	145.78	310	*i* P		PKPbc	19 10 25.1	+0.9
ILGA	Ilgaz	146.37	311	*i* P		PKPbc	19 10 26.8	+1.0
KIS	Kishinev	146.43	324	*e*PKiKP		PKPbc	19 10 25.0	-0.5
KIS	Kishinev	146.43	324	*e*P		PKPbc	19 10 25.0	-0.5
CDAG	Cicekdag	146.44	309	*i* P		PKPbc	19 10 26.0	0.0
GKP	Gorka Klasztor	146.59	342	*e*PKP2		PKPbc	19 10 25.3	-0.4
GKP	Gorka Klasztor	146.59	342	*e*PKP		PKPbc	19 10 25.3	-0.4
BEL	Belsk	146.64	337	*e*PKP2		PKPbc	19 10 26.2	+0.3
BEL	Belsk	146.64	337	*e*PKP		PKPbc	19 10 26.1	+0.2
ELDT	Eldivan	146.80	311	*i* P		PKPbc	19 10 27.1	+0.1
GULE	Gulek	146.90	304	*i* P		PKPbc	19 10 27.0	-0.3
LVV	L'vov	146.90	332	⇓*i*PKP2		PKPbc	19 10 26.7	0.0
BRTR	Keskin Array B	146.94	309	PKP		PKPdf	19 10 24.1	-0.1
	comp=Z,9.6nm,0.8s,baz=160,slow=4.3,SNR=52							
BRTR				PKPbc		PKPbc	19 10 26.8	-0.5
	comp=Z,9.8nm,0.8s,baz=134,slow=4.3,SNR=51							
LEOM	Leova	147.06	324	⇑PKP2		PKPbc	19 10 27.4	+0.2
LEOM	Leova	147.06	324	⇑*i*P		PKPbc	19 10 27.4	+0.2
BBAL	Bala	147.37	309	*i* P		PKPbc	19 10 28.7	+0.2
ANTO	Ankara	147.48	310	*e*PKP2		PKPbc	19 10 28.7	0.0
ANTO	Ankara	147.48	310	*e*PKPbc		PKPbc	19 10 28.6	0.0
BSEG	Bad Segeberg	147.61	349	*e*PKP		PKPbc	19 10 28.4	+0.1
BCAM	Yenicaga	147.61	312	*i* P		PKPbc	19 10 28.8	-0.2
KWP	Kalwaria Pacla	147.61	333	*e*PKP2		PKPbc	19 10 28.5	0.0
KWP	Kalwaria Pacla	147.61	333	*e*PKP		PKPbc	19 10 28.5	0.0
KWP	Kalwaria Pacla	147.61	333	*e*PKPbc		PKPbc	19 10 28.7	+0.2
CFR	Carcaliu	147.90	322	⇑PKP2		PKPbc	19 10 29.7	+0.4
CFR	Carcaliu	147.90	322	⇑*i*P		PKPbc	19 10 29.1	-0.2
TESR	Tescani	147.90	325	⇑*i*P		PKPdf	19 10 26.6	+1.2
BURAR	Bucovina Array	147.91	328	⇑PKP2		PKPbc	19 10 30.8	+1.3
BURAR	Bucovina Array	147.91	328	⇑*i*P		PKPbc	19 10 28.0	-1.5
TIRR	Tirgusor	148.15	320	⇑PKP2		PKPbc	19 10 30.3	+0.3
TIRR	Tirgusor	148.15	320	⇓*i*P		PKPbc	19 10 29.9	-0.2
TIRR	Tirgusor	148.15	320	*e*PKPbc		PKPbc	19 10 29.8	-0.2
VRI	Vrincioaia	148.27	324	⇑*i*P		PKPbc	19 10 28.5	-1.8
OJC	Ojcow	148.32	336	*e*PKP2		PKPbc	19 10 30.3	0.0
OJC	Ojcow	148.32	336	*e*PKP		PKPbc	19 10 30.3	0.0
PLOR	Plostina	148.32	324	⇓*i*P		PKPbc	19 10 28.5	-2.0
KOLS	Kolonicke sedl	148.32	332	*e*PKP		PKPdf	19 10 26.7	+0.7
STHS	Stebnicka Huta	148.39	334	*e*PKP		PKPbc	19 10 29.6	-0.9
MANR	Mangalia	148.40	319	⇑*i*P		PKPbc	19 10 31.4	+0.7
HENT	Hendek	148.41	313	*i* P		PKPbc	19 10 31.7	+0.9
KDHN	Kadinhani	148.48	308	*i* P		PKPbc	19 10 30.3	-0.9
ERMK	Ermenek	148.51	304	*i* P		PKPbc	19 10 32.2	+0.7
UZH	Uzhgorod	148.54	332	⇑*i*PKHKP		PKPbc	19 10 30.0	-0.9
UZH				*e*			19 10 34.0	
CSS	Prodhromos	148.66	301	*e*PKPbc		PKPbc	19 10 30.4	-1.2
CRVS	Cervenica-Dubn	148.70	333	*e*PKiKP		PKPdf	19 10 25.4	-1.2
CRVS	Cervenica-Dubn	148.70	333	*e*PKP		PKPdf	19 10 25.3	-1.3
MSAB	Monastry St. A	148.71	320	⇑*i*P		PKPbc	19 10 32.0	+0.6
PSN	Preselentsi	148.72	319	⇑PKP2		PKPbc	19 10 32.2	+0.7
PSN	Preselentsi	148.72	319	⇑*i*P		PKPbc	19 10 32.2	+0.7
NIE	Niedzica	148.76	335	*e*PKP2		PKPbc	19 10 32.0	+0.6
NIE	Niedzica	148.76	335	*e*PKP		PKPbc	19 10 32.0	+0.6
TRPA	Tarpa	148.81	331	⇑*i*P		PKPbc	19 10 31.5	0.0
ISR	Istrita	148.83	323	⇑PKP2		PKPbc	19 10 32.2	+0.4
ISR	Istrita	148.83	323	⇑*i*P		PKPbc	19 10 32.2	+0.4
DOPR	Dopca	148.92	325	⇑*i*P		PKPbc	19 10 32.6	+0.7
MLR	Muntele Rosu	148.93	324	⇓PKHKP		PKPbc	19 10 32.4	+0.3
MLR	Muntele Rosu	148.93	324	⇓*i*P		PKPbc	19 10 32.3	+0.2
SEYT	Eskypehyr	149.00	310	*i* P		PKPbc	19 10 32.5	0.0
KSP	Ksiaz	149.00	340	⇓*i*PKHKP		PKPbc	19 10 32.2	+0.3
KSP	Ksiaz	149.00	340	*e*PKP		PKPbc	19 10 32.2	+0.3
NRDL	Niedersach Rie	149.03	348	*e*PKP		PKPbc	19 10 31.6	-0.2
GAZI	Gazipasa	149.09	304	*i* P		PKPbc	19 10 31.9	-0.7
SECR		149.15	323	⇑*i*P		PKPbc	19 10 32.7	+0.2
OKC	Ostrava-Krasne	149.24	337	*e*PKHKP		PKPbc	19 10 32.2	-0.3
OKC				*e*			19 10 40.0	
OKC	Ostrava-Krasne	149.24	337	⇑*e*PKP		PKPbc	19 10 32.2	-0.3
OKC				*ex*		x	19 10 35.5	
OKC				*e*PKPAB		PKPab	19 10 40.0	+0.3
CJR	Cluj-Napoca	149.33	328	⇑PKHKP		PKPbc	19 10 33.5	+0.6
CJR	Cluj-Napoca	149.33	328	⇑*i*P		PKPbc	19 10 33.5	+0.6
UPC	Upice	149.38	340	*e*PKHKP		PKPbc	19 10 33.2	+0.3
UPC				*e*			19 10 40.8	
UPC	Upice	149.38	340	⇑*e*PKP		PKPbc	19 10 33.2	+0.3
UPC				*ex*		x	19 10 36.4	
UPC				*e*PKPAB		PKPab	19 10 40.8	+0.6
UPC				*ep*PKP		pPKPdf	19 12 54.1	+6.0
DPC	Dobruska-Polom	149.42	340	*e*PKHKP		PKPbc	19 10 33.4	+0.4
DPC				*e*			19 10 37.9	
DPC	Dobruska-Polom	149.42	340	⇑*e*PKP		PKPbc	19 10 33.4	+0.4
DPC				*ex*		x	19 10 37.9	
DPC				*e*PKPAB		PKPab	19 10 41.0	+0.5
VOIR		149.45	325	⇑PKHKP		PKPbc	19 10 33.2	-0.1
VOIR		149.45	325	⇑*i*P		PKPbc	19 10 33.2	-0.1
MORC	Moravsky Berou	149.50	338	⇑PKHKP		PKPbc	19 10 33.9	+0.7
MORC	Moravsky Berou	149.50	338	⇑*i*P		PKPbc	19 10 33.9	+0.7
MORC	Moravsky Berou	149.50	338	*e*PKPbc		PKPbc	19 10 33.0	-0.2
KRLC	Kraliky	149.51	339	*e*PKHKP		PKPbc	19 10 33.4	+0.2
KRLC				*e*			19 10 41.1	
KRLC	Kraliky	149.51	339	⇑*e*PKP		PKPbc	19 10 33.4	+0.2
KRLC				*e*PKPAB		PKPab	19 10 41.1	+0.3
CLL	Collm	149.51	344	⇓*i*PKHKP		PKPbc	19 10 33.0	-0.1
CLL				*i*			19 10 40.2	
CLL				pmax		pmax		
	comp=Z,51nm,0.8s							
CLL				pmax		pmax		
	comp=Z,16nm,0.8s							
CLL	Collm	149.51	344	*e*PKP		PKPbc	19 10 33.1	-0.1
CLL	Collm	149.51	344	⇓*i*PKPbc		PKPbc	19 10 33.0	-0.1
	comp=Z,51nm,0.8s							
CLL				⇑*i*PKPab		PKPab	19 10 40.2	-0.5
	comp=Z,16nm,0.8s							
CLL				*ep*PKPab		pPKPab	19 12 52.0	-2.3
CLZ	Clausthal	149.60	348	*e*PKP		PKPbc	19 10 33.5	+0.1
BRG	Berggiesshubel	149.66	343	*e*PKP		PKPdf	19 10 28.2	+0.1
	comp=Z,3.7nm,1.1s							
BRG				*i*			19 10 33.6	
	comp=Z,38nm,0.8s							
BRG				*i*			19 10 41.4	
	comp=Z,14nm,0.8s							
BRG				pPKP		pPKPdf	19 12 54.7	+6.2
	comp=Z,29nm,2.0s							
BRG	Berggiesshubel	149.66	343	*e*PKHKP		PKPpre	19 10 28.2	
BRG				pmax		pmax		
	comp=Z,4.0nm,1.1s							
BRG				pmax		pmax		
	comp=Z,38nm,0.9s							
BRG				pmax		pmax		
	comp=Z,14nm,0.8s							
BRG				pmax		pmax		
	comp=Z,29nm,2.0s							
BRG	Berggiesshubel	149.66	343	*e*PKP		PKPbc	19 10 33.6	+0.1
DRGR		149.70	329	⇑PKHKP		PKPbc	19 10 32.7	-1.1
DRGR		149.70	329	⇑*i*P		PKPdf	19 10 30.9	+2.5
ARR	Arges	149.71	325	⇑*i*P		PKPbc	19 10 35.1	+1.2
PVCC	Panska Ves	149.79	342	*e*PKHKP		PKPbc	19 10 34.0	+0.2
PVCC				*e*			19 10 42.4	
PVCC	Panska Ves	149.79	342	⇑*e*PKP		PKPbc	19 10 34.0	+0.2
PVCC				*ex*		x	19 10 37.3	
PVCC				*e*PKPAB		PKPab	19 10 42.4	+0.5
HUMR	Humele	150.07	323	⇑*i*P		PKPbc	19 10 34.4	-0.2
VYHS	Vyhne	150.09	335	*e*PKHKP		PKPbc	19 10 34.4	-0.2
VYHS	Vyhne	150.09	335	*e*PKP		PKPbc	19 10 34.4	-0.2
LOT	Lotru	150.11	326	⇑*i*P		PKPbc	19 10 34.5	-0.4
PSZ	Piszkesteto	150.12	333	⇑PKHKP		PKPbc	19 10 34.8	0.0
PSZ	Piszkesteto	150.12	333	⇑*i*P		PKPbc	19 10 34.8	0.0
PSZ	Piszkesteto	150.12	333	*e*PKPbc		PKPbc	19 10 34.3	-0.4
GDZ	Gediz	150.14	311	*i

TALC	**Talca**	**0.77**	**110**	*e*P	Pg	18 52 46.0	+0.1
TALC				*e*S	Sb	18 52 57.6	+1.0
LNCH	**Linares**	**1.03**	**134**	⇓*i*P	Pb	18 52 50.8	0.0
LNCH				*e*S	Sn	18 53 05.9	+0.3
LNCH				IAML		18 53 09.4	
	comp=N,3μm,0.6s						
NICH	**Los Niches**	**1.06**	**83**	*i* P	Pb	18 52 51.4	+0.1
NICH				*i* S	Sn	18 53 06.9	+0.5
NICH				IAML		18 53 09.5	
	comp=N,2μm,0.2s						
CLCH	**Cerro Calan**	**2.39**	**44**	IAML		18 53 53.5	
	comp=N,474nm,0.6s						
FCH	**Farellones**	**2.58**	**46**	IAML		18 53 51.7	
	comp=N,185nm,0.3s						

CSEM ***18*** *18:52:54.6±0.1, 43°.79N×19°.05E, h2km, ML3.0, Ms3.3, Error ellipse: s-maj=2.8km s-min=2.2km az=80.0*
PDG ***18*** *18:52:55.1±0.3, 43°.76N×19°.04E, h2km, ML2.8/11, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
SKO ***18*** *18:52:55.4, 43°.81N×19°.00E, h1km*
BEO ***18*** *18:52:55.7±0.2, 43°.78N×19°.07E, h11km±2km, ML3.0/1*
PRU ***18*** *18:52:57.6, 44°.00N×19°.08E, h1km*
VIE ***18*** *18:53:00.6±0.6, 44°.15N×18°.86E, h10km, mb2.8/7, ML2.8/5, Ms3.3/2, Error ellipse: s-maj=10.6km s-min=3.2km az=60.0*
49 km NE of Sarajevo

ISC 18 18:52:55.2±1.0, 43°.81N±0°.02×19°.04E±0°.02, h10km±8km, n122, σ1§21/177, 33C-27D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBLS	**Lazići**	**0.27**	**77**	*e*Pg	**Pg**	**18 53 00.9**	**+0.2**
BBLS	**Lazići**	**0.27**	**77**	*e*Pg	**Pg**	**18 53 00.9**	**+0.2**
PLE	**Pljevlja**	**0.54**	**152**	⇑*i*Pg	**Pg**	**18 53 05.0**	**-0.7**
PLE				*e*Sg	**Sg**	**18 53 11.8**	**-1.0**
PLE	**Pljevlja**	**0.54**	**152**	⇑*i*Pg	**Pg**	**18 53 05.0**	**-0.7**
PLE				*e*Sg	**Sg**	**18 53 11.8**	**-1.0**
UPM	**Unac-Piva**	**0.61**	**189**	⇓*i*Pg	**Pg**	**18 53 06.3**	**-0.8**
UPM				*e*Sg	**Sg**	**18 53 14.0**	**-1.1**
UPM	**Unac-Piva**	**0.61**	**189**	⇓*i*Pg	**Pg**	**18 53 06.3**	**-0.8**
UPM				*e*Sg	**Sg**	**18 53 14.0**	**-1.1**
DIVS	**Divibare**	**0.75**	**67**	⇓*i*Pg	**Pg**	**18 53 09.5**	**-0.1**
DIVS				*e*Sg	**Sg**	**18 53 19.4**	**0.0**
DIVS	**Divibare**	**0.75**	**67**	⇓*i*Pg	**Pg**	**18 53 09.5**	**-0.1**
DIVS				*e*Sg	**Sg**	**18 53 19.4**	**0.0**
TEKS	**Tekeris**	**0.82**	**25**	*i* Pg	**Pb**	**18 53 12.2**	**+0.7**
TEKS	**Tekeris**	**0.82**	**25**	*i* Pg	**Pb**	**18 53 12.2**	**+0.7**
IVAS	**Ivanjica**	**0.84**	**106**	⇓*i*Pg	**Pg**	**18 53 10.2**	**-1.2**
IVAS	**Ivanjica**	**0.84**	**106**	⇓*i*Pg	**Pg**	**18 53 10.2**	**-1.2**
SJES	**Sjenica**	**0.87**	**128**	⇑*i*Pg	**Pg**	**18 53 10.7**	**-1.3**
SJES				*e*Sg	**Sg**	**18 53 21.7**	**-1.6**
NKY	**Niksic**	**0.99**	**182**	⇑*i*Pg	**Pg**	**18 53 13.0**	**-1.3**
NKY				*e*Sg	**Sg**	**18 53 27.2**	**0.0**
NKY	**Niksic**	**0.99**	**182**	⇑*i*Pg	**Pg**	**18 53 13.0**	**-1.3**
NKY				*e*Sg	**Sg**	**18 53 27.2**	**0.0**
NKME	**Niksic**	**1.04**	**183**	⇑*i*Pg	**Pg**	**18 53 14.1**	**-1.1**
NKME				*e*Sg	**Sg**	**18 53 28.3**	**-0.4**
NKME	**Niksic**	**1.04**	**183**	⇑*i*Pg	**Pg**	**18 53 14.1**	**-1.1**
NKME				*e*Sg	**Sg**	**18 53 28.3**	**-0.4**
TRUS	**Trudelj**	**1.07**	**67**	⇑*i*Pg	**Pg**	**18 53 14.7**	**-1.1**
TRUS	**Trudelj**	**1.07**	**67**	⇑*i*Pg	**Pg**	**18 53 14.7**	**-1.1**
BEY	**Berane**	**1.12**	**146**	⇑*i*Pg	**Pg**	**18 53 15.1**	**-1.7**
BEY				*e*Sg	**Sb**	**18 53 32.1**	**+0.7**
IVA	**Berane**	**1.12**	**146**	⇑*i*Pg	**Pg**	**18 53 15.1**	**-1.7**
IVA				*e*Sg	**Sb**	**18 53 32.1**	**+0.7**
TREB	**Trebinje**	**1.20**	**205**	*e*Pg	**Pg**	**18 53 16.7**	**-1.5**
TREB				*e*Sg	**Sb**	**18 53 34.5**	**+1.0**
TREB	**Trebinje**	**1.20**	**205**	*e*Pg	**Pg**	**18 53 16.7**	**-1.5**
TREB				*e*Sg	**Sb**	**18 53 34.5**	**+1.0**
GRUS	**Gruza**	**1.22**	**86**	⇓*i*Pg	**Pg**	**18 53 18.1**	**-0.4**
GRUS				*e*Sg	**Sb**	**18 53 34.1**	**+0.1**
GRUS	**Gruza**	**1.22**	**86**	⇓*i*Pg	**Pg**	**18 53 18.1**	**-0.4**
GRUS				*e*Sg	**Sb**	**18 53 34.1**	**+0.1**
STON	**Ston**	**1.35**	**227**	*i* Pg	**Pn**	**18 53 19.3**	**-0.7**
STON				Sg	**Sb**	**18 53 38.5**	**+0.6**
STON	**Ston**	**1.35**	**227**	⇓*i*Pg	**Pn**	**18 53 19.1**	**-0.9**
STON	**Ston**	**1.35**	**227**	⇓*i*Pg	**Pn**	**18 53 19.1**	**-0.9**
STON				Sg	**Sb**	**18 53 38.4**	**+0.6**
PDG	**Podgorica**	**1.39**	**173**	*e*Pg	**Pn**	**18 53 19.9**	**-0.6**
PDG				*e*Sg	**Sn**	**18 53 39.6**	**+0.8**
PDG	**Podgorica**	**1.39**	**173**	*e*Pg	**Pn**	**18 53 19.9**	**-0.6**
PDG				*e*Sg	**Sn**	**18 53 39.6**	**+0.8**
TTG	**Podgorica**	**1.39**	**173**	⇑*i*Pg	**Pn**	**18 53 19.4**	**-1.1**
TTG				*e*Sg	**Sg**	**18 53 40.0**	**+0.3**
PVY	**Plav**	**1.39**	**151**	⇑*i*Pg	**Pn**	**18 53 19.8**	**-0.8**
PVY				*e*Sg	**Sg**	**18 53 41.3**	**+1.5**
PVY	**Plav**	**1.39**	**151**	⇑*i*Pg	**Pn**	**18 53 19.8**	**-0.8**
PVY				*e*Sg	**Sg**	**18 53 41.3**	**+1.5**
HCY	**Herceg Novi**	**1.42**	**197**	⇑*i*Pg	**Pn**	**18 53 20.7**	**-0.2**
HCY				*e*Sg	**Sg**	**18 53 42.4**	**+1.7**
HCY	**Herceg Novi**	**1.42**	**197**	⇑*i*Pg	**Pn**	**18 53 20.7**	**-0.2**
HCY				*e*Sg	**Sg**	**18 53 42.4**	**+1.7**
BEO	**Beograd**	**1.44**	**45**	*e*Pg	**Pg**	**18 53 22.3**	**-0.4**
BEO				*e*Sg	**Sg**	**18 53 42.4**	**+1.0**
BEO	**Beograd**	**1.44**	**45**	*e*Pg	**Pg**	**18 53 22.3**	**-0.4**
BEO				*e*Sg	**Sg**	**18 53 42.4**	**+1.0**
FGSL	**Fruska Gora**	**1.46**	**22**	*e*Pg	**Pn**	**18 53 21.4**	**-0.2**
FGSL				*e*Sg	**Sg**	**18 53 42.7**	**+0.6**
FRGS	**Fruska Gora**	**1.46**	**22**	*e*Pg	**Pn**	**18 53 21.4**	**-0.2**
FRGS				*e*Sg	**Sg**	**18 53 42.7**	**+0.6**
BUM	**Brajici-Budva**	**1.51**	**184**	⇓*i*Pg	**Pn**	**18 53 21.9**	**-0.4**
BUM				*e*Sg	**Sg**	**18 53 45.0**	**+1.3**
BUM	**Brajici-Budva**	**1.51**	**184**	⇓*i*Pg	**Pn**	**18 53 21.9**	**-0.4**
BUM				*e*Sg	**Sg**	**18 53 45.0**	**+1.3**
DRME	**Dracevica, Mon**	**1.62**	**176**	*e*Pg	**Pn**	**18 53 24.7**	**+0.9**
DRME				*e*Sg	**Sg**	**18 53 48.9**	**+1.6**
DRME	**Dracevica, Mon**	**1.62**	**176**	*e*Pg	**Pn**	**18 53 24.7**	**+0.9**
DRME				*e*Sg	**Sg**	**18 53 48.9**	**+1.6**
SELS	**Selova**	**1.62**	**110**	*e*Pg	**Pb**	**18 53 25.3**	**+0.1**
SELS	**Selova**	**1.62**	**110**	*e*Pg	**Pb**	**18 53 25.3**	**+0.1**
BLY	**Banja Luka**	**1.63**	**306**	*e*Pg	**Pb**	**18 53 25.1**	**-0.2**
BLY				*e*Sn	**Sb**	**18 53 46.4**	**+0.5**
BLY	**Banja Luka**	**1.63**	**306**	*e*Pg	**Pb**	**18 53 25.1**	**-0.2**
BLY				*e*Sn	**Sb**	**18 53 46.4**	**+0.5**
SVIS	**Svilajnac**	**1.64**	**73**	*e*Pn	**Pn**	**18 53 24.1**	**+0.2**
SVIS				*e*Sn	**Sn**	**18 53 43.8**	**-1.2**
SVIS	**Svilajnac**	**1.64**	**73**	*e*Pn	**Pn**	**18 53 24.1**	**+0.2**
SVIS				*e*Sn	**Sn**	**18 53 43.8**	**-1.2**
ULC	**Ulcinj**	**1.85**	**175**	*e*Pn	**Pn**	**18 53 28.3**	**+1.4**
ULC				*e*Sn	**Sg**	**18 53 54.7**	**+0.1**
ULC	**Ulcinj**	**1.85**	**175**	*e*Pn	**Pn**	**18 53 28.3**	**+1.4**
ULC				*e*Sn	**Sg**	**18 53 54.7**	**+0.1**
BARS	**Barje**	**2.25**	**115**	*e*Pn	**Pn**	**18 53 32.5**	**0.0**
BARS	**Barje**	**2.25**	**115**	*e*Pn	**Pn**	**18 53 32.5**	**0.0**
UDBI	**Udbina**	**2.46**	**288**	*i* Pn	**Pn**	**18 53 36.4**	**+1.0**
UDBI	**Udbina**	**2.46**	**288**	*i* Pn	**Pn**	**18 53 36.4**	**+1.0**
SKO	**Skopje**	**2.54**	**135**	*e*Pn	**Pn**	**18 53 38.4**	**+1.9**
SKO	**Skopje**	**2.54**	**135**	*e*Pn	**Pn**	**18 53 38.3**	**+1.9**
BZS	**Buzias**	**2.58**	**45**	⇓*i*Pn	**Pn**	**18 53 36.5**	**-0.4**
BZS	**Buzias**	**2.58**	**45**	⇓*i*P	**Pn**	**18 53 36.7**	**-0.2**
BZS	**Buzias**	**2.58**	**45**	S	**Sn**	**18 54 06.8**	**-1.5**
BZS	**Buzias**	**2.58**	**45**	⇓*i*Pn	**Pn**	**18 53 36.5**	**-0.4**
BZS	**Buzias**	**2.58**	**45**	⇓*i*P	**Pn**	**18 53 36.7**	**-0.2**
BZS				S	**Sn**	**18 54 06.8**	**-1.5**
PKS2	**Kecel**	**2.69**	**3**	*e*	**Sg**	**18 54 22.0**	**+0.5**
PKS6	**Bocsa**	**2.82**	**7**	*e*	**Sg**	**18 54 26.2**	**+0.5**
PKS9	**Tamasi**	**2.83**	**349**	*e*Pn	**Pn**	**18 53 40.7**	**+0.3**
PKS9	**Tamasi**	**2.83**	**349**	*e*	**Pn**	**18 53 40.7**	**+0.3**
OHR	**Ohrid**	**2.99**	**154**	*e*Pn	**Pn**	**18 53 44.5**	**+1.8**
OHR	**Ohrid**	**2.99**	**154**	*e*Pn	**Pn**	**18 53 44.4**	**+1.8**
NVLJ	**Novalja**	**3.09**	**286**	*e*Pn	**Pn**	**18 53 45.2**	**+1.2**
NVLJ				Sn	**Sn**	**18 54 22.9**	**+2.0**
NVLJ	**Novalja**	**3.09**	**286**	*e*Pn	**Pn**	**18 53 45.1**	**+1.2**
NVLJ				Sn	**Sn**	**18 54 22.9**	**+2.0**
GZR	**Gura Zlata**	**3.11**	**58**	⇑*i*P	**Pn**	**18 53 44.8**	**+0.6**
GZR	**Gura Zlata**	**3.11**	**58**	⇑*i*P	**Pn**	**18 53 44.8**	**+0.6**
BEHE	**Becsehely**	**3.11**	**330**	*e*Pn	**Pn**	**18 53 44.8**	**+0.6**
BEHE	**Becsehely**	**3.11**	**330**	*e*	**Pn**	**18 53 44.8**	**+0.6**
PKSN	**Nyarlorinc**	**3.15**	**10**	*e*Pn	**Pn**	**18 53 47.0**	**+2.3**
PKSN	**Nyarlorinc**	**3.15**	**10**	*e*	**Pn**	**18 53 47.0**	**+2.3**
BOJS	**Bojanci**	**3.19**	**303**	*e*Pn	**Pn**	**18 53 47.1**	**+1.8**
BOJS	**Bojanci**	**3.19**	**303**	*e*Pn	**Pn**	**18 53 47.1**	**+1.8**
VTS	**Vitosha**	**3.28**	**110**	⇑*i*P	**Pb**	**18 53 55.7**	**+2.2**
VTS	**Vitosha**	**3.28**	**110**	S	**Sg**	**18 54 40.0**	**-0.6**
PKST	**T``s**	**3.52**	**349**	⇓*e*Pn	**Pn**	**18 53 50.6**	**+0.7**
PKST				*e*Sn	**Sn**	**18 54 29.7**	**-1.9**
PKST	**T``s**	**3.52**	**349**	⇓*e*	**Pn**	**18 53 50.6**	**+0.7**
PKST				*e*		18 54 29.7	
VISS	**Visnje**	**3.59**	**305**	*e*Pn	**Pn**	**18 53 52.4**	**+1.5**
VISS	**Visnje**	**3.59**	**305**	*e*Pn	**Pn**	**18 53 52.4**	**+1.5**
GROS	**Grobnik**	**3.65**	**318**	*i* Pn	**Pn**	**18 53 52.3**	**+0.6**
GROS	**Grobnik**	**3.65**	**318**	*i* Pn	**Pn**	**18 53 52.3**	**+0.6**
PDKS	**Podkum**	**3.65**	**310**	*e*Pn	**Pn**	**18 53 52.7**	**+1.0**
PDKS	**Podkum**	**3.65**	**310**	*e*Pn	**Pn**	**18 53 52.7**	**+1.0**
DRGR		**3.95**	**40**	⇓*i*P	**Pn**	**18 53 55.8**	**-0.1**
DRGR		**3.95**	**40**	S	**Sn**	**18 54 39.9**	**-2.4**
DRGR		**3.95**	**40**	⇓*i*P	**Pn**	**18 53 55.8**	**-0.1**
DRGR				S	**Sn**	**18 54 39.9**	**-2.4**
SOKA	**Soboth**	**4.03**	**317**	*i* Pn	**Pn**	**18 53 57.6**	**+0.7**
SNR=7.8							
SOKA				⇓*i*Sn	**Sn**	**18 54 42.2**	**-2.0**
SOKA	**Soboth**	**4.03**	**317**	Pn	**Pn**	**18 53 57.6**	**+0.7**
SNR=7.8							
SOKA				Sn	**Sn**	**18 54 42.2**	**-2.0**
MMB	**Musomiste**	**4.11**	**121**	⇓*i*P	**Pg**	**18 54 13.7**	**-0.1**
PSZ	**Piszkesteto**	**4.16**	**8**	⇑*i*P	**Pn**	**18 53 57.0**	**-1.7**
PSZ	**Piszkesteto**	**4.16**	**8**	⇑*i*P	**Pn**	**18 53 57.0**	**-1.7**
PSZ	**Piszkesteto**	**4.16**	**8**	⇑*e*Pn	**Pn**	**18 53 58.9**	**+0.2**
PSZ	**Piszkesteto**	**4.16**	**8**	⇑*e*	**Pn**	**18 53 58.9**	**+0.2**
PSZ				*e*		18 55 08.3	
OBKA	**Obir**	**4.17**	**312**	⇑*i*Pn	**Pn**	**18 53 60.0**	**+1.1**
SNR=11							
OBKA	**Obir**	**4.17**	**312**	Pn	**Pn**	**18 54 00.0**	**+1.1**
SNR=11							
ARSA	**Arzberg**	**4.24**	**326**	⇑*i*Pn	**Pn**	**18 54 00.4**	**+0.6**
ARSA	**Arzberg**	**4.24**	**326**	⇑*i*Pn	**Pn**	**18 54 00.6**	**+0.9**
SNR=14							
ARSA				⇓*i*Sn	**Sn**	**18 54 47.3**	**-2.0**
ARSA	**Arzberg**	**4.24**	**326**	⇑*i*Pn	**Pn**	**18 54 00.4**	**+0.6**
ARSA				Sn	**Sn**	**18 54 47.3**	**-2.0**
SOP	**Sopron**	**4.25**	**337**	⇑*e*Pn	**Pn**	**18 54 00.3**	**+0.5**
SOP				*e*Sn	**Sn**	**18 54 50.4**	**+1.0**
SOP	**Sopron**	**4.25**	**337**	⇑*e*	**Pn**	**18 54 00.3**	**+0.5**
SOP				*e*		18 54 50.4	
VOIR		**4.59**	**67**	⇑*i*P	**Pn**	**18 54 06.6**	**+2.0**
VOIR		**4.59**	**67**	S	**Sn**	**18 54 59.8**	**+1.8**
VOIR		**4.59**	**67**	⇑*i*P	**Pn**	**18 54 06.6**	**+2.0**
VOIR				S	**Sn**	**18 54 59.8**	**+1.8**
MOA	**Molln**	**5.24**	**322**	⇑*i*Pn	**Pn**	**18 54 14.1**	**+0.6**
SNR=7.9							
MOA				⇓*i*Sn	**Sn**	**18 55 11.7**	**-2.3**
MOA	**Molln**	**5.24**	**322**	Pn	**Pn**	**18 54 14.1**	**+0.6**
SNR=7.9							
MOA				Sn	**Sn**	**18 55 11.7**	**-2.3**
ABTA	**Abfaltersbach**	**5.46**	**305**	⇑*i*Pn	**Pn**	**18 54 18.4**	**+1.7**
SNR=6.4							
ABTA	**Abfaltersbach**	**5.46**	**305**	Pn	**Pn**	**18 54 18.4**	**+1.7**
SNR=6.4							
OKC	**Ostrava-Krasne**	**6.06**	**355**	*e*SN	**Sn**	**18 55 31.2**	**-3.0**
WTTA	**Wattenberg**	**6.24**	**306**	⇓*i*Pn	**Pn**	**18 54 28.7**	**+1.3**
SNR=6.7							
WTTA	**Wattenberg**	**6.24**	**306**	Pn	**Pn**	**18 54 28.7**	**+1.3**
SNR=6.7							
WATA	**Walderalm**	**6.32**	**307**	⇓*i*Pn	**Pn**	**18 54 29.1**	**+0.7**
SNR=5.2							
WATA	**Walderalm**	**6.32**	**307**	Pn	**Pn**	**18 54 29.1**	**+0.7**
SNR=5.2							
KHC	**Kasperske Hory**	**6.52**	**327**	*e*PN	**Pn**	**18 54 32.1**	**+1.0**
KHC				*ex*	x	18 54 40.9	
KHC				*e*PB	**Pb**	**18 54 47.9**	**-0.8**
KHC				*e*SN	**Sn**	**18 55 42.9**	**-2.7**
KHC				*ex*	x	18 55 57.0	
KHC	**Kasperske Hory**	**6.52**	**327**	Pn	**Pn**	**18 54 32.1**	**+1.0**
MOTA	**Moosalm**	**6.60**	**305**	⇓*i*Pn	**Pn**	**18 54 33.7**	**+1.4**
SNR=8.8							
MOTA	**Moosalm**	**6.60**	**305**	Pn	**Pn**	**18 54 33.7**	**+1.4**
SNR=8.8							
DPC	**Dobruska-Polom**	**6.80**	**345**	*e*SN	**Sn**	**18 55 49.0**	**-3.5**

IDC ***18*** *18:58:56.4±1.4, 15°.25N×93°.95W, h0km, mb3.6/7, mb1 3.9/10, mb1mx3.7/44, mbtmp3.6/10, ML3.5/3, Error ellipse: s-maj=47.3km s-min=18.8km az=54.0*
MEX ***18*** *18:58:57.9±0.9, 14°.81N×94°.58W, h16km±18km, MD3.9*

ISC 18 18:58:59.8±1.0, 15°.05N±0°.08×94°.22W±0°.07, h33km, n15, σ1§68/19, mb3.7/7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.16**	**56**	*i* P	**Pb**	**18 59 21.1**	**-0.3**
PCIG				*i* S	**Sb**	**18 59 40.6**	**+4.4**
HUIG	**Huatulco**	**1.96**	**292**	*e*P	Pn	18 59 24.7	-6.1
HUIG				*i* S	Sn	18 59 44.2	-10
TGIG		**2.02**	**31**	*e*P	**Pb**	**18 59 34.4**	**-1.6**
TGIG				*e*S	**Sb**	**19 00 02.0**	**+1.3**
CMIG	**Matias Romero**	**2.13**	**343**	*i* P	**Pn**	**18 59 32.6**	**-0.5**
CMIG				*i* S	**Sn**	**18 59 57.8**	**-0.6**
CMIG	**Matias Romero**	**2.13**	**343**	Pn	**Pn**	**18 59 32.7**	**-0.5**
23nm,0.3s,baz=156,slow=12,SNR=171							
CMIG				Sn	**Sn**	**18 59 58.9**	**+0.4**
32nm,0.3s,baz=72,slow=18,SNR=10							
CCIG	**Comitan**	**2.35**	**58**	*e*P	**Pb**	**18 59 39.6**	**-2.0**
CCIG				*e*S	**Sb**	**19 00 10.9**	**+0.5**
APG	**El Apazote**	**3.63**	**90**	Pn	**Pn**	**18 59 52.3**	**-1.6**
2.0nm,0.3s,baz=317,slow=5.7,SNR=12							
TXAR	**Lajitas Array**	**16.68**	**330**	Pn	**P**	**19 02 52.5**	**-0.8**
0.1nm,0.3s,baz=155,slow=14,SNR=7.2							
ANMO	**Albuquerque**	**22.67**	**333**	P	**P**	**19 04 00.9**	**+2.2**
0.7nm,0.6s,baz=170,slow=11,SNR=3.1							
PDAR	**Pinedale Array**	**30.61**	**338**	P	**P**	**19 05 12.3**	**+1.2**
0.6nm,0.9s,baz=131,slow=11,SNR=3.0							
YKA	**Yellowknife Ar**	**49.53**	**348**	P	**P**	**19 07 47.2**	**+0.1**
0.8nm,0.6s,baz=154,slow=7.5,SNR=11							
FRB	**Frobisher Bay**	**51.80**	**14**	P	**P**	**19 08 02.5**	**-1.7**
2.2nm,0.7s,baz=214,slow=15,SNR=3.8							
CFAA	**Coronel Fontan**	**52.66**	**152**	P	**P**	**19 08 13.1**	**+1.9**
0.5nm,0.5s,baz=302,slow=19,SNR=4.9							
RES	**Resolute Bay**	**59.64**	**360**	P	**P**	**19 09 00.1**	**-0.2**
0.6nm,0.7s,baz=181,slow=11,SNR=3.1							
ILAR	**Eielson Array**	**61.04**	**337**	P	**P**	**19 09 10.2**	**+0.1**
0.5nm,0.9s,baz=168,slow=5.3,SNR=5.1							

IDC ***18*** *18:59:18.6±2.5, 42°.97N×105°.19W, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.2/51, mbtmp3.5/4, ML3.0/2, Error ellipse: s-maj=50.6km s-min=10.4km az=160.0*
ISCJB ***18*** *18:59:22.6±0.2, 43°.52N±0°.01×105°.39W±0°.02, h0km, mb4.5/1, Error ellipse: s-maj=2.2km s-min=2.1km az=137.1*
NEIC ***18*** *18:59:22.7±0.6, 43°.50N×105°.26W, h0km, ML3.0, Error ellipse: s-maj=9.7km s-min=7.6km az=134.0, Suspected Mining explosion.*
NEIC 85 km [50 miles] E of Midwest.

ISC 18 18:59:22.2±0.6, 43°.48N±0°.02×105°.36W±0°.02, h0km, n89, σ1§21/96, 46C-37D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.16**	**242**	P	**Pg**	**18 59 26.9**	**+1.7**
baz=0.2,SNR=1000							
I23A	**Meade Ranch, G**	**0.49**	**351**	⇓P	**Pg**	**18 59 31.8**	**+0.3**
baz=0.5,SNR=20							
I23A				⇓S	**Sg**	**18 59 37.4**	**-0.5**
baz=0.5							
J24A	**Dixon Ranch, L**	**0.53**	**106**	⇓P	**Pb**	**18 59 33.4**	**-1.0**
baz=0.5							
J24A				⇑S	**Sb**	**18 59 41.2**	**-1.6**
baz=0.5							
I24A	**Kuemmerle Ranc**	**0.66**	**54**	⇑P	**Pg**	**18 59 34.8**	**0.0**
baz=0.6							
I24A				⇓S	**Sg**	**18 59 44.1**	**+0.9**
baz=0.6							
K23A	**Bowen Ranch, D**	**0.75**	**195**	⇓P	**Pn**	**18 59 38.2**	**-1.9**
baz=0.8,SNR=6.7							
J22A	**Midwest**	**0.82**	**266**	⇑P	**Pg**	**18 59 38.0**	**+0.2**
baz=0.9,SNR=59							
K24A	**Anderson Ranch**	**0.85**	**152**	⇓P	**Pn**	**18 59 39.5**	**-2.1**
baz=0.8							
I22A	**9 Mile Ranch,**	**0.91**	**297**	⇑P	**Pg**	**18 59 39.7**	**0.0**
baz=1.0,SNR=76							
H23A	**Clabaugh Cattl**	**1.08**	**359**	⇑P	**Pg**	**18 59 42.0**	**-0.9**
baz=1.1,SNR=22							
J25A	**Sunshine Ranch**	**1.14**	**94**	⇑P	**Pb**	**18 59 44.3**	**-0.5**
baz=1.1							
J25A				⇓S	**Sn**	**19 00 01.3**	**-0.6**
baz=1.1							
RSSD	**Black Hills**	**1.16**	**56**	*e*P	**Pg**	**18 59 43.0**	**-1.3**
K22A	**Casper**	**1.19**	**226**	⇑P	**Pn**	**18 59 45.0**	**-1.2**
baz=1.3							
K22A	**Casper**	**1.19**	**226**	*e*P	**Pb**	**18 59 44.8**	**-0.9**
I25A	**Rochford**	**1.30**	**65**	⇑P	**Pg**	**18 59 46.1**	**-0.9**
baz=1.2							
H22A	**Clearmont**	**1.32**	**328**	⇓P	**Pg**	**18 59 47.0**	**-0.6**
baz=1.3,SNR=117							
L23A	**Garrett**	**1.39**	**191**	⇑P	**Pn**	**18 59 48.7**	**-0.3**
baz=1.4							
K25A	**Mack Ranch, Ha**	**1.39**	**128**	⇓P	**Pb**	**18 59 49.9**	**+0.7**
baz=1.4							
H24A	**Dirks Ranch, A**	**1.40**	**24**	⇑P	**Pn**	**18 59 47.3**	**-1.7**
baz=1.3							
I21A	**Big Trails, Te**	**1.44**	**284**	P	**Pn**	**18 59 48.7**	**-1.0**
baz=1.5,SNR=357							
L24A	**Wheatland**	**1.47**	**167**	⇓P	**Pb**	**18 59 50.4**	**-0.1**
baz=1.5							
L24A				⇑S	**Sn**	**19 00 12.4**	**+2.3**
baz=1.5							
J21A	**Lysite**	**1.52**	**266**	⇑P	**Pn**	**18 59 50.3**	**-0.6**
baz=1.6,SNR=20							
J21A				⇓S	**Sg**	**19 00 11.3**	**+0.2**
baz=1.6							
K21A	**Alcova**	**1.62**	**239**	P	**Pg**	**18 59 52.7**	**-0.6**
baz=1.7,SNR=116							
K21A				⇑S	**Sg**	**19 00 14.8**	**+0.6**
baz=1.7							
L22A	**Ellis Ranch, M**	**1.65**	**209**	⇑P	**Pg**	**18 59 53.2**	**-0.5**
baz=1.7,SNR=45							
L22A				⇑S	**Sg**	**19 00 16.4**	**+1.4**
baz=1.7							
H21A	**Big Horn, Sher**	**1.67**	**314**	⇓P	**Pn**	**18 59 53.1**	**+0.2**
baz=1.7,SNR=76							
L25A	**Engebretsen Ra**	**1.67**	**142**	⇑P	**Pg**	**18 59 54.5**	**+0.3**
baz=1.6,SNR=11							
J26A	**Sides Ranch, S**	**1.68**	**95**	⇑P	**Pg**	**18 59 53.9**	**-0.4**
baz=1.6,SNR=15							
J26A				⇓S	**Sg**	**19 00 17.1**	**+1.1**
baz=1.6							
H25A	**Fruitdale**	**1.71**	**47**	⇑P	**Pb**	**18 59 54.0**	**-0.5**
baz=1.6,SNR=12							
H25A				⇑Sb	**Sg**	**19 00 18.0**	**+0.9**
baz=1.6							
G23A	**Biddle**	**1.72**	**359**	⇑P	**Pn**	**18 59 53.3**	**-0.2**
baz=1.7,SNR=92							
K26A	**Motz Farm, Whi**	**1.78**	**115**	⇑P	**Pg**	**18 59 55.6**	**-0.6**
baz=1.7,SNR=21							
K26A				⇑Sb	**Sg**	**19 00 21.8**	**+2.5**
baz=1.7							
G22A	**Birney**	**1.86**	**339**	⇑P	**Pn**	**18 59 55.8**	**+0.3**
baz=1.9							
G22A				⇑Sb	**Sn**	**19 00 21.4**	**+1.6**
baz=1.9							
I26A	**New Underwood**	**1.90**	**72**	⇓P	**Pb**	**18 59 56.7**	**-1.0**
baz=1.8,SNR=13							
I26A				⇑Sb	**Sg**	**19 00 24.0**	**+0.9**
baz=1.8							
G24A	**Alzada**	**1.97**	**20**	⇑P	**Pn**	**18 59 57.5**	**+0.6**
baz=1.9,SNR=26							
G

0.2nm,0.3s,baz=160,slow=9.0,SNR=5.5
ARCES **ARCESS Array B 61.69 18** P **P 19 09 40.2 -1.3**
3.4nm,1.0s,baz=326,slow=7.7,SNR=3.9

*IDC **18** 19:03:00.5±0.5,21°.71S×175°.63W,h0km,mb4.6/17, mb1 4.8/18,mb1mx4.4/42,mbtmp4.6/18,ML4.2/1,MS3.9/7, Ms1 3.9/7,ms1mx3.5/32,Error ellipse: s-maj=20.0km s-min=12.4km az=126.0*
*ISCJB **18** 19:03:08.6±0.2,21°.62S±0°.07×175°.83W±0°.06,h70km, mb4.7/56,Error ellipse: s-maj=10.9km s-min=5.4km az=143.7*
*BJI **18** 19:03:12.9,21°.49S×175°.73W,h104km,mB5.1/9, mb4.9/15*
*NEIC **18** 19:03:13.8±1.7,21°.75S×175°.75W,h107km±13km, mb4.8/40,Error ellipse: s-maj=15.1km s-min=5.4km az=151.0*
NEIC Felt at Nuku'alofa.

ISC 18 19:03:09.6±0.4,21°.77S±0°.08×175°.67W±0°.10,h70km, n149,σ1ŝ30/162,mb4.8/55,19C-2D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.15**	**303**	*eP*		n	Pn	19 04 55.5	+3.9
DZM	**Mont Dzumac**	**16.60**	**266**	LR			LR	19 11 13.4	
	comp=Z,225nm,18.8s,baz=100,slow=30								
URZ	**Urewera**	**17.57**	**199**	P			**Pn**	**19 07 07.9**	**-1.9**
	0.8nm,0.3s,baz=343,slow=11,SNR=3.5								
URZ				S			**Sn**	**19 10 25.0**	**+0.1**
	0.8nm,0.3s,baz=61,slow=23,SNR=9.4								
ARMA	**Armidale**	**30.52**	**247**	P			**P**	**19 09 18.0**	**+1.6**
	baz=31,SNR=4.5								
CTA	**Charters Tower**	**35.55**	**266**	P			**P**	**19 10 01.4**	**+1.2**
	15nm,0.6s,baz=98,slow=10,SNR=23								
CTAO	**Charters Tower**	**35.55**	**266**	*eP*			**P**	**19 10 00.7**	**+0.5**
CMSA	**Cobar Meteorol**	**35.72**	**246**	P			**P**	**19 10 02.2**	**+0.6**
	baz=36,SNR=12								
QLP	**Quilpie**	**36.79**	**254**	P			**P**	**19 10 10.7**	**0.0**
	baz=38,SNR=4.5								
BBOO	**Buckleboo**	**43.96**	**245**	P			**P**	**19 11 08.8**	**-1.1**
	baz=45,SNR=6.6								
AS01	**Alice Springs**	**46.32**	**258**	*eP*			**P**	**19 11 27.6**	**-1.2**
AS31	**Alice Springs**	**46.36**	**258**	*eP*			**P**	**19 11 28.3**	**-0.8**
ASAR	**Alice Springs**	**46.36**	**258**	P			**P**	**19 11 28.6**	**-0.6**
	7.4nm,0.8s,baz=99,slow=7.7,SNR=77								
ASAR				LR			LR	19 30 05.5	
	comp=Z,172nm,18.0s,baz=100,slow=35								
WB2	**Warramunga Arr**	**46.58**	**263**	*eP*			**P**	**19 11 29.5**	**-1.3**
WRAB	**Tennant Creek**	**46.58**	**263**	*eP*			**P**	**19 11 29.5**	**-1.4**
	5.1nm,0.8s								
WRA	**Warramunga Arr**	**46.59**	**263**	P			**P**	**19 11 29.9**	**-1.0**
	4.5nm,0.7s,baz=100,slow=9.5,SNR=76								
KDU	**Kakadu**	**50.15**	**271**	P			**P**	**19 11 57.8**	**-0.6**
	baz=51,SNR=4.2								
FORT	**Forrest**	**50.81**	**247**	P			**P**	**19 12 01.9**	**-1.2**
	baz=51,SNR=11								
FORT	**Forrest**	**50.81**	**247**	*eP*			**P**	**19 12 01.6**	**-1.5**
	28nm,0.7s								
WRKA	**Warakurna**	**51.22**	**255**	P			**P**	**19 12 05.3**	**-1.1**
	baz=52,SNR=27								
MTN	**Manton Dam**	**51.35**	**271**	P			**P**	**19 12 06.3**	**-1.1**
	baz=52,SNR=3.8								
KNRA	**Kununurra**	**52.75**	**266**	P			**P**	**19 12 17.3**	**-0.4**
	baz=53,SNR=6.0								
FITZ	**Fitzroy Crossi**	**55.02**	**263**	P			**P**	**19 12 34.1**	**-0.2**
	baz=56,SNR=8.9								
FITZ	**Fitzroy Crossi**	**55.02**	**263**	*eP*			**P**	**19 12 33.8**	**-0.6**
	14nm,1.2s								
SOEI	**Soe**	**58.71**	**272**	P			**P**	**19 13 02.1**	**+1.5**
	baz=59,SNR=4.5								
SOEI	**Soe**	**58.71**	**272**	*eP*			**P**	**19 13 01.2**	**+0.6**
	18nm,0.7s								
BATI	**Baumata**	**59.12**	**271**	P			**P**	**19 13 04.4**	**+1.0**
	13nm,0.7s,baz=235,slow=1.8,SNR=6.8								
QSPA	**South Pole Qui**	**68.31**	**180**	P			**P**	**19 14 04.1**	**+1.0**
	14nm,0.9s,baz=47,slow=1.8,SNR=23								
MJAR	**Matsushiro Arr**	**72.52**	**323**	P			**P**	**19 14 28.4**	**-0.7**
	1.8nm,0.7s,baz=161,slow=6.2,SNR=8.0								
ASAJ	**Asahikawa**	**75.89**	**330**	LR			LR	19 42 05.0	
	comp=Z,76nm,19.6s,baz=90,slow=31								
PETK	**Petropavlovsk-**	**78.06**	**344**	P			**P**	**19 14 59.8**	**-0.7**
	5.9nm,0.8s,baz=115,slow=10,SNR=4.8								
PETK				LR			LR	19 50 02.5	
	comp=Z,21nm,18.3s,baz=151,slow=36								
ISA	**Isabella, Lake**	**78.69**	**44**	*eP*			**P**	**19 15 04.5**	**+0.1**
	8.3nm,1.0s								
CMB	**Columbia Colle**	**78.94**	**41**	*eP*			**P**	**19 15 05.3**	**-0.4**
	25nm,1.4s								
PMSA	**Palmer Station**	**79.26**	**156**	*eP*			P	19 15 14.6	+7.6
	105nm,0.6s								
WDC	**Whiskeytown Da**	**79.29**	**38**	*eP*			**P**	**19 15 07.9**	**+0.5**
	25nm,1.3s								
GSC	**Goldstone, Bar**	**79.57**	**45**	*eP*			**P**	**19 15 08.9**	**-0.3**
	15nm,1.4s								
WAKR	**Walker**	**79.82**	**42**	*eP*			**P**	**19 15 11.2**	**+0.6**
YBH	**Yreka Blue Hor**	**79.94**	**37**	P			**P**	**19 15 11.8**	**+0.7**
	6.2nm,1.0s,baz=249,slow=8.6,SNR=6.6								
YBH	**Yreka Blue Hor**	**79.94**	**37**	*eP*			**P**	**19 15 12.5**	**+1.4**
	21nm,1.4s								
HUMO	**Hull Mountain**	**80.38**	**37**	*eP*			P	19 15 08.8	-4.6
	21nm,1.3s								
NV01	**Mina Array Sit**	**80.47**	**42**	*eP*			**P**	**19 15 12.1**	**-2.1**
NVAR	**Mina Array Bea**	**80.47**	**42**	P			**P**	**19 15 14.8**	**+0.6**
	2.7nm,0.8s,baz=222,slow=9.4,SNR=9.4								
LDFC	**Landfair**	**80.57**	**46**	*eP*			**P**	**19 15 15.4**	**+0.7**
	18nm,1.1s								
TPNV	**Topopah Spring**	**80.90**	**44**	*eP*			**P**	**19 15 16.5**	**+0.1**
	7.2nm,1.0s								
SHPR	**Sheep Range**	**81.36**	**45**	*eP*			**P**	**19 15 18.1**	**-0.8**
MOD	**Modoc Plateau**	**81.43**	**38**	*eP*			**P**	**19 15 18.4**	**-0.8**
	10nm,1.1s								
K05A	**Summer Lake**	**81.61**	**37**	*eP*			**P**	**19 15 20.6**	**+0.5**
	25nm,1.2s								
R11A	**Troy Canyon, C**	**82.14**	**43**	*eP*			**P**	**19 15 23.2**	**+0.2**
	40nm,2.6s								
H04A	**Detroit Lake**	**82.17**	**35**	*eP*			**P**	**19 15 23.1**	**+0.3**
	19nm,1.1s								
PINOR	**Pine Mountain**	**82.32**	**37**	*eP*			**P**	**19 15 24.2**	**+0.6**
	24nm,1.1s								
BMN	**Battle Mountai**	**82.35**	**41**	*eP*			**P**	**19 15 24.0**	**0.0**
	12nm,1.4s								
NJ2	**Nanjing**	**82.36**	**309**	*eP*			**P**	**19 15 24.3**	**+0.3**
NJ2				PMZ					
	30nm,0.6s								
WVOR	**Wild Horse Val**	**82.73**	**39**	*eP*			**P**	**19 15 26.6**	**+0.8**
	18nm,1.4s								
F04A	**Amboy**	**82.87**	**34**	*eP*			**P**	**19 15 26.7**	**+0.4**
	28nm,1.2s								
CCUT	**Cedar City**	**83.13**	**45**	*eP*			**P**	**19 15 28.9**	**+0.7**
	10nm,1.2s								
KNB	**Kanab**	**83.19**	**46**	*eP*			**P**	**19 15 28.4**	**-0.1**
	8.7nm,1.1s								
I07A	**Izee**	**83.26**	**37**	*eP*			**P**	**19 15 29.5**	**+0.9**
	21nm,1.4s								
WUAZ	**Wupatki**	**83.36**	**48**	*eP*			**P**	**19 15 29.6**	**+0.3**
	16nm,0.9s								
LON	**Longmire**	**83.73**	**34**	*eP*			**P**	**19 15 29.2**	**-1.6**
	10nm,1.2s								
ELK	**Elko**	**83.75**	**42**	P			**P**	**19 15 31.6**	**+0.3**
	2.7nm,0.9s,baz=188,slow=4.2,SNR=7.4								
D05A	**Enumclaw**	**83.92**	**34**	*eP*			**P**	**19 15 31.8**	**+0.1**
	37nm,1.0s								
MVU	**Marysvale**	**84.42**	**45**	*eP*			**P**	**19 15 35.8**	**+1.0**
	7.4nm,1.1s								
CN2	**Changchun**	**84.63**	**321**	*eP*			**P**	**19 15 32.9**	**-2.5**
CN2				*epP*			**pP**	**19 15 58.6**	**+4.0**
TMUT	**Trail Mountain**	**85.50**	**45**	*eP*			**P**	**19 15 40.2**	**0.0**
	17nm,1.0s								
LAZ	**Ladron**	**85.76**	**50**	*eP*			**P**	**19 15 42.2**	**+0.7**
LENM	**Lemitar**	**85.76**	**51**	*eP*			**P**	**19 15 42.1**	**+0.6**
SRU	**San Rafael Swe**	**85.85**	**45**	*eP*			**P**	**19 15 41.1**	**-0.8**
	10nm,1.2s								
HLID	**Hailey**	**85.88**	**40**	*eP*			**P**	**19 15 42.2**	**+0.3**
	4.1nm,0.8s								
TX31	**Lajitas Ar. Si**	**85.92**	**56**	*eP*			**P**	**19 15 42.6**	**+0.2**
TXAR	**Lajitas Array**	**85.92**	**56**	P			**P**	**19 15 43.0**	**+0.7**
	3.4nm,1.0s,baz=212,slow=6.9,SNR=18								
BNM	**Barren Site**	**86.00**	**51**	*eP*			**P**	**19 15 44.0**	**+1.2**
LPM	**Los Pinos Moun**	**86.08**	**51**	*eP*			**P**	**19 15 43.5**	**+0.4**
ANMO	**Albuquerque**	**86.52**	**50**	P			**P**	**19 15 45.6**	**+0.4**
	5.6nm,0.9s,baz=218,slow=5.6,SNR=9.7								
ANMO	**Albuquerque**	**86.52**	**50**	*eP*			**P**	**19 15 45.6**	**+0.4**
	8.4nm,1.0s								
SNAA	**Sanae**	**86.68**	**178**	P			**P**	**19 15 45.9**	**+0.6**
VNA3	**Neumayer Olymp**	**86.73**	**176**	P			**P**	**19 15 45.7**	**+0.1**
VNA2	**Neumayer--Watz**	**87.19**	**176**	P			**P**	**19 15 48.6**	**+0.8**
KTH	**Kantishna Hill**	**87.23**	**11**	*eP*			**P**	**19 15 46.6**	**-1.3**
	9.8nm,0.8s								
TRF	**Thorofare Moun**	**87.25**	**11**	*eP*			**P**	**19 15 47.0**	**-1.1**
	21nm,0.8s								
TNA	**Tin City**	**87.25**	**3**	*eP*			**P**	**19 15 47.8**	**0.0**
	4.9nm,0.9s								
VNA1	**Neumayer--Stat**	**87.41**	**176**	P			**P**	**19 15 49.4**	**+0.7**
MCK	**McKinley**	**87.75**	**12**	*eP*			**P**	**19 15 49.3**	**-1.0**
	21nm,1.0s								
BJI	**Beijing**	**88.32**	**315**	P			**P**	**19 15 53.3**	**-0.2**
BJI				PMZ					
	8.0nm,0.6s								
DLBC	**Dease Lake**	**88.38**	**22**	P			**P**	**19 15 53.8**	**+0.3**
	3.1nm,0.9s,baz=204,slow=2.9,SNR=5.3								
BW06	**Boulder Array**	**88.41**	**42**	*eP*			**P**	**19 15 53.7**	**-0.5**
PDAR	**Pinedale Array**	**88.41**	**42**	P			**P**	**19 15 53.9**	**-0.4**
	1.5nm,1.0s,baz=215,slow=1.8,SNR=8.4								
PDAR				LR			LR	19 47 03.1	
	comp=Z,41nm,21.8s,baz=242,slow=30								
DOT	**Dot Lake**	**88.66**	**14**	*eP*			**P**	**19 15 55.5**	**+0.9**
	8.8nm,0.9s								
IL1	**Eielson Array**	**89.08**	**12**	*eP*			**P**	**19 15 55.5**	**-1.0**
ILAR	**Eielson Array**	**89.08**	**12**	P			**P**	**19 15 56.0**	**-0.5**
	3.0nm,0.9s,baz=218,slow=5.3,SNR=17								
ILAR				LR			LR	19 48 44.7	
	comp=Z,45nm,19.5s,baz=218,slow=31								
GYA	**Guiyang**	**89.16**	**299**	*eP*			**P**	**19 15 58.0**	**0.0**
GYA				pP			pP	19 16 26.4	+9.1
GYA				sP			sP	19 16 37.8	+13
GYA				PP			**PP**	**19 19 32.3**	**+2.9**
GYA				SKS			**SKSac**	**19 26 16.0**	**-6.2**
GYA				S			**SKKSac**	**19 26 36.9**	**+2.7**
GYA				PMZ					
	10.0nm,1.0s								
GYA				PMZ					
	90nm,5.0s								
DAWY	**Dawson**	**90.09**	**15**	*eP*			**P**	**19 16 01.7**	**+0.4**
EGAK	**Eagle**	**90.28**	**14**	*eP*			**P**	**19 16 02.4**	**+0.2**
	10nm,1.0s								
COLD	**Coldfoot**	**90.74**	**10**	*eP*			**P**	**19 16 04.9**	**+0.7**
	5.6nm,0.8s								
HHC	**Hu-ho-hao-te**	**91.79**	**314**	*eP*			**P**	**19 16 10.5**	**+0.6**
HHC				pP			pP	19 16 39.6	+10
HHC				sP			sP	19 16 51.5	+15
HHC				PP			**PP**	**19 19 53.8**	**+3.8**
HHC				S			**S**	**19 27 00.1**	**-5.2**
HHC				SS			**SS**	**19 33 14.6**	**-0.5**
HHC				PMZ					
	32nm,1.0s								
HHC				PMZ					
	120nm,7.4s								
KMI	**Kunming**	**91.86**	**296**	P			**P**	**19 16 12.5**	**+1.8**
KMI				PMZ					
	5.0nm,0.8s								
CM01	**Chiang Mai Arr**	**92.56**	**289**	*eP*			**P**	**19 16 14.7**	**+0.9**
RSSD	**Black Hills**	**92.57**	**43**	*eP*			**P**	**19 16 13.4**	**-0.1**
	45nm,1.6s								
CMAR	**Chiang Mai Arr**	**92.58**	**289**	P			**P**	**19 16 15.9**	**+2.0**
	1.3nm,0.8s,baz=124,slow=2.8,SNR=13								
LZH	**Lanzhou**	**95.27**	**307**	*eP*			**P**	**19 16 26.3**	**+0.2**
LZH				pP			pP	19 16 55.6	+10
LZH				sP			sP	19 17 07.3	+14
LZH				PMZ					
	15nm,1.0s								
YKA	**Yellowknife Ar**	**96.76**	**24**	P			**P**	**19 16 31.8**	**-0.1**
	2.2nm,0.8s,baz=239,slow=4.3,SNR=28								
ECSD	**EROS Data Cent**	**97.24**	**46**	*eP*			Pdif	19 16 33.9	-0.8
	82nm,2.6s								
LPAZ	**La Paz**	**99.57**	**112**	LR			LR	19 53 36.2	
	comp=Z,208nm,20.1s,baz=177,slow=30								
MKAR	**Makanchi Array**	**113.65**	**313**	PKiKP			**PKiKP**	**19 21 39.5**	**-0.4**
	0.4nm,0.6s,baz=73,slow=2.2,SNR=6.0								
KSH	**Kashi**	**117.39**	**304**	*e*PKP			**PKPdf**	**19 21 47.6**	**+0.1**
KSH				sPKP				19 22 25.5	
KSH				PP			**PP**	**19 23 01.8**	**+1.8**
KSH				PKS			**PKSdf**	**19 25 24.1**	**-0.2**
KSH				SKS			**SKSdf**	**19 28 50.0**	**-3.6**
KSH				SKKS			**SKKSac**	**19 29 50.5**	**-3.7**
KSH				PPMZ					
	74nm,4.7s								
KSH				LN					
	25nm,3.9s								
KSH				LE					
	23nm,4.1s								
KSH				LZ					
	110nm,5.8s								
KKAR	**Karatay Array**	**121.73**	**308**	*e*PKPdf			**PKPdf**	**19 21 55.2**	**-0.3**
KBL	**Kabul**	**122.40**	**298**	*e*PKPdf			**PKPdf**	**19 21 57.5**	**+0.1**
BOSA	**Boshof**	**126.00**	**203**	PKP			**PKPdf**	**19 22 05.1**	**+0.6**
	2.2nm,0.9s,baz=180,slow=6.1,SNR=2.9								
ARU	**Arti**	**127.47**	**325**	*e*PKPdf			**PKPdf**	**19 22 05.8**	**-0.3**
ARCES	**ARCESS Array B**	**130.54**	**350**	PKP			**PKPdf**	**19 22 12.1**	**+0.5**
	2.9nm,0.8s,baz=6.5,slow=3.2,SNR=4.5								
NOA	**NORSAR Array B**	**140.46**	**355**	PKP			**PKPdf**	**19 22 30.4**	**0.0**
	0.8nm,0.8s,baz=15,slow=4.3,SNR=3.5								
KMBO	**Kilima Mbogo**	**140.62**	**239**	PKhKP			PKPpre	19 22 27.8	
	0.8nm,0.6s,baz=78,slow=3.4,SNR=3.9								
KMBO				PKP			**PKiKP**	**19 22 33.2**	**-1.7**
	1.5nm,0.8s,baz=43,slow=1.6,SNR=5.5								
AKASG	**Malin Array Be**	**145.16**	**332**	PKPbc			**PKPdf**	**19 22 38.1**	**-0.8**
	2.7nm,0.7s,baz=33,slow=3.8,SNR=7.4								
KIEV	**Kiev**	**145.17**	**332**	*e*PKPdf			**PKPbc**	**19 22 37.6**	**-1.0**
AK11	**Malin Array Si**	**145.20**	**332**	*e*PKPbc			**PKPbc**	**19 22 37.3**	**-1.4**
MALT	**Malatya**	**146.43**	**307**	⇑*i*P			**PKPab**	**19 22 43.2**	**-0.9**
BUR04	**Bucovina Ar. S**	**149.21**	**332**	*e*PKPdf			**PKPdf**	**19 22 44.2**	**-1.7**
BURAR	**Bucovina Array**	**149.21**	**332**	⇑*i*P			**PKPab**	**19 22 51.6**	**-3.2**
BRTR	**Keskin Array B**	**149.30**	**312**	PKPbc			**PKPbc**	**19 22 51.1**	**+0.3**
	1.2nm,0.7s,baz=147,slow=2.9,SNR=8.6								
CLL	**Collm**	**149.75**	**349**	⇓*i*PKPbc			**PKPbc**	**19 22 51.8**	**+0.5**
	comp=Z,20nm,1.0s								
CLL				*e*PKPab			**PKPab**	**19 22 58.0**	**+1.3**
	comp=Z,11nm,1.1s								
CLL	**Collm**	**149.75**	**349**	*e*PKPbc			**PKPbc**	**19 22 51.9**	**+0.7**
VRI	**Vrincioaia**	**149.80**	**328**	⇑*i*P			**PKPbc**	**19 22 49.6**	**-2.0**
BR231	**Keskin MP Arra**	**149.83**	**313**	*e*PKPbc			**PKPbc**	**19 22 51.3**	**-0.7**
UPC	**Upice**	**149.88**	**345**	⇑*e*PKP			**PKPbc**	**19 22 52.6**	**+1.0**
UPC				*e*PKPAB			**PKPab**	**19 22 58.5**	**+1.2**
TRPA	**Tarpa**	**149.91**	**335**	⇑*i*P			**PKPbc**	**19 22 52.4**	**+0.7**
OKC	**Ostrava-Krasne**	**149.93**	**342**	⇑*e*PKP			**PKPbc**	**19 22 52.7**	**+0.9**
OKC				*e*PKPAB			**PKPab**	**19 22 58.8**	**+1.3**
DPC	**Dobruska-Polom**	**149.95**	**345**	⇑*e*PKP			**PKPbc**	**19 22 52.6**	**+0.7**
DPC				*e*PKPAB			**PKPab**	**19 22 58.0**	**+0.3**
DPC				*ex*			x	19 23 03.0	
DPC	**Dobruska-Polom**	**149.95**	**345**	*e*PKPbc			**PKPbc**	**19 22 51.9**	**+0.1**
BRG	**Berggiesshubel**	**149.99**	**348**	*e*PKP			**PKPdf**	**19 22 47.6**	**+0.7**
	comp=Z,3.8nm,1.0s								
BRG				*e*				19 22 52.6	
	comp=Z,12nm,0.9s								
KRLC	**Kraliky**	**150.09**	**344**	⇑*e*PKP			**PKPbc**	**19 22 51.3**	**-0.9**
KRLC				*e*PKPAB			**PKPab**	**19 22 59.0**	**+0.8**
KRLC				*ex*			x	19 23 03.2	
MORC	**Moravsky Berou**	**150.16**	**343**	⇑*i*P			**PKPbc**	**19 22 53.6**	**+1.2**
PVCC	**Panska Ves**	**150.19**	**347**	⇑*e*PKP			**PKPbc**	**19 22 53.5**	**+1.1**
PVCC				*ex*			x	19 23 05.5	
DOPR	**Dopca**	**150.37**	**330**	⇑*i*P			**PKPbc**	**19 22 54.3**	**+1.3**
MLR	**Muntele Rosu**	**150.45**	**328**	⇑*i*P			**PKPbc**	**19 22 54.5**	**+1.2**
PRU	**Pruhonice**	**150.70**	**346**	⇑*e*PKP			**PKPbc**	**19 22 53.6**	**0.0**
PRU				*e*PKPAB			**PKPab**	**19 23 00.5**	**-0.2**
VOIR		**150.92**	**329**	⇓*i*P			**PKPbc**	**19 22 55.7**	**+1.3**
DRGR		**150.93**	**334**	⇑*i*P			**PKPbc**	**19 22 53.8**	**-0.5**
BEBN	**Eben Emael**	**151.01**	**358**	PKPbc			**PKPbc**	**19 22 53.7**	**-0.6**
ARR	**Arges**	**151.17**	**330**	⇑*i*P			**PKPbc**	**19 22 56.5**	**+1.5**
MEM	**Membach**	**151.19**	**358**	PKPbc			**PKPbc**	**19 22 55.2**	**+0.5**
BCLA	**Clavier**	**151.39**	**359**	PKPbc			**PKPbc**	**19 22 55.8**	**+0.6**
KHC	**Kasperske Hory**	**151.72**	**347**	⇑*e*PKP			**PKPbc**	**19 22 55.7**	**-0.4**
KHC				*e*PKPAB			**PKPab**	**19 23 02.7**	**-2.3**
KHC				*ex*			x	19 23 10.4	
KHC	**Kasperske Hory**	**151.72**	**347**	*e*PKPdf			**PKPdf**	**19 22 49.8**	**+0.1**
DOU	**Dourbes**	**151.73**	**360**	PKPbc			**PKPbc**	**19 22 56.2**	**+0.2**
GERES	**GERESS Array B**	**151.97**	**347**	PKPbc			**PKPbc**	**19 22 57.2**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=17,slow=1.4,SNR=16								
GZR	**Gura Zlata**	**152.00**	**332**	⇑*i*P			**PKPbc**	**19 22 57.2**	**+0.4**
CONA	**Conrad Observa**	**152.30**	**343**	⇑*i*PKiKP			**PKiKP**	**19 22 57.5**	**-0.3**
	comp=Z,4.7nm,1.0s								
BZS	**Buzias**	**152.32**	**333**	⇑*i*P			**PKPbc**	**19 22 58.1**	**+0.6**
ESDC	**Sonseca Array**	**160.80**	**20**	PKPab			**PKPab**	**19 23 44.6**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=325,slow=3.3,SNR=11								
DBIC	**Dimbokro**	**162.56**	**148**	PKP			**PKPdf**	**19 23 04.3**	**0.0**
	comp=Z,5.1nm,1.1s,baz=213,slow=6.6,SNR=3.6								
TORD	**Torodi Ar. Bea**	**171.07**	**163**	PKP			**PKPdf**	**19 23 10.1**	**-0.6**
	comp=Z,1.7nm,1.0s,baz=1.5,slow=2.8,SNR=7.6								
TORD				PKPab			**PKPab**	**19 24 30.1**	**+0.3**
	comp=Z,3.1nm,1.0s,baz=176,slow=4.2,SNR=10								

PRU 18 19:08:03.0,50°.36N×18°.81E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.14**	**121**	*e*Pg			Pg	19 08 05.8	+0.2
CHZP				*e*Sg			Sg	19 08 07.8	+0.4
OJC	**Ojcow**	**0.65**	**102**	*e*Pg			Pb	19 08 16.9	-0.4
OJC				*e*Sg			Sg	19 08 25.1	+1.2
KRLC	**Kraliky**	**1.33**	**258**	*e*PG			Pg	19 08 27.5	-1.2
KRLC				*e*SG			Sg	19 08 46.1	+0.1
DPC	**Dobruska-Polom**	**1.59**	**271**	*e*PG			Pn	19 08 32.1	-0.4
DPC				*e*SG			Sg	19 08 54.4	0.0

LJU 18 19:08:29.4,46°.31N×13°.64E,h2km,ML0.9,1D,Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CADS	**Cadrg**	**0.10**	**141**	*i* Pg			Pg	19 08 31.3	-0.2
CADS				*i* Sg			Sg	19 08 32.8	-0.1
	comp=Z,20nm,0.1s								
ROBS	**Robic**	**0.11**	**236**	*i* Pg			Pg	19 08 31.7	+0.1
ROBS				*i* Sg			Sg	19 08 33.4	+0.3
DRE	**Drenchia**	**0.14**	**180**	⇓*e*Pg			Pg	19 08 31.8	-0.4
DRE				*e*Sg			Sg	19 08 33.6	-0.4
GORS	**Gorjuse**	**0.24**	**88**	*e*Pg			Pg	19 08 34.0	-0.3
GORS				*i* Sg			Sg	19 08 38.3	+0.8

*CSEM **18** 19:20:08.4±0.2,43°.76N×19°.06E,h2km,ML2.5,Error ellipse: s-maj=5.0km s-min=3.1km az=116.0*
*BEO **18** 19:20:09.7±0.3,43°.76N×19°.10E,h2km±4km,ML2.5/1*
*PDG **18** 19:20:09.4±0.4,43°.73N×19°.11E,h5km±1km,ML2.3/11, Error ellipse: s-maj=0.6km s-min=1.0km az=0.0*

ISC 18 19:20:08.6±1.2,43.77N±0°.02×19.06E±0°.02,h2km±10km, n46,σ1ŝ07/82,16C-6D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BBLS	**Lazići**	**0.27**	**69**	*e*Pg			**Pg**	**19 20 14.2**	**+0.4**
BBLS	**Lazići**	**0.27**	**69**	*e*Pg			**Pg**	**19 20 14.2**	**+0.4**
PLE	**Pljevlja**	**0.50**	**151**	⇑*i*Pg			**Pg**	**19 20 18.2**	**0.0**
PLE				*e*Sg			**Sg**	**19 20 24.6**	**-0.2**
PLE	**Pljevlja**	**0.50**	**151**	⇑*i*Pg			**Pg**	**19 20 18.2**	**0.0**
PLE				*e*Sg			**Sg**	**19 20 24.6**	**-0.2**
UPM	**Unac-Piva**	**0.58**	**191**	⇑*i*Pg			**Pg**	**19 20 19.7**	**0.0**
UPM				*e*Sg			**Sg**	**19 20 27.3**	**+0.1**
UPM	**Unac-Piva**	**0.58**	**191**	⇑*i*Pg			**Pg**	**19 20 19.7**	**0.0**
UPM				*e*Sg			**Sg**	**19 20 27.3**	**+0.1**
DIVS	**Divibare**	**0.75**	**64**	⇓*i*Pg			**Pg**	**19 20 22.7**	**-0.3**
DIVS				*e*Sg			**Sg**	**19 20 32.5**	**-0.2**
DIVS	**Divibare**	**0.75**	**64**	⇓*i*Pg			**Pg**	**19 20 22.7**	**-0.3**
DIVS				*e*Sg			**Sg**	**19 20 32.5**	**-

SONM PcP **PcP** **19 32 25.7 -0.1**
0.3nm,0.7s,baz=164,slow=3.3,SNR=2.7
MKAR Makanchi Array 50.05 344 P **P** **19 31 11.0 +0.5**
0.8nm,0.3s,baz=156,slow=8.9,SNR=43
KURK Kurchatov 54.63 344 P **P** **19 31 43.5 -0.8**
0.7nm,0.8s
ZALV Zalesovo Beam 56.18 349 P **P** **19 31 55.5 +0.1**
0.7nm,0.3s,baz=176,slow=8.7,SNR=4.0
ARCES ARCESS Array B 85.50 340 P **P** **19 34 53.0 +0.1**
3.5nm,1.0s,baz=113,slow=4.6,SNR=4.0
TXAR Lajitas Array 144.00 36 PKP PKPbc 19 41 50.6 +1.1
0.2nm,0.5s,baz=303,slow=0.4,SNR=3.8

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*ISCJB **18** 19:26:13.6±1.9,33°.44S±0°.04×72°.14W±0°.06,h13km±12km, mb3.7/1,Error ellipse: s-maj=8.5km s-min=6.3km az=168.6*
*NEIC **18** 19:26:15.0,33°.55S×71°.98W,h4km,mb3.9/1,ML3.8(GUC), After GUC.*
NEIC Felt [II] at Casablanca, San Antonio and Valparaiso.
*GUC **18** 19:26:15.5±0.6,33°.55S×71°.98W,h4km±3km,ML3.8*
ISC 18 19:26:12.9±2.2,33°.50S±0°.04×72°.12W±0°.08,h6km±14km, n17,σ0s62/27,4C-6D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.61**	**40**	⇓*iP*	**Pn**	**19 26 27.8**	**-0.4**
IHA				*i* S1	**Sb**	**19 26 36.4**	**+1.5**
LNV	**Longovilo**	**0.75**	**128**	⇓*iP*	**Pb**	**19 26 28.4**	**+0.1**
TACH	**Talagante**	**1.00**	**99**	⇓*iP*	**Pb**	**19 26 32.5**	**0.0**
SAN	**Santiago**	**1.22**	**88**	*eP*	**Pb**	**19 26 36.3**	**0.0**
SAN				*eS*	**Sg**	**19 26 51.8**	**-0.1**
ANTU	**Antumapu**	**1.24**	**94**	⇑*iP*	**Pb**	**19 26 36.7**	**0.0**
ANTU				*i* S	**Sg**	**19 26 52.6**	**-0.2**
ANTU				AML	AML	19 26 57.6	
comp=N,4μm,0.2s
CHCH	**Chadas Angostu**	**1.29**	**110**	⇑*iP*	**Pg**	**19 26 37.2**	**-0.5**
CLCH	**Cerro Calan**	**1.32**	**86**	⇓*iP*	**Pb**	**19 26 38.3**	**+0.1**
CLCH				*i* S	**Sg**	**19 26 55.7**	**+0.3**
CLCH				AML	AML	19 26 58.3	
comp=E,3μm,0.3s
LACH	**Col Las Americ**	**1.32**	**89**	⇑*iP*	**Pb**	**19 26 38.2**	**0.0**
LACH				*i* S	**Sg**	**19 26 55.0**	**-0.4**
CACH	**El Canelo**	**1.41**	**117**	⇓*iP*	**Pn**	**19 26 39.5**	**+0.3**
CACH				*i* S1	**Sg**	**19 26 58.2**	**+0.1**
FCH	**Farellones**	**1.54**	**84**	⇓*iP*	**Pg**	**19 26 42.9**	**+0.6**
FCH				*i* S4	**Sn**	**19 26 60.0**	**-1.6**
NICH	**Los Niches**	**1.67**	**154**	*eP*1	**Pn**	**19 26 43.8**	**+1.0**
NICH				*i* S	**Sn**	**19 27 05.3**	**+0.7**
NICH				AML	AML	19 27 11.3	
comp=E,4μm,0.4s
TALC	**Talca**	**1.94**	**168**	⇑*iP*	**Pb**	**19 26 48.0**	**-0.6**
TALC				*i* S	**Sb**	**19 27 13.3**	**+0.2**
LCO	**Las Campanas**	**4.63**	**16**	*ePn*	**Pn**	**19 27 23.9**	**+0.3**
LCO				*eSn*	**Sn**	**19 28 18.0**	**+0.1**
TRQA	**Tornquist**	**9.41**	**122**	*ePn*	**Pn**	**19 28 29.5**	**+0.5**
LVC	**Limon Verde**	**11.20**	**15**	*ePn*	**Pn**	**19 28 53.1**	**-0.7**
LPAZ	**La Paz**	**17.51**	**13**	*ePn*	**P**	**19 30 19.7**	**+0.2**
SAML	**Samuel**	**25.78**	**21**	*eP*	**P**	**19 31 44.8**	**+0.1**
comp=E,1.6nm,0.6s

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*ISCJB **18** 19:34:25.2±0.7,2°.6N±0°.1×128°.8E±0°.2,h250km,mb3.7/9, Error ellipse: s-maj=23.7km s-min=12.9km az=156.6*
*IDC **18** 19:34:26.0±2.2,2°.56N×128°.78E,h241km±21km,mb3.4/9, mb1 3.6/9,mb1mx3.3/36,mbtmp4.0/9,Error ellipse: s-maj=31.9km s-min=11.5km az=73.0*
ISC 18 19:34:26.9±0.9,2°.6N±0°.1×128°.8E±0°.2,h250km,n17, σ0s76/20,mb3.7/9,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.03**	**167**	P	**P**	**19 39 10.2**	**-0.3**
1.4nm,0.4s,baz=345,slow=9.9,SNR=48
WRA				ScP	**ScP**	**19 46 07.3**	**+1.2**
0.2nm,0.5s,baz=341,slow=3.0,SNR=4.7
ASAR	**Alice Springs**	**26.56**	**169**	P	**P**	**19 39 41.8**	**-0.4**
1.9nm,0.5s,baz=354,slow=7.9,SNR=77
ASAR				PcP	**PcP**	**19 43 00.7**	**+0.7**
0.2nm,0.4s,baz=6.7,slow=1.6,SNR=5.2
ASAR				ScP	**ScP**	**19 46 16.7**	**+0.7**
0.4nm,0.6s,baz=349,slow=2.7,SNR=5.0
CMAR	**Chiang Mai Arr**	**33.23**	**300**	P	**P**	**19 40 41.4**	**+0.5**
1.1nm,0.8s,baz=120,slow=7.4,SNR=10
KSRS	**Korea Array**	**34.72**	**359**	P	**P**	**19 40 54.5**	**+1.1**
0.9nm,0.5s,baz=175,slow=9.5,SNR=4.9
MJAR	**Matsushiro Arr**	**34.90**	**13**	P	**P**	**19 40 54.9**	**-0.1**
1.5nm,1.0s,baz=190,slow=11,SNR=4.1
TAPN	**Taplejung**	**46.35**	**306**	*eP*	**P**	**19 42 28.7**	**-0.2**
ODAN	**Odare**	**46.41**	**305**	*eP*	**P**	**19 42 29.1**	**-0.2**
5.6nm,0.6s
RAMN	**Ramite**	**47.09**	**305**	*eP*	**P**	**19 42 34.7**	**+0.2**
13nm,0.6s
JIRN	**Jiri**	**47.71**	**306**	*eP*	**P**	**19 42 39.2**	**-0.2**
GUN	**Gumba**	**48.06**	**306**	*eP*	**P**	**19 42 41.6**	**-0.5**
5.1nm,0.3s
PKI	**Pulchoki**	**48.31**	**305**	*eP*	**P**	**19 42 43.0**	**-1.0**
1.6nm,0.3s
SONM	**Songino Array**	**49.06**	**340**	P	**P**	**19 42 49.5**	**+0.5**
0.5nm,0.6s,baz=150,slow=8.0,SNR=6.3
KOLN	**Koldanda**	**49.87**	**305**	*eP*	**P**	**19 42 55.5**	**-0.1**
10nm,0.5s
DANN	**Dangsing**	**49.95**	**305**	*eP*	**P**	**19 42 56.0**	**-0.4**
12nm,0.6s
MKAR	**Makanchi Array**	**59.67**	**325**	P	**P**	**19 44 05.2**	**0.0**
1.0nm,0.4s,baz=115,slow=8.2,SNR=41
ZALV	**Zalesovo Beam**	**62.55**	**332**	P	**P**	**19 44 22.4**	**-1.8**
0.5nm,0.3s,baz=87,slow=6.3,SNR=3.1
ARCES	**ARCESS Array B**	**92.23**	**340**	P	**P**	**19 47 07.4**	**-0.7**
3.5nm,1.0s,baz=97,slow=7.7,SNR=3.4

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*IDC **18** 19:39:41.7±2.7,24°.74S×141°.38W,h0km,mb3.7/5, mb1 4.0/5,mb1mx3.8/31,mbtmp3.7/5,Error ellipse: s-maj=164.5km s-min=31.2km az=140.0*
ISC 18 19:39:43.8±1.3,24°.65±0°.2×141°.5W±0°.2,h10km,n13, σ0s73/10,mb3.8/5,Tuamotu Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**6.13**	**77**	*ePn*	Pn	19 41 08.2	-6.3
2.0nm,0.2s
RKT				*eSn*	Sn	19 42 05.1	-20
1.2nm,0.1s
RKT				*eT*	T	19 46 56.3	
3.0nm,0.3s
TBI	**Tubuai**	**7.41**	**278**	*ePn*	Pn	19 41 29.2	-2.8
7.3nm,0.2s
TBI				*eSn*	Sn	19 42 46.6	-10
4.1nm,0.2s
TVO	**Taravao**	**9.94**	**312**	*ePn*	**Pn**	**19 42 06.8**	**0.0**
1.9nm,0.2s
TVO				*eSn*	Sn	19 43 48.7	-10
2.3nm,0.1s
TIAR	**Tiarei**	**10.16**	**312**	*ePn*	**Pn**	**19 42 09.8**	**0.0**
4.5nm,0.2s
TIAR				*eSn*	Sn	19 43 54.6	-9.3
2.6nm,0.2s
PPT2	**Papeete2**	**10.29**	**311**	*ePn*	**Pn**	**19 42 11.5**	**-0.2**
TXAR	**Lajitas Array**	**64.78**	**36**	P	**P**	**19 50 23.1**	**+0.3**
0.9nm,1.1s,baz=195,slow=10,SNR=3.4
ASAR	**Alice Springs**	**75.90**	**250**	P	**P**	**19 51 31.1**	**0.0**
0.8nm,1.0s,baz=114,slow=4.5,SNR=4.6
WRA	**Warramunga Arr**	**76.87**	**254**	P	**P**	**19 51 36.4**	**-0.2**
0.5nm,0.9s,baz=114,slow=5.9,SNR=4.9
ILAR	**Eielson Array**	**89.19**	**358**	P	**P**	**19 52 39.4**	**+0.3**
0.5nm,0.9s,baz=186,slow=5.8,SNR=4.1
YKA	**Yellowknife Ar**	**89.42**	**12**	P	**P**	**19 52 39.8**	**-0.4**
0.2nm,0.7s,baz=195,slow=4.5,SNR=4.4
MKAR	**Makanchi Array**	**138.81**	**314**	PKP	**PKPdf**	**19 59 11.5**	**+1.3**
0.2nm,0.6s,baz=56,slow=2.6,SNR=3.2
FINES	**FINESS Array B**	**142.22**	**10**	PKhKP	PKPpre	19 59 11.4	
1.5nm,1.0s,baz=320,slow=3.6,SNR=3.3
GERES	**GERESS Array B**	**148.95**	**33**	PKPbc	**PKPbc**	**19 59 30.6**	**-1.3**
0.3nm,0.5s,baz=217,slow=4.2,SNR=3.5

DJA 18 19:48:36.1±1.3,9°.S±9°.×11°.7E±°,h22km±15km,M3.5/8, MLv3.5/8,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.93**	**98**	P	Pn	19 49 07.6	-0.1
WBSI				S	Sn	19 49 32.1	+0.7
IGBI	**Denpasar**	**2.34**	**284**	P	Pn	19 49 14.0	+0.7
IGBI				S	Sn	19 49 43.5	+2.1
SRBI	**Singaraja**	**2.56**	**300**	P	Pn	19 49 15.8	-0.5
SRBI				S	Sn	19 49 49.0	+2.2
JAGI	**Jajag, Banyuwa**	**3.38**	**285**	P	Pn	19 49 28.0	+0.4
ABJI	**Asem Bagus**	**3.55**	**296**	P	Pn	19 49 33.6	+3.7
GMJI	**Gumukmas**	**4.11**	**285**	P	Pn	19 49 38.0	+0.4
GMJI				S	Sn	19 50 26.4	+1.4
BLJI	**Banyuglugur**	**4.14**	**293**	P	Pn	19 49 41.0	+2.9

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*ISCJB **18** 19:49:34.6±0.3,21°.63S±0°.04×68°.22W±0°.03,h130km±3km, mb4.6/57,Error ellipse: s-maj=7.2km s-min=4.1km az=34.3*
*SJA **18** 19:49:35.6±0.5,21°.80S×68°.32W,h138km±6km,MD3.6, ML3.9*
*GCMT **18** 19:49:36.0±0.3,21°.69S×68°.65W,h171km±3km,MW5.0/71, Moment Tensor Solution. s22,c25; s71,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.34±.19; $M_{\theta\theta}$-0.42±.22; $M_{\phi\phi}$-0.91±.28; $M_{r\theta}$-0.92±.12; $M_{\theta\phi}$0.64±.23; $M_{r\phi}$-4.22±.17; Best double couple: $M_0$4.48800×10^{16} NP1:ϕ_s189.00000°,δ83.00000°,λ99.00000°. NP2: ϕ_s315.00000°,δ11.00000°,λ37.00000°. Principal axes: T 4.8210, Plg51.0000°, Azm109.0000°; N -0.6630, Plg9.0000°, Azm8.0000°; P -4.1550, Plg38.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 19:49:36.0,21°.79S×68°.64W,h145km,mb4.8/33,After GUC.*
NEIC Felt [II] at Calama and Tocopilla.
*GUC **18** 19:49:36.5±0.6,21°.79S×68°.65W,h145km±5km,ML5.1*
*IDC **18** 19:49:37.5±0.5,21°.60S×68°.17W,h142km±3km,mb4.2/11, mb1 4.3/16,mb1mx4.2/27,mbtmp4.6/16,MS3.3/4, Ms1 3.3/4,ms1mx3.1/27,Error ellipse: s-maj=15.8km s-min=12.4km az=61.0*
*BJI **18** 19:49:37.8,21°.70S×68°.10W,h138km,mB5.3/8*
ISC 18 19:49:36.7±0.4,21°.75S±0°.04×68°.33W±0°.04,h140km±3km, h140km;pP-P,n298,σ1s08/330,mb4.8/57,80C-75D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.02**	**212**	⇓*iP*	**Pn**	**19 50 00.4**	**-0.6**
LVC				*i* S	**Sn**	**19 50 18.8**	**-0.8**
LVC	**Limon Verde**	**1.02**	**212**	*ePn*	**Pn**	**19 50 00.2**	**-0.8**
LVC	**Limon Verde**	**1.02**	**212**	*i P*	**Pn**	**19 50 00.2**	**-0.8**
LVC				*i* S	**Sn**	**19 50 18.3**	**-1.3**
PATCX	**Punta Patache**	**1.93**	**298**	⇑*iP*	**Pn**	**19 50 08.5**	**-2.1**
PATCX				*i* S	**Sn**	**19 50 33.4**	**-3.1**
CEN1	**Los Morros**	**2.38**	**226**	*i* S	**Sn**	**19 50 47.4**	**+1.1**
CEN1				AML	AML	19 50 55.9	
comp=E,5μm,0.6s
YJA	**Yavi**	**2.65**	**100**	*i P*	**Pn**	**19 50 20.0**	**+0.3**
YJA				*i* S	**Sn**	**19 50 52.6**	**0.0**
PB10	**IPOC Station P**	**2.71**	**229**	⇑*iP*	**Pn**	**19 50 18.3**	**-1.6**
PB10				*i* S	**Sn**	**19 50 49.0**	**-4.3**
PB10				AML	AML	19 51 05.9	
comp=E,11μm,0.5s
ANCH	**Antofagasta**	**2.72**	**225**	⇓*iP*	Pn	19 50 14.9	-5.3
ANCH				*i* S	Sn	19 50 46.5	-7.1
ANCH				AML	AML	19 50 50.7	
comp=E,7μm,0.4s
AZAP	**Zapla**	**3.89**	**130**	*i P*	**Pn**	**19 50 35.4**	**-0.1**
AZAP				*i* S	**Sn**	**19 51 18.9**	**-2.2**
AZAP				AML	AML	19 51 31.3	
comp=Z,229nm,0.8s
SLA	**San Lorenzo**	**3.94**	**139**	*i P*	**Pn**	**19 50 35.8**	**-0.3**
SLA				AML	AML	19 51 25.4	
comp=Z,116nm,0.7s
ASTB	**Santa Barbara**	**4.17**	**122**	*i P*	**Pn**	**19 50 39.2**	**0.0**
ASTB				*i* S	**Sn**	**19 51 26.1**	**-1.5**
ALOL	**LOMAS DE OLMED**	**4.52**	**118**	*i P*	**Pn**	**19 50 42.3**	**-1.3**
ALOL				*i* S	**Sn**	**19 51 32.7**	**-2.9**
LPAZ	**La Paz**	**5.43**	**2**	P	**Pn**	**19 50 55.5**	**-0.8**
comp=Z,4.7nm,0.3s,baz=310,slow=1.8,SNR=174
LPAZ	**La Paz**	**5.43**	**2**	*i P*	**Pn**	**19 50 56.7**	**+0.4**
LPAZ				*i P*	**Pn**	**19 50 56.7**	**+0.4**
ARE	**Arequipa**	**6.05**	**330**	*eP*	Pn	19 51 01.0	-3.3
ARE				*eS*	Sn	19 52 04.0	-8.6
LCO	**Las Campanas**	**7.55**	**196**	*ePn*	Pn	19 51 19.9	-4.4
SIV	**San Ignacio**	**8.94**	**51**	P	Pn	19 51 38.4	-4.4
comp=Z,21nm,0.3s,baz=225,slow=12,SNR=144
SIV				S	Sn	19 53 06.7	-15
comp=Z,2.0nm,0.3s,baz=248,slow=17,SNR=3.6
CFAA	**Coronel Fontan**	**9.82**	**180**	P	Pn	19 51 51.0	-3.4
comp=Z,0.2nm,0.3s,baz=348,slow=13,SNR=17
CFAA				S	Sn	19 53 34.2	-8.9
comp=Z,0.8nm,0.3s,baz=271,slow=20,SNR=5.6
NNA	**Nana**	**12.66**	**319**	P	**Pn**	**19 52 30.8**	**-1.2**
comp=Z,1.0nm,0.3s,baz=185,slow=11,SNR=2.3
NNA				S	Sn	19 54 43.1	-8.9
comp=Z,1.1nm,0.3s,baz=248,slow=16,SNR=3.3
NNA	**Nana**	**12.66**	**319**	*ePn*	**Pn**	**19 52 34.1**	**+2.1**
NNA				S	Sn	19 54 43.1	-8.9
SAML	**Samuel**	**13.65**	**22**	*ePn*	Pn	19 52 41.4	-3.3
TRQA	**Tornquist**	**17.15**	**163**	*eP*	**P**	**19 53 24.6**	**-2.8**
comp=Z,101nm,0.8s
ATAH	**Atahualpa**	**17.48**	**325**	P	**P**	**19 53 30.9**	**-0.5**
comp=Z,0.4nm,0.3s,baz=139,slow=9.3,SNR=4.1
PLCA	**Paso Flores**	**19.02**	**185**	P	**P**	**19 53 48.4**	**+0.6**
comp=Z,0.9nm,0.3s,baz=3.2,slow=12,SNR=40
PLCA				LR	LR	20 00 54.0	
comp=Z,56nm,20.4s,baz=359,slow=35
PLCA	**Paso Flores**	**19.02**	**185**	*eP*	**P**	**19 53 48.1**	**+0.3**
comp=Z,31nm,0.9s
BDFB	**Brasilia**	**20.17**	**76**	P	**P**	**19 53 58.2**	**-2.2**
comp=Z,2.2nm,0.3s,baz=247,slow=13,SNR=32
BDFB				LR	LR	20 02 57.9	
comp=Z,80nm,18.4s,baz=232,slow=40
PTGA	**Pitinga**	**22.42**	**22**	P	**P**	**19 54 21.8**	**-2.2**
comp=Z,3.7nm,0.3s,baz=199,slow=10,SNR=9.1
OTAV	**Otavalo**	**23.98**	**334**	*eP*	**P**	**19 54 39.8**	**+0.9**
comp=Z,27nm,1.3s
ROSC	**El Rosal**	**27.08**	**347**	LR	LR	20 08 21.4	
comp=Z,98nm,19.7s,baz=183,slow=42
RCBR	**Riachuelo**	**35.13**	**68**	*eP*	**P**	**19 56 15.7**	**-1.4**
comp=Z,60nm,0.9s
PMSA	**Palmer Station**	**43.11**	**177**	P	**P**	**19 57 23.8**	**+1.2**
comp=Z,17nm,0.8s,baz=2.2,slow=8.8,SNR=2.8
933A	**Laredo**	**57.47**	**327**	⇓P	**P**	**19 59 12.2**	**+1.1**
baz=58
735A	**Kenedy**	**57.78**	**329**	⇓P	**P**	**19 59 14.4**	**+1.2**
baz=58
833A	**Chaparral WMA,**	**58.11**	**328**	⇓P	**P**	**19 59 16.2**	**+0.6**
baz=58
438A	**Sam Houston St**	**58.34**	**333**	⇑P	**P**	**19 59 17.7**	**+0.6**
baz=58
832A	**Faith Ranch, C**	**58.37**	**327**	⇑P	**P**	**19 59 18.0**	**+0.6**
baz=58
733A	**Divot King Ran**	**58.39**	**328**	⇓P	**P**	**19 59 17.9**	**+0.4**
baz=58
732A	**Laxson Ranch,**	**58.73**	**327**	⇓P	**P**	**19 59 20.0**	**+0.1**
baz=59
TKL	**Tuckaleechee C**	**58.94**	**345**	*eP*	**P**	**19 59 20.0**	**-1.2**
633A	**Saathoff Ranch**	**58.94**	**329**	⇑P	**P**	**19 59 22.7**	**+1.4**
baz=59
632A	**Uvalde**	**59.28**	**328**	⇑P	**P**	**19 59 24.3**	**+0.6**
baz=59
631A	**Perdido Creek**	**59.60**	**327**	⇑P	**P**	**19 59 25.9**	**+0.1**
baz=60
VNA3	**Neumayer Olymp**	**59.67**	**161**	P	**P**	**19 59 26.8**	**+1.0**
532A	**Rocksprings**	**59.85**	**328**	⇑P	**P**	**19 59 27.8**	**+0.2**
baz=60
VNA1	**Neumayer--Stat**	**59.87**	**160**	P	**P**	**19 59 28.7**	**+1.5**
433A	**Art**	**59.98**	**329**	⇓P	**P**	**19 59 27.8**	**-0.6**
baz=60,SNR=9.2
334A	**Lometa**	**60.07**	**331**	⇑P	**P**	**19 59 28.8**	**-0.2**
baz=60
JCT	**Junction City**	**60.09**	**329**	⇓P	**P**	**19 59 29.3**	**+0.1**
baz=60
JCT	**Junction City**	**60.09**	**329**	*eP*	**P**	**19 59 29.0**	**-0.2**
comp=Z,11nm,0.8s
531A	**Rocksprings**	**60.20**	**328**	⇓P	**P**	**19 59 30.0**	**+0.1**
baz=60,SNR=8.4
VNA2	**Neumayer--Watz**	**60.24**	**161**	P	**P**	**19 59 30.8**	**+1.1**
333A	**Richland Sprin**	**60.41**	**330**	⇑P	**P**	**19 59 31.1**	**-0.2**
baz=61
432A	**Menard**	**60.41**	**329**	⇑P	**P**	**19 59 31.2**	**-0.3**
baz=61
WVT	**Waverly**	**60.45**	**342**	*eP*	**P**	**19 59 29.5**	**-2.0**
comp=Z,21nm,1.2s
WVT				*ep*P	**pP**	**20 00 03.9**	**-0.9**
530A	**J-C Ranch, Com**	**60.58**	**327**	⇑P	**P**	**19 59 32.4**	**-0.2**
baz=61,SNR=11
431A	**Sonora**	**60.65**	**328**	⇓P	**P**	**19 59 32.6**	**-0.4**
baz=61
MIAR	**Mount Ida**	**60.91**	**336**	*eP*	**P**	**19 59 34.3**	**-0.3**
comp=Z,17nm,1.2s
529A	**Stev Forest Ra**	**61.01**	**326**	⇑P	**P**	**19 59 35.4**	**-0.1**
baz=61,SNR=15
430A	**Baggett Ranch,**	**61.05**	**328**	⇑P	**P**	**19 59 35.2**	**-0.6**
baz=61,SNR=5.9
TXAR	**Lajitas Array**	**61.14**	**325**	P	**P**	**19 59 36.5**	**0.0**
comp=Z,1.2nm,0.6s,baz=152,slow=8.9,SNR=15
TXAR				pP	**pP**	**20 00 09.6**	**-0.3**
comp=Z,1.0nm,0.8s,baz=148,slow=7.4,SNR=4.2
429A	**Davenport Ranc**	**61.24**	**327**	⇑P	**P**	**19 59 37.4**	**+0.3**
baz=61
SNAA	**Sanae**	**61.87**	**161**	P	**P**	**19 59 41.5**	**+0.7**
SNAA	**Sanae**	**61.87**	**161**	*eP*	**P**	**19 59 41.3**	**+0.6**
comp=Z,29nm,0.8s
329A	**Wagon Wheel Ra**	**61.98**	**328**	⇓P	**P**	**19 59 41.6**	**-0.5**
baz=62
Y34A	**Reagan Ranch,**	**62.08**	**332**	⇓P	**P**	**19 59 42.3**	**-0.3**
baz=62
SIUC	**Southern Illin**	**62.33**	**341**	*eP*	**P**	**19 59 41.8**	**-2.3**
130A	**Snyder**	**62.39**	**329**	⇑P	**P**	**19 59 44.7**	**0.0**
baz=62
Z31A	**Sharp Cattle R**	**62.60**	**330**	⇓P	**P**	**19 59 46.2**	**+0.1**
baz=63
ACSO	**Alum Creek Sta**	**63.15**	**347**	*ep*P	pP	20 00 23.7	+0.6
128A	**Castleberry Fa**	**63.15**	**328**	⇑P	**P**	**19 59 49.3**	**-0.5**
baz=63
Y31A	**Rekieta Farm,**	**63.20**	**330**	⇓P	**P**	**19 59 49.8**	**-0.2**
baz=63
V35A	**Meyer Ranch, C**	**63.25**	**334**	⇑P	**P**	**19 59 50.1**	**-0.1**
baz=63
Z29A	**Hungry Hill Ra**	**63.29**	**329**	⇓P	**P**	**19 59 50.3**	**-0.4**
baz=63
W33A	**Caddo, Fort Co**	**63.40**	**333**	⇓P	**P**	**19 59 51.5**	**+0.2**
baz=64
X31A	**McDonald Ranch**	**63.62**	**331**	⇓P	**P**	**19 59 52.6**	**-0.2**
baz=64
W32A	**Sentinel**	**63.72**	**332**	⇑P	**P**	**19 59 53.2**	**-0.2**
baz=64
Y29A	**Porterfield Fa**	**63.77**	**329**	⇑P	**P**	**19 59 53.0**	**-0.8**
baz=64
X30A	**Coker Ranch, T**	**63.88**	**330**	⇓P	**P**	**19 59 54.2**	**-0.2**
baz=64
V33A	**Lossen Ranch,**	**63.90**	**333**	⇑P	**P**	**19 59 55.0**	**+0.5**
baz=64
MNTX	**Cornudas Mount**	**63.91**	**325**	*eP*	**P**	**19 59 53.8**	**-0.9**
comp=Z,24nm,2.0s
MNTX				*ep*P	**pP**	**20 00 27.7**	**-0.7**
SFIN	**Lafayette**	**64.23**	**344**	*ep*P	pP	20 00 29.3	-1.0
MSTX	**Muleshoe**	**64.39**	**329**	⇑P	**P**	**19 59 58.3**	**+0.4**
baz=64
MSTX	**Muleshoe**	**64.39**	**329**	*eP*	**P**	**19 59 57.6**	**-0.3**
comp=Z,21nm,1.1s
T33A	**Patterson Ranc**	**64.96**	**334**	⇓P	**P**	**20 00 01.6**	**+0.2**
baz=65
X26A	**CR and CF Fran**	**65.36**	**328**	⇓P	**P**	**20 00 04.4**	**+0.2**
baz=66
W26A	**Owens Ranch, T**	**65.77**	**329**	⇓P	**P**	**20 00 07.7**	**+0.9**
baz=66
319A	**Douglas**	**65.81**	**322**	⇓P	**P**	**20 00 07.6**	**+0.5**
baz=66,SNR=6.0
121A	**Cookes Peak, D**	**65.84**	**324**	⇑P	**P**	**20 00 07.8**	**+0.4**
baz=66,SNR=5.8
Z22A	**Elephant Butte**	**65.95**	**325**	⇑P	**P**	**20 00 08.9**	**+0.9**
baz=66
W25A	**X Bar L Ranch,**	**66.21**	**328**	⇓P	**P**	**20 00 09.5**	**-0.2**
baz=66,SNR=5.0
V26A	**Tequesquite Ra**	**66.35**	**329**	⇑P	**P**	**20 00 10.8**	**+0.2**
baz=66
U27A	**Thompson Grove**	**66.40**	**330**	⇓P	**P**	**20 00 12.2**	**+1.4**
baz=67
T28A	**Walsh**	**66.65**	**331**	⇓P	**P**	**20 00 13.8**	**+1.4**
baz=67
W24A	**Lazy 6 Ranch,**	**66.67**	**327**	⇑P	**P**	**20 00 12.9**	**+0.2**
baz=67
U26A	**Atchley Ranch,**	**66.81**	**329**	⇓P	**P**	**20 00 14.1**	**+0.5**
baz=67,SNR=5.2
S28A	**Manter**	**66.94**	**331**	⇑P	**P**	**20 00 14.8**	**+0.6**
baz=67
ANMO	**Albuquerque**	**67.00**	**327**	*eP*	**P**	**20 00 15.7**	**+0.9**
comp=Z,12nm,1.4s
ANMO				*ep*P	**pP**	**20 00 49.4**	**+0.7**
V24A	**Rampart Ranch,**	**67.02**	**328**	⇑P	**P**	**20 00 15.7**	**+0.8**
baz=67
U25A	**Circle Dot Ran**	**67.13**	**329**	⇑P	**P**	**20 00 15.8**	**+0.3**
baz=67,SNR=6.4
TUC	**Tucson**	**67.36**	**322**	*eP*	**P**	**20 00 17.6**	**+0.6**
comp=Z,11nm,1.3s
T26A	**Comanche Natio**	**67.38**	**330**	⇑P	**P**	**20 00 17.1**	**0.0**
baz=68,SNR=6.4
Q30A	**Quinter**	**67.39**	**334**	⇑P	**P**	**20 00 17.2**	**+0.3**
baz=68,SNR=5.6
JFWS	**Jewell Farm**	**67.44**	**343**	*ep*P	pP	20 00 51.0	-0.1
V23A	**Ortiz Mt. (NFS**	**67.48**	**327**	⇓P	**P**	**20 00 18.9**	**+1.1**
baz=68
S26A	**Kim**	**67.68**	**330**	⇓P	**P**	**20 00 19.6**	**+0.7**
baz=68,SNR=8.8
LIC	**Lamto**	**67.94**	**73**	*eP*	**P**	**20 00 19.6**	**-1.3**
comp=Z,76nm,0.8s
V22A	**San Miguel Ran**	**67.98**	**327**	⇓P	**P**	**20 00 21.9**	**+0.9**
baz=68,SNR=5.4
T24B	**San Luis**	**68.13**	**329**	⇑P	**P**	**20 00 23.3**	**+1.4**
baz=68
TIC	**Toumodi**	**68.13**	**73**	*eP*	**P**	**20 00 21.0**	**-1.1**
comp=Z,92nm,0.9s
S25A	**Robets Cordova**	**68.16**	**330**	⇓P	**P**	**20 00 22.7**	**+0.8**
baz=68
R26A	**Arlington**	**68.22**	**331**	⇑P	**P**	**20 00 22.3**	**0.0**
baz=68,SNR=7.3
KIC	**Kosan Boka**	**68.25**	**73**	*eP*	**P**	**20 00 21.9**	**-0.9**
comp=Z,174nm,0.8s
DBIC	**Dimbokro**	**68.29**	**73**	*eP*	**P**	**20 00 22.1**	**-0.8**
DBIC	**Dimbokro**	**68.29**	**73**	P	**P**	**20 00 22.2**	**-0.8**
comp=Z,82nm,0.8s,baz=215,slow=6.4,SNR=114
DBIC	**Dimbokro**	**68.29**	**73**	*eP*	**P**	**20 00 21.0**	**-2.0**
214A	**Organ Pipe Nat**	**68.30**	**320**	⇓P	**P**	**20 00 24.0**	**+1.2**
baz=68,SNR=8.8
QSPA	**South Pole Qui**	**68.45**	**180**	*eP*	**P**	**20 00 24.9**	**+1.6**
S24A	**Houchin Ranch,**	**68.51**	**329**	⇓P	**P**	**20 00 25.3**	**+1.0**
baz=69,SNR=5.2
X18A	**Snowflake**	**68.53**	**324**	⇑P	**P**	**20 00 26.0**	**+1.6**
baz=69
BGNE	**Belgrade**	**68.65**	**336**	⇓P	**P**	**20 00 25.7**	**+1.0**
baz=69
BGNE	**Belgrade**	**68.65**	**336**	*eP*	**P**	**20 00 24.7**	**-0.1**
BGNE				*ep*P	**pP**	**20 00 58.8**	**0.0**
SDCO	**Great Sand Dun**	**68.73**	**329**	*eP*	**P**	**20 00 26.3**	**+0.7

SMCO	Snowmass	70.57	329	eP	P	20 00 38.4 +1.4
PDMCI	Parker Dam,Lak	70.74	321	⇓P	P	20 00 39.3 +1.7
	baz=71					
SWSC	Sam W. Stewart	70.78	319	⇑P	P	20 00 39.8 +1.9
	baz=71					
P22A	Eagle	70.80	329	⇑P	P	20 00 39.5 +1.3
	baz=71					
O23A	Lake Granby, G	70.89	330	⇑P	P	20 00 40.1 +1.3
	baz=71					
BC3	Big Chuckawall	71.07	320	⇑P	P	20 00 40.8 +1.0
	baz=71,SNR=8.7					
MONP	Monument Peak,	71.13	319	⇑P	P	20 00 41.8 +1.5
	baz=71					
O22A	Kremmling	71.15	330	⇓P	P	20 00 40.5 +0.1
	baz=71,SNR=6.7					
W13A	Hualapai Mount	71.16	322	⇑P	P	20 00 41.2 +0.8
	baz=71,SNR=5.7					
J29A	Okreek	71.19	336	⇑P	P	20 00 40.9 +0.7
	baz=71,SNR=6.2					
U15A	North Rim	71.22	324	⇓P	P	20 00 42.6 +1.7
	baz=71,SNR=10					
IRM	Iron Mountain	71.24	320	⇓P	P	20 00 42.0 +1.3
	baz=71,SNR=6.3					
K27A	Flueckinger Fa	71.34	334	⇓P	P	20 00 42.7 +1.4
	baz=72					
N23A	Red Feather La	71.45	331	⇓P	P	20 00 43.1 +0.9
	baz=72					
J28A	Allard Ranch,	71.56	335	⇑P	P	20 00 43.2 +0.8
	baz=72,SNR=9.1					
N22A	Wattenberg Ran	71.61	330	⇓P	P	20 00 44.4 +1.3
	baz=72					
BELC	Belle Mtn. Jos	71.63	320	⇑P	P	20 00 44.6 +1.4
	baz=72					
PFO	Pinyon Flats O	71.64	319	⇑P	P	20 00 44.7 +1.5
	baz=72					
J27A	Elkhorn Farm,	71.71	335	⇓P	P	20 00 44.3 +0.8
	baz=72,SNR=8.6					
M23A	Laramie	71.81	331	⇑P	P	20 00 45.2 +1.0
	baz=72,SNR=8.1					
O20A	White River Ci	71.93	329	⇓P	P	20 00 46.1 +1.2
	baz=72					
O20A	White River Ci	71.93	329	eP	P	20 00 45.7 +0.7
	comp=Z,7.5nm,0.9s					
O20A				epP	pP	20 01 20.4 +1.1
GMRC	Granite Mounta	71.97	320	⇓P	P	20 00 46.3 +1.1
	baz=72,SNR=7.5					
SRU	San Rafael Swe	72.28	327	eP	P	20 00 48.1 +1.1
HEC	Hector,Ludlow	72.40	320	⇑P	P	20 00 49.2 +1.5
	baz=72					
N20A	Spence Gulch,	72.48	329	⇑P	P	20 00 49.3 +1.0
	baz=73					
H28A	Mission Ridge	72.53	336	⇓P	P	20 00 48.7 +0.5
	baz=73,SNR=6.5					
TUQ	Turquoise Moun	72.58	321	⇑P	P	20 00 50.5 +1.7
	baz=73					
CCUT	Cedar City	72.62	324	eP	P	20 00 51.1 +2.0
MVU	Marysvale	72.70	325	epP	pP	20 01 25.6 +1.5
	comp=Z,6.0nm,0.8s					
BFSC	Mount Baldy Ra	72.80	319	⇓P	P	20 00 51.9 +1.8
	baz=73					
SHPR	Sheep Range	72.89	322	eP	P	20 00 52.1 +1.5
	comp=Z,9.7nm,1.3s					
SHPR				epP	pP	20 01 26.6 +1.4
GSC	Goldstone, Bar	73.01	320	⇑P	P	20 00 52.2 +0.9
	baz=73					
GSC	Goldstone, Bar	73.01	320	eP	P	20 00 53.2 +1.9
I25A	Rochford	73.05	334	⇑P	P	20 00 52.2 +0.8
	baz=73,SNR=5.8					
K22A	Casper	73.12	332	⇑P	P	20 00 53.0 +1.2
	baz=73					
RSSD	Black Hills	73.25	334	eP	P	20 00 53.1 +0.4
	comp=Z,11nm,1.3s					
RSSD				epP	pP	20 01 26.4 -0.8
K21A	Alcova	73.43	331	⇓P	P	20 00 54.5 +0.7
	baz=74,SNR=5.9					
G26A	Maurine	73.66	336	⇑P	P	20 00 55.8 +1.0
	baz=74,SNR=8.3					
J22A	Midwest	73.71	332	⇑P	P	20 00 56.2 +0.9
	baz=74,SNR=8.1					
TPNV	Topopah Spring	73.82	322	⇑P	P	20 00 57.3 +1.2
	baz=74,SNR=5.7					
TPNV	Topopah Spring	73.82	322	eP	P	20 00 57.8 +1.7
D30A	Buchanan	73.83	339	⇑P	P	20 00 56.9 +1.2
	baz=74					
F27A	Lemmon	73.92	336	⇓P	P	20 00 57.2 +0.9
	baz=74,SNR=8.1					
MPMC	Manual Prospec	73.93	320	⇑P	P	20 00 57.9 +1.1
	baz=74					
H24A	Dirks Ranch, A	73.98	334	⇓P	P	20 00 57.4 +0.7
	baz=74,SNR=6.1					
J21A	Lysite	74.08	331	⇓P	P	20 00 58.9 +1.4
	baz=74					
I22A	9 Mile Ranch,	74.09	332	⇓P	P	20 00 58.2 +0.7
	baz=74,SNR=5.1					
DAC	Darwin (Calif)	74.14	320	eP	P	20 00 59.5 +1.5
F26A	Lodgepole	74.15	336	⇑P	P	20 00 58.4 +0.7
	baz=74,SNR=9.1					
ISA	Isabella, Lake	74.25	319	⇑P	P	20 01 00.0 +1.5
	baz=74					
ISA	Isabella, Lake	74.25	319	eP	P	20 01 00.0 +1.5
DUG	Dugway, Tooele	74.26	326	⇓P	P	20 01 00.4 +1.8
	baz=74					
DUG	Dugway, Tooele	74.26	326	eP	P	20 01 00.0 +1.5
I21A	Big Trails, Te	74.38	332	⇑P	P	20 00 59.6 +0.4
	baz=75,SNR=7.9					
R11A	Troy Canyon, C	74.42	323	⇑P	P	20 01 00.9 +1.3
	baz=74,SNR=6.6					
PKM	Mcpherson Peak	74.57	318	⇑P	P	20 01 02.1 +1.6
	baz=75					
PDAR	Pinedale Array	74.59	330	P	P	20 01 00.7 +0.2
	comp=Z,0.9nm,0.8s,baz=140,slow=9.4,SNR=6.4					
PDAR				pP	pP	20 01 35.4 +0.2
	comp=Z,1.1nm,0.6s,baz=141,slow=7.3,SNR=5.6					
PDAR				LR	LR	20 36 06.2
	comp=Z,27nm,18.5s,baz=236,slow=37					
G23A	Biddle	74.69	334	⇑P	P	20 01 01.5 +0.7
	baz=75,SNR=6.5					
J19A	Crowheart	74.74	330	⇓P	P	20 01 02.4 +1.1
	baz=75,SNR=7.8					
MDND	Maddock	74.75	339	⇑P	P	20 01 03.0 +1.9
	baz=75					
MDND	Maddock	74.75	339	eP	P	20 01 01.3 +0.3
	comp=Z,35nm,1.3s					
MDND				epP	pP	20 01 35.5 -0.2
F23A	Volborg	75.12	334	⇑P	P	20 01 04.1 +0.8
	baz=75,SNR=7.7					
H20A	Greybull	75.23	332	⇑P	P	20 01 04.6 +0.6
	baz=75,SNR=5.1					
I19A	Meeteetse	75.32	331	⇓P	P	20 01 05.7 +1.1
	baz=76					
E24A	Baker	75.37	335	⇑P	P	20 01 05.8 +1.1
	baz=76,SNR=5.6					
G21A	Lodge Grass	75.47	333	⇓P	P	20 01 07.1 +1.7
	baz=76					
ULM	Lac du Bonnet	75.71	342	P	P	20 01 04.8 -1.6
	comp=Z,1.8nm,0.4s,baz=159,slow=9.9,SNR=4.2					
ULM				pP	pP	20 01 41.2 0.0
	comp=Z,7.6nm,0.7s,baz=149,slow=5.8,SNR=7.4					
H19A	Powell	75.81	331	⇓P	P	20 01 08.8 +1.5
	baz=76					
G20A	Bridger	75.90	332	⇑P	P	20 01 08.2 +0.4
	baz=76,SNR=6.4					
FXWY	Fox Creek	75.95	330	eP	P	20 01 09.4 +1.1
I17A	Pilgrim Ck.	75.95	330	⇑P	P	20 01 10.0 +1.8
	baz=76					
NVAR	Mina Array Bea	76.02	322	P	P	20 01 09.9 +1.2
	comp=Z,0.5nm,0.3s,baz=165,slow=6.2,SNR=6.3					
NVAR				pP	pP	20 01 44.9 +1.3
	comp=Z,1.4nm,0.7s,baz=129,slow=4.7,SNR=2.4					
SYO	Syowa Base	76.08	159	⇓eP	P	20 01 08.0 -0.4
H18A	Shoshone NF, C	76.12	331	⇓P	P	20 01 09.8 +0.6
	baz=76,SNR=6.2					
SCHQ	Schefferville	76.27	1	pP	pP	20 01 45.6 +1.3
	comp=Z,5.7nm,0.9s,baz=196,slow=3.3,SNR=4.1					
RLMT	Red Lodge	76.29	331	eP	P	20 01 11.1 +1.0
	comp=Z,12nm,1.4s					
RLMT				epP	pP	20 01 45.6 +0.7
YMR	Madison River	76.70	330	eP	P	20 01 13.4 +0.9
	comp=Z,11nm,0.5s					
YMR				epP	pP	20 01 49.2 +1.8
F19A	Roth Farm, Mol	76.72	332	⇑P	P	20 01 13.2 +0.8
	baz=77,SNR=9.2					
C23A	Lambert	76.73	335	⇓P	P	20 01 13.6 +1.2
	baz=77					
E20A	Meyer Farm, Mu	76.88	333	⇓P	P	20 01 14.2 +1.0
	baz=77,SNR=9.6					
TORD	Torodi Ar. Bea	76.93	70	P	P	20 01 13.1 -1.0
	comp=Z,37nm,0.7s,baz=252,slow=5.3,SNR=238					
TORD				pP	pP	20 01 49.2 +0.2
	comp=Z,17nm,0.7s,baz=253,slow=5.4,SNR=4.7					
GCMT	Greycliff	76.98	332	eP	P	20 01 13.7 -0.2
	comp=Z,10nm,1.4s					
GCMT				epP	pP	20 01 48.1 -0.7
E19A	Rath Farm, Rou	77.12	333	⇓P	P	20 01 15.5 +0.8
	baz=77,SNR=11					
B23A	Brockton	77.20	336	⇓P	P	20 01 16.8 +1.8
	baz=77					
D20A	Manuel Ranch,	77.35	333	⇓P	P	20 01 16.6 +0.8
	baz=78,SNR=10.0					
HLID	Hailey	77.54	328	⇓P	P	20 01 18.6 +1.5
	baz=78,SNR=10.0					
MCMT	McKenzie Canyo	77.71	329	eP	P	20 01 19.4 +1.2
	comp=Z,2.2nm,1.2s					
MCMT				epP	pP	20 01 54.6 +1.5
D19A	Cripps Ranch,	77.72	333	⇓P	P	20 01 18.7 +0.8
	baz=78,SNR=7.1					
BOZ	Bozeman (W)	77.75	331	epP	pP	20 01 53.8 +0.6
	comp=Z,18nm,1.5s					
A22A	Carney Farms,	77.99	336	⇑P	P	20 01 20.7 +1.4
	baz=78					
C19A	Slack Wire Ran	78.23	333	⇑P	P	20 01 21.5 +0.7
	baz=78,SNR=8.0					
LRM	Limekiln Ridge	78.26	330	P	P	20 01 21.5 +0.3
	comp=Z,100nm,1.5s					
LRM				epP	pP	20 01 56.8 +0.7
HRY	Holter Researc	78.65	331	P	P	20 01 20.9 -2.2
HRY				epP	pP	20 01 59.5 +1.4
B19A	Brinkman Farms	78.76	334	⇓P	P	20 01 24.1 +0.5
	baz=79,SNR=6.2					
A19A	Klindworth Far	79.05	334	⇑P	P	20 01 26.1 +1.0
	baz=79					
TSUM	Tsumeb	79.45	106	eP	P	20 01 28.4 +0.2
	comp=Z,44nm,0.8s					
MSO	Missoula	79.70	330	⇑P	P	20 01 29.9 +1.1
	baz=80					
SWMT	Swartz Lake	80.23	331	eP	P	20 01 32.5 +0.8
	comp=Z,6.9nm,1.2s					
SWMT				epP	pP	20 02 05.9 -0.9
M04C	Macdoel	80.27	322	⇓P	P	20 01 32.6 +0.6
	baz=80					
BSMT	Bassoo Peak	80.84	330	eP	P	20 01 35.4 +0.4
	comp=Z,1.1nm,0.8s					
BSMT				epP	pP	20 02 11.3 +1.1
MESJ	Messejana	81.85	44	eP	P	20 01 40.0 -0.3
	comp=Z,41nm,1.8s					
I04A	Tendick Farm,	81.90	324	⇓P	P	20 01 40.5 +0.1
	baz=82					
PVAQ	Vaqueiros	81.92	44	eP	P	20 01 41.1 +0.4
	comp=Z,53nm,1.6s					
EVO	Evora	82.38	43	eP	P	20 01 41.9 -1.1
	comp=Z,19nm,1.3s					
PMTG	Montargil	82.56	43	eP	P	20 01 44.2 +0.3
	comp=Z,27nm,1.9s					
PTOM	Tomar	82.76	42	eP	P	20 01 45.4 +0.4
	comp=Z,45nm,1.4s					
PBAR	Barrancos	82.80	44	eP	P	20 01 45.4 +0.2
	comp=Z,38nm,1.7s					
BOSA	Boshof	82.86	118	eP	P	20 01 45.4 -0.6
BOSA				AMB	AMB	20 01 45.5
	comp=Z,31nm,3.0s					
BOSA	Boshof	82.86	118	P	P	20 01 45.9 -0.2
	comp=Z,23nm,0.8s,baz=255,slow=4.1,SNR=33					
BOSA	Boshof	82.86	118	eP	P	20 01 45.5 -0.6
	comp=Z,27nm,0.9s					
FCC	Fort Churchill	82.99	347	P	P	20 01 44.0 -1.7
	comp=Z,0.3nm,0.7s					
FCC				epP	pP	20 02 21.0 0.0
PMRV	Marv??o	83.29	43	eP	P	20 01 47.3 -0.5
	comp=Z,16nm,1.5s					
MTE	Manteigas	83.76	42	eP	P	20 01 50.2 0.0
	comp=Z,26nm,1.5s					
PVRL	Vila Real	84.16	41	eP	P	20 01 52.3 +0.2
	comp=Z,24nm,1.3s					
POLO	Lamas de Olo	84.17	41	eP	P	20 01 52.1 -0.2
	comp=Z,17nm,1.7s					
EDM	Edmonton	84.21	335	epP	pP	20 02 26.4 -1.1
LBTB	Lobatse	84.43	115	eP	P	20 01 54.3 +0.2
LBTB				AMB	AMB	20 01 54.8
	comp=Z,38nm,0.9s					
LBTB	Lobatse	84.43	115	eP	P	20 01 54.1 0.0
	comp=Z,30nm,0.8s					
TAM	Tamanrasset	84.45	63	eP	P	20 01 53.8 -0.3
	comp=Z,7.4nm,1.0s					
MVO	Moncorvo	84.52	42	eP	P	20 01 54.0 0.0
	comp=Z,30nm,1.3s					
SEK	Senekal	84.90	118	eP	P	20 01 55.3 -1.2
SEK				AMB	AMB	20 02 05.0
	comp=Z,26nm,4.4s					
SEK	Senekal	84.90	118	P	P	20 01 55.3 -1.2
	comp=Z,26nm,4.4s					
PBRG	Braganca	85.06	41	eP	P	20 01 56.7 0.0
	comp=Z,16nm,1.7s					
ESDC	Sonseca Array	85.63	44	P	P	20 01 59.4 -0.2
	comp=Z,4.8nm,0.8s,baz=243,slow=4.8,SNR=23					
SLR	Silverton	86.42	116	eP	P	20 02 02.7 -1.3
SLR				AMB	AMB	20 02 02.9
	comp=Z,32nm,3.9s					
SLR	Silverton	86.42	116	P	P	20 02 02.7 -1.3
	comp=Z,32nm,3.9s					
MSNA	Messina	89.19	114	eP	P	20 02 17.8 +0.6
MSNA				AMB	AMB	20 02 18.7
	comp=Z,12nm,1.0s					
MSNA	Messina	89.19	114	P	P	20 02 17.8 +0.6
	comp=Z,12nm,1.0s					
YKA	Yellowknife Ar	91.60	340	P	P	20 02 27.0 -0.1
	comp=Z,1.8nm,0.5s,baz=135,slow=4.6,SNR=42					
YKA				pP	pP	20 03 03.7 +0.8
	comp=Z,2.1nm,0.6s,baz=135,slow=4.6,SNR=4.9					
KEST	Kesra	93.02	53	P	P	20 02 34.9 +0.3
	comp=Z,0.9nm,0.7s,baz=191,slow=10,SNR=3.8					
CLL	Collm	101.47	39	ePdif	Pdif	20 03 14.0 +1.9
KBZ	Khabaz	119.85	51	PKP	PKPdf	20 08 10.2 -0.1
	comp=Z,2.8nm,0.9s,baz=135,slow=2.1,SNR=4.0					
AKTO	Aktyubinsk	129.46	42	PKP	PKPdf	20 08 29.5 +1.0
	comp=Z,0.9nm,0.6s,baz=297,slow=1.3,SNR=5.0					
ASAR	Alice Springs	129.94	207	PKP	PKPdf	20 08 30.9 +0.4
	comp=Z,2.1nm,0.9s,baz=133,slow=2.0,SNR=16					
ASAR				pPKP	pPKPdf	20 09 09.6 +1.7
	comp=Z,2.2nm,1.0s,baz=164,slow=2.7,SNR=4.7					
GEYT	Alibeck	131.47	58	PKP	PKPdf	20 08 33.8 +1.0
	comp=Z,1.1nm,0.7s,baz=284,slow=7.3,SNR=3.7					
WRA	Warramunga Arr	133.01	210	PKP	PKPdf	20 08 37.1 +0.8
	comp=Z,1.6nm,0.7s,baz=158,slow=1.8,SNR=21					
WRA				pPKP	pPKPdf	20 09 15.0 +1.3
	comp=Z,1.9nm,0.9s,baz=168,slow=1.8,SNR=5.5					
WRA				SKPbc	SKPab	20 11 52.6 -0.4
	comp=Z,3.0nm,1.0s,baz=151,slow=3.2,SNR=9.9					
BVAR	Borovoye Array	135.69	35	PKP	PKPdf	20 08 41.1 +0.9
	comp=Z,1.0nm,0.7s,baz=296,slow=3.2,SNR=9.0					
BVAR				pPKP	pPKPdf	20 09 18.0 +0.3
	comp=Z,0.8nm,0.8s,baz=259,slow=0.7,SNR=2.3					
BVAR				SKPbc	SKPbc	20 12 01.3 +2.5
	comp=Z,1.1nm,0.9s,baz=258,slow=1.4,SNR=5.3					
ZALV	Zalesovo Beam	141.94	26	PKhKP	PKPpre	20 08 47.5
	comp=Z,1.5nm,0.7s,baz=308,slow=3.6,SNR=5.4					
ZALV				PKP	PKPdf	20 08 52.2 +0.6
	comp=Z,3.7nm,0.6s,baz=325,slow=2.3,SNR=8.2					
ZALV				pPKP	pPKPdf	20 09 29.4 +0.3
	comp=Z,1.7nm,0.6s,baz=292,slow=2.3,SNR=2.7					
ZALV				SKPbc	SKiKP	20 12 18.0 +0.3
	comp=Z,4.9nm,1.0s,baz=339,slow=3.2,SNR=5.9					
EKS2	Erkin-Say	142.17	48	ePKPpre	PKPpre	20 08 48.8
AAK	Ala-Archa	142.68	47	ePKPpre	PKPpre	20 08 51.2
KSH	Kashi	144.83	52	⇑PKP	PKPab	20 08 56.5 -0.2
KSH				sPKP		20 09 44.9
KSH				PKS	PKSdf	20 12 32.1 -0.9
KSH				SKS	SKSdf	20 15 52.6 -1.1
KSH				SS	SS	20 30 52.1 -1.9
KSH				PPMZ		
	comp=Z,51nm,6.6s					
KSH				LN		
	comp=Z,38nm,4.1s					
KSH				LE		
	comp=Z,53nm,5.3s					
KSH				LZ		
	comp=Z,140nm,5.3s					
MKAR	Makanchi Array	145.51	37	PKPbc	PKPbc	20 08 58.6 +0.1
	comp=Z,8.1nm,0.8s,baz=330,slow=3.2,SNR=53					
MKAR				pPKPbc	pPKPbc	20 09 36.8 +1.3
	comp=Z,14nm,1.0s,baz=304,slow=2.8,SNR=6.2					
HYB	Hyderabad	148.54	92	i PKP	PKPbc	20 09 06.5 -1.3
WMQ	Urumqi	150.34	36	ePKPbc	PKPdf	20 09 05.3 -0.9
USRK	Ussuriysk Ar.	152.00	328	pPKPbc	pPKPbc	20 09 52.9 +0.3
	comp=Z,3.9nm,0.7s,baz=32,slow=3.8,SNR=5.3					
MJAR	Matsushiro Arr	152.65	308	PKPbc	PKPbc	20 09 17.7 +0.6
	comp=Z,1.8nm,0.9s,baz=87,slow=2.7,SNR=4.1					
MJAR				pPKPbc	pPKPbc	20 09 55.2 +0.9
	comp=Z,1.8nm,0.8s,baz=63,slow=1.6,SNR=4.1					
SONM	Songino Array	153.63	8	PKP	PKPdf	20 09 12.3 +1.2
	comp=Z,1.0nm,1.0s,baz=305,slow=0.8,SNR=7.1					
SONM				PKPbc	PKiKP	20 09 19.7 +0.6
	comp=Z,0.5nm,0.5s,baz=323,slow=1.6,SNR=6.9					
SONM				PKPab	PKPab	20 09 33.4 +1.4
	comp=Z,1.1nm,0.8s,baz=323,slow=2.3,SNR=6.2					
KOLN	Koldanda	153.85	71	eP	PKPdf	20 09 13.4 +1.3
DANN	Dangsing	153.91	70	eP	PKPdf	20 09 12.7 +0.4
	comp=Z,32nm,0.7s					
GKN	Gorkha	154.73	70	eP	PKPdf	20 09 13.1 -0.2
JIRN	Jiri	156.14	71	eP	PKPdf	20 09 15.5 0.0
RAMN	Ramite	156.60	72	eP	PKPdf	20 09 15.9 0.0
ODAN	Odare	157.31	72	eP	PKPdf	20 09 16.9 +0.1
TAPN	Taplejung	157.52	71	eP	PKPdf	20 09 17.2 +0.1
	comp=Z,3.9nm,0.9s					
GTA	Gaotai	159.68	27	ePKP	PKPdf	20 09 20.3 +1.2
GTA				PKPab	PKPab	20 09 58.8 +0.5
HHC	Hu-ho-hao-te	160.95	0	ePKP	PKPdf	20 09 15.5 -5.0
HHC				pPKP	pPKPdf	20 09 58.1 0.0
HHC				sPKP		20 10 14.8
HHC				PP	PP	20 13 46.0 0.0
HHC				PPMZ		
	comp=Z,96nm,8.6s					
LZH	Lanzhou	164.16	24	ePKP	PKPdf	20 09 22.3 -1.5
CMAR	Chiang Mai Arr	167.60	103	PKP	PKPdf	20 09 27.7 +0.8
	comp=Z,0.7nm,0.9s,baz=256,slow=2.7,SNR=3.8					
CMAR				PKPab	PKPab	20 10 33.0 -0.7
	comp=Z,1.8nm,0.9s,baz=256,slow=4.9,SNR=9.2					

*IDC **18** 19:52:27.1±1.1,0°.80N×120°.84E,h0km,mb3.4/5,*
mb1 3.5/5,mb1mx3.3/40,mbtmp3.4/5,Error ellipse:
s-maj=126.5km s-min=20.7km az=62.0
*ISCJB **18** 19:52:28.8±0.7,1°.00N±0°.06×120°.47E±0°.05,h10km,*
mb3.4/5,Error ellipse: s-maj=9.3km s-min=6.5km
az=168.6
*DJA **18** 19:52:29.4±0.7,1°N±6°×12°0E±°,h10km,M4.1/10,mb4.0/1,*
MLv4.1/10

ISC 18 19:52:29.0±0.8,0°.91N±0°.07×120°.60E±0°.05,h10km,n13,
σ1°78/15,mb3.4/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.90	231	P	Pg	19 52 44.5	-1.8
MPSI				S	Sg	19 52 56.0	-2.0
MRSI	Marisa	1.41	108	P	Pn	19 52 55.1	+0.4
MRSI				S	Sb	19 53 15.1	+1.7
APSI	Ampana	2.09	150	P	Pb	19 53 08.0	+1.0
GTOI	Gorontalo	2.43	96	P	Pn	19 53 08.9	+0.2
LUWI	Luwuk	2.91	132	P	Pb	19 53 19.7	-1.3
LUWI				S	Sb	19 53 58.2	+1.5
KMSI	Cibinong	3.40	96	P	Pb	19 53 27.4	-1.9
TTSI	Tana Toraja	4.00	191	P	Pn	19 53 32.7	+2.3
SPSI	Sidrap Palu	4.91	190	P	Pn	19 53 46.8	+3.9
WRA	Warramunga Arr	24.71	148	P	P	19 57 48.0	-2.7
	1.1nm,0.8s,baz=326,slow=10,SNR=8.6						
ASAR	Alice Springs	27.64	153	P	P	19 58 15.7	-1.4
	0.3nm,0.8s,baz=335,slow=8.6,SNR=4.3						
SONM	Songino Array	48.34	347	P	P	20 01 12.5	+1.6
	0.4nm,1.0s,baz=164,slow=5.8,SNR=2.8						
MKAR	Makanchi Array	56.60	329	P	P	20 02 13.2	+1.1
	0.2nm,0.6s,baz=140,slow=8.3,SNR=3.9						
AKTO	Aktyubinsk	72.15	323	P	P	20 03 54.5	+0.6
	1.2nm,0.8s,baz=54,slow=9.1,SNR=4.5						

*ATH **18** 19:58:01.2,35°.06N×24°.12E,h40km±1km,MD3.2/6*
*CSEM **18** 19:58:01.2,35°.06N×24°.12E,h40km,MD3.2*
*IDC **18** 19:58:26.4±10.0,39°.39N×27°.13E,h0km,mb3.6/4,*
mb1 3.6/5,mb1mx3.2/46,mbtmp3.6/5,ML3.8/1,Error
ellipse: s-maj=226.1km s-min=25.7km az=24.0

ISC 18 19:57:59.1±1.8,35°.0N±0°.1×24°.03E±0°.08,h27km,n23,
σ1°46/22,mb3.6/4,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	Karanos	0.46	348	eP	Pn	19 58 11.1	+1.1
KARN	Karanos	0.46	348	eP	Pn	19 58 11.1	+1.1
VAM	Vamos	0.47	17	eP	Pn	19 58 10.3	+0.1
VAM				eS	Sn	19 58 17.5	-0.2
VAM	Vamos	0.47	17	eP	Pn	19 58 10.3	+0.1
VAM				eS	Sn	19 58 17.5	-0.2
SIVA	Sivas	0.64	84	eP	Pn	19 58 13.2	+0.7
SIVA	Sivas	0.64	84	eP	Pn	19 58 13.2	+0.7
ANKY	Antikythira Is	1.09	327	eP	Pb	19 58 20.6	+1.3
ANKY	Antikythira Is	1.09	327	eP	Pb	19 58 20.6	+1.3
LAST	Lasithi	1.21	80	eP	Pb	19 58 22.0	+0.6
LAST	Lasithi	1.21	80	eP	Pb	19 58 22.0	+0.6
NPS	Neapolis	1.33	76	eP	Pb	19 58 23.9	+0.4
NPS	Neapolis	1.33	76	eP	Pb	19 58 23.9	+0.4
APE	Apeiranthos	2.44	29	eP	Pn	19 58 38.8	+1.6
APE	Apeiranthos	2.44	29	eP	Pn	19 58 38.8	+1.6
KARP	Karpathos	2.63	76	eP	Pn	19 58 41.5	+1.7
KARP	Karpathos	2.63	76	eP	Pn	19 58 41.5	+1.7
ARG	Arkhangelos	3.57	68	eP	Pn	19 58 54.1	+1.4
ARG	Arkhangelos	3.57	68	eP	Pn	19 58 54.1	+1.4
GERES	GERESS Array B	15.85	334	Pn	Pn	20 01 40.0	-0.3
	0.2nm,0.3s,baz=149,slow=14,SNR=5.1						
HFS	Hagfors	26.08	348	P	P	20 03 26.0	-4.2
	1.4nm,0.7s,baz=150,slow=12,SNR=4.7						
SPITS	Spitsbergen Ar	43.46	358	P	P	20 05 55.4	-3.9
	6.1nm,0.9s,baz=150,slow=12,SNR=5.2						
MKAR	Makanchi Array	44.66	56	P	P	20 06 06.1	-3.3
	0.5nm,0.6s,baz=279,slow=7.1,SNR=9.2						
SONM	Songino Array	60.33	50	P	P	20 08 02.2	-3.5
	0.1nm,0.4s,baz=297,slow=7.4,SNR=4.4	

ISC 18 20:16:20.6±0.8,34°.25S±0°.03×71°.97W±0°.06,h25km±5km, n115,σ1°.03/133,mb4.9/42,MS3.9/4,7C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.97**	**141**	⇑*i*P	**Pb**	**20 16 37.0**	**-1.8**
NICH				*i* S	**Sb**	**20 16 50.4**	**-0.7**
NICH				AML	AML	20 16 52.8	
	comp=N,40μm,0.4s						
TALC	**Talca**	**1.18**	**166**	*i* P	**Pn**	**20 16 40.0**	**-1.6**
TALC				*i* S	**Sn**	**20 16 55.5**	**-1.3**
RCDM	**Rinconada Maip**	**1.23**	**52**	⇑*i*P	**Pn**	**20 16 41.6**	**-0.7**
RCDM				*i* S	**Sn**	**20 16 57.7**	**-0.5**
IHA	**Instituto Hidr**	**1.25**	**13**	*e*P	**Pn**	**20 16 41.2**	**-1.3**
IHA				*i* S	**Sn**	**20 16 57.8**	**-0.8**
ANTU	**Antumapu**	**1.31**	**59**	⇑*i*P	**Pn**	**20 16 42.9**	**-0.4**
ANTU				*i* S	**Sb**	**20 17 00.3**	**-0.5**
ANTU				IAML		20 17 06.6	
	comp=E,30μm,0.5s						
LACH	**Col Las Americ**	**1.44**	**57**	⇑*i*P	**Pn**	**20 16 44.8**	**-0.4**
LACH				*i* S	**Sb**	**20 17 04.2**	**-0.6**
CLCH	**Cerro Calan**	**1.47**	**55**	⇑*i*P	**Pn**	**20 16 45.3**	**-0.3**
CLCH				*e*S	**Sb**	**20 17 05.0**	**-0.5**
CLCH				IAML		20 17 16.7	
	comp=N,20μm,0.9s						
SJCH	**San Jose de Ma**	**1.48**	**66**	⇑*i*P	**Pn**	**20 16 45.4**	**-0.3**
SJCH				*i* S	**Sb**	**20 17 05.2**	**-0.7**
PEL	**Peldehue**	**1.54**	**45**	*e*P	**Pn**	**20 16 46.4**	**-0.2**
PEL				*i* S	**Sb**	**20 17 07.0**	**-0.6**
PEL				IAML		20 17 13.8	
	comp=N,30μm,0.5s						
LNCH	**Linares**	**1.62**	**169**	⇑*i*P	**Pn**	**20 16 47.2**	**-0.4**
LNCH				*e*S	**Sn**	**20 17 07.8**	**+0.1**
LNCH				AML	AML	20 17 14.0	
	comp=N,24μm,0.6s						
CFAA	**Coronel Fontan**	**4.10**	**51**	Pn	**Pn**	**20 17 23.9**	**+2.1**
	comp=N,1.8nm,0.3s,baz=220,slow=12,SNR=30						
CFAA				Lg	Lg	20 18 23.8	
	comp=N,4.2nm,0.3s,baz=75,slow=19,SNR=5.2						
CFAA				LR	LR	20 18 56.1	
	comp=N,41nm,20.2s,baz=223,slow=39						
LCO	**Las Campanas**	**5.34**	**12**	*e*Pn	**Pn**	**20 17 37.9**	**-1.0**
PLCA	**Paso Flores**	**6.57**	**170**	Pn	**Pn**	**20 17 56.9**	**+1.2**
	comp=N,2.5nm,0.3s,baz=338,slow=12,SNR=53						
PLCA				Lg	Lg	20 19 39.1	
	comp=N,1.5nm,0.3s,baz=73,slow=19,SNR=3.2						
TRQA	**Tornquist**	**8.93**	**118**	*e*Pn	**Pn**	**20 18 29.8**	**+1.7**
TRQA				*e*Lg	Lg	20 20 59.2	
LPAZ	**La Paz**	**18.22**	**12**	P	**P**	**20 20 32.5**	**0.0**
	comp=N,0.3nm,0.3s,baz=199,slow=6.5,SNR=26						
LPAZ	**La Paz**	**18.22**	**12**	*e*Pn	**P**	**20 20 33.5**	**+0.9**
	comp=N,23nm,1.0s						
EFI	**East Falkland**	**20.11**	**154**	*e*P	**P**	**20 20 52.0**	**-0.3**
SIV	**San Ignacio**	**20.66**	**31**	P	**P**	**20 20 58.7**	**0.0**
	comp=N,8.7nm,0.9s,baz=230,slow=11,SNR=12						
SIV				LR	LR	20 30 39.4	
	comp=N,232nm,18.0s,baz=186,slow=42						
USHA	**Ushuaia**	**20.73**	**174**	P	**P**	**20 21 00.0**	**+1.0**
	comp=N,20nm,0.8s,baz=336,slow=3.9,SNR=7.4						
SAML	**Samuel**	**26.45**	**20**	*e*P	**P**	**20 21 55.3**	**-0.4**
	comp=N,67nm,2.4s						
BDFB	**Brasilia**	**28.43**	**55**	P	**P**	**20 22 13.7**	**+0.1**
	comp=N,4.0nm,0.5s,baz=231,slow=9.3,SNR=6.3						
BDFB				LR	LR	20 34 31.6	
	comp=N,254nm,18.5s,baz=222,slow=38						
BDFB	**Brasilia**	**28.43**	**55**	*e*P	**P**	**20 22 12.3**	**-1.3**
SDV	**Santo Domingo**	**42.92**	**2**	*e*P	**P**	**20 24 16.2**	**-1.4**
	comp=N,7.7nm,1.0s						
RCBR	**Riachuelo**	**43.73**	**58**	LR	LR	20 42 32.3	
	comp=N,140nm,19.9s,baz=228,slow=36						
VNA3	**Neumayer Olymp**	**49.11**	**158**	P	**P**	**20 25 06.6**	**+1.0**
VNA2	**Neumayer--Watz**	**49.76**	**157**	P	**P**	**20 25 11.7**	**+1.1**
SNAA	**Sanae**	**51.33**	**158**	P	**P**	**20 25 23.6**	**+1.1**
SNAA	**Sanae**	**51.33**	**158**	*e*P	**P**	**20 25 22.6**	**+0.1**
SNAA	**Sanae**	**51.33**	**158**	P	**P**	**20 25 23.4**	**+0.9**
	comp=N,10nm,0.9s,baz=231,slow=6.4,SNR=43						
SNAA	**Sanae**	**51.33**	**158**	*e*P	**P**	**20 25 23.2**	**+0.7**
	comp=N,28nm,0.9s						
QSPA	**South Pole Qui**	**55.99**	**180**	P	**P**	**20 25 58.3**	**+1.6**
	comp=N,16nm,0.9s,baz=168,slow=2.3,SNR=34						
QSPA	**South Pole Qui**	**55.99**	**180**	*e*P	**P**	**20 25 57.5**	**+0.7**
	comp=N,20nm,1.0s						
JCT	**Junction City**	**69.53**	**335**	*e*P	**P**	**20 27 26.4**	**-0.8**
	comp=N,10nm,0.9s						
TXAR	**Lajitas Array**	**69.98**	**331**	P	**P**	**20 27 30.9**	**+0.9**
	comp=N,1.8nm,0.6s,baz=157,slow=8.7,SNR=24						
TX31	**Lajitas Ar. Si**	**69.98**	**331**	*e*P	**P**	**20 27 30.4**	**+0.4**
OXF	**Oxford**	**70.33**	**345**	*e*P	**P**	**20 27 30.3**	**-1.6**
	comp=N,30nm,1.1s						
SWET	**Sewanee**	**70.33**	**348**	*e*P	**P**	**20 27 31.8**	**-0.2**
ABTX	**Abilene, Hawle**	**71.43**	**336**	*e*P	**P**	**20 27 38.7**	**0.0**
	comp=N,9.1nm,0.8s						
WVT	**Waverly**	**71.57**	**347**	*e*P	**P**	**20 27 39.1**	**-0.3**
	comp=N,32nm,0.9s						
WMOK	**Wichita Mounta**	**73.08**	**337**	*e*P	**P**	**20 27 48.2**	**-0.3**
	comp=N,40nm,2.5s						
ACSO	**Alum Creek Sta**	**74.81**	**351**	*e*P	**P**	**20 27 58.3**	**-0.2**
	comp=N,65nm,1.2s						
DBIC	**Dimbokro**	**75.21**	**71**	*e*P	**P**	**20 28 01.7**	**+0.3**
DBIC	**Dimbokro**	**75.21**	**71**	P	**P**	**20 28 02.2**	**+0.8**
	comp=N,3.2nm,0.6s,baz=195,slow=6.6,SNR=5.9						
DBIC				LR	LR	20 59 21.2	
	comp=N,58nm,18.6s,baz=204,slow=34						
ANMO	**Albuquerque**	**76.03**	**331**	P	**P**	**20 28 06.8**	**+0.9**
	comp=N,4.8nm,1.0s,baz=167,slow=12,SNR=6.9						
ANMO	**Albuquerque**	**76.03**	**331**	*e*P	**P**	**20 28 06.7**	**+0.9**
	comp=N,5.7nm,1.0s						
WUAZ	**Wupatki**	**78.57**	**328**	*e*P	**P**	**20 28 21.0**	**+0.9**
	comp=N,7.4nm,0.9s						
JFWS	**Jewell Farm**	**78.59**	**346**	*e*P	**P**	**20 28 19.8**	**0.0**
	comp=N,53nm,1.8s						
TSUM	**Tsumeb**	**79.09**	**106**	*e*P	**P**	**20 28 24.2**	**+0.8**
	comp=N,97nm,2.8s						
PFO	**Pinyon Flats O**	**79.36**	**323**	P	**P**	**20 28 24.9**	**+0.4**
	comp=N,3.2nm,0.7s,baz=93,slow=7.0,SNR=4.0						
BOSA	**Boshof**	**79.91**	**118**	⇓*i*P	**P**	**20 28 28.6**	**+0.8**
BOSA				AMB	AMB	20 28 31.5	
	comp=Z,44nm,3.5s						
BOSA	**Boshof**	**79.91**	**118**	P	**P**	**20 28 28.3**	**+0.5**
	comp=Z,9.3nm,0.8s,baz=253,slow=3.5,SNR=18						
BOSA	**Boshof**	**79.91**	**118**	P	**P**	**20 28 28.6**	**+0.8**
ECSD	**EROS Data Cent**	**80.80**	**342**	*e*P	**P**	**20 28 32.2**	**+0.4**
	comp=Z,13nm,0.8s						
GSC	**Goldstone, Bar**	**80.90**	**324**	*e*P	**P**	**20 28 32.9**	**+0.3**
	comp=Z,9.5nm,1.3s						
SHPR	**Sheep Range**	**81.10**	**326**	*e*P	**P**	**20 28 35.5**	**+1.7**
CCUT	**Cedar City**	**81.15**	**328**	*e*P	**P**	**20 28 35.5**	**+1.4**
	comp=Z,7.5nm,1.0s						
SEK	**Senekal**	**81.80**	**119**	*e*P	**P**	**20 28 39.0**	**+1.1**
SEK				AMB	AMB	20 28 39.7	
	comp=Z,22nm,4.4s						
SEK	**Senekal**	**81.80**	**119**	P	**P**	**20 28 39.0**	**+1.1**
	comp=Z,22nm,4.4s						
TPNV	**Topopah Spring**	**81.96**	**326**	*e*P	**P**	**20 28 39.5**	**+1.2**
	comp=Z,6.9nm,1.1s						
ISA	**Isabella, Lake**	**82.00**	**323**	*e*P	**P**	**20 28 37.6**	**-0.8**
ISA				*e*PcP	**PcP**	**20 28 43.4**	**-0.5**
DAC	**Darwin (Calif)**	**82.06**	**324**	*e*P	**P**	**20 28 40.5**	**+1.7**
	comp=Z,7.0nm,1.0s						
LBTB	**Lobatse**	**82.15**	**115**	*e*P	**P**	**20 28 40.3**	**+0.6**
LBTB				AMB	AMB	20 28 42.0	
	comp=Z,20nm,1.6s						
LBTB	**Lobatse**	**82.15**	**115**	P	**P**	**20 28 40.3**	**+0.6**
	comp=Z,20nm,1.6s						
R11A	**Troy Canyon, C**	**82.80**	**327**	*e*P	**P**	**20 28 43.5**	**+0.8**
	comp=Z,4.9nm,1.0s						
RSSD	**Black Hills**	**83.29**	**337**	*e*P	**P**	**20 28 44.7**	**-0.4**
	comp=Z,12nm,0.4s						
TPH	**Tonopah**	**83.33**	**326**	*e*P	**P**	**20 28 46.2**	**+0.8**
	comp=Z,9.7nm,1.0s						
SLR	**Silverton**	**83.75**	**117**	*e*P	**P**	**20 28 47.9**	**-0.1**
SLR				AMB	AMB	20 28 48.9	
	comp=Z,11nm,1.4s						
SLR	**Silverton**	**83.75**	**117**	P	**P**	**20 28 47.9**	**-0.1**
	comp=Z,11nm,1.4s						
PDAR	**Pinedale Array**	**84.01**	**333**	P	**P**	**20 28 49.0**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=152,slow=6.1,SNR=2.1						
NV01	**Mina Array Sit**	**84.12**	**325**	*e*P	**P**	**20 28 50.1**	**+0.5**
NVAR	**Mina Array Bea**	**84.12**	**325**	P	**P**	**20 28 51.0**	**+1.4**
	comp=Z,1.9nm,0.7s,baz=152,slow=6.2,SNR=10						
TOA0	**Torodi Ar. Sit**	**84.25**	**70**	*e*P	**P**	**20 28 50.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**84.25**	**70**	P	**P**	**20 28 51.1**	**+0.7**
	comp=Z,5.4nm,0.9s,baz=263,slow=4.3,SNR=26						
RLMT	**Red Lodge**	**85.94**	**335**	*e*P	**P**	**20 28 59.2**	**+0.7**
	comp=Z,4.5nm,0.5s						
YMR	**Madison River**	**86.17**	**333**	*e*P	**P**	**20 29 00.8**	**+1.2**
	comp=Z,12nm,0.8s						
ULM	**Lac du Bonnet**	**86.75**	**345**	P	**P**	**20 29 02.1**	**+0.1**
	comp=Z,3.8nm,0.8s,baz=152,slow=5.4,SNR=6.0						
ULM	**Lac du Bonnet**	**86.75**	**345**	*e*P	**P**	**20 29 01.6**	**-0.4**
	comp=Z,6.1nm,1.0s						
MCMT	**McKenzie Canyo**	**87.02**	**332**	*e*P	**P**	**20 29 05.5**	**+1.7**
	comp=Z,6.1nm,1.2s						
MOD	**Modoc Plateau**	**87.80**	**326**	*e*P	**P**	**20 29 08.6**	**+1.1**
	comp=Z,6.3nm,0.9s						
K05A	**Summer Lake**	**88.72**	**326**	*e*P	**P**	**20 29 13.9**	**+2.0**
	comp=Z,253nm,2.9s						
YBH	**Yreka Blue Hor**	**88.81**	**325**	P	**P**	**20 29 12.5**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=70,slow=5.4,SNR=3.3						
SCHQ	**Schefferville**	**88.83**	**3**	P	**P**	**20 29 12.3**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=228,slow=14,SNR=2.8						
WALA	**Waterton Lakes**	**90.95**	**334**	*e*P	**P**	**20 29 23.1**	**+1.0**
	comp=Z,116nm,3.0s						
FCC	**Fort Churchill**	**94.49**	**349**	*e*P	**P**	**20 29 38.0**	**0.0**
	comp=Z,4.7nm,0.7s						
YKA	**Yellowknife Ar**	**102.31**	**341**	P	**Pdif**	**20 30 13.2**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=141,slow=4.4,SNR=12						
ASAR	**Alice Springs**	**117.37**	**207**	PKP	**PKPdf**	**20 35 03.5**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=124,slow=1.7,SNR=5.7						
WRA	**Warramunga Arr**	**120.57**	**209**	PKP	**PKPdf**	**20 35 10.3**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=160,slow=1.7,SNR=25						
BRTR	**Keskin Array B**	**121.91**	**61**	PKP	**PKPdf**	**20 35 12.9**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=172,slow=4.2,SNR=4.0						
ARCES	**ARCESS Array B**	**124.22**	**25**	PKP	**PKPdf**	**20 35 16.5**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=298,slow=2.6,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**125.82**	**269**	T	T	22 53 35.5	
	baz=120,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**125.83**	**269**	T	T	22 53 38.4	
	baz=120,slow=76						
H11S3	**WAKE ISLAND Hy**	**125.84**	**269**	T	T	22 53 36.6	
	baz=120,slow=76,SNR=40						
H11N3	**WAKE ISLAND Hy**	**126.24**	**270**	T	T	22 54 12.4	
	baz=37						
H11N1	**WAKE ISLAND Hy**	**126.25**	**270**	T	T	22 54 11.0	
	baz=37,slow=74,SNR=24						
H11N2	**WAKE ISLAND Hy**	**126.26**	**270**	T	T	22 54 10.0	
	baz=37,slow=74,SNR=13						
SEY	**Seymchan**	**140.28**	**330**	PKP	**PKPdf**	**20 35 46.0**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=136,slow=3.8,SNR=13						
PSI	**Prapat**	**147.58**	**163**	PKPbc	**PKPbc**	**20 36 02.9**	**-0.6**
	comp=Z,5.7nm,0.4s,baz=134,slow=6.3,SNR=6.3						
HYB	**Hyderabad**	**148.78**	**115**	*i* PKP	**PKPbc**	**20 36 06.0**	**-0.4**
KKAR	**Karatay Array**	**149.62**	**62**	*e*PKPbc	**PKPbc**	**20 36 07.9**	**+0.1**
EKS2	**Erkin-Say**	**152.05**	**62**	*e*PKPbc	**PKPbc**	**20 36 14.3**	**+0.7**
AAK	**Ala-Archa**	**152.58**	**62**	*e*PKPbc	**PKPbc**	**20 36 16.2**	**+1.3**
KURK	**Kurchatov**	**153.03**	**43**	*e*PKPdf	**PKPdf**	**20 36 08.3**	**+0.3**
KURK				*e*PKPbc	**PKPbc**	**20 36 15.6**	**+0.3**
TKM2	**Tokmak 2**	**153.34**	**61**	*e*PKPbc	**PKPbc**	**20 36 16.6**	**-0.1**
KSH	**Kashi**	**153.91**	**69**	PKPbc	**PKPdf**	**20 36 10.3**	**+0.4**
KSH				sPKP		20 36 18.5	
KSH				PKS	**PKSdf**	**20 39 44.1**	**-0.1**
KSH				PP	**PP**	**20 40 05.1**	**-1.2**
KSH				SS	SS	20 59 42.1	-0.8
KSH				PPMZ			
	comp=Z,130nm,5.6s						
KSH				LN			
	comp=Z,57nm,5.8s						
KSH				LE			
	comp=Z,46nm,4.1s						
KSH				LZ			
	comp=Z,120nm,5.4s						
ZAA0	**Zalesovo Array**	**154.41**	**33**	*e*PKPdf	**PKPdf**	**20 36 09.7**	**-0.2**
ZALV	**Zalesovo Beam**	**154.41**	**33**	PKP	**PKPdf**	**20 36 09.9**	**0.0**
	comp=Z,0.5nm,0.3s,baz=234,slow=5.1,SNR=4.7						
ZALV				PKPbc	**PKiKP**	**20 36 18.9**	**+0.6**
	comp=Z,6.1nm,0.6s,baz=303,slow=2.9,SNR=21						
ZALV				PKPab	**PKPab**	**20 36 33.2**	**+0.6**
	comp=Z,3.4nm,0.6s,baz=306,slow=5.3,SNR=6.1						
MKAR	**Makanchi Array**	**156.89**	**49**	PKP	**PKPdf**	**20 36 13.6**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=277,slow=3.8,SNR=5.1						
MKAR				PKPab	**PKPab**	**20 36 43.9**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=298,slow=4.0,SNR=10						
WMQ	**Urumqi**	**161.58**	**53**	*e*PKP	**PKPdf**	**20 36 18.6**	**-0.5**
WMQ				pPKP	**pPKPdf**	**20 36 29.0**	**+1.5**
CM01	**Chiang Mai Arr**	**162.28**	**151**	*e*PKPdf	**PKPdf**	**20 36 19.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**162.31**	**150**	PKP	**PKPdf**	**20 36 21.1**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=207,slow=2.6,SNR=5.0						
SONM	**Songino Array**	**166.37**	**5**	PKP	**PKPdf**	**20 36 23.8**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=350,slow=1.6,SNR=3.3						
SONM				PKPab	**PKPab**	**20 37 25.9**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=347,slow=3.1,SNR=7.6						
GTA	**Gaotai**	**171.64**	**50**	*e*PKP	**PKPdf**	**20 36 28.3**	**+1.2**
GTA				pPKP	**pPKPdf**	**20 36 34.8**	**-0.7**
GTA				sPKP		20 36 37.3	
GTA				PKPab	**PKPab**	**20 37 50.3**	**+1.6**
HHC	**Hu-ho-hao-te**	**172.84**	**338**	*e*PKP	**PKPdf**	**20 36 25.4**	**-2.1**
HHC				pPKP	**pPKPdf**	**20 36 36.3**	**+0.4**
HHC				sPKP		20 36 39.8	
HHC				PP	**PP**	**20 41 45.6**	**+0.8**
HHC				SKS	**SKSdf**	**20 43 23.4**	**-5.7**
HHC				PPMZ			
	comp=Z,88nm,9.9s						
HHC				LN			
	comp=Z,180nm,18.5s						
HHC				LE			
	comp=Z,220nm,18.5s						
HHC				LZ			
	comp=Z,110nm,19.7s						
WHN	**Wuhan**	**173.50**	**237**	PKP	**PKPdf**	**20 36 26.6**	**-1.3**
LZH	**Lanzhou**	**176.12**	**61**	*e*PKP	**PKPdf**	**20 36 26.4**	**-2.4**
LZH				pPKP	**pPKPdf**	**20 36 37.3**	**+0.1**
LZH				sPKP		20 36 40.6	

*IDC **18**20:19:01.9±3.4,53°.92N×163°.96W,h0km,mb3.9/7, mb1 3.9/8,mb1mx3.6/45,mbtmp3.8/8,ML3.5/1,MS3.0/1, Ms1 3.1/1,ms1mx2.6/37, Error ellipse: s-maj=82.1km s-min=24.7km az=163.0*
*NEIC **18**20:19:03.5,53°.48N×163°.36W,h28km,mb3.8/2, ML3.5(AEIC),After AEIC.*

ISC 18 20:19:03.5±3.3,53°.5N±0°.1×163°.38W±0°.05,h26km±21km, n34,σ1°.17/39,mb3.9/8,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.19**	**324**	P	**Pn**	**20 19 24.5**	**0.0**
SSLW	**Shishaldin Wes**	**1.33**	**341**	P	**Pn**	**20 19 26.7**	**+0.4**
FALS	**False Pass**	**1.34**	**359**	P	**Pn**	**20 19 26.8**	**+0.3**
FALS				S	**Sb**	**20 19 45.2**	**+0.6**
SSLN	**Shishaldin Nor**	**1.34**	**345**	P	**Pn**	**20 19 27.5**	**+0.9**
AKSA	**Akutan Strait**	**1.51**	**295**	P	**Pn**	**20 19 28.7**	**0.0**
AKSA				S	**Sn**	**20 19 48.7**	**+1.1**
AKUT	**Akutan**	**1.55**	**294**	P	**Pn**	**20 19 29.5**	**+0.2**
AKUT				S	**Sn**	**20 19 49.8**	**+1.3**
DRIA	**Deer Island**	**1.59**	**24**	P	**Pn**	**20 19 29.7**	**-0.2**
ZRO	**Akutan Zero**	**1.65**	**291**	P	**Pn**	**20 19 30.9**	**+0.2**
AKGG	**Akutan Green G**	**1.69**	**295**	P	**Pn**	**20 19 31.7**	**+0.4**
AKGG				S	**Sn**	**20 19 53.6**	**+1.5**
AKRB	**Akutan Reef Bi**	**1.71**	**292**	P	**Pn**	**20 19 32.1**	**+0.5**
DT1	**Dutton Round H**	**1.71**	**22**	P	**Pn**	**20 19 31.8**	**+0.2**
DTNA	**Dutton South F**	**1.76**	**22**	P	**Pn**	**20 19 32.7**	**+0.4**
UNV	**Unalaska Valle**	**1.89**	**281**	P	**Pn**	**20 19 34.6**	**+0.6**
HAG	**Hague Volcano**	**2.00**	**25**	P	**Pn**	**20 19 36.7**	**+1.2**
MREP	**Makushin Rep't**	**2.03**	**280**	P	**Pn**	**20 19 36.9**	**+1.0**
MSW	**Makushin Switc**	**2.06**	**282**	P	**Pn**	**20 19 36.9**	**+0.4**
MSW				S	**Sn**	**20 20 02.7**	**+1.4**
PVV	**Pavlof Volcano**	**2.08**	**26**	P	**Pn**	**20 19 38.3**	**+1.7**
MCIR	**Makushin Cirqu**	**2.13**	**283**	P	**Pn**	**20 19 38.3**	**+0.8**
SDPT	**Sand Point**	**2.50**	**42**	P	**Pn**	**20 19 43.4**	**+1.1**
OKFG	**Magazine Ridge**	**2.71**	**269**	P	**Pn**	**20 19 45.6**	**+0.3**
NIKH	**Nikolski High**	**3.34**	**263**	P	**Pn**	**20 19 54.1**	**+0.3**
CHGN	**Chignik**	**4.00**	**44**	*e*P	**Pn**	**20 20 03.8**	**+0.9**
ILAR	**Eielson Array**	**14.04**	**30**	Pn	**Pn**	**20 22 17.9**	**-2.5**
	0.1nm,0.3s,baz=217,slow=12,SNR=4.0						
ILAR				LR	LR	20 28 07.2	
	comp=Z,69nm,21.6s,baz=269,slow=39						
COLD	**Coldfoot**	**15.16**	**20**	*e*P	**P**	**20 22 40.1**	**-0.3**
	4.6nm,0.8s						
DAWY	**Dawson**	**16.19**	**40**	*e*P	**Pn**	**20 22 47.5**	**-1.5**
YKA	**Yellowknife Ar**	**26.73**	**51**	P	**P**	**20 24 43.5**	**+3.2**
	0.6nm,0.5s,baz=271,slow=9.0,SNR=12						
FRB	**Frobisher Bay**	**45.88**	**38**	P	**P**	**20 27 23.0**	**0.0**
	1.5nm,0.3s,baz=328,slow=4.8,SNR=4.2						
ULN	**Ulaanbaatar**	**53.41**	**303**	*e*P	**P**	**20 28 20.8**	**-0.1**
	0.8nm,0.7s						
SONM	**Songino Array**	**53.76**	**303**	P	**P**	**20 28 23.8**	**+0.5**
	0.8nm,0.8s,baz=53,slow=7.9,SNR=7.0						
ARCES	**ARCESS Array B**	**57.08**	**356**	P	**P**	**20 28 45.4**	**-1.3**
	2.0nm,0.8s,baz=7.5,slow=7.6,SNR=3.0						
MKAR	**Makanchi Array**	**65.56**	**317**	P	**P**	**20 29 42.1**	**-2.3**
	0.6nm,0.8s,baz=48,slow=5.3,SNR=7.8						
NB2	**NORSAR Subarra**	**65.71**	**3**	P	**P**	**20 29 45.5**	**+0.3**
	comp=Z,2.9nm,1.0s,baz=356,slow=6.5						
NOA	**NORSAR Array B**	**65.71**	**3**	P	**P**	**20 29 44.1**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=357,slow=6.6,SNR=3.3						
BRTR	**Keskin Array B**	**85.97**	**347**	P	**P**	**20 31 43.0**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=35,slow=5.3,SNR=3.8						

IDC 18 20:25:59.7±1.8,13°.63N×93°.68E,h0km,mb3.7/3, mb1 3.6/4,mb1mx3.3/41,mbtmp3.5/4,ML3.2/1,Error ellipse: s-maj=45.4km s-min=27.1km az=68.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.98**	**46**	P	**Pn**	**20 27 44.0**	**+0.7**
	0.1nm,0.3s,baz=242,slow=15,SNR=6.9						
CMAR				Sn	Sn	20 29 02.9	-0.6
	0.1nm,0.3s,baz=240,slow=27,SNR=4.3						
MKAR	**Makanchi Array**	**34.42**	**346**	P	P	20 32 48.1	-0.8
	0.3nm,0.6s,baz=163,slow=9.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**40.83**	**352**	P	P	20 33 43.4	+0.4
	0.6nm,0.3s,baz=152,slow=6.5,SNR=2.3						
ASAR	**Alice Springs**	**54.04**	**133**	P	P	20 35 26.1	-0.2
	0.5nm,0.4s,baz=310,slow=7.0,SNR=18						

GUC 18 20:30:22.0±0.5,34°.48S×72°.05W,h33km±3km,ML3.9, 5C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.85**	**128**	⇓*i*P	Pn	20 30 37.2	-0.5
NICH				*i* S	Sn	20 30 48.5	-0.5
TALC	**Talca**	**0.97**	**160**	⇑*i*P	Pn	20 30 39.0	-0.4
TALC				*i* S	Sn	20 30 51.6	-0.4
LNCH	**Linares**	**1.41**	**165**	⇑*i*P	Pn	20 30 45.9	+0.6
LNCH				*e*S	Sn	20 31 03.7	+0.8
ANTU	**Antumapu**	**1.48**	**53**	⇑*i*P	Pn	20 30 47.0	+0.6
ANTU				*i* S	Sn	20 31 05.7	+1.0
ANTU				IAML		20 31 11.2	
	comp=N,3μm,0.7s						
SJCH	**San Jose de Ma**	**1.64**	**60**	⇓*i*P	Pn	20 30 48.9	+0.3
SJCH				*i* S	Sn	20 31 10.0	+1.5
CLCH	**Cerro Calan**	**1.66**	**50**	⇑*i*P	Pn	20 30 49.6	+0.8
CLCH				*i* S	Sn	20 31 10.8	+1.7
CLCH				IAML		20 31 19.6	
	comp=E,2μm,0.8s						
CLCH				IAML		20 31 20.2	
	comp=E,3μm,0.8s						
PEL	**Peldehue**	**1.75**	**41**	⇓*i*P	Pn	20 30 51.1	+1.0
PEL				*i* S	Sn	20 31 13.0	+1.7
PEL				IAML		20 31 20.3	
	comp=E,2μm,0.3s						
COCH	**Cobquecura**	**1.75**	**200**	⇑*i*P	Pn	20 30 50.8	+0.8
COCH				*i* S	Sn	20 31 12.7	+1.4

IDC 18 20:35:03.3±1.4,2°.24S×146°.53E,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.6/28,mbtmp3.9/4,MS3.5/3,Ms1 3.5/3, ms1mx3.0/25,Error ellipse: s-maj=268.5km s-min=25.0km az=119.0,Admiralty Islands region

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

PLCA Lg Lg 20 41 02.4
comp=E,0.9nm,0.3s,baz=269,slow=21,SNR=3.0
TRQA Tornquist 8.90 118 *e*Pn **Pn 20 39 53.7 +2.6**
LVC Limon Verde 11.88 14 *e*Pn Pn 20 40 26.8 -5.4
LPAZ La Paz 18.20 12 P **P 20 41 55.8 +0.2**
comp=E,0.4nm,0.3s,baz=180,slow=8.0,SNR=24
LPAZ La Paz 18.20 12 *e*P **P 20 41 55.8 +0.2**
comp=E,22nm,0.8s
SIV San Ignacio 20.62 31 P **P 20 42 21.5 -0.1**
comp=E,9.5nm,0.7s,baz=222,slow=11,SNR=22
SIV LR LR 20 51 19.9
comp=E,225nm,18.3s,baz=226,slow=40
USHA Ushuaia 20.74 174 P **P 20 42 23.1 +0.6**
comp=E,23nm,0.9s,baz=14,slow=1.8,SNR=5.7
NNA Nana 22.60 347 LR LR 20 49 42.8
comp=E,158nm,19.3s,baz=172,slow=32
SAML Samuel 26.42 20 *e*P **P 20 43 21.0 +2.4**
comp=E,14nm,1.1s
ATAH Atahualpa 27.62 346 LR LR 20 52 46.1
comp=E,116nm,18.1s,baz=175,slow=33
BDFB Brasilia 28.39 55 P **P 20 43 37.4 +0.9**
comp=E,3.5nm,0.6s,baz=213,slow=10,SNR=4.2
BDFB LR LR 20 56 05.9
comp=E,385nm,18.4s,baz=228,slow=39
PMSA Palmer Station 30.94 173 LR LR 20 56 58.6
comp=E,230nm,18.2s,baz=314,slow=37
RPN Rapa Nui 32.81 272 LR LR 20 53 26.7
comp=E,238nm,18.9s,baz=131,slow=29
PTGA Pitinga 35.16 21 P **P 20 44 34.8 -0.9**
comp=E,6.5nm,0.8s,baz=193,slow=9.6,SNR=8.7
PTGA Pitinga 35.16 21 *e*P **P 20 44 35.3 -0.5**
comp=E,6.6nm,0.8s
SDV Santo Domingo 42.90 2 *e*P **P 20 45 42.3 +1.6**
comp=E,5.8nm,0.8s
VNA3 Neumayer Olymp 49.10 158 P **P 20 46 29.6 +0.8**
VNA1 Neumayer--Stat 49.42 157 P **P 20 46 32.1 +1.0**
VNA2 Neumayer--Watz 49.76 157 P **P 20 46 34.2 +0.5**
SNAA Sanae 51.33 158 P **P 20 46 46.3 +0.6**
SNAA Sanae 51.33 158 P **P 20 46 46.2 +0.6**
comp=E,8.0nm,0.9s,baz=289,slow=6.8,SNR=22
SNAA Sanae 51.33 158 *e*P **P 20 46 46.1 +0.4**
comp=E,29nm,1.0s
APG El Apazote 52.05 337 P P 20 46 46.3 -5.5
comp=E,4.4nm,0.6s,baz=128,slow=12,SNR=3.4
QSPA South Pole Qui 56.00 180 P **P 20 47 21.1 +1.1**
comp=E,12nm,0.9s,baz=154,slow=3.5,SNR=22
QSPA South Pole Qui 56.00 180 *e*P **P 20 47 20.9 +0.9**
comp=E,19nm,1.0s
JCT Junction City 69.54 334 *e*P **P 20 48 51.4 +1.0**
JCT *e*pP pP 20 49 05.6 +5.5
TXAR Lajitas Array 69.99 331 P **P 20 48 54.1 +0.8**
comp=E,1.8nm,0.6s,baz=151,slow=8.0,SNR=15
DBIC Dimbokro 75.16 71 P **P 20 49 23.7 -0.6**
comp=E,2.3nm,0.9s,baz=223,slow=3.9,SNR=7.6
DBIC LR LR 21 22 22.4
comp=E,46nm,18.3s,baz=204,slow=36
ANMO Albuquerque 76.04 331 *e*P **P 20 49 30.5 +1.4**
comp=E,7.3nm,1.4s
TSUM Tsumeb 79.06 106 *e*P **P 20 49 44.8 -1.6**
comp=E,34nm,2.3s
BOSA Boshof 79.87 118 P **P 20 49 51.6 +0.9**
comp=E,8.7nm,0.9s,baz=270,slow=5.0,SNR=9.6
SMCO Snowmass 79.93 333 *e*P **P 20 49 53.1 +2.2**
comp=E,8.7nm,1.0s
ECSD EROS Data Cent 80.80 342 *e*P **P 20 49 53.6 -1.3**
comp=E,12nm,1.0s
SHPR Sheep Range 81.11 326 *e*P **P 20 49 59.2 +2.2**
CCUT Cedar City 81.16 328 *e*P **P 20 49 55.5 -1.7**
comp=E,6.0nm,1.1s
ARUT Antelope Range 81.39 328 *e*P **P 20 49 56.6 -1.8**
DAC Darwin (Calif) 82.08 324 *e*P **P 20 50 01.0 -1.1**
comp=E,6.8nm,1.2s
LBTB Lobatse 82.12 115 *e*P **P 20 50 03.1 +0.4**
comp=E,15nm,1.3s
R11A Troy Canyon, C 82.81 327 *e*P **P 20 50 05.8 0.0**
comp=E,3.9nm,1.0s
TPH Tonopah 83.34 326 *e*P **P 20 50 08.8 +0.2**
comp=E,4.7nm,0.9s
NVAR Mina Array Bea 84.13 325 P **P 20 50 14.1 +1.4**
comp=E,1.3nm,0.6s,baz=146,slow=6.8,SNR=5.7
TOA0 Torodi Ar. Sit 84.20 70 *e*P **P 20 50 13.3 0.0**
TORD Torodi Ar. Bea 84.20 70 P **P 20 50 14.0 +0.7**
comp=E,2.4nm,0.7s,baz=288,slow=4.4,SNR=13
RLMT Red Lodge 85.94 334 *e*P **P 20 50 18.8 -2.8**
comp=E,11nm,0.8s
ULM Lac du Bonnet 86.75 345 P **P 20 50 25.1 0.0**
comp=E,3.3nm,1.0s,baz=144,slow=3.7,SNR=4.6
ULM Lac du Bonnet 86.75 345 *e*P **P 20 50 25.5 +0.3**
comp=E,10nm,1.3s
MCMT McKenzie Canyo 87.02 332 *e*P **P 20 50 27.9 +0.9**
LRM Limekiln Ridge 87.71 333 *e*P **P 20 50 30.4 +0.2**
YKA Yellowknife Ar 102.31 341 P **Pdif 20 51 35.0 -1.2**
comp=E,0.4nm,0.6s,baz=140,slow=4.3,SNR=9.2
YKA Yellowknife Ar 102.31 341 P **Pdif 20 51 35.0 -1.2**
WRA Warramunga Arr 120.60 209 PKP **PKPdf 20 56 32.9 -0.9**
comp=E,1.0nm,1.0s,baz=155,slow=1.7,SNR=8.8
BRTR Keskin Array B 121.86 61 PKP **PKPdf 20 56 35.8 0.0**
comp=E,0.4nm,0.5s,baz=215,slow=1.8,SNR=3.3
ARCES ARCESS Array B 124.19 25 PKP **PKPdf 20 56 39.1 0.0**
comp=E,1.7nm,0.9s,baz=292,slow=4.8,SNR=3.7
H11S2 WAKE ISLAND Hyl 25.86 269 T T 23 14 59.0
baz=120,slow=74,SNR=25
H11S1 WAKE ISLAND Hyl 25.88 269 T T 23 14 59.2
baz=120,slow=74,SNR=45
H11S3 WAKE ISLAND Hyl 25.88 269 T T 23 15 00.0
baz=120,slow=74,SNR=46
H11N3 WAKE ISLAND Hyl 26.28 270 T T 23 15 31.7
baz=115,slow=78,SNR=11
H11N1 WAKE ISLAND Hyl 26.30 270 T T 23 15 31.3
baz=115,slow=78,SNR=24
H11N2 WAKE ISLAND Hyl 26.30 270 T T 23 15 36.2
baz=115,slow=78,SNR=10
SEY Seymchan 140.28 330 PKP **PKPdf 20 57 10.7 +1.2**
comp=E,1.8nm,0.6s,baz=153,slow=2.7,SNR=13
HYB Hyderabad 148.74 115 *i*PKP **PKPbc 20 57 29.0 -0.4**
KKAR Karatay Array 149.57 62 *e*PKPbc **PKPbc 20 57 31.1 +0.4**
EKS2 Erkin-Say 152.00 62 *e*PKPbc **PKPbc 20 57 37.7 +1.0**
AAK Ala-Archa 152.53 62 *e*PKPbc **PKPbc 20 57 38.9 +1.0**
KURBB Kurchatov Arra 152.97 44 PKP **PKPdf 20 57 31.7 +0.6**
comp=E,0.3nm,0.8s,baz=293,slow=1.9,SNR=4.4
KURBB PKPbc **PKiKP 20 57 39.0 +0.5**
comp=E,1.8nm,0.8s,baz=298,slow=2.9,SNR=18
KURK Kurchatov 152.98 43 PKP **PKPdf 20 57 31.7 +0.6**
KURK PKPbc **PKiKP 20 57 39.0 +0.5**
KSH Kashi 153.87 69 *e*PKPbc **PKPdf 20 57 32.5 -0.4**
KSH sPKP 20 57 45.8
KSH PKS **PKSdf 21 01 07.1 -0.2**
KSH PP **PP 21 01 27.8 -1.3**
KSH SKS **SKSdf 21 04 36.3 -1.3**
KSH SS **SS 21 21 02.6 -2.3**
KSH PPMZ
comp=E,140nm,4.8s
KSH LN
comp=E,26nm,5.2s
KSH LE
comp=E,27nm,4.7s
KSH LZ
comp=E,120nm,5.9s
ZALV Zalesovo Beam 154.37 33 PKPbc **PKPbc 20 57 41.6 +0.3**
comp=E,2.7nm,0.6s,baz=310,slow=3.3,SNR=11
ZALV PKPab **PKPab 20 57 56.2 +0.7**
comp=E,3.3nm,0.8s,baz=292,slow=4.7,SNR=5.6
MKAR Makanchi Array 156.84 49 PKP **PKPdf 20 57 36.9 +0.3**
comp=E,0.5nm,0.9s,baz=264,slow=3.5,SNR=4.4
MKAR PKPab **PKPab 20 58 06.8 +0.4**
comp=E,0.6nm,0.6s,baz=298,slow=3.7,SNR=5.9
WMQ Urumqi 161.54 53 *e*PKP **PKPdf 20 57 40.6 -1.6**
WMQ pPKP **pPKPdf 20 57 51.4 -1.1**
CMAR Chiang Mai Arr 162.30 150 PKP **PKPdf 20 57 43.9 +0.3**
comp=E,0.2nm,0.3s,baz=240,slow=4.3,SNR=4.5
SONM Songino Array 166.36 5 PKP **PKPdf 20 57 44.9 -1.6**
comp=E,0.2nm,0.7s,baz=336,slow=3.2,SNR=2.6
SONM PKPab **PKPab 20 58 49.5 +1.5**
comp=E,0.6nm,0.8s,baz=338,slow=4.0,SNR=5.9
GTA Gaotai 171.60 50 *e*PKP **PKPdf 20 57 51.6 +1.5**
GTA pPKP **pPKPdf 20 58 02.4 +2.0**
GTA sPKP 20 58 05.9
GTA PKPab **PKPab 20 59 13.3 +1.7**
HHC Hu-ho-hao-te 172.84 338 *e*PKP **PKPdf 20 57 49.4 -1.2**
HHC pPKP **pPKPdf 20 58 00.3 -0.6**
HHC sPKP 20 58 03.8
HHC PP **PP 21 03 10.0 +2.1**
HHC SKS **SKSdf 21 04 47.3 -4.3**
HHC PPMZ
comp=E,88nm,9.9s
HHC LN
comp=E,200nm,20.1s
HHC LE
comp=E,150nm,19.7s
HHC LZ
comp=E,120nm,18.5s
LZH Lanzhou 176.07 61 *e*PKP **PKPdf 20 57 50.4 -1.5**
LZH pPKP **pPKPdf 20 58 02.0 -0.2**
LZH sPKP 20 58 05.1

GUC 18 20:42:24.8±0.5, 35°.65S×71°.86W, h81km±3km, ML4.0, 1C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.32**	**37**	*i*P			Pn	20 42 37.9	+0.6
TALC				*i*S			Sn	20 42 47.5	+1.0
NICH	**Los Niches**	**0.83**	**39**	*e*P			Pn	20 42 42.9	+0.9
NICH				*i*S			Sn	20 42 56.1	+1.3
COCH	**Cobquecura**	**0.89**	**237**	*i*P			Pn	20 42 42.9	+0.3
COCH				*i*S			Sn	20 42 57.5	+1.5
ANTU	**Antumapu**	**2.31**	**26**	↑*i*P			Pn	20 43 02.9	+1.9
ANTU				*i*S			Sn	20 43 31.3	+2.7
ANTU				IAML				20 43 41.5	
RCDM	**Rinconada Maip**	**2.33**	**22**	*i*P9			Pn	20 43 00.2	-1.0
RCDM				*i*S			Sn	20 43 28.7	-0.2
CLCH	**Cerro Calan**	**2.50**	**26**	IAML				20 43 54.7	
PEL	**Peldehue**	**2.68**	**22**	↓↓*i*P			Pn	20 43 07.2	+1.2
PEL				*e*S			Sn	20 43 39.5	+1.9
PEL				IAML				20 43 48.9	

comp=E,7.0nm,1.0s
comp=N,566nm,0.3s

*IDC **18** 20:46:35.0±0.9, 36°.00S×72°.72W, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.2/28, mbtmp4.3/10, ML2.6/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/26, Error ellipse: s-maj=35.7km s-min=17.4km az=96.0*
*ISCJB **18** 20:46:38.5±0.8, 35°.95S±0°.05×72°.87W±0°.09, h34km±6km, mb4.3/10, MS3.7/3, Error ellipse: s-maj=13.1km s-min=5.9km az=32.4*
*GUC **18** 20:46:40.1±0.4, 36°.01S×72°.79W, h32km±2km, ML4.7*
*NEIC **18** 20:46:40.9±1.4, 35°.92S×72°.77W, h40km±12km, mb4.7/1, Error ellipse: s-maj=20.1km s-min=8.4km az=87.0*

ISC 18 20:46:39.4±0.9, 35°.97S±0°.06×72°.82W±0°.08, h30km±5km, n32, σ0°89/32, mb4.3/10, MS3.7/3, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.17**	**171**	↓↓*i*P			**Pb**	**20 46 45.3**	**+0.1**
COCH				*i*S			**Sn**	**20 46 49.2**	**+0.1**
CCSP	**San Pedro de C**	**0.91**	**195**	*e*P			**Pn**	**20 46 55.3**	**-0.8**
CCSP				*i*S			**Sn**	**20 47 07.0**	**-1.2**
CCSP				IAML				20 47 08.7	
LNCH	**Linares**	**1.00**	**84**	*e*P			**Pn**	**20 46 56.7**	**-0.7**
LNCH				*i*S			**Sn**	**20 47 09.9**	**-0.5**
TALC	**Talca**	**1.12**	**60**	↓↓*i*P			**Pn**	**20 46 58.3**	**-0.7**
TALC				*i*S			**Sn**	**20 47 12.9**	**-0.6**
NICH	**Los Niches**	**1.62**	**54**	↑*i*P			**Pn**	**20 47 07.0**	**+1.1**
NICH				*i*S			**Sb**	**20 47 27.7**	**-0.8**
ANTU	**Antumapu**	**2.99**	**38**	IAML				20 48 20.6	
CLCH	**Cerro Calan**	**3.18**	**37**	IAML				20 48 33.8	
FCH	**Farellones**	**3.36**	**39**	IAML				20 48 22.3	
PLCA	**Paso Flores**	**5.08**	**160**	Pn			**Pn**	**20 47 55.1**	**+1.5**
PLCA				Lg			Lg	20 49 12.0	
CFAA	**Coronel Fontan**	**5.79**	**43**	Pn			**Pn**	**20 48 03.7**	**+0.5**
CFAA				Lg			Lg	20 49 24.1	
CFAA				LR			LR	20 50 29.9	
LCO	**Las Campanas**	**7.16**	**15**	*e*P			**Pn**	**20 48 21.1**	**-1.3**
TRQA	**Tornquist**	**8.92**	**107**	*e*P			**Pn**	**20 48 47.4**	**+1.2**
USHA	**Ushuaia**	**19.11**	**172**	LR			LR	20 58 20.2	
LPAZ	**La Paz**	**20.04**	**13**	P			**P**	**20 51 11.8**	**+1.1**
SIV	**San Ignacio**	**22.49**	**31**	P			**P**	**20 51 36.0**	**-0.5**
SIV				LR			LR	21 01 32.8	
PTGA	**Pitinga**	**37.04**	**22**	P			**P**	**20 53 46.2**	**-0.5**
VNA3	**Neumayer Olymp**	**47.79**	**157**	P			**P**	**20 55 14.3**	**+0.7**
VNA2	**Neumayer--Watz**	**48.46**	**156**	P			**P**	**20 55 19.3**	**+0.6**
SNAA	**Sanae**	**50.02**	**157**	P			**P**	**20 55 31.1**	**+0.4**
SNAA	**Sanae**	**50.02**	**157**	P			**P**	**20 55 30.3**	**-0.4**
SNAA				PcP			**PcP**	**20 56 49.8**	**-0.3**
QSPA	**South Pole Qui**	**54.27**	**180**	P			**P**	**20 56 03.6**	**+1.1**
DBIC	**Dimbokro**	**76.42**	**71**	P			**P**	**20 58 26.4**	**0.0**
BOSA	**Boshof**	**79.73**	**118**	P			**P**	**20 58 44.6**	**-0.2**
ECSD	**EROS Data Cent**	**82.23**	**343**	*e*P			**P**	**20 58 57.4**	**+0.1**
NVAR	**Mina Array Bea**	**85.14**	**326**	P			**P**	**20 59 14.8**	**+2.1**
TORD	**Torodi Ar. Bea**	**85.48**	**70**	P			**P**	**20 59 14.4**	**-0.2**
MSKU	**Masuku**	**86.14**	**89**	LR			LR	21 32 49.8	
ULM	**Lac du Bonnet**	**88.23**	**345**	P			**P**	**20 59 26.7**	**-0.5**
SCHQ	**Schefferville**	**90.58**	**3**	LR			LR	21 38 08.5	
WRA	**Warramunga Arr**	**118.73**	**209**	PKP			**PKPdf**	**21 05 24.0**	**-1.1**
HYB	**Hyderabad**	**148.63**	**119**	*i*PKP			**PKPbc**	**21 06 23.0**	**-1.0**
ZALV	**Zalesovo Beam**	**156.22**	**34**	PKPab			**PKPab**	**21 06 57.9**	**-0.4**

comp=E,0.9nm,0.5s,baz=256,slow=5.8,SNR=3.8

GUC 18 20:54:01.3±0.4, 28°.72S×71°.41W, h35km±5km, ML3.8, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.59**	**76**	↓↓*i*P			Pn	20 54 13.2	-0.1
VACH				*i*S			Sn	20 54 21.8	+0.1
VACH				IAML				20 54 22.3	
LSCH	**La Serena**	**1.20**	**173**	*i*P			Pn	20 54 22.2	+0.7
LSCH				*i*S			Sn	20 54 38.2	+1.6
CPCH	**Copiapo**	**1.64**	**35**	*i*P			Pn	20 54 29.0	+1.3
CPCH				*e*S			Sn	20 54 50.2	+2.6
CDCH	**Caldera**	**1.72**	**18**	*i*P9			Pn	20 54 28.9	+0.1
CDCH				*i*S			Sn	20 54 51.0	+1.5
CMCH	**Combarbala**	**2.48**	**172**	IAML				20 55 20.6	

comp=N,680nm,0.6s

DJA 18 21:07:46.9±0.9, 3°S±6°×13°0E±°, h23km±12km, M4.1/7, mb5.2/2, MLv3.5/7, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.02**	**232**	P			Pn	21 08 04.8	-1.0
MSAI				S			Sb	21 08 18.5	-0.5
SWI	**Sorong**	**2.39**	**39**	P			Pn	21 08 21.8	-2.9
SWI				S			Sn	21 08 55.0	+1.7
FAKI	**Fak Fak**	**2.51**	**95**	P			Pn	21 08 26.6	+0.2
NLAI	**Namlea**	**2.69**	**259**	P			Pn	21 08 25.1	-3.6
NLAI				S			Sn	21 09 00.1	-0.5
SANI	**Sanana**	**3.81**	**280**	P			Pn	21 08 45.3	+1.1
SANI				S			Sn	21 09 19.6	-8.7
KMSI	**Cibinong**	**6.62**	**300**	P			Pn	21 09 24.0	+1.1
	64nm,1.0s,0.4nm								
SGSI	**Sangihe**	**7.63**	**326**	P			Pn	21 09 35.3	-1.5

IDC 18 21:14:11.9±13.0, 15°.27S×177°.97W, h440km±149km, mb3.3/5, mb1 3.7/5, mb1mx3.2/19, mbtmp4.1/5, Error ellipse: s-maj=119.4km s-min=34.0km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.58**	**257**	P			P	21 21 51.2	-0.1
	1.1nm,0.3s,baz=81,slow=6.4,SNR=46								
ASAR	**Alice Springs**	**45.96**	**252**	P			P	21 21 54.0	-0.2
	12nm,0.6s,baz=86,slow=7.8,SNR=150								
NVAR	**Mina Array Bea**	**77.24**	**44**	P			P	21 25 20.3	+0.4
	0.7nm,0.6s,baz=232,slow=10,SNR=3.1								
ILAR	**Eielson Array**	**83.23**	**13**	P			P	21 25 50.0	-0.4
	0.4nm,0.6s,baz=218,slow=5.1,SNR=4.2								
TXAR	**Lajitas Array**	**84.24**	**58**	P			P	21 25 55.9	-0.5
	0.7nm,0.8s,baz=220,slow=6.9,SNR=5.9								
BRTR	**Keskin Array B**	**143.17**	**318**	PKP			PKPdf	21 32 55.0	-0.3
	1.2nm,0.9s,baz=134,slow=4.2,SNR=4.7								

*BJI **18** 21:22:47.2, 69°.00N×17°.60W, h8km, mB5.0/3, mb4.5/4*
*CSEM **18** 21:22:48.0±0.2, 68°.70N×17°.63W, h2km, mb4.4/23, Ms3.5, Error ellipse: s-maj=6.9km s-min=4.5km az=78.0*
*ISCJB **18** 21:22:48.7±1.3, 68°.63N±0°.02×17°.7W±0°.1, h9km±9km, mb4.2/45, MS3.7/20, Error ellipse: s-maj=7.4km s-min=3.9km az=178.0*
*MOS **18** 21:22:48.5±1.1, 68°.86N×17°.38W, h12km, mb4.6/31, Error ellipse: s-maj=19.3km s-min=5.6km az=102.2*
*IDC **18** 21:22:48.8±0.6, 68°.92N×17°.26W, h0km, mb3.8/15, mb1 4.1/19, mb1mx3.9/51, mbtmp3.9/19, ML3.7/3, MS3.7/23, Ms1 3.7/23, ms1mx3.5/46, Error ellipse: s-maj=17.8km s-min=12.6km az=34.0*
*NEIC **18** 21:22:49.8±0.2, 68°.89N×17°.30W, h10km, mb4.6/19, Error ellipse: s-maj=6.8km s-min=4.2km az=55.0*
*REY **18** 21:22:51.0, 68°.56N×16°.83W, h10km, ML3.4, ML3.6*

ISC 18 21:22:50.5±0.8, 68°.64N±0°.05×17°.56W±0°.06, h13km±5km, n245, σ1°16/242, mb4.4/45, MS3.6/20, 1C-5D, Iceland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**2.12**	**185**	P			**Pn**	**21 23 24.7**	**-0.9**
IGRI				S			**Sn**	**21 23 50.7**	**-1.1**
IGRI	**Grimsey**	**2.12**	**185**	P			**Pn**	**21 23 24.7**	**-0.9**
	baz=193								
IGRI				S			**Sn**	**21 23 50.7**	**-1.1**
	baz=193								
ILEI	**Leirhofn**	**2.29**	**169**	P			**Pn**	**21 23 26.6**	**-1.3**
ILEI				S			**Sn**	**21 23 54.2**	**-1.7**
ILEI	**Leirhofn**	**2.29**	**169**	P			**Pn**	**21 23 26.6**	**-1.3**
	baz=176								
ILEI				S			**Sn**	**21 23 54.2**	**-1.7**
	baz=176								
IBRE	**Brettingsstaoi**	**2.54**	**183**	P			**Pn**	**21 23 31.0**	**-0.4**
IBRE	**Brettingsstaoi**	**2.54**	**183**	P			**Pn**	**21 23 31.0**	**-0.4**
	baz=190								
IHED	**Heoinshofoi**	**2.58**	**178**	P			**Pn**	**21 23 30.7**	**-1.2**
IHED	**Heoinshofoi**	**2.58**	**178**	P			**Pn**	**21 23 30.7**	**-1.2**
	baz=184								
IGIL	**Gilhagi**	**2.62**	**169**	P			**Pn**	**21 23 31.2**	**-1.3**
IGIL				S			**Sn**	**21 24 03.1**	**-1.0**
IGIL	**Gilhagi**	**2.62**	**169**	P			**Pn**	**21 23 31.2**	**-1.3**
	baz=176								
IGIL				S			**Sn**	**21 24 03.1**	**-1.0**
	baz=176								
IDIM	**Dimmadals^¡s**	**2.71**	**175**	P			**Pn**	**21 23 32.6**	**-1.1**
IDIM				S			**Sn**	**21 24 05.6**	**-0.7**
IDIM	**Dimmadals^¡s**	**2.71**	**175**	P			**Pn**	**21 23 32.6**	**-1.1**
	baz=181								
IDIM				S			**Sn**	**21 24 05.6**	**-0.7**
	baz=181								
IHLA	**Hella**	**2.73**	**187**	P			**Pn**	**21 23 33.8**	**-0.2**
IHLA				S			**Sn**	**21 24 07.0**	**+0.1**
IHLA	**Hella**	**2.73**	**187**	P			**Pn**	**21 23 33.8**	**-0.3**
	baz=194								
IHLA				S			**Sn**	**21 24 07.0**	**+0.1**
	baz=194								
IHRN	**Hraun**	**2.73**	**202**	P			**Pn**	**21 23 35.0**	**+1.0**
IHRN	**Hraun**	**2.73**	**202**	P			**Pn**	**21 23 35.0**	**+1.0**
	baz=209								
IGRA	**Granastaoir**	**2.74**	**180**	P			**Pn**	**21 23 33.3**	**-0.8**
IGRA				S			**Sn**	**21 24 06.4**	**-0.6**
IGRA	**Granastaoir**	**2.74**	**180**	P			**Pn**	**21 23 33.4**	**-0.8**
	baz=187								
IGRA				S			**Sn**	**21 24 06.4**	**-0.6**
	baz=187								
ISKI	**Skildingah^‡ls**	**2.79**	**175**	P			**Pn**	**21 23 34.0**	**-0.9**
ISKI				S			**Sn**	**21 24 08.3**	**-0.2**
ISKI	**Skildingah^‡ls**	**2.79**	**175**	P			**Pn**	**21 23 34.0**	**-0.9**
	baz=182								
ISKI				S			**Sn**	**21 24 08.3**	**-0.2**
	baz=182								
IGHA	**Grjothals**	**2.83**	**173**	P			**Pn**	**21 23 34.5**	**-1.0**
IGHA	**Grjothals**	**2.83**	**173**	P			**Pn**	**21 23 34.5**	**-1.0**
	baz=179								
IKVO	**Krokottuvotn**	**2.96**	**175**	P			**Pn**	**21 23 36.4**	**-0.8**
IKVO	**Krokottuvotn**	**2.96**	**175**	P			**Pn**	**21 23 36.4**	**-0.8**
	baz=180								
IREN	**Reynihlio**	**3.02**	**175**	P			**Pn**	**21 23 37.2**	**-0.8**
IREN	**Reynihlio**	**3.02**	**175**	P			**Pn**	**21 23 37.2**	**-0.8**
	baz=181								
IGRS	**Grimsstaoir**	**3.07**	**169**	P			**Pn**	**21 23 37.8**	**-0.9**
IGRS	**Grimsstaoir**	**3.07**	**169**	P			**Pn**	**21 23 37.8**	**-1.0**
	baz=174								
IMEL	**Melhnausar**	**3.11**	**173**	P			**Pn**	**21 23 38.9**	**-0.3**
IMEL	**Melhnausar**	**3.11**	**173**	P			**Pn**	**21 23 38.9**	**-0.4**
	baz=179								
ISVA	**Svartarkot**	**3.33**	**178**	P			**Pn**	**21 23 41.8**	**-0.4**
ISVA	**Svartarkot**	**3.33**	**178**	P			**Pn**	**21 23 41.8**	**-0.4**
	baz=183								
IASK	**Askja**	**3.63**	**174**	P			**Pn**	**21 23 46.2**	**-0.2**
IASK	**Askja**	**3.63**	**174**	P			**Pn**	**21 23 46.2**	**-0.2**
	baz=179								
IMKO	**Mokollar**	**3.71**	**172**	P			**Pn**	**21 23 47.3**	**-0.3**
IMKO	**Mokollar**	**3.71**	**172**	P			**Pn**	**21 23 47.3**	**-0.3**
	baz=177								
IHVA	**Hvannstoosfjol**	**3.77**	**169**	P			**Pn**	**21 23 47.3**	**-1.0**
IHVA	**Hvannstoosfjol**	**3.77**	**169**	P			**Pn**	**21 23 47.3**	**-1.0**
	baz=174								
IGLU	**Glumsstadir**	**3.81**	**164**	P			**Pn**	**21 23 47.5**	**-1.3**
IGLU	**Glumsstadir**	**3.81**	**164**	P			**Pn**	**21 23 47.5**	**-1.3**
	baz=168								
IBRU	**Bruarjokull**	**3.88**	**171**	P			**Pn**	**21 23 49.2**	**-0.6**
IBRU	**Bruarjokull**	**3.88**	**171**	P			**Pn**	**21 23 49.1**	**-0.7**
	baz=175								
IKRE	**Kreppuhraun**	**3.91**	**173**	P			**Pn**	**21 23 50.0**	**-0.2**
IKRE	**Kreppuhraun**	**3.91**	**173**	P			**Pn**	**21 23 50.0**	**-0.2**
	baz=177								
IVSH	**V-Sauoahnukur**	**3.92**	**168**	P			**Pn**	**21 23 49.7**	**-0.8**
IVSH	**V-Sauoahnukur**	**3.92**	**168**	P			**Pn**	**21 23 49.7**	**-0.7**
	baz=173								
BORG	**Borgarnes**	**4.19**	**203**	P			Pn	21 23 58.2	+4.1
BORG				pmax			pmax		
	comp=Z,5.0nm,0.3s								
BORG	**Borgarnes**	**4.19**	**203**	Pn			Pn	21 23 58.2	+4.1
	comp=Z,4.7nm,0.3s,baz=22,slow=7.8,SNR=16								
BORG	**Borgarnes**	**4.19**	**203**	*e*Pn			Pn	21 23 57.1	+3.1
BORG	**Borgarnes**	**4.19**	**203**	*e*Pn			Pn	21 23 57.1	+3.1
SUMG	**Summit**	**7.96**	**309**	*e*P			**Pn**	**21 24 43.7**	**-2.4**
SUMG	**Summit**	**7.96**	**309**	*i*P			**Pn**	**21 24 43.7**	**-2.4**
SUMG				*e*				21 26 03.7	
SUMG	**Summit**	**7.96**	**309**	*e*Pn			Pn	21 24 42.8	-3.3
SUMG	**Summit**	**7.96**	**309**	*e*P			**Pn**	**21 24 43.7**	**-2.4**
SUMG	**Summit**	**7.96**	**309**	*e*Pn			Pn	21 24 42.8	-3.3
DAG	**Danmarks Havn**	**8.18**	**358**	*e*P			Pn	21 24 40.0	-8.7
DAG	**Danmarks Havn**	**8.18**	**358**	*i*P			Pn	21 24 40.0	-8.7
KBS	**Kingsbay**	**12.95**	**25**	*e*P			Pn	21 25 48.6	-5.3
KBS	**Kingsbay**	**12.95**	**25**	*e*Pn			Pn	21 25 48.6	-5.3
SPITS	**Spitsbergen Ar**	**13.30**	**30**	Pn			Pn	21 25 54.7	-4.1
	baz=226,slow=13,SNR=154								
SPITS				LR			LR	21 29 44.8	
	com

FINES LR LR 21 33 55.1
comp=Z,138nm,18.0s,baz=350,slow=35
JOF Joensuu 20.35 82 *e*P **P 21 27 24.0 -2.2**
JOF Joensuu 20.35 82 *ep* **P 21 27 24.0 -2.2**
FRB Frobisher Bay 20.61 281 P **P 21 27 28.3 -0.8**
FRB pmax pmax
comp=Z,5.0nm,1.0s
FRB MLR MLR
comp=Z,212nm,18.0s
FRB Frobisher Bay 20.61 281 P **P 21 27 28.3 -0.8**
comp=Z,4.6nm,0.9s,baz=51,slow=7.7,SNR=6.0
FRB LR LR 21 35 09.2
comp=Z,212nm,18.0s,baz=58,slow=36
HGN Heimansgroeve 21.23 136 *e*P **P 21 27 36.2 +0.3**
comp=Z,24nm,0.9s
HGN *e*X 21 27 41.2
comp=Z,26nm,0.8s
HGN *e*L L 21 36 39.2
comp=Z,288nm,18.2s
HGN Heimansgroeve 21.23 136 *e*P **P 21 27 36.2 +0.3**
comp=Z,24nm,0.9s
BAIF Baives 21.46 139 *e*P **P 21 27 39.9 +1.6**
comp=Z,19nm,1.0s
BAIF Baives 21.46 139 *e*P **P 21 27 39.9 +1.6**
BAIF pmax pmax
comp=Z,19nm,1.0s
BAIF Baives 21.46 139 *e*P **P 21 27 39.9 +1.6**
comp=Z,9.7nm,1.0s
BAIF Baives 21.46 139 *e*P **P 21 27 39.9 +1.6**
comp=Z,19nm,1.0s
ROSF Rostrenen 21.58 153 *e*P **P 21 27 40.1 +0.5**
comp=Z,20nm,1.0s
ROSF Rostrenen 21.58 153 *e*P **P 21 27 40.1 +0.5**
ROSF pmax pmax
comp=Z,20nm,1.0s
ROSF Rostrenen 21.58 153 *e*P **P 21 27 40.1 +0.5**
comp=Z,10nm,1.0s
ROSF Rostrenen 21.58 153 *e*P **P 21 27 40.1 +0.5**
comp=Z,20nm,1.0s
FLN La Foliniere 21.67 148 *e*P **P 21 27 42.4 +1.9**
comp=Z,24nm,1.1s
FLN *e*R
comp=Z,413nm,22.0s
FLN La Foliniere 21.67 148 *e*P **P 21 27 42.4 +1.9**
FLN pmax pmax
comp=Z,24nm,1.1s
FLN La Foliniere 21.67 148 *e*P **P 21 27 42.4 +1.9**
comp=Z,12nm,1.1s
FLN La Foliniere 21.67 148 *e*P **P 21 27 42.4 +1.9**
comp=Z,24nm,1.1s
SGMF Saint Gilles 21.78 152 *e*P **P 21 27 42.9 +1.2**
SGMF Saint Gilles 21.78 152 *e*P **P 21 27 42.9 +1.2**
SGMF Saint Gilles 21.78 152 *e*P **P 21 27 42.9 +1.2**
SGMF Saint Gilles 21.78 152 *e*P **P 21 27 42.9 +1.2**
LDF La Druitiere 21.90 148 *e*P **P 21 27 44.3 +1.3**
LDF La Druitiere 21.90 148 *e*P **P 21 27 44.3 +1.3**
LDF La Druitiere 21.90 148 *e*P **P 21 27 44.3 +1.3**
LDF La Druitiere 21.90 148 *e*P **P 21 27 44.3 +1.3**
GRR Gorron 21.95 149 *e*P **P 21 27 45.4 +1.8**
GRR Gorron 21.95 149 *e*P **P 21 27 45.4 +1.8**
GRR Gorron 21.95 149 *e*P **P 21 27 45.4 +1.8**
GRR Gorron 21.95 149 *e*P **P 21 27 45.4 +1.8**
QUIF Quistinic 22.00 153 *e*P **P 21 27 45.4 +1.3**
comp=Z,44nm,1.1s
QUIF Quistinic 22.00 153 *e*P **P 21 27 45.4 +1.3**
QUIF pmax pmax
comp=Z,44nm,1.1s
QUIF Quistinic 22.00 153 *e*P **P 21 27 45.4 +1.3**
comp=Z,22nm,1.1s
QUIF Quistinic 22.00 153 *e*P **P 21 27 45.4 +1.3**
comp=Z,44nm,1.1s
TMCR Tamitsa 22.01 75 *e*P **P 21 27 44.0 -0.1**
TMCR *e* 21 28 06.7
TMCR pmax pmax
comp=Z,34nm,1.3s
TMCR Tamitsa 22.01 75 *e*P **P 21 27 44.0 -0.1**
comp=Z,34nm,1.3s
CLL Collm 22.73 124⇓ *i*P **P 21 27 51.5 -0.4**
CLL *i* 21 27 53.7
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL MLR MLR
comp=Z,200nm,21.7s
CLL Collm 22.73 124⇓ *i*P **P 21 27 51.5 -0.4**
comp=Z,9.0nm,1.1s
CLL *i* 21 27 53.7
CLL *i* sP **sP 21 27 56.3 -0.8**
CLL *e*S **S 21 32 00.0 +0.1**
CLL *e*SSS SSS 21 32 48.0
CLL LmV 21 34 00.0
comp=Z,200nm,21.7s
CLL Collm 22.73 124 *i* P **P 21 27 51.5 -0.4**
comp=Z,9.0nm,1.1s
RES Resolute Bay 23.31 319 P **P 21 27 56.5 -1.1**
RES pmax pmax
comp=Z,3.0nm,0.9s
RES MLR MLR
comp=Z,413nm,19.6s
RES Resolute Bay 23.31 319 P **P 21 27 56.5 -1.1**
comp=Z,2.8nm,0.9s,baz=77,slow=14,SNR=8.0
RES LR LR 21 36 50.2
comp=Z,413nm,19.6s,baz=72,slow=36
SFTF Sexfontaines 23.39 140 *e*P **P 21 27 58.9 +0.3**
SFTF Sexfontaines 23.39 140 *e*P **P 21 27 58.9 +0.3**
SFTF Sexfontaines 23.39 140 *e*P **P 21 27 58.9 +0.3**
BRG Berggiesshubel 23.40 124 *e*P **P 21 27 59.3 +0.6**
comp=Z,49nm,2.2s
BRG Berggiesshubel 23.40 124 *e*P **P 21 27 59.3 +0.6**
BRG pmax pmax
comp=Z,49nm,2.2s
MFF Saint Martin d 23.80 149 *e*P **P 21 28 03.6 +0.9**
MFF Saint Martin d 23.80 149 *e*P **P 21 28 03.6 +0.9**
MFF Saint Martin d 23.80 149 *e*P **P 21 28 03.6 +0.9**
MFF Saint Martin d 23.80 149 *e*P **P 21 28 03.6 +0.9**
LOR Lormes 23.99 142 *e*P **P 21 28 04.5 -0.1**
LOR *e*R
comp=Z,263nm,20.2s
LOR Lormes 23.99 142 *e*P **P 21 28 04.5 -0.1**
LOR Lormes 23.99 142 *e*P **P 21 28 04.5 -0.1**
LOR Lormes 23.99 142 *e*P **P 21 28 04.5 -0.1**
SSF Saint Saulge 24.11 143 *e*P **P 21 28 05.7 +0.1**
comp=Z,22nm,1.3s
SSF Saint Saulge 24.11 143 *e*P **P 21 28 05.7 +0.1**
SSF pmax pmax
comp=Z,22nm,1.3s
SSF Saint Saulge 24.11 143 *e*P **P 21 28 05.7 +0.1**
comp=Z,22nm,1.3s
SSF Saint Saulge 24.11 143 *e*P **P 21 28 05.7 +0.1**
comp=Z,22nm,1.3s
KSP Ksiaz 24.16 120 *e*P **P 21 28 05.4 -0.6**
AVF Avril sur Loir 24.33 143 *e*P **P 21 28 07.8 +0.1**
comp=Z,69nm,1.7s
AVF Avril sur Loir 24.33 143 *e*P **P 21 28 07.8 +0.1**
AVF pmax pmax
comp=Z,69nm,1.7s
AVF Avril sur Loir 24.33 143 *e*P **P 21 28 07.8 +0.1**
comp=Z,35nm,1.7s
AVF Avril sur Loir 24.33 143 *e*P **P 21 28 07.8 +0.1**
comp=Z,69nm,1.7s
UPC Upice 24.36 121 *e*P **P 21 28 08.6 +0.7**
UPC Upice 24.36 121 *e*P **P 21 28 08.6 +0.7**
UPC Upice 24.36 121 *e*P **P 21 28 08.6 +0.7**
PRU Pruhonice 24.36 124 *e*P **P 21 28 07.8 -0.1**
PRU *e* 21 28 13.3
PRU MLR MLR
comp=Z,300nm,14.8s
PRU Pruhonice 24.36 124 *e*P **P 21 28 07.8 -0.1**
comp=Z,300nm,14.8s
BGF Bois d'Agland 24.45 144 *e*P **P 21 28 09.1 +0.4**
comp=Z,9.0nm,0.7s
BGF Bois d'Agland 24.45 144 *e*P **P 21 28 09.1 +0.4**
BGF pmax pmax
comp=Z,9.0nm,0.7s
BGF Bois d'Agland 24.45 144 *e*P **P 21 28 09.1 +0.4**
comp=Z,4.5nm,0.7s
BGF Bois d'Agland 24.45 144 *e*P **P 21 28 09.1 +0.4**
comp=Z,9.0nm,0.7s
TCF Toulx Ste Croi 24.57 146 *e*P **P 21 28 10.3 +0.4**
comp=Z,17nm,1.0s
TCF Toulx Ste Croi 24.57 146 *e*P **P 21 28 10.3 +0.4**
TCF pmax pmax
comp=Z,17nm,1.0s
TCF Toulx Ste Croi 24.57 146 *e*P **P 21 28 10.3 +0.4**
comp=Z,8.6nm,1.0s
TCF Toulx Ste Croi 24.57 146 *e*P **P 21 28 10.3 +0.4**
comp=Z,17nm,1.0s
SMF Signal de Mont 24.58 143 *e*P **P 21 28 10.4 +0.5**
comp=Z,17nm,1.0s
SMF Signal de Mont 24.58 143 *e*P **P 21 28 10.4 +0.5**
SMF pmax pmax
comp=Z,17nm,1.0s
SMF Signal de Mont 24.58 143 *e*P **P 21 28 10.4 +0.5**
comp=Z,8.6nm,1.0s
SMF Signal de Mont 24.58 143 *e*P **P 21 28 10.4 +0.5**
comp=Z,17nm,1.0s
DPC Dobruska-Polom 24.59 121 *e*P **P 21 28 10.3 +0.2**
DPC *e* 21 28 18.3
DPC Dobruska-Polom 24.59 121 *e*P **P 21 28 10.3 +0.2**
DPC *ex* x 21 28 18.3
DPC Dobruska-Polom 24.59 121 *e*P **P 21 28 10.3 +0.2**
KLMR Klimovskoe 24.66 80 *e*P **P 21 28 07.8 -2.7**
KLMR pmax pmax
comp=Z,17nm,1.3s
KHC Kasperske Hory 24.83 126 *e*P **P 21 28 12.2 0.0**
KHC pmax pmax
comp=Z,4.0nm,1.1s
KHC Kasperske Hory 24.83 126 *e*P **P 21 28 11.6 -0.6**
KHC *ex* x 21 28 22.1
KHC Kasperske Hory 24.83 126 *e*P **P 21 28 12.2 0.0**
comp=Z,4.4nm,1.1s
KHC Kasperske Hory 24.83 126 *e*P **P 21 28 12.2 0.0**
comp=Z,4.4nm,1.1s
KRLC Kraliky 24.98 121 *e*P **P 21 28 11.4 -2.1**
KRLC Kraliky 24.98 121 *e*P **P 21 28 11.4 -2.1**
KRLC Kraliky 24.98 121 P **P 21 28 11.4 -2.1**
GERES GERESS Array B 25.12 126 P **P 21 28 15.9 +1.0**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES MLR MLR
comp=Z,16nm,28.6s
GERES GERESS Array B 25.12 126 P **P 21 28 15.9 +1.0**
comp=Z,2.5nm,0.8s,baz=324,slow=8.6,SNR=17
GERES LR LR 21 37 56.1
comp=Z,89nm,19.2s,baz=307,slow=36
RJF Les Rejaudoux 25.37 147 *e*P **P 21 28 18.6 +1.5**
comp=Z,18nm,0.9s
RJF *e*R
comp=Z,410nm,22.2s
RJF Les Rejaudoux 25.37 147 *e*P **P 21 28 18.6 +1.5**
RJF pmax pmax
comp=Z,18nm,0.9s
RJF Les Rejaudoux 25.37 147 *e*P **P 21 28 18.6 +1.5**
comp=Z,8.8nm,0.9s
RJF Les Rejaudoux 25.37 147 *e*P **P 21 28 18.6 +1.5**
comp=Z,18nm,0.9s
MORC Moravsky Berou 25.48 120 *e*P **P 21 28 17.2 -0.9**
MORC pmax pmax
comp=Z,12nm,1.2s
MORC Moravsky Berou 25.48 120 *e*P **P 21 28 17.2 -0.9**
comp=Z,12nm,1.2s
MORC Moravsky Berou 25.48 120 *e*P **P 21 28 17.2 -0.9**
comp=Z,12nm,1.2s
VRAC Vranov 25.59 122 P **P 21 28 21.1 +2.0**
VRAC pmax pmax
comp=Z,2.0nm,0.6s
VRAC MLR MLR
comp=Z,129nm,18.1s
VRAC Vranov 25.59 122 P **P 21 28 21.1 +2.0**
comp=Z,1.7nm,0.6s,baz=323,slow=9.7,SNR=4.2
VRAC LR LR 21 39 35.3
comp=Z,129nm,18.1s,baz=326,slow=39
VRAC Vranov 25.59 122 *e*P **P 21 28 19.1 0.0**
CAF Calviac 25.84 147 *e*P **P 21 28 22.2 +0.8**
CAF Calviac 25.84 147 *e*P **P 21 28 22.2 +0.8**
CAF Calviac 25.84 147 *e*P **P 21 28 22.2 +0.8**
CAF Calviac 25.84 147 *e*P **P 21 28 22.2 +0.8**
DAVOX Davos/Dischmat 25.93 134 LR LR 21 38 14.0
comp=Z,179nm,21.2s,baz=310,slow=36
PRGR Permogore 26.30 74 P **P 21 28 26.5 +1.1**
PRGR pmax pmax
comp=Z,7.0nm,1.2s
LPG La Plagne 26.33 139 *e*P **P 21 28 26.6 +0.5**
comp=Z,18nm,1.3s
LPG La Plagne 26.33 139 *e*P **P 21 28 26.6 +0.5**
LPG pmax pmax
comp=Z,18nm,1.3s
LPG La Plagne 26.33 139 *e*P **P 21 28 26.6 +0.5**
comp=Z,18nm,1.3s
LPG La Plagne 26.33 139 *e*P **P 21 28 26.6 +0.5**
comp=Z,18nm,1.3s
ORIF Oris-en-Rattie 26.68 141 *e*P **P 21 28 31.2 +2.2**
comp=Z,5.2nm,0.8s
ORIF *e*R
comp=Z,259nm,19.5s
ORIF Oris-en-Rattie 26.68 141 *e*P **P 21 28 31.2 +2.2**
ORIF pmax pmax
comp=Z,5.0nm,0.8s
ORIF Oris-en-Rattie 26.68 141 *e*P **P 21 28 31.2 +2.2**
comp=Z,5.2nm,0.8s
ORIF Oris-en-Rattie 26.68 141 *e*P **P 21 28 31.2 +2.2**
comp=Z,5.2nm,0.8s
SJPF Ste Jean 26.99 153 *e*P **P 21 28 33.2 +1.4**
comp=Z,13nm,1.2s
SJPF Ste Jean 26.99 153 *e*P **P 21 28 33.2 +1.4**
SJPF pmax pmax
comp=Z,13nm,1.2s
SJPF Ste Jean 26.99 153 *e*P **P 21 28 33.2 +1.4**
comp=Z,13nm,1.2s
SJPF Ste Jean 26.99 153 *e*P **P 21 28 33.2 +1.4**
comp=Z,13nm,1.2s
MBDF Montbardon 27.06 140 *e*P **P 21 28 33.5 +0.9**
MBDF Montbardon 27.06 140 *e*P **P 21 28 33.5 +0.9**
MBDF Montbardon 27.06 140 *e*P **P 21 28 33.5 +0.9**
MBDF Montbardon 27.06 140 *e*P **P 21 28 33.5 +0.9**
ETSF Etsaut 27.31 152 *e*P **P 21 28 35.3 +0.6**
comp=Z,12nm,1.2s
ETSF Etsaut 27.31 152 *e*P **P 21 28 35.3 +0.6**
ETSF pmax pmax
comp=Z,12nm,1.2s
ETSF Etsaut 27.31 152 *e*P **P 21 28 35.3 +0.6**
comp=Z,12nm,1.2s
ETSF Etsaut 27.31 152 *e*P **P 21 28 35.3 +0.6**
comp=Z,12nm,1.2s
EPF Esparros 27.34 151 *e*P **P 21 28 35.5 +0.5**
EPF Esparros 27.34 151 *e*P **P 21 28 35.5 +0.5**
EPF Esparros 27.34 151 *e*P **P 21 28 35.5 +0.5**
EPF Esparros 27.34 151 *e*P **P 21 28 35.5 +0.5**
OBN Obninsk 27.76 92 *e*P **P 21 28 41.5 +3.0**
OBN pmax pmax
comp=Z,15nm,1.4s
FRF La Foret Royal 28.14 141 *e*P **P 21 28 42.9 +0.9**
FRF La Foret Royal 28.14 141 *e*P **P 21 28 42.9 +0.9**
FRF La Foret Royal 28.14 141 *e*P **P 21 28 42.9 +0.9**
FRF La Foret Royal 28.14 141 *e*P **P 21 28 42.9 +0.9**
AKASG Malin Array Be 28.64 105 LR LR 21 39 15.1
comp=Z,131nm,21.3s,baz=290,slow=34
ARU Arti 34.66 71 *c i*P **P 21 29 41.4 +2.2**
ARU 21 30 58.3
ARU pmax pmax
comp=Z,10.0nm,1.7s
YKA Yellowknife Ar 36.56 309 P **P 21 29 53.5 -1.8**
comp=Z,4.8nm,1.1s,baz=37,slow=8.5,SNR=18
YKA PcP **PcP 21 32 19.2 +0.9**
comp=Z,0.5nm,0.8s,baz=38,slow=2.7,SNR=5.9
MDT Midelt 36.63 162 P **P 21 29 58.4 +1.9**
comp=Z,1.7nm,0.9s,baz=31,slow=12
MDT LR LR 21 43 46.0
comp=Z,109nm,21.6s,baz=359,slow=34
TIXI Tiksi 38.19 16⇓ *e*P **P 21 30 11.6 +2.5**
TIXI pmax pmax
comp=Z,3.0nm,1.2s
FFC Flin Flon 38.87 293 *e*P **P 21 30 15.0 0.0**
FFC pmax pmax
comp=Z,12nm,1.2s
FFC Flin Flon 38.87 293 *e*P **P 21 30 15.0 0.0**
comp=Z,12nm,1.2s
FFC Flin Flon 38.87 293 *e*P **P 21 30 15.0 0.0**
comp=Z,12nm,1.2s
KIV Kislovodsk 39.20 97 *e*P **P 21 30 17.1 -1.0**
KIV pmax pmax
comp=Z,6.0nm,1.1s
AKTO Aktyubinsk 39.31 78 P **P 21 30 16.4 -2.4**
comp=Z,0.4nm,0.3s,baz=343,slow=14,SNR=2.5
KBZ Khabaz 39.48 97 LR LR 21 46 42.5
comp=Z,117nm,18.5s,baz=320,slow=36
BRTR Keskin Array B 39.71 110 P **P 21 30 22.2 -0.1**
comp=Z,0.3nm,0.7s,baz=343,slow=4.5,SNR=3.0
BRTR LR LR 21 47 36.8
comp=Z,87nm,20.1s,baz=327,slow=38
ULM Lac du Bonnet 40.44 284 LR LR 21 46 17.8
comp=Z,91nm,18.4s,baz=40,slow=35
AGMN Agassiz Nation 42.08 283 *e*P **P 21 30 43.1 +1.5**
comp=Z,13nm,0.9s
AGMN Agassiz Nation 42.08 283 *e*P **P 21 30 43.1 +1.5**
comp=Z,13nm,0.9s
ILAR Eielson Array 42.16 330 P **P 21 30 41.5 -0.6**
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR MLR MLR
comp=Z,16nm,28.6s
ILAR Eielson Array 42.16 330 P **P 21 30 41.5 -0.6**
comp=Z,3.1nm,1.0s,baz=17,slow=6.8,SNR=15
ILAR LR LR 21 50 01.1
comp=Z,121nm,19.2s,baz=32,slow=39
COLA College 42.24 331 P **P 21 30 43.0 +0.3**
COLA pmax pmax
comp=Z,26nm,1.0s
BILL Bilibino 43.56 358⇓ *e*P **P 21 30 55.3 +1.9**
BILL pmax pmax
comp=Z,4.0nm,1.4s
ZALV Zalesovo Beam 45.24 54 P **P 21 31 06.8 -0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV MLR MLR
comp=Z,53nm,19.7s
ZALV Zalesovo Beam 45.24 54 P **P 21 31 06.8 -0.2**
comp=Z,1.5nm,0.8s,baz=332,slow=5.9,SNR=5.8
ZALV LR LR 21 53 07.1
comp=Z,53nm,19.7s,baz=39,slow=40
YAK Yakutsk 47.52 20 P **P 21 31 25.1 +0.4**
SLMT Seeley Lake 49.06 296 *e*P **P 21 31 37.0 0.0**
comp=Z,6.4nm,1.0s
SLMT Seeley Lake 49.06 296 *e*P **P 21 31 37.0 0.0**
comp=Z,6.4nm,1.0s
GEYT Alibeck 50.12 87 LR LR 21 52 44.9
comp=Z,120nm,19.0s,baz=300,slow=36
MKAR Makanchi Array 50.73 61 P **P 21 31 47.2 -2.4**
MKAR pmax pmax
comp=Z,5.0nm,1.0s
MKAR MLR MLR
comp=Z,16nm,28.6s
MKAR Makanchi Array 50.73 61 P **P 21 31 47.2 -2.4**
comp=Z,4.8nm,1.0s,baz=348,slow=5.4,SNR=15
MKAR LR LR 21 55 11.9
comp=Z,79nm,19.1s,baz=336,slow=38
PDAR Pinedale Array 51.67 290 P **P 21 31 58.2 +1.3**
comp=Z,3.2nm,1.2s,baz=53,slow=8.2,SNR=8.3
PDAR LR LR 21 53 53.6
comp=Z,152nm,20.6s,baz=27,slow=36
MOY Mondy 51.76 44 *e*P **P 21 32 00.4 +3.1**
TLY Talaya 52.41 42 LR LR 21 56 23.6
comp=Z,40nm,18.2s,baz=343,slow=39
SONM Songino Array 56.65 42 P **P 21 32 30.8 -2.2**
comp=Z,0.3nm,0.8s,baz=332,slow=8.1,SNR=2.5
TORD Torodi Ar. Bea 56.83 157 P **P 21 32 35.1 +0.7**
comp=Z,1.4nm,1.0s,baz=342,slow=6.3,SNR=5.4
TORD LR LR 21 56 41.3
comp=Z,63nm,18.2s,baz=280,slow=36
YBH Yreka Blue Hor 56.95 300 LR LR 21 57 23.3
comp=Z,75nm,19.1s,baz=356,slow=36
HIA Hailar 58.22 32⇓ *e*P **P 21 32 46.5 +2.6**
HIA pmax pmax
comp=Z,6.0nm,1.6s
YSS Yuzh-Sakhalins 63.79 15 *i* P **P 21 33 21.9 +0.2**
YSS Yuzh-Sakhalins 63.79 15 *i* P **P 21 33 21.9 +0.2**
CMAR Chiang Mai Arr 82.09 59 P **P 21 35 09.1 -1.4**
CMAR pmax pmax
comp=Z,1.0nm,0.9s
CMAR Chiang Mai Arr 82.09 59 P **P 21 35 09.1 -1.4**
comp=Z,0.8nm,0.9s,baz=316,slow=7.6,SNR=3.4

GUC 18 21:24:35.2±0.3, 34.04°S × 72.40°W, h20km ± 5km, ML3.5, 2C,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.83**	**85**	*i* P	Pb	21 24 49.6	-1.2
LNV				*i* S	Sb	21 25 00.4	-1.2
RCDM	**Rinconada Maip**	**1.44**	**68**	*i* P	Pn	21 24 59.1	-1.0
RCDM				*i* S	Sn	21 25 17.1	-1.3
CHCH	**Chadas Angostu**	**1.46**	**86**	*i* P	Pn	21 24 59.7	-0.7
CHCH				*i* S	Sn	21 25 18.4	-0.5
CACH	**El Canelo**	**1.50**	**94**	*e*P	Pn	21 25 00.8	-0.2
CACH				*i* S	Sn	21 25 20.6	+0.4
CLCH	**Cerro Calan**	**1.68**	**68**	*i* P	Pn	21 25 03.2	-0.3
CLCH				*i* S	Sn	21 25 24.5	0.0
PEL	**Peldehue**	**1.69**	**59**⇑	*i*P	Pn	21 25 03.4	-0.2
PEL				*i* S	Sn	21 25 24.7	+0.1
PEL				IAML		21 25 32.2	
	comp=N,1μm,0.3s						
FCH	**Farellones**	**1.90**	**69**⇑	*i*P	Pn	21 25 00.4	-6.4
FCH				*i* S	Sn	21 25 24.5	-5.8
FCH				IAML		21 25 34.8	
	comp=E,462nm,0.3s						

WEL ***18*** *21:29:12.1±1.2, 46.22°S × 165.40°E, h33km, ML5.4/17, Error ellipse: s-maj=13.4km s-min=5.6km az=90.0*
WEL Felt from Otago to Southland, maximum reported intensity MM 4.
ISCJB ***18*** *21:29:18.2±0.4, 46.13°S ± 0.05° × 166.35°E ± 0.04, h12km, mb4.6/13, MS4.3/14, Error ellipse: s-maj=7.3km s-min=4.0km az=164.4*
IDC ***18*** *21:29:19.2±0.7, 46.02°S × 166.20°E, h0km, mb4.5/7, mb1 4.7/8, mb1mx4.5/26, mbtmp4.5/8, ML4.0/1, MS4.3/14, Ms1 4.3/14, ms1mx4.2/18, Error ellipse: s-maj=31.2km s-min=20.2km az=54.0*
NEIC ***18*** *21:29:24.0±0.5, 46.03°S × 166.07°E, h35km, mb4.6/8, Error ellipse: s-maj=13.9km s-min=8.2km az=170.0*
GCMT ***18*** *21:29:24.0±0.3, 45.91°S × 165.76°E, h21km ± 1km, MW5.0/84, Moment Tensor Solution. s43,c59; s84,c114; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}1.85±.19; $M_{\theta\theta}$2.24±.13; $M_{\phi\phi}$-4.09±.14; $M_{r\theta}$1.04±.29; $M_{\theta\phi}$-0.35±.11; $M_{\phi r}$-3.06±.30; Best double couple: $M_0$4.63000×10^16 NP1:ϕ_s155.00000°, δ75.00000°, λ58.00000°. NP2: ϕ_s42.00000°, δ35.00000°, λ152.00000°. Principal axes: T 3.8750, Plg50.0000°, Azm30.0000°; N 1.5100, Plg31.0000°, Azm165.0000°; P -5.3850, Plg23.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 21:29:20.3±0.4, 46.07°S ± 0.05° × 166.43°E ± 0.05, h12km, n135,
σ1§87/101, mb4.6/13, MS4.3/14, 8C-5D, Off west coast of
South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.78**	**41**	PN	**Pg**	**21 29 32.7**	**-2.6**
DCZ				*e*SN	**Sn**	**21 29 52.0**	**+3.4**
DCZ				AML	AML	21 29 52.7	
DCZ				AML	AML	21 29 54.7	
DCZ				AML	AML	21 29 54.8	
DCZ	**Deep Cove**	**0.78**	**41**	Pn	**Pg**	**21 29 32.7**	**-2.6**
WHZ	**Wether Hill Ro**	**1.07**	**81**	PN	**Pb**	**21 29 38.7**	**-2.0**
WHZ				*e*SN	Sn	21 30 01.9	+6.0
WHZ				AML	AML	21 30 08.4	
WHZ	**Wether Hill Ro**	**1.07**	**81**	*e*Pn	Pn	21 29 45.3	+4.2
WHZ				*e*Sn	Sn	21 30 03.8	+7.9
APZ	**The Paps**	**1.32**	**126**	PN	**Pn**	**21 29 41.6**	**-3.0**
APZ				AML	AML	21 30 09.5	
APZ				AML	AML	21 30 09.6	
APZ	**The Paps**	**1.32**	**126**	Pn	**Pn**	**21 29 41.6**	**-3.0**
MLZ	**Mavora Lakes**	**1.42**	**60**	PN	**Pn**	**21 29 43.9**	**-1.9**
MLZ				AML	AML	21 30 17.2	
MLZ				AML	AML	21 30 19.3	
MLZ	**Mavora Lakes**	**1.42**	**60**	Pn	**Pn**	**21 29 43.9**	**-1.9**
MSZ	**Milford Sound**	**1.75**	**38**	*e*PN	Pn	21 29 46.5	-3.8
MSZ				AML	AML	21 30 29.8	
MSZ				AML	AML	21 30 29.9	
MSZ				AML	AML	21 30 30.6	
MSZ				AML	AML	21 30 30.6	
MSZ	**Milford Sound**	**1.75**	**38**	Pn	Pn	21 29 47.3	-3.0
SYZ	**Scrubby Hill**	**1.94**	**105**	PN	**Pn**	**21 29 51.7**	**-1.2**
SYZ				AML	AML	21 30 26.8	
SYZ				AML	AML	21 30 26.8	
SYZ				AML	AML	21 30 33.2	
SYZ				AML	AML	21 30 33.2	
SYZ	**Scrubby Hill**	**1.94**	**105**	Pn	**Pn**	**21 29 51.7**	**-1.2**

EAZ	Earnscleugh	2.18	69	PN	Pn	21 29 56.2	-0.2
EAZ				AML	AML	21 30 40.2	
EAZ				AML	AML	21 30 40.3	
EAZ				AML	AML	21 30 40.8	
EAZ				AML	AML	21 30 51.8	
EAZ	Earnscleugh	2.18	69	Pn	Pn	21 29 56.2	-0.2
WKZ	Wanaka	2.20	57	PN	Pn	21 29 56.3	-0.3
WKZ				AML	AML	21 30 42.0	
WKZ				AML	AML	21 30 42.0	
WKZ				AML	AML	21 30 42.6	
WKZ				AML	AML	21 30 46.9	
WKZ	Wanaka	2.20	57	Pn	Pn	21 29 56.4	-0.3
TUZ	Tuapeka	2.23	88	PN	Pn	21 29 56.3	-0.8
TUZ	Tuapeka	2.23	88	Pn	Pn	21 29 56.3	-0.8
JCZ	Jackson Bay	2.59	40	PN	Pn	21 29 59.6	-2.4
JCZ				AML	AML	21 30 56.3	
JCZ				AML	AML	21 30 59.4	
ODZ	Otahua Downs	3.13	72	⇓PN	Pn	21 30 07.0	-2.4
ODZ	Otahua Downs	3.13	72	ePn	Pn	21 30 12.5	+3.1
LBZ	Lake Benmore	3.14	59	PN	Pn	21 30 07.3	-2.3
LBZ				AML	AML	21 31 20.8	
LBZ				AML	AML	21 31 20.8	
LBZ				AML	AML	21 31 23.1	
LBZ				AML	AML	21 31 23.1	
LBZ	Lake Benmore	3.14	59	Pn	Pn	21 30 07.3	-2.3
FOZ	Fox Glacier	3.41	44	PN	Pn	21 30 11.5	-1.7
FOZ				AML	AML	21 31 25.3	
FOZ				AML	AML	21 31 25.3	
FOZ				AML	AML	21 31 28.7	
FOZ				AML	AML	21 31 28.7	
FOZ	Fox Glacier	3.41	44	Pn	Pn	21 30 11.5	-1.7
RPZ	Rata Peaks	4.04	56	PN	Pn	21 30 18.7	-3.2
RPZ				AML	AML	21 31 37.0	
RPZ				AML	AML	21 31 51.0	
RPZ	Rata Peaks	4.04	56	ePn	Pn	21 30 25.0	+3.1
WVZ	Waitaha Valley	4.29	47	AML	AML	21 31 50.5	
OXZ	Oxford	4.85	58	PN	Pn	21 30 30.1	-2.9
LTZ	Lake Taylor	5.32	54	PN	Pn	21 30 37.6	-1.9
LTZ				AML	AML	21 31 57.0	
LTZ				AML	AML	21 32 28.2	
LTZ	Lake Taylor	5.32	54	Pn	Pn	21 30 37.6	-1.9
DSZ	Denniston Nort	5.80	44	PN	Pn	21 30 42.5	-3.7
DSZ	Denniston Nort	5.80	44	Pn	Pn	21 30 42.5	-3.7
KHZ	Kahutara	6.28	57	PN	Pn	21 30 55.1	+2.5
KHZ	Kahutara	6.28	57	ePn	Pn	21 30 55.4	+2.8
KHZ				eSn	Sn	21 32 08.1	+4.0
THZ	Tophouse	6.35	50	PN	Pn	21 30 54.0	+0.2
THZ				AML	AML	21 32 30.8	
THZ				AML	AML	21 32 37.0	
THZ	Tophouse	6.35	50	Pn	Pn	21 30 54.0	+0.2
QRZ	Quartz Range	6.86	42	Pn	Pn	21 30 57.3	-3.4
NNZ	Nelson	6.99	49	ePN	Pn	21 31 06.8	+4.4
TCW	Tory Channel	7.48	52	PN	Pn	21 31 16.3	+7.3
TCW				AML	AML	21 33 03.3	
TCW				AML	AML	21 33 06.9	
TCW	Tory Channel	7.48	52	Pn	Pn	21 31 16.3	+7.3
DUWZ	D'Urville Isla	7.57	49	PN	Pn	21 31 16.2	+5.7
DUWZ				AML	AML	21 32 57.2	
DUWZ				AML	AML	21 33 00.2	
DUWZ	D'Urville Isla	7.57	49	Pn	Pn	21 31 16.2	+5.7
SNZO	South Karori	7.65	55	ePn	Pn	21 31 16.8	+5.3
SNZO				eSn	Sn	21 32 41.1	+3.1
KIW	Kapiti Island	8.06	53	PN	Pn	21 31 22.5	+5.3
KHEZ	Kahui Hut	8.77	42	PN	Pn	21 31 30.6	+3.7
MCQ	Macquarie Isla	9.70	207	P	Pn	21 31 39.6	+0.2
	8.9,SNR=3.4						
HIZ	Hauiti	9.79	43	PN	Pn	21 31 44.3	+3.5
WTAZ	Waiatarua	10.97	37	PN	Pn	21 31 60.0	+3.0
MKAZ	Moumakai	11.08	39	ePN	Pn	21 32 01.5	+3.1
URZ	Urewera	11.11	49	Pn	Pn	21 32 00.8	+1.9
	1.1nm,0.3s,baz=270,slow=2.0,SNR=5.3						
URZ				Sn	Sn	21 33 59.5	-3.5
	0.7nm,0.3s,baz=288,slow=19,SNR=1.7						
URZ	Urewera	11.11	49	ePn	Pn	21 32 01.3	+2.4
URZ				Sn	Sn	21 33 59.5	-3.5
WCZ	Waipu Caves	11.74	33	ePN	Pn	21 32 09.6	+2.0
OUZ	Omahuta	12.12	29	ePn	Pn	21 32 14.9	+2.3
TAU	Tasmania Unive	14.00	276	ePn	Pn	21 32 31.3	-7.0
MOO	Moorlands	14.25	278	P	Pn	21 32 38.0	-3.9
	baz=14,SNR=13						
MILA	Mila	15.73	299	P	Pn	21 32 58.3	-3.3
	baz=16,SNR=8.3						
CNB	Canberra Magne	16.78	304	P	P	21 33 19.1	+1.7
	baz=17,SNR=6.3						
CAN	Canberra	16.99	303	ePn	Pn	21 33 14.6	-3.1
	37nm,1.1s						
TOO	Toolangi	17.73	291	P	Pn	21 33 25.2	-1.7
	baz=18,SNR=16						
YNG	Young	18.06	304	P	P	21 33 32.1	+0.7
	baz=18,SNR=5.0						
ARMA	Armidale	19.42	318	P	Pn	21 33 48.6	+1.0
	baz=20,SNR=4.0						
RAO	Raoul Island	20.80	42	LR	LR	21 41 57.1	
	comp=Z,2μm,20.7s,baz=208,slow=36						
CMSA	Cobar Meteorol	21.63	305	P	P	21 34 14.1	+3.9
	baz=22,SNR=11						
DZM	Mont Dzumac	23.94	0	P	P	21 34 38.0	+3.7
	22nm,0.8s,baz=325,slow=23,SNR=7.0						
DZM				LR	LR	21 42 31.0	
	comp=Z,613nm,18.3s,baz=208,slow=33						
DZM	Mont Dzumac	23.94	0	eP	P	21 34 36.5	+2.2
	38nm,1.2s						
EIDS	Eidsvold	24.04	324	P	P	21 34 36.1	+1.0
	baz=25,SNR=3.1						
RMQ	Roma	24.08	318	P	P	21 34 36.5	+0.9
	baz=25,SNR=6.8						
BBOO	Bucklebooo	26.75	289	eP	P	21 34 59.1	-0.7
	394nm,1.0s						
CTA	Charters Tower	30.76	321	LR	LR	21 47 13.8	
	comp=Z,685nm,20.4s,baz=146,slow=35						
VNDA	Vanda	31.61	182	LR	LR	21 45 58.6	
	comp=Z,874nm,20.6s,baz=17,slow=32						
ASAR	Alice Springs	34.44	299	P	P	21 36 06.2	-1.5
	2.3nm,1.0s,baz=137,slow=9.6,SNR=13						
ASAR				LR	LR	21 48 39.3	
	comp=Z,647nm,19.7s,baz=142,slow=34						
WRKA	Warakurna	36.98	291	P	P	21 36 27.3	-2.2
	baz=37,SNR=6.2						
WRA	Warramunga Arr	37.03	304	P	P	21 36 28.6	-1.3
	2.9nm,0.6s,baz=136,slow=7.9,SNR=43						
WRA				PcP	PcP	21 38 50.0	-0.7
	1.6nm,0.9s,baz=124,slow=3.1,SNR=4.8						
WRA				LR	LR	21 50 54.4	
	comp=Z,540nm,18.0s,baz=155,slow=35						
WRAB	Tennant Creek	37.03	304	eP	P	21 36 28.2	-1.7
	3.4nm,0.6s						
PMG	Port Moresby	40.09	330	P	P	21 36 57.3	+1.7
	32nm,0.9s,baz=199,slow=12,SNR=4.4						
PMG				LR	LR	21 50 21.1	
	comp=Z,356nm,18.5s,baz=156,slow=32						
PMG	Port Moresby	40.09	330	eP	P	21 36 57.1	+1.5
	39nm,0.9s						
H01W1	Cape Leeuwin H	40.63	267	T	T	22 19 45.0	
	baz=122,slow=75,SNR=1270						
H01W2	Cape Leeuwin H	40.64	267	T	T	22 19 45.8	
	baz=122,slow=75,SNR=1943						
H01W3	Cape Leeuwin H	40.65	267	T	T	22 19 46.2	
	baz=122,slow=75,SNR=1425						
TBI	Tubuai	42.07	73	eS	S	21 43 29.3	-1.6
	252nm,29.2s						
TBI				eLR	LR	21 48 52.7	
	632nm,35.5s						
MEEK	Meekatharra	42.39	280	P	P	21 37 13.1	-1.4
	baz=42,SNR=3.5						
FITZ	Fitzroy Crossi	43.70	296	P	P	21 37 24.1	-1.0
	baz=44,SNR=4.2						
FITZ	Fitzroy Crossi	43.70	296	eP	P	21 37 22.8	-2.3
	1.7nm,0.5s						
QSPA	South Pole Qui	44.06	180	P	P	21 37 29.7	+2.0
	7.0nm,0.7s,baz=20,slow=1.2,SNR=22						
QSPA	South Pole Qui	44.06	180	eP	P	21 37 29.5	+1.8
	8.8nm,0.8s						
MTN	Manton Dam	44.54	307	P	P	21 37 31.4	-0.5
	baz=45,SNR=5.1						
PPT2	Papeete2	46.10	67	eS	S	21 44 28.9	-1.1
	191nm,27.2s						
PPT2				eLR	LR	21 50 57.5	
	1μm,30.0s,baz=214						
PPT	Papeete	46.12	67	LR	LR	21 54 07.5	
	comp=Z,403nm,21.4s,baz=208,slow=32						
RKT	Rikitea	52.10	85	eLR	LR	21 53 26.3	
	607nm,23.0s						
MAW	Mawson	53.10	208	LR	LR	21 59 37.6	
	comp=Z,518nm,18.2s,baz=96,slow=34						

SNAA	Sanae	62.32	184	P	P	21 39 43.1	+1.2
SNAA	Sanae	62.32	184	eP	P	21 39 42.0	+0.1
	20nm,1.1s						
VNA2	Neumayer--Watz	63.23	182	P	P	21 39 47.9	0.0
	baz=184,slow=5.8						
VNA1	Neumayer--Stat	63.53	182	P	P	21 39 55.7	+5.9
PLCA	Paso Flores	79.73	140	P	P	21 41 29.9	+1.9
	2.8nm,0.9s,baz=9.5,slow=6.1,SNR=3.9						
PLCA				LR	LR	22 07 58.8	
	comp=Z,90nm,21.2s,baz=184,slow=29						
MJAR	Matsushiro Arr	86.07	338	P	P	21 42 00.4	-0.1
	4.4nm,1.0s,baz=171,slow=6.0,SNR=9.6						
H08S2	Diego Garcia H	87.28	262	T	T	23 17 55.5	
	baz=136,slow=76,SNR=652						
H08S1	Diego Carcia H	87.29	262	T	T	23 17 56.7	
	baz=136,slow=76,SNR=227						
H08S3	Diego Garcia H	87.30	262	T	T	23 17 57.0	
	baz=136,slow=76,SNR=687						
CMAR	Chiang Mai Arr	88.44	299	P	P	21 42 13.3	+0.9
	3.0nm,0.9s,baz=154,slow=3.6,SNR=21						
CMAR				LR	LR	22 23 04.9	
	comp=Z,73nm,19.6s,baz=152,slow=36						
CHTO	Chiang Mai	88.72	299	eP	P	21 42 12.9	-0.7
	5.8nm,1.2s						
H08N1	Diego Carcia H	89.23	262	T	T	23 20 23.7	
	baz=122,slow=76,SNR=110						
H08N3	Diego Garcia H	89.24	262	T	T	23 20 23.6	
	baz=122,slow=76,SNR=179						
H08N2	Diego Garcia H	89.25	262	T	T	23 20 28.1	
	baz=122,slow=76,SNR=84						
KSRS	Korea Array	90.06	330	LR	LR	22 18 51.5	
	comp=Z,40nm,18.8s,baz=161,slow=33						
BOSA	Boshof	97.75	214	LR	LR	22 21 51.3	
	comp=Z,146nm,18.0s,baz=160,slow=32						
PETK	Petropavlovsk-	99.08	355	LR	LR	22 22 03.3	
	comp=Z,81nm,20.4s,baz=150,slow=32						
ILAR	Eielson Array	116.35	20	PKhKP	PKPpre	21 47 58.2	
	0.6nm,1.1s,baz=217,slow=5.7,SNR=3.2						
MKAR	Makanchi Array	118.21	309	PKP	PKPdf	21 48 06.5	-0.1
	0.7nm,0.9s,baz=103,slow=1.6,SNR=5.3						
YKA	Yellowknife Ar	125.02	34	PKP	PKPdf	21 48 19.2	+0.2
	0.2nm,0.4s,baz=252,slow=1.0,SNR=6.8						
GEYT	Alibeck	127.76	288	PKP	PKPdf	21 48 26.4	+1.1
	2.0nm,0.8s,baz=92,slow=11,SNR=4.4						
DBIC	Dimbokro	140.03	194	PKP	PKPdf	21 48 47.6	-1.3
	1.3nm,0.7s,baz=159,slow=3.1,SNR=4.3						
TORD	Torodi Ar. Bea	144.74	206	PKP	PKPbc	21 48 55.9	-0.2
	3.1nm,0.5s,baz=148,slow=1.8,SNR=40						
BRTR	Keskin Array B	145.25	277	PKPbc	PKPdf	21 48 57.4	-0.2
	8.9nm,0.9s,baz=137,slow=4.3,SNR=38						
SCHQ	Schefferville	145.73	55	PKPbc	PKPab	21 48 58.3	-0.2
	9.9nm,0.8s,baz=280,slow=1.8,SNR=9.7						
KEV	Kevo	148.98	334	ep	PKPbc	21 49 07.4	+0.7
	28nm,1.0s						
DAG	Danmarks Havn	149.12	2	i P	PKPbc	21 49 06.6	-0.3
	4.7nm,0.8s						
ARCES	ARCESS Array B	149.55	334	PKPbc	PKPbc	21 49 08.8	+0.7
	15nm,0.8s,baz=48,slow=1.8,SNR=24						
PSN	Preselentsi	150.56	281	⇑iP	PKPbc	21 49 10.9	-0.4
TIRR	Tirgusor	150.65	282	⇓iP	PKPbc	21 49 10.4	-1.1
SUMG	Summit	151.01	15	i P	PKPbc	21 49 13.8	+1.7
	4.2nm,0.9s						
CFR	Carcaliu	151.06	284	⇓iP	PKPbc	21 49 11.6	-0.8
LEOM	Leova	151.33	286	⇑iP	PKPbc	21 49 14.3	+1.3
AKASG	Malin Array Be	151.51	295	PKPbc	PKPbc	21 49 13.4	+0.1
	6.9nm,0.8s,baz=82,slow=2.2,SNR=14						
TAM	Tamanrasset	152.09	220	ePKPbc	PKPbc	21 49 16.6	+0.9
VRI	Vrincioaia	152.20	284	⇑iP	PKPbc	21 49 14.4	-0.7
TESR	Tescani	152.41	286	⇓iP	PKPbc	21 49 16.0	+0.5
FINES	FINESS Array B	152.51	318	PKPbc	PKPbc	21 49 15.7	+0.4
	4.1nm,0.8s,baz=108,slow=10,SNR=11						
MLR	Muntele Rosu	152.63	283	⇑iP	PKPbc	21 49 15.2	-1.0
DOPR	Dopca	153.13	284	⇑iP	PKPbc	21 49 17.5	+0.3
VOIR		153.22	283	⇑iP	PKPbc	21 49 17.5	0.0
ARR	Arges	153.48	282	⇓iP	PKPbc	21 49 18.4	+0.4
BURAR	Bucovina Array	153.61	288	⇑iP	PKPab	21 49 31.0	0.0
VTS	Vitosha	153.62	276	⇑iP	PKPab	21 49 30.6	-0.6

*IDC **18** 21:30:30.7±4.1, 34°.59S×70°.96W, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.6/22, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=160.4km s-min=23.3km az=93.0*
*ISCJB **18** 21:30:34.0±0.8, 34°.72S±0°.04×71°.9W±0°.1, h61km±8km, mb4.0/2, Error ellipse: s-maj=16.5km s-min=5.0km az=16.4*
*NEIC **18** 21:30:34.0, 34°.68S×71°.82W, h36km, mb3.7/2, After GUC.*
NEIC Felt [IV] at Curico, [III] at Talca and [II] at Licanten and San Fernando.
*GUC **18** 21:30:35.1±0.5, 34°.70S×71°.80W, h38km±1km, ML4.1*
ISC 18 21:30:34.7±1.4, 34°.72S±0°.04×71°.9W±0°.1, h51km±13km, n22, σ19°13/34, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.60	119	⇓iP	Pn	21 30 46.5	-0.7
NICH				i S	Sn	21 30 55.4	-0.9
NICH				AML	AML	21 30 56.7	
	comp=E,22μm,0.1s						
TALC	Talca	0.71	164	⇑iP	Pn	21 30 48.7	+0.1
LNV	Longovilo	0.85	27	i P	Pn	21 30 50.1	-0.3
LNV				i S	Sn	21 31 01.6	-0.2
LNCH	Linares	1.15	169	⇑iP	Pn	21 30 55.8	+1.4
LNCH				i S	Sn	21 31 11.0	+1.9
CACH	El Canelo	1.21	61	⇓iP	Pn	21 30 55.5	+0.2
CACH				i S	Sn	21 31 11.6	+0.8
CHCH	Chadas Angostu	1.28	53	⇑iP	Pn	21 30 56.6	+0.4
CHCH				i S	Sn	21 31 12.8	+0.5
TACH	Talagante	1.31	36	eP	Pn	21 30 57.2	+0.6
TACH				i S	Sn	21 31 14.1	+1.0
RCDM	Rinconada Maip	1.51	36	⇑iP	Pn	21 30 59.9	+0.6
RCDM				eS	Sn	21 31 19.2	+1.4
RCDM				IAML		21 31 23.1	
	comp=E,5μm,0.1s						
ANTU	Antumapu	1.54	42	i P	Pn	21 31 00.5	+0.7
ANTU				AML	AML	21 31 25.3	
	comp=E,5μm,0.2s						
PCH	Pirque	1.57	46	i P	Pn	21 31 01.0	+0.8
PCH				i Sg	Sn	21 31 21.1	+1.7
SAN	Santiago	1.61	39	⇓iP	Pn	21 31 01.4	+0.7
SAN				i S	Sn	21 31 21.7	+1.3
LACH	Col Las Americ	1.68	42	i P	Pn	21 31 02.4	+0.7
LACH				i S	Sn	21 31 23.3	+1.1
CLCH	Cerro Calan	1.72	41	i P	Pn	21 31 03.0	+0.7
CLCH				i S	Sn	21 31 24.5	+1.4
CLCH				AML	AML	21 31 34.3	
	comp=E,3μm,0.5s						
YECH	El Yeso	1.82	55	eP	Pn	21 31 05.3	+1.5
YECH				i S	Sn	21 31 27.6	+1.8
PEL	Peldehue	1.85	33	eP	Pn	21 31 05.0	+0.9
PEL				eS	Sn	21 31 27.6	+1.3
PEL				IAML		21 31 34.1	
	comp=N,3μm,0.3s						
PLCA	Paso Flores	6.10	170	Pn	Pn	21 32 03.8	+1.6
	comp=N,0.7nm,0.3s,baz=353,slow=12,SNR=12						
PLCA				Lg	Lg	21 33 44.0	
	comp=N,0.3nm,0.3s,baz=76,slow=19,SNR=3.9						
PLCA	Paso Flores	6.10	170	ePn	Pn	21 32 03.0	+0.7
PLCA				Lg	Lg	21 33 44.0	
TRQA	Tornquist	8.65	116	ePn	Pn	21 32 33.7	-3.4
LPAZ	La Paz	18.66	11	P	P	21 34 47.3	-1.8
	comp=N,0.1nm,0.3s,baz=194,slow=12,SNR=1.7						
LPAZ	La Paz	18.66	11	eP	P	21 34 48.4	-0.7
	comp=N,0.7nm,0.5s						
SNAA	Sanae	50.87	158	eP	P	21 39 28.9	-1.2
	comp=N,3.5nm,1.0s						
TORD	Torodi Ar. Bea	84.33	70	P	P	21 43 01.2	-0.4
	comp=N,0.7nm,0.9s,baz=233,slow=3.3,SNR=4.3						

*ATH **18** 21:47:59.8, 36°.99N×27°.85E, h28km±2km, MD2.9/5*
*ISK **18** 21:47:59.5, 36°.96N×27°.84E, h11km, MD2.7*
*DDA **18** 21:48:00.7, 37°.01N×27°.82E, h7km, MD2.7*
*CSEM **18** 21:48:00.1±0.2, 36°.96N×27°.82E, h10km, MD2.7, Error ellipse: s-maj=5.2km s-min=4.0km az=143.0*
ISC 18 21:48:00.5±0.9, 36°.99N±0°.02×27°.83E±0°.02, h11km±8km, n44, σ08°80/66, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.32	284	i P	Pg	21 48 06.8	-0.1
BDRM				i S	Sg	21 48 11.8	+0.6
BDRM	Kayabasi	0.32	284	i P	Pg	21 48 06.8	-0.1
BDRM				i S	Sg	21 48 11.8	+0.6

YER	Yerkesik	0.39	68	ePG	Pg	21 48 08.0	-0.4
YER				eSG	Sg	21 48 14.1	+0.5
YER	Yerkesik	0.39	68	ePg	Pg	21 48 08.0	-0.4
YER				eSg	Sg	21 48 14.1	+0.5
BODT	Bodrum	0.42	280	ePG	Pg	21 48 08.6	-0.2
BODT				eSG	Sg	21 48 15.0	+0.6
BODT	Bodrum	0.42	280	ePg	Pg	21 48 08.6	-0.2
NIS1	Nisyros Isl.	0.65	233	ePN	Pg	21 48 12.8	-0.3
NIS1				eSN	Sb	21 48 23.1	+0.1
NIS1	Nisyros Isl.	0.65	233	ePn	Pg	21 48 12.8	-0.3
NIS1				eSn	Sb	21 48 23.1	+0.1
AYDN	Tasoluk	0.67	4	i P	Pb	21 48 14.5	+0.2
AYDN				i S	Sb	21 48 23.7	0.0
AYDN	Tasoluk	0.67	4	i P	Pb	21 48 14.5	+0.2
AYDN				i S	Sb	21 48 23.7	0.0
DALY	Dalyan (Mu¨la	0.69	104	ePG	Pg	21 48 12.8	-1.0
DALY				eSG	Sb	21 48 22.8	-1.1
DALY	Dalyan (Mu¨la	0.69	104	ePg	Pg	21 48 12.8	-1.0
DALY				eSg	Sb	21 48 22.8	-1.1
ARG	Arkhangelos	0.81	163	ePN	Pg	21 48 15.6	-0.6
ARG				eSN	Sb	21 48 27.9	+0.3
ARG	Arkhangelos	0.81	163	ePn	Pg	21 48 15.6	-0.6
ARG				eSn	Sb	21 48 27.9	+0.3
AYDB	Zeytinkoy-Aydi	0.95	3	ePG	Pb	21 48 18.9	-0.3
AYDB	Zeytinkoy-Aydi	0.95	3	ePg	Pb	21 48 18.9	-0.3
SMG	Samos	1.06	313	ePN	Pb	21 48 20.5	-0.5
SMG	Samos	1.06	313	ePn	Pb	21 48 20.5	-0.5
DNZL	Cakiroluk	1.20	54	i P	Pg	21 48 23.3	-0.3
DNZL				i S	Sn	21 48 41.2	+1.4
DNZL	Cakiroluk	1.20	54	i P	Pg	21 48 23.3	-0.3
DNZL				i S	Sn	21 48 41.2	+1.4
GOLH	Golhisar	1.41	79	i P	Pg	21 48 28.6	+1.0
GOLH	Golhisar	1.41	79	i P	Pg	21 48 28.6	+1.0
GOLH				i S	Sg	21 48 47.0	+1.1
BLCB	Balcova	1.52	336	ePN	Pb	21 48 27.9	-0.9
BLCB	Balcova	1.52	336	ePn	Pb	21 48 28.0	-0.9
KARP	Karpathos	1.54	201	ePB	Pn	21 48 26.9	-1.1
KARP	Karpathos	1.54	201	ePb	Pn	21 48 26.9	-1.1
MANT	Manisa	1.60	21	i P	Pn	21 48 27.9	-1.2
MANT				i S	Sg	21 48 51.9	-0.3
MANT	Manisa	1.60	21	i P	Pn	21 48 27.9	-1.2
MANT				i S	Sg	21 48 51.9	-0.3
AKAS	Kas	1.62	117	i P	Pg	21 48 31.6	0.0
AKAS				i S	Sg	21 48 54.0	+1.4
ZEY	¨zmir	1.63	320	i P	Pn	21 48 27.8	-1.3
ZEY				i S	Sg	21 48 55.4	+2.5
KULA	Kula-Manisa	1.66	23	ePN	Pn	21 48 29.6	0.0
KULA	Kula-Manisa	1.66	23	ePn	Pn	21 48 29.7	0.0
ELL	Elmali	1.69	98	ePN	Pn	21 48 30.2	+0.1
ELL	Elmali	1.69	98	ePn	Pn	21 48 30.2	+0.1
AKHS	Akhisar	1.89	360	i P	Pn	21 48 32.1	-0.6
AKHS				i S	Sn	21 48 56.1	-0.4
AKHS	Akhisar	1.89	360	i P	Pn	21 48 32.0	-0.6
AKHS				i S	Sn	21 48 56.0	-0.4
NPS	Neapolis	2.49	227	ePN	Pn	21 48 40.2	-0.8
NPS	Neapolis	2.49	227	ePn	Pn	21 48 40.2	-0.8
LAST	Lasithi	2.64	227	ePN	Pn	21 48 42.3	-0.8
LAST	Lasithi	2.64	227	ePn	Pn	21 48 42.3	-0.8
VAM	Vamos	3.33	243	ePN	Pn	21 48 53.7	+1.1
VAM	Vamos	3.33	243	ePn	Pn	21 48 53.7	+1.1
KARN	Karanos	3.54	245	ePN	Pn	21 48 56.2	+0.8
KARN	Karanos	3.54	245	ePn	Pn	21 48 56.2	+0.8

*ISCJB **18** 21:57:52.0±0.9, 51°.2N±0°.1×172°.45W±0°.07, h27km, mb3.6/11, Error ellipse: s-maj=16.8km s-min=6.0km az=2.9*
*IDC **18** 21:57:51.4±2.6, 51°.55N×172°.61W, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.6/41, mbtmp3.7/12, ML4.2/1, Error ellipse: s-maj=74.2km s-min=20.1km az=178.0*
*NEIC **18** 21:57:54.2, 51°.27N×172°.46W, h10km, ML3.3(AEIC), After AEIC.*
ISC 18 21:57:54.6±1.2, 51°.4N±0°.1×172°.50W±0°.05, h27km, n22, σ08°72/24, mb3.8/11, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	Korovin Flat P	1.36	314	P	Pn	21 58 18.4	+0.6
KOFP				S	Sb	21 58 36.9	+0.6
KOSE	Korovin Southe	1.38	317	P	Pb	21 58 19.0	-0.8
ADK	Adak	2.66	283	P	Pn	21 58 35.6	0.0
ADK				S	Sn	21 59 08.3	+1.3
NIKH	Nikolski High	2.77	53	P	Pn	21 58 37.2	0.0
OKFG	Magazine Ridge	3.49	52	P	Pn	21 58 47.6	+0.5
MSOM	Makushin Julie	4.19	52	P	Pn	21 58 57.1	+0.4
MREP	Makushin Rep't	4.29	53	P	Pn	21 58 59.1	+1.0
UNV	Unalaska Valle	4.43	53	P	Pn	21 59 00.2	+0.3
ILAR	Eielson Array	18.90	35	P	P	22 02 11.9	-0.8
	0.3nm,0.3s,baz=228,slow=8.5,SNR=23						
DLBC	Dease Lake	25.07	57	P	P	22 03 18.4	+1.8
	1.4nm,0.6s,baz=302,slow=12,SNR=4.9						
YKA	Yellowknife Ar	32.37	47	P	P	22 04 21.0	-0.3
	0.1nm,0.3s,baz=276,slow=9.9,SNR=8.5						
PDAR	Pinedale Array	42.52

SOKA	Soboth	0.87	43	Sg	Sb	22 11 53.4	+0.5
	comp=Z,0.3nm,0.1s						

WEL 18 22:43:33.2±0.3, 41°.24S×172°.77E, h145km±2km, ML3.9/17, 14C-8D, Error ellipse: s-maj=2.4km s-min=1.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.45	337	⇓PN	Pn	22 43 53.8	0.0
QRZ				SN	Sn	22 44 07.8	-1.5
NNZ	Nelson	0.46	87	⇑PN	Pn	22 43 53.7	-0.1
THZ	Tophouse	0.53	169	PN	Pn	22 43 54.2	0.0
THZ				SN	Sn	22 44 08.9	-1.4
DSZ	Denniston Nort	0.88	235	⇑PN	Pn	22 43 56.2	-0.4
TUWZ	Tuamarina	0.91	102	PN	Pn	22 43 56.7	+0.1
TUWZ				AML	AML	22 44 14.2	
TUWZ				AML	AML	22 44 15.0	
BSWZ	Blackbirch Sta	0.96	120	PN	Pn	22 43 57.1	+0.1
BSWZ				AML	AML	22 44 16.1	
BSWZ				AML	AML	22 44 16.3	
DUWZ	D'Urville Isla	0.98	64	PN	Pn	22 43 57.7	+0.4
DUWZ				SN	Sn	22 44 15.9	+0.2
TCW	Tory Channel	1.14	89	⇑PN	Pn	22 43 59.0	+0.3
TCW				AML	AML	22 44 18.4	
TCW				AML	AML	22 44 18.8	
CMWZ	Cape Campbell	1.20	115	⇓PN	Pn	22 43 59.6	+0.4
CMWZ				AML	AML	22 44 23.2	
CMWZ				AML	AML	22 44 24.1	
KHZ	Kahutara	1.31	154	⇑PN	Pn	22 44 00.3	0.0
KHZ				AML	AML	22 44 19.3	
KHZ				AML	AML	22 44 19.5	
WEL	Wellington	1.51	92	⇑PN	Pn	22 44 02.2	-0.2
LTZ	Lake Taylor	1.58	193	PN	Pn	22 44 03.1	-0.2
BHW	Baring Head	1.59	97	⇑PN	Pn	22 44 02.9	-0.4
BHW				AML	AML	22 44 26.3	
BHW				AML	AML	22 44 26.6	
KIW	Kapiti Island	1.67	77	⇑PN	Pn	22 44 04.0	-0.2
KIW				AML	AML	22 44 28.0	
KIW				AML	AML	22 44 28.7	
CAW	Cannon Point	1.74	86	PN	Pn	22 44 04.5	-0.5
CAW				AML	AML	22 44 29.6	
CAW				AML	AML	22 44 31.8	
OGWZ	Otaki Gorge	1.87	78	PN	Pn	22 44 06.1	-0.3
MSWZ	Moikau Station	1.88	96	⇑PN	Pn	22 44 06.0	-0.6
MSWZ				AML	AML	22 44 31.7	
MSWZ				AML	AML	22 44 32.3	
PLWZ	Palliser	1.90	101	⇑PN	Pn	22 44 06.3	-0.6
PAWZ	Paruwai Farm	2.01	95	⇑PN	Pn	22 44 07.4	-0.7
PAWZ				AML	AML	22 44 34.1	
PAWZ				AML	AML	22 44 34.5	
NMEZ	Namu Road	2.02	25	PN	Pn	22 44 09.2	+1.0
MTW	Mount Morrison	2.07	89	PN	Pn	22 44 08.0	-0.8
MTW				AML	AML	22 44 35.3	
MTW				AML	AML	22 44 35.7	
HOWZ	Holdsworth Sta	2.11	82	⇑PN	Pn	22 44 08.6	-0.7
NWEZ	Newall Road	2.14	24	⇑PN	Pn	22 44 10.7	+1.1
OXZ	Oxford	2.15	194	PN	Pn	22 44 08.8	-1.0
KHEZ	Kahui Hut	2.17	27	PN	Pn	22 44 10.8	+0.6
LREZ	Lake Rotokare	2.18	36	PN	Pn	22 44 11.4	+1.2
TRWZ	Traveller	2.21	95	PN	Pn	22 44 09.9	-0.6
TRWZ				AML	AML	22 44 37.6	
TRWZ				AML	AML	22 44 38.5	
MRZ	Mangatainoka R	2.21	76	PN	Pn	22 44 09.6	-0.8
MRZ				AML	AML	22 44 39.4	
MRZ				AML	AML	22 44 40.4	
NEZ	North Egmont	2.22	28	PN	Pn	22 44 11.9	+1.2
PKE	Pukeiti	2.25	25	PN	Pn	22 44 11.9	+0.9
WAZ	Wanganui	2.25	49	⇑PN	Pn	22 44 12.0	+0.9
CRLZ	Canterbury Las	2.33	183	PN	Pn	22 44 11.2	-0.8
TMWZ	Te Maipa	2.36	88	PN	Pn	22 44 11.6	-0.8
WVZ	Waitaha Valley	2.37	219	⇓PN	Pn	22 44 11.6	-0.8
TIWZ	Tintock	2.41	80	PN	Pn	22 44 12.1	-0.8
TIWZ				AML	AML	22 44 43.5	
TIWZ				AML	AML	22 44 43.6	
MOZ	McQueen's Vall	2.46	182	⇓PN	Pn	22 44 12.4	-1.1
MOZ				SN	Sn	22 44 39.8	-4.9
PRWZ	Pori Road	2.52	75	PN	Pn	22 44 13.6	-0.7
VRZ	Vera Road	2.61	36	⇓PN	Pn	22 44 15.8	+0.4
BFZ	Birch Farm	2.69	79	PN	Pn	22 44 15.5	-0.9
TSZ	Takapari Road	2.70	65	AML	AML	22 44 51.0	
TSZ				AML	AML	22 44 52.3	
DVHZ	Dannevirke	2.75	71	PN	Pn	22 44 15.6	-1.6
PKVZ	Pokaka	2.77	46	PN	Pn	22 44 17.9	+0.3
RPZ	Rata Peaks	2.78	207	PN	Pn	22 44 16.1	-1.4
MTVZ	Mangateitei	2.78	49	PN	Pn	22 44 17.8	+0.1
TRVZ	Turoa	2.88	49	PN	Pn	22 44 19.1	-0.1
FWVZ	Far West T-bar	2.91	48	*e*PN	Pn	22 44 20.0	+0.5
ANWZ	Angora Road	2.92	76	*e*PN	Pn	22 44 18.9	-0.4
MOVZ	Moawhango	2.93	52	PN	Pn	22 44 19.0	-0.5
PNHZ	Pukenui	2.93	64	PN	Pn	22 44 18.4	-1.2
TUVZ	Tukino	2.96	49	PN	Pn	22 44 19.9	-0.2
WPHZ	Waipukurau	3.03	68	*e*PN	Pn	22 44 19.7	-1.0
BHHZ	Black Hill Sta	3.07	56	PN	Pn	22 44 20.4	-0.9
KRVZ	Karewarewa	3.07	47	PN	Pn	22 44 20.5	-1.0
HIZ	Hauiti	3.16	31	⇓PN	Pn	22 44 22.2	-0.2
KRHZ	Kereru	3.18	61	PN	Pn	22 44 21.7	-1.0
FOZ	Fox Glacier	3.25	223	⇓PN	Pn	22 44 21.0	-2.4
PXZ	Pawanui	3.34	70	PN	Pn	22 44 23.6	-1.1
PXZ				AML	AML	22 45 05.8	
KAHZ	Kahuranaki	3.45	67	PN	Pn	22 44 25.3	-0.9
BKZ	Black Stump Fm	3.53	55	PN	Pn	22 44 26.3	-0.9
BKZ				AML	AML	22 45 08.6	
BKZ				AML	AML	22 45 08.9	
LBZ	Lake Benmore	3.67	210	PN	Pn	22 44 27.5	-1.5
JCZ	Jackson Bay	4.09	225	⇓PN	Pn	22 44 32.9	-1.7
ODZ	Otahua Downs	4.11	202	⇑PN	Pn	22 44 33.2	-1.5
MKAZ	Moumakai	4.53	25	PN	Pn	22 44 41.1	+0.8
EAZ	Earnscleugh	4.72	211	PN	Pn	22 44 40.3	-2.4
WMGZ	Waiomatatini S	5.55	54	PN	Pn	22 44 50.6	-3.2
WHZ	Wether Hill Ro	5.82	215	PN	Pn	22 44 55.0	-2.3
SYZ	Scrubby Hill	5.91	205	PN	Pn	22 44 56.9	-1.6

*ISCJB **18** 22:56:23.5±2.7, 38°.14S±0°.04×73°.61W±0°.08, h15km±18km, mb4.8/47, MS4.2/13, Error ellipse: s-maj=10.5km s-min=6.2km az=161.4*
*NEIC **18** 22:56:25.8±0.7, 38°.15S×73°.73W, h21km±5km, mb4.8/34, Error ellipse: s-maj=8.6km s-min=5.5km az=68.0*
NEIC Felt at Chiguayante.
*IDC **18** 22:56:26.4±0.7, 38°.19S×73°.64W, h20km±3km, mb4.3/12, mb1 4.4/14, mb1mx4.3/22, mbtmp4.4/14, ML3.9/3, MS4.1/15, Ms1 4.1/15, ms1mx4.0/24, Error ellipse: s-maj=20.2km s-min=13.2km az=65.0*
*BJI **18** 22:56:26.7, 38°.20S×73°.70W, h21km, mB5.0/6, Ms5.2/4, Ms7 4.7/4*
ISC 18 22:56:26.3±0.5, 38°.15S±0°.06×73°.68W±0°.08, h24km±3km, h24km:pP-P, n194, σ1$09/207, mb4.8/47, MS4.2/13, 50C-49D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.54	138	Pn	Pn	22 57 21.4	+1.6
	5.0nm,0.3s,baz=306,slow=11,SNR=49						
PLCA				Lg	Lg	22 58 16.9	
	12nm,0.3s,baz=263,slow=11,SNR=3.0						
PLCA	Paso Flores	3.54	138	*e*Pn	Pn	22 57 21.1	+1.2
PLCA				*e*Sn	Sn	22 57 59.5	-1.5
CFAA	Coronel Fontan	7.91	36	Pn	Pn	22 58 18.7	-1.2
	0.3nm,0.3s,baz=224,slow=9.8,SNR=33						
CFAA				Sn	Sn	22 59 48.9	+0.2
	0.3nm,0.3s,baz=128,slow=19,SNR=4.1						
CFAA				LR	LR	23 02 04.7	
	comp=Z,178nm,19.1s,baz=222,slow=43						
TRQA	Tornquist	9.22	93	*e*Pn	Pn	22 58 39.6	+1.8
LCO	Las Campanas	9.44	16	*e*Pn	Pn	22 58 39.1	-2.1
LCO				*e*Sn	Sn	23 00 23.1	-3.6
LVC	Limon Verde	16.02	16	*e*Pn	Pn	23 00 10.6	+0.3
	18nm,1.2s						
USHA	Ushuaia	17.07	170	P	Pn	23 00 23.4	+0.3
	0.4nm,0.3s,baz=312,slow=6.6,SNR=8.1						
USHA				LR	LR	23 06 52.9	
	comp=Z,461nm,20.1s,baz=328,slow=37						
EFI	East Falkland	17.42	146	*e*Pn	Pn	23 00 25.6	-1.9
	126nm,1.3s						
LPAZ	La Paz	22.32	14	P	P	23 01 24.2	+1.3
	6.9nm,0.9s,baz=162,slow=7.0,SNR=16						
LPAZ	La Paz	22.32	14	*e*P	P	23 01 23.0	+0.1
LPAZ				*e*pP	pP	23 01 23.4	-6.1
SIV	San Ignacio	24.71	30	P	P	23 01 46.8	+1.0
	2.7nm,0.8s,baz=232,slow=16,SNR=3.4						
SIV				LR	LR	23 13 22.1	
	comp=Z,827nm,20.1s,baz=225,slow=41						
NNA	Nana	26.20	353	P	P	23 02 02.3	+3.0
	4.8nm,0.3s,baz=195,slow=8.5,SNR=5.3						
NNA				LR	LR	23 10 01.6	
	comp=Z,309nm,20.2s,baz=174,slow=31						
PMSA	Palmer Station	27.27	171	LR	LR	23 13 38.8	
	comp=Z,484nm,18.2s,baz=316,slow=38						
SAML	Samuel	30.57	21	*e*P	P	23 02 38.6	+0.4
	13nm,1.4s						
ATAH	Atahualpa	31.17	351	LR	LR	23 12 42.1	
	comp=Z,249nm,19.4s,baz=171,slow=31						
BDFB	Brasilia	31.84	52	P	P	23 02 49.1	-0.6
	2.5nm,0.8s,baz=220,slow=10,SNR=4.1						
BDFB				LR	LR	23 15 22.2	
	comp=Z,423nm,19.1s,baz=218,slow=36						
BDFB	Brasilia	31.84	52	*e*P	P	23 02 48.9	-0.7
OTAV	Otavalo	38.45	352	*e*P	P	23 03 47.4	+0.5
	16nm,1.1s						
VNA3	Neumayer Olymp	46.07	156	P	P	23 04 48.0	+0.1
VNA2	Neumayer--Watz	46.75	156	P	P	23 04 53.3	+0.1
SDV	Santo Domingo	46.88	4	*e*P	P	23 04 55.4	+0.5
	6.1nm,0.9s						
RCBR	Riachuelo	47.00	56	P	P	23 04 57.4	+1.6
	7.9nm,1.1s,baz=233,slow=13,SNR=3.6						
SNAA	Sanae	48.29	156	P	P	23 05 05.2	0.0
SNAA	Sanae	48.29	156	*e*P	P	23 05 04.5	-0.7
	33nm,1.2s						
QSPA	South Pole Qui	52.10	180	P	P	23 05 34.4	+0.2
	9.5nm,0.9s,baz=142,slow=4.2,SNR=19						
RKT	Rikitea	53.93	267	*e*LR	LR	23 21 27.5	
	438nm,25.5s						
RKT	Rikitea	53.93	267	*e*T	T	00 03 23.7	
	2.1nm,0.3s						
SYO	Syowa Base	62.51	158	⇑*e*P	P	23 06 42.8	-4.6
TBI	Tubual	65.14	259	*e*LR	LR	23 26 41.3	
	245nm,26.8s						
TIAR	Tiarei	68.25	264	*e*T	T	00 21 21.7	
	8.0nm,0.3s						
PPT2	Papeete2	68.41	264	*e*LR	LR	23 28 10.5	
	271nm,30.0s						
MAW	Mawson	69.58	164	LR	LR	23 36 40.7	
	comp=Z,246nm,21.6s,baz=243,slow=35						
833A	Chaparral WMA,	70.37	336	⇓P	P	23 07 38.5	+0.4
	baz=71						
832A	Faith Ranch, C	70.52	336	⇓P	P	23 07 39.0	0.0
	baz=71						
HKT	Hockley	70.84	340	*e*P	P	23 07 40.6	-0.2
	42nm,2.3s						
635A	Leesville	70.86	338	⇑P	P	23 07 41.8	+0.7
	baz=71						
632A	Uvalde	71.59	336	⇑P	P	23 07 45.7	+0.1
	baz=72						
533A	Kerrville	71.89	337	⇓P	P	23 07 47.5	+0.2
	baz=72						
532A	Rocksprings	72.21	336	⇑P	P	23 07 49.3	0.0
	baz=72,SNR=8.9						
434A	Burnet	72.35	338	⇑P	P	23 07 50.5	+0.5
	baz=73,SNR=7.4						
239A	Gary	72.45	342	⇓P	P	23 07 51.5	+0.9
	baz=73						
531A	Rocksprings	72.45	336	⇓P	P	23 07 50.7	0.0
	baz=73,SNR=6.1						
336A	Riesel	72.47	339	⇑P	P	23 07 51.6	+0.9
	baz=73						
JCT	Junction City	72.50	337	⇑P	P	23 07 51.6	+0.6
	baz=73						
JCT	Junction City	72.50	337	*e*P	P	23 07 51.0	0.0
	14nm,1.1s						
433A	Art	72.54	337	⇓P	P	23 07 51.3	+0.1
	baz=73,SNR=6.3						
530A	J-C Ranch, Com	72.69	335	⇑P	P	23 07 53.2	+1.1
	baz=73,SNR=8.5						
LTX	Lajitas	72.75	333	*e*P	P	23 07 53.3	+0.7
LTX				*e*PcP	pP	23 07 60.0	-0.3
TX31	Lajitas Ar. Si	72.75	333	*e*P	P	23 07 52.7	+0.1
TXAR	Lajitas Array	72.75	333	P	P	23 07 53.3	+0.7
	2.9nm,0.8s,baz=155,slow=8.5,SNR=26						
TXAR				pP	pP	23 07 60.0	-0.3
	2.7nm,0.5s,baz=157,slow=8.8,SNR=17						
TXAR				LR	LR	23 35 01.9	
	comp=Z,183nm,18.1s,baz=0.0,slow=32						
237A	Washetta, Mont	72.78	340	⇑P	P	23 07 53.3	+0.8
	baz=73						
334A	Lometa	72.82	338	⇑P	P	23 07 53.0	+0.1
	baz=73,SNR=9.2						
431A	Sonora	72.95	336	⇑P	P	23 07 53.8	+0.2
	baz=73						
529A	Stev Forest Ra	72.97	334	⇓P	P	23 07 54.1	+0.3
	baz=73,SNR=5.2						
333A	Richland Sprin	73.04	338	⇓P	P	23 07 54.5	+0.4
	baz=73						
WHTX	Lake Whitney,	73.22	339	⇓P	P	23 07 55.6	+0.5
	baz=74						
WHTX	Lake Whitney,	73.22	339	*e*P	P	23 07 54.8	-0.3
	21nm,0.8s						
430A	Baggett Ranch,	73.25	335	⇑P	P	23 07 55.7	+0.3
	baz=74						
429A	Davenport Ranc	73.32	335	⇑P	P	23 07 56.2	+0.3
	baz=74,SNR=5.1						
332A	Millersview	73.32	337	⇓P	P	23 07 55.6	-0.3
	baz=74,SNR=8.1						
234A	Clairette	73.42	338	⇑P	P	23 07 56.7	+0.3
	baz=74						
331A	San Angelo	73.47	336	⇓P	P	23 07 56.9	+0.2
	baz=74						
233A	Rising Star	73.66	338	⇑P	P	23 07 57.7	-0.1
	baz=74						
OXF	Oxford	73.75	347	*e*P	P	23 07 58.0	-0.2
	53nm,1.6s						
232A	Coleman	73.76	337	⇓P	P	23 07 58.5	+0.1
	baz=74						
330A	Mertzon	73.80	336	⇑P	P	23 07 59.0	+0.3
	baz=74						
231A	Bronte	74.01	337	⇓P	P	23 08 00.2	+0.4
	baz=74						
329A	Wagon Wheel Ra	74.14	335	⇓P	P	23 08 01.1	+0.4
	baz=74						
133A	Hamilton Ranch	74.22	338	⇓P	P	23 08 01.6	+0.5
	baz=75						
230A	Sterling City	74.22	336	⇓P	P	23 08 01.6	+0.4
	baz=75						
Z35A	Perchaven, San	74.42	340	⇓P	P	23 08 02.8	+0.6
	baz=75						
ABTX	Abilene, Hawle	74.45	337	⇓P	P	23 08 02.9	+0.5
	baz=75						
ABTX	Abilene, Hawle	74.45	337	*e*P	P	23 08 02.6	+0.2
	11nm,0.9s						
229A	Bryant Ranch,	74.52	335	⇓P	P	23 08 03.3	+0.4
	baz=75						
131A	Roby	74.72	337	⇑P	P	23 08 04.5	+0.5
	baz=75						
Z33A	Whitaker Ranch	74.81	338	⇑P	P	23 08 05.0	+0.6
	baz=75						
130A	Snyder	74.83	336	⇑P	P	23 08 05.3	+0.7
	baz=75						
228A	UT Block 9, Go	74.92	335	⇓P	P	23 08 06.0	+0.7
	baz=75						
BBTS	Babate	74.97	57	LR	LR	23 40 48.6	
	comp=Z,198nm,18.5s,baz=207,slow=36						
Z32A	Haskell	75.03	338	⇑P	P	23 08 06.3	+0.5
	baz=75						
WVT	Waverly	75.06	348	*e*P	P	23 08 06.9	+1.1
	10nm,1.2s						
Z31A	Sharp Cattle R	75.25	337	⇑P	P	23 08 07.1	+0.1
	baz=76						
128A	Castleberry Fa	75.35	335	⇑P	P	23 08 07.8	+0.1
	baz=76						
Y33A	Hilltop Ranch,	75.44	339	⇓P	P	23 08 08.4	+0.3
	baz=76						
GLAT	Glass	75.44	347	*e*P	P	23 08 08.7	+0.7
Z30A	Sanderson Ranc	75.52	336	⇓P	P	23 08 08.9	+0.3
	baz=76						
Y32A	R-V Farms, Ver	75.67	338	⇑P	P	23 08 09.9	+0.4
	baz=76						
Z29A	Hungry Hill Ra	75.68	336	⇓P	P	23 08 09.8	+0.3
	baz=76						
X34A	Smith Ranch, M	75.78	340	⇓P	P	23 08 10.6	+0.6
	baz=76						
WMOK	Wichita Mounta	76.17	339	*e*P	P	23 08 12.6	+0.3
	7.4nm,1.3s						
W34A	Bridge Creek,	76.36	340	*e*P	P	23 08 13.4	+0.2
	9.3nm,0.8s						
X31A	McDonald Ranch	76.42	338	⇑P	P	23 08 13.6	-0.1
	baz=77						
Y28A	McKinney Farm,	76.45	336	⇑P	P	23 08 13.6	-0.4
	baz=77						
W33A	Caddo, Fort Co	76.47	339	⇑P	P	23 08 14.3	+0.3
	baz=77						
TUL1	Leonard	76.48	342	⇑P	P	23 08 13.8	-0.2
	baz=77						
TUL1	Leonard	76.48	342	*e*P	P	23 08 13.8	-0.2
	12nm,0.8s						
V35A	Meyer Ranch, C	76.61	341	⇑P	P	23 08 14.4	-0.2
	baz=77						
W32A	Sentinel	76.66	339	⇑P	P	23 08 15.3	+0.3
	baz=77						
MSTX	Muleshoe	76.68	335	*e*P	P	23 08 14.9	-0.4
	8.0nm,1.0s						
319A	Douglas	76.73	329	⇑P	P	23 08 15.3	-0.3
	baz=77						
X29A	Tulia	76.77	336	⇑P	P	23 08 15.4	-0.3
	baz=77						
V34A	Guthrie	76.85	340	⇓P	P	23 08 15.9	-0.1
	baz=77						
V34A	Guthrie	76.85	340	*e*P	P	23 08 15.5	-0.5
	8.9nm,0.8s						
W31A	Holland Ranch,	76.92	338	⇓P	P	23 08 16.3	-0.2
	baz=77						
V33A	Lossen Ranch,	77.05	340	⇑P	P	23 08 17.3	+0.1
	baz=77						
AMTX	Amarillo	77.17	337	⇓P	P	23 08 18.0	0.0
	baz=78						
AMTX	Amarillo	77.17	337	*e*P	P	23 08 17.4	-0.6
	9.1nm,0.6s						
MCQ	Macquarie Isla	77.26	208	*e*P	P	23 08 18.2	-0.1
	45μm,1.4s						
LIC	Lamto	77.34	72	*e*P	P	23 08 19.9	+0.5
	94nm,0.9s						
W29A	Amarillo	77.38	337	⇓P	P	23 08 19.4	+0.3
	baz=78						
U34A	Anderson Ranch	77.42	340	⇓P	P	23 08 20.1	+0.9
	baz=78						
V31A	Spring Creek L	77.44	338	⇓P	P	23 08 20.1	+0.6
	baz=78						
Y24A	Capitan	77.54	333	⇓P	P	23 08 20.8	+0.5
	baz=78						
X26A	CR and CF Fran	77.55	335	⇑P	P	23 08 20.9	+0.7
	baz=78						
TIC	Toumodi	77.62	71	*e*P	P	23 08 22.5	+1.6
	59nm,0.9s						
KIC	Kosan Boka	77.65	72	*e*P	P	23 08 21.8	+0.7
	80nm,0.9s						
DBIC	Dimbokro	77.76	71	P	P	23 08 22.3	+0.6
	11nm,1.0s,baz=203,slow=7.7,SNR=9.4						
DBIC				pP	pP	23 08 29.0	-0.3
	30nm,0.8s,baz=208,slow=7.1,SNR=28						
DBIC				LR	LR	23 39 42.6	
	comp=Z,80nm,19.6s,baz=240,slow=33						
DBIC	Dimbokro	77.76	71	*e*P	P	23 08 21.7	0.0
	31nm,0.8s						
W26A	Owens Ranch, T	78.03	335	⇓P	P	23 08 24.0	+1.2
	baz=78						
TUC	Tucson	78.16	329	*e*P	P	23 08 24.9	+1.4
TUC				*e*PcP	P	23 08 25.0	+1.5
W25A	X Bar L Ranch,	78.38	335	⇓P	P	23 08 26.0	+1.3
	baz=79						
V26A	Tequesquite Ra	78.68	335	⇑P	P	23 08 27.8	+1.4
	baz=79						
W24A	Lazy 6 Ranch,	78.69	334	⇓P	P	23 08 27.5	+0.9
	baz=79						
214A	Organ Pipe Nat	78.70	327	⇓P	P	23 08 27.6	+1.1
	baz=79						
ANMO	Albuquerque	78.83	333	*e*P	P	23 08 26.7	-0.6
	6.7nm,1.0s						
U27A	Thompson Grove	78.94	336	⇑P	P	23 08 29.1	+1.2
	baz=79						
V25A	Rancho No Teng	78.99	335	⇑P	P	23 08 29.4	+1.2
	baz=79						
BOSA	Boshof	79.31	118	P	P	23 08 30.6	+0.3
	14nm,0.9s,baz=234,slow=5.2,SNR=13						
BOSA				LR	LR	23 40 47.4	
	comp=Z,114nm,18.7s,baz=204,slow=34						
TSUM	Tsumeb	79.36	106	LR	LR	23 39 59.5	
	comp=Z,188nm,18.6s,baz=238,slow=33						
TSUM	Tsumeb	79.36	106	*e*P	P	23 08 30.4	-0.3
	8.2nm,1.2s						
T28A	Walsh	79.37	337	⇓P	P	23 08 31.2	+1.1
	baz=80						
U25A	Circle Dot Ran	79.44	335	⇓P	P	23 08 31.6	+1.0
	baz=80						
V22A	San Miguel Ran	79.86	333	⇑P	P	23 08 34.9	+2.0
	baz=80						
U23A	El Rito	79.98	334	⇑P	P	23 08 35.0	+1.4
	baz=80						
T25A	Trinidad	80.11	336	⇓P	P	23 08 35.7	+1.4
	baz=80						
T25A	Trinidad	80.11	336	*e*P	P	23 08 34.5	+0.2
	11nm,1.1s						
S26A	Kim	80.25	336	⇑P	P	23 08 36.0	+1.1
	baz=81						
T24B	San Luis	80.36	335	⇑P	P	23 08 37.1	+1.3
	baz=81						
Q30A	Quinter	80.54	339	⇑P	P	23 08 37.6	+1.2
	baz=81						
S25A	Robets Cordova	80.59	336	⇓P	P	23 08 37.9	+1.1
	baz=81						
S24A	Houchin Ranch,	80.83	335	⇑P	P	23 08 39.7	+1.4
	baz=81						
R26A	Arlington	80.86	337	⇑P	P	23 08 39.8	+1.6
	baz=81						
BC3	Big Chuckawall	81.31	326	⇓P	P	23 08 42.0	+1.3
	baz=82						
R24A	Sanders Place,	81.33	335	⇑P	P	23 08 42.2	+1.4
	baz=82						
S22A	4UR Ranch, Cre	81.47	334	⇑P	P	23 08 43.3	+1.6
	baz=82						
S22A	4UR Ranch, Cre	81.47	334	*e*P	P	23 08 42.1	+0.4
	32nm,2.3s						
LBTB	Lobatse	81.76	115	*e*P	P	23 08 41.8	-1.7
	21nm,1.1s						
Q24A	Divide	82.01	336	*e*P	P	23 08 43.1	-1.4
	5.0nm,0.8s						
SMCO	Snowmass	82.81	335	*e*P	P	23 08 48.5	-0.3
	11nm,1.5s						
PV10	Paradox Valley	82.82	333	*e*P	P	23 08 47.2	-1.5
ISCO	Idaho Springs	82.92	336	⇑P	P	23 08 51.0	+1.8
	baz=83						
KNB	Kanab	83.07	329	*e*P	P	23 08 48.8	-1.1
	5.5nm,1.1s						
O23A	Lake Granby, G	83.39	336	⇑P	P	23 08 52.9	+1.3
	baz=84			

J20A	**Shoshoni**	**86.92**	**336**	⇑P	**P**	**23 09 10.2**	**+1.2**
	baz=87						
J19A	**Crowheart**	**87.16**	**335**	⇑P	**P**	**23 09 11.3**	**+1.1**
	baz=88						
F27A	**Lemmon**	**87.44**	**341**	⇑P	**P**	**23 09 12.6**	**+1.3**
	baz=88						
H18A	**Shoshone NF, C**	**88.62**	**335**	⇓P	**P**	**23 09 18.1**	**+0.8**
	baz=89						
HLID	**Hailey**	**89.32**	**332**	⇓P	**P**	**23 09 21.7**	**+1.2**
	baz=90						
HLID	**Hailey**	**89.32**	**332**	*e*P	**P**	**23 09 19.3**	**-1.2**
	4.1nm,1.3s						
ULM	**Lac du Bonnet**	**90.17**	**346**	pP	pP	23 09 30.9	-1.0
	1.0nm,0.4s,baz=206,slow=5.0,SNR=2.3						
EGMT	**Eagleton**	**91.61**	**337**	*e*P	**P**	**23 09 30.4**	**-0.6**
	22nm,1.0s						
G08A	**Pilot Rock**	**92.53**	**330**	*e*P	**P**	**23 09 33.6**	**-1.7**
	5.2nm,0.9s						
ESDC	**Sonseca Array**	**100.38**	**47**	pP	pP	23 10 18.1	-0.8
	1.3nm,0.9s,baz=266,slow=4.5,SNR=4.2						
GERES	**GERESS Array B**	**115.97**	**47**	PKP	**PKPdf**	**23 15 07.0**	**+0.3**
	0.1nm,0.3s,baz=187,slow=5.9,SNR=3.0						
GERES				pPKP	PKiKP	23 15 13.6	+6.9
	1.0nm,0.8s,baz=159,slow=4.0,SNR=5.7						
BRTR	**Keskin Array B**	**124.93**	**64**	PKP	**PKPdf**	**23 15 24.4**	**+0.2**
	0.9nm,0.9s,baz=187,slow=5.8,SNR=3.9						
BRTR				pPKP	**pPKPdf**	**23 15 31.4**	**-0.9**
	1.5nm,0.9s,baz=207,slow=2.5,SNR=6.4						
SEY	**Seymchan**	**142.87**	**327**	pPKP	pPKPdf	23 16 03.3	-1.5
	1.0nm,0.2s,baz=100,slow=4.1,SNR=1.7						
HYB	**Hyderabad**	**148.11**	**123**	*i* PKP	**PKPbc**	**23 16 09.5**	**-0.9**
KSH	**Kashi**	**156.37**	**77**	PKP	**PKPdf**	**23 16 19.5**	**+0.5**
KSH				sPKP		23 16 28.6	
KSH				PKS	**PKSdf**	**23 19 53.3**	**+0.3**
KSH				PP	**PP**	**23 20 26.0**	**+0.1**
KSH				SKS	**SKSdf**	**23 23 24.5**	**+0.8**
KSH				SKKS	**SKKSac**	**23 27 15.5**	**+2.1**
KSH				SS	**SS**	**23 40 13.8**	**-1.6**
KSH				PPMZ			
	160nm,4.4s						
KSH				LN			
	42nm,4.0s						
KSH				LE			
	33nm,4.6s						
KSH				LZ			
	110nm,5.2s						
ZALV	**Zalesovo Beam**	**158.40**	**36**	pPKP	**pPKPdf**	**23 16 27.1**	**-1.7**
	2.0nm,0.8s,baz=283,slow=2.6,SNR=2.1						
ZALV				PKPab	**PKPab**	**23 16 57.0**	**+1.5**
	2.7nm,1.0s,baz=309,slow=4.7,SNR=4.6						
ZALV				pPKPab	pPKPab	23 17 03.0	-0.4
	8.6nm,0.9s,baz=297,slow=6.5,SNR=9.0						
MKAR	**Makanchi Array**	**160.34**	**56**	PKP	**PKPdf**	**23 16 24.2**	**+0.8**
	0.8nm,1.0s,baz=75,slow=1.4,SNR=4.5						
MKAR				PKPab	**PKPab**	**23 17 04.7**	**+0.4**
	2.7nm,1.0s,baz=286,slow=3.4,SNR=9.4						
MKAR				pPKPab	**pPKPab**	**23 17 11.2**	**-0.9**
	3.6nm,0.8s,baz=292,slow=3.9,SNR=13						
WMQ	**Urumqi**	**164.84**	**62**	*e*PKP	**PKPdf**	**23 16 27.9**	**-0.1**
WMQ				pPKP	**pPKPdf**	**23 16 38.5**	**+2.5**
WMQ				PKPab	**PKPab**	**23 17 25.6**	**+1.4**
WMQ				PKS	**PKSdf**	**23 19 59.5**	**-1.3**
WMQ				PP	**PP**	**23 21 14.1**	**+3.0**
WMQ				PPMZ			
	55nm,4.0s						
WMQ				LN			
	62nm,20.0s						
WMQ				LE			
	27nm,20.0s						
WMQ				LZ			
	83nm,22.0s						
SONM	**Songino Array**	**170.32**	**360**	pPKP	**pPKPdf**	**23 16 38.7**	**-1.1**
	0.4nm,0.8s,baz=325,slow=1.8,SNR=2.5						
SONM				pPKPab	pPKPab	23 17 55.7	-0.2
	2.9nm,1.0s,baz=347,slow=4.2,SNR=10						
GTA	**Gaotai**	**174.76**	**74**	*e*PKP	PKPdf	23 16 41.9	+7.9
GTA				pPKP	pPKPdf	23 16 48.4	+6.3
GTA				sPKP		23 16 50.9	
GTA				PKPab	PKPab	23 18 18.3	+10
HHC	**Hu-ho-hao-te**	**175.13**	**305**	*e*PKP	**PKPdf**	**23 16 32.3**	**-1.8**
HHC				pPKP	**pPKPdf**	**23 16 43.0**	**+0.9**
HHC				sPKP		23 16 46.6	
HHC				PP	**PP**	**23 22 04.0**	**+1.3**
HHC				SKS	**SKSdf**	**23 23 30.0**	**-5.6**
HHC				SS	**SS**	**23 43 21.8**	**-3.8**
HHC				PPMZ			
	100nm,8.6s						
HHC				LN			
	170nm,18.5s						
HHC				LE			
	240nm,17.3s						
HHC				LZ			
	120nm,18.5s						
LZH	**Lanzhou**	**177.14**	**135**	*e*PKP	**PKPdf**	**23 16 32.6**	**-2.1**
LZH				pPKP	**pPKPdf**	**23 16 43.0**	**+0.2**
LZH				sPKP		23 16 46.3	

*IDC **18** 23:01:10.6±1.6, 36°.60S×73°.46W, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.9/24, mbtmp3.8/6, ML3.3/2, Error ellipse: s-maj=41.0km s-min=33.8km az=83.0*
*ISCJB **18** 23:01:11.5±1.5, 36°.69S±0°.09×73°.44W±0°.09, h14km±10km, mb3.9/4, Error ellipse: s-maj=16.3km s-min=9.1km az=146.1*
*GUC **18** 23:01:12.2±0.6, 36°.68S×73°.40W, h8km±3km, ML4.1*
ISC 18 23:01:12.6±1.7, 36°.64S±0°.05×73°.4W±0°.1, h14km±10km, n12, σ1§03/17, mb3.9/4, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.29**	**136**	⇓*i*P	**Pg**	**23 01 18.7**	**+0.1**
CCSP				*i* S	**Sg**	**23 01 22.4**	**-0.4**
CCSP				IAML		23 01 23.7	
	comp=E,34μm,0.2s						
COCH	**Cobquecura**	**0.68**	**42**	*i* P	**Pg**	**23 01 25.9**	**0.0**
COCH				*i* S	**Sg**	**23 01 35.4**	**+0.5**
COCH				IAML		23 01 37.3	
	comp=N,13μm,0.2s						
LNCH	**Linares**	**1.62**	**61**	⇑*i*P	**Pn**	**23 01 40.4**	**-0.3**
LNCH				*i* S	**Sn**	**23 02 02.2**	**+0.8**
LNCH				IAML		23 02 06.9	
	comp=E,5μm,0.7s						
TALC	**Talca**	**1.87**	**49**	*i* P	**Pn**	**23 01 44.2**	**+0.2**
TALC				*i* S	**Sn**	**23 02 08.9**	**+1.5**
NICH	**Los Niches**	**2.38**	**47**	*i* P	**Pn**	**23 01 52.7**	**+1.6**
NICH				*e*S	**Sb**	**23 02 23.1**	**-1.2**
PLCA	**Paso Flores**	**4.64**	**153**	Pn	**Pn**	**23 02 23.2**	**+1.0**
	comp=E,0.5nm,0.3s,baz=322,slow=10,SNR=4.5						
PLCA				Lg	Lg	23 03 33.9	
	comp=E,1.5nm,0.3s,baz=261,slow=19,SNR=2.7						
CFAA	**Coronel Fontan**	**6.57**	**42**	Pn	**Pn**	**23 02 48.0**	**-0.9**
	comp=E,0.2nm,0.3s,baz=206,slow=15,SNR=6.2						
CFAA				Sn	**Sn**	**23 04 02.0**	**-1.6**
	comp=E,0.2nm,0.3s,baz=117,slow=16,SNR=3.1						
LPAZ	**La Paz**	**20.80**	**14**	P	Pn	23 05 57.2	+0.6
	comp=E,0.7nm,0.6s,baz=158,slow=5.4,SNR=2.8						
SIV	**San Ignacio**	**23.28**	**31**	P	**P**	**23 06 20.9**	**+1.0**
	comp=E,1.9nm,0.7s,baz=228,slow=15,SNR=3.1						
TXAR	**Lajitas Array**	**71.54**	**332**	P	**P**	**23 12 33.7**	**+0.6**
	comp=E,0.6nm,0.6s,baz=148,slow=8.6,SNR=6.5						
PDAR	**Pinedale Array**	**85.64**	**334**	P	**P**	**23 13 50.4**	**-0.3**
	comp=E,0.7nm,0.9s,baz=147,slow=5.4,SNR=3.8						
ULM	**Lac du Bonnet**	**88.77**	**346**	P	**P**	**23 14 04.4**	**-0.9**
	comp=E,0.5nm,0.4s,baz=205,slow=4.3,SNR=3.2						

*IDC **18** 23:06:03.7±1.6, 34°.94S×71°.89W, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.9/22, mbtmp3.8/5, ML3.9/2, MS3.0/1, Ms1 3.0/1, ms1mx2.8/23, Error ellipse: s-maj=48.6km s-min=29.8km az=84.0*
*NEIC **18** 23:06:07.0, 35°.01S×72°.14W, h26km, ML4.5(GUC), After GUC.*
NEIC Felt [III] at Licanten, Linares, Longavi, Parral, Rio Claro, San Javier and Talca; [II] at Cauquenes, Curico, Molina, San Fernando and Yerbas Buenas.
*GUC **18** 23:06:07.6±0.8, 35°.01S×72°.15W, h26km±8km, ML4.5*
ISC 18 23:06:05.0±2.1, 34°.96S±0°.04×72°.10W±0°.09, h11km±12km, n17, σ1§64/25, mb3.8/3, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.58**	**139**	⇓*i*P	**Pn**	**23 06 19.2**	**+0.1**
TALC				*i* S	**Sn**	**23 06 27.2**	**-1.4**
TALC				AML	AML	23 06 28.2	
	comp=E,72μm,0.2s						
NICH	**Los Niches**	**0.71**	**94**	⇓*i*P	**Pn**	**23 06 21.7**	**+0.7**
NICH				*i* S	**Sn**	**23 06 31.7**	**-0.2**
NICH				AML	AML	23 06 34.7	
	comp=E,37μm,0.2s						
LNCH	**Linares**	**0.97**	**156**	⇓*i*P	**Pn**	**23 06 24.1**	**-0.5**
LNCH				*i* S	**Sb**	**23 06 37.2**	**+0.5**
LNCH				AML	AML	23 06 38.3	
	comp=E,18μm,0.3s						
ANTU	**Antumapu**	**1.84**	**41**	*e*P	**Pg**	**23 06 40.0**	**-0.4**
ANTU				*e*S	**Sg**	**23 07 04.4**	**+0.2**
ANTU				AML	AML	23 07 07.7	
	comp=E,6μm,0.2s						
LACH	**Col Las Americ**	**1.99**	**41**	*e*P1	**Pb**	**23 06 41.9**	**+0.6**
LACH				*e*S	**Sg**	**23 07 08.1**	**-0.8**
CLCH	**Cerro Calan**	**2.03**	**40**	⇓*i*P	**Pb**	**23 06 41.4**	**-0.5**
PEL	**Peldehue**	**2.16**	**33**	⇑*i*P	**Pb**	**23 06 43.8**	**-0.3**
PEL				*i* S4	**Sb**	**23 07 13.9**	**+3.0**
PEL				AML	AML	23 07 23.1	
	comp=N,3μm,0.6s						
CFAA	**Coronel Fontan**	**4.65**	**45**	Pn	**Pn**	**23 07 18.2**	**+2.9**
	comp=N,0.4nm,0.3s,baz=211,slow=15,SNR=34						
CFAA				Sn	**Sb**	**23 08 18.1**	**-4.6**
	comp=N,1.7nm,0.3s,baz=134,slow=6.7,SNR=4.0						
PLCA	**Paso Flores**	**5.89**	**168**	Pn	**Pn**	**23 07 33.7**	**+1.4**
	comp=N,0.9nm,0.3s,baz=7.6,slow=15,SNR=7.3						
PLCA				Lg	Lg	23 09 04.5	
	comp=N,0.6nm,0.3s,baz=276,slow=13,SNR=3.2						
PLCA				LR	LR	23 09 54.0	
	comp=N,135nm,18.7s,baz=40,slow=39						
LCO	**Las Campanas**	**6.05**	**12**	*e*Pn	**Pn**	**23 07 35.4**	**+0.7**
LCO				*e*Sn	**Sn**	**23 08 42.9**	**-1.1**
TRQA	**Tornquist**	**8.71**	**114**	*e*Pn	**Pn**	**23 08 13.5**	**+2.5**
LPAZ	**La Paz**	**18.93**	**12**	P	**Pn**	**23 10 28.0**	**+0.8**
	comp=N,0.1nm,0.3s,baz=168,slow=9.8,SNR=7.9						
LPAZ	**La Paz**	**18.93**	**12**	*e*P	**Pn**	**23 10 28.1**	**+0.8**
SIV	**San Ignacio**	**21.32**	**30**	P	**P**	**23 10 51.5**	**-0.5**
	comp=N,2.7nm,0.6s,baz=192,slow=4.2,SNR=6.7						
SAML	**Samuel**	**27.15**	**20**	*e*P	**P**	**23 11 47.9**	**-0.4**
TXAR	**Lajitas Array**	**70.55**	**331**	P	**P**	**23 17 20.8**	**+0.7**
	comp=N,0.5nm,0.4s,baz=152,slow=8.5,SNR=11						
TORD	**Torodi Ar. Bea**	**84.58**	**70**	P	**P**	**23 18 37.7**	**-1.0**
	comp=N,0.5nm,0.7s,baz=222,slow=3.5,SNR=6.4						

*IDC **18** 23:14:18.1±2.4, 1°.11N×96°.96E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/34, mbtmp3.2/4, ML2.4/1, Error ellipse: s-maj=58.4km s-min=29.8km az=58.0*
*ISCJB **18** 23:14:25.6±0.8, 1°.63N±0°.09×97°.79E±0°.10, h30km, mb3.3/3, Error ellipse: s-maj=15.0km s-min=11.1km az=144.1*
*DJA **18** 23:14:26.0±0.5, 2°N±6°×9°8E±°, h15km±11km, M3.1/6, MLv3.1/6*
ISC 18 23:14:25.8±1.0, 1°.60N±0°.07×97°.57E±0°.07, h30km, n15, σ1§52/9, mb3.4/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.30**	**179**	P	**Pn**	**23 14 34.5**	**+0.3**
SNSI	**Sinabang, Aceh**	**1.48**	**303**	P	**Pb**	**23 14 53.9**	**+1.2**
TPTI		**1.69**	**347**	P	**Pn**	**23 14 53.1**	**-0.3**
PSI	**Prapat**	**1.80**	**49**	Pn	**Pb**	**23 15 00.8**	**+2.6**
	0.9nm,0.3s,baz=228,slow=2.5,SNR=4.1						
KCSI	**Kotacane, Aceh**	**1.92**	**6**	P	**Pb**	**23 14 59.7**	**-0.5**
MNSI	**Mandailing Nat**	**2.16**	**112**	P	**Pn**	**23 14 58.6**	**-1.2**
H08S2	**Diego Garcia H**	**26.65**	**250**	T	T	23 46 48.3	
	baz=71,slow=75,SNR=306						
H08S3	**Diego Garcia H**	**26.65**	**250**	T	T	23 46 55.4	
	baz=71,slow=75,SNR=441						
H08S1	**Diego Carcia H**	**26.67**	**250**	T	T	23 46 48.8	
	baz=71,slow=75,SNR=82						
H08N1	**Diego Carcia H**	**27.66**	**253**	T	T	23 48 58.7	
	baz=86,slow=71,SNR=6.2						
H08N2	**Diego Garcia H**	**27.67**	**253**	T	T	23 49 03.5	
	baz=86,slow=71,SNR=9.3						
H08N3	**Diego Garcia H**	**27.69**	**253**	T	T	23 48 56.6	
	baz=86,slow=71,SNR=9.4						
WRA	**Warramunga Arr**	**41.93**	**123**	P	**P**	**23 22 12.8**	**-1.4**
	0.5nm,0.9s,baz=304,slow=8.8,SNR=11						
SONM	**Songino Array**	**46.68**	**8**	P	**P**	**23 22 53.1**	**+1.2**
	0.2nm,0.4s,baz=187,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**46.95**	**346**	P	**P**	**23 22 53.0**	**-0.9**
	0.2nm,0.5s,baz=162,slow=7.5,SNR=5.1						

*JMA **18** 23:21:01.9±0.3, 27°.35N×140°.23E, h456km, M3.5*
*ISCJB **18** 23:21:02.1±0.9, 27°.36N±0°.08×140°.1E±0°.2, h450km, mb3.3/4, Error ellipse: s-maj=20.1km s-min=9.0km az=160.1*
*IDC **18** 23:21:02.3±1.9, 27°.06N×140°.38E, h466km±13km, mb3.0/4, mb1 3.2/5, mb1mx2.8/36, mbtmp3.8/5, Error ellipse: s-maj=63.7km s-min=35.2km az=9.0*
ISC 18 23:21:03.1±1.2, 27°.4N±0°.1×140°.3E±0°.2, h450km, n12, σ1§12/14, mb3.5/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.74**	**100**	P	**P**	**23 22 02.1**	**-0.1**
CBIJ				S	**S**	**23 22 49.5**	**-0.7**
JCJ	**Chichijima**	**1.74**	**100**	P	**P**	**23 22 01.9**	**-0.3**
	6.1nm,0.3s,baz=324,slow=19,SNR=4.6						
JCJ				S	**S**	**23 22 51.4**	**+1.2**
	5.9nm,0.3s,baz=285,slow=20,SNR=4.4						
BSO1	**Boso 1**	**7.25**	**5**	S	**S**	**23 24 18.7**	**+1.4**
BSO3	**Boso 3**	**7.38**	**2**	S	**S**	**23 24 19.1**	**-1.2**
JRY	**Ryogami san**	**8.67**	**353**	P	**P**	**23 23 06.6**	**+1.0**
JAG	**Ashikaga**	**9.02**	**356**	P	**P**	**23 23 09.8**	**+0.4**
JAG				S	**S**	**23 24 51.2**	**-2.1**
JHO	**Hitachi**	**9.19**	**2**	P	**P**	**23 23 12.7**	**+1.5**
MJAR	**Matsushiro Arr**	**9.28**	**350**	P	P	23 23 15.1	+2.9
	0.8nm,0.3s,baz=170,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**48.96**	**309**	P	**P**	**23 29 07.2**	**+0.3**
	0.1nm,0.4s,baz=89,slow=10,SNR=7.4						
YKA	**Yellowknife Ar**	**72.68**	**28**	P	**P**	**23 31 43.1**	**-0.6**
	0.3nm,0.6s,baz=298,slow=6.0,SNR=5.4						
ARCES	**ARCESS Array B**	**72.69**	**340**	P	**P**	**23 31 43.6**	**0.0**
	2.8nm,0.9s,baz=75,slow=8.5,SNR=3.4						
FINES	**FINESS Array B**	**76.91**	**333**	P	**P**	**23 32 07.0**	**-0.5**
	1.1nm,0.4s,baz=75,slow=4.0,SNR=22						

*IDC **18** 23:21:23.0±7.5, 7°.32S×128°.51E, h144km±80km, mb2.9/1, mb1 3.5/4, mb1mx3.2/24, mbtmp3.9/4, Error ellipse: s-maj=71.8km s-min=27.7km az=35.0*
*ISCJB **18** 23:21:24.0±0.7, 7°.49S±0°.06×128°.49E±0°.05, h151km, mb2.9/1, Error ellipse: s-maj=8.0km s-min=7.1km az=161.5*
ISC 18 23:21:23.4±0.8, 7°.58S±0°.06×128°.62E±0°.06, h151km, n12, σ3§06/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.82**	**243**	P	**Pn**	**23 22 36.8**	**+2.2**
	baz=4.8,SNR=4.5						
SOEI				S	**Sn**	**23 23 27.3**	**-2.8**
	baz=4.8,SNR=3.4						
BATI	**Baumata**	**5.55**	**242**	P	**Pn**	**23 22 45.0**	**+0.8**
	15nm,0.3s,baz=84,slow=2.7,SNR=14						
BATI				S	**Sn**	**23 23 47.5**	**+0.1**
	12nm,0.3s,baz=227,slow=19,SNR=13						
MTN	**Manton Dam**	**5.79**	**155**	P	Pn	23 22 51.9	+4.5
	baz=5.9,SNR=13						
MTN				S	**Sn**	**23 23 54.7**	**+1.7**
	baz=5.9,SNR=19						
FAKI	**Fak Fak**	**5.87**	**38**	P	**Pn**	**23 22 49.3**	**+0.8**
	baz=5.9,SNR=3.6						
FAKI				S	**Sn**	**23 23 51.5**	**-3.5**
	baz=5.9,SNR=3.0						
KDU	**Kakadu**	**6.34**	**144**	P	Pn	23 22 59.1	+4.4
	baz=6.5,SNR=45						
KDU				S	**Sn**	**23 24 02.3**	**-3.8**
	baz=6.5,SNR=14						
SWI	**Sorong**	**7.17**	**22**	P	**Pn**	**23 23 06.4**	**+0.6**
	baz=7.2,SNR=3.8						
KNRA	**Kununurra**	**8.05**	**179**	P	Pn	23 23 20.2	+2.6
	baz=8.2,SNR=26						
KNRA				S	**Sn**	**23 24 45.1**	**-2.2**
	baz=8.2,SNR=18						
WRA	**Warramunga Arr**	**13.48**	**156**	P	**P**	**23 24 30.5**	**-2.4**
	0.6nm,0.3s,baz=335,slow=10,SNR=8.7						
WRA				S	**Sn**	**23 26 53.6**	**-4.7**
	1.9nm,0.3s,baz=330,slow=23,SNR=13						
COEN	**Coen**	**15.63**	**115**	P	**P**	**23 25 00.7**	**+4.0**
	baz=16,SNR=11						
QIS	**Mount Isa**	**16.72**	**142**	P	**Pn**	**23 25 13.0**	**+4.1**
	baz=17,SNR=8.1						
ASAR	**Alice Springs**	**16.78**	**163**	P	**Pn**	**23 25 13.8**	**+4.1**
	1.2nm,0.3s,baz=341,slow=11,SNR=70						
ASAR				S	**S**	**23 28 14.4**	**-1.9**
	0.5nm,0.3s,baz=316,slow=16,SNR=6.1						
MKAR	**Makanchi Array**	**67.97**	**328**	P	**P**	**23 32 04.7**	**-1.4**
	0.1nm,0.4s,baz=116,slow=7.8,SNR=4.6						

*THR **18** 23:39:09.9±0.4, 34°.22N×54°.42E, h18km±9km, ML3.5*
*CSEM **18** 23:39:10.3±0.2, 34°.21N×54°.40E, h2km, ML3.7, Error ellipse: s-maj=4.2km s-min=2.9km az=70.0*
*TEH **18** 23:39:11.6, 34°.21N×54°.41E, h9km, ML3.7*
ISC 18 23:39:09.5±1.9, 34°.22N±0°.03×54°.44E±0°.04, h0km±15km, n45, σ0§74/59, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IANJ	**Anjilo**	**1.32**	**341**	*e*Pg	**Pn**	**23 39 35.0**	**-0.4**
IANJ				*e*Sg	**Sn**	**23 39 52.9**	**-0.9**
IANJ				*e*		23 39 54.2	
	comp=Z,9μm,0.1s						
IANJ	**Anjilo**	**1.32**	**341**	*e*Pg	**Pn**	**23 39 35.0**	**-0.4**
IANJ				*e*Sg	**Sn**	**23 39 52.9**	**-0.9**
ILAS	**Lasjerd**	**1.68**	**314**	*e*Pn	**Pb**	**23 39 40.7**	**-0.8**
ILAS				*e*Sg	**Sg**	**23 40 04.7**	**+1.1**
ILAS				*e*		23 40 06.4	
	comp=Z,9μm,0.1s						
ILAS	**Lasjerd**	**1.68**	**314**	*e*Pn	**Pb**	**23 39 40.7**	**-0.8**
ILAS				*e*Sg	**Sg**	**23 40 04.7**	**+1.1**
ISHM	**Shahmirzad**	**1.84**	**330**	*e*Pn	**Pn**	**23 39 42.9**	**+0.2**
ISHM				*e*Sg	**Sg**	**23 40 09.0**	**+0.2**
ISHM				*e*		23 40 18.2	
	comp=Z,8μm,0.2s						
ISHM	**Shahmirzad**	**1.84**	**330**	*e*Pn	**Pn**	**23 39 42.9**	**+0.2**
ISHM				*e*Sg	**Sg**	**23 40 09.0**	**+0.2**
NASN	**Na'in**	**1.96**	**224**	*e*Pn	**Pn**	**23 39 44.5**	**+0.2**
NASN				*e*Sg	**Sb**	**23 40 11.8**	**+0.4**
NASN				AML	AML	23 40 14.5	
	comp=E,390nm,0.2s						
NASN				AML	AML	23 40 14.5	
	comp=N,434nm,0.2s						
NASN	**Na'in**	**1.96**	**224**	*e*Pn	**Pn**	**23 39 44.5**	**+0.2**
NASN				*e*Sg	**Sb**	**23 40 11.8**	**+0.4**
	comp=N,434nm,0.2s						
ICHK	**Chekchek**	**1.97**	**181**	*e*Pn	**Pb**	**23 39 45.2**	**-1.1**
ICHK				*e*		23 40 18.0	
	comp=Z,6μm,0.1s						
ICHK	**Chekchek**	**1.97**	**181**	*e*Pn	**Pb**	**23 39 45.2**	**-1.1**
IFIR	**Firoozkooh**	**1.98**	**316**	*e*Pn	**Pn**	**23 39 44.7**	**+0.1**
IFIR				*e*Sg	**Sg**	**23 40 13.5**	**+0.2**
IFIR				*e*		23 40 15.6	
	comp=Z,6μm,0.1s						
IFIR	**Firoozkooh**	**1.98**	**316**	*e*Pn	**Pn**	**23 39 44.7**	**+0.1**
IFIR				*e*Sg	**Sg**	**23 40 13.5**	**+0.2**
IZEF	**Zefreh**	**2.20**	**234**	*e*Pn	**Pn**	**23 39 48.0**	**+0.5**
IZEF				*e*Sg	**Sg**	**23 40 19.2**	**-0.9**
IZEF				*e*		23 40 21.2	
	comp=Z,18μm,0.2s						
IZEF	**Zefreh**	**2.20**	**234**	*e*Pn	**Pn**	**23 39 48.0**	**+0.5**
IZEF				*e*Sg	**Sg**	**23 40 19.2**	**-0.9**
IALA	**Alasht**	**2.29**	**325**	*e*Pn	**Pn**	**23 39 49.7**	**+0.9**
IALA				*e*		23 40 24.2	
	comp=Z,3μm,0.1s						
IALA	**Alasht**	**2.29**	**325**	*e*Pn	**Pn**	**23 39 49.7**	**+0.9**
TABS	**Tabas**	**2.30**	**103**	*e*Pn	**Pn**	**23 39 49.3**	**+0.6**
TABS				AML	AML	23 40 33.3	
	comp=N,313nm,0.9s						
TABS	**Tabas**	**2.30**	**103**	*e*Pn	**Pn**	**23 39 49.3**	**+0.6**
	comp=N,313nm,0.9s						
IGLO	**Ghaloghah**	**2.33**	**348**	*e*Pn	**Pn**	**23 39 50.4**	**+1.1**
IGLO				*e*		23 40 27.6	
	comp=Z,3μm,0.2s						
IVRN	**Varamin**	**2.37**	**290**	*e*Pn	**Pn**	**23 39 49.7**	**+0.1**
IVRN	**Varamin**	**2.37**	**290**	*e*Pn	**Pn**	**23 39 49.7**	**+0.1**
ISAD	**Sadrabad**	**2.38**	**196**	*e*Pn	**Pn**	**23 39 50.6**	**+0.6**
ISAD				*e*		23 40 29.7	
	comp=Z,11μm,0.2s						
ISAD	**Sadrabad**	**2.38**	**196**	*e*Pn	**Pn**	**23 39 50.6**	**+0.6**
DAMV	**Damavand**	**2.47**	**306**	*e*Pn	**Pn**	**23 39 51.2**	**0.0**
DAMV				AML	AML	23 40 35.9	
	comp=N,176nm,0.6s						
DAMV				AML	AML	23 40 35.9	
	comp=E,292nm,0.5s						
DAMV	**Damavand**	**2.47**	**306**	*e*Pn	**Pn**	**23 39 51.2**	**0.0**
	comp=E,292nm,0.5s						
IKLH	**Kolahrood**	**2.54**	**250**	*e*Pn	**Pn**	**23 39 52.5**	**+0.3**
IKLH				*e*Sg	**Sb**	**23 40 29.4**	**+1.3**
IKLH				*e*		23 40 31.7	
	comp=Z,5μm,0.1s						
IKLH	**Kolahrood**	**2.54**	**250**	*e*Pn	**Pn**	**23 39 52.5**	**+0.3**
IKLH				*e*Sg	**Sb**	**23 40 29.4**	**+1.3**
GHVR	**GHOM**	**2.61**	**277**	*e*Pn	**Pn**	**23 39 53.7**	**+0.7**
GHVR				AML	AML	23 40 37.4	
	comp=N,198nm,0.3s						
GHVR				AML	AML	23 40 46.6	
	comp=E,266nm,0.4s						
GHVR	**GHOM**	**2.61**	**277**	*e*Pn	**Pn**	**23 39 53.7**	**+0.7**
	comp=E,266nm,0.4s						
IPRN	**Peran**	**2.65**	**320**	*e*Pn	**Pn**	**23 39 54.7**	**+1.0**
IPRN				*e*		23 40 36.5	
	comp=Z,3μm,0.3s						
IGAR	**Gharneh**	**2.70**	**229**	*e*Pn	**Pn**	**23 39 54.4**	**0.0**
IGAR				*e*		23 40 37.0	
	comp=E,401nm,0.1s						

IDC ***18*** *23:49:05.5±0.5,26˚.94S×176˚.37W,h0km,mb4.7/19, mb1 4.8/20,mb1mx4.7/35,mbtmp4.7/20,ML4.4/1,MS4.3/16, Ms1 4.3/16,ms1mx4.2/24,Error ellipse: s-maj=19.2km s-min=16.0km az=92.0*

ISCJB ***18*** *23:49:11.0±0.2,27˚.35S±0˚.05×176˚.33W±0˚.04,h60km, mb5.0/55,MS4.3/14,Error ellipse: s-maj=7.5km s-min=4.4km az=144.9*

BJI ***18*** *23:49:10.8,27˚.10S×176˚.30W,h49km,mB5.6/22, mb5.2/25,Ms5.1/14,Ms7 4.7/16*

NEIC ***18*** *23:49:11.5±2.9,26˚.92S×176˚.42W,h47km±4km,mb4.9/45, Error ellipse: s-maj=15.7km s-min=13.1km az=118.0*

GCMT ***18*** *23:49:11.5±0.2,26˚.92S×175˚.99W,h21km,MW5.2/79, Moment Tensor Solution. s52,c75; s79,c116; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.38±.23; Mθθ0.03±.16; Mϕϕ-5.41±.16; Mrθ1.53±.32; Mϕθ-1.29±.12; Mϕr3.37±.26; Best double couple: M0 6.66500×10^16 NP1:ϕs19.00000°,δ62.00000°,λ97.00000°. NP2: ϕs186.00000°,δ29.00000°,λ78.00000°. Principal axes: T 6.5430, Plg72.0000°, Azm305.0000°; N 0.2410, Plg6.0000°, Azm196.0000°; P -6.7870, Plg17.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 23:49:12.9±0.5,27˚.11S±0˚.05×176˚.36W±0˚.07,h56km±3km, h56km:pP-P,n240,σ1§50/257,mb5.0/56,MS4.4/14,13C-8D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
RAO	**Raoul Island**	**2.54 212**		Pn		**Pn**	**23 49 52.3**	**+0.6**
	615nm,0.3s,baz=57,slow=2.0,SNR=23							
RAO				Sn		**Sn**	**23 50 25.8**	**+4.3**
	1μm,0.3s,baz=74,slow=22,SNR=12							
RAO				LR		LR	23 50 39.7	
	comp=Z,2μm,19.4s,baz=93,slow=35							
RAO	**Raoul Island**	**2.54 212**		*e*Pn		**Pn**	**23 49 52.1**	**+0.4**
RAO				*e*Pn		Pn	23 49 52.4	+0.6
RAO				*e*Sn		**Sn**	**23 50 24.6**	**+3.1**
RAO				*e*Sn			23 50 25.8	
MSVF	**Nonsavu**	**10.66 330**		*e*Pn		Pn	23 51 37.5	-5.6
HAZ	**Te Kaha**	**11.71 204**		*e*PN		Pn	23 51 49.2	-8.0
OUZ	**Omahuta**	**11.80 224**		*e*Pn		**Pn**	**23 51 58.9**	**+0.5**
PUZ	**Puketiti**	**11.84 201**		*e*PN		Pn	23 51 50.2	-8.7
PUZ				*e*SN		Sn	23 54 01.5	-8.0
URZ	**Urewera**	**12.40 205**		Pn		Pn	23 52 03.3	-3.3
	2.2nm,0.3s,baz=77,slow=6.3,SNR=8.1							
URZ				Sn		**Sn**	**23 54 18.0**	**-5.2**
	5.6nm,0.3s,baz=211,slow=22,SNR=15							
URZ	**Urewera**	**12.40 205**		*e*Pn		Pn	23 52 03.3	-3.3
URZ				*e*Pn		**Pn**	**23 52 04.5**	**-2.1**
URZ				*e*Sn		Sn	23 54 13.4	-10
URZ				*e*Sn		**Sn**	**23 54 18.0**	**-5.2**
BKZ	**Black Stump Fm**	**13.43 205**		*e*Pn		Pn	23 52 13.9	-6.8
BKZ				*e*Sn		Sn	23 54 29.6	-19
AFI	**Afiamalu**	**13.81 19**		*e*Pn		Pn	23 52 16.1	-10
BFZ	**Birch Farm**	**14.86 202**		*e*Pn		Pn	23 52 32.6	-7.0
	41nm,0.8s							
BFZ				*e*Sn		Sn	23 55 08.3	-15
TCW	**Tory Channel**	**16.05 206**		*e*SN		Sn	23 55 36.4	-15
DZM	**Mont Dzumac**	**16.42 284**		Pn		**P**	**23 53 03.8**	**+2.0**
	0.4nm,0.3s,baz=98,slow=13,SNR=7.6							
DZM				Sn		**Sn**	**23 56 00.4**	**-0.9**
	0.5nm,0.3s,baz=108,slow=19,SNR=3.5							
DZM				LR		LR	23 58 12.3	
	comp=Z,3μm,19.0s,baz=146,slow=33							
THZ	**Tophouse**	**17.07 208**		*e*PN		**Pn**	**23 53 06.7**	**-1.1**
THZ				*e*SN		Sn	23 56 03.5	-13
KHZ	**Kahutara**	**17.36 206**		*e*Pn		Pn	23 53 06.0	-5.2
	39nm,0.7s							
OXZ	**Oxford**	**18.72 207**		*e*PN		P	23 53 21.6	-5.3
OXZ				*e*SN		Sn	23 56 36.4	-20
MQZ	**McQueen's Vall**	**18.80 205**		*e*SN		Sn	23 56 38.4	-20
RPZ	**Rata Peaks**	**19.45 208**		*e*P		**P**	**23 53 34.4**	**-0.4**
	216nm,1.9s							
ODZ	**Otahua Downs**	**20.71 207**		*e*P		**P**	**23 53 48.5**	**+0.1**
	176nm,2.1s							
TBI	**Tubuai**	**24.60 87**		*e*S		S	23 58 54.0	+8.8
	1μm,28.2s							
TBI				*e*LR		LR	00 00 20.1	
	2μm,29.2s,baz=261							
TBI	**Tubuai**	**24.60 87**		*e*T		T	00 19 23.6	
	13nm,0.4s							
PAE	**Paea**	**26.44 75**		*e*T		T	00 21 41.5	
	10.0nm,0.4s							
PPT2	**Papeete2**	**26.47 75**		*e*S		S	23 59 25.5	+10
	2μm,24.0s							
PPT2				*e*LR		LR	00 01 08.6	
	1μm,24.8s,baz=244							
PPT	**Papeete**	**26.48 75**		LR		LR	00 02 26.4	
	comp=Z,488nm,21.5s,baz=256,slow=30							
HNR	**Honiara**	**28.46 304**		LR		LR	00 04 43.6	
	comp=Z,1μm,19.1s,baz=154,slow=33							
CMSA	**Cobar Meteorol**	**33.27 253**		P		**P**	**23 55 45.6**	**+0.6**
	baz=34,SNR=8.2							
CTA	**Charters Tower**	**34.87 273**		P		**P**	**23 56 00.3**	**+1.2**
	5.6nm,0.3s,baz=107,slow=12,SNR=8.3							
QLP	**Quilpie**	**35.07 262**		P		**P**	**23 56 00.6**	**0.0**
	baz=36,SNR=3.6							
RKT	**Rikitea**	**37.56 93**		*e*LR		LR	00 06 20.6	
	945nm,30.2s,baz=250							
RKT	**Rikitea**	**37.56 93**		*e*T		T	00 35 35.1	
	2.8nm,0.4s							
COEN	**Coen**	**39.91 281**		P		**P**	**23 56 42.8**	**+1.0**
	baz=41,SNR=4.8							
COEN	**Coen**	**39.91 281**		*e*P		**P**	**23 56 42.3**	**+0.5**
	143nm,0.9s							
QIS	**Mount Isa**	**40.65 269**		P		**P**	**23 56 47.4**	**-0.5**
	baz=42,SNR=7.2							
BBOO	**Buckleboo**	**41.34 250**		P		**P**	**23 56 52.1**	**-1.3**
	baz=42,SNR=6.1							
BBOO	**Buckleboo**	**41.34 250**		*e*P		**P**	**23 56 52.1**	**-1.3**
	160nm,1.4s							
AS01	**Alice Springs**	**44.80 263**		*e*P		**P**	**23 57 19.8**	**-1.6**
AS12	**Alice Springs**	**44.84 263**		*e*P		**P**	**23 57 20.8**	**-1.0**
ASAR	**Alice Springs**	**44.84 263**		P		**P**	**23 57 20.8**	**-1.0**
	6.9nm,0.9s,baz=109,slow=7.9,SNR=38							
ASAR				LR		LR	00 15 12.8	
	comp=Z,778nm,18.3s,baz=101,slow=35							
MMPI	**Merauke**	**44.89 286**		⇑P		**P**	**23 57 23.8**	**+1.6**
	baz=46,SNR=3.3							
WRAB	**Tennant Creek**	**45.53 268**		P		**P**	**23 57 25.5**	**-1.8**
	120nm,1.3s,SNR=11							
WRA	**Warramunga Arr**	**45.54 268**		P		**P**	**23 57 26.4**	**-0.9**
	17nm,0.8s,baz=105,slow=8.0,SNR=36							
WRA				LR		LR	00 14 58.9	
	comp=Z,578nm,20.5s,baz=125,slow=34							
FORT	**Forrest**	**48.37 252**		P		**P**	**23 57 49.0**	**-0.2**
	baz=49,SNR=8.3							
FORT	**Forrest**	**48.37 252**		*e*P		**P**	**23 57 48.1**	**-1.1**
	28nm,1.1s							
WRKA	**Warakurna**	**49.42 259**		P		**P**	**23 57 55.9**	**-1.6**
	baz=50,SNR=15							
KDU	**Kakadu**	**49.88 276**		P		**P**	**23 57 59.8**	**-1.3**
	baz=51,SNR=7.2							
MTN	**Manton Dam**	**51.01 275**		P		**P**	**23 58 09.8**	**+0.3**
	baz=52,SNR=3.6							
VNDA	**Vanda**	**51.51 186**		P		**P**	**23 58 15.5**	**+3.1**
	7.2nm,1.0s,baz=5.2,slow=6.8,SNR=5.1							
VNDA				LR		LR	00 16 28.8	
	comp=Z,286nm,20.5s,baz=32,slow=32							
KNRA	**Kununurra**	**52.00 271**		P		**P**	**23 58 16.2**	**-0.7**
	baz=53,SNR=18							
MEEK	**Meekatharra**	**57.39 254**		P		**P**	**23 58 55.5**	**-0.4**
	baz=58,SNR=3.2							
BLDU	**Ballidu**	**57.94 249**		P		**P**	**23 58 58.5**	**-1.2**
	baz=59,SNR=5.0							
MBWA	**Marble Bar**	**58.09 261**		*e*P		**P**	**23 59 00.0**	**-0.9**
	30nm,1.4s							
SOEI	**Soe**	**58.41 275**		*e*P		**P**	**23 59 02.2**	**-1.1**
	36nm,1.0s							
CASY	**Casey**	**58.72 207**		*e*P		**P**	**23 59 04.4**	**-0.1**
	756nm,2.4s							
QSPA	**South Pole Qui**	**62.99 180**		P		**P**	**23 59 35.7**	**+2.0**
	21nm,0.8s,baz=339,slow=0.7,SNR=69							
JCJ	**Chichijima**	**67.03 320**		LR		LR	00 24 35.2	
	comp=Z,578nm,21.4s,baz=314,slow=32							
JOW	**Kunigami**	**75.57 311**		P		**P**	**00 00 52.3**	**+0.5**
	1.6nm,0.8s,baz=163,slow=8.3,SNR=5.8							
JOW	**Kunigami**	**75.57 311**		*e*P		**P**	**00 00 51.4**	**-0.4**
	35nm,1.1s							
MAW	**Mawson**	**75.88 200**		LR		LR	00 31 49.5	
	comp=Z,319nm,20.8s,baz=108,slow=34							
MJAR	**Matsushiro Arr**	**76.41 324**		P		**P**	**00 00 56.4**	**+0.1**
	15nm,0.9s,baz=164,slow=6.1,SNR=21							
MJAR				LR		LR	00 28 54.9	
	comp=Z,102nm,21.4s,baz=140,slow=31							
MAJO	**Matsushiro**	**76.41 324**		*e*P		**P**	**00 00 54.8**	**-1.6**
MAJO				*e*PcP		**P**	**00 00 54.9**	**-1.4**
MAT	**Matsushiro**	**76.41 324**		P		**P**	**00 00 55.1**	**-1.3**
MAT				S		**S**	**00 10 33.8**	**-3.5**
YOJ	**Yonaguni jima**	**77.78 306**		*e*P		**P**	**00 01 03.4**	**-0.9**
	117nm,1.1s							
JNU	**Nakatsue**	**78.11 317**		P		**P**	**00 01 06.2**	**+0.2**
	28nm,1.0s,baz=94,slow=2.3,SNR=7.7							
JNU	**Nakatsue**	**78.11 317**		*e*P		**P**	**00 01 05.5**	**-0.5**
	35nm,1.0s							
ASAJ	**Asahikawa**	**80.22 331**		P		**P**	**00 01 17.1**	**-0.2**
	16nm,0.9s,baz=205,slow=19,SNR=4.8							
ASAJ	**Asahikawa**	**80.22 331**		*e*P		**P**	**00 01 15.9**	**-1.3**
	80nm,1.6s							
SYO	**Syowa Base**	**80.63 192**		‖*e*X		Pn	00 01 14.5	
SNAA	**Sanae**	**81.39 178**		P		**P**	**00 01 24.3**	**+1.1**
SNAA	**Sanae**	**81.39 178**		P		**P**	**00 01 24.1**	**+0.9**
	3.1nm,0.9s,baz=154,slow=4.3,SNR=12							
SNAA	**Sanae**	**81.39 178**		*e*P		**P**	**00 01 23.6**	**+0.3**
	7.9nm,0.8s							
VNA3	**Neumayer Olymp**	**81.47 176**		P		**P**	**00 01 25.4**	**+1.7**
VNA2	**Neumayer--Watz**	**81.93 176**		P		**P**	**00 01 27.9**	**+1.9**
VNA1	**Neumayer--Stat**	**82.15 176**		P		**P**	**00 01 28.3**	**+1.1**
KSRS	**Korea Array**	**82.81 318**		P		**P**	**00 01 31.7**	**+0.7**
	7.5nm,0.9s,baz=139,slow=5.6,SNR=19							
KSRS				LR		LR	00 32 41.7	
	comp=Z,98nm,21.9s,baz=144,slow=32							
KS15	**Wonju Array Si**	**82.83 318**		*e*P		**P**	**00 01 31.7**	**+0.6**
KS01	**Wonju Array Si**	**82.85 318**		*e*P		**P**	**00 01 31.5**	**+0.3**
PEA2	**Petropavlovsk-**	**83.01 345**		*e*P		**P**	**00 01 31.8**	**+0.1**
PEA0	**Petropavlovsk-**	**83.01 345**		*e*P		**P**	**00 01 30.8**	**-0.9**
PETK	**Petropavlovsk-**	**83.01 345**		P		**P**	**00 01 31.8**	**+0.1**
	3.3nm,0.9s,baz=128,slow=9.5,SNR=3.0							
CMB	**Columbia Colle**	**83.35 41**		*e*P		**P**	**00 01 33.7**	**-0.2**
	17nm,1.5s							
GLA	**Glamis**	**83.64 48**		*e*P		**P**	**00 01 34.1**	**-1.4**
	14nm,0.8s							
PLCA	**Paso Flores**	**83.68 133**		LR		LR	00 33 01.1	
	comp=Z,169nm,18.2s,baz=276,slow=32							
WDC	**Whiskeytown Da**	**83.85 38**		*e*P		**P**	**00 01 34.9**	**-1.4**
	16nm,1.4s							
WAKR	**Walker**	**84.22 41**		*e*P		**P**	**00 01 37.5**	**-1.0**
M02C	**Callahan**	**84.24 37**		P		**P**	**00 01 39.4**	**+1.0**
	baz=84							
NV01	**Mina Array Sit**	**84.84 42**		*e*P		**P**	**00 01 40.2**	**-1.5**
NVAR	**Mina Array Bea**	**84.84 42**		P		**P**	**00 01 41.9**	**+0.2**
	2.3nm,0.9s,baz=221,slow=7.5,SNR=11							
PDMCI	**Parker Dam,Lak**	**84.85 47**		P		**P**	**00 01 42.8**	**+1.2**
	baz=85							
NJ2	**Nanjing**	**85.24 310**		*e*P		P	00 01 40.3	-3.2
NJ2				PMZ				
	40nm,0.8s							
USRK	**Ussuriysk Ar.**	**85.25 326**		P		**P**	**00 01 43.7**	**+0.4**
	5.6nm,0.9s,baz=111,slow=3.5,SNR=8.6							
TPH	**Tonopah**	**85.26 43**		*e*P		**P**	**00 01 42.7**	**-1.1**
	12nm,1.3s							
SHPR	**Sheep Range**	**85.55 45**		*e*P		**P**	**00 01 42.8**	**-2.5**
J04D	**Umpqua Nationa**	**85.92 36**		P		**P**	**00 01 47.8**	**+0.9**
	baz=86							
TUC	**Tucson**	**85.92 51**		*e*P		**P**	**00 01 48.1**	**+1.0**
	9.4nm,1.5s							
K05A	**Summer Lake**	**86.22 37**		*e*P		**P**	**00 01 47.2**	**-1.2**
	202nm,3.0s							
J05D	**Fort Rock, OR**	**86.41 37**		P		**P**	**00 01 49.8**	**+0.5**
	baz=86							
319A	**Douglas**	**86.44 52**		P		**P**	**00 01 48.9**	**-0.8**
	baz=87							
PSI	**Prapat**	**86.56 275**		P		**P**	**00 01 49.5**	**-1.2**
	10nm,1.0s,baz=209,slow=7.6,SNR=6.3							
PSI	**Prapat**	**86.56 275**		⇑P		**P**	**00 01 49.9**	**-0.8**
	baz=87,SNR=5.0							
X16A	**Lo Mia Camp, P**	**86.71 49**		P		**P**	**00 01 52.1**	**+1.1**
	baz=87							
BMN	**Battle Mountai**	**86.78 41**		*e*P		**P**	**00 01 50.3**	**-0.8**
	8.9nm,1.4s							
CCUT	**Cedar City**	**87.33 45**		*e*P		**P**	**00 01 52.1**	**-1.9**
	7.4nm,1.3s							
U15A	**North Rim**	**87.34 47**		P		**P**	**00 01 55.2**	**+1.1**
	baz=88							
CN2	**Changchun**	**88.42 322**		*e*P		**P**	**00 01 59.1**	**+0.4**
CN2				PMZ				
	10.0nm,0.8s							
D05A	**Enumclaw**	**88.70 34**		*e*P		**P**	**00 01 58.8**	**-1.2**
	21nm,1.1s							
G08A	**Pilot Rock**	**88.97 36**		*e*P		**P**	**00 02 01.3**	**-0.2**
	4.7nm,0.9s							
E07A	**Sunnyside**	**89.34 35**		*e*P		**P**	**00 02 01.4**	**-1.6**
TX31	**Lajitas Ar. Si**	**89.39 56**		*e*P		**P**	**00 02 02.4**	**-1.4**
LTX	**Lajitas**	**89.39 56**		*e*P		**P**	**00 02 04.5**	**+0.8**
TXAR	**Lajitas Array**	**89.39 56**		P		**P**	**00 02 04.5**	**+0.8**
	0.6nm,0.9s,baz=212,slow=4.4,SNR=6.2							
TXAR				LR		LR	00 34 28.4	
	comp=Z,129nm,20.6s,baz=0.0,slow=30							
HAWA	**Hanford**	**89.40 35**		*e*P		**P**	**00 02 01.8**	**-1.5**
	11nm,1.2s							
LAZ	**Ladron**	**89.62 51**		*e*P		**P**	**00 02 04.0**	**-0.9**
CFAA	**Coronel Fontan**	**90.01 126**		LR		LR	00 36 51.7	
	comp=Z,28nm,18.3s,baz=237,slow=32							
D08A	**Wollman Farm,**	**90.16 35**		*e*P		**P**	**00 02 06.7**	**-0.1**
E09A	**Wood Farm, Sta**	**90.20 36**		*e*P		**P**	**00 02 05.7**	**-1.4**
F10A	**Beach Ranch, E**	**90.34 37**		*e*P		**P**	**00 02 07.3**	**-0.4**
	7.1nm,0.9s							
HLID	**Hailey**	**90.37 40**		P		**P**	**00 02 08.7**	**+0.6**
	baz=90							
HLID	**Hailey**	**90.37 40**		*e*P		**P**	**00 02 08.2**	**0.0**
	3.9nm,1.2s							
ANMO	**Albuquerque**	**90.39 50**		*e*P		**P**	**00 02 07.7**	**-0.7**
	5.6nm,1.3s							
Y24A	**Capitan**	**90.55 52**		P		**P**	**00 02 10.5**	**+1.3**
	baz=91							
PV10	**Paradox Valley**	**90.58 46**		*e*P		**P**	**00 02 08.4**	**-1.0**
PV09	**Paradox Valley**	**90.58 46**		*e*P		**P**	**00 02 06.2**	**-3.2**
B08A	**Colville Reser**	**90.81 34**		*e*P		**P**	**00 02 08.6**	**-1.3**
	10nm,1.5s							
SLVN	**Son La**	**90.91 293**		*e*P		**P**	**00 02 10.0**	**-1.0**
	13nm,1.1s							
ENH	**Enshi**	**90.96 304**		*e*P		**P**	**00 02 10.5**	**-0.5**
	32nm,1.2s							
GYA	**Guiyang**	**91.19 299**		P		**P**	**00 02 12.9**	**+0.6**
GYA				pP		**pP**	**00 02 31.6**	**+3.2**
GYA				PP		**PP**	**00 05 52.8**	**+2.6**
GYA				SKS		**SKSac**	**00 12 38.0**	**-2.0**
GYA				S		**S**	**00 13 03.4**	**-3.1**
GYA				SS		**SS**	**00 19 13.4**	**+0.7**
GYA				PMZ				
	20nm,0.8s							
GYA				PMZ				
	120nm,6.1s							
GYA				LN				
	510nm,19.7s							
GYA				LE				
	480nm,20.0s							
GYA				LZ				
	470nm,19.4s							
429A	**Davenport Ranc**	**91.37 56**		P		**P**	**00 02 13.0**	**+0.1**
	baz=92							
BJT	**Baijiatuau**	**91.61 315**		*e*P		**P**	**00 02 14.3**	**+0.6**
	14nm,0.5s							
BJI	**Beijing**	**91.62 315**		P		**P**	**00 02 15.3**	**+1.6**
BJI				S		**S**	**00 13 11.5**	**+2.1**
BJI				SS		**SS**	**00 19 21.4**	**+3.4**
BJI				PMZ				
	16nm,0.4s							
BJI				PMZ				
	160nm,4.2s							
BJI				LN				
	200nm,20.1s							
BJI				LE				
	170nm,21.4s							
BJI				LZ				
	99nm,27.6s							
S22A	**4UR Ranch, Cre**	**91.67 48**		P		**P**	**00 02 13.1**	**-1.4**
	baz=92							
W25A	**X Bar L Ranch,**	**91.92 51**		P		**P**	**00 02 15.7**	**+0.2**
	baz=92							
MCMT	**McKenzie Canyo**	**92.03 40**		*e*P		**P**	**00 02 15.6**	**-0.3**
REDW	**Red Top Meadow**	**92.32 42**		*e*P		**P**	**00 02 17.2**	**0.0**
	9.5nm,1.3s							
FXWY	**Fox Creek**	**92.38 41**		*e*P		**P**	**00 02 16.3**	**-1.2**
	12nm,1.6s							
MSTX	**Muleshoe**	**92.45 53**		*e*P		**P**	**00 02 17.4**	**-0.6**
	7.7nm,0.4s							
N20A	**Spence Gulch,**	**92.46 45**		P		**P**	**00 02 17.2**	**-0.7**
	baz=93							
DLMT	**Dillon**	**92.50 39**		*e*P		**P**	**00 02 15.7**	**-2.2**
	63nm,2.8s							
IMW	**Indian Meadow**	**92.58 41**		*e*P		**P**	**00 02 18.1**	**-0.4**
	9.7nm,1.4s							
TNA	**Tin City**	**92.60 4**		*e*P		**P**	**00 02 16.6**	**-1.0**
	4.5nm,0.9s							
532A	**Rocksprings**	**92.60 57**		P		**P**	**00 02 18.9**	**+0.3**
	baz=93							
BW06	**Boulder Array**	**92.75 43**		*e*P		**P**	**00 02 17.2**	**-2.0**
PD31	**Pinedale Array**	**92.75 43**		*e*P		**P**	**00 02 17.5**	**-1.8**
PDAR	**Pinedale Array**	**92.75 43**		P		**P**	**00 02 19.2**	**0.0**
	0.9nm,0.9s,baz=225,slow=1.9,SNR=6.1							
PDAR				LR		LR	00 38 24.9	
	comp=Z,179nm,19.0s,baz=250,slow=32							
FLWY	**Flagg Ranch**	**92.83 41**		*e*P		**P**	**00 02 16.5**	**-3.1**
	7.2nm,1.0s							
QLMT	**Earthquake Lak**	**92.85 40**		*e*P		**P**	**00 02 19.2**	**-0.4**
CHMT	**Chamberlain Mo**	**93.07 38**		*e*P		P	00 02 17.2	-3.4
SEY	**Seymchan**	**93.12 346**		P		**P**	**00 02 19.0**	**-1.1**
	1.3nm,0.5s,baz=23,slow=4.6,SNR=4.9							
BOZ	**Bozeman (W)**	**93.21 39**		*e*P		**P**	**00 02 20.3**	**-0.9**
	3.4nm,0.9s							
XAN	**Xi'an**	**93.30 307**		P		**P**	**00 02 23.0**	**+1.3**
XAN				PMZ				
	2.0nm,1.2s							
XAN				PMZ				
	19nm,4.7s							
J19A	**Crowheart**	**93.34 42**		P		**P**	**00 02 21.6**	**-0.3**
	baz=94							
KMI	**Kunming**	**93.65 296**		P		**P**	**00 02 26.1**	**+2.3**
KMI				pP		**pP**	**00 02 37.8**	**-2.1**
KMI				sP		**sP**	**00 02 43.5**	**-2.6**
KMI				S		**S**	**00 13 27.5**	**-1.2**
KMI				PMZ				
	18nm,1.2s							
KMI				PMZ				
	49nm,4.5s							
KMI				LZ				
	98nm,20.4s							
CM01	**Chiang Mai Arr**	**93.67 289**		*e*P		**P**	**00 02 24.7**	**+1.0**
CM31	**Chiang Mai Arr**	**93.70 289**		*e*P		**P**	**00 02 24.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**93.70 289**		P		**P**	**00 02 24.8**	**+0.9**
	3.7nm,0.8s,baz=140,slow=3.5,SNR=25							
I19A	**Meeteetse**	**93.81 42**		P		**P**	**00 02 25.3**	**+1.3**
	baz=94							
CHTO	**Chiang Mai**	**93.86 289**		*e*P		**P**	**00 02 23.8**	**-0.8**
	11nm,1.0s							
I20A	**Worland**	**94.28 42**		P		**P**	**00 02 26.8**	**+0.6**
	baz=94							
ILAR	**Eielson Array**	**94.41 12**		P		**P**	**00 02 25.4**	**-0.7**
	2.1nm,1.1s,baz=230,slow=3.9,SNR=8.7							
IL1	**Eielson Array**	**94.41 12**		*e*P		**P**	**00 02 24.6**	**-1.5**
I21A	**Big Trails, Te**	**94.71 43**		P		**P**	**00 02 28.4**	**+0.2**
	baz=95							
J22A	**Midwest**	**94.99 43**		P		**P**	**00 02 29.9**	**+0.5**
	baz=95							
HHC	**Hu-ho-hao-te**	**95.01 314**		*e*P		**P**	**00 02 30.6**	**+1.1**
HHC				pP		**pP**	**00 02 47.8**	**+2.1**
HHC				sP		**sP**	**00 02 54.5**	**+2.7**
HHC				PP		**PP**	**00 06 22.8**	**+3.0**
HHC				S		**S**	**00 13 37.3**	**-2.3**
HHC				sS		**sS**	**00 14 06.9**	**-0.2**
HHC				SS		**SS**	**00 20 08.1**	**+1.4**
HHC				PMZ				
	17nm,0.6s							
HHC				PMZ				
	240nm,7.4s							
HHC				LN				
	150nm,15.9s							
HHC				LE				
	210nm,18.5s							
HHC				LZ				
	130nm,18.5s							
CD2	**Chengdu**	**95.57 302**		P		**P**	**00 02 33.5**	**+1.2**
CD2				pP		**pP**	**00 02 50.3**	**+1.9**
CD2				S		**S**	**00 13 41.8**	**-3.1**
CD2				sS		**sS**	**00 14 08.8**	**-3.6**
CD2				PMZ				
	10.0nm,1.4s							
CD2				PMZ				
	110nm,5.9s							
CD2				LN				
	190nm,15.5s							
CD2				LE				
	150nm,19.0s							
CD2				LZ				
	170nm,16.7s							
RSSD	**Black Hills**	**96.86 44**		*e*P		**P**	**00 02 37.4**	**-0.6**
	14nm,1.5s							
H24A	**Dirks Ranch, A**	**96.87 43**		P		**P**	**00 02 38.1**	**+0.2**
	baz=97							
I25A	**Rochford**	**97.00 44**		P		**P**	**00 02 38.8**	**+0.2**
	baz=97							
LPAZ	**La Paz**	**98.13 113**		LR		LR	00 38 35.8	
	comp=Z,77nm,19.5s,baz=222,slow=30							
YKA	**Yellowknife Ar**	**101.86 25**		P		**Pdif**	**00 02 59.2**	**-0.4**
	0.3nm,0.9s,baz=224,slow=5.3,SNR=7.1							
WMQ	**Urumqi**	**112.31 309**		*e*PKP		**PKiKP**	**00 07 42.3**	**-0.1**
WMQ				PP		**PP**	**00 08 31.5**	**+2.7**
WMQ				SS		SS	00 24 03.5	-1.0
WMQ				PPMZ				
	150nm,4.0s							
WMQ				LN				
	62nm,20.0s							
WMQ				LE				
	190nm,24.0s							
WMQ		

NACGM	**Naroch**	147.51	335	*e*	PKPdf	00 08 48.0	+0.4
AKASG	**Malin Array Be**	149.44	327	PKPbc	PKPbc	00 08 54.8	-0.6
	comp=Z,6.9nm,0.8s,baz=38,slow=3.1,SNR=15						
AKBB	**Malin Array Si**	149.44	327	*e*PKPbc	PKPbc	00 08 54.8	-0.5
AK11	**Malin Array Si**	149.48	327	*e*PKPbc	PKPbc	00 08 54.6	-0.8
GKP	**Gorka Klasztor**	151.98	343	*e*PKP	PKPbc	00 09 02.2	+0.9
BR101	**Keskin Array S**	152.12	304	*e*PKPdf	PKPdf	00 08 54.1	-1.5
BR101				*e*PKPbc	PKPbc	00 09 02.0	-0.3
BR101				*e*PKPab	PKPab	00 09 12.6	+0.5
BRTR	**Keskin Array B**	152.12	304	PKP	PKPdf	00 08 54.1	-1.5
	comp=Z,0.7nm,1.0s,baz=141,slow=6.1,SNR=4.0						
BRTR				PKPbc	PKPbc	00 09 02.0	-0.3
	comp=Z,3.9nm,1.0s,baz=106,slow=3.2,SNR=12						
BRTR				PKPab	PKPab	00 09 12.6	+0.5
	comp=Z,3.9nm,0.8s,baz=132,slow=3.6,SNR=11						
BEL	**Belsk**	152.12	337	*e*PKP	PKPbc	00 09 02.1	+0.4
LEOM	**Leova**	152.59	321 ⇑	*i*P	PKPbc	00 09 03.9	+1.0
BR231	**Keskin MP Arra**	152.71	305	*e*PKPdf	PKPdf	00 08 53.9	-2.5
BR231				*e*PKPbc	PKPbc	00 09 03.0	-0.6
BR231				*e*PKPab	PKPab	00 09 14.3	-0.2
KWP	**Kalwaria Pacla**	153.15	332	*e*PKP	PKPbc	00 09 04.7	+0.6
TESR	**Tescani**	153.44	323 ⇑	*i*P	PKPab	00 09 19.0	+1.8
CSS	**Prodhromos**	153.46	294	*e*PKPab	PKPab	00 09 14.9	-2.8
BUR04	**Bucovina Ar. S**	153.46	326	*e*PKPdf	PKPdf	00 08 58.9	+1.7
BUR04				*e*PKPbc	PKiKP	00 09 06.1	+1.0
BURAR	**Bucovina Array**	153.46	326 ⇑	*i*P	PKPbc	00 09 06.5	+1.6
VRI	**Vrincioaia**	153.79	322 ⇑	*i*P	PKPab	00 09 26.1	+7.4
OJC	**Ojcow**	153.81	336	*e*PKP	PKPbc	00 09 05.8	+0.3
OJC	**Ojcow**	153.81	336	*e*PKPbc	PKPbc	00 09 05.9	+0.4
PLOR	**Plostina**	153.85	322 ⇑	*i*P	PKPab	00 09 19.7	+0.7
PSN	**Preselentsi**	154.19	316 ⇑	*i*P	PKPab	00 09 21.9	+1.5
NIE	**Niedzica**	154.28	334	*e*PKP	PKPbc	00 09 07.4	+0.9
TRPA	**Tarpa**	154.35	330 ⇓	*i*P	PKPab	00 09 25.5	+4.6
KSP	**Ksiaz**	154.41	341	*e*PKP	PKPbc	00 09 06.8	+0.1
MLR	**Muntele Rosu**	154.46	322 ⇓	*i*P	PKPab	00 09 19.6	-2.1
UPC	**Upice**	154.79	341	*e*PKPAB	PKPab	00 09 22.7	-0.1
CLL	**Collm**	154.81	346 ⇓	*i*PKPbc	PKPbc	00 09 08.1	+0.6
	comp=Z,10.0nm,1.2s						
CLL				*i* PKPab	PKPab	00 09 20.4	-2.4
CLL				*i* sPKPbc	sPKPbc	00 09 27.9	-2.4
DPC	**Dobruska-Polom**	154.84	341 ⇑	*e*PKP	PKPbc	00 09 08.0	+0.3
DPC				*e*PKPAB	PKPab	00 09 23.4	+0.4
KRLC	**Kraliky**	154.95	340	*e*PKPDF	PKPdf	00 09 03.0	+3.8
KRLC				*e*PKPAB	PKPab	00 09 25.5	+2.0
KRLC				*ep*PKP	pPKPdf	00 09 37.9	+22
VOIR		154.98	323 ⇑	*i*P	PKPab	00 09 20.3	-3.6
BRG	**Berggiesshubel**	155.00	344	*e*PKP	PKPdf	00 08 59.3	+0.1
	comp=Z,12nm,1.6s						
BRG				*e*		00 09 09.2	
	comp=Z,7.2nm,1.2s						
BRG				*e*		00 09 23.5	
	comp=Z,8.5nm,1.2s						
DRGR		155.25	328 ⇓	*i*P	PKPdf	00 09 09.6	+10
PSZ	**Piszkesteto**	155.65	333 ⇑	*i*P	PKPab	00 09 26.1	-0.5
PRU	**Pruhonice**	155.67	343	*e*PKPAB	PKPab	00 09 26.5	0.0
PRU				*ep*PKP	pPKPdf	00 09 40.1	+23
VRAC	**Vranov**	155.68	339 ⇓	*i*P	PKPab	00 09 26.9	+0.3
JMB	**Yambol**	155.82	315 ⇑	*i*P	PKPab	00 09 26.9	-0.6
KHC	**Kasperske Hory**	156.71	343	*e*PKPAB	PKPab	00 09 31.1	+0.1
KHC				*ep*PKP	pPKPdf	00 09 44.8	+26
GEC2	**GERESS Array S**	156.94	343	*e*PKPab	PKPab	00 09 31.2	-0.9
GERES	**GERESS Array B**	156.94	343	PKPab	PKPab	00 09 31.2	-0.9
	comp=Z,1.6nm,1.0s,baz=26,slow=3.7,SNR=6.4						
CONA	**Conrad Observa**	157.12	339 ⇓	*i*PKPab	PKPab	00 09 30.2	-2.7
	comp=Z,5.7nm,1.2s						
VTS	**Vitosha**	157.80	319 ⇑	*i*P	PKPab	00 09 37.7	+1.5
MMB	**Musomiste**	158.08	316 ⇓	*i*P	PKPab	00 09 32.8	-4.5
ESDC	**Sonseca Array**	165.96	25	PKP	PKPdf	00 09 12.1	+0.5
	comp=Z,0.4nm,0.7s,baz=358,slow=3.8,SNR=4.8						
ESDC				PKPab	PKPab	00 10 10.8	-0.9
	comp=Z,0.2nm,0.6s,baz=343,slow=4.0,SNR=4.0						
TOA0	**Torodi Ar. Sit**	165.99	172	*e*PKPdf	PKPdf	00 09 11.7	-0.6
TOA0				*e*PKPdf	PKPdf	00 09 12.3	+0.1
TOA0				*e*PKPab	PKPab	00 10 12.3	0.0
TOA0				*e*PKPab	PKPab	00 10 13.4	+1.2
TORD	**Torodi Ar. Bea**	165.99	172	PKP	PKPdf	00 09 12.3	+0.1
	comp=Z,2.5nm,1.0s,baz=300,slow=1.0,SNR=9.3						
TORD				PKPab	PKPab	00 10 13.4	+1.2
	comp=Z,7.3nm,0.8s,baz=186,slow=3.6,SNR=25						

*IDC **18** 23:52:03.1±0.8, 26°.94S×176°.46W, h0km, mb4.4/8, mb1 4.6/9, mb1mx4.2/35, mbtmp4.4/9, ML4.9/1, MS3.8/1, Ms1 3.8/1, ms1mx3.2/24, Error ellipse: s-maj=27.3km s-min=23.7km az=101.0*

*NEIC **18** 23:52:08.2±0.7, 27°.04S×176°.43W, h35km, mb4.5/2, Error ellipse: s-maj=18.0km s-min=13.9km az=104.0*

ISC 18 23:52:08.2±0.8, 27°.05±0°.1×176°.4W±0°.2, h35km, n25, σ1§15/18, mb4.3/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	2.60	211	Pn	Pn	23 52 49.0	+1.3
	215nm,0.3s,baz=94,slow=19,SNR=8.3						
RAO				Sn	Sn	23 53 24.3	+6.2
	914nm,0.3s,baz=81,slow=22,SNR=8.8						
PUZ	**Puketiti**	11.91	201	*e*SN	Sn	23 56 58.8	-8.3
URZ	**Urewera**	12.47	204	Sn	Sn	23 57 12.3	-8.5
	1.6nm,0.3s,baz=172,slow=18,SNR=7.8						
MRZ	**Mangatainoka R**	15.14	204	*e*SN	Sn	23 58 11.2	-15
HOWZ	**Holdsworth Sta**	15.37	204	*e*SN	Sn	23 58 16.6	-15
TCW	**Tory Channel**	16.11	206	*e*SN	Sn	23 58 33.9	-16
DZM	**Mont Dzumac**	16.36	284	*e*P	Pn	23 55 56.0	+0.6
	17nm,0.8s						
KHZ	**Kahutara**	17.43	206	*e*Pn	Pn	23 56 06.4	-2.1
	63nm,1.0s						
MQZ	**McQueen's Vall**	18.86	205	*e*SN	Sn	23 59 32.9	-23
CTA	**Charters Tower**	34.83	273	P	P	23 58 56.9	+0.9
	6.2nm,0.6s,baz=104,slow=10,SNR=6.9						
ASAR	**Alice Springs**	44.81	263	P	P	00 00 17.4	-1.7
	1.7nm,0.7s,baz=97,slow=7.5,SNR=6.2						
WRA	**Warramunga Arr**	45.50	268	P	P	00 00 23.3	-1.2
	3.8nm,0.7s,baz=107,slow=7.3,SNR=10						
RPN	**Rapa Nui**	59.02	107	LR	LR	00 21 19.8	
	comp=Z,68nm,19.1s,baz=291,slow=30						
QSPA	**South Pole Qui**	63.08	180	P	P	00 02 32.8	+0.9
	5.9nm,0.7s,baz=58,slow=1.1,SNR=8.7						
MJAR	**Matsushiro Arr**	76.31	324	P	P	00 03 53.2	-0.3
	2.1nm,0.8s,baz=162,slow=5.1,SNR=6.3						
KSRS	**Korea Array**	82.72	319	P	P	00 04 29.1	+0.8
	1.8nm,0.7s,baz=123,slow=5.0,SNR=4.8						
KSAR	**Wonju Array Be**	82.73	318	P	P	00 04 29.1	+0.7
NVAR	**Mina Array Bea**	84.80	42	P	P	00 04 39.6	+0.3
	1.1nm,0.8s,baz=238,slow=7.2,SNR=4.1						
CMAR	**Chiang Mai Arr**	93.63	289	P	P	00 05 21.9	+0.5
	1.0nm,0.4s,baz=132,slow=2.7,SNR=4.5						
MKAR	**Makanchi Array**	116.65	311	PKP	PKPdf	00 10 47.2	-1.3
	0.5nm,0.8s,baz=75,slow=1.0,SNR=4.9						
FINES	**FINESS Array B**	142.41	342	PKhKP	PKPpre	00 11 31.9	
	1.4nm,0.9s,baz=224,slow=5.8,SNR=3.0						
FINES				PKP	PKiKP	00 11 38.5	-1.1
	1.0nm,0.7s,baz=96,slow=3.8,SNR=3.9						
NOA	**NORSAR Array B**	145.59	353	PKPbc	PKPab	00 11 44.0	+1.3
	0.9nm,0.8s,baz=4.0,slow=6.2,SNR=5.5						
AKASG	**Malin Array Be**	149.34	327	PKPbc	PKPbc	00 11 51.9	-1.2
	0.5nm,0.4s,baz=45,slow=3.6,SNR=4.2						
BRTR	**Keskin Array B**	152.03	305	PKPbc	PKPbc	00 11 59.9	-0.1
	0.5nm,0.7s,baz=163,slow=6.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	166.09	172	PKPab	PKPab	00 13 10.5	0.0
	1.8nm,0.8s,baz=185,slow=3.8,SNR=7.0						

IDC 19 00:18:04.7±3.9, 22°.35S×68°.68W, h0km, mb4.0/3, mb1 4.0/5, mb1mx3.9/25, mbtmp4.1/5, ML4.1/2, Error ellipse: s-maj=76.8km s-min=49.8km az=74.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	6.05	5	Pn	Pn	00 19 36.5	+0.2
	0.9nm,0.3s,baz=181,slow=3.4,SNR=24						
SIV	**San Ignacio**	9.57	50	Pn	Pn	00 20 22.8	-1.0
	6.1nm,0.3s,baz=258,slow=12,SNR=50						
BDFB	**Brasilia**	20.63	75	P	P	00 22 46.9	+0.8
	1.3nm,0.5s,baz=225,slow=8.6,SNR=3.3						
DBIC	**Dimbokro**	68.77	73	P	P	00 29 11.0	0.0
	1.3nm,0.6s,baz=231,slow=5.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	77.44	70	P	P	00 30 02.3	0.0
	1.8nm,0.6s,baz=255,slow=5.5,SNR=29						

*ISCJB **19** 00:18:28.9±0.6, 14°.06S±0°.05×74°.36W±0°.05, h102km±6km, mb4.7/61, Error ellipse: s-maj=10.2km s-min=4.7km az=43.5*

*NEIC **19** 00:18:30.3±0.5, 14°.09S×74°.37W, h100km±5km, mb4.8/50, Error ellipse: s-maj=8.2km s-min=4.2km az=54.0*

NEIC Felt [III] at Puquio and [II] at Ica, Nazca and Palpa. Also felt at Chincha Alta and Huanta.

*IDC **19** 00:18:30.8±0.5, 14°.11S×74°.44W, h103km±3km, mb4.2/14, mb1 4.3/19, mb1mx4.2/24, mbtmp4.5/19, MS3.3/3, Ms1 3.3/3, ms1mx3.0/29, Error ellipse: s-maj=16.2km s-min=7.7km az=45.0*

*BJI **19** 00:18:31.1, 14°.20S×74°.40W, h101km, mB5.1/9*

ISC 19 00:18:30.5±0.4, 14°.14S±0°.06×74°.41W±0°.07, h104km±2km, h104km:pP-P, n116, σ1§12/150, mb4.7/60, 1C, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	3.19	312	P	Pn	00 19 17.4	-1.6
	128nm,0.3s,baz=135,slow=12,SNR=63						
NNA				S	Sn	00 19 55.7	-0.7
	518nm,0.3s,baz=237,slow=22,SNR=21						
NNA				LR	LR	00 20 19.1	
	comp=Z,338nm,19.5s,baz=97,slow=34						
NNA	**Nana**	3.19	312	*e*Pn	Pn	00 19 17.4	-1.6
NNA				*e*Sn	Sn	00 19 54.6	-1.8
ARE	**Arequipa**	3.64	130 ⇑	*i*P	Pn	00 19 25.2	0.0
ARE				*i* S	Sn	00 20 06.0	-1.5
LPAZ	**La Paz**	6.43	110	P	Pn	00 20 04.8	+1.6
	6.3nm,0.3s,baz=301,slow=7.2,SNR=39						
LPAZ				S	Sn	00 21 16.4	+0.9
	2.5nm,0.3s,baz=238,slow=8.7,SNR=3.5						
LPAZ				LR	LR	00 22 31.3	
	comp=Z,176nm,19.4s,baz=284,slow=37						
LPAZ	**La Paz**	6.43	110	*e*Pn	Pn	00 20 04.3	+1.1
LPAZ				*e*Sn	Sn	00 21 17.8	+2.3
ATAH	**Atahualpa**	7.99	330	P	Pn	00 20 25.9	+1.7
	5.3nm,0.3s,baz=193,slow=7.2,SNR=25						
ATAH				S	Sn	00 21 57.4	+4.2
	baz=120,slow=21,SNR=1.6						
LVC	**Limon Verde**	9.91	149	*e*Pn	Pn	00 20 49.2	-1.0
LVC				*e*Sn	Sn	00 22 31.9	-7.8
SAML	**Samuel**	12.15	66	*e*Pn	Pn	00 21 15.4	-4.7
SIV	**San Ignacio**	13.02	100	P	Pn	00 21 29.8	-1.8
	0.9nm,0.3s,baz=276,slow=12,SNR=4.2						
SIV				S	Sn	00 23 52.6	-2.3
	baz=159,slow=15,SNR=3.1						
OTAV	**Otavalo**	14.84	344	*e*Pn	Pn	00 21 54.7	-0.8
LCO	**Las Campanas**	15.19	168	*e*Pn	Pn	00 22 00.8	+1.0
	25nm,0.9s						
CFAA	**Coronel Fontan**	18.28	163	P	P	00 22 36.8	+0.6
	0.1nm,0.3s,baz=338,slow=10,SNR=13						
ROSC	**El Rosal**	18.88	0	P	Pn	00 22 43.9	-1.1
	0.5nm,0.3s,baz=94,slow=19,SNR=1.7						
ROSC				LR	LR	00 31 02.4	
	comp=Z,165nm,18.9s,baz=178,slow=40						
ROSC	**El Rosal**	18.88	0	*e*P	Pn	00 22 45.4	+0.5
PTGA	**Pitinga**	19.54	48	P	P	00 22 50.1	+0.1
	1.1nm,0.3s,baz=233,slow=12,SNR=12						
PTGA	**Pitinga**	19.54	48	*e*P	P	00 22 50.1	+0.1
	17nm,0.8s						
SDV	**Santo Domingo**	23.18	10	*e*P	P	00 23 28.1	-0.4
	26nm,0.8s						
BDFB	**Brasilia**	25.55	97	P	P	00 23 50.1	+0.1
	5.2nm,0.7s,baz=259,slow=13,SNR=7.6						
BDFB	**Brasilia**	25.55	97	*e*P	P	00 23 49.1	-0.9
TRQA	**Tornquist**	26.25	157	*e*P	P	00 23 58.5	+2.5
	21nm,1.4s						
PLCA	**Paso Flores**	26.71	173	P	P	00 24 00.6	+0.5
	4.5nm,0.8s,baz=340,slow=11,SNR=4.8						
PLCA				sP	sP	00 24 35.6	+0.5
	7.7nm,1.1s,baz=340,slow=8.7,SNR=4.2						
PLCA	**Paso Flores**	26.71	173	*e*P	P	00 23 59.7	-0.4
	37nm,1.5s						
CRPR	**Cabo Rojo, PR**	32.75	13	*e*P	P	00 24 52.5	-1.1
	102nm,1.8s						
CELP	**Cerrillos**	32.93	14	*e*P	P	00 24 53.1	-2.1
LTX	**Lajitas**	51.63	327	*e*P	P	00 27 26.3	-0.4
LTX				*es*P	sP	00 28 02.6	-0.6
TXAR	**Lajitas Array**	51.63	327	P	P	00 27 26.3	-0.4
	1.9nm,0.7s,baz=150,slow=8.2,SNR=25						
TXAR				sP	sP	00 28 02.6	-0.6
	0.9nm,0.6s,baz=151,slow=8.6,SNR=3.7						
TX31	**Lajitas Ar. Si**	51.63	327	*e*P	P	00 27 26.8	0.0
MIAR	**Mount Ida**	51.73	340	*e*P	P	00 27 27.5	+0.2
	30nm,1.8s						
ABTX	**Abilene, Hawle**	52.39	333	*e*P	P	00 27 32.7	+0.4
	26nm,1.4s						
WCI	**Wyandotte Cave**	53.27	348	*e*P	P	00 27 37.7	-0.9
	25nm,1.1s						
TUL1	**Leonard**	53.73	338	*e*P	P	00 27 41.6	-0.3
	13nm,0.8s						
MVL	**Millersville**	53.89	358	*e*P	P	00 27 43.2	+0.2
	22nm,1.1s						
OLIL	**Olney**	54.13	347	*e*P	P	00 27 44.0	-0.8
	72nm,1.7s						
BRYW	**Bryant College**	55.84	3	*e*P	P	00 27 56.9	-0.2
	139nm,2.0s						
BINY	**Binghamton**	56.08	359	*e*P	P	00 27 58.8	0.0
	25nm,0.9s						
LAZ	**Ladron**	57.44	328	*e*P	P	00 28 07.0	-1.8
ANMO	**Albuquerque**	57.52	329	*e*P	P	00 28 08.9	-0.5
	22nm,2.1s						
WUAZ	**Wupatki**	60.53	326	*e*P	P	00 28 30.5	+0.4
	9.6nm,1.1s						
ECSD	**EROS Data Cent**	61.07	342	*e*P	P	00 28 33.1	-0.3
	18nm,1.5s						
PV01	**Paradox Valley**	61.07	330	*e*P	P	00 28 34.1	+0.3
SMCO	**Snowmass**	61.14	331	*e*P	P	00 28 34.8	+0.4
	30nm,2.3s						
O20A	**White River Ci**	62.49	331	*e*P	P	00 28 42.7	-0.6
	37nm,2.1s						
SRU	**San Rafael Swe**	62.80	329	*e*P	P	00 28 46.1	+0.9
	3.9nm,0.9s						
CCUT	**Cedar City**	63.11	326	*e*P	P	00 28 48.0	+0.5
	5.7nm,1.1s						
RSSD	**Black Hills**	63.97	337	*e*P	P	00 28 51.9	-1.1
	5.3nm,1.0s						
DUG	**Dugway, Tooele**	64.77	328	*e*P	P	00 28 58.0	-0.2
	6.5nm,1.0s						
DRLN	**Deer Lake**	64.87	12	*e*P	P	00 28 58.7	+0.3
	33nm,0.8s						
AGMN	**Agassiz Nation**	65.03	344	*e*P	P	00 28 59.2	-0.3
	7.6nm,0.8s						
BW06	**Boulder Array**	65.17	332	*e*P	P	00 29 00.8	-0.1
PD31	**Pinedale Array**	65.17	332	*e*P	P	00 29 01.1	+0.3
PD31				*ep*P	pP	00 29 28.1	+1.4
PDAR	**Pinedale Array**	65.17	332	P	P	00 29 01.1	+0.3
	1.7nm,1.1s,baz=163,slow=5.6,SNR=5.8						
PDAR				pP	pP	00 29 28.1	+1.4
	1.8nm,1.1s,baz=152,slow=6.6,SNR=4.2						
MDND	**Maddock**	65.68	342	*e*P	P	00 29 04.6	+0.9
	15nm,0.8s						
FXWY	**Fox Creek**	66.52	332	*e*P	P	00 29 10.4	+0.9
	8.1nm,1.5s						
IMW	**Indian Meadow**	66.69	332	*e*P	P	00 29 10.3	-0.3
	17nm,1.8s						
FLWY	**Flagg Ranch**	66.72	332	*e*P	P	00 29 11.8	+1.1
	8.5nm,0.9s						
ULM	**Lac du Bonnet**	66.83	345	P	P	00 29 10.8	-0.2
	6.0nm,0.6s,baz=157,slow=7.0,SNR=17						
ULM				pP	pP	00 29 36.0	-0.9
	3.8nm,0.8s,baz=174,slow=5.8,SNR=3.4						
ULM	**Lac du Bonnet**	66.83	345	*e*P	P	00 29 10.4	-0.6
	16nm,1.2s						
ULM				*ep*P	pP	00 29 36.0	-0.9
RLMT	**Red Lodge**	66.91	334	*e*P	P	00 29 12.2	+0.3
	58nm,2.5s						
HLID	**Hailey**	68.07	330	*e*P	P	00 29 19.8	+0.6
	12nm,1.8s						
BOZ	**Bozeman (W)**	68.35	333	*e*P	P	00 29 20.9	+0.1
	3.4nm,0.9s						
MFID	**Camas Ranch**	68.66	329	*e*P	P	00 29 23.9	+1.1
	14nm,1.4s						
VNA3	**Neumayer Olymp**	68.68	162	P	P	00 29 23.8	+1.4
VNA1	**Neumayer--Stat**	68.92	161	P	P	00 29 25.4	+1.5
SCHQ	**Schefferville**	69.00	5	P	P	00 29 24.6	0.0
	8.5nm,0.8s,baz=182,slow=6.7,SNR=8.3						
SCHQ				pP	pP	00 29 49.6	-1.1
	4.9nm,0.9s,baz=170,slow=6.4,SNR=3.4						
SCHQ	**Schefferville**	69.00	5	*e*P	P	00 29 24.2	-0.3
	10.0nm,0.9s						
VNA2	**Neumayer--Watz**	69.28	161	P	P	00 29 27.4	+1.3
	baz=306,slow=7.6						
MOD	**Modoc Plateau**	69.97	325	*e*P	P	00 29 31.8	+0.8
	98nm,2.9s						
MSO	**Missoula**	70.29	332	*e*P	P	00 29 32.7	-0.1
	6.0nm,1.1s						
BMO	**Blue Mountains**	70.44	329	*e*P	P	00 29 33.4	-0.3
	20nm,2.0s						
SNAA	**Sanae**	70.89	161	P	P	00 29 37.2	+1.1
SNAA	**Sanae**	70.89	161	P	P	00 29 37.2	+1.1
	5.0nm,0.8s,baz=278,slow=8.0,SNR=30						
SNAA				pP	pP	00 30 02.1	-0.2
	4.9nm,0.9s,baz=284,slow=5.9,SNR=8.2						
SNAA	**Sanae**	70.89	161	*e*P	P	00 29 35.6	-0.4
	20nm,1.0s						
I07A	**Izee**	71.02	327	*e*P	P	00 29 38.4	+1.1
	22nm,1.8s						
LIC	**Lamto**	71.73	78	*e*PKP1	P	00 29 41.5	-0.5
	25nm,1.1s						
TIC	**Toumodi**	71.86	78	*e*PKP1	P	00 29 42.7	-0.1
	3.5nm,0.2s						
DBIC	**Dimbokro**	72.03	78	P	P	00 29 43.3	-0.4
	3.8nm,0.8s,baz=267,slow=3.8,SNR=5.9						
DBIC	**Dimbokro**	72.03	78	*e*P	P	00 29 43.0	-0.8
	12nm,1.4s						
E09A	**Wood Farm, Sta**	72.03	330	*e*P	P	00 29 43.9	+0.8
	4.7nm,0.9s						
KIC	**Kosan Boka**	72.05	78	*e*PKP1	P	00 29 42.5	-1.4
	16nm,0.9s						
F04A	**Amboy**	73.80	327	*e*P	P	00 29 54.4	+0.9
FCC	**Fort Churchill**	74.41	350	*e*P	P	00 29 56.9	+0.2
	8.3nm,0.8s						
D05A	**Enumclaw**	74.41	328	*e*P	P	00 29 57.8	+0.8
	17nm,0.8s						
EDM	**Edmonton**	74.95	337	*e*P	P	00 29 59.7	-0.4
B06A	**Marblemount**	75.05	330	*e*P	P	00 30 00.2	-0.5
	11nm,0.6s						
NLWA	**Neilton Lookou**	75.50	328	*e*P	P	00 30 03.6	+0.1
	15nm,0.8s						
TOA0	**Torodi Ar. Sit**	80.09	74	*e*P	P	00 30 29.5	0.0
TOA0				*ep*P	pP	00 30 56.9	+0.6
TORD	**Torodi Ar. Bea**	80.09	74	P	P	00 30 29.5	0.0
	3.3nm,0.6s,baz=256,slow=5.1,SNR=20						
TORD				pP	pP	00 30 56.9	+0.6
	1.8nm,0.8s,baz=261,slow=5.7,SNR=2.7						
YKA	**Yellowknife Ar**	82.59	342	P	P	00 30 41.4	-0.2
	4.1nm,0.9s,baz=137,slow=5.4,SNR=53						
YKA				pP	pP	00 31 09.1	+0.6
	3.1nm,0.9s,baz=136,slow=5.4,SNR=7.8						
YKA				sP	sP	00 31 20.7	+1.1
	1.6nm,0.9s,baz=137,slow=5.7,SNR=3.6						
YKB5	**Yellowknife Ar**	82.59	342	*e*P	P	00 30 41.1	-0.6
PAB	**San Pablo**	84.16	47	*e*P	P	00 30 49.7	-0.6
	12nm,1.0s						
ESDC	**Sonseca Array**	84.48	47	P	P	00 30 52.8	+0.8
	4.6nm,0.8s,baz=262,slow=5.1,SNR=26						
ESDC				pP	pP	00 31 20.6	+1.7
	2.1nm,0.9s,baz=258,slow=5.1,SNR=4.0						
ES19	**SONSECA Array**	84.54	47	*e*P	P	00 30 51.0	-1.3
DLBC	**Dease Lake**	85.31	334	*e*P	P	00 30 55.8	0.0
	10nm,1.1s						
KULLO	**Kullorsuaq**	89.20	5	*i* P	P	00 31 14.8	+0.8
	17nm,0.8s						
RES	**Resolute Bay**	89.57	355	*e*P	P	00 31 15.9	+0.2
	7.4nm,1.0s						
SUMG	**Summit**	89.71	10	*i* P	P	00 31 18.2	+1.3
	14nm,0.9s						
SUMG	**Summit**	89.71	10	*e*P	P	00 31 16.3	-0.6
	29nm,1.1s						
BOSA	**Boshof**	91.58	120	P	P	00 31 26.6	+0.2
	4.3nm,1.1s,baz=233,slow=4.4,SNR=4.1						
ILAR	**Eielson Array**	95.40	336	P	P	00 31 43.4	+0.5
	0.5nm,0.7s,baz=160,slow=2.4,SNR=9.0						
GEC2	**GERESS Array S**	99.28	42	*e*P	Pdif	00 32 01.5	+0.7
GERES	**GERESS Array B**	99.28	42	P	Pdif	00 32 01.5	+0.7
	1.0nm,0.8s,baz=242,slow=2.9,SNR=8.4						
BVAR	**Borovoye Array**	132.25	28	PKP	PKPdf	00 37 33.3	+1.1
	1.6nm,0.9s,baz=262,slow=3.0,SNR=9.2						
ASAR	**Alice Springs**	133.32	217	PKP	PKPd

AAK	**Ala-Archa**	**5.75**	**19**	P	**Pn**	**00 25 31.0**	**+1.3**
	SNR=8.9						
AAK	**Ala-Archa**	**5.75**	**19**	P	**Pn**	**00 25 30.2**	**+0.5**
	2.2nm,0.3s,baz=161,slow=6.6,SNR=30						
AAK				S	**Sn**	**00 26 31.7**	**-3.1**
	3.0nm,0.3s,baz=332,slow=18,SNR=14						
ULHL	**Ulahol**	**6.00**	**32**	P	**Pn**	**00 25 33.7**	**+0.6**
	SNR=6.9						
KK31	**Karatay Array**	**6.00**	**349**	⇑P	**Pn**	**00 25 32.9**	**0.0**
	10.0nm,0.6s,baz=182,slow=14,SNR=128						
KK31				⇑S	Sn	00 26 28.3	-12
	21nm,0.3s,baz=182,slow=21,SNR=33						
TKM2	**Tokmak 2**	**6.34**	**25**	⇑S	Sn	00 26 45.0	-4.0
	3.3nm,0.7s						
SMLA	**Simla**	**7.42**	**143**	*i* P	**Pn**	**00 25 54.2**	**+2.3**
SMLA				*i* S	**Sn**	**00 27 12.8**	**-1.9**
SMLA				*i* S	**Sn**	**00 27 13.0**	**-1.7**
SMLA				AML	AML	00 27 16.5	
	comp=N,502nm,0.2s						
SMLA				AML	AML	00 27 16.7	
	comp=E,678nm,0.3s						
GEYT	**Alibeck**	**11.05**	**278**	P	**Pn**	**00 26 39.2**	**-1.1**
	comp=E,1.5nm,0.3s,baz=102,slow=8.9,SNR=14						
MKAR	**Makanchi Array**	**12.25**	**35**	P	**Pn**	**00 26 59.1**	**+3.1**
	comp=E,0.1nm,0.3s,baz=213,slow=12,SNR=3.9						
DANN	**Dangsing**	**13.25**	**128**	*e*P	**Pn**	**00 27 08.9**	**-0.4**
KOLN	**Koldanda**	**13.56**	**131**	*e*P	**Pn**	**00 27 13.2**	**0.0**
	comp=E,9.5nm,0.4s						
GKN	**Gorkha**	**14.04**	**127**	*e*P	**Pn**	**00 27 19.7**	**+0.4**
	comp=E,19nm,0.4s						
KURBB	**Kurchatov Arra**	**14.21**	**17**	P	**P**	**00 27 24.1**	**+0.1**
	comp=E,0.0nm,0.3s,baz=207,slow=11,SNR=6.0						
KKN	**Kakani**	**14.60**	**126**	*e*P	**Pn**	**00 27 26.2**	**-0.2**
	comp=E,13nm,0.5s						
DMN	**Daman**	**14.61**	**127**	*e*P	**Pn**	**00 27 27.1**	**+0.5**
	comp=E,11nm,0.4s						
PKIN	**Phulchoki**	**14.82**	**127**	*e*P	**Pn**	**00 27 29.3**	**+0.1**
	comp=E,13nm,0.5s						
PKI	**Pulchoki**	**14.83**	**127**	*e*P	**Pn**	**00 27 29.4**	**0.0**
	comp=E,14nm,0.4s						
AB31	**Akbulak array**	**14.89**	**328**	⇑P	**Pn**	**00 27 29.5**	**0.0**
	comp=E,1.5nm,0.3s,baz=154,slow=10,SNR=144						
AB31				⇑S	Sn	00 30 00.7	-14
	comp=E,2.9nm,0.6s,baz=155,slow=22,SNR=8.8						
GUN	**Gumba**	**14.91**	**124**	*e*P	**Pn**	**00 27 31.2**	**+0.9**
JIRN	**Jiri**	**15.28**	**124**	*e*P	**Pn**	**00 27 35.4**	**+0.4**
	comp=E,23nm,0.4s						
BVAR	**Borovoye Array**	**15.86**	**356**	P	**Pn**	**00 27 40.7**	**-0.8**
	comp=E,0.2nm,0.3s,baz=176,slow=8.3,SNR=4.5						
RAMN	**Ramite**	**16.03**	**125**	*e*P	**Pn**	**00 27 44.3**	**+0.2**
	comp=E,35nm,0.7s						
TAPN	**Taplejung**	**16.50**	**122**	*e*P	**P**	**00 27 50.7**	**+0.7**
	comp=E,16nm,0.4s						
AKTO	**Aktyubinsk**	**16.60**	**327**	⇑P	**Pn**	**00 27 52.6**	**+2.0**
	comp=E,2.5nm,0.7s						
AKTO				⇓S	S	00 30 45.1	-10
	comp=E,3.5nm,0.9s						
AKTO	**Aktyubinsk**	**16.60**	**327**	P	**Pn**	**00 27 51.2**	**+0.6**
	comp=E,0.5nm,0.3s,baz=122,slow=5.2,SNR=7.4						
ODAN	**Odare**	**16.61**	**124**	*e*P	**P**	**00 27 51.1**	**0.0**
	comp=E,18nm,0.7s						
ZALV	**Zalesovo Beam**	**18.94**	**24**	P	**P**	**00 28 17.0**	**+0.9**
	comp=E,0.5nm,0.3s,baz=210,slow=8.8,SNR=5.8						
BRTR	**Keskin Array B**	**30.00**	**287**	P	**P**	**00 30 02.6**	**+1.0**
	comp=E,0.3nm,0.5s,baz=80,slow=6.6,SNR=3.6						
PALK	**Pallekele**	**30.83**	**163**	LR	LR	00 42 47.5	
	comp=E,115nm,19.1s,baz=99,slow=36						
FINES	**FINESS Array B**	**37.36**	**325**	P	**P**	**00 31 04.1**	**-0.6**
	comp=E,0.4nm,0.4s,baz=122,slow=14,SNR=4.1						
ARCES	**ARCESS Array B**	**40.81**	**337**	P	**P**	**00 31 34.6**	**+1.3**
	comp=E,1.9nm,0.9s,baz=115,slow=8.3,SNR=3.4						
ESDC	**Sonseca Array**	**57.84**	**298**	P	**P**	**00 33 41.9**	**-1.2**
	comp=E,0.2nm,0.4s,baz=46,slow=7.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**66.54**	**269**	P	**P**	**00 34 41.0**	**-0.3**
	comp=E,0.3nm,0.5s,baz=53,slow=8.2,SNR=3.8						
YKA	**Yellowknife Ar**	**80.50**	**3**	P	**P**	**00 36 02.7**	**+0.6**
	comp=E,0.4nm,0.5s,baz=350,slow=5.7,SNR=9.0						

WEL 19 00:45:36.9±0.5, 36°.05S×179°.59W, h33km, ML3.7/5, 1D, Error ellipse: s-maj=10.2km s-min=8.3km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.27**	**227**	PN	Pn	00 46 11.1	-0.9
MXZ				*e*SN	Sn	00 46 36.5	-2.3
WMGZ	**Waiomatatini S**	**2.38**	**222**	PN	Pn	00 46 14.3	+0.6
PUZ	**Puketiti**	**2.66**	**220**	⇓PN	Pn	00 46 17.5	+0.1
PUZ				SN	Sn	00 46 46.5	-1.9
HAZ	**Te Kaha**	**2.71**	**230**	PN	Pn	00 46 17.6	-0.5
HAZ				SN	Sn	00 46 48.2	-1.5
TWGZ	**Tauwhareparae**	**2.88**	**222**	PN	Pn	00 46 20.4	-0.1
CNGZ	**Carnagh Statio**	**3.00**	**215**	PN	Pn	00 46 22.9	+0.7
MWZ	**Matawai**	**3.24**	**224**	PN	Pn	00 46 24.3	-1.2
RIGZ	**Rimuhau**	**3.39**	**218**	PN	Pn	00 46 26.9	-0.6
RAGZ	**Rawiri**	**3.42**	**223**	PN	Pn	00 46 26.6	-1.3
URZ	**Urewera**	**3.44**	**229**	PN	Pn	00 46 26.0	-2.1
URZ				*e*SN	Sn	00 47 02.4	-5.3
KNZ	**Kokohu**	**3.68**	**215**	PN	Pn	00 46 30.2	-1.2
WHHZ	**Waihua**	**3.94**	**219**	*e*PN	Pn	00 46 33.3	-1.7
NMHZ	**Naumai**	**4.18**	**222**	*e*PN	Pn	00 46 36.2	-2.2
ARHZ	**Aropaoanui**	**4.20**	**219**	*e*PN	Pn	00 46 36.8	-1.8
BKZ	**Black Stump Fm**	**4.40**	**224**	*e*PN	Pn	00 46 38.1	-3.3
KAHZ	**Kahuranaki**	**4.67**	**216**	PN	Pn	00 46 42.8	-2.3
PXZ	**Pawanui**	**4.87**	**214**	*e*PN	Pn	00 46 44.4	-3.3
PXZ				*e*SN	Sn	00 47 34.9	-7.9
MRZ	**Mangatainoka R**	**5.97**	**218**	PN	Pn	00 46 58.9	-4.0

*IDC **19** 00:55:44.7±3.1, 36°.06N×87°.04E, h0km, mb3.7/3, mb1 3.6/7, mb1mx3.4/38, mbtmp3.5/7, ML2.9/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/37, Error ellipse: s-maj=55.3km s-min=34.6km az=27.0*

ISC 19 00:55:48.3±1.9, 36°.4N±0°.1×87°.2E±0°.1, h10km, n11, σ1§35/9, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**7.44**	**3**	Pn	Pb	00 57 54.3	-3.2
WMQ				Sn	**Sb**	**00 59 27.0**	**+0.6**
WMQ				smax	smax		
	comp=N,23nm,1.0s						
WMQ				smax	smax		
	comp=E,22nm,0.9s						
WMQ				LR	LR		
	comp=N,74nm,16.0s						
WMQ				LR	LR		
	comp=E,99nm,13.0s						
WMQ				LR	LR		
	comp=Z,110nm,20.0s						
KSH	**Kashi**	**9.37**	**293**	P	Pn	00 58 11.3	+7.7
KSH				S	**Sn**	**00 59 50.6**	**+1.5**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,78nm,9.0s						
KSH				LR	LR		
	comp=N,72nm,5.1s						
KSH				LR	LR		
	comp=E,110nm,4.6s						
KSH				LR	LR		
	comp=Z,91nm,7.0s						
MKAR	**Makanchi Array**	**11.02**	**342**	Pn	**Pn**	**00 58 25.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=164,slow=16,SNR=9.2						
MKAR				Lg	Lg	01 01 46.6	
	comp=Z,0.1nm,0.3s,baz=147,slow=27,SNR=4.4						
AAK	**Ala-Archa**	**11.60**	**306**	Pn	**Pn**	**00 58 33.5**	**-0.6**
	baz=146,slow=12,SNR=4.0						
AAK				LR	LR	01 04 12.1	
	comp=Z,142nm,18.8s,baz=96,slow=43						
KURBB	**Kurchatov Arra**	**15.54**	**339**	Pn	**P**	**00 59 29.3**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=162,slow=10,SNR=6.7						
ZALV	**Zalesovo Beam**	**17.64**	**355**	P	**Pn**	**00 59 54.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=172,slow=13,SNR=5.2						
SONM	**Songino Array**	**18.24**	**45**	P	**Pn**	**01 00 02.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=233,slow=14,SNR=4.7						
BVAR	**Borovoye Array**	**20.39**	**330**	P	Pn	01 00 25.4	-1.7
	comp=Z,3.5nm,1.0s,baz=140,slow=12,SNR=12						
PALK	**Pallekele**	**29.57**	**193**	LR	LR	01 13 14.6	
	comp=Z,148nm,18.8s,baz=80,slow=36						
ARCES	**ARCESS Array B**	**46.56**	**335**	P	**P**	**01 04 15.7**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=101,slow=8.5,SNR=4.0						
ILAR	**Eielson Array**	**70.70**	**22**	P	**P**	**01 07 04.5**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=303,slow=5.3,SNR=4.2						

IDC 19 01:21:30.9±2.3, 2°.50N×125°.64E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/29, mbtmp3.5/3, Error ellipse: s-maj=226.9km s-min=26.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.88**	**159**	P	P	01 26 45.5	-0.8
	1.6nm,0.5s,baz=337,slow=10,SNR=8.9						
ASAR	**Alice Springs**	**27.23**	**163**	P	P	01 27 17.6	+0.9
	0.1nm,0.3s,baz=352,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**57.95**	**326**	P	P	01 31 24.9	-0.3
	0.1nm,0.4s,baz=109,slow=8.9,SNR=4.2						

DJA 19 01:24:22.0±0.8, 1°N±6°×12°2E±°, h10km, M4.0/7, mb4.3/1, MLv3.9/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.98**	**198**	P	Pg	01 24 38.7	-2.3
MRSI				S	Sb	01 24 54.2	0.0
KMSI	**Cibinong**	**1.93**	**116**	P	Pn	01 24 54.9	0.0
APSI	**Ampana**	**2.39**	**194**	P	Pn	01 25 01.3	+0.1
APSI				S	Sg	01 25 37.7	-1.2
LUWI	**Luwuk**	**2.50**	**168**	P	Pn	01 25 02.9	+0.1
LUWI				S	Sg	01 25 44.8	+2.3
MPSI	**Mapaga**	**2.58**	**245**	P	Pn	01 25 02.8	-1.0
BNSI	**Bone**	**6.16**	**200**	P	Pn	01 25 53.5	+0.4

CASC 19 01:37:31.0±3.4, 8°.21N×83°.51W, h23km±34km, MD3.8, 1C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.55**	**37**	⇓*i*P	Pb	01 37 41.8	-0.3
ACR				*e*S	Sb	01 37 49.8	0.0
BRU2	**Volcan**	**0.99**	**54**	*e*P	Pb	01 37 49.6	-0.2
BRU2				*e*S	Sn	01 38 04.8	+1.5
BUS	**Buena Vista**	**1.36**	**349**	⇑*e*P	Pn	01 37 54.2	-1.0
BUS				*e*S	Sn	01 38 12.4	-0.6
URSC	**Urasca**	**1.64**	**351**	*e*P	Pn	01 37 59.3	+0.6
URSC				*e*S	Sn	01 38 19.7	+0.4
CGA2	**Cerro Gallo 2**	**2.03**	**332**	*e*P	Pb	01 38 10.0	+2.6
CGA2				*e*S	Sb	01 38 32.5	0.0

GUC 19 01:41:31.2±0.7, 35°.25S×73°.10W, h8km±6km, ML3.6, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.91**	**164**	*e*P	Pb	01 41 49.4	+0.1
COCH				*i* S	Sb	01 42 02.5	+0.9
TALC	**Talca**	**1.21**	**97**	⇑*i*P	Pb	01 41 54.0	-0.3
TALC				*i* S	Sn	01 42 11.9	+0.9
LNCH	**Linares**	**1.36**	**116**	⇑*i*P	Pb	01 41 57.0	+0.1
LNCH				*i* S	Sg	01 42 16.4	+1.5
CLCH	**Cerro Calan**	**2.81**	**50**	*e*S	Sb	01 42 56.3	-0.3
CLCH				IAML		01 43 12.8	
	comp=E,214nm,0.6s						
PEL	**Peldehue**	**2.90**	**44**	*e*P	Pn	01 42 20.5	+2.6
PEL				*e*S	Sb	01 42 57.7	-1.5
PEL				IAML		01 43 09.9	
	comp=E,202nm,0.7s						

*IDC **19** 01:43:02.4±1.9, 33°.55N×89°.44E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.5/51, mbtmp3.8/8, ML3.6/3, Error ellipse: s-maj=65.1km s-min=21.4km az=75.0*

*ISCJB **19** 01:43:05.3±1.2, 33°.6N±0°.1×89°.4E±0°.3, h33km, mb3.8/4, Error ellipse: s-maj=37.5km s-min=13.0km az=161.5*

ISC 19 01:43:07.6±1.5, 33°.6N±0°.2×89°.5E±0°.3, h35km, n9, σ0§54/9, mb3.8/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.30**	**340**	Pn	**P**	**01 46 34.3**	**+0.1**
	0.0nm,0.3s,baz=144,slow=10,SNR=4.3						
CMAR	**Chiang Mai Arr**	**17.27**	**148**	P	**P**	**01 47 07.0**	**-0.2**
	0.7nm,0.3s,baz=324,slow=12,SNR=4.0						
KURBB	**Kurchatov Arra**	**18.85**	**338**	P	**P**	**01 47 23.6**	**-0.8**
	0.0nm,0.3s,baz=148,slow=12,SNR=5.2						
SONM	**Songino Array**	**19.13**	**37**	P	**P**	**01 47 27.5**	**-0.2**
	0.1nm,0.3s,baz=219,slow=13,SNR=6.1						
ZALV	**Zalesovo Beam**	**20.65**	**352**	P	**P**	**01 47 43.8**	**-0.2**
	1.1nm,0.6s,baz=164,slow=12,SNR=3.6						
SEY	**Seymchan**	**48.46**	**33**	P	**P**	**01 51 45.9**	**-0.4**
	0.9nm,0.4s,baz=249,slow=8.7,SNR=4.7						
WRA	**Warramunga Arr**	**68.28**	**134**	P	**P**	**01 54 05.1**	**0.0**
	1.3nm,1.0s,baz=327,slow=6.0,SNR=5.1						
ASAR	**Alice Springs**	**70.91**	**137**	P	**P**	**01 54 21.4**	**+0.1**
	0.6nm,0.8s,baz=326,slow=6.3,SNR=4.5						
ILAR	**Eielson Array**	**72.62**	**22**	P	**P**	**01 54 31.9**	**+0.9**
	0.4nm,0.8s,baz=290,slow=5.1,SNR=4.8						

*BJI **19** 01:52:04.7, 38°.00N×55°.42E, h14km, mB4.7/5, mb4.2/6, Ms4.2/5, Ms7 3.9/4*

*AZER **19** 01:52:06.4±0.0, 38°.36N×55°.50E, h10km, Error ellipse: s-maj=5.8km s-min=4.1km az=23.0*

*CSEM **19** 01:52:07.7±0.1, 38°.47N×55°.63E, h2km, mb4.2/20, Error ellipse: s-maj=4.3km s-min=3.3km az=28.0*

*THR **19** 01:52:07.2±0.4, 38°.63N×55°.65E, h33km±8km, ML4.2*

*IDC **19** 01:52:08.2±0.7, 38°.59N×55°.62E, h0km, mb3.9/19, mb1 4.1/25, mb1mx3.9/53, mbtmp4.0/25, ML3.7/3, MS3.4/17, Ms1 3.4/17, ms1mx3.2/38, Error ellipse: s-maj=16.8km s-min=7.4km az=3.0*

*NEIC **19** 01:52:08.7, 38°.53N×55°.62E, h6km, mb4.3/16, ML4.2(THR), MN4.4(TEH), After TEH.*

*TEH **19** 01:52:08.7, 38°.53N×55°.62E, h6km, ML4.4*

*MOS **19** 01:52:11.0±1.6, 38°.53N×55°.77E, h33km, mb4.2/23, Error ellipse: s-maj=7.4km s-min=5.6km az=114.6*

*NNC **19** 01:52:14.1±5.3, 39°.10N×56°.07E, h0km, mb4.7, Error ellipse: s-maj=56.9km s-min=18.3km az=67.0*

ISC 19 01:52:09.8±1.3, 38°.47N±0°.04×55°.65E±0°.03, h16km±9km, n302, σ1§63/328, mb4.1/37, MS3.3/13, 44C-24D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJRD	**Bojnurd**	**1.58**	**118**	*e*Pg	**Pn**	**01 52 37.3**	**0.0**
BJRD				AML	AML	01 53 05.8	
	comp=N,3μm,0.5s						
BJRD				AML	AML	01 53 13.4	
	comp=E,3μm,0.7s						
BJRD	**Bojnurd**	**1.58**	**118**	Pn	**Pn**	**01 52 37.2**	**-0.1**
BJRD	**Bojnurd**	**1.58**	**118**	Pn	**Pn**	**01 52 37.2**	**-0.1**
ISHV	**Shirvan**	**1.87**	**119**	*e*Pn	**Pn**	**01 52 41.6**	**+0.2**
ISHV				*e*Sg	**Sg**	**01 53 09.4**	**-0.6**
ISHV				*e*		01 53 17.1	
	comp=Z,99μm,0.3s						
ISHV	**Shirvan**	**1.87**	**119**	Pn	**Pn**	**01 52 41.5**	**+0.2**
ISHV				*e*Sg	**Sg**	**01 53 09.4**	**-0.6**
ISHV	**Shirvan**	**1.87**	**119**	Pn	**Pn**	**01 52 41.5**	**+0.2**
GEYT	**Alibeck**	**2.02**	**105**	Pn	**Pn**	**01 52 43.5**	**+0.3**
	comp=Z,378nm,0.3s,baz=283,slow=20,SNR=1770						
GEYT				Lg	Lg	01 53 14.1	
	comp=Z,129nm,0.3s,baz=268,slow=34,SNR=9.8						
ASHT	**Ashkhabad**	**2.22**	**103**	⇓Pn	**Pb**	**01 52 48.7**	**-0.8**
ASHT				⇑Sn	**Sg**	**01 53 21.2**	**+0.1**
ISFR	**Sfrayin**	**2.33**	**126**	*e*Pn	**Pn**	**01 52 48.8**	**+1.0**
ISFR				*e*Sg	**Sb**	**01 53 22.7**	**+2.3**
ISFR				*e*		01 53 30.1	
	comp=Z,60μm,0.4s						
ISFR	**Sfrayin**	**2.33**	**126**	*e*Pn	**Pn**	**01 52 48.8**	**+1.0**
ISFR				*e*Sg	**Sb**	**01 53 22.7**	**+2.3**
ISFR	**Sfrayin**	**2.33**	**126**	Pn	**Pn**	**01 52 48.8**	**+1.0**
ISFR				Sg	**Sb**	**01 53 22.7**	**+2.3**
IGLO	**Ghaloghah**	**2.44**	**217**	*e*Pn	**Pn**	**01 52 47.4**	**-1.8**
IGLO				*e*Sn	**Sn**	**01 53 19.4**	**+0.7**
IGLO				*e*		01 53 39.1	
	comp=Z,44μm,0.5s						
IKRD	**Kardeh**	**2.83**	**126**	*e*Pn	**Pg**	**01 53 03.6**	**-0.6**
IKRD				*e*Sn	**Sg**	**01 53 45.2**	**+4.3**
IKRD				*e*		01 54 11.9	
	comp=Z,9μm,0.3s						
IAKL	**Akhelmad**	**3.09**	**126**	*e*Pn	**Pn**	**01 52 59.3**	**+1.0**
IAKL				*e*Sn	**Sn**	**01 53 35.3**	**+0.3**
IAKL				*e*		01 53 55.6	
	comp=Z,11μm,0.5s						
IAKL	**Akhelmad**	**3.09**	**126**	Pn	**Pn**	**01 52 59.2**	**+1.0**
IAKL				*e*Sn	**Sn**	**01 53 35.3**	**+0.3**
IAKL	**Akhelmad**	**3.09**	**126**	Pn	**Pn**	**01 52 59.2**	**+1.0**
IAKL				Sn	**Sn**	**01 53 35.3**	**+0.3**
ISHM	**Shahmirzad**	**3.26**	**216**	*e*Pn	**Pn**	**01 53 00.3**	**-0.2**
ISHM				*e*		01 53 48.9	
	comp=Z,10μm,0.2s						
ISHM	**Shahmirzad**	**3.26**	**216**	*e*Pn	**Pn**	**01 53 00.3**	**-0.2**
ISHM	**Shahmirzad**	**3.26**	**216**	Pn	**Pn**	**01 53 00.3**	**-0.2**
IALA	**Alasht**	**3.29**	**224**	*e*Pn	**Pn**	**01 53 00.4**	**-0.5**
IALA				*e*		01 54 01.2	
	comp=Z,7μm,0.2s						
IALA	**Alasht**	**3.29**	**224**	*e*Pn	**Pn**	**01 53 00.4**	**-0.5**
IANJ	**Anjilo**	**3.30**	**205**	*e*Pn	**Pn**	**01 53 00.1**	**-1.0**
IANJ				*e*		01 53 55.7	
	comp=Z,4μm,0.3s						
IANJ	**Anjilo**	**3.30**	**205**	*e*Pn	**Pn**	**01 53 00.1**	**-1.0**
IANJ	**Anjilo**	**3.30**	**205**	Pn	**Pn**	**01 53 00.1**	**-1.0**
IPAY	**Payeh**	**3.34**	**126**	*e*Pn	**Pn**	**01 53 00.5**	**-1.0**
IPAY				*e*		01 54 15.2	
	comp=Z,6μm,0.3s						
IPAY	**Payeh**	**3.34**	**126**	*e*Pn	**Pn**	**01 53 00.5**	**-1.0**
IPAY	**Payeh**	**3.34**	**126**	Pn	**Pn**	**01 53 00.5**	**-1.0**
IPRN	**Peran**	**3.45**	**231**	*e*Pn	**Pn**	**01 53 00.9**	**-2.1**
IPRN				*e*Sn	**Sn**	**01 53 42.6**	**-1.1**
IPRN				*e*		01 53 48.0	
	comp=Z,7μm,0.2s						
IFIR	**Firoozkooh**	**3.65**	**220**	*e*		01 53 21.4	
	comp=Z,2μm,0.2s						
IFIR				*e*Pn	**Pn**	**01 53 06.2**	**+0.2**
IFIR	**Firoozkooh**	**3.65**	**220**	Pn	**Pn**	**01 53 06.1**	**+0.2**
ISRO	**Mashad**	**3.73**	**124**	*e*Pn	**Pn**	**01 53 07.6**	**+0.8**
ISRO	**Mashad**	**3.73**	**124**	*e*Pn	**Pn**	**01 53 07.6**	**+0.8**
ILAS	**Lasjerd**	**3.76**	**216**	*e*Pn	**Pn**	**01 53 08.1**	**+0.7**
ILAS				*e*		01 54 27.5	
	comp=Z,3μm,0.4s						
ILAS	**Lasjerd**	**3.76**	**216**	*e*Pn	**Pn**	**01 53 08.1**	**+0.7**
DAMV	**Damavand**	**4.08**	**227**	*e*Pn	**Pn**	**01 53 11.1**	**-0.8**
DAMV				AML	AML	01 54 05.0	
	comp=E,210nm,0.6s						
DAMV	**Damavand**	**4.08**	**227**	*e*Pn	**Pn**	**01 53 11.1**	**-0.8**
	comp=E,210nm,0.6s						
IMYA	**Miami**	**4.13**	**120**	*e*Pn	**Pn**	**01 53 11.9**	**-0.5**
IMYA				*e*		01 54 42.0	
	comp=Z,7μm,0.4s						
IMYA	**Miami**	**4.13**	**120**	*e*Pn	**Pn**	**01 53 11.9**	**-0.5**
IMYA	**Miami**	**4.13**	**120**	Pn	**Pn**	**01 53 11.9**	**-0.5**
CHTH	**Charan**	**4.42**	**236**	*e*Pn	**Pn**	**01 53 15.6**	**-0.9**
CHTH	**Charan**	**4.42**	**236**	*e*Pn	**Pn**	**01 53 15.6**	**-0.9**
NDR	**Nardaran**	**4.86**	**297**	⇑S	**Sn**	**01 54 20.8**	**+2.6**
NDR	**Nardaran**	**4.86**	**297**	S	**Sn**	**01 54 20.8**	**+2.6**
TABS	**Tabas**	**4.95**	**166**	*e*Pn	**Pn**	**01 53 23.9**	**+0.3**
TABS				AML	AML	01 53 41.5	
	comp=N,106nm,0.6s						
TABS	**Tabas**	**4.95**	**166**	*e*Pn	**Pn**	**01 53 23.9**	**+0.3**
	comp=N,106nm,0.6s						
GHVR	**GHOM**	**5.31**	**223**	*e*Pn	**Pn**	**01 53 28.6**	**+0.1**
GHVR	**GHOM**	**5.31**	**223**	*e*Pn	**Pn**	**01 53 28.6**	**+0.1**
ALIB	**Äli-Bayra**	**5.37**	**288**	⇑P	**Pn**	**01 53 27.9**	**-1.4**
	SNR=3.3						
ALIB				⇓S	**Sn**	**01 54 34.7**	**+4.0**
ALIB	**Äli-Bayra**	**5.37**	**288**	P	**Pn**	**01 53 27.9**	**-1.4**
	SNR=3.3						
ALIB				S	**Sn**	**01 54 34.7**	**+4.0**
ATGJ	**Altiaghaj**	**5.71**	**297**	⇓P	**Pn**	**01 53 33.9**	**-0.1**
ATGJ				⇑S	**Sn**	**01 54 41.1**	**+2.0**
ATGJ	**Altiaghaj**	**5.71**	**297**	P	**Pn**	**01 53 33.9**	**-0.1**
ATGJ				S	**Sn**	**01 54 41.1**	**+2.0**
GLBA	**Cliilabad**	**5.72**	**280**	P	**Pn**	**01 53 32.8**	**-1.2**
	SNR=4.9						
GLBA				⇑S	**Sn**	**01 54 38.8**	**-0.5**
GLBA	**Cliilabad**	**5.72**	**280**	P	**Pn**	**01 53 32.8**	**-1.2**
	SNR=4.9						
GLBA				S	**Sn**	**01 54 38.8**	**-0.5**
LRK	**Lerik**	**5.73**	**274**	⇑P	**Pn**	**01 53 32.0**	**-2.4**
LRK				⇓S	**Sn**	**01 54 36.2**	**-3.7**
LRK	**Lerik**	**5.73**	**274**	P	**Pn**	**01 53 32.0**	**-2.4**
SIZA	**Siyzn**	**5.82**	**299**	⇑P	**Pn**	**01 53 35.8**	**+0.3**
	SNR=3.0						
SIZA				⇑S	**Sn**	**01 54 44.0**	**+2.1**
SIZA	**Siyzn**	**5.82**	**299**	P	**Pn**	**01 53 35.8**	**+0.3**
	SNR=3.0						
SIZA				S	**Sn**	**01 54 44.0**	**+2.1**
ZNJK	**Zanjan**	**5.82**	**254**	*e*Pn	**Pn**	**01 53 34.2**	**-1.4**
ZNJK				AML	AML	01 54 42.6	
	comp=E,89nm,0.5s						
ZNJK				AML	AML	01 54 43.1	
	comp=N,141nm,0.6s						
ZNJK	**Zanjan**	**5.82**	**254**	*e*Pn	**Pn**	**01 53 34.2**	**-1.4**
	comp=N,141nm,0.6s						
PQL	**Pirkuli**	**5.92**	**295**	⇓P	**Pn**	**01 53 36.3**	**-0.7**
	SNR=6.5						
PQL

DGRG David-gareji 8.44 294 P **Pn 01 54 09.4 -2.0**
GNI Garni 8.62 285⇓*e*P Pn 01 54 17.7 +3.6
GNI pmax pmax
comp=Z,32nm,1.3s
GNI Garni 8.62 285 Pn **Pn 01 54 15.2 +1.1**
comp=Z,0.8nm,0.3s,baz=347,slow=2.2,SNR=6.9
GNI Sn **Sn 01 55 53.8 +2.8**
comp=Z,0.7nm,0.3s,baz=81,slow=16,SNR=2.1
GNI LR LR 01 59 14.9
comp=Z,177nm,20.5s,baz=96,slow=50
SEAG Tbilisi Sea 8.94 295 P **Pn 01 54 15.1 -3.2**
SEAG Tbilisi Sea 8.94 295 P **Pn 01 54 15.1 -3.2**
TBLG Delisi 8.98 295 P **Pn 01 54 15.9 -2.8**
TBLG Delisi 8.98 295 P **Pn 01 54 15.9 -2.8**
DUS Dusheti 9.12 297 P **Pn 01 54 22.5 +1.8**
GUDG Gudauri 9.40 299 P **Pn 01 54 25.1 +0.3**
GUDG Gudauri 9.40 299 P **Pn 01 54 25.1 +0.3**
ONI Oni 10.16 298 P **Pn 01 54 35.9 +0.9**
ONI Oni 10.16 298 P **Pn 01 54 35.9 +0.9**
KBZ Khabaz 10.96 303 P **Pn 01 54 43.9 -2.0**
KBZ 01 56 42.5
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ smax smax
comp=N,1.0nm,0.3s
KBZ Khabaz 10.96 303 Pn **Pn 01 54 43.9 -2.0**
comp=N,0.8nm,0.3s,baz=106,slow=6.4,SNR=20
KBZ Sn **Sn 01 56 42.5 -5.6**
comp=N,1.4nm,0.3s,baz=353,slow=8.3,SNR=4.5
KIV Kislovodsk 11.20 303 *i* P **Pn 01 54 50.3 +1.1**
KIV pmax pmax
comp=Z,9.0nm,0.6s
KIV Kislovodsk 11.20 303 *e*Pn **Pn 01 54 47.1 -2.1**
comp=Z,14nm,0.6s
KIV Kislovodsk 11.20 303 *i* P **Pn 01 54 50.3 +1.1**
comp=Z,9.0nm,0.6s
KIV *e*Sn **Sn 01 56 51.7 -2.3**
KIV Kislovodsk 11.20 303 *e*Pn **Pn 01 54 47.1 -2.1**
comp=Z,14nm,0.6s
KIV *e*Sn **Sn 01 56 51.7 -2.3**
AB31 Akbulak array 11.22 15 ⇑Pn **Pn 01 54 48.5 -0.9**
comp=Z,6.3nm,0.6s,baz=197,slow=13
AB31 ⇓Sn Sn 01 56 47.7 -6.7
comp=Z,16nm,0.7s,baz=205,slow=22
AB31 Akbulak array 11.22 15 P **Pn 01 54 48.5 -0.9**
AB31 01 56 47.6
AB31 pmax pmax
comp=Z,3.0nm,0.3s
AB31 smax smax
comp=N,10.0nm,0.4s
AB31 Akbulak array 11.22 15 Pn **Pn 01 54 48.5 -0.9**
comp=N,6.3nm,0.6s
KBL Kabul 11.47 106 *e*P **Pn 01 54 52.0 -1.1**
KBL pmax pmax
comp=Z,19nm,0.8s
KBL Kabul 11.47 106 *e*P **Pn 01 54 52.0 -1.1**
comp=Z,19nm,0.8s
KBL Kabul 11.47 106 *e*Pn **Pn 01 54 52.0 -1.1**
comp=Z,19nm,0.8s
AKTK Aktyubinsk 12.08 7 P **Pn 01 55 01.0 -0.2**
comp=Z,16nm,0.7s
AKTO Aktyubinsk 12.08 7 ⇑Pn **Pn 01 55 01.0 -0.2**
comp=Z,16nm,0.7s
AKTO ⇑Sn **Sn 01 57 12.5 -3.1**
comp=Z,48nm,0.8s
AKTO Aktyubinsk 12.08 7 P **Pn 01 55 01.0 -0.2**
AKTO 01 57 12.4
AKTO pmax pmax
comp=Z,16nm,0.7s
AKTO smax smax
comp=N,48nm,0.8s
AKTO Aktyubinsk 12.08 7 Pn **Pn 01 55 00.8 -0.4**
comp=N,1.5nm,0.3s,baz=185,slow=14,SNR=26
AKTO Sn **Sn 01 57 11.0 -4.6**
comp=N,0.7nm,0.3s,baz=51,slow=22,SNR=3.2
AKTO LR LR 02 00 46.2
comp=N,240nm,18.7s,baz=176,slow=43
AKTO Aktyubinsk 12.08 7 Pn **Pn 01 55 01.0 -0.2**
comp=N,16nm,0.7s
AKTO Sn **Sn 01 57 11.0 -4.6**
KK31 Karatay Array 12.18 63 Pn Pn 01 54 58.7 -3.8
comp=N,3.8nm,0.4s,baz=254,slow=13,SNR=120
KK31 ⇑Sn Sn 01 57 07.8 -10
comp=N,3.8nm,0.5s,baz=85,slow=78,SNR=5.1
KK31 Karatay Array 12.18 63 *e*P Pn 01 54 58.7 -3.8
KK31 01 57 10.6
KK31 pmax pmax
comp=Z,6.0nm,0.4s
KK31 smax smax
comp=N,8.0nm,0.6s
KK31 pmax pmax
comp=Z,46nm,1.1s
KKAR Karatay Array 12.18 63 *e*P **Pn 01 55 00.2 -2.3**
KKAR pmax pmax
comp=Z,8.0nm,0.4s
KKAR Karatay Array 12.18 63 *e*P **Pn 01 55 00.2 -2.3**
comp=Z,8.0nm,0.4s
KKAR Karatay Array 12.18 63 *e*Pn **Pn 01 55 00.2 -2.3**
comp=Z,8.0nm,0.4s
EKS2 Erkin-Say 14.40 67 *e*P Pn 01 55 29.6 -3.4
EKS2 pmax pmax
comp=Z,16nm,1.0s
EKS2 Erkin-Say 14.40 67 *e*Pn Pn 01 55 29.6 -3.4
comp=Z,16nm,1.0s
EKS2 Erkin-Say 14.40 67 *e*Pn Pn 01 55 29.6 -3.4
comp=Z,16nm,1.0s
AAK Ala-Archa 14.91 68 ⇑P **Pn 01 55 37.4 -2.7**
comp=Z,10nm,0.8s
AAK Ala-Archa 14.91 68⇓*e*P **Pn 01 55 37.7 -2.4**
AAK pmax pmax
comp=Z,13nm,0.6s
AAK Ala-Archa 14.91 68 Pn Pn 01 55 36.8 -3.2
comp=Z,0.7nm,0.3s,baz=222,slow=4.3,SNR=17
AAK Sn Sn 01 58 18.5 -6.4
comp=Z,0.2nm,0.3s,baz=337,slow=20,SNR=2.4
AAK Lg Lg 02 00 07.3
comp=Z,0.2nm,0.3s,baz=48,slow=21,SNR=2.0
AAK LR LR 02 02 29.4
comp=Z,265nm,21.3s,baz=242,slow=42
AAK Ala-Archa 14.91 68 *e*Pn Pn 01 55 36.3 -3.8
comp=Z,8.7nm,0.6s
AAK Sn Sn 01 58 18.5 -6.4
AAK Ala-Archa 14.91 68 *e*Pn Pn 01 55 36.3 -3.8
comp=Z,8.7nm,0.6s
AAK Sn Sn 01 58 18.5 -6.4
AAK Lg Lg 02 00 07.3
FRU Bishkek 15.04 67 *e*P **P 01 55 51.0 +4.1**
FRU pmax pmax
comp=Z,35nm,1.8s
FRU pmax pmax
comp=E,125nm,2.1s
OTUK Ortayu 15.55 46 ⇓P **Pn 01 55 44.8 -3.5**
OTUK ⇓S Sn 01 58 31.6 -8.6
TKM2 Tokmak 2 15.76 67 ⇑P **Pn 01 55 52.1 +0.8**
comp=E,8.8nm,0.7s
KSH Kashi 15.84 80 P **Pn 01 55 49.6 -2.6**
KSH S Sn 01 58 36.4 -11
KSH PMZ
comp=E,7.0nm,0.7s
KSH PMZ
comp=E,190nm,8.1s
KSH LN
comp=E,250nm,5.0s
KSH LE
comp=E,560nm,11.6s
KSH LZ
comp=E,520nm,17.2s
VRHR Novokhopersk 16.04 326 *e*P **Pn 01 55 55.8 +1.2**
VRHR pmax pmax
comp=N,6.0nm,0.7s
VRHR pmax pmax
comp=E,6.0nm,0.7s
VRHR pmax pmax
comp=Z,7.0nm,0.7s
VORD Divnogorie 17.02 323 *e*P **P 01 56 08.3 -0.4**
VORD pmax pmax
comp=N,30nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 17.02 323 *e*P **P 01 56 08.3 -0.4**
BRTR Keskin Array B 17.13 281 *ce*P **P 01 56 12.3 +2.0**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 17.13 281 P **Pn 01 56 08.5 -0.2**
comp=Z,0.1nm,0.3s,baz=90,slow=11,SNR=9.4
BRTR LR LR 02 03 47.7
comp=Z,59nm,20.1s,baz=82,slow=41
RAYN Ar Rayn 17.23 213 *e*Pn **Pn 01 56 08.0 -1.9**
comp=Z,23nm,1.0s
RAYN Ar Rayn 17.23 213 *e*Pn **Pn 01 56 08.0 -1.9**
comp=Z,23nm,1.0s
VSR Storozhevoye 17.24 323 *e*P **Pn 01 56 10.3 +0.5**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,20nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 17.24 323 *e*P **Pn 01 56 10.3 +0.5**
BVA0 Borovoye Array 17.77 30 P **Pn 01 56 15.2 -1.2**
comp=Z,11nm,0.8s,baz=206,slow=8.9,SNR=50
BVA0 ⇑S Sn 01 59 21.4 -13
comp=Z,6.4nm,0.8s,baz=226,slow=25,SNR=4.0
BVA0 Borovoye Array 17.77 30 P **Pn 01 56 15.2 -1.2**
comp=Z,11nm,0.8s,SNR=50
BVAR Borovoye Array 17.77 30 P **Pn 01 56 15.4 -1.0**
BVAR S **Sn 01 59 30.6 -3.3**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR smax smax
comp=N,1.0nm,0.3s
BVAR MLR MLR
comp=Z,15nm,28.6s
BVAR Borovoye Array 17.77 30 P **Pn 01 56 15.4 -1.0**
comp=Z,1.2nm,0.3s,baz=219,slow=8.8,SNR=23
BVAR S **Sn 01 59 30.6 -3.3**
comp=Z,0.8nm,0.3s,baz=234,slow=20,SNR=6.2
BVAR LR LR 02 04 29.6
comp=Z,91nm,20.0s,slow=42
ARU Arti 18.08 5*d i*P **Pn 01 56 18.6 -1.4**
ARU S **Sn 01 59 44.0 +2.8**
ARU pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 18.08 5 *e*Pn **Pn 01 56 18.1 -1.9**
comp=Z,11nm,0.6s
ARU Arti 18.08 5 *i* P **Pn 01 56 18.6 -1.4**
comp=Z,4.0nm,0.7s
ARU Arti 18.08 5 *e*Pn **Pn 01 56 18.1 -1.9**
comp=Z,11nm,0.6s
SVE Sverdlovsk 18.66 9 *e*P **Pn 01 56 28.6 +1.4**
SVE *e*S **Sn 01 59 49.8 -5.6**
SVE pmax pmax
comp=Z,11nm,0.9s
SVE Sverdlovsk 18.66 9 *e*P **Pn 01 56 28.6 +1.4**
comp=Z,11nm,0.9s
SMLA Simla 19.10 106 *e*P **P 01 56 28.7 -3.1**
KURBB Kurchatov Arra 20.24 46 P **P 01 56 44.9 +0.7**
comp=Z,1.8nm,0.7s,baz=247,slow=11,SNR=9.8
KURK Kurchatov 20.33 46 *e*P **P 01 56 45.2 +0.1**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 20.33 46 *e*P **P 01 56 45.2 +0.1**
comp=Z,4.0nm,0.8s
KURK Kurchatov 20.33 46 *e*P **P 01 56 45.2 +0.1**
comp=Z,4.3nm,0.8s
OBN Obninsk 21.05 328 P **P 01 56 52.5 -0.3**
OBN pmax pmax
comp=Z,40nm,2.5s
OBN MLR MLR
comp=Z,94nm,15.0s
OBN Obninsk 21.05 328 LR LR 02 06 25.3
comp=Z,52nm,18.6s,baz=92,slow=41
OBN Obninsk 21.05 328 P **P 01 56 52.5 -0.3**
comp=Z,94nm,15.0s
SOKR Solikamsk 21.16 2 *e*P P 01 56 59.0 +5.1
SOKR pmax pmax
comp=Z,20nm,1.1s
SOKR MLR MLR
comp=Z,160nm,12.0s
MKAR Makanchi Array 21.22 58 P **P 01 56 55.6 +0.8**
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR MLR MLR
comp=Z,15nm,28.6s
MKAR Makanchi Array 21.22 58 P **P 01 56 55.6 +0.8**
comp=Z,10nm,0.7s,baz=249,slow=8.9,SNR=128
MKAR LR LR 02 06 15.2
comp=Z,121nm,21.6s,baz=256,slow=40
MKAR Makanchi Array 21.22 58 P **P 01 56 55.6 +0.8**
comp=Z,15nm,28.6s
TIRR Tirgusor 21.22 295 *e*P **P 01 56 56.9 +2.1**
TIRR pmax pmax
comp=Z,4.0nm,0.8s
TIRR Tirgusor 21.22 295 *e*P **P 01 56 56.9 +2.1**
comp=Z,4.0nm,0.8s
TIRR Tirgusor 21.22 295 *e*P **P 01 56 56.9 +2.1**
comp=Z,4.2nm,0.8s
CFR Carcaliu 21.51 297⇑*i*P **P 01 56 57.7 -0.2**
CFR Carcaliu 21.51 297⇑*i*P **P 01 56 57.7 -0.2**
MSAB Monastry St. A 21.60 294⇓*i*P **P 01 57 00.1 +1.3**
MSAB Monastry St. A 21.60 294⇓*i*P **P 01 57 00.1 +1.3**
LEOM Leova 21.66 300⇑*i*P **P 01 57 00.3 +0.8**
LEOM Leova 21.66 300⇑*i*P **P 01 57 00.3 +0.8**
AKASG Malin Array Be 22.31 312 P **P 01 57 06.5 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 22.31 312 P **P 01 57 06.5 0.0**
comp=Z,1.6nm,0.4s,baz=100,slow=8.8,SNR=7.4
KIEV Kiev 22.32 312 *e*P **P 01 57 05.8 -0.7**
KIEV pmax pmax
comp=Z,15nm,0.6s
KIEV Kiev 22.32 312 *e*P **P 01 57 05.8 -0.7**
comp=Z,15nm,0.6s
KIEV Kiev 22.32 312 *e*P **P 01 57 05.8 -0.7**
comp=Z,15nm,0.6s
JMB Yambol 22.42 290⇑*i*P **P 01 57 11.4 +3.7**
ISR Istrita 22.62 296⇑*i*P **P 01 57 11.3 +1.4**
ISR Istrita 22.62 296⇑*i*P **P 01 57 11.3 +1.4**
MLR Muntele Rosu 23.08 297 P **P 01 57 15.7 +0.9**
MLR pmax pmax
comp=Z,2.0nm,1.0s
MLR Muntele Rosu 23.08 297⇑*i*P **P 01 57 16.6 +1.8**
MLR Muntele Rosu 23.08 297 P **P 01 57 15.7 +0.9**
comp=Z,1.8nm,1.0s,baz=46,slow=4.7,SNR=10
DOPR Dopca 23.53 298⇓*i*P **P 01 57 18.3 -0.9**
DOPR Dopca 23.53 298⇓*i*P **P 01 57 18.3 -0.9**
HUMR Humele 23.67 295⇓*i*P **P 01 57 23.5 +3.0**
BURAR Bucovina Array 23.92 302⇑*i*P **P 01 57 23.3 +0.3**
BURAR Bucovina Array 23.92 302⇑*i*P **P 01 57 23.3 +0.3**
ARR Arges 23.99 297⇓*i*P **P 01 57 25.1 +1.5**
ARR Arges 23.99 297⇓*i*P **P 01 57 25.1 +1.5**
PRGR Permogore 24.01 348 *e*P P 01 57 29.0 +5.4
KLMR Klimovskoe 24.59 341 *e*P **P 01 57 28.0 -0.8**
KLMR pmax pmax
comp=Z,19nm,0.8s
KLMR Klimovskoe 24.59 341 *e*P **P 01 57 28.0 -0.8**
comp=Z,19nm,0.8s
LOT Lotru 24.60 297⇑*i*P **P 01 57 30.3 +1.0**
LOT Lotru 24.60 297⇑*i*P **P 01 57 30.3 +1.0**
WMQ Urumqi 24.62 67 P **P 01 57 29.9 +0.5**
WMQ PMZ
comp=Z,8.0nm,1.0s
WMQ PMZ
comp=Z,200nm,4.5s
WMQ LN
comp=Z,140nm,18.0s
WMQ LE
comp=Z,60nm,17.0s
WMQ LZ
comp=Z,68nm,14.0s
IDI Anoyia 24.75 272 P **P 01 57 30.3 -0.4**
comp=Z,7.0nm,0.5s,baz=68,slow=10,SNR=15
NVS Novosibirsk 24.80 40 *e*P P 01 57 40.9 +10
ZALV Zalesovo Beam 25.19 43 P **P 01 57 33.8 -0.6**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV MLR MLR
comp=Z,15nm,28.6s
ZALV Zalesovo Beam 25.19 43 P **P 01 57 33.8 -0.6**
comp=Z,1.9nm,0.6s,baz=254,slow=11,SNR=9.8
ZALV LR LR 02 08 41.6
comp=Z,90nm,21.2s,baz=94,slow=40
ZALV Zalesovo Beam 25.19 43 P **P 01 57 33.8 -0.6**
comp=Z,15nm,28.6s
GZR Gura Zlata 25.29 296⇑*i*P **P 01 57 36.5 +1.0**
GZR Gura Zlata 25.29 296⇑*i*P **P 01 57 36.5 +1.0**
DRGR 25.48 300⇓*i*P **P 01 57 39.5 +2.4**
DRGR 25.48 300⇓*i*P **P 01 57 39.5 +2.4**
UZH Uzhgorod 26.04 304 *e*P **P 01 57 46.1 +4.0**
UZH *e* 01 57 59.7
UZH *e*S **S 02 02 15.4 +3.1**
KOLS Kolonicke sedl 26.11 304 *e*P P 01 57 50.4 +7.6
KOLS Kolonicke sedl 26.11 304 *es*P P 01 57 50.4 +7.6
BZS Buzias 26.12 297⇑*i*P **P 01 57 45.0 +2.1**
BZS Buzias 26.12 297⇑*i*P **P 01 57 45.0 +2.1**
CRVS Cervenica-Dubn 26.63 304 *e*P **P 01 57 51.1 +3.6**
CRVS Cervenica-Dubn 26.63 304 *e*P **P 01 57 51.1 +3.6**
JOF Joensuu 28.58 337 *e*P **P 01 58 07.0 +2.3**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 28.58 337 *e*p **P 01 58 07.0 +2.3**
comp=Z,2.0nm,0.6s
MORC Moravsky Berou 29.30 305 *e*P **P 01 58 10.9 -0.5**
MORC pmax pmax
comp=Z,2.0nm,0.7s
MORC Moravsky Berou 29.30 305 *e*P **P 01 58 10.9 -0.5**
comp=Z,1.6nm,0.7s
MORC Moravsky Berou 29.30 305 *e*P **P 01 58 10.9 -0.5**
comp=Z,1.6nm,0.7s
FINES FINESS Array B 29.38 331 P **P 01 58 11.9 0.0**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES MLR MLR
comp=Z,54nm,19.2s
FINES FINESS Array B 29.38 331 P **P 01 58 11.9 0.0**
comp=Z,0.9nm,0.6s,baz=145,slow=11,SNR=7.9
FINES LR LR 02 11 29.0
comp=Z,54nm,19.2s,baz=151,slow=40
HVS Khovu-Aksy 29.48 52 P **P 01 58 14.3 +1.3**
HVS pmax pmax
comp=Z,10.0nm,0.8s
TIP Timpagrande 30.16 284 *e*P **P 01 58 16.9 -2.2**
comp=Z,4.1nm,1.1s
TIP Timpagrande 30.16 284 *e*P **P 01 58 16.9 -2.2**
comp=Z,4.1nm,1.1s
GERES GERESS Array B 31.71 303 P **P 01 58 33.0 +0.3**
GERES MLR MLR
comp=Z,52nm,18.6s
GERES GERESS Array B 31.71 303 P **P 01 58 33.0 +0.3**
comp=Z,0.2nm,0.5s,baz=78,slow=9.1,SNR=3.1
GERES LR LR 02 12 52.7
comp=Z,52nm,18.6s,baz=82,slow=39
GERES GERESS Array B 31.71 303 P **P 01 58 33.0 +0.3**
HFS Hagfors 34.05 323 P **P 01 58 53.5 +0.5**
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS MLR MLR
comp=Z,63nm,19.9s
HFS Hagfors 34.05 323 P **P 01 58 53.5 +0.5**
comp=Z,1.8nm,0.7s,baz=77,slow=7.8,SNR=8.5
HFS LR LR 02 13 26.0
comp=Z,63nm,19.9s,baz=113,slow=38
ARCES ARCESS Array B 35.05 342 P **P 01 59 03.7 +2.2**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES MLR MLR
comp=Z,15nm,28.6s
ARCES ARCESS Array B 35.05 342 P **P 01 59 03.7 +2.2**
comp=Z,1.5nm,0.9s,baz=147,slow=10,SNR=3.4
ARCES LR LR 02 14 08.9
comp=Z,83nm,18.7s,baz=148,slow=38
NB2 NORSAR Subarra 35.51 324 P **P 01 59 04.8 -0.8**
comp=Z,1.0nm,0.5s,baz=119,slow=8.6
NB2 NORSAR Subarra 35.51 324 P **P 01 59 04.8 -0.8**
comp=Z,1.0nm,0.5s,baz=119,slow=8.2,SNR=6.0
NOA NORSAR Array B 35.51 324 P **P 01 59 06.2 +0.6**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA MLR MLR
comp=Z,32nm,19.1s
NOA NORSAR Array B 35.51 324 P **P 01 59 06.2 +0.6**
comp=Z,0.8nm,0.5s,baz=120,slow=8.1,SNR=5.7
NOA LR LR 02 13 13.5
comp=Z,32nm,19.1s,baz=100,slow=36
LPG La Plagne 36.55 297 *e*P **P 01 59 15.1 +0.1**
comp=Z,2.3nm,0.6s
LPG La Plagne 36.55 297 *e*P **P 01 59 15.1 +0.1**
LPG pmax pmax
comp=Z,2.0nm,0.6s
LPG La Plagne 36.55 297 *e*P **P 01 59 15.1 +0.1**
comp=Z,2.3nm,0.6s
LPG La Plagne 36.55 297 *e*P **P 01 59 15.1 +0.1**
comp=Z,2.3nm,0.6s
LPL La Plagne 36.56 297 *e*P **P 01 59 15.3 +0.3**
comp=Z,2.9nm,0.7s
LPL La Plagne 36.56 297 *e*P **P 01 59 15.3 +0.3**
LPL pmax pmax
comp=Z,3.0nm,0.7s
LPL La Plagne 36.56 297 *e*P **P 01 59 15.3 +0.3**
comp=Z,2.9nm,0.7s
LPL La Plagne 36.56 297 *e*P **P 01 59 15.3 +0.3**
comp=Z,2.9nm,0.7s
MBDF Montbardon 36.63 296 *e*P **P 01 59 16.4 +0.9**
comp=Z,7.7nm,0.8s
MBDF Montbardon 36.63 296 *e*P **P 01 59 16.4 +0.9**
MBDF pmax pmax
comp=Z,8.0nm,0.8s
MBDF Montbardon 36.63 296 *e*P **P 01 59 16.4 +0.9**
comp=Z,7.7nm,0.8s
MBDF Montbardon 36.63 296 *e*P **P 01 59 16.4 +0.9**
comp=Z,7.7nm,0.8s
BNI Bardonecchia 36.66 296 *e*P **P 01 59 16.3 +0.6**
BNI pmax pmax
comp=Z,25nm,1.7s
BNI Bardonecchia 36.66 296 *e*P **P 01 59 16.3 +0.6**
comp=Z,25nm,1.7s
BNI Bardonecchia 36.66 296 *e*P **P 01 59 16.3 +0.6**
comp=Z,25nm,1.7s
ORIF Oris-en-Rattie 37.24 296 *e*P **P 01 59 20.5 -0.1**
ORIF Oris-en-Rattie 37.24 296 *e*P **P 01 59 20.5 -0.1**
ORIF Oris-en-Rattie 37.24 296 *e*P **P 01 59 20.5 -0.1**
ORIF Oris-en-Rattie 37.24 296 *e*P **P 01 59 20.5 -0.1**
SONM Songino Array 37.58 59 P **P 01 59 24.9 +1.4**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 37.58 59 P **P 01 59 24.9 +1.4**
comp=Z,0.6nm,0.7s,baz=255,slow=11,SNR=4.3
ULN Ulaanbaatar 38.02 59⇑*e*P **P 01 59 28.8 +1.5**
ULN pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 38.02 59 *e*P **P 01 59 28.4 +1.1**
comp=Z,3.8nm,0.6s
ULN Ulaanbaatar 38.02 59 *e*P **P 01 59 28.4 +1.1**
comp=Z,3.8nm,0.6s
AVF Avril sur Loir 38.74 300 *e*P **P 01 59 32.4 -0.8**
AVF Avril sur Loir 38.74 300 *e*P **P 01 59 32.4 -0.8**
AVF Avril sur Loir 38.74 300 *e*P **P 01 59 32.4 -0.8**
AVF Avril sur Loir 38.74 300 *e*P **P 01 59 32.4 -0.8**
EKA Eskdalemuir Ar 42.21 313 P **P 02 00 03.2 +1.5**
EKA pmax pmax
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 42.21 313 P **P 02 00 03.2 +1.5**
comp=Z,1.5nm,0.6s,baz=101,slow=6.9,SNR=10.0
CMAR Chiang Mai Arr 42.50 106 P **P 02 00 05.3 +0.8**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR MLR MLR
comp=Z,39nm,20.8s
CMAR Chiang Mai Arr 42.50 106 P **P 02 00 05.3 +0.8**
comp=Z,1.4nm,0.3s,baz=305,slow=6.5,SNR=2.9
CMAR LR LR 02 20 36.3
comp=Z,39nm,20.8s,baz=290,slow=40
KMBO Kilima Mbogo 42.89 208 *e*P **P 02 00 06.8 -1.1**
KMBO pmax pmax
comp=Z,1.0nm,0.9s
KMBO Kilima Mbogo 42.89 208 *e*P **P 02 00 06.8 -1.1**
comp=Z,0.9nm,0.9s
KMBO Kilima Mbogo 42.89 208 *e*P **P 02 00 06.8 -1.1**
comp=Z,0.9nm,0.9s
SPITS Spitsbergen Ar 42.99 349 P **P 02 00 09.4 +1.6**
SPITS pmax pmax
comp=Z,4.0nm,0.9s
SPITS Spitsbergen Ar 42.99 349 P **P 02 00 09.4 +1.6**
comp=Z,3.6nm,0.9s,baz=128,slow=11,SNR=5.2
ESDC Sonseca Array 45.54 291 P **P 02 00 28.1 -0.6**
comp=Z,0.3nm,0.5s,baz=55,slow=8.0,SNR=6.8
YAK Yakutsk 49.60 37⇑*e*P **P 02 01 01.1 +1.3**
QIZ Qiongzhong 50.56 97 P **P 02 01 05.1 -2.6**
QIZ S **S 02 08 17.8 -3.8**
QIZ LN
comp=Z,190nm,11.8s
QIZ LZ
comp=Z,130nm,5.9s
KULM Kulim 52.45 117 *e*P **P 02 01 22.1 +0.2**
comp=Z,12nm,1.0s
KULM Kulim 52.45 117 *e*P **P 02 01 22.1 +0.2**

	comp=Z,12nm,1.0s						
TORD	Torodi Ar. Bea	53.85	257	P		P	02 01 31.5 -0.7
	comp=Z,0.4nm,0.5s,baz=58,slow=7.7,SNR=9.6						
KSAR	Wonju Array Be	55.55	67	P		P	02 01 46.9 +2.6
KSAR	Wonju Array Be	55.55	67	P		P	02 01 46.9 +2.6
KSAR	Wonju Array Be	55.55	67	P		P	02 01 46.9 +2.6
KSRS	Korea Array	55.57	67	P		P	02 01 46.9 +2.4
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSRS				MLR	MLR		
	comp=Z,15nm,28.6s						
KSRS	Korea Array	55.57	67	P		P	02 01 46.9 +2.4
	comp=Z,1.8nm,0.7s,baz=278,slow=6.2,SNR=4.1						
KSRS				LR	LR		02 26 13.2
	comp=Z,47nm,18.4s,baz=291,slow=37						
SEY	Seymchan	59.42	32	P		P	02 02 14.8 +3.6
DBIC	Dimbokro	62.91	256	*e*P		P	02 02 35.9 +0.3
DBIC				pmax	pmax		
	comp=Z,16nm,1.5s						
DBIC	Dimbokro	62.91	256	LR	LR		02 34 04.5
	comp=Z,52nm,18.1s,baz=91,slow=40						
DBIC	Dimbokro	62.91	256	*e*P		P	02 02 35.9 +0.3
	comp=Z,16nm,1.5s						
DBIC	Dimbokro	62.91	256	*e*P		P	02 02 35.9 +0.3
	comp=Z,16nm,1.5s						
RES	Resolute Bay	65.44	352	*e*P		P	02 02 50.8 -0.5
RES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
RES	Resolute Bay	65.44	352	*e*P		P	02 02 50.8 -0.5
	comp=Z,1.8nm,1.0s						
RES	Resolute Bay	65.44	352	*e*P		P	02 02 50.8 -0.5
	comp=Z,1.8nm,1.0s						
PETK	Petropavlovsk-	66.70	40	LR	LR		02 34 33.2
	comp=Z,74nm,18.1s,baz=117,slow=38						
ILAR	Eielson Array	75.58	10	P		P	02 03 54.3 +1.0
	comp=Z,0.4nm,0.6s,baz=336,slow=3.8,SNR=4.4						
YKA	Yellowknife Ar	79.08	355	P		P	02 04 13.4 +0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	79.08	355	P		P	02 04 13.4 +0.5
	comp=Z,0.6nm,0.8s,baz=4.8,slow=6.3,SNR=10						

WEL 19 02:08:53.2±0.5, 38°.27S×175°.93E, h158km±4km, ML3.5/15, 5C-2D, Error ellipse: s-maj=2.9km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.93	90	⇑PN	Pn	02 09 18.4	+0.2
URZ				SN	Sn	02 09 37.4	+0.1
URZ				AML	AML	02 09 39.2	
BKZ	Black Stump Fm	1.00	154	PN	Pn	02 09 18.8	0.0
BKZ				*e*SN	Sn	02 09 38.5	-0.1
TUVZ	Tukino	1.02	192	PN	Pn	02 09 19.2	+0.1
TRVZ	Turoa	1.07	196	PN	Pn	02 09 19.7	0.0
NMHZ	Naumai	1.08	141	PN	Pn	02 09 20.5	+0.9
WNVZ	Wahianoa	1.09	194	PN	Pn	02 09 19.7	0.0
RAHZ	Arahi	1.11	126	PN	Pn	02 09 20.4	+0.6
MOVZ	Moawhango	1.15	187	⇑PN	Pn	02 09 19.7	-0.5
MTVZ	Mangateitei	1.18	198	⇓PN	Pn	02 09 20.2	-0.1
RAGZ	Rawiri	1.19	102	PN	Pn	02 09 20.9	+0.4
BHHZ	Black Hill Sta	1.23	175	PN	Pn	02 09 20.4	-0.5
MWZ	Matawai	1.26	94	PN	Pn	02 09 21.4	+0.3
MWZ				SN	Sn	02 09 42.1	-0.4
MWZ				AML	AML	02 09 44.0	
ARHZ	Aropaoanui	1.30	140	PN	Pn	02 09 21.9	+0.5
WHHZ	Waihua	1.30	129	*e*PN	Pn	02 09 21.9	+0.4
MCHZ	McNeill Hill	1.32	153	PN	Pn	02 09 22.2	+0.6
KRHZ	Kereru	1.42	166	PN	Pn	02 09 22.3	-0.3
RIGZ	Rimuhau	1.50	108	PN	Pn	02 09 23.8	+0.3
HAZ	Te Kaha	1.55	71	PN	Pn	02 09 23.6	-0.3
HAZ				SN	Sn	02 09 46.1	-1.3
KNZ	Kokohu	1.56	119	PN	Pn	02 09 24.0	0.0
CKHZ	Cape Kidnapper	1.65	148	PN	Pn	02 09 25.0	+0.1
PNHZ	Pukenui	1.66	173	PN	Pn	02 09 24.2	-0.9
PRGZ	Paritu Road	1.66	114	PN	Pn	02 09 25.2	+0.1
KAHZ	Kahuranaki	1.69	155	PN	Pn	02 09 25.3	-0.2
MHGZ	Mahia Peninsul	1.78	120	PN	Pn	02 09 26.6	+0.2
TSZ	Takapari Road	1.79	179	⇑PN	Pn	02 09 25.5	-1.0
WPHZ	Waipukurau	1.84	168	PN	Pn	02 09 26.2	-0.9
PUZ	Puketiti	1.84	85	PN	Pn	02 09 26.8	-0.3
PUZ				SN	Sn	02 09 51.9	-1.2
PXZ	Pawanui	1.91	158	⇑PN	Pn	02 09 27.1	-0.7
DVHZ	Dannevirke	2.04	175	PN	Pn	02 09 27.8	-1.5
ANWZ	Angora Road	2.23	169	PN	Pn	02 09 30.3	-1.2
PRWZ	Pori Road	2.29	179	PN	Pn	02 09 30.4	-1.7
MRZ	Mangatainoka R	2.41	186	⇑PN	Pn	02 09 31.3	-2.3
MRZ				SN	Sn	02 10 00.4	-4.6
MRZ				AML	AML	02 10 03.2	
BFZ	Birch Farm	2.42	174	PN	Pn	02 09 31.8	-2.1
TIWZ	Tintock	2.51	181	PN	Pn	02 09 32.7	-2.2
OGWZ	Otaki Gorge	2.62	193	PN	Pn	02 09 33.8	-2.3
HOWZ	Holdsworth Sta	2.65	187	PN	Pn	02 09 33.8	-2.8
KIW	Kapiti Island	2.71	197	PN	Pn	02 09 34.4	-2.9
TMWZ	Te Maipa	2.84	181	PN	Pn	02 09 36.2	-2.8
MTW	Mount Morrison	2.91	186	PN	Pn	02 09 36.6	-3.1
CAW	Cannon Point	2.92	193	PN	Pn	02 09 36.8	-3.1
TRWZ	Traveller	3.13	183	PN	Pn	02 09 39.4	-3.2
PAWZ	Paruwai Farm	3.14	187	AML	AML	02 10 17.1	
MSWZ	Moikau Station	3.19	189	⇓PN	Pn	02 09 39.8	-3.5
TCW	Tory Channel	3.21	203	*e*PN	Pn	02 09 40.0	-3.5
PLWZ	Palliser	3.34	189	PN	Pn	02 09 41.3	-3.9
TUWZ	Tuamarina	3.51	205	AML	AML	02 10 00.8	
MQZ	McQueen's Vall	5.97	203	*e*SN	Sn	02 11 16.5	-11

*MDD **19** 02:35:57.5±2.1, 36°.85N×12°.43W, h0km, mb4.1/1, Error ellipse: s-maj=19.0km s-min=15.9km az=111.0, PRXIMO*
*INMG **19** 02:35:58.7±1.1, 36°.64N×12°.81W, h10km, ML1.9, Error ellipse: s-maj=8.1km s-min=5.6km az=106.0*
*CSEM **19** 02:35:59.8±0.5, 37°.02N×12°.27W, h10km, ML2.9/7, Error ellipse: s-maj=8.6km s-min=6.1km az=105.0*

ISC 19 02:35:58.8±4.0, 36°.9N±0°.1×12°.3W±0°.2, h10km, n70, σ0°.70/105, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	2.79	85	*e*Pn	Pn	02 36 43.4	-0.1
PFVI				*e*Sn	Sn	02 37 16.4	-0.9
PFVI				A	A	02 37 18.4	
	1.8nm,0.1s						
PFVI	Vila Bisbo	2.79	85	P	Pn	02 36 43.3	-0.1
	3.6nm,0.1s,SNR=18						
PFVI				S	Sn	02 37 16.2	-1.0
	1.4nm,0.1s,SNR=7.9						
PFVI	Vila Bisbo	2.79	85	*e*Pn	Pn	02 36 43.4	-0.1
PFVI				*e*Sn	Sn	02 37 16.4	-0.9
	1.8nm,0.1s						
PTEO	Sao Teotonio	2.92	77	*e*Pn	Pn	02 36 45.7	+0.4
PTEO				*e*Sn	Sn	02 37 20.6	+0.1
PTEO				A	A	02 37 24.6	
	2.6nm,0.3s						
PTEO	Sao Teotonio	2.92	77	P	Pn	02 36 45.7	+0.4
PTEO				S	Sn	02 37 20.6	+0.1
	1.3nm,0.3s						
PTEO	Sao Teotonio	2.92	77	P	Pn	02 36 45.7	+0.4
PTEO				*e*Sn	Sn	02 37 20.6	+0.1
	2.6nm,0.3s						
MORF	Marmelete	2.94	82	*e*Pn	Pn	02 36 45.7	0.0
MORF				*e*Sn	Sn	02 37 22.4	+1.3
MORF	Marmelete	2.94	82	P	Pn	02 36 45.7	0.0
MORF				S	Sn	02 37 22.4	+1.3
MORF	Marmelete	2.94	82	P	Pn	02 36 45.7	0.0
MORF				S	Sn	02 37 22.4	+1.3
PMAFR	Mafra	3.13	49	*e*Sn	Sn	02 37 27.0	+1.4
PMAFR				A	A	02 37 28.1	
	9.1nm,0.2s						
PMAFR	Mafra	3.13	49	S	Sn	02 37 26.4	+0.7
	4.8nm,0.1s,SNR=7.9						
PMAFR	Mafra	3.13	49	*e*Sn	Sn	02 37 27.0	+1.4
	9.1nm,0.2s						
PNCL	Nicolau / Gran	3.23	67	*e*Pn	Pn	02 36 50.2	+0.7
PNCL				*e*Sn	Sn	02 37 28.4	+0.4
PNCL				A	A	02 37 31.5	
	1.3nm,0.1s						
PNCL	Nicolau / Gran	3.23	67	*e*Pn	Pn	02 36 50.2	+0.7
PNCL				*e*Sn	Sn	02 37 28.4	+0.4
	1.3nm,0.1s						
MESJ	Messejana	3.38	73	*e*Pn	Pn	02 36 51.9	+0.3
MESJ				*e*Sn	Sn	02 37 32.1	+0.4
MESJ				A	A	02 37 38.1	
	1.2nm,0.1s						
MESJ	Messejana	3.38	73	P	Pn	02 36 51.9	+0.3
MESJ				S	Sn	02 37 32.1	+0.4
	1.2nm,0.1s						
MESJ	Messejana	3.38	73	P	Pn	02 36 51.9	+0.3
MESJ				S	Sn	02 37 32.1	+0.4
	1.2nm,0.1s						
PBDV	Barranco-do-Ve	3.51	84	*e*Pn	Pn	02 36 53.8	+0.3
PBDV				*e*Sn	Sn	02 37 35.7	+0.6
PBDV				A	A	02 37 37.2	
	0.9nm,0.2s						
PBDV	Barranco-do-Ve	3.51	84	P	Pn	02 36 53.8	+0.3
PBDV				S	Sn	02 37 35.7	+0.6
	0.9nm,0.2s						
PBDV	Barranco-do-Ve	3.51	84	P	Pn	02 36 53.8	+0.3
PBDV				S	Sn	02 37 35.7	+0.6
	0.9nm,0.2s						
PVAQ	Vaqueiros	3.69	81	*e*Pn	Pn	02 36 56.3	+0.3
PVAQ				*e*Sn	Sn	02 37 39.6	0.0
PVAQ				A	A	02 37 43.2	
	1.5nm,0.1s						
PVAQ	Vaqueiros	3.69	81	P	Pn	02 36 56.3	+0.3
PVAQ				S	Sn	02 37 39.6	0.0
	1.5nm,0.1s						
PVAQ	Vaqueiros	3.69	81	P	Pn	02 36 56.3	+0.3
PVAQ				S	Sn	02 37 39.6	0.0
	1.5nm,0.1s						
EVO	Evora	3.76	64	*e*Pn	Pn	02 36 57.3	+0.5
EVO				*e*Sn	Sn	02 37 41.0	-0.2
EVO				A	A	02 37 46.4	
	2.2nm,0.2s						
EVO	Evora	3.76	64	P	Pn	02 36 57.3	+0.5
EVO				S	Sn	02 37 41.0	-0.2
	2.2nm,0.2s						
EVO	Evora	3.76	64	P	Pn	02 36 57.3	+0.5
EVO				S	Sn	02 37 41.0	-0.2
	2.2nm,0.2s						
PMTG	Montargil	3.87	55	*e*Pn	Pn	02 36 58.8	+0.5
PMTG				*e*Sn	Sn	02 37 43.9	+0.1
PMTG				A	A	02 37 49.0	
	1.8nm,0.2s						
PMTG	Montargil	3.87	55	*e*Pn	Pn	02 36 58.8	+0.5
PMTG				*e*Sn	Sn	02 37 43.9	+0.1
	1.8nm,0.2s						
EGRO	El Granado	3.90	80	P	Pn	02 36 59.5	+0.8
	0.5nm,0.1s,SNR=7.9						
EGRO				S	Sn	02 37 44.5	0.0
	0.8nm,0.1s,SNR=7.9						
EGRO	El Granado	3.90	80	P	Pn	02 36 59.5	+0.8
	0.5nm,0.1s,SNR=7.9						
EGRO				S	Sn	02 37 44.5	0.0
	0.8nm,0.1s,SNR=7.9						
PTOM	Tomar	4.07	48	*e*Sn	Sn	02 37 49.5	+0.6
PTOM				A	A	02 37 52.1	
	2.9nm,0.1s						
PTOM	Tomar	4.07	48	S	Sn	02 37 49.5	+0.6
	1.4nm,0.1s						
PTOM	Tomar	4.07	48	S	Sn	02 37 49.5	+0.6
	1.4nm,0.1s						
PCAS	Casmilo, Conde	4.32	43	*e*Sn	Sn	02 37 54.6	-0.3
PCAS				A	A	02 38 02.3	
	1.9nm,0.2s						
PCAS	Casmilo, Conde	4.32	43	*e*Sn	Sn	02 37 54.6	-0.3
	1.9nm,0.2s						
PBAR	Barrancos	4.37	72	*e*Pn	Pn	02 37 05.6	+0.4
PBAR				*e*Sn	Sn	02 37 55.7	-0.4
PBAR				A	A	02 38 00.6	
	1.7nm,0.2s						
PBAR	Barrancos	4.37	72	P	Pn	02 37 05.6	+0.4
PBAR				S	Sn	02 37 55.7	-0.4
	1.7nm,0.2s						
PBAR	Barrancos	4.37	72	P	Pn	02 37 05.6	+0.4
PBAR				S	Sn	02 37 55.7	-0.4
	1.7nm,0.2s						
EMIN	Mina Concepcio	4.56	78	P	Pn	02 37 07.9	0.0
	0.5nm,0.1s,SNR=7.9						
EMIN				S	Sn	02 38 00.3	-0.7
	0.1nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	4.56	78	P	Pn	02 37 07.9	0.0
	0.5nm,0.1s,SNR=7.9						
EMIN				S	Sn	02 38 00.3	-0.7
	0.1nm,0.1s,SNR=7.9						
EBAD	Badajoz	4.57	65	P	Pn	02 37 08.1	+0.1
	0.6nm,0.1s,SNR=7.6						
EBAD				S	Sn	02 38 01.2	+0.1
	0.6nm,0.1s,SNR=7.9						
EBAD	Badajoz	4.57	65	P	Pn	02 37 08.1	+0.1
	0.6nm,0.1s,SNR=7.6						
EBAD				S	Sn	02 38 01.2	+0.1
	0.6nm,0.1s,SNR=7.9						
PMRV	Marv??o	4.60	56	*e*Pn	Pn	02 37 09.1	+0.6
PMRV				*e*Sn	Sn	02 38 01.3	-0.7
PMRV				A	A	02 38 03.3	
	1.1nm,0.2s						
PMRV	Marv??o	4.60	56	P	Pn	02 37 09.1	+0.6
PMRV				S	Sn	02 38 01.3	-0.7
	1.1nm,0.2s						
PMRV	Marv??o	4.60	56	P	Pn	02 37 09.1	+0.6
PMRV				S	Sn	02 38 01.3	-0.7
	1.1nm,0.2s						
PCBR	Castelo Branco	4.78	51	*e*Pn	Pn	02 37 11.8	+1.0
PCBR				*e*Sn	Sn	02 38 06.0	-0.2
PCBR	Castelo Branco	4.78	51	P	Pn	02 37 11.8	+1.0
PCBR				S	Sn	02 38 06.0	-0.2
PCBR	Castelo Branco	4.78	51	P	Pn	02 37 11.8	+1.0
PCBR				S	Sn	02 38 06.0	-0.2
MTE	Manteigas	5.09	46	*e*Sn	Sn	02 38 13.0	-1.0
MTE				A	A	02 38 16.5	
	1.2nm,0.2s						
MTE	Manteigas	5.09	46	S	Sn	02 38 13.0	-1.0
	0.6nm,0.2s						
MTE	Manteigas	5.09	46	S	Sn	02 38 13.0	-1.0
	0.6nm,0.2s						
ECAB	El Cabril	5.59	76	P	Pn	02 37 21.6	-0.5
	0.3nm,0.2s,SNR=7.9						
ECAB				S	Sn	02 38 24.8	-1.6
	0.1nm,0.1s,SNR=7.9						
ECAB	El Cabril	5.59	76	P	Pn	02 37 21.6	-0.5
	0.3nm,0.2s,SNR=7.9						
ECAB				S	Sn	02 38 24.8	-1.6
	0.1nm,0.1s,SNR=7.9						
PVRL	Vila Real	5.62	38	*e*Sn	Sn	02 38 26.4	-0.6
PVRL				A	A	02 38 30.3	
	1.6nm,0.1s						
PVRL	Vila Real	5.62	38	S	Sn	02 38 26.4	-0.6
	0.8nm,0.1s						
PVRL	Vila Real	5.62	38	S	Sn	02 38 26.4	-0.6
	0.8nm,0.1s						
POLO	Lamas de Olo	5.65	37	*e*Sn	Sn	02 38 24.9	-3.1
POLO				A	A	02 38 29.5	
	0.4nm,0.1s						
POLO	Lamas de Olo	5.65	37	*e*Sn	Sn	02 38 24.9	-3.1
	0.4nm,0.1s						
MVO	Moncorvo	5.89	43	*e*Sn	Sn	02 38 31.9	-1.9
MVO	Moncorvo	5.89	43	S	Sn	02 38 30.8	-3.0
	0.8nm,0.1s,SNR=7.9						
MVO	Moncorvo	5.89	43	S	Sn	02 38 30.8	-3.0
	0.8nm,0.1s,SNR=7.9						
MVO				*e*Sn	Sn	02 38 31.9	-1.9
ELOB	Lobios	5.92	32	S	Sn	02 38 31.5	-3.1
	0.5nm,0.1s,SNR=7.9						
ELOB	Lobios	5.92	32	S	Sn	02 38 31.5	-3.1
	0.5nm,0.1s,SNR=7.9						
PBRG	Braganca	6.50	40	*e*Sn	Sn	02 38 47.4	-1.4
PBRG	Braganca	6.50	40	S	Sn	02 38 47.4	-1.4
PBRG	Braganca	6.50	40	S	Sn	02 38 47.4	-1.4
ECAL	Calabor	6.60	39	S	Sn	02 38 48.0	-3.3
	0.2nm,0.2s,SNR=7.9						
ECAL	Calabor	6.60	39	S	Sn	02 38 48.0	-3.3
	0.2nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	7.11	65	P	Pn	02 37 43.4	+0.5
	0.8nm,0.1s,baz=252,slow=13,SNR=4.6						
ETOR	Torete	8.88	61	P	Pn	02 38 07.6	+0.3
	2.4nm,0.2s,SNR=7.9						

MAN 19 02:38:51, 12°.58N×120°.22E, h33km, mb4.6, ML3.5, MS3.5, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUSP	Coron	0.57	182	*e*P	Pn	02 39 03.3	+0.5
BUSP				*e*S	Sn	02 39 12.9	+1.8
SJMP	San Jose	0.88	97	*e*P	Pb	02 39 07.9	0.0
SJMP				*e*S	Sb	02 39 19.6	+0.1
LUBP	Lubang	1.15	1	*e*P	Pn	02 39 11.1	+0.3
LUBP				*e*S	Sn	02 39 25.3	-0.1
PGP	Puerto Galera	1.16	38	⇓*i*P	Pn	02 39 11.8	+0.7
ENPP	El Nido	1.57	210	*e*P	Pb	02 39 19.1	-0.4
TGY	Tagaytay City	1.67	25	⇓*i*P	Pb	02 39 19.7	-1.6
TGY				*i* S	Sn	02 39 35.8	-2.6
OTRP	Odiongan	1.77	97	*e*P	Pn	02 39 20.6	+1.3
RCP	Roxas	2.67	112	⇑*e*P	Pn	02 39 33.9	+2.2

*IDC **19** 02:55:49.0±0.5, 33°.56S×72°.27W, h0km, mb4.6/18, mb1 4.7/20, mb1mx4.5/33, mbtmp4.6/20, ML4.8/2, MS4.4/18, Ms1 4.4/18, ms1mx4.3/26, Error ellipse: s-maj=15.7km s-min=13.3km az=86.0*
*GUC **19** 02:55:50.4±0.7, 33°.54S×72°.57W, h39km±5km, ML4.8*
*BJI **19** 02:55:51.7, 34°.27S×71°.69W, h25km, mB5.0/13, Ms5.4/13, Ms7 5.1/13*
*ISCJB **19** 02:55:52.6±1.6, 33°.50S±0°.04×72°.15W±0°.07, h32km±11km, mb4.8/73, MS4.5/17, Error ellipse: s-maj=10.0km s-min=5.7km az=162.5*
*GCMT **19** 02:55:53.2±0.2, 33°.63S×72°.65W, h17km, MW5.2/89, Moment Tensor Solution. s43,c51; s89,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.43±.20; $M_{\theta\theta}$-0.28±.10; $M_{\phi\phi}$-4.15±.14; $M_{r\theta}$-0.22±.30; $M_{\theta\phi}$-0.61±.08; $M_{\phi r}$-5.87±.47; Best double couple: $M_0$7.30100×10^{16} NP1:ϕ_s184.00000°, δ72.00000°, λ87.00000°. NP2: ϕ_s13.00000°, δ18.00000°, λ99.00000°. Principal axes: T 7.4110, Plg63.0000°, Azm89.0000°; N -0.2170, Plg3.0000°, Azm184.0000°; P -7.1910, Plg27.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 02:55:53.2±1.8, 33°.53S×72°.17W, h27km±11km, mb5.0/55, ML4.8(GUC) Error ellipse: s-maj=8.0km s-min=4.3km az=69.0*
NEIC Felt [III] at Paredones and [II] at El Tabo, Navidad, Pichilemu, Quillota, San Antonio, Santiago and Valparaiso. Also felt at Quilpue, San Felipe and Vina del Mar.
*MOS **19** 02:55:53.1±1.2, 33°.53S×72°.26W, h33km, mb5.1/20, Error ellipse: s-maj=21.4km s-min=8.6km az=101.9*

ISC 19 02:55:53.9±0.7, 33°.57S±0°.04×72°.27W±0°.05, h32km±4km, n415, σ1§02/450, mb4.9/73, MS4.5/17, 7C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.76	44	⇑*i*P	Pn	02 56 07.4	-1.0
IHA				*e*S1	Sn	02 56 20.5	+1.8
RCDM	Rinconada Maip	1.23	87	*e*P9	Pn	02 56 14.9	0.0
RCDM				*i* S1	Sn	02 56 34.2	+3.8
RCDM				AML	AML	02 56 36.6	
	comp=N,14μm,0.5s						
ANTU	Antumapu	1.37	90	⇑*i*P	Pn	02 56 17.2	+0.4
ANTU				*i* S4	Sn	02 56 36.5	+2.7
ANTU				AML	AML	02 56 43.2	
	comp=E,21μm,0.5s						
PEL	Peldehue	1.40	73	⇓*i*P	Pn	02 56 17.8	+0.6
PEL				*e*S2	Sn	02 56 39.5	+5.0
PEL				AML	AML	02 56 44.7	
	comp=E,61μm,0.4s						
LACH	Col Las Americ	1.46	86	*e*P1	Pb	02 56 18.7	-1.8
LACH				*i* S1	Sn	02 56 40.3	+4.1
LACH				AML	AML	02 56 50.4	
	comp=N,9μm,0.7s						
CLCH	Cerro Calan	1.46	84	⇑*i*P	Pn	02 56 18.9	+0.8
CLCH				AML	AML	02 56 56.2	
	comp=E,16μm,0.7s						
NICH	Los Niches	1.67	149	*e*P9	Pb	02 56 21.3	-2.7
NICH				*e*S2	Sb	02 56 44.2	-0.4
NICH				AML	AML	02 56 53.7	
	comp=N,17μm,0.3s						
TALC	Talca	1.90	164	⇑*i*P	Pn	02 56 23.4	-0.6
TALC				*i* S1	Sn	02 56 47.8	+1.0
TALC				AML	AML	02 57 01.6	
	comp=N,13μm,0.5s						
CMCH	Combarbala	2.62	25	⇓*i*P	Pn	02 56 32.8	-1.3
CFAA	Coronel Fontan	3.93	61	Pn	Pn	02 56 51.5	-0.6
	comp=N,0.6nm,0.3s,baz=237,slow=12,SNR=82						
CFAA				Pg	Pb	02 57 01.7	-0.8
	comp=N,3.8nm,0.3s,baz=243,slow=16,SNR=52						
CFAA				Lg	Lg	02 57 53.5	
	comp=N,3.6nm,0.3s,baz=319,slow=12,SNR=5.6						
LCO	Las Campanas	4.74	17	*e*Pn	Pn	02 57 01.5	-1.9
LCO				*e*Sn	Sn	02 57 54.7	-2.7
PLCA	Paso Flores	7.28	170	Pn	Pn	02 57 38.0	0.0
	comp=N,4.1nm,0.3s,baz=334,slow=10,SNR=74						
PLCA				Lg	Lg	02 59 43.6	
	comp=N,0.4nm,0.3s,baz=240,slow=16,SNR=4.4						
PLCA				LR	LR	03 00 19.6	
	comp=N,1μm,20.0s,baz=350,slow=37						
PLCA	Paso Flores	7.28	170	*e*Pn	Pn	02 57 38.1	0.0
PLCA				Lg	Lg	02 59 43.6	
PLCA				*e*Lg	Lg	02 59 44.6	
TRQA	Tornquist	9.48	121	*e*Pn	Pn	02 58 08.6	+0.4
TRQA				*e*Sn	Sn	02 59 49.5	-4.1
LVC	Limon Verde	11.31	16	*e*Pn	Pn	02 58 28.0	-5.5
LPAZ	La Paz	17.61	13	*e*P	Pn	02 59 57.5	+0.1
LPAZ				pmax	pmax		
	comp=Z,49nm,1.0s						
LPAZ	La Paz	17.61	13	P	Pn	02 59 57.5	+0.1
	comp=Z,0.9nm,0.3s,baz=185,slow=8.9,SNR=103						
LPAZ	La Paz	17.61	13	*e*P	Pn	02 59 57.5	+0.1
	comp=Z,49nm,1.0s						
SIV	San Ignacio	20.22	33	P	P	03 00 25.7	-0.6
	comp=Z,26nm,0.7s,baz=227,slow=11,SNR=65						
SIV				LR	LR	03 09 57.6	
	comp=Z,4μm,18.4s,baz=228,slow=42						
EFI	East Falkland	20.83	155	P	P	03 00 32.0	-0.6
	comp=Z,540nm,1.1s,SNR=6.1						
EFI	East Falkland	20.83	155	*e*P	P	03 00 32.3	-0.3
EFI				pmax	pmax		
	comp=Z,129nm,1.1s						
EFI	East Falkland	20.83	155	*e*P	P	03 00 32.3	-0.3
	comp=Z,129nm,1.1s						
USHA	Ushuaia	21.43	174	P	P	03 00 39.5	+0.5
	comp=Z,24nm,0.9s,baz=358,slow=6.3,SNR=8.7						
NNA	Nana	21.89	348	*e*P	P	03 00 42.9	-1.4
NNA				pmax	pmax		

comp=Z,273nm,18.2s,baz=91,slow=39
SNAA Sanae 52.05 158 P **P 03 05 01.1 +1.0**
SNAA Sanae 52.05 158 *e*P **P 03 05 00.4 +0.3**
SNAA Sanae 52.05 158 *e*P **P 03 05 00.8 +0.7**
SNAA pmax pmax
comp=Z,41nm,1.2s
SNAA Sanae 52.05 158 *e*P **P 03 05 00.8 +0.7**
comp=Z,41nm,1.2s
SDDR Presa de Saban 52.27 1 *e*P **P 03 04 59.8 -2.5**
GTBY Guantanamo Bay 53.27 357 *e*P **P 03 05 09.4 -0.1**
comp=Z,30nm,1.2s
RKT Rikitea 55.43 263 *e*LR LR 03 21 39.4
comp=Z,444nm,29.0s,baz=120
NVL N'lazarevskaya 56.79 157⇑ *i*P P 03 05 44.2 +10
NVL pmax pmax
comp=Z,15nm,0.9s
ASCN Ascension 59.02 78 *e*P **P 03 05 49.1 -1.8**
comp=Z,65nm,1.1s
834A Tilden 66.23 335 P **P 03 06 39.8 +1.2**
baz=66
SYO Syowa Base 66.33 159⇑ *e*P **PcP 03 07 08.6 +0.1**
735A Kenedy 66.63 336 P **P 03 06 42.5 +1.3**
baz=67
833A Chaparral WMA, 66.71 334 P **P 03 06 42.7 +1.0**
baz=67
832A Faith Ranch, C 66.89 334 P **P 03 06 43.5 +0.7**
baz=67
HKT Hockley 66.99 338 *e*P **P 03 06 43.4 0.0**
HKT pmax pmax
comp=Z,43nm,1.8s
HKT Hockley 66.99 338 *e*P **P 03 06 43.4 0.0**
comp=Z,43nm,1.8s
635A Leesville 67.11 336 P **P 03 06 44.8 +0.6**
baz=67
TBI Tubuai 67.23 256 *e*S **S 03 15 40.8 +2.7**
comp=Z,223nm,23.5s
TBI Tubuai 67.23 256 *e*LR LR 03 27 10.1
comp=Z,865nm,27.2s,baz=114
732A Laxson Ranch, 67.29 334 P **P 03 06 46.2 +0.8**
baz=68
438A Sam Houston St 67.63 338 P **P 03 06 49.0 +1.5**
baz=68
LRAL Lakeview Retre 67.69 347 *e*P **P 03 06 47.2 -0.6**
comp=Z,15nm,1.3s
LPIG La Paz 67.83 323 LR LR 03 29 32.6
comp=Z,107nm,18.3s,baz=163,slow=30
339A Huntington 67.90 340 P **P 03 06 49.8 +0.6**
baz=68
632A Uvalde 67.93 334 P **P 03 06 50.0 +0.6**
baz=68
631A Perdido Creek 68.13 334 P **P 03 06 50.8 +0.1**
baz=68
533A Kerrville 68.17 335 P **P 03 06 51.7 +0.7**
baz=68
532A Rocksprings 68.53 334 P **P 03 06 54.3 +1.0**
baz=69
434A Burnet 68.59 336 P **P 03 06 54.3 +0.8**
baz=69
336A Riesel 68.65 338 P **P 03 06 54.5 +0.7**
baz=69
335A Moody 68.74 337 P **P 03 06 54.9 +0.5**
baz=69
531A Rocksprings 68.80 334 P **P 03 06 55.5 +0.6**
baz=69
433A Art 68.81 335 P **P 03 06 55.2 +0.2**
baz=69
JCT Junction City 68.81 335 *e*P **P 03 06 55.3 +0.3**
JCT pmax pmax
comp=Z,20nm,1.0s
JCT Junction City 68.81 335 P **P 03 06 55.1 +0.1**
baz=69
JCT Junction City 68.81 335 *e*P **P 03 06 55.2 +0.3**
comp=Z,20nm,1.0s
334A Lometa 69.05 336 P **P 03 06 56.4 0.0**
baz=69
530A J-C Ranch, Com 69.08 333 P **P 03 06 57.3 +0.6**
baz=69
432A Menard 69.17 335 P **P 03 06 57.7 +0.5**
baz=70
TXAR Lajitas Array 69.27 331 P **P 03 06 56.5 -1.3**
comp=Z,0.8nm,0.6s,baz=153,slow=8.4,SNR=6.3
TXAR LR LR 03 33 27.8
comp=Z,376nm,18.0s,baz=0.0,slow=33
333A Richland Sprin 69.30 336 P **P 03 06 58.1 +0.2**
baz=70
529A Stev Forest Ra 69.39 332 P **P 03 06 59.1 +0.5**
baz=70
WHTX Lake Whitney, 69.40 337 *e*P **P 03 06 58.9 +0.4**
comp=Z,10nm,0.7s
332A Millersview 69.61 335 P **P 03 06 59.9 0.0**
baz=70
430A Baggett Ranch, 69.61 334 P **P 03 07 00.4 +0.5**
baz=70
SWET Sewanee 69.62 348 *e*P **P 03 06 59.6 -0.3**
comp=Z,19nm,1.3s
234A Clairette 69.64 337 P **P 03 06 59.5 -0.4**
baz=70
TKL Tuckaleechee C 69.71 350 P **P 03 07 01.0 +0.7**
comp=Z,4.1nm,0.9s,baz=174,slow=10,SNR=3.1
429A Davenport Ranc 69.72 333 P **P 03 07 01.0 +0.4**
baz=70
331A San Angelo 69.79 335 P **P 03 07 01.4 +0.4**
baz=70
233A Rising Star 69.90 336 P **P 03 07 02.1 +0.5**
baz=70
232A Coleman 70.04 335 P **P 03 07 02.2 -0.3**
baz=70
PPT2 Papeete2 70.10 262 *e*S **S 03 16 14.9 +2.4**
comp=Z,291nm,22.2s
PPT2 Papeete2 70.10 262 *e*LR LR 03 28 20.9
comp=Z,640nm,28.5s
PPT Papeete 70.11 262 LR LR 03 29 46.4
comp=Z,200nm,18.1s,baz=120,slow=29
330A Mertzon 70.15 334 P **P 03 07 03.4 +0.2**
baz=70
231A Bronte 70.32 335 P **P 03 07 04.4 +0.1**
baz=71
133A Hamilton Ranch 70.45 336 P **P 03 07 05.4 +0.4**
baz=71
329A Wagon Wheel Ra 70.52 333 P **P 03 07 05.8 +0.3**
baz=71
Z35A Perchaven, San 70.57 338 P **P 03 07 05.9 +0.2**
baz=71
ABTX Abilene, Hawle 70.71 336 P **P 03 07 07.0 +0.4**
baz=71
ABTX Abilene, Hawle 70.71 336 *e*P **P 03 07 06.0 -0.5**
comp=Z,17nm,1.0s
WVT Waverly 70.85 347 *e*P **P 03 07 07.1 -0.2**
WVT pmax pmax
comp=Z,34nm,1.0s
WVT Waverly 70.85 347 *e*P **P 03 07 07.1 -0.2**
comp=Z,34nm,1.0s
229A Bryant Ranch, 70.89 334 P **P 03 07 07.9 +0.1**
baz=71
Z33A Whitaker Ranch 71.02 337 P **P 03 07 08.4 0.0**
baz=71
JSRW J. Sargeant Re 71.09 355 *e*P **P 03 07 09.2 +0.5**
Z32A Haskell 71.28 336 P **P 03 07 10.2 +0.3**
baz=72
Z31A Sharp Cattle R 71.51 336 P **P 03 07 11.9 +0.4**
baz=72
Y33A Hilltop Ranch, 71.64 337 P **P 03 07 12.7 +0.6**
baz=72
128A Castleberry Fa 71.72 333 P **P 03 07 12.9 +0.1**
baz=72
Z30A Sanderson Ranc 71.83 335 P **P 03 07 13.8 +0.4**
baz=72
X34A Smith Ranch, M 71.93 338 P **P 03 07 14.4 +0.5**
baz=72
Z29A Hungry Hill Ra 72.01 334 P **P 03 07 14.5 0.0**
baz=72
WMOK Wichita Mounta 72.36 337 *e*P **P 03 07 15.2 -1.2**
WMOK pmax pmax
comp=Z,6.0nm,0.9s
WMOK Wichita Mounta 72.36 337 *e*P **P 03 07 15.2 -1.2**
comp=Z,6.0nm,0.9s
TUL1 Leonard 72.54 340 P **P 03 07 17.2 -0.3**
baz=73
TUL1 Leonard 72.54 340 *e*P **P 03 07 17.2 -0.3**
comp=Z,7.3nm,0.6s
Y29A Porterfield Fa 72.54 335 P **P 03 07 17.7 0.0**
baz=73
USIN University of 72.60 347 *e*P **P 03 07 16.9 -0.9**
W33A Caddo, Fort Co 72.64 338 P **P 03 07 18.7 +0.6**
baz=73
X31A McDonald Ranch 72.65 336 P **P 03 07 18.3 +0.1**
baz=73
SIUC Southern Illin 72.66 346 *e*P **P 03 07 17.7 -0.4**
V35A Meyer Ranch, C 72.70 339 P **P 03 07 18.0 -0.5**
baz=73
W32A Sentinel 72.86 337 P **P 03 07 19.7 +0.2**
baz=73
V34A Guthrie 72.97 339 P **P 03 07 20.0 -0.1**
baz=73
V34A Guthrie 72.97 339 *e*P **P 03 07 20.1 0.0**
comp=Z,41nm,1.5s
MSTX Muleshoe 73.04 334 P **P 03 07 20.8 +0.2**
baz=73
MSTX Muleshoe 73.04 334 *e*P **P 03 07 20.2 -0.5**
comp=Z,20nm,1.0s
W31A Holland Ranch, 73.15 337 P **P 03 07 20.6 -0.5**
baz=74
MAW Mawson 73.64 164 LR LR 03 41 44.4
comp=Z,663nm,18.5s,baz=230,slow=37
W29A Amarillo 73.67 335 P **P 03 07 25.0 +0.7**
baz=74
121A Cookes Peak, D 73.77 329 P **P 03 07 26.1 +1.1**
baz=74
121A Cookes Peak, D 73.77 329 *e*P **P 03 07 25.9 +0.8**
comp=Z,40nm,1.6s
U32A Winter Ranch, 73.93 338 P **P 03 07 26.6 +0.8**
baz=74
X26A CR and CF Fran 73.94 333 P **P 03 07 26.6 +0.6**
baz=74
Y24A Capitan 74.02 332 P **P 03 07 27.2 +0.7**
baz=74
Z22A Elephant Butte 74.05 330 P **P 03 07 27.3 +0.6**
baz=74
ACSO Alum Creek Sta 74.10 351 *e*P **P 03 07 26.2 -0.4**
comp=Z,29nm,1.2s
S36A Lake Cedric, C 74.18 341 P **P 03 07 26.6 -0.5**
baz=74
T32A Huddler Ranch, 74.65 338 P **P 03 07 30.8 +0.9**
baz=75
W25A X Bar L Ranch, 74.78 333 P **P 03 07 31.4 +0.6**
baz=75
LIC Lamto 74.83 72 *e*P **P 03 07 31.5 +0.1**
comp=Z,65nm,2.0s
TUC Tucson 74.90 327 *e*P **P 03 07 31.4 -0.1**
TUC pmax pmax
comp=Z,27nm,1.7s
TUC Tucson 74.90 327 *e*P **P 03 07 31.4 -0.1**
comp=Z,27nm,1.7s
TIC Toumodi 75.08 71 *e*P **P 03 07 33.3 +0.3**
comp=Z,3.7nm,0.2s
LAZ Ladron 75.11 331 *e*P **P 03 07 33.7 +0.8**
comp=Z,21nm,1.9s
W24A Lazy 6 Ranch, 75.13 332 P **P 03 07 33.2 +0.2**
baz=75
KIC Kosan Boka 75.14 72 *e*P **P 03 07 33.5 +0.3**
comp=Z,32nm,1.0s
SUR Sutherland 75.21 119 *e*P **P 03 07 34.8 +1.1**
comp=Z,23nm,1.1s
DBIC Dimbokro 75.23 72 *e*P **P 03 07 34.3 +0.5**
DBIC Dimbokro 75.23 72 *e*P **P 03 07 33.6 -0.1**
DBIC pmax pmax
comp=Z,10.0nm,1.4s
DBIC Dimbokro 75.23 72 P **P 03 07 33.7 0.0**
comp=Z,7.8nm,0.8s,baz=223,slow=6.7,SNR=8.9
DBIC LR LR 03 39 14.2
comp=Z,317nm,18.1s,baz=218,slow=35
DBIC Dimbokro 75.23 72 *e*P **P 03 07 33.6 -0.1**
comp=Z,10nm,1.4s
U27A Thompson Grove 75.25 335 P **P 03 07 34.0 +0.4**
baz=76
ANMO Albuquerque 75.31 332 *e*P **P 03 07 34.5 +0.5**
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 75.31 332 P **P 03 07 35.0 +1.0**
comp=Z,2.6nm,1.0s,baz=165,slow=7.0,SNR=5.3
ANMO Albuquerque 75.31 332 *e*P **P 03 07 34.5 +0.5**
comp=Z,6.0nm,1.1s
V25A Rancho No Teng 75.39 333 P **P 03 07 34.7 +0.3**
baz=76
214A Organ Pipe Nat 75.55 325 P **P 03 07 35.1 -0.2**
baz=76
U26A Atchley Ranch, 75.56 334 P **P 03 07 35.5 +0.1**
baz=76
R32A Long Quarter, 75.72 339 P **P 03 07 36.5 +0.5**
baz=76
U25A Circle Dot Ran 75.81 334 P **P 03 07 37.3 +0.5**
baz=76
S28A Manter 75.98 336 P **P 03 07 38.6 +1.0**
baz=76
T26A Comanche Natio 76.20 335 P **P 03 07 40.3 +1.3**
baz=76
V22A San Miguel Ran 76.34 332 P **P 03 07 40.9 +1.0**
baz=77
T25A Trinidad 76.46 334 P **P 03 07 41.6 +1.0**
baz=77
Q31A Ellis 76.47 339 P **P 03 07 40.7 +0.4**
baz=77
S26A Kim 76.56 335 P **P 03 07 41.8 +0.9**
baz=77
R28A Tribune 76.63 337 P **P 03 07 42.1 +0.8**
baz=77
Q30A Quinter 76.70 338 P **P 03 07 42.9 +1.2**
baz=77
T24B San Luis 76.75 333 P **P 03 07 43.6 +1.4**
baz=77
S25A Robets Cordova 76.94 334 P **P 03 07 44.4 +1.3**
baz=77
P31A Stockton 76.94 339 P **P 03 07 43.8 +0.9**
baz=77
X16A Lo Mia Camp, P 76.97 328 P **P 03 07 44.6 +1.2**
baz=77
S24A Houchin Ranch, 77.20 334 P **P 03 07 45.8 +1.0**
baz=78
Q28A Sharon Springs 77.29 337 P **P 03 07 46.3 +1.3**
baz=78
R25A Fountain Ranch 77.31 335 P **P 03 07 46.8 +1.6**
baz=78
P29A Atwood 77.49 338 P **P 03 07 46.9 +0.8**
baz=78
R24A Sanders Place, 77.69 334 P **P 03 07 48.4 +1.0**
baz=78
Y12C Blythe 77.84 325 P **P 03 07 49.7 +1.6**
baz=78
WUAZ Wupatki 77.86 328 P **P 03 07 49.5 +1.1**
baz=78
WUAZ Wupatki 77.86 328 *e*P **P 03 07 49.2 +0.9**
comp=Z,37nm,1.6s
R23A Moffat 77.91 334 P **P 03 07 49.7 +1.0**
baz=78
BC3 Big Chuckawall 78.22 324 P **P 03 07 52.0 +1.7**
baz=78
Q24A Divide 78.35 334 P **P 03 07 52.0 +0.8**
baz=79
W13A Hualapai Mount 78.65 326 P **P 03 07 54.1 +1.3**
baz=79
PV01 Paradox Valley 78.92 332 *e*P **P 03 07 55.2 +1.0**
U15A North Rim 79.03 328 P **P 03 07 56.5 +1.6**
baz=79
GMRC Granite Mounta 79.23 325 P **P 03 07 57.1 +1.2**
baz=80
ISCO Idaho Springs 79.25 334 P **P 03 07 56.9 +0.8**
baz=80
TSUM Tsumeb 79.52 106 *e*P **P 03 07 59.0 +1.0**
comp=Z,18nm,1.1s
O23A Lake Granby, G 79.73 334 P **P 03 07 60.0 +1.3**
baz=80
O22A Kremmling 79.91 334 P **P 03 08 00.4 +0.7**
baz=80
ECSD EROS Data Cent 80.08 342 P **P 03 08 00.1 0.0**
baz=80
ECSD EROS Data Cent 80.08 342 *e*P **P 03 07 59.9 -0.2**
comp=Z,16nm,1.1s
N23A Red Feather La 80.34 335 P **P 03 08 02.5 +0.6**
baz=81
SHPR Sheep Range 80.39 326 *e*P **P 03 08 03.4 +1.2**
comp=Z,11nm,1.2s
N22A Wattenberg Ran 80.44 334 P **P 03 08 03.0 +0.6**
baz=81
BOSA Boshof 80.44 118 *e*P **P 03 08 02.9 0.0**
BOSA AMB AMB 03 08 12.2
comp=Z,23nm,3.8s
BOSA AMS AMS 03 51 44.8
comp=Z,343nm,6.3s
BOSA Boshof 80.44 118 *e*P **P 03 08 02.8 0.0**
BOSA pmax pmax
comp=Z,22nm,1.2s
BOSA Boshof 80.44 118 P **P 03 08 02.9 0.0**
comp=Z,6.7nm,0.9s,baz=236,slow=4.7,SNR=7.5
BOSA LR LR 03 38 48.8
comp=Z,101nm,21.2s,baz=222,slow=32
BOSA Boshof 80.44 118 *e*P **P 03 08 02.8 -0.1**
comp=Z,22nm,1.2s
J29A Okreek 80.79 340 P **P 03 08 04.3 +0.3**
baz=81
SBC Santa Barbara 80.98 322 P **P 03 08 05.1 0.0**
baz=81
I30A Oacoma 81.00 340 P **P 03 08 05.5 +0.4**
baz=81
J28A Allard Ranch, 81.07 339 P **P 03 08 06.4 +0.9**
baz=81
J27A Elkhorn Farm, 81.15 338 P **P 03 08 07.5 +1.6**
baz=82
TPNV Topopah Spring 81.26 326 P **P 03 08 07.6 +0.8**
baz=82
ISA Isabella, Lake 81.31 324 P **P 03 08 07.6 +0.6**
baz=82
J26A Sides Ranch, S 81.53 338 P **P 03 08 08.8 +0.8**
baz=82
I28A Midland 81.58 339 P **P 03 08 09.0 +0.9**
baz=82
H29A Onida 81.87 340 P **P 03 08 09.7 0.0**
baz=82
I27A Quinn 81.90 339 P **P 03 08 10.5 +0.6**
baz=82
J24A Dixon Ranch, L 82.06 337 P **P 03 08 11.5 +0.7**
baz=82
K22A Casper 82.09 335 P **P 03 08 11.6 +0.6**
baz=82
K22A Casper 82.09 335 *e*P **P 03 08 11.2 +0.1**
comp=Z,38nm,1.6s
R11A Troy Canyon, C 82.09 327 P **P 03 08 12.1 +0.9**
baz=82
I26A New Underwood 82.11 338 P **P 03 08 11.3 +0.3**
baz=82
H28A Mission Ridge 82.15 340 P **P 03 08 11.3 +0.2**
baz=82
K21A Alcova 82.33 335 P **P 03 08 12.9 +0.5**
baz=83
DUG Dugway, Tooele 82.40 330 *e*P **P 03 08 13.6 +0.9**
DUG pmax pmax
comp=Z,17nm,1.4s
DUG Dugway, Tooele 82.40 330 *e*P **P 03 08 13.6 +0.9**
comp=Z,17nm,1.4s
H27A Howes 82.42 339 P **P 03 08 13.0 +0.4**
baz=83
G28A Parade 82.48 340 P **P 03 08 13.7 +0.8**
baz=83
RSSD Black Hills 82.56 338 *e*P **P 03 08 13.7 +0.1**
RSSD pmax pmax
comp=Z,3.0nm,0.8s
RSSD Black Hills 82.56 338 *e*P **P 03 08 13.7 +0.1**
comp=Z,2.9nm,0.8s
LBTB Lobatse 82.66 115 *e*P **P 03 08 15.4 +0.8**
LBTB AMB AMB 03 08 16.2
comp=Z,21nm,1.4s
LBTB AMS AMS 03 42 45.1
comp=Z,302nm,6.2s
LBTB Lobatse 82.66 115 *e*P **P 03 08 14.8 +0.2**
LBTB pmax pmax
comp=Z,28nm,1.2s
LBTB Lobatse 82.66 115 *e*P **P 03 08 14.8 +0.2**
comp=Z,28nm,1.2s
J22A Midwest 82.75 336 P **P 03 08 14.6 +0.2**
baz=83
F29A Eureka 82.88 341 P **P 03 08 15.3 +0.4**
baz=83
PRYS Parys 82.93 118 *e*P **P 03 08 14.3 -1.7**
PRYS AMB AMB 03 08 31.2
comp=Z,9.1nm,2.3s
PRYS Parys 82.93 118 P **P 03 08 14.3 -1.7**
comp=Z,9.1nm,2.3s
G27A Dupree 83.06 339 P **P 03 08 15.9 0.0**
baz=83
I22A 9 Mile Ranch, 83.17 336 P **P 03 08 16.5 -0.1**
baz=84
G26A Maurine 83.18 339 P **P 03 08 16.7 +0.2**
baz=84
J20A Shoshoni 83.26 335 P **P 03 08 18.3 +1.2**
baz=84
H24A Dirks Ranch, A 83.29 337 P **P 03 08 17.2 +0.1**
baz=84
PDAR Pinedale Array 83.29 333 P **P 03 08 17.4 0.0**
comp=Z,2.5nm,0.9s,baz=142,slow=5.1,SNR=12
PDAR LR LR 03 41 59.1
comp=Z,271nm,18.4s,baz=159,slow=33
G25A Newell 83.33 338 P **P 03 08 17.8 +0.5**
baz=84
I21A Big Trails, Te 83.38 335 P **P 03 08 17.9 +0.2**
baz=84
NVAR Mina Array Bea 83.42 325 P **P 03 08 18.5 +0.4**
comp=Z,1.3nm,0.6s,baz=151,slow=6.5,SNR=7.8
F27A Lemmon 83.53 340 P **P 03 08 18.5 +0.2**
baz=84
J19A Crowheart 83.53 334 P **P 03 08 18.7 +0.2**
baz=84
H22A Clearmont 83.75 336 P **P 03 08 19.5 0.0**
baz=84
D30A Buchanan 83.77 342 P **P 03 08 20.1 +0.7**
baz=84
I20A Worland 83.79 335 P **P 03 08 20.2 +0.4**
baz=84
ELK Elko 83.89 329 P **P 03 08 20.8 +0.3**
comp=Z,4.5nm,1.0s,baz=188,slow=3.5,SNR=13
G23A Biddle 83.97 337 P **P 03 08 20.6 0.0**
baz=84
WAKR Walker 84.02 325 *e*P **P 03 08 22.9 +1.7**
comp=Z,44nm,1.9s
AGMN Agassiz Nation 84.19 344 P **P 03 08 21.7 +0.2**
baz=84
AGMN Agassiz Nation 84.19 344 *e*P **P 03 08 21.2 -0.3**
comp=Z,11nm,0.7s
E26A Carlson Angus 84.20 340 P **P 03 08 22.1 +0.4**
baz=84
H20A Greybull 84.22 335 P **P 03 08 21.9 0.0**
baz=84
TORD Torodi Ar. Bea 84.25 70 P **P 03 08 22.8 +0.2**
comp=Z,7.4nm,0.8s,baz=254,slow=4.4,SNR=49
TORD LR LR 03 44 40.1
comp=Z,275nm,18.9s,baz=230,slow=35
C30A Mose, Pekin 84.25 343 P **P 03 08 22.4 +0.5**
baz=85
SLR Silverton 84.28 117 *e*P **P 03 08 20.8 -2.2**
SLR AMB AMB 03 08 30.7
comp=Z,20nm,2.5s
SLR AMS AMS 03 53 10.6
comp=Z,406nm,7.1s
SLR Silverton 84.28 117 P **P 03 08 20.8 -2.2**
SLR pmax pmax
comp=Z,20nm,2.5s
SLR Silverton 84.28 117 P **P 03 08 20.8 -2.2**
comp=Z,20nm,2.5s
G21A Lodge Grass 84.59 336 P **P 03 08 24.5 +0.7**
baz=85
I17A Pilgrim Ck. 84.66 333 P **P 03 08 25.1 +0.7**
baz=85
H19A Powell 84.72 335 P **P 03 08 25.4 +0.9**
baz=85
B30A Myrvik Farm, E 84.91 343 P **P 03 08 25.3 +0.1**
baz=85
G20A Bridger 84.93 335 P **P 03 08 25.1 -0.4**
baz=85
H18A Shoshone NF, C 84.97 334 P **P 03 08 26.1 +0.2**
baz=85
B29A Wagenman Farm, 85.18 342 P **P 03 08 26.7 +0.1**
baz=86
D24A Glendive 85.34 339 P **P 03 08 28.1 +0.7**
baz=86
B28A Dugan Ranch, T 85.43 342 P **P 03 08 28.0 +0.2**
baz=86
YMR Madison River 85.45 333 *e*P **P 03 08 29.4 +1.1**
comp=Z,14nm,0.9s
A29A Manning Farm, 85.58 343 P **P 03 08 28.0 -0.5**
baz=86
D23A Lindsay 85.66 338 P **P 03 08 29.8 +0.7**
baz=86
E21A Keefer Ranch, 85.70 337 P **P 03 08 29.3 +0.1**
baz=86
F19A Roth Farm, Mol 85.73 335 P **P 03 08 29.4 -0.1**
baz=86
C24A Savage 85.74 339 P **P 03 08 29.9 +0.5**
baz=86
HLID Hailey 85.87 331 P **P 03 08 30.8 +0.5**
baz=86
GCMT Greycliff 85.94 335 *e*P **P 03 08 30.5 0.0**
comp=Z,12nm,1.5s
D22A Cohagen 85.95 338 P **P 03 08 30.6 +0.2**
baz=86
E20A Meyer Farm, Mu 86.02 336 P **P 03 08 31.0 +0.2**
baz=86

ULM	Lac du Bonnet	86.03	345	P	P	03 08 30.3	-0.4
	comp=Z,5.8nm,0.8s,baz=181,slow=3.4,SNR=12						
A27A	Ledoux Ranch,	86.12	341	P	P	03 08 32.3	+1.1
	baz=86						
D21A	La Casta Ranch	86.13	337	P	P	03 08 32.2	+0.8
	baz=86						
E19A	Rath Farm, Rou	86.21	336	P	P	03 08 31.8	0.0
	baz=86						
C23A	Lambert	86.22	338	P	P	03 08 32.1	+0.3
	baz=86						
MCMT	McKenzie Canyo	86.30	332	eP	P	03 08 33.3	+0.8
	comp=Z,5.8nm,1.2s						
MFID	Camas Ranch	86.33	330	eP	P	03 08 33.3	+0.8
	comp=Z,11nm,1.5s						
C22A	Vida	86.38	338	P	P	03 08 32.9	+0.4
	baz=87						
BOZ	Bozeman (W)	86.53	334	eP	P	03 08 33.2	-0.3
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BOZ	Bozeman (W)	86.53	334	eP	P	03 08 33.2	-0.3
	comp=Z,1.8nm,0.9s						
D20A	Manuel Ranch,	86.53	336	P	P	03 08 33.4	+0.1
	baz=87						
WVOR	Wild Horse Val	86.76	328	eP	P	03 08 35.4	+0.7
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.2s						
WVOR	Wild Horse Val	86.76	328	eP	P	03 08 35.4	+0.7
	comp=Z,7.5nm,1.2s						
C21A	Desert Coulee	86.84	337	P	P	03 08 34.4	-0.4
	baz=87						
D19A	Cripps Ranch,	86.85	336	P	P	03 08 34.9	0.0
	baz=87						
B22A	Reddig Ranch S	86.91	338	P	P	03 08 35.4	+0.2
	baz=87						
LRM	Limekiln Ridge	86.98	333	eP	P	03 08 36.0	+0.2
	comp=Z,42nm,1.1s						
C20A	Veseth Ranch,	87.03	337	P	P	03 08 35.3	-0.4
	baz=87						
B21A	Ellsworth Farm	87.34	338	P	P	03 08 37.7	+0.5
	baz=88						
C19A	Slack Wire Ran	87.40	336	P	P	03 08 37.3	-0.3
	baz=88						
A22A	Carney Farms,	87.50	339	P	P	03 08 38.2	+0.3
	baz=88						
HRY	Holter Researc	87.50	334	eP	P	03 08 39.0	+0.8
	comp=Z,3.3nm,0.5s						
B20A	Solberg Farm,	87.67	337	P	P	03 08 38.8	0.0
	baz=88						
M04C	Macdoel	87.73	325	P	P	03 08 40.5	+1.1
	baz=88						
A21A	Bergtoll Ranch	87.81	338	P	P	03 08 39.2	-0.3
	baz=88						
EGMT	Eagleton	87.89	336	P	P	03 08 39.7	-0.2
	baz=88						
EGMT	Eagleton	87.89	336	eP	P	03 08 39.7	-0.2
	comp=Z,5.2nm,1.2s						
M02C	Callahan	87.92	324	P	P	03 08 41.0	+0.7
	baz=88						
A20A	Cobblestone Ra	88.03	337	P	P	03 08 40.2	-0.4
	baz=88						
YBH	Yreka Blue Hor	88.11	325	eP	P	03 08 41.4	+0.3
YBH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YBH	Yreka Blue Hor	88.11	325	eP	P	03 08 41.4	+0.3
	comp=Z,8.8nm,1.0s						
SCHQ	Schefferville	88.17	3	P	P	03 08 40.5	-0.4
	comp=Z,4.7nm,0.9s,baz=196,slow=4.1,SNR=5.8						
CHMT	Chamberlain Mo	88.20	333	eP	P	03 08 42.3	+0.7
	comp=Z,8.5nm,1.6s						
A19A	Klindworth Far	88.33	337	P	P	03 08 41.7	-0.3
	baz=89						
SLMT	Seeley Lake	88.56	333	eP	P	03 08 43.6	+0.4
	comp=Z,5.7nm,1.1s						
J05D	Fort Rock, OR	88.61	327	P	P	03 08 44.5	+1.0
	baz=89						
SWMT	Swartz Lake	88.98	333	eP	P	03 08 45.0	-0.2
MDT	Midelt	91.70	51	LR	LR	03 49 18.3	
	comp=Z,392nm,20.4s,slow=35						
TAM	Tamanrasset	92.82	65	eP	P	03 09 04.3	+0.7
TAM				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TAM	Tamanrasset	92.82	65	eP	P	03 09 04.3	+0.7
	comp=Z,4.5nm,1.2s						
EDM	Edmonton	93.52	337	eP	P	03 09 04.6	-1.4
EDM	Edmonton	93.52	337	eP	P	03 09 04.6	-1.4
FCC	Fort Churchill	93.77	349	eP	P	03 09 07.1	+0.2
FCC	Fort Churchill	93.77	349	eP	P	03 09 07.1	+0.2
	comp=Z,0.1nm,0.6s						
ESDC	Sonseca Array	96.42	46	P	P	03 09 19.4	-0.2
	comp=Z,1.1nm,0.9s,baz=238,slow=4.6,SNR=4.2						
ESDC				LR	LR	03 52 55.3	
	comp=Z,234nm,18.7s,baz=225,slow=36						
YKA	Yellowknife Ar	101.59	341	P	Pdif	03 09 41.7	-0.3
	comp=Z,0.7nm,0.7s,baz=142,slow=4.3,SNR=16						
VYHS	Vyhne	114.94	47	iP	Pdif	03 10 41.7	-0.2
VYHS	Vyhne	114.94	47	PDIF	Pdif	03 10 41.7	-0.2
VYHS				e		03 48 28.8	
VYHS				e		03 50 10.6	
KWP	Kalwaria Pacla	117.73	47	ePKIKP	PKPdf	03 14 35.2	-1.1
KWP	Kalwaria Pacla	117.73	47	ePKP	PKPdf	03 14 35.2	-1.1
ASAR	Alice Springs	117.86	207	PKP	PKPdf	03 14 37.4	-0.2
	comp=Z,0.2nm,0.4s,baz=129,slow=2.4,SNR=5.0						
SUW	Suwalki	119.42	42	ePKIKP	PKPdf	03 14 39.3	-0.1
SUW	Suwalki	119.42	42	ePKP	PKPdf	03 14 39.2	-0.1
SUW	Suwalki	119.42	42	ePKPdf	PKPdf	03 14 39.3	-0.1
WRA	Warramunga Arr	121.04	209	PKP	PKPdf	03 14 43.8	0.0
	comp=Z,3.2nm,1.1s,baz=162,slow=1.6,SNR=8.5						
WRAB	Tennant Creek	121.04	209	ePKIKP	PKPdf	03 14 43.3	-0.4
WRAB	Tennant Creek	121.04	209	ePKPdf	PKPdf	03 14 43.3	-0.4
BRTR	Keskin Array B	121.80	61	PKP	PKPdf	03 14 45.0	+0.4
	comp=Z,1.4nm,0.8s,baz=243,slow=0.6,SNR=8.2						
AKASG	Malin Array Be	122.05	47	PKP	PKPdf	03 14 43.8	-0.7
	comp=Z,2.0nm,0.6s,baz=269,slow=2.3,SNR=5.5						
TNA	Tin City	122.32	331	ePKPdf	PKPdf	03 14 45.3	+0.7
H11S2	WAKE ISLAND Hyl	25.58	270	T	T	05 33 55.3	
	baz=118,slow=74,SNR=9.0						
H11S1	WAKE ISLAND Hyl	25.59	270	T	T	05 33 49.4	
	baz=118,slow=74,SNR=6.8						
H11S3	WAKE ISLAND Hyl	25.60	270	T	T	05 33 48.9	
	baz=118,slow=74,SNR=4.6						
KLMR	Klimovskoe	129.17	36	ePKIKP	PKPdf	03 14 57.1	-0.8
KLMR				pmax	pmax		
	comp=Z,31nm,1.4s						
KIV	Kislovodsk	129.43	58	ePKIKP	PKPdf	03 14 59.7	+0.6
KIV	Kislovodsk	129.43	58	ePKPdf	PKPdf	03 14 59.7	+0.6
GNI	Garni	130.10	63	ePKIKP	PKPdf	03 15 00.5	-0.1
GNI	Garni	130.10	63	ePKPdf	PKPdf	03 15 00.5	-0.1
PRGR	Permogore	132.08	35	ePKIKP	PKPdf	03 15 02.6	-0.8
PRGR				e		03 15 12.5	
PRGR				pmax	pmax		
	comp=Z,56nm,1.6s						
BILL	Bilibino	132.37	334	ePKIKP	PKPdf	03 15 04.3	+0.5
BILL	Bilibino	132.37	334	ePKPdf	PKPdf	03 15 04.3	+0.5
ARU	Arti	139.55	40	PKIKP	PKPdf	03 15 18.0	+0.6
ARU	Arti	139.55	40	ePKPdf	PKPdf	03 15 18.3	+0.9
SEY	Seymchan	139.56	330	PKP	PKPdf	03 15 15.7	-1.5
	comp=Z,2.9nm,0.8s,baz=66,slow=0.5,SNR=8.7						
GEYT	Alibeck	139.88	69	PKP	PKPdf	03 15 18.9	+0.1
	comp=Z,2.3nm,0.7s,baz=286,slow=11,SNR=4.3						
AKTO	Aktyubinsk	140.21	50	PKP	PKPdf	03 15 18.4	-0.4
	comp=Z,1.3nm,0.7s,baz=293,slow=8.0,SNR=6.5						
TIXI	Tiksi	140.24	350	ePKIKP	PKPdf	03 15 18.6	+0.3
TIXI	Tiksi	140.24	350	ePKPdf	PKPdf	03 15 18.6	+0.3
PALK	Pallekele	143.81	130	ePKIKP	PKPbc	03 15 24.3	+0.2
PALK	Pallekele	143.81	130	ePKPdf	PKPbc	03 15 24.3	+0.2
POO	Poona	146.26	108	⇑iP	PKPdf	03 15 31.0	+0.5
	comp=Z,4.0nm,1.0s						
BVAR	Borovoye Array	147.10	42	PKPbc	PKPdf	03 15 31.4	+0.5
	comp=Z,6.6nm,0.7s,baz=264,slow=1.5,SNR=22						
KSM	Kuching	147.98	185	ePKPbc	PKPbc	03 15 36.8	+0.2
KSM				ePKPab	PKPab	03 15 40.1	+0.9
KBL	Kabul	148.07	77	ePKP2	PKPbc	03 15 36.8	+0.2
KBL	Kabul	148.07	77	ePKPbc	PKPbc	03 15 36.8	+0.2
YAK	Yakutsk	148.26	340	ePKP2	PKPbc	03 15 34.8	-1.0
YAK				pmax	pmax		
	comp=Z,24nm,0.8s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
YAK	Yakutsk	148.26	340	ePKPbc	PKPbc	03 15 36.4	+0.5
YAK				ePKPab	PKPab	03 15 39.2	+0.2
HYB	Hyderabad	149.29	114	iPKP	PKPbc	03 15 39.5	-0.4
KKAR	Karatay Array	149.51	61	ePKP2	PKPbc	03 15 39.8	+0.1
KKAR	Karatay Array	149.51	61	ePKPbc	PKPbc	03 15 39.8	+0.1
YSS	Yuzh-Sakhalins	150.38	307	ePKIKP	PKPab	03 15 50.0	+1.9
IPM	Ipoh	150.39	166	ePKPbc	PKPbc	03 15 42.3	-0.4
KULM	Kulim	151.10	165	ePKPdf	PKPdf	03 15 38.7	+0.2
KULM				ePKPbc	PKPbc	03 15 43.7	-0.6
KULM				ePKPab	PKPab	03 15 52.4	+0.5
EKS2	Erkin-Say	151.95	61	P	PKPbc	03 15 46.5	+0.9
	SNR=8.2						
EKS2	Erkin-Say	151.95	61	ePKIKP	PKPdf	03 15 40.1	+1.0
EKS2				e		03 15 46.1	
EKS2				e		03 15 53.9	
EKS2	Erkin-Say	151.95	61	ePKPdf	PKPdf	03 15 40.1	+1.0
EKS2				ePKPbc	PKiKP	03 15 46.1	+0.2
EKS2				ePKPab	PKPab	03 15 53.9	-1.1
AML	Almayashu	151.95	62	P	PKPbc	03 15 47.2	+1.3
	SNR=7.8						
USP	Ospenovka	152.38	60	P	PKPbc	03 15 47.6	+1.2
	SNR=6.0						
AAK	Ala-Archa	152.47	61	P	PKPbc	03 15 48.1	+1.2
	SNR=7.5						
AAK	Ala-Archa	152.47	61	ePKIKP	PKPbc	03 15 47.5	+0.6
AAK						03 15 55.9	
AAK	Ala-Archa	152.47	61	PKPbc	PKPbc	03 15 48.0	+1.2
	comp=E,8.0nm,0.7s,baz=218,slow=2.9,SNR=14						
AAK				PKPab	PKPab	03 15 55.9	-1.3
	comp=E,6.1nm,0.8s,baz=39,slow=1.1,SNR=7.3						
AAK	Ala-Archa	152.47	61	ePKPbc	PKPbc	03 15 47.5	+0.6
AAK				PKPab	PKPab	03 15 55.9	-1.3
UCH	Uchtor	152.54	62	P	PKPbc	03 15 48.7	+1.3
	SNR=7.6						
NVS	Novosibirsk	152.68	31	iPKIKP	PKPdf	03 15 33.4	-6.1
NVS				pmax	pmax		
	comp=N,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,34nm,1.1s						
KURBB	Kurchatov Arra	152.69	43	PKP	PKPdf	03 15 39.6	-0.1
	comp=Z,1.5nm,0.8s,baz=299,slow=2.0,SNR=14						
KURBB				PKPbc	PKiKP	03 15 47.2	+0.2
	comp=Z,6.6nm,0.8s,baz=299,slow=2.9,SNR=49						
KURK	Kurchatov	152.70	42	ePKIKP	PKPdf	03 15 40.0	+0.3
KURK				e		03 15 46.9	
KURK				e		03 15 56.3	
KURK	Kurchatov	152.70	42	ePKPdf	PKPdf	03 15 40.0	+0.3
KURK				ePKPbc	PKPbc	03 15 46.9	+0.1
KURK				ePKPab	PKPab	03 15 56.3	-1.4
TKM2	Tokmak 2	153.23	60	ePKIKP	PKPdf	03 15 41.2	+0.1
TKM2				e		03 15 47.9	
TKM2	Tokmak 2	153.23	60	ePKPdf	PKPdf	03 15 41.2	+0.1
TKM2				ePKPbc	PKPbc	03 15 47.9	-0.6
KSH	Kashi	153.89	68	PKPbc	PKPdf	03 15 42.0	0.0
KSH				sPKP		03 15 55.6	
KSH				PKS	PKSdf	03 19 16.1	-0.3
KSH				PP	PP	03 19 36.9	-1.5
KSH				SKS	SKSdf	03 22 46.9	+0.3
KSH				SKKS	SKKSac	03 26 26.8	+1.0
KSH				SS	SS	03 39 11.0	-3.2
KSH				PPMZ			
	comp=Z,80nm,7.0s						
KSH				LN			
	comp=Z,23nm,4.4s						
KSH				LE			
	comp=Z,36nm,3.4s						
KSH				LZ			
	comp=Z,170nm,5.2s						
ZALV	Zalesovo Beam	153.97	32	PKP	PKPdf	03 15 41.7	+0.2
	comp=Z,3.6nm,0.8s,baz=281,slow=2.4,SNR=15						
ZALV				PKPbc	PKiKP	03 15 50.1	+0.5
	comp=Z,14nm,0.7s,baz=298,slow=3.2,SNR=39						
BOD	Bodaibo	155.38	352	ePKIKP	PKPdf	03 15 41.6	-1.7
BOD				e		03 16 07.8	
BOD				pmax	pmax		
	comp=Z,11nm,0.8s						
MKAR	Makanchi Array	156.63	48	PKP	PKPdf	03 15 45.8	+0.4
	comp=Z,1.8nm,0.9s,baz=335,slow=1.7,SNR=13						
MKAR				PKPab	PKPab	03 16 15.1	+0.5
	comp=Z,7.6nm,0.7s,baz=297,slow=4.7,SNR=29						
WMQ	Urumqi	161.36	51	ePKP	PKPdf	03 15 50.6	-0.5
WMQ				pPKP	pPKPdf	03 16 01.5	-0.2
WMQ				PKPab	PKPab	03 16 36.8	+1.5
WMQ				PKS	PKSdf	03 19 22.6	-1.7
WMQ				PP	PP	03 20 21.0	+2.2
WMQ				SKS	SKSdf	03 22 50.5	-3.1
WMQ				SKKS	SKKSac	03 27 04.0	-0.7
WMQ				SS	SS	03 40 30.0	-2.9
WMQ				PPMZ			
	comp=Z,140nm,4.0s						
WMQ				LN			
	comp=Z,48nm,18.0s						
WMQ				LE			
	comp=Z,140nm,22.0s						
WMQ				LZ			
	comp=Z,140nm,18.0s						
TLY	Talaya	161.66	8	PKPab	PKPab	03 16 37.9	+1.7
	comp=Z,3.9nm,0.7s,baz=346,slow=4.2,SNR=4.5						
CN2	Changchun	162.84	312	ePKP	PKPdf	03 15 58.0	+5.5
CN2				PP	PP	03 20 35.3	+8.8
ZAK	Zakamensk	162.89	10	ePKP2	PKPab	03 16 39.4	-2.3
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
CMAR	Chiang Mai Arr	163.02	150	PKP	PKPdf	03 15 54.1	+0.7
	comp=Z,1.1nm,0.3s,baz=250,slow=2.7,SNR=4.4						
CMAR				PKPab	PKPab	03 16 41.7	-1.3
	comp=Z,1.5nm,0.3s,baz=224,slow=4.9,SNR=4.5						
ULN	Ulaanbaatar	165.71	2	ePKIKP	PKPdf	03 15 54.5	-0.6
ULN				e		03 16 55.0	
ULN	Ulaanbaatar	165.71	2	ePKPdf	PKPdf	03 15 54.5	-0.6
ULN				ePKPab	PKPab	03 16 55.0	+0.8
SONM	Songino Array	165.72	4	PKP	PKPdf	03 15 55.9	+0.8
	comp=Z,0.7nm,0.8s,baz=242,slow=3.2,SNR=3.8						
SONM				PKPab	PKPab	03 16 55.2	+1.0
	comp=Z,3.1nm,0.9s,baz=339,slow=4.4,SNR=8.5						
NJ2	Nanjing	170.51	264	ePKP	PKPdf	03 15 57.9	-0.8
KMI	Kunming	170.53	151	PKP	PKPdf	03 15 57.3	-1.9
BJI	Beijing	170.65	316	PKP	PKPdf	03 15 58.1	-0.4
BJI				LN			
	comp=Z,160nm,23.9s						
BJI				LE			
	comp=Z,190nm,20.9s						
BJI				LZ			
	comp=Z,130nm,21.9s						
GTA	Gaotai	171.37	45	ePKP	PKPdf	03 15 59.9	+0.8
GTA				pPKP	pPKPdf	03 16 10.8	+1.1
GTA				PKPab	PKPab	03 17 21.3	+1.7
GTA				PP	PP	03 21 13.4	+3.0
GTA				SKS	SKSdf	03 22 58.6	-1.5
GTA				SKKS	SKKSac	03 27 55.3	+0.4
GTA				SS	SS	03 42 12.8	-1.5
GTA				PPMZ			
	comp=Z,74nm,8.3s						
GTA				LN			
	comp=Z,320nm,20.0s						
GTA				LE			
	comp=Z,420nm,20.0s						
GTA				LZ			
	comp=Z,160nm,19.9s						
HHC	Hu-ho-hao-te	172.12	338	ePKP	PKPdf	03 15 59.1	-0.3
HHC				PKS	PKSdf	03 19 30.1	-1.6
HHC				PP	PP	03 21 16.3	+2.9
HHC				SKS	SKSdf	03 22 57.3	-3.0
HHC				SKKS	SKKSac	03 27 58.5	+0.3
HHC				PPMZ			
	comp=Z,90nm,5.3s						
HHC				LN			
	comp=Z,290nm,19.0s						
HHC				LE			
	comp=Z,370nm,20.6s						
HHC				LZ			
	comp=Z,190nm,19.2s						
GYA	Guiyang	172.85	172	PKP	PKPdf	03 16 00.8	+0.7
GYA				pPKP	pPKPdf	03 16 11.3	+0.5
GYA				PKPab	PKPab	03 17 28.0	+1.7
GYA				PKS	PKSdf	03 19 30.6	-2.0
GYA				PP	PP	03 21 20.3	+3.5
GYA				SKKS		03 28 01.9	
GYA				PPMZ			
	comp=Z,120nm,8.4s						
GYA				LN			
	comp=Z,120nm,20.6s						
GYA				LE			
	comp=Z,110nm,21.2s						
GYA				LZ			
	comp=Z,120nm,20.4s						
CD2	Chengdu	175.72	127	ePKP	PKPdf	03 16 01.3	+0.4
LZH	Lanzhou	175.94	51	ePKP	PKPdf	03 16 00.3	-0.6
LZH				pPKP	pPKPdf	03 16 11.0	-0.6
LZH				sPKP		03 16 14.8	

GUC 19 03:06:19.9±0.6, 36°.06S×72°.93W, h28km±2km, ML4.1, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	Cobquecura	0.13	122	⇓iP	Pb	03 06 24.8	-0.3
COCH				iS	Sb	03 06 28.3	-0.4
CCSP	San Pedro de C	0.80	190	eP	Pb	03 06 33.6	-1.6
CCSP				iS	Sb	03 06 44.7	-0.9
LNCH	Linares	1.10	79	eP	Pn	03 06 38.6	-0.8
LNCH				iS	Sn	03 06 52.8	-0.9
TALC	Talca	1.24	58	⇑iP	Pn	03 06 40.7	-0.7
TALC				iS	Sn	03 06 56.4	-0.9
TALC				IAML		03 07 01.0	
	comp=N,3μm,0.4s						
NICH	Los Niches	1.74	53	⇑iP	Pn	03 06 48.6	+0.3
NICH				eS	Sn	03 07 11.1	+1.5
CLCH	Cerro Calan	3.31	37	eP1	Pn	03 07 10.4	+0.5
CLCH				eS	Sn	03 07 49.6	+1.1
CLCH				IAML		03 08 13.0	
	comp=E,456nm,0.8s						
PEL	Peldehue	3.45	33	⇑iP	Pn	03 07 12.9	+1.1
PEL				IAML		03 08 17.4	
	comp=E,420nm,0.8s						

GUC 19 03:10:22.9±0.9, 34°.93S×71°.97W, h10km±10km, ML3.6, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	Talca	0.54	150	eP1	Pb	03 10 34.1	-0.4
TALC				iS	Sb	03 10 42.1	-0.2
TALC				AML	AML	03 10 43.1	
	comp=E,30μm,0.1s						
NICH	Los Niches	0.61	97	⇓iP	Pb	03 10 35.3	-0.3
NICH				iS	Sb	03 10 43.9	-0.4
NICH				AML	AML	03 10 47.8	
	comp=N,5μm,0.1s						
LNCH	Linares	0.96	162	eP1	Pb	03 10 40.5	-1.2
LNCH				iS1	Sb	03 10 53.7	-0.7
LNCH				AML	AML	03 10 59.2	
	comp=E,1μm,0.3s						
RCDM	Rinconada Maip	1.73	34	eP1	Pn	03 10 52.4	-0.6
RCDM				AML	AML	03 11 24.4	
	comp=E,1μm,0.1s						
ANTU	Antumapu	1.75	40	eP1	Pn	03 10 53.0	-0.3
ANTU				iS1	Sn	03 11 16.2	+0.5
ANTU				AML	AML	03 11 21.4	
	comp=E,909nm,0.4s						
CLCH	Cerro Calan	1.93	38	⇓iP	Pn	03 10 55.4	-0.5
CLCH				iS1	Sn	03 11 21.7	+1.3
CLCH				AML	AML	03 11 28.0	
	comp=N,591nm,0.8s						
PEL	Peldehue	2.07	31	⇑iP	Pn	03 10 58.7	+0.8
PEL				iS4	Sb	03 11 26.3	-0.3
PEL				AML	AML	03 11 32.4	
	comp=E,705nm,0.4s						

GUC 19 03:14:15.8±0.5, 33°.12S×72°.13W, h6km±3km, MD3.6, ML3.0, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	0.42	78	⇓iP	Pg	03 14 24.5	+0.7
IHA				iS	Sg	03 14 30.7	+1.4
LNV	Longovilo	1.03	145	⇑iP	Pg	03 14 34.9	-0.7
LNV				iS1	Sb	03 14 49.5	-0.4
RCDM	Rinconada Maip	1.17	109	eP1	Pg	03 14 36.8	-1.5
RCDM				AML	AML	03 14 59.9	
	comp=E,221nm,0.5s						
PEL	Peldehue	1.21	92	⇑iP	Pg	03 14 38.0	-1.1
PEL				iS1	Sg	03 14 54.5	-0.3
PEL				AML	AML	03 14 58.0	
	comp=N,978nm,0.4s						
CLCH	Cerro Calan	1.36	102	⇓iP	Pn	03 14 40.4	-1.1
CLCH				iS1	Sn	03 14 59.6	-0.4
CLCH				AML	AML	03 15 04.5	
	comp=N,645nm,0.5s						
CHCH	Chadas Angostu	1.48	124	eP1	Pn	03 14 42.3	-0.7
CHCH				iS1	Sn	03 15 02.2	-0.6

MAN ***19*** *03:22:53, 4°.08N×125°.65E, h68km, mb5.0, ML3.9, MS4.0*
ISCJB ***19*** *03:22:55.0±0.2, 4°.22N±0°.02×125°.73E±0°.04, h150km, mb4.4/27, Error ellipse: s-maj=5.3km s-min=3.0km az=174.7*
IDC ***19*** *03:22:56.1±1.9, 4°.15N×125°.45E, h147km±17km, mb3.8/12, mb1 4.0/13, mb1mx3.7/34, mbtmp4.3/13, Error ellipse: s-maj=20.3km s-min=9.1km az=82.0*
NEIC ***19*** *03:22:56.4±0.7, 4°.21N×125°.60E, h148km±7km, mb4.8/15, Error ellipse: s-maj=8.2km s-min=5.6km az=81.0*
DJA ***19*** *03:23:00.4±0.4, 4°.N±4°×12°.6E±°, h88km±5km, MS.0/17, mB5.4/11, mb5.1/17, MLv5.0/15, Mw(mB)4.9/11*

ISC 19 03:22:56.8±0.4, 4°.20N±0°.04×125°.72E±0°.07, h150km, n92, σ1§25/95, mb4.5/27, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	0.55	201	P	Pn	03 23 15.0	-3.4
SGSI				S	Sn	03 23 26.9	-7.9
GSPH	General Santos	2.03	338	⇓iP	Pn	03 23 29.1	-3.2
MATI	Mati	2.78	11	eP	Pn	03 23 39.5	-1.9
MATI				eS	Sn	03 24 12.9	-3.0
DAV	Davao City (W)	2.85	357	ePn	Pn	03 23 40.8	-1.5
CTBH	Cotabato--PC H	3.34	334	⇓iP	Pn	03 23 46.5	-2.0
BUKP	Musuan	3.71	350	eP	Pn	03 23 51.9	-1.5
TNTI	Ternate	3.78	154	P	Pn	03 23 52.6	-1.6
TNTI				S	Sn	03 24 34.1	-4.7
TNTI	Ternate	3.78	154	ePn	Pn	03 23 52.4	-1.8
KMSI	Cibinong	4.00	206	P	Pn	03 23 56.6	-0.4
PAGZ	Pagadian	4.31	327	eP	Pn	03 23 58.7	-2.4
CGP	Cagayan de Oro	4.35	346	⇑iP	Pn	03 24 00.1	-1.5
CGP				iS	Sn	03 24 52.1	-0.1
GTOI	Gorontalo	4.46	217	P	Pn	03 24 02.0	-1.0
BUTP	Butuan	4.74	359	eP	Pn	03 24 06.6	-0.2
IPIL	Ipil	4.75	319	eP	Pn	03 24 05.6	-1.2
LBMI	Labuha	5.12	160	P	Pn	03 24 10.4	-1.5
LBMI				S	Sn	03 25 07.6	-2.9
MRSI	Marisa	5.29	226	P	Pn	03

	51nm,0.6s						
KAPI	Kappang	10.92	213	ePn	Pn	03 25 28.8	-0.2
BKSI	Bulukumba	10.99	211	P	Pn	03 25 31.9	+2.0
SOEI	Soe	13.94	186	P	Pn	03 26 09.2	+1.1
	baz=14,SNR=10						
SOEI	Soe	13.94	186	ePn	Pn	03 26 09.1	+1.0
BATI	Baumata	14.46	188	P	Pn	03 26 14.2	-0.4
	13nm,0.3s,baz=106,slow=0.5,SNR=12						
JAY	Jayapura	16.39	114	P	P	03 26 41.5	+3.0
	1.3nm,0.3s,baz=302,slow=9.8,SNR=4.5						
JAGI	Jajag, Banyuwa	17.07	223	P	Pn	03 26 47.0	+0.3
	baz=17,SNR=7.0						
JAGI	Jajag, Banyuwa	17.07	223	eP	P	03 26 45.6	-0.4
	30nm,0.4s						
MTN	Manton Dam	17.77	162	P	P	03 26 52.5	-1.1
	baz=18,SNR=14						
KDU	Kakadu	18.07	158	P	P	03 26 57.0	+0.1
	baz=18,SNR=16						
KNRA	Kununurra	19.98	171	P	P	03 27 17.5	0.0
	baz=20,SNR=56						
FITZ	Fitzroy Crossi	22.16	180	eP	P	03 27 39.6	-1.1
	36nm,0.5s						
JOW	Kunigami	22.64	6	eP	P	03 27 44.5	-0.7
	46nm,1.4s						
JOW				eScS	ScS	03 38 46.3	+3.8
IPM	Ipoh	24.63	272	eP	P	03 28 02.9	-0.7
	7.2nm,0.6s						
PMG	Port Moresby	25.28	122	S	S	03 32 15.5	-8.9
	baz=25,SNR=5.2						
PMG	Port Moresby	25.28	122	eP	P	03 28 09.8	+0.4
	50nm,1.1s						
WRAB	Tennant Creek	25.44	161	eP	P	03 28 10.6	-0.3
	12nm,0.4s						
WRA	Warramunga Arr	25.44	161	P	P	03 28 11.2	+0.3
	5.3nm,0.4s,baz=339,slow=11,SNR=61						
WRA				S	S	03 32 26.1	-0.8
	1.2nm,0.7s,baz=345,slow=14,SNR=4.9						
WRA				ScP	ScP	03 35 05.9	+1.3
	0.9nm,0.6s,baz=345,slow=3.1,SNR=6.3						
WB2	Warramunga Arr	25.45	161	eP	P	03 28 10.3	-0.6
MBWA	Marble Bar	25.88	193	eP	P	03 28 14.2	-0.5
	26nm,0.8s						
CBIJ	Chichi jima	27.67	33	P	P	03 28 31.6	+0.8
JCJ	Chichijima	27.67	33	P	P	03 28 31.6	+0.8
	48nm,0.4s,baz=274,slow=13,SNR=7.9						
QIS	Mount Isa	28.13	152	P	P	03 28 36.2	+1.3
	baz=28,SNR=6.8						
AS31	Alice Springs	28.82	164	eP	P	03 28 41.2	+0.2
ASAR	Alice Springs	28.82	164	P	P	03 28 41.4	+0.3
	4.4nm,0.4s,baz=345,slow=7.9,SNR=90						
ASAR				S	S	03 33 20.6	+0.5
	0.7nm,0.8s,baz=348,slow=17,SNR=5.1						
ASAR				ScP	ScP	03 35 16.9	+2.1
	0.2nm,0.3s,baz=354,slow=1.3,SNR=5.1						
AS01	Alice Springs	28.83	164	eP	P	03 28 41.5	+0.3
WRKA	Warakurna	29.17	175	P	P	03 28 44.3	+0.2
	baz=29,SNR=57						
WRKA				S	S	03 33 14.9	-11
	baz=29,SNR=4.9						
CMAR	Chiang Mai Arr	29.77	301	P	P	03 28 45.9	-3.6
	0.6nm,0.3s,baz=201,slow=15,SNR=5.9						
MEEK	Meekatharra	31.42	192	P	P	03 29 03.2	-0.7
	baz=32,SNR=8.6						
KSAR	Wonju Array Be	33.14	3	P	P	03 29 18.6	-0.2
KSRS	Korea Array	33.16	3	P	P	03 29 18.6	-0.3
	1.3nm,0.5s,baz=190,slow=9.5,SNR=4.7						
MJAR	Matsushiro Arr	34.18	18	P	P	03 29 27.2	-0.6
	1.4nm,0.6s,baz=194,slow=9.2,SNR=6.8						
MORW	Morawa	34.36	195	P	P	03 29 28.8	-0.6
	baz=34,SNR=4.7						
FORT	Forrest	34.85	176	P	P	03 29 33.9	+0.3
	baz=35,SNR=16						
FORT	Forrest	34.85	176	eP	P	03 29 33.5	-0.1
	20nm,0.5s						
KMBL	Kambalda	35.56	186	P	P	03 29 39.5	-0.2
	baz=36,SNR=19						
BLDU	Ballidu	35.67	193	P	P	03 29 40.0	-0.7
	baz=36,SNR=23						
NWAO	Narrogin (SRO)	37.79	192	P	P	03 29 58.0	-0.6
	3.7nm,0.3s,baz=23,slow=5.9,SNR=9.5						
NWAO	Narrogin (SRO)	37.79	192	P	P	03 29 58.4	-0.1
	baz=38,SNR=6.6						
BBOO	Buckleboo	38.09	166	P	P	03 30 01.9	+0.8
	baz=38,SNR=112						
BBOO	Buckleboo	38.09	166	eP	P	03 30 01.8	+0.7
USRK	Ussuriysk Ar.	40.22	7	P	P	03 30 19.4	+0.9
	4.8nm,0.8s,baz=198,slow=8.4,SNR=8.3						
CMSA	Cobar Meteorol	40.31	153	P	P	03 30 21.1	+1.6
	baz=40,SNR=6.1						
ASAJ	Asahikawa	42.45	18	P	P	03 30 38.2	+1.4
	7.4nm,0.6s,baz=200,slow=4.7,SNR=7.5						
PALK	Pallekele	44.88	276	eP	P	03 30 52.9	-3.9
	50nm,1.3s						
SONM	Songino Array	46.54	342	PcP	PcP	03 32 41.5	+0.3
	0.9nm,0.4s,baz=174,slow=5.4,SNR=3.3						
PETK	Petropavlovsk-	55.38	23	P	P	03 32 16.2	+1.1
	3.3nm,0.7s,baz=205,slow=6.6,SNR=4.3						
MKAR	Makanchi Array	56.60	326	P	P	03 32 22.9	-1.1
	0.4nm,0.4s,baz=120,slow=7.6,SNR=16						
YAK	Yakutsk	57.78	2	eP	P	03 32 31.8	-0.1
	16nm,0.6s						
AAK	Ala-Archa	59.34	318	eP	P	03 32 42.8	-0.5
	1.3nm,0.7s						
KURBB	Kurchatov Arra	60.80	328	P	P	03 32 51.6	-1.3
	0.3nm,0.5s,baz=128,slow=6.6,SNR=4.0						
KURK	Kurchatov	60.81	328	eP	P	03 32 51.7	-1.2
	1.1nm,0.5s						
TIXI	Tiksi	67.39	1	eP	P	03 33 35.3	-0.2
	4.1nm,0.4s						
COLD	Coldfoot	83.85	23	eP	P	03 35 11.6	+2.3
	67nm,2.9s						
MCK	McKinley	84.19	26	eP	P	03 35 11.1	0.0
	4.0nm,0.8s						
ILAR	Eielson Array	85.11	25	P	P	03 35 15.7	+0.1
	0.3nm,0.5s,baz=260,slow=4.7,SNR=8.3						
TORD	Torodi Ar. Bea	121.82	288	PKP	PKPdf	03 41 33.6	-0.5
	0.4nm,0.5s,baz=46,slow=2.2,SNR=8.5						

*ISK **19** 03:32:17.9, 39.°13N×26.°12E, h13km, MD3.5*
*ATH **19** 03:32:17.7, 39.°18N×26.°18E, h21km, MD3.6/24*
*ISCJB **19** 03:32:18.1±0.4, 39.°14N±0.°01×26.°12E±0.°02, h10km±3km, Error ellipse: s-maj=2.3km s-min=2.2km az=142.9*
*CSEM **19** 03:32:18.8±0.1, 39.°14N×26.°14E, h10km, MD3.6, Error ellipse: s-maj=1.8km s-min=1.5km az=169.0*
*DDA **19** 03:32:18.5, 39.°15N×26.°18E, h26km, MD3.2*
*THE **19** 03:32:19.0, 39.°12N×26.°14E, h8km, ML3.2/8, Error ellipse: s-maj=0.9km s-min=0.5km az=50.0*

ISC 19 03:32:19.1±0.8, 39.°14N±0.°01×26.°14E±0.°02, h12km±5km, n237, σ0°58/289, 6C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.14	44	P	Pg	03 32 22.1	-0.4
PRK				S	Sg	03 32 24.9	0.0
PRK	Paraskevi	0.14	44	ePB	Pg	03 32 22.2	-0.3
PRK				eSB	Sg	03 32 24.7	-0.2
PRK	Paraskevi	0.14	44	ePb	Pg	03 32 22.2	-0.3
PRK				eSb	Sg	03 32 24.7	-0.2
SIGR	SIGRI	0.23	287	P	Pg	03 32 24.1	+0.1
SIGR				S	Sg	03 32 27.7	+0.4
SIGR	SIGRI	0.23	287	ePB	Pg	03 32 24.0	+0.1
SIGR				eSB	Sg	03 32 27.7	+0.4
SIGR	SIGRI	0.23	287	P	Pg	03 32 24.1	+0.1
SIGR				eSb	Sg	03 32 27.7	+0.4
AYVA	Ayvalik	0.46	68	iP	Pg	03 32 27.8	-0.3
AYVA				iS	Sg	03 32 34.6	+0.5
AYVA	Ayvalik	0.46	68	iP	Pg	03 32 27.8	-0.3
AYVA				iS	Sg	03 32 34.6	+0.5
EZN	Ezine	0.70	12	ePG	Pg	03 32 31.9	-0.7
EZN				eSG	Sb	03 32 42.6	-0.2
EZN	Ezine	0.70	12	ePg	Pg	03 32 31.9	-0.7
EZN				eSg	Sb	03 32 42.6	-0.2
BOZC	Bozcaada	0.70	354	iP	Pg	03 32 32.1	-0.6
BOZC				iS	Sb	03 32 42.7	-0.3
CHOS	Chios island	0.76	185	P	Pg	03 32 32.6	-1.1
CHOS				S	Sg	03 32 44.0	+0.4
CHOS	Chios island	0.76	185	ePN	Pg	03 32 32.9	-0.8
CHOS				eSN	Sb	03 32 44.7	+0.1
CHOS	Chios island	0.76	185	P	Pg	03 32 32.6	-1.1
CHOS				eSn	Sb	03 32 44.7	+0.1
URLA	Izmir	0.86	155	iP	Pb	03 32 35.9	0.0
URLA				iS	Sb	03 32 48.0	+0.6
URLA	Izmir	0.86	155	iP	Pb	03 32 35.9	0.0
URLA				iS	Sb	03 32 48.0	+0.6
ZEY	˜zmir	0.94	163	iP	Pg	03 32 36.5	-0.8
ZEY				iS	Sb	03 32 50.2	+0.3
BLCB	Balcova	1.03	137	ePG	Pg	03 32 38.5	-0.4
BLCB				eSG	Sb	03 32 52.9	+0.5
BLCB	Balcova	1.03	137	ePg	Pg	03 32 38.5	-0.4
BLCB				eSg	Sb	03 32 52.9	+0.5
LIA	Limnos Island	1.06	316	P	Pb	03 32 39.0	-0.4
LIA				S	Sn	03 32 54.8	+0.3
LIA	Limnos Island	1.06	316	ePN	Pb	03 32 38.2	-1.2
LIA				eSN	Sg	03 32 52.6	-0.7
LIA	Limnos Island	1.06	316	ePn	Pb	03 32 38.2	-1.2
LIA	Limnos Island	1.06	316	P	Pb	03 32 39.0	-0.4
LIA				eSn	Sg	03 32 52.6	-0.7
LIA				S	Sn	03 32 54.8	+0.3
IZM	Izmir	1.15	130	ePN	Pb	03 32 40.3	-0.6
IZM				eSN	Sg	03 32 56.2	+0.1
IZM	Izmir	1.15	130	ePn	Pb	03 32 40.3	-0.6
IZM				eSn	Sg	03 32 56.2	+0.1
GELI	Tayfur-Gelibol	1.28	11	ePN	Pn	03 32 42.2	-0.6
GELI				eSN	Sn	03 33 00.1	+0.1
GELI	Tayfur-Gelibol	1.28	11	ePn	Pn	03 32 42.3	-0.6
GELI				eSn	Sn	03 33 00.1	+0.1
BALY	Balya	1.29	62	iP	Pn	03 32 42.6	-0.4
BALY				iS	Sg	03 33 02.0	+1.3
BALY	Balya	1.29	62	iP	Pn	03 32 42.6	-0.4
BALY				iS	Sg	03 33 02.0	+1.3
LPK	Lapseki	1.32	21	ePN	Pn	03 32 42.8	-0.6
LPK	Lapseki	1.32	21	ePn	Pn	03 32 42.8	-0.6
AKS	Akhisar	1.33	101	ePN	Pn	03 32 43.1	-0.4
AKS	Akhisar	1.33	101	ePn	Pn	03 32 43.1	-0.4
AKHS	Akhisar	1.33	101	iP	Pn	03 32 42.9	-0.6
AKHS	Akhisar	1.33	101	iP	Pn	03 32 42.9	-0.6
AKHS				iS	Sg	03 33 02.3	+0.4
SMTH	Samothraki Isl	1.41	341	P	Pn	03 32 43.9	-0.7
SMTH				S	Sn	03 33 03.0	-0.2
SMTH	Samothraki Isl	1.41	341	ePN	Pn	03 32 43.9	-0.7
SMTH				eSN	Sn	03 33 02.2	-1.0
SMTH	Samothraki Isl	1.41	341	P	Pn	03 32 43.9	-0.7
SMTH				eSn	Sn	03 33 02.2	-1.0
SMTH				S	Sn	03 33 03.0	-0.2
BALB	Balikesir	1.44	69	ePN	Pn	03 32 44.6	-0.4
BALB	Balikesir	1.44	69	ePn	Pn	03 32 44.6	-0.4
SMG	Samos	1.53	159	P	Pn	03 32 45.5	-0.8
SMG				S	Sn	03 33 05.8	-0.4
SMG	Samos	1.53	159	ePN	Pn	03 32 45.5	-0.8
SMG				eSN	Sb	03 33 07.2	+0.4
SMG	Samos	1.53	159	P	Pn	03 32 45.5	-0.8
SMG				eSn	Sb	03 33 07.2	+0.4
KRBG	Karabiga-Canak	1.54	35	ePn	Pn	03 32 45.3	-1.0
KRBG	Karabiga-Canak	1.54	35	ePn	Pn	03 32 45.3	-1.0
ERIK	Erikli-Kesan	1.55	10	ePN	Pn	03 32 46.1	-0.5
ERIK	Erikli-Kesan	1.55	10	ePn	Pn	03 32 46.1	-0.5
ENEZ	Enez	1.59	0	ePN	Pn	03 32 46.5	-0.7
ENEZ	Enez	1.59	0	ePn	Pn	03 32 46.5	-0.7
RKY	Sarkoy-Tekirda	1.74	27	ePN	Pn	03 32 48.8	-0.4
RKY	Sarkoy-Tekirda	1.74	27	ePn	Pn	03 32 48.8	-0.4
SART	Tekirdag	1.74	27	iP	Pn	03 32 49.2	0.0
SART				iS	Sg	03 33 14.7	-0.4
SART	Tekirdag	1.74	27	iP	Pn	03 32 49.2	0.0
SART				iS	Sg	03 33 14.7	-0.4
ALN	Alexandroupoli	1.75	358	P	Pn	03 32 48.8	-0.6
ALN				S	Sn	03 33 12.4	+0.7
ALN	Alexandroupoli	1.75	358	ePN	Pn	03 32 48.8	-0.6
ALN	Alexandroupoli	1.75	358	P	Pn	03 32 48.8	-0.6
ALN				S	Sn	03 33 12.4	+0.7
AOS	Alonnisos	1.76	272	P	Pn	03 32 49.0	-0.4
AOS				S	Sn	03 33 12.1	+0.3
AOS	Alonnisos	1.76	272	ePN	Pn	03 32 49.2	-0.2
AOS	Alonnisos	1.76	272	ePn	Pn	03 32 49.2	-0.2
AOS				S	Sn	03 33 12.1	+0.3
EDC	Edincik	1.79	47	ePN	Pn	03 32 49.6	-0.3
EDC	Edincik	1.79	47	ePn	Pn	03 32 49.6	-0.3
AYDB	Zeytinkoy-Aydi	1.82	130	ePN	Pn	03 32 49.9	-0.5
AYDB	Zeytinkoy-Aydi	1.82	130	ePn	Pn	03 32 49.9	-0.5
MRMT	Marmara Adasi	1.84	37	ePN	Pn	03 32 50.2	-0.4
MRMT	Marmara Adasi	1.84	37	ePn	Pn	03 32 50.2	-0.4
DST	Dursunbey	1.97	76	ePN	Pn	03 32 52.3	-0.1
DST	Dursunbey	1.97	76	ePn	Pn	03 32 52.3	-0.1
MANT	Manisa	2.00	108	iP	Pn	03 32 52.5	-0.4
MANT	Manisa	2.00	108	iP	Pn	03 32 52.5	-0.4
AYDN	Tasoluk	2.01	137	iP	Pn	03 32 52.8	-0.1
AYDN	Tasoluk	2.01	137	iP	Pn	03 32 52.8	-0.1
AYDN				iS	Sg	03 33 24.0	+0.3
MRKA	Markates	2.04	258	ePB	Pn	03 32 53.3	0.0
MRKA	Markates	2.04	258	ePb	Pn	03 32 53.3	0.0
KCTX	Karacabey (Bur	2.04	56	ePN	Pn	03 32 53.1	-0.3
KCTX	Karacabey (Bur	2.04	56	ePn	Pn	03 32 53.1	-0.3
OUR	Ouranopolis	2.05	306	P	Pn	03 32 53.3	-0.1
OUR	Ouranopolis	2.05	306	ePN	Pn	03 32 53.1	-0.3
OUR	Ouranopolis	2.05	306	P	Pn	03 32 53.3	-0.1
PAIG	Paliouri	2.06	293	P	Pn	03 32 53.2	-0.3
PAIG	Paliouri	2.06	293	ePN	Pn	03 32 53.3	-0.3
PAIG				eSN	Sn	03 33 19.7	+0.5
PAIG	Paliouri	2.06	293	ePn	Pn	03 32 53.3	-0.3
PAIG				eSn	Sn	03 33 19.7	+0.5
KULA	Kula-Manisa	2.06	107	P	Pn	03 32 53.4	-0.2
KULA	Kula-Manisa	2.06	107	ePN	Pn	03 32 53.5	-0.2
KULA	Kula-Manisa	2.06	107	ePn	Pn	03 32 53.5	-0.2
SKIA	Skiathos	2.08	272	P	Pn	03 32 53.3	-0.6
SKIA	Skiathos	2.08	272	ePB	Pn	03 32 53.1	-0.8
SKIA	Skiathos	2.08	272	P	Pn	03 32 53.3	-0.6
PTL	Penteli	2.09	239	P	Pn	03 32 52.7	-1.3
PTL	Penteli	2.09	239	ePN	Pn	03 32 53.8	-0.2
PTL	Penteli	2.09	239	P	Pn	03 32 52.7	-1.3
PTL	Penteli	2.09	239	ePn	Pn	03 32 53.8	-0.2
APE	Apeiranthos	2.12	193	P	Pn	03 32 52.9	-1.6
APE	Apeiranthos	2.12	193	ePB	Pn	03 32 54.5	0.0
APE	Apeiranthos	2.12	193	⇓iP	Pn	03 32 52.8	-1.7
APE	Apeiranthos	2.12	193	P	Pn	03 32 52.9	-1.6
APE	Apeiranthos	2.12	193	ePb	Pn	03 32 54.5	0.0
TKR	Tekirdag	2.13	30	ePN	Pn	03 32 54.1	-0.5
TKR	Tekirdag	2.13	30	ePn	Pn	03 32 54.1	-0.5
KAVA	Kavala	2.23	327	P	Pn	03 32 55.7	-0.3
KAVA	Kavala	2.23	327	ePB	Pn	03 32 55.7	-0.3
KAVA	Kavala	2.23	327	P	Pn	03 32 55.7	-0.3
NEO	Neokhori	2.27	275	ePN	Pn	03 32 56.7	+0.2
NEO	Neokhori	2.27	275	ePn	Pn	03 32 56.7	+0.2
XOR	Xorichti	2.30	277	P	Pn	03 32 56.9	0.0
XOR	Xorichti	2.30	277	ePN	Pn	03 32 56.5	-0.4
XOR	Xorichti	2.30	277	ePn	Pn	03 32 56.5	-0.4
XOR	Xorichti	2.30	277	P	Pn	03 32 56.9	0.0
BDRM	Kayabasi	2.31	153	iP	Pn	03 32 56.0	-1.0
BDRM	Kayabasi	2.31	153	iP	Pn	03 32 56.0	-1.0
BDRM				iS	Sg	03 33 33.2	-0.2
CRLT	Corlu	2.33	31	ePN	Pn	03 32 57.3	0.0
CRLT	Corlu	2.33	31	ePn	Pn	03 32 57.3	0.0
PLG	Polygyros	2.42	301	ePB	Pn	03 32 58.7	+0.2
PLG	Polygyros	2.42	301	ePb	Pn	03 32 58.7	+0.2
MDNY	Mudanya-Bursa	2.44	59	ePN	Pn	03 32 59.7	+0.9
MDNY	Mudanya-Bursa	2.44	59	ePn	Pn	03 32 59.7	+0.9
NAIG	Nisos Aigina	2.50	237	ePB	Pn	03 33 00.6	+1.0
NAIG	Nisos Aigina	2.50	237	ePb	Pn	03 33 00.6	+1.0
LKR	Lokris	2.50	260	ePN	Pn	03 32 59.3	-0.3
LKR	Lokris	2.50	260	ePn	Pn	03 32 59.3	-0.3
ARMT	Armutlu	2.53	55	ePN	Pn	03 33 00.5	+0.4
ARMT	Armutlu	2.53	55	ePn	Pn	03 33 00.5	+0.4
KDZ	Kurdzhali	2.57	348	⇑iP	Pn	03 33 00.2	-0.4
KDZ	Kurdzhali	2.57	348	⇑iP	Pn	03 33 00.2	-0.4
TVSB	Tavsanli	2.59	82	ePN	Pn	03 33 01.1	+0.1
TVSB	Tavsanli	2.59	82	ePn	Pn	03 33 01.1	+0.1
GDZ	Gediz	2.60	90	iP	Pn	03 33 00.9	-0.2
GDZ	Gediz	2.60	90	iP	Pn	03 33 00.9	-0.2
GDZ				iS	Sg	03 33 41.5	-1.0
SLVT	Silivri	2.62	37	ePN	Pn	03 33 01.2	0.0
SLVT	Silivri	2.62	37	ePn	Pn	03 33 01.2	0.0
ELBA	Catalca	2.66	40	iP	Pn	03 33 02.1	+0.2
ELBA				iS	Sn	03 33 33.5	-0.6
ELBA	Catalca	2.66	40	iP	Pn	03 33 02.1	+0.2
ELBA				iS	Sn	03 33 33.5	-0.6
DNZL	Cakiroluk	2.70	122	iP	Pn	03 33 02.7	+0.1
DNZL	Cakiroluk	2.70	122	iP	Pn	03 33 02.7	+0.1
SOH	Sokhos	2.72	309	ePN	Pn	03 33 02.9	+0.2
SOH	Sokhos	2.72	309	ePn	Pn	03 33 02.9	+0.2
LTK	Loutraki	2.73	247	ePN	Pn	03 33 03.3	+0.5
LTK				eSN	Sn	03 33 36.8	+1.1
LTK	Loutraki	2.73	247	ePn	Pn	03 33 03.3	+0.5
LTK				eSn	Sn	03 33 36.8	+1.1
EDRB	Edirne	2.74	9	ePN	Pn	03 33 03.0	+0.1
EDRB	Edirne	2.74	9	ePn	Pn	03 33 03.0	+0.1
AXAR	Agios Charalam	2.74	263	ePN	Pn	03 33 03.3	+0.3
AXAR	Agios Charalam	2.74	263	ePn	Pn	03 33 03.3	+0.3
HORT	Hortiatis	2.76	303	ePN	Pn	03 33 03.4	+0.2
HORT	Hortiatis	2.76	303	ePn	Pn	03 33 03.4	+0.2
CTKS	Kestanelik-??a	2.77	40	ePN	Pn	03 33 02.6	-0.7
CTKS	Kestanelik-??a	2.77	40	ePn	Pn	03 33 02.6	-0.7
SRS	Serrai	2.78	316	P	Pn	03 33 03.3	-0.2
SRS	Serrai	2.78	316	ePN	Pn	03 33 03.2	-0.2
SRS	Serrai	2.78	316	P	Pn	03 33 03.3	-0.2
DID	Didima	2.81	235	ePN	Pn	03 33 03.8	-0.1
DID	Didima	2.81	235	ePn	Pn	03 33 03.8	-0.1
NVR	Nevrokopi	2.81	322	P	Pn	03 33 03.8	-0.2
NVR	Nevrokopi	2.81	322	ePN	Pn	03 33 03.8	-0.2
NVR	Nevrokopi	2.81	322	P	Pn	03 33 03.8	-0.2
SANT	Santorini	2.82	191	ePN	Pn	03 33 04.1	+0.1
SANT	Santorini	2.82	191	ePn	Pn	03 33 04.1	+0.1
CTYL	Yal??k??y-??at	2.85	34	ePN	Pn	03 33 05.1	+0.7
CTYL	Yal??k??y-??at	2.85	34	ePn	Pn	03 33 05.1	+0.7
BUY	Buyukada	2.85	52	iP	Pn	03 33 03.8	-0.7
BUY	Buyukada	2.85	52	iP	Pn	03 33 03.8	-0.7
BUY				iS	Sg	03 33 50.3	-0.4
BGKT	Bogazkoy	2.87	44	ePN	Pn	03 33 04.7	+0.1
BGKT	Bogazkoy	2.87	44	ePn	Pn	03 33 04.7	+0.1
DSF	Desfina	2.92	257	ePN	Pn	03 33 06.0	+0.6
DSF	Desfina	2.92	257	ePn	Pn	03 33 06.0	+0.6
ISK	Istanbul-Kandi	2.95	48	ePN	Pn	03 33 06.1	+0.3
ISK	Istanbul-Kandi	2.95	48	ePn	Pn	03 33 06.1	+0.3
AGG	Agios Georgios	2.97	269	ePN	Pn	03 33 06.2	+0.1
AGG	Agios Georgios	2.97	269	ePn	Pn	03 33 06.2	+0.1
LIT	Litokhoron	2.98	290	ePN	Pn	03 33 06.8	+0.6
LIT	Litokhoron	2.98	290	ePn	Pn	03 33 06.8	+0.6
CAVI	Cavuskoy	3.04	68	ePN	Pn	03 33 07.8	+0.7
CAVI	Cavuskoy	3.04	68	ePn	Pn	03 33 07.8	+0.7
DALY	Dalyan (Mu¯la	3.05	139	ePN	Pn	03 33 07.5	+0.3
DALY	Dalyan (Mu¯la	3.05	139	ePn	Pn	03 33 07.5	+0.3
ADVT	Abdulvahap	3.06	64	ePN	Pn	03 33 07.7	+0.4
ADVT	Abdulvahap	3.06	64	ePn	Pn	03 33 07.7	+0.4
KLYT	Kilyos	3.06	46	ePN	Pn	03 33 07.0	-0.3
KLYT	Kilyos	3.06	46	ePn	Pn	03 33 07.0	-0.3
MMB	Musomiste	3.06	324	⇑iP	Pn	03 33 06.9	-0.5
MMB	Musomiste	3.06	324	⇑iP	Pn	03 33 06.9	-0.5
ALT	Altintas	3.09	90	P	Pn	03 33 08.2	+0.4
ALT	Altintas	3.09	90	ePN	Pn	03 33 08.1	+0.4
ALT	Altintas	3.09	90	ePn	Pn	03 33 08.1	+0.3
MAKR	Makrakomi, Fth	3.12	269	ePN	Pn	03 33 09.1	+0.9
MAKR	Makrakomi, Fth	3.12	269	ePn	Pn	03 33 09.1	+0.9
HRT	Hereke	3.19	57	ePN	Pn	03 33 09.5	+0.4
HRT	Hereke	3.19	57	ePn	Pn	03 33 09.5	+0.4
KNT	Kendrikon	3.20	310	ePN	Pn	03 33 09.7	+0.4
KNT	Kendrikon	3.20	310	ePn	Pn	03 33 09.7	+0.4
GUR	Goura	3.21	249	ePN	Pn	03 33 09.2	-0.3
GUR	Goura	3.21	249	ePn	Pn	03 33 09.2	-0.3
KALE	Kalithea	3.22	258	ePN	Pn	03 33 09.9	+0.3
KALE	Kalithea	3.22	258	ePn	Pn	03 33 09.9	+0.3
THL	Klokotos Trika	3.23	279	ePN	Pn	03 33 09.8	+0.2
THL	Klokotos Trika	3.23	279	ePn	Pn	03 33 09.8	+0.2
KLV	Kalavryta, Ach	3.31	252	ePN	Pn	03 33 11.4	+0.5
KLV	Kalavryta, Ach	3.31	252	ePn	Pn	03 33 11.4	+0.5
ARG	Arkhangelos	3.32	151	ePN	Pn	03 33 11.4	+0.5
ARG	Arkhangelos	3.32	151	ePn	Pn	03 33 11.4	+0.5
JMB	Yambol	3.34	6	⇓iP	Pb	03 33 19.9	+1.7
SILT	Sile	3.35	52	ePN	Pn	03 33 11.9	+0.6
SILT	Sile	3.35	52	ePn

ANKY				*e*SN	Sg	03 43 36.2	-0.2
ANKY	**Antikythira Is**	**0.98**	**86**	*e*Pn	Pg	03 43 24.4	+0.7
ANKY				*e*Sn	Sg	03 43 36.2	-0.2
PYL	**PYLOS**	**1.13**	**345**	*e*PB	Pb	03 43 27.2	+0.8
PYL	**PYLOS**	**1.13**	**345**	*e*Pb	Pb	03 43 27.2	+0.8
VLI	**Veliai**	**1.14**	**36**	*e*PN	Pb	03 43 27.3	+0.7
VLI	**Veliai**	**1.14**	**36**	*e*Pn	Pb	03 43 27.3	+0.7
ITM	**Ithomi**	**1.39**	**354**	*e*PB	Pn	03 43 30.7	+0.6
ITM				*e*SN	Sn	03 43 49.3	+0.8
ITM	**Ithomi**	**1.39**	**354**	*e*Pb	Pn	03 43 30.7	+0.6
ITM				*e*Sn	Sn	03 43 49.3	+0.8
KARN	**Karanos**	**1.53**	**104**	*e*PN	Pn	03 43 33.7	+1.5
KARN	**Karanos**	**1.53**	**104**	*e*Pn	Pn	03 43 33.7	+1.5
VLX	**Vlachokerasia**	**1.58**	**8**	*e*PB	Pn	03 43 33.0	0.0
VLX	**Vlachokerasia**	**1.58**	**8**	*e*Pb	Pn	03 43 33.0	0.0
VAM	**Vamos**	**1.75**	**102**	*e*PB	Pn	03 43 36.4	+1.2
VAM	**Vamos**	**1.75**	**102**	*e*Pb	Pn	03 43 36.4	+1.2
AMT	**Artemida-Makis**	**1.76**	**350**	*e*PN	Pb	03 43 37.1	0.0
AMT	**Artemida-Makis**	**1.76**	**350**	*e*Pn	Pb	03 43 37.1	0.0
GUR	**Goura**	**2.14**	**5**	*e*PB	Pn	03 43 42.4	+1.8
GUR	**Goura**	**2.14**	**5**	*e*Pb	Pn	03 43 42.4	+1.8
DRO	**Drossia**	**2.17**	**352**	*e*PB	Pb	03 43 43.6	-0.6
DRO	**Drossia**	**2.17**	**352**	*e*Pb	Pb	03 43 43.6	-0.6
KLV	**Kalavryta, Ach**	**2.24**	**1**	*e*PN	Pn	03 43 43.6	+1.6
KLV	**Kalavryta, Ach**	**2.24**	**1**	*e*Pn	Pn	03 43 43.6	+1.6
NAIG	**Nisos Aigina**	**2.25**	**29**	*e*PN	Pn	03 43 43.3	+1.3
NAIG	**Nisos Aigina**	**2.25**	**29**	*e*Pn	Pn	03 43 43.3	+1.3
RLS	**Riolos of Patr**	**2.31**	**347**	*e*PN	Pn	03 43 45.2	+2.4
RLS	**Riolos of Patr**	**2.31**	**347**	*e*Pn	Pn	03 43 45.2	+2.4
LTK	**Loutraki**	**2.33**	**17**	*e*PN	Pn	03 43 44.5	+1.4
LTK	**Loutraki**	**2.33**	**17**	*e*Pn	Pn	03 43 44.5	+1.4
IDI	**Anoyia**	**2.33**	**102**	Pn	Pn	03 43 44.4	+1.2
	1.5nm,0.3s,baz=253,slow=8.3,SNR=16						
IDI				Sn	Sn	03 44 14.1	+2.2
	7.2nm,0.3s,baz=326,slow=11,SNR=5.7						
IDI				LR	LR	03 44 55.2	
	comp=Z,138nm,18.2s,baz=278,slow=47						
SIVA	**Sivas**	**2.35**	**109**	*e*PN	Pn	03 43 45.4	+2.1
SIVA	**Sivas**	**2.35**	**109**	*e*Pn	Pn	03 43 45.4	+2.1
ATH	**Athens Observa**	**2.53**	**30**	*e*PN	Pn	03 43 46.9	+1.1
ATH	**Athens Observa**	**2.53**	**30**	*e*Pn	Pn	03 43 46.9	+1.1
KALE	**Kalithea**	**2.59**	**1**	*e*PN	Pn	03 43 48.5	+1.8
KALE	**Kalithea**	**2.59**	**1**	*e*Pn	Pn	03 43 48.5	+1.8
EFP	**Efpalio**	**2.63**	**357**	*e*PN	Pn	03 43 49.2	+2.0
EFP	**Efpalio**	**2.63**	**357**	*e*Pn	Pn	03 43 49.2	+2.0
DSF	**Desfina**	**2.63**	**7**	*e*PN	Pn	03 43 49.3	+2.0
DSF	**Desfina**	**2.63**	**7**	*e*Pn	Pn	03 43 49.3	+2.0
PTL	**Penteli**	**2.65**	**32**	*e*PN	Pn	03 43 48.3	+0.7
PTL	**Penteli**	**2.65**	**32**	*e*Pn	Pn	03 43 48.3	+0.7
VLS	**Valsamata**	**2.66**	**333**	*e*PN	Pn	03 43 48.2	+0.5
VLS	**Valsamata**	**2.66**	**333**	*e*Pn	Pn	03 43 48.2	+0.5
SANT	**Santorini**	**2.78**	**77**	*e*PN	Pn	03 43 50.3	+1.0
SANT	**Santorini**	**2.78**	**77**	*e*Pn	Pn	03 43 50.3	+1.0
LAST	**Lasithi**	**2.83**	**102**	*e*PN	Pn	03 43 51.7	+1.6
LAST	**Lasithi**	**2.83**	**102**	*e*Pn	Pn	03 43 51.7	+1.6
PDO	**Prodromos**	**2.89**	**346**	*e*PN	Pn	03 43 53.4	+2.6
PDO	**Prodromos**	**2.89**	**346**	*e*Pn	Pn	03 43 53.4	+2.6
NPS	**Neapolis**	**2.91**	**100**	*e*PN	Pn	03 43 53.4	+2.2
NPS	**Neapolis**	**2.91**	**100**	*e*Pn	Pn	03 43 53.4	+2.2
LKR	**Lokris**	**2.94**	**14**	*e*PN	Pn	03 43 52.8	+1.4
LKR	**Lokris**	**2.94**	**14**	*e*Pn	Pn	03 43 52.8	+1.4
AXAR	**Agios Charalam**	**3.00**	**8**	*e*PN	Pn	03 43 54.3	+2.0
AXAR	**Agios Charalam**	**3.00**	**8**	*e*Pn	Pn	03 43 54.3	+2.0
APE	**Apeiranthos**	**3.04**	**64**	*e*PN	Pn	03 43 53.3	+0.3
APE	**Apeiranthos**	**3.04**	**64**	*e*Pn	Pn	03 43 53.3	+0.3
EVR	**Evrytania**	**3.12**	**356**	*e*PN	Pn	03 43 55.9	+1.8
EVR	**Evrytania**	**3.12**	**356**	*e*Pn	Pn	03 43 55.9	+1.8
MRKA	**Markates**	**3.13**	**22**	*e*PN	Pn	03 43 55.2	+1.0
MRKA	**Markates**	**3.13**	**22**	*e*Pn	Pn	03 43 55.2	+1.0
LKD2	**Lefkada island**	**3.20**	**339**	*e*PN	Pn	03 43 57.5	+2.4
LKD2	**Lefkada island**	**3.20**	**339**	*e*Pn	Pn	03 43 57.5	+2.4
MAKR	**Makrakomi, Fth**	**3.21**	**0**	*e*PN	Pn	03 43 57.5	+2.3
MAKR	**Makrakomi, Fth**	**3.21**	**0**	*e*Pn	Pn	03 43 57.5	+2.3
AGG	**Agios Georgios**	**3.22**	**3**	*e*PN	Pn	03 43 57.6	+2.2
AGG	**Agios Georgios**	**3.22**	**3**	*e*Pn	Pn	03 43 57.6	+2.2
SKIA	**Skiathos**	**3.53**	**17**	*e*PN	Pn	03 44 02.0	+2.3
SKIA	**Skiathos**	**3.53**	**17**	*e*Pn	Pn	03 44 02.0	+2.3
NEO	**Neokhori**	**3.61**	**14**	*e*PN	Pn	03 44 02.0	+1.2
NEO	**Neokhori**	**3.61**	**14**	*e*Pn	Pn	03 44 02.0	+1.2
AOS	**Alonnisos**	**3.65**	**22**	*e*PN	Pn	03 44 03.2	+1.9
AOS	**Alonnisos**	**3.65**	**22**	*e*Pn	Pn	03 44 03.2	+1.9
XOR	**Xorichti**	**3.66**	**13**	*e*PN	Pn	03 44 03.3	+1.8
XOR	**Xorichti**	**3.66**	**13**	*e*Pn	Pn	03 44 03.3	+1.8
THL	**Klokotos Trika**	**3.76**	**359**	*e*PN	Pn	03 44 04.8	+2.0
THL	**Klokotos Trika**	**3.76**	**359**	*e*Pn	Pn	03 44 04.8	+2.0
JAN	**Janina**	**3.98**	**346**	*e*PN	Pn	03 44 07.2	+1.4
JAN	**Janina**	**3.98**	**346**	*e*Pn	Pn	03 44 07.2	+1.4
IGT	**Igoumenitsa**	**3.98**	**340**	*e*PN	Pn	03 44 08.6	+2.8
IGT	**Igoumenitsa**	**3.98**	**340**	*e*Pn	Pn	03 44 08.6	+2.8
CHOS	**Chios island**	**4.08**	**50**	*e*PN	Pn	03 44 08.5	+1.2
CHOS	**Chios island**	**4.08**	**50**	*e*Pn	Pn	03 44 08.5	+1.2
KARP	**Karpathos**	**4.13**	**92**	*e*PN	Pn	03 44 10.2	+2.3
KARP	**Karpathos**	**4.13**	**92**	*e*Pn	Pn	03 44 10.2	+2.3
LIT	**Litokhoron**	**4.30**	**4**	*e*PN	Pn	03 44 12.2	+1.9
LIT	**Litokhoron**	**4.30**	**4**	*e*Pn	Pn	03 44 12.2	+1.9
PAIG	**Paliouri**	**4.31**	**16**	*e*PN	Pn	03 44 11.2	+0.9
PAIG	**Paliouri**	**4.31**	**16**	*e*Pn	Pn	03 44 11.2	+0.9
KEK	**Kerkira**	**4.31**	**336**	*e*PN	Pn	03 44 13.4	+3.0
KEK	**Kerkira**	**4.31**	**336**	*e*Pn	Pn	03 44 13.4	+3.0
KZN	**Kozani**	**4.51**	**357**	*e*PN	Pn	03 44 15.2	+2.1
KZN	**Kozani**	**4.51**	**357**	*e*Pn	Pn	03 44 15.2	+2.1
SIGR	**SIGRI**	**4.53**	**40**	*e*PN	Pn	03 44 14.8	+1.5
SIGR	**SIGRI**	**4.53**	**40**	*e*Pn	Pn	03 44 14.8	+1.5
NEST	**Nestorio**	**4.68**	**350**	*e*PN	Pn	03 44 17.2	+1.7
NEST	**Nestorio**	**4.68**	**350**	*e*Pn	Pn	03 44 17.2	+1.7
PLG	**Polygyros**	**4.69**	**13**	*e*PN	Pn	03 44 16.6	+1.0
PLG	**Polygyros**	**4.69**	**13**	*e*Pn	Pn	03 44 16.6	+1.0
LIA	**Limnos Island**	**4.76**	**30**	*e*PN	Pn	03 44 17.5	+1.0
LIA	**Limnos Island**	**4.76**	**30**	*e*Pn	Pn	03 44 17.5	+1.0
HORT	**Hortiatis**	**4.86**	**9**	*e*PN	Pn	03 44 19.1	+1.2
HORT	**Hortiatis**	**4.86**	**9**	*e*Pn	Pn	03 44 19.1	+1.2
ARG	**Arkhangelos**	**4.90**	**83**	*e*PN	Pn	03 44 20.2	+1.7
ARG	**Arkhangelos**	**4.90**	**83**	*e*Pn	Pn	03 44 20.2	+1.7
FNA	**Florina**	**5.01**	**354**	*e*PN	Pn	03 44 21.9	+1.9
FNA	**Florina**	**5.01**	**354**	*e*Pn	Pn	03 44 21.9	+1.9
SOH	**Sokhos**	**5.11**	**11**	*e*PN	Pn	03 44 23.0	+1.6
SOH	**Sokhos**	**5.11**	**11**	*e*Pn	Pn	03 44 23.0	+1.6
GRG	**Griva**	**5.16**	**3**	*e*PN	Pn	03 44 23.4	+1.4
GRG	**Griva**	**5.16**	**3**	*e*Pn	Pn	03 44 23.4	+1.4
KNT	**Kendrikon**	**5.39**	**6**	*e*PN	Pn	03 44 27.0	+1.8
KNT	**Kendrikon**	**5.39**	**6**	*e*Pn	Pn	03 44 27.0	+1.8
OHR	**Ohrid**	**5.40**	**349**	*e*PN	Pn	03 44 25.1	-0.3
OHR	**Ohrid**	**5.40**	**349**	*e*Pn	Pn	03 44 25.1	-0.3
SRS	**Serrai**	**5.44**	**12**	*e*PN	Pn	03 44 27.1	+1.3
SRS	**Serrai**	**5.44**	**12**	*e*Pn	Pn	03 44 27.1	+1.3
VAY	**Valandovo**	**5.53**	**4**	*e*PN	Pn	03 44 27.8	+0.7
VAY	**Valandovo**	**5.53**	**4**	*e*Pn	Pn	03 44 27.7	+0.7
NVR	**Nevrokopi**	**5.71**	**13**	*e*PN	Pn	03 44 30.8	+1.2
NVR	**Nevrokopi**	**5.71**	**13**	*e*Pn	Pn	03 44 30.8	+1.2
SKO	**Skopje**	**6.18**	**355**	*e*Pn	Pn	03 44 35.4	-0.7
STON	**Ston**	**7.84**	**336**	*e*Pn	Pn	03 44 55.8	-3.0
STON				Sn	Sn	03 46 18.6	-8.9
BRTR	**Keskin Array B**	**9.94**	**63**	Pn	Pn	03 45 30.4	+2.6
	0.1nm,0.3s,baz=234,slow=12,SNR=3.1						
UDBI	**Udbina**	**9.97**	**333**	*e*Pn	Pn	03 45 27.4	-0.7
UDBI				Sn	Sn	03 47 11.3	-8.7
MMAI	**Mount Meron Ar**	**11.33**	**100**	Pn	Pn	03 45 48.0	+1.2
	0.4nm,0.3s,baz=292,slow=12,SNR=4.1						
ESDC	**Sonseca Array**	**20.95**	**288**	P	P	03 47 47.2	-0.6
	1.8nm,1.0s,baz=285,slow=26,SNR=4.6						
HFS	**Hagfors**	**24.95**	**350**	P	P	03 48 26.8	-1.2
	1.0nm,0.6s,baz=152,slow=9.8,SNR=6.2						
FINES	**FINESS Array B**	**25.79**	**4**	P	P	03 48 35.0	-0.5
	1.0nm,0.8s,baz=172,slow=11,SNR=3.2						
EKA	**Eskdalemuir Ar**	**26.10**	**326**	P	P	03 48 38.7	+0.3
	1.3nm,0.6s,baz=124,slow=8.6,SNR=4.1						
NOA	**NORSAR Array B**	**26.20**	**348**	P	P	03 48 39.5	+0.2
	0.3nm,0.7s,baz=151,slow=9.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**29.09**	**224**	P	P	03 49 04.8	-0.7
	0.1nm,0.5s,baz=28,slow=8.9,SNR=4.0						
ARCES	**ARCESS Array B**	**33.84**	**2**	P	P	03 49 45.2	-1.6
	1.3nm,0.5s,baz=193,slow=11,SNR=14						
SPITS	**Spitsbergen Ar**	**42.55**	**358**	P	P	03 50 59.0	-1.1
	4.6nm,0.9s,baz=151,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**45.51**	**57**	P	P	03 51 22.6	-1.7
	1.7nm,0.4s,baz=270,slow=7.7,SNR=47						
ZALV	**Zalesovo Beam**	**46.37**	**47**	P	P	03 51 29.7	-1.2
	0.4nm,0.3s,baz=254,slow=8.9,SNR=2.6						
SIV	**San Ignacio**	**93.81**	**253**	LR	LR	04 36 54.9	
	comp=Z,46nm,21.4s,baz=113,slow=34						

MEX 19 03:43:10.6±0.6, 18°.13N×103°.41W, h7km±5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.17**	**22**	*i* P	Pg	03 43 13.8	-0.3
MMIG				*i* S	Sg	03 43 16.2	-0.4
R15V		**1.17**	**333**	*e*P	Pg	03 43 29.4	-3.8
R15V				*i* S	Sg	03 43 44.1	-4.3
EZ5V		**1.36**	**352**	*e*P	Pn	03 43 33.0	-3.3
EZ5V				*e*S	Sb	03 43 49.9	-4.7
ZIIG	**Zihuatanejo**	**1.93**	**105**	*e*P	Pn	03 43 40.0	-3.8
ZIIG				*e*S	Sn	03 44 02.9	-5.4

*ROM **19** 03:45:36.6±0.8, 37°.71N×21°.17E, h10km, Ml3.9/33, Error ellipse: s-maj=12.7km s-min=4.4km az=108.0*
*ISCJB **19** 03:45:39.4±0.4, 37°.90N±0°.02×20°.83E±0°.01, h6km±3km, mb3.8/13, Error ellipse: s-maj=2.8km s-min=1.8km az=18.3*
*CSEM **19** 03:45:39.9±0.1, 37°.91N×20°.86E, h0km, ML4.2, Error ellipse: s-maj=2.8km s-min=1.9km az=19.0*
*IDC **19** 03:45:39.2±0.8, 37°.88N×20°.94E, h0km, mb3.8/13, mb1 3.8/22, mb1mx3.7/45, mbtmp3.7/22, ML3.8/8, MS2.3/1, Ms1 2.3/1, ms1mx2.1/41, Error ellipse: s-maj=15.1km s-min=13.6km az=53.0*
*THE **19** 03:45:40.7, 37°.91N×20°.92E, h0km±2km, ML4.1/9, Error ellipse: s-maj=2.4km s-min=0.6km az=213.0*
*ATH **19** 03:45:40.7, 37°.96N×20°.96E, h13km, MD3.8/33, ML4.0*
*PDG **19** 03:45:46.1±0.5, 38°.46N×20°.71E, h11km±2km, ML4.0/11, Error ellipse: s-maj=2.7km s-min=1.5km az=90.0*
*DDA **19** 03:46:07.7, 38°.49N×23°.32E, h27km, MD4.0*
ISC 19 03:45:40.7±0.8, 37°.94N±0°.02×20°.92E±0°.02, h12km±6km, n408, σ1§53/450, mb3.9/13, 21C-9D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.20**	**330**	P	Pg	03 45 45.4	+0.3
KFL				S	Sg	03 45 48.0	-0.1
KFL	**Anninata**	**0.20**	**330**	P	Pg	03 45 45.4	+0.3
KFL				S	Sg	03 45 48.0	-0.1
VLS	**Valsamata**	**0.35**	**313**	P	Pg	03 45 47.9	+0.1
VLS				S	Sb	03 45 54.0	-0.6
VLS	**Valsamata**	**0.35**	**313**	*e*PB	Pg	03 45 48.3	+0.5
VLS	**Valsamata**	**0.35**	**313**	P	Pg	03 45 47.8	0.0
VLS	**Valsamata**	**0.35**	**313**	*e*Pb	Pg	03 45 48.3	+0.5
VLS				S	Sb	03 45 53.9	-0.6
RLS	**Riolos of Patr**	**0.45**	**74**	P	Pg	03 45 48.9	-0.7
RLS				S	Sg	03 45 56.0	+0.4
RLS	**Riolos of Patr**	**0.45**	**74**	*e*PB	Pg	03 45 49.0	-0.7
RLS	**Riolos of Patr**	**0.45**	**74**	*e*Pb	Pg	03 45 49.0	-0.7
RLS				S	Sg	03 45 56.0	+0.4
DRO	**Drossia**	**0.63**	**88**	P	Pg	03 45 51.9	-1.0
DRO				S	Sb	03 46 02.4	-0.1
DRO	**Drossia**	**0.63**	**88**	*e*PB	Pg	03 45 52.2	-0.7
DRO				*e*SB	Sg	03 46 00.3	-0.9
DRO	**Drossia**	**0.63**	**88**	P	Pg	03 45 51.9	-1.0
DRO	**Drossia**	**0.63**	**88**	*e*Pb	Pg	03 45 52.2	-0.7
DRO				*e*Sb	Sg	03 46 00.3	-0.9
DRO				S	Sb	03 46 02.4	-0.1
SFD	**Strofades**	**0.69**	**173**	P	Pg	03 45 54.1	+0.1
SFD	**Strofades**	**0.69**	**173**	*e*PB	Pg	03 45 54.2	+0.2
SFD				*e*SB	Sb	03 46 04.4	+0.3
SFD	**Strofades**	**0.69**	**173**	P	Pg	03 45 53.9	-0.1
SFD	**Strofades**	**0.69**	**173**	*e*Pb	Pg	03 45 54.2	+0.2
SFD				*e*Sb	Sb	03 46 04.4	+0.3
PDO	**Prodromos**	**0.69**	**18**	P	Pg	03 45 53.9	-0.3
PDO				S	Sb	03 46 05.1	+0.7
PDO	**Prodromos**	**0.69**	**18**	*e*PB	Pg	03 45 54.0	-0.3
PDO	**Prodromos**	**0.69**	**18**	P	Pg	03 45 53.9	-0.3
PDO				S	Sb	03 46 04.4	0.0
AMT	**Artemida-Makis**	**0.75**	**122**	P	Pg	03 45 54.4	-0.8
AMT				S	Sb	03 46 05.9	0.0
AMT	**Artemida-Makis**	**0.75**	**122**	*e*PB	Pg	03 45 54.7	-0.5
AMT	**Artemida-Makis**	**0.75**	**122**	P	Pg	03 45 54.4	-0.8
AMT	**Artemida-Makis**	**0.75**	**122**	*e*Pb	Pg	03 45 54.7	-0.5
AMT				S	Sg	03 46 04.4	-0.5
UPR	**University Cam**	**0.77**	**63**	P	Pb	03 45 56.0	-0.1
UPR				S	Sb	03 46 07.3	+0.8
UPR	**University Cam**	**0.77**	**63**	P	Pb	03 45 56.0	-0.1
UPR				S	Sb	03 46 07.3	+0.8
PVO	**Paravola**	**0.83**	**35**	P	Pg	03 45 56.7	-0.1
PVO				S	Sn	03 46 10.0	-0.6
PVO	**Paravola**	**0.83**	**35**	P	Pg	03 45 56.7	-0.1
PVO				S	Sn	03 46 10.0	-0.6
LKD2	**Lefkada island**	**0.88**	**347**	P	Pg	03 45 57.0	-0.7
LKD2				S	Sn	03 46 10.9	-0.8
LKD2	**Lefkada island**	**0.88**	**347**	*e*PG	Pg	03 45 56.8	-0.9
LKD2	**Lefkada island**	**0.88**	**347**	P	Pg	03 45 57.0	-0.7
LKD2				S	Sb	03 46 09.4	-0.3
EFP	**Efpalio**	**0.92**	**57**	P	Pg	03 45 57.5	-1.0
EFP				S	Sb	03 46 11.7	+0.8
EFP	**Efpalio**	**0.92**	**57**	*e*PB	Pg	03 45 57.6	-1.0
EFP				*e*SB	Sg	03 46 09.9	-0.6
EFP	**Efpalio**	**0.92**	**57**	P	Pg	03 45 57.5	-1.0
EFP				*e*Sb	Sg	03 46 09.9	-0.6
EFP				S	Sb	03 46 11.7	+0.8
KLV	**Kalavryta, Ach**	**0.98**	**83**	P	Pg	03 45 58.0	-1.6
KLV				S	Sb	03 46 13.5	+0.8
KLV	**Kalavryta, Ach**	**0.98**	**83**	*e*PG	Pg	03 45 58.3	-1.3
KLV	**Kalavryta, Ach**	**0.98**	**83**	P	Pg	03 45 58.0	-1.6
KLV	**Kalavryta, Ach**	**0.98**	**83**	*e*Pg	Pg	03 45 58.3	-1.3
KLV				S	Sb	03 46 13.5	+0.8
KALE	**Kalithea**	**1.07**	**64**	P	Pb	03 46 00.1	-1.1
KALE				S	Sn	03 46 16.2	-0.2
KALE	**Kalithea**	**1.07**	**64**	*e*PG	Pb	03 46 00.0	-1.1
KALE	**Kalithea**	**1.07**	**64**	P	Pb	03 46 00.1	-1.1
KALE				S	Sn	03 46 16.2	-0.2
ITM	**Ithomi**	**1.10**	**133**	P	Pb	03 46 00.4	-1.4
ITM				S	Sn	03 46 17.3	+0.1
ITM	**Ithomi**	**1.10**	**133**	*e*PG	Pb	03 46 00.7	-1.1
ITM	**Ithomi**	**1.10**	**133**	P	Pb	03 46 00.4	-1.4
ITM	**Ithomi**	**1.10**	**133**	*e*Pg	Pb	03 46 00.7	-1.1
ITM				S	Sb	03 46 15.5	-0.6
GUR	**Goura**	**1.13**	**89**	*e*PB	Pb	03 46 00.4	-1.9
GUR				*e*SB	Sb	03 46 16.6	-0.3
GUR	**Goura**	**1.13**	**89**	*e*Pb	Pb	03 46 00.4	-1.9
GUR				*e*Sb	Sb	03 46 16.6	-0.3
GUR				S	Sg	03 46 17.0	-0.1
DSL	**Palaion Diasel**	**1.21**	**7**	P	Pn	03 46 02.6	-0.9
DSL				S	Sn	03 46 21.6	+1.8
DSL	**Palaion Diasel**	**1.21**	**7**	P	Pn	03 46 02.6	-0.9
DSL				S	Sn	03 46 21.6	+1.8
EVR	**Evrytania**	**1.21**	**35**	P	Pb	03 46 03.6	0.0
EVR				S	Sn	03 46 22.4	+2.5
EVR	**Evrytania**	**1.21**	**35**	*e*PB	Pn	03 46 03.2	-0.4
EVR	**Evrytania**	**1.21**	**35**	*e*Pb	Pn	03 46 03.2	-0.4
EVR	**Evrytania**	**1.21**	**35**	P	Pb	03 46 03.6	0.0
EVR				S	Sn	03 46 20.6	+0.7
PYL	**PYLOS**	**1.23**	**147**	P	Pn	03 46 02.6	-1.2
PYL	**PYLOS**	**1.23**	**147**	*e*PB	Pn	03 46 02.3	-1.5
PYL				*e*SB	Sn	03 46 20.5	+0.2
PYL	**PYLOS**	**1.23**	**147**	*e*Pb	Pn	03 46 02.3	-1.5
PYL	**PYLOS**	**1.23**	**147**	P	Pn	03 46 02.6	-1.2
PYL				S	Sb	03 46 19.4	-0.3
PYL				*e*Sb	Sn	03 46 20.5	+0.2
VLX	**Vlachokerasia**	**1.29**	**115**	P	Pb	03 46 05.1	+0.1
VLX	**Vlachokerasia**	**1.29**	**115**	*e*PB	Pn	03 46 04.7	0.0
VLX	**Vlachokerasia**	**1.29**	**115**	*e*Pb	Pn	03 46 04.7	0.0
VLX	**Vlachokerasia**	**1.29**	**115**	P	Pb	03 46 05.1	+0.1
VLX				S	Sb	03 46 21.7	+0.1
DSF	**Desfina**	**1.36**	**69**	*e*PN	Pn	03 46 04.4	-1.2
DSF				*e*SB	Sb	03 46 23.2	-0.3
DSF	**Desfina**	**1.36**	**69**	*e*Pn	Pn	03 46 04.4	-1.2
DSF				*e*Sb	Sb	03 46 23.2	-0.3
MAKR	**Makrakomi, Fth**	**1.44**	**41**	P	Pg	03 46 08.0	-0.4
MAKR	**Makrakomi, Fth**	**1.44**	**41**	*e*PB	Pb	03 46 07.7	+0.2
MAKR	**Makrakomi, Fth**	**1.44**	**41**	*e*Pb	Pb	03 46 07.7	+0.2
MAKR	**Makrakomi, Fth**	**1.44**	**41**	P	Pg	03 46 08.0	-0.4
MAKR				S	Sg	03 46 26.7	-0.4
AGG	**Agios Georgios**	**1.55**	**45**	P	Pb	03 46 09.5	0.0
AGG	**Agios Georgios**	**1.55**	**45**	*e*PB	Pb	03 46 09.0	-0.5
AGG	**Agios Georgios**	**1.55**	**45**	*e*Pb	Pb	03 46 09.0	-0.5
AGG	**Agios Georgios**	**1.55**	**45**	P	Pb	03 46 09.5	0.0
AXAR	**Agios Charalam**	**1.60**	**58**	P	Pn	03 46 09.3	+0.4
AXAR	**Agios Charalam**	**1.60**	**58**	*e*PB	Pb	03 46 10.4	+0.1
AXAR	**Agios Charalam**	**1.60**	**58**	P	Pn	03 46 09.3	+0.4
AXAR	**Agios Charalam**	**1.60**	**58**	*e*Pb	Pb	03 46 10.4	+0.1
LTK	**Loutraki**	**1.62**	**86**	P	Pn	03 46 09.3	+0.1
LTK	**Loutraki**	**1.62**	**86**	*e*PG	Pn	03 46 09.5	+0.3
LTK	**Loutraki**	**1.62**	**86**	P	Pn	03 46 09.3	+0.1
IGT	**Igoumenitsa**	**1.66**	**344**	P	Pb	03 46 10.8	-0.5
IGT				S	Sg	03 46 34.2	+0.1
IGT	**Igoumenitsa**	**1.66**	**344**	*e*PG	Pb	03 46 10.7	-0.5
IGT	**Igoumenitsa**	**1.66**	**344**	P	Pb	03 46 10.8	-0.5
IGT				S	Sg	03 46 34.2	+0.1
JAN	**Janina**	**1.72**	**358**	P	Pb	03 46 11.7	-0.6
JAN	**Janina**	**1.72**	**358**	*e*PG	Pb	03 46 12.6	+0.3
JAN	**Janina**	**1.72**	**358**	P	Pb	03 46 11.7	-0.6
JAN	**Janina**	**1.72**	**358**	*e*Pg	Pb	03 46 12.6	+0.3
LKR	**Lokris**	**1.79**	**66**	P	Pn	03 46 12.1	+0.6
LKR	**Lokris**	**1.79**	**66**	*e*PN	Pn	03 46 12.2	+0.7
LKR	**Lokris**	**1.79**	**66**	*e*Pn	Pn	03 46 12.2	+0.7
THL	**Klokotos Trika**	**1.84**	**27**	P	Pb	03 46 14.0	-0.3
THL	**Klokotos Trika**	**1.84**	**27**	*e*PN	Pb	03 46 13.8	-0.5
THL	**Klokotos Trika**	**1.84**	**27**	*e*Pn	Pb	03 46 13.8	-0.5
MEV	**Metsovon**	**1.86**	**7**	P	Pb	03 46 14.2	-0.6
MEV	**Metsovon**	**1.86**	**7**	P	Pb	03 46 14.2	-0.6
KEK	**Kerkira**	**1.98**	**334**	P	Pb	03 46 15.4	-1.3
KEK	**Kerkira**	**1.98**	**334**	*e*PN	Pb	03 46 15.6	-1.1
KEK	**Kerkira**	**1.98**	**334**	P	Pb	03 46 15.4	-1.3
VLI	**Veliai**	**2.02**	**126**	*e*PG	Pb	03 46 17.4	0.0
VLI	**Veliai**	**2.02**	**126**	*e*Pg	Pb	03 46 17.4	0.0
NAIG	**Nisos Aigina**	**2.04**	**94**	*e*PG	Pb	03 46 17.4	-0.4
NAIG	**Nisos Aig

IDI				Sn	Sn	03 47 30.0	-2.5
	11nm,0.3s,baz=293,slow=20,SNR=5.5						
LTRZ	**Laterza**	**4.15 311**	Pn		**Pn**	**03 46 44.2**	**+0.3**
	39μm,16.0s						
LTRZ	**Laterza**	**4.15 311**	Pn		**Pn**	**03 46 44.2**	**+0.3**
	39μm,16.0s						
ULC	**Ulcinj**	**4.22 343**	⇓	*i*Pn	**Pn**	**03 46 45.1**	**+0.1**
ULC				*e*Sn	**Sn**	**03 47 28.7**	**-5.6**
ULC	**Ulcinj**	**4.22 343**	⇓	*i*Pn	**Pn**	**03 46 45.1**	**+0.1**
MMB	**Musomiste**	**4.24 30**	P		Pn	03 46 50.2	+4.9
CRAC	**Craco**	**4.25 306**	Pn		**Pn**	**03 46 46.4**	**+1.1**
	203nm,0.7s						
CRAC	**Craco**	**4.25 306**	Pn		**Pn**	**03 46 46.4**	**+1.1**
	203nm,0.7s						
MATE	**Matera**	**4.25 311**	Pn		**Pn**	**03 46 45.7**	**+0.5**
	126nm,0.7s						
MATE	**Matera**	**4.25 311**	Pn		**Pn**	**03 46 45.7**	**+0.5**
	126nm,0.7s						
KKB	**Krupnik**	**4.27 22**	P		**Pn**	**03 46 47.6**	**+2.1**
MSRU	**Castanea**	**4.28 276**	Pn		**Pn**	**03 46 45.7**	**0.0**
	138nm,0.5s						
MSRU	**Castanea**	**4.28 276**	Pn		**Pn**	**03 46 45.7**	**0.0**
	138nm,0.5s						
SIVA	**Sivas**	**4.28 132**	*e*PN		**Pn**	**03 46 47.5**	**+1.8**
SIVA	**Sivas**	**4.28 132**	*e*Pn		**Pn**	**03 46 47.5**	**+1.8**
MMN	**Mormanno**	**4.31 298**	Pn		**Pn**	**03 46 48.9**	**+2.8**
	45nm,0.4s						
MMN	**Mormanno**	**4.31 298**	Pn		**Pn**	**03 46 48.9**	**+2.8**
	45nm,0.4s						
MIGL	**Miglionico**	**4.38 309**	Pn		**Pn**	**03 46 47.8**	**+0.7**
	2μm,2.0s						
MIGL	**Miglionico**	**4.38 309**	Pn		**Pn**	**03 46 47.8**	**+0.7**
	2μm,2.0s						
SG1	**Sgolgore (BA)**	**4.38 313**	*e*Pn		**Pn**	**03 46 48.2**	**+1.1**
SCHR	**S. Chirico Rap**	**4.39 302**	Pn		**Pn**	**03 46 48.6**	**+1.2**
	81nm,0.6s						
PRK	**Paraskevi**	**4.40 71**	*e*PN		**Pn**	**03 46 49.2**	**+1.9**
PRK	**Paraskevi**	**4.40 71**	*e*Pn		**Pn**	**03 46 49.2**	**+1.9**
ZEY	**˙zmir**	**4.42 84**	*i* P		**Pn**	**03 46 50.3**	**+2.6**
ZEY			*i* S		Sb	03 47 45.4	-6.1
BOZC	**Bozcaada**	**4.44 63**	*i* P		**Pn**	**03 46 49.7**	**+1.9**
BOZC			*i* S		Sn	03 47 20.6	-19
BOZC			*i* S		Sn	03 47 22.7	-17
DRME	**Dracevica, Mon**	**4.45 343**	⇑	*i*Pn	**Pn**	**03 46 48.3**	**+0.2**
DRME				*e*Sn	**Sn**	**03 47 34.2**	**-5.6**
DRME	**Dracevica, Mon**	**4.45 343**	⇑	*i*Pn	**Pn**	**03 46 48.3**	**+0.2**
AMUR	**Altamura**	**4.47 313**	Pn		**Pn**	**03 46 48.9**	**+0.6**
	366nm,1.7s						
AMUR	**Altamura**	**4.47 313**	Pn		**Pn**	**03 46 48.9**	**+0.6**
	366nm,1.7s						
CUC	**Castrocucco**	**4.47 299**	Pn		**Pn**	**03 46 49.8**	**+1.3**
	68nm,0.5s						
CUC	**Castrocucco**	**4.47 299**	Pn		**Pn**	**03 46 49.8**	**+1.3**
	68nm,0.5s						
MMME	**Mongiuffi-Meli**	**4.48 272**	Pn		**Pn**	**03 46 48.1**	**-0.4**
	71nm,0.5s						
MMME	**Mongiuffi-Meli**	**4.48 272**	Pn		**Pn**	**03 46 48.1**	**-0.4**
	71nm,0.5s						
SIRI	**Monte Sirino -**	**4.53 301**	Pn		**Pn**	**03 46 50.4**	**+1.2**
SIRI	**Monte Sirino -**	**4.53 301**	Pn		**Pn**	**03 46 50.4**	**+1.2**
LAST	**Lasithi**	**4.60 126**	*e*PN		**Pn**	**03 46 52.5**	**+2.3**
LAST	**Lasithi**	**4.60 126**	*e*Pn		**Pn**	**03 46 52.5**	**+2.3**
EZN	**Ezine**	**4.62 64**	*e*P		**Pn**	**03 46 51.8**	**+1.4**
EZN	**Ezine**	**4.62 64**	*e*P		**Pn**	**03 46 51.8**	**+1.4**
NPS	**Neapolis**	**4.62 124**	*e*PN		**Pn**	**03 46 52.1**	**+1.6**
NPS	**Neapolis**	**4.62 124**	*e*Pn		**Pn**	**03 46 52.1**	**+1.6**
BUM	**Brajici-Budva**	**4.63 341**	⇑	*i*Pn	**Pn**	**03 46 50.6**	**0.0**
BUM				*e*Sn	**Sn**	**03 47 38.7**	**-5.6**
BUM	**Brajici-Budva**	**4.63 341**	⇑	*i*Pn	**Pn**	**03 46 50.6**	**0.0**
MTSN	**Montesano sull**	**4.64 302**	Pn		**Pn**	**03 46 52.6**	**+1.8**
	48nm,0.6s						
MTSN	**Montesano sull**	**4.64 302**	Pn		**Pn**	**03 46 52.6**	**+1.8**
	48nm,0.6s						
PDG	**Podgorica**	**4.67 345**	Pn		**Pn**	**03 46 51.4**	**+0.4**
	90nm,0.5s						
PDG	**Podgorica**	**4.67 345**	Pn		**Pn**	**03 46 51.4**	**+0.4**
	90nm,0.5s						
TTG	**Podgorica**	**4.67 345**	⇓	*i*Pn	**Pn**	**03 46 50.9**	**-0.1**
TTG				*e*Sn	**Sn**	**03 47 39.3**	**-5.8**
SMG	**Samos**	**4.69 91**	*e*PN		**Pn**	**03 46 54.0**	**+2.6**
SMG	**Samos**	**4.69 91**	*e*Pn		**Pn**	**03 46 54.0**	**+2.6**
SSY	**Sortino**	**4.71 262**	Pn		**Pn**	**03 46 49.4**	**-2.3**
	139nm,0.2s						
SSY	**Sortino**	**4.71 262**	Pn		**Pn**	**03 46 49.4**	**-2.3**
	139nm,0.2s						
HAVL	**Avola**	**4.71 260**	Pn		**Pn**	**03 46 49.7**	**-2.0**
	181nm,0.3s						
HAVL	**Avola**	**4.71 260**	Pn		**Pn**	**03 46 49.7**	**-2.0**
	181nm,0.3s						
PVY	**Plav**	**4.71 351**	*e*Pn		**Pn**	**03 46 52.0**	**+0.2**
PVY				*e*Sn	Sn	03 47 40.2	-6.2
PVY	**Plav**	**4.71 351**	*e*Pn		**Pn**	**03 46 52.0**	**+0.2**
HCRL	**Carlentini**	**4.72 264**	Pn		**Pn**	**03 46 49.6**	**-2.1**
	285nm,0.3s						
HCRL	**Carlentini**	**4.72 264**	Pn		**Pn**	**03 46 49.6**	**-2.1**
	285nm,0.3s						
RZN	**Rozhen**	**4.75 37**	P		Pn	03 46 56.0	+3.6
CDT	**Castel del Mon**	**4.77 313**	*e*Pn		**Pn**	**03 46 53.1**	**+0.6**
MRVN	**Minervino Murg**	**4.80 312**	Pn		**Pn**	**03 46 53.5**	**+0.5**
	321nm,1.9s						
MRVN	**Minervino Murg**	**4.80 312**	Pn		**Pn**	**03 46 53.5**	**+0.5**
	321nm,1.9s						
BULG	**Bulgheria - Ca**	**4.81 298**	Pn		**Pn**	**03 46 54.1**	**+1.0**
	146nm,0.6s						
BULG	**Bulgheria - Ca**	**4.81 298**	Pn		**Pn**	**03 46 54.1**	**+1.0**
	146nm,0.6s						
BLCB	**Balcova**	**4.85 83**	*e*P		**Pn**	**03 46 56.0**	**+2.4**
BLCB	**Balcova**	**4.85 83**	*e*P		**Pn**	**03 46 56.0**	**+2.4**
PALZ	**Palazzo San Ge**	**4.87 310**	Pn		**Pn**	**03 46 54.5**	**+0.6**
	339nm,1.1s						
PALZ	**Palazzo San Ge**	**4.87 310**	Pn		**Pn**	**03 46 54.5**	**+0.6**
	339nm,1.1s						
HCY	**Herceg Novi**	**4.87 338**	⇓	*i*Pn	**Pn**	**03 46 53.2**	**-0.7**
HCY				*e*Sn	**Sn**	**03 47 44.6**	**-5.6**
HCY	**Herceg Novi**	**4.87 338**	⇓	*i*Pn	**Pn**	**03 46 53.2**	**-0.7**
BARS	**Barje**	**4.92 8**	*e*Pn		Pn	03 46 58.7	+4.1
ENEZ	**Enez**	**4.93 54**	*e*P		**Pn**	**03 46 56.3**	**+1.7**
ENEZ	**Enez**	**4.93 54**	*e*P		**Pn**	**03 46 56.3**	**+1.7**
ALN	**Alexandroupoli**	**4.95 52**	*e*PN		**Pn**	**03 46 56.5**	**+1.6**
ALN	**Alexandroupoli**	**4.95 52**	*e*Pn		**Pn**	**03 46 56.5**	**+1.6**
GELI	**Tayfur-Gelibol**	**4.97 59**	*e*P		**Pn**	**03 46 56.6**	**+1.4**
GELI	**Tayfur-Gelibol**	**4.97 59**	*e*P		**Pn**	**03 46 56.6**	**+1.4**
VTS	**Vitosha**	**4.97 20**	*e*P		**Pn**	**03 46 58.1**	**+2.7**
HMDC	**Modica**	**4.98 261**	Pn		**Pn**	**03 46 53.4**	**-1.9**
	185nm,0.5s						
HMDC	**Modica**	**4.98 261**	Pn		**Pn**	**03 46 53.4**	**-1.9**
	185nm,0.5s						
BEY	**Berane**	**4.99 351**	⇑	*i*Pn	**Pn**	**03 46 56.0**	**+0.4**
IVA	**Berane**	**4.99 351**	⇑	*i*Pn	**Pn**	**03 46 56.0**	**+0.4**
IVA				*e*Sn	Sn	03 47 46.6	-6.7
IZM	**Izmir**	**5.02 83**	*e*P		**Pn**	**03 46 58.8**	**+2.8**
IZM	**Izmir**	**5.02 83**	*e*P		**Pn**	**03 46 58.8**	**+2.8**
CDRU	**Civita di Ruta**	**5.05 302**	Pn		**Pn**	**03 46 57.4**	**+1.0**
	39nm,0.5s						
CDRU	**Civita di Ruta**	**5.05 302**	Pn		**Pn**	**03 46 57.4**	**+1.0**
	39nm,0.5s						
NKME	**Niksic**	**5.05 343**	⇑	*i*Pn	**Pn**	**03 46 56.2**	**-0.2**
NKME				*e*Sn	**Sn**	**03 47 49.2**	**-5.6**
NKME	**Niksic**	**5.05 343**	⇑	*i*Pn	**Pn**	**03 46 56.2**	**-0.2**
MRLC	**Muro Lucano**	**5.06 305**	Pn		**Pn**	**03 46 57.4**	**+0.9**
	41nm,0.5s						
MRLC	**Muro Lucano**	**5.06 305**	Pn		**Pn**	**03 46 57.4**	**+0.9**
	41nm,0.5s						
KDZ	**Kurdzhali**	**5.08 42**	P		**Pn**	**03 46 59.2**	**+2.5**
NKY	**Niksic**	**5.09 344**	⇑	*i*Pn	**Pn**	**03 46 55.9**	**-1.0**
NKY				*e*Sn	Sn	03 47 48.4	-7.3
NKY	**Niksic**	**5.09 344**	⇑	*i*Pn	**Pn**	**03 46 55.9**	**-1.0**
LPK	**Lapseki**	**5.15 60**	*e*P		**Pn**	**03 46 59.1**	**+1.5**
LPK	**Lapseki**	**5.15 60**	*e*P		**Pn**	**03 46 59.2**	**+1.5**
MSAG	**Monte S. Angel**	**5.39 316**	Pn		**Pn**	**03 47 01.4**	**+0.3**
	153nm,0.6s						
MSAG	**Monte S. Angel**	**5.39 316**	Pn		**Pn**	**03 47 01.4**	**+0.3**
	153nm,0.6s						
UPM	**Unac-Piva**	**5.48 344**	⇑	*i*Pn	**Pn**	**03 47 02.2**	**-0.2**
UPM				*e*Sn	Sn	03 47 58.9	-6.6
UPM	**Unac-Piva**	**5.48 344**	⇑	*i*Pn	**Pn**	**03 47 02.2**	**-0.2**
STON	**Ston**	**5.51 335**	*i* Pn		**Pn**	**03 47 01.9**	**-0.6**
STON				Sn	**Sn**	**03 48 02.6**	**-3.2**
STON	**Ston**	**5.51 335**	*i* Pn		**Pn**	**03 47 01.9**	**-0.6**
PLE	**Pljevlja**	**5.51 348**	*e*Pn		**Pn**	**03 47 02.7**	**-0.1**
PLE				*e*Sn	Sn	03 47 59.3	-6.9
PLE	**Pljevlja**	**5.51 348**	*e*Pn		**Pn**	**03 47 02.7**	**-0.1**
SGRT	**San Giovanni R**	**5.51 315**	Pn		**Pn**	**03 47 03.0**	**+0.3**
	70nm,0.5s						
SGRT	**San Giovanni R**	**5.51 315**	Pn		**Pn**	**03 47 03.0**	**+0.3**
	70nm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**5.51 88**	*e*P		Pn	03 47 06.1	+3.3
AYDB	**Zeytinkoy-Aydi**	**5.51 88**	*e*P		Pn	03 47 06.1	+3.3
AYDN	**Tasoluk**	**5.52 91**	*i* P		**Pn**	**03 47 04.2**	**+1.4**
AYDN	**Tasoluk**	**5.52 91**	*i* P		**Pn**	**03 47 04.2**	**+1.4**
AYDN			*i* S		Sn	03 47 48.9	-18
KRBG	**Karabiga-Canak**	**5.53 62**	*e*P		**Pn**	**03 47 05.3**	**+2.4**
KRBG	**Karabiga-Canak**	**5.53 62**	*e*P		**Pn**	**03 47 05.3**	**+2.4**
BALY	**Balya**	**5.54 69**	*i* P		**Pn**	**03 47 03.6**	**+0.6**
BALY	**Balya**	**5.54 69**	*i* P		**Pn**	**03 47 03.6**	**+0.6**
BALY			*i* S		Sn	03 47 43.3	-23
KARP	**Karpathos**	**5.55 114**	*e*PN		**Pn**	**03 47 05.6**	**+2.3**
KARP	**Karpathos**	**5.55 114**	*e*Pn		**Pn**	**03 47 05.6**	**+2.3**
RKY	**Sarkoy-Tekirda**	**5.58 59**	*e*P		**Pn**	**03 47 05.5**	**+1.9**
RKY	**Sarkoy-Tekirda**	**5.58 59**	*e*P		**Pn**	**03 47 05.5**	**+1.9**
SART	**Tekirdag**	**5.58 59**	*i* P		**Pn**	**03 47 06.2**	**+2.5**
SART	**Tekirdag**	**5.58 59**	*i* P		**Pn**	**03 47 06.2**	**+2.5**
SART			*i* S		Sn	03 47 51.7	-16
IVAS	**Ivanjica**	**5.67 354**	*e*Pn		**Pn**	**03 47 04.1**	**-0.7**
BALB	**Balikesir**	**5.70 70**	*e*P		**Pn**	**03 47 07.3**	**+2.1**
BALB	**Balikesir**	**5.70 70**	*e*P		**Pn**	**03 47 07.3**	**+2.1**
MPEP	**Malo Peshtene**	**5.83 21**	P		**Pn**	**03 47 09.6**	**+2.6**
EDRB	**Edirne**	**5.95 47**	*e*P		**Pn**	**03 47 11.0**	**+2.4**
EDRB	**Edirne**	**5.95 47**	*e*P		**Pn**	**03 47 11.0**	**+2.4**
GRUS	**Gruza**	**5.95 359**	*e*Pn		**Pn**	**03 47 08.2**	**-0.5**
ARG	**Arkhangelos**	**6.01 104**	*e*PN		**Pn**	**03 47 11.9**	**+2.3**
ARG	**Arkhangelos**	**6.01 104**	*e*Pn		**Pn**	**03 47 11.9**	**+2.3**
BBLS	**Lazići**	**6.04 350**	*e*Pn		**Pn**	**03 47 08.8**	**-1.1**
KULA	**Kula-Manisa**	**6.13 82**	*e*P		**Pn**	**03 47 14.1**	**+2.9**
KULA	**Kula-Manisa**	**6.13 82**	*e*P		**Pn**	**03 47 14.1**	**+2.9**
DALY	**Dalyan (Mu˙la**	**6.26 98**	*e*P		Pn	03 47 17.7	+4.7
TRUS	**Trudelj**	**6.29 357**	*e*Pn		**Pn**	**03 47 13.6**	**+0.2**
DNZL	**Cakiroluk**	**6.44 90**	*i* P		Pn	03 47 20.9	+5.3
DNZL			*i* S		Pg	03 47 39.2	-4.8
TEKS	**Tekeris**	**6.69 351**	*e*Pn		**Pn**	**03 47 18.1**	**-0.7**
CTKS	**Kestanelik-??a**	**6.73 58**	*e*P		**Pn**	**03 47 21.9**	**+2.6**
CTKS	**Kestanelik-??a**	**6.73 58**	*e*P		**Pn**	**03 47 21.9**	**+2.6**
GOLH	**Golhisar**	**6.90 93**	*i* P		Pn	03 47 28.4	+6.6
GOLH			*i* S		**Pg**	**03 47 55.4**	**+2.5**
AKAS	**Kas**	**7.15 101**	*i* P		**Pn**	**03 47 28.1**	**+2.8**
AKAS	**Kas**	**7.15 101**	*i* P		**Pn**	**03 47 28.1**	**+2.8**
AKAS			*i* S		Sn	03 48 35.8	-11
ELL	**Elmali**	**7.26 97**	*e*P		Pn	03 47 31.7	+4.9
FGSL	**Fruska Gora**	**7.26 354**	*e*Pn		**Pn**	**03 47 25.7**	**-1.0**
ALT	**Altintas**	**7.30 78**	*e*P		Pn	03 47 30.5	+3.2
ALT	**Altintas**	**7.30 78**	*e*P		Pn	03 47 30.5	+3.2
UDBI	**Udbina**	**7.64 331**	*e*Pn		**Pn**	**03 47 32.2**	**+0.3**
UDBI				Sn	**Sn**	**03 48 55.5**	**-3.0**
UDBI	**Udbina**	**7.64 331**	*e*Pn		**Pn**	**03 47 32.2**	**+0.3**
ARR	**Arges**	**7.93 19**	⇓	*i*P	Pn	03 47 42.3	+6.4
PSN	**Preselentsi**	**7.96 42**	⇑	*i*P	Pn	03 47 42.0	+5.8
NVLJ	**Novalja**	**8.03 327**	*e*Pn		**Pn**	**03 47 37.6**	**+0.4**
NVLJ				Sn	**Sn**	**03 49 03.8**	**-4.2**
NVLJ	**Novalja**	**8.03 327**	*e*Pn		**Pn**	**03 47 37.6**	**+0.4**
VOIR		**8.11 21**	⇑	*i*P	**Pn**	**03 47 41.1**	**+2.8**
VOIR		**8.11 21**	⇑	*i*P	**Pn**	**03 47 41.1**	**+2.8**
ISR	**Istrita**	**8.32 29**	⇑	*i*P	Pn	03 47 51.7	+10
MLR	**Muntele Rosu**	**8.43 25**	⇓	*i*P	Pn	03 47 48.6	+5.8
MLR	**Muntele Rosu**	**8.43 25**	Pn		**Pn**	**03 47 45.9**	**+3.0**
MLR			LR		LR	03 51 07.6	
	comp=Z,18nm,20.1s,baz=204,slow=39						
BOJS	**Bojanci**	**8.66 333**	*i* Pn		**Pn**	**03 47 46.4**	**+0.5**
CRES	**Cresnjev**	**8.87 334**	*i* Pn		**Pn**	**03 47 48.2**	**-0.5**
PLOR	**Plostina**	**8.99 27**	⇑	*i*P	Pn	03 47 56.3	+8.9
SKDS	**Skadanscina**	**9.19 328**	*i* Pn		**Pn**	**03 47 53.0**	**-0.1**
KEST	**Kesra**	**9.53 260**	Pn		**Pn**	**03 47 57.1**	**-0.8**
	0.2nm,0.3s,baz=330,slow=5.9,SNR=11						
SOKA	**Soboth**	**9.76 335**	⇑	*i*Pn	**Pn**	**03 48 00.1**	**-0.9**
SOKA			⇑	*i*Sn	Sn	03 49 44.3	-6.2
SOKA	**Soboth**	**9.76 335**	Pn		**Pn**	**03 48 00.1**	**-0.9**
OBKA	**Obir**	**9.78 333**	⇑	*i*Pn	**Pn**	**03 48 00.7**	**-0.6**
OBKA			⇑	*i*Sn	**Sn**	**03 49 45.5**	**-5.5**
OBKA	**Obir**	**9.78 333**	Pn		**Pn**	**03 48 00.7**	**-0.6**
BRTR	**Keskin Array B**	**10.09 76**	Pn		Pn	03 48 09.2	+3.6
	0.2nm,0.3s,baz=261,slow=13,SNR=5.9						
PGF	**Pioggiola**	**10.21 301**	*e*P		**Pn**	**03 48 09.3**	**+2.2**
	9.5nm,0.9s						
PGF	**Pioggiola**	**10.21 301**	*e*P		**Pn**	**03 48 09.3**	**+2.2**
	9.0nm,0.9s						
KOLS	**Kolonicke sedl**	**11.04 5**	*e*PN		Pn	03 48 11.0	-7.4
MOA	**Molln**	**11.04 336**	⇓	*i*Pn	**Pn**	**03 48 18.1**	**-0.4**
MOA			⇓	*i*Sn	**Sn**	**03 50 16.7**	**-5.1**
STHS	**Stebnicka Huta**	**11.48 1**	*e*PN		Pn	03 48 17.4	-7.1
DAVOX	**Davos/Dischmat**	**12.02 321**	Pn		**Pn**	**03 48 33.9**	**+1.9**
	0.3nm,0.3s,baz=138,slow=14,SNR=4.4						
GERES	**GERESS Array B**	**12.09 337**	Pn		**Pn**	**03 48 33.2**	**+0.2**
	0.3nm,0.3s,baz=158,slow=14,SNR=12						
MBDF	**Montbardon**	**12.60 307**	*e*P		**Pn**	**03 48 42.0**	**+2.0**
	8.6nm,0.9s						
MBDF	**Montbardon**	**12.60 307**	*e*P		**Pn**	**03 48 42.0**	**+2.0**
	8.0nm,0.9s						
MMAI	**Mount Meron Ar**	**12.79 108**	Pn		**Pn**	**03 48 40.6**	**-1.8**
	0.7nm,0.3s,baz=294,slow=14,SNR=3.8						
LPG	**La Plagne**	**12.99 310**	*e*P		Pn	03 48 48.6	+3.2
LPL	**La Plagne**	**13.01 310**	*e*P		Pn	03 48 48.9	+3.3
	4.1nm,0.6s						
ORIF	**Oris-en-Rattie**	**13.26 306**	*e*P		Pn	03 48 52.0	+3.2
CABF	**La Chapelle**	**13.97 313**	*e*P		**Pn**	**03 48 59.2**	**+0.6**
CABF	**La Chapelle**	**13.97 313**	*e*P		**Pn**	**03 48 59.2**	**+0.6**
AKASG	**Malin Array Be**	**14.07 22**	Pn		**P**	**03 49 08.1**	**+0.5**
	2.2nm,0.3s,baz=210,slow=9.5,SNR=4.6						
HINF	**Hinteralfeld**	**14.26 318**	*e*P		**Pn**	**03 49 02.3**	**-0.1**
EIL	**Elat**	**14.28 121**	Pn		**Pn**	**03 49 01.0**	**-1.8**
	0.4nm,0.3s,baz=343,slow=7.5,SNR=4.8						
CDF	**Champ du Feu**	**14.42 321**	*e*P		**Pn**	**03 49 04.4**	**-0.3**
	3.2nm,0.6s						
HAU	**Haudompre**	**14.64 318**	*e*P		**Pn**	**03 49 07.4**	**-0.2**
	3.9nm,0.4s						
LOR	**Lormes**	**15.62 312**	*e*P		**P**	**03 49 24.1**	**-0.7**
LOR	**Lormes**	**15.62 312**	*e*P		**P**	**03 49 24.1**	**-0.7**
ESDC	**Sonseca Array**	**19.45 283**	P		**P**	**03 50 07.8**	**+0.5**
	0.3nm,0.3s,baz=84,slow=9.8,SNR=4.9						
HFS	**Hagfors**	**22.69 351**	P		**P**	**03 50 42.3**	**+0.4**
	2.7nm,0.5s,baz=163,slow=11,SNR=12						
FINES	**FINESS Array B**	**23.75 6**	P		**P**	**03 50 52.8**	**+0.1**
	1.0nm,0.5s,baz=182,slow=13,SNR=8.1						
EKA	**Eskdalemuir Ar**	**23.81 325**	P		**P**	**03 50 54.9**	**+1.7**
	1.3nm,0.5s,baz=134,slow=9.6,SNR=4.1						
NB2	**NORSAR Subarra**	**23.92 348**	P		**P**	**03 50 52.8**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=155,slow=10						
NB2	**NORSAR Subarra**	**23.92 348**	P		**P**	**03 50 52.8**	**-1.5**
	comp=Z,1.1nm,0.6s,SNR=5.5						
NOA	**NORSAR Array B**	**23.92 348**	P		**P**	**03 50 55.1**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=148,slow=9.2,SNR=8.1						
TORD	**Torodi Ar. Bea**	**30.04 220**	P		**P**	**03 51 50.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=34,slow=9.2,SNR=12						
ARCES	**ARCESS Array B**	**31.76 3**	P		**P**	**03 52 05.3**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=186,slow=9.8,SNR=12						
BVAR	**Borovoye Array**	**37.04 50**	P		**P**	**03 52 52.3**	**+2.0**
	comp=Z,0.7nm,0.5s,baz=239,slow=4.5,SNR=4.6						
SPITS	**Spitsbergen Ar**	**40.40 359**	P		**P**	**03 53 18.8**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=155,slow=10,SNR=6.9						
MKAR	**Makanchi Array**	**45.16 58**	P		**P**	**03 53 56.5**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=277,slow=7.7,SNR=20						
ZALV	**Zalesovo Beam**	**45.62 48**	P		**P**	**03 54 00.5**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=282,slow=7.2,SNR=3.2						
SCHQ	**Schefferville**	**58.85 318**	P		**P**	**03 55 39.0**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=146,slow=2.0,SNR=3.9						
BOSA	**Boshof**	**66.33 176**	P		**P**	**03 56 28.9**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=334,slow=4.8,SNR=3.7						
YKA	**Yellowknife Ar**	**73.72 340**	P		**P**	**03 57 16.9**	**+2.7**
	comp=Z,0.1nm,0.5s,baz=36,slow=5.3,SNR=3.0						

SJA ***19*** *04:00:39.2±0.6, 24˚.83S×65˚.72W, h4km±2km, ML3.9*
NEIC ***19*** *04:00:41.0, 24˚.92S×65˚.53W, h10km, mb3.5/1, MD4.0(SJA), After SJA.*
NEIC Felt [III] at Salta.

ISC 19 04:00:41.4±1.0, 24˚.88S±0˚.04×65˚.52W±0˚.09, h10km±8km, n10, σ1°62/14, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**0.16**	**6**	*i* P		**Pg**	**04 00 44.1**	**-1.0**
SLA				*i* S		**Sg**	**04 00 48.4**	**+0.8**
SLA					AML	AML	04 00 49.9	
	comp=Z,36μm,0.6s							
AZAP	**Zapla**	**0.78**	**32**	*i* P		**Pg**	**04 00 56.8**	**+0.4**
AZAP				*i* S		**Sn**	**04 01 09.9**	**-0.5**
AZAP					AML	AML	04 01 16.8	
	comp=Z,4μm,0.3s							
ALOL	**LOMAS DE OLMED**	**1.77**	**53**	*i* P		**Pb**	**04 01 14.4**	**+0.5**
ALOL				*i* P		**Pb**	**04 01 14.4**	**+0.5**
AHML	**Horco Molle**	**1.90 175**		*i* P		**Pb**	**04 01 16.2**	**+0.1**
AHML				*i* S		**Sg**	**04 01 42.6**	**+0.1**
AHML					AML	AML	04 01 47.7	
	comp=Z,549nm,0.4s							
CYA	**Choya**	**3.55 184**		*i* P		**Pn**	**04 01 38.8**	**+2.2**
LVC	**Limon Verde**	**3.84 305**		Pn		**Pn**	**04 01 41.9**	**+1.1**
LCO	**Las Campanas**	**6.18 227**		Pn		**Pn**	**04 02 13.8**	**+0.8**
LPAZ	**La Paz**	**8.89 344**		*e*Pn		**Pn**	**04 02 51.9**	**+1.3**
TRQA	**Tornquist**	**13.47 168**		*e*Pn		**Pn**	**04 03 52.3**	**-0.4**
SAML	**Samuel**	**16.00 8**		*e*Pn		**Pn**	**04 04 22.8**	**-3.9**
	comp=Z,2.3nm,0.6s							
SAML				*e*Sn		Sn	04 07 14.7	-10

SKHL ***19*** *04:07:38.1±0.7, 52˚.20N×142˚.40E, h10km, mb4.5/10, mbv5.3/1, ms4.3/5, msh4.5/1*
ISCJB ***19*** *04:07:39.2±0.5, 52˚.16N±0˚.02×142˚.24E±0˚.02, h3km±3km, mb4.7/136, MS4.0/12, Error ellipse: s-maj=3.0km s-min=2.4km az=158.6*
MOS ***19*** *04:07:40.5±0.9, 52˚.19N×142˚.32E, h11km, mb5.0/54, Error ellipse: s-maj=8.1km s-min=4.4km az=93.7*
MOS Felt (II) at Nikolaevsk-na-Amure.
IDC ***19*** *04:07:40.6±0.5, 52˚.22N×142˚.29E, h0km, mb4.4/22, mb1 4.6/27, mb1mx4.5/30, mbtmp4.3/27, ML3.3/5, MS3.5/8, Ms1 3.5/8, ms1mx3.3/34, Error ellipse: s-maj=15.2km s-min=10.7km az=147.0*
BJI ***19*** *04:07:44.1, 52˚.31N×142˚.08E, h33km, mB4.9/30, mb4.5/36, Ms4.7/32, Ms7 4.5/31*
NEIC ***19*** *04:07:45.1±1.1, 52˚.15N×142˚.22E, h31km±8km, mb4.8/59, Error ellipse: s-maj=3.8km s-min=2.8km az=150.0*
SZGRF ***19*** *04:07:55.9, 53˚.85N×140˚.12E, h15km, mb

EKMR A A 04 10 50.2
comp=E,330nm,0.6s
HABR Khabarovsk 5.94 234 *e*PN Pb 04 09 30.6 +4.2
HABR MLR MLR
comp=Z,679nm,13.0s
KLR Kul'dur 7.31 250 *e*PN **Pn 04 09 30.4 +1.1**
KLR *e* 04 11 05.5
KLR MLR MLR
comp=N,2μm,10.0s
KLR MLR MLR
comp=E,3μm,10.0s
KLR MLR MLR
comp=Z,8μm,10.0s
KLR Kul'dur 7.31 250 *e*P **Pn 04 09 30.4 +1.1**
ASAJ Asahikawa 8.08 178 PN Pn 04 09 44.9 +5.1
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 8.08 178 Pn Pn 04 09 44.9 +5.1
comp=Z,1.0nm,0.3s,baz=34,slow=15,SNR=5.7
TEY Ternei 8.08 210 *e*P **Pn 04 09 38.3 -1.5**
TEY *e*Pg Pb 04 10 06.5 +3.6
TEY *e*S **Sn 04 11 12.0 +1.4**
TEY *e*Sg 04 11 57.8
TEY A A 04 12 09.5
comp=Z,215nm,1.0s
TEY A A 04 12 09.5
comp=Z,280nm,1.0s
TEY AMS AMS 04 12 50.4
comp=Z,3μm,8.0s
BMKR Bomnak 8.41 293 *e*P **Pn 04 09 44.0 -0.4**
BMKR *e*Pg 04 10 25.8
BMKR AMB AMB 04 10 27.0
comp=Z,8.0nm,0.6s
BMKR *e*Sg 04 12 14.5
BMKR A A 04 12 17.5
comp=Z,525nm,1.0s
YASR Yasnyy 8.75 283 *e*P **Pn 04 09 46.1 -2.9**
YASR *e*Pg 04 10 17.4
YASR *e*Sg 04 12 00.3
YASR A A 04 12 08.3
comp=Z,110nm,0.5s
YASR A A 04 12 08.3
comp=Z,100nm,0.5s
ZEA Zeya 9.21 286 *e*Pg Pn 04 10 07.5 +12
ZEA AMB AMB 04 10 08.5
comp=Z,20nm,0.8s
ZEA A A 04 11 53.1
comp=Z,65nm,1.0s
ZEA A A 04 12 03.0
comp=Z,200nm,5.0s
ZEA *e*Sg Sn 04 12 36.3 +58
ZEA A A 04 12 54.5
comp=Z,970nm,1.1s
ZEA AMS AMS 04 13 24.0
comp=Z,2μm,10.0s
PETK Petropavlovsk- 9.42 78 Pn **Pn 04 09 57.7 -0.5**
comp=Z,1.1nm,0.3s,baz=249,slow=11,SNR=6.7
PETK Sn **Sn 04 11 44.1 +0.7**
comp=Z,0.9nm,0.3s,baz=278,slow=14,SNR=3.1
PETK LR LR 04 14 03.5
comp=Z,74nm,20.4s,baz=227,slow=41
KROS Kirovskiy 9.44 290 *e*P **Pn 04 10 00.5 +2.1**
KROS AMB AMB 04 10 10.4
comp=Z,20nm,0.7s
KROS *e*Sg Sn 04 12 42.0 +58
KROS A A 04 12 47.6
comp=Z,1μm,1.4s
PET Petropavlovsk 10.00 79 *e*PN **Pn 04 10 07.7 +1.7**
PET pmax pmax
comp=Z,22nm,0.6s
PET pmax pmax
comp=Z,400nm,4.8s
PET MLR MLR
comp=Z,800nm,11.0s
PET MLR MLR
comp=Z,600nm,12.0s
PET Petropavlovsk 10.00 79 *e*P **Pn 04 10 07.7 +1.7**
PET AMB AMB 04 10 12.0
comp=Z,20nm,0.6s
PET AMB AMB 04 10 20.7
comp=Z,440nm,5.0s
PET *e*S **Sn 04 11 57.6 +0.1**
PET A A 04 12 01.8
comp=Z,30nm,0.6s
PET Petropavlovsk 10.00 79 *e*Pn **Pn 04 10 07.4 +1.4**
USRK Ussuriysk Ar. 10.53 225 Pn **Pn 04 10 13.2 -0.2**
comp=Z,0.3nm,0.3s,baz=55,slow=12,SNR=2.6
USRK Lg Lg 04 13 16.8
comp=Z,0.6nm,0.3s,baz=43,slow=30,SNR=9.9
USRK LR LR 04 14 22.8
comp=Z,373nm,19.0s,baz=31,slow=38
CLNS Chul'man 11.12 302 *e*PN Pn 04 10 26.4 +5.0
CLNS *e*SS Sn 04 12 40.8 +16
CLNS pmax pmax
comp=Z,11nm,0.9s
CLNS pmax pmax
comp=E,13nm,1.0s
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS MLR MLR
comp=Z,807nm,10.0s
CLNS MLR MLR
comp=E,1μm,12.0s
CLNS MLR MLR
comp=N,328nm,12.0s
CLNS Chul'man 11.12 302 P Pn 04 10 26.4 +5.0
MDJ Mudanjiang 11.33 233 P **Pn 04 10 24.5 +0.2**
MDJ S **Sn 04 12 30.0 -0.2**
MDJ PcP **PcP 04 16 20.1 +2.4**
MDJ PcS **PcS 04 19 53.8 +2.4**
MDJ ScS **ScS 04 23 26.0 +1.7**
MDJ PMZ
comp=N,2.0nm,0.6s
MDJ PMZ
comp=N,96nm,3.6s
MDJ LN
comp=N,1μm,9.2s
MDJ LE
comp=N,1μm,9.4s
MDJ LZ
comp=N,2μm,10.0s
VLA Vladivostok 11.45 222⇓*e*PN Pn 04 10 30.2 +4.2
VLA *e*S Sn 04 12 41.2 +7.9
YAK Yakutsk 11.99 330 PN **Pn 04 10 35.9 +2.7**
SEY Seymchan 12.04 23 PN **Pn 04 10 34.1 +0.2**
SEY pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 12.04 23 Pn **Pn 04 10 34.1 +0.2**
comp=Z,0.6nm,0.3s,baz=210,slow=10,SNR=14
CN2 Changchun 14.03 240 *e*P **Pn 04 11 03.6 +2.5**
CN2 *e*S **Sn 04 13 37.0 +0.9**
CN2 LN
comp=Z,1μm,8.0s
CN2 LE
comp=Z,800nm,8.0s
CN2 LZ
comp=Z,500nm,12.0s
HIA Hailar 14.56 267 *e*P **Pn 04 11 09.5 +1.1**
HIA pmax pmax
comp=Z,6.0nm,0.4s
HIA Hailar 14.56 267 *e*Pn **Pn 04 11 09.5 +1.1**
comp=Z,6.2nm,0.4s
MAJO Matsushiro 15.90 192 *e*P **Pn 04 11 26.1 -0.2**
MAJO Matsushiro 15.90 192 *e*Pn **Pn 04 11 26.1 -0.2**
MJAR Matsushiro Arr 15.91 192 Pn **Pn 04 11 25.2 -1.1**
comp=Z,0.2nm,0.3s,baz=18,slow=17,SNR=3.0
MJAR LR LR 04 16 52.3
comp=Z,75nm,20.6s,baz=75,slow=35
SNY Shenyang 16.39 238 ⇑P **P 04 11 35.1 0.0**
SNY pP **pP 04 11 43.9 +3.5**
SNY PMZ
comp=Z,10.0nm,1.8s
SNY PMZ
comp=Z,68nm,3.3s
SNY LN
comp=Z,450nm,9.5s
SNY LE
comp=Z,370nm,8.3s
SNY LZ
comp=Z,340nm,6.7s
BOD Bodaibo 17.09 300 *e*P **Pn 04 11 38.3 -2.9**
BOD pmax pmax
comp=Z,6.0nm,1.2s
KSRS Korea Array 17.86 220 P **P 04 11 52.4 +1.0**
comp=Z,0.2nm,0.3s,baz=32,slow=11,SNR=10.0
KSRS LR LR 04 18 06.3
comp=Z,176nm,18.4s,baz=41,slow=35
KSAR Wonju Array Be 17.88 220 P **P 04 11 52.4 +0.7**
KSAR Wonju Array Be 17.88 220 P **P 04 11 52.4 +0.7**
FX1 Attu Island--F 18.73 76 P **Pn 04 12 05.4 +4.0**
FX1 pmax pmax
comp=Z,3.0nm,0.3s
FX1 Attu Island--F 18.73 76 P **Pn 04 12 05.4 +4.0**
comp=Z,3.4nm,0.3s,baz=174,slow=4.0,SNR=7.8
TJN Taejon 19.02 220 P **Pn 04 12 06.5 +1.6**
BILL Bilibino 19.66 27 *e*P **P 04 12 09.8 -1.1**
BILL pmax pmax
comp=Z,29nm,2.3s
BILL Bilibino 19.66 27 *e*P **Pn 04 12 11.7 -0.7**
comp=Z,40nm,1.2s
TIXI Tiksi 20.43 348⇓*e*P **P 04 12 18.7 -0.5**
TIXI pmax pmax
comp=Z,64nm,1.7s
TIXI MLR MLR
comp=Z,177nm,15.0s
TIXI Tiksi 20.43 348 *e*P **P 04 12 19.3 +0.1**
comp=Z,31nm,0.9s
BJI Beijing 21.66 246 P **P 04 12 30.1 -2.7**
BJI S **S 04 16 30.6 -1.1**
BJI PMZ
comp=Z,9.0nm,1.1s
BJI LN
comp=Z,880nm,10.0s
BJI LE
comp=Z,650nm,10.0s
BJI LZ
comp=Z,190nm,20.6s
ULN Ulaanbaatar 22.90 273*c e*P **P 04 12 47.3 +1.2**
ULN pmax pmax
comp=Z,14nm,1.2s
ULN Ulaanbaatar 22.90 273 *e*P **P 04 12 46.9 +0.8**
comp=Z,11nm,1.0s
SONM Songino Array 23.31 274 P **P 04 12 50.1 -0.2**
comp=Z,3.0nm,0.8s,baz=65,slow=8.4,SNR=8.2
SONM PcP **PcP 04 16 37.1 +0.1**
comp=Z,1.3nm,0.7s,baz=95,slow=3.6,SNR=4.1
SONM LR LR 04 22 22.5
comp=Z,271nm,18.0s,baz=202,slow=38
TLY Talaya 23.65 284 *e*P **P 04 12 53.4 -0.1**
TLY *e*S **S 04 17 05.4 -1.6**
TLY pmax pmax
comp=Z,28nm,1.4s
TLY MLR MLR
comp=Z,371nm,12.0s
TLY Talaya 23.65 284 P **P 04 12 54.3 +0.9**
comp=Z,12nm,1.1s,baz=67,slow=5.9,SNR=20
TLY Talaya 23.65 284 *e*P **P 04 12 54.0 +0.6**
comp=Z,34nm,1.4s
HHC Hu-ho-hao-te 23.80 254 *e*P **P 04 12 54.6 -0.6**
HHC PP **PnPn 04 13 27.8 +4.8**
HHC S **S 04 17 04.1 -5.7**
HHC sS **sS 04 17 19.3 0.0**
HHC SS **SnSn 04 17 53.8 +5.3**
HHC PMZ
comp=Z,30nm,1.2s
HHC PMZ
comp=Z,140nm,5.2s
HHC LN
comp=Z,2μm,7.7s
HHC LE
comp=Z,1μm,8.4s
HHC LZ
comp=Z,2μm,9.4s
ZAK Zakamensk 24.27 281 *e*P **P 04 12 59.6 +0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
MOY Mondy 25.23 285 *e*P **P 04 13 08.8 +0.7**
NJ2 Nanjing 26.38 229 *e*P **P 04 13 18.8 +0.3**
NJ2 S **S 04 17 52.0 +1.3**
NJ2 PMZ
comp=Z,30nm,0.9s
NJ2 LN
comp=Z,1μm,12.9s
NJ2 LE
comp=Z,1μm,10.3s
NJ2 LZ
comp=Z,7μm,9.0s
TNA Tin City 28.12 42 *e*P **P 04 13 35.2 +1.4**
comp=Z,15nm,1.0s
HVS Khovu-Aksy 29.71 288 P **P 04 13 49.2 +1.0**
HVS pmax pmax
comp=Z,66nm,2.2s
LZH Lanzhou 31.49 255 *e*P **P 04 14 05.3 +1.1**
LZH pP pP 04 14 14.5 +4.5
LZH sP sP 04 14 18.8 +6.4
LZH PP **PnPn 04 15 11.0 +3.7**
LZH *e*S **S 04 19 09.0 -2.4**
LZH sS **sS 04 19 24.0 +3.0**
LZH SS **SnSn 04 20 52.8 -3.5**
LZH PMZ
comp=Z,21nm,1.0s
LZH PMZ
comp=Z,170nm,4.4s
LZH LN
comp=Z,490nm,12.2s
LZH LE
comp=Z,780nm,13.6s
LZH LZ
comp=Z,880nm,14.7s
GTA Gaotai 31.78 263 *e*P P 04 14 11.9 +5.3
GTA pP pP 04 14 21.4 +8.9
GTA sP sP 04 14 25.5 +11
GTA S S 04 19 22.0 +6.2
GTA PMZ
comp=Z,3.0nm,1.5s
GTA PMZ
comp=Z,66nm,5.9s
GTA LN
comp=Z,340nm,11.2s
GTA LE
comp=Z,900nm,10.2s
GTA LZ
comp=Z,720nm,9.7s
ZALV Zalesovo Beam 33.77 296 P **P 04 14 23.3 -0.4**
ZALV 04 17 02.5
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 33.77 296 P **P 04 14 23.3 -0.4**
comp=Z,1.6nm,0.7s,baz=62,slow=6.9,SNR=5.2
ZALV PcP **PcP 04 17 02.5 -0.1**
comp=Z,3.3nm,0.6s,baz=354,slow=0.3,SNR=12
IM04 Indian Mountai 33.93 41 *e*P **P 04 14 25.5 +0.4**
NVS Novosibirsk 34.31 298 *e*P **P 04 14 27.7 -0.7**
NVS pmax pmax
comp=N,5.0nm,1.5s
NVS pmax pmax
comp=E,12nm,1.5s
NVS pmax pmax
comp=Z,17nm,1.5s
COLD Coldfoot 35.16 39 *e*P **P 04 14 36.6 +0.9**
comp=Z,14nm,0.9s
CD2 Chengdu 35.24 248 *e*P **P 04 14 36.0 -0.7**
CD2 sP sP 04 14 48.8 +3.9
CD2 PP **PP 04 15 56.3 -0.4**
CD2 S **S 04 20 07.5 -1.8**
CD2 SS **SnSn 04 22 20.8 -6.3**
CD2 PMZ
comp=Z,10.0nm,1.1s
CD2 PMZ
comp=Z,80nm,9.5s
CD2 LN
comp=Z,260nm,11.9s
CD2 LE
comp=Z,420nm,10.7s
CD2 LZ
comp=Z,340nm,10.7s
TRF Thorofare Moun 35.89 45 *e*P **P 04 14 43.3 +1.2**
comp=Z,21nm,1.0s
MCK McKinley 36.40 44 *e*P **P 04 14 47.6 +1.3**
MCK pmax pmax
comp=Z,30nm,1.0s
MCK McKinley 36.40 44 *e*P **P 04 14 47.6 +1.3**
comp=Z,30nm,1.0s
COLA College 36.58 42⇓*e*P **P 04 14 48.2 +0.5**
COLA pmax pmax
comp=Z,24nm,0.8s
COLA MLR MLR
comp=Z,360nm,18.0s
COLA College 36.58 42 *e*P **P 04 14 48.1 +0.4**
comp=Z,19nm,1.0s
WMQ Urumqi 36.69 279 P **P 04 14 49.8 +0.8**
WMQ sP sP 04 15 05.8 +8.5
WMQ PP **PP 04 16 14.6 +2.1**
WMQ S **S 04 20 29.8 -1.5**
WMQ sS sS 04 20 45.6 +4.6
WMQ SS **SnSn 04 22 57.0 -4.8**
WMQ PMZ
comp=Z,7.0nm,1.0s
WMQ PMZ
comp=Z,250nm,6.0s
WMQ LN
comp=Z,48nm,18.0s
WMQ LE
comp=Z,140nm,22.0s
WMQ LZ
comp=Z,140nm,18.0s
ILAR Eielson Array 37.00 42 P **P 04 14 51.7 +0.3**
ILAR pmax pmax
comp=Z,7.0nm,0.8s
ILAR Eielson Array 37.00 42 P **P 04 14 51.7 +0.3**
comp=Z,6.5nm,0.8s,baz=288,slow=8.1,SNR=71
PAX Paxson 38.12 45 *e*P **P 04 15 01.2 +0.2**
PAX pmax pmax
comp=Z,14nm,1.2s
PAX Paxson 38.12 45 *e*P **P 04 15 01.2 +0.2**
comp=Z,14nm,1.2s
MKAR Makanchi Array 38.36 287 P **P 04 15 03.0 -0.2**
MKAR 04 17 16.2
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 38.36 287 P **P 04 15 03.0 -0.2**
comp=Z,2.3nm,0.7s,baz=65,slow=8.1,SNR=31
MKAR PcP **PcP 04 17 16.2 -0.2**
comp=Z,1.6nm,0.8s,baz=64,slow=5.5,SNR=3.9
DOT Dot Lake 38.51 43 *e*P **P 04 15 03.4 -0.8**
comp=Z,37nm,1.7s
KURK Kurchatov 38.56 294 *e*P **P 04 15 04.5 -0.2**
KURK *e* 04 17 16.5
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 38.56 294 *e*P **P 04 15 04.5 -0.2**
comp=Z,4.9nm,0.9s
KURK *e*PcP **PcP 04 17 16.5 -0.4**
EGAK Eagle 39.35 41 *e*P **P 04 15 11.2 0.0**
comp=Z,29nm,0.9s
RAGM Ragged Mountai 39.36 49 *e*P P 04 15 05.2 -6.2
comp=Z,215nm,0.6s
KMI Kunming 40.26 243 P **P 04 15 20.3 +0.9**
KMI PMZ
comp=Z,5.0nm,0.6s
DAWY Dawson 40.31 42 *e*P **P 04 15 20.1 +0.8**
QIZ Qiongzhong 41.67 230 P **P 04 15 31.3 +0.5**
QIZ sP sP 04 15 43.9 +4.8
QIZ S **S 04 21 46.3 -0.2**
QIZ sS sS 04 22 01.8 +5.5
QIZ PMZ
comp=Z,10.0nm,2.4s
QIZ LN
comp=Z,220nm,20.2s
QIZ LE
comp=Z,190nm,20.2s
QIZ LZ
comp=Z,210nm,11.3s
TKM2 Tokmak 2 44.47 286 *e*P **P 04 15 53.2 -0.3**
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 44.47 286 *e*P **P 04 15 53.2 -0.3**
comp=Z,3.4nm,0.8s
SVE Sverdlovsk 44.98 310 *e*P **P 04 15 57.6 +0.5**
SVE pmax pmax
comp=Z,26nm,0.9s
AAK Ala-Archa 45.29 286*c e*P **P 04 15 59.9 -0.1**
AAK pmax pmax
comp=Z,19nm,1.7s
AAK MLR MLR
comp=Z,295nm,16.0s
AAK Ala-Archa 45.29 286 *e*P **P 04 15 59.9 -0.1**
comp=Z,5.8nm,1.1s
EKS2 Erkin-Say 45.70 286 *e*P **P 04 16 03.7 +0.5**
EKS2 *e* 04 17 41.0
EKS2 pmax pmax
comp=Z,4.0nm,0.9s
EKS2 Erkin-Say 45.70 286 *e*P **P 04 16 03.7 +0.5**
comp=Z,3.8nm,0.9s
EKS2 *e*PcP **PcP 04 17 41.0 +0.2**
ARU Arti 46.16 310*c i*P **P 04 16 06.1 -0.4**
ARU 04 17 57.1
ARU S **S 04 22 55.2 +3.9**
ARU SS **SS 04 26 13.4 -2.6**
ARU pmax pmax
comp=Z,34nm,1.0s
ARU Arti 46.16 310 *e*P **P 04 16 06.2 -0.3**
comp=Z,24nm,0.7s
KSH Kashi 46.31 282 *e*P P 04 16 13.1 +5.1
KSH sP sP 04 16 26.0 +10
KSH PP PP 04 18 02.1 +5.5
KSH S **S 04 22 58.4 +4.3**
KSH sS sS 04 23 16.3 +12
KSH ScS **ScS 04 26 02.4 +0.2**
KSH SS **SS 04 26 17.5 -1.8**
KSH PMZ
comp=Z,11nm,1.5s
KSH PMZ
comp=Z,89nm,5.3s
KSH LN
comp=Z,180nm,5.3s
KSH LE
comp=Z,170nm,8.1s
KSH LZ
comp=Z,140nm,6.1s
KKAR Karatay Array 47.35 289 *e*P **P 04 16 16.2 +0.2**
KKAR Karatay Array 47.35 289 *e*P **P 04 16 16.2 +0.2**
TAPN Taplejung 47.35 260 *e*P **P 04 16 16.1 -0.4**
comp=Z,13nm,0.7s
CMAR Chiang Mai Arr 47.70 242 P **P 04 16 19.4 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 47.70 242 P **P 04 16 19.4 +0.5**
comp=Z,0.9nm,0.3s,baz=25,slow=6.4,SNR=8.6
RES Resolute Bay 47.85 18 *e*P **P 04 16 19.3 -0.2**
RES pmax pmax
comp=Z,6.0nm,0.8s
RES Resolute Bay 47.85 18 *e*P **P 04 16 19.3 -0.2**
comp=Z,5.5nm,0.8s
ODAN Odare 47.90 260 *e*P **P 04 16 20.7 0.0**
comp=Z,22nm,1.0s
JIRN Jiri 48.05 262 *e*P **P 04 16 21.2 -0.8**
comp=Z,14nm,0.8s
GUN Gumba 48.06 262 *e*P **P 04 16 21.2 -0.8**
RAMN Ramite 48.31 261 *e*P **P 04 16 23.0 -0.9**
comp=Z,22nm,0.8s
DLV T Lat 48.49 227 *e*P **P 04 16 24.2 -1.1**
DMN Daman 48.75 263 *e*P **P 04 16 26.9 -0.3**
GKN Gorkha 48.75 263 *e*P **P 04 16 26.7 -0.4**
PRGR Permogore 48.83 321 *e*P **P 04 16 25.9 -1.2**
DANN Dangsing 49.04 265 *e*P **P 04 16 29.2 -0.3**
APA Apatity 49.37 331 *e*P P 04 16 37.8 +6.6
APA MLR MLR
comp=Z,400nm,12.0s
KOLN Koldanda 49.55 264 *e*P **P 04 16 32.3 -1.0**
comp=Z,12nm,0.9s
PYUN Piuthan 49.69 265 *e*P **P 04 16 34.0 -0.4**
comp=Z,42nm,0.8s
AKTO Aktyubinsk 49.82 304 LR LR 04 38 53.4
comp=Z,84nm,18.6s,baz=28,slow=38
ARCES ARCESS Array B 50.20 336 LR LR 04 41 52.0
comp=Z,45nm,18.8s,baz=134,slow=41
YKA Yellowknife Ar 50.72 36 P **P 04 16 41.7 +0.2**
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 50.72 36 P **P 04 16 41.7 +0.2**
comp=Z,3.8nm,0.7s,baz=308,slow=7.1,SNR=57
KKM Kota Kinabalu 50.77 214 *e*P **P 04 16 42.6 +0.1**
comp=Z,8.5nm,0.7s
KLMR Klimovskoe 51.65 322 *e*P P 04 16 45.0 -3.4
KLMR pmax pmax
comp=Z,28nm,1.3s
JOF Joensuu 53.15 328 *e*P **P 04 16 58.6 -0.9**
JOF pmax pmax
comp=Z,7.0nm,0.7s
JOF Joensuu 53.15 328 *e*p **P 04 16 58.6 -0.9**
comp=Z,7.1nm,0.7s
KAF Kangasniemi 55.34 329 *e*P **P 04 17 13.9 -1.6**
KAF pmax pmax
comp=Z,10.0nm,0.8s
KAF Kangasniemi 55.34 329 *e*p **P 04 17 13.9 -1.6**
comp=Z,10nm,0.8s
SUMG Summit 55.53 0 *i*P **P 04 17 17.8 +0.5**

SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 55.53 0 *i* P **P 04 17 17.8 +0.5**
comp=Z,4.7nm,0.9s
FINES FINESS Array B 55.91 329 P **P 04 17 19.8 +0.1**
FINES pmax pmax
comp=Z,19nm,0.7s
FINES FINESS Array B 55.91 329 P **P 04 17 19.8 +0.1**
comp=Z,19nm,0.7s,baz=60,slow=7.7,SNR=67
OBN Obninsk 56.69 319 *eP* **P 04 17 24.4 -0.9**
OBN *i* 04 19 38.0
OBN pmax pmax
comp=Z,14nm,1.2s
OBN MLR MLR
comp=Z,140nm,16.0s
VRHR Novokhopersk 57.33 313 *eP* **P 04 17 27.5 -2.4**
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,7.0nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
GEYT Alibeck 57.87 292 P **P 04 17 33.3 -0.7**
comp=Z,3.0nm,0.6s,baz=35,slow=5.4,SNR=4.7
VSU Vasula 57.94 326⇓ *eP* **P 04 17 34.2 +0.2**
VSU pmax pmax
comp=Z,193nm,2.6s
VSU MLR MLR
comp=Z,244nm,15.0s
B08A Colville Reser 58.18 51 *eP* **P 04 17 36.4 +0.4**
comp=Z,7.9nm,1.3s
VSR Storozhevoye 58.35 314 *eP* **P 04 17 36.1 -0.9**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
E09A Wood Farm, Sta 60.05 52 *eP* **P 04 17 49.1 +0.2**
KAPI Kappang 60.13 206 *eP* **P 04 17 48.2 -1.5**
WALA Waterton Lakes 60.20 47 *eP* **P 04 17 50.4 +0.3**
comp=Z,0.5nm,1.3s
FCC Fort Churchill 60.34 30 *eP* **P 04 17 49.6 -1.0**
FCC Fort Churchill 60.34 30 *eP* **P 04 17 49.6 -1.0**
comp=Z,0.3nm,1.3s
J04D Umpqua Nationa 60.40 57 ⇑P **P 04 17 52.4 +0.8**
baz=60
NB2 NORSAR Subarra 60.56 335 P **P 04 17 52.1 -0.1**
comp=Z,11nm,0.7s,baz=32,slow=6.9
NOA NORSAR Array B 60.56 335 P **P 04 17 52.4 +0.2**
NOA pmax pmax
comp=Z,12nm,0.7s
NOA NORSAR Array B 60.56 335 P **P 04 17 52.4 +0.2**
comp=Z,12nm,0.7s,baz=32,slow=6.7,SNR=30
NACGM Naroch 60.65 323 *e* P 04 17 48.0 -4.8
BSMT Bassoo Peak 60.68 49 *eP* **P 04 17 54.4 +1.0**
J05D Fort Rock, OR 60.82 56 ⇑P **P 04 17 55.3 +1.0**
baz=61
FFC Flin Flon 60.87 37 *eP* **P 04 17 54.1 -0.3**
FFC Flin Flon 60.87 37 *eP* **P 04 17 54.0 -0.3**
JTMT Jette 60.99 49 *eP* P 04 18 00.7 +5.2
SWMT Swartz Lake 61.29 49 *eP* **P 04 17 58.5 +1.0**
M02C Callahan 61.33 59 ⇓P **P 04 17 58.6 +0.8**
baz=61
K05A Summer Lake 61.39 56 *eP* **P 04 18 00.0 +1.7**
PMG Port Moresby 61.49 175 *eP* **P 04 17 58.1 -0.8**
PMG pmax pmax
comp=Z,30nm,1.1s
PMG Port Moresby 61.49 175 *eP* **P 04 17 58.1 -0.8**
comp=Z,30nm,1.1s
M04C Macdoel 61.58 58 ⇑P **P 04 18 00.7 +1.1**
baz=61
BMO Blue Mountains 61.66 53 *eP* **P 04 18 00.8 +0.9**
N02D Trinity Center 61.70 59 ⇓P **P 04 18 01.6 +1.3**
baz=62
MSO Missoula 61.82 49 ⇑P **P 04 18 01.3 +0.2**
baz=62,SNR=6.6
MSO Missoula 61.82 49 *eP* **P 04 18 01.7 +0.6**
KIV Kislovodsk 61.91 306 *c i* P **P 04 18 01.9 +0.2**
KIV *i* 04 18 41.5
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,95nm,14.0s
KIV Kislovodsk 61.91 306 *eP* **P 04 18 02.4 +0.7**
comp=Z,12nm,0.8s
KBZ Khabaz 61.97 306 P **P 04 18 02.3 +0.4**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 61.97 306 P **P 04 18 02.3 +0.4**
comp=Z,2.6nm,0.8s,baz=47,slow=6.8,SNR=4.5
CHMT Chamberlain Mo 62.08 49 *eP* **P 04 18 02.9 0.0**
comp=Z,6.8nm,1.4s
ZEI Tsey 62.14 305 *eP* P 04 18 00.3 -3.1
ZEI pmax pmax
comp=Z,7.0nm,1.3s
A19A Klindworth Far 62.59 45 ⇓P **P 04 18 06.6 +0.5**
baz=62,SNR=14
WVOR Wild Horse Val 62.75 55 *eP* **P 04 18 08.5 +1.1**
WVOR Wild Horse Val 62.75 55 *eP* **P 04 18 08.5 +1.1**
EGMT Eagleton 62.83 46 ⇓P **P 04 18 07.9 +0.1**
baz=63,SNR=8.0
EGMT Eagleton 62.83 46 *eP* **P 04 18 08.4 +0.6**
comp=Z,23nm,1.2s
B19A Brinkman Farms 62.86 45 ⇓P **P 04 18 08.3 +0.4**
baz=63,SNR=9.1
HRY Holter Researc 62.88 48 *eP* **P 04 18 09.5 +1.3**
AKASG Malin Array Be 62.95 319 P **P 04 18 07.0 -1.4**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 62.95 319 P **P 04 18 07.0 -1.4**
comp=Z,2.5nm,0.7s,baz=39,slow=7.6,SNR=10.0
A20A Cobblestone Ra 62.98 44 ⇓P **P 04 18 09.2 +0.5**
baz=63
LRM Limekiln Ridge 63.26 49 *eP* **P 04 18 11.1 +0.3**
comp=Z,96nm,1.4s
A21A Bergtoll Ranch 63.32 44 ⇓P **P 04 18 11.5 +0.5**
baz=63,SNR=7.3
C19A Slack Wire Ran 63.36 46 ⇓P **P 04 18 11.6 +0.3**
baz=63,SNR=11
GNI Garni 63.63 302 *eP* **P 04 18 11.5 -1.8**
GNI pmax pmax
comp=Z,13nm,1.1s
GNI Garni 63.63 302 *eP* **P 04 18 11.5 -1.8**
comp=Z,13nm,1.1s
B21A Ellsworth Farm 63.72 44 ⇑P **P 04 18 13.8 +0.3**
baz=64
A22A Carney Farms, 63.75 43 ⇑P **P 04 18 13.8 0.0**
baz=64,SNR=7.3
BOZ Bozeman (W) 63.77 49 *eP* **P 04 18 14.9 +0.8**
BOZ pmax pmax
comp=Z,10.0nm,0.9s
BOZ Bozeman (W) 63.77 49 *eP* **P 04 18 14.9 +0.8**
comp=Z,9.8nm,0.9s
MCMT McKenzie Canyo 63.82 50 *eP* **P 04 18 14.5 0.0**
comp=Z,1.1nm,0.6s
C20A Veseth Ranch, 63.84 45 ⇓P **P 04 18 14.7 +0.4**
baz=64,SNR=11
D19A Cripps Ranch, 63.87 46 ⇑P **P 04 18 15.2 +0.6**
baz=64,SNR=7.8
HLID Hailey 64.01 52 ⇓P **P 04 18 15.5 -0.2**
baz=64
C21A Desert Coulee 64.14 44 ⇑P **P 04 18 16.6 +0.2**
baz=64
B22A Reddig Ranch S 64.25 44 ⇓P **P 04 18 17.2 +0.1**
baz=64
D20A Manuel Ranch, 64.25 46 ⇑P **P 04 18 17.9 +0.7**
baz=64,SNR=11
E19A Rath Farm, Rou 64.45 46 ⇓P **P 04 18 19.2 +0.7**
baz=64,SNR=7.7
QLMT Earthquake Lak 64.48 49 *eP* **P 04 18 19.5 +0.7**
comp=Z,1.1nm,1.1s
B23A Brockton 64.54 43 ⇓P **P 04 18 19.1 +0.1**
baz=64
GCMT Greycliff 64.56 47 *eP* **P 04 18 19.7 +0.4**
comp=Z,15nm,1.4s
A24A Westby 64.60 42 ⇑P **P 04 18 19.6 +0.2**
baz=64
E20A Meyer Farm, Mu 64.71 46 ⇑P **P 04 18 20.4 +0.2**
baz=64
F19A Roth Farm, Mol 64.84 47 ⇓P **P 04 18 21.7 +0.7**
baz=65,SNR=11
A25A Svangstu Ranch 64.95 41 ⇓P **P 04 18 22.1 +0.5**
baz=65
C23A Lambert 64.98 43 ⇓P **P 04 18 22.1 +0.2**
baz=65
YFT Old Faithful 65.04 49 *eP* **P 04 18 24.4 +1.8**
comp=Z,6.5nm,0.8s
D22A Cohagen 65.06 44 ⇓P **P 04 18 22.8 +0.4**
baz=65
H17A Grant Village 65.21 49 ⇑P **P 04 18 25.5 +1.9**
baz=65,SNR=7.3
H17A Grant Village 65.21 49 *eP* **P 04 18 26.1 +2.4**
comp=Z,9.0nm,1.0s
WAKR Walker 65.23 59 *eP* **P 04 18 24.3 +0.5**
F20A Billings 65.24 47 ⇓P **P 04 18 23.7 +0.1**
baz=65
RLMT Red Lodge 65.25 48 *eP* **P 04 18 24.5 +0.6**
comp=Z,21nm,1.2s
H18A Shoshone NF, C 65.41 48 ⇓P **P 04 18 25.6 +0.6**
baz=65
A26A Wade Farm, Ken 65.42 41 ⇑P **P 04 18 25.1 +0.5**
baz=65
D23A Lindsay 65.46 44 ⇑P **P 04 18 25.6 +0.6**
baz=65
C24A Savage 65.51 43 ⇓P **P 04 18 25.7 +0.4**
baz=65
I17A Pilgrim Ck. 65.57 49 ⇑P **P 04 18 26.4 +0.4**
baz=65
G20A Bridger 65.66 47 ⇑P **P 04 18 26.5 +0.1**
baz=65
E22A Miles City 65.71 45 ⇓P **P 04 18 26.7 +0.1**
baz=66
H19A Powell 65.73 48 ⇑P **P 04 18 27.4 +0.5**
baz=66
B26A Jensen Ranch, 65.75 41 ⇓P **P 04 18 27.4 +0.6**
baz=66
C25A Freed Ranch, W 65.86 42 ⇓P **P 04 18 28.0 +0.5**
baz=66
COEN Coen 65.87 179 *eP* **P 04 18 26.6 -1.2**
NVAR Mina Array Bea 65.88 58 P **P 04 18 28.9 +0.9**
comp=Z,1.9nm,0.8s,baz=289,slow=6.2,SNR=7.7
D24A Glendive 65.88 43 ⇓P **P 04 18 28.2 +0.5**
baz=66
E23A Ismay 65.94 44 ⇑P **P 04 18 28.6 +0.5**
baz=66
F22A Rosebud 66.09 45 ⇓P **P 04 18 29.6 +0.5**
baz=66
G21A Lodge Grass 66.10 46 ⇑P **P 04 18 29.3 0.0**
baz=66
I19A Meeteetse 66.21 48 ⇑P **P 04 18 30.3 +0.2**
baz=66
C26A Wahner Farm, P 66.24 42 ⇓P **P 04 18 30.5 +0.5**
baz=66
H20A Greybull 66.32 47 ⇑P **P 04 18 30.7 +0.1**
baz=66
E24A Baker 66.32 44 ⇓P **P 04 18 30.0 -0.5**
baz=66
KWP Kalwaria Pacla 66.35 322 *eP* **P 04 18 30.8 +0.2**
KWP Kalwaria Pacla 66.35 322 *eP* **P 04 18 30.8 +0.2**
B28A Dugan Ranch, T 66.44 40 ⇑P **P 04 18 31.6 +0.4**
baz=66
A29A Manning Farm, 66.51 39 ⇑P **P 04 18 32.0 +0.4**
baz=66
F23A Volborg 66.51 45 ⇑P **P 04 18 32.1 +0.3**
baz=66
G22A Birney 66.51 46 ⇓P **P 04 18 32.2 +0.3**
baz=66
H21A Big Horn, Sher 66.64 47 ⇑P **P 04 18 32.9 +0.1**
baz=66
I20A Worland 66.68 48 ⇓P **P 04 18 33.6 +0.7**
baz=66,SNR=5.4
ULM Lac du Bonnet 66.69 36 P **P 04 18 32.5 -0.3**
ULM pmax pmax
comp=Z,11nm,0.8s
ULM Lac du Bonnet 66.69 36 P **P 04 18 32.5 -0.3**
comp=Z,11nm,0.8s,baz=323,slow=6.5,SNR=14
D26A Manning 66.74 42 ⇓P **P 04 18 32.7 -0.5**
baz=66
E25A Miller Ranch, 66.75 43 ⇑P **P 04 18 33.8 +0.4**
baz=66
J19A Crowheart 66.78 49 ⇑P **P 04 18 34.0 +0.3**
baz=67
F24A Ekalaka 66.83 44 ⇓P **P 04 18 34.1 +0.3**
baz=67
B29A Wagenman Farm, 66.83 40 ⇓P **P 04 18 34.2 +0.5**
baz=67
A30A Hoffart Farm, 66.85 39 ⇑P **P 04 18 33.8 0.0**
baz=67
BSEG Bad Segeberg 66.92 331 *eP* **P 04 18 34.4 +0.3**
comp=Z,61nm,2.3s
G23A Biddle 66.92 45 ⇓P **P 04 18 34.1 -0.3**
baz=67
PDAR Pinedale Array 66.93 50 P **P 04 18 35.1 +0.4**
comp=Z,4.8nm,0.9s,baz=333,slow=2.0,SNR=28
PDAR LR LR 04 52 25.7
comp=Z,32nm,20.6s,baz=5.5,slow=40
H22A Clearmont 66.97 46 ⇑P **P 04 18 35.0 +0.2**
baz=67
BURAR Bucovina Array 67.00 319⇑ *iP* **P 04 18 34.8 -0.1**
PALK Pallekele 67.06 251 *eP* **P 04 18 35.1 -0.5**
PALK pmax pmax
comp=Z,47nm,1.3s
PALK Pallekele 67.06 251 *eP* **P 04 18 35.1 -0.5**
comp=Z,47nm,1.3s
STHS Stebnicka Huta 67.08 323 *eP* **P 04 18 36.0 +0.7**
STHS Stebnicka Huta 67.08 323 *eP* **P 04 18 36.0 +0.7**
J20A Shoshoni 67.16 48 ⇑P **P 04 18 36.4 +0.4**
baz=67
I21A Big Trails, Te 67.16 47 ⇓P **P 04 18 36.8 +0.7**
baz=67,SNR=12
E26A Carlson Angus 67.17 43 ⇑P **P 04 18 36.3 +0.3**
baz=67
F25A Bowman 67.19 44 ⇑P **P 04 18 36.0 -0.1**
baz=67
B30A Myrvik Farm, E 67.24 39 ⇓P **P 04 18 36.4 +0.1**
baz=67
G24A Alzada 67.25 45 ⇓P **P 04 18 36.6 0.0**
baz=67
TESR Tescani 67.30 318⇑ *iP* **P 04 18 36.9 +0.2**
SMMC Simmler 67.31 61 ⇓P **P 04 18 37.5 +0.5**
baz=67
DUG Dugway, Tooele 67.34 53 ⇑P **P 04 18 37.7 +0.4**
baz=67
R11A Troy Canyon, C 67.34 56 ⇑P **P 04 18 37.0 -0.3**
baz=67
VES Vestal, Richgr 67.40 60 ⇑P **P 04 18 37.6 +0.1**
baz=67
J21A Lysite 67.46 48 ⇑P **P 04 18 38.0 -0.1**
baz=67
I22A 9 Mile Ranch, 67.47 47 ⇑P **P 04 18 38.0 0.0**
baz=67
E27A Carson 67.58 42 ⇑P **P 04 18 38.7 +0.2**
baz=67,SNR=5.4
F26A Lodgepole 67.58 43 ⇓P **P 04 18 38.9 +0.3**
baz=67
TRPA Tarpa 67.64 321⇓ *iP* **P 04 18 38.8 0.0**
H24A Dirks Ranch, A 67.65 45 ⇑P **P 04 18 39.0 -0.1**
baz=67
KSP Ksiaz 67.67 326 *eP* **P 04 18 39.1 +0.2**
KSP Ksiaz 67.67 326 *eP* **P 04 18 39.3 +0.4**
PKM Mcpherson Peak 67.71 62 ⇑P **P 04 18 39.9 +0.2**
baz=68
CFR Carcaliu 67.73 316⇑ *iP* **P 04 18 39.0 -0.4**
VRI Vrincioaia 67.78 317⇑ *iP* **P 04 18 41.0 +1.2**
G25A Newell 67.78 44 ⇑P **P 04 18 39.5 -0.4**
baz=68
F27A Lemmon 67.83 43 ⇑P **P 04 18 40.1 0.0**
baz=68
J22A Midwest 67.84 47 ⇑P **P 04 18 40.3 -0.1**
baz=68
OKC Ostrava-Krasne 67.86 325 *i* P **P 04 18 40.2 0.0**
OKC *e* 04 18 44.9
OKC Ostrava-Krasne 67.86 325 *i* P **P 04 18 40.2 0.0**
OKC *ex* x 04 18 44.9
D29A Pettibone, Tap 67.87 41 ⇑P **P 04 18 40.4 +0.1**
baz=68
UPC Upice 68.05 326 *i* P P 04 18 45.7 +4.3
UPC Upice 68.05 326 *i* P P 04 18 45.7 +4.3
G26A Maurine 68.05 44 ⇑P **P 04 18 41.3 -0.3**
baz=68,SNR=7.7
TPNV Topopah Spring 68.06 58 ⇓P **P 04 18 41.9 0.0**
baz=68
DPC Dobruska-Polom 68.07 326 *i* P **P 04 18 42.1 +0.5**
DPC *e* 04 18 46.3
DPC Dobruska-Polom 68.07 326 *i* P **P 04 18 42.1 +0.5**
DPC *ex* x 04 18 46.3
MPMC Manual Prospec 68.08 59 ⇑P **P 04 18 42.2 +0.1**
baz=68
K21A Alcova 68.10 48 ⇑P **P 04 18 42.2 +0.1**
baz=68
MORC Moravsky Berou 68.13 325 *eP* **P 04 18 41.6 -0.3**
MORC pmax pmax
comp=Z,6.0nm,0.7s
MORC Moravsky Berou 68.13 325⇑ *iP* **P 04 18 42.5 +0.6**
MORC Moravsky Berou 68.13 325 *eP* **P 04 18 41.6 -0.3**
comp=Z,5.9nm,0.7s
KRLC Kraliky 68.14 326 *i* P **P 04 18 42.4 +0.4**
KRLC *e* 04 18 46.6
KRLC Kraliky 68.14 326 *i* P **P 04 18 42.4 +0.4**
KRLC *ex* x 04 18 46.6
H25A Fruitdale 68.16 45 ⇓P **P 04 18 42.1 -0.2**
baz=68
D30A Buchanan 68.17 40 ⇑P **P 04 18 41.7 -0.5**
baz=68
NRDL Niedersach Rie 68.23 331 *eP* **P 04 18 42.4 0.0**
comp=Z,10.0nm,1.0s
NRDL *ep*P **pP 04 18 46.5 -2.1**
MALT Malatya 68.25 305⇑ *iP* **P 04 18 43.7 +0.7**
G27A Dupree 68.27 43 ⇑P **P 04 18 42.7 -0.2**
baz=68
J23A Dilts Ranch, B 68.27 47 ⇓P **P 04 18 42.8 -0.3**
baz=68
AGMN Agassiz Nation 68.31 38 ⇓P **P 04 18 42.8 -0.3**
baz=68
I24A Kuemmerle Ranc 68.32 46 ⇑P **P 04 18 42.8 -0.5**
baz=68
CLL Collm 68.36 328⇑ *iP* **P 04 18 43.2 -0.1**
CLL *e**PP **pP 04 18 46.0 -3.5**
CLL pmax pmax
comp=Z,19nm,0.9s
CLL Collm 68.36 328 *eP* **P 04 18 42.7 -0.6**
comp=Z,19nm,0.9s
CLL *ep*P **pP 04 18 47.2 -2.3**
CLL Collm 68.36 328⇑ *iP* **P 04 18 43.2 -0.1**
comp=Z,19nm,0.9s
CLL *i* P(2) 04 18 46.2
comp=Z,18nm,0.8s
CLL *es*P sP 04 18 58.0 +6.2
F28A McLaughlin 68.36 42 ⇑P **P 04 18 43.4 0.0**
baz=68
RSSD Black Hills 68.37 45 *eP* **P 04 18 42.8 -1.0**
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD Black Hills 68.37 45 *eP* **P 04 18 42.8 -1.0**
comp=Z,5.0nm,0.8s
MLR Muntele Rosu 68.41 317⇑ *iP* **P 04 18 45.2 +1.3**
K22A Casper 68.42 48 ⇓P **P 04 18 43.8 -0.3**
baz=68
K22A Casper 68.42 48 *eP* **P 04 18 43.4 -0.7**
comp=Z,4.3nm,0.8s
BRG Berggiesshubel 68.43 328 *eP* **P 04 18 43.7 0.0**
comp=Z,5.3nm,0.8s
BRG Berggiesshubel 68.43 328 *eP* **P 04 18 43.7 0.0**
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 68.43 328 *eP* **P 04 18 43.4 -0.3**
comp=Z,5.0nm,0.8s
ISR Istrita 68.46 317⇓ *iP* **P 04 18 45.1 +1.0**
BSC Santa Cruz Isl 68.49 62 ⇓P **P 04 18 44.4 0.0**
baz=68
H26A Fairpoint 68.52 44 ⇓P **P 04 18 44.6 +0.1**
baz=68
FBE Freiberg 68.58 328 *eP* **P 04 18 45.0 +0.3**
comp=Z,18nm,1.3s
I25A Rochford 68.58 45 ⇑P **P 04 18 45.0 -0.1**
baz=68
E30A Jud 68.60 41 ⇑P **P 04 18 45.1 +0.2**
baz=68
DRGR 68.67 320⇓ *iP* **P 04 18 45.2 -0.2**
EDW2 Edwards Air Fo 68.71 60 ⇓P **P 04 18 46.2 +0.4**
baz=68
MSAB Monastry St. A 68.73 315⇓ *iP* **P 04 18 46.0 +0.3**
VYHS Vyhne 68.74 323 *eP* **P 04 18 45.9 +0.2**
VYHS Vyhne 68.74 323 *eP* **P 04 18 45.9 +0.2**
H27A Howes 68.81 44 ⇑P **P 04 18 46.5 +0.2**
baz=69,SNR=13
PSZ Piszkesteto 68.82 322 *eP* **P 04 18 46.3 -0.1**
PSZ pmax pmax
comp=Z,3.0nm,0.8s
PSZ Piszkesteto 68.82 322 *eP* **P 04 18 46.3 -0.1**
comp=Z,3.3nm,0.8s
VOIR 68.83 318⇑ *iP* **P 04 18 46.8 +0.4**
NEUB Neuenburg 68.84 329 *eP* **P 04 18 46.1 -0.2**
comp=Z,14nm,0.9s
VRAC Vranov 68.86 325⇑ *iP* **P 04 18 46.8 +0.3**
PSN Preselentsi 68.90 315⇑ *iP* **P 04 18 47.9 +1.1**
G28A Parade 68.94 43 ⇑P **P 04 18 47.3 +0.2**
baz=69
PRU Pruhonice 68.98 327 *i* P **P 04 18 47.4 +0.2**
PRU *e* 04 18 51.3
PRU Pruhonice 68.98 327 *i* P **P 04 18 47.4 +0.2**
PRU *ex* x 04 18 51.3
GSC Goldstone, Bar 69.02 59 ⇑P **P 04 18 48.3 +0.5**
baz=69
N20A Spence Gulch, 69.04 50 ⇓P **P 04 18 48.6 +0.5**
baz=69
H28A Mission Ridge 69.22 43 ⇓P **P 04 18 49.2 +0.4**
baz=69
L23A Garrett 69.22 48 ⇑P **P 04 18 48.8 -0.4**
baz=69
TREC Trest 69.25 326 *i* P **P 04 18 49.6 +0.7**
TREC *e* 04 18 53.0
TREC Trest 69.25 326 *i* P **P 04 18 49.6 +0.7**
TREC *ex* x 04 18 53.0
I27A Quinn 69.27 44 ⇑P **P 04 18 49.2 +0.1**
baz=69
TANN Tannenbergstha 69.31 328 *eP* **P 04 18 49.1 -0.2**
comp=Z,19nm,1.5s
WERD Werda 69.33 328 *eP* **P 04 18 49.6 +0.2**
comp=Z,11nm,1.2s
M22A Cedar Creek Ra 69.37 49 ⇓P **P 04 18 50.1 0.0**
baz=69
MOX Moxa 69.38 329 *eP* **P 04 18 49.7 0.0**
comp=Z,8.0nm,1.0s
MOX *ep*P **pP 04 18 53.5 -2.3**
J26A Sides Ranch, S 69.44 45 ⇓P **P 04 18 50.3 +0.1**
baz=69
WERN Wernitzgruen 69.44 328 *eP* **P 04 18 50.3 +0.2**
comp=Z,9.0nm,0.9s
ROHR Rohrbach 69.51 328 *eP* **P 04 18 50.9 +0.4**
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 69.53 309 P **P 04 18 51.0 +0.1**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 69.53 309 P **P 04 18 51.0 +0.1**
comp=Z,3.1nm,0.8s,baz=62,slow=5.0,SNR=17
H29A Onida 69.59 43 ⇑P **P 04 18 51.4 +0.2**
baz=69
O20A White River Ci 69.60 50 ⇓P **P 04 18 51.5 +0.1**
baz=69,SNR=5.9
O20A White River Ci 69.60 50 *eP* **P 04 18 51.4 -0.1**
comp=Z,8.8nm,0.8s
G30A Faulkton 69.62 42 ⇑P **P 04 18 51.5 +0.2**
baz=69
I28A Midland 69.70 43 ⇓P **P 04 18 51.8 0.0**
baz=70
M23A Laramie 69.72 48 ⇑P **P 04 18 52.2 0.0**
baz=70
UBBA Unterbreizbach 69.73 330 *eP* **P 04 18 51.7 0.0**
comp=Z,22nm,1.8s
BBRC Big Bear Solar 69.75 60 ⇓P **P 04 18 53.4 +0.9**
baz=70
GZR Gura Zlata 69.79 319⇑ *iP* **P 04 18 51.8 -0.6**
K26A Motz Farm, Whi 69.88 46 ⇑P **P 04 18 53.5 +0.5**
baz=70
N22A Wattenberg Ran 69.91 49 ⇓P **P 04 18 53.7 +0.2**
baz=70
J27A Elkhorn Farm, 69.95 44 ⇓P **P 04 18 53.8 +0.4**
baz=70
ROTZ Rotzenmuhle 69.95 328 *eP* **P 04 18 53.4 +0.2**
comp=Z,10.0nm,1.3s
GMRC Granite Mounta 70.02 59 ⇑P **P 04 18 54.2 +0.1**
baz=70
KHC Kasperske Hory 70.04 327 *i* P **P 04 18 54.0 +0.2**
KHC *e* 04 18 58.0
KHC Kasperske Hory 70.04 327 *i* P **P 04 18 54.0 +0.2**
KHC *ex* x 04 18 58.0
KHC Kasperske Hory 70.04 327 *eP* **P 04 18 53.6 -0.2**
comp=Z,4.5nm,0.8s
BZS Buzias 70.07 320⇑ *iP* **P 04 18 54.4 +0.4**
N23A Red Feather La 70.08 48 ⇓P **P 04 18 54.3 -0.1**
baz=70
M24A Cheyenne 70.13 47 ⇑P **P 04 18 54.8 +0.1**
baz=70
J28A Allard Ranch, 70.14 44 ⇓P **P 04 18 54.6 +0.1**
baz=70,SNR=15
SZH Strazhica 70.21 316 *eP* **P 04 18 53.9 -1.0**
GEC2 GERESS Array S 70.25 327 *eP* **P 04 18 55.0 -0.2**
comp=Z,19nm,1.8s

GERES **GERESS Array B** 70.25 327 P P 04 18 55.5 +0.3
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES **GERESS Array B** 70.25 327 P P 04 18 55.5 +0.3
comp=Z,1.6nm,0.7s,baz=34,slow=5.2,SNR=12
BRSD **Miller** 70.26 42 eP P 04 18 55.1 -0.1
comp=Z,46nm,0.8s
WET **Wettzell** 70.27 327 eP P 04 18 55.5 +0.3
comp=Z,10.0nm,1.0s
WET epP pP 04 18 59.6 -1.8
CONA **Conrad Observa** 70.29 325⇑iP P 04 18 56.4 +1.0
comp=Z,9.1nm,1.4s
GRF **Grafenberg Arr** 70.33 329 eP P 04 18 55.8 +0.3
comp=Z,15nm,1.1s
GRF epP pP 04 19 00.1 -1.6
O22A **Kremmling** 70.38 49 ⇑P P 04 18 56.5 +0.2
baz=70
U15A **North Rim** 70.50 56 ⇑P P 04 18 57.5 +0.4
baz=70,SNR=8.5
PFO **Pinyon Flats O** 70.50 60 ⇓P P 04 18 55.9 -1.1
baz=70
I30A **Oacoma** 70.50 42 ⇑P P 04 18 56.7 0.0
baz=70
J29A **Okreek** 70.54 43 ⇓P P 04 18 56.9 0.0
baz=70
O23A **Lake Granby, G** 70.63 49 ⇑P P 04 18 58.2 +0.3
baz=70
SCHQ **Schefferville** 70.64 17 P P 04 18 56.6 -0.7
comp=Z,2.3nm,0.7s,baz=272,slow=5.0,SNR=6.7
PV04 **Paradox Valley** 70.65 52 eP P 04 18 57.7 -0.2
K28A **Ten Mile Ranch** 70.66 44 ⇑P P 04 18 58.2 +0.4
baz=70,SNR=9.1
W13A **Hualapai Mount** 70.71 58 ⇓P P 04 18 58.6 +0.3
baz=70
P22A **Eagle** 70.72 50 ⇑P P 04 18 58.6 +0.2
baz=70
TNS **Taunus Mts** 70.73 331 eP P 04 18 58.1 +0.1
comp=Z,7.0nm,0.8s
L27A **T5 Ranch, Ells** 70.76 45 ⇑P P 04 18 59.2 +0.8
baz=70
IRM **Iron Mountain** 70.77 59 ⇑P P 04 18 59.1 +0.6
baz=71
M26A **McRoberts Ranc** 70.89 46 ⇓P P 04 18 59.4 +0.1
baz=71
J30A **Dallas** 70.96 43 ⇓P P 04 18 59.6 +0.1
baz=71
BC3 **Big Chuckawall** 71.00 60 ⇑P P 04 19 00.2 +0.2
baz=71
MPEP **Malo Peshtene** 71.07 317 eP P 04 18 59.5 -0.6
K29A **Lazy Trails An** 71.07 44 ⇓P P 04 19 00.4 +0.2
baz=71
ISCO **Idaho Springs** 71.10 49 ⇑P P 04 19 00.8 +0.1
baz=71
MEM **Membach** 71.10 332 P P 04 19 00.5 +0.3
M27A **Reverse DX Ran** 71.17 46 ⇓P P 04 19 01.3 +0.4
baz=71
PDMCI **Parker Dam,Lak** 71.19 58 ⇑P P 04 19 01.3 +0.3
baz=71
Y12C **Blythe** 71.42 59 ⇓P P 04 19 03.2 +0.8
baz=71
K30A **Basset** 71.44 43 ⇑P P 04 19 02.5 +0.1
baz=71,SNR=8.5
FUR **Furstenfeldbru** 71.64 328 eP P 04 19 03.7 +0.1
comp=Z,16nm,1.2s
SOKA **Soboth** 71.65 325⇑iP P 04 19 04.0 +0.3
comp=Z,7.4nm,1.5s
GROS **Grobnik** 71.67 324 eP P 04 19 03.8 0.0
WUAZ **Wupatki** 71.67 56 ⇓P P 04 19 04.8 +0.7
baz=72
N27A **Anderson Farm,** 71.69 46 ⇓P P 04 19 04.2 +0.2
baz=72
GLA **Glamis** 71.80 60 ⇓P P 04 19 05.1 +0.4
baz=72
O26A **Horse Wrangler** 71.80 47 ⇑P P 04 19 05.0 +0.3
baz=72
ECSD **EROS Data Cent** 71.80 41 ⇓P P 04 19 03.9 -0.6
baz=72,SNR=23
ECSD **EROS Data Cent** 71.80 41 eP P 04 19 03.7 -0.8
comp=Z,16nm,0.8s
KBA **Koelnbreinsper** 71.89 326⇑iP P 04 19 05.9 +0.7
comp=Z,18nm,0.8s,SNR=12
GIVF **Givet** 71.89 333 eP P 04 19 03.8 -1.2
GIVF **Givet** 71.89 333 eP P 04 19 03.8 -1.2
GIVF **Givet** 71.89 333 eP P 04 19 03.8 -1.2
WLF **Walferdange** 71.91 332 eP P 04 19 05.8 +0.7
comp=Z,13nm,0.7s
VTS **Vitosha** 71.92 317⇑iP P 04 19 05.5 +0.1
OBKA **Obir** 71.96 325⇑iP P 04 19 06.1 +0.5
comp=Z,9.6nm,1.2s
Q24A **Divide** 71.98 49 ⇓P P 04 19 06.0 -0.1
baz=72
P25A **Willow Gulch B** 72.00 48 ⇑P P 04 19 06.1 +0.1
baz=72
RZN **Rozhen** 72.02 316 eP P 04 19 05.0 -1.1
SPMN **Marine on St.** 72.03 38 ⇑P P 04 19 06.2 +0.4
baz=72
SPMN **Marine on St.** 72.03 38 eP P 04 19 05.8 -0.1
comp=Z,8.6nm,0.8s
CTAO **Charters Tower** 72.05 176 eP P 04 19 05.6 -0.5
CTAO pmax pmax
comp=Z,150nm,2.1s
CTAO **Charters Tower** 72.05 176 eP P 04 19 05.6 -0.5
comp=Z,150nm,2.1s
Y14A **Wickenburg** 72.06 58 ⇓P P 04 19 06.8 +0.5
baz=72
BAIF **Baives** 72.11 333 eP P 04 19 04.8 -1.4
BAIF **Baives** 72.11 333 eP P 04 19 04.8 -1.4
BAIF **Baives** 72.11 333 eP P 04 19 04.8 -1.4
WRAB **Tennant Creek** 72.14 188⇓iP P 04 19 06.2 -0.5
WRAB pmax pmax
comp=Z,34nm,1.2s
WRAB **Tennant Creek** 72.14 188 eP P 04 19 05.9 -0.8
comp=Z,16nm,1.3s
WRA **Warramunga Arr** 72.15 188 P P 04 19 06.2 -0.6
WRA pmax pmax
comp=Z,8.0nm,1.0s
WRA **Warramunga Arr** 72.15 188 P P 04 19 06.2 -0.6
comp=Z,7.6nm,1.0s,baz=6.7,slow=6.7,SNR=27
S22A **4UR Ranch, Cre** 72.16 51 ⇑P P 04 19 07.3 +0.1
baz=72,SNR=7.0
LEGS **Legarje** 72.17 324 iP P 04 19 06.6 -0.1
L31A **Butterfield Fa** 72.17 43 ⇑P P 04 19 07.2 +0.3
baz=72
MYKA **Terra Mystica** 72.18 326⇑iP P 04 19 07.0 +0.2
comp=Z,5.6nm,0.8s
R23A **Moffat** 72.28 50 ⇑P P 04 19 08.0 +0.1
baz=72
WTTA **Wattenberg** 72.31 327 eP P 04 19 08.4 +0.6
WTTA **Wattenberg** 72.31 327⇑iP P 04 19 08.4 +0.6
comp=Z,18nm,1.1s,SNR=6.1
BFO **Black Forest** 72.44 330 iP P 04 19 09.1 +0.8
BFO **Black Forest** 72.44 330 eP P 04 19 08.8 +0.5
comp=Z,13nm,1.2s
BFO **Black Forest** 72.44 330 eP P 04 19 07.7 -0.7
comp=Z,5.7nm,1.1s
X16A **Lo Mia Camp, P** 72.50 56 ⇓P P 04 19 09.7 +0.6
baz=72,SNR=12
MMB **Musomiste** 72.52 316⇓iP P 04 19 09.7 +0.8
MMB **Musomiste** 72.52 316 eP P 04 19 08.0 -0.9
S23A **Nye Farm, Mont** 72.59 51 ⇑P P 04 19 10.7 +1.0
baz=72
R24A **Sanders Place,** 72.59 50 ⇓P P 04 19 10.5 +0.9
baz=72
CDF **Champ du Feu** 72.69 330 eP P 04 19 09.7 -0.2
comp=Z,22nm,1.0s
CDF **Champ du Feu** 72.69 330 eP P 04 19 09.7 -0.2
CDF pmax pmax
comp=Z,23nm,1.0s
CDF **Champ du Feu** 72.69 330 eP P 04 19 09.7 -0.2
comp=Z,22nm,1.0s
FETA **Feichten** 72.83 328⇑iP P 04 19 10.8 0.0
comp=Z,12nm,1.3s
DAVA **Damuels** 72.87 328⇑iP P 04 19 11.1 +0.1
comp=Z,11nm,0.9s
ECH **Echery** 72.90 330 eP P 04 19 10.2 -0.9
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH **Echery** 72.90 330 eP P 04 19 10.2 -0.9
comp=Z,6.6nm,0.9s
S24A **Houchin Ranch,** 73.01 50 ⇑P P 04 19 12.8 +0.6
baz=73
PAGF **Fort de Pagny** 73.03 331 eP P 04 19 12.0 +0.2
comp=Z,8.7nm,1.0s
PAGF **Fort de Pagny** 73.03 331 eP P 04 19 12.0 +0.2
comp=Z,8.7nm,1.0s
SKO **Skopje** 73.16 318 iP P 04 19 10.9 -1.8
comp=Z,7.4nm,0.2s

X18A **Snowflake** 73.17 55 ⇓P P 04 19 13.6 +0.5
baz=73
VAY **Valandovo** 73.23 317 iP P 04 19 12.0 -1.1
comp=Z,30nm,1.6s
U22A **Llaves** 73.24 52 ⇓P P 04 19 14.1 +0.6
baz=73
MEZF **Maizieres J'vi** 73.27 332 eP P 04 19 13.1 -0.1
MEZF **Maizieres J'vi** 73.27 332 eP P 04 19 13.1 -0.1
O30A **MW Ranch, Wils** 73.30 45 ⇑P P 04 19 13.4 -0.1
baz=73
HAU **Haudompre** 73.33 331 eP P 04 19 13.3 -0.3
HAU **Haudompre** 73.33 331 eP P 04 19 13.3 -0.3
HAU **Haudompre** 73.33 331 eP P 04 19 13.3 -0.3
HINF **Hinteralfeld** 73.35 330 eP P 04 19 13.1 -0.6
comp=Z,45nm,1.4s
HINF **Hinteralfeld** 73.35 330 eP P 04 19 13.1 -0.6
HINF pmax pmax
comp=Z,45nm,1.4s
HINF **Hinteralfeld** 73.35 330 eP P 04 19 13.1 -0.6
comp=Z,45nm,1.4s
S25A **Robets Cordova** 73.36 50 ⇑P P 04 19 14.5 +0.3
baz=73
T24B **San Luis** 73.40 51 ⇓P P 04 19 15.1 +0.6
baz=73
CSS **Prodhromos** 73.42 306 eP P 04 19 13.6 -0.7
comp=Z,2.9nm,0.8s
SFTF **Sexfontaines** 73.54 332 eP P 04 19 14.6 -0.2
comp=Z,22nm,1.0s
SFTF **Sexfontaines** 73.54 332 eP P 04 19 14.6 -0.2
comp=Z,22nm,1.0s
V22A **San Miguel Ran** 73.58 52 ⇑P P 04 19 16.0 +0.4
baz=73
U23A **El Rito** 73.60 52 ⇓P P 04 19 16.1 +0.4
baz=73,SNR=8.5
R27A **Eads** 73.61 48 ⇓P P 04 19 15.6 +0.1
baz=73
O31A **Woolen Ranch,** 73.63 45 ⇓P P 04 19 15.4 -0.1
baz=73
214A **Organ Pipe Nat** 73.71 59 ⇑P P 04 19 16.3 +0.2
baz=74
P30A **Selden** 73.73 46 ⇓P P 04 19 15.8 -0.4
baz=74
TUE **Stuetta** 73.76 328 eP P 04 19 15.9 -0.5
comp=Z,4.4nm,0.8s
T25A **Trinidad** 73.79 50 ⇑P P 04 19 16.6 -0.2
baz=74
Q29A **Oakley** 73.94 46 ⇑P P 04 19 17.4 0.0
baz=74
O32A **Brockman Farm,** 74.00 44 ⇑P P 04 19 17.0 -0.6
baz=74
R28A **Tribune** 74.02 47 ⇑P P 04 19 17.7 -0.2
baz=74
V23A **Ortiz Mt. (NFS** 74.07 52 ⇑P P 04 19 18.7 +0.3
baz=74
P31A **Stockton** 74.13 45 ⇑P P 04 19 18.2 -0.3
baz=74
OHR **Ohrid** 74.15 318 iP P 04 19 17.1 -1.4
comp=Z,36nm,1.9s
T26A **Comanche Natio** 74.15 49 ⇓P P 04 19 18.5 -0.3
baz=74
Q30A **Quinter** 74.21 46 ⇓P P 04 19 18.8 -0.1
baz=74
R29A **Marienthal** 74.25 47 ⇑P P 04 19 19.0 -0.3
baz=74
P32A **Huiting Farm,** 74.39 44 ⇑P P 04 19 19.7 -0.2
baz=74
U25A **Circle Dot Ran** 74.39 50 ⇓P P 04 19 20.1 -0.1
baz=74
V24A **Rampart Ranch,** 74.52 51 ⇑P P 04 19 21.4 +0.3
baz=74
FLN **La Foliniere** 74.55 335 eP P 04 19 20.1 -0.5
FLN **La Foliniere** 74.55 335 eP P 04 19 20.1 -0.5
FLN **La Foliniere** 74.55 335 eP P 04 19 20.1 -0.5
Q31A **Ellis** 74.55 45 ⇑P P 04 19 21.4 +0.5
baz=74
ANMO **Albuquerque** 74.58 53⇓iP P 04 19 22.1 +0.8
ANMO pmax pmax
comp=Z,30nm,1.7s
S28A **Manter** 74.59 48 ⇓P P 04 19 21.1 -0.2
baz=74
LDF **La Druitiere** 74.61 335 eP P 04 19 20.6 -0.4
LDF **La Druitiere** 74.61 335 eP P 04 19 20.6 -0.4
LDF **La Druitiere** 74.61 335 eP P 04 19 20.6 -0.4
CABF **La Chapelle** 74.66 330 eP P 04 19 21.1 -0.4
comp=Z,18nm,1.0s
CABF **La Chapelle** 74.66 330 eP P 04 19 21.1 -0.4
CABF pmax pmax
comp=Z,18nm,1.0s
CABF **La Chapelle** 74.66 330 eP P 04 19 21.1 -0.4
comp=Z,18nm,1.0s
U26A **Atchley Ranch,** 74.71 50 ⇓P P 04 19 21.8 -0.3
baz=74
LOR **Lormes** 74.73 332 eP P 04 19 21.2 -0.6
comp=Z,21nm,1.0s
LOR **Lormes** 74.73 332 eP P 04 19 21.2 -0.6
LOR pmax pmax
comp=Z,21nm,1.0s
LOR **Lormes** 74.73 332 eP P 04 19 21.2 -0.6
comp=Z,21nm,1.0s
V25A **Rancho No Teng** 74.75 51 ⇓P P 04 19 22.3 0.0
baz=74
R30A **Dighton** 74.75 46 ⇑P P 04 19 21.5 -0.6
baz=74
W24A **Lazy 6 Ranch,** 74.87 52 ⇑P P 04 19 23.2 +0.1
baz=75
S29A **Ulysses** 74.92 47 ⇑P P 04 19 22.7 -0.4
baz=75
Q32A **Meitler Ranch,** 74.93 45 ⇑P P 04 19 22.6 -0.5
baz=75
GRR **Gorron** 74.99 336 eP P 04 19 23.0 -0.2
GRR **Gorron** 74.99 336 eP P 04 19 23.0 -0.2
GRR **Gorron** 74.99 336 eP P 04 19 23.0 -0.2
SSF **Saint Saulge** 75.02 332 eP P 04 19 22.8 -0.6
comp=Z,18nm,1.0s
SSF **Saint Saulge** 75.02 332 eP P 04 19 22.8 -0.6
SSF pmax pmax
comp=Z,18nm,1.0s
SSF **Saint Saulge** 75.02 332 eP P 04 19 22.8 -0.6
comp=Z,18nm,1.0s
R31A **Burdett** 75.08 46 ⇑P P 04 19 23.6 -0.4
baz=75
U27A **Thompson Grove** 75.12 49 ⇑P P 04 19 23.8 -0.6
baz=75,SNR=7.8
V26A **Tequesquite Ra** 75.17 50 ⇑P P 04 19 24.1 -0.6
baz=75
S30A **Montezuma** 75.20 47 ⇓P P 04 19 24.2 -0.5
baz=75
T29A **Hugoton** 75.22 48 ⇓P P 04 19 24.4 -0.5
baz=75
Q33A **Connelly Farm,** 75.23 44 ⇑P P 04 19 24.4 -0.5
baz=75
SMF **Signal de Mont** 75.30 332 eP P 04 19 24.6 -0.5
comp=Z,14nm,0.9s
SMF **Signal de Mont** 75.30 332 eP P 04 19 24.6 -0.5
SMF pmax pmax
comp=Z,14nm,0.9s
SMF **Signal de Mont** 75.30 332 eP P 04 19 24.6 -0.5
comp=Z,14nm,0.9s
AVF **Avril sur Loir** 75.31 332 eP P 04 19 24.6 -0.5
AVF **Avril sur Loir** 75.31 332 eP P 04 19 24.6 -0.5
AVF **Avril sur Loir** 75.31 332 eP P 04 19 24.6 -0.5
W25A **X Bar L Ranch,** 75.32 51 ⇑P P 04 19 25.6 +0.1
baz=75
R32A **Long Quarter,** 75.33 45 ⇑P P 04 19 25.1 -0.4
baz=75
LPL **La Plagne** 75.44 329 eP P 04 19 26.4 +0.2
comp=Z,9.6nm,0.8s
LPL **La Plagne** 75.44 329 eP P 04 19 26.4 +0.2
LPL pmax pmax
comp=Z,10.0nm,0.8s
LPL **La Plagne** 75.44 329 eP P 04 19 26.4 +0.2
comp=Z,9.6nm,0.8s
LPG **La Plagne** 75.45 329 eP P 04 19 26.6 +0.3
comp=Z,22nm,1.0s
LPG **La Plagne** 75.45 329 eP P 04 19 26.6 +0.3
LPG pmax pmax
comp=Z,22nm,1.0s
LPG **La Plagne** 75.45 329 eP P 04 19 26.6 +0.3
comp=Z,22nm,1.0s
ROSF **Rostrenen** 75.63 337 eP P 04 19 26.2 -0.7
ROSF **Rostrenen** 75.63 337 eP P 04 19 26.2 -0.7
ROSF **Rostrenen** 75.63 337 eP P 04 19 26.2 -0.7
MBWA **Marble Bar** 75.64 202 eP P 04 19 26.3 -0.8
comp=Z,8.0nm,0.9s
Z22A **Elephant Butte** 75.68 54 ⇓P P 04 19 28.0 +0.3
baz=76,SNR=8.4
R33A **Olander Ranch,** 75.74 45 ⇓P P 04 19 27.8 0.0
baz=76

W26A **Owens Ranch, T** 75.76 51 ⇑P P 04 19 28.5 +0.4
baz=76
S32A **Newby Ranch, P** 75.83 46 ⇓P P 04 19 27.9 -0.4
baz=76
121A **Cookes Peak, D** 75.85 55 ⇑P P 04 19 29.2 +0.6
baz=76
BNI **Bardonecchia** 75.88 329 eP P 04 19 28.3 -0.3
BNI pmax pmax
comp=Z,6.0nm,0.9s
BNI **Bardonecchia** 75.88 329 eP P 04 19 28.3 -0.3
comp=Z,6.2nm,0.9s
AS31 **Alice Springs** 75.88 188 eP P 04 19 28.2 -0.3
ASAR **Alice Springs** 75.88 188 P P 04 19 28.7 +0.2
ASAR pmax pmax
comp=Z,9.0nm,0.9s
ASAR **Alice Springs** 75.88 188 P P 04 19 28.6 +0.2
comp=Z,8.7nm,0.9s,baz=5.8,slow=5.5,SNR=56
Y24A **Capitan** 75.90 52 ⇑P P 04 19 29.2 +0.3
baz=76
AQU **L'Aquila** 75.97 324 eP P 04 19 29.8 +0.8
AQU pmax pmax
comp=Z,12nm,0.9s
AQU **L'Aquila** 75.97 324 eP P 04 19 29.8 +0.8
comp=Z,12nm,0.9s
TCF **Toulx Ste Croi** 76.09 333 eP P 04 19 29.4 -0.2
TCF **Toulx Ste Croi** 76.09 333 eP P 04 19 29.4 -0.2
TCF **Toulx Ste Croi** 76.09 333 eP P 04 19 29.4 -0.2
MBDF **Montbardon** 76.14 329 eP P 04 19 30.0 -0.1
comp=Z,7.6nm,0.7s
MBDF **Montbardon** 76.14 329 eP P 04 19 30.0 -0.1
MBDF pmax pmax
comp=Z,8.0nm,0.7s
MBDF **Montbardon** 76.14 329 eP P 04 19 30.0 -0.1
comp=Z,7.6nm,0.7s
ORIF **Oris-en-Rattie** 76.25 330 eP P 04 19 29.9 -0.7
comp=Z,34nm,1.3s
ORIF **Oris-en-Rattie** 76.25 330 eP P 04 19 29.9 -0.7
ORIF pmax pmax
comp=Z,34nm,1.3s
ORIF **Oris-en-Rattie** 76.25 330 eP P 04 19 29.9 -0.7
comp=Z,34nm,1.3s
T32A **Huddler Ranch,** 76.27 46 ⇑P P 04 19 30.2 -0.6
baz=76
MFF **Saint Martin d** 76.45 334 eP P 04 19 30.8 -0.8
MFF **Saint Martin d** 76.45 334 eP P 04 19 30.8 -0.8
MFF **Saint Martin d** 76.45 334 eP P 04 19 30.8 -0.8
VIVF **Saint-Julien-l** 76.67 330 eP P 04 19 32.9 -0.1
comp=Z,43nm,1.3s
VIVF **Saint-Julien-l** 76.67 330 eP P 04 19 32.9 -0.1
VIVF pmax pmax
comp=Z,43nm,1.3s
VIVF **Saint-Julien-l** 76.67 330 eP P 04 19 32.9 -0.1
comp=Z,43nm,1.3s
SBF **Sospel** 76.70 328 eP P 04 19 33.6 +0.4
SBF **Sospel** 76.70 328 eP P 04 19 33.6 +0.4
SBF **Sospel** 76.70 328 eP P 04 19 33.6 +0.4
AMTX **Amarillo** 76.91 49 ⇓P P 04 19 35.0 +0.5
baz=77
V31A **Spring Creek L** 77.02 48 ⇑P P 04 19 35.7 +0.6
baz=77
MSTX **Muleshoe** 77.14 51 ⇑P P 04 19 36.2 +0.4
baz=77
RJF **Les Rejaudoux** 77.19 333 eP P 04 19 35.8 0.0
RJF **Les Rejaudoux** 77.19 333 eP P 04 19 35.8 0.0
RJF **Les Rejaudoux** 77.19 333 eP P 04 19 35.8 0.0
X29A **Tulia** 77.26 50 ⇓P P 04 19 36.8 +0.2
baz=77
CAF **Calviac** 77.38 332 eP P 04 19 37.3 +0.4
comp=Z,36nm,1.4s
CAF **Calviac** 77.38 332 eP P 04 19 37.3 +0.4
CAF pmax pmax
comp=Z,36nm,1.4s
CAF **Calviac** 77.38 332 eP P 04 19 37.3 +0.4
comp=Z,36nm,1.4s
TIP **Timpagrande** 77.42 320 eP P 04 19 37.1 -0.2
comp=Z,4.5nm,0.9s
Y28A **McKinney Farm,** 77.44 50 ⇓P P 04 19 38.2 +0.6
baz=77
W31A **Holland Ranch,** 77.46 48 ⇑P P 04 19 38.0 +0.4
baz=77
U34A **Anderson Ranch** 77.50 46 ⇑P P 04 19 37.8 +0.1
baz=77
LASF **Ste Croix** 77.63 331 eP P 04 19 38.7 +0.4
LASF **Ste Croix** 77.63 331 eP P 04 19 38.7 +0.4
X30A **Coker Ranch, T** 77.65 49 ⇑P P 04 19 38.7 0.0
baz=77
V33A **Lossen Ranch,** 77.68 46 ⇑P P 04 19 38.9 +0.2
baz=78
LFF **La Frestale** 77.74 333 eP P 04 19 39.3 +0.4
LFF **La Frestale** 77.74 333 eP P 04 19 39.3 +0.4
LFF **La Frestale** 77.74 333 eP P 04 19 39.3 +0.4
W32A **Sentinel** 77.83 47 ⇓P P 04 19 40.2 +0.6
baz=78
X31A **McDonald Ranch** 77.91 48 ⇓P P 04 19 39.8 -0.2
baz=78,SNR=10
V34A **Guthrie** 78.01 46 ⇓P P 04 19 40.9 +0.3
baz=78
V34A **Guthrie** 78.01 46 eP P 04 19 40.8 +0.3
comp=Z,26nm,0.8s
Z29A **Hungry Hill Ra** 78.23 50 ⇓P P 04 19 42.3 +0.4
baz=78
Y31A **Rekieta Farm,** 78.33 49 ⇑P P 04 19 42.2 -0.2
baz=78
V35A **Meyer Ranch, C** 78.37 45 ⇑P P 04 19 42.5 -0.1
baz=78
128A **Castleberry Fa** 78.39 51 ⇑P P 04 19 42.8 0.0
baz=78
X32A **Elmer** 78.40 48 ⇓P P 04 19 42.7 -0.1
baz=78
W34A **Bridge Creek,** 78.40 46 ⇓P P 04 19 42.9 +0.2
baz=78
W34A **Bridge Creek,** 78.40 46 eP P 04 19 42.7 -0.1
comp=Z,17nm,0.8s
Z30A **Sanderson Ranc** 78.48 50 ⇓P P 04 19 43.3 0.0
baz=78
TUL1 **Leonard** 78.70 45 ⇑P P 04 19 44.8 +0.4
baz=78
TUL1 **Leonard** 78.70 45 eP P 04 19 44.7 +0.3
comp=Z,13nm,0.8s
MTLF **Montolieu** 78.78 331 eP P 04 19 44.9 +0.2
MTLF **Montolieu** 78.78 331 eP P 04 19 44.9 +0.2
MTLF **Montolieu** 78.78 331 eP P 04 19 44.9 +0.2
X34A **Smith Ranch, M** 78.91 47 ⇓P P 04 19 46.3 +0.8
baz=79
Z31A **Sharp Cattle R** 78.92 49 ⇓P P 04 19 45.8 +0.2
baz=79
Y33A **Hilltop Ranch,** 79.04 48 ⇓P P 04 19 46.6 +0.3
baz=79
Z32A **Haskell** 79.24 49 ⇑P P 04 19 47.7 +0.3
baz=79
229A **Bryant Ranch,** 79.25 51 ⇓P P 04 19 47.1 -0.4
baz=79
131A **Roby** 79.34 50 ⇑P P 04 19 48.0 +0.1
baz=79
Y34A **Reagan Ranch,** 79.48 47 ⇓P P 04 19 48.7 +0.1
baz=79
329A **Wagon Wheel Ra** 79.56 51 ⇑P P 04 19 49.3 0.0
baz=79
Z33A **Whitaker Ranch** 79.58 48 ⇓P P 04 19 48.6 -0.7
baz=79
EPF **Esparros** 79.61 333 eP P 04 19 49.7 +0.4
EPF **Esparros** 79.61 333 eP P 04 19 49.7 +0.4
EPF **Esparros** 79.61 333 eP P 04 19 49.7 +0.4
230A **Sterling City** 79.65 51 ⇓P P 04 19 49.6 -0.1
baz=79
ABTX **Abilene, Hawle** 79.73 49 ⇓P P 04 19 50.3 +0.2
baz=80
SJPF **Ste Jean** 79.97 334 eP P 04 19 52.2 +1.0
SJPF **Ste Jean** 79.97 334 eP P 04 19 52.2 +1.0
SJPF **Ste Jean** 79.97 334 eP P 04 19 52.2 +1.0
231A **Bronte** 79.98 50 ⇑P P 04 19 51.6 +0.1
baz=80
ETSF **Etsaut** 79.99 333 eP P 04 19 51.9 +0.5
ETSF **Etsaut** 79.99 333 eP P 04 19 51.9 +0.5
ETSF **Etsaut** 79.99 333 eP P 04 19 51.9 +0.5
330A **Mertzon** 80.01 51 ⇑P P 04 19 51.7 +0.1
baz=80
133A **Hamilton Ranch** 80.08 49 ⇓P P 04 19 52.3 +0.3
baz=80
Z35A **Perchaven, San** 80.23 47 ⇑P P 04 19 53.1 +0.3
baz=80
429A **Davenport Ranc** 80.31 52 ⇓P P 04 19 53.6 +0.3
baz=80
232A **Coleman** 80.34 50 ⇓P P 04 19 53.8 +0.4
baz=80

331A	San Angelo	80.45	50	⇑P	P	04 19 54.1	+0.1
	baz=80						
430A	Baggett Ranch,	80.50	51	⇑P	P	04 19 54.2	-0.1
	baz=80						
TXAR	Lajitas Array	80.50	54	P	P	04 19 55.3	+0.9
TXAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TXAR	Lajitas Array	80.50	54	P	P	04 19 55.3	+0.9
	comp=Z,6.1nm,0.8s,baz=294,slow=5.0,SNR=42						
529A	Stev Forest Ra	80.57	52	⇓P	P	04 19 54.8	+0.1
	baz=80						
332A	Millersview	80.71	50	⇓P	P	04 19 55.5	+0.1
	baz=80						
135A	Vickery Place,	80.81	48	⇑P	P	04 19 56.2	+0.3
	baz=81						
431A	Sonora	80.88	51	⇓P	P	04 19 56.7	+0.3
	baz=81						
530A	J-C Ranch, Com	80.97	52	⇑P	P	04 19 56.8	0.0
	baz=81,SNR=8.1						
GLAT	Glass	81.09	40	*e*P	P	04 19 58.7	+1.5
432A	Menard	81.11	50	⇓P	P	04 19 57.5	-0.1
	baz=81						
333A	Richland Sprin	81.12	49	⇓P	P	04 19 57.6	+0.1
	baz=81						
WHTX	Lake Whitney,	81.27	48	⇑P	P	04 19 58.1	-0.1
	baz=81						
531A	Rocksprings	81.34	51	⇑P	P	04 19 58.6	-0.2
	baz=81						
JCT	Junction City	81.44	50	*e*P	P	04 19 58.8	-0.5
JCT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
JCT	Junction City	81.44	50	⇓P	P	04 19 59.2	-0.1
	baz=81						
JCT	Junction City	81.44	50	*e*P	P	04 19 58.8	-0.5
	comp=Z,9.4nm,0.9s						
334A	Lometa	81.46	49	⇑P	P	04 19 59.1	-0.3
	baz=81,SNR=7.8						
433A	Art	81.54	50	⇑P	P	04 19 59.5	-0.3
	baz=81						
532A	Rocksprings	81.68	51	⇓P	P	04 20 00.3	-0.3
	baz=82						
335A	Moody	81.88	48	⇓P	P	04 20 01.5	0.0
	baz=82						
434A	Burnet	81.88	49	⇓P	P	04 20 01.7	+0.1
	baz=82						
631A	Perdido Creek	81.95	52	⇓P	P	04 20 01.7	-0.2
	baz=82,SNR=9.0						
533A	Kerrville	82.14	50	⇓P	P	04 20 03.3	+0.3
	baz=82						
632A	Uvalde	82.25	51	⇓P	P	04 20 03.7	+0.1
	baz=82						
534A	Blanco	82.44	50	⇓P	P	04 20 04.8	+0.2
	baz=82						
633A	Saathoff Ranch	82.58	51	⇓P	P	04 20 05.4	+0.1
	baz=82						
732A	Laxson Ranch,	82.81	52	⇑P	P	04 20 07.4	+0.9
	baz=83						
832A	Faith Ranch, C	83.18	52	⇓P	P	04 20 09.7	+1.3
	baz=83						
438A	Sam Houston St	83.22	47	⇓P	P	04 20 09.7	+1.2
	baz=83						
KEST	Kesra	83.29	323	*e*P	P	04 20 08.8	-0.1
833A	Chaparral WMA,	83.43	51	⇑P	P	04 20 10.2	+0.5
	baz=83						
FORT	Forrest	83.55	192	*e*P	P	04 20 08.7	-1.2
	comp=Z,20nm,0.8s						
ESDC	Sonseca Array	83.92	334	P	P	04 20 11.6	-0.5
	comp=Z,1.5nm,0.7s,baz=24,slow=4.1,SNR=11						
933A	Laredo	84.08	52	⇓P	P	04 20 14.0	+1.0
	baz=84						
034A	Hebbronville	84.83	52	⇑P	P	04 20 17.9	+1.1
	baz=85						
DBIC	Dimbokro	115.01	324	*e*PKIKP	PKPdf	04 26 24.9	+1.5
DBIC	Dimbokro	115.01	324	*e*PKP	PKPdf	04 26 24.9	+1.5
LBTB	Lobatse	125.61	274	*e*PKIKP	PKPdf	04 26 43.7	+0.2
LBTB	Lobatse	125.61	274	*e*PKPdf	PKPdf	04 26 43.7	+0.2
BOSA	Boshof	128.42	272	*e*PKIKP	PKPdf	04 26 48.6	-0.2
BOSA	Boshof	128.42	272	*e*PKPdf	PKPdf	04 26 48.5	-0.2
ASCN	Ascension	131.91	328	*e*PKPdf	PKPdf	04 26 53.8	-1.9
SAML	Samuel	132.14	35	*e*PKPdf	PKPdf	04 26 56.0	-0.1
LPAZ	La Paz	136.85	45	*e*PKIKP	PKPdf	04 27 05.2	-0.4
LPAZ	La Paz	136.85	45	*e*PKPdf	PKPdf	04 27 05.2	-0.4
LCO	Las Campanas	146.36	59	*e*PKPdf	PKPdf	04 27 21.9	0.0
CFAA	Coronel Fontan	149.71	59	PKPbc	PKPbc	04 27 30.5	-1.2
	comp=Z,0.4nm,0.8s,baz=297,slow=4.6,SNR=9.0						
NVL	N'lazarevskaya	151.15	212	*e*PKIKP	PKPbc	04 27 36.0	+2.2
NVL				pmax	pmax		
	comp=Z,24nm,1.6s						
SNAA	Sanae	155.14	205	*e*PKIKP	PKPdf	04 27 34.0	+0.2
SNAA	Sanae	155.14	205	*e*PKPdf	PKPdf	04 27 34.0	+0.2

GUC 19 04:31:28.4±0.6, 34°.09S×72°.26W, h15km±999km, ML3.7, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	1.18	26	⇑*i*P	Pn	04 31 48.3	-2.0
IHA				*i* S1	Sn	04 32 03.1	-3.0
NICH	Los Niches	1.24	137	*e*P1	Pn	04 31 49.5	-1.7
NICH				*e*S4	Sn	04 32 06.6	-1.1
RCDM	Rinconada Maip	1.35	64	*e*P	Pn	04 31 50.5	-2.2
RCDM				*i* S	Sn	04 32 07.9	-2.5
TALC	Talca	1.40	159	⇑*i*P	Pn	04 31 51.7	-1.6
TALC				*i* S	Sn	04 32 09.7	-1.8
ANTU	Antumapu	1.45	69	IAML		04 32 16.7	
	comp=E,2μm,0.9s						
CLCH	Cerro Calan	1.59	65	*e*P	Pn	04 31 55.3	-0.8
CLCH				*i* S	Sn	04 32 15.1	-1.4
CLCH				IAML		04 32 28.2	
	comp=N,1μm,0.6s						
PEL	Peldehue	1.62	55	⇓*i*P	Pn	04 31 55.8	-0.6
PEL				*e*S	Sn	04 32 15.7	-1.3
PEL				IAML		04 32 25.9	
	comp=N,3μm,0.4s						
SJCH	San Jose de Ma	1.65	75	*e*P1	Pn	04 31 55.5	-1.4
SJCH				*i* S	Sn	04 32 16.7	-1.1
SJCH				IAML		04 32 24.8	
	comp=N,2μm,0.9s						
LNCH	Linares	1.83	163	⇓*i*P	Pn	04 31 58.6	-0.7
LNCH				*i* S	Sn	04 32 21.6	-0.6
COCH	Cobquecura	2.08	192	⇓*i*P	Pn	04 31 59.9	-2.8
COCH				*e*S4	Sn	04 32 23.0	-5.4

MAN 19 04:46:29, 11°.17N×124°.81E, h21km, mb4.0, ML2.8, MS2.4, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	0.17	93	⇓*i*P	Pb	04 46 35.1	+0.1
OCLP	Ormoc	0.23	239	*e*P	Pb	04 46 36.0	+1.0
OCLP				*e*S	Sb	04 46 39.9	+0.6
MSLP	Maasin	1.03	177	*e*P	Pn	04 46 49.3	+1.0
MSLP				*e*S	Sn	04 47 03.2	+1.1

*IDC **19** 04:50:47.6±1.6, 34°.26S×72°.21W, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.6/20, mbtmp3.5/5, ML3.2/3, Error ellipse: s-maj=41.1km s-min=30.3km az=91.0*
*ISCJB **19** 04:50:49.2±1.6, 34°.19S±0°.04×72°.35W±0°.08, h20km±12km, mb3.5/2, Error ellipse: s-maj=11.0km s-min=6.9km az=15.6*
*GUC **19** 04:50:50.7±0.6, 34°.21S×72°.18W, h37km±4km, ML3.4*
ISC 19 04:50:49.3±1.8, 34°.22S±0°.04×72°.21W±0°.07, h11km±11km, n16, σ0°.66/26, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.71	68	⇓*i*P	Pn	04 51 04.9	-0.4
LNV				*i* S1	Sn	04 51 14.8	-1.5
NICH	Los Niches	1.12	134	⇑*i*P	Pg	04 51 11.2	+0.3
NICH				*i* S	Sn	04 51 26.3	-0.2
TALC	Talca	1.27	158	⇑*i*P	Pn	04 51 13.2	+0.3
TALC				*i* S4	Sn	04 51 29.5	-0.5
IHA	Instituto Hidr	1.28	22	⇑*i*P	Pn	04 51 13.2	+0.1
IHA				*i* S1	Sn	04 51 30.2	-0.1
CHCH	Chadas Angostu	1.32	78	⇑*i*P	Pb	04 51 14.3	+0.1
CHCH				*i* S1	Sn	04 51 31.9	+0.5
CACH	El Canelo	1.33	86	⇓*i*P	Pg	04 51 15.1	+0.1
CACH				*i* S1	Sn	04 51 33.3	+1.4
RCDM	Rinconada Maip	1.37	58	⇓*i*P	Pb	04 51 15.0	-0.1
RCDM				*i* S	Sg	04 51 33.3	-0.3
RCDM				IAML		04 51 40.3	
	comp=N,817nm,1.1s						
ANTU	Antumapu	1.46	64	*e*P	Pb	04 51 16.4	-0.2
ANTU				*i* S	Sg	04 51 35.9	-0.4
ANTU				IAML		04 51 42.5	
	comp=N,1μm,0.6s						
SJCH	San Jose de Ma	1.65	70	⇑*i*P	Pb	04 51 18.9	-0.8
SJCH				*e*S	Sb	04 51 40.8	+0.3
LNCH	Linares	1.70	163	⇓*i*P	Pb	04 51 20.1	-0.5
LNCH				*i* S	Sb	04 51 42.5	+0.5
CFAA	Coronel Fontan	4.24	53	Pn	Pn	04 51 55.2	+1.3
	comp=N,0.2nm,0.3s,baz=228,slow=12,SNR=11						
CFAA				Lg	Lg	04 52 56.1	
	comp=N,0.5nm,0.3s,baz=58,slow=11,SNR=9.1						
PLCA	Paso Flores	6.63	169	Pn	Pn	04 52 27.0	+0.2
	comp=N,0.1nm,0.3s,baz=344,slow=10,SNR=5.0						
PLCA				Lg	Lg	04 54 14.4	
	comp=N,0.1nm,0.3s,baz=270,slow=19,SNR=2.8						
LPAZ	La Paz	18.23	13	P	Pn	04 55 02.9	-0.1
	comp=N,0.1nm,0.3s,baz=210,slow=12,SNR=2.9						
SIV	San Ignacio	20.73	32	P	P	04 55 30.6	+0.5
	comp=N,1.4nm,0.6s,baz=201,slow=7.9,SNR=3.1						
TXAR	Lajitas Array	69.86	331	P	P	05 02 00.7	+0.4
	comp=N,0.2nm,0.6s,baz=148,slow=6.7,SNR=6.2						
TORD	Torodi Ar. Bea	84.42	70	P	P	05 03 21.4	-0.8
	comp=N,0.7nm,1.1s,baz=235,slow=5.1,SNR=3.0						

*IDC **19** 04:52:24.0±0.6, 60°.64N×160°.69E, h0km, mb4.1/16, mb1 4.4/18, mb1mx4.2/29, mbtmp4.1/18, ML3.9/2, MS3.5/11, Ms1 3.5/11, ms1mx3.2/38, Error ellipse: s-maj=16.4km s-min=11.8km az=18.0*
*KRSC **19** 04:52:24.2±1.1, 60°.65N×160°.79E, h41km±14km, ML5.1*
*MOS **19** 04:52:24.5±1.3, 60°.62N×160°.84E, h12km, mb4.6/32, Error ellipse: s-maj=11.6km s-min=7.0km az=94.0*
*ISCJB **19** 04:52:24.6±0.2, 60°.68N±0°.03×160°.75E±0°.04, h10km, mb4.5/73, MS3.5/9, Error ellipse: s-maj=4.5km s-min=2.7km az=3.8*
*NERS **19** 04:52:25.3, 60°.67N×160°.95E, h7km*
*NEIC **19** 04:52:31.5±0.4, 61°.17N×160°.61E, h35km, mb4.6/51, Error ellipse: s-maj=14.9km s-min=5.6km az=178.0*
*BJI **19** 04:52:36.1, 61°.40N×160°.60E, h109km, mB5.0/18, mb4.5/25*
ISC 19 04:52:25.8±0.3, 60°.55N±0°.04×160°.84E±0°.03, h10km, n394, σ1°.32/379, mb4.6/74, MS3.6/9, 86C-116D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALN	Palana	1.53	197	*i* P	Pn	04 52 51.8	-1.3
PALN				*i* S	Sn	04 53 12.2	-0.8
OSSR	Ossora	1.72	138	*i* P	Pn	04 52 55.1	-0.6
OSSR				*i* S	Sn	04 53 17.2	-0.5
TILK	Tilichiki	2.63	90	*i* P	Pn	04 53 08.1	0.0
TILK				*i* S	Sn	04 53 37.7	-2.3
OMS	Omsukchan	3.12	311	*e*P	Pg	04 53 25.4	-0.1
OMS				pmax	pmax		
	comp=Z,140nm,0.5s						
OMS	Omsukchan	3.12	311	*e*	Pb	04 53 18.4	-2.9
OMS				*e*Pg	Pg	04 53 25.1	-0.4
OMS				Pgmax		04 53 26.4	
	comp=Z,140nm,0.5s						
OMS				*e*Sg	Sg	04 54 03.0	-3.0
OMS				Sgmax		04 54 06.3	
	comp=Z,600nm,0.4s						
BDR	Baidarnaya	4.00	177	*e*P	Pn	04 53 29.3	+2.2
TLAR	Talaya	4.17	282	*e*P	Pn	04 53 32.1	+2.7
TLAR				*e*S	Sn	04 54 21.3	+3.1
TLAR				pmax	pmax		
	comp=Z,50nm,0.4s						
TLAR				smax	smax		
	comp=E,370nm,0.6s						
TLAR	Talaya	4.17	282	*e*P	Pn	04 53 32.1	+2.7
TLAR				*e*Pg	Pg	04 53 44.0	-1.6
TLAR				Pgmax		04 53 46.5	
	comp=E,50nm,0.4s						
TLAR				*e*S	Sn	04 54 21.3	+3.1
TLAR				*e*Sg	Sg	04 54 39.3	-0.2
TLAR				Sgmax		04 54 49.4	
	comp=E,370nm,0.6s						
KBTR	Krutoberegovo	4.48	166	P	Pn	04 53 34.7	+1.1
KBTR	Krutoberegovo	4.48	166	*i* P	Pn	04 53 34.7	+1.1
SEY	Seymchan	4.67	304	*e*P	Pn	04 53 37.3	+1.0
SEY				pmax	pmax		
	comp=Z,40nm,0.6s						
SEY	Seymchan	4.67	304	*e*P	Pn	04 53 37.3	+1.0
SEY				*e*Pg	Pb	04 53 51.1	+3.4
SEY				Pgmax		04 53 57.5	
	comp=Z,40nm,0.6s						
SEY				*e*Sg	Sg	04 54 51.7	-4.0
SEY				Sgmax		04 54 57.1	
	comp=Z,170nm,0.4s						
SEY	Seymchan	4.67	304	Pn	Pn	04 53 35.0	-1.3
	comp=Z,2.0nm,0.3s,baz=118,slow=12,SNR=74						
SEY				Lg	Lg	04 54 49.4	
	comp=Z,22nm,0.3s,baz=197,slow=19,SNR=6.3						
ESO	Esso	4.78	195	*i* P	Pn	04 53 38.9	+1.2
MGD	Magadan 1	5.05	269	*e*P	Pn	04 53 43.2	+1.7
MGD				*e*Pg	Pg	04 53 59.6	-2.9
MGD				Pgmax		04 54 02.5	
	comp=Z,10.0nm,0.7s						
MGD				*e*Sg	Sg	04 55 04.5	-3.3
MGD				Sgmax		04 55 07.9	
	comp=Z,60nm,0.6s						
SNGR	Sinegor'e	5.25	291	*e*P	Pn	04 53 46.1	+1.9
SNGR				*e*Sg	Sg	04 55 09.1	-5.1
SNGR				Sgmax		04 55 21.2	
	comp=Z,220nm,0.5s						
SNGR				Sgmax		04 55 21.2	
	comp=Z,200nm,0.5s						
MKZ	Mys Kozlova	6.03	175	P	Pn	04 53 57.5	+2.6
SUUS	Susuman	6.43	296	*e*P	Pn	04 54 03.5	+3.1
SUUS				pmax	pmax		
	comp=Z,10.0nm,0.3s						
SUUS	Susuman	6.43	296	*e*P	Pn	04 54 03.5	+3.1
SUUS				Pmax		04 54 03.8	
	comp=Z,10.0nm,0.3s						
SUUS				*e*Sg	Sg	04 55 51.7	-0.3
SUUS				Sgmax		04 55 53.3	
	comp=Z,60nm,0.7s						
PETK	Petropavlovsk-	7.66	194	LR	LR	04 57 09.3	
	comp=Z,120nm,19.7s,baz=330,slow=37						
BILL	Bilibino	7.88	15	*e*P	Pn	04 54 20.5	+0.3
BILL				*e*		04 55 40.4	
BILL	Bilibino	7.88	15	*e*P	Pn	04 54 21.7	+1.6
BILL				*e*Sg	Sg	04 56 28.5	-10
BILL				Sgmax		04 56 48.9	
	comp=Z,250nm,1.1s						
BILL	Bilibino	7.88	15	*e*Pn	Pn	04 54 20.5	+0.3
BILL				*e*Sn	Sn	04 55 40.4	-8.8
FX1	Attu Island--F	10.23	133	P	Pn	04 54 52.8	+0.4
FX1				pmax	pmax		
	comp=Z,5.0nm,0.3s						
FX1	Attu Island--F	10.23	133	Pn	Pn	04 54 52.8	+0.4
	comp=Z,4.6nm,0.3s,baz=2.6,slow=6.8,SNR=6.2						
TNA	Tin City	14.91	57	*e*Pn	Pn	04 55 55.9	-0.3
YAK	Yakutsk	14.97	289	*e*P	P	04 56 03.5	+0.9
YAK				pmax	pmax		
	comp=Z,22nm,0.9s						
YAK				pmax	pmax		
	comp=E,12nm,1.1s						
YAK				MLR	MLR		
	comp=Z,354nm,10.0s						
YAK				MLR	MLR		
	comp=E,266nm,9.0s						
YAK				MLR	MLR		
	comp=N,56nm,10.0s						
YAK	Yakutsk	14.97	289	Pn	Pn	04 55 58.4	+1.4
TIXI	Tiksi	16.79	324	*i* P	Pn	04 56 20.7	+0.2
TIXI				pmax	pmax		
	comp=Z,10.0nm,3.7s						
YSS	Yuzh-Sakhalins	17.23	226	*e*P	P	04 56 28.0	+0.3
UNV	Unalaska Valle	18.77	96	*e*P	Pn	04 56 48.6	+3.5
	comp=Z,119nm,1.5s						
ASAJ	Asahikawa	19.76	222	LR	LR	05 05 34.1	
	comp=Z,68nm,20.2s,baz=5.5,slow=40						
IM04	Indian Mountai	20.73	55	*e*Pn	P	04 57 06.9	+0.9
SVW2	Sparrevohn	20.96	69	*e*Pn	Pn	04 57 12.9	+1.8
COLD	Coldfoot	22.01	52	*e*P	P	04 57 18.9	-0.9
	comp=Z,26nm,0.9s						
KTH	Kantishna Hill	22.37	61	*e*P	P	04 57 26.0	+2.2
	comp=Z,20nm,1.2s						
RSO	Redoubt South	22.48	70	*e*P	P	04 57 27.5	+2.4
	comp=Z,49nm,1.0s						
MCK	McKinley	23.18	60	*e*P	P	04 57 31.8	-0.4
MCK				pmax	pmax		
	comp=Z,41nm,1.0s						
MCK	McKinley	23.18	60	*e*P	P	04 57 31.8	-0.4
	comp=Z,41nm,1.0s						
COLA	College	23.36	57	P	P	04 57 34.2	+0.3
COLA				pmax	pmax		
	comp=Z,52nm,1.9s						
BOD	Bodaibo	23.75	284	*e*P	P	04 57 39.7	+1.9
BOD				pmax	pmax		
	comp=Z,7.0nm,1.4s						
USRK	Ussuriysk Ar.	23.75	240	P	P	04 57 37.4	-0.5
	comp=Z,4.7nm,0.8s,baz=46,slow=8.2,SNR=14						
ILAR	Eielson Array	23.78	57	P	P	04 57 37.1	-1.0
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ILAR	Eielson Array	23.78	57	P	P	04 57 37.0	-1.0
	comp=Z,4.3nm,0.8s,baz=265,slow=6.5,SNR=45						
DOT	Dot Lake	25.29	59	*e*P	P	04 57 50.5	-1.3
	comp=Z,18nm,0.9s						
EGAK	Eagle	26.14	56	*e*P	P	04 57 58.7	-0.9
	comp=Z,11nm,0.9s						
CN2	Changchun	26.96	248	*e*P	P	04 58 13.3	+6.2
CN2				PMZ			
	comp=Z,10.0nm,0.5s						
MJAR	Matsushiro Arr	28.03	221	LR	LR	05 09 19.7	
	comp=Z,68nm,21.2s,baz=20,slow=36						
KSRS	Korea Array	31.07	237	LR	LR	05 11 52.2	
	comp=Z,52nm,18.4s,baz=32,slow=38						
BJI	Beijing	34.22	254	P	P	04 59 15.0	+3.8
BJI				PMZ			
	comp=Z,11nm,0.8s						
HHC	Hu-ho-hao-te	35.80	259	*e*P	P	04 59 29.6	+4.6
HHC				PP	PP	05 00 53.9	+7.7
HHC				S	**S**	**05 04 57.4**	**-4.8**
HHC				sS	**ScP**	**05 05 40.9**	**+2.7**
HHC				SS	**SnSn**	**05 07 24.3**	**0.0**
HHC				ScS	ScS	05 09 34.1	-9.2
HHC				PMZ			
	comp=Z,34nm,1.1s						
HHC				PMZ			
	comp=Z,200nm,5.2s						
HHC				LN			
	comp=Z,160nm,14.5s						
HHC				LE			
	comp=Z,460nm,14.1s						
HHC				LZ			
	comp=Z,150nm,16.1s						
RES	Resolute Bay	36.31	26	*e*P	P	04 59 26.0	-2.9
RES				pmax	pmax		
	comp=Z,4.0nm,1.2s						
RES	Resolute Bay	36.31	26	*e*P	P	04 59 26.0	-2.9
	comp=Z,4.4nm,1.2s						
YKA	Yellowknife Ar	37.65	49	P	P	04 59 40.2	-0.1
YKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YKA	Yellowknife Ar	37.65	49	P	P	04 59 40.2	-0.1
	comp=Z,5.2nm,0.9s,baz=305,slow=8.2,SNR=33						
GTA	Gaotai	42.68	269	*e*P	P	05 00 23.3	+0.8
GTA				pP	pP	05 00 48.9	+23
GTA				sP	sP	05 01 01.8	+35
GTA				PMZ			
	comp=Z,3.0nm,1.2s						
WHN	Wuhan	42.85	247	P	P	05 00 26.6	+2.8
LZH	Lanzhou	43.29	262	*e*P	P	05 00 31.6	+4.1
LZH				pP	pP	05 00 57.8	+27
LZH				sP	sP	05 01 09.6	+38
LZH				PMZ			
	comp=Z,12nm,1.0s						
EDM	Edmonton	44.24	59	*e*P	P	05 00 35.2	+0.3
EDM	Edmonton	44.24	59	*e*P	P	05 00 35.2	+0.3
KURK	Kurchatov	44.47	296	*e*P	P	05 00 36.2	-0.4
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK	Kurchatov	44.47	296	*e*P	P	05 00 36.1	-0.4
	comp=Z,2.6nm,0.9s						
B08A	Colville Reser	45.09	68	*e*P	P	05 00 42.5	+0.9
WMQ	Urumqi	45.28	283	*e*P	P	05 00 45.1	+1.8
WMQ				pP	pP	05 01 10.5	+24
WMQ				PP	**PP**	**05 02 32.8**	**+3.9**
WMQ				S	S	05 07 14.5	-8.9
WMQ				sS	sS	05 07 59.5	+31
WMQ				SS	ScS	05 10 30.5	-9.3
WMQ				PMZ			
	comp=Z,8.0nm,1.0s						
WMQ				PMZ			
	comp=Z,96nm,4.5s						
WMQ				LN			
	comp=Z,24nm,18.0s						
WMQ				LE			
	comp=Z,78nm,17.0s						
WMQ				LZ			
	comp=Z,71nm,15.0s						
MKAR	Makanchi Array	45.65	290	P	P	05 00 44.5	-1.6
	comp=Z,0.3nm,0.5s,baz=50,slow=8.1,SNR=4.0						
MKAR				LR	LR	05 20 48.0	
	comp=Z,76nm,19.4s,baz=358,slow=37						
NEW	Newport	46.17	67	*e*P	P	05 00 53.9	+3.7
NEW				pmax	pmax		
	comp=Z,6.0nm,1.2s						
NEW	Newport	46.17	67	⇑P	P	05 00 50.7	+0.6
	baz=46						
NEW	Newport	46.17	67	*e*P	P	05 00 53.9	+3.7
	comp=Z,6.2nm,1.2s						
E07A	Sunnyside	46.17	70	*e*P	P	05 00 54.5	+4.2
	comp=Z,8.8nm,1.1s						
E09A	Wood Farm, Sta	46.99	69	*e*P	P	05 01 00.3	+3.7
	comp=Z,5.9nm,1.0s						
WALA	Waterton Lakes	47.02	64	*e*P	P	05 00 57.3	+0.4
I05D	Terrebonne, OR	47.13	73	⇓P	P	05 00 58.9	+1.1
	baz=47						
CD2	Chengdu	47.53	258	*e*P	P	05 01 05.8	+4.8
FCC	Fort Churchill	47.54	43	*e*P	P	05 00 59.7	-1.0
FCC	Fort Churchill	47.54	43	*e*P	P	05 00 59.7	-1.0
J04D	Umpqua Nationa	47.59	75	⇑P	P	05 01 02.8	+1.3
	baz=47						
FFC	Flin Flon	47.75	51	*e*P	P	05 01 02.3	-0.1
FFC	Flin Flon	47.75	51	*e*P	P	05 01 02.3	-0.1
J05D	Fort Rock, OR	47.98	74	⇓P	P	05 01 05.5	+1.0
	baz=48						
ARU	Arti	48.35	313	*c i*P	P	05 01 06.6	-0.4
ARU				S	**S**	**05 08 06.1**	**-0.7**
ARU				SS	**SS**	**05 11 34.8**	**-0.8**
ARU				pmax	pmax		
	comp=Z,11nm,2.5s						
JMIC	Jan Mayen	48.53	355	LR	LR	05 20 12.3	
	comp=Z,46nm,18.6s,baz=300,slow=34						
SLMT	Seeley Lake	48.56	65	*e*P	P	05 01 09.2	+0.2
K05A	Summer Lake	48.56	74	*e*P	P	05 01 13.8	+4.7
	comp=Z,12nm,1.0s						
BMO	Blue Mountains	48.63	70	*e*P	P	05 01 09.4	-0.1
	comp=Z,4.8nm,0.9s						
MSO	Missoula	48.67	66	⇓P	P	05 01 09.8	0.0
	baz=48						
MSO	Missoula	48.67	66	*e*P	P	05 01 10.0	+0.2
	comp=Z,5.2nm,1.0s						
M04C	Macdoel	48.84	76	⇑P	P	05 01 12.2	+1.1
	baz=49						
N02D	Trinity Center	49.04	77	⇓P	P	05 01 13.9	+1.3
	baz=49						
A19A	Klindworth Far	49.37	60	⇓P	P	05 01 14.0	-1.1

A22A	Carney Farms,	50.53	58	⇑P		P	05 01 23.2 -0.6
	baz=50						
BOZ	Bozeman (W)	50.61	65	eP		P	05 01 25.0 +0.4
BOZ					pmax	pmax	
	comp=Z,6.0nm,1.0s						
BOZ	Bozeman (W)	50.61	65	eP		P	05 01 25.0 +0.4
	comp=Z,5.7nm,1.0s						
C20A	Veseth Ranch,	50.62	61	⇑P		P	05 01 24.3 -0.2
	baz=50,SNR=7.4						
D19A	Cripps Ranch,	50.66	62	⇓P		P	05 01 24.7 -0.2
	baz=50						
C21A	Desert Coulee	50.92	60	⇓P		P	05 01 26.7 -0.1
	baz=50						
HLID	Hailey	50.96	69	⇓P		P	05 01 27.4 +0.2
	baz=51						
HLID	Hailey	50.96	69	eP		P	05 01 31.3 +4.0
	comp=Z,46nm,3.0s						
D20A	Manuel Ranch,	51.04	61	⇑P		P	05 01 28.0 +0.3
	baz=51						
E19A	Rath Farm, Rou	51.25	62	⇑P		P	05 01 29.3 0.0
	baz=51						
B23A	Brockton	51.32	58	⇑P		P	05 01 29.4 -0.3
	baz=51						
QLMT	Earthquake Lak	51.33	66	eP		P	05 01 34.5 +4.3
E20A	Meyer Farm, Mu	51.50	62	⇑P		P	05 01 31.2 +0.1
	baz=51						
F19A	Roth Farm, Mol	51.65	63	⇓P		P	05 01 32.6 +0.3
	baz=51,SNR=6.2						
YMR	Madison River	51.67	65	eP		P	05 01 36.1 +3.4
TKM2	Tokmak 2	51.68	291	P		P	05 01 31.2 -1.6
TKM2					pmax	pmax	
	comp=Z,3.0nm,1.0s						
TKM2	Tokmak 2	51.68	291	P		P	05 01 31.2 -1.6
	comp=Z,3.0nm,1.0s						
A25A	Svangstu Ranch	51.74	57	⇓P		P	05 01 32.1 -0.8
	baz=51						
C23A	Lambert	51.76	59	⇑P		P	05 01 32.6 -0.4
	baz=51,SNR=6.5						
D22A	Cohagen	51.84	60	⇑P		P	05 01 33.3 -0.4
	baz=51						
LKWY	Lake	52.00	65	eP		P	05 01 36.9 +1.7
LKWY					pmax	pmax	
	comp=Z,8.0nm,0.8s						
LKWY	Lake	52.00	65	eP		P	05 01 36.9 +1.7
	comp=Z,8.3nm,0.8s						
F20A	Billings	52.04	63	⇑P		P	05 01 35.6 +0.3
	baz=52						
H17A	Grant Village	52.06	65	⇑P		P	05 01 37.0 +1.5
	baz=52,SNR=5.8						
H17A	Grant Village	52.06	65	eP		P	05 01 37.5 +1.9
	comp=Z,12nm,1.1s						
RLMT	Red Lodge	52.07	64	eP		P	05 01 35.9 +0.3
	comp=Z,13nm,1.0s						
D23A	Lindsay	52.24	59	⇓P		P	05 01 36.9 +0.2
	baz=52						
FLWY	Flagg Ranch	52.24	66	eP		P	05 01 38.7 +1.8
	comp=Z,14nm,0.9s						
IMW	Indian Meadow	52.28	66	eP		P	05 01 39.0 +1.7
	comp=Z,25nm,2.0s						
C24A	Savage	52.29	59	⇓P		P	05 01 37.3 +0.3
	baz=52						
AAK	Ala-Archa	52.41	292	⇑iP		P	05 01 38.4 +0.3
AAK					pmax	pmax	
	comp=Z,7.0nm,0.9s						
AAK	Ala-Archa	52.41	292	eP		P	05 01 37.0 -1.1
	comp=Z,5.1nm,1.1s						
FXWY	Fox Creek	52.44	66	eP		P	05 01 39.8 +1.4
	comp=Z,5.5nm,1.0s						
G20A	Bridger	52.46	63	⇓P		P	05 01 38.1 -0.3
	baz=52,SNR=5.2						
H19A	Powell	52.55	64	⇓P		P	05 01 39.6 +0.5
	baz=52,SNR=6.1						
TPAW	Teton Pass	52.59	66	eP		P	05 01 41.1 +1.5
	comp=Z,4.5nm,0.9s						
D24A	Glendive	52.66	59	⇑P		P	05 01 39.4 -0.3
	baz=52						
LOHW	Long Hollow	52.66	66	eP		P	05 01 41.1 +1.2
	comp=Z,3.6nm,0.8s						
EKS2	Erkin-Say	52.72	292	eP		P	05 01 40.8 +0.5
EKS2	Erkin-Say	52.72	292	eP		P	05 01 40.9 +0.5
REDW	Red Top Meadow	52.74	66	eP		P	05 01 42.2 +1.6
	comp=Z,6.8nm,1.2s						
ELK	Elko	52.77	72	eP		P	05 01 45.4 +4.5
ELK					pmax	pmax	
	comp=Z,3.0nm,1.0s						
ELK	Elko	52.77	72	eP		P	05 01 45.4 +4.5
	comp=Z,3.1nm,1.0s						
KMI	Kunming	52.86	255	P		P	05 01 47.1 +5.4
KMI					PMZ		
	comp=Z,9.0nm,0.7s						
F22A	Rosebud	52.88	61	⇓P		P	05 01 41.2 -0.2
	baz=52						
C26A	Wahner Farm, P	53.03	57	⇑P		P	05 01 42.3 -0.2
	baz=53						
I19A	Meeteetse	53.05	64	⇑P		P	05 01 42.9 +0.1
	baz=53						
D25A	Fairfield	53.05	58	⇓P		P	05 01 43.0 +0.3
	baz=53						
H20A	Greybull	53.13	63	⇓P		P	05 01 43.8 +0.4
	baz=53						
NVAR	Mina Array Bea	53.14	76	P		P	05 01 44.0 +0.3
	comp=Z,1.6nm,0.6s,baz=292,slow=8.8,SNR=5.0						
AKTO	Aktyubinsk	53.26	309	LR		LR	05 28 56.4
	comp=Z,31nm,20.1s,slow=41						
F23A	Volborg	53.29	61	⇑P		P	05 01 44.8 +0.4
	baz=53						
G22A	Birney	53.30	62	⇑P		P	05 01 44.7 +0.1
	baz=53						
A29A	Manning Farm,	53.33	54	⇑P		P	05 01 44.8 +0.2
	baz=53,SNR=6.5						
C27A	Sayler Ranch,	53.36	57	⇓P		P	05 01 45.5 +0.6
	baz=53						
H21A	Big Horn, Sher	53.44	63	⇑P		P	05 01 45.6 -0.1
	baz=53						
I20A	Worland	53.50	64	⇓P		P	05 01 45.8 -0.3
	baz=53						
E25A	Miller Ranch,	53.53	59	⇓P		P	05 01 46.2 0.0
	baz=53						
ULM	Lac du Bonnet	53.58	51	P		P	05 01 45.8 -0.6
ULM					pmax	pmax	
	comp=Z,5.0nm,0.8s						
ULM	Lac du Bonnet	53.58	51	P		P	05 01 45.8 -0.6
	comp=Z,5.4nm,0.8s,baz=310,slow=6.5,SNR=6.0						
F24A	Ekalaka	53.61	60	⇓P		P	05 01 46.1 -0.7
	baz=53						
J19A	Crowheart	53.63	65	⇓P		P	05 01 47.2 +0.2
	baz=53						
G23A	Biddle	53.71	61	⇓P		P	05 01 47.3 -0.2
	baz=53						
BW06	Boulder Array	53.79	66	eP		P	05 01 48.6 +0.3
	comp=Z,7.8nm,0.9s						
BW06					epP	pP	05 01 52.0 +0.4
PDAR	Pinedale Array	53.79	66	P		P	05 01 48.7 +0.3
	comp=Z,7.9nm,0.9s,baz=325,slow=2.9,SNR=25						
PDAR					LR	LR	05 25 22.2
	comp=Z,61nm,21.2s,baz=326,slow=37						
KKAR	Karatay Array	53.85	295	eP		P	05 01 47.8 -0.7
KKAR					pmax	pmax	
	comp=Z,9.0nm,1.1s						
KKAR	Karatay Array	53.85	295	eP		P	05 01 47.8 -0.7
	comp=Z,8.5nm,1.1s						
TPH	Tonopah	53.94	75	eP		P	05 01 50.3 +0.8
TPH					pmax	pmax	
	comp=Z,4.0nm,0.8s						
TPH	Tonopah	53.94	75	eP		P	05 01 50.3 +0.8
	comp=Z,4.3nm,0.8s						
I21A	Big Trails, Te	53.98	63	⇑P		P	05 01 50.0 +0.3
	baz=54						
J20A	Shoshoni	53.99	64	⇑P		P	05 01 50.5 +0.8
	baz=54						
G24A	Alzada	54.03	60	⇓P		P	05 01 49.3 -0.6
	baz=54						
B30A	Myrvik Farm, E	54.06	54	⇓P		P	05 01 48.9 -1.1
	baz=54						
KSH	Kashi	54.18	288	eP		P	05 01 55.1 +4.0
KSH				sP		sP	05 02 34.0 +38
KSH				PP		PP	05 03 59.1 +6.6
KSH				S		S	05 09 19.5 -8.5
KSH				sS		sS	05 10 06.6 +33
KSH				ScS		ScS	05 11 29.4 -11
KSH				SS		SKiKP	05 13 02.4 +0.2
KSH				PMZ			
	comp=Z,150nm,5.7s						
KSH				LN			
	comp=Z,96nm,4.3s						
KSH				LE			
	comp=Z,120nm,4.9s						
KSH				LZ			
	comp=Z,180nm,4.6s						
I22A	9 Mile Ranch,	54.27	63	⇑P		P	05 01 51.6 -0.1
	baz=54						
J21A	Lysite	54.28	64	⇓P		P	05 01 52.3 +0.5
	baz=54,SNR=6.1						
DUG	Dugway, Tooele	54.34	70	eP		P	05 01 53.2 +0.9
DUG					pmax	pmax	
	comp=Z,8.0nm,1.0s						
DUG	Dugway, Tooele	54.34	70	⇑P		P	05 01 53.2 +0.9
	baz=54						
DUG	Dugway, Tooele	54.34	70	eP		P	05 01 53.2 +0.9
	comp=Z,7.7nm,1.0s						
F26A	Lodgepole	54.36	59	⇑P		P	05 01 52.1 -0.1
	baz=54						
RCTC	Rector, Farmer	54.38	78	⇑P		P	05 01 53.5 +1.1
	baz=54						
H24A	Dirks Ranch, A	54.43	61	⇑P		P	05 01 52.4 -0.4
	baz=54,SNR=5.5						
R11A	Troy Canyon, C	54.50	74	⇑P		P	05 01 55.0 +1.5
	baz=54						
C30A	Mose, Pekin	54.60	55	⇓P		P	05 01 53.7 -0.3
	baz=54						
E28A	Huff	54.60	57	⇓P		P	05 01 54.1 +0.1
	baz=54						
J22A	Midwest	54.65	63	⇓P		P	05 01 56.0 +1.4
	baz=54						
VES	Vestal, Richgr	54.83	78	⇑P		P	05 01 56.5 +0.8
	baz=55						
G26A	Maurine	54.83	59	⇓P		P	05 01 55.1 -0.6
	baz=54						
QIZ	Qiongzhong	54.83	244	P		P	05 02 01.3 +5.4
QIZ				sP		sP	05 02 36.8 +37
QIZ				S		S	05 09 34.8 -2.0
QIZ				sS		sS	05 10 18.9 +37
QIZ				PMZ			
	comp=Z,120nm,4.2s						
NLU	North Lily Min	54.87	70	eP		P	05 02 00.1 +3.9
K21A	Alcova	54.93	64	⇓P		P	05 01 56.0 -0.6
	baz=55						
G27A	Dupree	55.05	59	⇓P		P	05 01 56.8 -0.5
	baz=55						
F28A	McLaughlin	55.14	57	⇓P		P	05 01 58.2 +0.3
	baz=55						
AGMN	Agassiz Nation	55.16	52	eP		P	05 01 58.2 +0.3
	comp=Z,7.6nm,1.0s						
DAC	Darwin (Calif)	55.20	77	eP		P	05 02 00.2 +1.6
DAC					pmax	pmax	
	comp=Z,39nm,2.3s						
DAC	Darwin (Calif)	55.20	77	eP		P	05 02 00.2 +1.6
	comp=Z,39nm,2.3s						
K22A	Casper	55.24	64	⇑P		P	05 01 59.4 +0.6
	baz=55						
ISA	Isabella, Lake	55.27	78	eP		P	05 02 02.5 +3.5
ISA					pmax	pmax	
	comp=Z,4.0nm,0.9s						
ISA	Isabella, Lake	55.27	78	⇑P		P	05 02 00.6 +1.6
	baz=55						
ISA	Isabella, Lake	55.27	78	eP		P	05 02 02.5 +3.5
	comp=Z,4.4nm,0.9s						
H26A	Fairpoint	55.30	60	⇑P		P	05 01 58.7 -0.4
	baz=55						
I25A	Rochford	55.37	61	⇓P		P	05 01 59.4 -0.4
	baz=55						
E30A	Jud	55.40	56	⇓P		P	05 01 58.9 -0.8
	baz=55						
FURC	Furnace Creek,	55.40	76	⇓P		P	05 02 01.9 +2.1
	baz=55						
MPMC	Manual Prospec	55.42	77	⇓P		P	05 02 02.2 +1.9
	baz=55						
L22A	Ellis Ranch, M	55.78	64	⇓P		P	05 02 03.6 +0.9
	baz=55						
J25A	Sunshine Ranch	55.84	61	⇓P		P	05 02 03.8 +0.7
	baz=55						
N20A	Spence Gulch,	55.92	66	⇑P		P	05 02 03.7 -0.1
	baz=56						
ARUT	Antelope Range	55.97	72	eP		P	05 02 04.8 +0.7
ARUT				e			05 02 08.7
ARUT	Antelope Range	55.97	72	eP		P	05 02 04.8 +0.7
	comp=Z,114nm,0.9s						
ARUT				e			05 02 08.7
H28A	Mission Ridge	56.00	58	⇓P		P	05 02 04.5 +0.5
	baz=56						
L23A	Garrett	56.04	64	⇓P		P	05 02 04.5 -0.1
	baz=56						
I27A	Quinn	56.05	60	⇓P		P	05 02 04.2 -0.3
	baz=56,SNR=6.0						
EDW2	Edwards Air Fo	56.13	78	⇓P		P	05 02 06.8 +1.6
	baz=56						
J26A	Sides Ranch, S	56.22	61	⇓P		P	05 02 06.1 +0.4
	baz=56						
SRU	San Rafael Swe	56.27	69	eP		P	05 02 07.8 +1.6
SRU	San Rafael Swe	56.27	69	eP		P	05 02 07.8 +1.6
GSC	Goldstone, Bar	56.36	77	eP		P	05 02 08.0 +1.1
GSC					pmax	pmax	
	comp=Z,11nm,1.0s						
GSC	Goldstone, Bar	56.36	77	⇓P		P	05 02 09.2 +2.3
	baz=56						
GSC	Goldstone, Bar	56.36	77	eP		P	05 02 08.0 +1.1
	comp=Z,11nm,1.0s						
I28A	Midland	56.48	59	⇓P		P	05 02 08.0 +0.5
	baz=56						
O20A	White River Ci	56.49	67	⇑P		P	05 02 08.8 +0.9
	baz=56						
NB2	NORSAR Subarra	56.50	343	P		P	05 02 06.5 -0.9
	comp=Z,3.2nm,1.1s,baz=18,slow=7.4						
NOA	NORSAR Array B	56.50	343	P		P	05 02 06.7 -0.7
NOA					pmax	pmax	
	comp=Z,2.0nm,0.8s						
NOA	NORSAR Array B	56.50	343	P		P	05 02 06.7 -0.7
	comp=Z,1.7nm,0.8s,baz=360,slow=5.7,SNR=5.1						
M23A	Laramie	56.55	64	⇓P		P	05 02 08.8 +0.6
	baz=56						
J27A	Elkhorn Farm,	56.73	60	⇓P		P	05 02 10.2 +0.9
	baz=56						
N22A	Wattenberg Ran	56.76	65	⇓P		P	05 02 11.1 +1.2
	baz=56						
N23A	Red Feather La	56.91	65	⇑P		P	05 02 11.8 +0.9
	baz=56						
J28A	Allard Ranch,	56.92	59	⇓P		P	05 02 10.6 0.0
	baz=56,SNR=5.9						
M24A	Cheyenne	56.94	63	⇓P		P	05 02 11.6 +0.5
	baz=57						
HEC	Hector,Ludlow	56.97	77	⇑P		P	05 02 13.5 +2.3
	baz=57						
K27A	Flueckinger Fa	57.07	61	⇓P		P	05 02 12.1 +0.3
	baz=57						
O22A	Kremmling	57.23	66	⇓P		P	05 02 14.2 +0.9
	baz=57						
I30A	Oacoma	57.28	58	⇓P		P	05 02 13.3 +0.1
	baz=57						
M25A	Palm-Egli Farm	57.31	63	⇑P		P	05 02 14.4 +0.8
	baz=57						
J29A	Okreek	57.32	59	⇑P		P	05 02 14.0 +0.5
	baz=57						
O23A	Lake Granby, G	57.48	65	⇓P		P	05 02 15.5 +0.6
	baz=57,SNR=5.5						
PV04	Paradox Valley	57.59	69	eP		P	05 02 16.9 +1.3
P22A	Eagle	57.59	66	⇓P		P	05 02 16.8 +1.1
	baz=57						
U15A	North Rim	57.60	73	⇑P		P	05 02 16.5 +0.7
	baz=57,SNR=13						
SMCO	Snowmass	57.84	67	eP		P	05 02 18.5 +0.9
	comp=Z,7.1nm,1.2s						
O24A	Longmont	57.92	65	⇓P		P	05 02 20.2 +2.2
	baz=58						
W13A	Hualapai Mount	57.93	75	⇑P		P	05 02 20.0 +1.9
	baz=58						
ISCO	Idaho Springs	57.95	65	eP		P	05 02 19.9 +1.6
ISCO					pmax	pmax	
	comp=Z,7.0nm,1.1s						
ISCO	Idaho Springs	57.95	65	⇓P		P	05 02 19.1 +0.8
	baz=58,SNR=5.2						
ISCO	Idaho Springs	57.95	65	eP		P	05 02 19.9 +1.6
	comp=Z,6.7nm,1.1s						
PV01	Paradox Valley	57.95	68	eP		P	05 02 18.3 0.0
	comp=Z,394nm,0.8s						
IRM	Iron Mountain	58.08	76	⇓P		P	05 02 20.1 +1.1
	baz=58,SNR=5.4						
109C	Camp Elliot, M	58.18	79	⇑P		P	05 02 22.3 +2.7
	baz=58						
P23A	Jefferson	58.19	66	⇓P		P	05 02 20.5 +0.5
	baz=58,SNR=8.4						
BC3	Big Chuckawall	58.35	77	⇑P		P	05 02 22.6 +1.7
	baz=58						
PDMCI	Parker Dam,Lak	58.45	75	⇑P		P	05 02 23.7 +2.2
	baz=58						
MONP	Monument Peak,	58.51	78	⇑P		P	05 02 24.5 +2.3
	baz=58						
ECSD	EROS Data Cent	58.59	56	⇑P		P	05 02 22.6 +0.2
	baz=58						
ECSD	EROS Data Cent	58.59	56	eP		P	05 02 21.0 -1.4
	comp=Z,7.0nm,0.8s						
Y12C	Blythe	58.72	76	⇑P		P	05 02 26.0 +2.7
	baz=58						
MVCO	Mesa Verde	58.74	69	⇓P		P	05 02 25.2 +1.5
	baz=58						
WUAZ	Wupatki	58.78	72	⇓P		P	05 02 25.9 +2.0
	baz=58						
P25A	Willow Gulch B	58.83	64	⇓P		P	05 02 25.5 +1.3
	baz=58						
Q24A	Divide	58.83	65	⇑P		P	05 02 26.0 +1.5
	baz=58						
L31A	Butterfield Fa	58.95	59	⇑P		P	05 02 26.3 +1.4
	baz=58						
S22A	4UR Ranch, Cre	59.07	67	⇑P		P	05 02 27.0 +0.9
	baz=59,SNR=5.1						
GLA	Glamis	59.14	77	⇓P		P	05 02 28.7 +2.4
	baz=59						
P26A	Davis Ranch, A	59.15	64	⇑P		P	05 02 27.1 +0.6
	baz=59						
Y14A	Wickenburg	59.29	75	⇓P		P	05 02 29.5 +2.1
	baz=59						
R24A	Sanders Place,	59.45	66	⇑P		P	05 02 30.7 +2.0
	baz=59						
S23A	Nye Farm, Mont	59.48	67	⇓P		P	05 02 31.3 +2.4
	baz=59						
X16A	Lo Mia Camp, P	59.64	73	⇑P		P	05 02 32.3 +2.3
	baz=59						
SDCO	Great Sand Dun	59.67	66	eP		P	05 02 31.0 +0.7
	comp=Z,6.6nm,1.0s						
Z14A	Wintersburg	59.79	75	⇓P		P	05 02 33.3 +2.5
	baz=60						
W18A	Petrified Fore	59.87	71	⇓P		P	05 02 33.7 +2.1
	baz=60						
113A	Mohawk Valley,	59.88	76	⇓P		P	05 02 32.8 +1.4
	baz=60						
S24A	Houchin Ranch,	59.89	66	⇓P		P	05 02 33.4 +1.6
	baz=60						
R25A	Fountain Ranch	59.89	65	⇓P		P	05 02 33.0 +1.4
	baz=60						
S25A	Robets Cordova	60.22	66	⇓P		P	05 02 34.7 +0.8
	baz=60						
X18A	Snowflake	60.25	72	⇑P		P	05 02 36.4 +2.2
	baz=60						
T24B	San Luis	60.29	67	⇑P		P	05 02 35.9 +1.4
	baz=60						
CMAR	Chiang Mai Arr	60.36	254	P		P	05 02 34.8 0.0
CMAR					pmax	pmax	
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	60.36	254	P		P	05 02 34.8 0.0
	comp=Z,0.7nm,0.3s,baz=21,slow=7.7,SNR=4.3						
U23A	El Rito	60.52	68	⇓P		P	05 02 37.6 +1.6
	baz=60						
T25A	Trinidad	60.66	66	⇑P		P	05 02 38.4 +1.4
	baz=60						
S26A	Kim	60.69	65	⇑P		P	05 02 38.7 +1.7
	baz=60						
Q29A	Oakley	60.74	62	⇑P		P	05 02 37.9 +0.5
	baz=60						
U24A	Moreno Valley	60.87	67	⇑P		P	05 02 41.2 +2.7
	baz=60						
P31A	Stockton	60.92	61	⇓P		P	05 02 39.5 +1.0
	baz=60						
T26A	Comanche Natio	61.00	65	⇓P		P	05 02 40.0 +0.8
	baz=61						
Q30A	Quinter	61.00	62	⇑P		P	05 02 40.2 +1.1
	baz=61						
V23A	Ortiz Mt. (NFS	61.00	68	⇓P		P	05 02 41.0 +1.7
	baz=61						
214A	Organ Pipe Nat	61.01	76	⇓P		P	05 02 41.4 +2.2
	baz=61						
P32A	Huiting Farm,	61.17	60	⇑P		P	05 02 41.1 +1.0
	baz=61						
U25A	Circle Dot Ran	61.27	66	⇓P		P	05 02 42.0 +0.9
	baz=61						
S28A	Manter	61.41	64	⇑P		P	05 02 42.6 +0.7
	baz=61						
V24A	Rampart Ranch,	61.44	68	⇓P		P	05 02 42.9 +0.6
	baz=61,SNR=5.4						
T27A	Campo	61.49	65	⇓P		P	05 02 42.9 +0.4
	baz=61						
ANMO	Albuquerque	61.54	69	eP		P	05 02 45.9 +3.0
ANMO	Albuquerque	61.54	69	eP		P	05 02 45.9 +3.0
R30A	Dighton	61.55	62	⇓P		P	05 02 43.3 +0.5
	baz=61						
V25A	Rancho No Teng	61.64	67	⇓P		P	05 02 43.8 +0.2
	baz=61,SNR=6.2						
TUC	Tucson	61.69	74	eP		P	05 02 44.9 +1.1
TUC	Tucson	61.69	74	eP		P	05 02 44.9 +1.1
DLV	T Lat	61.70	242	eP		P	05 02 47.8 +3.7
W24A	Lazy 6 Ranch,	61.80	68	⇓P		P	05 02 46.7 +2.0
	baz=62						
R31A	Burdett	61.88	62	⇓P		P	05 02 45.5 +0.5
	baz=62						
U27A	Thompson Grove	61.97	65	⇓P		P	05 02 46.5 +0.8
	baz=62						
Q33A	Connelly Farm,	62.02	60	⇓P		P	05 02 46.2 +0.4
	baz=62						
V26A	Tequesquite Ra	62.05	66	⇓P		P	05 02 47.3 +0.9
	baz=62						
R32A	Long Quarter,	62.12	61	⇑P		P	05 02 46.7 +0.1
	baz=62						
W25A	X Bar L Ranch,	62.23	67	⇓P		P	05 02 48.5 +1.0
	baz=62						
X25A	Clemmons Ranch	62.71	68	⇓P		P	05 02 52.7 +2.0
	baz=62						
Y24A	Capitan	62.85	69	⇓P		P	05 02 52.6 +0.9
	baz=62						
121A	Cookes Peak, D	62.92	72	⇑P		P	05 02 54.9 +2.8
	baz=63						
319A	Douglas	63.17	73	⇓P		P	05 02 55.9 +2.1
	baz=63						
GEYT	Alibeck	63.51	300	LR		LR	05 33 09.3
	comp=Z,74nm,18.8s,baz=0.0,slow=39						
MSTX	Muleshoe	64.03	67	⇑P		P	05 03 00.2 +0.7
	baz=64						
MSTX	Muleshoe	64.03	67	eP		P	05 02 59.4 -0.1
	comp=Z,3.5nm,0.8s						
KBZ	Khabaz	64.47	315	P		P	05 03 01.8 -0.2
KBZ					pmax	pmax	
	comp=Z,3.0nm,0.9s						
KBZ	Khabaz	64.47	315	P		P	05 03 01.8 -0.2
	comp=Z,2.9nm,0.9s,baz=195,slow=10,SNR=4.6						
X30A	Coker Ranch, T	64.49	65	⇑P		P	05 03 03.0 +0.6
	baz=64						
MNTX	Cornudas Mount	64.73	70	eP		P	05 03 04.7 +0.8
Z28A	Tucker Farm, M	64.78	67	⇑P		P	05 03 04.5 +0.1
	baz=64						
Z29A	Hungry Hill Ra	65.11	66	⇓P		P	05 03 07.8 +1.3
	baz=65						
WMOK	Wichita Mounta	65.18	63	eP		P	05 03 06.7 -0.1
WMOK	Wichita Mounta	65.18	63	eP		P	05 03 06.7 -0.1
128A	Castleberry Fa	65.29	67	⇓P		P	05 03 08.5 +0.8
	baz=65						
Z30A	Sanderson Ranc	65.35	66	⇓P		P	05 03 08.7 +0.7
	baz=65						
Y32A	R-V Farms, Ver	65.50	64	⇓P		P	05 03 09.8 +0.9
	baz=65						
CLL	Collm	65.53	338	eP		P	05 03 08.0 -0.8
STHS	Stebnicka Huta	65.63	332	eP		P	05 03 09.8 +0.3
STHS					pmax	pmax	
	comp=Z,4.0nm,0.8s						
Z31A	Sharp Cattle R	65.77	65	⇓P		P	05 03 11.0 +0.3
	baz=65						
DPC	Dobruska-Polom	65.81	336	eP		P	05 03 10.5 -0.2
DPC	Dobruska-Polom	65.81	336	eP		P	05 03 10.5 -0.2
KOLS	Kolonicke sedl	65.84

BURAR	Bucovina Array	66.34	329	⇓P	P	05 03 14.1	-0.1
329A	Wagon Wheel Ra	66.48	68	⇓P	P	05 03 16.8	+1.5
	baz=66						
ABTX	Abilene, Hawle	66.58	65	⇓P	P	05 03 16.2	+0.3
	baz=66						
330A	Mertzon	66.91	67	⇑P	P	05 03 18.3	+0.2
	baz=67						
133A	Hamilton Ranch	66.92	65	⇓P	P	05 03 18.3	+0.3
	baz=67						
GNI	Garni	66.94	312	LR	LR	05 36 42.9	
	comp=Z,50nm,19.7s,baz=104,slow=40						
VYHS	Vyhne	67.04	334	*e*P	P	05 03 18.4	-0.1
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.7s						
232A	Coleman	67.20	66	⇓P	P	05 03 19.9	+0.1
	baz=67						
430A	Baggett Ranch,	67.41	67	⇓P	P	05 03 22.1	+0.9
	baz=67						
KHC	Kasperske Hory	67.51	337	*e*P	P	05 03 22.1	+0.6
KHC	Kasperske Hory	67.51	337	*e*P	P	05 03 22.1	+0.6
TXAR	Lajitas Array	67.52	70	P	P	05 03 22.3	+0.4
	comp=Z,2.1nm,0.9s,baz=298,slow=3.6,SNR=12						
TXAR				LR	LR	05 32 29.1	
	comp=Z,53nm,18.0s,baz=0.0,slow=36						
529A	Stev Forest Ra	67.52	69	⇑P	P	05 03 22.6	+0.7
	baz=67						
332A	Millersview	67.58	66	⇓P	P	05 03 22.4	+0.1
	baz=67						
DRGR		67.74	330	⇑P	P	05 03 23.5	+0.4
GERES	GERESS Array B	67.76	337	P	P	05 03 21.9	-1.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	67.76	337	P	P	05 03 21.9	-1.3
	comp=Z,1.3nm,0.7s,baz=33,slow=5,1,SNR=13						
234A	Clairette	67.78	64	⇑P	P	05 03 23.4	0.0
	baz=67						
431A	Sonora	67.78	67	⇑P	P	05 03 24.4	+0.8
	baz=68						
CFR	Carcaliu	67.82	326	⇓P	P	05 03 23.3	-0.1
530A	J-C Ranch, Com	67.90	68	⇑P	P	05 03 25.2	+0.9
	baz=68						
333A	Richland Sprin	67.97	65	⇓P	P	05 03 25.4	+0.7
	baz=68						
MLR	Muntele Rosu	68.12	328	⇑P	P	05 03 26.9	+1.3
WLF	Walferdange	68.25	343	*e*P	P	05 03 21.7	-4.4
WLF				pmax	pmax		
	comp=Z,17nm,1.2s						
WLF	Walferdange	68.25	343	*e*P	P	05 03 21.7	-4.4
	comp=Z,16nm,1.2s						
ISR	Istrita	68.31	327	⇓P	P	05 03 23.6	-3.0
JCT	Junction City	68.32	66	⇓P	P	05 03 27.7	+0.8
	baz=68						
TIRR	Tirgusor	68.40	325	⇑P	P	05 03 27.5	+0.4
VOIR		68.41	328	⇓P	P	05 03 27.8	+0.5
WVT	Waverly	68.60	54	*e*P	P	05 03 27.6	-0.9
WVT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WVT	Waverly	68.60	54	*e*P	P	05 03 27.6	-0.9
	comp=Z,8.1nm,1.0s						
434A	Burnet	68.73	65	⇑P	P	05 03 29.5	0.0
	baz=68						
631A	Perdido Creek	68.87	68	⇑P	P	05 03 30.7	+0.4
	baz=69						
533A	Kerrville	69.01	66	⇑P	P	05 03 31.7	+0.5
	baz=69						
GZR	Gura Zlata	69.03	330	⇓P	P	05 03 31.2	+0.1
632A	Uvalde	69.15	67	⇓P	P	05 03 32.7	+0.6
	baz=69						
534A	Blanco	69.30	66	⇓P	P	05 03 33.1	+0.1
	baz=69						
732A	Laxson Ranch,	69.73	68	⇑P	P	05 03 36.6	+1.0
	baz=69						
833A	Chaparral WMA,	70.34	67	⇓P	P	05 03 40.1	+0.7
	baz=70						
636A	Smothers Creek	70.41	65	⇑P	P	05 03 40.5	+0.7
	baz=70						
BRTR	Keskin Array B	71.16	320	*ce*P	P	05 03 46.0	+1.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	Keskin Array B	71.16	320	P	P	05 03 44.0	-0.4
	comp=Z,0.8nm,0.8s,baz=15,slow=5.1,SNR=3.6						
TIP	Timpagrande	76.35	332	*e*P	P	05 04 12.0	-2.8
	comp=Z,7.4nm,1.3s						
PALK	Pallekele	78.85	265	*e*P	P	05 04 30.6	+1.6
PALK				pmax	pmax		
	comp=Z,39nm,1.2s						
PALK	Pallekele	78.85	265	*e*P	P	05 04 30.6	+1.6
	comp=Z,39nm,1.2s						
ESDC	Sonseca Array	79.35	348	P	P	05 04 30.2	-1.2
	comp=Z,1.6nm,1.0s,baz=6.0,slow=5.5,SNR=5.7						
CTAO	Charters Tower	81.22	194	*e*P	P	05 04 45.6	+4.1
CTAO	Charters Tower	81.22	194	*e*P	P	05 04 45.6	+4.1
	comp=Z,102nm,1.8s						
KEST	Kesra	81.25	337	*e*P	P	05 04 39.1	-2.7
WRA	Warramunga Arr	83.04	205	P	P	05 04 50.5	-0.5
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	Warramunga Arr	83.04	205	P	P	05 04 50.5	-0.5
	comp=Z,1.9nm,0.9s,baz=20,slow=5.8,SNR=5.5						
ASAR	Alice Springs	86.74	205	P	P	05 05 08.6	-1.0
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	Alice Springs	86.74	205	P	P	05 05 08.6	-1.0
	comp=Z,1.1nm,1.0s,baz=0.1,slow=4.3,SNR=7.0						
MBWA	Marble Bar	87.96	218	*e*P	P	05 05 20.6	+5.1

GUC 19 04:59:41.4±0.7, 34°01S×71°37W, h40km±3km, MD3.8, ML3.1, 2C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.06	324	⇑*i*P	Pn	04 59 48.0	+0.1
CHCH	Chadas Angostu	0.60	83	⇑*i*P	Pn	04 59 54.0	+0.5
CACH	El Canelo	0.64	100	⇓*i*P	Pn	04 59 55.2	+1.0
RCDM	Rinconada Maip	0.70	42	⇓*i*P	Pn	04 59 54.8	-0.1
RCDM				*i* S1	Sn	05 00 05.0	+0.5
RCDM				AML	AML	05 00 06.2	
	comp=E,3μm,0.2s						
ANTU	Antumapu	0.75	55	⇓*i*P	Pn	04 59 55.9	+0.3
ANTU				*e*S1	Sn	05 00 07.0	+1.1
ANTU				AML	AML	05 00 11.4	
	comp=E,766nm,0.1s						
LACH	Col Las Americ	0.89	52	⇓*i*P	Pn	04 59 57.5	-0.1
LACH				*i* S1	Sn	05 00 09.7	+0.4
CLCH	Cerro Calan	0.92	49	⇓*i*P	Pn	04 59 58.3	+0.3
CLCH				*i* S1	Sn	05 00 11.2	+1.1
CLCH				AML	AML	05 00 16.1	
	comp=N,547nm,0.2s						
NICH	Los Niches	1.00	174	*e*P1	Pn	04 59 59.3	+0.3
NICH				*e*S1	Sn	05 00 12.9	+1.1
NICH				AML	AML	05 00 14.0	
	comp=N,2μm,0.2s						
PEL	Peldehue	1.03	34	⇓*i*P	Pn	04 59 59.8	+0.3
PEL				*i* S1	Sn	05 00 14.7	+1.9
PEL				AML	AML	05 00 17.7	
	comp=E,754nm,0.2s						
TALC	Talca	1.40	189	⇓*i*P	Pn	05 00 05.7	+1.2
TALC				*i* S1	Sn	05 00 24.1	+2.3
TALC				AML	AML	05 00 26.3	
	comp=N,1μm,0.1s						

IDC 19 05:04:50.1±3.2, 6°20S×147°50E, h0km, mb3.0/1, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, ML2.8/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/11, Error ellipse: s-maj=81.9km s-min=33.7km az=94.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.20	186	Pn	Pn	05 05 43.5	+1.7
	1.1nm,0.3s,baz=18,slow=9.6,SNR=2.3						
PMG				Sn	Sn	05 06 20.8	+0.1
	3.2nm,0.3s,baz=24,slow=20,SNR=5.5						
WRA	Warramunga Arr	18.71	222	P	P	05 09 09.8	-0.6
	0.1nm,0.3s,baz=48,slow=11,SNR=4.8						
ASAR	Alice Springs	21.74	216	P	P	05 09 42.9	-0.5
	0.5nm,0.3s,baz=52,slow=9.0,SNR=8.4						
DZM	Mont Dzumac	24.16	133	LR	LR	05 17 55.9	
	comp=Z,84nm,18.0s,baz=295,slow=32						
JCJ	Chichijima	33.50	351	LR	LR	05 22 13.8	
	comp=Z,172nm,21.7s,baz=50,slow=31						
TORD	Torodi Ar. Bea	145.63	284	PKPbc	PKPdf	05 24 31.0	-0.7
	0.3nm,0.7s,baz=72,slow=4.1,SNR=6.3						

ISCJB 19 05:12:29.7±0.4, 51°50N±0°02×16°20E±0°03, h0km, Error ellipse: s-maj=3.3km s-min=2.8km az=16.4
CSEM 19 05:12:32.1±0.3, 51°46N×16°12E, h1km, ML3.5/5, Error ellipse: s-maj=5.4km s-min=4.2km az=170.0
IDC 19 05:12:32.8±0.8, 51°43N×16°21E, h0km, mb1 3.4/6, mb1mx3.2/44, mbtmp3.3/6, ML3.0/6, Error ellipse: s-maj=16.3km s-min=6.9km az=95.0

ISC 19 05:12:31.7±0.7, 51°49N±0°03×16°13E±0°02, h0km, n45, σ1$45/85, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.65	171	*e*Pg	Pg	05 12 44.9	+0.7
KSP				*e*Sg	Sg	05 12 52.9	+0.2
KSP	Ksiaz	0.65	171	⇓*i*Pg	Pg	05 12 44.9	+0.7
KSP				*e*Sg	Sg	05 12 52.8	+0.1
UPC	Upice	0.98	184	*e*PG	Pg	05 12 51.2	+0.6
UPC				*e*SG	Sg	05 13 03.1	-0.2
	comp=Z,68nm,0.3s						
UPC	Upice	0.98	184	Pg	Pg	05 12 51.2	+0.6
UPC				Sg	Sg	05 13 03.1	-0.2
	68nm,0.3s						
DPC	Dobruska-Polom	1.15	174	*e*PG	Pg	05 12 53.8	+0.2
DPC				*e*SG	Sg	05 13 07.9	-0.6
DPC	Dobruska-Polom	1.15	174	Pg	Pg	05 12 53.8	+0.2
DPC				Sg	Sg	05 13 07.9	-0.6
PVCC	Panska Ves	1.38	226	*e*PG	Pb	05 12 59.1	+0.8
PVCC				*e*SG	Sn	05 13 18.2	+1.1
	comp=Z,189nm,0.3s						
PVCC	Panska Ves	1.38	226	Pg	Pb	05 12 59.1	+0.8
PVCC				Sg	Sn	05 13 18.2	+1.1
	189nm,0.3s						
KRLC	Kraliky	1.47	164	*e*PG	Pn	05 12 59.5	0.0
KRLC				*e*SG	Sg	05 13 17.6	-1.4
KRLC	Kraliky	1.47	164	Pg	Pn	05 12 59.5	0.0
KRLC				Sg	Sg	05 13 17.6	-1.4
BRG	Berggiesshubel	1.51	247	PN	Pn	05 13 00.3	+0.3
BRG				PG	Pg	05 13 01.9	+1.3
BRG				SG	Sn	05 13 21.4	+1.0
	47nm,0.3s						
PRA	Prague	1.78	218	*e*PG	Pb	05 13 05.0	-0.2
PRA				*e*SG	Sg	05 13 29.1	+0.2
PRA	Prague	1.78	218	Pg	Pb	05 13 05.0	-0.2
PRA				Sg	Sg	05 13 29.1	+0.2
PRU	Pruhonice	1.81	215	*e*PN	Pn	05 13 05.1	+1.0
PRU				*e*PG	Pb	05 13 06.2	+0.5
PRU				*e*SG	Sg	05 13 29.8	0.0
	comp=Z,36nm,0.4s						
PRU	Pruhonice	1.81	215	Pn	Pn	05 13 05.1	+1.0
PRU	Pruhonice	1.81	215	Pg	Pb	05 13 06.2	+0.5
PRU				Sg	Sg	05 13 29.8	0.0
	36nm,0.4s						
MORC	Moravsky Berou	1.93	152	*e*Pn	Pn	05 13 05.5	-0.4
CLL	Collm	1.97	266	*e*Pn	Pn	05 13 07.0	+0.7
CLL				*e*Pg	Pg	05 13 10.0	+0.6
CLL				*e*Sg	Sg	05 13 38.0	+3.1
	comp=Z,18nm,0.6s						
OKC	Ostrava-Krasne	2.09	141	*e*PG	Pb	05 13 10.9	+0.4
OKC				*e*SG	Sb	05 13 36.4	-0.6
	comp=Z,41nm,0.6s						
OKC	Ostrava-Krasne	2.09	141	Pg	Pb	05 13 10.9	+0.4
OKC				Sg	Sb	05 13 36.4	-0.6
	comp=Z,41nm,0.6s						
VRAC	Vranov	2.20	172	Pn	Pn	05 13 07.8	-1.7
	comp=Z,1.5nm,0.3s,baz=347,slow=16,SNR=6.5						
VRAC				Pg	Pg	05 13 13.6	-0.3
	comp=Z,2.4nm,0.3s,baz=353,slow=17,SNR=13						
VRAC				Lg	Lg	05 13 40.3	
	comp=Z,6.7nm,0.3s,baz=279,slow=19,SNR=8.7						
VRAC	Vranov	2.20	172	*e*Pn	Pn	05 13 09.0	-0.5
TREC	Trest	2.23	191	*e*PG	Pb	05 13 13.8	+0.9
TREC				*e*SG	Sb	05 13 41.7	+0.6
TREC	Trest	2.23	191	Pg	Pb	05 13 13.8	+0.9
TREC				Sg	Sb	05 13 41.7	+0.6
OJC	Ojcow	2.65	117	*e*Pg	Pg	05 13 22.1	-0.3
OJC				*e*Sg	Sg	05 13 56.3	-0.4
OJC	Ojcow	2.65	117	*e*Pg	Pg	05 13 22.1	-0.3
OJC				*e*Sg	Sg	05 13 56.3	-0.4
KHC	Kasperske Hory	2.87	216	*e*PN	Pn	05 13 19.6	+0.8
KHC				*e*PG	Pb	05 13 25.5	+1.7
KHC				*e*SN	Sn	05 13 52.0	-2.0
KHC				*e*SG	Sg	05 14 02.3	-1.6
	comp=Z,14nm,0.4s						
KHC	Kasperske Hory	2.87	216	Pn	Pn	05 13 19.6	+0.8
GERES	GERESS Array B	3.07	212	Pn	Pn	05 13 23.0	+1.4
	comp=Z,0.7nm,0.3s,baz=32,slow=13,SNR=21						
GERES				Pg	Pb	05 13 28.9	+1.7
	comp=Z,6.4nm,0.3s,baz=31,slow=16,SNR=82						
GERES				Lg	Lg	05 14 08.7	
	comp=Z,6.6nm,0.3s,baz=29,slow=28,SNR=9.3						
NIE	Niedzica	3.38	126	*e*P	Pg	05 13 37.5	+1.0
NIE				*e*S	Sg	05 14 20.2	0.0
VYHS	Vyhne	3.47	149	*e*Pn	Pn	05 13 26.5	-0.4
VYHS	Vyhne	3.47	149	*e*PN	Pn	05 13 26.5	-0.4
VYHS				*e*PG	Pg	05 13 38.5	+0.4
VYHS				*e*SG	Sg	05 14 21.3	-1.7
VYHS				*e*LG	Lg	05 14 36.3	
BSD	Bornholm Skovb	3.71	349	*i* P	Pn	05 13 30.4	+0.3
BSD				*i* S	Sn	05 14 13.1	-1.4
BSD	Bornholm Skovb	3.71	349	*i* P	Pn	05 13 30.4	+0.3
BSD				*i* S	Sn	05 14 13.1	-1.4
STHS	Stebnicka Huta	3.87	120	*e*Pg	Pg	05 13 47.9	+2.1
STHS				*e*Sg	Sg	05 14 40.0	+4.1
STHS	Stebnicka Huta	3.87	120	*e*PG	Pg	05 13 47.9	+2.1
STHS				*e*SG	Sg	05 14 40.0	+4.1
STHS				*e*LG	Lg	05 14 51.7	
CRVS	Cervenica-Dubn	4.29	125	*e*Pg	Pg	05 13 54.5	+0.6
CRVS	Cervenica-Dubn	4.29	125	*e*PG	Pg	05 13 54.5	+0.6
CRVS				*e*SG	Sg	05 14 55.4	+5.9
KOLS	Kolonicke sedl	4.70	121	*e*Pg	Pg	05 14 03.7	+2.0
KOLS				*e*Sg	Sg	05 15 04.5	+1.9
KOLS	Kolonicke sedl	4.70	121	*e*PG	Pg	05 14 03.7	+2.0
KOLS				*e*SG	Sg	05 15 04.5	+1.9
DAVOX	Davos/Dischmat	6.25	223	Pn	Pn	05 14 03.2	-2.1
	comp=Z,0.2nm,0.3s,baz=337,slow=17,SNR=2.1						
DAVOX				Lg	Lg	05 15 51.4	
	comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=3.6						
HFS	Hagfors	8.77	352	Pn	Pn	05 14 38.7	-0.9
	comp=Z,0.2nm,0.3s,baz=168,slow=15,SNR=6.5						
NOA	NORSAR Array B	9.96	346	Pn	Pn	05 14 55.0	-0.9
	comp=Z,0.2nm,0.3s,baz=161,slow=12,SNR=3.8						
FINES	FINESS Array B	11.38	25	Pn	Pn	05 15 13.4	-1.8
	comp=Z,0.2nm,0.3s,baz=211,slow=12,SNR=7.0						
ARCES	ARCESS Array B	18.64	10	Pn	P	05 16 47.0	-3.6
	comp=Z,0.3nm,0.3s,baz=195,slow=12,SNR=11						

WEL 19 05:28:37.2±0.4, 35°54S×179°38E, h194km±10km, ML3.9/7, 1D, Error ellipse: s-maj=8.6km s-min=7.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.20	203	PN	Pn	05 29 16.9	-0.5
MXZ				SN	Sn	05 29 47.5	-1.2
WMGZ	Waiomatatini S	2.41	198	*e*PN	Pn	05 29 20.0	+0.4
HAZ	Te Kaha	2.56	210	PN	Pn	05 29 22.3	+1.0
PUZ	Puketiti	2.69	199	⇓PN	Pn	05 29 23.0	+0.1
PUZ				SN	Sn	05 29 57.8	-0.8
MWZ	Matawai	3.16	207	PN	Pn	05 29 28.9	+0.5
URZ	Urewera	3.27	213	PN	Pn	05 29 30.0	+0.4
URZ				*e*SN	Sn	05 30 11.8	+0.9
URZ				AML	AML	05 30 12.4	
RIGZ	Rimuhau	3.42	202	PN	Pn	05 29 31.8	+0.3
KNZ	Kokohu	3.73	201	*e*PN	Pn	05 29 35.3	-0.1
RAHZ	Arahi	3.84	208	PN	Pn	05 29 37.1	+0.4
ARHZ	Aropaoanui	4.17	206	PN	Pn	05 29 41.3	+0.4
MCHZ	McNeill Hill	4.45	208	PN	Pn	05 29 44.6	+0.2
KAHZ	Kahuranaki	4.69	204	PN	Pn	05 29 47.5	0.0
BHHZ	Black Hill Sta	4.75	213	PN	Pn	05 29 48.3	+0.1
KRHZ	Kereru	4.75	209	PN	Pn	05 29 47.4	-0.8
TIWZ	Tintock	5.91	207	AML	AML	05 31 13.9	
MRZ	Mangatainoka R	5.93	209	PN	Pn	05 30 01.5	-1.8
MRZ				*e*SN	Sn	05 31 08.4	-3.2
MRZ				*e*SN		05 31 09.4	
OGWZ	Otaki Gorge	6.23	211	PN	Pn	05 30 05.7	-1.5
KIW	Kapiti Island	6.38	212	PN	Pn	05 30 07.2	-1.9
TCW	Tory Channel	6.94	214	AML	AML	05 32 09.9	
MQZ	McQueen's Vall	9.67	210	*e*SN	Sn	05 32 32.7	-7.2

GUC 19 05:40:11.9±0.6, 34°44S×72°02W, h12km±5km, ML3.6,

7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.70	47	⇑*i*P	Pg	05 40 24.5	-1.0
LNV				*i* S1	Sb	05 40 34.2	-1.4
NICH	Los Niches	0.86	131	⇑*i*P	Pg	05 40 27.2	-1.4
NICH				*i* S	Sg	05 40 38.7	-1.2
TALC	Talca	1.01	162	⇑*i*P	Pb	05 40 29.2	-2.1
TALC				*i* S	Sb	05 40 42.2	-2.4
CACH	El Canelo	1.22	75	⇑*i*P	Pn	05 40 33.3	-1.6
CACH				*i* S1	Sb	05 40 49.6	-1.3
CHCH	Chadas Angostu	1.24	66	⇓*i*P	Pn	05 40 33.2	-2.0
CHCH				*i* S1	Sb	05 40 49.1	-2.3
ANTU	Antumapu	1.44	53	*e*P	Pn	05 40 36.4	-1.5
ANTU				*e*S	Sn	05 40 54.5	-2.3
ANTU				IAML		05 40 59.9	
	comp=E,1μm,0.4s						
IHA	Instituto Hidr	1.45	13	*e*P1	Pn	05 40 36.1	-1.7
IHA				*e*S1	Sn	05 40 54.8	-1.9
LNCH	Linares	1.45	166	⇑*i*P	Pn	05 40 36.3	-1.6
LNCH				*i* S	Sn	05 40 55.0	-1.8
LACH	Col Las Americ	1.58	52	⇑*i*P	Pn	05 40 38.3	-1.6
LACH				*i* S	Sn	05 40 58.4	-1.9
CLCH	Cerro Calan	1.61	50	⇑*i*P	Pn	05 40 39.1	-1.2
CLCH				*i* S	Sn	05 40 60.0	-1.1
CLCH				IAML		05 41 04.4	
	comp=N,1μm,0.6s						
PEL	Peldehue	1.71	41	⇓*i*P	Pn	05 40 40.3	-1.2
PEL				*i* S	Sn	05 41 02.5	-0.8
PEL				IAML		05 41 07.9	
	comp=E,1μm,0.5s						
YECH	El Yeso	1.79	65	⇓*i*P	Pn	05 40 42.3	-0.7
YECH				IAML		05 41 11.7	
	comp=N,933nm,0.2s						

IDC 19 06:03:02.3±0.9, 25°46N×128°41E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.7/36, mbtmp3.6/7, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/32, Error ellipse: s-maj=42.7km s-min=17.6km az=84.0
ISCJB 19 06:03:04.0±1.8, 25°48N±0°04×128°54E±0°04, h31km±15km, mb3.6/6, MS3.5/1, Error ellipse: s-maj=6.5km s-min=5.8km az=43.5
JMA 19 06:03:05.0±0.3, 25°52N×128°56E, h56km, M3.2

ISC 19 06:03:03.8±3.7, 25°50N±0°05×128°51E±0°05, h15km±23km, n24, σ1$47/32, mb3.7/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.94	313	P	Pn	06 03 22.7	+0.2
JNTH	Nagotoyohara	1.11	337	P	Pb	06 03 24.5	-0.3
JNTH				*e*S	Sb	06 03 38.2	-0.9
JOW	Kunigami	1.35	351	P	Pn	06 03 28.2	0.0
JOW				*e*S	Sb	06 03 44.2	-1.7
JOW	Kunigami	1.35	351	Pn	Pn	06 03 28.2	0.0
	6.6nm,0.3s,baz=122,slow=27,SNR=119						
JOW				Sn	Sb	06 03 44.4	-1.6
	4.6nm,0.3s,baz=122,slow=27,SNR=17						
JAGN	Aguni-jima	1.58	314	P	Pn	06 03 31.5	+0.2
JAGN				*e*S	Sn	06 03 50.3	-1.2
JIH	Iheya	1.61	342	P	Pn	06 03 31.5	-0.2
JIH				*e*S	Sn	06 03 51.6	-0.7
JKE	Kume jima 2	1.76	298	P	Pn	06 03 33.6	-0.2
JKE				*e*S	Sn	06 03 55.4	-0.6
JOKE	Okinoerabujima	1.86	2	P	Pn	06 03 35.3	+0.1
JOKE				*e*S	Sn	06 03 57.4	-1.1
JTK	Tokunoshima	2.31	10	P	Pn	06 03 41.6	+0.1
JTK				*e*S	Sn	06 04 07.4	-2.3
JMZ	Minamidaito 2	2.47	82	P	Pn	06 03 42.0	-1.5
JMZ				*e*S	Sn	06 04 09.5	-3.9
JAMN	Amaminishikomi	2.80	12	P	Pn	06 03 48.5	+0.4
JOGS	Gusukube	2.91	256	P	Pn	06 03 49.8	+0.2
JIKM	Ikemajima	3.01	260	*e*S	Sn	06 04 25.0	-1.9
JAM	Amami Oshima	3.06	18	*e*S	Sn	06 04 25.7	-2.5
JTJ	Tarama	3.56	257	P	Pn	06 03 57.9	-0.6
JTJ				*e*S	Sn	06 04 36.9	-3.5
JISG	Ishigakijimahi	3.92	258	P	Pn	06 04 02.6	-0.9
JNU	Nakatsue	7.88	15	Pn	Pn	06 04 59.0	+1.0
	0.7nm,0.3s,baz=330,slow=14,SNR=4.3						
MKAR	Makanchi Array	42.21	312	P	P	06 10 56.5	+0.3
	0.6nm,0.8s,baz=97,slow=10,SNR=5.4						
WRA	Warramunga Arr	45.52	172	P	P	06 11 23.3	+0.3
	1.2nm,0.7s,baz=355,slow=8.6,SNR=7.6						
ASAR	Alice Springs	49.15	173	P	P	06 11 51.6	+0.4
	0.7nm,0.7s,baz=3.6,slow=8.5,SNR=9.8						
AKTO	Aktyubinsk	58.53	315	LR	LR	06 38 00.8	
	comp=Z,36nm,19.6s,slow=36						
ILAR	Eielson Array	64.96	28	P	P	06 13 43.8	+1.1
	0.3nm,0.8s,baz=270,slow=5.4,SNR=5.7						
FINES	FINESS Array B	73.62	331	P	P	06 14 37.3	+0.9
	1.0nm,0.7s,baz=16,slow=16,SNR=2.7						
YKA	Yellowknife Ar	79.08	25	P	P	06 15 09.2	+1.8
	0.2nm,0.6s,baz=299,slow=5.2,SNR=4.3						

IDC 19 06:16:50.6±2.3, 50°23N×173°43W, h0km, mb3.4/8, mb1 3.7/8, mb1mx3.5/30, mbtmp3.5/8, MS2.9/1, Ms1 3.1/1, ms1mx2.5/23, Error ellipse: s-maj=59.2km s-min=22.6km az=11.0
ISCJB 19 06:16:54.3±1.8, 50°4N±0°3×173°4W±0°2, h33km, mb3.5/7, Error ellipse: s-maj=44.7km s-min=18.1km az=10.7

ISC 19 06:16:56.1±2.0, 50°3N±0°3×173°4W±0°2, h35km, n8, σ0$74/8, mb3.4/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	20.08	34	P	P	06 21 25.8	-0.4
	0.3nm,0.4s,baz=230,slow=10,SNR=10						
ILAR				LR	LR	06 29 08.5	

NICH	**Los Niches**	1.48	156	*e*P1		**Pb**		06 22 54.7 +0.4
NICH				*e*S		**Sg**		06 23 14.9 0.0
YECH	**El Yeso**	1.57	91	⇓*i*P		**Pb**		06 22 55.7 -0.4
YECH				*e*S		**Sg**		06 23 17.6 -0.4
CFAA	**Coronel Fontan**	3.75	58	Pn		Pb		06 23 29.3 -3.9
	comp=E,1.6nm,0.3s,baz=232,slow=13,SNR=59							
CFAA				Sn		**Sb**		**06 24 18.6 +0.3**
	comp=E,1.1nm,0.3s,baz=336,slow=20,SNR=8.7							
CFAA				LR		LR		06 25 05.9
	comp=E,12nm,18.9s,baz=226,slow=40							
PLCA	**Paso Flores**	7.15	171	Pn		**Pn**		**06 24 11.6 +0.3**
	comp=E,0.2nm,0.3s,baz=341,slow=13,SNR=6.0							
PLCA				Lg		Lg		06 26 11.1
	comp=E,0.1nm,0.3s,baz=270,slow=20,SNR=1.9							
LPAZ	**La Paz**	17.64	12	P		**Pn**		**06 26 32.3 -0.6**
	comp=E,0.1nm,0.3s,baz=217,slow=13,SNR=4.5							
TXAR	**Lajitas Array**	69.47	331	P		**P**		**06 33 34.8 -0.1**
	comp=E,0.3nm,0.5s,baz=155,slow=8.1,SNR=7.2							
TORD	**Torodi Ar. Bea**	84.03	70	P		**P**		**06 34 56.7 -0.7**
	comp=E,0.7nm,0.7s,baz=248,slow=4.2,SNR=4.3							

KRSC ***19*** *06:54:04.7±2.1, 49°.56N×152°.62E, h389km±40km, ML5.0*
BJI ***19*** *06:54:05.4, 50°.19N×151°.89E, h335km, mB4.5/21, mb4.6/38*
SKHL ***19*** *06:54:06.8±1.5, 50°.23N×151°.44E, h336km±6km, mb5.0/3, msh5.3/1*
ISCJB ***19*** *06:54:07.2±0.2, 50°.10N±0°.03×151°.65E±0°.03, h340km±1km, mb4.2/121, Error ellipse: s-maj=5.6km s-min=2.1km az=148.0*
MOS ***19*** *06:54:08.7±1.0, 50°.16N×151°.69E, h361km, mb4.2/50, Error ellipse: s-maj=8.5km s-min=5.9km az=60.7*
NEIC ***19*** *06:54:08.9±0.4, 50°.18N×151°.62E, h342km±4km, mb4.3/89, Error ellipse: s-maj=5.8km s-min=2.7km az=153.0*
IDC ***19*** *06:54:09.8±0.6, 50°.22N×151°.66E, h352km±6km, mb3.9/26, mb1 4.1/32, mb1mx4.0/36, mbtmp4.7/32, Error ellipse: s-maj=10.8km s-min=6.6km az=147.0*
ISC 19 06:54:07.6±0.4, 50°.11N±0°.05×151°.64E±0°.04, h333km±3km, h332km; pP-P, n638, σ0°.99/681, mb4.3/121, 173C-126D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.92**	**77**	*i* P	**Pn**	**06 55 04.8**	**-0.1**
SKR				*e*S	**S**	**06 55 51.0**	**+0.1**
SKR	**Severo-Kuril's**	**2.92**	**77**	*e*P	**Pn**	**06 55 05.6**	**+0.7**
SKR				*e*S	**S**	**06 55 51.3**	**+0.4**
PAU	**Pauzhetka**	**3.55**	**66**	PN	**Pn**	**06 55 11.1**	**+0.2**
PAU				S	**S**	**06 56 02.0**	**+0.2**
PAU	**Pauzhetka**	**3.55**	**66**	*i* P	**Pn**	**06 55 11.1**	**+0.2**
PAU				S	**S**	**06 56 02.0**	**+0.2**
PAU	**Pauzhetka**	**3.55**	**66**	*e*P	**Pn**	**06 55 11.4**	**+0.5**
PAU				*e*S	**S**	**06 56 03.0**	**+1.2**
APC	**Apacha**	**4.45**	**49**	*i* P	**Pn**	**06 55 20.7**	**+0.5**
MTVR	**Mutnovka**	**4.74**	**57**	*e*P	**Pn**	**06 55 24.5**	**+0.9**
MTVR				*e*S	**S**	**06 56 22.8**	**-2.1**
PETK	**Petropavlovsk-**	**4.82**	**49**	PN	**Pn**	**06 55 24.9**	**+0.5**
PETK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.82**	**49**	P	**Pn**	**06 55 24.9**	**+0.5**
	comp=Z,6.4nm,0.3s,baz=217,slow=10,SNR=76						
RUS	**Russkaya**	**4.90**	**59**	PN	**Pn**	**06 55 25.4**	**+0.2**
RUS	**Russkaya**	**4.90**	**59**	*i* P	**Pn**	**06 55 25.4**	**+0.2**
RUS				*e*S	**S**	**06 56 23.5**	**-4.3**
PET	**Petropavlovsk**	**5.25**	**54**	α *i* PN	**Pn**	**06 55 29.7**	**+0.5**
PET				*e*S	**S**	**06 56 32.9**	**-2.2**
PET				pmax	pmax		
	comp=Z,51nm,0.5s						
PET				pmax	pmax		
	comp=Z,500nm,4.8s						
PET				pmax	pmax		
	comp=Z,200nm,4.8s						
PET				smax	smax		
	comp=N,212nm,0.6s						
PET				smax	smax		
	comp=E,230nm,0.7s						
PET				MLR	MLR		
	comp=Z,300nm,14.0s						
PET	**Petropavlovsk**	**5.25**	**54**	*e*P	**Pn**	**06 55 29.7**	**+0.5**
PET				*e*S	**S**	**06 56 32.4**	**-2.7**
PET	**Petropavlovsk**	**5.25**	**54**	*e*P	**Pn**	**06 55 29.5**	**+0.3**
PET				*e*S	**S**	**06 56 32.9**	**-2.2**
PET	**Petropavlovsk**	**5.25**	**54**	*e*Pn	**Pn**	**06 55 29.2**	**+0.1**
GNL	**Ganaly**	**5.30**	**45**	*i* P	**Pn**	**06 55 30.4**	**+0.6**
KOK	**Koryaka**	**5.39**	**51**	*i* P	**Pn**	**06 55 32.0**	**+1.2**
KOK				*e*S	**S**	**06 56 37.2**	**-0.9**
AVH	**Avacha**	**5.43**	**52**	*e*P	**Pn**	**06 55 32.9**	**+1.7**
AVH				*e*S	**S**	**06 56 38.8**	**0.0**
KRX	**Arik**	**5.43**	**51**	*i* P	**Pn**	**06 55 32.1**	**+0.7**
KRX				*e*S	**S**	**06 56 36.1**	**-2.9**
UGLR	**Uglovaya**	**5.44**	**52**	*i* P	**Pn**	**06 55 33.6**	**+2.2**
UGLR				*e*S	**S**	**06 56 38.1**	**-1.0**
KRER	**Koryakskii**	**5.45**	**51**	*i* P	**Pn**	**06 55 33.4**	**+1.8**
KRER				*e*S	**S**	**06 56 38.2**	**-1.3**
SMAR	**Somma**	**5.46**	**52**	*e*P	**Pn**	**06 55 33.4**	**+1.7**
KUR	**Kuril'sk**	**5.51**	**209**	*e*PN	**Pn**	**06 55 32.9**	**+0.7**
KUR				S	**S**	**06 56 42.4**	**+1.8**
KUR				pmax	pmax		
	comp=N,55nm,0.5s						
KUR				pmax	pmax		
	comp=E,32nm,0.5s						
KUR				pmax	pmax		
	comp=Z,123nm,0.5s						
KUR				smax	smax		
	comp=E,86nm,0.2s						
KUR				smax	smax		
	comp=N,168nm,0.4s						
KUR	**Kuril'sk**	**5.51**	**209**	*e*P	**Pn**	**06 55 32.9**	**+0.7**
KUR				AMB	AMB	06 55 33.6	
	comp=N,123nm,0.5s						
KUR				*e*S	**S**	**06 56 42.4**	**+1.8**
KUR				A	A	06 56 50.3	
	comp=N,86nm,0.2s						
KUR				A	A	06 56 50.3	
	comp=N,168nm,0.2s						
SDLR	**Sedlovina**	**5.51**	**52**	*i* P	**Pn**	**06 55 33.6**	**+1.4**
SDLR				*e*S	**S**	**06 56 38.2**	**-2.3**
KII	**Karymskiy**	**6.21**	**48**	*e*P	**Pn**	**06 55 41.6**	**+1.3**
KII				*e*S	**S**	**06 56 55.0**	**-0.3**
YSS	**Yuzh-Sakhalins**	**6.69**	**245**	⇑*i* PN	**Pn**	**06 55 49.0**	**+3.1**
YSS				*e*S	**S**	**06 57 07.0**	**+1.3**
YSS				pmax	pmax		
	comp=Z,100nm,0.8s						
YSS	**Yuzh-Sakhalins**	**6.69**	**245**	*e*P	**Pn**	**06 55 46.0**	**+0.1**
YSS				AMB	AMB	06 55 50.0	
	comp=Z,100nm,0.8s						
YSS				*e*S	**S**	**06 57 03.0**	**-2.7**
YSS	**Yuzh-Sakhalins**	**6.69**	**245**	*e*Pn	Pn	06 55 49.2	+3.3
SHO	**Shikotan**	**7.06**	**210**	*e*P	**Pn**	**06 55 48.0**	**-2.3**
SHO				*e*S	S	06 57 05.1	-8.5
SHO	**Shikotan**	**7.06**	**210**	*e*P	**Pn**	**06 55 48.4**	**-1.9**
SHO				*e*S	S	06 57 06.3	-7.3
ESO	**Esso**	**7.21**	**33**	PN	**Pn**	**06 55 54.5**	**+2.6**
ESO	**Esso**	**7.21**	**33**	*i* P	**Pn**	**06 55 54.5**	**+2.6**
YUK	**Yuzh-Kuril'sk**	**7.25**	**215**	*d i* PN	**Pn**	**06 55 52.5**	**0.0**
YUK				*i* S	**S**	**06 57 14.4**	**-3.3**
YUK				pmax	pmax		
	comp=N,45nm,0.4s						
YUK				pmax	pmax		
	comp=Z,183nm,0.4s						
YUK				pmax	pmax		
	comp=E,41nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,2.0s						
YUK				smax	smax		
	comp=E,807nm,2.0s						
YUK	**Yuzh-Kuril'sk**	**7.25**	**215**	*e*P	**Pn**	**06 55 52.5**	**0.0**
YUK				AMB	AMB	06 55 54.0	
	comp=E,183nm,0.4s						
YUK				*e*S	**S**	**06 57 14.4**	**-3.3**
YUK				A	A	06 57 21.3	
	comp=E,810nm,2.0s						
YUK				A	A	06 57 21.3	
	comp=E,1μm,2.0s						
KZV	**Kizimen**	**7.26**	**43**	*e*P	**Pn**	**06 55 53.9**	**+1.2**
TUMR	**Tumrok**	**7.31**	**42**	*i* P	**Pn**	**06 55 55.1**	**+1.9**
TUMR				*e*S	**S**	**06 57 16.4**	**-2.7**
MKZ	**Mys Kozlova**	**7.61**	**50**	PN	**Pn**	**06 55 55.3**	**-1.4**
MKZ	**Mys Kozlova**	**7.61**	**50**	*i* P	**Pn**	**06 55 55.3**	**-1.4**
MKZ				*e*S	S	06 57 15.6	-10
KMNR	**Kamenistaya**	**7.67**	**39**	*e*P	Pn	06 56 00.8	+3.3
KOZ	**Kozyrevsk**	**7.74**	**37**	*i* P	Pn	06 56 02.0	+3.7
SRDR	**Sredinnyy**	**7.88**	**35**	*e*P	**Pn**	**06 56 02.1**	**+2.2**
JWK2	**Keihoku**	**8.13**	**238**	P	**P**	**06 56 07.5**	**+0.6**
ASAJ	**Asahikawa**	**8.60**	**229**	PN	**P**	**06 56 11.9**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,17nm,0.3s						
ASAJ	**Asahikawa**	**8.60**	**229**	P	**P**	**06 56 11.9**	**-0.3**
	comp=Z,16nm,0.3s,baz=40,slow=15,SNR=16						
BDR	**Baidarnaya**	**8.63**	**38**	*e*P	**P**	**06 56 11.1**	**-1.3**
BDR				*e*S	**S**	**06 57 43.9**	**-4.0**
SRKR	**Sorokina**	**8.68**	**37**	*e*S	**S**	**06 57 49.3**	**+0.4**
SMKR	**Semkarok**	**8.74**	**38**	*e*S	**S**	**06 57 49.0**	**-1.4**
KBTR	**Krutoberegovo**	**9.07**	**43**	PN	**Pn**	**06 56 12.2**	**-1.9**
KBTR	**Krutoberegovo**	**9.07**	**43**	*e*P	**Pn**	**06 56 12.2**	**-1.9**
KBTR				*e*S	S	06 57 47.5	-10
JEM	**Erimo**	**10.01**	**219**	P	**Pn**	**06 56 24.2**	**-1.5**
JEM				*e*S	S	06 58 10.7	-8.1
ERM	**Erimo**	**10.01**	**219**	*e*PN	**Pn**	**06 56 25.2**	**-0.5**
ERM	**Erimo**	**10.01**	**219**	*e*P	**Pn**	**06 56 25.2**	**-0.5**
ERM	**Erimo**	**10.01**	**219**	*e*Pn	**Pn**	**06 56 25.6**	**-0.1**
BKI	**Bering**	**10.08**	**54**	PN	**Pn**	**06 56 25.9**	**-0.4**
BKI	**Bering**	**10.08**	**54**	*e*P	**Pn**	**06 56 25.9**	**-0.4**
BKI				*e*S	S	06 58 10.3	-10
JEW	**Eniwo**	**10.11**	**228**	P	**Pn**	**06 56 27.3**	**+0.4**
JEW				*e*S	**S**	**06 58 18.6**	**-2.4**
PALN	**Palana**	**10.20**	**25**	*e*P	**P**	**06 56 29.6**	**-0.1**
JSH	**Shimam**	**10.95**	**231**	P	**P**	**06 56 38.1**	**-0.1**
JSH				*e*S	**S**	**06 58 35.0**	**-4.6**
HABR	**Khabarovsk**	**10.96**	**268**	*e*PN	**Pn**	**06 56 37.1**	**+0.1**
HABR				*e*S	**S**	**06 58 40.2**	**+0.3**
HABR				pmax	pmax		
	comp=Z,85nm,1.6s						
HABR				MLR	MLR		
	comp=Z,104nm,14.0s						
OSSR	**Ossora**	**11.27**	**31**	*e*P	**P**	**06 56 42.0**	**+0.4**
JOT	**Ohata**	**11.43**	**224**	P	Pn	06 56 39.4	-3.4
JOT				*e*S	S	06 58 38.8	-12
SEY	**Seymchan**	**12.86**	**2**	PN	**Pn**	**06 57 01.2**	**+1.7**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SEY	**Seymchan**	**12.86**	**2**	P	**Pn**	**06 57 01.1**	**+1.7**
	comp=Z,2.4nm,0.3s,baz=175,slow=8.7,SNR=109						
SEY	**Seymchan**	**12.86**	**2**	*e*P	**P**	**06 56 58.8**	**-0.3**
KLR	**Kul'dur**	**12.92**	**274**	*e*PN	**P**	**06 57 00.0**	**+0.1**
KLR				pmax	pmax		
	comp=E,56nm,1.0s						
KLR				pmax	pmax		
	comp=Z,64nm,1.0s						
FX1	**Attu Island--F**	**13.68**	**70**	P	**Pn**	**06 57 09.3**	**0.0**
FX1				pmax	pmax		
	comp=Z,22nm,0.3s						
FX1	**Attu Island--F**	**13.68**	**70**	P	**Pn**	**06 57 09.3**	**0.0**
	comp=Z,22nm,0.3s,baz=319,slow=4.9,SNR=30						
FX1	**Attu Island--F**	**13.68**	**70**	P	**Pn**	**06 57 09.3**	**0.0**
FX1				*e*Pn	**P**	**06 57 09.4**	**+1.1**
JYA	**Atsumi**	**14.31**	**221**	P	**P**	**06 57 16.4**	**+1.0**
JYA				*e*S	**S**	**06 59 47.1**	**-4.2**
JMM	**Marumori**	**14.50**	**217**	P	**P**	**06 57 18.0**	**+0.5**
JMM				*e*S	S	06 59 47.7	-7.3
USRK	**Ussuriysk Ar.**	**14.60**	**254**	P	**Pn**	**06 57 20.4**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=63,slow=10,SNR=22						
VLA	**Vladivostok**	**15.25**	**250**	⇑*e*P	**P**	**06 57 24.5**	**-1.1**
VLA				S	**S**	**07 00 05.6**	**-4.2**
JSD	**Sado**	**15.40**	**223**	P	**P**	**06 57 27.7**	**+0.4**
MDJ	**Mudanjiang**	**15.89**	**258**	*e*P	**P**	**06 57 33.3**	**+0.7**
	comp=Z,42nm,0.9s						
MAJO	**Matsushiro**	**16.68**	**221**	*d i* P	**P**	**06 57 41.7**	**+0.4**
MAJO	**Matsushiro**	**16.68**	**221**	*e*P	**P**	**06 57 41.9**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,40nm,0.6s						
MAJO	**Matsushiro**	**16.68**	**221**	*e*P	**P**	**06 57 41.7**	**+0.4**
MAJO	**Matsushiro**	**16.68**	**221**	*e*P	**P**	**06 57 41.9**	**+0.6**
	comp=Z,40nm,0.6s						
MAT	**Matsushiro**	**16.68**	**221**	P	**P**	**06 57 41.7**	**+0.4**
MAT	**Matsushiro**	**16.68**	**221**	P	**P**	**06 57 41.7**	**+0.4**
MJAR	**Matsushiro Arr**	**16.68**	**221**	P	**P**	**06 57 42.2**	**+0.9**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.68**	**221**	P	**P**	**06 57 42.2**	**+0.9**
	comp=Z,6.1nm,0.3s,baz=27,slow=8.9,SNR=33						
YAK	**Yakutsk**	**17.00**	**323**	*e*P	Pn	06 57 53.1	+5.3
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK	**Yakutsk**	**17.00**	**323**	*e*P	**P**	**06 57 43.9**	**-0.4**
CLNS	**Chul'man**	**17.21**	**303**	*e*P	**P**	**06 57 48.4**	**+1.7**
CLNS				pmax	pmax		
	comp=Z,13nm,0.9s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.6s						
JOD2	**Odawara 2**	**17.44**	**216**	P	**P**	**06 57 49.2**	**-0.2**
JGF	**Kuroka**	**17.84**	**221**	P	**P**	**06 57 54.0**	**+0.2**
CN2	**Changchun**	**18.91**	**261**	*e*P	**P**	**06 58 03.8**	**-1.1**
CN2				PMZ			
	comp=N,20nm,0.6s						
JWT	**Wachi**	**18.97**	**225**	P	**P**	**06 58 05.2**	**-0.4**
JIE	**Ise**	**19.15**	**221**	P	**P**	**06 58 07.2**	**-0.4**
BILL	**Biilibino**	**19.39**	**17**	*e*P	**P**	**06 58 08.3**	**-1.4**
BILL				pmax	pmax		
	comp=Z,16nm,0.6s						
BILL	**Biilibino**	**19.39**	**17**	*e*P	**P**	**06 58 08.4**	**-1.4**
BILL	**Biilibino**	**19.39**	**17**	*e*P	**P**	**06 58 08.3**	**-1.4**
	comp=Z,16nm,0.6s						
JAD	**Aida**	**19.82**	**227**	P	**P**	**06 58 14.4**	**-0.3**
JHS	**Saijyo**	**20.27**	**229**	P	**P**	**06 58 19.8**	**+0.6**
HIA	**Hailar**	**20.58**	**280**	*e*P	**P**	**06 58 22.4**	**+0.5**
HIA	**Hailar**	**20.58**	**280**	*e*P	**P**	**06 58 22.4**	**+0.5**
HIA	**Hailar**	**20.58**	**280**	*e*P	**P**	**06 58 22.8**	**+0.9**
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**21.18**	**242**	P	**P**	**06 58 29.5**	**+2.0**
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSRS	**Korea Array**	**21.18**	**242**	P	**P**	**06 58 29.5**	**+2.0**
	comp=Z,8.7nm,0.8s,baz=43,slow=9.3,SNR=22						
KSAR	**Wonju Array Be**	**21.21**	**242**	P	**P**	**06 58 29.5**	**+1.7**
KSAR	**Wonju Array Be**	**21.21**	**242**	P	**P**	**06 58 29.5**	**+1.7**
TJN	**Taejon**	**22.26**	**241**	*e*P	**P**	**06 58 38.3**	**+1.0**
JNU	**Nakatsue**	**22.88**	**230**	P	**P**	**06 58 43.9**	**+0.9**
JNU	**Nakatsue**	**22.88**	**230**	P	**P**	**06 58 45.7**	**+2.7**
	comp=Z,63nm,0.7s,baz=18,slow=11,SNR=27						
JNU	**Nakatsue**	**22.88**	**230**	*e*P	**P**	**06 58 43.9**	**+0.9**
	comp=Z,27nm,0.8s						
BOD	**Bodaibo**	**23.19**	**304**	*e*P	**P**	**06 58 44.6**	**-0.9**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TIK	**Tiksi**	**23.95**	**342**	*e*P	**P**	**06 58 52.1**	**-0.1**
TIXI	**Tiksi**	**23.96**	**342**	*ce*P	**P**	**06 58 52.1**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TNA	**Tin City**	**25.88**	**38**	*e*P	**P**	**06 59 10.0**	**+0.5**
TNA	**Tin City**	**25.88**	**38**	*e*P	**P**	**06 59 10.1**	**+0.5**
	comp=Z,17nm,0.8s						
BJI	**Beijing**	**26.76**	**262**	P	**P**	**06 59 18.1**	**+0.4**
BJI				PMZ			
	comp=Z,17nm,0.9s						
ULN	**Ulaanbaatar**	**29.02**	**283**	*ce*P	**P**	**06 59 38.3**	**+0.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ULN	**Ulaanbaatar**	**29.02**	**283**	*e*P	**P**	**06 59 38.3**	**+0.6**
ULN	**Ulaanbaatar**	**29.02**	**283**	*e*P	**P**	**06 59 37.7**	**0.0**
	comp=Z,6.4nm,0.7s						
HHC	**Hu-ho-hao-te**	**29.28**	**267**	*e*P	**P**	**06 59 42.8**	**+2.8**
HHC				S	**S**	**07 04 11.0**	**+3.0**
HHC				sS	**sS**	**07 05 58.9**	**-3.7**
HHC				ScS	**ScS**	**07 09 44.8**	**+3.3**
HHC				PMZ			
	comp=Z,28nm,1.2s						
HHC				PMZ			
	comp=Z,220nm,5.1s						
HHC				LN			
	comp=Z,250nm,16.5s						
HHC				LE			
	comp=Z,420nm,14.1s						
HHC				LZ			
	comp=Z,100nm,15.3s						
JOW	**Kunigami**	**29.35**	**226**	P	**P**	**06 59 41.0**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=68,slow=14,SNR=4.2						
SONM	**Songino Array**	**29.45**	**283**	P	**P**	**06 59 42.4**	**+1.0**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SONM	**Songino Array**	**29.45**	**283**	P	**P**	**06 59 42.4**	**+1.0**
	comp=Z,2.2nm,0.3s,baz=68,slow=8.0,SNR=9.7						
TLY	**Talaya**	**29.89**	**292**	*d i* P	**P**	**06 59 46.8**	**+1.7**
TLY				pmax	pmax		
	comp=Z,32nm,0.6s						
TLY	**Talaya**	**29.89**	**292**	P	**P**	**06 59 47.0**	**+1.8**
	comp=Z,32nm,0.5s,baz=76,slow=4.6,SNR=61						
TLY	**Talaya**	**29.89**	**292**	*e*P	**P**	**06 59 46.8**	**+1.7**
TLY	**Talaya**	**29.89**	**292**	*e*P	**P**	**06 59 47.0**	**+1.8**
	comp=Z,39nm,0.6s						
ZAK	**Zakamensk**	**30.50**	**289**	*e*P	**P**	**06 59 51.7**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,11nm,1.0s						
MOY	**Mondy**	**31.47**	**293**	*e*P	**P**	**07 00 00.6**	**+1.5**
IM04	**Indian Mountai**	**31.69**	**39**	*e*P	**P**	**07 00 00.6**	**0.0**
PPLA	**Purkeypile**	**32.40**	**45**	*e*P	**P**	**07 00 08.2**	**+1.3**
	comp=Z,7.0nm,0.5s						
KDAK	**Kodiak Island**	**32.85**	**55**	*ce*P	**P**	**07 00 09.6**	**-1.1**
KDAK	**Kodiak Island**	**32.85**	**55**	*e*P	**P**	**07 00 09.6**	**-1.1**
KTH	**Kantishna Hill**	**32.93**	**44**	*e*P	**P**	**07 00 12.0**	**+0.6**
	comp=Z,20nm,0.9s						
COLD	**Coldfoot**	**33.17**	**37**	*e*P	**P**	**07 00 13.8**	**+0.4**
	comp=Z,42nm,1.2s						
TRF	**Thorofare Moun**	**33.22**	**44**	*e*P	**P**	**07 00 14.3**	**+0.3**
	comp=Z,22nm,0.4s						
RC01	**Rabbit Creek A**	**33.73**	**48**	*e*P	**P**	**07 00 16.9**	**-1.3**
MCK	**McKinley**	**33.80**	**44**	*e*P	**P**	**07 00 19.2**	**+0.3**
MCK				pmax	pmax		
	comp=Z,13nm,0.8s						
MCK	**McKinley**	**33.80**	**44**	*e*P	**P**	**07 00 19.1**	**+0.3**
MCK	**McKinley**	**33.80**	**44**	*e*P	**P**	**07 00 19.1**	**+0.3**
	comp=Z,13nm,0.8s						
COLA	**College**	**34.18**	**41**	*c i* P	**P**	**07 00 22.2**	**+0.2**
COLA				pmax	pmax		
	comp=Z,119nm,0.8s						
COLA	**College**	**34.18**	**41**	*e*P	**P**	**07 00 22.2**	**+0.2**
COLA	**College**	**34.18**	**41**	*e*P	**P**	**07 00 22.5**	**+0.5**
	comp=Z,22nm,0.5s						
YHNB	**Yeheng**	**34.56**	**234**	*e*P	**P**	**07 00 26.5**	**+0.6**
	comp=Z,7.6nm,0.4s						
ILAR	**Eielson Array**	**34.60**	**42**	P	**P**	**07 00 25.3**	**-0.3**
	comp=Z,5.2nm,0.3s,baz=266,slow=4.6,SNR=167						
ILAR				ScP	**ScP**	**07 06 01.5**	**-2.5**
	comp=Z,0.3nm,0.7s,baz=264,slow=3.7,SNR=5.5						
KRAR	**Krasnoyarsk**	**34.86**	**303**	*e*P	**P**	**07 00 28.2**	**+0.3**
KRAR				pmax	pmax		
	comp=Z,27nm,1.0s						
PAX	**Paxson**	**35.44**	**45**	*e*P	**P**	**07 00 33.1**	**+0.2**
PAX				pmax	pmax		
	comp=Z,82nm,2.5s						
PAX	**Paxson**	**35.44**	**45**	*e*P	**P**	**07 00 33.1**	**+0.2**
	comp=Z,82nm,2.5s						
HVS	**Khovu-Aksy**	**35.95**	**295**	*d i* P	**P**	**07 00 38.2**	**+0.9**
HVS				pmax	pmax		
	comp=Z,46nm,0.8s						
DOT	**Dot Lake**	**35.97**	**43**	*e*P	**P**	**07 00 36.6**	**-0.6**
	comp=Z,12nm,0.5s						
LZH	**Lanzhou**	**36.96**	**266**	⇑P	**P**	**07 00 47.9**	**+1.8**
LZH				pP	**pP**	**07 01 47.8**	**-2.9**
LZH				sP	**sP**	**07 02 26.6**	**-2.3**
LZH				*e*S	**ScP**	**07 06 12.4**	**-1.1**
LZH				PMZ			
	comp=Z,33nm,1.0s						
LZH				PMZ			
	comp=Z,130nm,5.2s						
EGAK	**Eagle**	**37.03**	**41**	*e*P	**P**	**07 00 45.8**	**-0.3**
	comp=Z,32nm,1.1s						
GTA	**Gaotai**	**37.62**	**274**	⇑P	**P**	**07 00 53.1**	**+1.7**
GTA				PMZ			
	comp=Z,20nm,1.2s						
DAWY	**Dawson**	**37.92**	**42**	*e*P	**P**	**07 00 53.3**	**-0.2**
HYT	**Haines Junctio**	**39.60**	**47**	*e*P	**P**	**07 01 08.5**	**+1.0**
ZALV	**Zalesovo Beam**	**39.92**	**302**	P	**P**	**07 01 10.0**	**0.0**
ZALV						07 03 07.5	
ZALV				pmax	pmax		
	comp=Z,11nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV				pmax	pmax		
	comp=N,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**39.92**	**302**	P	**P**	**07 01 10.0**	**0.0**
	comp=N,10nm,0.6s,baz=64,slow=7.0,SNR=43						
ZALV				PcP	**PcP**	**07 03 07.5**	**-0.4**
	comp=N,2.4nm,0.7s,baz=122,slow=1.9,SNR=7.0						
ZALV				ScP	**ScP**	**07 06 21.4**	**-2.9**
	comp=N,0.5nm,0.4s,baz=45,slow=6.3,SNR=3.5						
NVS	**Novosibirsk**	**40.43**	**304**	*e*P	**P**	**07 01 14.1**	**0.0**
NVS				pmax	pmax		
	comp=N,1.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WMQ	**Urumqi**	**42.89**	**287**	P	**P**	**07 01 35.6**	**+1.4**
WMQ				pP	**pP**	**07 02 38.9**	**-1.9**
WMQ				sP	**sP**	**07 03 17.0**	**-1.5**
WMQ				PMZ			
	comp=Z,9.0nm,1.0s						
WMQ				PMZ			
	comp=Z,150nm,5.0s						
DLBC	**Dease Lake**	**44.01**	**48**	P	**P**	**07 01 44.5**	**+1.7**
	comp=Z,9.4nm,0.6s,baz

AAK **Ala-Archa** 51.53 293 *e*P P 07 02 40.8 +0.5
comp=Z,13nm,0.9s
ARU **Arti** 51.90 315*d i*P P 07 02 42.4 -0.2
ARU 07 04 39.3
ARU SS SKiKP 07 13 19.7 -9.3
ARU pmax pmax
comp=Z,14nm,1.0s
ARU **Arti** 51.90 315 *e*P P 07 02 42.8 +0.2
ARU **Arti** 51.90 315 *e*P P 07 02 42.7 +0.1
comp=Z,12nm,0.8s
EKS2 **Erkin-Say** 51.94 294 P P 07 02 44.5 +1.2
SNR=9.6
EKS2 **Erkin-Say** 51.94 294 *e*P P 07 02 44.3 +1.0
EKS2 pmax pmax
comp=Z,8.0nm,0.7s
EKS2 **Erkin-Say** 51.94 294 *e*P P 07 02 44.3 +1.0
comp=Z,7.6nm,0.7s
AML **Almayashu** 52.31 293 P P 07 02 47.2 +1.0
SNR=5.3
CMAR **Chiang Mai Arr** 52.33 253 P P 07 02 47.3 +1.1
comp=Z,5.3nm,0.9s,baz=25,slow=7.4,SNR=17
CMAR PcP PcP 07 03 52.3 +0.1
comp=Z,1.8nm,0.5s,baz=46,slow=3.9,SNR=6.4
KSH **Kashi** 52.54 289 P P 07 02 51.5 +3.8
KSH PMZ
comp=Z,8.0nm,0.6s
TAPN **Taplejung** 53.03 270 *e*P P 07 02 52.2 +0.6
JCW **Jim Creek** 53.45 56 P P 07 02 54.5 +0.5
ODAN **Odare** 53.58 269 *e*P P 07 02 56.3 +0.8
comp=Z,16nm,0.7s
KKAR **Karatay Array** 53.58 296 *e*P P 07 02 55.3 +0.3
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR **Karatay Array** 53.58 296 *e*P P 07 02 55.2 +0.3
comp=Z,4.2nm,0.8s
JIRN **Jiri** 53.80 271 *e*P P 07 02 57.7 +0.5
GUN **Gumba** 53.83 272 *e*P P 07 02 57.7 +0.3
comp=Z,25nm,0.4s
PRGR **Permogore** 54.02 325 P P 07 02 53.8 -4.0
PRGR pmax pmax
comp=Z,62nm,1.3s
RAMN **Ramite** 54.03 270 *e*P P 07 02 59.1 +0.4
comp=Z,68nm,0.6s
KKN **Kakani** 54.30 272 *e*P P 07 03 01.2 +0.6
comp=Z,27nm,0.6s
ARCES **ARCESS Array B** 54.36 340 P P 07 02 58.4 -1.7
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES **ARCESS Array B** 54.36 340 P P 07 02 58.4 -1.7
comp=Z,1.7nm,0.6s,baz=36,slow=6.7,SNR=13
ARCES **ARCESS Array B** 54.36 340 *e*P P 07 02 59.7 -0.4
PKI **Pulchoki** 54.37 272 *e*P P 07 03 01.7 +0.5
comp=Z,24nm,0.8s
PKIN **Phulchoki** 54.37 272 *e*P P 07 03 01.8 +0.6
comp=Z,14nm,0.7s
NLW **Nelson Butte** 54.37 56 P P 07 03 01.1 +0.4
TDL **Tradedollar La** 54.42 58 P P 07 03 01.7 +0.6
STD **Studebaker Rid** 54.48 58 P P 07 03 02.5 +1.0
DMN **Daman** 54.53 272 *e*P P 07 03 03.0 +0.7
comp=Z,44nm,0.8s
GKN **Gorkha** 54.57 273 *e*P P 07 03 02.8 +0.4
comp=Z,32nm,0.5s
ETW **Entiat** 54.66 56 P P 07 03 03.1 +0.3
EDM **Edmonton** 54.72 47 *e*P P 07 03 03.1 +0.1
EDM **Edmonton** 54.72 47 *e*P P 07 03 03.0 +0.1
EDM **Edmonton** 54.72 47 *e*P P 07 03 03.1 +0.1
B08A **Colville Reser** 54.73 55 *e*P P 07 03 03.3 +0.1
comp=Z,6.6nm,0.9s
DANN **Dangsing** 54.89 274 *e*P P 07 03 05.6 +0.7
comp=Z,37nm,0.5s
EBG **Ellensburg** 54.97 57 P P 07 03 05.5 +0.7
KOLN **Koldanda** 55.39 273 *e*P P 07 03 08.9 +0.5
comp=Z,28nm,0.6s
I03D **Drain, OR** 55.43 61 ⇓P P 07 03 09.3 +1.2
baz=55
H04A **Detroit Lake** 55.47 60 *e*P P 07 03 09.4 +1.0
comp=Z,13nm,1.2s
PYUN **Piuthan** 55.56 274 *e*P P 07 03 10.1 +0.6
comp=Z,61nm,0.5s
E07A **Sunnyside** 55.57 57 *e*P P 07 03 06.9 -2.2
G05D **Wamic, OR** 55.60 59 ⇓P P 07 03 10.3 +1.0
baz=55
C09A **Chrisman Ranch** 55.63 55 *e*P P 07 03 09.5 0.0
OD2 **Odessa Site #2** 55.66 55 P P 07 03 09.4 -0.3
I04A **Tendick Farm,** 55.90 61 ⇓P P 07 03 12.3 +0.8
baz=56
NEW **Newport** 55.94 54 *e*P P 07 03 11.5 -0.3
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW **Newport** 55.94 54 *e*P P 07 03 12.0 +0.3
NEW **Newport** 55.94 54 ⇓P P 07 03 11.6 -0.1
baz=56,SNR=7.1
NEW **Newport** 55.94 54 *e*P P 07 03 11.5 -0.3
comp=Z,5.9nm,0.9s
I05D **Terrebonne, OR** 56.15 60 ⇓P P 07 03 13.9 +0.6
baz=56,SNR=5.6
HUMO **Hull Mountain** 56.34 62 *e*P P 07 03 16.0 +1.4
comp=Z,2.4nm,0.5s
J04D **Umpqua Nationa** 56.42 61 ⇑P P 07 03 16.3 +0.9
baz=56,SNR=8.5
E09A **Wood Farm, Sta** 56.51 56 *e*P P 07 03 15.6 -0.1
comp=Z,6.9nm,0.8s
PINOR **Pine Mountain** 56.75 60 *e*P P 07 03 18.4 +1.1
comp=Z,7.3nm,0.4s
J05D **Fort Rock, OR** 56.88 61 ⇓P P 07 03 19.6 +1.1
baz=57,SNR=11
K04D **Chiloquin, OR** 57.01 61 ⇓P P 07 03 20.3 +0.9
baz=57
YBH **Yreka Blue Hor** 57.04 63 *e*P P 07 03 20.9 +1.3
YBH pmax pmax
comp=Z,4.0nm,0.6s
YBH **Yreka Blue Hor** 57.04 63 *e*P P 07 03 20.9 +1.3
comp=Z,4.4nm,0.6s
WALA **Waterton Lakes** 57.08 51 *e*P P 07 03 19.9 +0.2
comp=Z,0.3nm,0.7s
M02C **Callahan** 57.18 63 ⇓P P 07 03 21.9 +1.4
baz=57
I07A **Izee** 57.33 59 *e*P P 07 03 22.4 +0.8
comp=Z,5.0nm,0.9s
F10A **Beach Ranch, E** 57.35 56 *e*P P 07 03 22.2 +0.6
comp=Z,41nm,2.3s
BSMT **Bassoo Peak** 57.41 53 *e*P P 07 03 22.8 +0.6
K05A **Summer Lake** 57.43 61 *e*P P 07 03 23.8 +1.4
comp=Z,58nm,1.6s
M04C **Macdoel** 57.51 62 ⇑P P 07 03 23.6 +0.8
baz=57,SNR=5.0
BLMT **Blacktail Moun** 57.53 53 *e*P P 07 03 23.4 +0.4
N02D **Trinity Center** 57.54 63 ⇑P P 07 03 24.0 +1.0
baz=57
JTMT **Jette** 57.74 53 *e*P P 07 03 25.0 +0.6
YBMT **Yellow Bay** 57.80 53 *e*P P 07 03 25.4 +0.6
JOF **Joensuu** 57.89 332 *e*P P 07 03 24.2 -0.8
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF **Joensuu** 57.89 332 *e*p P 07 03 24.2 -0.8
comp=Z,1.0nm,0.4s
BMO **Blue Mountains** 58.03 57 *e*P P 07 03 26.9 +0.5
BMO pmax pmax
comp=Z,17nm,1.7s
BMO **Blue Mountains** 58.03 57 *e*P P 07 03 26.9 +0.5
comp=Z,17nm,1.7s
SWMT **Swartz Lake** 58.04 53 *e*P P 07 03 26.9 +0.4
MOD **Modoc Plateau** 58.30 61 *e*P P 07 03 29.2 +0.8
comp=Z,12nm,0.6s
SLMT **Seeley Lake** 58.48 53 *e*P P 07 03 29.8 +0.3
MSO **Missoula** 58.52 53 ⇑P P 07 03 30.0 +0.3
baz=58,SNR=17
MSO **Missoula** 58.52 53 *e*P P 07 03 30.0 +0.3
comp=Z,10nm,0.9s
FFC **Flin Flon** 58.80 41 *e*P P 07 03 31.6 +0.2
FFC pmax pmax
comp=Z,17nm,0.6s
FFC **Flin Flon** 58.80 41 *e*P P 07 03 31.6 +0.2
FFC **Flin Flon** 58.80 41 *e*P P 07 03 31.6 +0.2
comp=Z,17nm,0.6s
CHMT **Chamberlain Mo** 58.81 53 *e*P P 07 03 31.8 0.0
WVOR **Wild Horse Val** 58.89 60 *e*P P 07 03 33.1 +0.8
WVOR pmax pmax
comp=Z,10.0nm,0.8s
WVOR **Wild Horse Val** 58.89 60 *e*P P 07 03 33.1 +0.8
comp=Z,10nm,0.8s
FCC **Fort Churchill** 58.99 34 *e*P P 07 03 32.1 -0.5
FCC pmax pmax
comp=Z,1.0nm,0.8s
FCC **Fort Churchill** 58.99 34 *e*P P 07 03 32.0 -0.5
FCC **Fort Churchill** 58.99 34 *e*P P 07 03 32.1 -0.5
comp=Z,0.5nm,0.8s
HRY **Holter Researc** 59.68 52 *e*P P 07 03 38.6 +1.0
A19A **Klindworth Far** 59.72 49 ⇑P P 07 03 37.7 -0.1
baz=59,SNR=6.4
MFID **Camas Ranch** 59.78 57 *e*P P 07 03 38.8 +0.4
comp=Z,2.8nm,0.7s
EGMT **Eagleton** 59.84 50 ⇑P P 07 03 38.7 +0.2
baz=60,SNR=6.5
EGMT **Eagleton** 59.84 50 *e*P P 07 03 38.8 +0.2
comp=Z,15nm,1.1s
B19A **Brinkman Farms** 59.94 49 ⇑P P 07 03 39.6 +0.3
baz=60,SNR=6.8
LRM **Limekiln Ridge** 59.96 53 *e*P P 07 03 40.3 +0.7
KBL **Kabul** 59.98 289 *e*P P 07 03 38.9 -1.0
KBL pmax pmax
comp=Z,10.0nm,0.8s
KBL **Kabul** 59.98 289 *e*P P 07 03 38.9 -1.0
comp=Z,9.7nm,0.8s
A20A **Cobblestone Ra** 60.15 48 ⇓P P 07 03 41.2 +0.5
baz=60,SNR=7.0
DLMT **Dillon** 60.19 54 *e*P P 07 03 42.1 +1.0
C19A **Slack Wire Ran** 60.38 50 ⇑P P 07 03 42.8 +0.5
baz=60,SNR=16
B20A **Solberg Farm,** 60.40 49 ⇑P P 07 03 42.5 +0.2
baz=60,SNR=11
HLID **Hailey** 60.44 56 ⇓P P 07 03 43.4 +0.5
baz=60,SNR=5.5
HLID **Hailey** 60.44 56 *e*P P 07 03 42.9 0.0
comp=Z,1.9nm,0.7s
BOZ **Bozeman (W)** 60.50 53 *e*P P 07 03 44.0 +0.8
BOZ pmax pmax
comp=Z,8.0nm,0.6s
BOZ **Bozeman (W)** 60.50 53 *e*P P 07 03 44.0 +0.8
BOZ **Bozeman (W)** 60.50 53 *e*P P 07 03 44.0 +0.8
comp=Z,8.1nm,0.6s
A21A **Bergtoll Ranch** 60.55 48 ⇑P P 07 03 43.9 +0.5
baz=60,SNR=31
FINES **FINESS Array B** 60.59 333 P P 07 03 43.0 -0.3
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES **FINESS Array B** 60.59 333 P P 07 03 43.0 -0.3
comp=Z,2.7nm,0.4s,baz=44,slow=6.6,SNR=39
FINES **FINESS Array B** 60.59 333 *e*P P 07 03 43.0 -0.3
CMB **Columbia Colle** 60.82 65 *e*P P 07 03 46.0 +0.6
CMB pmax pmax
comp=Z,9.0nm,1.1s
CMB **Columbia Colle** 60.82 65 *e*P P 07 03 46.0 +0.6
comp=Z,8.8nm,1.1s
D19A **Cripps Ranch,** 60.85 50 ⇑P P 07 03 45.9 +0.4
baz=61,SNR=11
B21A **Ellsworth Farm** 60.89 48 ⇓P P 07 03 46.2 +0.6
baz=61
C20A **Veseth Ranch,** 60.91 49 ⇓P P 07 03 46.6 +0.8
baz=61,SNR=20
BMN **Battle Mountai** 61.02 61 *e*P P 07 03 47.5 +0.8
BMN pmax pmax
comp=Z,6.0nm,0.6s
BMN **Battle Mountai** 61.02 61 *e*P P 07 03 47.5 +0.8
comp=Z,5.7nm,0.6s
A22A **Carney Farms,** 61.03 47 ⇑P P 07 03 46.9 +0.4
baz=61,SNR=30
WAKR **Walker** 61.06 64 *e*P P 07 03 48.1 +1.0
QLMT **Earthquake Lak** 61.16 54 *e*P P 07 03 48.6 +0.9
C21A **Desert Coulee** 61.27 49 ⇑P P 07 03 48.6 +0.4
baz=61,SNR=9.5
D20A **Manuel Ranch,** 61.27 50 ⇑P P 07 03 49.0 +0.8
baz=61,SNR=18
E19A **Rath Farm, Rou** 61.39 51 ⇑P P 07 03 49.4 +0.4
baz=61,SNR=5.5
YMR **Madison River** 61.51 54 *e*P P 07 03 51.2 +1.2
comp=Z,4.9nm,0.4s
E20A **Meyer Farm, Mu** 61.68 51 ⇑P P 07 03 51.5 +0.6
baz=61,SNR=5.3
F19A **Roth Farm, Mol** 61.73 52 ⇓P P 07 03 51.7 +0.4
baz=61,SNR=7.5
YFT **Old Faithful** 61.73 54 *e*P P 07 03 53.7 +2.2
comp=Z,5.1nm,0.6s
NVAR **Mina Array Bea** 61.76 63 P P 07 03 52.4 +0.6
comp=Z,4.5nm,0.7s,baz=295,slow=6.7,SNR=22
NVAR pP pP 07 05 07.2 +3.2
comp=Z,1.2nm,0.7s,baz=292,slow=7.4,SNR=4.2
B23A **Brockton** 61.84 47 ⇑P P 07 03 52.3 +0.4
baz=62
D21A **La Casta Ranch** 61.85 49 ⇓P P 07 03 52.5 +0.4
baz=62,SNR=6.2
H17A **Grant Village** 61.90 54 ⇓P P 07 03 53.4 +0.7
baz=62,SNR=6.1
H17A **Grant Village** 61.90 54 *e*P P 07 03 53.3 +0.6
A24A **Westby** 61.98 46 ⇑P P 07 03 53.2 +0.4
baz=62
FLWY **Flagg Ranch** 62.05 54 *e*P P 07 03 55.2 +1.6
comp=Z,4.2nm,0.9s
IMW **Indian Meadow** 62.06 54 *e*P P 07 03 54.9 +1.1
comp=Z,3.4nm,0.8s
RLMT **Red Lodge** 62.07 52 *e*P P 07 03 54.4 +0.6
comp=Z,9.5nm,1.0s
F20A **Billings** 62.16 51 ⇑P P 07 03 54.8 +0.7
baz=62
H18A **Shoshone NF, C** 62.18 53 ⇑P P 07 03 55.0 +0.5
baz=62
D22A **Cohagen** 62.19 49 ⇓P P 07 03 55.0 +0.7
baz=62
C23A **Lambert** 62.21 48 ⇑P P 07 03 54.9 +0.6
baz=62,SNR=5.2
I17A **Pilgrim Ck.** 62.23 54 ⇑P P 07 03 55.7 +0.9
baz=62
TPAW **Teton Pass** 62.33 55 *e*P P 07 03 57.0 +1.5
comp=Z,9.7nm,0.8s
A25A **Svangstu Ranch** 62.38 46 ⇑P P 07 03 56.1 +0.7
baz=62
LOHW **Long Hollow** 62.43 54 *e*P P 07 03 57.2 +1.1
comp=Z,10nm,1.3s
REDW **Red Top Meadow** 62.47 55 *e*P P 07 03 57.8 +1.3
comp=Z,9.7nm,1.0s
LAO **LASA Array** 62.49 49 *e*P P 07 03 57.0 +0.7
comp=Z,5.1nm,0.8s
H19A **Powell** 62.53 53 ⇑P P 07 03 57.4 +0.8
baz=62
G20A **Bridger** 62.54 52 ⇓P P 07 03 56.8 +0.1
baz=62
HVU **Hansel Valley** 62.54 57 *e*P P 07 03 57.2 +0.4
HVU pmax pmax
comp=Z,4.0nm,0.7s
HVU **Hansel Valley** 62.54 57 *e*P P 07 03 57.2 +0.4
comp=Z,4.4nm,0.7s
TPH **Tonopah** 62.62 63 *e*P P 07 03 57.8 +0.4
TPH pmax pmax
comp=Z,6.0nm,0.7s
TPH **Tonopah** 62.62 63 *e*P P 07 03 57.8 +0.4
comp=Z,5.8nm,0.7s
D23A **Lindsay** 62.65 48 ⇑P P 07 03 57.6 +0.3
baz=62
C24A **Savage** 62.77 48 ⇑P P 07 03 58.5 +0.4
baz=62
A26A **Wade Farm, Ken** 62.90 45 ⇓P P 07 03 59.3 +0.4
baz=63
I19A **Meeteetse** 62.97 53 ⇑P P 07 04 00.2 +0.6
baz=63
G21A **Lodge Grass** 63.04 51 ⇓P P 07 03 59.8 -0.1
baz=63
E23A **Ismay** 63.08 49 ⇓P P 07 04 00.5 +0.5
baz=63
VES **Vestal, Richgr** 63.08 66 ⇓P P 07 04 00.6 +0.4
baz=63
D24A **Glendive** 63.11 48 ⇓P P 07 04 00.8 +0.6
baz=63,SNR=15
F22A **Rosebud** 63.12 50 ⇓P P 07 04 00.7 +0.3
baz=63
H20A **Greybull** 63.16 52 ⇓P P 07 04 01.2 +0.4
baz=63
B26A **Jensen Ranch,** 63.19 46 ⇑P P 07 04 01.7 +0.9
baz=63
C25A **Freed Ranch, W** 63.19 47 ⇑P P 07 04 01.3 +0.6
baz=63
GRAC **Grapevine Rang** 63.28 64 ⇑P P 07 04 02.3 +0.8
baz=63
R11A **Troy Canyon, C** 63.37 61 ⇑P P 07 04 02.3 0.0
baz=63,SNR=7.4
R11A **Troy Canyon, C** 63.37 61 *e*P P 07 04 02.1 -0.2
comp=Z,1.7nm,0.8s
I20A **Worland** 63.47 53 ⇑P P 07 04 03.7 +0.9
baz=63
J19A **Crowheart** 63.48 54 ⇑P P 07 04 03.3 +0.4
baz=63,SNR=5.9
G22A **Birney** 63.50 51 ⇓P P 07 04 03.2 +0.3
baz=63
H21A **Big Horn, Sher** 63.55 51 ⇑P P 07 04 03.5 +0.3
baz=63,SNR=12
D25A **Fairfield** 63.56 47 ⇓P P 07 04 03.7 +0.4
baz=63
ISA **Isabella, Lake** 63.56 65 *e*P P 07 04 03.1 -0.4
ISA pmax pmax
comp=Z,5.0nm,0.9s
ISA **Isabella, Lake** 63.56 65 ⇓P P 07 04 03.2 -0.2
baz=63
ISA **Isabella, Lake** 63.56 65 *e*P P 07 04 03.1 -0.4
comp=Z,5.4nm,0.9s
BW06 **Boulder Array** 63.57 54 *e*P P 07 04 03.5 -0.1
comp=Z,14nm,0.8s
PDAR **Pinedale Array** 63.57 54 P P 07 04 03.7 +0.1
comp=Z,10.0nm,0.6s,baz=342,slow=1.3,SNR=100
PDAR pP pP 07 05 20.0 +3.7
comp=Z,1.9nm,0.8s,baz=320,slow=1.6,SNR=6.5
F23A **Volborg** 63.58 50 ⇓P P 07 04 03.3 -0.1
baz=63,SNR=9.2
B27A **Peters Farms,** 63.62 45 ⇓P P 07 04 03.8 +0.3
baz=63
DUG **Dugway, Tooele** 63.62 58 *e*P P 07 04 04.7 +0.8
DUG pmax pmax
comp=Z,9.0nm,0.8s
DUG **Dugway, Tooele** 63.62 58 ⇑P P 07 04 04.7 +0.8
baz=63,SNR=11
DUG **Dugway, Tooele** 63.62 58 *e*P P 07 04 04.7 +0.8
comp=Z,8.9nm,0.8s
C26A **Wahner Farm, P** 63.65 46 ⇑P P 07 04 04.6 +0.8
baz=63,SNR=9.9
DAC **Darwin (Calif)** 63.65 64 *e*P P 07 04 04.2 0.0
DAC pmax pmax
comp=Z,4.0nm,0.9s
DAC **Darwin (Calif)** 63.65 64 *e*P P 07 04 04.2 0.0
comp=Z,3.7nm,0.9s
A28A **Rude Farm, Bot** 63.70 44 ⇑P P 07 04 04.5 +0.4
baz=63
TCUT **Toone Canyon** 63.74 57 *e*P P 07 04 05.1 +0.3
comp=Z,6.3nm,0.7s
MPMC **Manual Prospec** 63.86 64 ⇑P P 07 04 05.7 +0.2
baz=64
J20A **Shoshoni** 63.92 53 ⇑P P 07 04 06.0 +0.3
baz=64,SNR=6.2
FURC **Furnace Creek,** 63.94 64 ⇑P P 07 04 06.4 +0.6
baz=64
G23A **Biddle** 63.96 50 ⇓P P 07 04 06.2 +0.3
baz=64
TPNV **Topopah Spring** 63.96 63 ⇑P P 07 04 06.3 +0.2
baz=64
F24A **Ekalaka** 63.96 49 ⇑P P 07 04 06.0 +0.2
baz=64
B28A **Dugan Ranch, T** 63.99 45 ⇓P P 07 04 06.4 +0.5
baz=64
E25A **Miller Ranch,** 63.99 48 ⇓P P 07 04 06.5 +0.4
baz=64
I21A **Big Trails, Te** 64.00 52 ⇑P P 07 04 06.7 +0.5
baz=64,SNR=16
C27A **Sayler Ranch,** 64.00 46 ⇑P P 07 04 06.5 +0.4
baz=64
D26A **Manning** 64.07 47 ⇓P P 07 04 06.8 +0.3
baz=64
GEYT **Alibeck** 64.08 299 P P 07 04 07.2 +0.4
comp=Z,8.1nm,0.4s,baz=71,slow=6.4,SNR=11
A29A **Manning Farm,** 64.15 44 ⇑P P 07 04 07.0 +0.1
baz=64,SNR=7.0
NLU **North Lily Min** 64.20 58 *e*P P 07 04 08.1 +0.4
comp=Z,9.3nm,0.9s
J21A **Lysite** 64.25 53 ⇑P P 07 04 07.9 0.0
baz=64
G24A **Alzada** 64.35 49 ⇑P P 07 04 08.3 -0.1
baz=64
I22A **9 Mile Ranch,** 64.35 52 ⇑P P 07 04 09.0 +0.5
baz=64
F25A **Bowman** 64.38 48 ⇑P P 07 04 08.7 +0.2
baz=64
EDW2 **Edwards Air Fo** 64.39 66 ⇑P P 07 04 09.1 +0.3
baz=64
MPU **Maple Canyon** 64.39 58 *e*P P 07 04 09.4 +0.4
comp=Z,18nm,1.0s
B29A **Wagenman Farm,** 64.44 44 ⇓P P 07 04 09.0 +0.2
baz=64
D27A **Center** 64.44 46 ⇑P P 07 04 09.5 +0.7
baz=64
E26A **Carlson Angus** 64.46 47 ⇓P P 07 04 09.4 +0.3
baz=64
C28A **Hausauer Farms** 64.52 45 ⇓P P 07 04 09.9 +0.6
baz=64
A30A **Hoffart Farm,** 64.55 43 ⇓P P 07 04 09.6 +0.1
baz=64
ULM **Lac du Bonnet** 64.62 41 P P 07 04 09.1 -0.8
ULM pmax pmax
comp=Z,4.0nm,0.5s
ULM **Lac du Bonnet** 64.62 41 P P 07 04 09.1 -0.8
comp=Z,3.8nm,0.5s,baz=315,slow=8.9,SNR=8.9
J22A **Midwest** 64.70 52 ⇑P P 07 04 10.7 0.0
baz=64,SNR=7.5
H24A **Dirks Ranch, A** 64.70 50 ⇑P P 07 04 10.5 -0.2
baz=64,SNR=6.6
NOA **NORSAR Array B** 64.73 340 P P 07 04 10.4 -0.1
comp=Z,0.4nm,0.4s,baz=27,slow=6.5,SNR=4.6
MDND **Maddock** 64.78 45 ⇑P P 07 04 11.3 +0.3
baz=64
MDND **Maddock** 64.78 45 *e*P P 07 04 11.7 +0.7
comp=Z,8.1nm,1.1s
GSC **Goldstone, Bar** 64.79 65 *e*P P 07 04 11.5 +0.1
GSC pmax pmax
comp=Z,10.0nm,1.1s
GSC **Goldstone, Bar** 64.79 65 ⇑P P 07 04 11.6 +0.2
baz=65
GSC **Goldstone, Bar** 64.79 65 *e*P P 07 04 11.5 +0.1
comp=Z,9.9nm,1.1s
F26A **Lodgepole** 64.81 48 ⇓P P 07 04 11.4 +0.1
baz=64,SNR=5.9
D28A **Regan** 64.82 46 ⇑P P 07 04 11.2 0.0
baz=64
K21A **Alcova** 64.86 53 ⇑P P 07 04 11.8 0.0
baz=65,SNR=14
B30A **Myrvik Farm, E** 64.90 44 ⇓P P 07 04 12.1 +0.3
baz=65,SNR=6.9
E27A **Carson** 64.92 47 ⇓P P 07 04 12.3 +0.3
baz=65,SNR=5.2
G25A **Newell** 64.93 49 ⇓P P 07 04 12.3 +0.2
baz=65
BFSC **Mount Baldy Ra** 65.04 66 ⇑P P 07 04 13.4 +0.3
baz=65
MVU **Marysvale** 65.14 59 *e*P P 07 04 14.4 +0.7
comp=Z,2.5nm,0.8s
E28A **Huff** 65.22 46 ⇑P P 07 04 13.9 +0.1
baz=65
K22A **Casper** 65.22 53 ⇑P P 07 04 14.2 +0.1
baz=65
K22A **Casper** 65.22 53 *e*P P 07 04 14.0 -0.1
comp=Z,4.8nm,0.6s
G26A **Maurine** 65.25 48 ⇑P P 07 04 14.0 -0.2
baz=65,SNR=11
H25A **Fruitdale** 65.26 49 ⇑P P 07 04 14.3 +0.1
baz=65
I24A **Kuemmerle Ranc** 65.31 51 ⇓P P 07 04 14.4 -0.2
baz=65
D29A **Pettibone, Tap** 65.36 45 ⇓P P 07 04 14.7 0.0
baz=65
HEC **Hector,Ludlow** 65.40 65 ⇓P P 07 04 15.5 +0.2
baz=65,SNR=9.0
RSSD **Black Hills** 65.41 50 *e*P P 07 04 15.1 -0.2
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD **Black Hills** 65.41 50 *e*P P 07 04 15.1 -0.2
comp=Z,8.3nm,0.8s
G27A **Dupree** 65.51 48 ⇓P P 07 04 15.6 -0.2
baz=65
K23A **Bowen Ranch, D** 65.60 52 ⇓P P 07 04 15.4 -1.1
baz=65
N20A **Spence Gulch,** 65.62 55 ⇓P P 07 04 17.5 +0.7
baz=65,SNR=8.8
I25A **Rochford** 65.63 50 ⇑P P 07 04 16.5 -0.2
baz=65,SNR=5.2
SRU **San Rafael Swe** 65.64 58 *e*P P 07 04 17.3 +0.4
SRU **San Rafael Swe** 65.64 58 *e*P P 07 04 17.3 +0.4
H26A **Fairpoint** 65.67 49 ⇑P P 07 04 16.9 +0.1
baz=65
F28A **McLaughlin** 65.70 47 ⇑P P 07 04 16.9 0.0
baz=65
D30A **Buchanan** 65.71 45 ⇑P P 07 04 16.9 0.0
baz=65
L22A **Ellis Ranch, M** 65.71 53 ⇓P P 07 04 17.8 +0.5
baz=65,SNR=8.4
MURC **Murrieta** 65.76 66 ⇑P P 07 04 17.6 +0.1
baz=66
H27A **Howes** 65.99 49 ⇓P P 07 04 18.5 -0.3
baz=66

L23A	Garrett	66.03	53	⇑P	P	07 04 19.1	-0.2
	baz=66						
I26A	New Underwood	66.05	50	⇑P	P	07 04 19.1	-0.2
	baz=66						
J25A	Sunshine Ranch	66.06	51	⇑P	P	07 04 18.9	-0.4
	baz=66						
M22A	Cedar Creek Ra	66.08	54	⇓P	P	07 04 20.8	+1.0
	baz=66						
E30A	Jud	66.09	45	⇑P	P	07 04 19.2	-0.2
	baz=66						
AGMN	Agassiz Nation	66.10	42	⇓P	P	07 04 18.7	-0.7
	baz=66						
O20A	White River Ci	66.14	56	⇑P	P	07 04 20.1	+0.2
	baz=66,SNR=6.2						
O20A	White River Ci	66.14	56	eP	P	07 04 20.0	0.0
	comp=Z,5.2nm,0.6s						
PFO	Pinyon Flats O	66.19	66	⇓P	P	07 04 20.0	-0.3
	baz=66						
G28A	Parade	66.22	48	⇑P	P	07 04 20.2	0.0
	baz=66						
I27A	Quinn	66.42	49	⇑P	P	07 04 21.7	+0.2
	baz=66						
H28A	Mission Ridge	66.47	48	⇓P	P	07 04 21.8	0.0
	baz=66,SNR=8.1						
J26A	Sides Ranch, S	66.47	50	⇓P	P	07 04 21.9	0.0
	baz=66						
U15A	North Rim	66.58	61	⇑P	P	07 04 23.7	+0.8
	baz=66,SNR=5.8						
N22A	Wattenberg Ran	66.59	54	⇓P	P	07 04 23.1	+0.2
	baz=66						
W13A	Hualapai Mount	66.62	63	⇑P	P	07 04 23.6	+0.4
	baz=66						
BC3	Big Chuckawall	66.74	65	⇓P	P	07 04 24.0	+0.2
	baz=66						
N23A	Red Feather La	66.79	54	⇑P	P	07 04 24.3	+0.2
	baz=66						
H29A	Onida	66.89	48	⇓P	P	07 04 24.3	-0.1
	baz=67						
I28A	Midland	66.90	49	⇑P	P	07 04 24.4	-0.1
	baz=67						
M24A	Cheyenne	66.95	53	⇑P	P	07 04 25.3	+0.2
	baz=67						
PV10	Paradox Valley	66.97	57	eP	P	07 04 26.1	+0.8
	comp=Z,183nm,0.9s						
O22A	Kremmling	67.01	55	⇑P	P	07 04 25.9	+0.3
	baz=67						
G30A	Faulkton	67.02	47	⇓P	P	07 04 24.8	-0.4
	baz=67						
PV04	Paradox Valley	67.03	57	eP	P	07 04 26.4	+0.8
PDMCI	Parker Dam,Lak	67.04	64	⇑P	P	07 04 26.0	+0.5
	baz=67						
J27A	Elkhorn Farm,	67.05	50	⇑P	P	07 04 25.6	+0.1
	baz=67						
Y12C	Blythe	67.22	64	⇑P	P	07 04 27.1	+0.5
	baz=67						
J28A	Allard Ranch,	67.29	49	⇑P	P	07 04 27.4	+0.4
	baz=67,SNR=9.3						
I29A	Vivian Onida	67.30	48	⇓P	P	07 04 26.6	-0.4
	baz=67						
O23A	Lake Granby, G	67.30	54	⇑P	P	07 04 28.1	+0.6
	baz=67,SNR=6.8						
P22A	Eagle	67.31	55	⇑P	P	07 04 28.0	+0.6
	baz=67						
K27A	Flueckinger Fa	67.34	50	⇓P	P	07 04 27.3	-0.1
	baz=67						
M25A	Palm-Egli Farm	67.36	52	⇑P	P	07 04 28.3	+0.6
	baz=67						
N24A	Carr	67.39	53	⇑P	P	07 04 28.4	+0.7
	baz=67						
PV01	Paradox Valley	67.40	57	eP	P	07 04 27.4	-0.6
	comp=Z,247nm,0.9s						
SMCO	Snowmass	67.50	56	eP	P	07 04 29.2	+0.4
	comp=Z,6.3nm,1.0s						
GLA	Glamis	67.54	65	⇓P	P	07 04 29.1	+0.5
	baz=67						
J29A	Okreek	67.75	48	⇓P	P	07 04 29.6	-0.2
	baz=67,SNR=6.1						
K28A	Ten Mile Ranch	67.76	50	⇓P	P	07 04 29.9	0.0
	baz=68						
ISCO	Idaho Springs	67.76	54	eP	P	07 04 30.4	+0.1
ISCO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ISCO	Idaho Springs	67.76	54	⇓P	P	07 04 30.8	+0.5
	baz=68,SNR=7.7						
ISCO	Idaho Springs	67.76	54	eP	P	07 04 30.4	+0.1
	comp=Z,5.7nm,1.1s						
I30A	Oacoma	67.80	48	⇑P	P	07 04 30.0	-0.1
	baz=68						
O24A	Longmont	67.81	54	⇑P	P	07 04 31.1	+0.7
	baz=68						
KBZ	Khabaz	67.85	312	P	P	07 04 30.6	+0.3
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KBZ	Khabaz	67.85	312	P	P	07 04 30.6	+0.3
	comp=Z,2.3nm,0.6s,baz=98,slow=7.4,SNR=8.3						
P23A	Jefferson	67.96	55	⇑P	P	07 04 32.2	+0.6
	baz=68						
Y14A	Wickenburg	67.96	63	⇑P	P	07 04 31.4	+0.2
	baz=68,SNR=5.2						
MVCO	Mesa Verde	68.11	58	⇑P	P	07 04 32.4	-0.1
	baz=68						
MVCO	Mesa Verde	68.11	58	eP	P	07 04 32.8	+0.4
	comp=Z,18nm,1.5s						
M27A	Reverse DX Ran	68.14	51	⇓P	P	07 04 32.2	-0.2
	baz=68						
J30A	Dallas	68.21	48	⇑P	P	07 04 32.3	-0.4
	baz=68,SNR=5.2						
AKASG	Malin Array Be	68.22	325	P	P	07 04 30.6	-1.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	68.22	325	P	P	07 04 30.6	-1.9
	comp=Z,0.8nm,0.3s,baz=32,slow=6.0,SNR=3.5						
EYMN	Ely	68.23	40	eP	P	07 04 32.1	-0.6
	comp=Z,10nm,0.8s						
K29A	Lazy Trails An	68.23	49	⇓P	P	07 04 32.7	-0.1
	baz=68						
N26A	Koester Ranch,	68.24	52	⇑P	P	07 04 32.9	0.0
	baz=68						
O25A	Wiggins	68.31	53	⇑P	P	07 04 33.7	+0.2
	baz=68						
P24A	Kohler Place,	68.34	54	⇓P	P	07 04 34.3	+0.5
	baz=68						
X16A	Lo Mia Camp, P	68.50	62	⇑P	P	07 04 35.5	+0.7
	baz=68,SNR=10						
N27A	Anderson Farm,	68.60	52	⇓P	P	07 04 35.4	+0.2
	baz=68						
Q24A	Divide	68.62	55	⇑P	P	07 04 35.6	0.0
	baz=68						
O26A	Horse Wrangler	68.63	53	⇓P	P	07 04 35.3	0.0
	baz=68						
S22A	4UR Ranch, Cre	68.63	57	⇑P	P	07 04 36.2	+0.6
	baz=68,SNR=5.7						
K30A	Basset	68.64	49	⇓P	P	07 04 35.5	+0.1
	baz=68						
P25A	Willow Gulch B	68.73	54	⇓P	P	07 04 36.4	+0.3
	baz=68						
M28A	Bar X Bar Ranc	68.74	51	⇑P	P	07 04 36.4	+0.4
	baz=68						
OGNE	Ogallala	68.75	51	⇓P	P	07 04 36.1	0.0
	baz=68,SNR=6.5						
R23A	Moffat	68.83	56	⇓P	P	07 04 37.5	+0.6
	baz=69						
O27A	Beecher Island	69.09	52	⇑P	P	07 04 38.6	+0.4
	baz=69						
S23A	Nye Farm, Mont	69.10	56	⇑P	P	07 04 39.5	+1.0
	baz=69						
P26A	Davis Ranch, A	69.12	53	⇓P	P	07 04 38.7	+0.3
	baz=69						
R24A	Sanders Place,	69.19	55	⇓P	P	07 04 39.4	+0.4
	baz=69						
ECSD	EROS Data Cent	69.25	46	⇓P	P	07 04 38.7	-0.4
	baz=69,SNR=22						
ECSD	EROS Data Cent	69.25	46	eP	P	07 04 38.5	-0.5
	comp=Z,22nm,0.6s						
X18A	Snowflake	69.27	61	⇑P	P	07 04 40.0	+0.6
	baz=69						
SDCO	Great Sand Dun	69.34	56	eP	P	07 04 40.4	+0.4
L31A	Butterfield Fa	69.39	48	⇑P	P	07 04 40.4	+0.5
	baz=69						
214A	Organ Pipe Nat	69.50	65	⇑P	P	07 04 41.1	+0.4
	baz=69						
S24A	Houchin Ranch,	69.57	56	⇑P	P	07 04 41.6	+0.2
	baz=69						
T23A	Casias Ranch,	69.58	57	⇓P	P	07 04 41.8	+0.4
	baz=69						
U22A	Llaves	69.62	58	⇑P	P	07 04 42.1	+0.4
	baz=69						
R25A	Fountain Ranch	69.68	55	⇓P	P	07 04 42.1	+0.3
	baz=69						
SPMN	Marine on St.	69.81	43	⇑P	P	07 04 41.8	-0.5
	baz=70						
SPMN	Marine on St.	69.81	43	eP	P	07 04 41.4	-0.9
	comp=Z,12nm,0.8s						
T24B	San Luis	69.91	56	⇑P	P	07 04 43.9	+0.5
	baz=70						
V22A	San Miguel Ran	69.93	58	⇑P	P	07 04 43.6	+0.1
	baz=70						
S25A	Robets Cordova	69.97	55	⇑P	P	07 04 43.7	+0.1
	baz=70						
U23A	El Rito	70.02	57	⇑P	P	07 04 44.7	+0.7
	baz=70,SNR=7.4						
T25A	Trinidad	70.37	55	⇓P	P	07 04 46.4	+0.3
	baz=70						
TUC	Tucson	70.42	63	eP	P	07 04 46.2	-0.1
TUC				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TUC	Tucson	70.42	63	eP	P	07 04 46.2	-0.1
	comp=Z,3.1nm,1.1s						
U24A	Moreno Valley	70.45	56	⇓P	P	07 04 47.3	+0.6
	baz=70						
V23A	Ortiz Mt. (NFS	70.45	58	⇓P	P	07 04 47.3	+0.6
	baz=70						
S26A	Kim	70.50	54	⇓P	P	07 04 46.7	-0.1
	baz=70						
SCHQ	Schefferville	70.58	22	P	P	07 04 45.9	-0.9
	comp=Z,7.7nm,0.4s,baz=340,slow=5.3,SNR=50						
P30A	Selden	70.70	51	⇑P	P	07 04 47.9	+0.1
	baz=70						
T26A	Comanche Natio	70.77	55	⇓P	P	07 04 48.0	-0.5
	baz=70,SNR=5.3						
ANMO	Albuquerque	70.90	58	⇑iP	P	07 04 49.5	+0.2
ANMO				pmax	pmax		
	comp=Z,12nm,1.2s						
ANMO	Albuquerque	70.90	58	eP	P	07 04 49.4	+0.2
	comp=Z,4.7nm,1.4s						
U25A	Circle Dot Ran	70.92	56	⇓P	P	07 04 49.4	0.0
	baz=71						
LAZ	Ladron	70.93	59	eP	P	07 04 50.0	+0.5
	comp=Z,2.0nm,1.2s						
V24A	Rampart Ranch,	70.96	57	⇑P	P	07 04 50.2	+0.4
	baz=71						
R29A	Marienthal	71.10	52	⇓P	P	07 04 49.9	-0.4
	baz=71						
Q30A	Quinter	71.15	52	⇓P	P	07 04 50.0	-0.6
	baz=71						
P31A	Stockton	71.15	51	⇑P	P	07 04 49.5	-1.0
	baz=71						
V25A	Rancho No Teng	71.23	56	⇑P	P	07 04 50.9	-0.4
	baz=71						
W24A	Lazy 6 Ranch,	71.27	57	⇓P	P	07 04 52.2	+0.6
	baz=71						
T27A	Campo	71.31	54	⇓P	P	07 04 51.3	-0.3
	baz=71						
S28A	Manter	71.34	54	⇓P	P	07 04 51.5	-0.3
	baz=71						
WRAB	Tennant Creek	71.40	197	⇑iP	P	07 04 51.6	-0.4
WRAB				pmax	pmax		
	comp=Z,31nm,1.4s						
WRAB	Tennant Creek	71.40	197	eP	P	07 04 51.8	-0.2
	comp=Z,5.1nm,0.6s						
WRA	Warramunga Arr	71.41	197	P	P	07 04 51.8	-0.3
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRA	Warramunga Arr	71.41	197	P	P	07 04 51.8	-0.3
	comp=Z,4.1nm,0.6s,baz=16,slow=6.1,SNR=36						
P32A	Huiting Farm,	71.46	50	⇑P	P	07 04 51.2	-1.1
	baz=71,SNR=5.8						
T28A	Walsh	71.59	54	⇑P	P	07 04 52.8	-0.4
	baz=71						
R30A	Dighton	71.65	52	⇑P	P	07 04 53.1	-0.4
	baz=71						
FITZ	Fitzroy Crossi	71.70	206	eP	P	07 04 53.8	0.0
	comp=Z,9.0nm,0.8s						
V26A	Tequesquite Ra	71.71	56	⇑P	P	07 04 53.7	-0.3
	baz=71						
S29A	Ulysses	71.72	53	⇑P	P	07 04 53.7	-0.3
	baz=71						
U27A	Thompson Grove	71.74	55	⇑P	P	07 04 54.1	-0.1
	baz=72						
W25A	X Bar L Ranch,	71.78	57	⇑P	P	07 04 54.5	+0.1
	baz=72						
Z22A	Elephant Butte	71.88	60	⇑P	P	07 04 55.0	-0.1
	baz=72						
121A	Cookes Peak, D	71.96	61	⇓P	P	07 04 56.3	+0.8
	baz=72						
319A	Douglas	71.97	63	⇓P	P	07 04 55.8	+0.3
	baz=72,SNR=6.3						
Q32A	Meitler Ranch,	71.97	50	⇓P	P	07 04 55.1	-0.3
	baz=72						
T29A	Hugoton	71.99	53	⇓P	P	07 04 54.8	-0.8
	baz=72						
S30A	Montezuma	72.04	53	⇑P	P	07 04 55.2	-0.7
	baz=72						
X25A	Clemmons Ranch	72.19	57	⇑P	P	07 04 57.2	+0.3
	baz=72						
Y24A	Capitan	72.22	58	⇓P	P	07 04 57.6	+0.4
	baz=72						
V27A	Dan Oppiter Fa	72.24	55	⇑P	P	07 04 56.8	-0.3
	baz=72						
SCIA	State Center	72.24	45	eP	P	07 04 56.8	0.0
	comp=Z,33nm,0.7s						
Q33A	Connelly Farm,	72.32	50	⇓P	P	07 04 56.3	-1.1
	baz=72,SNR=7.7						
MSTX	Muleshoe	73.63	57	⇑P	P	07 05 05.3	0.0
	baz=73						
V31A	Spring Creek L	73.80	53	⇓P	P	07 05 06.4	+0.3
	baz=74						
X29A	Tulia	73.84	56	⇑P	P	07 05 06.7	+0.3
	baz=74						
MNTX	Cornudas Mount	73.93	60	eP	P	07 05 07.0	+0.2
U33A	Lingo Farm, Me	74.17	52	⇓P	P	07 05 07.6	-0.6
	baz=74						
X30A	Coker Ranch, T	74.28	55	⇓P	P	07 05 08.9	+0.1
	baz=74						
Z28A	Tucker Farm, M	74.36	57	⇓P	P	07 05 09.2	-0.2
	baz=74						
U34A	Anderson Ranch	74.46	51	⇑P	P	07 05 09.8	-0.1
	baz=74						
V33A	Lossen Ranch,	74.56	52	⇑P	P	07 05 10.0	-0.4
	baz=74						
W32A	Sentinel	74.61	53	⇑P	P	07 05 10.7	0.0
	baz=74						
X31A	McDonald Ranch	74.61	54	⇑P	P	07 05 10.8	+0.1
	baz=74						
Z29A	Hungry Hill Ra	74.75	56	⇑P	P	07 05 11.7	+0.1
	baz=74						
128A	Castleberry Fa	74.81	57	⇓P	P	07 05 12.1	+0.1
	baz=75						
V34A	Guthrie	74.94	52	⇓P	P	07 05 11.8	-0.8
	baz=75,SNR=6.4						
V34A	Guthrie	74.94	52	eP	P	07 05 12.0	-0.6
	comp=Z,17nm,0.9s						
Z30A	Sanderson Ranc	75.03	56	⇓P	P	07 05 13.2	0.0
	baz=75						
ASAR	Alice Springs	75.12	197	P	P	07 05 14.2	+0.7
ASAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ASAR	Alice Springs	75.12	197	P	P	07 05 14.2	+0.7
	comp=Z,8.5nm,0.7s,baz=12,slow=5.4,SNR=107						
X32A	Elmer	75.13	54	⇑P	P	07 05 13.7	0.0
	baz=75						
228A	UT Block 9, Go	75.14	58	⇓P	P	07 05 13.9	0.0
	baz=75						
W34A	Bridge Creek,	75.28	52	⇓P	P	07 05 14.4	0.0
	baz=75						
BRTR	Keskin Array B	75.29	315	P	P	07 05 14.6	-0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	75.29	315	P	P	07 05 14.6	-0.1
	comp=Z,1.0nm,0.6s,baz=82,slow=3.7,SNR=5.7						
V35A	Meyer Ranch, C	75.34	51	⇑P	P	07 05 14.8	0.0
	baz=75						
Y32A	R-V Farms, Ver	75.37	54	⇑P	P	07 05 15.0	0.0
	baz=75						
Z31A	Sharp Cattle R	75.53	55	⇑P	P	07 05 15.7	-0.2
	baz=75						
X34A	Smith Ranch, M	75.74	53	⇓P	P	07 05 17.3	+0.2
	baz=76						
TUL1	Leonard	75.74	51	⇑P	P	07 05 16.9	-0.2
	baz=76						
Y33A	Hilltop Ranch,	75.79	54	⇓P	P	07 05 17.2	-0.2
	baz=76						
Z32A	Haskell	75.89	55	⇑P	P	07 05 17.8	-0.2
	baz=76						
131A	Roby	75.90	56	⇑P	P	07 05 18.1	0.0
	baz=76						
329A	Wagon Wheel Ra	75.96	58	⇑P	P	07 05 18.6	+0.1
	baz=76						
230A	Sterling City	76.12	57	⇑P	P	07 05 19.4	0.0
	baz=76						
SFIN	Lafayette	76.20	42	⇑P	P	07 05 18.9	-0.7
	baz=76						
Y34A	Reagan Ranch,	76.28	53	⇑P	P	07 05 19.8	-0.4
	baz=76						
330A	Mertzon	76.46	57	⇓P	P	07 05 20.8	-0.5
	baz=76						
429A	Davenport Ranc	76.67	58	⇓P	P	07 05 22.5	0.0
	baz=76						
TXAR	Lajitas Array	76.68	60	P	P	07 05 22.8	+0.2
TXAR				*PP	pP	07 06 42.3	+4.0
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	76.68	60	P	P	07 05 22.8	+0.2
	comp=Z,3.2nm,0.5s,baz=296,slow=4.8,SNR=93						
TXAR				pP	pP	07 06 42.3	+4.0
	comp=Z,1.1nm,0.6s,baz=299,slow=4.4,SNR=7.5						
133A	Hamilton Ranch	76.73	55	⇑P	P	07 05 22.3	-0.3
	baz=76						
529A	Stev Forest Ra	76.88	59	⇓P	P	07 05 23.9	+0.3
	baz=77						
430A	Baggett Ranch,	76.90	58	⇑P	P	07 05 23.9	+0.2
	baz=77						
232A	Coleman	76.91	56	⇑P	P	07 05 23.5	-0.2
	baz=77						
331A	San Angelo	76.94	57	⇑P	P	07 05 23.8	-0.1
	baz=77						
233A	Rising Star	77.20	55	⇓P	P	07 05 25.1	-0.2
	baz=77						
431A	Sonora	77.33	57	⇑P	P	07 05 25.7	-0.3
	baz=77						
530A	J-C Ranch, Com	77.34	58	⇓P	P	07 05 26.1	-0.1
	baz=77						
432A	Menard	77.61	57	⇑P	P	07 05 27.8	+0.2
	baz=77						
333A	Richland Sprin	77.70	56	⇑P	P	07 05 28.1	+0.1
	baz=77						
531A	Rocksprings	77.76	58	⇓P	P	07 05 28.5	+0.1
	baz=78						
JCT	Junction City	77.92	57	⇓P	P	07 05 29.3	+0.1
	baz=78						
WHTX	Lake Whitney,	77.98	54	⇓P	P	07 05 29.6	+0.1
	baz=78						
334A	Lometa	78.09	55	⇑P	P	07 05 29.6	-0.6
	baz=78,SNR=5.3						
532A	Rocksprings	78.14	57	⇓P	P	07 05 30.5	0.0
	baz=78						
WCI	Wyandotte Cave	78.33	43	eP	P	07 05 30.4	-0.9
WCI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WCI	Wyandotte Cave	78.33	43	eP	P	07 05 30.4	-0.9
	comp=Z,10.0nm,0.8s						
631A	Perdido Creek	78.33	58	⇑P	P	07 05 31.7	+0.3
	baz=78,SNR=5.8						
434A	Burnet	78.48	56	⇑P	P	07 05 32.0	-0.3
	baz=78						
533A	Kerrville	78.65	57	⇓P	P	07 05 33.4	+0.2
	baz=78						
336A	Riesel	78.78	54	⇑P	P	07 05 33.8	0.0
	baz=78						
534A	Blanco	78.98	56	⇑P	P	07 05 34.5	-0.5
	baz=79						
732A	Laxson Ranch,	79.19	58	⇓P	P	07 05 36.3	+0.2
	baz=79						
832A	Faith Ranch, C	79.54	58	⇓P	P	07 05 38.4	+0.4
	baz=79						
338A	Crockett	79.59	53	⇑P	P	07 05 39.1	+0.8
	baz=79						
833A	Chaparral WMA,	79.82	58	⇑P	P	07 05 39.9	+0.4
	baz=80						
438A	Sam Houston St	79.99	54	⇓P	P	07 05 40.7	+0.3
	baz=80,SNR=5.1						
340A	Bronson	80.28	52	⇑P	P	07 05 42.0	+0.2
	baz=80						
933A	Laredo	80.44	58	⇓P	P	07 05 44.3	+1.4
	baz=80						
034A	Hebbronville	81.20	58	⇓P	P	07 05 48.1	+1.3
	baz=81						
FORT	Forrest	83.21	200	eP	P	07 05 56.9	+0.2
	comp=Z,9.0nm,0.5s						
PLCA	Paso Flores	149.30	89	PKP2	PKPbc	07 13 16.6	-0.1
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PLCA	Paso Flores	149.30	89	PKPbc	PKPbc	07 13 16.6	-0.1
	comp=Z,1.1nm,0.5s,baz=274,slow=3.8,SNR=3.9						

MEX 19 07:08:41.5±0.5, 16°73'N×99°19'W, h15km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	Tlapa	1.02	36	eP	Pb	07 08 57.5	-3.6
TLIG				i S	Sb	07 09 09.8	-4.5
PNIG	Pinotepa	1.07	108	eP	Pb	07 08 58.3	-3.5
PNIG				i S	Sb	07 09 11.3	-4.4
CAIG	El Cayaco	1.08	287	eP	Pb	07 08 58.1	-3.8
CAIG				i S	Sb	07 09 11.7	-4.2
MEIG	Mezcala	1.26	341	eP	Pn	07 09 01.2	-3.5
MEIG				eS	Sb	07 09 16.1	-5.0

MEX 19 07:25:35.2±0.4, 17°87'N×98°24'W, h59km±4km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMTT	Tlapaneco	0.32	257	i P	Pn	07 25 43.9	-1.5
HMTT				i S	Sn	07 25 51.0	-1.8
TLIG	Tlapa	0.44	226	i P	Pn	07 25 45.1	-1.5
TLIG				i S	Sn	07 25 53.2	-1.7
TPIG	Tehuac#an	1.00	57	eP	Pn	07 25 52.4	-1.0
TPIG				eS	Sn	07 26 04.8	-2.0
PNIG	Pinotepa	1.47	176	eP	Pn	07 25 57.9	-1.6
PNIG				eS	Sn	07 26 16.1	-1.8
VHO	Vista Hermosa	1.64	119	eP	Pn	07 26 01.4	-0.7
VHO				eS	Sn	07 26 20.4	-1.9

*IDC **19** 07:34:59.4±2.0, 15°15S×173°55W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.6/28, mbtmp3.6/5, Error ellipse: s-maj=124.1km s-min=24.9km az=150.0*
*ISCJB **19** 07:35:02.4±1.9, 15°2S±0°7×173°6W±0°4, h30km, mb3.5/5, Error ellipse: s-maj=119.4km s-min=23.4km az=150.8*
ISC 19 07:35:04.1±2.0, 15°1S±0°7×173°6W±0°4, h30km, n6, σ0°50/6, mb3.4/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.72	257	P	P	07 43 53.6	-0.3
	0.2nm,0.5s,baz=95,slow=6.9,SNR=8.3						
ASAR	Alice Springs	50.01	252	P	P	07 43 56.5	+0.3
	0.9nm,0.6s,baz=86,slow=8.3,SNR=24						
TXAR	Lajitas Array	80.62	56	P	P	07 47 14.7	+0.3
	0.4nm,0.9s,baz=224,slow=5.2,SNR=4.0						
PDAR	Pinedale Array	82.19	42	P	P	07 47 22.1	-0.5
	0.4nm,0.8s,baz=225,slow=3.8,SNR=4.2						
ILAR	Eielson Array	82.20	11	P	P	07 47 22.2	+0.4
	0.3nm,0.7s,baz=226,slow=7.0,SNR=5.7						
GERES	GERESS Array B	145.83	351	PKPbc	PKPbc	07 54 40.3	-0.2
	0.2nm,0.2s,baz=354,slow=3.0,SNR=3.8						

*IDC **19** 07:36:00.4±1.1, 23°34S×70°60W, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.9/18, mbtmp4.0/6, ML3.8/2, MS3.3/5, Ms1 3.3/5, ms1mx3.1/20, Error ellipse: s-maj=29.9km s-min=28.6km az=106.0*
*ISCJB **19** 07:36:04.2±0.7, 23°30S±0°04×70°67W±0°07, h39km±7km,

PB10				*i* S		**Sb**	**07 36 17.5**	**+3.6**
CEN1	**Los Morros**	**0.44**	**101**	⇑*i*P		**Pn**	**07 36 14.8**	**-0.2**
CEN1				*i* S		**Sn**	**07 36 20.9**	**-1.4**
ANCH	**Antofagasta**	**0.45**	**148**	⇓*i*P		**Pb**	**07 36 10.8**	**-2.4**
ANCH				*i* S		**Sb**	**07 36 17.9**	**-1.5**
PB06	**IPOC Station P**	**1.17**	**60**	⇓*i*P		**Pn**	**07 36 24.2**	**-0.8**
PB06				*i* S		**Sn**	**07 36 38.8**	**-1.7**
PB06				IAML			07 36 39.7	
	comp=E,16μm,0.4s							
PB04	**IPOC Station P**	**1.50**	**47**	⇓*i*P		Pn	07 36 22.4	-7.0
PB04				*i* S		Sn	07 36 35.5	-13
PB04				IAML			07 36 36.8	
	comp=E,12μm,0.6s							
PB07	**IPOC Station P**	**1.73**	**25**	⇑*i*P		**Pn**	**07 36 31.6**	**-1.1**
PB07				*i* S		**Sn**	**07 36 52.8**	**-1.4**
PB07				IAML			07 36 55.9	
	comp=E,13μm,0.4s							
LVC	**Limon Verde**	**1.76**	**67**	*e*Pn		**Pn**	**07 36 34.2**	**+1.0**
LVC				*e*Sg		**Sn**	**07 36 55.6**	**+0.5**
PB01	**IPOC Station P**	**2.50**	**26**	IAML			07 37 19.4	
	comp=E,2μm,1.3s							
PATCX	**Punta Patache**	**2.52**	**11**	*i* S		**Sn**	**07 37 15.5**	**+2.0**
ARE	**Arequipa**	**6.85**	**353**	*e*P		**Pn**	**07 37 42.0**	**-1.3**
ARE				*e*S		**Sn**	**07 38 56.0**	**-4.8**
LPAZ	**La Paz**	**7.38**	**19**	Pn		**Pn**	**07 37 51.5**	**+0.7**
	comp=E,0.5nm,0.3s,baz=156,slow=2.9,SNR=17							
LPAZ				LR		LR	07 41 02.7	
	comp=E,235nm,18.1s,baz=201,slow=41							
LPAZ	**La Paz**	**7.38**	**19**	*e*Pn		**Pn**	**07 37 52.4**	**+1.6**
	comp=E,1.3nm,0.4s							
CFAA	**Coronel Fontan**	**8.55**	**166**	Pn		**Pn**	**07 38 06.2**	**-0.1**
	comp=E,0.0nm,0.3s,baz=350,slow=14,SNR=2.4							
CFAA				LR		LR	07 41 37.6	
	comp=E,27nm,21.3s,baz=330,slow=40							
SIV	**San Ignacio**	**11.60**	**53**	Pn		**Pn**	**07 38 48.9**	**+0.7**
	comp=E,1.4nm,0.3s,baz=245,slow=14,SNR=12							
SIV				Sn		**Sn**	**07 40 58.4**	**+1.3**
	baz=195,slow=6.6,SNR=3.5							
TRQA	**Tornquist**	**16.48**	**155**	*e*P		**P**	**07 39 56.3**	**+0.1**
	comp=E,4.9nm,0.8s							
BDFB	**Brasilia**	**22.66**	**74**	LR		LR	07 51 06.5	
	comp=E,92nm,19.9s,baz=217,slow=40							
TXAR	**Lajitas Array**	**61.21**	**327**	P		**P**	**07 46 17.4**	**+0.2**
	comp=E,0.2nm,0.7s,baz=163,slow=6.6,SNR=2.4							
ANMO	**Albuquerque**	**67.15**	**329**	*e*P		**P**	**07 46 58.0**	**+1.8**
	comp=E,3.0nm,1.3s							
DBIC	**Dimbokro**	**70.80**	**74**	P		**P**	**07 47 17.6**	**-1.5**
	comp=E,3.4nm,0.7s,baz=207,slow=8.4,SNR=4.2							
DBIC				LR		LR	08 17 52.8	
	comp=E,42nm,18.8s,baz=133,slow=36							
DBIC	**Dimbokro**	**70.80**	**74**	*e*P		**P**	**07 47 18.3**	**-0.8**
	comp=E,7.3nm,1.1s							
TORD	**Torodi Ar. Bea**	**79.49**	**71**	P		**P**	**07 48 08.8**	**-0.4**
	comp=E,3.5nm,0.8s,baz=258,slow=4.9,SNR=20							
BOSA	**Boshof**	**84.03**	**118**	LR		LR	08 22 59.0	
	comp=E,49nm,18.5s,baz=172,slow=34							
YKA	**Yellowknife Ar**	**92.35**	**341**	P		**P**	**07 49 12.1**	**+0.2**
	comp=E,0.1nm,0.2s,baz=138,slow=4.4,SNR=9.3							
H11S2	**WAKE ISLAND Hyl**	**26.47**	**276**	T		T	10 14 20.4	
	baz=106,slow=75,SNR=90							
H11S1	**WAKE ISLAND Hyl**	**26.48**	**276**	T		T	10 14 22.3	
	baz=106,slow=75,SNR=99							
H11S3	**WAKE ISLAND Hyl**	**26.49**	**276**	T		T	10 14 20.7	
	baz=106,slow=75,SNR=108							
H11N3	**WAKE ISLAND Hyl**	**26.61**	**278**	T		T	10 14 31.3	
	baz=104,slow=75,SNR=75							
H11N2	**WAKE ISLAND Hyl**	**26.62**	**278**	T		T	10 14 34.0	
	baz=104,slow=75,SNR=92							
H11N1	**WAKE ISLAND Hyl**	**26.62**	**278**	T		T	10 14 32.5	
	baz=104,slow=75,SNR=58							
ASAR	**Alice Springs**	**127.56**	**209**	PKP		**PKPdf**	**07 55 08.0**	**+0.1**
	comp=E,0.6nm,0.9s,baz=129,slow=2.5,SNR=4.8							
ZALV	**Zalesovo Beam**	**144.27**	**25**	PKP		**PKPdf**	**07 55 39.0**	**+1.3**
	comp=E,0.8nm,0.3s,baz=240,slow=5.0,SNR=5.4							
EKS2	**Erkin-Say**	**144.82**	**48**	*e*PKPdf		**PKPdf**	**07 55 39.3**	**+0.1**
AAK	**Ala-Archa**	**145.32**	**48**	*e*PKPdf		**PKPdf**	**07 55 41.1**	**+0.9**
MKAR	**Makanchi Array**	**148.04**	**36**	PKPbc		**PKPbc**	**07 55 48.0**	**+0.4**
	comp=E,1.5nm,0.7s,baz=343,slow=3.8,SNR=16							

*CSEM **19** 08:35:10.8±0.4, 39°.76N×29°.22E, h15km, MD2.6, Error ellipse: s-maj=8.8km s-min=3.1km az=116.0*
*DDA **19** 08:35:14.3, 39°.64N×29°.47E, h7km, MD2.6*
ISC 19 08:35:11.0±5.0, 39°.8N±0°.1×29°.2E±0°.2, h15km±13km, n6, σ0s46/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.35**	**150**	*e*Pg	**Pg**	**08 35 18.4**	**+0.1**
TVSB				*e*SG	**Sg**	**08 35 23.2**	**-0.1**
TVSB	**Tavsanli**	**0.35**	**150**	*e*Pg	**Pg**	**08 35 18.4**	**+0.1**
TVSB				*e*Sg	**Sg**	**08 35 23.2**	**-0.1**
GDZ	**Gediz**	**0.69**	**164**	*i* P	**Pg**	**08 35 24.9**	**+0.3**
GDZ				*i* S	**Sb**	**08 35 33.8**	**-0.5**
GDZ	**Gediz**	**0.69**	**164**	*i* P	**Pg**	**08 35 24.9**	**+0.3**
GDZ				*i* S	**Sb**	**08 35 33.8**	**-0.5**
BORA	**Eskisehir**	**0.94**	**82**	*i* P	**Pg**	**08 35 29.0**	**-0.4**
BORA				*i* S	**Sb**	**08 35 42.1**	**+0.6**
BORA	**Eskisehir**	**0.94**	**82**	*i* P	**Pg**	**08 35 29.0**	**-0.4**
BORA				*i* S	**Sb**	**08 35 42.1**	**+0.6**

*BYKL **19** 08:40:54.3±0.6, 49°.16N×104°.48E*
*MOS **19** 08:40:54.2±3.6, 49°.18N×104°.53E, h10km, mb4.3/1, Error ellipse: s-maj=8.5km s-min=5.9km az=60.7*
ISC 19 08:40:55.2±0.9, 49°.25N±0°.03×104°.69E±0°.03, h10km, n32, σ2s18/53, 3C, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAK	**Zakamensk**	**1.46**	**322**	*e*PG	**Pn**	**08 41 20.9**	**-0.8**
ZAK				*e*		08 41 40.5	
ZAK				pmax	pmax		
	comp=Z,522nm,0.2s						
ZAK				smax	smax		
	comp=E,451nm,0.1s						
ZAK	**Zakamensk**	**1.46**	**322**	⇑*i*Pg	**Pn**	**08 41 20.8**	**-0.9**
ZAK				⇑*i*		08 41 21.1	
ZAK				*e*		08 41 24.5	
ZAK				*e*Sg	**Sb**	**08 41 40.5**	**-0.6**
ZAK				max			
	comp=E,521nm,0.2s						
ZAK				Smax			
	comp=E,439nm,0.2s						
ULN	**Ulaanbaatar**	**2.09**	**131**	⇑*i*Pn	**Pn**	**08 41 31.1**	**+0.6**
ULN				*e*Pg	**Pb**	**08 41 33.1**	**-0.3**
ULN				*e*Sn	**Sn**	**08 41 56.9**	**+0.2**
ULN				*e*Sg	**Sg**	**08 42 01.6**	**-0.9**
TLY	**Talaya**	**2.52**	**345**	*e*PN	**Pb**	**08 41 40.2**	**-0.4**
TLY				*e*		08 42 13.6	
TLY				pmax	pmax		
	comp=Z,45nm,0.3s						
TLY				smax	smax		
	comp=N,184nm,0.3s						
TLY	**Talaya**	**2.52**	**345**	*e*Pn	**Pn**	**08 41 37.2**	**+0.9**
TLY				*e*Pg	**Pb**	**08 41 40.0**	**-0.6**
TLY				*e*		08 41 40.9	
TLY				*e*Sg	**Sb**	**08 42 13.6**	**+1.8**
TLY				max			
	comp=N,46nm,0.2s						
TLY				Smax			
	comp=N,184nm,0.3s						
LSTR	**Listvyanka**	**2.62**	**2**	*e*	**Pb**	**08 41 42.5**	**+0.2**
LSTR				*e*Pg	**Pg**	**08 41 43.3**	**-2.2**
LSTR				*e*Sn	**Sn**	**08 42 10.6**	**+1.1**
LSTR				*e*Sg	**Sg**	**08 42 18.8**	**-0.7**
LSTR				Pmax			
	comp=N,27nm,0.3s						
LSTR				Smax			
	comp=N,424nm,1.2s						
HRMR	**Khuramsha**	**2.79**	**30**	*e*Pn	**Pn**	**08 41 40.5**	**+0.6**
HRMR				*e*		08 41 45.7	
HRMR				*e*Pg	**Pb**	**08 41 46.7**	**+1.6**
HRMR				*e*Sg	**Sg**	**08 42 25.9**	**+1.2**
HRMR				Pmax			
	comp=N,72nm,0.4s						
HRMR				Smax			
	comp=N,1μm,0.6s						
IRK	**Irkutsk**	**3.01**	**355**	*e*PN	**Pb**	**08 41 49.0**	**+0.1**
IRK				*e*		08 42 29.7	
IRK				pmax	pmax		
	comp=Z,209nm,0.1s						
IRK				smax	smax		
	comp=E,666nm,0.4s						
IRK	**Irkutsk**	**3.01**	**355**	*e*Pg	**Pb**	**08 41 48.8**	**-0.1**
IRK				*e*Sg	**Sg**	**08 42 29.6**	**-2.2**
IRK				Pmax			
	comp=E,206nm,0.1s						
IRK				Smax			
	comp=E,813nm,1.1s						
ARS	**Arshan**	**3.04**	**332**	*e*Sg	**Sb**	**08 42 29.1**	**+2.5**
KAB	**Kabansk**	**3.07**	**23**	*i* Sg	**Sg**	**08 42 35.0**	**+1.2**
KAB				Smax			
	comp=E,124nm,1.6s						
UUDB	**Ulan-Yde**	**3.23**	**35**	*e*	**Pb**	**08 41 53.3**	**+0.6**
UUDB				*e*Pg	**Pg**	**08 41 54.6**	**-2.6**
UUDB				*e*		08 41 59.9	
UUDB				*e*Sg	**Sg**	**08 42 39.6**	**+0.5**
UUDB				Pmax			
	comp=E,40nm,0.7s						
UUDB				Smax			
	comp=E,334nm,1.0s						
MOY	**Mondy**	**3.38**	**317**	*e*PN	**Pb**	**08 41 54.0**	**-1.2**
MOY				*e*		08 42 39.1	
MOY				pmax	pmax		
	comp=Z,32nm,0.3s						
MOY				smax	smax		
	comp=E,385nm,1.1s						
MOY	**Mondy**	**3.38**	**317**	Pn	**Pn**	**08 41 46.9**	**-1.3**
MOY				*e*Pg	**Pb**	**08 41 54.1**	**-1.2**
MOY				*e*PgPg	**PnPn**	**08 41 56.0**	**+0.5**
MOY				*e*Sg	**Sb**	**08 42 39.4**	**+2.9**
MOY				*e*SgSg	**Sg**	**08 42 47.1**	**+3.3**
MOY				max			
	comp=E,30nm,0.4s						
MOY				max			
	comp=E,383nm,1.1s						
TRG	**Tyrgan**	**3.67**	**16**	*e*Pn	**Pn**	**08 41 53.3**	**+1.3**
TRG				*e*Pg	**Pb**	**08 42 00.8**	**+0.7**
TRG				*e*Sg	**Sg**	**08 42 50.7**	**-2.3**
TRG				Pmax			
	comp=E,9.0nm,0.2s						
TRG				Smax			
	comp=E,116nm,0.4s						
ORL	**Orlik**	**4.51**	**319**	*e*PN	**Pb**	**08 42 14.5**	**-0.1**
ORL				*e*		08 43 13.6	
ORL				pmax	pmax		
	comp=Z,19nm,0.6s						
ORL				smax	smax		
	comp=N,92nm,1.0s						
ORL	**Orlik**	**4.51**	**319**	*e*Pg	**Pb**	**08 42 14.5**	**-0.1**
ORL				*e*Sg	**Sb**	**08 43 13.3**	**+4.2**
ORL				Pmax			
	comp=N,26nm,1.7s						
ORL				Smax			
	comp=N,95nm,1.8s						
OGRR	**Ongureny**	**4.76**	**21**	*e*Sn	**Sn**	**08 43 03.9**	**+1.7**
OGRR				*e*Sg	**Sg**	**08 43 24.2**	**-3.8**
OGRR				Smax			
	comp=N,76nm,1.2s						
KPC	**Khapcheranga**	**5.03**	**82**	*e*PN	**Pn**	**08 42 11.2**	**+0.4**
KPC				*e*		08 42 28.5	
KPC				*e*		08 43 32.9	
KPC				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KPC				smax	smax		
	comp=N,104nm,1.4s						
KPC	**Khapcheranga**	**5.03**	**82**	*e*Pn	**Pn**	**08 42 11.1**	**+0.3**
KPC				*e*Pg	**Pb**	**08 42 25.5**	**+2.1**
KPC				*e*		08 42 32.0	
KPC				*e*Sg	**Sg**	**08 43 33.8**	**-3.0**
KPC				max			
	comp=N,6.0nm,0.5s						
KPC				Smax			
	comp=N,104nm,1.2s						
SYVR	**Suvo**	**5.52**	**35**	*e*PN	**Pb**	**08 42 34.3**	**+2.6**
SYVR				*e*		08 43 50.2	
SYVR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SYVR				smax	smax		
	comp=E,74nm,1.2s						
SYVR	**Suvo**	**5.52**	**35**	*e*Pg	Pb	08 42 35.2	+3.5
SYVR				*e*		08 43 26.0	
SYVR				*e*Sg	**Sg**	**08 43 50.3**	**-2.1**
SYVR				Pmax			
	comp=E,5.0nm,0.5s						
SYVR				Smax			
	comp=E,73nm,1.1s						
CIT	**Chita**	**6.28**	**60**	*e*Sg	**Sg**	**08 44 14.1**	**-2.7**
CIT				Smax			
	comp=E,75nm,0.2s						
YLYR	**Ulyunkhan**	**6.90**	**33**	*e*Pn	**Pn**	**08 42 37.9**	**+1.5**
YLYR				*e*Pg	Pb	08 43 01.0	+5.8
YLYR				*e*Sn	**Sn**	**08 43 58.6**	**+3.7**
YLYR				*e*Sg	**Sg**	**08 44 32.6**	**-4.0**
YLYR				Pmax			
	comp=E,1.0nm,0.5s						
YLYR				Smax			
	comp=E,48nm,1.4s						
NIZ	**Nizh Angarsk**	**7.17**	**22**	*e*	Sx	08 44 10.6	
NIZ				*e*Sg	**Sg**	**08 44 40.1**	**-5.2**
NIZ				Smax			
	comp=E,22nm,1.1s						
HVS	**Khovu-Aksy**	**7.30**	**289**	*e*Sg	Sb	08 44 38.2	+9.0
KMO	**Kumora**	**7.74**	**28**	*e*Pg	Pg	08 43 17.0	-6.3
KMO				*e*		08 44 10.4	
KMO				*e*Sg	**Sg**	**08 44 59.2**	**-4.2**
KMO				Pmax			
	comp=E,5.0nm,0.4s						
KMO				Smax			
	comp=E,48nm,1.2s						
UKT	**Uakit**	**8.30**	**38**	Pg	Pb	08 43 26.3	+7.3
UKT				*e*		08 44 32.0	
UKT				*e*Sg	**Sg**	**08 45 16.4**	**-4.9**
UKT				Pmax			
	comp=E,1.0nm,0.7s						
UKT				Smax			
	comp=E,33nm,1.1s						
NLYR	**Nelyaty**	**9.84**	**38**	*e*Sg	Sn	08 46 04.4	+57
NLYR				Smax			
	comp=E,71nm,1.2s						
BOD	**Bodaibo**	**10.21**	**29**	*e*Sg	Sn	08 46 16.2	+60
BOD				Smax			
	comp=E,7.0nm,1.2s						
TUP	**Tupik**	**10.77**	**55**	*e*Sg		08 46 33.3	
TUP				Smax			
	comp=E,10.0nm,1.0s						
CRS	**Chara**	**11.18**	**42**	*e*Sg		08 46 45.9	
CRS				Smax			
	comp=E,48nm,2.4s						

GUC 19 08:41:18.7±0.5, 36°.38S×72°.45W, h50km±2km, ML3.9, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.37**	**312**	⇓*i*P	Pn	08 41 28.1	-0.4
COCH				*i* S	Sn	08 41 35.3	-0.1
CCSP	**San Pedro de C**	**0.70**	**229**	⇑*i*P	Pn	08 41 32.0	-0.5
CCSP				*i* S	Sn	08 41 42.6	+0.2
LNCH	**Linares**	**0.87**	**53**	⇓*i*P	Pn	08 41 33.0	-1.7
LNCH				*i* S	Sn	08 41 45.3	-1.0
TALC	**Talca**	**1.18**	**34**	⇓*i*P	Pn	08 41 38.9	0.0
TALC				*i* S	Sn	08 41 53.9	0.0
PEL	**Peldehue**	**3.54**	**25**	⇑*i*P	Pn	08 42 11.4	+0.2
PEL				*i* S4	Sn	08 42 57.6	+5.7
PEL				IAML		08 43 08.1	
	comp=E,146nm,0.5s						

*NEIC **19** 08:43:56.5, 36°.96S×177°.74E, h63km, ML4.0(WEL), After WEL.*
WEL 19 08:43:56.3±0.2, 36°.95S×177°.75E, h62km±2km, ML4.0/11, 8C-4D, Error ellipse: s-maj=1.4km s-min=1.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.75**	**144**	⇓P*	Pn	08 44 11.2	-0.1
MXZ				*e*S*	Sn	08 44 21.8	-0.5
MXZ				AML	AML	08 44 27.4	
MXZ				AML	AML	08 44 28.2	
MXZ				AML	AML	08 44 28.2	
MXZ	**Matakaoa Point**	**0.75**	**144**	P*	Pn	08 44 11.2	-0.1
MXZ				S*	Sn	08 44 27.1	+4.8
HAZ	**Te Kaha**	**0.80**	**178**	⇓P*	Pn	08 44 11.7	-0.1
HAZ				S*	Sn	08 44 23.5	+0.1
WMGZ	**Waiomatatini S**	**1.01**	**149**	PN	Pn	08 44 15.3	+0.7
PUZ	**Puketiti**	**1.19**	**160**	PN	Pn	08 44 16.8	-0.1
PUZ				AML	AML	08 44 37.8	
PUZ				AML	AML	08 44 43.0	
PUZ	**Puketiti**	**1.19**	**160**	Pn	Pn	08 44 16.8	-0.1
TWGZ	**Tauwhareparae**	**1.23**	**171**	PN	Pn	08 44 18.5	+1.0
OPRZ	**Ohinepanea**	**1.30**	**227**	⇑P*	Pn	08 44 18.3	-0.1
OPRZ	**Ohinepanea**	**1.30**	**227**	P*	Pn	08 44 18.3	-0.1
MARZ	**Manawahe**	**1.34**	**219**	*e*P*	Pn	08 44 18.8	-0.1
MARZ	**Manawahe**	**1.34**	**219**	P*	Pn	08 44 19.2	+0.3
MWZ	**Matawai**	**1.39**	**187**	⇑P*	Pn	08 44 19.4	-0.2
MWZ				S*	Sn	08 44 37.4	+0.2
MWZ				AML	AML	08 44 40.7	
MWZ				AML	AML	08 44 40.9	
MWZ				AML	AML	08 44 41.0	
MWZ	**Matawai**	**1.39**	**187**	P*	Pn	08 44 19.4	-0.2
URZ	**Urewera**	**1.40**	**201**	⇑P*	Pn	08 44 19.3	-0.3
URZ				*e*S*	Sn	08 44 37.5	+0.3
URZ				AML	AML	08 44 41.3	
URZ	**Urewera**	**1.40**	**201**	P*	Pn	08 44 19.3	-0.3
EDRZ	**Edgecumbe**	**1.41**	**215**	*e*P*	Pn	08 44 19.9	0.0
EDRZ	**Edgecumbe**	**1.41**	**215**	P*	Pn	08 44 19.9	0.0
TGRZ	**Tauranga**	**1.42**	**236**	⇑P*	Pn	08 44 20.0	+0.1
TGRZ	**Tauranga**	**1.42**	**236**	P*	Pn	08 44 20.0	+0.1
TKGZ	**Te Karaka**	**1.48**	**177**	⇓PN	Pn	08 44 20.8	0.0
RAGZ	**Rawiri**	**1.56**	**190**	⇓P*	Pn	08 44 22.4	+0.4
CNGZ	**Carnagh Statio**	**1.57**	**167**	*e*PN	Pn	08 44 22.2	+0.3
CNGZ	**Carnagh Statio**	**1.57**	**167**	Pn	Pn	08 44 21.7	-0.2
KARZ	**Kaharoa**	**1.60**	**228**	⇑P*	Pn	08 44 22.4	0.0
KARZ	**Kaharoa**	**1.60**	**228**	P*	Pn	08 44 22.4	0.0
TARZ	**Mount Tarawera**	**1.62**	**217**	P*	Pn	08 44 24.3	+1.5
TARZ	**Mount Tarawera**	**1.62**	**217**	P*	Pn	08 44 24.3	+1.5
KUZ	**Kuaotunu**	**1.64**	**277**	⇑PN	Pn	08 44 22.9	+0.1
KUZ	**Kuaotunu**	**1.64**	**277**	Pn	Pn	08 44 22.9	+0.1
RRRZ	**Republican Roa**	**1.70**	**215**	*e*P*	Pn	08 44 24.6	+0.8
RRRZ	**Republican Roa**	**1.70**	**215**	P*	Pn	08 44 23.7	-0.1
RIGZ	**Rimuhau**	**1.75**	**180**	PN	Pn	08 44 23.8	-0.7
SNGZ	**Shannon Statio**	**1.85**	**190**	PN	Pn	08 44 25.5	-0.4
PRRZ	**Plateau Road**	**1.88**	**214**	P*	Pn	08 44 26.1	-0.1
PRRZ	**Plateau Road**	**1.88**	**214**	P*	Pn	08 44 26.1	-0.1
TOZ	**Tahuroa Road**	**1.95**	**246**	P*	Pn	08 44 27.1	0.0
TOZ	**Tahuroa Road**	**1.95**	**246**	P*	Pn	08 44 27.1	0.0
ALRZ	**Allen Road**	**1.96**	**214**	P*	Pn	08 44 27.3	+0.1
ALRZ	**Allen Road**	**1.96**	**214**	P*	Pn	08 44 27.4	+0.1
PRGZ	**Paritu Road**	**1.97**	**177**	PN	Pn	08 44 26.2	-1.2
PRGZ	**Paritu Road**	**1.97**	**177**	Pn	Pn	08 44 26.2	-1.2
RAHZ	**Arahi**	**2.03**	**195**	PN	Pn	08 44 27.9	-0.4
RAHZ	**Arahi**	**2.03**	**195**	Pn	Pn	08 44 27.9	-0.4
KNZ	**Kokohu**	**2.06**	**182**	PN	Pn	08 44 27.2	-1.4
KNZ	**Kokohu**	**2.06**	**182**	Pn	Pn	08 44 27.2	-1.4
WHHZ	**Waihua**	**2.16**	**191**	PN	Pn	08 44 29.3	-0.7
MHGZ	**Mahia Peninsul**	**2.20**	**177**	PN	Pn	08 44 29.2	-1.3
MHGZ	**Mahia Peninsul**	**2.20**	**177**	Pn	Pn	08 44 29.2	-1.3
TLZ	**Tolley Road**	**2.23**	**231**	⇑P*	Pn	08 44 30.8	-0.1
NMHZ	**Naumai**	**2.27**	**199**	Pn	Pn	08 44 31.2	-0.3
ARHZ	**Aropaoanui**	**2.38**	**194**	PN	Pn	08 44 31.9	-1.1
BKZ	**Black Stump Fm**	**2.42**	**204**	P*	Pn	08 44 32.6	-1.0
BKZ				AML	AML	08 45 11.3	
BKZ				AML	AML	08 45 12.9	
BKZ	**Black Stump Fm**	**2.42**	**204**	P*	Pn	08 44 32.6	-1.0
RITZ	**Rihia Road**	**2.51**	**216**	P*	Pn	08 44 35.4	+0.5
RITZ	**Rihia Road**	**2.51**	**216**	P*	Pn	08 44 35.4	+0.5
MCHZ	**McNeill Hill**	**2.62**	**198**	PN	Pn	08 44 35.0	-1.3
MCHZ	**McNeill Hill**	**2.62**	**198**	Pn	Pn	08 44 35.0	-1.3
KRVZ	**Karewarewa**	**2.71**	**217**	P*	Pn	08 44 38.0	+0.4
KRVZ	**Karewarewa**	**2.71**	**217**	P*	Pn	08 44 38.0	+0.4
WTVZ	**West Tongariro**	**2.75**	**218**	P*	Pn	08 44 38.3	+0.1
WTVZ	**West Tongariro**	**2.75**	**218**	P*	Pn	08 44 38.3	+0.2
CKHZ	**Cape Kidnapper**	**2.75**	**191**	PN	Pn	08 44 35.6	-2.5
CKHZ	**Cape Kidnapper**	**2.75**	**191**	Pn	Pn	08 44 36.0	-2.0
OTVZ	**Oturere**	**2.75**	**216**	*e*P*	Pn	08 44 38.3	+0.1
HIZ	**Hauiti**	**2.77**	**235**	PN	Pn	08 44 38.6	+0.3
HIZ	**Hauiti**	**2.77**	**235**	Pn	Pn	08 44 38.6	+0.3
NGZ	**Ngauruhoe**	**2.79**	**217**	P*	Pn	08 44 38.8	0.0
NGZ	**Ngauruhoe**	**2.79**	**217**	P*	Pn	08 44 38.8	0.0
TWVZ	**Taurewa**	**2.79**	**220**	P*	Pn	08 44 39.3	+0.6
TWVZ	**Taurewa**	**2.79**	**220**	P*	Pn	08 44 39.3	+0.6
TUVZ	**Tukino**	**2.84**	**215**	P*	Pn	08 44 39.1	-0.3
TUVZ	**Tukino**	**2.84**	**215**	P*	Pn	08 44 39.1	-0.3
WPVZ	**Whakapapa**	**2.84**	**217**	P*	Pn	08 44 40.1	+0.7
WPVZ	**Whakapapa**	**2.84**	**217**	P*	Pn	08 44 40.1	+0.7
BHHZ	**Black Hill Sta**	**2.86**	**207**	P*	Pn	08 44 38.3	-1.3
BHHZ	**Black Hill Sta**	**2.86**	**207**	P*	Pn	08 44 38.3	-1.3
FWVZ	**Far West T-bar**	**2.88**	**216**	P*	Pn	08 44 40.0	0.0
FWVZ	**Far West T-bar**	**2.88**	**216**	P*	Pn	08 44 40.0	0.0
DPZ	**Dome Shelter**	**2.89**	**216**	P*	Pn	08 44 41.8	+1.1
KRHZ	**Kereru**	**2.90**	**202**	PN	Pn	08 44 37.8	-2.3
MOVZ	**Moawhango**	**2.91**	**212**	P*	Pn	08 44 38.9	-1.4
MOVZ	**Moawhango**	**2.91**	**212**	P*	Pn	08 44 38.9	-1.4
WNVZ	**Wahianoa**	**2.92**	**215**	P*	Pn	08 44 40.2	-0.2
WNVZ	**Wahianoa**	**2.92**	**215**	P*	Pn	08 44 40.2	-0.2
TRVZ	**Turoa**	**2.92**	**216**	P*	Pn	08 44 39.9	-0.6
TRVZ	**Turoa**	**2.92**	**216**	P*	Pn	08 44 39.9	-0.6
KAHZ	**Kahuranaki**	**2.92**	**193**	PN	Pn	08 44 38.0	-2.4
KAHZ	**Kahuranaki**	**2.92**	**193**	Pn	Pn	08 44 38.0	-2.4
PKVZ	**Pokaka**	**3.01**	**218**	P*	Pn	08 44 41.9	+0.3
PKVZ	**Pokaka**	**3.01**	**218**	P*	Pn	08 44 41.9	+0.3
MTVZ	**Mangateitei**	**3.02**	**216**	P*	Pn	08 44 41.0	-0.7

TCW	Tory Channel	5.04 211	Pn	Pn	08 45 04.3	-4.9
TUWZ	Tuamarina	5.36 212	PN	Pn	08 45 08.5	-5.2
TUWZ	Tuamarina	5.36 212	Pn	Pn	08 45 08.5	-5.2
NNZ	Nelson	5.45 217	PN	Pn	08 45 11.0	-3.8
NNZ	Nelson	5.45 217	Pn	Pn	08 45 11.0	-3.8
QRZ	Quartz Range	5.62 225	PN	Pn	08 45 13.4	-3.8
QRZ	Quartz Range	5.62 225	Pn	Pn	08 45 13.4	-3.8
BSWZ	Blackbirch Sta	5.62 211	PN	Pn	08 45 12.6	-4.7
BSWZ	Blackbirch Sta	5.62 211	Pn	Pn	08 45 12.6	-4.7
THZ	Tophouse	6.10 217	PN	Pn	08 45 19.0	-4.8
THZ	Tophouse	6.10 217	Pn	Pn	08 45 19.0	-4.8
KHZ	Kahutara	6.35 209	PN	Pn	08 45 21.1	-6.0
KHZ	Kahutara	6.35 209	Pn	Pn	08 45 21.1	-6.0
DSZ	Denniston Nort	6.64 222	PN	Pn	08 45 26.3	-5.0
DSZ	Denniston Nort	6.64 222	Pn	Pn	08 45 26.3	-5.0
LTZ	Lake Taylor	7.18 214	PN	Pn	08 45 32.0	-6.7
LTZ	Lake Taylor	7.18 214	Pn	Pn	08 45 32.0	-6.7
OXZ	Oxford	7.72 213	PN	Pn	08 45 39.1	-6.9
MQZ	McQueen's Vall	7.79 208	PN	Pn	08 45 38.9	-7.9
MQZ	McQueen's Vall	7.79 208	Pn	Pn	08 45 38.9	-7.9
CTZ	Chatham Island	8.02 149	*e*PN	Pn	08 45 48.7	-1.4
RPZ	Rata Peaks	8.47 215	PN	Pn	08 45 49.8	-6.4
RPZ	Rata Peaks	8.47 215	Pn	Pn	08 45 49.8	-6.4
ODZ	Otahua Downs	9.70 211	PN	Pn	08 46 05.9	-7.1
ODZ	Otahua Downs	9.70 211	Pn	Pn	08 46 06.0	-7.1

GCMT ***19*** *08:54:44.0±0.2,35.°67S×73.°33W,h15km,MW5.5/88, Moment Tensor Solution. s53,c76; s88,c134; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.59±.02; $M_{\theta\theta}$0.04±.01; $M_{\phi\phi}$-0.62±.02; $M_{r\theta}$0.08±.05; $M_{\theta\phi}$-0.15±.01; $M_{\phi r}$-1.84±.05; Best double couple: $M_0$1.94400×10^{17} NP1:ϕ_s178.00000°,δ81.00000°,λ85.00000°. NP2: ϕ_s27.00000°,δ10.00000°,λ118.00000°. Principal axes: T 1.9320, Plg54.0000°, Azm82.0000°; N 0.0250, Plg5.0000°, Azm179.0000°; P -1.9560, Plg36.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

GUC ***19*** *08:54:44.1±0.8,35.°55S×73.°48W,h14km±6km,ML5.9*

NEIC ***19*** *08:54:44.0,35.°54S×73.°48W,h14km,mb5.4/163, ML5.9(GUC),After GUC.*

NEIC Felt [IV] at Cauquenes, Constitucion, Curico, Linares, Parral, San Javier and Talca; [II] at Pichilemu, Rancagua, San Antonio, San Fernando and Valparaiso. Also felt at Chillan, Santiago and Talcahuano.

IDC ***19*** *08:54:44.7±0.4,35.°46S×73.°10W,h0km,mb5.1/25, mb1 5.1/29,mb1mx5.0/34,mbtmp5.0/29,ML4.7/4,MS4.9/14, Ms1 4.9/14,ms1mx4.7/24,Error ellipse: s-maj=16.7km s-min=8.8km az=94.0*

ISCJB ***19*** *08:54:47.3±2.1,35.°46S±0.°04×72.°90W±0.°06,h21km±14km, mb5.3/181,MS5.0/17,Error ellipse: s-maj=9.3km s-min=5.1km az=152.6*

BJI ***19*** *08:54:47.9,35.°13S×73.°68W,h29km,mB5.5/22,Ms5.4/18, Ms7 5.1/20*

MOS ***19*** *08:54:49.4±1.0,35.°38S×72.°88W,h33km,mb5.6/58,Error ellipse: s-maj=17.2km s-min=7.0km az=99.7*

ISC 19 08:54:48.9±0.5,**35.°59S**±0.°03×**73.°18W**±0.°05,**h29**km±2km, **h28**km:**pP-P**,**n882**,σ1§**20**/906,**mb5.4**/181,**MS5.0**/17, **191C-207D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.25**	**177**	*e*P9		**Pn**	**08 55 08.9**	**-1.5**
CCSP				*i* S		**Sn**	**08 55 25.9**	**-0.4**
TALC	**Talca**	**1.28**	**82**	⇑*i*P		**Pn**	**08 55 09.7**	**-1.0**
TALC				*i* S		**Sb**	**08 55 29.3**	**+1.1**
TALC				AML		AML	08 55 35.9	
	comp=N,351μm,0.7s							
LNCH	**Linares**	**1.31**	**102**	⇑*i*P		**Pn**	**08 55 10.7**	**-0.5**
LNCH				*i* S4		**Sb**	**08 55 28.7**	**-0.5**
LNCH				AML		AML	08 55 40.6	
	comp=E,114μm,0.7s							
NICH	**Los Niches**	**1.70**	**70**	⇑*i*P		**Pn**	**08 55 16.3**	**-0.3**
NICH				*i* S		**Sb**	**08 55 41.5**	**+1.0**
NICH				AML		AML	08 55 48.4	
	comp=E,246μm,0.6s							
ANTU	**Antumapu**	**2.91**	**47**	*e*P		**Pn**	**08 55 33.0**	**-0.3**
ANTU				AML		AML	08 56 26.7	
	comp=E,27μm,0.7s							
CLCH	**Cerro Calan**	**3.09**	**46**	*e*P1		**Pn**	**08 55 35.9**	**+0.1**
CLCH				*e*S		**Sn**	**08 56 14.9**	**+3.1**
CLCH				AML		AML	08 56 28.1	
	comp=N,33μm,0.7s							
PEL	**Peldehue**	**3.20**	**41**	⇓*i*P		**Pn**	**08 55 36.4**	**-0.9**
PEL				AML		AML	08 56 37.3	
	comp=E,27μm,0.7s							
PLCA	**Paso Flores**	**5.54**	**159**	*e*P		**Pn**	**08 56 09.6**	**+0.2**
PLCA	**Paso Flores**	**5.54**	**159**	Pn		**Pn**	**08 56 09.9**	**+0.5**
	comp=E,6.3nm,0.3s,baz=329,slow=11,SNR=283							
PLCA				Lg		Lg	08 57 38.7	
	comp=E,11nm,0.3s,baz=257,slow=14,SNR=4.1							
PLCA	**Paso Flores**	**5.54**	**159**	*e*Pn		**Pn**	**08 56 09.6**	**+0.2**
PLCA				*e*S		**Sb**	**08 57 30.6**	**-0.2**
PLCA				Lg		Lg	08 57 38.7	
CFAA	**Coronel Fontan**	**5.73**	**47**	Pn		**Pn**	**08 56 10.5**	**-1.6**
	comp=E,7.6nm,0.3s,baz=222,slow=12,SNR=150							
CFAA				Lg		Lg	08 57 42.5	
	comp=E,10.0nm,0.3s,baz=348,slow=11,SNR=5.7							
CFAA				LR		LR	08 57 51.8	
	comp=E,251nm,18.8s,baz=226,slow=34							
LCO	**Las Campanas**	**6.89**	**18**	*e*Pn		Pn	08 56 24.4	-3.8
TRQA	**Tornquist**	**9.31**	**109**	*e*Pn		**Pn**	**08 57 01.3**	**+0.1**
LVC	**Limon Verde**	**13.46**	**17**	*e*Pn		**Pn**	**08 57 57.0**	**-1.2**
EFI	**East Falkland**	**19.38**	**151**	P		**P**	**08 59 12.3**	**+0.1**
	comp=E,687nm,0.7s,SNR=6.0							
EFI	**East Falkland**	**19.38**	**151**	*e*P		**P**	**08 59 11.0**	**-1.2**
EFI	**East Falkland**	**19.38**	**151**	*e*P		**P**	**08 59 11.7**	**-0.6**
	comp=E,81nm,0.8s							
USHA	**Ushuaia**	**19.52**	**172**	P		**Pn**	**08 59 14.9**	**-0.3**
	comp=E,0.9nm,0.3s,baz=326,slow=7.7,SNR=20							
LPAZ	**La Paz**	**19.75**	**14**	*e*P		**P**	**08 59 17.5**	**+0.4**
LPAZ				S		**S**	**09 02 57.3**	**-1.3**
LPAZ				pmax		pmax		
	comp=Z,312nm,1.0s							
LPAZ	**La Paz**	**19.75**	**14**	P		**P**	**08 59 14.8**	**-2.4**
	comp=Z,3.4nm,0.3s,baz=212,slow=6.6,SNR=61							
LPAZ				S		**S**	**09 02 57.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=254,slow=6.3,SNR=2.8							
LPAZ	**La Paz**	**19.75**	**14**	*e*P		**P**	**08 59 17.5**	**+0.4**
	comp=Z,312nm,1.0s							
LPAZ				S		**S**	**09 02 57.3**	**-1.3**
SIV	**San Ignacio**	**22.32**	**32**	P		**P**	**08 59 43.0**	**-1.3**
	comp=Z,143nm,0.9s,baz=230,slow=12,SNR=184							
SIV				LR		LR	09 10 07.9	
	comp=Z,10μm,19.1s,baz=231,slow=42							
NNA	**Nana**	**23.73**	**351**	*e*P		**P**	**08 59 58.8**	**+0.1**
NNA				pmax		pmax		
	comp=Z,43nm,0.9s							
NNA	**Nana**	**23.73**	**351**	P		**P**	**08 59 56.2**	**-2.5**
	comp=Z,6.8nm,0.5s,baz=192,slow=13,SNR=5.9							
NNA				LR		LR	09 07 22.9	
	comp=Z,1μm,19.7s,baz=178,slow=32							
NNA	**Nana**	**23.73**	**351**	*e*P		**P**	**08 59 58.8**	**+0.1**
	comp=Z,43nm,0.9s							
SAML	**Samuel**	**28.05**	**21**	*e*P		**P**	**09 00 37.2**	**-0.6**
	comp=Z,37nm,0.8s							
ATAH	**Atahualpa**	**28.72**	**349**	P		**P**	**09 00 43.6**	**-0.6**
	comp=Z,6.7nm,0.8s,baz=177,slow=10,SNR=5.0							
ATAH				LR		LR	09 09 56.6	
	comp=Z,1μm,20.7s,baz=189,slow=32							
PMSA	**Palmer Station**	**29.73**	**172**	LR		LR	09 12 50.2	
	comp=Z,2μm,18.1s,baz=340,slow=36							
BDFB	**Brasilia**	**30.01**	**55**	*e*P		**P**	**09 00 54.0**	**-1.4**
BDFB	**Brasilia**	**30.01**	**55**	P		**P**	**09 00 54.0**	**-1.4**
	comp=Z,71nm,1.0s,baz=219,slow=7.9,SNR=66							
BDFB				LR		LR	09 14 21.9	
	comp=Z,6μm,18.4s,baz=222,slow=39							
HOPE	**Hope Point**	**31.51**	**138**	*e*P		**P**	**09 01 08.8**	**+0.7**
	comp=Z,41nm,0.9s							
OTAV	**Otavalo**	**35.98**	**351**	*e*P		**P**	**09 01 49.5**	**+1.7**
	comp=Z,57nm,1.4s							
OTAV				*e*ScP		**ScP**	**09 08 00.2**	**+1.8**
PTGA	**Pitinga**	**36.80**	**22**	P		**P**	**09 01 53.7**	**-0.6**
	comp=Z,94nm,0.9s,baz=207,slow=9.8,SNR=99							
PTGA	**Pitinga**	**36.80**	**22**	*e*P		**P**	**09 01 52.8**	**-1.5**
	comp=Z,208nm,1.0s							
ROSC	**El Rosal**	**40.25**	**358**	P		**P**	**09 02 24.4**	**+0.7**
	comp=Z,12nm,0.7s,baz=267,slow=5.1,SNR=5.3							
ROSC	**El Rosal**	**40.25**	**358**	*e*P		P	09 02 27.4	+3.7
SDV	**Santo Domingo**	**44.30**	**4**	*e*P		**P**	**09 02 55.9**	**-0.6**
	comp=Z,39nm,0.8s							
RCBR	**Riachuelo**	**45.28**	**58**	*e*P		**P**	**09 03 04.3**	**+0.1**
	comp=Z,173nm,1.2s							
JTS	**JuntasAbangare**	**46.97**	**344**	P		**P**	**09 03 15.9**	**-1.5**
	comp=Z,5.3nm,0.8s,baz=6.3,slow=23,SNR=2.4							
VNA3	**Neumayer Olymp**	**48.25**	**157**	P		**P**	**09 03 27.8**	**+1.0**
VNA1	**Neumayer--Stat**	**48.59**	**156**	P		**P**	**09 03 30.8**	**+1.5**
GRGR	**Grenville**	**48.70**	**15**	*e*P		**P**	**09 03 30.1**	**-0.7**
	comp=Z,390nm,1.1s							
VNA2	**Neumayer--Watz**	**48.92**	**157**	P		**P**	**09 03 33.1**	**+1.2**
SNAA	**Sanae**	**50.48**	**157**	P		**P**	**09 03 44.7**	**+0.9**
SNAA	**Sanae**	**50.48**	**157**	*e*P		**P**	**09 03 44.1**	**+0.3**
SNAA	**Sanae**	**50.48**	**157**	*c i*P		**P**	**09 03 44.5**	**+0.7**
SNAA				pmax		pmax		
	comp=Z,196nm,1.2s							
SNAA	**Sanae**	**50.48**	**157**	P		**P**	**09 03 44.4**	**+0.7**
	comp=Z,37nm,1.0s,baz=265,slow=6.5,SNR=7.8							
SNAA	**Sanae**	**50.48**	**157**	*e*P		**P**	**09 03 44.5**	**+0.7**
	comp=Z,137nm,1.0s							
FDF	**Fort de France**	**51.33**	**15**	*e*P		**P**	**09 03 49.1**	**-1.7**
FDF				pmax		pmax		
	comp=Z,227nm,1.1s							
FDF	**Fort de France**	**51.33**	**15**	*e*P		**P**	**09 03 49.0**	**-1.7**
	comp=Z,227nm,1.1s							
APG	**El Apazote**	**52.92**	**339**	P		P	09 03 59.5	-3.3
	comp=Z,16nm,0.9s,baz=159,slow=8.2,SNR=14							
CRPR	**Cabo Rojo, PR**	**53.61**	**7**	*e*P		**P**	**09 04 06.9**	**-0.6**
	comp=Z,171nm,1.7s							
SJG	**San Juan**	**53.82**	**8**	*e*P		**P**	**09 04 07.7**	**-1.3**
SJG				pmax		pmax		
	comp=Z,48nm,0.9s							
SJG	**San Juan**	**53.82**	**8**	P		**P**	**09 04 06.8**	**-2.3**
	comp=Z,30nm,0.5s,baz=108,slow=2.9,SNR=9.8							
SJG	**San Juan**	**53.82**	**8**	*e*P		**P**	**09 04 07.7**	**-1.3**
	comp=Z,48nm,0.9s							
HUMP	**Col San Antoni**	**53.89**	**9**	*e*P		**P**	**09 04 08.4**	**-1.2**
	comp=Z,27nm,0.8s							
CBYP	**Canovanas**	**54.02**	**9**	*e*P		**P**	**09 04 09.4**	**-1.1**
	comp=Z,60nm,0.9s							
CBYP				*e*ScP		**ScP**	**09 09 09.4**	**-2.0**
SDDR	**Presa de Saban**	**54.30**	**2**	*e*P		**P**	**09 04 13.3**	**+0.6**
	comp=Z,35nm,1.1s							
RKT	**Rikitea**	**54.49**	**265**	*e*S		S	09 11 45.2	-6.1
RKT				*e*LR		LR	09 20 06.5	
	comp=Z,844nm,40.0s,baz=125							
RKT	**Rikitea**	**54.49**	**265**	*e*T		T	10 02 45.5	
	comp=Z,2.2nm,0.3s							
SMN1	**Samana, DR**	**54.60**	**5**	*e*P		**P**	**09 04 14.0**	**-0.8**
QSPA	**South Pole Qui**	**54.65**	**180**	P		**P**	**09 04 15.7**	**+0.9**
	comp=Z,32nm,0.8s,baz=153,slow=5.4,SNR=9.7							
QSPA				LR		LR	09 28 04.9	
	comp=Z,442nm,18.6s,baz=164,slow=36							
QSPA	**South Pole Qui**	**54.65**	**180**	*e*P		**P**	**09 04 15.7**	**+0.9**
	comp=Z,39nm,0.9s							
NVL	**N'lazarevskaya**	**55.24**	**156**	⇓*i*P		**P**	**09 04 17.7**	**-1.1**
NVL				*e**PP		**pP**	**09 04 28.2**	**+0.6**
NVL				*e*PPP		PPP	09 06 32.5	
NVL				pmax		pmax		
	comp=Z,81nm,1.0s							
GTBY	**Guantanamo Bay**	**55.24**	**358**	*e*P		**P**	**09 04 19.6**	**+0.2**
CMIG	**Matias Romero**	**56.29**	**335**	P		**P**	**09 04 27.5**	**+0.6**
	comp=Z,3.7nm,0.9s,baz=171,slow=3.2,SNR=4.6							
H10N3	**ASCENSION HYDR**	**60.11**	**77**	P		P	09 04 58.1	+4.5
	baz=234,slow=6.4,SNR=2.5							
H10N1	**ASCENSION HYDR**	**60.13**	**77**	P		**P**	**09 04 51.6**	**-2.0**
	baz=234,slow=6.4,SNR=2.6							
H10N2	**ASCENSION HYDR**	**60.13**	**77**	P		**P**	**09 04 51.3**	**-2.4**
	baz=234,slow=6.4,SNR=3.6							
ASCN	**Ascension**	**60.17**	**78**	*e*P		**P**	**09 04 55.2**	**+0.9**
	comp=Z,138nm,0.7s							
VNDA	**Vanda**	**62.36**	**192**	*e*P		**P**	**09 05 10.8**	**+2.6**
VNDA				pmax		pmax		
	comp=Z,279nm,2.7s							
VNDA	**Vanda**	**62.36**	**192**	P		**P**	**09 05 10.5**	**+2.3**
	comp=Z,6.3nm,0.9s,baz=107,slow=8.5,SNR=7.9							
VNDA				LR		LR	09 30 30.8	
	comp=Z,569nm,18.1s,baz=126,slow=34							
VNDA	**Vanda**	**62.36**	**192**	*e*P		**P**	**09 05 10.8**	**+2.6**
	comp=Z,279nm,2.7s							
SYO	**Syowa Base**	**64.73**	**158**	⇑*e*P		**P**	**09 05 21.8**	**-2.2**
H06E1	**SOCORRO T-PHAS**	**64.84**	**320**	T		T	10 16 02.5	
SNR=13								
TBI	**Tubuai**	**66.05**	**258**	*e*S		**S**	**09 14 16.5**	**-3.1**
	comp=Z,1μm,26.8s							
TBI	**Tubuai**	**66.05**	**258**	*e*LR		LR	09 25 16.6	
	comp=Z,2μm,26.2s,baz=120							
035A	**Encino**	**66.50**	**336**	⇑P		**P**	**09 05 38.1**	**+2.2**
baz=67								
936A	**North Padre Is**	**66.69**	**337**	⇑P		**P**	**09 05 39.2**	**+2.2**
baz=67								
034A	**Hebbronville**	**66.81**	**335**	⇓P		**P**	**09 05 39.8**	**+2.0**
baz=67								
934A	**Benavides**	**67.25**	**336**	⇓P		**P**	**09 05 42.6**	**+2.0**
baz=67								
TIGA	**Tifton**	**67.39**	**350**	⇑P		**P**	**09 05 41.6**	**+0.2**
baz=68								
TIGA	**Tifton**	**67.39**	**350**	*e*P		**P**	**09 05 41.1**	**-0.3**
933A	**Laredo**	**67.52**	**335**	⇑P		**P**	**09 05 43.9**	**+1.6**
baz=68								
BRAL	**Brewton**	**67.52**	**347**	*e*P		**P**	**09 05 44.5**	**+2.3**
	comp=Z,77nm,1.1s							
MEH	**Mehetia**	**67.72**	**263**	*e*T		T	10 19 17.5	
	comp=Z,60nm,0.3s							
834A	**Tilden**	**67.75**	**336**	⇑P		**P**	**09 05 44.2**	**+0.5**
baz=68,SNR=5.2								
735A	**Kenedy**	**68.18**	**337**	⇑P		**P**	**09 05 47.9**	**+1.5**
baz=68								
833A	**Chaparral WMA,**	**68.21**	**335**	⇓P		**P**	**09 05 47.2**	**+0.5**
baz=68,SNR=8.2								
832A	**Faith Ranch, C**	**68.38**	**335**	⇓P		**P**	**09 05 48.6**	**+0.9**
baz=68,SNR=6.9								
734A	**La Parita Cree**	**68.41**	**336**	⇓P		**P**	**09 05 49.4**	**+1.5**
baz=69								
636A	**Smothers Creek**	**68.52**	**338**	⇓P		**P**	**09 05 49.7**	**+1.2**
baz=69,SNR=6.8								
733A	**Divot King Ran**	**68.54**	**335**	⇑P		**P**	**09 05 50.6**	**+1.9**
baz=69								
HKT	**Hockley**	**68.59**	**339**	*e*P		**P**	**09 05 50.1**	**+1.2**
HKT				pmax		pmax		
	comp=Z,52nm,1.7s							
HKT	**Hockley**	**68.59**	**339**	*e*P		**P**	**09 05 50.1**	**+1.2**
	comp=Z,52nm,1.7s							
NHSC	**New Hope**	**68.65**	**354**	*e*P		**P**	**09 05 49.2**	**0.0**
	comp=Z,156nm,1.3s							
635A	**Leesville**	**68.66**	**337**	⇓P		**P**	**09 05 50.7**	**+1.3**
baz=69								
TVO	**Taravao**	**68.73**	**263**	*e*T		T	10 20 33.2	
	comp=Z,2.2nm,0.3s							
732A	**Laxson Ranch,**	**68.78**	**335**	⇓P		**P**	**09 05 51.4**	**+1.2**
baz=69,SNR=6.9								
537A	**Green Hill Far**	**68.86**	**339**	⇓P		**P**	**09 05 51.7**	**+1.0**
baz=69								
TIAR	**Tiarei**	**68.92**	**263**	*e*T		T	10 20 47.5	
	comp=Z,8.7nm,0.3s							
536A	**Bastrop**	**69.08**	**338**	⇑P		**P**	**09 05 53.2**	**+1.2**
baz=69								
PPT2	**Papeete2**	**69.09**	**263**	*e*S		**S**	**09 14 52.5**	**-3.9**
	comp=Z,680nm,22.8s							
PPT2	**Papeete2**	**69.09**	**263**	*e*LR		LR	09 26 40.3	
	comp=Z,2μm,25.0s,baz=126							
PPT	**Papeete**	**69.10**	**263**	LR		LR	09 28 29.9	
	comp=Z,1μm,18.2s,baz=121,slow=29							
633A	**Saathoff Ranch**	**69.18**	**336**	⇓P		**P**	**09 05 53.8**	**+1.1**
baz=69,SNR=6.0								
535A	**Dale**	**69.19**	**337**	⇑P		**P**	**09 05 53.6**	**+0.9**
baz=69								
438A	**Sam Houston St**	**69.24**	**340**	⇓P		**P**	**09 05 53.9**	**+0.9**
baz=69								
GOGA	**Godfrey**	**69.32**	**351**	*e*P		**P**	**09 05 53.2**	**-0.2**
GOGA				pmax		pmax		
	comp=Z,68nm,1.4s							
GOGA	**Godfrey**	**69.32**	**351**	*e*P		**P**	**09 05 53.2**	**-0.2**
	comp=Z,68nm,1.4s							
VBMS	**Vicksburg**	**69.39**	**344**	*e*P		**P**	**09 05 55.4**	**+1.5**
	comp=Z,124nm,1.3s							
632A	**Uvalde**	**69.43**	**335**	⇑P		**P**	**09 05 54.8**	**+0.5**
baz=70,SNR=9.0								
340A	**Bronson**	**69.44**	**341**	⇑P		**P**	**09 05 55.0**	**+0.8**
baz=70,SNR=6.2								
534A	**Blanco**	**69.48**	**337**	⇓P		**P**	**09 05 55.3**	**+0.7**
baz=70								
LRAL	**Lakeview Retre**	**69.49**	**348**	*e*P		**P**	**09 05 54.2**	**-0.2**
	comp=Z,33nm,1.3s							
339A	**Huntington**	**69.54**	**341**	⇑P		**P**	**09 05 55.8**	**+1.0**
baz=70								
631A	**Perdido Creek**	**69.62**	**335**	⇑P		**P**	**09 05 56.3**	**+0.9**
baz=70								
436A	**Wall Ranch, Ga**	**69.65**	**338**	⇓P		**P**	**09 05 56.7**	**+1.2**
baz=70								
533A	**Kerrville**	**69.70**	**336**	⇑P		**P**	**09 05 57.0**	**+1.1**
baz=70								
338A	**Crockett**	**69.77**	**340**	⇑P		**P**	**09 05 57.1**	**+0.9**
baz=70,SNR=7.9								
435B	**Jarrell**	**69.90**	**338**	⇓P		**P**	**09 05 58.4**	**+1.3**
baz=70								
532A	**Rocksprings**	**70.04**	**336**	⇓P		**P**	**09 05 59.0**	**+1.0**
baz=70,SNR=18								
434A	**Burnet**	**70.14**	**337**	⇑P		**P**	**09 05 59.1**	**+0.5**
baz=70,SNR=8.3								
239A	**Gary**	**70.16**	**341**	⇓P		**P**	**09 05 59.3**	**+0.7**
baz=70								
336A	**Riesel**	**70.24**	**339**	⇑P		**P**	**09 06 00.0**	**+0.9**
baz=70,SNR=9.4								
531A	**Rocksprings**	**70.30**	**335**	⇓P		**P**	**09 06 00.1**	**+0.5**
baz=70,SNR=14								
335A	**Moody**	**70.31**	**338**	⇓P		**P**	**09 06 00.2**	**+0.5**
baz=70,SNR=5.2								
JCT	**Junction City**	**70.33**	**336**	*e*P		**P**	**09 06 01.0**	**+1.2**
JCT				pmax		pmax		
	comp=Z,104nm,1.4s							
JCT	**Junction City**	**70.33**	**336**	⇓P		**P**	**09 06 00.8**	**+1.0**
baz=70								
JCT	**Junction City**	**70.33**	**336**	*e*P		**P**	**09 06 01.0**	**+1.2**
	comp=Z,104nm,1.4s							
433A	**Art**	**70.35**	**336**	⇑P		**P**	**09 06 00.4**	**+0.5**
baz=70,SNR=12								
237A	**Washetta, Mont**	**70.51**	**340**	⇑P		**P**	**09 06 01.8**	**+1.0**
baz=71								
530A	**J-C Ranch, Com**	**70.56**	**334**	⇓P		**P**	**09 06 02.2**	**+1.0**
baz=71,SNR=13								
CNNC	**Cliffs of the**	**70.61**	**356**	*e*P		**P**	**09 06 02.1**	**+0.8**
	comp=Z,43nm,0.8s							
334A	**Lometa**	**70.61**	**337**	⇑P		**P**	**09 06 02.2**	**+0.8**
baz=71,SNR=7.0								
TXAR	**Lajitas Array**	**70.68**	**332**	P		**P**	**09 06 01.8**	**-0.2**
	comp=Z,4.1nm,0.6s,baz=152,slow=8.5,SNR=56							
TXAR				LR		LR	09 32 36.4	
	comp=Z,615nm,18.1s,baz=0.0,slow=32							
TX31	**Lajitas Ar. Si**	**70.68**	**332**	*e*P		**P**	**09 06 03.0**	**+1.0**
432A	**Menard**	**70.69**	**336**	⇑P		**P**	**09 06 02.4**	**+0.4**
baz=71								
KMSC	**Kings Mountain**	**70.78**	**353**	⇑P		**P**	**09 06 02.6**	**+0.2**
baz=71								
KMSC	**Kings Mountain**	**70.78**	**353**	*e*P		**P**	**09 06 02.3**	**-0.1**
	comp=Z,26nm,0.8s							
431A	**Sonora**	**70.79**	**335**	⇑P		**P**	**09 06 03.1**	**+0.5**
baz=71,SNR=10.0								
333A	**Richland Sprin**	**70.84**	**337**	⇑P		**P**	**09 06 03.5**	**+0.6**
baz=71,SNR=7.4								
529A	**Stev Forest Ra**	**70.85**	**334**	⇓P		**P**	**09 06 03.9**	**+0.8**
baz=71,SNR=9.7								
138A	**Matatall Enter**	**70.93**	**341**	⇓P		**P**	**09 06 04.3**	**+0.9**
baz=71								
WHTX	**Lake Whitney,**	**70.98**	**338**	⇓P		**P**	**09 06 04.5**	**+0.8**
baz=71								
WHTX	**Lake Whitney,**	**70.98**	**338**	*e*P		**P**	**09 06 04.7**	**+1.0**
	comp=Z,92nm,1.3s							
137A	**Heron Place, G**	**71.06**	**340**	⇓P		**P**	**09 06 05.0**	**+0.9**
baz=71								
430A	**Baggett Ranch,**	**71.10**	**335**	⇑P		**P**	**09 06 04.9**	**+0.4**
baz=71,SNR=13								
332A	**Millersview**	**71.14**	**336**	⇑P		**P**	**09 06 05.2**	**+0.5**
baz=71,SNR=8.5								
429A	**Davenport Ranc**	**71.19**	**334**	⇓P		**P**	**09 06 05.6**	**+0.6**
baz=71,SNR=15								
234A	**Clairette**	**71.20**	**338**	⇓P		**P**	**09 06 05.4**	**+0.4**
baz=71,SNR=9.0								
331A	**San Angelo**	**71.30**	**336**	⇑P		**P**	**09 06 06.2**	**+0.5**
baz=72,SNR=13								
OXF	**Oxford**	**71.37**	**346**	*e*P		**P**	**09 06 06.0**	**0.0**
OXF				pmax		pmax		
	comp=Z,90nm,1.0s							
OXF	**Oxford**	**71.37**	**346**	*e*P		**P**	**09 06 06.0**	**0.0**
	comp=Z,90nm,1.0s							
SWET	**Sewanee**	**71.44**	**349**	*e*P		**P**	**09 06 06.8**	**+0.4**
233A	**Rising Star**	**71.45**	**337**	⇓P		**P**	**09 06 07.2**	**+0.6**
baz=72,SNR=6.8								
CPCT	**Coo

Z28A	Tucker Farm, M	73.78	335	⇓P	P	09 06 21.0 +0.6
	baz=74					
X32A	Elmer	73.80	338	⇑P	P	09 06 20.9 +0.4
	baz=74,SNR=6.6					
WMOK	Wichita Mounta	73.94	338	eP	P	09 06 22.3 +1.0
WMOK				pmax	pmax	
	comp=Z,135nm,2.0s					
WMOK	Wichita Mounta	73.94	338	eP	P	09 06 22.3 +1.0
	comp=Z,135nm,2.0s					
Y29A	Porterfield Fa	74.05	336	⇓P	P	09 06 22.6 +0.6
	baz=74					
W34A	Bridge Creek,	74.10	339	⇑P	P	09 06 22.8 +0.6
	baz=74					
W34A	Bridge Creek,	74.10	339	eP	P	09 06 23.0 +0.8
	comp=Z,73nm,1.3s					
TUL1	Leonard	74.19	341	⇓P	P	09 06 23.0 +0.3
	baz=74,SNR=14					
TUL1	Leonard	74.19	341	eP	P	09 06 22.8 +0.1
	comp=Z,61nm,1.1s					
X31A	McDonald Ranch	74.21	337	⇓P	P	09 06 23.4 +0.6
	baz=74,SNR=11					
W33A	Caddo, Fort Co	74.23	339	⇑P	P	09 06 23.5 +0.6
	baz=74,SNR=11					
Y28A	McKinney Farm,	74.29	335	⇓P	P	09 06 23.8 +0.3
	baz=74					
X30A	Coker Ranch, T	74.33	336	⇓P	P	09 06 24.3 +0.8
	baz=74					
V35A	Meyer Ranch, C	74.33	340	⇓P	P	09 06 23.6 +0.1
	baz=74,SNR=12					
USIN	University of	74.41	348	eP	P	09 06 23.4 -0.4
	comp=Z,66nm,0.9s					
W32A	Sentinel	74.44	338	⇑P	P	09 06 24.9 +0.7
	baz=75,SNR=20					
SIUC	Southern Illin	74.44	347	eP	P	09 06 24.0 -0.1
	comp=Z,47nm,0.9s					
WCI	Wyandotte Cave	74.45	349	eP	P	09 06 23.3 -0.9
WCI				pmax	pmax	
	comp=Z,62nm,1.7s					
WCI	Wyandotte Cave	74.45	349	eP	P	09 06 23.3 -0.9
	comp=Z,62nm,1.7s					
MSTX	Muleshoe	74.53	335	⇑P	P	09 06 25.2 +0.3
	baz=75,SNR=8.2					
MSTX	Muleshoe	74.53	335	eP	P	09 06 25.7 +0.8
	comp=Z,36nm,0.9s					
V34A	Guthrie	74.59	340	⇑P	P	09 06 25.6 +0.6
	baz=75					
V34A	Guthrie	74.59	340	eP	P	09 06 25.7 +0.6
	comp=Z,45nm,1.1s					
X29A	Tulia	74.60	336	⇑P	P	09 06 25.9 +0.7
	baz=75					
SDMD	Soldier's Deli	74.71	357	eP	P	09 06 26.1 +0.5
	comp=Z,36nm,0.9s					
W31A	Holland Ranch,	74.71	338	⇓P	P	09 06 26.4 +0.7
	baz=75					
319A	Douglas	74.75	329	⇑P	P	09 06 27.0 +0.8
	baz=75					
V33A	Lossen Ranch,	74.80	339	⇓P	P	09 06 26.7 +0.4
	baz=75,SNR=13					
X28A	Dimmitt	74.83	335	⇓P	P	09 06 27.4 +0.8
	baz=75					
SUR	Sutherland	74.88	119	P	P	09 06 28.0 +0.7
	comp=Z,182nm,0.8s,SNR=5.5					
SUR	Sutherland	74.88	119	eP	P	09 06 29.0 +1.6
	comp=Z,46nm,1.0s					
W30A	Crocket Farms	74.91	337	⇓P	P	09 06 27.7 +0.8
	baz=75					
V32A	Arapaho	74.93	338	⇓P	P	09 06 27.8 +0.8
	baz=75					
AMTX	Amarillo	74.99	336	⇓P	P	09 06 28.7 +1.2
	baz=75					
AMTX	Amarillo	74.99	336	eP	P	09 06 28.5 +1.0
	comp=Z,50nm,0.9s					
121A	Cookes Peak, D	75.13	330	⇓P	P	09 06 29.5 +1.0
	baz=75					
121A	Cookes Peak, D	75.13	330	eP	P	09 06 29.8 +1.4
	comp=Z,22nm,1.0s					
U34A	Anderson Ranch	75.16	340	⇑P	P	09 06 28.8 +0.5
	baz=75,SNR=6.9					
U34A	Anderson Ranch	75.16	340	eP	P	09 06 29.1 +0.8
	comp=Z,130nm,1.5s					
W29A	Amarillo	75.20	336	⇓P	P	09 06 29.1 +0.5
	baz=75,SNR=5.9					
V31A	Spring Creek L	75.22	338	⇑P	P	09 06 29.9 +1.2
	baz=75,SNR=7.8					
OLIL	Olney	75.23	348	eP	P	09 06 28.3 -0.4
	comp=Z,43nm,1.3s					
MVL	Millersville	75.28	357	eP	P	09 06 29.7 +0.9
	comp=Z,29nm,1.0s					
BLO	Bloomington	75.41	349	eP	P	09 06 29.4 -0.3
BLO				pmax	pmax	
	comp=Z,35nm,0.9s					
BLO	Bloomington	75.41	349	eP	P	09 06 29.4 -0.3
	comp=Z,35nm,0.9s					
X26A	CR and CF Fran	75.42	334	⇑P	P	09 06 31.4 +1.4
	baz=76					
Z22A	Elephant Butte	75.44	331	⇓P	P	09 06 31.7 +1.5
	baz=76					
Y24A	Capitan	75.45	333	⇓P	P	09 06 30.8 +0.5
	baz=76,SNR=12					
V30A	Spur Ranch, Mi	75.47	337	⇓P	P	09 06 31.8 +1.6
	baz=76					
W28A	Vega	75.51	336	⇓P	P	09 06 31.4 +1.0
	baz=76					
SLM	Saint Louis	75.53	346	eP	P	09 06 30.8 +0.5
SLM				e*PP	pP	09 06 37.6 -1.8
SLM	Saint Louis	75.53	346	eP	P	09 06 30.8 +0.5
SLM				epP	pP	09 06 37.6 -1.8
U32A	Winter Ranch,	75.53	339	⇑P	P	09 06 31.0 +0.6
	baz=76,SNR=5.4					
X25A	Clemmons Ranch	75.70	334	⇑P	P	09 06 32.9 +1.3
	baz=76					
U31A	Nine Bar Ranch	75.78	338	⇑P	P	09 06 33.2 +1.3
	baz=76					
LUPA	Lehigh Univers	75.84	358	eP	P	09 06 33.3 +1.2
	comp=Z,3.8nm,0.9s					
W26A	Owens Ranch, T	75.89	335	⇓P	P	09 06 34.0 +1.3
	baz=76					
V28A	Channing	75.96	336	⇓P	P	09 06 34.5 +1.5
	baz=76					
T33A	Patterson Ranc	75.96	340	⇑P	P	09 06 33.7 +0.8
	baz=76,SNR=7.6					
SSPA	Standing Stone	75.98	356	eP	P	09 06 33.2 +0.3
	comp=Z,27nm,0.9s					
ACSO	Alum Creek Sta	75.99	352	eP	P	09 06 32.9 -0.1
	comp=Z,88nm,0.6s					
LIC	Lamto	76.17	72	eP	P	09 06 34.6 0.0
	comp=Z,307nm,1.2s					
U30A	WK&E Inc. Balk	76.17	338	⇑P	P	09 06 35.3 +1.1
	baz=76					
TUC	Tucson	76.20	328	eP	P	09 06 36.8 +2.4
TUC				pmax	pmax	
	comp=Z,51nm,1.8s					
TUC	Tucson	76.20	328	eP	P	09 06 36.8 +2.4
	comp=Z,51nm,1.8s					
PAL	Palisades	76.23	359	eP	P	09 06 35.1 +0.8
PAL				pmax	pmax	
	comp=Z,17nm,0.9s					
PAL	Palisades	76.23	359	eP	P	09 06 35.1 +0.8
	comp=Z,16nm,0.9s					
LPM	Los Pinos Moun	76.25	332	eP	P	09 06 36.7 +1.9
T32A	Huddler Ranch,	76.25	339	⇑P	P	09 06 35.9 +1.3
	baz=76					
W25A	X Bar L Ranch,	76.25	334	⇑P	P	09 06 35.3 +0.6
	baz=76,SNR=8.1					
ODNJ	Ogdensburg	76.31	359	eP	P	09 06 35.8 +1.1
	comp=Z,28nm,0.8s					
S33A	Kaszmaul Farm,	76.37	340	⇓P	P	09 06 36.8 +1.6
	baz=77					
T31A	Randall Ranch,	76.40	338	⇓P	P	09 06 36.8 +1.4
	baz=77					
TIC	Toumodi	76.43	72	eP	P	09 06 36.3 +0.2
	comp=Z,157nm,1.1s					
KIC	Kosan Boka	76.47	72	eP	P	09 06 36.5 +0.2
	comp=Z,333nm,1.1s					
LAZ	Ladron	76.52	332	eP	P	09 06 38.4 +2.1
V26A	Tequesquite Ra	76.53	335	⇓P	P	09 06 37.3 +0.9
	baz=77					
YLE	Yale	76.53	0	eP	P	09 06 37.6 +1.7
	comp=Z,79nm,0.6s					
U28A	Mallet	76.53	336	⇑P	P	09 06 37.3 +1.0
	baz=77					
DBIC	Dimbokro	76.58	72	⇑iP	P	09 06 37.1 +0.2
DBIC	Dimbokro	76.58	72	eP	P	09 06 37.2 +0.3
DBIC				pmax	pmax	
	comp=Z,119nm,1.0s					
DBIC	Dimbokro	76.58	72	P	P	09 06 37.1 +0.2
	comp=Z,70nm,0.9s,baz=207,slow=6.4,SNR=68					
DBIC				LR	LR	09 37 11.9
	comp=Z,1μm,20.8s,baz=209,slow=33					
DBIC	Dimbokro	76.58	72	eP	P	09 06 37.2 +0.3
	comp=Z,119nm,1.0s					
W24A	Lazy 6 Ranch,	76.59	333	⇓P	P	09 06 37.6 +0.8
	baz=77,SNR=7.6					
SFIN	Lafayette	76.68	349	⇑P	P	09 06 36.4 -0.5
	baz=77					
SFIN	Lafayette	76.68	349	eP	P	09 06 36.0 -0.8
	comp=Z,17nm,0.8s					
S32A	Newby Ranch, P	76.74	339	⇓P	P	09 06 38.5 +1.2
	baz=77					
ANMO	Albuquerque	76.74	332	c iP	P	09 06 39.3 +1.7
ANMO				pmax	pmax	
	comp=Z,39nm,1.2s					
ANMO	Albuquerque	76.74	332	eP	P	09 06 38.9 +1.3
	comp=Z,18nm,1.0s					
U27A	Thompson Grove	76.77	336	⇓P	P	09 06 38.5 +0.8
	baz=77					
214A	Organ Pipe Nat	76.80	326	⇑P	P	09 06 38.6 +0.8
	baz=77					
214A	Organ Pipe Nat	76.80	326	eP	P	09 06 39.2 +1.4
	comp=Z,26nm,1.4s					
KSPA	Keystone Colle	76.81	358	eP	P	09 06 38.4 +0.8
S31A	Mullinville	76.82	339	⇑P	P	09 06 38.5 +0.7
	baz=77,SNR=5.1					
V25A	Rancho No Teng	76.86	334	⇓P	P	09 06 39.2 +1.0
	baz=77,SNR=11					
T29A	Hugoton	76.95	337	⇓P	P	09 06 39.7 +1.1
	baz=77					
V24A	Rampart Ranch,	77.00	334	⇑P	P	09 06 39.6 +0.6
	baz=77,SNR=5.7					
R33A	Olander Ranch,	77.03	340	⇑P	P	09 06 39.4 +0.4
	baz=77,SNR=6.4					
U26A	Atchley Ranch,	77.06	335	⇓P	P	09 06 40.1 +0.7
	baz=77					
ALLY	Alegheny Colle	77.13	355	eP	P	09 06 39.7 +0.3
	comp=Z,52nm,1.0s					
S30A	Montezuma	77.13	338	⇑P	P	09 06 40.6 +1.0
	baz=77,SNR=5.1					
BRYW	Bryant College	77.15	1	eP	P	09 06 40.6 +1.1
	comp=Z,67nm,1.1s					
T28A	Walsh	77.17	337	⇓P	P	09 06 40.8 +1.0
	baz=77,SNR=13					
U25A	Circle Dot Ran	77.29	335	⇑P	P	09 06 41.3 +0.6
	baz=78,SNR=5.9					
S29A	Ulysses	77.32	338	⇓P	P	09 06 41.9 +1.3
	baz=78					
T27A	Campo	77.32	336	⇑P	P	09 06 41.5 +0.8
	baz=78					
R32A	Long Quarter,	77.34	340	⇓P	P	09 06 41.6 +0.9
	baz=78,SNR=15					
V23A	Ortiz Mt. (NFS	77.35	333	⇑P	P	09 06 42.3 +1.3
	baz=78					
KSU1	Kansas State U	77.41	342	⇑P	P	09 06 42.0 +1.0
	baz=78					
R31A	Burdett	77.45	339	⇑P	P	09 06 42.0 +0.7
	baz=78,SNR=8.9					
BINY	Binghamton	77.46	358	eP	P	09 06 41.7 +0.5
	comp=Z,20nm,0.8s					
QUA2	Belchertown	77.50	1	eP	P	09 06 41.3 -0.1
	comp=Z,38nm,0.8s					
S28A	Manter	77.53	337	⇑P	P	09 06 42.7 +0.9
	baz=78,SNR=12					
ERPA	Erie	77.59	355	eP	P	09 06 41.9 0.0
	comp=Z,44nm,0.8s					
WES	Weston	77.62	1	eP	P	09 06 43.4 +1.4
WES				pmax	pmax	
	comp=Z,61nm,1.3s					
WES	Weston	77.62	1	eP	P	09 06 43.4 +1.4
	comp=Z,60nm,1.3s					
Q33A	Connelly Farm,	77.64	341	⇓P	P	09 06 42.8 +0.5
	baz=78,SNR=7.3					
R30A	Dighton	77.67	338	⇑P	P	09 06 43.2 +0.7
	baz=78,SNR=5.3					
T26A	Comanche Natio	77.71	336	⇑P	P	09 06 44.0 +1.0
	baz=78,SNR=8.4					
HRV	Adam Dziewonsk	77.74	1	eP	P	09 06 44.3 +1.6
HRV				pmax	pmax	
	comp=Z,36nm,0.8s					
HRV	Adam Dziewonsk	77.74	1	eP	P	09 06 44.3 +1.6
	comp=Z,36nm,0.8s					
X18A	Snowflake	77.75	330	⇑P	P	09 06 44.5 +1.2
	baz=78					
V22A	San Miguel Ran	77.77	333	⇑P	P	09 06 44.9 +1.6
	baz=78,SNR=16					
Q32A	Meitler Ranch,	77.83	340	⇓P	P	09 06 44.3 +0.9
	baz=78,SNR=14					
U23A	El Rito	77.87	333	⇓P	P	09 06 45.5 +1.6
	baz=78,SNR=8.4					
113A	Mohawk Valley,	77.92	326	⇓P	P	09 06 45.8 +1.9
	baz=78					
TRY	Troy	77.95	360	eP	P	09 06 45.0 +1.1
	comp=Z,48nm,0.8s					
T25A	Trinidad	77.96	335	⇑P	P	09 06 46.1 +1.7
	baz=78,SNR=21					
P33A	Williams Farm,	78.01	341	⇓P	P	09 06 45.2 +0.8
	baz=78					
S26A	Kim	78.08	336	⇑P	P	09 06 46.2 +1.3
	baz=78,SNR=19					
Q31A	Ellis	78.08	339	⇑P	P	09 06 46.2 +1.4
	baz=78,SNR=11					
AAM	Ann Arbor	78.11	352	eP	P	09 06 44.8 0.0
AAM				pmax	pmax	
	comp=Z,60nm,1.1s					
AAM	Ann Arbor	78.11	352	eP	P	09 06 44.8 0.0
	comp=Z,60nm,1.1s					
W18A	Petrified Fore	78.18	330	⇓P	P	09 06 47.5 +1.9
	baz=78					
W18A	Petrified Fore	78.18	330	eP	P	09 06 48.2 +2.6
	comp=Z,38nm,1.2s					
R28A	Tribune	78.20	337	⇓P	P	09 06 46.9 +1.4
	baz=78					
T24B	San Luis	78.23	334	⇑P	P	09 06 47.6 +1.6
	baz=78,SNR=7.4					
X16A	Lo Mia Camp, P	78.28	328	⇑P	P	09 06 48.1 +1.9
	baz=78,SNR=7.4					
Q30A	Quinter	78.30	339	⇓P	P	09 06 47.3 +1.3
	baz=78,SNR=5.5					
GRM	Grahamstown	78.35	123	eP	P	09 06 46.2 -0.6
GRM				AMB	AMB	09 06 54.1
	comp=Z,55nm,3.9s					
GRM	Grahamstown	78.35	123	P	P	09 06 46.2 -0.6
GRM				pmax	pmax	
	comp=Z,55nm,3.9s					
GRM	Grahamstown	78.35	123	P	P	09 06 46.2 -0.6
	comp=Z,55nm,3.9s					
P32A	Huiting Farm,	78.43	340	⇓P	P	09 06 48.1 +1.4
	baz=79					
S25A	Robets Cordova	78.44	335	⇑P	P	09 06 48.5 +1.5
	baz=79,SNR=7.9					
T23A	Casias Ranch,	78.44	334	⇓P	P	09 06 48.3 +1.1
	baz=79,SNR=6.6					
R27A	Eads	78.46	337	⇑P	P	09 06 48.1 +1.1
	baz=79,SNR=6.1					
P31A	Stockton	78.56	340	⇑P	P	09 06 48.5 +1.0
	baz=79					
Y14A	Wickenburg	78.56	327	⇑P	P	09 06 49.1 +1.5
	baz=79					
ACCN	Adirondack Com	78.60	360	eP	P	09 06 48.4 +0.9
	comp=Z,36nm,0.9s					
R26A	Arlington	78.68	336	⇑P	P	09 06 50.0 +1.7
	baz=79,SNR=6.7					
S24A	Houchin Ranch,	78.69	335	⇓P	P	09 06 50.0 +1.5
	baz=79,SNR=12					
R25A	Fountain Ranch	78.83	335	⇓P	P	09 06 50.5 +1.4
	baz=79					
P30A	Selden	78.83	339	⇑P	P	09 06 50.6 +1.7
	baz=79					
HNH	Hanover	78.93	1	eP	P	09 06 50.5 +1.2
	comp=Z,24nm,0.7s					
O32A	Brockman Farm,	78.94	341	⇓P	P	09 06 51.1 +1.6
	baz=79					
SWSC	Sam W. Stewart	79.00	325	⇑P	P	09 06 51.4 +1.5
	baz=79					
S23A	Nye Farm, Mont	79.03	334	⇓P	P	09 06 52.1 +1.8
	baz=79					
KSCO	Kaye Shedlock'	79.06	337	⇑P	P	09 06 52.3 +1.9
	baz=79					
KSCO	Kaye Shedlock'	79.06	337	eP	P	09 06 52.2 +1.8
	comp=Z,91nm,1.4s					
Y12C	Blythe	79.08	326	⇑P	P	09 06 52.8 +2.5
	baz=79					
P29A	Atwood	79.08	339	⇓P	P	09 06 52.4 +2.0
	baz=79					
R24A	Sanders Place,	79.18	335	⇑P	P	09 06 52.4 +1.3
	baz=79,SNR=11					
HVD	Gariep Dam	79.19	120	eP	P	09 06 51.9 +0.4
HVD				AMB	AMB	09 07 03.6
	comp=Z,49nm,1.9s					
HVD	Gariep Dam	79.19	120	P	P	09 06 51.9 +0.4
HVD				pmax	pmax	
	comp=Z,49nm,1.9s					
HVD	Gariep Dam	79.19	120	P	P	09 06 51.9 +0.4
	comp=Z,49nm,1.9s					
WUAZ	Wupatki	79.20	329	eP	P	09 06 55.8 +4.6
	comp=Z,18nm,1.1s					
MDV	Middlebury	79.22	360	eP	P	09 06 51.4 +0.5
Q26A	Hugo	79.27	336	⇓P	P	09 06 53.4 +1.9
	baz=80					
SCIA	State Center	79.28	345	eP	P	09 06 51.9 +0.6
	comp=Z,44nm,0.9s					
P28A	Saint Francis	79.31	338	⇑P	P	09 06 53.5 +1.8
	baz=80					
O30A	MW Ranch, Wils	79.36	339	⇓P	P	09 06 53.6 +1.8
	baz=80					
S22A	4UR Ranch, Cre	79.36	333	⇑P	P	09 06 53.6 +1.4
	baz=80,SNR=7.0					
R23A	Moffat	79.40	334	⇓P	P	09 06 53.6 +1.2
	baz=80,SNR=5.9					
BC3	Big Chuckawall	79.43	325	⇑P	P	09 06 54.2 +1.8
	baz=80					
LBNH	Lisbon	79.47	1	eP	P	09 06 53.2 +1.0
LBNH				pmax	pmax	
	comp=Z,31nm,0.8s					
LBNH	Lisbon	79.47	1	eP	P	09 06 53.2 +1.0
	comp=Z,31nm,0.8s					
Q25A	Bedland, Calha	79.50	336	⇓P	P	09 06 54.4 +1.6
	baz=80					
MVCO	Mesa Verde	79.51	332	⇑P	P	09 06 54.1 +1.2
	baz=80,SNR=14					
MVCO	Mesa Verde	79.51	332	eP	P	09 06 54.8 +1.8
	comp=Z,17nm,1.0s					
P27A	Ficken Ranch,	79.55	337	⇓P	P	09 06 54.6 +1.7
	baz=80					
JFWS	Jewell Farm	79.67	347	eP	P	09 06 53.4 0.0
JFWS				pmax	pmax	
	comp=Z,76nm,1.3s					
JFWS	Jewell Farm	79.67	347	eP	P	09 06 53.4 0.0
	comp=Z,76nm,1.3s					
TSUM	Tsumeb	79.68	106	eP	P	09 06 54.8 +0.5
	comp=Z,41nm,1.4s					
IRM	Iron Mountain	79.71	326	⇓P	P	09 06 56.5 +2.6
	baz=80					
P26A	Davis Ranch, A	79.79	337	⇑P	P	09 06 56.2 +1.9
	baz=80					
PTN	Potsdam (NY)	79.80	359	eP	P	09 06 54.4 +0.4
PTN				pmax	pmax	
	comp=Z,58nm,0.9s					
PTN	Potsdam (NY)	79.80	359	eP	P	09 06 54.4 +0.4
	comp=Z,58nm,0.9s					
WVL	Waterville	79.85	3	eP	P	09 06 55.5 +1.3
	comp=Z,38nm,0.9s					
LONY	Lake Ozonia	79.85	359	eP	P	09 06 54.8 +0.5
	comp=Z,30nm,0.8s					
Q24A	Divide	79.85	335	⇓P	P	09 06 56.2 +1.3
	baz=80,SNR=6.2					
PFO	Pinyon Flats O	79.86	324	eP	P	09 06 57.4 +2.6
PFO				pmax	pmax	
	comp=Z,16nm,0.9s					
PFO	Pinyon Flats O	79.86	324	⇓P	P	09 06 56.4 +1.5
	baz=80					
PFO	Pinyon Flats O	79.86	324	eP	P	09 06 57.4 +2.6
	comp=Z,16nm,0.9s					
W13A	Hualapai Mount	79.92	327	⇑P	P	09 06 57.0 +1.8
	baz=80					
BGNE	Belgrade	79.98	341	⇓P	P	09 06 56.7 +1.5
	baz=80					
BGNE	Belgrade	79.98	341	eP	P	09 06 56.2 +1.1
BGNE				ePcP	pP	09 07 06.8 +2.5
P25A	Willow Gulch B	80.02	336	⇑P	P	09 06 57.2 +1.6
	baz=80,SNR=17					
O27A	Beecher Island	80.09	338	⇑P	P	09 06 57.2 +1.3
	baz=80,SNR=6.8					
EMMW	East Machias	80.10	4	eP	P	09 06 56.9 +1.3
	comp=Z,49nm,1.1s					
N29A	Votaw Ranch, W	80.12	339	⇓P	P	09 06 58.2 +2.2
	baz=80					
M31A	Lambtecht Ranc	80.14	341	⇑P	P	09 06 57.6 +1.5
	baz=80					
BOSA	Boshof	80.16	118	⇑iP	P	09 06 56.8 0.0
BOSA				AMB	AMB	09 07 07.3
	comp=Z,72nm,1.1s					
BOSA				AMS	AMS	09 44 57.6
	comp=Z,788nm,18.5s					
BOSA	Boshof	80.16	118	eP	P	09 06 56.8 0.0
BOSA				pmax	pmax	
	comp=Z,63nm,0.9s					
BOSA	Boshof	80.16	118	P	P	09 06 56.9 +0.1
	comp=Z,45nm,0.8s,baz=243,slow=4.5,SNR=65					
BOSA				LR	LR	09 37 37.2
	comp=Z,719nm,20.6s,baz=230,slow=32					
BOSA	Boshof	80.16	118	eP	P	09 06 56.8 +0.1
	comp=Z,63nm,0.9s					
SADO	Sadowa	80.17	356	P	P	09 06 55.8 -0.2
	comp=Z,26nm,0.9s,baz=197,slow=4.8,SNR=20					
MURC	Murrieta	80.21	324	⇓P	P	09 06 56.1 -0.5
	baz=80					
N28A	Pribbeno Ranch	80.26	338	⇑P	P	09 06 58.0 +1.2
	baz=80,SNR=5.2					
P24A	Kohler Place,	80.27	336	⇓P	P	09 06 58.0 +1.1
	baz=80					
PV01	Paradox Valley	80.35	332	eP	P	09 06 59.3 +1.8
U15A	North Rim	80.36	329	⇓P	P	09 06 58.9 +1.2
	baz=80,SNR=7.5					
O26A	Horse Wrangler	80.40	337	⇑P	P	09 06 58.9 +1.3
	baz=81,SNR=7.1					
GMRC	Granite Mounta	80.46	326	⇓P	P	09 06 59.8 +1.8
	baz=81					
P23A	Jefferson	80.46	335	⇑P	P	09 06 59.7 +1.5
	baz=81					
PV05	Paradox Valley	80.50	332	eP	P	09 07 02.1 +3.8
PKME	Peaks-Kenny Pk	80.56	3	eP	P	09 06 59.4 +1.3
	comp=Z,14nm,0.8s					
N27A	Anderson Farm,	80.67	338	⇓P	P	09 06 59.9 +1.0
	baz=81,SNR=8.3					
SMCO	Snowmass	80.68	334	eP	P	09 07 01.0 +1.6
	comp=Z,70nm,1.5s					
PV04	Paradox Valley	80.70	332	eP	P	09 07 01.4 +2.1
M29A	Burnside Ranch	80.71	339	⇑P	P	09 07 00.5 +1.4
	baz=81					
PV10	Paradox Valley	80.74	332	eP	P	09 07 00.7 +1.1
	comp=Z,319nm,0.9s					
ISCO	Idaho Springs	80.76	335	eP	P	09 07 01.3 +1.6
ISCO				pmax	pmax	
	comp=Z,43nm,1.7s					
ISCO	Idaho Springs	80.76	335	⇑P	P	09 07 00.6 +0.8
	baz=81,SNR=18					
ISCO	Idaho Springs	80.76	335	eP	P	09 07 01.3 +1.6
	comp=Z,43nm,1.7s					
HEC	Hector,Ludlow	80.81	325	⇓P	P	09 07 01.2 +1.3
	baz=81					
M28A	Bar X Bar Ranc	80.86	339	⇑P	P	09 07 01.3 +1.3
	baz=81					
O24A	Longmont	80.87	336	⇑P	P	09 07 01.4 +1.3
	baz=81					
L31A	Butterfield Fa	80.88	341	⇓P	P	09 07 01.1 +1.2
	baz=81,SNR=11					
PV09	Paradox Valley	80.88	332	eP	P	09 07 02.3 +1.9
L30A	Spencer Herefo	80.91	340	⇑P	P	09 07 01.6 +1.5
	baz=81					
BFSC	Mount Baldy Ra	80.95	324	⇓P	P	09 07 02.2 +1.5
	baz=81					
P22A	Eagle	80.98	334	⇓P	P	09 07 02.0 +1.2
	baz=81,SNR=5.4					
KNB	Kanab	81.08	329	eP	P	09 07 03.8 +2.4
KNB				pmax	pmax	
	comp=Z,128nm,1.9s					
KNB	Kanab	81.08	329	eP	P	09 07 03.8 +2.4
	comp=Z,128nm,1.9s					
L29A	Maesberg Ranch	81.22	340	⇑P	P	09 07 03.6 +1.7
	baz=81					
O23A	Lake Granby, G	81.23	335	⇑P	P	09 07 03.3 +1.1
	baz=81,SNR=13					
M27A	Reverse DX Ran	81.29	338	⇑P	P	09

CCUT **Cedar City** 81.76 329 eP P 09 07 07.8 +2.8
comp=Z,32nm,1.2s
ECSD **EROS Data Cent** 81.78 343 ⇑P P 09 07 05.2 +0.6
baz=82,SNR=57
ECSD **EROS Data Cent** 81.78 343 eP P 09 07 05.1 +0.4
comp=Z,68nm,0.9s
K29A **Lazy Trails An** 81.83 340 ⇓P P 09 07 06.0 +1.0
baz=82,SNR=9.8
RPZ **Rata Peaks** 81.83 221 eP P 09 07 09.4 +4.2
comp=Z,56nm,1.2s
N23A **Red Feather La** 81.85 336 ⇓P P 09 07 06.6 +1.1
baz=82,SNR=7.8
URZ **Urewera** 81.90 228 LR LR 09 35 45.8
comp=Z,931nm,19.9s,baz=182,slow=30
N22A **Wattenberg Ran** 81.94 335 ⇑P P 09 07 07.1 +1.1
baz=82,SNR=10
SRU **San Rafael Swe** 81.95 332 eP P 09 07 07.3 +1.4
SRU pmax pmax
comp=Z,94nm,1.9s
SRU **San Rafael Swe** 81.95 332 eP P 09 07 07.3 +1.4
comp=Z,94nm,1.9s
O20A **White River Ci** 81.98 334 ⇑P P 09 07 07.6 +1.6
baz=82
O20A **White River Ci** 81.98 334 eP P 09 07 07.2 +1.2
comp=Z,20nm,1.1s
ARUT **Antelope Range** 82.00 329 eP P 09 07 08.4 +2.2
ARUT pmax pmax
comp=Z,369nm,1.2s
ARUT **Antelope Range** 82.00 329 eP P 09 07 08.4 +2.2
comp=Z,369nm,1.2s
M24A **Cheyenne** 82.00 337 ⇓P P 09 07 07.4 +1.3
baz=82,SNR=6.3
SEK **Senekal** 82.02 119 eP P 09 07 06.6 -0.1
SEK AMB AMB 09 07 07.4
comp=Z,59nm,1.3s
SEK **Senekal** 82.02 119 P P 09 07 06.6 -0.1
comp=Z,59nm,1.3s
K28A **Ten Mile Ranch** 82.08 339 ⇓P P 09 07 07.6 +1.2
baz=82,SNR=13
MVU **Marysvale** 82.10 330 eP P 09 07 09.0 +2.2
comp=Z,23nm,1.3s
J30A **Dallas** 82.12 341 ⇑P P 09 07 06.9 +0.4
baz=82,SNR=7.2
M23A **Laramie** 82.29 336 ⇓P P 09 07 09.2 +1.5
baz=82
K27A **Flueckinger Fa** 82.32 339 ⇑P P 09 07 08.5 +0.8
baz=82,SNR=8.5
MPMC **Manual Prospec** 82.36 325 ⇓P P 09 07 09.8 +1.7
baz=82
TMUT **Trail Mountain** 82.38 331 eP P 09 07 10.0 +1.8
comp=Z,17nm,1.0s
TMUT ePP PP 09 10 17.1 -0.8
SPMN **Marine on St.** 82.38 346 ⇓P P 09 07 07.4 -0.3
baz=83,SNR=10
SPMN **Marine on St.** 82.38 346 eP P 09 07 07.5 -0.3
comp=Z,43nm,1.1s
J29A **Okreek** 82.42 340 ⇓P P 09 07 09.0 +0.9
baz=83,SNR=16
LBTB **Lobatse** 82.48 115 eP P 09 07 08.7 -0.4
LBTB AMB AMB 09 07 19.9
comp=Z,46nm,1.2s
LBTB AMS AMS 09 50 20.4
comp=Z,717nm,17.0s
LBTB **Lobatse** 82.48 115 eP P 09 07 09.2 0.0
LBTB pmax pmax
comp=Z,71nm,1.3s
LBTB **Lobatse** 82.48 115 eP P 09 07 09.2 0.0
comp=Z,71nm,1.3s
ISA **Isabella, Lake** 82.50 324 eP P 09 07 13.3 +4.6
ISA pmax pmax
comp=Z,10.0nm,0.8s
ISA **Isabella, Lake** 82.50 324 ⇑P P 09 07 11.3 +2.6
baz=83
ISA **Isabella, Lake** 82.50 324 eP P 09 07 13.3 +4.6
comp=Z,9.9nm,0.8s
TPNV **Topopah Spring** 82.52 327 ⇑P P 09 07 11.0 +2.1
baz=83
M22A **Cedar Creek Ra** 82.53 335 ⇓P P 09 07 11.0 +2.0
baz=83
PKM **Mcpherson Peak** 82.53 323 ⇑P P 09 07 11.0 +2.0
baz=83
L24A **Wheatland** 82.55 337 ⇓P P 09 07 10.7 +1.8
baz=83
COWI **Conover** 82.58 349 eP P 09 07 08.9 +0.1
comp=Z,36nm,1.3s
DAC **Darwin (Calif)** 82.58 325 eP P 09 07 11.5 +2.2
DAC pmax pmax
comp=Z,17nm,1.0s
DAC **Darwin (Calif)** 82.58 325 eP P 09 07 11.5 +2.2
comp=Z,17nm,1.0s
K26A **Motz Farm, Whi** 82.60 338 ⇓P P 09 07 11.0 +2.0
baz=83
N20A **Spence Gulch,** 82.61 334 ⇓P P 09 07 10.8 +1.4
baz=83
PRYS **Parys** 82.65 118 eP P 09 07 09.4 -0.7
PRYS AMB AMB 09 07 10.2
comp=Z,15nm,1.5s
PRYS **Parys** 82.65 118 P P 09 07 09.4 -0.7
comp=Z,15nm,1.5s
I30A **Oacoma** 82.66 341 ⇓P P 09 07 10.2 +0.9
baz=83
J28A **Allard Ranch,** 82.69 340 ⇓P P 09 07 10.5 +1.0
baz=83,SNR=11
J27A **Elkhorn Farm,** 82.76 339 ⇓P P 09 07 11.2 +1.3
baz=83,SNR=13
L23A **Garrett** 82.86 336 ⇓P P 09 07 11.8 +1.2
baz=83
VES **Vestal, Richgr** 82.93 324 ⇓P P 09 07 13.5 +2.7
baz=83
I29A **Vivian Onida** 82.99 341 ⇓P P 09 07 11.7 +0.7
baz=83,SNR=7.2
WDLM **Western Deep L** 82.99 117 eP P 09 07 10.9 -0.9
WDLM AMB AMB 09 07 20.0
comp=Z,18nm,3.0s
BRSD **Miller** 83.03 342 eP P 09 07 11.7 +0.5
comp=Z,70nm,1.0s
L22A **Ellis Ranch, M** 83.03 336 ⇓P P 09 07 12.9 +1.4
baz=83
J26A **Sides Ranch, S** 83.12 339 ⇓P P 09 07 13.0 +1.2
baz=83,SNR=9.8
MPU **Maple Canyon** 83.16 331 eP P 09 07 13.9 +1.7
comp=Z,42nm,1.4s
I28A **Midland** 83.21 340 ⇑P P 09 07 13.1 +1.0
baz=83,SNR=19
NLU **North Lily Min** 83.28 331 eP P 09 07 14.8 +1.9
comp=Z,65nm,1.6s
R11A **Troy Canyon, C** 83.39 328 ⇑P P 09 07 14.7 +1.3
baz=84
R11A **Troy Canyon, C** 83.39 328 eP P 09 07 15.7 +2.3
comp=Z,41nm,1.6s
J25A **Sunshine Ranch** 83.42 338 ⇓P P 09 07 14.6 +1.3
baz=84
K23A **Bowen Ranch, D** 83.42 337 ⇑P P 09 07 14.5 +1.1
baz=84
I27A **Quinn** 83.52 339 ⇑P P 09 07 15.0 +1.2
baz=84
H29A **Onida** 83.53 341 ⇑P P 09 07 14.4 +0.7
baz=84,SNR=7.0
K22A **Casper** 83.62 336 ⇓P P 09 07 15.8 +1.3
baz=84,SNR=9.3
K22A **Casper** 83.62 336 eP P 09 07 15.8 +1.3
comp=Z,82nm,1.4s
J24A **Dixon Ranch, L** 83.63 337 ⇓P P 09 07 15.8 +1.4
baz=84
ERPM **east rand prop** 83.63 118 eP P 09 07 14.6 -0.6
ERPM AMB AMB 09 07 16.0
comp=Z,38nm,1.7s
ERPM **east rand prop** 83.63 118 P P 09 07 14.6 -0.6
comp=Z,38nm,1.7s
G30A **Faulkton** 83.72 342 ⇑P P 09 07 15.5 +0.8
baz=84,SNR=7.2
I26A **New Underwood** 83.72 339 ⇓P P 09 07 15.8 +1.0
baz=84
DUG **Dugway, Tooele** 83.78 331 eP P 09 07 16.8 +1.5
DUG pmax pmax
comp=Z,42nm,1.1s
DUG **Dugway, Tooele** 83.78 331 ⇑P P 09 07 16.7 +1.4
baz=84,SNR=15
DUG **Dugway, Tooele** 83.78 331 eP P 09 07 16.8 +1.5
comp=Z,42nm,1.1s
H28A **Mission Ridge** 83.79 340 ⇑P P 09 07 16.0 +0.9
baz=84,SNR=8.4
K21A **Alcova** 83.84 335 ⇑P P 09 07 16.6 +0.9
baz=84,SNR=12
TPH **Tonopah** 83.88 327 eP P 09 07 18.1 +2.1
TPH pmax pmax
comp=Z,36nm,1.3s
TPH **Tonopah** 83.88 327 eP P 09 07 18.1 +2.1
comp=Z,36nm,1.3s
I25A **Rochford** 83.97 338 ⇑P P 09 07 17.2 +0.9
baz=84,SNR=9.4
G29A **Hoven** 83.97 341 ⇑P P 09 07 16.8 +0.8
baz=84
TCUT **Toone Canyon** 84.02 332 eP P 09 07 18.2 +1.5
comp=Z,62nm,1.3s
SLR **Silverton** 84.02 117 eP P 09 07 16.9 -0.2
SLR AMB AMB 09 07 18.0
comp=Z,41nm,1.2s
SLR AMS AMS 09 44 34.0
comp=Z,1µm,17.5s
SLR **Silverton** 84.02 117 P P 09 07 16.9 -0.2
SLR pmax pmax
comp=Z,41nm,1.2s
SLR **Silverton** 84.02 117 P P 09 07 16.9 -0.2
comp=Z,41nm,1.2s
H27A **Howes** 84.04 340 ⇑P P 09 07 17.2 +0.7
baz=84,SNR=5.5
I24A **Kuemmerle Ranc** 84.09 338 ⇓P P 09 07 17.6 +0.8
baz=84
G28A **Parade** 84.13 341 ⇓P P 09 07 17.7 +0.9
baz=84,SNR=9.7
RSSD **Black Hills** 84.15 338 eP P 09 07 17.7 +0.5
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD **Black Hills** 84.15 338 eP P 09 07 17.7 +0.5
comp=Z,13nm,0.9s
J22A **Midwest** 84.28 336 ⇑P P 09 07 18.4 +0.6
baz=84,SNR=7.4
H25A **Fruitdale** 84.47 339 ⇑P P 09 07 19.7 +1.1
baz=85,SNR=6.3
BGU **Big Grassy Mou** 84.49 331 eP P 09 07 20.0 +1.0
comp=Z,16nm,1.4s
J21A **Lysite** 84.54 336 ⇓P P 09 07 20.0 +0.8
baz=85,SNR=7.1
F29A **Eureka** 84.55 342 ⇑P P 09 07 19.5 +0.6
baz=85,SNR=7.9
SPUT **South Promonto** 84.59 331 eP P 09 07 20.1 +0.7
comp=Z,55nm,1.3s
NV01 **Mina Array Sit** 84.66 326 eP P 09 07 21.5 +1.6
NVAR **Mina Array Bea** 84.66 326 P P 09 07 21.7 +1.8
comp=Z,1.4nm,0.6s,baz=152,slow=6.0,SNR=12
NVAR PKKPbc PKKPbc 09 25 30.8 0.0
comp=Z,0.6nm,0.5s,baz=309,slow=4.1,SNR=5.6
G27A **Dupree** 84.69 340 ⇑P P 09 07 19.9 +0.2
baz=85,SNR=6.6
I22A **9 Mile Ranch,** 84.71 337 ⇓P P 09 07 20.1 +0.1
baz=85,SNR=11
EYMN **Ely** 84.76 348 eP P 09 07 19.6 -0.4
comp=Z,53nm,1.3s
BW06 **Boulder Array** 84.77 334 eP P 09 07 21.0 +0.6
comp=Z,10nm,1.0s
J20A **Shoshoni** 84.77 335 ⇓P P 09 07 21.0 +0.7
baz=85,SNR=13
PDAR **Pinedale Array** 84.77 334 P P 09 07 19.4 -1.0
comp=Z,3.8nm,1.1s,baz=144,slow=5.5,SNR=15
PDAR PKKPbc PKKPbc 09 25 29.2 -1.5
comp=Z,0.6nm,0.7s,baz=41,slow=0.7,SNR=6.2
G26A **Maurine** 84.80 340 ⇓P P 09 07 20.7 +0.5
baz=85,SNR=6.1
F28A **McLaughlin** 84.81 341 ⇑P P 09 07 20.6 +0.4
baz=85,SNR=12
H24A **Dirks Ranch, A** 84.87 338 ⇑P P 09 07 21.0 +0.3
baz=85,SNR=8.4
I21A **Big Trails, Te** 84.91 336 ⇓P P 09 07 21.3 +0.3
baz=85,SNR=13
E30A **Jud** 84.94 342 ⇓P P 09 07 21.3 +0.4
baz=85
G25A **Newell** 84.94 339 ⇓P P 09 07 21.4 +0.5
baz=85,SNR=12
J19A **Crowheart** 85.02 335 ⇑P P 09 07 22.0 +0.4
baz=85,SNR=11
HVU **Hansel Valley** 85.12 331 eP P 09 07 22.6 +0.5
HVU pmax pmax
comp=Z,34nm,1.2s
HVU **Hansel Valley** 85.12 331 eP P 09 07 22.6 +0.5
comp=Z,34nm,1.2s
F27A **Lemmon** 85.17 340 ⇓P P 09 07 22.3 +0.2
baz=85,SNR=5.9
E29A **Napoleon** 85.18 342 ⇓P P 09 07 22.5 +0.4
baz=85
ELK **Elko** 85.24 329 eP P 09 07 24.4 +1.6
ELK pmax pmax
comp=Z,39nm,1.9s
ELK **Elko** 85.24 329 eP P 09 07 24.4 +1.6
comp=Z,39nm,1.9s
WAKR **Walker** 85.25 325 eP P 09 07 25.5 +2.7
H22A **Clearmont** 85.30 337 ⇑P P 09 07 23.1 +0.3
baz=86
I20A **Worland** 85.31 335 ⇑P P 09 07 23.2 +0.3
baz=86,SNR=14
CMB **Columbia Colle** 85.31 324 eP P 09 07 25.8 +2.8
CMB pmax pmax
comp=Z,13nm,1.1s
CMB **Columbia Colle** 85.31 324 eP P 09 07 25.8 +2.8
comp=Z,13nm,1.1s
AHID **Auburn Hatcher** 85.33 333 eP P 09 07 24.1 +1.0
comp=Z,47nm,1.4s
F26A **Lodgepole** 85.33 340 ⇑P P 09 07 23.5 +0.6
baz=86
G24A **Alzada** 85.36 338 ⇑P P 09 07 23.6 +0.5
baz=86
E28A **Huff** 85.46 341 ⇓P P 09 07 23.8 +0.4
baz=86
D30A **Buchanan** 85.47 343 ⇓P P 09 07 24.0 +0.5
baz=86,SNR=8.4
G23A **Biddle** 85.54 338 ⇓P P 09 07 24.2 +0.2
baz=86,SNR=7.4
H21A **Big Horn, Sher** 85.55 336 ⇑P P 09 07 24.1 0.0
baz=86,SNR=7.2
E27A **Carson** 85.56 341 ⇓P P 09 07 24.2 +0.2
baz=86
DRLN **Deer Lake** 85.62 10 eP P 09 07 24.6 +0.5
comp=Z,77nm,0.8s
F25A **Bowman** 85.62 339 ⇓P P 09 07 24.8 +0.5
baz=86,SNR=5.6
D29A **Pettibone, Tap** 85.63 342 ⇑P P 09 07 25.1 +0.8
baz=86
TOA0 **Torodi Ar. Sit** 85.63 71 eP P 09 07 24.8 -0.3
TORD **Torodi Ar. Bea** 85.63 71 P P 09 07 24.8 -0.3
comp=Z,28nm,1.0s,baz=246,slow=3.6,SNR=100
TORD PP PP 09 10 46.9 +2.6
comp=Z,5.5nm,1.0s,baz=233,slow=9.0,SNR=3.7
TORD LR LR 09 45 35.7
comp=Z,1µm,18.0s,baz=210,slow=36
I19A **Meeteetse** 85.68 335 ⇓P P 09 07 25.5 +0.7
baz=86
H20A **Greybull** 85.74 336 ⇑P P 09 07 25.4 +0.4
baz=86
SNOW **Snow King Moun** 85.80 334 eP P 09 07 26.7 +1.1
comp=Z,24nm,1.0s
F24A **Ekalaka** 85.83 339 ⇑P P 09 07 25.6 +0.2
baz=86,SNR=10
G22A **Birney** 85.84 337 ⇓P P 09 07 25.6 +0.2
baz=86,SNR=5.9
E26A **Carlson Angus** 85.84 340 ⇓P P 09 07 25.6 +0.2
baz=86,SNR=8.7
LOHW **Long Hollow** 85.88 334 eP P 09 07 26.9 +1.0
comp=Z,26nm,1.4s
TPAW **Teton Pass** 85.90 333 eP P 09 07 27.1 +1.1
comp=Z,21nm,1.0s
AGMN **Agassiz Nation** 85.94 345 ⇓P P 09 07 25.9 +0.1
baz=86,SNR=14
AGMN **Agassiz Nation** 85.94 345 eP P 09 07 25.5 -0.2
comp=Z,42nm,1.0s
C30A **Mose, Pekin** 85.96 343 ⇑P P 09 07 26.5 +0.6
baz=86,SNR=11
D28A **Regan** 86.00 342 ⇓P P 09 07 26.5 +0.4
baz=86,SNR=5.6
F23A **Volborg** 86.01 338 ⇓P P 09 07 26.6 +0.3
baz=86,SNR=12
FXWY **Fox Creek** 86.05 333 eP P 09 07 27.3 +0.5
comp=Z,9.5nm,1.1s
E25A **Miller Ranch,** 86.13 340 ⇑P P 09 07 27.7 +0.8
baz=86,SNR=13
G21A **Lodge Grass** 86.13 337 ⇑P P 09 07 27.5 +0.5
baz=86,SNR=7.2
I17A **Pilgrim Ck.** 86.14 334 ⇑P P 09 07 27.8 +0.6
baz=86,SNR=13
D27A **Center** 86.17 341 ⇓P P 09 07 27.4 +0.4
baz=86
H19A **Powell** 86.23 335 ⇑P P 09 07 28.1 +0.6
baz=86,SNR=10
IMW **Indian Meadow** 86.25 334 eP P 09 07 29.0 +1.2
comp=Z,35nm,1.3s
F22A **Rosebud** 86.33 337 ⇑P P 09 07 28.2 +0.3
baz=86,SNR=7.3
D26A **Manning** 86.34 340 ⇓P P 09 07 28.3 +0.5
baz=87,SNR=19
MDND **Maddock** 86.37 343 ⇓P P 09 07 28.5 +0.6
baz=87,SNR=7.0
MDND **Maddock** 86.37 343 eP P 09 07 28.7 +0.8
C28A **Hausauer Farms** 86.44 342 ⇑P P 09 07 29.0 +0.7
baz=87
E24A **Baker** 86.44 339 ⇓P P 09 07 29.0 +0.6
baz=87,SNR=9.2
G20A **Bridger** 86.46 336 ⇑P P 09 07 28.8 +0.2
baz=87,SNR=14
H18A **Shoshone NF, C** 86.47 335 ⇓P P 09 07 29.9 +1.1
baz=87,SNR=24
H17A **Grant Village** 86.55 334 eP P 09 07 32.4 +3.2
comp=Z,13nm,0.5s
B30A **Myrvik Farm, E** 86.63 344 ⇑P P 09 07 30.0 +0.9
baz=87,SNR=26
E23A **Ismay** 86.68 338 ⇓P P 09 07 29.9 +0.3
baz=87,SNR=5.3
YFT **Old Faithful** 86.69 334 eP P 09 07 32.4 +2.5
comp=Z,28nm,1.1s
D25A **Fairfield** 86.70 340 ⇓P P 09 07 30.7 +1.1
baz=87,SNR=17
C27A **Sayler Ranch,** 86.72 341 ⇑P P 09 07 30.9 +1.2
baz=87,SNR=13
RLMT **Red Lodge** 86.73 335 eP P 09 07 30.6 +0.6
comp=Z,97nm,1.4s
E22A **Miles City** 86.82 338 ⇓P P 09 07 30.5 +0.2
baz=87,SNR=7.0
B29A **Wagenman Farm,** 86.88 343 ⇓P P 09 07 31.2 +0.7
baz=87,SNR=13
YMR **Madison River** 86.92 334 eP P 09 07 32.5 +1.5
comp=Z,42nm,1.2s
F20A **Billings** 86.95 336 ⇓P P 09 07 31.6 +0.6
baz=87
C26A **Wahner Farm, P** 86.98 341 ⇓P P 09 07 31.9 +1.0
baz=87,SNR=11
A30A **Hoffart Farm,** 87.08 344 ⇓P P 09 07 31.6 +0.2
baz=87,SNR=8.7
B28A **Dugan Ranch, T** 87.11 342 ⇓P P 09 07 32.3 +0.7
baz=87,SNR=20
LAO **LASA Array** 87.13 338 eP P 09 07 32.1 +0.4
comp=Z,32nm,1.1s
C25A **Freed Ranch, W** 87.19 340 ⇓P P 09 07 32.8 +0.8
baz=87,SNR=7.6
QLMT **Earthquake Lak** 87.23 334 eP P 09 07 34.5 +2.0
F19A **Roth Farm, Mol** 87.26 336 ⇑P P 09 07 33.1 +0.6
baz=88
D23A **Lindsay** 87.26 339 ⇓P P 09 07 33.2 +0.8
baz=88,SNR=39
E21A **Keefer Ranch,** 87.26 337 ⇑P P 09 07 33.3 +0.9
baz=88
HLID **Hailey** 87.27 331 ⇑P P 09 07 34.4 +1.8
baz=87,SNR=8.5
HLID **Hailey** 87.27 331 eP P 09 07 34.3 +1.6
comp=Z,12nm,1.0s
A29A **Manning Farm,** 87.28 343 ⇓P P 09 07 32.8 +0.5
baz=88,SNR=29
B27A **Peters Farms,** 87.30 342 ⇓P P 09 07 33.2 +0.7
baz=88,SNR=5.4
MSNA **Messina** 87.33 116 eP P 09 07 33.7 +0.2
MSNA AMB AMB 09 07 52.7
comp=Z,31nm,3.8s
MSNA AMS AMS 09 45 07.2
comp=Z,806nm,27.0s
MSNA **Messina** 87.33 116 P P 09 07 33.7 +0.2
comp=Z,31nm,3.8s
C24A **Savage** 87.36 339 ⇑P P 09 07 33.4 +0.6
baz=88,SNR=27
A28A **Rude Farm, Bot** 87.52 343 ⇓P P 09 07 33.8 +0.3
baz=88,SNR=5.7
B26A **Jensen Ranch,** 87.53 341 ⇓P P 09 07 34.0 +0.4
baz=88
D22A **Cohagen** 87.53 338 ⇓P P 09 07 34.2 +0.6
baz=88,SNR=13
E20A **Meyer Farm, Mu** 87.57 337 ⇓P P 09 07 34.6 +0.8
baz=88,SNR=14
MOPA **Mopani** 87.62 117 eP P 09 07 34.7 -0.1
MOPA AMB AMB 09 07 45.6
comp=Z,34nm,3.5s
MOPA **Mopani** 87.62 117 P P 09 07 34.7 -0.1
comp=Z,34nm,3.5s
B25A **Knox Farm, Ray** 87.68 340 ⇑P P 09 07 35.0 +0.7
baz=88,SNR=14
D21A **La Casta Ranch** 87.71 338 ⇑P P 09 07 35.0 +0.5
baz=88
MFID **Camas Ranch** 87.71 330 eP P 09 07 36.5 +1.8
comp=Z,20nm,1.3s
E19A **Rath Farm, Rou** 87.74 336 ⇓P P 09 07 35.0 +0.3
baz=88,SNR=14
MCMT **McKenzie Canyo** 87.75 333 eP P 09 07 36.9 +1.9
ULM **Lac du Bonnet** 87.80 346 eP P 09 07 34.6 -0.2
ULM pmax pmax
comp=Z,35nm,0.9s
ULM **Lac du Bonnet** 87.80 346 P P 09 07 34.0 -0.7
comp=Z,31nm,0.8s,baz=171,slow=3.2,SNR=56
ULM **Lac du Bonnet** 87.80 346 eP P 09 07 34.5 -0.2
comp=Z,35nm,0.9s
C23A **Lambert** 87.82 339 ⇓P P 09 07 35.6 +0.6
baz=88,SNR=16
A26A **Wade Farm, Ken** 87.95 341 ⇑P P 09 07 36.0 +0.4
baz=88,SNR=11
WVOR **Wild Horse Val** 88.07 328 eP P 09 07 37.8 +1.4
WVOR pmax pmax
comp=Z,35nm,1.4s
WVOR **Wild Horse Val** 88.07 328 eP P 09 07 37.8 +1.4
comp=Z,35nm,1.4s
D20A **Manuel Ranch,** 88.09 337 ⇓P P 09 07 36.7 +0.4
baz=88,SNR=12
A25A **Svangstu Ranch** 88.28 341 ⇓P P 09 07 37.9 +0.8
baz=88,SNR=11
WDC **Whiskeytown Da** 88.35 325 eP P 09 07 38.6 +1.0
WDC pmax pmax
comp=Z,10.0nm,0.7s
WDC **Whiskeytown Da** 88.35 325 eP P 09 07 38.6 +1.0
comp=Z,10nm,0.7s
B23A **Brockton** 88.36 339 ⇓P P 09 07 37.3 -0.3
baz=89
MOD **Modoc Plateau** 88.37 327 eP P 09 07 39.5 +1.6
comp=Z,80nm,1.6s
D19A **Cripps Ranch,** 88.39 337 ⇑P P 09 07 37.9 +0.1
baz=89
C21A **Desert Coulee** 88.42 338 ⇑P P 09 07 38.5 +0.7
baz=89,SNR=8.4
LRM **Limekiln Ridge** 88.45 334 eP P 09 07 39.0 +0.7
comp=Z,150nm,1.3s
A24A **Westby** 88.50 340 ⇓P P 09 07 38.9 +0.7
baz=89,SNR=8.1
B22A **Reddig Ranch S** 88.51 339 ⇓P P 09 07 39.2 +0.9
baz=89
C20A **Veseth Ranch,** 88.60 337 ⇓P P 09 07 39.2 +0.5
baz=89
B21A **Ellsworth Farm** 88.93 338 ⇓P P 09 07 40.8 +0.6
baz=89
C19A **Slack Wire Ran** 88.95 337 ⇓P P 09 07 40.9 +0.5
baz=89
M04C **Macdoel** 88.97 326 ⇓P P 09 07 42.0 +1.3
baz=89
HRY **Holter Researc** 88.99 335 eP P 09 07 41.5 +0.8
comp=Z,10nm,1.2s
A22A **Carney Farms,** 89.11 339 ⇓P P 09 07 41.6 +0.5
baz=89
B20A **Solberg Farm,** 89.24 338 ⇓P P 09 07 41.9 +0.2
baz=89,SNR=7.1
K05A **Summer Lake** 89.29 327 eP P 09 07 44.7 +2.4
comp=Z,43nm,1.1s
PAF **Port-aux-Franc** 89.40 157 S S 09 18 27.0 -3.8
PAF L L 09 32 00.0
PAF R 09 39 00.0
A21A **Bergtoll Ranch** 89.40 339 ⇓P P 09 07 42.1 -0.3
baz=90,SNR=6.3
EGMT **Eagleton** 89.43 336 ⇓P P 09 07 42.4 -0.2
baz=90
EGMT **Eagleton** 89.43 336 eP P 09 07 42.9 +0.3
comp=Z,12nm,1.0s
BMO **Blue Mountains** 89.49 330 eP P 09 07 43.9 +0.8
comp=Z,16nm,1.4s
B19A **Brinkman Farms** 89.55 337 ⇓P P 09 07 42.9 -0.2
baz=90
A20A **Cobblestone Ra** 89.61 338 ⇑P P 09 07 43.5 0.0
baz=90,SNR=7.8
CHMT **Chamberlain Mo** 89.67 334 eP P 09 07 45.1 +1.2
I07A **Izee** 89.77 329 eP P 09 07 46.5 +2.0
MSO **Missoula** 89.85 333 ⇑P P 09 07 45.1 +0.5
baz=90
J05D **Fort Rock, OR** 89.89 327 ⇑P P 09 07 46.2 +1.2
baz=90
A19A **Klindworth Far** 89.90 337 ⇓P P 09 07 44.6 -0.2

baz=90,SNR=5.5
SLMT Seeley Lake 90.04 334 *e*P **P** 09 07 45.3 -0.3
PINOR Pine Mountain 90.15 328 *e*P **P** 09 07 48.5 +2.6
comp=Z,73nm,1.7s
SCHQ Schefferville 90.23 4 P **P** 09 07 45.5 -0.6
comp=Z,19nm,1.0s,baz=154,slow=1.4,SNR=9.8
SCHQ Schefferville 90.23 4 *e*P **P** 09 07 46.0 -0.1
comp=Z,24nm,1.0s
F10A Beach Ranch, E 90.38 331 *e*P **P** 09 07 48.4 +1.2
SWMT Swartz Lake 90.45 334 *e*P **P** 09 07 48.6 +1.2
G08A Pilot Rock 90.53 330 *e*P **P** 09 07 49.5 +1.7
JTMT Jette 90.75 334 *e*P **P** 09 07 51.3 +2.4
I05D Terrebonne, OR 90.77 328 ⇓P **P** 09 07 50.7 +1.7
baz=91
BLMT Blacktail Moun 91.00 334 *e*P **P** 09 07 51.0 +0.8
comp=Z,19nm,1.2s
BSMT Bassoo Peak 91.02 333 *e*P **P** 09 07 51.3 +1.0
G06A Carlson Farm, 91.18 329 *e*P **P** 09 07 53.5 +2.6
comp=Z,46nm,1.6s
E09A Wood Farm, Sta 91.19 331 *e*P **P** 09 07 51.8 +1.0
comp=Z,7.5nm,1.1s
H04A Detroit Lake 91.41 327 *e*P **P** 09 07 54.7 +2.8
HAWA Hanford 91.65 330 *e*P **P** 09 07 54.6 +1.6
comp=Z,23nm,1.4s
WALA Waterton Lakes 91.73 335 *e*P **P** 09 07 54.2 +0.8
E07A Sunnyside 91.92 330 *e*P **P** 09 07 55.9 +1.7
E07A *es*P **sP** 09 08 03.7 -3.1
D08A Wollman Farm, 91.94 331 *e*P **P** 09 07 55.8 +1.5
comp=Z,12nm,1.3s
NEW Newport 92.23 332 *e*P **P** 09 07 56.0 +0.4
NEW *e**PP **pP** 09 08 02.9 -2.0
NEW Newport 92.23 332 ⇑P **P** 09 07 56.5 +0.9
baz=92
NEW Newport 92.23 332 *e*P **P** 09 07 56.0 +0.4
NEW *ep*P **pP** 09 08 02.9 -2.0
C09A Chrisman Ranch 92.29 331 *e*P **P** 09 07 57.3 +1.4
LON Longmire 92.88 329 *e*P **P** 09 07 59.3 +0.6
LON pmax pmax
comp=Z,7.0nm,1.0s
LON Longmire 92.88 329 *e*P **P** 09 07 59.2 +0.6
comp=Z,6.9nm,1.0s
B08A Colville Reser 93.16 331 *e*P **P** 09 08 01.9 +1.9
comp=Z,16nm,1.5s
FFC Flin Flon 93.31 344 *e*P **P** 09 08 00.1 -0.2
FFC pmax pmax
comp=Z,7.0nm,0.9s
FFC Flin Flon 93.31 344 *e*P **P** 09 08 00.1 -0.2
comp=Z,6.7nm,0.9s
MORF Marmelete 94.03 46 *e*LR LR 09 43 11.3
comp=Z,799nm,20.0s
TAM Tamanrasset 94.35 65 *e*P **P** 09 08 06.6 +0.4
TAM pmax pmax
comp=Z,7.0nm,1.1s
TAM Tamanrasset 94.35 65 *e*P **P** 09 08 06.6 +0.4
comp=Z,7.4nm,1.1s
PBDV Barranco-do-Ve 94.41 47 A A 09 49 10.6
comp=Z,751nm,18.0s
PNCL Nicolau / Gran 94.64 46 *e*LR LR 09 42 27.3
comp=Z,842nm,18.0s
PVAQ Vaqueiros 94.64 47 *e*LR LR 09 40 58.9
comp=Z,757nm,20.0s
EDM Edmonton 95.08 337 *e*P **P** 09 08 07.7 -0.9
EDM Edmonton 95.08 337 *e*P **P** 09 08 07.7 -0.9
PMTG Montargil 95.46 45 *e*LR LR 09 43 10.3
comp=Z,416nm,20.0s
PBAR Barrancos 95.56 46 *e*LR LR 09 42 20.6
comp=Z,2µm,20.0s
FCC Fort Churchill 95.61 349 *e*P **P** 09 08 10.8 0.0
FCC Fort Churchill 95.61 349 *e*P **P** 09 08 10.8 0.0
PCAS Casmilo, Conde 95.96 44 *e*LR LR 09 43 10.8
comp=Z,792nm,18.0s
MTE Manteigas 96.74 44 *e*LR LR 09 42 21.1
comp=Z,355nm,22.0s
POLO Lamas de Olo 97.24 44 *e*LR LR 09 42 13.4
comp=Z,255nm,20.0s
MVO Moncorvo 97.53 44 *e*LR LR 09 41 18.4
comp=Z,410nm,22.0s
PBRG Braganca 98.12 44 *e*LR LR 09 42 57.8
comp=Z,777nm,18.0s
ESDC Sonseca Array 98.35 47 P **P** 09 08 22.9 -0.9
comp=Z,4.0nm,0.9s,baz=242,slow=4.3,SNR=9.3
ESDC PP **PP** 09 12 24.6 +0.1
comp=Z,0.3nm,0.3s,baz=225,slow=5.7,SNR=4.5
ES19 SONSECA Array 98.41 47 *e*P **P** 09 08 23.8 -0.2
FRB Frobisher Bay 99.07 2 P **Pdif** 09 08 24.8 -1.5
comp=Z,0.7nm,0.9s,baz=214,slow=7.8,SNR=3.4
YKA Yellowknife Ar 103.26 342 Pdiff **Pdif** 09 08 44.5 -0.5
comp=Z,0.4nm,0.3s,baz=143,slow=4.7,SNR=19
YKA PP **PKiKP** 09 13 06.2 +2.1
comp=Z,0.5nm,0.8s,baz=144,slow=7.9,SNR=5.2
YKA PKKPbc **PKKPbc** 09 24 39.0 -2.5
comp=Z,0.1nm,0.3s,baz=328,slow=2.7,SNR=4.0
DAVA Damuels 110.94 46 ⇓*i*pPKiKP **PKiKP** 09 13 20.0 +0.9
comp=Z,1.4nm,0.6s
FETA Feichten 111.31 47 ⇓*i*pPKiKP **PKiKP** 09 13 20.8 +1.0
comp=Z,5.1nm,1.3s
WTTA Wattenberg 111.97 47 ⇓*i*pPKiKP **PKiKP** 09 13 22.4 +1.3
comp=Z,6.9nm,1.0s
CLL Collm 114.64 44 *e*PKIKP PKPdf 09 13 27.0 +1.2
CLL Collm 114.64 44 *e*PKiKP PKPdf 09 13 23.0 -2.8
CLL *e*PS **PKKPab** 09 24 08.0 +0.3
CLL *e*PPS PPS 09 25 21.0
CLL *e*SS SS 09 30 19.0 +2.8
CLL *e*SSS SSS 09 34 36.0
CONA Conrad Observa 114.81 48 ⇓*i*PKiKP PKPdf 09 13 26.0 -0.3
comp=Z,3.8nm,0.9s
ILAR Eielson Array 115.18 333 PKP **PKPdf** 09 13 26.4 0.0
comp=Z,1.1nm,0.7s,baz=153,slow=1.9,SNR=14
ILAR PKKPab **PKKPab** 09 24 05.8 +1.0
comp=Z,0.3nm,0.7s,baz=291,slow=3.7,SNR=4.5
ASAR Alice Springs 115.73 208 PKP **PKPdf** 09 13 28.3 -0.7
comp=Z,1.3nm,0.6s,baz=123,slow=1.6,SNR=23
ASAR PKKPbc **PKKPbc** 09 24 00.8 +0.4
comp=Z,1.7nm,0.6s,baz=340,slow=3.1,SNR=40
VYHS Vyhne 116.85 48 *e*PKIKP **PKPdf** 09 13 30.3 +0.1
VYHS Vyhne 116.85 48 *e*PKiKP **PKPdf** 09 13 30.3 +0.1
NB2 NORSAR Subarra 117.87 33 PKPdf **PKPdf** 09 13 31.3 -0.5
comp=Z,8.0nm,1.4s,baz=248,slow=1.9
NB2 NORSAR Subarra 117.87 33 PKPdf **PKPdf** 09 13 31.3 -0.5
baz=248,slow=1.9
NOA NORSAR Array B 117.87 33 PKP **PKPdf** 09 13 31.2 -0.5
comp=Z,1.9nm,0.8s,baz=250,slow=2.1,SNR=4.3
DRGR 118.58 51 ⇑PKIKP **PKPdf** 09 13 33.5 -0.1
DRGR 118.58 51 ⇑*i*P **PKPdf** 09 13 33.5 -0.1
STHS Stebnicka Huta 118.68 48 *e*PKIKP **PKPdf** 09 13 33.7 0.0
STHS Stebnicka Huta 118.68 48 *e*PKP **PKPdf** 09 13 33.7 0.0
WRA Warramunga Arr 118.92 210 PKP **PKPdf** 09 13 34.6 -0.5
comp=Z,2.8nm,0.6s,baz=169,slow=1.5,SNR=53
WRAB Tennant Creek 118.92 210 *i*PKIKP **PKPdf** 09 13 34.7 -0.4
TRPA Tarpa 118.99 50 ⇓*i*P **PKPdf** 09 13 34.7 +0.5
UZH Uzhgorod 119.02 49 *e*PKIKP PKPdf 09 13 41.4 +7.1
UZH *e* 09 13 46.4
KOLS Kolonicke sedl 119.12 49 *e*PKIKP **PKPdf** 09 13 35.0 +0.5
KOLS Kolonicke sedl 119.12 49 *e*PKP **PKPdf** 09 13 35.0 +0.5
MLR Muntele Rosu 120.18 53 ⇑PKIKP **PKPdf** 09 13 36.9 +0.1
MLR Muntele Rosu 120.18 53 ⇑*i*P **PKPdf** 09 13 36.9 +0.1
BURAR Bucovina Array 120.48 51 ⇓PKIKP **PKPdf** 09 13 37.9 +0.6
BURAR Bucovina Array 120.48 51 ⇓*i*P **PKPdf** 09 13 37.9 +0.6
VRI Vrincioaia 120.83 53 ⇓PKIKP **PKPdf** 09 13 37.3 -0.6
VRI Vrincioaia 120.83 53 ⇓*i*P **PKPdf** 09 13 37.3 -0.6
TESR Tescani 121.01 53 ⇓*i*P **PKPdf** 09 13 38.0 -0.2
SUW Suwalki 121.40 43 *e*PKIKP **PKPdf** 09 13 38.2 -0.5
SUW Suwalki 121.40 43 *e*PKP **PKPdf** 09 13 38.4 -0.3
SUW Suwalki 121.40 43 *e*PKPdf **PKPdf** 09 13 38.2 -0.5
TIRR Tirgusor 121.45 55 ⇓PKIKP **PKPdf** 09 13 39.0 -0.1
TIRR Tirgusor 121.45 55 ⇓*i*P **PKPdf** 09 13 39.0 -0.1
TIRR Tirgusor 121.45 55 *e*PKPdf **PKPdf** 09 13 38.9 -0.2
CFR Carcaliu 121.52 54 ⇓PKIKP **PKPdf** 09 13 39.0 -0.2
CFR Carcaliu 121.52 54 ⇓*i*P **PKPdf** 09 13 39.0 -0.2
MMAI Mount Meron Ar 122.17 70 PKP **PKPdf** 09 13 41.5 +0.6
comp=Z,1.3nm,0.4s,baz=282,slow=2.8,SNR=4.3
BRTR Keskin Array B 123.42 62 *c i*PKIKP **PKPdf** 09 13 43.4 +0.1
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 123.42 62 PKP **PKPdf** 09 13 42.5 -0.8
comp=Z,2.5nm,0.8s,baz=194,slow=4.6,SNR=11
NACGM Naroch 123.67 43 *e* **PKPdf** 09 13 39.0 -4.0
TNA Tin City 123.71 330 *e*PKPdf **PKPdf** 09 13 43.5 +0.8
AKASG Malin Array Be 123.95 48 PKP **PKPdf** 09 13 43.0 -0.7
comp=Z,3.8nm,0.6s,baz=261,slow=2.6,SNR=10.0
VSU Vasula 124.52 39 *i*PKIKP **PKPdf** 09 13 44.4 -0.1
H11S2 WAKE ISLAND Hyl 24.80 269 T T 11 31 17.6
baz=111
H11S1 WAKE ISLAND Hyl 24.81 269 T T 11 31 16.1
baz=218
H11S3 WAKE ISLAND Hyl 24.82 269 T T 11 31 19.5
FINES FINESS Array B 124.83 35 PKP **PKPdf** 09 13 45.0 0.0
comp=Z,6.8nm,0.9s,baz=107,slow=2.0,SNR=14
KAF Kangasniemi 125.07 35 *e*PKIKP **PKPdf** 09 13 42.9 -2.6
KAF pmax pmax
comp=Z,9.0nm,0.6s
KAF Kangasniemi 125.07 35 *e*pkp **PKPdf** 09 13 42.9 -2.6
comp=Z,8.5nm,0.6s
H11N3 WAKE ISLAND Hyl 25.25 270 T T 11 31 46.1
baz=116,slow=78,SNR=12
H11N1 WAKE ISLAND Hyl 25.27 270 T T 11 31 45.8
baz=116,slow=78,SNR=18
H11N2 WAKE ISLAND Hyl 25.27 270 T T 11 31 49.6
baz=116,slow=78,SNR=15
ARCES ARCESS Array B 125.85 25 PKP **PKPdf** 09 13 46.7 -0.1
comp=Z,4.9nm,0.6s,baz=266,slow=2.9,SNR=24
KEV Kevo 126.40 25 *e*PKIKP **PKPdf** 09 13 47.5 -0.3
KEV Kevo 126.40 25 *e*pkp **PKPdf** 09 13 47.5 -0.3
MALT Malatya 126.43 65 ⇑PKIKP **PKPdf** 09 13 49.7 +0.7
MALT Malatya 126.43 65 ⇑*i*P **PKPdf** 09 13 49.7 +0.7
JOF Joensuu 127.48 34 *e*PKIKP **PKPdf** 09 13 48.1 -2.0
JOF pmax pmax
comp=Z,6.0nm,0.8s
JOF Joensuu 127.48 34 *e*pkp **PKPdf** 09 13 48.1 -2.0
comp=Z,6.0nm,0.8s
OBN Obninsk 129.23 44 *i*PKIKP **PKPdf** 09 13 53.2 -0.4
OBN *i* 09 14 01.1
OBN pmax pmax
comp=Z,21nm,1.3s
VSR Storozhevoye 130.19 50 *e*PKIKP PKPdf 09 14 02.7 +7.1
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,50nm,1.1s
VORD Divnogorie 130.23 50 *e*PKIKP **PKPdf** 09 13 54.8 -0.9
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
TMCR Tamitsa 130.55 33 *e*PKIKP **PKPdf** 09 13 56.5 +0.7
TMCR *e* 09 16 07.8
TMCR pmax pmax
comp=Z,41nm,1.2s
KIV Kislovodsk 131.12 60 *i*PKIKP **PKPdf** 09 13 58.4 +0.7
KIV pmax pmax
comp=Z,12nm,1.1s
KBZ Khabaz 131.21 60 PKP **PKPdf** 09 13 57.8 +0.1
comp=Z,3.9nm,1.1s,baz=185,slow=6.1,SNR=3.9
KLMR Klimovskoe 131.24 37 *e*PKIKP **PKPdf** 09 13 55.8 -1.5
KLMR pmax pmax
comp=Z,104nm,1.2s
GOF Gofitskoye 131.61 58 *e*PKIKP PKPdf 09 14 08.7 +10
GNI Garni 131.66 65 *i*PKIKP **PKPdf** 09 13 58.4 -0.6
ZEI Tsey 131.71 61 *i*PKIKP PKPdf 09 13 52.7 -6.4
ZEI pmax pmax
comp=Z,8.0nm,1.1s
VRHR Novokhopersk 131.71 50 *e*PKIKP **PKPdf** 09 13 58.7 +0.2
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
PRGR Permogore 134.16 36 *e*PKIKP **PKPdf** 09 14 02.1 -0.6
PRGR *e* 09 14 13.2
PRGR pmax pmax
comp=Z,34nm,0.8s
SOKR Solikamsk 139.92 37 *e*PKHKP PKPpre 09 14 07.8
SOKR pmax pmax
comp=Z,10.0nm,0.8s
PETK Petropavlovsk- 140.56 313 PKP **PKPdf** 09 14 13.9 -1.0
comp=Z,3.0nm,0.6s,baz=114,slow=7.0,SNR=6.1
GEYT Alibeck 141.26 72 PKhKP PKPpre 09 14 10.8
comp=Z,3.0nm,0.6s,baz=222,slow=2.0,SNR=4.8
GEYT PKP **PKPdf** 09 14 16.1 -0.6
comp=Z,3.1nm,0.7s,baz=319,slow=4.1,SNR=5.1
AKTO Aktyubinsk 142.07 52 PKHKP PKPpre 09 14 11.1
AKTO pmax pmax
comp=Z,7.0nm,0.9s
TIXI Tiksi 142.08 349 *i*PKIKP **PKPdf** 09 14 17.4 +0.4
TIXI Tiksi 142.08 349 *e*PKPdf **PKPdf** 09 14 16.7 -0.3
AB31 Akbulak array 143.39 53 *i*PKIKP PKPab 09 14 16.5 +0.3
AB31 pmax pmax
comp=Z,9.0nm,0.5s
MNSI Mandailing Nat 144.73 167 P PKPbc 09 14 22.7 +0.3
GSI Gunungsitoli 144.82 164 P **PKPdf** 09 14 24.0 +0.3
GSI Gunungsitoli 144.82 164 *e*PKPdf **PKPdf** 09 14 23.7 0.0
POO Poona 146.28 112 ⇓*i*P **PKPdf** 09 14 26.0 0.0
PSI Prapat 146.56 166 PKPbc **PKPbc** 09 14 27.7 -0.5
comp=Z,26nm,0.8s,baz=133,slow=1.6,SNR=16
TPTI 146.61 162 P **PKPbc** 09 14 27.8 -0.4
KCSI Kotacane, Aceh 147.01 163 P **PKPdf** 09 14 26.8 -0.6
IPM Ipoh 148.58 169 *e*PKPdf **PKPdf** 09 14 30.4 +0.4
HYB Hyderabad 149.06 118 *i*PKP **PKPbc** 09 14 33.5 -1.3
BVA0 Borovoye Array 149.08 44 *i*PKIKP **PKPbc** 09 14 32.3 -1.4
BVA0 pmax pmax
comp=Z,75nm,1.0s
BVAR Borovoye Array 149.08 44 PKP **PKPdf** 09 14 30.1 +0.5
comp=Z,36nm,0.7s,baz=294,slow=1.5,SNR=31
BVAR PKPbc **PKiKP** 09 14 34.4 -0.6
comp=Z,28nm,0.6s,baz=306,slow=3.3,SNR=136
KBL Kabul 149.18 81 *e*PKIKP **PKPdf** 09 14 31.7 +1.1
KBL *e* 09 14 36.1
KBL Kabul 149.18 81 *e*PKPdf **PKPdf** 09 14 31.7 +1.1
KBL *e*PKPbc **PKiKP** 09 14 36.1 0.0
KULM Kulim 149.31 168 *e*PKPdf **PKPdf** 09 14 33.4 +2.2
KKM Kota Kinabalu 149.35 199 *e*PKPdf **PKPbc** 09 14 34.1 -1.6
YAK Yakutsk 149.89 339 *e*PKHKP **PKPdf** 09 14 33.7 +3.2
YAK *e* 09 14 41.9
YAK *e* 09 18 12.2
YAK *e*PPP PPP 09 21 40.0
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,90nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,56nm,8.8s
YAK pmax pmax
comp=N,17nm,8.9s
YAK pmax pmax
comp=E,6.0nm,8.9s
YAK Yakutsk 149.89 339 *e*PKPbc **PKPbc** 09 14 35.8 +0.4
YSS Yuzh-Sakhalins 150.95 304 *e*PKIKP **PKPdf** 09 14 34.1 +1.5
YSS Yuzh-Sakhalins 150.95 304 *e*PKPdf **PKPdf** 09 14 34.1 +1.5
KK31 Karatay Array 151.11 64 *i*PKIKP **PKPbc** 09 14 38.4 -0.6
KK31 pmax pmax
comp=Z,18nm,0.8s
KKAR Karatay Array 151.11 64 *e*PKIKP **PKPdf** 09 14 33.4 +0.3
KKAR *e* 09 14 38.9
KKAR Karatay Array 151.11 64 *e*PKPdf **PKPdf** 09 14 33.4 +0.3
KKAR *e*PKPbc **PKPbc** 09 14 38.9 -0.1
ASAJ Asahikawa 151.43 298 *e*PKPbc **PKPbc** 09 14 41.5 +1.9
EKS2 Erkin-Say 153.53 64 *e*PKIKP **PKPdf** 09 14 37.4 +0.5
EKS2 *e* 09 14 45.6
EKS2 Erkin-Say 153.53 64 *e*PKPdf **PKPdf** 09 14 37.4 +0.5
EKS2 *e*PKPbc **PKiKP** 09 14 45.6 +0.9
AAK Ala-Archa 154.06 64 PKP **PKPdf** 09 14 37.8 +0.1
comp=Z,3.2nm,0.8s,baz=178,slow=3.6,SNR=4.9
AAK PKPbc **PKiKP** 09 14 46.6 +0.8
comp=Z,12nm,0.8s,baz=196,slow=3.7,SNR=13
NDI New Delhi 154.07 97 *ex* **PKPdf** 09 14 39.0 +1.1
MJAR Matsushiro Arr 154.66 281 PKP **PKPdf** 09 14 41.8 +3.2
comp=Z,1.4nm,0.9s,baz=146,slow=2.1,SNR=5.0
KURBB Kurchatov Arra 154.66 45 PKP **PKPdf** 09 14 38.1 +0.1
comp=Z,4.1nm,1.0s,baz=297,slow=2.0,SNR=20
KURBB PKPbc **PKiKP** 09 14 46.5 0.0
comp=Z,14nm,1.0s,baz=304,slow=2.9,SNR=27
KURK Kurchatov 154.68 45 *e*PKIKP **PKPdf** 09 14 38.0 0.0
KURK 09 14 46.6
KURK Kurchatov 154.68 45 *e*PKPdf **PKPdf** 09 14 38.0 0.0
KURK PKPbc **PKiKP** 09 14 46.5 0.0
NVS Novosibirsk 154.78 33 *e*PKIKP **PKPdf** 09 14 37.3 -0.7
NVS pmax pmax
comp=N,8.0nm,1.3s
NVS pmax pmax
comp=E,15nm,1.3s
NVS pmax pmax
comp=Z,53nm,1.3s
TKM2 Tokmak 2 154.84 64 PKIKP **PKPdf** 09 14 38.3 -0.5
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
TKM2 Tokmak 2 154.84 64 *e*PKPdf **PKPdf** 09 14 38.9 0.0
KSH Kashi 155.30 72 PKP **PKPdf** 09 14 39.3 -0.1
KSH sPKP 09 14 48.8
KSH PKS **PKSdf** 09 18 13.3 -0.3
KSH PP **PP** 09 18 39.3 -2.4
KSH SKS **SKSdf** 09 21 44.9 +0.9
KSH SKKS **SKKSac** 09 25 30.9 +1.8
KSH SS **SS** 09 38 21.3 -4.0
KSH PPMZ
comp=Z,350nm,5.3s
KSH LN
comp=Z,87nm,5.1s
KSH LE
comp=Z,76nm,7.4s
KSH LZ
comp=Z,200nm,18.7s
ZALV Zalesovo Beam 156.07 33 PKP **PKPdf** 09 14 39.4 -0.4
comp=Z,8.9nm,0.8s,baz=286,slow=2.6,SNR=33
ZALV PKPab **PKPab** 09 15 07.5 +0.2
comp=Z,21nm,0.6s,baz=298,slow=4.8,SNR=11
BOD Bodaibo 157.25 350 *e*PKIKP **PKPdf** 09 14 38.7 -2.5
BOD pmax pmax
comp=Z,6.0nm,0.8s
BOD pmax pmax
comp=Z,35nm,1.1s
PYUN Piuthan 158.46 104 *e*P **PKPdf** 09 14 43.5 -0.4
comp=Z,52nm,1.0s
MK31 Makanchi Array 158.50 51 *i*PKIKP **PKPdf** 09 14 42.8 -0.4
MK31 pmax pmax
comp=Z,16nm,1.1s
MKAR Makanchi Array 158.50 51 PKP **PKPdf** 09 14 43.1 -0.1
comp=Z,6.3nm,1.1s,baz=288,slow=1.2,SNR=31
MKAR PKPab **PKPab** 09 15 18.2 0.0
comp=Z,14nm,0.9s,baz=284,slow=4.3,SNR=13
KOLN Koldanda 158.79 105 *e*P **PKPdf** 09 14 44.0 -0.3
DANN Dangsing 159.18 104 *e*P **PKPdf** 09 14 44.9 0.0
comp=Z,83nm,1.1s
GKN Gorkha 159.71 106 *e*P **PKPdf** 09 14 44.3 -1.1
DMN Daman 159.89 107 *e*P **PKPdf** 09 14 45.4 -0.3
PKIN Phulchoki 160.10 108 *e*P **PKPdf** 09 14 45.9 -0.1
PKI Pulchoki 160.11 108 *e*P **PKPdf** 09 14 45.8 -0.2
KKN Kakani 160.11 107 *e*P **PKPdf** 09 14 45.2 -0.7
GUN Gumba 160.64 107 *e*P **PKPdf** 09 14 45.8 -0.8
RAMN Ramite 160.72 111 *e*P **PKPdf** 09 14 46.6 0.0
comp=Z,133nm,1.7s
JIRN Jiri 160.76 109 *e*P **PKPdf** 09 14 46.9 +0.1
ODAN Odare 161.27 112 *e*P **PKPdf** 09 14 47.2 0.0
CMAR Chiang Mai Arr 161.56 156 PKP **PKPdf** 09 14 47.9 +0.4
comp=Z,2.8nm,0.8s,baz=247,slow=2.4,SNR=18
CMAR PKPab **PKPab** 09 15 31.9 -0.1
comp=Z,4.1nm,0.9s,baz=223,slow=4.7,SNR=7.6
TAPN Taplejung 161.77 111 *e*P **PKPdf** 09 14 47.9 +0.1
comp=Z,46nm,1.4s
KSRS Korea Array 162.94 282 PKP **PKPdf** 09 14 48.3 +0.1
comp=Z,1.8nm,0.9s,baz=197,slow=1.3,SNR=4.7
KSRS PKPab **PKPab** 09 15 38.6 +0.8
comp=Z,1.6nm,0.7s,baz=92,slow=5.2,SNR=4.2
KSAR Wonju Array Be 162.97 282 PKIKP **PKPdf** 09 14 48.3 +0.1
KSAR 09 15 38.7
KSAR Wonju Array Be 162.97 282 PKP **PKPdf** 09 14 48.3 +0.1
KSAR PKPab **PKPab** 09 15 38.6 +0.7
WMQ Urumqi 163.17 55 *e*PKP **PKPdf** 09 14 48.6 +0.2
WMQ pPKP **pPKPdf** 09 14 57.0 -0.9
WMQ PKPab **PKPab** 09 15 39.8 +1.1
WMQ PP **PP** 09 19 24.3 +0.2
WMQ SKS **SKSdf** 09 21 48.3 -2.6
WMQ SKKS **SKKSac** 09 26 08.6 -1.2
WMQ PPMZ
comp=Z,220nm,3.8s
WMQ LN
comp=Z,180nm,22.0s
WMQ LE
comp=Z,450nm,23.0s
WMQ LZ
comp=Z,300nm,23.0s
MOY Mondy 163.40 13 *e*PKP2 **PKPab** 09 15 40.0 +0.6
TLY Talaya 163.76 7 *i*PKIKP **PKPdf** 09 14 48.4 -0.2
TLY *e* 09 19 32.4
TLY pmax pmax
comp=Z,9.0nm,1.6s
TLY Talaya 163.76 7 *e*PKPdf **PKPdf** 09 14 48.0 -0.6
TLY *e*PKPab **PKPab** 09 15 41.8 +1.0
ZAK Zakamensk 165.00 9 *e*PKP2 **PKPab** 09 15 47.0 +0.6
ZAK pmax pmax
comp=Z,9.0nm,1.1s
SLVN Son La 165.57 169 *e*PKPdf **PKPdf** 09 14 51.9 +0.8
ULN Ulaanbaatar 167.74 359 *e*PKIKP **PKPdf** 09 14 51.8 -0.3
ULN Ulaanbaatar 167.74 359 *e*PKPdf **PKPdf** 09 14 51.8 -0.3
ULN *e*PKPab **PKPab** 09 15 59.9 +1.2
SONM Songino Array 167.76 1 PKP **PKPdf** 09 14 50.6 -1.6
comp=Z,0.7nm,0.4s,baz=304,slow=3.2,SNR=5.1
SONM PKPab **PKPab** 09 15 59.1 +0.4
comp=Z,10nm,1.0s,baz=342,slow=3.2,SNR=12
KMI Kunming 168.99 160 PKP **PKPdf** 09 14 55.5 +1.7
KMI pPKP **pPKPdf** 09 15 00.0 -3.3
KMI sPKP 09 15 02.0
NJ2 Nanjing 169.39 254 *e*PKP **PKPdf** 09 14 53.8 +0.3
GYA Guiyang 170.90 179 PKP **PKPdf** 09 14 54.9 +0.2
GYA PKPab **PKPab** 09 16 16.0 +2.9
GYA PKS **PKSdf** 09 18 26.3 -1.0
GYA PP **PP** 09 20 07.4 +4.8
GYA SKKS 09 26 51.0
GYA PPMZ
comp=Z,160nm,8.3s
GYA LN
comp=Z,160nm,21.8s
GYA LE
comp=Z,140nm,22.0s
GYA LZ
comp=Z,170nm,21.4s
BJI Beijing 171.37 304 PKP **PKPdf** 09 14 54.9 +0.6
BJI PP **PP** 09 20 05.8 -0.2
BJI LN
comp=Z,320nm,20.8s
BJI LE
comp=Z,270nm,22.0s
BJI LZ
comp=Z,340nm,22.0s
GTA Gaotai 173.25 54 *e*PKP **PKPdf** 09 14 55.9 +0.5
GTA pPKP **pPKPdf** 09 15 06.8 +1.8
GTA sPKP 09 15 10.4
GTA PKPab **PKPab** 09 16 24.8 +1.3
GTA PP **PP** 09 20 17.9 +2.5
GTA SKS **SKSdf** 09 21 53.9 -2.7
GTA SKKS **SKKSac** 09 26 59.1 -0.8
GTA SS **SS** 09 41 25.6 -3.3
GTA PPMZ
comp=Z,320nm,6.6s
GTA LN
comp=Z,210nm,17.6s
GTA LE
comp=Z,250nm,17.1s
GTA LZ
comp=Z,320nm,18.1s
HHC Hu-ho-hao-te 173.56 326 *e*PKP **PKPdf** 09 14 54.8 -0.6
HHC PP **PP** 09 20 19.0 +2.7
HHC SKS **SKSdf** 09 21 52.6 -4.0
HHC SKKS **SKKSac** 09 27 00.3 -0.7
HHC SS **SS** 09 41 29.4 -1.3
HHC PPMZ
comp=Z,95nm,5.1s
HHC LN
comp=Z,260nm,20.4s
HHC LE
comp=Z,620nm,19.0s
HHC LZ
comp=Z,300nm,19.8s
CD2 Chengdu 174.67 150 *e*PKP **PKPdf** 09 14 57.8 +1.8
CD2 pPKP **pPKPdf** 09 15 08.5 +2.9
CD2 PKPab PKPab 09 16 35.5 +5.8
CD2 PP **PP** 09 20 22.3 +0.8
CD2 SKKS 09 27 06.8
CD2 PPMZ
comp=Z,200nm,12.2s
LZH Lanzhou 177.53 78 *e*PKP **PKPdf** 09 14 58.0 +1.3
LZH pPKP **pPKPdf** 09 15 07.6 +1.3
LZH sPKP 09 15 12.8
LZH PP **PP** 09 20 35.4 -1.2
LZH SKKS 09 27 16.0
LZH SS **SS** 09 42 09.3 -1.7
LZH PPMZ
comp=Z,380nm,7.6s

LZH				LN			
	comp=Z,650nm,18.3s						
LZH				LE			
	comp=Z,960nm,18.8s						
LZH				LZ			
	comp=Z,1μm,20.1s						
XAN	**Xi'an**	**177.68**	**229**	PKP	**PKPdf**	**09 14 55.6**	**-1.0**
XAN				PP	**PP**	**09 20 35.0**	**-1.4**
XAN				SKKS		09 27 15.9	
XAN				LN			
	comp=Z,180nm,22.4s						
XAN				LE			
	comp=Z,79nm,19.0s						
XAN				LZ			
	comp=Z,120nm,20.7s						

IDC 19 08:59:40.2±3.6, 52°.32N×35°.53E, h0km, mb1 3.4/3, mb1mx3.2/27, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=45.9km s-min=15.1km az=126.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.87**	**12**	Lg	Lg	09 01 06.7	
	27nm,0.3s,baz=59,slow=5.2,SNR=5.8						
AKASG	**Malin Array Be**	**4.26**	**250**	Pn	Pn	09 00 45.5	-0.8
	0.9nm,0.3s,baz=54,slow=8.0,SNR=2.9						
AKASG				Pg	Pb	09 00 54.8	-1.2
	2.1nm,0.3s,baz=57,slow=16,SNR=4.5						
AKASG				Sn	Sn	09 01 33.6	-3.0
	1.6nm,0.3s,baz=58,slow=24,SNR=3.5						
AKASG				Lg	Lg	09 01 52.1	
	1.9nm,0.3s,baz=68,slow=30,SNR=3.2						
I43RU	**DUBNA INFRASON**	**4.52**	**12**	*i*		09 28 30.0	
	baz=184,slow=314,SNR=0.6						
FINES	**FINESS Array B**	**10.49**	**334**	Pn	Pn	09 02 07.0	-4.7
	0.1nm,0.3s,baz=150,slow=15,SNR=4.4						
I31KZ	**AKTYUBINSK INF**	**14.18**	**89**	*i*		10 22 30.0	
	baz=287,slow=319,SNR=4.4						
ARCES	**ARCESS Array B**	**17.90**	**349**	P	Pn	09 03 49.1	-1.2
	0.2nm,0.3s,baz=159,slow=10,SNR=8.1						

*IDC **19** 08:59:49.2±1.0, 35°.71S×73°.11W, h0km, mb4.2/6, mb1 4.3/9, mb1mx4.0/33, mbtmp4.2/9, ML3.6/3, Error ellipse: s-maj=30.7km s-min=18.5km az=82.0*
*ISCJB **19** 08:59:50.3±2.2, 35°.54S±0°.04×73°.28W±0°.05, h13km±14km, mb4.3/9, Error ellipse: s-maj=7.3km s-min=6.2km az=4.4*
*GUC **19** 08:59:52.3±0.4, 35°.64S×73°.18W, h30km±3km, ML5.1*
*NEIC **19** 08:59:54.9±0.6, 35°.62S×73°.15W, h35km, mb4.7/6, Error ellipse: s-maj=17.5km s-min=10.6km az=86.0*
ISC 19 08:59:51.3±2.6, 35°.61S±0°.04×73°.19W±0°.06, h11km±15km, n38, σ1§11/38, mb4.5/9, 5C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.61**	**148**	⇑*iP*		**Pb**	**09 00 04.4**	**+0.3**
COCH				*i* S		**Sb**	**09 00 13.4**	**+0.7**
CCSP	**San Pedro de C**	**1.24**	**177**	*e*P		**Pn**	**09 00 14.2**	**-0.3**
CCSP				*e*S		**Sb**	**09 00 30.8**	**+0.2**
TALC	**Talca**	**1.28**	**81**	⇑*iP*		**Pn**	**09 00 14.7**	**-0.5**
TALC				*i* S		**Sn**	**09 00 32.4**	**0.0**
LNCH	**Linares**	**1.31**	**101**	⇑*iP*		**Pn**	**09 00 15.5**	**-0.1**
LNCH				⇑*iP*		**Pb**	**09 00 15.7**	**-0.3**
LNCH				*i* S		**Sg**	**09 00 33.5**	**0.0**
LNCH				*i* S		**Sn**	**09 00 33.7**	**+0.6**
NICH	**Los Niches**	**1.71**	**70**	⇑*iP*		**Pn**	**09 00 21.4**	**+0.3**
NICH				*i* S		**Sb**	**09 00 44.6**	**+0.3**
LNV	**Longovilo**	**2.20**	**42**	*e*P1		**Pn**	**09 00 29.6**	**+1.8**
LNV				*i* S1		**Sb**	**09 00 58.1**	**-0.3**
CACH	**El Canelo**	**2.60**	**56**	*e*P1		**Pb**	**09 00 36.0**	**-1.9**
CHCH	**Chadas Angostu**	**2.67**	**52**	*e*P1		**Pn**	**09 00 36.5**	**+2.2**
ANTU	**Antumapu**	**2.93**	**47**	IAML			09 01 26.3	
	comp=E,6μm,0.5s							
CLCH	**Cerro Calan**	**3.11**	**46**	IAML			09 01 33.1	
	comp=N,5μm,0.7s							
PLCA	**Paso Flores**	**5.52**	**159**	Pn		**Pn**	**09 01 11.8**	**-1.8**
	comp=N,0.5nm,0.3s,baz=340,slow=7.4,SNR=2.6							
PLCA				Lg		Lg	09 02 42.8	
	comp=N,2.3nm,0.3s,baz=253,slow=16,SNR=2.2							
PLCA	**Paso Flores**	**5.52**	**159**	*e*Pn		**Pn**	**09 01 12.7**	**-0.8**
PLCA				Lg		Lg	09 02 42.8	
CFAA	**Coronel Fontan**	**5.74**	**47**	Pn		**Pn**	**09 01 16.5**	**0.0**
	comp=N,0.6nm,0.3s,baz=202,slow=13,SNR=11							
CFAA				Sn		**Sn**	**09 02 22.2**	**-0.3**
	comp=N,0.8nm,0.3s,baz=161,slow=16,SNR=2.8							
CFAA				Lg		Lg	09 02 44.7	
	comp=N,0.7nm,0.3s,baz=66,slow=23,SNR=3.3							
LCO	**Las Campanas**	**6.91**	**18**	*e*Pn		**Pn**	**09 01 32.9**	**+0.2**
TRQA	**Tornquist**	**9.31**	**109**	*e*Pn		**Pn**	**09 02 08.2**	**+2.7**
LPAZ	**La Paz**	**19.76**	**14**	P		**Pn**	**09 04 23.8**	**+0.3**
	comp=N,0.2nm,0.3s,baz=225,slow=13,SNR=2.2							
LPAZ	**La Paz**	**19.76**	**14**	*e*P		**Pn**	**09 04 24.1**	**+0.6**
	comp=N,19nm,1.0s							
SIV	**San Ignacio**	**22.34**	**32**	P		**P**	**09 04 49.5**	**+0.3**
	comp=N,17nm,1.1s,baz=201,slow=8.8,SNR=4.2							
SNAA	**Sanae**	**50.46**	**157**	*e*P		**P**	**09 08 49.2**	**+0.5**
	comp=N,8.2nm,1.0s							
QSPA	**South Pole Qui**	**54.63**	**180**	*e*P		**P**	**09 09 21.3**	**+1.5**
	comp=N,9.0nm,1.3s							
H06S1	**SOCORRO T**	**64.83**	**320**	T		T	10 22 51.4	
	SNR=14							
TXAR	**Lajitas Array**	**70.69**	**332**	P		**P**	**09 11 07.4**	**+0.1**
	comp=N,0.3nm,0.5s,baz=153,slow=8.5,SNR=4.7							
WVT	**Waverly**	**72.66**	**348**	*e*P		**P**	**09 11 19.8**	**+0.9**
DBIC	**Dimbokro**	**76.58**	**72**	P		**P**	**09 11 41.8**	**-0.4**
	comp=N,3.4nm,0.7s,baz=222,slow=4.1,SNR=3.9							
DBIC	**Dimbokro**	**76.58**	**72**	*e*P		**P**	**09 11 41.8**	**-0.4**
	comp=N,9.7nm,1.1s							
BOSA	**Boshof**	**80.16**	**118**	P		**P**	**09 12 00.7**	**-1.3**
	comp=N,3.9nm,0.9s,baz=209,slow=5.0,SNR=4.4							
BOSA	**Boshof**	**80.16**	**118**	*e*P		**P**	**09 12 01.2**	**-0.8**
	comp=N,9.5nm,1.1s							
ECSD	**EROS Data Cent**	**81.80**	**343**	*e*P		**P**	**09 12 09.7**	**-0.3**
	comp=N,5.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**85.64**	**71**	P		**P**	**09 12 29.7**	**-0.7**
	comp=N,1.4nm,1.0s,baz=224,slow=4.5,SNR=3.9							
ULM	**Lac du Bonnet**	**87.81**	**346**	P		**P**	**09 12 41.4**	**+1.3**
	comp=N,1.2nm,0.6s,baz=143,slow=5.1,SNR=2.4							
WRA	**Warramunga Arr**	**118.90**	**210**	PKP		**PKPdf**	**09 18 40.0**	**-0.4**
	comp=N,0.3nm,0.6s,baz=165,slow=1.8,SNR=4.7							
H11S2	**WAKE ISLAND Hyd**	**24.80**	**269**	T		T	11 36 14.6	
H11S1	**WAKE ISLAND Hyd**	**24.81**	**269**	T		T	11 36 17.5	
H11S3	**WAKE ISLAND Hyd**	**24.81**	**269**	T		T	11 36 23.0	
H11N3	**WAKE ISLAND Hyd**	**25.25**	**270**	T		T	11 36 46.5	
H11N1	**WAKE ISLAND Hyd**	**25.26**	**270**	T		T	11 36 40.3	
	baz=117,slow=74,SNR=3.5							
H11N2	**WAKE ISLAND Hyd**	**25.27**	**270**	T		T	11 36 39.3	
	baz=277,slow=74,SNR=3.8							
SONM	**Songino Array**	**167.78**	**1**	PKP		**PKPdf**	**09 19 54.6**	**-2.9**
	comp=N,1.5nm,0.7s,baz=321,slow=1.9,SNR=4.9							

*DDA **19** 09:05:37.7, 39°.39N×33°.10E, h7km, MD2.7*
*CSEM **19** 09:05:38.0±0.3, 39°.40N×33°.11E, h0km±6km, MD2.7, Error ellipse: s-maj=9.0km s-min=5.0km az=136.0*
ISC 19 09:05:37.4±1.5, 39°.37N±0°.06×33°.08E±0°.05, h3km±12km, n10, σ0§52/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af¯ar-Bala (A**	**0.08**	**354**	*e*PG		**Pg**	**09 05 38.2**	**-0.8**
AFSR				*e*SG		**Sg**	**09 05 40.8**	**+0.7**
AFSR	**Af¯ar-Bala (A**	**0.08**	**354**	*e*Pg		**Pg**	**09 05 38.2**	**-0.8**
AFSR				*e*Sg		**Sg**	**09 05 40.8**	**+0.7**
BBAL	**Bala**	**0.18**	**11**	*i* P		**Pg**	**09 05 41.2**	**+0.3**
BBAL				*i* S		**Sg**	**09 05 43.8**	**+0.5**
BBAL	**Bala**	**0.18**	**11**	*i* P		**Pg**	**09 05 41.2**	**+0.3**
BBAL				*i* S		**Sg**	**09 05 43.8**	**+0.5**
CDAG	**Cicekdag**	**1.03**	**75**	*i* P		**Pg**	**09 05 57.0**	**-0.2**
CDAG				*i* S		**Sg**	**09 06 10.7**	**+0.1**
CDAG	**Cicekdag**	**1.03**	**75**	*i* P		**Pg**	**09 05 57.0**	**-0.2**
CDAG				*i* S		**Sg**	**09 06 10.7**	**+0.1**
KDHN	**Kadinhani**	**1.13**	**222**	*i* P		**Pn**	**09 06 00.9**	**+0.6**
KDHN				*i* S		**Sn**	**09 06 16.2**	**-0.3**
KDHN	**Kadinhani**	**1.13**	**222**	*i* P		**Pn**	**09 06 00.9**	**+0.6**
KDHN				*i* S		**Sn**	**09 06 16.2**	**-0.3**
ELDT	**Eldivan**	**1.15**	**13**	*i* P		**Pb**	**09 05 59.8**	**-0.3**
ELDT				*i* S		**Sb**	**09 06 15.2**	**-0.3**
ELDT	**Eldivan**	**1.15**	**13**	*i* P		**Pb**	**09 05 59.8**	**-0.3**
ELDT				*i* S		**Sb**	**09 06 15.2**	**-0.3**

*CSEM **19** 09:06:14.0±0.1, 62°.72N×25°.74E, h0km, ML0.8, Mining explosion.*
HEL 19 09:06:14.0±0.1, 62°.72N×25°.74E, h0km, ML0.8, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUF	**Sumiainen**	**0.19**	**91**	PG	Pg	09 06 17.4	-0.2
SUF				SG	Sg	09 06 19.6	-0.4
SUF	**Sumiainen**	**0.19**	**91**	Pg	Pg	09 06 17.3	-0.3
SUF				Sg	Sg	09 06 19.6	-0.4
KEF	**Keuruu**	**0.69**	**216**	PG	Pg	09 06 26.3	-0.9
KEF				SG	Sg	09 06 35.0	-1.1
KEF	**Keuruu**	**0.69**	**216**	Pg	Pg	09 06 26.2	-1.0
KEF				Sg	Sg	09 06 35.0	-1.1
FIA0	**FINESS Array S**	**1.29**	**173**	PG	Pg	09 06 37.0	-1.8
	baz=349						
FIA0				SG	Sg	09 06 54.3	-1.2
FIA0	**FINESS Array S**	**1.29**	**173**	Pg	Pg	09 06 37.0	-1.8
FIA0				Sg	Sg	09 06 54.3	-1.2
VAF	**Ylistaro**	**1.44**	**284**	PN	Pn	09 06 41.2	-0.2
VAF				SN	Sn	09 07 01.5	+0.6
VAF				MSG		09 07 01.5	
	comp=Z,0.4nm,0.2s						
VAF	**Ylistaro**	**1.44**	**284**	Pn	Pn	09 06 41.1	-0.2
VAF				Sn	Sn	09 07 01.5	+0.5
PVF	**Pernaja**	**2.19**	**178**	SG	Sb	09 07 21.4	-0.5
PVF				MSG		09 07 21.4	
	comp=Z,0.4nm,0.2s						
PVF	**Pernaja**	**2.19**	**178**	Sg	Sb	09 07 21.4	-0.5
RAF	**Rauma**	**2.54**	**230**	PN	Pn	09 06 56.2	-0.2
RAF	**Rauma**	**2.54**	**230**	Pn	Pn	09 06 56.2	-0.2
JOF	**Joensuu**	**2.56**	**83**	PG	Pn	09 06 58.5	+1.8
JOF	**Joensuu**	**2.56**	**83**	Pg	Pn	09 06 58.5	+1.8
MTSE	**Matsula**	**4.13**	**194**	PB	Pb	09 07 23.6	-3.8
MTSE	**Matsula**	**4.13**	**194**	Pb	Pb	09 07 23.6	-3.9

IDC 19 09:08:45.0±2.1, 2°.85N×125°.70E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/33, mbtmp3.7/3, Error ellipse: s-maj=190.4km s-min=26.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.19**	**160**	P	P	09 14 03.5	+0.1
	1.2nm,0.7s,baz=339,slow=11,SNR=14						
ASAR	**Alice Springs**	**27.54**	**164**	P	P	09 14 34.1	+0.4
	0.2nm,0.3s,baz=345,slow=6.7,SNR=5.9						
MKAR	**Makanchi Array**	**57.29**	**326**	P	P	09 18 36.9	-0.6
	1.0nm,0.6s,baz=117,slow=7.2,SNR=5.1						

IDC 19 09:09:21.8±1.9, 2°.43N×125°.11E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/33, mbtmp3.7/3, Error ellipse: s-maj=190.9km s-min=25.3km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.01**	**158**	P	P	09 14 37.9	-0.6
	1.9nm,0.6s,baz=337,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**27.32**	**162**	P	P	09 15 09.7	+1.1
	0.4nm,0.7s,baz=342,slow=7.2,SNR=4.2						
MKAR	**Makanchi Array**	**57.71**	**326**	P	P	09 19 14.1	-0.4
	2.6nm,1.0s,baz=123,slow=8.0,SNR=3.7						

*IDC **19** 09:19:56.2±0.9, 32°.70S×179°.16W, h0km, mb4.7/4, mb1 4.8/5, mb1mx4.2/35, mbtmp4.6/5, ML4.1/1, Error ellipse: s-maj=27.3km s-min=24.3km az=75.0*
*ISCJB **19** 09:19:59.2±0.7, 32°.81S±0°.04×179°.02W±0°.10, h45km, mb4.6/6, Error ellipse: s-maj=12.2km s-min=5.1km az=9.3*
*NEIC **19** 09:20:02.9±1.4, 32°.71S×179°.20W, h49km±12km, mb4.5/2, Error ellipse: s-maj=18.3km s-min=12.7km az=124.0*
ISC 19 09:20:02.5±0.7, 32°.85S±0°.07×179°.1W±0°.1, h45km, n59, σ2§05/58, mb4.7/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.74**	**17**	Pn	**Pn**	**09 20 56.0**	**-1.7**
	88nm,0.3s,baz=54,slow=16,SNR=3.3						
RAO				Sn	Sn	09 21 34.7	-5.8
	158nm,0.3s,baz=82,slow=22,SNR=4.6						
MXZ	**Matakaoa Point**	**5.14**	**203**	PN	**Pn**	**09 21 17.9**	**+0.9**
MXZ				*e*SN	**Sn**	**09 22 16.3**	**+1.2**
WMGZ	**Waiomatatini S**	**5.34**	**201**	*e*PN	**Pn**	**09 21 20.2**	**+0.4**
HAZ	**Te Kaha**	**5.50**	**206**	*e*PN	**Pn**	**09 21 22.9**	**+1.0**
PUZ	**Puketiti**	**5.63**	**201**	*e*PN	**Pn**	**09 21 23.5**	**-0.2**
PUZ				*e*SN	**Sn**	**09 22 28.1**	**+1.2**
TWGZ	**Tauwhareparae**	**5.81**	**203**	*e*PN	**Pn**	**09 21 26.7**	**+0.5**
TWGZ				*e*SN	**Sn**	**09 22 35.9**	**+4.4**
TKGZ	**Te Karaka**	**6.09**	**203**	*e*PN	**Pn**	**09 21 31.8**	**+1.8**
MWZ	**Matawai**	**6.11**	**205**	PN	**Pn**	**09 21 29.8**	**-0.5**
URZ	**Urewera**	**6.20**	**209**	Pn	**Pn**	**09 21 32.8**	**+1.3**
	4.2nm,0.3s,baz=268,slow=4.8,SNR=16						
URZ				Sn	**Sn**	**09 22 44.3**	**+3.2**
	12nm,0.3s,baz=146,slow=23,SNR=6.7						
URZ	**Urewera**	**6.20**	**209**	*e*PN	**Pn**	**09 21 31.9**	**+0.4**
URZ				*e*SN	**Sn**	**09 22 43.6**	**+2.5**
URZ	**Urewera**	**6.20**	**209**	*e*Pn	**Pn**	**09 21 31.6**	**+0.1**
	3.9nm,0.8s						
URZ				*e*Sn	**Sn**	**09 22 45.2**	**+4.1**
WCZ	**Waipu Caves**	**6.21**	**238**	*e*PN	Pn	09 21 36.7	+5.1
RAGZ	**Rawiri**	**6.29**	**206**	*e*PN	**Pn**	**09 21 33.0**	**+0.2**
RIGZ	**Rimuhau**	**6.36**	**202**	*e*PN	**Pn**	**09 21 33.7**	**0.0**
OUZ	**Omahuta**	**6.48**	**247**	*e*PN	Pn	09 21 39.6	+4.3
OUZ	**Omahuta**	**6.48**	**247**	Pn	Pn	09 21 38.1	+2.7
	142nm,0.6s						
OUZ				*e*Sn	**Sn**	**09 22 50.9**	**+3.0**
SNGZ	**Shannon Statio**	**6.57**	**205**	*e*PN	**Pn**	**09 21 38.8**	**+2.2**
RAHZ	**Arahi**	**6.78**	**206**	*e*PN	**Pn**	**09 21 39.2**	**-0.3**
BKZ	**Black Stump Fm**	**7.23**	**208**	*e*PN	**Pn**	**09 21 43.8**	**-1.9**
KRHZ	**Kereru**	**7.69**	**207**	*e*PN	**Pn**	**09 21 50.8**	**-1.1**
PXZ	**Pawanui**	**7.86**	**203**	*e*SN	**Sn**	**09 23 17.5**	**-4.2**
TSZ	**Takapari Road**	**8.20**	**207**	*e*PN	Pn	09 21 55.1	-3.9
TSZ				*e*SN	**Sn**	**09 23 26.9**	**-3.4**
BFZ	**Birch Farm**	**8.65**	**204**	*e*PN	Pn	09 22 01.5	-3.5
BFZ				*e*SN	**Sn**	**09 23 36.4**	**-4.7**
TIWZ	**Tintock**	**8.86**	**205**	*e*PN	**Pn**	**09 22 05.3**	**-2.7**
MRZ	**Mangatainoka R**	**8.87**	**207**	*e*PN	Pn	09 22 03.9	-4.2
MRZ				*e*SN	**Sn**	**09 23 41.3**	**-5.4**
OGWZ	**Otaki Gorge**	**9.16**	**208**	*e*PN	**Pn**	**09 22 09.3**	**-2.8**
KIW	**Kapiti Island**	**9.31**	**209**	*e*PN	**Pn**	**09 22 12.1**	**-1.9**
TUWZ	**Tuamarina**	**10.19**	**211**	*e*PN	Pn	09 22 22.1	-4.0
NNZ	**Nelson**	**10.27**	**213**	*e*PN	Pn	09 22 23.5	-3.7
THZ	**Tophouse**	**10.92**	**213**	*e*PN	Pn	09 22 31.9	-4.3
KHZ	**Kahutara**	**11.17**	**209**	*e*PN	Pn	09 22 34.3	-5.2
MQZ	**McQueen's Vall**	**12.60**	**208**	*e*PN	Pn	09 22 52.8	-6.3
MQZ				*e*SN	Sn	09 25 05.5	-12
CMSA	**Cobar Meteorol**	**29.71**	**263**	P	**P**	**09 26 06.1**	**+1.7**
	baz=31,SNR=16						
CTA	**Charters Tower**	**33.34**	**284**	P	**P**	**09 26 36.7**	**+0.3**
	8.1nm,0.6s,baz=113,slow=12,SNR=8.5						
MTSU	**Mount Surprise**	**35.90**	**285**	P	P	09 26 52.9	-5.6
	baz=37,SNR=6.4						
QIS	**Mount Isa**	**38.61**	**278**	P	**P**	**09 27 21.4**	**-0.1**
	baz=40,SNR=5.3						
COEN	**Coen**	**39.10**	**290**	P	**P**	**09 27 26.2**	**+0.6**
	baz=41,SNR=5.9						
AS31	**Alice Springs**	**42.08**	**270**	*e*P	**P**	**09 27 49.7**	**-0.6**
ASAR	**Alice Springs**	**42.08**	**270**	P	**P**	**09 27 49.6**	**-0.6**
	3.0nm,0.5s,baz=111,slow=7.7,SNR=48						
WB2	**Warramunga Arr**	**43.28**	**275**	*e*P	**P**	**09 27 58.6**	**-1.4**
WRAB	**Tennant Creek**	**43.29**	**275**	*e*P	**P**	**09 27 58.7**	**-1.3**
	8.6nm,0.6s						
WRA	**Warramunga Arr**	**43.29**	**275**	P	**P**	**09 27 58.9**	**-1.2**
	6.4nm,0.4s,baz=115,slow=8.0,SNR=158						
WRKA	**Warakurna**	**46.27**	**266**	P	**P**	**09 28 22.0**	**-1.7**
	baz=48,SNR=18						
KDU	**Kakadu**	**48.45**	**283**	P	**P**	**09 28 39.0**	**-1.8**
	baz=50,SNR=4.6						
MTN	**Manton Dam**	**49.47**	**282**	P	**P**	**09 28 47.0**	**-1.6**
	baz=51,SNR=5.7						
KNRA	**Kununurra**	**49.98**	**277**	P	**P**	**09 28 51.3**	**-1.2**
	baz=52,SNR=9.4						
MEEK	**Meekatharra**	**53.73**	**259**	P	**P**	**09 29 17.9**	**-2.5**
	baz=55,SNR=3.4						
QSPA	**South Pole Qui**	**57.26**	**180**	P	**P**	**09 29 46.6**	**+1.3**
	6.4nm,0.8s,baz=226,slow=1.4,SNR=24						
QSPA	**South Pole Qui**	**57.26**	**180**	*e*P	**P**	**09 29 46.7**	**+1.4**
SNAA	**Sanae**	**75.73**	**179**	*e*P	**P**	**09 31 44.3**	**+1.3**
	3.0nm,0.8s						
CRZF	**Crozet Islands**	**88.65**	**213**	R		09 34 00.0	
FINES	**FINESS Array B**	**147.08**	**338**	PKPbc	**PKPdf**	**09 39 37.8**	**+0.3**
	8.2nm,0.5s,baz=69,slow=4.8,SNR=4.5						
NOA	**NORSAR Array B**	**151.00**	**350**	PKP	**PKPdf**	**09 39 42.9**	**-1.1**
	7.5nm,0.9s,baz=51,slow=7.7,SNR=5.5						
NOA				PKPab	**PKPab**	**09 39 56.5**	**-0.9**
	4.2nm,0.7s,baz=51,slow=7.7,SNR=3.6						
LIC	**Lamto**	**152.94**	**167**	*e*PKIKP	**PKPbc**	**09 39 57.4**	**+1.9**
	26nm,1.0s						
KIC	**Kosan Boka**	**153.13**	**168**	*e*PKIKP	**PKPbc**	**09 39 57.9**	**+1.9**
	8.3nm,0.6s						
TIC	**Toumodi**	**153.35**	**167**	*e*PKIKP	**PKPbc**	**09 39 57.9**	**+1.4**
	7.7nm,0.2s						
DBIC	**Dimbokro**	**153.41**	**167**	PKPbc	**PKPbc**	**09 39 57.7**	**+1.2**
	1.7nm,0.5s,baz=232,slow=4.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**160.37**	**182**	PKP	**PKPdf**	**09 39 57.5**	**-0.3**
	0.7nm,1.0s,baz=268,slow=2.5,SNR=3.1						
TORD				PKPab	**PKPab**	**09 40 38.0**	**-0.5**
	1.1nm,0.5s,baz=173,slow=3.6,SNR=10						
ESDC	**Sonseca Array**	**172.16**	**28**	PKPab	**PKPab**	**09 41 31.7**	**+1.7**
	0.4nm,0.4s,baz=318,slow=6.4,SNR=4.0						

*ISCJB **19** 09:20:16.7±0.9, 34°.38S±0°.03×72°.11W±0°.08, h16km, Error ellipse: s-maj=9.7km s-min=4.4km az=4.5*
*NEIC **19** 09:20:19.0, 34°.42S×71°.96W, h14km, ML4.0(GUC), After GUC.*
NEIC Felt [III] at Molina and Talca and [II] at Linares and Parral.
*GUC **19** 09:20:19.2±0.5, 34°.42S×71°.96W, h14km±4km, ML4.0*
ISC 19 09:20:18.0±1.3, 34°.41S±0°.04×72°.00W±0°.10, h16km, n12, σ0§61/20, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.86**	**133**	⇓*iP*	**Pb**	**09 20 34.6**	**-0.1**
NICH				*i* S	**Sb**	**09 20 45.9**	**-0.1**
NICH				AML	AML	09 20 46.8	
	comp=E,20μm,0.4s						
TALC	**Talca**	**1.03**	**163**	⇑*iP*	**Pb**	**09 20 36.8**	**-0.6**
TALC				*e*S4	**Sb**	**09 20 50.0**	**-0.7**
TALC				AML	AML	09 20 50.9	
	comp=E,13μm,0.1s						
ANTU	**Antumapu**	**1.41**	**54**	⇑*iP*	**Pb**	**09 20 43.5**	**-0.5**
ANTU				*i* S	**Sn**	**09 21 01.3**	**-0.1**
ANTU				AML	AML	09 21 05.7	
	comp=E,3μm,0.5s						
IHA	**Instituto Hidr**	**1.41**	**12**	⇑*iP*	**Pn**	**09 20 43.5**	**+0.5**
LNCH	**Linares**	**1.47**	**167**	⇑*iP*	**Pn**	**09 20 44.2**	**+0.4**
LNCH				*i* S	**Sb**	**09 21 03.2**	**-0.2**
LNCH				AML	AML	09 21 07.4	
	comp=E,3μm,0.6s						
LACH	**Col Las Americ**	**1.55**	**52**	*e*P1	**Pn**	**09 20 45.5**	**+0.5**
LACH				*i* S	**Sb**	**09 21 05.4**	**-0.3**
CLCH	**Cerro Calan**	**1.58**	**51**	*e*P	**Pn**	**09 20 45.8**	**+0.4**
CLCH				*i* S	**Sb**	**09 21 06.3**	**-0.3**
CLCH				AML	AML	09 21 14.1	
	comp=N,2μm,0.8s						
PEL	**Peldehue**	**1.67**	**41**	⇓*iP*	**Pn**	**09 20 47.2**	**+0.6**
PEL				*e*S1	**Sn**	**09 21 08.9**	**+1.2**
PEL				AML	AML	09 21 15.2	
	comp=E,3μm,0.4s						
LCO	**Las Campanas**	**5.50**	**12**	*e*Pn	**Pn**	**09 21 39.3**	**-0.2**
LCO				*e*Sn	**Sn**	**09 22 42.3**	**-0.1**
PLCA	**Paso Flores**	**6.42**	**170**	*e*Pn	**Pn**	**09 21 53.3**	**+1.4**
TRQA	**Tornquist**	**8.87**	**117**	*e*Pn	**Pn**	**09 22 25.6**	**0.0**
TRQA				*e*Lg	Lg	09 24 54.5	
LVC	**Limon Verde**	**12.06**	**14**	Pn	**Pn**	**09 23 09.0**	**-0.6**

DDA 19 09:23:08.0, 37°.32N×27°.66E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.31**	**215**	*i* P	Pg	09 23 13.1	-0.9
BDRM				*i* S	Sb	09 23 20.0	-1.0
AYDN	**Tasoluk**	**0.38**	**26**	*i* P	Pb	09 23 16.5	-0.7
AYDN				*i* S	Sb	09 23 24.1	+0.6

*BJI **19** 09:30:36.3, 54°.71N×110°.31E, h11km, mB5.3/54, mb5.0/66, Ms5.4/81, Ms7 5.2/71*
*IDC **19** 09:30:37.7±0.3, 54°.50N×110°.21E, h0km, mb4.9/35, mb1 5.0/41, mb1mx5.0/51, mbtmp4.9/41, ML3.9/6, MS5.0/37, Ms1 5.0/37, ms1mx4.9/50, Error ellipse: s-maj=8.7km s-min=5.9km

	comp=N,168μm,0.8s					
SYVR	**Suvo**	**0.89 191**	⇑*i*Pg	**Pb**	**09 30 57.4**	**-0.4**
SYVR			Pmax		09 30 59.6	
	comp=N,19μm,1.7s					
SYVR			*i* Sg	**Sb**	**09 31 09.6**	**+0.3**
SYVR			*e*Sb	**Sn**	**09 31 11.4**	**+0.4**
SYVR			max		09 31 12.8	
	comp=N,165μm,0.9s					
SYVR	**Suvo**	**0.89 191**	⇑*i*Pg	**Pb**	**09 30 57.7**	**-0.1**
SYVR			*e*Sg	**Sb**	**09 31 09.2**	**-0.1**
NIZ	**Nizh Angarsk**	**1.31 342**	*e*PG	**Pb**	**09 31 05.3**	**+0.3**
NIZ			*e*		09 31 23.9	
NIZ			pmax	pmax		
	comp=Z,15μm,1.0s					
NIZ			smax	smax		
	comp=N,171μm,1.4s					
NIZ	**Nizh Angarsk**	**1.31 342**	⇑*i*Pg	**Pg**	**09 31 05.7**	**-0.5**
NIZ			Pmax		09 31 06.6	
	comp=N,18μm,0.7s					
NIZ			*e*		09 31 12.5	
NIZ			*e*Sg	**Sg**	**09 31 23.5**	**+0.2**
NIZ			*e*Sb	**Sb**	**09 31 25.3**	**+3.8**
NIZ			max		09 31 25.5	
	comp=N,72μm,1.9s					
NIZ	**Nizh Angarsk**	**1.31 342**	*e*Pg	**Pb**	**09 31 05.3**	**+0.3**
NIZ			*e*Sg	**Sg**	**09 31 28.0**	**+4.7**
KMO	**Kumora**	**1.46 21**	⇑*i*PG	**Pg**	**09 31 08.8**	**-0.1**
KMO			*e*		09 31 28.0	
KMO			pmax	pmax		
	comp=Z,16μm,0.3s					
KMO			smax	smax		
	comp=N,158μm,1.0s					
KMO	**Kumora**	**1.46 21**	*e*Pg	**Pg**	**09 31 08.9**	**0.0**
KMO			Pmax		09 31 10.4	
	comp=N,22μm,1.2s					
KMO			*e*Sg	**Sg**	**09 31 29.7**	**+1.8**
KMO			*e*Sg	**Sb**	**09 31 31.5**	**+5.8**
	comp=N,161μm,1.5s					
KMO	**Kumora**	**1.46 21**	⇑*i*Pg	**Pg**	**09 31 08.8**	**-0.1**
KMO			*e*Sg	**Sg**	**09 31 28.0**	**+0.1**
MXMB	**Maximikha**	**1.56 216**	*e*Pg	**Pn**	**09 31 07.6**	**-0.1**
MXMB			Pmax		09 31 09.1	
	comp=N,7μm,1.2s					
MXMB			*e*Sg	**Sb**	**09 31 28.3**	**-0.3**
MXMB			*e*Sb	**Sg**	**09 31 30.6**	**-0.6**
MXMB			max		09 32 32.1	
	comp=N,75μm,0.8s					
YOA	**Uoyan**	**1.81 27**	⇑*i*PN	**Pg**	**09 31 15.3**	**-0.2**
YOA			*i*		09 31 41.6	
YOA			pmax	pmax		
	comp=Z,9μm,0.3s					
YOA			smax	smax		
	comp=N,318μm,1.3s					
YOA	**Uoyan**	**1.81 27**	*e*Pn	**Pb**	**09 31 14.0**	**+0.6**
YOA			*e*Pg	**Pg**	**09 31 15.4**	**-0.1**
YOA			*e*		09 31 24.7	
YOA			max		09 31 26.4	
	comp=N,18μm,0.8s					
YOA			*e*Sg	**Sg**	**09 31 41.2**	**+2.2**
YOA			Smax		09 31 42.3	
	comp=N,248μm,1.0s					
YOA	**Uoyan**	**1.81 27**	⇑*i*Pg	**Pg**	**09 31 15.3**	**-0.2**
YOA			*i* Sg	**Sg**	**09 31 41.6**	**+2.6**
OGRR	**Ongureny**	**1.81 242**	*e*PN	**Pn**	**09 31 11.2**	**0.0**
OGRR			*e*		09 31 33.8	
OGRR			pmax	pmax		
	comp=Z,2μm,0.3s					
OGRR			smax	smax		
	comp=N,1μm,1.2s					
OGRR	**Ongureny**	**1.81 242**	⇓*i*Pg	**Pn**	**09 31 11.1**	**-0.1**
OGRR			*e*		09 31 12.9	
OGRR			max		09 31 13.8	
	comp=N,8μm,1.7s					
OGRR			*e*		09 31 20.4	
OGRR			*e*Sg	**Sn**	**09 31 33.7**	**0.0**
OGRR			Smax		09 31 37.9	
	comp=N,18μm,0.7s					
OGRR	**Ongureny**	**1.81 242**	*e*Pg	**Pn**	**09 31 11.2**	**0.0**
OGRR			*e*Sg	**Sn**	**09 31 33.8**	**0.0**
UKT	**Uakit**	**2.16 62**	*e*PN	**Pb**	**09 31 20.9**	**+1.5**
UKT			*e*		09 31 50.0	
UKT			pmax	pmax		
	comp=Z,20μm,1.0s					
UKT			smax	smax		
	comp=N,200nm,1.3s					
UKT	**Uakit**	**2.16 62**	⇓*i*Pn	**Pb**	**09 31 18.1**	**-1.3**
UKT			*e*Pg	**Pb**	**09 31 21.0**	**+1.5**
UKT			*e*		09 31 25.4	
UKT			*e*		09 31 29.7	
UKT			max		09 31 31.0	
	comp=N,19μm,1.3s					
UKT			*e*Sn	**Sb**	**09 31 45.0**	**-0.8**
UKT			*i* Sg	**Sg**	**09 31 50.1**	**-0.1**
UKT			*e*SgSg	**SnSn**	**09 31 58.8**	**+5.8**
UKT			max		09 32 01.9	
	comp=N,62μm,1.3s					
UKT	**Uakit**	**2.16 62**	*e*Pg	**Pb**	**09 31 20.9**	**+1.5**
UKT			*e*Sg	**Sg**	**09 31 50.0**	**-0.1**
SVKR	**Severomuysk**	**2.46 48**	*e*PN	**Pb**	**09 31 23.1**	**-1.5**
SVKR			*e*S	**Sb**	**09 31 53.5**	**-1.0**
SVKR			*e*		09 32 00.7	
SVKR			pmax	pmax		
	comp=Z,16μm,1.4s					
SVKR			smax	smax		
	comp=N,87μm,1.2s					
SVKR	**Severomuysk**	**2.46 48**	*e*Pn	**Pb**	**09 31 23.0**	**-1.5**
SVKR			*e*Pg	**Pg**	**09 31 27.7**	**-0.3**
SVKR			*e*PgPg	**PbPb**	**09 31 31.2**	**+3.5**
SVKR			*e*		09 31 36.3	
SVKR			max		09 31 41.2	
	comp=N,16μm,1.6s					
SVKR			*e*Sn	**Sb**	**09 31 54.2**	**-0.3**
SVKR			*e*Sg	**Sg**	**09 32 01.2**	**+1.4**
SVKR			*e*SgSg	**SnSn**	**09 32 09.1**	**+8.6**
SVKR			max		09 32 12.2	
	comp=N,187μm,1.5s					
SVKR	**Severomuysk**	**2.46 48**	*e*Pn	**Pb**	**09 31 23.1**	**-1.5**
SVKR			*e*Pg	**Pg**	**09 31 29.3**	**+1.3**
SVKR			*e*Sn	**Sb**	**09 31 53.5**	**-1.0**
SVKR			*e*Sg	**Sg**	**09 32 00.7**	**+0.9**
TRG	**Tyrgan**	**2.94 234**	*e*PN	**Pn**	**09 31 26.2**	**-0.4**
TRG			*e*		09 31 31.6	
TRG			*e*S	**Sn**	**09 32 00.6**	**-0.8**
TRG			*e*		09 32 08.0	
TRG			pmax	pmax		
	comp=Z,1μm,0.4s					
TRG			smax	smax		
	comp=N,4μm,0.6s					
TRG	**Tyrgan**	**2.94 234**	*e*Pn	**Pn**	**09 31 26.2**	**-0.4**
TRG			*e*Pg	**Pb**	**09 31 31.5**	**-1.1**
TRG			*e*		09 31 36.0	
TRG			max		09 31 42.2	
	comp=N,919nm,0.8s					
TRG			*e*Sn	**Sn**	**09 32 00.8**	**-0.6**
TRG			*e*Sg	**Sb**	**09 32 08.3**	**+0.1**
TRG			Smax		09 32 19.1	
	comp=N,17μm,2.0s					
UUDB	**Ulan-Yde**	**3.10 212**	*e*Pn	**Pn**	**09 31 28.8**	**-0.1**
UUDB			*e*Pg	**Pb**	**09 31 35.0**	**-0.4**
UUDB			*e*PgPg	**PbPb**	**09 31 38.9**	**+0.4**
UUDB			*e*		09 31 46.8	
UUDB			max		09 31 49.5	
	comp=N,3μm,1.0s					
UUDB			*e*Sg	**Sg**	**09 32 16.8**	**-3.5**
UUDB			Smax		09 32 19.1	
	comp=N,7μm,0.4s					
UUDB			Smax		09 32 20.9	
UUDB			*e*LR	LR	09 32 22.0	
CIT	**Chita**	**3.19 141**	*e*PN	**Pn**	**09 31 32.0**	**+1.8**
CIT			*e*		09 31 39.1	
CIT			*e*		09 32 20.6	
CIT			pmax	pmax		
	comp=Z,18μm,1.2s					
CIT			smax	smax		
	comp=N,57μm,1.1s					
CIT	**Chita**	**3.19 141**	*e*Pn	**Pn**	**09 31 30.7**	**+0.5**
CIT			*e*Pg	**Pb**	**09 31 39.0**	**+1.9**
CIT			Pmax		09 31 40.8	
	comp=N,18μm,1.3s					
CIT			*e*		09 31 53.4	
CIT			*e*Sn	**Sn**	**09 32 07.6**	**-0.2**
CIT			*e*Sg	**Sg**	**09 32 21.0**	**-2.4**
CIT			*e*SgSg	**SbSb**	**09 32 23.7**	**+2.9**
			max		09 32 27.3	
	comp=N,35μm,0.8s					
KAB	**Kabansk**	**3.30 223**	*e*PN	**Pb**	**09 31 40.3**	**+1.4**
KAB	**Kabansk**	**3.30 223**	*e*Pn	**Pn**	**09 31 31.0**	**-0.6**
KAB			*e*Pg	**Pb**	**09 31 38.5**	**-0.4**
KAB			Pmax		09 31 49.8	
	comp=N,3μm,1.0s					
KAB			*e*Sn	**Sn**	**09 32 10.9**	**+0.5**
KAB			*e*Sg	**Sb**	**09 32 21.1**	**+2.4**
KAB			Smax		09 32 46.8	
	comp=N,70μm,1.5s					
HRMR	**Khuramsha**	**3.53 216**	⇓*i*Pn	**Pn**	**09 31 34.8**	**0.0**
HRMR			*e*		09 31 35.9	
HRMR			*e*Pg	**Pb**	**09 31 43.4**	**+0.6**
HRMR			*e*		09 31 52.0	
HRMR			max		09 31 55.4	
	comp=N,4μm,0.8s					
HRMR			*e*Sn	**Sn**	**09 32 14.3**	**-1.8**
HRMR			*e*Sg	**Sb**	**09 32 28.9**	**+3.6**
HRMR			Smax		09 32 36.3	
	comp=N,43μm,1.2s					
NLYR	**Nelyaty**	**3.66 55**	*e*Pn	**Pn**	**09 31 38.3**	**+1.8**
NLYR			*e*Pg	**Pg**	**09 31 49.4**	**-1.4**
NLYR			*e*		09 32 04.5	
NLYR			max		09 32 05.2	
	comp=N,4μm,1.0s					
NLYR			*e*Sn	**Sn**	**09 32 24.1**	**+4.9**
NLYR			*e*Sg	**Sg**	**09 32 38.7**	**+0.5**
NLYR			Smax		09 32 47.8	
	comp=N,41μm,1.0s					
BOD	**Bodaibo**	**3.90 31**	*e*PN	**Pb**	**09 31 52.1**	**+3.1**
BOD			*e*		09 32 45.7	
BOD			pmax	pmax		
	comp=Z,1μm,1.1s					
BOD			smax	smax		
	comp=N,17μm,0.9s					
BOD	**Bodaibo**	**3.90 31**	*e*Pn	**Pn**	**09 31 41.3**	**+1.5**
BOD			*e*Pg	**Pb**	**09 31 52.0**	**+3.1**
BOD			*e*		09 31 59.2	
BOD			max		09 32 07.7	
	comp=N,3μm,1.4s					
BOD			*e*Sn	**Sn**	**09 32 26.3**	**+1.2**
BOD			*e*Sg	**Sg**	**09 32 43.7**	**-2.2**
BOD			Smax		09 32 47.4	
	comp=N,17μm,1.3s					
LSTR	**Listvyanka**	**4.22 233**	*e*PN	**Pn**	**09 31 44.1**	**-0.2**
LSTR			*e*		09 31 56.3	
LSTR			*e*		09 32 50.8	
LSTR			pmax	pmax		
	comp=Z,823nm,0.9s					
LSTR			smax	smax		
	comp=N,24μm,1.7s					
LSTR	**Listvyanka**	**4.22 233**	⇓*i*Pn	**Pn**	**09 31 43.6**	**-0.7**
LSTR			*e*Pg	**Pb**	**09 31 55.2**	**+0.7**
LSTR			Pmax		09 32 07.4	
	comp=N,835nm,1.6s					
LSTR			*e*		09 32 39.1	
LSTR			*e*Sg	**Sb**	**09 32 49.2**	**+4.0**
LSTR			Smax		09 32 59.4	
	comp=N,25μm,1.7s					
IRK	**Irkutsk**	**4.26 240**	*e*PN	**Pn**	**09 31 44.4**	**-0.4**
IRK			*e*		09 31 56.2	
IRK			*e*		09 32 50.1	
IRK			pmax	pmax		
	comp=Z,2μm,0.9s					
IRK			smax	smax		
	comp=N,6μm,1.1s					
IRK	**Irkutsk**	**4.26 240**	*e*Pn	**Pn**	**09 31 44.1**	**-0.7**
IRK			*e*Pg	**Pb**	**09 31 55.1**	**-0.1**
IRK			*e*		09 32 05.6	
IRK			max		09 32 06.8	
	comp=N,2μm,1.1s					
IRK			*e*Sg	**Sb**	**09 32 49.3**	**+3.0**
IRK			Smax		09 32 54.3	
	comp=N,16μm,1.2s					
TLY	**Talaya**	**4.91 237**	Pn	**Pn**	**09 31 52.2**	**-1.5**
	comp=N,1μm,0.4s,SNR=56					
TLY	**Talaya**	**4.91 237**	*d*PN	**Pn**	**09 31 52.1**	**-1.6**
TLY			*e*		09 32 06.9	
TLY			*e*S	**Sn**	**09 32 47.3**	**-2.8**
TLY			*e*		09 33 09.8	
TLY			pmax	pmax		
	comp=Z,104nm,0.3s					
TLY	**Talaya**	**4.91 237**	⇓*i*Pn	**Pn**	**09 31 52.5**	**-1.2**
TLY			*e*Pg	**Pb**	**09 32 06.8**	**+0.5**
TLY			*e*		09 32 15.8	
TLY			max		09 32 18.6	
	comp=Z,607nm,1.9s					
TLY			*e*Sn	**Sn**	**09 32 46.9**	**-3.2**
TLY			*e*Sg	**Sb**	**09 33 09.2**	**+4.2**
TLY			Smax		09 33 21.4	
	comp=Z,6μm,1.4s					
TLY	**Talaya**	**4.91 237**	Pn	**Pn**	**09 31 52.8**	**-0.9**
	SNR=66					
TLY	**Talaya**	**4.91 237**	Pn	**Pn**	**09 31 52.5**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=38,slow=6.9,SNR=63					
TLY			Lg	Lg	09 33 08.4	
	comp=Z,0.9nm,0.3s,baz=270,slow=17,SNR=3.1					
TLY			LR	LR	09 33 47.7	
	comp=Z,7μm,20.3s,baz=56,slow=39					
TLY	**Talaya**	**4.91 237**	*e*Pn	**Pn**	**09 31 52.5**	**-1.2**
TLY			*e*Sn	**Sn**	**09 32 44.7**	**-5.4**
TLY			Lg	Lg	09 33 08.4	
KPC	**Khapcheranga**	**5.01 164**	*e*PN	Pb	09 32 11.4	+3.5
KPC			*e*		09 33 17.1	
KPC			pmax	pmax		
	comp=Z,2μm,1.1s					
KPC			smax	smax		
	comp=N,23μm,1.5s					
KPC	**Khapcheranga**	**5.01 164**	*e*Pn	**Pn**	**09 31 54.6**	**-0.5**
KPC			*e*Pg	Pb	09 32 11.5	+3.5
KPC			*e*		09 32 14.1	
KPC			max		09 32 14.7	
	comp=N,2μm,1.0s					
KPC			*e*		09 32 27.2	
KPC			*e*		09 32 47.9	
KPC			*e*		09 33 03.3	
KPC			*i* Sg	**Sg**	**09 33 17.0**	**-4.5**
KPC			Smax		09 33 18.4	
	comp=N,23μm,1.1s					
VTMR	**Vitim**	**5.08 13**	*e*	**Pn**	**09 31 56.4**	**+0.5**
VTMR			*e*		09 32 52.3	
VTMR			*e*		09 33 10.4	
VTMR			*i* Sg	**Sg**	**09 33 21.1**	**-2.4**
CRS	**Chara**	**5.11 59**	*e*PN	**Pn**	**09 31 59.0**	**+2.6**
CRS			*e*S	**Sg**	**09 33 21.6**	**-2.9**
CRS			smax	smax		
	comp=N,26μm,1.5s					
CRS	**Chara**	**5.11 59**	⇓*i*Pn	**Pn**	**09 31 58.2**	**+1.8**
CRS			*e*Pg	Pg	09 32 14.4	-4.1
CRS			*e*		09 32 23.6	
CRS			max		09 32 27.6	
	comp=N,3μm,1.2s					
CRS			*e*		09 32 41.8	
CRS			*e*		09 33 08.2	
CRS			*e*Sg	**Sg**	**09 33 22.2**	**-2.3**
CRS			Smax		09 33 29.2	
	comp=N,27μm,1.8s					
ARS	**Arshan**	**5.39 244**	*e*PN	**Pn**	**09 31 59.2**	**-1.2**
ARS			*e*		09 32 14.6	
ARS			*e*		09 33 24.2	
ARS			pmax	pmax		
	comp=Z,778nm,0.5s					
ARS			smax	smax		
	comp=N,24μm,1.2s					
ARS	**Arshan**	**5.39 244**	*e*Pn	**Pn**	**09 31 59.5**	**-0.9**
ARS			*e*Pg	**Pb**	**09 32 15.2**	**+0.7**
ARS			Pmax		09 32 18.8	
	comp=N,583nm,0.7s					
ARS			*e*		09 32 30.1	
ARS			*i* Sg	**Sb**	**09 33 24.2**	**+5.3**
ARS			Smax		09 33 32.7	
	comp=N,24μm,1.2s					
TUP	**Tupik**	**5.65 87**	*e*PN	**Pn**	**09 32 04.6**	**+0.8**
TUP			*e*		09 32 25.1	
TUP			*e*		09 33 36.8	
TUP			pmax	pmax		
	comp=Z,2μm,1.7s					
TUP			smax	smax		
	comp=N,3μm,1.3s					
TUP	**Tupik**	**5.65 87**	*e*Pn	**Pn**	**09 32 04.6**	**+0.8**
TUP			*e*Pg	Pg	09 32 24.7	-4.1
TUP			*e*		09 32 33.7	
TUP			max		09 32 34.9	
	comp=N,2μm,1.4s					
TUP			*e*		09 33 05.1	
TUP			*e*		09 33 19.2	
TUP			*e*Sg	**Sg**	**09 33 39.0**	**-2.9**
TUP			Smax		09 33 43.8	
	comp=N,54μm,1.3s					
ZAK	**Zakamensk**	**5.96 229**	*e*PN	**Pn**	**09 32 08.4**	**+0.1**
ZAK			*e*		09 33 44.7	
ZAK			pmax	pmax		
	comp=Z,260nm,1.4s					
ZAK			smax	smax		
	comp=E,2μm,1.4s					
ZAK	**Zakamensk**	**5.96 229**	*e*Pn	**Pn**	**09 32 07.9**	**-0.4**
ZAK			*e*Pg	**Pb**	**09 32 27.1**	**+2.9**
ZAK			*e*		09 32 32.2	
ZAK			max		09 32 51.4	
	comp=E,272nm,1.4s					
ZAK			*e*Sg	Sb	09 33 42.9	+7.6
ZAK			Smax		09 33 59.9	
	comp=E,2μm,1.4s					
KHNR	**Khani**	**5.98 62**	*e*Pn	Pn	09 32 12.3	+3.8
KHNR			*e*Pg	Pg	09 32 31.6	-3.7
KHNR			*e*		09 32 39.2	
KHNR			*e*		09 33 26.9	
KHNR			*e*Sg	**Sg**	**09 33 50.9**	**-1.7**
MOY	**Mondy**	**6.28 247**	*e*PN	**Pn**	**09 32 13.0**	**+0.3**
MOY			*e*		09 32 31.0	
MOY			*e*S	**Sn**	**09 33 22.4**	**-1.6**
MOY			*e*		09 33 50.3	
MOY			pmax	pmax		
	comp=Z,687nm,0.8s					
MOY			smax	smax		
	comp=E,10μm,1.7s					
MOY	**Mondy**	**6.28 247**	*e*Pn	**Pn**	**09 32 12.6**	**-0.1**
MOY			*e*		09 32 24.1	
MOY			*e*Pg	**Pb**	**09 32 31.0**	**+1.3**
MOY			Pmax		09 32 41.2	
	comp=E,689nm,1.3s					
MOY			*e*Sn	**Sn**	**09 33 22.7**	**-1.3**
MOY			*e*Sg	**Sb**	**09 33 50.4**	**+5.9**
MOY			Smax		09 34 05.6	
	comp=E,10μm,1.5s					
ORL	**Orlik**	**6.55 257**	*e*PN	**Pn**	**09 32 16.4**	**+0.1**
ORL			*e*		09 32 36.8	
ORL			*e*S	**Sn**	**09 33 29.8**	**-0.8**
ORL			*e*		09 34 02.8	
ORL			pmax	pmax		
	comp=Z,1μm,1.3s					
ORL			smax	smax		
	comp=N,810nm,2.6s					
ORL	**Orlik**	**6.55 257**	⇓*i*Pn	**Pn**	**09 32 16.3**	**0.0**
ORL			max		09 32 19.1	
	comp=N,1μm,1.5s					
ORL			*e*Sn	**Sn**	**09 33 27.7**	**-2.9**
ORL			*e*Sg	Sb	09 34 01.8	+10
ORL			Smax		09 34 23.4	
	comp=N,11μm,2.3s					
YKLR	**Yuktali**	**6.78 68**	*e*Pn	**Pn**	**09 32 20.9**	**+1.6**
YKLR			*e*		09 32 27.9	
YKLR			*e*		09 32 48.6	
YKLR			*e*		09 33 42.8	
YKLR			*e*Sg	**Sg**	**09 34 14.2**	**-3.9**
ULN	**Ulaanbaatar**	**6.98 198**	*d*iPN	**Pn**	**09 32 21.8**	**-0.4**
ULN	**Ulaanbaatar**	**6.98 198**	*e*Pn	**Pn**	**09 32 22.1**	**-0.1**
ULN			*e*Pg	Pb	09 32 47.5	+6.0
ULN			*e*		09 32 55.0	
ULN			*e*		09 33 09.9	
ULN			*e*		09 34 05.4	
ULN			*e*Sg	Sg	09 34 17.8	-6.7
ULN	**Ulaanbaatar**	**6.98 198**	Pn	**Pn**	**09 32 22.4**	**+0.2**
	SNR=42					
ULN	**Ulaanbaatar**	**6.98 198**	*e*Pn	**Pn**	**09 32 22.3**	**+0.1**
ULN			*e*Sn	**Sn**	**09 33 38.6**	**-2.5**
SONM	**Songino Array**	**7.13 202**	Pn	**Pn**	**09 32 24.8**	**+0.4**
	comp=N,16nm,0.3s,baz=17,slow=13,SNR=89					
SONM			Lg	Lg	09 34 23.7	
	comp=N,79nm,0.3s,baz=10.0,slow=27,SNR=6.0					
SONM			LR	LR	09 35 25.9	
	comp=N,16μm,19.1s,baz=17,slow=41					
HIA	**Hailar**	**7.88 128**	*e*PN	**Pn**	**09 32 32.6**	**-1.9**
HIA	**Hailar**	**7.88 128**	*e*	**Pn**	**09 32 32.4**	**-2.1**
HIA			*e*		09 32 35.6	
HIA			*e*		09 32 55.9	
HIA			*e*Pg	Pb	09 33 03.5	+6.7
HIA			*e*		09 33 57.4	
HIA			*e*Sg	Sb	09 34 45.6	+15
HIA	**Hailar**	**7.88 128**	*e*Pn	**Pn**	**09 32 32.6**	**-1.9**
	comp=N,193nm,0.5s					
CLNS	**Chul'man**	**8.58 68**	*e*PN	**Pn**	**09 32 45.6**	**+1.6**
CLNS			*e*S	**Sn**	**09 34 17.8**	**-2.5**
CLNS			pmax	pmax		
	comp=Z,26nm,0.8s					
CLNS			pmax	pmax		
	comp=E,21nm,0.9s					
CLNS			pmax	pmax		
	comp=N,7.0nm,0.7s					
CLNS			smax	smax		
	comp=N,657nm,1.0s					
CLNS			smax	smax		
	comp=E,471nm,1.1s					
CLNS			MLR	MLR		
	comp=Z,7μm,14.0s					
CLNS			MLR	MLR		
	comp=N,2μm,14.0s					
CLNS			MLR	MLR		
	comp=E,6μm,16.0s					
CLNS	**Chul'man**	**8.58 68**	*e*Pn	**Pn**	**09 32 45.6**	**+1.6**
CLNS			*e*Pg		09 33 18.6	
CLNS			*e*Sg	Sn	09 35 10.8	+50
KRAR	**Krasnoyarsk**	**10.04 286**	*c i*P	**Pn**	**09 33 01.2**	**-2.8**
HVS	**Khovu-Aksy**	**10.58 258**	*c i*P	**Pn**	**09 33 12.5**	**+0.9**
HVS	**Khovu-Aksy**	**10.58 258**	*e*	**Pn**	**09 33 12.3**	**+0.7**
HVS			*e*		09 33 24.7	
HVS			*e*Pg		09 33 50.2	
HVS			*e*		09 35 17.6	
HVS			*e*		09 35 36.0	
HVS			*e*Sg	Sn	09 36 05.6	+56
YAK	**Yakutsk**	**12.63 46**	*e*P	**Pn**	**09 33 37.9**	**-1.5**
YAK			pmax	pmax		
	comp=Z,45nm,1.1s					
YAK			pmax	pmax		
	comp=E,38nm,1.2s					
YAK			pmax	pmax		
	comp=N,12nm,0.9s					
YAK			MLR	MLR		
	comp=Z,7μm,13.0s					
YAK			MLR	MLR		
	comp=E,5μm,13.0s					
YAK			MLR	MLR		
	comp=N,1μm,12.0s					
YAK	**Yakutsk**	**12.63 46**	*e*Pn	**Pn**	**09 33 37.7**	**-1.8**
YAK			*e*Sn	**Sn**	**09 36 02.5**	**+3.0**
HHC	**Hu-ho-hao-te**	**13.72 176**	*e*P	**Pn**	**09 33 57.1**	**+2.6**
HHC			PP	P	09 34 08.3	+5.2
HHC			S	**Sn**	**09 36 30.3**	**+3.9**
HHC			sS	sS	09 36 35.4	
HHC			SS	**S**	**09 36 46.0**	**-2.9**
HHC			PMZ			
	comp=N,57nm,1.2s					
HHC			PMZ			
	comp=N,290nm,5.0s					
HHC			LN			
	comp=N,13μm,4.1s					
HHC			LE			
	comp=N,27μm,7.1s					
HHC			LZ			
	comp=N,8μm,5.9s					
BTO	**Baotou**	**13.94 181**	*e*P	Pn	09 34 00.8	+3.4
KLR	**Kul'dur**	**14.26 103**	*e*P	**Pn**	**09 34 00.0**	**-1.7**
KLR			*e*		09 36 52.5	
KLR			MLR	MLR		
	comp=E,10μm,12.0s					
KLR			MLR	MLR		
	comp=Z,26μm,12.0s					
CN2	**Changchun**	**14.59 131**	*e*P	**Pn**	**09 34 05.1**	**-1.1**
CN2			*es*P		09 34 12.1	
CN2			*e*S	**Sn**	**09 36 49.8**	**+2.5**
CN2			PMZ			
	comp=Z,40nm,0.6s					
CN2			LN			
	comp=Z,9μm,12.0s					
CN2			LE			
	comp=Z,8μm,12.0s					
CN2			LZ			

comp=Z,8μm,12.0s
ZALV Zalesovo Beam 14.87 278 Pn **Pn 09 34 08.5 -1.5**
comp=Z,0.4nm,0.3s,baz=79,slow=8.3,SNR=37
ZALV Lg Lg 09 38 30.1
comp=Z,1.0nm,0.3s,baz=86,slow=25,SNR=12
ZALV LR LR 09 40 04.4
comp=Z,8μm,18.3s,baz=84,slow=38
BJI Beijing 15.03 162 P **Pn 09 34 13.0 +0.8**
BJI S Sn 09 37 05.8 +7.6
BJI PMZ
comp=Z,22nm,0.9s
BJI PMZ
comp=Z,280nm,3.6s
BJI LN
comp=Z,7μm,4.3s
BJI LE
comp=Z,20μm,9.2s
BJI LZ
comp=Z,8μm,19.4s
BJT Baijiatuau 15.05 162 *e*P **Pn 09 34 11.7 -0.8**
BJT *e* 09 36 57.9
BJT pmax pmax
comp=Z,226nm,1.1s
BJT Baijiatuau 15.05 162 *e*Pn **Pn 09 34 11.7 -0.8**
comp=Z,226nm,1.1s
BJT *e*Sn **Sn 09 36 57.9 -0.7**
NVS Novosibirsk 15.61 282⇓*i*P **Pn 09 34 16.4 -3.2**
NVS *e*S Sn 09 37 01.5 -10
NVS pmax pmax
comp=E,15nm,1.3s
NVS smax smax
comp=N,138nm,2.0s
NVS smax smax
comp=E,357nm,2.5s
MDJ Mudanjiang 15.93 121 P **Pn 09 34 23.5 -0.4**
MDJ S **Sn 09 37 18.9 -1.1**
MDJ PcP **PcP 09 39 19.9 -1.1**
MDJ ScP **ScP 09 42 55.3 +1.1**
MDJ ScS **ScS 09 46 34.3 +1.5**
MDJ PMZ
comp=E,150nm,5.6s
MDJ LN
comp=E,7μm,15.8s
MDJ LE
comp=E,7μm,14.3s
MDJ LZ
comp=E,11μm,14.6s
MDJ Mudanjiang 15.93 121 *e*P **P 09 34 28.1 +0.7**
comp=E,34nm,0.8s
MDJ *e*S **S 09 37 32.8 -1.1**
HABR Khabarovsk 16.53 101 P **Pn 09 34 28.3 -3.2**
HABR S **Sn 09 37 33.5 -0.8**
HABR pmax pmax
comp=Z,126nm,1.3s
HABR MLR MLR
comp=N,4μm,11.0s
HABR MLR MLR
comp=E,7μm,11.0s
HABR MLR MLR
comp=Z,6μm,11.0s
GTA Gaotai 16.70 209⇓P **Pn 09 34 33.3 -0.6**
GTA pP **P 09 34 36.9 +0.8**
GTA sP **sP 09 34 40.3 -3.1**
GTA S **Sn 09 37 36.9 -1.9**
GTA SS **SnSn 09 37 56.9 +5.2**
GTA PMZ
comp=Z,19nm,1.7s
GTA PMZ
comp=Z,520nm,5.7s
GTA LN
comp=Z,6μm,17.1s
GTA LE
comp=Z,4μm,16.6s
GTA LZ
comp=Z,8μm,16.6s
TIY Taiyuan 16.89 174 *e*P **P 09 34 40.1 +1.9**
TIY PP **PnPn 09 34 52.3 +6.6**
TIY S **Sn 09 37 47.6 +4.2**
TIY SS **SnSn 09 38 06.1 +10**
TIY PMZ
comp=Z,570nm,7.2s
TIY LE
comp=Z,18μm,6.2s
TIY LZ
comp=Z,6μm,5.7s
DL2 Dalian 17.43 149⇓*i*P **P 09 34 45.6 +1.6**
DL2 S **S 09 38 04.3 -0.1**
DL2 PMZ
comp=Z,220nm,0.9s
DL2 PMZ
comp=Z,480nm,3.7s
DL2 LN
comp=Z,3μm,6.7s
DL2 LE
comp=Z,3μm,4.6s
DL2 LZ
comp=Z,5μm,16.6s
USRK Ussuriysk Ar. 17.45 117 P **Pn 09 34 43.2 +0.1**
comp=Z,0.6nm,0.3s,baz=318,slow=11,SNR=22
USRK S **S 09 38 01.2 -3.5**
comp=Z,0.3nm,0.3s,baz=308,slow=17,SNR=3.3
USRK Lg Lg 09 39 50.6
comp=Z,0.8nm,0.3s,baz=311,slow=17,SNR=4.4
USRK LR LR 09 42 07.3
comp=Z,6μm,18.3s,baz=308,slow=40
WMQ Urumqi 18.16 243 P **P 09 34 52.3 +0.1**
WMQ PP **PnPn 09 35 08.1 +5.1**
WMQ S **Sn 09 38 14.4 +0.4**
WMQ sS **S 09 38 21.0 +1.6**
WMQ SS SnSn 09 38 39.0 +12
WMQ PMZ
comp=Z,43nm,1.6s
WMQ PMZ
comp=Z,560nm,4.0s
WMQ LN
comp=Z,4μm,20.0s
WMQ LE
comp=Z,3μm,22.0s
WMQ LZ
comp=Z,4μm,16.5s
VLA Vladivostok 18.16 120⇓*i*P **Pn 09 34 51.6 -0.3**
VLA S **Sn 09 38 15.0 +1.1**
VLA pmax pmax
comp=Z,129nm,1.2s
TIA Tai'an 18.93 163⇑P **Pn 09 35 03.5 +2.2**
TIA S **S 09 38 36.1 +1.2**
TIA PMZ
comp=Z,60nm,1.2s
TIA PMZ
comp=Z,710nm,5.3s
TIA LN
comp=Z,8μm,15.0s
TIA LE
comp=Z,4μm,14.0s
TIA LZ
comp=Z,10μm,17.0s
TIXI Tiksi 18.96 18*c i*P **P 09 34 58.3 -2.4**
TIXI pmax pmax
comp=Z,115nm,1.7s
TIXI MLR MLR
comp=Z,5μm,17.0s
TIXI Tiksi 18.96 18 *e*P **P 09 34 58.2 -2.4**
comp=Z,113nm,0.9s
TIXI *e*S **Sn 09 38 33.9 +1.0**
LZH Lanzhou 18.98 196⇓P **Pn 09 35 02.6 +0.6**
LZH pP **pP 09 35 05.6 -0.7**
LZH sP **sP 09 35 08.3 -0.3**
LZH PP **PnPn 09 35 17.4 +3.0**
LZH S **Sn 09 38 31.6 -2.5**
LZH sS **S 09 38 38.1 +1.9**
LZH SS **SnSn 09 38 57.5 +10**
LZH PMZ
comp=Z,640nm,1.5s
LZH PMZ
comp=Z,1μm,4.1s
LZH LN
comp=Z,4μm,10.6s
LZH LE
comp=Z,6μm,10.8s
LZH LZ
comp=Z,7μm,12.1s
MK31 Makanchi Array 19.26 258 *i* P **P 09 35 02.4 -1.8**
MK31 pmax pmax
comp=Z,15nm,0.6s
MKAR Makanchi Array 19.26 258 P **P 09 35 03.5 -0.6**
comp=Z,1.3nm,0.3s,baz=70,slow=10.0,SNR=45
MKAR S **S 09 38 41.2 -0.2**
comp=Z,0.2nm,0.3s,baz=45,slow=9.8,SNR=2.1
MKAR Lg Lg 09 40 48.0
baz=47,slow=30,SNR=7.3
MKAR LR LR 09 42 38.1
comp=Z,6μm,21.2s,baz=48,slow=38
KURK Kurchatov 19.50 272 P **P 09 35 05.2 -1.5**
comp=Z,198nm,0.9s,SNR=16
KURK Kurchatov 19.50 272 P **P 09 35 06.2 -0.5**
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 19.50 272 P **P 09 35 04.7 -2.0**
SNR=60
KURK Kurchatov 19.50 272 *e*P **P 09 35 03.8 -2.9**
comp=Z,20nm,1.1s
KURK *e*S **Sn 09 38 47.2 +1.1**
KURK Lg Lg 09 40 58.2
KURBB Kurchatov Arra 19.59 272 P **P 09 35 06.2 -1.6**
comp=Z,0.9nm,0.3s,baz=66,slow=12,SNR=48
KURBB S **Sn 09 38 50.0 +1.7**
baz=58,slow=12,SNR=4.2
KURBB Lg Lg 09 40 58.2
baz=73,slow=33,SNR=5.9
INCN Inchon 20.40 140 P Pn 09 35 19.5 +0.7
SNR=6.8
INCN Inchon 20.40 140 *e*P **P 09 35 16.2 -0.5**
comp=Z,182nm,0.9s
INCN *e*S **S 09 39 05.9 +1.5**
INCN LR LR
comp=Z,3μm,21.0s
XAN Xi'an 20.51 183 P **P 09 35 17.5 -0.4**
XAN pP Pn 09 35 21.0 +0.8
XAN sP **sP 09 35 24.0 -1.2**
XAN S **S 09 39 02.3 -4.4**
XAN sS Sn 09 39 09.6 -1.3
XAN SS **SnSn 09 39 34.3 +8.9**
XAN LN
comp=Z,3μm,8.2s
XAN LE
comp=Z,2μm,7.4s
XAN LZ
comp=Z,3μm,11.4s
KSAR Wonju Array Be 20.92 138 P **P 09 35 23.0 +0.7**
KSAR Wonju Array Be 20.92 138 P **P 09 35 22.9 +0.7**
KSAR Lg Lg 09 41 49.5
KSRS Korea Array 20.93 137 P **P 09 35 23.0 +0.7**
KSRS pmax pmax
comp=Z,9.0nm,0.9s
KSRS MLR MLR
comp=Z,3μm,18.6s
KSRS Korea Array 20.93 137 P **P 09 35 22.9 +0.7**
comp=Z,9.4nm,0.9s,baz=333,slow=9.5,SNR=21
KSRS Lg Lg 09 41 49.5
comp=Z,19nm,0.9s,baz=337,slow=29,SNR=6.4
KSRS LR LR 09 44 38.1
comp=Z,3μm,18.6s,baz=296,slow=40
TJN Taejon 21.65 140 *e*P **P 09 35 31.3 +1.2**
YSS Yuzh-Sakhalins 21.75 97⇓*e*P **P 09 35 32.2 +1.1**
YSS *e* 09 35 54.6
YSS *e*S **S 09 39 33.0 +2.1**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS smax smax
comp=E,2μm,10.0s
YSS smax smax
comp=N,1μm,8.0s
YSS MLR MLR
comp=Z,6μm,17.0s
YSS MLR MLR
comp=N,2μm,18.0s
YSS MLR MLR
comp=E,8μm,15.0s
YSS Yuzh-Sakhalins 21.75 97 *e*P **P 09 35 31.9 +0.7**
comp=E,50nm,0.9s
YSS LR LR
comp=Z,2μm,20.0s
PDGK Podgornoye 22.93 253 *e*P **P 09 35 41.3 -2.4**
SEY Seymchan 23.02 52 P **P 09 35 46.0 +1.6**
comp=Z,42nm,0.9s,baz=266,slow=7.6,SNR=96
SEY Lg Lg 09 42 44.7
comp=Z,32nm,1.1s,baz=24,slow=24,SNR=5.6
NJ2 Nanjing 23.29 161 *e*P **P 09 35 47.8 +0.4**
NJ2 pP **pP 09 35 49.9 -2.7**
NJ2 sP **sP 09 35 51.6 -3.2**
NJ2 S **S 09 39 57.0 -1.9**
NJ2 PMZ
comp=Z,910nm,10.2s
NJ2 LN
comp=Z,5μm,11.5s
NJ2 LE
comp=Z,17μm,13.8s
NJ2 LZ
comp=Z,17μm,13.8s
ASAJ Asahikawa 23.30 103 P **P 09 35 46.5 -0.9**
comp=Z,38nm,0.8s,baz=319,slow=9.4,SNR=13
ASAJ Lg Lg 09 43 05.5
comp=Z,4.4nm,0.8s,baz=38,slow=33,SNR=2.2
ASAJ LR LR 09 45 36.8
comp=Z,5μm,19.6s,baz=328,slow=38
ASAJ Asahikawa 23.30 103 *e*P **P 09 35 46.4 -1.1**
comp=Z,13nm,0.8s
ASAJ Lg Lg 09 43 05.5
BVA0 Borovoye Array 23.40 283 *i* P **P 09 35 46.4 -2.1**
BVA0 pmax pmax
comp=Z,195nm,1.2s
BVAR Borovoye Array 23.40 283 P **P 09 35 46.7 -1.8**
BVAR S **S 09 39 55.4 -5.1**
BVAR pmax pmax
comp=Z,9.0nm,0.7s
BVAR smax smax
comp=N,8.0nm,0.9s
BVAR MLR MLR
comp=Z,5μm,19.9s
BVAR Borovoye Array 23.40 283 P **P 09 35 46.7 -1.8**
comp=Z,9.3nm,0.7s,baz=77,slow=7.8,SNR=31
BVAR S **S 09 39 55.4 -5.1**
comp=Z,7.5nm,0.9s,baz=54,slow=20,SNR=2.1
BVAR Lg Lg 09 43 04.7
comp=Z,4.3nm,1.0s,baz=193,slow=39,SNR=2.0
BVAR LR LR 09 45 39.7
comp=Z,5μm,19.9s,baz=74,slow=39
CD2 Chengdu 24.07 194⇓*i*P **P 09 35 55.1 0.0**
CD2 sP **sP 09 36 04.1 +1.5**
CD2 PP **PnPn 09 36 29.9 +5.8**
CD2 PcP **PcP 09 39 38.5 +2.4**
CD2 S **S 09 40 10.0 -1.6**
CD2 sS **sS 09 40 16.9 -3.4**
CD2 SS **SnSn 09 41 00.8 +8.1**
CD2 PMZ
comp=Z,90nm,1.6s
CD2 PMZ
comp=Z,560nm,4.8s
CD2 LN
comp=Z,4μm,7.7s
CD2 LE
comp=Z,9μm,6.0s
CD2 LZ
comp=Z,5μm,13.7s
WHN Wuhan 24.15 171 P **P 09 35 55.1 -0.7**
WHN S **S 09 40 13.0 +0.2**
WHN LN
comp=Z,6μm,6.0s
WHN LE
comp=Z,10μm,9.0s
WHN LZ
comp=Z,14μm,13.8s
ENH Enshi 24.25 182 *e*P **P 09 35 56.6 -0.1**
comp=Z,64nm,1.4s
ENH LR LR
comp=Z,2μm,20.0s
SSE Sheshan 24.70 157 P **P 09 36 00.8 +0.1**
SSE sP **sP 09 36 11.8 +3.6**
SSE PMZ
comp=Z,61nm,0.7s
SSE PMZ
comp=Z,170nm,5.9s
SSE LE
comp=Z,860nm,13.5s
SSE LZ
comp=Z,11μm,13.0s
ERM Erimo 24.96 107 *e*P **P 09 36 03.6 +0.6**
ERM pmax pmax
comp=Z,51nm,1.3s
ERM MLR MLR
comp=Z,4μm,21.0s
ERM Erimo 24.96 107 PFAKE 09 36 10.0 +7.0
ERM LR LR
comp=Z,4μm,19.0s
YUK Yuzh-Kuril'sk 25.21 100*d i*P **P 09 36 04.1 -1.2**
YUK *i* 09 36 38.2
YUK *i* S **S 09 40 30.9 +1.2**
YUK *i* SS **SnSn 09 41 27.1 +6.9**
YUK MLR MLR
comp=N,3μm,18.0s
YUK MLR MLR
comp=E,2μm,18.0s
YUK MLR MLR
comp=Z,3μm,18.0s
TKM2 Tokmak 2 25.38 257 P **P 09 36 09.3 +2.2**
SNR=20
TKM2 Tokmak 2 25.38 257 *i* P **P 09 36 06.9 -0.2**
TKM2 pmax pmax
comp=Z,50nm,1.1s
TKM2 Tokmak 2 25.38 257 PFAKE 09 36 20.0 +13
TKM2 LR LR
comp=Z,8μm,19.0s
ULHL Ulahol 25.45 255 P **P 09 36 09.8 +2.0**
SNR=26
ULHL Ulahol 25.45 255 *i* P **P 09 36 09.7 +2.0**
USP Ospenovka 25.79 259 P **P 09 36 13.1 +2.4**
SNR=5.7
USP Ospenovka 25.79 259 *i* P **P 09 36 13.0 +2.4**
CHMS Chumysh 25.82 258 P **P 09 36 13.5 +2.6**
SNR=6.6
CHMS Chumysh 25.82 258 *i* P **P 09 36 13.4 +2.6**
JNU Nakatsue 25.88 137 P **P 09 36 10.9 -0.5**
comp=Z,49nm,1.2s,baz=281,slow=9.1,SNR=7.4
JNU S **S 09 40 44.2 +3.8**
comp=Z,4.6nm,0.9s,baz=180,slow=23,SNR=2.1
JNU Lg Lg 09 44 22.9
comp=Z,5.8nm,0.3s,baz=56,slow=21,SNR=3.2
JNU Nakatsue 25.88 137 *e*P **P 09 36 12.4 +1.0**
comp=Z,68nm,1.5s
JNU *e*S **S 09 40 42.2 +1.8**
JNU Lg Lg 09 44 22.9
FRU Bishkek 26.00 258⇓*e*P **P 09 36 12.5 0.0**
FRU *e*S **S 09 40 46.5 +4.3**
FRU pmax pmax
comp=Z,290nm,3.8s
FRU pmax pmax
comp=Z,120nm,1.9s
FRU smax smax
comp=N,730nm,5.8s
FRU smax smax
comp=E,400nm,3.2s
FRU MLR MLR
comp=Z,6μm,17.0s
KZA Kyzart 26.12 256 P **P 09 36 16.8 +2.7**
SNR=24
KZA Kyzart 26.12 256 *i* P **P 09 36 16.7 +2.7**
AAK Ala-Archa 26.19 258 P **P 09 36 15.2 +0.8**
comp=Z,102nm,1.1s,SNR=7.5
AAK Ala-Archa 26.19 258 P **P 09 36 16.2 +1.8**
SNR=11
AAK Ala-Archa 26.19 258 *e*P **P 09 36 15.2 +0.8**
AAK S **S 09 40 44.5 -1.1**
AAK pmax pmax
comp=Z,24nm,1.1s
AAK Ala-Archa 26.19 258 P **P 09 36 15.6 +1.1**
SNR=14
AAK Ala-Archa 26.19 258 P **P 09 36 14.5 0.0**
comp=Z,19nm,1.1s,baz=69,slow=6.8,SNR=24
AAK S **S 09 40 44.5 -1.1**
comp=Z,1.1nm,0.5s,baz=331,slow=18,SNR=1.7
AAK Lg Lg 09 44 27.1
comp=Z,2.0nm,0.4s,baz=269,slow=17,SNR=4.6
AAK LR LR 09 46 50.8
comp=Z,8μm,18.7s,baz=26,slow=37
AAK Ala-Archa 26.19 258 *e*P **P 09 36 15.2 +0.8**
comp=Z,24nm,1.1s
AAK S **S 09 40 44.5 -1.1**
AAK Lg Lg 09 44 27.1
MAJO Matsushiro 26.31 122 *e*P **P 09 36 13.2 -2.1**
MAJO pmax pmax
comp=Z,17nm,0.9s
MAJO MLR MLR
comp=Z,4μm,19.0s
MAJO Matsushiro 26.31 122 *e*P **P 09 36 13.2 -2.1**
comp=Z,17nm,0.9s
MAJO LR LR
comp=Z,4μm,19.0s
MAT Matsushiro 26.31 122 P **P 09 36 13.0 -2.3**
MAT S **S 09 40 49.0 +1.8**
MJAR Matsushiro Arr 26.31 122 P **P 09 36 13.7 -1.6**
MJAR 09 39 40.6
MJAR pmax pmax
comp=Z,15nm,1.2s
MJAR MLR MLR
comp=Z,4μm,18.9s
MJAR Matsushiro Arr 26.31 122 P **P 09 36 13.7 -1.6**
comp=Z,15nm,1.2s,baz=321,slow=9.6,SNR=21
MJAR PcP **PcP 09 39 40.6 -0.4**
comp=Z,11nm,1.1s,baz=305,slow=3.3,SNR=9.2
MJAR LR LR 09 47 07.0
comp=Z,4μm,18.9s,baz=320,slow=38
UCH Uchtor 26.44 257 P **P 09 36 18.1 +1.1**
SNR=6.5
UCH Uchtor 26.44 257 *i* P **P 09 36 18.1 +1.1**
EKS2 Erkin-Say 26.59 259 P **P 09 36 19.9 +1.9**
SNR=11
EKS2 Erkin-Say 26.59 259 *i* P **P 09 36 19.8 +1.9**
EKS2 Erkin-Say 26.59 259 *e*P **P 09 36 17.8 -0.1**
comp=Z,25nm,0.8s
EKS2 *e*S **S 09 40 51.8 +0.1**
EKS2 LR LR
comp=Z,8μm,19.0s
KSH Kashi 27.45 251 P P 09 36 30.6 +4.9
KSH sP sP 09 36 37.5 +4.2
KSH PP PP 09 37 19.6 -8.1
KSH S **S 09 41 11.1 +5.7**
KSH sS sS 09 41 18.6 +4.4
KSH SS SnSn 09 42 31.1 +16
KSH PMZ
comp=Z,110nm,1.6s
KSH LN
comp=Z,2μm,9.4s
KSH LE
comp=Z,1μm,9.8s
KSH LZ
comp=Z,3μm,17.6s
SVE Sverdlovsk 27.59 295 *e*P **P 09 36 26.4 -0.2**
SVE *e*S **S 09 41 11.2 +4.2**
SVE pmax pmax
comp=Z,76nm,1.2s
SVE MLR MLR
comp=Z,9μm,15.0s
PETK Petropavlovsk- 27.62 73 P **P 09 36 28.2 +1.2**
PETK 09 39 41.2
PETK pmax pmax
comp=Z,29nm,0.8s
PETK MLR MLR
comp=Z,2μm,18.3s
PETK Petropavlovsk- 27.62 73 P **P 09 36 28.1 +1.2**
comp=Z,28nm,0.8s,baz=275,slow=5.6,SNR=22
PETK PcP **PcP 09 39 41.1 -2.7**
comp=Z,8.7nm,0.7s,baz=211,slow=2.6,SNR=3.7
PETK LR LR 09 48 18.2
comp=Z,2μm,18.3s,baz=290,slow=38
GYA Guiyang 28.17 187⇑*i*P **P 09 36 31.9 -0.3**
GYA PP **PnPn 09 37 24.0 +3.8**
GYA PcP **PcP 09 39 47.6 +1.8**
GYA S **S 09 41 18.0 +1.2**
GYA SS **SnSn 09 42 39.4 +6.3**
GYA ScP **ScP 09 43 27.8 +2.2**
GYA ScS **ScS 09 47 19.0 +0.5**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,140nm,4.6s
GYA LN
comp=Z,1μm,11.8s
GYA LE
comp=Z,4μm,12.2s
GYA LZ
comp=Z,940nm,10.2s
PET Petropavlovsk 28.18 73⇓*i*P **P 09 36 32.7 +0.7**
PET *e*S S 09 41 25.0 +8.6
PET *e*SS SS 09 42 58.7 -17
PET pmax pmax
comp=Z,40nm,0.9s
PET pmax pmax
comp=Z,200nm,16.2s

PET				MLR	MLR		
	comp=Z,3μm,15.0s						
PET	**Petropavlovsk**	**28.18 73**	*e*P		**P**	**09 36 33.1**	**+1.1**
	comp=Z,146nm,1.2s						
PET				LR	LR		
	comp=Z,3μm,19.0s						
KK31	**Karatay Array**	**28.19 263**	*i* P		P	09 36 36.5	+4.3
KK31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KKAR	**Karatay Array**	**28.19 263**	P		**P**	**09 36 32.0**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KKAR	**Karatay Array**	**28.19 263**	P		**P**	**09 36 32.0**	**-0.1**
	comp=Z,4.3nm,0.5s						
LSA	**Lhasa**	**28.40 217**	P		**P**	**09 36 32.9**	**-1.7**
LSA			sP		**sP**	**09 36 39.4**	**-2.8**
LSA			LN				
	comp=Z,1μm,21.8s						
LSA			LE				
	comp=Z,690nm,16.3s						
LSA			LZ				
	comp=Z,3μm,26.3s						
LSA	**Lhasa**	**28.40 217**	PFAKE			09 36 50.0	+15
LSA			LR		LR		
	comp=Z,1μm,20.0s						
SOKR	**Solikamsk**	**28.83 302**	*e*P		**P**	**09 36 37.5**	**-0.1**
SOKR			S		S	09 41 33.2	+6.8
SOKR			pmax		pmax		
	comp=Z,30nm,1.1s						
SOKR			MLR		MLR		
	comp=Z,6μm,19.0s						
BILL	**Bilibino**	**28.89 40**	*d i* P		**P**	**09 36 38.9**	**+0.7**
BILL			*i*			09 37 30.5	
BILL			*i*			09 39 49.3	
BILL			pmax		pmax		
	comp=Z,47nm,1.1s						
BILL	**Biiibino**	**28.89 40**	*e*P		**P**	**09 36 38.8**	**+0.7**
	comp=Z,41nm,0.9s						
KMI	**Kunming**	**29.90 194**	P		**P**	**09 36 46.8**	**-0.9**
KMI			pP		**pP**	**09 36 56.8**	**+3.7**
KMI			sP		sP	09 37 00.6	+5.3
KMI			S		**S**	**09 41 41.3**	**-3.0**
KMI			sS		**sS**	**09 41 57.6**	**+4.5**
KMI			PMZ				
	comp=Z,45nm,1.2s						
KMI			PMZ				
	comp=Z,300nm,5.4s						
KMI			LN				
	comp=Z,1μm,20.7s						
KMI			LE				
	comp=Z,4μm,15.7s						
KMI			LZ				
	comp=Z,3μm,18.7s						
QZH	**Quanzhou**	**30.20 165**	P		P	09 36 53.8	+3.8
QZH			S		**S**	**09 41 47.0**	**-1.4**
QZH			LN				
	comp=Z,4μm,10.8s						
QZH			LE				
	comp=Z,2μm,7.4s						
QZH			LZ				
	comp=Z,6μm,18.7s						
TATO	**Taipei**	**30.68 160**	PFAKE			09 37 10.0	+16
TATO			LR		LR		
	comp=Z,4μm,19.0s						
AB31	**Akbulak array**	**30.95 281**	*i* P		**P**	**09 36 55.0**	**-1.5**
AB31			pmax		pmax		
	comp=Z,4.0nm,0.5s						
YHNB	**Yeheng**	**30.95 160**	*e*P		**P**	**09 36 56.2**	**-0.6**
	comp=Z,67nm,1.2s						
YHNB			LR		LR		
	comp=Z,4μm,19.0s						
AKTO	**Aktyubinsk**	**31.48 284**	P		**P**	**09 36 59.4**	**-1.8**
AKTO			pmax		pmax		
	comp=Z,24nm,1.4s						
AKTO	**Aktyubinsk**	**31.48 284**	LR		LR	09 50 27.2	
	comp=Z,3μm,18.5s,baz=60,slow=38						
TAPN	**Taplejung**	**31.78 220**	*e*P		**P**	**09 37 04.1**	**-0.3**
	comp=Z,239nm,1.3s						
GUN	**Gumba**	**31.99 224**	*e*P		**P**	**09 37 06.5**	**+0.2**
	comp=Z,165nm,1.2s						
JIRN	**Jiri**	**32.09 223**	*e*P		**P**	**09 37 07.5**	**+0.3**
	comp=Z,180nm,1.0s						
KKN	**Kakani**	**32.34 224**	*e*P		**P**	**09 37 09.8**	**+0.6**
	comp=Z,315nm,1.1s						
ODAN	**Odare**	**32.34 220**	*e*P		**P**	**09 37 09.1**	**-0.1**
	comp=Z,406nm,1.3s						
GKN	**Gorkha**	**32.42 226**	*e*P		**P**	**09 37 10.3**	**+0.5**
	comp=Z,429nm,1.1s						
PKIN	**Phulchoki**	**32.48 224**	*e*P		**P**	**09 37 10.9**	**+0.4**
PKI	**Pulchoki**	**32.48 224**	*e*P		**P**	**09 37 10.5**	**-0.1**
	comp=Z,346nm,1.6s						
DANN	**Dangsing**	**32.48 227**	*e*P		**P**	**09 37 11.0**	**+0.5**
	comp=Z,345nm,1.3s						
RAMN	**Ramite**	**32.56 222**	*e*P		**P**	**09 37 10.6**	**-0.6**
	comp=Z,169nm,1.2s						
DMN	**Daman**	**32.57 225**	*e*P		**P**	**09 37 12.0**	**+0.7**
	comp=Z,493nm,1.4s						
PYUN	**Piuthan**	**33.03 228**	*e*P		**P**	**09 37 15.6**	**+0.4**
	comp=Z,612nm,1.1s						
KOLN	**Koldanda**	**33.06 227**	*e*P		**P**	**09 37 16.0**	**+0.5**
	comp=Z,162nm,0.9s						
SLVN	**Son La**	**33.50 191**	*e*P		**P**	**09 37 19.1**	**-0.1**
	comp=Z,26nm,1.1s						
PRGR	**Permogore**	**33.58 309**	*e*P		**P**	**09 37 17.1**	**-2.3**
PRGR			*e**PP		**pP**	**09 37 21.2**	**-3.6**
PRGR			*e*			09 38 28.2	
PRGR			pmax		pmax		
	comp=Z,25nm,1.3s						
KBL	**Kabul**	**34.87 252**	*e*P		**P**	**09 37 30.3**	**-0.8**
KBL			pmax		pmax		
	comp=Z,41nm,1.4s						
KBL	**Kabul**	**34.87 252**	*e*P		**P**	**09 37 30.3**	**-0.8**
	comp=Z,41nm,1.4s						
CRAI	**Chiangrai**	**35.07 196**	P		**P**	**09 37 29.6**	**-3.1**
	comp=Z,23nm,1.4s,comp=Z,383nm						
QIZ	**Qiongzhong**	**35.44 181**	P		**P**	**09 37 36.3**	**+0.4**
QIZ			S		**S**	**09 43 10.6**	**+0.6**
QIZ			PMZ				
	comp=Z,22nm,0.9s						
QIZ			LN				
	comp=Z,2μm,16.4s						
QIZ			LZ				
	comp=Z,4μm,17.1s						
QIZ	**Qiongzhong**	**35.44 181**	*e*P		**P**	**09 37 35.8**	**-0.1**
	comp=Z,50nm,1.1s						
QIZ			LR		LR		
	comp=Z,3μm,20.0s						
CMAI	**Chiengmai2**	**35.59 198**	P		**P**	**09 37 37.5**	**+0.1**
	comp=Z,55nm,1.2s,comp=Z,808nm						
JCJ	**Chichijima**	**35.98 127**	LR		LR	09 53 00.3	
	comp=Z,1μm,18.1s,baz=288,slow=37						
TMCR	**Tamitsa**	**36.06 315**	*e*P		**P**	**09 37 40.8**	**0.0**
TMCR			*e*			09 39 01.2	
TMCR			pmax		pmax		
	comp=Z,51nm,1.3s						
LVZ	**Lovozero**	**36.20 322**	*e*P		**P**	**09 37 41.7**	**-0.3**
LVZ			pmax		pmax		
	comp=Z,29nm,1.7s						
LVZ	**Lovozero**	**36.20 322**	PFAKE			09 37 50.0	+7.9
LVZ			LR		LR		
	comp=Z,15μm,19.0s						
KLMR	**Klimovskoe**	**36.62 309**	*e*P		**P**	**09 37 44.7**	**-0.9**
KLMR			pmax		pmax		
	comp=Z,130nm,1.6s						
KLMR			MLR		MLR		
	comp=Z,5μm,14.0s						
CHTO	**Chiang Mai**	**36.70 198**	*e*P		**P**	**09 37 46.3**	**-0.4**
CHTO			pmax		pmax		
	comp=Z,23nm,0.8s						
CHTO			MLR		MLR		
	comp=Z,646nm,22.0s						
CHTO	**Chiang Mai**	**36.70 198**	*e*P		**P**	**09 37 46.3**	**-0.4**
	comp=Z,22nm,0.8s						
CHTO			LR		LR		
	comp=Z,646nm,22.0s						
CMMT	**Chiang Mai**	**36.70 198**	P		**P**	**09 37 46.2**	**-0.5**
	comp=Z,47nm,1.2s,comp=Z,771nm						
APA	**Apatity**	**36.76 321**	*i* P		**P**	**09 37 48.4**	**+1.7**
APA			*i*			09 39 10.0	
APA			*i* S		**S**	**09 43 30.0**	**+0.7**
APA			*i* SS		SS	09 46 28.0	+18
APA			MLR		MLR		
	comp=Z,2μm,18.0s						
LAMP	**Lampang**	**36.86 197**	P		**P**	**09 37 48.1**	**0.0**
	comp=Z,24nm,0.9s,comp=Z,208nm						
CMAR	**Chiang Mai Arr**	**37.05 198**	P		**P**	**09 37 48.4**	**-1.2**
CMAR						09 40 07.9	
CMAR			pmax		pmax		
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**37.05 198**	P		**P**	**09 37 48.4**	**-1.2**
	comp=Z,11nm,0.8s,baz=1.3,slow=8.5,SNR=68						
CMAR			PcP		**PcP**	**09 40 07.9**	**-2.3**
	comp=Z,1.5nm,0.4s,baz=328,slow=2.4,SNR=6.8						
UTTA	**Uttaradit**	**37.48 195**	P		**P**	**09 37 52.9**	**-0.3**
	comp=Z,7.8nm,1.1s,comp=Z,102nm						
MHMT	**Maesarieng**	**37.51 199**	P		**P**	**09 37 53.9**	**+0.3**
	comp=Z,20nm,1.2s,comp=Z,355nm						
KEV	**Kevo**	**38.23 326**	*e*P		**P**	**09 37 57.8**	**-1.3**
KEV			pmax		pmax		
	comp=Z,10.0nm,0.6s						
KEV	**Kevo**	**38.23 326**	*e*p		**P**	**09 37 57.8**	**-1.3**
	comp=Z,10nm,0.6s						
KEV	**Kevo**	**38.23 326**	PFAKE			09 38 10.0	+11
KEV			LR		LR		
	comp=Z,2μm,21.0s						
PBKT	**Sadao Pong**	**38.57 194**	P		**P**	**09 38 02.0**	**-0.4**
	comp=Z,66nm,1.1s,comp=Z,2μm						
KBS	**Kingsbay**	**38.65 342**	PFAKE			09 38 10.0	+7.4
KBS			LR		LR		
	comp=Z,2μm,19.0s						
GEYT	**Alibeck**	**38.73 267**	P		**P**	**09 38 03.9**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=34,slow=5.6,SNR=8.9						
GEYT			LR		LR	09 55 14.6	
	comp=Z,2μm,18.6s,baz=55,slow=38						
ARCES	**ARCESS Array B**	**38.80 326**	P		**P**	**09 38 03.0**	**-0.9**
ARCES			pmax		pmax		
	comp=Z,6.0nm,0.6s						
ARCES			MLR		MLR		
	comp=Z,1μm,19.9s						
ARCES	**ARCESS Array B**	**38.80 326**	P		**P**	**09 38 03.0**	**-0.9**
	comp=Z,5.5nm,0.6s,baz=70,slow=8.6,SNR=25						
ARCES			LR		LR	09 57 11.4	
	comp=Z,1μm,19.9s,baz=62,slow=41						
JOF	**Joensuu**	**39.32 315**	*e*P		**P**	**09 38 06.9**	**-1.5**
JOF			pmax		pmax		
	comp=Z,12nm,0.6s						
JOF	**Joensuu**	**39.32 315**	*e*p		**P**	**09 38 06.9**	**-1.5**
	comp=Z,12nm,0.6s						
TNA	**Tin City**	**39.33 41**	*e*P		**P**	**09 38 10.0**	**+1.7**
	comp=Z,126nm,1.0s						
MOS	**Moscow**	**39.78 302**	*e*P		**P**	**09 38 11.9**	**-0.4**
MOS			*e*S		S	09 44 21.6	+6.4
MOS			pmax		pmax		
	comp=Z,100nm,1.4s						
MOS			pmax		pmax		
	comp=Z,67nm,0.8s						
MOS			MLR		MLR		
	comp=Z,4μm,17.0s						
MOS			MLR		MLR		
	comp=E,3μm,15.0s						
MOS			MLR		MLR		
	comp=N,2μm,18.0s						
VRHR	**Novokhopersk**	**40.14 294**	*e*P		**P**	**09 38 12.8**	**-2.5**
VRHR			pmax		pmax		
	comp=N,20nm,1.0s						
VRHR			pmax		pmax		
	comp=E,30nm,1.0s						
VRHR			pmax		pmax		
	comp=Z,30nm,1.0s						
VRHR			MLR		MLR		
	comp=N,4μm,18.0s						
VRHR			MLR		MLR		
	comp=E,4μm,18.0s						
VRHR			MLR		MLR		
	comp=Z,7μm,18.0s						
OBN	**Obninsk**	**40.62 302** ⇑	*i* P		**P**	**09 38 18.1**	**-1.1**
OBN			*i*			09 40 01.6	
OBN			pmax		pmax		
	comp=Z,23nm,1.6s						
OBN			MLR		MLR		
	comp=Z,6μm,18.0s						
OBN	**Obninsk**	**40.62 302**	LR		LR	09 57 01.3	
	comp=Z,5μm,20.0s,baz=68,slow=39						
KHLT	**Khaolaem Dam**	**40.69 197**	P		**P**	**09 38 20.4**	**+0.3**
	comp=Z,15nm,1.3s						
SRDT	**SRDT**	**41.03 197**	P		**P**	**09 38 22.8**	**-0.2**
	comp=Z,90nm,1.3s						
PUL	**Pulkovo**	**41.21 311**	*e*P		**P**	**09 38 24.9**	**+0.9**
PUL			pmax		pmax		
	comp=Z,103nm,1.3s						
PUL			MLR		MLR		
	comp=Z,6μm,23.0s						
VSR	**Storozhevoye**	**41.37 296**	*e*P		**P**	**09 38 22.4**	**-3.1**
VSR			pmax		pmax		
	comp=N,20nm,0.9s						
VSR			pmax		pmax		
	comp=E,30nm,0.9s						
VSR			pmax		pmax		
	comp=Z,30nm,0.9s						
VSR			MLR		MLR		
	comp=N,3μm,17.0s						
VSR			MLR		MLR		
	comp=E,2μm,17.0s						
VSR			MLR		MLR		
	comp=Z,4μm,17.0s						
VORD	**Divnogorie**	**41.44 295**	*e*P		**P**	**09 38 24.4**	**-1.6**
VORD			pmax		pmax		
	comp=N,10.0nm,0.8s						
VORD			pmax		pmax		
	comp=E,20nm,0.8s						
VORD			pmax		pmax		
	comp=Z,20nm,0.8s						
VORD			MLR		MLR		
	comp=N,1μm,14.0s						
VORD			MLR		MLR		
	comp=E,2μm,14.0s						
VORD			MLR		MLR		
	comp=Z,3μm,14.0s						
MAK	**Makhachkala**	**41.62 281**	P		**P**	**09 38 25.6**	**-2.0**
MAK			*e*			09 40 01.6	
MAK			*e*PPP		PPP	09 40 32.5	
MAK			S		**S**	**09 44 41.5**	**-1.3**
MAK			*e*			09 48 30.9	
MAK			MLR		MLR		
	comp=Z,1μm,11.0s						
KAF	**Kangasniemi**	**41.76 315**	*e*P		**P**	**09 38 26.6**	**-1.9**
KAF			pmax		pmax		
	comp=Z,20nm,0.7s						
KAF	**Kangasniemi**	**41.76 315**	*e*p		**P**	**09 38 26.6**	**-1.9**
	comp=Z,20nm,0.7s						
ADK	**Adak**	**42.01 62**	PFAKE			09 38 40.0	+9.3
ADK			LR		LR		
	comp=Z,1μm,22.0s						
FINES	**FINESS Array B**	**42.19 315**	P		**P**	**09 38 31.1**	**-0.9**
FINES			pmax		pmax		
	comp=Z,27nm,0.6s						
FINES			MLR		MLR		
	comp=Z,4μm,18.6s						
FINES	**FINESS Array B**	**42.19 315**	P		**P**	**09 38 31.1**	**-0.9**
	comp=Z,27nm,0.6s,baz=75,slow=7.0,SNR=42						
FINES			LR		LR	09 57 42.2	
	comp=Z,4μm,18.6s,baz=34,slow=38						
VSU	**Vasula**	**43.47 311**	*e*P		**P**	**09 38 41.7**	**-0.7**
VSU			pmax		pmax		
	comp=Z,106nm,1.1s						
VSU			MLR		MLR		
	comp=Z,11μm,23.0s						
KIV	**Kislovodsk**	**43.73 285**	*c i* P		**P**	**09 38 45.9**	**+1.0**
KIV			*i*			09 38 54.0	
KIV			*i*			09 40 39.3	
KIV			*i* SS		SS	09 48 25.7	-3.8
KIV			pmax		pmax		
	comp=Z,27nm,0.8s						
KIV			MLR		MLR		
	comp=Z,2μm,21.0s						
KIV	**Kislovodsk**	**43.73 285**	*e*P		**P**	**09 38 45.1**	**+0.2**
	comp=Z,46nm,1.0s						
KIV			LR		LR		
	comp=Z,1μm,19.0s						
KBZ	**Khabaz**	**43.76 285**	P		**P**	**09 38 45.5**	**+0.6**
	comp=Z,5.8nm,1.0s,baz=62,slow=8.0,SNR=7.6						
KBZ			PcP		**PcP**	**09 40 31.8**	**+0.4**
	comp=Z,12nm,0.9s,baz=70,slow=3.8,SNR=4.2						
KBZ			LR		LR	09 59 14.9	
	comp=Z,2μm,20.1s,baz=42,slow=39						
ZEI	**Tsey**	**43.78 283**	*e*P		**P**	**09 38 43.2**	**-2.2**
ZEI			pmax		pmax		
	comp=Z,9.0nm,0.9s						
HYB	**Hyderabad**	**44.35 226**	*i* P		**P**	**09 38 48.5**	**-1.5**
HYB			*e*			09 38 58.0	
HYB			*e*PP		**PP**	**09 40 32.0**	**-1.5**
HYB			*e*S		**S**	**09 45 24.0**	**+0.5**
COLD	**Coldfoot**	**44.69 33**	*e*P		**P**	**09 38 52.5**	**+0.4**
	comp=Z,69nm,1.2s						
GNI	**Garni**	**45.02 279**	*c i* P		**P**	**09 38 55.3**	**0.0**
GNI			pmax		pmax		
	comp=Z,20nm,1.2s						
GNI			MLR		MLR		
	comp=Z,2μm,17.0s						
GNI	**Garni**	**45.02 279**	LR		LR	09 59 53.2	
	comp=Z,2μm,19.6s,baz=50,slow=39						
GNI	**Garni**	**45.02 279**	*e*P		**P**	**09 38 55.8**	**+0.5**
	comp=Z,18nm,0.9s						
DAG	**Danmarks Havn**	**45.06 345**	*i* P		**P**	**09 38 53.9**	**-1.0**
DAG			pmax		pmax		
	comp=Z,17nm,0.9s						
DAG	**Danmarks Havn**	**45.06 345**	*i* P		**P**	**09 38 53.9**	**-1.0**
	comp=Z,20nm,0.9s						
MICGM	**Minsk**	**45.17 305** ⇓	*e*P		**P**	**09 38 54.0**	**-2.1**
MNK	**Minsk**	**45.19 305** ⇓	*e*P		**P**	**09 38 54.0**	**-2.2**
MNK			pmax		pmax		
	comp=Z,90nm,1.0s						
POO	**Poona**	**45.44 232** ⇑	*i* P		**P**	**09 38 58.0**	**-0.7**
	comp=Z,5.0nm,1.5s						
NACGM	**Naroch**	**45.45 306**	*e*P		P	09 38 55.0	-3.3
SOC	**Sochi**	**45.64 287**	*e*P		P	09 38 54.8	-5.1
SOC			*e*			09 40 52.8	
SOC			*e*S		**S**	**09 45 38.0**	**-3.5**
SOC			*e*SS		**ScS**	**09 48 50.9**	**-4.1**
SOC			MLR		MLR		
	comp=Z,2μm,18.0s						
ANN	**Anapa**	**46.13 289**	*e*P		**P**	**09 39 01.1**	**-2.7**
ANN			*e*S		**S**	**09 45 48.4**	**-0.1**
ANN			*e*SSS		SSS	09 50 02.1	
ANN			pmax		pmax		
	comp=Z,34nm,1.2s						
ANN			MLR		MLR		
	comp=Z,2μm,18.0s						
PPLA	**Purkeypile**	**46.58 39**	*e*P		**P**	**09 39 08.9**	**+1.6**
	comp=Z,106nm,1.4s						
KTH	**Kantishna Hill**	**46.63 37**	*e*P		**P**	**09 39 08.8**	**+1.1**
	comp=Z,204nm,1.3s						
AKASG	**Malin Array Be**	**46.78 300**	P		**P**	**09 39 07.9**	**-0.9**
AKASG			pmax		pmax		
	comp=Z,2.0nm,0.4s						
AKASG			MLR		MLR		
	comp=Z,5μm,20.3s						
AKASG	**Malin Array Be**	**46.78 300**	P		**P**	**09 39 07.9**	**-0.9**
	comp=Z,1.5nm,0.4s,baz=46,slow=8.5,SNR=11						
AKASG			LR		LR	10 00 44.9	
	comp=Z,5μm,20.3s,baz=55,slow=39						
KIEV	**Kiev**	**46.79 300**	*e*P		**P**	**09 39 07.5**	**-1.4**
KIEV	**Kiev**	**46.79 300**	PFAKE			09 39 20.0	+11
KIEV			LR		LR		
	comp=Z,5μm,19.0s						
COLA	**College**	**46.87 35**	*d i* P		**P**	**09 39 10.5**	**+1.1**
COLA			pmax		pmax		
	comp=Z,315nm,1.0s						
COLA			MLR		MLR		
	comp=Z,5μm,20.0s						
COLA	**College**	**46.87 35**	*e*P		**P**	**09 39 10.5**	**+1.1**
	comp=Z,82nm,0.9s						
COLA			LR		LR		
	comp=Z,1μm,19.0s						
TRF	**Thorofare Moun**	**46.92 37**	*e*P		**P**	**09 39 11.4**	**+1.4**
	comp=Z,272nm,1.6s						
MCK	**McKinley**	**47.22 37**	*e*P		**P**	**09 39 13.2**	**+1.1**
MCK			pmax		pmax		
	comp=Z,45nm,0.8s						
MCK	**McKinley**	**47.22 37**	*e*P		**P**	**09 39 13.2**	**+1.1**
	comp=Z,45nm,0.8s						
ILAR	**Eielson Array**	**47.26 35**	P		**P**	**09 39 13.1**	**+0.7**
	comp=Z,93nm,1.0s,baz=300,slow=5.8,SNR=489						
ILAR			LR		LR	10 01 45.7	
	comp=Z,1μm,18.0s,baz=332,slow=40						
SIM	**Simferopol'**	**47.84 292**	*e*P		**P**	**09 39 17.8**	**+0.6**
SIM			*e*			09 41 15.0	
SIM			*e*S		**S**	**09 46 13.0**	**-0.1**
SIM			pmax		pmax		
	comp=Z,16nm,1.1s						
SIM			pmax		pmax		
	comp=Z,100nm,8.8s						
SIM			MLR		MLR		
	comp=Z,900nm,16.0s						
RSO	**Redoubt South**	**47.87 42**	*e*P		**P**	**09 39 19.5**	**+2.0**
	comp=Z,193nm,0.8s						
HFS	**Hagfors**	**47.93 318**	LR		LR	10 01 06.0	
	comp=Z,2μm,18.8s,baz=30,slow=38						
NB2	**NORSAR Subarra**	**48.30 320**	P		**P**	**09 39 19.8**	**-0.8**
	comp=Z,28nm,1.0s,baz=48,slow=7.4						
NB2	**NORSAR Subarra**	**48.30 320**	P		**P**	**09 39 19.8**	**-0.8**
	baz=48,slow=7.4						
NOA	**NORSAR Array B**	**48.30 320**	P		**P**	**09 39 20.1**	**-0.5**
	comp=Z,15nm,0.9s,baz=52,slow=7.7,SNR=21						
NOA			LR		LR	10 01 09.0	
	comp=Z,1μm,18.1s,baz=35,slow=38						
BANOM	**Banah**	**48.55 256**	P		**P**	**09 39 23.8**	**+0.9**
	SNR=5.0						
BANOM	**Banah**	**48.55 256** ⇑	*i* P		**P**	**09 39 22.5**	**-0.4**
	SNR=8.9						
KKM	**Kota Kinabalu**	**48.59 172**	PFAKE			09 39 30.0	+6.7
KKM			LR		LR		
	comp=Z,1μm,22.0s						
RC01	**Rabbit Creek A**	**48.62 40**	*e*P		**P**	**09 39 23.7**	**+0.7**
	comp=Z,64nm,1.0s						
RC01			*e*PcP		**PcP**	**09 40 49.1**	**+0.9**
DAV	**Davao City (W)**	**48.91 160**	PFAKE			09 39 40.0	+14
DAV			LR		LR		
	comp=Z,2μm,20.0s						
PAX	**Paxson**	**48.91 36**	*e*P		**P**	**09 39 25.3**	**0.0**
PAX			*e*			09 40 50.5	
PAX			pmax		pmax		
	comp=Z,63nm,0.8s						
PAX	**Paxson**	**48.91 36**	*e*P		**P**	**09 39 25.3**	**0.0**
	comp=Z,63nm,0.8s						
PAX			*e*PcP		**PcP**	**09 40 50.5**	**+1.2**
DOT	**Dot Lake**	**48.93 35**	*e*P		**P**	**09 39 25.1**	**-0.3**
	comp=Z,145nm,0.9s						
EGAK	**Eagle**	**49.10 33**	*e*P		**P**	**09 39 27.8**	**+1.1**
	comp=Z,118nm,1.2s						
EGAK			LR		LR		
	comp=Z,2μm,20.0s						
KIS	**Kishinev**	**49.33 297**	*e*P		**P**	**09 39 28.0**	**-0.6**
KIS			*e*PPP		PPP	09 42 16.0	
KIS			*e*S		**S**	**09 46 29.0**	**-5.0**
KIS			*e*PS		S	09 46 40.0	+6.0
KIS			MLR		MLR		
	comp=Z,2μm,16.0s						
KIS			MLR		MLR		
	comp=N,1μm,18.0s						
KIS			MLR		MLR		
	comp=Z,2μm,18.0s						
KIS	**Kishinev**	**49.33 297**	*e*P		**P**	**09 39 28.0**	**-0.6**
KIS	**Kishinev**	**49.33 297**	*e*PP		PP	09 41 34.0	+12
KIS	**Kishinev**	**49.33 297**	*e*PS		S	09 46 40.0	+6.0
KIS			*e*SS		SS	09 50 21.0	+16
KIS			*e*SSS		SSS	09 52 18.0	
KIS			*e*LQ		LQ	09 56 40.0	
KIS			*e*LR		LR	09 58 56.0	
	comp=Z,1μm,12.0s						
UOSS	**Wadi Hilu**	**49.36 256**	P		**P**	**09 39 28.7**	**-0.4**
	comp=Z,130nm,1.4s,SNR=5.2						
SEW	**Seward**	**49.37 41**	*e*P		**P**	**09 39 29.9**	**+1.2**
	comp=Z,148nm,1.6s						
HATD	**Hatta, Dubai**	**49.49 256**	P		**P**	**09 39 30.5**	**+0.4**
	SNR=8.5						
HATD	**Hatta, Dubai**	**49.49 256** ⇑	*i* P		**P**	**09 39 29.7**	**-0.4**
	SNR=6.4						
ASHO	**Ashiyiah**	**49.65 256**	P		**P**	**09 39 31.2**	**-0.1**
	SNR=17						
ASHO	**Ashiyiah**	**49.65 256** ⇓	*i* P		**P**	**09 39 31.1**	**-0.2**
	SNR=7.7						
KDAK	**Kodiak Island**	**49.66 44**	*i* P		**P**	**09 39 31.6**	**+0.7**
KDAK	**Kodiak Island**	**49.66 44**	PFAKE			09 39 40.0	+9.1
KDAK			LR		LR		
	comp=Z,2μm,19.0s						
WBK	**Wadi Bani Khal**	**49.66 251**	P		**P**	**09 39 32.7**	**+1.2**
	SNR=8.5						
KULM	**Kulim**	**49.71 193**	PFAKE			09 39 40.0	+8.2
KULM			LR		LR		
	comp=Z,1μm,19.0s						
HOQ	**Hoqain**	**49.81 253**	P		**P**	**09 39 33.3**	**+0.7**
	SNR=16						
SMDO	**Samad**	**49.81 252**	P		**P**	**09 39 33.8**	**+1.1**
	SNR=10						
KONO	**Kongsberg**	**49.82 319**	PFAKE			09 39 40.0	+7.9
KONO			LR		LR		
	comp=Z,2μm,20.0s						
MALT	**Malatya**	**49.87 282**	P		**P**	**09 39 31.7**	**-1.3**

MALT	Malatya	49.87	282	⇓iP	P	09 39 31.7	-1.3
LVV	L'vov	49.92	302	eP	P	09 39 31.9	-1.2
RES	Resolute Bay	49.97	8	eP	P	09 39 32.3	-0.8
RES				pmax	pmax		
	comp=Z,77nm,1.4s						
RES	Resolute Bay	49.97	8	eP	P	09 39 32.2	-0.8
	comp=Z,77nm,1.4s						
DIV	Divide	50.04	38	eP	P	09 39 33.4	-0.5
	comp=Z,70nm,1.3s						
DAWY	Dawson	50.15	32	eP	P	09 39 35.1	+0.4
DAWY				ePcP	PcP	09 40 54.7	+0.9
JMDO	Jabal Madar	50.33	252	P	P	09 39 36.9	+0.4
	SNR=5.4						
ARQ	Araqi	50.44	254	P	P	09 39 38.2	+0.8
	SNR=11						
BMRM	Bremner River	50.57	38	eP	P	09 39 38.7	+0.9
	comp=Z,103nm,1.1s						
KWP	Kalwaria Pacla	50.69	303	eP	P	09 39 39.3	+0.4
KWP	Kalwaria Pacla	50.69	303	eP	P	09 39 39.3	+0.4
KWP	Kalwaria Pacla	50.69	303	PFAKE		09 39 50.0	+11
KWP				LR	LR		
	comp=Z,892nm,20.0s						
TESR	Tescani	50.77	298	⇓iP	P	09 39 40.9	+1.3
BURAR	Bucovina Array	50.78	300	⇓P	P	09 39 40.0	+0.3
BURAR	Bucovina Array	50.78	300	⇓iP	P	09 39 40.0	+0.3
CFR	Carcaliu	50.89	295	⇑P	P	09 39 40.1	-0.3
CFR	Carcaliu	50.89	295	⇑iP	P	09 39 40.1	-0.3
KULLO	Kullorsuaq	50.90	356	iP	P	09 39 40.2	+0.1
KULLO				pmax	pmax		
	comp=Z,17nm,0.9s						
KULLO	Kullorsuaq	50.90	356	iP	P	09 39 40.2	+0.1
	comp=Z,17nm,0.8s						
VRI	Vrincioaia	51.16	297	⇑P	P	09 39 43.8	+1.3
VRI	Vrincioaia	51.16	297	⇑iP	P	09 39 43.8	+1.3
PLOR	Plostina	51.22	297	⇑P	P	09 39 47.7	+4.8
PLOR	Plostina	51.22	297	⇑iP	P	09 39 47.7	+4.8
SUMG	Summit	51.34	348	iP	P	09 39 44.3	+0.4
SUMG				pmax	pmax		
	comp=Z,9.0nm,1.6s						
SUMG	Summit	51.34	348	iP	P	09 39 44.3	+0.4
	comp=Z,9.2nm,1.6s						
SUMG	Summit	51.34	348	eP	P	09 39 44.1	+0.2
	comp=Z,26nm,1.2s						
KOLS	Kolonicke sedl	51.37	302	eP	P	09 39 44.6	+0.6
KOLS				pmax	pmax		
	comp=Z,11nm,1.5s						
KOLS	Kolonicke sedl	51.37	302	eP	P	09 39 44.6	+0.6
STHS	Stebnicka Huta	51.55	304	eP	P	09 39 46.5	+1.1
STHS	Stebnicka Huta	51.55	304	eP	P	09 39 46.5	+1.1
UZH	Uzhgorod	51.56	302	eP	P	09 39 42.6	-2.8
UZH				i		09 39 46.4	
UZH				e		09 41 04.2	
UZH				eS	S	09 46 58.6	-6.3
UZH				MLR	MLR		
	comp=N,2μm,13.0s						
UZH				MLR	MLR		
	comp=E,4μm,13.0s						
UZH				MLR	MLR		
	comp=Z,2μm,13.0s						
BRTR	Keskin Array B	51.60	287	P	P	09 39 45.1	-0.9
BRTR						09 40 59.7	
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRTR				MLR	MLR		
	comp=Z,1μm,18.7s						
BRTR	Keskin Array B	51.60	287	P	P	09 39 45.1	-0.9
	comp=Z,4.3nm,0.9s,baz=68,slow=3.7,SNR=12						
BRTR				PcP	PcP	09 40 59.7	0.0
	comp=Z,8.0nm,0.9s,baz=79,slow=2.7,SNR=4.5						
BRTR				LR	LR	10 06 28.1	
	comp=Z,1μm,18.7s,baz=338,slow=42						
TRPA	Tarpa	51.78	302	⇓iP	P	09 39 47.2	+0.2
CRVS	Cervenica-Dubn	51.79	303	eP	P	09 39 46.8	-0.4
CRVS	Cervenica-Dubn	51.79	303	eP	P	09 39 46.8	-0.4
MLR	Muntele Rosu	51.82	297	⇑P	P	09 39 50.5	+2.9
MLR	Muntele Rosu	51.82	297	⇑iP	P	09 39 50.5	+2.9
MLR	Muntele Rosu	51.82	297	LR	LR	10 03 55.6	
	comp=Z,495nm,20.4s,baz=60,slow=39						
KCSI	Kotacane, Aceh	51.86	196	P	P	09 39 47.2	-0.8
	comp=Z,13nm,1.2s						
ANTO	Ankara	51.97	287	PFAKE		09 40 00.0	+11
ANTO				LR	LR		
	comp=Z,832nm,19.0s						
MUD	Monsted U'grnd	52.15	316	iP	P	09 39 50.2	+0.5
MUD				pmax	pmax		
	comp=Z,18nm,0.9s						
MUD	Monsted U'grnd	52.15	316	iP	P	09 39 50.2	+0.5
	comp=Z,18nm,0.9s						
VOIR		52.32	298	⇓P	P	09 39 50.2	-1.1
VOIR		52.32	298	⇓iP	P	09 39 50.2	-1.1
PSI	Prapat	52.40	194	⇓LR	LR	10 04 27.2	
	comp=Z,2μm,18.1s,baz=345,slow=39						
ARR	Arges	52.59	298	⇑iP	P	09 39 54.4	+1.2
OKC	Ostrava-Krasne	52.75	306	AMS	AMS	10 04 40.0	
	comp=Z,6μm,14.7s						
PALK	Pallekele	52.77	218	iP	P	09 39 56.0	+1.2
KSM	Kuching	52.89	180	PFAKE		09 40 10.0	+14
KSM				LR	LR		
	comp=Z,1μm,20.0s						
KSP	Ksiaz	52.93	308	eP	P	09 39 55.0	-0.6
MORC	Moravsky Berou	53.08	306	⇑P	P	09 39 54.6	-2.2
MORC	Moravsky Berou	53.08	306	⇑iP	P	09 39 54.6	-2.2
MORC	Moravsky Berou	53.08	306	eP	P	09 39 56.9	+0.1
	comp=Z,26nm,1.4s						
HYT	Haines Junctio	53.10	35	eP	P	09 39 58.2	+1.3
HYT				ePcP	PcP	09 41 06.7	+1.7
PSZ	Piszkesteto	53.22	303	PFAKE		09 40 10.0	+12
PSZ				LR	LR		
	comp=Z,2μm,20.0s						
KRLC	Kraliky	53.23	307	eP	P	09 39 58.1	+0.2
KRLC	Kraliky	53.23	307	eP	P	09 39 58.1	+0.2
DPC	Dobruska-Polom	53.26	307	eP	P	09 39 58.2	+0.1
DPC				e		09 40 07.4	
DPC				eS	S	09 47 32.1	+3.9
DPC	Dobruska-Polom	53.26	307	eP	P	09 39 58.2	+0.1
DPC				ex	x	09 40 07.4	
DPC				eS	S	09 47 32.1	+3.9
DPC				AMS	AMS	10 04 50.0	
UPC	Upice	53.29	307	eP	P	09 39 58.5	+0.2
UPC				e		09 40 07.5	
UPC	Upice	53.29	307	eP	P	09 39 58.5	+0.2
UPC				ex	x	09 40 07.5	
VYHS	Vyhne	53.34	304	eP	P	09 39 59.0	+0.3
VYHS				pmax	pmax		
	comp=Z,47nm,2.3s						
VYHS	Vyhne	53.34	304	eP	P	09 39 59.0	+0.3
BSEG	Bad Segeberg	53.43	314	eP	P	09 39 58.9	-0.3
	comp=Z,68nm,1.7s						
GZR	Gura Zlata	53.52	299	⇓P	P	09 40 00.3	+0.2
GZR	Gura Zlata	53.52	299	⇓iP	P	09 40 00.3	+0.2
VRAC	Vranov	53.85	306	⇑P	P	09 39 54.0	-8.4
VRAC	Vranov	53.85	306	⇑iP	P	09 39 54.0	-8.4
VRAC	Vranov	53.85	306	LR	LR	10 05 27.8	
	comp=Z,5μm,18.9s,baz=42,slow=39						
PVCC	Panska Ves	53.94	308	eP	P	09 40 03.5	+0.5
PVCC				MLR	MLR		
	comp=Z,4μm,17.4s						
PVCC	Panska Ves	53.94	308	eP	P	09 40 03.5	+0.5
PVCC				ex	x	09 40 13.8	
PVCC				AMS	AMS	10 05 00.0	
	comp=Z,4μm,17.4s						
BZS	Buzias	53.95	300	⇓P	P	09 40 03.0	-0.2
BZS	Buzias	53.95	300	⇓iP	P	09 40 03.0	-0.2
BRG	Berggiesshubel	53.99	309	eP	P	09 40 02.9	-0.4
	comp=Z,10nm,0.8s						
BRG	Berggiesshubel	53.99	309	eP	P	09 40 02.9	-0.4
BRG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BRG				MLR	MLR		
	comp=N,3μm,14.0s						
BRG				MLR	MLR		
	comp=E,2μm,17.6s						
BRG				MLR	MLR		
	comp=Z,5μm,16.8s						
BRG	Berggiesshubel	53.99	309	eP	P	09 40 02.6	-0.7
	comp=Z,32nm,1.5s						
GSI	Gunungsitoli	54.07	196	P	P	09 40 04.2	-0.1
	comp=Z,71nm,1.0s						
GSI	Gunungsitoli	54.07	196	eP	P	09 40 03.7	-0.6
	comp=Z,13nm,0.6s						
CLL	Collm	54.11	310	iP	P	09 40 03.3	-0.9
CLL				i*PP	pP	09 40 06.2	-3.6
CLL				eS	S	09 47 40.0	+0.4
CLL				MLR	MLR		
	comp=Z,5μm,18.3s						
CLL	Collm	54.11	310	eP	P	09 40 03.1	-1.1
	comp=Z,20nm,1.5s						
CLL				epP	pP	09 40 12.7	+2.9
CLL	Collm	54.11	310	iP	P	09 40 03.3	-0.9
CLL				iP	pP	09 40 06.2	-3.6
CLL				iPcP		09 40 12.2	
CLL				eS	S	09 47 40.0	+0.4
CLL				Lm	MLR	10 05 00.0	
	comp=N,3μm,18.6s						
CLL				Lm	MLR	10 05 00.0	
	comp=E,2μm,18.0s						
CLL				Lm	MLR	10 05 00.0	
	comp=Z,5μm,18.3s						
MNSI	Mandailing Nat	54.28	193	P	P	09 39 59.3	-6.5
PRU	Pruhonice	54.33	308	eP	P	09 40 06.1	+0.2
PRU				e		09 40 14.7	
PRU				eS	S	09 47 39.9	-2.8
PRU				MLR	MLR		
	comp=Z,4μm,17.4s						
PRU	Pruhonice	54.33	308	eP	P	09 40 06.1	+0.2
PRU				ex	x	09 40 14.7	
PRU				eS	S	09 47 39.9	-2.8
PRU				AMS	AMS	10 05 30.0	
	comp=Z,4μm,17.4s						
TREC	Trest	54.38	307	eP	P	09 40 06.7	+0.4
TREC				e		09 40 14.4	
TREC				MLR	MLR		
	comp=Z,7μm,15.7s						
TREC	Trest	54.38	307	eP	P	09 40 06.7	+0.4
TREC				ex	x	09 40 14.4	
TREC				AMS	AMS	10 05 30.0	
	comp=Z,7μm,15.7s						
MPEP	Malo-Peshtene	54.44	296	eP	P	09 40 07.5	+0.8
NRDL	Niedersach Rie	54.54	312	eP	P	09 40 06.9	-0.3
	comp=Z,29nm,1.4s						
NRDL				epP	pP	09 40 16.5	+3.7
BKNI	Bangkinang	54.56	191	P	P	09 40 08.7	+0.9
	comp=Z,190nm,1.3s,comp=Z,3μm						
BKNI	Bangkinang	54.56	191	eP	P	09 40 08.3	+0.5
	comp=Z,221nm,1.2s						
ISP	Isparta	54.67	287	PFAKE		09 40 20.0	+11
ISP				LR	LR		
	comp=Z,955nm,21.0s						
MRSI	Marisa	54.73	166	P	P	09 40 07.0	-2.0
	comp=Z,78nm,1.1s,comp=Z,1μm						
KDZ	Kurdzhali	54.75	294	eP	P	09 40 09.3	+0.3
SKAG	Skagway	54.85	35	eP	P	09 40 10.4	+0.9
	comp=Z,189nm,1.5s						
CLZ	Clausthal	54.89	312	eP	P	09 40 09.6	-0.3
	comp=Z,26nm,1.4s						
TANN	Tannenbergstha	54.98	309	eP	P	09 40 10.0	-0.6
	comp=Z,11nm,0.7s						
TANN				epP	pP	09 40 19.6	+3.4
RZN	Rozhen	55.09	294	eP	P	09 40 11.0	-0.7
CSS	Prodhromos	55.13	283	eP	P	09 40 12.5	+0.6
	comp=Z,5.8nm,1.0s						
CSS				LR	LR		
	comp=Z,217nm,22.0s						
CONA	Conrad Observa	55.16	305	⇑iP	P	09 40 12.8	+0.8
	comp=Z,19nm,1.6s						
MOX	Moxa	55.20	310	eP	P	09 40 11.6	-0.5
	comp=Z,14nm,0.9s						
MOX				epP	pP	09 40 21.3	+3.6
MOX				eL	L	10 06 00.0	
	comp=Z,4μm,19.3s						
VTS	Vitosha	55.25	296	⇓P	P	09 40 13.6	+0.8
VTS	Vitosha	55.25	296	⇓iP	P	09 40 13.6	+0.8
VTS	Vitosha	55.25	296	eP	P	09 40 12.0	-0.8
KHC	Kasperske Hory	55.38	308	eP	P	09 40 13.5	-0.1
KHC				e		09 40 21.7	
KHC				MLR	MLR		
	comp=Z,4μm,16.5s						
KHC	Kasperske Hory	55.38	308	eP	P	09 40 13.5	-0.1
KHC				ex	x	09 40 21.7	
KHC				ex	x	09 47 33.4	
KHC				AMS	AMS	10 06 00.0	
	comp=Z,4μm,16.5s						
KHC	Kasperske Hory	55.38	308	eP	P	09 40 13.4	-0.1
	comp=Z,25nm,1.2s						
GEC2	GERESS Array S	55.53	307	eP	P	09 40 13.8	-0.9
	comp=Z,26nm,1.8s						
GEC2				epP	pP	09 40 23.8	+3.5
GERES	GERESS Array B	55.53	307	P	P	09 40 14.3	-0.4
	comp=Z,1.3nm,0.7s,baz=39,slow=8.6,SNR=8.9						
GERES				LR	LR	10 06 28.2	
	comp=Z,4μm,18.7s,baz=42,slow=39						
ROTZ	Rotzenmuhle	55.56	309	eP	P	09 40 14.5	-0.2
	comp=Z,55nm,1.9s						
ROTZ				epP	pP	09 40 24.4	+4.0
IBBN	Ibbenburen	55.68	313	eP	P	09 40 14.6	-0.9
IBBN				epP	pP	09 40 24.5	+3.4
MMB	Musomiste	55.69	295	eP	P	09 40 14.6	-1.2
WET	Wettzell	55.70	308	eP	P	09 40 15.3	-0.5
	comp=Z,27nm,1.7s						
UBBA	Unterbreizbach	55.79	311	eP	P	09 40 15.9	-0.3
	comp=Z,90nm,2.5s						
ARSA	Arzberg	55.81	305	⇑iP	P	09 40 17.3	+0.7
	comp=Z,14nm,1.1s						
ILULI	Ilulissat	55.81	352	iP	P	09 40 16.6	+0.4
ILULI				pmax	pmax		
	comp=Z,17nm,0.9s						
ILULI	Ilulissat	55.81	352	iP	P	09 40 16.6	+0.4
	comp=Z,17nm,0.9s						
KKB	Krupnik	55.83	296	eP	P	09 40 16.2	-0.6
GRF	Grafenberg Arr	56.06	309	eP	P	09 40 18.2	-0.1
	comp=Z,52nm,2.0s						
GRF				epP	pP	09 40 28.0	+4.1
GRF				eL	L	10 06 29.0	
	comp=Z,3μm,18.9s						
SOKA	Soboth	56.45	305	iP	P	09 40 21.4	+0.1
	comp=Z,15nm,1.0s,SNR=7.0						
BUG	Bochum--Univer	56.52	313	eP	P	09 40 20.8	-0.7
	comp=Z,77nm,1.7s						
BUG				epP	pP	09 40 30.7	+3.5
RAYN	Ar Rayn	56.60	264	P	P	09 40 22.3	-0.3
	comp=Z,278nm,1.2s,SNR=19						
RAYN	Ar Rayn	56.60	264	eP	P	09 40 21.9	-0.7
	comp=Z,188nm,1.3s						
RJOB	Jochberg	56.75	307	eP	P	09 40 23.1	-0.2
	comp=Z,104nm,2.5s						
RJOB				epP	pP	09 40 32.8	+3.8
OBKA	Obir	56.80	305	iP	P	09 40 24.6	+0.8
	comp=Z,27nm,0.8s,SNR=6.7						
TNS	Taunus Mts	56.90	311	eP	P	09 40 23.8	-0.6
	comp=Z,11nm,1.2s						
TNS				epP	pP	09 40 33.6	+3.6
KBA	Koelnbreinsper	56.97	306	⇑iP	P	09 40 25.4	+0.4
	comp=Z,38nm,1.3s,SNR=9.6						
ABTO	Aybut	57.03	253	P	P	09 40 24.4	-1.2
	SNR=9.6						
FUR	Furstenfeldbru	57.14	308	eP	P	09 40 25.9	-0.2
	comp=Z,14nm,0.7s						
MYKA	Terra Mystica	57.15	305	iP	P	09 40 26.8	+0.6
	comp=Z,18nm,0.9s,SNR=6.0						
DLBC	Dease Lake	57.37	33	eP	P	09 40 28.5	+0.9
ABTA	Abfaltersbach	57.60	306	⇑iP	P	09 40 29.8	+0.4
	comp=Z,10nm,1.4s						
WTTA	Wattenberg	57.63	307	⇑iP	P	09 40 30.5	+0.7
	comp=Z,28nm,1.4s						
STU	Stuttgart	57.64	310	eP	P	09 40 28.9	-0.6
	comp=Z,87nm,1.8s						
MEM	Membach	57.67	313	P	P	09 40 30.0	+0.3
	comp=Z,12nm,1.5s						
ESK	Eskdalemuir	57.72	322	PFAKE		09 40 40.0	+10
ESK				LR	LR		
	comp=Z,2μm,20.0s						
MOTA	Moosalm	57.82	308	⇓iP	P	09 40 32.6	+1.6
	comp=Z,26nm,1.1s						
RETA	Reutte	57.87	308	⇑iP	P	09 40 32.4	+1.1
	comp=Z,21nm,1.5s						
BBKI	Banjar Baru	57.91	175	P	P	09 40 32.1	+0.3
	comp=Z,42nm,1.5s,comp=Z,3μm						
SFJD	Kangerlussuaq	57.94	351	eP	P	09 40 31.6	+0.2
SFJD				pmax	pmax		
	comp=Z,38nm,1.2s						
SFJD	Kangerlussuaq	57.94	351	iP	P	09 40 31.1	-0.3
	comp=Z,24nm,0.9s						
SFJD	Kangerlussuaq	57.94	351	eP	P	09 40 31.6	+0.2
	comp=Z,38nm,1.2s						
LANF	Langenberg	58.10	311	⇓eP	P	09 40 32.6	-0.2
YKA	Yellowknife Ar	58.13	23	P	P	09 40 31.8	-1.0
YKA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YKA	Yellowknife Ar	58.13	23	P	P	09 40 31.8	-1.0
	comp=Z,9.3nm,0.7s,baz=331,slow=6.9,SNR=129						
WRAK	Wrangell Islan	58.22	35	PFAKE		09 40 50.0	+17
WRAK				LR	LR		
	comp=Z,870nm,19.0s						
FETA	Feichten	58.23	307	⇑iP	P	09 40 34.7	+0.8
	comp=Z,30nm,1.3s						
WLF	Walferdange	58.31	312	eP	P	09 40 34.1	-0.1
	comp=Z,39nm,1.5s						
WLF	Walferdange	58.31	312	PFAKE		09 40 50.0	+16
WLF				LR	LR		
	comp=Z,1μm,22.0s						
BFO	Black Forest	58.35	310	eP	P	09 40 34.6	0.0
BFO				pmax	pmax		
	comp=Z,36nm,1.4s						
BFO				MLR	MLR		
	comp=Z,2μm,20.0s						
BFO	Black Forest	58.35	310	eP	P	09 40 33.8	-0.8
	comp=Z,56nm,1.8s						
BFO				epP	pP	09 40 43.6	+3.4
BFO	Black Forest	58.35	310	eP	P	09 40 34.6	0.0
	comp=Z,36nm,1.4s						
BFO				LR	LR		
	comp=Z,2μm,20.0s						
DAVA	Damuels	58.42	308	⇑iP	P	09 40 36.1	+0.9
	comp=Z,30nm,1.4s						
SANT	Santorini	58.51	290	PFAKE		09 40 50.0	+14
SANT				LR	LR		
	comp=Z,1μm,19.0s						
GIVF	Givet	58.55	313	eP	P	09 40 34.7	-1.2
GIVF	Givet	58.55	313	eP	P	09 40 34.7	-1.2
GIVF	Givet	58.55	313	eP	P	09 40 34.7	-1.2
CDF	Champ du Feu	58.76	311	eP	P	09 40 36.6	-0.9
	comp=Z,47nm,1.2s						
CDF	Champ du Feu	58.76	311	eP	P	09 40 36.6	-0.9
CDF				pmax	pmax		
	comp=Z,47nm,1.2s						
CDF	Champ du Feu	58.76	311	eP	P	09 40 36.6	-0.9
	comp=Z,47nm,1.2s						
DAVOX	Davos/Dischmat	58.80	308	LR	LR	10 08 41.6	
	comp=Z,4μm,18.9s,baz=48,slow=39						
SPSI	Sidrap Palu	58.82	169	P	P	09 40 37.6	-0.5
	comp=Z,16nm,2.0s						
BAIF	Baives	58.85	314	eP	P	09 40 36.8	-1.1
	comp=Z,153nm,1.8s						
BAIF	Baives	58.85	314	eP	P	09 40 36.8	-1.1
BAIF				pmax	pmax		
	comp=Z,153nm,1.8s						
BAIF	Baives	58.85	314	eP	P	09 40 36.8	-1.1
	comp=Z,153nm,1.8s						
ECH	Echery	58.96	311	eP	P	09 40 38.7	-0.1
ECH				pmax	pmax		
	comp=Z,27nm,1.1s						
ECH				MLR	MLR		
	comp=Z,2μm,20.0s						
ECH	Echery	58.96	311	⇓eP	P	09 40 38.2	-0.6
ECH	Echery	58.96	311	eP	P	09 40 38.7	-0.1
	comp=Z,27nm,1.1s						
ECH				LR	LR		
	comp=Z,2μm,20.0s						
MDSI	Maura Dua	59.03	187	P	P	09 40 34.4	-5.1
MOF	Molkenrain	59.24	310	⇓eP	P	09 40 40.4	-0.5
TUE	Stuetta	59.27	308	eP	P	09 40 42.5	+1.2
	comp=Z,17nm,1.0s						
TUE				LR	LR		
	comp=Z,3μm,20.0s						
HINF	Hinteralfeld	59.39	310	eP	P	09 40 40.8	-1.0
	comp=Z,128nm,1.7s						
HINF	Hinteralfeld	59.39	310	eP	P	09 40 40.8	-1.0
HINF				pmax	pmax		
	comp=Z,128nm,1.7s						
HINF	Hinteralfeld	59.39	310	eP	P	09 40 40.8	-1.0
	comp=Z,128nm,1.7s						
THEF	They Montfort	59.47	311	⇓eP	P	09 40 41.7	-0.6
HAU	Haudompre	59.47	311	eP	P	09 40 41.6	-0.8
	comp=Z,74nm,1.5s						
HAU				eR			
	comp=Z,2μm,20.5s						
HAU	Haudompre	59.47	311	eP	P	09 40 41.6	-0.8
HAU				pmax	pmax		
	comp=Z,74nm,1.5s						
HAU	Haudompre	59.47	311	eP	P	09 40 41.6	-0.8
	comp=Z,74nm,1.5s						
MEZF	Maizieres J'vi	59.66	312	eP	P	09 40 42.7	-0.9
MEZF	Maizieres J'vi	59.66	312	eP	P	09 40 42.7	-0.9
LOMF	Lomont	59.76	310	⇓eP	P	09 40 43.6	-0.8
KAPI	Kappang	59.86	169	PFAKE		09 41 00.0	+15
KAPI				LR	LR		
	comp=Z,637nm,21.0s						
SFTF	Sexfontaines	59.90	312	eP	P	09 40 44.0	-1.3
	comp=Z,75nm,1.3s						
SFTF	Sexfontaines	59.90	312	eP	P	09 40 44.0	-1.3
	comp=Z,75nm,1.3s						
AQU	L'Aquila	60.41	302	PFAKE		09 41 00.0	+11
AQU				LR	LR		
	comp=Z,2μm,21.0s						
VLC	Villacollemand	60.52	305	PFAKE		09 41 00.0	+10
VLC				LR	LR		
	comp=Z,3μm,20.0s						
CABF	La Chapelle	60.65	310	eP	P	09 40 49.8	-0.7
	comp=Z,116nm,1.7s						
CABF	La Chapelle	60.65	310	eP	P	09 40 49.8	-0.7
CABF				pmax	pmax		
	comp=Z,116nm,1.7s						
CABF	La Chapelle	60.65	310	eP	P	09 40 49.8	-0.7
	comp=Z,116nm,1.7s						
CUC	Castrocucco	60.96	299	eP	P	09 40 52.8	0.0
	comp=Z,19nm,1.1s						
CUC				LR	LR		
	comp=Z,1μm,21.0s						
TIP	Timpagrande	61.09	298	eP	P	09 40 53.5	-0.1
	comp=Z,39nm,1.4s						
TIP				LR	LR		
	comp=Z,1μm,21.0s						
LOR	Lormes	61.13	312	eP	P	09 40 52.0	-1.7
	comp=Z,145nm,1.7s						
LOR				eR			
	comp=Z,2μm,22.2s						
LOR	Lormes	61.13	312	eP	P	09 40 52.0	-1.7
LOR				pmax	pmax		
	comp=Z,145nm,1.7s						
LOR	Lormes	61.13	312	eP	P	09 40 52.0	-1.7
	comp=Z,145nm,1.7s						
LPL	La Plagne	61.19	309	eP	P	09 40 53.8	-0.6
	comp=Z,44nm,1.1s						
LPL	La Plagne	61.19	309	eP	P	09 40 53.8	-0.6
LPL				pmax	pmax		
	comp=Z,44nm,1.1s						
LPL	La Plagne	61.19	309	eP	P	09 40 53.8	-0.6
	comp=Z,44nm,1.1s						
LPG	La Plagne	61.20	309	eP	P	09 40 54.0	-0.5
	comp=Z,144nm,1.4s						
LPG	La Plagne	61.20	309	eP	P	09 40 54.0	-0.5
LPG				pmax	pmax		
	comp=Z,145nm,1.4s						
LPG	La Plagne	61.20	309	eP	P	09 40 54.0	-0.5
	comp=Z,144nm,1.4s						
SSF	Saint Saulge	61.44	312	eP	P	09 40 54.2	-1.6
	comp=Z,59nm,1.2s						
SSF	Saint Saulge	61.44	312	eP	P	09 40 54.2	-1.6
SSF				pmax	pmax		
	comp=Z,59nm,1.2s						
SSF	Saint Saulge	61.44	312	eP	P	09 40 54.2	-1.6
	comp=Z,59nm,1.2s						
BNI	Bardonecchia	61.57	308	eP	P	09 40 57.3	+0.4
BNI				pmax	pmax		
	comp=Z,44nm,1.2s						
BNI				MLR	MLR		
	comp=Z,5μm,19.0s						
BNI	Bardonecchia	61.57	308	eP	P	09 40 57.2	+0.4
	comp=Z,44nm,1.2s						
BNI

comp=Z,88nm,1.4s
MBDF Montbardon 61.78 308 *e*P **P 09 40 57.0 -1.3**
MBDF pmax pmax
comp=Z,88nm,1.4s
MBDF Montbardon 61.78 308 *e*P **P 09 40 57.0 -1.3**
comp=Z,88nm,1.4s
LDF La Druitiere 61.78 315 *e*P **P 09 40 57.2 -0.8**
comp=Z,65nm,1.1s
LDF La Druitiere 61.78 315 *e*P **P 09 40 57.2 -0.8**
LDF pmax pmax
comp=Z,65nm,1.1s
LDF La Druitiere 61.78 315 *e*P **P 09 40 57.2 -0.8**
comp=Z,65nm,1.1s
FLN La Foliniere 61.80 315 *e*P **P 09 40 56.2 -1.9**
comp=Z,131nm,1.4s
FLN *e*R
comp=Z,2µm,21.8s
FLN La Foliniere 61.80 315 *e*P **P 09 40 56.2 -1.9**
FLN pmax pmax
comp=Z,131nm,1.4s
FLN La Foliniere 61.80 315 *e*P **P 09 40 56.2 -1.9**
comp=Z,131nm,1.4s
SAOF Saorge 61.98 307⇓*e*P **P 09 40 59.2 -0.3**
AUTN L'Aution 62.03 307⇓*e*P **P 09 40 59.0 -1.1**
ORIF Oris-en-Rattie 62.04 309 *e*P **P 09 40 59.2 -0.7**
comp=Z,66nm,1.2s
ORIF *e*R
comp=Z,2µm,18.8s
ORIF Oris-en-Rattie 62.04 309 *e*P **P 09 40 59.2 -0.7**
ORIF pmax pmax
comp=Z,66nm,1.2s
ORIF Oris-en-Rattie 62.04 309 *e*P **P 09 40 59.2 -0.7**
comp=Z,66nm,1.2s
TOUF Mont Tournerai 62.10 307 *e*P **P 09 41 00.5 0.0**
BGF Bois d'Agland 62.12 312 *e*P **P 09 40 59.2 -1.1**
comp=Z,152nm,1.7s
BGF Bois d'Agland 62.12 312 *e*P **P 09 40 59.2 -1.1**
BGF pmax pmax
comp=Z,152nm,1.7s
BGF Bois d'Agland 62.12 312 *e*P **P 09 40 59.2 -1.1**
comp=Z,152nm,1.7s
SBF Sospel 62.13 307 *e*P **P 09 40 59.2 -1.4**
comp=Z,168nm,1.4s
SBF Sospel 62.13 307 *e*P **P 09 40 59.2 -1.4**
SBF pmax pmax
comp=Z,168nm,1.4s
SBF Sospel 62.13 307 *e*P **P 09 40 59.2 -1.4**
comp=Z,168nm,1.4s
CEL Celeste 62.22 297 *e*P **P 09 41 01.7 +0.5**
comp=Z,33nm,1.1s
CEL LR LR
comp=Z,2µm,20.0s
MVIF Mont Vial 62.24 307⇓*e*P **P 09 41 00.7 -0.7**
GRR Gorron 62.24 315 *e*P **P 09 40 59.4 -1.7**
GRR Gorron 62.24 315 *e*P **P 09 40 59.4 -1.7**
GRR Gorron 62.24 315 *e*P **P 09 40 59.4 -1.7**
REVF Revere 62.26 307 *e*P **P 09 41 00.7 -0.7**
SSB Saint Sauveur 62.36 310 PFAKE 09 41 10.0 +7.9
SSB LR LR
comp=Z,961nm,20.0s
OG25 Le Caire 62.37 308 *e*P **P 09 41 02.1 -0.1**
PGF Pioggiola 62.40 305 *e*P **P 09 41 01.5 -0.9**
comp=Z,146nm,1.7s
PGF Pioggiola 62.40 305 *e*P **P 09 41 01.5 -0.9**
PGF pmax pmax
comp=Z,146nm,1.7s
PGF Pioggiola 62.40 305 *e*P **P 09 41 01.5 -0.9**
comp=Z,146nm,1.7s
CALN Calern 62.47 307⇓*e*P **P 09 41 03.5 +0.6**
COLF Collangettes 62.55 311 *e*P **P 09 41 03.6 +0.3**
TCF Toulx Ste Croi 62.60 312 *e*P **P 09 41 02.4 -1.2**
comp=Z,105nm,1.5s
TCF Toulx Ste Croi 62.60 312 *e*P **P 09 41 02.4 -1.2**
TCF pmax pmax
comp=Z,105nm,1.5s
TCF Toulx Ste Croi 62.60 312 *e*P **P 09 41 02.4 -1.2**
comp=Z,105nm,1.5s
VIVF Saint-Julien-l 62.63 310 *e*P **P 09 41 02.8 -1.0**
VIVF Saint-Julien-l 62.63 310 *e*P **P 09 41 02.8 -1.0**
VIVF Saint-Julien-l 62.63 310 *e*P **P 09 41 02.8 -1.0**
FRF La Foret Royal 62.73 307 *e*P **P 09 41 03.0 -1.5**
comp=Z,214nm,1.6s
FRF La Foret Royal 62.73 307 *e*P **P 09 41 03.0 -1.5**
FRF pmax pmax
comp=Z,215nm,1.6s
FRF La Foret Royal 62.73 307 *e*P **P 09 41 03.0 -1.5**
comp=Z,214nm,1.6s
SMRF Simiane la Rot 62.90 308 *e*P **P 09 41 04.8 -0.9**
comp=Z,169nm,1.9s
SMRF Simiane la Rot 62.90 308 *e*P **P 09 41 04.8 -0.9**
comp=Z,169nm,1.9s
LMR La Mourre 62.97 307 *e*P **P 09 41 04.7 -1.4**
comp=Z,109nm,1.4s
LMR La Mourre 62.97 307 *e*P **P 09 41 04.7 -1.4**
LMR pmax pmax
comp=Z,109nm,1.4s
LMR La Mourre 62.97 307 *e*P **P 09 41 04.7 -1.4**
comp=Z,109nm,1.4s
SGMF Saint Gilles 63.04 316 *e*P **P 09 41 04.9 -1.6**
SGMF Saint Gilles 63.04 316 *e*P **P 09 41 04.9 -1.6**
SGMF Saint Gilles 63.04 316 *e*P **P 09 41 04.9 -1.6**
MFF Saint Martin d 63.36 314 *e*P **P 09 41 07.1 -1.5**
comp=Z,74nm,1.3s
MFF Saint Martin d 63.36 314 *e*P **P 09 41 07.1 -1.5**
MFF pmax pmax
comp=Z,74nm,1.3s
MFF Saint Martin d 63.36 314 *e*P **P 09 41 07.1 -1.5**
comp=Z,74nm,1.3s
QUIF Quistinic 63.56 316 *e*P **P 09 41 08.2 -1.7**
comp=Z,256nm,1.8s
QUIF Quistinic 63.56 316 *e*P **P 09 41 08.2 -1.7**
QUIF pmax pmax
comp=Z,256nm,1.8s
QUIF Quistinic 63.56 316 *e*P **P 09 41 08.2 -1.7**
comp=Z,256nm,1.8s
LASF Ste Croix 63.60 309 *e*P **P 09 41 09.8 -0.5**
comp=Z,181nm,1.5s
LASF Ste Croix 63.60 309 *e*P **P 09 41 09.8 -0.5**
comp=Z,181nm,1.5s
RJF Les Rejaudoux 63.67 312 *e*P **P 09 41 09.7 -1.0**
RJF *e*R
comp=Z,2µm,22.8s
RJF Les Rejaudoux 63.67 312 *e*P **P 09 41 09.7 -1.0**
RJF Les Rejaudoux 63.67 312 *e*P **P 09 41 09.7 -1.0**
CAF Calviac 63.73 311 *e*P **P 09 41 10.7 -0.5**
comp=Z,87nm,1.7s
CAF Calviac 63.73 311 *e*P **P 09 41 10.7 -0.5**
CAF pmax pmax
comp=Z,87nm,1.7s
CAF Calviac 63.73 311 *e*P **P 09 41 10.7 -0.5**
comp=Z,87nm,1.7s
LFF La Frestale 64.30 312 *e*P **P 09 41 14.5 -0.3**
LFF La Frestale 64.30 312 *e*P **P 09 41 14.5 -0.3**
LFF La Frestale 64.30 312 *e*P **P 09 41 14.5 -0.3**
VSL Villasalto 64.56 303 PFAKE 09 41 30.0 +13
VSL LR LR
comp=Z,1µm,20.0s
WDD Wield Dalam 64.75 297 PFAKE 09 41 30.0 +12
WDD LR LR
comp=Z,2µm,20.0s
MTLF Montolieu 64.92 310 *e*P **P 09 41 18.2 -0.7**
comp=Z,83nm,1.4s
MTLF Montolieu 64.92 310 *e*P **P 09 41 18.2 -0.7**
MTLF pmax pmax
comp=Z,83nm,1.4s
MTLF Montolieu 64.92 310 *e*P **P 09 41 18.2 -0.7**
comp=Z,83nm,1.4s
SOEI Soe 65.12 165 *e*P **P 09 41 18.4 -2.2**
comp=Z,88nm,1.4s
FCC Fort Churchill 65.36 14 *e*P **P 09 41 19.6 -1.9**
FCC Fort Churchill 65.36 14 *e*P **P 09 41 19.6 -1.9**
comp=Z,0.5nm,1.0s
EPF Esparros 66.00 311 *e*P **P 09 41 24.6 -1.3**
EPF Esparros 66.00 311 *e*P **P 09 41 24.6 -1.3**
EPF Esparros 66.00 311 *e*P **P 09 41 24.6 -1.3**
ETSF Etsaut 66.50 312 *e*P **P 09 41 29.1 -0.1**
comp=Z,117nm,1.6s
ETSF Etsaut 66.50 312 *e*P **P 09 41 29.1 -0.1**
ETSF pmax pmax
comp=Z,117nm,1.6s
ETSF Etsaut 66.50 312 *e*P **P 09 41 29.1 -0.1**
comp=Z,117nm,1.6s
EDM Edmonton 66.70 27 *e*P **P 09 41 30.3 +0.1**
EDM Edmonton 66.70 27 *e*P **P 09 41 30.3 +0.1**
KEST Kesra 67.51 300 P **P 09 41 36.1 +0.4**
comp=Z,5.5nm,1.1s,baz=326,slow=3.6,SNR=6.7

FFC Flin Flon 67.92 20 P **P 09 41 37.2 -0.7**
comp=Z,117nm,1.0s,SNR=8.1
FFC Flin Flon 67.92 20 *e*P **P 09 41 37.5 -0.4**
FFC pmax pmax
comp=Z,80nm,1.7s
FFC MLR MLR
FFC Flin Flon 67.92 20 *e*P **P 09 41 37.5 -0.4**
comp=Z,80nm,1.7s
FFC LR LR
comp=Z,954nm,21.0s
OSR Olympics--Salm 68.51 36 P **P 09 41 43.4 +1.6**
NLWA Neilton Lookou 68.64 36 *e*P **P 09 41 43.5 +0.9**
comp=Z,110nm,1.4s
NLWA LR LR
comp=Z,890nm,20.0s
DGAR Diego Garcia 69.36 221 PFAKE 09 42 00.0 +13
DGAR LR LR
comp=Z,790nm,20.0s
SAW Saint Andrews 69.85 33 P **P 09 41 50.7 +0.6**
LON Longmire 69.90 35 *e*P **P 09 41 51.0 +0.6**
LON pmax pmax
comp=Z,12nm,0.8s
LON Longmire 69.90 35 *e*P **P 09 41 51.0 +0.6**
comp=Z,12nm,0.8s
NEW Newport 70.06 32 *e*P **P 09 41 51.9 +0.5**
NEW pmax pmax
comp=Z,11nm,0.8s
NEW MLR MLR
comp=Z,1µm,19.0s
NEW Newport 70.06 32 ⇓P **P 09 41 51.3 -0.1**
baz=70,SNR=20
NEW Newport 70.06 32 *e*P **P 09 41 51.9 +0.5**
comp=Z,11nm,0.8s
NEW LR LR
comp=Z,1µm,19.0s
F04D Rainier, OR 70.07 36 ⇓P **P 09 41 52.3 +0.9**
baz=70
NAC Naches 70.24 35 P **P 09 41 53.7 +1.2**
LVP Lakeview Peak 70.29 36 P **P 09 41 54.3 +1.4**
WALA Waterton Lakes 70.30 29 *e*P **P 09 41 53.0 +0.1**
comp=Z,0.7nm,0.8s
OD2 Odessa Site #2 70.35 33 P **P 09 41 54.0 +0.9**
ASR Mount Adams--S 70.49 35 P **P 09 41 55.4 +1.2**
PGAV Gavieira, Arco 70.51 316 *e*LR LR 10 13 23.4
comp=Z,1µm,20.0s
ESDC Sonseca Array 70.61 312 P **P 09 41 55.0 +0.1**
comp=Z,27nm,0.9s,baz=30,slow=6.3,SNR=66
ESDC LR LR 10 17 06.3
comp=Z,1µm,18.1s,baz=65,slow=40
MVO Moncorvo 70.67 315 *e*S SKiKP 09 51 22.9 -14
MVO Moncorvo 70.67 315 *e*LR LR 10 12 41.3
comp=Z,2µm,16.0s
WRD Warden 70.73 34 P **P 09 41 55.7 +0.3**
G03D McMinnville, O 70.73 37 ⇑P **P 09 41 56.4 +0.9**
baz=70
PMG Port Moresby 70.85 141 *e*P **P 09 41 55.9 -0.5**
PMG pmax pmax
comp=Z,40nm,1.3s
PAB San Pablo 70.88 312 PFAKE 09 42 10.0 +13
PAB LR LR
comp=Z,1µm,20.0s
HAWA Hanford 70.96 34 *e*P **P 09 41 57.2 +0.3**
comp=Z,90nm,1.5s
HAWA LR LR
comp=Z,622nm,21.0s
SCHQ Schefferville 70.97 358 P **P 09 41 56.1 -0.7**
comp=Z,18nm,1.0s,baz=18,slow=7.9,SNR=14
SCHQ LR LR 10 15 43.5
comp=Z,467nm,18.4s,baz=19,slow=38
G04A Mulino 71.01 37 P **P 09 41 58.2 +1.0**
BLMT Blacktail Moun 71.11 30 *e*P **P 09 41 59.3 +1.3**
comp=Z,41nm,1.2s
BSMT Bassoo Peak 71.13 30 *e*P **P 09 41 59.0 +0.8**
VGB Gordon Butte 71.32 35 P **P 09 42 00.7 +1.6**
VGB Gordon Butte 71.32 35 P **P 09 42 00.7 +1.6**
YBMT Yellow Bay 71.35 30 *e*P **P 09 42 00.3 +0.9**
comp=Z,52nm,1.1s
JTMT Jette 71.38 30 *e*P **P 09 42 00.8 +1.3**
comp=Z,41nm,1.1s
G05D Wamic, OR 71.38 36 ⇓P **P 09 41 59.7 +0.2**
baz=71
PVIS Viseu 71.40 315 *e*P **P 09 42 00.8 +1.1**
comp=Z,112nm,1.8s
MTE Manteigas 71.52 315 *e*LR LR 10 11 53.7
comp=Z,2µm,18.0s
MTE Manteigas 71.52 315 PFAKE 09 42 10.0 +10
MTE LR LR
comp=Z,1µm,19.0s
SWMT Swartz Lake 71.67 30 *e*P **P 09 42 02.2 +0.9**
comp=Z,106nm,1.1s
A19A Klindworth Far 71.81 26 ⇑P **P 09 42 01.4 -0.6**
baz=72,SNR=54
PCBR Castelo Branco 71.97 314 *e*P **P 09 42 03.8 +0.8**
comp=Z,54nm,1.6s
I03D Drain, OR 72.02 38 ⇑P **P 09 42 03.2 -0.1**
baz=72,SNR=20
A20A Cobblestone Ra 72.06 25 ⇑P **P 09 42 02.6 -0.9**
baz=72,SNR=35
SLMT Seeley Lake 72.06 30 *e*P **P 09 42 04.3 +0.6**
comp=Z,126nm,1.1s
I05D Terrebonne, OR 72.17 36 ⇑P **P 09 42 03.9 -0.3**
baz=72,SNR=13
B19A Brinkman Farms 72.19 26 ⇓P **P 09 42 03.5 -0.9**
baz=72,SNR=47
A21A Bergtoll Ranch 72.20 25 ⇓P **P 09 42 03.7 -0.6**
baz=72,SNR=28
PCAS Casmilo, Conde 72.21 315 *e*P **P 09 42 05.4 +0.9**
comp=Z,116nm,1.8s
I04A Tendick Farm, 72.27 37 ⇓P **P 09 42 04.5 -0.3**
baz=72,SNR=13
PMRV Marv??o 72.28 314 *e*LR LR 10 12 43.3
comp=Z,1µm,22.0s
MSO Missoula 72.31 30 ⇓P **P 09 42 04.5 -0.5**
baz=72,SNR=113
EGMT Eagleton 72.38 27 ⇓P **P 09 42 04.3 -1.1**
baz=72,SNR=22
EGMT Eagleton 72.38 27 *e*P **P 09 42 05.9 +0.4**
comp=Z,110nm,1.5s
EGMT LR LR
comp=Z,445nm,20.0s
CHMT Chamberlain Mo 72.43 30 *e*P **P 09 42 06.3 +0.3**
comp=Z,41nm,1.1s
B20A Solberg Farm, 72.44 26 ⇓P **P 09 42 04.8 -1.0**
baz=72
A22A Carney Farms, 72.45 24 ⇑P **P 09 42 04.8 -1.0**
baz=72,SNR=37
B21A Ellsworth Farm 72.70 25 ⇑P **P 09 42 06.4 -1.0**
baz=72,SNR=17
A23A Redstone 72.72 23 ⇑P **P 09 42 06.7 -0.7**
baz=72
PESTR Estremoz 72.83 314 *e*P **P 09 42 08.6 +0.4**
comp=Z,62nm,1.3s
C19A Slack Wire Ran 72.83 27 ⇓P **P 09 42 07.2 -1.0**
baz=73,SNR=21
J04D Umpqua Nationa 72.86 37 ⇓P **P 09 42 08.7 +0.1**
baz=73,SNR=41
PMTG Montargil 72.93 314 *e*P **P 09 42 09.3 +0.6**
comp=Z,32nm,1.5s
A24A Westby 72.95 23 ⇑P **P 09 42 08.2 -0.6**
baz=73,SNR=18
HRY Holter Researc 73.02 29 *e*P **P 09 42 09.8 +0.4**
comp=Z,46nm,0.8s
BMO Blue Mountains 73.05 33 *e*P **P 09 42 10.2 +0.6**
comp=Z,81nm,1.1s
BMO LR LR
comp=Z,873nm,21.0s
B22A Reddig Ranch S 73.07 24 ⇓P **P 09 42 08.4 -1.1**
baz=73,SNR=11
HUMO Hull Mountain 73.11 38 *e*P **P 09 42 11.3 +1.4**
comp=Z,94nm,1.5s
C20A Veseth Ranch, 73.12 26 ⇑P **P 09 42 09.4 -0.5**
baz=73,SNR=59
J05D Fort Rock, OR 73.13 37 ⇑P **P 09 42 10.5 +0.5**
baz=73,SNR=44
A25A Svangstu Ranch 73.14 22 ⇑P **P 09 42 09.5 -0.3**
baz=73,SNR=21
B23A Brockton 73.16 24 ⇓P **P 09 42 09.4 -0.6**
baz=73,SNR=12
C21A Desert Coulee 73.25 25 ⇓P **P 09 42 10.0 -0.6**
baz=73,SNR=36
L02D Cave Junction, 73.27 39 ⇑P **P 09 42 11.0 +0.3**
baz=73,SNR=5.8
EVO Evora 73.29 314 *e*P **P 09 42 10.7 -0.2**
comp=Z,154nm,1.4s
EVO *e*R
comp=Z,2µm,20.8s

EVO Evora 73.29 314 *e*P **P 09 42 11.4 +0.5**
comp=Z,39nm,1.5s
ULM Lac du Bonnet 73.31 17 P **P 09 42 09.7 -1.2**
ULM pmax pmax
comp=Z,14nm,1.0s
ULM MLR MLR
comp=Z,623nm,18.7s
ULM Lac du Bonnet 73.31 17 P **P 09 42 09.7 -1.2**
comp=Z,14nm,0.9s,baz=345,slow=6.2,SNR=18
ULM LR LR 10 16 28.8
comp=Z,623nm,18.7s,baz=313,slow=38
EVOP Sao Brissos 73.34 314 *e*P **P 09 42 10.7 -0.5**
EVOP pmax pmax
comp=Z,154nm,1.4s
EVOP Sao Brissos 73.34 314 *e*P **P 09 42 10.7 -0.5**
comp=Z,154nm,1.4s
D19A Cripps Ranch, 73.40 27 ⇓P **P 09 42 11.5 0.0**
baz=73,SNR=14
A26A Wade Farm, Ken 73.41 22 ⇑P **P 09 42 11.2 -0.3**
baz=73,SNR=14
K04D Chiloquin, OR 73.52 37 ⇓P **P 09 42 12.8 +0.4**
baz=73,SNR=12
FITZ Fitzroy Crossi 73.53 165 *e*P **P 09 42 11.6 -0.7**
comp=Z,33nm,1.1s
A27A Ledoux Ranch, 73.53 21 P **P 09 42 12.2 0.0**
baz=73
LIS Lisbon 73.61 315 *e*P **P 09 42 13.7 +0.9**
LIS AMS AMS 10 18 32.6
comp=N,2µm,22.6s
LIS Lisbon 73.61 315 *e*P **P 09 42 13.7 +0.9**
LIS Lisbon 73.61 315 *e*P **P 09 42 13.6 +0.9**
C22A Vida 73.62 25 P **P 09 42 12.8 +0.1**
baz=73
LRM Limekiln Ridge 73.65 30 *e*P **P 09 42 13.9 +0.6**
comp=N,45nm,0.5s
D20A Manuel Ranch, 73.66 26 ⇑P **P 09 42 12.8 -0.2**
baz=73,SNR=21
C23A Lambert 73.73 24 ⇑P **P 09 42 13.3 -0.1**
baz=74,SNR=28
B25A Knox Farm, Ray 73.76 23 ⇓P **P 09 42 13.8 +0.3**
baz=74,SNR=7.7
A28A Rude Farm, Bot 73.77 20 ⇑P **P 09 42 12.9 -0.7**
baz=74,SNR=8.3
PNCL Nicolau / Gran 73.86 314 *e*P **P 09 42 14.6 +0.3**
comp=N,102nm,1.4s
B26A Jensen Ranch, 73.86 22 ⇑P **P 09 42 13.8 -0.4**
baz=74,SNR=14
MESJ Messejana 73.96 314 *e*P **P 09 42 15.7 +0.9**
MESJ AMS AMS 10 18 25.1
comp=Z,2µm,20.6s
MESJ Messejana 73.96 314 *e*P **P 09 42 16.0 +1.2**
comp=Z,79nm,1.7s
MESJ Messejana 73.96 314 *e*P **P 09 42 15.7 +0.9**
YBH Yreka Blue Hor 73.96 38 *e*P **P 09 42 14.7 -0.2**
YBH pmax pmax
comp=Z,40nm,1.4s
YBH Yreka Blue Hor 73.96 38 *e*P **P 09 42 14.7 -0.2**
comp=Z,40nm,1.4s
A29A Manning Farm, 73.97 20 ⇑P **P 09 42 13.9 -0.8**
baz=74,SNR=22
D21A La Casta Ranch 73.98 26 ⇑P **P 09 42 14.2 -0.7**
baz=74,SNR=21
B27A Peters Farms, 74.05 21 ⇓P **P 09 42 14.6 -0.6**
baz=74,SNR=13
BOZ Bozeman (W) 74.05 29 *e*P **P 09 42 15.7 +0.3**
BOZ pmax pmax
comp=Z,57nm,1.5s
BOZ MLR MLR
comp=Z,1µm,20.0s
BOZ Bozeman (W) 74.05 29 *e*P **P 09 42 15.7 +0.3**
comp=Z,57nm,1.5s
BOZ LR LR
comp=Z,1µm,20.0s
E19A Rath Farm, Rou 74.08 27 ⇓P **P 09 42 15.0 -0.5**
baz=74,SNR=56
D22A Cohagen 74.10 25 ⇑P **P 09 42 14.9 -0.7**
baz=74,SNR=33
PVAQ Vaqueiros 74.12 313 *e*P **P 09 42 16.8 +1.0**
comp=Z,89nm,1.5s
PVAQ Vaqueiros 74.12 313 *e*LR LR 10 13 57.6
comp=Z,3µm,18.0s
A30A Hoffart Farm, 74.13 19 ⇑P **P 09 42 14.6 -1.1**
baz=74,SNR=15
C24A Savage 74.17 24 ⇓P **P 09 42 15.7 -0.2**
baz=74,SNR=10
B28A Dugan Ranch, T 74.19 21 ⇑P **P 09 42 15.0 -1.1**
baz=74,SNR=8.0
M02C Callahan 74.21 39 ⇓P **P 09 42 16.7 +0.3**
baz=74,SNR=26
E20A Meyer Farm, Mu 74.21 26 ⇓P **P 09 42 15.7 -0.6**
baz=74,SNR=28
M04C Macdoel 74.23 38 ⇑P **P 09 42 16.6 0.0**
baz=74,SNR=26
C25A Freed Ranch, W 74.26 23 ⇑P **P 09 42 16.7 +0.1**
baz=74,SNR=18
D23A Lindsay 74.32 24 ⇑P **P 09 42 17.2 +0.4**
baz=74,SNR=41
B29A Wagenman Farm, 74.38 20 ⇑P **P 09 42 16.6 -0.6**
baz=74
MSEY Mahe Island 74.39 238 *i*P **P 09 42 18.2 +0.6**
MSEY Mahe Island 74.39 238⇓*i*P **P 09 42 18.0 +0.3**
SNR=5.2
MSEY Mahe Island 74.39 238 PFAKE 09 42 30.0 +12
MSEY LR LR
comp=Z,411nm,21.0s
C26A Wahner Ranch, P 74.41 22 ⇓P **P 09 42 16.8 -0.6**
baz=74,SNR=14
MCMT McKenzie Canyo 74.44 30 *e*P **P 09 42 18.4 +0.5**
comp=Z,18nm,1.2s
E21A Keefer Ranch, 74.45 26 ⇓P **P 09 42 17.0 -0.6**
baz=74,SNR=10
LAO LASA Array 74.52 25 *e*P **P 09 42 18.2 +0.1**
comp=Z,11nm,0.8s
LAO LR LR
comp=Z,1µm,19.0s
D24A Glendive 74.58 24 ⇑P **P 09 42 18.4 0.0**
baz=74,SNR=14
B30A Myrvik Farm, E 74.59 19 ⇓P **P 09 42 17.4 -0.9**
baz=74,SNR=7.4
MORF Marmelete 74.59 314 *e*P **P 09 42 19.4 +0.8**
MORF AMS AMS 10 18 53.3
comp=Z,2µm,17.2s
MORF Marmelete 74.59 314 *e*P **P 09 42 19.4 +0.8**
F19A Roth Farm, Mol 74.60 27 ⇓P **P 09 42 18.5 0.0**
baz=74,SNR=48
N02D Trinity Center 74.63 39 ⇓P **P 09 42 19.3 +0.5**
baz=74,SNR=16
C27A Sayler Ranch, 74.65 22 ⇓P **P 09 42 18.7 -0.1**
baz=74,SNR=8.0
MOD Modoc Plateau 74.67 37 *e*P **P 09 42 20.0 +0.8**
comp=Z,114nm,1.3s
WVOR Wild Horse Val 74.77 35 *e*P **P 09 42 20.5 +0.8**
WVOR pmax pmax
comp=Z,58nm,1.3s
WVOR MLR MLR
comp=Z,865nm,20.0s
WVOR Wild Horse Val 74.77 35 *e*P **P 09 42 20.5 +0.8**
comp=Z,58nm,1.3s
WVOR LR LR
comp=Z,865nm,20.0s
D25A Fairfield 74.78 23 ⇑P **P 09 42 19.7 +0.1**
baz=74,SNR=19
MFID Camas Ranch 74.81 33 *e*P **P 09 42 20.6 +0.8**
comp=Z,69nm,1.1s
E22A Miles City 74.82 25 ⇑P **P 09 42 19.2 -0.6**
baz=75,SNR=30
QLMT Earthquake Lak 74.85 29 *e*P **P 09 42 21.2 +1.0**
comp=Z,8.6nm,1.4s
F20A Billings 74.86 27 ⇓P **P 09 42 19.6 -0.5**
baz=75,SNR=14
C28A Hausauer Farms 74.88 21 ⇑P **P 09 42 20.0 -0.1**
baz=75,SNR=7.0
MDND Maddock 74.92 20 ⇑P **P 09 42 20.0 -0.3**
baz=75,SNR=5.5
MDND Maddock 74.92 20 *e*P **P 09 42 20.9 +0.6**
comp=Z,17nm,1.0s
E23A Ismay 74.92 25 ⇓P **P 09 42 20.3 -0.1**
baz=75,SNR=15
WDC Whiskeytown Da 75.03 39 *e*P **P 09 42 21.6 +0.6**
WDC pmax pmax
comp=Z,33nm,1.3s
WDC Whiskeytown Da 75.03 39 *e*P **P 09 42 21.6 +0.6**
comp=Z,33nm,1.3s
D26A Manning 75.09 22 ⇑P **P 09 42 21.2 -0.1**
baz=75,SNR=11
F21A Absaloka Mine, 75.10 26 ⇓P **P 09 42 20.1 -1.4**
baz=75
E24A Baker 75.11 24 ⇑P **P 09 42 21.2 -0.2**

baz=75,SNR=5.1
HLID Hailey 75.12 32 ⇓P P 09 42 21.9 +0.2
baz=75,SNR=36
HLID Hailey 75.12 32 eP P 09 42 22.3 +0.6
comp=Z,26nm,1.1s
HLID LR LR
comp=Z,855nm,21.0s
YMR Madison River 75.13 29 eP P 09 42 23.1 +1.3
comp=Z,69nm,1.5s
YNR Norris Junctio 75.17 29 eP P 09 42 23.4 +1.3
comp=Z,14nm,1.1s
RLMT Red Lodge 75.19 28 eP P 09 42 22.5 +0.4
comp=Z,100nm,1.1s
RLMT LR LR
comp=Z,638nm,22.0s
AGMN Agassiz Nation 75.20 18 ⇑P P 09 42 20.6 -1.3
baz=75,SNR=13
AGMN Agassiz Nation 75.20 18 eP P 09 42 21.3 -0.6
comp=Z,20nm,0.9s
AGMN LR LR
comp=Z,744nm,20.0s
D27A Center 75.22 22 ⇑P P 09 42 22.1 0.0
baz=75,SNR=6.3
C30A Mose, Pekin 75.28 20 ⇑P P 09 42 20.9 -1.4
baz=75,SNR=6.9
D28A Regan 75.34 21 ⇑P P 09 42 22.4 -0.3
baz=75,SNR=11
KIPM Iron Peak 75.36 40 eP P 09 42 23.9 +0.7
comp=Z,119nm,1.5s
F22A Rosebud 75.36 26 ⇓P P 09 42 22.2 -0.7
baz=75,SNR=15
YFT Old Faithful 75.37 29 eP P 09 42 25.8 +2.5
comp=Z,46nm,1.0s
E25A Miller Ranch, 75.37 23 ⇑P P 09 42 22.1 -0.9
baz=75
G20A Bridger 75.38 27 ⇓P P 09 42 22.8 -0.3
baz=75,SNR=38
H18A Shoshone NF, C 75.49 28 ⇑P P 09 42 23.7 -0.2
baz=75,SNR=44
H17A Grant Village 75.49 29 ⇓P P 09 42 25.2 +1.3
baz=75,SNR=23
H17A Grant Village 75.49 29 eP P 09 42 26.0 +2.0
comp=Z,28nm,1.0s
E26A Carlson Angus 75.61 23 ⇑P P 09 42 23.5 -0.9
baz=75,SNR=16
F23A Volborg 75.63 25 ⇓P P 09 42 23.2 -1.2
baz=75,SNR=32
D29A Pettibone, Tap 75.67 21 ⇓P P 09 42 23.9 -0.7
baz=75,SNR=8.7
H19A Powell 75.68 28 ⇓P P 09 42 24.6 -0.3
baz=75,SNR=32
F24A Ekalaka 75.75 24 ⇑P P 09 42 24.8 -0.4
baz=76,SNR=26
D30A Buchanan 75.79 20 ⇓P P 09 42 24.1 -1.2
baz=76,SNR=22
MBWA Marble Bar 75.82 171 eP P 09 42 24.8 -0.7
comp=Z,49nm,1.1s
MBWA LR LR
comp=Z,519nm,21.0s
E27A Carson 75.85 22 ⇓P P 09 42 25.7 0.0
baz=76,SNR=17
G22A Birney 75.88 26 ⇑P P 09 42 25.5 -0.4
baz=76,SNR=11
F25A Bowman 75.90 24 ⇓P P 09 42 25.9 -0.1
baz=76,SNR=12
E28A Huff 75.90 21 ⇓P P 09 42 25.8 -0.2
baz=76,SNR=7.3
I17A Pilgrim Ck. 75.93 29 ⇑P P 09 42 27.0 +0.6
baz=76,SNR=40
H20A Greybull 76.11 27 P P 09 42 27.1 -0.2
baz=76
G23A Biddle 76.12 25 ⇑P P 09 42 26.4 -0.9
baz=76,SNR=33
E29A Napoleon 76.13 21 ⇑P P 09 42 26.8 -0.5
baz=76,SNR=7.3
F26A Lodgepole 76.15 23 ⇓P P 09 42 26.9 -0.6
baz=76,SNR=15
H21A Big Horn, Sher 76.24 26 ⇑P P 09 42 27.6 -0.4
baz=76,SNR=37
G24A Alzada 76.24 24 ⇓P P 09 42 27.0 -1.0
baz=76,SNR=5.5
EYMN Ely 76.25 15 eP P 09 42 27.3 -0.6
comp=Z,2.6nm,0.4s
EYMN LR LR
comp=Z,1μm,22.0s
I19A Meeteetse 76.26 28 ⇓P P 09 42 28.0 -0.3
baz=76,SNR=16
F27A Lemmon 76.28 23 ⇑P P 09 42 27.4 -0.7
baz=76
E30A Jud 76.34 20 ⇑P P 09 42 27.5 -0.9
baz=76,SNR=8.3
H22A Clearmont 76.44 26 ⇑P P 09 42 28.7 -0.5
baz=76,SNR=6.2
F28A McLaughlin 76.57 22 ⇓P P 09 42 29.5 -0.3
baz=76,SNR=21
I20A Worland 76.58 27 ⇓P P 09 42 29.6 -0.4
baz=76,SNR=8.6
G25A Newell 76.60 24 ⇑P P 09 42 29.5 -0.5
baz=76,SNR=9.2
RTC Rabat Centre 76.62 311 PFAKE 09 42 40.0 +10
RTC LR LR
comp=Z,919nm,21.0s
G26A Maurine 76.70 23 ⇓P P 09 42 30.1 -0.5
baz=76,SNR=21
H23A Clabaugh Cattl 76.72 25 ⇓P P 09 42 30.1 -0.7
baz=76
H24A Dirks Ranch, A 76.75 25 ⇑P P 09 42 29.8 -1.1
baz=76,SNR=11
G27A Dupree 76.77 23 ⇑P P 09 42 30.5 -0.5
baz=76,SNR=25
F29A Eureka 76.79 21 ⇑P P 09 42 30.5 -0.6
baz=76,SNR=9.6
AHID Auburn Hatcher 76.84 30 eP P 09 42 32.5 +0.9
comp=Z,50nm,1.3s
AHID LR LR
comp=Z,774nm,22.0s
I21A Big Trails, Te 76.93 27 ⇑P P 09 42 31.1 -1.0
baz=77,SNR=44
F30A Leola 76.96 21 ⇑P P 09 42 31.0 -0.9
baz=77
J19A Crowheart 76.96 28 ⇑P P 09 42 31.9 -0.4
baz=77,SNR=72
WRAB Tennant Creek 76.98 157 P P 09 42 31.0 -1.2
comp=Z,195nm,0.8s,SNR=16
WRAB Tennant Creek 76.98 157 *d iP* **P 09 42 30.5 -1.7**
WRAB pmax pmax
comp=Z,49nm,0.8s
WRAB MLR MLR
comp=Z,1μm,19.0s
WRAB Tennant Creek 76.98 157 eP P 09 42 31.4 -0.8
comp=Z,25nm,0.8s
WRAB LR LR
comp=Z,700nm,19.0s
WRA Warramunga Arr 76.99 157 P P 09 42 30.6 -1.7
WRA pmax pmax
comp=Z,19nm,0.8s
WRA Warramunga Arr 76.99 157 P P 09 42 30.6 -1.7
comp=Z,18nm,0.8s,baz=349,slow=6.2,SNR=142
WB2 Warramunga Arr 76.99 157 eP P 09 42 31.0 -1.3
BMN Battle Mountai 77.03 35 eP P 09 42 34.1 +1.4
BMN pmax pmax
comp=Z,65nm,1.3s
BMN Battle Mountai 77.03 35 eP P 09 42 34.1 +1.4
comp=Z,65nm,1.3s
I22A 9 Mile Ranch, 77.07 26 ⇓P P 09 42 32.2 -0.6
baz=77,SNR=16
H25A Fruitdale 77.10 24 ⇓P P 09 42 31.9 -1.0
baz=77,SNR=14
J20A Shoshoni 77.14 28 ⇑P P 09 42 33.3 +0.1
baz=77,SNR=38
HVU Hansel Valley 77.24 32 eP P 09 42 34.4 +0.6
HVU pmax pmax
comp=Z,83nm,1.4s
HVU Hansel Valley 77.24 32 eP P 09 42 34.4 +0.6
comp=Z,82nm,1.4s
I23A Meade Ranch, G 77.26 26 ⇓P P 09 42 33.2 -0.7
baz=77
BW06 Boulder Array 77.28 29 eP P 09 42 32.9 -1.2
comp=Z,14nm,0.8s
BW06 LR LR
comp=Z,761nm,19.0s
PDAR Pinedale Array 77.28 29 P P 09 42 33.7 -0.4
comp=Z,16nm,0.7s,baz=27,slow=2.6,SNR=150
PDAR LR LR 10 21 52.2
comp=Z,565nm,18.9s,baz=350,slow=40
G28A Parade 77.28 22 ⇓P P 09 42 33.1 -0.7
baz=77,SNR=15
H26A Fairpoint 77.30 24 ⇓P P 09 42 33.7 -0.2
baz=77,SNR=7.8
J21A Lysite 77.32 27 ⇓P P 09 42 33.9 -0.4
baz=77,SNR=21
G29A Hoven 77.39 21 ⇓P P 09 42 33.8 -0.6
baz=77
ELK Elko 77.41 34 P P 09 42 35.3 +0.5
ELK pmax pmax
comp=Z,29nm,1.0s
ELK Elko 77.41 34 P P 09 42 35.3 +0.5
comp=Z,28nm,1.0s,baz=5.5,slow=3.6,SNR=65
H27A Howes 77.44 23 ⇑P P 09 42 34.4 -0.3
baz=77,SNR=28
RSSD Black Hills 77.47 25 eP P 09 42 34.9 -0.2
RSSD pmax pmax
comp=Z,27nm,1.0s
RSSD Black Hills 77.47 25 eP P 09 42 34.9 -0.2
comp=Z,27nm,1.0s
J22A Midwest 77.52 27 ⇑P P 09 42 34.6 -0.7
baz=77,SNR=41
I24A Kuemmerle Ranc 77.57 25 ⇑P P 09 42 34.9 -0.7
baz=77,SNR=7.9
G30A Faulkton 77.61 21 ⇑P P 09 42 35.1 -0.6
baz=77,SNR=8.9
I25A Rochford 77.63 24 ⇓P P 09 42 35.0 -1.0
baz=77,SNR=20
H28A Mission Ridge 77.64 22 ⇑P P 09 42 34.9 -0.9
baz=77,SNR=28
J23A Dilts Ranch, B 77.76 26 ⇓P P 09 42 36.0 -0.7
baz=78
I26A New Underwood 77.83 24 ⇓P P 09 42 36.6 -0.4
baz=78,SNR=12
H29A Onida 77.86 22 ⇑P P 09 42 36.5 -0.6
baz=78,SNR=11
BGU Big Grassy Mou 77.94 32 eP P 09 42 38.5 +0.7
comp=Z,27nm,1.6s
I27A Quinn 77.98 23 ⇓P P 09 42 37.3 -0.5
baz=78,SNR=18
WAKR Walker 77.99 38 eP P 09 42 38.9 +0.8
comp=Z,44nm,1.3s
K21A Alcova 78.04 27 ⇓P P 09 42 37.8 -0.5
baz=78,SNR=43
J24A Dixon Ranch, L 78.06 25 ⇓P P 09 42 37.9 -0.4
baz=78,SNR=6.2
CMB Columbia Colle 78.06 39 eP P 09 42 38.6 +0.3
CMB pmax pmax
comp=Z,39nm,1.3s
CMB Columbia Colle 78.06 39 eP P 09 42 38.5 +0.3
comp=Z,39nm,1.3s
J25A Sunshine Ranch 78.21 25 ⇓P P 09 42 38.5 -0.7
baz=78,SNR=12
K22A Casper 78.22 27 ⇓P P 09 42 38.3 -1.0
baz=78,SNR=18
K22A Casper 78.22 27 eP P 09 42 38.5 -0.8
comp=Z,32nm,1.1s
I28A Midland 78.25 23 ⇑P P 09 42 38.8 -0.4
baz=78,SNR=23
TCUT Toone Canyon 78.26 31 eP P 09 42 40.3 +0.7
comp=Z,169nm,1.5s
BRSD Miller 78.30 21 ⇓P P 09 42 39.2 -0.3
baz=78,SNR=26
BRSD Miller 78.30 21 eP P 09 42 39.5 0.0
comp=Z,280nm,0.8s
K23A Bowen Ranch, D 78.35 26 ⇓P P 09 42 39.0 -1.0
baz=78
COWI Conover 78.40 14 eP P 09 42 38.5 -1.4
comp=Z,22nm,1.3s
COWI LR LR
comp=Z,850nm,21.0s
I29A Vivian Onida 78.42 22 ⇓P P 09 42 39.8 -0.3
baz=78,SNR=15
NVAR Mina Array Bea 78.45 37 P P 09 42 41.9 +1.2
comp=Z,16nm,0.8s,baz=306,slow=4.0,SNR=91
J26A Sides Ranch, S 78.46 24 ⇓P P 09 42 40.5 0.0
baz=78,SNR=26
K24A Anderson Ranch 78.59 26 ⇓P P 09 42 40.3 -1.0
baz=78
DUG Dugway, Tooele 78.68 32 eP P 09 42 42.5 +0.7
DUG pmax pmax
comp=Z,82nm,1.2s
DUG MLR MLR
comp=Z,616nm,21.0s
DUG Dugway, Tooele 78.68 32 ⇑P P 09 42 42.4 +0.6
baz=78,SNR=53
DUG Dugway, Tooele 78.68 32 eP P 09 42 42.5 +0.7
comp=Z,82nm,1.2s
DUG LR LR
comp=Z,616nm,21.0s
SPMN Marine on St. 78.70 16 ⇑P P 09 42 40.9 -0.7
baz=78,SNR=13
SPMN Marine on St. 78.70 16 eP P 09 42 41.6 0.0
comp=Z,40nm,1.0s
I30A Oacoma 78.71 21 ⇓P P 09 42 40.8 -0.9
baz=78
J27A Elkhorn Farm, 78.77 23 ⇑P P 09 42 42.0 -0.1
baz=78,SNR=40
J28A Allard Ranch, 78.78 23 ⇓P P 09 42 42.1 -0.1
baz=78,SNR=39
L22A Ellis Ranch, M 78.82 27 ⇓P P 09 42 42.8 +0.2
baz=79,SNR=36
K25A Mack Ranch, Ha 78.93 25 ⇓P P 09 42 43.4 +0.3
baz=79,SNR=19
L23A Garrett 78.93 26 ⇓P P 09 42 42.6 -0.7
baz=79,SNR=24
DAU Daniels Canyon 78.95 31 eP P 09 42 45.0 +1.5
DAU pmax pmax
comp=Z,25nm,0.9s
DAU Daniels Canyon 78.95 31 eP P 09 42 45.0 +1.5
comp=Z,25nm,0.9s
MLAC Mammoth, Mammo 78.98 38 ⇓P P 09 42 44.3 +0.7
baz=79,SNR=15
J29A Okreek 79.00 22 ⇓P P 09 42 42.7 -0.7
baz=79,SNR=20
K26A Motz Farm, Whi 79.01 24 ⇓P P 09 42 43.3 -0.3
baz=79,SNR=11
NLU North Lily Min 79.12 32 eP P 09 42 45.0 +0.7
comp=Z,68nm,1.0s
TPH Tonopah 79.15 36 eP P 09 42 45.5 +1.0
TPH pmax pmax
comp=Z,73nm,1.4s
TPH Tonopah 79.15 36 eP P 09 42 45.5 +1.0
comp=Z,73nm,1.4s
L24A Wheatland 79.20 26 ⇓P P 09 42 44.4 -0.2
baz=79,SNR=11
MPU Maple Canyon 79.20 31 eP P 09 42 45.6 +0.8
comp=Z,28nm,1.2s
K27A Flueckinger Fa 79.23 24 ⇓P P 09 42 44.5 -0.3
baz=79,SNR=27
J30A Dallas 79.26 22 ⇑P P 09 42 44.3 -0.4
baz=79,SNR=25
L25A Engebretsen Ra 79.33 25 ⇑P P 09 42 45.0 -0.3
baz=79
M22A Cedar Creek Ra 79.36 27 ⇑P P 09 42 45.6 -0.1
baz=79,SNR=14
K28A Ten Mile Ranch 79.43 23 ⇓P P 09 42 46.0 +0.2
baz=79,SNR=25
N20A Spence Gulch, 79.43 29 ⇑P P 09 42 46.6 +0.6
baz=79,SNR=39
ECSD EROS Data Cent 79.46 19 ⇓P P 09 42 45.1 -0.7
baz=79,SNR=43
ECSD EROS Data Cent 79.46 19 eP P 09 42 45.4 -0.5
comp=Z,90nm,1.3s
ECSD LR LR
comp=Z,759nm,20.0s
R11A Troy Canyon, C 79.46 35 ⇓P P 09 42 46.4 +0.2
baz=79,SNR=41
R11A Troy Canyon, C 79.46 35 eP P 09 42 46.4 +0.2
comp=Z,60nm,1.4s
M23A Laramie 79.53 27 ⇓P P 09 42 46.9 +0.3
baz=79,SNR=38
K29A Lazy Trails An 79.62 22 ⇑P P 09 42 46.8 0.0
baz=79,SNR=16
L26A Underwood Farm 79.66 25 ⇓P P 09 42 47.0 -0.2
baz=79,SNR=15
TIN Tinemaha, Big 79.71 38 ⇑P P 09 42 48.3 +0.8
baz=80
M24A Cheyenne 79.76 26 ⇑P P 09 42 48.5 +0.8
baz=80,SNR=31
L27A T5 Ranch, Ells 79.80 24 ⇑P P 09 42 48.0 +0.1
baz=80
K30A Basset 79.86 22 ⇓P P 09 42 47.5 -0.6
baz=80,SNR=8.2
TAM Tamanrasset 79.86 295 eP P 09 42 49.1 +0.6
TAM pmax pmax
comp=Z,41nm,1.5s
TAM MLR MLR
comp=Z,490nm,20.0s
TAM Tamanrasset 79.86 295 eP P 09 42 49.1 +0.6
comp=Z,41nm,1.5s
TAM LR LR
comp=Z,490nm,20.0s
N22A Wattenberg Ran 79.96 27 ⇑P P 09 42 49.7 +0.8
baz=80,SNR=27
M25A Palm-Egli Farm 79.99 26 ⇓P P 09 42 49.1 +0.2
baz=80,SNR=8.7
TMUT Trail Mountain 79.99 31 eP P 09 42 49.5 +0.3
comp=Z,75nm,1.2s
N23A Red Feather La 80.01 27 ⇓P P 09 42 49.6 +0.4
baz=80,SNR=39
RCTC Rector, Farmer 80.01 39 ⇑P P 09 42 48.8 -0.1
baz=80,SNR=12
L28A Connealy Angus 80.06 23 ⇑P P 09 42 48.7 -0.5
baz=80
GRAC Grapevine Rang 80.06 37 ⇑P P 09 42 50.4 +1.2
baz=80,SNR=8.7
O20A White River Ci 80.09 29 ⇓P P 09 42 49.8 +0.3
baz=80,SNR=80
O20A White River Ci 80.09 29 eP P 09 42 50.0 +0.4
comp=Z,146nm,1.2s
M26A McRoberts Ranc 80.19 25 ⇑P P 09 42 50.0 +0.1
baz=80,SNR=5.0
L29A Maesberg Ranch 80.25 23 ⇓P P 09 42 49.7 -0.5
baz=80
M27A Reverse DX Ran 80.31 24 ⇓P P 09 42 49.8 -0.8
baz=80
N24A Carr 80.35 26 ⇑P P 09 42 51.2 +0.3
baz=80,SNR=16
SRU San Rafael Swe 80.37 31 eP P 09 42 51.6 +0.5
SRU pmax pmax
comp=Z,41nm,1.4s
SRU San Rafael Swe 80.37 31 eP P 09 42 51.6 +0.5
comp=Z,40nm,1.4s
MVU Marysvale 80.41 33 eP P 09 42 52.7 +1.3
comp=Z,74nm,1.5s
CTA Charters Tower 80.45 146 P P 09 42 50.5 -0.8
CTA pmax pmax
comp=Z,21nm,1.1s
CTA Charters Tower 80.45 146 P P 09 42 50.5 -0.8
comp=Z,21nm,1.1s,baz=335,slow=11,SNR=5.7
VES Vestal, Richgr 80.49 39 ⇓P P 09 42 51.6 +0.1
baz=80,SNR=10
AS31 Alice Springs 80.49 158 eP P 09 42 50.7 -0.7
ASAR Alice Springs 80.49 158 P P 09 42 50.3 -1.2
ASAR 10 01 31.8
ASAR pmax pmax
comp=Z,9.0nm,0.8s
ASAR MLR MLR
comp=Z,344nm,22.0s
ASAR Alice Springs 80.49 158 P P 09 42 50.3 -1.2
comp=Z,8.9nm,0.8s,baz=355,slow=5.7,SNR=120
ASAR PKKPbc **PKKPbc 10 01 31.8 +0.1**
comp=Z,0.3nm,0.6s,baz=136,slow=1.1,SNR=5.5
ASAR LR LR 10 19 12.6
comp=Z,344nm,22.0s,baz=342,slow=36
TPNV Topopah Spring 80.50 36 ⇑P P 09 42 51.9 +0.1
baz=80
L31A Butterfield Fa 80.50 22 ⇓P P 09 42 50.3 -1.2
baz=80,SNR=7.3
L30A Spencer Herefo 80.52 22 ⇓P P 09 42 50.8 -0.8
baz=80,SNR=13
O22A Kremmling 80.53 28 ⇓P P 09 42 52.3 +0.2
baz=80,SNR=42
N25A Grover 80.57 26 ⇑P P 09 42 52.6 +0.5
baz=80
PKME Peaks-Kenny Pk 80.58 360 PFAKE 09 43 00.0 +8.2
PKME LR LR
comp=Z,668nm,20.0s
SMMC Simmler 80.62 40 ⇑P P 09 42 52.9 +0.6
baz=80,SNR=10.0
DAC Darwin (Calif) 80.63 37 eP P 09 42 53.4 +0.8
DAC pmax pmax
comp=Z,33nm,1.0s
DAC Darwin (Calif) 80.63 37 eP P 09 42 53.4 +0.8
comp=Z,33nm,1.0s
O23A Lake Granby, G 80.66 27 ⇓P P 09 42 53.5 +0.7
baz=80,SNR=16
ARUT Antelope Range 80.67 34 eP P 09 42 53.8 +1.1
ARUT Antelope Range 80.67 34 eP P 09 42 53.8 +1.1
comp=Z,892nm,1.4s
M28A Bar X Bar Ranc 80.68 24 ⇓P P 09 42 52.5 0.0
baz=80,SNR=12
FURC Furnace Creek, 80.72 37 ⇓P P 09 42 53.6 +0.9
baz=80,SNR=9.4
N26A Koester Ranch, 80.77 25 ⇑P P 09 42 53.3 +0.2
baz=80
M29A Burnside Ranch 80.79 23 ⇓P P 09 42 52.6 -0.5
baz=80,SNR=5.1
MPMC Manual Prospec 80.86 37 ⇑P P 09 42 54.5 +0.7
baz=81,SNR=22
ISA Isabella, Lake 80.87 38 ⇑P P 09 42 53.3 -0.4
baz=81,SNR=14
M30A Dale-Ortello V 80.88 22 ⇓P P 09 42 53.0 -0.6
baz=81,SNR=5.3
CCUT Cedar City 80.91 34 eP P 09 42 54.8 +0.7
comp=Z,33nm,1.2s
OGNE Ogallala 80.95 24 ⇓P P 09 42 53.5 -0.5
baz=81,SNR=8.4
OGNE Ogallala 80.95 24 eP P 09 42 54.6 +0.6
comp=Z,190nm,1.4s
OGNE LR LR
comp=Z,632nm,21.0s
N27A Anderson Farm, 80.96 25 ⇓P P 09 42 54.2 +0.1
baz=81,SNR=27
O24A Longmont 80.96 27 ⇓P P 09 42 54.4 +0.2
baz=81,SNR=7.2
P22A Eagle 81.00 28 ⇑P P 09 42 54.7 +0.2
baz=81,SNR=78
PKM Mcpherson Peak 81.06 40 ⇑P P 09 42 55.0 +0.2
baz=81,SNR=7.4
ISCO Idaho Springs 81.12 27 eP P 09 42 55.9 +0.6
ISCO pmax pmax
comp=Z,57nm,1.5s
ISCO MLR MLR
comp=Z,764nm,20.0s
ISCO Idaho Springs 81.12 27 ⇑P P 09 42 55.6 +0.4
baz=81,SNR=28
ISCO Idaho Springs 81.12 27 eP P 09 42 55.9 +0.6
comp=Z,57nm,1.5s
ISCO LR LR
comp=Z,764nm,20.0s
KMBO Kilima Mbogo 81.12 255 eP P 09 42 55.7 +0.3
KMBO pmax pmax
comp=Z,22nm,1.2s
KMBO MLR MLR
comp=Z,603nm,20.0s
KMBO Kilima Mbogo 81.12 255 P P 09 42 55.8 +0.3
SNR=14
KMBO Kilima Mbogo 81.12 255 P P 09 42 55.6 +0.2
comp=Z,14nm,1.0s,baz=21,slow=7.0,SNR=30
KMBO Kilima Mbogo 81.12 255 eP P 09 42 55.7 +0.3
comp=Z,22nm,1.2s
KMBO LR LR
comp=Z,603nm,20.0s
LONY Lake Ozonia 81.14 4 eP P 09 42 54.9 0.0
comp=Z,60nm,1.6s
LONY LR LR
comp=Z,946nm,22.0s
ARVC Arvin 81.22 39 ⇑P P 09 42 55.3 -0.1
baz=81
O25A Wiggins 81.22 26 ⇓P P 09 42 55.6 +0.1
baz=81
M31A Lambtecht Ranc 81.27 22 ⇓P P 09 42 55.6 -0.1
baz=81
SHPR Sheep Range 81.27 36 eP P 09 42 56.8 +0.9
comp=Z,106nm,1.4s
O26A Horse Wrangler 81.30 25 ⇓P P 09 42 55.8 -0.2
baz=81,SNR=13
N28A Pribbeno Ranch 81.31 24 ⇓P P 09 42 55.2 -0.7
baz=81,SNR=22
LRMC Laurel Mtn Rad 81.32 38 ⇓P P 09 42 56.4 +0.3
baz=81,SNR=5.9
JFWS Jewell Farm 81.36 15 eP P 09 42 55.6 -0.4
JFWS pmax pmax
comp=Z,53nm,1.0s
JFWS MLR MLR
comp=Z,499nm,21.0s
JFWS Jewell Farm 81.36 15 eP P 09 42 55.6 -0.4
comp=Z,53nm,1.0s
JFWS LR LR
comp=Z,499nm,21.0s
BGNE Belgrade 81.38 21 ⇓P P 09 42 55.4 -0.8
baz=81,SNR=6.3
BGNE Belgrade 81.38 21 eP P 09 42 56.8 +0.6
comp=Z,93nm,1.0s
N29A Votaw Ranch, W 81.40 23 ⇓P P 09 42 55.9 -0.5
baz=81,SNR=5.2
SHOC Shoshone, Teco 81.43 37 ⇓P P 09 42 57.2 +0.6

baz=81
P23A **Jefferson** 81.46 28 ⇑P P 09 42 57.8 +0.7
baz=81,SNR=22
SBC **Santa Barbara** 81.50 40 ⇑P P 09 42 57.7 +0.8
baz=81
PV04 **Paradox Valley** 81.51 30 eP P 09 42 57.9 +0.7
N30A **Hueftle Ranch,** 81.54 23 ⇓P P 09 42 56.8 -0.3
baz=81
O27A **Beecher Island** 81.56 25 ⇓P P 09 42 57.1 -0.1
baz=81,SNR=10
P24A **Kohler Place,** 81.58 27 ⇑P P 09 42 58.0 +0.5
baz=81,SNR=12
LBNH **Lisbon** 81.58 2 PFAKE 09 43 10.0 +13
LBNH LR LR
comp=Z,718nm,19.0s
EDW2 **Edwards Air Fo** 81.74 38 ⇑P P 09 42 58.7 +0.4
baz=82,SNR=22
N31A **Bailey Ranch,** 81.77 22 ⇓P P 09 42 57.9 -0.4
baz=82
P25A **Willow Gulch B** 81.77 26 ⇓P P 09 42 58.8 +0.3
baz=82,SNR=6.8
GSC **Goldstone, Bar** 81.79 37 eP P 09 42 59.3 +0.7
GSC pmax pmax
comp=Z,36nm,1.0s
GSC **Goldstone, Bar** 81.79 37 ⇑P P 09 42 59.2 +0.6
baz=82,SNR=19
GSC **Goldstone, Bar** 81.79 37 eP P 09 42 59.3 +0.7
comp=Z,36nm,1.0s
O28A **Krutsinger Ran** 81.79 24 ⇓P P 09 42 58.2 -0.2
baz=82,SNR=12
NCB **Newcomb** 81.80 3 PFAKE 09 43 10.0 +12
NCB LR LR
comp=Z,967nm,20.0s
MDV **Middlebury** 81.80 3 eP P 09 42 58.8 +0.5
PV01 **Paradox Valley** 81.85 30 eP P 09 42 59.7 +0.7
comp=Z,7µm,1.2s
SCIA **State Center** 81.85 17 eP P 09 42 59.0 +0.3
SCIA LR LR
comp=Z,18nm,0.6s
comp=Z,669nm,21.0s
Q23A **Hartsel** 81.90 28 ⇓P P 09 42 59.1 -0.3
baz=82
BSC **Santa Cruz Isl** 81.93 40 ⇑P P 09 42 59.2 0.0
baz=82
P26A **Davis Ranch, A** 81.94 26 ⇑P P 09 42 59.3 -0.1
baz=82,SNR=15
N32A **Stulken Farm,** 81.97 22 ⇓P P 09 42 58.7 -0.7
baz=82
TUQ **Turquoise Moun** 81.97 37 ⇓P P 09 43 00.1 +0.5
baz=82,SNR=12
O29A **4D Ranch, Culb** 82.02 24 ⇓P P 09 42 59.3 -0.3
baz=82,SNR=6.3
Q24A **Divide** 82.03 27 ⇑P P 09 42 59.9 -0.1
baz=82,SNR=17
RRX **Edison Barstow** 82.10 38 ⇑P P 09 43 00.7 +0.6
baz=82
P27A **Ficken Ranch,** 82.13 25 ⇓P P 09 43 00.2 -0.2
baz=82,SNR=13
O30A **MW Ranch, Wils** 82.14 23 ⇑P P 09 42 59.4 -0.8
baz=82
DECC **Green Verdugo** 82.18 39 ⇑P P 09 43 00.8 +0.2
baz=82
U15A **North Rim** 82.28 33 ⇓P P 09 43 01.6 +0.2
baz=82,SNR=19
PASC **Pasadena Art C** 82.31 39 eP P 09 43 02.2 +1.0
comp=Z,32nm,1.1s
Q25A **Bedland, Calha** 82.31 26 ⇑P P 09 43 01.3 -0.1
baz=82,SNR=11
P28A **Saint Francis** 82.32 24 ⇑P P 09 43 00.9 -0.4
baz=82
O31A **Woolen Ranch,** 82.33 22 ⇓P P 09 43 00.1 -1.2
baz=82
HEC **Hector,Ludlow** 82.38 37 ⇓P P 09 43 02.4 +0.7
baz=82,SNR=39
ACCN **Adirondack Com** 82.40 3 eP P 09 43 01.8 +0.3
comp=Z,28nm,1.5s
BFSC **Mount Baldy Ra** 82.44 38 ⇓P P 09 43 02.2 +0.2
baz=82,SNR=12
O32A **Brockman Farm,** 82.45 22 ⇑P P 09 43 01.1 -0.8
baz=82
P29A **Atwood** 82.48 24 ⇓P P 09 43 01.6 -0.5
baz=82,SNR=5.6
Q26A **Hugo** 82.49 26 ⇑P P 09 43 02.2 -0.1
baz=82
R23A **Moffat** 82.57 28 ⇓P P 09 43 03.5 +0.6
baz=82
KSCO **Kaye Shedlock'** 82.64 25 ⇑P P 09 43 02.8 -0.2
baz=82,SNR=12
KSCO **Kaye Shedlock'** 82.64 25 eP P 09 43 03.0 0.0
comp=Z,140nm,1.2s
GMRC **Granite Mounta** 82.66 37 ⇓P P 09 43 03.5 +0.3
baz=82,SNR=26
FMP **Fort Macarthur** 82.68 39 ⇑P P 09 43 03.0 -0.1
baz=82
BBRC **Big Bear Solar** 82.68 38 ⇓P P 09 43 03.5 +0.1
baz=82
P30A **Selden** 82.70 23 ⇓P P 09 43 02.4 -0.8
baz=82,SNR=6.0
S22A **4UR Ranch, Cre** 82.71 29 ⇑P P 09 43 03.9 +0.3
baz=82,SNR=71
R24A **Sanders Place,** 82.73 27 ⇑P P 09 43 04.0 +0.4
baz=82,SNR=21
MVCO **Mesa Verde** 82.73 30 ⇓P P 09 43 03.6 0.0
baz=82,SNR=33
MVCO **Mesa Verde** 82.73 30 eP P 09 43 03.6 0.0
comp=Z,85nm,1.4s
MVCO LR LR
comp=Z,551nm,22.0s
Q28A **Sharon Springs** 82.78 25 ⇓P P 09 43 03.1 -0.6
baz=82,SNR=7.9
AAM **Ann Arbor** 82.81 10 PFAKE 09 43 20.0 +16
AAM LR LR
comp=Z,531nm,20.0s
CIS **Catalina Islan** 82.91 39 ⇓P P 09 43 04.2 -0.2
baz=83
P31A **Stockton** 82.92 23 ⇑P P 09 43 03.5 -0.8
baz=83
W13A **Hualapai Mount** 82.98 35 ⇑P P 09 43 05.4 +0.4
baz=83,SNR=33
S23A **Nye Farm, Mont** 82.98 28 ⇑P P 09 43 05.7 +0.7
baz=83,SNR=18
P32A **Huiting Farm,** 83.00 22 ⇑P P 09 43 03.8 -0.9
baz=83,SNR=17
R25A **Fountain Ranch** 83.03 27 ⇓P P 09 43 05.0 0.0
baz=83,SNR=40
NEE2 **Needles Airpor** 83.03 36 ⇑P P 09 43 05.5 +0.6
baz=83
R26A **Arlington** 83.10 26 ⇑P P 09 43 05.4 0.0
baz=83,SNR=45
Q29A **Oakley** 83.15 24 ⇑P P 09 43 05.5 -0.1
baz=83
MURC **Murrieta** 83.18 38 ⇓P P 09 43 06.1 +0.3
baz=83,SNR=8.4
SCI **San Clemente I** 83.24 40 ⇑P P 09 43 04.7 -1.3
baz=83
BELC **Belle Mtn. Jos** 83.25 37 ⇑P P 09 43 06.8 +0.5
baz=83,SNR=9.3
Q30A **Quinter** 83.25 23 ⇑P P 09 43 05.6 -0.5
baz=83,SNR=8.6
S24A **Houchin Ranch,** 83.25 28 ⇑P P 09 43 06.6 +0.1
baz=83,SNR=54
R27A **Eads** 83.28 26 ⇓P P 09 43 06.1 -0.3
baz=83,SNR=15
ERPA **Erie** 83.32 8 PFAKE 09 43 20.0 +14
ERPA LR LR
comp=Z,799nm,19.0s
P33A **Williams Farm,** 83.37 21 ⇓P P 09 43 06.0 -0.7
baz=83,SNR=16
IRM **Iron Mountain** 83.40 36 ⇑P P 09 43 08.0 +1.1
baz=83,SNR=48
Q31A **Ellis** 83.41 23 ⇑P P 09 43 06.2 -0.7
baz=83,SNR=7.7
WUAZ **Wupatki** 83.41 33 ⇑P P 09 43 07.7 +0.6
baz=83,SNR=22
WUAZ **Wupatki** 83.41 33 eP P 09 43 08.4 +1.3
comp=Z,60nm,1.2s
WUAZ LR LR
comp=Z,680nm,21.0s
PFO **Pinyon Flats O** 83.44 38 P P 09 43 07.9 +0.7
comp=Z,200nm,1.0s,SNR=12
PFO **Pinyon Flats O** 83.44 38 P P 09 43 07.8 +0.6
PFO pmax pmax
comp=Z,29nm,1.0s
PFO **Pinyon Flats O** 83.44 38 P P 09 43 07.8 +0.6
comp=Z,29nm,1.0s,baz=345,slow=5.1,SNR=30
PFO **Pinyon Flats O** 83.44 38 ⇓P P 09 43 07.7 +0.4
baz=83,SNR=17
PFO **Pinyon Flats O** 83.44 38 eP P 09 43 07.2 0.0
comp=Z,48nm,1.1s
PFO LR LR
comp=Z,703nm,19.0s
S25A **Robets Cordova** 83.44 27 ⇑P P 09 43 06.4 -0.8
baz=83,SNR=70
R28A **Tribune** 83.47 25 ⇓P P 09 43 06.9 -0.4
baz=83,SNR=9.3
BINY **Binghamton** 83.49 5 eP P 09 43 07.3 +0.1
comp=Z,14nm,0.8s
BINY LR LR
comp=Z,1µm,20.0s
R29A **Marienthal** 83.56 24 ⇑P P 09 43 07.2 -0.5
baz=83
T23A **Casias Ranch,** 83.60 28 ⇑P P 09 43 08.5 +0.3
baz=83,SNR=103
Q32A **Meitler Ranch,** 83.61 22 ⇓P P 09 43 06.8 -1.0
baz=83,SNR=31
PDMCI **Parker Dam,Lak** 83.62 36 ⇓P P 09 43 08.4 +0.5
baz=83,SNR=9.5
S26A **Kim** 83.73 26 ⇓P P 09 43 08.3 -0.4
baz=84,SNR=41
BC3 **Big Chuckawall** 83.75 37 ⇑P P 09 43 09.3 +0.5
baz=84,SNR=12
T24B **San Luis** 83.75 28 ⇓P P 09 43 09.5 +0.5
baz=84,SNR=66
Q33A **Connelly Farm,** 83.76 22 ⇑P P 09 43 08.0 -0.7
baz=84,SNR=17
S27A **Las Animas** 83.82 26 ⇑P P 09 43 08.7 -0.4
baz=84
109C **Camp Elliot, M** 83.85 39 ⇓P P 09 43 09.3 +0.1
baz=84
R30A **Dighton** 83.89 24 ⇓P P 09 43 08.8 -0.6
baz=84,SNR=24
KSU1 **Kansas State U** 83.92 21 ⇑P P 09 43 09.0 -0.4
baz=84
KSU1 **Kansas State U** 83.92 21 eP P 09 43 09.6 +0.2
comp=Z,36nm,0.9s
KSU1 LR LR
comp=Z,775nm,19.0s
T25A **Trinidad** 83.94 27 ⇓P P 09 43 09.5 -0.4
baz=84,SNR=48
U22A **Llaves** 83.98 29 P P 09 43 11.1 +1.0
baz=84
Y12C **Blythe** 83.98 36 ⇑P P 09 43 10.5 +0.6
baz=84,SNR=15
R31A **Burdett** 84.06 23 ⇓P P 09 43 09.6 -0.7
baz=84,SNR=8.7
MONP **Monument Peak,** 84.10 38 ⇓P P 09 43 11.2 +0.5
baz=84,SNR=11
R32A **Long Quarter,** 84.12 22 ⇓P P 09 43 09.8 -0.7
baz=84,SNR=35
T26A **Comanche Natio** 84.12 27 ⇓P P 09 43 10.4 -0.4
baz=84,SNR=38
S28A **Manter** 84.16 25 ⇓P P 09 43 10.5 -0.4
baz=84,SNR=11
U23A **El Rito** 84.22 29 ⇑P P 09 43 11.5 +0.2
baz=84,SNR=88
SWSC **Sam W. Stewart** 84.28 37 ⇑P P 09 43 12.2 +0.9
baz=84
SFIN **Lafayette** 84.29 13 ⇑P P 09 43 10.3 -1.0
baz=84,SNR=12
SFIN **Lafayette** 84.29 13 eP P 09 43 10.8 -0.5
comp=Z,102nm,1.4s
W18A **Petrified Fore** 84.30 32 ⇑P P 09 43 12.5 +0.8
baz=84,SNR=12
W18A **Petrified Fore** 84.30 32 eP P 09 43 13.0 +1.4
comp=Z,92nm,1.5s
S29A **Ulysses** 84.33 25 ⇑P P 09 43 11.2 -0.5
baz=84,SNR=6.4
Y14A **Wickenburg** 84.33 35 ⇓P P 09 43 12.4 +0.8
baz=84,SNR=20
R33A **Olander Ranch,** 84.39 22 ⇓P P 09 43 11.3 -0.5
baz=84,SNR=21
U24A **Moreno Valley** 84.39 28 ⇓P P 09 43 13.0 +0.8
baz=84,SNR=35
V22A **San Miguel Ran** 84.40 30 ⇓P P 09 43 12.8 +0.6
baz=84,SNR=57
X16A **Lo Mia Camp, P** 84.40 34 ⇑P P 09 43 13.1 +0.8
baz=84,SNR=40
T27A **Campo** 84.46 26 ⇑P P 09 43 12.1 -0.3
baz=84,SNR=16
S30A **Montezuma** 84.46 24 ⇑P P 09 43 11.6 -0.7
baz=84
GLA **Glamis** 84.51 37 eP P 09 43 14.1 +1.5
GLA pmax pmax
comp=Z,76nm,1.1s
GLA **Glamis** 84.51 37 ⇓P P 09 43 13.5 +0.9
baz=84,SNR=12
GLA **Glamis** 84.51 37 eP P 09 43 14.1 +1.5
comp=Z,76nm,1.1s
T28A **Walsh** 84.55 25 ⇑P P 09 43 12.3 -0.5
baz=84,SNR=21
U25A **Circle Dot Ran** 84.64 27 ⇑P P 09 43 13.5 +0.1
baz=84,SNR=45
S31A **Mullinville** 84.71 23 ⇓P P 09 43 13.0 -0.6
baz=84
T29A **Hugoton** 84.72 25 ⇓P P 09 43 13.7 0.0
baz=84,SNR=9.3
S32A **Newby Ranch, P** 84.76 23 ⇓P P 09 43 13.4 -0.4
baz=84,SNR=17
V23A **Ortiz Mt. (NFS** 84.76 29 ⇓P P 09 43 15.1 +1.0
baz=84,SNR=36
X18A **Snowflake** 84.77 32 ⇓P P 09 43 14.8 +0.7
baz=84,SNR=28
U26A **Atchley Ranch,** 84.82 27 ⇑P P 09 43 14.3 0.0
baz=85,SNR=44
Z14A **Wintersburg** 84.88 35 ⇑P P 09 43 15.1 +0.7
baz=85,SNR=7.3
ACSO **Alum Creek Sta** 84.92 10 eP P 09 43 13.4 -1.1
comp=Z,28nm,0.8s
ACSO LR LR
comp=Z,551nm,22.0s
T30A **Plains** 85.01 24 ⇑P P 09 43 15.2 +0.2
baz=85
U27A **Thompson Grove** 85.03 26 ⇓P P 09 43 15.3 0.0
baz=85,SNR=46
V24A **Rampart Ranch,** 85.04 28 ⇑P P 09 43 16.1 +0.6
baz=85,SNR=25
S33A **Kaszmaul Farm,** 85.07 22 ⇑P P 09 43 15.2 -0.2
baz=85
V25A **Rancho No Teng** 85.11 28 ⇑P P 09 43 16.1 +0.3
baz=85,SNR=33
113A **Mohawk Valley,** 85.14 36 ⇑P P 09 43 16.2 +0.5
baz=85,SNR=32
T31A **Randall Ranch,** 85.17 24 ⇓P P 09 43 15.7 -0.2
baz=85,SNR=7.4
U28A **Mallet** 85.23 26 ⇓P P 09 43 16.0 -0.2
baz=85,SNR=26
T32A **Huddler Ranch,** 85.26 23 ⇑P P 09 43 16.1 -0.2
baz=85,SNR=12
V26A **Tequesquite Ra** 85.37 27 ⇓P P 09 43 16.9 -0.1
baz=85,SNR=57
U29A **Oasis Ranch, S** 85.40 25 ⇓P P 09 43 16.8 -0.2
baz=85
ANMO **Albuquerque** 85.43 30 P P 09 43 18.3 +0.9
ANMO pmax pmax
comp=Z,39nm,1.0s
ANMO **Albuquerque** 85.43 30 P P 09 43 18.3 +0.9
comp=Z,39nm,1.0s,baz=341,slow=5.4,SNR=130
ANMO **Albuquerque** 85.43 30 P P 09 43 18.3 +0.9
ANMO LR LR
comp=Z,452nm,20.0s
S36A **Lake Cedric, C** 85.45 20 P P 09 43 16.4 -0.8
baz=85
U30A **WK&E Inc. Balk** 85.47 25 ⇓P P 09 43 17.7 +0.3
baz=85,SNR=20
W24A **Lazy 6 Ranch,** 85.48 29 ⇑P P 09 43 18.1 +0.4
baz=85,SNR=28
T33A **Patterson Ranc** 85.51 23 ⇑P P 09 43 17.7 +0.2
baz=85,SNR=31
V27A **Dan Oppiter Fa** 85.66 26 ⇓P P 09 43 18.3 -0.1
baz=85
W25A **X Bar L Ranch,** 85.74 28 ⇓P P 09 43 19.2 +0.3
baz=86,SNR=28
LAZ **Ladron** 85.74 30 eP P 09 43 19.6 +0.6
comp=Z,45nm,1.3s
U31A **Nine Bar Ranch** 85.82 24 ⇑P P 09 43 19.8 +0.7
baz=86,SNR=15
V28A **Channing** 85.82 26 ⇓P P 09 43 19.1 -0.1
baz=86,SNR=12
V29A **Stinnett** 85.89 25 ⇓P P 09 43 19.4 -0.1
baz=86
LPM **Los Pinos Moun** 85.97 30 eP P 09 43 21.1 +1.0
comp=Z,76nm,1.5s
U32A **Winter Ranch,** 86.01 23 ⇑P P 09 43 20.7 +0.7
baz=86,SNR=23
LENM **Lemitar** 86.01 30 eP P 09 43 21.8 +1.5
comp=Z,53nm,1.4s
W26A **Owens Ranch, T** 86.05 27 ⇑P P 09 43 20.8 +0.5
baz=86,SNR=7.9
Y22D **IRIS PASSCAL I** 86.11 30 ⇑P P 09 43 21.6 +0.9
baz=86
U33A **Lingo Farm, Me** 86.16 23 ⇑P P 09 43 21.0 +0.2
baz=86,SNR=6.5
V30A **Spur Ranch, Mi** 86.20 25 ⇓P P 09 43 21.6 +0.5
baz=86,SNR=13
214A **Organ Pipe Nat** 86.21 36 ⇓P P 09 43 21.8 +0.6
baz=86,SNR=17
214A **Organ Pipe Nat** 86.21 36 eP P 09 43 21.7 +0.6
comp=Z,38nm,1.1s
U34A **Anderson Ranch** 86.28 22 ⇓P P 09 43 21.8 +0.5
baz=86
U34A **Anderson Ranch** 86.28 22 eP P 09 43 22.0 +0.7
comp=Z,42nm,1.1s
W28A **Vega** 86.30 26 ⇓P P 09 43 21.9 +0.4
baz=86,SNR=7.3
X25A **Clemmons Ranch** 86.33 28 ⇑P P 09 43 22.4 +0.6
baz=86,SNR=17
FORT **Forrest** 86.34 165 eP P 09 43 20.2 -1.1
comp=Z,23nm,0.8s
V31A **Spring Creek L** 86.39 24 ⇑P P 09 43 23.0 +1.1
baz=86,SNR=15
WCI **Wyandotte Cave** 86.51 13 eP P 09 43 21.8 -0.7
WCI pmax pmax
comp=Z,24nm,0.8s
WCI **Wyandotte Cave** 86.51 13 eP P 09 43 21.8 -0.7
comp=Z,24nm,0.8s
X26A **CR and CF Fran** 86.54 28 ⇑P P 09 43 23.3 +0.5
baz=86,SNR=11
TUC **Tucson** 86.55 34 eP P 09 43 24.1 +1.2
TUC pmax pmax
comp=Z,51nm,1.9s
TUC MLR MLR
comp=Z,703nm,20.0s
TUC **Tucson** 86.55 34 eP P 09 43 24.1 +1.2
comp=Z,51nm,1.9s
TUC LR LR
comp=Z,703nm,20.0s
W29A **Amarillo** 86.57 26 ⇓P P 09 43 23.0 +0.1
baz=86,SNR=21
USIN **University of** 86.59 14 eP P 09 43 22.8 +0.1
comp=Z,11nm,0.5s
SIUC **Southern Illin** 86.60 15 eP P 09 43 23.5 +0.7
comp=Z,50nm,0.8s
V32A **Arapaho** 86.63 24 ⇑P P 09 43 23.8 +0.7
baz=86
Y24A **Capitan** 86.68 29 ⇓P P 09 43 23.7 +0.2
baz=86,SNR=24
V33A **Lossen Ranch,** 86.71 23 ⇓P P 09 43 23.7 +0.2
baz=86,SNR=12
W30A **Crocket Farms** 86.78 25 ⇑P P 09 43 24.8 +0.9
baz=86,SNR=13
AMTX **Amarillo** 86.78 26 ⇑P P 09 43 24.6 +0.6
baz=86
AMTX **Amarillo** 86.78 26 eP P 09 43 24.5 +0.6
comp=Z,51nm,0.9s
Z22A **Elephant Butte** 86.86 31 ⇑P P 09 43 25.2 +0.7
baz=87,SNR=28
V34A **Guthrie** 86.87 22 ⇑P P 09 43 24.7 +0.5
baz=87,SNR=10
V34A **Guthrie** 86.87 22 eP P 09 43 25.0 +0.8
comp=Z,180nm,1.5s
W31A **Holland Ranch,** 86.93 24 ⇑P P 09 43 25.3 +0.7
baz=87,SNR=21
X28A **Dimmitt** 87.00 26 ⇓P P 09 43 25.3 +0.3
baz=87,SNR=20
V35A **Meyer Ranch, C** 87.08 22 ⇓P P 09 43 25.3 0.0
baz=87,SNR=11
W32A **Sentinel** 87.15 24 ⇑P P 09 43 26.1 +0.5
baz=87,SNR=22
TUL1 **Leonard** 87.16 21 ⇓P P 09 43 25.8 +0.1
baz=87,SNR=15
TUL1 **Leonard** 87.16 21 eP P 09 43 25.7 0.0
comp=Z,94nm,1.4s
X29A **Tulia** 87.19 26 ⇓P P 09 43 26.1 +0.2
baz=87,SNR=12
121A **Cookes Peak, D** 87.29 31 ⇓P P 09 43 27.4 +0.8
baz=87,SNR=21
121A **Cookes Peak, D** 87.29 31 eP P 09 43 27.6 +1.1
comp=Z,39nm,1.0s
W33A **Caddo, Fort Co** 87.31 23 ⇓P P 09 43 27.0 +0.6
baz=87,SNR=9.9
MSTX **Muleshoe** 87.37 27 ⇑P P 09 43 26.8 +0.1
baz=87,SNR=20
MSTX **Muleshoe** 87.37 27 eP P 09 43 26.9 +0.1
comp=Z,37nm,0.8s
W34A **Bridge Creek,** 87.38 23 ⇑P P 09 43 27.2 +0.5
baz=87,SNR=9.7
W34A **Bridge Creek,** 87.38 23 eP P 09 43 27.8 +1.0
comp=Z,72nm,1.1s
X30A **Coker Ranch, T** 87.40 25 ⇓P P 09 43 26.7 -0.2
baz=87,SNR=10
X31A **McDonald Ranch** 87.45 25 ⇓P P 09 43 28.1 +1.0
baz=87,SNR=31
Y28A **McKinney Farm,** 87.56 27 ⇑P P 09 43 28.2 +0.4
baz=87,SNR=55
WMOK **Wichita Mounta** 87.63 24 eP P 09 43 28.1 +0.1
WMOK pmax pmax
comp=Z,98nm,1.1s
WMOK MLR MLR
comp=Z,749nm,20.0s
WMOK **Wichita Mounta** 87.63 24 eP P 09 43 28.1 +0.1
comp=Z,98nm,1.1s
WMOK LR LR
comp=Z,749nm,20.0s
Y29A **Porterfield Fa** 87.76 26 ⇓P P 09 43 29.2 +0.5
baz=88,SNR=26
X32A **Elmer** 87.81 24 ⇓P P 09 43 29.2 +0.4
baz=88,SNR=10.0
X33A **Lawton** 87.88 23 ⇓P P 09 43 29.5 +0.4
baz=88,SNR=19
319A **Douglas** 87.90 33 ⇓P P 09 43 30.0 +0.6
baz=88,SNR=14
Y30A **Stafford Cattl** 87.94 26 ⇓P P 09 43 29.6 +0.1
baz=88
X34A **Smith Ranch, M** 87.98 23 ⇑P P 09 43 30.1 +0.5
baz=88,SNR=16
Y31A **Rekieta Farm,** 88.02 25 ⇑P P 09 43 30.1 +0.2
baz=88,SNR=16
Z28A **Tucker Farm, M** 88.11 27 ⇓P P 09 43 30.8 +0.4
baz=88,SNR=7.3
BLA **Blacksburg** 88.16 9 PFAKE 09 43 40.0 +10
BLA LR LR
comp=Z,683nm,20.0s
Y32A **R-V Farms, Ver** 88.17 24 ⇓P P 09 43 31.2 +0.6
baz=88,SNR=18
Z29A **Hungry Hill Ra** 88.32 26 ⇑P P 09 43 31.9 +0.6
baz=88,SNR=21
WVT **Waverly** 88.36 15 eP P 09 43 31.1 -0.3
WVT pmax pmax
comp=Z,16nm,0.7s
WVT **Waverly** 88.36 15 eP P 09 43 31.1 -0.3
comp=Z,16nm,0.7s
Y33A **Hilltop Ranch,** 88.36 24 ⇓P P 09 43 31.8 +0.4
baz=88,SNR=7.1
Z30A **Sanderson Ranc** 88.44 26 ⇓P P 09 43 32.1 +0.2
baz=88,SNR=35
Y34A **Reagan Ranch,** 88.61 23 ⇑P P 09 43 33.0 +0.4
baz=88,SNR=20
Z31A **Sharp Cattle R** 88.66 25 ⇑P P 09 43 32.7 -0.1
baz=88,SNR=30
128A **Castleberry Fa** 88.72 27 ⇓P P 09 43 33.2 -0.1
baz=88,SNR=23
Z32A **Haskell** 88.83 25 ⇓P P 09 43 33.7 0.0
baz=89,SNR=24
129A **Stewart Farms,** 88.87 27 ⇓P P 09 43 34.0 +0.1
baz=89,SNR=9.3
MIAR **Mount Ida** 88.93 19 eP P 09 43 34.6 +0.5
MIAR pmax pmax
comp=Z,75nm,1.8s
MIAR MLR MLR
comp=Z,678nm,20.0s
MIAR **Mount Ida** 88.93 19 eP P 09 43 34.6 +0.5
comp=Z,75nm,1.8s
MIAR LR LR
comp=Z,678nm,20.0s
Z33A **Whitaker Ranch** 89.02 24 ⇑P P 09 43 34.7 +0.1
baz=89,SNR=14
130A **Snyder** 89.14 26 ⇑P P 09 43 35.0 -0.2
baz=89
Z34A **Collier Ranch,** 89.14 23 ⇑P P 09 43 35.2 +0.1
baz=89,SNR=6.2
228A **UT Block 9, Go** 89.17 27 ⇓P P 09 43 35.3 -0.1
baz=89
131A **Roby** 89.21 25 ⇑P P 09 43 36.1 +0.6
baz=89,SNR=18

Z35A	**Perchaven, San**	**89.33**	**23**	⇑P	**P**	**09 43 35.9**	**-0.1**
	baz=89,SNR=12						
TKL	**Tuckaleechee C**	**89.36**	**11**	P	**P**	**09 43 35.8**	**-0.3**
TKL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TKL	**Tuckaleechee C**	**89.36**	**11**	P	**P**	**09 43 35.8**	**-0.3**
	comp=Z,6.5nm,0.9s,baz=69,slow=3.2,SNR=6.7						
ABTX	**Abilene, Hawle**	**89.44**	**25**	⇑P	**P**	**09 43 36.7**	**+0.1**
	baz=89,SNR=13						
ABTX	**Abilene, Hawle**	**89.44**	**25**	*e*P	**P**	**09 43 37.0**	**+0.4**
	comp=Z,81nm,1.2s						
229A	**Bryant Ranch,**	**89.52**	**27**	⇓P	**P**	**09 43 37.4**	**+0.5**
	baz=89,SNR=11						
133A	**Hamilton Ranch**	**89.64**	**24**	⇓P	**P**	**09 43 37.8**	**+0.4**
	baz=89,SNR=22						
OXF	**Oxford**	**89.71**	**16**	*e*P	**P**	**09 43 37.7**	**0.0**
OXF				pmax	pmax		
	comp=Z,35nm,1.1s						
OXF	**Oxford**	**89.71**	**16**	*e*P	**P**	**09 43 37.7**	**0.0**
	comp=Z,35nm,1.1s						
230A	**Sterling City**	**89.77**	**26**	⇓P	**P**	**09 43 38.4**	**+0.2**
	baz=90,SNR=22						
BBOO	**Buckleboo**	**89.79**	**159**	*e*P	**P**	**09 43 36.7**	**-1.1**
	comp=Z,779nm,1.5s						
TORD	**Torodi Ar. Bea**	**89.84**	**293**	P	**P**	**09 43 37.4**	**-1.2**
	comp=Z,11nm,0.8s,baz=34,slow=4.3,SNR=67						
TORD				PKKPbc	**PKKPbc**	**10 01 09.3**	**+1.4**
	comp=Z,1.6nm,0.9s,baz=233,slow=1.6,SNR=7.1						
TORD				LR	LR	10 30 25.4	
	comp=Z,799nm,18.2s,baz=355,slow=40						
134A	**White-Moore Ra**	**89.87**	**24**	⇑P	**P**	**09 43 38.9**	**+0.4**
	baz=90,SNR=19						
329A	**Wagon Wheel Ra**	**89.93**	**27**	⇑P	**P**	**09 43 39.2**	**+0.3**
	baz=90,SNR=19						
231A	**Bronte**	**89.93**	**26**	⇓P	**P**	**09 43 39.0**	**+0.1**
	baz=90,SNR=12						
135A	**Vickery Place,**	**90.04**	**23**	⇑P	**P**	**09 43 39.7**	**+0.4**
	baz=90,SNR=11						
KMSC	**Kings Mountain**	**90.13**	**9**	⇑P	**P**	**09 43 39.1**	**-0.5**
	baz=90						
KMSC	**Kings Mountain**	**90.13**	**9**	*e*P	**P**	**09 43 39.9**	**+0.2**
	comp=Z,46nm,1.5s						
232A	**Coleman**	**90.14**	**25**	⇓P	**P**	**09 43 40.1**	**+0.2**
	baz=90,SNR=11						
233A	**Rising Star**	**90.20**	**24**	⇓P	**P**	**09 43 40.6**	**+0.5**
	baz=90,SNR=32						
330A	**Mertzon**	**90.22**	**26**	⇓P	**P**	**09 43 40.2**	**0.0**
	baz=90,SNR=37						
CNNC	**Cliffs of the**	**90.31**	**7**	PFAKE		09 43 50.0	+9.5
CNNC				LR	LR		
	comp=Z,971nm,20.0s						
137A	**Heron Place, G**	**90.37**	**22**	⇓P	**P**	**09 43 41.5**	**+0.6**
	baz=90						
234A	**Clairette**	**90.40**	**24**	⇓P	**P**	**09 43 41.1**	**+0.1**
	baz=90,SNR=31						
138A	**Matatall Enter**	**90.45**	**21**	⇑P	**P**	**09 43 41.6**	**+0.4**
	baz=90,SNR=9.1						
331A	**San Angelo**	**90.50**	**26**	⇓P	**P**	**09 43 41.5**	**0.0**
	baz=90,SNR=13						
WHTX	**Lake Whitney,**	**90.57**	**23**	⇓P	**P**	**09 43 42.2**	**+0.4**
	baz=90,SNR=5.0						
WHTX	**Lake Whitney,**	**90.57**	**23**	*e*P	**P**	**09 43 42.5**	**+0.7**
	comp=Z,23nm,1.0s						
332A	**Millersview**	**90.60**	**25**	⇑P	**P**	**09 43 42.4**	**+0.4**
	baz=90,SNR=20						
ABPO	**Ambohimpanom**	**90.76**	**238**	PFAKE		09 43 50.0	+7.2
ABPO				LR	LR		
	comp=Z,298nm,19.0s						
429A	**Davenport Ranc**	**90.77**	**27**	⇓P	**P**	**09 43 42.4**	**-0.4**
	baz=90,SNR=13						
430A	**Baggett Ranch,**	**90.79**	**27**	⇓P	**P**	**09 43 42.6**	**-0.3**
	baz=90,SNR=13						
333A	**Richland Sprin**	**90.84**	**25**	⇓P	**P**	**09 43 43.4**	**+0.2**
	baz=91,SNR=21						
237A	**Washetta, Mont**	**90.93**	**22**	⇓P	**P**	**09 43 44.3**	**+0.9**
	baz=91,SNR=8.2						
334A	**Lometa**	**91.02**	**24**	⇑P	**P**	**09 43 44.3**	**+0.4**
	baz=91,SNR=11						
431A	**Sonora**	**91.05**	**26**	⇑P	**P**	**09 43 44.3**	**+0.2**
	baz=91,SNR=13						
432A	**Menard**	**91.07**	**26**	⇓P	**P**	**09 43 44.4**	**+0.2**
	baz=91,SNR=46						
238A	**Jacksonville**	**91.08**	**21**	⇓P	**P**	**09 43 45.1**	**+1.0**
	baz=91						
529A	**Stev Forest Ra**	**91.15**	**28**	⇓P	**P**	**09 43 44.6**	**0.0**
	baz=91,SNR=42						
239A	**Gary**	**91.20**	**21**	⇑P	**P**	**09 43 45.4**	**+0.8**
	baz=91						
335A	**Moody**	**91.26**	**23**	⇑P	**P**	**09 43 45.4**	**+0.4**
	baz=91						
336A	**Riesel**	**91.29**	**23**	⇓P	**P**	**09 43 45.2**	**0.0**
	baz=91,SNR=9.7						
433A	**Art**	**91.36**	**25**	⇓P	**P**	**09 43 45.8**	**+0.2**
	baz=91,SNR=9.3						
530A	**J-C Ranch, Com**	**91.37**	**27**	⇓P	**P**	**09 43 45.8**	**+0.2**
	baz=91,SNR=30						
JCT	**Junction City**	**91.45**	**26**	*e*P	**P**	**09 43 46.5**	**+0.6**
JCT				pmax	pmax		
	comp=Z,51nm,1.3s						
JCT				MLR	MLR		
	comp=Z,572nm,20.0s						
JCT	**Junction City**	**91.45**	**26**	⇓P	**P**	**09 43 46.3**	**+0.4**
	baz=91,SNR=15						
JCT	**Junction City**	**91.45**	**26**	*e*P	**P**	**09 43 46.5**	**+0.6**
	comp=Z,52nm,1.3s						
JCT				LR	LR		
	comp=Z,572nm,20.0s						
TXAR	**Lajitas Array**	**91.50**	**29**	P	**P**	**09 43 47.0**	**+0.8**
	comp=Z,7.3nm,0.9s,baz=318,slow=2.0,SNR=42						
TXAR				PKKPbc	**PKKPbc**	**10 01 05.9**	**+2.0**
	comp=Z,0.6nm,0.9s,baz=160,slow=2.9,SNR=5.6						
TXAR				LR	LR	10 30 20.7	
	comp=Z,541nm,18.1s,baz=0.0,slow=39						
434A	**Burnet**	**91.51**	**24**	⇑P	**P**	**09 43 46.2**	**0.0**
	baz=91,SNR=7.0						
LRAL	**Lakeview Retre**	**91.52**	**14**	*e*P	**P**	**09 43 46.0**	**-0.2**
	comp=Z,19nm,1.3s						
531A	**Rocksprings**	**91.56**	**26**	⇓P	**P**	**09 43 46.3**	**-0.2**
	baz=91,SNR=20						
GOGA	**Godfrey**	**91.61**	**11**	*e*P	**P**	**09 43 46.8**	**+0.2**
GOGA				pmax	pmax		
	comp=Z,45nm,1.4s						
GOGA				MLR	MLR		
	comp=Z,839nm,20.0s						
GOGA	**Godfrey**	**91.61**	**11**	*e*P	**P**	**09 43 46.8**	**+0.2**
	comp=Z,45nm,1.4s						
GOGA				LR	LR		
	comp=Z,839nm,20.0s						
338A	**Crockett**	**91.66**	**22**	⇓P	**P**	**09 43 47.8**	**+1.0**
	baz=91						
435B	**Jarrell**	**91.70**	**24**	⇑P	**P**	**09 43 47.6**	**+0.5**
	baz=91						
532A	**Rocksprings**	**91.76**	**26**	⇓P	**P**	**09 43 47.4**	**0.0**
	baz=92,SNR=43						
339A	**Huntington**	**91.84**	**21**	⇑P	**P**	**09 43 48.2**	**+0.5**
	baz=92						
436A	**Wall Ranch, Ga**	**91.89**	**23**	⇓P	**P**	**09 43 48.8**	**+0.9**
	baz=92						
340A	**Bronson**	**91.90**	**20**	⇑P	**P**	**09 43 48.4**	**+0.5**
	baz=92						
437A	**Phantom Ranch,**	**91.98**	**23**	⇓P	**P**	**09 43 49.2**	**+0.9**
	baz=92						
533A	**Kerrville**	**92.03**	**25**	⇓P	**P**	**09 43 48.6**	**0.0**
	baz=92,SNR=5.5						
438A	**Sam Houston St**	**92.21**	**22**	⇓P	**P**	**09 43 49.5**	**+0.2**
	baz=92						
534A	**Blanco**	**92.21**	**25**	⇓P	**P**	**09 43 49.4**	**0.0**
	baz=92,SNR=16						
NHSC	**New Hope**	**92.25**	**9**	PFAKE		09 44 00.0	+10
NHSC				LR	LR		
	comp=Z,963nm,19.0s						
631A	**Perdido Creek**	**92.27**	**27**	⇑P	**P**	**09 43 49.7**	**0.0**
	baz=92,SNR=26						
632A	**Uvalde**	**92.38**	**26**	⇑P	**P**	**09 43 50.2**	**0.0**
	baz=92						
535A	**Dale**	**92.42**	**24**	⇑P	**P**	**09 43 50.7**	**+0.3**
	baz=92,SNR=5.3						
536A	**Bastrop**	**92.50**	**23**	⇓P	**P**	**09 43 51.0**	**+0.3**
	baz=92						
633A	**Saathoff Ranch**	**92.58**	**25**	⇑P	**P**	**09 43 51.2**	**0.0**
	baz=92,SNR=19						
537A	**Green Hill Far**	**92.67**	**23**	⇑P	**P**	**09 43 52.9**	**+1.4**
	baz=92						
HKT	**Hockley**	**92.90**	**22**	*e*P	**P**	**09 43 53.3**	**+0.8**
HKT				pmax	pmax		
	comp=Z,42nm,1.6s						
HKT	**Hockley**	**92.90**	**22**	*e*P	**P**	**09 43 53.3**	**+0.8**
	comp=Z,42nm,1.6s						
635A	**Leesville**	**92.99**	**24**	⇑P	**P**	**09 43 53.2**	**+0.2**
	baz=93						
636A	**Smothers Creek**	**93.07**	**24**	⇑P	**P**	**09 43 54.3**	**+0.9**
	baz=93,SNR=5.5						
732A	**Laxson Ranch,**	**93.07**	**26**	⇑P	**P**	**09 43 53.6**	**+0.2**
	baz=93						
733A	**Divot King Ran**	**93.26**	**26**	⇑P	**P**	**09 43 54.5**	**+0.3**
	baz=93,SNR=5.6						
734A	**La Parita Cree**	**93.32**	**25**	⇓P	**P**	**09 43 54.9**	**+0.4**
	baz=93						
735A	**Kenedy**	**93.49**	**24**	⇓P	**P**	**09 43 56.2**	**+0.9**
	baz=93,SNR=7.1						
832A	**Faith Ranch, C**	**93.50**	**26**	⇑P	**P**	**09 43 55.8**	**+0.4**
	baz=93,SNR=12						
BRAL	**Brewton**	**93.50**	**15**	PFAKE		09 44 10.0	+15
BRAL				LR	LR		
	comp=Z,1μm,21.0s						
833A	**Chaparral WMA,**	**93.61**	**26**	⇑P	**P**	**09 43 56.4**	**+0.5**
	baz=93,SNR=6.4						
835A	**Beeville**	**94.03**	**25**	⇑P	**P**	**09 43 59.1**	**+1.3**
	baz=94,SNR=5.0						
933A	**Laredo**	**94.32**	**26**	⇓P	**P**	**09 43 59.8**	**+0.6**
	baz=94						
934A	**Benavides**	**94.52**	**25**	⇑P	**P**	**09 44 01.6**	**+1.5**
	baz=94,SNR=5.2						
034A	**Hebbronville**	**94.99**	**26**	⇑P	**P**	**09 44 03.2**	**+1.0**
	baz=95						
CAN	**Canberra**	**95.50**	**149**	PFAKE		09 44 20.0	+16
CAN				LR	LR		
	comp=Z,360nm,20.0s						
LSZ	**Lusaka**	**97.78**	**255**	PFAKE		09 44 30.0	+15
LSZ				LR	LR		
	comp=Z,708nm,19.0s						
DBIC	**Dimbokro**	**98.75**	**295**	LR	LR	10 34 52.7	
	comp=Z,553nm,19.9s,baz=9.0,slow=39						
SACV	**Santiago Islan**	**100.48**	**315**	PFAKE		09 44 40.0	+13
SACV				LR	LR		
	comp=Z,599nm,19.0s						
TEIG	**Tepich**	**103.86**	**18**	PFAKE		09 44 50.0	+7.9
TEIG				LR	LR		
	comp=Z,6μm,20.0s						
GRTK	**Grand Turk**	**104.26**	**1**	PFAKE		09 45 00.0	+16
GRTK				LR	LR		
	comp=Z,418nm,19.0s						
GTBY	**Guantanamo Bay**	**105.70**	**5**	PFAKE		09 49 10.0	
GTBY				LR	LR		
	comp=Z,502nm,22.0s						
SDDR	**Presa de Saban**	**106.77**	**2**	PFAKE		09 49 20.0	
SDDR				LR	LR		
	comp=Z,433nm,19.0s						
TSUM	**Tsumeb**	**106.95**	**261**	PFAKE		09 49 20.0	
TSUM				LR	LR		
	comp=Z,514nm,20.0s						
MTDJ	**Mount Denham**	**107.23**	**8**	PFAKE		09 49 20.0	
MTDJ				LR	LR		
	comp=Z,406nm,19.0s						
SJG	**San Juan**	**107.59**	**356**	PFAKE		09 49 20.0	
SJG				LR	LR		
	comp=Z,475nm,20.0s						
PPT2	**Papeete2**	**110.00**	**92**	*e*LR	LR	10 21 45.4	
	comp=Z,690nm,25.8s						
FDF	**Fort de France**	**110.62**	**351**	PFAKE		09 49 20.0	
FDF				LR	LR		
	comp=Z,347nm,20.0s						
GRGR	**Grenville**	**113.24**	**351**	PFAKE		09 49 30.0	
GRGR				LR	LR		
	comp=Z,369nm,22.0s						
JTS	**JuntasAbangare**	**114.16**	**16**	PFAKE		09 49 30.0	+11
JTS				LR	LR		
	comp=Z,253nm,20.0s						
TBI	**Tubuai**	**114.56**	**96**	*e*LR	LR	10 23 50.5	
	comp=Z,592nm,24.0s						
SUR	**Sutherland**	**115.37**	**249**	PFAKE		09 49 30.0	+8.9
SUR				LR	LR		
	comp=Z,621nm,22.0s						
BCIP	**Isla Barro Col**	**115.97**	**11**	PFAKE		09 49 30.0	+7.3
BCIP				LR	LR		
	comp=Z,436nm,21.0s						
ASCN	**Ascension**	**116.07**	**295**	PFAKE		09 49 30.0	+7.2
ASCN				LR	LR		
	comp=Z,577nm,19.0s						
SDV	**Santo Domingo**	**116.82**	**1**	PFAKE		09 49 40.0	+15
SDV				LR	LR		
	comp=Z,468nm,19.0s						
CASY	**Casey**	**120.49**	**180**	PFAKE		09 49 40.0	+10
CASY				LR	LR		
	comp=Z,1μm,22.0s						
RKT	**Rikitea**	**122.81**	**84**	*e*LR	LR	10 27 40.3	
	comp=Z,252nm,26.2s						
RCBR	**Riachuelo**	**124.31**	**318**	PFAKE		09 49 50.0	+11
RCBR				LR	LR		
	comp=Z,279nm,20.0s						
OTAV	**Otavalo**	**124.94**	**11**	PFAKE		09 49 50.0	+9.5
OTAV				LR	LR		
	comp=Z,386nm,20.0s						
PTGA	**Pitinga**	**125.78**	**348**	PKP	**PKPdf**	**09 49 41.3**	**-0.3**
	comp=Z,4.9nm,0.9s,baz=343,slow=7.7,SNR=5.4						
ATAH	**Atahualpa**	**132.22**	**12**	PKP	**PKPdf**	**09 49 55.5**	**+1.3**
	comp=Z,6.4nm,0.8s,baz=310,slow=18,SNR=3.7						
SYO	**Syowa Base**	**133.51**	**208**	‖*e*X	**PKPdf**	**09 49 52.4**	**-2.0**
SAML	**Samuel**	**134.24**	**351**	PFAKE		09 50 10.0	+13
SAML				LR	LR		
	comp=Z,422nm,20.0s						
VNDA	**Vanda**	**135.59**	**166**	PKIKP	**PKPdf**	**09 49 59.2**	**+1.1**
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VNDA	**Vanda**	**135.59**	**166**	PKP	**PKPdf**	**09 49 59.2**	**+1.1**
	comp=Z,5.0nm,0.8s,baz=309,slow=3.1,SNR=6.3						
NNA	**Nana**	**137.19**	**10**	PFAKE		09 50 10.0	+7.0
NNA				LR	LR		
	comp=Z,332nm,19.0s						
SIV	**San Ignacio**	**140.96**	**347**	PKP	**PKPdf**	**09 50 09.8**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=51,slow=2.6,SNR=5.0						
LPAZ	**La Paz**	**141.81**	**358**	PKIKP	**PKPdf**	**09 50 12.0**	**-0.1**
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPAZ	**La Paz**	**141.81**	**358**	PKP	**PKPdf**	**09 50 11.9**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=38,slow=11,SNR=6.9						
NVL	**N'lazarevskaya**	**142.66**	**213**	*i* PKHKP	PKPpre	09 50 05.3	
NVL				pmax	pmax		
	comp=Z,21nm,0.8s						
QSPA	**South Pole Qui**	**144.29**	**180**	PKP	**PKPab**	**09 50 11.1**	**-1.1**
	comp=Z,17nm,0.8s,baz=297,slow=1.3,SNR=30						
QSPA	**South Pole Qui**	**144.29**	**180**	*e*PKPdf	**PKPab**	**09 50 11.1**	**-1.1**
QSPA				PKP	PKPbc	09 50 11.2	-1.5
SNAA	**Sanae**	**147.48**	**213**	P	**PKPbc**	**09 50 21.6**	**-0.5**
SNAA	**Sanae**	**147.48**	**213**	*e*PKIKP	**PKPdf**	**09 50 19.0**	**-0.5**
SNAA						09 50 21.3	
SNAA				*e*		09 50 21.5	
SNAA	**Sanae**	**147.48**	**213**	PKPbc	**PKPbc**	**09 50 21.3**	**-0.9**
	comp=Z,13nm,1.0s,baz=149,slow=3.5,SNR=37						
SNAA	**Sanae**	**147.48**	**213**	*e*PKPdf	**PKPdf**	**09 50 19.0**	**-0.5**
SNAA				PKPbc	**PKPbc**	**09 50 21.3**	**-0.9**
SNAA				*e*PKPbc	**PKiKP**	**09 50 21.5**	**-2.7**
LVC	**Limon Verde**	**148.12**	**359**	*e*PKPdf	**PKPdf**	**09 50 23.0**	**+0.6**
LVC				*e*PKPbc	**PKPbc**	**09 50 25.9**	**+0.3**
LVC				*e*PKPab	**PKPab**	**09 50 28.4**	**0.0**
LVC				LR	LR		
	comp=Z,626nm,20.0s						
VNA2	**Neumayer--Watz**	**148.91**	**214**	P	**PKPbc**	**09 50 25.4**	**-0.4**
VNA1	**Neumayer--Stat**	**149.20**	**215**	P	**PKPbc**	**09 50 26.8**	**+0.3**
VNA3	**Neumayer Olymp**	**149.66**	**214**	P	**PKPbc**	**09 50 26.9**	**-0.8**
LCO	**Las Campanas**	**154.49**	**2**	*e*PKPdf	**PKPdf**	**09 50 28.3**	**-3.6**
LCO				*e*PKPab	**PKPab**	**09 50 54.6**	**-0.1**
LCO				LR	LR		
	comp=Z,483nm,19.0s						
TRQA	**Tornquist**	**162.69**	**339**	PFAKE		09 50 50.0	+8.9
TRQA				LR	LR		
	comp=Z,709nm,20.0s						
PLCA	**Paso Flores**	**166.18**	**3**	PKIKP	**PKPdf**	**09 50 42.0**	**-2.1**
PLCA						09 51 43.9	
PLCA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PLCA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PLCA	**Paso Flores**	**166.18**	**3**	PKP	**PKPdf**	**09 50 42.0**	**-2.1**
	comp=Z,4.8nm,1.1s,baz=12,slow=2.1,SNR=3.9						
PLCA				PKPab	**PKPab**	**09 51 43.9**	**-1.1**
	comp=Z,4.7nm,1.0s,baz=356,slow=5.1,SNR=5.1						

DDA 19 09:49:09.9, 37.°71N×38.°16E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**0.59**	**233**	*i* P	Pg	09 49 21.4	-0.2
GZT				*i* S	Sb	09 49 33.1	+1.6
KUZU	**Kuzuini**	**1.27**	**223**	*i* P	Pg	09 49 35.3	+0.9
KUZU				*i* S	Sn	09 49 52.8	+1.2
KAMA	**Osmaniye**	**1.30**	**247**	*i* P	Pg	09 49 35.2	+0.2
KAMA				*i* S	Sn	09 49 53.0	+0.7

*IDC **19** 09:50:17.0±0.8, 4.°71N×125.°84E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/44, mbtmp3.8/9, MS3.8/2, Ms1 3.8/2, ms1mx3.1/44, Error ellipse: s-maj=67.1km s-min=17.1km az=68.0*

*NEIC **19** 09:50:22.1±0.5, 4.°65N×125.°85E, h35km, mb4.0/1, Error ellipse: s-maj=48.4km s-min=8.8km az=68.0*

ISC 19 09:50:18.6±1.0, 4.°7N±0.°2×125.°9E±0.°5, h10km, n15, σ0.°94/14, mb3.9/10, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**25.83**	**162**	*e*P	**P**	**09 55 50.5**	**+0.2**
	3.4nm,0.7s						
WRA	**Warramunga Arr**	**25.84**	**162**	P	**P**	**09 55 50.0**	**-0.4**
	3.4nm,0.4s,baz=343,slow=10,SNR=43						
WB2	**Warramunga Arr**	**25.84**	**162**	*e*P	**P**	**09 55 50.2**	**-0.3**
AS31	**Alice Springs**	**29.23**	**165**	*e*P	**P**	**09 56 19.8**	**-1.0**
ASAR	**Alice Springs**	**29.24**	**165**	P	**P**	**09 56 22.0**	**+1.1**
	0.6nm,0.5s,baz=349,slow=7.5,SNR=18						
MJAR	**Matsushiro Arr**	**33.66**	**18**	LR	LR	10 12 53.8	
	comp=Z,30nm,18.7s,baz=135,slow=40						
SONM	**Songino Array**	**46.14**	**342**	P	**P**	**09 58 43.5**	**+0.1**
	0.6nm,0.4s,baz=153,slow=9.7,SNR=3.0						
MK31	**Makanchi Array**	**56.31**	**325**	*e*P	**P**	**09 59 59.9**	**+0.2**
MKAR	**Makanchi Array**	**56.31**	**325**	P	**P**	**09 59 58.4**	**-1.2**
	0.5nm,0.4s,baz=115,slow=7.4,SNR=11						
MKAR				LR	LR	10 27 19.4	
	comp=Z,408nm,19.6s,baz=316,slow=40						
ZALV	**Zalesovo Beam**	**59.37**	**333**	P	**P**	**10 00 20.7**	**-0.3**
	0.6nm,0.5s,baz=123,slow=5.3,SNR=3.2						
KURBB	**Kurchatov Arra**	**60.50**	**327**	P	**P**	**10 00 27.4**	**-1.4**
	0.9nm,0.5s,baz=128,slow=6.7,SNR=2.4						
KURK	**Kurchatov**	**60.50**	**328**	P	**P**	**10 00 27.4**	**-1.4**
BVAR	**Borovoye Array**	**66.08**	**327**	P	**P**	**10 01 05.5**	**-0.2**
	0.3nm,0.4s,baz=122,slow=5.4,SNR=2.8						
AKTO	**Aktyubinsk**	**72.41**	**322**	P	**P**	**10 01 46.2**	**+1.2**
	0.6nm,0.6s,baz=81,slow=7.5,SNR=3.5						
ILAR	**Eielson Array**	**84.60**	**25**	P	**P**	**10 02 52.1**	**0.0**
	0.4nm,0.8s,baz=221,slow=3.6,SNR=3.4						

*ISCJB **19** 09:58:30.8±1.0, 13.°48N±0.°06×90.°81W±0.°05, h33km±17km, mb3.5/2, MS3.3/1, Error ellipse: s-maj=12.7km s-min=5.9km az=36.5*

*CASC **19** 09:58:32.0±1.1, 13.°50N×90.°63W, h13km±9km, MD3.6, ML4.1*

*IDC **19** 09:58:35.9±2.0, 14.°17N×90.°27W, h58km±16km, mb3.2/2, mb1 3.7/5, mb1mx3.3/35, mbtmp3.6/5, MS3.5/1, Ms1 3.5/1, ms1mx2.8/17, Error ellipse: s-maj=61.5km s-min=14.9km az=43.0*

ISC 19 09:58:30.7±3.4, 13.°58N±0.°08×90.°73W±0.°06, h17km±22km, n25, σ1.°32/29, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.82**	**8**	*e*P	**Pn**	**09 58 48.3**	**+0.6**
NBG	**Las Nubes**	**1.07**	**20**	*e*P	**Pn**	**09 58 52.8**	**+1.6**
NBG				*e*S	**Sn**	**09 59 07.9**	**+2.2**
RTR	**El Retiro**	**1.10**	**73**	*e*P	**Pb**	**09 58 51.1**	**-0.3**
SBLS	**San Blas**	**1.11**	**76**	*i* P	**Pb**	**09 58 50.9**	**-0.6**
SNJE	**San Jose**	**1.13**	**75**	*e*P	**Pb**	**09 58 51.3**	**-0.6**
RBDL	**Robledal**	**1.14**	**62**	*i* P	**Pb**	**09 58 52.0**	**-0.1**
BOQS	**Boqueron**	**1.42**	**84**	*e*P	**Pn**	**09 58 55.5**	**-0.4**
BOQS				*e*S	**Sn**	**09 59 13.8**	**-0.5**
APG	**El Apazote**	**1.44**	**10**	P	Pn	09 58 52.2	-4.0
	104nm,0.3s,baz=170,slow=11,SNR=2064						
APG				S	**Sn**	**09 59 12.7**	**-2.2**
	161nm,0.3s,baz=297,slow=20,SNR=22						
SNET	**Serv Nac Est T**	**1.46**	**86**	*e*S	**Sn**	**09 59 14.2**	**-0.9**
SNET				AML	AML	09 59 15.2	
	comp=Z,4μm,0.3s						
LFU	**La Fuente**	**1.58**	**84**	*e*P	**Pn**	**09 58 58.3**	**+0.3**
LFU				*e*S	**Sn**	**09 59 19.1**	**+1.0**
LFRS	**El Faro**	**1.62**	**88**	*e*P	**Pn**	**09 58 58.9**	**+0.3**
LBRS	**Las Brisas**	**1.65**	**84**	*e*P	**Pn**	**09 58 59.0**	**+0.1**
MRL	**Marmol**	**1.79**	**34**	‖*e*P	**Pb**	**09 59 02.9**	**-0.2**
SNVI	**San Vicente**	**1.84**	**89**	*e*P	**Pn**	**09 59 02.1**	**+0.4**
SNVI				*e*S	**Sn**	**09 59 25.2**	**+0.6**
VSM	**San Miguel**	**2.39**	**93**	*e*P	**Pn**	**09 59 09.6**	**+0.3**
CAHU	**Cacacuatique**	**2.46**	**85**	*e*P	**Pn**	**09 59 10.9**	**+0.7**
CNCH	**Conchagua**	**2.83**	**96**	*e*P	**Pn**	**09 59 14.8**	**-0.4**
COPN	**Copaltepe**	**4.27**	**109**	*e*P	**Pn**	**09 59 35.4**	**+0.4**
CMIG	**Matias Romero**	**5.31**	**312**	P	**Pn**	**09 59 51.3**	**+2.1**
	comp=Z,0.9nm,0.3s,baz=130,slow=12,SNR=22						
CMIG				S	**Sn**	**10 00 49.4**	**-0.8**
	comp=Z,6.6nm,0.3s,baz=90,slow=21,SNR=6.3						
JTS	**JuntasAbangare**	**6.53**	**119**	P	**Pn**	**10 00 07.5**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=306,slow=22,SNR=7.4						
JTS				S	**Sn**	**10 01 23.5**	**+3.3**
	comp=Z,1.4nm,0.3s,baz=52,slow=17,SNR=2.4						
TXAR	**Lajitas Array**	**19.74**	**325**	P	**Pn**	**10 03 00.7**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=148,slow=12,SNR=11						
LPIG	**La Paz**	**21.25**	**302**	LR	LR	10 12 26.8	
	comp=Z,131nm,21.4s,baz=52,slow=39						
NVAR	**Mina Array Bea**	**34.77**

STHS				*e*Sn	Sb	10 08 22.5	+0.1
STHS	**Stebnicka Huta**	**1.60**	**118**	*e*PN	Pn	10 08 01.2	+0.4
STHS				*e*SN	Sb	10 08 22.5	+0.1
STHS				*e*LG	Lg	10 08 31.5	
VYHS	**Vyhne**	**1.71**	**186**	*e*Pn	Pn	10 08 00.8	-1.5
VYHS	**Vyhne**	**1.71**	**186**	*e*PN	Pn	10 08 00.8	-1.5
VYHS				*e*SN	Sn	10 08 22.2	-2.7
VYHS				*e*LG	Lg	10 08 26.5	
DPC	**Dobruska-Polom**	**1.78**	**276**	*e*PG	Pn	10 08 03.9	+0.5
DPC				*e*SG	Sn	10 08 26.8	-0.1
DPC	**Dobruska-Polom**	**1.78**	**276**	Pg	Pn	10 08 03.9	+0.5
DPC				Sg	Sn	10 08 26.8	-0.1
PRU	**Pruhonice**	**2.94**	**268**	*e*SG	Sg	10 09 04.1	-1.6
PRU	**Pruhonice**	**2.94**	**268**	Sg	Sg	10 09 04.1	-1.6
KHC	**Kasperske Hory**	**3.73**	**256**	*e*SG	Sg	10 09 31.0	-0.4
KHC	**Kasperske Hory**	**3.73**	**256**	Sg	Sg	10 09 31.0	-0.4

CSEM ***19*** *10:07:57.6, 35°.83N×0°.89W, h0km, ML3.5*

CRAAG 19 10:07:57.6, 35°.83N×0°.89W, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.30**	**109**	P	Pg	10 08 01.0	-2.3
USTO	**Oran**	**0.30**	**109**	P	Pg	10 08 01.0	-2.3
OLHC	**Oulhaca**	**0.72**	**217**	P	Pg	10 08 12.0	+0.5
OLHC	**Oulhaca**	**0.72**	**217**	P	Pg	10 08 12.0	+0.5
ODJA	**Bouhanifia**	**0.79**	**129**	P	Pg	10 08 13.0	+0.2
ODJA	**Bouhanifia**	**0.79**	**129**	P	Pg	10 08 13.0	+0.2
OJBR	**Djebel Berber**	**1.04**	**104**	P	Pn	10 08 24.0	+4.5
OJBR	**Djebel Berber**	**1.04**	**104**	P	Pn	10 08 24.0	+4.5
OKGL	**Djebel Kef Gue**	**1.26**	**80**	P	Pg	10 08 15.0	-6.9
OKGL	**Djebel Kef Gue**	**1.26**	**80**	P	Pg	10 08 15.0	-6.9
OJGS	**Djebel Guires**	**1.38**	**103**	P	Pg	10 08 22.0	-2.2
OJGS	**Djebel Guires**	**1.38**	**103**	P	Pg	10 08 22.0	-2.2
EANR	**'Ain N'Sour**	**1.62**	**85**	P	Pn	10 08 26.7	-0.9
EANR	**'Ain N'Sour**	**1.62**	**85**	P	Pn	10 08 26.7	-0.9
ETRT	**Tiaret**	**1.84**	**103**	P	Pn	10 08 24.7	-6.0
ETRT	**Tiaret**	**1.84**	**103**	P	Pn	10 08 24.7	-6.0

CSEM ***19*** *10:10:17.1±1.5, 40°.95N×38°.22E, h20km, MD2.9, Error ellipse: s-maj=32.3km s-min=15.5km az=133.0*
DDA ***19*** *10:10:25.4, 40°.93N×39°.00E, h27km, MD2.9*

ISC 19 10:10:16.1±2.2, 40°.9N±0°.1×38°.38E±0°.09, h0km±16km, n12, σ1°.05/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPY	**Espiye-Giresun**	**0.26**	**89**	PG	**Pn**	**10 10 26.9**	**-0.3**
ESPY				*e*SG	**Sb**	**10 10 29.8**	**+1.0**
ESPY	**Espiye-Giresun**	**0.26**	**89**	*i* Pg	**Pn**	**10 10 26.9**	**-0.3**
ESPY				*e*Sg	**Sb**	**10 10 29.8**	**+1.0**
SUSE	**Susehri**	**0.71**	**191**	*i* P	**Pb**	**10 10 31.5**	**0.0**
SUSE				*i* S	**Sb**	**10 10 41.3**	**-0.6**
SUSE	**Susehri**	**0.71**	**191**	*i* P	**Pb**	**10 10 31.5**	**0.0**
SUSE				*i* S	**Sb**	**10 10 41.3**	**-0.6**
KELT	**Kelkit**	**1.01**	**139**	*i* S	**Sn**	**10 10 51.9**	**-0.8**
KELT	**Kelkit**	**1.01**	**139**	*i* P	**Pn**	**10 10 40.5**	**+2.8**
KELT				*i* S	**Sn**	**10 10 51.9**	**-0.8**
MACK	**Trabzon**	**1.05**	**88**	*i* P	**Pg**	**10 10 36.8**	**+0.5**
MACK	**Trabzon**	**1.05**	**88**	*i* P	**Pg**	**10 10 36.8**	**+0.5**
MACK				*i* S	**Sg**	**10 10 47.9**	**-2.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.44**	**111**	*e*PG	**Pn**	**10 10 43.6**	**+0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.44**	**111**	*e*Pg	**Pn**	**10 10 43.6**	**+0.1**
KOPT	**Kop Dagi**	**1.84**	**118**	*i* P	**Pb**	**10 10 51.2**	**+0.4**
KOPT				*i* S	**Sb**	**10 11 14.0**	**-0.5**
KOPT	**Kop Dagi**	**1.84**	**118**	*i* P	**Pb**	**10 10 51.2**	**+0.4**
KOPT				*i* S	**Sb**	**10 11 14.0**	**-0.5**

MOS ***19*** *10:11:12.7±1.7, 51°.07N×158°.92E, h25km, mb4.2/1, Error ellipse: s-maj=35.0km s-min=17.1km az=85.9*
KRSC ***19*** *10:11:16.7±1.1, 51°.44N×158°.76E, h53km±17km, ML4.0*

ISC 19 10:11:19.0±2.6, 51°.46N±0°.07×158°.60E±0°.07, h34km±4km, n23, σ1°.21/36, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.98**	**357**	PN	**Pn**	**10 11 35.7**	**-0.6**
RUS	**Russkaya**	**0.98**	**357**	*i* P	**Pn**	**10 11 35.7**	**-0.6**
RUS				*e*S	**Sn**	**10 11 47.8**	**-1.1**
MTVR	**Mutnovka**	**1.06**	**346**	*i* P	**Pn**	**10 11 37.3**	**-0.3**
MTVR				*i* S	**Sn**	**10 11 50.7**	**-0.5**
PAU	**Pauzhetka**	**1.12**	**271**	PN	**Pn**	**10 11 38.8**	**+0.5**
PAU				S	**Sb**	**10 11 54.9**	**+0.7**
PAU	**Pauzhetka**	**1.12**	**271**	*i* P	**Pn**	**10 11 38.8**	**+0.5**
PAU				*e*S	**Sb**	**10 11 54.9**	**+0.7**
PET	**Petropavlovsk**	**1.57**	**1**	*e*PN	**Pn**	**10 11 44.4**	**0.0**
PET				pmax	pmax		
	comp=Z,29nm,0.5s						
PET	**Petropavlovsk**	**1.57**	**1**	*e*P	**Pn**	**10 11 43.9**	**-0.5**
PET				*e*S	**Sn**	**10 12 03.2**	**-0.3**
APC	**Apacha**	**1.72**	**329**	*i* P	**Pn**	**10 11 47.5**	**+1.0**
APC				*i* S	**Sb**	**10 12 10.1**	**-1.0**
SKR	**Severo-Kuril's**	**1.75**	**245**	*e*PN	Pn	10 11 42.2	-4.7
SKR				*i* S	**Sn**	**10 12 03.2**	**-4.8**
SKR				pmax	pmax		
	comp=Z,80nm,0.6s						
SKR				smax	smax		
	comp=N,200nm,0.5s						
SKR				smax	smax		
	comp=E,150nm,0.5s						
SKR	**Severo-Kuril's**	**1.75**	**245**	*i* P	**Pn**	**10 11 47.8**	**+0.9**
SKR				*i* S	**Sn**	**10 12 09.0**	**+1.0**
UGLR	**Uglovaya**	**1.76**	**4**	*e*P	**Pn**	**10 11 47.5**	**+0.3**
AVH	**Avacha**	**1.81**	**3**	*i* P	**Pn**	**10 11 48.5**	**+0.7**
AVH				*i* S	**Sb**	**10 12 12.0**	**-1.9**
SMAR	**Somma**	**1.81**	**4**	*e*P	**Pn**	**10 11 48.3**	**+0.3**
SDLR	**Sedlovina**	**1.83**	**5**	*e*P	**Pn**	**10 11 47.6**	**-0.6**
KOK	**Koryaka**	**1.83**	**1**	*e*P	**Pn**	**10 11 48.2**	**0.0**
KRER	**Koryakskii**	**1.85**	**3**	*e*P	**Pn**	**10 11 48.9**	**+0.4**
KRX	**Arik**	**1.90**	**1**	*e*P	**Pn**	**10 11 49.5**	**+0.3**
KRX				*e*S	**Sn**	**10 12 13.7**	**+1.7**
GNL	**Ganaly**	**2.27**	**350**	*i* P	**Pn**	**10 11 55.7**	**+1.4**
GNL				*i* S	**Sn**	**10 12 22.3**	**+1.1**
KII	**Karymskiy**	**2.63**	**11**	*e*P	**Pn**	**10 11 59.9**	**+0.8**
KII				*e*S	**Sn**	**10 12 30.0**	**+0.1**
MKZ	**Mys Kozlova**	**3.63**	**30**	PN	**Pn**	**10 12 13.0**	**+0.2**
MKZ	**Mys Kozlova**	**3.63**	**30**	*e*P	**Pn**	**10 12 13.0**	**+0.2**
MKZ				*e*S	**Sn**	**10 12 54.3**	**-0.1**
KBTR	**Krutoberegovo**	**5.37**	**26**	PN	**Pn**	**10 12 38.0**	**+1.3**
KBTR	**Krutoberegovo**	**5.37**	**26**	*i* P	**Pn**	**10 12 38.0**	**+1.3**
KBTR				*i* S	**Sn**	**10 13 37.0**	**-0.3**

KRNET 19 10:14:36.9±0.1, 40°.51N×77°.06E, h3km, mb3.6, 4C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.22**	**319**	*e*P	Pg	10 15 00.2	-0.7
NRN	baz=319			*e*S	Sb	10 15 17.7	0.0
ULHL	**Ulahol**	**1.84**	**341**	⇑*i*P	Pb	10 15 12.0	+0.4
ULHL	baz=341			⇑*i*S	Sg	10 15 37.3	+0.6
KZA	**Kyzart**	**2.08**	**320**	⇓*i*P	Pb	10 15 16.5	+0.6
KZA	baz=320			⇓*i*S	Sg	10 15 45.6	+0.9
ARLS	**Aral**	**2.47**	**304**	⇓*i*P	Pn	10 15 20.0	+1.7
ARLS	baz=304			⇓*i*S	Sg	10 15 55.6	-1.1
UCH	**Uchtor**	**2.57**	**313**	⇑*i*P	Pb	10 15 24.5	+0.2
UCH	baz=313			⇑*i*S	Sb	10 15 58.2	+1.4

ISCJB ***19*** *10:24:28.9±1.1, 67°.68N±0°.05×34°.0E±0°.2, h0km, Error ellipse: s-maj=8.9km s-min=6.8km az=7.7*
CSEM ***19*** *10:24:30.3±1.0, 67°.71N×33°.98E, h2km, ML3.1, Error ellipse: s-maj=23.2km s-min=11.7km az=96.0, Mining explosion.*
NAO ***19*** *10:24:31.4±1.1, 67°.55N×33°.81E, ML3.1*
KOLA ***19*** *10:24:31.1, 67°.64N×33°.93E, h0km*
HEL ***19*** *10:24:31.9±0.8, 67°.68N×33°.83E, h0km, ML2.4, Explosion*

IDC ***19*** *10:24:32.8±1.7, 67°.74N×33°.89E, h0km, mb1 3.5/5, mb1mx3.2/31, mbtmp3.5/5, ML3.3/5, Error ellipse: s-maj=19.7km s-min=9.2km az=81.0*

ISC 19 10:24:30.4±1.7, 67°.69N±0°.04×33°.90E±0°.09, h0km, n34, σ1°.17/48, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.23**	**238**	P	**Pg**	**10 24 34.9**	**+0.2**
APA				S	**Sg**	**10 24 37.7**	**+0.1**
APA0	**Apatity Array**	**0.36**	**257**	Pg	**Pg**	**10 24 34.7**	**-2.5**
APA0				Pg	**Pg**	**10 24 37.2**	**0.0**
	baz=100,slow=16						
APA0				Lg	Lg	10 24 37.5	
APA0				Lg	Lg	10 24 41.5	
	baz=75,slow=37						
APA0				Rg	Rg	10 24 43.5	
	baz=84,slow=37						
APA0	**Apatity Array**	**0.36**	**257**	Pg	**Pg**	**10 24 34.7**	**-2.5**
APA0				Pg	**Pg**	**10 24 37.2**	**0.0**
	baz=100,slow=16						
APA0				Lg	Lg	10 24 37.5	
APA0				Lg	Lg	10 24 41.5	
	baz=75,slow=37						
APA0				Rg	Rg	10 24 43.5	
	baz=84,slow=37						
APA0	**Apatity Array**	**0.36**	**257**	Pg	**Pg**	**10 24 37.2**	**0.0**
	SNR=90						
APA0				Lg	Lg	10 24 41.5	
	SNR=116						
APA0	**Apatity Array**	**0.36**	**257**	P	**Pg**	**10 24 37.5**	**+0.3**
APA0				S	**Sg**	**10 24 42.2**	**+0.4**
VRF	**Varrio**	**1.64**	**274**	*e*P	**Pn**	**10 25 00.4**	**-0.1**
VRF				*e*S	**Sn**	**10 25 22.0**	**-0.2**
VRF				MSG		10 25 24.7	
	comp=Z,59nm,0.1s						
VRF	**Varrio**	**1.64**	**274**	P	**Pn**	**10 25 00.3**	**-0.1**
VRF				S	**Sn**	**10 25 21.9**	**-0.2**
KU6	**Riekki**	**2.30**	**225**	*e*P	**Pn**	**10 25 11.0**	**+1.5**
KU6				*e*S	**Sn**	**10 25 38.4**	**-0.1**
KU6				MSG		10 25 44.7	
	comp=Z,15nm,0.1s						
KU6	**Riekki**	**2.30**	**225**	P	**Pn**	**10 25 11.0**	**+1.5**
KU6				S	**Sn**	**10 25 38.4**	**-0.1**
MSF	**Maaselka**	**2.63**	**229**	*e*P	**Pn**	**10 25 15.7**	**+1.7**
MSF	**Maaselka**	**2.63**	**229**	P	**Pn**	**10 25 15.7**	**+1.7**
SGF	**Sodankyl**	**2.84**	**268**	*e*P	**Pn**	**10 25 17.4**	**+0.5**
SGF	**Sodankyl**	**2.84**	**268**	P	**Pn**	**10 25 17.4**	**+0.5**
KEV	**Kevo**	**3.26**	**313**	*e*P	**Pn**	**10 25 24.3**	**+1.6**
KEV	**Kevo**	**3.26**	**313**	P	**Pn**	**10 25 24.2**	**+1.6**
RNF	**Rovaniemi**	**3.26**	**254**	*e*P	**Pn**	**10 25 22.9**	**+0.1**
RNF	**Rovaniemi**	**3.26**	**254**	P	**Pn**	**10 25 22.8**	**+0.1**
ARA0	**ARCESS Array S**	**3.59**	**305**	Pn	**Pn**	**10 25 27.5**	**+0.3**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**10 26 11.3**	**+1.0**
	baz=126,slow=28						
ARA0				Lg	Lg	10 26 22.6	
	baz=124,slow=37						
ARA0	**ARCESS Array S**	**3.59**	**305**	Pn	**Pn**	**10 25 27.5**	**+0.3**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**10 26 11.3**	**+1.0**
	baz=126,slow=28						
ARA0				Lg	Lg	10 26 22.6	
	baz=124,slow=37						
ARA0	**ARCESS Array S**	**3.59**	**305**	Pn	**Pn**	**10 25 27.5**	**+0.3**
	SNR=50						
ARA0				Sn	**Sn**	**10 26 11.3**	**+1.0**
	SNR=50						
ARA0				Lg	Lg	10 26 22.6	
	SNR=50						
ARCES	**ARCESS Array B**	**3.59**	**305**	Pn	**Pn**	**10 25 27.9**	**+0.6**
	comp=Z,10nm,0.3s,baz=120,slow=16,SNR=192						
ARCES				Pg	**Pb**	**10 25 36.7**	**+2.0**
	comp=Z,4.4nm,0.3s,baz=119,slow=17,SNR=11						
ARCES				Sn	**Sn**	**10 26 11.4**	**+1.1**
	comp=Z,5.5nm,0.3s,baz=119,slow=27,SNR=12						
ARCES				Lg	Lg	10 26 23.7	
	comp=Z,16nm,0.3s,baz=117,slow=33,SNR=13						
FIA0	**FINESS Array S**	**7.11**	**212**	Pn	**Pn**	**10 26 15.3**	**-0.2**
	baz=23,slow=14						
FIA0				Lg	Lg	10 28 06.1	
	baz=18,slow=28						
FIA0	**FINESS Array S**	**7.11**	**212**	Pn	**Pn**	**10 26 15.3**	**-0.2**
	baz=23,slow=14						
FIA0				Lg	Lg	10 28 06.1	
	baz=18,slow=28						
FIA0	**FINESS Array S**	**7.11**	**212**	Pn	**Pn**	**10 26 15.4**	**-0.2**
	SNR=50						
FIA0				Lg	Lg	10 28 06.1	
	SNR=4.6						
FINES	**FINESS Array B**	**7.11**	**212**	Pn	**Pn**	**10 26 16.3**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=7.9						
FINES				Sn	**Sn**	**10 27 35.8**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=27,slow=25,SNR=4.3						
FINES				Lg	Lg	10 28 10.7	
	comp=Z,1.2nm,0.3s,baz=26,slow=29,SNR=6.0						
HFS	**Hagfors**	**11.63**	**239**	Pn	**Pn**	**10 27 16.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=37,slow=12,SNR=5.4						
SPA0	**Spitsbergen Ar**	**11.64**	**342**	Pn	**Pn**	**10 27 15.6**	**-1.8**
	baz=140,slow=14						
SPA0	**Spitsbergen Ar**	**11.64**	**342**	Pn	**Pn**	**10 27 15.6**	**-1.8**
	baz=140,slow=14						
SPA0	**Spitsbergen Ar**	**11.64**	**342**	Pn	**Pn**	**10 27 15.6**	**-1.8**
	SNR=50						
SPITS	**Spitsbergen Ar**	**11.64**	**342**	Pn	**Pn**	**10 27 15.9**	**-1.5**
	baz=138,slow=15,SNR=24						
NB2	**NORSAR Subarra**	**11.81**	**247**	Pn	**Pn**	**10 27 18.3**	**-1.5**
NB2	**NORSAR Subarra**	**11.81**	**247**	Pn	**Pn**	**10 27 18.3**	**-1.5**
NB2	**NORSAR Subarra**	**11.81**	**247**	Pn	**Pn**	**10 27 18.3**	**-1.5**
	SNR=50						
NOA	**NORSAR Array B**	**11.81**	**247**	Pn	**Pn**	**10 27 18.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=49,slow=12,SNR=3.9						

NIED ***19*** *10:27:00, 36°.70N×140°.40E, h83km, Mw4.1 Best double couple: Mo1.35000×10^15 NP1:φs82.00000°, δ14.00000°, λ153.00000°. NP2:φs199.00000°, δ84.00000°, λ77.00000°.*
ISCJB ***19*** *10:27:30.7±0.4, 36°.68N±0°.04×140°.46E±0°.05, h82km±3km, mb3.9/19, Error ellipse: s-maj=7.5km s-min=4.7km az=43.8*
JMA ***19*** *10:27:31.8±0.1, 36°.65N×140°.40E, h72km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs3.00000°, δ88.00000°, λ-103.00000°. NP2:φs267.00000°, δ13.00000°, λ-7.00000°. Principal axes: T Plg42.0000°, Azm106.0000°; N Plg13.0000°, Azm4.0000°; P Plg45.0000°, Azm260.0000°;*
JMA Felt III J1.
NEIC ***19*** *10:27:32.3±1.1, 36°.74N×140°.40E, h78km±10km, mb4.2/3 Error ellipse: s-maj=13.6km s-min=9.3km az=117.0*
NEIC Recorded [3 JMA] in Ibaraki; [2 JMA] in Fukushima and Tochigi; [1 JMA] in Chiba, Gumma, Kanagawa, Saitama and Tokyo.
IDC ***19*** *10:27:33.5±1.9, 36°.67N×140°.33E, h92km±17km, mb3.6/15, mb1 3.8/18, mb1mx3.6/31, mbtmp3.9/18, MS3.9/1, Ms1 3.9/1, ms1mx2.8/56, Error ellipse: s-maj=18.5km s-min=14.4km az=98.0*

ISC 19 10:27:31.9±0.7, 36°.69N±0°.05×140°.43E±0°.05, h74km±6km, n48, σ1°.01/52, mb3.9/19, 7C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.13**	**124**	⇓P	**Pn**	**10 27 42.4**	**-0.3**
JHO				S	**Sn**	**10 27 50.1**	**-0.5**
JFK	**Kawauchi**	**0.77**	**27**	⇓P	**Pn**	**10 27 48.0**	**+0.1**
JFK				S	**Sn**	**10 27 59.8**	**+0.1**
JAG	**Ashikaga**	**0.83**	**252**	⇑P	**Pn**	**10 27 48.2**	**-0.4**
JAG				S	**Sn**	**10 27 59.9**	**-1.0**
JFT	**Otama**	**0.83**	**355**	⇑P	**Pn**	**10 27 48.9**	**+0.3**
JFT				S	**Sn**	**10 28 02.1**	**+1.1**
JFY	**Yanaizu**	**0.92**	**321**	⇑P	**Pn**	**10 27 49.8**	**+0.1**
JFY				S	**Sn**	**10 28 03.3**	**+0.3**
JKT	**Katashina**	**0.95**	**275**	⇑P	**Pn**	**10 27 50.1**	**0.0**
JKT				S	**Sn**	**10 28 03.8**	**+0.1**
JMM	**Marumori**	**1.21**	**14**	⇓P	**Pn**	**10 27 53.5**	**+0.2**
JMM				S	**Sn**	**10 28 09.2**	**-0.1**
JHK	**Hiroka**	**1.26**	**297**	⇑P	**Pn**	**10 27 54.0**	**+0.1**
I30JP	**ISUMI INFRASON**	**1.38**	**184**	S	**Sn**	**10 28 14.9**	**+1.9**
JRY	**Ryogami san**	**1.40**	**242**	⇑P	**Pn**	**10 27 55.4**	**-0.4**
JRY				S	**Sn**	**10 28 13.0**	**-0.7**
JNS	**Sasagawa**	**1.44**	**322**	⇑P	**Pn**	**10 27 56.4**	**+0.2**
MJAR	**Matsushiro Arr**	**1.79**	**266**	P	**Pn**	**10 28 01.0**	**+0.1**
	76nm,0.3s,baz=88,slow=15,SNR=478						
MJAR				S	**Sn**	**10 28 23.3**	**+0.4**
	48nm,0.3s,baz=121,slow=24,SNR=11						
MJAR				LR	LR	10 28 41.0	
	comp=Z,176nm,20.7s,baz=90,slow=40						
MAJO	**Matsushiro**	**1.79**	**266**	*e*Pn	**Pn**	**10 28 01.4**	**+0.5**
MAJO				*e*Sn	**Sn**	**10 28 24.2**	**+1.3**
MAT	**Matsushiro**	**1.79**	**266**	P	**Pn**	**10 28 01.4**	**+0.5**
MAT				S	**Sn**	**10 28 23.2**	**+0.3**
ASAJ	**Asahikawa**	**7.60**	**12**	P	**Pn**	**10 29 18.0**	**-1.9**
	1.7nm,0.3s,baz=220,slow=15,SNR=9.1						
ASAJ				S	**Sn**	**10 30 45.0**	**+0.5**
	0.8nm,0.3s,baz=90,slow=20,SNR=2.5						
JNU	**Nakatsue**	**8.61**	**248**	P	**Pn**	**10 29 33.8**	**0.0**
	0.3nm,0.3s,baz=68,slow=7.0,SNR=5.0						
JCJ	**Chichijima**	**9.68**	**171**	S	Sn	10 31 24.4	-11
	8.6nm,0.3s,baz=294,slow=20,SNR=3.0						
USRK	**Ussuriysk Ar.**	**9.88**	**322**	P	**Pn**	**10 29 52.8**	**+1.7**
	0.3nm,0.3s,baz=138,slow=16,SNR=5.8						
KSRS	**Korea Array**	**10.03**	**278**	P	**Pn**	**10 29 55.5**	**+2.5**
	0.3nm,0.3s,baz=92,slow=15,SNR=6.3						
KSAR	**Wonju Array Be**	**10.06**	**278**	P	**Pn**	**10 29 55.5**	**+2.1**
SEY	**Seymchan**	**27.29**	**12**	P	**P**	**10 33 09.1**	**-0.1**
	1.0nm,0.6s,baz=212,slow=6.6,SNR=7.1						
SONM	**Songino Array**	**27.33**	**305**	P	**P**	**10 33 07.8**	**-2.1**
	2.0nm,0.6s,baz=99,slow=9.2,SNR=7.3						
H11N2	**WAKE ISLAND Hy 28.66**	**119**		T	T	11 03 32.5	
	baz=312,slow=75,SNR=72						
H11N1	**WAKE ISLAND Hy 28.67**	**119**		T	T	11 03 29.0	
	baz=312,slow=75,SNR=57						
H11N3	**WAKE ISLAND Hy 28.68**	**119**		T	T	11 03 29.1	
	baz=312,slow=75,SNR=57						
H11S1	**WAKE ISLAND Hy 29.34**	**121**		T	T	11 04 16.3	
	baz=314,slow=76,SNR=207						
H11S3	**WAKE ISLAND Hy 29.34**	**121**		T	T	11 04 22.3	
	baz=314,slow=76,SNR=110						
H11S2	**WAKE ISLAND Hy 29.36**	**121**		T	T	11 04 16.2	
	baz=314,slow=76,SNR=110						
ZALV	**Zalesovo Beam**	**41.57**	**313**	P	**P**	**10 35 11.5**	**-0.6**
	3.4nm,0.6s,baz=93,slow=6.5,SNR=15						
MK31	**Makanchi Array**	**43.64**	**302**	*e*P	**P**	**10 35 28.2**	**-0.8**
MKAR	**Makanchi Array**	**43.64**	**302**	P	**P**	**10 35 28.4**	**-0.6**
	0.9nm,0.6s,baz=91,slow=9.9,SNR=10						
KURK	**Kurchatov**	**45.53**	**308**	*e*P	**P**	**10 35 42.8**	**-1.2**
	2.9nm,0.7s						
KURBB	**Kurchatov Arra**	**45.59**	**308**	P	**P**	**10 35 43.6**	**-0.8**
	3.7nm,0.6s,baz=86,slow=7.9,SNR=27						
ILAR	**Eielson Array**	**50.21**	**32**	P	**P**	**10 36 20.1**	**+0.1**
	1.0nm,0.6s,baz=264,slow=5.6,SNR=19						
PAX	**Paxson**	**50.97**	**34**	*e*P	**P**	**10 36 26.6**	**+0.9**
	0.9nm,0.4s						
WRAB	**Tennant Creek**	**56.60**	**187**	*e*P	**P**	**10 37 06.5**	**-0.7**
	0.9nm,0.6s						
WB2	**Warramunga Arr**	**56.61**	**187**	*e*P	**P**	**10 37 06.5**	**-0.8**
WRA	**Warramunga Arr**	**56.62**	**187**	P	**P**	**10 37 06.3**	**-1.0**
	1.3nm,0.7s,baz=5.1,slow=7.4,SNR=19						
ASAR	**Alice Springs**	**60.34**	**187**	P	**P**	**10 37 32.9**	**-0.3**
	0.6nm,0.7s,baz=14,slow=6.3,SNR=12						
RES	**Resolute Bay**	**63.13**	**14**	P	**P**	**10 37 50.4**	**-0.9**
	0.6nm,0.4s,baz=341,slow=4.1,SNR=7.1						
YKA	**Yellowknife Ar**	**64.50**	**30**	P	**P**	**10 37 59.3**	**-1.2**
	0.3nm,0.6s,baz=301,slow=6.2,SNR=5.7						
FINES	**FINESS Array B**	**68.75**	**332**	P	**P**	**10 38 27.9**	**+0.4**
	0.7nm,0.6s,baz=63,slow=9.4,SNR=3.5						
AKASG	**Malin Array Be**	**74.09**	**322**	P	**P**	**10 38 59.6**	**-0.3**
	0.7nm,0.5s,baz=46,slow=5.6,SNR=2.9						
NVAR	**Mina Array Bea**	**75.83**	**53**	P	**P**	**10 39 11.5**	**+1.1**
	0.8nm,0.6s,baz=293,slow=5.5,SNR=5.9						
PDAR	**Pinedale Array**	**78.47**	**45**	P	**P**	**10 39 25.1**	**-0.1**
	0.4nm,0.7s,baz=217,slow=2.3,SNR=3.4						
RPZ	**Rata Peaks**	**84.73**	**158**	*e*P	**P**	**10 40 00.1**	**+2.6**
	18nm,0.5s						
PPT	**Papeete**	**85.19**	**116**	LR	LR	11 12 12.2	
	comp=Z,63nm,20.2s,baz=124,slow=31						
TXAR	**Lajitas Array**	**90.96**	**52**	P	**P**	**10 40 28.2**	**+0.1**
	0.5nm,0.5s,baz=294,slow=2.4,SNR=13						

GUC 19 10:30:55.2±0.6, 35°.89S×72°.81W, h27km±4km, ML3.6, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.24**	**177**	⇑*i*P	Pb	10 31 01.0	-0.7
COCH				*i* S	Sb	10 31 05.6	-0.4
LNCH	**Linares**	**0.98**	**88**	*e*P	Pn	10 31 12.2	-0.9
LNCH				*e*S	Sb	10 31 25.0	-1.1
CCSP	**San Pedro de C**	**0.99**	**194**	⇓*i*P	Pn	10 31 11.9	-1.3
CCSP				*e*S	Sb	10 31 25.1	-1.2
CCSP				IAML		10 31 31.3	
	comp=N,3μm,0.3s						
TALC	**Talca**	**1.07**	**63**	⇓*i*P	Pn	10 31 13.2	-1.2
TALC				*i* S	Sn	10 31 27.2	-1.1
NICH	**Los Niches**	**1.56**	**56**	⇑*i*P	Pn	10 31 21.1	0.0
NICH				*i* S	Sn	10 31 41.1	+0.7

IDC ***19*** *10:33:19.0±11.0, 56°.78N×156°.31W, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/57, mbtmp3.2/4, ML3.2/1, Error

ellipse: s-maj=4.9km s-min=2.7km az=14.0
*IGIL **19** 10:34:49.9, 36°.50N×7°.24W, h25km, ML2.1*
*MDD **19** 10:34:49.7±0.9, 36°.49N×7°.24W, h51km±27km, mb4.1/9,*
Error ellipse: s-maj=8.9km s-min=4.9km az=14.0, PRXIMO
*INMG **19** 10:34:50.2±1.3, 36°.49N×7°.23W, h31km±10km, ML2.1,*
Error ellipse: s-maj=4.4km s-min=3.8km az=15.0
ISC 19 10:34:45.9±1.2, 36°.52N±0°.05×7°.19W±0°.02, h10km, n70, σ1§54/130, 1C-4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.94**	**321**	*e*P	**Pn**	**10 35 05.9**	**+0.7**
PBDV				*e*S	**Sb**	**10 35 17.7**	**+0.9**
PBDV				A	A	10 35 19.1	
	17nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.94**	**321**	P	**Pn**	**10 35 05.9**	**+0.7**
PBDV				S	**Sb**	**10 35 17.7**	**+0.9**
	17nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.94**	**321**	P	**Pn**	**10 35 05.9**	**+0.7**
PBDV				*e*S	**Sb**	**10 35 17.7**	**+0.9**
	17nm,0.1s						
PVAQ	**Vaqueiros**	**0.98**	**335**	*i* P	**Pn**	**10 35 06.8**	**+1.0**
PVAQ				*e*S	**Sb**	**10 35 19.1**	**+1.1**
PVAQ				A	A	10 35 19.9	
	36nm,0.5s						
PVAQ	**Vaqueiros**	**0.98**	**335**	⇓P	**Pn**	**10 35 06.8**	**+1.0**
PVAQ				S	**Sb**	**10 35 19.1**	**+1.1**
	36nm,0.5s						
PVAQ	**Vaqueiros**	**0.98**	**335**	P	**Pn**	**10 35 06.8**	**+1.0**
PVAQ				*e*S	**Sb**	**10 35 19.1**	**+1.1**
	36nm,0.5s						
EGRO	**El Granado**	**1.04**	**347**	⇓P	**Pn**	**10 35 07.8**	**+1.2**
	15nm,0.1s,SNR=18						
EGRO				S	**Sb**	**10 35 20.6**	**+0.9**
	14nm,0.1s,SNR=12						
EGRO	**El Granado**	**1.04**	**347**	P	**Pn**	**10 35 07.8**	**+1.2**
	15nm,0.1s,SNR=18						
EGRO				S	**Sb**	**10 35 20.6**	**+0.9**
	14nm,0.1s,SNR=12						
ESPR	**Espera**	**1.13**	**72**	⇑P	**Pn**	**10 35 08.9**	**+1.1**
	14nm,0.1s,SNR=18						
ESPR				S	**Sn**	**10 35 23.5**	**+0.2**
	35nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.13**	**72**	P	**Pn**	**10 35 08.9**	**+1.1**
	14nm,0.1s,SNR=18						
ESPR				S	**Sn**	**10 35 23.5**	**+0.2**
	35nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.31**	**18**	⇓P	**Pb**	**10 35 11.5**	**+0.8**
	1.0nm,0.1s,SNR=18						
EMIN				S	**Sb**	**10 35 27.1**	**-0.5**
	9.4nm,0.1s,SNR=15						
EMIN	**Mina Concepcio**	**1.31**	**18**	P	**Pb**	**10 35 11.5**	**+0.8**
	1.0nm,0.1s,SNR=18						
EMIN				S	**Sb**	**10 35 27.1**	**-0.5**
	9.4nm,0.1s,SNR=15						
MORF	**Marmelete**	**1.41**	**304**	*e*P	**Pn**	**10 35 12.2**	**+0.4**
MORF				*e*S	**Sn**	**10 35 28.6**	**-1.8**
MORF				AML	AML	10 35 29.4	
	comp=N,30nm,0.3s						
MORF	**Marmelete**	**1.41**	**304**	*e*S	**Sn**	**10 35 28.5**	**-1.9**
MORF				A	A	10 35 29.0	
	comp=N,13nm,0.1s						
MORF	**Marmelete**	**1.41**	**304**	P	**Pn**	**10 35 12.2**	**+0.4**
MORF				S	**Sn**	**10 35 28.6**	**-1.8**
	comp=N,30nm,0.3s						
MORF	**Marmelete**	**1.41**	**304**	P	**Pn**	**10 35 12.2**	**+0.4**
MORF				S	**Sn**	**10 35 28.6**	**-1.8**
	comp=N,30nm,0.3s						
PFVI	**Vila Bisbo**	**1.45**	**296**	*e*P	**Pn**	**10 35 12.4**	**+0.2**
PFVI				*e*S	**Sn**	**10 35 29.0**	**-2.2**
PFVI				A	A	10 35 31.5	
	comp=N,16nm,0.3s						
PFVI	**Vila Bisbo**	**1.45**	**296**	P	**Pn**	**10 35 12.3**	**+0.2**
	comp=N,3.1nm,0.1s,SNR=6.5						
PFVI				S	**Sn**	**10 35 29.1**	**-2.2**
	comp=N,25nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.45**	**296**	*e*P	**Pn**	**10 35 12.4**	**+0.2**
PFVI				S	**Sn**	**10 35 29.1**	**-2.2**
	comp=N,25nm,0.1s,SNR=7.9						
MESJ	**Messejana**	**1.56**	**328**	*e*P	**Pn**	**10 35 14.6**	**+0.9**
MESJ				*e*S	**Sn**	**10 35 32.4**	**-1.6**
MESJ				AML	AML	10 35 34.2	
	comp=N,16nm,0.1s						
MESJ	**Messejana**	**1.56**	**328**	*i* P	**Pn**	**10 35 14.6**	**+0.9**
MESJ				*e*S	**Sn**	**10 35 32.3**	**-1.6**
MESJ				A	A	10 35 34.1	
	comp=N,9.9nm,0.1s						
MESJ	**Messejana**	**1.56**	**328**	P	**Pn**	**10 35 14.6**	**+0.9**
MESJ				S	**Sn**	**10 35 32.4**	**-1.6**
	comp=N,16nm,0.1s						
MESJ	**Messejana**	**1.56**	**328**	P	**Pn**	**10 35 14.6**	**+0.9**
MESJ				*e*S	**Sn**	**10 35 32.3**	**-1.6**
	comp=N,9.9nm,0.1s						
PTEO	**Sao Teotonio**	**1.60**	**310**	*i* P	**Pn**	**10 35 15.0**	**+0.7**
PTEO				*e*S	**Sn**	**10 35 33.5**	**-1.5**
PTEO				A	A	10 35 42.1	
	comp=N,9.5nm,0.4s						
PTEO	**Sao Teotonio**	**1.60**	**310**	⇓P	**Pn**	**10 35 15.0**	**+0.7**
PTEO				S	**Sn**	**10 35 33.5**	**-1.5**
	comp=N,4.8nm,0.4s						
PTEO	**Sao Teotonio**	**1.60**	**310**	P	**Pn**	**10 35 15.0**	**+0.7**
PTEO				*e*S	**Sn**	**10 35 33.5**	**-1.5**
	comp=N,9.5nm,0.4s						
PBAR	**Barrancos**	**1.66**	**4**	*e*P	**Pn**	**10 35 16.4**	**+1.3**
PBAR				*e*S	**Sn**	**10 35 35.9**	**-0.5**
PBAR				A	A	10 35 36.9	
	comp=N,22nm,0.5s						
PBAR	**Barrancos**	**1.66**	**4**	P	**Pn**	**10 35 16.4**	**+1.3**
PBAR				S	**Sn**	**10 35 35.9**	**-0.5**
	comp=N,22nm,0.5s						
PBAR	**Barrancos**	**1.66**	**4**	P	**Pn**	**10 35 16.4**	**+1.3**
PBAR				*e*S	**Sn**	**10 35 35.9**	**-0.5**
	comp=N,22nm,0.5s						
PNCL	**Nicolau / Gran**	**1.92**	**327**	*i* Pn	**Pn**	**10 35 19.4**	**+0.8**
PNCL				*e*Sn	**Sn**	**10 35 40.6**	**-2.2**
PNCL				A	A	10 35 42.9	
	comp=N,6.5nm,0.5s						
EMIJ	**Mijas**	**1.95**	**88**	P	**Pn**	**10 35 19.8**	**+0.7**
	comp=N,0.7nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**10 35 43.5**	**-0.1**
	comp=N,1.8nm,0.2s,SNR=4.0						
EMIJ	**Mijas**	**1.95**	**88**	P	**Pn**	**10 35 19.8**	**+0.7**
	comp=N,0.7nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**10 35 43.5**	**-0.1**
	comp=N,1.8nm,0.2s,SNR=4.0						
ECAB	**El Cabril**	**2.10**	**42**	P	**Pn**	**10 35 21.9**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=5.7						
ECAB				S	**Sn**	**10 35 45.4**	**-2.0**
	comp=N,1.0nm,0.0s,SNR=6.1						
ECAB	**El Cabril**	**2.10**	**42**	P	**Pn**	**10 35 21.9**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=5.7						
ECAB				S	**Sn**	**10 35 45.4**	**-2.0**
	comp=N,1.0nm,0.0s,SNR=6.1						
EVO	**Evora**	**2.11**	**342**	*e*Sn	**Sn**	**10 35 47.3**	**-0.4**
EVO	**Evora**	**2.11**	**342**	S	**Sn**	**10 35 47.3**	**-0.4**
EVO	**Evora**	**2.11**	**342**	S	**Sn**	**10 35 47.3**	**-0.4**
EBAD	**Badajoz**	**2.24**	**4**	P	**Pn**	**10 35 24.1**	**+1.1**
	comp=N,1.0nm,0.1s,SNR=7.0						
EBAD				S	**Sn**	**10 35 49.4**	**-1.4**
	comp=N,1.8nm,0.1s						
EBAD	**Badajoz**	**2.24**	**4**	P	**Pn**	**10 35 24.1**	**+1.1**
	comp=N,1.0nm,0.1s,SNR=7.0						
EBAD				S	**Sn**	**10 35 49.4**	**-1.4**
	comp=N,1.8nm,0.1s						
PESTR	**Estremoz**	**2.37**	**352**	*e*Sn	**Sn**	**10 35 52.6**	**-1.4**
PESTR				A	A	10 35 54.3	
	comp=N,3.7nm,0.7s						
PESTR	**Estremoz**	**2.37**	**352**	*e*Sn	**Sn**	**10 35 52.6**	**-1.4**
	comp=N,3.7nm,0.7s						
PMTG	**Montargil**	**2.67**	**342**	*e*Pn	**Pn**	**10 35 30.0**	**+0.9**
PMTG				*e*Sn	**Sn**	**10 36 01.3**	**-0.2**
PMTG				A	A	10 36 02.3	
	comp=N,3.8nm,0.5s						
PMTG	**Montargil**	**2.67**	**342**	*e*Pn	**Pn**	**10 35 30.0**	**+0.9**
PMTG				*e*Sn	**Sn**	**10 36 01.3**	**-0.2**
	comp=N,3.8nm,0.5s						
PMRV	**Marv??o**	**2.91**	**357**	*e*Pn	**Pn**	**10 35 33.4**	**+1.1**
PMRV				*e*Sn	**Sn**	**10 36 05.1**	**-2.3**
PMRV				A	A	10 36 15.0	
	comp=N,3.7nm,0.7s						
PMRV	**Marv??o**	**2.91**	**357**	P	**Pn**	**10 35 33.4**	**+1.1**
PMRV				S	**Sn**	**10 36 05.1**	**-2.3**
	comp=N,3.7nm,0.7s						
PMRV	**Marv??o**	**2.91**	**357**	P	**Pn**	**10 35 33.4**	**+1.1**
PMRV				S	**Sn**	**10 36 05.1**	**-2.3**
	comp=N,3.7nm,0.7s						
EBAN	**Banos Encina**	**3.17**	**58**	P	**Pn**	**10 35 36.6**	**+0.7**
	comp=N,4.8nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**10 36 12.0**	**-1.8**
	comp=N,1.8nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.17**	**58**	P	**Pn**	**10 35 36.6**	**+0.7**
	comp=N,4.8nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**10 36 12.0**	**-1.8**
	comp=N,1.8nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.33**	**356**	*e*Pn	**Pn**	**10 35 39.3**	**+1.3**
PCBR				*e*Sn	**Sn**	**10 36 15.9**	**-1.6**
PCBR	**Castelo Branco**	**3.33**	**356**	P	**Pn**	**10 35 39.3**	**+1.3**
PCBR				S	**Sn**	**10 36 15.9**	**-1.6**
PCBR	**Castelo Branco**	**3.33**	**356**	P	**Pn**	**10 35 39.3**	**+1.3**
PCBR				S	**Sn**	**10 36 15.9**	**-1.6**
EPLA	**Plasencia**	**3.65**	**14**	P	**Pn**	**10 35 43.4**	**+1.0**
	comp=N,0.8nm,0.1s,SNR=5.6						
EPLA				S	**Sn**	**10 36 23.3**	**-2.3**
	comp=N,0.9nm,0.0s,SNR=7.9						
EPLA	**Plasencia**	**3.65**	**14**	P	**Pn**	**10 35 43.4**	**+1.0**
	comp=N,0.8nm,0.1s,SNR=5.6						
EPLA				S	**Sn**	**10 36 23.3**	**-2.3**
	comp=N,0.9nm,0.0s,SNR=7.9						
EHUE	**Huescar**	**3.89**	**69**	P	**Pn**	**10 35 46.6**	**+0.7**
	comp=N,1.0nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**10 36 30.5**	**-1.2**
	comp=N,0.5nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**3.89**	**69**	P	**Pn**	**10 35 46.6**	**+0.7**
	comp=N,1.0nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**10 36 30.5**	**-1.2**
	comp=N,0.5nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.05**	**38**	S	**Sn**	**10 36 32.4**	**-3.1**
	comp=N,0.3nm,0.2s,baz=222,slow=24,SNR=4.4						
ESDC	**Sonseca Array**	**4.05**	**38**	S	**Sn**	**10 36 32.4**	**-3.1**
	comp=N,0.3nm,0.2s,baz=222,slow=24,SNR=4.4						
EVIA	**Vianos**	**4.28**	**59**	P	**Pn**	**10 35 51.4**	**+0.1**
	comp=N,2.0nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**10 36 37.8**	**-3.6**
	comp=N,1.0nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**4.28**	**59**	P	**Pn**	**10 35 51.4**	**+0.1**
	comp=N,2.0nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**4.64**	**2**	*e*Sn	**Sn**	**10 36 47.8**	**-2.3**
MVO	**Moncorvo**	**4.64**	**2**	P	**Pn**	**10 35 57.3**	**+1.1**
	comp=N,1.1nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**10 36 46.2**	**-3.9**
	comp=N,0.4nm,0.0s,SNR=7.9						
MVO	**Moncorvo**	**4.64**	**2**	P	**Pn**	**10 35 57.3**	**+1.1**
	comp=N,1.1nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**10 36 46.2**	**-3.9**
	comp=N,0.4nm,0.0s,SNR=7.9						
MVO				*e*Sn	**Sn**	**10 36 47.8**	**-2.3**
GUD	**Guadarrama**	**4.76**	**29**	P	**Pn**	**10 35 59.1**	**+1.3**
	comp=N,0.3nm,0.1s,SNR=7.9						
GUD				S	**Sn**	**10 36 50.8**	**-2.2**
	comp=N,0.1nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**4.76**	**29**	P	**Pn**	**10 35 59.1**	**+1.3**
	comp=N,0.3nm,0.1s,SNR=7.9						
GUD				S	**Sn**	**10 36 50.8**	**-2.2**
	comp=N,0.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.96**	**63**	P	**Pn**	**10 36 00.7**	**+0.2**
	comp=N,0.6nm,0.1s,SNR=6.5						
ETOB				S	**Sn**	**10 36 54.3**	**-3.7**
	comp=N,0.5nm,0.1s						
ETOB	**Tobarra**	**4.96**	**63**	P	**Pn**	**10 36 00.7**	**+0.2**
	comp=N,0.6nm,0.1s,SNR=6.5						
ECAL	**Calabor**	**5.43**	**4**	P	**Pn**	**10 36 08.3**	**+1.3**
	comp=N,0.8nm,0.2s,SNR=4.0						
ECAL				S	**Sn**	**10 37 07.1**	**-2.4**
	comp=N,2.0nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.43**	**4**	P	**Pn**	**10 36 08.3**	**+1.3**
	comp=N,0.8nm,0.2s,SNR=4.0						
ECAL				S	**Sn**	**10 37 07.1**	**-2.4**
	comp=N,2.0nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.88**	**42**	P	**Pn**	**10 36 14.7**	**+1.5**
	comp=N,3.8nm,0.2s,SNR=5.8						
ETOR				S	**Sn**	**10 37 17.7**	**-3.0**
	comp=N,10.0nm,0.2s,SNR=6.0						
ETOR	**Torete**	**5.88**	**42**	P	**Pn**	**10 36 14.7**	**+1.5**
	comp=N,3.8nm,0.2s,SNR=5.8						
ETOR				S	**Sn**	**10 37 17.7**	**-3.0**
	comp=N,10.0nm,0.2s,SNR=6.0						

*IDC **19** 10:34:55.2±3.4, 20°.95S×176°.46W, h194km±30km,*
mb3.8/14, mb1 4.0/14, mb1mx3.9/23, mbtmp4.3/14, MS4.0/3,
Ms1 4.0/3, ms1mx3.3/37, Error ellipse: s-maj=19.7km
s-min=13.9km az=147.0
*ISCJB **19** 10:34:56.3±0.5, 21°.30S±0°.05×176°.42W±0°.07, h219km,*
mb3.9/16, Error ellipse: s-maj=9.2km s-min=7.0km
az=167.7
*NEIC **19** 10:34:58.6±1.8, 21°.10S×176°.46W, h228km±15km, mb4.3/5,*
Error ellipse: s-maj=14.5km s-min=11.4km az=124.0
ISC 19 10:34:57.5±0.5, 21°.13S±0°.08×176°.35W±0°.08, h219km,
n65, σ1§45/69, mb3.9/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.28**	**302**	*e*Pn	**Pn**	**10 36 28.9**	**+0.2**
	12nm,0.5s						
MSVF				*e*Sn	**S**	**10 37 41.0**	**-0.1**
NIUE	**Niue**	**6.37**	**72**	P	Pn	10 36 21.8	-8.0
	baz=6.1,SNR=27						
NIUE				S	S	10 37 26.5	-17
	baz=6.1,SNR=9.8						
DZM	**Mont Dzumac**	**16.03**	**264**	P	**Pn**	**10 38 33.4**	**+1.9**
	3.2nm,0.3s,baz=82,slow=17,SNR=26						
DZM	**Mont Dzumac**	**16.03**	**264**	*e*P	**Pn**	**10 38 34.1**	**+2.6**
URZ	**Urewera**	**17.98**	**197**	P	**P**	**10 38 49.6**	**-2.2**
	5.4nm,0.3s,baz=323,slow=2.9,SNR=35						
URZ	**Urewera**	**17.98**	**197**	*e*PN	**P**	**10 38 49.4**	**-2.4**
URZ				*e*SN	S	10 41 57.3	-9.2
URZ	**Urewera**	**17.98**	**197**	*e*P	**P**	**10 38 49.7**	**-2.0**
MRZ	**Mangatainoka R**	**20.65**	**198**	*e*PN	**P**	**10 39 16.3**	**-4.1**
MRZ				*e*SN	S	10 42 48.5	-10
QRZ	**Quartz Range**	**21.79**	**203**	*e*PN	**P**	**10 39 30.4**	**-1.7**
NNZ	**Nelson**	**21.84**	**201**	*e*PN	**P**	**10 39 29.5**	**-2.9**
NNZ				*e*SN	**S**	**10 43 17.0**	**-1.1**
THZ	**Tophouse**	**22.48**	**201**	*e*PN	**P**	**10 39 36.8**	**-1.8**
THZ				*e*SN	**S**	**10 43 28.1**	**-0.5**
DSZ	**Denniston Nort**	**22.86**	**203**	*e*PN	**P**	**10 39 42.0**	**+0.1**
KHZ	**Kahutara**	**22.86**	**200**	*e*PN	**P**	**10 39 41.0**	**-0.9**
WVZ	**Waitahu Valley**	**24.41**	**203**	*e*PN	**P**	**10 39 54.3**	**-1.6**
FOZ	**Fox Glacier**	**25.22**	**204**	*e*PN	**P**	**10 40 01.8**	**-1.4**
CTA	**Charters Tower**	**34.97**	**265**	P	**P**	**10 41 29.2**	**0.0**
	8.2nm,0.7s,baz=93,slow=13,SNR=7.8						
CTAO	**Charters Tower**	**34.97**	**265**	*e*P	**P**	**10 41 29.4**	**+0.2**
	6.6nm,0.6s						
QLP	**Quilpie**	**36.36**	**254**	P	**P**	**10 41 40.7**	**-0.2**
	baz=37,SNR=4.1						
COEN	**Coen**	**39.16**	**274**	P	**P**	**10 42 05.2**	**+0.7**
	baz=39,SNR=7.4						
BBOO	**Buckleboo**	**43.66**	**244**	P	**P**	**10 42 39.4**	**-1.4**
	baz=44,SNR=9.6						
JAY	**Jayapura**	**45.71**	**288**	P	**P**	**10 42 57.1**	**-0.1**
	13nm,0.7s,baz=146,slow=11,SNR=3.4						
AS31	**Alice Springs**	**45.88**	**257**	*e*P	**P**	**10 42 58.0**	**-0.5**
ASAR	**Alice Springs**	**45.88**	**257**	P	**P**	**10 42 57.5**	**-1.0**
	4.0nm,0.8s,baz=86,slow=8.0,SNR=45						
ASAR				ScP	**ScP**	**10 48 08.0**	**+4.0**
	0.7nm,1.1s,baz=97,slow=4.6,SNR=5.1						
WB2	**Warramunga Arr**	**46.03**	**262**	*e*P	**P**	**10 42 58.4**	**-1.3**
WRAB	**Tennant Creek**	**46.04**	**262**	*e*P	**P**	**10 42 58.4**	**-1.3**
	2.5nm,0.8s						
WRA	**Warramunga Arr**	**46.05**	**262**	P	**P**	**10 42 58.5**	**-1.3**
	2.6nm,0.7s,baz=97,slow=7.7,SNR=70						
KDU	**Kakadu**	**49.51**	**271**	P	**P**	**10 43 25.8**	**-0.6**
	baz=50,SNR=4.7						
FORT	**Forrest**	**50.47**	**247**	P	**P**	**10 43 34.0**	**+0.6**
	baz=51,SNR=8.3						
WRKA	**Warakurna**	**50.78**	**254**	P	**P**	**10 43 34.8**	**-1.0**
	baz=51,SNR=13						
KNRA	**Kununurra**	**52.16**	**266**	P	**P**	**10 43 45.4**	**-0.7**
	baz=52,SNR=11						
FITZ	**Fitzroy Crossi**	**54.48**	**262**	P	**P**	**10 44 03.1**	**+0.2**
	baz=55,SNR=5.3						
VNDA	**Vanda**	**57.43**	**186**	P	**P**	**10 44 24.9**	**+2.0**
	3.3nm,1.0s,baz=18,slow=7.2,SNR=3.9						
VNDA				LR	LR	11 09 35.9	
	comp=Z,47nm,18.0s,baz=247,slow=36						
MEEK	**Meekatharra**	**59.17**	**251**	P	**P**	**10 44 34.6**	**-1.3**
	baz=59,SNR=6.3						
NWAO	**Narrogin (SRO)**	**59.47**	**243**	P	**P**	**10 44 38.8**	**+1.1**
	5.9nm,0.8s,baz=90,slow=7.1,SNR=3.2						
BLDU	**Ballidu**	**60.21**	**246**	P	**P**	**10 44 41.9**	**-0.9**
	baz=60,SNR=12						
MORW	**Morawa**	**61.02**	**248**	P	**P**	**10 44 49.9**	**+1.6**
	baz=61,SNR=4.5						
JCJ	**Chichijima**	**62.53**	**318**	LR	LR	11 11 01.9	
	comp=Z,120nm,18.3s,baz=98,slow=35						
QSPA	**South Pole Qui**	**68.94**	**180**	LR	LR	11 11 17.9	
	comp=Z,286nm,18.6s,baz=9.0,slow=32						
QSPA	**South Pole Qui**	**68.94**	**180**	*e*P	**P**	**10 45 40.1**	**+1.3**
	5.9nm,0.6s						
YBH	**Yreka Blue Hor**	**79.83**	**38**	P	**P**	**10 46 42.7**	**+1.0**
	3.7nm,0.9s,baz=285,slow=4.5,SNR=7.8						
NVAR	**Mina Array Bea**	**80.43**	**43**	P	**P**	**10 46 45.5**	**+0.3**
	1.5nm,0.7s,baz=228,slow=8.9,SNR=8.5						
NEW	**Newport**	**86.99**	**35**	P	**P**	**10 47 18.8**	**+0.9**
	0.9nm,0.5s,baz=220,slow=4.4,SNR=4.1						
SEY	**Seymchan**	**87.34**	**346**	P	**P**	**10 47 19.3**	**+0.1**
	1.4nm,0.7s,baz=137,slow=5.4,SNR=9.3						
PLCA	**Paso Flores**	**87.72**	**133**	P	**P**	**10 47 23.2**	**+1.4**
	2.0nm,0.7s,baz=249,slow=7.4,SNR=7.0						
PLCA	**Paso Flores**	**87.72**	**133**	*e*P	**P**	**10 47 23.0**	**+1.3**
	1.5nm,0.5s						
PDAR	**Pinedale Array**	**88.37**	**43**	P	**P**	**10 47 25.1**	**+0.2**
	0.9nm,0.9s,baz=214,slow=2.7,SNR=6.8						
ILAR	**Eielson Array**	**88.59**	**12**	P	**P**	**10 47 24.7**	**-0.3**
	0.7nm,1.0s,baz=212,slow=5.1,SNR=8.6						
YKA	**Yellowknife Ar**	**96.44**	**24**	P	**P**	**10 48 00.5**	**-0.7**
	2.1nm,1.3s,baz=238,slow=4.8,SNR=6.2						
ZALV	**Zalesovo Beam**	**111.95**	**321**	PKiKP	**PKiKP**	**10 53 05.2**	**-1.0**
	0.6nm,0.5s,baz=117,slow=1.6,SNR=3.5						
MKAR	**Makanchi Array**	**112.75**	**313**	PKiKP	**PKiKP**	**10 53 07.7**	**-0.4**
	0.5nm,0.6s,baz=108,slow=0.4,SNR=6.9						
KURK	**Kurchatov**	**115.50**	**317**	PKP	**PKPdf**	**10 53 12.9**	**-0.2**
KURBB	**Kurchatov Arra**	**115.56**	**317**	PKP	**PKPdf**	**10 53 12.9**	**-0.3**
	1.3nm,0.7s,baz=49,slow=2.8,SNR=10						
BVAR	**Borovoye Array**	**120.56**	**320**	PKP	**PKPdf**	**10 53 22.7**	**-0.1**
	1.1nm,0.3s,baz=81,slow=2.0,SNR=10.0						
BOSA	**Boshof**	**126.33**	**204**	*e*PKPdf	**PKPdf**	**10 53 36.4**	**+1.5**
AKTO	**Aktyubinsk**	**128.56**	**318**	PKP	**PKPdf**	**10 53 38.9**	**+0.7**
	1.4nm,0.7s,baz=293,slow=1.2,SNR=6.0						
ARCES	**ARCESS Array B**	**129.81**	**350**	PKP	**PKPdf**	**10 53 39.9**	**-0.2**
	8.3nm,1.2s,baz=350,slow=1.4,SNR=6.3						
FINES	**FINESS Array B**	**136.80**	**344**	PKP	**PKPdf**	**10 53 52.2**	**-1.2**
	0.6nm,0.6s,baz=90,slow=1.4,SNR=3.4						
HFS	**Hagfors**	**140.39**	**352**	PKhKP	PKPpre	10 53 54.1	
	0.7nm,0.4s,baz=64,slow=3.4,SNR=6.6						
AKASG	**Malin Array Be**	**144.30**	**332**	PKP	**PKPab**	**10 54 05.7**	**-0.1**
	2.6nm,0.5s,baz=41,slow=3.9,SNR=8.3						
BRTR	**Keskin Array B**	**148.40**	**313**	PKPbc	**PKPbc**	**10 54 18.8**	**+0.3**
	2.1nm,0.5s,baz=138,slow=4.7,SNR=14						
CLL	**Collm**	**149.00**	**349**	*e*PKPbc	**PKPbc**	**10 54 20.0**	**+0.6**
	comp=Z,10.0nm,1.1s						
BRG	**Berggiesshubel**	**149.24**	**347**	*e*P	**PKPbc**	**10 54 20.8**	**+0.8**
	comp=Z,7.4nm,1.2s						
GERES	**GERESS Array B**	**151.20**	**346**	PKPbc	**PKPbc**	**10 54 23.1**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=333,slow=1.5,SNR=6.1						
GERES				PKPab	**PKPab**	**10 54 30.9**	**-2.6**
	comp=Z,0.4nm,0.5s,baz=5.2,slow=4.3,SNR=2.9						
ECH	**Echery**	**152.83**	**355**	*e*PKPdf	**PKPdf**	**10 54 21.0**	**-0.1**
ECH				*e*PKPbc	**PKPbc**	**10 54 27.5**	**-0.9**
ECH				*e*PKPab	**PKPab**	**10 54 36.9**	**-3.3**
TORD	**Torodi Ar. Bea**	**171.84**	**166**	PKP	**PKPdf**	**10 54 39.1**	**-1.6**
	comp=Z,1.2nm,1.1s,baz=211,slow=0.8,SNR=4.9						
TORD				PKPab	**PKPab**	**10 56 04.3**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=189,slow=3.4,SNR=9.7						

*IDC **19** 10:35:55.6±0.6, 35°.46S×72°.57W, h0km, mb4.5/12,*
mb1 4.6/15, mb1mx4.4/31, mbtmp4.4/15, ML4.2/4, MS4.0/10,
Ms1 4.0/10, ms1mx3.7/29, Error ellipse: s-maj=22.0km
s-min=12.3km az=89.0
*NEIC **19** 10:35:59.0, 35°.52S×72°.61W, h36km, mb4.8/28,*
ML4.9(GUC), After GUC.
NEIC Felt [IV] at Cauquenes and Chanco; [III] at Talca; [II] at
Curico, Linares, Retiro, San Javier and Santiago.
*GUC **19** 10:35:59.9±0.7, 35°.52S×72°.61W, h36km±10km, ML4.9*
*ISCJB **19** 10:36:01.4±0.9, 35°.50S±0°.04

JCT	Junction City	70.47	335	*eP*	P	10 47 12.0	+0.6
	comp=E,11nm,1.0s						
TXAR	Lajitas Array	70.85	331	P	P	10 47 14.8	+0.9
	comp=E,1.3nm,0.5s,baz=152,slow=8.1,SNR=30						
TXAR				LR	LR	11 14 04.0	
	comp=E,84nm,18.2s,baz=0.0,slow=32						
TX31	Lajitas Ar. Si	70.85	331	*eP*	P	10 47 14.6	+0.7
SWET	Sewanee	71.46	348	*eP*	P	10 47 17.9	+0.5
CPCT	Cooper Cave	71.47	350	*eP*	P	10 47 21.1	+3.7
WVT	Waverly	72.68	347	*eP*	P	10 47 24.7	+0.2
	comp=E,18nm,1.0s						
WMOK	Wichita Mounta	74.05	338	*eP*	P	10 47 33.0	+0.3
	comp=E,2.1nm,0.8s						
TUL1	Leonard	74.28	341	*eP*	P	10 47 34.3	+0.3
	comp=E,5.1nm,0.2s						
SUR	Sutherland	74.48	119	LR	LR	11 15 48.2	
	comp=E,85nm,21.3s,baz=280,slow=32						
MSTX	Muleshoe	74.67	334	*eP*	P	10 47 37.2	+0.8
	comp=E,13nm,1.2s						
ACSO	Alum Creek Sta	75.98	352	*eP*	P	10 47 43.5	-0.2
	comp=E,13nm,0.6s						
DBIC	Dimbokro	76.08	71	P	P	10 47 44.1	-0.7
	comp=E,4.2nm,0.7s,baz=202,slow=7.1,SNR=4.8						
DBIC				LR	LR	11 17 58.6	
	comp=E,90nm,20.9s,baz=205,slow=33						
DBIC	Dimbokro	76.08	71	*eP*	P	10 47 45.2	+0.4
	comp=E,2.8nm,0.5s						
TUC	Tucson	76.40	327	*eP*	P	10 47 48.2	+1.8
	comp=E,2.6nm,0.9s						
LPM	Los Pinos Moun	76.41	332	*eP*	P	10 47 48.6	+2.0
ANMO	Albuquerque	76.91	332	*eP*	P	10 47 50.9	+1.6
	comp=E,4.4nm,1.0s						
TSUM	Tsumeb	79.22	106	LR	LR	11 20 09.4	
	comp=E,92nm,18.5s,baz=150,slow=34						
WUAZ	Wupatki	79.39	329	*eP*	P	10 48 05.2	+2.2
WUAZ				*ep*P	pP	10 48 16.6	+0.7
BOSA	Boshof	79.75	118	P	P	10 48 06.0	+0.6
	comp=E,7.8nm,0.8s,baz=225,slow=4.7,SNR=8.8						
PFO	Pinyon Flats O	80.09	324	LR	LR	11 17 51.7	
	comp=E,107nm,18.9s,baz=118,slow=31						
PV01	Paradox Valley	80.51	332	*eP*	P	10 48 11.2	+2.1
PV05	Paradox Valley	80.67	332	*eP*	P	10 48 11.3	+1.4
SMCO	Snowmass	80.83	334	*eP*	P	10 48 12.8	+1.8
	comp=E,6.1nm,1.0s						
PV10	Paradox Valley	80.90	332	*eP*	P	10 48 12.5	+1.2
KNB	Kanab	81.28	328	*eP*	P	10 48 15.3	+2.2
KNB				*ep*P	pP	10 48 26.9	+0.8
ECSD	EROS Data Cent	81.86	343	*eP*	P	10 48 15.9	+0.1
	comp=E,10nm,0.9s						
CCUT	Cedar City	81.96	328	*eP*	P	10 48 14.3	-2.5
	comp=E,5.8nm,0.8s						
LBTB	Lobatse	82.06	115	LR	LR	11 21 56.3	
	comp=E,78nm,18.1s,baz=224,slow=34						
LBTB	Lobatse	82.06	115	*eP*	P	10 48 18.2	+0.5
	comp=E,4.0nm,0.8s						
TMUT	Trail Mountain	82.55	331	*eP*	P	10 48 21.2	+1.3
	comp=E,21nm,0.8s						
ISA	Isabella, Lake	82.73	324	*eP*	P	10 48 22.9	+2.3
	comp=E,54nm,2.8s						
DAC	Darwin (Calif)	82.81	325	*eP*	P	10 48 23.4	+2.2
DAC				*ep*P	pP	10 48 34.8	+0.6
R11A	Troy Canyon, C	83.59	327	*eP*	P	10 48 27.2	+2.1
	comp=E,46nm,2.8s						
K22A	Casper	83.75	336	*eP*	P	10 48 27.1	+1.3
	comp=E,12nm,1.5s						
DUG	Dugway, Tooele	83.96	330	*eP*	P	10 48 28.4	+1.4
	comp=E,2.9nm,1.1s						
DUG				*ep*P	pP	10 48 38.5	-1.5
NV01	Mina Array Sit	84.88	326	*eP*	P	10 48 33.2	+1.4
NVAR	Mina Array Bea	84.88	326	P	P	10 48 33.4	+1.6
	comp=E,1.7nm,0.9s,baz=151,slow=3.4,SNR=5.8						
PDAR	Pinedale Array	84.92	334	P	P	10 48 31.6	-0.3
	comp=E,0.6nm,0.8s,baz=107,slow=4.8,SNR=3.2						
TOA0	Torodi Ar. Sit	85.13	70	*eP*	P	10 48 33.3	0.0
TORD	Torodi Ar. Bea	85.13	70	P	P	10 48 33.8	+0.5
	comp=E,2.9nm,1.0s,baz=251,slow=5.1,SNR=12						
HVU	Hansel Valley	85.29	331	*eP*	P	10 48 34.6	+0.9
	comp=E,9.5nm,1.4s						
MSKU	Masuku	85.93	89	LR	LR	11 20 13.4	
	comp=E,62nm,21.4s,baz=178,slow=31						
AGMN	Agassiz Nation	85.99	345	*eP*	P	10 48 36.9	+0.1
	comp=E,30nm,1.0s						
TPAW	Teton Pass	86.05	333	*eP*	P	10 48 39.0	+1.4
	comp=E,3.9nm,1.0s						
RLMT	Red Lodge	86.87	335	*eP*	P	10 48 42.3	+0.8
	comp=E,76nm,3.0s						
ULM	Lac du Bonnet	87.84	345	P	P	10 48 45.7	0.0
	comp=E,5.0nm,0.8s,baz=180,slow=4.1,SNR=9.1						
ULM	Lac du Bonnet	87.84	345	*eP*	P	10 48 45.8	0.0
	comp=E,4.1nm,0.9s						
MOD	Modoc Plateau	88.58	326	*eP*	P	10 48 51.3	+1.7
	comp=E,66nm,2.8s						
ESK	Eskdalemuir	108.07	34	*e*PKPdf	PKiKP	10 54 23.7	-0.1
ASAR	Alice Springs	116.02	207	PKP	PKPdf	10 54 39.3	-0.9
	comp=E,0.3nm,0.9s,baz=128,slow=1.1,SNR=4.1						
PETK	Petropavlovsk-	140.88	313	PKhKP	PKPpre	10 55 22.9	
	comp=E,3.6nm,0.9s,baz=214,slow=9.7,SNR=6.0						
PALK	Pallekele	142.71	133	*e*PKPdf	PKPdf	10 55 31.2	+0.5
HYB	Hyderabad	148.66	118	*i* PKP	PKPbc	10 55 44.0	-0.4
BVAR	Borovoye Array	148.67	44	PKPbc	PKPbc	10 55 43.7	+0.4
	comp=E,0.9nm,0.7s,baz=302,slow=3.3,SNR=4.8						
KKAR	Karatay Array	150.63	64	*e*PKPbc	PKPbc	10 55 48.8	+0.2
AAK	Ala-Archa	153.58	64	PKPab	PKPab	10 56 08.2	+0.1
	comp=E,2.2nm,0.6s,baz=229,slow=1.5,SNR=6.0						
AAK	Ala-Archa	153.58	64	*e*PKPdf	PKPdf	10 55 48.9	+1.2
AAK				*e*PKPbc	PKiKP	10 55 56.0	+0.5
AAK				PKPab	PKPab	10 56 08.2	+0.1
AAK				*e*PKPab	PKPab	10 56 08.6	+0.5
KURBB	Kurchatov Arra	154.26	45	PKPbc	PKPbc	10 55 55.6	-0.8
	comp=E,0.6nm,0.3s,baz=304,slow=3.4,SNR=4.7						
KURBB				PKPab	PKPab	10 56 10.0	-0.4
	comp=E,0.3nm,0.3s,baz=294,slow=3.4,SNR=4.2						
KURK	Kurchatov	154.27	45	*e*PKPdf	PKPdf	10 55 48.6	+0.5
KURK				PKPbc	PKPbc	10 55 55.6	-0.8
KURK				*e*PKPbc	PKiKP	10 55 57.7	+1.3
KURK				*e*PKPab	PKPab	10 56 09.7	-0.8
KURK				PKPab	PKPab	10 56 10.0	-0.5
KSH	Kashi	154.80	71	PKPbc	PKPdf	10 55 50.3	+0.9
KSH				sPKP		10 56 03.9	
KSH				PKS	PKSdf	10 59 24.3	+0.7
KSH				PP	PP	10 59 48.1	-1.6
KSH				SKS	SKSdf	11 02 54.8	+2.2
KSH				SKKS	SKKSac	11 06 37.8	+2.2
KSH				SS	SS	11 19 27.9	-1.4
KSH				PPMZ			
	comp=E,93nm,5.1s						
KSH				LZ			
	comp=E,130nm,5.8s						
ZALV	Zalesovo Beam	155.73	34	PKPab	PKPab	10 56 17.0	+0.4
	comp=E,1.0nm,0.6s,baz=298,slow=3.2,SNR=5.7						
MKAR	Makanchi Array	158.07	51	PKPab	PKPab	10 56 25.0	-2.0
	comp=E,0.3nm,0.6s,baz=288,slow=2.3,SNR=3.7						
WMQ	Urumqi	162.72	55	*e*PKP	PKPdf	10 55 58.9	+0.3
WMQ				PPMZ			
	comp=E,100nm,4.0s						
WMQ				LN			
	comp=E,620nm,27.0s						
WMQ				LE			
	comp=E,270nm,27.0s						
WMQ				LZ			
	comp=E,310nm,22.0s						
SONM	Songino Array	167.66	3	PKPab	PKPab	10 57 09.5	+0.4
	comp=E,0.2nm,0.3s,baz=332,slow=2.5,SNR=4.4						
NJ2	Nanjing	169.89	253	*e*PKP	PKPdf	10 56 04.8	+0.4
HHC	Hu-ho-hao-te	173.76	330	*e*PKP	PKPdf	10 56 02.0	-4.1
HHC				PKS	PKSdf	10 59 32.8	-5.6
HHC				PP	PP	11 01 27.3	-0.6
HHC				SKS	SKSdf	11 02 59.8	-6.0
HHC				SKKS	SKKSac	11 08 08.4	-2.7
HHC				SS	SS	11 22 38.5	-3.4
HHC				PPMZ			
	comp=E,74nm,5.3s						
HHC				LN			
	comp=E,260nm,20.6s						
HHC				LE			
	comp=E,390nm,20.6s						
HHC				LZ			
	comp=E,330nm,20.2s						
LZH	Lanzhou	177.03	78	*e*PKP	PKPdf	10 56 07.6	+0.4
LZH				pPKP	pPKPdf	10 56 18.3	-2.5
LZH				sPKP		10 56 21.3	

*BJI **19** 10:50:03.2, 5.°73S×147.°71E, h173km, mB4.9/18, mb4.7/17*
*ISCJB **19** 10:50:06.1±0.3, 5.°43S±0.°03×147.°58E±0.°05, h170km, mb4.4/23, Error ellipse: s-maj=6.6km s-min=3.9km az=172.3*
*IDC **19** 10:50:08.8±1.1, 5.°56S×147.°45E, h179km±10km, mb4.1/19, mb1 4.3/23, mb1mx4.3/27, mbtmp4.7/23, MS3.6/7, Ms1 3.6/7, ms1mx3.3/27, Error ellipse: s-maj=11.5km s-min=7.4km az=92.0*
*NEIC **19** 10:50:09.3±1.0, 5.°46S×147.°52E, h185km±9km, mb5.0/7, Error ellipse: s-maj=9.8km s-min=6.2km az=69.0*
*DJA **19** 10:50:09.2±0.9, 5.°5S±6.°×14.°8E±.°, h175km±6km, M5.1/26, mB5.3/8, mb5.1/26, MLv5.6/4, Mw(mB)4.8/8*

ISC 19 10:50:07.8±0.4, 5.°49S±0.°04×147.°51E±0.°06, h170km, n107, σ1§42/132, mb4.2/22, 3C-12D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.42	358	⇓P	Pn	10 51 05.8	+4.4
	baz=3.5,SNR=11						
PMG	Port Moresby	3.91	185	P	Pn	10 51 08.3	+0.8
	baz=27,slow=11						
PMG				S	Sn	10 51 52.1	-2.0
	398nm,0.3s,baz=225,slow=20,SNR=7.8						
PMG	Port Moresby	3.91	185	⇑P	Pn	10 51 08.3	+0.8
	baz=3.9,SNR=716						
PMG	Port Moresby	3.91	185	*e*Pn	Pn	10 51 08.3	+0.8
PMG				*e*Sn	Sn	10 51 54.0	-0.1
RABL	Rabaul	4.81	75	⇓P	Pn	10 51 21.5	+2.4
	baz=4.8,SNR=126						
JAY	Jayapura	7.41	293	P	Pn	10 51 55.2	+1.8
	182nm,1.0s,0.7nm						
JAY	Jayapura	7.41	293	P	Pn	10 51 54.6	+1.2
	13nm,0.3s,baz=159,slow=8.4,SNR=48						
JAY				S	Sn	10 53 16.7	0.0
	4.0nm,0.3s,baz=330,slow=20,SNR=3.0						
JAY				LR	LR	10 54 53.2	
	comp=Z,230nm,18.6s,baz=128,slow=39						
JAY	Jayapura	7.41	293	⇓P	Pn	10 51 55.4	+2.0
	baz=7.4,SNR=23						
MMPI	Merauke	7.67	247	P	Pn	10 51 59.6	+2.8
	1μm,1.0s,14μm3.2nm						
GENI	Genyem	7.87	291	P	Pn	10 52 00.4	+0.9
	294nm,1.0s,5μm0.9nm						
COEN	Coen	9.44	207	⇓P	Pn	10 52 22.5	+2.3
	baz=9.4,SNR=23						
COEN	Coen	9.44	207	*e*Pn	Pn	10 52 22.5	+2.3
COEN				*e*Sn	Sn	10 54 02.9	-2.3
SMPI	Sarmi	9.45	291	P	Pn	10 52 22.1	+1.8
	97nm,1.3s						
SRPI	Serui, Papua	11.81	287	P	P	10 52 57.0	-0.3
CTA	Charters Tower	14.56	185	P	P	10 53 27.5	-0.4
	5.1nm,0.3s,baz=0.2,slow=13,SNR=38						
CTAO	Charters Tower	14.56	185	*e*Pn	P	10 53 27.9	0.0
FAKI	Fak Fak	15.44	279	⇑P	P	10 53 37.8	+0.2
	baz=15,SNR=4.6						
FAKI	Fak Fak	15.44	279	*e*Pn	Pn	10 53 36.1	-0.7
	45nm,1.0s						
SAUI	Saumlaki	16.29	260	P	Pn	10 53 49.4	+2.2
	444nm,1.1s,5μm						
SAUI	Saumlaki	16.29	260	*e*Pn	Pn	10 53 49.3	+2.0
	307nm,0.8s						
KDU	Kakadu	16.48	243	⇓P	P	10 53 49.1	+0.1
	baz=16,SNR=93						
QIS	Mount Isa	16.84	206	P	Pn	10 53 54.3	+0.5
	baz=17,SNR=80						
SWI	Sorong	16.86	285	P	Pn	10 53 53.9	-0.2
	49nm,1.0s,995nm						
MTN	Manton Dam	17.74	245	P	Pn	10 54 03.9	-0.6
	baz=18,SNR=32						
WRAB	Tennant Creek	19.24	221	P	P	10 54 19.0	-0.2
	678nm,0.8s						
WRAB	Tennant Creek	19.24	221	*e*P	P	10 54 19.9	+0.7
	74nm,0.7s						
WB2	Warramunga Arr	19.25	221	⇑P	P	10 54 20.0	+0.7
	baz=19						
WB2	Warramunga Arr	19.25	221	*e*P	P	10 54 19.9	+0.7
WRA	Warramunga Arr	19.25	221	P	P	10 54 20.1	+0.7
	8.8nm,0.3s,baz=48,slow=12,SNR=462						
WRA				S	S	10 57 45.4	-3.0
	0.6nm,0.3s,baz=45,slow=19,SNR=32						
WRA				LR	LR	11 01 55.2	
	comp=Z,173nm,19.0s,baz=15,slow=37						
EIDS	Eidsvold	20.06	171	P	P	10 54 29.2	+1.2
	baz=20,SNR=24						
EIDS	Eidsvold	20.06	171	*e*P	P	10 54 29.4	+1.3
	22nm,0.6s						
RMQ	Roma	20.91	177	⇓P	P	10 54 38.6	+1.5
	baz=21,SNR=83						
KNRA	Kununurra	21.01	240	⇓P	P	10 54 37.9	-0.3
	baz=21,SNR=78						
QLP	Quilpie	21.21	188	P	P	10 54 41.0	+0.7
	baz=21,SNR=188						
AS31	Alice Springs	22.33	215	*e*P	P	10 54 52.4	+0.7
ASAR	Alice Springs	22.33	215	P	P	10 54 52.4	+0.7
	90nm,0.9s,baz=48,slow=8.9,SNR=1063						
ASAR				S	S	10 58 43.7	-1.1
	45nm,0.9s,baz=31,slow=20,SNR=21						
ASAR				LR	LR	11 05 14.1	
	comp=Z,144nm,19.7s,baz=68,slow=41						
ASPA	Alice Springs	22.33	215	⇓P	P	10 54 52.7	+1.0
	baz=22						
SOEI	Soe	23.42	258	P	P	10 55 05.9	+3.9
	121nm,0.9s,1μm						
SOEI	Soe	23.42	258	*e*P	P	10 55 03.5	+1.6
	112nm,1.0s						
BATI	Baumata	24.08	257	P	P	10 55 09.7	+1.8
	69nm,0.9s						
BATI	Baumata	24.08	257	P	P	10 55 08.9	+1.1
	73nm,0.7s,baz=182,slow=0.9,SNR=15						
DZM	Mont Dzumac	24.64	134	P	P	10 55 14.4	+1.5
	12nm,0.6s,baz=301,slow=22,SNR=11						
FITZ	Fitzroy Crossi	24.77	238	⇓P	P	10 55 14.4	+0.4
	baz=25						
ARMA	Armidale	25.10	172	⇓P	P	10 55 17.8	+0.8
	baz=25,SNR=58						
MMRI	Maumere	25.27	261	P	P	10 55 24.5	+5.8
EDFI	Ende, Flores	25.82	261	P	P	10 55 28.2	+4.5
	29nm,0.7s						
CMSA	Cobar Meteorol	25.97	184	P	P	10 55 24.8	+0.1
	baz=26,SNR=10.0						
WRKA	Warakurna	26.79	221	P	P	10 55 31.9	-0.3
	baz=27,SNR=107						
YNG	Young	28.68	178	P	P	10 55 49.5	+0.7
	baz=29,SNR=10						
BBOO	Buckleboo	29.21	200	P	P	10 55 53.2	-0.3
	baz=29,SNR=16						
BBOO	Buckleboo	29.21	200	*e*P	P	10 55 53.0	-0.5
	250nm,0.7s						
CNB	Canberra Magne	29.73	177	P	P	10 55 58.9	+0.7
	baz=30,SNR=16						
FORT	Forrest	31.11	214	P	P	10 56 10.4	+0.1
	baz=31,SNR=25						
FORT	Forrest	31.11	214	*e*P	P	10 56 10.2	-0.1
MILA	Mila	31.45	177	⇓P	P	10 56 13.9	+0.6
	baz=32,SNR=6.8						
MEEK	Meekatharra	34.67	229	P	P	10 56 41.5	+0.1
	baz=35,SNR=24						
KMBL	Kambalda	35.22	220	P	P	10 56 46.2	+0.2
	baz=35,SNR=9.0						
MORW	Morawa	37.89	228	P	P	10 57 08.8	+0.2
	baz=38,SNR=3.5						
BLDU	Ballidu	38.26	225	P	P	10 57 11.5	-0.2
	baz=38,SNR=5.6						
NWAO	Narrogin (SRO)	39.25	222	P	P	10 57 19.7	-0.2
	8.0nm,0.7s,baz=59,slow=9.5,SNR=5.2						
RAO	Raoul Island	40.31	130	LR	LR	11 11 34.6	
	comp=Z,212nm,18.2s,baz=185,slow=32						
URZ	Urewera	42.27	145	P	P	10 57 44.8	+0.3
	9.3nm,0.5s,baz=346,slow=3.6,SNR=10						
MJAR	Matsushiro Arr	42.71	349	P	P	10 57 48.8	+0.8
	4.0nm,0.8s,baz=171,slow=8.2,SNR=8.8						
MAT	Matsushiro	42.71	349	P	P	10 57 47.4	-0.7
QIZ	Qiongzhong	44.39	304	P	P	10 58 00.3	-1.4
QIZ				pP	pP	10 58 38.3	-0.8
QIZ				sP	sP	10 58 56.8	-1.4
QIZ				S	S	11 04 21.9	-1.8
QIZ				sS	sS	11 05 28.3	-0.7
QIZ				ScS	ScS	11 07 39.6	-2.7
NJ2	Nanjing	46.24	326	*e*P	P	10 58 13.9	-2.2
NJ2				PMZ			
	60nm,0.9s						
KSRS	Korea Array	46.46	338	P	P	10 58 18.6	+0.9
	1.6nm,0.6s,baz=250,slow=35,SNR=3.9						
KSRS				LR	LR	11 16 26.5	
	comp=Z,30nm,20.8s,baz=50,slow=34						
KSAR	Wonju Array Be	46.47	338	P	P	10 58 18.6	+0.9
GYA	Guiyang	50.73	311	P	P	10 58 51.0	+0.3
GYA				pP	pP	10 59 30.3	+1.2
GYA				sP	sP	10 59 48.8	+0.9
GYA				PP	PP	11 00 49.6	+1.0
GYA				S	S	11 05 51.9	-1.4
GYA				PMZ			
	30nm,1.0s						
GYA				PMZ			
	140nm,5.2s						
USRK	Ussuriysk Ar.	51.40	346	P	P	10 58 56.6	+1.4
	1.6nm,0.6s,baz=178,slow=7.3,SNR=5.9						
KMI	Kunming	53.09	307	P	P	10 59 05.9	-2.4
KMI				PMZ			
	11nm,0.5s						
CMAR	Chiang Mai Arr	53.46	298	P	P	10 59 11.6	+0.7
	1.9nm,0.9s,baz=119,slow=5.5,SNR=8.3						
XAN	Xi'an	53.62	320	P	P	10 59 12.3	+0.5
XAN				PMZ			
	21nm,5.6s						
BJI	Beijing	53.71	330	P	P	10 59 09.9	-2.3
BJI				PMZ			
	6.0nm,0.6s						
CD2	Chengdu	55.29	314	*e*P	P	10 59 24.0	+0.1
CD2				PMZ			
	20nm,1.4s						
HHC	Hu-ho-hao-te	56.67	328	*e*P	P	10 59 33.4	-0.2
HHC				PP	PP	11 01 43.3	+1.6
HHC				S	S	11 07 10.3	-2.5
HHC				sS	sS	11 08 20.8	0.0
HHC				ScS	ScS	11 09 00.9	-5.1
HHC				SS	SS	11 11 01.9	-1.6
HHC				PMZ			
	33nm,1.2s						
HHC				PMZ			
	120nm,5.0s						
HHC				LN			
	170nm,16.7s						
HHC				LE			
	800nm,17.1s						
HHC				LZ			
	88nm,16.9s						
LZH	Lanzhou	58.16	319	*e*P	P	10 59 44.5	+0.3
LZH				pP	pP	11 00 24.4	+0.9
LZH				sP	sP	11 00 44.0	+1.9
LZH				PMZ			
	17nm,1.0s						
PETK	Petropavlovsk-	59.01	7	P	P	10 59 50.3	+0.8
	3.9nm,0.9s,baz=188,slow=8.1,SNR=3.5						
GTA	Gaotai	62.68	320	*e*P	P	11 00 15.8	+1.1
GTA				pP	pP	11 00 57.1	+2.5
GTA				sP	sP	11 01 16.1	+3.0
GTA				S	S	11 08 29.5	-0.3
GTA				sS	sS	11 09 40.5	+1.4
GTA				SS	SS	11 12 39.4	+1.6
GTA				PMZ			
	130nm,6.2s						
GTA				LN			
	59nm,15.7s						
GTA				LE			
	100nm,15.4s						
GTA				LZ			
	67nm,16.1s						
ULN	Ulaanbaatar	63.91	331	*e*P	P	11 00 21.1	-1.6
	1.2nm,0.5s						
SONM	Songino Array	64.21	331	P	P	11 00 24.3	-0.3
	2.8nm,0.8s,baz=145,slow=4.3,SNR=14						
SONM				LR	LR	11 27 54.5	
	comp=Z,34nm,20.0s,baz=72,slow=35						
TAPN	Taplejung	66.30	303	*e*P	P	11 00 39.1	+0.4
ODAN	Odare	66.40	302	*e*P	P	11 00 39.4	+0.1
RAMN	Ramite	67.10	302	*e*P	P	11 00 43.7	0.0
JIRN	Jiri	67.68	303	*e*P	P	11 00 46.9	-0.6
GUN	Gumba	68.02	303	*e*P	P	11 00 49.5	-0.1
DMN	Daman	68.57	302	*e*P	P	11 00 53.2	+0.3
	6.1nm,0.5s						
GKN	Gorkha	69.09	303	*e*P	P	11 00 55.5	-0.5
KOLN	Koldanda	69.89	302	*e*P	P	11 01 00.7	-0.2
	7.8nm,0.7s						
DANN	Dangsing	69.93	303	*e*P	P	11 01 00.9	-0.4
	7.9nm,0.7s						
VNDA	Vanda	72.39	177	P	P	11 01 14.8	0.0
	11nm,0.7s,baz=328,slow=6.4,SNR=28						
WMQ	Urumqi	72.74	319	*e*P	P	11 01 16.0	-1.5
WMQ				pP	pP	11 01 57.3	-1.3
WMQ				PMZ			
	11nm,1.0s						
WMQ				PMZ			
	110nm,4.4s						
MKAR	Makanchi Array	77.43	320	P	P	11 01 44.5	+0.2
	1.2nm,0.5s,baz=93,slow=7.7,SNR=15						
ZALV	Zalesovo Beam	78.86	328	P	P	11 01 51.2	-0.7
	1.9nm,0.4s,baz=101,slow=6.1,SNR=9.4						
KSH	Kashi	79.42	312	*e*P	P	11 01 55.0	-0.5
KSH				sP	sP	11 02 57.1	+1.9
KSH				PP	PP	11 04 57.6	-0.6
KSH				S	S	11 11 36.6	-6.0
KSH				PMZ			
	110nm,4.9s						
KSH				LN			
	160nm,6.8s						
KSH				LE			
	140nm,6.6s						
KSH				LZ			
	190nm,5.4s						
KURK	Kurchatov	81.11	323	P	P	11 02 02.4	-1.6
KURBB	Kurchatov Arra	81.13	323	P	P	11 02 02.4	-1.7
	0.2nm,0.3s,baz=106,slow=5.9,SNR=3.8						
AAK	Ala-Archa	81.35	314	P	P	11 02 05.5	-0.3
	0.7nm,0.4s,baz=140,slow=7.0,SNR=3.5						
MAW	Mawson	82.91	203	LR	LR	11 36 38.6	
	comp=Z,102nm,18.7s,baz=254,slow=34						
QSPA	South Pole Qui	84.48	180	P	P	11 02 20.9	-0.4
	14nm,0.9s,baz=290,slow=0.7,SNR=53						
QSPA	South Pole Qui	84.48	180	*e*P	P	11 02 20.5	-0.8
	16nm,1.0s						
ILAR	Eielson Array	84.81	23	P	P	11 02 21.8	-1.0
	3.5nm,0.8s,baz=257,slow=5.1,SNR=41						
SYO	Syowa Base	91.25	200	⇓*e*P	P	11 02 51.0	-2.4
YKA	Yellowknife Ar	98.48	28	P	Pdif	11 03 27.1	+0.6
	0.6nm,0.9s,baz=274,slow=4.8,SNR=6.8						
CLL	Collm	120.80	329	*e*PKPdf	PKPdf	11 08 40.0	+0.3
SIV	San Ignacio	144.56	127	PKP	PKPab	11 09 22.5	-1.5
	4.3nm,0.7s,baz=238,slow=3.9,SNR=8.3						
TORD	Torodi Ar. Bea	145.46	285	PKPbc	PKPdf	11 09 26.1	-0.6
	2.6nm,0.7s,baz=52,slow=3.3,SNR=18						

*ISCJB **19** 10:53:39.7±0.9, 36.°83S±0.°08×73.°3W±0.°2, h14km, m

0.6nm,0.6s,baz=148,slow=7.4,SNR=8.1
PDAR Pinedale Array 85.86 334 P **P 11 06 20.4 -0.3**
0.8nm,1.1s,baz=118,slow=1.3,SNR=3.6
TORD Torodi Ar. Bea 86.10 71 P **P 11 06 21.2 -1.0**
0.6nm,0.7s,baz=218,slow=4.4,SNR=4.7
PPLA Purkeypile 117.39 330 *e*PKPdf **PKPdf 11 12 27.9 +2.0**
BVAR Borovoye Array 150.00 46 PKPbc **PKPbc 11 13 30.9 0.0**
0.5nm,0.4s,baz=298,slow=3.2,SNR=5.1
BVAR PKPab **PKPab 11 13 36.5 -0.2**
0.7nm,0.6s,baz=261,slow=5.7,SNR=5.0
MKAR Makanchi Array 159.31 54 PKPab **PKPab 11 14 17.4 +0.8**
0.6nm,0.8s,baz=339,slow=3.1,SNR=5.0

IDC 19 11:00:14.5±0.8, 21°.41S×176°.40W, h0km, mb4.0/6, mb1 4.3/7, mb1mx3.9/41, mbtmp4.0/7, ML4.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/27, Error ellipse: s-maj=33.9km s-min=23.6km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.70**	**197**	Pn	P	11 04 23.2	-0.2
	0.9nm,0.3s,baz=284,slow=1.9,SNR=6.4						
URZ				Sn	Sn	11 07 28.8	-11
	0.5nm,0.3s,baz=64,slow=22,SNR=6.0						
HNR	**Honiara**	**25.68**	**294**	LR	LR	11 16 00.4	
	comp=Z,97nm,18.7s,baz=228,slow=37						
CTA	**Charters Tower**	**34.90**	**265**	P	P	11 07 09.9	+1.9
	2.5nm,0.4s,baz=81,slow=12,SNR=7.0						
ASAR	**Alice Springs**	**45.77**	**257**	P	P	11 08 39.0	+0.8
	2.0nm,0.8s,baz=93,slow=8.4,SNR=26						
ASAR				PcP	PcP	11 10 14.7	-1.3
	0.5nm,0.6s,baz=107,slow=4.2,SNR=7.1						
WRA	**Warramunga Arr**	**45.96**	**263**	P	P	11 08 39.0	-0.7
	1.8nm,0.8s,baz=96,slow=8.6,SNR=46						
WRA				PcP	PcP	11 10 15.1	-1.5
	0.7nm,1.1s,baz=94,slow=3.4,SNR=2.7						
QSPA	**South Pole Qui**	**68.66**	**180**	P	P	11 11 19.6	0.0
	1.6nm,0.8s,baz=220,slow=1.2,SNR=8.1						
TXAR	**Lajitas Array**	**86.30**	**57**	P	P	11 13 00.4	+1.7
	0.7nm,1.1s,baz=235,slow=3.2,SNR=3.1						
ILAR	**Eielson Array**	**88.88**	**12**	P	P	11 13 10.7	+0.6
	0.3nm,0.8s,baz=224,slow=6.3,SNR=5.2						
BVAR	**Borovoye Array**	**120.74**	**320**	PKP	PKPdf	11 19 07.2	-1.1
	0.5nm,0.4s,baz=121,slow=2.5,SNR=4.4						
ARCES	**ARCESS Array B**	**130.08**	**350**	PKP	PKPdf	11 19 25.1	-0.6
	2.5nm,0.9s,baz=48,slow=1.8,SNR=4.5						
AKASG	**Malin Array Be**	**144.53**	**332**	PKP	PKPab	11 19 49.8	-1.3
	1.2nm,0.3s,baz=46,slow=4.2,SNR=4.2						
BRTR	**Keskin Array B**	**148.56**	**312**	PKPbc	PKPbc	11 20 02.2	-1.6
	1.4nm,0.6s,baz=133,slow=4.5,SNR=8.0						
MMAI	**Mount Meron Ar**	**149.56**	**299**	PKPbc	PKPbc	11 20 05.9	-0.6
	2.1nm,0.4s,baz=78,slow=6.2,SNR=5.8						

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*ISCJB **19** 11:04:41.9±0.4, 24°.62N±0°.03×122°.57E±0°.02, h98km±4km, Error ellipse: s-maj=4.6km s-min=2.2km az=166.6*
*TAP **19** 11:04:42.6, 24°.61N×122°.52E, h99km, ML4.0, C*
*JMA **19** 11:04:42.2±0.1, 24°.55N×122°.52E, h97km±1km, M3.0*
ISC 19 11:04:41.6±1.2, 24°.61N±0°.04×122°.56E±0°.02, h102km±7km, n67, σ1s04/118, 7C-8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.38**	**114**	P	**Pn**	**11 04 57.1**	**+0.2**
JYNG				*e*S	**Sn**	**11 05 07.8**	**-0.5**
YOJ	**Yonaguni jima**	**0.43**	**109**	P	**Pn**	**11 04 57.5**	**+0.3**
YOJ				*e*S	**Sn**	**11 05 08.5**	**-0.3**
EGS		**0.62**	**293**	P	**Pn**	**11 04 59.3**	**+0.7**
	baz=285						
TWC	**Suao**	**0.65**	**270**	⇓*i*P	**Pn**	**11 04 58.9**	**+0.1**
	baz=267						
TWC				*i* S	**Sn**	**11 05 10.6**	**-1.1**
	baz=267						
TWB1	**Santiao Chiao**	**0.66**	**307**	⇓*i*P	**Pn**	**11 04 59.4**	**+0.5**
	baz=309						
TWB1				*e*S	**Sn**	**11 05 11.3**	**-0.5**
	baz=309						
ILA	**Ilan**	**0.76**	**282**	P	**Pn**	**11 05 00.5**	**+0.7**
	baz=280						
ILA				*e*S	**Sn**	**11 05 13.1**	**-0.3**
	baz=280						
ENA	**Nanau**	**0.77**	**257**	P	**Pn**	**11 05 00.4**	**+0.6**
	baz=251						
ENA				*e*S	**Sn**	**11 05 13.3**	**-0.3**
	baz=251						
TWE	**Neicheng**	**0.82**	**278**	⇓*i*P	**Pn**	**11 05 01.0**	**+0.6**
	baz=278						
TWE				*e*S	**Sn**	**11 05 13.4**	**-1.1**
	baz=278						
NWF	**Wu-fen Shan**	**0.85**	**303**	⇓*i*P	**Pn**	**11 05 01.6**	**+0.8**
	baz=298						
NWF				*e*S	**Sn**	**11 05 14.7**	**-0.4**
	baz=298						
ENTT	**Nioudou**	**0.91**	**272**	⇓P	**Pn**	**11 05 02.1**	**+0.9**
	baz=270						
ENTT				*e*S	**Sn**	**11 05 16.5**	**+0.4**
	baz=270						
TWA	**Mucha**	**0.97**	**293**	P	**Pn**	**11 05 02.4**	**+0.6**
	baz=286						
TWA				*e*S	**Sn**	**11 05 16.1**	**-1.0**
	baz=286						
TWD	**Chiawan**	**1.03**	**240**	⇑P	**Pn**	**11 05 02.6**	**+0.1**
	baz=234						
TWD				*e*S	**Sn**	**11 05 17.4**	**-0.8**
	baz=234						
TAP1	**Taipei**	**1.04**	**295**	*e*P	**Pn**	**11 05 03.1**	**+0.5**
	baz=287						
HWA	**Hwalien**	**1.08**	**235**	*e*P	**Pn**	**11 05 03.5**	**+0.4**
	baz=233						
IRIF	**Iriomote-Funau**	**1.10**	**104**	P	**Pn**	**11 05 03.8**	**+0.6**
IRIF				*e*S	**Sn**	**11 05 20.0**	**+0.5**
NNS	**Nan Shan**	**1.10**	**262**	⇑P	**Pn**	**11 05 04.1**	**+0.7**
	baz=255						
NSK	**Sanguang**	**1.10**	**274**	⇓P	**Pn**	**11 05 04.3**	**+0.9**
	baz=268						
NSK				S	**Sn**	**11 05 19.4**	**-0.4**
	baz=268						
TWY	**Chenhua**	**1.10**	**307**	*e*P	**Pn**	**11 05 04.0**	**+0.7**
	baz=300						
TWY				*e*S	**Sn**	**11 05 19.9**	**+0.2**
	baz=300						
TWS1	**Kuangyinshan**	**1.15**	**296**	P	**Pn**	**11 05 04.5**	**+0.6**
	baz=296						
TWS1				*e*S	**Sn**	**11 05 20.5**	**-0.2**
	baz=296						
HATJ	**Hateruma jima**	**1.26**	**116**	P	**Pn**	**11 05 06.2**	**+1.1**
HATJ				*e*S	**Sn**	**11 05 23.3**	**+0.5**
WHF	**Hehuan Shan**	**1.27**	**249**	⇓P	**Pn**	**11 05 06.3**	**+0.6**
	baz=248						
WHF				*e*S	**Sn**	**11 05 22.8**	**-1.1**
	baz=248						
ESL	**Shilin**	**1.30**	**233**	*e*P	**Pn**	**11 05 05.5**	**-0.1**
	baz=228						
NCU	**National Centr**	**1.30**	**286**	*e*P	**Pn**	**11 05 06.7**	**+1.1**
	baz=278						
NCU				*e*S	**Sn**	**11 05 24.1**	**+0.3**
	baz=278						
TWT	**Tachien**	**1.31**	**255**	⇓*e*P	**Pn**	**11 05 07.2**	**+1.3**
	baz=254						
TWT				*e*S	**Sn**	**11 05 24.2**	**-0.1**
	baz=254						
JKRS	**Kuro-shima**	**1.37**	**105**	P	**Pn**	**11 05 07.4**	**+1.0**
JKRS				*e*S	**Sn**	**11 05 26.2**	**+1.1**
NSTT	**Nanjuang**	**1.42**	**271**	*e*P	**Pn**	**11 05 07.9**	**+0.8**
	baz=271						
NSTT				S	**Sn**	**11 05 26.5**	**+0.2**
	baz=271						
JIJ	**Ishigaki jima**	**1.46**	**99**	P	**Pn**	**11 05 08.0**	**+0.5**
JIJ				*e*S	**Sn**	**11 05 26.8**	**-0.3**
HSN	**Hsinchu**	**1.46**	**278**	*e*P	**Pn**	**11 05 08.1**	**+0.6**
	baz=279						
HSN				*e*S	**Sn**	**11 05 27.2**	**0.0**
	baz=279						
WDT	**Danda**	**1.56**	**237**	⇑P	**Pn**	**11 05 09.5**	**+0.4**
	baz=231						
WDT				*e*S	**Sn**	**11 05 28.8**	**-1.0**
	baz=231						
EHY	**Hungye**	**1.58**	**226**	*e*P	**Pn**	**11 05 08.7**	**-0.3**
	baz=233						
JISG	**Ishigakijimahi**	**1.59**	**90**	P	**Pn**	**11 05 09.8**	**+0.7**
JISG				*e*S	**Sn**	**11 05 30.0**	**+0.1**
TWQ1	**Liyutan**	**1.65**	**261**	*e*P	**Pn**	**11 05 11.2**	**+1.3**
	baz=261						
NSY	**Sanyi**	**1.65**	**264**	*e*P	**Pn**	**11 05 10.7**	**+0.8**
	baz=263						
NSY				*e*S	**Sn**	**11 05 31.9**	**+0.5**
	baz=263						
SMLT	**Sun Moon Lake**	**1.68**	**245**	*e*P	**Pn**	**11 05 12.1**	**+1.8**
	baz=238						
SMLT				S	**Sn**	**11 05 32.4**	**+0.2**
	baz=238						
TWF1	**Yuli**	**1.70**	**223**	⇑P	**Pn**	**11 05 10.6**	**0.0**
	baz=229						
TWF1				*e*S	**Sn**	**11 05 30.5**	**-2.0**
	baz=229						
TYC	**Yuchr**	**1.71**	**246**	*e*P	**Pn**	**11 05 12.0**	**+1.4**
	baz=240						
TYC				*e*S	**Sn**	**11 05 33.2**	**+0.6**
	baz=240						
TCU	**Taichung**	**1.78**	**256**	*e*P	Pn	11 05 13.5	+2.0
	baz=255						
TCU				*e*S	**Sn**	**11 05 34.9**	**+0.7**
	baz=255						
YUS	**Yu-Shan**	**1.85**	**233**	P	**Pn**	**11 05 14.0**	**+1.2**
	baz=228						
YUS				S	**Sn**	**11 05 35.6**	**-0.9**
	baz=228						
CHKT	**Chengkung**	**1.86**	**216**	*e*P	**Pn**	**11 05 12.3**	**-0.2**
	baz=210						
CHKT				*e*S	**Sn**	**11 05 33.7**	**-2.3**
	baz=210						
WNT	**Mingjian**	**1.86**	**247**	*e*P	Pn	11 05 14.6	+2.1
	baz=256						
ALS	**Alishan**	**1.94**	**236**	⇑P	**Pn**	**11 05 15.4**	**+1.5**
	baz=229						
ALS				*e*S	**Sn**	**11 05 38.5**	**+0.1**
	baz=229						
JTJ	**Tarama**	**1.95**	**89**	P	**Pn**	**11 05 14.7**	**+1.1**
JTJ				*e*S	**Sn**	**11 05 39.0**	**+1.1**
CHN5	**Tsauling**	**2.00**	**240**	*e*P	**Pn**	**11 05 15.9**	**+1.6**
	baz=250						
CHN5				*e*S	**Sn**	**11 05 40.5**	**+1.3**
	baz=250						
ELDTW	**Lidau**	**2.00**	**225**	⇑*e*P	**Pn**	**11 05 14.5**	**+0.1**
	baz=223						
ELDTW				*e*S	**Sn**	**11 05 38.0**	**-1.4**
	baz=223						
STYT	**Tauyuan**	**2.19**	**229**	⇑P	**Pn**	**11 05 18.3**	**+1.5**
	baz=229						
STYT				*e*S	**Sn**	**11 05 44.9**	**+1.1**
	baz=229						
CHN4	**Tsaushan**	**2.19**	**236**	P	**Pn**	**11 05 18.6**	**+1.8**
	baz=235						
CHN4				*e*S	**Sn**	**11 05 44.7**	**+1.0**
	baz=235						
WTP	**Ta-pu**	**2.24**	**233**	P	**Pn**	**11 05 18.9**	**+1.4**
	baz=232						
WTP				*e*S	**Sn**	**11 05 46.1**	**+1.2**
	baz=232						
TWG	**Pinlang**	**2.24**	**218**	*e*P	**Pn**	**11 05 17.2**	**-0.2**
	baz=222						
TWG				*e*S	**Sn**	**11 05 43.2**	**-1.7**
	baz=222						
TWK	**Hsinying**	**2.32**	**235**	P	**Pn**	**11 05 20.1**	**+1.6**
	baz=235						
TWK				*e*S	**Sn**	**11 05 47.1**	**+0.3**
	baz=235						
CHN1	**Nanshi**	**2.34**	**233**	*e*P	**Pn**	**11 05 20.4**	**+1.6**
	baz=233						
CHN1				*e*S	**Sn**	**11 05 47.9**	**+0.7**
	baz=233						
WSF	**Szhu**	**2.35**	**246**	*e*P	**Pn**	**11 05 19.8**	**+1.0**
	baz=246						
WSF				*e*S	**Sn**	**11 05 48.0**	**+0.7**
	baz=246						
SGST	**Jiashian**	**2.37**	**230**	*e*P	**Pn**	**11 05 20.7**	**+1.6**
	baz=230						
SGST				*e*S	**Sn**	**11 05 49.0**	**+1.3**
	baz=230						
JIRB	**Irabujima**	**2.38**	**84**	P	**Pn**	**11 05 20.4**	**+1.2**
JIRB				*e*S	**Sn**	**11 05 48.2**	**+0.1**
JIKM	**Ikemajima**	**2.46**	**82**	P	**Pn**	**11 05 21.6**	**+1.4**
JIKM				*e*S	**Sn**	**11 05 51.1**	**+1.2**
ECL	**Taimali**	**2.49**	**217**	*e*P	**Pn**	**11 05 20.1**	**-0.5**
	baz=216						
JMJ	**Miyako jima 2**	**2.49**	**85**	*e*S	**Sn**	**11 05 50.8**	**+0.2**
SSD	**Sandimen**	**2.56**	**224**	*e*P	**Pn**	**11 05 23.3**	**+1.7**
	baz=223						
SSD				*e*S	**Sn**	**11 05 53.5**	**+1.1**
	baz=223						
JOGS	**Gusukube**	**2.59**	**86**	P	**Pn**	**11 05 23.6**	**+1.6**
JOGS				*e*S	**Sn**	**11 05 53.4**	**+0.4**
EAST	**Anshuo**	**2.72**	**216**	*e*P	**Pn**	**11 05 24.6**	**+0.9**
	baz=211						
PNG	**Penghu**	**2.94**	**250**	*e*P	**Pn**	**11 05 26.2**	**-0.4**
	baz=250						
PNG				*e*S	**Sn**	**11 05 59.9**	**-1.4**
	baz=250						
JKE	**Kume jima 2**	**4.18**	**65**	P	**Pn**	**11 05 44.5**	**+1.2**
JKE				*e*S	**Sn**	**11 06 31.9**	**+0.8**
JNTH	**Nagotoyohara**	**5.28**	**68**	P	**Pn**	**11 05 58.3**	**+0.1**
JIH	**Iheya**	**5.44**	**62**	P	**Pn**	**11 06 00.5**	**+0.3**
JOW	**Kunigami**	**5.61**	**66**	P	**Pn**	**11 06 02.1**	**-0.5**
JOW				*e*S	**Sn**	**11 07 03.5**	**-2.2**
JOKE	**Okinoerabujima**	**6.06**	**62**	P	**Pn**	**11 06 07.7**	**-1.1**
JTK	**Tokunoshima**	**6.55**	**60**	P	**Pn**	**11 06 14.5**	**-0.9**
JTK				*e*S	**Sn**	**11 07 25.6**	**-3.1**
JAMN	**Amaminishikomi**	**6.94**	**57**	P	**Pn**	**11 06 19.3**	**-1.4**
JAMN				*e*S	**Sn**	**11 07 35.4**	**-2.8**

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*IDC **19** 11:04:38.2±1.1, 32°.33S×71°.66W, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.6/40, mbtmp3.7/4, ML3.9/2, Error ellipse: s-maj=35.6km s-min=29.6km az=173.0*
*ISCJB **19** 11:04:44.9±0.7, 32°.39S±0°.04×71°.51W±0°.09, h70km±8km, mb3.5/4, Error ellipse: s-maj=13.2km s-min=7.2km az=178.8*
*NEIC **19** 11:04:45.0, 32°.32S×71°.30W, h43km, mb3.7/2, After GUC.*
NEIC Felt [III] at La Ligua, Quintero and Valparaiso; [II] at Quillota.
*GUC **19** 11:04:45.5±0.7, 32°.32S×71°.30W, h43km±2km, ML3.6*
ISC 19 11:04:45.3±1.1, 32°.34S±0°.05×71°.50W±0°.08, h55km±11km, n22, σ1s58/30, mb3.7/4, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.69**	**190**	⇑*i*P	**Pn**	**11 05 00.0**	**+0.8**
IHA				*i* S1	**Sn**	**11 05 11.4**	**+2.1**
PEL	**Peldehue**	**1.06**	**140**	⇑*i*P	**Pn**	**11 05 03.6**	**-0.4**
PEL				*i* S	**Sn**	**11 05 16.9**	**-0.8**
PEL				AML	AML	11 05 20.8	
	comp=E,5μm,0.3s						
CLCH	**Cerro Calan**	**1.33**	**143**	⇓*i*P	**Pn**	**11 05 07.5**	**-0.2**
CLCH				*i* S	**Sn**	**11 05 24.0**	**-0.4**
CLCH				AML	AML	11 05 29.3	
	comp=E,2μm,0.2s						
TACH	**Talagante**	**1.39**	**160**	⇑*i*P	**Pn**	**11 05 08.8**	**+0.4**
ANTU	**Antumapu**	**1.43**	**150**	⇑*i*P	**Pn**	**11 05 09.6**	**+0.7**
ANTU				*e*S	**Sn**	**11 05 27.1**	**+0.4**
ANTU				AML	AML	11 05 30.5	
	comp=N,2μm,0.3s						
LNV	**Longovilo**	**1.61**	**177**	⇑*i*P	**Pn**	**11 05 12.2**	**+0.8**
CHCH	**Chadas Angostu**	**1.74**	**156**	*e*P1	**Pn**	**11 05 13.9**	**+0.7**
YECH	**El Yeso**	**1.78**	**138**	*e*P9	**Pn**	**11 05 15.2**	**+1.2**
YECH				*e*S	**Sn**	**11 05 37.1**	**+1.5**
YECH				AML	AML	11 05 45.6	
	comp=E,919nm,0.2s						
CACH	**El Canelo**	**1.93**	**157**	*e*P1	**Pn**	**11 05 17.2**	**+1.4**
CFAA	**Coronel Fontan**	**2.87**	**76**	Pn	**Pn**	**11 05 29.0**	**+0.4**
	comp=E,3.1nm,0.3s,baz=262,slow=7.1,SNR=109						
CFAA				Sn	**Sn**	**11 06 05.8**	**+3.8**
	comp=E,6.4nm,0.3s,baz=11,slow=22,SNR=12						
LCO	**Las Campanas**	**3.39**	**12**	*e*Pn	**Pn**	**11 05 35.2**	**-0.8**
LCO				*e*Sn	**Sn**	**11 06 17.0**	**+2.0**
PLCA	**Paso Flores**	**8.41**	**175**	Pn	**Pn**	**11 06 43.8**	**-0.7**
	comp=E,0.6nm,0.3s,baz=335,slow=13,SNR=23						
PLCA				Sn	Sn	11 08 10.7	-7.4
	comp=E,0.2nm,0.3s,baz=255,slow=19,SNR=2.3						
TRQA	**Tornquist**	**9.65**	**129**	*e*Pn	**Pn**	**11 07 00.9**	**-0.6**
LVC	**Limon Verde**	**9.96**	**14**	*e*Pn	**Pn**	**11 07 03.1**	**-2.9**
LPAZ	**La Paz**	**16.27**	**12**	Pn	**P**	**11 08 32.8**	**-0.3**
	comp=E,0.1nm,0.3s,baz=205,slow=14,SNR=2.1						
QSPA	**South Pole Qui**	**57.89**	**180**	P	**P**	**11 14 31.5**	**0.0**
	comp=E,0.2nm,0.6s						
TXAR	**Lajitas Array**	**68.52**	**330**	P	**P**	**11 15 43.5**	**+1.4**
	comp=E,0.2nm,0.6s,baz=158,slow=6.5,SNR=4.4						
DBIC	**Dimbokro**	**74.22**	**71**	P	**P**	**11 16 14.1**	**-2.6**
	comp=E,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**83.22**	**70**	P	**P**	**11 17 05.9**	**-0.2**
	comp=E,1.1nm,0.7s,baz=229,slow=1.5,SNR=6.8						
WRA	**Warramunga Arr**	**122.43**	**209**	PKP	**PKPdf**	**11 23 34.9**	**-0.1**
	comp=E,0.3nm,0.8s,baz=158,slow=1.6,SNR=6.5						
BVAR	**Borovoye Array**	**145.75**	**41**	PKPbc	**PKPab**	**11 24 18.8**	**+0.7**
	comp=E,0.8nm,0.6s,baz=267,slow=2.9,SNR=6.5						
ZALV	**Zalesovo Beam**	**152.58**	**31**	PKPbc	**PKPbc**	**11 24 35.2**	**+0.2**
	comp=E,1.4nm,0.5s,baz=290,slow=2.8,SNR=6.6						
ZALV				PKPab	**PKPab**	**11 24 49.4**	**+3.6**
	comp=E,0.7nm,0.4s,baz=313,slow=4.0,SNR=5.0						

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*IDC **19** 11:08:06.2±1.4, 35°.82S×74°.40W, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.8/34, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=35.1km s-min=29.8km az=58.0*
ISC 19 11:08:11.4±1.2, 35°.9S±0°.1×74°.3W±0°.2, h35km, n8, σ0s92/9, mb4.1/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.68**	**150**	Pn	**Pn**	**11 09 33.1**	**-0.3**
	1.2nm,0.3s,baz=324,slow=9.4,SNR=7.8						
PLCA				Sn	Sn	11 10 45.9	+8.4
	0.8nm,0.3s,baz=224,slow=19,SNR=3.1						
CFAA	**Coronel Fontan**	**6.60**	**52**	Pn	**Pn**	**11 09 44.5**	**-1.5**
	0.2nm,0.3s,baz=227,slow=14,SNR=3.6						
CFAA				Sn	**Sn**	**11 11 00.8**	**+0.8**
	0.1nm,0.3s,baz=331,slow=23,SNR=5.1						
LPAZ	**La Paz**	**20.26**	**17**	P	**P**	**11 12 44.8**	**+0.3**
	1.4nm,0.7s,baz=211,slow=5.9,SNR=3.3						
TXAR	**Lajitas Array**	**70.50**	**333**	P	**P**	**11 19 22.0**	**-0.5**
	1.3nm,0.7s,baz=152,slow=8.6,SNR=15						
DBIC	**Dimbokro**	**77.52**	**72**	P	**P**	**11 20 04.5**	**+0.6**
	2.2nm,0.7s,baz=218,slow=8.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**86.58**	**71**	P	**P**	**11 20 52.4**	**+1.1**
	0.2nm,0.4s,baz=107,slow=36,SNR=3.9						
BVAR	**Borovoye Array**	**149.91**	**44**	PKPbc	**PKPbc**	**11 27 57.6**	**+0.2**
	0.7nm,0.6s,baz=282,slow=2.9,SNR=4.2						
MKAR	**Makanchi Array**	**159.38**	**51**	PKPab	**PKPab**	**11 28 43.3**	**-0.3**
	0.2nm,0.5s,baz=344,slow=6.8,SNR=3.6						

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*ISCJB **19** 11:09:23.9±0.7, 11°.12S±0°.07×34°.05E±0°.09, h10km, mb3.9/4, Error ellipse: s-maj=15.1km s-min=6.3km az=30.7*
*IDC **19** 11:09:25.0±1.5, 11°.24S×34°.52E, h0km, mb3.8/3, mb1 3.9/8, mb1mx3.6/46, mbtmp3.8/8, ML3.7/3, Error ellipse: s-maj=68.6km s-min=20.0km az=121.0*
*NEIC **19** 11:09:26.2±0.7, 11°.20S×34°.43E, h10km, mb4.3/1, Error ellipse: s-maj=25.7km s-min=9.1km az=119.0*
ISC 19 11:09:25.8±0.7, 11°.11S±0°.07×34°.3E±0°.1, h10km, n19, σ2s67/22, mb3.9/4, Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.22**	**234**	Pn	**Pn**	**11 11 13.4**	**+1.8**
	1.9nm,0.3s,baz=60,slow=11,SNR=18						
LSZ				Sn	**Sn**	**11 12 31.6**	**-2.1**
	6.6nm,0.3s,baz=319,slow=17,SNR=6.8						
LSZ				Lg	Lg	11 13 10.5	
	14nm,0.3s,baz=324,slow=15,SNR=9.2						
KMBO	**Kilima Mbogo**	**10.35**	**17**	Pn	**Pn**	**11 11 56.0**	**+1.3**
	0.3nm,0.3s,baz=198,slow=19,SNR=2.3						
KMBO				Sn	**Sn**	**11 13 46.6**	**-4.4**
	0.3nm,0.3s,baz=219,slow=19,SNR=3.4						
KMBO				Lg	Lg	11 14 47.7	
	0.7nm,0.3s,baz=250,slow=13,SNR=6.6						
KMBO	**Kilima Mbogo**	**10.35**	**17**	*e*Pn	**Pn**	**11 11 55.5**	**+0.8**
KMBO				Sn	**Sn**	**11 13 46.6**	**-4.4**
KMBO				Lg	Lg	11 14 47.7	
MATP	**Matopo**	**10.79**	**210**	*i* P	Pn	11 11 56.9	-3.7
MATP				*i*		11 11 57.0	
	baz=333,slow=12						
MATP				*i* S	Sn	11 13 45.6	-16
MSNA	**Messina**	**11.89**	**199**	P	**Pn**	**11 12 16.7**	**+1.2**
MSNA				S	Sn	11 14 17.3	-11
MOPA	**Mopani**	**12.64**	**192**	P	Pn	11 12 17.5	-8.3
MOPA				S	**Sn**	**11 14 47.2**	**+0.4**
LBTB	**Lobatse**	**16.09**	**210**	Pn	**Pn**	**11 13 14.2**	**+1.8**
	0.5nm,0.3s,baz=36,slow=14,SNR=5.5						
LBTB				Sn	**Sn**	**11 16 06.7**	**-4.2**
	0.6nm,0.3s,baz=335,slow=12,SNR=4.7						
LBTB				Lg	Lg	11 17 39.6	
	0.3nm,0.3s,baz=135,slow=16,SNR=4.2						
PRYS	**Parys**	**17.02**	**201**	P	P	11 13 37.5	+11
PRYS				S	**Sn**	**11 16 36.4**	**+2.6**
TSUM	**Tsumeb**	**17.98**	**241**	P	**Pn**	**11 13 38.1**	**+1.9**
	0.2nm,0.3s,baz=74,slow=14,SNR=4.4						
TSUM				S	Sn	11 16 47.5	-10
	0.2nm,0.3s,baz=354,slow=21,SNR=3.4						
TSUM				Lg	Lg	11 18 49.4	
	0.1nm,0.3s,baz=306,slow=19,SNR=1.9						
TSUM	**Tsumeb**	**17.98**	**241**	*e*Pn	**Pn**	**11 13 36.8**	**+0.5**
TSUM				S	Sn	11 16 47.5	-10
TSUM				Lg	Lg	11 18 49.4	
SEK	**Senekal**	**18.22**	**199**	P	P	11 13 45.9	+6.5
SEK				S	**Sn**	**11 17 01.1**	**-1.6**
BOSA	**Boshof**	**19.35**	**205**	P	**Pn**	**11 13 52.8**	**0.0**
	0.2nm,0.3s,baz=34,slow=9.0,SNR=4.8						
BOSA				Lg	Lg	11 19 21.4	
	0.3nm,0.3s,baz=120,slow=10.0,SNR=4.7						
BOSA	**Boshof**	**19.35**	**205**	*i* P	**P**	**11 13 48.4**	**-3.3**
BOSA				*i*		11 13 48.5	
	baz=40,slow=12						
BOSA				*i* S	Sn	11 17 05.3	-25
BOSA	**Boshof**	**19.35**	**205**	*e*P	**P**	**11 13 50.7**	**-1.1**
BOSA				S	**Sn**	**11 17 24.7**	**-5.2**
BOSA				Lg	Lg	11 19 21.4	
BRTR	**Keskin Array B**	**50.57**	**359**	P	**P**	**11 18 27.4**	**+2.5**
	0.6nm,0.6s,baz=174,slow=7.8,SNR=3.9						
MKAR	**Makanchi Array**	**71.83**	**33**	P	**P**	**11 20 49.1**	**+0.3**
	0.6nm,0.8s,baz=224,slow=5.1,SNR=5.2						
ARCES	**ARCESS Array B**	**80.67**	**357**	P	**P

MORF			*e*S	Sn	11 11 27.9	-1.9
MORF			AML	AML	11 11 29.3	
	comp=N,14nm,0.2s					
MORF	**Marmelete**	**1.04 328**	*e*P	**Pg**	**11 11 15.5**	**+1.1**
MORF			*e*S	**Sg**	**11 11 28.0**	**0.0**
MORF			A	A	11 11 28.4	
	comp=N,13nm,0.1s					
MORF	**Marmelete**	**1.04 328**	P	**Pg**	**11 11 15.5**	**+1.1**
MORF			S	**Sg**	**11 11 27.8**	**-0.2**
MORF	**Marmelete**	**1.04 328**	*e*P	**Pg**	**11 11 15.5**	**+1.1**
MORF			*e*S	**Sg**	**11 11 28.0**	**0.0**
	comp=N,13nm,0.1s					
EGRO	**El Granado**	**1.17 19**	⇑P	**Pb**	**11 11 17.5**	**+0.7**
	comp=N,2.5nm,0.1s,SNR=18					
EGRO			S	**Sb**	**11 11 31.3**	**-0.7**
	comp=N,5.9nm,0.1s,SNR=12					
EGRO	**El Granado**	**1.17 19**	P	**Pb**	**11 11 17.5**	**+0.7**
	comp=N,2.5nm,0.1s,SNR=18					
EGRO			S	**Sb**	**11 11 31.3**	**-0.7**
	comp=N,5.9nm,0.1s,SNR=12					
PTEO	**Sao Teotonio**	**1.27 332**	*e*P	**Pn**	**11 11 18.9**	**+0.6**
PTEO			*e*S	**Sb**	**11 11 33.8**	**-1.2**
PTEO			A	A	11 11 34.4	
	comp=N,9.5nm,0.7s					
PTEO	**Sao Teotonio**	**1.27 332**	P	**Pn**	**11 11 18.9**	**+0.6**
PTEO			S	**Sb**	**11 11 33.8**	**-1.2**
	comp=N,4.8nm,0.7s					
PTEO	**Sao Teotonio**	**1.27 332**	*e*P	**Pn**	**11 11 18.9**	**+0.6**
PTEO			S	**Sb**	**11 11 33.8**	**-1.2**
	comp=N,4.8nm,0.7s					
MESJ	**Messejana**	**1.43 352**	*e*P	**Pn**	**11 11 21.5**	**+1.1**
MESJ			*e*S	**Sn**	**11 11 37.6**	**-1.6**
MESJ			AML	AML	11 11 38.1	
	comp=N,17nm,0.1s					
MESJ	**Messejana**	**1.43 352**	*e*P	**Pn**	**11 11 21.5**	**+1.1**
MESJ			*e*S	**Sn**	**11 11 37.6**	**-1.6**
MESJ			A	A	11 11 38.0	
	comp=N,8.2nm,0.3s					
MESJ	**Messejana**	**1.43 352**	P	**Pn**	**11 11 21.5**	**+1.1**
MESJ			S	**Sn**	**11 11 37.6**	**-1.6**
	comp=N,17nm,0.1s					
MESJ	**Messejana**	**1.43 352**	*e*P	**Pn**	**11 11 21.5**	**+1.1**
MESJ			S	**Sn**	**11 11 37.6**	**-1.6**
	comp=N,17nm,0.1s					
EMIN	**Mina Concepcio**	**1.69 37**	P	**Pn**	**11 11 24.3**	**+0.2**
	comp=N,0.5nm,0.1s,SNR=9.6					
EMIN			S	**Sn**	**11 11 44.0**	**-1.7**
	comp=N,0.2nm,0.1s,SNR=7.9					
EMIN	**Mina Concepcio**	**1.69 37**	P	**Pn**	**11 11 24.3**	**+0.2**
	comp=N,0.5nm,0.1s,SNR=9.6					
EMIN			S	**Sn**	**11 11 44.0**	**-1.7**
	comp=N,0.2nm,0.1s,SNR=7.9					
PNCL	**Nicolau / Gran**	**1.74 345**	*e*P	**Pn**	**11 11 25.2**	**+0.4**
PNCL			*e*S	**Sn**	**11 11 44.7**	**-2.3**
PNCL			A	A	11 11 45.8	
	comp=N,4.1nm,0.8s					
PNCL	**Nicolau / Gran**	**1.74 345**	*e*P	**Pn**	**11 11 25.2**	**+0.4**
PNCL			*e*S	**Sn**	**11 11 44.7**	**-2.3**
	comp=N,4.1nm,0.8s					
ESPR	**Espera**	**1.75 75**	P	**Pn**	**11 11 24.4**	**-0.5**
	comp=N,5.1nm,0.2s,SNR=4.0					
ESPR			S	**Sn**	**11 11 46.0**	**-1.3**
	comp=N,0.2nm,0.1s,SNR=7.9					
ESPR	**Espera**	**1.75 75**	P	**Pn**	**11 11 24.4**	**-0.5**
	comp=N,5.1nm,0.2s,SNR=4.0					
ESPR			S	**Sn**	**11 11 46.0**	**-1.3**
	comp=N,0.2nm,0.1s,SNR=7.9					
EBAD	**Badajoz**	**2.44 18**	P	**Pn**	**11 11 34.5**	**+0.1**
	comp=N,0.3nm,0.1s,SNR=7.9					
EBAD			S	**Sn**	**11 12 01.3**	**-3.1**
	comp=N,0.6nm,0.2s,SNR=7.9					
EBAD	**Badajoz**	**2.44 18**	P	**Pn**	**11 11 34.5**	**+0.1**
	comp=N,0.3nm,0.1s,SNR=7.9					
EBAD			S	**Sn**	**11 12 01.3**	**-3.1**
	comp=N,0.6nm,0.2s,SNR=7.9					
PESTR	**Estremoz**	**2.45 7**	*e*Sn	**Sn**	**11 12 02.8**	**-1.9**
PESTR			A	A	11 12 05.0	
	comp=N,4.7nm,0.6s					
PESTR	**Estremoz**	**2.45 7**	*e*Sn	**Sn**	**11 12 02.8**	**-1.9**
	comp=N,4.7nm,0.6s					
ECAB	**El Cabril**	**2.61 50**	P	**Pn**	**11 11 37.2**	**+0.4**
	comp=N,0.5nm,0.1s,SNR=7.9					
ECAB			S	Sn	11 12 04.2	-4.4
	comp=N,1.0nm,0.2s,SNR=7.9					
ECAB	**El Cabril**	**2.61 50**	P	**Pn**	**11 11 37.2**	**+0.4**
	comp=N,0.5nm,0.1s,SNR=7.9					
ECAB			S	Sn	11 12 04.2	-4.4
	comp=N,1.0nm,0.2s,SNR=7.9					
PMTG	**Montargil**	**2.65 356**	*e*Sn	**Sn**	**11 12 07.3**	**-2.1**
PMTG			A	A	11 12 08.0	
	comp=N,7.5nm,0.2s					
PMTG	**Montargil**	**2.65 356**	*e*Sn	**Sn**	**11 12 07.3**	**-2.1**
	comp=N,7.5nm,0.2s					
PMRV	**Marv??o**	**3.03 8**	*e*Pn	**Pn**	**11 11 43.0**	**+0.5**
PMRV			*e*Sn	**Sn**	**11 12 16.6**	**-2.3**
PMRV			A	A	11 12 18.2	
	comp=N,3.1nm,0.9s					
PMRV	**Marv??o**	**3.03 8**	P	**Pn**	**11 11 43.0**	**+0.5**
PMRV			S	**Sn**	**11 12 16.6**	**-2.3**
	comp=N,3.1nm,0.9s					
PMRV	**Marv??o**	**3.03 8**	P	**Pn**	**11 11 43.0**	**+0.5**
PMRV			S	**Sn**	**11 12 16.6**	**-2.3**
	comp=N,3.1nm,0.9s					

TAP 19 11:22:52.4,23°.13N×120°.55E,h7km±1km,ML1.1,1C-2D, D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.05 144**		⇑*i*P	Pg	11 22 54.6	+0.5
	baz=139						
SGST				*i* S	Sg	11 22 56.2	+1.1
	baz=139						
CHN1	**Nanshi**	**0.06 343**		⇓*i*P	Pg	11 22 54.5	+0.3
	baz=342						
CHN1				*i* S	Sg	11 22 56.2	+0.8
	baz=342						
WTP	**Ta-pu**	**0.13 27**		⇓*i*P	Pg	11 22 56.0	+0.6
	baz=30						
WTP				*i* S	Sg	11 22 58.6	+1.3
	baz=30						
TWK	**Hsinying**	**0.15 338**		P	Pg	11 22 56.2	+0.6
	baz=342						
TWK				*i* S	Sg	11 22 59.4	+1.5
	baz=342						
STYT	**Tauyuan**	**0.20 79**		P	Pg	11 22 57.4	+1.0
	baz=80						
STYT				*i* S	Sg	11 23 01.3	+2.1
	baz=80						

IDC 19 11:23:20.8±3.8,19°.78N×120°.50E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.3/39,mbtmp3.6/3,Error ellipse: s-maj=331.1km s-min=26.7km az=60.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.16 320**		P	P	11 31 06.8	-0.2
	0.3nm,0.4s,baz=120,slow=8.8,SNR=5.6						
WRA	**Warramunga Arr**	**41.74 160**		P	P	11 31 10.8	-1.1
	0.6nm,0.4s,baz=340,slow=11,SNR=17						
ASAR	**Alice Springs**	**45.12 163**		P	P	11 31 40.4	+1.3
	0.2nm,0.3s,baz=346,slow=7.0,SNR=4.4						

*IDC **19** 11:38:30.6±0.6,4°.08N×126°.96E,h0km,mb4.4/21, mb1 4.5/21,mb1mx4.5/32,mbtmp4.4/21,MS4.0/20, Ms1 4.1/20,ms1mx3.9/34,Error ellipse: s-maj=25.4km s-min=13.6km az=81.0*

*BJI **19** 11:38:32.8,3°.36N×127°.11E,h78km,mB5.1/26,mb4.6/40, Ms4.6/28,Ms7 4.4/30*

*ISCJB **19** 11:38:37.3±0.4,4°.01N±0°.02×126°.96E±0°.04,h67km±4km, mb4.5/46,Error ellipse: s-maj=6.0km s-min=3.3km az=167.9*

*DJA **19** 11:38:38.0±0.7,4°N±7°×12°7E±°,h10km,M4.8/23,mB5.3/9, mb4.8/23,MLv4.8/12,Mw(mB)4.7/9,Mwp5.1/1*

*MAN **19** 11:38:38,4°.00N×126°.70E,h66km,mb5.4,ML4.4,MS4.7*

*NEIC **19** 11:38:39.1±1.0,4°.04N×127°.04E,h68km±9km,mb4.8/21, Error ellipse: s-maj=10.6km s-min=5.5km az=76.0*

ISC 19 11:38:40.3±0.4,3°.99N±0°.03×126°.98E±0°.05,h79km±2km, n162,σ1°73/181,mb4.7/44,4C-4D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.48 258**		P	Pn	11 38 59.6	-5.8
GSPH	**General Santos**	**2.91 316**		⇓*i*P	Pn	11 39 19.5	-5.0
GSPH				*i* S	Sn	11 40 08.1	+10
MATI	**Mati**	**3.03 346**		*e*P	**Pn**	**11 39 24.4**	**-1.7**
MATI				*e*S	**Sn**	**11 40 03.7**	**+2.4**
TNTI	**Ternate**	**3.22 173**		P	**Pn**	**11 39 27.3**	**-1.3**
TNTI	**Ternate**	**3.22 173**		*e*Pn	**Pn**	**11 39 26.8**	**-1.8**
TNTI				*e*Sn	**Sn**	**11 40 05.6**	**-0.2**
DAV	**Davao City (W)**	**3.37 336**		*e*Pn	**Pn**	**11 39 30.9**	**+0.3**
DAV				*e*Sn	**Sn**	**11 40 06.8**	**-2.8**
CTBH	**Cotabato--PC H**	**4.21 320**		⇑*e*P	Pn	11 39 38.9	-3.3
BUKP	**Musuan**	**4.31 334**		*e*P	**Pn**	**11 39 40.8**	**-2.8**
BUKP				*e*S	Sn	11 40 17.8	-15
KMSI	**Cibinong**	**4.53 222**		P	Pn	11 39 52.1	+5.7
LBMI	**Labuha**	**4.62 174**		P	**Pn**	**11 39 46.2**	**-1.6**
CGP	**Cagayan de Oro**	**4.99 333**		⇑*i*P	**Pn**	**11 39 51.8**	**-1.0**
CGP				*i* S	Sn	11 41 00.7	+12
GTOI	**Gorontalo**	**5.18 230**		P	**Pn**	**11 39 53.6**	**-1.7**
	212nm,0.8s,2μm0.7nm						
PAGZ	**Pagadian**	**5.25 317**		*e*P	**Pn**	**11 39 53.7**	**-2.5**
IPIL	**Ipil**	**5.79 311**		*e*P	**Pn**	**11 40 01.0**	**-2.7**
SANI	**Sanana**	**6.08 189**		P	Pn	11 40 03.7	-3.9
SANI				S	**Sn**	**11 41 14.5**	**-1.3**
MRSI	**Marisa**	**6.13 235**		P	**Pn**	**11 40 07.6**	**-0.7**
	160nm,0.6s,2μm0.6nm						
MRSI				S	**Sn**	**11 41 20.3**	**+3.3**
	160nm,0.6s,2μm0.6nm						
SWI	**Sorong**	**6.44 138**		P	**Pn**	**11 40 09.8**	**-2.7**
	60nm,1.0s,1μm0.3nm						
SWI	**Sorong**	**6.44 138**		P	**Pn**	**11 40 10.3**	**-2.3**
	baz=6.5,SNR=3.9						
MSLP	**Maasin**	**6.46 341**		*e*P	**Pn**	**11 40 11.6**	**-1.3**
LUWI	**Luwuk**	**6.53 220**		P	**Pn**	**11 40 13.6**	**-0.2**
	448nm,1.4s,5μm1.4nm						
LUWI	**Luwuk**	**6.53 220**		P	**Pn**	**11 40 13.2**	**-0.6**
	baz=6.6,SNR=7.7						
LUWI	**Luwuk**	**6.53 220**		*e*Pn	**Pn**	**11 40 13.6**	**-0.2**
LUWI				*e*Sn	**Sn**	**11 41 26.1**	**-0.8**
APSI	**Ampana**	**7.22 228**		P	**Pn**	**11 40 23.8**	**+0.6**
	404nm,1.1s,3μm3μm1.1nm						
PLP	**Palo**	**7.40 345**		⇓*e*P	**Pn**	**11 40 25.1**	**-0.7**
MSAI	**Masohi**	**7.54 165**		P	**Pn**	**11 40 27.0**	**-0.6**
	15nm,1.6s,0.1nm						
MPSI	**Mapaga**	**7.95 243**		P	**Pn**	**11 40 32.5**	**-0.7**
	32nm,0.9s,0.1nm						
PALU	**Palau**	**8.17 66**		P	**Pn**	**11 40 37.3**	**+1.1**
	baz=8.2,SNR=4.5						
MYLDM	**Lahad Datu**	**8.54 278**		*e*Pn	**Pn**	**11 40 41.8**	**+0.5**
RCP	**Roxas**	**8.62 331**		⇑*e*P	**Pn**	**11 40 44.2**	**+1.9**
FAKI	**Fak Fak**	**8.64 142**		P	**Pn**	**11 40 41.9**	**-0.8**
	32nm,1.0s						
FAKI	**Fak Fak**	**8.64 142**		P	**Pn**	**11 40 40.5**	**-2.2**
	baz=8.7,SNR=7.4						
TTSI	**Tana Toraja**	**10.00 226**		P	**Pn**	**11 40 59.8**	**-1.4**
	62nm,1.6s,880nm						
SPSI	**Sidrap Palu**	**10.69 222**		P	**Pn**	**11 41 12.8**	**+2.2**
EDFI	**Ende, Flores**	**13.71 203**		P	**Pn**	**11 41 51.1**	**-0.3**
	40nm,1.3s						
SOEI	**Soe**	**13.92 191**		P	**P**	**11 41 58.3**	**-1.4**
SOEI	**Soe**	**13.92 191**		S	**S**	**11 44 40.3**	**-4.0**
	baz=14,SNR=4.4						
SOEI	**Soe**	**13.92 191**		*e*Pn	**Pn**	**11 41 54.7**	**+0.5**
SOEI				*e*Sn	**Sn**	**11 44 24.4**	**-2.9**
BBKI	**Banjar Baru**	**14.21 239**		P	**Pn**	**11 41 59.0**	**+1.1**
	87nm,2.1s,2μm						
BATI	**Baumata**	**14.48 193**		Pn	**Pn**	**11 42 03.2**	**+1.8**
	3.3nm,0.3s,baz=72,slow=5.7,SNR=4.8						
GENI	**Genyem**	**14.71 116**		P	**P**	**11 42 09.7**	**+1.3**
SBUM	**Sibu**	**14.82 265**		*e*Pn	**Pn**	**11 42 05.6**	**-0.1**
STKI	**Sintang**	**15.98 256**		P	P	11 42 29.1	+6.6
SRBI	**Singaraja**	**16.78 224**		P	**P**	**11 42 31.1**	**-0.3**
	95nm,0.8s						
KSM	**Kuching**	**16.84 262**		*e*Pn	**P**	**11 42 32.0**	**-0.1**
	58nm,1.3s						
KSM				*e*Sn	**Sn**	**11 45 39.1**	**+1.1**
KMMI	**Kalianget**	**17.00 230**		P	**Pn**	**11 42 33.2**	**+0.1**
	38nm,1.0s						
MTN	**Manton Dam**	**17.22 166**		P	**Pn**	**11 42 34.0**	**-1.8**
	baz=17,SNR=8.2						
KDU	**Kakadu**	**17.44 162**		P	**Pn**	**11 42 37.9**	**-0.7**
	baz=18,SNR=8.4						
JAGI	**Jajag, Banyuwa**	**17.80 226**		P	**Pn**	**11 42 45.1**	**+2.1**
	baz=18,SNR=3.5						
JAGI				S	S	11 46 22.2	+20
	baz=18,SNR=4.6						
JAGI	**Jajag, Banyuwa**	**17.80 226**		*e*P	**P**	**11 42 42.6**	**0.0**
	35nm,0.8s						
GMJI	**Gumukmas**	**18.18 228**		P	**Pn**	**11 42 49.7**	**+2.1**
NGJI	**Ngawi**	**19.16 234**		P	**P**	**11 42 56.0**	**-1.6**
KNRA	**Kununurra**	**19.62 175**		P	**P**	**11 43 01.2**	**-1.2**
	baz=20,SNR=39						
DLV	**T Lat**	**19.94 294**		*e*P	**P**	**11 43 05.8**	**-0.5**
	82nm,1.0s						
TPUB	**Ta-pu**	**20.16 343**		*e*P	**P**	**11 43 04.7**	**-3.6**
	24nm,0.6s						
SSLB	**Suanglung**	**20.53 344**		*e*P	**P**	**11 43 09.2**	**-3.1**
	27nm,0.7s						
MANU	**Manus Island**	**21.23 106**		P	**P**	**11 43 22.5**	**+2.5**
	baz=21,SNR=3.4						
KPJI	**Karang Pucung**	**21.24 238**		P	**P**	**11 43 17.9**	**-2.1**
QZH	**Quanzhou**	**22.35 340**		⇓*i*P	**P**	**11 43 33.0**	**+1.2**
QZH				S	**S**	**11 47 37.9**	**+5.6**
QZH				LN			
	1μm,19.4s						
QZH				LE			
	2μm,24.8s						
QZH				LZ			
	2μm,25.0s						
QIZ	**Qiongzhong**	**22.45 313**		P	**P**	**11 43 32.4**	**-0.6**
QIZ				S	**S**	**11 47 35.6**	**+1.4**
QIZ				PMZ			
	12nm,1.2s						
QIZ				LN			
	440nm,14.9s						
QIZ				LE			
	210nm,17.6s						
QIZ				LZ			
	620nm,22.5s						
UBPT	**Khong Chiam**	**23.96 299**		P	**P**	**11 43 45.6**	**-1.9**
	44nm,1.4s						
WRAB	**Tennant Creek**	**24.85 163**		*e*P	**P**	**11 43 54.3**	**-1.2**
	8.4nm,0.4s						
WRA	**Warramunga Arr**	**24.85 163**		P	**P**	**11 43 55.2**	**-0.3**
	7.4nm,0.4s,baz=345,slow=11,SNR=68						
WRA				LR	LR	11 56 08.3	
	comp=Z,202nm,19.0s,baz=350,slow=42						
WB2	**Warramunga Arr**	**24.86 163**		*e*P	**P**	**11 43 54.8**	**-0.8**
MBWA	**Marble Bar**	**25.98 196**		*e*P	**P**	**11 44 05.8**	**+0.1**
	93nm,2.0s						
JCJ	**Chichijima**	**27.19 31**		LR	LR	11 54 24.1	
	comp=Z,268nm,19.5s,baz=297,slow=35						
QIS	**Mount Isa**	**27.36 154**		P	P	11 44 23.4	+5.2
	baz=28,SNR=3.6						
MTSU	**Mount Surprise**	**27.84 143**		S	S	11 49 20.1	+20
	baz=28,SNR=19						
PSI	**Prapat**	**28.03 268**		LR	LR	11 57 21.5	
	comp=Z,503nm,18.5s,baz=82,slow=40						
AS31	**Alice Springs**	**28.30 167**		*e*P	**P**	**11 44 25.9**	**-0.7**
ASAR	**Alice Springs**	**28.30 167**		P	**P**	**11 44 27.0**	**+0.4**
	1.8nm,0.6s,baz=344,slow=6.5,SNR=39						
ASAR				LR	LR	11 57 49.9	
	comp=Z,230nm,20.2s,baz=1.5,slow=41						
PBKT	**Sadao Pong**	**28.44 298**		P	**P**	**11 44 26.5**	**-1.3**
	24nm,1.0s						
WRKA	**Warakurna**	**28.88 178**		P	**P**	**11 44 31.9**	**+0.3**
	baz=29,SNR=29						
NJ2	**Nanjing**	**28.94 346**		*e*P	**P**	**11 44 31.3**	**-0.8**
NJ2				S	**S**	**11 49 17.0**	**-0.2**
NJ2				PMZ			
	30nm,0.5s						
NJ2				LN			
	300nm,13.0s						
NJ2				LE			
	640nm,15.4s						
NJ2				LZ			
	700nm,16.6s						
WHN	**Wuhan**	**28.98 337**		⇓P	P	11 44 35.8	+3.3
WHN				S	S	11 49 24.0	+6.1
WHN				LZ			
	2μm,21.7s						
KCSI	**Kotacane, Aceh**	**29.15 270**		P	P	11 44 39.5	+5.2
JNU	**Nakatsue**	**29.21 7**		LR	LR	11 56 25.5	
	comp=Z,234nm,21.2s,baz=207,slow=37						
UTTA	**Uttaradit**	**29.27 300**		P	**P**	**11 44 35.0**	**-0.2**
	3.7nm,0.9s						
GYA	**Guiyang**	**29.63 321**		*e*P	**P**	**11 44 40.0**	**+1.6**
GYA				pP	**pP**	**11 44 57.6**	**+0.6**
GYA				sP	**sP**	**11 45 07.4**	**+1.1**
GYA				PP	**PnPn**	**11 45 39.0**	**+2.1**
GYA				S	**S**	**11 49 28.8**	**+0.4**
GYA				sS	**sS**	**11 50 01.3**	**+1.0**
GYA				PMZ			
	10.0nm,1.0s						
GYA				PMZ			
	90nm,4.9s						
LAMP	**Lampang**	**30.39 301**		P	**P**	**11 44 45.7**	**+0.5**
	6.6nm,0.9s,76nm						
CRAI	**Chiangrai**	**30.53 304**		P	P	11 44 42.8	-3.6
	8.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.96 300**		P	**P**	**11 44 49.6**	**-0.6**
	9.1nm,0.9s,baz=114,slow=7.2,SNR=47						
CMAR				PcP	**PcP**	**11 47 48.0**	**+3.1**
	1.8nm,0.9s,baz=132,slow=1.4,SNR=6.7						
CMAR				ScP	ScP	11 51 31.4	+11
	0.3nm,0.4s,baz=166,slow=1.4,SNR=6.0						
CMAR				LR	LR	11 59 03.4	
	comp=Z,378nm,18.0s,baz=128,slow=40						
CMMT	**Chiang Mai**	**31.11 300**		P	**P**	**11 44 50.9**	**-0.6**
	23nm,1.0s						
CHTO	**Chiang Mai**	**31.11 300**		*e*P	**P**	**11 44 50.2**	**-1.2**
	16nm,0.9s						
KMI	**Kunming**	**31.38 314**		P	P	11 44 59.3	+5.2
KMI				pP	pP	11 45 15.4	+2.8
KMI				sP	sP	11 45 23.5	+1.6
KMI				S	**S**	**11 50 01.0**	**+4.9**
KMI				sS	sS	11 50 29.6	+1.5
KMI				SS	**SnSn**	**11 51 48.5**	**+0.8**
MEEK	**Meekatharra**	**31.50 194**		P	**P**	**11 44 54.8**	**0.0**
	baz=32,SNR=9.4						
CMAI	**Chiengmai2**	**31.50 302**		P	**P**	**11 44 54.6**	**-0.6**
	11nm,0.8s,2μm						
MHMT	**Maesarieng**	**31.73 299**		P	**P**	**11 44 56.2**	**-0.8**
	18nm,0.7s,250nm						
KSRS	**Korea Array**	**33.32 1**		LR	LR	12 03 18.3	
	comp=Z,100nm,18.2s,baz=202,slow=45						
MJAR	**Matsushiro Arr**	**34.01 16**		P	**P**	**11 45 15.5**	**-1.1**
	0.8nm,0.6s,baz=136,slow=7.9,SNR=4.0						
XAN	**Xi'an**	**34.30 333**		P	**P**	**11 45 16.8**	**-2.4**
XAN				PMZ			
	5.0nm,0.7s						
MORW	**Morawa**	**34.51 197**		P	**P**	**11 45 21.1**	**+0.2**
	baz=35,SNR=4.4						
FORT	**Forrest**	**34.59 178**		*e*P	**P**	**11 45 21.6**	**0.0**
	15nm,0.7s						
CD2	**Chengdu**	**34.59 323**		P	**P**	**11 45 20.4**	**-1.4**
CD2				pP	**pP**	**11 45 36.4**	**-4.1**
CD2				S	**S**	**11 50 45.3**	**-0.1**
CD2				PMZ			
	20nm,1.2s						
CD2				PMZ			
	160nm,6.0s						
CD2				LN			
	550nm,16.7s						
CD2				LE			
	460nm,16.6s						
CD2				LZ			
	770nm,17.8s						
QLP	**Quilpie**	**34.67 152**		P	**P**	**11 45 24.5**	**+2.1**
	baz=35,SNR=4.7						
BLDU	**Ballidu**	**35.78 195**		P	**P**	**11 45 32.0**	**+0.1**
	baz=36,SNR=8.9						
BJI	**Beijing**	**37.20 346**		P	**P**	**11 45 42.8**	**-1.0**
BJI				S	**S**	**11 51 26.8**	**+1.9**
BJI				PMZ			
	44nm,0.9s						
BJI				LN			
	260nm,20.6s						
BJI				LE			
	250nm,18.4s						
BJI				LZ			
	280nm,27.2s						
BBOO	**Buckleboo**	**37.59 167**		P	**P**	**11 45 47.7**	**+0.4**
	baz=38,SNR=24						
BBOO	**Buckleboo**	**37.59 167**		*e*P	**P**	**11 45 47.3**	**0.0**
	906nm,1.5s						
NWAO	**Narrogin (SRO)**	**37.86 193**		P	**P**	**11 45 49.8**	**+0.3**
	6.8nm,0.8s,baz=20,slow=9.0,SNR=6.5						
NWAO	**Narrogin (SRO)**	**37.86 193**		P	**P**	**11 45 50.0**	**+0.5**
	baz=38,SNR=4.6						
LZH	**Lanzhou**	**38.41 329**		*e*P	**P**	**11 45 53.6**	**-0.8**
LZH				pP	**pP**	**11 46 13.6**	**+0.3**
LZH				sP	**sP**	**11 46 23.3**	**+0.8**
LZH				PMZ			
	18nm,1.0s						
HHC	**Hu-ho-hao-te**	**39.24 341**		*e*P	**P**	**11 46 02.1**	**+1.0**
HHC				PP	**PnPn**	**11 47 37.8**	**+1.8**
HHC				S	**S**	**11 51 57.3**	**+1.4**
HHC				sS	**sS**	**11 52 28.8**	**+0.3**
HHC				ScS	**ScS**	**11 56 00.8**	**-1.5**
HHC				PMZ			
	25nm,1.1s						
HHC				PMZ			
	190nm,5.2s						
HHC				LN			
	190nm,15.1s						
HHC				LE			
	630nm,16.1s						
HHC				LZ			
	150nm,15.7s						
USRK	**Ussuriysk Ar.**	**40.29 6**		P	**P**	**11 46 10.1**	**+0.5**
	2.0nm,0.7s,baz=156,slow=33,SNR=3.5						
MDJ	**Mudanjiang**	**40.53 3**		*e*P	**P**	**11 46 11.7**	**0.0**
	11nm,1.0s						
ARMA	**Armidale**	**41.54 147**		P	**P**	**11 46 21.7**	**+1.4**
	baz=42,SNR=7.7						
LSA	**Lhasa**	**42.46 311**		P	**P**	**11 46 26.8**	**-1.5**
LSA	**Lhasa**	**42.46 311**		*e*P	**P**	**11 46 28.2**	**-0.1**
	10nm,0.8s						
GTA	**Gaotai**	**43.01 329**		*e*P	**P**	**11 46 31.8**	**-0.3**
GTA				pP	**pP**	**11 46 50.1**	**-1.3**
GTA				sP	**sP**	**11 46 59.4**	**-1.1**
GTA				S	**S**	**11 52 52.6**	**+0.6**
GTA				sS	**sS**	**11 53 23.9**	**-1.0**
GTA				SS	**SS**	**11 56 00.0**	**-6.9**
GTA				PMZ			
	3.0nm,1.3s						
GTA				PMZ			
	110nm,6.9s						
GTA				LN			
	330nm,19.2s						
GTA				LE			
	280nm,20.4s						
GTA				LZ			
	520nm,19.0s						
TAPN	**Taplejung**	**44.07 306**		*e*P	**P**	**11 46 39.5**	**-1.6**
	16nm,0.6s						
ODAN	**Odare**	**44.13 305**		*e*P	**P**	**11 46 39.8**	**-1.7**
	24nm,0.6s						
RAMN	**Ramite**	**44.81 305**		*e*P	**P**	**11 46 46.3**	**-0.6**
	26nm,0.7s						
JIRN	**Jiri**	**45.43 306**		*e*P	**P**	**11 46 50.4**	**-1.5**
	22nm,0.6s						
HIA	**Hailar**

WMQ				SS	**SS**	**11 58 44.0**	**-3.8**
WMQ				PMZ			
	15nm,1.0s						
WMQ				PMZ			
	190nm,5.2s						
WMQ				LN			
	620nm,27.0s						
WMQ				LE			
	270nm,27.0s						
WMQ				LZ			
	310nm,21.0s						
PETK	**Petropavlovsk-**	**55.10**	**22**	P	**P**	**11 48 03.6**	**-0.5**
	4.5nm,0.7s,baz=180,slow=3.2,SNR=13						
MKAR	**Makanchi Array**	**57.49**	**325**	P	**P**	**11 48 20.5**	**-0.8**
	3.3nm,0.5s,baz=118,slow=7.8,SNR=50						
MKAR				PcP	**PcP**	**11 49 14.8**	**+0.7**
	2.2nm,0.7s,baz=102,slow=4.8,SNR=3.5						
MKAR				LR	LR	12 14 18.7	
	comp=Z,380nm,19.7s,baz=145,slow=37						
YAK	**Yakutsk**	**57.95**	**2**	*e*P	**P**	**11 48 24.1**	**0.0**
	27nm,0.8s						
KSH	**Kashi**	**58.04**	**315**	P	**P**	**11 48 26.3**	**+0.9**
KSH				sP	**sP**	**11 48 54.1**	**-0.3**
KSH				PP	**PP**	**11 50 37.1**	**+2.3**
KSH				S	**S**	**11 56 17.8**	**-2.6**
KSH				ScS	**ScS**	**11 58 01.3**	**-6.7**
KSH				PMZ			
	24nm,1.6s						
KSH				PMZ			
	110nm,4.3s						
KSH				LN			
	58nm,4.1s						
KSH				LE			
	83nm,4.6s						
KSH				LZ			
	150nm,6.0s						
AAK	**Ala-Archa**	**60.34**	**318**	*e*P	**P**	**11 48 41.3**	**0.0**
	14nm,1.4s						
ZALV	**Zalesovo Beam**	**60.48**	**333**	P	**P**	**11 48 40.0**	**-1.8**
	1.8nm,0.5s,baz=119,slow=7.3,SNR=9.6						
ZALV				LR	LR	12 15 59.7	
	comp=Z,180nm,20.6s,baz=70,slow=37						
KBL	**Kabul**	**61.57**	**307**	*e*P	**P**	**11 48 48.9**	**-0.9**
	5.3nm,0.6s						
KURK	**Kurchatov**	**61.66**	**327**	*e*P	**P**	**11 48 48.8**	**-1.0**
	7.0nm,0.7s						
KKAR	**Karatay Array**	**63.22**	**317**	*e*P	**P**	**11 49 00.2**	**-0.2**
TIXI	**Tiksi**	**67.58**	**1**	*e*P	**P**	**11 49 27.4**	**-0.6**
	9.0nm,1.0s						
GEYT	**Alibeck**	**70.93**	**309**	P	**P**	**11 49 49.5**	**+0.1**
	1.5nm,0.5s,baz=174,slow=4.3,SNR=4.2						
GEYT				LR	LR	12 23 40.4	
	comp=Z,122nm,21.3s,baz=55,slow=38						
RAYN	**Ar Rayn**	**80.61**	**293**	*e*P	**P**	**11 50 44.8**	**-0.1**
	11nm,0.7s						
KBZ	**Khabaz**	**82.99**	**313**	P	**P**	**11 50 59.5**	**+2.6**
	1.3nm,0.7s,baz=244,slow=3.3,SNR=3.7						
COLD	**Coldfoot**	**83.56**	**23**	*e*P	**P**	**11 50 59.3**	**-0.1**
	13nm,1.0s						
VNDA	**Vanda**	**83.65**	**173**	P	**P**	**11 51 01.3**	**+1.7**
	2.3nm,0.8s,baz=45,slow=4.3,SNR=4.0						
VNDA				LR	LR	12 28 12.2	
	comp=Z,80nm,19.5s,baz=331,slow=36						
ILAR	**Eielson Array**	**84.77**	**25**	P	**P**	**11 51 06.2**	**+0.6**
	2.0nm,1.0s,baz=241,slow=5.0,SNR=14						
PPT	**Papeete**	**84.95**	**108**	LR	LR	12 22 56.6	
	comp=Z,92nm,18.3s,baz=284,slow=31						
PPT2	**Papeete2**	**84.95**	**108**	*e*S	S	12 01 39.9	+9.3
	103nm,22.0s						
PPT2	**Papeete2**	**84.95**	**108**	*e*LR	LR	12 18 02.8	
	194nm,25.0s						
TBI	**Tubuai**	**85.66**	**114**	*e*LR	LR	12 18 15.4	
	243nm,28.2s						
KMBO	**Kilima Mbogo**	**89.81**	**269**	P	**P**	**11 51 32.4**	**+1.1**
	2.7nm,0.9s,baz=60,slow=4.1,SNR=6.1						
KMBO	**Kilima Mbogo**	**89.81**	**269**	*e*P	**P**	**11 51 32.9**	**+1.6**
BRTR	**Keskin Array B**	**90.05**	**310**	P	**P**	**11 51 31.6**	**-0.1**
	4.8nm,1.1s,baz=115,slow=6.3,SNR=13						
BRTR				LR	LR	12 39 38.3	
	comp=Z,31nm,18.2s,baz=74,slow=41						
SPITS	**Spitsbergen Ar**	**90.28**	**349**	LR	LR	12 35 58.6	
	comp=Z,70nm,21.4s,baz=65,slow=38						
ARCES	**ARCESS Array B**	**90.30**	**340**	P	**P**	**11 51 31.3**	**-0.8**
	2.4nm,0.6s,baz=79,slow=5.6,SNR=11						
ARCES				LR	LR	12 37 31.0	
	comp=Z,99nm,18.0s,baz=104,slow=39						
FINES	**FINESS Array B**	**91.73**	**332**	P	**P**	**11 51 38.5**	**-0.4**
	1.7nm,0.5s,baz=55,slow=7.2,SNR=7.4						
FINES				LR	LR	12 36 40.7	
	comp=Z,168nm,18.9s,baz=70,slow=38						
AKASG	**Malin Array Be**	**91.85**	**321**	P	**P**	**11 51 39.4**	**-0.3**
	4.8nm,0.8s,baz=68,slow=4.4,SNR=10						
SYO	**Syowa Base**	**92.75**	**201**	*e*sP	sP	11 52 11.4	-2.1
QSPA	**South Pole Qui**	**93.89**	**180**	LR	LR	12 34 06.6	
	comp=Z,112nm,19.1s,baz=355,slow=36						
KOLS	**Kolonicke sedl**	**96.61**	**320**	*e*P	**P**	**11 52 02.3**	**+0.7**
CRVS	**Cervenica-Dubn**	**97.14**	**320**	*e*P	Pdif	11 52 05.1	+1.1
IDI	**Anoyia**	**97.54**	**306**	LR	LR	12 41 50.5	
	comp=Z,16nm,22.0s,baz=100,slow=39						
NOA	**NORSAR Array B**	**98.67**	**334**	P	Pdif	11 52 11.9	+1.3
	0.6nm,0.8s,baz=53,slow=2.0,SNR=2.5						
NOA				LR	LR	12 42 10.0	
	comp=Z,108nm,18.5s,baz=35,slow=39						
YKA	**Yellowknife Ar**	**99.16**	**24**	P	**Pdif**	**11 52 13.3**	**+0.6**
	0.2nm,0.5s,baz=290,slow=4.6,SNR=6.5						
GERES	**GERESS Array B**	**102.04**	**322**	P	**Pdif**	**11 52 26.8**	**+0.8**
	0.8nm,0.8s,baz=67,slow=7.4,SNR=6.4						
TORD	**Torodi Ar. Bea**	**123.08**	**288**	PKP	**PKPdf**	**11 57 29.9**	**+1.2**
	2.2nm,0.8s,baz=60,slow=2.1,SNR=14						
DBIC	**Dimbokro**	**130.77**	**282**	PKP	**PKPdf**	**11 57 46.2**	**+2.7**
	2.7nm,0.7s,baz=135,slow=2.9,SNR=3.3						
TRQA	**Tornquist**	**145.11**	**168**	*e*PKPbc	**PKPdf**	**11 58 10.8**	**+1.7**

*SKHL **19** 11:41:58.3±0.4, 44°.23N×147°.78E, h95km, mb4.4/2, msh4.9/2*
*JMA **19** 11:41:59.0±0.4, 44°.04N×147°.66E, h101km, M2.4*
ISC 19 11:41:56.9±3.0, 44°.2N±0°.1×147°.8E±0°.2, h98km±18km, n10, σ0§82/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.79**	**247**	*e*P	**Pn**	**11 42 15.6**	**+0.7**
SHO				*e*S	**Sn**	**11 42 28.3**	**-0.1**
KUR	**Kuril'sk**	**1.05**	**1**	*e*P	**Pn**	**11 42 17.8**	**+0.2**
KUR				AMB	AMB	11 42 17.9	
	22nm,0.1s						
KUR				*e*S	**Sn**	**11 42 32.7**	**-0.5**
KUR				A	A	11 42 32.9	
	98nm,0.4s						
KUR				A	A	11 42 32.9	
	66nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.43**	**265**	*e*P	**Pn**	**11 42 22.5**	**+0.4**
YUK				AMB	AMB	11 42 23.0	
	49nm,0.2s						
YUK				*e*S	**Sn**	**11 42 40.6**	**-0.6**
YUK				A	A	11 42 42.1	
	60nm,0.1s						
YUK				A	A	11 42 42.1	
	123nm,0.1s						
NEM2	**Nemuro 2**	**1.72**	**242**	P	**Pn**	**11 42 26.2**	**+0.5**
NEM2				*e*S	**Sn**	**11 42 46.6**	**-1.1**
JRA	**Rausu**	**1.97**	**264**	P	**Pn**	**11 42 29.7**	**+0.8**
JNK	**Nakash**	**2.33**	**256**	P	**Pn**	**11 42 34.3**	**+0.7**
JAK	**Akkeshi**	**2.57**	**244**	P	**Pn**	**11 42 36.9**	**+0.1**
JAR	**Ashorobuto**	**3.08**	**255**	P	**Pn**	**11 42 44.8**	**+1.2**
JCH	**Churui**	**3.62**	**246**	P	**Pn**	**11 42 51.7**	**+0.9**
JNBK	**Urakawa-nobuka**	**4.17**	**245**	P	**Pn**	**11 42 58.2**	**-0.1**
JNBK				*e*S	**Sn**	**11 43 44.9**	**-1.1**

*IDC **19** 11:43:39.5±3.5, 4°.82S×103°.05E, h34km±21km, mb3.7/8, mb1 3.9/8, mb1mx3.6/30, mbtmp3.9/8, Error ellipse: s-maj=85.4km s-min=18.2km az=53.0*
*ISCJB **19** 11:43:44.4±0.8, 4°.8S±0°.1×103°.28E±0°.09, h93km±4km, mb3.9/8, Error ellipse: s-maj=21.0km s-min=7.9km az=39.3*
*DJA **19** 11:43:47.2±0.6, 5°.S±6°.×10°.3E±°, h32km±6km, M4.1/9, MLv4.1/9*
ISC 19 11:43:45.0±0.9, 4°.82S±0°.08×103°.27E±0°.07, h81km±6km, n25, σ1§25/33, mb4.0/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.55**	**326**	P	**Pn**	**11 43 59.9**	**+0.6**
MNAI				S	**Sn**	**11 44 08.8**	**-1.1**
MNAI	**Manna**	**0.55**	**326**	P	**Pn**	**11 43 59.5**	**+0.2**
MNAI				S	**Sn**	**11 44 10.8**	**+0.9**
MNAI	**Manna**	**0.55**	**326**	P	**Pn**	**11 43 59.9**	**+0.6**
	baz=25,SNR=77						
MNAI	**Manna**	**0.55**	**326**	*e*P	**Pn**	**11 43 59.9**	**+0.6**
	6μm,0.3s						
LWLI	**Liwa**	**0.81**	**104**	P	**Pn**	**11 44 02.5**	**+0.4**
LWLI				S	**Sn**	**11 44 15.7**	**+0.8**
LWLI	**Liwa**	**0.81**	**104**	P	**Pn**	**11 44 03.2**	**+1.1**
MDSI	**Maura Dua**	**0.96**	**70**	P	**Pn**	**11 44 03.9**	**+0.2**
MDSI				S	**Sn**	**11 44 17.9**	**+0.2**
MDSI	**Maura Dua**	**0.96**	**70**	P	**Pn**	**11 44 03.9**	**+0.2**
MDSI				S	**Sn**	**11 44 17.5**	**-0.2**
LHSI	**Lahat**	**1.01**	**15**	P	**Pn**	**11 44 05.8**	**+1.5**
LHSI	**Lahat**	**1.01**	**15**	P	**Pn**	**11 44 05.0**	**+0.7**
KASI	**Kota Agung**	**1.41**	**120**	P	**Pn**	**11 44 10.5**	**+1.2**
KASI				S	**Sn**	**11 44 27.9**	**+0.4**
KASI	**Kota Agung**	**1.41**	**120**	P	**Pn**	**11 44 10.0**	**+0.7**
KLI	**Kotabumi**	**1.58**	**92**	P	**Pn**	**11 44 13.3**	**+1.8**
MASI	**Maura Aman, Be**	**1.95**	**328**	P	**Pn**	**11 44 19.0**	**+2.6**
MASI	**Maura Aman, Be**	**1.95**	**328**	P	Pn	11 44 27.3	+11
CMAR	**Chiang Mai Arr**	**23.52**	**350**	P	**P**	**11 48 46.2**	**-1.8**
	0.9nm,0.5s,baz=181,slow=8.1,SNR=4.6						
WRA	**Warramunga Arr**	**33.77**	**119**	P	**P**	**11 50 19.6**	**+0.3**
	0.4nm,0.4s,baz=300,slow=11,SNR=10						
ASAR	**Alice Springs**	**34.97**	**125**	P	**P**	**11 50 30.4**	**+0.7**
	0.8nm,0.4s,baz=298,slow=7.7,SNR=11						
ASAR				S	**S**	**11 55 53.4**	**-2.5**
	0.4nm,0.9s,baz=301,slow=17,SNR=4.1						
SONM	**Songino Array**	**52.50**	**3**	P	**P**	**11 52 49.9**	**+0.1**
	1.2nm,0.5s,baz=183,slow=9.1,SNR=11						
SONM				PcP	**PcP**	**11 53 58.8**	**-0.6**
	0.4nm,0.4s,baz=190,slow=4.8,SNR=4.3						
MKAR	**Makanchi Array**	**54.64**	**342**	P	**P**	**11 53 04.4**	**-1.0**
	0.8nm,0.6s,baz=152,slow=9.0,SNR=7.6						
ZALV	**Zalesovo Beam**	**60.56**	**348**	P	**P**	**11 53 45.4**	**-1.4**
	1.4nm,0.4s,baz=166,slow=6.1,SNR=8.8						
FINES	**FINESS Array B**	**88.11**	**332**	P	**P**	**11 56 25.7**	**-0.6**
	0.5nm,0.5s,baz=95,slow=2.3,SNR=6.4						
ARCES	**ARCESS Array B**	**90.22**	**340**	P	**P**	**11 56 36.6**	**+0.4**
	1.5nm,0.8s,baz=81,slow=12,SNR=3.4						
PDAR	**Pinedale Array**	**132.31**	**33**	PKP	**PKPdf**	**12 02 51.3**	**+0.9**
	0.3nm,0.9s,baz=347,slow=3.7,SNR=2.3						
PDAR				SKPbc	**SKPab**	**12 06 14.3**	**+3.2**
	1.0nm,0.8s,baz=317,slow=2.9,SNR=9.1						
TXAR	**Lajitas Array**	**144.73**	**43**	PKP	**PKPdf**	**12 03 13.3**	**0.0**
	0.2nm,0.5s,baz=244,slow=1.6,SNR=5.6						

*IDC **19** 11:59:06.3±1.5, 10°.35S×164°.56E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/27, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=46.4km s-min=27.3km az=118.0*
ISC 19 11:59:10.2±1.1, 10°.4S±0°.1×164°.4E±0°.1, h24km, n13, σ1§11/7, mb3.7/5, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.51**	**282**	*e*P	**Pb**	**12 00 28.0**	**-0.8**
DZM	**Mont Dzumac**	**11.77**	**171**	Pn	**Pn**	**12 01 56.6**	**-0.2**
	1.5nm,0.3s,baz=93,slow=7.0,SNR=28						
DZM				Sn	Sn	12 03 58.5	-9.0
	0.4nm,0.3s,baz=319,slow=24,SNR=3.4						
H11S2	**WAKE ISLAND Hy 28.79**	**5**		T	T	12 35 27.7	
	baz=183,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy 28.79**	**4**		T	T	12 35 39.1	
	baz=183,slow=76,SNR=3.0						
H11S1	**WAKE ISLAND Hy 28.81**	**4**		T	T	12 35 38.5	
	baz=183,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy 30.02**	**5**		T	T	12 37 03.2	
	baz=182,slow=76,SNR=6.9						
H11N3	**WAKE ISLAND Hy 30.02**	**5**		T	T	12 37 02.0	
	baz=182,slow=76,SNR=8.1						
H11N2	**WAKE ISLAND Hy 30.04**	**5**		T	T	12 37 05.4	
	baz=182,slow=76,SNR=10						
WRA	**Warramunga Arr**	**30.50**	**248**	P	**P**	**12 05 22.5**	**+0.7**
	0.3nm,0.9s,baz=76,slow=9.0,SNR=3.4						
ASAR	**Alice Springs**	**31.94**	**242**	P	**P**	**12 05 34.6**	**+0.2**
	0.5nm,1.0s,baz=63,slow=11,SNR=4.4						
SONM	**Songino Array**	**77.38**	**324**	P	**P**	**12 11 04.9**	**+1.5**
	0.4nm,0.5s,baz=122,slow=7.0,SNR=4.2						
ILAR	**Eielson Array**	**83.32**	**19**	P	**P**	**12 11 33.5**	**-1.2**
	0.4nm,0.6s,baz=224,slow=4.5,SNR=13						
MKAR	**Makanchi Array**	**92.16**	**317**	P	**P**	**12 12 18.1**	**+0.1**
	0.9nm,0.7s,baz=94,slow=7.1,SNR=10.0						

IDC 19 12:07:09.0±1.4, 36°.76S×73°.05W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/24, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=31.1km s-min=19.5km az=83.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.42**	**155**	Pn	Pn	12 08 15.4	-2.0
	1.1nm,0.3s,baz=326,slow=12,SNR=9.4						
PLCA				Lg	Lg	12 09 31.7	
	2.5nm,0.3s,baz=50,slow=14,SNR=8.6						
CFAA	**Coronel Fontan**	**6.50**	**39**	Pn	Pn	12 08 44.8	-1.3
	0.0nm,0.3s,baz=210,slow=14,SNR=2.4						
CFAA				Lg	Lg	12 10 36.9	
	0.1nm,0.3s,baz=3.2,slow=11,SNR=3.9						
SIV	**San Ignacio**	**23.26**	**30**	P	P	12 12 18.3	+0.1
	0.8nm,0.4s,baz=224,slow=10,SNR=3.0						
TXAR	**Lajitas Array**	**71.76**	**332**	P	P	12 18 33.2	0.0
	0.2nm,0.7s,baz=153,slow=9.4,SNR=3.4						
NVAR	**Mina Array Bea**	**85.69**	**326**	P	P	12 19 50.1	+0.4
	0.2nm,0.4s,baz=154,slow=4.7,SNR=3.0						

IDC 19 12:08:17.8±2.0, 2°.70N×125°.43E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/28, mbtmp3.6/3, Error ellipse: s-maj=181.0km s-min=25.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.14**	**159**	P	P	12 13 35.8	0.0
	1.6nm,0.8s,baz=338,slow=11,SNR=30						
ASAR	**Alice Springs**	**27.48**	**163**	P	P	12 14 06.5	+0.5
	0.3nm,0.3s,baz=341,slow=9.8,SNR=12						
MKAR	**Makanchi Array**	**57.67**	**326**	P	P	12 18 09.5	-0.6
	0.4nm,0.5s,baz=126,slow=8.6,SNR=5.6						

*IDC **19** 12:36:02.8±0.8, 37°.26S×73°.91W, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.2/27, mbtmp4.2/10, ML3.3/2, MS3.8/13, Ms1 3.8/13, ms1mx3.6/29, Error ellipse: s-maj=28.3km s-min=15.4km az=75.0*
*ISCJB **19** 12:36:06.2±0.4, 37°.19S±0°.06×73°.82W±0°.08, h33km, mb4.4/26, MS3.9/12, Error ellipse: s-maj=10.4km s-min=6.9km az=140.4*
*BJI **19** 12:36:07.5, 37°.20S×74°.00W, h35km, mB4.9/5, Ms5.1/2, Ms7 5.0/2*
*NEIC **19** 12:36:08.1±0.3, 37°.20S×73°.81W, h35km, mb4.4/19, Error ellipse: s-maj=9.7km s-min=5.8km az=74.0*
ISC 19 12:36:07.9±0.4, 37°.22S±0°.06×73°.93W±0°.08, h35km, n64, σ1§28/68, mb4.5/26, MS3.9/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.38**	**144**	Pn	**Pn**	**12 37 11.1**	**-1.0**
	0.7nm,0.3s,baz=327,slow=14,SNR=27						
PLCA				Lg	Lg	12 38 21.7	
	7.5nm,0.3s,baz=302,slow=12,SNR=3.0						
CFAA	**Coronel Fontan**	**7.31**	**42**	Pn	**Pn**	**12 37 51.1**	**-1.2**
	0.1nm,0.3s,baz=237,slow=8.0,SNR=3.7						
CFAA				Lg	Lg	12 40 04.1	
	0.2nm,0.3s,baz=304,slow=21,SNR=6.1						
CFAA				LR	LR	12 41 05.6	
	comp=Z,124nm,20.8s,baz=224,slow=41						
LCO	**Las Campanas**	**8.62**	**19**	*e*Pn	**Pn**	**12 38 07.9**	**-2.6**
TRQA	**Tornquist**	**9.51**	**99**	*e*Pn	**Pn**	**12 38 21.8**	**-0.6**
TRQA				*e*Sn	**Sn**	**12 40 09.5**	**+1.4**
LVC	**Limon Verde**	**15.19**	**18**	*e*Pn	**Pn**	**12 39 40.0**	**0.0**
	8.8nm,1.0s						
LVC				*e*Sn	**Sn**	**12 42 31.4**	**+4.1**
USHA	**Ushuaia**	**18.01**	**170**	P	**P**	**12 40 19.5**	**+4.0**
	0.3nm,0.3s,baz=324,slow=14,SNR=4.5						
EFI	**East Falkland**	**18.30**	**147**	*e*P	**Pn**	**12 40 19.1**	**+0.3**
	36nm,0.8s						
LPAZ	**La Paz**	**21.47**	**15**	P	**P**	**12 40 55.8**	**+1.7**
	12nm,1.2s,baz=142,slow=7.7,SNR=10						
LPAZ	**La Paz**	**21.47**	**15**	*e*P	**P**	**12 40 55.3**	**+1.2**
	9.9nm,1.2s						
SIV	**San Ignacio**	**24.02**	**32**	P	**P**	**12 41 19.5**	**-0.1**
	8.4nm,0.9s,baz=231,slow=15,SNR=6.9						
SIV				LR	LR	12 52 36.6	
	comp=Z,561nm,20.2s,baz=224,slow=41						
PMSA	**Palmer Station**	**28.21**	**171**	LR	LR	12 51 45.0	
	comp=Z,131nm,19.2s,baz=307,slow=33						
SAML	**Samuel**	**29.78**	**22**	*e*P	**P**	**12 42 11.1**	**-0.3**
	6.7nm,1.3s						
ATAH	**Atahualpa**	**30.22**	**351**	LR	LR	12 52 09.7	
	comp=Z,145nm,20.3s,baz=198,slow=32						
BDFB	**Brasilia**	**31.45**	**54**	LR	LR	12 56 29.2	
	comp=Z,425nm,18.3s,baz=212,slow=39						
RPN	**Rapa Nui**	**31.46**	**278**	LR	LR	12 51 26.4	
	comp=Z,248nm,21.0s,baz=154,slow=29						
SDV	**Santo Domingo**	**45.97**	**5**	*e*P	**P**	**12 44 28.0**	**+0.1**
	4.5nm,0.8s						
JTS	**JuntasAbangare**	**48.38**	**345**	P	**P**	**12 44 47.2**	**+0.8**
	2.8nm,0.4s						
SNAA	**Sanae**	**49.21**	**157**	P	**P**	**12 44 52.3**	**0.0**
	5.0nm,1.1s,baz=278,slow=6.0,SNR=8.8						
SNAA	**Sanae**	**49.21**	**157**	*e*P	**P**	**12 44 52.2**	**-0.2**
	15nm,1.1s						
QSPA	**South Pole Qui**	**53.02**	**180**	P	**P**	**12 45 21.6**	**+0.5**
	5.6nm,1.1s,baz=293,slow=2.1,SNR=5.6						
QSPA	**South Pole Qui**	**53.02**	**180**	*e*P	**P**	**12 45 21.5**	**+0.4**
	11nm,1.3s						
APG	**El Apazote**	**54.23**	**340**	LR	LR	13 03 55.1	
	comp=Z,53nm,19.1s,slow=31						
SJG	**San Juan**	**55.52**	**9**	*e*P	**P**	**12 45 39.0**	**-0.6**
HUMP	**Col San Antoni**	**55.59**	**9**	*e*P	**P**	**12 45 38.4**	**-1.6**
	7.0nm,0.8s						
TBI	**Tubuai**	**65.13**	**259**	*e*LR	LR	13 06 07.9	
	142nm,27.2s						
PPT2	**Papeete2**	**68.31**	**264**	*e*S	**S**	**12 56 06.9**	**+2.3**
	75nm,23.2s						
PPT2	**Papeete2**	**68.31**	**264**	*e*LR	LR	13 07 32.1	
	163nm,28.2s						
HKT	**Hockley**	**69.90**	**340**	P	**P**	**12 47 14.6**	**-0.6**
	6.6nm,1.1s						
MAW	**Mawson**	**70.53**	**164**	LR	LR	13 19 28.7	
	comp=Z,211nm,19.1s,baz=244,slow=37						
TXAR	**Lajitas Array**	**71.84**	**333**	P	**P**	**12 47 27.4**	**+0.3**
	1.2nm,0.8s,baz=153,slow=8.7,SNR=13						
TXAR				LR	LR	13 13 35.1	
	comp=Z,59nm,18.7s,baz=0.0,slow=31						
MIAR	**Mount Ida**	**73.71**	**343**	*e*P	**P**	**12 47 38.4**	**+0.5**
	1.1nm,0.4s						
WVT	**Waverly**	**74.11**	**348**	*e*P	**P**	**12 47 41.1**	**+0.8**
	1.4nm,0.6s						
WMOK	**Wichita Mounta**	**75.23**	**339**	*e*P	**P**	**12 47 47.0**	**+0.1**
	0.6nm,0.6s						
TUL1	**Leonard**	**75.54**	**342**	*e*P	**P**	**12 47 48.8**	**+0.2**
	5.1nm,0.3s						
LIC	**Lamto**	**77.24**	**72**	*e*P	**P**	**12 47 59.1**	**+0.3**
	37nm,1.3s						
TIC	**Toumodi**	**77.52**	**72**	*e*P	**P**	**12 48 00.9**	**+0.6**
	11nm,0.2s						
KIC	**Kosan Boka**	**77.55**	**72**	*e*P	**P**	**12 48 00.9**	**+0.4**
	33nm,1.2s						
DBIC	**Dimbokro**	**77.66**	**72**	P	**P**	**12 48 00.7**	**-0.4**
	6.6nm,1.0s,baz=182,slow=12,SNR=5.0						
DBIC				LR	LR	13 20 19.7	
	comp=Z,52nm,18.1s,baz=211,slow=34						
ANMO	**Albuquerque**	**77.91**	**333**	*e*P	**P**	**12 48 04.0**	**+1.7**
	0.8nm,0.6s						
TSUM	**Tsumeb**	**79.80**	**106**	*e*P	**P**	**12 48 13.2**	**+0.1**
	1.3nm,0.8s						
BOSA	**Boshof**	**79.92**	**118**	P	**P**	**12 48 13.8**	**+0.2**
	6.2nm,1.1s,baz=288,slow=5.2,SNR=5.3						
BOSA				LR	LR	13 20 34.3	
	comp=Z,53nm,18.2s,baz=169,slow=33						
MWC	**Mount Wilson**	**82.09**	**324**	*e*P	**P**	**12 48 23.5**	**-1.3**
LBTB	**Lobatse**	**82.33**	**115**	*e*P	**P**	**12 48 25.4**	**-1.0**
	3.1nm,0.6s						
ECSD	**EROS Data Cent**	**83.17**	**344**	*e*P	**P**	**12 48 30.4**	**+0.4**
	8.9nm,1.3s						
DUG	**Dugway, Tooele**	**84.91**	**331**	*e*P	**P**	**12 48 39.5**	**+0.4**
	1.0nm,0.8s						
PDAR	**Pinedale Array**	**85.97**	**335**	P	**P**	**12 48 45.0**	**+0.6**
	0.9nm,1.1s,baz=197,slow=4.5,SNR=4.2						
TOA0	**Torodi Ar. Sit**	**86.73**	**71**	*e*P	**P**	**12 48 48.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**86.73**	**71**	P	**P**	**12 48 47.8**	**-0.8**
	1.7nm,1.0s,baz=226,slow=4.0,SNR=7.5						
TORD				LR	LR	13 27 30.7	
	comp=Z,47nm,18.1s,baz=150,slow=36						
DZM	**Mont Dzumac**	**98.11**	**235**	LR	LR	13 22 41.1	
	comp=Z,66nm,20.4s,baz=268,slow=28						
WRA	**Warramunga Arr**	**117.21**	**210**	PKP	**PKPdf**	**12 54 49.2**	**-0.7**
	0.6nm,1.0s,baz=163,slow=1.4,SNR=4.5						
NACGM	**Naroch**	**125.26**	**44**	*e*LQ	LQ	12 52 36.0	
PSI	**Prapat**	**145.12**	**167**	PKP	**PKPbc**	**12 55 41.9**	**0.0**
	5.6nm,0.5s,baz=220,slow=6.4,SNR=6.1						
HYB	**Hyderabad**	**148.77**	**122**	/ PKP	**PKPbc**	**12 55 51.0**	**-1.1**
KKAR	**Karatay Array**	**152.34**	**67**	*e*PKPdf	**PKPdf**	**12 55 53.5**	**+0.5**
KKAR				*e*PKPbc	**PKiKP**	**12 56 00.6**	**+0.5**
KKAR				*e*PKPab	**PKPab**	**12 56 09.9**	**-0.1**
DLH	**Dalhousie**	**154.92**	**92**	*e*P	PKPab	12 56 14

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRJI	**Gresik**	4.37	288	P	Pn	12 37 15.3	+0.3
PWJI	**Pagerwojo**	4.81	273	P	Pn	12 37 21.1	+0.5
PCJI	**Pacitan**	5.43	271	P	Pn	12 37 27.5	-0.9
	202nm,0.6s,4μm0.9nm						
MMRI	**Maumere**	5.53	94	P	Pn	12 37 30.8	+1.0
	37nm,1.2s,0.2nm						
UGM	**Wanagama**	6.09	273	P	Pn	12 37 35.2	-1.8
	baz=6.1,SNR=14						
BATI	**Baumata**	7.17	106	P	Pn	12 37 51.1	+0.1
	39nm,0.7s,830nm0.1nm						
SOEI	**Soe**	7.65	101	P	Pn	12 37 57.5	+0.1
KPJI	**Karang Pucung**	7.72	277	P	Pn	12 37 56.6	-1.6
	22nm,1.9s,0.1nm						
CISI	**Cisompet, Garu**	8.79	274	P	Pn	12 38 08.6	-3.6
	baz=8.8,SNR=4.1						
FAKI	**Fak Fak**	16.41	72	P	P	12 39 44.4	-2.7
	baz=16,SNR=7.3						

IDC 19 12:40:52.1±4.4, 37°.14S×73°.07W, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.5/27, mbtmp3.5/5, ML3.0/2, Error ellipse: s-maj=104.6km s-min=20.1km az=79.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	4.09	152	Pn	Pn	12 41 54.1	-1.9
	0.4nm,0.3s,baz=324,slow=12,SNR=5.0						
PLCA				Lg	Lg	12 43 02.1	
	1.4nm,0.3s,baz=280,slow=12,SNR=2.4						
CFAA	**Coronel Fontan**	6.81	37	Pn	Pn	12 42 32.4	-1.0
	0.1nm,0.3s,baz=221,slow=13,SNR=3.0						
LPAZ	**La Paz**	21.23	13	P	P	12 45 38.7	-1.7
	2.1nm,0.8s,baz=190,slow=12,SNR=4.2						
SIV	**San Ignacio**	23.60	30	P	P	12 46 05.1	+0.4
	2.0nm,0.9s,baz=190,slow=11,SNR=3.2						
TORD	**Torodi Ar. Bea**	86.06	70	P	P	12 53 36.1	+1.2
	0.4nm,0.7s,baz=227,slow=4.2,SNR=2.7						

*IDC **19** 12:41:30.0±2.4, 34°.22S×73°.61W, h0km, mb4.3/5, mb1 4.3/5, mb1mx3.9/24, mbtmp4.3/5, ML2.9/1, Error ellipse: s-maj=75.7km s-min=24.4km az=121.0*
*ISCJB **19** 12:41:32.6±1.1, 34°.14S±0°.08×73°.7W±0°.2, h33km, mb4.2/6, Error ellipse: s-maj=21.3km s-min=8.1km az=25.1*
*NEIC **19** 12:41:33.4±4.1, 34°.12S×73°.69W, h25km±25km, mb4.2/2, Error ellipse: s-maj=36.7km s-min=10.8km az=102.0*
ISC 19 12:41:34.6±1.1, 34°.14S±0°.09×73°.7W±0°.2, h35km, n11, σ0§70/13, mb4.2/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	5.28	63	Pn	Pn	12 42 49.9	-1.0
	0.4nm,0.3s,baz=224,slow=11,SNR=7.1						
CFAA				Sn	Sn	12 43 51.4	+0.8
	0.3nm,0.3s,baz=125,slow=17,SNR=3.3						
LCO	**Las Campanas**	5.73	28	ePn	Pn	12 42 56.6	-0.8
LCO				eSn	Sn	12 44 02.4	+0.2
PLCA	**Paso Flores**	7.05	160	ePn	Pn	12 43 15.2	-0.2
SNAA	**Sanae**	51.99	158	P	P	12 50 39.3	-0.7
	1.4nm,0.6s,baz=280,slow=9.0,SNR=16						
QSPA	**South Pole Qui**	56.09	180	P	P	12 51 10.7	+0.7
	3.6nm,0.9s,baz=148,slow=4.3,SNR=14						
QSPA	**South Pole Qui**	56.09	180	eP	P	12 51 10.5	+0.4
	2.4nm,0.6s						
DBIC	**Dimbokro**	76.56	72	P	P	12 53 22.5	+0.8
	3.9nm,0.6s,baz=220,slow=3.9,SNR=5.8						
TSUM	**Tsumeb**	80.53	107	eP	P	12 53 43.7	-0.1
	1.0nm,0.5s						
BOSA	**Boshof**	81.25	119	P	P	12 53 47.2	-0.2
	2.0nm,0.8s,baz=252,slow=5.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	85.59	71	P	P	12 54 10.3	+0.7
	1.3nm,0.7s,baz=250,slow=4.1,SNR=7.2						
MKAR	**Makanchi Array**	157.91	48	PKPab	PKPab	13 02 00.1	-0.3
	0.5nm,0.9s,baz=293,slow=4.9,SNR=3.7						

*ISCJB **19** 12:53:51.7±0.8, 3°.51S±0°.07×140°.19E±0°.09, h100km, mb3.3/2, Error ellipse: s-maj=13.4km s-min=8.2km az=29.4*
*IDC **19** 12:53:52.4±1.4, 3°.51S×140°.06E, h97km±19km, mb3.1/3, mb1 3.4/4, mb1mx3.2/19, mbtmp3.5/4, Error ellipse: s-maj=58.3km s-min=14.2km az=101.0*
*DJA **19** 12:53:55.5±1.0, 2°.5S±6°.×14°.0E±°, h19km±12km, M4.7/7, mb4.7/5, mB5.7/2, MLv4.6/7, Mw(mB)5.3/2*
ISC 19 12:53:52.8±1.0, 3°.39S±0°.09×140°.05E±0°.08, h100km, n12, σ2§00/15, mb3.1/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	0.80	8	P	Pn	12 54 11.9	+0.7
GENI				S	Sn	12 54 25.9	+0.9
JAY	**Jayapura**	1.09	37	P	Pn	12 54 14.2	-0.1
JAY				S	Sn	12 54 28.8	-1.6
JAY	**Jayapura**	1.09	37	P	Pn	12 54 15.3	+1.0
	31nm,0.3s,baz=225,slow=9.1,SNR=136						
JAY				S	Sn	12 54 31.4	+0.9
	79nm,0.3s,baz=56,slow=16,SNR=15						
JAY				LR	LR	12 54 36.3	
	comp=Z,37nm,19.0s,baz=30,slow=37						
SMPI	**Sarmi**	1.93	316	P	Pn	12 54 23.0	-1.6
SMPI				S	Sn	12 54 44.8	-4.0
SRPI	**Serui, Papua**	4.10	292	P	Pn	12 54 56.1	+2.7
RKPI	**Ransiki, Papua**	6.16	288	P	Pn	12 55 24.7	+3.3
	100nm,0.9s,5μm1.0nm						
FAKI	**Fak Fak**	7.81	273	P	Pn	12 55 51.5	+7.7
	20nm,1.4s						
SWI	**Sorong**	9.14	286	P	Pn	12 56 04.8	+2.9
WRA	**Warramunga Arr**	17.37	198	P	P	12 57 47.6	-1.3
	0.4nm,0.3s,baz=16,slow=13,SNR=30						
WRA				S	Sn	13 00 51.4	-11
	0.2nm,0.3s,baz=16,slow=22,SNR=6.3						
ASAR	**Alice Springs**	21.01	196	P	P	12 58 28.9	+0.3
	0.5nm,0.6s,baz=28,slow=10,SNR=12						
ASAR				S	S	13 02 14.7	-2.5
	0.3nm,0.5s,baz=20,slow=26,SNR=3.1						
MKAR	**Makanchi Array**	71.15	322	P	P	13 05 01.3	+0.6
	0.1nm,0.3s,baz=99,slow=7.6,SNR=3.0						
ILAR	**Eielson Array**	85.90	24	P	P	13 06 21.4	+0.1
	0.4nm,0.6s,baz=252,slow=4.9,SNR=8.0						

*NIED **19** 13:27:00, 37°.20N×142°.20E, h23km, Mw4.2 Best double couple: M0=2.11000×10^15 NP1:φ1=244.00000°, δ22.00000°, λ165.00000°. NP2:φ2=348.00000°, δ84.00000°, λ69.00000°.*
*ISCJB **19** 13:27:55.1±0.6, 37°.29N±0°.05×142°.25E±0°.05, h19km, mb3.9/16, MS3.6/3, Error ellipse: s-maj=8.6km s-min=4.7km az=151.7*
*JMA **19** 13:27:55.6±0.2, 37°.24N×142°.20E, h32km±4km, M4.5*
JMA Felt I J1.
*IDC **19** 13:27:56.4±0.7, 37°.87N×142°.05E, h0km, mb3.9/15, mb1 4.1/18, mb1mx4.0/52, mbtmp4.0/18, ML3.7/3, MS3.4/8, Ms1 3.4/8, ms1mx3.0/42, Error ellipse: s-maj=19.4km s-min=14.9km az=146.0*
ISC 19 13:27:56.9±0.8, 37°.34N±0°.07×142°.13E±0°.06, h19km, n51, σ1§45/40, mb4.0/16, MS3.5/3, 4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	1.00	272	P	Pb	13 28 14.7	-1.0
ONAJ	**Iwakimizuishiy**	1.09	258	⇓P	Pn	13 28 15.4	-1.8
ONAJ				S	Sb	13 28 29.5	-1.6
JMM	**Marumori**	1.18	296	⇓P	Pn	13 28 17.8	-0.6
JIO	**Ouri**	1.27	331	⇓P	Pn	13 28 19.2	-0.4
JFT	**Otama**	1.44	277	⇓P	Pn	13 28 22.1	+0.1
JFT				S	Sn	13 28 40.7	+0.3
JOU	**Okura**	1.55	312	P	Pn	13 28 23.8	+0.3
JMK	**Ichinoseki**	1.76	336	P	Pn	13 28 26.7	+0.4
JYS	**Shirataka**	1.86	299	P	Pb	13 28 29.3	-0.9
JFY	**Yanaizu**	1.93	273	P	Pn	13 28 29.1	+0.3
JFY				S	Sn	13 28 54.1	+1.5
JYK	**Kaneyama**	2.10	319	P	Pn	13 28 31.8	+0.7
JOM	**Ohasama**	2.23	343	P	Pn	13 28 33.5	+0.7
JOM				S	Sn	13 29 01.4	+1.7
JAG	**Ashikaga**	2.33	248	P	Pn	13 28 33.5	-0.8
MJAR	**Matsushiro Arr**	3.24	257	Pn	Pn	13 28 47.9	+1.1
	10nm,0.3s,baz=89,slow=16,SNR=147						
MJAR				Sn	Sb	13 29 28.9	-4.1
	29nm,0.3s,baz=8.3,slow=26,SNR=6.8						
MJAR				LR	LR	13 30 18.7	
	comp=Z,927nm,18.4s,baz=85,slow=43						
MAT	**Matsushiro**	3.24	257	P	Pn	13 28 47.3	+0.5
MAT				S	Sn	13 29 28.4	+3.5
ASAJ	**Asahikawa**	6.77	3	Pn	Pn	13 29 35.1	-0.1
	1.2nm,0.3s,baz=207,slow=14,SNR=11						
ASAJ				Sn	Sn	13 30 47.7	-4.1
	0.6nm,0.3s,baz=258,slow=13,SNR=1.7						
JNU	**Nakatsue**	10.12	249	Pn	Pn	13 30 23.3	+2.1
	0.7nm,0.3s,baz=70,slow=12,SNR=6.5						
JNU				LR	LR	13 34 51.9	
	comp=Z,48nm,20.1s,baz=15,slow=40						
USRK	**Ussuriysk Ar.**	10.29	315	Pn	Pn	13 30 27.1	+3.6
	0.2nm,0.3s,baz=120,slow=14,SNR=4.1						
USRK				LR	LR	13 34 10.3	
	comp=Z,137nm,20.2s,baz=122,slow=38						
KSRS	**Korea Array**	11.31	275	Pn	Pn	13 30 39.9	+2.5
	0.2nm,0.3s,baz=89,slow=14,SNR=7.1						
KSRS				LR	LR	13 34 52.1	
	comp=Z,228nm,18.6s,baz=68,slow=37						
PETK	**Petropavlovsk-**	19.13	30	LR	LR	13 39 27.8	
	comp=Z,53nm,20.9s,baz=213,slow=37						
SEY	**Seymchan**	26.38	11	P	P	13 33 33.3	+1.6
	1.1nm,0.6s,baz=201,slow=11,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	27.82	122	T	T	14 02 58.9	
	baz=322,slow=75,SNR=149						
H11N1	**WAKE ISLAND Hy**	27.83	122	T	T	14 02 54.5	
	SNR=117						
H11N3	**WAKE ISLAND Hy**	27.84	122	T	T	14 03 28.1	
	baz=312,slow=75,SNR=118						
SONM	**Songino Array**	28.09	303	P	P	13 33 48.2	+0.7
	4.5nm,0.7s,baz=102,slow=8.8,SNR=35						
H11S1	**WAKE ISLAND Hy**	28.55	124	T	T	14 03 57.9	
	baz=316,slow=76,SNR=91						
H11S3	**WAKE ISLAND Hy**	28.55	124	T	T	14 04 02.0	
	baz=316,slow=76,SNR=70						
H11S2	**WAKE ISLAND Hy**	28.57	124	T	T	14 04 01.1	
	baz=316,slow=76,SNR=59						
TLY	**Talaya**	30.56	310	LR	LR	13 47 04.8	
	comp=Z,77nm,18.6s,baz=134,slow=38						
CMAR	**Chiang Mai Arr**	42.13	256	P	P	13 35 49.2	+1.1
	0.5nm,0.5s,baz=37,slow=9.2,SNR=4.6						
ZALV	**Zalesovo Beam**	42.13	312	P	P	13 35 47.6	-0.1
	0.8nm,0.4s,baz=79,slow=7.7,SNR=8.7						
MKAR	**Makanchi Array**	44.44	302	P	P	13 36 05.7	-0.8
	1.6nm,0.6s,baz=89,slow=9.6,SNR=17						
TAPN	**Taplejung**	46.49	274	eP	P	13 36 28.7	+5.4
	13nm,0.8s						
RAMN	**Ramite**	47.55	274	eP	P	13 36 34.7	+3.1
	11nm,0.6s						
JIRN	**Jiri**	47.56	275	eP	P	13 36 35.2	+3.4
	14nm,0.7s						
GUN	**Gumba**	47.70	276	eP	P	13 36 36.7	+3.9
	16nm,0.7s						
ILAR	**Eielson Array**	48.92	33	P	P	13 36 41.4	0.0
	1.4nm,0.7s,baz=264,slow=6.0,SNR=21						
DANN	**Dangsing**	49.18	277	eP	P	13 36 44.0	-0.2
	33nm,0.8s						
KOLN	**Koldanda**	49.56	277	eP	P	13 36 45.9	-1.1
AAK	**Ala-Archa**	50.85	298	LR	LR	13 59 45.8	
	comp=Z,96nm,18.4s,baz=56,slow=38						
WRA	**Warramunga Arr**	57.45	189	P	P	13 37 52.2	+7.7
	1.3nm,0.6s,baz=6.0,slow=7.5,SNR=11						
ASAR	**Alice Springs**	61.18	189	P	P	13 38 16.4	+6.1
	0.8nm,0.8s,baz=343,slow=11,SNR=7.6						
YKA	**Yellowknife Ar**	63.25	30	P	P	13 38 23.0	-0.8
	0.4nm,0.7s,baz=305,slow=7.1,SNR=9.3						
GEYT	**Alibeck**	64.19	299	P	P	13 38 30.8	+0.4
	0.9nm,0.5s,baz=31,slow=6.7,SNR=2.8						
FINES	**FINESS Array B**	68.81	332	P	P	13 38 59.7	+0.2
	2.4nm,0.8s,baz=60,slow=11,SNR=8.9						
NOA	**NORSAR Array B**	74.12	338	LR	LR	14 14 49.2	
	comp=Z,28nm,20.9s,baz=280,slow=38						
NVAR	**Mina Array Bea**	74.34	54	P	P	13 39 34.4	+0.8
	0.5nm,0.7s,baz=280,slow=5.8,SNR=3.6						
AKASG	**Malin Array Be**	74.40	323	P	P	13 39 33.2	-0.2
	1.3nm,0.4s,baz=46,slow=5.9,SNR=5.3						
FRB	**Frobisher Bay**	76.34	14	P	P	13 39 44.2	0.0
	0.6nm,0.4s,baz=297,slow=11,SNR=3.5						
PDAR	**Pinedale Array**	77.04	46	P	P	13 39 48.4	-0.5
	0.3nm,0.7s,baz=277,slow=2.5,SNR=4.0						
GERES	**GERESS Array B**	82.75	329	P	P	13 40 19.6	+0.1
	0.4nm,0.5s,baz=349,slow=2.9,SNR=4.3						
LPAZ	**La Paz**	146.04	60	PKPbc	PKPab	13 47 37.4	+0.1
	1.1nm,0.6s,baz=32,slow=7.9,SNR=4.4						

BUC 19 13:29:18.4±0.8, 46°.11N×25°.81E, h5km, MD2.3/2, 4C-2D, Error ellipse: s-maj=7.2km s-min=2.7km az=349.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOPR	**Dopca**	0.32	244	↑iP	Pg	13 29 25.3	+0.6
DOPR	**Dopca**	0.32	244	S	Sb	13 29 31.2	-1.2
DOPR	**Dopca**	0.32	244	↑iP	Pg	13 29 25.3	+0.6
DOPR				i S	Sb	13 29 31.2	-1.2
MLR	**Muntele Rosu**	0.62	171	↑iP	Pb	13 29 31.4	-0.6
MLR	**Muntele Rosu**	0.62	171	↑iP	Pb	13 29 31.4	-0.6
MLR				i S	Sb	13 29 42.6	+1.4
VRI	**Vrincioaia**	0.69	110	⇓iP	Pb	13 29 32.7	-0.2
VRI				S	Sb	13 29 42.8	+0.1
VRI	**Vrincioaia**	0.69	110	⇓iP	Pb	13 29 32.7	-0.2
VRI				i S	Sb	13 29 42.8	+0.1
VOIR		0.86	219	S	Sb	13 29 48.2	+0.4
VOIR		0.86	219	i S	Sb	13 29 48.2	+0.4
LOT	**Lotru**	1.57	246	S	Sg	13 30 09.9	+0.7
LOT	**Lotru**	1.57	246	i S	Sg	13 30 09.9	+0.7

IDC 19 13:32:12.3±2.2, 4°.16N×127°.49E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/33, mbtmp3.5/3, Error ellipse: s-maj=169.7km s-min=25.1km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.88	165	P	P	13 37 36.9	-0.1
	1.6nm,0.7s,baz=345,slow=11,SNR=18						
ASAR	**Alice Springs**	28.36	168	P	P	13 38 08.3	0.0
	0.9nm,0.7s,baz=344,slow=11,SNR=14						
MKAR	**Makanchi Array**	57.64	325	P	P	13 42 04.4	0.0
	0.1nm,0.4s,baz=122,slow=6.1,SNR=4.2						

*ISCJB **19** 13:32:39.9±0.4, 16°.36N±0°.04×94°.69W±0°.03, h80km±5km, mb3.2/4, Error ellipse: s-maj=6.6km s-min=4.3km az=4.6*
*IDC **19** 13:32:39.6±1.2, 16°.50N×94°.40W, h78km±4km, mb3.1/4, mb1 3.6/7, mb1mx3.3/45, mbtmp3.6/7, Error ellipse: s-maj=28.1km s-min=8.7km az=29.0*
*NEIC **19** 13:32:41.2, 16°.44N×94°.68W, h90km, mb4.3/1, MD4.2(MEX), After MEX.*
NEIC Felt at Juchitan.
*MEX **19** 13:32:41.0±1.2, 16°.41N×94°.68W, h91km±13km, MD4.2*
ISC 19 13:32:40.4±0.6, 16°.44N±0°.04×94°.67W±0°.03, h87km±6km, n65, σ1§55/84, mb3.1/4, 16C-17D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	0.68	342	i P	Pn	13 32 56.4	0.0
CMIG				i S	Sn	13 33 08.2	-0.1
CMIG	**Matias Romero**	0.68	342	P	Pn	13 32 56.1	-0.3
	442nm,0.3s,baz=174,slow=6.4,SNR=3975						
CMIG				S	Sn	13 33 08.3	0.0
	762nm,0.3s,baz=88,slow=23,SNR=76						
CMIG	**Matias Romero**	0.68	342	i P	Pn	13 32 56.4	0.0
CMIG				i S	Sn	13 33 08.2	-0.1
TGIG		1.52	77	eP	Pn	13 33 06.3	+0.1
TGIG				i S	Sn	13 33 25.7	-0.2
TGIG		1.52	77	eP	Pn	13 33 06.3	+0.1
TGIG				i S	Sn	13 33 25.7	-0.2
HUIG	**Huatulco**	1.54	244	i P	Pn	13 33 05.3	-1.2
HUIG				i S	Sn	13 33 25.7	-0.6
HUIG	**Huatulco**	1.54	244	i P	Pn	13 33 05.3	-1.2
HUIG				i S	Sn	13 33 25.7	-0.6
PCIG		1.57	118	eP	Pn	13 33 07.8	+0.9
PCIG				eS	Sn	13 33 27.4	+0.4
PCIG		1.57	118	eP	Pn	13 33 07.8	+0.9
PCIG				eS	Sn	13 33 27.4	+0.4
TUIG	**Tuzandepetl**	1.60	8	eP	Pn	13 33 06.4	-0.8
TUIG				i S	Sn	13 33 27.0	-0.6
TUIG	**Tuzandepetl**	1.60	8	eP	Pn	13 33 06.4	-0.8
TUIG				i S	Sn	13 33 27.0	-0.6
PANG	**Puerto Angel**	1.90	246	eP	Pn	13 33 09.4	-1.8
PANG				i S	Sn	13 33 33.8	-0.8
OXBJ	**Oaxaca**	2.07	288	eP	Pn	13 33 14.5	+0.9
OXBJ				eS	Sn	13 33 38.2	-0.7
VHO	**Vista Hermosa**	2.08	288	i P	Pn	13 33 14.5	+0.8
VHO				i S	Sn	13 33 38.9	-0.2
VHO	**Vista Hermosa**	2.08	288	i P	Pn	13 33 14.5	+0.8
VHO				i S	Sn	13 33 38.9	-0.2
CCIG	**Comitan**	2.43	93	eP	Pn	13 33 18.6	+0.3
CCIG				eS	Sn	13 33 47.8	+0.3
CCIG	**Comitan**	2.43	93	eP	Pn	13 33 18.6	+0.3
CCIG				eS	Sn	13 33 47.8	+0.3
TPIG	**Tehuac#an**	3.24	308	eP	Pn	13 33 29.1	-0.2
TPIG				eS	Sn	13 34 06.0	-0.9
TPIG	**Tehuac#an**	3.24	308	eP	Pn	13 33 29.1	-0.2
TPIG				eS	Sn	13 34 06.0	-0.9
PNIG	**Pinotepa**	3.32	270	eP	Pn	13 33 28.9	-1.3
PNIG				eS	Sn	13 34 07.0	-1.7
PNIG	**Pinotepa**	3.32	270	eP	Pn	13 33 28.9	-1.3
PNIG				eS	Sn	13 34 07.0	-1.7
APG	**El Apazote**	4.29	109	P	Pn	13 33 38.0	-5.6
	14nm,0.3s,baz=354,slow=24,SNR=76						
APG				S	Sn	13 34 26.3	-6.3
	47nm,0.3s,baz=50,slow=21,SNR=15						
TEIG	**Tepich**	7.14	57	P	Pn	13 34 19.3	-2.9
	72nm,0.3s,baz=258,slow=4.9,SNR=80						
TEIG				S	Sn	13 35 35.6	-6.1
	33nm,0.3s,baz=67,slow=22,SNR=8.1						
TEIG	**Tepich**	7.14	57	ePn	Pn	13 34 19.5	-2.6
	226nm,0.4s						
JTS	**JuntasAbangare**	11.25	122	P	Pn	13 35 16.9	-1.4
	2.8nm,0.3s,baz=321,slow=18,SNR=5.7						
834A	**Tilden**	12.17	344	⇓P	Pn	13 35 32.3	+1.7
	baz=12						
833A	**Chaparral WMA,**	12.61	341	⇑P	Pn	13 35 38.4	+1.9
	baz=13,SNR=14						
832A	**Faith Ranch, C**	12.77	338	⇓P	Pn	13 35 41.4	+2.8
	baz=13						
733A	**Divot King Ran**	12.94	342	⇑P	Pn	13 35 42.9	+2.0
	baz=13,SNR=11						
633A	**Saathoff Ranch**	13.61	343	⇑P	Pn	13 35 50.6	+0.9
	baz=14,SNR=6.0						
632A	**Uvalde**	13.83	341	⇓P	P	13 35 55.3	-2.8
	baz=14						
534A	**Blanco**	13.97	346	⇑P	Pn	13 35 55.0	+0.6
	baz=14,SNR=22						
533A	**Kerrville**	14.15	344	⇑P	Pn	13 35 57.5	+0.7
	baz=14						
532A	**Rocksprings**	14.45	342	⇑P	P	13 36 03.9	-1.1
	baz=14,SNR=19						
435B	**Jarrell**	14.52	350	⇓P	P	13 36 03.7	-2.0
	baz=15						
434A	**Burnet**	14.68	348	⇓P	Pn	13 36 05.3	+1.7
	baz=15						
531A	**Rocksprings**	14.68	340	⇓P	P	13 36 06.8	-0.8
	baz=15,SNR=9.0						
JCT	**Junction City**	14.74	342	⇓P	P	13 36 07.2	-1.0
	baz=15						
JCT	**Junction City**	14.74	342	ePn	Pn	13 36 02.6	-1.9
	8.7nm,0.6s						
433A	**Art**	14.81	345	⇓P	P	13 36 07.5	-1.5
	baz=15,SNR=9.0						
530A	**J-C Ranch, Com**	14.95	337	⇓P	P	13 36 12.6	+2.0
	baz=15						
335A	**Moody**	14.99	351	⇓P	P	13 36 09.5	-1.5
	baz=15						
432A	**Menard**	15.11	343	⇓P	P	13 36 11.9	-0.5
	baz=15						
334A	**Lometa**	15.18	348	⇑P	P	13 36 11.5	-1.6
	baz=15,SNR=12						
431A	**Sonora**	15.18	340	⇑P	P	13 36 14.1	+1.0
	baz=15,SNR=10.0						
TXAR	**Lajitas Array**	15.27	329	P	Pn	13 36 12.1	+0.9
	0.0nm,0.3s,baz=156,slow=18,SNR=3.5						
TXAR				pP	pP	13 36 33.1	+2.2
	0.1nm,0.3s,baz=147,slow=11,SNR=5.1						
333A	**Richland Sprin**	15.33	346	⇓P	P	13 36 14.1	-0.7
	baz=15,SNR=5.7						
430A	**Baggett Ranch,**	15.49	338	⇑P	P	13 36 19.9	+3.3
	baz=16						
429A	**Davenport Ranc**	15.59	336	⇑P	P	13 36 21.4	+3.7
	baz=16						
WHTX	**Lake Whitney,**	15.69	351	⇓P	P	13 36 20.4	+1.8
	baz=16						
WHTX	**Lake Whitney,**	15.69	351	ePn	Pn	13 36 14.1	-2.3
	14nm,0.6s						
234A	**Clairette**	15.81	349	⇑P	P	13 36 20.5	+0.4
	baz=16,SNR=7.3						
330A	**Mertzon**	16.04	339	⇑P	P	13 36 27.0	+4.3
	baz=16						
133A	**Hamilton Ranch**	16.55	347	⇓P	P	13 36 30.7	+2.4
	baz=17						
ABTX	**Abilene, Hawle**	16.73	345	⇑P	P	13 36 33.3	+3.0
	baz=17						
Z33A	**Whitaker Ranch**	17.18	348	⇓P	P	13 36 39.7	+4.5
	baz=17						
Z31A	**Sharp Cattle R**	17.52	345	⇓P	Pn	13 36 44.1	+5.1
	baz=18						
Z30A	**Sanderson Ranc**	17.76	342	⇑P	Pn	13 36 48.7	+6.7
	baz=18						
Y33A	**Hilltop Ranch,**	17.85	349	⇑P	Pn	13 36 49.0	+6.0
	baz=18						
Z29A	**Hungry Hill Ra**	17.91	340	⇑P	Pn	13 36 51.5	+7.7
	baz=18,SNR=6.4						
X34A	**Smith Ranch, M**	18.31	352	⇓P	Pn	13 36 55.0	+6.5
	baz=18,SNR=5.6						
NVAR	**Mina Array Bea**	30.17	321	P	P	13 38 43.9	+1.3
	0.1nm,0.3s,baz=173,slow=11,SNR=2.8						
NVAR				pP	pP	13 39 03.1	+0.6
	0.5nm,0.7s,baz=138,slow=8.3,SNR=3.7						
YKA	**Yellowknife Ar**	48.09	348	P	P	13 41 10.4	-0.6
	0.2nm,0.8s,baz=157,slow=6.5,SNR=4.3						
YKA			

ASAR	**Alice Springs**	**26.69 169**	P	P	13 48 29.2	-0.9
	0.4nm,0.8s,baz=352,slow=7.2,SNR=6.9					
MJAR	**Matsushiro Arr**	**34.95 14**	LR	LR	14 03 41.7	
	comp=Z,13nm,19.8s,baz=75,slow=36					
MKAR	**Makanchi Array**	**59.37 325**	P	P	13 52 53.6	+0.4
	0.2nm,0.5s,baz=116,slow=7.6,SNR=4.7					

*ISCJB **19** 13:46:26.3±0.3, 0°.08S±0°.04×122°.09E±0°.06, h250km, mb3.7/13, Error ellipse: s-maj=7.9km s-min=5.0km az=161.6*
*IDC **19** 13:46:28.8±0.8, 0°.06S×122°.13E, h283km±7km, mb3.4/13, mb1 3.6/13, mb1mx3.3/43, mbtmp4.0/13, Error ellipse: s-maj=25.8km s-min=8.1km az=67.0*
*DJA **19** 13:46:29.0±0.3, 0°.5S±3°.3×12°.2E±°, h251km±4km, M4.5/21, mb4.5/13, mB5.0/5, MLv4.5/21, Mw(mB)4.3/5*
ISC 19 13:46:27.1±0.3, 0°.16S±0°.04×121°.95E±0°.06, h250km, n69, σ2§25/69, mb3.5/13, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.64**	**359**	P	**Pn**	**13 47 02.3**	**+1.8**
MRSI				S	**S**	**13 47 29.0**	**+2.3**
APSI	**Ampana**	**0.80**	**202**	P	Pn	13 47 04.8	+3.7
LUWI	**Luwuk**	**1.20**	**137**	P	Pn	13 47 06.2	+2.9
LUWI				S	**S**	**13 47 34.6**	**+2.8**
LUWI	**Luwuk**	**1.20**	**137**	P	Pn	13 47 06.1	+2.9
	baz=1.2,SNR=256						
LUWI				S	**S**	**13 47 34.9**	**+3.1**
	baz=1.2,SNR=6.6						
GTOI	**Gorontalo**	**1.32**	**53**	P	**Pn**	**13 47 05.9**	**+1.8**
MPSI	**Mapaga**	**2.12**	**284**	P	**Pn**	**13 47 12.8**	**+2.2**
KMSI	**Cibinong**	**2.16**	**70**	P	**Pn**	**13 47 13.5**	**+2.5**
TTSI	**Tana Toraja**	**3.57**	**217**	P	Pn	13 47 28.7	+2.8
SPSI	**Sidrap Palu**	**4.36**	**210**	P	**Pn**	**13 47 37.2**	**+2.0**
SANI	**Sanana**	**4.45**	**115**	P	**Pn**	**13 47 36.2**	**0.0**
BNSI	**Bone**	**4.59**	**204**	P	Pn	13 47 40.8	+2.8
BKSI	**Bulukumba**	**5.44**	**200**	P	**Pn**	**13 47 50.2**	**+1.9**
	50nm,1.0s,595nm0.2nm						
TNTI	**Ternate**	**5.49**	**80**	P	**Pn**	**13 47 48.6**	**-0.4**
	99nm,1.0s,3μm1.9nm						
LBMI	**Labuha**	**5.57**	**95**	P	**Pn**	**13 47 49.6**	**-0.3**
	72nm,0.6s,4μm4.4nm						
NLAI	**Namlea**	**5.98**	**121**	P	**Pn**	**13 47 57.3**	**+2.3**
	75nm,1.2s,0.7nm						
MSAI	**Masohi**	**7.65**	**114**	P	Pn	13 48 18.8	+2.7
	16nm,0.9s,0.1nm						
KKM	**Kota Kinabalu**	**8.42**	**317**	P	**Pn**	**13 48 28.6**	**+2.7**
	baz=8.5,SNR=5.8						
EDFI	**Ende, Flores**	**8.53**	**182**	P	**Pn**	**13 48 29.3**	**+2.0**
	39nm,0.8s						
SOEI	**Soe**	**9.80**	**166**	P	Pn	13 48 46.5	+3.1
	75nm,0.8s						
BATI	**Baumata**	**10.12**	**170**	P	**Pn**	**13 48 49.7**	**+2.5**
	115nm,0.6s						
BATI	**Baumata**	**10.12**	**170**	P	**Pn**	**13 48 49.8**	**+2.5**
	26nm,0.3s,baz=15,slow=1.1,SNR=40						
BATI				S	S	13 50 49.4	+8.3
	3.5nm,0.3s,baz=283,slow=2.0,SNR=2.3						
SRBI	**Singaraja**	**10.35**	**220**	P	P	13 48 58.0	+2.7
KMMI	**Kalianget**	**10.50**	**229**	P	P	13 49 00.8	+3.7
PBKI	**Pangkalan Bun**	**10.59**	**256**	P	P	13 49 02.9	+4.9
FAKI	**Fak Fak**	**10.65**	**105**	P	**Pn**	**13 48 55.2**	**+1.3**
	18nm,1.1s						
FAKI	**Fak Fak**	**10.65**	**105**	P	**Pn**	**13 48 55.2**	**+1.3**
	baz=11,SNR=10						
FAKI				S	**S**	**13 50 56.8**	**+3.4**
	baz=11,SNR=3.8						
GUIM	**Jordan**	**10.74**	**3**	*e*P	**P**	**13 49 01.1**	**+1.4**
CUYO	**Cuyo Island**	**10.98**	**355**	*e*P	**P**	**13 49 04.5**	**+2.1**
JAGI	**Jajag, Banyuwa**	**11.34**	**223**	P	P	13 49 09.8	+3.4
	baz=11,SNR=5.3						
ENPP	**El Nido**	**11.57**	**348**	*e*P	**Pn**	**13 49 04.3**	**-1.1**
RCP	**Roxas**	**11.67**	**4⇑**	*e*P	**P**	**13 49 10.7**	**+0.6**
GMJI	**Gumukmas**	**11.70**	**226**	P	P	13 49 18.1	+7.7
OTRP	**Odiongan**	**12.45**	**0**	*e*P	**P**	**13 49 20.6**	**+1.9**
PVCP	**Virac**	**13.84**	**9**	*e*P	**P**	**13 49 36.0**	**+1.8**
MTN	**Manton Dam**	**15.54**	**145**	P	**P**	**13 49 52.7**	**-0.3**
	baz=16,SNR=82						
BALP	**Baler**	**15.81**	**359**	*e*P	**Pn**	**13 49 57.1**	**+0.1**
SCZP	**Santa Cruz**	**15.97**	**353**	*e*P	**P**	**13 49 57.9**	**+0.3**
KDU	**Kakadu**	**16.24**	**140**	P	**P**	**13 50 00.3**	**-0.3**
	baz=16,SNR=6.8						
BOLP	**Bolinao**	**16.56**	**353**	*e*P	**P**	**13 50 04.4**	**+0.2**
KNRA	**Kununurra**	**16.82**	**157**	P	**P**	**13 50 06.7**	**-0.2**
	baz=17,SNR=14						
KNRA				S	**S**	**13 53 05.2**	**-4.4**
	baz=17,SNR=5.7						
APYP	**Conner**	**17.93**	**358**	*e*P	**P**	**13 50 18.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**18.19**	**169**	P	**P**	**13 50 20.9**	**-0.9**
	baz=18,SNR=25						
WRA	**Warramunga Arr**	**23.10**	**149**	P	**P**	**13 51 09.3**	**-1.9**
	15nm,0.6s,baz=326,slow=10,SNR=128						
WRA				PcP	**PcP**	**13 54 49.9**	**-2.5**
	1.0nm,0.6s,baz=316,slow=2.4,SNR=4.9						
WRA				ScP	**ScP**	**13 58 01.1**	**-5.3**
	0.7nm,0.5s,baz=328,slow=2.6,SNR=8.2						
COEN	**Coen**	**25.08**	**124**	P	**P**	**13 51 27.9**	**-1.4**
	baz=25,SNR=4.4						
WRKA	**Warakurna**	**25.48**	**167**	P	**P**	**13 51 31.5**	**-1.2**
	baz=26,SNR=18						
ASAR	**Alice Springs**	**26.09**	**154**	P	**P**	**13 51 36.8**	**-1.4**
	6.1nm,0.5s,baz=344,slow=14,SNR=152						
ASAR				PcP	**PcP**	**13 54 56.9**	**-2.1**
	3.7nm,0.3s,baz=349,slow=2.2,SNR=44						
ASAR				S	**S**	**13 55 47.7**	**-3.1**
	1.0nm,0.9s,baz=346,slow=24,SNR=5.7						
ASAR				ScP	**ScP**	**13 58 09.0**	**-5.8**
	0.7nm,0.5s,baz=338,slow=2.9,SNR=11						
MEEK	**Meekatharra**	**26.52**	**187**	P	**P**	**13 51 40.4**	**-1.6**
	baz=27,SNR=8.2						
QIS	**Mount Isa**	**26.62**	**141**	P	**P**	**13 51 41.7**	**-1.3**
	baz=27,SNR=9.8						
CMAR	**Chiang Mai Arr**	**29.22**	**311**	P	**P**	**13 52 06.7**	**+0.7**
	0.5nm,0.7s,baz=136,slow=8.4,SNR=4.9						
CMAR				ScP	**ScP**	**13 58 19.6**	**-4.9**
	0.6nm,0.4s,baz=197,slow=1.9,SNR=5.8						
MORW	**Morawa**	**29.29**	**191**	P	**P**	**13 52 05.2**	**-1.3**
	baz=30,SNR=7.5						
BLDU	**Ballidu**	**30.69**	**189**	P	**P**	**13 52 17.1**	**-1.7**
	baz=31,SNR=19						
CTA	**Charters Tower**	**30.95**	**131**	P	**P**	**13 52 20.4**	**-0.9**
	10nm,1.1s,baz=270,slow=10,SNR=2.9						
CTA				PcP	**PcP**	**13 55 10.2**	**-1.0**
	4.8nm,0.9s,baz=4.6,slow=3.5,SNR=3.7						
FORT	**Forrest**	**31.00**	**170**	P	**P**	**13 52 20.2**	**-1.3**
	baz=31,SNR=7.5						
QLP	**Quilpie**	**33.91**	**143**	P	**P**	**13 52 46.1**	**-0.7**
	baz=34,SNR=9.3						
BBOO	**Buckleboo**	**35.09**	**159**	P	**P**	**13 52 55.6**	**-1.3**
	baz=35,SNR=5.7						
CMSA	**Cobar Meteorol**	**38.45**	**146**	P	**P**	**13 53 24.9**	**-0.3**
	baz=39,SNR=31						
ARMA	**Armidale**	**41.24**	**140**	P	**P**	**13 53 48.8**	**+0.6**
	baz=41,SNR=7.2						
CNB	**Canberra Magne**	**43.31**	**147**	P	**P**	**13 54 05.2**	**+0.4**
	baz=43,SNR=7.4						
USRK	**Ussuriysk Ar.**	**45.07**	**10**	P	**P**	**13 54 15.4**	**-3.0**
	1.7nm,0.5s,baz=195,slow=4.3,SNR=4.4						
ASAJ	**Asahikawa**	**47.78**	**20**	P	**P**	**13 54 37.0**	**-2.3**
	6.0nm,0.6s,baz=236,slow=6.9,SNR=9.0						
SONM	**Songino Array**	**49.69**	**346**	P	**P**	**13 54 52.3**	**-1.6**
	1.0nm,0.6s,baz=164,slow=8.2,SNR=6.8						
SONM				pP	**pP**	**13 55 52.4**	**+4.6**
	0.7nm,0.7s,baz=160,slow=7.7,SNR=4.0						
MKAR	**Makanchi Array**	**58.21**	**329**	P	**P**	**13 55 54.1**	**-1.2**
	0.3nm,0.3s,baz=120,slow=8.8,SNR=9.2						
MKAR				pP	pP	13 56 56.8	+6.0
	0.5nm,0.5s,baz=121,slow=8.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**62.03**	**336**	P	P	13 56 17.9	-3.1
	0.3nm,0.4s,baz=90,slow=10,SNR=2.6						
KURBB	**Kurchatov Arra**	**62.59**	**330**	P	**P**	**13 56 22.6**	**-2.1**
	0.3nm,0.4s,baz=141,slow=6.0,SNR=3.8						
KURBB				pP	**pP**	**13 57 24.2**	**+3.1**
	0.3nm,0.4s,baz=116,slow=5.8,SNR=1.7						
BVAR	**Borovoye Array**	**68.08**	**329**	P	**P**	**13 56 58.2**	**-1.7**
	0.2nm,0.4s,baz=108,slow=9.3,SNR=3.1						
VNDA	**Vanda**	**80.23**	**172**	P	**P**	**13 58 08.0**	**-1.4**
	5.0nm,0.6s,baz=318,slow=6.4,SNR=20						
ILAR	**Eielson Array**	**90.64**	**25**	P	P	13 58 57.6	-3.4
	0.2nm,0.6s,baz=239,slow=5.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**119.44**	**285**	PKP	**PKPdf**	**14 04 44.3**	**-3.6**
	0.6nm,0.6s,baz=45,slow=1.2,SNR=4.6						
TXAR	**Lajitas Array**	**127.74**	**52**	PKP	**PKPdf**	**14 05 01.4**	**-2.2**
	0.4nm,0.8s,baz=282,slow=1.2,SNR=3.9						

*ISCJB **19** 13:55:23.2±0.9, 61°.07N±0°.04×29°.10E±0°.08, h0km, Error ellipse: s-maj=6.5km s-min=4.3km az=40.2*
*HEL **19** 13:55:26.0±0.2, 60°.97N×29°.09E, h0km, ML1.5, Explosion*
*CSEM **19** 13:55:26.0, 60°.97N×29°.09E, h0km, ML1.5, Mining explosion.*
*IDC **19** 13:55:29.0±1.9, 61°.04N×28°.93E, h0km, mb1 3.2/3, mb1mx3.0/28, mbtmp3.2/3, ML2.7/3, Error ellipse: s-maj=16.5km s-min=11.1km az=156.0*
ISC 19 13:55:25.8±1.1, 61°.02N±0°.05×29°.07E±0°.05, h0km, n25, σ1§37/41, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.88**	**238**	PG	**Pg**	**13 55 42.2**	**-0.5**
	baz=61						
VJF				SB	**Sg**	**13 55 54.0**	**-0.1**
VJF	**Virojoki**	**0.88**	**238**	Pg	**Pg**	**13 55 42.2**	**-0.5**
VJF				Sb	**Sg**	**13 55 54.0**	**-0.1**
FIA0	**FINESS Array S**	**1.51**	**288**	PG	**Pn**	**13 55 53.3**	**-0.8**
FIA0				SG	**Sg**	**13 56 13.0**	**-1.2**
FIA0				MSG		13 56 13.0	
	comp=Z,4.1nm,0.6s						
FIA0	**FINESS Array S**	**1.51**	**288**	Pg	**Pn**	**13 55 53.3**	**-0.8**
FIA0				Sg	**Sg**	**13 56 13.0**	**-1.2**
FINES	**FINESS Array B**	**1.51**	**288**	Pg	**Pn**	**13 55 53.5**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=107,slow=14,SNR=45						
FINES				Lg	Lg	13 56 14.4	
	comp=Z,3.6nm,0.3s,baz=101,slow=31,SNR=25						
FINES				Rg	Rg	13 56 21.7	
	comp=Z,35nm,0.7s,baz=115,slow=36,SNR=50						
PVF	**Pernaja**	**1.64**	**255**	PG	**Pn**	**13 55 55.1**	**-0.8**
	baz=72						
PVF				SN	**Sg**	**13 56 19.3**	**+0.8**
PVF				MSG		13 56 19.3	
	comp=Z,4.1nm,0.2s						
PVF	**Pernaja**	**1.64**	**255**	Pg	**Pn**	**13 55 55.1**	**-0.8**
PVF				Sn	**Sg**	**13 56 19.3**	**+0.8**
KAF	**Kangasniemi**	**1.72**	**311**	PG	**Pb**	**13 55 58.2**	**0.0**
	baz=131						
KAF				SG	**Sg**	**13 56 21.9**	**+0.8**
KAF				MSG		13 56 21.9	
	comp=Z,3.4nm,0.2s						
KAF	**Kangasniemi**	**1.72**	**311**	Pg	**Pb**	**13 55 58.2**	**0.0**
KAF				Sg	**Sg**	**13 56 21.8**	**+0.8**
JOF	**Joensuu**	**2.18**	**28**	PG	**Pb**	**13 56 05.8**	**-0.4**
JOF				SG	**Sb**	**13 56 33.8**	**+0.1**
JOF				MSG		13 56 33.8	
	comp=Z,2.0nm,0.2s						
JOF	**Joensuu**	**2.18**	**28**	Pg	**Pb**	**13 56 05.8**	**-0.4**
JOF				Sg	**Sb**	**13 56 33.8**	**+0.1**
SUF	**Sumiainen**	**2.20**	**322**	PG	**Pb**	**13 56 06.4**	**0.0**
	baz=140						
SUF				SG	**Sb**	**13 56 34.8**	**+0.6**
SUF				MSG		13 56 34.8	
	comp=Z,1.5nm,0.2s						
SUF	**Sumiainen**	**2.20**	**322**	Pg	**Pb**	**13 56 06.4**	**0.0**
SUF				Sg	**Sb**	**13 56 34.7**	**+0.6**
KEF	**Keuruu**	**2.31**	**302**	PG	**Pb**	**13 56 07.5**	**-0.9**
	baz=118						
KEF				SG	**Sb**	**13 56 38.5**	**+1.0**
KEF				MSG		13 56 38.5	
	comp=Z,2.2nm,0.2s						
KEF	**Keuruu**	**2.31**	**302**	Pg	**Pb**	**13 56 07.5**	**-0.9**
KEF				Sg	**Sb**	**13 56 38.5**	**+1.0**
MEF	**Metsahovi**	**2.44**	**253**	PB	**Pn**	**13 56 08.3**	**+1.5**
MEF				SB	**Sn**	**13 56 39.1**	**+1.8**
MEF				MSG		13 56 39.1	
	comp=Z,3.4nm,0.2s						
MEF	**Metsahovi**	**2.44**	**253**	Pb	**Pn**	**13 56 08.3**	**+1.5**
MEF				Sb	**Sn**	**13 56 39.1**	**+1.8**
VAF	**Ylistaro**	**3.63**	**307**	PB	Pb	13 56 27.7	-3.2
VAF				SB	**Sb**	**13 57 13.7**	**-1.8**
VAF				MSG		13 57 13.7	
	comp=Z,0.4nm,0.2s						
VAF	**Ylistaro**	**3.63**	**307**	Pb	Pb	13 56 27.6	-3.2
VAF				Sb	**Sb**	**13 57 13.6**	**-1.8**
OUL	**Oulu**	**4.33**	**342**	PG	**Pb**	**13 56 45.9**	**+3.1**
OUL	**Oulu**	**4.33**	**342**	Pg	**Pb**	**13 56 45.8**	**+3.1**
I43RU	**DUBNA INFRASON**	**6.03**	**132**	*i*		14 29 10.0	
	baz=324,slow=312,SNR=1.1						
HFS	**Hagfors**	**7.62**	**270**	Pn	**Pn**	**13 57 18.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=72,slow=14,SNR=3.1						
NOA	**NORSAR Array B**	**8.66**	**278**	Pn	**Pn**	**13 57 32.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=82,slow=14,SNR=2.7						
ARCES	**ARCESS Array B**	**8.68**	**352**	Pn	**Pn**	**13 57 34.4**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=167,slow=13,SNR=6.2						
ARCES				Sn	**Sn**	**13 59 06.8**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=168,slow=23,SNR=2.8						
ARCES				Lg	Lg	13 59 57.6	
	comp=Z,0.3nm,0.3s,baz=172,slow=27,SNR=5.6						

*CSEM **19** 14:00:50.2±0.2, 39°.81N×32°.52E, h10km, MD2.1, Error ellipse: s-maj=5.1km s-min=4.4km az=166.0*
ISK 19 14:00:49.8, 39°.82N×32°.54E, h17km, MD2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOD	**Lodumlu**	**0.19**	**67**	*e*PG	Pg	14 00 54.4	-0.2
LOD				*e*SG	Sb	14 00 58.4	+0.1
LOD	**Lodumlu**	**0.19**	**67**	*e*Pg	Pg	14 00 54.4	-0.2
LOD				*e*Sg	Sb	14 00 58.4	0.0
ANTO	**Ankara**	**0.20**	**75**	*e*PG	Pb	14 00 55.5	+0.3
ANTO				*e*SG	Sb	14 00 58.8	0.0
ANTO	**Ankara**	**0.20**	**75**	*e*Pg	Pb	14 00 55.5	+0.3
ANTO				*e*Sg	Sb	14 00 58.8	0.0
BBAL	**Bala**	**0.53**	**121**	*i* P	Pg	14 01 00.0	-0.5
BBAL				*i* S	Sg	14 01 07.7	0.0
BBAL	**Bala**	**0.53**	**121**	*i* P	Pg	14 01 00.0	-0.5
BBAL				*i* S	Sg	14 01 07.7	0.0
AFSR	**Af¯ar-Bala (A**	**0.55**	**132**	*e*PG	Pg	14 01 09.5	-0.4
AFSR				*e*SG	Sb	14 01 09.6	+0.7
AFSR	**Af¯ar-Bala (A**	**0.55**	**132**	*e*Pg	Pg	14 01 00.5	-0.4
AFSR				*e*Sg	Sb	14 01 09.6	+0.7
SVRH	**Sivrihisar-ESK**	**0.87**	**245**	*e*PG	Pn	14 01 07.2	-0.2
SVRH	**Sivrihisar-ESK**	**0.87**	**245**	*e*Pg	Pn	14 01 07.2	-0.2
ELDT	**Eldivan**	**0.96**	**45**	*i* P	Pn	14 01 08.9	+0.2
ELDT	**Eldivan**	**0.96**	**45**	*i* P	Pn	14 01 08.9	+0.2
ELDT				*i* S	Sn	14 01 25.8	+3.6
BCAM	**Yenicaga**	**1.06**	**340**	*i* P	Pn	14 01 10.1	0.0
BCAM	**Yenicaga**	**1.06**	**340**	*i* P	Pn	14 01 10.1	0.0
BCAM				*i* S	Sg	14 01 29.9	+5.3
KDHN	**Kadinhani**	**1.33**	**194**	*i* P	Pb	14 01 14.9	+0.4
KDHN				*i* S	Sg	14 01 35.8	+2.6
KDHN	**Kadinhani**	**1.33**	**194**	*i* P	Pb	14 01 14.9	+0.4
KDHN				*i* S	Sg	14 01 35.8	+2.5
CDAG	**Cicekdag**	**1.43**	**97**	*i* P	Pg	14 01 17.2	-0.2
CDAG	**Cicekdag**	**1.43**	**97**	*i* P	Pg	14 01 17.2	-0.2
CDAG				*i* S	Sg	14 01 35.8	-0.4
ILGA	**Ilgaz**	**1.53**	**36**	*i* P	Pg	14 01 20.7	+1.2
ILGA				*i* S	Sg	14 01 44.1	+4.4

*THR **19** 14:17:29.3±1.7, 35°.69N×48°.94E, h15km±15km, ML3.5*
*CSEM **19** 14:17:30.8±0.5, 35°.76N×49°.05E, h2km, ML3.6, Error ellipse: s-maj=13.0km s-min=9.4km az=171.0*
*TEH **19** 14:17:32.2, 35°.84N×48°.99E, h3km, ML3.6*
*ISN **19** 14:17:36.4±1.5, 33°.60N×48°.53E, h2km±6km, ML3.5*
ISC 19 14:17:31.1±1.0, 35°.72N±0°.04×49°.03E±0°.03, h10km, n50, σ1§77/49, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**0.80**	**113**	*e*Pg	**Pg**	**14 17 45.4**	**-1.1**
IRAZ				*e*		14 17 58.6	
	comp=Z,23μm,0.2s						
IRAZ	**Razeghan**	**0.80**	**113**	*e*Pg	**Pg**	**14 17 45.4**	**-1.1**
IGZV	**Ghazvin**	**1.17**	**55**	*e*Pg	**Pb**	**14 17 51.9**	**-1.6**
IGZV				*e*		14 18 09.8	
	comp=Z,30μm,0.1s						
IGZV	**Ghazvin**	**1.17**	**55**	*e*Pg	**Pb**	**14 17 51.9**	**-1.6**
IMHD	**Mahdasht**	**1.33**	**91**	*e*Pg	**Pn**	**14 17 55.1**	**-0.8**
IMHD				*e*		14 18 19.4	
	comp=Z,22μm,0.1s						
IMHD	**Mahdasht**	**1.33**	**91**	*e*Pg	**Pn**	**14 17 55.1**	**-0.8**
ASAO	**Ashtian**	**1.43**	**145**	*e*Pg	**Pn**	**14 17 56.7**	**-0.6**
ASAO				*e*Sg	**Sn**	**14 18 15.8**	**-0.4**
ASAO	**Ashtian**	**1.43**	**145**	*e*Pg	**Pn**	**14 17 56.7**	**-0.6**
ASAO				*e*Sg	**Sn**	**14 18 15.8**	**-0.4**
SNGE	**Sanandaj**	**1.52**	**246**	*e*Pg	**Pn**	**14 17 55.9**	**-2.6**
SNGE				AML	AML	14 18 17.5	
	comp=E,401nm,0.5s						
SNGE				AML	AML	14 18 17.9	
	comp=N,613nm,0.5s						
SNGE	**Sanandaj**	**1.52**	**246**	*e*Pg	**Pn**	**14 17 55.9**	**-2.6**
	comp=N,613nm,0.5s						
IBZA	**Bozab**	**1.58**	**218**	*e*Pn	**Pn**	**14 17 57.7**	**-1.7**
IBZA				*e*		14 18 21.1	
	comp=Z,16μm,0.2s						
IBZA	**Bozab**	**1.58**	**218**	*e*Pn	**Pn**	**14 17 57.7**	**-1.7**
CHTH	**Charan**	**1.71**	**83**	*e*Pg	**Pn**	**14 18 01.5**	**+0.3**
CHTH				AML	AML	14 18 31.4	
	comp=E,279nm,0.5s						
CHTH	**Charan**	**1.71**	**83**	*e*Pg	**Pn**	**14 18 01.5**	**+0.3**
	comp=E,279nm,0.5s						
IKOM	**Komasi**	**1.99**	**219**	*e*	**Sg**	**14 18 39.9**	**+4.9**
	comp=Z,6μm,0.3s						
IKOM				*e*Pn	**Pn**	**14 18 04.9**	**0.0**
KHMZ	**Khomeyn**	**2.12**	**159**	*e*PN5	**Pn**	**14 18 05.9**	**-1.0**
KHMZ				*e*Sg	**Sb**	**14 18 35.7**	**-0.5**
KHMZ				AML	AML	14 18 41.9	
	comp=N,281nm,0.4s						
KHMZ				AML	AML	14 18 43.1	
	comp=E,274nm,0.4s						
IKMR	**Kamar-syah**	**2.26**	**194**	*e*Pn	**Pn**	**14 18 10.1**	**+1.6**
IKMR				*e*		14 18 46.4	
	comp=Z,99nm,0.1s						
IKMR	**Kamar-syah**	**2.26**	**194**	*e*Pn	**Pn**	**14 18 10.1**	**+1.6**
IVRN	**Varamin**	**2.32**	**107**	*e*Pn	**Pb**	**14 18 12.2**	**-0.8**
IVRN				*e*Sg	**Sg**	**14 18 46.5**	**+0.9**
IVRN				*e*		14 18 53.1	
	comp=Z,3μm,0.2s						
IVRN	**Varamin**	**2.32**	**107**	*e*Pn	**Pb**	**14 18 12.2**	**-0.8**
IVRN				*e*Sg	**Sg**	**14 18 46.5**	**+0.9**
ISRB	**Sarab**	**2.37**	**333**	*e*Pn	**Pn**	**14 18 10.3**	**+0.1**
ISRB				*e*		14 18 57.0	
	comp=Z,2μm,0.3s						
ISRB	**Sarab**	**2.37**	**333**	*e*Pn	**Pn**	**14 18 10.3**	**+0.1**
DAMV	**Damavand**	**2.39**	**91**	*e*Pn	**Pn**	**14 18 11.7**	**+1.1**
DAMV				AML	AML	14 18 49.6	
	comp=N,306nm,0.6s						
DAMV				AML	AML	14 18 55.1	
	comp=E,377nm,0.5s						
DAMV	**Damavand**	**2.39**	**91**	*e*Pn	**Pn**	**14 18 11.7**	**+1.1**
	comp=E,377nm,0.5s						
IDHR	**Dehrash**	**2.40**	**246**	*e*Pn	**Pn**	**14 18 12.2**	**+1.6**
IDHR				*e*		14 18 34.1	
	comp=Z,2μm,0.2s						
IDHR	**Dehrash**	**2.40**	**246**	*e*Pn	**Pn**	**14 18 12.2**	**+1.6**
IKFM	**Kafar-mosalman**	**2.40**	**204**	*e*Pn	**Pb**	**14 18 13.7**	**-0.7**
IKFM				*e*		14 18 49.8	
	comp=Z,99nm,0.3s						
IKFM	**Kafar-mosalman**	**2.40**	**204**	*e*Pn	**Pb**	**14 18 13.7**	**-0.7**
IDMV	**Damavand**	**2.45**	**93**	*e*	**Sg**	**14 18 54.5**	**+4.8**
	comp=Z,4μm,0.2s						
IGHG	**Ghaleghazi**	**2.46**	**236**	*e*Pn	**Pn**	**14 18 13.6**	**+2.2**
IGHG				*e*		14 18 58.6	
	comp=Z,4μm,0.4s						
IGHG	**Ghaleghazi**	**2.46**	**236**	*e*Pn	**Pn**	**14 18 13.6**	**+2.2**
IFIR	**Firoozkooh**	**3.03**	**90**	*e*Pn	**Pn**	**14 18 21.6**	**+2.2**
IFIR				*e*		14 19 08.8	
	comp=Z,3μm,0.2s						
IFIR	**Firoozkooh**	**3.03**	**90**	*e*Pn	**Pn**	**14 18 21.6**	**+2.2**
IHRS	**Heris**	**3.04**	**329**	*e*Pn	**Pn**	**14 18 19.3**	**-0.2**
IHRS				*e*		14 19 13.2	
	comp=Z,693nm,0.3s						
IHRS	**Heris**	**3.04**	**329**	*e*Pn	**Pn**	**14 18 19.3**	**-0.2**
IALA	**Alasht**	**3.09**	**82**	*e*Pn	**Pb**	**14 18 24.7**	**-1.6**
IALA				*e*		14 19 26.4	
	comp=Z,1μm,0.2s						
IALA	**Alasht**	**3.09**	**82**	*e*Pn	**Pb**	**14 18 24.7**	**-1.6**
IKLH	**Kolahrood**	**3.19**	**138**	*e*Pn	**Pb**	**14 18 25.7**	**-2.3**
IKLH				*e*		14 19 25.1	
	comp=Z,1μm,0.2s						
IKLH	**Kolahrood**	**3.19**	**138**	*e*Pn	**Pb**	**14 18 25.7**	**-2.3**
IPIR	**Pirpir**	**3.40**	**153**	*e*Pn	**Pb**	**14 18 30.1**	**-1.5**
IPIR				*e*		14 19 21.4	
	comp=Z,1μm,0.4s						
IPIR	**Pirpir**	**3.40**	**153**	*e*Pn	**Pb**	**14 18 30.1**	**-1.5**
ISHM	**Shahmirzad**	**3.46**	**87**	*e*Pn	**Pn**	**14 18 27.7**	**+2.4**
ISHM				*e*		14 19 33.5	
	comp=Z,1

comp=E,1.6nm,0.3s,baz=244,slow=12,SNR=34
CFAA Lg Lg 14 22 41.6
comp=E,3.8nm,0.3s,baz=80,slow=14,SNR=4.1
LCO Las Campanas 4.44 18 *e*Pn **Pn 14 21 50.4 -1.1**
LCO *e*Sn **Sn 14 22 41.6 -1.1**
PLCA Paso Flores 7.58 170 Pn **Pn 14 22 34.2 -0.3**
comp=E,2.4nm,0.3s,baz=338,slow=11,SNR=7.3
PLCA Lg Lg 14 24 38.5
comp=E,0.6nm,0.3s,baz=310,slow=12,SNR=1.8
TRQA Tornquist 9.63 123 *e*Pn **Pn 14 23 01.4 -1.1**
TRQA *e*Sn **Sn 14 24 48.6 -1.7**
LVC Limon Verde 11.01 16 *e*Pn **Pn 14 23 19.0 -2.6**
LPAZ La Paz 17.30 13 *e*P **Pn 14 24 44.6 -1.5**
LPAZ pmax pmax
comp=Z,34nm,0.8s
LPAZ La Paz 17.30 13 P **Pn 14 24 45.4 -0.7**
comp=Z,0.8nm,0.3s,baz=182,slow=7.3,SNR=35
LPAZ La Paz 17.30 13 *e*Pn **Pn 14 24 44.6 -1.5**
comp=Z,34nm,0.8s
SIV San Ignacio 19.95 33 P **P 14 25 15.6 -0.3**
comp=Z,1.0nm,0.3s,baz=231,slow=14,SNR=41
SIV LR LR 14 34 14.4
comp=Z,2µm,19.1s,baz=230,slow=41
EFI East Falkland 21.11 155 *e*P **P 14 25 27.4 -0.7**
EFI pmax pmax
comp=Z,67nm,1.0s
NNA Nana 21.59 348 P **P 14 25 34.6 +0.9**
comp=Z,16nm,0.7s,baz=196,slow=12,SNR=5.7
NNA LR LR 14 32 16.3
comp=Z,1µm,19.2s,baz=180,slow=32
USHA Ushuaia 21.73 174 P **P 14 25 35.7 +0.8**
comp=Z,21nm,1.1s,baz=358,slow=9.0,SNR=2.3
USHA LR LR 14 33 58.4
comp=Z,2µm,18.6s,baz=328,slow=37
SAML Samuel 25.60 21 *e*P **P 14 26 12.7 -0.4**
comp=Z,16nm,0.9s
ATAH Atahualpa 26.61 346 P **P 14 26 24.6 +1.9**
comp=Z,2.9nm,0.6s,baz=147,slow=20,SNR=1.8
ATAH LR LR 14 35 38.3
comp=Z,1µm,18.6s,baz=191,slow=34
BDFB Brasilia 28.08 57 P **P 14 26 34.6 -0.9**
comp=Z,5.8nm,0.6s,baz=225,slow=5.7,SNR=7.1
BDFB LR LR 14 38 54.4
comp=Z,2µm,19.7s,baz=226,slow=39
SDV Santo Domingo 41.94 2 *e*P **P 14 28 33.9 -0.8**
comp=Z,14nm,0.9s
VNA3 Neumayer Olymp 50.11 158 P **P 14 29 39.0 +0.7**
VNA2 Neumayer--Watz 50.76 157 P **P 14 29 44.3 +1.0**
SNAA Sanae 52.34 158 P **P 14 29 54.0 -1.1**
SNAA Sanae 52.34 158 *e*P P 14 29 51.5 -3.6
SNAA pmax pmax
comp=Z,23nm,1.1s
SNAA Sanae 52.34 158 P **P 14 29 54.0 -1.1**
comp=Z,5.1nm,0.9s,baz=280,slow=8.2,SNR=17
SNAA Sanae 52.34 158 *e*P P 14 29 51.5 -3.6
comp=Z,23nm,1.1s
RKT Rikitea 55.48 263 *e*S **S 14 38 01.4 -1.6**
comp=Z,134nm,26.5s
RKT *e*LR LR 14 46 20.2
comp=Z,233nm,26.2s
QSPA South Pole Qui 56.97 180 P **P 14 30 28.7 -0.2**
comp=Z,18nm,1.0s,baz=140,slow=2.1,SNR=28
QSPA South Pole Qui 56.97 180 *e*P **P 14 30 28.6 -0.2**
comp=Z,37nm,1.2s
NVL N'lazarevskaya 57.07 157 *e*P **P 14 30 28.2 -1.1**
NVL pmax pmax
comp=Z,7.0nm,0.9s
034A Hebbronville 65.04 334 ⇓P **P 14 31 25.5 +1.7**
baz=65
834A Tilden 65.95 335 ⇑P **P 14 31 31.3 +1.6**
baz=66,SNR=7.4
735A Kenedy 66.36 336 ⇓P **P 14 31 34.3 +2.0**
baz=67
833A Chaparral WMA, 66.44 334 ⇑P **P 14 31 34.5 +1.6**
baz=67
734A La Parita Cree 66.61 335 ⇑P **P 14 31 35.3 +1.4**
baz=67
832A Faith Ranch, C 66.62 333 ⇓P **P 14 31 34.7 +0.7**
baz=67,SNR=5.0
SYO Syowa Base 66.62 159⇑*e*P **P 14 31 32.1 -1.5**
636A Smothers Creek 66.68 337 ⇓P **P 14 31 36.0 +1.6**
baz=67
HKT Hockley 66.71 338 *e*P **P 14 31 34.3 -0.2**
HKT pmax pmax
comp=Z,47nm,1.7s
HKT Hockley 66.71 338 *e*P **P 14 31 34.3 -0.2**
comp=Z,48nm,1.7s
537A Green Hill Far 66.99 337 ⇑P **P 14 31 37.3 +1.0**
baz=67
732A Laxson Ranch, 67.02 334 ⇑P **P 14 31 37.8 +1.2**
baz=67
536A Bastrop 67.23 337 ⇑P **P 14 31 39.3 +1.5**
baz=68
TBI Tubuai 67.31 256 *e*S **S 14 40 35.8 +2.5**
comp=Z,127nm,23.0s
TBI Tubuai 67.31 256 *e*LR LR 14 52 05.1
comp=Z,542nm,27.2s
438A Sam Houston St 67.34 338 ⇓P **P 14 31 40.2 +1.6**
baz=68
633A Saathoff Ranch 67.39 335 ⇓P **P 14 31 39.8 +0.8**
baz=68
632A Uvalde 67.65 334 ⇑P **P 14 31 41.6 +1.0**
baz=68,SNR=8.5
631A Perdido Creek 67.86 333 ⇑P **P 14 31 42.9 +1.0**
baz=68
533A Kerrville 67.90 335 ⇓P **P 14 31 43.2 +1.1**
baz=68
532A Rocksprings 68.26 334 ⇑P **P 14 31 44.9 +0.4**
baz=69,SNR=24
434A Burnet 68.31 336 ⇓P **P 14 31 44.5 -0.2**
baz=69,SNR=7.6
336A Riesel 68.36 337 ⇓P **P 14 31 45.4 +0.4**
baz=69
335A Moody 68.46 337 ⇑P **P 14 31 47.0 +1.4**
baz=69
531A Rocksprings 68.53 334 ⇓P **P 14 31 46.7 +0.5**
baz=69,SNR=7.4
433A Art 68.54 335 ⇑P **P 14 31 46.2 +0.1**
baz=69,SNR=17
JCT Junction City 68.54 335 *e*P **P 14 31 45.2 -1.0**
JCT pmax pmax
comp=Z,34nm,1.1s
JCT Junction City 68.54 335 ⇑P **P 14 31 46.4 +0.2**
baz=69,SNR=7.8
JCT Junction City 68.54 335 *e*P **P 14 31 45.2 -1.0**
comp=Z,34nm,1.1s
KMSC Kings Mountain 68.57 352 ⇓P **P 14 31 46.3 +0.1**
baz=69
KMSC Kings Mountain 68.57 352 *e*P **P 14 31 46.6 +0.4**
comp=Z,34nm,1.4s
334A Lometa 68.77 336 ⇓P **P 14 31 47.9 +0.4**
baz=69,SNR=6.1
530A J-C Ranch, Com 68.81 333 ⇓P **P 14 31 48.7 +0.8**
baz=69,SNR=14
432A Menard 68.90 335 ⇑P **P 14 31 48.7 +0.3**
baz=69
TXAR Lajitas Array 69.00 331 P **P 14 31 49.9 +0.7**
comp=Z,3.2nm,0.7s,baz=154,slow=8.0,SNR=36
TXAR LR LR 14 57 53.1
comp=Z,443nm,18.5s,baz=0.0,slow=32
431A Sonora 69.02 334 ⇑P **P 14 31 49.6 +0.4**
baz=69
333A Richland Sprin 69.02 336 ⇑P **P 14 31 49.4 +0.2**
baz=69,SNR=8.1
WHTX Lake Whitney, 69.12 337 ⇓P **P 14 31 50.5 +0.8**
baz=70
WHTX Lake Whitney, 69.12 337 *e*P **P 14 31 50.0 +0.3**
comp=Z,20nm,0.9s
529A Stev Forest Ra 69.12 332 ⇓P **P 14 31 50.5 +0.7**
baz=70,SNR=14
137A Heron Place, G 69.15 339 ⇑P **P 14 31 50.9 +1.0**
baz=70
CPCT Cooper Cave 69.31 349 *e*P P 14 31 54.0 +3.2
OXF Oxford 69.31 345 *e*P **P 14 31 50.3 -0.5**
OXF pmax pmax
comp=Z,25nm,1.0s
OXF Oxford 69.31 345 *e*P **P 14 31 50.2 -0.5**
comp=Z,25nm,1.0s
332A Millersview 69.34 335 ⇓P **P 14 31 51.8 +0.7**
baz=70
430A Baggett Ranch, 69.34 334 ⇓P **P 14 31 51.9 +0.7**
baz=70,SNR=10
234A Clairette 69.36 337 ⇓P **P 14 31 52.2 +1.0**
baz=70
TKL Tuckaleechee C 69.40 350 *e*P **P 14 31 51.1 -0.3**
TKL Tuckaleechee C 69.40 350 *e*P **P 14 31 51.1 -0.3**
429A Davenport Ranc 69.45 333 ⇓P **P 14 31 52.6 +0.8**
baz=70,SNR=6.5
331A San Angelo 69.52 334 ⇓P **P 14 31 52.7 +0.4**
baz=70,SNR=6.2
233A Rising Star 69.62 336 ⇓P **P 14 31 53.5 +0.6**
baz=70
232A Coleman 69.76 335 ⇓P **P 14 31 53.7 0.0**
baz=70,SNR=6.1
134A White-Moore Ra 69.86 337 ⇑P **P 14 31 54.5 +0.3**
baz=70
330A Mertzon 69.88 334 ⇓P **P 14 31 54.4 -0.1**
baz=70,SNR=7.6
231A Bronte 70.04 335 ⇑P **P 14 31 55.4 0.0**
baz=70,SNR=8.0
PPT2 Papeete2 70.16 262 *e*S **S 14 41 08.5 +1.1**
comp=Z,198nm,22.8s
PPT2 Papeete2 70.16 262 *e*LR LR 14 53 14.6
comp=Z,354nm,28.2s
133A Hamilton Ranch 70.17 336 ⇑P **P 14 31 56.6 +0.4**
baz=70
329A Wagon Wheel Ra 70.25 333 ⇓P **P 14 31 57.2 +0.4**
baz=71
230A Sterling City 70.29 334 ⇑P **P 14 31 57.4 +0.4**
baz=71
Z35A Perchaven, San 70.29 338 ⇓P **P 14 31 57.4 +0.5**
baz=71
MIAR Mount Ida 70.36 341 *e*P **P 14 31 58.1 +0.8**
MIAR pmax pmax
comp=Z,158nm,2.7s
MIAR Mount Ida 70.36 341 *e*P **P 14 31 58.1 +0.8**
comp=Z,158nm,2.7s
ABTX Abilene, Hawle 70.43 336 ⇑P **P 14 31 57.8 0.0**
baz=71,SNR=5.9
ABTX Abilene, Hawle 70.43 336 *e*P **P 14 31 58.4 +0.6**
comp=Z,23nm,0.9s
WVT Waverly 70.55 347 *e*P **P 14 31 57.5 -0.9**
WVT pmax pmax
comp=Z,55nm,1.2s
WVT Waverly 70.55 347 *e*P **P 14 31 57.5 -0.9**
comp=Z,55nm,1.2s
229A Bryant Ranch, 70.62 334 ⇓P **P 14 31 59.5 +0.5**
baz=71
131A Roby 70.74 335 ⇑P **P 14 32 00.0 +0.3**
baz=71
Z33A Whitaker Ranch 70.74 337 ⇑P **P 14 32 00.0 +0.4**
baz=71
130A Snyder 70.87 335 ⇓P **P 14 32 00.6 +0.1**
baz=71
Y34A Reagan Ranch, 71.03 338 ⇑P **P 14 32 01.8 +0.4**
baz=71
228A UT Block 9, Go 71.04 333 ⇑P **P 14 32 02.0 +0.4**
baz=71,SNR=7.7
129A Stewart Farms, 71.23 334 ⇑P **P 14 32 02.8 0.0**
baz=72
Z31A Sharp Cattle R 71.23 336 ⇓P **P 14 32 02.9 +0.2**
baz=72,SNR=9.0
Y33A Hilltop Ranch, 71.35 337 ⇑P **P 14 32 03.3 -0.1**
baz=72
128A Castleberry Fa 71.45 333 ⇓P **P 14 32 04.1 0.0**
baz=72,SNR=11
Z30A Sanderson Ranc 71.55 335 ⇑P **P 14 32 04.5 -0.2**
baz=72,SNR=6.6
Y32A R-V Farms, Ver 71.62 336 ⇓P **P 14 32 05.2 +0.3**
baz=72
X34A Smith Ranch, M 71.65 338 ⇑P **P 14 32 05.5 +0.4**
baz=72
Z29A Hungry Hill Ra 71.74 334 ⇓P **P 14 32 05.7 -0.1**
baz=72,SNR=6.9
MNTX Cornudas Mount 71.78 331 *e*P **P 14 32 05.6 -0.4**
comp=Z,10nm,1.0s
Y31A Rekieta Farm, 71.86 336 ⇑P **P 14 32 06.8 +0.4**
baz=72,SNR=8.5
X32A Elmer 71.95 337 ⇓P **P 14 32 07.3 +0.4**
baz=72
Y30A Stafford Cattl 72.00 335 ⇑P **P 14 32 07.7 +0.3**
baz=72
Z28A Tucker Farm, M 72.01 334 ⇓P **P 14 32 08.0 +0.5**
baz=72
WMOK Wichita Mounta 72.07 337 *e*P **P 14 32 07.6 -0.1**
WMOK pmax pmax
comp=Z,15nm,1.1s
WMOK Wichita Mounta 72.07 337 *e*P **P 14 32 07.6 -0.1**
comp=Z,14nm,1.1s
TUL1 Leonard 72.25 340 ⇑P **P 14 32 08.9 +0.2**
baz=73
TUL1 Leonard 72.25 340 *e*P **P 14 32 09.2 +0.5**
comp=Z,18nm,0.9s
Y29A Porterfield Fa 72.26 335 ⇓P **P 14 32 09.0 0.0**
baz=73,SNR=13
W33A Caddo, Fort Co 72.35 338 ⇓P **P 14 32 09.7 +0.4**
baz=73
SIUC Southern Illin 72.36 346 *e*P **P 14 32 08.9 -0.3**
X31A McDonald Ranch 72.37 336 ⇓P **P 14 32 09.9 +0.4**
baz=73
V35A Meyer Ranch, C 72.42 339 ⇑P **P 14 32 09.7 0.0**
baz=73
W32A Sentinel 72.58 337 ⇓P **P 14 32 11.2 +0.5**
baz=73,SNR=12
MSTX Muleshoe 72.76 334 ⇑P **P 14 32 12.8 +0.9**
baz=73
X29A Tulia 72.80 335 ⇓P **P 14 32 12.5 +0.4**
baz=73
W31A Holland Ranch, 72.87 337 ⇑P **P 14 32 13.2 +0.7**
baz=73
V33A Lossen Ranch, 72.91 338 ⇓P **P 14 32 13.1 +0.4**
baz=73,SNR=5.7
MVL Millersville 72.99 357 *e*P **P 14 32 14.4 +1.5**
comp=Z,16nm,1.2s
319A Douglas 73.18 327 ⇓P **P 14 32 15.2 +0.7**
baz=74,SNR=5.7
AMTX Amarillo 73.19 335 ⇓P **P 14 32 15.3 +0.9**
baz=74
AMTX Amarillo 73.19 335 *e*P **P 14 32 15.0 +0.6**
comp=Z,34nm,1.1s
U34A Anderson Ranch 73.25 339 ⇑P **P 14 32 15.4 +0.7**
baz=74
U34A Anderson Ranch 73.25 339 *e*P **P 14 32 15.3 +0.7**
comp=Z,30nm,1.0s
V31A Spring Creek L 73.37 337 ⇑P **P 14 32 16.7 +1.3**
baz=74
W29A Amarillo 73.39 335 ⇓P **P 14 32 16.1 +0.5**
baz=74
121A Cookes Peak, D 73.51 329 ⇓P **P 14 32 17.2 +0.8**
baz=74,SNR=10
121A Cookes Peak, D 73.51 329 *e*P **P 14 32 15.3 -1.1**
comp=Z,15nm,0.9s
U32A Winter Ranch, 73.65 338 ⇓P **P 14 32 18.2 +1.1**
baz=74
X26A CR and CF Fran 73.67 333 ⇓P **P 14 32 18.2 +0.8**
baz=74
SSPA Standing Stone 73.71 356 *e*P **P 14 32 17.6 +0.4**
comp=Z,40nm,1.1s
Y24A Capitan 73.75 332 ⇓P **P 14 32 18.5 +0.6**
baz=74,SNR=12
Z22A Elephant Butte 73.78 330 ⇓P **P 14 32 18.8 +0.8**
baz=74,SNR=9.4
ACSO Alum Creek Sta 73.80 351 *e*P **P 14 32 17.6 -0.2**
comp=Z,25nm,0.9s
MAW Mawson 73.94 164 LR LR 15 06 17.1
comp=Z,717nm,19.1s,baz=226,slow=37
X25A Clemmons Ranch 73.97 333 ⇓P **P 14 32 19.9 +0.8**
baz=74
W26A Owens Ranch, T 74.13 334 ⇑P **P 14 32 20.5 +0.5**
baz=74,SNR=6.0
U30A WK&E Inc. Balk 74.33 337 ⇑P **P 14 32 22.1 +1.1**
baz=75
T32A Huddler Ranch, 74.36 338 ⇑P **P 14 32 21.9 +0.7**
baz=75
V27A Dan Oppiter Fa 74.39 335 ⇓P **P 14 32 22.7 +1.2**
baz=75
S33A Kaszmaul Farm, 74.46 339 ⇑P **P 14 32 23.1 +1.4**
baz=75
W25A X Bar L Ranch, 74.51 333 ⇓P **P 14 32 22.2 0.0**
baz=75,SNR=7.6
SFIN Lafayette 74.55 348 ⇑P **P 14 32 21.3 -0.8**
baz=75
LPM Los Pinos Moun 74.56 331 *e*P **P 14 32 24.2 +1.6**
TUC Tucson 74.65 327 *e*P **P 14 32 24.5 +1.5**
TUC pmax pmax
comp=Z,19nm,1.4s
TUC Tucson 74.65 327 *e*P **P 14 32 24.5 +1.5**
comp=Z,19nm,1.4s
LIC Lamto 74.72 72 *e*P **P 14 32 23.5 -0.3**
comp=Z,26nm,1.1s
V26A Tequesquite Ra 74.77 334 ⇑P **P 14 32 24.0 +0.3**
baz=75
W24A Lazy 6 Ranch, 74.86 332 ⇑P **P 14 32 24.9 +0.5**
baz=75,SNR=7.4
TIC Toumodi 74.97 72 *e*P **P 14 32 25.2 -0.1**
comp=Z,21nm,0.2s
U27A Thompson Grove 74.98 335 ⇓P **P 14 32 26.1 +1.2**
baz=75
KIC Kosan Boka 75.03 72 *e*P **P 14 32 25.6 0.0**
comp=Z,40nm,1.0s
ANMO Albuquerque 75.05 331 *e*P **P 14 32 23.9 -1.5**
ANMO pmax pmax
comp=Z,33nm,1.0s
ANMO Albuquerque 75.05 331 *e*P **P 14 32 25.9 +0.5**
comp=Z,13nm,1.1s
V25A Rancho No Teng 75.11 333 ⇑P **P 14 32 26.5 +0.8**
baz=76,SNR=10
DBIC Dimbokro 75.12 72 *e*P **P 14 32 26.7 +0.6**
DBIC pmax pmax
comp=Z,20nm,1.1s
DBIC Dimbokro 75.12 72 P **P 14 32 26.6 +0.6**
comp=Z,8.6nm,0.9s,baz=220,slow=7.9,SNR=11
DBIC LR LR 15 03 10.9
comp=Z,174nm,19.0s,baz=214,slow=34
DBIC Dimbokro 75.12 72 *e*P **P 14 32 26.7 +0.6**
comp=Z,20nm,1.1s
V24A Rampart Ranch, 75.26 333 ⇓P **P 14 32 27.5 +0.8**
baz=76
214A Organ Pipe Nat 75.31 325 ⇓P **P 14 32 28.2 +1.4**
baz=76
214A Organ Pipe Nat 75.31 325 *e*P **P 14 32 24.1 -2.7**
comp=Z,24nm,1.3s
SUR Sutherland 75.35 119 P **P 14 32 28.8 +1.3**
comp=Z,9.0nm,0.9s,baz=203,slow=5.0,SNR=4.3
T28A Walsh 75.36 336 ⇑P **P 14 32 27.9 +0.9**
baz=76,SNR=7.1
S29A Ulysses 75.47 337 ⇑P **P 14 32 29.1 +1.4**
baz=76
T27A Campo 75.51 335 ⇑P **P 14 32 28.8 +0.9**
baz=76,SNR=8.0
U25A Circle Dot Ran 75.53 334 ⇑P **P 14 32 28.9 +0.8**
baz=76,SNR=5.1
R31A Burdett 75.57 338 ⇓P **P 14 32 28.7 +0.6**
baz=76
S28A Manter 75.70 336 ⇓P **P 14 32 29.9 +0.9**
baz=76
Q32A Meitler Ranch, 75.92 339 ⇑P **P 14 32 31.0 +0.9**
baz=76
T26A Comanche Natio 75.92 335 ⇑P **P 14 32 31.4 +1.0**
baz=76,SNR=7.8
V22A San Miguel Ran 76.07 332 ⇓P **P 14 32 33.1 +1.8**
baz=76,SNR=17
U23A El Rito 76.15 332 ⇓P **P 14 32 33.1 +1.3**
baz=76,SNR=9.1
X18A Snowflake 76.15 329 ⇓P **P 14 32 32.3 +0.6**
baz=76
Q31A Ellis 76.18 339 ⇑P **P 14 32 33.0 +1.4**
baz=77
T25A Trinidad 76.19 334 ⇓P **P 14 32 33.2 +1.2**
baz=77,SNR=12
S26A Kim 76.28 335 ⇓P **P 14 32 33.4 +1.1**
baz=77,SNR=16
R28A Tribune 76.35 336 ⇑P **P 14 32 33.7 +1.0**
baz=77
Q30A Quinter 76.42 338 ⇑P **P 14 32 34.1 +1.1**
baz=77
113A Mohawk Valley, 76.43 325 ⇑P **P 14 32 34.6 +1.4**
baz=77
W18A Petrified Fore 76.56 329 ⇓P **P 14 32 35.1 +1.1**
baz=77
W18A Petrified Fore 76.56 329 *e*P **P 14 32 35.9 +1.8**
comp=Z,30nm,1.3s
R27A Eads 76.64 336 ⇓P **P 14 32 35.2 +0.9**
baz=77,SNR=8.0
P31A Stockton 76.65 339 ⇓P **P 14 32 35.8 +1.5**
baz=77
S25A Robets Cordova 76.66 334 ⇑P **P 14 32 36.0 +1.4**
baz=77
T23A Casias Ranch, 76.71 333 ⇑P **P 14 32 36.4 +1.4**
baz=77
X16A Lo Mia Camp, P 76.72 328 ⇓P **P 14 32 36.2 +1.2**
baz=77,SNR=12
R26A Arlington 76.88 335 ⇑P **P 14 32 36.3 +0.6**
baz=77,SNR=8.4
S24A Houchin Ranch, 76.93 334 ⇓P **P 14 32 37.6 +1.4**
baz=77,SNR=14
P30A Selden 76.94 338 ⇑P **P 14 32 37.8 +1.8**
baz=77
O32A Brockman Farm, 77.01 340 ⇑P **P 14 32 38.2 +2.0**
baz=77
Q28A Sharon Springs 77.01 337 ⇑P **P 14 32 38.3 +1.9**
baz=77
Y14A Wickenburg 77.03 326 ⇑P **P 14 32 38.1 +1.5**
baz=77
R25A Fountain Ranch 77.04 335 ⇑P **P 14 32 37.7 +1.1**
baz=77
P29A Atwood 77.21 338 ⇓P **P 14 32 38.6 +1.2**
baz=78
R24A Sanders Place, 77.41 334 ⇑P **P 14 32 39.9 +1.1**
baz=78,SNR=12
Q26A Hugo 77.46 336 ⇓P **P 14 32 40.4 +1.4**
baz=78
LONY Lake Ozonia 77.54 358 *e*P **P 14 32 39.5 +0.4**
JFWS Jewell Farm 77.58 347 *e*P **P 14 32 39.4 +0.1**
JFWS pmax pmax
comp=Z,13nm,0.8s
JFWS Jewell Farm 77.58 347 *e*P **P 14 32 39.4 +0.1**
comp=Z,13nm,0.8s
Y12C Blythe 77.60 325 ⇓P **P 14 32 41.3 +1.7**
baz=78
WUAZ Wupatki 77.61 328 ⇑P **P 14 32 41.5 +1.6**
baz=78
WUAZ Wupatki 77.61 328 *e*P **P 14 32 41.8 +1.9**
comp=Z,17nm,1.0s
S22A 4UR Ranch, Cre 77.63 333 ⇑P **P 14 32 41.8 +1.6**
baz=78
R23A Moffat 77.64 334 ⇑P **P 14 32 40.9 +0.8**
baz=78,SNR=7.2
Q25A Bedland, Calha 77.71 335 ⇑P **P 14 32 41.6 +1.1**
baz=78
MVCO Mesa Verde 77.83 331 ⇓P **P 14 32 42.9 +1.7**
baz=78
MVCO Mesa Verde 77.83 331 *e*P **P 14 32 42.2 +1.0**
comp=Z,14nm,1.1s
P26A Davis Ranch, A 77.97 336 ⇑P **P 14 32 43.4 +1.6**
baz=78
BC3 Big Chuckawall 77.97 324 ⇓P **P 14 32 43.4 +1.5**
baz=78
Q24A Divide 78.07 334 ⇑P **P 14 32 44.1 +1.5**
baz=78
P25A Willow Gulch B 78.21 335 ⇑P **P 14 32 44.7 +1.5**
baz=79,SNR=7.3
IRM Iron Mountain 78.23 325 ⇓P **P 14 32 45.0 +1.7**
baz=79
O27A Beecher Island 78.24 337 ⇓P **P 14 32 45.1 +1.9**
baz=79
W13A Hualapai Mount 78.40 326 ⇑P **P 14 32 45.8 +1.4**
baz=79,SNR=6.7
PFO Pinyon Flats O 78.43 324 *e*P **P 14 32 45.2 +0.7**
PFO pmax pmax
comp=Z,17nm,1.1s
PFO Pinyon Flats O 78.43 324 ⇑P **P 14 32 46.2 +1.7**
baz=79
PFO Pinyon Flats O 78.43 324 *e*P **P 14 32 45.2 +0.7**
comp=Z,17nm,1.1s
P23A Jefferson 78.69 334 ⇑P **P 14 32 47.7 +1.7**
baz=79
O25A Wiggins 78.73 336 ⇑P **P 14 32 47.7 +1.7**
baz=79
U15A North Rim 78.77 328 ⇑P **P 14 32 48.0 +1.5**
baz=79,SNR=9.5
SMCO Snowmass 78.94 333 *e*P **P 14 32 48.9 +1.5**
comp=Z,24nm,1.3s
ISCO Idaho Springs 78.98 334 *e*P **P 14 32 48.6 +1.0**
ISCO pmax pmax
comp=Z,14nm,1.4s
ISCO Idaho Springs 78.98 334 ⇑P **P 14 32 48.9 +1.3**
baz=79
ISCO Idaho Springs 78.98 334 *e*P **P 14 32 48.6 +1.0**
comp=Z,14nm,1.4s
GMRC Granite Mounta 78.98 325 ⇓P **P 14 32 48.9 +1.4**
baz=79,SNR=5.8
P22A Eagle 79.22 334 ⇓P **P 14 32 50.1 +1.3**
baz=80
HEC Hector,Ludlow 79.35 324 ⇑P **P 14 32 51.1 +1.7**
baz=80
O23A Lake Granby, G 79.45 334 ⇑P **P 14 32 51.0 +0.9**
baz=80,SNR=8.0
BFSC Mount Baldy Ra 79.53 323 ⇑P **P 14 32 52.1 +1.6**
baz=80
TSUM Tsumeb 79.59 106 P **P 14 32 51.3 0.0**
comp=Z,11nm,1.1s,baz=232,slow=5.6,SNR=14
TSUM Tsumeb 79.59 106 *e*P **P 14 32 51.8 +0.5**

comp=Z,12nm,1.0s
K30A Basset 79.62 340 ⇓P P 14 32 52.6 +1.9
baz=80
O22A Kremmling 79.64 334 ⇓P P 14 32 52.1 +1.0
baz=80,SNR=6.1
ECSD EROS Data Cent 79.79 342 ⇑P P 14 32 51.8 +0.2
baz=80
ECSD EROS Data Cent 79.79 342 *e*P P 14 32 51.6 +0.1
comp=Z,17nm,0.9s
GSC Goldstone, Bar 79.96 324 ⇓P P 14 32 54.1 +1.4
baz=80
N23A Red Feather La 80.06 335 ⇓P P 14 32 54.9 +1.5
baz=80
SHPR Sheep Range 80.14 326 *e*P P 14 32 55.4 +1.6
N22A Wattenberg Ran 80.17 334 ⇓P P 14 32 55.2 +1.3
baz=80
CCUT Cedar City 80.18 328 *e*P P 14 32 56.4 +2.3
comp=Z,15nm,1.1s
EDW2 Edwards Air Fo 80.21 323 ⇓P P 14 32 55.4 +1.3
baz=81
O20A White River Ci 80.25 333 ⇓P P 14 32 55.6 +1.2
baz=81
ARUT Antelope Range 80.41 328 *e*P P 14 32 54.6 -0.6
ARUT pmax pmax
comp=Z,529nm,1.4s
ARUT Antelope Range 80.41 328 *e*P P 14 32 54.6 -0.6
comp=Z,529nm,1.4s
J29A Okreek 80.50 340 ⇓P P 14 32 56.7 +1.3
baz=81
BOSA Boshof 80.58 118 P P 14 32 56.6 +0.1
comp=Z,14nm,1.0s,baz=212,slow=6.6,SNR=13
BOSA LR LR 15 05 58.5
comp=Z,120nm,18.7s,baz=178,slow=34
M22A Cedar Creek Ra 80.75 335 ⇑P P 14 32 58.6 +1.5
baz=81
J27A Elkhorn Farm, 80.86 338 ⇑P P 14 32 59.2 +1.7
baz=81
MPMC Manual Prospec 80.90 324 ⇓P P 14 32 59.6 +1.7
baz=81
TPNV Topopah Spring 81.01 326 *e*P P 14 33 00.5 +2.0
TPNV pmax pmax
comp=Z,18nm,1.2s
TPNV Topopah Spring 81.01 326 ⇑P P 14 33 00.0 +1.5
baz=81,SNR=8.7
TPNV Topopah Spring 81.01 326 *e*P P 14 33 00.5 +2.0
comp=Z,18nm,1.2s
L23A Garrett 81.05 335 ⇑P P 14 32 59.8 +1.2
baz=81
ISA Isabella, Lake 81.07 323 *e*P P 14 33 00.7 +2.0
ISA pmax pmax
comp=Z,8.0nm,1.0s
ISA Isabella, Lake 81.07 323 ⇑P P 14 33 00.5 +1.9
baz=81
ISA Isabella, Lake 81.07 323 *e*P P 14 33 00.7 +2.0
comp=Z,8.4nm,1.0s
DAC Darwin (Calif) 81.12 324 *e*P P 14 33 00.1 +1.0
DAC pmax pmax
comp=Z,12nm,1.0s
DAC Darwin (Calif) 81.12 324 *e*P P 14 33 00.1 +1.0
comp=Z,12nm,1.0s
PKM Mcpherson Peak 81.15 322 ⇓P P 14 33 00.9 +1.7
baz=82
L22A Ellis Ranch, M 81.24 335 ⇑P P 14 33 01.7 +2.1
baz=82
J26A Sides Ranch, S 81.25 338 ⇑P P 14 33 01.3 +1.9
baz=82
I28A Midland 81.29 339 ⇓P P 14 33 01.4 +1.8
baz=82
H29A Onida 81.58 340 ⇑P P 14 33 02.8 +1.7
baz=82
K22A Casper 81.81 335 *e*P P 14 33 03.4 +0.8
comp=Z,29nm,1.4s
R11A Troy Canyon, C 81.84 327 ⇑P P 14 33 04.1 +1.3
baz=82,SNR=11
R11A Troy Canyon, C 81.84 327 *e*P P 14 33 04.3 +1.5
comp=Z,14nm,1.2s
K21A Alcova 82.06 335 ⇓P P 14 33 04.3 +0.4
baz=82
I25A Rochford 82.09 338 ⇑P P 14 33 04.6 +0.6
baz=82
H27A Howes 82.14 339 ⇑P P 14 33 04.8 +0.8
baz=82
DUG Dugway, Tooele 82.14 330 *e*P P 14 33 05.8 +1.5
DUG pmax pmax
comp=Z,38nm,1.7s
DUG Dugway, Tooele 82.14 330 ⇓P P 14 33 05.3 +1.0
baz=82
DUG Dugway, Tooele 82.14 330 *e*P P 14 33 05.8 +1.5
comp=Z,38nm,1.7s
RSSD Black Hills 82.28 337 *e*P P 14 33 05.6 +0.5
RSSD pmax pmax
comp=Z,6.0nm,1.1s
RSSD Black Hills 82.28 337 *e*P P 14 33 05.6 +0.5
comp=Z,6.1nm,1.1s
TPH Tonopah 82.38 326 *e*P P 14 33 06.9 +1.2
TPH pmax pmax
comp=Z,15nm,1.0s
TPH Tonopah 82.38 326 *e*P P 14 33 06.9 +1.2
comp=Z,15nm,1.0s
J22A Midwest 82.47 336 ⇓P P 14 33 07.0 +1.0
baz=83
F29A Eureka 82.59 341 ⇑P P 14 33 07.5 +1.2
baz=83
LBTB Lobatse 82.78 115 *e*P P 14 33 08.4 +0.2
LBTB pmax pmax
comp=Z,37nm,1.1s
LBTB Lobatse 82.78 115 P P 14 33 08.2 0.0
comp=Z,23nm,0.9s,baz=251,slow=5.2,SNR=27
LBTB Lobatse 82.78 115 *e*P P 14 33 08.4 +0.2
comp=Z,37nm,1.1s
F28A McLaughlin 82.87 340 ⇑P P 14 33 08.8 +0.9
baz=83
G26A Maurine 82.89 339 ⇑P P 14 33 08.8 +0.8
baz=83
J20A Shoshoni 82.98 335 ⇓P P 14 33 10.3 +1.6
baz=83
H24A Dirks Ranch, A 83.01 337 ⇑P P 14 33 08.9 +0.2
baz=83
PDAR Pinedale Array 83.02 333 P P 14 33 09.2 +0.2
comp=Z,1.5nm,0.9s,baz=131,slow=6.1,SNR=9.6
PDAR LR LR 15 06 43.0
comp=Z,253nm,18.4s,baz=149,slow=33
G25A Newell 83.05 338 ⇑P P 14 33 09.3 +0.5
baz=83
I21A Big Trails, Te 83.10 335 ⇓P P 14 33 09.2 0.0
baz=84
NVAR Mina Array Bea 83.17 325 P P 14 33 10.5 +0.7
comp=Z,2.5nm,0.8s,baz=155,slow=6.1,SNR=16
F27A Lemmon 83.24 340 ⇓P P 14 33 10.4 +0.6
baz=84
J19A Crowheart 83.26 334 ⇓P P 14 33 10.9 +0.8
baz=84,SNR=7.7
HVU Hansel Valley 83.45 331 *e*P P 14 33 11.5 +0.4
HVU pmax pmax
comp=Z,27nm,1.5s
HVU Hansel Valley 83.45 331 *e*P P 14 33 11.5 +0.4
comp=Z,27nm,1.5s
D30A Buchanan 83.48 342 ⇓P P 14 33 11.6 +0.7
baz=84
I20A Worland 83.52 335 ⇓P P 14 33 12.1 +0.8
baz=84
ELK Elko 83.64 329 *e*P P 14 33 12.9 +0.7
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK Elko 83.64 329 *e*P P 14 33 12.9 +0.7
comp=Z,5.5nm,1.0s
WAKR Walker 83.78 325 *e*P P 14 33 15.0 +2.1
AGMN Agassiz Nation 83.89 344 ⇓P P 14 33 13.5 +0.5
baz=84
AGMN Agassiz Nation 83.89 344 *e*P P 14 33 13.3 +0.3
comp=Z,12nm,1.2s
I19A Meeteetse 83.91 334 ⇑P P 14 33 14.0 +0.5
baz=84
C30A Mose, Pekin 83.96 343 ⇓P P 14 33 14.2 +0.8
baz=84
REDW Red Top Meadow 84.02 333 *e*P P 14 33 14.9 +0.8
comp=Z,54nm,2.3s
TORD Torodi Ar. Bea 84.13 70 P P 14 33 15.0 0.0
comp=Z,15nm,0.9s,baz=251,slow=4.6,SNR=75
TORD LR LR 15 10 38.3
comp=Z,346nm,18.1s,baz=220,slow=36
LOHW Long Hollow 84.14 333 *e*P P 14 33 15.4 +0.8
comp=Z,7.1nm,1.4s
TPAW Teton Pass 84.17 333 *e*P P 14 33 15.7 +0.8
comp=Z,6.4nm,1.0s
FXWY Fox Creek 84.32 333 *e*P P 14 33 16.2 +0.6
comp=Z,56nm,2.9s
I17A Pilgrim Ck. 84.39 333 ⇑P P 14 33 16.4 +0.5
baz=85
D26A Manning 84.42 340 ⇓P P 14 33 16.0 +0.3
baz=85
IMW Indian Meadow 84.51 333 *e*P P 14 33 16.7 +0.1
comp=Z,7.7nm,1.2s
B30A Myrvik Farm, E 84.62 343 ⇓P P 14 33 17.0 +0.3
baz=85
G20A Bridger 84.65 335 ⇑P P 14 33 17.2 +0.1
baz=85
H18A Shoshone NF, C 84.70 334 ⇓P P 14 33 18.0 +0.5
baz=85
RLMT Red Lodge 84.94 335 *e*P P 14 33 17.6 -1.0
comp=Z,14nm,1.3s
A30A Hoffart Farm, 85.07 343 ⇓P P 14 33 19.1 +0.2
baz=85
B28A Dugan Ranch, T 85.14 342 ⇓P P 14 33 20.1 +0.8
baz=86
YMR Madison River 85.17 333 *e*P P 14 33 21.5 +1.6
comp=Z,20nm,1.1s
A29A Manning Farm, 85.28 343 ⇑P P 14 33 20.3 +0.3
baz=86
C24A Savage 85.45 339 ⇑P P 14 33 21.6 +0.6
baz=86
F19A Roth Farm, Mol 85.46 335 ⇓P P 14 33 21.6 +0.5
baz=86
QLMT Earthquake Lak 85.49 333 *e*P P 14 33 21.0 -0.4
comp=Z,0.5nm,0.7s
HLID Hailey 85.60 331 ⇓P P 14 33 22.6 +0.6
baz=86
HLID Hailey 85.60 331 *e*P P 14 33 23.1 +1.1
comp=Z,11nm,1.4s
MSKU Masuku 85.64 89 P P 14 33 22.8 +0.1
comp=Z,5.7nm,0.6s,baz=251,slow=5.6,SNR=8.0
D22A Cohagen 85.66 338 ⇓P P 14 33 22.4 +0.3
baz=86
ULM Lac du Bonnet 85.74 345 P P 14 33 21.2 -1.0
comp=Z,4.6nm,0.7s,baz=144,slow=0.7,SNR=8.3
B25A Knox Farm, Ray 85.75 340 ⇓P P 14 33 22.8 +0.4
baz=86
D21A La Casta Ranch 85.85 337 ⇓P P 14 33 23.3 +0.3
baz=86
E19A Rath Farm, Rou 85.93 336 ⇑P P 14 33 23.7 +0.3
baz=86
C23A Lambert 85.93 338 ⇓P P 14 33 23.7 +0.3
baz=86
A26A Wade Farm, Ken 86.00 341 ⇓P P 14 33 23.9 +0.3
baz=86
MCMT McKenzie Canyo 86.03 332 *e*P P 14 33 24.9 +0.7
comp=Z,1.0nm,0.7s
D20A Manuel Ranch, 86.25 336 ⇓P P 14 33 25.1 +0.2
baz=87
B23A Brockton 86.46 339 ⇑P P 14 33 26.5 +0.6
baz=87
C21A Desert Coulee 86.56 337 ⇑P P 14 33 27.0 +0.6
baz=87
D19A Cripps Ranch, 86.57 336 ⇓P P 14 33 26.9 +0.4
baz=87
A24A Westby 86.58 340 ⇑P P 14 33 27.2 +0.7
baz=87
LRM Limekiln Ridge 86.71 333 *e*P P 14 33 28.5 +1.0
C20A Veseth Ranch, 86.75 337 ⇑P P 14 33 27.3 -0.1
baz=87
MOD Modoc Plateau 86.85 326 *e*P P 14 33 29.2 +1.1
comp=Z,15nm,1.3s
WDC Whiskeytown Da 86.90 324 *e*P P 14 33 28.5 +0.3
WDC pmax pmax
comp=Z,69nm,2.3s
WDC Whiskeytown Da 86.90 324 *e*P P 14 33 28.5 +0.3
comp=Z,69nm,2.3s
C19A Slack Wire Ran 87.12 336 ⇓P P 14 33 29.7 +0.5
baz=88
A22A Carney Farms, 87.21 339 ⇓P P 14 33 30.2 +0.7
baz=88
B20A Solberg Farm, 87.39 337 ⇑P P 14 33 31.7 +1.3
baz=88
M04C Macdoel 87.48 325 ⇑P P 14 33 32.3 +1.2
baz=88
A21A Bergtoll Ranch 87.52 338 ⇓P P 14 33 31.4 +0.3
baz=88
EGMT Eagleton 87.61 336 ⇓P P 14 33 31.9 +0.3
baz=88
M02C Callahan 87.67 324 ⇓P P 14 33 33.4 +1.3
baz=88
B19A Brinkman Farms 87.71 337 ⇑P P 14 33 32.4 +0.4
baz=88
A20A Cobblestone Ra 87.75 337 ⇑P P 14 33 32.4 +0.3
baz=88
BMO Blue Mountains 87.86 330 *e*P P 14 33 33.2 +0.4
comp=Z,6.7nm,1.2s
SCHQ Schefferville 87.86 3 P P 14 33 33.8 +1.3
comp=Z,6.1nm,1.1s,baz=236,slow=1.4,SNR=3.0
SCHQ LR LR 15 15 40.2
comp=Z,74nm,18.0s,baz=237,slow=38
YBH Yreka Blue Hor 87.86 325 *e*P P 14 33 33.8 +0.8
YBH pmax pmax
comp=Z,42nm,2.1s
YBH Yreka Blue Hor 87.86 325 *e*P P 14 33 33.8 +0.8
comp=Z,42nm,2.1s
CHMT Chamberlain Mo 87.93 333 *e*P P 14 33 33.0 -0.3
comp=Z,5.0nm,1.4s
A19A Klindworth Far 88.05 337 ⇓P P 14 33 34.1 +0.5
baz=88
J05D Fort Rock, OR 88.36 327 ⇑P P 14 33 36.2 +0.9
baz=89
SWMT Swartz Lake 88.71 333 *e*P P 14 33 37.1 +0.2
comp=Z,6.6nm,1.3s
LSZ Lusaka 90.21 108 P P 14 33 46.3 +1.6
comp=Z,1.2nm,0.6s,baz=70,slow=13,SNR=4.5
TAM Tamanrasset 92.67 65 *e*P P 14 33 55.7 -0.3
TAM pmax pmax
comp=Z,9.0nm,1.4s
TAM Tamanrasset 92.67 65 *e*P P 14 33 55.7 -0.3
comp=Z,8.6nm,1.4s
YKA Yellowknife Ar 101.30 341 P Pdif 14 34 33.1 -0.7
comp=Z,0.1nm,0.4s,baz=144,slow=4.1,SNR=4.0
CLL Collm 112.42 43 *e*PPS PPS 14 50 57.0
CLL Lm MLR 15 26 00.0
comp=N,100nm,19.1s
CLL Lm MLR 15 26 00.0
comp=E,300nm,19.8s
CLL Lm MLR 15 26 00.0
comp=Z,300nm,18.4s
ASAR Alice Springs 118.14 207 PKP PKPdf 14 39 30.1 -1.0
comp=Z,1.0nm,0.9s,baz=149,slow=2.6,SNR=7.2
WRA Warramunga Arr 121.32 210 PKP PKPdf 14 39 36.2 -1.1
comp=Z,2.2nm,1.0s,baz=157,slow=1.7,SNR=13
WRAB Tennant Creek 121.32 210 *i* PKIKP PKPdf 14 39 35.6 -1.7
WRAB pmax pmax
comp=Z,26nm,2.5s
BRTR Keskin Array B 121.63 61*c* *i* PKIKP PKPdf 14 39 38.0 +0.6
BRTR Keskin Array B 121.63 61 PKP PKPdf 14 39 35.6 -1.8
comp=Z,0.4nm,0.7s,baz=182,slow=3.7,SNR=3.9
KIEV Kiev 121.81 47 *i* PKIKP PKPdf 14 39 36.2 -1.0
AKASG Malin Array Be 121.83 47*c* *i* PKIKP PKPdf 14 39 36.2 -1.0
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 121.83 47 PKP PKPdf 14 39 36.1 -1.0
comp=Z,1.4nm,0.7s,baz=260,slow=2.9,SNR=4.2
H11S2 WAKE ISLAND Hyl 125.59 270 T T 16 58 34.4
SNR=8.2
H11S1 WAKE ISLAND Hyl 125.61 270 T T 16 57 47.3
baz=328,slow=74,SNR=8.9
H11S3 WAKE ISLAND Hyl 125.61 270 T T 16 57 50.8
baz=118,slow=74,SNR=6.6
OBN Obninsk 127.02 43 *i* PKIKP PKPdf 14 39 47.0 0.0
OBN pmax pmax
comp=Z,9.0nm,1.7s
KLMR Klimovskoe 128.91 36 *e*PKIKP PKPdf 14 39 49.7 -0.7
KLMR pmax pmax
comp=Z,28nm,1.4s
PRGR Permogore 131.82 34 PKIKP PKPdf 14 39 51.8 -4.1
PRGR pmax pmax
comp=Z,8.0nm,0.9s
BILL Bilibino 132.09 334 *i* PKIKP PKPdf 14 39 55.1 -1.2
BILL pmax pmax
comp=Z,3.0nm,1.1s
MAK Makhachkala 132.53 60 *e*PKIKP PKPdf 14 40 13.6 +16
SEY Seymchan 139.30 330 *i* PKIKP PKPdf 14 40 10.8 +1.0
ARU Arti 139.30 40 *i* PKIKP PKPdf 14 40 10.4 +0.4
ARU 14 43 02.3
GEYT Alibeck 139.76 69 PKP PKPdf 14 40 11.1 -0.5
comp=Z,1.4nm,0.6s,baz=275,slow=7.3,SNR=4.0
TIXI Tiksi 139.94 350 *i* PKIKP PKPdf 14 40 10.7 -0.1
TIXI pmax pmax
comp=Z,8.0nm,2.5s
POO Poona 146.34 107 ⇓ *i*P PKPdf 14 40 24.0 +0.3
comp=Z,3.0nm,1.2s
GSI Gunungsitoli 146.81 161 *e*PKPbc PKPbc 14 40 26.8 +0.4
YAK Yakutsk 147.97 341 *e*PKP2 PKPbc 14 40 27.1 -1.0
YAK pmax pmax
comp=Z,41nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK Yakutsk 147.97 341 *e*PKPbc PKPbc 14 40 28.0 -0.1
HYB Hyderabad 149.40 114 *i* PKP PKPbc 14 40 32.0 -1.2
YSS Yuzh-Sakhalins 150.20 308 *e*PKIKP PKPbc 14 40 33.8 -0.4
IPM Ipoh 150.69 166 *e*PKPbc PKPbc 14 40 35.8 -0.7
EKS2 Erkin-Say 151.78 61 *e*PKIKP PKPdf 14 40 32.7 +0.8
EKS2 *e* 14 40 38.5
EKS2 Erkin-Say 151.78 61 *e*PKPdf PKPdf 14 40 32.7 +0.8
EKS2 *e*PKPbc PKiKP 14 40 38.5 -0.1
AAK Ala-Archa 152.31 61 *e*PKIKP PKPdf 14 40 32.6 -0.1
AAK *e* 14 40 39.8
AAK Ala-Archa 152.31 61 *e*PKPdf PKPdf 14 40 32.6 -0.1
AAK *e*PKPbc PKiKP 14 40 39.8 -0.1
FRU Bishkek 152.37 60 *e*PKIKP PKPbc 14 40 40.0 +0.5
NVS Novosibirsk 152.41 31 *i* PKIKP PKPdf 14 40 31.5 -0.7
NVS *e* 14 44 27.3
NVS pmax pmax
comp=E,8.0nm,1.1s
NVS pmax pmax
comp=Z,23nm,1.1s
KURK Kurchatov 152.46 42 *e*PKIKP PKPdf 14 40 32.6 +0.2
KURK *e* 14 40 38.9
KURK Kurchatov 152.46 42 *e*PKPdf PKPdf 14 40 32.6 +0.2
KURK *e*PKPbc PKPbc 14 40 38.9 -0.4
ZALV Zalesovo Beam 153.69 31 PKP PKPdf 14 40 33.8 -0.3
comp=Z,4.5nm,0.9s,baz=267,slow=3.0,SNR=18
ZALV PKPbc PKiKP 14 40 42.1 0.0
comp=Z,10nm,0.9s,baz=285,slow=2.9,SNR=24
ZALV PKPab PKPab 14 40 54.0 -0.8
comp=Z,1.3nm,0.5s,baz=291,slow=2.3,SNR=5.1
KSH Kashi 153.76 67 PKPbc PKPdf 14 40 35.0 +0.1
KSH sPKP 14 40 48.3
KSH PKS PKSdf 14 44 09.3 0.0
KSH PP PP 14 44 28.5 -2.1
KSH SKS SKSdf 14 47 39.5 -1.4
KSH SKKS SKKSac 14 51 17.1 -2.4
KSH SS SS 15 04 01.9 -5.0
KSH PPMZ
comp=Z,66nm,4.8s
KSH LN
comp=Z,100nm,6.4s
KSH LE
comp=Z,49nm,7.3s
KSH LZ
comp=Z,180nm,6.4s
BOD Bodaibo 155.07 352 *e*PKIKP PKPdf 14 40 39.4 +3.5
BOD pmax pmax
comp=Z,7.0nm,1.2s
KLR Kul'dur 156.06 319 *e*PKIKP PKPdf 14 40 32.7 -4.8
MKAR Makanchi Array 156.41 48 PKP PKPdf 14 40 37.9 -0.2
comp=Z,2.4nm,1.0s,baz=321,slow=3.1,SNR=14
MKAR PKPab PKPab 14 41 06.9 +0.2
comp=Z,4.8nm,0.9s,baz=298,slow=5.2,SNR=15
WMQ Urumqi 161.15 50 *e*PKP PKPdf 14 40 44.0 +0.1
WMQ pPKP pPKPdf 14 40 55.0 +4.5
WMQ PKPab PKPab 14 41 27.9 +0.5
WMQ PKS PKSdf 14 44 16.0 -1.2
WMQ PP PP 14 45 13.0 +2.3
WMQ SKS SKSdf 14 47 44.0 -4.0
WMQ SKKS SKKSac 14 51 56.0 -2.0
WMQ SS SS 15 05 20.8 -4.2
WMQ PPMZ
comp=Z,230nm,4.5s
WMQ LN
comp=Z,100nm,21.0s
WMQ LE
comp=Z,40nm,19.0s
WMQ LZ
comp=Z,140nm,19.0s
TLY Talaya 161.35 8 *e*PKP2 PKPab 14 41 29.4 +1.6
TLY pmax pmax
comp=Z,4.0nm,0.9s
ZAK Zakamensk 162.58 10 *e*PKP2 PKPab 14 41 32.0 -1.3
ZAK pmax pmax
comp=Z,3.0nm,1.4s
CMAR Chiang Mai Arr 163.28 150 PKP PKPdf 14 40 46.7 0.0
comp=Z,1.0nm,0.8s,baz=249,slow=3.3,SNR=6.9
CMAR PKPab PKPab 14 41 36.5 -0.7
comp=Z,0.4nm,0.5s,baz=221,slow=5.4,SNR=5.3
SONM Songino Array 165.41 4 PKP PKPdf 14 40 47.7 -0.2
comp=Z,0.4nm,0.8s,baz=146,slow=2.8,SNR=3.4
SONM PKPab PKPab 14 41 46.5 +0.6
comp=Z,2.0nm,1.0s,baz=342,slow=2.9,SNR=8.5
QIZ Qiongzhong 165.70 188 PKP PKPdf 14 40 49.3 +0.5
QIZ PP PP 14 45 36.5 +3.0
QIZ SS SS 15 06 14.8 +4.9
QIZ PPMZ
comp=Z,83nm,5.9s
QIZ LN
comp=Z,140nm,20.3s
QIZ LZ
comp=Z,170nm,20.7s
BJI Beijing 170.43 317 PKP PKPdf 14 40 51.8 +0.4
BJI LN
comp=Z,200nm,19.9s
BJI LE
comp=Z,130nm,19.9s
BJI LZ
comp=Z,100nm,20.9s
NJ2 Nanjing 170.55 266 *e*PKP PKPdf 14 40 52.1 +0.4
KMI Kunming 170.79 150 PKP PKPdf 14 40 52.6 +0.2
KMI sPKP 14 41 06.4
KMI SS SS 15 07 01.9 -0.3
KMI LN
comp=Z,110nm,20.9s
KMI LE
comp=Z,140nm,24.5s
KMI LZ
comp=Z,140nm,20.0s
GTA Gaotai 171.14 44 *e*PKP PKPdf 14 40 52.8 +0.8
GTA pPKP pPKPdf 14 41 03.4 +4.8
GTA sPKP 14 41 07.1
GTA PKPab PKPab 14 42 12.9 +1.3
GTA PP PP 14 46 04.9 +2.7
GTA SKS SKSdf 14 47 51.1 -3.4
GTA SKKS SKKSac 14 52 47.1 -1.1
GTA SS SS 15 07 03.1 -3.1
GTA PPMZ
comp=Z,77nm,6.4s
GTA LN
comp=Z,130nm,16.6s
GTA LE
comp=Z,130nm,16.6s
GTA LZ
comp=Z,140nm,16.6s
HHC Hu-ho-hao-te 171.83 339 *e*PKP PKPdf 14 40 53.5 +1.2
HHC PKS PKSdf 14 44 24.4 -0.2
HHC PP PP 14 46 09.6 +4.7
HHC SKS SKSdf 14 47 51.6 -3.1
HHC SKKS SKKSac 14 52 51.4 +0.2
HHC SS SS 15 07 11.6 -0.1
HHC PPMZ
comp=Z,88nm,5.3s
HHC LN
comp=Z,310nm,20.0s
HHC LE
comp=Z,610nm,20.0s
HHC LZ
comp=Z,140nm,19.2s
GYA Guiyang 173.16 172 *e*PKP PKPdf 14 40 53.3 0.0
GYA pPKP pPKPdf 14 41 04.0 +4.1
GYA PKPab PKPab 14 42 22.8 +2.2
GYA PKS PKSdf 14 44 23.6 -2.2
GYA PP PP 14 46 15.0 +3.7
GYA SKKS 14 52 57.3
GYA SS SS 15 07 22.5 -1.8
GYA PPMZ
comp=Z,120nm,8.5s
GYA LN
comp=Z,120nm,21.2s
GYA LE
comp=Z,110nm,22.0s
GYA LZ
comp=Z,120nm,21.6s
LZH Lanzhou 175.73 48 *e*PKP PKPdf 14 40 54.3 +0.4
LZH pPKP pPKPdf 14 41 05.3 +4.8
LZH sPKP 14 41 08.8

CD2 Chengdu 175.89 124 *e*PKP **PKPdf 14 40 54.8 +0.8**

SKHL ***19*** *14:49:49.1±1.8, 46°.30N×151°.79E, h100km±19km, mb5.4/2, msh6.1/2*
JMA ***19*** *14:49:49.8±0.8, 46°.53N×151°.41E, h30km, M4.6*
ISCJB ***19*** *14:49:50.2±0.5, 46°.34N±0°.07×151°.44E±0°.08, h90km, mb3.5/11, Error ellipse: s-maj=11.5km s-min=4.5km az=141.6*
MOS ***19*** *14:49:51.2±1.7, 46°.44N×151°.35E, h106km, mb4.0/2, Error ellipse: s-maj=16.3km s-min=9.3km az=56.1*
IDC ***19*** *14:49:55.5±2.4, 46°.57N×151°.07E, h124km±22km, mb3.3/11, mb1 3.5/17, mb1mx3.4/39, mbtmp3.7/17, Error ellipse: s-maj=22.1km s-min=11.9km az=144.0*
ISC 19 14:49:51.0±0.6,**46°.31N**±0°.07×**151°.49E**±0°.07,**h90**km,**n57,** σ**2**º**04/60,mb3.6/11,3C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.76**	**248**	*e*PN	**Pn**	**14 50 34.6**	**+1.4**
KUR				*i* S	**Sn**	**14 51 11.0**	**+5.3**
KUR				pmax	pmax		
	comp=Z,288nm,0.7s						
KUR				pmax	pmax		
	comp=N,119nm,0.4s						
KUR				pmax	pmax		
	comp=E,50nm,0.4s						
KUR				smax	smax		
	comp=E,356nm,0.2s						
KUR				smax	smax		
	comp=N,518nm,0.4s						
KUR	**Kuril'sk**	**2.76**	**248**	*e*P	**Pn**	**14 50 34.6**	**+1.4**
KUR				AMB	AMB	14 50 35.6	
	comp=N,288nm,0.7s						
KUR				*e*S	**Sn**	**14 51 10.0**	**+4.3**
KUR				A	A	14 51 15.8	
	comp=N,356nm,0.2s						
KUR				A	A	14 51 15.8	
	comp=N,520nm,0.2s						
SHO	**Shikotan**	**4.10**	**235**	*e*P	**Pn**	**14 50 52.0**	**+0.6**
SHO				*e*S	**Sn**	**14 51 40.1**	**+1.8**
YUK	**Yuzh-Kuril'sk**	**4.58**	**242**	*c i*PN	**Pn**	**14 50 59.3**	**+1.4**
YUK				pmax	pmax		
	comp=N,75nm,0.3s						
YUK				pmax	pmax		
	comp=E,81nm,0.3s						
YUK				pmax	pmax		
	comp=Z,156nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.58**	**242**	*e*P	**Pn**	**14 50 59.3**	**+1.4**
YUK				AMB	AMB	14 51 05.7	
	comp=Z,160nm,0.3s						
YUK				*e*S	Sn	14 51 56.3	+6.3
YUK				A	A	14 52 09.7	
	comp=Z,320nm,0.3s						
YUK				A	A	14 52 09.7	
	comp=Z,160nm,0.3s						
NEM2	**Nemuro 2**	**5.04**	**236**	P	**Pn**	**14 51 03.8**	**-0.3**
NEM2				*e*S	**Sn**	**14 51 58.0**	**-3.0**
JRA	**Rausu**	**5.09**	**245**	P	**Pn**	**14 51 06.2**	**+1.4**
SKR	**Severo-Kuril's**	**5.35**	**33**	*e*PN	**Pn**	**14 51 05.4**	**-2.9**
SKR				*e*S	**Sn**	**14 52 07.0**	**-1.4**
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				smax	smax		
	comp=N,60nm,0.5s						
SKR				smax	smax		
	comp=E,80nm,0.5s						
SKR				smax	smax		
	comp=Z,60nm,0.5s						
JNK	**Nakash**	**5.53**	**243**	P	**Pn**	**14 51 11.6**	**+0.9**
JTKR	**Abashiri--Toko**	**5.85**	**249**	P	**Pn**	**14 51 17.6**	**+2.4**
JAK	**Akkeshi**	**5.87**	**238**	P	**Pn**	**14 51 14.5**	**-0.9**
JAK				*e*S	**Sn**	**14 52 18.4**	**-2.9**
YSS	**Yuzh-Sakhalins**	**6.05**	**279**	⇑*i*PN	**Pn**	**14 51 19.1**	**+1.2**
YSS				*e*S	**Sn**	**14 52 23.4**	**-2.3**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS				smax	smax		
	comp=E,100nm,1.6s						
YSS	**Yuzh-Sakhalins**	**6.05**	**279**	*e*P	**Pn**	**14 51 19.1**	**+1.2**
YSS				*e*S	**Sn**	**14 52 26.0**	**+0.3**
JAR	**Ashorobuto**	**6.26**	**244**	P	**Pn**	**14 51 21.9**	**+1.1**
JAR				*e*S	**Sn**	**14 52 31.5**	**+0.6**
JOB	**Onbets**	**6.44**	**241**	P	**Pn**	**14 51 23.2**	**0.0**
HRK	**Horoka**	**6.58**	**247**	*e*P	**Pn**	**14 51 27.2**	**+2.0**
JKK2	**Kamakawa 2**	**6.65**	**252**	P	**Pn**	**14 51 28.3**	**+2.2**
ASAJ	**Asahikawa**	**6.66**	**254**	PN	**Pn**	**14 51 29.0**	**+2.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**6.66**	**254**	P	**Pn**	**14 51 29.2**	**+3.1**
ASAJ	**Asahikawa**	**6.66**	**254**	P	**Pn**	**14 51 29.0**	**+2.9**
	comp=Z,0.9nm,0.3s,baz=108,slow=19,SNR=11						
JCH	**Churui**	**6.89**	**240**	P	**Pn**	**14 51 28.6**	**-0.7**
JCH				*e*S	**Sn**	**14 52 42.2**	**-4.0**
JFR	**Furan**	**7.07**	**247**	P	**Pn**	**14 51 34.6**	**+2.7**
MYR	**Moyori**	**7.13**	**239**	*e*P	**Pn**	**14 51 31.9**	**-0.6**
MYR				*e*S	**Sn**	**14 52 47.4**	**-4.5**
ERM	**Erimo**	**7.37**	**237**	*e*PN	**Pn**	**14 51 36.0**	**+0.1**
PETK	**Petropavlovsk-**	**7.90**	**28**	PN	**Pn**	**14 51 45.0**	**+1.9**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.90**	**28**	P	**Pn**	**14 51 45.0**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=190,slow=13,SNR=21						
PET	**Petropavlovsk**	**8.17**	**32**	*e*PN	Pn	14 52 05.8	+19
JNB	**Noboribetsu**	**8.41**	**247**	P	**Pn**	**14 51 49.4**	**-0.7**
JKB	**Kayabe**	**8.73**	**243**	P	**Pn**	**14 51 52.5**	**-1.8**
JTM	**Tenmabayashi**	**9.36**	**238**	P	**Pn**	**14 52 00.8**	**-2.2**
JTM				*e*S	Sn	14 53 37.6	-8.9
JANG	**Nango**	**9.38**	**234**	*e*S	Sn	14 53 38.1	-8.8
USRK	**Ussuriysk Ar.**	**13.90**	**268**	P	**Pn**	**14 53 04.8**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=72,slow=11,SNR=5.8						
MJAR	**Matsushiro Arr**	**13.93**	**230**	P	**Pn**	**14 53 05.0**	**+0.6**
MJAR	**Matsushiro Arr**	**13.93**	**230**	P	**Pn**	**14 53 05.0**	**+0.6**
	baz=36,slow=14,SNR=3.1						
SEY	**Seymchan**	**16.67**	**1**	P	**Pn**	**14 53 39.4**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=183,slow=18,SNR=9.2						
KSRS	**Korea Array**	**19.60**	**252**	P	**P**	**14 54 12.8**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=50,slow=11,SNR=11						
YAK	**Yakutsk**	**20.11**	**329**	*e*P	**P**	**14 54 18.3**	**+1.1**
YAK				pmax	pmax		
	comp=Z,23nm,0.8s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**29.38**	**149**	T	T	15 27 29.8	
	baz=338,slow=75,SNR=201						
H11N1	**WAKE ISLAND Hy**	**29.39**	**149**	T	T	15 27 25.7	
	baz=338,slow=75,SNR=156						
H11N3	**WAKE ISLAND Hy**	**29.39**	**149**	T	T	15 27 30.6	
	baz=338,slow=75,SNR=150						
SONM	**Songino Array**	**30.43**	**290**	P	**P**	**14 55 52.2**	**-2.6**
	comp=E,0.2nm,0.5s,baz=86,slow=9.0,SNR=2.2						
H11S1	**WAKE ISLAND Hy**	**30.44**	**151**	T	T	15 28 43.3	
	baz=339,slow=76,SNR=239						
H11S3	**WAKE ISLAND Hy**	**30.45**	**151**	T	T	15 28 35.5	
	baz=339,slow=76,SNR=137						
H11S2	**WAKE ISLAND Hy**	**30.46**	**151**	T	T	15 28 44.6	
	baz=339,slow=76,SNR=150						
ILAR	**Eielson Array**	**37.59**	**38**	P	**P**	**14 56 56.9**	**+0.5**
	comp=E,0.3nm,0.6s,baz=258,slow=7.5,SNR=5.7						
MKAR	**Makanchi Array**	**46.15**	**297**	P	**P**	**14 58 03.5**	**-2.7**
	comp=E,0.4nm,0.5s,baz=58,slow=6.5,SNR=7.0						
CMAR	**Chiang Mai Arr**	**51.18**	**255**	P	**P**	**14 58 45.0**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**51.18**	**255**	P	**P**	**14 58 45.0**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=30,slow=7.1,SNR=5.7						
YKA	**Yellowknife Ar**	**51.94**	**36**	P	**P**	**14 58 51.0**	**+0.8**
YKA	**Yellowknife Ar**	**51.94**	**36**	P	**P**	**14 58 51.0**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=298,slow=6.9,SNR=9.2						
NVAR	**Mina Array Bea**	**63.63**	**61**	P	**P**	**15 00 14.2**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=296,slow=7.3,SNR=6.8						
FINES	**FINESS Array B**	**63.95**	**334**	P	**P**	**15 00 12.2**	**-1.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**63.95**	**334**	P	**P**	**15 00 12.2**	**-1.9**
	comp=Z,1.1nm,0.6s,baz=44,slow=8.3,SNR=8.7						
PDAR	**Pinedale Array**	**65.91**	**53**	P	**P**	**15 00 29.1**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=318,slow=2.0,SNR=6.1						
WRA	**Warramunga Arr**	**67.74**	**197**	P	**P**	**15 00 39.9**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=16,slow=6.9,SNR=4.6						
ASAR	**Alice Springs**	**71.45**	**197**	P	**P**	**15 01 03.0**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=11,slow=6.4,SNR=5.0						
TXAR	**Lajitas Array**	**78.68**	**59**	P	**P**	**15 01 45.0**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=293,slow=3.8,SNR=9.8						

IDC ***19*** *15:03:49.5±1.1, 36°.24N×56°.83E, h0km, mb3.6/11, mb1 3.8/15, mb1mx3.6/31, mbtmp3.6/15, ML3.7/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/39, Error ellipse: s-maj=21.4km s-min=13.8km az=149.0*
ISCJB ***19*** *15:03:51.4±0.4, 36°.45N±0°.05×57°.07E±0°.04, h10km, mb3.5/11, Error ellipse: s-maj=6.6km s-min=4.6km az=168.8*
CSEM ***19*** *15:03:52.1±0.3, 36°.49N×57°.00E, h10km, ML3.8, Error ellipse: s-maj=9.8km s-min=7.2km az=160.0*
TEH ***19*** *15:03:53.4, 36°.38N×57°.03E, h7km, ML3.8*
NNC ***19*** *15:04:03.1±14.0, 37°.36N×57°.86E, h0km, mb4.1, Error ellipse: s-maj=198.7km s-min=80.0km az=56.0*
ISC 19 15:03:51.9±0.6,**36°.40N**±0°.05×**57°.03E**±0°.03,**h10**km,**n53,** σ**1**º**26/51,mb3.6/11,3C-1D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISFR	**Sfrayin**	**1.02**	**50**	*e*Pg	**Pg**	**15 04 11.7**	**+0.2**
ISFR	**Sfrayin**	**1.02**	**50**	*e*Pg	**Pg**	**15 04 11.7**	**+0.2**
ISHV	**Shirvan**	**1.26**	**25**	*e*Pg	**Pn**	**15 04 16.2**	**+0.5**
ISHV				*e*		15 04 38.8	
	comp=Z,23μm,0.2s						
ISHV	**Shirvan**	**1.26**	**25**	*e*Pg	**Pn**	**15 04 16.2**	**+0.5**
IAKL	**Akhelmad**	**1.41**	**81**	*e*Pg	**Pn**	**15 04 17.6**	**-0.3**
IAKL				*e*		15 04 43.9	
	comp=Z,9μm,0.2s						
IPAY	**Payeh**	**1.59**	**88**	*e*Pn	**Pn**	**15 04 22.0**	**+1.7**
IPAY				*e*		15 04 49.3	
	comp=Z,10μm,0.1s						
IPAY	**Payeh**	**1.59**	**88**	*e*Pn	**Pn**	**15 04 22.0**	**+1.7**
GEYT	**Alibeck**	**1.76**	**29**	Pn	**Pb**	**15 04 24.9**	**+0.6**
	comp=Z,76nm,0.3s,baz=211,slow=16,SNR=419						
GEYT				Lg	Lg	15 04 52.8	
	comp=Z,36nm,0.3s,baz=218,slow=43,SNR=5.0						
GEYT				LR	LR	15 05 23.7	
	comp=Z,264nm,20.3s,baz=205,slow=48						
IMOG	**Moghan**	**1.89**	**98**	*e*Pn	**Pn**	**15 04 25.5**	**+1.0**
IMOG				*e*		15 05 02.9	
	comp=Z,12μm,0.2s						
IMOG	**Moghan**	**1.89**	**98**	*e*Pn	**Pn**	**15 04 25.5**	**+1.0**
ISRO	**Mashad**	**1.97**	**92**	*e*Pn	**Pb**	**15 04 27.8**	**-0.1**
ISRO				*e*		15 05 03.6	
	comp=Z,12μm,0.5s						
ISRO	**Mashad**	**1.97**	**92**	*e*Pn	**Pb**	**15 04 27.8**	**-0.1**
IMYA	**Miami**	**2.48**	**90**	*e*Pn	**Pn**	**15 04 34.1**	**+1.6**
IMYA				*e*Sg	**Sg**	**15 05 11.3**	**-0.2**
IMYA				*e*		15 05 16.5	
	comp=Z,3μm,0.2s						
IMYA	**Miami**	**2.48**	**90**	*e*Pn	**Pn**	**15 04 34.1**	**+1.6**
IMYA				*e*Sg	**Sg**	**15 05 11.4**	**-0.2**
IGLO	**Ghaloghah**	**2.58**	**273**	*e*Pn	**Pn**	**15 04 35.8**	**+1.8**
IGLO				*e*		15 05 29.8	
	comp=Z,6μm,0.3s						
IANJ	**Anjilo**	**2.69**	**251**	*e*Pn	**Pn**	**15 04 36.8**	**+1.3**
IANJ				*e*		15 05 31.5	
	comp=Z,3μm,0.5s						
IANJ	**Anjilo**	**2.69**	**251**	*e*Pn	**Pn**	**15 04 36.8**	**+1.3**
ISHM	**Shahmirzad**	**3.08**	**260**	*e*Pn	**Pn**	**15 04 42.3**	**+1.4**
ISHM				*e*		15 05 36.2	
	comp=Z,2μm,0.2s						
ISHM	**Shahmirzad**	**3.08**	**260**	*e*Pn	**Pn**	**15 04 42.3**	**+1.4**
ILAS	**Lasjerd**	**3.46**	**254**	*e*Pn	**Pn**	**15 04 47.5**	**+1.5**
ILAS				*e*		15 06 06.2	
	comp=Z,3μm,0.4s						
ILAS	**Lasjerd**	**3.46**	**254**	*e*Pn	**Pn**	**15 04 47.5**	**+1.5**
ITEG	**Tejag**	**3.77**	**157**	*e*Pn	**Pn**	**15 04 51.3**	**+1.0**
ITEG				*e*		15 06 02.4	
	comp=Z,1μm,0.3s						
ITEG	**Tejag**	**3.77**	**157**	*e*Pn	**Pn**	**15 04 51.3**	**+1.0**
IPRN	**Peran**	**3.79**	**269**	*e*Pn	**Pn**	**15 04 52.5**	**+2.0**
IPRN				*e*		15 06 06.1	
	comp=Z,2μm,0.3s						
IKOO	**Kooshah**	**4.29**	**157**	*e*Pn	**Pn**	**15 04 58.0**	**+0.6**
IKOO				*e*		15 06 30.5	
	comp=Z,747nm,0.5s						
IKOO	**Kooshah**	**4.29**	**157**	*e*Pn	**Pn**	**15 04 58.0**	**+0.6**
IDAH	**Dahanechah**	**4.34**	**147**	*e*Pn	**Pn**	**15 04 59.2**	**+1.1**
IDAH				*e*		15 05 56.7	
	comp=Z,405nm,0.2s						
IDAH	**Dahanechah**	**4.34**	**147**	*e*Pn	**Pn**	**15 04 59.2**	**+1.1**
IBAF	**Bafgh**	**4.95**	**195**	*e*Pn	**Pn**	**15 05 07.2**	**+0.8**
IBAF				*e*		15 06 47.8	
	comp=Z,802nm,0.4s						
IBAF	**Bafgh**	**4.95**	**195**	*e*Pn	**Pn**	**15 05 07.2**	**+0.8**
AB31	**Akbulak array**	**13.03**	**8**	⇓Pn	Pn	15 06 53.5	-3.4
	comp=Z,1.4nm,0.7s,baz=192,slow=13,SNR=11						
AB31				⇑Sn	Sn	15 09 12.5	-9.4
	comp=Z,3.1nm,0.9s,baz=182,slow=21						
AB31	**Akbulak array**	**13.03**	**8**	Pn	Pn	15 06 53.5	-3.4
	comp=Z,1.4nm,0.7s,SNR=11						
AB31				Sn	Sn	15 09 12.5	-9.3
	comp=Z,3.1nm,0.9s						
AKTO	**Aktyubinsk**	**14.05**	**3**	⇑Pn	Pn	15 07 08.5	-2.4
	comp=Z,10nm,1.1s						
AKTO	**Aktyubinsk**	**14.05**	**3**	Pn	**Pn**	**15 07 08.9**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=186,slow=14,SNR=12						
AKTO				LR	LR	15 13 15.4	
	comp=Z,34nm,19.4s,baz=197,slow=40						
AKTO	**Aktyubinsk**	**14.05**	**3**	Pn	Pn	15 07 08.5	-2.4
	comp=Z,10nm,1.1s						
AAK	**Ala-Archa**	**14.84**	**60**	Pn	**Pn**	**15 07 22.0**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=216,slow=9.2,SNR=5.7						
BRTR	**Keskin Array B**	**18.70**	**287**	P	**P**	**15 08 07.3**	**-3.2**
	comp=Z,0.0nm,0.3s,baz=93,slow=5.8,SNR=2.6						
BVA0	**Borovoye Array**	**19.09**	**25**	⇑P	**P**	**15 08 14.5**	**0.0**
	comp=Z,4.4nm,0.8s,baz=203,slow=9.4,SNR=44						
BVA0	**Borovoye Array**	**19.09**	**25**	P	**P**	**15 08 14.5**	**0.0**
	comp=Z,4.4nm,0.8s,SNR=44						
BVAR	**Borovoye Array**	**19.09**	**25**	P	**P**	**15 08 14.2**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=204,slow=9.7,SNR=39						
KURBB	**Kurchatov Arra**	**21.00**	**41**	P	**P**	**15 08 37.5**	**+2.2**
	comp=Z,3.4nm,0.8s,baz=243,slow=12,SNR=22						
MK31	**Makanchi Array**	**21.47**	**53**	P	**P**	**15 08 41.6**	**+1.2**
	comp=Z,5.1nm,1.1s,baz=247,slow=11,SNR=22						
MK31	**Makanchi Array**	**21.47**	**53**	P	**P**	**15 08 41.6**	**+1.2**
	comp=Z,5.1nm,1.1s,SNR=22						
MKAR	**Makanchi Array**	**21.47**	**53**	P	**P**	**15 08 42.1**	**+1.6**
	comp=Z,2.9nm,0.8s,baz=245,slow=7.9,SNR=15						
AKASG	**Malin Array Be**	**24.52**	**314**	P	**P**	**15 09 11.5**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=120,slow=8.6,SNR=4.8						
MLR	**Muntele Rosu**	**25.05**	**301**	P	**P**	**15 09 14.1**	**-2.2**
	comp=Z,0.3nm,0.5s,baz=171,slow=13,SNR=2.9						
ZALV	**Zalesovo Beam**	**26.05**	**39**	P	**P**	**15 09 26.0**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=243,slow=6.3,SNR=2.5						
ARCES	**ARCESS Array B**	**37.35**	**342**	P	**P**	**15 11 05.9**	**+1.7**
	comp=Z,2.5nm,0.9s,baz=131,slow=9.7,SNR=2.9						
SONM	**Songino Array**	**37.76**	**57**	P	**P**	**15 11 08.3**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=268,slow=7.2,SNR=2.7						
CMAR	**Chiang Mai Arr**	**40.90**	**104**	P	**P**	**15 11 34.5**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=298,slow=8.6,SNR=6.9						
TORD	**Torodi Ar. Bea**	**54.51**	**260**	P	**P**	**15 13 18.4**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=46,slow=6.5,SNR=6.0						
ILAR	**Eielson Array**	**77.42**	**10**	P	**P**	**15 15 47.1**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=337,slow=8.3,SNR=5.0						
YKA	**Yellowknife Ar**	**81.22**	**356**	P	**P**	**15 16 07.0**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=5.0,slow=6.6,SNR=5.6						

THE ***19*** *15:16:50.3, 38°.39N×22°.38E, h16km±2km, ML1.5/4, Error ellipse: s-maj=2.6km s-min=0.5km az=262.0*
ATH ***19*** *15:16:51.2, 38°.44N×22°.28E, h18km±3km, MD2.7/14*
CSEM 19 15:16:50.4±0.2,**38°.41N**×**22°.30E,h16**km±1km,**MD2.7, Error ellipse: s-maj=4.2km s-min=3.1km az=109.0, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.13**	**260**	P	Pb	15 16 54.6	0.0
KALE				S	Sb	15 16 58.6	+1.3
KALE	**Kalithea**	**0.13**	**260**	*e*PB	Pb	15 16 54.6	0.0
KALE				*e*SB	Sb	15 16 57.7	+0.4
KALE	**Kalithea**	**0.13**	**260**	P	Pb	15 16 54.6	0.0
KALE				*e*Sb	Sb	15 16 57.7	+0.4
KALE				S	Sg	15 16 58.6	+1.8
EFP	**Efpalio**	**0.31**	**273**	P	Pb	15 16 57.8	+0.2
EFP				S	Sb	15 17 03.7	+1.3
EFP	**Efpalio**	**0.31**	**273**	*e*PB	Pb	15 16 57.8	+0.2
EFP				*e*SB	Sb	15 17 03.0	+0.6
EFP	**Efpalio**	**0.31**	**273**	P	Pb	15 16 57.8	+0.2
EFP				*e*Sb	Sb	15 17 03.0	+0.6
KLV	**Kalavryta, Ach**	**0.39**	**198**	P	Pg	15 16 58.1	-0.3
KLV				S	Sb	15 17 04.4	-0.4
KLV	**Kalavryta, Ach**	**0.39**	**198**	*e*PB	Pg	15 16 58.4	0.0
KLV				*e*SB	Sb	15 17 04.9	+0.1
KLV	**Kalavryta, Ach**	**0.39**	**198**	P	Pg	15 16 58.1	-0.3
KLV	**Kalavryta, Ach**	**0.39**	**198**	*e*Pb	Pg	15 16 58.4	0.0
KLV				S	Sb	15 17 04.4	-0.4
AXAR	**Agios Charalam**	**0.45**	**38**	*e*PB	Pb	15 17 00.2	+0.2
AXAR	**Agios Charalam**	**0.45**	**38**	*e*Pb	Pb	15 17 00.2	+0.2
GUR	**Goura**	**0.48**	**176**	P	Pg	15 16 59.2	-0.9
GUR				S	Sg	15 17 06.4	-0.3
GUR	**Goura**	**0.48**	**176**	*e*PN	Pb	15 17 01.2	+0.6
GUR				*e*SN	Sn	15 17 09.5	-1.3
GUR	**Goura**	**0.48**	**176**	P	Pg	15 16 59.2	-0.9
GUR	**Goura**	**0.48**	**176**	*e*Pn	Pb	15 17 01.2	+0.6
GUR				S	Sg	15 17 06.4	-0.3
LKR	**Lokris**	**0.60**	**66**	P	Pg	15 17 00.9	-1.3
LKR	**Lokris**	**0.60**	**66**	*e*PB	Pg	15 17 01.8	-0.4
LKR				*e*SN	Sb	15 17 11.8	+1.1
LKR	**Lokris**	**0.60**	**66**	P	Pg	15 17 00.9	-1.3
LKR	**Lokris**	**0.60**	**66**	*e*Pb	Pg	15 17 01.8	-0.4
LKR				*e*Sn	Sb	15 17 11.8	+1.1
AGG	**Agios Georgios**	**0.61**	**2**	P	Pb	15 17 02.7	-0.1
AGG	**Agios Georgios**	**0.61**	**2**	*e*PN	Pb	15 17 02.8	0.0
AGG				*e*SN	Sb	15 17 11.6	+0.4
AGG	**Agios Georgios**	**0.61**	**2**	P	Pb	15 17 02.7	-0.1
AGG				*e*Sn	Sb	15 17 11.6	+0.4
MAKR	**Makrakomi, Fth**	**0.61**	**348**	*e*PN	Pg	15 17 02.4	-0.2
MAKR				*e*SN	Sg	15 17 10.2	-0.7
MAKR	**Makrakomi, Fth**	**0.61**	**348**	*e*Pn	Pg	15 17 02.4	-0.2
MAKR				*e*Sn	Sg	15 17 10.2	-0.7
EVR	**Evrytania**	**0.63**	**323**	*e*PN	Pb	15 17 03.8	+0.5
EVR	**Evrytania**	**0.63**	**323**	*e*Pn	Pb	15 17 03.8	+0.5
DRO	**Drossia**	**0.65**	**226**	*e*PN	Pb	15 17 03.9	+0.4
DRO	**Drossia**	**0.65**	**226**	*e*Pn	Pb	15 17 03.9	+0.4
LTK	**Loutraki**	**0.65**	**126**	*e*PN	Pn	15 17 04.7	-0.3
LTK	**Loutraki**	**0.65**	**126**	*e*Pn	Pn	15 17 04.7	-0.3
RLS	**Riolos of Patr**	**0.75**	**242**	*e*PN	Pb	15 17 05.5	+0.5
RLS	**Riolos of Patr**	**0.75**	**242**	*e*Pn	Pb	15 17 05.5	+0.5
PDO	**Prodromos**	**0.90**	**282**	*e*PB	Pb	15 17 07.4	-0.2
PDO	**Prodromos**	**0.90**	**282**	*e*Pb	Pb	15 17 07.4	-0.2
MRKA	**Markates**	**1.05**	**73**	*e*PN	Pg	15 17 11.7	+0.9
MRKA				*e*SN	Sn	15 17 25.8	+1.0
MRKA	**Markates**	**1.05**	**73**	*e*Pn	Pg	15 17 11.7	+0.9
MRKA				*e*Sn	Sn	15 17 25.8	+1.0

NIED ***19*** *15:28:00, 37°.30N×142°.20E, h20km, Mw3.5 Best double couple: M0 1.71000×10^14 NP1:φs=270.00000°, δ18.00000°, λ-166.00000°. NP2:φs=166.00000°, δ86.00000°, λ-73.00000°.*
JMA 19 15:28:57.9±0.2,**37°.26N**×**142°.19E,h35**km±5km,**M3.7, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.05**	**276**	P	Pn	15 29 16.7	+0.5
JFK				S	Sn	15 29 29.8	0.0
ONAJ	**Iwakimizuishiy**	**1.12**	**262**	P	Pn	15 29 17.4	+0.2
JMM	**Marumori**	**1.26**	**299**	P	Pn	15 29 19.8	+0.7
JMM				*e*S	Sn	15 29 35.4	+0.6
JIO	**Ouri**	**1.37**	**331**	P	Pn	15 29 21.2	+0.7
JIO				S	Sn	15 29 38.2	+0.9
JFT	**Otama**	**1.50**	**280**	P	Pn	15 29 24.1	+1.8
JFT				S	Sn	15 29 42.4	+1.7
JOU	**Okura**	**1.64**	**313**	P	Pn	15 29 26.0	+1.8
JOU				S	Sn	15 29 46.3	+2.2
JMK	**Ichinoseki**	**1.85**	**336**	P	Pn	15 29 29.0	+1.8
JYK	**Kaneyama**	**2.20**	**319**	P	Pn	15 29 33.7	+1.8
MAT	**Matsushiro**	**3.27**	**259**	P	Pn	15 29 50.1	+3.4
MAT				S	Sn	15 30 28.7	+4.2

IDC ***19*** *16:27:45.7±1.2, 34°.77S×71°.91W, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.8/17, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=41.7km s-min=27.3km az=83.0*
GUC ***19*** *16:27:48.6±0.7, 34°.76S×71°.51W, h67km±13km, ML4.0*
ISCJB ***19*** *16:27:49.1±1.6, 34°.67S±0°.07×71°.7W±0°.1, h33km±13km, mb3.8/3, Error ellipse: s-maj=21.7km s-min=5.4km az=30.7*
**ISC 19 16

APC	**Apacha**	**3.18 220**	*e*P	Pn	16 39 03.6	+1.8
RUS	**Russkaya**	**3.21 203**	*e*P	Pn	16 39 02.1	0.0
MTVR	**Mutnovka**	**3.24 206**	*e*P	Pn	16 39 03.8	+1.1

*IDC **19** 16:47:59.9±0.5, 15°.19S×173°.35W, h0km, mb4.2/14, mb1 4.5/14, mb1mx4.4/21, mbtmp4.2/14, MS3.6/5, Ms1 3.6/5, ms1mx3.1/34, Error ellipse: s-maj=25.5km s-min=16.3km az=126.0*

*SZGRF **19** 16:48:00.0, 18°.85S×176°.56W, h55km, Fiji Islands region*

*ISCJB **19** 16:48:02.9±0.6, 15°.2S±0°.1×173°.4W±0°.1, h30km, mb4.2/14, MS3.5/5, Error ellipse: s-maj=22.5km s-min=14.8km az=32.9*

ISC 19 16:48:04.3±0.6, **15°.2S**±0°.2×**173°.4W**±0°.2, **h30**km, **n57, σ0.70/44, mb4.2**/14, **MS3.6**/5, **6C-4D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.29**	**247**	P	Pn	16 52 43.4	+3.4
	28nm,1.0s,baz=91,slow=17,SNR=5.0						
DZM				LR	LR	16 59 04.6	
	comp=Z,305nm,19.5s,baz=42,slow=33						
PPT	**Papeete**	**22.96**	**99**	LR	LR	16 59 56.8	
	comp=Z,61nm,18.4s,baz=328,slow=31						
PPT2	**Papeete2**	**22.96**	**99**	*e*LQ	LQ	16 57 18.8	
	234nm,25.0s						
PPT2				*e*LR	LR	16 58 12.3	
	191nm,26.0s						
TVO	**Taravao**	**23.27**	**100**	*e*T	T	17 16 11.5	
	2.8nm,0.4s						
TBI	**Tubuai**	**23.97**	**113**	*e*LR	LR	16 58 45.3	
	234nm,32.4s						
TBI	**Tubuai**	**23.97**	**113**	*e*T	T	17 17 13.6	
	9.4nm,0.3s						
URZ	**Urewera**	**24.46**	**198**	P	**P**	**16 53 21.2**	**+0.6**
	12nm,0.7s,baz=316,slow=4.5,SNR=13						
URZ				LR	LR	17 01 38.4	
	comp=Z,168nm,18.5s,baz=26,slow=33						
HNR	**Honiara**	**26.67**	**279**	LR	LR	17 03 25.4	
	comp=Z,78nm,20.6s,baz=98,slow=35						
RKT	**Rikitea**	**37.04**	**108**	*e*T	T	17 33 28.8	
	4.5nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**38.80**	**329**	T	T	17 36 59.3	
	baz=146,slow=75,SNR=66						
H11S3	**WAKE ISLAND Hy**	**38.81**	**329**	T	T	17 36 50.6	
	baz=146,slow=75,SNR=67						
H11S1	**WAKE ISLAND Hy**	**38.82**	**329**	T	T	17 37 14.8	
	baz=146,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**39.74**	**330**	T	T	17 38 09.1	
	baz=147,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy**	**39.75**	**330**	T	T	17 38 22.3	
	baz=147,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**39.76**	**330**	T	T	17 38 13.8	
	baz=147,slow=76,SNR=13						
WRA	**Warramunga Arr**	**49.91**	**257**	P	**P**	**16 56 55.1**	**-0.5**
	2.4nm,0.7s,baz=91,slow=6.8,SNR=67						
WRA				PcP	**PcP**	**16 58 15.0**	**-0.8**
	1.0nm,0.5s,baz=93,slow=3.7,SNR=7.5						
ASAR	**Alice Springs**	**50.19**	**252**	P	**P**	**16 56 57.2**	**-0.5**
	7.7nm,0.7s,baz=87,slow=8.1,SNR=116						
ASAR				PcP	**PcP**	**16 58 17.1**	**+0.3**
	0.8nm,0.7s,baz=104,slow=4.1,SNR=3.0						
VNDA	**Vanda**	**63.58**	**186**	P	**P**	**16 58 32.8**	**+1.1**
	5.8nm,0.9s,baz=11,slow=7.4,SNR=14						
MJAR	**Matsushiro Arr**	**68.80**	**320**	P	**P**	**16 59 07.0**	**+1.2**
	3.2nm,0.9s,baz=158,slow=6.7,SNR=6.2						
PETK	**Petropavlovsk-**	**72.44**	**342**	P	**P**	**16 59 28.9**	**+1.3**
	6.2nm,0.9s,baz=119,slow=9.2,SNR=5.0						
LPIG	**La Paz**	**72.92**	**58**	LR	LR	17 24 42.7	
	comp=Z,58nm,20.9s,baz=207,slow=30						
NVAR	**Mina Array Bea**	**74.17**	**42**	P	**P**	**16 59 38.8**	**+0.3**
	0.7nm,0.7s,baz=231,slow=11,SNR=4.9						
KSRS	**Korea Array**	**76.03**	**316**	P	**P**	**16 59 50.4**	**+1.6**
	2.2nm,0.9s,baz=104,slow=5.3,SNR=4.4						
TXAR	**Lajitas Array**	**80.48**	**56**	P	**P**	**17 00 14.0**	**+0.1**
	1.4nm,0.9s,baz=232,slow=6.2,SNR=11						
PDAR	**Pinedale Array**	**82.10**	**42**	P	**P**	**17 00 22.0**	**-0.3**
	1.3nm,0.9s,baz=209,slow=4.3,SNR=8.5						
ILAR	**Eielson Array**	**82.24**	**11**	P	**P**	**17 00 21.9**	**-0.3**
	1.3nm,0.9s,baz=234,slow=6.4,SNR=10						
YKA	**Yellowknife Ar**	**89.90**	**23**	P	**P**	**17 00 60.0**	**-0.1**
	1.2nm,0.9s,baz=238,slow=4.5,SNR=15						
CMAR	**Chiang Mai Arr**	**92.57**	**288**	P	**P**	**17 01 12.2**	**-1.3**
	0.3nm,0.6s,baz=171,slow=6.4,SNR=3.1						
SONM	**Songino Array**	**94.70**	**318**	P	**P**	**17 01 22.0**	**-0.8**
	0.4nm,0.7s,baz=95,slow=1.6,SNR=2.9						
MKAR	**Makanchi Array**	**110.70**	**315**	PKiKP	**PKiKP**	**17 06 33.6**	**-0.6**
	0.3nm,0.6s,baz=182,slow=0.4,SNR=5.8						
ARCES	**ARCESS Array B**	**124.41**	**352**	PKP	**PKPdf**	**17 06 59.6**	**-0.2**
	2.1nm,0.7s,baz=48,slow=1.8,SNR=7.7						
FINES	**FINESS Array B**	**131.75**	**348**	PKP	**PKPdf**	**17 07 13.3**	**-0.7**
	0.7nm,0.6s,baz=123,slow=3.2,SNR=4.3						
AKASG	**Malin Array Be**	**140.16**	**338**	PKP	**PKPdf**	**17 07 30.0**	**+0.1**
	0.3nm,0.3s,baz=35,slow=2.3,SNR=3.3						
MALT	**Malatya**	**143.73**	**316**	↑*i*P	**PKPdf**	**17 07 36.2**	**-0.7**
BURAR	**Bucovina Array**	**144.19**	**338**	⇑*i*P	PKPbc	17 07 36.3	+0.8
TRPA	**Tarpa**	**144.62**	**341**	⇓*i*P	**PKPdf**	**17 07 37.4**	**-0.6**
VRAC	**Vranov**	**145.01**	**349**	⇑*i*P	**PKPdf**	**17 07 38.6**	**-0.1**
VRAC	**Vranov**	**145.01**	**349**	PKPbc	**PKPdf**	**17 07 38.9**	**+0.2**
	4.7nm,0.9s,baz=348,slow=3.9,SNR=5.7						
CFR	**Carcaliu**	**145.03**	**333**	⇓*i*P	**PKPdf**	**17 07 39.0**	**+0.2**
VRI	**Vrincioaia**	**145.07**	**335**	↑*i*P	**PKPdf**	**17 07 38.7**	**-0.2**
PLOR	**Plostina**	**145.11**	**335**	⇓*i*P	**PKPdf**	**17 07 38.8**	**-0.2**
ROTZ	**Rotzenmuhle**	**145.22**	**354**	*e*PKPbc	**PKPdf**	**17 07 39.3**	**+0.3**
GRF	**Grafenberg Arr**	**145.39**	**355**	*e*PKPbc	**PKPab**	**17 07 39.9**	**+0.5**
GRF				*ep*PKPbc	pPKPbc	17 07 55.8	+6.6
DOPR	**Dopca**	**145.51**	**337**	⇓*i*P	**PKPab**	**17 07 41.4**	**+1.4**
KMBO	**Kilima Mbogo**	**145.64**	**245**	PKPbc	**PKPab**	**17 07 42.5**	**+0.8**
	3.4nm,0.8s,baz=82,slow=2.9,SNR=9.6						
MLR	**Muntele Rosu**	**145.69**	**336**	PKPbc	**PKPab**	**17 07 41.4**	**+0.6**
	1.9nm,0.9s,baz=136,slow=19,SNR=11						
DRGR		**145.75**	**340**	↑*i*P	**PKPbc**	**17 07 40.6**	**+0.1**
WET	**Wettzell**	**145.76**	**353**	*e*PKPbc	**PKPab**	**17 07 40.8**	**0.0**
GEC2	**GERESS Array S**	**145.94**	**352**	*e*PKPbc	**PKPbc**	**17 07 40.9**	**-0.2**
GEC2				*ep*PKPbc	pPKPbc	17 07 57.6	+6.7
GERES	**GERESS Array B**	**145.94**	**352**	PKPbc	**PKPab**	**17 07 41.5**	**-0.1**
	4.0nm,1.0s,baz=30,slow=3.7,SNR=19						
BRTR	**Keskin Array B**	**146.01**	**321**	PKPbc	**PKPab**	**17 07 42.5**	**+0.3**
	12nm,0.9s,baz=111,slow=2.8,SNR=39						
STU	**Stuttgart**	**146.45**	**357**	*ep*PKPbc	pPKPbc	17 08 00.0	+7.7
CONA	**Conrad Observa**	**146.48**	**349**	↑*i*PKPab	**PKPab**	**17 07 43.4**	**-0.2**
	9.0nm,0.9s						
RJOB	**Jochberg**	**147.15**	**352**	*e*PKPbc	**PKPbc**	**17 07 44.7**	**+0.1**
DAVOX	**Davos/Dischmat**	**148.39**	**356**	PKPbc	**PKPbc**	**17 07 48.1**	**0.0**
	4.3nm,0.8s,baz=268,slow=0.9,SNR=6.0						
ESDC	**Sonseca Array**	**153.91**	**19**	PKP	**PKPdf**	**17 07 52.5**	**-0.6**
	0.1nm,0.3s,baz=325,slow=1.9,SNR=3.0						
ESDC				PKPbc	**PKPbc**	**17 08 01.0**	**-0.1**
	0.7nm,0.7s,baz=329,slow=2.6,SNR=4.3						
ESDC				PKPab	**PKPab**	**17 08 14.7**	**+0.4**
	0.8nm,0.8s,baz=348,slow=5.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**174.81**	**112**	PKP	**PKPdf**	**17 08 10.4**	**-1.8**
	0.4nm,0.8s,baz=235,slow=1.1,SNR=4.4						

NNC 19 16:56:12.8±4.1, **37°.95N×72°.15E, h0**km, **mb3.5, mpv3.1, 2C-4D, Error ellipse: s-maj=37.8km s-min=13.5km az=154.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.75**	**289**	⇑Pn	Pn	16 56 58.2	-0.1
DZET				⇑Sn	Sn	16 57 33.2	+0.9
AAK	**Ala-Archa**	**5.01**	**20**	⇓Pn	Pn	16 57 27.7	-1.7
	2.0nm,1.1s						
AAK				⇓Sn	Sn	16 58 30.4	+2.1
	1.2nm,0.6s						
KK31	**Karatay Array**	**5.30**	**347**	⇓Pn	Pn	16 57 35.0	+1.7
	3.1nm,0.8s,baz=169,slow=11,SNR=4.1						
KK31				⇓Sn	Sn	16 58 35.0	0.0
	1.0nm,0.2s,baz=164,slow=22,SNR=14						

MAN 19 17:03:18, 11°.49N×125°.39E, h69km, **mb4.4, ML3.2, MS3.1, 1D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.12**	**22**	*e*P	Pn	17 03 30.3	+2.1
BESP				*e*S	Sn	17 03 34.6	-1.0
PLP	**Palo**	**0.52**	**232**	⇓*i*P	Pn	17 03 37.5	+6.6
OCLP	**Ormoc**	**0.89**	**240**	*e*P	Pn	17 03 37.2	+2.2
MSLP	**Maasin**	**1.45**	**201**	*e*P	Pn	17 03 42.3	+0.1
SCPH	**Surigao**	**1.70**	**177**	*e*P	Pn	17 03 47.6	+2.0
SCPH				*e*S	Sn	17 03 59.9	-6.7
GUIM	**Jordan**	**2.88**	**253**	*e*P	Pn	17 04 03.9	+2.2

IDC 19 17:09:00.8±2.5, **4°.08N×127°.16E, h0**km, **mb3.3**/3, **mb1 3.5**/3, **mb1mx3.3**/28, **mbtmp3.3**/3, **1D, Error ellipse: s-maj=194.1km s-min=27.8km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.26**	**317**	⇓*i*P	Pb	17 10 13.6	-3.1
WRA	**Warramunga Arr**	**24.89**	**164**	P	P	17 14 25.4	-0.1
	0.7nm,0.6s,baz=343,slow=9.9,SNR=9.7						
ASAR	**Alice Springs**	**28.35**	**167**	P	P	17 14 56.8	0.0
	0.3nm,0.9s,baz=354,slow=8.4,SNR=5.4						
MKAR	**Makanchi Array**	**57.52**	**325**	P	P	17 18 52.0	0.0
	0.1nm,0.3s,baz=120,slow=7.2,SNR=4.2						

*IDC **19** 17:10:42.0±0.4, 34°.40S×71°.89W, h0km, mb4.8/21, mb1 4.9/23, mb1mx4.9/33, mbtmp4.8/23, ML5.2/2, MS4.3/18, Ms1 4.3/18, ms1mx4.2/23, Error ellipse: s-maj=17.9km s-min=12.1km az=78.0*

*GUC **19** 17:10:45.0±0.7, 34°.45S×72°.04W, h16km±999km, ML5.1*

*NEIC **19** 17:10:45.0, 34°.44S×72°.04W, h16km, mb5.2/26, ML5.1(GUC), After GUC.*

NEIC Felt [V] at Cauquenes, Constitucion, Licanten, Longavi, Parral and Pichilemu; [IV] at Curico, Linares, Molina, Navidad, Paredones, San Javier and Talca; [III] at Casablanca, Rancagua, San Antonio, San Fernando and Santiago. Also felt at Graneros, Rengo, San Vicente and Valparaiso.

*MOS **19** 17:10:46.1±0.9, 34°.36S×71°.86W, h33km, mb5.1/21, MS4.2/4, Error ellipse: s-maj=20.6km s-min=7.6km az=103.7*

*ISCJB **19** 17:10:46.2±0.7, 34°.41S±0°.03×71°.88W±0°.06, h34km±6km, mb5.0/46, MS4.3/16, Error ellipse: s-maj=8.2km s-min=4.5km az=179.2*

*BJI **19** 17:10:47.5, 34°.01S×71°.95W, h45km, mB5.1/14, Ms5.3/12, Ms7 5.0/13*

ISC 19 17:10:47.4±0.3, **34°.46S**±0°.03×**72°.01W**±0°.07, **h38**km±2km, **h39**km:**pP-P, n735,** σ1.9**11**/739, **mb5.0**/46, **MS4.2**/16, **198C-184D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.84**	**130**	⇑*i*P	**Pn**	**17 11 00.8**	**-2.0**
NICH				*i* S	**Sn**	**17 11 12.5**	**-1.4**
NICH				AML	AML	17 11 15.1	
	comp=E,210μm,0.6s						
TALC	**Talca**	**0.98**	**162**	⇑*i*P	**Pn**	**17 11 02.7**	**-2.0**
TALC				*i* S	**Sn**	**17 11 15.9**	**-1.5**
TALC				AML	AML	17 11 16.4	
	comp=E,141μm,0.5s						
LNCH	**Linares**	**1.42**	**167**	⇑*i*P	**Pn**	**17 11 09.9**	**-0.8**
LNCH				*i* S	**Sn**	**17 11 28.8**	**+0.5**
LNCH				AML	AML	17 11 29.8	
	comp=N,52μm,0.4s						
ANTU	**Antumapu**	**1.45**	**52**	⇑*i*P	**Pn**	**17 11 10.0**	**-1.2**
ANTU				AML	AML	17 11 33.7	
	comp=N,33μm,0.4s						
IHA	**Instituto Hidr**	**1.46**	**12**	*e*P1	**Pn**	**17 11 09.6**	**-1.7**
IHA				*e*S1	**Sn**	**17 11 28.7**	**-0.5**
FSR	**Penalolen**	**1.57**	**52**	⇑*i*P	**Pn**	**17 11 13.6**	**+0.7**
FSR				*i* S	**Sn**	**17 11 33.7**	**+1.6**
LACH	**Col Las Americ**	**1.59**	**51**	⇑*i*P	**Pn**	**17 11 12.6**	**-0.5**
LACH				*i* S	**Sn**	**17 11 33.1**	**+0.7**
CFAA	**Coronel Fontan**	**4.26**	**49**	Pn	**Pn**	**17 11 50.7**	**+0.9**
	comp=N,2.5nm,0.3s,baz=225,slow=12,SNR=127						
CFAA				Sn	**Sn**	**17 12 38.7**	**+0.4**
	comp=N,6.9nm,0.3s,baz=225,slow=14,SNR=3.7						
CFAA				Lg	Lg	17 12 47.5	
	comp=N,8.2nm,0.3s,baz=307,slow=20,SNR=7.1						
CFAA				LR	LR	17 13 40.3	
	comp=N,907nm,18.0s,baz=170,slow=43						
LCO	**Las Campanas**	**5.55**	**12**	*e*Pn	**Pn**	**17 12 06.0**	**-1.7**
LCO				*e*Sn	**Sn**	**17 13 07.8**	**-2.5**
PLCA	**Paso Flores**	**6.37**	**170**	*e*P	**Pn**	**17 12 19.1**	**+0.4**
PLCA	**Paso Flores**	**6.37**	**170**	Pn	**Pn**	**17 12 19.5**	**+0.7**
	comp=N,22nm,0.3s,baz=337,slow=11,SNR=312						
PLCA				Lg	Lg	17 14 00.5	
	comp=N,3.8nm,0.3s,baz=268,slow=19,SNR=3.8						
PLCA				LR	LR	17 14 56.5	
	comp=N,6μm,18.1s,baz=350,slow=40						
PLCA	**Paso Flores**	**6.37**	**170**	*e*Pn	**Pn**	**17 12 19.1**	**+0.4**
PLCA				Lg	Lg	17 14 00.5	
TRQA	**Tornquist**	**8.86**	**117**	*e*Pn	**Pn**	**17 12 54.1**	**+1.2**
LVC	**Limon Verde**	**12.11**	**14**	*e*Pn	**Pn**	**17 13 39.6**	**+1.9**
LPAZ	**La Paz**	**18.43**	**12**	P	**P**	**17 15 00.1**	**-0.1**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LPAZ	**La Paz**	**18.43**	**12**	P	**P**	**17 15 00.1**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=179,slow=7.4,SNR=70						
LPAZ	**La Paz**	**18.43**	**12**	*e*Pn	**P**	**17 15 00.6**	**+0.4**
	comp=Z,158nm,1.4s						
EFI	**East Falkland**	**19.93**	**154**	P	**P**	**17 15 14.9**	**-0.9**
	comp=Z,316nm,1.2s,SNR=13						
EFI	**East Falkland**	**19.93**	**154**	*e*P	**P**	**17 15 13.9**	**-1.9**
EFI				pmax	pmax		
	comp=Z,691nm,2.5s						
EFI	**East Falkland**	**19.93**	**154**	*e*P	**P**	**17 15 13.9**	**-1.9**
	comp=Z,691nm,2.5s						
USHA	**Ushuaia**	**20.52**	**174**	P	**P**	**17 15 23.1**	**+0.9**
	comp=Z,26nm,0.8s,baz=352,slow=10,SNR=17						
USHA				LR	LR	17 23 59.4	
	comp=Z,2μm,18.3s,baz=323,slow=39						
SIV	**San Ignacio**	**20.85**	**31**	P	**P**	**17 15 24.9**	**-1.2**
	comp=Z,31nm,0.9s,baz=229,slow=13,SNR=44						
SIV				LR	LR	17 24 43.4	
	comp=Z,1μm,19.7s,baz=250,slow=40						
NNA	**Nana**	**22.80**	**348**	P	**P**	**17 15 47.4**	**+0.4**
	comp=Z,584nm,0.8s,SNR=9.6						
NNA	**Nana**	**22.80**	**348**	P	**P**	**17 15 46.6**	**-0.3**
NNA				pmax	pmax		
	comp=Z,79nm,0.9s						
NNA				MLR	MLR		
	comp=Z,659nm,20.1s						
NNA	**Nana**	**22.80**	**348**	P	**P**	**17 15 46.6**	**-0.3**
	comp=Z,79nm,0.9s,baz=177,slow=10,SNR=15						
NNA				LR	LR	17 22 46.5	
	comp=Z,659nm,20.1s,baz=172,slow=32						
NNA	**Nana**	**22.80**	**348**	*e*P	**P**	**17 15 47.3**	**+0.4**
	comp=Z,82nm,0.9s						
SAML	**Samuel**	**26.65**	**20**	*e*P	**P**	**17 16 22.1**	**-0.6**
	comp=Z,30nm,0.9s						
ATAH	**Atahualpa**	**27.82**	**346**	P	**P**	**17 16 34.4**	**+0.7**
	comp=Z,9.2nm,1.0s,baz=201,slow=6.6,SNR=6.6						
ATAH				LR	LR	17 26 00.5	
	comp=Z,474nm,18.8s,baz=193,slow=33						
BDFB	**Brasilia**	**28.57**	**55**	P	**P**	**17 16 38.6**	**-1.5**
BDFB				pmax	pmax		
	comp=Z,15nm,0.9s						
BDFB				MLR	MLR		
	comp=Z,642nm,19.8s						
BDFB	**Brasilia**	**28.57**	**55**	P	**P**	**17 16 38.6**	**-1.5**
	comp=Z,15nm,0.9s,baz=212,slow=9.8,SNR=9.4						
BDFB				LR	LR	17 27 54.5	
	comp=Z,642nm,19.8s,baz=222,slow=36						
BDFB	**Brasilia**	**28.57**	**55**	*e*P	**P**	**17 16 38.9**	**-1.2**
RPN	**Rapa Nui**	**32.75**	**273**	LR	LR	17 27 11.4	
	comp=Z,465nm,18.1s,baz=102,slow=30						
OTAV	**Otavalo**	**35.04**	**349**	*e*P	**P**	**17 17 38.9**	**+1.7**
	comp=Z,47nm,1.4s						
PTGA	**Pitinga**	**35.40**	**21**	P	**P**	**17 17 39.1**	**-0.6**
	comp=Z,42nm,0.7s,baz=202,slow=9.9,SNR=39						
PTGA	**Pitinga**	**35.40**	**21**	*e*P	**P**	**17 17 39.1**	**-0.6**
	comp=Z,55nm,0.8s						
ROSC	**El Rosal**	**39.17**	**356**	LR	LR	17 34 39.2	
	comp=Z,202nm,21.2s,baz=183,slow=37						
SDV	**Santo Domingo**	**43.13**	**2**	*e*P	**P**	**17 18 44.0**	**-0.4**
	comp=Z,33nm,1.0s						
RCBR	**Riachuelo**	**43.87**	**58**	P	**P**	**17 18 49.1**	**-1.2**
	comp=Z,10nm,0.9s,baz=224,slow=11,SNR=5.3						
JTS	**JuntasAbangare**	**46.17**	**342**	*e*P	**P**	**17 19 06.4**	**-2.1**
JTS				pmax	pmax		
	comp=Z,28nm,1.0s						
GRGR	**Grenville**	**47.37**	**14**	P	**P**	**17 19 15.3**	**-2.4**
VNA3	**Neumayer Olymp**	**48.92**	**158**	P	**P**	**17 19 30.8**	**+1.5**
VNA2	**Neumayer--Watz**	**49.58**	**157**	P	**P**	**17 19 35.3**	**+1.0**
SNAA	**Sanae**	**51.15**	**158**	P	**P**	**17 19 46.9**	**+0.7**
SNAA	**Sanae**	**51.15**	**158**	*c i*P	**P**	**17 19 48.1**	**+1.9**
SNAA				pmax	pmax		
	comp=Z,30nm,1.7s						
SNAA	**Sanae**	**51.15**	**158**	P	**P**	**17 19 47.1**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=236,slow=4.3,SNR=49						
SNAA	**Sanae**	**51.15**	**158**	*e*P	**P**	**17 19 46.8**	**+0.6**
	comp=Z,142nm,2.3s						
APG	**El Apazote**	**52.23**	**337**	P	P	17 19 50.5	-4.5
	comp=Z,12nm,0.8s,baz=148,slow=6.1,SNR=7.3						
OBIP	**Obispado Ponce**	**52.46**	**6**	*e*P	**P**	**17 19 53.6**	**-2.9**
	comp=Z,48nm,1.0s						
CELP	**Cerrillos**	**52.50**	**7**	*e*P	**P**	**17 19 56.0**	**-0.7**
LRS	**Lares**	**52.69**	**6**	*e*P	**P**	**17 19 56.8**	**-1.3**
RKT	**Rikitea**	**55.55**	**264**	*e*LR	LR	17 36 21.3	
	comp=Z,122nm,24.2s						
RKT	**Rikitea**	**55.55**	**264**	*e*T	T	18 20 04.3	
	comp=Z,3.4nm,0.2s						
CMIG	**Matias Romero**	**55.70**	**333**	P	**P**	**17 20 19.5**	**-0.5**
	comp=Z,3.2nm,0.7s,baz=147,slow=3.1,SNR=6.1						
QSPA	**South Pole Qui**	**55.78**	**180**	LR	LR	17 44 27.6	
	comp=Z,135nm,18.1s,baz=152,slow=36						
QSPA	**South Pole Qui**	**55.78**	**180**	*e*P	**P**	**17 20 21.7**	**+1.4**
	comp=Z,53nm,1.0s						
NVL	**N'lazarevskaya**	**55.89**	**157**	*e*P	**P**	**17 20 23.5**	**+2.7**
NVL				pmax	pmax		
	comp=Z,25nm,1.5s						
TEIG	**Tepich**	**56.54**	**342**	P	**P**	**17 20 26.2**	**+0.2**
	comp=Z,32nm,0.8s,baz=152,slow=7.5,SNR=16						
TEIG	**Tepich**	**56.54**	**342**	*e*P	**P**	**17 20 26.0**	**0.0**
	comp=Z,48nm,0.9s						
VNDA	**Vanda**	**63.66**	**191**	P	**P**	**17 21 15.3**	**+1.2**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
VNDA				MLR	MLR		
	comp=Z,138nm,18.7s						
VNDA	**Vanda**	**63.66**	**191**	P	**P**	**17 21 15.2**	**+1.2**
	comp=Z,6.1nm,1.1s,baz=172,slow=5.3,SNR=5.7						
VNDA				LR	LR	17 45 58.1	
	comp=Z,138nm,18.7s,baz=108,slow=33						
VNDA	**Vanda**	**63.66**	**191**	*e*P	**P**	**17 21 16.0**	**+1.9**
VNDA				*ep*P	**pP**	**17 21 22.1**	**-3.5**
SYO	**Syowa Base**	**65.43**	**158**	⇑*e*P	P	17 21 22.4	-3.4
SYO	**Syowa Base**	**65.43**	**158**	⇓*ep*P	pP	17 21 36.3	-1.0
SYO	**Syowa Base**	**65.43**	**158**	⇓*es*P	sP	17 21 41.8	0.0
035A	**Encino**	**65.88**	**335**	⇓P	**P**	**17 21 30.6**	**+1.5**
	baz=66						
034A	**Hebbronville**	**66.20**	**334**	⇓P	**P**	**17 21 33.4**	**+2.2**
	baz=66						
TIGA	**Tifton**	**66.45**	**349**	⇓P	**P**	**17 21 33.0**	**+0.3**
	baz=67						
TIGA	**Tifton**	**66.45**	**349**	*e*P	**P**	**17 21 32.2**	**-0.5**
	comp=Z,406nm,2.5s						
933A	**Laredo**	**66.92**	**334**	⇓P	**P**	**17 21 37.1**	**+1.3**
	baz=67						
835A	**Beeville**	**67.02**	**335**	⇑P	**P**	**17 21 38.6**	**+2.2**
	baz=67						
834A	**Tilden**	**67.12**	**335**	⇓P	**P**	**17 21 38.9**	**+1.8**
	baz=67						
TBI	**Tubuai**	**67.23**	**257**	*e*LR	LR	17 41 52.4	
	comp=Z,336nm,25.2s						
TBI	**Tubuai**	**67.23**	**257**	*e*T	T	18 34 44.1	
	comp=Z,6.6nm,0.3s						
735A	**Kenedy**	**67.53**	**336**	⇓P	**P**	**17 21 41.4**	**+1.7**
	baz=68						
833A	**Chaparral WMA,**	**67.61**	**334**	⇑P	**P**	**17 21 41.3**	**+1.2**
	baz=68,SNR=6.0						
832A	**Faith Ranch, C**	**67.78**	**333**	⇑P	**P**	**17 21 42.3**	**+1.1**
	baz=68,SNR=13						
734A	**La Parita Cree**	**67.78**	**335**	⇑P	**P**	**17 21 42.5**	**+1.2**
	baz=68						
636A	**Smothers Creek**	**67.86**	**337**	⇓P	**P**	**17 21 43.4**	**+1.8**
	baz=68,SNR=6.9						
733A	**Divot King Ran**	**67.93**	**334**	⇑P	**P**	**17 21 43.1**	**+0.9**
	baz=68						
635A	**Leesville**	**68.01**	**336**	⇓P	**P**	**17 21 43.5**	**+0.8**
	baz=68						
537A	**Green Hill Far**	**68.17**	**337**	⇓P	**P**	**17 21 45.1**	**+1.5**
	baz=68						
732A	**Laxson Ranch,**	**68.18**	**334**	⇑P	**P**	**17 21 44.8**	**+1.1**
	baz=68						
438A	**Sam Houston St**	**68.53**	**338**	⇑P	**P**	**17 21 47.2**	**+1.3**
	baz=69						
633A	**Saathoff Ranch**	**68.56**	**335**	⇑P	**P**	**17 21 47.1**	**+0.9**
	baz=69						
LRAL	**Lakeview Retre**	**68.60**	**347**	*e*P	**P**	**17 21 45.8**	**-0.4**
	comp=Z,21nm,0.8s						
340A	**Bronson**	**68.69**	**340**	⇓P	**P**	**17 21 47.9**	**+1.0**
	baz=69						
339A	**Huntington**	**68.81**	**339

	baz=71					
429A	Davenport Ranc	70.61 333	⇑P	P	17 21 59.8	+1.0
	baz=71,SNR=14					
TKL	Tuckaleechee C	70.62 350	eP	P	17 21 57.4	-1.3
TKL	Tuckaleechee C	70.62 350	eP	P	17 21 57.4	-1.3
331A	San Angelo	70.69 334	⇓P	P	17 21 59.7	+0.5
	baz=71,SNR=8.0					
233A	Rising Star	70.80 336	⇑P	P	17 22 00.4	+0.5
	baz=71,SNR=5.5					
135A	Vickery Place,	70.81 337	⇑P	P	17 22 00.1	+0.1
	baz=71					
232A	Coleman	70.94 335	⇓P	P	17 22 01.2	+0.4
	baz=71,SNR=8.8					
134A	White-Moore Ra	71.04 337	⇓P	P	17 22 01.8	+0.5
	baz=71					
330A	Mertzon	71.04 334	⇑P	P	17 22 01.9	+0.5
	baz=71,SNR=7.0					
231A	Bronte	71.22 335	⇑P	P	17 22 02.7	+0.3
	baz=72,SNR=9.8					
133A	Hamilton Ranch	71.35 336	⇑P	P	17 22 03.8	+0.6
	baz=72,SNR=7.4					
329A	Wagon Wheel Ra	71.41 333	⇓P	P	17 22 04.4	+0.7
	baz=72,SNR=6.6					
230A	Sterling City	71.45 334	⇓P	P	17 22 04.0	0.0
	baz=72					
TZTN	Tazewell	71.46 350	eP	P	17 22 03.0	-0.8
Z35A	Perchaven, San	71.48 338	⇑P	P	17 22 04.6	+0.7
	baz=72,SNR=6.3					
MIAR	Mount Ida	71.56 341	eP	P	17 22 03.3	-1.1
MIAR			pmax	pmax		
	comp=Z,9.0nm,0.9s					
MIAR	Mount Ida	71.56 341	eP	P	17 22 03.3	-1.1
	comp=Z,9.1nm,0.9s					
ABTX	Abilene, Hawle	71.61 336	⇓P	P	17 22 05.4	+0.6
	baz=72,SNR=9.1					
Z34A	Collier Ranch,	71.72 337	⇑P	P	17 22 05.8	+0.3
	baz=72					
WVT	Waverly	71.76 347	eP	P	17 22 04.9	-0.7
WVT			pmax	pmax		
	comp=Z,102nm,0.9s					
WVT	Waverly	71.76 347	eP	P	17 22 04.9	-0.7
	comp=Z,102nm,0.9s					
229A	Bryant Ranch,	71.78 334	⇑P	P	17 22 06.1	+0.2
	baz=72					
URVA	University of	71.85 355	eP	P	17 22 05.8	-0.2
131A	Roby	71.91 335	⇓P	P	17 22 06.9	+0.3
	baz=72					
Z33A	Whitaker Ranch	71.92 337	⇑P	P	17 22 06.8	+0.1
	baz=72					
JSRW	J. Sargeant Re	72.00 355	eP	P	17 22 07.3	+0.4
130A	Snyder	72.04 335	⇓P	P	17 22 07.8	+0.4
	baz=72,SNR=7.0					
Z32A	Haskell	72.18 336	⇓P	P	17 22 08.7	+0.5
	baz=72,SNR=15					
228A	UT Block 9, Go	72.21 333	⇓P	P	17 22 09.1	+0.6
	baz=72,SNR=5.8					
Y34A	Reagan Ranch,	72.22 338	⇓P	P	17 22 08.7	+0.3
	baz=72,SNR=5.8					
129A	Stewart Farms,	72.40 334	⇑P	P	17 22 10.0	+0.4
	baz=73					
Z31A	Sharp Cattle R	72.41 336	⇓P	P	17 22 10.1	+0.6
	baz=73,SNR=11					
Y33A	Hilltop Ranch,	72.54 337	⇓P	P	17 22 10.5	+0.3
	baz=73,SNR=6.3					
128A	Castleberry Fa	72.62 333	⇑P	P	17 22 11.5	+0.6
	baz=73,SNR=7.8					
Z30A	Sanderson Ranc	72.72 335	⇓P	P	17 22 11.6	+0.2
	baz=73,SNR=14					
MAW	Mawson	72.73 163	LR	LR	17 53 54.9	
	comp=Z,634nm,20.1s,baz=230,slow=36					
Y32A	R-V Farms, Ver	72.80 336	⇑P	P	17 22 12.3	+0.4
	baz=73,SNR=7.9					
X34A	Smith Ranch, M	72.83 338	⇑P	P	17 22 12.7	+0.7
	baz=73,SNR=6.2					
Z29A	Hungry Hill Ra	72.91 334	⇓P	P	17 22 12.7	+0.1
	baz=73,SNR=8.4					
X33A	Lawton	72.99 337	⇑P	P	17 22 12.8	-0.2
	baz=73					
Y31A	Rekieta Farm,	73.04 336	⇑P	P	17 22 13.9	+0.6
	baz=73,SNR=8.3					
X32A	Elmer	73.13 337	⇓P	P	17 22 13.8	0.0
	baz=73					
Y30A	Stafford Cattl	73.18 335	⇑P	P	17 22 14.4	+0.2
	baz=74,SNR=6.6					
Z28A	Tucker Farm, M	73.18 334	⇑P	P	17 22 14.2	0.0
	baz=74					
WMOK	Wichita Mounta	73.26 337	eP	P	17 22 14.2	-0.4
WMOK	Wichita Mounta	73.26 337	eP	P	17 22 14.2	-0.4
W34A	Bridge Creek,	73.40 338	⇓P	P	17 22 15.7	+0.3
	baz=74					
Y29A	Porterfield Fa	73.44 335	⇑P	P	17 22 15.9	+0.2
	baz=74,SNR=6.3					
TUL1	Leonard	73.45 340	⇓P	P	17 22 15.5	-0.1
	baz=74,SNR=5.3					
TUL1	Leonard	73.45 340	eP	P	17 22 15.5	-0.1
USIN	University of	73.51 347	eP	P	17 22 14.6	-1.3
W33A	Caddo, Fort Co	73.54 338	⇑P	P	17 22 17.1	+0.9
	baz=74,SNR=10					
X31A	McDonald Ranch	73.55 336	⇓P	P	17 22 16.7	+0.4
	baz=74,SNR=9.2					
SIUC	Southern Illin	73.57 346	eP	P	17 22 16.5	+0.3
V35A	Meyer Ranch, C	73.61 339	⇓P	P	17 22 16.4	-0.2
	baz=74					
Y28A	McKinney Farm,	73.69 334	⇑P	P	17 22 17.7	+0.6
	baz=74					
X30A	Coker Ranch, T	73.69 335	⇑P	P	17 22 17.8	+0.6
	baz=74					
W32A	Sentinel	73.76 337	⇓P	P	17 22 18.1	+0.6
	baz=74,SNR=25					
V34A	Guthrie	73.88 339	⇑P	P	17 22 17.8	-0.3
	baz=74					
V34A	Guthrie	73.88 339	eP	P	17 22 18.4	+0.2
MSTX	Muleshoe	73.93 334	⇑P	P	17 22 18.9	+0.3
	baz=74,SNR=9.4					
MSTX	Muleshoe	73.93 334	eP	P	17 22 19.0	+0.3
X29A	Tulia	73.97 335	⇓P	P	17 22 19.2	+0.4
	baz=74,SNR=6.2					
W31A	Holland Ranch,	74.05 336	⇑P	P	17 22 19.4	+0.2
	baz=74,SNR=5.0					
V33A	Lossen Ranch,	74.10 338	⇑P	P	17 22 19.9	+0.4
	baz=74,SNR=7.2					
MVL	Millersville	74.20 357	eP	P	17 22 19.9	0.0
X28A	Dimmitt	74.22 334	⇑P	P	17 22 20.5	+0.2
	baz=74					
V32A	Arapaho	74.25 337	⇑P	P	17 22 20.8	+0.5
	baz=74					
319A	Douglas	74.30 327	⇓P	P	17 22 22.6	+1.7
	baz=75,SNR=8.0					
AMTX	Amarillo	74.36 335	⇑P	P	17 22 21.5	+0.4
	baz=75					
AMTX	Amarillo	74.36 335	eP	P	17 22 21.6	+0.4
U34A	Anderson Ranch	74.44 339	⇑P	P	17 22 21.8	+0.4
	baz=75					
U34A	Anderson Ranch	74.44 339	eP	P	17 22 21.5	0.0
V31A	Spring Creek L	74.55 337	⇑P	P	17 22 23.1	+1.0
	baz=75					
W29A	Amarillo	74.57 335	⇓P	P	17 22 22.9	+0.6
	baz=75,SNR=6.7					
121A	Cookes Peak, D	74.64 329	⇓P	P	17 22 24.4	+1.5
	baz=75,SNR=20					
121A	Cookes Peak, D	74.64 329	eP	P	17 22 24.7	+1.7
	comp=Z,30nm,0.9s					
U32A	Winter Ranch,	74.84 338	⇑P	P	17 22 24.3	+0.5
	baz=75					
LIC	Lamto	74.90 71	eP	P	17 22 24.5	-0.1
	comp=Z,33nm,0.8s					
Y24A	Capitan	74.90 332	⇓P	P	17 22 25.4	+1.0
	baz=75,SNR=5.6					
SSPA	Standing Stone	74.92 355	eP	P	17 22 24.0	-0.1
Z22A	Elephant Butte	74.93 330	⇑P	P	17 22 26.1	+1.6
	baz=75,SNR=9.3					
ACSO	Alum Creek Sta	75.01 351	eP	P	17 22 24.0	-0.6
U31A	Nine Bar Ranch	75.10 337	⇑P	P	17 22 26.0	+0.7
	baz=75					
TIC	Toumodi	75.16 71	eP	P	17 22 26.1	0.0
	comp=Z,12nm,0.2s					
KIC	Kosan Boka	75.20 71	eP	P	17 22 26.5	+0.1
	comp=Z,46nm,0.8s					
T33A	Patterson Ranc	75.25 339	⇓P	P	17 22 27.0	+0.9
	baz=76,SNR=13					
W26A	Owens Ranch, T	75.30 333	⇓P	P	17 22 27.6	+1.1
	baz=76,SNR=7.1					
DBIC	Dimbokro	75.30 71	eP	P	17 22 26.9	-0.1
DBIC	Dimbokro	75.30 71	P	P	17 22 27.1	+0.2
	comp=Z,11nm,0.6s,baz=210,slow=6.0,SNR=20					
DBIC			LR	LR	17 52 55.1	
	comp=Z,168nm,20.1s,baz=220,slow=34					
DBIC	Dimbokro	75.30 71	eP	P	17 22 26.9	-0.1
V28A	Channing	75.33 335	⇑P	P	17 22 27.7	+0.9
	baz=76,SNR=5.6					
U30A	WK&E Inc. Balk	75.51 336	⇑P	P	17 22 28.6	+1.0
	baz=76,SNR=5.4					
T32A	Huddler Ranch,	75.55 338	⇑P	P	17 22 28.2	+0.3
	baz=76					
V27A	Dan Oppiter Fa	75.56 335	⇑P	P	17 22 29.1	+1.1
	baz=76					
BNM	Barren Site	75.57 331	eP	P	17 22 29.6	+1.3
U29A	Oasis Ranch, S	75.64 336	⇓P	P	17 22 29.2	+0.8
	baz=76					
S33A	Kaszmaul Farm,	75.65 339	⇑P	P	17 22 29.1	+0.7
	baz=76					
W25A	X Bar L Ranch,	75.67 333	⇓P	P	17 22 29.2	+0.5
	baz=76,SNR=10					
T31A	Randall Ranch,	75.71 337	⇓P	P	17 22 27.3	-1.4
	baz=76					
LPM	Los Pinos Moun	75.71 331	eP	P	17 22 30.2	+1.2
LENM	Lemitar	75.72 331	eP	P	17 22 30.9	+1.8
SFIN	Lafayette	75.76 348	⇑P	P	17 22 28.2	-0.6
	baz=76					
TUC	Tucson	75.77 327	eP	P	17 22 30.7	+1.4
TUC	Tucson	75.77 327	eP	P	17 22 30.7	+1.4
U28A	Mallet	75.90 335	⇑P	P	17 22 30.6	+0.6
	baz=76,SNR=5.8					
V26A	Tequesquite Ra	75.93 334	⇓P	P	17 22 30.9	+0.7
	baz=76					
T30A	Plains	75.94 337	⇑P	P	17 22 30.6	+0.5
	baz=76					
LAZ	Ladron	76.00 331	eP	P	17 22 32.3	+1.7
W24A	Lazy 6 Ranch,	76.02 332	⇑P	P	17 22 31.7	+0.9
	baz=76,SNR=9.9					
S32A	Newby Ranch, P	76.03 338	⇑P	P	17 22 31.5	+0.9
	baz=76					
U27A	Thompson Grove	76.15 335	⇑P	P	17 22 32.1	+0.7
	baz=76,SNR=7.9					
ANMO	Albuquerque	76.20 331	eP	P	17 22 30.3	-1.5
ANMO			pmax	pmax		
	comp=Z,92nm,1.2s					
ANMO	Albuquerque	76.20 331	eP	P	17 22 33.1	+1.3
V25A	Rancho No Teng	76.28 333	⇓P	P	17 22 33.1	+0.8
	baz=77,SNR=27					
T29A	Hugoton	76.29 336	⇑P	P	17 22 32.6	+0.4
	baz=77					
R33A	Olander Ranch,	76.31 339	⇓P	P	17 22 32.5	+0.4
	baz=77					
QUA2	Belchertown	76.37 360	eP	P	17 22 33.5	+1.2
BINY	Binghamton	76.38 357	eP	P	17 22 32.9	+0.5
	comp=Z,6.9nm,0.8s					
214A	Organ Pipe Nat	76.41 325	⇑P	P	17 22 34.4	+1.6
	baz=77,SNR=5.8					
214A	Organ Pipe Nat	76.41 325	eP	P	17 22 34.5	+1.7
	comp=Z,17nm,1.0s					
V24A	Rampart Ranch,	76.42 333	⇑P	P	17 22 34.1	+1.0
	baz=77,SNR=7.7					
U26A	Atchley Ranch,	76.45 334	⇓P	P	17 22 33.8	+0.6
	baz=77					
S30A	Montezuma	76.46 337	⇓P	P	17 22 33.5	+0.5
	baz=77					
T28A	Walsh	76.53 336	⇓P	P	17 22 34.3	+0.8
	baz=77,SNR=10					
R32A	Long Quarter,	76.63 339	⇑P	P	17 22 34.5	+0.5
	baz=77					
S29A	Ulysses	76.65 337	⇓P	P	17 22 35.3	+1.1
	baz=77,SNR=5.6					
KSU1	Kansas State U	76.66 341	⇓P	P	17 22 33.9	-0.1
	baz=77					
T27A	Campo	76.69 335	⇓P	P	17 22 35.3	+0.8
	baz=77,SNR=10					
U25A	Circle Dot Ran	76.70 334	⇓P	P	17 22 35.6	+1.0
	baz=77,SNR=16					
R31A	Burdett	76.76 338	⇑P	P	17 22 35.3	+0.6
	baz=77,SNR=5.3					
V23A	Ortiz Mt. (NFS	76.79 332	⇓P	P	17 22 36.6	+1.5
	baz=77					
TRY	Troy	76.84 359	eP	P	17 22 36.5	+1.5
S28A	Manter	76.88 336	⇑P	P	17 22 36.4	+0.9
	baz=77,SNR=16					
Q33A	Connelly Farm,	76.91 340	⇓P	P	17 22 36.0	+0.6
	baz=77					
T26A	Comanche Natio	77.09 335	⇑P	P	17 22 37.9	+1.1
	baz=77,SNR=14					
Q32A	Meitler Ranch,	77.11 339	⇓P	P	17 22 37.2	+0.5
	baz=77,SNR=5.9					
V22A	San Miguel Ran	77.22 332	⇓P	P	17 22 39.6	+2.0
	baz=78,SNR=30					
X18A	Snowflake	77.28 329	⇓P	P	17 22 39.7	+1.7
	baz=78,SNR=5.8					
U23A	El Rito	77.31 332	⇑P	P	17 22 39.9	+1.8
	baz=78,SNR=7.7					
S27A	Las Animas	77.31 335	⇓P	P	17 22 39.0	+1.1
	baz=78					
T25A	Trinidad	77.36 334	⇓P	P	17 22 39.9	+1.5
	baz=78,SNR=27					
Q31A	Ellis	77.37 338	⇑P	P	17 22 39.1	+0.9
	baz=78,SNR=10					
R29A	Marienthal	77.39 337	⇓P	P	17 22 38.9	+0.6
	baz=78					
S26A	Kim	77.45 335	⇑P	P	17 22 40.1	+1.4
	baz=78,SNR=31					
ACCN	Adirondack Com	77.49 359	eP	P	17 22 39.1	+0.5
R28A	Tribune	77.53 336	⇑P	P	17 22 40.1	+0.9
	baz=78,SNR=9.9					
Q30A	Quinter	77.60 338	⇑P	P	17 22 40.4	+0.9
	baz=78,SNR=6.4					
U22A	Llaves	77.61 332	⇑P	P	17 22 41.6	+1.9
	baz=78,SNR=7.3					
T24B	San Luis	77.64 333	⇓P	P	17 22 41.8	+1.7
	baz=78,SNR=8.9					
W18A	Petrified Fore	77.69 329	⇑P	P	17 22 42.2	+2.0
	baz=78					
W18A	Petrified Fore	77.69 329	eP	P	17 22 40.3	+0.1
P32A	Huiting Farm,	77.71 339	⇓P	P	17 22 40.7	+0.7
	baz=78					
Q29A	Oakley	77.76 337	⇑P	P	17 22 41.0	+0.6
	baz=78					
HNH	Hanover	77.80 360	eP	P	17 22 41.7	+1.4
R27A	Eads	77.82 336	⇓P	P	17 22 41.6	+0.9
	baz=78,SNR=21					
S25A	Robets Cordova	77.83 334	⇑P	P	17 22 42.3	+1.4
	baz=78,SNR=13					
X16A	Lo Mia Camp, P	77.84 328	⇑P	P	17 22 42.8	+1.8
	baz=78,SNR=22					
P31A	Stockton	77.84 339	⇓P	P	17 22 41.5	+0.7
	baz=78,SNR=5.8					
T23A	Casias Ranch,	77.87 333	⇓P	P	17 22 42.8	+1.6
	baz=78					
R26A	Arlington	78.05 335	⇓P	P	17 22 43.2	+1.2
	baz=78,SNR=8.6					
NCB	Newcomb	78.09 358	eP	P	17 22 42.2	+0.3
	comp=Z,5.8nm,0.8s					
S24A	Houchin Ranch,	78.09 334	⇑P	P	17 22 44.2	+1.7
	baz=78,SNR=28					
MDV	Middlebury	78.09 359	eP	P	17 22 42.7	+0.7
P30A	Selden	78.13 338	⇓P	P	17 22 42.8	+0.5
	baz=78					
Y14A	Wickenburg	78.14 326	⇑P	P	17 22 44.2	+1.6
	baz=78					
Q28A	Sharon Springs	78.19 337	⇑P	P	17 22 44.3	+1.5
	baz=78					
O32A	Brockman Farm,	78.20 340	⇑P	P	17 22 43.6	+0.9
	baz=78					
R25A	Fountain Ranch	78.21 335	⇑P	P	17 22 43.9	+1.0
	baz=78,SNR=8.0					
GLA	Glamis	78.27 324	⇑P	P	17 22 45.0	+1.8
	baz=78					
LBNH	Lisbon	78.33 0	eP	P	17 22 44.3	+1.1
LBNH	Lisbon	78.33 0	eP	P	17 22 44.3	+1.1
P29A	Atwood	78.40 338	⇓P	P	17 22 45.2	+1.3
	baz=79,SNR=9.6					
KSCO	Kaye Shedlock'	78.41 336	⇑P	P	17 22 45.3	+1.3
	baz=79					
KSCO	Kaye Shedlock'	78.41 336	eP	P	17 22 45.3	+1.3
R24A	Sanders Place,	78.58 334	⇑P	P	17 22 46.7	+1.6
	baz=79,SNR=21					
Q26A	Hugo	78.64 335	⇓P	P	17 22 46.6	+1.3
	baz=79,SNR=8.0					
O30A	MW Ranch, Wils	78.65 338	⇓P	P	17 22 46.4	+1.2
	baz=79					
WVL	Waterville	78.68 2	eP	P	17 22 46.7	+1.6
Y12C	Blythe	78.70 325	⇓P	P	17 22 47.7	+2.2
	baz=79					
PTN	Potsdam (NY)	78.70 358	eP	P	17 22 45.8	+0.5
PTN	Potsdam (NY)	78.70 358	eP	P	17 22 45.8	+0.5
WUAZ	Wupatki	78.73 328	⇑P	P	17 22 47.7	+1.7
	baz=79,SNR=16					
LONY	Lake Ozonia	78.74 358	eP	P	17 22 45.8	+0.2
JFWS	Jewell Farm	78.79 346	eP	P	17 22 45.4	-0.4
JFWS	Jewell Farm	78.79 346	eP	P	17 22 45.4	-0.4
S22A	4UR Ranch, Cre	78.79 333	⇑P	P	17 22 47.7	+1.3
	baz=79,SNR=10					
R23A	Moffat	78.81 333	⇓P	P	17 22 47.6	+1.2
	baz=79,SNR=7.0					
O29A	4D Ranch, Culb	78.83 338	⇓P	P	17 22 47.2	+1.0
	baz=79					
BAR	Barrett	78.88 323	eP	P	17 22 48.7	+2.1
Q25A	Bedland, Calha	78.88 335	⇑P	P	17 22 47.6	+0.9
	baz=79,SNR=5.1					
EMMW	East Machias	78.91 3	eP	P	17 22 47.6	+1.2
MONP	Monument Peak,	78.92 323	⇑P	P	17 22 48.9	+1.8
	baz=79,SNR=5.6					
N31A	Bailey Ranch,	78.92 339	⇑P	P	17 22 47.5	+0.9
	baz=79					
PDMCI	Parker Dam,Lak	78.97 326	⇑P	P	17 22 48.5	+1.5
	baz=79					
MVCO	Mesa Verde	78.98 331	⇑P	P	17 22 48.6	+1.3
	baz=79,SNR=7.7					
MVCO	Mesa Verde	78.98 331	eP	P	17 22 48.2	+0.9
BC3	Big Chuckawall	79.06 324	⇓P	P	17 22 49.3	+1.6
	baz=79,SNR=9.9					
TSUM	Tsumeb	79.06 106	eP	P	17 22 49.0	+0.7
O28A	Krutsinger Ran	79.14 337	⇓P	P	17 22 49.1	+1.2
	baz=80					
P26A	Davis Ranch, A	79.15 336	⇑P	P	17 22 49.2	+1.1
	baz=80,SNR=8.7					
BGNE	Belgrade	79.23 340	⇑P	P	17 22 49.1	+0.7
	baz=80					
BGNE	Belgrade	79.23 340	eP	P	17 22 49.3	+1.0
Q24A	Divide	79.24 334	⇑P	P	17 22 50.2	+1.3
	baz=80,SNR=12					
IRM	Iron Mountain	79.33 325	⇑P	P	17 22 50.7	+1.6
	baz=80,SNR=9.5					
P25A	Willow Gulch B	79.39 335	⇑P	P	17 22 50.9	+1.5
	baz=80,SNR=23					
PKME	Peaks-Kenny Pk	79.39 2	eP	P	17 22 50.4	+1.3
M31A	Lambtecht Ranc	79.41 340	⇑P	P	17 22 50.4	+1.0
	baz=80					
N29A	Votaw Ranch, W	79.41 338	⇑P	P	17 22 50.2	+0.8
	baz=80					
O27A	Beecher Island	79.43 337	⇑P	P	17 22 51.0	+1.5
	baz=80,SNR=6.2					
PFO	Pinyon Flats O	79.52 324	P	P	17 22 52.2	+2.0
	comp=Z,127nm,0.9s,SNR=6.7					
PFO	Pinyon Flats O	79.52 324	eP	P	17 22 51.8	+1.6
PFO	Pinyon Flats O	79.52 324	⇑P	P	17 22 52.2	+2.0
	baz=80,SNR=5.6					
PFO	Pinyon Flats O	79.52 324	eP	P	17 22 51.8	+1.6
O26A	Horse Wrangler	79.75 336	⇑P	P	17 22 52.8	+1.5
	baz=80,SNR=8.2					
PV01	Paradox Valley	79.81 331	eP	P	17 22 53.1	+1.3
BOSA	Boshof	79.83 118	eP	P	17 22 52.4	+0.1
BOSA	Boshof	79.83 118	P	P	17 22 52.8	+0.5
	comp=Z,20nm,0.8s,baz=232,slow=4.6,SNR=30					
BOSA	Boshof	79.83 118	eP	P	17 22 52.4	+0.1
M30A	Dale-Ortello V	79.84 339	⇓P	P	17 22 53.1	+1.4
	baz=80					
P23A	Jefferson	79.86 334	⇑P	P	17 22 53.6	+1.4
	baz=80,SNR=5.2					
MURC	Murrieta	79.88 323	⇓P	P	17 22 54.2	+2.1
	baz=80					
U15A	North Rim	79.90 328	⇓P	P	17 22 54.3	+1.8
	baz=80,SNR=11					
O25A	Wiggins	79.91 336	⇓P	P	17 22 53.6	+1.4
	baz=80					
OGNE	Ogallala	79.97 337	⇑P	P	17 22 53.6	+1.2
	baz=80					
PV05	Paradox Valley	79.97 331	eP	P	17 22 53.9	+1.2
N27A	Anderson Farm,	80.00 337	⇑P	P	17 22 53.9	+1.3
	baz=80					
GMRC	Granite Mounta	80.08 325	⇓P	P	17 22 55.2	+2.0
	baz=80,SNR=16					
SMCO	Snowmass	80.10 333	eP	P	17 22 55.1	+1.5
L31A	Butterfield Fa	80.14 340	⇓P	P	17 22 54.3	+1.1
	baz=80					
ISCO	Idaho Springs	80.15 334	eP	P	17 22 55.0	+1.2
ISCO	Idaho Springs	80.15 334	⇑P	P	17 22 54.9	+1.2
	baz=80,SNR=11					
ISCO	Idaho Springs	80.15 334	eP	P	17 22 55.0	+1.2
PV04	Paradox Valley	80.16 331	eP	P	17 22 55.4	+1.7
M28A	Bar X Bar Ranc	80.17 338	⇓P	P	17 22 54.7	+1.2
	baz=80					
L30A	Spencer Herefo	80.18 339	⇑P	P	17 22 54.7	+1.2
	baz=80					
PV10	Paradox Valley	80.20 331	eP	P	17 22 51.4	-2.6
N26A	Koester Ranch,	80.25 336	⇓P	P	17 22 55.4	+1.4
	baz=81					
BBRC	Big Bear Solar	80.27 324	⇓P	P	17 22 55.5	+1.1
	baz=80					
CIS	Catalina Islan	80.33 322	⇓P	P	17 22 56.3	+1.8
	baz=81					
PV09	Paradox Valley	80.34 331	eP	P	17 22 56.4	+1.6
P22A	Eagle	80.39 333	⇑P	P	17 22 56.2	+1.3
	baz=81,SNR=7.1					
HEC	Hector,Ludlow	80.44 324	⇓P	P	17 22 57.2	+2.1
	baz=81,SNR=9.0					
L29A	Maesberg Ranch	80.51 339	⇓P	P	17 22 56.0	+0.7
	baz=81					
M27A	Reverse DX Ran	80.61 337	⇑P	P	17 22 57.3	+1.5
	baz=81					
BFSC	Mount Baldy Ra	80.61 323	⇓P	P	17 22 58.0	+1.9
	baz=81					
O23A	Lake Granby, G	80.62 334	⇓P	P	17 22 57.6	+1.4
	baz=81,SNR=14					
KNB	Kanab	80.62 328	eP	P	17 22 58.2	+2.0
KNB	Kanab	80.62 328	eP	P	17 22 58.2	+2.0
TUQ	Turquoise Moun	80.74 325	⇑P	P	17 22 58.6	+1.9
	baz=81,SNR=5.1					
N24A	Carr	80.81 335	⇑P	P	17 22 57.9	+0.9
	baz=81					
O22A	Kremmling	80.81 334	⇑P	P	17 22 58.4	+1.1
	baz=81,SNR=19					
K30A	Basset	80.82 340	⇑P	P	17 22 57.9	+1.1
	baz=81					
ECSD	EROS Data Cent	80.99 342	⇓P	P	17 22 58.0	+0.2
	baz=81,SNR=43					
ECSD	EROS Data Cent	80.99 342	eP	P	17 22 58.0	+0.2
GSC	Goldstone, Bar	81.05 324	eP	P	17 23 00.2	+1.8
GSC	Goldstone, Bar	81.05 324	⇑P	P	17 23 00.1	+1.7
	baz=81,SNR=7.3					
GSC	Goldstone, Bar	81.05 324	eP	P	17 23 00.2	+1.8
M25A	Palm-Egli Farm	81.07 336	⇓P	P	17 22 59.6	+1.2
	baz=81,SNR=5.1					
K29A	Lazy Trails An	81.10 339	⇓P	P	17 22 59.6	+1.2
	baz=81					
N23A	Red Feather La	81.24 335	⇑P	P	17 23 00.5	+1.1
	baz=82,SNR=7.4					
SHPR	Sheep Range	81.25 326	eP	P	17 23 01.1	+1.6
EDW2	Edwards Air Fo	81.29 323	⇑P	P	17 23 01.0	+1.3
	baz=82,SNR=10					
CCUT	Cedar City	81.31 328	eP	P	17 23 01.8	+1.9
N22A	Wattenberg Ran	81.34 334	⇓P	P	17 23 01.5	+1.5
	baz=82,SNR=13					
K28A	Ten Mile Ranch	81.37 339	⇓P	P	17 23 01.5	+1.6
	ba

M22A **Cedar Creek Ra** 81.92 334 ⇓P P 17 23 04.6 +1.5
baz=82
K26A **Motz Farm, Whi** 81.92 337 ⇓P P 17 23 04.4 +1.6
baz=82
J28A **Allard Ranch,** 81.98 339 ⇑P P 17 23 04.0 +1.0
baz=82,SNR=13
MPMC **Manual Prospec** 81.99 324 ⇓P P 17 23 05.0 +1.5
baz=82,SNR=6.0
FURC **Furnace Creek,** 82.02 325 ⇓P P 17 23 05.1 +1.8
baz=82
J27A **Elkhorn Farm,** 82.05 338 ⇑P P 17 23 05.0 +1.5
baz=82,SNR=9.9
K25A **Mack Ranch, Ha** 82.06 337 ⇓P P 17 23 05.0 +1.4
baz=82,SNR=6.7
LBTB **Lobatse** 82.09 115 *eP* P 17 23 04.6 +0.3
LBTB **Lobatse** 82.09 115 *eP* P 17 23 04.6 +0.3
TPNV **Topopah Spring** 82.12 326 *eP* P 17 23 06.0 +1.9
TPNV **Topopah Spring** 82.12 326 ⇓P P 17 23 06.1 +1.9
baz=82,SNR=17
TPNV **Topopah Spring** 82.12 326 *eP* P 17 23 06.0 +1.9
ISA **Isabella, Lake** 82.15 323 *eP* P 17 23 05.8 +1.6
ISA **Isabella, Lake** 82.15 323 ⇓P P 17 23 06.1 +2.0
baz=82,SNR=18
ISA **Isabella, Lake** 82.15 323 *eP* P 17 23 05.8 +1.6
DAC **Darwin (Calif)** 82.22 324 *eP* P 17 23 05.7 +1.1
DAC pmax pmax
comp=Z,17nm,0.9s
DAC **Darwin (Calif)** 82.22 324 *eP* P 17 23 05.7 +1.1
comp=Z,17nm,0.9s
PKM **Mcpherson Peak** 82.22 322 ⇓P P 17 23 06.7 +2.0
baz=82,SNR=11
L23A **Garrett** 82.23 335 ⇑P P 17 23 05.1 +0.5
baz=82
I29A **Vivian Onida** 82.25 340 ⇑P P 17 23 05.3 +0.9
baz=83
BRSD **Miller** 82.27 341 ⇑P P 17 23 06.0 +1.6
baz=83
L22A **Ellis Ranch, M** 82.41 335 ⇓P P 17 23 07.3 +1.8
baz=83
J26A **Sides Ranch, S** 82.44 338 ⇑P P 17 23 06.5 +1.0
baz=83
K24A **Anderson Ranch** 82.47 336 ⇓P P 17 23 07.0 +1.2
baz=83,SNR=8.1
I28A **Midland** 82.48 339 ⇑P P 17 23 06.4 +0.8
baz=83,SNR=10
VES **Vestal, Richgr** 82.60 323 ⇓P P 17 23 08.2 +1.9
baz=83
SMMC **Simmler** 82.64 322 ⇑P P 17 23 08.8 +2.1
baz=83
MPU **Maple Canyon** 82.64 330 *eP* P 17 23 08.3 +1.5
GRAC **Grapevine Rang** 82.69 325 ⇑P P 17 23 08.9 +2.0
baz=83
J25A **Sunshine Ranch** 82.74 337 ⇑P P 17 23 08.0 +0.9
baz=83
K23A **Bowen Ranch, D** 82.77 336 ⇑P P 17 23 08.3 +1.0
baz=83,SNR=11
H29A **Onida** 82.78 340 ⇓P P 17 23 07.6 +0.4
baz=83,SNR=5.3
I27A **Quinn** 82.81 339 ⇓P P 17 23 08.2 +0.8
baz=83,SNR=8.4
DAU **Daniels Canyon** 82.83 331 *eP* P 17 23 08.9 +1.0
DAU **Daniels Canyon** 82.83 331 *eP* P 17 23 08.9 +1.0
G30A **Faulkton** 82.95 341 ⇓P P 17 23 08.9 +0.9
baz=83
R11A **Troy Canyon, C** 82.96 327 ⇑P P 17 23 10.2 +1.8
baz=83,SNR=26
R11A **Troy Canyon, C** 82.96 327 *eP* P 17 23 09.9 +1.5
J24A **Dixon Ranch, L** 82.96 337 ⇑P P 17 23 09.7 +1.4
baz=83,SNR=6.8
K22A **Casper** 82.99 335 ⇓P P 17 23 09.4 +0.9
baz=83,SNR=7.6
K22A **Casper** 82.99 335 *eP* P 17 23 09.0 +0.6
I26A **New Underwood** 83.02 338 ⇑P P 17 23 09.3 +0.8
baz=83
H28A **Mission Ridge** 83.06 340 ⇓P P 17 23 09.2 +0.6
baz=83,SNR=16
G29A **Hoven** 83.22 341 ⇑P P 17 23 09.9 +0.4
baz=84
K21A **Alcova** 83.23 335 ⇓P P 17 23 10.6 +0.8
baz=84,SNR=20
DUG **Dugway, Tooele** 83.28 330 *eP* P 17 23 10.8 +0.8
DUG **Dugway, Tooele** 83.28 330 ⇑P P 17 23 11.2 +1.1
baz=84,SNR=12
DUG **Dugway, Tooele** 83.28 330 *eP* P 17 23 10.8 +0.8
I25A **Rochford** 83.28 338 ⇑P P 17 23 10.9 +0.9
baz=84,SNR=16
H27A **Howes** 83.33 339 ⇑P P 17 23 10.5 +0.5
baz=84,SNR=12
G28A **Parade** 83.39 340 ⇑P P 17 23 11.0 +0.7
baz=84,SNR=11
I24A **Kuemmerle Ranc** 83.42 337 ⇓P P 17 23 11.3 +0.7
baz=84,SNR=5.3
RSSD **Black Hills** 83.47 337 *eP* P 17 23 11.6 +0.6
RSSD **Black Hills** 83.47 337 *eP* P 17 23 11.6 +0.6
TPH **Tonopah** 83.48 326 *eP* P 17 23 12.6 +1.4
TPH **Tonopah** 83.48 326 *eP* P 17 23 12.6 +1.4
TCUT **Toone Canyon** 83.49 331 *eP* P 17 23 11.6 +0.4
comp=Z,12nm,0.8s
J22A **Midwest** 83.64 335 ⇑P P 17 23 11.9 0.0
baz=84,SNR=7.5
H25A **Fruitdale** 83.78 338 ⇓P P 17 23 13.5 +1.1
baz=84
F29A **Eureka** 83.79 341 ⇑P P 17 23 12.6 +0.3
baz=84,SNR=7.7
EYMN **Ely** 83.87 347 *eP* P 17 23 12.2 -0.5
G27A **Dupree** 83.96 339 ⇓P P 17 23 13.7 +0.4
baz=84,SNR=7.6
I22A **9 Mile Ranch,** 84.07 336 ⇑P P 17 23 14.4 +0.5
baz=84,SNR=12
G26A **Maurine** 84.08 339 ⇓P P 17 23 14.2 +0.3
baz=84,SNR=13
J20A **Shoshoni** 84.15 334 ⇓P P 17 23 15.5 +1.1
baz=84,SNR=19
E30A **Jud** 84.16 342 ⇑P P 17 23 14.9 +0.7
baz=84
PDAR **Pinedale Array** 84.18 333 P P 17 23 14.8 +0.1
comp=Z,5.9nm,0.8s,baz=160,slow=5.5,SNR=42
PDAR LR LR 17 56 39.6
comp=Z,123nm,19.5s,baz=144,slow=33
BW06 **Boulder Array** 84.18 333 *eP* P 17 23 14.6 -0.1
H24A **Dirks Ranch, A** 84.19 337 ⇑P P 17 23 14.7 +0.2
baz=84,SNR=9.3
G25A **Newell** 84.24 338 ⇓P P 17 23 15.2 +0.5
baz=85,SNR=6.7
NVAR **Mina Array Bea** 84.28 325 P P 17 23 16.8 +1.5
comp=Z,6.9nm,0.8s,baz=155,slow=5.8,SNR=42
I21A **Big Trails, Te** 84.28 335 ⇓P P 17 23 15.3 +0.3
baz=85,SNR=13
TOA0 **Torodi Ar. Sit** 84.34 70 *eP* P 17 23 15.9 0.0
TORD **Torodi Ar. Bea** 84.34 70 P P 17 23 15.9 0.0
comp=Z,17nm,0.9s,baz=257,slow=4.3,SNR=79
TORD LR LR 17 59 55.3
comp=Z,236nm,18.1s,baz=235,slow=35
E29A **Napoleon** 84.42 341 ⇓P P 17 23 15.9 +0.4
baz=85
J19A **Crowheart** 84.43 334 ⇑P P 17 23 16.5 +0.6
baz=85,SNR=23
F27A **Lemmon** 84.44 339 ⇑P P 17 23 16.2 +0.5
baz=85,SNR=6.1
HVU **Hansel Valley** 84.59 331 *eP* P 17 23 17.0 +0.3
HVU **Hansel Valley** 84.59 331 *eP* P 17 23 16.9 +0.3
F26A **Lodgepole** 84.61 339 ⇓P P 17 23 17.0 +0.5
baz=85
H22A **Clearmont** 84.64 336 ⇓P P 17 23 17.2 +0.4
baz=85
D30A **Buchanan** 84.69 342 ⇑P P 17 23 17.2 +0.4
baz=85,SNR=11
I20A **Worland** 84.69 335 ⇓P P 17 23 17.6 +0.6
baz=85,SNR=13
E28A **Huff** 84.71 341 ⇓P P 17 23 17.7 +0.7
baz=85
AHID **Auburn Hatcher** 84.77 332 *eP* P 17 23 18.2 +0.6
ELK **Elko** 84.77 328 *eP* P 17 23 18.8 +1.1
ELK **Elko** 84.77 328 *eP* P 17 23 18.8 +1.1
E27A **Carson** 84.81 340 ⇑P P 17 23 18.1 +0.6
baz=85,SNR=5.6
D29A **Pettibone, Tap** 84.86 341 ⇑P P 17 23 18.0 +0.3
baz=85,SNR=5.4
G23A **Biddle** 84.87 337 ⇓P P 17 23 18.1 +0.2
baz=85,SNR=5.6
WAKR **Walker** 84.87 325 *eP* P 17 23 20.0 +1.7
H21A **Big Horn, Sher** 84.91 336 ⇓P P 17 23 18.4 +0.2
baz=85
F25A **Bowman** 84.91 339 ⇑P P 17 23 18.6 +0.5
baz=85
CMB **Columbia Colle** 84.96 324 *eP* P 17 23 20.0 +1.5
CMB **Columbia Colle** 84.96 324 *eP* P 17 23 20.0 +1.5

I19A **Meeteetse** 85.07 334 ⇓P P 17 23 19.6 +0.5
baz=85,SNR=11
AGMN **Agassiz Nation** 85.10 344 ⇑P P 17 23 19.5 +0.6
baz=85
AGMN **Agassiz Nation** 85.10 344 *eP* P 17 23 18.8 -0.1
E26A **Carlson Angus** 85.11 339 ⇓P P 17 23 19.4 +0.3
baz=85,SNR=5.3
H20A **Greybull** 85.11 335 ⇑P P 17 23 19.3 +0.1
baz=85,SNR=14
F24A **Ekalaka** 85.14 338 ⇑P P 17 23 19.6 +0.3
baz=86,SNR=5.3
C30A **Mose, Pekin** 85.17 342 ⇑P P 17 23 19.9 +0.7
baz=86,SNR=24
G22A **Birney** 85.18 336 ⇓P P 17 23 20.2 +0.7
baz=86
REDW **Red Top Meadow** 85.18 333 *eP* P 17 23 20.3 +0.6
SNOW **Snow King Moun** 85.23 333 *eP* P 17 23 21.1 +1.1
D28A **Regan** 85.24 341 ⇓P P 17 23 20.3 +0.7
baz=86,SNR=6.0
LOHW **Long Hollow** 85.30 333 *eP* P 17 23 20.7 +0.5
TPAW **Teton Pass** 85.33 333 *eP* P 17 23 21.5 +1.0
F23A **Volborg** 85.33 337 ⇓P P 17 23 20.4 +0.2
baz=86,SNR=10.0
E25A **Miller Ranch,** 85.41 339 ⇑P P 17 23 21.5 +1.0
baz=86
FXWY **Fox Creek** 85.48 333 *eP* P 17 23 21.7 +0.5
I17A **Pilgrim Ck.** 85.55 333 ⇑P P 17 23 22.6 +1.1
baz=86,SNR=17
MDND **Maddock** 85.59 342 ⇑P P 17 23 21.9 +0.6
baz=86,SNR=9.8
MDND **Maddock** 85.59 342 *eP* P 17 23 21.6 +0.3
D26A **Manning** 85.61 340 ⇓P P 17 23 22.3 +0.8
baz=86,SNR=7.0
H19A **Powell** 85.62 335 ⇑P P 17 23 22.3 +0.6
baz=86,SNR=6.7
RAO **Raoul Island** 85.65 237 LR LR 17 52 33.2
comp=Z,101nm,21.5s,baz=114,slow=29
F22A **Rosebud** 85.66 337 ⇓P P 17 23 22.1 +0.3
baz=86,SNR=7.0
IMW **Indian Meadow** 85.67 333 *eP* P 17 23 22.9 +0.7
FLWY **Flagg Ranch** 85.74 333 *eP* P 17 23 23.6 +1.1
E24A **Baker** 85.74 338 ⇑P P 17 23 22.8 +0.6
baz=86,SNR=6.4
B30A **Myrvik Farm, E** 85.83 343 ⇓P P 17 23 22.9 +0.4
baz=86,SNR=16
G20A **Bridger** 85.83 335 ⇑P P 17 23 22.9 +0.1
baz=86,SNR=30
H18A **Shoshone NF, C** 85.87 334 ⇑P P 17 23 23.5 +0.4
baz=86,SNR=61
H17A **Grant Village** 85.96 333 ⇓P P 17 23 24.1 +0.5
baz=86
H17A **Grant Village** 85.96 333 *eP* P 17 23 25.0 +1.5
C27A **Sayler Ranch,** 85.97 341 ⇓P P 17 23 24.0 +0.8
baz=86,SNR=7.4
D25A **Fairfield** 85.98 339 ⇑P P 17 23 24.2 +0.9
baz=86,SNR=5.5
F21A **Absaloka Mine,** 85.99 336 ⇓P P 17 23 23.7 +0.3
baz=86
E23A **Ismay** 86.00 338 ⇑P P 17 23 23.9 +0.5
baz=86
B29A **Wagenman Farm,** 86.09 342 ⇓P P 17 23 24.1 +0.3
baz=86,SNR=5.6
YFT **Old Faithful** 86.11 333 *eP* P 17 23 27.1 +2.8
RLMT **Red Lodge** 86.11 335 *eP* P 17 23 24.9 +0.7
E22A **Miles City** 86.15 337 ⇓P P 17 23 24.8 +0.6
baz=86
C26A **Wahner Farm, P** 86.24 340 ⇓P P 17 23 25.7 +1.2
baz=87
D24A **Glendive** 86.25 339 ⇑P P 17 23 25.6 +1.0
baz=87,SNR=5.3
A30A **Hoffart Farm,** 86.28 343 ⇑P P 17 23 24.8 +0.1
baz=87,SNR=10
F20A **Billings** 86.31 336 ⇓P P 17 23 25.3 +0.2
baz=87,SNR=5.2
B28A **Dugan Ranch, T** 86.34 342 ⇑P P 17 23 25.6 +0.6
baz=87,SNR=8.9
YMR **Madison River** 86.34 333 *eP* P 17 23 26.6 +1.2
A29A **Manning Farm,** 86.49 342 ⇓P P 17 23 25.7 0.0
baz=87,SNR=11
B27A **Peters Farms,** 86.54 341 ⇑P P 17 23 26.9 +0.9
baz=87
E21A **Keefer Ranch,** 86.60 337 ⇑P P 17 23 27.4 +0.9
baz=87
F19A **Roth Farm, Mol** 86.63 335 ⇑P P 17 23 26.7 +0.1
baz=87,SNR=12
C24A **Savage** 86.65 339 ⇓P P 17 23 27.6 +1.0
baz=87,SNR=33
QLMT **Earthquake Lak** 86.65 333 *eP* P 17 23 28.3 +1.4
A28A **Crude Farm, Bot** 86.74 342 ⇓P P 17 23 27.8 +0.8
baz=87
HLID **Hailey** 86.75 331 ⇑P P 17 23 28.7 +1.4
baz=87,SNR=21
GCMT **Greycliff** 86.83 335 *eP* P 17 23 27.8 +0.1
D22A **Cohagen** 86.85 337 ⇑P P 17 23 28.3 +0.7
baz=87,SNR=18
E20A **Meyer Farm, Mu** 86.92 336 ⇓P P 17 23 28.5 +0.5
baz=87,SNR=38
B25A **Knox Farm, Ray** 86.94 340 ⇑P P 17 23 29.0 +1.0
baz=87,SNR=6.6
ULM **Lac du Bonnet** 86.95 345 P P 17 23 27.9 0.0
ULM pmax pmax
comp=Z,15nm,0.9s
ULM **Lac du Bonnet** 86.95 345 P P 17 23 27.9 0.0
comp=Z,15nm,0.9s,baz=178,slow=4.1,SNR=20
A27A **Ledoux Ranch,** 87.03 341 ⇑P P 17 23 29.4 +1.0
baz=87
D21A **La Casta Ranch** 87.04 337 ⇓P P 17 23 29.1 +0.5
baz=87,SNR=16
E19A **Rath Farm, Rou** 87.11 336 ⇑P P 17 23 29.3 +0.4
baz=87,SNR=30
C23A **Lambert** 87.12 338 ⇓P P 17 23 29.4 +0.5
baz=87,SNR=30
MCMT **McKenzie Canyo** 87.19 332 *eP* P 17 23 30.9 +1.4
A26A **Wade Farm, Ken** 87.20 341 ⇑P P 17 23 29.7 +0.5
baz=88,SNR=6.3
MFID **Camas Ranch** 87.21 330 *eP* P 17 23 30.7 +1.1
BOZ **Bozeman (W)** 87.42 333 *eP* P 17 23 30.9 +0.4
BOZ **Bozeman (W)** 87.42 333 *eP* P 17 23 30.9 +0.4
D20A **Manuel Ranch,** 87.44 336 ⇓P P 17 23 30.8 +0.3
baz=88,SNR=16
A25A **Svangstu Ranch** 87.53 340 ⇑P P 17 23 31.4 +0.6
baz=88,SNR=7.5
DLMT **Dillon** 87.54 333 *eP* P 17 23 32.6 +1.4
WVOR **Wild Horse Val** 87.63 327 *eP* P 17 23 32.7 +1.1
WVOR **Wild Horse Val** 87.63 327 *eP* P 17 23 32.7 +1.1
B23A **Brockton** 87.65 339 ⇓P P 17 23 32.0 +0.5
baz=88,SNR=7.6
C21A **Desert Coulee** 87.74 337 ⇓P P 17 23 32.0 +0.1
baz=88,SNR=14
D19A **Cripps Ranch,** 87.75 336 ⇓P P 17 23 32.0 0.0
baz=88,SNR=8.5
A24A **Westby** 87.77 340 ⇓P P 17 23 32.6 +0.6
baz=88,SNR=7.4
B22A **Reddig Ranch S** 87.81 338 ⇑P P 17 23 32.9 +0.6
baz=88,SNR=16
LRM **Limekiln Ridge** 87.87 333 *eP* P 17 23 33.6 +0.7
C20A **Veseth Ranch,** 87.94 337 ⇓P P 17 23 32.9 +0.1
baz=88,SNR=6.8
WDC **Whiskeytown Da** 87.99 324 *eP* P 17 23 33.4 +0.2
WDC **Whiskeytown Da** 87.99 324 *eP* P 17 23 33.4 +0.2
A23A **Redstone** 88.06 339 ⇓P P 17 23 34.2 +0.8
baz=88
B21A **Ellsworth Farm** 88.24 338 ⇓P P 17 23 35.2 +0.9
baz=88
C19A **Slack Wire Ran** 88.30 336 ⇓P P 17 23 35.3 +0.7
baz=89
N02D **Trinity Center** 88.37 324 ⇑P P 17 23 35.9 +0.7
baz=89,SNR=5.6
HRY **Holter Researc** 88.40 334 *eP* P 17 23 35.7 +0.6
A22A **Carney Farms,** 88.40 338 ⇑P P 17 23 35.5 +0.5
baz=89,SNR=21
B20A **Solberg Farm,** 88.58 337 ⇑P P 17 23 36.9 +1.1
baz=89
M04C **Macdoel** 88.58 325 ⇓P P 17 23 37.2 +1.1
baz=89,SNR=5.1
A21A **Bergtoll Ranch** 88.71 338 ⇓P P 17 23 36.5 0.0
baz=89,SNR=9.2
M02C **Callahan** 88.77 324 ⇓P P 17 23 38.2 +1.2
baz=89,SNR=7.1
EGMT **Eagleton** 88.79 336 ⇓P P 17 23 37.0 +0.1
baz=89,SNR=6.1
EGMT **Eagleton** 88.79 336 *eP* P 17 23 37.0 +0.1
K05A **Summer Lake** 88.88 326 *eP* P 17 23 39.3 +1.7
B19A **Brinkman Farms** 88.89 336 ⇑P P 17 23 38.1 +0.7
baz=89
A20A **Cobblestone Ra** 88.93 337 ⇑P P 17 23 37.5 0.0
baz=89,SNR=9.6

YBH **Yreka Blue Hor** 88.96 325 P P 17 23 38.1 +0.2
YBH pmax pmax
comp=Z,8.0nm,0.9s
YBH **Yreka Blue Hor** 88.96 325 P P 17 23 38.1 +0.2
comp=Z,7.8nm,0.9s,baz=90,slow=5.6,SNR=16
YBH **Yreka Blue Hor** 88.96 325 *eP* P 17 23 38.4 +0.6
BMO **Blue Mountains** 89.00 330 *eP* P 17 23 38.4 +0.4
SCHQ **Schefferville** 89.04 3 P P 17 23 37.1 -0.7
comp=Z,2.4nm,0.8s,baz=239,slow=2.7,SNR=3.9
SCHQ LR LR 18 04 59.7
comp=Z,77nm,20.5s,baz=82,slow=37
CHMT **Chamberlain Mo** 89.09 333 *eP* P 17 23 39.2 +0.7
comp=Z,3.8nm,1.3s
A19A **Klindworth Far** 89.24 337 ⇑P P 17 23 38.9 0.0
baz=90,SNR=7.7
I07A **Izee** 89.32 328 *eP* P 17 23 41.1 +1.5
SLMT **Seeley Lake** 89.46 333 *eP* P 17 23 41.1 +1.0
J05D **Fort Rock, OR** 89.47 326 ⇓P P 17 23 41.7 +1.4
baz=90,SNR=9.3
PINOR **Pine Mountain** 89.72 327 *eP* P 17 23 43.5 +2.3
J04D **Umpqua Nationa** 89.84 326 ⇑P P 17 23 43.5 +1.4
baz=90,SNR=5.7
SWMT **Swartz Lake** 89.87 333 *eP* P 17 23 43.1 +1.0
F10A **Beach Ranch, E** 89.87 330 *eP* P 17 23 43.5 +1.5
G08A **Pilot Rock** 90.05 329 *eP* P 17 23 44.3 +1.4
I04A **Tendick Farm,** 90.40 326 ⇓P P 17 23 45.6 +1.1
baz=91
BSMT **Bassoo Peak** 90.45 333 *eP* P 17 23 45.5 +0.6
NEW **Newport** 91.69 332 *eP* P 17 23 50.6 +0.2
NEW **Newport** 91.69 332 *eP* P 17 23 50.6 +0.2
C09A **Chrisman Ranch** 91.77 331 *eP* P 17 23 51.8 +1.1
LON **Longmire** 92.42 328 *eP* P 17 23 54.2 +0.4
LON **Longmire** 92.42 328 *eP* P 17 23 54.2 +0.4
TAM **Tamanrasset** 93.00 64 *eP* P 17 23 57.3 +0.1
TAM pmax pmax
comp=Z,3.0nm,0.9s
TAM **Tamanrasset** 93.00 64 *eP* P 17 23 57.2 +0.1
comp=Z,2.8nm,0.9s
EDM **Edmonton** 94.42 337 *eP* P 17 23 59.8 -3.0
EDM **Edmonton** 94.42 337 *eP* P 17 23 59.8 -3.0
FCC **Fort Churchill** 94.69 349 *eP* P 17 24 03.3 -0.5
FCC **Fort Churchill** 94.69 349 *eP* P 17 24 03.3 -0.5
comp=Z,0.1nm,0.4s
ESDC **Sonseca Array** 96.88 46 P P 17 24 14.0 -0.4
comp=Z,0.2nm,0.4s,baz=242,slow=4.3,SNR=3.5
YKA **Yellowknife Ar** 102.50 341 P Pdif 17 24 38.5 -0.3
YKA 17 28 50.3
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA **Yellowknife Ar** 102.50 341 P Pdif 17 24 38.5 -0.3
comp=Z,1.0nm,0.7s,baz=141,slow=4.2,SNR=20
YKA PP PP 17 28 50.3 -2.3
comp=Z,0.4nm,0.9s,baz=144,slow=7.3,SNR=4.0
ILAR **Eielson Array** 114.61 333 PKIKP PKPdf 17 29 22.5 0.0
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR **Eielson Array** 114.61 333 PKP PKPdf 17 29 22.4 -0.1
comp=Z,0.8nm,0.8s,baz=205,slow=1.3,SNR=9.0
CRVS **Cervenica-Dubn** 117.14 48 *e*PKIKP **PKPdf** 17 29 30.0 +2.1
CRVS **Cervenica-Dubn** 117.14 48 *e*PKP **PKPdf** 17 29 30.0 +2.1
ASAR **Alice Springs** 117.17 207 PKP **PKPdf** 17 29 28.1 -0.8
comp=Z,0.6nm,0.7s,baz=126,slow=2.0,SNR=12
ASAR PKKPbc **PKKPbc** 17 39 52.9 +0.3
comp=Z,0.4nm,0.5s,baz=339,slow=3.5,SNR=9.6
KOLS **Kolonicke sedl** 117.65 48 *e*PKIKP PKPdf 17 29 39.4 +11
KOLS **Kolonicke sedl** 117.65 48 *e* PKPdf 17 29 39.4 +11
WRA **Warramunga Arr** 120.37 209 PKIKP **PKPdf** 17 29 34.6 -0.5
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA **Warramunga Arr** 120.37 209 PKP **PKPdf** 17 29 34.6 -0.5
comp=Z,1.7nm,0.5s,baz=156,slow=1.7,SNR=31
BRTR **Keskin Array B** 122.03 61 PKIKP **PKPdf** 17 29 37.7 -0.1
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR **Keskin Array B** 122.03 61 PKP **PKPdf** 17 29 37.7 -0.1
comp=Z,1.8nm,0.7s,baz=187,slow=3.4,SNR=12
KIEV **Kiev** 122.47 48 *i* PKIKP **PKPdf** 17 29 37.2 -0.8
AKASG **Malin Array Be** 122.48 48 PKIKP **PKPdf** 17 29 37.3 -0.8
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG **Malin Array Be** 122.48 48 PKP **PKPdf** 17 29 37.3 -0.8
comp=Z,0.6nm,0.3s,baz=276,slow=1.9,SNR=5.3
VSU **Vasula** 123.04 38 *i* PKIKP **PKPdf** 17 29 38.4 -0.5
FINES **FINESS Array B** 123.35 35 PKP **PKPdf** 17 29 39.3 -0.1
comp=Z,2.4nm,1.0s,baz=259,slow=1.9,SNR=6.7
FINES PKKPbc PKKPbc 17 39 35.5 +5.5
comp=Z,0.3nm,0.4s,baz=85,slow=4.0,SNR=4.4
ARCES **ARCESS Array B** 124.42 25 PKIKP **PKPdf** 17 29 40.8 -0.5
ARCES pmax pmax
comp=Z,1.0nm,0.8s
ARCES **ARCESS Array B** 124.42 25 PKP **PKPdf** 17 29 40.8 -0.5
comp=Z,1.2nm,0.8s,baz=270,slow=2.4,SNR=5.9
H11S2 **WAKE ISLAND Hyl** 25.79 269 T T 19 48 09.1
baz=120,slow=74,SNR=64
H11S1 **WAKE ISLAND Hyl** 25.80 269 T T 19 48 08.5
baz=120,slow=74,SNR=94
H11S3 **WAKE ISLAND Hyl** 25.80 269 T T 19 48 08.8
baz=120,slow=74,SNR=60
H11N3 **WAKE ISLAND Hyl** 26.21 270 T T 19 48 39.1
baz=115,slow=78,SNR=47
H11N1 **WAKE ISLAND Hyl** 26.22 270 T T 19 48 40.1
baz=115,slow=78,SNR=86
H11N2 **WAKE ISLAND Hyl** 26.23 270 T T 19 48 37.9
baz=115,slow=78,SNR=66
KIV **Kislovodsk** 129.71 59 *i* PKIKP **PKPdf** 17 29 52.6 +0.3
KIV *i* 17 29 57.7
KIV pmax pmax
comp=Z,8.0nm,1.2s
KLMR **Klimovskoe** 129.76 36 *e*PKIKP **PKPdf** 17 29 49.3 -2.4
KLMR pmax pmax
comp=Z,22nm,1.3s
KBZ **Khabaz** 129.81 59 PKIKP **PKPdf** 17 29 52.1 -0.2
KBZ pmax pmax
comp=Z,3.0nm,1.0s
KBZ **Khabaz** 129.81 59 PKP **PKPdf** 17 29 52.1 -0.2
comp=Z,3.1nm,1.0s,baz=34,slow=3.6,SNR=4.5
PRGR **Permogore** 132.68 35 PKIKP **PKPdf** 17 29 57.2 0.0
PRGR pmax pmax
comp=Z,72nm,1.9s
BILL **Bilibino** 133.26 334 *i* PKIKP **PKPdf** 17 29 58.6 +0.5
BILL pmax pmax
comp=Z,3.0nm,1.1s
GEYT **Alibeck** 139.99 70 PKP **PKPdf** 17 30 12.4 +0.8
comp=Z,1.8nm,0.6s,baz=209,slow=2.7,SNR=5.2
ARU **Arti** 140.07 41 PKHKP PKPpre 17 30 03.7
SEY **Seymchan** 140.44 330 PKHKP PKPpre 17 30 04.0
SEY 17 30 12.7
SEY pmax pmax
comp=Z,1.0nm,0.7s
SEY pmax pmax
comp=Z,6.0nm,0.8s
SEY **Seymchan** 140.44 330 PKhKP PKPpre 17 30 04.0
comp=Z,1.3nm,0.7s,baz=124,slow=3.7,SNR=7.4
SEY PKP **PKPdf** 17 30 12.7 +1.2
comp=Z,5.7nm,0.8s,baz=123,slow=2.0,SNR=22
PETK **Petropavlovsk-** 140.49 314 PKIKP **PKPdf** 17 30 11.8 -0.2
PETK pmax pmax
comp=Z,3.0nm,0.9s
PETK **Petropavlovsk-** 140.49 314 PKP **PKPdf** 17 30 11.8 -0.2
comp=Z,3.6nm,0.9s,baz=129,slow=4.1,SNR=5.2
TIXI **Tiksi** 141.15 350 *e*PKHKP PKPpre 17 30 04.6
TIXI *e* 17 30 12.3
TIXI **Tiksi** 141.15 350 *e*PKPpre PKPpre 17 30 04.6
TIXI *e*PKPdf **PKPdf** 17 30 12.3 -0.3
GSI **Gunungsitoli** 145.61 161 *e*PKPdf **PKPdf** 17 30 20.4 -1.9
MDRS **Chennai** 147.05 123 *ex* **PKPdf** 17 30 19.4 -5.2
MDRS *ex* x 17 41 35.4
HYB **Hyderabad** 148.71 115 *i* PKP **PKPbc** 17 30 30.5 -0.6
YAK **Yakutsk** 149.17 340 *e*PKP2 **PKPbc** 17 30 30.3 -0.5
YAK pmax pmax
comp=Z,33nm,0.9s
YAK **Yakutsk** 149.17 340 *e*PKPdf **PKPdf** 17 30 26.3 -0.3
YAK *e*PKPbc **PKPbc** 17 30 30.5 -0.4
YAK *e*PKPab **PKPab** 17 30 36.4 +1.0
KKAR **Karatay Array** 149.74 62 *e*PKP2 **PKPbc** 17 30 32.7 -0.2
KKAR **Karatay Array** 149.74 62 *e*PKPbc **PKPbc** 17 30 32.7 -0.2
YSS **Yuzh-Sakhalins** 151.09 306 *e*PKIKP **PKPbc** 17 30 36.0 +0.1
YSS pmax pmax
comp=Z,40nm,0.9s
YSS **Yuzh-Sakhalins** 151.09 306 *e*PKPbc **PKPbc** 17 30 36.0 +0.1
ASAJ **Asahikawa** 151.71 300 PKIKP **PKPbc** 17 30 38.1 +0.6
ASAJ pmax pmax
comp=Z,15nm,0.9s
ASAJ **Asahikawa** 151.71 300 PKPbc **PKPbc** 17 30 38.1 +0.6
comp=Z,15nm,0.9s,baz=90,slow=3.0,SNR=7.2

AML	**Almayashu**	**152.16**	**64**	P	**PKPbc**	**17 30 40.2**	**+1.1**
	SNR=9.9						
EKS2	**Erkin-Say**	**152.17**	**63**	P	**PKPbc**	**17 30 39.4**	**+0.6**
	SNR=11						
EKS2	**Erkin-Say**	**152.17**	**63**	*e*PKIKP	**PKPdf**	**17 30 32.8**	**+0.7**
EKS2				*e*		17 30 39.6	
EKS2	**Erkin-Say**	**152.17**	**63**	*e*PKPdf	**PKPdf**	**17 30 32.8**	**+0.7**
EKS2				*e*PKPbc	**PKiKP**	**17 30 39.6**	**+0.5**
USP	**Ospenovka**	**152.63**	**61**	P	**PKPbc**	**17 30 40.8**	**+1.1**
	SNR=8.3						
AAK	**Ala-Archa**	**152.70**	**63**	P	**PKPbc**	**17 30 41.1**	**+1.1**
	SNR=12						
AAK	**Ala-Archa**	**152.70**	**63**	*e*PKIKP	**PKPdf**	**17 30 32.4**	**-0.5**
AAK				*e*		17 30 40.6	
AAK	**Ala-Archa**	**152.70**	**63**	*e*PKPdf	**PKPdf**	**17 30 32.4**	**-0.5**
AAK				*e*PKPbc	**PKiKP**	**17 30 40.6**	**+0.3**
UCH	**Uchtor**	**152.75**	**63**	P	**PKPbc**	**17 30 41.8**	**+1.2**
	SNR=13						
KURK	**Kurchatov**	**153.20**	**44**	*e*PKIKP	**PKPdf**	**17 30 33.4**	**+0.3**
KURK				*e*		17 30 40.9	
KURK	**Kurchatov**	**153.20**	**44**	*e*PKPdf	**PKPdf**	**17 30 33.4**	**+0.3**
KURK				*e*PKPbc	**PKiKP**	**17 30 40.9**	**+0.2**
NVS	**Novosibirsk**	**153.31**	**33**	*e*PKIKP	**PKPdf**	**17 30 33.1**	**0.0**
NVS				pmax	pmax		
	comp=Z,23nm,1.1s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.4s						
TKM2	**Tokmak 2**	**153.47**	**62**	*e*PKIKP	**PKPbc**	**17 30 41.9**	**+0.2**
TKM2	**Tokmak 2**	**153.47**	**62**	*e*PKPbc	**PKPbc**	**17 30 41.9**	**+0.2**
KSH	**Kashi**	**154.01**	**69**	PKPbc	**PKPdf**	**17 30 34.8**	**-0.1**
KSH				sPKP		17 30 52.1	
KSH				PKS	**PKSdf**	**17 34 09.1**	**-0.1**
KSH				PP	**PP**	**17 34 29.8**	**-2.0**
KSH				SKS	**SKSdf**	**17 37 38.5**	**-0.2**
KSH				PPMZ			
	comp=E,51nm,4.5s						
KSH				LN			
	comp=E,52nm,3.9s						
KSH				LE			
	comp=E,52nm,5.3s						
KSH				LZ			
	comp=E,170nm,5.1s						
ULHL	**Ulahol**	**154.03**	**63**	P	**PKPbc**	**17 30 44.1**	**+1.1**
	SNR=6.7						
ZALV	**Zalesovo Beam**	**154.60**	**33**	PKIKP	**PKPdf**	**17 30 35.0**	**0.0**
ZALV						17 30 43.3	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ZALV	**Zalesovo Beam**	**154.60**	**33**	PKP	**PKPdf**	**17 30 35.0**	**0.0**
	comp=Z,1.5nm,0.7s,baz=318,slow=2.0,SNR=9.7						
ZALV				PKPbc	**PKPbc**	**17 30 43.2**	**-0.3**
	comp=Z,6.9nm,0.8s,baz=298,slow=2.5,SNR=17						
ZALV				PKPab	**PKPab**	**17 30 58.8**	**+0.5**
	comp=Z,6.3nm,0.7s,baz=308,slow=5.5,SNR=7.8						
BOD	**Bodaibo**	**156.29**	**352**	*e*PKIKP	PKPdf	17 30 43.5	+6.3
BOD				*e*		17 31 04.6	
BOD				pmax	pmax		
	comp=Z,14nm,1.1s						
MKAR	**Makanchi Array**	**157.04**	**50**	PKIKP	**PKPdf**	**17 30 38.8**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	**Makanchi Array**	**157.04**	**50**	PKP	**PKPdf**	**17 30 38.8**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=349,slow=1.2,SNR=8.7						
MKAR				PKPab	**PKPab**	**17 31 08.0**	**-1.1**
	comp=Z,3.9nm,0.8s,baz=291,slow=3.8,SNR=12						
DANN	**Dangsing**	**158.47**	**100**	*e*P	**PKPdf**	**17 30 41.4**	**+0.1**
	comp=Z,20nm,0.8s						
GKN	**Gorkha**	**159.04**	**102**	*e*P	**PKPdf**	**17 30 41.9**	**+0.1**
	comp=Z,10nm,1.0s						
USRK	**Ussuriysk Ar.**	**159.11**	**305**	PKPab	**PKPab**	**17 31 18.6**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=151,slow=4.4,SNR=4.2						
DMN	**Daman**	**159.26**	**103**	*e*P	**PKPdf**	**17 30 42.6**	**+0.4**
KKN	**Kakani**	**159.47**	**103**	*e*P	**PKPdf**	**17 30 42.7**	**+0.3**
GUN	**Gumba**	**160.01**	**103**	*e*P	**PKPdf**	**17 30 42.7**	**-0.4**
JIRN	**Jiri**	**160.15**	**104**	*e*P	**PKPdf**	**17 30 43.2**	**-0.1**
RAMN	**Ramite**	**160.16**	**106**	*e*P	**PKPdf**	**17 30 43.5**	**+0.3**
ODAN	**Odare**	**160.75**	**108**	*e*P	**PKPdf**	**17 30 44.0**	**+0.2**
TAPN	**Taplejung**	**161.23**	**107**	*e*P	**PKPdf**	**17 30 44.5**	**+0.1**
WMQ	**Urumqi**	**161.73**	**53**	*e*PKP	**PKPdf**	**17 30 42.8**	**-1.3**
WMQ				PPMZ			
	comp=Z,130nm,5.4s						
WMQ				LN			
	comp=Z,37nm,20.0s						
WMQ				LE			
	comp=Z,150nm,25.0s						
WMQ				LZ			
	comp=Z,81nm,21.0s						
CMAR	**Chiang Mai Arr**	**162.14**	**151**	PKIKP	**PKPdf**	**17 30 45.3**	**+0.1**
CMAR						17 31 33.3	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**162.14**	**151**	PKP	**PKPdf**	**17 30 45.2**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=247,slow=2.2,SNR=9.4						
CMAR				PKPab	**PKPab**	**17 31 33.3**	**+1.5**
	comp=Z,0.5nm,0.9s,baz=218,slow=5.0,SNR=3.1						
TLY	**Talaya**	**162.50**	**9**	*e*PKP2	**PKPab**	**17 31 33.9**	**+1.3**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KSRS	**Korea Array**	**163.59**	**286**	PKIKP	**PKPdf**	**17 30 45.3**	**-0.7**
KSRS						17 31 39.5	
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSRS	**Korea Array**	**163.59**	**286**	PKP	**PKPdf**	**17 30 45.3**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=31,slow=1.2,SNR=4.1						
KSRS				PKPab	**PKPab**	**17 31 39.5**	**+1.5**
	comp=Z,3.1nm,0.9s,baz=112,slow=4.0,SNR=5.8						
KSAR	**Wonju Array Be**	**163.62**	**286**	PKIKP	**PKPdf**	**17 30 45.3**	**-0.8**
KSAR						17 31 39.5	
KSAR	**Wonju Array Be**	**163.62**	**286**	PKP	**PKPdf**	**17 30 45.3**	**-0.8**
KSAR				PKPab	**PKPab**	**17 31 39.5**	**+1.4**
ZAK	**Zakamensk**	**163.72**	**11**	*e*PKIKP	**PKPdf**	**17 30 46.0**	**+0.1**
ZAK				*e*		17 31 38.4	
ZAK				pmax	pmax		
	comp=Z,3.0nm,2.0s						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
SLVN	**Son La**	**166.44**	**164**	PKPdf	**PKPdf**	**17 30 48.1**	**-0.9**
SONM	**Songino Array**	**166.59**	**5**	PKIKP	**PKPdf**	**17 30 48.1**	**-0.3**
SONM						17 31 51.4	
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**166.59**	**5**	PKP	**PKPdf**	**17 30 48.1**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=50,slow=0.9,SNR=5.4						
SONM				PKPab	**PKPab**	**17 31 51.4**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=324,slow=4.0,SNR=13						
KMI	**Kunming**	**169.64**	**153**	PKP	**PKPdf**	**17 30 52.8**	**+1.4**
KMI				pPKP	**pPKPdf**	**17 31 05.8**	**+2.0**
KMI				SS	SS	17 56 53.3	+4.8
KMI				LZ			
	comp=Z,63nm,19.0s						
NJ2	**Nanjing**	**170.59**	**258**	*e*PKP	**PKPdf**	**17 30 50.6**	**-0.8**
GTA	**Gaotai**	**171.80**	**51**	PKP	**PKPdf**	**17 30 53.0**	**+1.0**
GTA				pPKP	**pPKPdf**	**17 31 03.8**	**-0.6**
GTA				sPKP		17 31 07.6	
GTA				PKPab	**PKPab**	**17 32 15.3**	**+1.0**
GTA				PP	**PP**	**17 36 08.9**	**+3.4**
GTA				SKS	**SKSdf**	**17 37 51.8**	**-0.5**
GTA				PPMZ			
	comp=Z,63nm,8.8s						
GTA				LN			
	comp=Z,88nm,18.8s						
GTA				LE			
	comp=Z,72nm,16.6s						
GTA				LZ			
	comp=Z,96nm,17.1s						
GYA	**Guiyang**	**171.94**	**171**	*e*PKP	**PKPdf**	**17 30 52.6**	**+0.2**
GYA				pPKP	**pPKPdf**	**17 31 06.0**	**+1.2**
GYA				PKPab	**PKPab**	**17 32 17.4**	**+2.4**
GYA				PKS	**PKSdf**	**17 34 23.8**	**-1.1**
GYA				PP	**PP**	**17 36 07.5**	**+2.4**
GYA				PPMZ			
	comp=Z,140nm,8.3s						
GYA				LN			
	comp=Z,140nm,21.6s						
GYA				LE			
	comp=Z,120nm,22.4s						
GYA				LZ			
	comp=Z,130nm,21.8s						
HHC	**Hu-ho-hao-te**	**173.02**	**337**	*e*PKP	PKPdf	17 30 45.0	-7.4
HHC				PKS	PKSdf	17 34 15.8	-8.9
HHC				PP	**PP**	**17 36 06.5**	**-4.1**
HHC				SKS	SKSdf	17 37 42.9	-10
CD2	**Chengdu**	**174.97**	**134**	*e*PKP	**PKPdf**	**17 30 53.1**	**-0.2**
LZH	**Lanzhou**	**176.24**	**63**	*e*PKP	**PKPdf**	**17 30 54.0**	**+0.4**
LZH				pPKP	**pPKPdf**	**17 31 02.6**	**-3.4**
LZH				sPKP		17 31 06.8	
XAN	**Xi'an**	**179.12**	**242**	PKP	**PKPdf**	**17 30 54.8**	**+0.9**
XAN				PKPab		17 32 47.3	

IDC 19 17:16:32.1±3.4, 25°.60N×127°.79E, h0^{km}, mb3.4/4, mb1 3.6/4, mb1mx3.4/34, mbtmp3.4/4, Error ellipse: s-maj=201.3km s-min=22.2km az=65.0, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**27.87**	**328**	P	P	17 22 24.6	+0.9
	0.3nm,0.5s,baz=141,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**41.66**	**313**	P	P	17 24 21.3	-1.0
	0.2nm,0.5s,baz=95,slow=8.7,SNR=3.2						
WRA	**Warramunga Arr**	**45.71**	**171**	P	P	17 24 54.6	-0.5
	0.5nm,0.5s,baz=353,slow=8.5,SNR=8.3						
ASAR	**Alice Springs**	**49.33**	**173**	P	P	17 25 23.6	+0.3
	0.3nm,0.6s,baz=3.4,slow=7.7,SNR=7.7						

*GUC **19** 17:57:09.6±0.8, 34°.47S×71°.95W, h15^{km}±6^{km}, ML4.6*
*ISCJB **19** 17:57:10.2±0.9, 34°.47S±0°.03×71°.87W±0°.06, h18^{km}±6^{km}, mb4.7/34, MS3.8/2, Error ellipse: s-maj=8.7km s-min=3.9km az=18.8*
*BJI **19** 17:57:10.8, 34°.07S×72°.14W, h21^{km}, mB5.1/5, Ms5.2/3, Ms7 5.0/2*
*NEIC **19** 17:57:13.4±2.8, 34°.46S×71°.70W, h30^{km}±19^{km}, mb4.8/28, ML4.6(GUC), Error ellipse: s-maj=14.3km s-min=7.5km az=75.0*
NEIC Felt [V] at Paredones and Santa Cruz, [IV] at Navidad, [III] at Pichilemu and [II] at Rancagua and Talca.
*IDC **19** 17:57:13.8±4.4, 34°.51S×71°.88W, h33^{km}±33^{km}, mb4.3/13, mb1 4.3/16, mb1mx4.2/35, mbtmp4.4/16, ML4.5/2, MS3.8/2, Ms1 3.7/2, ms1mx3.3/14, Error ellipse: s-maj=22.5km s-min=13.8km az=79.0*

ISC 19 17:57:12.3±1.0, 34°.47S±0°.03×71°.78W±0°.06, h23^{km}±6^{km}, n100, σ1^{s}27/116, mb4.7/34, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.70**	**140**	⇓*i*P	**Pb**	**17 57 24.2**	**-1.6**
NICH				*i* S	**Sb**	**17 57 34.9**	**-0.1**
NICH				AML	AML	17 57 37.6	
	comp=E,72μm,0.5s						
TALC	**Talca**	**0.94**	**173**	⇑*i*P	Pb	17 57 26.9	-2.9
TALC				*i* S	**Sb**	**17 57 39.6**	**-2.1**
TACH	**Talagante**	**1.07**	**41**	⇑*i*P	**Pn**	**17 57 29.7**	**-2.2**
RCDM	**Rinconada Maip**	**1.27**	**40**	⇑*i*P	**Pn**	**17 57 32.8**	**-1.8**
RCDM				*i* S	**Sn**	**17 57 50.4**	**-0.5**
ANTU	**Antumapu**	**1.31**	**47**	*e*P	**Pn**	**17 57 34.4**	**-0.7**
ANTU				*i* S	**Sn**	**17 57 52.3**	**+0.4**
ANTU				AML	AML	17 57 56.5	
	comp=N,18μm,0.6s						
SAN	**Santiago**	**1.37**	**43**	⇓*i*P	**Pn**	**17 57 35.1**	**-0.9**
SAN				*i* S	**Sn**	**17 57 54.4**	**+0.9**
LNCH	**Linares**	**1.38**	**174**	*e*P9	**Pn**	**17 57 35.4**	**-0.7**
LNCH				*e*S	**Sn**	**17 57 54.3**	**+0.6**
LNCH				AML	AML	17 57 59.2	
	comp=N,16μm,0.5s						
FSR	**Penalolen**	**1.43**	**47**	*e*P9	**Pn**	**17 57 37.5**	**+0.6**
FSR				*e*S	**Sb**	**17 57 57.0**	**+0.9**
IHA	**Instituto Hidr**	**1.44**	**5**	*e*P1	**Pn**	**17 57 34.4**	**-2.6**
IHA				*e*S4	**Sn**	**17 57 54.9**	**-0.3**
LACH	**Col Las Americ**	**1.45**	**46**	*e*P	**Pn**	**17 57 35.9**	**-1.3**
LACH				*i* S	**Sn**	**17 57 56.2**	**+0.8**
CLCH	**Cerro Calan**	**1.48**	**44**	⇑*i*P	**Pn**	**17 57 36.8**	**-0.9**
CLCH				*i* S	**Sn**	**17 57 57.7**	**+1.4**
CLCH				AML	AML	17 58 01.9	
	comp=N,14μm,0.6s						
PEL	**Peldehue**	**1.60**	**35**	⇓*i*P	**Pn**	**17 57 38.2**	**-1.0**
PEL				*e*S4	**Sb**	**17 58 01.1**	**0.0**
PEL				AML	AML	17 58 09.5	
	comp=N,12μm,0.4s						
YECH	**El Yeso**	**1.62**	**61**	*e*P	**Pn**	**17 57 40.0**	**+0.4**
YECH				*i* S4		17 58 08.4	
CFAA	**Coronel Fontan**	**4.12**	**47**	Pn	**Pn**	**17 58 15.8**	**+1.9**
	comp=N,0.9nm,0.3s,baz=229,slow=9.4,SNR=31						
CFAA				Sn	**Sb**	**17 59 10.3**	**-3.2**
	comp=N,2.6nm,0.3s,baz=306,slow=22,SNR=5.7						
CFAA				Lg	Lg	17 59 21.7	
	comp=N,3.9nm,0.3s,baz=32,slow=9.6,SNR=3.9						
LCO	**Las Campanas**	**5.52**	**10**	*e*Pn	**Pn**	**17 58 31.7**	**-1.5**
PLCA	**Paso Flores**	**6.33**	**172**	Pn	**Pn**	**17 58 45.1**	**+0.9**
	comp=N,4.8nm,0.3s,baz=332,slow=12,SNR=52						
PLCA				Lg	Lg	18 00 26.1	
	comp=N,0.7nm,0.3s,baz=270,slow=20,SNR=3.4						
TRQA	**Tornquist**	**8.68**	**117**	*e*Pn	**Pn**	**17 59 18.9**	**+2.4**
LVC	**Limon Verde**	**12.08**	**13**	*e*Pn	**Pn**	**18 00 04.3**	**+1.1**
LPAZ	**La Paz**	**18.40**	**11**	P	**P**	**18 01 26.6**	**+0.2**
	comp=N,0.3nm,0.3s,baz=172,slow=9.6,SNR=14						
LPAZ	**La Paz**	**18.40**	**11**	*e*P	**P**	**18 01 25.9**	**-0.5**
	comp=N,7.2nm,0.9s						
EFI	**East Falkland**	**19.84**	**154**	*e*P	**P**	**18 01 39.3**	**-2.0**
	comp=N,72nm,1.2s						
USHA	**Ushuaia**	**20.50**	**174**	P	**P**	**18 01 48.4**	**0.0**
	comp=N,15nm,0.7s,baz=356,slow=9.3,SNR=6.5						
SIV	**San Ignacio**	**20.76**	**30**	P	**P**	**18 01 49.4**	**-2.3**
	comp=N,3.8nm,0.6s,baz=224,slow=12,SNR=12						
NNA	**Nana**	**22.85**	**347**	P	**P**	**18 02 14.8**	**+0.8**
	comp=N,13nm,0.9s,baz=204,slow=12,SNR=3.6						
NNA	**Nana**	**22.85**	**347**	P	**P**	**18 02 15.7**	**+1.7**
SAML	**Samuel**	**26.60**	**19**	*e*P	**P**	**18 02 46.7**	**-2.2**
	comp=N,8.6nm,1.1s						
BDFB	**Brasilia**	**28.42**	**55**	P	**P**	**18 03 06.5**	**+1.1**
	comp=N,7.8nm,0.9s,baz=203,slow=6.3,SNR=7.2						
BDFB				LR	LR	18 15 45.8	
	comp=N,162nm,19.4s,baz=228,slow=39						
BDFB	**Brasilia**	**28.42**	**55**	*e*P	**P**	**18 03 05.2**	**-0.2**
OTAV	**Otavalo**	**35.09**	**348**	P	P	18 03 59.8	-4.5
PTGA	**Pitinga**	**35.33**	**21**	*e*P	**P**	**18 04 05.3**	**-0.6**
	comp=N,9.0nm,0.8s						
SNAA	**Sanae**	**51.07**	**158**	P	**P**	**18 06 12.1**	**-0.4**
	comp=N,3.2nm,0.9s,baz=225,slow=5.2,SNR=7.9						
SNAA	**Sanae**	**51.07**	**158**	*e*P	**P**	**18 06 11.2**	**-1.2**
	comp=N,19nm,1.2s						
TEIG	**Tepich**	**56.61**	**341**	*e*P	**P**	**18 06 52.7**	**-0.6**
	comp=N,39nm,1.3s						
VNDA	**Vanda**	**63.69**	**191**	P	**P**	**18 07 41.4**	**+0.2**
	comp=N,2.2nm,0.8s,baz=127,slow=4.9,SNR=4.7						
VNDA	**Vanda**	**63.69**	**191**	P	**P**	**18 07 41.4**	**+0.2**
	comp=N,8.0nm,1.3s						
JCT	**Junction City**	**69.80**	**334**	*e*P	**P**	**18 08 20.6**	**-0.2**
	comp=N,66nm,0.8s						
TX31	**Lajitas Ar. Si**	**70.25**	**331**	*e*P	**P**	**18 08 23.1**	**-0.5**
TXAR	**Lajitas Array**	**70.25**	**331**	P	**P**	**18 08 23.8**	**+0.2**
	comp=N,1.3nm,0.6s,baz=155,slow=8.5,SNR=17						
SWET	**Sewanee**	**70.58**	**348**	*e*P	**P**	**18 08 24.0**	**-1.4**
TKL	**Tuckaleechee C**	**70.66**	**350**	P	**P**	**18 08 24.5**	**-1.4**
	comp=N,3.7nm,0.8s,baz=231,slow=6.5,SNR=3.2						
ABTX	**Abilene, Hawle**	**71.69**	**335**	*e*P	**P**	**18 08 29.8**	**-2.5**
	comp=N,10nm,0.8s						
WVT	**Waverly**	**71.82**	**346**	*e*P	**P**	**18 08 32.3**	**-0.5**
	comp=N,27nm,0.9s						
USIN	**University of**	**73.56**	**347**	*e*P	**P**	**18 08 44.0**	**+0.8**
	comp=N,136nm,0.6s						
MSTX	**Muleshoe**	**74.02**	**334**	*e*P	**P**	**18 08 45.6**	**-0.5**
	comp=N,7.6nm,0.8s						
SUR	**Sutherland**	**74.41**	**119**	P	**P**	**18 08 49.2**	**+0.4**
	comp=N,38nm,1.4s						
ACSO	**Alum Creek Sta**	**75.05**	**351**	*e*P	**P**	**18 08 50.9**	**-0.8**
	comp=N,17nm,0.7s						
DBIC	**Dimbokro**	**75.12**	**71**	P	**P**	**18 08 52.8**	**-0.1**
	comp=N,2.6nm,0.7s,baz=202,slow=5.8,SNR=4.0						
DBIC	**Dimbokro**	**75.12**	**71**	*e*P	**P**	**18 08 52.5**	**-0.4**
	comp=N,6.6nm,1.0s						
LAZ	**Ladron**	**76.10**	**330**	*e*P	P	18 09 01.5	+3.3
ANMO	**Albuquerque**	**76.30**	**331**	P	**P**	**18 08 59.4**	**+0.1**
	comp=N,4.2nm,0.9s,baz=161,slow=6.4,SNR=10						
ANMO	**Albuquerque**	**76.30**	**331**	*e*P	**P**	**18 08 59.7**	**+0.3**
	comp=N,4.6nm,0.9s						
WUAZ	**Wupatki**	**78.84**	**328**	*e*P	**P**	**18 09 14.4**	**+0.9**
	comp=N,7.7nm,0.9s						
TSUM	**Tsumeb**	**78.88**	**106**	P	**P**	**18 09 13.8**	**-0.4**
PFO	**Pinyon Flats O**	**79.64**	**323**	*e*P	**P**	**18 09 19.8**	**+1.9**
	comp=N,6.0nm,0.9s						
BOSA	**Boshof**	**79.66**	**118**	P	**P**	**18 09 18.8**	**+0.5**
	comp=N,7.4nm,0.8s,baz=250,slow=2.9,SNR=12						
BOSA	**Boshof**	**79.66**	**118**	*e*P	**P**	**18 09 18.4**	**+0.1**
	comp=N,12nm,1.0s						
KNB	**Kanab**	**80.73**	**328**	*e*P	**P**	**18 09 25.3**	**+1.5**
	comp=N,8.8nm,0.9s						
SHPR	**Sheep Range**	**81.37**	**326**	*e*P	**P**	**18 09 28.0**	**+0.9**
CCUT	**Cedar City**	**81.42**	**328**	*e*P	**P**	**18 09 28.5**	**+1.1**
	comp=N,4.9nm,0.9s						
LBTB	**Lobatse**	**81.91**	**115**	*e*P	**P**	**18 09 30.2**	**-0.2**
	comp=N,9.7nm,1.0s						
ISA	**Isabella, Lake**	**82.27**	**323**	*e*P	**P**	**18 09 33.1**	**+1.3**
	comp=N,4.7nm,0.9s						
DAC	**Darwin (Calif)**	**82.33**	**324**	*e*P	**P**	**18 09 33.6**	**+1.4**
	comp=N,6.2nm,0.9s						
R11A	**Troy Canyon, C**	**83.07**	**327**	*e*P	**P**	**18 09 37.6**	**+1.6**
	comp=N,7.0nm,1.1s						
TPH	**Tonopah**	**83.60**	**326**	*e*P	**P**	**18 09 39.3**	**+0.5**
	comp=N,4.8nm,0.8s						
TOA0	**Torodi Ar. Sit**	**84.17**	**70**	*e*P	**P**	**18 09 41.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**84.17**	**70**	P	**P**	**18 09 42.0**	**+0.1**
	comp=N,4.1nm,0.8s,baz=264,slow=4.1,SNR=18						
NV01	**Mina Array Sit**	**84.39**	**325**	*e*P	**P**	**18 09 43.6**	**+0.8**
NVAR	**Mina Array Bea**	**84.39**	**325**	P	**P**	**18 09 43.5**	**+0.6**
	comp=N,2.6nm,0.7s,baz=163,slow=6.1,SNR=16						
ELK	**Elko**	**84.87**	**328**	P	**P**	**18 09 45.8**	**+0.5**
	comp=N,3.0nm,0.7s,baz=351,slow=1.2,SNR=8.3						
ELK	**Elko**	**84.87**	**328**	*e*P	**P**	**18 09 46.2**	**+1.0**
	comp=N,3.3nm,0.9s						
MDND	**Maddock**	**85.66**	**342**	P	**P**	**18 09 50.3**	**+1.6**
	comp=N,16nm,1.0s						
MOD	**Modoc Plateau**	**88.07**	**326**	*e*P	**P**	**18 10 03.6**	**+2.8**
	comp=N,6.9nm,0.8s						
WDC	**Whiskeytown Da**	**88.11**	**324**	*e*P	**P**	**18 10 00.6**	**-0.1**
	comp=N,5.8nm,0.8s						
K05A	**Summer Lake**	**88.99**	**326**	*e*P	**P**	**18 10 06.2**	**+1.1**
BBB	**Bella Bella**	**99.32**	**329**	LR	LR	18 51 36.3	
	comp=N,39nm,19.9s,baz=9.0,slow=33						
YKA	**Yellowknife Ar**	**102.57**	**341**	P	**Pdif**	**18 11 05.7**	**-0.4**
	comp=N,0.4nm,0.7s,baz=141,slow=4.4,SNR=11						
ASAR	**Alice Springs**	**117.25**	**207**	PKP	**PKPdf**	**18 15 54.5**	**-1.6**
	comp=N,0.6nm,1.0s,baz=145,slow=1.6,SNR=4.3						
WRA	**Warramunga Arr**	**120.46**	**209**	PKP	**PKPdf**	**18 16 00.7**	**-1.7**
	comp=N,0.5nm,0.6s,baz=155,slow=1.7,SNR=13						
BR231	**Keskin MP Arra**	**121.29**	**61**	*e*PKPdf	**PKPdf**	**18 16 05.6**	**+2.2**
BRTR	**Keskin Array B**	**121.87**	**61**	PKP	**PKPdf**	**18 16 04.0**	**-0.5**
	comp=N,0.8nm,0.8s,baz=207,slow=2.5,SNR=4.3						
H11S2	**WAKE ISLAND Hyl**	**25.98**	**269**	T	T	20 34 32.2	
	baz=119,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hyl**	**25.99**	**269**	T	T	20 34 33.8	
	baz=119,slow=75,SNR=37						
H11S3	**WAKE ISLAND Hyl**	**26.00**	**269**	T	T	20 34 31.2	
	baz=119,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hyl**	**26.40**	**270**	T	T	20 34 59.4	
	baz=122,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hyl**	**26.42**	**270**	T	T	20 35 00.2	
	baz=122,slow=76,SNR=50						
H11N2	**WAKE ISLAND Hyl**	**26.42**	**270**	T	T	20 35 00.7	
	baz=122,slow=76,SNR=38						
PSI	**Prapat**	**147.32**	**163**	PKPbc	**PKPdf**	**18 16 53.9**	**+1.5**
	comp=N,2.4nm,0.3s,baz=103,slow=4.0,SNR=4.3						
HYB	**Hyderabad**	**148.54**	**115**	*i* PKP	**PKPbc**	**18 16 57.0**	**-0.7**
YAK	**Yakutsk**	**149.24**	**340**	*e*PKPbc	**PKPbc**	**18 16 57.8**	**-0.3**
EKS2	**Erkin-Say**	**152.00**	**63**	*e*PKPdf	**PKPdf**	**18 17 00.4**	**+1.5**
EKS2				*e*PKPbc	**PKPbc**	**18 17 05.9**	**+0.4**
AAK	**Ala-Archa**	**152.53**	**63**	*e*PKPdf	**PKPdf**	**18 17 02.2**	**+2.4**
AAK				*e*PKPbc	**PKPbc**	**18 17 07.2**	**+0.5**
KSH	**Kashi**	**153.84**	**69**	PKPbc	**PKPdf**	**18 17 01.5**	**-0.2**
KSH				sPKP		18 17 10.9	
KSH				PKS	**PKSdf**	**18 20 36.3**	**+0.2**
KSH				PP	**PP**	**18 20 56.3**	**-1.5**
KSH				SKS	**SKSdf**	**18 24 07.5**	**+0.3**
KSH				SKKS	**SKKSac**	**18 27 46.4**	**+0.3**
KSH				SS	**SS**	**18 40 31.6**	**-2.6**
KSH				PPMZ			
	comp=N,120nm,5.5s						
KSH				LN			

MKZ	**Mys Kozlova**	**1.01 127**	*e*P	Pg	18 04 45.7	-0.1
MKZ			*e*S	Sb	18 05 00.7	+0.1
KRSR	**Krestovskiy**	**1.05 7**	P	Pb	18 04 47.7	0.0
KRSR			S	Sn	18 05 04.0	-0.1
KLY	**Klyuchi**	**1.15 8**	P	Pb	18 04 49.5	+0.2
KLY			S	Sn	18 05 07.5	+1.2
SRDR	**Sredinnyy**	**1.20 343**	P	Pg	18 04 49.2	-0.4
SRDR			S	Sb	18 05 06.8	+0.5
ESO	**Esso**	**1.20 309**	*e*P	Pg	18 04 48.6	-0.9
ESO			*e*S	Sb	18 05 06.4	+0.2
KII	**Karymskiy**	**1.26 205**	P	Pn	18 04 51.4	0.0
BDR	**Baidarnaya**	**1.48 19**	*e*P	Pb	18 04 55.6	+0.7
BDR			S	Sn	18 05 17.8	+3.2
SMKR	**Semkarok**	**1.54 24**	*e*P	Pg	18 04 56.6	+0.4
SMKR			*e*S	Sg	18 05 19.6	+3.3
SRKR	**Sorokina**	**1.55 17**	*e*P	Pb	18 04 55.9	-0.3
SRKR			*e*S	Sg	18 05 19.0	+2.4
KBTR	**Krutoberegovo**	**1.74 52**	P	Pn	18 04 57.7	-0.2
KBTR			S	Sb	18 05 21.7	0.0
GNL	**Ganaly**	**2.04 224**	P	Pn	18 05 03.1	+0.9
KRX	**Arik**	**2.08 209**	P	Pb	18 05 04.7	-0.5
SDLR	**Sedlovina**	**2.09 205**	P	Pb	18 05 04.3	-1.0
SDLR			S	Sg	18 05 33.3	-0.5
KRER	**Koryakskii**	**2.10 207**	P	Pb	18 05 05.3	-0.3
SMAR	**Somma**	**2.12 206**	P	Pb	18 05 05.0	-1.0
AVH	**Avacha**	**2.13 207**	P	Pb	18 05 05.6	-0.5
KOK	**Koryaka**	**2.14 209**	P	Pb	18 05 05.8	-0.4
UGLR	**Uglovaya**	**2.16 205**	P	Pb	18 05 06.8	+0.2
PET	**Petropavlovsk**	**2.38 206**	P	Pb	18 05 08.6	-1.5
PET			S	Sg	18 05 41.5	-1.2
APC	**Apacha**	**2.94 221**	P	Pn	18 05 16.3	+2.0
RUS	**Russkaya**	**2.96 202**	P	Pn	18 05 16.3	+1.7
MTVR	**Mutnovka**	**2.99 206**	P	Pb	18 05 18.6	-2.1

*ISCJB **19** 18:06:51.0±0.2, 43°.75N±0°.01×105°.34W±0°.02, h0km, mb3.4/2, MS3.2/1, Error ellipse: s-maj=1.9km s-min=1.9km az=43.9*
*NEIC **19** 18:06:51.6±0.4, 43°.82N×105°.27W, h0km, ML3.3, Error ellipse: s-maj=5.5km s-min=4.6km az=181.0, Suspected Mining explosion.*
NEIC 55 km [35 miles] SSE of Gillette.
*IDC **19** 18:06:55.8±2.1, 43°.97N×105°.75W, h35km±26km, mb3.2/2, mb1 3.6/7, mb1mx3.3/39, mbtmp3.4/7, ML3.0/4, MS3.4/1, Ms1 3.4/1, ms1mx2.4/19, Error ellipse: s-maj=47.7km s-min=11.2km az=148.0*

ISC 19 18:06:50.8±0.6, 43°.76N±0°.02×105°.36W±0°.02, h0km, n143, σ1§17/156, 57C-49D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.21**	**339**	P		**Pg**	**18 06 57.0**	**+2.0**
	baz=0.2,SNR=524							
J23A	**Dilts Ranch, B**	**0.38**	**202**	⇑P		**Pg**	**18 06 59.2**	**+1.1**
	baz=0.5,SNR=225							
I24A	**Kuemmerle Ranc**	**0.54**	**79**	P		**Pg**	**18 07 01.6**	**+0.5**
	baz=0.5,SNR=244							
J24A	**Dixon Ranch, L**	**0.66**	**130**	P		**Pg**	**18 07 03.7**	**+0.1**
	baz=0.7,SNR=196							
H23A	**Clabaugh Cattl**	**0.80**	**358**	⇑P		**Pb**	**18 07 07.0**	**-0.8**
	baz=0.8,SNR=16							
I22A	**9 Mile Ranch,**	**0.83**	**280**	P		**Pb**	**18 07 08.0**	**-0.2**
	baz=0.9,SNR=766							
J22A	**Midwest**	**0.89**	**247**	P		**Pb**	**18 07 08.4**	**-0.8**
	baz=1.0,SNR=114							
RSSD	**Black Hills**	**1.02**	**69**	*e*Pg		**Pg**	**18 07 10.0**	**-0.4**
K23A	**Bowen Ranch, D**	**1.02**	**191**	⇓P		**Pg**	**18 07 10.8**	**+0.3**
	baz=1.1							
H22A	**Clearmont**	**1.10**	**320**	⇓P		**Pn**	**18 07 12.8**	**-0.8**
	baz=1.1,SNR=39							
K24A	**Anderson Ranch**	**1.11**	**159**	P		**Pg**	**18 07 11.7**	**-0.4**
	baz=1.1,SNR=287							
H24A	**Dirks Ranch, A**	**1.14**	**30**	⇑P		**Pg**	**18 07 12.6**	**-0.2**
	baz=1.1							
J25A	**Sunshine Ranch**	**1.19**	**108**	⇑P		**Pg**	**18 07 13.4**	**-0.2**
	baz=1.1,SNR=190							
I25A	**Rochford**	**1.20**	**77**	P		**Pg**	**18 07 13.3**	**-0.5**
	baz=1.1,SNR=167							
I25A				⇑S		**Sb**	**18 07 30.9**	**+0.1**
	baz=1.1							
K22A	**Casper**	**1.40**	**218**	⇓P		**Pn**	**18 07 17.3**	**-0.4**
	baz=1.5,SNR=146							
K22A	**Casper**	**1.40**	**218**	*e*Pn		**Pn**	**18 07 17.1**	**-0.6**
I21A	**Big Trails, Te**	**1.40**	**273**	⇑P		**Pb**	**18 07 17.4**	**-0.6**
	baz=1.5							
I21A				⇓S		**Sn**	**18 07 37.7**	**+0.6**
	baz=1.5							
G23A	**Biddle**	**1.44**	**359**	P		**Pb**	**18 07 18.3**	**-0.3**
	baz=1.4,SNR=123							
G23A				⇓S		**Sn**	**18 07 39.1**	**+1.2**
	baz=1.4							
H21A	**Big Horn, Sher**	**1.49**	**306**	⇓P		**Pb**	**18 07 19.9**	**+0.4**
	baz=1.5,SNR=257							
H21A				⇑S		**Sn**	**18 07 40.9**	**+1.7**
	baz=1.5							
H25A	**Fruitdale**	**1.53**	**55**	⇑P		**Pn**	**18 07 19.4**	**-0.1**
	baz=1.4,SNR=43							
H25A				⇓S		**Sn**	**18 07 41.7**	**+1.5**
	baz=1.4							
J21A	**Lysite**	**1.57**	**255**	P		**Pn**	**18 07 20.3**	**+0.1**
	baz=1.6,SNR=137							
J21A				⇑S		**Sg**	**18 07 43.0**	**+1.6**
	baz=1.6							
K25A	**Mack Ranch, Ha**	**1.58**	**136**	⇑P		**Pn**	**18 07 20.7**	**+0.4**
	baz=1.6,SNR=173							
G22A	**Birney**	**1.60**	**336**	⇓P		**Pg**	**18 07 21.5**	**-0.1**
	baz=1.6,SNR=86							
L23A	**Garrett**	**1.66**	**189**	⇑P		**Pn**	**18 07 21.4**	**0.0**
	baz=1.7,SNR=1000							
L23A				⇓S		**Sg**	**18 07 44.7**	**+0.4**
	baz=1.7							
G24A	**Alzada**	**1.71**	**23**	⇑P		**Pb**	**18 07 22.7**	**-0.4**
	baz=1.6,SNR=52							
G24A				⇑S		**Sg**	**18 07 46.6**	**+1.0**
	baz=1.6							
J26A	**Sides Ranch, S**	**1.72**	**104**	⇑P		**Pn**	**18 07 22.1**	**+0.1**
	baz=1.7,SNR=16							
J26A				⇓S		**Sb**	**18 07 45.6**	**+0.1**
	baz=1.7							
L24A	**Wheatland**	**1.74**	**170**	⇑P		**Pn**	**18 07 22.8**	**+0.3**
	baz=1.8,SNR=43							
L24A				⇓S		**Sb**	**18 07 46.7**	**+0.4**
	baz=1.8							
K21A	**Alcova**	**1.79**	**232**	⇓P		**Pb**	**18 07 24.1**	**-0.5**
	baz=1.9,SNR=109							
K21A				⇑S		**Sg**	**18 07 48.1**	**-0.1**
	baz=1.9							
I26A	**New Underwood**	**1.83**	**81**	⇑P		**Pb**	**18 07 24.4**	**-0.8**
	baz=1.8,SNR=33							
I26A				⇑S		**Sb**	**18 07 48.7**	**+0.1**
	baz=1.8							
L22A	**Ellis Ranch, M**	**1.90**	**205**	⇓P		**Pb**	**18 07 25.8**	**-0.7**
	baz=2.0,SNR=13							
L25A	**Engebretsen Ra**	**1.90**	**147**	P		**Pb**	**18 07 26.0**	**-0.5**
	baz=1.9,SNR=149							
L25A				⇓S		**Sb**	**18 07 50.7**	**-0.1**
	baz=1.9							
K26A	**Motz Farm, Whi**	**1.91**	**123**	⇓P		**Pn**	**18 07 25.4**	**+0.6**
	baz=1.9,SNR=16							
F23A	**Volborg**	**1.96**	**359**	⇓P		**Pb**	**18 07 26.3**	**-1.2**
	baz=1.9,SNR=272							
F23A				⇑S		**Sg**	**18 07 53.4**	**-0.5**
	baz=1.9							
G25A	**Newell**	**2.00**	**43**	⇓P		**Pb**	**18 07 27.1**	**-0.9**
	baz=1.9,SNR=36							
G25A				⇑S		**Sg**	**18 07 54.0**	**-0.9**
	baz=1.9							
I20A	**Worland**	**2.01**	**276**	⇓P		**Pb**	**18 07 27.8**	**-0.6**
	baz=2.1,SNR=144							
I20A				⇓S		**Sg**	**18 07 54.5**	**-1.0**
	baz=2.1							
J20A	**Shoshoni**	**2.02**	**259**	⇑Pb		**Pg**	**18 07 29.2**	**-0.4**
	baz=2.1,SNR=78							
J20A				⇓Sb		**Sg**	**18 07 57.3**	**+1.4**
	baz=2.1							
H20A	**Greybull**	**2.04**	**292**	⇓P		**Pb**	**18 07 27.7**	**-1.1**
	baz=2.1,SNR=62							
H20A				⇑S		**Sg**	**18 07 54.9**	**-1.4**
	baz=2.1							
H26A	**Fairpoint**	**2.05**	**64**	⇑P		**Pb**	**18 07 28.1**	**-0.8**
	baz=2.0,SNR=55							
H26A				⇑Sb		**Sg**	**18 07 57.9**	**+1.4**
	baz=2.0							
F22A	**Rosebud**	**2.12**	**343**	⇑P		**Pn**	**18 07 28.1**	**+0.5**
	baz=2.1,SNR=136							
M23A	**Laramie**	**2.31**	**187**	⇑P		**Pb**	**18 07 32.7**	**-0.7**
	baz=2.4,SNR=72							
I27A	**Quinn**	**2.41**	**81**	⇑P		**Pn**	**18 07 33.1**	**+1.5**
	baz=2.3,SNR=22							
J27A	**Elkhorn Farm,**	**2.49**	**101**	⇓P		**Pn**	**18 07 34.5**	**+1.8**
	baz=2.4,SNR=25							
G26A	**Maurine**	**2.50**	**51**	⇓P		**Pn**	**18 07 34.2**	**+1.4**
	baz=2.4,SNR=56							
G20A	**Bridger**	**2.51**	**307**	P		**Pn**	**18 07 33.7**	**+0.6**
	baz=2.5,SNR=268							
K27A	**Flueckinger Fa**	**2.51**	**114**	⇑P		**Pn**	**18 07 33.7**	**+0.7**
	baz=2.5,SNR=52							
M25A	**Palm-Egli Farm**	**2.52**	**157**	⇓P		**Pn**	**18 07 34.4**	**+1.3**
	baz=2.5,SNR=10							
M22A	**Cedar Creek Ra**	**2.53**	**202**	⇑P		**Pb**	**18 07 35.5**	**-1.7**
	baz=2.6,SNR=382							
F25A	**Bowman**	**2.55**	**31**	⇓P		**Pb**	**18 07 35.5**	**-2.0**
	baz=2.5,SNR=7.8							
I19A	**Meeteetse**	**2.64**	**277**	⇑P		**Pb**	**18 07 37.0**	**-2.2**
	baz=2.7,SNR=51							
E22A	**Miles City**	**2.71**	**351**	⇓P		**Pn**	**18 07 36.0**	**+0.2**
	baz=2.7,SNR=19							
J19A	**Crowheart**	**2.73**	**261**	⇑P		**Pb**	**18 07 38.5**	**-2.2**
	baz=2.8,SNR=368							
H19A	**Powell**	**2.76**	**290**	⇓P		**Pn**	**18 07 38.2**	**+1.7**
	baz=2.8,SNR=31							
M26A	**McRoberts Ranc**	**2.82**	**144**	⇑P		**Pn**	**18 07 38.2**	**+1.0**
	baz=2.8,SNR=18							
F26A	**Lodgepole**	**2.83**	**42**	⇓P		**Pn**	**18 07 38.8**	**+1.4**
	baz=2.7,SNR=11							
F20A	**Billings**	**2.85**	**317**	⇑P		**Pn**	**18 07 38.3**	**+0.6**
	baz=2.8,SNR=30							
E24A	**Baker**	**2.90**	**14**	⇓P		**Pn**	**18 07 39.6**	**+1.3**
	baz=2.8,SNR=59							
N23A	**Red Feather La**	**2.90**	**189**	⇑P		**Pn**	**18 07 39.7**	**+1.2**
	baz=3.0,SNR=41							
G27A	**Dupree**	**2.94**	**55**	⇓P		**Pn**	**18 07 40.0**	**+1.3**
	baz=2.8,SNR=9.2							
LAO	**LASA Array**	**2.99**	**348**	*e*Pn		**Pn**	**18 07 40.3**	**+0.7**
E25A	**Miller Ranch,**	**3.07**	**26**	⇓P		**Pn**	**18 07 42.4**	**+1.7**
	baz=3.0,SNR=10							
RLMT	**Red Lodge**	**3.11**	**297**	*e*Pn		**Pn**	**18 07 42.3**	**+0.9**
BW06	**Boulder Array**	**3.23**	**254**	*e*Pn		**Pn**	**18 07 44.2**	**+1.2**
PDAR	**Pinedale Array**	**3.23**	**254**	Pn		**Pn**	**18 07 44.5**	**+1.6**
	7.1nm,0.3s,baz=72,slow=16,SNR=101							
PDAR				Lg		Lg	18 08 30.8	
	11nm,0.3s,baz=72,slow=34,SNR=5.5							
H18A	**Shoshone NF, C**	**3.23**	**288**	⇑P		**Pn**	**18 07 44.1**	**+1.1**
	baz=3.3,SNR=80							
F19A	**Roth Farm, Mol**	**3.30**	**311**	⇑P		**Pn**	**18 07 45.2**	**+1.4**
	baz=3.3,SNR=147							
E20A	**Meyer Farm, Mu**	**3.37**	**325**	P		**Pn**	**18 07 44.8**	**0.0**
	baz=3.4,SNR=18							
D24A	**Glendive**	**3.43**	**12**	⇓P		**Pn**	**18 07 47.2**	**+1.5**
	baz=3.4,SNR=40							
D21A	**La Casta Ranch**	**3.50**	**341**	⇑P		**Pn**	**18 07 47.4**	**+0.8**
	baz=3.5							
E19A	**Rath Farm, Rou**	**3.63**	**319**	⇓P		**Pn**	**18 07 48.9**	**+0.5**
	baz=3.6,SNR=31							
GCMT	**Greycliff**	**3.68**	**305**	*e*Pn		**Pn**	**18 07 50.1**	**+1.0**
D25A	**Fairfield**	**3.68**	**22**	⇓P		**Pn**	**18 07 51.3**	**+2.2**
	baz=3.6,SNR=23							
O22A	**Kremmling**	**3.70**	**194**	⇓P		**Pn**	**18 07 51.6**	**+2.0**
	baz=3.8,SNR=17							
OGNE	**Ogallala**	**3.74**	**138**	*e*Pn		**Pn**	**18 07 51.7**	**+1.9**
H17A	**Grant Village**	**3.81**	**281**	⇑P		Pn	18 07 54.0	+2.9
	baz=3.9,SNR=9.5							
H17A	**Grant Village**	**3.81**	**281**	*e*Pn		**Pn**	**18 07 53.5**	**+2.4**
C24A	**Savage**	**3.83**	**10**	⇑P		**Pn**	**18 07 53.0**	**+1.9**
	baz=3.8,SNR=24							
O26A	**Horse Wrangler**	**3.83**	**156**	⇑P		**Pn**	**18 07 52.5**	**+1.3**
	baz=3.9,SNR=14							
D20A	**Manuel Ranch,**	**3.86**	**331**	⇓P		**Pn**	**18 07 52.3**	**+0.7**
	baz=3.8,SNR=28							
YNR	**Norris Junctio**	**3.94**	**286**	*e*Pn		**Pn**	**18 07 54.9**	**+2.1**
ISCO	**Idaho Springs**	**3.96**	**183**	⇑P		**Pn**	**18 07 54.5**	**+1.3**
	baz=4.0,SNR=19							
ISCO	**Idaho Springs**	**3.96**	**183**	*e*Pn		**Pn**	**18 07 54.7**	**+1.5**
L29A	**Maesberg Ranch**	**3.96**	**114**	⇑P		**Pn**	**18 07 53.6**	**+0.6**
	baz=3.9							
YFT	**Old Faithful**	**4.01**	**282**	*e*Pn		**Pn**	**18 07 55.3**	**+1.6**
C23A	**Lambert**	**4.04**	**2**	⇓P		**Pn**	**18 07 55.8**	**+1.7**
	baz=4.0,SNR=75							
YMR	**Madison River**	**4.13**	**285**	*e*Pn		**Pn**	**18 07 57.8**	**+2.4**
D19A	**Cripps Ranch,**	**4.21**	**325**	⇓P		**Pn**	**18 07 56.8**	**+0.5**
	baz=4.2							
O20A	**White River Ci**	**4.21**	**212**	⇓P		**Pn**	**18 07 57.2**	**+0.7**
	baz=4.3,SNR=16							
O20A	**White River Ci**	**4.21**	**212**	*e*Pn		**Pn**	**18 07 57.2**	**+0.7**
C25A	**Freed Ranch, W**	**4.22**	**20**	⇓P		**Pn**	**18 07 57.0**	**+0.6**
	baz=4.1,SNR=18							
C21A	**Desert Coulee**	**4.25**	**344**	⇑P		**Pn**	**18 07 57.6**	**+0.8**
	baz=4.2							
AHID	**Auburn Hatcher**	**4.31**	**259**	*e*Pn		**Pn**	**18 08 00.0**	**+2.2**
E28A	**Huff**	**4.33**	**48**	⇑P		**Pn**	**18 07 58.7**	**+0.7**
	baz=4.2							
C20A	**Veseth Ranch,**	**4.37**	**336**	⇑P		**Pn**	**18 07 59.2**	**+0.8**
	baz=4.3							
P23A	**Jefferson**	**4.40**	**185**	⇑P		**Pn**	**18 08 00.5**	**+1.4**
	baz=4.5,SNR=6.4							
P26A	**Davis Ranch, A**	**4.46**	**160**	⇓P		**Pn**	**18 08 01.0**	**+1.2**
	baz=4.5,SNR=15							
QLMT	**Earthquake Lak**	**4.49**	**286**	*e*Pn		**Pb**	**18 08 08.6**	**-2.0**
O28A	**Krutsinger Ran**	**4.51**	**142**	⇓P		**Pn**	**18 08 01.0**	**+0.5**
	baz=4.5							
C26A	**Wahner Farm, P**	**4.66**	**28**	⇑P		**Pn**	**18 08 03.8**	**+1.3**
	baz=4.6,SNR=21							
P27A	**Ficken Ranch,**	**4.69**	**153**	⇑P		**Pn**	**18 08 03.4**	**+0.4**
	baz=4.7,SNR=16							
B23A	**Brockton**	**4.71**	**3**	⇓P		**Pn**	**18 08 04.7**	**+1.5**
	baz=4.7,SNR=37							
C19A	**Slack Wire Ran**	**4.74**	**328**	P		**Pn**	**18 08 04.5**	**+0.9**
	baz=4.7,SNR=36							
B25A	**Knox Farm, Ray**	**4.76**	**18**	⇑P		**Pn**	**18 08 05.4**	**+1.5**
	baz=4.7,SNR=57							
BOZ	**Bozeman (W)**	**4.85**	**295**	*e*Pn		**Pn**	**18 08 05.6**	**+0.4**
B20A	**Solberg Farm,**	**5.03**	**339**	⇑P		**Pn**	**18 08 08.8**	**+1.2**
	baz=5.0							
KSCO	**Kaye Shedlock'**	**5.17**	**156**	*e*Pn		**Pn**	**18 08 09.8**	**+0.2**
	70nm,0.3s							
A24A	**Westby**	**5.25**	**10**	⇑P		**Pn**	**18 08 12.2**	**+1.6**
	baz=5.2,SNR=13							
EGMT	**Eagleton**	**5.25**	**326**	⇓P		**Pn**	**18 08 11.7**	**+1.0**
	baz=5.2							
EGMT	**Eagleton**	**5.25**	**326**	*e*Pn		**Pn**	**18 08 10.9**	**+0.2**
	20nm,0.4s							
A21A	**Bergtoll Ranch**	**5.34**	**349**	⇑P		**Pn**	**18 08 12.6**	**+0.7**
	baz=5.3,SNR=6.1							
A25A	**Svangstu Ranch**	**5.41**	**16**	⇓P		**Pn**	**18 08 14.1**	**+1.4**
	baz=5.3,SNR=9.3							
HRY	**Holter Researc**	**5.44**	**305**	*e*Pn		**Pn**	**18 08 14.7**	**+1.4**
	14nm,0.3s							
LRM	**Limekiln Ridge**	**5.45**	**295**	*e*Pn		**Pn**	**18 08 15.8**	**+2.2**
	18nm,0.3s							
MCMT	**McKenzie Canyo**	**5.48**	**284**	*e*Pn		Pn	18 08 20.0	+6.0
	2.6nm,0.4s							
DAU	**Daniels Canyon**	**5.52**	**235**	*e*Pn		Pn	18 08 17.6	+3.0
	0.4nm,0.3s							
A26A	**Wade Farm, Ken**	**5.63**	**23**	⇑P		**Pn**	**18 08 16.6**	**+0.9**
	baz=5.5							
R26A	**Arlington**	**5.64**	**165**	⇑P		**Pn**	**18 08 16.5**	**+0.4**
	baz=5.7,SNR=18							
R25A	**Fountain Ranch**	**5.67**	**171**	⇑P		**Pn**	**18 08 16.8**	**+0.4**
	baz=5.7							
MDND	**Maddock**	**5.73**	**43**	*e*Pn		**Pn**	**18 08 15.5**	**-1.7**
	28nm,0.4s							
R27A	**Eads**	**5.80**	**160**	⇓P		**Pn**	**18 08 19.1**	**+0.9**
	baz=5.8,SNR=5.9							
BGNE	**Belgrade**	**5.82**	**111**	*e*Pn		**Pn**	**18 08 20.8**	**+2.4**
	49nm,0.4s							
R28A	**Tribune**	**6.04**	**152**	P		**Pn**	**18 08 21.6**	**+0.1**
	baz=6.1,SNR=9.3							
S25A	**Robets Cordova**	**6.13**	**173**	⇑P		**Pn**	**18 08 23.2**	**+0.3**
	baz=6.2,SNR=17							
S26A	**Kim**	**6.30**	**166**	⇓P		**Pn**	**18 08 25.5**	**+0.4**
	baz=6.3,SNR=9.5							
ECSD	**EROS Data Cent**	**6.33**	**87**	⇑P		**Pn**	**18 08 25.6**	**+0.2**
	baz=6.2,SNR=8.1							
ECSD	**EROS Data Cent**	**6.33**	**87**	*e*Pn		**Pn**	**18 08 25.3**	**-0.1**
	8.2nm,0.3s							
BGU	**Big Grassy Mou**	**6.35**	**246**	*e*Pn		**Pn**	**18 08 28.0**	**+2.1**
CHMT	**Chamberlain Mo**	**6.39**	**302**	*e*Pn		**Pn**	**18 08 27.5**	**+1.0**
	2.3nm,0.3s							
HLID	**Hailey**	**6.57**	**271**	*e*Pn		**Pn**	**18 08 28.1**	**-0.8**
	1.5nm,0.5s							
DUG	**Dugway, Tooele**	**6.60**	**240**	⇓P		**Pn**	**18 08 30.4**	**+1.2**
	baz=6.7,SNR=17							
SWMT	**Swartz Lake**	**7.12**	**305**	*e*Pn		**Pn**	**18 08 37.6**	**+1.3**
	2.7nm,0.3s							
YBMT	**Yellow Bay**	**7.31**	**307**	*e*Pn		**Pn**	**18 08 40.7**	**+1.8**
	6.5nm,0.3s							
JTMT	**Jette**	**7.41**	**306**	*e*Pn		**Pn**	**18 08 41.8**	**+1.5**
	1.9nm,0.3s							
U28A	**Mallet**	**7.75**	**161**	⇓P		**Pn**	**18 08 45.6**	**+0.5**
	baz=7.8,SNR=5.0							
ELK	**Elko**	**7.92**	**251**	Pn		**Pn**	**18 08 49.5**	**+2.0**
	1.1nm,0.3s,baz=63,slow=6.8,SNR=12							
WALA	**Waterton Lakes**	**7.94**	**315**	*e*Pn		**Pn**	**18 08 47.3**	**-0.3**
	2.4nm,0.3s							
AGMN	**Agassiz Nation**	**8.01**	**52**	*e*Pn		Pn	18 08 43.0	-5.5
	7.4nm,0.4s							
ULM	**Lac du Bonnet**	**9.17**	**42**	Pn		**Pn**	**18 09 03.8**	**-0.4**
	1.5nm,0.3s,baz=221,slow=8.9,SNR=7.2							
NVAR	**Mina Array Bea**	**11.12**	**246**	Pn		**Pn**	**18 09 31.8**	**+0.5**
	0.0nm,0.3s,baz=54,slow=12,SNR=2.3							
FFC	**Flin Flon**	**11.19**	**10**	*e*Pn		**Pn**	**18 09 30.1**	**-1.9**
	2.1nm,0.3s							
YKA	**Yellowknife Ar**	**19.53**	**347**	P		**P**	**18 11 18.9**	**-0.6**
	0.1nm,0.3s,baz=164,slow=12,SNR=5.9							
LPIG	**La Paz**	**20.03**	**193**	LR		LR	18 18 47.0	
	comp=Z,110nm,19.4s,baz=202,slow=35							
ILAR	**Eielson Array**	**31.22**	**327**	P		P	18 13 07.0	-4.5
	0.3nm,0.9s,baz=110,slow=7.2,SNR=2.8							
MKAR	**Makanchi Array**	**89.58**	**355**	P		**P**	**18 19 48.6**	**-1.5**
	0.3nm,0.6s,baz=354,slow=5.4,SNR=4.0							

*ISCJB **19** 18:19:33.4±1.0, 3°.0S±0°.1×101°.1E±0°.1, h33km, mb3.8/5, Error ellipse: s-maj=22.1km s-min=7.6km az=39.5*
*IDC **19** 18:19:33.6±3.4, 2°.43S×102°.14E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/33, mbtmp3.7/5, Error ellipse: s-maj=149.6km s-min=20.2km az=56.0*
*DJA **19** 18:19:38.2±1.0, 3°.5±4°×10°1E±°, h36km±11km, M3.7/8, MLv3.7/8*

ISC 19 18:19:35.7±1.3, 3°.0S±0°.1×101°.2E±0°.1, h35km, n18, σ1§46/14, mb3.8/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.10**	**99**	P		**Pn**	**18 19 54.9**	**+0.3**
MASI				S		**Sn**	**18 20 07.9**	**-0.7**
PDSI	**Padang**	**2.16**	**341**	P		Pn	18 20 13.2	+3.9
MNAI	**Manna**	**2.27**	**128**	P		**Pn**	**18 20 10.5**	**-0.2**
MNAI				S		**Sn**	**18 20 36.3**	**-1.1**
LHSI	**Lahat**	**2.51**	**110**	P		**Pn**	**18 20 15.6**	**+1.5**
MDSI	**Maura Dua**	**3.37**	**117**	P		**Pn**	**18 20 26.7**	**+0.8**
LWLI	**Liwa**	**3.54**	**125**	P		**Pn**	**18 20 31.2**	**+2.9**
LWLI				S		**Sn**	**18 21 10.9**	**+1.9**
KASI	**Kota Agung**	**4.19**	**127**	P		**Pn**	**18 20 37.5**	**+0.4**
H08S2	**Diego Garcia H**	**28.90**	**260**	T		T	18 54 57.1	
	baz=82,slow=75,SNR=16							
H08S3	**Diego Garcia H**	**28.91**	**260**	T		T	18 54 52.8	
	baz=82,slow=75,SNR=15							
H08S1	**Diego Carcia H**	**28.92**	**260**	T		T	18 54 57.3	
	baz=82,slow=75,SNR=15							
H08N1	**Diego Carcia H**	**30.22**	**263**	T		T	18 58 51.4	
	baz=113							
H08N2	**Diego Garcia H**	**30.23**	**263**	T		T	18 58 43.0	
	baz=113							
H08N3	**Diego Garcia H**	**30.24**	**263**	T		T	18 58 55.3	
	baz=113							
WRA	**Warramunga Arr**	**36.51**	**120**	P		**P**	**18 26 36.2**	**-1.9**
	1.0nm,0.4s,baz=307,slow=9.1,SNR=17							
ASAR	**Alice Springs**	**37.75**	**126**	P		**P**	**18 26 47.0**	**-1.6**
	0.6nm,0.4s,baz=305,slow=8.2,SNR=28							
SONM	**Songino Array**	**50.80**	**5**	P		**P**	**18 28 33.1**	**+0.4**
	0.2nm,0.4s,baz=203,slow=7.9,SNR=3.0							
MKAR	**Makanchi Array**	**52.28**	**344**	P		**P**	**18 28 44.1**	**+0.4**
	0.3nm,0.4s,baz=146,slow=8.8,SN

IDC 19 19:02:02.0±4.2, 4°.00S×101°.22E, h0km, mb3.2/5, mb1 3.4/5, mb1mx3.2/38, mbtmp3.2/5, Error ellipse: s-maj=162.4km s-min=22.0km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.42**	**354**	P	P	19 07 02.8	+0.2
	0.5nm,0.8s,baz=189,slow=9.9,SNR=4.8						
H08S2	**Diego Garcia H**	**28.80**	**261**	T	T	19 37 46.3	
	baz=85,slow=75,SNR=238						
H08S3	**Diego Garcia H**	**28.81**	**261**	T	T	19 37 43.9	
	baz=85,slow=75,SNR=248						
H08S1	**Diego Carcia H**	**28.82**	**261**	T	T	19 37 47.0	
	baz=85,slow=75,SNR=170						
H08N1	**Diego Carcia H**	**30.17**	**264**	T	T	19 40 03.8	
	baz=341,slow=75,SNR=6.8						
H08N2	**Diego Garcia H**	**30.18**	**264**	T	T	19 40 04.1	
	baz=341,slow=75,SNR=8.2						
H08N3	**Diego Garcia H**	**30.19**	**264**	T	T	19 40 04.6	
	baz=341,slow=75,SNR=7.1						
WRA	**Warramunga Arr**	**35.95**	**119**	P	P	19 09 04.3	-0.4
	0.1nm,0.5s,baz=300,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**37.11**	**125**	P	P	19 09 14.8	+0.2
	0.3nm,0.9s,baz=298,slow=7.8,SNR=3.4						
SONM	**Songino Array**	**51.81**	**4**	P	P	19 11 11.9	0.0
	0.4nm,0.6s,baz=191,slow=8.3,SNR=4.1						
MKAR	**Makanchi Array**	**53.27**	**344**	P	P	19 11 22.2	-0.3
	0.5nm,0.8s,baz=145,slow=8.7,SNR=5.6						

*IDC **19** 19:25:05.3±3.0, 7°.02S×128°.91E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/20, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=317.6km s-min=31.9km az=67.0*
*ISCJB **19** 19:25:15.7±0.8, 7°.03S±0°.04×130°.1E±0°.1, h104km, mb3.4/1, Error ellipse: s-maj=14.4km s-min=6.0km az=5.0*

ISC 19 19:25:16.5±0.9, 7°.03S±0°.06×130°.0E±0°.1, h104km, n9, σ2§22/13, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.64**	**28**	P	**Pn**	**19 26 24.6**	**+0.1**
	baz=4.6,SNR=8.0						
FAKI				S	**Sn**	**19 27 15.4**	**-2.0**
	baz=4.6,SNR=3.1						
MTN	**Manton Dam**	**5.88**	**169**	P	**Pn**	**19 26 44.0**	**+2.8**
	baz=6.0,SNR=20						
MTN				S	**Sn**	**19 27 48.1**	**+0.9**
	baz=6.0,SNR=5.6						
KDU	**Kakadu**	**6.11**	**157**	P	**Pn**	**19 26 46.6**	**+2.2**
	baz=6.2,SNR=24						
KDU				S	**Sn**	**19 27 52.4**	**-0.6**
	baz=6.2,SNR=8.2						
SWI	**Sorong**	**6.25**	**11**	P	**Pn**	**19 26 48.6**	**+2.4**
	baz=6.2,SNR=3.5						
SOEI	**Soe**	**6.31**	**244**	P	**Pn**	**19 26 48.5**	**+1.3**
	baz=6.3,SNR=4.9						
KNRA	**Kununurra**	**8.68**	**188**	P	**Pn**	**19 27 19.3**	**0.0**
	baz=8.8,SNR=16						
KNRA				S	**Sn**	**19 28 51.9**	**-3.6**
	baz=8.8,SNR=5.4						
WRA	**Warramunga Arr**	**13.50**	**162**	Pn	**Pn**	**19 28 21.7**	**-2.1**
	0.3nm,0.3s,baz=335,slow=12,SNR=16						
WRA				Sn	Sn	19 30 45.6	-6.8
	0.5nm,0.3s,baz=333,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**16.95**	**168**	P	**P**	**19 29 09.2**	**+1.5**
	0.1nm,0.3s,baz=342,slow=12,SNR=13						
ASAR				S	Sn	19 32 06.3	-10
	0.1nm,0.3s,baz=340,slow=24,SNR=4.7						
MKAR	**Makanchi Array**	**68.27**	**327**	P	**P**	**19 36 04.2**	**-2.1**
	0.2nm,0.3s,baz=119,slow=7.9,SNR=5.1						

MAN 19 19:41:43, 13°.61N×122°.74E, h23km, mb4.3, ML3.1, MS2.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.29**	**193**	*e*P	Pb	19 41 50.6	+0.8
AUQP				*e*S	Sn	19 41 56.5	-1.0
GQP	**Guinayangan**	**0.41**	**315**	‖*e*P	Pn	19 41 53.9	+0.4
GQP				*e*S	Sn	19 42 01.8	+1.3
BOAC	**Boac**	**0.89**	**260**	*e*P	Pn	19 42 02.1	+2.0
BOAC				*e*S	Sn	19 42 17.9	+5.7
PVCP	**Virac**	**1.37**	**90**	*e*P	Pn	19 42 07.0	+0.2
OTRP	**Odiongan**	**1.43**	**210**	*e*P	Pb	19 42 08.5	-0.4

*BJI **19** 19:42:26.0, 15°.21N×146°.28E, h129km, mB4.9/16, mb4.7/24*
*IDC **19** 19:42:26.7±5.1, 15°.76N×145°.92E, h80km±46km, mb4.1/19, mb1 4.2/19, mb1mx4.0/37, mbtmp4.4/19, Error ellipse: s-maj=18.9km s-min=13.1km az=90.0*
*ISCJB **19** 19:42:28.4±0.4, 15°.80N±0°.05×145°.94E±0°.06, h109km, mb4.4/35, Error ellipse: s-maj=8.6km s-min=6.6km az=16.8*
*NEIC **19** 19:42:31.5±1.3, 15°.72N×145°.91E, h127km±12km, mb4.6/15, Error ellipse: s-maj=11.0km s-min=8.7km az=81.0*

ISC 19 19:42:30.1±0.5, 15°.83N±0°.07×145°.91E±0°.08, h109km, n85, σ1§39/89, mb4.4/35, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.44**	**205**	*e*Pn	**Pn**	**19 43 10.0**	**+1.2**
GUMO				*e*Sn	**Sn**	**19 43 37.9**	**-0.5**
JOW	**Kunigami**	**19.72**	**307**	P	**Pn**	**19 46 53.8**	**+0.1**
	0.5nm,0.3s,baz=110,slow=12,SNR=7.2						
H11S3	**WAKE ISLAND Hy 20.03**		**79**	T	T	20 07 54.5	
	baz=266,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hy 20.04**		**79**	T	T	20 07 54.9	
	baz=266,slow=75,SNR=27						
H11S2	**WAKE ISLAND Hy 20.05**		**79**	T	T	20 07 54.4	
	baz=266,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy 20.35**		**76**	T	T	20 08 19.6	
	baz=263,slow=75,SNR=40						
H11N2	**WAKE ISLAND Hy 20.36**		**76**	T	T	20 08 04.1	
	baz=263,slow=75,SNR=0.3						
H11N3	**WAKE ISLAND Hy 20.36**		**76**	T	T	20 08 04.9	
	baz=263,slow=75,SNR=0.8						
MJAR	**Matsushiro Arr**	**21.74**	**343**	P	**P**	**19 47 11.4**	**-1.3**
	1.1nm,0.6s,baz=168,slow=9.5,SNR=5.2						
JNU	**Nakatsue**	**21.95**	**324**	P	**P**	**19 47 14.7**	**-0.3**
	14nm,0.8s,baz=96,slow=4.6,SNR=6.8						
PMG	**Port Moresby**	**25.10**	**177**	P	**P**	**19 47 44.0**	**-0.9**
	9.8nm,0.6s,baz=44,slow=7.1,SNR=5.8						
KSRS	**Korea Array**	**26.79**	**327**	P	**P**	**19 48 00.0**	**+0.1**
	4.8nm,0.8s,baz=147,slow=10,SNR=14						
KSAR	**Wonju Array Be**	**26.80**	**327**	P	**P**	**19 48 00.0**	**0.0**
NJ2	**Nanjing**	**29.42**	**308**	*e*P	**P**	**19 48 24.3**	**+0.9**
NJ2				PMZ			
	20nm,1.0s						
QIZ	**Qiongzhong**	**34.52**	**281**	P	**P**	**19 49 08.3**	**+0.1**
QIZ				pP	**pP**	**19 49 35.9**	**+3.3**
QIZ				sP	sP	19 49 51.5	+6.3
QIZ				S	**S**	**19 54 27.3**	**-1.9**
QIZ				sS	**ScP**	**19 55 18.3**	**+1.9**
QIZ				PMZ			
	9.0nm,2.6s						
QIZ				LN			
	2μm,6.1s						
QIZ				LZ			
	1μm,11.2s						
BJT	**Baijiatuau**	**35.37**	**319**	P	**P**	**19 49 15.6**	**+0.4**
BJI	**Beijing**	**35.38**	**319**	P	**P**	**19 49 15.8**	**+0.5**
BJI				PMZ			
	14nm,1.0s						
WRAB	**Tennant Creek**	**37.31**	**198**	P	P	19 49 28.4	-3.6
WRA	**Warramunga Arr**	**37.32**	**198**	P	**P**	**19 49 30.1**	**-1.9**
	3.2nm,0.9s,baz=19,slow=9.5,SNR=7.5						
GYA	**Guiyang**	**37.97**	**293**	*e*P	**P**	**19 49 38.0**	**+0.4**
GYA				PMZ			
	10.0nm,0.8s						
PETK	**Petropavlovsk-**	**38.34**	**11**	P	**P**	**19 49 40.6**	**+0.3**
	1.2nm,0.8s,baz=150,slow=44,SNR=2.8						
HHC	**Hu-ho-hao-te**	**38.79**	**317**	*e*P	**P**	**19 49 46.3**	**+2.0**
HHC				sS	sS	19 56 26.5	+10
HHC				SS	**SS**	**19 58 30.8**	**+1.7**
HHC				PMZ			
	230nm,4.9s						
ASAR	**Alice Springs**	**40.97**	**197**	P	**P**	**19 50 00.6**	**-1.8**
	0.6nm,0.4s,baz=17,slow=11,SNR=4.4						
CD2	**Chengdu**	**41.25**	**299**	*e*P	**P**	**19 50 05.4**	**+0.7**
CD2				PMZ			
	10.0nm,1.2s						
LZH	**Lanzhou**	**42.46**	**306**	*e*P	**P**	**19 50 17.0**	**+2.4**
LZH				pP	pP	19 50 46.5	+6.7
LZH				sP	sP	19 51 02.6	+10
LZH				PP	**PP**	**19 51 55.3**	**+0.2**
LZH				*e*S	**S**	**19 56 30.3**	**+1.6**
LZH				SS	**SS**	**19 59 36.6**	**-5.4**
LZH				PMZ			
	17nm,1.0s						
LZH				PMZ			
	72nm,4.4s						
LZH				LN			
	420nm,11.2s						
LZH				LE			
	590nm,12.8s						
LZH				LZ			
	660nm,13.5s						
CMAR	**Chiang Mai Arr**	**44.86**	**280**	P	**P**	**19 50 34.6**	**+0.6**
	1.7nm,0.6s,baz=76,slow=6.6,SNR=23						
ULN	**Ulaanbaatar**	**45.16**	**323**	*e*P	**P**	**19 50 36.8**	**+0.7**
	3.4nm,0.7s						
SONM	**Songino Array**	**45.53**	**323**	P	**P**	**19 50 39.7**	**+0.8**
	4.0nm,0.8s,baz=136,slow=6.9,SNR=33						
SONA1	**Songino Array**	**45.53**	**323**	*e*P	**P**	**19 50 39.4**	**+0.5**
KULM	**Kulim**	**45.61**	**262**	*e*P	**P**	**19 50 39.7**	**-0.2**
	3.1nm,0.6s						
PSI	**Prapat**	**48.01**	**259**	P	**P**	**19 50 58.8**	**+0.1**
	4.4nm,0.3s,baz=65,slow=5.5,SNR=7.7						
LSA	**Lhasa**	**51.91**	**295**	*e*P	**P**	**19 51 29.9**	**+1.4**
	4.7nm,0.4s						
TAPN	**Taplejung**	**54.90**	**292**	*e*P	**P**	**19 51 50.4**	**+0.2**
	4.7nm,0.3s						
ODAN	**Odare**	**55.19**	**292**	*e*P	**P**	**19 51 52.4**	**+0.2**
RAMN	**Ramite**	**55.90**	**292**	*e*P	**P**	**19 51 57.5**	**+0.2**
JIRN	**Jiri**	**56.24**	**293**	*e*P	**P**	**19 52 00.3**	**+0.4**
WMQ	**Urumqi**	**56.36**	**312**	*e*P	**P**	**19 52 01.3**	**+1.2**
WMQ				pP	pP	19 52 33.0	+6.6
WMQ				PcP	**PcP**	**19 52 55.9**	**-0.2**
WMQ				PP	**PP**	**19 54 10.3**	**+3.7**
WMQ				S	**S**	**19 59 39.5**	**-2.8**
WMQ				sS	sS	20 00 37.0	+10
WMQ				PMZ			
	12nm,1.3s						
WMQ				PMZ			
	79nm,3.8s						
WMQ				LN			
	950nm,13.0s						
WMQ				LE			
	1μm,12.0s						
WMQ				LZ			
	280nm,16.0s						
GUN	**Gumba**	**56.51**	**293**	*e*P	**P**	**19 52 02.0**	**+0.2**
	26nm,0.9s						
TIXI	**Tiksi**	**56.73**	**354**	P	**P**	**19 52 00.3**	**-1.8**
PKI	**Pulchoki**	**56.94**	**293**	*e*P	**P**	**19 52 04.6**	**-0.2**
PKIN	**Phulchoki**	**56.95**	**293**	*e*P	**P**	**19 52 05.3**	**+0.5**
KKN	**Kakani**	**57.05**	**293**	*e*P	**P**	**19 52 05.4**	**0.0**
DMN	**Daman**	**57.21**	**293**	*e*P	**P**	**19 52 06.7**	**+0.1**
GKN	**Gorkha**	**57.61**	**293**	*e*P	**P**	**19 52 09.3**	**0.0**
DANN	**Dangsing**	**58.38**	**294**	*e*P	**P**	**19 52 14.6**	**-0.2**
	39nm,0.7s						
KOLN	**Koldanda**	**58.54**	**293**	*e*P	**P**	**19 52 15.5**	**-0.3**
	20nm,0.8s						
ZALV	**Zalesovo Beam**	**60.42**	**323**	P	**P**	**19 52 27.6**	**-0.4**
	5.4nm,0.8s,baz=110,slow=6.8,SNR=24						
MK01	**Makanchi Array**	**60.60**	**315**	*e*P	**P**	**19 52 29.9**	**+0.5**
MKAR	**Makanchi Array**	**60.61**	**315**	P	**P**	**19 52 30.1**	**+0.6**
	6.8nm,0.4s,baz=91,slow=8.0,SNR=145						
MKAR	**Makanchi Array**	**60.61**	**315**	*e*P	**P**	**19 52 29.5**	**+0.1**
PPLA	**Purkeypile**	**63.35**	**27**	*e*P	**P**	**19 52 48.8**	**+1.2**
	13nm,0.9s						
KURK	**Kurchatov**	**63.55**	**319**	*e*P	**P**	**19 52 48.8**	**-0.1**
	20nm,0.8s						
HYB	**Hyderabad**	**64.25**	**282**	*i* P	**P**	**19 52 53.0**	**-1.2**
ULHL	**Ulahol**	**64.54**	**310**	P	**P**	**19 52 56.4**	**+0.5**
	SNR=7.6						
KSH	**Kashi**	**64.71**	**307**	P	**P**	**19 53 00.0**	**+3.0**
KSH				pP	**PcP**	**19 53 34.1**	**+4.3**
KSH				PP	PP	19 55 28.0	+7.5
KSH				S	**S**	**20 01 27.0**	**-2.0**
KSH				sS	sS	20 02 26.1	+11
KSH				PMZ			
	6.0nm,0.5s						
KSH				PMZ			
	120nm,5.8s						
KSH				LN			
	59nm,4.6s						
KSH				LE			
	71nm,7.5s						
KSH				LZ			
	160nm,6.0s						
MCK	**McKinley**	**65.00**	**26**	*e*P	**P**	**19 52 59.1**	**+0.9**
TKM2	**Tokmak 2**	**65.03**	**310**	P	**P**	**19 52 59.7**	**+0.6**
	SNR=12						
TKM2	**Tokmak 2**	**65.03**	**310**	*e*P	**P**	**19 52 59.6**	**+0.5**
	6.7nm,0.8s						
KZA	**Kyzart**	**65.28**	**309**	P	**P**	**19 53 02.3**	**+1.4**
	SNR=16						
KBK	**Karagaybulak**	**65.51**	**310**	P	**P**	**19 53 02.7**	**+0.5**
	SNR=6.4						
UCH	**Uchtor**	**65.82**	**310**	P	**P**	**19 53 05.5**	**+1.0**
	SNR=9.2						
AAK	**Ala-Archa**	**65.84**	**310**	*e*P	**P**	**19 53 04.8**	**+0.5**
	6.5nm,1.3s						
USP	**Ospenovka**	**65.84**	**311**	P	**P**	**19 53 04.3**	**+0.2**
	SNR=5.2						
ILAR	**Eielson Array**	**66.13**	**26**	P	**P**	**19 53 05.2**	**-0.3**
	3.1nm,0.4s,baz=252,slow=5.8,SNR=90						
PAX	**Paxson**	**66.33**	**28**	*e*P	**P**	**19 53 07.5**	**+0.5**
	6.1nm,0.6s						
EKS2	**Erkin-Say**	**66.37**	**310**	*e*P	**P**	**19 53 08.3**	**+0.7**
	42nm,2.8s						
AML	**Almayashu**	**66.43**	**309**	P	**P**	**19 53 09.2**	**+0.8**
	SNR=12						
DOT	**Dot Lake**	**67.09**	**27**	*e*P	**P**	**19 53 11.9**	**+0.2**
	17nm,1.3s						
KKAR	**Karatay Array**	**68.76**	**310**	*e*P	**P**	**19 53 22.9**	**+0.3**
KBL	**Kabul**	**70.52**	**301**	*e*P	**P**	**19 53 33.6**	**-0.1**
	12nm,1.1s						
ARU	**Arti**	**75.52**	**325**	*e*P	**P**	**19 54 01.5**	**-0.9**
	8.2nm,0.5s						
GEYT	**Alibeck**	**78.74**	**306**	P	**P**	**19 54 21.3**	**+0.3**
	7.1nm,0.7s,baz=91,slow=2.8,SNR=28						
YKA	**Yellowknife Ar**	**80.42**	**28**	P	**P**	**19 54 29.4**	**0.0**
	2.8nm,0.6s,baz=286,slow=5.3,SNR=38						
BMO	**Blue Mountains**	**83.71**	**45**	P	**P**	**19 54 46.5**	**-0.6**
	1.1nm,0.6s						
NVAR	**Mina Array Bea**	**84.75**	**52**	P	**P**	**19 54 54.0**	**+1.4**
	1.9nm,0.5s,baz=273,slow=5.6,SNR=14						
YBMT	**Yellow Bay**	**85.01**	**42**	*e*P	**P**	**19 54 54.3**	**+0.6**
	3.5nm,0.8s						
ARCES	**ARCESS Array B**	**85.28**	**342**	P	**P**	**19 54 52.9**	**-1.5**
	2.1nm,0.9s,baz=80,slow=6.2,SNR=9.0						
FFC	**Flin Flon**	**89.39**	**33**	*e*P	**P**	**19 55 14.1**	**-0.4**
	3.0nm,0.7s						
FINES	**FINESS Array B**	**89.56**	**335**	P	**P**	**19 55 12.2**	**-2.9**
	0.6nm,0.4s,baz=79,slow=4.3,SNR=7.5						
PDAR	**Pinedale Array**	**89.68**	**45**	P	**P**	**19 55 16.9**	**+0.4**
	0.5nm,0.7s,baz=123,slow=0.5,SNR=5.3						
FCC	**Fort Churchill**	**91.12**	**27**	P	P	19 55 18.5	-3.9
BRTR	**Keskin Array B**	**96.25**	**314**	P	**P**	**19 55 44.9**	**-1.8**
	1.1nm,0.6s,baz=78,slow=3.1,SNR=8.6						
TORD	**Torodi Ar. Bea**	**134.38**	**307**	PKP	**PKPdf**	**20 01 35.3**	**-1.0**
	0.2nm,0.7s,baz=54,slow=2.8,SNR=3.5						
DBIC	**Dimbokro**	**143.43**	**305**	PKhKP	PKPpre	20 01 48.0	
	1.8nm,0.4s,baz=41,slow=3.4,SNR=8.6						
LPAZ	**La Paz**	**147.31**	**96**	PKPbc	**PKPbc**	**20 02 03.0**	**+0.3**
	2.8nm,0.5s,baz=34,slow=2.8,SNR=9.7						

*ISCJB **19** 19:43:54.3±0.7, 4°.4S±0°.1×139°.0E±0°.2, h10km, mb3.5/1, Error ellipse: s-maj=31.5km s-min=7.2km az=37.0*
*IDC **19** 19:43:54.6±1.6, 4°.34S×139°.02E, h0km, mb3.6/1, mb1 4.1/4, mb1mx3.6/32, mbtmp3.9/4, ML3.8/3, Error ellipse: s-maj=44.6km s-min=23.0km az=118.0*

ISC 19 19:43:56.3±0.9, 4°.4S±0°.1×139°.1E±0°.2, h10km, n11, σ1§36/11, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.44**	**40**	Pn	**Pn**	**19 44 36.5**	**+0.2**
	9.1nm,0.3s,baz=221,slow=10,SNR=26						
JAY				Sn	**Sn**	**19 45 06.2**	**-0.1**
	5.4nm,0.3s,baz=49,slow=20,SNR=3.2						
KDU	**Kakadu**	**10.54**	**218**	P	**Pn**	**19 46 28.1**	**+0.5**
	baz=5.9,SNR=20						
MTN	**Manton Dam**	**11.53**	**223**	P	**Pn**	**19 46 40.9**	**-0.2**
	baz=7.0,SNR=12						
KNRA	**Kununurra**	**15.15**	**222**	P	Pn	19 47 23.8	-6.8
	baz=11,SNR=13						
SOEI	**Soe**	**15.68**	**249**	P	**P**	**19 47 43.8**	**+2.1**
	baz=12,SNR=5.2						
QIS	**Mount Isa**	**16.07**	**178**	P	**P**	**19 47 47.9**	**+1.9**
	baz=12,SNR=3.4						
WRA	**Warramunga Arr**	**16.14**	**196**	Pn	**Pn**	**19 47 43.3**	**-0.2**
	0.5nm,0.3s,baz=15,slow=11,SNR=20						
WRA				Sn	Sn	19 50 28.6	-14
	0.4nm,0.3s,baz=13,slow=22,SNR=7.0						
FITZ	**Fitzroy Crossi**	**18.97**	**223**	P	**Pn**	**19 48 17.6**	**-1.0**
	baz=14,SNR=13						
ASAR	**Alice Springs**	**19.81**	**194**	P	**Pn**	**19 48 27.0**	**-1.7**
	0.3nm,0.3s,baz=22,slow=9.9,SNR=58						
ASAR				S	S	19 51 59.2	-11
	0.1nm,0.3s,baz=12,slow=30,SNR=4.0						
WRKA	**Warakurna**	**23.01**	**206**	P	**P**	**19 49 00.2**	**-1.5**
	baz=18,SNR=12						
MKAR	**Makanchi Array**	**71.38**	**323**	P	**P**	**19 55 16.0**	**-0.6**
	0.4nm,0.6s,baz=108,slow=9.5,SNR=2.9						

*ISCJB **19** 19:53:35.2±0.2, 21°.43N±0°.02×100°.07E±0°.02, h10km, mb4.3/57, MS4.0/24, Error ellipse: s-maj=3.0km s-min=2.0km az=6.0*
*BJI **19** 19:53:36.5, 21°.39N×99°.85E, h10km, mB4.7/28, mb4.4/38, ML4.6/7, Ms4.9/45, Ms7 4.4/41*
*NEIC **19** 19:53:36.8±1.8, 21°.42N×100°.09E, h10km±12km, mb4.7/17, Error ellipse: s-maj=7.9km s-min=6.6km az=89.0*
NEIC Felt at Jinghong, China.
*MOS **19** 19:53:37.8±1.2, 21°.45N×100°.11E, h33km, mb4.7/17, Error ellipse: s-maj=10.5km s-min=6.3km az=108.7*
*GCMT **19** 19:53:38.0±0.3, 21°.47N×99°.99E, h15km±1km, MW4.9/73, Moment Tensor Solution. s17,c19; s73,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.80±.10; $M_{\theta\theta}$-1.55±.07; $M_{\phi\phi}$2.35±.09; $M_{r\theta}$0.78±.29; $M_{\theta\phi}$0.91±.07; $M_{\phi r}$-0.56±.27; Best double couple: $M_0$2.44000×10^{16} NP1:ϕ_s332.00000°, δ74.00000°, λ-152.00000°. NP2: ϕ_s234.00000°, δ63.00000°, λ-19.00000°. Principal axes: T 2.5970, Plg7.0000°, Azm101.0000°; N -0.3150, Plg58.0000°, Azm0.0000°; P -2.2840, Plg31.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **19** 19:53:38.0±3.8, 21°.47N×100°.01E, h18km±25km, mb4.0/24, mb1 4.1/26, mb1mx4.0/49, mbtmp4.1/26, ML4.3/2, MS4.0/23, Ms1 4.0/23, ms1mx3.8/40 Error ellipse: s-maj=17.9km s-min=12.7km az=61.0*
*PLV **19** 19:53:39.2±1.6, 21°.49N×100°.10E, h17km±6km, MD4.9, ML4.8*
*BKK **19** 19:53:39.8±0.4, 21°.N±4°.×10°.0E±°, h10km, M4.9/8, mb4.7/6, mB5.0/1, MLv5.1/8, Mw(mB)4.3/1*

ISC 19 19:53:37.1±0.3, 21°.41N±0°.03×99°.99E±0°.03, h10km, n181, σ1§92/206, mb4.4/58, MS4.1/24, 10C-6D, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAI	**Chiangrai**	**1.23**	**163**	P	Pn	19 53 56.5	-3.8
CMAI	**Chiengmai2**	**1.71**	**211**	P	**Pn**	**19 54 06.0**	**-1.1**
CMMT	**Chiang Mai**	**2.76**	**201**	P	**Pn**	**19 54 20.7**	**-0.7**
DBV	**Dienbien**	**2.83**	**90**	*e*Pn	**Pn**	**19 54 22.2**	**-0.3**
DBV				*e*Pg	**Pg**	**19 54 32.3**	**+0.9**
DBV				*e*Sg	**Sg**	**19 55 09.1**	**+1.0**
DBV				AML	AML	19 55 14.1	
	comp=N,4μm,0.5s						
LAMP	**Lampang**	**2.89**	**187**	P	**Pn**	**19 54 23.3**	**+0.1**
MLVB	**Muong La stati**	**3.01**	**77**	*e*Pn	**Pg**	**19 54 35.1**	**+0.3**
MLVB				*e*Pg	Pb	19 54 49.5	+19
MLVB				*e*Sg	Sg	19 55 37.1	+23
CMAR	**Chiang Mai Arr**	**3.09**	**199**	Pn	**Pn**	**19 54 25.9**	**-0.1**
	comp=N,15nm,0.3s,baz=9.6,slow=14,SNR=397						
CMAR				Pg	**Pg**	**19 54 36.0**	**-0.4**
	comp=N,265nm,0.3s,baz=11,slow=17,SNR=226						
CMAR				Lg	Lg	19 55 19.0	
	comp=N,330nm,0.3s,baz=21,slow=30,SNR=12						
CMAR				LR	LR	19 56 02.1	
	comp=N,2μm,21.0s,baz=20,slow=46						
CM01	**Chiang Mai Arr**	**3.12**	**198**	*e*Pn	**Pn**	**19 54 25.9**	**-0.5**
TGV	**Tuan Giao**	**3.20**	**86**	*e*Pn	**Pn**	**19 54 27.2**	**-0.3**
TGV				*e*Pg	**Pg**	**19 54 39.2**	**+0.7**
TGV				*e*Sg	**Sg**	**19 55 20.0**	**0.0**
SLVN	**Son La**	**3.65**	**90**	*e*Pn	**Pn**	**19 54 33.1**	**-0.7**
UTTA	**Uttaradit**	**3.68**	**172**	P	**Pn**	**19 54 34.6**	**+0.5**
SPV	**Sa-pa**	**3.69**	**75**	*e*Pn	**Pn**	**19 54 34.2**	**-0.2**
MHMT	**Maesarieng**	**3.75**	**211**	P	**Pn**	**19 54 35.9**	**+0.8**
TTVN	**Tram Tau**	**4.07**	**88**	*e*Pn	**Pn**	**19 54 39.8**	**+0.3**
TTVN				*e*Pg	**Pg**	**19 54 55.9**	**+0.8**
TTVN				*e*Sg	**Sg**	**19 55 47.8**	**-0.2**
MCVV	**Moc Chau**	**4.40**	**97**	*e*Pn	**Pn**	**19 54 43.8**	**-0.2**
MCVV				*e*Pg	**Pg**	**19 55 02.5**	**+1.2**
MCVV				*e*Sg	**Sg**	**19 55 58.8**	**+0.4**
KMI	**Kunming**	**4.48**	**34**	‖Pg	**Pg**	**19 55 01.3**	**-1.7**
KMI				Sg	**Sg**	**19 56 00.6**	**-0.6**
KMI				SMN			
	comp=N,780nm,1.8s						
KMI				SME			
	comp=N,580nm,1.2s						
KMI				LN			
	comp=N,11μm,9.0s						
KMI				LE			
	comp=N,11μm,9.3s						
KMI				LZ			
	comp=N,3μm,6.5s						
KMI	**Kunming**	**4.48**	**34**	‖P	**Pg**	**19 55 01.3**	**-1.7**
KMI	**Kunming**	**4.48**	**34**	‖Pg	**Pg**	**19 55 01.3**	**-1.7**
KMI				Sg	**Sg**	**19 56 00.6**	**-0.6**
VTVB	**Vinh Tuy**	**4.64**	**79**	*e*Pn	**Pn**	**19 54 47.2**	**-0.1**
HGVB	**Ha Giang**	**4.86**	**72**	*e*Pn	**Pn**	**19 54 50.9**	**+0.7**
HGVB				*e*Pg	**Pg**	**19 55 09.4**	**-0.7**
HGVB				*e*Sg	**Sg**	**19 56 12.2**	**-0.8**
CCVB	**Con Cuong**	**5.16**	**116**	*e*Pn	**Pn**	**19 54 54.8**	**+0.4**
CCVB				*e*Pg	**Pg**	**19 55 16.5**	**+0.6**
CCVB				*e*Sg	**Sg**	**19 56 24.2**	**+1.5**

CD2 SS **SnSn** **19 58 08.9 +2.1**
CD2 PMZ
comp=Z,20nm,1.3s
CD2 PMZ
comp=Z,180nm,4.2s
CD2 LN
comp=Z,3μm,6.5s
CD2 LE
comp=Z,3μm,6.0s
CD2 LZ
comp=Z,2μm,8.3s
DGPR DIGLIPUR 10.60 221 *e*P **Pn** **19 56 09.4 +0.3**
DGPR AMB AMB 19 56 15.7
comp=Z,23nm,0.6s
LSA Lhasa 11.48 318 P **Pn** **19 56 22.0 +0.5**
LSA S **Sn** **19 58 28.9 -1.2**
LSA LN
comp=Z,2μm,13.9s
LSA LE
comp=Z,990nm,19.7s
LSA LZ
comp=Z,2μm,14.8s
LSA Lhasa 11.48 318 *e*P **Pn** **19 56 22.3 +0.8**
LSA pmax pmax
comp=Z,54nm,1.0s
LSA Lhasa 11.48 318 *e*Pn **Pn** **19 56 22.3 +0.8**
comp=Z,54nm,1.0s
BOK Bokaro 13.24 283 *e*P **Pn** **19 56 46.3 +1.0**
BOK AMB AMB 19 56 51.8
comp=Z,16nm,2.0s
XAN Xi'an 14.85 30 P Pn 19 57 03.8 -3.5
XAN pP **P** **19 57 11.3 -1.8**
XAN S S 20 00 03.1 -7.2
XAN sS Sn 20 00 11.8 +20
XAN pmax pmax
comp=Z,3.0nm,1.0s
XAN LR LR
comp=N,1μm,10.2s
XAN LR LR
comp=E,720nm,11.2s
XAN LR LR
comp=Z,390nm,10.5s
LZH Lanzhou 15.01 12 P **Pn** **19 57 10.4 +0.9**
LZH pP **P** **19 57 15.0 0.0**
LZH sP **sP** **19 57 17.3 -1.8**
LZH PP **pP** **19 57 22.3 +4.5**
LZH S **Sn** **19 59 56.0 0.0**
LZH sS S 20 00 01.8 -12
LZH PMZ
comp=Z,29nm,1.0s
LZH PMZ
comp=Z,93nm,4.1s
LZH LN
comp=Z,960nm,11.6s
LZH LE
comp=Z,1μm,10.1s
LZH LZ
comp=Z,2μm,12.2s
QZH Quanzhou 17.46 75 *e*P **Pn** **19 57 38.3 -2.6**
QZH S **Sn** **20 00 48.3 -7.1**
QZH LR LR
comp=N,6μm,11.2s
QZH LR LR
comp=E,2μm,11.0s
QZH LR LR
comp=Z,3μm,5.6s
KCSI Kotacane, Aceh 17.91 187 P P 19 57 53.4 +6.4
GTA Gaotai 17.95 360 P **Pn** **19 57 46.9 0.0**
GTA pP **pP** **19 57 54.8 +4.5**
GTA sP sP 19 57 59.5 +7.9
GTA S **Sn** **20 01 04.5 -2.6**
GTA sS **sS** **20 01 16.8 -1.3**
GTA SS **SnSn** **20 01 28.8 +7.8**
GTA PMZ
comp=Z,9.0nm,1.8s
GTA PMZ
comp=Z,210nm,5.7s
GTA LN
comp=Z,640nm,14.5s
GTA LE
comp=Z,3μm,14.5s
GTA LZ
comp=Z,730nm,15.0s
PSI Prapat 18.52 183 P **Pn** **19 57 55.1 +1.1**
comp=Z,0.6nm,0.3s,baz=326,slow=11,SNR=6.7
PSI LR LR 20 05 06.3
comp=Z,238nm,19.8s,baz=344,slow=37
TIY Taiyuan 19.50 31 *e*P **P** **19 58 03.8 -0.6**
TIY S **S** **20 01 47.1 +2.3**
TIY LN
comp=Z,2μm,10.0s
TIY LE
comp=Z,2μm,10.3s
TIY LZ
comp=Z,390nm,5.0s
NJ2 Nanjing 19.88 54 *e*P **P** **19 58 06.3 -2.3**
NJ2 S **S** **20 01 50.0 -2.4**
NJ2 pmax pmax
comp=Z,30nm,0.7s
NJ2 LR LR
comp=N,5μm,13.4s
NJ2 LR LR
comp=E,2μm,16.5s
NJ2 LR LR
comp=Z,2μm,16.7s
MDRS Chennai 20.58 249 *ex* P 19 58 25.4 +9.1
MDRS *ex* x 20 00 43.4
HYB Hyderabad 20.60 263 *e*P Pn 19 58 19.0 +0.2
HYB Hyderabad 20.60 263 *i* P Pn 19 58 19.0 +0.2
HYB *e*S **S** **20 02 04.0 -3.0**
HYB Hyderabad 20.60 263 *ex* **P** **19 58 13.7 -2.8**
HYB AMB AMB 19 58 21.3
comp=Z,32nm,2.4s
HYB Hyderabad 20.60 263 *e*P Pn 19 58 19.0 +0.2
HYB *e*S Sn 20 02 14.0 +2.7
BHPL Bhopal 20.95 279 *e*P **P** **19 58 21.2 +0.9**
BHPL AMB AMB 19 58 24.7
comp=Z,45nm,3.1s
TIA Tai'an 21.00 42 ⇑P **P** **19 58 21.6 +0.8**
TIA PMZ
comp=Z,20nm,0.8s
TIA LN
comp=Z,2μm,13.0s
TIA LE
comp=Z,3μm,15.0s
TIA LZ
comp=Z,1μm,9.0s
SSE Sheshan 21.29 59 P **P** **19 58 22.6 -1.3**
SSE S **S** **20 02 22.3 +1.8**
SSE PMZ
comp=Z,27nm,0.7s
SSE PMZ
comp=Z,31nm,3.4s
SSE LN
comp=Z,2μm,10.2s
SSE LE
comp=Z,1μm,10.1s
SSE LZ
comp=Z,660nm,8.9s
HHC Hu-ho-hao-te 21.73 24 *e*P **P** **19 58 29.8 +1.1**
HHC PP **PnPn** **19 58 55.3 +5.7**
HHC S **S** **20 02 23.8 -5.4**
HHC sS Sn 20 02 38.5 +0.2
HHC SS **SnSn** **20 03 01.8 +8.1**
HHC PMZ
comp=Z,37nm,1.2s
HHC PMZ
comp=Z,230nm,5.1s
HHC LN
comp=Z,2μm,9.3s
HHC LE
comp=Z,3μm,10.7s
HHC LZ
comp=Z,750nm,9.3s
NDI New Delhi 21.84 294 *ex* P 19 58 37.0 +7.1
KSM Kuching 22.22 152 P **P** **19 58 31.1 -2.9**
comp=Z,23nm,1.0s
SMLA Simla 22.60 300 *e*P **P** **19 58 38.3 +0.3**
SMLA AMB AMB 19 58 45.7
comp=Z,35nm,1.0s
BJT Baijiatuau 23.12 33 *e*P **P** **19 58 41.7 -1.6**
BJT Baijiatuau 23.12 33 *e*P **P** **19 58 41.7 -1.6**
BJI Beijing 23.14 33 P **P** **19 58 42.8 -0.7**
BJI S **S** **20 02 53.9 -1.1**
BJI PMZ
comp=Z,15nm,1.4s
BJI PMZ
comp=Z,130nm,4.1s
BJI LN
comp=Z,2μm,17.8s
BJI LE
comp=Z,3μm,20.4s
BJI LZ
comp=Z,370nm,17.2s
PALK Pallekele 23.33 236 *e*P **P** **19 58 46.8 +1.1**
PALK pmax pmax
comp=Z,30nm,1.1s
PALK Pallekele 23.33 236 *e*P **P** **19 58 46.8 +1.1**
comp=Z,30nm,1.1s
DHRM DHARAMSHALA 23.68 302 *e*P **P** **19 58 47.8 -1.6**
DHRM AMB AMB 19 58 53.2
comp=Z,38nm,1.3s
AJM Ajmer 23.69 287 *ex* **P** **19 58 51.0 +1.8**
WMQ Urumqi 24.58 338 P **P** **19 58 57.1 -0.2**
WMQ pP **pP** **19 59 01.4 +1.0**
WMQ PP **PnPn** **19 59 34.1 +5.6**
WMQ S **S** **20 03 14.8 -3.5**
WMQ sS **sS** **20 03 21.5 -1.8**
WMQ SS **SnSn** **20 04 10.0 +6.7**
WMQ PMZ
comp=Z,11nm,1.1s
WMQ PMZ
comp=Z,110nm,3.8s
WMQ LN
comp=Z,960nm,13.0s
WMQ LE
comp=Z,1μm,12.0s
WMQ LZ
comp=Z,280nm,15.0s
POO Poona 24.72 268 *e*P **P** **19 58 59.3 +0.5**
POO AMB AMB 19 59 04.5
comp=Z,30nm,0.3s
LHSI Lahat 25.32 172 P P 19 59 12.2 +8.1
comp=Z,41nm,0.9s
MDSI Maura Dua 26.06 170 P P 19 59 18.5 +7.7
comp=Z,11nm,1.2s
SONM Songino Array 26.87 10 P **P** **19 59 18.5 +0.4**
comp=Z,2.5nm,0.8s,baz=190,slow=8.8,SNR=18
SONM LR LR 20 11 25.1
comp=Z,225nm,21.0s,baz=199,slow=40
SONA1 Songino Array 26.88 10 *e*P **P** **19 59 18.0 -0.2**
ULN Ulaanbaatar 27.01 11 *e*P **P** **19 59 18.9 -0.5**
ULN Ulaanbaatar 27.01 11 *e*P **P** **19 59 19.3 0.0**
comp=Z,8.2nm,1.0s
KSH Kashi 27.33 317 P **P** **19 59 25.0 +2.7**
KSH PP PnPn 20 00 14.1 +7.9
KSH S **S** **20 04 05.6 +3.5**
KSH PMZ
comp=Z,3.0nm,0.7s
KSH PMZ
comp=Z,68nm,3.2s
KSH LN
comp=Z,240nm,8.1s
KSH LE
comp=Z,580nm,15.2s
KSH LZ
comp=Z,250nm,5.8s
KSRS Korea Array 28.97 50 LR LR 20 12 20.2
comp=Z,320nm,18.4s,baz=242,slow=39
ZAK Zakamensk 29.03 4 *e*P **P** **19 59 36.2 -1.2**
ZAK pmax pmax
comp=Z,3.0nm,0.9s
MK01 Makanchi Array 29.10 335 *e*P **P** **19 59 37.3 -0.6**
MKAR Makanchi Array 29.12 335 P **P** **19 59 37.7 -0.4**
comp=Z,2.8nm,0.8s,baz=144,slow=9.6,SNR=16
MKAR LR LR 20 12 20.6
comp=Z,209nm,19.0s,baz=148,slow=39
TKM2 Tokmak 2 29.58 322 *e*P **P** **19 59 42.5 0.0**
TKM2 pmax pmax
comp=Z,31nm,2.2s
TKM2 Tokmak 2 29.58 322 *e*P **P** **19 59 42.5 0.0**
comp=Z,32nm,2.2s
AAK Ala-Archa 30.05 321 *e*P **P** **19 59 46.4 -0.2**
AAK pmax pmax
comp=Z,13nm,1.0s
AAK Ala-Archa 30.05 321 P **P** **19 59 46.8 +0.2**
comp=Z,2.4nm,0.6s,baz=132,slow=7.9,SNR=14
AAK LR LR 20 13 29.8
comp=Z,258nm,21.4s,baz=110,slow=40
AAK Ala-Archa 30.05 321 *e*P **P** **19 59 46.9 +0.3**
comp=Z,7.5nm,0.8s
KBL Kabul 30.17 302 *e*P **P** **19 59 50.6 +2.8**
KBL pmax pmax
comp=Z,5.0nm,0.8s
KBL Kabul 30.17 302 *e*P **P** **19 59 50.6 +2.8**
comp=Z,5.0nm,0.8s
TLY Talaya 30.35 5 *e*P P 19 59 39.4 -10
TLY pmax pmax
comp=Z,1.0nm,0.6s
TLY MLR MLR
comp=Z,210nm,12.0s
TLY Talaya 30.35 5 P **P** **19 59 51.0 +2.1**
comp=Z,2.2nm,0.6s,baz=37,slow=4.7,SNR=3.7
EKS2 Erkin-Say 30.49 320 *e*P **P** **19 59 49.8 -0.6**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 30.49 320 *e*P **P** **19 59 49.8 -0.6**
comp=Z,3.9nm,0.8s
HIA Hailar 31.93 25 P **P** **20 00 02.5 -0.4**
HIA pmax pmax
comp=Z,4.0nm,0.7s
HIA Hailar 31.93 25 P **P** **20 00 02.5 -0.4**
comp=Z,4.4nm,0.7s
KURBB Kurchatov Arra 33.68 335 P **P** **20 00 16.8 -1.3**
comp=Z,1.4nm,0.7s,baz=145,slow=8.7,SNR=20
KURK Kurchatov 33.72 335 *e*P **P** **20 00 17.3 -1.1**
KURK pmax pmax
comp=Z,3.0nm,1.1s
KURK Kurchatov 33.72 335 *e*P **P** **20 00 17.3 -1.1**
comp=Z,2.7nm,1.1s
ZAA0 Zalesovo Array 34.48 344 *e*P **P** **20 00 24.1 -0.9**
ZALV Zalesovo Beam 34.48 344 P **P** **20 00 24.5 -0.5**
comp=Z,3.4nm,0.6s,baz=147,slow=9.9,SNR=16
ZALV LR LR 20 14 49.2
comp=Z,141nm,19.0s,baz=250,slow=37
USRK Ussurisyk Ar. 34.87 42 LR LR 20 14 57.6
comp=Z,594nm,20.0s,baz=222,slow=37
NVS Novosibirsk 35.70 343 *e*P **P** **20 00 34.2 -1.3**
NVS *e* 20 01 56.7
NVS pmax pmax
comp=N,8.0nm,1.4s
NVS pmax pmax
comp=Z,12nm,1.4s
NVS pmax pmax
comp=E,8.0nm,1.6s
MJAR Matsushiro Arr 36.42 57 P **P** **20 00 41.2 -0.8**
comp=E,1.8nm,0.8s,baz=254,slow=12,SNR=2.9
BOD Bodaibo 37.78 12 *e*P **P** **20 00 51.6 -1.6**
BVAR Borovoye Array 38.87 332 P **P** **20 01 01.8 -0.7**
comp=E,2.1nm,0.7s,baz=136,slow=9.4,SNR=8.7
BVAR LR LR 20 20 32.0
comp=E,39nm,20.9s,baz=142,slow=42
BATI Baumata 39.09 141 LR LR 20 19 38.8
comp=E,254nm,19.4s,baz=13,slow=40
GEYT Alibeck 39.57 304 P **P** **20 01 08.0 -0.7**
comp=E,6.6nm,1.0s,baz=115,slow=6.7,SNR=17
GEYT LR LR 20 20 10.2
comp=E,393nm,18.4s,baz=65,slow=40
AKTO Aktyubinsk 43.78 322 P **P** **20 01 41.7 -1.2**
comp=E,4.2nm,0.8s,baz=111,slow=6.2,SNR=16
AKTO LR LR 20 21 33.0
comp=E,226nm,18.9s,baz=120,slow=38
ARU Arti 46.38 329*c* *i*P **P** **20 02 02.1 -1.3**
ARU 20 03 50.0
ARU S **S** **20 08 51.4 +0.6**
ARU SS **ScS** **20 12 04.1 +5.4**
ARU pmax pmax
comp=Z,5.0nm,1.0s
RAYN Ar Rayn 50.14 283 *e*P **P** **20 02 34.0 +0.9**
comp=Z,42nm,2.1s
ZEI Tsey 51.07 308 *e*P **P** **20 02 40.6 +0.6**
ZEI pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 51.90 309 P **P** **20 02 47.0 +1.1**
comp=Z,1.7nm,0.8s,baz=248,slow=22,SNR=3.6
KBZ LR LR 20 28 24.0
comp=Z,158nm,19.4s,baz=104,slow=40
KIV Kislovodsk 52.08 310 *e*P **P** **20 02 46.5 -0.9**
KIV *i* S S 20 10 29.6 +18
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,186nm,19.0s
KIV Kislovodsk 52.08 310 *e*P **P** **20 02 48.4 +1.0**
comp=Z,16nm,1.0s
TIXI Tiksi 52.94 11 *e*P **P** **20 02 51.6 -1.6**
TIXI pmax pmax
comp=Z,5.0nm,1.3s
TIXI Tiksi 52.94 11 *e*P **P** **20 02 51.3 -1.9**
comp=Z,20nm,1.8s
WRA Warramunga Arr 53.08 138 P **P** **20 02 54.4 -0.5**
comp=Z,2.1nm,0.7s,baz=325,slow=7.5,SNR=24
PETK Petropavlovsk- 53.87 39 LR LR 20 27 20.4
comp=Z,226nm,18.6s,baz=255,slow=38
SEY Seymchan 54.35 26 P **P** **20 03 02.9 -0.8**
comp=Z,0.7nm,0.9s,baz=242,slow=8.1,SNR=3.0
ASAR Alice Springs 55.66 142 P **P** **20 03 13.8 +0.1**
comp=Z,1.7nm,0.6s,baz=323,slow=7.2,SNR=37
KLMR Klimovskoe 57.23 330 *e*P **P** **20 03 21.7 -2.6**
KLMR pmax pmax
comp=Z,17nm,1.7s
BRTR Keskin Array B 58.71 304 P **P** **20 03 35.7 +0.4**
comp=Z,0.8nm,0.5s,baz=111,slow=8.5,SNR=6.7
BRTR LR LR 20 33 22.6
comp=Z,39nm,19.4s,baz=84,slow=41
BR231 Keskin MP Arra 59.37 304 *e*P **P** **20 03 38.5 -1.4**
BILL Bilibino 61.50 23 *e*P **P** **20 03 51.3 -2.5**
BILL *i* 20 06 08.9
BILL pmax pmax
comp=Z,4.0nm,1.1s
BILL MLR MLR
comp=Z,328nm,18.0s
BILL Bilibino 61.50 23 *e*P **P** **20 03 52.5 -1.3**
comp=Z,3.9nm,0.8s
AKASG Malin Array Be 61.62 317 P **P** **20 03 53.3 -1.6**
comp=Z,3.3nm,0.8s,baz=80,slow=6.6,SNR=6.2
AKASG LR LR 20 34 19.8
comp=Z,193nm,18.8s,baz=90,slow=40
KIEV Kiev 61.63 317 *e*P **P** **20 03 53.4 -1.5**
KIEV Kiev 61.63 317 *e*P **P** **20 03 55.3 +0.3**
comp=Z,70nm,2.7s
PSN Preselentsi 62.56 309⇑*i*P **P** **20 04 02.4 +1.1**
VRI Vrincioaia 63.44 312⇓*i*P **P** **20 04 07.6 +0.4**
TESR Tescani 63.45 312⇑*i*P **P** **20 04 07.5 +0.3**
PLOR Plostina 63.49 312⇓*i*P P 20 04 10.7 +3.1
FINES FINESS Array B 63.75 329 P **P** **20 04 07.6 -1.3**
comp=Z,1.9nm,0.9s,baz=55,slow=5.3,SNR=3.0
FINES LR LR 20 33 32.8
comp=Z,267nm,18.1s,baz=104,slow=38
MLR Muntele Rosu 64.02 311 P **P** **20 04 11.0 -0.1**
MLR Muntele Rosu 64.02 311⇑*i*P **P** **20 04 10.7 -0.4**
MLR Muntele Rosu 64.02 311 P **P** **20 04 11.0 -0.1**
comp=Z,1.0nm,0.7s,baz=344,slow=7.4
BURAR Bucovina Array 64.35 314⇑*i*P **P** **20 04 14.6 +1.3**
KDZ Kurdzhali 64.78 307⇓*i*P **P** **20 04 17.3 +1.2**
KMBO Kilima Mbogo 65.18 258 *e*P **P** **20 04 18.5 -0.9**
KMBO pmax pmax
comp=Z,33nm,2.4s
KMBO Kilima Mbogo 65.18 258 P **P** **20 04 19.1 -0.3**
comp=Z,2.8nm,0.9s,baz=51,slow=5.4,SNR=9.1
KMBO LR LR 20 32 04.3
comp=Z,91nm,20.5s,baz=96,slow=35
KMBO Kilima Mbogo 65.18 258 *e*P **P** **20 04 18.5 -0.9**
comp=Z,33nm,2.4s
APE Apeiranthos 65.32 302⇑*i*P **P** **20 04 19.2 -0.5**
KOLS Kolonicke sedl 66.20 315 *e*P **P** **20 04 26.1 +1.0**
KOLS Kolonicke sedl 66.20 315 *e*P **P** **20 04 26.1 +1.0**
VTS Vitosha 66.29 308⇓*i*P **P** **20 04 25.9 -0.1**
CRVS Cervenica-Dubn 66.73 315 *e*P P 20 04 32.0 +3.5
CRVS pmax pmax
comp=Z,4.0nm,0.9s
CRVS Cervenica-Dubn 66.73 315 *e*P P 20 04 32.0 +3.5
STHS Stebnicka Huta 66.82 316 *e*P **P** **20 04 31.7 +2.6**
STHS Stebnicka Huta 66.82 316 *e*P **P** **20 04 31.7 +2.6**
VYHS Vyhne 68.51 315 *e*P **P** **20 04 41.5 +1.7**
VYHS pmax pmax
comp=Z,3.0nm,1.2s
VYHS Vyhne 68.51 315 *e*P **P** **20 04 41.5 +1.7**
MORC Moravsky Berou 69.16 317 P **P** **20 04 45.5 +1.7**
MORC Moravsky Berou 69.16 317 P **P** **20 04 45.5 +1.7**
KRLC Kraliky 69.60 317 *e*P P 20 04 49.9 +3.4
KRLC Kraliky 69.60 317 *e*P P 20 04 49.9 +3.4
VRAC Vranov 69.85 316 P **P** **20 04 47.8 -0.2**
comp=Z,8.3nm,1.0s,baz=84,slow=6.4,SNR=8.0
DPC Dobruska-Polom 69.85 317 *e*P **P** **20 04 50.6 +2.5**
DPC Dobruska-Polom 69.85 317 *e*P **P** **20 04 50.6 +2.5**
HFS Hagfors 69.86 328 P **P** **20 04 46.7 -1.1**
comp=Z,1.7nm,0.7s,baz=83,slow=6.5,SNR=3.6
CONA Conrad Observa 70.57 315⇑*i*P **P** **20 04 51.6 -0.9**
comp=Z,7.1nm,1.4s
NB2 NORSAR Subarra 70.93 329 P **P** **20 04 55.6 +1.1**
comp=Z,1.5nm,0.7s,baz=82,slow=6.5
NOA NORSAR Array B 70.93 329 P **P** **20 04 52.3 -2.1**
comp=Z,1.5nm,0.7s,baz=82,slow=6.2,SNR=4.4
NOA LR LR 20 37 45.4
comp=Z,144nm,18.4s,baz=70,slow=37
PRU Pruhonice 71.04 317 *e*P P 20 04 58.9 +3.6
PRU Pruhonice 71.04 317 *e*P P 20 04 58.9 +3.6
SOKA Soboth 71.36 314⇑*i*pP **P** **20 04 58.8 +1.4**
comp=Z,2.7nm,0.9s
CLL Collm 71.75 319 *e*P **P** **20 05 01.0 +1.5**
CLL LmV 20 39 00.0
comp=Z,200nm,18.3s
GEC2 GERESS Array S 71.80 316 *e*P **P** **20 04 59.7 -0.3**
GEC2 GERESS Array S 71.80 316 *e*P **P** **20 04 59.7 -0.3**
GERES GERESS Array B 71.80 316 P **P** **20 05 02.1 +2.1**
comp=Z,1.3nm,0.8s,baz=69,slow=4.4,SNR=8.2
GERES LR LR 20 39 29.7
comp=Z,109nm,18.1s,baz=90,slow=38
CEL Celeste 72.59 305 *e*P **P** **20 05 06.4 +1.5**
comp=Z,12nm,1.0s
DAVOX Davos/Dischmat 74.79 315 P **P** **20 05 17.2 -0.6**
comp=Z,2.3nm,0.7s,baz=99,slow=5.6,SNR=3.6
LPG La Plagne 77.23 314 *e*P P 20 05 35.2 +3.3
comp=Z,7.8nm,0.9s
LPL La Plagne 77.24 314 *e*P P 20 05 35.1 +3.2
comp=Z,7.1nm,0.8s
KEST Kesra 78.32 304 LR LR 20 46 39.6
comp=Z,30nm,18.4s,baz=266,slow=41
ILAR Eielson Array 80.16 24 P P 20 05 41.9 -5.4
comp=Z,0.3nm,0.7s,baz=294,slow=5.3,SNR=5.1
RES Resolute Bay 83.66 4 *e*P **P** **20 06 02.6 -2.9**
RES pmax pmax
comp=Z,83nm,2.9s
RES Resolute Bay 83.66 4 *e*P **P** **20 06 02.6 -2.9**
comp=Z,83nm,2.9s
LBTB Lobatse 85.70 241 *e*P P 20 06 13.7 -3.1
LBTB Lobatse 85.70 241 *e*P P 20 06 13.7 -3.1
BOSA Boshof 87.54 238 LR LR 20 44 40.5
comp=Z,83nm,18.7s,baz=102,slow=35
YKA Yellowknife Ar 91.99 15 P **P** **20 06 44.1 -1.7**
comp=Z,0.2nm,0.7s,baz=333,slow=4.6,SNR=3.6
TORD Torodi Ar. Bea 92.80 285 P **P** **20 06 52.0 +1.4**
comp=Z,0.6nm,0.8s,baz=87,slow=3.9,SNR=3.7
TORD PP **PP** **20 10 35.2 +2.6**
comp=Z,0.7nm,0.9s,baz=86,slow=4.7,SNR=4.1
TORD LR LR 20 52 50.5
comp=Z,67nm,18.4s,baz=110,slow=38
TXAR Lajitas Array 124.64 25 PKP **PKPdf** **20 12 39.3 +1.6**
comp=Z,0.1nm,0.4s,baz=290,slow=3.1,SNR=3.8
SDV Santo Domingo 148.52 342 *e*PKPbc **PKPbc** **20 13 26.8 +1.4**

IDC ***19*** *19:57:00.3±4.2,2.˚19S×78.˚14W,h75km±44km,mb3.4/7, mb1 3.9/10,mb1mx3.5/36,mbtmp3.9/10,ML4.2/3,Error ellipse: s-maj=57.0km s-min=22.6km az=48.0*
IGQ ***19*** *19:57:01±0.4,2.˚63S×78.˚59W,h2km±127km,Mb4.4,Error ellipse: s-maj=3.0km s-min=2.5km az=104.1*
ISCJB ***19*** *19:57:02.2±0.4,2.˚65S±0.˚03×78.˚54W±0.˚07,h100km, mb3.8/9,Error ellipse: s-maj=9.9km s-min=4.3km az=175.3*
NEIC ***19*** *19:57:03.9±0.8,2.˚43S×78.˚41W,h116km±8km,mb4.6/3, MD4.3(IGQ),Error ellipse: s-maj=12.8km s-min=9.3km az=68.0*
ISC 19 19:57:02.3±0.5,2.˚56S±0.˚05×78.˚49W±0.˚07,h100km,n67,
σ1§46/68,mb3.8/9,17C-3D,Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.42**	**44**	⇓S	**Sn**	**19 57 30.9**	**+1.5**
MACE	**Macas**	**0.42**	**44**	⇓P	**Pn**	**19 57 19.5**	**+1.7**
RIOE	**Riobamba**	**0.81**	**350**	⇑P	**Pn**	**19 57 22.8**	**+1.6**
RIOE	**Riobamba**	**0.81**	**350**	⇑S	**Sn**	**19 57 35.4**	**+0.1**
PAT1	**Patacocha**	**1.04**	**3**	⇑P	**Pn**	**19 57 24.0**	**+0.2**
BMAS	**Trigal station**	**1.05**	**1**	⇑P	**Pn**	**19 57 24.9**	**+1.2**

BPAT	**Tungurahua Vol**	**1.05**	**3**	⇑P	**Pn**	**19 57 24.1**	**+0.2**
IGUA	**Igualata**	**1.07**	**352**	P	**Pn**	**19 57 24.5**	**+0.3**
BBIL	**Ulba Tungurahu**	**1.10**	**0**	⇑P	**Pn**	**19 57 25.6**	**+1.3**
BBIL	**Ulba Tungurahu**	**1.10**	**0**	⇑S	**Sn**	**19 57 42.9**	**+2.2**
RETU	**Refugio**	**1.10**	**2**	P	**Pn**	**19 57 25.6**	**+1.2**
ULBA	**Ulba**	**1.10**	**4**	⇑P	**Pn**	**19 57 25.8**	**+1.4**
BULB	**Ulba Tungurahu**	**1.12**	**4**	⇑P	**Pn**	**19 57 25.8**	**+1.3**
BULB	**Ulba Tungurahu**	**1.12**	**4**	⇑S	**Sn**	**19 57 42.0**	**+0.9**
JUI6	**Juive**	**1.12**	**1**	P	**Pn**	**19 57 25.7**	**+1.2**
BRUN	**Tungurahua Vol**	**1.13**	**4**	⇑P	**Pn**	**19 57 25.9**	**+1.3**
RUN5	**Runtun**	**1.14**	**4**	P	**Pn**	**19 57 25.1**	**+0.4**
PISA	**Pisayambo**	**1.49**	**4**	P	**Pn**	**19 57 30.7**	**+1.7**
BMOR	**Cotopaxi Volca**	**1.81**	**1**	⇑P	**Pn**	**19 57 35.0**	**+1.8**
PAST	**Pastocalle**	**1.86**	**355**	P	**Pn**	**19 57 35.7**	**+2.2**
CAMI	**Rancho Maria**	**1.87**	**360**	P	**Pn**	**19 57 35.4**	**+1.7**
BTAM	**Cotopaxi Volca**	**1.87**	**3**	⇑P	**Pn**	**19 57 36.0**	**+2.1**
BREF	**Cotopaxi Volca**	**1.88**	**2**	P	**Pn**	**19 57 35.2**	**+1.2**
COV1	**Cotopaxi Volc**	**1.89**	**5**	P	**Pn**	**19 57 35.1**	**+1.0**
BVC2	**Cotopaxi Volca**	**1.89**	**2**	⇑P	**Pn**	**19 57 35.3**	**+1.2**
NAS2	**Nasa**	**1.90**	**1**	P	**Pn**	**19 57 36.9**	**+2.7**
VC1	**Cotopaxi 1**	**1.91**	**3**	P	**Pn**	**19 57 35.4**	**+1.2**
ANTI	**Antisana**	**2.12**	**9**	⇑P	**Pn**	**19 57 38.1**	**+1.1**
JUA2	**San Juan 2**	**2.33**	**357**	P	**Pn**	**19 57 41.5**	**+1.8**
PECV	**Mancha de Ca P**	**2.35**	**319**	P	**Pn**	**19 57 41.4**	**+1.8**
GGP	**Refugio Guagua**	**2.37**	**358**	P	**Pn**	**19 57 41.1**	**+0.8**
TERV	**Terraza Guagua**	**2.37**	**357**	P	**Pn**	**19 57 42.8**	**+2.6**
PINO	**Pino**	**2.39**	**357**	P	**Pn**	**19 57 41.4**	**+0.9**
CHAR	**Charly**	**2.59**	**19**	P	**Pn**	**19 57 45.0**	**+1.9**
LAV4	**Lava4-Reventad**	**2.60**	**19**	P	**Pn**	**19 57 44.6**	**+1.6**
CAYR	**Refugio Cayamb**	**2.60**	**11**	P	**Pn**	**19 57 45.7**	**+2.3**
CONE	**Cono NE Rev Vo**	**2.61**	**19**	⇓P	**Pn**	**19 57 44.1**	**+0.8**
CAYA	**Cayambe**	**2.66**	**11**	P	**Pn**	**19 57 46.6**	**+2.5**
OTAV	**Otavalo**	**2.78**	**1**	⇑P	**Pn**	**19 57 46.1**	**+0.6**
OTAV	**Otavalo**	**2.78**	**1**	*e*Pn	**Pn**	**19 57 45.8**	**+0.2**
MAG1	**Magdalena**	**2.78**	**333**	P	**Pn**	**19 57 45.7**	**+0.5**
GOLV	**Golondrinas**	**2.82**	**347**	S	**Sn**	**19 58 18.0**	**-1.1**
GOLV	**Golondrinas**	**2.82**	**347**	P	**Pn**	**19 57 45.3**	**-0.5**
LITE	**Lita**	**3.34**	**2**	⇑P	**Pn**	**19 57 54.0**	**+1.2**
ATAH	**Atahualpa**	**4.55**	**179**	P	**Pn**	**19 58 12.5**	**+3.1**
	16nm,0.3s,baz=8.8,slow=10.0,SNR=61						
ATAH				S	**Sn**	**19 58 59.9**	**-1.4**
	7.2nm,0.3s,baz=347,slow=7.7,SNR=8.3						
NNA	**Nana**	**9.51**	**170**	P	**Pn**	**19 59 18.2**	**+1.8**
	12nm,0.3s,baz=352,slow=8.3,SNR=16						
NNA				S	**Sn**	**20 01 00.3**	**-1.4**
	10nm,0.3s,baz=94,slow=19,SNR=9.4						
NNA	**Nana**	**9.51**	**170**	*e*Pn	**Pn**	**19 59 17.7**	**+1.2**
	25nm,0.3s						
NNA				*e*Sn	Sn	20 00 55.4	-6.3
NNA				S	**Sn**	**20 01 00.3**	**-1.4**
PAYG	**Puerto Ayora**	**11.93**	**279**	P	**Pn**	**19 59 51.0**	**+1.7**
SDV	**Santo Domingo**	**13.81**	**34**	Pn	**Pn**	**20 00 13.4**	**-0.6**
SAML	**Samuel**	**16.50**	**113**	*e*Pn	**Pn**	**20 00 49.3**	**+1.4**
LPAZ	**La Paz**	**17.04**	**144**	P	**Pn**	**20 00 55.5**	**+0.4**
	0.1nm,0.3s,baz=356,slow=16,SNR=3.7						
LPAZ	**La Paz**	**17.04**	**144**	Pn	Pn	20 00 52.2	-2.9
MTDJ	**Mount Denham**	**20.67**	**3**	P	P	20 01 28.3	-6.2
LVC	**Limon Verde**	**22.00**	**156**	*e*P	P	20 01 59.4	+11
	6.8nm,0.7s						
TXAR	**Lajitas Array**	**39.84**	**325**	P	**P**	**20 04 27.1**	**+0.9**
	0.7nm,0.9s,baz=139,slow=8.2,SNR=4.4						
TXAR				PcP	**PcP**	**20 06 31.8**	**+1.4**
	0.6nm,0.7s,baz=148,slow=6.3,SNR=6.1						
PDAR	**Pinedale Array**	**53.12**	**332**	P	**P**	**20 06 08.1**	**-2.0**
	0.3nm,0.3s,baz=138,slow=14,SNR=4.2						
ULM	**Lac du Bonnet**	**54.68**	**346**	P	**P**	**20 06 19.2**	**-1.7**
	1.6nm,0.5s,baz=165,slow=9.4,SNR=4.2						
NVAR	**Mina Array Bea**	**54.88**	**322**	P	**P**	**20 06 23.5**	**+0.6**
	0.7nm,0.7s,baz=143,slow=7.9,SNR=4.6						
YKA	**Yellowknife Ar**	**70.40**	**343**	P	**P**	**20 08 03.9**	**-1.4**
	0.3nm,0.4s,baz=138,slow=6.3,SNR=6.7						
DBIC	**Dimbokro**	**74.07**	**82**	P	**P**	**20 08 26.0**	**-2.1**
	14nm,1.4s						
TORD	**Torodi Ar. Bea**	**81.04**	**76**	P	**P**	**20 09 06.0**	**-0.9**
	0.4nm,0.7s,baz=277,slow=5.6,SNR=8.4						
ILAR	**Eielson Array**	**83.25**	**336**	P	**P**	**20 09 17.4**	**-0.1**
	0.6nm,0.9s,baz=122,slow=4.0,SNR=5.0						
ZALV	**Zalesovo Beam**	**126.97**	**12**	PKP	**PKPdf**	**20 15 53.9**	**-0.7**
	0.6nm,0.4s,baz=5.7,slow=1.5,SNR=4.2						
MKAR	**Makanchi Array**	**132.87**	**18**	PKP	**PKPdf**	**20 16 06.2**	**+0.1**
	0.2nm,0.4s,baz=311,slow=3.3,SNR=5.4						
SONM	**Songino Array**	**134.70**	**355**	PKP	**PKPdf**	**20 16 09.1**	**-0.5**
	0.2nm,0.4s,baz=234,slow=1.6,SNR=2.8						
ASAR	**Alice Springs**	**139.09**	**229**	PKhKP	PKPpre	20 16 13.9	
	0.1nm,0.5s,baz=106,slow=3.0,SNR=6.8						
ASAR				PKP	**PKPdf**	**20 16 18.5**	**+0.2**
	0.5nm,0.7s,baz=112,slow=2.2,SNR=8.3						
WRA	**Warramunga Arr**	**140.78**	**234**	PKhKP	PKPpre	20 16 15.7	
	0.7nm,0.8s,baz=116,slow=2.2,SNR=5.5						
WRA				PKP	**PKPdf**	**20 16 21.8**	**+0.4**
	0.4nm,0.5s,baz=117,slow=2.2,SNR=9.8						

*ISCJB **19** 19:58:38.3±0.2, 38°.42N±0°.01×22°.08E±0°.02, h9km±2km, mb3.5/8, Error ellipse: s-maj=2.2km s-min=2.2km az=32.1*
*CSEM **19** 19:58:38.5±0.1, 38°.41N×22°.06E, h5km, MD3.4, Error ellipse: s-maj=2.2km s-min=2.1km az=170.0*
*ATH **19** 19:58:38.4, 38°.41N×22°.07E, h14km, MD3.3/49, ML3.3*
*IDC **19** 19:58:38.4±1.0, 38°.45N×22°.04E, h0km, mb3.5/9, mb1 3.5/12, mb1mx3.4/39, mbtmp3.5/12, ML3.1/3, Error ellipse: s-maj=20.5km s-min=17.8km az=128.0*
*THE **19** 19:58:38.9, 38°.41N×22°.05E, h0km, ML3.6/16, Error ellipse: s-maj=0.8km s-min=0.2km az=324.0*

ISC 19 19:58:39.0±0.7, 38°.42N±0°.01×22°.06E±0°.01, h8km±4km, n187, σ0.86/248, mb3.6/8, 3C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.07**	**115**	P	**Pg**	**19 58 41.2**	**+0.2**
KALE				S	**Sg**	**19 58 42.2**	**-0.3**
KALE	**Kalithea**	**0.07**	**115**	*e*PG	**Pg**	**19 58 41.3**	**+0.2**
KALE				*e*SG	**Sg**	**19 58 43.0**	**+0.5**
KALE	**Kalithea**	**0.07**	**115**	P	**Pg**	**19 58 41.2**	**+0.2**
KALE				S	**Sg**	**19 58 42.2**	**-0.3**
EFP	**Efpalio**	**0.12**	**273**	P	**Pg**	**19 58 41.4**	**-0.3**
EFP				S	**Sg**	**19 58 43.1**	**-0.6**
EFP	**Efpalio**	**0.12**	**273**	*e*PG	**Pg**	**19 58 41.4**	**-0.3**
EFP				*e*SG	**Sg**	**19 58 43.6**	**-0.1**
EFP	**Efpalio**	**0.12**	**273**	P	**Pg**	**19 58 41.4**	**-0.3**
EFP				S	**Sg**	**19 58 43.0**	**-0.6**
UPR	**University Cam**	**0.26**	**238**	P	**Pg**	**19 58 43.9**	**-0.2**
UPR				S	**Sg**	**19 58 47.4**	**-0.1**
UPR	**University Cam**	**0.26**	**238**	P	**Pg**	**19 58 43.9**	**-0.2**
UPR				S	**Sg**	**19 58 47.6**	**+0.1**
DSF	**Desfina**	**0.36**	**91**	P	**Pg**	**19 58 46.2**	**0.0**
DSF				S	**Sg**	**19 58 51.7**	**+0.7**
DSF	**Desfina**	**0.36**	**91**	*e*PB	**Pg**	**19 58 46.2**	**0.0**
DSF				*e*SB	**Sg**	**19 58 51.5**	**+0.5**
DSF	**Desfina**	**0.36**	**91**	P	**Pg**	**19 58 46.2**	**0.0**
DSF				*e*Sb	**Sg**	**19 58 51.5**	**+0.5**
KLV	**Kalavryta, Ach**	**0.38**	**170**	P	**Pg**	**19 58 46.1**	**-0.4**
KLV				S	**Sg**	**19 58 51.6**	**+0.1**
KLV	**Kalavryta, Ach**	**0.38**	**170**	*e*PB	**Pg**	**19 58 46.2**	**-0.3**
KLV				*e*SB	**Sg**	**19 58 51.1**	**-0.4**
KLV	**Kalavryta, Ach**	**0.38**	**170**	P	**Pg**	**19 58 46.1**	**-0.4**
KLV				*e*Sb	**Sg**	**19 58 51.1**	**-0.4**
PVO	**Paravola**	**0.47**	**295**	P	**Pg**	**19 58 47.6**	**-0.4**
PVO				S	**Sg**	**19 58 54.2**	**+0.1**
PVO	**Paravola**	**0.47**	**295**	P	**Pg**	**19 58 47.6**	**-0.4**
PVO				S	**Sb**	**19 58 55.3**	**-1.1**
GUR	**Goura**	**0.53**	**155**	P	**Pg**	**19 58 48.8**	**-0.5**
GUR				S	**Sg**	**19 58 56.8**	**+0.6**
GUR	**Goura**	**0.53**	**155**	*e*PB	**Pg**	**19 58 48.8**	**-0.5**
GUR				*e*SB	**Sg**	**19 58 56.1**	**-0.1**
GUR	**Goura**	**0.53**	**155**	P	**Pg**	**19 58 48.8**	**-0.5**
GUR				*e*Sb	**Sg**	**19 58 56.1**	**-0.1**
EVR	**Evrytania**	**0.54**	**338**	P	**Pg**	**19 58 49.2**	**-0.2**
EVR				S	**Sb**	**19 58 57.2**	**-1.3**
EVR	**Evrytania**	**0.54**	**338**	*e*PB	**Pg**	**19 58 49.2**	**-0.2**
EVR				*e*SB	**Sg**	**19 58 56.4**	**0.0**
EVR	**Evrytania**	**0.54**	**338**	P	**Pg**	**19 58 49.2**	**-0.2**
EVR				*e*Sb	**Sg**	**19 58 56.4**	**0.0**
EVR				S	**Sb**	**19 58 57.2**	**-1.3**
DRO	**Drossia**	**0.54**	**211**	P	**Pg**	**19 58 48.9**	**-0.5**
DRO				S	**Sg**	**19 58 56.8**	**+0.2**
DRO	**Drossia**	**0.54**	**211**	*e*PB	**Pg**	**19 58 49.0**	**-0.5**
DRO	**Drossia**	**0.54**	**211**	P	**Pg**	**19 58 49.0**	**-0.5**
DRO				S	**Sg**	**19 58 56.5**	**-0.1**
AXAR	**Agios Charalam**	**0.58**	**53**	P	**Pg**	**19 58 50.1**	**-0.1**
AXAR				S	**Sb**	**19 58 59.1**	**-0.7**
AXAR	**Agios Charalam**	**0.58**	**53**	*e*PB	**Pg**	**19 58 50.2**	**0.0**
AXAR				*e*SB	**Sg**	**19 58 57.7**	**-0.2**
AXAR	**Agios Charalam**	**0.58**	**53**	*e*Pb	**Pg**	**19 58 50.2**	**0.0**
AXAR				S	**Sb**	**19 58 59.1**	**-0.7**
RLS	**Riolos of Patr**	**0.59**	**233**	P	**Pg**	**19 58 49.9**	**-0.5**
RLS				S	**Sg**	**19 58 58.3**	**+0.1**
RLS	**Riolos of Patr**	**0.59**	**233**	*e*PB	**Pg**	**19 58 49.9**	**-0.5**
RLS	**Riolos of Patr**	**0.59**	**233**	P	**Pg**	**19 58 49.9**	**-0.5**
RLS				S	**Sg**	**19 58 58.3**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.59**	**5**	P	**Pg**	**19 58 50.4**	**-0.1**
MAKR				S	**Sg**	**19 58 59.1**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.59**	**5**	*e*PB	**Pg**	**19 58 50.6**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.59**	**5**	*e*Pb	**Pg**	**19 58 50.6**	**+0.1**
MAKR				S	**Sb**	**19 59 00.0**	**-0.2**
AGG	**Agios Georgios**	**0.64**	**19**	P	**Pg**	**19 58 50.8**	**-0.5**
AGG	**Agios Georgios**	**0.64**	**19**	*e*PB	**Pg**	**19 58 50.8**	**-0.5**
AGG	**Agios Georgios**	**0.64**	**19**	P	**Pg**	**19 58 50.8**	**-0.5**
PDO	**Prodromos**	**0.71**	**285**	P	**Pg**	**19 58 52.1**	**-0.6**
PDO				S	**Sb**	**19 59 02.7**	**-0.8**
PDO	**Prodromos**	**0.71**	**285**	*e*PB	**Pg**	**19 58 52.7**	**0.0**
PDO	**Prodromos**	**0.71**	**285**	P	**Pg**	**19 58 52.5**	**-0.2**
PDO				S	**Sb**	**19 59 02.7**	**-0.8**
LKR	**Lokris**	**0.77**	**72**	P	**Pg**	**19 58 53.2**	**-0.6**
LKR				S	**Sb**	**19 59 05.1**	**-0.1**
LKR	**Lokris**	**0.77**	**72**	*e*PB	**Pg**	**19 58 53.0**	**-0.8**
LKR	**Lokris**	**0.77**	**72**	P	**Pg**	**19 58 53.2**	**-0.6**
LKR				S	**Sb**	**19 59 05.1**	**-0.1**
LTK	**Loutraki**	**0.81**	**119**	P	**Pg**	**19 58 54.5**	**-0.1**
LTK				S	**Sb**	**19 59 06.5**	**0.0**
LTK	**Loutraki**	**0.81**	**119**	*e*PB	**Pg**	**19 58 54.0**	**-0.6**
LTK	**Loutraki**	**0.81**	**119**	*e*Pb	**Pg**	**19 58 54.0**	**-0.6**
LTK	**Loutraki**	**0.81**	**119**	P	**Pg**	**19 58 54.5**	**-0.1**
LTK				S	**Sb**	**19 59 06.5**	**0.0**
AMT	**Artemida-Makis**	**0.93**	**198**	P	**Pg**	**19 58 56.0**	**-0.8**
AMT				S	**Sb**	**19 59 09.6**	**-0.2**
AMT	**Artemida-Makis**	**0.93**	**198**	*e*PB	**Pg**	**19 58 56.0**	**-0.8**
AMT	**Artemida-Makis**	**0.93**	**198**	P	**Pg**	**19 58 56.0**	**-0.8**
AMT				S	**Sg**	**19 59 09.2**	**+0.3**
SMIA	**Simia**	**1.01**	**63**	P	**Pg**	**19 58 57.9**	**-0.4**
SMIA				S	**Sb**	**19 59 12.9**	**+0.8**
SMIA	**Simia**	**1.01**	**63**	*e*PN	**Pg**	**19 58 57.9**	**-0.4**
SMIA	**Simia**	**1.01**	**63**	P	**Pg**	**19 58 57.9**	**-0.4**
SMIA				S	**Sb**	**19 59 12.9**	**+0.8**
DSL	**Palaion Diasel**	**1.04**	**314**	*e*PN	**Pb**	**19 58 59.1**	**-0.1**
DSL	**Palaion Diasel**	**1.04**	**314**	*e*Pn	**Pb**	**19 58 59.1**	**-0.1**
KFL	**Anninata**	**1.05**	**253**	P	**Pg**	**19 58 58.2**	**-0.9**
KFL				S	**Sb**	**19 59 13.5**	**+0.3**
KFL	**Anninata**	**1.05**	**253**	P	**Pg**	**19 58 58.2**	**-0.9**
KFL				S	**Sb**	**19 59 13.5**	**+0.3**
VLX	**Vlachokerasia**	**1.08**	**166**	*e*PG	**Pg**	**19 58 58.4**	**-1.3**
VLX	**Vlachokerasia**	**1.08**	**166**	*e*Pg	**Pg**	**19 58 58.4**	**-1.3**
THL	**Klokotos Trika**	**1.14**	**358**	P	**Pg**	**19 59 00.3**	**-0.6**
THL				S	**Sn**	**19 59 17.2**	**+0.1**
THL	**Klokotos Trika**	**1.14**	**358**	P	**Pg**	**19 59 00.3**	**-0.6**
THL				S	**Sn**	**19 59 17.2**	**+0.1**
LKD2	**Lefkada island**	**1.16**	**289**	P	**Pg**	**19 59 00.3**	**-1.0**
LKD2				S	**Sn**	**19 59 17.5**	**0.0**
LKD2	**Lefkada island**	**1.16**	**289**	*e*PB	**Pg**	**19 59 00.6**	**-0.7**
LKD2	**Lefkada island**	**1.16**	**289**	P	**Pg**	**19 59 00.3**	**-1.0**
LKD2	**Lefkada island**	**1.16**	**289**	*e*Pb	**Pg**	**19 59 00.6**	**-0.7**
LKD2				S	**Sn**	**19 59 17.5**	**0.0**
VLS	**Valsamata**	**1.18**	**259**	*e*PN	**Pg**	**19 58 59.9**	**-1.8**
VLS	**Valsamata**	**1.18**	**259**	*e*Pn	**Pg**	**19 58 59.9**	**-1.8**
MRKA	**Markates**	**1.23**	**76**	*e*PG	**Pb**	**19 59 01.2**	**-1.2**
MRKA	**Markates**	**1.23**	**76**	*e*Pg	**Pb**	**19 59 01.2**	**-1.2**
ITM	**Ithomi**	**1.24**	**185**	*e*PN	**Pb**	**19 59 01.0**	**-1.6**
ITM	**Ithomi**	**1.24**	**185**	*e*Pn	**Pb**	**19 59 01.0**	**-1.6**
NEO	**Neokhori**	**1.27**	**45**	*e*PG	**Pn**	**19 59 02.2**	**-0.8**
NEO	**Neokhori**	**1.27**	**45**	*e*Pg	**Pn**	**19 59 02.2**	**-0.8**
XOR	**Xorichti**	**1.29**	**43**	*e*PB	**Pn**	**19 59 02.8**	**-0.5**
XOR	**Xorichti**	**1.29**	**43**	*e*Pb	**Pn**	**19 59 02.8**	**-0.5**
DID	**Didima**	**1.30**	**134**	P	**Pn**	**19 59 03.2**	**-0.2**
DID				S	**Sn**	**19 59 22.3**	**+1.3**
DID	**Didima**	**1.30**	**134**	*e*PB	**Pn**	**19 59 03.1**	**-0.3**
DID	**Didima**	**1.30**	**134**	*e*Pb	**Pn**	**19 59 03.1**	**-0.3**
DID				S	**Sn**	**19 59 22.3**	**+1.3**
SKIA	**Skiathos**	**1.33**	**55**	*e*PG	**Pn**	**19 59 03.5**	**-0.2**
SKIA	**Skiathos**	**1.33**	**55**	*e*Pg	**Pn**	**19 59 03.5**	**-0.2**
ATH	**Athens Observa**	**1.38**	**108**	*e*PN	**Pn**	**19 59 03.3**	**-1.1**
ATH	**Athens Observa**	**1.38**	**108**	*e*Pn	**Pn**	**19 59 03.3**	**-1.1**
ATHU	**Athens Univers**	**1.43**	**108**	P	**Pn**	**19 59 05.4**	**+0.2**
ATHU				S	**Sg**	**19 59 25.8**	**+0.8**
ATHU	**Athens Univers**	**1.43**	**108**	P	**Pn**	**19 59 05.4**	**+0.2**
ATHU				S	**Sg**	**19 59 25.8**	**+0.8**
SFD	**Strofades**	**1.43**	**216**	*e*PB	**Pg**	**19 59 06.3**	**-0.1**
PTL	**Penteli**	**1.47**	**104**	P	**Pn**	**19 59 06.0**	**+0.3**
PTL	**Penteli**	**1.47**	**104**	*e*PG	**Pb**	**19 59 06.3**	**-0.2**
PTL				*e*SB	**Sn**	**19 59 25.4**	**+0.3**
PTL	**Penteli**	**1.47**	**104**	P	**Pn**	**19 59 06.0**	**+0.3**
PTL	**Penteli**	**1.47**	**104**	*e*Pg	**Pb**	**19 59 06.3**	**-0.2**
PTL				*e*Sb	**Sn**	**19 59 25.4**	**+0.3**
PYL	**PYLOS**	**1.54**	**190**	*e*PG	**Pn**	**19 59 06.5**	**-0.2**
PYL	**PYLOS**	**1.54**	**190**	*e*Pg	**Pn**	**19 59 06.5**	**-0.2**
JAN	**Janina**	**1.55**	**323**	*e*PB	**Pg**	**19 59 08.3**	**-0.5**
JAN	**Janina**	**1.55**	**323**	*e*Pb	**Pg**	**19 59 08.3**	**-0.5**
AOS	**Alonnisos**	**1.61**	**62**	*e*PN	**Pn**	**19 59 06.9**	**-0.7**
AOS				*e*SN	**Sn**	**19 59 25.3**	**-3.1**
AOS	**Alonnisos**	**1.61**	**62**	*e*PG	**Pn**	**19 59 07.4**	**-0.2**
AOS	**Alonnisos**	**1.61**	**62**	*e*Pn	**Pn**	**19 59 06.9**	**-0.7**
AOS	**Alonnisos**	**1.61**	**62**	*e*Pg	**Pn**	**19 59 07.4**	**-0.2**
AOS				*e*Sn	**Sn**	**19 59 25.3**	**-3.1**
LIT	**Litokhoron**	**1.71**	**11**	*e*PN	**Pn**	**19 59 09.2**	**+0.1**
LIT	**Litokhoron**	**1.71**	**11**	*e*Pn	**Pn**	**19 59 09.2**	**+0.1**
IGT	**Igoumenitsa**	**1.75**	**310**	*e*PG	**Pb**	**19 59 11.1**	**-0.2**
IGT	**Igoumenitsa**	**1.75**	**310**	*e*Pg	**Pb**	**19 59 11.1**	**-0.2**
KZN	**Kozani**	**1.90**	**353**	*e*PN	**Pb**	**19 59 12.8**	**-1.1**
KZN	**Kozani**	**1.90**	**353**	*e*Pn	**Pb**	**19 59 12.8**	**-1.1**
PAIG	**Paliouri**	**1.96**	**39**	*e*PB	**Pn**	**19 59 12.2**	**-0.3**
PAIG	**Paliouri**	**1.96**	**39**	*e*Pb	**Pn**	**19 59 12.2**	**-0.3**
NEST	**Nestorio**	**2.14**	**339**	*e*PN	**Pn**	**19 59 16.3**	**+1.3**
NEST	**Nestorio**	**2.14**	**339**	*e*Pn	**Pn**	**19 59 16.3**	**+1.3**
KEK	**Kerkira**	**2.19**	**307**	*e*PN	**Pn**	**19 59 16.9**	**+1.4**
KEK	**Kerkira**	**2.19**	**307**	*e*Pn	**Pn**	**19 59 16.9**	**+1.4**
PLG	**Polygyros**	**2.23**	**28**	*e*PB	**Pn**	**19 59 16.0**	**-0.2**
PLG	**Polygyros**	**2.23**	**28**	*e*Pb	**Pn**	**19 59 16.0**	**-0.2**
KYTH	**Kithira**	**2.27**	**160**	*e*PN	**Pb**	**19 59 18.6**	**-1.6**
HORT	**Hortiatis**	**2.32**	**20**	*e*PN	**Pn**	**19 59 18.5**	**+1.0**
HORT	**Hortiatis**	**2.32**	**20**	*e*Pn	**Pn**	**19 59 18.5**	**+1.0**
OUR	**Ouranopolis**	**2.42**	**37**	*e*PN	**Pn**	**19 59 18.8**	**0.0**
OUR				*e*SN	**Sn**	**19 59 46.3**	**-2.3**
OUR	**Ouranopolis**	**2.42**	**37**	*e*PB	**Pn**	**19 59 19.0**	**+0.2**
OUR	**Ouranopolis**	**2.42**	**37**	*e*Pn	**Pn**	**19 59 19.0**	**+0.2**
OUR				*e*Sn	**Sn**	**19 59 46.3**	**-2.3**
GRG	**Griva**	**2.55**	**6**	*e*PB	**Pn**	**19 59 21.1**	**+0.5**
GRG	**Griva**	**2.55**	**6**	*e*Pb	**Pn**	**19 59 21.1**	**+0.5**
SOH	**Sokhos**	**2.60**	**22**	*e*PB	**Pn**	**19 59 22.2**	**+0.9**
SOH	**Sokhos**	**2.60**	**22**	*e*Pb	**Pn**	**19 59 22.2**	**+0.9**
ANKY	**Antikythira Is**	**2.73**	**158**	*e*PB	**Pn**	**19 59 24.6**	**+1.5**
KNT	**Kendrikon**	**2.81**	**13**	*e*PN	**Pn**	**19 59 25.0**	**+0.8**
KNT	**Kendrikon**	**2.81**	**13**	*e*Pn	**Pn**	**19 59 25.0**	**+0.8**
LIA	**Limnos Island**	**2.84**	**58**	*e*PN	**Pn**	**19 59 24.6**	**+0.1**
LIA	**Limnos Island**	**2.84**	**58**	*e*Pn	**Pn**	**19 59 24.6**	**+0.1**
OHR	**Ohrid**	**2.86**	**340**	*e*Pn	**Pb**	**19 59 28.0**	**-2.2**
OHR				*e*Sn	**Sb**	**20 00 06.4**	**+1.0**
OHR	**Ohrid**	**2.86**	**340**	*e*Pn	**Pb**	**19 59 28.0**	**-2.2**
VAY	**Valandovo**	**2.92**	**8**	*e*Pn	**Pn**	**19 59 24.1**	**-1.6**
VAY				*e*Sn	**Sn**	**20 00 02.2**	**+1.2**
VAY	**Valandovo**	**2.92**	**8**	*e*Pn	**Pn**	**19 59 24.1**	**-1.6**
VAY				*e*Sn	**Sn**	**20 00 02.2**	**+1.2**
SRS	**Serrai**	**2.94**	**23**	*e*PN	**Pn**	**19 59 26.5**	**+0.5**
SRS	**Serrai**	**2.94**	**23**	*e*Pn	**Pn**	**19 59 26.5**	**+0.5**
APE	**Apeiranthos**	**3.06**	**115**	*e*PN	**Pn**	**19 59 27.8**	**+0.1**
APE	**Apeiranthos**	**3.06**	**115**	*e*Pn	**Pn**	**19 59 27.8**	**+0.1**
SIGR	**SIGRI**	**3.07**	**74**	*e*PN	**Pn**	**19 59 27.1**	**-0.5**
SIGR	**SIGRI**	**3.07**	**74**	*e*Pn	**Pn**	**19 59 27.1**	**-0.5**
CHOS	**Chios island**	**3.14**	**89**	*e*PN	**Pn**	**19 59 28.4**	**-0.3**
CHOS	**Chios island**	**3.14**	**89**	*e*PN	**Pn**	**19 59 29.6**	**+0.9**
CHOS	**Chios island**	**3.14**	**89**	*e*Pn	**Pn**	**19 59 29.6**	**+0.9**
KAVA	**Kavala**	**3.19**	**36**	*e*PB	**Pn**	**19 59 31.8**	**+2.4**
SMTH	**Samothraki Isl**	**3.38**	**52**	*e*PN	**Pn**	**19 59 32.2**	**+0.3**
SMTH	**Samothraki Isl**	**3.38**	**52**	*e*Pn	**Pn**	**19 59 32.2**	**+0.3**
VAM	**Vamos**	**3.46**	**150**	*e*PN	**Pn**	**19 59 33.8**	**+0.7**
VAM	**Vamos**	**3.46**	**150**	*e*Pn	**Pn**	**19 59 33.8**	**+0.7**
EZN	**Ezine**	**3.60**	**66**	*e*PN	**Pn**	**19 59 34.6**	**-0.3**
EZN	**Ezine**	**3.60**	**66**	*e*Pn	**Pn**	**19 59 34.7**	**-0.3**
RDO	**Rodhopi**	**3.82**	**43**	*e*PN	**Pn**	**19 59 39.6**	**+1.6**
RDO	**Rodhopi**	**3.82**	**43**	*e*Pn	**Pn**	**19 59 39.6**	**+1.6**
SMG	**Samos**	**3.83**	**99**	*e*PN	**Pn**	**19 59 39.4**	**+1.2**
SMG	**Samos**	**3.83**	**99**	*e*Pn	**Pn**	**19 59 39.4**	**+1.2**
IDI	**Anoyia**	**3.86**	**143**	Pn	**Pn**	**19 59 39.4**	**+0.7**
	0.9nm,0.3s,baz=253,slow=12,SNR=11						
IDI				Sn	**Sn**	**20 00 24.0**	**-0.2**
	3.0nm,0.3s,baz=89,slow=23,SNR=5.7						
ENEZ	**Enez**	**3.92**	**53**	*e*PN	**Pn**	**19 59 39.3**	**0.0**
ENEZ	**Enez**	**3.92**	**53**	*e*Pn	**Pn**	**19 59 39.3**	**0.0**
ALN	**Alexandroupoli**	**3.95**	**50**	*e*PN	**Pn**	**19 59 39.6**	**-0.1**
ALN	**Alexandroupoli**	**3.95**	**50**	*e*Pn	**Pn**	**19 59 39.6**	**-0.1**
GELI	**Tayfur-Gelibol**	**3.95**	**59**	*e*PN	**Pn**	**19 59 39.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**3.95**	**59**	*e*Pn	**Pn**	**19 59 39.7**	**-0.1**
ERIK	**Erikli-Kesan**	**4.11**	**55**	*e*PN	**Pn**	**19 59 41.6**

MOIG eS Sn 20 49 50.7 -1.7
TOVM TOLUCA 2.43 34 eP Pn 20 49 23.7 -0.3
TOVM i S Sn 20 49 52.3 -1.1
TLIG Tlapa 2.46 83 i P Pn 20 49 24.3 0.0
TLIG eS Sn 20 49 52.6 -1.3
HMTT Tlapaneco 2.51 78 i P Pn 20 49 25.8 +0.9
HMTT i S Sn 20 49 56.4 +1.4
YAIG Yautepec 2.52 51 eP Pn 20 49 24.3 -0.8
YAIG eS Sn 20 49 54.2 -1.2
YAIG Yautepec 2.52 51 eP Pn 20 49 24.3 -0.8
YAIG eS Sn 20 49 54.2 -1.2
MZVM 2.63 43 eP Pn 20 49 26.6 +0.2
MZVM i S Sn 20 49 59.6 +1.8
UNM Universidad Na 2.76 42 i P Pn 20 49 28.6 +0.1
UNM eS Sn 20 50 01.4 -0.1
UNM Universidad Na 2.76 42 i P Pn 20 49 28.6 +0.1
UNM eS Sn 20 50 01.4 -0.1
ATVM ATLACOMULCO 2.76 26 eP Pn 20 49 29.8 +1.3
ATVM eS Sb 20 50 05.2 -2.4
VCVM Valle de Chalc 2.89 45 eP Pb 20 49 35.6 -0.5
VCVM eS Sb 20 50 09.6 -1.6
AMVM AMECAMECA 2.90 50 eP Pb 20 49 37.8 +1.6
AMVM eS Sn 20 50 08.0 +3.2
PBIG Penon de los B 2.91 42 eP Pn 20 49 30.8 +0.7
PBIG eS Sn 20 50 03.5 -1.1
PTVM Pico Tres Padr 3.00 39 eP Pn 20 49 31.3 -0.4
PTVM eS Sb 20 50 12.6 -1.8
PTVM Pico Tres Padr 3.00 39 eP Pn 20 49 31.3 -0.4
PTVM eS Sb 20 50 12.6 -1.8
PNIG Pinotepa 3.00 106 eP Pn 20 49 30.9 -0.7
PNIG eS Sn 20 50 06.1 -1.0
PNIG Pinotepa 3.00 106 eP Pn 20 49 30.9 -0.7
PNIG eS Sn 20 50 06.1 -1.0
ZUVM ZUMPANGO 3.20 37 eP Pn 20 49 35.6 +1.1
ZUVM eS Sn 20 50 10.4 -2.0
IIO Organos 3.25 44 eP Pn 20 49 34.6 -0.7
IIO eS Sb 20 50 20.4 -1.2
IIO Organos 3.25 44 eP Pn 20 49 34.6 -0.7
IIO eS Sb 20 50 20.4 -1.2
VTVM Tizayuca 3.34 42 eP Pn 20 49 37.5 +1.0
VTVM eS Sn 20 50 12.0 -3.9
DEIG Demacu 3.61 33 eP Pn 20 49 40.4 +0.3
DEIG i S Sn 20 50 21.8 -0.5
DEIG Demacu 3.61 33 eP Pn 20 49 40.4 +0.3
DEIG i S Sn 20 50 21.8 -0.5
TPIG Tehuac#an 3.77 72 eP Pn 20 49 42.1 -0.1
TPIG eS Sn 20 50 24.5 -1.6
TPIG Tehuac#an 3.77 72 eP Pn 20 49 42.1 -0.1
TPIG eS Sn 20 50 24.5 -1.6
VHO Vista Hermosa 4.21 92 eP Pn 20 49 48.8 +0.5
VHO eS Sn 20 50 35.0 -2.1
VHO Vista Hermosa 4.21 92 eP Pn 20 49 48.8 +0.5
VHO eS Sn 20 50 35.0 -2.1
ANIG Ahuacatlan 4.94 320 eP Pn 20 50 01.8 +3.5
ANIG eS Sn 20 50 52.0 -3.0
ANIG Ahuacatlan 4.94 320 eP Pn 20 50 01.8 +3.5
ANIG eS Sn 20 50 52.0 -3.0
HUIG Huatulco 5.04 107 eP Pn 20 50 00.2 +0.6
HUIG eS Sn 20 50 55.6 -1.8
HUIG Huatulco 5.04 107 eP Pn 20 50 00.2 +0.6
HUIG eS Sn 20 50 55.6 -1.8
ZAIG Zacatecas 5.63 346 eP Pn 20 50 07.1 -0.9
ZAIG eS Sn 20 51 12.4 0.0
ZAIG Zacatecas 5.63 346 eP Pn 20 50 07.1 -0.9
ZAIG eS Sn 20 51 12.4 0.0
CMIG Matias Romero 5.97 91 eP Pn 20 50 13.2 +0.8
CMIG eS Sn 20 51 20.6 +0.2
CMIG Matias Romero 5.97 91 Pn Pn 20 50 13.2 +0.8
2.3nm,0.3s,baz=280,slow=10,SNR=14
CMIG Lg Lg 20 51 51.8
17nm,0.3s,baz=337,slow=10,SNR=5.9
CMIG LR LR 20 52 18.8
comp=Z,920nm,19.9s,baz=260,slow=36
CMIG Matias Romero 5.97 91 Pn Pn 20 50 13.2 +0.8
CMIG eS Sn 20 51 20.6 +0.2
CMIG Lg Lg 20 51 51.8
TUIG Tuzandepetl 6.44 82 eP Pn 20 50 23.9 +5.1
TUIG eS Sn 20 51 30.4 -1.4
TUIG Tuzandepetl 6.44 82 eP Pn 20 50 23.9 +5.1
TUIG eS Sn 20 51 30.4 -1.4
MAIG Mazatlaan 7.70 321 eP Pn 20 50 35.2 -0.9
MAIG Mazatlaan 7.70 321 eP Pn 20 50 35.2 -0.9
LNIG Linares 7.75 11 eP Pn 20 50 39.7 +2.9
LNIG eS Sn 20 52 00.0 -4.0
LNIG Linares 7.75 11 eP Pn 20 50 39.7 +2.9
LNIG eS Sn 20 52 00.0 -4.0
PCIG 7.75 100 eP Pn 20 50 37.9 +1.1
PCIG 7.75 100 eP Pn 20 50 37.9 +1.1
CCIG Comitan 8.67 95 eP Pn 20 50 52.2 +2.6
CCIG eS Sn 20 52 28.9 +1.8
CCIG Comitan 8.67 95 eP Pn 20 50 52.2 +2.6
CCIG eS Sn 20 52 28.9 +1.8
H06E1 SOCORRO T-PHAS 9.44 281 T T 21 00 31.0
SNR=241
H06S1 SOCORRO T 9.46 280 T T 21 00 35.5
SNR=24
APG El Apazote 10.49 101 Pn Pn 20 51 12.2 -2.5
2.1nm,0.3s,baz=109,slow=14,SNR=13
APG Lg Lg 20 54 20.6
0.9nm,0.3s,baz=228,slow=18,SNR=7.1
APG LR LR 20 55 41.1
comp=Z,954nm,18.1s,baz=290,slow=40
LPIG La Paz 10.95 310 LR LR 20 55 10.0
comp=Z,2µm,20.1s,baz=120,slow=35
832A Faith Ranch, C 11.01 5 ⇓Pn Pn 20 51 20.0 -1.6
baz=11,SNR=6.4
833A Chaparral WMA, 11.12 8 ⇑Pn Pn 20 51 22.8 -0.2
baz=11,SNR=7.0
733A Divot King Ran 11.52 8 ⇓Pn Pn 20 51 28.2 -0.3
baz=11
631A Perdido Creek 12.10 2 ⇑Pn Pn 20 51 36.7 +0.3
baz=12,SNR=8.5
TX31 Lajitas Ar. Si 12.23 349 ePn Pn 20 51 40.3 +2.0
TXAR Lajitas Array 12.23 349 Pn Pn 20 51 39.9 +1.5
0.0nm,0.3s,baz=159,slow=12,SNR=6.0
TXAR Lg Lg 20 55 17.2
0.2nm,0.3s,baz=169,slow=14,SNR=6.4
TXAR LR LR 20 57 13.3
comp=Z,1µm,18.2s,baz=0.0,slow=41
632A Uvalde 12.24 6 ⇑Pn Pn 20 51 38.3 -0.1
baz=12
633A Saathoff Ranch 12.27 8 ⇑Pn Pn 20 51 39.0 +0.4
baz=12,SNR=6.0
TEIG Tepich 12.53 74 eP Pn 20 51 46.0 +3.8
TEIG Tepich 12.53 74 Pn Pn 20 51 46.2 +4.0
1.1nm,0.3s,baz=262,slow=23,SNR=5.1
TEIG LR LR 20 57 14.9
comp=Z,891nm,20.1s,baz=266,slow=41
TEIG Tepich 12.53 74 Pn Pn 20 51 41.4 -0.8
TEIG eSn Sn 20 54 02.9 +1.6
636A Smothers Creek 12.71 16 ⇓Pn Pn 20 51 44.2 -0.6
baz=13
530A J-C Ranch, Com 12.82 359 ⇓Pn Pn 20 51 47.9 +1.6
baz=13,SNR=18
529A Stev Forest Ra 12.84 356 ⇓Pn Pn 20 51 48.8 +2.2
baz=13,SNR=10
531A Rocksprings 12.85 2 ⇓Pn Pn 20 51 47.6 +0.9
baz=13,SNR=8.5
532A Rocksprings 12.85 5 ⇑Pn Pn 20 51 47.3 +0.6
baz=13,SNR=8.3
533A Kerrville 12.89 8 ⇑Pn Pn 20 51 48.5 +1.3
baz=13,SNR=5.1
534A Blanco 12.93 10 ⇑Pn Pn 20 51 48.1 +0.3
baz=13
JCT Junction City 13.21 5 ⇓Pn Pn 20 51 52.2 +0.6
baz=13,SNR=6.7
JCT Junction City 13.21 5 ePn Pn 20 51 51.3 -0.2
49nm,1.1s
429A Davenport Ranc 13.31 357 ⇓Pn Pn 20 51 54.7 +1.7
baz=13,SNR=17
431A Sonora 13.36 2 ⇓Pn Pn 20 51 54.5 +0.9
baz=13,SNR=7.4
430A Baggett Ranch, 13.46 360 ⇑Pn Pn 20 51 57.8 +2.8
baz=13,SNR=15
HKT Hockley 13.52 20 ePn Pn 20 51 46.9 -8.9
433A Art 13.55 8 ⇓Pn Pn 20 51 57.1 +0.8
baz=14
432A Menard 13.60 5 ⇓Pn Pn 20 51 58.1 +1.1
baz=14,SNR=11
434A Burnet 13.73 10 ⇑Pn Pn 20 51 59.2 +0.4
baz=14,SNR=9.0
331A San Angelo 13.99 2 ⇓Pn Pn 20 52 02.8 +0.5
baz=14,SNR=6.9

330A Mertzon 14.07 360 ⇓Pn Pn 20 52 04.8 +1.3
baz=14,SNR=16
332A Millersview 14.11 5 ⇓Pn Pn 20 52 04.0 +0.2
baz=14
333A Richland Sprin 14.13 8 ⇓Pn Pn 20 52 04.9 +0.8
baz=14,SNR=9.3
329A Wagon Wheel Ra 14.18 357 ⇑Pn Pn 20 52 06.1 +1.2
baz=14,SNR=7.8
334A Lometa 14.24 10 ⇑Pn Pn 20 52 07.8 +2.1
baz=14,SNR=15
335A Moody 14.35 13 ⇑Pn Pn 20 52 06.9 -0.2
baz=14
230A Sterling City 14.55 0 ⇑Pn Pn 20 52 11.8 +1.8
baz=14,SNR=5.1
336A Riesel 14.58 15 ⇑Pn Pn 20 52 10.7 +0.3
baz=14,SNR=7.5
232A Coleman 14.62 5 ⇑Pn Pn 20 52 11.2 +0.4
baz=14,SNR=8.6
231A Bronte 14.62 3 ⇑Pn Pn 20 52 11.4 +0.5
baz=15,SNR=14
229A Bryant Ranch, 14.65 358 ⇓Pn Pn 20 52 11.7 +0.4
baz=15,SNR=7.2
233A Rising Star 14.82 7 ⇓P P 20 52 19.8 +0.4
baz=15,SNR=22
228A UT Block 9, Go 14.84 355 ⇓P P 20 52 19.5 -0.2
baz=15
234A Clairette 14.92 10 ⇓P P 20 52 19.9 -0.5
baz=15,SNR=12
338A Crockett 14.99 20 ⇑P P 20 52 20.3 -0.9
baz=15,SNR=6.3
WHTX Lake Whitney, 15.03 12 ⇑P P 20 52 21.1 -0.6
baz=15
WHTX Lake Whitney, 15.03 12 ePn P 20 52 19.9 -1.8
CLNB Carlsbad 15.13 351 ePn P 20 52 20.8 -2.1
8.1nm,1.0s
CLNB e 20 52 31.1
339A Huntington 15.22 22 ⇓P P 20 52 23.7 -0.1
baz=15,SNR=8.3
130A Snyder 15.26 1 ⇓Pn Pn 20 52 19.6 +0.1
baz=15,SNR=13
129A Stewart Farms, 15.31 358 ⇑P P 20 52 24.5 -0.3
baz=15
128A Castleberry Fa 15.33 356 ⇑Pn Pn 20 52 20.7 +0.2
baz=15,SNR=11
ABTX Abilene, Hawle 15.35 5 ⇓Pn Pn 20 52 19.6 -1.0
baz=15,SNR=12
ABTX Abilene, Hawle 15.35 5 ePn P 20 52 23.9 -1.3
131A Roby 15.35 2 ⇑Pn Pn 20 52 20.0 -0.7
baz=15,SNR=13
133A Hamilton Ranch 15.40 7 ⇓P P 20 52 25.5 -0.3
baz=15,SNR=12
237A Washetta, Mont 15.44 17 ⇓P P 20 52 25.5 -0.7
baz=15
134A White-Moore Ra 15.48 10 ⇑P P 20 52 26.3 -0.4
baz=15,SNR=8.2
340A Bronson 15.54 24 ⇓Pn Pn 20 52 22.6 -0.5
baz=15,SNR=8.6
NATX Nacogdoches 15.57 21 ePn P 20 52 26.9 -0.8
251nm,1.0s
135A Vickery Place, 15.59 12 ⇑P P 20 52 27.1 -0.7
baz=16
238A Jacksonville 15.65 19 ⇓Pn Pn 20 52 23.9 -0.5
baz=16,SNR=6.5
239A Gary 15.87 21 ⇓Pn Pn 20 52 27.1 -0.3
baz=16,SNR=7.0
319A Douglas 15.88 334 ⇓Pn Pn 20 52 28.5 +0.9
baz=16,SNR=5.4
Z29A Hungry Hill Ra 15.93 358 ⇑Pn Pn 20 52 28.8 +0.6
baz=16,SNR=30
Z30A Sanderson Ranc 15.95 0 ⇓Pn Pn 20 52 28.2 -0.2
baz=16,SNR=20
Z28A Tucker Farm, M 15.99 356 ⇑Pn Pn 20 52 29.0 0.0
baz=16
Z31A Sharp Cattle R 16.00 3 ⇓Pn Pn 20 52 28.9 -0.2
baz=16,SNR=20
137A Heron Place, G 16.02 17 ⇑P P 20 52 31.9 -0.6
baz=16
Z32A Haskell 16.04 5 ⇓Pn Pn 20 52 28.8 -0.8
baz=16,SNR=14
Z33A Whitaker Ranch 16.09 7 ⇓Pn Pn 20 52 30.4 +0.2
baz=16,SNR=8.5
138A Matatall Enter 16.27 18 ⇑P P 20 52 34.9 -0.5
baz=16
Z34A Cotter Ranch, 16.29 10 ⇑P P 20 52 35.5 -0.2
baz=16
121A Cookes Peak, D 16.34 340 ⇑P P 20 52 37.1 +0.7
baz=16,SNR=12
121A Cookes Peak, D 16.34 340 ePn P 20 52 35.9 -0.6
125nm,1.6s
Y29A Porterfield Fa 16.53 358 ⇑Pn Pn 20 52 35.9 0.0
baz=16,SNR=11
Y28A McKinney Farm, 16.60 357 ⇓Pn Pn 20 52 36.7 0.0
baz=17
Y31A Rekieta Farm, 16.64 3 ⇓Pn Pn 20 52 37.0 -0.2
baz=17,SNR=8.4
MSTX Muleshoe 16.70 355 ⇓Pn Pn 20 52 38.0 0.0
baz=17,SNR=8.6
MSTX Muleshoe 16.70 355 ePn Pn 20 52 37.0 -1.0
439nm,2.1s
Y32A R-V Farms, Ver 16.73 5 ⇑Pn Pn 20 52 38.1 -0.3
baz=17
Z22A Elephant Butte 16.76 343 ⇑Pn P 20 52 40.1 -1.0
baz=17,SNR=48
Y33A Hilltop Ranch, 16.82 7 ⇓Pn Pn 20 52 39.2 -0.2
baz=17
Y34A Reagan Ranch, 16.89 10 ⇑Pn Pn 20 52 40.8 +0.4
baz=17,SNR=5.9
Y24A Capitan 17.03 348 ⇑Pn P 20 52 43.7 -0.3
baz=17,SNR=24
X30A Coker Ranch, T 17.11 1 ⇓Pn Pn 20 52 43.1 0.0
baz=17,SNR=9.1
X29A Tulia 17.11 358 Pn Pn 20 52 43.6 +0.3
baz=17,SNR=6.7
X32A Elmer 17.16 5 ⇑Pn Pn 20 52 44.0 +0.2
baz=17,SNR=8.9
JTS JuntasAbangare 17.17 112 P P 20 52 50.5 +5.0
0.6nm,0.3s,baz=148,slow=13,SNR=2.5
JTS LR LR 20 58 41.0
comp=Z,420nm,20.6s,baz=336,slow=35
JTS JuntasAbangare 17.17 112 ePn Pn 20 52 40.9 -3.1
X28A Dimmitt 17.20 357 ⇓Pn Pn 20 52 45.0 +0.6
baz=17,SNR=6.1
X31A McDonald Ranch 17.32 3 ⇑Pn Pn 20 52 46.2 +0.5
baz=17,SNR=7.1
TUC Tucson 17.34 332 ePn Pn 20 52 44.2 -1.8
152nm,2.5s
X33A Lawton 17.36 7 ⇓Pn Pn 20 52 45.7 -0.5
baz=17
X25A Clemmons Ranch 17.48 350 ⇓Pn Pn 20 52 48.1 +0.3
baz=17
X34A Smith Ranch, M 17.51 9 ⇓Pn Pn 20 52 47.6 -0.5
baz=17
BNM Barren Site 17.52 345 ePn Pn 20 52 45.9 -2.5
WMOK Wichita Mounta 17.52 6 ePn Pn 20 52 46.5 -1.7
104nm,1.8s
AMTX Amarillo 17.55 358 ⇑Pn Pn 20 52 48.5 -0.1
baz=18
AMTX Amarillo 17.55 358 ePn Pn 20 52 47.4 -1.2
74nm,1.0s
LENM Lemitar 17.62 344 ePn Pn 20 52 50.1 +0.4
LPM Los Pinos Moun 17.67 345 eP P 20 52 52.5 +1.3
W29A Amarillo 17.79 359 ⇑Pn Pn 20 52 51.8 +0.2
baz=18
W32A Sentinel 17.86 5 Pn Pn 20 52 52.5 +0.1
baz=18,SNR=7.0
W31A Holland Ranch, 17.88 3 ⇓Pn Pn 20 52 52.4 -0.2
baz=18,SNR=5.6
LAZ Ladron 17.89 344 ePn P 20 52 55.3 +1.7
W26A Owens Ranch, T 17.90 353 ⇓Pn P 20 52 53.7 0.0
baz=18
W33A Caddo, Fort Co 17.97 7 ⇓Pn Pn 20 52 53.1 -0.6
baz=18,SNR=5.1
214A Organ Pipe Nat 18.05 326 ⇑Pn P 20 52 56.4 +1.2
baz=18,SNR=8.5
214A Organ Pipe Nat 18.05 326 ePn P 20 52 56.7 +1.6
32nm,1.2s
W25A X Bar L Ranch, 18.12 351 Pn Pn 20 52 55.8 +0.1
baz=18,SNR=14
W34A Bridge Creek, 18.14 9 ePn P 20 53 01.8 +5.7
55nm,1.0s
ANMO Albuquerque 18.24 346 P P 20 52 58.8 +1.4
0.4nm,0.3s,baz=153,slow=12,SNR=25
ANMO LR LR 20 59 59.5
comp=Z,615nm,20.7s,baz=168,slow=37
ANMO Albuquerque 18.24 346 ePn P 20 52 58.2 +0.8
24nm,0.9s
ANMO e 20 53 05.9
W24A Lazy 6 Ranch, 18.27 349 ⇑Pn P 20 52 57.9 +0.2
baz=18,SNR=29

V30A Spur Ranch, Mi 18.42 1 ⇑Pn P 20 52 58.1 -1.2
baz=18
V31A Spring Creek L 18.47 3 Pn P 20 52 59.5 -0.2
baz=18,SNR=10
V32A Arapaho 18.47 5 ⇓Pn P 20 52 58.5 -1.2
baz=18
V27A Dan Oppiter Fa 18.48 356 ⇓Pn P 20 52 59.2 -0.7
baz=18
MIAR Mount Ida 18.49 20 ePn P 20 52 57.6 -2.3
51nm,1.3s
V26A Tequesquite Ra 18.60 353 ⇓Pn P 20 53 00.9 -0.4
baz=19
V33A Lossen Ranch, 18.65 7 ⇑Pn P 20 53 00.8 -0.9
baz=19
V24A Rampart Ranch, 18.75 349 Pn Pn 20 53 03.7 +0.2
baz=19,SNR=26
V25A Rancho No Teng 18.75 351 ⇑Pn P 20 53 02.9 -0.2
baz=19,SNR=16
V34A Guthrie 18.77 9 ⇓Pn P 20 53 02.0 -1.0
baz=19
V34A Guthrie 18.77 9 eP P 20 53 00.9 -2.1
75nm,1.0s
V35A Meyer Ranch, C 18.81 11 ⇓Pn P 20 53 02.3 -1.1
baz=19,SNR=5.7
X18A Snowflake 18.91 337 ⇑Pn Pn 20 53 05.9 +0.4
baz=19
V23A Ortiz Mt. (NFS 18.94 347 ⇓Pn Pn 20 53 06.2 +0.4
baz=19,SNR=12
UALR University of 19.12 23 eP P 20 53 05.1 -1.8
68nm,1.4s
U32A Winter Ranch, 19.13 5 ⇓Pn P 20 53 05.9 -1.1
baz=19
U27A Thompson Grove 19.14 356 ⇑Pn P 20 53 07.2 0.0
baz=19,SNR=5.0
TUL1 Leonard 19.16 13 ⇑Pn P 20 53 06.0 -1.3
baz=19,SNR=17
TUL1 Leonard 19.16 13 eP P 20 53 05.4 -1.9
158nm,1.0s
TUL1 e 20 53 13.2
113A Mohawk Valley, 19.19 326 Pn Pn 20 53 09.9 +1.3
baz=19,SNR=13
U26A Atchley Ranch, 19.19 354 ⇓Pn P 20 53 08.0 +0.1
baz=19,SNR=9.6
U30A WK&E Inc. Balk 19.19 1 ⇓Pn P 20 53 06.9 -0.8
baz=19
Z14A Wintersburg 19.23 329 ⇓Pn Pn 20 53 09.8 +0.7
baz=19
V22A San Miguel Ran 19.27 346 Pn Pn 20 53 09.9 +0.1
baz=19,SNR=23
U25A Circle Dot Ran 19.27 352 ⇓Pn Pn 20 53 09.5 -0.4
baz=19,SNR=12
U34A Anderson Ranch 19.36 9 ⇓Pn P 20 53 08.3 -1.2
baz=19,SNR=5.4
U34A Anderson Ranch 19.36 9 eP P 20 53 07.1 -2.3
138nm,1.8s
W18A Petrified Fore 19.36 338 ⇑Pn Pn 20 53 11.6 +0.8
baz=19,SNR=5.5
W18A Petrified Fore 19.36 338 eP P 20 53 10.0 +0.2
39nm,1.1s
X16A Lo Mia Camp, P 19.41 334 ⇑Pn Pn 20 53 12.0 +0.5
baz=19,SNR=17
U24A Moreno Valley 19.42 350 ⇑Pn P 20 53 10.7 +0.3
baz=19
U23A El Rito 19.51 348 ⇓Pn Pn 20 53 12.2 -0.5
baz=20,SNR=27
U22A Llaves 19.70 346 ⇓Pn P 20 53 14.1 +0.7
baz=20
T30A Plains 19.71 1 ⇓Pn P 20 53 13.2 -0.2
baz=20
Y14A Wickenburg 19.72 330 ⇓Pn Pn 20 53 14.8 -0.3
baz=20,SNR=6.7
T27A Campo 19.77 356 ⇓Pn P 20 53 13.7 -0.4
baz=20,SNR=6.6
T28A Walsh 19.79 358 ⇓Pn P 20 53 13.7 -0.6
baz=20
T31A Randall Ranch, 19.79 3 ⇓Pn P 20 53 14.0 -0.3
baz=20,SNR=8.1
T33A Patterson Ranc 19.90 7 ⇓Pn P 20 53 13.9 -1.5
baz=20
T32A Huddler Ranch, 19.93 5 Pn P 20 53 14.8 -0.9
baz=20,SNR=5.5
T26A Comanche Natio 19.95 354 ⇓Pn P 20 53 16.5 +0.4
baz=20,SNR=12
GLA Glamis 19.98 324 Pn Pn 20 53 18.5 +0.3
baz=20,SNR=8.1
GLA Glamis 19.98 324 eP Pn 20 53 17.9 -0.2
41nm,1.1s
T25A Trinidad 20.00 352 ⇓Pn P 20 53 17.2 +0.4
baz=20,SNR=14
T24B San Luis 20.07 350 ⇓Pn P 20 53 18.0 +0.4
baz=20,SNR=8.2
OXF Oxford 20.12 29 eP P 20 53 14.3 -3.5
35nm,0.8s
T23A Casias Ranch, 20.16 349 ⇓Pn P 20 53 18.8 +0.3
baz=20,SNR=5.9
LRAL Lakeview Retre 20.21 36 eP P 20 53 16.4 -2.4
S28A Manter 20.25 358 ⇑Pn P 20 53 19.2 -0.1
baz=20,SNR=6.4
S29A Ulysses 20.27 0 Pn P 20 53 19.0 -0.5
baz=20,SNR=10
S30A Montezuma 20.30 2 ⇓Pn P 20 53 19.0 -0.8
baz=20,SNR=5.2
S31A Mullinville 20.32 4 ⇑Pn P 20 53 19.6 -0.4
baz=20
WUAZ Wupatki 20.33 335 ⇑Pn Pn 20 53 22.7 +0.3
baz=20,SNR=20
WUAZ Wupatki 20.33 335 eP Pn 20 53 21.6 -0.8
74nm,0.9s
Y12C Blythe 20.35 326 ⇓P Pn 20 53 22.0 -0.4
baz=20,SNR=12
S26A Kim 20.38 355 ⇓Pn P 20 53 20.9 +0.2
baz=20,SNR=11
S27A Las Animas 20.40 356 ⇑Pn P 20 53 20.8 -0.1
baz=20
SWSC Sam W. Stewart 20.45 322 ⇑P Pn 20 53 23.4 -0.2
baz=20,SNR=6.0
HBAR Harrisburg 20.46 25 eP P 20 53 19.8 -1.7
S25A Robets Cordova 20.52 352 ⇑P P 20 53 22.4 +0.1
baz=20,SNR=20
PDMCI Parker Dam,Lak 20.58 328 ⇓P Pn 20 53 24.3 -0.7
baz=21,SNR=13
S24A Houchin Ranch, 20.61 351 ⇑P P 20 53 24.3 +0.9
baz=21,SNR=21
BC3 Big Chuckawall 20.78 324 ⇑P P 20 53 26.4 +1.3
baz=21,SNR=5.4
MONP Monument Peak, 20.78 321 ⇓P Pn 20 53 27.2 -0.5
baz=21
BAR Barrett 20.79 320 eP P 20 53 21.9 -3.3
BAR ePn Pn 20 53 27.5 -0.1
S23A Nye Farm, Mont 20.80 349 ⇓P P 20 53 26.3 +0.8
baz=21
MVCO Mesa Verde 20.90 343 ⇑P P 20 53 27.2 +0.7
baz=21
MVCO Mesa Verde 20.90 343 eP P 20 53 26.8 +0.2
43nm,1.1s
R30A Dighton 20.95 2 ⇑P P 20 53 26.1 -0.7
baz=21
R25A Fountain Ranch 20.98 353 ⇑P P 20 53 27.7 +0.4
baz=21,SNR=15
R31A Burdett 20.99 4 ⇓P P 20 53 26.2 -1.0
baz=21,SNR=12
R27A Eads 20.99 356 ⇑P P 20 53 27.3 0.0
baz=21,SNR=13
IRM Iron Mountain 20.99 326 ⇓P Pn 20 53 29.5 -0.5
baz=21,SNR=33
R28A Tribune 21.00 359 ⇓P P 20 53 26.7 -0.7
baz=21,SNR=17
S22A 4UR Ranch, Cre 21.01 347 ⇓P P 20 53 28.4 +0.7
baz=21,SNR=23
R26A Arlington 21.05 355 ⇓P P 20 53 28.1 +0.1
baz=21,SNR=9.1
R29A Marienthal 21.08 360 ⇑P P 20 53 27.4 -0.8
baz=21
R33A Olander Ranch, 21.14 7 ⇓P P 20 53 27.8 -1.0
baz=21
R24A Sanders Place, 21.17 351 ⇑P P 20 53 29.7 +0.3
baz=21,SNR=7.0
R32A Long Quarter, 21.18 5 ⇓P P 20 53 28.0 -1.2
baz=21
R23A Moffat 21.25 350 ⇑P P 20 53 30.3 0.0
baz=21,SNR=24
TIGA Tifton 21.27 45 ⇑P P 20 53 29.7 -0.6
baz=21
TIGA Tifton 21.27 45 eP P 20 53 29.0 -1.3
168nm,1.1s
TIGA e 20 53 37.0
PFO Pinyon Flats O 21.32 323 P P 20 53 33.0 +2.1

9.3nm,1.0s,baz=118,slow=9.0,SNR=8.8
PFO LR LR 21 02 31.1
comp=Z,429nm,19.0s,baz=138,slow=39
PFO Pinyon Flats O 21.32 323 P P 20 53 32.9 +2.1
baz=21,SNR=6.4
PFO Pinyon Flats O 21.32 323 eP P 20 53 32.2 +1.4
34nm,1.0s
HALT Halls 21.32 27 eP P 20 53 30.0 -0.7
BELC Belle Mtn. Jos 21.34 324 P P 20 53 33.5 +2.3
baz=21,SNR=6.9
U15A North Rim 21.49 335 ⇓P P 20 53 34.1 +1.2
baz=22,SNR=21
Q29A Oakley 21.54 0 ⇓P P 20 53 32.1 -1.1
baz=22,SNR=16
PBMO Poplar Bluff 21.61 24 eP P 20 53 31.6 -2.3
82nm,1.0s
GLAT Glass 21.64 27 P P 20 53 36.8 +2.6
Q30A Quinter 21.64 2 P P 20 53 33.6 -0.6
baz=22,SNR=5.4
Q26A Hugo 21.68 355 P P 20 53 34.5 -0.2
baz=22,SNR=6.8
KSCO Kaye Shedlock' 21.70 357 ⇑P P 20 53 34.6 -0.4
baz=22,SNR=5.0
KSCO Kaye Shedlock' 21.70 357 eP P 20 53 33.2 -1.8
97nm,1.1s
KSCO e 20 53 41.7
Q31A Ellis 21.71 4 ⇑P P 20 53 33.5 -1.4
baz=22
Q28A Sharon Springs 21.72 359 ⇑P P 20 53 34.0 -1.2
baz=22
Q25A Bedland, Calha 21.74 353 P P 20 53 35.6 +0.1
baz=22,SNR=10
GMRC Granite Mounta 21.74 326 P P 20 53 37.1 +1.7
baz=22,SNR=9.4
MURC Murrieta 21.75 321 ⇑P P 20 53 36.7 +1.3
baz=22
Q32A Meitler Ranch, 21.76 5 ⇓P P 20 53 34.5 -1.0
baz=22
PV01 Paradox Valley 21.79 344 eP P 20 53 36.5 +0.4
Q33A Connelly Farm, 21.84 7 ⇑P P 20 53 34.8 -1.5
baz=22
PV05 Paradox Valley 21.88 343 eP P 20 53 38.4 +1.4
KSU1 Kansas State U 22.11 9 ⇑P P 20 53 37.7 -1.4
baz=22
KSU1 Kansas State U 22.11 9 eP P 20 53 37.3 -1.8
93nm,1.1s
PV04 Paradox Valley 22.12 344 eP P 20 53 37.5 -2.1
HEC Hector,Ludlow 22.14 325 ⇑P P 20 53 41.6 +2.0
baz=22,SNR=8.7
PV10 Paradox Valley 22.14 343 eP P 20 53 38.2 -1.7
WVT Waverly 22.18 30 P P 20 53 37.6 -2.4
66nm,1.3s
P30A Selden 22.21 2 ⇑P P 20 53 39.0 -1.4
baz=22
KNB Kanab 22.21 335 eP P 20 53 42.4 +1.9
141nm,1.9s
P31A Stockton 22.22 4 ⇓P P 20 53 38.8 -1.7
baz=22
P28A Saint Francis 22.23 359 P P 20 53 39.8 -0.8
baz=22,SNR=7.4
P27A Ficken Ranch, 22.24 357 ⇑P P 20 53 39.9 -0.9
baz=22
P29A Atwood 22.25 0 ⇓P P 20 53 39.5 -1.4
baz=22,SNR=5.4
PV09 Paradox Valley 22.28 343 eP P 20 53 44.2 +2.9
P26A Davis Ranch, A 22.29 355 ⇑P P 20 53 40.5 -0.9
baz=22
P25A Willow Gulch B 22.32 354 ⇓P P 20 53 41.1 -0.6
baz=22
TUQ Turquoise Moun 22.38 327 ⇑P P 20 53 43.8 +1.5
baz=22,SNR=17
P32A Huiting Farm, 22.38 5 ⇑P P 20 53 40.8 -1.3
baz=22
P23A Jefferson 22.40 350 ⇑P P 20 53 42.6 -0.2
baz=22
P24A Kohler Place, 22.41 352 ⇓P P 20 53 41.3 -1.3
baz=22
SMCO Snowmass 22.41 348 eP P 20 53 43.7 +0.7
51nm,1.2s
BFSC Mount Baldy Ra 22.46 322 ⇓P P 20 53 44.5 +1.3
baz=22
GOGA Godfrey 22.60 41 eP P 20 53 43.6 -0.9
21nm,0.8s
MWC Mount Wilson 22.69 321 eP P 20 53 47.4 +1.7
32nm,1.3s
GSC Goldstone, Bar 22.75 325 P P 20 53 48.1 +1.9
baz=23,SNR=9.7
GSC Goldstone, Bar 22.75 325 eP P 20 53 47.4 +1.2
36nm,1.3s
O29A 4D Ranch, Culb 22.78 1 ⇓P P 20 53 45.9 -0.5
baz=23
P22A Eagle 22.78 349 ⇑P P 20 53 46.5 -0.1
baz=23,SNR=5.8
O28A Krutsinger Ran 22.78 359 ⇓P P 20 53 46.2 -0.3
baz=23
ISCO Idaho Springs 22.79 351 P P 20 53 46.8 0.0
baz=23,SNR=7.5
ISCO Idaho Springs 22.79 351 eP P 20 53 45.7 -1.1
74nm,1.9s
SHPR Sheep Range 22.83 330 eP P 20 53 48.0 +0.9
O30A MW Ranch, Wils 22.85 2 ⇓P P 20 53 46.0 -1.1
baz=23
CCUT Cedar City 22.89 334 eP P 20 53 48.3 +0.5
13nm,1.2s
SIUC Southern Illin 22.90 25 eP P 20 53 45.7 -1.9
59nm,1.0s
SHOC Shoshone, Teco 22.92 327 ⇓P P 20 53 49.4 +1.5
baz=23
O26A Horse Wrangler 22.97 356 ⇑P P 20 53 47.8 -0.7
baz=23
EDW2 Edwards Air Fo 23.11 323 ⇑P P 20 53 51.3 +1.4
baz=23
ARUT Antelope Range 23.13 335 eP P 20 53 50.9 +0.8
O23A Lake Granby, G 23.23 351 ⇑P P 20 53 51.5 +0.2
baz=23,SNR=5.3
SRU San Rafael Swe 23.25 341 eP P 20 53 51.3 -0.2
21nm,1.1s
MVU Marysvale 23.27 338 eP P 20 53 52.3 +0.6
16nm,0.6s
MVU eSn Sn 20 58 27.6 +5.7
O22A Kremmling 23.29 349 ⇓P P 20 53 52.0 +0.1
baz=23,SNR=16
LRMC Laurel Mtn Rad 23.37 324 ⇓P P 20 53 54.3 +1.7
baz=23,SNR=8.9
N29A Votaw Ranch, W 23.47 1 ⇑P P 20 53 53.4 -0.1
baz=23
N27A Anderson Farm, 23.49 357 ⇑P P 20 53 53.4 -0.2
baz=23
N32A Stulken Farm, 23.54 5 ⇑P P 20 53 53.9 -0.2
baz=24
O20A White River Ci 23.60 346 ⇑P P 20 53 55.3 +0.4
baz=24
O20A White River Ci 23.60 346 eP P 20 53 55.4 +0.4
219nm,2.1s
OGNE Ogallala 23.61 358 ⇓P P 20 53 54.5 -0.3
baz=24
OGNE Ogallala 23.61 358 eP P 20 53 52.9 -1.9
110nm,1.3s
TMUT Trail Mountain 23.64 340 eP P 20 53 54.9 -0.5
14nm,0.8s
FURC Furnace Creek, 23.66 327 ⇑P P 20 53 56.7 +1.5
baz=24
MPMC Manual Prospec 23.68 325 P P 20 53 57.1 +1.4
baz=24,SNR=23
TPNV Topopah Spring 23.72 329 P P 20 53 57.8 +1.8
baz=24,SNR=36
TPNV Topopah Spring 23.72 329 eP P 20 53 57.8 +1.8
48nm,1.1s
USIN University of 23.77 27 eP P 20 53 55.0 -1.2
359nm,2.2s
N22A Wattenberg Ran 23.90 350 ⇓P P 20 53 58.2 +0.4
baz=24
DAC Darwin (Calif) 23.90 326 eP P 20 53 58.9 +1.0
46nm,1.6s
N23A Red Feather La 23.91 351 P P 20 53 58.7 +0.8
baz=24,SNR=8.4
ISA Isabella, Lake 23.94 323 P P 20 53 59.7 +1.6
baz=24,SNR=11
ISA Isabella, Lake 23.94 323 eP P 20 53 59.3 +1.2
47nm,1.4s
TKL Tuckaleechee C 23.95 37 P P 20 53 59.0 +0.9
12nm,0.7s,baz=205,slow=8.1,SNR=4.0
M29A Burnside Ranch 24.09 1 ⇓P P 20 53 59.4 0.0
baz=24
BGNE Belgrade 24.19 5 ⇑P P 20 54 00.5 +0.2
baz=24
BGNE Belgrade 24.19 5 P P 20 53 58.6 -1.7
M25A Palm-Egli Farm 24.21 355 ⇑P P 20 54 00.9 +0.3
baz=24
PKM Mcpherson Peak 24.21 320 ⇓P P 20 54 02.2 +1.5
baz=24
OLIL Olney 24.23 25 P P 20 53 58.3 -2.3
100nm,1.4s
MPU Maple Canyon 24.43 340 eP P 20 54 03.7 +1.0
180nm,2.7s
M22A Cedar Creek Ra 24.51 350 ⇓P P 20 54 04.5 +1.1
baz=24
R11A Troy Canyon, C 24.52 332 P P 20 54 05.0 +1.4
baz=24,SNR=14
R11A Troy Canyon, C 24.52 332 eP P 20 54 04.5 +1.0
97nm,2.1s
R11A e 20 54 13.3
NHSC New Hope 24.59 46 eP P 20 54 01.9 -2.0
NHSC e 20 54 11.6
WCI Wyandotte Cave 24.60 29 P P 20 54 02.5 -1.5
39nm,1.2s
SMMC Simmler 24.60 321 ⇓P P 20 54 06.9 +2.8
baz=25
DAU Daniels Canyon 24.67 341 eP P 20 54 03.5 -1.5
L29A Maesberg Ranch 24.72 1 ⇑P P 20 54 06.1 +1.0
baz=25
L26A Underwood Farm 24.74 357 ⇓P P 20 54 06.5 +1.2
baz=25
DUG Dugway, Tooele 24.99 338 P P 20 54 09.0 +1.4
baz=25,SNR=14
DUG Dugway, Tooele 24.99 338 eP P 20 54 08.2 +0.6
12nm,0.9s
KMSC Kings Mountain 25.06 41 esP sP 20 54 15.6 -0.8
L23A Garrett 25.07 352 ⇓P P 20 54 09.2 +0.7
baz=25
TPH Tonopah 25.08 329 eP P 20 54 09.6 +1.0
30nm,1.0s
TPH e 20 54 17.6
L22A Ellis Ranch, M 25.09 351 ⇑P P 20 54 09.9 +1.3
baz=25,SNR=8.3
K30A Basset 25.35 3 ⇓P P 20 54 12.1 +1.2
baz=25,SNR=6.0
K25A Mack Ranch, Ha 25.37 355 ⇑P P 20 54 12.5 +1.5
baz=25
K27A Flueckinger Fa 25.37 358 ⇓P P 20 54 12.0 +0.9
baz=25
K26A Motz Farm, Whi 25.41 356 ⇑P P 20 54 12.4 +1.0
baz=25
K29A Lazy Trails An 25.42 1 ⇑P P 20 54 12.8 +1.4
baz=25,SNR=7.3
SCIA State Center 25.48 14 P P 20 54 11.7 -0.2
18nm,0.5s
BGU Big Grassy Mou 25.71 339 eP P 20 54 14.6 +0.3
19nm,1.9s
K22A Casper 25.71 351 ⇑P P 20 54 14.6 +0.3
baz=26
K22A Casper 25.71 351 eP P 20 54 15.9 +1.7
205nm,1.9s
K21A Alcova 25.81 350 ⇓P P 20 54 15.4 +0.2
baz=26
NV11 Mina Array Sit 25.82 328 eP P 20 54 16.0 +0.8
NV01 Mina Array Sit 25.89 328 eP P 20 54 17.9 +1.9
NVAR Mina Array Bea 25.89 328 P P 20 54 17.1 +1.1
27nm,0.9s,baz=150,slow=10,SNR=53
J27A Elkhorn Farm, 25.91 359 ⇓P P 20 54 16.3 +0.3
baz=26
J26A Sides Ranch, S 26.01 357 ⇑P P 20 54 17.6 +0.8
baz=26
SFIN Lafayette 26.03 25 ⇓P P 20 54 16.4 -0.6
baz=26
SFIN Lafayette 26.03 25 eP P 20 54 15.7 -1.3
122nm,1.5s
SFIN e 20 54 24.7
J29A Okreek 26.06 1 ⇑P P 20 54 18.2 +0.9
baz=26
J28A Allard Ranch, 26.07 360 ⇑P P 20 54 18.5 +1.2
baz=26,SNR=6.3
J25A Sunshine Ranch 26.14 356 ⇓P P 20 54 19.0 +1.0
baz=26,SNR=5.9
ELK Elko 26.38 335 P P 20 54 20.1 -0.2
0.9nm,0.8s,baz=245,slow=11,SNR=4.1
ELK LR LR 21 05 47.7
comp=Z,840nm,21.7s,baz=180,slow=39
ELK Elko 26.38 335 P P 20 54 20.1 -0.2
ELK esP sP 20 54 29.5 +1.0
HVU Hansel Valley 26.39 340 eP P 20 54 18.9 -1.5
16nm,1.2s
BW06 Boulder Array 26.41 346 eP P 20 54 20.2 -0.4
BW06 e 20 54 29.8
PDAR Pinedale Array 26.41 346 P P 20 54 20.6 0.0
5.1nm,0.9s,baz=146,slow=8.9,SNR=18
PDAR LR LR 21 06 20.0
comp=Z,612nm,18.3s,baz=188,slow=40
J22A Midwest 26.45 351 ⇓P P 20 54 21.4 +0.5
baz=26,SNR=6.2
WAKR Walker 26.54 327 eP P 20 54 23.5 +1.7
WAKR e 20 54 34.2
J21A Lysite 26.54 350 ⇑P P 20 54 22.5 +0.7
baz=26
I28A Midland 26.65 360 ⇑P P 20 54 23.0 +0.5
baz=27
ECSD EROS Data Cent 26.66 7 ⇓P P 20 54 23.5 +0.9
baz=27,SNR=5.2
ECSD EROS Data Cent 26.66 7 eP P 20 54 23.2 +0.6
48nm,1.4s
ECSD e 20 54 31.2
J20A Shoshoni 26.66 349 P P 20 54 23.6 +0.8
baz=27,SNR=7.0
CMB Columbia Colle 26.71 325 eP P 20 54 24.4 +1.2
11nm,1.1s
I25A Rochford 26.76 356 ⇓P P 20 54 24.7 +1.1
baz=27
J19A Crowheart 26.77 347 ⇓P P 20 54 25.4 +1.6
baz=27
AHID Auburn Hatcher 26.80 344 eP P 20 54 23.5 -0.6
AHID e 20 54 30.8
RSSD Black Hills 26.88 355 eP P 20 54 25.1 +0.3
66nm,2.1s
RSSD e 20 54 34.4
BMN Battle Mountai 26.95 332 eP P 20 54 26.6 +1.1
12nm,0.9s
I21A Big Trails, Te 26.97 350 P P 20 54 25.8 +0.2
baz=27,SNR=6.4
BRSD Miller 27.15 3 eP P 20 54 24.6 -2.4
29nm,0.3s
I20A Worland 27.25 349 ⇑P P 20 54 28.8 +0.7
baz=27,SNR=5.9
REDW Red Top Meadow 27.29 344 eP P 20 54 29.0 +0.5
47nm,1.6s
H27A Howes 27.29 359 ⇓P P 20 54 28.9 +0.5
baz=27
H25A Fruitdale 27.35 356 ⇓P P 20 54 29.3 +0.5
baz=27,SNR=5.5
SNOW Snow King Moun 27.36 345 eP P 20 54 33.5 +4.3
20nm,1.0s
TPAW Teton Pass 27.43 344 eP P 20 54 31.3 +1.4
21nm,1.1s
LOHW Long Hollow 27.46 345 eP P 20 54 30.4 +0.4
18nm,1.0s
FXWY Fox Creek 27.59 344 eP P 20 54 32.3 +1.0
14nm,1.2s
IMW Indian Meadow 27.81 345 eP P 20 54 34.6 +1.3
10nm,1.1s
G30A Faulkton 27.82 3 ⇑P P 20 54 32.5 -0.5
baz=28
FLWY Flagg Ranch 27.93 345 eP P 20 54 35.8 +1.6
26nm,1.4s
G26A Maurine 27.97 358 ⇓P P 20 54 34.2 -0.2
baz=28
OTAV Otavalo 28.02 125 P P 20 54 37.6 +2.0
H17A Grant Village 28.19 346 P P 20 54 38.6 +1.9
27nm,1.7s
G22A Birney 28.20 352 ⇑P P 20 54 36.6 +0.1
baz=28
SDDR Presa de Saban 28.40 82 P P 20 54 42.2 +3.7
HLID Hailey 28.53 340 ⇑P P 20 54 40.1 +0.6
baz=28,SNR=6.6
HLID Hailey 28.53 340 eP P 20 54 40.5 +1.0
4.1nm,0.9s
F23A Volborg 28.59 354 ⇑P P 20 54 39.8 -0.2
baz=29
RLMT Red Lodge 28.59 348 eP P 20 54 44.2 +4.0
73nm,2.5s
MFID Camas Ranch 28.89 338 eP P 20 54 43.8 +1.0
8.2nm,1.0s
F20A Billings 29.04 350 ⇓P P 20 54 44.0 0.0
baz=29
MCMT McKenzie Canyo 29.18 343 eP P 20 54 46.3 +0.8
WVOR Wild Horse Val 29.20 333 eP P 20 54 46.7 +1.3
8.8nm,1.1s
DLMT Dillon 29.61 344 eP P 20 54 50.5 +1.4
24nm,1.2s
BOZ Bozeman (W) 29.62 345 eP P 20 54 49.8 +0.6
48nm,2.3s
E20A Meyer Farm, Mu 29.72 350 ⇑P P 20 54 50.2 +0.2
baz=30,SNR=5.4
E19A Rath Farm, Rou 29.79 349 ⇓P P 20 54 50.5 -0.2
baz=30
D30A Buchanan 29.82 3 ⇓P P 20 54 50.1 -0.6
baz=30
D28A Regan 29.84 1 ⇓P P 20 54 50.4 -0.6
baz=30
D24A Glendive 29.88 356 ⇓P P 20 54 50.8 -0.6
baz=30
LRM Limekiln Ridge 29.99 344 eP P 20 54 52.7 +0.1
N02D Trinity Center 30.06 326 ⇓P P 20 54 54.3 +1.3
baz=30
KMRM Mail Ridge 30.08 324 eP P 20 54 56.2 +2.9
19nm,1.1s
D22A Cohagen 30.09 353 ⇑P P 20 54 52.9 -0.3
baz=30,SNR=5.6
M04C Macdoel 30.20 328 ⇑P P 20 54 55.2 +0.9
baz=30
D20A Manuel Ranch, 30.30 350 ⇑P P 20 54 55.6 +0.6
baz=30
C24A Savage 30.30 356 ⇓P P 20 54 54.7 -0.3
baz=30
C27A Sayler Ranch, 30.36 360 ⇑P P 20 54 55.6 0.0
baz=30
C28A Hausauer Farms 30.37 1 ⇑P P 20 54 55.8 +0.2
baz=30
C30A Mose, Pekin 30.43 4 ⇑P P 20 54 55.5 -0.6
baz=30,SNR=7.7
K05A Summer Lake 30.45 331 eP P 20 54 58.7 +2.1
34nm,1.7s
C26A Wahner Farm, P 30.48 359 ⇓P P 20 54 56.3 -0.4
baz=30
D19A Cripps Ranch, 30.49 350 ⇓P P 20 54 56.9 +0.1
baz=30,SNR=7.6
MDND Maddock 30.52 2 ⇓P P 20 54 56.6 -0.3
baz=30
MDND Maddock 30.52 2 eP P 20 54 55.9 -1.1
8.0nm,1.4s
KHMM Horse Mountain 30.54 325 eP P 20 54 59.5 +2.0
22nm,1.1s
YBH Yreka Blue Hor 30.61 327 LR LR 21 06 48.2
comp=Z,239nm,21.1s,baz=168,slow=35
C23A Lambert 30.63 355 ⇑P P 20 54 57.8 -0.2
baz=31
BMO Blue Mountains 30.67 337 eP P 20 54 58.3 -0.1
6.8nm,1.1s
SSPA Standing Stone 30.73 36 epP pP 20 55 05.2 +0.5
C20A Veseth Ranch, 30.88 351 ⇑P P 20 54 59.9 -0.3
baz=31
I07A Izee 30.90 334 eP P 20 55 01.0 +0.5
42nm,2.5s
J05D Fort Rock, OR 31.04 331 ⇓P P 20 55 01.8 0.0
baz=31
C19A Slack Wire Ran 31.07 350 ⇓P P 20 55 02.2 +0.3
baz=31,SNR=6.7
B28A Dugan Ranch, T 31.10 1 ⇑P P 20 55 01.8 -0.3
baz=31
B29A Wagenman Farm, 31.15 2 ⇑P P 20 55 01.9 -0.6
baz=31
B30A Myrvik Farm, E 31.18 4 ⇑P P 20 55 02.4 -0.4
baz=31,SNR=6.5
CHMT Chamberlain Mo 31.21 344 eP P 20 55 03.4 0.0
CHMT e 20 55 11.1
AGMN Agassiz Nation 31.24 7 ⇓P P 20 55 02.4 -0.9
baz=31
AGMN Agassiz Nation 31.24 7 eP P 20 55 03.9 +0.6
23nm,1.3s
B23A Brockton 31.27 355 ⇑P P 20 55 03.2 -0.4
baz=31
J04D Umpqua Nationa 31.42 330 ⇑P P 20 55 06.7 +1.5
baz=31
A26A Wade Farm, Ken 31.55 359 ⇑P P 20 55 06.3 +0.2
baz=32
SLMT Seeley Lake 31.58 344 eP P 20 55 06.4 -0.1
F10A Beach Ranch, E 31.60 338 eP P 20 55 07.2 +0.5
16nm,1.0s
A30A Hoffart Farm, 31.67 4 ⇑P P 20 55 07.1 0.0
baz=32
G08A Pilot Rock 31.67 336 eP P 20 55 07.5 +0.2
10nm,1.0s
KBO Bosley Butte 31.74 326 eP P 20 55 10.8 +2.9
85nm,1.5s
B19A Brinkman Farms 31.75 350 ⇓P P 20 55 08.1 +0.2
baz=32
SWMT Swartz Lake 31.96 343 eP P 20 55 08.9 -0.9
I04A Tendick Farm, 31.98 330 ⇓P P 20 55 10.7 +0.8
baz=32
A20A Cobblestone Ra 32.01 352 ⇓P P 20 55 09.7 -0.5
baz=32
A19A Klindworth Far 32.18 351 ⇓P P 20 55 11.4 -0.2
baz=32,SNR=5.3
KEBM Edson Butte 32.26 327 eP P 20 55 15.5 +3.1
90nm,1.3s
YBMT Yellow Bay 32.29 344 eP P 20 55 12.6 -0.1
I03D Drain, OR 32.36 329 ⇑P P 20 55 14.5 +1.3
baz=32
E09A Wood Farm, Sta 32.40 338 eP P 20 55 12.9 -0.5
5.5nm,1.0s
H04A Detroit Lake 32.56 332 eP P 20 55 15.4 +0.4
G05D Wamic, OR 32.61 333 ⇓P P 20 55 16.7 +1.4
baz=33
BINY Binghamton 32.84 36 eP P 20 55 15.5 -2.0
14nm,0.8s
ODNJ Ogdensburg 32.92 38 eP P 20 55 17.5 -0.6
7.7nm,1.0s
ULM Lac du Bonnet 33.17 6 P P 20 55 18.6 -1.7
3.3nm,0.8s,baz=197,slow=9.9,SNR=4.8
ULM PcP PcP 20 58 01.6 -1.2
4.3nm,0.9s,baz=193,slow=1.9,SNR=4.2
ULM LR LR 21 10 12.7
comp=Z,263nm,21.1s,baz=245,slow=39
ULM Lac du Bonnet 33.17 6 eP P 20 55 18.5 -1.7
11nm,1.2s
ULM PcP PcP 20 58 01.6 -1.2
SJG San Juan 33.31 83 LR LR 21 07 29.8
comp=Z,142nm,22.0s,baz=270,slow=34
WALA Waterton Lakes 33.37 345 eP P 20 55 22.8 +0.7
12nm,1.3s
LTY Liberty 33.97 336 eP P 20 55 28.4 +1.2
127nm,2.6s
LON Longmire 34.01 334 eP P 20 55 28.9 +1.2
LON epP pP 20 55 34.8 +1.2
B08A Colville Reser 34.39 338 eP P 20 55 31.5 +0.6
18nm,1.5s
EDM Edmonton 37.13 348 eP P 20 55 55.1 +0.7
18nm,1.1s
FFC Flin Flon 37.39 359 eP P 20 55 54.5 -1.9
11nm,1.0s
EMMW East Machias 39.30 39 eP P 20 56 10.5 -2.1
12nm,0.6s
BBB Bella Bella 40.82 335 LR LR 21 14 35.9
comp=Z,235nm,19.9s,baz=143,slow=38
PTGA Pitinga 44.31 110 P P 20 56 53.0 -1.1
4.1nm,0.9s,baz=292,slow=10,SNR=2.8
SCHQ Schefferville 45.78 27 P P 20 57 04.6 -0.7
10.0nm,0.9s,baz=228,slow=6.5,SNR=11
SCHQ LR LR 21 18 03.4
comp=Z,317nm,20.2s,baz=229,slow=38
SCHQ Schefferville 45.78 27 eP P 20 57 04.5 -0.7
9.3nm,0.8s
SCHQ epP pP 20 57 10.7 -0.6
YKA Yellowknife Ar 46.15 351 P P 20 57 07.8 -0.2
10nm,0.8s,baz=160,slow=7.2,SNR=122
YKA PcP PcP 20 58 43.5 -0.2
1.3nm,0.8s,baz=156,slow=3.8,SNR=6.3
DLBC Dease Lake 46.30 339 LR LR 21 18 51.8
comp=Z,321nm,18.3s,baz=136,slow=39
DLBC Dease Lake 46.30 339 eP P 20 57 10.9 +1.6
TAOE Nuku Hiva Isla 46.49 239 eT T 21 46 45.2
129nm,0.2s
HYT Haines Junctio 50.64 338 eP P 20 57 45.8 +2.9
RKT Rikitea 52.02 221 eLR LR 21 12 55.2
448nm,27.5s
RAGM Ragged Mountai 53.13 335 eP P 20 58 00.5 -0.8
336nm,0.6s
EGAK Eagle 54.54 340 eP P 20 58 11.8 +0.3
DOT Dot Lake 54.81 338 eP P 20 58 15.6 +2.1
27nm,1.2s
PAX Paxson 54.92 337 eP P 20 58 16.1 +1.7
17nm,1.1s
PMOR Pomariorio Ree 56.18 238 eT T 21 58 51.9
30nm,0.2s
IL1 Eielson Array 56.48 338 eP P 20 58 25.5 +0.1

ILAR	**Eielson Array**	**56.48**	**338**	P	**P**	**20 58 26.0**	**+0.6**
	3.8nm,1.0s,baz=150,slow=5.2,SNR=26						
ILAR				PcP	**PcP**	**20 59 22.1**	**0.0**
	1.5nm,1.1s,baz=142,slow=3.1,SNR=4.2						
RSO	**Redoubt South**	**56.62**	**332**	*e*P	**P**	**20 58 24.5**	**-2.2**
MCK	**McKinley**	**56.65**	**337**	*e*pP	pP	20 58 33.4	+0.6
COLA	**College**	**56.87**	**338**	P	**P**	**20 58 28.6**	**+0.4**
	12nm,1.1s						
TRF	**Thorofare Moun**	**57.02**	**336**	*e*P	**P**	**20 58 29.4**	**-0.1**
	45nm,1.3s						
RES	**Resolute Bay**	**57.53**	**2**	*e*P	**P**	**20 58 31.4**	**-1.3**
	7.1nm,0.9s						
PPT	**Papeete**	**58.93**	**236**	LR	LR	21 18 30.4	
	comp=Z,155nm,21.1s,baz=16,slow=30						
PPT2	**Papeete2**	**58.94**	**236**	*e*S	**S**	**21 06 53.8**	**+4.6**
	154nm,26.2s						
PPT2				*e*LR	LR	21 16 04.9	
	330nm,24.8s,baz=59						
COLD	**Coldfoot**	**58.97**	**340**	*e*P	**P**	**20 58 44.4**	**+1.4**
	27nm,1.4s						
SFJD	**Kangerlussuaq**	**59.33**	**21**	P	**P**	**20 58 44.8**	**-0.6**
	7.3nm,0.8s,baz=218,slow=10,SNR=3.7						
TBI	**Tubuai**	**62.12**	**231**	*e*LR	LR	21 17 33.0	
	348nm,26.8s,baz=50						
TBI	**Tubuai**	**62.12**	**231**	*e*T	T	22 06 20.0	
	5.8nm,0.3s						
PLCA	**Paso Flores**	**64.32**	**155**	LR	LR	21 21 58.1	
	comp=Z,209nm,18.0s,baz=332,slow=31						
TNA	**Tin City**	**64.85**	**335**	*e*P	**P**	**20 59 23.3**	**+0.9**
	13nm,1.1s						
SUMG	**Summit**	**65.58**	**17**	*i* P	**P**	**20 59 27.3**	**-0.3**
	12nm,1.0s						
SUMG				*i*		20 59 36.1	
SUMG	**Summit**	**65.58**	**17**	*e*P	**P**	**20 59 27.0**	**-0.5**
	46nm,1.2s						
SUMG				*e*		20 59 35.8	
DAG	**Danmarks Havn**	**71.58**	**14**	*i* P	**P**	**21 00 03.4**	**-1.1**
	2.7nm,0.9s						
DAG				*i*		21 00 11.3	
BILL	**Bilibino**	**75.10**	**337**	*e*P	**P**	**21 00 25.6**	**+0.2**
	17nm,1.3s						
ESK	**Eskdalemuir**	**80.40**	**35**	*e*P	**P**	**21 00 53.8**	**-1.3**
EKA	**Eskdalemuir Ar**	**80.42**	**35**	P	**P**	**21 00 55.4**	**+0.1**
	4.5nm,1.0s,baz=302,slow=4.8,SNR=4.8						
SEY	**Seymchan**	**82.05**	**334**	P	**P**	**21 01 04.5**	**+0.8**
	3.5nm,0.8s,baz=89,slow=4.6,SNR=26						
PAB	**San Pablo**	**84.27**	**51**	*e*P	**P**	**21 01 16.9**	**+1.1**
	36nm,1.8s						
ESDC	**Sonseca Array**	**84.51**	**50**	P	**P**	**21 01 17.3**	**+0.3**
	3.2nm,1.1s,baz=316,slow=5.3,SNR=7.7						
ES19	**SONSECA Array**	**84.55**	**50**	*e*P	**P**	**21 01 17.3**	**0.0**
TIXI	**Tiksi**	**85.11**	**346**	*e*P	**P**	**21 01 18.5**	**-0.8**
	22nm,1.3s						
NOA	**NORSAR Array B**	**85.36**	**27**	LR	LR	21 40 12.4	
	comp=Z,118nm,21.3s,baz=285,slow=36						
ARCES	**ARCESS Array B**	**85.66**	**16**	LR	LR	21 42 56.8	
	comp=Z,100nm,18.6s,baz=330,slow=38						
ETSF	**Etsaut**	**85.91**	**46**	*e*P	**P**	**21 01 22.9**	**-1.1**
	34nm,1.4s						
EPF	**Esparros**	**86.48**	**46**	*e*P	**P**	**21 01 26.5**	**-0.3**
	59nm,1.5s						
TCF	**Toulx Ste Croi**	**86.58**	**43**	*e*P	**P**	**21 01 26.0**	**-1.2**
SSF	**Saint Saulge**	**87.12**	**41**	*e*P	**P**	**21 01 28.6**	**-1.1**
AVF	**Avril sur Loir**	**87.12**	**42**	*e*P	**P**	**21 01 28.2**	**-1.5**
	26nm,1.3s						
LOR	**Lormes**	**87.26**	**41**	*e*P	**P**	**21 01 29.6**	**-0.9**
	29nm,1.3s						
FINES	**FINESS Array B**	**91.08**	**23**	LR	LR	21 42 36.9	
	comp=Z,166nm,21.5s,baz=318,slow=36						
GERES	**GERESS Array B**	**92.50**	**37**	LR	LR	21 43 42.1	
	comp=Z,120nm,21.0s,baz=298,slow=36						
DBIC	**Dimbokro**	**94.00**	**82**	LR	LR	21 42 31.5	
	comp=Z,67nm,18.4s,baz=274,slow=34						
DBIC	**Dimbokro**	**94.00**	**82**	P	**P**	**21 02 01.3**	**-1.2**
AKASG	**Malin Array Be**	**99.54**	**29**	LR	LR	21 48 08.4	
	comp=Z,80nm,20.7s,baz=325,slow=36						
HHC	**Hu-ho-hao-te**	**114.69**	**333**	*e*PKP	PKPdf	21 07 29.9	+5.3
HHC				PP	PP	21 08 29.8	+8.6
HHC				PKS	**PKSdf**	**21 11 05.3**	**+3.9**
HHC				SKKS		21 15 22.8	
HHC				SS	**SS**	**21 24 16.0**	**+2.2**
HHC				LN			
	280nm,20.8s						
HHC				LE			
	1μm,19.6s						
HHC				LZ			
	130nm,20.0s						
WMQ	**Urumqi**	**118.67**	**353**	*e*PKP	**PKPdf**	**21 07 34.6**	**+2.5**
WMQ				PP	PP	21 08 57.0	+8.5
WMQ				PKS	**PKSdf**	**21 11 10.0**	**+1.2**
WMQ				SKS	**SKSdf**	**21 14 45.6**	**+2.1**
WMQ				SKKS	**SKKSac**	**21 15 47.0**	**-2.5**
WMQ				SS	**SS**	**21 25 10.0**	**+5.0**
WMQ				LN			
	140nm,22.0s						
WMQ				LE			
	300nm,23.0s						
WMQ				LZ			
	180nm,22.0s						
LZH	**Lanzhou**	**121.91**	**336**	*e*PKP	**PKPdf**	**21 07 38.1**	**-0.6**
LZH				sPKP		21 07 51.6	
KSH	**Kashi**	**123.45**	**3**	*e*PKP	**PKPdf**	**21 07 44.6**	**+3.1**
KSH				sPKP		21 07 49.3	
KSH				PP	**PP**	**21 09 24.3**	**+3.1**
KSH				PKS	**PKSdf**	**21 11 21.3**	**+3.0**
KSH				SKKS		21 16 21.8	
KSH				SS	**SS**	**21 26 10.8**	**+4.7**
KSH				PPMZ			
	94nm,6.0s						
KSH				LN			
	27nm,4.4s						
KSH				LE			
	52nm,4.9s						
KSH				LZ			
	170nm,5.1s						
WRA	**Warramunga Arr**	**127.56**	**258**	PKP	**PKPdf**	**21 07 49.6**	**-0.1**
	2.2nm,1.0s,baz=82,slow=2.6,SNR=9.2						
ASAR	**Alice Springs**	**128.31**	**253**	PKP	**PKPdf**	**21 07 51.0**	**0.0**
	1.3nm,1.0s,baz=94,slow=2.5,SNR=7.2						
CMAR	**Chiang Mai Arr**	**139.38**	**330**	PKP	**PKPdf**	**21 08 12.3**	**+0.4**
	1.0nm,0.9s,baz=348,slow=1.8,SNR=7.8						
HYB	**Hyderabad**	**145.53**	**1**	*i* PKP	**PKPbc**	**21 08 20.5**	**-2.4**
HYB				*e*		21 08 27.0	

ISCJB ***19*** *20:49:39.2±0.5, 33°.72N±0°.04×89°.4E±0°.1, h17km, mb3.8/7, MS3.9/1, Error ellipse: s-maj=12.9km s-min=5.8km az=11.7*
BJI ***19*** *20:49:39.4, 33°.93N×89°.09E, h29km, mb3.7/1, ML4.0/1, Ms3.5/2, Ms7 3.2/2*
IDC ***19*** *20:49:43.2±7.6, 33°.67N×89°.41E, h33km±60km, mb3.5/8, mb1 3.6/12, mb1mx3.4/50, mbtmp3.6/12, ML2.5/2, MS4.0/1, Ms1 4.0/1, ms1mx2.6/40, Error ellipse: s-maj=30.1km s-min=18.4km az=47.0*

ISC 19 20:49:41.3±0.7, 33°.77N±0°.08×89°.23E±0°.09, h17km, n27, σ1§42/26, mb4.0/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.37**	**158**	Pn	**Pn**	**20 50 50.3**	**+2.9**
GUN	**Gumba**	**6.51**	**207**	*e*P	**Pn**	**20 51 17.7**	**+1.0**
TAPN	**Taplejung**	**6.53**	**192**	*e*P	**Pn**	**20 51 16.0**	**-0.9**
JIRN	**Jiri**	**6.63**	**204**	*e*P	**Pn**	**20 51 19.7**	**+1.4**
	26nm,0.5s						
KKN	**Kakani**	**6.86**	**211**	*e*P	**Pn**	**20 51 22.1**	**+0.7**
	8.5nm,0.5s						
GKN	**Gorkha**	**6.97**	**216**	*e*P	**Pn**	**20 51 23.6**	**+0.7**
PKI	**Pulchoki**	**7.00**	**209**	*e*P	**Pn**	**20 51 24.6**	**+1.2**
	13nm,0.6s						
PKIN	**Phulchoki**	**7.00**	**209**	*e*P	**Pn**	**20 51 24.5**	**+1.2**
	9.4nm,0.6s						
ODAN	**Odare**	**7.07**	**194**	*e*P	**Pn**	**20 51 24.7**	**+0.5**
	43nm,0.6s						
DMN	**Daman**	**7.09**	**211**	*e*P	**Pn**	**20 51 25.8**	**+1.2**
	7.7nm,0.5s						
DANN	**Dangsing**	**7.16**	**222**	*e*P	**Pn**	**20 51 26.0**	**+0.5**
	5.5nm,0.5s						
RAMN	**Ramite**	**7.17**	**199**	*e*P	**Pn**	**20 51 25.7**	**+0.1**
	27nm,0.4s						
KOLN	**Koldanda**	**7.70**	**221**	*e*P	**Pn**	**20 51 33.4**	**+0.6**
	8.7nm,0.7s						
MKAR	**Makanchi Array**	**14.04**	**340**	Pn	**Pn**	**20 52 57.8**	**-1.6**
	0.0nm,0.3s,baz=157,slow=13,SNR=2.3						
AAK	**Ala-Archa**	**14.56**	**312**	Pn	**P**	**20 53 11.5**	**-1.7**
	0.1nm,0.3s,baz=163,slow=11,SNR=2.1						
CMAR	**Chiang Mai Arr**	**17.55**	**148**	P	**Pn**	**20 53 43.0**	**-2.2**
	baz=328,slow=11,SNR=6.4						
KURBB	**Kurchatov Arra**	**18.58**	**338**	P	**Pn**	**20 53 57.9**	**+0.2**
	baz=150,slow=12,SNR=4.7						
SONM	**Songino Array**	**19.08**	**37**	P	**Pn**	**20 54 04.4**	**+0.6**
	0.1nm,0.3s,baz=225,slow=13,SNR=9.5						
ZALV	**Zalesovo Beam**	**20.41**	**353**	P	**P**	**20 54 18.3**	**+0.9**
	0.6nm,0.5s,baz=163,slow=10,SNR=4.3						
BVAR	**Borovoye Array**	**23.49**	**331**	P	**P**	**20 54 51.3**	**+1.2**
	0.6nm,0.6s,baz=137,slow=9.0,SNR=5.3						
GEYT	**Alibeck**	**25.50**	**288**	P	**P**	**20 55 11.9**	**+3.2**
	2.0nm,0.8s,baz=96,slow=10,SNR=4.4						
ASF	**Jabal al Asfar**	**43.55**	**283**	LR	LR	21 19 29.2	
	comp=Z,174nm,21.1s,baz=184,slow=41						
FINES	**FINESS Array B**	**48.24**	**325**	P	**P**	**20 58 21.2**	**+0.3**
	0.9nm,0.6s,baz=107,slow=10,SNR=5.5						
SEY	**Seymchan**	**48.39**	**33**	P	**P**	**20 58 22.1**	**+0.1**
	1.1nm,0.6s,baz=234,slow=10,SNR=8.4						
ARCES	**ARCESS Array B**	**49.64**	**336**	P	**P**	**20 58 30.9**	**-0.7**
	3.0nm,0.8s,baz=97,slow=7.4,SNR=4.5						
GERES	**GERESS Array B**	**56.44**	**310**	P	**P**	**20 59 23.1**	**+1.0**
	0.1nm,0.4s,baz=116,slow=6.1,SNR=4.1						
WRA	**Warramunga Arr**	**68.56**	**134**	P	**P**	**21 00 41.5**	**-1.8**
	1.2nm,0.7s,baz=329,slow=6.4,SNR=13						

NNC 19 21:03:24.6±3.6, 37°.06N×70°.84E, h112km±55km, mb2.8, mpv3.5, 5C-2D, Error ellipse: s-maj=32.5km s-min=24.9km az=148.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.36**	**318**	⇑Pn	Pn	21 04 02.9	+0.5
DZET				⇑Sn	Sn	21 04 31.6	+0.1
KK31	**Karatay Array**	**6.04**	**358**	⇑Pn	Pn	21 04 51.9	+0.4
	1.6nm,0.3s,baz=175,slow=12,SNR=76						
KK31				⇓Sn	Sn	21 06 02.1	+2.7
	2.5nm,0.5s,baz=185,slow=24,SNR=5.1						
AAK	**Ala-Archa**	**6.24**	**26**	⇑Pn	Pn	21 04 53.1	-1.2
	2.2nm,0.5s						
AAK				⇑Sn	Sn	21 06 03.9	-0.5
	3.3nm,0.8s						
AB31	**Akbulak array**	**14.54**	**330**	Pn	Pn	21 06 43.8	-0.8
	0.1nm,0.3s,baz=154,slow=12,SNR=16						
AB31				⇓Sn	Sn	21 09 22.3	-2.7
	0.4nm,0.6s						

NSSC ***19*** *21:13:40.7±2.4, 40°.28N×39°.07E, h0km±81km, MD2.5, ML3.5*
DDA ***19*** *21:13:56.7, 38°.94N×38°.97E, h3km, MD3.7, ML4.0*
ISK ***19*** *21:13:56.2, 38°.90N×39°.00E, h5km, ML4.1*
IDC ***19*** *21:13:57.6±0.8, 38°.98N×38°.86E, h0km, mb3.5/7, mb1 3.5/13, mb1mx3.4/31, mbtmp3.5/13, ML3.3/5, MS2.8/4, Ms1 2.8/4, ms1mx2.5/36, Error ellipse: s-maj=17.1km s-min=8.6km az=165.0*
CSEM ***19*** *21:13:58.1±0.1, 38°.94N×38°.99E, h2km, ML4.1, Error ellipse: s-maj=3.0km s-min=2.5km az=108.0*

ISC 19 21:13:57.6±1.1, 38°.94N±0°.01×38°.98E±0°.02, h1km±8km, n169, σ1§07/193, mb3.5/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.32**	**99**	PG	**Pg**	**21 14 03.1**	**-0.7**
PTK				*e*SG	**Sg**	**21 14 08.3**	**+0.3**
PTK	**Pertek**	**0.32**	**99**	*i* Pg	**Pg**	**21 14 03.1**	**-0.7**
PTK				*e*Sg	**Sg**	**21 14 08.3**	**+0.3**
ELZG	**Elazig**	**0.45**	**180**	*i* P	**Pg**	**21 14 05.6**	**-0.5**
ELZG				*i* S	**Sg**	**21 14 12.7**	**+0.8**
ELZG	**Elazig**	**0.45**	**180**	*i* P	**Pg**	**21 14 05.6**	**-0.5**
ELZG				*i* S	**Sg**	**21 14 12.7**	**+0.8**
KEMA	**Kemaliye**	**0.50**	**311**	*i* P	**Pg**	**21 14 06.9**	**-0.3**
KEMA				*i* S	**Sg**	**21 14 13.9**	**+0.1**
KEMA	**Kemaliye**	**0.50**	**311**	*i* P	**Pg**	**21 14 06.9**	**-0.3**
KEMA				*i* S	**Sg**	**21 14 13.9**	**+0.1**
ILIC	**ilic-Erzincan**	**0.60**	**328**	*e*PG	**Pb**	**21 14 10.7**	**-0.3**
ILIC	**ilic-Erzincan**	**0.60**	**328**	*e*Pg	**Pb**	**21 14 10.7**	**-0.3**
SVRC	**Sivrice-ELAZID**	**0.62**	**156**	PG	**Pg**	**21 14 08.8**	**-0.7**
SVRC				*e*SG	**Sg**	**21 14 17.6**	**+0.2**
SVRC	**Sivrice-ELAZID**	**0.62**	**156**	*i* Pg	**Pg**	**21 14 08.8**	**-0.7**
SVRC				*e*Sg	**Sg**	**21 14 17.6**	**+0.2**
MALT	**Malatya**	**0.77**	**215**	*e*PG	**Pg**	**21 14 11.2**	**-1.0**
MALT	**Malatya**	**0.77**	**215**	*e*Pg	**Pg**	**21 14 11.2**	**-1.0**
EZC	**Erzincan**	**0.86**	**19**	*e*Pg	**Pg**	**21 14 13.3**	**-0.7**
ERZN	**Erzincan**	**0.86**	**42**	*e*PG	**Pg**	**21 14 13.2**	**-0.9**
EUZM	**Uzumlu**	**0.94**	**36**	*i* P	**Pg**	**21 14 15.0**	**-0.7**
EUZM				*i* S	**Sg**	**21 14 28.6**	**+0.7**
EUZM	**Uzumlu**	**0.94**	**36**	*i* P	**Pg**	**21 14 15.0**	**-0.7**
EUZM				*i* S	**Sg**	**21 14 28.6**	**+0.7**
AKCD	**Akcadag**	**1.05**	**232**	*i* P	**Pg**	**21 14 16.3**	**-1.5**
AKCD				*i* S	**Sg**	**21 14 31.9**	**+0.5**
AKCD	**Akcadag**	**1.05**	**232**	*i* P	**Pg**	**21 14 16.3**	**-1.5**
AKCD				*i* S	**Sg**	**21 14 31.9**	**+0.5**
BINT	**Bingol**	**1.18**	**93**	*e*Pn	**Pb**	**21 14 20.7**	**-0.1**
KELT	**Kelkit**	**1.22**	**10**	*i* P	**Pg**	**21 14 19.8**	**-1.2**
KELT				*i* S	**Sg**	**21 14 37.4**	**+0.5**
KELT	**Kelkit**	**1.22**	**10**	*i* P	**Pg**	**21 14 19.8**	**-1.2**
KELT				*i* S	**Sg**	**21 14 37.4**	**+0.5**
DARE	**Darende-Malaty**	**1.23**	**253**	*e*PN	**Pg**	**21 14 19.9**	**-1.3**
BNGB	**Bing¨¶l**	**1.32**	**87**	*e*PN	**Pg**	**21 14 20.7**	**-2.2**
DYBB	**Diyarbakir**	**1.34**	**137**	*e*PN	**Pg**	**21 14 22.1**	**-1.2**
DIYA	**Diyarbakir**	**1.35**	**138**	*i* P	**Pg**	**21 14 23.4**	**-0.1**
DIYA	**Diyarbakir**	**1.35**	**138**	*i* P	**Pg**	**21 14 23.4**	**-0.1**
SUSE	**Susehri**	**1.40**	**335**	*i* P	**Pn**	**21 14 23.9**	**-0.5**
SUSE				*i* S	**Sn**	**21 14 45.1**	**+1.5**
SUSE	**Susehri**	**1.40**	**335**	*i* P	**Pn**	**21 14 23.9**	**-0.5**
SUSE				*i* S	**Sn**	**21 14 45.1**	**+1.5**
GUMT	**Gumushane**	**1.56**	**14**	*e*PN	**Pn**	**21 14 26.5**	**-0.1**
GUMT	**Gumushane**	**1.56**	**14**	*e*Pn	**Pn**	**21 14 26.5**	**-0.1**
ATAB	**Bozova**	**1.57**	**200**	*i* P	**Pb**	**21 14 27.2**	**-0.2**
ATAB	**Bozova**	**1.57**	**200**	*i* P	**Pb**	**21 14 27.2**	**-0.2**
ATAB				*i* S	**Sg**	**21 14 49.6**	**+1.6**
KOPT	**Kop Dagi**	**1.59**	**47**	*i* P	**Pn**	**21 14 27.2**	**+0.1**
KOPT	**Kop Dagi**	**1.59**	**47**	*i* P	**Pn**	**21 14 27.2**	**+0.1**
BNGL	**BINGOL**	**1.69**	**89**	*i* P	**Pb**	**21 14 29.6**	**0.0**
BNGL				*i* S	**Sg**	**21 14 53.8**	**+1.9**
BAYT	**Ayd¨¯ntepe-Bay**	**1.70**	**31**	*e*PN	**Pn**	**21 14 28.6**	**0.0**
BAYT	**Ayd¨¯ntepe-Bay**	**1.70**	**31**	*e*Pn	**Pn**	**21 14 28.6**	**0.0**
SCER	**sogukcermik**	**1.71**	**303**	*i* P	**Pn**	**21 14 29.3**	**+0.7**
SCER				*i* S	**Sg**	**21 14 54.5**	**+2.1**
SCER	**sogukcermik**	**1.71**	**303**	*i* P	**Pn**	**21 14 29.3**	**+0.7**
SCER				*i* S	**Sg**	**21 14 54.5**	**+2.1**
HCB	**Kahramanmara¯**	**1.75**	**155**	*i* P	Pg	21 14 36.4	+5.2
SVSK	**Karacayir**	**1.82**	**303**	*e*PN	**Pn**	**21 14 30.1**	**+0.1**
SVSK	**Karacayir**	**1.82**	**303**	*e*Pn	**Pn**	**21 14 30.1**	**+0.1**
MAZI	**Mazidag**	**1.88**	**142**	*e*PN	**Pn**	**21 14 29.9**	**-1.0**
MAZI	**Mazidag**	**1.88**	**142**	*e*Pn	**Pn**	**21 14 29.9**	**-1.0**
RSDY	**Resadiye-TOKAT**	**1.94**	**319**	*e*PN	**Pn**	**21 14 32.0**	**+0.3**
RSDY	**Resadiye-TOKAT**	**1.94**	**319**	*e*Pn	**Pn**	**21 14 32.0**	**+0.3**
VRTB	**Varto-Mus**	**1.94**	**83**	*e*PN	**Pn**	**21 14 31.8**	**0.0**
VRTB	**Varto-Mus**	**1.94**	**83**	*e*Pn	**Pn**	**21 14 31.8**	**0.0**
GZT	**Gaziantep**	**1.94**	**216**	*i* P	**Pn**	**21 14 32.0**	**+0.1**
ESPY	**Espiye-Giresun**	**1.98**	**354**	*e*PN	**Pn**	**21 14 32.9**	**+0.6**
ESPY	**Espiye-Giresun**	**1.98**	**354**	*e*Pn	**Pn**	**21 14 32.9**	**+0.6**
GRSN	**GIRESUNGRSN**	**2.05**	**345**	*i* P	**Pn**	**21 14 34.0**	**+0.7**
GRSN				*i* S	**Sg**	**21 15 04.5**	**+0.9**
GRSN	**GIRESUNGRSN**	**2.05**	**345**	*i* P	**Pn**	**21 14 34.0**	**+0.7**
GRSN				*i* S	**Sg**	**21 15 04.5**	**+0.9**
EZM	**Erzurum**	**2.08**	**62**	*e*PN	**Pn**	**21 14 33.9**	**+0.1**
ERZM	**Erzurum**	**2.08**	**62**	*i* P	**Pb**	**21 14 35.9**	**-0.4**
ERZM	**Erzurum**	**2.08**	**62**	*i* P	**Pb**	**21 14 35.9**	**-0.4**
MACK	**Trabzon**	**2.09**	**17**	*i* P	**Pb**	**21 14 35.2**	**-1.1**
MACK				*i* S	**Sg**	**21 15 05.1**	**+0.4**
MACK	**Trabzon**	**2.09**	**17**	*i* P	**Pb**	**21 14 35.2**	**-1.1**
MACK				*i* S	**Sg**	**21 15 05.1**	**+0.4**
BTMT	**Batman**	**2.10**	**110**	*e*PN	**Pn**	**21 14 33.8**	**-0.2**
BTMT	**Batman**	**2.10**	**110**	*e*Pn	**Pn**	**21 14 33.8**	**-0.2**
KTUT	**Trabzon**	**2.13**	**16**	*e*PN	**Pn**	**21 14 35.1**	**+0.8**
KTUT	**Trabzon**	**2.13**	**16**	*e*Pn	**Pn**	**21 14 35.1**	**+0.8**
MARD	**Mardin**	**2.16**	**138**	*i* P	**Pn**	**21 14 35.8**	**+1.0**
KMRS	**Kahramanmaras**	**2.18**	**229**	*e*PN	**Pn**	**21 14 34.8**	**-0.2**
KMRS	**Kahramanmaras**	**2.18**	**229**	*e*Pn	**Pn**	**21 14 34.8**	**-0.2**
KBSD	**Kabsdagh**	**2.30**	**147**	*e*P	**Pb**	**21 14 38.7**	**-1.1**
	SNR=45						
KBSD	**Kabsdagh**	**2.30**	**147**	*e*P	**Pb**	**21 14 38.7**	**-1.1**
KBSD				AML	AML	21 15 19.9	
	comp=E,316nm,0.9s						
KBSD				AML	AML	21 15 22.6	
	comp=N,456nm,0.5s						
TOKA	**Tokat**	**2.38**	**306**	*i* P	**Pn**	**21 14 38.5**	**+0.7**
TOKA	**Tokat**	**2.38**	**306**	*i* P	**Pn**	**21 14 38.5**	**+0.7**
EKAR	**Karacoban**	**2.42**	**82**	*i* P	**Pb**	**21 14 42.8**	**+0.8**
EKAR	**Karacoban**	**2.42**	**82**	*i* P	**Pb**	**21 14 42.8**	**+0.8**
EKAR				*i* S	**Sg**	**21 15 19.3**	**+4.0**
BNN	**Bunyan**	**2.45**	**269**	*e*PN	**Pn**	**21 14 38.9**	**+0.1**
BNN	**Bunyan**	**2.45**	**269**	*e*Pn	**Pn**	**21 14 38.9**	**+0.1**
ANDN	**Andirin**	**2.48**	**238**	*i* P	**Pn**	**21 14 39.3**	**0.0**
ANDN	**Andirin**	**2.48**	**238**	*i* P	**Pn**	**21 14 39.3**	**0.0**
ANDN				*i* S	**Sg**	**21 15 21.1**	**+3.7**
KAMA	**Osmaniye**	**2.53**	**227**	*i* P	**Pn**	**21 14 39.6**	**-0.3**
KUZU	**Kuzuini**	**2.64**	**215**	*i* P	**Pn**	**21 14 41.5**	**+0.1**
KUZU	**Kuzuini**	**2.64**	**215**	*i* P	**Pn**	**21 14 41.5**	**+0.1**
SFNV	**Sufian**	**2.67**	**160**	*e*P	**Pn**	**21 14 42.1**	**+0.2**
	SNR=45						
SFNV	**Sufian**	**2.67**	**160**	*e*P	**Pn**	**21 14 42.1**	**+0.2**
SFNV				AML	AML	21 15 33.7	
	comp=Z,301nm,0.5s						
SLMH	**Al Salmeh**	**2.85**	**197**	*e*P	**Pn**	**21 14 44.6**	**+0.3**
	SNR=45						
SLMH	**Al Salmeh**	**2.85**	**197**	*e*P	**Pn**	**21 14 44.6**	**+0.3**
SLMH				AML	AML	21 15 57.9	
	comp=Z,268nm,0.6s						
EATA	**Eleskirt**	**2.87**	**70**	*i* P	**Pb**	**21 14 51.0**	**+1.2**
KOZT	**Kozan**	**2.88**	**241**	*e*PN	**Pn**	**21 14 44.9**	**+0.2**
KOZT	**Kozan**	**2.88**	**241**	*e*Pn	**Pn**	**21 14 44.9**	**+0.2**
YOZ	**Yozgat**	**2.93**	**285**	*e*PN	**Pn**	**21 14 46.0**	**+0.6**
YOZ	**Yozgat**	**2.93**	**285**	*e*Pn	**Pn**	**21 14 46.0**	**+0.6**
MNKR	**ALMNKUR**	**3.00**	**176**	*e*P	**Pn**	**21 14 48.0**	**+1.6**
	SNR=45						
MNKR	**ALMNKUR**	**3.00**	**176**	*e*P	**Pn**	**21 14 48.0**	**+1.6**
MNKR				AML	AML	21 15 45.2	
	comp=Z,253nm,0.5s						
SIRT	**Sirnak**	**3.08**	**117**	*e*PN	**Pn**	**21 14 47.7**	**+0.3**
SIRT	**Sirnak**	**3.08**	**117**	*e*Pn	**Pn**	**21 14 47.7**	**+0.3**
DAGI	**Agillar**	**3.10**	**46**	*i* P	**Pn**	**21 14 48.3**	**+0.6**
KVT	**Kavak**	**3.11**	**314**	*e*PN	**Pn**	**21 14 48.6**	**+0.9**
KVT	**Kavak**	**3.11**	**314**	*e*Pn	**Pn**	**21 14 48.6**	**+0.9**
AGRB	**Hanur-Agry**	**3.17**	**77**	*e*PN	**Pn**	**21 14 49.5**	**+0.6**
AGRB	**Hanur-Agry**	**3.17**	**77**	*e*Pn	**Pn**	**21 14 49.5**	**+0.6**
CEYT	**Ceyhan**	**3.20**	**234**	*e*PN	**Pn**	**21 14 49.3**	**+0.3**
CEYT	**Ceyhan**	**3.20**	**234**	*e*Pn	**Pn**	**21 14 49.3**	**+0.3**
BCA	**Borcka**	**3.21**	**38**	*e*PN	**Pn**	**21 14 50.7**	**+1.4**
BCA	**Borcka**	**3.21**	**38**	*e*Pn	**Pn**	**21 14 50.7**	**+1.4**
GEVA	**Gevas**	**3.25**	**100**	*i* P	**Pb**	**21 14 55.5**	**-0.7**
GEVA				*i* S	**Sg**	**21 15 43.8**	**+1.7**
MZRK	**Al-Mazaregh**	**3.38**	**156**	*e*P	**Pn**	**21 14 52.3**	**+0.8**
	SNR=45						
MZRK	**Al-Mazaregh**	**3.38**	**156**	*e*P	**Pn**	**21 14 52.3**	**+0.8**
MZRK				AML	AML	21 15 46.6	
	comp=Z,248nm,0.6s						
VANB	**Van**	**3.46**	**94**	*e*PN	**Pn**	**21 14 53.4**	**+0.7**
VANB	**Van**	**3.46**	**94**	*e*Pn	**Pn**	**21 14 53.4**	**+0.7**
KARA	**Karaisali**	**3.52**	**243**	*e*PN	**Pn**	**21 14 54.0**	**+0.5**
KARA	**Karaisali**	**3.52**	**243**	*e*Pn	**Pn**	**21 14 54.0**	**+0.5**
BTCH	**Batrach**	**3.53**	**215**	*e*P	**Pn**	**21 14 54.0**	**+0.4**
	SNR=45						
BTCH	**Batrach**	**3.53**	**215**	*e*P	**Pn**	**21 14 54.0**	**+0.4**
BTCH				AML	AML	21 15 54.6	
	comp=E,464nm,0.5s						
BTCH				AML	AML	21 15 54.6	
	comp=N,408nm,0.6s

comp=N,30nm,0.7s
SALA AML AML 21 17 42.0
comp=E,6.0nm,0.7s
MMAI Mount Meron Ar 6.59 207 Pn **Pn 21 15 36.8 +1.1**
comp=E,1.2nm,0.3s,baz=66,slow=15,SNR=13
MMAI Lg Lg 21 17 33.7
comp=E,2.1nm,0.3s,baz=31,slow=26,SNR=5.5
MMAI LR LR 21 18 08.9
comp=E,113nm,18.5s,baz=45,slow=38
TCHB Talchebab 6.72 202 *e*P **Pn 21 15 39.2 +1.8**
SNR=45
TCHB Talchebab 6.72 202 *e*P **Pn 21 15 39.2 +1.8**
TCHB *e*S Sn 21 17 04.9 +10
TCHB AML AML 21 17 41.2
comp=E,59nm,0.6s
TCHB AML AML 21 17 48.5
comp=N,75nm,0.7s
TCHB AML AML 21 17 50.1
comp=Z,33nm,0.8s
ASF Jabal al Asfar 6.97 195 Pn **Pn 21 15 42.3 +1.4**
comp=Z,0.4nm,0.3s,baz=312,slow=22,SNR=3.7
ASF Lg Lg 21 17 39.8
comp=Z,0.7nm,0.3s,baz=166,slow=23,SNR=4.1
BHD Baghdad 7.15 141 *e*PN Sn 21 16 52.4 -13
BHD *e*SN Sg 21 17 56.1 +9.0
MLR Muntele Rosu 11.67 308 Pn Pn 21 16 48.9 +3.6
baz=127,slow=20
AKTO Aktyubinsk 17.69 43 P **P 21 18 07.2 +1.0**
comp=Z,0.1nm,0.3s,baz=232,slow=19,SNR=3.4
AKTO LR LR 21 27 00.1
comp=Z,41nm,20.7s,baz=204,slow=44
GERES GERESS Array B 20.65 307 P **P 21 18 36.9 -1.7**
comp=Z,1.1nm,0.8s,baz=110,slow=12,SNR=10
KEST Kesra 23.73 272 P **P 21 19 11.2 -0.1**
comp=Z,1.0nm,0.7s,baz=358,slow=4.2,SNR=5.1
FINES FINESS Array B 23.90 345 P **P 21 19 12.2 -0.3**
comp=Z,1.6nm,0.6s,baz=149,slow=8.9,SNR=7.4
BVAR Borovoye Arra 25.72 46 P **P 21 19 31.0 +1.7**
comp=Z,0.8nm,0.8s,baz=258,slow=7.4,SNR=6.5
AAK Ala-Archa 27.01 71 LR LR 21 33 24.2
comp=Z,16nm,19.2s,baz=212,slow=43
MKAR Makanchi Array 32.36 62 P **P 21 20 29.1 +0.6**
comp=Z,0.9nm,1.0s,baz=270,slow=6.1,SNR=6.1
TORD Torodi Ar. Bea 41.77 242 P **P 21 21 46.2 -2.4**
comp=Z,0.8nm,0.9s,baz=31,slow=7.4,SNR=5.2
YKA Yellowknife Ar 76.69 348 P **P 21 25 48.6 -1.2**
comp=Z,0.1nm,0.4s,baz=6.6,slow=5.8,SNR=4.4

*IDC **19** 21:15:00.6±1.8, 56°.55S×27°.38W, h0km, mb4.2/2, mb1 4.4/2, mb1mx3.8/14, mbtmp4.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/24, Error ellipse: s-maj=72.9km s-min=40.8km az=4.0*
*AWI **19** 21:15:05.3, 55°.52S×25°.93W*
ISC 19 21:15:07.2±1.1, 55°.7S±0°.3×26°.7W±0°.5, h38km, n10, σ0°56/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.23**	**161**	P	**P**	**21 19 06.0**	**+0.4**
VNA2	**Neumayer--Watz**	**17.41**	**159**	P	**Pn**	**21 19 06.5**	**-0.2**
baz=321,slow=13							
SNAA	**Sanae**	**18.94**	**157**	P	**Pn**	**21 19 25.3**	**-0.2**
RCBR	**Riachuelo**	**50.28**	**348**	LR	LR	21 40 52.7	
comp=Z,33nm,21.0s,baz=270,slow=30							
LPAZ	**La Paz**	**50.42**	**304**	P	**P**	**21 24 01.8**	**+0.3**
1.9nm,0.4s,baz=167,slow=7.5,SNR=14							
TORD	**Torodi Ar. Bea**	**72.61**	**29**	P	P	21 26 35.1	+4.7
0.5nm,0.3s,baz=200,slow=6.5,SNR=20							
YKA	**Yellowknife Ar**	**136.11**	**318**	PKP	**PKPdf**	**21 34 22.0**	**-0.6**
0.2nm,0.5s,baz=130,slow=2.3,SNR=5.5							
KURBB	**Kurchatov Arra**	**136.89**	**64**	PKP	**PKPdf**	**21 34 24.3**	**-0.2**
0.1nm,0.2s,baz=238,slow=2.2,SNR=4.2							
ILAR	**Eielson Array**	**150.10**	**312**	PKPbc	**PKPbc**	**21 34 51.6**	**-0.6**
1.7nm,0.8s,baz=130,slow=2.2,SNR=19							
SONM	**Songino Array**	**150.41**	**85**	PKPbc	**PKPbc**	**21 34 54.4**	**+0.8**
0.3nm,0.5s,baz=221,slow=3.5,SNR=4.5							

*ISCJB **19** 21:18:55.7±0.5, 3°.15S±0°.05×137°.63E±0°.04, h33km, mb3.2/2, Error ellipse: s-maj=7.6km s-min=4.9km az=140.7*
*DJA **19** 21:18:55.9±1.4, 3°.5±6°.×13°.8E±°, h17km±17km, M4.2/9, mb4.5/3, MLv4.1/9*
*IDC **19** 21:19:00.7±3.9, 3°.01S×138°.05E, h100km±50km, mb3.1/3, mb1 3.4/5, mb1mx3.2/17, mbtmp3.5/5, Error ellipse: s-maj=40.2km s-min=15.6km az=81.0*
ISC 19 21:18:56.7±0.8, 3°.14S±0°.07×137°.73E±0°.05, h35km, n20, σ2°33/25, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.51**	**41**	P	**Pn**	**21 19 20.0**	**-1.2**
SMPI				S	**Sn**	**21 19 42.9**	**+3.3**
SRPI	**Serui, Papua**	**1.95**	**310**	P	**Pn**	**21 19 26.9**	**-0.4**
GENI	**Genyem**	**2.50**	**77**	P	**Pn**	**21 19 35.3**	**+0.5**
GENI				S	**Sn**	**21 20 06.9**	**+2.8**
JAY	**Jayapura**	**3.04**	**78**	P	**Pn**	**21 19 42.9**	**+0.6**
JAY	**Jayapura**	**3.04**	**78**	P	**Pn**	**21 19 41.7**	**-0.6**
9.2nm,0.3s,baz=231,slow=11,SNR=28							
JAY				S	**Sn**	**21 20 15.3**	**-2.1**
5.3nm,0.3s,baz=288,slow=20,SNR=4.5							
JAY	**Jayapura**	**3.04**	**78**	P	**Pn**	**21 19 42.2**	**-0.1**
baz=2.9,SNR=8.1							
RKPI	**Ransiki, Papua**	**3.90**	**294**	P	**Pn**	**21 19 54.2**	**0.0**
FAKI	**Fak Fak**	**5.48**	**272**	P	**Pn**	**21 20 16.1**	**+0.3**
15nm,1.2s,0.1nm							
FAKI	**Fak Fak**	**5.48**	**272**	P	**Pn**	**21 20 16.2**	**+0.3**
baz=5.7,SNR=7.9							
MMPI	**Merauke**	**5.91**	**154**	P	**Pn**	**21 20 24.9**	**+3.1**
292nm,1.1s,1.5nm							
SWI	**Sorong**	**6.85**	**289**	P	**Pn**	**21 20 35.0**	**+0.3**
KDU	**Kakadu**	**10.82**	**208**	P	**Pn**	**21 21 30.6**	**+1.5**
baz=11,SNR=6.8							
KDU				S	**Sn**	**21 23 30.0**	**+1.0**
baz=11,SNR=3.2							
MTN	**Manton Dam**	**11.64**	**214**	P	**Pn**	**21 21 42.8**	**+2.4**
baz=12,SNR=18							
MTN				S	**Sn**	**21 23 48.9**	**-0.4**
baz=12,SNR=4.4							
KNRA	**Kununurra**	**15.27**	**215**	P	**Pn**	**21 22 30.2**	**+0.5**
baz=15,SNR=10							
WRA	**Warramunga Arr**	**17.02**	**191**	P	**P**	**21 22 54.8**	**+1.0**
0.4nm,0.3s,baz=12,slow=13,SNR=19							
WRA				S	**Sn**	**21 25 53.9**	**-6.5**
0.1nm,0.3s,baz=12,slow=23,SNR=4.1							
QIS	**Mount Isa**	**17.41**	**174**	P	Pn	21 22 49.6	-7.3
baz=17,SNR=7.8							
FITZ	**Fitzroy Crossi**	**19.01**	**218**	P	**Pn**	**21 23 21.1**	**+4.5**
baz=19,SNR=3.8							
ASAR	**Alice Springs**	**20.74**	**190**	P	Pn	21 23 36.8	-0.2
1.2nm,0.5s,baz=14,slow=11,SNR=15							
ASAR				S	**S**	**21 27 23.6**	**-0.7**
0.7nm,0.8s,baz=13,slow=24,SNR=3.6							
CMAR	**Chiang Mai Arr**	**43.81**	**301**	P	**P**	**21 26 58.4**	**-1.2**
0.7nm,0.6s,baz=115,slow=6.1,SNR=8.1							
MKAR	**Makanchi Array**	**69.54**	**323**	P	**P**	**21 29 59.1**	**-2.9**
0.1nm,0.6s,baz=120,slow=7.6,SNR=3.1							

IDC 19 21:25:18.4±7.3, 15°.59S×173°.78W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.7/18, mbtmp4.0/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/31, Error ellipse: s-maj=319.4km s-min=34.5km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**26.36**	**280**	LR	LR	21 40 26.4	
comp=Z,122nm,20.3s,baz=70,slow=34							
WRA	**Warramunga Arr**	**49.45**	**257**	P	P	21 34 10.6	-0.1
1.3nm,0.6s,baz=94,slow=7.5,SNR=34							
ASAR	**Alice Springs**	**49.71**	**252**	P	P	21 34 12.7	-0.1
3.7nm,0.6s,baz=88,slow=8.5,SNR=52							
ILAR	**Eielson Array**	**82.70**	**11**	P	P	21 37 43.5	-0.1
0.3nm,0.6s,baz=223,slow=5.9,SNR=8.3							

KRSC 19 21:26:23.0±2.2, 53°.09N×163°.00E, h60km±23km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.65**	**333**	*e*P	Pn	21 26 52.4	+2.7
MKZ				*e*S	Sn	21 27 12.3	+2.5
NLC	**Nalytchevo**	**2.20**	**274**	S	Sn	21 27 23.1	-0.1
KII	**Karymskiy**	**2.32**	**296**	*e*P	Pn	21 27 01.8	+2.9
KII				*e*S	Sn	21 27 28.5	+2.2
SDLR	**Sedlovina**	**2.48**	**276**	*e*P	Pn	21 27 04.2	+3.1
SDLR				*e*S	Sn	21 27 33.3	+2.9
UGLR	**Uglovaya**	**2.52**	**274**	*e*P	Pn	21 27 04.9	+3.3
UGLR				*e*S	Sn	21 27 33.5	+2.3
SMAR	**Somma**	**2.53**	**276**	*e*P	Pn	21 27 04.8	+2.9
SMAR				*e*S	Sn	21 27 33.3	+1.5
KRER	**Koryakskii**	**2.56**	**277**	*e*P	Pn	21 27 05.5	+3.1
KRER				*e*S	Sn	21 27 35.0	+2.4
AVH	**Avacha**	**2.57**	**276**	*e*P	Pn	21 27 05.7	+3.4
AVH				*e*S	Sn	21 27 35.0	+2.6
KZV	**Kizimen**	**2.58**	**323**	P	Pn	21 27 06.1	+3.6
PET	**Petropavlovsk**	**2.62**	**270**	*e*P	Pn	21 27 06.0	+3.1
PET				*e*S	Sn	21 27 35.6	+2.1
KRX	**Arik**	**2.63**	**278**	*e*P	Pn	21 27 06.2	+3.0
KRX				*e*S	Sn	21 27 35.6	+1.6
KOK	**Koryaka**	**2.63**	**276**	*e*P	Pn	21 27 06.3	+3.2
KOK				*e*S	Sn	21 27 36.5	+2.5
BKI	**Bering**	**2.75**	**38**	*e*S	Sn	21 27 35.7	-0.9
TUMR	**Tumrok**	**2.77**	**324**	*e*P	Pn	21 27 09.0	+4.0
TUMR				*e*S	Sn	21 27 41.3	+4.0
RUS	**Russkaya**	**2.80**	**258**	*e*P	Pn	21 27 07.8	+2.5
RUS				*e*S	Sn	21 27 38.7	+0.8
MTVR	**Mutnovka**	**2.99**	**260**	*e*P	Pn	21 27 10.4	+2.4
MTVR				*e*S	Sn	21 27 44.0	+1.2
GNL	**Ganaly**	**3.09**	**283**	*e*P	Pn	21 27 13.2	+3.8
GNL				*e*S	Sn	21 27 48.2	+3.0
KMNR	**Kamenistaya**	**3.12**	**330**	*e*P	Pn	21 27 14.4	+4.6
KBTR	**Krutoberegovo**	**3.13**	**358**	*e*P	Pn	21 27 12.2	+2.4
KBTR				*e*S	Sn	21 27 46.6	+0.7
KOZ	**Kozyrevsk**	**3.49**	**330**	P	Pn	21 27 17.9	+3.2
APC	**Apacha**	**3.53**	**270**	*e*P	Pn	21 27 19.7	+4.4
APC				*e*S	Sn	21 27 59.7	+3.9
SMKR	**Semkarok**	**3.61**	**346**	P	Pn	21 27 19.9	+3.4
SMKR				S	Sn	21 28 00.3	+2.4
BDR	**Baidarnaya**	**3.64**	**344**	S	Sn	21 28 04.0	+5.4
SRKR	**Sorokina**	**3.73**	**344**	P	Pn	21 27 22.0	+3.9
SRKR				S	Sn	21 28 03.5	+2.8
SRDR	**Sredinnyy**	**3.75**	**331**	*e*P	Pn	21 27 22.4	+4.0
ESO	**Esso**	**3.79**	**320**	*e*P	Pn	21 27 22.9	+4.0
ESO				*e*S	Sn	21 28 05.1	+2.9

GUC 19 21:38:47.0±0.6, 34°.96S×71°.82W, h49km±5km, ML3.6, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.47**	**161**	*i* P	Pn	21 38 57.7	-0.1
TALC				*i* S	Sn	21 39 05.7	+0.2
NICH	**Los Niches**	**0.48**	**96**	⇓*i*P	Pn	21 38 57.8	-0.2
NICH				*i* S	Sn	21 39 05.9	0.0
LNCH	**Linares**	**0.91**	**169**	⇑*i*P	Pn	21 39 03.6	+0.1
LNCH				*i* S	Sn	21 39 16.4	+0.9
COCH	**Cobquecura**	**1.42**	**214**	*e*P1	Pn	21 39 11.2	+0.9
COCH				*i* S	Sn	21 39 29.5	+1.7
RCDM	**Rinconada Maip**	**1.69**	**30**	⇑*i*P	Pn	21 39 14.6	+0.5
RCDM				*i* S	Sn	21 39 35.8	+1.3
RCDM				IAML		21 39 37.9	
comp=E,917nm,0.1s							
ANTU	**Antumapu**	**1.69**	**36**	⇓*i*P	Pn	21 39 15.5	+1.2
ANTU				*i* S	Sn	21 39 37.0	+2.2
ANTU				IAML		21 39 38.0	
comp=E,1μm,0.4s							
CLCH	**Cerro Calan**	**1.88**	**35**	⇑*i*P	Pn	21 39 17.6	+0.8
CLCH				*i* P	Pn	21 39 17.8	+0.9
CLCH				*i* S	Sn	21 39 41.4	+1.9
CLCH				*i* S	Sn	21 39 41.7	+2.2
CLCH				IAML		21 39 46.1	
comp=N,822nm,0.7s							
PEL	**Peldehue**	**2.04**	**28**	⇑*i*P	Pn	21 39 20.3	+1.4
PEL				*i* S	Sn	21 39 45.8	+2.5
PEL				IAML		21 39 52.5	
comp=E,747nm,0.3s							

*ISCJB **19** 21:38:58.8±0.6, 6°.92N±0°.06×73°.9W±0°.1, h33km, mb3.8/7, Error ellipse: s-maj=20.0km s-min=8.6km az=2.8*
*IDC **19** 21:39:04.3±2.2, 6°.63N×73°.93W, h84km±22km, mb3.4/7, mb1 3.7/8, mb1mx3.4/22, mbtmp3.8/8, MS3.0/1, Ms1 3.0/1, ms1mx2.3/34, Error ellipse: s-maj=31.7km s-min=19.2km az=88.0*
ISC 19 21:39:00.1±0.7, 6°.87N±0°.08×73°.9W±0°.2, h35km, n12, σ1°91/14, mb3.9/7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.05**	**192**	P	**Pn**	**21 39 33.3**	**+0.8**
11nm,0.3s,baz=60,slow=23,SNR=17							
ROSC				S	**Sn**	**21 39 57.2**	**+0.2**
47nm,0.3s,baz=81,slow=24,SNR=10							
ROSC				LR	LR	21 40 41.5	
comp=Z,122nm,18.9s,baz=36,slow=54							
PTGA	**Pitinga**	**15.82**	**118**	P	**Pn**	**21 42 42.0**	**+1.5**
0.7nm,0.3s,baz=300,slow=13,SNR=6.8							
PTGA				LR	LR	21 49 09.4	
comp=Z,52nm,20.8s,baz=304,slow=38							
LPAZ	**La Paz**	**23.71**	**166**	P	**P**	**21 44 07.0**	**-2.7**
1.0nm,0.5s,baz=318,slow=3.8,SNR=6.2							
PDAR	**Pinedale Array**	**47.58**	**324**	P	**P**	**21 47 33.4**	**+0.5**
0.4nm,0.7s,baz=114,slow=6.3,SNR=3.7							
SCHQ	**Schefferville**	**48.16**	**5**	P	**P**	**21 47 38.5**	**+1.7**
1.7nm,0.8s,baz=225,slow=11,SNR=2.7							
YKA	**Yellowknife Ar**	**62.95**	**340**	P	**P**	**21 49 22.7**	**-0.2**
0.8nm,0.7s,baz=131,slow=7.0,SNR=21							
ILAR	**Eielson Array**	**76.59**	**335**	P	**P**	**21 50 46.5**	**-0.3**
0.2nm,0.6s,baz=131,slow=6.0,SNR=4.8							
NOA	**NORSAR Array B**	**81.66**	**29**	P	**P**	**21 51 15.3**	**+0.6**
0.7nm,0.6s,baz=269,slow=5.3,SNR=2.7							
ARCES	**ARCESS Array B**	**86.89**	**20**	P	**P**	**21 51 40.6**	**-0.5**
1.7nm,0.9s,baz=264,slow=3.6,SNR=3.5							
ASAR	**Alice Springs**	**148.51**	**235**	PKPbc	**PKPdf**	**21 58 42.0**	**+1.4**
1.3nm,0.7s,baz=118,slow=3.7,SNR=8.7							
WRA	**Warramunga Arr**	**149.68**	**242**	PKPbc	**PKPdf**	**21 58 45.0**	**+2.4**
1.5nm,0.4s,baz=102,slow=4.0,SNR=27							
CMAR	**Chiang Mai Arr**	**153.86**	**16**	PKPbc	**PKPbc**	**21 58 53.3**	**-3.4**
0.2nm,0.4s,baz=202,slow=3.8,SNR=3.0							
CMAR				PKPab	**PKPab**	**21 59 07.2**	**-2.5**
0.3nm,0.4s,baz=318,slow=6.1,SNR=4.7							

GUC 19 21:44:53.8±0.6, 34°.84S×72°.41W, h29km±5km, ML3.8, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.84**	**132**	⇑*i*P	Pb	21 45 09.9	0.0
TALC				*i* S	Sn	21 45 22.5	+1.4
NICH	**Los Niches**	**0.98**	**100**	*i* P	Pb	21 45 12.2	0.0
NICH				*i* S	Sb	21 45 26.3	+1.5
LNCH	**Linares**	**1.20**	**147**	⇑*i*P	Pb	21 45 15.6	-0.3
LNCH				*i* S	Sb	21 45 32.3	+1.1
LNV	**Longovilo**	**1.21**	**43**	⇓*i*P	Pb	21 45 15.4	-0.6
LNV				*i* S1	Sn	21 45 32.5	+2.5
CACH	**El Canelo**	**1.66**	**65**	*e*P1	Pb	21 45 23.4	-0.5
CHCH	**Chadas Angostu**	**1.71**	**59**	*e*P	Pb	21 45 24.2	-0.4
CHCH				*i* S	Sb	21 45 46.5	+0.8
ANTU	**Antumapu**	**1.94**	**50**	*i* S	Sb	21 45 52.7	+0.3
ANTU				IAML		21 45 57.8	
comp=E,763nm,0.4s							
CLCH	**Cerro Calan**	**2.12**	**48**	*e*P1	Pb	21 45 30.6	-1.0
CLCH				*e*S1	Sb	21 45 57.6	+0.1
CLCH				IAML		21 46 08.6	
comp=N,930nm,0.8s							
PEL	**Peldehue**	**2.21**	**41**	*e*P4	Pb	21 45 32.9	-0.4
PEL				*i* S	Sb	21 45 59.8	-0.5
PEL				IAML		21 46 05.8	
comp=N,896nm,0.6s							

*NIED **19** 21:46:00, 31°.40N×142°.40E, h5km, Mw4.3 Best double couple: M0 2.69000×10^15 NP1:φs146.00000°, δ34.00000°, λ-113.00000°. NP2:φs353.00000°, δ59.00000°, λ-75.00000°.*
*IDC **19** 21:46:18.5±0.5, 31°.38N×142°.27E, h0km, mb4.4/21, mb1 4.5/24, mb1mx4.5/29, mbtmp4.4/24, ML4.4/2, MS3.4/7, Ms1 3.5/7, ms1mx3.0/39, Error ellipse: s-maj=16.3km s-min=14.4km az=83.0*
*BJI **19** 21:46:18.1, 31°.35N×142°.46E, h20km, mB4.8/28, mb4.5/42, Ms4.3/17, Ms7 4.1/12*
*JMA **19** 21:46:20.0±0.2, 31°.44N×142°.44E, h48km, M4.5*
*NEIC **19** 21:46:20.1±1.4, 31°.47N×142°.28E, h10km±3km, mb4.7/43, MW4.2(NIED), Error ellipse: s-maj=12.1km s-min=9.8km az=126.0*
*MOS **19** 21:46:23.9±0.9, 31°.80N×142°.30E, h33km, mb4.7/46, Error ellipse: s-maj=11.7km s-min=5.2km az=113.9*
*ISCJB **19** 21:46:23.4±0.2, 31°.47N±0°.03×142°.14E±0°.03, h41km, mb4.6/73, MS3.4/6, Error ellipse: s-maj=4.3km s-min=2.9km az=22.8*
ISC 19 21:46:23.7±0.6, 31°.41N±0°.05×142°.29E±0°.05, h34km±1km, n383, σ1°16/408, mb4.6/74, MS3.5/6, 53C-57D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.69**	**309**	P	**Pn**	**21 47 03.6**	**-0.9**
JHCJ				*e*S	**Sn**	**21 47 35.0**	**-0.8**
JHJ2	**Mitsune**	**2.70**	**310**	P	**Pn**	**21 47 02.9**	**-1.7**
JHJ2				*e*S	**Sn**	**21 47 35.3**	**-0.7**
JHJ2	**Mitsune**	**2.70**	**310**	*e*Pn	**Pn**	**21 47 03.6**	**-0.9**
JHJ2				*e*Sn	**Sn**	**21 47 33.7**	**-2.4**
BSO1	**Boso 1**	**3.41**	**341**	P	**Pn**	**21 47 12.7**	**-1.3**
BSO3	**Boso 3**	**3.69**	**337**	P	**Pn**	**21 47 17.1**	**-1.0**
BSO4	**Boso 4**	**3.92**	**336**	P	**Pn**	**21 47 20.1**	**-1.3**
CBIJ	**Chichi jima**	**4.30**	**181**	P	**Pn**	**21 47 24.8**	**-1.9**
CBIJ	**Chichi jima**	**4.30**	**181**	*e*Pn	**Pn**	**21 47 25.1**	**-1.7**
CBIJ				*e*Sn	**Sn**	**21 48 10.8**	**-5.0**
JCJ	**Chichijima**	**4.30**	**181**	Pn	**Pn**	**21 47 24.9**	**-1.9**
27nm,0.3s,baz=14,slow=20,SNR=23							
JCJ				Sn	Sn	21 48 08.8	-6.9
baz=324,slow=19							
CBI	**Chichi jima**	**4.31**	**181**	*e*Pn	**Pn**	**21 47 24.9**	**-2.0**
CBI				*e*Sn	Sn	21 48 08.8	-7.1
JOD2	**Odawara 2**	**4.68**	**326**	P	**Pn**	**21 47 30.6**	**-1.3**
JOD2				*e*S	**Sn**	**21 48 22.0**	**-3.1**
JHHJ	**Haha-jima-NKT**	**4.77**	**181**	P	**Pn**	**21 47 31.3**	**-1.8**
JHU	**Hanno**	**5.09**	**331**	P	**Pn**	**21 47 36.0**	**-1.5**
JYT	**Yasato**	**5.11**	**341**	*e*S	**Sn**	**21 48 33.1**	**-2.4**
JHO	**Hitachi**	**5.38**	**345**	P	**Pn**	**21 47 39.4**	**-2.1**
JHO				*e*S	Sn	21 48 36.7	-5.5
JRY	**Ryogami san**	**5.39**	**329**	P	**Pn**	**21 47 40.9**	**-0.8**
JRY				*e*S	**Sn**	**21 48 42.0**	**-0.5**
JNY	**Yasuok**	**5.41**	**318**	P	**Pn**	**21 47 44.3**	**+2.4**
JAG	**Ashikaga**	**5.53**	**335**	P	**Pn**	**21 47 42.3**	**-1.2**
MJAR	**Matsushiro Arr**	**6.14**	**328**	P	**Pn**	**21 47 50.6**	**-1.3**
MJAR						21 49 00.9	
MJAR				pmax	pmax		
comp=Z,6.0nm,0.3s							
MJAR				smax	smax		
comp=N,4.0nm,0.3s							
MJAR	**Matsushiro Arr**	**6.14**	**328**	Pn	**Pn**	**21 47 50.6**	**-1.3**
comp=N,6.2nm,0.3s,baz=155,slow=12,SNR=48							
MJAR				Sn	**Sn**	**21 49 00.9**	**0.0**
comp=N,3.9nm,0.3s,baz=154,slow=18,SNR=6.7							
MAJO	**Matsushiro**	**6.14**	**328**	*e*P	**Pn**	**21 47 51.2**	**-0.7**
MAJO				*e*		21 49 02.2	
MAJO	**Matsushiro**	**6.14**	**328**	*e*Pn	**Pn**	**21 47 51.2**	**-0.7**
MAJO				*e*Sn	**Sn**	**21 49 02.2**	**+1.2**
MAT	**Matsushiro**	**6.14**	**328**	P	**Pn**	**21 47 50.6**	**-1.3**
MAT				S	**Sn**	**21 48 59.9**	**-1.1**
JNU	**Nakatsue**	**9.81**	**283**	Pn	**Pn**	**21 48 45.0**	**+2.6**
comp=N,0.4nm,0.3s,baz=84,slow=6.9,SNR=5.7							
JNU	**Nakatsue**	**9.81**	**283**	*e*Pn	**Pn**	**21 48 44.6**	**+2.2**
ERM	**Erimo**	**10.60**	**3**	*e*P	**Pn**	**21 48 50.7**	**-2.4**
ERM	**Erimo**	**10.60**	**3**	*e*Pn	**Pn**	**21 48 50.7**	**-2.4**
ERM				*e*Sn	Sn	21 50 34.8	-16
ASAJ	**Asahikawa**	**12.68**	**1**	P	Pn	21 49 17.9	-3.7
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
ASAJ	**Asahikawa**	**12.68**	**1**	Pn	Pn	21 49 17.9	-3.7
comp=Z,2.0nm,0.3s,baz=218,slow=6.9,SNR=15							
ASAJ	**Asahikawa**	**12.68**	**1**	*e*Pn	Pn	21 49 17.4	-4.1
KSRS	**Korea Array**	**13.30**	**301**	Pn	**Pn**	**21 49 27.5**	**-2.5**
baz=110,slow=13,SNR=3.3							
KSRS				LR	LR	21 54 50.5	
comp=Z,152nm,19.8s,baz=104,slow=38							
KS15	**Wonju Array Si**	**13.32**	**301**	*e*Pn	Pn	21 49 27.5	-2.8
USRK	**Ussuriysk Ar.**	**15.12**	**330**	Pn	**Pn**	**21 49 52.3**	**-2.4**
comp=Z,0.3nm,0.3s,baz=213,slow=39,SNR=8.4							
YSS	**Yuzh-Sakhalins**	**15.52**	**1**	*e*P	**Pn**	**21 49 57.0**	**-2.9**
MDJ	**Mudanjiang**	**16.52**	**326**	P	**Pn**	**21 50 13.6**	**+0.9**
MDJ				PMZ			
comp=Z,5.0nm,0.8s							
MDJ				PMZ			
comp=Z,56nm,3.9s							
MDJ	**Mudanjiang**	**16.52**	**326**	*e*Pn	**Pn**	**21 50 11.8**	**-0.9**
comp=Z,13nm,1.1s							
HABR	**Khabarovsk**	**17.91**	**344**	*e*P	**Pn**	**21 50 27.0**	**-2.8**
HABR				*e*S	**Sn**	**21 53 46.2**	**-2.1**
HABR				pmax	pmax		
comp=Z,16nm,1.8s							
HABR				MLR	MLR		
comp=Z,76nm,16.0s							
YHNB	**Yeheng**	**19.63**	**255**	*e*P	**P**	**21 50 48.8**	**-0.7**
comp=Z,15nm,0.7s							
NACB	**Ninganchiao**	**19.66**	**254**	*e*P	**P**	**21 50 49.0**	**-0.7**
comp=Z,16nm,0.7s							
NJ2	**Nanjing**	**19.94**	**278**	*e*P	**P**	**21 50 52.1**	**-0.6**
NJ2				PMZ			
comp=Z,20nm,0.5s							
YULB	**Yu-li**	**20.26**	**252**	*e*P	**P**	**21 50 55.3**	**-0.9**
comp=Z,18nm,0.9s							
SSLB	**Suanglung**	**20.36**	**253**	*e*P	**P**	**21 50 57.6**	**+0.3**
comp=Z,33nm,1.2s							
TPUB	**Ta-pu**	**20.85**	**253**	*e*P	**P**	**21 51 02.6**	**0.0**
comp=Z,53nm,1.3s							
BJI	**Beijing**	**22.82**	**299**	P	**P**	**21 51 21.1**	**-2.5**
BJI				PMZ			
comp=Z,11nm,0.8s							
BJI				PMZ

comp=Z,1.0nm,0.4s
SONM Songino Array 31.80 311 P **P 21 52 46.1 +1.1**
comp=Z,2.4nm,0.5s,baz=109,slow=6.7,SNR=38
SONM PcP **PcP 21 55 36.2 +0.7**
comp=Z,0.5nm,0.4s,baz=117,slow=2.4,SNR=8.4
LZH Lanzhou 32.16 289 *e*P **P 21 52 50.3 +1.9**
LZH pP **pP 21 53 00.3 +2.0**
LZH sP **sP 21 53 04.1 +1.6**
LZH PMZ
comp=Z,15nm,1.0s
SEY Seymchan 32.19 9 P **P 21 52 48.6 +0.6**
SEY pmax pmax
comp=Z,5.0nm,0.6s
SEY Seymchan 32.19 9 P **P 21 52 48.6 +0.6**
comp=Z,4.8nm,0.6s,baz=188,slow=7.3,SNR=37
BOD Bodaibo 32.75 332 *e*P **P 21 52 51.2 -1.8**
BOD pmax pmax
comp=Z,5.0nm,1.5s
ZAK Zakamensk 34.54 315 *e*P **P 21 53 07.5 -1.3**
ZAK pmax pmax
comp=Z,2.0nm,1.6s
TLY Talaya 34.76 317 *e*P **P 21 53 12.0 +1.4**
TLY pmax pmax
comp=Z,3.0nm,0.6s
TLY Talaya 34.76 317 LR LR 22 07 57.7
comp=Z,80nm,18.4s,baz=80,slow=37
TLY Talaya 34.76 317 *e*P **P 21 53 11.1 +0.5**
comp=Z,3.8nm,0.8s
GTA Gaotai 35.27 295 *e*P **P 21 53 14.6 -0.7**
GTA pP **pP 21 53 25.6 +0.3**
SLVN Son La 35.67 263 *e*P **P 21 53 18.3 -0.6**
comp=Z,2.3nm,0.7s
BILL Bilibino 39.25 14 *e*P **P 21 53 47.4 -1.1**
BILL *i* 21 54 00.9
BILL pmax pmax
comp=Z,3.0nm,0.8s
BILL Bilibino 39.25 14 *e*P **P 21 53 48.4 -0.1**
comp=Z,36nm,2.4s
HVS Khovu-Aksy 40.62 313*c i*P **P 21 54 01.2 +1.0**
HVS pmax pmax
comp=Z,64nm,1.3s
TIXI Tiksi 40.94 354 *e*P **P 21 54 01.3 -1.2**
TIXI pmax pmax
comp=Z,4.0nm,1.2s
TIXI Tiksi 40.94 354 *e*P **P 21 54 01.6 -0.8**
comp=Z,4.7nm,1.2s
CHTO Chiang Mai 40.96 263 *e*P **P 21 54 01.6 -1.7**
CHTO pmax pmax
comp=Z,5.0nm,0.6s
CHTO Chiang Mai 40.96 263 *e*P **P 21 54 01.6 -1.7**
comp=Z,5.0nm,0.6s
CM31 Chiang Mai Arr 41.12 262 *e*P **P 21 54 03.4 -1.3**
CMAR Chiang Mai Arr 41.12 262 P **P 21 54 03.4 -1.3**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR MLR MLR
comp=Z,57nm,18.4s
CMAR Chiang Mai Arr 41.12 262 P **P 21 54 03.4 -1.3**
comp=Z,1.8nm,0.6s,baz=57,slow=7.0,SNR=19
CMAR LR LR 22 13 10.8
comp=Z,57nm,18.4s,baz=29,slow=39
CM01 Chiang Mai Arr 41.12 262 *e*P **P 21 54 03.5 -1.1**
KRAR Krasnoyarsk 42.14 321 *e*P **P 21 54 12.9 +0.4**
KRAR pmax pmax
comp=Z,4.0nm,1.2s
WMQ Urumqi 44.24 302 P **P 21 54 30.3 +0.5**
WMQ pP **pP 21 54 40.0 +0.1**
WMQ PP **PcP 21 56 14.9 +1.0**
WMQ S **S 22 01 00.8 -0.3**
WMQ sS **sS 22 01 17.0 -0.9**
WMQ SS SS 22 04 11.0 -8.8
WMQ PMZ
comp=Z,15nm,1.3s
WMQ PMZ
comp=Z,110nm,4.5s
COEN Coen 45.12 179 *e*P **P 21 54 37.6 +0.7**
comp=Z,1μm,2.4s
ZAA0 Zalesovo Array 46.36 316 *e*P **P 21 54 45.8 -0.6**
ZALV Zalesovo Beam 46.36 316 P **P 21 54 46.5 +0.2**
ZALV 21 56 21.0
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV pmax pmax
comp=Z,8.0nm,0.6s
ZALV Zalesovo Beam 46.36 316 P **P 21 54 46.5 +0.2**
comp=Z,2.5nm,0.7s,baz=101,slow=7.7,SNR=14
ZALV PcP **PcP 21 56 21.0 +0.1**
comp=Z,8.0nm,0.6s,baz=107,slow=3.2,SNR=21
ZAA1 Zalesovo Array 46.36 316 *e*P **P 21 54 46.5 +0.1**
ZAA1 *e*PcP **PcP 21 56 21.0 +0.1**
TAPN Taplejung 47.33 280 *e*P **P 21 54 53.7 -1.0**
comp=Z,8.8nm,0.8s
NVS Novosibirsk 47.36 318 *e*P **P 21 54 53.6 -0.5**
NVS pmax pmax
comp=Z,6.0nm,0.9s
NVS pmax pmax
comp=E,6.0nm,1.0s
ODAN Odare 47.76 279 *e*P **P 21 54 56.5 -1.4**
comp=E,11nm,0.6s
MK01 Makanchi Array 47.89 307 *e*P **P 21 54 58.4 0.0**
MK32 Makanchi Array 47.89 307 *e*P **P 21 54 58.8 +0.3**
MKAR Makanchi Array 47.89 307 *e*P **P 21 54 58.4 0.0**
MKAR Makanchi Array 47.89 307 P **P 21 54 58.8 +0.3**
comp=E,5.4nm,0.5s,baz=102,slow=8.3,SNR=133
MKAR Makanchi Array 47.89 307 *e*P **P 21 54 58.4 0.0**
RAMN Ramite 48.40 280 *e*P **P 21 55 02.4 -0.5**
comp=E,11nm,0.6s
JIRN Jiri 48.51 281 *e*P **P 21 55 03.8 -0.1**
comp=E,17nm,0.7s
GUN Gumba 48.70 281 *e*P **P 21 55 05.3 0.0**
comp=E,28nm,0.8s
PKI Pulchoki 49.20 281 *e*P **P 21 55 08.3 -0.8**
KKN Kakani 49.24 281 *e*P **P 21 55 09.0 -0.3**
comp=E,21nm,0.9s
GKN Gorkha 49.71 282 *e*P **P 21 55 12.5 -0.3**
comp=E,13nm,0.8s
KURK Kurchatov 50.10 312 *e*P **P 21 55 14.5 -0.7**
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURK Kurchatov 50.10 312 *e*P **P 21 55 14.5 -0.7**
comp=Z,7.6nm,0.7s
DANN Dangsing 50.33 282 *e*P **P 21 55 17.5 -0.2**
KOLN Koldanda 50.65 282 *e*P **P 21 55 19.8 -0.2**
comp=Z,8.1nm,0.6s
KDAK Kodiak Island 50.90 39 *i*P **P 21 55 21.4 +0.3**
WRAB Tennant Creek 51.62 190 *e*P **P 21 55 25.8 -1.1**
WRAB Tennant Creek 51.62 190 *e*P **P 21 55 25.8 -1.1**
WRA Warramunga Arr 51.63 190 P **P 21 55 26.3 -0.7**
WRA pmax pmax
comp=Z,5.0nm,0.6s
WRA Warramunga Arr 51.63 190 P **P 21 55 26.3 -0.7**
comp=Z,5.1nm,0.6s,baz=6.4,slow=7.7,SNR=92
ULHL Ulahol 52.76 302 P **P 21 55 36.2 +0.6**
SNR=7.0
ULHL Ulahol 52.76 302 *i*P **P 21 55 36.2 +0.6**
TKM2 Tokmak 2 53.10 302 P **P 21 55 39.1 +1.0**
SNR=11
TKM2 Tokmak 2 53.10 302 *i*P **P 21 55 39.1 +1.0**
TKM2 Tokmak 2 53.10 302 *e*P **P 21 55 38.3 +0.3**
comp=Z,5.7nm,0.6s
COLA College 53.51 30 *e*P **P 21 55 40.5 +0.1**
COLA pmax pmax
comp=Z,12nm,0.9s
KZA Kyzart 53.52 302 P **P 21 55 43.0 +1.5**
SNR=8.4
KZA Kyzart 53.52 302 *i*P **P 21 55 42.9 +1.5**
KSH Kashi 53.54 298 P P 21 55 45.3 +4.1
KSH sP sP 21 55 59.3 +3.7
KSH PP PP 21 57 47.3 +5.5
KSH S **S 22 03 14.9 +2.9**
KSH sS sS 22 03 31.9 +2.8
KSH ScS **ScS 22 05 27.8 -0.4**
KSH SS **SKiKP 22 06 55.5 +1.5**
KSH PMZ
comp=Z,14nm,0.6s
KSH PMZ
comp=Z,43nm,2.7s
KSH LN
comp=Z,89nm,5.0s
KSH LE
comp=Z,66nm,4.8s
KSH LZ
comp=Z,140nm,5.3s
KBK Karagaybulak 53.62 302 P **P 21 55 43.1 +1.2**
SNR=10

KBK Karagaybulak 53.62 302 *i*P **P 21 55 43.1 +1.2**
IL1 Eielson Array 53.91 30 *e*P **P 21 55 42.8 -0.6**
ILAR Eielson Array 53.91 30 P **P 21 55 43.3 -0.1**
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR Eielson Array 53.91 30 P **P 21 55 43.3 -0.1**
comp=Z,2.9nm,0.8s,baz=264,slow=6.3,SNR=32
ILB Eielson Array 53.91 30 *e*P **P 21 55 43.3 -0.1**
AAK Ala-Archa 53.95 302 P **P 21 55 44.9 +0.6**
SNR=6.9
AAK Ala-Archa 53.95 302 *e*P **P 21 55 44.2 -0.1**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 53.95 302 *e*P **P 21 55 44.2 -0.1**
comp=Z,4.4nm,0.8s
AAK *e*P **P 21 55 44.2 -0.1**
UCH Uchtor 54.02 302 P **P 21 55 46.4 +1.2**
SNR=6.7
UCH Uchtor 54.02 302 *i*P **P 21 55 46.3 +1.2**
EKS2 Erkin-Say 54.47 302 P **P 21 55 48.1 +0.1**
SNR=6.4
EKS2 Erkin-Say 54.47 302 *e*P **P 21 55 47.6 -0.3**
EKS2 pmax pmax
comp=Z,4.0nm,0.7s
EKS2 Erkin-Say 54.47 302 *e*P **P 21 55 47.6 -0.3**
comp=Z,3.7nm,0.7s
AML Almayashu 54.64 302 P **P 21 55 50.7 +1.2**
SNR=31
AML Almayashu 54.64 302 *i*P **P 21 55 50.7 +1.2**
DOT Dot Lake 55.14 31 *e*P **P 21 55 52.3 0.0**
comp=Z,126nm,2.7s
AS01 Alice Springs 55.35 189 *e*P **P 21 55 53.1 -1.1**
AS12 Alice Springs 55.35 189 *e*P **P 21 55 54.0 -0.3**
ASAR Alice Springs 55.35 189 P **P 21 55 54.0 -0.3**
ASAR pmax pmax
comp=Z,2.0nm,0.5s
ASAR Alice Springs 55.35 189 P **P 21 55 54.0 -0.3**
comp=Z,1.3nm,0.5s,baz=19,slow=13,SNR=46
KKAR Karatay Array 56.71 304 *e*P **P 21 56 03.3 -0.6**
KKAR Karatay Array 56.71 304 *e*P **P 21 56 03.3 -0.6**
KBL Kabul 60.26 294 *e*P **P 21 56 29.2 +0.2**
KBL pmax pmax
comp=Z,9.0nm,0.9s
KBL Kabul 60.26 294 *e*P **P 21 56 29.2 +0.2**
comp=Z,9.5nm,0.9s
ARU Arti 61.11 321*d i*P **P 21 56 34.0 -0.2**
ARU 21 57 16.0
ARU 21 58 46.1
ARU S **S 22 04 54.1 +3.3**
ARU SS **SS 22 08 45.4 -5.0**
ARU pmax pmax
comp=Z,15nm,1.7s
ARU Arti 61.11 321 *e*P **P 21 56 33.2 -1.0**
comp=Z,16nm,1.3s
AKTO Aktyubinsk 63.05 314 LR LR 22 26 46.1
comp=Z,28nm,20.7s,baz=42,slow=38
GEYT Alibeck 67.29 301 P **P 21 57 16.4 +1.3**
comp=Z,1.7nm,0.8s,baz=54,slow=7.7,SNR=4.0
RES Resolute Bay 67.86 14 *e*P **P 21 57 17.7 -0.3**
RES pmax pmax
comp=Z,29nm,2.3s
RES Resolute Bay 67.86 14 *e*P **P 21 57 17.7 -0.3**
comp=Z,29nm,2.3s
YKA Yellowknife Ar 68.32 29 P **P 21 57 21.2 +0.1**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 68.32 29 P **P 21 57 21.2 +0.1**
comp=Z,1.1nm,0.9s,baz=296,slow=6.3,SNR=14
YKB5 Yellowknife Ar 68.32 29 *e*P **P 21 57 21.0 -0.1**
ARA0 ARCESS Array S 69.51 340 *e*P **P 21 57 28.6 +0.2**
ARCES ARCESS Array B 69.51 340 P **P 21 57 28.6 +0.2**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES MLR MLR
comp=Z,23nm,18.6s
ARCES ARCESS Array B 69.51 340 P **P 21 57 28.6 +0.2**
comp=Z,3.9nm,0.9s,baz=44,slow=8.8,SNR=4.3
ARCES LR LR 22 33 54.4
comp=Z,23nm,18.6s,baz=126,slow=41
JOF Joensuu 71.27 333 *e*P **P 21 57 37.2 -2.0**
JOF pmax pmax
comp=Z,3.0nm,0.8s
JOF Joensuu 71.27 333 *e*p **P 21 57 37.2 -2.0**
comp=Z,2.7nm,0.8s
DAG Danmarks Havn 71.42 355 *i*P **P 21 57 40.3 +0.4**
DAG *i* 21 57 54.0
DAG pmax pmax
comp=Z,4.0nm,0.8s
DAG Danmarks Havn 71.42 355 *i*P **P 21 57 40.3 +0.4**
comp=Z,5.8nm,0.8s
DAG *i* 21 57 54.0
I03D Drain, OR 71.94 50 ⇓P **P 21 57 45.4 +1.8**
baz=72
H04A Detroit Lake 72.25 48 *e*P **P 21 57 45.7 +0.2**
comp=Z,5.4nm,0.8s
L02D Cave Junction, 72.46 51 ⇑P **P 21 57 48.3 +1.5**
baz=72
I04A Tendick Farm, 72.51 49 ⇑P **P 21 57 48.4 +1.3**
baz=72
J04D Umpqua Nationa 72.95 50 ⇓P **P 21 57 51.0 +1.0**
baz=73
M02C Callahan 73.31 52 ⇑P **P 21 57 53.5 +1.6**
baz=73
PINOR Pine Mountain 73.49 49 *e*P **P 21 57 53.5 +0.8**
PINOR *e*PcP **P 21 57 55.2 +2.4**
J05D Fort Rock, OR 73.50 49 ⇑P **P 21 57 54.7 +1.6**
baz=73
N02D Trinity Center 73.60 52 ⇑P **P 21 57 55.5 +1.9**
baz=73
KIPM Iron Peak 73.61 53 *e*P **P 21 57 53.6 -0.1**
KAF Kangasniemi 73.64 334 *e*P **P 21 57 52.4 -0.9**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 73.64 334 *e*p **P 21 57 52.4 -0.9**
comp=Z,3.6nm,0.6s
NEW Newport 73.68 43 ⇓P **P 21 57 54.8 +0.9**
baz=73
K05A Summer Lake 73.98 50 *e*P **P 21 57 56.7 +0.7**
FIA0 FINESS Array S 74.13 333 *e*P **P 21 57 56.2 0.0**
FIA0 FINESS Array S 74.13 333 *e*P **P 21 57 56.2 0.0**
FINES FINESS Array B 74.13 333 P **P 21 57 56.2 0.0**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 74.13 333 P **P 21 57 56.2 0.0**
comp=Z,2.0nm,0.6s,baz=104,slow=6.0,SNR=16
WALA Waterton Lakes 75.13 41 *e*P **P 21 58 03.3 +0.8**
comp=Z,4.2nm,0.8s
KBZ Khabaz 75.16 312 P **P 21 58 04.0 +1.5**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 75.16 312 P **P 21 58 04.0 +1.5**
comp=Z,4.7nm,0.9s,baz=79,slow=3.8,SNR=9.0
KIV Kislovodsk 75.19 313*c i*P **P 21 58 04.3 +1.5**
KIV *i* 21 58 15.7
KIV *i* 22 00 52.6
KIV pmax pmax
comp=Z,9.0nm,1.2s
BMO Blue Mountains 75.24 46 *e*P **P 21 58 03.9 +0.8**
BMO pmax pmax
comp=Z,62nm,3.0s
BMO Blue Mountains 75.24 46 *e*P **P 21 58 03.9 +0.8**
comp=Z,62nm,3.0s
JTMT Jette 75.59 43 *e*P **P 21 58 05.5 +0.3**
YBMT Yellow Bay 75.69 42 *e*P **P 21 58 05.7 0.0**
SWMT Swartz Lake 75.88 43 *e*P **P 21 58 07.1 +0.3**
SUMG Summit 76.29 0 *i*P **P 21 58 10.4 +1.4**
SUMG pmax pmax
comp=Z,5.0nm,0.7s
SUMG Summit 76.29 0 *i*P **P 21 58 10.4 +1.4**
comp=Z,5.2nm,0.7s
SLMT Seeley Lake 76.31 43 *e*P **P 21 58 09.4 +0.1**
CMB Columbia Colle 76.57 54 *e*P **P 21 58 10.9 +0.1**
CMB pmax pmax
comp=Z,53nm,2.6s
CMB Columbia Colle 76.57 54 *e*P **P 21 58 10.8 +0.1**
comp=Z,53nm,2.6s
CHMT Chamberlain Mo 76.62 43 *e*P **P 21 58 10.4 -0.7**
WAKR Walker 76.99 53 *e*P **P 21 58 12.7 -0.6**
HRY Holter Researc 77.56 43 *e*P **P 21 58 16.9 +0.6**
LRM Limekiln Ridge 77.67 44 *e*P **P 21 58 15.9 -1.2**
NV01 Mina Array Sit 77.80 52 *e*P **P 21 58 17.6 -0.3**
NVAR Mina Array Bea 77.80 52 P **P 21 58 18.8 +1.0**
comp=Z,2.4nm,0.7s,baz=282,slow=5.7,SNR=12
A19A Klindworth Far 78.07 40 ⇑P **P 21 58 20.0 +1.0**
baz=78,SNR=7.4

B19A Brinkman Farms 78.23 40 ⇓P **P 21 58 20.8 +0.9**
baz=78,SNR=11
PKM Mcpherson Peak 78.52 56 ⇑P **P 21 58 23.5 +1.6**
baz=78
C19A Slack Wire Ran 78.58 41 ⇓P **P 21 58 23.1 +1.3**
baz=78,SNR=7.4
B20A Solberg Farm, 78.75 40 ⇑P **P 21 58 23.5 +0.8**
baz=78
QLMT Earthquake Lak 78.82 44 *e*P **P 21 58 24.1 +0.7**
D19A Cripps Ranch, 78.99 41 ⇓P **P 21 58 25.1 +0.9**
baz=79
A21A Bergtoll Ranch 79.02 39 ⇓P **P 21 58 24.8 +0.6**
baz=79
C20A Veseth Ranch, 79.17 40 ⇑P **P 21 58 25.7 +0.6**
baz=79
AKASG Malin Array Be 79.21 323 P **P 21 58 25.0 -0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG MLR MLR
comp=Z,45nm,18.8s
AKASG Malin Array Be 79.21 323 P **P 21 58 25.0 -0.1**
comp=Z,3.3nm,0.5s,baz=49,slow=5.8,SNR=10
AKASG LR LR 22 36 48.8
comp=Z,45nm,18.8s,baz=315,slow=38
AKBB Malin Array Si 79.21 323 *e*P **P 21 58 25.0 -0.1**
AKBB Malin Array Si 79.21 323 *e*P **P 21 58 25.0 -0.1**
KIEV Kiev 79.22 323 *e*P **P 21 58 25.2 +0.1**
AK11 Malin Array Si 79.25 323 *e*P **P 21 58 23.8 -1.5**
AK11 *e*P **P 21 58 24.1 -1.2**
GCMT Greycliff 79.32 43 *e*P **P 21 58 24.8 -1.2**
E19A Rath Farm, Rou 79.45 42 ⇓P **P 21 58 27.2 +0.6**
baz=79,SNR=6.7
A22A Carney Farms, 79.56 38 ⇓P **P 21 58 27.7 +0.6**
baz=79
H17A Grant Village 79.57 44 ⇓P **P 21 58 29.6 +2.0**
baz=79
MPMC Manual Prospec 79.57 54 ⇑P **P 21 58 27.8 +0.2**
baz=79
C21A Desert Coulee 79.61 40 ⇓P **P 21 58 28.7 +1.3**
baz=79
IMW Indian Meadow 79.63 45 *e*P **P 21 58 28.7 +0.8**
comp=Z,3.6nm,0.8s
NB2 NORSAR Subarra 79.65 338 P **P 21 58 27.1 -0.3**
comp=Z,2.0nm,0.6s,baz=41,slow=5.6
NB200 NORSAR Array S 79.65 338 *e*P **P 21 58 27.1 -0.3**
NOA NORSAR Array B 79.65 338 P **P 21 58 27.1 -0.3**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 79.65 338 P **P 21 58 27.1 -0.3**
comp=Z,3.0nm,0.7s,baz=41,slow=5.3,SNR=9.4
FXWY Fox Creek 79.72 45 *e*P **P 21 58 28.6 +0.2**
comp=Z,3.0nm,1.0s
FURC Furnace Creek, 79.79 54 ⇓P **P 21 58 29.9 +1.4**
baz=80
E20A Meyer Farm, Mu 79.79 41 ⇑P **P 21 58 29.9 +1.4**
baz=80
EDW2 Edwards Air Fo 79.83 55 ⇓P **P 21 58 29.9 +1.0**
baz=80
I17A Pilgrim Ck. 79.83 45 ⇓P **P 21 58 30.3 +1.4**
baz=80
TPAW Teton Pass 79.84 45 *e*P **P 21 58 29.8 +0.7**
comp=Z,4.0nm,0.8s
RLMT Red Lodge 79.93 43 *e*P **P 21 58 29.1 -0.3**
comp=Z,3.4nm,0.8s
H18A Shoshone NF, C 79.95 44 ⇓P **P 21 58 30.7 +1.1**
baz=80
TPNV Topopah Spring 79.96 53 *e*P **P 21 58 29.8 +0.1**
TPNV pmax pmax
comp=Z,68nm,2.9s
TPNV Topopah Spring 79.96 53 ⇑P **P 21 58 30.6 +0.9**
baz=80
TPNV Topopah Spring 79.96 53 *e*P **P 21 58 29.8 +0.1**
comp=Z,68nm,2.9s
D21A La Casta Ranch 80.11 40 ⇑P **P 21 58 30.9 +0.8**
baz=80
H19A Powell 80.35 43 ⇓P **P 21 58 32.5 +0.9**
baz=80
B23A Brockton 80.36 39 ⇓P **P 21 58 31.7 +0.2**
baz=80
G20A Bridger 80.48 42 ⇑P **P 21 58 32.9 +0.6**
baz=80
DUG Dugway, Tooele 80.50 49 ⇑P **P 21 58 32.8 +0.3**
baz=80
D22A Cohagen 80.50 40 ⇓P **P 21 58 32.9 +0.6**
baz=80
C23A Lambert 80.66 39 ⇓P **P 21 58 33.9 +0.8**
baz=80
I19A Meeteetse 80.71 44 ⇑P **P 21 58 34.5 +0.9**
baz=80
SHPR Sheep Range 80.93 53 *e*P **P 21 58 34.8 -0.1**
BW06 Boulder Array 81.09 45 *e*P **P 21 58 35.7 -0.1**
PD31 Pinedale Array 81.09 45 *e*P **P 21 58 35.2 -0.6**
PDAR Pinedale Array 81.09 45 P **P 21 58 35.9 +0.1**
comp=Z,2.3nm,0.8s,baz=276,slow=2.1,SNR=17
J19A Crowheart 81.11 44 ⇓P **P 21 58 36.7 +0.9**
baz=81,SNR=5.4
I20A Worland 81.27 44 ⇑P **P 21 58 37.4 +0.9**
baz=81,SNR=5.4
H21A Big Horn, Sher 81.51 42 ⇑P **P 21 58 38.6 +0.8**
baz=81
GMRC Granite Mounta 81.51 54 ⇑P **P 21 58 38.2 +0.2**
baz=81
G22A Birney 81.59 42 ⇓P **P 21 58 38.7 +0.6**
baz=81
J20A Shoshoni 81.64 44 ⇑P **P 21 58 39.3 +0.8**
baz=81
F23A Volborg 81.79 41 ⇑P **P 21 58 39.4 +0.3**
baz=82
I21A Big Trails, Te 81.84 43 ⇓P **P 21 58 40.7 +1.1**
baz=82
MONP Monument Peak, 81.98 56 ⇓P **P 21 58 41.0 +0.4**
baz=82
J21A Lysite 82.02 44 ⇑P **P 21 58 41.0 +0.4**
baz=82
FRB Frobisher Bay 82.06 13 P **P 21 58 39.7 -0.4**
FRB pmax pmax
comp=Z,4.0nm,0.9s
FRB Frobisher Bay 82.06 13 P **P 21 58 39.6 -0.4**
comp=Z,3.1nm,0.8s,baz=334,slow=5.2,SNR=7.6
BC3 Big Chuckawall 82.25 55 ⇓P **P 21 58 42.8 +0.9**
baz=82
I22A 9 Mile Ranch, 82.27 43 ⇓P **P 21 58 42.5 +0.7**
baz=82
E25A Miller Ranch, 82.42 39 ⇑P **P 21 58 43.0 +0.5**
baz=82
J22A Midwest 82.55 43 ⇑P **P 21 58 44.0 +0.7**
baz=82,SNR=7.8
K21A Alcova 82.56 44 ⇑P **P 21 58 43.7 +0.3**
baz=82
SRU San Rafael Swe 82.57 49 *e*P **P 21 58 41.8 -1.7**
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael Swe 82.57 49 *e*P **P 21 58 41.8 -1.7**
comp=Z,7.3nm,0.8s
F25A Bowman 82.74 40 ⇓P **P 21 58 44.9 +0.8**
baz=82
B28A Dugan Ranch, T 82.79 37 ⇑P **P 21 58 45.1 +0.9**
baz=82
H24A Dirks Ranch, A 82.86 41 ⇓P **P 21 58 45.2 +0.4**
baz=83
A29A Manning Farm, 83.05 36 ⇓P **P 21 58 45.8 +0.2**
baz=83
KWP Kalwaria Pacla 83.13 325 *e*P **P 21 58 46.5 +0.5**
KWP pmax pmax
comp=Z,22nm,1.1s
KWP Kalwaria Pacla 83.13 325 *e*P **P 21 58 46.6 +0.5**
KWP Kalwaria Pacla 83.13 325 *e*P **P 21 58 46.5 +0.5**
comp=Z,22nm,1.1s
TESR Tescani 83.13 321 ⇓*i*P **P 21 58 46.4 +0.3**
BR101 Keskin Array S 83.15 313 *e*P **P 21 58 47.2 +0.7**
BRTR Keskin Array B 83.15 313 P **P 21 58 47.2 +0.7**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 83.15 313 P **P 21 58 47.2 +0.7**
comp=Z,4.4nm,0.9s,baz=100,slow=3.5,SNR=26
BUR04 Bucovina Ar. S 83.19 323 *e*P **P 21 58 46.5 +0.1**
BURAR Bucovina Array 83.19 323 ⇓P **P 21 58 46.9 +0.4**
BURAR Bucovina Array 83.19 323 ⇓*i*P **P 21 58 46.9 +0.4**
VRI Vrincioaia 83.50 321 ⇑P **P 21 58 49.5 +1.5**
VRI Vrincioaia 83.50 321 ⇑*i*P **P 21 58 49.5 +1.5**
A30A Hoffart Farm, 83.50 35 ⇓P **P 21 58 48.1 +0.2**
baz=83
RAYN Ar Rayn 83.51 293 *e*P **P 21 58 48.7 +0.2**
comp=Z,6.1nm,0.6s
F27A Lemmon 83.56 39 ⇑P **P 21 58 48.8 +0.5**
baz=83
BR231 Keskin MP Arra 83.62 313 *e*P **P 21 58 47.6 -1.3**

J24A	Dixon Ranch, L	83.66	43	⇑P	P	21 58 49.2	+0.2
baz=83							
I25A	Rochford	83.77	42	⇓P	P	21 58 50.2	+0.5
baz=84							
L23A	Garrett	83.79	44	⇓P	P	21 58 50.0	+0.2
baz=84							
KOLS	Kolonicke sedl	83.81	325	eP	P	21 58 50.0	+0.5
KOLS				pmax	pmax		
comp=Z,142nm,3.4s							
KOLS	Kolonicke sedl	83.81	325	eP	P	21 58 50.0	+0.5
B30A	Myrvik Farm, E	83.81	36	⇓P	P	21 58 50.2	+0.7
baz=84							
STHS	Stebnicka Huta	83.98	326	eP	P	21 58 52.3	+1.9
STHS				pmax	pmax		
comp=Z,3.0nm,0.9s							
STHS	Stebnicka Huta	83.98	326	eP	P	21 58 52.3	+1.9
UZH	Uzhgorod	84.00	325	eP	P	21 58 48.6	-1.8
OJC	Ojcow	84.12	327	eP	P	21 58 50.4	-0.7
OJC				pmax	pmax		
comp=Z,10.0nm,1.1s							
OJC	Ojcow	84.12	327	eP	P	21 58 51.4	+0.3
OJC	Ojcow	84.12	327	eP	P	21 58 50.4	-0.7
comp=Z,10nm,1.1s							
N22A	Wattenberg Ran	84.12	45	⇑P	P	21 58 52.6	+1.0
baz=84							
DOPR	Dopca	84.16	321	⇓iP	P	21 58 52.4	+1.1
MLR	Muntele Rosu	84.16	321	⇑P	P	21 58 51.6	+0.1
MLR	Muntele Rosu	84.16	321	⇑iP	P	21 58 51.6	+0.1
M23A	Laramie	84.17	44	⇑P	P	21 58 52.2	+0.4
baz=84							
TRPA	Tarpa	84.21	324	⇓iP	P	21 58 52.6	+1.1
CRVS	Cervenica-Dubn	84.23	325	eP	P	21 58 52.4	+0.8
CRVS				pmax	pmax		
comp=Z,9.0nm,1.6s							
CRVS	Cervenica-Dubn	84.23	325	eP	P	21 58 52.4	+0.8
C30A	Mose, Pekin	84.23	36	⇑P	P	21 58 51.5	-0.2
baz=84							
N23A	Red Feather La	84.38	45	⇓P	P	21 58 54.0	+1.1
baz=84,SNR=5.3							
N23A	Red Feather La	84.38	45	eP	P	21 58 52.3	-0.6
comp=Z,5.7nm,0.8s							
O22A	Kremmling	84.45	46	⇑P	P	21 58 54.1	+0.8
baz=84,SNR=5.9							
J26A	Sides Ranch, S	84.58	42	⇓P	P	21 58 53.8	+0.1
baz=84							
P22A	Eagle	84.66	46	⇑P	P	21 58 55.4	+1.1
baz=84,SNR=8.4							
VOIR		84.68	321	⇓P	P	21 58 54.2	+0.1
VOIR		84.68	321	⇓iP	P	21 58 54.2	+0.1
SMCO	Snowmass	84.77	47	eP	P	21 58 53.9	-1.2
comp=Z,4.4nm,1.0s							
O23A	Lake Granby, G	84.81	46	⇑P	P	21 58 56.2	+1.1
baz=84,SNR=6.5							
ARR	Arges	84.95	321	⇑iP	P	21 58 56.6	+1.2
I28A	Midland	85.22	40	⇓P	P	21 58 57.0	+0.2
baz=85							
J27A	Elkhorn Farm,	85.22	41	⇓P	P	21 58 57.5	+0.6
baz=85							
ISCO	Idaho Springs	85.24	46	⇑P	P	21 58 58.5	+1.2
baz=85							
KSP	Ksiaz	85.27	329	eP	P	21 58 57.3	+0.5
P23A	Jefferson	85.36	46	⇑P	P	21 58 59.5	+1.5
baz=85							
KRLC	Kraliky	85.60	328	eP	P	21 58 58.6	0.0
KRLC	Kraliky	85.60	328	eP	P	21 58 58.6	0.0
DPC	Dobruska-Polom	85.61	329	eP	P	21 58 57.9	-0.7
DPC				pmax	pmax		
comp=Z,24nm,0.8s							
DPC	Dobruska-Polom	85.61	329	eP	P	21 58 58.4	-0.2
DPC				ex	x	21 59 15.5	
DPC	Dobruska-Polom	85.61	329	eP	P	21 58 57.9	-0.7
comp=Z,24nm,0.8s							
UPC	Upice	85.63	329	eP	P	21 58 58.8	+0.1
UPC	Upice	85.63	329	eP	P	21 58 58.8	+0.1
PSZ	Piszkesteto	85.66	325	⇓P	P	21 58 59.5	+0.6
PSZ	Piszkesteto	85.66	325	⇓iP	P	21 58 59.5	+0.6
S22A	4UR Ranch, Cre	85.72	48	⇓P	P	21 59 00.5	+0.8
baz=86							
VYHS	Vyhne	85.77	326	eP	P	21 59 00.0	+0.6
VYHS				pmax	pmax		
comp=Z,22nm,2.5s							
VYHS	Vyhne	85.77	326	eP	P	21 59 00.0	+0.6
O25A	Wiggins	85.96	45	⇓P	P	21 59 01.2	+0.5
baz=86							
R23A	Moffat	86.08	47	⇑P	P	21 59 03.4	+1.9
baz=86							
VRAC	Vranov	86.24	328	⇑P	P	21 59 02.4	+0.7
VRAC	Vranov	86.24	328	⇑iP	P	21 59 02.4	+0.7
CLL	Collm	86.33	331	iP	P	21 59 02.5	+0.4
CLL				pmax	pmax		
comp=Z,5.0nm,0.9s							
CLL	Collm	86.33	331	iP	P	21 59 02.5	+0.4
comp=Z,5.0nm,0.9s							
S24A	Houchin Ranch,	86.80	47	⇑P	P	21 59 06.5	+1.4
baz=86							
R26A	Arlington	87.49	46	⇓P	P	21 59 08.1	0.0
baz=87							
ANMO	Albuquerque	87.64	50	eP	P	21 59 09.2	+0.2
ANMO				pmax	pmax		
comp=Z,24nm,2.5s							
GEC2	GERESS Array S	87.88	329	eP	P	21 59 08.5	-1.2
GEC2	GERESS Array S	87.88	329	eP	P	21 59 08.5	-1.2
GERES	GERESS Array B	87.88	329	P	P	21 59 08.5	-1.2
GERES				pmax	pmax		
comp=Z,1.0nm,0.6s							
GERES	GERESS Array B	87.88	329	P	P	21 59 08.5	-1.2
comp=Z,0.5nm,0.6s,baz=6.2,slow=26,SNR=5.6							
U25A	Circle Dot Ran	88.07	48	⇓P	P	21 59 11.9	+0.8
baz=88							
T26A	Comanche Natio	88.10	47	⇓P	P	21 59 11.2	0.0
baz=88							
FUORN	Ofenpass-Fuorn	91.08	329	eP	P	21 59 25.3	+0.3
comp=Z,6.0nm,0.8s							
CABF	La Chapelle	92.85	331	eP	P	21 59 32.0	-1.0
TX31	Lajitas Ar. Si	92.94	53	eP	P	21 59 34.2	+0.5
LTX	Lajitas	92.94	53	eP	P	21 59 34.8	+1.1
LTX	Lajitas	92.94	53	eP	P	21 59 34.8	+1.1
TXAR	Lajitas Array	92.94	53	P	P	21 59 34.8	+1.1
TXAR				pmax	pmax		
comp=Z,4.0nm,0.8s							
TXAR	Lajitas Array	92.94	53	P	P	21 59 34.8	+1.1
comp=Z,4.1nm,0.8s,baz=294,slow=2.9,SNR=31							
230A	Sterling City	93.03	50	⇓P	P	21 59 34.7	+0.6
baz=93							
Z32A	Haskell	93.16	48	⇑P	P	21 59 35.5	+0.9
baz=93							
LOR	Lormes	93.20	333	eP	P	21 59 34.0	-0.5
330A	Mertzon	93.30	50	⇓P	P	21 59 35.8	+0.4
baz=93							
429A	Davenport Ranc	93.33	51	⇑P	P	21 59 35.9	+0.4
baz=93							
529A	Stev Forest Ra	93.42	52	⇑P	P	21 59 36.8	+0.9
baz=93							
LPL	La Plagne	93.46	330	eP	P	21 59 35.7	-0.3
comp=Z,15nm,1.0s							
LPG	La Plagne	93.47	330	eP	P	21 59 35.9	-0.2
comp=Z,15nm,0.8s							
SSF	Saint Saulge	93.51	333	eP	P	21 59 35.7	-0.2
SMF	Signal de Mont	93.72	333	eP	P	21 59 35.9	-1.0
AVF	Avril sur Loir	93.79	333	eP	P	21 59 36.3	-0.9
comp=Z,10nm,0.9s							
232A	Coleman	93.98	49	⇓P	P	21 59 38.8	+0.3
baz=94							
530A	J-C Ranch, Com	94.00	51	⇓P	P	21 59 39.6	+1.0
baz=94							
332A	Millersview	94.25	49	⇓P	P	21 59 40.4	+0.7
baz=94							
531A	Rocksprings	94.51	51	⇑P	P	21 59 41.9	+1.0
baz=94							
333A	Richland Sprin	94.78	49	⇓P	P	21 59 42.1	+0.1
baz=94							
VIVF	Saint-Julien-l	94.85	331	eP	P	21 59 41.8	-0.4
532A	Rocksprings	94.96	50	⇑P	P	21 59 43.7	+0.7
baz=95							
TORD	Torodi Ar. Bea	121.76	313	PKP	PKPdf	22 05 14.8	+0.1
comp=Z,0.7nm,0.6s,baz=24,slow=1.8,SNR=12							
DBIC	Dimbokro	130.81	315	PKIKP	PKPdf	22 05 31.7	-0.4
DBIC				pmax	pmax		
comp=Z,2.0nm,0.6s							
DBIC	Dimbokro	130.81	315	PKP	PKPdf	22 05 31.7	-0.4
comp=Z,1.6nm,0.6s,baz=135,slow=4.3,SNR=4.1							
SAML	Samuel	147.43	52	ePKPdf	PKPdf	22 06 02.9	+0.7
LPAZ	La Paz	148.50	69	PKP2	PKPbc	22 06 09.3	+1.1
LPAZ				pmax	pmax		
comp=Z,4.0nm,0.6s							
LPAZ	La Paz	148.50	69	PKPbc	PKPbc	22 06 09.2	+1.1
comp=Z,4.0nm,0.6s,baz=13,slow=3.5,SNR=16							

IDC 19 21:47:37.9±2.2, 10°.65S×80°.35W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/20, mbtmp3.7/5, ML3.4/2, MS3.4/4, Ms1 3.4/4, ms1mx2.8/34, Error ellipse: s-maj=61.4km s-min=35.0km az=35.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NNA	Nana	3.69	111	Pn	Pn	Pn	21 48 36.3	-0.1
2.3nm,0.3s,baz=286,slow=15,SNR=4.6								
NNA				Sn	Sn	Sn	21 49 14.2	-6.5
5.8nm,0.3s,baz=186,slow=22,SNR=7.8								
ATAH	Atahualpa	4.00	29	Pn	Pn	Pn	21 48 40.9	-0.1
5.6nm,0.3s,baz=211,slow=11,SNR=24								
ATAH				Sn	Sn	Sn	21 49 23.5	-5.4
7.6nm,0.3s,baz=325,slow=18,SNR=7.7								
ATAH				LR	LR	LR	21 50 10.8	
comp=Z,376nm,18.9s,baz=215,slow=38								
ROSC	El Rosal	16.53	22	LR	LR	LR	21 57 59.1	
comp=Z,56nm,19.6s,baz=47,slow=38								
RCBR	Riachuelo	44.22	87	LR	LR	LR	22 13 48.3	
comp=Z,73nm,20.6s,baz=244,slow=36								
YBH	Yreka Blue Hor	65.05	326	LR	LR	LR	22 21 25.3	
comp=Z,37nm,21.6s,baz=293,slow=31								
YKA	Yellowknife Ar	77.61	344	P	P	P	21 59 35.6	0.0
0.2nm,0.6s,baz=135,slow=5.7,SNR=4.6								
TORD	Torodi Ar. Bea	84.78	76	P	P	P	22 00 14.9	0.0
0.8nm,0.8s,baz=272,slow=4.8,SNR=5.2								
ILAR	Eielson Array	89.89	337	P	P	P	22 00 38.6	0.0
0.4nm,0.8s,baz=118,slow=2.9,SNR=4.6								

ISCJB 19 21:49:37.0±1.5, 33°.3S±0°.1×72°.8W±0°.2, h5km, mb3.6/1, Error ellipse: s-maj=21.3km s-min=12.9km az=36.1
IDC 19 21:49:37.3±2.0, 33°.24S×72°.77W, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.5/17, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=49.5km s-min=25.0km az=94.0
ISC 19 21:49:37.7±1.5, 33°.2S±0°.1×72°.9W±0°.2, h5km, n6, σ0.9 75/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.23	70	Pn	Pn	Pn	21 50 42.3	-0.6
0.1nm,0.3s,baz=248,slow=14,SNR=4.7								
CFAA				Sn	Sn	Sn	21 51 33.4	+0.6
0.2nm,0.3s,baz=63,slow=22,SNR=3.6								
CFAA				Lg	Lg	Lg	21 51 45.4	
0.5nm,0.3s,baz=320,slow=21,SNR=7.1								
PLCA	Paso Flores	7.78	167	Pn	Pn	Pn	21 51 32.0	+0.4
0.2nm,0.3s,baz=352,slow=15,SNR=4.8								
PLCA				Lg	Lg	Lg	21 53 41.1	
0.1nm,0.3s,baz=276,slow=18,SNR=2.9								
LPAZ	La Paz	17.35	15	P	P	P	21 53 43.6	+0.9
0.1nm,0.3s,baz=211,slow=12,SNR=5.3								
TORD	Torodi Ar. Bea	84.60	71	P	P	P	22 02 11.8	-0.8
0.4nm,0.8s,baz=249,slow=4.0,SNR=3.5								
KURBB	Kurchatov Arra	152.74	42	PKPab	PKPab	PKPab	22 09 45.8	-0.2
0.8nm,1.0s,baz=288,slow=3.5,SNR=5.3								
MKAR	Makanchi Array	156.74	47	PKPab	PKPab	PKPab	22 10 03.3	+0.1
0.3nm,0.7s,baz=298,slow=3.1,SNR=3.6								

IDC 19 22:04:02.6±0.4, 38°.56S×73°.80W, h0km, mb4.5/21, mb1 4.7/23, mb1mx4.7/27, mbtmp4.6/23, ML4.1/3, MS4.1/13, Ms1 4.0/13, ms1mx3.9/22, Error ellipse: s-maj=15.9km s-min=10.9km az=73.0
GUC 19 22:04:03.9±0.6, 38°.64S×74°.01W, h9km±5km, ML4.9
ISCJB 19 22:04:06.6±0.2, 38°.54S±0°.03×73°.64W±0°.06, h33km, mb4.8/73, MS4.1/11, Error ellipse: s-maj=7.4km s-min=3.9km az=156.3
NEIC 19 22:04:06.6±1.9, 38°.54S×73°.72W, h28km±3km, mb4.9/59, Error ellipse: s-maj=17.0km s-min=12.3km az=92.0
NEIC Felt [II] at Temuco. Also felt at Penco and Valdivia.
BJI 19 22:04:07.3, 38°.82S×73°.92W, h35km, mB5.1/8, Ms5.2/7, Ms7 5.2/6
ISC 19 22:04:07.9±0.3, 38°.66S±0°.04×73°.77W±0°.07, h35km, n299, σ1.9 12/314, mb4.9/74, MS4.2/11, 74C-74D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PSCH	Puerto Saavedr	0.33	115	⇑iP	Pn	Pn	22 04 13.9	-2.3
PSCH				i S	Sn	Sn	22 04 21.5	-0.4
AGCH	Angol	1.20	45	eP1	Pn	Pn	22 04 28.1	-0.1
AGCH				eS	Sn	Sn	22 04 45.9	+2.6
VLCH	Valdivia	1.21	161	⇑iP	Pn	Pn	22 04 27.5	-0.9
VLCH				i S	Sn	Sn	22 04 45.6	+2.0
VLCH				AML	AML	AML	22 04 48.9	
comp=N,37μm,0.4s								
OSCH	Osorno	1.98	166	eP	Pn	Pn	22 04 39.5	+0.6
PLCA	Paso Flores	3.23	131	Pn	Pn	Pn	22 04 57.3	+1.1
comp=N,8.3nm,0.3s,baz=314,slow=11,SNR=201								
PLCA				Lg	Lg	Lg	22 05 48.3	
comp=N,40nm,0.3s,baz=34,slow=22,SNR=6.5								
LNCH	Linares	3.30	32	eS1	Sn	Sn	22 05 40.3	+5.3
CFAA	Coronel Fontan	8.37	34	Pn	Pn	Pn	22 06 04.5	-2.3
comp=N,0.3nm,0.3s,baz=169,slow=2.3,SNR=15								
CFAA				Sn	Sn	Sn	22 07 41.5	+1.4
comp=N,0.4nm,0.3s,baz=163,slow=14,SNR=3.2								
CFAA				Lg	Lg	Lg	22 08 30.3	
baz=110,slow=24,SNR=6.0								
CFAA				LR	LR	LR	22 09 54.2	
comp=N,125nm,20.4s,baz=222,slow=42								
TRQA	Tornquist	9.28	90	ePn	Pn	Pn	22 06 20.0	+0.7
LCO	Las Campanas	9.96	16	ePn	Pn	Pn	22 06 23.9	-4.9
LVC	Limon Verde	16.53	16	ePn	Pn	Pn	22 07 53.7	-3.6
comp=N,19nm,1.1s								
USHA	Ushuaia	16.58	169	Pn	P	P	22 07 59.2	-0.4
comp=N,0.8nm,0.3s,baz=291,slow=5.8,SNR=8.7								
USHA				LR	LR	LR	22 15 09.5	
comp=N,1μm,18.8s,baz=324,slow=40								
LPAZ	La Paz	22.83	14	P	P	P	22 09 06.9	-1.7
comp=N,5.9nm,1.1s,baz=174,slow=7.2,SNR=9.8								
LPAZ	La Paz	22.83	14	eP	P	P	22 09 07.3	-1.3
comp=N,25nm,1.1s								
SIV	San Ignacio	25.19	30	P	P	P	22 09 28.3	-2.0
comp=N,4.6nm,0.8s,baz=238,slow=11,SNR=4.8								
SIV				LR	LR	LR	22 20 59.8	
comp=N,678nm,20.3s,baz=222,slow=40								
NNA	Nana	26.70	353	LR	LR	LR	22 18 02.3	
comp=N,358nm,18.8s,baz=174,slow=32								
PMSA	Palmer Station	26.77	171	LR	LR	LR	22 19 34.2	
comp=N,706nm,19.7s,baz=326,slow=35								
BDFB	Brasilia	32.22	52	P	P	P	22 10 36.0	+3.0
comp=N,2.0nm,0.3s,baz=237,slow=3.0,SNR=5.9								
BDFB				LR	LR	LR	22 25 38.3	
comp=N,596nm,18.2s,baz=214,slow=40								
BDFB	Brasilia	32.22	52	eP	P	P	22 10 32.3	-0.8
OTAV	Otavalo	38.95	353	eP	P	P	22 11 31.8	+0.6
comp=N,39nm,1.5s								
PTGA	Pitinga	39.82	22	P	P	P	22 11 36.0	-1.9
comp=N,1.8nm,0.3s,baz=32,slow=19,SNR=7.1								
PTGA	Pitinga	39.82	22	eP	P	P	22 11 36.0	-1.9
comp=N,13nm,1.3s								
VNA3	Neumayer Olymp	45.63	156	P	P	P	22 12 25.7	+1.2
VNA2	Neumayer--Watz	46.31	155	P	P	P	22 12 31.5	+1.6
SDV	Santo Domingo	47.39	4	eP	P	P	22 12 37.5	-1.5
comp=N,11nm,0.8s								
SNAA	Sanae	47.85	156	P	P	P	22 12 43.0	+1.2
SNAA	Sanae	47.85	156	P	P	P	22 12 42.0	+0.2
comp=N,6.4nm,0.9s,baz=298,slow=6.2,SNR=12								
SNAA	Sanae	47.85	156	eP	P	P	22 12 41.6	-0.3
comp=N,28nm,1.0s								
QSPA	South Pole Qui	51.58	180	P	P	P	22 13 10.9	+0.4
comp=N,6.9nm,0.9s,baz=139,slow=5.3,SNR=9.6								
QSPA	South Pole Qui	51.58	180	eP	P	P	22 13 11.9	+1.5
CMIG	Matias Romero	58.88	336	P	P	P	22 14 02.7	-0.6
comp=N,4.4nm,0.9s,baz=83,slow=5.7,SNR=5.6								
VNDA	Vanda	59.26	192	P	P	P	22 14 06.2	+0.9
comp=N,4.0nm,0.9s,baz=137,slow=4.7,SNR=8.1								
TEIG	Tepich	60.14	344	P	P	P	22 14 10.4	-1.5
comp=N,15nm,0.9s,baz=170,slow=10,SNR=5.9								
TEIG	Tepich	60.14	344	eP	P	P	22 14 10.8	-1.1
comp=N,18nm,1.0s								
SYO	Syowa Base	62.06	158	⇑eP	P	P	22 14 23.7	-0.7
TBI	Tubuai	64.97	259	eLR	LR	LR	22 34 17.6	
comp=N,143nm,27.8s								
TBI	Tubuai	64.97	259	eT	T	T	23 25 02.4	
comp=N,12nm,0.3s								
MEH	Mehetia	66.94	265	eT	T	T	23 27 28.9	
comp=N,47nm,0.2s								
TIAR	Tiarei	68.12	265	eT	T	T	23 28 57.3	
comp=N,9.8nm,0.2s								
PPT2	Papeete2	68.29	264	eLR	LR	LR	22 35 36.3	
comp=N,130nm,27.2s								
PPT	Papeete	68.30	264	LR	LR	LR	22 36 01.2	
comp=N,133nm,18.1s,baz=143,slow=28								
MAW	Mawson	69.11	164	LR	LR	LR	22 43 34.5	
comp=N,298nm,21.9s,baz=225,slow=34								
034A	Hebbronville	69.42	336	⇑P	P	P	22 15 13.1	+0.9
baz=70								
933A	Laredo	70.11	336	⇑P	P	P	22 15 18.4	+1.9
baz=70								
834A	Tilden	70.36	337	⇓P	P	P	22 15 19.3	+1.3
baz=71								
833A	Chaparral WMA,	70.81	336	⇑P	P	P	22 15 21.7	+0.9
baz=71								
735A	Kenedy	70.82	338	⇑P	P	P	22 15 21.9	+1.0
baz=71								
832A	Faith Ranch, C	70.96	336	⇑P	P	P	22 15 22.1	+0.4
baz=71								
733A	Divot King Ran	71.15	336	⇓P	P	P	22 15 23.7	+0.9
baz=71								
636A	Smothers Creek	71.19	339	⇓P	P	P	22 15 24.2	+1.2
baz=71								
LPIG	La Paz	71.20	325	P	P	P	22 15 23.6	+0.4
comp=N,95nm,0.3s,baz=174,slow=6.7,SNR=6.3								
HKT	Hockley	71.30	340	eP	P	P	22 15 22.3	-1.3
comp=N,21nm,1.7s								
536A	Bastrop	71.75	339	⇓P	P	P	22 15 27.0	+0.6
baz=72								
632A	Uvalde	72.03	336	⇑P	P	P	22 15 28.4	+0.2
baz=72,SNR=6.7								
534A	Blanco	72.12	338	⇑P	P	P	22 15 29.0	+0.3
baz=72								
533A	Kerrville	72.33	337	⇓P	P	P	22 15 30.3	+0.4
baz=73								
LRAL	Lakeview Retre	72.39	348	eP	P	P	22 15 29.1	-1.0
comp=N,14nm,0.9s								
532A	Rocksprings	72.65	336	⇑P	P	P	22 15 32.0	+0.1
baz=73,SNR=10								
434A	Burnet	72.80	338	⇓P	P	P	22 15 32.4	-0.3
baz=73,SNR=9.2								
531A	Rocksprings	72.89	336	⇑P	P	P	22 15 33.4	+0.1
baz=73,SNR=8.3								
239A	Gary	72.91	342	⇓P	P	P	22 15 33.8	+0.5
baz=73								
433A	Art	72.98	337	⇑P	P	P	22 15 34.1	+0.3
baz=73								
335A	Moody	72.99	339	⇑P	P	P	22 15 34.3	+0.5
baz=73								
530A	J-C Ranch, Com	73.13	335	⇓P	P	P	22 15 34.8	+0.1
baz=73,SNR=12								
LTX	Lajitas	73.18	333	eP	P	P	22 15 35.0	-0.1
TX31	Lajitas Ar. Si	73.18	333	eP	P	P	22 15 34.4	-0.7
TXAR	Lajitas Array	73.18	333	P	P	P	22 15 35.0	-0.1
comp=N,3.9nm,0.9s,baz=153,slow=8.5,SNR=29								
TXAR				LR	LR	LR	22 42 50.3	
comp=N,145nm,18.3s,baz=0.0,slow=32								
334A	Lometa	73.27	338	⇓P	P	P	22 15 35.1	-0.5
baz=74,SNR=11								
432A	Menard	73.31	337	⇓P	P	P	22 15 35.5	-0.2
baz=74								
431A	Sonora	73.39	336	⇑P	P	P	22 15 36.6	+0.4
baz=74								
529A	Stev Forest Ra	73.40	334	⇓P	P	P	22 15 36.0	-0.4
baz=74,SNR=7.5								
333A	Richland Sprin	73.48	338	⇓P	P	P	22 15 36.4	-0.3
baz=74								
WHTX	Lake Whitney,	73.67	339	⇑P	P	P	22 15 37.9	+0.1
baz=74								
WHTX	Lake Whitney,	73.67	339	eP	P	P	22 15 37.2	-0.6
comp=N,20nm,0.9s								
430A	Baggett Ranch,	73.68	336	⇓P	P	P	22 15 37.7	-0.3
baz=74,SNR=8.9								
429A	Davenport Ranc	73.75	335	⇑P	P	P	22 15 38.0	-0.4
baz=74,SNR=9.4								
332A	Millersview	73.77	337	⇑P	P	P	22 15 37.8	-0.7
baz=74,SNR=11								
KMSC	Kings Mountain	73.77	354	⇓P	P	P	22 15 38.0	-0.3
baz=74								
137A	Heron Place, G	73.79	341	⇑P	P	P	22 15 38.6	+0.1
baz=74								
234A	Clairette	73.87	339	⇑P	P	P	22 15 38.6	-0.4
baz=74								
331A	San Angelo	73.91	336	⇓P	P	P	22 15 38.6	-0.7
baz=74,SNR=6.1								
232A	Coleman	74.21	337	⇓P	P	P	22 15 39.5	-1.5
baz=74,SNR=6.5								
330A	Mertzon	74.24	336	⇓P	P	P	22 15 41.1	-0.1
baz=74								
SWET	Sewanee	74.37	350	eP	P	P	22 15 41.1	-0.8
134A	White-Moore Ra	74.39	339	⇑P	P	P	22 15 41.7	-0.3
baz=75								
CPCT	Cooper Cave	74.41	351	eP	P	P	22 15 42.3	+0.2
231A	Bronte	74.46	337	⇑P	P	P	22 15 42.5	0.0
baz=75								
TKL	Tuckaleechee C	74.53	352	P	P	P	22 15 41.3	-1.4
comp=N,5.0nm,0.9s,baz=177,slow=7.8,SNR=4.7								
TKL	Tuckaleechee C	74.53	352	eP	P	P	22 15 41.6	-1.1
329A	Wagon Wheel Ra	74.57	335	⇑P	P	P	22 15 43.2	0.0
baz=75								
230A	Sterling City	74.66	336	⇓P	P	P	22 15 43.6	-0.1
baz=75								
133A	Hamilton Ranch	74.66	338	⇑P	P	P	22 15 43.8	+0.2
baz=75								
ABTX	Abilene, Hawle	74.89	338	⇓P	P	P	22 15 45.0	+0.1
baz=75								
ABTX	Abilene, Hawle	74.89	338	eP	P	P	22 15 44.3	-0.7
comp=N,20nm,1.2s							

comp=N,17nm,1.1s
TIC Toumodi 77.86 71 *e*P **P 22 16 02.8 +0.6**
comp=N,5.5nm,0.2s
KIC Kosan Boka 77.88 72 *e*P **P 22 16 03.0 +0.7**
comp=N,38nm,1.0s
Y24A Capitan 77.97 333 ⇑P **P 22 16 03.2 +0.6**
baz=78
DBIC Dimbokro 78.00 71 P **P 22 16 03.1 +0.2**
comp=N,7.6nm,0.6s,baz=192,slow=6.2,SNR=15
DBIC LR LR 22 47 30.9
comp=N,36nm,18.2s,baz=201,slow=33
DBIC Dimbokro 78.00 71 *e*P **P 22 16 02.1 -0.8**
comp=N,15nm,1.0s
W26A Owens Ranch, T 78.46 335 ⇑P **P 22 16 05.7 +0.5**
baz=79
TUC Tucson 78.56 329 *e*P **P 22 16 05.5 -0.2**
comp=N,13nm,1.3s
T33A Patterson Ranc 78.68 340 ⇑P **P 22 16 06.5 +0.3**
baz=79
LPM Los Pinos Moun 78.74 333 *e*P **P 22 16 07.2 +0.3**
ACSO Alum Creek Sta 78.97 353 *e*P **P 22 16 06.5 -1.2**
comp=N,71nm,2.0s
LAZ Ladron 79.00 332 *e*P **P 22 16 08.0 -0.3**
214A Organ Pipe Nat 79.09 327 ⇑P **P 22 16 09.3 +0.6**
baz=79
W24A Lazy 6 Ranch, 79.12 334 ⇓P **P 22 16 09.7 +0.8**
baz=79
BOSA Boshof 79.14 118 P **P 22 16 09.9 +0.6**
comp=N,13nm,0.9s,baz=225,slow=5.8,SNR=17
BOSA LR LR 22 47 58.6
comp=N,171nm,19.0s,baz=192,slow=33
BOSA Boshof 79.14 118 *e*P **P 22 16 08.8 -0.5**
comp=N,16nm,0.9s
ANMO Albuquerque 79.25 333 P **P 22 16 09.8 +0.2**
comp=N,6.3nm,0.9s,baz=158,slow=5.8,SNR=18
ANMO Albuquerque 79.25 333 *e*P **P 22 16 08.7 -0.9**
comp=N,7.8nm,0.9s
TSUM Tsumeb 79.28 106 *e*P **P 22 16 09.9 -0.3**
comp=N,12nm,1.3s
V25A Rancho No Teng 79.43 335 ⇓P **P 22 16 11.2 +0.6**
baz=80
URZ Urewera 79.53 229 P **P 22 16 10.7 -0.4**
comp=N,3.6nm,0.8s,baz=277,slow=4.4,SNR=6.2
V24A Rampart Ranch, 79.54 334 ⇑P **P 22 16 11.8 +0.6**
baz=80
T28A Walsh 79.81 337 ⇑P **P 22 16 13.1 +0.7**
baz=80
U25A Circle Dot Ran 79.87 335 ⇓P **P 22 16 13.8 +0.9**
baz=80
V23A Ortiz Mt. (NFS 79.87 334 ⇓P **P 22 16 13.8 +0.7**
baz=80
S28A Manter 80.18 338 ⇓P **P 22 16 15.3 +0.8**
baz=80
113A Mohawk Valley, 80.20 327 ⇓P **P 22 16 16.1 +1.6**
baz=80
V22A San Miguel Ran 80.28 333 ⇓P **P 22 16 16.6 +1.3**
baz=80
U23A El Rito 80.40 334 ⇑P **P 22 16 17.3 +1.5**
baz=81
T25A Trinidad 80.55 336 ⇓P **P 22 16 18.3 +1.7**
baz=81
T25A Trinidad 80.55 336 *e*P **P 22 16 16.5 -0.1**
comp=N,12nm,1.0s
X16A Lo Mia Camp, P 80.66 329 ⇓P **P 22 16 18.7 +1.5**
baz=81
S26A Kim 80.69 337 ⇑P **P 22 16 18.5 +1.2**
baz=81
T24B San Luis 80.79 335 ⇓P **P 22 16 18.9 +0.9**
baz=81
R28A Tribune 80.85 338 ⇑P **P 22 16 18.3 +0.3**
baz=81
Y14A Wickenburg 80.89 328 ⇓P **P 22 16 19.1 +0.8**
baz=81
S25A Robets Cordova 81.03 336 ⇓P **P 22 16 19.9 +0.8**
baz=81
R27A Eads 81.09 337 ⇓P **P 22 16 19.6 +0.3**
baz=81
S24A Houchin Ranch, 81.26 335 ⇓P **P 22 16 21.3 +0.8**
baz=82
R26A Arlington 81.31 337 ⇑P **P 22 16 21.4 +0.9**
baz=82
LBTB Lobatse 81.60 115 *e*P **P 22 16 22.0 -0.6**
comp=N,17nm,1.1s
BC3 Big Chuckawall 81.69 326 ⇓P **P 22 16 24.2 +1.5**
baz=82
R24A Sanders Place, 81.77 336 ⇑P **P 22 16 24.4 +1.4**
baz=82
S22A 4UR Ranch, Cre 81.90 334 ⇑P **P 22 16 25.0 +1.1**
baz=82
S22A 4UR Ranch, Cre 81.90 334 *e*P **P 22 16 23.1 -0.8**
comp=N,3.3nm,0.9s
R23A Moffat 81.97 335 ⇓P **P 22 16 25.5 +1.3**
baz=82
PFO Pinyon Flats O 82.10 325 P **P 22 16 24.1 -0.7**
comp=N,8.3nm,1.1s,baz=122,slow=1.0,SNR=4.6
PFO Pinyon Flats O 82.10 325 ⇑P **P 22 16 26.6 +1.8**
baz=82
PFO Pinyon Flats O 82.10 325 *e*P **P 22 16 24.1 -0.7**
comp=N,14nm,1.3s
MDV Middlebury 82.28 0 *e*P **P 22 16 24.9 -0.4**
Q24A Divide 82.45 336 ⇓P **P 22 16 27.7 +1.0**
baz=83
Q24A Divide 82.45 336 *e*P **P 22 16 25.8 -1.0**
comp=N,6.6nm,1.0s
GMRC Granite Mounta 82.73 326 ⇑P **P 22 16 29.9 +1.8**
baz=83
U15A North Rim 82.75 330 ⇑P **P 22 16 30.1 +1.7**
baz=83
O26A Horse Wrangler 83.05 338 ⇓P **P 22 16 30.5 +0.9**
baz=83
BFSC Mount Baldy Ra 83.17 325 ⇑P **P 22 16 31.8 +1.5**
baz=83
SADO Sadowa 83.19 356 P **P 22 16 28.4 -1.6**
comp=N,2.7nm,0.7s,baz=173,slow=3.9,SNR=4.0
SMCO Snowmass 83.24 335 *e*P **P 22 16 29.9 -1.0**
comp=N,8.8nm,1.1s
ISCO Idaho Springs 83.36 336 ⇓P **P 22 16 32.3 +0.9**
baz=84
TUQ Turquoise Moun 83.41 327 ⇑P **P 22 16 33.0 +1.4**
baz=84
KNB Kanab 83.47 329 *e*P **P 22 16 31.2 -0.7**
comp=N,11nm,1.0s
P22A Eagle 83.54 335 ⇓P **P 22 16 33.5 +1.2**
baz=84
GSC Goldstone, Bar 83.68 326 ⇑P **P 22 16 34.6 +1.7**
baz=84
O23A Lake Granby, G 83.83 336 ⇑P **P 22 16 35.0 +1.1**
baz=84
EDW2 Edwards Air Fo 83.85 325 ⇑P **P 22 16 34.9 +1.1**
baz=84
O22A Kremmling 83.99 335 ⇑P **P 22 16 35.1 +0.5**
baz=84
SHPR Sheep Range 83.99 328 *e*P **P 22 16 34.0 -0.5**
CCUT Cedar City 84.15 329 *e*P **P 22 16 35.8 +0.3**
comp=N,9.2nm,1.1s
LRMC Laurel Mtn Rad 84.22 325 ⇓P **P 22 16 36.8 +1.1**
baz=84
SRU San Rafael Swe 84.43 332 *e*P **P 22 16 36.4 -0.4**
comp=N,7.9nm,0.9s
N23A Red Feather La 84.45 336 ⇓P **P 22 16 37.9 +0.9**
baz=85
O20A White River Ci 84.53 334 ⇓P **P 22 16 38.4 +1.1**
baz=85
N22A Wattenberg Ran 84.53 336 ⇓P **P 22 16 38.3 +0.9**
baz=85
ECSD EROS Data Cent 84.58 344 ⇓P **P 22 16 37.5 +0.3**
baz=85
ECSD EROS Data Cent 84.58 344 *e*P **P 22 16 36.4 -0.8**
comp=N,8.8nm,0.9s
MPMC Manual Prospec 84.61 326 ⇓P **P 22 16 39.1 +1.3**
baz=85
PKM Mcpherson Peak 84.70 324 ⇓P **P 22 16 39.9 +1.6**
baz=85
ISA Isabella, Lake 84.72 325 ⇓P **P 22 16 39.9 +1.7**
baz=85
ISA Isabella, Lake 84.72 325 *e*P **P 22 16 36.7 -1.4**
TPNV Topopah Spring 84.83 327 ⇓P **P 22 16 40.4 +1.6**
baz=85
TPNV Topopah Spring 84.83 327 *e*P **P 22 16 39.4 +0.6**
comp=N,5.3nm,1.0s
TMUT Trail Mountain 84.84 332 *e*P **P 22 16 38.0 -1.0**
comp=N,49nm,1.9s
J29A Okreek 85.16 341 ⇑P **P 22 16 40.9 +0.8**
baz=85
N20A Spence Gulch, 85.16 334 ⇑P **P 22 16 40.9 +0.5**
baz=85
J28A Allard Ranch, 85.41 340 ⇓P **P 22 16 42.3 +0.8**
baz=86
J27A Elkhorn Farm, 85.46 340 ⇑P **P 22 16 42.5 +0.8**
baz=86
MPU Maple Canyon 85.63 332 *e*P **P 22 16 42.7 -0.1**
comp=N,9.7nm,1.1s
R11A Troy Canyon, C 85.73 328 ⇓P **P 22 16 45.0 +1.7**
baz=86
R11A Troy Canyon, C 85.73 328 *e*P **P 22 16 43.6 +0.3**
comp=N,4.6nm,0.9s
NLU North Lily Min 85.74 331 *e*P **P 22 16 43.8 +0.5**
comp=N,20nm,1.3s
I28A Midland 85.93 341 ⇓P **P 22 16 44.3 +0.4**
baz=86
J25A Sunshine Ranch 86.09 339 ⇓P **P 22 16 45.1 +0.3**
baz=86
TPH Tonopah 86.19 327 *e*P **P 22 16 43.7 -1.9**
comp=N,6.6nm,0.9s
DUG Dugway, Tooele 86.23 331 ⇑P **P 22 16 46.7 +1.0**
baz=86
DUG Dugway, Tooele 86.23 331 *e*P **P 22 16 44.8 -0.9**
comp=N,9.8nm,1.0s
K22A Casper 86.23 336 ⇓P **P 22 16 46.0 +0.3**
baz=86
K22A Casper 86.23 336 *e*P **P 22 16 44.9 -0.8**
comp=N,28nm,1.6s
I27A Quinn 86.23 340 ⇓P **P 22 16 45.8 +0.3**
baz=86
K21A Alcova 86.44 336 ⇓P **P 22 16 47.5 +0.8**
baz=87
TCUT Toone Canyon 86.51 332 *e*P **P 22 16 46.6 -0.6**
comp=N,17nm,1.2s
I25A Rochford 86.65 339 ⇓P **P 22 16 48.1 +0.4**
baz=87
RSSD Black Hills 86.83 339 *e*P **P 22 16 47.8 -0.8**
comp=N,4.6nm,0.9s
G28A Parade 86.87 341 ⇑P **P 22 16 48.9 +0.4**
baz=87
J22A Midwest 86.91 337 ⇓P **P 22 16 49.1 +0.2**
baz=87
NV01 Mina Array Sit 86.95 327 *e*P **P 22 16 48.5 -0.8**
NVAR Mina Array Bea 86.95 327 P **P 22 16 49.2 -0.1**
comp=N,1.7nm,0.8s,baz=168,slow=6.5,SNR=7.8
TOA0 Torodi Ar. Sit 87.09 71 *e*P **P 22 16 49.9 -0.4**
TORD Torodi Ar. Bea 87.09 71 P **P 22 16 49.9 -0.4**
comp=N,3.1nm,0.9s,baz=232,slow=4.4,SNR=18
TORD LR LR 22 56 08.0
comp=N,48nm,18.1s,baz=185,slow=36
PD31 Pinedale Array 87.32 334 *e*P **P 22 16 50.2 -0.9**
PDAR Pinedale Array 87.32 334 P **P 22 16 50.9 -0.2**
comp=N,2.7nm,0.8s,baz=154,slow=6.3,SNR=19
BW06 Boulder Array 87.32 334 *e*P **P 22 16 49.9 -1.2**
comp=N,5.3nm,1.0s
J20A Shoshoni 87.36 336 ⇓P **P 22 16 51.3 +0.2**
baz=88
WAKR Walker 87.51 326 *e*P **P 22 16 52.6 +0.6**
G26A Maurine 87.51 340 ⇑P **P 22 16 51.9 +0.2**
baz=88
I21A Big Trails, Te 87.52 336 ⇓P **P 22 16 52.2 +0.3**
baz=88
CMB Columbia Colle 87.54 325 *e*P **P 22 16 51.6 -0.3**
comp=N,82nm,3.0s
HVU Hansel Valley 87.59 332 *e*P **P 22 16 51.9 -0.4**
comp=N,9.4nm,0.9s
J19A Crowheart 87.59 335 ⇑P **P 22 16 52.5 +0.3**
baz=88
ELK Elko 87.64 330 P **P 22 16 53.2 +0.6**
comp=N,4.4nm,0.9s,baz=190,slow=2.3,SNR=17
ELK Elko 87.64 330 *e*P **P 22 16 52.7 +0.1**
comp=N,6.0nm,1.0s
AHID Auburn Hatcher 87.85 333 *e*P **P 22 16 53.2 -0.4**
comp=N,6.6nm,0.9s
F27A Lemmon 87.90 341 ⇑P **P 22 16 53.4 0.0**
baz=88
I20A Worland 87.91 336 ⇑P **P 22 16 53.8 +0.1**
baz=88
D30A Buchanan 88.26 343 ⇓P **P 22 16 55.7 +0.5**
baz=88
I19A Meeteetse 88.26 335 ⇑P **P 22 16 55.6 +0.1**
baz=88
REDW Red Top Meadow 88.29 334 *e*P **P 22 16 54.3 -1.4**
comp=N,3.9nm,0.8s
TPAW Teton Pass 88.44 334 *e*P **P 22 16 56.0 -0.5**
comp=N,5.5nm,0.9s
E26A Carlson Angus 88.57 341 ⇑P **P 22 16 56.9 +0.2**
baz=89
FXWY Fox Creek 88.59 334 *e*P **P 22 16 55.7 -1.4**
comp=N,25nm,2.5s
I17A Pilgrim Ck. 88.69 334 ⇑P **P 22 16 58.1 +0.6**
baz=89
AGMN Agassiz Nation 88.78 345 ⇑P **P 22 16 58.1 +0.5**
baz=89
IMW Indian Meadow 88.79 334 *e*P **P 22 16 57.3 -0.8**
comp=N,5.8nm,0.8s
FLWY Flagg Ranch 88.87 334 *e*P **P 22 16 56.0 -2.4**
comp=N,7.0nm,0.8s
H18A Shoshone NF, C 89.05 335 ⇓P **P 22 16 59.7 +0.4**
baz=89
D26A Manning 89.08 341 ⇓P **P 22 16 59.9 +0.8**
baz=89
YFT Old Faithful 89.24 334 *e*P **P 22 16 58.1 -2.0**
comp=N,6.6nm,1.0s
RLMT Red Lodge 89.32 336 *e*P **P 22 16 59.0 -1.5**
comp=N,118nm,2.8s
B30A Myrvik Farm, E 89.44 344 ⇑P **P 22 17 00.8 +0.1**
baz=90
YMR Madison River 89.48 334 *e*P **P 22 16 59.7 -1.5**
comp=N,11nm,1.0s
HLID Hailey 89.74 332 *e*P **P 22 17 02.8 +0.4**
comp=N,8.9nm,1.3s
QLMT Earthquake Lak 89.78 334 *e*P **P 22 17 03.6 +1.0**
A30A Hoffart Farm, 89.89 344 ⇑P **P 22 17 02.9 +0.1**
baz=90
A29A Manning Farm, 90.08 344 ⇑P **P 22 17 03.4 -0.2**
baz=90
MCMT McKenzie Canyo 90.27 333 *e*P **P 22 17 05.2 +0.3**
ULM Lac du Bonnet 90.65 346 P **P 22 17 06.4 +0.2**
comp=N,3.0nm,0.9s,baz=233,slow=5.5,SNR=3.8
A22A Carney Farms, 91.81 339 ⇓P **P 22 17 11.4 -0.3**
baz=92
J05D Fort Rock, OR 92.21 327 ⇓P **P 22 17 14.4 +0.6**
baz=92
SCHQ Schefferville 93.31 4 LR LR 22 59 54.7
comp=N,38nm,19.0s,baz=49,slow=36
BSMT Bassoo Peak 93.56 334 *e*P **P 22 17 19.5 -0.5**
WALA Waterton Lakes 94.30 335 *e*P **P 22 17 21.2 -2.0**
comp=N,112nm,0.9s
GEC2 GERESS Array S 116.38 47 *e*PKPdf **PKPdf 22 22 49.5 +2.2**
GERES GERESS Array B 116.38 47 PKP **PKPdf 22 22 49.5 +2.2**
comp=N,0.2nm,0.5s,baz=199,slow=3.7,SNR=3.5
ARU Arti 144.12 44 *e*PKPdf PKPbc 22 23 37.8 +0.6
AKTO Aktyubinsk 144.28 55 PKP **PKPab 22 23 37.1 -0.5**
comp=N,1.4nm,0.8s,baz=300,slow=6.1,SNR=2.9
TIXI Tiksi 144.98 348 *e*PKPdf PKPbc 22 23 38.0 -1.6
HYB Hyderabad 147.89 123 *i*PKP **PKPbc 22 23 49.0 -0.8**
MJAR Matsushiro Arr 154.64 275 PKPab **PKPab 22 24 19.2 -0.7**
comp=N,3.5nm,1.2s,baz=144,slow=3.0,SNR=4.7
MAJO Matsushiro 154.64 275 *e*PKPab **PKPab 22 24 19.2 -0.7**
KSH Kashi 156.55 78 *e*PKP **PKPdf 22 24 00.3 +1.2**
KSH sPKP 22 24 13.3
KSH PKS **PKSdf 22 27 34.1 +1.0**
KSH PP **PP 22 28 05.1 -1.7**
KSH SKS **SKSdf 22 31 03.8 +1.2**
KSH SKKS **SKKSac 22 34 53.8 +0.7**
KSH SS **SS 22 47 53.1 -3.2**
KSH PPMZ
comp=N,94nm,3.8s
KSH LN
comp=N,30nm,4.1s
KSH LE
comp=N,31nm,4.1s
KSH LZ
comp=N,96nm,5.4s
KURBB Kurchatov Arra 157.09 50 PKP **PKPdf 22 23 57.8 -1.4**
comp=N,0.2nm,0.5s,baz=98,slow=1.4,SNR=4.2
KURBB PKPab **PKPab 22 24 28.5 -1.5**
comp=N,1.0nm,0.8s,baz=289,slow=4.0,SNR=7.0
KURBB PP **PP 22 28 13.5 +4.4**
comp=N,0.4nm,0.6s,baz=274,slow=5.5,SNR=4.2
KURK Kurchatov 157.11 49 *e*PKPdf **PKPdf 22 23 57.8 -1.4**
KURK *e*PKPab **PKPab 22 24 28.5 -1.5**
ZAA1 Zalesovo Array 158.85 37 *e*PKPdf **PKPdf 22 24 01.5 +0.3**
ZAA1 *e*PKPab **PKPab 22 24 36.9 -0.6**
ZALV Zalesovo Beam 158.85 37 PKP **PKPdf 22 24 01.5 +0.2**
comp=N,0.2nm,0.4s,baz=308,slow=3.5,SNR=2.3
ZALV PKPab **PKPab 22 24 36.9 -0.6**
comp=N,0.5nm,0.6s,baz=315,slow=3.7,SNR=2.1
CM31 Chiang Mai Arr 158.89 160 *e*PKPab **PKPab 22 24 38.7 +0.3**
CMAR Chiang Mai Arr 158.89 160 PKPab **PKPab 22 24 38.7 +0.3**
comp=N,0.5nm,0.3s,baz=216,slow=4.6,SNR=5.9
USRK Ussuriysk Ar. 159.95 294 PKPab **PKPab 22 24 42.5 -0.1**
comp=N,2.2nm,1.1s,baz=90,slow=5.8,SNR=5.1
MK32 Makanchi Array 160.68 57 *e*PKPdf **PKPdf 22 24 04.5 +0.9**
MK32 *e*PKPab **PKPab 22 24 45.7 -0.1**
MKAR Makanchi Array 160.68 57 PKP **PKPdf 22 24 04.5 +0.9**
comp=N,0.5nm,0.9s,baz=48,slow=1.8,SNR=4.1
MKAR PKPab **PKPab 22 24 45.7 -0.1**
comp=N,0.8nm,0.8s,baz=292,slow=3.3,SNR=5.2
MKAR PP **PP 22 28 28.4 -0.4**
comp=N,0.4nm,0.9s,baz=255,slow=3.6,SNR=3.9
WMQ Urumqi 165.14 64 *e*PKP **PKPdf 22 24 09.3 +1.2**
WMQ pPKP **pPKPdf 22 24 20.0 +0.4**
WMQ PKPab **PKPab 22 25 05.8 +0.3**
WMQ PKS **PKSdf 22 27 40.9 0.0**
WMQ PP **PP 22 28 55.5 +2.8**
WMQ SKKS 22 35 37.4
WMQ SS **SS 22 49 24.0 -1.8**
WMQ PPMZ
comp=N,140nm,7.0s
WMQ LN
comp=N,50nm,20.0s
WMQ LE
comp=N,68nm,20.0s
NJ2 Nanjing 167.77 241 *e*PKP **PKPdf 22 24 11.3 +0.9**
SONA0 Songino Array 170.83 359 *e*PKPdf **PKPdf 22 24 11.8 -0.2**
SONA0 *e*PKPab **PKPab 22 25 30.9 +0.6**
SONM Songino Array 170.83 359 PKP **PKPdf 22 24 11.8 -0.2**
comp=N,0.2nm,0.4s,baz=61,slow=3.6,SNR=2.5
SONM PKPab **PKPab 22 25 30.9 +0.6**
comp=N,1.1nm,0.9s,baz=357,slow=2.5,SNR=6.9
SONM PP **PP 22 29 17.4 -3.0**
comp=N,0.2nm,0.5s,baz=359,slow=5.9,SNR=3.8
CD2 Chengdu 172.00 165 *e*PKP **PKPdf 22 24 14.3 +1.3**
BJI Beijing 172.17 283 PKP **PKPdf 22 24 14.3 +1.6**
HHC Hu-ho-hao-te 175.34 300 *e*PKP **PKPdf 22 24 15.3 +1.3**
HHC PKS **PKSdf 22 27 46.0 -0.2**
HHC PP **PP 22 29 48.0 +4.2**
HHC SKS **SKSdf 22 31 13.0 -1.3**
HHC SKKS **SKKSac 22 36 28.9 +1.8**
HHC PPMZ
comp=N,210nm,6.3s
HHC LN
comp=N,170nm,21.8s
HHC LE
comp=N,320nm,20.0s
HHC LZ
comp=N,120nm,20.2s
LZH Lanzhou 176.80 143 *e*PKP PKPdf 22 24 05.6 -9.0
LZH pPKP pPKPdf 22 24 16.3 -10
LZH sPKP 22 24 19.6
LZH PKP PKPab 22 25 50.8 -6.5

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*IGQ **19** 22:16:31±0.7, 1°.88S×78°.20W, h6km±3km, Mb4.0, Error ellipse: s-maj=17.6km s-min=4.7km az=215.1*
*ISCJB **19** 22:16:33.5±1.6, 1°.9S±0°.1×78°.1W±0°.5, h200km, Error ellipse: s-maj=70.5km s-min=17.2km az=2.6*
ISC 19 22:16:33.2±2.1, 1°.9S±0°.1×78°.0W±0°.4, h200km, n14, σ0s80/14, 3C-2D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.39**	**204**	P	**Pn**	**22 17 00.8**	**+0.5**
PAT1	**Patacocha**	**0.55**	**314**	⇓S	**Sn**	**22 17 22.5**	**-0.2**
PAT1	**Patacocha**	**0.55**	**314**	⇓P	**Pn**	**22 17 01.7**	**+0.5**
ULBA	**Ulba**	**0.57**	**320**	P	**Pn**	**22 17 00.4**	**-0.7**
RETU	**Refugio**	**0.60**	**317**	P	**Pn**	**22 17 01.0**	**-0.4**
IGUA	**Igualata**	**0.72**	**304**	P	**Pn**	**22 17 02.4**	**+0.4**
PISA	**Pisayambo**	**0.90**	**337**	S	**Sn**	**22 17 24.8**	**-1.3**
PISA	**Pisayambo**	**0.90**	**337**	P	**Pn**	**22 17 02.4**	**-0.7**
TAMB	**Tambo**	**1.23**	**345**	P	**Pn**	**22 17 05.6**	**+0.2**
VC1	**Cotopaxi 1**	**1.29**	**344**	P	**Pn**	**22 17 05.5**	**-0.4**
ANTI	**Antisana**	**1.44**	**355**	⇑S	**Sn**	**22 17 34.6**	**+1.2**
ANTI	**Antisana**	**1.44**	**355**	⇑P	**Pn**	**22 17 07.0**	**-0.1**
PINO	**Pino**	**1.81**	**342**	P	**Pn**	**22 17 11.9**	**+1.3**
OTAV	**Otavalo**	**2.15**	**349**	⇑P	**Pn**	**22 17 13.6**	**-0.3**

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*IGIL **19** 22:23:00.5, 37°.21N×18°.89W, h3km, ML3.2*
*MDD **19** 22:23:02.7±2.1, 37°.10N×18°.70W, h27km±40km, mb4.8/6, Error ellipse: s-maj=47.2km s-min=8.0km az=116.0, PRXIMO*
*INMG **19** 22:23:03.1±3.0, 37°.25N×18°.98W, h10km, Mb3.5, ML3.5, Error ellipse: s-maj=9.5km s-min=5.4km az=125.0*
*CSEM **19** 22:23:08.9±0.4, 36°.79N×17°.88W, h20km, ML4.3/7, Error ellipse: s-maj=9.0km s-min=3.7km az=123.0*
ISC 19 22:23:04.8±1.0, 36°.87N±0°.04×18°.02W±0°.06, h10km, n122, σ1s76/163, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**4.05**	**160**	*e*Pn	Pn	22 24 08.9	+2.1
PMPS				*e*Sn	**Sn**	**22 24 55.0**	**+0.7**
PMPS				A	A	22 25 01.5	
68nm,0.5s							
PMPS	**Porto Santo**	**4.05**	**160**	P	Pn	22 24 08.9	+2.1
PMPS				S	**Sn**	**22 24 55.0**	**+0.7**
34nm,0.5s							
PMPS	**Porto Santo**	**4.05**	**160**	P	Pn	22 24 08.9	+2.1
PMPS				S	**Sn**	**22 24 55.0**	**+0.7**
34nm,0.5s							
PMOZ	**Porto Moniz, M**	**4.10**	**170**	*e*Pn	**Pn**	**22 24 08.9**	**+1.3**
PMOZ				*e*Sn	**Sn**	**22 24 54.1**	**-1.5**
PMOZ				A	A	22 24 59.3	
115nm,0.3s							
PMOZ	**Porto Moniz, M**	**4.10**	**170**	*e*Pn	**Pn**	**22 24 08.9**	**+1.3**
PMOZ				*e*Sn	**Sn**	**22 24 54.1**	**-1.5**
115nm,0.3s							
PMAR	**Madeira**	**4.24**	**167**	*e*Pn	**Pn**	**22 24 11.2**	**+1.6**
PMAR				*e*Sn	**Sn**	**22 24 59.2**	**0.0**
PMAR				A	A	22 25 02.9	
172nm,0.2s							
PMAR	**Madeira**	**4.24**	**167**	P	**Pn**	**22 24 11.2**	**+1.6**
PMAR				S	**Sn**	**22 24 59.2**	**0.0**
86nm,0.2s							
PMAR	**Madeira**	**4.24**	**167**	P	**Pn**	**22 24 11.2**	**+1.6**
PMAR				S	**Sn**	**22 24 59.2**	**0.0**
86nm,0.2s							
FUL	**Funchal**	**4.32**	**167**	*e*Pn	**Pn**	**22 24 11.7**	**+1.2**
FUL				*e*Sn	**Sn**	**22 25 00.7**	**-0.2**
FUL				A	A	22 25 02.1	
83nm,0.2s							
FUL	**Funchal**	**4.32**	**167**	P	**Pn**	**22 24 11.7**	**+1.2**
FUL				S	**Sn**	**22 25 00.7**	**-0.2**
42nm,0.2s							
FUL	**Funchal**	**4.32**	**167**	P	**Pn**	**22 24 11.7**	**+1.2**
FUL				S	**Sn**	**22 25 00.7**	**-0.2**
42nm,0.2s							
PSMN	**Pico do Norte,**	**5.64**	**273**	*e*S	Sn	22 25 01.3	-32
PSMN				A	A	22 25 04.3	
21nm,0.1s							
PSMA	**Santa Maria**	**5.70**	**273**	*e*S	Sn	22 25 02.3	-33
PSMA				A	A	22 25 03.4	
40nm,0.2s							
BART	**Pico Bartolome**	**5.77**	**281**	*e*S	Sn	22 25 04.6	-32
BART				A	A	22 25 05.2	
8.0nm,0.2s							
PSET	**Sete Cidades**	**6.21**	**281**	*e*P	Pn	22 24 23.4	-13
PMAFR	**Mafra**	**7.21**	**71**	*e*Pn	**Pn**	**22 24 52.4**	**+2.1**
PMAFR				*e*Sn	**Sn**	**22 26 13.6**	**+1.3**
PMAFR				A	A	22 26 18.9	
40nm,0.2s							
PMAFR	**Mafra**	**7.21**	**71**	P	**Pn**	**22 24 52.2**	**+1.9**
7.5nm,0.1s,SNR=7.9							
PMAFR				S	**Sn**	**22 26 12.0**	**-0.2**
29nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**7.21**	**71**	P	**Pn**	**22 24 52.2**	**+1.9**
7.5nm,0.1s,SNR=7.9							
PMAFR				S	**Sn**	**22 26 12.0**	**-0.2**
29nm,0.1s,SNR=7.9							
PMAFR				*e*Sn	**Sn**	**22 26 13.6**	**+1.3**
40nm,0.2s							
PFVI	**Vila Bisbo**	**7.36**	**85**	*e*Pn	**Pn**	**22 24 54.1**	**+1.7**
PFVI				*e*Sn	**Sn**	**22 26 16.6**	**+0.7**
PFVI				A	A	22 26 28.6	
10.0nm,0.6s							
PFVI	**Vila Bisbo**	**7.36**	**85**	P	**Pn**	**22 24 54.0**	**+1.7**
2.9nm,0.1s,SNR=13							
PFVI				S	**Sn**	**22 26 16.4**	**+0.5**
9.4nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**7.36**	**85**	P	**Pn**	**22 24 54.0**	**+1.7**
2.9nm,0.1s,SNR=13							

PFVI S **Sn** **22 26 16.4 +0.5**
9.4nm,0.1s,SNR=7.9
PTEO Sao Teotonio 7.45 82 *e*Pn **Pn** **22 24 55.0 +1.5**
PTEO *e*Sn **Sn** **22 26 18.5 +0.5**
PTEO A A 22 26 24.0
14nm,0.5s
PTEO Sao Teotonio 7.45 82 P **Pn** **22 24 55.0 +1.5**
PTEO S **Sn** **22 26 18.5 +0.5**
7.2nm,0.5s
PTEO Sao Teotonio 7.45 82 P **Pn** **22 24 55.0 +1.5**
PTEO S **Sn** **22 26 18.5 +0.5**
7.2nm,0.5s
MORF Marmelete 7.50 84 *e*P **Pn** **22 24 56.3 +2.0**
MORF *e*S **Sn** **22 26 20.9 +1.4**
MORF AML AML 22 26 23.8
comp=E,13nm,0.4s
MORF Marmelete 7.50 84 *e*Pn **Pn** **22 24 56.3 +2.0**
MORF *e*Sn **Sn** **22 26 21.7 +2.3**
MORF A A 22 26 29.0
comp=E,9.1nm,0.1s
MORF Marmelete 7.50 84 P **Pn** **22 24 56.3 +2.0**
MORF S **Sn** **22 26 20.9 +1.4**
comp=E,13nm,0.4s
MORF Marmelete 7.50 84 P **Pn** **22 24 56.3 +2.0**
MORF S **Sn** **22 26 20.9 +1.4**
comp=E,13nm,0.4s
MORF *e*Sn **Sn** **22 26 21.7 +2.3**
comp=E,9.1nm,0.1s
PNCL Nicolau / Gran 7.65 78 *e*Pn **Pn** **22 24 57.2 +1.0**
PNCL *e*Sn **Sn** **22 26 23.5 +0.6**
PNCL A A 22 26 28.4
comp=E,18nm,0.7s
PNCL Nicolau / Gran 7.65 78 *e*Pn **Pn** **22 24 57.2 +1.0**
PNCL *e*Sn **Sn** **22 26 23.5 +0.6**
comp=E,18nm,0.7s
MESJ Messejana 7.87 80 *e*P **Pn** **22 25 00.6 +1.4**
MESJ *e*S **Sn** **22 26 28.3 0.0**
MESJ AML AML 22 26 32.6
comp=N,13nm,0.1s
MESJ Messejana 7.87 80 *e*Pn **Pn** **22 25 00.8 +1.6**
MESJ *e*Sn **Sn** **22 26 29.6 +1.3**
MESJ A A 22 26 34.2
comp=N,10nm,0.3s
MESJ Messejana 7.87 80 P **Pn** **22 25 00.6 +1.4**
MESJ S **Sn** **22 26 28.3 0.0**
comp=N,13nm,0.1s
MESJ Messejana 7.87 80 *e*Pn **Pn** **22 25 00.8 +1.6**
MESJ S **Sn** **22 26 28.3 0.0**
comp=N,13nm,0.1s
MESJ *e*Sn **Sn** **22 26 29.6 +1.3**
comp=N,10nm,0.3s
PMTG Montargil 8.04 71 *e*Pn **Pn** **22 25 03.0 +1.4**
PMTG *e*Sn **Sn** **22 26 31.3 -1.3**
PMTG A A 22 26 34.7
comp=N,6.6nm,0.3s
PMTG Montargil 8.04 71 *e*Pn **Pn** **22 25 03.0 +1.4**
PMTG *e*Sn **Sn** **22 26 31.3 -1.3**
comp=N,6.6nm,0.3s
PTOM Tomar 8.04 67 *e*Sn **Sn** **22 26 31.7 -0.9**
PTOM A A 22 26 36.7
comp=N,16nm,0.2s
PTOM Tomar 8.04 67 S **Sn** **22 26 31.7 -0.9**
comp=N,8.2nm,0.2s
PTOM Tomar 8.04 67 S **Sn** **22 26 31.7 -0.9**
comp=N,8.2nm,0.2s
PBDV Barranco-do-Ve 8.08 84 *e*Pn **Pn** **22 25 03.9 +1.8**
PBDV *e*Sn **Sn** **22 26 35.7 +2.2**
PBDV A A 22 26 41.6
comp=N,7.7nm,0.3s
PBDV Barranco-do-Ve 8.08 84 P **Pn** **22 25 03.9 +1.8**
PBDV S **Sn** **22 26 35.7 +2.2**
comp=N,7.7nm,0.3s
PBDV Barranco-do-Ve 8.08 84 P **Pn** **22 25 03.9 +1.8**
PBDV S **Sn** **22 26 35.7 +2.2**
comp=N,7.7nm,0.3s
EVO Evora 8.10 75 *e*Pn **Pn** **22 25 04.0 +1.5**
EVO *e*Sn **Sn** **22 26 33.8 -0.4**
EVO A A 22 26 40.2
comp=N,14nm,0.1s
EVO Evora 8.10 75 P **Pn** **22 25 04.0 +1.5**
EVO S **Sn** **22 26 33.8 -0.4**
comp=N,14nm,0.1s
EVO Evora 8.10 75 P **Pn** **22 25 04.0 +1.5**
EVO S **Sn** **22 26 33.8 -0.4**
comp=N,14nm,0.1s
PCAS Casmilo, Conde 8.12 64 *e*Pn **Pn** **22 25 05.2 +2.5**
PCAS *e*Sn **Sn** **22 26 30.6 -3.9**
PCAS A A 22 26 36.2
comp=N,5.9nm,0.2s
PCAS Casmilo, Conde 8.12 64 *e*Pn **Pn** **22 25 05.2 +2.5**
PVAQ Vaqueiros 8.25 83 *e*Pn **Pn** **22 25 06.1 +1.7**
PVAQ *e*Sn **Sn** **22 26 39.2 +1.5**
PVAQ A A 22 26 45.1
comp=N,8.4nm,0.3s
PVAQ Vaqueiros 8.25 83 P **Pn** **22 25 06.1 +1.7**
PVAQ S **Sn** **22 26 39.2 +1.5**
comp=N,8.4nm,0.3s
PVAQ Vaqueiros 8.25 83 P **Pn** **22 25 06.1 +1.7**
PVAQ S **Sn** **22 26 39.2 +1.5**
comp=N,8.4nm,0.3s
EHIG Higuera 8.29 179 S Sn 22 26 25.9 -13
comp=N,15nm,0.1s,SNR=6.0
EBAJ Bajamar 8.43 170 S Sn 22 26 35.7 -6.6
comp=N,3.7nm,0.1s,SNR=4.0
EGRO El Granado 8.44 82 P **Pn** **22 25 08.6 +1.6**
comp=N,0.6nm,0.1s,SNR=5.0
EGRO S **Sn** **22 26 42.7 +0.4**
comp=N,3.8nm,0.1s,SNR=6.4
EGRO El Granado 8.44 82 P **Pn** **22 25 08.6 +1.6**
comp=N,0.6nm,0.1s,SNR=5.0
EGRO S **Sn** **22 26 42.7 +0.4**
comp=N,3.8nm,0.1s,SNR=6.4
PESTR Estremoz 8.49 73 *e*Pn **Pn** **22 25 10.0 +2.3**
PESTR *e*Sn **Sn** **22 26 42.2 -1.4**
PESTR A A 22 26 48.4
comp=N,6.1nm,0.4s
PESTR Estremoz 8.49 73 *e*Pn **Pn** **22 25 10.0 +2.3**
PESTR *e*Sn **Sn** **22 26 42.2 -1.4**
comp=N,6.1nm,0.4s
EFAM Famara 8.59 153 S **Sn** **22 26 42.6 -3.7**
comp=N,0.8nm,0.1s,SNR=7.9
CCAN Las Canadas 8.71 172 S Sn 22 26 39.8 -10
comp=N,0.7nm,0.1s,SNR=7.9
EGOM La Gomera 8.72 175 P **Pn** **22 25 08.7 -2.2**
comp=N,1.9nm,0.2s,SNR=4.0
EGOM S Sn 22 26 36.7 -13
comp=N,4.9nm,0.2s,SNR=7.9
PMRV Marv??o 8.75 70 *e*Pn **Pn** **22 25 12.3 +0.9**
PMRV *e*Sn **Sn** **22 26 48.6 -1.5**
PMRV Marv??o 8.75 70 P **Pn** **22 25 12.3 +0.9**
PMRV S **Sn** **22 26 48.6 -1.5**
PMRV Marv??o 8.75 70 P **Pn** **22 25 12.3 +0.9**
PMRV S **Sn** **22 26 48.6 -1.5**
PVIS Viseu 8.79 61 *e*Sn Sn 22 26 45.5 -5.5
PVIS Viseu 8.79 61 S Sn 22 26 45.5 -5.5
PCBR Castelo Branco 8.79 67 *e*Pn **Pn** **22 25 13.9 +1.9**
PCBR *e*Sn **Sn** **22 26 48.0 -3.1**
PCBR Castelo Branco 8.79 67 P **Pn** **22 25 13.9 +1.9**
PCBR S **Sn** **22 26 48.0 -3.1**
PCBR Castelo Branco 8.79 67 P **Pn** **22 25 13.9 +1.9**
PBAR Barrancos 8.82 78 *e*Pn **Pn** **22 25 14.7 +2.4**
PBAR *e*Sn **Sn** **22 26 51.5 -0.3**
PBAR Barrancos 8.82 78 P **Pn** **22 25 14.7 +2.4**
PBAR S **Sn** **22 26 51.5 -0.3**
PBAR Barrancos 8.82 78 P **Pn** **22 25 14.7 +2.4**
PBAR S **Sn** **22 26 51.5 -0.3**
CFUE Fuerteventura 8.89 156 P **Pn** **22 25 13.4 0.0**
comp=N,1.0nm,0.1s,SNR=7.9
CFUE S **Sn** **22 26 49.6 -4.0**
comp=N,5.1nm,0.1s,SNR=7.9
CFUE Fuerteventura 8.89 156 P **Pn** **22 25 13.4 0.0**
comp=N,1.0nm,0.1s,SNR=7.9
EBAD Badajoz 8.91 75 P **Pn** **22 25 15.5 +1.9**
comp=N,0.9nm,0.1s,SNR=6.3
EBAD S **Sn** **22 26 51.0 -3.0**
comp=N,2.9nm,0.1s,SNR=4.9
EBAD Badajoz 8.91 75 P **Pn** **22 25 15.5 +1.9**
comp=N,0.9nm,0.1s,SNR=6.3
MTE Manteigas 8.92 64 *e*Sn **Sn** **22 26 51.6 -2.7**
MTE Manteigas 8.92 64 S **Sn** **22 26 51.6 -2.7**
EOSO Osorio 9.02 166 S **Sn** **22 26 51.1 -5.7**
comp=N,1.6nm,0.2s,SNR=7.9
CFTV Fuerteventura 9.06 157 P **Pn** **22 25 16.8 +1.1**
comp=N,7.4nm,0.1s,SNR=7.9
CFTV Fuerteventura 9.06 157 P **Pn** **22 25 16.8 +1.1**
comp=N,7.4nm,0.1s,SNR=7.9
EMIN Mina Concepcio 9.09 81 P **Pn** **22 25 16.5 +0.5**
comp=N,0.6nm,0.1s,SNR=10
EMIN S **Sn** **22 26 56.1 -2.2**
comp=N,0.8nm,0.1s,SNR=8.0
EMIN Mina Concepcio 9.09 81 P **Pn** **22 25 16.5 +0.5**
comp=N,0.6nm,0.1s,SNR=10
EMIN S **Sn** **22 26 56.1 -2.2**
comp=N,0.8nm,0.1s,SNR=8.0
PGAV Gavieira, Arco 9.10 53 *e*Sn Sn 22 26 50.6 -8.1
CHIE El Hierro 9.12 180 S Sn 22 26 44.9 -14
comp=N,1.7nm,0.1s,SNR=7.9
PCAB Cabril 9.13 55 *e*Sn Sn 22 26 52.5 -6.8
PCAB Cabril 9.13 55 S Sn 22 26 52.5 -6.8
POLO Lamas de Olo 9.13 57 *e*Pn Pn 22 25 20.1 +3.5
POLO *e*Sn Sn 22 26 53.1 -6.3
POLO Lamas de Olo 9.13 57 *e*Pn Pn 22 25 20.1 +3.5
PVRL Vila Real 9.14 58 *e*Sn Sn 22 26 54.0 -5.6
PVRL Vila Real 9.14 58 S Sn 22 26 54.0 -5.6
ELOB Lobios 9.18 54 P **Pn** **22 25 15.6 -1.7**
comp=N,0.9nm,0.2s,SNR=4.0
ELOB S Sn 22 26 52.6 -8.1
comp=N,7.2nm,0.1s,SNR=6.0
EMAZ Mazaricos 9.22 46 S Sn 22 26 51.3 -10
comp=N,5.1nm,0.1s,SNR=5.7
STS Santiago 9.43 48 S Sn 22 26 56.8 -10
comp=N,2.2nm,0.1s,SNR=7.9
MVO Moncorvo 9.56 60 *e*Pn **Pn** **22 25 25.0 +2.4**
MVO *e*Sn Sn 22 27 04.2 -5.9
MVO Moncorvo 9.56 60 P **Pn** **22 25 24.6 +2.0**
comp=N,0.6nm,0.2s,SNR=8.7
MVO S Sn 22 27 02.4 -7.7
comp=N,3.0nm,0.1s,SNR=7.1
MVO Moncorvo 9.56 60 P **Pn** **22 25 24.6 +2.0**
comp=N,0.6nm,0.2s,SNR=8.7
MVO Moncorvo 9.56 60 *e*Pn **Pn** **22 25 25.0 +2.4**
ESPR Espera 9.75 86 P Pn 22 25 27.9 +2.9
comp=N,0.6nm,0.1s,SNR=7.9
ESPR S **Sn** **22 27 16.1 +1.5**
comp=N,8.8nm,0.3s,SNR=7.9
ESPR Espera 9.75 86 P Pn 22 25 27.9 +2.9
comp=N,0.6nm,0.1s,SNR=7.9
ESPR S **Sn** **22 27 16.1 +1.5**
comp=N,8.8nm,0.3s,SNR=7.9
PBRG Braganca 10.03 57 *e*Sn Sn 22 27 14.5 -6.9
PBRG Braganca 10.03 57 S Sn 22 27 14.5 -6.9
ECAB El Cabril 10.09 79 P **Pn** **22 25 31.2 +1.4**
comp=N,0.9nm,0.1s,SNR=7.6
ECAB S **Sn** **22 27 20.4 -2.6**
comp=N,1.0nm,0.2s,SNR=7.9
ECAB El Cabril 10.09 79 P **Pn** **22 25 31.2 +1.4**
comp=N,0.9nm,0.1s,SNR=7.6
ECAB S **Sn** **22 27 20.4 -2.6**
comp=N,1.0nm,0.2s,SNR=7.9
ECAL Calabor 10.09 56 S Sn 22 27 14.8 -8.2
comp=N,6.3nm,0.2s,SNR=5.1
EPON Pontenova 10.53 49 S Sn 22 27 22.0 -12
comp=N,2.0nm,0.1s,SNR=7.9
ESDC Sonseca Array 11.40 72 P **Pn** **22 25 48.1 +0.4**
comp=N,0.7nm,0.1s,baz=263,slow=13,SNR=6.5
ESDC S **Sn** **22 27 52.7 -2.4**
comp=N,0.8nm,0.1s,baz=265,slow=23,SNR=7.3
ESDC Sonseca Array 11.40 72 P **Pn** **22 25 48.1 +0.4**
comp=N,0.7nm,0.1s,SNR=6.5
ESDC S **Sn** **22 27 52.7 -2.4**
comp=N,0.8nm,0.1s,SNR=7.3
SELV Sierra Elvira 11.43 84 P **Pn** **22 25 49.4 +1.3**
comp=N,0.4nm,0.2s,SNR=4.0
SELV Sierra Elvira 11.43 84 P **Pn** **22 25 49.4 +1.3**
comp=N,0.4nm,0.2s,SNR=4.0
GUD Guadarrama 11.46 67 S Sn 22 27 51.1 -5.6
comp=N,1.0nm,0.2s,SNR=7.9
EARI Arriondas 11.72 53 P Pn 22 25 55.5 +3.5
comp=N,0.3nm,0.2s,SNR=4.0
EARI S Sn 22 27 53.9 -9.1
comp=N,0.5nm,0.2s,SNR=7.9
EARI Arriondas 11.72 53 P Pn 22 25 55.5 +3.5
comp=N,0.3nm,0.2s,SNR=4.0
EQES Quesada 11.94 81 P **Pn** **22 25 57.1 +2.0**
comp=N,0.2nm,0.1s,SNR=7.9
EQES S **Sn** **22 28 06.0 -2.4**
comp=N,0.3nm,0.2s,SNR=7.9
EQES Quesada 11.94 81 P **Pn** **22 25 57.1 +2.0**
comp=N,0.2nm,0.1s,SNR=7.9
EQES S **Sn** **22 28 06.0 -2.4**
comp=N,0.3nm,0.2s,SNR=7.9
ETOR Torete 13.05 68 P **Pn** **22 26 12.5 +2.2**
comp=N,1.5nm,0.2s,SNR=4.0
ETOR S **Sn** **22 28 33.4 -2.2**
comp=N,2.9nm,0.2s,SNR=7.9
ETOR Torete 13.05 68 P **Pn** **22 26 12.5 +2.2**
comp=N,1.5nm,0.2s,SNR=4.0
ETOR S **Sn** **22 28 33.4 -2.2**
comp=N,2.9nm,0.2s,SNR=7.9
ETOB Tobarra 13.16 77 P **Pn** **22 26 12.4 +0.7**
comp=N,0.2nm,0.2s,SNR=4.0
ETOB S **Sn** **22 28 38.0 -0.1**
comp=N,0.4nm,0.3s,SNR=4.0
ETOB Tobarra 13.16 77 P **Pn** **22 26 12.4 +0.7**
comp=N,0.2nm,0.2s,SNR=4.0
ETOB S **Sn** **22 28 38.0 -0.1**
comp=N,0.4nm,0.3s,SNR=4.0
EARA Aranguren 13.93 60 P **P** **22 26 29.8 -0.7**
comp=N,0.7nm,0.2s,SNR=7.9
EARA Aranguren 13.93 60 P **P** **22 26 29.8 -0.7**
comp=N,0.7nm,0.2s,SNR=7.9
ELIZ Elizondo 14.10 58 P **Pn** **22 26 27.0 +2.4**
comp=N,1.1nm,0.1s,SNR=7.9
EMOS Mosqueruela 14.15 70 S **Sn** **22 28 58.6 -4.0**
comp=N,0.2nm,0.1s,SNR=4.0
IELO Elcoad 14.20 60 S Sn 22 28 56.2 -7.3
comp=N,0.2nm,0.2s,SNR=4.0

IDC 19 22:41:14.2±5.0,36°.26S×72°.07W,h34km±39km,mb3.3/4,
mb1 3.5/6,mb1mx3.4/18,mbtmp3.4/6,ML3.1/2,MS1.7/1,
Ms1 1.7/1,ms1mx1.7/13,Error ellipse: s-maj=53.0km
s-min=18.0km az=97.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.62**	**165**	Pn	Pn	22 42 23.8	+2.1
	0.3nm,0.3s,baz=328,slow=13,SNR=6.5						
PLCA				Lg	Lg	22 43 39.8	
	1.0nm,0.3s,baz=211,slow=8.1,SNR=4.8						
CFAA	**Coronel Fontan**	**5.63**	**36**	Pn	Pn	22 42 37.7	+2.1
	0.2nm,0.3s,baz=214,slow=17,SNR=13						
CFAA				Lg	Lg	22 44 12.6	
	0.2nm,0.3s,baz=92,slow=18,SNR=3.7						
CFAA				LR	LR	22 44 54.4	
	comp=Z,6.6nm,20.2s,baz=230,slow=39						
LPAZ	**La Paz**	**20.20**	**11**	P	P	22 45 46.2	-0.6
	0.8nm,0.5s,baz=192,slow=11,SNR=5.2						
SIV	**San Ignacio**	**22.44**	**29**	P	P	22 46 10.4	+0.1
	2.1nm,0.9s,baz=207,slow=11,SNR=4.8						
TXAR	**Lajitas Array**	**71.69**	**331**	P	P	22 52 32.8	+0.1
	0.2nm,0.6s,baz=163,slow=9.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**85.01**	**70**	P	P	22 53 45.9	-0.6
	1.0nm,1.2s,baz=222,slow=3.9,SNR=2.6						

IDC 19 22:47:37.2±1.1,1°.25N×127°.16E,h0km,mb3.9/5,
mb1 4.1/5,mb1mx3.6/32,mbtmp4.0/5,Error ellipse:
s-maj=93.9km s-min=18.9km az=62.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.21**	**162**	P	P	22 52 34.5	-0.9
	2.9nm,0.4s,baz=340,slow=11,SNR=74						
ASAR	**Alice Springs**	**25.62**	**166**	P	P	22 53 09.6	+1.0
	0.8nm,0.3s,baz=345,slow=11,SNR=15						
CTA	**Charters Tower**	**28.29**	**140**	P	P	22 53 32.3	-0.4
	2.8nm,0.5s,baz=304,slow=3.6,SNR=2.7						
MKAR	**Makanchi Array**	**59.83**	**326**	P	P	22 57 44.8	+0.3
	0.4nm,0.4s,baz=121,slow=8.2,SNR=13						
KURBB	**Kurchatov Arra**	**64.05**	**328**	P	P	22 58 12.3	-0.5
	0.3nm,0.3s,baz=130,slow=6.5,SNR=4.3						

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*IDC **19** 22:51:10.3±0.7,36°.36S×73°.45W,h0km,mb4.3/11,*
mb1 4.4/13,mb1mx4.3/19,mbtmp4.3/13,ML3.9/2,MS3.9/10,
Ms1 3.9/10,ms1mx3.6/23,Error ellipse: s-maj=22.1km
s-min=15.2km az=87.0
*ISCJB **19** 22:51:13.0±0.5,36°.31S±0°.05×73°.3W±0°.1,h27km,*
mb4.5/21,MS4.0/8,Error ellipse: s-maj=13.4km
s-min=7.6km az=170.9

*NEIC **19** 22:51:15.7±0.4,36°.32S×73°.33W,h35km,mb4.6/12,Error*
ellipse: s-maj=11.2km s-min=6.7km az=82.0
ISC 19 22:51:14.5±0.6,36°.33S±0°.07×73°.5W±0°.1,h27km,n48,
σ19°00/55,mb4.6/21,MS4.0/8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.95**	**154**	Pn	Pn	22 52 27.6	+0.5
	2.2nm,0.3s,baz=326,slow=11,SNR=20						
PLCA				Lg	Lg	22 53 46.9	
	12nm,0.3s,baz=244,slow=22,SNR=5.2						
PLCA				LR	LR	22 54 18.1	
	comp=Z,677nm,19.8s,baz=304,slow=38						
PLCA	**Paso Flores**	**4.95**	**154**	*e*Pn	Pn	22 52 24.7	-2.3
PLCA				Lg	Lg	22 53 46.9	
CFAA	**Coronel Fontan**	**6.40**	**44**	Pn	Pn	22 52 47.0	0.0
	0.7nm,0.3s,baz=217,slow=13,SNR=20						
CFAA				Lg	Lg	22 54 37.9	
	0.4nm,0.3s,baz=126,slow=17,SNR=6.1						
CFAA				LR	LR	22 55 38.1	
	comp=Z,135nm,20.6s,baz=228,slow=42						
LCO	**Las Campanas**	**7.66**	**18**	*e*Pn	Pn	22 53 02.2	-2.3
TRQA	**Tornquist**	**9.31**	**104**	*e*Pn	Pn	22 53 27.6	+0.6
LVC	**Limon Verde**	**14.23**	**17**	*e*Pn	Pn	22 54 33.1	-1.4
EFI	**East Falkland**	**18.85**	**149**	*e*P	P	22 55 31.6	-0.6
	26nm,0.8s						
LPAZ	**La Paz**	**20.52**	**15**	P	P	22 55 52.0	+0.7
	6.1nm,0.7s,baz=152,slow=6.9,SNR=18						
LPAZ	**La Paz**	**20.52**	**15**	*e*P	P	22 55 51.6	+0.3
	11nm,1.0s						
SIV	**San Ignacio**	**23.06**	**32**	P	P	22 56 17.0	-0.9
	12nm,0.8s,baz=222,slow=12,SNR=34						
SIV				LR	LR	23 07 07.8	
	comp=Z,558nm,19.0s,baz=230,slow=42						
PMSA	**Palmer Station**	**29.03**	**172**	LR	LR	23 09 21.3	
	comp=Z,196nm,18.1s,baz=324,slow=38						
BDFB	**Brasilia**	**30.62**	**54**	P	P	22 57 26.0	-0.5
	5.5nm,0.9s,baz=232,slow=4.1,SNR=6.8						
BDFB				LR	LR	23 10 52.9	
	comp=Z,499nm,18.1s,baz=225,slow=39						
RPN	**Rapa Nui**	**31.72**	**277**	LR	LR	23 06 46.2	
	comp=Z,287nm,18.4s,baz=114,slow=30						
PTGA	**Pitinga**	**37.57**	**22**	*e*P	P	22 58 26.0	-0.7
	9.0nm,0.9s						
SDV	**Santo Domingo**	**45.05**	**4**	*e*P	P	22 59 28.5	+0.2
	8.4nm,0.8s						
RCBR	**Riachuelo**	**45.86**	**58**	*e*P	P	22 59 34.8	+0.2
	3.0nm,0.6s						
VNA3	**Neumayer Olymp**	**47.66**	**157**	P	P	22 59 48.2	+0.2
VNA2	**Neumayer--Watz**	**48.33**	**156**	P	P	22 59 53.9	+0.7
SNAA	**Sanae**	**49.88**	**157**	P	P	23 00 05.5	+0.4
SNAA	**Sanae**	**49.88**	**157**	*e*P	P	23 00 04.8	-0.3
	12nm,1.0s						
QSPA	**South Pole Qui**	**53.91**	**180**	P	P	23 00 35.6	+0.4
	4.6nm,0.9s,baz=135,slow=5.5,SNR=8.7						
PPT	**Papeete**	**68.80**	**263**	LR	LR	23 24 15.5	
	comp=Z,170nm,18.7s,baz=154,slow=29						
TXAR	**Lajitas Array**	**71.23**	**332**	P	P	23 02 31.5	+0.3
	1.0nm,0.9s,baz=148,slow=8.5,SNR=7.2						
WVT	**Waverly**	**73.32**	**348**	*e*P	P	23 02 43.0	-0.4
	4.7nm,0.9s						
LIC	**Lamto**	**76.60**	**72**	*e*P	P	23 03 03.1	+0.2
	20nm,0.9s						
TIC	**Toumodi**	**76.88**	**72**	*e*P	P	23 03 04.6	+0.1
	3.7nm,0.2s						
KIC	**Kosan Boka**	**76.91**	**72**	*e*P	P	23 03 05.0	+0.4
	19nm,0.8s						
DBIC	**Dimbokro**	**77.02**	**72**	P	P	23 03 05.6	+0.4
	7.5nm,0.8s,baz=220,slow=7.8,SNR=12						
DBIC				LR	LR	23 33 17.9	
	comp=Z,82nm,20.6s,baz=196,slow=33						
DBIC	**Dimbokro**	**77.02**	**72**	*e*P	P	23 03 05.6	+0.4
	6.9nm,0.9s						
ANMO	**Albuquerque**	**77.30**	**333**	*e*P	P	23 03 08.3	+1.8
	3.2nm,1.3s						
BOSA	**Boshof**	**80.01**	**118**	P	P	23 03 20.7	-1.1
	6.1nm,0.9s,baz=255,slow=5.6,SNR=6.8						
BOSA				LR	LR	23 35 20.0	
	comp=Z,46nm,18.0s,baz=171,slow=33						
BOSA	**Boshof**	**80.01**	**118**	*e*P	P	23 03 20.9	-0.8
	5.0nm,0.8s						
LBTB	**Lobatse**	**82.37**	**115**	*e*P	P	23 03 34.5	+0.2
	5.7nm,0.8s						
ECSD	**EROS Data Cent**	**82.43**	**343**	*e*P	P	23 03 33.7	-0.2
	5.1nm,0.7s						
NVAR	**Mina Array Bea**	**85.15**	**326**	P	P	23 03 47.4	-0.9
	0.4nm,0.5s,baz=139,slow=5.1,SNR=3.6						
PDAR	**Pinedale Array**	**85.33**	**334**	P	P	23 03 49.9	+0.9
	0.6nm,0.8s,baz=130,slow=3.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**86.08**	**71**	P	P	23 03 52.8	-0.4
	2.8nm,0.9s,baz=248,slow=3.8,SNR=16						
TORD				LR	LR	23 41 42.9	
	comp=Z,75nm,18.3s,baz=235,slow=35						
ULM	**Lac du Bonnet**	**88.46**	**346**	P	P	23 04 04.0	+0.3
	3.0nm,0.8s,baz=165,slow=6.1,SNR=6.2						
BRTR	**Keskin Array B**	**123.95**	**63**	PKP	**PKPdf**	23 10 10.4	+0.3
	0.6nm,0.8s,baz=153,slow=0.6,SNR=4.8						
HYB	**Hyderabad**	**148.89**	**120**	*i* PKP	**PKPbc**	23 10 59.0	-1.2
BVAR	**Borovoye Array**	**149.76**	**45**	PKPbc	**PKPbc**	23 11 01.8	+0.6
	1.5nm,0.7s,baz=284,slow=4.5,SNR=13						
AAK	**Ala-Archa**	**154.57**	**66**	PKP	**PKPdf**	23 11 04.1	-0.1
	0.5nm,0.6s,baz=18,slow=3.2,SNR=2.8						
AAK				PKPbc	**PKiKP**	23 11 13.1	+0.4
	1.7nm,0.8s,baz=158,slow=4.5,SNR=6.8						
AAK	**Ala-Archa**	**154.57**	**66**	*e*PKPdf	**PKPdf**	23 11 03.9	-0.4
AAK				PKP	**PKPdf**	23 11 04.1	-0.1
AAK				PKPbc	**PKiKP**	23 11 13.1	+0.4
AAK				*e*PKPbc	**PKPbc**	23 11 13.3	+0.7
AAK				*e*PKPab	**PKPab**	23 11 27.4	0.0
KURBB	**Kurchatov Arra**	**155.34**	**46**	PKP	**PKPdf**	23 11 04.2	-0.5
	0.4nm,0.7s,baz=297,slow=1.9,SNR=4.5						
KURBB				PKPab	**PKPab**	23 11 30.4	+0.2
	0.8nm,0.8s,baz=294,slow=4.4,SNR=6.8						
KURK	**Kurchatov**	**155.35**	**46**	PKP	**PKPdf**	23 11 04.2	-0.5
KURK				PKPab	**PKPab**	23 11 30.4	+0.2
ZALV	**Zalesovo Beam**	**156.81**	**34**	PKP	**PKPdf**	23 11 06.1	-0.5
	1.0nm,0.7s,baz=280,slow=2.7,SNR=7.2						
ZALV				PKPab	**PKPab**	23 11 35.7	-0.7
	2.0nm,0.8s,baz=294,slow=4.7,SNR=8.6						
MKAR	**Makanchi Array**	**159.13**	**52**	PKP	**PKPdf**	23 11 10.2	+0.5
	0.8nm,0.8s,baz=302,slow=2.3,SNR=9.0						
MKAR				PKPab	**PKPab**	23 11 45.6	-1.1
	0.7nm,0.8s,baz=309,slow=2.5,SNR=3.7						
MKAR				PP	**PP**	23 15 32.8	+4.6
	0.4nm,0.9s,baz=8.5,slow=2.5,SNR=3.7						
SONM	**Songino Array**	**168.50**	**1**	PKPab	**PKPab**	23 12 28.8	+1.0
	0.8nm,0.8s,baz=348,slow=3.0,SNR=7.5						

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*ISCJB **19** 22:53:41.1±1.1,14°.66S±0°.07×167°.9E±0°.2,h30km,*
mb4.0/7,MS3.4/1,Error ellipse: s-maj=29.3km
s-min=10.3km az=4.2
*IDC **19** 22:53:44.9±6.6,14°.67S×167°.85E,h48km±68km,mb3.8/7,*
mb1 3.9/8,mb1mx3.7/20,mbtmp4.0/8,ML3.9/1,MS3.5/1,
Ms1 3.5/1,ms1mx2.8/27,Error ellipse: s-maj=54.9km
s-min=33.0km az=160.0
ISC 19 22:53:42.5±1.2,14°.65S±0°.1×167°.9E±0°.2,h30km,n10,
σ0°86/10,mb4.0/6,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.58**	**190**	P	Pn	22 55 31.1	0.0
	1.7nm,0.3s,baz=306,slow=24,SNR=13						
DZM				S	**Sn**	22 56 56.3	+0.1
	2.6nm,0.3s,baz=345,slow=20,SNR=3.8						
CTA	**Charters Tower**	**21.36**	**252**	P	P	22 58 29.2	+1.6
	5.4nm,0.8s,baz=76,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**32.45**	**256**	P	P	23 00 09.2	-1.2
	0.4nm,0.5s,baz=85,slow=9.4,SNR=8.0						
ASAR	**Alice Springs**	**33.29**	**249**	P	P	23 00 17.2	-0.6
	1.0nm,0.4s,baz=75,slow=9.3,SNR=20						
ASAR				LR	LR	23 12 27.9	
	comp=Z,75nm,18.8s,baz=128,slow=34						
SONM	**Songino Array**	**82.73**	**323**	P	P	23 06 04.3	+0.6
	0.4nm,0.4s,baz=141,slow=4.8,SNR=7.9						
ILAR	**Eielson Array**	**86.19**	**18**	P	P	23 06 20.8	+0.2
	0.7nm,0.9s,baz=236,slow=4.7,SNR=5.2						
MKAR	**Makanchi Array**	**97.51**	**316**	P	Pd

*DDA **19** 23:02:14.9, 38.′02N×35.′20E, h7km, MD2.8*
*ISK **19** 23:02:14.0, 38.′02N×35.′23E, h7km, MD2.7*
CSEM 19 23:02:14.6±0.2, 38.′02N×35.′21E, h10km, MD2.7, Error ellipse: s-maj=3.5km s-min=3.1km az=172.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIG	**Nigde**	**0.48**	**280**	*e*PG	Pg	23 02 23.9	-0.5
NIG				*e*SG	Sg	23 02 31.3	+0.3
NIG	**Nigde**	**0.48**	**280**	*e*Pg	Pg	23 02 24.0	-0.4
NIG				*e*Sg	Sg	23 02 31.3	+0.3
KOZT	**Kozan**	**0.73**	**138**	*e*PG	Pg	23 02 28.4	-0.3
KOZT				*e*SG	Sg	23 02 38.3	0.0
KOZT	**Kozan**	**0.73**	**138**	*e*Pg	Pg	23 02 28.4	-0.3
KOZT				*e*Sg	Sg	23 02 38.3	0.0
KARA	**Karaisali**	**0.77**	**189**	*e*PG	Pg	23 02 29.3	-0.3
KARA	**Karaisali**	**0.77**	**189**	*e*Pg	Pg	23 02 29.3	-0.3
GULE	**Gulek**	**0.82**	**205**	*i* P	Pg	23 02 30.6	0.0
GULE				*i* S	Sb	23 02 42.0	-0.4
GULE	**Gulek**	**0.82**	**205**	*i* P	Pg	23 02 30.6	0.0
GULE				*i* S	Sb	23 02 42.0	-0.3
BNN	**Bunyan**	**0.96**	**31**	*e*PG	Pg	23 02 32.7	-0.7
BNN				*e*SG	Sb	23 02 47.0	+0.4
BNN	**Bunyan**	**0.96**	**31**	*e*Pg	Pg	23 02 32.7	-0.7
BNN				*e*Sg	Sb	23 02 47.0	+0.4
ANDN	**Andirin**	**1.00**	**116**	*i* P	Pg	23 02 34.0	0.0
ANDN				*i* S	Sn	23 02 48.7	-0.5
ANDN	**Andirin**	**1.00**	**116**	*i* P	Pg	23 02 34.0	-0.1
ANDN				*i* S	Sn	23 02 48.7	-0.5
CEYT	**Ceyhan**	**1.10**	**157**	*e*PN	Pb	23 02 35.1	-0.5
CEYT	**Ceyhan**	**1.10**	**157**	*e*Pn	Pb	23 02 35.2	-0.5
MERS	**Mersin**	**1.28**	**206**	*e*PN	Pb	23 02 38.8	-0.1
MERS	**Mersin**	**1.28**	**206**	*e*Pn	Pb	23 02 38.8	-0.1
SULT	**Sultanhani-AKS**	**1.35**	**278**	*e*PN	Pb	23 02 40.1	0.0
SULT	**Sultanhani-AKS**	**1.35**	**278**	*e*Pn	Pb	23 02 40.1	0.0
KMRS	**Kahramanmaras**	**1.44**	**111**	*e*PN	Pn	23 02 40.8	+0.1
KMRS	**Kahramanmaras**	**1.44**	**111**	*e*Pn	Pn	23 02 40.8	+0.1
DARE	**Darende-Malaty**	**1.87**	**72**	*e*PN	Pn	23 02 47.0	+0.2
DARE	**Darende-Malaty**	**1.87**	**72**	*e*Pn	Pn	23 02 47.0	+0.2

*NEIC **19** 23:10:39.7, 40.′60N×124.′76W, h21km, MW3.7(BRK), After NCEDC.*
NEIC Felt at Eureka, Ferndale and Kneeland.
ISC 19 23:10:38.9±2.6, 40.′62N±0.′06×124.′7W±0.′1, h26km±18km, n19, σ1§02/24, 6C-4D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**0.80**	**71**	*e*Pb	**Pb**	**23 10 54.1**	**-0.3**
KIPM	**Iron Peak**	**1.25**	**130**	*e*Pn	**Pn**	**23 11 00.9**	**0.0**
KCPM	**Cahto Peak**	**1.28**	**136**	*e*Pn	**Pn**	**23 11 00.9**	**-0.4**
N02D	**Trinity Center**	**1.58**	**76**	P	**Pn**	**23 11 05.3**	**0.0**
	baz=1.6,SNR=172						
N02D				⇑S	**Sn**	**23 11 24.0**	**-1.0**
	baz=1.6						
M02C	**Callahan**	**1.62**	**61**	P	**Pn**	**23 11 05.6**	**-0.3**
	baz=1.6,SNR=55						
M02C				⇓S	**Sn**	**23 11 24.3**	**-1.6**
	baz=1.6						
KBO	**Bosley Butte**	**1.64**	**13**	*e*Pn	**Pn**	**23 11 05.3**	**-0.8**
WDC	**Whiskeytown Da**	**1.67**	**91**	*e*Pn	**Pn**	**23 11 06.3**	**-0.2**
L02D	**Cave Junction,**	**1.76**	**29**	⇓P	**Pn**	**23 11 07.7**	**0.0**
	baz=1.8,SNR=14						
L02D				⇓S	**Sn**	**23 11 28.6**	**-0.7**
	baz=1.8						
YBH	**Yreka Blue Hor**	**1.89**	**53**	*e*Pn	**Pn**	**23 11 09.6**	**0.0**
YBH				*e*Sn	**Sn**	**23 11 33.6**	**+1.0**
HOPS	**Hopland Field**	**2.07**	**141**	*e*Pg	Pb	23 11 21.5	+5.8
HUMO	**Hull Mountain**	**2.39**	**33**	*e*Pn	**Pn**	**23 11 16.6**	**+0.1**
HUMO				*e*Sn	**Sn**	**23 11 44.7**	**-0.3**
M04C	**Macdoel**	**2.47**	**61**	⇑P	**Pn**	**23 11 18.3**	**+0.6**
	baz=2.5,SNR=13						
K04D	**Chiloquin, OR**	**3.00**	**47**	⇑P	**Pn**	**23 11 25.9**	**+1.0**
	baz=3.0						
K04D				⇑S	**Sn**	**23 11 59.8**	**-0.3**
	baz=3.0						
I03D	**Drain, OR**	**3.25**	**18**	⇑S	**Sn**	**23 12 05.3**	**-0.6**
	baz=3.3						
MOD	**Modoc Plateau**	**3.58**	**68**	*e*Pn	**Pn**	**23 11 32.5**	**-0.4**
I04A	**Tendick Farm,**	**3.61**	**28**	⇑S	**Sn**	**23 12 14.8**	**-0.2**
	baz=3.6						
J05D	**Fort Rock, OR**	**3.73**	**43**	⇓P	**Pn**	**23 11 36.6**	**+1.6**
	baz=3.8,SNR=18						
PINOR	**Pine Mountain**	**4.29**	**41**	*e*Pn	**Pn**	**23 11 45.0**	**+2.5**
WAKR	**Walker**	**4.61**	**116**	*e*Pn	**Pn**	**23 11 49.0**	**+1.9**

*ISCJB **19** 23:23:12.0±0.5, 21.′42N±0.′04×100.′00E±0.′04, h10km, mb3.7/11, Error ellipse: s-maj=6.0km s-min=5.1km az=5.9*
*IDC **19** 23:23:12.4±0.8, 21.′54N×100.′06E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.7/27, mbtmp3.7/11, ML4.2/1, MS2.6/1, Ms1 2.8/1, ms1mx2.5/38, Error ellipse: s-maj=26.2km s-min=13.2km az=88.0*
*BJI **19** 23:23:15.6, 21.′39N×99.′82E, h10km, mb3.6/1, ML4.2/4, Ms3.4/2, Ms7 3.4/2*
*PLV **19** 23:23:18.6±1.5, 21.′55N×100.′21E, h17km±10km, ML3.6*
ISC 19 23:23:13.9±0.7, 21.′42N±0.′05×99.′95E±0.′05, h10km, n21, σ1§41/28, mb3.8/11, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**2.87**	**90**	*e*Pn	**Pn**	**23 24 00.0**	**+0.2**
DBV				*e*Pg	**Pg**	**23 24 09.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**3.09**	**198**	Pn	**Pn**	**23 24 03.9**	**+1.1**
	6.7nm,0.3s,baz=10,slow=14,SNR=31						
CMAR				Pg	**Pg**	**23 24 12.9**	**-0.2**
	18nm,0.3s,baz=12,slow=18,SNR=65						
CMAR				Lg	Lg	23 24 54.7	
	33nm,0.3s,baz=357,slow=16,SNR=6.2						
CMAR				LR	LR	23 24 57.4	
	comp=Z,88nm,19.0s,baz=214,slow=32						
TGV	**Tuan Giao**	**3.24**	**86**	*e*Pn	**Pn**	**23 24 04.8**	**0.0**
TGV				*e*Pg	**Pg**	**23 24 16.1**	**+0.2**
TTVN	**Tram Tau**	**4.11**	**88**	*e*Pn	**Pn**	**23 24 17.6**	**+0.8**
TTVN				*e*Sg	**Sg**	**23 25 24.9**	**-1.0**
TTVN				AML	AML	23 25 47.8	
	comp=N,96nm,0.7s						
MCVV	**Moc Chau**	**4.43**	**97**	*e*Pg	**Pg**	**23 24 40.4**	**+1.5**
KMI	**Kunming**	**4.50**	**34**	Pg	**Pg**	**23 24 40.5**	**+0.4**
KMI				Sg	**Sg**	**23 25 41.6**	**+3.2**
KMI				SMN			
	comp=N,68nm,0.9s						
KMI				SME			
	comp=N,74nm,1.2s						
KMI				LN			
	comp=N,310nm,10.2s						
KMI				LE			
	comp=N,470nm,9.5s						
KMI				LZ			
	comp=N,390nm,7.6s						
HGVB	**Ha Giang**	**4.89**	**72**	*e*Pg	**Pg**	**23 24 46.7**	**-0.8**
HGVB				*e*Sg	**Sg**	**23 25 47.8**	**-3.0**
CCVB	**Con Cuong**	**5.19**	**116**	*e*Pg	**Pg**	**23 24 55.0**	**+1.6**
CCVB				*e*Sg	**Sg**	**23 26 01.4**	**+0.7**
GTA	**Gaotai**	**17.94**	**360**	*e*P	**P**	**23 27 27.6**	**+3.4**
GTA				pP	pP	23 27 34.1	+7.1
GTA				sP	sP	23 27 37.0	+8.7
GTA				PMZ			
	comp=N,4.0nm,1.4s						
HHC	**Hu-ho-hao-te**	**21.74**	**24**	*e*P	**P**	**23 28 05.0**	**-0.5**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,210nm,6.3s						
SONM	**Songino Array**	**26.87**	**10**	P	**P**	**23 28 53.4**	**-1.5**
	comp=Z,1.0nm,1.0s,baz=203,slow=10.0,SNR=6.6						
KSH	**Kashi**	**27.30**	**317**	*e*P	**P**	**23 28 58.0**	**-0.8**
MKAR	**Makanchi Array**	**29.10**	**335**	P	**P**	**23 29 15.2**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=140,slow=10,SNR=14						
AAK	**Ala-Archa**	**30.02**	**321**	P	**P**	**23 29 22.8**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=136,slow=2.8,SNR=5.5						
ZALV	**Zalesovo Beam**	**34.46**	**344**	P	**P**	**23 30 01.9**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=169,slow=8.9,SNR=5.6						
WRA	**Warramunga Arr**	**53.11**	**138**	P	**P**	**23 32 31.9**	**0.0**
	comp=Z,0.8nm,0.6s,baz=324,slow=7.3,SNR=9.7						
ASAR	**Alice Springs**	**55.68**	**142**	P	**P**	**23 32 51.5**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=322,slow=7.3,SNR=12						
GERES	**GERESS Array B**	**71.77**	**316**	P	**P**	**23 34 36.1**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=76,slow=8.2,SNR=3.5						
ILAR	**Eielson Array**	**80.16**	**24**	P	**P**	**23 35 22.4**	**-1.7**
	comp=Z,0.1nm,0.4s,baz=285,slow=4.5,SNR=4.3						

YKA	**Yellowknife Ar**	**92.00**	**15**	P	**P**	**23 36 22.1**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=332,slow=5.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**92.77**	**285**	P	**P**	**23 36 26.3**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=27,slow=5.1,SNR=2.6						

*IDC **19** 23:35:35.8±0.8, 50.′20N×91.′07E, h0km, mb3.7/6, mb1 3.7/11, mb1mx3.5/34, mbtmp3.6/11, ML3.1/5, MS3.7/1, Ms1 3.7/1, ms1mx2.5/39, Error ellipse: s-maj=18.5km s-min=11.7km az=7.0*
*MOS **19** 23:35:36.0±2.1, 49.′96N×90.′98E, h13km, mb4.0/4, Error ellipse: s-maj=17.6km s-min=10.7km az=129.0*
*NNC **19** 23:35:37.1±7.4, 50.′83N×90.′85E, h0km, mb4.3, mpv4.7, Error ellipse: s-maj=55.2km s-min=48.4km az=63.0*
*ASRS **19** 23:35:39.3±1.2, 50.′24N×90.′86E, h15km, Ms3.0/6*
ISC 19 23:35:38.5±0.7, 50.′33N±0.′06×90.′89E±0.′04, h17km, n38, σ1§32/39, mb3.6/6, 4C-4D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**2.10**	**271**	*e*PN	**Pb**	**23 36 16.2**	**+0.1**
AKAR				*e*		23 36 44.1	
AKAR	**Aktash**	**2.10**	**271**	*e*Pg	**Pb**	**23 36 16.2**	**+0.1**
AKAR				*e*Sg	**Sg**	**23 36 44.1**	**-1.8**
CERR	**Cheremushki**	**2.55**	**7**	*i* PN	**Pg**	**23 36 27.1**	**-0.2**
CERR				*i*		23 37 01.9	
CERR	**Cheremushki**	**2.55**	**7**	*i* Pg	**Pg**	**23 36 27.1**	**-0.2**
CERR				*i* Sg	**Sg**	**23 37 01.9**	**+1.6**
ARTR	**Artybash**	**2.71**	**304**	*e*PN	**Pb**	**23 36 25.8**	**-0.7**
ARTR				*e*		23 36 31.0	
ARTR				*e*		23 37 04.7	
ARTR	**Artybash**	**2.71**	**304**	*e*Pn	**Pb**	**23 36 25.8**	**-0.7**
ARTR				*e*Pg	**Pg**	**23 36 31.0**	**+0.6**
ARTR				*e*Sg	**Sg**	**23 37 04.7**	**-0.8**
TASR	**Tashtagol**	**3.07**	**323**	*e*PN	**Pg**	**23 36 37.3**	**0.0**
TASR				*e*		23 37 17.6	
TASR	**Tashtagol**	**3.07**	**323**	*e*Pg	**Pg**	**23 36 37.3**	**0.0**
TASR				*e*Sg	**Sg**	**23 37 17.6**	**+0.4**
ELT	**Yel'tsovka**	**4.12**	**317**	*e*PN	Pn	23 36 44.4	+3.9
ELT				*e*		23 36 55.0	
ELT				*e*		23 37 47.1	
ELT	**Yel'tsovka**	**4.12**	**317**	*e*Pn	Pn	23 36 44.4	+3.9
ELT				*e*Pg	**Pg**	**23 36 55.0**	**-2.3**
ELT				*e*Sn	**Sn**	**23 37 29.7**	**+1.5**
ELT				*e*Sg	**Sg**	**23 37 47.1**	**-3.4**
ZALV	**Zalesovo Beam**	**5.21**	**316**	Pn	Pn	23 36 58.5	+3.0
	1.1nm,0.3s,baz=139,slow=13,SNR=23						
ZALV				Lg	Lg	23 38 25.9	
	4.8nm,0.3s,baz=128,slow=21,SNR=7.8						
NVS	**Novosibirsk**	**6.49**	**317**	*e*PN	Pg	23 37 37.9	-4.7
NVS				*e*		23 39 05.1	
NVS	**Novosibirsk**	**6.49**	**317**	*e*Pg	Pg	23 37 37.9	-4.7
NVS				*e*Sg	**Sg**	**23 39 05.1**	**-1.5**
MK31	**Makanchi Array**	**6.71**	**241**	Pn	**Pn**	**23 37 17.1**	**+0.8**
	2.8nm,0.6s,baz=57,slow=13,SNR=56						
MK31				Pg	Pg	23 37 40.5	-6.4
	16nm,0.7s,baz=68,slow=19,SNR=21						
MK31				⇑Sn	Sb	23 38 44.2	-10
	8.9nm,0.5s						
MK31				⇓Lg	Lg	23 39 14.3	
	3.5nm,0.4s,baz=71,slow=29,SNR=6.0						
MKAR	**Makanchi Array**	**6.71**	**241**	Pn	**Pn**	**23 37 17.2**	**+0.9**
	0.6nm,0.3s,baz=43,slow=14,SNR=33						
MKAR				Lg	Lg	23 39 10.1	
	5.2nm,0.3s,baz=64,slow=26,SNR=9.8						
KURK	**Kurchatov**	**7.83**	**278**	⇑Pn	**Pn**	**23 37 33.5**	**+1.9**
	1μm,0.1s						
KURK				⇑Sn	**Sn**	**23 38 59.5**	**-0.2**
	4.7nm,0.9s						
KURK				⇑Lg	Lg	23 39 44.1	
	22nm,0.8s						
KURK	**Kurchatov**	**7.83**	**278**	P	**Pn**	**23 37 33.4**	**+1.9**
KURBB	**Kurchatov Arra**	**7.89**	**277**	⇓Pn	**Pn**	**23 37 33.3**	**+1.0**
	2.4nm,0.5s						
KURBB				⇓Sn	**Sn**	**23 39 01.0**	**-0.2**
	12nm,0.6s						
KURBB				⇓Lg	Lg	23 39 44.1	
	60nm,0.6s						
KURBB	**Kurchatov Arra**	**7.89**	**277**	Pn	**Pn**	**23 37 33.4**	**+1.0**
	0.2nm,0.3s,baz=92,slow=14,SNR=26						
KURBB				Lg	Lg	23 39 46.3	
	0.4nm,0.3s,baz=83,slow=35,SNR=7.7						
ZAK	**Zakamensk**	**7.93**	**85**	*e*P	Pn	23 37 39.7	+6.8
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TLY	**Talaya**	**8.16**	**76**	Lg	Lg	23 39 52.1	
	comp=Z,0.0nm,0.3s,baz=2.8,slow=13,SNR=3.3						
SONM	**Songino Array**	**10.47**	**98**	P	**Pn**	**23 38 07.0**	**-0.9**
SONM	**Songino Array**	**10.47**	**98**	Pn	**Pn**	**23 38 07.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=289,slow=15,SNR=16						
SONM				Pg		23 38 44.9	
	comp=Z,0.1nm,0.3s,baz=293,slow=18,SNR=4.2						
SONM				Lg	Lg	23 41 05.4	
	comp=Z,0.4nm,0.3s,baz=296,slow=28,SNR=8.6						
BVAR	**Borovoye Array**	**13.00**	**290**	Pn	**Pn**	**23 38 42.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=153,slow=1.0,SNR=3.2						
AAK	**Ala-Archa**	**13.65**	**242**	Lg	Lg	23 42 48.4	
	comp=Z,0.1nm,0.3s,baz=306,slow=23,SNR=4.1						
BOD	**Bodaibo**	**15.44**	**52**	*e*P	**Pn**	**23 39 13.0**	**-2.2**
AKTO	**Aktyubinsk**	**20.87**	**283**	P	Pn	23 40 23.8	+1.7
	comp=Z,0.9nm,0.6s,baz=90,slow=9.4,SNR=4.7						
MJAR	**Mushiro Arr**	**36.39**	**94**	LR	LR	23 57 31.5	
	comp=Z,112nm,20.6s,baz=190,slow=36						
FINES	**FINESS Array B**	**36.46**	**313**	P	**P**	**23 42 43.6**	**+1.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**36.46**	**313**	P	**P**	**23 42 43.6**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=54,slow=2.4,SNR=2.9						
BRTR	**Keskin Array B**	**40.89**	**278**	P	**P**	**23 43 21.6**	**+2.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**40.89**	**278**	P	**P**	**23 43 21.6**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=88,slow=5.4,SNR=4.3						
HFS	**Hagfors**	**42.64**	**314**	P	**P**	**23 43 33.6**	**+0.1**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HFS	**Hagfors**	**42.64**	**314**	P	**P**	**23 43 33.6**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=70,slow=1.7,SNR=4.4						
ILAR	**Eielson Array**	**56.83**	**26**	P	**P**	**23 45 21.7**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=317,slow=3.8,SNR=4.5						
WRA	**Warramunga Arr**	**79.78**	**139**	P	**P**	**23 47 44.4**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**79.78**	**139**	P	**P**	**23 47 44.4**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=341,slow=5.8,SNR=6.8						
ASAR	**Alice Springs**	**82.92**	**141**	P	**P**	**23 48 01.2**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=335,slow=5.3,SNR=8.4						

*IDC **19** 23:35:53.3±0.6, 56.′21S×26.′89W, h0km, mb4.5/6, mb1 4.5/7, mb1mx4.1/28, mbtmp4.3/7, ML3.9/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/18, Error ellipse: s-maj=26.4km s-min=19.1km az=74.0*
*ISCJB **19** 23:36:05.0±0.6, 56.′25S±0.′09×27.′0W±0.′1, h101km, mb4.3/9, Error ellipse: s-maj=15.8km s-min=7.1km az=37.1*
*NEIC **19** 23:36:05.3±1.9, 56.′35S×26.′89W, h96km±17km, mb4.6/6, Error ellipse: s-maj=18.5km s-min=10.4km az=224.0*
*AWI **19** 23:36:35.3, 59.′03S×26.′73W*
ISC 19 23:36:06.2±0.6, 56.′3S±0.′1×26.′97W±0.′09, h101km, n34, σ1§18/31, mb4.4/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.80**	**286**	*e*Pn	**Pn**	**23 37 29.7**	**+0.2**
HOPE				*e*Sn	**Sn**	**23 38 34.5**	**-0.1**
VNA1	**Neumayer--Stat**	**16.53**	**158**	P	**P**	**23 39 52.4**	**+0.1**
VNA3	**Neumayer Olymp**	**16.73**	**160**	P	**P**	**23 39 54.4**	**-0.2**
VNA2	**Neumayer--Watz**	**16.93**	**158**	P	**P**	**23 39 57.7**	**+1.0**
SNAA	**Sanae**	**18.48**	**156**	P	**Pn**	**23 40 18.7**	**+3.6**
SNAA	**Sanae**	**18.48**	**156**	P	**P**	**23 40 11.5**	**-2.3**
	0.4nm,0.3s,baz=341,slow=15,SNR=19						
SNAA	**Sanae**	**18.48**	**156**	*e*P	**P**	**23 40 11.7**	**-2.1**
	10nm,0.5s						
EFI	**East Falkland**	**18.76**	**271**	*e*P	**Pn**	**23 40 18.1**	**-0.4**
TRQA	**Tornquist**	**29.53**	**293**	*e*P	**P**	**23 42 00.5**	**-0.4**
QSPA	**South Pole Qui**	**33.96**	**180**	P	**P**	**23 42 39.3**	**-0.3**
	7.2nm,0.5s,baz=194,slow=2.5,SNR=81						
QSPA				LR	LR	23 55 14.5	
	comp=Z,137nm,21.4s,baz=230,slow=34						
QSPA	**South Pole Qui**	**33.96**	**180**	*e*P	**P**	**23 42 39.0**	**-0.6**
	7.9nm,0.6s						

CFAA	**Coronel Fontan**	**37.77**	**293**	P	**P**	**23 43 10.7**	**-1.5**
	0.2nm,0.3s,baz=159,slow=10,SNR=3.6						
LCO	**Las Campanas**	**41.11**	**293**	*e*P	**P**	**23 43 40.5**	**+0.2**
LVC	**Limon Verde**	**45.52**	**300**	*e*P	**P**	**23 44 16.2**	**+0.4**
	7.5nm,0.6s						
BOSA	**Boshof**	**45.91**	**75**	LR	LR	00 01 11.6	
	comp=Z,53nm,18.7s,baz=170,slow=33						
VNDA	**Vanda**	**46.34**	**183**	P	**P**	**23 44 21.3**	**0.0**
	5.5nm,0.7s,baz=184,slow=7.3,SNR=19						
VNDA	**Vanda**	**46.34**	**183**	*e*P	**P**	**23 44 19.7**	**-1.5**
	6.2nm,0.8s						
LBTB	**Lobatse**	**48.96**	**73**	P	**P**	**23 44 41.9**	**-0.4**
	1.7nm,0.8s,baz=222,slow=15,SNR=3.6						
LBTB	**Lobatse**	**48.96**	**73**	*e*P	**P**	**23 44 41.5**	**-0.8**
LPAZ	**La Paz**	**50.61**	**305**	P	**P**	**23 44 56.3**	**+0.9**
	7.8nm,0.5s,baz=131,slow=4.9,SNR=42						
LPAZ				LR	LR	00 07 02.1	
	comp=Z,20nm,21.0s,baz=148,slow=37						
LPAZ	**La Paz**	**50.61**	**305**	*e*P	**P**	**23 44 56.1**	**+0.6**
	4.3nm,0.4s						
DBIC	**Dimbokro**	**65.33**	**24**	LR	LR	00 09 30.7	
	comp=Z,33nm,19.1s,baz=136,slow=31						
OTAV	**Otavalo**	**69.89**	**304**	*e*P	**P**	**23 47 07.7**	**+1.0**
	5.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.20**	**29**	P	**P**	**23 47 26.4**	**+0.5**
	0.5nm,0.4s,baz=201,slow=6.3,SNR=20						
PPT	**Papeete**	**92.15**	**234**	LR	LR	00 25 03.8	
	comp=Z,56nm,18.6s,baz=248,slow=32						
ASAR	**Alice Springs**	**98.73**	**162**	P	**Pdif**	23 49 35.8	+1.6
	0.6nm,0.6s,baz=175,slow=3.8,SNR=11						
WRA	**Warramunga Arr**	**102.44**	**162**	P	**Pdif**	**23 49 50.0**	**-0.7**
	0.3nm,0.7s,baz=190,slow=4.0,SNR=3.2						
PDAR	**Pinedale Array**	**120.57**	**302**	PKP	**PKPdf**	**23 54 44.3**	**-1.1**
	0.2nm,0.4s,baz=82,slow=6.5,SNR=3.5						
FINES	**FINESS Array B**	**124.54**	**28**	PKP	**PKPdf**	**23 54 50.7**	**-1.3**
	0.7nm,0.5s,baz=199,slow=4.0,SNR=7.4						
ARCES	**ARCESS Array B**	**131.12**	**22**	PKP	**PKPdf**	**23 55 04.3**	**-0.1**
	1.9nm,0.8s,baz=217,slow=3.5,SNR=9.1						
YKA	**Yellowknife Ar**	**136.43**	**318**	PKP	**PKPdf**	**23 55 14.1**	**-0.4**
	0.7nm,0.6s,baz=127,slow=2.4,SNR=20						
ZALV	**Zalesovo Beam**	**142.37**	**64**	PKP	**PKPdf**	**23 55 27.1**	**+1.5**
	0.9nm,0.5s,baz=233,slow=3.6,SNR=4.3						
ILAR	**Eielson Array**	**150.36**	**311**	PKPbc	**PKPbc**	**23 55 43.8**	**-0.3**
	2.2nm,0.7s,baz=132,slow=4.6,SNR=27						
SONM	**Songino Array**	**150.62**	**87**	PKPbc	**PKPbc**	**23 55 44.8**	**-0.6**
	2.0nm,0.5s,baz=219,slow=3.6,SNR=26						

*IDC **19** 23:43:56.1±0.7, 13.′40N×145.′86E, h0km, mb4.2/24, mb1 4.4/24, mb1mx4.3/30, mbtmp4.2/24, MS3.5/6, Ms1 3.5/6, ms1mx3.1/36, Error ellipse: s-maj=21.2km s-min=16.7km az=89.0*
*ISCJB **19** 23:44:00.6±0.6, 13.′37N±0.′10×145.′8E±0.′1, h43km, mb4.2/24, MS3.4/6, Error ellipse: s-maj=19.6km s-min=13.6km az=179.7*
ISC 19 23:44:02.3±0.8, 13.′4N±0.′1×145.′8E±0.′2, h43km, n35, σ0§66/30, mb4.2/24, MS3.4/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy 21.13**	**70**		T	T	00 12 00.1	
	baz=257,slow=75,SNR=5.4						
H11N2	**WAKE ISLAND Hy 21.14**	**70**		T	T	00 11 44.8	
	baz=257,slow=75,SNR=4.2						
H11N3	**WAKE ISLAND Hy 21.15**	**70**		T	T	00 11 46.6	
	baz=257,slow=75,SNR=6.8						
JNU	**Nakatsue**	**23.92**	**328**	P	**P**	**23 49 12.6**	**+0.2**
	12nm,0.8s,baz=132,slow=7.3,SNR=4.0						
MJAR	**Matsushiro Arr**	**24.05**	**345**	P	**P**	**23 49 12.7**	**-0.7**
	1.7nm,0.4s,baz=172,slow=9.2,SNR=7.8						
HNR	**Honiara**	**26.65**	**148**	LR	LR	23 59 31.5	
	comp=Z,162nm,20.1s,baz=264,slow=35						
KSRS	**Korea Array**	**28.81**	**329**	P	**P**	**23 49 56.3**	**0.0**
	1.8nm,0.6s,baz=134,slow=11,SNR=5.8						
USRK	**Ussuriysk Ar.**	**32.91**	**342**	P	**P**	**23 50 32.4**	**-0.1**
	2.6nm,0.7s,baz=156,slow=6.9,SNR=6.4						
USRK				LR	LR	00 01 47.3	
	comp=Z,76nm,21.3s,baz=143,slow=33						
WRA	**Warramunga Arr**	**35.00**	**199**	P	**P**	**23 50 49.9**	**-0.9**
	1.0nm,0.7s,baz=20,slow=9.5,SNR=7.9						
ASAR	**Alice Spring

n11,σ1°23/16, mb3.6/3, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.61**	**300**	*i* P	Pb	00 27 30.5	-5.8
ZIIG				*e*S	Sb	00 27 35.5	-9.1
CAIG	**El Cayaco**	**0.66**	**112**	*e*P	**Pb**	**00 27 36.6**	**-0.6**
CAIG				*e*S	**Sn**	**00 27 48.2**	**+0.7**
ACP2	**Acapulco**	**1.06**	**113**	*e*P	**Pn**	**00 27 43.5**	**+0.1**
ACP2				*e*S	**Sn**	**00 27 59.4**	**+1.9**
PLIG	**Platanillo**	**1.73**	**51**	*e*P	**Pn**	**00 27 53.2**	**+0.5**
PLIG				*e*S	**Sn**	**00 28 14.9**	**+0.9**
TLIG	**Tlapa**	**2.25**	**83**	*e*P	**Pn**	**00 28 00.7**	**+0.7**
TLIG				*i* S	**Sb**	**00 28 30.1**	**-1.7**
MMIG	**Aquila**	**2.52**	**293**	*e*P	Pn	00 27 57.8	-5.7
MMIG				*e*S	Sn	00 28 23.5	-10
TXAR	**Lajitas Array**	**12.25**	**349**	Lg	Lg	00 33 58.0	
	0.1nm,0.3s,baz=177,slow=24,SNR=3.7						
ANMO	**Albuquerque**	**18.26**	**345**	P	**Pn**	**00 31 35.6**	**-0.5**
	0.1nm,0.3s,baz=140,slow=7.9,SNR=3.8						
ANMO				pP	**pP**	**00 31 43.9**	**+0.8**
	0.1nm,0.3s,baz=157,slow=10,SNR=4.1						
NVAR	**Mina Array Bea**	**25.98**	**328**	P	**P**	**00 32 55.5**	**+0.3**
	1.7nm,0.9s,baz=147,slow=9.8,SNR=8.2						
NVAR				pP	**pP**	**00 33 02.9**	**+0.2**
	2.4nm,0.9s,baz=143,slow=10,SNR=8.3						
PDAR	**Pinedale Array**	**26.44**	**346**	P	**P**	**00 33 00.4**	**+1.1**
	0.4nm,0.9s,baz=153,slow=6.1,SNR=3.0						
PDAR				pP	**pP**	**00 33 08.8**	**+2.0**
	0.4nm,0.8s,baz=138,slow=7.3,SNR=3.2						
YKA	**Yellowknife Ar**	**46.16**	**351**	P	**P**	**00 35 44.9**	**-1.5**
	0.6nm,0.7s,baz=160,slow=7.1,SNR=12						
YKA				pP	**pP**	**00 35 53.4**	**-0.7**
	0.3nm,0.8s,baz=158,slow=7.5,SNR=3.7						

GUC 20 00:30:51.4±0.3, 34°.39S×72°.55W, h42km±8km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.25**	**120**	*e*P	Pn	00 31 13.9	+1.6
NICH				*e*S	Sn	00 31 31.1	+3.1
TALC	**Talca**	**1.26**	**144**	*e*P	Pn	00 31 14.0	+1.5
TALC				*e*S	Sn	00 31 31.3	+3.1
ANTU	**Antumapu**	**1.79**	**63**	*e*P	Pn	00 31 22.0	+2.2
ANTU				*e*S	Sn	00 31 45.1	+3.7
CLCH	**Cerro Calan**	**1.94**	**60**	*e*P9	Pn	00 31 22.8	+0.8
CLCH				*e*S	Sn	00 31 47.9	+2.7
CLCH				AML	AML	00 31 56.5	
	comp=E,371nm,0.3s						
PEL	**Peldehue**	**1.98**	**52**	*e*P	Pn	00 31 24.9	+2.3
PEL				*e*S	Sn	00 31 50.2	+4.0
PEL				AML	AML	00 32 02.3	
	comp=N,781nm,0.5s						

GUC 20 01:12:16.4±0.6, 34°.08S×71°.94W, h32km±9km, ML3.5, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.46**	**74** ⇓	*i*P	Pb	01 12 26.2	-0.1
LNV				*i* S1	Sb	01 12 33.3	+0.1
CHCH	**Chadas Angostu**	**1.08**	**82** ⇑	*i*P	Pn	01 12 35.8	+0.4
CHCH				*i* S1	Sb	01 12 50.1	-0.5
IHA	**Instituto Hidr**	**1.08**	**13** ⇑	*i*P	Pn	01 12 35.3	0.0
IHA				*i* S1	Sb	01 12 50.0	-0.5
NICH	**Los Niches**	**1.09**	**148**	*e*P	Pn	01 12 35.8	+0.4
NICH				*i* S	Sb	01 12 50.6	-0.1
CACH	**El Canelo**	**1.11**	**92** ⇓	*i*P	Pb	01 12 36.8	-0.5
RCDM	**Rinconada Maip**	**1.11**	**58** ⇓	*i*P	Pn	01 12 35.1	-0.7
ANTU	**Antumapu**	**1.20**	**65** ⇑	*i*P	Pn	01 12 37.5	+0.5
ANTU				*i* S	Sb	01 12 53.3	-0.7
ANTU				AML	AML	01 12 58.3	
	comp=N,1μm,0.3s						
TALC	**Talca**	**1.34**	**169** ⇓	*i*P	Pn	01 12 39.7	+0.9
TALC				*i* S	Sb	01 12 57.0	-0.7
CLCH	**Cerro Calan**	**1.36**	**60** ⇓	*i*P	Pn	01 12 40.0	+0.8
CLCH				*i* S	Sb	01 12 57.9	-0.6
CLCH				AML	AML	01 13 02.6	
	comp=E,2μm,0.6s						
CLCH				AML	AML	01 13 03.2	
	comp=E,2μm,0.6s						
PEL	**Peldehue**	**1.41**	**49** ⇑	*i*P	Pn	01 12 41.0	+1.1
PEL				*i* S	Sb	01 12 60.0	+0.2
PEL				AML	AML	01 13 05.8	
	comp=N,1μm,0.4s						
FCH	**Farellones**	**1.57**	**62**	AML	AML	01 13 09.8	
	comp=N,2μm,0.3s						

WEL 20 01:23:51.2±0.4, 35°.65S×177°.84E, h178km±11km, ML3.5/7, 1C, Error ellipse: s-maj=8.6km s-min=7.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.95**	**169**	⇑PN	Pn	01 24 27.4	0.0
MXZ				SN	Sn	01 24 54.1	-1.6
HAZ	**Te Kaha**	**2.10**	**181**	PN	Pn	01 24 29.5	+0.4
HAZ				SN	Sn	01 24 58.0	-0.8
WMGZ	**Waiomatatini S**	**2.21**	**168**	PN	Pn	01 24 30.4	0.0
WMGZ				SN	Sn	01 25 00.2	-0.8
PUZ	**Puketiti**	**2.44**	**172**	PN	Pn	01 24 32.6	-0.4
TWGZ	**Tauwhareparae**	**2.52**	**177**	PN	Pn	01 24 34.3	+0.3
TWGZ				SN	Sn	01 25 07.4	-0.1
URZ	**Urewera**	**2.67**	**192**	PN	Pn	01 24 36.3	+0.7
MWZ	**Matawai**	**2.69**	**185**	PN	Pn	01 24 36.2	+0.3
CNGZ	**Carnagh Statio**	**2.84**	**174**	PN	Pn	01 24 37.3	-0.4
RIGZ	**Rimuhau**	**3.05**	**181**	PN	Pn	01 24 38.3	-2.0
NMHZ	**Naumai**	**3.54**	**193**	PN	Pn	01 24 46.6	+0.2
BKZ	**Black Stump Fm**	**3.67**	**197**	PN	Pn	01 24 47.9	-0.2
KRHZ	**Kereru**	**4.15**	**196**	PN	Pn	01 24 52.9	-1.2
KAHZ	**Kahuranaki**	**4.21**	**190**	PN	Pn	01 24 53.7	-1.1
MRZ	**Mangatainoka R**	**5.31**	**199**	PN	Pn	01 25 06.4	-2.6
TCW	**Tory Channel**	**6.22**	**206**	PN	Pn	01 25 17.8	-3.0

*ISCJB **20** 01:27:23.9±0.7, 23°.34S±0°.05×66°.6W±0°.1, h200km, mb3.2/4, Error ellipse: s-maj=18.4km s-min=7.3km az=3.6*
*IDC **20** 01:27:25.0±1.9, 23°.25S×66°.63W, h192km±17km, mb3.1/4, mb1 3.2/8, mb1mx3.1/21, mbtmp3.6/8, Error ellipse: s-maj=23.5km s-min=17.8km az=81.0*
ISC 20 01:27:25.2±0.8, 23°.38S±0°.08×66°.6W±0°.2, h200km, n9, σ1°24/10, mb3.2/4, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.21**	**348**	P	**Pn**	**01 29 08.3**	**-0.4**
	0.7nm,0.3s,baz=165,slow=12,SNR=16						
LPAZ				S	Sn	01 30 26.2	-4.6
	0.1nm,0.3s,baz=340,slow=12,SNR=4.6						
CFAA	**Coronel Fontan**	**8.32**	**190**	P	**Pn**	**01 29 23.6**	**+1.0**
	0.1nm,0.3s,baz=19,slow=14,SNR=19						
CFAA				S	**Sn**	**01 30 54.3**	**-2.0**
	0.1nm,0.3s,baz=283,slow=18,SNR=4.7						
SIV	**San Ignacio**	**9.00**	**36**	P	**Pn**	**01 29 30.4**	**-1.2**
	2.0nm,0.3s,baz=232,slow=12,SNR=18						
BDFB	**Brasilia**	**19.11**	**70**	P	**P**	**01 31 34.6**	**+1.3**
	0.4nm,0.3s,baz=247,slow=13,SNR=7.4						
PTGA	**Pitinga**	**23.42**	**17**	P	**P**	**01 32 15.2**	**-1.2**
	1.9nm,0.5s,baz=135,slow=20,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.00**	**69**	P	**P**	**01 38 50.7**	**0.0**
	0.3nm,0.5s,baz=258,slow=5.9,SNR=10						
PDAR	**Pinedale Array**	**76.81**	**329**	P	**P**	**01 38 55.0**	**0.0**
	0.2nm,0.7s,baz=140,slow=7.7,SNR=2.9						
YKA	**Yellowknife Ar**	**93.68**	**340**	P	**P**	**01 40 18.7**	**+0.3**
	0.1nm,0.6s,baz=141,slow=3.8,SNR=3.5						
MKAR	**Makanchi Array**	**145.81**	**39**	PKPbc	**PKPbc**	**01 46 41.8**	**+1.0**
	0.5nm,0.6s,baz=318,slow=3.7,SNR=8.0						

KRSC 20 01:31:48.7±0.8, 55°.71N×165°.77E, h36km±13km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.52**	**167**	*i* P	Pn	01 32 00.3	+0.7
BKI				*i* S	Sn	01 32 08.5	+1.4
KBTR	**Krutoberegovo**	**1.73**	**288**	*e*P	Pn	01 32 17.5	+1.2
SMKR	**Semkarok**	**2.56**	**292**	*e*P	Pn	01 32 31.0	+3.2
MKZ	**Mys Kozlova**	**2.59**	**245**	*e*P	Pn	01 32 29.7	+1.6
MKZ				*e*S	Sn	01 33 02.4	+4.1
SRKR	**Sorokina**	**2.74**	**292**	*e*P	Pn	01 32 33.6	+3.3
KMNR	**Kamenistaya**	**3.13**	**273**	*e*P	Pn	01 32 39.3	+3.7
TUMR	**Tumrok**	**3.23**	**265**	*e*P	Pn	01 32 41.8	+4.8
SMAR	**Somma**	**4.75**	**242**	*e*P	Pn	01 33 02.6	+4.6
KRER	**Koryakskii**	**4.75**	**242**	*e*P	Pn	01 33 02.6	+4.6
UGLR	**Uglovaya**	**4.76**	**241**	*e*P	Pn	01 33 02.6	+4.5
KRX	**Arik**	**4.77**	**243**	*e*P	Pn	01 33 03.1	+4.9
KOK	**Koryaka**	**4.81**	**243**	*e*P	Pn	01 33 03.3	+4.6
GNL	**Ganaly**	**4.97**	**249**	*e*P	Pn	01 33 05.4	+4.5
RUS	**Russkaya**	**5.39**	**235**	*e*P	Pn	01 33 11.2	+4.7
MTVR	**Mutnovka**	**5.51**	**237**	*e*P	Pn	01 33 12.8	+4.4
MTVR				*e*S	Sn	01 34 15.5	+4.9

*NEIC **20** 01:41:07.0±0.4, 37°.83S×71°.66W, h35km, mb4.5/19, Error ellipse: s-maj=15.8km s-min=9.1km az=75.0*
*IDC **20** 01:41:09.4±0.8, 36°.85S×73°.80W, h0km, mb3.9/9, mb1 4.1/11, mb1mx4.0/25, mbtmp3.9/11, ML3.6/2, MS3.9/9, Ms1 3.8/9, ms1mx3.6/24, Error ellipse: s-maj=25.6km s-min=16.1km az=75.0*
ISC 20 01:41:06.8±0.6, 37°.89S±0°.07×71°.7W±0°.1, h35km, n54, σ1°37/38, mb4.4/32, MS3.9/8, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.98**	**163**	Pn	**Sn**	**01 42 22.4**	**-3.7**
	0.9nm,0.3s,baz=312,slow=13,SNR=9.5						
PLCA				Lg	Lg	01 43 37.1	
	1.2nm,0.3s,baz=229,slow=20,SNR=1.7						
PLCA	**Paso Flores**	**2.98**	**163**	*e*Pn	**Pn**	**01 41 50.8**	**-0.8**
PLCA				Lg	Lg	01 43 37.1	
CFAA	**Coronel Fontan**	**6.88**	**25**	Pn	Pn	01 42 53.2	+8.0
	0.4nm,0.3s,baz=211,slow=12,SNR=18						
CFAA				Sn	Sn	01 44 14.9	+13
	0.2nm,0.3s,baz=282,slow=20,SNR=2.3						
CFAA				LR	LR	01 45 55.0	
	comp=Z,167nm,19.4s,baz=230,slow=41						
TRQA	**Tornquist**	**7.67**	**94**	*e*Pn	**Pn**	**01 42 55.7**	**-0.4**
LCO	**Las Campanas**	**8.89**	**6**	*e*Pn	**Pn**	**01 43 10.1**	**-2.9**
LVC	**Limon Verde**	**15.41**	**10**	*e*Pn	**Pn**	**01 44 40.4**	**-1.4**
LPAZ	**La Paz**	**21.74**	**9**	P	**P**	**01 45 57.7**	**+1.9**
	1.9nm,0.7s,baz=183,slow=10,SNR=8.7						
LPAZ	**La Paz**	**21.74**	**9**	*e*P	**P**	**01 45 57.4**	**+1.5**
	70nm,1.9s						
SIV	**San Ignacio**	**23.74**	**26**	P	P	01 46 21.0	+5.1
	5.9nm,1.0s,baz=233,slow=12,SNR=12						
SAML	**Samuel**	**29.82**	**17**	*e*P	**P**	**01 47 10.6**	**+0.1**
	10nm,1.6s						
BDFB	**Brasilia**	**30.46**	**50**	LR	LR	02 00 42.4	
	comp=Z,77nm,18.2s,baz=223,slow=38						
OTAV	**Otavalo**	**38.45**	**349**	*e*P	**P**	**01 48 25.0**	**-0.8**
	2.6nm,0.7s						
RCBR	**Riachuelo**	**45.55**	**55**	LR	LR	02 11 28.0	
	comp=Z,227nm,18.1s,baz=175,slow=39						
SDV	**Santo Domingo**	**46.54**	**1**	*e*P	**P**	**01 49 30.3**	**-0.9**
	9.6nm,1.0s						
BCIP	**Isla Barro Col**	**47.42**	**349**	*e*P	**P**	**01 49 39.5**	**+1.6**
	154nm,1.6s						
QSPA	**South Pole Qui**	**52.36**	**180**	P	P	01 50 30.0	+15
	1.7nm,1.1s,baz=145,slow=13,SNR=3.6						
SDDR	**Presa de Saban**	**56.56**	**0**	*e*P	**P**	**01 50 44.7**	**-1.2**
	6.0nm,0.7s						
VNDA	**Vanda**	**60.36**	**192**	*e*P	**P**	**01 51 12.4**	**+0.8**
	8.7nm,1.3s						
TBI	**Tubuai**	**66.73**	**258**	*e*LR	LR	02 11 25.5	
	164nm,25.5s						
MAW	**Mawson**	**69.39**	**163**	LR	LR	02 24 38.7	
	comp=Z,343nm,18.2s,baz=242,slow=37						
PPT2	**Papeete2**	**70.00**	**263**	*e*LR	LR	02 12 54.8	
	220nm,25.0s						
PPT	**Papeete**	**70.01**	**263**	LR	LR	02 15 55.6	
	comp=Z,214nm,18.1s,baz=96,slow=30						
HKT	**Hockley**	**71.16**	**338**	*e*P	**P**	**01 52 21.9**	**+0.2**
	4.9nm,1.2s						
LRAL	**Lakeview Retre**	**71.98**	**347**	*e*P	**P**	**01 52 27.3**	**+0.6**
	4.6nm,0.9s						
TXAR	**Lajitas Array**	**73.26**	**331**	P	**P**	**01 52 32.3**	**-2.2**
	1.0nm,0.8s,baz=159,slow=8.9,SNR=10.0						
TXAR				LR	LR	02 18 23.3	
	comp=Z,69nm,19.4s,baz=0.0,slow=31						
SWET	**Sewanee**	**73.92**	**348**	*e*P	**P**	**01 52 38.0**	**-0.1**
	127nm,0.6s						
WVT	**Waverly**	**75.15**	**347**	*e*P	**P**	**01 52 45.0**	**-0.1**
	8.0nm,1.2s						
LIC	**Lamto**	**75.77**	**70**	*e*P	P	01 53 04.8	+15
	22nm,1.3s						
TIC	**Toumodi**	**76.06**	**70**	*e*P	P	01 53 06.6	+16
	3.7nm,0.2s						
KIC	**Kosan Boka**	**76.08**	**70**	*e*P	P	01 53 06.7	+16
	9.2nm,0.7s						
DBIC	**Dimbokro**	**76.19**	**70**	P	P	01 53 07.4	+16
	2.7nm,0.6s,baz=220,slow=3.1,SNR=8.5						
DBIC				LR	LR	02 24 13.6	
	comp=Z,46nm,20.9s,baz=206,slow=33						
WCI	**Wyandotte Cave**	**76.93**	**348**	*e*P	**P**	**01 52 55.8**	**+0.5**
	3.7nm,0.7s						
TSUM	**Tsumeb**	**77.91**	**105**	*e*P	**P**	**01 53 03.3**	**+1.7**
	11nm,1.8s						
BOSA	**Boshof**	**78.04**	**117**	P	P	01 53 21.0	+19
	3.3nm,1.2s,baz=251,slow=2.1,SNR=2.0						
TUC	**Tucson**	**78.77**	**327**	*e*P	**P**	**01 53 06.0**	**+0.2**
	2.2nm,1.0s						
ANMO	**Albuquerque**	**79.32**	**332**	*e*P	**P**	**01 53 08.4**	**-0.5**
	4.9nm,1.2s						
LBTB	**Lobatse**	**80.44**	**114**	*e*P	**P**	**01 53 17.8**	**+2.5**
	2.8nm,0.6s						
SMCO	**Snowmass**	**83.27**	**333**	*e*P	**P**	**01 53 32.0**	**+2.1**
	6.5nm,1.2s						
TORD	**Torodi Ar. Bea**	**85.29**	**69**	P	P	01 53 54.4	+14
	1.0nm,0.8s,baz=214,slow=5.5,SNR=7.6						
TORD				LR	LR	02 29 36.6	
	comp=Z,57nm,21.1s,baz=320,slow=34						
DUG	**Dugway, Tooele**	**86.36**	**330**	*e*P	**P**	**01 53 45.5**	**+0.3**
	4.3nm,1.1s						
RSSD	**Black Hills**	**86.72**	**337**	*e*P	**P**	**01 53 46.9**	**-0.1**
	4.7nm,1.1s						
NVAR	**Mina Array Bea**	**87.23**	**325**	P	**P**	**01 53 50.1**	**+0.6**
	0.5nm,0.7s,baz=168,slow=5.4,SNR=3.4						
BW06	**Boulder Array**	**87.35**	**333**	*e*P	**P**	**01 53 48.8**	**-1.2**
	3.3nm,1.2s						
PDAR	**Pinedale Array**	**87.35**	**333**	P	**P**	**01 53 49.5**	**-0.5**
	0.7nm,1.1s,baz=139,slow=5.8,SNR=3.1						
PDAR				LR	LR	02 27 20.1	
	comp=Z,30nm,21.9s,baz=184,slow=32						
HLID	**Hailey**	**89.85**	**330**	*e*P	**P**	**01 54 02.1**	**+0.3**
	2.5nm,1.1s						
WVOR	**Wild Horse Val**	**90.64**	**327**	*e*P	**P**	**01 54 05.9**	**+0.4**
WRAB	**Tennant Creek**	**117.49**	**208**	*e*PKPdf	**PKPdf**	**01 59 51.0**	**+1.7**
COEN	**Coen**	**118.93**	**219**	*e*PKPdf	**PKPdf**	**01 59 53.9**	**+1.8**
MBWA	**Marble Bar**	**120.30**	**192**	*e*PKPdf	**PKPdf**	**01 59 54.2**	**-0.4**
KIV	**Kislovodsk**	**131.21**	**61**	*e*PKPdf	**PKPdf**	**02 00 15.4**	**+0.6**
GNI	**Garni**	**131.51**	**66**	*e*PKPdf	**PKPdf**	**02 00 15.1**	**-0.5**
KULM	**Kulim**	**146.81**	**166**	*e*PKPbc	**PKPdf**	**02 00 43.7**	**-0.3**
TKM2	**Tokmak 2**	**154.68**	**68**	*e*PKPab	**PKPab**	**02 01 19.1**	**+0.1**
MKAR	**Makanchi Array**	**158.88**	**57**	PKP	PKPdf	02 01 08.9	+8.4
	0.3nm,0.8s,baz=253,slow=1.5,SNR=3.3						
MKAR				PKPab	PKPab	02 01 47.8	+11
	0.4nm,0.8s,baz=330,slow=2.0,SNR=3.3						

*CSEM **20** 01:41:38.6, 38°.75N×26°.70W, h0km, ML2.7*
PDA 20 01:41:38.6±1.2, 38°.75N×26°.70W, h0km±6km, MD3.5, ML2.7, Error ellipse: s-maj=9.2km s-min=2.9km az=27.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADH	**Angra Heroismo**	**0.43**	**257**	*e*P	Pg	01 41 46.1	-0.8
ADH				*e*S	Sg	01 41 51.9	-0.6
ADH				A	A	01 41 51.9	
	218nm,0.3s						
ADH	**Angra Heroismo**	**0.43**	**257**	*e*P	Pg	01 41 46.1	-0.8
ADH				*e*S	Sg	01 41 51.9	-0.6
TOPO	**Topo**	**0.97**	**261**	*e*P	Pg	01 41 54.6	-2.7
TOPO				*e*S	Sg	01 42 06.6	-3.4
TOPO	**Topo**	**0.97**	**261**	*e*P	Pg	01 41 54.6	-2.7
TOPO				*e*S	Sg	01 42 06.6	-3.4
PGRA	**Graciosa**	**1.04**	**286**	*e*P	Pg	01 41 55.4	-3.2
PGRA				*e*S	Sg	01 42 08.3	-3.8
PGRA				A	A	01 42 09.1	
	30nm,0.2s						
PGRA	**Graciosa**	**1.04**	**286**	*e*P	Pg	01 41 55.4	-3.2
PGRA				*e*S	Sg	01 42 08.3	-3.8
PMAN	**Manadas**	**1.10**	**264**	*e*P	Pg	01 41 56.3	-3.3
PMAN				*e*S	Sg	01 42 09.6	-4.3
PMAN				A	A	01 42 10.5	
	48nm,0.2s						
PMAN	**Manadas**	**1.10**	**264**	*e*P	Pg	01 41 56.3	-3.3
PMAN				*e*S	Sg	01 42 09.6	-4.3
PSET	**Sete Cidades**	**1.21**	**140**	*e*S	Sg	01 42 12.1	-5.4
PSET				A	A	01 42 14.3	
	16nm,0.2s						
PSET	**Sete Cidades**	**1.21**	**140**	*e*S	Sg	01 42 12.1	-5.4
ROSA	**Rosais**	**1.21**	**269**	*e*P	Pg	01 41 57.7	-4.1
ROSA				*e*S	Sg	01 42 12.5	-5.0
ROSA				A	A	01 42 13.3	
	46nm,0.2s						
ROSA	**Rosais**	**1.21**	**269**	*e*P	Pg	01 41 57.7	-4.1
ROSA				*e*S	Sg	01 42 12.5	-5.0
PDA	**Ponta Delgada**	**1.29**	**141**	*e*S	Sg	01 42 14.5	-5.7
PDA				A	A	01 42 15.6	
	23nm,0.1s						
PDA	**Ponta Delgada**	**1.29**	**141**	*e*S	Sg	01 42 14.5	-5.7
PICO	**Pico**	**1.38**	**260**	*e*P	Pg	01 42 00.3	-4.8
PICO				*e*S	Sg	01 42 17.4	-5.7
PICO	**Pico**	**1.38**	**260**	*e*P	Pg	01 42 00.3	-4.8
PICO				*e*S	Sg	01 42 17.4	-5.7
CALA	**Caldeira**	**1.58**	**264**	*e*S	Sn	01 42 21.6	-7.6
CALA	**Caldeira**	**1.58**	**264**	*e*S	Sn	01 42 21.6	-7.6

MAN 20 01:50:31, 9°.62N×125°.56E, h89km, mb4.0, ML2.8, MS2.5, Mindanao

IDC 20 01:51:06.9±3.7, 17°.05S×69°.13W, h181km±16km, mb3.4/3, mb1 3.4/4, mb1mx3.1/20, mbtmp3.9/4, MS3.8/1, Ms1 3.8/1, ms1mx2.9/21, Error ellipse: s-maj=76.6km s-min=32.6km az=17.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.22**	**52**	P	Pn	01 51 36.4	-1.0
	58nm,0.3s,baz=250,slow=6.4,SNR=1436						
LPAZ				S	Sn	01 52 00.9	+0.2
	baz=348,slow=19,SNR=2.5						
SIV	**San Ignacio**	**7.80**	**83**	P	Pn	01 52 58.4	+0.7
	0.8nm,0.3s,baz=279,slow=11,SNR=6.8						
USHA	**Ushuaia**	**37.71**	**179**	LR	LR	02 16 54.0	
	comp=Z,126nm,18.4s,baz=133,slow=41						
DBIC	**Dimbokro**	**67.74**	**75**	P	P	02 01 45.0	-0.4
	2.2nm,0.8s,baz=262,slow=11,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.10**	**71**	P	P	02 02 35.4	+0.2
	0.9nm,0.7s,baz=260,slow=5.2,SNR=10						
YKA	**Yellowknife Ar**	**86.94**	**341**	P	P	02 03 31.4	+0.5
	0.2nm,0.4s,baz=133,slow=4.7,SNR=7.7						

MEX 20 01:58:47.0±0.8, 17°.28N×101°.19W, h19km±44km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.42**	**321**	*i* P	Pg	01 58 54.6	-1.0
ZIIG				*e*S	Sg	01 58 59.3	-2.2
CAIG	**El Cayaco**	**0.91**	**105**	*i* P	Pb	01 59 00.8	-3.5
CAIG				*e*S	Sb	01 59 12.5	-3.5
PLIG	**Platanillo**	**1.95**	**55**	*e*P	Pn	01 59 16.8	-2.5
PLIG				*e*S	Sn	01 59 39.5	-3.8
MMIG	**Aquila**	**2.29**	**296**	*e*P	Pn	01 59 21.5	-2.2
TLIG	**Tlapa**	**2.52**	**83**	*e*P	Pn	01 59 25.1	-2.1
TLIG				*e*S	Sn	01 59 53.0	-4.5
PNIG	**Pinotepa**	**3.06**	**106**	*e*P	Pn	01 59 31.6	-2.9

IDC 20 02:00:14.9±6.3, 7°.09S×126°.99E, h434km±87km, mb2.5/1, mb1 2.4/3, mb1mx2.3/26, mbtmp3.2/3, Error ellipse: s-maj=126.0km s-min=24.7km az=46.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.52**	**227**	P	P	02 01 34.2	+0.2
	19nm,0.3s,baz=34,slow=0.6,SNR=18						
BATI				S	S	02 02 38.6	+0.3
	7.3nm,0.3s,baz=24,slow=21,SNR=7.4						
WRA	**Warramunga Arr**	**14.63**	**152**	P	P	02 03 21.2	-1.3
	0.2nm,0.3s,baz=322,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**17.77**	**159**	P	P	02 03 56.0	+0.1
	0.2nm,0.3s,baz=346,slow=13,SNR=6.2						
MKAR	**Makanchi Array**	**66.70**	**328**	P	P	02 10 21.4	0.0
	0.1nm,0.4s,baz=125,slow=7.1,SNR=2.3						

IDC 20 02:08:44.6±21.0, 4°.00S×153°.70E, h360km±250km, mb2.8/3, mb1 3.1/4, mb1mx2.8/28, mbtmp3.7/4, Error ellipse: s-maj=182.6km s-min=46.7km az=146.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**17.56**	**204**	P	P	02 12 26.6	+0.1
	0.3nm,0.3s,baz=18,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**24.64**	**228**	P	P	02 13 34.6	+0.4
	0.5nm,0.4s,baz=53,slow=9.5,SNR=3.7						
ASAR	**Alice Springs**	**27.34**	**223**	P	P	02 13 57.5	-0.7
	0.2nm,0.5s,baz=56,slow=9.2,SNR=5.7						
ILAR	**Eielson Array**	**81.08**	**22**	P	P	02 20 20.2	0.0
	0.2nm,0

CHOS	**Chios island**	**0.34**	**245**	P		**Pg**	**02 31 33.1 +0.7**
CHOS				S		**Sg**	**02 31 37.9 +1.0**
CHOS	**Chios island**	**0.34**	**245**	P		**Pg**	**02 31 33.1 +0.7**
CHOS				S		**Sg**	**02 31 37.9 +1.0**
BLCB	**Balcova**	**0.49**	**107**	*e*PG		**Pg**	**02 31 34.6 -0.6**
BLCB				*e*SG		**Sg**	**02 31 41.8 +0.2**
BLCB	**Balcova**	**0.49**	**107**	*e*Pg		**Pg**	**02 31 34.6 -0.6**
BLCB				*e*Sg		**Sg**	**02 31 41.8 +0.2**
PRK	**Paraskevi**	**0.73**	**349**	P		**Pg**	**02 31 39.4 -0.3**
PRK				S		**Sg**	**02 31 49.6 +0.3**
PRK	**Paraskevi**	**0.73**	**349**	P		**Pg**	**02 31 39.4 -0.3**
PRK				S		**Sg**	**02 31 49.6 +0.3**
AYVA	**Ayvalik**	**0.80**	**14**	*i* P		**Pg**	**02 31 40.7 -0.4**
AYVA				*i* S		**Sb**	**02 31 53.5 +0.9**
SIGR	**SIGRI**	**0.82**	**326**	P		**Pg**	**02 31 40.7 -0.8**
SIGR				S		**Sg**	**02 31 52.0 -0.3**
SIGR	**SIGRI**	**0.82**	**326**	P		**Pg**	**02 31 40.7 -0.8**
SIGR				S		**Sg**	**02 31 52.0 -0.3**
SMG	**Samos**	**0.88**	**159**	P		**Pg**	**02 31 42.8 +0.3**
SMG				S		**Sb**	**02 31 55.7 +1.1**
SMG	**Samos**	**0.88**	**159**	P		**Pg**	**02 31 42.8 +0.3**
SMG				S		**Sb**	**02 31 55.7 +1.1**
AKHS	**Akhisar**	**1.12**	**71**	*i* P		**Pb**	**02 31 47.0 -0.2**
AKHS				*i* S		**Sg**	**02 32 02.8 +0.9**
AKHS	**Akhisar**	**1.12**	**71**	*i* P		**Pb**	**02 31 47.0 -0.2**
AKHS				*i* S		**Sg**	**02 32 02.8 +0.9**
AYDB	**Zeytinkoy-Aydi**	**1.28**	**117**	*e*PN		**Pn**	**02 31 48.0 -1.6**
AYDB				*e*SN		**Sb**	**02 32 05.1 -1.3**
AYDB	**Zeytinkoy-Aydi**	**1.28**	**117**	*e*Pn		**Pn**	**02 31 48.0 -1.6**
AYDB				*e*Sn		**Sb**	**02 32 05.1 -1.3**
EZN	**Ezine**	**1.30**	**356**	*e*PN		**Pg**	**02 31 53.3 +2.7**
EZN	**Ezine**	**1.30**	**356**	*e*Pn		**Pg**	**02 31 53.3 +2.7**
BOZC	**Bozcaada**	**1.35**	**347**	*i* P		**Pn**	**02 31 49.4 -1.1**
BOZC				*i* S		**Sb**	**02 32 06.9 -1.3**
BALY	**Balya**	**1.52**	**37**	*i* P		**Pn**	**02 31 53.6 +0.7**
BALY				*i* S		**Sn**	**02 32 12.6 0.0**
MANT	**Manisa**	**1.66**	**91**	*i* P		**Pn**	**02 31 56.2 +1.2**
MANT				*i* S		**Sn**	**02 32 16.3 -0.1**
MANT	**Manisa**	**1.66**	**91**	*i* P		**Pn**	**02 31 56.2 +1.2**
MANT				*i* S		**Sn**	**02 32 16.3 -0.1**
LIA	**Limnos Island**	**1.68**	**325**	P		**Pn**	**02 31 52.9 -2.2**
LIA	**Limnos Island**	**1.68**	**325**	P		**Pn**	**02 31 52.9 -2.2**
KULA	**Kula-Manisa**	**1.74**	**90**	*e*PN		**Pn**	**02 31 56.6 +0.7**
KULA				*e*SN		**Sb**	**02 32 20.0 +0.4**
KULA	**Kula-Manisa**	**1.74**	**90**	*e*Pn		**Pn**	**02 31 56.6 +0.7**
KULA				*e*Sn		**Sb**	**02 32 20.0 +0.4**
LPK	**Lapseki**	**1.86**	**7**	*e*PN		**Pg**	**02 32 01.4 +0.1**
LPK	**Lapseki**	**1.86**	**7**	*e*Pn		**Pg**	**02 32 01.4 +0.1**
GELI	**Tayfur-Gelibol**	**1.87**	**1**	*e*PN		**Pg**	**02 32 01.5 0.0**
GELI	**Tayfur-Gelibol**	**1.87**	**1**	*e*Pn		**Pg**	**02 32 01.5 0.0**
EDC	**Edincik**	**2.12**	**31**	*e*PN		**Pb**	**02 32 04.6 +0.4**
EDC	**Edincik**	**2.12**	**31**	*e*Pn		**Pb**	**02 32 04.6 +0.4**
ERIK	**Erikli-Kesan**	**2.14**	**1**	*e*PN		**Pb**	**02 32 05.3 +0.8**
ERIK	**Erikli-Kesan**	**2.14**	**1**	*e*Pn		**Pb**	**02 32 05.3 +0.8**
ENEZ	**Enez**	**2.22**	**354**	*e*PN		**Pb**	**02 32 06.5 +0.7**
ENEZ	**Enez**	**2.22**	**354**	*e*Pn		**Pb**	**02 32 06.5 +0.7**
RKY	**Sarkoy-Tekirda**	**2.23**	**14**	*e*PN		**Pb**	**02 32 06.9 +0.9**
RKY	**Sarkoy-Tekirda**	**2.23**	**14**	*e*Pn		**Pb**	**02 32 06.9 +0.9**
MRMT	**Marmara Adasi**	**2.25**	**23**	*e*PN		**Pb**	**02 32 06.9 +0.4**
MRMT	**Marmara Adasi**	**2.25**	**23**	*e*Pn		**Pb**	**02 32 06.9 +0.4**
KCTX	**Karacabey (Bur**	**2.28**	**40**	*e*PN		**Pb**	**02 32 06.5 -0.4**
KCTX	**Karacabey (Bur**	**2.28**	**40**	*e*Pn		**Pb**	**02 32 06.5 -0.4**
ALN	**Alexandroupoli**	**2.38**	**353**	*e*PN		**Pb**	**02 32 08.6 -0.1**
ALN	**Alexandroupoli**	**2.38**	**353**	*e*Pn		**Pb**	**02 32 08.6 -0.1**
TVSB	**Tavsanli**	**2.52**	**68**	*e*PN		**Pn**	**02 32 09.2 +2.5**
TVSB	**Tavsanli**	**2.52**	**68**	*e*Pn		**Pn**	**02 32 09.2 +2.5**
MDNY	**Mudanya-Bursa**	**2.63**	**45**	*e*PN		**Pb**	**02 32 11.6 -1.3**
MDNY	**Mudanya-Bursa**	**2.63**	**45**	*e*Pn		**Pb**	**02 32 11.6 -1.3**
ARMT	**Armutlu**	**2.76**	**42**	*e*PN		**Pb**	**02 32 13.4 -1.7**
ARMT	**Armutlu**	**2.76**	**42**	*e*Pn		**Pb**	**02 32 13.4 -1.7**
CTKS	**Kestanelik-??a**	**3.13**	**30**	*e*PN		**Pb**	**02 32 19.3 -2.1**
CTKS	**Kestanelik-??a**	**3.13**	**30**	*e*Pn		**Pb**	**02 32 19.3 -2.1**
CTYL	**Yal??k??y-??at**	**3.27**	**25**	*e*PN		**Pb**	**02 32 21.3 -2.3**
CTYL	**Yal??k??y-??at**	**3.27**	**25**	*e*Pn		**Pb**	**02 32 21.3 -2.3**

IDC 20 02:31:41.6±13.0, **15°76S**×**177°78W, h364**km±135km, **mb3.1**/5, **mb1 3.4**/5, **mb1mx3.1**/38, **mbtmp3.8**/5, **Error ellipse: s-maj=105.0km s-min=33.8km az=156.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.65**	**257**	P	P	02 39 27.5	-0.1
	0.4nm,0.5s,baz=92,slow=6.7,SNR=6.2						
ASAR	**Alice Springs**	**45.98**	**252**	P	P	02 39 30.0	-0.2
	2.8nm,0.7s,baz=86,slow=7.9,SNR=27						
ILAR	**Eielson Array**	**83.67**	**13**	P	P	02 43 29.6	-0.2
	0.3nm,0.5s,baz=224,slow=5.5,SNR=9.8						
TXAR	**Lajitas Array**	**84.34**	**58**	P	P	02 43 34.7	+0.6
	0.5nm,0.7s,baz=225,slow=6.6,SNR=6.3						
PDAR	**Pinedale Array**	**85.39**	**43**	P	P	02 43 38.5	-0.7
	0.3nm,0.6s,baz=209,slow=1.7,SNR=3.6						
BRTR	**Keskin Array B**	**143.66**	**317**	PKP	PKPbc	02 50 32.5	-0.1
	0.6nm,0.7s,baz=54,slow=3.8,SNR=6.7						
GERES	**GERESS Array B**	**145.69**	**347**	PKPbc	PKPbc	02 50 38.1	-0.3
	0.2nm,0.5s,baz=19,slow=4.2,SNR=3.1						

ISCJB ***20*** *02:32:11.5*±*0.8, 21°37N*±*0°10*×*143°1E*±*0°2, h311*km*, mb3.3/9, Error ellipse: s-maj=27.8km s-min=12.9km az=174.1*

IDC ***20*** *02:32:13.5*±*2.2, 21°50N*×*143°19E, h315*km±*19*km*, mb3.1/9, mb1 3.3/10, mb1mx3.0/40, mbtmp3.8/10, Error ellipse: s-maj=22.6km s-min=18.2km az=97.0*

ISC 20 02:32:13.0±0.9, **21°5N**±**0°1**×**143°2E**±**0°2, h311**km, **n10, s065/12, mb3.3/9, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.69**	**351**	P	**Pn**	**02 33 39.0**	**+0.2**
	15nm,0.3s,baz=269,slow=23,SNR=8.6						
JCJ				S	**S**	**02 34 48.5**	**+0.4**
	8.6nm,0.3s,baz=294,slow=20,SNR=3.6						
SONM	**Songino Array**	**39.51**	**321**	P	**P**	**02 39 14.4**	**+0.1**
	0.2nm,0.4s,baz=114,slow=8.1,SNR=3.6						
WRA	**Warramunga Arr**	**42.03**	**192**	P	**P**	**02 39 35.3**	**+0.3**
	0.6nm,0.6s,baz=17,slow=8.6,SNR=7.0						
ZALV	**Zalesovo Beam**	**54.38**	**322**	P	**P**	**02 41 08.5**	**+0.3**
	0.5nm,0.4s,baz=105,slow=8.3,SNR=3.1						
MKAR	**Makanchi Array**	**54.84**	**313**	P	**P**	**02 41 11.9**	**+0.2**
	0.4nm,0.5s,baz=93,slow=8.6,SNR=7.2						
MKAR				PcP	**PcP**	**02 42 09.1**	**-0.6**
	0.1nm,0.4s,baz=98,slow=4.4,SNR=4.1						
ILAR	**Eielson Array**	**62.27**	**27**	P	**P**	**02 42 01.3**	**-0.9**
	0.5nm,0.6s,baz=266,slow=5.4,SNR=10						
YKA	**Yellowknife Ar**	**76.69**	**28**	P	**P**	**02 43 29.8**	**0.0**
	0.8nm,0.5s,baz=292,slow=5.7,SNR=15						
ARCES	**ARCESS Array B**	**79.14**	**342**	P	**P**	**02 43 43.4**	**+0.2**
	0.6nm,0.3s,baz=64,slow=8.4,SNR=15						
NVAR	**Mina Array Bea**	**83.32**	**51**	P	**P**	**02 44 06.8**	**+0.9**
	0.2nm,0.5s,baz=253,slow=5.6,SNR=2.8						
FINES	**FINESS Array B**	**83.39**	**334**	P	**P**	**02 44 04.3**	**-1.2**
	0.7nm,0.5s,baz=72,slow=4.5,SNR=9.6						

GUC ***20*** *02:34:33.5*±*0.3, 37°92S*×*74°51W, h12*km±*7*km*, ML5.5*

ISCJB ***20*** *02:34:40.1*±*2.0, 37°91S*±*0°03*×*73°41W*±*0°09, h27*km±*14*km*, mb4.7/34, MS4.0/10, Error ellipse: s-maj=11.8km s-min=5.2km az=176.4*

BJI ***20*** *02:34:41.7, 37°34S*×*73°51W, h37*km*, mB5.2/3, Ms4.7/1, Ms7 4.5/3*

IDC ***20*** *02:34:41.8*±*0.7, 37°97S*×*73°29W, h25*km±*3*km*, mb4.1/12, mb1 4.3/15, mb1mx4.1/34, mbtmp4.3/15, ML4.2/3, MS3.9/13, Ms1 3.9/13, ms1mx3.8/23, Error ellipse: s-maj=19.4km s-min=13.2km az=89.0*

NEIC ***20*** *02:34:43.0*±*1.1, 37°93S*×*73°33W, h36*km±*9*km*, mb4.8/25, Error ellipse: s-maj=13.9km s-min=6.2km az=80.0*

NEIC Felt [IV] at Angol, [III] at Curacautin and Puerto Saavedra and [II] at Temuco and Tolten. Also felt at Villarrica.

ISC 20 02:34:41.8±0.6, **37°99S**±**0°04**×**73°47W**±**0°07, h30**km±3km, **h29**km**: pP-P, n111,** σ1§**23**/130, **mb4.8**/34, **MS4.0**/10, **4C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.82**	**175**	⇑*i* P	**Pn**	**02 35 09.3**	**-1.8**
VLCH				*i* S	**Sb**	**02 35 36.3**	**-0.6**
VLCH				AML	AML	02 35 39.3	
	comp=E,53μm,0.4s						

COCH	**Cobquecura**	**1.93**	**17**	*e*P	**Pn**	**02 35 11.2**	**-1.4**
COCH				*e*S	**Sb**	**02 35 40.1**	**+0.2**
OSCH	**Osorno**	**2.60**	**174**	*e*P1	**Pn**	**02 35 19.7**	**-2.0**
OSCH				AML	AML	02 36 10.0	
	comp=E,18μm,0.8s						
LNCH	**Linares**	**2.61**	**36**	⇑*i* P	**Pn**	**02 35 22.5**	**+0.6**
LNCH				*e*S	**Sb**	**02 36 00.4**	**+1.0**
LNCH				AML	AML	02 36 27.7	
	comp=E,9μm,0.8s						
TALC	**Talca**	**2.98**	**30**	⇑*i* P	**Pn**	**02 35 27.6**	**+0.6**
TALC				*e*S	**Sb**	**02 36 08.3**	**-1.7**
NICH	**Los Niches**	**3.48**	**32**	⇑*i* P	**Pn**	**02 35 34.4**	**+0.5**
PLCA	**Paso Flores**	**3.55**	**141**	Pn	**Pn**	**02 35 35.6**	**+0.6**
	comp=E,14nm,0.3s,baz=312,slow=9.8,SNR=238						
PLCA				Lg	Lg	02 36 28.9	
	comp=E,57nm,0.3s,baz=227,slow=23,SNR=6.6						
PLCA				LR	LR	02 37 19.2	
	comp=E,2μm,19.1s,baz=307,slow=45						
PLCA	**Paso Flores**	**3.55**	**141**	*e*Pn	**Pn**	**02 35 35.5**	**+0.6**
PLCA				*e*Sn	**Sn**	**02 36 18.7**	**+2.8**
PLCA				Lg	Lg	02 36 28.9	
CFAA	**Coronel Fontan**	**7.68**	**36**	Pn	**Pn**	**02 36 30.7**	**-1.0**
	comp=E,0.5nm,0.3s,baz=207,slow=11,SNR=4.5						
CFAA				Sn	**Sn**	**02 37 57.6**	**-0.1**
	comp=E,0.6nm,0.3s,baz=210,slow=16,SNR=3.7						
CFAA				Lg	Lg	02 38 39.7	
	baz=221,slow=13,SNR=3.6						
CFAA				LR	LR	02 39 37.5	
	comp=E,137nm,18.0s,baz=224,slow=39						
TRQA	**Tornquist**	**9.07**	**94**	*e*Pn	**Pn**	**02 36 51.0**	**+0.4**
LCO	**Las Campanas**	**9.24**	**15**	*e*Pn	**Pn**	**02 36 51.5**	**-1.8**
LCO				*e*Sn	**Sn**	**02 38 34.2**	**-2.3**
LVC	**Limon Verde**	**15.82**	**16**	*e*Pn	**Pn**	**02 38 20.1**	**-2.5**
	comp=E,58nm,1.9s						
USHA	**Ushuaia**	**17.19**	**170**	P	**P**	**02 38 40.8**	**-0.1**
	comp=E,0.7nm,0.3s,baz=300,slow=5.4,SNR=4.0						
USHA				LR	LR	02 45 51.4	
	comp=E,427nm,18.1s,baz=334,slow=39						
EFI	**East Falkland**	**17.46**	**147**	*e*Pn	**P**	**02 38 43.5**	**-0.4**
	comp=E,51nm,0.7s						
LPAZ	**La Paz**	**22.12**	**14**	P	**P**	**02 39 36.7**	**+1.1**
	comp=E,10.0nm,0.8s,baz=170,slow=6.1,SNR=17						
LPAZ	**La Paz**	**22.12**	**14**	*e*P	**P**	**02 39 37.1**	**+1.6**
	comp=E,13nm,0.8s						
SIV	**San Ignacio**	**24.49**	**30**	P	**P**	**02 39 58.0**	**-0.4**
	comp=E,8.5nm,0.8s,baz=216,slow=9.3,SNR=22						
PMSA	**Palmer Station**	**27.40**	**171**	LR	LR	02 52 17.1	
	comp=E,278nm,18.2s,baz=328,slow=38						
SAML	**Samuel**	**30.36**	**20**	*e*P	**P**	**02 40 50.1**	**-0.9**
	comp=E,5.3nm,1.1s						
ATAH	**Atahualpa**	**31.04**	**350**	LR	LR	02 50 48.2	
	comp=E,80nm,19.9s,baz=182,slow=31						
BDFB	**Brasilia**	**31.61**	**52**	P	**P**	**02 41 01.4**	**-0.8**
	comp=E,3.3nm,0.8s,baz=217,slow=6.8,SNR=6.8						
BDFB				LR	LR	02 55 21.6	
	comp=E,471nm,19.9s,baz=214,slow=39						
BDFB	**Brasilia**	**31.61**	**52**	*e*P	**P**	**02 41 01.9**	**-0.4**
RPN	**Rapa Nui**	**31.93**	**279**	LR	LR	02 50 20.1	
	comp=E,250nm,19.4s,baz=110,slow=29						
OTAV	**Otavalo**	**38.31**	**352**	*e*P	**P**	**02 42 01.3**	**+0.9**
	comp=E,11nm,1.3s						
PTGA	**Pitinga**	**39.10**	**22**	P	**P**	**02 42 05.7**	**-0.8**
	comp=E,2.2nm,0.5s,baz=190,slow=11,SNR=5.3						
VNA3	**Neumayer Olymp**	**46.15**	**156**	P	**P**	**02 43 03.6**	**+0.6**
SDV	**Santo Domingo**	**46.70**	**4**	*e*P	**P**	**02 43 08.1**	**-0.1**
	comp=E,13nm,0.9s						
VNA2	**Neumayer--Watz**	**46.83**	**156**	P	**P**	**02 43 07.9**	**-0.5**
SNAA	**Sanae**	**48.37**	**156**	P	**P**	**02 43 20.7**	**+0.2**
SNAA	**Sanae**	**48.37**	**156**	P	**P**	**02 43 20.6**	**+0.2**
	comp=E,3.5nm,0.7s,baz=261,slow=6.2,SNR=9.1						
SNAA	**Sanae**	**48.37**	**156**	*e*P	**P**	**02 43 20.4**	**0.0**
	comp=E,109nm,2.1s						
JTS	**JuntasAbangare**	**49.21**	**345**	*e*P	**P**	**02 43 28.9**	**+1.4**
	comp=E,9.4nm,1.0s						
QSPA	**South Pole Qui**	**52.26**	**180**	P	**P**	**02 43 50.4**	**+0.4**
	comp=E,3.9nm,0.7s,baz=175,slow=1.0,SNR=23						
OBIP	**Obispado Ponce**	**56.10**	**8**	*e*P	**P**	**02 44 17.4**	**-0.9**
	comp=E,11nm,0.7s						
CBYP	**Canovanas**	**56.41**	**9**	*e*P	**P**	**02 44 22.7**	**+2.1**
	comp=E,34nm,1.2s						
GTBY	**Guantanamo Bay**	**57.63**	**358**	*e*P	**P**	**02 44 29.9**	**+0.9**
	comp=E,32nm,1.0s						
SYO	**Syowa Base**	**62.60**	**158**	‖*e*P	**P**	**02 45 00.2**	**-2.4**
TBI	**Tubuai**	**65.34**	**259**	*e*LR	LR	03 04 57.7	
	comp=E,241nm,24.5s						
PPT2	**Papeete2**	**68.59**	**264**	*e*S	S	02 54 51.7	+8.7
	comp=E,75nm,23.5s						
PPT2	**Papeete2**	**68.59**	**264**	*e*LR	LR	03 06 38.2	
	comp=E,191nm,25.8s						
PPT	**Papeete**	**68.60**	**264**	LR	LR	03 08 29.2	
	comp=E,219nm,19.9s,baz=130,slow=30						
LRAL	**Lakeview Retre**	**71.78**	**348**	*e*P	**P**	**02 46 00.4**	**-0.7**
	comp=E,3.8nm,0.7s						
JCT	**Junction City**	**72.42**	**336**	*e*P	**P**	**02 46 06.0**	**+0.9**
	comp=E,12nm,0.7s						
TXAR	**Lajitas Array**	**72.69**	**333**	P	**P**	**02 46 07.6**	**+0.8**
	comp=E,0.7nm,0.6s,baz=155,slow=8.6,SNR=10						
TXAR				LR	LR	03 13 19.9	
	comp=E,112nm,18.5s,baz=0.0,slow=32						
OXF	**Oxford**	**73.64**	**346**	*e*P	**P**	**02 46 11.6**	**-0.6**
	comp=E,17nm,1.0s						
SUR	**Sutherland**	**73.93**	**119**	LR	LR	03 13 24.1	
	comp=E,136nm,20.3s,baz=217,slow=32						
WVT	**Waverly**	**74.94**	**348**	*e*P	**P**	**02 46 18.9**	**-0.7**
	comp=E,9.3nm,1.0s						
TUL1	**Leonard**	**76.38**	**342**	*e*P	**P**	**02 46 27.5**	**-0.5**
	comp=E,20nm,1.1s						
SIUC	**Southern Illin**	**76.72**	**347**	*e*P	**P**	**02 46 29.7**	**-0.1**
V34A	**Guthrie**	**76.76**	**340**	*e*P	**P**	**02 46 30.6**	**+0.5**
	comp=E,15nm,0.9s						
LIC	**Lamto**	**77.13**	**72**	*e*P	**P**	**02 46 33.3**	**+0.5**
	comp=E,81nm,0.9s						
TIC	**Toumodi**	**77.41**	**71**	*e*P	**P**	**02 46 34.9**	**+0.5**
	comp=E,52nm,0.9s						
KIC	**Kosan Boka**	**77.44**	**72**	*e*P	**P**	**02 46 35.1**	**+0.6**
	comp=E,72nm,0.8s						
DBIC	**Dimbokro**	**77.55**	**71**	P	**P**	**02 46 35.9**	**+0.8**
	comp=E,28nm,0.8s,baz=203,slow=5.8,SNR=42						
DBIC				LR	LR	03 17 20.3	
	comp=E,67nm,19.7s,baz=202,slow=33						
DBIC	**Dimbokro**	**77.55**	**71**	*e*P	**P**	**02 46 36.0**	**+0.8**
	comp=E,32nm,0.8s						
ANMO	**Albuquerque**	**78.76**	**333**	P	**P**	**02 46 43.1**	**+1.6**
	comp=E,1.6nm,0.7s,baz=154,slow=3.3,SNR=7.7						
ANMO				pP	**pP**	**02 46 51.2**	**+0.2**
	comp=E,6.8nm,1.1s,baz=172,slow=7.7,SNR=10						
BFZ	**Birch Farm**	**79.07**	**227**	*e*P	P	02 46 46.7	+3.5
	comp=E,50nm,0.8s						
TSUM	**Tsumeb**	**79.24**	**106**	*e*P	**P**	**02 46 44.9**	**+0.3**
	comp=E,3.0nm,0.7s						
BOSA	**Boshof**	**79.24**	**118**	P	**P**	**02 46 44.4**	**-0.1**
	comp=E,8.2nm,0.8s,baz=222,slow=4.5,SNR=15						
BOSA				LR	LR	03 17 36.9	
	comp=E,65nm,18.7s,baz=178,slow=32						
BOSA	**Boshof**	**79.24**	**118**	*e*P	**P**	**02 46 44.1**	**-0.4**
	comp=E,10.0nm,0.9s						
LBTB	**Lobatse**	**81.67**	**115**	*e*P	**P**	**02 46 56.9**	**-0.7**
	comp=E,4.4nm,0.6s						
ECSD	**EROS Data Cent**	**84.01**	**343**	*e*P	**P**	**02 47 09.2**	**+0.3**
	comp=E,15nm,1.1s						
NVAR	**Mina Array Bea**	**86.52**	**326**	P	**P**	**02 47 23.3**	**+1.4**
	comp=E,0.4nm,0.7s,baz=161,slow=6.8,SNR=4.0						
NVAR				pP	**pP**	**02 47 31.2**	**-0.2**
	comp=E,0.6nm,0.7s,baz=150,slow=4.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**86.64**	**71**	P	**P**	**02 47 22.7**	**-0.1**
	comp=E,5.3nm,0.7s,baz=229,slow=4.3,SNR=28						
TORD				pP	**pP**	**02 47 30.7**	**-1.6**
	comp=E,3.7nm,0.7s,baz=234,slow=4.3,SNR=9.6						
TORD				LR	LR	03 24 06.3	
	comp=E,49nm,19.9s,baz=210,slow=34						
PDAR	**Pinedale Array**	**86.82**	**334**	P	**P**	**02 47 23.4**	**+0.2**
	comp=E,0.6nm,0.8s,baz=142,slow=7.5,SNR=5.6						
TAM	**Tamanrasset**	**95.56**	**66**	*e*P	**P**	**02 48 04.5**	**+0.1**
	comp=E,2.1nm,1.2s						
GERES	**GERESS Array B**	**115.74**	**47**	PKP	**PKPdf**	**02 53 20.7**	**-0.1**
	comp=E,1.1nm,0.7s,baz=215,slow=1.6,SNR=12						
WRA	**Warramunga Arr**	**116.72**	**209**	PKP	**PKPdf**	**02 53 22.6**	**-1.0**
	comp=E,0.3nm,0.3s,baz=146,slow=1.5,SNR=4.7						
WRAB	**Tennant Creek**	**116.73**	**209**	*e*PKPdf	**PKPdf**	**02 53 24.8**	**+1.2**
ILAR	**Eielson Array**	**117.20**	**332**	PKP	**PKPdf**	**02 53 23.6**	**+0.6**
	comp=E,0.3nm,1.0s,baz=151,slow=2.1,SNR=3.4						
VYHS	**Vyhne**	**118.61**	**49**	*e*PKP	**PKPdf**	**02 53 26.4**	**+0.2**
NOA	**NORSAR Array B**	**119.99**	**34**	PKP	**PKPdf**	**02 53 27.9**	**-0.6**
	comp=E,0.6nm,0.6s,baz=249,slow=2.4,SNR=2.7						
CRVS	**Cervenica-Dubn**	**120.35**	**50**	*e*PKP	**PKPdf**	**02 53 31.1**	**+1.6**
SUW	**Suwalki**	**123.28**	**45**	*e*PKPdf	**PKPdf**	**02 53 34.8**	**-0.2**
BRTR	**Keskin Array B**	**124.71**	**64**	PKP	**PKPdf**	**02 53 38.5**	**+0.1**
	comp=E,2.4nm,0.7s,baz=193,slow=3.0,SNR=23						
TNA	**Tin City**	**125.66**	**329**	*e*PKPdf	**PKPdf**	**02 53 39.5**	**+0.4**
KIEV	**Kiev**	**125.68**	**50**	*e*PKPdf	**PKPdf**	**02 53 39.2**	**-0.5**
AKASG	**Malin Array Be**	**125.69**	**50**	PKP	**PKPdf**	**02 53 39.4**	**-0.3**
	comp=E,0.9nm,0.5s,baz=266,slow=2.1,SNR=4.2						
FINES	**FINESS Array B**	**126.90**	**36**	PKP	**PKPdf**	**02 53 41.6**	**-0.1**
	comp=E,2.0nm,0.9s,baz=215,slow=1.7,SNR=7.2						
ARCES	**ARCESS Array B**	**128.10**	**26**	PKP	**PKPdf**	**02 53 44.5**	**+0.7**
	comp=E,2.0nm,0.8s,baz=245,slow=3.9,SNR=3.4						
KBZ	**Khabaz**	**132.57**	**62**	PKP	**PKPdf**	**02 53 54.3**	**+1.3**
	comp=E,1.3nm,0.6s,baz=243,slow=4.5,SNR=7.4						
PALK	**Pallekele**	**141.50**	**136**	*e*PKPdf	**PKPdf**	**02 54 09.0**	**-1.5**
ARU	**Arti**	**143.47**	**44**	*e*PKPdf	PKPbc	02 54 10.1	+0.2
AKTO	**Aktyubinsk**	**143.70**	**54**	PKhKP	PKPpre	02 54 10.8	
	comp=E,4.0nm,0.6s,baz=255,slow=1.1,SNR=15						
TIXI	**Tiksi**	**144.38**	**348**	*e*PKPdf	**PKPab**	**02 54 10.8**	**-1.1**
IPM	**Ipoh**	**146.27**	**170**	*e*PKPbc	**PKPbc**	**02 54 20.1**	**+0.1**
KULM	**Kulim**	**147.01**	**169**	*e*PKPbc	**PKPbc**	**02 54 21.3**	**-0.7**
HYB	**Hyderabad**	**148.05**	**122**	*i* PKP	**PKPbc**	**02 54 23.5**	**-1.3**
KBL	**Kabul**	**149.71**	**85**	*e*PKPbc	**PKPbc**	**02 54 29.7**	**+0.9**
KKAR	**Karatay Array**	**152.30**	**68**	*e*PKPbc	**PKPbc**	**02 54 33.8**	**-0.5**
AAK	**Ala-Archa**	**155.22**	**69**	*e*PKPdf	**PKPdf**	**02 54 32.8**	**+0.9**
AAK				*e*PKPbc	PKPbc	02 54 40.8	
AAK				*e*PKPab	**PKPab**	**02 54 57.0**	**0.0**
KSH	**Kashi**	**156.17**	**77**	*e*PKP	**PKPdf**	**02 54 34.1**	**+0.8**
KSH				sPKP		02 54 47.8	
KSH				PKS	**PKSdf**	**02 58 08.3**	**+1.0**
KSH				PP	**PP**	**02 58 38.1**	**-1.2**
KSH				SS	SS	03 18 25.0	-2.3
KSH				PPMZ			
	comp=E,83nm,4.5s						
KSH				LZ			
	comp=E,120nm,7.2s						
KURBB	**Kurchatov Arra**	**156.47**	**49**	PP	PP	02 58 42.8	+2.6
	comp=E,0.4nm,0.3s,baz=276,slow=6.2,SNR=8.1						
KURK	**Kurchatov**	**156.49**	**48**	PP	PP	02 58 42.8	+2.5
ZALV	**Zalesovo Beam**	**158.17**	**36**	PKP	**PKPdf**	**02 54 34.3**	**-0.8**
	comp=E,1.5nm,0.7s,baz=284,slow=1.2,SNR=9.4						
ZALV				pPKP	**pPKPdf**	**02 54 42.9**	**-2.1**
	comp=E,1.7nm,0.6s,baz=326,slow=2.1,SNR=4.7						
ZALV				PKPab	**PKPab**	**02 55 09.6**	**+0.5**
	comp=E,1.9nm,0.7s,baz=305,slow=5.2,SNR=5.2						
GKN	**Gorkha**	**159.15**	**112**	*e*P	**PKPab**	**02 55 12.0**	**-2.4**
	comp=E,4.8nm,0.3s						
DMN	**Daman**	**159.27**	**114**

MAZI	**Mazidag**	**1.35**	**89**	*e*Pn	**Pn**	**02 49 48.4**	**-0.7**
MAZI				*e*Sn	**Sb**	**02 50 07.0**	**+0.2**
SLMH	**Al Salmeh**	**1.39**	**209**	*e*P	**Pn**	**02 49 48.7**	**-1.0**
SNR=67							
SLMH				*e*S	**Sb**	**02 50 03.7**	**-4.4**
25nm,0.5s,SNR=59							
SLMH	**Al Salmeh**	**1.39**	**209**	*e*P	**Pn**	**02 49 48.7**	**-1.0**
SLMH				*e*S	**Sb**	**02 50 03.7**	**-4.4**
SLMH				AML	AML	02 50 20.8	
comp=Z,25nm,0.5s							
KMRS	**Kahramanmaras**	**1.48**	**273**	*e*PN	**Pn**	**02 49 50.2**	**-0.6**
KMRS	**Kahramanmaras**	**1.48**	**273**	*e*Pn	**Pn**	**02 49 50.2**	**-0.6**
KBSD	**Kabsdagh**	**1.49**	**106**	*e*P	**Pn**	**02 49 51.8**	**+0.7**
SNR=57							
KBSD				*e*S	**Sn**	**02 50 09.3**	**-1.2**
comp=Z,36nm,0.2s,SNR=49							
KBSD	**Kabsdagh**	**1.49**	**106**	*e*P	**Pn**	**02 49 51.8**	**+0.7**
KBSD				*e*S	**Sn**	**02 50 09.3**	**-1.2**
KBSD				AML	AML	02 50 15.9	
comp=Z,36nm,0.2s							
KUZU	**Kuzuini**	**1.50**	**244**	*i* P	**Pg**	**02 49 53.2**	**+0.1**
KUZU	**Kuzuini**	**1.50**	**244**	*i* P	**Pg**	**02 49 53.2**	**+0.1**
KUZU				*i* S	**Sg**	**02 50 14.1**	**+1.6**
DARE	**Darende-Malaty**	**1.51**	**319**	*e*PN	**Pn**	**02 49 51.7**	**+0.4**
DARE	**Darende-Malaty**	**1.51**	**319**	*e*Pn	**Pn**	**02 49 51.7**	**+0.3**
PTK	**Pertek**	**1.54**	**19**	*e*PN	**Pn**	**02 49 52.2**	**+0.4**
PTK	**Pertek**	**1.54**	**19**	*e*Pn	**Pn**	**02 49 52.2**	**+0.4**
KSRV	**Kasrt alli**	**1.58**	**173**	*e*P	**Pb**	**02 49 54.7**	**+1.1**
SNR=57							
KSRV				*e*S	**Sn**	**02 50 14.4**	**+1.7**
comp=Z,22nm,0.3s,SNR=49							
KSRV	**Kasrt alli**	**1.58**	**173**	*e*P	**Pb**	**02 49 54.7**	**+1.1**
KSRV				*e*S	**Sn**	**02 50 14.4**	**+1.7**
KSRV				AML	AML	02 50 18.9	
comp=Z,22nm,0.3s							
ANDN	**Andirin**	**1.92**	**275**	*i* P	**Pn**	**02 49 56.6**	**-0.4**
ANDN				*i* S	**Sn**	**02 50 20.7**	**-0.5**
ANDN	**Andirin**	**1.92**	**275**	*i* P	**Pn**	**02 49 56.6**	**-0.4**
ANDN				*i* S	**Sn**	**02 50 20.7**	**-0.5**
BINT	**Bingol**	**1.98**	**43**	*e*Pn	**Pb**	**02 50 00.7**	**+0.3**
ILIC	**ilic-Erzincan**	**2.02**	**356**	*e*PN	**Pn**	**02 49 58.7**	**+0.4**
ILIC	**ilic-Erzincan**	**2.02**	**356**	*e*Pn	**Pn**	**02 49 58.7**	**+0.4**
SVAN	**Silvan-Diyarba**	**2.06**	**69**	*e*PN	**Pn**	**02 49 58.9**	**0.0**
BNGB	**Bing¯¶l**	**2.17**	**44**	*e*PN	**Pn**	**02 50 00.7**	**+0.3**
MZRK	**Al-Mazaregh**	**2.22**	**136**	*e*P	Pn	02 49 56.5	-4.5
SNR=57							
MZRK	**Al-Mazaregh**	**2.22**	**136**	*e*P	Pn	02 49 56.5	-4.5
MZRK				*e*S	Sn	02 50 17.8	-11
MZRK				AML	AML	02 50 38.3	
comp=Z,16nm,0.5s							
BTMT	**Batman**	**2.29**	**70**	*e*PN	**Pn**	**02 50 02.2**	**+0.1**
BTMT	**Batman**	**2.29**	**70**	*e*Pn	**Pn**	**02 50 02.2**	**+0.1**
BTCH	**Batrach**	**2.31**	**234**	*e*P	**Pb**	**02 50 06.4**	**+0.4**
SNR=45							
BTCH				*e*S	**Sb**	**02 50 35.0**	**+0.3**
comp=Z,26nm,0.7s,SNR=40							
BTCH	**Batrach**	**2.31**	**234**	*e*P	**Pb**	**02 50 06.4**	**+0.4**
BTCH				*e*S	**Sb**	**02 50 35.0**	**+0.3**
BTCH				AML	AML	02 50 44.6	
comp=N,29nm,0.7s							
BTCH				AML	AML	02 50 47.4	
comp=E,26nm,0.7s							
WRDH	**Warideh**	**2.70**	**225**	*e*P	**Pn**	**02 50 09.3**	**+1.7**
SNR=45							
WRDH				*e*S	**Sn**	**02 50 39.8**	**-0.5**
comp=E,19nm,0.6s,SNR=40							
WRDH	**Warideh**	**2.70**	**225**	*e*P	**Pn**	**02 50 09.3**	**+1.7**
WRDH				*e*S	**Sn**	**02 50 39.8**	**-0.5**
WRDH				AML	AML	02 50 59.3	
comp=N,9.1nm,0.3s							
WRDH				AML	AML	02 50 59.6	
comp=E,19nm,0.6s							

WEL 20 03:09:16.0±0.7, 46°.24S×166°.24E, h2km, ML4.0/9, 1D, Error ellipse: s-maj=7.9km s-min=2.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.99**	**40**	P*	Pg	03 09 32.5	-2.6
DCZ				S*	Sg	03 09 47.8	-0.1
DCZ				AML	AML	03 09 50.7	
WHZ	**Wether Hill Ro**	**1.24**	**74**	P*	Pg	03 09 38.7	-1.0
WHZ				S*	Sb	03 09 56.4	-0.1
WHZ				AML	AML	03 10 00.6	
APZ	**The Paps**	**1.34**	**117**	P*	Pg	03 09 40.6	-1.3
APZ				S*	Sn	03 10 00.2	-0.2
APZ				AML	AML	03 10 01.4	
SYZ	**Scrubby Hill**	**2.03**	**100**	⇓P	Pn	03 09 51.0	-0.1
SYZ				AML	AML	03 10 20.7	
SYZ				AML	AML	03 10 20.7	
SYZ				AML	AML	03 10 21.2	
SYZ				AML	AML	03 10 23.1	
EAZ	**Earnscleugh**	**2.37**	**66**	PN	Pn	03 09 55.6	-0.3
EAZ				AML	AML	03 10 29.6	
EAZ				AML	AML	03 10 40.0	
TUZ	**Tuapeka**	**2.38**	**84**	PN	Pn	03 09 55.5	-0.5
WKZ	**Wanaka**	**2.41**	**55**	PN	Pn	03 09 56.1	-0.4
WKZ				AML	AML	03 10 36.8	
WKZ				AML	AML	03 10 36.8	
WKZ				AML	AML	03 10 45.1	
JCZ	**Jackson Bay**	**2.80**	**40**	PN	Pn	03 10 00.3	-1.7
JCZ				AML	AML	03 10 50.9	
JCZ				AML	AML	03 10 56.5	
ODZ	**Otahua Downs**	**3.31**	**70**	PN	Pn	03 10 06.6	-2.2
LBZ	**Lake Benmore**	**3.34**	**58**	PN	Pn	03 10 07.0	-2.3
LBZ				AML	AML	03 10 52.4	
LBZ				AML	AML	03 11 10.7	
FOZ	**Fox Glacier**	**3.63**	**44**	PN	Pn	03 10 11.5	-1.6
FOZ				AML	AML	03 11 20.0	

*IDC **20** 03:10:04.6±1.0, 35°.87S×73°.61W, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.9/32, mbtmp3.9/10, ML3.5/2, MS2.9/2, Ms1 2.9/2, ms1mx2.7/19, Error ellipse: s-maj=29.2km s-min=20.5km az=94.0*
*GUC **20** 03:10:04.7±0.4, 36°.09S×73°.73W, h26km±4km, ML4.7*
*NEIC **20** 03:10:05.7±4.6, 35°.88S×73°.53W, h12km±28km, mb4.4/13, Error ellipse: s-maj=17.0km s-min=7.9km az=75.0*
*ISCJB **20** 03:10:07.1±0.5, 35°.92S±0°.06×73°.59W±0°.05, h33km, mb4.2/17, MS3.2/1, Error ellipse: s-maj=8.6km s-min=6.0km az=11.3*

ISC 20 03:10:09.0±0.6, 35°.86S±0°.06×73°.62W±0°.08, h35km, n34, σ1§70/37, mb4.3/17, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.73**	**112**	*e*P	Pn	03 10 17.9	-4.9
COCH				*e*S	**Sn**	**03 10 28.3**	**-4.4**
LNCH	**Linares**	**1.64**	**90**	*e*P	**Pn**	**03 10 33.7**	**-1.7**
LNCH				*e*S	**Sn**	**03 10 55.3**	**+0.1**
LNCH				AML	AML	03 11 05.8	
comp=N,9μm,0.6s							
TALC	**Talca**	**1.68**	**75**	*e*P	**Pn**	**03 10 34.8**	**-1.1**
TALC				*e*S	**Sn**	**03 10 58.0**	**+1.7**
NICH	**Los Niches**	**2.13**	**67**	*e*P	**Pn**	**03 10 42.0**	**-0.1**
NICH				*e*S	**Sn**	**03 11 10.0**	**+2.6**
NICH				AML	AML	03 11 25.7	
comp=E,9μm,0.7s							
PLCA	**Paso Flores**	**5.43**	**155**	Pn	**Pn**	**03 11 26.2**	**-1.3**
comp=E,0.4nm,0.3s,baz=297,slow=13,SNR=6.6							
PLCA	**Paso Flores**	**5.43**	**155**	*e*Pn	**Pn**	**03 11 25.8**	**-1.7**
comp=E,2.6nm,0.6s							
PLCA				*e*Lg	Lg	03 12 55.2	
CFAA	**Coronel Fontan**	**6.17**	**48**	Pn	**Pn**	**03 11 36.5**	**-1.2**
comp=E,1.1nm,0.3s,baz=225,slow=12,SNR=30							
CFAA				Sn	**Sn**	**03 12 48.1**	**+0.9**
comp=E,0.8nm,0.3s,baz=270,slow=19,SNR=4.3							
CFAA				LR	LR	03 14 38.9	
comp=E,36nm,18.0s,baz=232,slow=44							
LCO	**Las Campanas**	**7.26**	**21**	*e*Pn	**Pn**	**03 11 50.1**	**-2.8**
comp=E,10nm,0.7s							
LCO				*e*Sn	**Sn**	**03 13 08.8**	**-5.4**
TRQA	**Tornquist**	**9.57**	**107**	*e*Pn	**Pn**	**03 12 22.2**	**-2.1**
comp=E,7.2nm,0.8s							
LPAZ	**La Paz**	**20.10**	**16**	P	Pn	03 14 42.1	-0.3
comp=E,2.9nm,0.8s,baz=170,slow=2.8,SNR=9.4							
LPAZ	**La Paz**	**20.10**	**16**	*e*P	Pn	03 14 42.6	+0.2
comp=E,3.7nm,0.9s							
SIV	**San Ignacio**	**22.74**	**33**	P	**P**	**03 15 07.6**	**-0.5**
comp=E,3.2nm,0.8s,baz=226,slow=15,SNR=16							
SIV				LR	LR	03 24 53.8	
comp=E,81nm,20.1s,baz=223,slow=39							
SAML	**Samuel**	**28.43**	**22**	*e*P	**P**	**03 15 59.7**	**-0.8**
comp=E,5.9nm,1.4s							
OTAV	**Otavalo**	**36.19**	**352**	*e*P	**P**	**03 17 10.2**	**+1.3**
comp=E,3.3nm,1.1s							
JTS	**JuntasAbangare**	**47.13**	**345**	*e*P	**P**	**03 18 38.3**	**+0.4**
QSPA	**South Pole Qui**	**54.38**	**180**	P	**P**	**03 19 33.2**	**+1.1**
comp=E,3.6nm,1.0s,baz=124,slow=4.4,SNR=4.5							
HKT	**Hockley**	**68.72**	**339**	*e*P	**P**	**03 21 08.5**	**-0.4**
comp=E,7.2nm,1.3s							
TXAR	**Lajitas Array**	**70.75**	**332**	P	**P**	**03 21 21.9**	**+0.3**
comp=E,0.5nm,0.6s,baz=150,slow=8.5,SNR=8.0							
WVT	**Waverly**	**72.83**	**348**	*e*P	**P**	**03 21 33.3**	**-0.6**
comp=E,1.7nm,0.5s							
TUL1	**Leonard**	**74.33**	**341**	*e*P	**P**	**03 21 42.6**	**-0.1**
comp=E,7.4nm,0.8s							
LAZ	**Ladron**	**76.59**	**332**	*e*P	**P**	**03 21 56.7**	**+0.8**
ANMO	**Albuquerque**	**76.81**	**333**	*e*P	**P**	**03 21 58.1**	**+0.9**
comp=E,2.3nm,1.1s							
DBIC	**Dimbokro**	**77.00**	**72**	P	**P**	**03 21 59.6**	**+1.1**
comp=E,1.4nm,0.7s,baz=225,slow=5.7,SNR=3.6							
DBIC	**Dimbokro**	**77.00**	**72**	*e*P	**P**	**03 21 58.8**	**+0.3**
comp=E,2.7nm,0.7s							
MVCO	**Mesa Verde**	**79.58**	**332**	*e*P	**P**	**03 22 13.3**	**+0.7**
comp=E,5.0nm,0.9s							
BOSA	**Boshof**	**80.35**	**118**	P	**P**	**03 22 17.0**	**0.0**
comp=E,2.2nm,0.9s,baz=163,slow=5.4,SNR=3.5							
BOSA	**Boshof**	**80.35**	**118**	*e*P	**P**	**03 22 16.5**	**-0.5**
comp=E,66nm,2.1s							
LBTB	**Lobatse**	**82.69**	**115**	*e*P	**P**	**03 22 29.8**	**+0.4**
comp=E,3.0nm,0.9s							
DUG	**Dugway, Tooele**	**83.84**	**331**	*e*P	**P**	**03 22 34.7**	**-0.1**
comp=E,6.7nm,1.3s							
NVAR	**Mina Array Bea**	**84.69**	**326**	P	**P**	**03 22 40.8**	**+1.5**
comp=E,0.6nm,0.7s,baz=139,slow=6.0,SNR=6.7							
TORD	**Torodi Ar. Bea**	**86.06**	**71**	P	**P**	**03 22 48.9**	**+2.6**
comp=E,1.1nm,1.2s,baz=217,slow=6.9,SNR=3.2							
LSZ	**Lusaka**	**90.44**	**109**	*e*P	**P**	**03 23 07.3**	**-0.2**
comp=E,1.7nm,0.8s							
KAPI	**Kappang**	**137.45**	**200**	*e*PKPdf	**PKPdf**	**03 29 29.3**	**-0.3**
KKAR	**Karatay Array**	**151.55**	**64**	*e*PKPdf	**PKPdf**	**03 29 52.9**	**0.0**

*IDC **20** 03:14:48.3±3.9, 47°.23N×155°.43E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.3/43, mbtmp3.4/6, ML2.2/1, Error ellipse: s-maj=91.6km s-min=29.9km az=165.0*

ISC 20 03:14:51.2±2.6, 47°.3N±0°.3×155°.4E±0°.2, h18km, n6, σ0§28/6, mb3.5/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.02**	**13**	Pn	**Pn**	**03 16 19.4**	**+0.1**
0.3nm,0.3s,baz=182,slow=14,SNR=15							
ILAR	**Eielson Array**	**35.15**	**39**	P	**P**	**03 21 43.3**	**-0.2**
0.3nm,0.8s,baz=239,slow=8.1,SNR=4.7							
ZALV	**Zalesovo Beam**	**43.58**	**306**	P	**P**	**03 22 53.9**	**+0.1**
0.4nm,0.4s,baz=65,slow=8.4,SNR=4.1							
MKAR	**Makanchi Array**	**48.09**	**298**	P	**P**	**03 23 29.8**	**+0.2**
0.4nm,0.8s,baz=67,slow=8.7,SNR=4.2							
YKA	**Yellowknife Ar**	**49.55**	**38**	P	**P**	**03 23 40.7**	**+0.2**
0.2nm,0.7s,baz=297,slow=7.1,SNR=4.7							
FINES	**FINESS Array B**	**64.22**	**336**	P	**P**	**03 25 24.2**	**-0.3**
1.0nm,0.8s,baz=51,slow=1.2,SNR=4.6							

KRSC 20 03:17:16.1±1.1, 55°.72N×165°.88E, h41km±15km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.52**	**174**	*i* P	Pn	03 17 28.2	+1.2
BKI				*i* S	Sn	03 17 35.6	+0.8
KBTR	**Krutoberegovo**	**1.79**	**287**	*e*P	Pn	03 17 45.3	+0.9
KBTR				*e*S	Sn	03 18 08.6	+2.7
SMKR	**Semkarok**	**2.61**	**291**	*e*P	Pn	03 17 59.0	+3.1
MKZ	**Mys Kozlova**	**2.65**	**246**	*e*P	Pn	03 17 59.7	+3.5
MKZ				*e*S	Sn	03 18 30.4	+3.3
BDR	**Baidarnaya**	**2.75**	**290**	*e*P	Pn	03 18 01.1	+3.4
BDR				*e*S	Sn	03 18 34.5	+4.8
SRKR	**Sorokina**	**2.79**	**292**	*e*P	Pn	03 18 01.1	+2.8
TUMR	**Tumrok**	**3.29**	**265**	*e*P	Pn	03 18 09.3	+4.1
SRDR	**Sredinnyy**	**3.51**	**282**	*e*P	Pn	03 18 12.0	+3.9
SMAR	**Somma**	**4.80**	**242**	*e*P	Pn	03 18 29.7	+3.6
KRER	**Koryakskii**	**4.81**	**243**	*e*P	Pn	03 18 30.2	+4.1
UGLR	**Uglovaya**	**4.82**	**241**	*e*P	Pn	03 18 30.5	+4.3
KRX	**Arik**	**4.83**	**244**	*e*P	Pn	03 18 31.6	+5.3
AVH	**Avacha**	**4.83**	**242**	*e*P	Pn	03 18 31.0	+4.7
KOK	**Koryaka**	**4.87**	**243**	*e*P	Pn	03 18 31.3	+4.4
GNL	**Ganaly**	**5.03**	**249**	*e*P	Pn	03 18 32.4	+3.3
RUS	**Russkaya**	**5.44**	**236**	*e*P	Pn	03 18 38.0	+3.4
MTVR	**Mutnovka**	**5.57**	**238**	*e*P	Pn	03 18 41.9	+5.4
MTVR				*e*S	Sn	03 19 43.1	+3.8

WEL 20 03:36:30.4±0.8, 46°.20S×166°.14E, h12km, ML4.1/12, 1C, Error ellipse: s-maj=8.5km s-min=3.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.01**	**45**	⇑P*	Pb	03 36 46.5	-3.3
DCZ				S*	Sg	03 36 59.4	-3.6
DCZ				AML	AML	03 37 01.4	
WHZ	**Wether Hill Ro**	**1.29**	**77**	PN	Pn	03 36 52.5	-1.7
WHZ				SN	Sb	03 37 10.6	-0.7
WHZ				AML	AML	03 37 16.3	
APZ	**The Paps**	**1.42**	**117**	PN	Pn	03 36 54.5	-1.6
APZ				SN	Sn	03 37 14.0	-0.8
APZ				AML	AML	03 37 15.3	
MLZ	**Mavora Lakes**	**1.66**	**60**	PN	Pn	03 36 57.6	-1.8
MLZ				AML	AML	03 37 24.7	
MLZ				AML	AML	03 37 26.5	
MSZ	**Milford Sound**	**1.98**	**40**	*e*PN	Pn	03 37 02.1	-1.5
MSZ				AML	AML	03 37 35.6	
MSZ				AML	AML	03 37 35.6	
MSZ				AML	AML	03 37 41.2	
MSZ				AML	AML	03 37 41.2	
SYZ	**Scrubby Hill**	**2.10**	**100**	PN	Pn	03 37 04.7	-0.6
SYZ				AML	AML	03 37 37.6	
SYZ				AML	AML	03 37 37.6	
SYZ				AML	AML	03 37 38.4	
SYZ				AML	AML	03 37 38.4	
EAZ	**Earnscleugh**	**2.42**	**68**	PN	Pn	03 37 09.1	-0.6
EAZ				SN	Sn	03 37 40.7	+1.4
EAZ				AML	AML	03 37 53.8	
TUZ	**Tuapeka**	**2.44**	**85**	PN	Pn	03 37 09.7	-0.3
WKZ	**Wanaka**	**2.44**	**57**	PN	Pn	03 37 09.8	-0.3
WKZ				AML	AML	03 37 51.9	
WKZ				AML	AML	03 37 56.1	
JCZ	**Jackson Bay**	**2.82**	**42**	PN	Pn	03 37 14.1	-1.3
JCZ				AML	AML	03 38 04.8	
JCZ				AML	AML	03 38 10.4	
HHSZ	**Highcliff Hill**	**3.12**	**86**	PN	Pn	03 37 18.6	-0.7
ODZ	**Otahua Downs**	**3.36**	**71**	PN	Pn	03 37 20.4	-2.3
LBZ	**Lake Benmore**	**3.38**	**59**	PN	Pn	03 37 20.9	-2.1
LBZ				AML	AML	03 38 05.8	
LBZ				AML	AML	03 38 26.6	
FOZ	**Fox Glacier**	**3.65**	**45**	PN	Pn	03 37 25.5	-1.1
FOZ				AML	AML	03 38 33.8	
RPZ	**Rata Peaks**	**4.28**	**56**	PN	Pn	03 37 32.4	-3.0
WVZ	**Waitaha Valley**	**4.53**	**48**	PN	Pn	03 37 36.3	-2.4
WVZ				AML	AML	03 43 02.2	
OXZ	**Oxford**	**5.09**	**58**	PN	Pn	03 37 43.0	-3.4
MQZ	**McQueen's Vall**	**5.25**	**64**	PN	Pn	03 37 46.0	-2.6
LTZ	**Lake Taylor**	**5.56**	**54**	PN	Pn	03 37 49.4	-3.5
DSZ	**Denniston Nort**	**6.04**	**45**	PN	Pn	03 37 56.5	-3.1
QRZ	**Quartz Range**	**7.10**	**43**	PN	Pn	03 38 11.6	-2.4

*IDC **20** 04:06:18.7±2.7, 17°.43S×178°.96W, h505km±30km, mb3.2/7, mb1 3.5/8, mb1mx3.3/31, mbtmp4.1/8, Error ellipse: s-maj=28.9km s-min=18.0km az=140.0*
*ISCJB **20** 04:06:20.7±0.7, 17°.5S±0°.1×179°.0W±0°.1, h539km, mb3.8/8, Error ellipse: s-maj=22.3km s-min=10.9km az=138.3*

ISC 20 04:06:21.6±0.9, 17°.5S±0°.2×178°.9W±0°.2, h539km, n31, σ0§95/31, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.49**	**249**	P	**P**	**04 09 25.2**	**-1.0**
0.5nm,0.3s,baz=78,slow=20,SNR=4.8							
URZ	**Urewera**	**20.99**	**189**	P	**P**	**04 10 25.7**	**-1.3**
6.7nm,0.7s,baz=279,slow=1.9,SNR=6.5							
ARMA	**Armidale**	**29.72**	**239**	P	**P**	**04 11 45.3**	**+0.9**
baz=30,SNR=15							
MGCD	**Mangrove Creek**	**31.12**	**234**	P	**P**	**04 11 57.5**	**+1.2**
baz=31,SNR=13							
RMQ	**Roma**	**31.19**	**248**	P	**P**	**04 11 57.9**	**+0.9**
baz=32,SNR=8.1							
CNB	**Canberra Magne**	**33.29**	**232**	P	**P**	**04 12 15.8**	**+1.0**
baz=34,SNR=33							
CMSA	**Cobar Meteorol**	**34.92**	**240**	P	**P**	**04 12 28.9**	**+0.4**
baz=35,SNR=15							
QLP	**Quilpie**	**35.21**	**249**	P	**P**	**04 12 31.0**	**0.0**
baz=36,SNR=5.3							
COEN	**Coen**	**36.59**	**270**	P	**P**	**04 12 43.1**	**+0.5**
baz=37,SNR=8.1							
TOO	**Toolangi**	**37.05**	**230**	P	**P**	**04 12 47.1**	**+1.1**
baz=37,SNR=16							
MCQ	**Macquarie Isla**	**40.68**	**200**	P	P	04 13 07.4	-7.6
baz=40,SNR=3.2							
BBOO	**Buckleboo**	**43.17**	**240**	P	**P**	**04 13 35.3**	**+0.3**
baz=44,SNR=10							
WRA	**Warramunga Arr**	**44.21**	**259**	P	**P**	**04 13 42.3**	**-1.1**
1.8nm,0.3s,baz=94,slow=8.0,SNR=28							
ASAR	**Alice Springs**	**44.42**	**254**	P	**P**	**04 13 44.7**	**-0.2**
41nm,0.8s,baz=88,slow=8.1,SNR=306							
ASAR				ScP	**ScP**	**04 18 20.7**	**+2.9**
0.7nm,0.7s,baz=90,slow=4.6,SNR=4.5							
KDU	**Kakadu**	**47.06**	**269**	P	**P**	**04 14 05.0**	**0.0**
baz=48,SNR=15							
MTN	**Manton Dam**	**48.30**	**268**	P	**P**	**04 14 14.1**	**-0.3**
baz=49,SNR=4.6							
WRKA	**Warakurna**	**49.49**	**252**	P	**P**	**04 14 23.1**	**0.0**
baz=50,SNR=159							
FORT	**Forrest**	**49.73**	**244**	P	**P**	**04 14 24.4**	**-0.4**
baz=50,SNR=11							
KNRA	**Kununurra**	**50.03**	**264**	P	**P**	**04 14 26.7**	**-0.4**
baz=51,SNR=16							
SOEI	**Soe**	**55.56**	**270**	P	**P**	**04 15 08.4**	**+1.6**
baz=56,SNR=3.6							
MEEK	**Meekatharra**	**58.11**	**249**	P	**P**	**04 15 23.4**	**-0.6**
baz=58,SNR=13							
BLDU	**Ballidu**	**59.50**	**244**	P	**P**	**04 15 32.9**	**-0.4**
baz=60,SNR=6.3							
MORW	**Morawa**	**60.19**	**246**	P	**P**	**04 15 37.4**	**-0.4**
baz=60,SNR=6.4							
UGM	**Wanagama**	**69.15**	**268**	P	**P**	**04 16 34.6**	**-0.1**
baz=70,SNR=3.3							
PETK	**Petropavlovsk-**	**73.14**	**346**	P	**P**	**04 16 56.0**	**-1.1**
2.7nm,0.6s,baz=129,slow=12,SNR=3.9							
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**04 17 33.7**	**+1.0**
0.4nm,0.7s,baz=224,slow=8.7,SNR=4.3							
ILAR	**Eielson Array**	**85.59**	**13**	P	**P**	**04 18 01.7**	**-0.9**
0.4nm,0.4s,baz=224,slow=5.4,SNR=10							
PDAR	**Pinedale Array**	**87.39**	**44**	P	**P**	**04 18 12.5**	**+0.5**
0.4nm,0.6s,baz=219,slow=3.4,SNR=3.4							
YKA	**Yellowknife Ar**	**94.16**	**25**	P	**P**	**04 18 42.2**	**-0.1**
0.3nm,0.7s,baz=240,slow=4.2,SNR=7.7							
BRTR	**Keskin Array B**	**144.12**	**315**	PKP	**PKPab**	**04 24 56.2**	**-0.1**
0.4nm,0.5s,baz=38,slow=6.4,SNR=5.0							
GERES	**GERESS Array B**	**147.07**	**345**	PKPbc	**PKPbc**	**04 25 04.8**	**+0.6**
0.4nm,0.6s,baz=346,slow=4.8,SNR=4.3							

KRSC 20 04:31:44.6±1.3, 54°.91N×165°.57E, h40km±13km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.38**	**38**	*i* P	Pn	04 31 54.2	+0.5
BKI				*i* S	Sn	04 31 59.6	-0.5
KBTR	**Krutoberegovo**	**2.03**	**311**	*e*P	Pn	04 32 16.8	+0.5
KBTR				*e*S	Sn	04 32 40.7	+0.3
MKZ	**Mys Kozlova**	**2.25**	**263**	*i* P	Pn	04 32 23.0	+3.7
MKZ				*e*S	Sn	04 32 49.2	+3.4
SMKR	**Semkarok**	**2.86**	**308**	*i* P	Pn	04 32 31.5	+3.7
SMKR				*i* S	Sn	04 33 05.2	+4.2
BDR	**Baidarnaya**	**2.97**	**306**	*e*P	Pn	04 32 33.2	+3.9
BDR				*e*S	Sn	04 33 07.9	+4.1
SRKR	**Sorokina**	**3.04**	**307**	*i* P	Pn	04 32 34.7	+4.5
SRKR				*i* S	Sn	04 33 10.7	+5.4
TUMR	**Tumrok**	**3.14**	**279**	*e*P	Pn	04 32 35.9	+4.3
TUMR				*e*S	Sn	04 33 12.8	+4.9
KMNR	**Kamenistaya**	**3.16**	**288**	*e*P	Pn	04 32 36.1	+4.2
SRDR	**Sredinnyy**	**3.60**	**295**	*i* P	Pn	04 32 42.9	+4.9
SRDR				*i* S	Sn	04 33 24.6	+5.3
SDLR	**Sedlovina**	**4.26**	**250**	*i* P	Pn	04 32 51.8	+4.8
SDLR				*i* S	Sn	04 33 39.4	+3.8
SMAR	**Somma**	**4.31**	**250**	*i* P	Pn	04 32 52.5	+4.6
KRER	**Koryakskii**	**4.32**	**251**	*i* P	Pn	04 32 52.9	+4.9
KRER				*e*S	Sn	04 33 41.0	+3.7
UGLR	**Uglovaya**	**4.32**	**250**	*e*P	Pn	04 32 52.7	+4.8
UGLR				*e*S	Sn	04 33 39.9	+2.8
AVH	**Avac

PET eS **Sn** **04 41 22.4 -0.4**
GNL Ganaly 2.88 257 eP **Pn** **04 40 52.6 +0.3**
RUS Russkaya 3.18 233 eP **Pn** **04 40 56.4 +0.1**
RUS eS **Sn** **04 41 32.5 -0.5**
PETK Petropavlovsk- 3.23 248 Pn **Pn** **04 40 57.3 +0.3**
1.2nm,0.3s,baz=78,slow=18,SNR=17
PETK Sn **Sn** **04 41 36.2 +2.1**
1.8nm,0.3s,baz=93,slow=20,SNR=4.9
MTVR Mutnovka 3.31 236 eP **Pn** **04 40 58.2 0.0**
MTVR eS **Sn** **04 41 35.8 -0.5**
APC Apacha 3.60 248 eS **Sn** **04 41 45.3 +2.0**
FX1 Attu Island--F 6.43 100 Pn **Pn** **04 41 42.5 +1.8**
1.6nm,0.3s,baz=309,slow=5.4,SNR=13
FX1 Sn **Sn** **04 42 51.4 -1.3**
2.3nm,0.3s,baz=188,slow=23,SNR=9.9
YKA Yellowknife Ar 41.15 44 P **P** **04 47 48.5 +2.2**
0.2nm,0.8s,baz=300,slow=8.4,SNR=4.4
MKAR Makanchi Array 48.95 296 P **P** **04 48 46.6 -1.8**
0.2nm,0.6s,baz=66,slow=6.8,SNR=3.7
FINES FINESS Array B 59.49 337 P **P** **04 50 04.4 -0.4**
0.6nm,0.5s,baz=22,slow=7.0,SNR=11

IDC 20 04:40:10.5±1.7, 57°56S×26°70W, h0km, mb4.1/2, mb1 4.2/2, mb1mx3.7/22, mbtmp4.1/2, Error ellipse: s-maj=70.4km s-min=44.3km az=5.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**51.48**	**306**	P	P	04 49 18.4	0.0
	0.7nm,0.5s,baz=142,slow=6.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**74.25**	**29**	P	P	04 51 49.1	0.0
	2.3nm,0.6s,baz=198,slow=6.4,SNR=40						
YKA	**Yellowknife Ar**	**137.47**	**317**	PKP	PKPdf	04 59 34.5	-0.1
	0.4nm,0.8s,baz=132,slow=2.1,SNR=6.9						
SONM	**Songino Array**	**150.52**	**89**	PKPbc	PKPbc	05 00 03.1	-0.2
	1.5nm,0.5s,baz=224,slow=3.7,SNR=24						
ILAR	**Eielson Array**	**151.31**	**310**	PKPbc	PKPbc	05 00 03.8	-0.6
	0.5nm,0.7s,baz=113,slow=0.8,SNR=13						

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*IDC **20** 04:49:06.9±1.0, 11°43N×86°31W, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.8/32, mbtmp3.8/10, ML3.1/2, MS3.2/6, Ms1 3.2/6, ms1mx2.9/34, Error ellipse: s-maj=49.3km s-min=11.2km az=45.0*
*ISCJB **20** 04:49:08.0±0.5, 10°94N±0°06×86°77W±0°05, h31km, mb4.2/23, MS3.2/4, Error ellipse: s-maj=9.9km s-min=3.1km az=36.1*
*NEIC **20** 04:49:09.7±3.1, 11°07N×86°62W, h29km±23km, mb4.4/18, Error ellipse: s-maj=16.9km s-min=7.1km az=46.0*
*CASC **20** 04:49:09.5±2.9, 10°96N×86°74W, h35km±999km, MD4.2*

ISC 20 04:49:10.1±0.7, 11°06N±0°08×86°61W±0°07, h31km, n63, σ1°04/64, mb4.4/23, MS3.1/4, 2C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.11**	**1**	⇓iP	**Pb**	**04 49 31.5**	**+0.8**
NY14	**Universidad de**	**1.14**	**111**	*i* P	**Pn**	**04 49 29.7**	**-0.1**
NY14				*i* S	**Sb**	**04 49 45.5**	**-0.1**
GBS2	**Las Lilas**	**1.16**	**101**	*i* P	**Pn**	**04 49 30.4**	**+0.2**
GBS3	**Finca Las lm^¡**	**1.17**	**104**	*i* P	**Pn**	**04 49 29.8**	**-0.6**
LAPC	**Finca la Perla**	**1.19**	**104**	*i* P	**Pn**	**04 49 30.4**	**-0.3**
BUEV	**Buena Vista**	**1.21**	**102**	*i* P	**Pn**	**04 49 31.0**	**0.0**
GB1A	**Borinquen Arri**	**1.22**	**101**	*i* P	**Pn**	**04 49 31.3**	**+0.2**
GB1A				*i* S	**Sb**	**04 49 48.1**	**+0.1**
GPS1	**Guardaparques**	**1.27**	**103**	*i* P	**Pn**	**04 49 31.9**	**+0.1**
HUEN		**1.34**	**19**	⇑iP	**Pb**	**04 49 34.9**	**+0.3**
LIM1	**Limonal**	**1.38**	**105**	*i* P	**Pn**	**04 49 33.0**	**-0.3**
MESS	**Mesas**	**1.43**	**103**	*i* P	**Pn**	**04 49 34.0**	**+0.1**
CNGN	**Cerro Negro**	**1.43**	**357**	eP	**Pb**	**04 49 35.8**	**-0.5**
COLC	**Colonia**	**1.44**	**106**	*i* P	**Pn**	**04 49 33.9**	**-0.2**
CUI	**Cuipilapa**	**1.48**	**106**	*i* P	**Pn**	**04 49 34.5**	**-0.1**
PTEN	**Parque Tenorio**	**1.63**	**102**	*i* P	**Pn**	**04 49 37.3**	**+0.5**
JTS	**JuntasAbangare**	**1.80**	**115**	Pn	**Pn**	**04 49 38.1**	**-0.9**
	13nm,0.3s,baz=71,slow=6.2,SNR=57						
JTS				Lg	Lg	04 50 03.9	
	48nm,0.3s,baz=231,slow=9.9,SNR=5.2						
JTS	**JuntasAbangare**	**1.80**	**115**	ePn	**Pn**	**04 49 37.9**	**-1.1**
JTS				eSn	**Sn**	**04 49 58.8**	**-2.1**
JTS				Lg	Lg	04 50 03.9	
JCR	**Jicaral**	**1.90**	**129**	eP	**Pn**	**04 49 38.2**	**-2.3**
CGA2	**Cerro Gallo 2**	**2.35**	**116**	eP	**Pn**	**04 49 46.6**	**-0.1**
CNCH	**Conchagua**	**2.50**	**332**	eP	**Pn**	**04 49 50.1**	**+1.3**
CNCH				eS	**Sn**	**04 50 17.9**	**-0.5**
QCR	**Quepos**	**2.91**	**124**	eP	**Pn**	**04 49 55.7**	**+1.5**
URSC	**Urasca**	**3.04**	**113**	⇑eP	**Pn**	**04 49 58.2**	**+2.0**
BUS	**Buena Vista**	**3.18**	**118**	eP	**Pn**	**04 49 59.5**	**+1.0**
LFRS	**El Faro**	**3.50**	**317**	eP	**Pn**	**04 50 02.6**	**+0.2**
LFRS				eS	**Sn**	**04 50 41.3**	**-1.5**
ACR	**Cerro Adams**	**4.15**	**125**	eP	**Pn**	**04 50 11.8**	**+0.4**
APG	**El Apazote**	**5.43**	**317**	Pn	**Pn**	**04 50 27.2**	**-1.9**
	0.2nm,0.3s,baz=218,slow=19,SNR=3.2						
CMIG	**Matias Romero**	**10.02**	**308**	Pn	**Pn**	**04 51 32.4**	**+0.5**
	0.4nm,0.3s,baz=123,slow=11,SNR=6.3						
ROSC	**El Rosal**	**13.63**	**116**	LR	LR	04 57 53.5	
	comp=Z,67nm,18.6s,baz=174,slow=39						
SDV	**Santo Domingo**	**15.89**	**96**	ePn	**P**	**04 52 56.4**	**+1.2**
	6.3nm,0.9s						
SDDR	**Presa de Saban**	**16.76**	**60**	ePn	**P**	**04 53 05.2**	**+0.5**
ATAH	**Atahualpa**	**19.84**	**155**	LR	LR	05 00 19.9	
	comp=Z,101nm,19.4s,baz=330,slow=34						
HKT	**Hockley**	**20.66**	**337**	eP	**P**	**04 53 47.1**	**-0.3**
	9.8nm,1.1s						
SJG	**San Juan**	**20.99**	**68**	LR	LR	05 01 08.6	
	comp=Z,47nm,18.1s,baz=270,slow=35						
JCT	**Junction City**	**22.88**	**330**	eP	**P**	**04 54 10.8**	**-0.4**
TXAR	**Lajitas Array**	**24.16**	**321**	P	**P**	**04 54 24.9**	**+1.2**
	2.4nm,0.8s,baz=137,slow=9.6,SNR=10						
TXAR				PcP	**PcP**	**04 58 06.4**	**+2.2**
	0.9nm,0.9s,baz=141,slow=4.5,SNR=4.1						
MIAR	**Mount Ida**	**24.23**	**346**	eP	**P**	**04 54 24.2**	**+0.1**
	3.8nm,0.9s						
TKL	**Tuckaleechee C**	**24.62**	**6**	P	**P**	**04 54 27.1**	**-0.7**
	1.8nm,0.5s,baz=161,slow=18,SNR=3.3						
WVT	**Waverly**	**24.98**	**358**	eP	**P**	**04 54 31.1**	**+0.1**
	9.0nm,1.4s						
LPIG	**La Paz**	**25.99**	**303**	LR	LR	05 03 30.9	
	comp=Z,29nm,20.0s,baz=9.0,slow=33						
WMOK	**Wichita Mounta**	**26.05**	**337**	eP	**P**	**04 54 40.9**	**+0.2**
	18nm,0.9s						
WCI	**Wyandotte Cave**	**27.05**	**1**	eP	**P**	**04 54 50.1**	**+0.3**
	9.1nm,0.8s						
AMTX	**Amarillo**	**27.40**	**332**	eP	**P**	**04 54 53.8**	**+0.8**
	11nm,1.0s						
PTGA	**Pitinga**	**28.96**	**112**	LR	LR	05 07 34.6	
	comp=Z,63nm,18.5s,baz=284,slow=38						
ANMO	**Albuquerque**	**29.86**	**326**	P	**P**	**04 55 16.1**	**+1.0**
	0.6nm,0.6s,baz=161,slow=11,SNR=4.0						
ANMO	**Albuquerque**	**29.86**	**326**	eP	**P**	**04 55 15.8**	**+0.7**
	17nm,1.9s						
SAML	**Samuel**	**30.63**	**130**	eP	**P**	**04 55 21.1**	**-0.8**
	12nm,1.6s						
LPAZ	**La Paz**	**32.75**	**146**	eP	**P**	**04 55 42.5**	**+1.4**
	9.4nm,1.8s						
ECSD	**EROS Data Cent**	**33.69**	**347**	eP	**P**	**04 55 47.0**	**-1.3**
	4.9nm,0.9s						
SPMN	**Marine on St.**	**34.46**	**352**	eP	**P**	**04 55 53.6**	**-1.4**
	8.4nm,0.8s						
DUG	**Dugway, Tooele**	**37.13**	**326**	eP	**P**	**04 56 18.1**	**-0.1**
	12nm,1.7s						
BW06	**Boulder Array**	**37.38**	**332**	eP	**P**	**04 56 20.3**	**-0.1**
PDAR	**Pinedale Array**	**37.38**	**332**	P	**P**	**04 56 19.0**	**-1.3**
	0.8nm,0.8s,baz=123,slow=11,SNR=7.2						
AGMN	**Agassiz Nation**	**37.92**	**350**	eP	**P**	**04 56 23.0**	**-1.6**
	4.1nm,0.8s						
NVAR	**Mina Array Bea**	**39.28**	**319**	P	**P**	**04 56 37.8**	**+1.4**
	1.1nm,0.9s,baz=138,slow=6.8,SNR=8.0						
NVAR				PcP	**PcP**	**04 58 47.3**	**+2.4**
	1.1nm,0.7s,baz=138,slow=4.1,SNR=9.2						
ULM	**Lac du Bonnet**	**39.81**	**351**	P	**P**	**04 56 38.6**	**-1.8**
	3.5nm,0.9s,baz=158,slow=8.4,SNR=5.0						
HLID	**Hailey**	**40.35**	**328**	eP	**P**	**04 56 45.6**	**+0.5**
	13nm,1.8s						
BOZ	**Bozeman (W)**	**40.55**	**333**	eP	**P**	**04 56 46.7**	**0.0**
	7.7nm,1.7s						
WVOR	**Wild Horse Val**	**41.90**	**324**	eP	**P**	**04 56 57.7**	**-0.2**
	31nm,2.2s						
LCO	**Las Campanas**	**42.70**	**159**	eP	**P**	**04 57 04.2**	**-0.4**
	16nm,1.3s						
SCHQ	**Schefferville**	**46.38**	**16**	LR	LR	05 17 39.2	
	comp=Z,75nm,18.3s,baz=3.5,slow=37						
BDFB	**Brasilia**	**46.52**	**124**	P	**P**	**04 57 34.6**	**-0.6**
	3.4nm,0.8s,baz=291,slow=5.8,SNR=7.4						
YKA	**Yellowknife Ar**	**55.16**	**345**	P	**P**	**04 58 37.5**	**-1.9**
	1.1nm,1.1s,baz=135,slow=7.6,SNR=9.6						
CMAR	**Chiang Mai Arr**	**150.16**	**349**	PKPbc	**PKPbc**	**05 08 59.9**	**+1.0**
	0.9nm,0.3s,baz=320,slow=2.4,SNR=8.5						

MEX 20 05:00:59.1±0.6, 17°18N×101°27W, h16km±918km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.46**	**336**	eP	Pg	05 01 07.1	-1.3
ZIIG				*i* S	Sg	05 01 12.6	-2.1
CAIG	**El Cayaco**	**0.97**	**98**	eP	Pb	05 01 13.9	-3.7
CAIG				*i* S	Sb	05 01 25.8	-4.3
ARIG	**Puente Sto Nin**	**1.41**	**39**	eP	Pn	05 01 20.3	-3.8
ARIG				eS	Sn	05 01 36.7	-5.7
PLIG	**Platanillo**	**2.07**	**54**	eP	Pn	05 01 31.0	-2.4
PLIG				eS	Sn	05 01 54.0	-5.0
TLIG	**Tlapa**	**2.61**	**81**	eP	Pn	05 01 38.8	-2.1
TLIG				eS	Sn	05 02 08.7	-3.6

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*NIED **20** 05:14:00.33°50N×141°00E, h56km, Mw3.6 Best double couple: M0 3.09000×10^14 NP1:φ=352.00000°, δ=46.00000°, λ=43.00000°. NP2:φ=230.00000°, δ=60.00000°, λ=128.00000°.*
*IDC **20** 05:14:02.1±1.5, 33°06N×140°36E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.6/49, mbtmp3.8/7, ML3.7/1, MS3.3/2, Ms1 3.3/2, ms1mx2.4/37, Error ellipse: s-maj=60.4km s-min=17.6km az=73.0*
*ISCJB **20** 05:14:04.6±1.0, 33°42N±0°04×141°09E±0°09, h57km±8km, mb3.9/7, MS3.3/2, Error ellipse: s-maj=11.9km s-min=7.2km az=179.5*
*JMA **20** 05:14:05.2±0.2, 33°48N×141°05E, h51km, M3.5*
*NEIC **20** 05:14:07.2±1.1, 33°10N×140°34E, h35km, mb4.5/1, MW3.6(NIED), Error ellipse: s-maj=48.7km s-min=9.1km az=74.0*

ISC 20 05:14:04.7±1.3, 33°40N±0°08×141°2E±0°1, h36km±4km, n30, σ0°87/32, mb4.1/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.15**	**256**	P	**Pn**	**05 14 24.5**	**+0.2**
JHJ2				S	**Sn**	**05 14 38.7**	**-0.1**
JHCJ	**Hachijojimakas**	**1.18**	**254**	P	**Pn**	**05 14 24.7**	**0.0**
JHCJ				eS	**Sn**	**05 14 39.5**	**0.0**
BSO1	**Boso 1**	**1.26**	**354**	P	**Pn**	**05 14 25.7**	**+0.4**
BSO3	**Boso 3**	**1.50**	**339**	P	**Pn**	**05 14 28.9**	**+0.1**
BSO4	**Boso 4**	**1.73**	**337**	P	**Pn**	**05 14 32.7**	**+0.6**
JKO	**Kozu shima**	**1.85**	**296**	P	**Pn**	**05 14 33.9**	**0.0**
JKO				eS	**Sn**	**05 14 55.1**	**-1.0**
JIM2	**Oshima 3**	**1.94**	**313**	P	**Pn**	**05 14 34.6**	**-0.6**
JIM2				eS	**Sn**	**05 14 56.7**	**-1.7**
JIZS	**Izushimoda**	**2.30**	**306**	P	**Pn**	**05 14 40.2**	**+0.1**
JIZS				eS	**Sn**	**05 15 06.5**	**-0.7**
JOD2	**Odawara 2**	**2.52**	**318**	P	**Pn**	**05 14 42.8**	**-0.4**
JOD2				eS	**Sn**	**05 15 11.2**	**-1.6**
TK02	**Tokai 2**	**2.88**	**282**	P	**Pn**	**05 14 49.0**	**+1.1**
TK04	**Tokai 4**	**2.90**	**291**	P	**Pn**	**05 14 49.6**	**+1.4**
SHZ3	**Shizuoka 3**	**2.95**	**305**	P	**Pn**	**05 14 50.1**	**+1.0**
JYN	**Shimob**	**3.00**	**315**	P	**Pn**	**05 14 50.6**	**+0.7**
MJAR	**Matsushiro Arr**	**3.96**	**323**	Pn	**Pn**	**05 15 03.4**	**+0.5**
	5.0nm,0.3s,baz=150,slow=12,SNR=22						
MJAR				Sn	**Sn**	**05 15 49.4**	**+1.3**
	1.2nm,0.3s,baz=183,slow=20,SNR=4.1						
MAJO	**Matsushiro**	**3.96**	**323**	ePn	**Pn**	**05 15 03.8**	**+0.8**
MAT	**Matsushiro**	**3.96**	**323**	P	**Pn**	**05 15 04.4**	**+1.4**
MAT				S	**Sn**	**05 15 48.6**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**26.66**	**114**	T	T	05 48 40.9	
	baz=306,slow=75,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**26.67**	**114**	T	T	05 48 40.0	
	baz=306,slow=75,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**26.68**	**114**	T	T	05 48 42.0	
	baz=306,slow=75,SNR=5.3						
SONM	**Songino Array**	**29.78**	**309**	P	**P**	**05 20 09.0**	**+1.0**
	0.3nm,0.6s,baz=107,slow=9.7,SNR=2.7						
CMAR	**Chiang Mai Arr**	**40.48**	**259**	LR	LR	05 37 53.7	
	comp=Z,10nm,18.0s,baz=240,slow=36						
MKAR	**Makanchi Array**	**45.95**	**305**	P	**P**	**05 22 24.1**	**0.0**
	0.2nm,0.6s,baz=83,slow=9.2,SNR=2.8						
KURK	**Kurchatov**	**48.07**	**311**	P	**P**	**05 22 39.6**	**-0.9**
KURBB	**Kurchatov Arra**	**48.13**	**311**	P	**P**	**05 22 39.7**	**-1.4**
	0.2nm,0.4s,baz=88,slow=8.1,SNR=3.5						
WRAB	**Tennant Creek**	**53.43**	**188**	eP	**P**	**05 23 20.8**	**-0.4**
	6.6nm,1.2s						
WB2	**Warramunga Arr**	**53.44**	**188**	eP	**P**	**05 23 20.9**	**-0.3**
WRA	**Warramunga Arr**	**53.44**	**188**	P	**P**	**05 23 20.8**	**-0.4**
	1.8nm,0.3s,baz=6.7,slow=7.6,SNR=48						
ASAR	**Alice Springs**	**57.16**	**188**	P	**P**	**05 23 47.9**	**-0.2**
	0.7nm,0.4s,baz=0.8,slow=6.7,SNR=24						
SPITS	**Spitsbergen Ar**	**64.04**	**349**	P	P	05 24 38.7	+4.4
	4.7nm,0.9s,baz=31,slow=14,SNR=10.0						
HFS	**Hagfors**	**77.31**	**336**	LR	LR	06 03 52.2	
	comp=Z,47nm,18.9s,baz=80,slow=39						

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*ISCJB **20** 05:28:27.7±0.7, 17°2S±0°2×174°0W±0°2, h10km, mb4.2/9, MS3.1/2, Error ellipse: s-maj=29.4km s-min=11.2km az=136.2*
*IDC **20** 05:28:27.4±2.1, 17°35S×173°78W, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.0/31, mbtmp4.1/5, MS3.2/2, Ms1 3.2/2, ms1mx2.9/23, Error ellipse: s-maj=128.9km s-min=23.0km az=149.0*
*NEIC **20** 05:28:29.3±0.5, 17°15S×173°91W, h10km, mb4.5/4, Error ellipse: s-maj=22.2km s-min=8.6km az=135.0*

ISC 20 05:28:29.1±0.8, 17°1S±0°2×173°9W±0°2, h10km, n27, σ0°71/18, mb4.1/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.81**	**33**	ePn	**Pn**	**05 29 28.3**	**+0.3**
MSVF	**Nonsavu**	**7.69**	**264**	ePn	Pb	05 30 34.1	-8.6
OUZ	**Omahuta**	**21.18**	**209**	eP	**P**	**05 33 15.9**	**+1.2**
	13nm,0.8s						
PAE	**Paea**	**23.23**	**95**	eT	T	05 56 21.7	
	2.8nm,0.3s						
PPT2	**Papeete2**	**23.24**	**95**	eLR	LR	05 38 53.1	
	130nm,26.5s						
PPT2	**Papeete2**	**23.24**	**95**	eT	T	05 56 23.2	
	5.3nm,0.4s						
PPT	**Papeete**	**23.24**	**95**	LR	LR	05 39 59.6	
	comp=Z,34nm,20.6s,baz=257,slow=30						
TVO	**Taravao**	**23.54**	**95**	eT	T	05 56 45.1	
	1.8nm,0.4s						
TBI	**Tubuai**	**23.75**	**109**	eLR	LR	05 39 12.5	
	158nm,28.0s						
TBI	**Tubuai**	**23.75**	**109**	eT	T	05 57 08.8	
	9.8nm,0.4s						
RKT	**Rikitea**	**36.97**	**106**	eT	T	06 13 37.1	
	2.2nm,0.3s						
JAY	**Jayapura**	**46.86**	**283**	LR	LR	05 54 19.5	
	comp=Z,44nm,19.0s,baz=56,slow=33						
WB2	**Warramunga Arr**	**48.97**	**258**	eP	**P**	**05 37 16.0**	**-0.3**
WRAB	**Tennant Creek**	**48.98**	**258**	eP	**P**	**05 37 16.2**	**0.0**
	8.8nm,1.4s						
WRA	**Warramunga Arr**	**48.98**	**258**	P	**P**	**05 37 15.9**	**-0.5**
	1.4nm,0.7s,baz=98,slow=6.6,SNR=18						
AS31	**Alice Springs**	**49.12**	**253**	eP	**P**	**05 37 17.7**	**+0.4**
ASAR	**Alice Springs**	**49.12**	**253**	P	**P**	**05 37 17.6**	**+0.2**
	14nm,0.7s,baz=88,slow=8.5,SNR=156						
ASAR				PcP	**PcP**	**05 38 41.4**	**+0.4**
	0.9nm,0.7s,baz=99,slow=4.0,SNR=4.1						
QSPA	**South Pole Qui**	**72.92**	**180**	eP	**P**	**05 39 57.7**	**-0.8**
	7.4nm,1.1s						
NVAR	**Mina Array Bea**	**75.94**	**42**	P	**P**	**05 40 17.2**	**+0.6**
	1.2nm,0.7s,baz=225,slow=10.0,SNR=11						
TPH	**Tonopah**	**76.43**	**43**	eP	**P**	**05 40 20.0**	**+0.6**
	1.4nm,0.8s						
PDAR	**Pinedale Array**	**83.88**	**42**	P	**P**	**05 40 58.4**	**-1.2**
	0.8nm,0.9s,baz=230,slow=3.7,SNR=5.3						
ILAR	**Eielson Array**	**84.23**	**11**	P	**P**	**05 41 01.0**	**+0.5**
	0.4nm,0.9s,baz=239,slow=5.7,SNR=6.0						
KMBO	**Kilima Mbogo**	**144.32**	**243**	PKP	**PKPdf**	**05 48 06.9**	**0.0**
	3.5nm,0.9s,baz=49,slow=9.3,SNR=7.3						
KMBO	**Kilima Mbogo**	**144.32**	**243**	ePKPdf	**PKPdf**	**05 48 06.7**	**-0.2**
CLL	**Collm**	**145.46**	**352**	ePKPbc	**PKPab**	**05 48 08.0**	**+0.4**
BRTR	**Keskin Array B**	**147.15**	**319**	PKPbc	**PKPab**	**05 48 14.0**	**-0.7**
	1.2nm,0.7s,baz=121,slow=2.6,SNR=8.1						
GERES	**GERESS Array B**	**147.76**	**351**	PKPbc	**PKPab**	**05 48 15.3**	**-1.3**
	0.5nm,0.6s,baz=25,slow=3.5,SNR=5.9						

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*IDC **20** 05:39:22.0±0.6, 38°36S×75°21W, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.4/23, mbtmp4.4/12, ML3.9/1, MS3.5/7, Ms1 3.5/7, ms1mx3.3/17, Error ellipse: s-maj=24.3km s-min=18.8km az=77.0*
*BJI **20** 05:39:26.7, 38°56S×74°48W, h34km, mB4.9/2, Ms5.3/2, Ms7 4.9/2*
*ISCJB **20** 05:39:27.2±0.3, 38°06S±0°05×74°67W±0°07, h33km, mb4.7/59, MS3.6/5, Error ellipse: s-maj=8.2km s-min=6.9km az=143.6*
*NEIC **20** 05:39:28.1±0.3, 38°19S×74°86W, h35km, mb4.7/47, Error ellipse: s-maj=9.8km s-min=6.7km az=48.0*
NEIC Felt at Lota.

ISC 20 05:39:28.1±0.4, 38°22S±0°07×74°92W±0°09, h35km, n361, σ1°01/368, mb4.7/59, MS3.6/5, 124C-135D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.21**	**128**	Pn	**Pn**	**05 40 30.1**	**+0.2**
	1.6nm,0.3s,baz=297,slow=10.0,SNR=34						
PLCA				Lg	Lg	05 41 25.1	
	7.3nm,0.3s,baz=254,slow=10.0,SNR=9.1						
CFAA	**Coronel Fontan**	**8.58**	**42**	Pn	**Pn**	**05 41 27.7**	**-2.1**
	3.8nm,0.3s,baz=213,slow=12,SNR=121						
CFAA				LR	LR	05 45 05.1	
	comp=Z,39nm,18.4s,baz=230,slow=39						
LCO	**Las Campanas**	**9.83**	**22**	ePn	Pn	05 41 43.7	-3.5
LCO				eSn	**Sn**	**05 43 34.9**	**-1.5**
TRQA	**Tornquist**	**10.20**	**93**	ePn	**Pn**	**05 41 53.1**	**+1.3**
LVC	**Limon Verde**	**16.39**	**20**	eP	**Pn**	**05 43 13.2**	**-2.4**
	14nm,0.8s						
USHA	**Ushuaia**	**17.19**	**167**	LR	LR	05 50 29.5	
	comp=Z,211nm,19.6s,baz=31,slow=39						
LPAZ	**La Paz**	**22.65**	**17**	P	**P**	**05 44 27.3**	**+0.5**
	5.5nm,0.8s,baz=188,slow=9.2,SNR=18						
LPAZ	**La Paz**	**22.65**	**17**	eP	**P**	**05 44 29.3**	**+2.5**
	12nm,1.0s						
SIV	**San Ignacio**	**25.28**	**33**	P	**P**	**05 44 53.0**	**+1.8**
	7.2nm,0.8s,baz=228,slow=12,SNR=16						
SIV				LR	LR	05 56 42.7	
	comp=Z,81nm,19.8s,baz=244,slow=41						
SAML	**Samuel**	**31.00**	**23**	eP	**P**	**05 45 42.8**	**+0.5**
	5.9nm,1.1s						
BDFB	**Brasilia**	**32.67**	**54**	P	**P**	**05 45 59.3**	**+2.2**
	2.9nm,0.5s,baz=187,slow=4.8,SNR=3.0						
BDFB				LR	LR	05 58 56.4	
	comp=Z,245nm,18.8s,baz=226,slow=36						
BDFB	**Brasilia**	**32.67**	**54**	eP	P	05 46 00.8	+3.8
OTAV	**Otavalo**	**38.41**	**354**	eP	**P**	**05 46 48.7**	**+2.0**
	9.8nm,1.1s						
SDV	**Santo Domingo**	**47.03**	**6**	eP	**P**	**05 47 55.4**	**-0.9**
	5.3nm,0.8s						
VNA2	**Neumayer--Watz**	**47.09**	**155**	P	**P**	**05 47 56.9**	**+0.8**
SNAA	**Sanae**	**48.62**	**156**	P	**P**	**05 48 08.5**	**+0.6**
SNAA	**Sanae**	**48.62**	**156**	eP	**P**	**05 48 08.3**	**+0.4**
	28nm,1.1s						
QSPA	**South Pole Qui**	**52.02**	**180**	P	**P**	**05 48 33.7**	**-0.1**
	18nm,0.8s,baz=157,slow=0.7,SNR=84						
RKT	**Rikitea**	**52.95**	**268**	eLR	LR	06 04 02.0	
	278nm,25.5s						
SYO	**Syowa Base**	**62.81**	**158**	⇓eX	P	05 49 43.6	-5.9
TBI	**Tubuai**	**64.17**	**260**	eLR	LR	06 08 52.6	
	224nm,28.5s						
PPT2	**Papeete2**	**67.43**	**265**	eS	**S**	**05 59 15.2**	**+1.0**
	64nm,25.0s						
PPT2	**Papeete2**	**67.43**	**265**	eLR	LR	06 10 35.2	
	146nm,27.5s						
933A	**Laredo**	**69.35**	**337**	⇑P	**P**	**05 50 33.3**	**+1.3**
	baz=70						
738A	**Farr-Stevens R**	**69.47**	**341**	⇑P	**P**	**05 50 33.6**	**+0.9**
	baz=70						
834A	**Tilden**	**69.61**	**338**	⇑P	**P**	**05 50 35.1**	**+1.5**
	baz=70						
833A	**Chaparral WMA,**	**70.05**	**337**	⇑P	**P**	**05 50 36.7**	**+0.4**
	baz=70						
832A	**Faith Ranch, C**	**70.19**	**337**	⇓P	**P**	**05 50 37.4**	**+0.2**
	baz=70						
734A	**La Parita Cree**	**70.29**	**338**	⇓P	**P**	**05 50 38.6**	**+0.9**
	baz=71						
733A	**Divot King Ran**	**70.39**	**337**	⇑P	**P**	**05 50 38.7**	**+0.4**
	baz=71						
636A	**Smothers Creek**	**70.46**	**340**	⇓P	**P**	**05 50 39.8**	**+1.1**
	baz=71						
732A	**Laxson Ranch,**	**70.60**	**337**	⇑P	**P**	**05 50 39.7**	**+0.1**
	baz=71,SNR=6.3						
538A	**Harpers Horsep**	**70.75**	**341**	⇓P	**P**	**05 50 41.6**	**+1.1**
	baz=71						
537A	**Green Hill Far**	**70.83**	**340**	⇓P	**P**	**05 50 41.6**	**+0.6**
	baz=71						
536A	**Bastrop**	**71.02**	**340**	⇑P	**P**	**05 50 42.8**	**+0.6**
	baz=71					

135A	Vickery Place, baz=74	73.46 340 ⇊P	P	05 50 57.0 +0.3
330A	Mertzon baz=74	73.47 337 ⇊P	P	05 50 57.2 +0.4
134A	White-Moore Ra baz=74	73.66 340 ⇑P	P	05 50 58.5 +0.6
231A	Bronte baz=74	73.70 338 ⇑P	P	05 50 58.9 +0.7
329A	Wagon Wheel Ra baz=74	73.80 336 ⇑P	P	05 50 59.6 +0.8
230A	Sterling City baz=74	73.90 337 ⇊P	P	05 51 00.0 +0.7
133A	Hamilton Ranch baz=74	73.92 339 ⇑P	P	05 50 59.7 +0.3
TKL	Tuckaleechee C	73.96 353 eP	P	05 50 56.6 -3.0
ABTX	Abilene, Hawle baz=74	74.15 338 ⇊P	P	05 51 01.3 +0.6
Z35A	Perchaven, San baz=74	74.16 341 ⇊P	P	05 51 01.3 +0.5
229A	Bryant Ranch, baz=74	74.19 336 ⇑P	P	05 51 00.9 -0.1
Z34A	Collier Ranch, baz=75	74.37 340 ⇑P	P	05 51 02.0 0.0
131A	Roby baz=75	74.41 338 ⇊P	P	05 51 02.2 -0.1
MIAR	Mount Ida 5.0nm,0.9s	74.44 344 eP	P	05 51 02.1 -0.3
130A	Snyder baz=75	74.51 337 ⇑P	P	05 51 03.0 +0.1
Z33A	Whitaker Ranch baz=75	74.52 339 ⇑P	P	05 51 03.2 +0.3
228A	UT Block 9, Go baz=75	74.58 336 ⇊P	P	05 51 03.0 -0.3
Z32A	Haskell baz=75	74.74 339 ⇑P	P	05 51 04.2 0.0
TZTN	Tazewell 10nm,0.8s	74.82 353 eP	P	05 51 03.8 -0.7
Y34A	Reagan Ranch, baz=75	74.88 340 ⇑P	P	05 51 05.5 +0.5
WVT	Waverly 15nm,1.1s	74.94 349 eP	P	05 51 04.6 -0.6
Z31A	Sharp Cattle R baz=75,SNR=5.3	74.94 338 ⇊P	P	05 51 05.5 +0.1
128A	Castleberry Fa baz=75	75.01 336 ⇑P	P	05 51 06.5 +0.7
MNTX	Cornudas Mount 2.3nm,0.9s	75.13 333 eP	P	05 51 05.5 -1.0
Y33A	Hilltop Ranch, baz=76	75.16 340 ⇊P	P	05 51 06.8 +0.2
Z30A	Sanderson Ranc baz=76	75.20 338 ⇑P	P	05 51 07.0 +0.1
Z29A	Hungry Hill Ra baz=76,SNR=8.0	75.35 337 ⇑P	P	05 51 07.8 +0.1
Y32A	R-V Farms, Ver baz=76	75.38 339 ⇊P	P	05 51 08.3 +0.5
X34A	Smith Ranch, M baz=76	75.51 341 ⇑P	P	05 51 09.1 +0.5
Y31A	Rekieta Farm, baz=76	75.58 338 ⇊P	P	05 51 09.1 +0.1
Z28A	Tucker Farm, M baz=76	75.59 336 ⇑P	P	05 51 09.7 +0.5
Y30A	Stafford Cattl baz=76	75.68 338 ⇊P	P	05 51 09.7 +0.1
X32A	Elmer baz=76	75.73 339 ⇊P	P	05 51 09.9 0.0
PARMO	Parma	75.76 348 eP	P	05 51 10.1 +0.2
Y29A	Porterfield Fa baz=76	75.90 337 ⇊P	P	05 51 11.0 +0.1
PBMO	Poplar Bluff 11nm,0.7s	75.99 347 eP	P	05 51 10.7 -0.5
W34A	Bridge Creek, baz=76	76.09 341 ⇑P	P	05 51 11.9 0.0
X31A	McDonald Ranch baz=76	76.12 339 ⇑P	P	05 51 12.6 +0.5
Y28A	McKinney Farm, baz=76	76.12 337 ⇑P	P	05 51 12.1 -0.1
W33A	Caddo, Fort Co baz=76	76.20 340 ⇊P	P	05 51 13.3 +0.8
X30A	Coker Ranch, T baz=76	76.21 338 ⇊P	P	05 51 13.7 +1.1
TUL1	Leonard baz=77	76.25 343 ⇊P	P	05 51 12.8 +0.1
TUL1	Leonard 21nm,0.8s	76.25 343 eP	P	05 51 12.1 -0.6
319A	Douglas baz=77	76.29 330 ⇊P	P	05 51 14.2 +1.0
V35A	Meyer Ranch, C baz=77	76.36 342 ⇊P	P	05 51 13.8 +0.4
W32A	Sentinel baz=77	76.38 340 ⇊P	P	05 51 14.0 +0.5
X29A	Tulia baz=77	76.45 337 ⇊P	P	05 51 14.4 +0.4
V34A	Guthrie baz=77	76.60 341 ⇊P	P	05 51 15.1 +0.4
W31A	Holland Ranch, baz=77	76.63 339 ⇑P	P	05 51 15.3 +0.3
V33A	Lossen Ranch, baz=77	76.78 341 ⇊P	P	05 51 16.0 +0.2
AMTX	Amarillo baz=77	76.85 338 ⇊P	P	05 51 16.7 +0.4
V32A	Arapaho baz=77	76.89 340 ⇑P	P	05 51 17.2 +0.8
W29A	Amarillo baz=77	77.06 338 ⇊P	P	05 51 18.0 +0.5
V31A	Spring Creek L baz=78	77.16 339 ⇊P	P	05 51 19.2 +1.3
U34A	Anderson Ranch baz=78	77.17 341 ⇊P	P	05 51 18.8 +0.9
Y24A	Capitan baz=78	77.18 334 ⇑P	P	05 51 19.1 +0.8
W26A	Owens Ranch, T baz=78	77.69 336 ⇊P	P	05 51 21.8 +0.8
TUC	Tucson 7.6nm,1.1s	77.71 329 eP	P	05 51 21.6 +0.4
V28A	Channing baz=78	77.82 338 ⇑P	P	05 51 23.3 +1.6
W25A	X Bar L Ranch, baz=78	78.03 336 ⇑P	P	05 51 23.5 +0.6
LAZ	Ladron 3.5nm,1.0s	78.20 333 eP	P	05 51 24.6 +0.6
214A	Organ Pipe Nat baz=78	78.24 328 ⇊P	P	05 51 25.5 +1.5
LIC	Lamto 29nm,1.2s	78.29 72 eP	P	05 51 25.5 +0.8
W24A	Lazy 6 Ranch, baz=79	78.34 335 ⇑P	P	05 51 25.5 +0.8
V26A	Tequesquite Ra baz=79	78.34 336 ⇊P	P	05 51 25.9 +1.3
U28A	Mallet baz=79	78.41 338 ⇊P	P	05 51 25.8 +0.8
ACSO	Alum Creek Sta 9.3nm,0.8s	78.42 354 eP	P	05 51 24.2 -0.6
ANMO	Albuquerque 8.4nm,1.0s	78.45 334 eP	P	05 51 25.8 +0.4
TIC	Toumodi 6.9nm,0.2s	78.57 72 eP	P	05 51 23.7 -2.6
KIC	Kosan Boka 6.5nm,0.5s	78.60 73 eP	P	05 51 27.3 +0.9
U27A	Thompson Grove baz=79	78.62 337 ⇊P	P	05 51 26.8 +0.6
V25A	Rancho No Teng baz=79	78.65 336 ⇊P	P	05 51 27.0 +0.5
DBIC	Dimbokro 2.9nm,0.8s,baz=183,slow=3.5,SNR=4.3	78.71 72 P	P	05 51 28.4 +1.3
DBIC		LR	LR	06 24 07.3
	comp=Z,27nm,18.6s,baz=223,slow=34			
DBIC	Dimbokro 3.8nm,0.6s	78.71 72 eP	P	05 51 27.9 +0.9
S32A	Newby Ranch, P baz=79	78.72 341 ⇑P	P	05 51 27.4 +0.8
V24A	Rampart Ranch, baz=79	78.76 335 ⇊P	P	05 51 27.9 +0.8
T29A	Hugoton baz=79	78.86 339 ⇊P	P	05 51 28.4 +1.1
U26A	Atchley Ranch, baz=79	78.88 337 ⇑P	P	05 51 28.1 +0.4
SFIN	Lafayette baz=79	79.01 351 ⇑P	P	05 51 29.9 +1.9
T28A	Walsh baz=79	79.06 338 ⇑P	P	05 51 29.2 +0.7
V23A	Ortiz Mt. (NFS baz=79	79.08 335 ⇊P	P	05 51 29.9 +1.1
U25A	Circle Dot Ran baz=79	79.10 336 ⇑P	P	05 51 30.2 +1.3
S29A	Ulysses baz=80	79.24 339 ⇊P	P	05 51 30.8 +1.4
113A	Mohawk Valley, baz=80	79.34 327 ⇑P	P	05 51 31.8 +1.7
X18A	Snowflake baz=80	79.35 331 ⇊P	P	05 51 31.8 +1.6
R32A	Long Quarter, baz=80	79.35 341 ⇑P	P	05 51 30.2 +0.2
S28A	Manter baz=80	79.43 338 ⇊P	P	05 51 31.4 +0.9
R31A	Burdett baz=80	79.43 341 ⇑P	P	05 51 31.4 +1.0
V22A	San Miguel Ran baz=80	79.48 334 ⇑P	P	05 51 32.8 +1.7
T26A	Comanche Natio baz=80	79.55 337 ⇊P	P	05 51 32.5 +1.2
U23A	El Rito baz=80	79.62 335 ⇑P	P	05 51 33.2 +1.4
R30A	Dighton baz=80	79.63 340 ⇑P	P	05 51 32.2 +0.6
Q33A	Connelly Farm, baz=80	79.68 342 ⇑P	P	05 51 32.1 +0.4
T25A	Trinidad baz=80,SNR=9.4	79.78 336 ⇊P	P	05 51 34.2 +1.6
W18A	Petrified Fore baz=80	79.79 332 ⇊P	P	05 51 33.7 +1.1
X16A	Lo Mia Camp, P baz=80	79.83 330 ⇑P	P	05 51 34.2 +1.4
U22A	Llaves baz=80	79.88 334 ⇊P	P	05 51 34.9 +1.7
S26A	Kim baz=80	79.93 337 ⇑P	P	05 51 34.4 +1.1
T24B	San Luis baz=80	80.02 336 ⇑P	P	05 51 35.3 +1.4
Y14A	Wickenburg baz=80	80.03 329 ⇑P	P	05 51 35.0 +1.2
R28A	Tribune baz=80	80.11 339 ⇑P	P	05 51 34.6 +0.4
BOSA	Boshof 4.8nm,0.9s,baz=234,slow=3.1,SNR=9.7	80.14 119 P	P	05 51 34.6 -0.3
BOSA	Boshof 23nm,1.4s	80.14 119 eP	P	05 51 35.1 +0.2
S25A	Robets Cordova baz=81	80.26 337 ⇊P	P	05 51 35.7 +0.6
Q30A	Quinter baz=81	80.26 340 ⇊P	P	05 51 35.9 +0.9
R27A	Eads baz=81,SNR=5.7	80.34 338 ⇊P	P	05 51 35.8 +0.4
Q29A	Oakley baz=81	80.39 340 ⇑P	P	05 51 36.4 +0.8
S24A	Houchin Ranch, baz=81,SNR=8.2	80.49 336 ⇑P	P	05 51 37.7 +1.2
Y12C	Blythe baz=81	80.51 327 ⇊P	P	05 51 37.9 +1.6
R26A	Arlington baz=81,SNR=10	80.55 338 ⇑P	P	05 51 37.9 +1.3
MONP	Monument Peak, baz=81	80.60 326 ⇊P	P	05 51 38.7 +1.6
R25A	Fountain Ranch baz=81	80.66 337 ⇊P	P	05 51 38.0 +0.8
WUAZ	Wupatki baz=81	80.76 331 ⇑P	P	05 51 39.1 +1.3
WUAZ	Wupatki 9.6nm,1.1s	80.76 331 eP	P	05 51 38.4 +0.5
Q28A	Sharon Springs baz=81	80.78 339 ⇊P	P	05 51 38.8 +1.0
P30A	Selden baz=81	80.80 340 ⇑P	P	05 51 38.6 +0.8
BC3	Big Chuckawall baz=81	80.82 327 ⇊P	P	05 51 39.1 +0.9
KSCO	Kaye Shedlock' baz=81	80.96 338 ⇊P	P	05 51 39.8 +1.0
R24A	Sanders Place, baz=81,SNR=12	81.00 336 ⇊P	P	05 51 40.4 +1.3
P29A	Atwood baz=81	81.04 340 ⇑P	P	05 51 40.2 +1.1
S22A	4UR Ranch, Cre baz=81	81.11 335 ⇑P	P	05 51 40.5 +0.7
IRM	Iron Mountain baz=81	81.12 327 ⇑P	P	05 51 41.0 +1.3
Q26A	Hugo baz=82	81.14 338 ⇑P	P	05 51 41.0 +1.2
R23A	Moffat baz=82	81.19 336 ⇑P	P	05 51 40.5 +0.3
MVCO	Mesa Verde baz=82	81.20 333 ⇑P	P	05 51 41.6 +1.4
MVCO	Mesa Verde 7.6nm,1.1s	81.20 333 eP	P	05 51 40.2 0.0
PFO	Pinyon Flats O baz=82	81.22 326 ⇊P	P	05 51 41.8 +1.5
P28A	Saint Francis baz=82	81.24 339 ⇑P	P	05 51 40.9 +0.7
O30A	MW Ranch, Wils baz=82	81.35 341 ⇊P	P	05 51 41.2 +0.5
BELC	Belle Mtn. Jos baz=82	81.35 326 ⇊P	P	05 51 43.3 +2.3
Q25A	Bedland, Calha baz=82	81.36 337 ⇑P	P	05 51 42.2 +1.2
W13A	Hualapai Mount baz=82	81.40 329 ⇊P	P	05 51 43.1 +1.8
MURC	Murrieta baz=82	81.55 325 ⇊P	P	05 51 43.5 +1.6
Q24A	Divide baz=82	81.68 337 ⇑P	P	05 51 43.9 +1.0
O28A	Krutsinger Ran baz=82	81.76 340 ⇊P	P	05 51 43.8 +0.9
GMRC	Granite Mounta baz=82	81.87 327 ⇑P	P	05 51 45.3 +1.6
P25A	Willow Gulch B baz=82,SNR=8.4	81.88 338 ⇊P	P	05 51 45.1 +1.4
U15A	North Rim baz=82	81.92 330 ⇊P	P	05 51 45.5 +1.4
PV01	Paradox Valley 377nm,0.9s	82.06 334 eP	P	05 51 45.3 +0.6
HEC	Hector,Ludlow baz=82	82.20 327 ⇑P	P	05 51 47.1 +1.8
P23A	Jefferson baz=83	82.27 336 ⇊P	P	05 51 47.1 +1.1
BFSC	Mount Baldy Ra baz=83	82.29 325 ⇊P	P	05 51 47.9 +2.0
O26A	Horse Wrangler baz=83	82.30 338 ⇊P	P	05 51 47.3 +1.4
SMCO	Snowmass	82.46 335 eP	P	05 51 48.0 +1.0
TUQ	Turquoise Moun baz=83	82.54 327 ⇊P	P	05 51 48.9 +1.7
ISCO	Idaho Springs baz=83	82.59 337 ⇊P	P	05 51 48.8 +1.2
ISCO	Idaho Springs 3.2nm,0.9s	82.59 337 eP	P	05 51 48.1 +0.5
N27A	Anderson Farm, baz=83	82.60 339 ⇑P	P	05 51 48.9 +1.5
LBTB	Lobatse 6.8nm,1.0s	82.61 116 eP	P	05 51 48.1 +0.1
M29A	Burnside Ranch baz=83	82.70 341 ⇊P	P	05 51 49.7 +1.9
P22A	Eagle baz=83	82.77 336 ⇊P	P	05 51 49.5 +1.1
GSC	Goldstone, Bar baz=83	82.81 327 ⇑P	P	05 51 48.7 +0.2
N26A	Koester Ranch, baz=83	82.82 339 ⇑P	P	05 51 49.5 +1.0
L31A	Butterfield Fa baz=83	82.93 342 ⇑P	P	05 51 50.5 +1.6
L30A	Spencer Herefo baz=83	82.93 342 ⇑P	P	05 51 50.7 +1.7
EDW2	Edwards Air Fo baz=83	82.97 326 ⇊P	P	05 51 50.7 +1.3
O23A	Lake Granby, G baz=83	83.06 337 ⇑P	P	05 51 50.9 +0.9
SHPR	Sheep Range 10nm,1.6s	83.14 328 eP	P	05 51 51.0 +0.7
O22A	Kremmling baz=84	83.21 336 ⇊P	P	05 51 52.0 +1.2
L29A	Maesberg Ranch baz=84	83.23 341 ⇑P	P	05 51 51.6 +1.1
N24A	Carr baz=84	83.30 338 ⇊P	P	05 51 51.7 +0.6
LRMC	Laurel Mtn Rad baz=84	83.34 326 ⇊P	P	05 51 52.4 +1.0
M26A	McRoberts Ranc baz=84	83.39 339 ⇊P	P	05 51 52.7 +1.3
SBC	Santa Barbara baz=84	83.39 324 ⇑P	P	05 51 52.3 +0.9
ARUT	Antelope Range 81nm,1.1s	83.55 330 eP	P	05 51 53.4 +1.0
K30A	Basset baz=84	83.59 342 ⇑P	P	05 51 53.4 +1.1
M25A	Palm-Egli Farm baz=84	83.62 338 ⇑P	P	05 51 53.6 +0.9
N23A	Red Feather La baz=84	83.69 337 ⇊P	P	05 51 54.1 +0.9
MVU	Marysvale 7.4nm,1.4s	83.70 331 eP	P	05 51 54.0 +0.7
O20A	White River Ci baz=84	83.74 335 ⇊P	P	05 51 54.7 +1.3
O20A	White River Ci 4.2nm,0.8s	83.74 335 eP	P	05 51 53.9 +0.5
MPMC	Manual Prospec baz=84	83.75 327 ⇑P	P	05 51 54.4 +0.9
N22A	Wattenberg Ran baz=84	83.77 336 ⇑P	P	05 51 55.3 +1.7
PKM	Mcpherson Peak baz=84	83.81 324 ⇑P	P	05 51 55.0 +1.2
FURC	Furnace Creek, baz=84	83.82 327 ⇊P	P	05 51 55.1 +1.6
ISA	Isabella, Lake baz=84	83.84 326 ⇑P	P	05 51 55.6 +1.7
ISA	Isabella, Lake 6.0nm,1.0s	83.84 326 eP	P	05 51 54.7 +0.8
M24A	Cheyenne baz=84	83.88 338 ⇑P	P	05 51 55.7 +1.7
ECSD	EROS Data Cent baz=84	83.91 344 ⇑P	P	05 51 54.4 +0.6
ECSD	EROS Data Cent 12nm,0.9s	83.91 344 eP	P	05 51 52.9 -1.0
TPNV	Topopah Spring baz=84	83.97 328 ⇊P	P	05 51 56.2 +1.6
TPNV	Topopah Spring 5.3nm,1.0s	83.97 328 eP	P	05 51 55.8 +1.2
DAC	Darwin (Calif) 6.9nm,1.1s	83.97 327 eP	P	05 51 55.5 +0.8
TMUT	Trail Mountain 8.6nm,1.1s	84.03 332 eP	P	05 51 55.5 +0.5
K28A	Ten Mile Ranch baz=84	84.07 341 ⇊P	P	05 51 56.0 +1.2
VES	Vestal, Richgr baz=85	84.27 325 ⇑P	P	05 51 58.2 +2.3
K27A	Flueckinger Fa baz=85	84.29 340 ⇊P	P	05 51 57.3 +1.3
M22A	Cedar Creek Ra baz=85	84.36 337 ⇑P	P	05 51 58.1 +1.5
N20A	Spence Gulch, baz=85	84.38 335 ⇑P	P	05 51 57.4 +0.8
L24A	Wheatland baz=85	84.44 338 ⇑P	P	05 51 57.1 +0.3
J29A	Okreek baz=85	84.45 342 ⇊P	P	05 51 57.7 +1.0
GRAC	Grapevine Rang baz=85	84.49 327 ⇑P	P	05 51 56.8 -0.3
K26A	Motz Farm, Whi baz=85	84.54 339 ⇊P	P	05 51 57.3 +0.1
SPMN	Marine on St. baz=85	84.61 347 ⇊P	P	05 51 57.2 -0.2
K25A	Mack Ranch, Ha baz=85	84.65 339 ⇊P	P	05 51 58.2 +0.3
J28A	Allard Ranch, baz=85	84.70 341 ⇊P	P	05 51 58.9 +0.9
L23A	Garrett baz=85	84.73 338 ⇑P	P	05 51 58.4 0.0
J27A	Elkhorn Farm, baz=85,SNR=7.8	84.74 340 ⇊P	P	05 51 55.5 -2.8
MPU	Maple Canyon 5.6nm,1.1s	84.82 333 eP	P	05 51 59.0 +0.2
R11A	Troy Canyon, C baz=85	84.89 329 ⇑P	P	05 52 00.2 +1.0
R11A	Troy Canyon, C 4.4nm,1.1s	84.89 329 eP	P	05 52 00.1 +0.9
NLU	North Lily Min 2.2nm,0.8s	84.92 332 eP	P	05 52 00.1 +0.7
DAU	Daniels Canyon	85.03 333 eP	P	05 52 00.8 +0.8
J26A	Sides Ranch, S baz=85	85.08 340 ⇊P	P	05 51 59.8 -0.1
I28A	Midland baz=86,SNR=7.6	85.22 341 ⇑P	P	05 52 00.7 +0.2
K23A	Bowen Ranch, D baz=86	85.29 338 ⇑P	P	05 52 01.4 +0.3
TPH	Tonopah 12nm,1.1s	85.33 328 eP	P	05 52 02.2 +0.8
DUG	Dugway, Tooele baz=86	85.41 332 ⇊P	P	05 52 02.1 +0.4
DUG	Dugway, Tooele 6.4nm,1.1s	85.41 332 eP	P	05 52 02.1 +0.4
K22A	Casper baz=86	85.47 337 ⇊P	P	05 52 02.1 +0.1
K22A	Casper 20nm,1.2s	85.47 337 eP	P	05 52 02.0 +0.1
I27A	Quinn baz=86	85.51 341 ⇊P	P	05 52 01.4 -0.7
H29A	Onida baz=86	85.57 342 ⇊P	P	05 52 02.1 -0.1
K21A	Alcova baz=86	85.68 337 ⇑P	P	05 52 03.6 +0.5
G30A	Faulkton baz=86	85.80 343 ⇑P	P	05 52 04.0 +0.7
H28A	Mission Ridge baz=86,SNR=6.5	85.81 342 ⇑P	P	05 52 03.6 +0.2
J23A	Dilts Ranch, B baz=86	85.86 338 ⇑P	P	05 52 03.9 0.0
I25A	Rochford baz=86	85.91 340 ⇑P	P	05 52 04.0 -0.2
G29A	Hoven baz=86	86.04 343 ⇑P	P	05 52 04.6 0.0
H27A	Howes baz=86	86.04 341 ⇊P	P	05 52 04.8 +0.1
NVAR	Mina Array Bea 1.0nm,0.8s,baz=149,slow=5.6,SNR=8.0	86.09 327 P	P	05 52 06.0 +0.8
RSSD	Black Hills 3.3nm,0.9s	86.09 339 eP	P	05 52 03.8 -1.3
J22A	Midwest baz=86	86.15 338 ⇑P	P	05 52 05.3 -0.1
J21A	Lysite baz=87	86.38 337 ⇊P	P	05 52 07.4 +0.8
H25A	Fruitdale baz=87	86.43 340 ⇊P	P	05 52 07.0 +0.4
BW06	Boulder Array 5.9nm,1.3s	86.54 335 eP	P	05 52 06.7 -0.7
PDAR	Pinedale Array 1.9nm,0.8s,baz=146,slow=7.2,SNR=17	86.54 335 P	P	05 52 06.8 -0.6
J20A	Shoshoni baz=87	86.59 336 ⇑P	P	05 52 07.9 +0.4
G27A	Dupree baz=87	86.70 341 ⇊P	P	05 52 07.5 -0.3
I21A	Big Trails, Te baz=87	86.76 337 ⇊P	P	05 52 08.9 +0.5
HVU	Hansel Valley 8.7nm,1.0s	86.78 333 eP	P	05 52 08.2 -0.3
G26A	Maurine baz=87,SNR=5.1	86.79 341 ⇊P	P	05 52 08.0 -0.4
J19A	Crowheart baz=87	86.82 336 ⇊P	P	05 52 09.0 +0.3
F28A	McLaughlin baz=87	86.86 342 ⇊P	P	05 52 08.9 +0.3
G25A	Newell baz=87	86.92 340 ⇑P	P	05 52 08.8 -0.1
AHID	Auburn Hatcher 3.4nm,0.9s	87.06 334 eP	P	05 52 09.8 0.0
I20A	Worland baz=88	87.14 337 ⇑P	P	05 52 09.9 -0.2
I19A	Meeteetse baz=88	87.49 336 ⇊P	P	05 52 12.4 +0.4
D30A	Buchanan baz=88	87.58 344 ⇑P	P	05 52 12.0 0.0
H20A	Greybull baz=88	87.58 337 ⇊P	P	05 52 12.2 0.0
E27A	Carson baz=88	87.59 342 ⇑P	P	05 52 12.2 +0.1
TORD	Torodi Ar. Bea 1.0nm,0.7s,baz=244,slow=4.4,SNR=7.8	87.80 72 P	P	05 52 13.5 -0.4
TORD		LR	LR	06 30 21.4
	comp=Z,32nm,18.8s,baz=145,slow=35			
E26A	Carlson Angus baz=88	87.85 341 ⇊P	P	05 52 14.0 +0.6
H19A	Powell baz=88	88.06 336 ⇊P	P	05 52 14.7 +0.2
D28A	Regan baz=88	88.07 343 ⇊P	P	05 52 14.7 +0.3
C30A	Mose, Pekin baz=88	88.09 344 ⇑P	P	05 52 15.2 +0.8
AGMN	Agassiz Nation baz=88	88.13 346 ⇊P	P	05 52 14.6 0.0
AGMN	Agassiz Nation 5.1nm,0.7s	88.13 346 eP	P	05 52 14.1 -0.5
H18A	Shoshone NF, C baz=89	88.28 336 ⇑P	P	05 52 15.9 +0.2
G20A	Bridger baz=89	88.31 337 ⇑P	P	05 52 17.5 +1.8
D26A	Manning baz=89	88.37 342 ⇑P	P	05 52 18.4 +2.6
MDND	Maddock baz=89	88.47 344 ⇊P	P	05 52 17.0 +0.8

YMR	**Madison River**	88.69	335	*e*P		**P**	05 52 18.1	+0.5
	6.1nm,0.8s							
B30A	**Myrvik Farm, E**	88.77	345	⇓P		**P**	05 52 17.9	+0.3
	baz=89,SNR=10							
HLID	**Hailey**	88.92	332	⇑P		**P**	05 52 18.8	+0.1
	baz=89							
HLID	**Hailey**	88.92	332	*e*P		**P**	05 52 19.4	+0.7
	3.0nm,1.1s							
B29A	**Wagenman Farm,**	89.00	344	⇓P		**P**	05 52 18.7	0.0
	baz=89							
F19A	**Roth Farm, Mol**	89.11	337	⇑P		**P**	05 52 19.5	+0.1
	baz=89							
D23A	**Lindsay**	89.22	340	⇓P		**P**	05 52 19.9	0.0
	baz=90							
A30A	**Hoffart Farm,**	89.23	345	⇑P		**P**	05 52 19.8	0.0
	baz=90,SNR=5.5							
A29A	**Manning Farm,**	89.41	344	⇓P		**P**	05 52 20.4	-0.1
	baz=90,SNR=7.2							
MCMT	**McKenzie Canyo**	89.47	334	*e*P		**P**	05 52 22.0	+0.7
	3.2nm,1.4s							
E19A	**Rath Farm, Rou**	89.60	337	⇓P		**P**	05 52 21.2	-0.5
	baz=90							
ULM	**Lac du Bonnet**	90.01	347	P		**P**	05 52 23.4	0.0
	4.0nm,0.8s,baz=188,slow=4.4,SNR=6.6							
A25A	**Svangstu Ranch**	90.31	342	⇑P		**P**	05 52 25.1	+0.3
	baz=91							
M04C	**Macdoel**	90.38	327	⇓P		**P**	05 52 26.6	+1.1
	baz=91							
M02C	**Callahan**	90.50	326	⇑P		**P**	05 52 27.8	+1.8
	baz=91							
BSMT	**Bassoo Peak**	92.76	334	*e*P		**P**	05 52 36.4	-0.1
YKA	**Yellowknife Ar**	105.32	342	Pdiff		**Pdif**	05 53 31.3	-1.1
	0.2nm,0.7s,baz=144,slow=4.6,SNR=3.9							
WRA	**Warramunga Arr**	115.95	211	PKP		**PKPdf**	05 58 04.7	-2.9
	0.5nm,0.7s,baz=176,slow=1.5,SNR=6.4							
GERES	**GERESS Array B**	116.74	48	PKP		**PKPdf**	05 58 06.4	-1.8
	0.5nm,0.6s,baz=162,slow=2.1,SNR=5.2							
VYHS	**Vyhne**	119.62	50	*e*PKP		**PKPdf**	05 58 13.6	0.0
BRTR	**Keskin Array B**	125.84	64	PKP		**PKPdf**	05 58 25.8	-0.3
	1.0nm,0.7s,baz=184,slow=3.7,SNR=7.8							
SEY	**Seymchan**	142.39	327	PKhKP		PKPpre	05 58 49.9	
	0.6nm,0.3s,baz=104,slow=2.9,SNR=5.7							
GEYT	**Alibeck**	143.34	75	PKP		PKPbc	05 58 55.9	+0.2
	4.4nm,0.5s,baz=261,slow=5.9,SNR=6.8							
TIXI	**Tiksi**	144.36	347	*e*PKPdf		**PKPab**	05 58 56.4	-1.0
ARU	**Arti**	144.43	44	*e*PKPdf		PKPbc	05 58 58.7	+0.4
HYB	**Hyderabad**	148.88	124	*i* PKP		**PKPbc**	05 59 11.5	-1.0
ASAJ	**Asahikawa**	151.33	294	PKPbc		**PKPbc**	05 59 16.1	-1.5
	14nm,0.8s,baz=90,slow=14,SNR=8.4							
BVAR	**Borovoye Array**	151.91	47	PKP		**PKPdf**	05 59 11.8	-0.3
	1.1nm,0.8s,baz=245,slow=3.1,SNR=4.1							
BVAR				PKPbc		**PKiKP**	05 59 19.3	+0.4
	3.0nm,0.7s,baz=314,slow=2.9,SNR=13							
EKS2	**Erkin-Say**	155.84	69	*e*PKPdf		**PKPdf**	05 59 18.9	+0.7
AAK	**Ala-Archa**	156.37	70	*e*PKPdf		**PKPdf**	05 59 18.9	-0.1
AAK				*e*PKPab		**PKPab**	05 59 48.0	+0.5
KSH	**Kashi**	157.34	78	PKP		**PKPdf**	05 59 20.6	+0.4
KSH				sPKP			05 59 34.3	
KSH				PKS		**PKSdf**	06 02 54.8	+0.7
KSH				PP		**PP**	06 03 30.0	-1.3
KSH				PPMZ				
	91nm,4.5s							
KSH				LN				
	56nm,5.3s							
KSH				LE				
	67nm,4.4s							
KSH				LZ				
	120nm,5.9s							
ZALV	**Zalesovo Beam**	159.02	35	PKP		**PKPdf**	05 59 19.5	-2.1
	1.5nm,0.8s,baz=318,slow=2.0,SNR=7.3							
ZALV				PKPab		**PKPab**	05 59 58.4	+0.2
	3.2nm,0.8s,baz=299,slow=6.1,SNR=7.5							
MKAR	**Makanchi Array**	161.19	56	PKP		**PKPdf**	05 59 22.9	-1.5
	1.1nm,0.9s,baz=270,slow=2.4,SNR=7.2							
MKAR				PKPab		**PKPab**	06 00 08.1	+0.1
	0.5nm,0.6s,baz=281,slow=4.9,SNR=4.5							
MKAR				PP		**PP**	06 03 54.5	+2.8
	0.7nm,1.0s,baz=282,slow=2.4,SNR=3.6							
WMQ	**Urumqi**	165.74	61	*e*PKP		**PKPdf**	05 59 28.0	-0.8
WMQ				pPKP		**pPKPdf**	05 59 39.0	-1.3
SONM	**Songino Array**	170.34	355	PKP		**PKPdf**	05 59 30.2	-1.7
	0.9nm,0.9s,baz=190,slow=1.7,SNR=5.7							
SONM				PKPab		**PKPab**	06 00 48.3	0.0
	0.8nm,1.0s,baz=47,slow=1.9,SNR=3.8							
HHC	**Hu-ho-hao-te**	174.34	300	*e*PKP		**PKPdf**	05 59 33.9	+0.1
HHC				PKS		**PKSdf**	06 03 04.8	-1.2
HHC				PP		**PP**	06 05 02.0	+2.9
HHC				SKS		**SKSdf**	06 06 31.8	-2.4
HHC				SKKS		**SKKSac**	06 11 42.9	+0.4
HHC				SS		**SS**	06 26 16.0	-1.3
HHC				PPMZ				
	40nm,5.2s							
HHC				LN				
	190nm,21.0s							
HHC				LE				
	280nm,20.8s							
HHC				LZ				
	93nm,21.0s							
GTA	**Gaotai**	175.72	72	*e*PKP		**PKPdf**	05 59 34.5	+0.2
GTA				pPKP		**pPKPdf**	05 59 45.1	-0.7
GTA				sPKP			05 59 48.8	
LZH	**Lanzhou**	177.65	155	*e*PKP		**PKPdf**	05 59 34.6	-0.2
LZH				pPKP		**pPKPdf**	05 59 44.8	-1.5
LZH				sPKP			05 59 49.1	

*IDC **20** 05:46:58.7±0.8, 13°.00N×145°.44E, h0km, mb4.0/13, mb1 4.2/13, mb1mx3.9/42, mbtmp4.0/13, MS3.3/2, Ms1 3.5/2, ms1mx2.9/28, Error ellipse: s-maj=27.3km s-min=19.0km az=103.0*
*ISCJB **20** 05:47:03.1±0.6, 12°.90N±0°.08×145°.4E±0°.2, h43km, mb4.0/15, MS3.3/2, Error ellipse: s-maj=21.1km s-min=11.5km az=177.6*
*NEIC **20** 05:47:04.8±1.8, 12°.94N×145°.41E, h41km±15km, mb4.3/1, Error ellipse: s-maj=20.4km s-min=9.5km az=93.0*

ISC 20 05:47:05.0±0.8, 13°.0N±0°.1×145°.4E±0°.2, h43km, n19, σ0§82/21, mb4.0/15, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	0.82	320	*e*Pg	**Pn**	05 47 20.0	-0.1
WRAB	**Tennant Creek**	34.45	199	*e*P	**P**	05 53 48.6	-0.2
	2.4nm,0.6s						
WB2	**Warramunga Arr**	34.46	199	*e*P	**P**	05 53 48.4	-0.4
WRA	**Warramunga Arr**	34.46	199	P	**P**	05 53 48.8	-0.1
	2.0nm,0.6s,baz=22,slow=9.8,SNR=30						
ASAR	**Alice Springs**	38.10	197	P	**P**	05 54 19.4	-0.5
	0.5nm,0.7s,baz=22,slow=9.2,SNR=7.6						
CMAR	**Chiang Mai Arr**	44.97	283	P	**P**	05 55 17.1	+0.7
	1.9nm,0.5s,baz=87,slow=6.2,SNR=8.4						
CMAR				PcP	**PcP**	05 56 57.9	+0.7
	0.8nm,0.3s,baz=69,slow=1.9,SNR=5.1						
CMAR				LR	LR	06 15 01.6	
	comp=Z,30nm,18.2s,baz=179,slow=37						
SONM	**Songino Array**	47.55	325	P	**P**	05 55 37.5	+1.1
	0.4nm,0.7s,baz=148,slow=8.5,SNR=3.9						
MKAR	**Makanchi Array**	62.30	316	P	**P**	05 57 22.6	-0.3
	0.6nm,0.6s,baz=98,slow=8.4,SNR=7.5						
ZALV	**Zalesovo Beam**	62.44	324	P	**P**	05 57 22.7	-1.0
	0.2nm,0.3s,baz=79,slow=7.5,SNR=2.5						
ZALV				PcP	**PcP**	05 58 02.3	-0.4
	0.8nm,0.6s,baz=132,slow=2.1,SNR=5.1						
ILAR	**Eielson Array**	68.91	25	P	**P**	05 58 04.5	-0.8
	1.2nm,0.7s,baz=250,slow=5.8,SNR=12						
ILAR				LR	LR	06 25 04.0	
	comp=Z,24nm,21.9s,baz=292,slow=33						
BVAR	**Borovoye Array**	70.74	322	P	**P**	05 58 16.8	+0.1
	0.8nm,0.5s,baz=100,slow=9.4,SNR=7.7						
YKA	**Yellowknife Ar**	83.18	27	P	**P**	05 59 26.8	+0.4
	0.6nm,0.6s,baz=285,slow=5.1,SNR=14						
RES	**Resolute Bay**	85.04	13	P	**P**	05 59 35.8	+0.1
	0.9nm,0.7s,baz=314,slow=8.8,SNR=4.4						
NVAR	**Mina Array Bea**	86.90	51	P	**P**	05 59 46.9	+1.0
	0.1nm,0.4s,baz=256,slow=3.6,SNR=3.1						
ARCES	**ARCESS Array B**	87.84	342	P	**P**	05 59 48.6	-0.9
	5.7nm,0.9s,baz=323,slow=9.1,SNR=5.7						
JOF	**Joensuu**	89.09	335	*e*p	**P**	05 59 54.0	-1.5
	2.4nm,0.7s						
FINES	**FINESS Array B**	91.95	335	P	**P**	06 00 08.1	-0.7
	1.8nm,0.5s,baz=80,slow=5.6,SNR=14						
TORD	**Torodi Ar. Bea**	135.65	304	PKP	**PKPdf**	06 06 23.3	+1.6
	0.4nm,0.9s,baz=228,slow=3.5,SNR=2.6						
DBIC	**Dimbokro**	144.60	302	PKP	**PKPdf**	06 06 37.3	-0.7
	8.8nm,0.9s,baz=48,slow=3.5,SNR=11						

GUC 20 05:58:06.5±0.4, 35°.54S×72°.73W, h19km±4km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	0.59	185	*e*P	Pb	05 58 17.9	-0.4
COCH				*e*S	Sg	05 58 26.4	0.0
TALC	**Talca**	0.90	81	*e*P9	Pb	05 58 22.6	-1.0
TALC				*e*S	Sb	05 58 35.3	+0.1
LNCH	**Linares**	0.97	109	*e*P	Pb	05 58 24.1	-0.6
LNCH				*e*S	Sb	05 58 37.2	+0.1
LNCH				AML	AML	05 58 38.7	
	comp=N,2μm,0.5s						
NICH	**Los Niches**	1.34	67	*e*P	Pn	05 58 29.8	-0.3
NICH				*e*S	Sb	05 58 47.8	0.0
NICH				AML	AML	05 58 52.0	
	comp=N,2μm,0.3s						
CACH	**El Canelo**	2.25	52	*e*P	Pb	05 58 45.1	-1.7
CHCH	**Chadas Angostu**	2.34	47	*e*P	Pn	05 58 46.1	+2.0
CLCH	**Cerro Calan**	2.80	41	AML	AML	05 59 46.4	
	comp=E,218nm,0.7s						

*IDC **20** 06:23:24.0±0.6, 39°.20N×90°.19E, h0km, mb4.1/19, mb1 4.2/25, mb1mx4.1/49, mbtmp4.1/25, ML3.9/6, MS3.5/14, Ms1 3.5/14, ms1mx3.3/31, Error ellipse: s-maj=17.3km s-min=11.3km az=37.0*
*BJI **20** 06:23:24.0, 39°.14N×90°.09E, h10km, mB4.7/13, mb4.7/19, ML4.5/14, Ms4.1/16, Ms7 4.0/8*
*NEIC **20** 06:23:25.6±2.7, 39°.27N×90°.15E, h8km±17km, mb4.2/4, Error ellipse: s-maj=9.0km s-min=6.2km az=195.0*
*ISCJB **20** 06:23:27.7±0.3, 39°.43N±0°.04×90°.14E±0°.03, h33km, mb4.1/28, MS3.4/9, Error ellipse: s-maj=5.9km s-min=3.4km az=20.8*
*MOS **20** 06:23:27.9±1.4, 39°.38N×90°.07E, h33km, mb4.3/23, Error ellipse: s-maj=9.3km s-min=5.9km az=117.4*
*NNC **20** 06:23:28.7±1.6, 39°.41N×89°.70E, h6km±10km, mb4.4, Error ellipse: s-maj=13.0km s-min=8.4km az=47.0*

ISC 20 06:23:29.4±0.5, 39°.32N±0°.06×90°.14E±0°.04, h35km, n107, σ1§75/117, mb4.1/28, MS3.5/9, 13C-13D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	4.86	339	Pn	**Pn**	06 24 42.0	+2.0
WMQ				Sn	**Sn**	06 25 40.8	+5.8
WMQ				SMN			
	790nm,0.6s						
WMQ				SME			
	750nm,0.8s						
WMQ				LN			
	120nm,17.0s						
WMQ				LE			
	510nm,22.0s						
GTA	**Gaotai**	7.50	86	⇑Pn	**Pn**	06 25 16.1	-0.2
GTA				Sn	**Sn**	06 26 43.3	+3.1
GTA				LN			
	490nm,8.6s						
GTA				LE			
	790nm,8.8s						
GTA				LZ			
	690nm,9.5s						
PDGK	**Podgornoye**	8.96	300	⇓Pn	**Pn**	06 25 35.0	-1.1
PDGK				⇑Sn	**Sn**	06 27 13.2	-2.5
PDGK				⇑Lg	Lg	06 28 03.6	
MK31	**Makanchi Array**	9.42	325	⇑Pn	**Pn**	06 25 41.9	-0.7
	2.8nm,0.3s,baz=148,slow=15,SNR=135						
MK31				⇓Sn	**Sn**	06 27 25.9	-1.3
	8.8nm,0.5s						
MK31				⇓Lg	Lg	06 28 18.8	
	14nm,0.6s,baz=152,slow=32,SNR=5.7						
MK31	**Makanchi Array**	9.42	325	P	**Pn**	06 25 41.8	-0.7
MK31						06 27 25.7	
MK31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MK31				smax	smax		
	comp=N,9.0nm,0.5s						
MK31				pmax	pmax		
	comp=Z,14nm,0.6s						
MKAR	**Makanchi Array**	9.42	325	Pn	**Pn**	06 25 41.7	-0.8
	comp=Z,3.3nm,0.3s,baz=145,slow=14,SNR=78						
MKAR				Sn	**Sn**	06 27 26.8	-0.4
	comp=Z,2.4nm,0.3s,baz=133,slow=25,SNR=6.0						
MKAR				Lg	Lg	06 28 28.6	
	comp=Z,1.4nm,0.3s,baz=148,slow=26,SNR=4.4						
MKAR				LR	LR	06 29 56.2	
	comp=Z,254nm,19.2s,baz=150,slow=41						
LSA	**Lhasa**	9.63	175	P	Pn	06 25 51.1	+5.2
LSA	**Lhasa**	9.63	175	*e*P	Pn	06 25 50.9	+5.0
LSA	**Lhasa**	9.63	175	*e*Pn	Pn	06 25 50.9	+5.0
KSH	**Kashi**	10.96	276	P	**Pn**	06 26 06.5	+2.7
KSH				S	Sn	06 28 11.6	+6.4
KSH				PMZ			
	comp=Z,14nm,0.6s						
KSH				PMZ			
	comp=Z,120nm,5.0s						
KSH				LN			
	comp=Z,280nm,6.3s						
KSH				LE			
	comp=Z,280nm,8.6s						
KSH				LZ			
	comp=Z,420nm,11.0s						
LZH	**Lanzhou**	11.33	102	*e*P	**Pn**	06 26 06.9	-1.9
LZH				pP		06 26 09.5	
LZH				sP		06 26 12.5	
LZH				S	**Sn**	06 28 12.4	-1.8
LZH				PMZ			
	comp=Z,28nm,1.0s						
LZH				PMZ			
	comp=Z,85nm,4.2s						
LZH				LN			
	comp=Z,540nm,9.6s						
LZH				LE			
	comp=Z,690nm,10.0s						
LZH				LZ			
	comp=Z,770nm,10.7s						
TKM2	**Tokmak 2**	11.54	293	⇑Pn	**Pn**	06 26 10.0	-1.8
	comp=Z,30nm,0.6s						
TKM2				⇓Sn	**Sn**	06 28 15.5	-4.0
	comp=Z,13nm,1.0s						
TKM2				⇑Lg	Lg	06 29 24.3	
	comp=Z,23nm,1.1s						
TKM2	**Tokmak 2**	11.54	293	*e*P	**Pn**	06 26 10.3	-1.5
TKM2	**Tokmak 2**	11.54	293	*e*Pn	**Pn**	06 26 10.3	-1.5
AAK	**Ala-Archa**	12.28	291	⇑Pn	**Pn**	06 26 19.1	-2.7
	comp=Z,5.2nm,0.7s						
AAK				⇑Lg	Lg	06 29 47.7	
	comp=Z,34nm,1.2s						
AAK	**Ala-Archa**	12.28	291	*e*P	**Pn**	06 26 20.8	-1.0
AAK	**Ala-Archa**	12.28	291	Pn	**Pn**	06 26 20.0	-1.7
	comp=Z,0.7nm,0.3s,baz=82,slow=7.9,SNR=7.1						
AAK				LR	LR	06 31 49.5	
	comp=Z,178nm,20.8s,baz=77,slow=41						
AAK	**Ala-Archa**	12.28	291	*e*Pn	**Pn**	06 26 20.8	-1.0
EKS2	**Erkin-Say**	12.80	290	*e*P	**Pn**	06 26 28.9	-0.1
EKS2	**Erkin-Say**	12.80	290	*e*Pn	**Pn**	06 26 28.9	-0.1
KURBB	**Kurchatov Arra**	13.95	328	⇓Pn	**Pn**	06 26 42.4	-2.0
	comp=Z,16nm,1.4s						
KURBB				⇑Sn	**Sn**	06 29 17.1	-0.9
	comp=Z,9.7nm,0.6s						
KURBB				⇑Lg	Lg	06 30 44.6	
	comp=Z,37nm,1.1s						
KURBB	**Kurchatov Arra**	13.95	328	Pn	**Pn**	06 26 41.8	-2.6
	comp=Z,0.2nm,0.3s,baz=147,slow=11,SNR=11						
KURBB				Sn	**Sn**	06 29 17.3	-0.7
	comp=Z,0.1nm,0.3s,baz=120,slow=24,SNR=5.1						
KURBB				Lg	Lg	06 30 49.5	
	comp=Z,0.1nm,0.3s,baz=139,slow=31,SNR=5.7						
KURK	**Kurchatov**	13.99	328	⇓Pn	**Pn**	06 26 42.4	-2.5
	comp=Z,2.7nm,0.3s						
KURK				⇓Sn	**Sn**	06 29 17.2	-1.5
KURK				⇓Lg	Lg	06 30 45.3	
	comp=Z,25nm,1.7s						
KURK	**Kurchatov**	13.99	328	P	**Pn**	06 26 42.3	-2.5
KURK						06 29 15.5	
KURK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KURK				smax	smax		
	comp=N,5.0nm,0.7s						
KURK				pmax	pmax		
	comp=Z,25nm,1.7s						
KURK	**Kurchatov**	13.99	328	*e*Pn	**Pn**	06 26 42.1	-2.7
KURK				Sn	**Sn**	06 29 17.3	-1.5
KURK				Lg	Lg	06 30 49.5	
ZAK	**Zakamensk**	14.44	36	*e*P	**Pn**	06 26 52.1	+0.9
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MOY	**Mondy**	14.49	28	*e*P	**P**	06 26 55.0	-3.0
MOY				pmax	pmax		
	comp=Z,18nm,2.3s						
SONM	**Songino Array**	14.52	49	Pn	**Pn**	06 26 51.5	-0.8
	comp=Z,0.5nm,0.3s,baz=239,slow=14,SNR=38						
SONM				Sn	**Sn**	06 29 30.2	-1.7
	comp=Z,0.2nm,0.3s,baz=232,slow=24,SNR=3.5						
SONM				Lg	Lg	06 31 02.3	
	comp=Z,0.4nm,0.3s,baz=237,slow=24,SNR=6.3						
SONM				LR	LR	06 32 44.8	
	comp=Z,226nm,19.0s,baz=200,slow=38						
ULN	**Ulaanbaatar**	14.92	50	*e*P	**Pn**	06 26 58.4	+0.7
ULN	**Ulaanbaatar**	14.92	50	*e*Pn	**Pn**	06 26 58.4	+0.7
ZALV	**Zalesovo Beam**	15.08	348	P	**Pn**	06 26 59.2	-0.4
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,301nm,19.1s						
ZALV	**Zalesovo Beam**	15.08	348	Pn	**Pn**	06 26 59.2	-0.4
	comp=Z,0.5nm,0.3s,baz=165,slow=12,SNR=8.5						
ZALV				LR	LR	06 33 15.6	
	comp=Z,301nm,19.1s,baz=50,slow=39						
KK31	**Karatay Array**	15.24	291	⇓P	**Pn**	06 26 58.9	-3.0
	comp=Z,1.8nm,0.6s,baz=88,slow=12,SNR=11						
KK31	**Karatay Array**	15.24	291	*i* P	**P**	06 27 06.4	0.0
KK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	15.24	291	*e*P	**Pn**	06 27 00.5	-1.4
KKAR	**Karatay Array**	15.24	291	*e*Pn	**Pn**	06 27 00.5	-1.4
OTUK	**Ortayu**	15.62	311	⇓Pn	**Pn**	06 27 03.3	-3.4
OTUK				⇓Sn	**Sn**	06 29 56.3	-2.2
OTUK				⇓Lg	Lg	06 31 34.6	
XAN	**Xi'an**	15.96	103	P	**P**	06 27 13.5	-0.9
NVS	**Novosibirsk**	16.21	346	*e*P	**Pn**	06 27 13.1	-1.1
NVS				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC	**Hu-ho-hao-te**	16.47	78	*e*P	**Pn**	06 27 17.0	-0.7
HHC				sP	sP	06 27 24.1	-10
HHC				PP	**pP**	06 27 31.4	+2.1
HHC				S	**Sn**	06 30 16.8	-2.6
HHC				sS	**S**	06 30 27.9	-2.7
HHC				SS	**SnSn**	06 30 41.9	+10
HHC				PMZ			
	comp=Z,30nm,1.0s						
HHC				PMZ			
	comp=Z,210nm,4.4s						
HHC				LN			
	comp=Z,490nm,7.1s						
HHC				LE			
	comp=Z,830nm,10.2s						
HHC				LZ			
	comp=Z,450nm,8.8s						
KBL	**Kabul**	17.52	261	*e*P	**P**	06 27 32.6	+0.7
KBL				pmax	pmax		
	comp=Z,13nm,0.7s						
KBL	**Kabul**	17.52	261	*e*Pn	**P**	06 27 32.6	+0.7
	comp=Z,13nm,0.7s						
GYA	**Guiyang**	18.86	128	⇑*i*P	**P**	06 27 45.3	-1.3
GYA				PMZ			
	comp=Z,20nm,0.8s						
BVA0	**Borovoye Array**	19.28	322	⇓P	**P**	06 27 51.3	+0.5
	comp=Z,5.9nm,0.6s,baz=230,slow=41,SNR=54						
BVA0	**Borovoye Array**	19.28	322	P	**P**	06 27 51.3	+0.5
BVA0				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BVAR	**Borovoye Array**	19.28	322	P	**Pn**	06 27 51.5	-0.5
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,15nm,28.6s						
BVAR	**Borovoye Array**	19.28	322	P	**Pn**	06 27 51.5	-0.5
	comp=Z,2.3nm,0.3s,baz=124,slow=12,SNR=54						
BVAR				LR	LR	06 35 38.5	
	comp=Z,180nm,20.6s,baz=128,slow=38						
SLVN	**Son La**	21.46	143	*e*P	**P**	06 28 14.0	-0.8
	comp=Z,9.8nm,1.0s						
TIA	**Tai'an**	21.53	90	⇑P	**P**	06 28 15.8	+0.4
TIA				PMZ			
	comp=Z,20nm,1.0s						
CMAR	**Chiang Mai Arr**	22.14	157	P	**P**	06 28 21.3	-0.8
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CMAR				MLR	MLR		
	comp=Z,43nm,18.2s						
CMAR	**Chiang Mai Arr**	22.14	157	P	**P**	06 28 21.2	-0.8
	comp=Z,2.4nm,0.4s,baz=334,slow=10,SNR=11						
CMAR				LR	LR	06 37 16.8	
	comp=Z,43nm,18.2s,baz=353,slow=38						
AB31	**Akbulak array**	23.65	305	P	**P**	06 28 37.4	+0.1
	comp=Z,2.2nm,0.7s,baz=93,slow=10,SNR=39						
AB31	**Akbulak array**	23.65	305	P	**P**	06 28 37.3	+0.1
AB31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BOD	**Bodaibo**	24.11	32	*e*P	**P**	06 28 42.9	+1.4
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GEYT	**Alibeck**	24.99	277	P	**P**	06 28 51.4	+1.6
	comp=Z,5.7nm,0.6s,baz=79,slow=7.7,SNR=11						
AKTO	**Aktyubinsk**	25.14	307	⇑P	**P**	06 28 51.3	+0.3
	comp=Z,9.5nm,0.9s						
AKTO	**Aktyubinsk**	25.14	307	P	**P**	06 28 51.2	+0.3
AKTO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AKTO	**Aktyubinsk**	25.14	307	P	**P**	06 28 51.7	+0.8
	comp=Z,4.6nm,0.6s,baz=100,slow=11,SNR=26						
AKTO				LR	LR	06 39 25.2	
	comp=Z,158nm,18.8s,baz=106,slow=38						
ARU	**Arti**	26.89	320	*e*P	**P**	06 29 07.8	+1.1
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARU	**Arti**	26.89	320	*e*P	**P**	06 29 07.8	+1.1
	comp=Z,4.0nm,0.7s						
KSAR	**Wonju Array Be**	29.51	82	P	**P**	06 29 29.8	-0.5
KSAR	**Wonju Array Be**	29.51	82	P	**P**	06 29 29.8	-0.5
KSRS	**Korea Array**	29.54	82	P	**P**	06 29 29.8	-0.7
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KSRS				MLR	MLR		
	comp=Z,15nm,28.6s						
KSRS	**Korea Array**	29.54	82

KIEV	**Kiev**	**43.39**	**306**	*e*P	**P**	**06 31 29.2**	**+1.0**
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KIEV	**Kiev**	**43.39**	**306**	*e*P	**P**	**06 31 29.2**	**+1.0**
	comp=Z,5.4nm,0.7s						
SEY	**Seymchan**	**43.41**	**36**	P	**P**	**06 31 29.4**	**+1.2**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SEY	**Seymchan**	**43.41**	**36**	P	**P**	**06 31 29.4**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=291,slow=6.0,SNR=8.6						
FINES	**FINESS Array B**	**44.23**	**322**	P	**P**	**06 31 34.9**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**44.23**	**322**	P	**P**	**06 31 34.9**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=102,slow=8.3,SNR=18						
ARCES	**ARCESS Array B**	**44.96**	**333**	P	**P**	**06 31 40.9**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,80nm,18.9s						
ARCES	**ARCESS Array B**	**44.96**	**333**	P	**P**	**06 31 40.9**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=83,slow=7.9,SNR=9.1						
ARCES				LR	LR	06 52 00.7	
	comp=Z,80nm,18.9s,baz=114,slow=38						
PETK	**Petropavlovsk-**	**47.00**	**50**	LR	LR	06 53 11.3	
	comp=Z,43nm,20.6s,baz=170,slow=38						
NB2	**NORSAR Subarra**	**51.41**	**322**	P	**P**	**06 32 30.1**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=76,slow=7.9						
NOA	**NORSAR Array B**	**51.41**	**322**	P	**P**	**06 32 30.4**	**-0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,55nm,18.9s						
NOA	**NORSAR Array B**	**51.41**	**322**	P	**P**	**06 32 30.4**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=77,slow=7.9,SNR=5.7						
NOA				LR	LR	06 56 43.1	
	comp=Z,55nm,18.9s,baz=60,slow=39						
DPC	**Dobruska-Polom**	**51.46**	**308**	*e*P	**P**	**06 32 33.2**	**+2.2**
DPC	**Dobruska-Polom**	**51.46**	**308**	*e*P	**P**	**06 32 33.2**	**+2.2**
GERES	**GERESS Array B**	**53.56**	**307**	P	**P**	**06 32 47.6**	**+0.9**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**53.56**	**307**	P	**P**	**06 32 47.6**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=64,slow=9.1,SNR=8.2						
KEST	**Kesra**	**62.10**	**295**	LR	LR	07 08 15.1	
	comp=Z,11nm,18.3s,baz=283,slow=43						
ILAR	**Eielson Array**	**67.09**	**23**	P	**P**	**06 34 19.5**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**67.09**	**23**	P	**P**	**06 34 19.4**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=321,slow=4.9,SNR=21						
ESDC	**Sonseca Array**	**68.99**	**304**	P	**P**	**06 34 32.3**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=188,slow=28,SNR=3.9						
WRA	**Warramunga Arr**	**71.99**	**136**	P	**P**	**06 34 48.4**	**-1.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**71.99**	**136**	P	**P**	**06 34 48.4**	**-1.1**
	comp=Z,2.1nm,0.9s,baz=333,slow=6.1,SNR=14						
ASAR	**Alice Springs**	**74.83**	**139**	P	**P**	**06 35 06.0**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**74.83**	**139**	P	**P**	**06 35 06.0**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=337,slow=6.2,SNR=14						
YKA	**Yellowknife Ar**	**76.60**	**12**	P	**P**	**06 35 15.9**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**76.60**	**12**	P	**P**	**06 35 15.9**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=335,slow=5.6,SNR=12						
TORD	**Torodi Ar. Bea**	**80.61**	**279**	P	**P**	**06 35 37.8**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=39,slow=5.3,SNR=8.5						
DBIC	**Dimbokro**	**89.67**	**278**	P	**P**	**06 36 22.9**	**-1.1**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DBIC	**Dimbokro**	**89.67**	**278**	P	**P**	**06 36 22.9**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=126,slow=8.4,SNR=3.9						
ULM	**Lac du Bonnet**	**90.66**	**4**	LR	LR	07 20 00.4	
	comp=Z,31nm,18.0s,baz=168,slow=37						
PDAR	**Pinedale Array**	**96.37**	**14**	LR	LR	07 26 00.7	
	comp=Z,24nm,19.4s,baz=321,slow=39						
LPAZ	**La Paz**	**150.22**	**314**	PKIKP	**PKPbc**	**06 43 19.0**	**+1.2**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ	**La Paz**	**150.22**	**314**	PKPbc	**PKPbc**	**06 43 18.9**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=35,slow=0.8,SNR=4.0						

GUC 20 06:29:23.8±0.3, 37.°82S×73.°47W, h14km±2km, ML4.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.61**	**90**	*e*P	Pb	06 29 36.1	-0.1
AGCH				*e*S	Sb	06 29 45.4	+0.6
COCH	**Cobquecura**	**1.77**	**18**	*e*P	Pb	06 29 55.3	-0.6
COCH				*e*S1	Sg	06 30 19.1	-1.5
VLCH	**Valdivia**	**2.00**	**175**	*e*P	Pb	06 29 58.9	-0.9
VLCH				*e*S	Sb	06 30 25.7	+1.2
LNCH	**Linares**	**2.47**	**38**	*e*P	Pb	06 30 06.2	-1.8
LNCH				*e*S	Sb	06 30 38.0	-0.2
LNCH				AML	AML	06 30 52.5	
	comp=N,3μm,0.7s						
TALC	**Talca**	**2.83**	**32**	*e*P	Pn	06 30 11.0	+2.5
TALC				*e*S	Sb	06 30 47.0	-1.6
NICH	**Los Niches**	**3.34**	**33**	AML	AML	06 31 21.1	
	comp=E,1μm,0.5s						

MAN 20 06:35:12, 18.°06N×122.°24E, h4km, mb4.2, ML3.1, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.26**	**314**	*e*P	Pg	06 35 18.1	+1.1
SGCP				*e*S	Sb	06 35 24.0	-0.1
CVP	**Callao Caves**	**0.54**	**228**	⇑*i*P	Pb	06 35 24.9	+0.9
CVP				*i* S	Sn	06 35 34.7	-1.2
APYP	**Conner**	**0.97**	**258**	*e*P	Pb	06 35 31.3	-0.1
APYP				*e*S	Sn	06 35 47.4	+0.7
ABRA	**Dolores**	**1.51**	**254**	*e*P	Pn	06 35 39.9	0.0

ISCJB ***20*** *06:59:59.5±0.6, 56.°03N±0.°05×17.°14E±0.°06, h0km, Error ellipse: s-maj=7.6km s-min=3.8km az=155.2*
CSEM ***20*** *07:00:00.2±0.3, 55.°84N×17.°20E, h2km, ML2.5, Error ellipse: s-maj=9.2km s-min=4.5km az=160.0, Mining explosion.*
HEL ***20*** *07:00:01.2±0.3, 55.°89N×17.°19E, h0km, ML2.6, ML2.5(UPP), Explosion*
BER ***20*** *07:00:02.8±3.0, 55.°97N×17.°28E, h0km, ML2.2(NAO), Suspected explosion*
UPP ***20*** *07:00:04.3, 56.°08N×16.°90E, h0km, ML2.5, Mining explosion.*
IDC ***20*** *07:00:04.3±3.8, 56.°12N×17.°21E, h0km, mb1 3.3/3, mb1mx3.0/29, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=39.1km s-min=16.2km az=4.0*
NAO ***20*** *07:00:05.6±2.7, 56.°19N×17.°32E, ML2.2*
ISC 20 06:59:59.2±1.0, 55.°97N±0.°04×17.°11E±0.°04, h0km, n70, σ1§94/89, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLEU	**Blekinge**	**0.80**	**295**	*i* P	**Pb**	**07 00 16.6**	**+0.6**
BLEU				*i* S	**Sg**	**07 00 25.1**	**+0.3**
BLEU	**Blekinge**	**0.80**	**295**	P	**Pb**	**07 00 16.5**	**+0.6**
BLEU				S	**Sg**	**07 00 25.1**	**+0.3**
BLEU	**Blekinge**	**0.80**	**295**	P	**Pb**	**07 00 16.6**	**+0.6**
BLEU				S	**Sg**	**07 00 25.1**	**+0.3**
BYXU	**Byxelkrok**	**1.32**	**358**	*e*P	**Pb**	**07 00 26.7**	**+1.8**
BYXU	**Byxelkrok**	**1.32**	**358**	P	**Pb**	**07 00 26.7**	**+1.8**
BYXU	**Byxelkrok**	**1.32**	**358**	P	**Pb**	**07 00 26.7**	**+1.8**
OSKU	**Oskarshamn**	**1.35**	**336**	*e*P	**Pb**	**07 00 27.1**	**+1.8**
OSKU	**Oskarshamn**	**1.35**	**336**	P	**Pb**	**07 00 27.1**	**+1.8**
OSKU	**Oskarshamn**	**1.35**	**336**	P	**Pb**	**07 00 27.1**	**+1.8**
ASPU	**Aespoe**	**1.48**	**349**	*e*P	**Pg**	**07 00 29.5**	**+1.9**
ASPU	**Aespoe**	**1.48**	**349**	P	**Pg**	**07 00 29.4**	**+1.9**
ASPU	**Aespoe**	**1.48**	**349**	P	**Pg**	**07 00 29.5**	**+1.9**
BSD	**Bornholm Skovb**	**1.51**	**236**	*i* P	**Pb**	**07 00 27.9**	**-0.2**
BSD				*i* S	**Sn**	**07 00 49.4**	**+1.5**
BSD	**Bornholm Skovb**	**1.51**	**236**	*e*P	**Pb**	**07 00 27.9**	**-0.2**
BSD				*e*S	**Sn**	**07 00 48.6**	**+0.7**
BSD	**Bornholm Skovb**	**1.51**	**236**	P	**Pb**	**07 00 27.9**	**-0.2**
BSD				S	**Sn**	**07 00 48.6**	**+0.7**
VXJU	**Vaexsjoe**	**1.54**	**309**	*e*P	**Pg**	**07 00 29.8**	**+1.2**
VXJU	**Vaexsjoe**	**1.54**	**309**	P	**Pg**	**07 00 29.8**	**+1.2**
VXJU	**Vaexsjoe**	**1.54**	**309**	P	**Pg**	**07 00 29.8**	**+1.2**
VSTU	**Vaestervik**	**1.72**	**350**	*e*P	**Pg**	**07 00 33.7**	**+1.5**
VSTU	**Vaestervik**	**1.72**	**350**	P	**Pg**	**07 00 33.7**	**+1.5**
VSTU	**Vaestervik**	**1.72**	**350**	P	**Pg**	**07 00 33.7**	**+1.5**
EKSU	**Eksjoe**	**1.89**	**329**	*e*P	**Pg**	**07 00 35.9**	**+0.5**
EKSU	**Eksjoe**	**1.89**	**329**	P	**Pg**	**07 00 35.9**	**+0.5**
EKSU	**Eksjoe**	**1.89**	**329**	P	**Pg**	**07 00 35.9**	**+0.5**
LNKU	**Linkoeping**	**2.42**	**339**	*e*P	**Pb**	**07 00 43.7**	**+0.1**
LNKU	**Linkoeping**	**2.42**	**339**	P	**Pb**	**07 00 43.7**	**+0.1**
LNKU	**Linkoeping**	**2.42**	**339**	P	**Pb**	**07 00 43.7**	**+0.1**
VIKU	**Vikbolandet**	**2.55**	**355**	*e*P	**Pb**	**07 00 45.2**	**-0.6**
VIKU	**Vikbolandet**	**2.55**	**355**	P	**Pb**	**07 00 45.2**	**-0.6**
VIKU	**Vikbolandet**	**2.55**	**355**	P	**Pb**	**07 00 45.2**	**-0.6**
COP	**Copenhagen**	**2.65**	**266**	*e*S	**Sn**	**07 01 17.1**	**+1.1**
COP	**Copenhagen**	**2.65**	**266**	S	**Sn**	**07 01 17.1**	**+1.1**
LLD	**Lille Linde**	**2.85**	**259**	*i* P	**Pn**	**07 00 46.6**	**+0.8**
LLD				*i*		07 00 53.5	
LLD	**Lille Linde**	**2.85**	**259**	*i* P	**Pn**	**07 00 46.6**	**+0.8**
SLIT	**Slitere, Latvi**	**3.30**	**58**	*e*P	**Pn**	**07 00 53.1**	**+1.1**
SLIT				*e*PB	**Pb**	**07 00 59.0**	**+0.5**
SLIT	**Slitere, Latvi**	**3.30**	**58**	P	**Pn**	**07 00 53.1**	**+1.1**
HFS	**Hagfors**	**4.55**	**338**	Pn	Pn	07 01 12.9	+3.6
	baz=158,slow=11						
HFS				Sn	**Sn**	**07 02 02.4**	**-0.4**
	baz=159,slow=28						
HFS				Lg	Lg	07 02 24.5	
	baz=154,slow=28						
HFS	**Hagfors**	**4.55**	**338**	Pn	Pn	07 01 12.9	+3.6
	baz=158,slow=11						
HFS				Sn	**Sn**	**07 02 02.4**	**-0.4**
	baz=159,slow=28						
HFS				Lg	Lg	07 02 24.5	
	baz=154,slow=28						
HFS	**Hagfors**	**4.55**	**338**	Pn	Pn	07 01 12.9	+3.6
	SNR=4.7						
MTSE	**Matsula**	**4.56**	**50**	*e*P	**Pn**	**07 01 11.6**	**+2.3**
MTSE	**Matsula**	**4.56**	**50**	P	**Pn**	**07 01 11.6**	**+2.3**
RAF	**Rauma**	**5.62**	**24**	*e*P	**Pn**	**07 01 25.9**	**+2.0**
RAF				*e*S	**Sn**	**07 02 29.5**	**+0.3**
RAF				MSN		07 02 31.6	
	comp=Z,2.0nm,0.2s						
RAF	**Rauma**	**5.62**	**24**	P	**Pn**	**07 01 25.9**	**+2.0**
MEF	**Metsahovi**	**5.75**	**39**	*e*P	**Pn**	**07 01 28.7**	**+3.0**
MEF				*e*S	**Sn**	**07 02 33.0**	**+0.7**
MEF	**Metsahovi**	**5.75**	**39**	P	**Pn**	**07 01 28.6**	**+3.0**
MEF				S	**Sn**	**07 02 32.9**	**+0.7**
NB2	**NORSAR Subarra**	**5.95**	**331**	Pn	**Pn**	**07 01 30.4**	**+1.9**
	baz=146,slow=14						
NB2				Lg	Lg	07 03 07.7	
	baz=140,slow=37						
NB2	**NORSAR Subarra**	**5.95**	**331**	Pn	**Pn**	**07 01 30.4**	**+1.9**
	baz=146,slow=14						
NB2				Lg	Lg	07 03 07.7	
	baz=140,slow=37						
NB2	**NORSAR Subarra**	**5.95**	**331**	Pn	**Pn**	**07 01 30.4**	**+1.9**
	SNR=4.3						
NB2				Lg	Lg	07 03 07.7	
	SNR=4.1						
NOA	**NORSAR Array B**	**5.95**	**331**	Pn	**Pn**	**07 01 30.2**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=152,slow=11,SNR=13						
NOA				Sn	**Sn**	**07 02 35.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=302,slow=20,SNR=2.5						
PVF	**Pernaja**	**6.51**	**42**	*e*P	**Pn**	**07 01 37.5**	**+1.5**
PVF				*e*S	**Sn**	**07 02 49.0**	**-1.9**
PVF				MSN		07 02 54.3	
	comp=Z,1.6nm,0.1s						
PVF	**Pernaja**	**6.51**	**42**	P	**Pn**	**07 01 37.5**	**+1.5**
VJF	**Virojoki**	**7.16**	**46**	*e*P	**Pn**	**07 01 45.0**	**0.0**
VJF				MSN		07 03 07.3	
	comp=Z,1.9nm,0.2s						
VJF	**Virojoki**	**7.16**	**46**	P	**Pn**	**07 01 45.0**	**0.0**
FIA0	**FINESS Array S**	**7.20**	**37**	Pn	**Pn**	**07 01 47.9**	**+2.2**
	baz=214,slow=14						
FIA0				Sn	**Sn**	**07 03 05.3**	**-2.7**
	baz=215,slow=22						
FIA0				Lg	Lg	07 03 42.1	
	baz=221,slow=28						
FIA0	**FINESS Array S**	**7.20**	**37**	Pn	**Pn**	**07 01 47.9**	**+2.2**
	baz=214,slow=14						
FIA0				Sn	**Sn**	**07 03 05.3**	**-2.7**
	baz=215,slow=22						
FIA0				Lg	Lg	07 03 42.1	
	baz=221,slow=28						
FIA0	**FINESS Array S**	**7.20**	**37**	*e*P	**Pn**	**07 01 47.8**	**+2.2**
FIA0				*e*S	**Sn**	**07 03 05.0**	**-3.1**
FIA0				MSN		07 03 09.4	
	comp=Z,0.9nm,0.2s						
FIA0	**FINESS Array S**	**7.20**	**37**	P	**Pn**	**07 01 47.8**	**+2.2**
FIA0				Lg	Lg	07 03 42.2	
	SNR=3.8						
FINES	**FINESS Array B**	**7.20**	**37**	Pn	**Pn**	**07 01 47.9**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=218,slow=13,SNR=19						
FINES				Sn	**Sn**	**07 03 05.8**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=224,slow=23,SNR=7.5						
KEF	**Keuruu**	**7.39**	**30**	*e*P	**Pn**	**07 01 50.9**	**+2.8**
KEF				MSN		07 03 17.4	
	comp=Z,0.9nm,0.2s						
KEF	**Keuruu**	**7.39**	**30**	P	**Pn**	**07 01 50.9**	**+2.8**
VAF	**Ylistaro**	**7.63**	**19**	*e*P	**Pn**	**07 01 54.3**	**+2.7**
VAF				*e*S	**Sn**	**07 03 16.0**	**-2.6**
VAF				MSN		07 03 20.0	
	comp=Z,0.6nm,0.2s						
VAF	**Ylistaro**	**7.63**	**19**	P	**Pn**	**07 01 54.2**	**+2.7**
SUF	**Sumiainen**	**8.19**	**31**	*e*P	**Pn**	**07 02 00.9**	**+1.8**
SUF				*e*S	**Sn**	**07 03 30.1**	**-2.1**
SUF	**Sumiainen**	**8.19**	**31**	P	**Pn**	**07 02 00.9**	**+1.8**
KJN	**Kajaani**	**9.70**	**29**	*e*P	**Pn**	**07 02 19.6**	**-0.3**
KJN				*e*S	**Sn**	**07 04 04.6**	**-4.8**
MSF	**Maaselka**	**11.51**	**25**	*e*P	**Pn**	**07 02 42.3**	**-2.3**
MSF				*e*S	**Sn**	**07 04 48.3**	**-5.3**
KU6	**Riekki**	**11.81**	**26**	*e*P	**Pn**	**07 02 48.2**	**-0.5**
KU6				*e*S	**Sn**	**07 04 55.3**	**-5.7**
ARA0	**ARCESS Array S**	**14.12**	**12**	Pn	**Pn**	**07 03 17.1**	**-3.2**
	baz=193,slow=14						
ARA0	**ARCESS Array S**	**14.12**	**12**	Pn	**Pn**	**07 03 17.1**	**-3.2**
	baz=193,slow=14						
ARCES	**ARCESS Array B**	**14.12**	**12**	Pn	Pn	07 03 16.1	-4.2
	comp=Z,0.1nm,0.3s,baz=195,slow=13,SNR=10						

CSEM ***20*** *07:06:52.5, 38.°65N×29.°31W, h4km, ML3.3*
PDA 20 07:06:52.5±0.8, 38.°65N×29.°31W, h4km±9km, MD3.6, ML3.3, Error ellipse: s-maj=7.8km s-min=5.1km az=85.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.48**	**92**	*e*P	Pg	07 07 00.8	-0.9
PCED				*e*S	Sg	07 07 06.8	-1.1
PCED				A	A	07 07 09.4	
	767nm,0.4s						
PCED	**Cedros**	**0.48**	**92**	*e*P	Pg	07 07 00.8	-0.9
PCED				*e*S	Sg	07 07 06.8	-1.1
CALA	**Caldeira**	**0.48**	**98**	*e*S	Sg	07 07 07.6	-0.6
CALA	**Caldeira**	**0.48**	**98**	*e*S	Sg	07 07 07.6	-0.6
HOR	**Horta**	**0.55**	**102**	*e*S	Sg	07 07 09.4	-0.7
HOR	**Horta**	**0.55**	**102**	*e*S	Sg	07 07 09.4	-0.7
PCAN	**Candelaria**	**0.67**	**106**	*e*P	Pg	07 07 03.6	-1.9
PCAN				*e*S	Sg	07 07 12.0	-2.2
PCAN				A	A	07 07 15.8	
	724nm,0.3s						
PCAN	**Candelaria**	**0.67**	**106**	*e*P	Pg	07 07 03.6	-1.9
PCAN				*e*S	Sg	07 07 12.0	-2.2
PICO	**Pico**	**0.71**	**102**	*e*P	Pg	07 07 05.6	-0.6
PICO				*e*S	Sg	07 07 13.3	-2.2
PICO	**Pico**	**0.71**	**102**	*e*P	Pg	07 07 05.6	-0.6
PICO				*e*S	Sg	07 07 13.3	-2.2
ROSA	**Rosais**	**0.84**	**85**	*e*P	Pg	07 07 06.2	-2.4
ROSA				*e*S	Sg	07 07 16.2	-3.4
ROSA				A	A	07 07 22.8	
	673nm,0.4s						
ROSA	**Rosais**	**0.84**	**85**	*e*P	Pg	07 07 06.2	-2.4
ROSA				*e*S	Sg	07 07 16.2	-3.4
PMAN	**Manadas**	**0.96**	**90**	*e*P	Pg	07 07 07.7	-3.2
PMAN				*e*S	Sg	07 07 19.3	-4.0
PMAN				A	A	07 07 19.7	
	314nm,0.3s						
PMAN	**Manadas**	**0.96**	**90**	*e*P	Pg	07 07 07.7	-3.2
PMAN				*e*S	Sg	07 07 19.3	-4.0
TOPO	**Topo**	**1.09**	**93**	*e*P	Pg	07 07 09.7	-3.8
TOPO				*e*S	Sg	07 07 22.6	-5.1
TOPO	**Topo**	**1.09**	**93**	*e*P	Pg	07 07 09.7	-3.8
TOPO				*e*S	Sg	07 07 22.6	-5.1
PGRA	**Graciosa**	**1.11**	**69**	*e*P	Pg	07 07 10.1	-3.6
PGRA				*e*S	Sg	07 07 23.1	-5.0
PGRA				A	A	07 07 31.9	
	76nm,0.3s						
PGRA	**Graciosa**	**1.11**	**69**	*e*P	Pg	07 07 10.1	-3.6
PGRA				*e*S	Sg	07 07 23.1	-5.0
ADH	**Angra Heroismo**	**1.62**	**89**	*e*P	Pn	07 07 17.3	-4.6
ADH				*e*S	Sn	07 07 35.8	-7.5
ADH				A	A	07 07 37.4	
	90nm,0.3s						
ADH	**Angra Heroismo**	**1.62**	**89**	*e*P	Pn	07 07 17.3	-4.6
ADH				*e*S	Sn	07 07 35.8	-7.5
PSET	**Sete Cidades**	**2.94**	**105**	*e*P	Pn	07 07 35.5	-4.6
PSET				*e*S	Sn	07 08 07.9	-8.1
PSET				A	A	07 08 08.3	
	38nm,0.5s						
PSET	**Sete Cidades**	**2.94**	**105**	*e*P	Pn	07 07 35.5	-4.6
PSET				*e*S	Sn	07 08 07.9	-8.1
PDA	**Ponta Delgada**	**3.01**	**106**	*e*P	Pn	07 07 36.3	-4.7
PDA				*e*S	Sn	07 08 09.2	-8.3
PDA				A	A	07 08 11.9	
	16nm,0.3s						
PDA	**Ponta Delgada**	**3.01**	**106**	*e*P	Pn	07 07 36.3	-4.7
PDA				*e*S	Sn	07 08 09.2	-8.3
GRON	**Grota Negra**	**3.10**	**105**	*e*P	Pn	07 07 39.4	-2.9
BART	**Pico Bartolome**	**3.38**	**104**	*e*P	Pn	07 07 41.8	-4.3
BART				*e*S	Sn	07 08 18.5	-8.2
BART				A	A	07 08 19.3	
	30nm,0.6s						
BART	**Pico Bartolome**	**3.38**	**104**	*e*P	Pn	07 07 41.8	-4.3
BART				*e*S	Sn	07 08 18.5	-8.2

ISCJB ***20*** *07:16:43.3±2.0, 34.°23S±0.°04×73.°35W±0.°07, h8km±14km, mb4.2/10, MS3.2/1, Error ellipse: s-maj=9.6km s-min=7.3km az=164.8*
IDC ***20*** *07:16:43.7±1.0, 34.°27S×73.°29W, h0km, mb4.1/7, mb1 4.1/10, mb1mx4.0/26, mbtmp4.0/10, ML3.8/3, MS2.7/2, Ms1 2.7/2, ms1mx2.5/18, Error ellipse: s-maj=33.4km s-min=20.5km az=101.0*
GUC ***20*** *07:16:46.4±0.7, 34.°24S×73.°26W, h27km±4km, ML3.8*
NEIC ***20*** *07:16:49.2±0.6, 34.°20S×73.°19W, h35km, mb4.6/6, Error ellipse: s-maj=15.7km s-min=9.1km az=90.0*
ISC 20 07:16:44.6±3.1, 34.°25S±0.°05×73.°34W±0.°08, h6km±19km, n32, σ0§89/37, mb4.5/10, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.81**	**130**	⇑*i*P	**Pn**	**07 17 16.0**	**-0.2**
TALC				*i* S	**Sn**	**07 17 38.6**	**-0.8**
NICH	**Los Niches**	**1.89**	**114**	⇑*i*P	**Pn**	**07 17 17.5**	**+0.1**
NICH				*i* S	**Sn**	**07 17 41.3**	**-0.2**
COCH	**Cobquecura**	**1.93**	**167**	⇓*i*P	**Pn**	**07 17 16.4**	**-1.4**
LNCH	**Linares**	**2.13**	**139**	⇓*i*P	**Pn**	**07 17 21.4**	**+0.6**
LNCH				*i* S	**Sn**	**07 17 47.2**	**-0.3**
RCDM	**Rinconada Maip**	**2.24**	**71**	*e*P1	**Pn**	**07 17 22.2**	**0.0**
RCDM				AML	AML	07 17 50.4	
	comp=E,663nm,0.2s						
LACH	**Col Las Americ**	**2.47**	**72**	*e*P1	**Pn**	**07 17 25.0**	**-0.4**
LACH				*e*S	**Sn**	**07 17 54.8**	**-1.1**
CLCH	**Cerro Calan**	**2.48**	**71**	⇑*i*P	**Pn**	**07 17 25.4**	**-0.2**
CLCH				*i* S	**Sn**	**07 17 55.2**	**-1.0**
CLCH				AML	AML	07 18 00.9	
	comp=N,581nm,0.6s						
CLCH				AML	AML	07 18 01.5	
	comp=N,735nm,0.5s						
CFAA	**Coronel Fontan**	**5.03**	**60**	Pn	**Pn**	**07 18 00.3**	**-0.4**
	comp=N,0.4nm,0.3s,baz=231,slow=12,SNR=36						
CFAA				LR	LR	07 20 13.2	
	comp=N,18nm,21.7s,baz=204,slow=42						
LCO	**Las Campanas**	**5.69**	**24**	*e*Pn	**Pn**	**07 18 07.3**	**-2.6**
	comp=N,21nm,0.4s						
PLCA	**Paso Flores**	**6.83**	**162**	Pn	**Pn**	**07 18 24.6**	**-0.9**
	comp=N,1.0nm,0.3s,baz=321,slow=9.6,SNR=36						
PLCA	**Paso Flores**	**6.83**	**162**	*e*Pn	**Pn**	**07 18 25.6**	**+0.2**
	comp=N,3.5nm,0.8s						
PLCA				*e*Sg	**Sg**	**07 20 23.6**	**-0.4**
TRQA	**Tornquist**	**9.93**	**116**	*e*Pn	**Pn**	**07 19 08.9**	**+1.0**
LPAZ	**La Paz**	**18.49**	**16**	P	**Pn**	**07 21 03.5**	**+1.3**
	comp=N,0.1nm,0.3s,baz=224,slow=3.9,SNR=12						
LPAZ	**La Paz**	**18.49**	**16**	*e*P	**Pn**	**07 21 03.0**	**+0.8**
	comp=N,3.1nm,0.8s						
SIV	**San Ignacio**	**21.27**	**34**	P	**P**	**07 21 33.1**	**+1.3**
	comp=N,5.1nm,0.8s,baz=215,slow=10,SNR=13						
BDFB	**Brasilia**	**29.37**	**57**	P	**P**	**07 22 47.3**	**-1.4**
	comp=N,1.6nm,0.8s,baz=279,slow=4.7,SNR=3.7						
BDFB				LR	LR	07 35 55.1	
	comp=N,55nm,18.0s,baz=216,slow=39						
SNAA	**Sanae**	**51.76**	**158**	*e*P	**P**	**07 25 52.8**	**+0.3**
	comp=N,4.3nm,0.6s						
QSPA	**South Pole Qui**	**55.98**	**180**	P	**P**	**07 26 24.6**	**+1.0**

comp=N,11nm,1.5s
SIV San Ignacio 21.23 34 P **P 07 31 39.3 +1.9**
comp=N,1.3nm,0.6s,baz=231,slow=15,SNR=6.1
QSPA South Pole Qui 56.03 180 *e*P **P 07 36 30.2 +0.7**
comp=N,2.1nm,0.8s
TXAR Lajitas Array 69.40 332 P **P 07 37 59.4 +0.5**
comp=N,0.4nm,0.8s,baz=154,slow=9.7,SNR=4.2
DBIC Dimbokro 76.26 72 P **P 07 38 39.4 -0.4**
comp=N,2.6nm,0.7s,baz=184,slow=22,SNR=3.5
TORD Torodi Ar. Bea 85.28 71 P **P 07 39 28.6 +0.6**
comp=N,0.6nm,0.8s,baz=238,slow=2.7,SNR=4.1
EKS2 Erkin-Say 153.01 62 *e*PKPdf **PKPdf 07 46 39.4 -1.4**

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*ISCJB **20** 07:30:50.6±0.5, 3°.98S±0°.04×133°.07E±0°.05, h33km, mb4.1/1, MS4.0/1, Error ellipse: s-maj=7.1km s-min=5.1km az=0.6*
*IDC **20** 07:30:50.4±5.4, 4°.16S×132°.23E, h0km, mb4.1/1, mb1 4.1/3, mb1mx3.7/31, mbtmp4.0/3, ML3.9/2, MS4.1/1, Ms1 4.1/1, ms1mx2.7/28, Error ellipse: s-maj=359.9km s-min=28.5km az=74.0*
*DJA **20** 07:30:53.5±0.5, 4°.S±4°.×13°.3E±°, h47km±25km, M4.6/10, mb4.8/4, mB5.1/1, MLv4.5/10, Mw(mB)4.5/1*
ISC 20 07:30:53.0±0.8, 3°.90S±0°.06×133°.04E±0°.06, h35km, n19, σ1§35/22, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.25**	**321**	P	**Pn**	**07 31 13.2**	**-0.8**
FAKI				S	**Sn**	**07 31 28.8**	**-0.8**
FAKI	**Fak Fak**	**1.25**	**321**	P	**Pn**	**07 31 12.6**	**-1.4**
baz=1.3,SNR=980
FAKI				S	**Sn**	**07 31 28.8**	**-0.8**
baz=1.3,SNR=5.2
RKPI	**Ransiki, Papua**	**2.63**	**26**	P	**Pn**	**07 31 32.7**	**-0.3**
RKPI				S	**Sn**	**07 32 04.3**	**+0.6**
BNDI	**Bandanaira**	**3.18**	**259**	P	**Pn**	**07 31 41.6**	**+1.0**
BNDI				S	**Sn**	**07 32 19.1**	**+1.7**
SWI	**Sorong**	**3.50**	**329**	P	**Pn**	**07 31 44.2**	**-0.7**
SWI	**Sorong**	**3.50**	**329**	P	**Pn**	**07 31 43.9**	**-1.0**
baz=3.5,SNR=5.4
NLAI	**Namlea**	**5.96**	**276**	P	**Pn**	**07 32 19.5**	**+0.7**
52nm,0.5s,2μm0.3nm
SMPI	**Sarmi**	**5.98**	**72**	P	**Pn**	**07 32 18.9**	**-0.1**
32nm,1.0s,0.2nm
SANI	**Sanana**	**7.27**	**284**	P	**Pn**	**07 32 36.0**	**-0.8**
27nm,0.5s,0.1nm
SANI				S	Sn	07 33 51.4	-6.8
27nm,0.5s,0.1nm
KDU	**Kakadu**	**8.75**	**184**	P	**Pn**	**07 32 56.5**	**-0.6**
baz=8.7,SNR=58
MTN	**Manton Dam**	**9.09**	**192**	P	**Pn**	**07 33 01.0**	**-0.7**
baz=9.0,SNR=56
MTN				S	**Sn**	**07 34 40.1**	**-2.7**
baz=9.0,SNR=11
LUWI	**Luwuk**	**10.64**	**285**	P	Pn	07 33 32.0	+9.0
baz=10,SNR=7.8
WRA	**Warramunga Arr**	**16.00**	**176**	Pn	**Pn**	**07 34 33.4**	**-2.2**
0.4nm,0.3s,baz=353,slow=13,SNR=16
WRA				Sn	Sn	07 37 21.0	-11
0.4nm,0.3s,baz=356,slow=23,SNR=8.0
QIS	**Mount Isa**	**17.75**	**159**	P	**P**	**07 35 00.1**	**+2.0**
baz=18,SNR=3.7
ASAR	**Alice Springs**	**19.67**	**178**	P	**Pn**	**07 35 19.4**	**-1.4**
0.6nm,0.3s,baz=350,slow=11,SNR=52
ASAR				S	S	07 38 49.9	-9.4
0.1nm,0.3s,baz=358,slow=28,SNR=5.4
WRKA	**Warakurna**	**21.51**	**192**	P	**P**	**07 35 40.5**	**+1.4**
baz=22,SNR=7.5
QLP	**Quilpie**	**24.98**	**156**	P	**P**	**07 36 14.7**	**+1.2**
baz=25,SNR=3.8
JCJ	**Chichijima**	**32.05**	**15**	LR	LR	07 50 38.6
comp=Z,326nm,18.7s,baz=217,slow=36
MKAR	**Makanchi Array**	**67.38**	**325**	P	**P**	**07 41 46.0**	**+1.2**
0.7nm,0.3s,baz=111,slow=8.3,SNR=21

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*ISCJB **20** 07:32:41.1±0.7, 51°.9N±0°.2×173°.3W±0°.1, h56km, mb3.9/13, Error ellipse: s-maj=24.1km s-min=9.4km az=176.3*
*IDC **20** 07:32:41.2±1.0, 51°.76N×173°.38W, h46km±7km, mb3.7/13, mb1 3.9/16, mb1mx3.7/45, mbtmp3.9/16, ML3.6/2, Error ellipse: s-maj=29.0km s-min=12.9km az=7.0*
ISC 20 07:32:41.8±0.8, 51°.8N±0°.2×173°.33W±0°.08, h56km, n27, σ1§10/26, mb3.8/13, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**8.35**	**283**	P	**Pn**	**07 34 39.5**	**-0.7**
0.8nm,0.3s,baz=170,slow=4.7,SNR=8.0
PETK	**Petropavlovsk-**	**17.67**	**286**	P	**P**	**07 36 44.3**	**+0.2**
baz=101,slow=15,SNR=2.5
ILAR	**Eielson Array**	**18.87**	**36**	P	**P**	**07 36 56.0**	**-1.1**
0.5nm,0.3s,baz=216,slow=8.8,SNR=33
DLBC	**Dease Lake**	**25.29**	**58**	P	**P**	**07 38 03.8**	**+1.0**
2.7nm,0.8s,baz=296,slow=11,SNR=6.7
YKA	**Yellowknife Ar**	**32.48**	**48**	P	**P**	**07 39 06.9**	**+0.4**
0.4nm,0.5s,baz=273,slow=7.9,SNR=19
YKA				PcP	**PcP**	**07 41 53.2**	**+1.1**
0.2nm,0.7s,baz=287,slow=2.8,SNR=4.0
H11N2	**WAKE ISLAND Hy**	**35.52**	**213**	T	T	08 17 36.7
baz=21,slow=76,SNR=12
H11N3	**WAKE ISLAND Hy**	**35.52**	**213**	T	T	08 17 33.4
baz=21,slow=76,SNR=14
H11N1	**WAKE ISLAND Hy**	**35.53**	**213**	T	T	08 17 47.6
baz=21,slow=76,SNR=10.0
H11S1	**WAKE ISLAND Hy**	**36.72**	**213**	T	T	08 19 00.3
baz=313,slow=74,SNR=8.8
H11S2	**WAKE ISLAND Hy**	**36.73**	**213**	T	T	08 19 03.2
baz=17,slow=74,SNR=9.9
NVAR	**Mina Array Bea**	**40.12**	**87**	P	**P**	**07 40 13.2**	**+1.0**
0.6nm,0.8s,baz=297,slow=8.7,SNR=5.3
NVAR				pP	**pP**	**07 40 26.5**	**-0.1**
0.8nm,0.8s,baz=283,slow=7.9,SNR=5.2
PDAR	**Pinedale Array**	**42.93**	**76**	P	**P**	**07 40 36.1**	**+1.0**
1.2nm,0.7s,baz=300,slow=4.5,SNR=12
TLY	**Talaya**	**48.70**	**305**	P	**P**	**07 41 21.5**	**+1.3**
2.4nm,0.4s,baz=280,slow=19,SNR=2.7
SONM	**Songino Array**	**49.49**	**299**	P	**P**	**07 41 27.4**	**+1.0**
1.0nm,0.6s,baz=50,slow=7.5,SNR=5.4
TXAR	**Lajitas Array**	**55.22**	**85**	P	**P**	**07 42 08.9**	**-0.2**
0.6nm,0.7s,baz=280,slow=5.3,SNR=6.8
TXAR				pP	**pP**	**07 42 21.3**	**-2.7**
0.6nm,0.7s,baz=286,slow=5.1,SNR=5.1
ARCES	**ARCESS Array B**	**58.24**	**352**	P	**P**	**07 42 29.9**	**+0.1**
2.8nm,0.9s,baz=9.0,slow=7.0,SNR=5.3
MKAR	**Makanchi Array**	**62.41**	**311**	P	**P**	**07 42 57.3**	**-1.3**
0.5nm,0.6s,baz=57,slow=5.1,SNR=5.0
AKTO	**Aktyubinsk**	**69.27**	**328**	P	**P**	**07 43 43.4**	**+0.7**
3.4nm,0.6s,baz=50,slow=5.9,SNR=17
AKTO				pP	**pP**	**07 43 56.0**	**-2.1**
1.5nm,0.5s,baz=60,slow=8.4,SNR=4.7
TAPN	**Taplejung**	**74.22**	**294**	*e*P	**P**	**07 44 14.4**	**+1.3**
GUN	**Gumba**	**74.83**	**296**	*e*P	**P**	**07 44 17.6**	**+1.0**
1.3nm,0.2s
JIRN	**Jiri**	**74.84**	**295**	*e*P	**P**	**07 44 17.4**	**+0.6**
16nm,0.7s
RAMN	**Ramite**	**75.16**	**295**	*e*P	**P**	**07 44 19.1**	**+0.7**
17nm,0.8s
GKN	**Gorkha**	**75.45**	**297**	*e*P	**P**	**07 44 20.4**	**+0.4**
DANN	**Dangsing**	**75.66**	**298**	*e*P	**P**	**07 44 22.0**	**+0.6**
20nm,0.7s
AKASG	**Malin Array Be**	**76.15**	**345**	P	**P**	**07 44 22.9**	**-0.4**
0.7nm,0.4s,baz=17,slow=5.8,SNR=2.3
GERES	**GERESS Array B**	**79.60**	**355**	P	**P**	**07 44 43.0**	**+0.3**
0.8nm,0.6s,baz=16,slow=6.0,SNR=7.4
ASAR	**Alice Springs**	**88.15**	**227**	P	**P**	**07 45 25.8**	**-0.6**
0.9nm,0.9s,baz=28,slow=5.9,SNR=6.8

IDC 20 07:52:20.6±2.7, 55°.41N×86°.47E, h0km, mb1 3.2/3, mb1mx3.0/52, mbtmp3.2/3, ML2.9/3, Error ellipse: s-maj=25.8km s-min=18.5km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**214**	*i*		08 04 51.4
baz=28,slow=341,SNR=1.2
ZALV	**Zalesovo Beam**	**1.75**	**214**	Pn	Pn	07 52 51.2	-1.0
4.8nm,0.3s,baz=30,slow=16,SNR=58
ZALV				Lg	Lg	07 53 16.1
3.8nm,0.3s,baz=37,slow=28,SNR=11
KURBB	**Kurchatov Arra**	**6.77**	**228**	Pn	Pn	07 54 01.0	-0.2
0.1nm,0.3s,baz=48,slow=15,SNR=7.3
KURBB				Lg	Lg	07 55 56.5
0.1nm,0.3s,baz=46,slow=29,SNR=4.7
MKAR	**Makanchi Array**	**9.02**	**199**	Pn	Pn	07 54 32.2	+0.2
0.1nm,0.3s,baz=23,slow=11,SNR=6.9
BVAR	**Borovoye Array**	**9.72**	**262**	Pn	Pn	07 54 40.9	-0.6
0.4nm,0.3s,baz=66,slow=14,SNR=8.6

IDC 20 08:01:24.0±6.3, 23°.77N×93°.74E, h94km±45km, mb3.2/4, mb1 3.4/5, mb1mx3.0/44, mbtmp3.6/5, MS2.3/1, Ms1 2.3/1, ms1mx2.1/18, Error ellipse: s-maj=233.6km s-min=17.3km az=59.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.18**	**136**	P	Pn	08 03 06.4	0.0
0.5nm,0.3s,baz=312,slow=17,SNR=4.0
MKAR	**Makanchi Array**	**24.74**	**341**	P	P	08 06 36.8	+0.2
1.4nm,0.4s,baz=152,slow=9.3,SNR=36
TGY	**Tagaytay City**	**27.42**	**106**	LR	LR	08 18 56.2
comp=Z,5.5nm,18.3s,baz=122,slow=38
KURBB	**Kurchatov Arra**	**29.29**	**340**	P	P	08 07 17.0	-0.2
0.3nm,0.5s,baz=144,slow=8.9,SNR=3.4
WRA	**Warramunga Arr**	**58.77**	**134**	P	P	08 11 12.2	-0.3
0.1nm,0.5s,baz=322,slow=7.5,SNR=7.4
ASAR	**Alice Springs**	**61.19**	**138**	P	P	08 11 29.4	+0.3
0.3nm,0.4s,baz=321,slow=7.3,SNR=6.5

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*IDC **20** 08:22:26.4±2.1, 45°.29S×167°.40E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.8/14, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=54.8km s-min=38.0km az=179.0*
*ISCJB **20** 08:22:33.0±0.4, 44°.90S±0°.04×167°.46E±0°.06, h50km, mb3.6/2, Error ellipse: s-maj=6.1km s-min=4.8km az=25.8*
*WEL **20** 08:22:34.9±0.1, 45°.07S×167°.44E, h64km±1km, ML4.3/14, Error ellipse: s-maj=1.6km s-min=0.7km az=90.0*
WEL Felt from Fiordland to Southland, maximum reported intensity MM 4.
*NEIC **20** 08:22:34.8, 45°.09S×167°.44E, h65km, ML4.3(WEL), After WEL.*
ISC 20 08:22:34.2±0.8, 45°.07S±0°.04×167°.49E±0°.05, h50km, n65, σ1§36/66, 3C, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.47**	**211**	PN	**Pn**	**08 22 46.4**	**+1.3**
DCZ				SN	**Sn**	**08 22 55.2**	**+2.3**
DCZ				SN		08 22 55.2
DCZ				AML	AML	08 22 55.9
DCZ				AML	AML	08 22 57.2
DCZ	**Deep Cove**	**0.47**	**211**	Pn	**Pn**	**08 22 46.2**	**+1.1**
DCZ				Sn	**Sn**	**08 22 55.2**	**+2.3**
MSZ	**Milford Sound**	**0.51**	**38**	PN	**Pn**	**08 22 47.2**	**+1.7**
MSZ				SN	**Sn**	**08 22 56.4**	**+2.8**
MSZ				SN		08 22 56.7
MSZ				AML	AML	08 22 58.3
MSZ				AML	AML	08 22 58.8
MSZ	**Milford Sound**	**0.51**	**38**	Pn	**Pn**	**08 22 47.4**	**+1.9**
MSZ				Sn	**Sn**	**08 22 56.4**	**+2.8**
MSZ				Sn	Sn	08 22 56.7	+3.0
MLZ	**Mavora Lakes**	**0.55**	**120**	PN	**Pn**	**08 23 47.6**	**+1.4**
MLZ				SN	**Sn**	**08 22 57.1**	**+2.3**
MLZ				AML	AML	08 22 57.3
MLZ				AML	AML	08 22 57.6
MLZ				AML	AML	08 22 57.7
MLZ	**Mavora Lakes**	**0.55**	**120**	Pn	**Pn**	**08 22 47.6**	**+1.4**
MLZ				Sn	**Sn**	**08 22 57.1**	**+2.3**
WHZ	**Wether Hill Ro**	**0.88**	**159**	⇑PN	**Pn**	**08 22 51.5**	**+1.1**
WHZ				AML	AML	08 23 05.9
WHZ				AML	AML	08 23 06.1
WHZ	**Wether Hill Ro**	**0.88**	**159**	Pn	**Pn**	**08 22 51.5**	**+1.1**
WKZ	**Wanaka**	**1.11**	**78**	⇑PN	**Pn**	**08 22 55.0**	**+1.5**
WKZ				AML	AML	08 23 11.8
WKZ				AML	AML	08 23 11.9
WKZ				AML	AML	08 23 12.7
WKZ				AML	AML	08 23 12.7
WKZ	**Wanaka**	**1.11**	**78**	Pn	**Pn**	**08 22 55.0**	**+1.5**
EAZ	**Earnscleugh**	**1.29**	**98**	PN	**Pn**	**08 22 57.2**	**+1.3**
EAZ				AML	AML	08 23 14.4
EAZ				AML	AML	08 23 14.5
EAZ				AML	AML	08 23 14.6
EAZ				AML	AML	08 23 14.7
EAZ	**Earnscleugh**	**1.29**	**98**	Pn	**Pn**	**08 22 56.8**	**+0.9**
JCZ	**Jackson Bay**	**1.35**	**43**	⇑PN	**Pn**	**08 22 58.1**	**+1.3**
JCZ				AML	AML	08 23 21.1
JCZ				AML	AML	08 23 21.2
JCZ	**Jackson Bay**	**1.35**	**43**	Pn	**Pn**	**08 22 58.1**	**+1.3**
TUZ	**Tuapeka**	**1.74**	**121**	PN	**Pn**	**08 23 02.5**	**+0.5**
TUZ	**Tuapeka**	**1.74**	**121**	Pn	**Pn**	**08 23 02.5**	**+0.5**
APZ	**The Paps**	**1.79**	**169**	PN	**Pn**	**08 23 03.5**	**+0.7**
APZ				AML	AML	08 23 25.8
APZ				AML	AML	08 23 29.2
APZ	**The Paps**	**1.79**	**169**	Pn	**Pn**	**08 23 03.5**	**+0.7**
SYZ	**Scrubby Hill**	**1.86**	**142**	PN	**Pn**	**08 23 03.9**	**+0.2**
SYZ				AML	AML	08 23 26.8
SYZ				AML	AML	08 23 26.8
SYZ				AML	AML	08 23 28.4
SYZ				AML	AML	08 23 28.4
SYZ	**Scrubby Hill**	**1.86**	**142**	Pn	**Pn**	**08 23 04.2**	**+0.5**
LBZ	**Lake Benmore**	**2.04**	**71**	PN	**Pn**	**08 23 06.0**	**-0.1**
LBZ				AML	AML	08 23 33.4
LBZ				AML	AML	08 23 39.6
LBZ				AML	AML	08 23 39.6
LBZ	**Lake Benmore**	**2.04**	**71**	Pn	**Pn**	**08 23 06.0**	**-0.1**
FOZ	**Fox Glacier**	**2.18**	**47**	PN	**Pn**	**08 23 09.1**	**+1.1**
FOZ				AML	AML	08 23 46.5
FOZ				AML	AML	08 23 46.8
FOZ				AML	AML	08 23 49.2
FOZ				AML	AML	08 23 49.2
FOZ	**Fox Glacier**	**2.18**	**47**	Pn	**Pn**	**08 23 09.1**	**+1.1**
ODZ	**Otahua Downs**	**2.23**	**90**	PN	**Pn**	**08 23 08.7**	**0.0**
ODZ	**Otahua Downs**	**2.23**	**90**	Pn	**Pn**	**08 23 08.7**	**0.0**
HHSZ	**Highcliff Hill**	**2.33**	**111**	PN	**Pn**	**08 23 11.1**	**+1.0**
HHSZ	**Highcliff Hill**	**2.33**	**111**	Pn	**Pn**	**08 23 11.1**	**+1.0**
WVZ	**Waitaha Valley**	**3.07**	**51**	PN	**Pn**	**08 23 20.0**	**-0.2**
WVZ				AML	AML	08 24 02.0
OXZ	**Oxford**	**3.71**	**63**	PN	**Pn**	**08 23 27.0**	**-2.0**
MQZ	**McQueen's Vall**	**3.94**	**72**	PN	**Pn**	**08 23 30.7**	**-1.5**
MQZ	**McQueen's Vall**	**3.94**	**72**	Pn	**Pn**	**08 23 30.7**	**-1.5**
CRLZ	**Canterbury Las**	**3.97**	**70**	PN	**Pn**	**08 23 31.1**	**-1.4**
LTZ	**Lake Taylor**	**4.14**	**58**	PN	Pn	08 23 32.9	-2.1
LTZ				AML	AML	08 24 23.4
LTZ				AML	AML	08 24 25.1
LTZ	**Lake Taylor**	**4.14**	**58**	Pn	**Pn**	**08 23 33.6**	**-1.4**
DSZ	**Denniston Nort**	**4.57**	**45**	PN	**Pn**	**08 23 39.3**	**-1.6**
DSZ	**Denniston Nort**	**4.57**	**45**	Pn	**Pn**	**08 23 39.9**	**-1.0**
KHZ	**Kahutara**	**5.12**	**61**	PN	**Pn**	**08 23 47.1**	**-1.2**
KHZ	**Kahutara**	**5.12**	**61**	Pn	**Pn**	**08 23 47.1**	**-1.2**
THZ	**Tophouse**	**5.14**	**52**	PN	**Pn**	**08 23 47.4**	**-1.3**
THZ	**Tophouse**	**5.14**	**52**	Pn	**Pn**	**08 23 47.4**	**-1.3**
QRZ	**Quartz Range**	**5.63**	**43**	PN	**Pn**	**08 23 55.0**	**-0.3**
NNZ	**Nelson**	**5.78**	**50**	PN	**Pn**	**08 23 57.5**	**+0.1**
NNZ				AML	AML	08 25 05.3
NNZ				AML	AML	08 25 07.5
NNZ	**Nelson**	**5.78**	**50**	Pn	**Pn**	**08 23 57.7**	**+0.3**
TUWZ	**Tuamarina**	**5.95**	**55**	PN	**Pn**	**08 24 02.5**	**+2.7**
TCW	**Tory Channel**	**6.28**	**54**	PN	**Pn**	**08 24 04.5**	**+0.2**
TCW	**Tory Channel**	**6.28**	**54**	Pn	**Pn**	**08 24 04.5**	**+0.2**
DUWZ	**D'Urville Isla**	**6.36**	**50**	PN	**Pn**	**08 24 06.3**	**+0.9**
KIW	**Kapiti Island**	**6.88**	**55**	PN	**Pn**	**08 24 11.6**	**-0.8**
KIW	**Kapiti Island**	**6.88**	**55**	Pn	**Pn**	**08 24 11.6**	**-0.8**
NEZ	**North Egmont**	**7.59**	**43**	Pn	Pn	08 24 18.3	-4.0
WAZ	**Wanganui**	**7.68**	**49**	Pn	**Pn**	**08 24 25.3**	**+1.9**
HIZ	**Hauiti**	**8.55**	**43**	Pn	**Pn**	**08 24 34.9**	**-0.4**
URZ	**Urewera**	**9.90**	**50**	Pn	**Pn**	**08 24 52.7**	**-1.1**
0.5nm,0.3s,baz=360,slow=9.4,SNR=5.5
URZ				Sn	Sn	08 26 33.8	-10
0.7nm,0.3s,baz=36,slow=16,SNR=4.6
KUZ	**Kuaotunu**	**10.38**	**40**	Pn	Pn	08 24 57.1	-3.3
WCZ	**Waipu Caves**	**10.50**	**32**	Pn	**Pn**	**08 25 02.0**	**-0.1**
MOO	**Moorlands**	**14.90**	**273**	P	Pn	08 25 55.3	-6.4
baz=15,SNR=3.6
LHI	**Lord Howe Isla**	**15.05**	**331**	S	**S**	**08 29 02.9**	**-1.5**
baz=15,SNR=3.1
MILA	**Mila**	**15.96**	**294**	P	**Pn**	**08 26 15.6**	**+0.2**
baz=16,SNR=12
TOO	**Toolangi**	**18.11**	**287**	P	Pn	08 26 47.1	+5.0
baz=18,SNR=16
MTSU	**Mount Surprise**	**33.10**	**317**	P	P	08 28 54.9	-10
baz=33,SNR=4.0
MTSU				S	**S**	**08 34 20.8**	**-0.3**
baz=33,SNR=7.6
ASAR	**Alice Springs**	**34.63**	**297**	P	**P**	**08 29 18.1**	**-0.6**
0.4nm,0.6s,baz=130,slow=8.6,SNR=8.5
WRA	**Warramunga Arr**	**37.12**	**302**	P	**P**	**08 29 38.6**	**-1.4**
1.0nm,0.9s,baz=137,slow=8.1,SNR=8.2
MTN	**Manton Dam**	**44.57**	**305**	P	**P**	**08 30 39.8**	**-1.5**
baz=44,SNR=3.1
TORD	**Torodi Ar. Bea**	**145.96**	**205**	PKPbc	**PKPdf**	**08 42 06.5**	**-1.3**
0.7nm,0.8s,baz=159,slow=1.4,SNR=4.7

IDC 20 08:41:49.6±1.8, 2°.62N×128°.19E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/35, mbtmp3.8/4, Error ellipse: s-maj=140.4km s-min=20.5km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.22**	**165**	P	P	08 46 58.4	-0.2
0.8nm,0.3s,baz=344,slow=10.0,SNR=23
ASAR	**Alice Springs**	**26.71**	**168**	P	P	08 47 30.6	-0.4
0.8nm,0.4s,baz=354,slow=7.9,SNR=33
MKAR	**Makanchi Array**	**59.29**	**325**	P	P	08 51 53.9	+0.6
0.4nm,0.4s,baz=116,slow=8.1,SNR=8.0
KURBB	**Kurchatov Arra**	**63.45**	**327**	P	P	08 52 21.1	-0.2
0.8nm,0.5s,baz=125,slow=6.1,SNR=7.3

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*SZGRF **20** 08:41:23.1, 15°.80S×172°.15W, h33km, Samoa Islands region*
*ISCJB **20** 08:42:07.0±0.6, 20°.5S±0°.1×178°.0W±0°.1, h534km, mb4.0/14, Error ellipse: s-maj=21.0km s-min=11.0km az=147.1*
*IDC **20** 08:42:09.7±2.6, 20°.56S×177°.94W, h558km±30km, mb3.6/13, mb1 3.9/14, mb1mx3.6/34, mbtmp4.5/14, Error ellipse: s-maj=24.7km s-min=12.5km az=154.0*
ISC 20 08:42:07.6±0.8, 20°.5S±0°.2×177°.9W±0°.1, h534km, n49, σ0§67/50, mb4.1/14, 3C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.18**	**193**	P	**P**	**08 45 47.1**	**-0.6**
2.9nm,0.3s,baz=293,slow=2.5,SNR=27
CTA	**Charters Tower**	**33.56**	**264**	P	**P**	**08 48 03.6**	**0.0**
2.7nm,0.5s,baz=98,slow=12,SNR=7.3
ASAR	**Alice Springs**	**44.59**	**257**	P	**P**	**08 49 33.4**	**+0.9**
6.0nm,0.5s,baz=94,slow=7.6,SNR=95
ASAR				PcP	**PcP**	**08 51 04.2**	**+0.1**
1.1nm,0.5s,baz=98,slow=3.7,SNR=7.3
ASAR				S	**S**	**08 55 27.9**	**-1.8**
0.4nm,0.8s,baz=93,slow=16,SNR=5.3
WRA	**Warramunga Arr**	**44.67**	**262**	P	**P**	**08 49 33.5**	**+0.3**
2.1nm,0.3s,baz=97,slow=7.8,SNR=78
KDU	**Kakadu**	**48.03**	**271**	P	**P**	**08 49 59.1**	**+0.4**
baz=47,SNR=8.4
MTN	**Manton Dam**	**49.24**	**271**	P	**P**	**08 50 07.8**	**+0.1**
baz=48,SNR=6.5
WRKA	**Warakurna**	**49.53**	**254**	P	**P**	**08 50 10.5**	**+0.8**
baz=48,SNR=37
KNRA	**Kununurra**	**50.73**	**266**	P	**P**	**08 50 19.3**	**+0.7**
baz=49,SNR=3.6
MEEK	**Meekatharra**	**57.98**	**251**	P	**P**	**08 51 09.8**	**+0.3**
baz=56,SNR=4.4
MJAR	**Matsushiro Arr**	**70.28**	**324**	P	**P**	**08 52 27.1**	**-0.3**
2.1nm,0.5s,baz=158,slow=5.8,SNR=8.3
PETK	**Petropavlovsk-**	**76.33**	**345**	P	**P**	**08 53 01.2**	**-0.2**
4.9nm,0.7s,baz=141,slow=7.6,SNR=7.1
USRK	**Ussuriysk Ar.**	**79.04**	**326**	P	**P**	**08 53 15.8**	**-0.5**
4.7nm,0.8s,baz=94,slow=2.7,SNR=5.1
YBH	**Yreka Blue Hor**	**80.27**	**39**	P	**P**	**08 53 23.2**	**+0.3**
4.2nm,0.7s,baz=118,slow=2.3,SNR=6.8
NVAR	**Mina Array Bea**	**81.00**	**43**	P	**P**	**08 53 27.9**	**+0.9**
2.3nm,0.8s,baz=228,slow=9.8,SNR=8.7
SEY	**Seymchan**	**86.43**	**347**	P	**P**	**08 53 52.2**	**-0.7**
3.5nm,0.6s,baz=149,slow=6.4,SNR=8.6
TXAR	**Lajitas Array**	**87.01**	**57**	P	**P**	**08 53 57.0**	**+0.3**
1.1nm,0.6s,baz=218,slow=7.0,SNR=13
XAN	**Xi'an**	**88.22**	**307**	P	**P**	**08 54 03.1**	**+0.9**
XAN				pmax	pmax
comp=Z,3.0nm,0.9s
XAN				pmax	pmax
comp=Z,7.0nm,3.8s
ILAR	**Eielson Array**	**88.33**	**13**	P	**P**	**08 54 00.9**	**-1.0**
comp=Z,1.2nm,0.4s,baz=215,slow=5.4,SNR=17
PDAR	**Pinedale Array**	**88.93**	**43**	P	**P**	**08 54 05.8**	**+0.3**
comp=Z,1.5nm,0.6s,baz=206,slow=4.5,SNR=4.8
CMAR	**Chiang Mai Arr**	**90.20**	**290**	P	**P**	**08 54 12.4**	**+0.8**
comp=Z,1.5nm,0.5s,baz=132,slow=3.7,SNR=13
MKAR	**Makanchi Array**	**111.28**	**313**	PKiKP	**PKiKP**	**08 59 40.3**	**-0.5**
comp=Z,0.6nm,0.6s,baz=211,slow=0.7,SNR=5.4
FRB	**Frobisher Bay**	**116.78**	**28**	PKP	**PKPdf**	**08 59 49.6**	**-1.1**
comp=Z,0.3nm,0.3s,baz=19,slow=5.4,SNR=4.1
ARCES	**ARCESS Array B**	**128.97**	**350**	PKP	**PKPdf**	**09 00 13.7**	**-0.3**
comp=Z,4.2nm,0.9s,baz=48,slow=3.4,SNR=6.8
FINES	**FINESS Array B**	**135.83**	**344**	PKP	**PKPdf**	**09 00 25.5**	**-1.6**
comp=Z,1.0nm,0.5s,baz=100,slow=5.1,SNR=7.1
AKASG	**Malin Array Be**	**143.08**	**331**	PKP	PKPab	09 00 37.6	-0.6
comp=Z,2.5nm,0.5s,baz=42,slow=4.4,SNR=24
MALT	**Malatya**	**144.01**	**307**	⇓*i*P	**PKPdf**	**09 00 43.2**	**+0.4**
BRTR	**Keskin Array B**	**146.92**	**312**	PKPbc	**PKPbc**	**09 00 50.5**	**-0.1**
comp=Z,2.6nm,0.6s,baz=130,slow=4.6,SNR=13
BURAR	**Bucovina Array**	**147.13**	**331**	⇓*i*P	**PKPbc**	**09 00 51.3**	**+0.5**
CFR	**Carcaliu**	**147.36**	**325**	⇓*i*P	**PKPbc**	**09 00 52.0**	**+0.7**
VRI	**Vrincioaia**	**147.64**	**327**	⇑*i*P	**PKPbc**	**09 00 51.9**	**-0.2**
PLOR	**Plostina**	**147.69**	**327**	⇓*i*P	**PKPab**	**09 00 56.9**	**+0.5**
CLL	**Collm**	**148.11**	**347**	*e*PKPbc	**PKPbc**	**09 00 53.1**	**0.0**
CLL	**Collm**	**148.11**	**347**	⇓*i*PKP	**PKPbc**	**09 00 53.2**	**+0.1**
comp=Z,13nm,0.8s
MLR	**Muntele Rosu**	**148.30**	**327**	⇓*i*P	**PKPbc**	**09 00 54.4**	**+0.5**
BRG	**Berggiesshubel**	**148.31**	**346**	*i* P	**PKPbc**	**09 00 54.1**	**+0.5**
comp=Z,8.3nm,1.1s
BRG				*e*		09 00 58.7
comp=Z,3.7nm,1.0s
BRG	**Berggiesshubel**	**148.31**	**346**	*e*PKPbc	**PKPbc**	**09 00 54.1**	**+0.5**
FBE	**Freiberg**	**148.40**	**346**	*e*PKPbc	**PKPbc**	**09 00 54.2**	**+0.4**
**

KOKL	Mount Kliuchef	0.87	325		P	Pn	08 44 56.4	-1.7
KOKL					S	Sn	08 45 07.0	-3.0
ADK	Adak	2.06	279		P	Pn	08 45 12.0	-2.1
ADK					S	Sn	08 45 36.3	-2.3
ADK	Adak	2.06	279		P	Pn	08 45 12.0	-2.1
ADK					S	Sn	08 45 36.3	-2.3
NIKH	Nikolski High	3.10	62		P	Pn	08 45 27.3	-1.1
NIKH					S	Sn	08 46 03.2	-1.0
OKFG	Magazine Ridge	3.81	60		P	Pn	08 45 37.4	-0.5
OKFG					S	Sn	08 46 23.2	+1.8
CEAP	Semis' Anvil P	4.38	278		P	Pn	08 45 43.3	-2.5
CESW	Semis' Southwe	4.38	277		P	Pn	08 45 43.2	-2.7
CESW					S	Sn	08 46 34.9	-0.7
MSOM	Makushin Julie	4.50	58		P	Pn	08 45 46.5	-0.9
MSOM	Makushin Julie	4.50	58		P	Pn	08 45 46.5	-0.9
AMKA	Amchitka	4.57	270		P	Pn	08 45 46.0	-2.4
MSW	Makushin Switc	4.63	58		P	Pn	08 45 49.0	-0.2
MSW					S	Sn	08 46 43.0	+1.3
UNV	Unalaska Valle	4.75	59		P	Pn	08 45 49.7	-1.1
UNV					S	Sn	08 46 44.9	+0.3
LSPA	Little Sitkin	5.00	277		P	Pn	08 45 53.0	-1.3
LSPA					S	Sn	08 46 50.4	-0.3
LSNW	Little Sitkin	5.03	277		P	Pn	08 45 53.1	-1.6
AKUT	Akutan	5.26	58	*e*Pn		Pn	08 46 01.2	+3.4
WESN	West Dahl Nort	6.08	57		P	Pn	08 46 07.2	-2.0
FX1	Attu Island--F	8.35	284	*e*P		Pn	08 46 42.2	+2.1
FX1	Attu Island--F	8.35	284		P	Pn	08 46 40.1	-0.1
	4.9nm,0.3s,baz=46,slow=4.3,SNR=25							
FX1	Attu Island--F	8.35	284	*e*Pn		Pn	08 46 42.2	+2.1
GAMB	Gambell	12.23	4	*e*Pn		Pn	08 47 34.7	+1.6
OHAK	Old Harbor	12.96	56	*e*Pn		Pn	08 47 40.8	-2.3
KDAK	Kodiak Island	13.50	55	*e*P		Pn	08 47 49.4	-1.0
KDAK	Kodiak Island	13.50	55	*e*Pn		Pn	08 47 49.4	-1.0
TNA	Tin City	14.27	9	*e*Pn		Pn	08 48 02.3	+1.6
SEW	Seward	15.83	48	*e*P		Pn	08 48 19.1	-1.8
	100nm,1.8s							
PPLA	Purkeypile	16.01	37	*e*P		Pn	08 48 24.5	+1.1
	7.1nm,0.7s							
RC01	Rabbit Creek A	16.09	45	*e*P		Pn	08 48 24.0	-0.3
	28nm,1.5s							
KTH	Kantishna Hill	16.86	36	*e*P		P	08 48 35.7	+0.4
	22nm,1.1s							
TRF	Thorofare Moun	17.04	37	*e*P		Pn	08 48 36.4	+0.2
	6.5nm,1.0s							
PET	Petropavlovsk	17.11	286	*e*P		Pn	08 48 37.4	+0.4
PET				*e*S		Sn	08 51 42.9	-3.2
PET				MLR		MLR		
	comp=Z,300nm,16.0s							
PETK	Petropavlovsk-	17.67	286	P		Pn	08 48 43.7	-0.2
PETK				pmax		pmax		
	comp=Z,1.0nm,0.3s							
PETK				MLR		MLR		
	comp=Z,15nm,28.6s							
PETK	Petropavlovsk-	17.67	286	P		Pn	08 48 43.7	-0.2
	comp=Z,0.8nm,0.3s,baz=94,slow=14,SNR=19							
PETK				LR		LR	08 55 00.3	
	comp=Z,194nm,21.3s,baz=90,slow=35							
MCK	McKinley	17.70	37	*e*P		Pn	08 48 44.2	-0.1
MCK				pmax		pmax		
	comp=Z,49nm,1.7s							
MCK	McKinley	17.70	37	*e*P		Pn	08 48 44.1	-0.1
	comp=Z,49nm,1.7s							
COLA	College	18.71	35⇓	*e*P		P	08 48 54.3	-1.3
COLA				pmax		pmax		
	comp=Z,21nm,0.8s							
COLA	College	18.71	35	*e*P		P	08 48 54.5	-1.1
	comp=Z,9.3nm,1.1s							
PAX	Paxson	18.72	42	*e*P		P	08 48 54.8	-1.0
PAX				pmax		pmax		
	comp=Z,5.0nm,0.8s							
PAX	Paxson	18.72	42	*e*P		P	08 48 54.8	-1.0
	comp=Z,5.4nm,0.8s							
ILAR	Eielson Array	19.01	36	P		P	08 48 55.8	-3.0
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ILAR				MLR		MLR		
	comp=Z,411nm,18.5s							
ILAR	Eielson Array	19.01	36	P		P	08 48 55.8	-3.0
	comp=Z,1.0nm,0.3s,baz=244,slow=9.2,SNR=61							
ILAR				LR		LR	08 57 02.3	
	comp=Z,411nm,18.4s,baz=248,slow=39							
BILL	Bilibino	19.21	337	*e*P		Pn	08 49 02.3	-0.2
BILL				pmax		pmax		
	comp=Z,12nm,1.2s							
BILL	Bilibino	19.21	337	*e*P		Pn	08 49 02.8	+0.4
	comp=Z,24nm,1.3s							
COLD	Coldfoot	19.40	27	*e*P		P	08 49 03.3	+0.2
	comp=Z,18nm,1.3s							
DOT	Dot Lake	19.57	41	*e*P		P	08 49 04.0	-1.0
	comp=Z,9.2nm,1.0s							
EGAK	Eagle	21.19	39	*e*P		P	08 49 21.3	-1.2
	comp=Z,31nm,0.6s							
SEY	Seymchan	21.40	315	P		P	08 49 25.6	+0.9
SEY				pmax		pmax		
	comp=Z,3.0nm,0.7s							
SEY	Seymchan	21.40	315	P		P	08 49 25.6	+0.9
	comp=Z,3.1nm,0.7s,baz=108,slow=9.5,SNR=14							
DAWY	Dawson	21.65	42	*e*P		P	08 49 26.2	-1.3
HYT	Haines Junctio	21.72	51	*e*P		P	08 49 27.6	-0.7
DLBC	Dease Lake	25.40	57	P		P	08 50 04.9	+0.9
	comp=Z,5.2nm,0.8s,baz=280,slow=8.7,SNR=14							
DLBC				LR		LR	08 59 59.4	
	comp=Z,293nm,18.3s,baz=314,slow=36							
DLBC	Dease Lake	25.40	57	*e*P		P	08 50 04.8	+0.7
YSS	Yuzh-Sakhalins	28.65	278⇓	*e*P		P	08 50 33.8	+0.7
YSS	Yuzh-Sakhalins	28.65	278	*e*P		P	08 50 34.6	+1.5
	comp=Z,20nm,0.7s							
ASAJ	Asahikawa	30.08	273	P		P	08 50 47.3	+1.5
ASAJ				pmax		pmax		
	comp=Z,23nm,0.8s							
ASAJ	Asahikawa	30.08	273	P		P	08 50 47.3	+1.5
	comp=Z,23nm,0.8s,baz=16,slow=3.9,SNR=17							
ASAJ	Asahikawa	30.08	273	*e*P		P	08 50 47.9	+2.1
	comp=Z,12nm,0.9s							
TIXI	Tiksi	32.12	330⇑	*e*P		P	08 51 04.0	+0.5
TIXI				pmax		pmax		
	comp=Z,4.0nm,1.0s							
TIXI	Tiksi	32.12	330	*e*P		P	08 51 03.7	+0.2
	comp=Z,2.9nm,0.8s							
YKA	Yellowknife Ar	32.60	47	P		P	08 51 06.9	-0.9
	comp=Z,0.6nm,0.4s,baz=273,slow=8.0,SNR=25							
YKA				pP		pP	08 51 19.6	-1.9
	comp=Z,0.7nm,0.6s,baz=275,slow=8.1,SNR=5.9							
YKA				PcP		PcP	08 53 53.2	+0.5
	comp=Z,0.5nm,0.7s,baz=290,slow=2.7,SNR=5.1							
HABR	Khabarovsk	32.70	285	*e*P		P	08 51 08.5	-0.3
HABR				*e**PP		pP	08 51 23.5	+1.0
HABR							08 52 18.6	
HABR				*e*			08 53 52.8	
HABR				*e*S		S	08 56 21.0	-0.1
HABR				*e*SS		SnSn	08 58 22.8	+2.5
HABR				*e*			09 01 31.2	
HABR				pmax		pmax		
	comp=Z,11nm,1.0s							
HABR				MLR		MLR		
	comp=Z,165nm,20.0s							
B08A	Colville Reser	34.25	74	*e*P		P	08 51 22.8	+0.4
	comp=Z,4.1nm,0.7s							
KLR	Kul'dur	34.34	288	*e*P		P	08 51 17.3	-5.8
H11N2	WAKE ISLAND Hy	35.38	213	T		T	09 29 42.2	
	baz=21,slow=76,SNR=19							
H11N3	WAKE ISLAND Hy	35.38	213	T		T	09 29 42.9	
	baz=21,slow=76,SNR=21							
H11N1	WAKE ISLAND Hy	35.40	213	T		T	09 29 31.7	
	baz=21,slow=76,SNR=16							
YBH	Yreka Blue Hor	35.50	86	LR		LR	09 04 54.6	
	comp=Z,100nm,18.0s,baz=306,slow=34							
NEW	Newport	35.61	73	*e*P		P	08 51 33.8	-0.3
NEW				pmax		pmax		
	comp=Z,5.0nm,0.8s							
NEW	Newport	35.61	73	LR		LR	09 06 07.8	
	comp=Z,100nm,18.3s,baz=300,slow=36							
NEW	Newport	35.61	73	*e*P		P	08 51 33.8	-0.3
	comp=Z,4.9nm,0.8s							
EDM	Edmonton	35.72	63	*e*P		P	08 51 35.6	+0.6
EDM	Edmonton	35.72	63	*e*P		P	08 51 35.6	+0.6
E09A	Wood Farm, Sta	35.82	76	*e*P		P	08 51 37.9	+2.0
	comp=Z,4.3nm,0.9s							
K05A	Summer Lake	36.08	83	*e*P		P	08 51 40.4	+2.0
	comp=Z,73nm,2.1s							
H11S1	WAKE ISLAND Hy	36.58	213	T		T	09 30 53.1	
	baz=20,slow=76,SNR=18							
H11S2	WAKE ISLAND Hy	36.59	213	T		T	09 30 54.2	
	baz=20,slow=76,SNR=21							
H11S3	WAKE ISLAND Hy	36.60	213	T		T	09 31 00.6	
	baz=20,slow=76,SNR=11							
USRK	Ussuriysk Ar.	36.60	280	P		P	08 51 42.3	-0.2
	comp=Z,7.0nm,0.8s,baz=63,slow=8.0,SNR=14							
USRK				pP		pP	08 51 55.5	-0.8
	comp=Z,4.0nm,0.6s,baz=53,slow=4.7,SNR=5.0							
USRK				LR		LR	09 06 15.2	
	comp=Z,192nm,21.7s,baz=51,slow=35							
MOD	Modoc Plateau	36.90	84	*e*P		P	08 51 45.9	+0.6
	comp=Z,25nm,1.8s							
MAJO	Matsushiro	37.17	265⇑	*e*P		P	08 51 48.5	+1.0
MAJO				pmax		pmax		
	comp=Z,86nm,1.0s							
MAT	Matsushiro	37.17	265	P		P	08 51 47.8	+0.3
MJAR	Matsushiro Arr	37.17	265	P		P	08 51 47.2	-0.2
	comp=Z,1.9nm,0.8s,baz=53,slow=6.8,SNR=4.1							
MJAR				LR		LR	09 05 21.5	
	comp=Z,118nm,21.9s,baz=70,slow=33							
BSMT	Bassoo Peak	37.19	72	*e*P		P	08 51 48.1	+0.4
WVOR	Wild Horse Val	37.63	82	*e*P		P	08 51 53.4	+1.9
WVOR				pmax		pmax		
	comp=Z,6.0nm,1.3s							
WVOR	Wild Horse Val	37.63	82	*e*P		P	08 51 53.4	+1.9
	comp=Z,5.7nm,1.3s							
RES	Resolute Bay	38.12	25	LR		LR	09 11 47.4	
	comp=Z,213nm,18.3s,baz=38,slow=43							
MSO	Missoula	38.19	73	*e*P		P	08 51 56.8	+0.7
	comp=Z,15nm,1.7s							
CMB	Columbia Colle	39.11	89	*e*P		P	08 52 05.3	+1.5
CMB				pmax		pmax		
	comp=Z,3.0nm,1.3s							
CMB	Columbia Colle	39.11	89	*e*P		P	08 52 05.3	+1.5
	comp=Z,3.4nm,1.3s							
WAKR	Walker	39.41	88	*e*P		P	08 52 04.6	-2.0
	comp=Z,6.5nm,1.3s							
HLID	Hailey	39.61	78	*e*P		P	08 52 08.2	+0.1
	comp=Z,5.3nm,1.4s							
MCMT	McKenzie Canyo	39.87	75	*e*P		P	08 52 10.3	0.0
	comp=Z,1.3nm,0.6s							
EGMT	Eagleton	40.07	69	*e*P		P	08 52 13.2	+1.5
	comp=Z,134nm,2.8s							
NVAR	Mina Array Bea	40.17	87	P		P	08 52 13.1	+0.2
	comp=Z,0.2nm,0.3s,baz=290,slow=8.1,SNR=5.8							
BOD	Bodaibo	40.52	308	*e*P		P	08 52 13.6	-1.6
BOD				pmax		pmax		
	comp=Z,5.0nm,1.7s							
ELK	Elko	40.69	82	LR		LR	09 08 29.6	
	comp=Z,115nm,18.4s,baz=358,slow=35							
FFC	Flin Flon	41.23	57	*e*P		P	08 52 20.9	-0.2
FFC				pmax		pmax		
	comp=Z,2.0nm,0.6s							
FFC	Flin Flon	41.23	57	*e*P		P	08 52 20.9	-0.2
	comp=Z,2.5nm,0.6s							
ISA	Isabella, Lake	41.79	90	*e*P		P	08 52 26.2	+0.2
ISA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
ISA	Isabella, Lake	41.79	90	*e*P		P	08 52 26.2	+0.2
	comp=Z,4.4nm,1.1s							
RLMT	Red Lodge	41.86	73	*e*P		P	08 52 28.4	+1.7
	comp=Z,7.9nm,1.1s							
REDW	Red Top Meadow	41.88	76	*e*P		P	08 52 27.3	+0.5
	comp=Z,10.0nm,1.4s							
R11A	Troy Canyon, C	41.91	85	*e*P		P	08 52 26.9	-0.2
	comp=Z,5.8nm,1.4s							
TPNV	Topopah Spring	42.36	87	*e*P		P	08 52 30.9	+0.1
TPNV				pmax		pmax		
	comp=Z,8.0nm,1.2s							
TPNV	Topopah Spring	42.36	87	*e*P		P	08 52 30.9	+0.1
	comp=Z,7.6nm,1.2s							
DUG	Dugway, Tooele	42.51	81	*e*P		P	08 52 31.9	0.0
DUG				pmax		pmax		
	comp=Z,6.0nm,1.0s							
DUG	Dugway, Tooele	42.51	81	*e*P		P	08 52 31.9	0.0
	comp=Z,5.8nm,1.0s							
BW06	Boulder Array	43.00	76	*e*P		P	08 52 35.4	-0.5
	comp=Z,7.5nm,1.2s							
PDAR	Pinedale Array	43.00	76	P		P	08 52 35.6	-0.3
	comp=Z,1.1nm,0.6s,baz=312,slow=3.3,SNR=14							
PDAR				LR		LR	09 10 37.6	
	comp=Z,59nm,18.5s,baz=296,slow=36							
KSRS	Korea Array	43.00	275	P		P	08 52 35.8	+0.1
KSRS				pmax		pmax		
	comp=Z,7.0nm,0.9s							
KSRS				MLR		MLR		
	comp=Z,74nm,20.8s							
KSRS	Korea Array	43.00	275	P		P	08 52 35.8	+0.1
	comp=Z,7.1nm,0.9s,baz=56,slow=8.7,SNR=11							
KSRS				LR		LR	09 09 55.6	
	comp=Z,74nm,20.8s,baz=36,slow=35							
KSAR	Wonju Array Be	43.03	275	P		P	08 52 35.8	-0.2
KSAR	Wonju Array Be	43.03	275	P		P	08 52 35.8	-0.2
GSC	Goldstone, Bar	43.06	89	*e*P		P	08 52 36.8	+0.4
GSC				pmax		pmax		
	comp=Z,6.0nm,0.9s							
GSC	Goldstone, Bar	43.06	89	*e*P		P	08 52 36.8	+0.4
	comp=Z,6.0nm,0.9s							
FCC	Fort Churchill	43.32	48	*e*P		P	08 52 37.7	-0.3
FCC	Fort Churchill	43.32	48	*e*P		P	08 52 37.7	-0.3
	comp=Z,0.1nm,0.5s							
DAU	Daniels Canyon	43.34	80	*e*P		P	08 52 40.4	+1.6
DAU	Daniels Canyon	43.34	80	*e*P		P	08 52 40.4	+1.6
PFO	Pinyon Flats O	44.39	91	LR		LR	09 07 07.9	
	comp=Z,87nm,21.7s,baz=300,slow=30							
O20A	White River Ci	45.35	78	*e*P		P	08 52 54.8	0.0
	comp=Z,13nm,1.1s							
MDND	Maddock	45.97	64	*e*P		P	08 53 00.1	+0.8
	comp=Z,3.8nm,0.9s							
PV01	Paradox Valley	46.38	80	*e*P		P	08 53 03.3	+0.3
	comp=Z,338nm,0.7s							
ULM	Lac du Bonnet	46.69	59	P		P	08 53 04.4	-0.5
ULM				pmax		pmax		
	comp=Z,2.0nm,0.4s							
ULM				MLR		MLR		
	comp=Z,137nm,19.3s							
ULM	Lac du Bonnet	46.69	59	P		P	08 53 04.3	-0.5
	comp=Z,1.5nm,0.4s,baz=284,slow=8.4,SNR=3.1							
ULM				LR		LR	09 12 40.8	
	comp=Z,137nm,19.3s,baz=344,slow=36							
AGMN	Agassiz Nation	47.79	62	*e*P		P	08 53 13.6	+0.1
	comp=Z,7.1nm,1.1s							
BJI	Beijing	48.60	285	P		P	08 53 20.6	+0.8
BJI				S		S	09 00 17.5	0.0
BJI				PMZ				
	comp=Z,15nm,0.9s							
BJI				PMZ				
	comp=Z,63nm,3.5s							
BJI				LN				
	comp=Z,280nm,20.1s							
BJI				LE				
	comp=Z,200nm,26.2s							
BJI				LZ				
	comp=Z,200nm,22.0s							
TLY	Talaya	48.75	305	*e*P		P	08 53 21.6	+0.7
TLY				*e*S		S	09 00 28.7	+9.2
TLY				pmax		pmax		
	comp=Z,6.0nm,0.9s							
TLY				MLR		MLR		
	comp=Z,110nm,16.0s							
TLY	Talaya	48.75	305	*e*P		P	08 53 21.3	+0.4
ULN	Ulaanbaatar	49.15	299⇓	*e*P		P	08 53 24.0	-0.1
ULN				pmax		pmax		
	comp=Z,5.0nm,1.0s							
ULN	Ulaanbaatar	49.15	299	*e*P		P	08 53 23.8	-0.3
SONM	Songino Array	49.52	299	P		P	08 53 27.3	+0.4
SONM				pmax		pmax		
	comp=Z,5.0nm,0.7s							
SONM				MLR		MLR		
	comp=Z,16nm,28.6s							
SONM	Songino Array	49.52	299	P		P	08 53 27.3	+0.4
	comp=Z,4.5nm,0.7s,baz=50,slow=8.1,SNR=41							
SONM				LR		LR	09 15 31.4	
	comp=Z,253nm,19.3s,baz=49,slow=37							
ZAK	Zakamensk	49.69	303	*e*P		P	08 53 22.9	-5.2
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.2s							
ANMO	Albuquerque	49.73	82	LR		LR	09 12 45.1	
	comp=Z,65nm,18.2s,baz=306,slow=34							
MOY	Mondy	50.11	306	*e*P		P	08 53 32.5	+1.2
HHC	Hu-ho-hao-te	50.84	289	*e*P		P	08 53 38.6	+1.6
HHC				PP		PP	08 55 36.3	+3.0
HHC				S		S	09 00 47.9	-1.2
HHC				ScS		ScS	09 03 20.6	-2.1
HHC				PMZ				
	comp=Z,37nm,1.3s							
HHC				PMZ				
	comp=Z,200nm,5.9s							
HHC				LN				
	comp=Z,200nm,16.7s							
HHC				LE				
	comp=Z,280nm,16.9s							
HHC				LZ				
	comp=Z,210nm,16.9s							
NJ2	Nanjing	52.17	276	*e*P		P	08 53 50.9	+4.1
NJ2				PMZ				
	comp=Z,30nm,0.5s							
HVS	Khovu-Aksy	54.04	309⇓	*e*P		P	08 54 02.0	+1.5
HVS				pmax		pmax		
	comp=Z,41nm,1.2s							
LPIG	La Paz	54.87	95	LR		LR	09 14 40.8	
	comp=Z,50nm,18.2s,baz=291,slow=33							
TXAR	Lajitas Array	55.27	85	P		P	08 54 09.1	-0.6
TXAR				*PP		pP	08 54 22.2	-2.1
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
TXAR	Lajitas Array	55.27	85	P		P	08 54 09.1	-0.6
	comp=Z,0.6nm,0.6s,baz=306,slow=6.3,SNR=6.4							
TXAR				pP		pP	08 54 22.2	-2.1
	comp=Z,0.8nm,0.7s,baz=266,slow=3.8,SNR=4.6							
TXAR				LR		LR	09 17 12.3	
	comp=Z,70nm,18.3s,baz=0.0,slow=35							
ZALV	Zalesovo Beam	56.27	316	LR		LR	09 21 21.3	
	comp=Z,134nm,18.1s,baz=82,slow=39							
MIAR	Mount Ida	57.84	74	*e*P		P	08 54 28.6	+0.8
MIAR				pmax		pmax		
	comp=Z,9.0nm,1.0s							
MIAR	Mount Ida	57.84	74	*e*P		P	08 54 28.6	+0.8
	comp=Z,8.6nm,1.0s							
ARCES	ARCESS Array B	58.38	352	P		P	08 54 29.6	-1.4
ARCES				*PP		pP	08 54 42.0	-3.7
ARCES							08 55 21.1	
ARCES				pmax		pmax		
	comp=Z,3.0nm,0.7s							
ARCES				pmax		pmax		
	comp=Z,4.0nm,0.9s							
ARCES				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ARCES				MLR		MLR		
	comp=Z,16nm,28.6s							
ARCES	ARCESS Array B	58.38	352	P		P	08 54 29.6	-1.4
	comp=Z,2.8nm,0.7s,baz=8.7,slow=7.2,SNR=12							
ARCES				pP		pP	08 54 42.0	-3.7
	comp=Z,4.3nm,0.9s,baz=12,slow=6.9,SNR=2.2							
ARCES				PcP		PcP	08 55 21.1	-0.2
	comp=Z,2.3nm,0.8s,baz=0.0,slow=3.9,SNR=4.4							
ARCES				LR		LR	09 20 24.0	
	comp=Z,70nm,20.6s,baz=356,slow=37							
LZH	Lanzhou	58.53	290	*e*P		P	08 54 34.1	+1.3
LZH				pP		pP	08 54 49.5	+2.1
LZH				sP		sP	08 54 57.9	+4.3
LZH				PP		PP	08 56 44.0	+1.7
LZH				S		S	09 02 30.1	-2.3
LZH				SS		SS	09 06 24.4	-0.6
LZH				PMZ				
	comp=Z,36nm,1.0s							
LZH				PMZ				
	comp=Z,130nm,4.3s							
LZH				LN				
	comp=Z,400nm,14.3s							
LZH				LE				
	comp=Z,440nm,14.6s							
LZH				LZ				
	comp=Z,570nm,15.7s							
GTA	Gaotai	58.58	295	*e*P		P	08 54 33.3	+0.3
GTA				pP		pP	08 54 49.3	+1.6
GTA				sP		sP	08 54 56.3	+2.5
GTA				S		S	09 02 30.0	-2.9
GTA				PMZ				
	comp=Z,10.0nm,1.0s							
GTA				PMZ				
	comp=Z,93nm,5.7s							
GTA				LN				
	comp=Z,210nm,19.0s							
GTA				LE				
	comp=Z,180nm,18.1s							
GTA				LZ				
	comp=Z,220nm,18.5s							
WCI	Wyandotte Cave	59.56	66	*e*P		P	08 54 38.8	-0.9
WCI				pmax		pmax		
	comp=Z,122nm,2.9s							
WCI	Wyandotte Cave	59.56	66	*e*P		P	08 54 38.8	-0.9
	comp=Z,122nm,2.9s							
ALLY	Alegheny Colle	60.59	59	*e*P		P	08 54 46.5	-0.2
	comp=Z,12nm,0.9s							
KURK	Kurchatov	61.24	316	*e*P		P	08 54 50.3	-0.6
KURK				pmax		pmax		
	comp=Z,7.0nm,1.6s							
KURK	Kurchatov	61.24	316	*e*P		P	08 54 50.3	-0.6
	comp=Z,7.2nm,1.6s							
WMQ	Urumqi	62.00	306	*e*P		P	08 54 58.1	+1.9
WMQ				pP		pP	08 55 13.8	+2.8
WMQ				PcP		PcP	08 55 40.1	+3.7
WMQ				PP		PP	08 57 15.9	+3.2
WMQ				S		S	09 03 15.8	-0.7
WMQ				ScS		SKKSac	09 04 40.5	-2.7
WMQ				PMZ				
	comp=Z,6.0nm,1.7s							
WMQ				PMZ				
	comp=Z,180nm,5.0s							
WMQ				LN				
	comp=Z,140nm,22.0s							
WMQ				LE				
	comp=Z,31nm,26.0s							
WMQ				LZ				
	comp=Z,91nm,23.0s							
MKAR	Makanchi Array	62.48	311	P		P	08 54 58.7	-0.7
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
MKAR				MLR		MLR		
	comp=Z,16nm,28.6s							
MKAR	Makanchi Array	62.48	311	P		P	08 54 58.7	-0.7
	comp=Z,2.4nm,0.7s,baz=50,slow=7.5,SNR=25							
MKAR				LR		LR	09 22 45.5	
	comp=Z,99nm,19.7s,baz=28,slow=37							
ARU	Arti	64.12	331	*e*P		P	08 55 09.6	-0.4
ARU				pmax		pmax		
	comp=Z,13nm,1.3s							
ARU	Arti	64.12	331	*e*P		P	08 55 09.6	-0.4
	comp=Z,13nm,1.3s							
KMSC	Kings Mountain	64.56	65	*e*P		P	08 55 12.9	-0.3
	comp=Z,13nm,1.1s							
FINES	FINESS Array B	66.23	350	P		P	08 55 22.0	-1.5
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
FINES				MLR		MLR		
	comp=Z,16nm,28.6s							
FINES	FINESS Array B	66.23	350	P		P	08 55 22.0	-1.5
	comp=Z,0.7nm,0.3s,baz=353,slow=6.1,SNR=

comp=Z,14nm,1.0s
EKS2 Erkin-Say 69.55 313 *e*P **P 08 55 45.8 +0.9**
comp=Z,14nm,1.0s
AML Almayashu 70.01 313 P **P 08 55 49.8 +1.7**
SNR=7.0
KKAR Karatay Array 70.65 316 *e*P **P 08 55 50.9 -0.6**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 70.65 316 *e*P **P 08 55 50.9 -0.6**
comp=Z,3.6nm,0.8s
OBN Obninsk 70.76 342 *e*P **P 08 55 52.4 +0.5**
OBN pmax pmax
comp=Z,7.0nm,1.3s
KSH Kashi 71.00 310 P P 08 55 58.0 +4.1
KSH PP PP 08 58 38.8 +7.6
KSH S **S 09 05 06.6 +0.9**
KSH sS sS 09 05 34.8 +3.8
KSH ScS **SKSac 09 05 50.5 -1.3**
KSH SS **SS 09 09 42.6 +4.0**
KSH PMZ
comp=Z,20nm,1.0s
KSH PMZ
comp=Z,130nm,5.8s
KSH LN
comp=Z,78nm,4.9s
KSH LE
comp=Z,61nm,4.8s
KSH LZ
comp=Z,100nm,6.1s
PPT2 Papeete2 71.98 156 *e*S **SKiKP 09 05 26.3 -5.6**
comp=Z,55nm,23.8s
PPT2 Papeete2 71.98 156 *e*LR LR 09 18 08.8
comp=Z,98nm,21.8s
TAPN Taplejung 74.25 294 *e*P **P 08 56 13.8 +0.3**
comp=Z,59nm,0.9s
CMAR Chiang Mai Arr 74.33 280 P **P 08 56 14.3 +0.6**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CMAR MLR MLR
comp=Z,15nm,28.6s
CMAR Chiang Mai Arr 74.33 280 P **P 08 56 14.2 +0.6**
comp=Z,3.6nm,0.9s,baz=29,slow=7.5,SNR=9.7
CMAR LR LR 09 33 09.2
comp=Z,47nm,18.4s,baz=53,slow=39
ODAN Odare 74.80 294 *e*P **P 08 56 17.5 +0.8**
GUN Gumba 74.85 296 *e*P **P 08 56 17.4 +0.3**
comp=Z,78nm,0.9s
JIRN Jiri 74.87 295 *e*P **P 08 56 17.7 +0.5**
comp=Z,67nm,0.8s
RAMN Ramite 75.18 295 *e*P **P 08 56 19.0 +0.1**
comp=Z,71nm,0.8s
KKN Kakani 75.28 296 *e*P **P 08 56 20.3 +0.9**
PKI Pulchoki 75.38 296 *e*P **P 08 56 20.5 +0.4**
comp=Z,50nm,1.0s
GKN Gorkha 75.47 297 *e*P **P 08 56 21.5 +1.1**
DMN Daman 75.52 296 *e*P **P 08 56 21.8 +1.0**
comp=Z,40nm,0.9s
DANN Dangsing 75.69 298 *e*P **P 08 56 22.2 +0.4**
comp=Z,77nm,0.7s
KOLN Koldanda 76.23 297 *e*P **P 08 56 25.4 +0.6**
comp=Z,21nm,0.8s
AKASG Malin Array Be 76.27 345 P **P 08 56 23.0 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG MLR MLR
comp=Z,69nm,18.8s
AKASG Malin Array Be 76.27 345 P **P 08 56 23.0 -1.3**
comp=Z,1.0nm,0.4s,baz=9.6,slow=5.1,SNR=6.7
AKASG LR LR 09 34 54.9
comp=Z,69nm,18.8s,baz=25,slow=40
CLL Collm 77.31 356 *e*P **P 08 56 31.0 +0.8**
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 77.31 356 *e*(P) **P 08 56 31.0 +0.8**
comp=Z,7.0nm,1.2s
TBI Tubuai 77.54 158 *e*LR LR 09 20 43.4
comp=Z,136nm,24.2s
BRG Berggiesshubel 77.70 355 *e*P **P 08 56 32.8 +0.4**
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 77.70 355 *e*P **P 08 56 32.8 +0.4**
BRG pmax pmax
comp=Z,5.0nm,0.8s
KBL Kabul 78.28 312 *e*P **P 08 56 36.2 0.0**
KBL pmax pmax
comp=Z,18nm,1.1s
KBL Kabul 78.28 312 *e*P **P 08 56 36.1 0.0**
comp=Z,18nm,1.1s
MORC Moravsky Berou 78.56 353 *e*P **P 08 56 37.4 +0.1**
MORC pmax pmax
comp=Z,3.0nm,0.7s
MORC Moravsky Berou 78.56 353 *e*P **P 08 56 37.4 +0.1**
comp=Z,2.5nm,0.7s
STHS Stebnicka Huta 78.58 350 *e*P **P 08 56 38.3 +1.0**
STHS pmax pmax
comp=Z,3.0nm,1.1s
STHS Stebnicka Huta 78.58 350 *e*P **P 08 56 38.3 +1.0**
BAIF Baives 78.69 2 *e*P **P 08 56 37.7 -0.1**
BAIF Baives 78.69 2 *e*P **P 08 56 37.7 -0.1**
BAIF Baives 78.69 2 *e*P **P 08 56 37.7 -0.1**
GOF Gofitskoye 78.70 335 *e*P **P 08 56 39.6 +1.6**
GRF Grafenberg Arr 79.00 357 *e*P **P 08 56 40.6 +1.0**
comp=Z,8.0nm,1.2s
VRAC Vranov 79.10 353 ⇓P **P 08 56 40.7 +0.5**
VRAC Vranov 79.10 353 ⇓*i*P **P 08 56 40.7 +0.5**
KHC Kasperske Hory 79.46 355 *e*P **P 08 56 42.4 +0.2**
KHC pmax pmax
comp=Z,5.0nm,1.0s
KHC Kasperske Hory 79.46 355 *e*P **P 08 56 42.4 +0.2**
comp=Z,5.2nm,1.0s
VYHS Vyhne 79.73 352 *e*P **P 08 56 44.6 +1.0**
VYHS pmax pmax
comp=Z,54nm,2.9s
VYHS Vyhne 79.73 352 *e*P **P 08 56 44.6 +1.0**
GERES GERESS Array B 79.74 355 P **P 08 56 43.3 -0.4**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 79.74 355 P **P 08 56 43.3 -0.4**
comp=Z,2.0nm,0.7s,baz=18,slow=4.6,SNR=12
KIV Kislovodsk 79.82 334 *e*P **P 08 56 44.4 +0.1**
KIV pmax pmax
comp=Z,14nm,1.2s
BURAR Bucovina Array 79.87 347 ⇓P **P 08 56 44.2 -0.3**
BURAR Bucovina Array 79.87 347 ⇓*i*P **P 08 56 44.2 -0.3**
KBZ Khabaz 79.97 334 P **P 08 56 45.5 +0.5**
comp=Z,3.5nm,0.8s,baz=58,slow=9.4,SNR=9.3
KBZ LR LR 09 39 18.9
comp=Z,90nm,18.1s,baz=22,slow=41
LDF La Druitiere 80.01 5 *e*P **P 08 56 44.9 -0.2**
LDF La Druitiere 80.01 5 *e*P **P 08 56 44.9 -0.2**
LDF La Druitiere 80.01 5 *e*P **P 08 56 44.9 -0.2**
GEYT Alibeck 80.11 321 P **P 08 56 46.4 +0.4**
comp=Z,5.9nm,0.8s,baz=343,slow=3.1,SNR=7.7
GEYT LR LR 09 35 33.1
comp=Z,111nm,18.3s,baz=80,slow=38
PAGF Fort de Pagny 80.21 1 *e*P **P 08 56 46.5 +0.3**
comp=Z,3.8nm,0.7s
PAGF Fort de Pagny 80.21 1 *e*P **P 08 56 46.5 +0.3**
comp=Z,3.8nm,0.7s
CDF Champ du Feu 80.36 360 *e*P **P 08 56 46.8 -0.3**
comp=Z,14nm,1.0s
CDF Champ du Feu 80.36 360 *e*P **P 08 56 46.8 -0.3**
CDF pmax pmax
comp=Z,14nm,1.0s
CDF Champ du Feu 80.36 360 *e*P **P 08 56 46.8 -0.3**
comp=Z,14nm,1.0s
ZEI Tsey 80.56 333 *e*P **P 08 56 47.4 -1.0**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
HINF Hinteralfeld 80.95 360 *e*P **P 08 56 49.8 -0.4**
comp=Z,6.0nm,0.6s
HINF Hinteralfeld 80.95 360 *e*P **P 08 56 49.8 -0.4**
HINF pmax pmax
comp=Z,6.0nm,0.6s
HINF Hinteralfeld 80.95 360 *e*P **P 08 56 49.8 -0.4**
comp=Z,6.0nm,0.6s
DRGR 81.00 349 ⇓P **P 08 56 50.1 -0.5**
DRGR 81.00 349 ⇓*i*P **P 08 56 50.1 -0.5**
LOR Lormes 81.47 2 *e*P **P 08 56 52.8 -0.2**
LOR *e*R
comp=Z,55nm,18.2s
LOR Lormes 81.47 2 *e*P **P 08 56 52.8 -0.2**
LOR Lormes 81.47 2 *e*P **P 08 56 52.8 -0.2**
SSF Saint Saulge 81.67 2 *e*P **P 08 56 53.8 -0.2**
comp=Z,7.0nm,0.7s
SSF Saint Saulge 81.67 2 *e*P **P 08 56 53.8 -0.2**
SSF pmax pmax
comp=Z,7.0nm,0.7s
SSF Saint Saulge 81.67 2 *e*P **P 08 56 53.8 -0.2**
comp=Z,7.0nm,0.7s
CFR Carcaliu 81.81 345 ⇓P **P 08 56 55.8 +1.1**
CFR Carcaliu 81.81 345 ⇓*i*P **P 08 56 55.8 +1.1**
MLR Muntele Rosu 81.85 346 ⇓P **P 08 56 55.7 +0.6**
MLR Muntele Rosu 81.85 346 ⇓*i*P **P 08 56 55.7 +0.6**
AVF Avril sur Loir 81.94 2 *e*P **P 08 56 55.0 -0.4**
comp=Z,5.9nm,0.8s
AVF Avril sur Loir 81.94 2 *e*P **P 08 56 55.0 -0.4**
AVF pmax pmax
comp=Z,6.0nm,0.8s
AVF Avril sur Loir 81.94 2 *e*P **P 08 56 55.0 -0.4**
comp=Z,5.9nm,0.8s
VOIR 82.03 347 ⇓P **P 08 56 56.4 +0.4**
VOIR 82.03 347 ⇓*i*P **P 08 56 56.4 +0.4**
VOIR 82.03 347 ⇓*i*P P 08 57 01.2 +5.2
SMF Signal de Mont 82.09 2 *e*P **P 08 56 56.0 -0.2**
comp=Z,17nm,1.0s
SMF Signal de Mont 82.09 2 *e*P **P 08 56 56.0 -0.2**
SMF pmax pmax
comp=Z,17nm,1.0s
SMF Signal de Mont 82.09 2 *e*P **P 08 56 56.0 -0.2**
comp=Z,17nm,1.0s
ARR Arges 82.16 347 ⇑*i*P **P 08 56 58.7 +2.0**
CABF La Chapelle 82.16 0 *e*P **P 08 56 56.8 +0.1**
CABF La Chapelle 82.16 0 *e*P **P 08 56 56.8 +0.1**
CABF La Chapelle 82.16 0 *e*P **P 08 56 56.8 +0.1**
GZR Gura Zlata 82.37 349 ⇓P **P 08 56 57.3 -0.5**
GZR Gura Zlata 82.37 349 ⇓*i*P **P 08 56 57.3 -0.5**
TIRR Tirgusor 82.47 344 ⇓P **P 08 56 58.8 +0.6**
TIRR Tirgusor 82.47 344 ⇓*i*P **P 08 56 58.8 +0.6**
WRA Warramunga Arr 84.61 228 P **P 08 57 08.2 -1.1**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 84.61 228 P **P 08 57 08.2 -1.1**
comp=Z,1.2nm,0.8s,baz=33,slow=5.8,SNR=8.6
MMB Musomiste 85.99 347 ⇓P **P 08 57 16.8 +0.6**
MMB Musomiste 85.99 347 ⇓*i*P **P 08 57 16.8 +0.6**
BRTR Keskin Array B 86.03 339 *i* P **P 08 57 17.8 +1.3**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 86.03 339 P **P 08 57 16.8 +0.3**
comp=Z,2.4nm,0.8s,baz=30,slow=3.4,SNR=11
BRTR LR LR 09 42 37.3
comp=Z,47nm,18.1s,baz=36,slow=40
PGF Pioggiola 86.20 358 *e*P **P 08 57 17.1 -0.2**
comp=Z,25nm,1.0s
PGF Pioggiola 86.20 358 *e*P **P 08 57 17.1 -0.2**
PGF pmax pmax
comp=Z,25nm,1.0s
PGF Pioggiola 86.20 358 *e*P **P 08 57 17.1 -0.2**
comp=Z,25nm,1.0s
ASAR Alice Springs 88.03 227 P **P 08 57 25.5 -0.6**
ASAR *PP **pP 08 57 38.8 -2.8**
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR pmax pmax
comp=Z,2.0nm,1.0s
ASAR Alice Springs 88.03 227 P **P 08 57 25.5 -0.6**
comp=Z,2.9nm,0.8s,baz=32,slow=4.8,SNR=24
ASAR pP **pP 08 57 38.8 -2.8**
comp=Z,2.4nm,1.0s,baz=40,slow=5.3,SNR=6.5
ESDC Sonseca Array 88.62 8 P **P 08 57 28.2 -0.7**
comp=Z,0.8nm,0.7s,baz=12,slow=4.1,SNR=4.2
PLCA Paso Flores 127.84 110 PKIKP **PKPdf 09 03 41.3 +0.5**
PLCA pmax pmax
comp=Z,1.0nm,0.8s
PLCA Paso Flores 127.84 110 PKP **PKPdf 09 03 41.3 +0.5**
comp=Z,1.0nm,0.8s,baz=103,slow=2.4,SNR=3.0
TSUM Tsumeb 146.52 341 *e*PKPbc **PKPab 09 04 18.5 +0.2**
LBTB Lobatse 149.74 324 *e*PKPdf **PKPdf 09 04 22.1 +1.3**

MEX 20 08:59:44.5±0.4, 17°.01N×96°.97W, h61km±3km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.24**	**75**	*i* P		Pn	08 59 53.1	-1.5
VHO				*e*S		Sn	09 00 00.1	-1.7
PNIG	**Pinotepa**	**1.27**	**241**	*i* P		Pn	09 00 04.6	-1.6
PNIG				*e*S		Sn	09 00 21.0	-1.4
TPIG	**Tehuac#an**	**1.45**	**345**	*e*P		Pn	09 00 07.4	-1.4
TPIG				*e*S		Sn	09 00 24.4	-2.6
HUIG	**Huatulco**	**1.49**	**146**	*e*P		Pn	09 00 08.4	-0.7
HUIG				*e*S		Sn	09 00 26.2	-1.4
TLIG	**Tlapa**	**1.62**	**290**	*e*P		Pn	09 00 09.7	-1.3
TLIG				*e*S		Sn	09 00 28.2	-2.8
CMIG	**Matias Romero**	**2.00**	**87**	*e*P		Pn	09 00 14.4	-1.6
CMIG				*i* S		Sn	09 00 37.5	-2.5
ARIG	**Puente Sto Nin**	**3.46**	**292**	*e*P		Pn	09 00 34.3	-1.6
ARIG				*i* S		Sn	09 01 13.7	-2.1

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*NNC **20** 09:12:15.8±3.1, 54°.18N×86°.46E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=24.7km s-min=21.1km az=165.0*
IDC 20 09:12:07.8±2.8, 54°.64N×86°.73E, h0km, mb1 3.2/2, mb1mx3.0/39, mbtmp3.2/2, ML2.7/2, 7C-1D, Error ellipse: s-maj=22.4km s-min=16.1km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**239**	*i*			09 20 50.0	
	baz=59,slow=340,SNR=1.0							
ZALV	**Zalesovo Beam**	**1.32**	**239**		Pn	Pg	09 12 32.5	-0.6
	1.6nm,0.3s,baz=62,slow=16,SNR=18							
ZALV					Lg	Lg	09 12 50.5	
	2.4nm,0.3s,baz=60,slow=27,SNR=13							
KURK	**Kurchatov**	**6.31**	**235**		⇑Pn	Pn	09 13 44.4	+2.4
	1.9nm,1.0s							
KURK					⇑Sn	Sn	09 14 54.9	+0.2
	1.7nm,1.3s							
KURK					⇑Lg	Lg	09 15 25.6	
	3.8nm,1.3s							
KURBB	**Kurchatov Arra**	**6.41**	**234**		⇑Pn	Pn	09 13 45.9	+2.5
	2.2nm,0.6s							
KURBB					⇑Sn	Sn	09 14 55.6	-1.6
	6.3nm,0.6s							
KURBB					⇑Lg	Lg	09 15 28.0	
	6.4nm,0.7s							
KURBB	**Kurchatov Arra**	**6.41**	**234**		Pn	Pn	09 13 43.3	-0.1
	0.1nm,0.3s,baz=52,slow=14,SNR=27							
KURBB					Sn	Sn	09 14 55.5	-1.8
	0.0nm,0.3s,baz=56,slow=20,SNR=2.6							
KURBB					Lg	Lg	09 15 34.2	
	0.0nm,0.3s,baz=48,slow=31,SNR=4.2							
MK31	**Makanchi Array**	**8.35**	**202**		Pn	Pn	09 14 13.0	+2.9
	0.3nm,0.3s,baz=25,slow=13,SNR=9.1							
MK31					⇓Sn	Sn	09 15 41.8	-3.2
	0.4nm,0.5s,baz=26,slow=25,SNR=3.9							
MK31					⇑Lg	Lg	09 16 26.7	
	1.9nm,0.9s,baz=28,slow=31,SNR=5.3							
MKAR	**Makanchi Array**	**8.35**	**202**		Pn	Pn	09 14 11.8	+1.8
	0.1nm,0.3s,baz=23,slow=12,SNR=9.8							
MKAR					Sn	Sn	09 15 44.1	-0.9
	0.2nm,0.3s,baz=22,slow=25,SNR=7.9							
MKAR					Lg	Lg	09 16 35.1	
	0.1nm,0.3s,baz=28,slow=32,SNR=4.6							

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*ISCJB **20** 09:14:55.0±0.3, 32°.61N±0°.02×115°.52W±0°.02, h22km±3km, Error ellipse: s-maj=3.5km s-min=3.2km az=179.3*
*NEIC **20** 09:14:56.4, 32°.56N×115°.55W, h20km, ML3.2(PAS), ML3.5(ECX), After ECX.*
NEIC Felt [II] at Mexicali. Felt at Calexico, San Diego and Valley Center, California.
*ECX **20** 09:14:56.4±0.7, 32°.56N×115°.56W, h6km, MD3.3, ML3.5*
ISC 20 09:14:54.6±1.0, 32°.59N±0°.02×115°.54W±0°.02, h16km±9km, n36, σ0°.74/54, 8C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.17**	**291**	⇑*e*P		**Pb**	**09 14 59.3**	**-0.1**
SGL	**Mount Signal**	**0.17**	**291**	*e*P		**Pb**	**09 14 59.3**	**-0.1**
CPBX	**Cerro Prieto**	**0.26**	**130**	⇑*e*P		**Pb**	**09 15 00.8**	**-0.2**
CPBX				*e*S		**Sb**	**09 15 05.4**	**+0.1**
CPBX				⇑*e*			09 15 12.2	
	comp=N,28μm,0.4s							
COK	**Cook Ranch**	**0.30**	**329**	⇑*e*P		**Pb**	**09 15 02.4**	**+0.7**
YUH	**Yuha Desert**	**0.33**	**280**	⇑*e*P		**Pb**	**09 15 01.9**	**-0.3**
SWSC	**Sam W. Stewart**	**0.41**	**328**	P		**Pb**	**09 15 03.8**	**+0.2**
	baz=0.5							
COA	**Coachella**	**0.45**	**52**	⇓*e*P		**Pb**	**09 15 05.0**	**+0.8**
RMX	**La Rumorosa**	**0.46**	**272**	*e*P		**Pg**	**09 15 04.2**	**+0.3**
RMX				*e*S		**Sb**	**09 15 11.2**	**+0.1**
CRR	**Carrizo Plain**	**0.47**	**310**	⇑*e*P		**Pb**	**09 15 04.8**	**+0.3**
RDX	**Rancho Dawling**	**0.74**	**208**	⇓*e*P		**Pg**	**09 15 08.7**	**-0.4**
RDX				*e*S		**Sg**	**09 15 18.5**	**-0.5**
RDX				⇓*e*			09 15 20.8	
	comp=N,2μm,0.4s							
GLA	**Glamis**	**0.76**	**52**	P		**Pg**	**09 15 09.4**	**0.0**
	baz=0.8							
GLA				S		**Sg**	**09 15 19.6**	**+0.1**
	baz=0.8							
GLA	**Glamis**	**0.76**	**52**	*e*Pg		**Pg**	**09 15 09.4**	**0.0**
GLA				*e*Sg		**Sb**	**09 15 20.1**	**+0.5**
MONP	**Monument Peak,**	**0.80**	**292**	P		**Pb**	**09 15 10.5**	**+0.2**
	baz=0.8							
MONP				S		**Sg**	**09 15 20.9**	**0.0**
	baz=0.8							
YMD	**Yuma Desert**	**0.84**	**92**	⇑*e*P		**Pg**	**09 15 10.4**	**-0.5**
BAR	**Barrett**	**0.96**	**276**	*e*Pg		**Pb**	**09 15 13.0**	**+0.1**
BAR				*e*Sg		**Sg**	**09 15 25.8**	**-0.1**
CBX	**Cerro Bola**	**0.99**	**254**	⇑*e*P		**Pb**	**09 15 13.6**	**+0.1**
CBX				*e*S		**Sb**	**09 15 26.7**	**+0.3**
CBX				*e*			09 15 29.3	
	comp=N,897nm,0.4s							
BC3	**Big Chuckawall**	**1.07**	**4**	P		**Pb**	**09 15 14.3**	**-0.5**
	baz=1.2							
ECBX	**El Chinero**	**1.19**	**159**	*e*P		**Pn**	**09 15 16.4**	**-0.2**
ECBX				*e*S		**Sb**	**09 15 31.7**	**-0.2**
ECBX				⇓*e*			09 15 34.7	
	comp=E,636nm,0.5s							
ZAX	**El Zacaton**	**1.24**	**210**	*e*P		**Pn**	**09 15 17.5**	**+0.1**
ZAX				*e*S		**Sb**	**09 15 33.8**	**+0.2**
PFO	**Pinyon Flats O**	**1.28**	**323**	P		**Pn**	**09 15 17.3**	**-0.6**
	baz=1.3							
PFO				S		**Sb**	**09 15 33.3**	**-1.3**
	baz=1.3							
PFO	**Pinyon Flats O**	**1.28**	**323**	*e*Pn		**Pn**	**09 15 17.4**	**-0.6**
PFO				*e*Sn		**Sb**	**09 15 33.5**	**-1.2**
ECNX	**Esteban Cantu**	**1.29**	**224**	*e*P		**Pb**	**09 15 18.8**	**+0.2**
ECNX				*e*S		**Sb**	**09 15 35.4**	**+0.3**
PBX	**Punta Banda**	**1.31**	**230**	*e*P		**Pb**	**09 15 19.0**	**0.0**
PBX				*e*S		**Sn**	**09 15 36.3**	**+0.7**
109C	**Camp Elliot, M**	**1.35**	**283**	P		**Pn**	**09 15 18.8**	**-0.1**
	baz=1.4							
109C				S		**Sn**	**09 15 36.7**	**+0.1**
	baz=1.4							
BELC	**Belle Mtn. Jos**	**1.46**	**345**	P		**Pn**	**09 15 20.0**	**-0.5**
	baz=1.5							
BELC				S		**Sn**	**09 15 38.3**	**-1.1**
	baz=1.5							
113A	**Mohawk Valley,**	**1.51**	**83**	P		**Pn**	**09 15 20.3**	**-0.7**
	baz=1.5							
113A				S		**Sn**	**09 15 38.4**	**-1.9**
	baz=1.5							
SPX	**San Pedro Mart**	**1.54**	**178**	*e*P		**Pn**	**09 15 22.5**	**+0.7**
SPX				*e*S		**Sb**	**09 15 43.3**	**+0.8**
IRM	**Iron Mountain**	**1.60**	**12**	P		**Pn**	**09 15 22.2**	**-0.2**
	baz=1.7							
MURC	**Murrieta**	**1.72**	**306**	P		**Pn**	**09 15 23.6**	**-0.4**
	baz=1.8							
214A	**Organ Pipe Nat**	**2.40**	**105**	*e*Pn		**Pn**	**09 15 32.2**	**-1.0**
GSC	**Goldstone, Bar**	**2.90**	**339**	*e*Pn		**Pn**	**09 15 40.6**	**+0.3**
SHPR	**Sheep Range**	**3.92**	**4**	Pn		**Pn**	**09 15 56.4**	**+2.0**
TUC	**Tucson**	**4.03**	**93**	Pn		Pn	09 15 59.2	+3.4
WUAZ	**Wupatki**	**4.53**	**49**	*e*Pn		**Pn**	**09 16 03.3**	**+0.6**
ARUT	**Antelope Range**	**5.46**	**18**	*e*Pn		**Pn**	**09 16 18.1**	**+2.5**
	comp=E,44nm,0.5s							
121A	**Cookes Peak, D**	**6.55**	**88**	*e*Pn		**Pn**	**09 16 31.4**	**+0.9**
	comp=E,2.8nm,0.5s							
121A				*e*Sn		**Sn**	**09 17 45.3**	**+0.3**

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*IDC **20** 09:19:24.4±4.7, 51°.64N×173°.27W, h65km±41km, mb3.3/7, mb1 3.6/9, mb1mx3.3/40, mbtmp3.6/9, ML3.5/2, Error ellipse: s-maj=62.6km s-min=19.0km az=179.0*
ISC 20 09:19:20.9±2.1, 51°.4N±0°.4×173°.2W±0°.1, h37km, n9, σ1s95/10, mb3.5/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**8.53**	**285**	P		**Pn**	**09 21 23.4**	**+1.7**
	0.7nm,0.3s,baz=104,slow=4.2,SNR=4.6							
ILAR	**Eielson Array**	**19.11**	**35**	P		**P**	**09 23 38.4**	**-1.9**
	0.3nm,0.3s,baz=228,slow=9.2,SNR=29							
ILAR				pP		**pP**	**09 23 53.4**	**+3.6**
	0.2nm,0.3s,baz=233,slow=9.1,SNR=8.6							
SEY	**Seymchan**	**21.64**	**315**	P		**P**	**09 24 07.4**	**-0.3**
	0.4nm,0.2s,baz=77,slow=15,SNR=3.6							
DLBC	**Dease Lake**	**25.41**	**57**	P		**P**	**09 24 46.5**	**+1.8**
	1.4nm,0.8s,baz=288,slow=12,SNR=3.4							
YKA	**Yellowknife Ar**	**32.66**	**47**	P		**P**	**09 25 49.0**	**+0.1**
	0.1nm,0.4s,baz=272,slow=8.2,SNR=6.8							
PDAR	**Pinedale Array**	**42.93**	**76**	P		**P**	**09 27 15.8**	**-0.3**
	0.6nm,0.9s,baz=309,slow=4.7,SNR=4.4							
SONM	**Songino Array**	**49.74**	**299**	P		**P**	**09 28 09.0**	**-0.3**
	0.4nm,0.5s,baz=57,slow=6.1,SNR=5.9							
ARCES	**ARCESS Array B**	**58.61**	**352**	P		**P**	**09 29 12.0**	**-1.4**
	2.1nm,0.9s,baz=1.3,slow=8.2,SNR=2.7							
MKAR	**Makanchi Array**	**62.71**	**312**	P		**P**	**09 29 40.4**	**-1.4**
	0.3nm,0.8s,baz=45,slow=7.2,SNR=4.2							

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*ISCJB **20** 09:35:36.8±0.8, 23°.26S±0°.05×68°.80W±0°.09, h87km±10km, mb3.9/5, Error ellipse: s-maj=14.3km s-min=8.5km az=9.2*
*IDC **20** 09:35:39.5±0.8, 23°.19S×68°.74W, h94km±5km, mb3.7/6, mb1 3.8/9, mb1mx3.6/31, mbtmp4.0/9, MS3.1/2, Ms1 3.1/2, ms1mx2.6/29, Error ellipse: s-maj=24.4km s-min=17.8km az=101.0*
*GUC **20** 09:35:39.1±0.3, 23°.16S×69°.04W, h95km±3km, ML4.5*
ISC 20 09:35:38.5±0.6, 23°.28S±0°.06×68°.83W±0°.08, h93km±5km, n22, σ2s19/31, mb3.9/6, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.89**	**310**	*e*P		**Pn**	**09 35 56.5**	**-1.0**
PB06				*e*S		**Sn**	**09 36 09.4**	**-2.2**
PB06				AML		AML	09 36 09.9	
	comp=E,22μm,0.3s							
PB04	**IPOC Station P**	**1.18**	**329**	*e*P		Pn	09 36 03.7	+3.2
PB04				*e*S		**Sn**	**09 36 22.2**	**+5.2**
PB04				AML		AML	09 36 25.9	
	comp=N,8μm,0.6s							
CEN1	**Los Morros**	**1.27**	**265**	*e*P9		Pn	09 36 05.3	+3.7
CEN1				*e*S		**Sn**	**09 36 23.2**	**+4.0**
ANCH	**Antofagasta**	**1.51**	**254**	*e*P9		Pn	09 36 00.1	-4.3
ANCH				*e*S		**Sn**	**09 36 18.8**	**-5.4**
PB10	**IPOC Station P**	**1.60**	**261**	*e*P		**Pn**	**09 36 04.7**	**-1.0**
PB10				*e*S		**Sn**	**09 36 24.3**	**-2.1**
PB10				AML		AML	09 36 31.2	
	comp=E,16μm,0.3s							
PB07	**IPOC Station P**	**1.83**	**327**	*e*P		**Pn**	**09 36 07.7**	**-1.1**
PB07				*e*S		**Sn**	**09 36 29.2**	**-2.6**
PB07				AML		AML	09 36 30.8	
	comp=E,5μm,0.5s							
PB01	**IPOC Station P**	**2.31**	**344**	*e*P		**Pn**	**09 36 14.2**	**-0.7**
PB01				*e*S		**Sn**	**09 36 41.1**	**-1.8**
PATCX	**Punta Patache**	**2.74**	**333**	*e*P		**Pn**	**09 36 19.9**	**-0.8**
PATCX				*e*S		**Sn**	**09 36 51.0**	**-2.1**
LPAZ	**La Paz**	**6.99**	**5**	P		**Pn**	**09 37 18.9**	**+0.1**
	comp=E,1.3nm,0.3s,baz=213,slow=5.3,SNR=21							
CFAA	**Coronel Fontan**	**8.31**	**177**	P		**Pn**	**09 37 36.6**	**+0.4**
	comp=E,0.2nm,0.3s,baz=346,slow=7.0,SNR=19							
CFAA				S		**Sn**	**09 39 05.0**	**-3.3**
	comp=E,0.2nm,0.3s,baz=234,slow=19,SNR=1.9							
SIV	**San Ignacio**	**10.29**	**47**	P		**Pn**	**09 38 01.4**	**-1.9**
	comp=E,4.9nm,0.3s,baz=262,slow=9.8,SNR=43							
SIV				LR		LR	09 41 44.2	
	comp=E,31nm,19.7s,baz=249,slow=36							
BDFB	**Brasilia**	**21.03**	**73**	P		**P**	**09 40 14.6**	**-0.3**
	comp=E,4.3nm,0.8s,baz=252,slow=12,SNR=8.1							
PTGA	**Pitinga**	**24.01**	**22**	P		**P**	**09 40 44.0**	**-0.7**
	comp=E,2.5nm,0.5s,baz=183,slow=15,SNR=4.6							
SNAA	**Sanae**	**60.58**	**161**	P		**P**	**09 45 40.3**	**+1.4**
	comp=E,1.0nm,0.8s,baz=297,slow=7.3,SNR=6.0							
NVAR	**Mina Array Bea**	**76.94**	**322**	P		**P**	**09 47 22.2**	**+1.2**
	comp=E,0.3nm,0.7s,baz=142,slow=7.5,SNR=4.0							
TORD	**Torodi Ar. Bea**	**77.88**	**70**	P		**P**	**09 47 27.6**	**+1.1**
	com

YKA pP **pP** **09 49 05.6 +0.4**
comp=E,0.7nm,0.9s,baz=135,slow=4.6,SNR=5.3
YKA sP **sP** **09 49 16.2 +1.1**
comp=E,0.4nm,0.7s,baz=136,slow=4.9,SNR=3.8
DAVOX Davos/Dischmat 99.31 43 LR LR 10 33 31.5
comp=E,21nm,18.7s,baz=270,slow=35
ASAR Alice Springs 128.37 207 PKP **PKPdf** **09 54 35.8 +0.8**
comp=E,0.6nm,0.6s,baz=120,slow=1.4,SNR=9.0
ASAR pPKP **pPKPdf** **09 55 01.8 +1.0**
comp=E,0.6nm,0.6s,baz=137,slow=1.7,SNR=4.6
WRA Warramunga Arr 131.46 210 PKP **PKPdf** **09 54 42.3 +1.4**
comp=E,0.5nm,0.5s,baz=158,slow=1.6,SNR=13
WRA pPKP **pPKPdf** **09 55 08.7 +1.9**
comp=E,0.5nm,0.4s,baz=153,slow=1.7,SNR=3.8
ZALV Zalesovo Beam 143.52 26 PKP PKPbc 09 55 00.0 +0.6
comp=E,0.9nm,0.5s,baz=321,slow=2.0,SNR=3.0
MKAR Makanchi Array 147.01 38 PKPbc **PKPbc** **09 55 10.4 +0.1**
comp=E,2.2nm,0.8s,baz=299,slow=4.3,SNR=8.2

IDC 20 09:39:49.1±5.9, 28°.57S×74°.99E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/26, mbtmp3.7/3, Error ellipse: s-maj=214.1km s-min=38.3km az=40.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.95**	**353**	T	T	10 06 36.2	
	baz=175,slow=76,SNR=10						
H08S1	**Diego Garcia H**	**20.95**	**353**	T	T	10 06 36.2	
	baz=175,slow=76,SNR=9.8						
H08S3	**Diego Garcia H**	**20.96**	**353**	T	T	10 06 38.9	
	baz=175,slow=76,SNR=11						
ASAR	**Alice Springs**	**52.68**	**99**	P	P	09 49 05.8	+0.2
	0.4nm,0.7s,baz=252,slow=5.7,SNR=6.5						
WRA	**Warramunga Arr**	**54.33**	**95**	P	P	09 49 17.4	-0.3
	1.4nm,1.1s,baz=252,slow=7.3,SNR=3.8						
MKAR	**Makanchi Array**	**75.30**	**5**	P	P	09 51 34.1	+0.3
	0.6nm,0.9s,baz=182,slow=6.1,SNR=4.5						
YKA	**Yellowknife Ar**	**145.49**	**8**	PKPbc	PKPdf	09 59 27.3	-1.1
	0.5nm,1.0s,baz=332,slow=3.7,SNR=7.5						

IDC 20 09:40:34.5±6.0, 28°.84S×74°.96E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/24, mbtmp3.8/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/40, Error ellipse: s-maj=211.0km s-min=38.0km az=41.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**46.33**	**251**	LR	LR	10 03 15.8	
	comp=Z,60nm,21.7s,baz=91,slow=29						
ASAR	**Alice Springs**	**52.66**	**99**	P	P	09 49 50.5	-0.3
	1.3nm,1.0s,baz=256,slow=6.1,SNR=5.5						
WRA	**Warramunga Arr**	**54.33**	**95**	P	P	09 50 03.3	+0.2
	2.1nm,1.0s,baz=249,slow=7.6,SNR=5.0						
MKAR	**Makanchi Array**	**75.57**	**5**	P	P	09 52 20.9	+0.2
	0.2nm,0.5s,baz=198,slow=8.8,SNR=3.1						
YKA	**Yellowknife Ar**	**145.76**	**8**	PKPbc	PKPdf	10 00 13.5	-0.7
	0.1nm,0.6s,baz=343,slow=3.7,SNR=4.8						

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*NEIC **20** 09:48:46.0, 32°.52N×115°.54W, h0km, ML3.5(PAS), ML3.7(ECX), After PAS.*
NEIC Felt [III] at Mexicali. Felt [III] at Calexico, California. Also felt at Heber.
*ISCJB **20** 09:48:47.3±0.3, 32°.60N±0°.02×115°.52W±0°.02, h23km±3km, Error ellipse: s-maj=3.5km s-min=3.2km az=163.9*
*ECX **20** 09:48:48.7±0.6, 32°.57N×115°.57W, h6km, MD3.6, ML3.7*
ISC 20 09:48:46.9±0.9, 32°.56N±0°.02×115°.54W±0°.02, h16km±7km, n47, σ0°.88/68, 7C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.18**	**301**	⇑*eP*	**Pg**	**09 48 51.0**	**-0.2**
SGL	**Mount Signal**	**0.18**	**301**	*eP*	**Pg**	**09 48 51.0**	**-0.2**
CPBX	**Cerro Prieto**	**0.25**	**124**	⇑*eP*	**Pb**	**09 48 53.2**	**+0.2**
CPBX				*eS*	**Sb**	**09 48 57.9**	**+0.8**
CPBX				⇑*e*		09 49 08.5	
	comp=N,45μm,0.3s						
COK	**Cook Ranch**	**0.33**	**332**	⇓*eP*	**Pb**	**09 48 54.7**	**+0.3**
SWSC	**Sam W. Stewart**	**0.44**	**331**	P	**Pg**	**09 48 56.2**	**+0.5**
	baz=0.5						
SWSC				S	**Sg**	**09 49 02.5**	**+0.8**
	baz=0.5						
RMX	**La Rumorosa**	**0.45**	**276**	⇑*eP*	**Pb**	**09 48 56.6**	**0.0**
RMX				*eS*	**Sb**	**09 49 02.9**	**-0.3**
RMX	**La Rumorosa**	**0.45**	**276**	*eP*	**Pb**	**09 48 56.6**	**0.0**
COA	**Coachella**	**0.47**	**49**	⇓*eP*	**Pb**	**09 48 57.2**	**+0.5**
CRR	**Carrizo Plain**	**0.49**	**313**	⇓*eP*	**Pg**	**09 48 57.0**	**+0.4**
RDX	**Rancho Dawling**	**0.71**	**208**	⇓*eP*	**Pb**	**09 49 01.1**	**+0.1**
RDX				*eS*	**Sb**	**09 49 10.9**	**+0.2**
RDX				⇓*e*		09 49 13.2	
	comp=N,3μm,0.4s						
GLA	**Glamis**	**0.78**	**51**	P	**Pg**	**09 49 01.6**	**-0.4**
	baz=0.8						
GLA				S	**Sg**	**09 49 11.9**	**-0.5**
	baz=0.8						
GLA	**Glamis**	**0.78**	**51**	*ePg*	**Pg**	**09 49 01.8**	**-0.2**
GLA				*eSg*	**Sg**	**09 49 12.4**	**0.0**
MONP	**Monument Peak,**	**0.81**	**294**	P	**Pg**	**09 49 02.8**	**+0.1**
	baz=0.8						
MONP				S	**Sb**	**09 49 13.5**	**0.0**
	baz=0.8						
BAR	**Barrett**	**0.96**	**278**	*ePg*	**Pg**	**09 49 05.5**	**0.0**
BAR				*eSg*	**Sg**	**09 49 18.1**	**0.0**
CBX	**Cerro Bola**	**0.98**	**256**	⇑*iP*	**Pg**	**09 49 05.9**	**+0.1**
CBX				⇑*eP*	**Pg**	**09 49 05.9**	**+0.1**
CBX				*eS*	**Sg**	**09 49 18.8**	**+0.2**
BC3	**Big Chuckawall**	**1.10**	**4**	P	**Pb**	**09 49 06.5**	**-1.0**
	baz=1.1						
ECBX	**El Chinero**	**1.16**	**159**	*eP*	**Pb**	**09 49 08.5**	**0.0**
ECBX				*eS*	**Sg**	**09 49 24.4**	**-0.1**
ECBX				⇑*e*		09 49 27.1	
	comp=E,1μm,0.6s						
ZAX	**El Zacaton**	**1.21**	**211**	*eP*	**Pg**	**09 49 09.9**	**-0.4**
ZAX				*eS*	**Sg**	**09 49 26.1**	**0.0**
ECNX	**Esteban Cantu**	**1.27**	**225**	*eP*	**Pn**	**09 49 10.2**	**+0.2**
ECNX				*eS*	**Sg**	**09 49 27.7**	**-0.2**
PBX	**Punta Banda**	**1.29**	**231**	*eP*	**Pb**	**09 49 11.2**	**+0.4**
PBX				*eS*	**Sg**	**09 49 28.2**	**-0.4**
PBX	**Punta Banda**	**1.29**	**231**	*eP*	**Pb**	**09 49 11.2**	**+0.4**
PFO	**Pinyon Flats O**	**1.30**	**324**	P	**Pn**	**09 49 09.7**	**-0.9**
	baz=1.3						
PFO				S	**Sb**	**09 49 25.8**	**-1.8**
	baz=1.3						
PFO	**Pinyon Flats O**	**1.30**	**324**	*ePg*	**Pn**	**09 49 09.6**	**-0.9**
PFO				*eSg*	**Sb**	**09 49 25.7**	**-1.8**
109C	**Camp Elliot, M**	**1.36**	**285**	P	**Pn**	**09 49 11.2**	**+0.1**
	baz=1.4						
109C				S	**Sn**	**09 49 28.9**	**0.0**
	baz=1.4						
Y12C	**Blythe**	**1.47**	**35**	P	**Pn**	**09 49 12.0**	**-0.7**
	baz=1.5						
BELC	**Belle Mtn. Jos**	**1.49**	**345**	P	**Pn**	**09 49 12.4**	**-0.8**
	baz=1.5						
SPX	**San Pedro Mart**	**1.51**	**177**	*eP*	**Pb**	**09 49 15.4**	**+0.7**
SPX				*eS*	**Sg**	**09 49 35.5**	**-0.1**
SPX				*e*		09 49 37.8	
	comp=E,449nm,0.6s						
SPX	**San Pedro Mart**	**1.51**	**177**	*eP*	**Pb**	**09 49 15.4**	**+0.7**
113A	**Mohawk Valley,**	**1.51**	**82**	P	**Pn**	**09 49 12.5**	**-0.8**
	baz=1.5						
113A				S	**Sn**	**09 49 30.7**	**-2.0**
	baz=1.5						
IRM	**Iron Mountain**	**1.63**	**12**	P	**Pn**	**09 49 14.5**	**-0.5**
	baz=1.7						
MURC	**Murrieta**	**1.74**	**307**	P	**Pn**	**09 49 16.1**	**-0.3**
	baz=1.8						
BBRC	**Big Bear Solar**	**2.05**	**326**	P	**Pn**	**09 49 21.2**	**+0.2**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.39**	**104**	P	**Pn**	**09 49 24.4**	**-1.0**
	baz=2.4						
214A	**Organ Pipe Nat**	**2.39**	**104**	*ePn*	**Pn**	**09 49 24.5**	**-1.0**
Y14A	**Wickenburg**	**2.54**	**56**	P	**Pn**	**09 49 28.2**	**+0.8**
	baz=2.6						
LDFC	**Landfair**	**2.54**	**8**	*ePg*	**Pg**	**09 49 37.5**	**+1.9**
LDFC				*eSg*	Sg	09 50 16.9	+8.4
MWC	**Mount Wilson**	**2.68**	**309**	*ePg*	**Pg**	**09 49 38.0**	**-0.3**
MWC				*eSn*	**Sb**	**09 50 09.6**	**+2.3**
PASC	**Pasadena Art C**	**2.73**	**307**	*ePn*	**Pn**	**09 49 30.9**	**+0.7**
PASC				*eSg*	**Sg**	**09 50 12.4**	**-2.3**
GSC	**Goldstone, Bar**	**2.93**	**339**	*ePn*	**Pn**	**09 49 32.6**	**-0.3**
ISA	**Isabella, Lake**	**3.94**	**323**	*ePn*	**Pn**	**09 49 47.1**	**+0.4**
SHPR	**Sheep Range**	**3.95**	**4**	*ePn*	**Pn**	**09 49 48.3**	**+1.3**
TUC	**Tucson**	**4.03**	**92**	*ePn*	**Pn**	**09 49 48.0**	**-0.1**
WUAZ	**Wupatki**	**4.55**	**48**	*ePn*	**Pn**	**09 49 56.5**	**+1.3**
CCUT	**Cedar City**	**5.29**	**19**	*ePn*	**Pn**	**09 50 07.5**	**+2.0**
	comp=E,4.1nm,0.6s						
ARUT	**Antelope Range**	**5.50**	**18**	*ePg*	**Pg**	**09 50 31.4**	**-0.7**
	comp=E,82nm,0.5s						
R11A	**Troy Canyon, C**	**5.78**	**360**	*ePg*	**Pg**	**09 50 39.5**	**+2.0**
	comp=E,2.5nm,0.7s						
121A	**Cookes Peak, D**	**6.55**	**88**	*ePn*	**Pn**	**09 50 23.9**	**+1.1**
	comp=E,4.5nm,0.5s						

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*IDC **20** 10:04:31.1±0.4, 34°.41S×71°.74W, h0km, mb4.7/20, mb1 4.8/22, mb1mx4.7/38, mbtmp4.7/22, ML4.4/2, MS3.8/11, Ms1 3.8/11, ms1mx3.7/20, Error ellipse: s-maj=18.9km s-min=13.7km az=67.0*
*GUC **20** 10:04:32.7±0.6, 34°.48S×71°.89W, h29km±8km, ML5.0*
*ISCJB **20** 10:04:33.8±1.0, 34°.45S±0°.03×71°.71W±0°.06, h25km±7km, mb4.9/97, MS4.0/9, Error ellipse: s-maj=8.5km s-min=4.4km az=178.8*
*MOS **20** 10:04:35.4±1.1, 34°.43S×71°.78W, h37km, mb5.1/25, Error ellipse: s-maj=21.7km s-min=7.6km az=104.2*
*BJI **20** 10:04:36.8, 34°.40S×71°.70W, h35km, mB5.0/5, Ms5.2/5, Ms7 4.9/6*
*NEIC **20** 10:04:37.2±0.7, 34°.41S×71°.72W, h40km±6km, mb5.0/75, Error ellipse: s-maj=8.0km s-min=4.5km az=75.0*
NEIC Felt [V] at Paredones and Talca; [IV] at Curico, Pichilemu and San Fernando; [II] at Navidad, San Antonio and Santiago. Also felt at Rengo and San Javier.
ISC 20 10:04:35.4±0.7, 34°.48S±0°.03×71°.78W±0°.06, h29km±4km, n674, σ0°.99/681, mb5.0/97, MS4.0/9, 209C-234D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.61**	**30**	*eP*1	Pn	10 04 44.6	-3.5
NICH	**Los Niches**	**0.69**	**139**	⇑*iP*	**Pn**	**10 04 46.3**	**-2.9**
NICH				*i* S	**Sb**	**10 04 57.4**	**-0.8**
NICH				AML	AML	10 04 59.8	
	comp=E,373μm,0.6s						
CACH	**El Canelo**	**1.04**	**70**	⇓*iP*	**Pn**	**10 04 53.0**	**-1.2**
CHCH	**Chadas Angostu**	**1.08**	**60**	*eP*	**Pn**	**10 04 53.0**	**-1.7**
ANTU	**Antumapu**	**1.32**	**47**	⇑*iP*	**Pn**	**10 04 56.5**	**-1.3**
ANTU				*eS*	**Sn**	**10 05 15.2**	**+0.7**
ANTU				AML1		10 05 26.1	
	comp=E,21μm,0.3s						
LNCH	**Linares**	**1.37**	**174**	⇑*iP*	**Pn**	**10 04 56.7**	**-1.9**
LNCH				*i* S	**Sn**	**10 05 14.9**	**-0.8**
LNCH				AML	AML	10 05 19.9	
	comp=N,32μm,0.7s						
IHA	**Instituto Hidr**	**1.46**	**5**	*eP*	**Pn**	**10 04 58.0**	**-1.7**
LACH	**Col Las Americ**	**1.46**	**46**	⇑*iP*	**Pn**	**10 04 58.9**	**-0.9**
LACH				*eS*	**Sn**	**10 05 18.7**	**+0.7**
CLCH	**Cerro Calan**	**1.50**	**44**	*eP*1	**Pn**	**10 04 59.4**	**-1.0**
CLCH				AML	AML	10 05 26.7	
	comp=N,28μm,0.6s						
PEL	**Peldehue**	**1.62**	**35**	⇓*iP*	**Pn**	**10 05 01.3**	**-0.7**
PEL				*eS*1	**Sn**	**10 05 23.3**	**+1.4**
PEL				AML	AML	10 05 28.5	
	comp=E,24μm,0.4s						
CMCH	**Combarbala**	**3.36**	**11**	*eP*	**Pn**	**10 05 25.0**	**-1.0**
CFAA	**Coronel Fontan**	**4.13**	**47**	Pn	**Pn**	**10 05 39.3**	**+2.7**
	comp=E,1.5nm,0.3s,baz=223,slow=11,SNR=20						
CFAA				Lg	Lg	10 06 31.9	
	comp=E,3.1nm,0.3s,baz=331,slow=18,SNR=6.4						
CFAA				LR	LR	10 07 32.0	
	comp=E,141nm,18.8s,baz=222,slow=45						
LCO	**Las Campanas**	**5.53**	**10**	*ePn*	**Pn**	**10 05 54.5**	**-1.5**
LCO				*eSn*	**Sn**	**10 06 57.6**	**-1.1**
PLCA	**Paso Flores**	**6.32**	**171**	*eP*	**Pn**	**10 06 07.6**	**+1.0**
PLCA	**Paso Flores**	**6.32**	**171**	Pn	**Pn**	**10 06 07.4**	**+0.8**
	comp=E,3.2nm,0.3s,baz=346,slow=10.0,SNR=36						
PLCA				Lg	Lg	10 07 45.6	
	comp=E,3.3nm,0.3s,baz=252,slow=14,SNR=4.2						
PLCA				LR	LR	10 08 51.2	
	comp=E,732nm,18.4s,baz=8.0,slow=41						
TRQA	**Tornquist**	**8.68**	**117**	*ePn*	**Pn**	**10 06 41.2**	**+2.2**
LVC	**Limon Verde**	**12.09**	**13**	*ePn*	**Pn**	**10 07 24.5**	**-1.5**
LVC				*eSn*	**Sn**	**10 09 34.9**	**-5.0**
LPAZ	**La Paz**	**18.41**	**11**	P	**P**	**10 08 48.9**	**0.0**
LPAZ				pmax	pmax		
	comp=Z,17nm,1.3s						
LPAZ	**La Paz**	**18.41**	**11**	P	**P**	**10 08 48.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=186,slow=8.2,SNR=20						
LPAZ	**La Paz**	**18.41**	**11**	P	**P**	**10 08 48.9**	**0.0**
	comp=Z,17nm,1.3s						
EFI	**East Falkland**	**19.83**	**154**	⇑*eP*	**Pn**	**10 09 05.7**	**+0.4**
EFI				pmax	pmax		
	comp=Z,132nm,1.2s						
USHA	**Ushuaia**	**20.48**	**174**	P	Pn	10 09 12.4	-0.5
	comp=Z,16nm,0.8s,baz=359,slow=9.3,SNR=7.4						
SIV	**San Ignacio**	**20.78**	**30**	P	**P**	**10 09 12.9**	**-1.2**
	comp=Z,7.1nm,0.7s,baz=225,slow=12,SNR=20						
NNA	**Nana**	**22.86**	**347**	*eP*	**P**	**10 09 36.6**	**+0.1**
NNA				pmax	pmax		
	comp=Z,64nm,1.0s						
NNA	**Nana**	**22.86**	**347**	P	**P**	**10 09 36.9**	**+0.4**
	comp=Z,36nm,0.8s,baz=184,slow=12,SNR=21						
NNA	**Nana**	**22.86**	**347**	*eP*	**P**	**10 09 36.6**	**+0.1**
	comp=Z,64nm,1.0s						
SAML	**Samuel**	**26.61**	**19**	*eP*	**P**	**10 10 10.3**	**-1.0**
	comp=Z,4.0nm,0.7s						
BDFB	**Brasilia**	**28.43**	**55**	P	**P**	**10 10 28.1**	**+0.3**
	comp=Z,14nm,0.9s,baz=225,slow=7.8,SNR=10.0						
BDFB				LR	LR	10 22 57.6	
	comp=Z,471nm,18.3s,baz=224,slow=39						
PMSA	**Palmer Station**	**30.69**	**174**	LR	LR	10 22 47.1	
	comp=Z,387nm,19.2s,baz=316,slow=36						
RPN	**Rapa Nui**	**32.94**	**272**	LR	LR	10 20 19.3	
	comp=Z,475nm,20.8s,baz=112,slow=29						
OTAV	**Otavalo**	**35.10**	**348**	*eP*	**P**	**10 11 27.8**	**+1.1**
	comp=Z,26nm,1.4s						
PTGA	**Pitinga**	**35.35**	**21**	*eP*	**P**	**10 11 27.4**	**-0.9**
	comp=Z,14nm,0.8s						
SDV	**Santo Domingo**	**43.14**	**2**	*eP*	**P**	**10 12 32.6**	**-1.0**
JTS	**JuntasAbangare**	**46.25**	**342**	*i* P	**P**	**10 12 55.3**	**-2.8**
VNA3	**Neumayer Olymp**	**48.83**	**158**	P	**P**	**10 13 18.3**	**+0.6**
VNA2	**Neumayer--Watz**	**49.49**	**157**	P	**P**	**10 13 21.4**	**-1.2**
SNAA	**Sanae**	**51.06**	**158**	P	**P**	**10 13 34.8**	**+0.3**
SNAA	**Sanae**	**51.06**	**158**	⇓*eP*	**P**	**10 13 34.9**	**+0.3**
SNAA				pmax	pmax		
	comp=Z,32nm,1.7s						
RKT	**Rikitea**	**55.74**	**264**	*eT*	T	11 13 48.8	
	comp=Z,2.7nm,0.3s						
QSPA	**South Pole Qui**	**55.76**	**180**	*eP*	**P**	**10 14 10.2**	**+1.0**
	comp=Z,21nm,1.3s						
NVL	**N'lazarevskaya**	**55.80**	**157**	*eP*	**P**	**10 14 08.9**	**-0.3**
NVL				*eS*	S	10 22 17.3	+23
NVL				pmax	pmax		
	comp=Z,26nm,1.3s						
VNDA	**Vanda**	**63.67**	**191**	P	**P**	**10 15 04.9**	**+1.5**
	comp=Z,2.9nm,1.0s,baz=168,slow=3.4,SNR=5.7						
SYO	**Syowa Base**	**65.34**	**158**	⇑*eP*	**P**	**10 15 12.6**	**-1.7**
SYO	**Syowa Base**	**65.34**	**158**	⇓*eX*	pP	10 15 20.3	-3.2
035Z	**Hargill**	**65.53**	**334**	⇓P	**P**	**10 15 17.4**	**+1.3**
	baz=66						
035A	**Encino**	**65.98**	**334**	⇑P	**P**	**10 15 20.2**	**+1.3**
	baz=66						
034A	**Hebbronville**	**66.31**	**334**	⇓P	**P**	**10 15 22.1**	**+1.1**
	baz=67						
TIGA	**Tifton**	**66.51**	**349**	⇓P	**P**	**10 15 23.5**	**+1.3**
	baz=67						
TIGA	**Tifton**	**66.51**	**349**	*eP*	**P**	**10 15 21.6**	**-0.6**
	comp=Z,14nm,0.8s						
738A	**Farr-Stevens R**	**66.90**	**337**	⇑P	**P**	**10 15 26.4**	**+1.6**
	baz=67						
933A	**Laredo**	**67.02**	**334**	⇑P	**P**	**10 15 26.2**	**+0.6**
	baz=67,SNR=8.6						
835A	**Beeville**	**67.12**	**335**	⇓P	**P**	**10 15 27.4**	**+1.2**
	baz=67						
834A	**Tilden**	**67.22**	**334**	⇓P	**P**	**10 15 28.2**	**+1.3**
	baz=68,SNR=11						
TBI	**Tubuai**	**67.41**	**257**	*eLR*	LR	10 35 45.9	
	comp=Z,324nm,29.5s						
TBI	**Tubuai**	**67.41**	**257**	*eT*	T	11 28 20.6	
	comp=Z,7.7nm,0.4s						
735A	**Kenedy**	**67.63**	**335**	⇓P	**P**	**10 15 30.8**	**+1.4**
	baz=68,SNR=7.2						
833A	**Chaparral WMA,**	**67.71**	**334**	⇓P	**P**	**10 15 30.9**	**+1.0**
	baz=68,SNR=11						
734A	**La Parita Cree**	**67.88**	**335**	⇓P	**P**	**10 15 31.8**	**+0.8**
	baz=68						
832A	**Faith Ranch, C**	**67.89**	**333**	⇓P	**P**	**10 15 32.3**	**+1.3**
	baz=68,SNR=10.0						
636A	**Smothers Creek**	**67.95**	**336**	⇑P	**P**	**10 15 32.8**	**+1.4**
	baz=68,SNR=8.4						
HKT	**Hockley**	**67.99**	**338**	*eP*	**P**	**10 15 33.9**	**+2.3**
HKT				pmax	pmax		
	comp=Z,12nm,1.2s						
HKT	**Hockley**	**67.99**	**338**	*eP*	**P**	**10 15 33.9**	**+2.3**
	comp=Z,12nm,1.2s						
733A	**Divot King Ran**	**68.03**	**334**	⇑P	**P**	**10 15 32.9**	**+1.0**
	baz=68						
635A	**Leesville**	**68.11**	**336**	⇓P	**P**	**10 15 32.9**	**+0.5**
	baz=68						
538A	**Harpers Horsep**	**68.14**	**338**	⇑P	**P**	**10 15 34.0**	**+1.4**
	baz=68						
537A	**Green Hill Far**	**68.26**	**337**	⇑P	**P**	**10 15 34.4**	**+1.0**
	baz=68						
732A	**Laxson Ranch,**	**68.29**	**333**	⇑P	**P**	**10 15 34.3**	**+0.7**
	baz=68,SNR=16						
634A	**China Grove, S**	**68.30**	**335**	⇑P	**P**	**10 15 34.1**	**+0.5**
	baz=69						
GOGA	**Godfrey**	**68.42**	**350**	*eP*	**P**	**10 15 33.7**	**-0.6**
GOGA				pmax	pmax		
	comp=Z,39nm,1.6s						
GOGA	**Godfrey**	**68.42**	**350**	*eP*	**P**	**10 15 33.6**	**-0.6**
	comp=Z,39nm,1.6s						
536A	**Bastrop**	**68.50**	**337**	⇓P	**P**	**10 15 35.5**	**+0.7**
	baz=69						
438A	**Sam Houston St**	**68.62**	**338**	⇑P	**P**	**10 15 35.9**	**+0.3**
	baz=69						
535A	**Dale**	**68.63**	**336**	⇑P	**P**	**10 15 36.3**	**+0.6**
	baz=69,SNR=6.4						
VBMS	**Vicksburg**	**68.65**	**343**	*eP*	**P**	**10 15 36.6**	**+0.9**
	comp=Z,28nm,0.8s						
633A	**Saathoff Ranch**	**68.66**	**334**	⇑P	**P**	**10 15 36.6**	**+0.7**
	baz=69,SNR=7.0						
340A	**Bronson**	**68.78**	**340**	⇓P	**P**	**10 15 37.3**	**+0.7**
	baz=69						
339A	**Huntington**	**68.89**	**339**	⇓P	**P**	**10 15 38.1**	**+0.9**
	baz=69						
632A	**Uvalde**	**68.92**	**334**	⇓P	**P**	**10 15 38.5**	**+1.0**
	baz=69,SNR=5.7						
534A	**Blanco**	**68.93**	**335**	⇓P	**P**	**10 15 38.3**	**+0.7**
	baz=69						
MEH	**Mehetia**	**69.00**	**262**	*eT*	T	11 30 21.8	
	comp=Z,47nm,0.2s						
436A	**Wall Ranch, Ga**	**69.06**	**337**	⇓P	**P**	**10 15 39.3**	**+1.0**
	baz=69						
631A	**Perdido Creek**	**69.13**	**333**	⇓P	**P**	**10 15 39.4**	**+0.6**
	baz=69,SNR=5.6						
338A	**Crockett**	**69.14**	**339**	⇑P	**P**	**10 15 40.0**	**+1.3**
	baz=69						
533A	**Kerrville**	**69.17**	**335**	⇓P	**P**	**10 15 40.1**	**+1.0**
	baz=69,SNR=8.9						
435B	**Jarrell**	**69.33**	**336**	⇓P	**P**	**10 15 40.7**	**+0.7**
	baz=70						
239A	**Gary**	**69.51**	**340**	⇓P	**P**	**10 15 41.9**	**+0.9**
	baz=70						
532A	**Rocksprings**	**69.53**	**334**	⇓P	**P**	**10 15 42.1**	**+0.8**
	baz=70,SNR=17						
434A	**Burnet**	**69.58**	**336**	⇑P	**P**	**10 15 42.0**	**+0.4**
	baz=70,SNR=9.2						
336A	**Riesel**	**69.64**	**337**	⇑P	**P**	**10 15 42.6**	**+0.7**
	baz=70,SNR=12						
238A	**Jacksonville**	**69.69**	**339**	⇓P	**P**	**10 15 43.3**	**+1.1**
	baz=70						
335A	**Moody**	**69.73**	**337**	⇓P	**P**	**10 15 43.0**	**+0.5**
	baz=70,SNR=7.1						
531A	**Rocksprings**	**69.80**	**334**	⇑P	**P**	**10 15 43.9**	**+1.0**
	baz=70,SNR=10						
433A	**Art**	**69.81**	**335**	⇑P	**P**	**10 15 43.3**	**+0.3**
	baz=70,SNR=11						
JCT	**Junction City**	**69.81**	**334**	*eP*	**P**	**10 15 43.5**	**+0.5**
JCT				pmax	pmax		
	comp=Z,25nm,0.9s						
JCT	**Junction City**	**69.81**	**334**	⇑P	**P**	**10 15 43.7**	**+0.6**
	baz=70,SNR=9.0						
JCT	**Junction City**	**69.81**	**334**	*eP*	**P**	**10 15 43.5**	**+0.5**
	comp=Z,25nm,0.9s						
KMSC	**Kings Mountain**	**69.84**	**352**	⇑P	**P**	**10 15 43.6**	**+0.5**
	baz=70,SNR=5.1						
KMSC	**Kings Mountain**	**69.84**	**352**	*eP*	**P**	**10 15 42.6**	**-0.4**
	comp=Z,9.0nm,0.8s						
237A	**Washetta, Mont**	**69.89**	**338**	⇓P	**P**	**10 15 43.8**	**+0.4**
	baz=70						
TVO	**Taravao**	**70.01**	**262**	*eT*	T	11 31 37.9	
	comp=Z,3.2nm,0.3s						
334A	**Lometa**	**70.05**	**336**	⇓P	**P**	**10 15 45.4**	**+1.0**
	baz=70						
530A	**J-C Ranch, Com**	**70.08**	**333**	⇑P	**P**	**10 15 45.6**	**+0.9**
	baz=70,SNR=13						
432A	**Menard**	**70.17**	**335**	⇑P	**P**	**10 15 45.9**	**+0.7**
	baz=70,SNR=5.5						
TIAR	**Tiarei**	**70.20**	**262**	*eT*	T	11 31 52.3	
	comp=Z,6.1nm,0.2s						
TXAR	**Lajitas Array**	**70.26**	**331**	P	**P**	**10 15 46.3**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=154,slow=8.6,SNR=27						
431A	**Sonora**	**70.28**	**334**	⇓P	**P**	**10 15 46.8**	**+0.8**
	baz=70,SNR=9.2						
138A	**Matatall Enter**	**70.29**	**339**	⇓P	**P**	**10 15 47.0**	**+1.2**
	baz=71						
333A	**Richland Sprin**	**

WVT	Waverly	71.83 346	eP	P	10 15 54.4 -0.7
	comp=Z,54nm,0.8s				
229A	Bryant Ranch,	71.88 333	⇓P	P	10 15 56.0 +0.3
	baz=72				
131A	Roby	72.01 335	⇑P	P	10 15 56.7 +0.4
	baz=72				
Z33A	Whitaker Ranch	72.02 336	⇑P	P	10 15 56.5 +0.1
	baz=72,SNR=7.6				
JSRW	J. Sargeant Re	72.03 355	eP	P	10 15 56.5 +0.2
130A	Snyder	72.14 334	⇓P	P	10 15 57.5 +0.4
	baz=72				
Z32A	Haskell	72.27 336	⇑P	P	10 15 58.0 +0.1
	baz=72				
Y34A	Reagan Ranch,	72.31 338	⇑P	P	10 15 58.5 +0.5
	baz=73,SNR=5.6				
228A	UT Block 9, Go	72.31 333	⇓P	P	10 15 58.8 +0.6
	baz=73,SNR=7.6				
129A	Stewart Farms,	72.50 334	⇑P	P	10 15 59.6 +0.3
	baz=73				
Z31A	Sharp Cattle R	72.51 335	⇑P	P	10 15 59.5 +0.2
	baz=73,SNR=12				
Y33A	Hilltop Ranch,	72.63 337	⇓P	P	10 16 00.5 +0.5
	baz=73,SNR=7.2				
MAW	Mawson	72.66 163	LR	LR	10 47 07.1
	comp=Z,153nm,20.9s,baz=237,slow=35				
128A	Castleberry Fa	72.72 333	⇑P	P	10 16 00.8 +0.2
	baz=73,SNR=5.7				
Z30A	Sanderson Ranc	72.82 335	⇑P	P	10 16 01.5 +0.3
	baz=73,SNR=7.4				
Y32A	R-V Farms, Ver	72.90 336	⇑P	P	10 16 01.9 +0.3
	baz=73,SNR=6.6				
X34A	Smith Ranch, M	72.92 338	⇓P	P	10 16 02.1 +0.4
	baz=73				
PBMO	Poplar Bluff	73.00 344	eP	P	10 16 01.4 -0.6
	comp=Z,18nm,1.0s				
Z29A	Hungry Hill Ra	73.01 334	⇓P	P	10 16 02.6 +0.2
	baz=73,SNR=9.9				
MNTX	Cornudas Mount	73.03 330	eP	P	10 16 01.4 -1.1
	comp=Z,8.5nm,0.8s				
X33A	Lawton	73.08 337	⇑P	P	10 16 03.0 +0.4
	baz=73				
Y31A	Rekieta Farm,	73.14 336	⇓P	P	10 16 03.6 +0.6
	baz=73,SNR=9.4				
X32A	Elmer	73.23 336	⇓P	P	10 16 04.0 +0.5
	baz=74				
Y30A	Stafford Cattl	73.28 335	⇑P	P	10 16 04.5 +0.6
	baz=74				
Z28A	Tucker Farm, M	73.28 334	⇓P	P	10 16 04.4 +0.4
	baz=74				
WMOK	Wichita Mounta	73.35 337	eP	P	10 16 04.0 -0.3
WMOK			pmax	pmax	
	comp=Z,14nm,1.0s				
WMOK	Wichita Mounta	73.35 337	eP	P	10 16 04.0 -0.3
	comp=Z,14nm,1.0s				
W34A	Bridge Creek,	73.49 338	⇑P	P	10 16 05.7 +0.6
	baz=74				
W34A	Bridge Creek,	73.49 338	eP	P	10 16 05.1 0.0
	comp=Z,27nm,1.3s				
TUL1	Leonard	73.53 340	⇓P	P	10 16 05.4 +0.2
	baz=74,SNR=8.3				
TUL1	Leonard	73.53 340	eP	P	10 16 04.5 -0.8
	comp=Z,16nm,0.8s				
Y29A	Porterfield Fa	73.54 334	⇓P	P	10 16 06.0 +0.5
	baz=74,SNR=8.6				
W33A	Caddo, Fort Co	73.63 337	⇓P	P	10 16 07.0 +1.1
	baz=74,SNR=7.1				
SIUC	Southern Illin	73.64 346	eP	P	10 16 05.3 -0.5
	comp=Z,14nm,0.8s				
X31A	McDonald Ranch	73.65 336	⇓P	P	10 16 06.6 +0.5
	baz=74,SNR=5.1				
SDMD	Soldier's Deli	73.67 356	eP	P	10 16 06.5 +0.5
	comp=Z,15nm,1.2s				
V35A	Meyer Ranch, C	73.70 339	⇑P	P	10 16 07.6 +1.4
	baz=74,SNR=7.2				
X30A	Coker Ranch, T	73.78 335	⇓P	P	10 16 07.6 +0.7
	baz=74				
Y28A	McKinney Farm,	73.79 334	⇓P	P	10 16 07.5 +0.6
	baz=74				
W32A	Sentinel	73.86 337	⇓P	P	10 16 08.0 +0.8
	baz=74,SNR=8.6				
V34A	Guthrie	73.97 338	⇓P	P	10 16 08.0 +0.2
	baz=74,SNR=5.1				
V34A	Guthrie	73.97 338	eP	P	10 16 07.6 -0.2
	comp=Z,26nm,1.0s				
MSTX	Muleshoe	74.03 334	⇑P	P	10 16 08.6 +0.2
	baz=74,SNR=9.5				
MSTX	Muleshoe	74.03 334	eP	P	10 16 08.2 -0.2
	comp=Z,19nm,0.8s				
X29A	Tulia	74.07 335	⇓P	P	10 16 08.8 +0.2
	baz=74,SNR=7.5				
W31A	Holland Ranch,	74.14 336	⇓P	P	10 16 09.3 +0.4
	baz=74				
V33A	Lossen Ranch,	74.19 338	⇑P	P	10 16 09.7 +0.6
	baz=74,SNR=6.2				
MVL	Millersville	74.23 356	eP	P	10 16 09.9 +0.7
X28A	Dimmitt	74.32 334	⇓P	P	10 16 11.0 +0.9
	baz=75				
V32A	Arapaho	74.34 337	⇓P	P	10 16 11.0 +1.0
	baz=75				
W30A	Crocket Farms	74.35 336	⇓P	P	10 16 10.9 +0.7
	baz=75				
319A	Douglas	74.42 327	⇓P	P	10 16 12.2 +1.5
	baz=75,SNR=9.8				
AMTX	Amarillo	74.46 335	⇓P	P	10 16 11.4 +0.6
	baz=75				
AMTX	Amarillo	74.46 335	eP	P	10 16 11.0 +0.2
	comp=Z,39nm,1.2s				
U34A	Anderson Ranch	74.53 339	⇓P	P	10 16 11.6 +0.5
	baz=75,SNR=5.6				
U34A	Anderson Ranch	74.53 339	eP	P	10 16 11.1 0.0
BLO	Bloomington	74.55 348	eP	P	10 16 10.3 -0.8
BLO			pmax	pmax	
	comp=Z,13nm,0.8s				
BLO	Bloomington	74.55 348	eP	P	10 16 10.3 -0.8
	comp=Z,13nm,0.8s				
V31A	Spring Creek L	74.64 337	⇓P	P	10 16 12.8 +1.0
	baz=75				
W29A	Amarillo	74.66 335	⇑P	P	10 16 12.5 +0.4
	baz=75,SNR=5.9				
U33A	Lingo Farm, Me	74.70 338	⇓P	P	10 16 12.5 +0.4
	baz=75				
LIC	Lamto	74.72 71	eP	P	10 16 12.6 -0.2
	comp=Z,21nm,1.1s				
121A	Cookes Peak, D	74.76 329	⇓P	P	10 16 14.1 +1.4
	baz=75,SNR=15				
121A	Cookes Peak, D	74.76 329	eP	P	10 16 13.8 +1.1
	comp=Z,22nm,0.9s				
V30A	Spur Ranch, Mi	74.92 336	⇓P	P	10 16 14.8 +1.3
	baz=75				
U32A	Winter Ranch,	74.93 338	⇑P	P	10 16 14.5 +1.1
	baz=75				
SSPA	Standing Stone	74.96 355	eP	P	10 16 13.5 0.0
TIC	Toumodi	74.99 71	eP	P	10 16 11.5 -2.8
	comp=Z,9.6nm,0.2s				
Y24A	Capitan	75.01 332	⇑P	P	10 16 14.4 +0.2
	baz=75,SNR=11				
KIC	Kosan Boka	75.03 71	eP	P	10 16 14.5 0.0
	comp=Z,12nm,0.7s				
Z22A	Elephant Butte	75.04 330	⇓P	P	10 16 15.0 +0.7
	baz=75,SNR=5.3				
ACSO	Alum Creek Sta	75.06 351	eP	P	10 16 13.7 -0.4
	comp=Z,23nm,0.7s				
DBIC	Dimbokro	75.13 71	P	P	10 16 14.6 -0.5
	comp=Z,3.3nm,0.7s,baz=203,slow=7.5,SNR=4.6				
DBIC			LR	LR	10 46 37.0
	comp=Z,73nm,20.1s,baz=206,slow=34				
S36A	Lake Cedric, C	75.17 341	⇑P	P	10 16 14.9 +0.1
	baz=76				
U31A	Nine Bar Ranch	75.19 337	⇑P	P	10 16 15.3 +0.3
	baz=76				
X25A	Clemmons Ranch	75.24 332	⇑P	P	10 16 15.4 0.0
	baz=76,SNR=7.9				
ODNJ	Ogdensburg	75.24 358	eP	P	10 16 15.6 +0.6
	comp=Z,10nm,0.9s				
T33A	Patterson Ranc	75.34 338	⇑P	P	10 16 16.6 +0.8
	baz=76,SNR=8.8				
W26A	Owens Ranch, T	75.40 333	⇓P	P	10 16 17.3 +1.0
	baz=76				
V28A	Channing	75.43 335	⇑P	P	10 16 17.8 +1.4
	baz=76				
S34A	Willow Spring	75.58 339	⇓P	P	10 16 17.7 +0.6
	baz=76				
U30A	WK&E Inc. Balk	75.60 336	⇑P	P	10 16 18.4 +1.0
	baz=76				
T32A	Huddler Ranch,	75.64 338	⇓P	P	10 16 18.4 +0.9
	baz=76				
V27A	Dan Oppiter Fa	75.66 334	⇑P	P	10 16 18.9 +1.1
	baz=76				
S33A	Kaszmaul Farm,	75.74 339	⇓P	P	10 16 19.3 +1.2
	baz=76				
W25A	X Bar L Ranch,	75.77 333	⇓P	P	10 16 19.3 +0.9
	baz=76,SNR=12				
T31A	Randall Ranch,	75.80 337	⇓P	P	10 16 20.0 +1.5
	baz=76				
SFIN	Lafayette	75.82 348	⇓P	P	10 16 20.5 +2.1
	baz=76				
LPM	Los Pinos Moun	75.82 331	eP	P	10 16 19.5 +0.6
TUC	Tucson	75.89 327	eP	P	10 16 19.4 +0.3
TUC			pmax	pmax	
	comp=Z,11nm,1.2s				
TUC	Tucson	75.89 327	eP	P	10 16 19.4 +0.3
	comp=Z,11nm,1.2s				
U28A	Mallet	76.00 335	⇓P	P	10 16 20.2 +0.5
	baz=76				
T30A	Plains	76.04 337	⇑P	P	10 16 20.3 +0.5
	baz=76				
V26A	Tequesquite Ra	76.04 334	⇓P	P	10 16 20.4 +0.5
	baz=76,SNR=6.7				
LAZ	Ladron	76.11 330	eP	P	10 16 21.3 +0.8
	comp=Z,8.7nm,1.2s				
S32A	Newby Ranch, P	76.12 338	⇓P	P	10 16 21.0 +0.7
	baz=76				
W24A	Lazy 6 Ranch,	76.13 332	⇑P	P	10 16 20.8 +0.3
	baz=76,SNR=9.9				
S31A	Mullinville	76.22 338	⇓P	P	10 16 21.9 +1.1
	baz=76				
U27A	Thompson Grove	76.25 335	⇓P	P	10 16 21.6 +0.5
	baz=76,SNR=5.7				
ANMO	Albuquerque	76.31 331	P	P	10 16 21.9 +0.3
	comp=Z,9.4nm,1.0s,baz=169,slow=7.2,SNR=3.2				
V25A	Rancho No Teng	76.38 333	⇑P	P	10 16 22.6 +0.6
	baz=77,SNR=20				
T29A	Hugoton	76.38 336	⇑P	P	10 16 22.7 +0.9
	baz=77				
R33A	Olander Ranch,	76.40 339	⇑P	P	10 16 22.6 +0.8
	baz=77				
V24A	Rampart Ranch,	76.53 333	⇓P	P	10 16 23.5 +0.6
	baz=77,SNR=8.2				
214A	Organ Pipe Nat	76.53 325	⇓P	P	10 16 24.2 +1.5
	baz=77,SNR=10				
214A	Organ Pipe Nat	76.53 325	eP	P	10 16 23.8 +1.1
	comp=Z,21nm,1.3s				
S30A	Montezuma	76.55 337	⇑P	P	10 16 23.5 +0.7
	baz=77				
U26A	Atchley Ranch,	76.55 334	⇑P	P	10 16 23.5 +0.5
	baz=77				
T28A	Walsh	76.63 335	⇓P	P	10 16 24.0 +0.8
	baz=77,SNR=10.0				
R32A	Long Quarter,	76.72 339	⇑P	P	10 16 24.4 +0.8
	baz=77,SNR=6.1				
KSU1	Kansas State U	76.74 340	⇓P	P	10 16 24.2 +0.5
	baz=77				
KSU1	Kansas State U	76.74 340	eP	P	10 16 23.4 -0.3
S29A	Ulysses	76.75 336	⇓P	P	10 16 24.9 +1.0
	baz=77				
T27A	Campo	76.79 335	⇑P	P	10 16 24.7 +0.5
	baz=77,SNR=12				
U25A	Circle Dot Ran	76.80 333	⇓P	P	10 16 25.3 +0.9
	baz=77,SNR=14				
R31A	Burdett	76.85 338	⇓P	P	10 16 24.7 +0.4
	baz=77,SNR=7.2				
TRY	Troy	76.86 359	eP	P	10 16 25.3 +1.1
V23A	Ortiz Mt. (NFS	76.90 332	⇑P	P	10 16 25.8 +0.9
	baz=77				
S28A	Manter	76.98 336	⇑P	P	10 16 25.9 +0.7
	baz=77,SNR=8.7				
Q33A	Connelly Farm,	76.99 339	⇓P	P	10 16 25.9 +0.8
	baz=77				
R30A	Dighton	77.08 337	⇓P	P	10 16 26.7 +1.0
	baz=77				
T26A	Comanche Natio	77.19 334	⇓P	P	10 16 27.2 +0.6
	baz=78,SNR=9.2				
Q32A	Meitler Ranch,	77.20 339	⇓P	P	10 16 27.1 +0.8
	baz=78				
V22A	San Miguel Ran	77.33 331	⇑P	P	10 16 28.8 +1.5
	baz=78,SNR=16				
X18A	Snowflake	77.40 328	⇓P	P	10 16 29.2 +1.5
	baz=78				
S27A	Las Animas	77.41 335	⇓P	P	10 16 28.6 +0.9
	baz=78,SNR=6.0				
U23A	El Rito	77.41 332	⇑P	P	10 16 29.2 +1.4
	baz=78,SNR=13				
T25A	Trinidad	77.46 334	⇑P	P	10 16 29.5 +1.4
	baz=78,SNR=32				
Q31A	Ellis	77.46 338	⇓P	P	10 16 28.6 +0.8
	baz=78,SNR=6.8				
R29A	Marienthal	77.48 337	⇑P	P	10 16 29.1 +1.1
	baz=78				
ACCN	Adirondack Com	77.51 359	eP	P	10 16 28.5 +0.6
S26A	Kim	77.55 335	⇓P	P	10 16 29.5 +1.0
	baz=78,SNR=31				
R28A	Tribune	77.63 336	⇑P	P	10 16 29.8 +1.0
	baz=78,SNR=10				
113A	Mohawk Valley,	77.66 325	⇑P	P	10 16 30.6 +1.6
	baz=78				
Q30A	Quinter	77.69 338	⇑P	P	10 16 29.8 +0.7
	baz=78,SNR=6.6				
U22A	Llaves	77.71 332	⇑P	P	10 16 30.6 +1.1
	baz=78,SNR=8.5				
T24B	San Luis	77.75 333	⇓P	P	10 16 31.2 +1.4
	baz=78,SNR=17				
Z14A	Wintersburg	77.76 326	⇑P	P	10 16 31.0 +1.4
	baz=78				
P32A	Huiting Farm,	77.79 339	⇓P	P	10 16 30.5 +0.9
	baz=78				
W18A	Petrified Fore	77.81 329	⇓P	P	10 16 31.2 +1.3
	baz=78,SNR=7.1				
W18A	Petrified Fore	77.81 329	eP	P	10 16 31.0 +1.0
	comp=Z,16nm,1.1s				
Q29A	Oakley	77.86 337	⇑P	P	10 16 30.5 +0.5
	baz=78,SNR=5.6				
R27A	Eads	77.91 335	⇑P	P	10 16 30.8 +0.4
	baz=78,SNR=11				
S25A	Robets Cordova	77.93 334	⇓P	P	10 16 31.9 +1.3
	baz=78,SNR=16				
P31A	Stockton	77.93 339	⇑P	P	10 16 31.4 +1.0
	baz=78				
X16A	Lo Mia Camp, P	77.96 327	⇓P	P	10 16 32.0 +1.1
	baz=78,SNR=18				
T23A	Casias Ranch,	77.97 333	⇑P	P	10 16 31.7 +0.7
	baz=78,SNR=9.2				
MDV	Middlebury	78.12 359	eP	P	10 16 31.6 +0.4
R26A	Arlington	78.15 335	⇓P	P	10 16 32.3 +0.5
	baz=78,SNR=20				
S24A	Houchin Ranch,	78.20 333	⇑P	P	10 16 33.7 +1.4
	baz=78,SNR=25				
P30A	Selden	78.22 338	⇓P	P	10 16 33.3 +1.3
	baz=78				
Y14A	Wickenburg	78.27 326	⇓P	P	10 16 33.3 +0.9
	baz=78,SNR=12				
O32A	Brockman Farm,	78.29 340	⇑P	P	10 16 33.4 +1.0
	baz=79				
Q28A	Sharon Springs	78.29 337	⇓P	P	10 16 33.5 +1.0
	baz=79				
R25A	Fountain Ranch	78.31 334	⇑P	P	10 16 33.3 +0.6
	baz=79,SNR=8.7				
LBNH	Lisbon	78.35 360	eP	P	10 16 33.1 +0.6
LBNH			pmax	pmax	
	comp=Z,13nm,1.0s				
LBNH	Lisbon	78.35 360	eP	P	10 16 33.1 +0.6
	comp=Z,13nm,1.0s				
SDCO	Great Sand Dun	78.40 333	eP	P	10 16 34.2 +0.9
GLA	Glamis	78.40 324	eP	P	10 16 34.0 +0.8
GLA	Glamis	78.40 324	⇓P	P	10 16 34.2 +1.0
	baz=79				
GLA	Glamis	78.40 324	eP	P	10 16 34.0 +0.8
P29A	Atwood	78.49 337	⇑P	P	10 16 34.4 +0.8
	baz=79,SNR=15				
O31A	Woolen Ranch,	78.50 339	⇑P	P	10 16 34.9 +1.4
	baz=79				
KSCO	Kaye Shedlock'	78.51 336	⇑P	P	10 16 34.7 +1.0
	baz=79,SNR=6.5				
KSCO	Kaye Shedlock'	78.51 336	eP	P	10 16 34.3 +0.6
	comp=Z,70nm,1.4s				
S23A	Nye Farm, Mont	78.55 333	⇑P	P	10 16 35.4 +1.3
	baz=79				
R24A	Sanders Place,	78.68 334	⇓P	P	10 16 36.1 +1.3
	baz=79,SNR=17				
P28A	Saint Francis	78.73 337	⇓P	P	10 16 35.7 +0.8
	baz=79,SNR=10				
Q26A	Hugo	78.73 335	⇑P	P	10 16 36.4 +1.4
	baz=79,SNR=11				
O30A	MW Ranch, Wils	78.74 338	⇑P	P	10 16 36.1 +1.2
	baz=79,SNR=5.2				
N32A	Stulken Farm,	78.76 340	⇓P	P	10 16 36.4 +1.5
	baz=79				
LONY	Lake Ozonia	78.77 358	eP	P	10 16 35.1 +0.2
SWSC	Sam W. Stewart	78.78 323	⇑P	P	10 16 36.6 +1.4
	baz=79				
Y12C	Blythe	78.82 325	⇓P	P	10 16 37.0 +1.6
	baz=79,SNR=6.5				
WUAZ	Wupatki	78.85 328	⇑P	P	10 16 37.3 +1.6
	baz=79,SNR=9.9				
TSUM	Tsumeb	78.88 106	P	P	10 16 36.8 +0.5
	comp=Z,3.5nm,0.9s,baz=247,slow=3.0,SNR=8.2				
S22A	4UR Ranch, Cre	78.90 332	⇓P	P	10 16 37.5 +1.4
	baz=79,SNR=12				
R23A	Moffat	78.91 333	⇑P	P	10 16 37.2 +1.0
	baz=79				
O29A	4D Ranch, Culb	78.92 338	⇑P	P	10 16 37.3 +1.4
	baz=79				
Q25A	Bedland, Calha	78.98 335	⇓P	P	10 16 37.8 +1.3
	baz=79,SNR=8.2				
P27A	Ficken Ranch,	78.98 336	⇑P	P	10 16 37.6 +1.3
	baz=79				
MONP	Monument Peak,	79.05 323	⇑P	P	10 16 37.8 +0.9
	baz=79				
MVCO	Mesa Verde	79.09 331	⇓P	P	10 16 38.1 +1.0
	baz=79,SNR=7.6				
MVCO	Mesa Verde	79.09 331	eP	P	10 16 37.6 +0.5
PDMCI	Parker Dam,Lak	79.09 325	⇓P	P	10 16 38.1 +1.2
	baz=79				
SADO	Sadowa	79.16 355	P	P	10 16 36.0 -0.9
	comp=Z,8.5nm,0.8s,baz=204,slow=4.5,SNR=4.0				
BC3	Big Chuckawall	79.19 324	⇓P	P	10 16 38.9 +1.3
	baz=79,SNR=16				
O28A	Krutsinger Ran	79.23 337	⇑P	P	10 16 39.1 +1.4
	baz=80				
P26A	Davis Ranch, A	79.24 336	⇓P	P	10 16 39.0 +1.2
	baz=80,SNR=6.8				
BGNE	Belgrade	79.32 340	⇓P	P	10 16 38.8 +0.8
	baz=80				
BGNE	Belgrade	79.32 340	eP	P	10 16 38.1 +0.2
	comp=Z,14nm,0.7s				
N30A	Hueftle Ranch,	79.32 338	⇑P	P	10 16 39.4 +1.4
	baz=80				
Q24A	Divide	79.34 334	⇓P	P	10 16 39.4 +0.9
	baz=80,SNR=12				
IRM	Iron Mountain	79.46 325	⇑P	P	10 16 40.2 +1.3
	baz=80,SNR=8.7				
P25A	Willow Gulch B	79.48 335	⇑P	P	10 16 40.6 +1.5
	baz=80,SNR=22				
M31A	Lambtecht Ranc	79.49 340	⇓P	P	10 16 39.8 +0.8
	baz=80				
N29A	Votaw Ranch, W	79.50 338	⇑P	P	10 16 40.2 +1.2
	baz=80				
O27A	Beecher Island	79.52 337	⇑P	P	10 16 40.3 +1.1
	baz=80,SNR=14				
W13A	Hualapai Mount	79.63 326	⇓P	P	10 16 41.5 +1.5
	baz=80,SNR=6.8				
PFO	Pinyon Flats O	79.64 323	P	P	10 16 41.6 +1.5
	comp=Z,102nm,0.9s,SNR=7.0				
PFO	Pinyon Flats O	79.64 323	P	P	10 16 41.5 +1.4
	comp=Z,14nm,0.9s,baz=122,slow=4.3,SNR=21				
PFO	Pinyon Flats O	79.64 323	⇓P	P	10 16 41.8 +1.7
	baz=80,SNR=10				
BOSA	Boshof	79.66 118	eP	P	10 16 40.8 +0.3
BOSA			pmax	pmax	
	comp=Z,11nm,0.8s				
BOSA	Boshof	79.66 118	P	P	10 16 41.1 +0.6
	comp=Z,9.6nm,0.8s,baz=258,slow=5.6,SNR=19				
BOSA	Boshof	79.66 118	eP	P	10 16 40.8 +0.3
	comp=Z,11nm,0.8s				
N28A	Pribbeno Ranch	79.67 337	⇓P	P	10 16 41.2 +1.2
	baz=80,SNR=6.2				
NEE2	Needles Airpor	79.70 325	⇓P	P	10 16 41.9 +1.7
	baz=80				
BELC	Belle Mtn. Jos	79.74 324	⇑P	P	10 16 41.9 +1.3
	baz=80				
P24A	Kohler Place,	79.75 335	⇓P	P	10 16 42.0 +1.5
	baz=80				
O26A	Horse Wrangler	79.84 336	⇑P	P	10 16 42.7 +1.7
	baz=80				
PV01	Paradox Valley	79.91 331	eP	P	10 16 42.4 +0.8
	comp=Z,819nm,1.0s				
M30A	Dale-Ortello V	79.93 339	⇑P	P	10 16 42.8 +1.4
	baz=80				
P23A	Jefferson	79.96 334	⇓P	P	10 16 43.1 +1.2
	baz=80				
O25A	Wiggins	80.00 335	⇓P	P	10 16 43.3 +1.4
	baz=80,SNR=6.1				
MURC	Murrieta	80.01 323	⇑P	P	10 16 43.4 +1.5
	baz=80,SNR=6.6				
U15A	North Rim	80.02 328	⇑P	P	10 16 43.4 +1.2
	baz=80,SNR=11				
OGNE	Ogallala	80.06 337	⇓P	P	10 16 43.4 +1.3
	baz=80				
M29A	Burnside Ranch	80.09 338	⇑P	P	10 16 43.6 +1.4
	baz=80				
N27A	Anderson Farm,	80.10 337	⇓P	P	10 16 43.4 +1.1
	baz=80,SNR=6.8				
GMRC	Granite Mounta	80.21 325	⇓P	P	10 16 44.6 +1.5
	baz=80,SNR=13				
L31A	Butterfield Fa	80.22 340	⇑P	P	10 16 43.6 +0.8
	baz=80,SNR=15				
ISCO	Idaho Springs	80.25 334	⇓P	P	10 16 44.2 +0.8
	baz=80,SNR=12				
M28A	Bar X Bar Ranc	80.26 338	⇑P	P	10 16 44.0 +0.8
	baz=80				
L30A	Spencer Herefo	80.27 339	⇑P	P	10 16 44.0 +0.9
	baz=81,SNR=6.5				
N26A	Koester Ranch,	80.34 336	⇑P	P	10 16 44.6 +1.0
	baz=81				
O24A	Longmont	80.34 335	⇓P	P	10 16 44.5 +0.8
	baz=81				
BBRC	Big Bear Solar	80.40 323	⇓P	P	10 16 45.7 +1.4
	baz=81,SNR=5.6				
CIS	Catalina Islan	80.46 322	⇓P	P	10 16 45.3 +0.9
	baz=81				
P22A	Eagle	80.49 333	⇓P	P	10 16 45.5 +0.9
	baz=81,SNR=8.1				
HEC	Hector,Ludlow	80.57 324	⇓P	P	10 16 46.2 +1.3
	baz=81,SNR=12				
L29A	Maesberg Ranch	80.60 339	⇓P	P	10 16 45.8 +0.9
	baz=81,SNR=6.1				
FMP	Fort Macarthur	80.65 322	⇑P	P	10 16 46.5 +1.2
	baz=81				
M27A	Reverse DX Ran	80.70 337	⇓P	P	10 16 46.5 +1.0
	baz=81,SNR=5.1				
O23A	Lake Granby, G	80.72 334	⇑P	P	10 16 47.2 +1.2
	baz=81,SNR=19				
BFSC	Mount Baldy Ra	80.75 323	⇓P	P	10 16 47.3 +1.3
	baz=81,SNR=8.2				
L28A	Connealy Angus	80.86 338	⇑P	P	10 16 47.3 +0.9
	baz=81				
TUQ	Turquoise Moun	80.86 325	⇑P	P	10 16 47.9 +1.3
	baz=81,SNR=15				
M26A	McRoberts Ranc	80.89 337	⇑P	P	10 16 47.7 +1.2
	baz=81				
K30A	Basset	80.90 340	⇑P	P	10 16 47.3 +0.8
	baz=81,SNR=24				
N24A	Carr	80.90 335	⇑P	P	10 16 47.7 +1.0
	baz=81,SNR=7.6				
O22A	Kremmling	80.91 334	⇑P	P	10 16 47.6 +0.7
	baz=81,SNR=19				
ECSD	EROS Data Cent	81.07 342	⇑P	P	10 16 47.4 +0.1
	baz=81,SNR=32				
ECSD	EROS Data Cent	81.07 342	eP	P	10 16 46.8 -0.5
	comp=Z,32nm,0.9s				
DECC	Green Verdugo	81.09 323	⇓P	P	10 16 49.3 +1.6
	baz=81				
M25A	Palm-Egli Farm	81.16 336	⇓P	P	10 16 49.0 +0.9
	baz=81				
GSC	Goldstone, Bar	81.18 324	⇑P	P	10 16 49.2 +0.9
	baz=81,SNR=7.1				
L27A	T5 Ranch, Ells	81.18 337	⇓P	P	10 16 49.4 +1.3
	baz=82				
K29A	Lazy Trails An	81.19 339	⇓P	P	10 16 48.8 +0.8
	baz=82,SNR=9.6				
N23A	Red Feather La	81.34 334	⇓P	P	10 16 50.3 +1.2
	baz=82,SNR=8.7				
SHPR	Sheep Range	81.38 326	eP	P	10 16 50.3 +0.9
	comp=Z,18nm,1.2s				
L26A	Underwood Farm	81.38 337	⇓P	P	10 16 50.1 +1.0
	baz=82				
SHOC	Shoshone, Teco	81.41 325	⇓P	P	10 16 51.0 +1.7
	baz=82				
EDW2	Edwards Air Fo	81.42 323	⇓P	P	10 16 50.4 +1.0
	baz=82,SNR=8.0				
CCUT	Cedar City	81.43 328	eP	P	10 16 51.0 +1.3
	comp=Z,16nm,1.1s				
N22A	Wattenberg Ran	81.44

baz=82,SNR=7.9
K28A Ten Mile Ranch 81.46 338 ⇑P P 10 16 50.9 +1.4
baz=82,SNR=18
J30A Dallas 81.47 340 ⇑P P 10 16 49.6 +0.1
baz=82,SNR=7.4
O20A White River Ci 81.52 333 ⇑P P 10 16 50.3 +0.2
baz=82,SNR=7.4
O20A White River Ci 81.52 333 eP P 10 16 50.3 +0.2
comp=Z,8.6nm,0.9s
SRU San Rafael Swe 81.53 331 eP P 10 16 50.6 +0.4
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael Swe 81.53 331 eP P 10 16 50.6 +0.4
comp=Z,9.3nm,0.8s
BSC Santa Cruz Isl 81.55 321 ⇑P P 10 16 51.1 +1.0
baz=82
SPMN Marine on St. 81.59 345 ⇑P P 10 16 51.5 +1.4
baz=82
SPMN Marine on St. 81.59 345 eP P 10 16 49.0 -1.0
comp=Z,5.1nm,0.8s
ARUT Antelope Range 81.66 328 eP P 10 16 52.3 +1.5
ARUT pmax pmax
comp=Z,176nm,1.0s
ARUT Antelope Range 81.66 328 eP P 10 16 52.3 +1.5
comp=Z,176nm,1.0s
K27A Flueckinger Fa 81.72 338 ⇓P P 10 16 51.8 +0.9
baz=82,SNR=9.6
MVU Marysvale 81.72 329 eP P 10 16 52.0 +0.8
comp=Z,14nm,1.3s
LRMC Laurel Mtn Rad 81.75 324 ⇓P P 10 16 52.4 +1.2
baz=82,SNR=8.5
M23A Laramie 81.76 335 ⇓P P 10 16 52.1 +0.8
baz=82,SNR=5.4
L25A Engebretsen Ra 81.78 336 ⇑P P 10 16 52.4 +1.2
baz=82
J29A Okreek 81.78 339 ⇑P P 10 16 51.6 +0.5
baz=82,SNR=35
LBTB Lobatse 81.91 115 eP P 10 16 52.9 +0.4
LBTB pmax pmax
comp=Z,12nm,0.8s
LBTB Lobatse 81.91 115 eP P 10 16 52.9 +0.4
comp=Z,12nm,0.8s
SBC Santa Barbara 81.94 322 ⇓P P 10 16 52.4 +0.3
baz=82
I30A Oacoma 81.99 340 ⇑P P 10 16 52.5 +0.3
baz=82,SNR=7.4
L24A Wheatland 82.00 336 ⇑P P 10 16 53.5 +1.0
baz=82
K26A Motz Farm, Whi 82.01 337 ⇓P P 10 16 53.3 +0.9
baz=82
M22A Cedar Creek Ra 82.02 334 ⇓P P 10 16 53.4 +0.6
baz=82
ARVC Arvin 82.03 323 ⇓P P 10 16 54.0 +1.3
baz=82
J28A Allard Ranch, 82.06 339 ⇓P P 10 16 53.3 +0.7
baz=82,SNR=23
MPMC Manual Prospec 82.12 324 ⇓P P 10 16 54.1 +0.8
baz=82,SNR=7.8
N20A Spence Gulch, 82.13 333 ⇑P P 10 16 54.5 +1.2
baz=82,SNR=8.3
J27A Elkhorn Farm, 82.14 338 ⇓P P 10 16 54.4 +1.3
baz=82,SNR=20
FURC Furnace Creek, 82.14 325 ⇓P P 10 16 54.7 +1.5
baz=82,SNR=8.8
K25A Mack Ranch, Ha 82.16 337 ⇑P P 10 16 54.5 +1.3
baz=82
TPNV Topopah Spring 82.24 326 ⇑P P 10 16 55.4 +1.5
baz=82,SNR=11
ISA Isabella, Lake 82.28 323 eP P 10 16 55.0 +1.0
ISA pmax pmax
comp=Z,11nm,1.0s
ISA Isabella, Lake 82.28 323 ⇑P P 10 16 55.6 +1.6
baz=82,SNR=14
ISA Isabella, Lake 82.28 323 eP P 10 16 55.0 +1.0
comp=Z,11nm,1.0s
L23A Garrett 82.33 335 ⇑P P 10 16 54.5 +0.2
baz=83,SNR=5.4
I29A Vivian Onida 82.34 340 ⇓P P 10 16 54.2 +0.2
baz=83,SNR=9.8
BRSD Miller 82.35 341 ⇑P P 10 16 54.2 +0.1
baz=83,SNR=5.2
BRSD Miller 82.35 341 eP P 10 16 53.4 -0.7
comp=Z,31nm,0.9s
PKM Mcpherson Peak 82.35 322 ⇑P P 10 16 55.9 +1.3
baz=83,SNR=11
L22A Ellis Ranch, M 82.51 335 ⇓P P 10 16 56.1 +0.9
baz=83
J26A Sides Ranch, S 82.53 338 ⇑P P 10 16 56.1 +1.0
baz=83,SNR=12
K24A Anderson Ranch 82.57 336 ⇓P P 10 16 56.2 +0.8
baz=83,SNR=6.4
I28A Midland 82.57 339 ⇑P P 10 16 55.7 +0.5
baz=83,SNR=27
VES Vestal, Richgr 82.73 323 ⇓P P 10 16 57.8 +1.6
baz=83,SNR=9.4
SMMC Simmler 82.77 322 ⇓P P 10 16 58.0 +1.5
baz=83
GRAC Grapevine Rang 82.81 325 ⇑P P 10 16 58.2 +1.5
baz=83
J25A Sunshine Ranch 82.83 337 ⇑P P 10 16 57.5 +0.8
baz=83
H29A Onida 82.87 340 ⇑P P 10 16 56.8 0.0
baz=83,SNR=20
K23A Bowen Ranch, D 82.87 336 ⇓P P 10 16 58.1 +1.1
baz=83,SNR=6.9
I27A Quinn 82.90 339 ⇑P P 10 16 57.2 +0.2
baz=83,SNR=15
DAU Daniels Canyon 82.94 331 eP P 10 16 58.1 +0.5
DAU pmax pmax
comp=Z,9.0nm,1.0s
DAU Daniels Canyon 82.94 331 eP P 10 16 58.1 +0.5
comp=Z,8.5nm,1.0s
G30A Faulkton 83.03 341 ⇑P P 10 16 57.7 +0.1
baz=83,SNR=7.0
J24A Dixon Ranch, L 83.06 336 ⇓P P 10 16 59.1 +1.2
baz=83,SNR=5.8
R11A Troy Canyon, C 83.08 327 ⇑P P 10 16 59.3 +1.1
baz=83,SNR=21
R11A Troy Canyon, C 83.08 327 eP P 10 16 58.5 +0.3
comp=Z,54nm,1.8s
K22A Casper 83.09 335 ⇑P P 10 16 58.8 +0.7
baz=83,SNR=6.8
K22A Casper 83.09 335 eP P 10 16 58.6 +0.5
comp=Z,48nm,1.5s
I26A New Underwood 83.11 338 ⇓P P 10 16 58.5 +0.4
baz=83
H28A Mission Ridge 83.14 339 ⇓P P 10 16 58.6 +0.4
baz=83,SNR=18
RCTC Rector, Farmer 83.17 323 ⇑P P 10 16 59.5 +1.0
baz=83
TIN Tinemaha, Big 83.27 324 ⇓P P 10 00.8 +1.6
baz=84
G29A Hoven 83.31 340 ⇓P P 10 16 59.2 +0.2
baz=84,SNR=6.3
K21A Alcova 83.33 334 ⇑P P 10 16 59.7 +0.3
baz=84,SNR=24
I25A Rochford 83.37 337 ⇓P P 10 17 00.3 +0.7
baz=84,SNR=12
DUG Dugway, Tooele 83.39 330 eP P 10 17 00.2 +0.4
DUG pmax pmax
comp=Z,25nm,1.4s
DUG Dugway, Tooele 83.39 330 ⇓P P 10 17 00.5 +0.8
baz=84,SNR=12
DUG Dugway, Tooele 83.39 330 eP P 10 17 00.2 +0.4
comp=Z,25nm,1.4s
H27A Howes 83.42 339 ⇓P P 10 16 59.8 +0.1
baz=84,SNR=17
G28A Parade 83.48 340 ⇑P P 10 17 00.3 +0.4
baz=84,SNR=17
I24A Kuemmerle Ranc 83.52 337 ⇓P P 10 17 00.7 +0.4
baz=84
TCUT Toone Canyon 83.60 331 eP P 10 17 01.3 +0.3
comp=Z,9.1nm,0.8s
TPH Tonopah 83.61 326 eP P 10 17 01.7 +0.7
TPH pmax pmax
comp=Z,19nm,1.2s
TPH Tonopah 83.61 326 eP P 10 17 01.7 +0.7
comp=Z,19nm,1.2s
H26A Fairpoint 83.61 338 ⇓P P 10 17 01.5 +0.8
baz=84
F30A Leola 83.66 341 ⇓P P 10 17 01.5 +0.7
baz=84
J22A Midwest 83.74 335 ⇑P P 10 17 01.3 -0.2
baz=84,SNR=7.4
F29A Eureka 83.87 341 ⇑P P 10 17 02.2 +0.3
baz=84,SNR=8.7
H25A Fruitdale 83.87 338 ⇑P P 10 17 02.5 +0.5
baz=84,SNR=11
EYMN Ely 83.94 347 eP P 10 17 01.6 -0.5
comp=Z,11nm,1.1s
MLAC Mammoth, Mammo 84.02 324 ⇓P P 10 17 04.7 +1.6
baz=84,SNR=6.6
J21A Lysite 84.02 335 ⇓P P 10 17 03.4 +0.4
baz=84,SNR=5.8
G27A Dupree 84.05 339 ⇓P P 10 17 02.9 0.0
baz=84,SNR=12
F28A McLaughlin 84.15 340 ⇓P P 10 17 03.5 +0.2
baz=84,SNR=17
I22A 9 Mile Ranch, 84.17 336 ⇑P P 10 17 03.7 +0.1
baz=84,SNR=8.3
G26A Maurine 84.17 339 ⇓P P 10 17 03.5 0.0
baz=84,SNR=11
TORD Torodi Ar. Bea 84.17 70 P P 10 17 04.2 0.0
comp=Z,5.9nm,0.8s,baz=261,slow=4.1,SNR=37
TORD LR LR 10 52 42.1
comp=Z,66nm,19.0s,baz=240,slow=34
E30A Jud 84.24 342 ⇑P P 10 17 04.2 +0.4
baz=84
J20A Shoshoni 84.25 334 ⇑P P 10 17 04.4 +0.3
baz=84,SNR=21
H24A Dirks Ranch, A 84.29 337 ⇓P P 10 17 04.4 +0.2
baz=85,SNR=7.0
PDAR Pinedale Array 84.29 333 P P 10 17 04.2 -0.2
comp=Z,4.2nm,0.8s,baz=157,slow=3.9,SNR=33
G25A Newell 84.33 338 ⇑P P 10 17 04.6 +0.3
baz=85,SNR=16
I21A Big Trails, Te 84.38 335 ⇑P P 10 17 04.5 -0.2
baz=85,SNR=13
NVAR Mina Array Bea 84.40 325 P P 10 17 06.0 +1.0
comp=Z,4.2nm,0.8s,baz=160,slow=6.2,SNR=38
E29A Napoleon 84.50 341 ⇑P P 10 17 05.5 +0.4
baz=85
F27A Lemmon 84.53 339 ⇑P P 10 17 05.6 +0.3
baz=85,SNR=17
J19A Crowheart 84.53 334 ⇓P P 10 17 05.4 -0.1
baz=85,SNR=24
F26A Lodgepole 84.70 339 ⇑P P 10 17 06.3 +0.1
baz=85,SNR=9.0
HVU Hansel Valley 84.71 330 eP P 10 17 06.2 -0.3
HVU pmax pmax
comp=Z,13nm,0.8s
HVU Hansel Valley 84.71 330 eP P 10 17 06.2 -0.3
comp=Z,13nm,0.8s
H22A Clearmont 84.74 336 ⇑P P 10 17 07.0 +0.5
baz=85
G24A Alzada 84.76 338 ⇓P P 10 17 06.8 +0.2
baz=85,SNR=5.9
D30A Buchanan 84.76 342 ⇓P P 10 17 06.6 +0.2
baz=85,SNR=7.6
E28A Huff 84.79 340 ⇓P P 10 17 07.5 +0.9
baz=85
I20A Worland 84.79 335 ⇑P P 10 17 06.8 +0.1
baz=85,SNR=18
ELK Elko 84.88 328 P P 10 17 07.6 +0.1
comp=Z,6.3nm,0.9s,baz=207,slow=4.0,SNR=31
E27A Carson 84.90 340 ⇓P P 10 17 07.3 +0.1
baz=85,SNR=7.9
D29A Pettibone, Tap 84.94 341 ⇑P P 10 17 07.5 +0.2
baz=85
G23A Biddle 84.96 337 ⇓P P 10 17 07.5 -0.1
baz=85,SNR=6.0
WAKR Walker 85.00 324 eP P 10 17 09.3 +1.3
comp=Z,34nm,1.8s
F25A Bowman 85.00 338 ⇓P P 10 17 08.2 +0.5
baz=85
H21A Big Horn, Sher 85.00 336 ⇑P P 10 17 07.9 +0.1
baz=85
CMB Columbia Colle 85.09 324 eP P 10 17 08.5 +0.2
CMB pmax pmax
comp=Z,4.0nm,1.0s
CMB Columbia Colle 85.09 324 eP P 10 17 08.5 +0.2
comp=Z,4.3nm,1.0s
I19A Meeetse 85.17 334 ⇓P P 10 17 09.3 +0.6
baz=86,SNR=8.4
AGMN Agassiz Nation 85.18 344 ⇓P P 10 17 08.6 +0.2
baz=86,SNR=8.2
AGMN Agassiz Nation 85.18 344 eP P 10 17 08.0 -0.4
comp=Z,6.9nm,0.6s
E26A Carlson Angus 85.20 339 ⇓P P 10 17 09.0 +0.3
baz=86,SNR=5.6
H20A Greybull 85.21 335 ⇑P P 10 17 08.7 -0.1
baz=86,SNR=34
F24A Ekalaka 85.23 338 ⇓P P 10 17 09.1 +0.2
baz=86,SNR=10
C30A Mose, Pekin 85.24 342 ⇓P P 10 17 09.4 +0.6
baz=86,SNR=11
G22A Birney 85.27 336 ⇑P P 10 17 09.8 +0.7
baz=86
D28A Regan 85.32 341 ⇓P P 10 17 09.9 +0.7
baz=86
F23A Volborg 85.43 337 ⇓P P 10 17 10.0 +0.2
baz=86,SNR=19
E25A Miller Ranch, 85.50 339 ⇑P P 10 17 10.9 +0.7
baz=86,SNR=7.9
D27A Center 85.51 340 ⇑P P 10 17 10.7 +0.6
baz=86
G21A Lodge Grass 85.58 336 ⇓P P 10 17 11.1 +0.4
baz=86
I17A Pilgrim Ck. 85.66 333 ⇓P P 10 17 12.4 +1.1
baz=86,SNR=5.9
D26A Manning 85.70 340 ⇓P P 10 17 12.3 +1.2
baz=86
H19A Powell 85.72 334 ⇑P P 10 17 11.9 +0.5
baz=86,SNR=15
C28A Hausauer Farms 85.75 341 ⇑P P 10 17 12.0 +0.7
baz=86
F22A Rosebud 85.75 337 ⇓P P 10 17 11.7 +0.3
baz=86,SNR=13
E24A Baker 85.83 338 ⇓P P 10 17 12.5 +0.7
baz=86,SNR=7.3
B30A Myrvik Farm, E 85.90 343 ⇑P P 10 17 12.1 +0.1
baz=86,SNR=27
G20A Bridger 85.93 335 ⇑P P 10 17 12.3 -0.1
baz=86,SNR=24
H18A Shoshone NF, C 85.97 334 ⇑P P 10 17 12.9 +0.1
baz=86,SNR=54
C27A Sayler Ranch, 86.05 340 ⇓P P 10 17 14.2 +1.4
baz=86,SNR=5.4
D25A Fairfield 86.06 339 ⇓P P 10 17 14.1 +1.1
baz=86,SNR=9.8
H17A Grant Village 86.06 333 ⇑P P 10 17 14.6 +1.3
baz=86
H17A Grant Village 86.06 333 eP P 10 17 13.9 +0.6
comp=Z,6.9nm,1.2s
F21A Absaloka Mine, 86.08 336 ⇑P P 10 17 14.0 +0.9
baz=86
E23A Ismay 86.09 338 ⇑P P 10 17 13.6 +0.6
baz=86,SNR=5.2
B29A Wagenman Farm, 86.17 342 ⇑P P 10 17 14.3 +0.9
baz=86
RLMT Red Lodge 86.21 334 eP P 10 17 13.7 -0.2
comp=Z,7.8nm,0.7s
E22A Miles City 86.24 337 ⇓P P 10 17 14.3 +0.5
baz=86,SNR=5.1
C26A Wahner Farm, P 86.32 340 ⇑P P 10 17 14.9 +0.8
baz=87
D24A Glendive 86.33 338 ⇓P P 10 17 14.8 +0.6
baz=87,SNR=11
A30A Hoffart Farm, 86.35 343 ⇑P P 10 17 14.2 0.0
baz=87,SNR=11
F20A Billings 86.41 335 ⇓P P 10 17 14.5 -0.2
baz=87,SNR=7.1
B28A Dugan Ranch, T 86.42 341 ⇑P P 10 17 15.3 +0.7
baz=87,SNR=12
YMR Madison River 86.44 333 eP P 10 17 15.6 +0.5
comp=Z,34nm,0.9s
LAO LASA Array 86.55 337 eP P 10 17 15.1 -0.3
comp=Z,31nm,1.0s
C25A Freed Ranch, W 86.55 339 ⇑P P 10 17 16.1 +0.8
baz=87
A29A Manning Farm, 86.56 342 ⇑P P 10 17 15.5 +0.2
baz=87,SNR=7.4
B27A Peters Farms, 86.62 341 ⇑P P 10 17 16.5 +0.9
baz=87
D23A Lindsay 86.66 338 ⇓P P 10 17 16.5 +0.7
baz=87,SNR=28
E21A Keefer Ranch, 86.70 336 ⇓P P 10 17 16.6 +0.6
baz=87,SNR=9.2
F19A Roth Farm, Mol 86.73 335 ⇑P P 10 17 16.6 +0.3
baz=87,SNR=10
C24A Savage 86.73 339 ⇑P P 10 17 16.9 +0.7
baz=87,SNR=34
QLMT Earthquake Lak 86.75 333 eP P 10 17 17.2 +0.6
comp=Z,0.8nm,0.8s
A28A Rude Farm, Bot 86.82 342 ⇑P P 10 17 17.2 +0.7
baz=87
HLID Hailey 86.86 330 ⇑P P 10 17 18.1 +1.0
baz=87,SNR=15
HLID Hailey 86.86 330 eP P 10 17 17.7 +0.6
comp=Z,15nm,1.2s
B26A Jensen Ranch, 86.86 340 ⇑P P 10 17 17.8 +1.0
baz=87
D22A Cohagen 86.94 337 ⇓P P 10 17 17.6 +0.4
baz=87,SNR=22
E20A Meyer Farm, Mu 87.02 336 ⇑P P 10 17 18.0 +0.3
baz=87,SNR=39
ULM Lac du Bonnet 87.02 345 P P 10 17 16.6 -0.8
comp=Z,11nm,1.0s,baz=146,slow=4.0,SNR=11
B25A Knox Farm, Ray 87.03 340 ⇓P P 10 17 18.8 +1.2
baz=87
A27A Ledoux Ranch, 87.11 341 ⇑P P 10 17 18.8 +0.8
baz=87
D21A La Casta Ranch 87.13 337 ⇓P P 10 17 18.4 +0.2
baz=87,SNR=16
E19A Rath Farm, Rou 87.20 335 ⇑P P 10 17 18.8 +0.2
baz=88,SNR=35
C23A Lambert 87.21 338 ⇓P P 10 17 18.8 +0.3
baz=88,SNR=16
A26A Wade Farm, Ken 87.28 341 ⇑P P 10 17 19.5 +0.7
baz=88
MCMT McKenzie Canyo 87.29 332 eP P 10 17 19.6 +0.3
comp=Z,10nm,1.0s
MFID Camas Ranch 87.32 330 eP P 10 17 19.9 +0.7
comp=Z,3.6nm,0.7s
D20A Manuel Ranch, 87.53 336 ⇓P P 10 17 20.1 0.0
baz=88,SNR=27
A25A Svangstu Ranch 87.62 340 ⇓P P 10 17 21.4 +0.9
baz=88,SNR=6.0
B23A Brockton 87.74 339 ⇑P P 10 17 21.6 +0.6
baz=88
WVOR Wild Horse Val 87.75 327 eP P 10 17 21.6 +0.3
WVOR pmax pmax
comp=Z,9.0nm,1.2s
WVOR Wild Horse Val 87.75 327 eP P 10 17 21.6 +0.3
comp=Z,9.0nm,1.2s
C21A Desert Coulee 87.83 337 ⇓P P 10 17 21.5 0.0
baz=88,SNR=21
D19A Cripps Ranch, 87.84 336 ⇓P P 10 17 21.7 +0.1
baz=88,SNR=9.9
A24A Westby 87.86 339 ⇓P P 10 17 22.4 +0.8
baz=88,SNR=6.4
B22A Reddig Ranch S 87.90 338 ⇓P P 10 17 22.1 +0.2
baz=88,SNR=19
LRM Limekiln Ridge 87.98 333 eP P 10 17 22.6 +0.1
comp=Z,99nm,1.2s
C20A Veseth Ranch, 88.03 336 ⇑P P 10 17 22.4 -0.1
baz=88,SNR=13
MOD Modoc Plateau 88.08 326 eP P 10 17 23.3 +0.3
comp=Z,18nm,1.2s
WDC Whiskeytown Da 88.12 324 eP P 10 17 22.6 -0.4
WDC pmax pmax
comp=Z,8.0nm,0.7s
WDC Whiskeytown Da 88.12 324 eP P 10 17 22.6 -0.4
comp=Z,8.4nm,0.7s
A23A Redstone 88.15 339 ⇑P P 10 17 23.8 +0.8
baz=88
B21A Ellsworth Farm 88.34 337 ⇓P P 10 17 24.8 +1.0
baz=89
C19A Slack Wire Ran 88.40 336 ⇑P P 10 17 24.7 +0.5
baz=89,SNR=7.4
A22A Carney Farms, 88.49 338 ⇓P P 10 17 25.0 +0.3
baz=89,SNR=20
N02D Trinity Center 88.50 324 ⇑P P 10 17 25.5 +0.6
baz=89
B20A Solberg Farm, 88.67 337 ⇓P P 10 17 25.6 +0.1
baz=89,SNR=8.8
M04C Macdoel 88.71 325 ⇑P P 10 17 26.6 +0.7
baz=89,SNR=8.7
A21A Bergtoll Ranch 88.80 338 ⇑P P 10 17 26.2 +0.1
baz=89,SNR=6.7
EGMT Eagleton 88.89 336 ⇑P P 10 17 26.7 +0.2
baz=89,SNR=5.4
M02C Callahan 88.89 324 ⇑P P 10 17 28.0 +1.3
baz=89
B19A Brinkman Farms 88.99 336 ⇓P P 10 17 28.0 +1.0
baz=89
A20A Cobblestone Ra 89.02 337 ⇓P P 10 17 27.4 +0.3
baz=89,SNR=14
SCHQ Schefferville 89.05 3 P P 10 17 26.2 -0.9
comp=Z,1.7nm,0.8s,baz=225,slow=5.7,SNR=2.8
SCHQ LR LR 10 58 18.3
comp=Z,27nm,20.3s,baz=48,slow=36
YBH Yreka Blue Hor 89.08 324 P P 10 17 27.6 -0.1
comp=Z,6.7nm,0.9s,baz=113,slow=7.7,SNR=10
BMO Blue Mountains 89.11 329 eP P 10 17 27.5 -0.2
BMO pmax pmax
comp=Z,5.0nm,1.2s
BMO Blue Mountains 89.11 329 eP P 10 17 27.5 -0.2
comp=Z,5.3nm,1.2s
CHMT Chamberlain Mo 89.20 333 eP P 10 17 27.9 -0.2
comp=Z,5.3nm,1.5s
K04D Chiloquin, OR 89.32 326 ⇓P P 10 17 30.1 +1.3
baz=90
A19A Klindworth Far 89.33 337 ⇓P P 10 17 29.0 +0.4
baz=90,SNR=6.8
MSO Missoula 89.39 333 ⇑P P 10 17 30.5 +1.5
baz=90
LSZ Lusaka 89.45 108 P P 10 17 32.2 +2.1
comp=Z,2.2nm,0.8s,baz=9.1,slow=4.2,SNR=3.7
J05D Fort Rock, OR 89.59 326 ⇑P P 10 17 31.2 +1.1
baz=90,SNR=8.7
L02D Cave Junction, 89.84 324 ⇑P P 10 17 32.9 +1.8
baz=90
J04D Umpqua Nationa 89.96 326 ⇓P P 10 17 33.3 +1.4
baz=90
SWMT Swartz Lake 89.97 333 eP P 10 17 31.6 -0.1
comp=Z,1.7nm,0.8s
I05D Terrebonne, OR 90.46 327 ⇓P P 10 17 35.5 +1.6
baz=91
BSMT Bassoo Peak 90.56 333 eP P 10 17 34.7 +0.2
comp=Z,2.0nm,0.9s
EDM Edmonton 94.51 336 eP P 10 17 50.8 -1.6
EDM Edmonton 94.51 336 eP P 10 17 50.8 -1.6
FCC Fort Churchill 94.74 349 eP P 10 17 53.0 -0.2
FCC Fort Churchill 94.74 349 eP P 10 17 53.0 -0.2
comp=Z,0.4nm,1.3s
ESDC Sonseca Array 96.76 46 LR LR 11 01 18.5
comp=Z,28nm,18.1s,baz=95,slow=35
YKA Yellowknife Ar 102.58 341 P Pdif 10 18 27.7 -0.7
comp=Z,0.6nm,0.7s,baz=141,slow=4.5,SNR=18
STHS Stebnicka Huta 117.08 47 ePKIKP PKPdf 10 23 26.6 +10
STHS Stebnicka Huta 117.08 47 e PKPdf 10 23 26.6 +10
ASAR Alice Springs 117.23 207 PKP PKPdf 10 23 17.0 -1.3
comp=Z,0.3nm,0.5s,baz=130,slow=1.6,SNR=6.8
WRA Warramunga Arr 120.44 209 PKP PKPdf 10 23 23.5 -1.0
comp=Z,1.2nm,0.7s,baz=154,slow=1.7,SNR=23
BRTR Keskin Array B 121.88 61 PKP PKPdf 10 23 26.4 -0.3
comp=Z,0.8nm,0.7s,baz=167,slow=6.2,SNR=4.7
H11S2 WAKE ISLAND Hyl 25.97 269 T T 12 41 53.1
baz=120,slow=75,SNR=42
H11S1 WAKE ISLAND Hyl 25.99 269 T T 12 41 53.1
baz=120,slow=75,SNR=61
H11S3 WAKE ISLAND Hyl 25.99 269 T T 12 41 53.2
baz=120,slow=75,SNR=71
H11N3 WAKE ISLAND Hyl 26.40 270 T T 12 42 24.8
baz=122,slow=76,SNR=59
H11N1 WAKE ISLAND Hyl 26.41 270 T T 12 42 26.1
baz=122,slow=76,SNR=112
H11N2 WAKE ISLAND Hyl 26.42 270 T T 12 42 26.0
baz=122,slow=76,SNR=58
OBN Obninsk 127.64 44 ePKIKP PKPdf 10 23 37.2 +0.2
OBN pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 129.56 59⇑ ePKIKP PKPdf 10 23 41.2 0.0
KIV pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 129.66 59 PKP PKPdf 10 23 42.1 +0.9
comp=Z,1.5nm,0.8s,baz=8.3,slow=3.8,SNR=4.2
BILL Bilibino 133.36 334⇓ ePKIKP PKPdf 10 23 48.4 +0.8
BILL pmax pmax
comp=Z,2.0nm,1.0s
ARU Arti 139.97 41 ePKIKP PKPdf 10 23 59.7 -0.4
AKTO Aktyubinsk 140.48 51 PKhKP PKPpre 10 23 52.7
comp=Z,0.8nm,0.8s,baz=315,slow=3.9,SNR=3.9
AKTO PKP PKPdf 10 24 01.1 -0.2
comp=Z,0.8nm,0.6s,baz=148,slow=2.6,SNR=4.7
SEY Seymchan 140.55 330 PKhKP PKPpre 10 23 53.4
comp=Z,0.5nm,0.4s,baz=113,slow=4.2,SNR=5.2
SEY PKP PKPdf 10 24 01.1 +0.2
comp=Z,2.9nm,0.8s,baz=133,slow=3.6,SNR=14
PETK Petropavlovsk- 140.64 314 PKP PKPdf 10 24 02.4 +0.9
comp=Z,3.3nm,0.9s,baz=126,slow=7.5,SNR=3.5
PSI Prapat 147.31 163 PKPbc PKPbc 10 24 15.8 -1.0
comp=Z,9.5nm,0.9s,baz=175,slow=9.1,SNR=5.5

BVAR	**Borovoye Array**	**147.48**	**44**	PKP	**PKPdf**	**10 24 13.7**	**+0.3**
	comp=Z,5.1nm,0.7s,baz=276,slow=2.8,SNR=27						
BVAR				PKPbc	**PKPbc**	**10 24 16.5**	**+0.5**
	comp=Z,5.1nm,0.7s,baz=279,slow=3.6,SNR=28						
HYB	**Hyderabad**	**148.53**	**115**	*i* PKP	**PKPbc**	**10 24 19.0**	**-0.9**
YAK	**Yakutsk**	**149.25**	**340**	*e*PKP2	**PKPbc**	**10 24 18.9**	**-1.4**
YAK				pmax	pmax		
	comp=Z,27nm,1.0s						
YAK	**Yakutsk**	**149.25**	**340**	*e*PKPbc	**PKPbc**	**10 24 20.1**	**-0.1**
KKAR	**Karatay Array**	**149.58**	**62**	*e*PKP2	**PKPbc**	**10 24 21.8**	**0.0**
KKAR	**Karatay Array**	**149.58**	**62**	*e*PKPbc	**PKPbc**	**10 24 21.8**	**0.0**
YSS	**Yuzh-Sakhalins**	**151.25**	**306**	*e*PKIKP	**PKPbc**	**10 24 25.0**	**-0.5**
YSS	**Yuzh-Sakhalins**	**151.25**	**306**	*e*PKPbc	**PKPbc**	**10 24 25.4**	**-0.2**
ASAJ	**Asahikawa**	**151.89**	**300**	PKPbc	**PKPbc**	**10 24 26.6**	**-0.6**
	comp=Z,6.8nm,0.8s,baz=211,slow=4.5,SNR=5.9						
EKS2	**Erkin-Say**	**152.01**	**63**	*e*PKIKP	**PKPdf**	**10 24 21.7**	**+0.6**
EKS2				*e*		10 24 28.4	
EKS2	**Erkin-Say**	**152.01**	**63**	*e*PKPdf	**PKPdf**	**10 24 21.7**	**+0.6**
EKS2				*e*PKPbc	**PKiKP**	**10 24 28.4**	**+0.4**
AAK	**Ala-Archa**	**152.54**	**63**	PKPbc	**PKPbc**	**10 24 29.3**	**+0.4**
	comp=Z,6.7nm,0.8s,baz=234,slow=3.2,SNR=12						
KURBB	**Kurchatov Arra**	**153.07**	**44**	PKP	**PKPdf**	**10 24 22.3**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=299,slow=1.8,SNR=4.4						
KURBB				PKPbc	**PKPbc**	**10 24 29.4**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=300,slow=2.9,SNR=21						
KURK	**Kurchatov**	**153.08**	**44**	PKIKP	**PKPdf**	**10 24 22.3**	**+0.1**
KURK						10 24 29.4	
KURK	**Kurchatov**	**153.08**	**44**	PKP	**PKPdf**	**10 24 22.3**	**+0.1**
KURK				PKPbc	**PKPbc**	**10 24 29.4**	**-0.1**
NVS	**Novosibirsk**	**153.23**	**33**	*e*PKIKP	**PKPdf**	**10 24 20.0**	**-2.3**
NVS				pmax	pmax		
	comp=Z,21nm,1.5s						
KSH	**Kashi**	**153.84**	**69**	PKPbc	**PKPdf**	**10 24 24.1**	**+0.2**
KSH				sPKP		10 24 37.8	
KSH				PKS	**PKSdf**	**10 27 58.5**	**+0.3**
KSH				PP	**PP**	**10 28 18.8**	**-1.2**
KSH				SKS	**SKSdf**	**10 31 28.9**	**+0.2**
KSH				SKKS	**SKKSac**	**10 35 09.1**	**+1.4**
KSH				SS	**SS**	**10 47 54.0**	**-1.8**
KSH				PPMZ			
	comp=Z,110nm,4.3s						
KSH				LN			
	comp=Z,52nm,5.0s						
KSH				LE			
	comp=Z,49nm,4.7s						
KSH				LZ			
	comp=Z,170nm,5.2s						
ZALV	**Zalesovo Beam**	**154.51**	**33**	PKP	**PKPdf**	**10 24 23.1**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=135,slow=0.2,SNR=6.0						
ZALV				PKPbc	**PKPbc**	**10 24 32.0**	**-0.5**
	comp=Z,5.4nm,0.8s,baz=298,slow=3.2,SNR=14						
MJAR	**Matsushiro Arr**	**155.55**	**283**	PKPab	**PKPab**	**10 24 54.0**	**+1.8**
	comp=Z,1.1nm,0.9s,baz=151,slow=11,SNR=3.3						
BOD	**Bodaibo**	**156.33**	**352**	*e*PKP2	**PKPab**	**10 24 54.3**	**-0.4**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MKAR	**Makanchi Array**	**156.91**	**50**	PKP	**PKPdf**	**10 24 26.9**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=22,slow=1.3,SNR=6.1						
MKAR				PKPab	**PKPab**	**10 24 57.0**	**-0.8**
	comp=Z,1.8nm,1.0s,baz=276,slow=4.5,SNR=7.1						
WMQ	**Urumqi**	**161.59**	**53**	*e*PKP	**PKPdf**	**10 24 32.5**	**-0.7**
WMQ				pPKP	**pPKPdf**	**10 24 43.5**	**+0.5**
TLY	**Talaya**	**162.49**	**10**	*e*PKP2	**PKPab**	**10 25 22.9**	**+1.2**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KSRS	**Korea Array**	**163.78**	**286**	PKPab	**PKPab**	**10 25 28.1**	**+0.2**
	comp=Z,2.4nm,1.0s,baz=115,slow=5.3,SNR=4.2						
KSAR	**Wonju Array Be**	**163.81**	**286**	PKP2	**PKPab**	**10 25 28.1**	**0.0**
KSAR	**Wonju Array Be**	**163.81**	**286**	PKPab	**PKPab**	**10 25 28.1**	**0.0**
SONM	**Songino Array**	**166.59**	**5**	PKPab	**PKPab**	**10 25 39.5**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=346,slow=4.5,SNR=8.0						
NJ2	**Nanjing**	**170.77**	**258**	*e*PKP	**PKPdf**	**10 24 41.8**	**+1.1**
BJI	**Beijing**	**171.58**	**314**	PKP	**PKPdf**	**10 24 40.5**	**-0.4**
BJI				LZ			
	comp=Z,25nm,28.5s						
GTA	**Gaotai**	**171.67**	**51**	*e*PKP	**PKPdf**	**10 24 40.9**	**-0.2**
GTA				pPKP	**pPKPdf**	**10 24 51.8**	**+0.9**
GTA				sPKP		10 24 55.4	
GTA				PKPab	**PKPab**	**10 26 03.8**	**+0.9**
GYA	**Guiyang**	**171.89**	**170**	*e*PKP	**PKPdf**	**10 24 41.3**	**-0.3**
GYA				pPKP	**pPKPdf**	**10 24 53.0**	**+1.6**
GYA				PKPab	**PKPab**	**10 26 05.4**	**+1.5**
GYA				PKS	**PKSdf**	**10 28 11.8**	**-2.4**
GYA				PP	**PP**	**10 29 58.3**	**+4.3**
GYA				SKKS		10 36 39.6	
GYA				PPMZ			
	comp=Z,120nm,8.5s						
GYA				LN			
	comp=Z,120nm,21.4s						
GYA				LE			
	comp=Z,110nm,22.0s						
GYA				LZ			
	comp=Z,120nm,21.2s						
HHC	**Hu-ho-hao-te**	**173.11**	**338**	*e*PKP	**PKPdf**	**10 24 42.5**	**+0.8**
HHC				pPKP	**pPKPdf**	**10 24 52.6**	**+1.1**
HHC				sPKP		10 24 59.0	
HHC				PP	PP	10 30 05.5	+5.3
HHC				SKS	**SKSdf**	**10 31 41.5**	**-1.3**
HHC				SKKS	**SKKSac**	**10 36 49.3**	**+4.2**
HHC				SS	**SS**	**10 51 16.0**	**+3.8**
HHC				PPMZ			
	comp=Z,110nm,6.9s						
HHC				LN			
	comp=Z,190nm,18.2s						
HHC				LE			
	comp=Z,170nm,19.8s						
HHC				LZ			
	comp=Z,120nm,19.6s						
WHN	**Wuhan**	**173.50**	**235**	PKP	**PKPdf**	**10 24 37.1**	**-4.9**
CD2	**Chengdu**	**174.82**	**132**	*e*PKP	**PKPdf**	**10 24 42.3**	**-0.2**
LZH	**Lanzhou**	**176.08**	**65**	*e*PKP	**PKPdf**	**10 24 42.3**	**-0.6**
LZH				pPKP	**pPKPdf**	**10 24 51.8**	**-0.8**
LZH				sPKP		10 24 55.5	

*CSEM **20** 10:06:22.8±0.3, 37.°15N×27.°88E, h2km, MD2.4, Error ellipse: s-maj=7.8km s-min=5.0km az=144.0*

ISK 20 10:06:21.7, 37.°19N×27.°89E, h17km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.32**	**100**	*e*PG	Pb	10 06 28.9	-0.2
YER				*e*SG	Sb	10 06 34.3	+0.2
YER	**Yerkesik**	**0.32**	**100**	*e*Pg	Pb	10 06 28.9	-0.2
YER				*e*Sg	Sb	10 06 34.3	+0.2
BDRM	**Kayabasi**	**0.38**	**250**	*i* P	Pg	10 06 29.4	-0.1
BDRM				*i* S	Sb	10 06 36.3	+0.8
BDRM	**Kayabasi**	**0.38**	**250**	*i* P	Pg	10 06 29.4	-0.1
BDRM				*i* S	Sb	10 06 36.3	+0.8
AYDN	**Tasoluk**	**0.47**	**359**	*i* P	Pn	10 06 33.2	-0.5
AYDN				*i* S	Sn	10 06 40.6	-1.1
AYDN	**Tasoluk**	**0.47**	**359**	*i* P	Pn	10 06 33.2	-0.5
AYDN				*i* S	Sn	10 06 40.6	-1.1
BODT	**Bodrum**	**0.48**	**254**	*e*PG	Pg	10 06 31.4	0.0
BODT				*e*SG	Sb	10 06 39.2	+0.7
BODT	**Bodrum**	**0.48**	**254**	*e*Pg	Pg	10 06 31.4	0.0
BODT				*e*Sg	Sb	10 06 39.2	+0.7
AYDB	**Zeytinkoy-Aydi**	**0.75**	**0**	*e*PG	Pg	10 06 36.9	+0.3
AYDB	**Zeytinkoy-Aydi**	**0.75**	**0**	*e*Pg	Pg	10 06 36.9	+0.3
NIS1	**Nisyros Isl.**	**0.82**	**224**	*e*PG	Pn	10 06 38.2	-0.3
NIS1	**Nisyros Isl.**	**0.82**	**224**	*e*Pg	Pn	10 06 38.2	-0.3
AKAS	**Kas**	**1.68**	**124**	*i* P	Pg	10 06 56.2	+1.9
AKAS	**Kas**	**1.68**	**124**	*i* P	Pg	10 06 56.2	+1.9
AKAS				*i* S	Sg	10 07 23.3	+7.0

*CSEM **20** 10:08:00.1±0.5, 36.°03N×0.°75W, h20km, ML2.6, Error ellipse: s-maj=10.5km s-min=5.0km az=158.0*

MDD 20 10:07:58.8±1.4, 35.°83N×0.°62W, h22km±13km, mbLg2.6/22, 1C, Error ellipse: s-maj=10.9km s-min=5.4km az=175.0, PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKGL	**Djebel Kef Gue**	**1.05**	**78**	*i* P	Pn	10 08 16.8	-1.4
	56nm,0.1s,SNR=18						
OKGL				S	Sb	10 08 31.2	-0.4
	628nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**1.71**	**312**	P	Pn	10 08 25.2	-2.1
	1.5nm,0.1s,SNR=7.9						
ENIJ				S	Sn	10 08 45.3	-3.3
	18nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**1.71**	**312**	P	Pn	10 08 25.2	-2.1
	1.5nm,0.1s,SNR=7.9						
ENIJ				S	Sn	10 08 45.3	-3.3
	18nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**1.97**	**255**	S	Sn	10 08 53.9	-0.8
	39nm,0.1s,SNR=7.9						
EMEL	**Melilla**	**1.97**	**255**	S	Sn	10 08 53.9	-1.0
	39nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.07**	**346**	P	Pn	10 08 30.2	-2.0
	0.6nm,0.2s,SNR=17						
EMUR				S	Sn	10 08 52.6	-4.9
	16nm,0.1s,SNR=11						
EMUR	**La Murta**	**2.07**	**346**	P	Pn	10 08 30.2	-2.1
	0.6nm,0.2s,SNR=17						
EMUR				S	Sn	10 08 52.6	-4.9
	16nm,0.1s,SNR=11						
EBER	**Berja**	**2.12**	**301**	P	Pn	10 08 31.5	-1.6
	0.5nm,0.1s,SNR=9.9						
EBER				S	Sn	10 08 56.5	-2.4
	10nm,0.2s,SNR=9.1						
EBER	**Berja**	**2.12**	**301**	P	Pn	10 08 31.5	-1.6
	0.5nm,0.1s,SNR=9.9						
EBER				S	Sn	10 08 56.5	-2.4
	10nm,0.2s,SNR=9.1						
EHUE	**Huescar**	**2.54**	**322**	S	Sn	10 09 04.7	-4.3
	2.9nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**2.54**	**322**	S	Sn	10 09 04.7	-4.3
	2.9nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**2.65**	**302**	P	Pn	10 08 40.1	-0.3
	0.5nm,0.1s,SNR=5.0						
EQUE				S	Sn	10 09 08.2	-3.7
	1.3nm,0.1s						
EQUE	**Quentar**	**2.65**	**302**	P	Pn	10 08 40.1	-0.2
	0.5nm,0.1s,SNR=5.0						
EQUE				S	Sn	10 09 08.2	-3.7
	1.3nm,0.1s						
SESP	**Santiago Espad**	**2.76**	**327**	P	Pn	10 08 42.4	+0.5
	5.3nm,0.1s,SNR=7.9						
SESP				S	Sn	10 09 13.1	-1.5
	4.6nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**2.76**	**327**	P	Pn	10 08 42.4	+0.5
	5.3nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.89**	**6**	P	Pn	10 08 42.1	-1.4
	0.1nm,0.1s,SNR=11						
EBEN				S	Sn	10 09 11.5	-6.2
	2.3nm,0.1s,SNR=5.4						
EBEN	**Beniarda**	**2.89**	**6**	P	Pn	10 08 42.1	-1.4
	0.1nm,0.1s,SNR=11						
ETOB	**Tobarra**	**2.91**	**346**	P	Pn	10 08 43.1	-0.7
	2.0nm,0.2s,SNR=27						
ETOB				S	Sn	10 09 15.2	-3.0
	2.4nm,0.1s						
ETOB	**Tobarra**	**2.91**	**346**	P	Pn	10 08 43.1	-0.7
	2.0nm,0.2s,SNR=27						
ETOB				S	Sn	10 09 15.2	-3.0
	2.4nm,0.1s						
EVIA	**Vianos**	**3.18**	**332**	P	Pn	10 08 46.8	-0.8
	1.6nm,0.1s,SNR=8.5						
EVIA				S	Sn	10 09 22.6	-2.4
	9.7nm,0.2s						
EVIA	**Vianos**	**3.18**	**332**	P	Pn	10 08 46.8	-0.8
	1.6nm,0.1s,SNR=8.5						
EVIA				S	Sn	10 09 22.6	-2.4
	9.7nm,0.2s						
EMIJ	**Mijas**	**3.44**	**284**	P	Pn	10 08 48.9	-2.1
	0.2nm,0.1s,SNR=7.9						
EMIJ				S	Sn	10 09 27.7	-3.4
	7.4nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**3.44**	**284**	P	Pn	10 08 48.9	-2.1
	0.2nm,0.1s,SNR=7.9						
EMIJ				S	Sn	10 09 27.7	-3.4
	7.4nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**3.44**	**314**	P	Pn	10 08 52.0	+0.9
	0.6nm,0.1s,SNR=7.9						
EBAN				S	Sn	10 09 26.5	-4.8
	2.7nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**3.44**	**314**	P	Pn	10 08 52.0	+0.9
	0.6nm,0.1s,SNR=7.9						
EBAN				S	Sn	10 09 26.5	-4.7
	2.7nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.56**	**26**	P	Pn	10 08 51.2	-1.4
	2.8nm,0.1s,SNR=25						
EIBI				S	Sn	10 09 29.0	-5.0
	18nm,0.2s,SNR=6.3						
EIBI	**Ibiza**	**3.56**	**26**	P	Pn	10 08 51.2	-1.4
	2.8nm,0.1s,SNR=25						
ECAB	**El Cabril**	**4.45**	**302**	P	Pn	10 09 03.8	-1.2
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	10 09 52.2	-3.9
	0.5nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.45**	**302**	P	Pn	10 09 03.8	-1.1
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	10 09 52.2	-3.9
	0.5nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.53**	**1**	P	Pn	10 09 06.3	0.0
	0.3nm,0.1s,SNR=16						
EMOS				S	Sn	10 09 54.6	-3.8
	1.9nm,0.2s,SNR=7.1						
EMOS	**Mosqueruela**	**4.53**	**1**	P	Pn	10 09 06.3	0.0
	0.3nm,0.1s,SNR=16						
EMOS				S	Sn	10 09 54.6	-3.8
	1.9nm,0.2s,SNR=7.1						
ESDC	**Sonseca Array**	**4.67**	**326**	P	Pn	10 09 08.2	+0.2
	0.6nm,0.3s,baz=140,slow=13,SNR=8.0						
ESDC				S	Sn	10 09 56.1	-5.3
	1.1nm,0.5s,baz=136,slow=23,SNR=5.0						
ESDC	**Sonseca Array**	**4.67**	**326**	P	Pn	10 09 08.2	+0.3
	0.6nm,0.3s,SNR=8.0						
ESDC				S	Sn	10 09 56.1	-5.3
	1.1nm,0.5s,SNR=5.0						
ETOS	**Mallorca**	**4.78**	**34**	P	Pn	10 09 08.6	-0.9
	0.1nm,0.0s,SNR=5.8						
ETOS				S	Sn	10 10 00.8	-3.4
	0.1nm,0.2s						
ETOS	**Mallorca**	**4.78**	**34**	P	Pn	10 09 08.6	-0.9
	0.1nm,0.0s,SNR=5.8						
ETOS				S	Sn	10 10 00.8	-3.5
	0.1nm,0.2s						
ETOR	**Torete**	**5.11**	**348**	S	Sn	10 10 08.2	-4.3
	1.0nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.11**	**348**	S	Sn	10 10 08.2	-4.3
	1.0nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**5.18**	**8**	P	Pn	10 09 14.7	-0.2
	1.3nm,0.1s,SNR=7.9						
ERTA				S	Sn	10 10 10.9	-3.0
	1.6nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**5.18**	**8**	P	Pn	10 09 14.7	-0.2
	1.3nm,0.1s,SNR=7.9						
ERTA				S	Sn	10 10 10.9	-3.1
	1.6nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.23**	**294**	P	Pn	10 09 14.8	-0.7
	0.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	10 10 11.3	-3.8
	0.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.23**	**294**	P	Pn	10 09 14.8	-0.8
	0.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	10 10 11.3	-3.9
	0.1nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**5.55**	**331**	P	Pn	10 09 16.8	-3.5
	0.8nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**5.55**	**331**	P	Pn	10 09 16.8	-3.4
	0.8nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**5.64**	**296**	*e*Pn	Pn	10 09 24.3	+3.0
PBAR				*e*Sn	Sn	10 10 20.3	-5.1
PBAR				A	A	10 10 27.0	
	0.6nm,0.2s						
PBAR	**Barrancos**	**5.64**	**296**	P	Pn	10 09 24.3	+3.0
PBAR				S	Sn	10 10 20.3	-5.1
	0.6nm,0.2s						
EPOB	**Poblet**	**5.68**	**13**	P	Pn	10 09 21.1	-0.7
	0.4nm,0.1s,SNR=7.9						
EPOB				S	Sn	10 10 21.4	-5.0
	2.2nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.68**	**13**	P	Pn	10 09 21.1	-0.7
	0.4nm,0.1s,SNR=7.9						
EPOB				S	Sn	10 10 21.4	-5.0
	2.2nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**5.77**	**289**	S	Sn	10 10 25.0	-3.5
	0.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**5.77**	**289**	S	Sn	10 10 25.0	-3.5
	0.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.87**	**302**	P	Pn	10 09 23.9	-0.6
	0.3nm,0.2s,SNR=7.9						
EBAD				S	Sn	10 10 26.2	-4.8
	1.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.87**	**302**	P	Pn	10 09 23.9	-0.5
	0.3nm,0.2s,SNR=7.9						
EBAD				S	Sn	10 10 26.2	-4.9
	1.0nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**5.92**	**288**	*e*Pn	Pn	10 09 24.3	-0.8
PVAQ				*e*Sn	Sn	10 10 28.5	-3.7
PVAQ				A	A	10 10 58.4	
	2.2nm,0.7s						
PVAQ	**Vaqueiros**	**5.92**	**288**	P	Pn	10 09 24.3	-0.8
PVAQ				S	Sn	10 10 28.5	-3.7
	2.2nm,0.7s						
PVAQ	**Vaqueiros**	**5.92**	**288**	P	Pn	10 09 24.3	-0.8
PVAQ				S	Sn	10 10 28.5	-3.7
	2.2nm,0.7s						
EPLA	**Plasencia**	**6.04**	**316**	S	Sn	10 10 31.2	-4.1
	2.0nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**6.04**	**316**	S	Sn	10 10 31.2	-4.1
	2.0nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**6.31**	**15**	P	Pn	10 09 30.7	+0.2
	0.3nm,0.1s,SNR=7.9						
EMIR				S	Sn	10 10 37.8	-4.1
	SNR=7.9						
EMIR	**Miracle**	**6.31**	**15**	P	Pn	10 09 30.7	+0.2
	0.3nm,0.1s,SNR=7.9						
EMIR				S	Sn	10 10 37.8	-4.1
	SNR=7.9						
PESTR	**Estremoz**	**6.33**	**301**	*e*Pn	Pn	10 09 32.0	+1.3
PESTR				*e*Sn	Sn	10 10 39.1	-3.2
CFON	**Fontmartina**	**6.39**	**21**	P	Pn	10 09 30.6	-1.0
	0.6nm,0.1s,SNR=7.9						
CFON				S	Sn	10 10 37.5	-6.5
	1.3nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**6.39**	**21**	P	Pn	10 09 30.6	-1.0
	0.6nm,0.1s,SNR=7.9						
PNCL	**Nicolau / Gran**	**6.73**	**292**	*e*Pn	Pn	10 09 35.6	-0.6
PNCL				*e*Sn	Sn	10 10 50.1	-2.0
PNCL	**Nicolau / Gran**	**6.73**	**292**	*e*Pn	Pn	10 09 35.6	-0.6
PNCL				*e*Sn	Sn	10 10 50.1	-2.0
ATE	**Arette**	**7.25**	**360**	S	Sn	10 11 01.0	-4.0
	0.7nm,0.4s,SNR=4.0						
ATE	**Arette**	**7.25**	**360**	S	Sn	10 11 01.0	-4.0
	0.7nm,0.4s,SNR=4.0						
EARI	**Arriondas**	**8.26**	**336**	P	Pn	10 09 57.1	-0.2
	0.3nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**8.26**	**336**	P	Pn	10 09 57.1	-0.2
	0.3nm,0.2s,SNR=7.9						

IDC 20 10:07:59.0±5.4, 13.°76S×173.°17W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.6/43, mbtmp3.9/3, MS3.6/5, Ms1 3.6/5, ms1mx3.2/26, Error ellipse: s-maj=280.0km s-min=37.5km az=143.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**21.07**	**244**	LR	LR	10 19 39.1	
	comp=Z,110nm,19.6s,baz=52,slow=33						
PPT	**Papeete**	**23.02**	**103**	LR	LR	10 19 00.7	
	comp=Z,95nm,21.8s,baz=288,slow=29						
PPT2	**Papeete2**	**23.03**	**103**	*e*LQ	LQ	10 17 18.0	
	345nm,26.0s						
PPT2				*e*LR	LR	10 18 08.7	
	182nm,23.8s						
TBI	**Tubuai**	**24.38**	**116**	*e*LQ	LQ	10 17 54.5	
	400nm,24.0s						
TBI				*e*LR	LR	10 18 49.1	
	146nm,26.8s						
HNR	**Honiara**	**26.68**	**276**	LR	LR	10 21 53.3	
	comp=Z,114nm,21.7s,baz=116,slow=31						
RKT	**Rikitea**	**37.32**	**110**	*e*T	T	10 53 23.6	
	3.8nm,0.2s						
WRA	**Warramunga Arr**	**50.45**	**255**	P	P	10 16 58.9	-0.1
	1.6nm,0.9s,baz=92,slow=6.7,SNR=15						
ASAR	**Alice Springs**	**50.85**	**251**	P	P	10 17 01.9	0.0
	11nm,0.9s,baz=83,slow=8.7,SNR=82						
JNU	**Nakatsue**	**70.85**	**313**	LR	LR	10 43 39.5	
	comp=Z,83nm,19.5s,baz=190,slow=30						
USRK	**Ussuriysk Ar.**	**76.21**	**323**	LR	LR	10 46 24.7	
	comp=Z,50nm,20.8s,baz=150,slow=30						
YKA	**Yellowknife Ar**	**88.51**	**23**	P	P	10 20 53.4	+0.3
	0.1nm,0.5s,baz=246,slow=4.6,SNR=1.9						
BRTR	**Keskin Array B**	**145.01**	**323**	PKPbc	PKPbc	10 27 36.6	-1.5
	0.3nm,0.5s,baz=25,slow=1.7,SNR=2.2						

GUC 20 10:15:42.3±0.3, 35.°33S×72.°55W, h20km±3km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.75**	**96**	*e*P	Pb	10 15 56.2	-0.5
TALC				*e*S	Sb	10 16 06.8	+0.4
COCH	**Cobquecura**	**0.82**	**194**	*e*P	Pb	10 15 57.4	-0.5
COCH				*e*S	Sb	10 16 08.6	0.0
LNCH	**Linares**	**0.93**	**124**	*e*P	Pb	10 15 59.1	-0.6
LNCH				*e*S	Sb	10 16 11.9	+0.3
NICH	**Los Niches**	**1.13**	**74**	*e*P	Pn	10 16 02.4	-0.5
NICH				*e*S	Sb	10 16 17.5	+0.1
NICH				AML	AML	10 16 21.9	
	comp=E,4μm,0.8s						
ANTU	**Antumapu**	**2.36**	**43**	AML	AML	10 16 57.3	
	comp=N,282nm,0.7s						
CLCH	**Cerro Calan**	**2.55**	**41**	*e*P	Pn	10 16 24.5	+1.9
CLCH				*e*S	Sb	10 16 56.7	-1.7
CLCH				AML	AML	10 17 05.9	
	comp=N,461nm,0.7s						

*IDC **20** 10:19:34.5±2.6, 7.°25S×113.°85E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/39, mbtmp3.3/3, Error ellipse: s-maj=160.1km s-min=28.7km az=50.0*

*ISCJB **20** 10:19:56.9±0.7, 7.°8S±0.°1×113.°67E±0

ISC 20 10:34:08.4±0.8, 23°37N±0°06×125°15E±0°04, h27km, n42, σ1°78/55, mb3.9/12, MS3.2/9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**1.33**	**342**	P	**Pb**	**10 34 31.4**	**-1.4**
JTJ				eS	**Sb**	**10 34 48.6**	**-0.8**
JIJ	**Ishigaki jima**	**1.35**	**317**	P	**Pn**	**10 34 30.6**	**-0.9**
JIJ				eS	**Sn**	**10 34 46.7**	**-1.9**
JKRS	**Kuro-shima**	**1.36**	**310**	P	**Pn**	**10 34 30.7**	**-0.9**
JKRS				eS	**Sn**	**10 34 47.1**	**-1.6**
JOGS	**Gusukube**	**1.41**	**10**	P	**Pb**	**10 34 32.8**	**-1.2**
JOGS				eS	**Sb**	**10 34 52.0**	**+0.5**
HATJ	**Hateruma jima**	**1.41**	**299**	P	**Pn**	**10 34 30.5**	**-1.8**
HATJ				eS	**Sn**	**10 34 47.8**	**-2.2**
JISG	**Ishigakijimahi**	**1.44**	**328**	P	**Pn**	**10 34 32.2**	**-0.5**
JISG				eS	**Sn**	**10 34 50.0**	**-0.7**
JMJ	**Miyako jima 2**	**1.45**	**5**	P	**Pb**	**10 34 33.6**	**-1.1**
JMJ				eS	**Sb**	**10 34 52.3**	**-0.4**
JIRB	**Irabujima**	**1.46**	**1**	P	**Pn**	**10 34 33.2**	**+0.3**
JIRB				eS	**Sb**	**10 34 52.1**	**-0.8**
JIKM	**Ikemajima**	**1.55**	**3**	P	**Pn**	**10 34 34.5**	**+0.2**
JIKM				eS	**Sb**	**10 34 55.0**	**-0.7**
IRIF	**Iriomote-Funau**	**1.62**	**307**	P	**Pn**	**10 34 34.1**	**-1.1**
IRIF				eS	**Sn**	**10 34 53.2**	**-1.9**
YOJ	**Yonaguni jima**	**2.24**	**300**	P	**Pn**	**10 34 42.6**	**-1.1**
YOJ				eS	**Sn**	**10 35 07.4**	**-3.1**
JYNG	**Yonagunijimaku**	**2.29**	**299**	P	**Pn**	**10 34 43.1**	**-1.3**
JYNG				eS	**Sn**	**10 35 08.7**	**-3.0**
JKE	**Kume jima 2**	**3.30**	**26**	P	**Pn**	**10 34 57.9**	**-0.4**
JKE				eS	**Sn**	**10 35 36.0**	**-0.7**
JJT2	**Tamagusuku 2**	**3.63**	**40**	P	**Pn**	**10 35 03.3**	**+0.4**
JJT2				eS	**Sn**	**10 35 44.2**	**-0.7**
JAGN	**Aguni-jima**	**3.73**	**30**	P	**Pn**	**10 35 03.6**	**-0.6**
JNTH	**Nagotoyohara**	**4.08**	**39**	eS	**Sn**	**10 35 53.8**	**-2.1**
JOW	**Kunigami**	**4.46**	**39**	P	**Pn**	**10 35 14.5**	**+0.2**
JOW				eS	**Sn**	**10 36 03.6**	**-1.8**
JOW	**Kunigami**	**4.46**	**39**	Pn	**Pn**	**10 35 14.1**	**-0.2**
	baz=202,slow=16						
JOW				Sn	**Sn**	**10 36 01.7**	**-3.7**
	1.4nm,0.3s,baz=107,slow=29,SNR=10						
JOKE	**Okinoerabujima**	**5.04**	**37**	P	**Pn**	**10 35 21.9**	**-0.3**
JTK	**Tokunoshima**	**5.58**	**37**	P	**Pn**	**10 35 28.7**	**-1.0**
JTK				eS	**Sn**	**10 36 29.2**	**-3.7**
JMZ	**Minamidaito 2**	**6.04**	**65**	P	**Pn**	**10 35 32.9**	**-3.1**
JMZ				eS	Sn	10 36 36.1	-8.2
JAMN	**Amaminishikomi**	**6.06**	**36**	P	**Pn**	**10 35 35.1**	**-1.2**
JAMN				eS	**Sn**	**10 36 41.2**	**-3.5**
JAM	**Amami Oshima**	**6.43**	**38**	P	**Pn**	**10 35 40.6**	**-0.7**
JAM				eS	**Sn**	**10 36 49.0**	**-4.8**
KSRS	**Korea Array**	**14.24**	**9**	Pn	**Pn**	**10 37 29.1**	**+0.8**
	0.1nm,0.3s,baz=189,slow=12,SNR=4.2						
KSRS				LR	LR	10 42 57.2	
	comp=Z,70nm,18.1s,baz=200,slow=37						
JCJ	**Chichijima**	**15.86**	**73**	LR	LR	10 42 21.5	
	comp=Z,368nm,21.7s,baz=28,slow=31						
MJAR	**Matsushiro Arr**	**17.31**	**38**	P	**P**	**10 38 12.5**	**+3.1**
	0.3nm,0.3s,baz=237,slow=12,SNR=6.2						
MJAR				LR	LR	10 44 43.4	
	comp=Z,53nm,21.5s,baz=120,slow=37						
CMAR	**Chiang Mai Arr**	**24.95**	**264**	P	**P**	**10 39 31.9**	**+2.2**
	0.7nm,0.4s,baz=57,slow=7.9,SNR=6.8						
CMAR				LR	LR	10 50 12.5	
	comp=Z,77nm,18.1s,baz=28,slow=39						
ASAJ	**Asahikawa**	**25.18**	**31**	P	**P**	**10 39 33.2**	**+1.7**
	5.1nm,0.8s,baz=213,slow=10,SNR=7.7						
ASAJ				LR	LR	10 49 13.2	
	comp=Z,39nm,20.5s,baz=144,slow=36						
SONM	**Songino Array**	**28.63**	**333**	P	**P**	**10 40 03.6**	**+0.8**
	0.5nm,0.7s,baz=161,slow=9.9,SNR=3.6						
SONM				LR	LR	10 51 33.7	
	comp=Z,51nm,19.6s,baz=92,slow=36						
TLY	**Talaya**	**32.76**	**335**	LR	LR	10 54 41.1	
	comp=Z,31nm,20.6s,baz=158,slow=38						
PETK	**Petropavlovsk-**	**38.59**	**31**	LR	LR	10 58 21.4	
	comp=Z,16nm,21.7s,baz=234,slow=38						
MKAR	**Makanchi Array**	**41.46**	**315**	P	**P**	**10 41 53.2**	**+0.2**
	1.7nm,0.8s,baz=103,slow=9.7,SNR=16						
MKAR				LR	LR	11 00 46.0	
	comp=Z,42nm,18.1s,baz=23,slow=38						
ZALV	**Zalesovo Beam**	**42.93**	**326**	P	**P**	**10 42 05.2**	**+0.5**
	1.2nm,0.5s,baz=112,slow=9.8,SNR=7.6						
ZALV				LR	LR	11 01 06.9	
	comp=Z,41nm,18.0s,baz=82,slow=38						
WRA	**Warramunga Arr**	**43.97**	**168**	P	**P**	**10 42 11.7**	**-1.8**
	1.9nm,0.8s,baz=347,slow=8.8,SNR=23						
KURBB	**Kurchatov Arra**	**45.09**	**319**	P	**P**	**10 42 22.2**	**+0.1**
	1.7nm,0.7s,baz=110,slow=8.1,SNR=11						
ASAR	**Alice Springs**	**47.52**	**169**	P	**P**	**10 42 40.0**	**-1.5**
	0.7nm,0.5s,baz=353,slow=9.6,SNR=21						
BVAR	**Borovoye Array**	**50.61**	**320**	P	P	10 43 07.1	+2.2
	0.6nm,0.4s,baz=106,slow=9.4,SNR=6.3						
NWAO	**Narrogin (SRO)**	**56.49**	**188**	LR	LR	11 10 25.2	
	comp=Z,30nm,19.0s,slow=39						
ILAR	**Eielson Array**	**68.27**	**27**	P	**P**	**10 45 08.2**	**+1.7**
	0.4nm,0.8s,baz=260,slow=6.5,SNR=5.8						
RAO	**Raoul Island**	**75.73**	**131**	LR	LR	11 12 02.2	
	comp=Z,262nm,21.3s,baz=126,slow=30						
BRTR	**Keskin Array B**	**76.56**	**308**	P	**P**	**10 45 58.1**	**+1.4**
	0.9nm,0.8s,baz=35,slow=5.3,SNR=4.5						
YKA	**Yellowknife Ar**	**82.28**	**24**	P	**P**	**10 46 28.2**	**+1.1**
	0.5nm,0.8s,baz=304,slow=4.6,SNR=9.0						

*IDC **20** 10:46:25.8±0.9, 34°00N×87°08E, h0km, mb3.6/11, mb1 3.8/14, mb1mx3.6/47, mbtmp3.6/14, ML2.7/2, MS3.0/4, Ms1 3.0/4, ms1mx2.7/32, Error ellipse: s-maj=32.5km s-min=16.6km az=57.0*

*ISCJB **20** 10:46:26.6±0.5, 34°21N±0°04×87°4E±0°1, h10km, mb3.5/9, MS3.2/3, Error ellipse: s-maj=13.2km s-min=6.0km az=2.3*

*BJI **20** 10:46:27.8, 34°27N×87°18E, h2km, mb3.9/1, Ms3.6/1, Ms7 3.4/1*

ISC 20 10:46:28.3±0.6, 34°22N±0°07×87°2E±0°1, h10km, n28, σ1°20/22, mb3.6/9, MS3.1/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.60**	**142**	Pg	**Pb**	**10 48 06.8**	**+0.3**
GUN	**Gumba**	**6.39**	**191**	eP	**Pn**	**10 48 05.2**	**+2.3**
	23nm,0.6s						
DANN	**Dangsing**	**6.56**	**208**	eP	Pn	10 48 08.6	+3.5
	8.9nm,0.4s						
GKN	**Gorkha**	**6.58**	**200**	eP	**Pn**	**10 48 07.8**	**+2.5**
	7.7nm,0.4s						
KKN	**Kakani**	**6.62**	**195**	eP	**Pn**	**10 48 07.0**	**+1.1**
PKI	**Pulchoki**	**6.81**	**194**	eP	**Pn**	**10 48 09.1**	**+0.6**
DMN	**Daman**	**6.84**	**196**	eP	**Pn**	**10 48 09.4**	**+0.6**
	12nm,0.4s						
PYUN	**Piuthan**	**7.10**	**212**	eP	**Pn**	**10 48 12.6**	**+0.2**
	30nm,0.4s						
KOLN	**Koldanda**	**7.14**	**207**	eP	**Pn**	**10 48 13.4**	**+0.4**
	9.9nm,0.6s						
AAK	**Ala-Archa**	**13.04**	**314**	Pn	Pn	10 49 37.1	+3.4
	0.2nm,0.3s,baz=114,slow=10.0,SNR=2.0						
AAK				LR	LR	10 55 35.6	
	comp=Z,20nm,21.1s,baz=59,slow=42						
MKAR	**Makanchi Array**	**13.11**	**345**	Pn	**Pn**	**10 49 35.9**	**+1.4**
	0.1nm,0.3s,baz=148,slow=12,SNR=6.4						
KURBB	**Kurchatov Arra**	**17.58**	**341**	P	**P**	**10 50 34.2**	**-0.2**
	0.0nm,0.3s,baz=158,slow=11,SNR=8.3						
CMAR	**Chiang Mai Arr**	**18.86**	**143**	P	**P**	**10 50 48.2**	**-0.4**
	baz=329,slow=12,SNR=11						
SONM	**Songino Array**	**19.78**	**41**	P	**Pn**	**10 51 01.2**	**+1.0**
	1.3nm,0.6s,baz=226,slow=13,SNR=12						
ZALV	**Zalesovo Beam**	**19.80**	**356**	P	**Pn**	**10 51 00.2**	**0.0**
	0.5nm,0.4s,baz=167,slow=7.0,SNR=5.3						
HHC	**Hu-ho-hao-te**	**20.37**	**64**	eP	Pn	10 51 14.0	+6.8
BVAR	**Borovoye Array**	**22.30**	**333**	P	**P**	**10 51 27.3**	**+1.6**
	0.3nm,0.5s,baz=137,slow=15,SNR=2.4						
GEYT	**Alibeck**	**23.77**	**287**	LR	LR	11 03 46.5	
	comp=Z,24nm,19.3s,baz=160,slow=44						
AKASG	**Malin Array Be**	**44.67**	**310**	LR	LR	11 17 37.2	
	comp=Z,24nm,18.6s,baz=235,slow=42						
FINES	**FINESS Array B**	**46.92**	**325**	P	**P**	**10 54 58.7**	**+0.1**
	0.6nm,0.6s,baz=90,slow=5.9,SNR=5.1						
NOA	**NORSAR Array B**	**54.09**	**324**	P	**P**	**10 55 51.7**	**-1.2**
	1.5nm,0.8s,baz=84,slow=7.3,SNR=3.9						
GERES	**GERESS Array B**	**54.87**	**309**	P	**P**	**10 55 58.8**	**0.0**
	0.6nm,0.7s,baz=89,slow=4.1,SNR=3.5						
WRA	**Warramunga Arr**	**70.08**	**133**	P	**P**	**10 57 39.0**	**-1.8**
	0.7nm,0.9s,baz=327,slow=6.7,SNR=6.9						
PMG	**Port Moresby**	**71.41**	**116**	LR	LR	11 32 38.2	
	comp=Z,50nm,18.7s,baz=265,slow=39						
ASAR	**Alice Springs**	**72.67**	**136**	P	**P**	**10 57 55.3**	**-1.1**
	0.5nm,0.8s,baz=322,slow=6.3,SNR=6.0						
ILAR	**Eielson Array**	**72.69**	**21**	P	**P**	**10 57 55.9**	**0.0**
	0.3nm,0.6s,baz=327,slow=6.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**79.08**	**278**	P	**P**	**10 58 31.9**	**-1.4**
	0.4nm,0.7s,baz=51,slow=5.1,SNR=2.6						
YKA	**Yellowknife Ar**	**82.03**	**10**	P	**P**	**10 58 47.9**	**-0.4**
	0.4nm,0.7s,baz=334,slow=5.3,SNR=10						

MEX 20 10:55:40.8±0.4, 17°50N×101°79W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.33**	**70**	*i* P	Pg	10 55 46.7	-0.5
ZIIG				eS	Sg	10 55 51.9	+0.4
CAIG	**El Cayaco**	**1.52**	**107**	eP	Pn	10 56 05.4	-3.3
CAIG				*i* S	Sn	10 56 23.3	-5.6
ARIG	**Puente Sto Nin**	**1.58**	**60**	eP	Pn	10 56 06.1	-3.5
ARIG				eS	Sn	10 56 25.6	-4.8
PLIG	**Platanillo**	**2.35**	**67**	eP	Pn	10 56 17.8	-2.4
PLIG				*i* S	Sn	10 56 45.8	-3.8

MEX 20 11:22:46.1±1.0, 15°76N×98°68W, h22km±107km, MD3.5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.82**	**40**	*i* P	Pb	11 22 59.6	-2.1
PNIG				*i* S	Sb	11 23 08.9	-3.4
TLIG	**Tlapa**	**1.79**	**3**	eP	Pn	11 23 12.3	-3.7
TLIG				*i* S	Sn	11 23 34.8	-3.4
VHO	**Vista Hermosa**	**2.27**	**55**	eP	Pn	11 23 19.7	-3.0
VHO				*i* S	Sn	11 23 47.2	-3.0
ARIG	**Puente Sto Nin**	**2.97**	**328**	eP	Pn	11 23 29.6	-2.4
ARIG				*i* S	Sn	11 24 03.8	-3.2

*ISK **20** 11:22:49.2, 38°75N×40°03E, h5km, ML3.5*

*DDA **20** 11:22:49.8, 38°77N×40°05E, h5km, MD3.4*

*CSEM **20** 11:22:51.0±0.2, 38°72N×39°95E, h2km, ML3.5, Error ellipse: s-maj=6.3km s-min=5.9km az=7.0*

ISC 20 11:22:50.7±1.1, 38°75N±0°02×40°03E±0°02, h4km±11km, n44, σ1°09/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.38**	**70**	ePg	**Pb**	**11 23 00.6**	**+0.5**
PTK	**Pertek**	**0.52**	**286**	ePG	**Pg**	**11 23 00.0**	**-0.6**
PTK				eSG	**Sg**	**11 23 08.9**	**+1.5**
PTK	**Pertek**	**0.52**	**286**	ePg	**Pg**	**11 23 00.0**	**-0.6**
BNGB	**Bing¶ll**	**0.56**	**64**	ePG	**Pg**	**11 23 00.6**	**-0.9**
BNGB				eSG	**Sg**	**11 23 09.6**	**+0.8**
SVRC	**Sivrice-ELAZID**	**0.68**	**237**	ePG	**Pg**	**11 23 03.1**	**-0.6**
SVRC	**Sivrice-ELAZID**	**0.68**	**237**	ePg	**Pg**	**11 23 03.1**	**-0.6**
DYBB	**Diyarbakir**	**0.80**	**174**	ePG	**Pg**	**11 23 06.3**	**+0.4**
ELZG	**Elazig**	**0.86**	**253**	*i* P	**Pg**	**11 23 05.7**	**-1.4**
ELZG	**Elazig**	**0.86**	**253**	*i* P	**Pg**	**11 23 05.7**	**-1.4**
ELZG				*i* S	**Sn**	**11 23 23.8**	**+1.1**
DIY	**Diyarbakir**	**0.86**	**170**	ePg	**Pg**	**11 23 06.3**	**-0.9**
ERZN	**Erzincan**	**0.87**	**344**	ePG	**Pg**	**11 23 06.7**	**-0.7**
BNGL	**BINGOL**	**0.90**	**77**	*i* P	**Pg**	**11 23 07.7**	**-0.2**
BNGL				*i* S	**Sb**	**11 23 22.4**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.09**	**123**	ePN	**Pg**	**11 23 11.4**	**-0.2**
BEST	**Besiri**	**1.30**	**131**	*i* P	**Pn**	**11 23 15.2**	**-0.4**
BEST				*i* S	**Sn**	**11 23 34.0**	**+0.5**
KEMA	**Kemaliye**	**1.30**	**294**	*i* P	**Pn**	**11 23 13.6**	**-2.2**
KEMA				*i* S	**Sn**	**11 23 33.6**	**-0.1**
KEMA	**Kemaliye**	**1.30**	**294**	*i* P	**Pn**	**11 23 13.6**	**-2.2**
KEMA				*i* S	**Sn**	**11 23 33.6**	**-0.1**
MAZI	**Mazidag**	**1.33**	**166**	ePN	**Pn**	**11 23 15.1**	**-1.0**
MAZI	**Mazidag**	**1.33**	**166**	ePn	**Pn**	**11 23 15.1**	**-1.0**
MALT	**Malatya**	**1.33**	**251**	ePN	**Pn**	**11 23 15.4**	**-0.7**
MALT	**Malatya**	**1.33**	**251**	ePn	**Pn**	**11 23 15.4**	**-0.7**
ILIC	**ilic-Erzincan**	**1.34**	**302**	ePN	**Pg**	**11 23 16.3**	**0.0**
ILIC	**ilic-Erzincan**	**1.34**	**302**	ePn	**Pg**	**11 23 16.3**	**0.0**
KELT	**Kelkit**	**1.52**	**337**	*i* P	**Pn**	**11 23 18.8**	**0.0**
KELT				*i* S	**Sg**	**11 23 40.3**	**+0.7**
KELT	**Kelkit**	**1.52**	**337**	*i* P	**Pn**	**11 23 18.8**	**0.0**
KELT				*i* S	**Sg**	**11 23 40.3**	**+0.7**
MARD	**Mardin**	**1.55**	**157**	*i* P	**Pn**	**11 23 19.1**	**-0.1**
MARD				*i* S	**Sb**	**11 23 39.8**	**-0.2**
EZM	**Erzurum**	**1.55**	**41**	ePN	**Pb**	**11 23 19.8**	**-0.3**
URFA	**Urfa**	**1.62**	**217**	ePN	**Pb**	**11 23 20.4**	**-0.7**
URFA	**Urfa**	**1.62**	**217**	ePn	**Pb**	**11 23 20.4**	**-0.7**
BAYT	**Ayd¨–ntepe-Bay**	**1.65**	**3**	ePN	**Pn**	**11 23 20.7**	**+0.2**
BAYT	**Ayd¨–ntepe-Bay**	**1.65**	**3**	ePn	**Pn**	**11 23 20.7**	**+0.2**
AKCD	**Akcadag**	**1.71**	**255**	*i* P	**Pb**	**11 23 22.8**	**0.0**
AKCD	**Akcadag**	**1.71**	**255**	*i* P	**Pb**	**11 23 22.8**	**0.0**
GUMT	**Gumushane**	**1.76**	**346**	ePN	**Pn**	**11 23 22.1**	**0.0**
GUMT	**Gumushane**	**1.76**	**346**	ePn	**Pn**	**11 23 22.1**	**0.0**
ATAB	**Bozova**	**1.87**	**228**	*i* P	**Pn**	**11 23 24.1**	**+0.7**
ATAB				*i* S	**Sg**	**11 23 51.3**	**+0.5**
ATAB	**Bozova**	**1.87**	**228**	*i* P	**Pn**	**11 23 24.1**	**+0.7**
ATAB				*i* S	**Sg**	**11 23 51.3**	**+0.5**
SUSE	**Susehri**	**2.03**	**316**	*i* P	**Pb**	**11 23 28.0**	**-0.3**
SUSE	**Susehri**	**2.03**	**316**	*i* P	**Pb**	**11 23 28.0**	**-0.3**
SUSE				*i* S	**Sg**	**11 23 56.1**	**+0.1**
SIRT	**Sirnak**	**2.27**	**122**	ePN	**Pn**	**11 23 30.0**	**+0.9**
SIRT	**Sirnak**	**2.27**	**122**	ePn	**Pn**	**11 23 30.0**	**+0.9**
GZT	**Gaziantep**	**2.39**	**235**	*i* P	**Pg**	**11 23 36.1**	**-0.4**
GZT				*i* S	**Sg**	**11 24 10.5**	**+3.1**
KUZU	**Kuzuini**	**3.06**	**231**	*i* P	**Pg**	**11 23 48.4**	**-0.9**
KUZU				*i* S	**Sg**	**11 24 31.8**	**+2.9**
HAKT	**HAKKARI**	**3.13**	**111**	*i* P	**Pb**	**11 23 44.3**	**-2.7**
HAKT	**HAKKARI**	**3.13**	**111**	*i* P	**Pb**	**11 23 44.3**	**-2.7**
HAKT				*i* S	Sg	11 24 39.9	+8.6

IDC 20 11:27:44.4±1.8, 11°84S×165°20E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/24, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=51.2km s-min=33.7km az=127.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.24**	**174**	Pn	Pn	11 30 13.1	+0.1
	0.9nm,0.3s,baz=176,slow=15,SNR=8.0						
WRA	**Warramunga Arr**	**30.72**	**251**	P	P	11 34 01.9	+0.4
	0.3nm,0.5s,baz=82,slow=9.1,SNR=5.3						
ASAR	**Alice Springs**	**31.96**	**244**	P	P	11 34 11.9	-0.6
	0.3nm,0.7s,baz=70,slow=9.6,SNR=5.6						
ILAR	**Eielson Array**	**84.43**	**19**	P	P	11 40 18.6	0.0
	0.2nm,0.7s,baz=224,slow=5.7,SNR=4.6						

IDC 20 11:31:24.6±7.1, 29°25S×68°49W, h110km±67km, mb3.5/1, mb1 3.2/2, mb1mx3.1/23, mbtmp3.5/2, Error ellipse: s-maj=86.1km s-min=71.8km az=89.0, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**2.36**	**175**	P	Pn	11 32 02.3	0.0
	0.9nm,0.3s,baz=348,slow=11,SNR=100						
CFAA				S	Sn	11 32 31.7	+0.5
	6.3nm,0.3s,baz=340,slow=12,SNR=56						
TORD	**Torodi Ar. Bea**	**79.70**	**69**	P	P	11 43 20.5	-0.2
	0.6nm,0.7s,baz=256,slow=5.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**148.61**	**31**	PKPbc	PKPbc	11 50 58.4	0.0
	0.9nm,0.4s,baz=331,slow=2.2,SNR=3.6						
MKAR	**Makanchi Array**	**151.31**	**44**	PKPbc	PKPbc	11 51 04.8	-0.4
	0.5nm,0.7s,baz=290,slow=2.8,SNR=5.4						

DJA 20 11:32:31.4±0.3, 0°N±3°×10°0E±°, h10km, M3.7/10, MLv3.7/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.53**	**334**	P	Pg	11 32 36.7	-5.0
MNSI				S	Sg	11 32 44.7	-3.9
BKNI	**Bangkinang**	**1.23**	**90**	P	Pn	11 32 53.6	-1.1
PDSI	**Padang**	**1.39**	**152**	P	Pn	11 32 52.0	-4.9
PDSI				S	Sb	11 33 12.2	-3.1
SDSI	**Sungai Dareh**	**2.04**	**128**	P	Pn	11 33 05.3	-0.5
GSI	**Gunungsitoli**	**2.44**	**294**	P	Pn	11 33 11.3	0.0
GSI				S	Sb	11 33 45.3	-0.3
RGRI	**Rengat**	**2.61**	**105**	P	Pb	11 33 16.1	-2.2
RGRI				S	Sb	11 33 48.2	-2.3
KCSI	**Kotacane, Aceh**	**3.78**	**327**	P	Pb	11 33 35.3	-3.0
KCSI				S	Sb	11 34 24.4	+0.3
TPTI		**3.93**	**318**	P	Pn	11 33 34.2	+2.4
MASI	**Maura Aman, Be**	**4.21**	**145**	P	Pn	11 33 34.4	-1.4
MLSI	**Meulaboh, Aceh**	**5.19**	**319**	P	Sn	11 34 57.4	+8.2

*ISCJB **20** 11:42:28.1±0.4, 8°23S±0°06×108°96E±0°03, h83km±5km, mb4.0/13, Error ellipse: s-maj=9.3km s-min=4.0km az=9.5*

*NEIC **20** 11:42:28.0±0.9, 8°08S×108°96E, h73km±10km, mb4.4/2, Error ellipse: s-maj=17.9km s-min=9.4km az=197.0*

NEIC Felt [III] at Cilacap and Pangandaran. Also felt at Banyumas.

*IDC **20** 11:42:28.8±3.5, 7°87S×109°10E, h74km±30km, mb3.9/12, mb1 4.0/13, mb1mx3.8/36, mbtmp4.2/13, MS3.1/3, Ms1 3.2/3, ms1mx2.7/29, Error ellipse: s-maj=31.2km s-min=14.9km az=48.0*

*DJA **20** 11:42:31.2±0.4, 8°S±3°×10°9E±°, h33km±5km, M4.5/26, mb4.6/5, mB5.2/1, MLv4.5/26, Mw(mB)4.6/1*

ISC 20 11:42:28.3±0.7, 8°27S±0°08×109°01E±0°03, h73km±5km, n64, σ1°82/72, mb4.2/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.73**	**311**	P	**Pn**	**11 42 42.5**	**-1.4**
CMJI				S	**Sn**	**11 42 53.2**	**-2.1**
KPJI	**Karang Pucung**	**0.94**	**355**	P	**Pn**	**11 42 46.9**	**+0.6**
KPJI				S	**Sn**	**11 42 58.7**	**-0.8**
CISI	**Cisompet, Garu**	**1.38**	**301**	P	**Pn**	**11 42 51.8**	**-0.1**
CISI				S	**Sn**	**11 43 09.1**	**-0.5**
CISI	**Cisompet, Garu**	**1.38**	**301**	P	**Pn**	**11 42 51.9**	**0.0**
	baz=1.5,SNR=35						
CISI				S	**Sn**	**11 43 08.9**	**-0.7**
	baz=1.5,SNR=9.1						
CISI	**Cisompet, Garu**	**1.38**	**301**	ePn	**Pn**	**11 42 51.9**	**+0.1**
CISI				eSn	**Sn**	**11 43 08.9**	**-0.7**
UGM	**Wanagama**	**1.54**	**77**	P	**Pn**	**11 42 56.0**	**+2.0**
UGM				S	**Sn**	**11 43 10.1**	**-3.4**
UGM	**Wanagama**	**1.54**	**77**	P	**Pn**	**11 42 53.5**	**-0.5**
	baz=1.6,SNR=120						
UGM				S	**Sn**	**11 43 12.1**	**-1.3**
	baz=1.6,SNR=11						
WOJI	**Wonogiri, Jawa**	**1.95**	**77**	P	**Pn**	**11 43 02.5**	**+3.1**
LEM	**Lembang**	**1.99**	**316**	P	**Pn**	**11 43 02.6**	**+2.5**
LEM				S	**Sn**	**11 43 24.3**	**+0.1**
LEM	**Lembang**	**1.99**	**316**	P	**Pn**	**11 43 02.9**	**+2.8**
	baz=2.1,SNR=19						
CNJI	**Cibinong**	**2.09**	**297**	P	**Pn**	**11 43 03.9**	**+2.6**
PCJI	**Pacitan**	**2.15**	**88**	P	Pn	11 43 05.9	+3.8
UWJI	**Ujung Watu**	**2.67**	**46**	P	**Pn**	**11 43 09.3**	**+0.2**
UWJI				S	**Sn**	**11 43 40.6**	**+0.2**
SKJI	**Sukabumi**	**2.73**	**297**	P	**Pn**	**11 43 13.0**	**+3.0**
SKJI				S	**Sn**	**11 43 45.5**	**+3.4**
PWJI	**Pagerwojo**	**2.78**	**85**	P	Pn	11 43 15.0	+4.4
PWJI				S	**Sn**	**11 43 41.7**	**-1.5**
CGJI	**Cibinong**	**3.67**	**296**	P	**Pn**	**11 43 23.4**	**+0.6**
CGJI				S	**Sn**	**11 44 03.8**	**-1.2**
GRJI	**Gresik**	**3.70**	**69**	P	**Pn**	**11 43 23.8**	**+0.7**
GRJI				S	**Sn**	**11 44 05.8**	**+0.2**
XMI	**Christmas Isla**	**3.92**	**236**	P	Pn	11 43 24.8	-1.4
	baz=3.8,SNR=10.0						
XMI				S	Sn	11 44 04.4	-6.6
	baz=3.8,SNR=9.5						
XMIS	**Christmas Isla**	**3.97**	**236**	P	Pn	11 43 25.2	-1.7
	baz=3.8,SNR=19						
XMIS				S	Sn	11 44 04.9	-7.4
	baz=3.8,SNR=17						
XMIS	**Christmas Isla**	**3.97**	**236**	ePn	Pn	11 43 25.1	-1.8
GMJI	**Gumukmas**	**4.39**	**90**	P	Pn	11 43 37.2	+4.6
GMJI				S	**Sn**	**11 44 23.3**	**+0.7**
BLJI	**Banyuglugur**	**4.58**	**84**	P	Pn	11 43 39.5	+4.4
KMMI	**Kalianget**	**5.07**	**76**	P	Pn	11 43 45.4	+3.6
JAGI	**Jajag, Banyuwa**	**5.10**	**93**	P	**Pn**	**11 43 44.1**	**+1.9**
	67nm,0.6s,3μm1.0nm						
JAGI				S	**Sn**	**11 44 36.9**	**-2.9**
	67nm,0.6s,3μm1.0nm						
JAGI	**Jajag, Banyuwa**	**5.10**	**93**	P	**P

*GUC **20** 12:12:32.7±0.4, 36°.85S×73°.44W, h21km±3km, ML4.2*
*IDC **20** 12:12:32.8±1.7, 36°.79S×73°.07W, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.6/25, mbtmp3.4/6, ML3.4/2, MS2.8/3, Ms1 2.8/3, ms1mx2.7/12, Error ellipse: s-maj=42.9km s-min=19.8km az=79.0*
ISC 20 12:12:33.8±1.1, 36°.81S±0°.04×73°.2W±0°.1, h10km, n12, σ1§00/16, mb3.6/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.77**	**28**	*e*P	**Pb**	**12 12 49.7**	**+0.5**
COCH				*e*S	**Sn**	**12 13 02.2**	**0.0**
AGCH	**Angol**	**1.09**	**157**	*e*P4	**Pb**	**12 12 54.6**	**-0.1**
AGCH				*e*S	**Sg**	**12 13 09.4**	**+0.4**
LNCH	**Linares**	**1.63**	**55**	*e*P	**Pb**	**12 13 04.1**	**+0.1**
LNCH				*e*S	**Sg**	**12 13 28.1**	**+1.9**
LNCH				AML	AML	12 13 33.1	
	comp=E,4μm,0.4s						
TALC	**Talca**	**1.91**	**43**	*e*P	**Pb**	**12 13 08.1**	**-0.7**
TALC				*e*S	**Sg**	**12 13 35.3**	**0.0**
PLCA	**Paso Flores**	**4.45**	**153**	Pn	**Pn**	**12 13 42.4**	**+1.0**
	comp=E,0.8nm,0.3s,baz=324,slow=11,SNR=7.7						
PLCA				Lg	Lg	12 14 53.4	
	comp=E,2.8nm,0.3s,baz=53,slow=23,SNR=2.5						
PLCA				LR	LR	12 15 43.3	
	comp=E,141nm,21.9s,baz=302,slow=43						
CFAA	**Coronel Fontan**	**6.64**	**40**	Pn	**Pn**	**12 14 10.3**	**-1.1**
	comp=E,0.3nm,0.3s,baz=206,slow=12,SNR=9.8						
CFAA				Sn	**Sn**	**12 15 26.5**	**-0.7**
	comp=E,0.2nm,0.3s,baz=243,slow=23,SNR=1.7						
CFAA				Lg	Lg	12 16 05.0	
	comp=E,0.1nm,0.3s,baz=125,slow=24,SNR=2.1						
CFAA				LR	LR	12 16 57.4	
	comp=E,23nm,18.8s,baz=215,slow=40						
LPAZ	**La Paz**	**20.93**	**14**	P	**P**	**12 17 18.6**	**+1.2**
	comp=E,0.7nm,0.5s,baz=197,slow=10,SNR=2.4						
SIV	**San Ignacio**	**23.38**	**31**	P	**P**	**12 17 43.1**	**+0.4**
	comp=E,0.9nm,0.5s,baz=227,slow=8.4,SNR=2.5						
BDFB	**Brasilia**	**30.76**	**53**	LR	LR	12 32 07.5	
	comp=E,57nm,19.4s,baz=192,slow=38						
TXAR	**Lajitas Array**	**71.73**	**332**	P	**P**	**12 23 57.1**	**+1.0**
	comp=E,0.5nm,0.7s,baz=138,slow=9.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**86.08**	**71**	P	**P**	**12 25 13.4**	**-1.7**
	comp=E,0.2nm,0.5s,baz=233,slow=1.7,SNR=1.5						
MKAR	**Makanchi Array**	**159.28**	**54**	PKPab	**PKPab**	**12 33 08.8**	**-0.6**
	comp=E,0.1nm,0.4s,baz=267,slow=2.5,SNR=1.2						

*IDC **20** 12:17:12.4±2.5, 54°.33N×86°.85E, h0km, mb1 3.4/3, mb1mx3.1/45, mbtmp3.4/3, ML3.1/3, Error ellipse: s-maj=22.3km s-min=12.9km az=58.0*
*NNC **20** 12:17:14.6±2.5, 54°.22N×86°.75E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=18.0km s-min=16.1km az=54.0*
ISC 20 12:17:10.6±4.2, 54°.6N±0°.2×87°.3E±0°.2, h35km, n9, σ2§49/14, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**246**	*i*		12 26 27.2	
	baz=71,slow=338,SNR=0.6						
ZALV	**Zalesovo Beam**	**1.57**	**246**	Pg	**Pn**	**12 17 34.9**	**-1.0**
	4.3nm,0.3s,baz=65,slow=16,SNR=27						
ZALV				Lg	Lg	12 17 53.2	
	3.4nm,0.3s,baz=69,slow=26,SNR=12						
KURK	**Kurchatov**	**6.53**	**237**	⇑Pn	**Pn**	**12 18 45.3**	**+1.2**
	1.9nm,0.8s						
KURK				⇑Sn	**Sn**	**12 19 57.3**	**0.0**
	1.7nm,0.8s						
KURK				⇑Lg	Lg	12 20 28.4	
	7.3nm,0.8s						
KURBB	**Kurchatov Arra**	**6.64**	**237**	⇑Pn	**Pn**	**12 18 47.5**	**+2.0**
	2.5nm,0.3s						
KURBB				⇑Sn	**Sn**	**12 20 00.4**	**+0.6**
	3.7nm,0.7s						
KURBB				⇓Lg	Lg	12 20 31.5	
	13nm,0.7s						
KURBB	**Kurchatov Arra**	**6.64**	**237**	Pn	**Pn**	**12 18 47.6**	**+2.1**
	0.3nm,0.3s,baz=55,slow=14,SNR=24						
KURBB				Sn	**Sn**	**12 20 02.9**	**+3.1**
	0.1nm,0.3s,baz=54,slow=23,SNR=5.7						
KURBB				Lg	Lg	12 20 36.2	
	0.1nm,0.3s,baz=338,slow=30,SNR=8.8						
MK31	**Makanchi Array**	**8.42**	**204**	⇑Pn	**Pn**	**12 19 11.8**	**+1.8**
	0.4nm,0.4s,baz=28,slow=12,SNR=5.7						
MK31				⇓Sn	**Sn**	**12 20 41.8**	**-2.1**
	1.3nm,0.7s,baz=28,slow=25,SNR=5.7						
MK31				⇓Lg	Lg	12 21 27.5	
	5.0nm,0.8s						
MKAR	**Makanchi Array**	**8.42**	**204**	Pn	**Pn**	**12 19 11.4**	**+1.3**
	0.3nm,0.3s,baz=25,slow=14,SNR=13						
MKAR				Sn	**Sn**	**12 20 42.2**	**-1.7**
	0.1nm,0.3s,baz=30,slow=27,SNR=9.5						
MKAR				Lg	Lg	12 21 28.9	
	0.1nm,0.3s,baz=33,slow=32,SNR=6.3						
BVA0	**Borovoye Array**	**10.10**	**268**	⇓Pn	Pn	12 19 37.1	+4.2
	2.6nm,1.1s,baz=64,slow=17,SNR=5.4						
BVA0				⇓Sn	**Sn**	**12 21 25.8**	**+1.0**
	3.8nm,0.8s						
BVAR	**Borovoye Array**	**10.10**	**268**	Pn	**Pn**	**12 19 35.7**	**+2.8**
	0.3nm,0.3s,baz=65,slow=16,SNR=5.0						
BVAR				Sn	**Sn**	**12 21 19.6**	**-5.2**
	0.3nm,0.3s,baz=72,slow=19,SNR=3.4						

GUC 20 12:40:39.7±0.4, 34°.91S×72°.99W, h38km±1km, ML4.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.22**	**114**	*e*P	Pn	12 41 01.2	+1.0
TALC				*e*S	Sn	12 41 17.4	+2.0
COCH	**Cobquecura**	**1.23**	**172**	*e*P	Pn	12 41 01.2	+0.9
COCH				*e*S	Sn	12 41 17.6	+2.0
NICH	**Los Niches**	**1.45**	**94**	*e*P	Pn	12 41 04.7	+1.3
NICH				*e*S	Sn	12 41 23.6	+2.4
LNCH	**Linares**	**1.47**	**130**	*e*P	Pn	12 41 05.0	+1.3
LNCH				*e*S	Sn	12 41 24.2	+2.5
CACH	**El Canelo**	**2.13**	**69**	*e*P	Pn	12 41 14.8	+1.9
CLCH	**Cerro Calan**	**2.54**	**54**	*e*P	Pn	12 41 19.7	+1.3
CLCH				*e*S	Sn	12 41 50.2	+2.0
CLCH				AML	AML	12 42 09.7	
	comp=N,697nm,0.8s						
PEL	**Peldehue**	**2.61**	**48**	*e*P	Pn	12 41 20.4	+1.1
PEL				*e*S	Sn	12 41 51.9	+2.0
PEL				AML	AML	12 42 11.9	
	comp=N,882nm,0.5s						

*ISCJB **20** 12:46:21.0±1.0, 44°.32N±0°.07×129°.2W±0°.1, h10km, mb3.6/5, MS3.0/3, Error ellipse: s-maj=12.5km s-min=8.0km az=135.9*
*IDC **20** 12:46:21.4±1.8, 44°.44N×129°.23W, h0km, mb3.7/5, mb1 3.8/10, mb1mx3.6/35, mbtmp3.5/10, ML3.0/5, MS3.1/9, Ms1 3.1/9, ms1mx2.8/34, Error ellipse: s-maj=37.2km s-min=15.9km az=48.0*
*NEIC **20** 12:46:22.8±1.2, 44°.35N×129°.24W, h10km, mb3.6/1, Error ellipse: s-maj=15.4km s-min=10.0km az=52.0*
ISC 20 12:46:23.3±1.4, 44°.4N±0°.1×129°.1W±0°.1, h10km, n46, σ1§53/37, mb3.9/5, MS2.9/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COR	**Corvallis**	**4.16**	**86**	*e*Pn	**Pn**	**12 47 26.0**	**-0.9**
NLWA	**Neilton Lookou**	**4.72**	**49**	*e*Pn	**Pn**	**12 47 35.4**	**+0.8**
OOW	**Octopus West**	**4.77**	**44**	P	**Pn**	**12 47 36.2**	**+0.9**
HBO	**Huckleberry Mo**	**4.93**	**94**	P	**Pn**	**12 47 37.5**	**-0.1**
OTR	**Olympics--Tyee**	**4.94**	**40**	P	**Pn**	**12 47 39.1**	**+1.4**
OSD	**Olympics--Snow**	**5.08**	**46**	P	**Pn**	**12 47 40.5**	**+0.8**
ERK	**Elk Rock**	**5.14**	**66**	P	**Pn**	**12 47 41.0**	**+0.6**
TDL	**Tradedollar La**	**5.23**	**66**	P	**Pn**	**12 47 42.1**	**+0.4**
HDW	**Hoodsport**	**5.32**	**50**	P	**Pn**	**12 47 43.7**	**+0.9**
YBH	**Yreka Blue Hor**	**5.41**	**118**	Pn	**Pn**	**12 47 47.3**	**+3.2**
	0.3nm,0.3s,baz=281,slow=12,SNR=6.1						
YBH				Sn	**Sn**	**12 48 44.2**	**-2.2**
	0.2nm,0.3s,baz=23,slow=15,SNR=2.5						
YBH				LR	LR	12 49 39.5	
	comp=Z,241nm,21.1s,baz=310,slow=36						
VFP	**Flag Point**	**5.51**	**78**	P	**Pn**	**12 47 45.6**	**0.0**
LON	**Longmire**	**5.63**	**63**	*e*Pn	**Pn**	**12 47 48.2**	**+1.0**
	14nm,0.8s						
RCM	**Mount Rainier-**	**5.72**	**62**	P	**Pn**	**12 47 49.8**	**+1.2**
FMW	**Mount Fremont**	**5.79**	**62**	P	**Pn**	**12 47 50.1**	**+0.6**
PINOR	**Pine Mountain**	**5.97**	**93**	*e*Pn	**Pn**	**12 47 51.4**	**-0.3**
	6.7nm,0.5s						
TWW	**Teanaway**	**6.38**	**62**	P	**Pn**	**12 47 59.4**	**+1.9**
HAWA	**Hanford**	**7.03**	**70**	*e*Pn	**Pn**	**12 48 05.3**	**-1.0**
	3.4nm,0.6s						
BMO	**Blue Mountains**	**8.44**	**83**	*e*Pn	**Pn**	**12 48 25.1**	**-0.6**
	2.4nm,0.9s						
NEW	**Newport**	**9.14**	**61**	Pn	**Pn**	**12 48 34.9**	**-0.4**
	0.2nm,0.3s,baz=233,slow=6.9,SNR=5.4						
NEW				LR	LR	12 51 21.4	
	comp=Z,98nm,18.2s,baz=256,slow=33						
NVAR	**Mina Array Bea**	**10.08**	**123**	Pn	Pn	12 48 52.1	+3.7
	0.0nm,0.3s,baz=288,slow=13,SNR=3.6						
HLID	**Hailey**	**10.63**	**89**	*e*Pn	**Pn**	**12 48 58.5**	**+2.7**
	6.1nm,1.1s						
ELK	**Elko**	**10.87**	**105**	Pn	**Pn**	**12 49 01.4**	**+2.2**
	0.1nm,0.3s,baz=10,slow=8.9,SNR=5.8						
ELK				LR	LR	12 53 11.1	
	comp=Z,107nm,19.6s,baz=0.0,slow=37						
SWMT	**Swartz Lake**	**10.97**	**68**	*e*Pn	**Pn**	**12 49 02.4**	**+2.0**
	3.6nm,1.0s						
SLMT	**Seeley Lake**	**11.26**	**70**	*e*Pn	**Pn**	**12 49 07.1**	**+2.7**
	14nm,1.1s						
CHMT	**Chamberlain Mo**	**11.38**	**72**	*e*Pn	**Pn**	**12 49 09.1**	**+3.0**
	2.3nm,1.0s						
DLBC	**Dease Lake**	**14.05**	**358**	LR	LR	12 54 22.6	
	comp=Z,50nm,20.8s,baz=140,slow=34						
PDAR	**Pinedale Array**	**14.27**	**90**	Pn	**Pn**	**12 49 44.7**	**-1.0**
	baz=283,slow=9.0,SNR=4.5						
PDAR				LR	LR	12 54 49.2	
	comp=Z,116nm,19.1s,baz=276,slow=35						
SRU	**San Rafael Swe**	**14.85**	**104**	*e*Pn	**P**	**12 50 01.3**	**+2.0**
PV04	**Paradox Valley**	**16.30**	**105**	Pn	**P**	**12 50 15.0**	**-0.4**
PV01	**Paradox Valley**	**16.65**	**105**	*e*Pn	**Pn**	**12 50 15.6**	**-1.4**
	1μm,1.5s						
LAZ	**Ladron**	**19.65**	**113**	*e*P	**P**	**12 50 52.7**	**+0.2**
	5.8nm,1.6s						
ANMO	**Albuquerque**	**19.79**	**111**	LR	LR	12 58 30.0	
	comp=Z,80nm,20.0s,baz=287,slow=37						
YKA	**Yellowknife Ar**	**19.98**	**20**	P	**P**	**12 50 55.8**	**+0.3**
	0.0nm,0.3s,baz=206,slow=10,SNR=8.3						
ILAR	**Eielson Array**	**22.68**	**340**	P	**P**	**12 51 25.3**	**+0.6**
	1.5nm,1.0s,baz=154,slow=8.0,SNR=12						
ULM	**Lac du Bonnet**	**23.14**	**64**	P	**P**	**12 51 31.0**	**+1.5**
	2.9nm,0.7s,baz=270,slow=8.3,SNR=5.5						
ULM				LR	LR	13 00 21.1	
	comp=Z,86nm,18.1s,baz=304,slow=36						
TXAR	**Lajitas Array**	**25.18**	**118**	P	**P**	**12 51 47.5**	**-1.6**
	0.6nm,0.6s,baz=316,slow=9.0,SNR=2.4						
TXAR				LR	LR	13 02 33.5	
	comp=Z,35nm,19.9s,baz=0.0,slow=38						
RES	**Resolute Bay**	**33.91**	**16**	P	**P**	**12 53 06.0**	**0.0**
	1.3nm,0.8s,baz=244,slow=12,SNR=8.3						
PETK	**Petropavlovsk-**	**47.04**	**308**	LR	LR	13 11 57.9	
	comp=Z,11nm,20.3s,baz=88,slow=33						
H11N2	**WAKE ISLAND Hy**	**57.98**	**267**	T	T	13 58 43.1	
	baz=49,slow=75,SNR=340						
H11N3	**WAKE ISLAND Hy**	**57.98**	**267**	T	T	13 58 43.0	
	baz=49,slow=75,SNR=684						
H11N1	**WAKE ISLAND Hy**	**58.00**	**267**	T	T	13 58 44.3	
	baz=49,slow=75,SNR=332						
H11S1	**WAKE ISLAND Hy**	**58.92**	**266**	T	T	13 59 49.7	
	baz=48,slow=75,SNR=64						
H11S2	**WAKE ISLAND Hy**	**58.93**	**266**	T	T	13 59 52.4	
	baz=48,slow=75,SNR=41						
H11S3	**WAKE ISLAND Hy**	**58.94**	**266**	T	T	13 59 51.0	
	baz=48,slow=75,SNR=41						
KURK	**Kurchatov**	**82.23**	**343**	P	**P**	**12 58 43.0**	**-1.4**
KURBB	**Kurchatov Arra**	**82.34**	**343**	P	**P**	**12 58 43.0**	**-2.0**
	1.1nm,0.9s,baz=18,slow=4.8,SNR=5.1						

*ISCJB **20** 13:02:56.4±0.5, 19°.0S±0°.1×177°.49W±0°.08, h400km, mb4.4/24, Error ellipse: s-maj=16.4km s-min=7.8km az=148.9*
*BJI **20** 13:02:57.5, 19°.16S×178°.17W, h399km, mB5.1/7, mb4.9/10*
*NEIC **20** 13:02:59.1±1.7, 18°.90S×177°.55W, h411km±13km, mb4.8/13, Error ellipse: s-maj=37.0km s-min=13.9km az=154.0*
*IDC **20** 13:02:59.1±2.4, 19°.03S×177°.45W, h422km±24km, mb3.6/10, mb1 3.9/11, mb1mx3.7/24, mbtmp4.4/11, Error ellipse: s-maj=21.7km s-min=11.5km az=155.0*
ISC 20 13:02:57.3±0.6, 19°.0S±0°.1×177°.41W±0°.09, h400km, n66, σ1§35/76, mb4.4/24, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.48**	**285**	*e*P	**Pn**	**13 04 15.2**	**+1.0**
NIUE	**Niue**	**7.08**	**92**	S	S	13 05 60.0	-7.2
	baz=6.6,SNR=4.6						
RAO	**Raoul Island**	**10.26**	**183**	S	S	13 07 02.1	-11
	43nm,0.3s,baz=107,slow=19,SNR=1.9						
DZM	**Mont Dzumac**	**15.44**	**256**	P	**P**	**13 06 16.0**	**+1.3**
	0.6nm,0.3s,baz=66,slow=20,SNR=7.0						
EIDS	**Eidsvold**	**29.82**	**252**	P	**P**	**13 08 29.5**	**-0.1**
	baz=30,SNR=4.0						
ARMA	**Armidale**	**30.26**	**242**	P	**P**	**13 08 34.2**	**+0.7**
	baz=31,SNR=10						
ARMA	**Armidale**	**30.26**	**242**	*e*P	**P**	**13 08 34.4**	**+0.9**
	7.1nm,1.5s						
MGCD	**Mangrove Creek**	**31.50**	**237**	P	**P**	**13 08 46.0**	**+2.0**
	baz=32,SNR=6.0						
RMQ	**Roma**	**32.02**	**250**	P	**P**	**13 08 49.3**	**+0.6**
	baz=32,SNR=21						
CNB	**Canberra Magne**	**33.56**	**234**	P	**P**	**13 09 02.1**	**+0.3**
	baz=34,SNR=18						
CTAO	**Charters Tower**	**34.23**	**262**	*e*P	**P**	**13 09 07.6**	**0.0**
	35nm,0.9s						
CMSA	**Cobar Meteorol**	**35.48**	**242**	P	**P**	**13 09 18.0**	**-0.1**
	baz=36,SNR=27						
PMG	**Port Moresby**	**35.58**	**280**	P	**P**	**13 09 19.6**	**+0.5**
	baz=36,SNR=5.1						
PMG	**Port Moresby**	**35.58**	**280**	*e*P	**P**	**13 09 18.8**	**-0.2**
	35nm,1.0s						
QLP	**Quilpie**	**36.07**	**251**	P	**P**	**13 09 22.7**	**-0.3**
	baz=36,SNR=52						
TOO	**Toolangi**	**37.26**	**232**	P	**P**	**13 09 32.7**	**-0.2**
	baz=38,SNR=7.7						
COEN	**Coen**	**38.07**	**271**	P	**P**	**13 09 39.7**	**-0.1**
	baz=38,SNR=35						
COEN	**Coen**	**38.07**	**271**	*e*P	**P**	**13 09 40.0**	**+0.2**
	175nm,1.1s						
QIS	**Mount Isa**	**40.40**	**260**	P	**P**	**13 09 58.0**	**-0.8**
	baz=41,SNR=4.8						
BBOO	**Buckleboo**	**43.74**	**242**	P	**P**	**13 10 24.8**	**-0.4**
	baz=44,SNR=32						
JAY	**Jayapura**	**44.11**	**287**	P	**P**	**13 10 29.2**	**+0.8**
	42nm,0.7s,baz=160,slow=4.5,SNR=13						
WRAB	**Tennant Creek**	**45.38**	**260**	*e*P	**P**	**13 10 37.0**	**-1.1**
	15nm,1.0s						
WRA	**Warramunga Arr**	**45.39**	**260**	P	**P**	**13 10 36.9**	**-1.3**
	7.9nm,0.7s,baz=97,slow=7.3,SNR=88						
WRA				S	**S**	**13 16 47.0**	**-1.9**
	1.0nm,1.0s,baz=98,slow=13,SNR=4.0						
ASAR	**Alice Springs**	**45.43**	**255**	P	**P**	**13 10 38.3**	**-0.3**
	77nm,0.6s,baz=90,slow=8.5,SNR=1695						
ASAR				pP	**pP**	**13 11 60.0**	**+2.6**
	5.1nm,0.9s,baz=85,slow=8.8,SNR=4.8						
ASAR				ScP	**ScP**	**13 15 25.4**	**+1.4**
	0.8nm,0.8s,baz=110,slow=4.0,SNR=5.1						
ASAR				S	**S**	**13 16 48.3**	**-1.2**
	0.5nm,0.5s,baz=90,slow=16,SNR=5.7						
KDU	**Kakadu**	**48.50**	**270**	P	**P**	**13 11 01.4**	**-0.6**
	baz=49,SNR=15						
MTN	**Manton Dam**	**49.73**	**269**	P	**P**	**13 11 10.5**	**-0.7**
	baz=50,SNR=24						
FORT	**Forrest**	**50.43**	**245**	P	**P**	**13 11 15.5**	**-0.7**
	baz=51,SNR=14						
FORT	**Forrest**	**50.43**	**245**	*e*P	**P**	**13 11 15.3**	**-0.8**
	222nm,2.2s						
WRKA	**Warakurna**	**50.44**	**253**	P	**P**	**13 11 16.2**	**-0.2**
	baz=51,SNR=65						
KNRA	**Kununurra**	**51.34**	**265**	P	**P**	**13 11 22.7**	**-0.4**
	baz=52,SNR=33						
FAKI	**Fak Fak**	**51.72**	**282**	P	**P**	**13 11 26.0**	**+0.1**
	baz=52,SNR=9.3						
FAKI	**Fak Fak**	**51.72**	**282**	*e*P	**P**	**13 11 26.0**	**+0.1**
	24nm,0.9s						
SWI	**Sorong**	**53.41**	**284**	P	**P**	**13 11 38.7**	**+0.6**
	baz=54,SNR=9.5						
SOEI	**Soe**	**57.03**	**271**	P	**P**	**13 12 05.4**	**+1.6**
	baz=58,SNR=23						
SOEI	**Soe**	**57.03**	**271**	*e*P	**P**	**13 12 03.8**	**0.0**
	105nm,0.9s						
TNTI	**Ternate**	**57.63**	**283**	*e*P	**P**	**13 12 07.7**	**-0.1**
	64nm,0.8s						
MEEK	**Meekatharra**	**58.96**	**250**	P	**P**	**13 12 15.7**	**-1.0**
	baz=59,SNR=9.0						
BLDU	**Ballidu**	**60.20**	**245**	P	**P**	**13 12 24.1**	**-0.9**
	baz=60,SNR=5.2						
QSPA	**South Pole Qui**	**71.10**	**180**	P	**P**	**13 13 32.6**	**-0.7**
	2.6nm,0.7s,baz=18,slow=1.0,SNR=12						
KSM	**Kuching**	**73.76**	**277**	P	**P**	**13 13 50.9**	**+1.2**
	baz=74,SNR=4.7						
KSM	**Kuching**	**73.76**	**277**	*e*P	**P**	**13 13 50.8**	**+1.1**
	19nm,0.9s						
PETK	**Petropavlovsk-**	**74.94**	**345**	P	**P**	**13 13 54.5**	**-1.0**
	2.1nm,0.7s,baz=126,slow=9.3,SNR=7.7						
NJ2	**Nanjing**	**79.34**	**309**	*e*P	**P**	**13 14 19.9**	**-0.2**
NJ2				PMZ			
	30nm,0.6s						
NVAR	**Mina Array Bea**	**79.53**	**43**	P	**P**	**13 14 21.6**	**+0.3**
	0.8nm,0.5s,baz=230,slow=9.2,SNR=8.7						
MDJ	**Mudanjiang**	**79.59**	**325**	P	**P**	**13 14 21.0**	**-0.2**
MDJ				PMZ			
	7.0nm,1.1s						
MDJ				PMZ			
	87nm,5.5s						
TUC	**Tucson**	**81.59**	**52**	*e*P	**P**	**13 14 33.5**	**+1.4**
	2.4nm,0.8s						
WHN	**Wuhan**	**81.99**	**306**	P	P	13 14 30.5	-3.5
TRF	**Thorofare Moun**	**84.84**	**12**	*e*P	**P**	**13 14 47.1**	**-0.7**
	81nm,2.4s						
BJI	**Beijing**	**85.20**	**315**	P	**P**	**13 14 49.3**	**-0.6**
BJI				PMZ			
	10.0nm,0.4s						
MNTX	**Cornudas Mount**	**85.41**	**54**	*e*P	**P**	**13 14 52.7**	**+1.5**
	3.0nm,1.1s						
TXAR	**Lajitas Array**	**85.76**	**57**	P	**P**	**13 14 54.4**	**+1.3**
	2.4nm,0.8s,baz=207,slow=8.1,SNR=9.2						
GYA	**Guiyang**	**86.38**	**299**	*e*P	**P**	**13 14 56.0**	**-0.1**
GYA				PP	**PP**	**13 18 25.4**	**+1.0**
GYA				SKS	SKSac	13 24 35.0	-8.9
GYA				S	**SKKSac**	**13 24 51.5**	**-1.8**
GYA				PMZ			
	10.0nm,1.0s						
ILAR	**Eielson Array**	**86.70**	**13**	P	**P**	**13 14 55.6**	**-1.0**
	0.8nm,0.4s,baz=215,slow=5.2,SNR=50						
PDAR	**Pinedale Array**	**87.46**	**43**	P	**P**	**13 15 02.0**	**+0.9**
	0.2nm,0.6s,baz=182,slow=4.2,SNR=2.0						
HHC	**Hu-ho-hao-te**	**88.68**	**314**	*e*P	**P**	**13 15 08.3**	**+1.7**
HHC				PP	**PP**	**13 18 46.4**	**+4.0**
HHC				SKS	**SKSac**	**13 24 53.4**	**-3.7**
HHC				S	**S**	**13 25 14.9**	**-3.9**
HHC				SS	**SS**	**13 31 22.1**	**+0.3**
HHC				PMZ			
	66nm,1.3s						
HHC				PMZ			
	210nm,5.5s						
CMAR	**Chiang Mai Arr**	**90.13**	**289**	P	**P**	**13 15 14.7**	**+0.9**
	1.0nm,0.8s,baz=123,slow=2.1,SNR=9.5						
LZH	**Lanzhou**	**92.28**	**307**	*e*P	**P**	**13 15 24.4**	**+0.9**
LZH				PMZ			
	15nm,1.0s						
YKA	**Yellowknife Ar**	**94.89**	**24**	P	**P**	**13 15 34.2**	**-0.3**
	0.4nm,0.6s,baz=245,slow=4.3,SNR=12						
MKAR	**Makanchi Array**	**110.55**	**314**	PKiKP	**PKiKP**	**13 20 41.2**	**-1.7**
	0.4nm,0.5s,baz=182,slow=1.0,SNR=12						
KSH	**Kashi**	**114.46**	**305**	*e*PKP	PKPdf	13 20 50.9	+0.1
KSH				PP	**PP**	**13 21 55.6**	**+1.1**
KSH				PKS	**PKSdf**	**13 24 27.5**	**-0.1**
KSH				SKS	**SKSdf**	**13 27 19.5**	**-4.8**
KSH				SKKS	SKKSac	13 28 06.4	-7.3
KSH				SS	**SS**	**13 37 14.8**	**-1.1**
KSH				PPMZ			
	170nm,5.1s						
KSH				LN			
	94nm,4.6s						
KSH				LE			
	140nm,3.6s						
KSH				LZ			
	110nm,4.5s						
ARCES	**ARCESS Array B**	**127.51**	**350**	PKP	**PKPdf**	**13 21 14.1**	**-0.7**
	2.0nm,0.8s,baz=320,slow=5.1,SNR=4.1						
FINES	**FINESS Array B**	**134.45**	**344**	PKP	**PKPdf**	**13 21 27.5**	**-0.6**
	1.1nm,0.8s,baz=75,slow=2.2,SNR=4.7						
BRTR	**Keskin Array B**	**146.19**	**314**	PKPbc	**PKPdf**	**13 21 51.1**	**+1.1**
	1.0nm,0.5s,baz=78,slow=1.6,SNR=5.7						
CLL	**Collm**	**146.69**	**348**	*i*PKPbc	**PKPbc**	**13 21 52.1**	**-0.6**
	comp=Z,4.0nm,0.6s						
VYHS	**Vyhne**	**147.73**	**340**	*e*PKP	**PKPbc**	**13 21 55.7**	**+0.1**
GERES	**GERESS Array B**	**148.87**	**346**	PKPbc	**PKPbc**	**13 21 58.0**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=29,slow=3.0,SNR=8.3						

*CSEM **20** 13:43:29.8, 41°.96N×13°.78E, h13km, MD1.6/5*
ROM 20 13:43:29.8±0.1, 41°.96N×13°.78E, h13km±2km, Md1.6/5, Ml1.0/2, Error ellipse: s-maj=1.4km s-min=0.8km az=153.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTR	**Introdacqua**	**0.10**	**60**	Pg	Pg	13 43 33.3	+0.3
INTR				Sg	Sg	13 43 35.6	+0.4
INTR	**Introdacqua**	**0.10**	**60**	Pg	Pg	13 43 33.3	+0.3
INTR				Sg	Sg	13 43 35.6	+0.4
VVLD	**Villa Vallelon**	**0.15**	**234**	Pg	Pg	13 43 34.0	+0.4
VVLD				Sg	Sg	13

	120nm,1.1s,0.4nm					
LUWI	Luwuk	6.24 224	*e*Pn	Pn	13 46 00.3	-1.2
LUWI			*e*Sn	Sn	13 47 11.7	+0.1
TBP	Tagbilaran	6.98 332	*e*S	Sn	13 47 31.5	+1.7
APSI	Ampana	6.99 232	P	Pn	13 46 14.9	+3.1
FAKI	Fak Fak	8.15 141	P	Pn	13 46 31.6	+3.9
	baz=8.3,SNR=10.0					
FAKI	Fak Fak	8.15 141	*e*Pn	Pn	13 46 27.8	0.0
FAKI			*e*Sn	Sn	13 47 57.6	-0.9
MTN	Manton Dam	16.68 166	P	Pn	13 48 21.7	-0.8
	baz=17,SNR=17					
KDU	Kakadu	16.90 162	P	Pn	13 48 26.2	+1.0
	baz=17,SNR=8.4					
KNRA	Kununurra	19.09 175	P	P	13 48 49.9	-0.8
	baz=19,SNR=22					
DLV	T Lat	20.29 296	*e*P	P	13 49 03.0	-1.1
	16nm,0.8s					
TPUB	Ta-pu	20.70 343	*e*P	P	13 49 06.5	-1.7
	24nm,0.7s					
SSLB	Suanglung	21.07 344	*e*P	P	13 49 10.6	-1.6
	77nm,1.8s					
CISI	Cisompet, Garu	22.16 240	S	S	13 53 21.5	-4.1
	baz=22,SNR=22					
WRAB	Tennant Creek	24.31 163	*e*P	P	13 49 43.0	-2.2
	39nm,1.0s					
WRA	Warramunga Arr	24.32 163	P	P	13 49 44.9	-0.3
	6.6nm,0.5s,baz=341,slow=11,SNR=134					
WB2	Warramunga Arr	24.32 163	*e*P	P	13 49 44.5	-0.7
QIS	Mount Isa	26.83 153	P	P	13 50 09.7	+1.7
	baz=27,SNR=8.1					
MTSU	Mount Surprise	27.35 142	S	S	13 54 45.4	-4.0
	baz=28,SNR=22					
AS31	Alice Springs	27.76 167	*e*P	P	13 50 14.2	-2.1
ASAR	Alice Springs	27.77 167	P	P	13 50 16.6	+0.2
	2.9nm,0.5s,baz=350,slow=7.5,SNR=106					
WRKA	Warakurna	28.36 178	P	P	13 50 21.9	+0.3
	baz=29,SNR=22					
LHMI	Lhok Sumawe	30.14 274	P	P	13 50 29.7	-7.9
	baz=30,SNR=3.7					
MEEK	Meekatharra	31.04 195	P	P	13 50 46.9	+1.6
	baz=31,SNR=3.1					
CMAR	Chiang Mai Arr	31.34 300	P	P	13 50 46.7	-1.5
	1.2nm,0.8s,baz=109,slow=6.7,SNR=12					
KSAR	Wonju Array Be	33.82 1	P	P	13 51 11.3	+1.8
KSRS	Korea Array	33.83 1	P	P	13 51 11.3	+1.7
	2.3nm,0.7s,baz=176,slow=10,SNR=7.3					
FORT	Forrest	34.06 179	*e*P	P	13 51 11.2	-0.6
	30nm,1.0s					
QLP	Quilpie	34.15 152	P	P	13 51 13.6	+1.0
	baz=34,SNR=5.8					
BBOO	Buckleboo	37.06 167	P	P	13 51 38.0	+0.6
	baz=37,SNR=8.5					
ARMA	Armidale	41.03 147	P	P	13 52 12.9	+2.1
	baz=41,SNR=15					
ARMA	Armidale	41.03 147	*e*P	P	13 52 10.7	-0.2
	195nm,2.7s					
ASAJ	Asahikawa	42.73 16	P	P	13 52 27.9	+3.5
	4.0nm,0.8s,baz=238,slow=15,SNR=3.2					
LSA	Lhasa	42.91 311	*e*P	P	13 52 24.8	-1.9
	6.3nm,0.6s					
TAPN	Taplejung	44.49 306	*e*P	P	13 52 37.5	-1.7
ODAN	Odare	44.54 306	*e*P	P	13 52 38.4	-1.2
	13nm,0.8s					
RAMN	Ramite	45.22 305	*e*P	P	13 52 44.0	-1.0
JIRN	Jiri	45.85 306	*e*P	P	13 52 48.1	-1.9
	6.3nm,0.6s					
GUN	Gumba	46.20 306	*e*P	P	13 52 51.1	-1.7
DMN	Daman	46.70 305	*e*P	P	13 52 55.5	-1.2
GKN	Gorkha	47.24 306	*e*P	P	13 52 58.9	-1.8
ULN	Ulaanbaatar	47.49 342	*e*P	P	13 53 01.2	-1.2
	3.2nm,0.8s					
SONM	Songino Array	47.67 341	P	P	13 53 04.5	+0.8
	1.7nm,0.6s,baz=155,slow=9.0,SNR=15					
KOLN	Koldanda	48.00 305	*e*P	P	13 53 04.9	-1.8
	17nm,0.6s					
DANN	Dangsing	48.09 306	*e*P	P	13 53 05.6	-1.9
	21nm,0.7s					
TLY	Talaya	51.90 342	*e*P	P	13 53 34.2	-1.5
	4.0nm,0.8s					
PETK	Petropavlovsk-	55.52 22	P	P	13 54 04.3	+2.2
	2.9nm,0.8s,baz=195,slow=6.3,SNR=5.5					
MKAR	Makanchi Array	58.00 325	P	P	13 54 19.2	-0.6
	3.9nm,0.6s,baz=122,slow=7.9,SNR=49					
MKAR			PcP	PcP	13 55 13.1	+1.6
	1.7nm,0.7s,baz=132,slow=5.1,SNR=5.0					
ZALV	Zalesovo Beam	61.00 333	P	P	13 54 39.5	-0.8
	1.4nm,0.7s,baz=128,slow=9.6,SNR=4.7					
KURK	Kurchatov	62.17 327	*e*P	P	13 54 47.2	-1.0
	6.0nm,0.7s					
KKAR	Karatay Array	63.69 317	*e*P	P	13 54 57.9	-0.7
RAYN	Ar Rayn	80.95 293	*e*P	P	13 56 41.6	-0.3
	65nm,2.6s					
ILAR	Eielson Array	85.17 25	P	P	13 57 04.8	+2.0
	0.2nm,0.6s,baz=255,slow=4.7,SNR=5.7					
BRTR	Keskin Array B	90.49 310	P	P	13 57 28.9	-0.2
	1.0nm,0.7s,baz=104,slow=5.2,SNR=4.8					
ARCES	ARCESS Array B	90.83 340	P	P	13 57 29.9	+0.1
	2.3nm,0.7s,baz=326,slow=6.3,SNR=4.1					
TORD	Torodi Ar. Bea	123.38 288	PKP	PKPdf	14 03 26.0	+1.2
	0.4nm,0.7s,baz=76,slow=2.8,SNR=2.8					

CSEM ***20*** *13:47:03.0, 39°.48N×36°.64E, h5km, MD2.8*
ISK 20 13:47:03.0, 39°.48N×36°.64E, h5km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVSK	Karacayir	0.51	32	*e*PG	Pb	13 47 14.2	-0.3
SVSK				*e*SG	Sb	13 47 22.6	+0.3
SVSK	Karacayir	0.51	32	*e*Pg	Pb	13 47 14.2	-0.3
SVSK				*e*Sg	Sb	13 47 22.6	+0.3
RSDY	Resadiye-TOKAT	1.06	30	*e*PG	Pb	13 47 24.0	+0.2
RSDY	Resadiye-TOKAT	1.06	30	*e*Pg	Pb	13 47 24.0	+0.2
CORM	Corum	1.70	295	*e*PN	Pb	13 47 35.1	+0.2
CORM	Corum	1.70	295	*e*Pn	Pb	13 47 35.1	+0.2
PTK	Pertek	2.22	105	*e*PN	Pb	13 47 42.5	-1.4
PTK	Pertek	2.22	105	*e*Pn	Pb	13 47 42.5	-1.3

CSEM ***20*** *13:47:21.5, 40°.57N×15°.93E, h9km, MD2.3/15*
ROM 20 13:47:21.5±0.2, 40°.57N×15°.93E, h9km±2km, Md2.3/15, Ml1.3/10, Error ellipse: s-maj=2.2km s-min=1.6km az=159.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZUN	Potenza	0.12	312	Pg	Pg	13 47 25.1	+0.9
PZUN				Sg	Sg	13 47 28.2	+2.0
PZUN	Potenza	0.12	312	Pg	Pg	13 47 25.1	+0.9
PZUN				Sg	Sg	13 47 28.2	+2.0
ACER	Acerenza	0.22	3	Pg	Pg	13 47 26.3	+0.2
ACER				Sg	Sg	13 47 30.3	+1.1
ACER	Acerenza	0.22	3	Pg	Pg	13 47 26.3	+0.2
ACER				Sg	Sg	13 47 30.3	+1.1
MTSN	Montesano sull	0.33	204	Pg	Pg	13 47 28.6	+0.5
	11nm,0.6s						
MTSN	Montesano sull	0.33	204	Pg	Pg	13 47 28.6	+0.5
	11nm,0.6s						
MRLC	Muro Lucano	0.38	300	Pg	Pg	13 47 29.8	+0.7
MRLC	Muro Lucano	0.38	300	Pg	Pg	13 47 29.8	+0.7
SCHR	S. Chirico Rap	0.38	162	Pg	Pg	13 47 29.5	+0.3
SCHR				Sg	Sb	13 47 36.4	-0.4
	17nm,0.3s						
SIRI	Monte Sirino -	0.39	187	Pg	Pg	13 47 29.5	+0.3
SIRI				Sg	Sb	13 47 36.4	-0.5
	40nm,0.2s						
SIRI	Monte Sirino -	0.39	187	Pg	Pg	13 47 29.5	+0.3
SIRI				Sg	Sb	13 47 36.4	-0.5
	40nm,0.2s						
SGO	Sicignano	0.47	270	Pg	Pb	13 47 32.1	0.0
	11nm,0.2s						
SGO	Sicignano	0.47	270	Pg	Pb	13 47 32.1	0.0
	11nm,0.2s						
CDRU	Civita di Ruta	0.48	261	Pg	Pg	13 47 31.0	0.0
CDRU				Sg	Sb	13 47 38.7	-0.9
	14nm,0.2s						
CDRU	Civita di Ruta	0.48	261	Pg	Pg	13 47 31.0	0.0
CDRU				Sg	Sb	13 47 38.7	-0.9
	14nm,0.2s						
CMPR	Campora	0.54	243	Pg	Pg	13 47 32.1	+0.1
CMPR				Sg	Sb	13 47 40.9	-0.2
	11nm,0.4s						
CMPR	Campora	0.54	243	Pg	Pg	13 47 32.1	+0.1
CMPR				Sg	Sb	13 47 40.9	-0.2
	11nm,0.4s						
MRVN	Minervino Murg	0.54	22	Pg	Pg	13 47 31.6	-0.4
	9.0nm,0.1s						
MRVN	Minervino Murg	0.54	22	Pg	Pg	13 47 31.6	-0.4
	9.0nm,0.1s						
MATE	Matera	0.60	82	Pg	Pg	13 47 33.6	+0.5
MATE				Sg	Sb	13 47 42.0	-0.7
	21nm,0.2s						
MATE	Matera	0.60	82	Pg	Pg	13 47 33.6	+0.5
MATE				Sg	Sb	13 47 42.0	-0.7
	21nm,0.2s						
MCRV	Calabrutti - M	0.61	291	Pg	Pg	13 47 33.0	-0.6
	13nm,0.3s						
MCRV	Calabrutti - M	0.61	291	Pg	Pg	13 47 33.0	-0.6
	13nm,0.3s						
AMUR	Altamura	0.62	56	Pg	Pg	13 47 33.9	+0.4
	14nm,0.3s						
AMUR	Altamura	0.62	56	Pg	Pg	13 47 33.9	+0.4
	14nm,0.3s						
BULG	Bulgheria - Ca	0.64	221	Pg	Pg	13 47 34.3	+0.3
BULG	Bulgheria - Ca	0.64	221	Pg	Pg	13 47 34.3	+0.3
LTRZ	Laterza	0.68	87	Pg	Pg	13 47 34.9	+0.2
	1μm,4.6s						
LTRZ	Laterza	0.68	87	Pg	Pg	13 47 34.9	+0.2
	1μm,4.6s						
NOCI	Noci	0.90	75	Pg	Pb	13 47 39.3	0.0
NOCI				Sg	Sb	13 47 51.8	+0.4
NOCI	Noci	0.90	75	Pg	Pb	13 47 39.3	0.0
NOCI				Sg	Sb	13 47 51.8	+0.4
MSAG	Monte S. Angel	1.15	359	Pg	Pn	13 47 43.9	0.0
MSAG	Monte S. Angel	1.15	359	Pg	Pn	13 47 43.9	0.0
SGRT	San Giovanni R	1.20	353	Pg	Pb	13 47 44.0	-0.5
SGRT	San Giovanni R	1.20	353	Pg	Pb	13 47 44.0	-0.5

ISK ***20*** *13:59:15.9, 39°.91N×39°.78E, h8km, MD2.7*
ISCJB ***20*** *13:59:16.3±0.6, 39°.90N±0°.03×39°.79E±0°.04, h3km±7km, Error ellipse: s-maj=5.4km s-min=4.5km az=32.5*
DDA ***20*** *13:59:16.7, 39°.87N×39°.75E, h9km, MD2.7*
CSEM ***20*** *13:59:16.1±0.2, 39°.90N×39°.78E, h8km, MD2.7, Error ellipse: s-maj=5.0km s-min=4.0km az=149.0*
ISC 20 13:59:16.4±1.0, 39°.90N±0°.03×39°.76E±0°.03, h7km±9km, n20, σ0°72/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUZM	Uzumlu	0.20	195	*i* S	Sg	13 59 22.9	-0.1
EUZM	Uzumlu	0.20	195	*i* P	Pg	13 59 12.6	-7.8
EUZM				*i* S	Sg	13 59 22.9	-0.1
ERZN	Erzincan	0.31	186	*e*PG	Pg	13 59 22.7	+0.1
ERZN				*e*SG	Sg	13 59 27.9	+1.3
EZC	Erzincan	0.35	246	*e*Pg	Pg	13 59 22.7	-0.5
EZC				*e*Sg	Sg	13 59 27.9	+0.1
KELT	Kelkit	0.47	303	*i* P	Pg	13 59 25.7	+0.2
KELT				*i* S	Sg	13 59 32.8	+1.2
KELT	Kelkit	0.47	303	*i* P	Pg	13 59 25.7	+0.2
KELT				*i* S	Sg	13 59 32.8	+1.2
BAYT	Ayd¨–ntepe-Bay	0.57	30	*e*PG	Pg	13 59 27.2	-0.3
BAYT				*e*SG	Sg	13 59 35.3	+0.2
BAYT	Ayd¨–ntepe-Bay	0.57	30	*e*Pg	Pg	13 59 27.2	-0.3
BAYT				*e*Sg	Sg	13 59 35.3	+0.2
KOPT	Kop Dagi	0.58	78	*i* P	Pg	13 59 27.7	+0.1
KOPT	Kop Dagi	0.58	78	*i* P	Pg	13 59 27.7	+0.1
KOPT				*i* S	Sb	13 59 38.3	+0.7
PTK	Pertek	1.04	196	*e*PG	Pn	13 59 37.1	-0.5
PTK	Pertek	1.04	196	*e*Pg	Pn	13 59 37.1	-0.5
BNGB	Bing¶ll	1.15	142	*e*PN	Pn	13 59 38.5	-0.4
BINT	Bingol	1.16	151	*e*Pn	Pb	13 59 38.6	-0.3
KEMA	Kemaliye	1.16	238	*i* P	Pn	13 59 38.9	-0.3
KEMA				*i* S	Sn	13 59 55.5	+0.1
KEMA	Kemaliye	1.16	238	*i* P	Pn	13 59 38.9	-0.3
KEMA				*i* S	Sn	13 59 55.5	+0.1
SUSE	Susehri	1.24	285	*i* P	Pn	13 59 38.8	-1.5
SUSE				*i* S	Sn	13 59 58.4	+1.1
SUSE	Susehri	1.24	285	*i* P	Pn	13 59 38.8	-1.5
SUSE				*i* S	Sn	13 59 58.4	+1.1
ESPY	Espiye-Giresun	1.29	323	*e*PN	Pb	13 59 40.7	-0.3
ESPY	Espiye-Giresun	1.29	323	*e*Pn	Pb	13 59 40.7	-0.3

MOS ***20*** *14:00:49.8±1.1, 3°.33S×152°.21E, h421km, mb6.0/55, MS5.7/41, Error ellipse: s-maj=6.5km s-min=5.1km az=95.3*
NEIC ***20*** *14:00:50.0±0.1, 3°.36S×152°.25E, mb6.0/166, ME6.5, MW6.5, MW6.5, MW6.5, Error ellipse: s-maj=3.3km s-min=2.8km az=152.0, Moment Tensor Solution. s50 Moment tensor: Scale 10^{18}Nm; M_{rr}=7.41; $M_{\theta\theta}$4.55; $M_{\phi\phi}$2.86; $M_{r\theta}$4.06; $M_{\theta\phi}$3.17; $M_{\phi r}$0.65; Best double couple: $M_0$8.30000×10^{18} NP1:ϕ_s42.00000°, δ33.00000°, λ-110.00000°. NP2:ϕ_s245.00000°, δ60.00000°, λ-78.00000°. Principal axes: T 7.8700, Plg13.0000°, Azm326.0000°; N 0.7900, Plg10.0000°, Azm58.0000°; P -8.6700, Plg72.0000°, Azm185.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s65.00000°, δ35.00000°, λ-90.00000°. NP2:ϕ_s245.00000°, δ55.00000°, λ-90.00000°. Principal axes: T Plg10.0000°, Azm335.0000°; N Plg0.0000°, Azm0.0000°; P Plg80.0000°, Azm155.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
ISCJB ***20*** *14:00:49.7±0.4, 3°.39S±0°.02×152°.23E±0°.02, h418km±4km, mb5.9/254 Error ellipse: s-maj=2.8km s-min=2.0km az=38.5*
BJI ***20*** *14:00:49.2, 3°.05S×152°.68E, h419km, mB5.8/60, mb5.8/85*
GCMT ***20*** *14:00:50.0±0.1, 3°.32S×152°.33E, h414km, MW6.6/139, Moment Tensor Solution. s139, c359; s130, c247; Duration: 4s7 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.81±.00; $M_{\theta\theta}$0.65±.01; $M_{\phi\phi}$0.16±.01; $M_{r\theta}$0.45±.01; $M_{\theta\phi}$0.26±.01; $M_{\phi r}$0.16±.01; Best double couple: $M_0$0.92000×10^{19} NP1:ϕ_s248.00000°, δ61.00000°, λ-88.00000°. NP2:ϕ_s64.00000°, δ30.00000°, λ-93.00000°. Principal axes: T 0.8930, Plg16.0000°, Azm337.0000°; N 0.0540, Plg2.0000°, Azm67.0000°; P -0.9460, Plg74.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.*
DJA ***20*** *14:00:50.6±0.5, 3°.5S±4°×15°.2E±°, h428km±6km, M6.0/26, mB6.2/25, mb6.0/26, MLv6.7/1, Mw(mB)5.9/25, Mwp6.1/8*
SZGRF ***20*** *14:00:50.5, 3°.43S×152°.11E, h420km, New Ireland, Papua New Guinea, region*
NEIC ***20*** *14:00:51.0±0.0, 3°.38S×152°.23E, h423km Best double couple: NP1:ϕ_s249.00000°, δ61.00000°, λ-85.00000°. NP2:ϕ_s61.00000°, δ28.00000°, λ-96.00000°. Principal axes: T 7.1400, Plg16.0000°, Azm336.0000°; N 0.8600, Plg3.0000°, Azm67.0000°; P -8.0000, Plg72.0000°, Azm169.0000°;*
IDC ***20*** *14:00:52.8±1.0, 3°.40S×152°.17E, h438km±10km, mb5.5/30, mb1 5.6/33, mb1mx5.6/35, mbtmp6.2/33 Error ellipse: s-maj=7.5km s-min=6.0km az=81.0*
NEIC ***20*** *14:01:05.4±0.0, 3°.05S×152°.11E, h424km, Moment Tensor Solution. s113 Moment tensor: Scale 10^{18}Nm; M_{rr}-7.88; $M_{\theta\theta}$5.59; $M_{\phi\phi}$2.29; $M_{r\theta}$3.89; $M_{\theta\phi}$2.46; $M_{\phi r}$1.09; Best double couple: $M_0$8.40000×10^{18} NP1:ϕ_s247.00000°, δ59.00000°, λ-84.00000°. NP2:ϕ_s58.00000°, δ31.00000°, λ-97.00000°. Principal axes: T 7.9000, Plg14.0000°, Azm333.0000°; N 1.0400, Plg4.0000°, Azm64.0000°; P -8.9400, Plg75.0000°, Azm171.0000°;*
ISC 20 14:00:50.4±0.2, 3°.38S±0°.02×152°.28E±0°.02, h419km±1km, h420km:pP-P, n2411, σ1§44/2958, mb5.9/246, 318C-296D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.86	220	*e*P	P	14 02 45.4	+1.2
PMG				*e*S	S	14 04 14.7	-2.5
PMG				S	S	14 04 17.4	+0.2
PMG	Port Moresby	7.86	220	P	P	14 02 45.5	+1.2
	273nm,0.3s,baz=53,slow=6.9,SNR=322						
PMG				S	S	14 04 17.4	+0.3
	30nm,0.3s,baz=90,slow=6.1,SNR=2.0						
PMG	Port Moresby	7.86	220	||P	P	14 02 45.5	+1.2
	baz=7.8,SNR=966						
PMG	Port Moresby	7.86	220	*e*P	P	14 02 45.4	+1.2
PMG				*e*S	S	14 04 14.7	-2.5
PMG				S	S	14 04 17.4	+0.2
JAY	Jayapura	11.59	274	P	P	14 03 25.8	+0.4
JAY				S	S	14 05 36.7	+3.4
JAY	Jayapura	11.59	274	P	P	14 03 25.8	+0.4
	82nm,0.3s,baz=108,slow=3.7,SNR=194						
JAY				S	S	14 05 36.7	+3.4
	baz=211,slow=18,SNR=2.7						
JAY	Jayapura	11.59	274	P	P	14 03 25.8	+0.4
JAY				S	S	14 05 36.7	+3.4
PATS	Pohnpei	11.80	31	||P	P	14 03 29.1	+1.5
	baz=12,SNR=69						
GENI	Genyem	12.12	273	P	P	14 03 31.5	+0.4
GENI				S	S	14 05 39.6	-4.3
MMPI	Merauke	12.87	246	P	P	14 03 40.8	+1.5
MMPI	Merauke	12.87	246	P	P	14 03 41.0	+1.8
	baz=13,SNR=26						
SMPI	Sarmi	13.62	275	P	P	14 03 48.7	+1.1
COEN	Coen	13.83	220	P	P	14 03 51.4	+1.6
	baz=14,SNR=944						
COEN	Coen	13.83	220	*e*P	P	14 03 51.5	+1.6
COEN				*e*S	S	14 06 19.1	+0.9
SRPI	Serui, Papua	16.09	275	P	P	14 04 14.6	+0.4
CTA	Charters Tower	17.62	199	P	P	14 04 31.3	+0.9
CTA	Charters Tower	17.62	199	P	P	14 04 31.3	+0.9
	103nm,0.3s,baz=25,slow=12,SNR=224						
CTA	Charters Tower	17.62	199	P	P	14 04 31.3	+0.9
CTAO	Charters Tower	17.62	199	*e*P	P	14 04 30.6	+0.3
CTAO				pmax	pmax		
	comp=Z,1μm,0.8s						
CTAO	Charters Tower	17.62	199	*e*P	P	14 04 30.6	+0.3
	comp=Z,1μm,0.8s						
RKPI	Ransiki, Papua	18.18	275	P	P	14 04 36.8	+0.5
GUMO	Guam	18.39	337	*e*P	P	14 04 37.5	-0.9
GUMO				pmax	pmax		
	comp=Z,6μm,1.1s						
GUMO	Guam	18.39	337	*e*P	P	14 04 37.5	-0.9
	comp=Z,6μm,1.1s						
KWAJ	Kwajalein Atol	19.50	52	*e*P	P	14 04 48.6	-0.6
KWAJ				pmax	pmax		
	comp=Z,1μm,0.7s						
KWAJ	Kwajalein Atol	19.50	52	*e*P	P	14 04 48.6	-0.6
	comp=Z,1μm,0.7s						
FAKI	Fak Fak	20.00	271	P	P	14 04 53.9	0.0
FAKI				S	P	14 04 54.4	+0.5
FAKI	Fak Fak	20.00	271	P	P	14 04 54.0	0.0
	baz=20,SNR=322						
FAKI	Fak Fak	20.00	271	*e*P	P	14 04 53.6	-0.3
	comp=Z,5μm,1.7s						
FAKI				*e*S	S	14 08 11.0	-1.6
PALU	Palau	20.71	301	P	P	14 05 00.6	+0.3
	baz=21,SNR=117						
QIS	Mount Isa	21.07	215	P	P	14 05 03.2	-0.4
	baz=21,SNR=1000						
SWI	Sorong	21.15	276	P	P	14 05 04.6	+0.2
SWI	Sorong	21.15	276	P	P	14 05 04.9	+0.5
	baz=21,SNR=143						
TARA	Tarawa	21.16	77	*e*P	P	14 05 03.0	-1.4
TARA				LR	LR		
	comp=Z,30μm,21.0s						
SAUI	Saumlaki	21.37	257	P	P	14 05 07.6	+1.3
SAUI	Saumlaki	21.37	257	*e*P	P	14 05 07.7	+1.4
	comp=Z,2μm,1.1s						
KDU	Kakadu	21.66	244	P	P	14 05 07.8	-1.2
	baz=22,SNR=400						
EIDS	Eidsvold	21.90	183	P	P	14 05 11.6	+0.6
	baz=22,SNR=77						
EIDS	Eidsvold	21.90	183	*e*P	P	14 05 11.0	0.0
	comp=Z,248nm,0.6s						
BNDI	Bandanaira	22.35	266	P	P	14 05 16.4	+1.1
MTN	Manton Dam	22.93	245	P	P	14 05 20.3	-0.2
	baz=23,SNR=203						
DZM	Mont Dzumac	23.12	145	P	P	14 05 23.3	+1.1
	comp=Z,830nm,0.5s,baz=271,slow=6.5,SNR=440						
DZM				PP	pP	14 06 30.6	+0.7
	comp=Z,131nm,0.6s,baz=300,slow=8.1,SNR=3.1						
DZM	Mont Dzumac	23.12	145	*e*P	P	14 05 23.2	+1.1
	comp=Z,865nm,0.6s						
DZM				PP	pP	14 06 30.6	+0.7
RMQ	Roma	23.23	188	P	P	14 05 23.7	+0.7
	baz=23,SNR=154						
MSAI	Masohi	23.31	269	P	P	14 05 24.3	+0.4
WRAB	Tennant Creek	24.02	225	*e*P	P	14 05 29.6	-0.6
WRAB				pmax	pmax		
	comp=Z,1μm,0.7s						
WRAB				MLR	MLR		
	comp=Z,21μm,21.0s						
WRAB	Tennant Creek	24.02	225	*e*P	P	14 05 29.6	-0.6
	comp=Z,1μm,0.7s						
WRAB				LR	LR		
	comp=Z,21μm,21.0s						
WB2	Warramunga Arr	24.02	225	*e*P	P	14 05 29.4	-0.9
WRA	Warramunga Arr	24.03	225	P	P	14 05 30.0	-0.4
WRA						14 09 00.0	
WRA				S	S	14 09 14.4	-2.3
WRA	Warramunga Arr	24.03	225	P	P	14 05 29.9	-0.4
	comp=Z,1μm,0.8s,baz=48,slow=9.5,SNR=779						
WRA				sP	sP	14 07 39.6	+8.3
	comp=Z,184nm,0.8s,baz=52,slow=9.8,SNR=3.2						
WRA				PcP	PcP	14 09 00.0	+1.2
	comp=Z,99nm,0.6s,baz=47,slow=2.2,SNR=7.6						
WRA				S	S	14 09 14.4	-2.3
	comp=Z,143nm,0.8s,baz=47,slow=14,SNR=4.5						
WRA				ScP	ScP	14 11 58.3	+1.2
	comp=Z,111nm,0.9s,baz=48,slow=3.6,SNR=7.7						
WRA				PKiKP	PKiKP	14 16 41.5	+0.2
	comp=Z,3.5nm,0.6s,baz=342,slow=1.0,SNR=6.4						
WRA				P3KP		14 39 26.9	
	comp=Z,2.0nm,0.7s,baz=149,slow=2.8,SNR=5.6						
WRA	Warramunga Arr	24.03	225	P	P	14 05 29.9	-0.4
WRA				sP	sP	14 07 39.6	+8.3
WRA				PcP	PcP	14 09 00.0	+1.2
WRA				S	S	14 09 14.4	-2.3
WRA				ScP	ScP	14 11 58.3	+1.2
WRA				PKiKP	PKiKP	14 16 41.5	+0.2
WRA				PKKKP		14 39 26.9	
QLP	Quilpie	24.33	198	P	P	14 05 32.8	0.0
	baz=24,SNR=276						
LBMI	Labuha	24.91	276	P	P	14 05 38.9	+0.6
NLAI	Namlea	25.14	270	P	P	14 05 41.8	+1.5
TNTI	Ternate	25.24	279	P	P	14 05 42.0	+0.8
H11S3	WAKE ISLAND Hy	25.96	33	P	P	14 05 48.2	+1.0
	baz=230,slow=6.0,SNR=13						
H11S2	WAKE ISLAND Hy 25.96		33	P	P	14 05 47.8	+0.5
	baz=230,slow=6.0,SNR=26						
H11S1	WAKE ISLAND Hy 25.98		33	P	P	14 05 48.6	+1.1
	baz=230,slow=6.0,SNR=16						
KNRA	Kununurra	26.17	241

SGSI	Sangihe	27.64 284	P	P	14 06 03.2 +0.8
BIPH	Bislig	28.29 294⇑	eP	P	14 06 07.0 -1.2
SOEI	Soe	28.52 256	P	P	14 06 11.0 +0.6
SOEI	Soe	28.52 256	P	P	14 06 11.1 +0.7
	baz=28,SNR=117				
SOEI	Soe	28.52 256	eP	P	14 06 10.0 -0.4
	comp=Z,926nm,0.9s				
KMSI	Cibinong	28.55 277	P	P	14 06 11.2 +0.7
DAV	Davao City (W)	28.60 291	PFAKE		14 06 20.0 +9.1
DAV			LR	LR	
	comp=Z,17µm,19.0s				
CMSA	Cobar Meteorol	28.69 192	P	P	14 06 11.8 +0.4
	baz=29,SNR=1000				
LHI	Lord Howe Isla	28.72 168	P	P	14 06 12.8 +1.1
	baz=29,SNR=17				
MSVF	Nonsavu	29.01 121	eP	P	14 06 15.5 +0.9
MSVF			pmax	pmax	
	comp=Z,375nm,1.0s				
MSVF			MLR	MLR	
	comp=Z,17µm,19.0s				
MSVF	Nonsavu	29.01 121	eP	P	14 06 15.5 +0.9
	comp=Z,376nm,1.0s				
MSVF			LR	LR	
	comp=Z,17µm,19.0s				
BATI	Baumata	29.20 255	P	P	14 06 17.4 +1.2
BATI	Baumata	29.20 255	P	P	14 06 17.4 +1.2
	comp=Z,845nm,0.8s,baz=169,slow=1.1,SNR=152				
BATI	Baumata	29.20 255	P	P	14 06 17.4 +1.2
BUTP	Butuan	29.27 295	eP	P	14 06 17.4 +0.7
BUKP	Musuan	29.36 292	eP	P	14 06 17.9 +0.3
NFK	Norfolk Island	29.55 151	P	P	14 06 20.0 +1.0
	baz=30,SNR=45				
LUWI	Luwuk	29.57 274	P	P	14 06 19.7 +0.3
LUWI	Luwuk	29.57 274	P	P	14 06 19.9 +0.4
	baz=30,SNR=88				
LUWI	Luwuk	29.57 274	eP	P	14 06 19.7 +0.3
	comp=Z,2µm,1.2s				
LUWI			eS	S	14 10 44.0 +0.2
MGCD	Mangrove Creek	29.70 182	P	P	14 06 21.0 +0.7
	baz=30,SNR=109				
SCPH	Surigao	29.72 296	eP	P	14 06 22.6 +1.9
CTBH	Cotabato--PC H	29.89 291⇑	eP	P	14 06 22.9 +0.7
CGP	Cagayan de Oro	29.91 293	eP	P	14 06 22.4 0.0
MMRI	Maumere	30.32 259	P	P	14 06 25.4 -0.5
MMRI	Maumere	30.32 259	eP	P	14 06 24.8 -1.1
	comp=Z,359nm,0.8s				
MSLP	Maasin	30.43 296	eP	P	14 06 26.9 +0.1
MRSI	Marisa	30.56 277	P	P	14 06 27.8 -0.3
APSI	Ampana	30.70 274	P	P	14 06 29.7 +0.4
PLP	Palo	30.77 298⇓	eP	P	14 06 29.5 -0.3
EDFI	Ende, Flores	30.87 259	P	P	14 06 29.6 -1.2
YNG	Young	30.98 186	P	P	14 06 32.1 +0.8
	baz=31,SNR=64				
OCLP	Ormoc	31.04 298	eP	P	14 06 32.2 0.0
TBP	Tagbilaran	31.14 295	eP	P	14 06 33.7 +0.6
LLP	Lapu-Lapu	31.30 296⇓	eP	P	14 06 35.2 +0.8
LLP			eS	S	14 11 08.8 -1.8
WRKA	Warakurna	31.57 225	⇓P	P	14 06 34.9 -1.8
	baz=32,SNR=991				
BSSI	Bau Bau, Buton	31.79 264	P	P	14 06 39.6 +0.9
JCJ	Chichijima	31.82 343	P	P	14 06 35.6 -3.1
	comp=Z,762nm,0.6s				
CBIJ	Chichi jima	31.82 343	eP	P	14 06 35.5 -3.2
	comp=Z,482nm,0.9s				
CBIJ			eS	S	14 11 17.4 -0.8
CNB	Canberra Magne	31.90 185	P	P	14 06 40.2 +0.8
	baz=32,SNR=457				
CAN	Canberra	31.93 185	eP	P	14 06 40.0 +0.4
CAN			e*PP	pP	14 07 54.1 -1.7
CAN			pmax	pmax	
	comp=Z,236nm,0.5s				
CAN			MLR	MLR	
	comp=Z,62µm,22.0s				
CAN	Canberra	31.93 185	eP	P	14 06 40.0 +0.4
	comp=Z,236nm,0.5s				
CAN			epP	pP	14 07 54.1 -1.7
CAN			LR	LR	
	comp=Z,62µm,22.0s				
BNSI	Bone	32.11 267	P	P	14 06 42.4 +0.9
BKSI	Bulukumba	32.12 265	P	P	14 06 41.3 -0.2
BASI	Baing, Sumba	32.18 256	P	P	14 06 43.4 +1.4
WSI	Waingapu	32.37 257	P	P	14 06 44.1 +0.5
TTSI	Tana Toraja	32.41 270	P	P	14 06 46.7 +2.7
SPSI	Sidrap Palu	32.45 268	P	P	14 06 45.2 +0.9
KAPI	Kappang	32.48 266	P	P	14 06 45.6 +1.0
	SNR=51				
KAPI	Kappang	32.48 266	eP	P	14 06 44.5 -0.2
	comp=Z,238nm,0.8s				
KAPI			ePcP	PcP	14 09 18.8 -1.3
KAPI			LR	LR	
	comp=Z,13µm,22.0s				
MPSI	Mapaga	32.57 276	P	P	14 06 45.1 -0.3
PVCP	Virac	32.61 302	⇓iP	P	14 06 46.2 +0.6
RCP	Roxas	32.91 297	⇓eP	P	14 06 48.6 +0.4
BBOO	Buckleboo	32.99 206	P	P	14 06 47.9 -0.9
	baz=33,SNR=116				
BBOO	Buckleboo	32.99 206	eP	P	14 06 47.7 -1.0
	comp=Z,2µm,0.8s				
BBOO			ePcP	PcP	14 09 20.2 -1.0
BBOO			eS	S	14 11 32.0 -4.1
MILA	Mila	33.64 185	P	P	14 06 55.3 +1.0
	baz=34,SNR=76				
GQP	Guinayangan	34.21 301	⇓eP	P	14 06 58.9 -0.5
TOO	Toolangi	34.60 190	P	P	14 07 03.1 +0.7
	baz=35,SNR=84				
SGKI	Sangatta, Kali	34.77 274	P	P	14 07 09.0 +4.9
MYLDM	Lahad Datu	34.80 284	⇑P	P	14 07 07.6 +3.3
MYLDM	Lahad Datu	34.80 284	eP	P	14 07 06.3 +2.0
	comp=Z,1µm,1.3s				
BKB	Balikpapan	35.41 273	P	P	14 07 13.2 +3.7
FORT	Forrest	35.58 217	P	P	14 07 09.6 -1.1
	baz=36,SNR=329				
FORT	Forrest	35.58 217	eP	P	14 07 09.6 -1.1
	comp=Z,2µm,0.7s				
FORT			ePcP	PcP	14 09 30.3 +1.5
FORT			eS	S	14 12 11.6 -3.9
TGY	Tagaytay City	35.60 300	P	P	14 07 13.0 +1.9
TGY	Tagaytay City	35.60 300	P	P	14 07 13.0 +1.9
	comp=Z,1µm,0.7s,baz=222,slow=1.9,SNR=47				
TGY	Tagaytay City	35.60 300	P	P	14 07 13.0 +1.9
ENPP	El Nido	35.75 294	eP	P	14 07 13.3 +0.9
BALP	Baler	35.83 303	eP	P	14 07 13.1 +0.2
PPR	Puerto Princes	35.88 292	eP	P	14 07 21.6 +8.2
KNTN	Kanton	35.95 90	eP	P	14 07 15.2 +1.1
	comp=Z,2µm,1.0s				
KNTN			eS	S	14 12 26.4 +4.8
PCPH	Palayan	36.14 302	⇓eP	P	14 07 15.5 -0.1
SDKM	Sandakan	36.17 284	⇓P	P	14 07 16.9 +1.0
MBWA	Marble Bar	36.25 238	P	P	14 07 16.3 -0.2
	SNR=19				
MBWA	Marble Bar	36.25 238	eP	P	14 07 14.7 -1.7
	comp=Z,647nm,1.8s				
MBWA			ePcP	PcP	14 09 30.3 -0.7
MBWA			LR	LR	
	comp=Z,11µm,21.0s				
CVP	Callao Caves	36.62 306	⇓eP	P	14 07 19.6 +0.1
KDM	Kudat	36.83 286	⇓P	P	14 07 22.5 +1.2
BCPH	Baguio City Da	36.97 303	⇓eP	P	14 07 24.2 +1.5
AFI	Afiamalu	36.99 109	eP	P	14 07 22.5 -0.2
AFI			e		14 09 33.4
AFI			pmax	pmax	
	comp=Z,4µm,1.4s				
AFI			MLR	MLR	
	comp=Z,14µm,20.0s				
AFI	Afiamalu	36.99 109	eP	P	14 07 22.5 -0.2
	comp=Z,4µm,1.4s				
AFI			ePcP	PcP	14 09 33.4 -0.1
AFI			LR	LR	
	comp=Z,14µm,20.0s				
SRBI	Singaraja	37.16 261	P	P	14 07 24.4 +0.3
APYP	Conner	37.17 306	eP	P	14 07 24.0 -0.1
KKM	Kota Kinabalu	37.21 285	P	P	14 07 25.5 +0.8
	baz=37,SNR=55				
KKM	Kota Kinabalu	37.21 285	ePcP	PcP	14 09 35.1 +0.9
KKM			eS	S	14 12 40.6 0.0
KKM			LR	LR	
	comp=Z,11µm,20.0s				
DNP	Denpasar	37.22 260	P	P	14 07 26.4 +1.8
IGBI	Denpasar	37.30 260	P	P	14 07 26.5 +1.3
OUZ	Omahuta	37.34 151	PN	P	14 07 27.7 +2.4
OUZ	Omahuta	37.34 151	eP	P	14 07 26.6 +1.3
	comp=Z,1µm,0.9s				
OUZ			ePcP	PcP	14 09 33.7 -0.3
BBKI	Banjar Baru	37.37 269	P	P	14 07 29.6 +3.7
MTKI	Muara Teweh, K	37.43 273	P	P	14 07 27.9 +1.5
ABRA	Dolores	37.49 305	eP	P	14 07 26.1 -0.7
BOLP	Bolinao	37.53 302	eP	P	14 07 26.7 -0.4
SZP	Santa	37.66 305	eP	P	14 07 27.9 -0.2
	comp=Z,684nm,1.1s				
SIPP	Brgy, Tapao	37.84 305⇑	eP	P	14 07 29.4 -0.3
PIP	Pasuquin	37.92 306⇑	eP	P	14 07 30.5 +0.2
JOW	Kunigami	37.94 324	eP	P	14 07 29.3 -1.1
	comp=Z,2µm,1.2s				
ABJI	Asem Bagus	38.10 262	P	P	14 07 32.6 +0.7
RAO	Raoul Island	38.24 135	eP	P	14 07 31.7 -1.1
RAO					14 09 12.7
RAO			e		14 09 36.5
RAO			pmax	pmax	
	comp=Z,458nm,0.6s				
RAO			MLR	MLR	
	comp=Z,36µm,22.0s				
RAO	Raoul Island	38.24 135	PP	PP	14 09 12.7 +1.1
	comp=Z,154nm,0.4s,baz=12,slow=12,SNR=4.6				
RAO	Raoul Island	38.24 135	eP	P	14 07 31.7 -1.1
	comp=Z,458nm,0.6s				
RAO			PP	PP	14 09 12.7 +1.1
RAO			ePcP	PcP	14 09 36.5 -0.5
RAO			LR	LR	
	comp=Z,36µm,22.0s				
JAGI	Jajag, Banyuwa	38.24 261	P	P	14 07 32.5 -0.5
JAGI	Jajag, Banyuwa	38.24 261	P	P	14 07 31.6 -1.5
	baz=38,SNR=56				
JAGI	Jajag, Banyuwa	38.24 261	eP	P	14 07 31.0 -2.1
	comp=Z,291nm,0.9s				
JAGI			epP	pP	14 08 50.8 -0.8
JAGI			ePcP	PcP	14 09 35.9 -1.4
WCZ	Waipu Caves	38.28 151	PN	P	14 07 35.1 +2.1
WCZ			PcP	PcP	14 09 37.4 +0.4
KMMI	Kalianget	38.32 263	P	P	14 07 35.2 +1.6
BLJI	Banyuglugur	38.73 262	P	P	14 07 36.3 -0.7
GMJI	Gumukmas	38.92 261	P	P	14 07 39.7 +1.1
MOO	Moorlands	39.16 186	P	P	14 07 41.4 +1.3
	baz=39,SNR=66				
WTAZ	Waiatarua	39.19 151	ePN	P	14 07 41.5 +1.1
KUZ	Kuaotunu	39.60 150	PN	P	14 07 45.4 +1.7
KUZ			PcP	PcP	14 09 42.3 +1.1
TAU	Tasmania Unive	39.61 186	eP	P	14 07 43.4 -0.3
TAU			e		14 09 41.1
TAU			pmax	pmax	
	comp=Z,138nm,0.7s				
TAU			MLR	MLR	
	comp=Z,16µm,22.0s				
TAU	Tasmania Unive	39.61 186	eP	P	14 07 43.4 -0.3
	comp=Z,138nm,0.7s				
TAU			ePcP	PcP	14 09 41.1 0.0
TAU			LR	LR	
	comp=Z,16µm,22.0s				
MEEK	Meekatharra	39.67 231	P	P	14 07 43.1 -1.4
	baz=40,SNR=431				
YOJ	Yonaguni jima	39.69 316	eP	P	14 07 42.7 -2.0
YOJ			pmax	pmax	
	comp=Z,882nm,1.1s				
YOJ	Yonaguni jima	39.69 316	eP	P	14 07 42.7 -2.0
	comp=Z,882nm,1.1s				
GRJI	Gresik	39.78 263	P	P	14 07 49.6 +4.0
TWG	Pinlang	40.07 312	eP	P	14 07 46.8 -1.0
	comp=Z,536nm,0.8s				
TWG			epP	pP	14 09 06.8 -0.4
TWG			ePcP	PcP	14 09 40.9 -2.1
TWG			eScP	ScP	14 12 50.1 -1.5
YULB	Yu-li	40.25 313	eP	P	14 07 49.2 -0.1
	comp=Z,276nm,0.8s				
TOZ	Tahuroa Road	40.27 151	PN	P	14 07 50.9 +1.8
TOZ			PcP	PcP	14 09 42.6 -0.7
TBJI	Tambak Boyo	40.41 263	P	P	14 07 53.5 +2.9
SBUM	Sibu	40.46 278	eP	P	14 07 52.8 +1.7
	comp=Z,770nm,1.2s				
NACB	Ninganchiao	40.51 314	eP	P	14 07 51.8 +0.5
NACB			epP	pP	14 09 11.2 +0.3
PWJI	Pagerwojo	40.52 262	P	P	14 07 50.9 -0.7
PBKI	Pangkalan Bun	40.55 270	P	P	14 07 54.0 +2.1
HIZ	Hauiti	40.59 152	PN	P	14 07 53.6 +1.9
HIZ			PcP	PcP	14 09 45.5 +1.1
TPUB	Ta-pu	40.68 312	eP	P	14 07 52.4 -0.3
	comp=Z,343nm,0.8s				
TPUB			epP	pP	14 09 10.5 -1.9
SSLB	Suanglung	40.74 313	eP	P	14 07 53.5 +0.3
	comp=Z,3µm,2.2s				
SSLB			ePcP	PcP	14 09 45.4 +0.2
SSLB			eScP	ScP	14 12 52.6 -1.7
SSLB			eS	S	14 13 37.0 +4.6
KARZ	Kaharoa	40.86 151	PN	P	14 07 55.6 +1.6
OPRZ	Ohinepanea	40.87 150	PN	P	14 07 55.4 +1.4
STKI	Sintang	40.92 274	P	P	14 07 56.6 +1.8
YHNB	Yeheng	40.97 315	eP	P	14 07 56.1 +0.9
	comp=Z,1µm,1.1s				
YHNB			epP	pP	14 09 15.9 +0.9
YHNB			LR	LR	
	comp=Z,13µm,22.0s				
MARZ	Manawahe	41.04 150	PN	P	14 07 57.5 +2.1
TATO	Taipei	41.08 315	P	P	14 07 58.0 +2.1
	SNR=12				
TATO	Taipei	41.08 315	eP	P	14 07 55.3 -0.6
	comp=Z,2µm,1.3s				
TATO			ePcP	PcP	14 09 45.7 -0.5
TATO			eScP	ScP	14 12 55.8 +0.2
TATO			LR	LR	
	comp=Z,9µm,20.0s				
PCJI	Pacitan	41.15 261	P	P	14 07 56.7 0.0
UWJI	Ujung Watu	41.28 264	P	P	14 07 59.3 +1.6
WOJI	Wonogiri, Jawa	41.38 262	P	P	14 07 59.6 +1.1
KRVZ	Karewarewa	41.42 152	PN	P	14 08 00.7 +2.1
HAZ	Te Kaha	41.43 149	PN	P	14 07 59.5 +1.0
PKVZ	Pokaka	41.44 153	PN	P	14 08 00.6 +1.9
COVZ	Chateau Observ	41.46 152	PN	P	14 08 00.7 +1.9
NGZ	Ngauruhoe	41.47 152	PN	P	14 08 00.9 +2.0
HATZ	Hinemaiaia	41.47 152	PN	P	14 08 00.2 +1.4
URZ	Urewera	41.47 150	P	P	14 08 00.1 +1.2
	comp=Z,123nm,0.3s,baz=275,slow=1.9,SNR=124				
URZ			S	S	14 13 43.2 +0.6
	comp=Z,60nm,0.6s,baz=161,slow=21,SNR=17				
URZ			PKKP	PKKPdf	14 31 35.7 -0.9
	comp=Z,6.3nm,0.8s,baz=126,slow=7.1,SNR=3.2				
URZ	Urewera	41.47 150	PN	P	14 07 59.5 +0.7
URZ	Urewera	41.47 150	eP	P	14 07 59.5 +0.7
	comp=Z,536nm,1.3s				
URZ			S	S	14 13 43.2 +0.6
URZ			PKKP	PKKPdf	14 31 35.7 -0.9
QRZ	Quartz Range	41.51 157	PN	P	14 08 01.1 +2.0
GIRL	Giralia	41.52 239	P	P	14 08 00.4 +0.9
	baz=42,SNR=31				
TRVZ	Turoa	41.54 152	PN	P	14 08 01.3 +1.6
MXZ	Matakaoa Point	41.55 148	PN	P	14 07 59.8 +0.3
MXZ			PcP	PcP	14 09 50.1 +2.5
TUVZ	Tukino	41.56 152	PN	P	14 08 02.2 +2.5
JNU	Nakatsue	41.57 333	P	P	14 07 59.7 0.0
	comp=Z,1µm,0.9s,baz=44,slow=1.4,SNR=212				
JNU	Nakatsue	41.57 333	eP	P	14 07 59.4 -0.3
WAZ	Wanganui	41.66 153	PN	P	14 08 02.1 +1.8
MWZ	Matawai	41.74 150	PN	P	14 08 01.5 +0.5
MWZ			eSN	S	14 13 46.8 +0.3
UGM	Wanagama	41.78 262	P	P	14 08 03.4 +1.7
UGM	Wanagama	41.78 262	eP	P	14 08 02.5 +0.8
	comp=Z,533nm,0.9s				
WMGZ	Waiomatatini S	41.80 148	PN	P	14 08 02.4 +0.9
WMGZ			PcP	pP	14 09 22.5 +0.8
RAGZ	Rawiri	41.81 150	PN	P	14 08 02.9 +1.3
RAGZ			PcP	pP	14 09 23.2 +1.5
RAGZ			SN	S	14 13 47.8 +0.2
MJAR	Matsushiro Arr	41.83 343	P	P	14 08 00.1 -1.6
MJAR					14 09 48.9
MJAR	Matsushiro Arr	41.83 343	P	P	14 08 00.1 -1.6
	comp=Z,340nm,0.9s,baz=168,slow=8.7,SNR=170				
MJAR			PcP	PcP	14 09 48.9 +0.4
	comp=Z,32nm,0.7s,baz=161,slow=4.6,SNR=6.2				
MJAR			ScP	ScP	14 13 01.3 +3.0
	comp=Z,44nm,1.0s,baz=166,slow=4.8,SNR=5.6				
MJAR			PKPPKP	P'P'df	14 39 33.6 -28
	comp=Z,2.4nm,0.9s,baz=65,slow=3.5,SNR=4.1				
MJAR	Matsushiro Arr	41.83 343	P	P	14 08 00.1 -1.6
MJAR			PcP	PcP	14 09 48.9 +0.4
MJAR			ScP	ScP	14 13 01.3 +3.0
MJAR			P'P'		14 39 33.6
MAJO	Matsushiro	41.83 343	c iP	P	14 08 00.7 -1.0
MAJO			pmax	pmax	
	comp=Z,3µm,0.8s				
MAJO	Matsushiro	41.83 343	eP	P	14 07 60.0 -1.8
	comp=Z,410nm,0.9s				
MAJO			ePcP	PcP	14 09 47.2 -1.3
MAJO			LR	LR	
	comp=Z,7µm,20.0s				
MAT	Matsushiro	41.83 343	P	P	14 07 59.8 -1.9
MAT			S	S	14 13 43.8 -4.0
TWGZ	Tauwhareparae	41.85 149	PN	P	14 08 02.8 +0.9
BKZ	Black Stump Fm	41.88 151	PN	P	14 08 02.3 +0.1
BKZ			eSN	S	14 13 49.5 +0.9
BKZ	Black Stump Fm	41.88 151	eP	P	14 08 03.0 +0.8
	comp=Z,610nm,0.4s				
PUZ	Puketiti	41.91 149	PN	P	14 08 02.9 +0.5
BHHZ	Black Hill Sta	41.93 152	PN	P	14 08 03.4 +0.9
RAHZ	Arahi	41.97 151	PN	P	14 08 04.0 +1.2
NMHZ	Naumai	41.98 151	PN	P	14 08 04.5 +1.6
TKGZ	Te Karaka	41.98 150	PN	P	14 08 03.4 +0.5
SNGZ	Shannon Statio	41.99 150	PN	P	14 08 03.9 +0.9
SNGZ			SN	S	14 13 51.1 +1.0
DSZ	Denniston Nort	42.02 158	PN	P	14 08 04.0 +0.8
DUWZ	D'Urville Isla	42.06 155	PN	P	14 08 04.6 +1.1
RIGZ	Rimuhau	42.14 150	PN	P	14 08 05.1 +0.9
RIGZ			PcP	pP	14 09 25.8 +1.3
RIGZ			SN	S	14 13 52.8 +0.5
WHHZ	Waihua	42.17 151	PN	P	14 08 04.9 +0.5
WHHZ			eSN	S	14 13 53.3 +0.6
NNZ	Nelson	42.18 156	PN	P	14 08 04.8 +0.4
NNZ			eSN	S	14 13 56.3 +3.5
MCHZ	McNeill Hill	42.20 152	PN	P	14 08 05.9 +1.3
MCHZ			SN	S	14 13 54.3 +1.2
ARHZ	Aropaoanui	42.20 151	PN	P	14 08 05.4 +0.8
CNGZ	Carnagh Statio	42.20 149	PN	P	14 08 05.7 +1.1
CNGZ			PcP	pP	14 09 25.2 +0.2
KRHZ	Kereru	42.20 152	PN	P	14 08 05.4 +0.7
KSM	Kuching	42.23 276	⇑P	P	14 08 07.4 +2.1
KSM	Kuching	42.23 276	eP	P	14 08 05.7 +0.4
	comp=Z,1µm,1.0s				
KSM			ePcP	PcP	14 09 49.6 -0.8
KSM			eS	S	14 13 57.2 +3.0
KSM			LR	LR	
	comp=Z,8µm,20.0s				
PNHZ	Pukenui	42.34 152	PN	P	14 08 06.2 +0.5
KNZ	Kokohu	42.34 150	PN	P	14 08 06.0 +0.3
KNZ			SN	S	14 13 56.1 +1.1
TSZ	Takapari Road	42.34 153	PN	P	14 08 06.2 +0.5
TSZ			SN	S	14 13 56.0 +0.8
THZ	Tophouse	42.46 157	PN	P	14 08 07.2 +0.5
THZ			SN	S	14 14 00.2 +3.3
POWZ	Post Office Ro	42.52 153	ePN	P	14 08 07.7 +0.5
KIW	Kapiti Island	42.53 154	ePN	P	14 08 07.8 +0.6
TCW	Tory Channel	42.55 155	PN	P	14 08 08.3 +0.9
KAHZ	Kahuranaki	42.56 152	PN	P	14 08 08.5 +1.0
KAHZ			PcP	sP	14 10 15.5 0.0
MHGZ	Mahia Peninsul	42.56 150	ePN	P	14 08 08.2 +0.7
WPHZ	Waipukurau	42.57 152	PN	P	14 08 08.1 +0.5
TUWZ	Tuamarina	42.59 156	PN	P	14 08 08.2 +0.6
OGWZ	Otaki Gorge	42.60 154	PN	P	14 08 08.3 +0.5
DVHZ	Dannevirke	42.63 153	ePN	P	14 08 08.2 +0.2
MRZ	Mangatainoka R	42.66 154	PN	P	14 08 08.1 -0.1
PXZ	Pawanui	42.74 152	PN	P	14 08 08.9 +0.1
PRWZ	Pori Road	42.74 153	PN	P	14 08 09.4 +0.5
CAWZ	Cannon Point	42.80 154	PN	P	14 08 09.7 +0.3
BSWZ	Blackbirch Sta	42.80 156	PN	P	14 08 09.9 +0.6
WVZ	Waitaha Valley	42.81 160	ePN	P	14 08 09.2 -0.1
SNZO	South Karori	42.81 155	eP	P	14 08 09.8 +0.4
	comp=Z,759nm,0.5s				
SNZO			eS	S	14 14 04.1 +2.4
SNZO			LR	LR	
	comp=Z,12µm,19.0s				
HOWZ	Holdsworth Sta	42.82 154	PN	P	14 08 09.7 +0.1
FOZ	Fox Glacier	42.90 161	PN	P	14 08 10.6 +0.6
ANWZ	Angora Road	42.90 153	PN	P	14 08 10.0 -0.1
BHW	Baring Head	42.96 155	PN	P	14 08 10.7 +0.1
CMWZ	Cape Campbell	42.97 156	PN	P	14 08 11.3 +0.6
BFZ	Birch Farm	42.97 153	PN	P	14 08 11.4 +0.4
BFZ	Birch Farm	42.97 153	eP	P	14 08 10.8 +0.1
	comp=Z,915nm,0.6s				
MTW	Mount Morrison	43.03 154	PN	P	14 08 11.2 +0.1
JCZ	Jackson Bay	43.07 163	ePN	P	14 08 12.0 +0.4
LTZ	Lake Taylor	43.09 158	PN	P	14 08 12.1 +0.4
MSWZ	Moikau Station	43.13 155	ePN	P	14 08 11.9 0.0
QZH	Quanzhou	43.15 313	⇑iP	P	14 08 13.1 +0.7
QZH			pP	pP	14 09 33.5 +0.4
QZH			PP	PP	14 10 00.8 -1.9
QZH			sP	sP	14 10 18.5 -2.0
QZH			ScP	ScP	14 13 04.8 +0.9
QZH			S	S	14 14 04.1 -3.1
QZH			ScS	ScS	14 17 25.0 -0.7
QZH			PMZ		
	comp=Z,1µm,1.0s				
TMWZ	Te Maipa	43.16 154	ePN	P	14 08 12.5 +0.3
PAWZ	Paruwai Farm	43.18 154	PN	P	14 08 12.5 +0.2
PLWZ	Palliser	43.26 155	PN	P	14 08 13.0 0.0
KHZ	Kahutara	43.26 157	PN	P	14 08 12.8 -0.2
KHZ	Kahutara	43.26 157	eP	P	14 08 12.9 0.0
	comp=Z,566nm,0.5s				
KHZ			eS	S	14 14 09.2 +0.9
TRWZ	Traveller	43.30 154	ePN	P	14 08 13.6 +0.2
KPJI	Karang Pucung	43.32 263	P	P	14 08 14.6 +0.7
MSZ	Milford Sound	43.38 164	ePN	P	14 08 15.0 +1.2
OXZ	Oxford	43.48 159	PN	P	14 08 14.4 -0.3
RPZ	Rata Peaks	43.48 160	PN	P	14 08 14.4 -0.3
RPZ	Rata Peaks	43.48 160	eP	P	14 08 14.7 0.0
	comp=Z,605nm,0.7s				
RPZ			epP	pP	14 09 35.0 -0.7
LBZ	Lake Benmore	43.79 161	ePN	P	14 08 17.0 -0.1
CMJI	Cimerak	43.82 262	P	P	14 08 17.6 -0.2
WKZ	Wanaka	43.83 163	PN	P	14 08 18.0 +0.6
CRLZ	Canterbury Las	43.91 159	PN	P	14 08 18.4 +0.4
DCZ	Deep Cove	43.91 165	eP	P	14 08 18.7 +0.7
	comp=Z,297nm,0.8s				
JCJI	Jatiwangi	43.94 264	P	P	14 08 20.2 +1.4
NWAO	Narrogin (SRO)	44.03 224	P	P	14 08 18.4 -0.8
NWAO					14 10 10.9
NWAO	Narrogin (SRO)	44.03 224	P	P	14 08 18.4 -0.8
	comp=Z,38nm,0.6s,baz=57,slow=6.9,SNR=42				
NWAO			PP	PP	14 10 10.8 +0.3
	comp=Z,260nm,0.9s,baz=45,slow=8.5,SNR=13				
NWAO	Narrogin (SRO)	44.03 224	P	P	14 08 18.4 -0.8
NWAO			PP	PP	14 10 10.8 +0.3
MQZ	McQueen's Vall	44.03 159	PN	P	14 08 19.2 +0.2
MLZ	Mavora Lakes	44.07 164	PN	P	14 08 19.8 +0.5
EAZ	Earnscleugh	44.29 163	ePN	P	14 08 20.9 -0.1
CISI	Cisompet, Garu	44.44 263	P	P	14 08 21.6 -1.1
CISI	Cisompet, Garu	44.44 263	ePcP	PcP	14 09 57.7 -0.2
WHZ	Wether Hill Ro	44.51 164	PN	P	14 08 22.5 -0.2
WHZ	Wether Hill Ro	44.51 164	eP	P	14 08 22.1 -0.6
	comp=Z,416nm,0.7s				
WHZ			ePcP	PcP	14 09 57.8 +0.3
ODZ	Otahua Downs	44.53 161	PN	P	14 08 23.2 +0.3
ODZ	Otahua Downs	44.53 161	epP	pP	14 09 42.6 -1.6
TPI	Tanjungpandan	44.56 270	P	P	14 08 24.9 +1.3
LEM	Lembang	44.60 264	P	P	14 08 25.2 +1.1
KSWAN	Wando	44.62 329	P	P	14 08 26.0 +2.3
	SNR=5.8				
KSPHA	Pohang	44.81 333	P	P	14 08 26.3 +1.2
	SNR=9.6				
TUZ	Tuapeka	45.04 163	ePN	P	14 08 27.4 +0.6
CNJI	Cibinong	45.10 263	P	P	14 08 27.0 -0.8

	SNR=9.7				
KSBON	**Boeun**	**45.78 332**	P	**P**	**14 08 35.4 +2.7**
	SNR=10				
TJN	**Taejon**	**45.88 332**	*i* P	**P**	**14 08 34.1 +0.7**
KSGUS	**GUNSAN**	**45.89 331**	P	**P**	**14 08 35.3 +1.8**
	SNR=7.2				
ERM	**Erimo**	**45.93 351**⇑	*e*P	**P**	**14 08 35.6 +1.9**
ERM			pmax	pmax	
	comp=Z,196nm,1.2s				
ERM	**Erimo**	**45.93 351**	*e*pP	**pP**	**14 09 54.8 -0.8**
ERM			LR	LR	
	comp=Z,19μm,21.0s				
KSYOW	**Yeongwol**	**46.03 333**	P	**P**	**14 08 35.9 +1.3**
	SNR=15				
DLV	**T Lat**	**46.12 290**	*e*P	**P**	**14 08 37.4 +1.5**
	comp=Z,785nm,0.9s				
DLV			*e*PcP	**pP**	**14 10 00.9 +3.0**
GZH	**Guangzhou**	**46.19 307**	P	**P**	**14 08 38.1 +2.1**
GZH			S	**S**	**14 14 52.5 +2.0**
KSCEA	**Cheonan**	**46.29 332**	P	**P**	**14 08 39.0 +2.4**
	SNR=13				
KSWJU	**Wonju**	**46.40 333**	P	**P**	**14 08 39.0 +1.6**
	SNR=11				
KSJMJ	**Jumunjin**	**46.49 334**	P	**P**	**14 08 39.4 +1.4**
	SNR=21				
KSRS	**Korea Array**	**46.50 333**	P	**P**	**14 08 38.3 +0.1**
KSRS					14 10 07.6
KSRS			pmax	pmax	
	comp=Z,454nm,1.0s				
KSRS			pmax	pmax	
	comp=Z,29nm,0.7s				
KSRS			pmax	pmax	
	comp=N,43nm,0.9s				
KSRS			pmax	pmax	
	comp=Z,4.0nm,0.9s				
KSRS	**Korea Array**	**46.50 333**	P	**P**	**14 08 38.3 +0.1**
	comp=Z,454nm,1.0s,baz=150,slow=8.2,SNR=160				
KSRS			PcP	**PcP**	**14 10 07.5 +2.9**
	comp=Z,29nm,0.7s,baz=155,slow=4.7,SNR=8.2				
KSRS			ScP	**ScP**	**14 13 19.4 +1.9**
	comp=Z,43nm,0.9s,baz=143,slow=4.7,SNR=8.0				
KSRS			PKPPKP	P'P'df	14 39 26.2 -29
	comp=Z,3.5nm,0.9s,baz=320,slow=2.1,SNR=6.3				
CGJI	**Cibinong**	**46.51 264**	P	**P**	**14 08 36.8 -1.8**
KSAR	**Wonju Array Be**	**46.51 333**	P	**P**	**14 08 38.3 +0.1**
KSAR					14 10 07.6
KSAR	**Wonju Array Be**	**46.51 333**	P	**P**	**14 08 38.3 +0.1**
KSAR			PcP	**PcP**	**14 10 07.5 +2.9**
KSAR			ScP	**ScP**	**14 13 19.4 +1.9**
KSAR			P'P'		14 39 26.2
KS01	**Wonju Array Si**	**46.53 333**	*e*P	**P**	**14 08 38.0 -0.4**
XMIS	**Christmas Isla**	**46.78 259**	P	**P**	**14 08 38.7 -2.0**
	comp=Z,3μm,0.9s				
KSSWO	**Suwon**	**46.79 332**	P	**P**	**14 08 42.1 +1.7**
	SNR=21				
KSIJA	**INJE**	**46.86 334**	P	**P**	**14 08 42.3 +1.5**
	SNR=14				
KSSKC	**Sokcho**	**46.93 334**	P	**P**	**14 08 42.8 +1.4**
	SNR=16				
BLSI	**Bandar Lampung**	**46.93 266**	P	**P**	**14 08 42.6 +0.7**
KSSEO	**Seoul**	**46.99 332**	P	**P**	**14 08 44.2 +2.3**
	SNR=7.9				
INCN	**Inchon**	**47.12 332**	P	**P**	**14 08 44.4 +1.5**
	SNR=29				
INCN	**Inchon**	**47.12 332**	*e*P	**P**	**14 08 43.7 +0.8**
	comp=Z,2μm,1.0s				
INCN			*e*S	**S**	**14 15 07.5 +4.3**
INCN			LR	LR	
	comp=Z,14μm,19.0s				
KSCWO	**Cheorwon**	**47.20 333**	P	**P**	**14 08 45.3 +1.7**
	SNR=12				
H01W1	**Cape Leeuwin H**	**47.25 224**	P	**P**	**14 08 45.1 +1.4**
H01W3	**Cape Leeuwin H**	**47.25 224**	P	**P**	**14 08 45.2 +1.4**
KSDDC	**Dongducheon**	**47.26 333**	P	**P**	**14 08 45.8 +1.9**
	SNR=6.0				
H01W2	**Cape Leeuwin H**	**47.26 224**	P	**P**	**14 08 45.2 +1.4**
QIZ	**Qiongzhong**	**47.31 300**	P	**P**	**14 08 46.8 +2.1**
QIZ			pP	**pP**	**14 10 06.8 -0.4**
QIZ			sP	**sP**	**14 10 54.5 +0.4**
QIZ			S	**S**	**14 15 05.9 -0.4**
QIZ			sS	**sS**	**14 17 33.8 -1.3**
QIZ			ScS	**ScS**	**14 17 52.3 -0.8**
QIZ			PMZ		
	comp=Z,2μm,13.1s				
QIZ	**Qiongzhong**	**47.31 300**	*e*P	**P**	**14 08 46.5 +1.8**
	comp=Z,598nm,1.2s				
QIZ			*e*PcP	**PcP**	**14 10 09.4 +1.5**
QIZ			*e*ScP	**ScP**	**14 13 23.1 +1.8**
QIZ			LR	LR	
	comp=Z,7μm,19.0s				
KLI	**Kotabumi**	**47.31 267**	P	**P**	**14 08 45.7 +0.9**
KSMUS	**Musan**	**47.39 332**	P	**P**	**14 08 46.7 +1.8**
	SNR=14				
NJ2	**Nanjing**	**47.42 321**	*e*P	**P**	**14 08 47.0 +1.7**
NJ2			pP	**pP**	**14 10 06.8 -1.1**
NJ2			PcP	PcP	14 10 13.8 +5.8
NJ2			sP	**sP**	**14 10 55.5 +0.8**
NJ2			ScP	**ScP**	**14 13 23.5 +2.0**
NJ2			S	**S**	**14 15 06.5 -0.9**
NJ2			SS	**SS**	**14 18 40.0 -1.9**
NJ2			PMZ		
	comp=Z,680nm,1.1s				
NJ2			PMZ		
	comp=Z,8μm,10.6s				
YNCB	**YEONCHEON**	**47.44 333**	P	**P**	**14 08 48.4 +3.1**
	SNR=5.8				
YUK	**Yuzh-Kuril'sk**	**47.55 354**	*i*	**pP**	**14 10 08.9 +0.2**
YUK			*i*		14 10 44.9
YUK			*i* S	S	14 15 02.0 -6.8
YUK			*i* SS	SS	14 18 34.1 -9.4
YUK			pmax	pmax	
	comp=N,117nm,1.4s				
YUK			pmax	pmax	
	comp=E,262nm,1.4s				
YUK			pmax	pmax	
	comp=Z,814nm,1.4s				
YUK			pmax	pmax	
	comp=Z,1μm,1.4s				
YUK			MLR	MLR	
	comp=E,2μm,16.0s				
YUK			MLR	MLR	
	comp=Z,3μm,16.0s				
KASI	**Kota Agung**	**47.68 266**	P	**P**	**14 08 47.2 -0.3**
	comp=Z,772nm,1.0s,comp=Z,6μmcomp=Z,12μm				
DSRI	**Dabo**	**47.75 272**	P	**P**	**14 08 49.4 +1.3**
	comp=Z,17nm,0.9s,comp=Z,4μm				
TPRI	**Tanjung Pinang**	**47.92 274**	P	**P**	**14 08 51.2 +1.8**
	comp=Z,850nm,1.1s,comp=Z,10μm				
MDSI	**Maura Dua**	**47.99 267**	P	**P**	**14 08 49.3 -0.6**
	comp=Z,373nm,1.5s,comp=Z,5μm				
ASAJ	**Asahikawa**	**48.07 351**	P	**P**	**14 08 50.3 +0.3**
ASAJ			pmax	pmax	
	comp=Z,336nm,0.9s				
ASAJ	**Asahikawa**	**48.07 351**	P	**P**	**14 08 50.3 +0.3**
	comp=Z,336nm,0.9s,baz=226,slow=15,SNR=83				
ASAJ	**Asahikawa**	**48.07 351**	*e*P	**P**	**14 08 50.0 0.0**
	comp=Z,606nm,1.1s				
ASAJ			*e*PcP	**PcP**	**14 10 08.9 -1.2**
LWLI	**Liwa**	**48.11 266**	P	**P**	**14 08 50.3 -0.7**
	comp=Z,1μm,0.8s,comp=Z,8μm				
KUR	**Kuril'sk**	**48.55 356**	*d* iP	**P**	**14 08 53.6 +0.1**
KUR			*i* S	**S**	**14 15 19.8 -2.9**
KUR			*i* SS	**SS**	**14 18 57.1 -2.3**
KUR			pmax	pmax	
	comp=N,206μm,1.1s				
KUR			pmax	pmax	
	comp=Z,1180μm,1.1s				
KUR			pmax	pmax	
	comp=E,156nm,1.1s				
KUR			MLR	MLR	
	comp=N,2μm,16.0s				
KUR			MLR	MLR	
	comp=E,692nm,16.0s				
KUR			MLR	MLR	
	comp=Z,439nm,16.0s				
JMBI	**JAMBI**	**48.62 271**	P	**P**	**14 08 57.3 +2.7**
LHSI	**Lahat**	**48.66 268**	P	**P**	**14 08 55.5 +0.6**
	comp=Z,458nm,1.1s,comp=Z,6μm				
MYKOM	**Kota Tinggi**	**48.68 275**	⇓P	**P**	**14 08 57.3 +2.2**
MYKOM	**Kota Tinggi**	**48.68 275**	*e*P	**P**	**14 08 56.2 +1.1**
	comp=Z,719nm,1.1s				
MNAI	**Manna**	**49.21 267**	P	**P**	**14 08 59.1 0.0**
	comp=Z,813nm,0.8s,comp=Z,8μm				
MNAI	**Manna**	**49.21 267**	*e*P	P	14 08 55.7 -3.4
KGM	**Kluang**	**49.23 276**	⇑P	**P**	**14 09 01.1 +1.8**
WHN	**Wuhan**	**49.48 316**⇑	*i*P	**P**	**14 09 02.4 +1.7**
WHN			pP	**pP**	**14 10 24.4 +0.2**
WHN			S	**S**	**14 15 36.3 +0.4**
WHN			sS	**sS**	**14 18 05.0 -1.1**
WHN			PMZ		
	comp=Z,1μm,1.2s				
WHN			PMZ		
	comp=Z,5μm,7.9s				
VLA	**Vladivostok**	**49.81 340**⇓	*i*P	**P**	**14 09 03.6 +0.6**
VLA			*e*		14 10 16.1
VLA			*i* S	**S**	**14 15 40.8 +0.7**
VLA			pmax	pmax	
	comp=Z,980nm,1.4s				
VLA			smax	smax	
	comp=N,2μm,0.7s				
RAR	**Rarotonga**	**49.84 115**	*e*P	**P**	**14 09 05.1 +1.5**
RAR			pmax	pmax	
	comp=Z,1μm,1.0s				
RAR			MLR	MLR	
	comp=Z,3.0nm,21.0s				
RAR	**Rarotonga**	**49.84 115**	*e*P	**P**	**14 09 05.1 +1.5**
	comp=Z,1μm,1.0s				
RAR			LR	LR	
	comp=Z,3.0nm,21.0s				
UBPT	**Khong Chiam**	**49.90 293**	P	**P**	**14 09 05.9 +1.7**
	comp=Z,192nm,1.1s,comp=Z,3μm				
XMAS	**Kiritimati**	**50.54 85**	*e*P	**P**	**14 09 08.9 0.0**
	comp=Z,979nm,0.9s				
XMAS			LR	LR	
	comp=Z,12μm,21.0s				
DL2	**Dalian**	**50.69 329**⇑	*i*P	**P**	**14 09 10.5 +0.9**
DL2			pP	**pP**	**14 10 32.4 -1.2**
DL2			sP	**sP**	**14 11 20.5 +0.5**
DL2			S	**S**	**14 15 54.3 +2.1**
DL2			sS	**ScS**	**14 18 17.1 +1.8**
DL2			PMZ		
	comp=Z,780nm,1.1s				
DL2			PMZ		
	comp=Z,2μm,8.7s				
USRK	**Ussuriysk Ar.**	**50.74 341**	P	**P**	**14 09 10.2 +0.4**
	comp=Z,391nm,0.9s,baz=166,slow=6.7,SNR=125				
USRK			pP	pP	14 10 41.8 +8.0
	comp=Z,40nm,0.7s,baz=191,slow=13,SNR=3.0				
YSS	**Yuzh-Sakhalins**	**50.81 352**	*α i*P	**P**	**14 09 10.0 -0.3**
YSS			*e*		14 10 21.0
YSS			*e**PP	**pP**	**14 10 32.0 -2.4**
YSS			*e**SP	sP	14 11 14.0 -6.8
YSS			*e*S	**S**	**14 15 50.0 -3.6**
YSS			*e**SS	**ScS**	**14 18 17.0 +1.2**
YSS			*e*SS	**SS**	**14 19 28.0 -7.1**
YSS			pmax	pmax	
	comp=Z,340nm,1.0s				
YSS			pmax	pmax	
	comp=N,2μm,13.0s				
YSS			pmax	pmax	
	comp=Z,2μm,13.0s				
YSS			smax	smax	
	comp=N,10μm,19.0s				
YSS			MLR	MLR	
	comp=Z,4μm,15.0s				
YSS			MLR	MLR	
	comp=N,3μm,16.0s				
YSS	**Yuzh-Sakhalins**	**50.81 352**	*e*P	**P**	**14 09 10.5 +0.1**
	comp=N,540nm,1.2s				
YSS			LR	LR	
	comp=Z,6μm,21.0s				
SDSI	**Sungai Dareh**	**50.87 272**	P	**P**	**14 09 11.3 0.0**
FRIM	**Kepong**	**51.05 277**	⇑P	**P**	**14 09 13.9 +1.2**
TIA	**Tai'an**	**51.27 323**	⇑P	**P**	**14 09 13.9 0.0**
TIA			pP	**pP**	**14 10 35.6 -2.5**
TIA			S	**S**	**14 15 56.5 -3.7**
TIA			SS	**SS**	**14 19 36.9 -5.7**
TIA			PMZ		
	comp=Z,740nm,1.0s				
TIA			PMZ		
	comp=Z,4μm,6.1s				
BKNI	**Bangkinang**	**51.34 273**	P	**P**	**14 09 15.6 +0.8**
BKNI	**Bangkinang**	**51.34 273**	*e*P	**P**	**14 09 14.2 -0.7**
	comp=Z,1μm,0.9s				
BKNI			*e*PcP	**PcP**	**14 10 22.1 -0.8**
IPM	**Ipoh**	**51.80 278**	⇓P	**P**	**14 09 19.4 +1.2**
IPM	**Ipoh**	**51.80 278**	*e*P	**P**	**14 09 17.9 -0.3**
	comp=Z,496nm,0.8s				
IPM			*e*PcP	**PcP**	**14 10 25.9 +1.3**
IPM			*e*ScP	**ScP**	**14 13 41.3 +0.5**
IPM			*e*S	**S**	**14 16 11.9 +3.7**
PDSI	**Padang**	**51.83 271**	P	**P**	**14 09 16.7 -1.8**
MDJ	**Mudanjiang**	**51.91 340**	P	**P**	**14 09 19.3 +0.9**
MDJ			PcP	**PcP**	**14 10 24.8 +0.4**
MDJ			pP	**pP**	**14 10 43.8 +0.9**
MDJ			PP	**PP**	**14 11 26.0 +4.2**
MDJ			sP	**sP**	**14 11 30.0 +0.8**
MDJ			PcS	**PcS**	**14 14 19.9 -3.2**
MDJ			S	**S**	**14 16 06.8 -1.8**
MDJ			PMZ		
	comp=Z,440nm,1.1s				
MDJ			PMZ		
	comp=Z,2μm,8.8s				
MDJ	**Mudanjiang**	**51.91 340**	*e*P	**P**	**14 09 18.0 -0.5**
	comp=Z,448nm,1.0s				
MDJ			*e*PcP	**PcP**	**14 10 24.2 -0.2**
MDJ			LR	LR	
	comp=Z,6μm,19.0s				
SNY	**Shenyang**	**52.01 333**	⇑P	**P**	**14 09 19.3 +0.2**
SNY			S	**S**	**14 16 05.4 -4.5**
SNY			PMZ		
	comp=Z,110nm,1.1s				
SNY			PMZ		
	comp=Z,2μm,9.2s				
KULM	**Kulim**	**52.28 279**	⇑P	**P**	**14 09 22.9 +1.2**
KULM	**Kulim**	**52.28 279**	*e*P	**P**	**14 09 21.0 -0.7**
	comp=Z,384nm,0.9s				
KULM			LR	LR	
	comp=Z,4μm,19.0s				
CN2	**Changchun**	**52.80 336**	⇑P	**P**	**14 09 25.1 +0.3**
CN2			PcP	**PcP**	**14 10 27.9 +0.1**
CN2			*e*pP	**pP**	**14 10 48.0 -1.7**
CN2			ScP	**ScP**	**14 13 44.1 -0.3**
CN2			*e*S	S	14 16 10.4 -10
CN2			ScS	**ScS**	**14 18 28.3 -1.6**
CN2			PMZ		
	comp=Z,380nm,1.1s				
CN2			PMZ		
	comp=Z,1μm,4.0s				
ENH	**Enshi**	**52.81 312**	P	**P**	**14 09 25.5 +0.3**
	comp=Z,274nm,0.9s				
ENH			*e*S	**S**	**14 16 22.0 +0.7**
ENH			LR	LR	
	comp=Z,5μm,19.0s				
MNSI	**Mandailing Nat**	**52.84 274**	P	**P**	**14 09 25.8 +0.1**
	comp=Z,2μm,0.7s,comp=Z,14μm				
GYA	**Guiyang**	**53.13 307**⇑	*i*P	**P**	**14 09 28.8 +1.1**
GYA			PcP	**PcP**	**14 10 30.3 +0.7**
GYA			pP	**pP**	**14 10 55.3 +2.6**
GYA			sP	**sP**	**14 11 41.5 +2.6**
GYA			ScP	**ScP**	**14 13 46.6 +0.2**
GYA			PcS	**PcS**	**14 14 26.0 -3.4**
GYA			S	**S**	**14 16 22.1 -3.7**
GYA			sS	**sS**	**14 18 59.4 +1.3**
GYA			SS	**SS**	**14 20 14.8 +2.3**
GYA			PMZ		
	comp=Z,320nm,1.0s				
GYA			PMZ		
	comp=Z,1μm,12.8s				
SLVN	**Son La**	**53.34 300**	*e*P	**P**	**14 09 30.9 +1.7**
	comp=Z,229nm,1.0s				
PSI	**Prapat**	**53.68 276**	P	**P**	**14 09 31.4 -0.5**
PSI	**Prapat**	**53.68 276**	P	**P**	**14 09 31.4 -0.5**
	comp=Z,159nm,0.8s,baz=87,slow=5.6,SNR=66				
PSI			PKPPKP	**P'P'df**	**14 39 45.5 -0.7**
	comp=Z,8.8nm,0.9s,baz=240,slow=3.7,SNR=7.3				
PSI	**Prapat**	**53.68 276**	P	**P**	**14 09 31.4 -0.5**
PSI			P'P'		14 39 45.5
HABR	**Khabarovsk**	**53.78 346**	*c i*P	**P**	**14 09 32.8 +1.0**
HABR			*e*		14 10 30.6
HABR			*e*		14 11 36.8
HABR			*e*S	**S**	**14 16 34.6 +1.2**
HABR			*e*		14 18 37.3
HABR			*e*SS	**SS**	**14 20 23.3 +1.5**
HABR			pmax	pmax	
	comp=Z,904nm,1.1s				
HABR			pmax	pmax	
	comp=N,262nm,1.1s				
HABR			pmax	pmax	
	comp=E,109nm,1.1s				
HABR			pmax	pmax	
	comp=Z,1μm,1.5s				
HABR			MLR	MLR	
	comp=Z,2μm,18.0s				
SRIT	**Nakonsritamara**	**53.85 283**	P	**P**	**14 09 34.1 +1.2**
	comp=Z,189nm,1.2s,comp=Z,3μm				
SURA	**Surathani**	**53.93 284**	P	**P**	**14 09 34.9 +1.4**
	comp=Z,198nm,1.1s,comp=Z,2μm				
SKR	**Severo-Kuril's**	**53.95 3**	*e*P	P	14 09 27.9 -5.0
SKR			*e*		14 10 52.7
SKR			*e*		14 11 39.0
SKR			*i* S	**S**	**14 16 32.0 -3.5**
SKR			*e**SS	sS	14 19 05.0 -3.4
SKR			*e*SS	**SS**	**14 20 19.0 -5.3**
SKR			pmax	pmax	
	comp=N,220nm,1.0s				
SKR			pmax	pmax	
	comp=E,130nm,1.0s				
SKR			pmax	pmax	
	comp=Z,490nm,1.0s				
SKR			pmax	pmax	
	comp=N,2μm,10.0s				
SKR			pmax	pmax	
	comp=E,2μm,10.0s				
SKR			pmax	pmax	
	comp=Z,3μm,10.0s				
SKR			pmax	pmax	
	comp=N,2μm,10.0s				
SKR			pmax	pmax	
	comp=E,2μm,10.0s				
SKR			pmax	pmax	
	comp=Z,3μm,10.0s				
SKR			smax	smax	
	comp=E,16nm,10.0s				
SKR			smax	smax	
	comp=N,26μm,10.0s				
SKR			MLR	MLR	
	comp=N,3μm,14.0s				
SKR			MLR	MLR	
	comp=Z,5μm,14.0s				
SKR			MLR	MLR	
	comp=E,3μm,10.0s				
TSI	**Tuntungan**	**54.12 277**	P	**P**	**14 09 36.5 +1.7**
PBKT	**Sadao Pong**	**54.42 293**	P	**P**	**14 09 38.8 +1.9**
	comp=E,241nm,1.2s,comp=E,3μm				
BJI	**Beijing**	**54.43 326**	P	**P**	**14 09 37.0 +0.5**
BJI			PcP	**PcP**	**14 10 34.4 +0.3**
BJI			pP	**pP**	**14 10 59.3 -2.7**
BJI			sP	**sP**	**14 11 45.0 -3.1**
BJI			ScP	**ScP**	**14 13 49.4 -2.2**
BJI			S	**S**	**14 16 36.8 -5.5**
BJI			ScS	**ScS**	**14 18 41.8 +0.1**
BJI			sS	**sS**	**14 19 11.8 -3.6**
BJI			PMZ		
	comp=E,200nm,1.2s				
BJI			PMZ		
	comp=E,3μm,6.8s				
HON	**Honolulu**	**54.51 61**	*e*P	**P**	**14 09 36.4 -1.1**
HON			*e**PP	**pP**	**14 11 04.3 +1.3**
HON	**Honolulu**	**54.51 61**	*e*P	**P**	**14 09 36.4 -1.1**
HON			*e*pP	**pP**	**14 11 04.2 +1.3**
KIP	**Kipapa**	**54.53 61**⇑	*e*P	**P**	**14 09 39.0 +1.4**
KIP			pmax	pmax	
	comp=Z,986nm,0.7s				
OPA	**Opana**	**54.63 60**	*e*P	**P**	**14 09 40.0 +1.7**
OPA	**Opana**	**54.63 60**	*e*P	**P**	**14 09 40.0 +1.7**
SURT	**Suratani**	**54.70 283**	P	**P**	**14 09 39.8 +0.8**
	comp=Z,140nm,1.1s,comp=Z,1μm				
GSI	**Gunungsitoli**	**54.88 274**	P	**P**	**14 09 40.5 +0.2**
	comp=Z,1μm,0.8s,comp=Z,13μm				
GSI	**Gunungsitoli**	**54.88 274**	*e*P	**P**	**14 09 39.2 -1.0**
	comp=Z,1μm,0.8s				
KCSI	**Kotacane, Aceh**	**54.90 277**	P	**P**	**14 09 39.5 -1.0**
	comp=Z,439nm,0.9s,comp=Z,6μm				
PKDT	**Phuket**	**54.96 282**	P	**P**	**14 09 41.6 +0.8**
	comp=Z,511nm,0.9s,comp=Z,4μm				
TIY	**Taiyuan**	**55.09 322**	*e*P	**P**	**14 09 42.4 +1.0**
TIY			PcP	**PcP**	**14 10 35.4 -1.5**
TIY			pP	**pP**	**14 11 06.9 -0.3**
TIY			S	S	14 16 45.3 -6.0
TIY			ScS	**ScS**	**14 18 48.6 +1.8**
TIY			PMZ		
	comp=Z,360nm,1.0s				
TIY			PMZ		
	comp=Z,2μm,8.8s				
UTTA	**Uttaradit**	**55.14 294**	P	**P**	**14 09 43.8 +1.8**
	comp=Z,134nm,0.9s,comp=Z,970nm				
XAN	**Xi'an**	**55.24 316**	P	**P**	**14 09 42.4 -0.1**
XAN			sP	**sP**	**14 11 49.6 -4.7**
XAN			S	**S**	**14 16 48.4 -4.9**
XAN			PMZ		
	comp=Z,130nm,1.1s				
XAN			PMZ		
	comp=Z,550nm,11.6s				
KLR	**Kul'dur**	**55.34 344**	*e*P	P	14 09 38.4 -4.4
KLR			*e*S	S	14 16 46.5 -7.5
KLR			*e*		14 18 42.5
KLR			pmax	pmax	
	comp=N,200nm,1.6s				
KLR			pmax	pmax	
	comp=E,420nm,1.6s				
KLR			pmax	pmax	
	comp=Z,1.0nm,1.6s				
KLR			pmax	pmax	
	comp=Z,5μm,10.5s				
KLR			smax	smax	
	comp=N,16μm,10.5s				
KLR			smax	smax	
	comp=E,4μm,10.5s				
TPTI		**55.46 276**	P	**P**	**14 09 43.8 -0.6**
	comp=E,201nm,0.8s				
COCO	**West Island**	**55.53 258**	*e*P	**P**	**14 09 44.7 -0.1**
COCO			*e*		14 10 38.7
COCO			pmax	pmax	
	comp=Z,484nm,0.8s				
COCO			MLR	MLR	
	comp=Z,4μm,22.0s				
COCO	**West Island**	**55.53 258**	*e*P	**P**	**14 09 44.7 -0.1**
	comp=Z,484nm,0.8s				
COCO			*e*PcP	**PcP**	**14 10 38.7 -0.3**
COCO			LR	LR	
	comp=Z,4μm,22.0s				
SRDT	**SRDT**	**55.55 290**	P	**P**	**14 09 47.3 +2.4**
	comp=Z,1μm,1.1s,comp=Z,21μm				
KKH	**Kailua Kona**	**55.70 64**	*e*P	**P**	**14 09 47.9 +2.0**
KKH	**Kailua Kona**	**55.70 64**	*e*P	**P**	**14 09 47.9 +2.0**
KMI	**Kunming**	**55.77 303**	P	**P**	**14 09 49.0 +2.4**
KMI			PcP	**PcP**	**14 10 41.9 +1.9**
KMI			pP	**pP**	**14 11 10.6 -2.0**
KMI			ScP	**ScP**	**14 14 01.3 +3.1**
KMI			S	**S**	**14 17 05.0 +4.1**
KMI			PMZ		
	comp=Z,450nm,1.2s				
KMI			PMZ		
	comp=Z,2μm,5.4s				
HKL	**Haleakala**	**55.83 62**	*e*P	**P**	**14 09 48.8 +1.5**
HKL	**Haleakala**	**55.83 62**	*e*P	**P**	**14 09 48.8 +1.5**
HLK	**Haleakala**	**55.85 62**	*e*P	**P**	**14 09 48.0 +0.8**
LHMI	**Lhok Sumawe**	**55.93 279**	P	**P**	**14 09 48.4 +0.8**
LHMI	**Lhok Sumawe**	**55.93 279**	*e*PcP	**PcP**	**14 10 40.4 -0.1**
HPO	**Honuapo**	**55.94 64**	*e*P	**P**	**14 09 49.2 +1.6**
CRAI	**Chiangrai**	**56.06 297**	P	**P**	**14 09 47.3 -1.2**
	comp=Z,186nm,1.2s				
KHLT	**Khaolaem Dam**	**56.16 290**	P	**P**	**14 09 51.2 +2.0**
	comp=Z,210nm,1.1s,comp=Z,2μm				
POHA	**Pohakuloa**	**56.17 64**	*e*P	**P**	**14 09 50.2 +0.7**
	comp=Z,2μm,0.8s				
POHA			LR	LR	
	comp=Z,7μm,20.0s				
LAMP	**Lampang**	**56.20 295**	P	**P**	**14 09 51.6 +2.1**
	comp=Z,142nm,0.8s,comp=Z,990nm				
SNSI	**Sinabang, Aceh**	**56.22 275**	P	**P**	**14 09 51.6 +1.9**
STCH	**Steam Cracks**	**56.42 64**	*e*P	**P**	**14 09 52.4 +1.4**
PET	**Petropavlovsk**	**56.45 5**	*c e*P	**P**	**14 09 50.8 +0.3**
PET			*e*		14 10 41.8
PET			*e**PP	**pP**	**14 11 14.4 -2.3**
PET			*e*S	**S**	**14 17 06.5 -1.7**
PET			*e*		14 18 55.5
PET			pmax	pmax	
	comp=Z,243nm,0.6s				
PET			pmax	pmax	
	comp=Z,2μm,15.1s				
PET			pmax	pmax	
	comp=Z,2μm,14.8s				
PET	**Petropavlovsk**	**56.45 5**	*e*P	**P**	**14 09 50.3 -0.1**

comp=Z,154nm,0.6s
PET *e*PcP **PcP** **14 10 41.6 -0.1**
PET *e*ScP **ScP** **14 14 00.5 +0.4**
PET LR LR
comp=Z,5μm,20.0s
PEA0 Petropavlovsk- 56.46 4 *e*P **P** **14 09 51.0 +0.4**
PETK Petropavlovsk- 56.46 4 P **P** **14 09 50.8 +0.2**
PETK Petropavlovsk- 56.46 4 P **P** **14 09 50.8 +0.2**
comp=Z,149nm,0.7s,baz=167,slow=7.9,SNR=327
PETK pP pP 14 11 23.9 +7.1
comp=Z,129nm,0.8s,baz=169,slow=8.6,SNR=5.4
PETK PKP2bc 14 39 48.6
comp=Z,3.6nm,0.9s,baz=104,slow=5.4,SNR=3.7
PETK Petropavlovsk- 56.46 4 P **P** **14 09 50.8 +0.2**
PETK pP pP 14 11 23.9 +7.1
PETK ⇑*e* 14 39 48.6
CM01 Chiang Mai Arr 56.78 294 *e*P **P** **14 09 53.6 +0.1**
CMAR Chiang Mai Arr 56.81 295 P **P** **14 09 55.1 +1.4**
CMAR *PP **pP** **14 11 24.1 +4.0**
CMAR Chiang Mai Arr 56.81 295 P **P** **14 09 55.1 +1.4**
comp=Z,221nm,0.8s,baz=116,slow=4.9,SNR=366
CMAR pP **pP** **14 11 24.1 +4.0**
comp=Z,30nm,1.0s,baz=115,slow=5.1,SNR=2.1
CMAR PKPPKP P'P'df 14 39 29.4 -12
comp=Z,4.8nm,0.9s,baz=267,slow=4.0,SNR=7.5
CMAR P4KPbc 14 47 05.3
comp=Z,1.1nm,0.7s,baz=98,slow=2.1,SNR=8.1
CMAR Chiang Mai Arr 56.81 295 P **P** **14 09 55.1 +1.4**
CMAR pP **pP** **14 11 24.1 +4.0**
CMAR P'P' 14 39 29.4
CMAR *e* 14 47 05.3
CMMT Chiang Mai 56.91 295 P **P** **14 09 55.8 +1.4**
comp=Z,229nm,1.2s,comp=Z,3μm
CHTO Chiang Mai 56.91 295 *e*P **P** **14 09 54.8 +0.4**
CHTO *e* 14 10 43.9
CHTO pmax pmax
comp=Z,223nm,1.1s
CHTO Chiang Mai 56.91 295 *e*P **P** **14 09 54.8 +0.4**
comp=Z,223nm,1.1s
CHTO *e*PcP **PcP** **14 10 43.9 -0.4**
CHTO *e*ScP **ScP** **14 14 02.5 -0.6**
CMAI Chiengmai2 57.16 296 P **P** **14 09 57.9 +1.6**
comp=Z,157nm,1.6s,comp=Z,6μm
CD2 Chengdu 57.42 310⇓*i*P **P** **14 09 58.8 +1.0**
CD2 PcP **PcP** **14 10 47.4 +1.2**
CD2 pP **pP** **14 11 26.6 +2.2**
CD2 PP **PP** **14 12 13.5 +2.4**
CD2 ScP **ScP** **14 14 04.1 -1.1**
CD2 S **S** **14 17 23.3 +1.5**
CD2 ScS **ScS** **14 19 06.1 +2.0**
CD2 sS **sS** **14 19 51.9 -4.8**
CD2 SS SS 14 21 28.1 +8.3
CD2 PMZ
comp=Z,1μm,0.8s
CD2 PMZ
comp=Z,2μm,11.8s
HHC Hu-ho-hao-te 57.59 324 *e*P **P** **14 10 00.1 +1.3**
HHC pP **pP** **14 11 22.6 -2.9**
HHC PP **PP** **14 12 15.6 +3.1**
HHC S **S** **14 17 25.3 +1.5**
HHC ScS **ScS** **14 19 04.0 -1.0**
HHC sS **sS** **14 19 57.1 -1.7**
HHC SS **SS** **14 21 25.8 +3.6**
HHC PMZ
comp=Z,270nm,1.1s
HHC PMZ
comp=Z,4μm,5.6s
MHMT Maesarieng 57.65 294 P **P** **14 10 01.3 +1.8**
comp=Z,145nm,0.9s,comp=Z,1μm
BTO Baotou 58.36 323 *e*P **P** **14 10 05.3 +1.3**
PPT Papeete 58.66 108 P **P** **14 10 08.5 +2.1**
PPT Papeete 58.66 108 P **P** **14 10 08.5 +2.1**
comp=Z,392nm,0.9s,baz=327,slow=2.2,SNR=17
PPT Papeete 58.66 108 P **P** **14 10 08.5 +2.1**
PPT2 Papeete2 58.66 108⇓*i*P **P** **14 10 08.5 +2.0**
comp=Z,346nm,0.9s
PPT2 *e*sP **sP** **14 12 18.4 -0.8**
comp=Z,447nm,1.8s
PAE Paea 58.67 109⇓*i*P **P** **14 10 08.2 +1.8**
comp=Z,52nm,0.7s
FX1 Attu Island--F 58.75 15 *e*P **P** **14 10 07.0 +0.7**
FX1 *e*S **S** **14 17 43.7 +5.8**
FX1 Attu Island--F 58.75 15 P **P** **14 10 06.9 +0.7**
comp=Z,258nm,0.5s,baz=224,slow=4.5,SNR=209
FX1 Attu Island--F 58.75 15 *e*P **P** **14 10 07.0 +0.7**
FX1 *e*S **S** **14 17 43.7 +5.8**
SMY Shemya 58.86 15 *e*P **P** **14 10 07.0 0.0**
SMY Shemya 58.86 15 *e*P **P** **14 10 07.0 0.0**
TIAR Tiarei 58.88 108⇓*i*P **P** **14 10 09.9 +2.0**
comp=Z,299nm,0.8s
TVO Taravao 58.99 109⇓*i*P **P** **14 10 10.9 +2.2**
comp=Z,147nm,0.8s
CMBY CAMPBELL BAY 59.15 280 *e*P **P** **14 10 09.0 -0.8**
HIA Hailar 59.53 336 *e*P **P** **14 10 11.7 0.0**
HIA *e* 14 10 52.6
HIA *e**PP **pP** **14 11 38.4 -0.7**
HIA pmax pmax
comp=Z,518nm,1.0s
HIA MLR MLR
comp=Z,8μm,19.0s
HIA Hailar 59.53 336 *e*P **P** **14 10 11.7 0.0**
comp=Z,518nm,1.0s
HIA *e*PcP **PcP** **14 10 52.6 -1.5**
HIA *e*pP **pP** **14 11 38.4 -0.7**
HIA LR LR
comp=Z,8μm,19.0s
TBI Tubuai 59.62 115⇓*i*P **P** **14 10 14.4 +1.6**
comp=Z,869nm,0.9s
LZH Lanzhou 59.85 316 ⇓P **P** **14 10 16.8 +2.5**
LZH pP **pP** **14 11 43.0 +1.1**
LZH sP **sP** **14 12 26.0 -1.3**
LZH PP PP 14 12 38.6 +6.0
LZH ScP **ScP** **14 14 18.6 +2.6**
LZH S **S** **14 17 50.3 -2.6**
LZH sS **sS** **14 20 25.1 -4.1**
LZH PMZ
comp=Z,1μm,1.3s
LZH PMZ
comp=Z,4μm,4.3s
PMOR Pomariorio Ree 60.01 105⇓*i*P **P** **14 10 17.2 +1.7**
comp=Z,2μm,0.9s
MEH Mehetia 60.12 109⇓*i*P **P** **14 10 17.9 +1.6**
comp=Z,141nm,1.2s
VAH Vaihoa 60.28 106⇓*i*P **P** **14 10 18.7 +1.4**
comp=Z,549nm,0.9s
ADK Adak 61.03 21 *e*P **P** **14 10 21.4 -0.3**
ADK pmax pmax
comp=Z,427nm,0.9s
ADK Adak 61.03 21 *e*P **P** **14 10 21.4 -0.3**
comp=Z,427nm,0.9s
PBA Port Blair 61.05 285 *e*P P 14 10 21.0 -1.4
DGPR DIGLIPUR 61.15 287 *e*P **P** **14 10 23.7 +0.5**
CLNS Chul'man 64.00 344 *e*P **P** **14 10 42.5 +1.5**
CLNS *e* 14 11 11.2
CLNS *e* 14 13 13.8
CLNS *e*PPP PPP 14 14 51.4
CLNS *e*S **S** **14 18 42.2 -1.0**
CLNS *e* 14 19 48.0
CLNS pmax pmax
comp=Z,203nm,0.9s
CLNS pmax pmax
comp=N,86nm,0.9s
CLNS pmax pmax
comp=E,30nm,0.9s
CLNS pmax pmax
comp=Z,24nm,0.8s
CLNS pmax pmax
comp=E,22nm,0.8s
CLNS pmax pmax
comp=N,64nm,1.0s
CLNS smax smax
comp=E,1μm,12.7s
CLNS smax smax
comp=N,5μm,12.1s
CIT Chita 64.20 335 *e*P **P** **14 10 43.9 +1.5**
CIT *e* 14 11 09.5
CIT *e* 14 13 18.4
CIT *e*S **S** **14 18 48.5 +2.7**
CIT *e* 14 19 53.7
CIT pmax pmax
comp=Z,626nm,1.1s
GTA Gaotai 64.27 317 ⇑P **P** **14 10 44.4 +1.2**
GTA pP **pP** **14 12 14.9 +2.7**
GTA sP **sP** **14 12 57.4 +0.1**
GTA S **S** **14 18 46.5 -0.8**
GTA sS **sS** **14 21 21.9 -4.1**
GTA SS **SS** **14 23 05.8 -0.6**
GTA PMZ
comp=Z,280nm,1.8s
GTA PMZ
comp=Z,2μm,5.5s
ULN Ulaanbaatar 64.52 328*c*e*P **P** **14 10 45.9 +1.3**
ULN pmax pmax
comp=Z,413nm,1.2s
ULN Ulaanbaatar 64.52 328 P **P** **14 10 46.2 +1.5**
SNR=111
ULN Ulaanbaatar 64.52 328 *e*P **P** **14 10 45.6 +0.9**
comp=Z,272nm,0.9s
ULN *e*pP **pP** **14 12 14.9 +1.1**
ULN LR LR
comp=Z,7μm,20.0s
SONM Songino Array 64.85 328 P **P** **14 10 47.7 +1.0**
SONM 14 11 17.7
SONM *PP **pP** **14 12 20.1 +4.1**
SONM 14 20 01.3
SONM Songino Array 64.85 328 P **P** **14 10 47.7 +1.0**
comp=Z,186nm,1.0s,baz=147,slow=5.1,SNR=301
SONM PcP **PcP** **14 11 17.7 +1.6**
comp=Z,38nm,0.7s,baz=150,slow=4.2,SNR=11
SONM pP **pP** **14 12 20.1 +4.1**
comp=Z,46nm,0.8s,baz=141,slow=7.2,SNR=2.7
SONM ScS SKiKP 14 20 01.3 -11
comp=Z,2.7nm,1.1s,baz=111,slow=3.7,SNR=3.7
SONM PKKPbc PKKPdf 14 31 57.8 +47
comp=Z,0.3nm,0.4s,baz=308,slow=3.6,SNR=3.6
SONM PKPPKP P'P'df 14 39 03.3 -25
comp=Z,1.5nm,1.0s,baz=286,slow=1.8,SNR=3.8
SONM Songino Array 64.85 328 P **P** **14 10 47.7 +1.0**
SONM PcP **PcP** **14 11 17.7 +1.6**
SONM pP **pP** **14 12 20.1 +4.1**
SONM ScS SKiKP 14 20 01.3 -11
SONM PKKPbc PKKPdf 14 31 57.8 +47
SONM P'P' 14 39 03.3
SONA1 Songino Array 64.85 328 *e*P **P** **14 10 47.2 +0.5**
SHL Shillong 65.14 300 *e*P **P** **14 10 50.0 +0.9**
SHL AMB AMB 14 10 52.3
comp=Z,508nm,0.2s
SHL *i*S **S** **14 18 59.0 +0.5**
SEY Seymchan 66.13 0 P **P** **14 10 55.3 +1.0**
SEY *PP **pP** **14 12 26.3 +2.3**
SEY Seymchan 66.13 0 P **P** **14 10 55.3 +1.0**
comp=Z,48nm,0.7s,baz=172,slow=6.2,SNR=103
SEY pP **pP** **14 12 26.3 +2.3**
comp=Z,98nm,1.1s,baz=163,slow=7.8,SNR=4.9
SEY PKPPKP P'P'df 14 39 20.5 -5.3
comp=Z,5.7nm,1.1s,baz=9.8,slow=2.0,SNR=6.7
SEY Seymchan 66.13 0 P **P** **14 10 55.3 +1.0**
SEY pP **pP** **14 12 26.3 +2.3**
SEY P'P' 14 39 20.5
LSA Lhasa 67.01 304 P **P** **14 11 03.0 +1.9**
LSA PMZ
comp=Z,140nm,1.8s
LSA Lhasa 67.01 304 *e*P **P** **14 11 02.5 +1.4**
LSA *e**PP **pP** **14 12 31.3 +0.3**
LSA *e*S **S** **14 19 26.8 +5.6**
LSA pmax pmax
comp=Z,341nm,0.9s
LSA MLR MLR
comp=Z,3μm,21.0s
LSA Lhasa 67.01 304 *e*P **P** **14 11 02.5 +1.4**
comp=Z,341nm,0.9s
LSA *e*pP **pP** **14 12 31.3 +0.3**
LSA *e*S **S** **14 19 26.8 +5.6**
LSA LR LR
comp=Z,3μm,21.0s
AKUT Akutan 67.07 25 *e*P **P** **14 10 58.6 -1.7**
AKUT *e*S **S** **14 19 21.8 +1.9**
TAOE Nuku Hiva Isla 67.34 98 *e*P **P** **14 11 03.1 +0.1**
comp=Z,426nm,1.1s
YAK Yakutsk 67.48 349*d i*P **P** **14 11 03.6 +0.9**
YAK *e* 14 11 26.8
YAK *e**PP **pP** **14 12 33.1 +0.3**
YAK *e* 14 13 38.7
YAK *e*PPP PPP 14 15 26.9
YAK *e*S **S** **14 19 26.4 +1.9**
YAK *e* 14 20 16.1
YAK pmax pmax
comp=Z,442nm,1.4s
YAK pmax pmax
comp=E,64nm,1.5s
YAK pmax pmax
comp=N,185nm,1.4s
YAK pmax pmax
comp=Z,206nm,1.1s
YAK pmax pmax
comp=N,220nm,1.4s
YAK pmax pmax
comp=E,289nm,3.5s
YAK smax smax
comp=N,7μm,3.2s
YAK smax smax
comp=E,2μm,2.3s
YAK Yakutsk 67.48 349 *e*P **P** **14 11 02.8 +0.1**
comp=E,791nm,1.4s
YAK *e*S **S** **14 19 22.3 -2.2**
YAK LR LR
comp=Z,4μm,22.0s
ZAK Zakamensk 68.01 329 *e*P **P** **14 11 06.8 +0.4**
ZAK *e* 14 19 33.0
ZAK pmax pmax
comp=Z,286nm,1.0s
BOD Bodaibo 68.28 339 *e*P **P** **14 11 07.3 -0.4**
BOD *e* 14 19 36.0
BOD pmax pmax
comp=Z,215nm,1.2s
TLY Talaya 68.59 330*d i*P **P** **14 11 11.1 +1.3**
TLY *e* 14 11 33.0
TLY *e* 14 13 46.2
TLY *e*S **S** **14 19 37.7 -0.3**
TLY *e* 14 20 27.3
TLY pmax pmax
comp=Z,184nm,1.1s
TLY Talaya 68.59 330 P **P** **14 11 11.3 +1.5**
SNR=94
TLY Talaya 68.59 330 PKPPKP P'P'df 14 39 16.0 -5.8
comp=Z,20nm,0.9s,baz=277,slow=4.1,SNR=3.2
TLY Talaya 68.59 330 *e*P **P** **14 11 10.8 +1.0**
comp=Z,147nm,1.0s
TLY P'P' 14 39 16.0
TLY *e*P'P'df **P'P'df** **14 39 18.4 -3.5**
TLY LR LR
comp=Z,5μm,22.0s
IRK Irkutsk 68.62 331 *e*P **P** **14 11 10.2 +0.2**
IRK *e* 14 11 35.0
IRK *e* 14 12 40.1
IRK *e*S **S** **14 19 37.8 -0.5**
IRK pmax pmax
comp=Z,370nm,1.1s
CASY Casey 69.22 197 *e*P **P** **14 11 13.0 -0.3**
comp=Z,165nm,0.5s
CASY LR LR
comp=Z,13μm,20.0s
TAPN Taplejung 69.23 301 *e*P **P** **14 11 16.0 +1.4**
comp=Z,980nm,0.8s
ODAN Odare 69.38 300 *e*P **P** **14 11 16.2 +0.8**
comp=Z,2μm,0.9s
MOY Mondy 69.93 329 *e*P **P** **14 11 19.1 +1.0**
MOY pmax pmax
comp=Z,261nm,1.4s
BOK Bokaro 69.96 297 *e*P **P** **14 11 18.3 -0.3**
RAMN Ramite 70.08 300 *e*P **P** **14 11 20.0 +0.3**
comp=Z,512nm,0.9s
SDPT Sand Point 70.18 26 *e*P **P** **14 11 18.3 -1.0**
JIRN Jiri 70.62 301 *e*P **P** **14 11 23.6 +0.6**
comp=Z,725nm,0.7s
GUN Gumba 70.94 301 *e*P **P** **14 11 25.6 +0.7**
comp=Z,1μm,0.7s
VIS Vishakhapatnam 71.09 290 *i*P **P** **14 11 24.8 -0.7**
VIS *i x* x 14 12 55.1
PKI Pulchoki 71.27 300 *e*P **P** **14 11 27.3 +0.5**
comp=Z,565nm,0.8s
PKIN Phulchoki 71.28 300 *e*P **P** **14 11 27.4 +0.6**
KKN Kakani 71.43 301 *e*P **P** **14 11 28.1 +0.5**
comp=Z,819nm,0.7s
DMN Daman 71.53 300 *e*P **P** **14 11 28.9 +0.6**
comp=Z,1μm,0.9s
BILL Bilibino 71.93 5*d i*P **P** **14 11 29.9 +0.5**
BILL *e* 14 11 46.2
BILL *i **PP **pP** **14 12 58.0 -2.9**
BILL *e**SP **sP** **14 13 49.7 +4.4**
BILL *i*S **S** **14 20 14.8 -0.8**
BILL *e*SS **SS** **14 24 59.9 -2.7**
BILL pmax pmax
comp=Z,248nm,1.0s
BILL Bilibino 71.93 5 *e*P **P** **14 11 29.8 +0.4**
comp=Z,353nm,1.2s
BILL *e*S **S** **14 20 17.1 +1.6**
GKN Gorkha 72.03 301 *e*P **P** **14 11 31.4 +0.3**
GAMB Gambell 72.16 16 *e*P **P** **14 11 31.6 +0.8**
comp=Z,219nm,1.0s
GAMB *e*PcP **PcP** **14 11 47.4 +1.0**
PALK Pallekele 72.20 279 *i*P **P** **14 11 33.6 +1.4**
PALK Pallekele 72.20 279 P **P** **14 11 34.0 +1.8**
SNR=25
PALK Pallekele 72.20 279⇑*i*P **P** **14 11 33.4 +1.2**
SNR=28
PALK Pallekele 72.20 279 *e*P **P** **14 11 32.0 -0.2**
comp=Z,232nm,0.9s
RKT Rikitea 72.82 113⇓*i*P **P** **14 11 36.9 +1.4**
comp=Z,426nm,1.0s
DANN Dangsing 72.87 301 *e*P **P** **14 11 36.2 +0.1**
comp=Z,688nm,0.7s
KOLN Koldanda 72.87 300 *e*P **P** **14 11 36.1 +0.1**
comp=Z,951nm,0.9s
MDRS Chennai 73.33 285 *e*P **P** **14 11 38.4 -0.2**
HVS Khovu-Aksy 73.59 326*c*e*P **P** **14 11 40.6 +1.1**
HVS pmax pmax
comp=Z,3μm,1.2s
SII Sitkinak Islan 73.75 28 *e*P **P** **14 11 40.9 +0.7**
comp=Z,664nm,0.7s
VNDA Vanda 74.26 178 *e*P **P** **14 11 43.2 +0.4**
VNDA *e* 14 11 55.1
VNDA *PP pP 14 13 20.2 +5.3
VNDA pmax pmax
comp=Z,705nm,1.7s
VNDA Vanda 74.26 178 P **P** **14 11 43.2 +0.4**
comp=Z,100nm,0.7s,baz=335,slow=6.5,SNR=163
VNDA pP pP 14 13 20.2 +5.3
comp=Z,59nm,1.0s,baz=325,slow=5.3,SNR=3.7
VNDA Vanda 74.26 178 *e*P **P** **14 11 43.2 +0.4**
comp=Z,705nm,1.7s
VNDA *e*PcP **PcP** **14 11 55.1 -0.1**
VNDA pP pP 14 13 20.2 +5.3
WMQ Urumqi 74.35 317 P **P** **14 11 45.3 +1.3**
WMQ PcP **PcP** **14 11 58.3 +1.9**
WMQ pP **pP** **14 13 17.9 +1.7**
WMQ PP **PP** **14 14 39.8 +2.7**
WMQ S **S** **14 20 45.0 +1.5**
WMQ SKS **SKSac** **14 21 11.4 +0.1**
WMQ ScS **ScS** **14 21 17.0 +2.0**
WMQ SS **SS** **14 25 45.5 +5.1**
WMQ PMZ
comp=Z,180nm,1.1s
WMQ PMZ
comp=Z,3μm,4.0s
TNA Tin City 74.58 16 *e*P **P** **14 11 45.2 +0.5**
comp=Z,103nm,1.0s
TNA *e*P'P'df **P'P'df** **14 39 11.3 +0.1**
SBA Scott Base 74.82 177 *e*P **P** **14 11 47.5 +1.6**
SBA pmax pmax
comp=Z,576nm,1.5s
SBA MLR MLR
comp=Z,4μm,20.0s
SBA Scott Base 74.82 177 *e*P **P** **14 11 47.5 +1.6**
comp=Z,576nm,1.5s
SBA LR LR
comp=Z,4μm,20.0s
MIR Mirnyy 75.06 201⇓*i*P **P** **14 11 49.0 +1.6**
MIR *e* 14 12 01.0
MIR *e* 14 14 05.0
MIR *e*S **S** **14 20 52.0 +1.7**
MIR *e*PS 14 21 24.0
MIR pmax pmax
comp=Z,798nm,1.0s
MIR pmax pmax
comp=Z,8μm,12.0s
MIR MLR MLR
comp=N,4μm,18.0s
MIR MLR MLR
comp=E,4μm,18.0s
MIR MLR MLR
comp=Z,5μm,18.0s
KDAK Kodiak Island 75.15 27 *i*P **P** **14 11 48.2 +0.1**
KDAK Kodiak Island 75.15 27 *e*P **P** **14 11 47.4 -0.6**
comp=Z,318nm,1.0s
KDAK LR LR
comp=Z,4μm,22.0s
HYB Hyderabad 75.54 289 *i*P **P** **14 11 50.0 -1.2**
comp=Z,220nm,1.0s
HYB *e*PcP **PcP** **14 12 02.0 0.0**
HYB *e*pP **pP** **14 13 25.0 +1.3**
HYB *e*sP **sP** **14 14 12.0 +4.1**
HYB *e* 14 14 24.0
HYB *e*S **S** **14 20 56.0 -1.4**
HYB *e*SKS **SKSac** **14 21 21.0 0.0**
HYB *e*sS **sS** **14 23 44.0 +2.0**
HYB *e* 14 24 10.0
HYB *e*sSKS 14 25 42.0
HYB *e* 14 25 52.0
HYB *e* 14 32 10.0
NGP Nagpur 75.65 293⇑*e*P **P** **14 11 52.3 +0.6**
NGP *e*x x 14 20 51.7
SVW2 Sparrevohn 75.73 23 *e*P **P** **14 11 52.5 +1.1**
comp=Z,578nm,0.9s
AIS Amsterdam Isla 75.86 232 P P 14 11 32.0 -21
AIS S S 14 20 53.0 -7.1
AIS R 14 36 00.0
TRD Trivandrum 76.02 280 *e*P **P** **14 11 54.8 +0.9**
LGTI Lohaghat 76.11 301 *e*x x 14 12 04.5
LGTI *e*x x 14 13 37.6
TIXI Tiksi 76.43 353*d i*P **P** **14 11 54.5 -0.4**
TIXI pmax pmax
comp=Z,203nm,2.5s
TIXI Tiksi 76.43 353 *e*P **P** **14 11 54.2 -0.7**
comp=Z,149nm,1.4s
TIXI LR LR
comp=Z,4μm,21.0s
RSO Redoubt South 76.52 25 *e*P **P** **14 11 55.3 -0.7**
SPU Mount Spurr 77.19 24 *e*P **P** **14 11 59.1 -0.3**
SPU *e*S **S** **14 21 16.3 +2.7**
AKL Akola 77.46 292 *e*P **P** **14 12 01.8 0.0**
BHPL Bhopal 77.47 295 *e*P **P** **14 12 01.9 +0.1**
LATR Latur 77.56 290 *e*P **P** **14 12 03.0 +0.7**
SEW Seward 77.74 26 *e*P **P** **14 12 02.8 +0.5**
comp=Z,583nm,0.8s
SEW *e*PcP **PcP** **14 12 10.8 +0.3**
PPLA Purkeypile 78.07 23 *e*P **P** **14 12 04.6 +0.3**
comp=Z,1μm,2.0s
PPLA *e*S **S** **14 21 23.6 +0.7**
RC01 Rabbit Creek A 78.11 25 *e*pP pP 14 13 37.0 -0.6
CAST Castle Rocks 78.39 22 *e*P **P** **14 12 05.8 -0.1**
comp=Z,311nm,1.1s
NDI New Delhi 78.57 300 *e*P **P** **14 12 07.5 -0.1**
NDI *e*x x 14 21 26.0
PMR Palmer 78.61 25 *e*P **P** **14 12 06.9 -0.1**
PMR *e**PP **pP** **14 13 40.8 +0.4**
PMR *e*S **S** **14 21 29.5 +1.2**
PMR Palmer 78.61 25 *e*P **P** **14 12 06.9 -0.1**
PMR *e*pP **pP** **14 13 40.8 +0.4**
PMR *e*S **S** **14 21 29.5 +1.2**
MID Middleton Isla 78.81 27 *e*P **P** **14 12 09.7 +1.6**
MID pmax pmax
comp=Z,533nm,0.9s
MID Middleton Isla 78.81 27 *e*P **P** **14 12 09.7 +1.6**
comp=Z,532nm,0.9s
KTH Kantishna Hill 78.90 22 *e*P **P** **14 12 08.1 -0.6**
comp=Z,401nm,1.1s
MK01 Makanchi Array 78.90 319 *e*P **P** **14 12 09.1 0.0**
MK01 *e*PKKPbc **PKKPbc** **14 30 59.0 -2.0**
MK31 Makanchi Array 78.92 319 P **P** **14 12 09.7 +0.6**
MK31 pmax pmax
comp=Z,219nm,0.9s
MKAR Makanchi Array 78.92 319 *e*P **P** **14 12 09.6 +0.5**
MKAR *PP **pP** **14 13 46.2 +3.7**
MKAR S **S** **14 21 31.7 -0.6**
MKAR Makanchi Array 78.92 319 P **P** **14 12 09.5 +0.5**
comp=Z,110nm,0.7s,baz=93,slow=7.9,SNR=342
MKAR pP **pP** **14 13 46.2 +3.7**
comp=Z,130nm,1.2s,baz=99,slow=7.5,SNR=4.5
MKAR PKiKP **PKiKP** **14 17 39.2 -0.3**
comp=Z,4.1nm,0.7s,baz=227,slow=1.7,SNR=7.7
MKAR S **S** **14 21 31.7 -0.6**
comp=Z,3.1nm,0.8s,baz=100,slow=12,SNR=4.4

MKAR PKKPbc **PKKPbc** **14 30 59.9 -1.1**
comp=Z,4.6nm,0.7s,baz=288,slow=1.8,SNR=17
MKAR PKPPKP P'P'df 14 38 43.6 -20
comp=Z,1.0nm,0.9s,baz=346,slow=0.9,SNR=4.0
MKAR Makanchi Array 78.92 319 *e*P **P** **14 12 09.6 +0.5**
MKAR pP **pP** **14 13 46.2 +3.7**
MKAR PKiKP **PKiKP** **14 17 39.2 -0.3**
MKAR S **S** **14 21 31.7 -0.6**
MKAR *e*PKKPbc **PKKPbc** **14 30 59.4 -1.6**
MKAR PKKPbc PKKPdf 14 30 59.9 +11
MKAR P'P' 14 38 43.6
SMLA Simla 79.06 302 *e*P **P** **14 12 10.0 -0.1**
SMLA AMB AMB 14 12 12.5
comp=Z,451nm,0.4s
SMLA *i* x x 14 21 28.3
TRF Thorofare Moun 79.09 23 *e*P **P** **14 12 09.1 -0.8**
comp=Z,220nm,0.9s
IM04 Indian Mountai 79.21 20 *e*P **P** **14 12 10.6 +0.4**
IM04 *e*P'P'df **P'P'df** **14 39 03.1 +0.2**
SDNR Sundarnagar 79.29 303 *e*P **P** **14 12 13.0 +1.5**
SDNR *e*x x 14 13 46.0
H08S2 Diego Garcia H 79.44 263 P **P** **14 12 13.6 +1.4**
baz=30,slow=5.9,SNR=53
H08S3 Diego Garcia H 79.45 263 P **P** **14 12 13.4 +1.0**
baz=30,slow=5.9,SNR=152
H08S1 Diego Carcia H 79.46 263 P **P** **14 12 13.4 +1.0**
baz=30,slow=5.9,SNR=66
DGAR Diego Garcia 79.49 263 *e*P **P** **14 12 09.7 -3.1**
DGAR *e**PP **pP** **14 13 47.6 +1.2**
DGAR pmax pmax
comp=Z,386nm,0.8s
DGAR MLR MLR
comp=Z,2μm,20.0s
DGAR Diego Garcia 79.49 263 *e*P **P** **14 12 09.7 -3.1**
comp=Z,386nm,0.8s
DGAR *e*pP **pP** **14 13 47.6 +1.2**
DGAR LR LR
comp=Z,2μm,20.0s
ZAA0 Zalesovo Array 79.69 326 *e*P **P** **14 12 12.0 -1.0**
ZAA0 *e*PKKPbc **PKKPbc** **14 30 56.9 -2.7**
ZALV Zalesovo Beam 79.69 326 P **P** **14 12 12.3 -0.7**
ZALV *PP **pP** **14 13 46.4 -0.3**
ZALV S **S** **14 21 36.8 -3.1**
ZALV Zalesovo Beam 79.69 326 P **P** **14 12 12.3 -0.7**
comp=Z,105nm,0.7s,baz=113,slow=5.9,SNR=182
ZALV pP **pP** **14 13 46.3 -0.3**
comp=Z,42nm,0.9s,baz=108,slow=4.8,SNR=2.7
ZALV S **S** **14 21 36.8 -3.1**
comp=Z,22nm,1.0s,baz=149,slow=6.9,SNR=11
ZALV PKKPbc **PKKPbc** **14 30 57.6 -2.0**
comp=Z,6.7nm,0.5s,baz=302,slow=2.0,SNR=12
ZALV PKPPKP P'P'df 14 38 34.3 -28
comp=Z,1.8nm,0.8s,baz=324,slow=3.8,SNR=5.5
ZALV Zalesovo Beam 79.69 326 P **P** **14 12 12.3 -0.7**
ZALV pP **pP** **14 13 46.4 -0.3**
ZALV S **S** **14 21 36.8 -3.1**
ZALV PKKPbc **PKKPbc** **14 30 57.6 -2.0**
ZALV P'P' 14 38 34.3
BHK Bhakra 79.74 303 *e*P **P** **14 12 15.0 +1.2**
GOA Goa 79.80 286 *e*P **P** **14 12 14.5 +0.1**
DIV Divide 79.82 26 *e*P **P** **14 12 12.4 -1.3**
comp=Z,357nm,0.8s
DHRM DHARAMSHALA 79.99 303 *e*P **P** **14 12 15.3 -0.1**
DHRM AMB AMB 14 12 17.6
comp=Z,690nm,1.5s
POO Poona 80.12 289 *e*P **P** **14 12 14.7 -1.5**
PONG Pong 80.22 303 *e*P **P** **14 12 14.7 -1.6**
DLH Dalhousie 80.32 304 *e*P **P** **14 12 15.0 -2.1**
AJM Ajmer 80.47 297 *i* x **P** **14 12 18.0 +0.2**
AJM *i* x x 14 13 52.0
COLA College 80.73 22 *d i*P **P** **14 12 17.3 -0.9**
COLA *i* *PP **pP** **14 13 51.3 -0.9**
COLA pmax pmax
comp=Z,2μm,1.0s
COLA College 80.73 22 PFAKE 14 12 30.0 +12
COLA LR LR
comp=Z,3μm,21.0s
NVS Novosibirsk 80.86 327 ⇓ *i*P **P** **14 12 19.2 +0.1**
NVS *i* *PP **pP** **14 13 52.0 -1.1**
NVS *i* S **S** **14 21 51.4 -0.5**
NVS pmax pmax
comp=Z,533nm,1.8s
NVS pmax pmax
comp=N,115nm,1.6s
NVS pmax pmax
comp=E,226nm,1.6s
NVS pmax pmax
comp=Z,198nm,2.0s
NVS pmax pmax
comp=N,90nm,2.5s
NVS pmax pmax
comp=E,125nm,2.5s
NVS smax smax
comp=N,1μm,3.5s
NVS smax smax
comp=E,5μm,3.5s
H08N2 Diego Garcia H 80.97 264 P **P** **14 12 21.2 +0.9**
IL1 Eielson Array 81.05 22 *e*P **P** **14 12 18.0 -1.9**
IL1 *e*PKKPbc **PKKPdf** **14 30 50.9 +5.2**
ILAR Eielson Array 81.05 22 P **P** **14 12 18.7 -1.2**
ILAR *PP **pP** **14 13 52.2 -1.7**
ILAR S S 14 21 46.2 -7.3
ILAR 14 30 54.7
ILAR Eielson Array 81.05 22 P **P** **14 12 18.7 -1.2**
comp=E,192nm,0.7s,baz=251,slow=5.2,SNR=867
ILAR pP **pP** **14 13 52.2 -1.7**
comp=E,30nm,0.7s,baz=258,slow=4.4,SNR=3.5
ILAR S S 14 21 46.1 -7.3
comp=E,9.8nm,1.1s,baz=291,slow=4.3,SNR=5.5
ILAR PKKPbc **PKKPbc** **14 30 54.6 -2.4**
comp=E,4.7nm,0.6s,baz=354,slow=1.7,SNR=29
ILAR PKPPKP P'P'df 14 38 41.2 -18
comp=E,0.9nm,1.0s,baz=91,slow=1.5,SNR=4.3
ILAR Eielson Array 81.05 22 P **P** **14 12 18.7 -1.2**
ILAR pP **pP** **14 13 52.2 -1.7**
ILAR S S 14 21 46.1 -7.3
ILAR PKKPbc **PKKPbc** **14 30 54.6 -2.4**
ILAR P'P' 14 38 41.2
COLD Coldfoot 81.09 19 *e*P **P** **14 12 20.9 +0.8**
comp=E,234nm,1.1s
COLD *e*S **S** **14 21 56.0 +2.1**
KSH Kashi 81.62 311 P **P** **14 12 26.4 +2.8**
KSH sP **sP** **14 14 42.3 +0.8**
KSH PP **PP** **14 15 42.1 +4.7**
KSH S **S** **14 21 55.0 -5.6**
KSH PMZ
comp=E,78nm,1.1s
KSH PMZ
comp=E,4μm,4.1s
AAA Alma-Ata 81.68 314 *i* P **P** **14 12 26.6 +2.8**
AAA *i* S **S** **14 22 03.8 +2.9**
AAA pmax pmax
comp=Z,3μm,1.9s
AAA smax smax
comp=E,16μm,8.0s
AAA MLR MLR
comp=Z,4μm,2.0s
ULHL Ulahol 81.97 313 P **P** **14 12 27.5 +2.0**
SNR=6.9
ULHL Ulahol 81.97 313 *i* P **P** **14 12 27.5 +2.0**
PAF Port-aux-Franc 82.28 221 *e*P **P** **14 12 27.0 +0.4**
PAF pmax pmax
comp=Z,258nm,0.8s
PAF MLR MLR
comp=Z,6μm,19.0s
PAF Port-aux-Franc 82.28 221 P P 14 12 09.0 -18
PAF S S 14 21 47.0 -20
PAF L L 14 34 00.0
PAF R 14 41 00.0
PAF Port-aux-Franc 82.28 221 *e*P **P** **14 12 27.0 +0.4**
comp=Z,258nm,0.8s
PAF LR LR
comp=Z,6μm,19.0s
KURK Kurchatov 82.33 322 *e*P **P** **14 12 26.6 -0.2**
KURK *e*S **S** **14 22 07.2 +0.2**
KURK pmax pmax
comp=Z,294nm,1.4s
KURK MLR MLR
comp=Z,3μm,19.0s
KURK Kurchatov 82.33 322 P **P** **14 12 27.1 +0.2**
SNR=79
KURK Kurchatov 82.33 322 *e*P **P** **14 12 26.6 -0.2**
comp=Z,294nm,1.4s
KURK *e*PcP **PcP** **14 12 30.8 -0.1**
KURK *e*S **S** **14 22 07.2 +0.2**
KURK PKKPbc **PKKPbc** **14 30 51.2 -2.2**
KURK *e*PKKPbc PKKPdf 14 30 51.7 +8.5
KURK P'P' 14 38 46.9
KURK LR LR
comp=Z,3μm,19.0s
KURBB Kurchatov Arra 82.36 322 PKKPbc PKKPbc 14 30 51.2 -2.1
comp=Z,9.4nm,0.6s,baz=290,slow=2.8,SNR=29
KURBB PKPPKP P'P'df 14 38 46.9 -10
comp=Z,1.3nm,0.8s,baz=296,slow=2.8,SNR=5.6
TKM2 Tokmak 2 82.57 314 P **P** **14 12 29.6 +1.1**
SNR=31
TKM2 Tokmak 2 82.57 314 *i* P **P** **14 12 29.6 +1.1**
TKM2 Tokmak 2 82.57 314 *e*P **P** **14 12 28.4 -0.1**
comp=Z,235nm,0.8s
TKM2 LR LR
comp=Z,4μm,20.0s
KZA Kyzart 82.66 313 P **P** **14 12 31.3 +2.0**
SNR=71
KZA Kyzart 82.66 313 *i* P **P** **14 12 31.3 +2.0**
KBK Karagaybulak 82.99 314 P **P** **14 12 31.8 +1.2**
SNR=69
KBK Karagaybulak 82.99 314 *i* P **P** **14 12 31.8 +1.2**
CHMS Chumysh 83.20 314 P **P** **14 12 32.1 +0.6**
SNR=140
CHMS Chumysh 83.20 314 *i* P **P** **14 12 32.1 +0.6**
UCH Uchtor 83.22 313 P **P** **14 12 33.5 +1.2**
SNR=62
UCH Uchtor 83.22 313 *i* P **P** **14 12 33.4 +1.2**
EGAK Eagle 83.26 23 *e*P **P** **14 12 31.7 +0.4**
comp=Z,341nm,0.9s
EGAK *e*PKKPbc **PKKPbc** **14 30 48.7 -3.3**
EGAK LR LR
comp=Z,3μm,19.0s
AAK Ala-Archa 83.31 313 P **P** **14 12 32.9 +0.6**
SNR=151
AAK Ala-Archa 83.31 313 *d i*P **P** **14 12 32.9 +0.6**
AAK pmax pmax
comp=Z,756nm,0.7s
AAK Ala-Archa 83.31 313 P **P** **14 12 33.8 +1.5**
SNR=19
AAK Ala-Archa 83.31 313 PKPPKP **P'P'df** **14 38 52.0 -4.0**
comp=Z,1.9nm,0.5s,baz=116,slow=3.7,SNR=3.8
AAK Ala-Archa 83.31 313 *e*PKKPbc PKKPbc 14 30 50.7 -0.2
AAK P'P' 14 38 52.0
AAK LR LR
comp=Z,4μm,20.0s
HYT Haines Junctio 83.42 28 *e*P **P** **14 12 32.2 -0.2**
HYT *e*S **S** **14 22 20.1 +2.3**
HYT *e*PKKPbc **PKKPbc** **14 30 50.0 -1.6**
USP Ospenovka 83.43 314 P **P** **14 12 33.3 +0.6**
SNR=121
USP Ospenovka 83.43 314 *i* P **P** **14 12 33.3 +0.6**
DAWY Dawson 83.71 24 *e*P **P** **14 12 34.4 +0.8**
DAWY *e*PcP **PcP** **14 12 36.5 -0.2**
AML Almayashu 83.81 313 P **P** **14 12 36.4 +1.4**
SNR=193
AML Almayashu 83.81 313 *i* P **P** **14 12 36.4 +1.4**
EKS2 Erkin-Say 83.84 313 P **P** **14 12 35.9 +1.1**
SNR=108
EKS2 Erkin-Say 83.84 313 *e*P **P** **14 12 35.9 +1.1**
EKS2 pmax pmax
comp=Z,313nm,0.7s
EKS2 MLR MLR
comp=Z,4μm,19.0s
EKS2 Erkin-Say 83.84 313 *e*P **P** **14 12 35.9 +1.1**
comp=Z,313nm,0.7s
EKS2 LR LR
comp=Z,4μm,19.0s
H02N1 VAN INLET T-PH 83.88 36 P **P** **14 12 35.5 +0.8**
SNR=33
H02S1 DAWSON INLET T 83.90 36 P **P** **14 12 35.4 +0.7**
SNR=87
SKAG Skagway 84.03 29 *e*P **P** **14 12 36.5 +1.3**
comp=Z,2μm,2.5s
SKAG *e*S **S** **14 22 29.1 +5.6**
CRAG Craig 84.09 33 *e*P **P** **14 12 37.3 +1.7**
comp=Z,3μm,2.7s
BHJ Bhuj 84.55 294 *e*P **P** **14 12 37.8 -0.8**
BHJ AMB AMB 14 12 40.8
comp=Z,425nm,1.1s
WRAK Wrangell Islan 84.75 33 *e*P **P** **14 12 39.5 +0.6**
comp=Z,431nm,1.3s
WRAK *e*S **S** **14 22 27.5 -3.1**
WRAK LR LR
comp=Z,4μm,20.0s
KK31 Karatay Array 86.28 313 *i* P **P** **14 12 46.4 -0.2**
KK31 pmax pmax
comp=Z,63nm,0.7s
KKAR Karatay Array 86.28 313 *e*P **P** **14 12 46.5 -0.1**
KKAR *e**PP **pP** **14 14 19.5 -2.5**
KKAR Karatay Array 86.28 313 *e*P **P** **14 12 46.5 -0.1**
KKAR *e*pP **pP** **14 14 19.5 -2.5**
KKAR *e*PKKPbc **PKKPbc** **14 30 43.3 -0.5**
KBL Kabul 86.33 305 *e*P **P** **14 12 45.9 -1.4**
KBL *e**PP **pP** **14 14 23.3 +0.6**
KBL Kabul 86.33 305 *e*P **P** **14 12 45.9 -1.4**
KBL *e*pP **pP** **14 14 23.3 +0.6**
DLBC Dease Lake 86.44 31 ScS **S** **14 22 51.4 +4.4**
comp=Z,9.2nm,1.2s,baz=197,slow=27,SNR=12
DLBC PKKPbc **PKKPbc** **14 30 42.1 -2.1**
comp=Z,4.1nm,0.8s,baz=312,slow=2.8,SNR=8.3
DLBC Dease Lake 86.44 31 *e*P **P** **14 12 48.0 +1.0**
DLBC ScS **S** **14 22 51.4 +4.4**
DLBC PKKPbc **PKKPbc** **14 30 42.1 -2.1**
QSPA South Pole Qui 86.58 180 PKKPbc PKKPbc 14 30 41.1 -3.7
comp=Z,16nm,0.7s,baz=27,slow=1.1,SNR=31
QSPA South Pole Qui 86.58 180 *e*P **P** **14 12 47.3 -0.3**
QSPA PKKPbc **PKKPbc** **14 30 41.1 -3.7**
QSPA LR LR
comp=Z,4μm,20.0s
MAW Mawson 86.68 203 P **P** **14 12 47.9 0.0**
MAW Mawson 86.68 203 P **P** **14 12 47.9 0.0**
comp=Z,95nm,0.7s,baz=103,slow=4.2,SNR=17
MAW Mawson 86.68 203 P **P** **14 12 47.9 0.0**
KEBM Edson Butte 87.43 47 *e*P **P** **14 12 51.1 -1.0**
comp=Z,187nm,0.9s
KBO Bosley Butte 87.43 48 *e*P **P** **14 12 52.0 -0.2**
comp=Z,213nm,0.9s
KBO *e*pP **pP** **14 14 28.3 +0.4**
KCPM Cahto Peak 87.62 50 *e*P **P** **14 12 52.3 -0.9**
comp=Z,80nm,0.8s
KCPM *e*pP **pP** **14 14 29.1 +0.2**
KHMM Horse Mountain 87.64 49 *e*P **P** **14 12 54.4 +1.1**
comp=Z,269nm,1.2s
KIPM Iron Peak 87.72 50 *e*P **P** **14 12 54.1 +0.5**
comp=Z,147nm,0.9s
KIPM *e*pP **pP** **14 14 30.4 +1.0**
BVA0 Borovoye Array 87.80 323 *i* P **P** **14 12 52.6 -0.9**
BVA0 pmax pmax
comp=Z,312nm,0.7s
L02D Cave Junction, 87.88 48 ⇓ P **P** **14 12 55.5 +1.3**
baz=88,SNR=31
HOPS Hopland Field 87.94 51 *e*P **P** **14 12 54.7 +0.1**
comp=Z,144nm,1.2s
HOPS *e*pP **pP** **14 14 32.6 +2.3**
MCCM Marconi Confer 88.01 52 *e*P **P** **14 12 53.7 -1.1**
comp=Z,63nm,0.8s
UMPQ Umpqua Communi 88.21 47 P **P** **14 12 56.8 +1.1**
I03D Drain, OR 88.24 46 ⇑ P **P** **14 12 56.6 +0.8**
baz=88,SNR=34
NLWA Neilton Lookou 88.30 43 *e*P **P** **14 12 56.6 +0.5**
comp=Z,118nm,0.8s
NLWA LR LR
comp=Z,3μm,20.0s
F03A Seaside 88.34 44 *e*P **P** **14 12 57.1 +0.9**
comp=Z,414nm,0.8s
M02C Callahan 88.36 49 ⇓ P **P** **14 12 57.9 +1.3**
baz=88,SNR=101
COR Corvallis 88.37 45 *e*P **P** **14 12 57.8 +1.4**
COR pmax pmax
comp=Z,1μm,2.1s
COR Corvallis 88.37 45 *e*P **P** **14 12 57.8 +1.4**
comp=Z,1μm,2.1s
HUMO Hull Mountain 88.41 47 *e*P **P** **14 12 57.4 +0.7**
comp=Z,348nm,0.8s
N02D Trinity Center 88.43 49 ⇓ P **P** **14 12 58.2 +1.3**
baz=88,SNR=6.7
G03D McMinnville, O 88.47 45 ⇓ P **P** **14 12 57.6 +0.8**
baz=88
YBH Yreka Blue Hor 88.50 48 P **P** **14 12 58.2 +1.0**
YBH pmax pmax
comp=Z,186nm,0.9s
YBH Yreka Blue Hor 88.50 48 P **P** **14 12 58.2 +1.0**
comp=Z,186nm,0.9s,baz=233,slow=1.5,SNR=82
WDC Whiskeytown Da 88.51 49 *e*P **P** **14 12 57.7 +0.5**
WDC pmax pmax
comp=Z,1μm,2.5s
WDC Whiskeytown Da 88.51 49 *e*P **P** **14 12 57.7 +0.5**
comp=Z,1μm,2.5s
PGC Sidney 88.72 41 *e*P **P** **14 12 57.0 -1.0**
comp=Z,129nm,0.9s
F04D Rainier, OR 88.74 44 ⇓ P **P** **14 12 59.1 +1.1**
baz=89
I04A Tendick Farm, 88.92 46 ⇑ P **P** **14 12 59.6 +0.5**
baz=89,SNR=33
SAO San Andreas Ge 89.01 53 *e*P **P** **14 13 00.6 +1.0**
SAO pmax pmax
comp=Z,368nm,1.9s
SAO San Andreas Ge 89.01 53 *e*P **P** **14 13 00.6 +1.0**
comp=Z,368nm,1.9s
J04D Umpqua Nationa 89.09 47 ⇑ P **P** **14 13 01.0 +0.9**
baz=89,SNR=112
MCW Mount Constitu 89.13 41 P **P** **14 13 01.1 +1.1**
MCW Mount Constitu 89.13 41 P **P** **14 13 01.1 +1.1**
M04C Macdoel 89.15 48 ⇓ P **P** **14 13 01.1 +0.8**
baz=89,SNR=147
H04A Detroit Lake 89.17 45 *e*P **P** **14 13 00.0 -0.2**
comp=Z,136nm,1.2s
K04D Chiloquin, OR 89.29 47 ⇓ P **P** **14 13 02.0 +1.0**
baz=89,SNR=60
TDL Tradedollar La 89.31 44 P **P** **14 13 01.6 +0.7**
VLL Laurance Lake 89.60 45 P **P** **14 13 03.2 +0.9**
RCS Mount Rainier- 89.69 43 P **P** **14 13 03.4 +0.5**
J05D Fort Rock, OR 89.73 47 ⇑ P **P** **14 13 04.1 +1.1**
baz=90,SNR=41
I05D Terrebonne, OR 89.74 46 ⇓ P **P** **14 13 03.6 +0.7**
baz=90
G05D Wamic, OR 89.84 45 ⇓ P **P** **14 13 04.0 +0.7**
baz=90
CMB Columbia Colle 89.96 52 *e*P **P** **14 13 03.8 -0.2**
CMB pmax pmax
comp=Z,1μm,2.5s
CMB Columbia Colle 89.96 52 *e*P **P** **14 13 03.8 -0.2**
comp=Z,1μm,2.5s
PINOR Pine Mountain 90.04 46 *e*P **P** **14 13 04.7 +0.5**
comp=Z,291nm,1.4s
SMMC Simmler 90.07 55 ⇑ P **P** **14 13 06.1 +1.5**
baz=90
PKM Mcpherson Peak 90.19 55 ⇓ P **P** **14 13 06.6 +1.2**
baz=90
SBC Santa Barbara 90.24 56 ⇑ P **P** **14 13 06.7 +1.4**
baz=90
BSC Santa Cruz Isl 90.28 56 ⇑ P **P** **14 13 07.0 +1.4**
baz=90
TWW Teanaway 90.31 43 P **P** **14 13 06.6 +1.1**
EBG Ellensburg 90.49 43 P **P** **14 13 06.6 +0.3**
RCTC Rector, Farmer 90.75 54 ⇑ P **P** **14 13 08.4 +0.8**
baz=91
VES Vestal, Richgr 90.85 54 ⇓ P **P** **14 13 09.3 +1.1**
baz=91
WTV Waterville 90.97 42 P **P** **14 13 08.5 0.0**
ARVC Arvin 91.01 55 ⇓ P **P** **14 13 10.0 +1.0**
baz=91
SCI San Clemente I 91.12 57 ⇑ P **P** **14 13 10.9 +1.5**
baz=91
MLAC Mammoth, Mammo 91.15 53 ⇑ P **P** **14 13 11.0 +1.2**
baz=91
HAWA Hanford 91.17 44 *e*P **P** **14 13 09.9 +0.5**
comp=Z,128nm,0.9s
HAWA LR LR
comp=Z,3μm,19.0s
CIS Catalina Islan 91.27 57 ⇑ P **P** **14 13 11.1 +0.9**
baz=91
ISA Isabella, Lake 91.33 55 *e*P **P** **14 13 10.6 +0.1**
ISA pmax pmax
comp=Z,136nm,1.0s
ISA Isabella, Lake 91.33 55 ⇑ P **P** **14 13 11.0 +0.5**
baz=91
ISA Isabella, Lake 91.33 55 *e*P **P** **14 13 10.6 +0.1**
comp=Z,136nm,1.0s
DECC Green Verdugo 91.37 56 ⇑ P **P** **14 13 11.7 +1.0**
baz=91
FMP Fort Macarthur 91.38 56 ⇓ P **P** **14 13 11.5 +0.9**
baz=91
B08A Colville Reser 91.42 42 *e*PKKPdf PKKPdf 14 30 30.5 +2.9
WRD Warden 91.46 43 P **P** **14 13 11.5 +0.8**
PASC Pasadena Art C 91.49 56 *e*P **P** **14 13 11.7 +0.5**
comp=Z,321nm,0.9s
WVOR Wild Horse Val 91.58 48 *e*P **P** **14 13 11.8 +0.2**
WVOR pmax pmax
comp=Z,2μm,2.5s
WVOR MLR MLR
comp=Z,5μm,20.0s
WVOR Wild Horse Val 91.58 48 *e*P **P** **14 13 11.8 +0.2**
comp=Z,2μm,2.5s
WVOR *e*PKKPdf **PKKPbc** **14 30 31.5 +0.6**
WVOR LR LR
comp=Z,5μm,20.0s
MWC Mount Wilson 91.60 56 *e*P **P** **14 13 12.4 +0.5**
MWC *e*S **S** **14 23 37.0 +1.3**
MWC pmax pmax
comp=Z,572nm,0.9s
MWC Mount Wilson 91.60 56 *e*P **P** **14 13 12.4 +0.5**
comp=Z,572nm,0.9s
MWC *e*S **S** **14 23 37.0 +1.3**
TIN Tinemaha, Big 91.61 53 ⇓ P **P** **14 13 13.1 +1.3**
baz=92
NV01 Mina Array Sit 91.62 52 *e*P **P** **14 13 11.6 -0.4**
NV01 *e*PKKPdf **PKKPbc** **14 30 32.0 +1.3**
NVAR Mina Array Bea 91.62 52 P **P** **14 13 12.2 +0.3**
comp=Z,149nm,0.8s,baz=253,slow=6.3,SNR=376
NVAR PKKPbc **PKKPdf** **14 30 27.1 -0.1**
comp=Z,1.3nm,0.7s,baz=87,slow=3.5,SNR=3.7
NVAR PKPPKP P'P'df 14 38 31.3 -9.4
comp=Z,1.0nm,0.7s,baz=90,slow=2.4,SNR=5.2
NVAR Mina Array Bea 91.62 52 P **P** **14 13 12.2 +0.3**
NVAR PKKPbc **PKKPdf** **14 30 27.1 -0.1**
NVAR P'P' 14 38 31.3
EDW2 Edwards Air Fo 91.69 55 ⇑ P **P** **14 13 13.3 +1.1**
baz=92
NV11 Mina Array Sit 91.73 52 *e*P **P** **14 13 12.0 -0.4**
NV11 *e*pP **pP** **14 14 47.8 -0.9**
OD2 Odessa Site #2 91.79 43 P **P** **14 13 12.4 +0.2**
BFSC Mount Baldy Ra 91.93 56 ⇓ P **P** **14 13 14.1 +0.7**
baz=92
LRMC Laurel Mtn Rad 91.96 55 ⇓ P **P** **14 13 14.7 +1.3**
baz=92
C09A Chrisman Ranch 92.10 42 *e*PKKPdf PKKPdf 14 30 28.9 +2.6
E09A Wood Farm, Sta 92.13 44 *e*P **P** **14 13 13.9 +0.1**
comp=Z,192nm,0.9s
MPMC Manual Prospec 92.15 54 ⇑ P **P** **14 13 15.7 +1.3**
baz=92
MURC Murrieta 92.28 57 ⇑ P **P** **14 13 16.0 +1.2**
baz=92
GRAC Grapevine Rang 92.29 53 ⇑ P **P** **14 13 15.8 +1.0**
baz=92
109C Camp Elliot, M 92.33 57 ⇑ P **P** **14 13 16.6 +1.6**
baz=92
TPH Tonopah 92.45 52 *e*P **P** **14 13 16.4 +0.6**
TPH pmax pmax
comp=Z,135nm,0.9s
TPH Tonopah 92.45 52 *e*P **P** **14 13 16.4 +0.6**
comp=Z,135nm,0.9s
RRX Edison Barstow 92.50 55 ⇑ P **P** **14 13 17.3 +1.5**
baz=92
BBRC Big Bear Solar 92.54 56 ⇑ P **P** **14 13 17.1 +0.8**
baz=93
BMN Battle Mountai 92.55 50 *e*P **P** **14 13 16.7 +0.6**
BMN pmax pmax
comp=Z,107nm,0.9s
BMN Battle Mountai 92.55 50 *e*P **P** **14 13 16.7 +0.6**
comp=Z,108nm,0.9s
BMO Blue Mountains 92.65 45 *e*P **P** **14 13 16.2 -0.2**
BMO *e**PP **pP** **14 14 52.6 -0.1**
BMO pmax pmax
comp=Z,147nm,1.1s
BMO Blue Mountains 92.65 45 *e*P **P** **14 13 16.2 -0.2**
comp=Z,147nm,1.1s
BMO *e*pP **pP** **14 14 52.6 -0.1**
BMO *e*PKKPdf **PKKPdf** **14 30 26.1 +0.7**
GSC Goldstone, Bar 92.68 55 *e*P **P** **14 13 17.1 +0.4**
GSC *e* 14 17 05.5
GSC pmax pmax
comp=Z,391nm,1.6s
GSC Goldstone, Bar 92.68 55 ⇑ P **P** **14 13 17.6 +0.9**
baz=93
GSC Goldstone, Bar 92.68 55 *e*P **P** **14 13 17.1 +0.4**
comp=Z,391nm,1.6s
GSC *e*PP **PP** **14 17 05.5 +0.1**
FURC Furnace Creek, 92.68 54 ⇓ P **P** **14 13 17.9 +1.4**
baz=93

BAR	**Barrett**	92.69	58	*e*P		**P**	14 13 18.0	+1.2
	comp=Z,152nm,0.9s							
F10A	**Beach Ranch, E**	92.75	44	*e*PKKPdf		PKKPdf	14 30 26.9	+1.7
NEW	**Newport**	92.89	42	*e*P		**P**	14 13 17.2	-0.2
NEW							14 23 47.3	
NEW				pmax		pmax		
	comp=Z,131nm,1.0s							
NEW				MLR		MLR		
	comp=Z,3µm,19.0s							
NEW	**Newport**	92.89	42	P		**P**	14 13 17.1	-0.2
	comp=Z,74nm,0.8s,baz=259,slow=3.8,SNR=17							
NEW				ScS		**S**	14 23 47.3	+1.1
	comp=Z,0.8nm,0.3s,baz=360,slow=15,SNR=3.8							
NEW	**Newport**	92.89	42	⇑P		**P**	14 13 17.9	+0.6
	baz=93							
NEW	**Newport**	92.89	42	*e*P		**P**	14 13 17.2	-0.2
	comp=Z,131nm,1.0s							
NEW				ScS		**S**	14 23 47.3	+1.1
NEW				LR		LR		
	comp=Z,3µm,19.0s							
PFO	**Pinyon Flats O**	92.90	57	*e*P		**P**	14 13 18.7	+0.8
PFO				pmax		pmax		
	comp=Z,266nm,0.8s							
PFO				MLR		MLR		
	comp=Z,4µm,19.0s							
PFO	**Pinyon Flats O**	92.90	57	P		**P**	14 13 18.8	+1.0
	comp=Z,257nm,0.8s,baz=273,slow=3.8,SNR=244							
PFO				PKiKP		**PKiKP**	14 18 07.2	+4.3
	comp=Z,2.8nm,0.7s,baz=240,slow=1.9,SNR=4.2							
PFO	**Pinyon Flats O**	92.90	57	⇓P		**P**	14 13 19.1	+1.3
	baz=93							
PFO	**Pinyon Flats O**	92.90	57	*e*P		**P**	14 13 18.7	+0.8
	comp=Z,266nm,0.8s							
PFO				PKiKP		**PKiKP**	14 18 07.2	+4.3
PFO				LR		LR		
	comp=Z,4µm,19.0s							
MONP	**Monument Peak,**	92.91	57	⇓P		**P**	14 13 19.7	+1.7
	baz=93							
HEC	**Hector,Ludlow**	93.05	55	⇑P		**P**	14 13 19.6	+1.2
	baz=93							
SHOC	**Shoshone, Teco**	93.13	54	⇓P		**P**	14 13 19.9	+1.2
	baz=93							
TPNV	**Topopah Spring**	93.19	53	⇑P		**P**	14 13 20.1	+1.0
	baz=93							
BELC	**Belle Mtn. Jos**	93.30	56	⇑P		**P**	14 13 20.7	+1.1
	baz=93							
MRIV	**Mauritius Mete**	93.32	250	*e*P		**P**	14 13 19.9	0.0
TUQ	**Turquoise Moun**	93.40	55	⇓P		**P**	14 13 21.1	+1.0
	baz=93							
SWSC	**Sam W. Stewart**	93.43	57	⇓P		**P**	14 13 21.8	+1.7
	baz=94							
GMRC	**Granite Mounta**	93.60	56	⇓P		**P**	14 13 22.3	+1.3
	baz=94							
MFID	**Camas Ranch**	93.67	47	*e*P		**P**	14 13 21.4	+0.2
	comp=Z,861nm,2.4s							
MFID				*e*pP		**pP**	14 14 57.5	0.0
SVE	**Sverdlovsk**	93.70	327	*c i*P		**P**	14 13 20.1	-0.7
SVE				*e*S		**SKSac**	14 23 12.8	-1.4
SVE				*e*			14 25 13.1	
SVE				*e*			14 30 25.3	
SVE				pmax		pmax		
	comp=Z,94nm,1.4s							
IMYA	**Miami**	93.73	306	*e*P		**P**	14 13 22.6	+0.9
BC3	**Big Chuckawall**	93.74	57	⇓P		**P**	14 13 23.4	+1.7
	baz=94							
R11A	**Troy Canyon, C**	93.75	52	⇑P		**P**	14 13 22.4	+0.8
	baz=94							
R11A	**Troy Canyon, C**	93.75	52	*e*P		**P**	14 13 21.8	+0.1
	comp=Z,71nm,0.9s							
IDAH	**Dahanechah**	93.83	302	*e*P		**P**	14 13 21.8	-0.5
IRM	**Iron Mountain**	94.00	56	⇓P		**P**	14 13 23.9	+1.2
	baz=94							
SHPR	**Sheep Range**	94.05	54	*e*P		**P**	14 13 23.8	+0.7
LDFC	**Landfair**	94.06	55	*e*P		**P**	14 13 24.6	+1.5
	comp=Z,492nm,0.9s							
AB31	**Akbulak array**	94.06	319	P		**P**	14 13 20.4	-2.2
AB31				pmax		pmax		
	comp=Z,22nm,0.5s							
ELK	**Elko**	94.06	50	P		**P**	14 13 23.6	+0.5
ELK				*PP		**pP**	14 14 58.8	-0.8
ELK	**Elko**	94.06	50	P		**P**	14 13 23.6	+0.5
	comp=Z,29nm,0.8s,baz=178,slow=0.8,SNR=92							
ELK				pP		**pP**	14 14 58.8	-0.8
	comp=Z,18nm,1.2s,baz=182,slow=3.7,SNR=2.6							
ELK	**Elko**	94.06	50	P		**P**	14 13 23.6	+0.5
ELK				pP		**pP**	14 14 58.8	-0.8
ISRO	**Mashad**	94.24	306	*e*P		**P**	14 13 24.7	+0.8
GLA	**Glamis**	94.25	57	⇑P		**P**	14 13 26.1	+2.2
	baz=94							
WBK	**Wadi Bani Khal**	94.33	292	P		**P**	14 13 23.9	-0.6
	SNR=39							
YKA	**Yellowknife Ar**	94.42	28	P		**P**	14 13 23.8	-0.1
YKA				*PP		**pP**	14 14 59.3	-1.0
YKA							14 23 57.3	
YKA	**Yellowknife Ar**	94.42	28	P		**P**	14 13 23.7	-0.1
	comp=Z,30nm,0.7s,baz=272,slow=4.8,SNR=485							
YKA				pP		**pP**	14 14 59.2	-1.0
	comp=Z,26nm,1.0s,baz=272,slow=4.6,SNR=4.1							
YKA				PKiKP		**PKiKP**	14 18 05.2	+0.8
	comp=Z,2.0nm,0.4s,baz=278,slow=1.2,SNR=10							
YKA				ScS		**S**	14 23 57.3	-1.3
	comp=Z,2.0nm,1.0s,baz=268,slow=10,SNR=4.3							
YKA				PKKP		PKKPdf	14 30 15.6	-6.8
	comp=Z,1.1nm,0.6s,baz=82,slow=1.8,SNR=5.0							
YKA				PKPPKP		**P'P'df**	14 38 29.6	-5.0
	comp=Z,0.5nm,0.8s,baz=101,slow=3.1,SNR=3.8							
YKA	**Yellowknife Ar**	94.42	28	P		**P**	14 13 23.8	-0.1
YKA				pP		**pP**	14 14 59.2	-1.0
YKA				PKiKP		**PKiKP**	14 18 05.2	+0.8
YKA				ScS		**S**	14 23 57.3	-1.3
YKA				PKKP		PKKPdf	14 30 15.7	-6.8
YKA				P'P'			14 38 29.6	
YKB5	**Yellowknife Ar**	94.42	28	*e*PKiKP		**PKiKP**	14 18 05.0	+0.6
BSMT	**Bassoo Peak**	94.45	42	*e*P		**P**	14 13 24.4	-0.3
BSMT				*e*pP		**pP**	14 15 00.2	-0.9
NEE2	**Needles Airpor**	94.45	56	⇓P		**P**	14 13 26.4	+1.6
	baz=94							
Y12C	**Blythe**	94.52	57	⇑P		**P**	14 13 26.7	+1.7
	baz=95							
IKOO	**Kooshah**	94.56	302	*e*P		**P**	14 13 24.9	-0.7
IPAY	**Payeh**	94.63	306	*e*P		**P**	14 13 26.6	+0.8
HLID	**Hailey**	94.70	47	⇓P		**P**	14 13 26.6	+0.7
	baz=95							
HLID	**Hailey**	94.70	47	*e*P		**P**	14 13 26.0	+0.1
	comp=Z,64nm,0.9s							
HLID				*e*PKKPdf		**PKKPdf**	14 30 22.1	+0.3
HLID				LR		LR		
	comp=Z,3µm,20.0s							
BLMT	**Blacktail Moun**	94.74	42	*e*P		**P**	14 13 26.2	+0.2
CRZF	**Crozet Islands**	94.74	223	P		P	14 12 58.0	-28
CRZF				SS		x	14 26 18.0	
CRZF				L		L	14 39 00.0	
ITEG	**Tejag**	94.78	303	*e*P		**P**	14 13 25.8	-0.7
JTMT	**Jette**	94.79	43	*e*P		**P**	14 13 26.1	-0.1
JTMT				*e*PKKPdf		**PKKPdf**	14 30 22.0	+0.3
IAKL	**Akhelmad**	94.82	306	*e*P		**P**	14 13 26.6	-0.1
SYO	**Syowa Base**	94.83	199	⇓*i*P		**P**	14 13 24.9	-0.8
PDMCI	**Parker Dam,Lak**	94.84	56	⇓P		**P**	14 13 28.1	+1.6
	baz=95							
ARU	**Arti**	94.85	326	*d i*P		**P**	14 13 24.1	-1.9
ARU				*PP		pP	14 14 56.8	-5.7
ARU				*SP		**sP**	14 15 44.5	-1.1
ARU				*e*			14 17 17.9	
ARU				S		**SKSac**	14 23 18.5	-1.8
ARU				PS		**SP**	14 25 28.4	+6.1
ARU				*SS		**PS**	14 26 14.2	-3.1
ARU				pmax		pmax		
	comp=Z,60nm,0.7s							
ARU	**Arti**	94.85	326	*e*P		**P**	14 13 23.9	-2.2
ARU				*e*PKKPdf		**PKKPdf**	14 30 21.1	-0.5
ARU				LR		LR		
	comp=Z,6µm,20.0s							
RER	**Riviere de l'E**	94.88	249	*e*P		**P**	14 13 26.8	-0.2
	comp=Z,82nm,0.8s							
RER				LR		LR		
	comp=Z,1µm,19.0s							
YBMT	**Yellow Bay**	94.98	42	*e*P		**P**	14 13 26.9	0.0
YBMT				*e*pP		**pP**	14 15 02.7	-0.8
SWMT	**Swartz Lake**	94.99	43	*e*P		**P**	14 13 26.8	-0.3
SWMT				*e*pP		**pP**	14 15 03.0	-0.5
SWMT				*e*PKKPdf		**PKKPdf**	14 30 21.4	0.0
IKRD	**Kardeh**	95.02	306	*e*P		**P**	14 13 25.1	-2.5
WALA	**Waterton Lakes**	95.03	41	*e*P		**P**	14 13 28.2	+1.0
	comp=Z,151nm,0.9s							
WALA				*e*pP		**pP**	14 15 03.4	-0.2
MSO	**Missoula**	95.03	43	⇓P		**P**	14 13 26.8	-0.5
	baz=95							
W13A	**Hualapai Mount**	95.06	55	⇑P		**P**	14 13 29.1	+1.3
	baz=95							
JMDO	**Jabal Madar**	95.13	292	P		**P**	14 13 27.6	-0.5
	SNR=19							
113A	**Mohawk Valley,**	95.14	58	⇑P		**P**	14 13 29.2	+1.3
	baz=95							
SMDO	**Samad**	95.20	293	P		**P**	14 13 28.4	-0.1
	SNR=11							
AKTO	**Aktyubinsk**	95.30	320	P		**P**	14 13 26.5	-1.7
AKTO				pmax		pmax		
	comp=Z,47nm,0.8s							
EDM	**Edmonton**	95.31	37	*e*P		**P**	14 13 28.4	+0.2
EDM				*e*PP		**pP**	14 15 04.2	-0.5
EDM	**Edmonton**	95.31	37	*e*P		**P**	14 13 28.4	+0.2
EDM				*e*pP		**pP**	14 15 04.2	-0.5
EDM				*e*PKKPdf		**PKKPdf**	14 30 18.2	-2.6
GEYT	**Alibeck**	95.34	308	P		**P**	14 13 29.7	+0.9
	comp=Z,31nm,0.8s,baz=90,slow=1.5,SNR=39							
GEYT				pP		**pP**	14 15 05.8	+0.5
	comp=Z,128nm,1.2s,baz=104,slow=1.8,SNR=14							
GEYT				PP		**PP**	14 17 29.6	+3.8
	comp=Z,45nm,1.1s,baz=76,slow=6.3,SNR=6.2							
GEYT				PKKP		PKKPdf	14 29 46.2	-34
	comp=Z,2.9nm,0.8s,baz=274,slow=2.4,SNR=4.5							
ARUT	**Antelope Range**	95.44	53	*e*P		**P**	14 13 29.9	+0.5
ARUT				pmax		pmax		
	comp=Z,2µm,1.0s							
ARUT	**Antelope Range**	95.44	53	*e*P		**P**	14 13 29.9	+0.5
	comp=Z,2µm,1.0s							
CCUT	**Cedar City**	95.50	53	*e*P		**P**	14 13 30.8	+1.1
	comp=Z,107nm,1.0s							
CCUT				*e*PKKPdf		**PKKPbc**	14 30 22.4	+1.7
CHMT	**Chamberlain Mo**	95.50	43	*e*P		**P**	14 13 28.7	-0.8
SOKR	**Solikamsk**	95.68	329	*e*P		**P**	14 13 26.9	-2.7
SOKR				*PP		**pP**	14 15 06.8	+0.7
SOKR				S		**SKSac**	14 23 23.6	-0.8
SOKR				pmax		pmax		
	comp=Z,40nm,1.2s							
SOKR				MLR		MLR		
	comp=Z,3µm,17.0s							
BGU	**Big Grassy Mou**	95.74	49	*e*P		**P**	14 13 29.7	-1.0
	comp=Z,18nm,1.0s							
Y14A	**Wickenburg**	95.78	56	⇓P		**P**	14 13 32.0	+1.1
	baz=96							
MCMT	**McKenzie Canyo**	95.82	45	*e*P		**P**	14 13 30.7	-0.3
	comp=Z,30nm,0.3s							
MCMT				*e*pP		**pP**	14 15 07.0	-0.6
MCMT				*e*PP		**PP**	14 17 30.7	+1.2
Z14A	**Wintersburg**	95.83	57	⇓P		**P**	14 13 32.9	+1.9
	baz=96							
HOQ	**Hoqain**	95.89	293	P		**P**	14 13 31.3	-0.2
	SNR=11							
DUG	**Dugway, Tooele**	95.91	50	*e*P		**P**	14 13 31.6	+0.2
DUG				*e*			14 17 30.8	
DUG				pmax		pmax		
	comp=Z,58nm,1.1s							
DUG				MLR		MLR		
	comp=Z,3µm,22.0s							
DUG	**Dugway, Tooele**	95.91	50	⇓P		**P**	14 13 32.1	+0.7
	baz=96							
DUG	**Dugway, Tooele**	95.91	50	*e*P		**P**	14 13 31.6	+0.2
	comp=Z,58nm,1.1s							
DUG				*e*PP		**PP**	14 17 30.8	+0.5
DUG				LR		LR		
	comp=Z,3µm,22.0s							
HVU	**Hansel Valley**	95.92	49	*e*P		**P**	14 13 31.9	+0.4
HVU				pmax		pmax		
	comp=Z,111nm,0.9s							
HVU	**Hansel Valley**	95.92	49	*e*P		**P**	14 13 31.9	+0.4
	comp=Z,111nm,0.9s							
KNB	**Kanab**	95.93	53	*e*P		**P**	14 13 32.8	+1.2
KNB				pmax		pmax		
	comp=Z,1µm,2.4s							
KNB	**Kanab**	95.93	53	*e*P		**P**	14 13 32.8	+1.2
	comp=Z,1µm,2.4s							
214A	**Organ Pipe Nat**	95.94	58	⇓P		**P**	14 13 33.2	+1.6
	baz=96							
214A	**Organ Pipe Nat**	95.94	58	*e*P		**P**	14 13 32.7	+1.1
	comp=Z,184nm,1.4s							
214A				*e*pP		**pP**	14 15 08.8	+0.7
214A				*e*PP		**PP**	14 17 29.7	-0.8
LRM	**Limekiln Ridge**	96.08	44	*e*P		**P**	14 13 32.4	+0.2
LRM				*e*pP		**pP**	14 15 08.2	-0.5
SPUT	**South Promonto**	96.17	49	*e*P		**P**	14 13 31.8	-0.8
	comp=Z,51nm,0.9s							
U15A	**North Rim**	96.36	54	⇑P		**P**	14 13 34.9	+1.2
	baz=96							
MVU	**Marysvale**	96.40	52	*e*P		**P**	14 13 35.0	+1.2
	comp=Z,474nm,2.9s							
MVU				*e*PKKPdf		**PKKPdf**	14 30 20.0	+1.3
NLU	**North Lily Min**	96.48	50	*e*P		**P**	14 13 34.8	+0.7
	comp=Z,61nm,1.0s							
HRY	**Holter Researc**	96.48	44	*e*P		**P**	14 13 34.0	+0.2
HRY				*e*pP		**pP**	14 15 10.0	-0.4
MSEY	**Mahe Island**	96.49	265	PFAKE			14 13 50.0	+16
MSEY				LR		LR		
	comp=Z,2µm,19.0s							
ARQ	**Araqi**	96.61	293	P		**P**	14 13 34.0	-0.8
	SNR=14							
BOZ	**Bozeman (W)**	96.66	45	*e*P		**P**	14 13 35.0	+0.3
BOZ				pmax		pmax		
	comp=Z,491nm,2.3s							
BOZ				MLR		MLR		
	comp=Z,3µm,21.0s							
BOZ	**Bozeman (W)**	96.66	45	*e*P		**P**	14 13 35.0	+0.3
	comp=Z,491nm,2.3s							
BOZ				LR		LR		
	comp=Z,3µm,21.0s							
QLMT	**Earthquake Lak**	96.83	45	*e*P		**P**	14 13 35.7	+0.1
BANOM	**Banah**	96.84	296	P		**P**	14 13 36.0	+0.2
	SNR=8.9							
BANOM	**Banah**	96.84	296	⇓*i*P		**P**	14 13 35.1	-0.7
	SNR=25							
TCUT	**Toone Canyon**	96.96	49	*e*P		**P**	14 13 35.8	-0.5
	comp=Z,45nm,0.9s							
TCUT				*e*PP		**PP**	14 17 38.7	+0.4
HATD	**Hatta, Dubai**	96.98	294	⇓*i*P		**P**	14 13 35.9	-0.5
	SNR=11							
ASHO	**Ashiyiah**	97.05	294	⇑P		**P**	14 13 35.6	-1.1
X16A	**Lo Mia Camp, P**	97.08	56	⇑P		Pdif	14 13 37.8	+0.9
	baz=97							
DAU	**Daniels Canyon**	97.10	50	*e*P		Pdif	14 13 37.5	+0.5
DAU				*e*			14 17 39.8	
DAU	**Daniels Canyon**	97.10	50	*e*P		Pdif	14 13 37.5	+0.4
DAU				*e*PP		**PP**	14 17 39.8	+0.3
WUAZ	**Wupatki**	97.11	55	⇑P		Pdif	14 13 38.4	+1.4
	baz=97							
WUAZ	**Wupatki**	97.11	55	*e*P		Pdif	14 13 37.9	+0.8
	comp=Z,103nm,0.9s							
WUAZ				*e*PP		**PP**	14 17 39.4	-0.1
WUAZ				LR		LR		
	comp=Z,4µm,19.0s							
AHID	**Auburn Hatcher**	97.14	47	*e*P		**P**	14 13 36.5	-0.4
	comp=Z,57nm,0.9s							
AHID				LR		LR		
	comp=Z,4µm,20.0s							
TMUT	**Trail Mountain**	97.17	51	*e*P		Pdif	14 13 37.9	+0.6
	comp=Z,81nm,1.0s							
YMR	**Madison River**	97.17	46	*e*P		Pdif	14 13 38.2	+1.1
	comp=Z,61nm,1.0s							
TPAW	**Teton Pass**	97.22	47	*e*P		**P**	14 13 37.3	-0.1
	comp=Z,46nm,0.9s							
TPAW				*e*PKKPbc		**PKKPbc**	14 30 15.6	-0.7
TPAW				*e*P'P'df		**P'P'df**	14 38 30.7	+0.6
SHAO	**Shalim**	97.36	288	Pdiff		**P**	14 13 37.4	-0.8
	SNR=6.4							
SNOW	**Snow King Moun**	97.37	47	*e*P		Pdif	14 13 38.8	+0.8
	comp=Z,48nm,1.0s							
NAZ	**Nazwa, Dubai**	97.41	295	⇑*i*P		**P**	14 13 37.5	-0.8
	SNR=5.4							
H17A	**Grant Village**	97.46	46	⇓P		Pdif	14 13 39.7	+1.3
	baz=98							
FAQ	**Al Faqa, Dubai**	97.47	294	⇓*i*P		**P**	14 13 37.7	-0.9
	SNR=7.6							
I17A	**Pilgrim Ck.**	97.48	46	⇓P		Pdif	14 13 39.7	+1.2
	baz=98							
TUC	**Tucson**	97.66	58	*e*pP		**pP**	14 15 16.0	0.0
TUC				*e*PP		**PP**	14 17 42.9	-0.8
TUC				*e*PKKPbc		**PKKPbc**	14 30 12.5	-2.0
TUC				LR		LR		
	comp=Z,4µm,20.0s							
SRU	**San Rafael Swe**	97.70	51	*e*PP		PP	14 17 43.1	-0.9
ASUD	**Al Ashush, Dub**	97.71	294	⇓*i*P		Pdif	14 13 39.7	+0.1
	SNR=5.6							
EGMT	**Eagleton**	97.83	42	⇑P		Pdif	14 13 40.3	+0.5
	baz=98,SNR=28							
EGMT	**Eagleton**	97.83	42	*e*P		**P**	14 13 39.8	0.0
	comp=Z,270nm,1.8s							
EGMT				*e*pP		**pP**	14 15 16.4	-0.1
EGMT				LR		LR		
	comp=Z,3µm,22.0s							
H18A	**Shoshone NF, C**	98.09	46	⇓P		Pdif	14 13 42.0	+0.7
	baz=98							
BW06	**Boulder Array**	98.28	47	*e*Pdif		**P**	14 13 41.3	-0.8
	comp=Z,50nm,0.9s							
BW06				*e*pP		**pP**	14 15 18.0	-0.8
BW06				*e*PP		**PP**	14 17 45.0	-3.3
BW06				*e*PKKPbc		**PKKPbc**	14 30 11.8	-1.5
BW06				*e*PKKPbc		**PKKPdf**	14 30 12.3	-3.1
BW06				LR		LR		
	comp=Z,4µm,20.0s							
PDAR	**Pinedale Array**	98.28	47	P		**P**	14 13 41.2	-0.9
	comp=Z,48nm,0.8s,baz=227,slow=2.1,SNR=238							
PDAR				PP		**PP**	14 17 48.8	+0.5
	comp=Z,8.3nm,0.8s,baz=249,slow=5.1,SNR=4.3							
PDAR				PKKPbc		PKKPbc	14 30 06.4	-7.0
	comp=Z,1.5nm,0.7s,baz=127,slow=5.7,SNR=5.1							
PDAR				PKPPKP		**P'P'df**	14 38 28.4	+0.3
	comp=Z,0.9nm,0.8s,baz=134,slow=3.1,SNR=4.0							
PDAR	**Pinedale Array**	98.28	47	P		**P**	14 13 41.2	-0.9
PDAR				PP		**PP**	14 17 48.8	+0.5
PDAR				PKKPbc		PKKPbc	14 30 06.4	-7.0
PDAR				P'P'			14 38 28.4	
IMEH	**Mehriz**	98.29	301	*e*P		Pdif	14 13 40.1	-2.3
X18A	**Snowflake**	98.31	56	⇑P		**P**	14 13 44.3	+2.0
	baz=98							
C19A	**Slack Wire Ran**	98.32	42	⇑P		Pdif	14 13 42.7	+0.8
	baz=98,SNR=34							
B19A	**Brinkman Farms**	98.34	42	⇓P		Pdif	14 13 42.7	+0.7
	baz=98,SNR=10							
RLMT	**Red Lodge**	98.35	45	*e*Pdif		**P**	14 13 41.7	-0.6
	comp=Z,16nm,0.8s							
RLMT				*e*PP		**PP**	14 17 45.9	-2.8
RLMT				LR		LR		
	comp=Z,2µm,20.0s							
A19A	**Klindworth Far**	98.44	41	⇓P		**P**	14 13 42.9	+0.5
	baz=98,SNR=59							
W18A	**Petrified Fore**	98.46	55	⇓P		**P**	14 13 44.6	+1.6
	baz=98							
D19A	**Cripps Ranch,**	98.48	43	⇑P		**P**	14 13 43.1	+0.4
	baz=98,SNR=31							
F19A	**Roth Farm, Mol**	98.53	44	⇓P		**P**	14 13 44.0	+1.0
	baz=98							
H19A	**Powell**	98.58	45	⇑P		**P**	14 13 43.8	+0.5
	baz=99							
E19A	**Rath Farm, Rou**	98.59	44	⇑P		**P**	14 13 44.1	+0.9
	baz=99							
I19A	**Meeteetse**	98.61	46	⇓P		**P**	14 13 44.1	+0.6
	baz=99							
J19A	**Crowheart**	98.62	47	⇑P		**P**	14 13 43.8	+0.3
	baz=99							
RBK	**Rabkut**	98.70	287	Pdiff		Pdif	14 13 42.8	-1.5
	SNR=31							
IGLO	**Ghaloghah**	98.79	306	*e*P		Pdif	14 13 44.0	-0.5
PV09	**Paradox Valley**	98.81	52	*e*PP		PP	14 17 52.9	+0.4
PV09				*e*PKKPbc		**PKKPdf**	14 30 13.5	-1.0
PV05	**Paradox Valley**	98.86	52	*e*Pdif		**P**	14 13 45.5	+0.7
319A	**Douglas**	98.95	59	⇑P		**P**	14 13 47.5	+2.3
	baz=99,SNR=20							
B20A	**Solberg Farm,**	98.95	42	⇓P		**P**	14 13 45.4	+0.6
	baz=99							
A20A	**Cobblestone Ra**	98.98	41	⇑P		**P**	14 13 45.3	+0.5
	baz=99,SNR=63							
D20A	**Manuel Ranch,**	98.99	43	⇑P		**P**	14 13 45.2	+0.3
	baz=99,SNR=16							
PV04	**Paradox Valley**	99.00	52	*e*Pdif		Pdif	14 13 44.9	-0.5
C20A	**Veseth Ranch,**	99.03	42	⇓P		**Pdif**	14 13 45.7	+0.6
	baz=99,SNR=22							
E20A	**Meyer Farm, Mu**	99.04	44	⇓P		**Pdif**	14 13 45.9	+0.7
	baz=99,SNR=18							
G20A	**Bridger**	99.09	45	⇑P		**Pdif**	14 13 46.2	+0.7
	baz=99							
F20A	**Billings**	99.09	44	⇓P		**Pdif**	14 13 46.0	+0.5
	baz=99							
RES	**Resolute Bay**	99.17	14	P		**Pdif**	14 13 44.7	-0.3
RES	**Resolute Bay**	99.17	14	P		**Pdif**	14 13 44.6	-0.3
	comp=Z,23nm,0.9s,baz=307,slow=9.5,SNR=66							
RES				PKKPbc		PKKPbc	14 30 06.2	-5.5
	comp=Z,4.4nm,0.7s,baz=125,slow=5.2,SNR=15							
RES	**Resolute Bay**	99.17	14	P		**Pdif**	14 13 44.6	-0.3
RES				PKKPbc		PKKPbc	14 30 06.2	-5.5
I20A	**Worland**	99.24	46	⇓P		**Pdif**	14 13 46.3	+0.1
	baz=99							
ISHM	**Shahmirzad**	99.25	306	*e*P		**Pdif**	14 13 47.2	+0.5
PV01	**Paradox Valley**	99.28	52	*e*Pdif		**Pdif**	14 13 46.4	-0.3
	comp=Z,349nm,0.9s							
H20A	**Greybull**	99.29	46	⇓P		**Pdif**	14 13 46.3	-0.1
	baz=99							
J20A	**Shoshoni**	99.32	47	⇑P		**Pdif**	14 13 47.0	+0.4
	baz=99							
N20A	**Spence

baz=101
P22A Eagle 100.59 51 ⇑P Pdif 14 13 53.2 +0.8
baz=101,SNR=28
LAZ Ladron 100.63 56 *e*Pdif **Pdif 14 13 52.6 -0.1**
comp=Z,24nm,1.2s
LAZ *e*P'P'df **P'P'df 14 38 25.5 +1.7**
L22A Ellis Ranch, M 100.64 48 ⇑P Pdif 14 13 53.4 +0.8
baz=101,SNR=9.1
S22A 4UR Ranch, Cre 100.67 52 ⇓P Pdif 14 13 54.0 +1.0
baz=101
O22A Kremmling 100.71 50 ⇓P Pdif 14 13 53.3 +0.2
baz=101
N22A Wattenberg Ran 100.73 49 ⇓P Pdif 14 13 53.3 +0.2
baz=101
IKAZ Kazeroun 100.73 300 *e*P **Pdif 14 13 51.7 -1.7**
V22A San Miguel Ran 100.73 54 ⇓P Pdif 14 13 54.6 +1.5
baz=101,SNR=8.9
U22A Llaves 100.74 54 ⇓P Pdif 14 13 54.9 +1.7
baz=101,SNR=107
Y22D IRIS PASSCAL I 100.83 56 ⇑P Pdif 14 13 55.7 +2.2
baz=101
PRGR Permogore 100.83 332 *e*P **Pdif 14 13 50.2 -2.5**
PRGR 14 18 03.3
PRGR *e* 14 23 48.3
PRGR pmax pmax
comp=Z,65nm,0.7s
Z22A Elephant Butte 100.84 57 ⇓P Pdif 14 13 55.2 +1.6
baz=101,SNR=19
C23A Lambert 100.91 42 ⇓P Pdif 14 13 54.6 +1.2
baz=101,SNR=19
B23A Brockton 100.96 41 ⇓P Pdif 14 13 54.7 +1.1
baz=101,SNR=51
A23A Redstone 100.97 41 ⇓P Pdif 14 13 54.4 +0.8
baz=101,SNR=5.9
D23A Lindsay 100.97 43 ⇑P Pdif 14 13 54.6 +0.9
baz=101,SNR=20
E23A Ismay 100.98 43 ⇑P Pdif 14 13 54.7 +0.9
baz=101
F23A Volborg 101.01 44 ⇑P Pdif 14 13 54.8 +0.8
baz=101,SNR=12
BNM Barren Site 101.07 56 *e*Pdif **Pdif 14 13 56.8 +2.1**
BNM *e*PP **PP 14 18 10.1 +0.6**
BNM *e*PKKPbc **PKKPbc 14 30 05.8 +0.6**
G23A Biddle 101.07 45 ⇓P Pdif 14 13 54.8 +0.6
baz=101,SNR=15
N23A Red Feather La 101.11 49 ⇑P Pdif 14 13 55.4 +0.6
baz=101,SNR=32
H23A Clabaugh Cattl 101.14 45 ⇑P Pdif 14 13 55.3 +0.7
baz=101
J23A Dilts Ranch, B 101.15 47 ⇓P Pdif 14 13 55.1 +0.4
baz=101
I23A Meade Ranch, G 101.16 46 ⇑P Pdif 14 13 55.1 +0.4
baz=101
ANMO Albuquerque 101.16 55 P **Pdif 14 13 56.6 +1.6**
ANMO *e* 14 18 09.8
ANMO Albuquerque 101.16 55 P **Pdif 14 13 56.6 +1.6**
comp=Z,24nm,0.8s,baz=268,slow=5.1,SNR=69
ANMO PP PP 14 18 04.2 -5.9
comp=Z,2.9nm,0.8s,baz=256,slow=5.2,SNR=3.3
ANMO PKPPKP **P'P'df 14 38 24.4 +1.7**
comp=Z,1.4nm,0.9s,baz=151,slow=4.0,SNR=4.0
ANMO Albuquerque 101.16 55 P **Pdif 14 13 56.6 +1.6**
ANMO PP PP 14 18 04.2 -5.9
ANMO *e*PP PKiKP 14 18 09.8 -7.7
ANMO P'P' 14 38 24.4
K23A Bowen Ranch, D 101.17 47 ⇓P Pdif 14 13 55.3 +0.4
baz=101,SNR=19
L23A Garrett 101.17 48 ⇓P Pdif 14 13 55.1 +0.2
baz=101,SNR=30
O23A Lake Granby, G 101.19 50 ⇑P Pdif 14 13 55.9 +0.8
baz=101,SNR=11
M23A Laramie 101.22 49 ⇓P Pdif 14 13 55.7 +0.5
baz=101
U23A El Rito 101.28 54 ⇓P Pdif 14 13 57.2 +1.7
baz=101,SNR=13
P23A Jefferson 101.32 51 ⇓P Pdif 14 13 57.3 +1.5
baz=101,SNR=15
S23A Nye Farm, Mont 101.33 52 ⇓P Pdif 14 13 57.5 +1.7
baz=101
V23A Ortiz Mt. (NFS 101.33 54 ⇓P Pdif 14 13 58.2 +2.4
baz=101,SNR=64
T23A Casias Ranch, 101.35 53 ⇓P Pdif 14 13 57.3 +1.4
baz=101,SNR=16
Q23A Hartsel 101.36 51 ⇑P Pdif 14 13 56.7 +0.7
baz=101
R23A Moffat 101.43 52 ⇓P Pdif 14 13 57.3 +1.1
baz=101
C24A Savage 101.45 42 ⇑P Pdif 14 13 56.8 +1.0
baz=102,SNR=8.1
ISCO Idaho Springs 101.45 50 ⇓P Pdif 14 13 57.0 +0.6
baz=102,SNR=15
ISCO Idaho Springs 101.45 50 *e*PP PP 14 18 11.5 -0.8
HOPEN Hopen 101.47 349 *e*SKSac **SKSac 14 23 49.7 -3.0**
NVL N'lazarevskaya 101.53 192 *e*P **Pdif 14 13 56.6 +1.0**
NVL pmax pmax
comp=Z,12nm,0.6s
A24A Westby 101.54 41 ⇓P Pdif 14 13 56.9 +0.7
baz=102,SNR=18
D24A Glendive 101.58 43 ⇑P Pdif 14 13 57.3 +0.9
baz=102,SNR=7.2
F24A Ekalaka 101.66 44 ⇑P Pdif 14 13 57.3 +0.5
baz=102,SNR=7.5
E24A Baker 101.66 43 ⇑P Pdif 14 13 57.5 +0.7
baz=102,SNR=6.2
H24A Dirks Ranch, A 101.72 45 ⇑P Pdif 14 13 57.5 +0.4
baz=102,SNR=20
G24A Alzada 101.74 45 ⇑P Pdif 14 13 57.4 +0.1
baz=102
L24A Wheatland 101.75 48 ⇑P Pdif 14 13 58.0 +0.6
baz=102
K24A Anderson Ranch 101.76 47 ⇓P Pdif 14 13 58.1 +0.6
baz=102
I24A Kuemmerle Ranc 101.77 46 ⇑P Pdif 14 13 57.5 +0.1
baz=102,SNR=6.9
J24A Dixon Ranch, L 101.81 47 ⇓P Pdif 14 13 58.1 +0.5
baz=102,SNR=6.6
SPA0 Spitsbergen Ar 101.83 352 *e*PP PP 14 18 08.2 -5.3
SPA0 *e*SKSac **SKSac 14 23 55.0 +0.5**
SPITS Spitsbergen Ar 101.83 352 P **Pdif 14 13 55.6 -1.3**
SPITS Spitsbergen Ar 101.83 352 P **Pdif 14 13 55.6 -1.3**
comp=Z,3.3nm,0.5s,baz=84,slow=7.6,SNR=26
SPITS PKKPbc PKKPbc 14 29 55.1 -9.1
comp=Z,5.4nm,0.8s,baz=171,slow=6.8,SNR=7.2
SPITS Spitsbergen Ar 101.83 352 P **Pdif 14 13 55.6 -1.3**
SPITS PKKPbc PKKPbc 14 29 55.1 -9.1
O24A Longmont 101.84 50 ⇓P Pdif 14 13 59.1 +1.2
baz=102
T24B San Luis 101.87 53 ⇑P Pdif 14 14 00.1 +1.8
baz=102,SNR=55
KBS Kingsbay 101.89 353 *e*PP PP 14 18 15.1 +1.2
KBS *e*SKSac **SKSac 14 23 54.8 +0.2**
M24A Cheyenne 101.89 48 ⇑P Pdif 14 13 59.0 +0.9
baz=102,SNR=11
Q24A Divide 101.89 51 ⇓P Pdif 14 13 59.4 +1.1
baz=102,SNR=8.7
N24A Carr 101.91 49 ⇓P Pdif 14 13 59.4 +1.2
baz=102,SNR=18
S24A Houchin Ranch, 101.96 52 ⇓P Pdif 14 14 00.1 +1.4
baz=102,SNR=54
R24A Sanders Place, 101.99 52 ⇑P Pdif 14 14 00.1 +1.5
baz=102,SNR=16
W24A Lazy 6 Ranch, 102.00 55 ⇓P Pdif 14 14 00.1 +1.3
baz=102,SNR=38
U24A Moreno Valley 102.01 54 ⇑P Pdif 14 14 00.8 +1.9
baz=102
IRAZ Razeghan 102.01 305 *e*P **Pdif 14 13 58.8 0.0**
P24A Kohler Place, 102.02 50 ⇓P Pdif 14 14 00.1 +1.3
baz=102
V24A Rampart Ranch, 102.07 54 ⇓P Pdif 14 14 01.2 +2.1
baz=102,SNR=115
Y24A Capitan 102.07 56 ⇓P Pdif 14 14 00.7 +1.6
baz=102,SNR=23
A25A Svangstu Ranch 102.12 41 ⇓P Pdif 14 13 59.7 +0.9
baz=102,SNR=11
RSSD Black Hills 102.16 46 *e*P **Pdif 14 13 57.2 -2.1**
RSSD *e* 14 18 14.9
RSSD Black Hills 102.16 46 *e*Pdif **Pdif 14 13 57.2 -2.1**
RSSD *e*PP **PP 14 18 14.9 -2.3**
RSSD *e*PKKPbc **PKKPbc 14 30 01.6 -0.8**
B25A Knox Farm, Ray 102.19 41 ⇑P Pdif 14 14 00.3 +1.2
baz=102,SNR=12
C25A Freed Ranch, W 102.21 42 ⇓P Pdif 14 14 00.3 +1.0
baz=102
D25A Fairfield 102.25 43 ⇓P Pdif 14 14 00.4 +1.0
baz=102
E25A Miller Ranch, 102.29 43 ⇑P Pdif 14 14 00.4 +0.8
baz=102

F25A Bowman 102.33 44 ⇓P Pdif 14 14 00.9 +1.1
baz=102,SNR=10.0
I25A Rochford 102.39 46 ⇑P Pdif 14 14 00.5 +0.2
baz=102,SNR=15
H25A Fruitdale 102.41 45 ⇑P Pdif 14 14 01.0 +0.8
baz=102,SNR=9.9
J25A Sunshine Ranch 102.42 46 ⇑P Pdif 14 14 00.8 +0.5
baz=102,SNR=12
L25A Engebretsen Ra 102.45 48 ⇑P Pdif 14 14 01.8 +1.2
baz=102
G25A Newell 102.46 45 ⇓P Pdif 14 14 00.9 +0.5
baz=102
K25A Mack Ranch, Ha 102.47 47 ⇑P Pdif 14 14 01.5 +0.9
baz=102,SNR=18
M25A Palm-Egli Farm 102.47 48 ⇑P Pdif 14 14 02.0 +1.3
baz=102,SNR=6.4
N25A Grover 102.51 49 ⇑P Pdif 14 14 02.3 +1.4
baz=102
O25A Wiggins 102.57 50 ⇓P Pdif 14 14 02.4 +1.2
baz=103
S25A Robets Cordova 102.57 52 ⇓P Pdif 14 14 02.2 +1.0
baz=103,SNR=58
V25A Rancho No Teng 102.59 54 ⇓P Pdif 14 14 03.1 +1.7
baz=103,SNR=24
P25A Willow Gulch B 102.59 50 ⇓P Pdif 14 14 02.2 +0.9
baz=103,SNR=11
Q25A Bedland, Calha 102.59 51 ⇑P Pdif 14 14 02.3 +1.0
baz=103
T25A Trinidad 102.64 53 ⇓P Pdif 14 14 03.1 +1.5
baz=103,SNR=21
R25A Fountain Ranch 102.64 52 ⇑P Pdif 14 14 02.5 +1.0
baz=103,SNR=25
X25A Clemmons Ranch 102.66 56 ⇓P Pdif 14 14 02.5 +0.8
baz=103
U25A Circle Dot Ran 102.71 54 ⇑P Pdif 14 14 03.5 +1.6
baz=103,SNR=55
W25A X Bar L Ranch, 102.77 55 ⇑P Pdif 14 14 04.2 +2.0
baz=103,SNR=24
B26A Jensen Ranch, 102.79 41 ⇑P Pdif 14 14 02.9 +1.1
baz=103
HSPB Hornsund (broa 102.80 351 *e*PP PP 14 18 19.2 -1.4
HSPB *e*SKSac **SKSac 14 23 59.9 +0.9**
HSPB *e*SS **SS 14 32 28.0 +0.3**
A26A Wade Farm, Ken 102.83 41 ⇑P Pdif 14 14 02.8 +0.9
baz=103
D26A Manning 102.87 43 ⇑P Pdif 14 14 03.7 +1.6
baz=103
F26A Lodgepole 102.89 44 ⇑P Pdif 14 14 02.8 +0.5
baz=103,SNR=10
E26A Carlson Angus 102.94 43 ⇑P Pdif 14 14 03.5 +1.0
baz=103,SNR=5.4
J26A Sides Ranch, S 102.96 46 ⇑P Pdif 14 14 03.6 +0.9
baz=103,SNR=25
K26A Motz Farm, Whi 102.96 47 ⇑P Pdif 14 14 03.3 +0.5
baz=103,SNR=13
C26A Wahner Farm, P 102.97 42 ⇓P Pdif 14 14 03.8 +1.2
baz=103
H26A Fairpoint 102.99 45 ⇓P Pdif 14 14 03.7 +0.9
baz=103
I26A New Underwood 103.01 46 ⇑P Pdif 14 14 03.8 +0.8
baz=103,SNR=8.8
G26A Maurine 103.02 44 ⇓P Pdif 14 14 03.5 +0.6
baz=103,SNR=27
ABPO Ambohimpanom 103.08 250 *e*P **Pdif 14 14 02.3 -1.6**
ABPO *e* 14 18 22.5
ABPO pmax pmax
comp=Z,7.0nm,0.6s
ABPO MLR MLR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 103.08 250 *e*Pdif **Pdif 14 14 02.3 -1.6**
comp=Z,6.9nm,0.6s
ABPO *e*PP **PKiKP 14 18 22.4 +1.1**
ABPO LR LR
comp=Z,2μm,20.0s
MAK Makhachkala 103.10 313 *i*P **Pdif 14 14 01.4 -1.8**
MAK *i* 14 18 22.1
MAK *e* 14 20 41.1
MAK *e* 14 23 57.1
MAK *e*SP SP 14 26 50.7 -0.3
MAK *e*PS **PS 14 27 38.8 -5.1**
MAK *e*SS **SS 14 32 32.2 -1.5**
MAK *e*SSS SSS 14 36 29.1
MAK pmax pmax
comp=Z,18nm,0.3s
MAK MLR MLR
comp=Z,3μm,19.0s
L26A Underwood Farm 103.12 48 ⇑P Pdif 14 14 04.6 +1.1
baz=103,SNR=5.5
M26A McRoberts Ranc 103.15 48 ⇑P Pdif 14 14 04.8 +1.1
baz=103
Q26A Hugo 103.16 51 ⇓P Pdif 14 14 04.9 +1.1
baz=103,SNR=20
N26A Koester Ranch, 103.17 49 ⇑P Pdif 14 14 04.3 +0.6
baz=103
O26A Horse Wrangler 103.17 50 ⇑P Pdif 14 14 04.5 +0.8
baz=103,SNR=9.7
P26A Davis Ranch, A 103.22 50 ⇑P Pdif 14 14 04.8 +0.7
baz=103,SNR=19
U26A Atchley Ranch, 103.24 54 ⇓P Pdif 14 14 05.9 +1.6
baz=103,SNR=10
LVZ Lovozero 103.26 340 PFAKE 14 14 10.0 +6.6
LVZ LR LR
comp=Z,3μm,20.0s
V26A Tequesquite Ra 103.27 54 ⇓P Pdif 14 14 05.1 +0.8
baz=103
R26A Arlington 103.28 52 ⇑P Pdif 14 14 05.1 +0.8
baz=103,SNR=25
T26A Comanche Natio 103.29 53 ⇓P Pdif 14 14 05.2 +0.8
baz=103,SNR=24
F27A Lemmon 103.33 44 ⇑P Pdif 14 14 05.0 +0.7
baz=103,SNR=21
A27A Ledoux Ranch, 103.34 41 ⇓P Pdif 14 14 05.5 +1.3
baz=103
S26A Kim 103.34 52 ⇓P Pdif 14 14 05.3 +0.7
baz=103,SNR=38
W26A Owens Ranch, T 103.35 55 ⇑P Pdif 14 14 06.1 +1.4
baz=103,SNR=16
SNAA Sanae 103.36 188 P **Pdif 14 13 59.5 -4.3**
SNAA Sanae 103.36 188 P **Pdif 14 14 04.1 +0.3**
SNAA Sanae 103.36 188 Pdiff **Pdif 14 14 04.1 +0.3**
comp=Z,3.4nm,0.8s,baz=308,slow=3.6,SNR=9.5
SNAA PP **PKiKP 14 18 20.7 +0.4**
comp=Z,4.6nm,0.8s,baz=180,slow=4.8,SNR=6.3
SNAA Sanae 103.36 188 Pdif **Pdif 14 14 04.1 +0.3**
SNAA PP **PKiKP 14 18 20.7 +0.4**
C27A Sayler Ranch, 103.38 42 ⇓P Pdif 14 14 05.7 +1.4
baz=103
B27A Peters Farms, 103.42 41 ⇑P Pdif 14 14 06.1 +1.5
baz=103
TMCR Tamitsa 103.42 336 *e*P **Pdif 14 14 02.1 -2.0**
TMCR *e* 14 18 24.3
TMCR pmax pmax
comp=Z,42nm,0.7s
D27A Center 103.47 42 ⇑P Pdif 14 14 06.4 +1.6
baz=104
G27A Dupree 103.47 44 ⇓P Pdif 14 14 05.8 +0.9
baz=104,SNR=10
H27A Howes 103.48 45 ⇑P Pdif 14 14 05.3 +0.4
baz=104,SNR=16
E27A Carson 103.56 43 ⇑P Pdif 14 14 05.8 +0.6
baz=104
I27A Quinn 103.58 46 ⇑P Pdif 14 14 06.1 +0.7
baz=104,SNR=8.9
ISRB Sarab 103.60 308 *e*P **Pdif 14 14 04.8 -1.0**
K27A Flueckinger Fa 103.65 47 ⇓P Pdif 14 14 06.7 +0.8
baz=104
N27A Anderson Farm, 103.68 49 ⇓P Pdif 14 14 07.1 +1.0
baz=104,SNR=10
M27A Reverse DX Ran 103.70 48 ⇑P Pdif 14 14 06.9 +0.8
baz=104
J27A Elkhorn Farm, 103.74 46 ⇑P Pdif 14 14 07.0 +0.9
baz=104
S27A Las Animas 103.78 52 ⇑P Pdif 14 14 07.8 +1.2
baz=104,SNR=8.8
R27A Eads 103.79 52 ⇑P Pdif 14 14 07.6 +1.0
baz=104,SNR=13
O27A Beecher Island 103.81 50 ⇑P Pdif 14 14 07.1 +0.5
baz=104
P27A Ficken Ranch, 103.81 50 ⇑P Pdif 14 14 07.3 +0.7
baz=104
APA Apatity 103.83 340 ⇑*i*P **Pdif 14 14 05.0 -0.9**
APA *i* 14 24 06.0
APA *i* 14 24 48.0
APA *i*S **Sdif 14 25 18.0 +0.3**
APA *i*PS **PS 14 27 54.0 +3.6**
APA *i*SS **SS 14 32 40.0 -2.1**
APA pmax pmax

comp=Z,16nm,0.8s
KSCO Kaye Shedlock' 103.84 51 ⇑P Pdif 14 14 07.3 +0.5
baz=104
BJO Bjornoya 103.87 348 *e*PP PP 14 18 24.8 -3.7
BJO *e* 14 24 03.5
BJO *e*SKSac **SKSac 14 24 03.7 -0.2**
KLMR Klimovskoe 103.89 332 *e*P **Pdif 14 14 05.1 -1.2**
KLMR *e*S **SKSac 14 24 04.7 +0.2**
TX31 Lajitas Ar. Si 103.90 61 *e*Pdif **Pdif 14 14 09.4 +2.2**
TX31 *e*PP **PKiKP 14 18 22.7 +0.2**
TX31 *e*PKKPbc **PKKPbc 14 29 52.3 -4.3**
TXAR Lajitas Array 103.90 61 P **Pdif 14 14 08.9 +1.7**
TXAR Lajitas Array 103.90 61 Pdiff **Pdif 14 14 08.9 +1.7**
comp=Z,4.6nm,0.7s,baz=250,slow=3.6,SNR=8.1
TXAR PP **PKiKP 14 18 22.1 -0.4**
comp=Z,6.7nm,0.8s,baz=0.0,slow=1.3,SNR=7.9
TXAR PKKPbc **PKKPbc 14 29 52.2 -4.3**
comp=Z,2.1nm,0.7s,baz=119,slow=4.6,SNR=5.5
TXAR Lajitas Array 103.90 61 Pdif **Pdif 14 14 08.9 +1.7**
TXAR PP **PKiKP 14 18 22.1 -0.4**
TXAR PKKPbc **PKKPbc 14 29 52.2 -4.3**
A28A Rude Farm, Bot 103.97 40 ⇑P Pdif 14 14 07.5 +0.5
baz=104
U27A Thompson Grove 103.98 53 ⇑P Pdif 14 14 07.6 +0.1
baz=104
T27A Campo 103.99 53 ⇓P Pdif 14 14 07.7 +0.2
baz=104
B28A Dugan Ranch, T 104.00 41 ⇓P Pdif 14 14 07.6 +0.5
baz=104
V27A Dan Oppiter Fa 104.04 54 ⇓P Pdif 14 14 08.2 +0.5
baz=104
OGNE Ogallala 104.04 49 ⇓P Pdif 14 14 07.8 +0.2
baz=104
OGNE Ogallala 104.04 49 *e*Pdif **Pdif 14 14 07.0 -0.6**
comp=Z,143nm,1.8s
OGNE LR LR
comp=Z,3μm,19.0s
D28A Regan 104.10 42 ⇑P Pdif 14 14 08.2 +0.6
baz=104
C28A Hausauer Farms 104.12 42 ⇓P Pdif 14 14 08.1 +0.5
baz=104
E28A Huff 104.12 43 ⇑P Pdif 14 14 08.2 +0.5
baz=104
F28A McLaughlin 104.18 44 ⇑P Pdif 14 14 08.4 +0.4
baz=104
H28A Mission Ridge 104.22 45 ⇑P Pdif 14 14 08.5 +0.3
baz=104
I28A Midland 104.22 46 ⇓P Pdif 14 14 08.6 +0.3
baz=104
G28A Parade 104.23 44 ⇓P Pdif 14 14 08.3 +0.1
baz=104
J28A Allard Ranch, 104.27 46 ⇓P Pdif 14 14 08.6 +0.1
baz=104,SNR=8.9
MSTX Muleshoe 104.27 56 ⇑P Pdif 14 14 09.3 +0.5
baz=104
MSTX Muleshoe 104.27 56 *e*Pdif **Pdif 14 14 09.0 +0.2**
L28A Connealy Angus 104.28 48 ⇓P Pdif 14 14 09.3 +0.7
baz=104
K28A Ten Mile Ranch 104.28 47 ⇓P Pdif 14 14 09.1 +0.5
baz=104
O28A Krutsinger Ran 104.35 50 ⇑P Pdif 14 14 09.7 +0.7
baz=104
P28A Saint Francis 104.44 50 ⇑P Pdif 14 14 10.0 +0.6
baz=104
Q28A Sharon Springs 104.45 51 ⇑P Pdif 14 14 10.1 +0.7
baz=104
N28A Pribbeno Ranch 104.45 49 ⇑P Pdif 14 14 09.9 +0.5
baz=104
U28A Mallet 104.47 53 ⇑P Pdif 14 14 10.5 +1.0
baz=104
T28A Walsh 104.47 53 ⇑P Pdif 14 14 11.0 +1.4
baz=104,SNR=5.9
M28A Bar X Bar Ranc 104.47 48 ⇓P Pdif 14 14 10.2 +0.7
baz=104,SNR=6.1
V28A Channing 104.54 54 ⇓P Pdif 14 14 11.2 +1.3
baz=104
R28A Tribune 104.56 51 ⇓P Pdif 14 14 11.3 +1.3
baz=105,SNR=13
VNA3 Neumayer Olymp 104.58 186 P **Pdif 14 14 08.1 -1.1**
VNA3 Neumayer Olymp 104.58 186 P **PKKPbc 14 29 52.8 -3.2**
S28A Manter 104.58 52 ⇑P Pdif 14 14 11.6 +1.5
baz=105
228A UT Block 9, Go 104.60 58 ⇓P Pdif 14 14 11.5 +1.2
baz=105
W28A Vega 104.61 55 ⇓P Pdif 14 14 11.3 +1.1
baz=105
MDND Maddock 104.62 41 ⇑P Pdif 14 14 11.4 +1.5
baz=105
MDND Maddock 104.62 41 *e*Pdif **Pdif 14 14 13.2 +3.3**
VNA2 Neumayer--Watz 104.63 187 P **Pdif 14 14 12.1 +2.7**
baz=167,slow=4.6
VNA2 Neumayer--Watz 104.63 187 P **PKKPbc 14 29 53.0 -2.9**
baz=332,slow=7.6
128A Castleberry Fa 104.64 57 ⇑P Pdif 14 14 10.3 -0.1
baz=105
A29A Manning Farm, 104.64 40 ⇑P Pdif 14 14 10.5 +0.6
baz=105
B29A Wagenman Farm, 104.66 41 ⇓P Pdif 14 14 10.7 +0.7
baz=105
Z28A Tucker Farm, M 104.66 57 ⇓P Pdif 14 14 10.9 +0.4
baz=105
X28A Dimmitt 104.69 55 ⇓P Pdif 14 14 10.8 +0.1
baz=105
Y28A McKinney Farm, 104.71 56 ⇑P Pdif 14 14 11.3 +0.6
baz=105
D29A Pettibone, Tap 104.77 42 ⇓P Pdif 14 14 10.7 +0.1
baz=105
H29A Onida 104.80 45 ⇑P Pdif 14 14 11.6 +0.8
baz=105
KEV Kevo 104.80 343 *e*P **Pdif 14 14 07.6 -2.5**
KEV pmax pmax
comp=Z,6.0nm,0.6s
KEV Kevo 104.80 343 *e*p **Pdif 14 14 07.6 -2.5**
comp=Z,5.8nm,0.6s
KEV Kevo 104.80 343 *e*pkp **PKiKP 14 18 22.2 -0.6**
comp=Z,6.5nm,0.7s
KEV Kevo 104.80 343 PFAKE 14 14 20.0 +10
KEV LR LR
comp=Z,3μm,22.0s
E29A Napoleon 104.84 43 ⇑P Pdif 14 14 11.2 +0.3
baz=105
I29A Vivian Onida 104.84 45 ⇑P Pdif 14 14 10.9 -0.1
baz=105
F29A Eureka 104.85 43 ⇓P Pdif 14 14 11.7 +0.7
baz=105
DGRG David-gareji 104.88 312 P pPdif 14 15 47.0 -0.9
G29A Hoven 104.90 44 ⇑P Pdif 14 14 11.6 +0.4
baz=105
J29A Okreek 104.93 46 ⇑P Pdif 14 14 11.9 +0.5
baz=105
M29A Burnside Ranch 104.97 48 ⇓P Pdif 14 14 12.0 +0.3
baz=105
IMRD Marand 105.02 309 *e*P **Pdif 14 14 11.8 -0.3**
L29A Maesberg Ranch 105.03 47 ⇑P PKiKP 14 18 24.7 +0.5
baz=105
K29A Lazy Trails An 105.04 47 ⇓P PKiKP 14 18 24.2 0.0
baz=105
P29A Atwood 105.06 50 ⇓P PKiKP 14 18 24.6 +0.2
baz=105
R29A Marienthal 105.07 51 ⇓P PKiKP 14 18 24.8 +0.4
baz=105
AMTX Amarillo 105.07 55 ⇓P PKiKP 14 18 25.8 +1.2
baz=105
AMTX Amarillo 105.07 55 *e*Pdif **Pdif 14 14 12.1 -0.2**
W29A Amarillo 105.07 55 ⇓P PKiKP 14 18 26.2 +1.6
baz=105
V29A Stinnett 105.09 54 ⇑P PKiKP 14 18 25.7 +1.2
baz=105
529A Stev Forest Ra 105.09 60 ⇓P PKiKP 14 18 25.8 +1.1
baz=105
O29A 4D Ranch, Culb 105.09 49 ⇓P PKiKP 14 18 24.9 +0.5
baz=105
X29A Tulia 105.11 55 ⇑P PKiKP 14 18 25.7 +1.0
baz=105
T29A Hugoton 105.11 53 ⇓P PKiKP 14 18 25.4 +0.9
baz=105
N29A Votaw Ranch, W 105.12 49 ⇓P PKiKP 14 18 25.5 +1.1
baz=105
Q29A Oakley 105.13 51 ⇓P PKiKP 14 18 24.8 +0.4
baz=105
329A Wagon Wheel Ra 105.17 58 ⇓P PKiKP 14 18 25.5 +0.8
baz=105
S29A Ulysses 105.19 52 ⇓P PKiKP 14 18 26.0 +1.3
baz=105
Y29A Porterfield Fa 105.19 56 ⇓P PKiKP 14 18 25.7 +1.0
baz=105
U29A Oasis Ranch, S 105.22 53 ⇑P PKiKP 14 18 25.9 +1.1

baz=105
Z29A Hungry Hill Ra 105.23 57 ⇑P PKiKP 14 18 25.4 +0.5
baz=105
A30A Hoffart Farm, 105.24 40 ⇓P PKiKP 14 18 25.9 +1.6
baz=105
229A Bryant Ranch, 105.27 58 ⇓P PKiKP 14 18 25.6 +0.7
baz=105
TBLG Delisi 105.31 312 P pPdif 14 15 48.1 -1.6
D30A Buchanan 105.33 42 ⇓P PKiKP 14 18 25.3 +0.8
baz=105
B30A Myrvik Farm, E 105.33 41 ⇑P PKiKP 14 18 25.3 +0.8
baz=105
429A Davenport Ranc 105.33 59 ⇓P PKiKP 14 18 25.7 +0.6
baz=105
E30A Jud 105.35 43 ⇑P PKiKP 14 18 25.6 +1.0
baz=105
ARA0 ARCESS Array S 105.36 343 *e*PKiKP **PKiKP 14 18 24.2 +0.3**
ARCES ARCESS Array B 105.36 343 P **Pdif 14 14 12.2 -0.5**
ARCES ARCESS Array B 105.36 343 Pdiff **Pdif 14 14 12.2 -0.5**
comp=Z,6.0nm,0.7s,baz=61,slow=5.2,SNR=16
ARCES PKiKP **PKiKP 14 18 23.9 -0.1**
comp=Z,9.6nm,0.6s,baz=91,slow=1.7,SNR=33
ARCES PKKPbc **PKKPbc 14 29 49.1 -4.4**
comp=Z,4.6nm,0.4s,baz=243,slow=2.4,SNR=15
ARCES ARCESS Array B 105.36 343 Pdif **Pdif 14 14 12.2 -0.5**
ARCES PKiKP **PKiKP 14 18 23.9 -0.1**
ARCES PKKPbc **PKKPbc 14 29 49.1 -4.4**
ARE0 ARCESS Array S 105.36 343 *e*PP PP 14 18 38.6 -1.0
ARE0 *e*SKSac **SKSac 14 24 07.0 -3.9**
C30A Mose, Pekin 105.39 41 ⇑P PKiKP 14 18 26.4 +1.8
baz=105
G30A Faulkton 105.45 44 ⇓P PKiKP 14 18 25.9 +1.1
baz=105
I30A Oacoma 105.48 45 ⇓P PKiKP 14 18 26.2 +1.2
baz=106
VRHR Novokhopersk 105.51 322 *e*P **Pdif 14 14 12.0 -1.7**
VRHR *e* 14 18 39.9
VRHR *e* 14 24 11.7
VRHR *e* 14 24 56.8
VRHR *e*SP SP 14 27 11.7 -3.7
VRHR *e*PS **PS 14 27 58.5 -10**
VRHR *e*SS **SS 14 33 04.7 -1.2**
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,7.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,40nm,1.0s
VRHR pmax pmax
comp=Z,70nm,1.0s
N30A Hueftle Ranch, 105.52 49 ⇓P PKiKP 14 18 25.8 +0.7
baz=106
J30A Dallas 105.54 46 ⇑P PKiKP 14 18 25.5 +0.5
baz=106
GNI Garni 105.55 311 ⇓*i*P **Pdif 14 14 14.7 +0.3**
SNR=6.6
GNI Garni 105.55 311 PFAKE 14 18 40.0
GNI LR LR
comp=Z,2μm,20.0s
K30A Basset 105.56 47 ⇓P PKiKP 14 18 25.9 +0.8
baz=106
P30A Selden 105.60 50 ⇑P PKiKP 14 18 25.7 +0.3
baz=106
L30A Spencer Herefo 105.61 47 ⇑P PKiKP 14 18 25.7 +0.4
baz=106
O30A MW Ranch, Wils 105.64 49 ⇑P PKiKP 14 18 25.9 +0.5
baz=106
U30A WK&E Inc. Balk 105.71 53 ⇑P PKiKP 14 18 26.6 +1.0
baz=106
Z30A Sanderson Ranc 105.71 56 ⇑P PKiKP 14 18 26.5 +0.8
baz=106
BRSD Miller 105.71 45 ⇓P PKiKP 14 18 26.2 +0.9
baz=106
T30A Plains 105.73 53 ⇓P PKiKP 14 18 27.0 +1.3
baz=106
ZEI Tsey 105.74 313 *e*P **Pdif 14 14 13.7 -1.5**
ZEI pmax pmax
comp=Z,11nm,0.7s
V30A Spur Ranch, Mi 105.77 54 ⇑P PKiKP 14 18 26.2 +0.4
baz=106
X30A Coker Ranch, T 105.78 55 ⇑P PKiKP 14 18 26.4 +0.5
baz=106
530A J-C Ranch, Com 105.85 60 ⇓P PKiKP 14 18 26.4 +0.4
baz=106
330A Mertzon 105.87 58 ⇑P PKiKP 14 18 26.6 +0.5
baz=106
230A Sterling City 105.87 58 ⇑P PKiKP 14 18 27.1 +1.0
baz=106
430A Baggett Ranch, 105.88 59 ⇑P PKiKP 14 18 26.6 +0.5
baz=106
130A Snyder 105.92 57 ⇓P PKiKP 14 18 26.4 +0.3
baz=106
ONI Oni 106.10 313 P pPdif 14 15 52.0 -1.3
O31A Woolen Ranch, 106.20 49 ⇑P PKiKP 14 18 26.5 +0.1
baz=106
L31A Butterfield Fa 106.22 47 ⇑P PKiKP 14 18 26.7 +0.4
baz=106
M31A Lambtecht Ranc 106.26 48 ⇑P PKiKP 14 18 26.6 +0.1
baz=106
P31A Stockton 106.26 50 ⇑P PKiKP 14 18 26.9 +0.4
baz=106
KBZ Khabaz 106.29 315 P **Pdif 14 14 16.7 -0.7**
KBZ Khabaz 106.29 315 Pdiff **Pdif 14 14 16.6 -0.7**
comp=Z,2.8nm,0.7s,baz=83,slow=4.0,SNR=11
KBZ PKKPbc **PKKPbc 14 29 49.8 0.0**
comp=Z,5.0nm,0.9s,baz=255,slow=5.0,SNR=6.1
KBZ PKPPKP **P'P'df 14 38 10.8 -1.6**
comp=Z,2.2nm,1.0s,baz=202,slow=2.8,SNR=3.9
KBZ Khabaz 106.29 315 Pdif **Pdif 14 14 16.6 -0.7**
KBZ PKKPbc **PKKPbc 14 29 49.8 0.0**
KBZ P'P' 14 38 10.8
Q31A Ellis 106.33 50 ⇑P PKiKP 14 18 27.1 +0.4
baz=106
R31A Burdett 106.34 51 ⇑P PKiKP 14 18 27.1 +0.4
baz=106
Y31A Rekieta Farm, 106.35 56 ⇓P PKiKP 14 18 27.0 +0.2
baz=106
U31A Nine Bar Ranch 106.37 53 ⇑P PKiKP 14 18 27.3 +0.4
baz=106
N31A Bailey Ranch, 106.37 48 ⇑P PKiKP 14 18 27.4 +0.7
baz=106
KIV Kislovodsk 106.39 315*d i*P **Pdif 14 14 16.0 -2.0**
KIV *i* 14 18 48.5
KIV *i* 14 24 18.1
KIV pmax pmax
comp=Z,120μm,6.9s
KIV Kislovodsk 106.39 315 PFAKE 14 18 40.0
KIV LR LR
comp=Z,2μm,20.0s
131A Roby 106.39 57 ⇓P PKiKP 14 18 27.2 +0.3
baz=106
T31A Randall Ranch, 106.40 52 ⇓P PKiKP 14 18 27.2 +0.4
baz=106
431A Sonora 106.43 59 ⇑P PKiKP 14 18 27.2 +0.1
baz=106
ULM Lac du Bonnet 106.46 38 P **Pdif 14 14 18.1 +0.1**
ULM Lac du Bonnet 106.46 38 Pdiff **Pdif 14 14 18.1 +0.1**
comp=Z,11nm,0.7s,baz=299,slow=5.6,SNR=18
ULM PKiKP **PKiKP 14 18 25.6 -0.9**
comp=Z,5.9nm,0.8s,baz=228,slow=1.6,SNR=5.5
ULM PKKPbc **PKKPbc 14 29 46.5 -3.0**
comp=Z,4.6nm,0.6s,baz=108,slow=4.4,SNR=5.1
ULM Lac du Bonnet 106.46 38 Pdif **Pdif 14 14 18.1 +0.1**
ULM PKiKP **PKiKP 14 18 25.6 -0.9**
ULM PKKPbc **PKKPbc 14 29 46.5 -3.0**
S31A Mullinville 106.48 52 ⇓P PKiKP 14 18 27.3 +0.3
baz=106
X31A McDonald Ranch 106.50 55 ⇓P PKiKP 14 18 27.6 +0.5
baz=106
DAG Danmarks Havn 106.50 358 *i*P **PKiKP 14 18 25.7 -0.1**
comp=Z,5.8nm,0.9s
DAG Danmarks Havn 106.50 358 *i*P **PKKPbc 14 29 45.8 -4.4**
DAG *i* **PKKPab 14 30 02.8 -2.5**
331A San Angelo 106.52 58 ⇑P PKiKP 14 18 27.6 +0.4
baz=106
Z31A Sharp Cattle R 106.52 56 ⇓P PKiKP 14 18 27.5 +0.3
baz=106
531A Rocksprings 106.53 60 ⇓P PKiKP 14 18 28.5 +1.1
baz=106
231A Bronte 106.54 58 ⇓P PKiKP 14 18 28.2 +0.9
baz=107
631A Perdido Creek 106.58 60 ⇑P PKiKP 14 18 28.4 +1.0
baz=107
JOF Joensuu 106.68 336 *e*P **Pdif 14 14 16.2 -2.5**
JOF pmax pmax
comp=Z,18nm,0.7s
JOF Joensuu 106.68 336 *e*p **Pdif 14 14 16.2 -2.5**
comp=Z,18nm,0.7s
JOF Joensuu 106.68 336 *e*pkp **PKiKP 14 18 25.5 -1.0**
comp=Z,8.3nm,0.7s
JOF Joensuu 106.68 336 *e*p **PKKPbc 14 29 44.5 -4.8**
comp=Z,12nm,0.5s
RAYN Ar Rayn 106.72 293 *e*Pdif **Pdif 14 14 19.1 -0.7**
RAYN *e*PKPdf **PKiKP 14 18 26.5 -1.3**
KULLO Kullorsuaq 106.79 8 *i* P **PKiKP 14 18 28.1 +1.7**
comp=Z,16nm,0.8s
P32A Huiting Farm, 106.84 50 ⇑P PKiKP 14 18 28.4 +0.9
baz=107
BGNE Belgrade 106.86 48 ⇓P PKiKP 14 18 28.2 +0.6
baz=107
N32A Stulken Farm, 106.87 48 ⇓P PKiKP 14 18 28.2 +0.6
baz=107
S32A Newby Ranch, P 106.89 52 ⇓P PKiKP 14 18 28.6 +0.9
baz=107
R32A Long Quarter, 106.95 51 ⇑P PKiKP 14 18 29.0 +1.1
baz=107
AGMN Agassiz Nation 106.96 40 ⇑P PKiKP 14 18 28.5 +1.0
baz=107
PMSA Palmer Station 106.97 165 PFAKE 14 18 40.0
PMSA LR LR
comp=Z,4μm,21.0s
VSR Storozhevoye 106.97 323 *e*P **Pdif 14 14 19.4 -0.8**
VSR *e* 14 18 50.1
VSR *e* 14 24 19.1
VSR *e*SP SP 14 27 28.2 -2.1
VSR *e*PS **PS 14 28 15.0 -6.7**
VSR *e*SS **SS 14 33 31.0 +5.5**
VSR pmax pmax
comp=N,6.0nm,0.8s
VSR pmax pmax
comp=E,4.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,50nm,1.4s
VSR pmax pmax
comp=Z,40nm,1.4s
VSR pmax pmax
comp=E,40nm,1.3s
O32A Brockman Farm, 106.97 49 ⇓P PKiKP 14 18 28.6 +0.8
baz=107
Q32A Meitler Ranch, 106.98 50 ⇑P PKiKP 14 18 29.1 +1.2
baz=107
T32A Huddler Ranch, 106.98 52 ⇑P PKiKP 14 18 29.3 +1.3
baz=107
Y32A R-V Farms, Ver 107.02 56 ⇑P PKiKP 14 18 29.3 +1.2
baz=107
ABTX Abilene, Hawle 107.03 57 ⇓P PKiKP 14 18 29.3 +1.2
baz=107
ABTX Abilene, Hawle 107.03 57 *e*Pdif **Pdif 14 14 19.9 -1.1**
ABTX *e*PP **PP 14 18 50.5 -2.5**
W32A Sentinel 107.03 54 ⇓P PKiKP 14 18 29.1 +1.0
baz=107
U32A Winter Ranch, 107.04 53 ⇓P PKiKP 14 18 29.6 +1.6
baz=107
Z32A Haskell 107.08 56 ⇑P PKiKP 14 18 29.6 +1.3
baz=107
332A Millersview 107.09 58 ⇑P PKiKP 14 18 29.8 +1.5
baz=107
532A Rocksprings 107.09 60 ⇑P PKiKP 14 18 29.8 +1.5
baz=107
X32A Elmer 107.09 55 ⇑P PKiKP 14 18 29.5 +1.3
baz=107
432A Menard 107.10 59 ⇓P PKiKP 14 18 29.4 +1.1
baz=107
232A Coleman 107.11 58 ⇑P PKiKP 14 18 30.0 +1.7
baz=107
JCT Junction City 107.14 59 *e*P **Pdif 14 14 23.6 +2.1**
JCT MLR MLR
comp=Z,7μm,20.0s
JCT Junction City 107.14 59 ⇑P PKiKP 14 18 29.6 +1.2
baz=107
JCT Junction City 107.14 59 *e*Pdif **Pdif 14 14 23.6 +2.1**
JCT *e*PKiKP **PKiKP 14 18 28.9 +0.5**
JCT LR LR
comp=Z,7μm,20.0s
TRO Tromso 107.14 345 *e*SKSac **SKSac 14 24 20.3 +1.7**
732A Laxson Ranch, 107.17 61 ⇑P PKiKP 14 18 29.9 +1.4
baz=107
832A Faith Ranch, C 107.21 62 ⇓P PKiKP 14 18 30.0 +1.4
baz=107
632A Uvalde 107.25 60 ⇑P PKiKP 14 18 30.2 +1.6
baz=107
OBN Obninsk 107.26 327 *e*P **Pdif 14 14 21.1 -0.3**
OBN *e* 14 24 21.5
OBN *e*SS SS 14 33 29.2 +0.2
OBN pmax pmax
comp=Z,32nm,1.3s
OBN pmax pmax
comp=Z,107nm,5.6s
OBN pmax pmax
comp=Z,29nm,1.2s
OBN Obninsk 107.26 327 PFAKE 14 18 40.0
OBN LR LR
comp=Z,4μm,20.0s
WMOK Wichita Mounta 107.46 55 *e*P **Pdif 14 14 25.1 +2.3**
WMOK MLR MLR
comp=Z,2μm,19.0s
WMOK Wichita Mounta 107.46 55 *e*Pdif **Pdif 14 14 25.1 +2.3**
WMOK *e*PKKPdf **PKKPdf 14 29 58.4 +0.3**
WMOK LR LR
comp=Z,2μm,19.0s
ECSD EROS Data Cent 107.51 45 ⇓P PKiKP 14 18 29.4 +0.7
baz=108
ECSD EROS Data Cent 107.51 45 *e*PKPdf **PKiKP 14 18 27.9 -0.8**
ECSD *e*PKKPbc **PKKPbc 14 29 45.0 -1.1**
ECSD LR LR
comp=Z,3μm,20.0s
Q33A Connelly Farm, 107.53 50 ⇑P PKiKP 14 18 29.9 +1.0
baz=108
T33A Patterson Ranc 107.54 52 ⇑P PKiKP 14 18 29.9 +1.0
baz=108
R33A Olander Ranch, 107.54 51 ⇑P PKiKP 14 18 29.9 +1.0
baz=108
133A Hamilton Ranch 107.64 57 ⇑P PKiKP 14 18 29.7 +0.5
baz=108
S33A Kaszmaul Farm, 107.64 52 ⇑P PKiKP 14 18 30.4 +1.2
baz=108
W33A Caddo, Fort Co 107.65 54 ⇑P PKiKP 14 18 29.8 +0.6
baz=108
Z33A Whitaker Ranch 107.67 56 ⇑P PKiKP 14 18 30.3 +1.0
baz=108
Y33A Hilltop Ranch, 107.69 55 ⇓P PKiKP 14 18 30.3 +1.0
baz=108
V33A Lossen Ranch, 107.70 54 ⇑P PKiKP 14 18 30.3 +1.0
baz=108
433A Art 107.72 59 ⇑P PKiKP 14 18 30.8 +1.4
baz=108
X33A Lawton 107.72 55 ⇑P PKiKP 14 18 30.4 +1.1
baz=108
833A Chaparral WMA, 107.72 61 ⇓P PKiKP 14 18 30.8 +1.3
baz=108
233A Rising Star 107.72 58 ⇓P PKiKP 14 18 30.4 +0.9
baz=108
333A Richland Sprin 107.74 58 ⇑P PKiKP 14 18 30.4 +0.9
baz=108
733A Divot King Ran 107.77 61 ⇓P PKiKP 14 18 30.8 +1.2
baz=108
633A Saathoff Ranch 107.79 60 ⇓P PKiKP 14 18 30.6 +0.9
baz=108
533A Kerrville 107.84 60 ⇓P PKiKP 14 18 30.7 +0.9
baz=108
933A Laredo 107.89 62 ⇓P PKiKP 14 18 31.0 +1.2
baz=108
U34A Anderson Ranch 108.20 53 ⇓P PKiKP 14 18 31.2 +1.0
baz=108
W34A Bridge Creek, 108.20 54 ⇓P PKiKP 14 18 31.4 +1.2
baz=108
X34A Smith Ranch, M 108.25 55 ⇑P PKiKP 14 18 32.1 +1.8
baz=108
V34A Guthrie 108.31 53 ⇑P PKiKP 14 18 31.7 +1.3
baz=108
V34A Guthrie 108.31 53 *e*PKPdf **PKiKP 14 18 27.5 -3.0**
534A Blanco 108.33 60 ⇑P PKiKP 14 18 31.7 +1.0
baz=108
134A White-Moore Ra 108.34 57 ⇑P PKiKP 14 18 31.9 +1.3
baz=108
Z34A Collier Ranch, 108.36 56 ⇑P PKiKP 14 18 31.5 +0.9
baz=108
234A Clairette 108.37 58 ⇓P PKiKP 14 18 31.8 +1.2
baz=108
334A Lometa 108.37 58 ⇑P PKiKP 14 18 31.7 +1.0
baz=108
734A La Parita Cree 108.39 61 ⇑P PKiKP 14 18 31.5 +0.7
baz=108
Y34A Reagan Ranch, 108.41 55 ⇓P PKiKP 14 18 31.0 +0.4
baz=108
434A Burnet 108.41 59 ⇓P PKiKP 14 18 31.4 +0.6
baz=108
KSU1 Kansas State U 108.45 50 ⇑P PKiKP 14 18 31.5 +0.9
baz=108
KSU1 Kansas State U 108.45 50 *e*Pdif **Pdif 14 14 27.2 0.0**
KSU1 *e*PKPdf **PKiKP 14 18 29.5 -1.1**
KSU1 LR LR
comp=Z,3μm,21.0s
034A Hebbronville 108.47 63 ⇓P PKiKP 14 18 31.9 +0.9
baz=108
834A Tilden 108.48 62 ⇑P PKiKP 14 18 31.5 +0.6
baz=108
934A Benavides 108.56 62 ⇑P PKiKP 14 18 31.6 +0.5
baz=109
SOC Sochi 108.57 315 *i* P **Pdif 14 14 27.8 +0.3**
V35A Meyer Ranch, C 108.87 53 ⇑P PKiKP 14 18 31.9 +0.4
baz=109
135A Vickery Place, 108.90 57 ⇑P PKiKP 14 18 32.7 +1.1
baz=109
WHTX Lake Whitney, 108.94 57 *e*PKKPdf PKKPdf 14 29 55.5 +0.2
435B Jarrell 109.00 59 ⇑P PKiKP 14 18 32.6 +0.8
baz=109
635A Leesville 109.01 60 ⇓P PKiKP 14 18 33.0 +1.1
baz=109
335A Moody 109.07 58 ⇓P PKiKP 14 18 32.9 +0.9
baz=109
035Z Hargill 109.08 63 ⇓P PKiKP 14 18 33.2 +1.2
baz=109
835A Beeville 109.09 61 ⇓P PKiKP 14 18 33.4 +1.4
baz=109
KAF Kangasniemi 109.11 336 *e*P **Pdif 14 14 27.4 -2.1**
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 109.11 336 *e*p **Pdif 14 14 27.4 -2.1**
comp=Z,1.9nm,0.4s
KAF Kangasniemi 109.11 336 *e*pkp **PKiKP 14 18 29.9 -1.2**
comp=Z,12nm,0.6s
KAF Kangasniemi 109.11 336 *e*p **PKKPbc 14 29 37.0 -4.8**
comp=Z,7.4nm,0.7s
536A Bastrop 109.54 59 ⇓P PKiKP 14 18 34.2 +1.4
baz=110
336A Riesel 109.55 58 ⇑P PKiKP 14 18 33.7 +0.9
baz=110
FINES FINESS Array B 109.55 336 P **Pdif 14 14 30.0 -1.4**
FINES FINESS Array B 109.55 336 Pdiff **Pdif 14 14 30.0 -1.4**
comp=Z,6.2nm,0.5s,baz=85,slow=4.7,SNR=78
FINES PKiKP **PKiKP 14 18 31.8 -0.1**
comp=Z,11nm,0.5s,baz=76,slow=1.5,SNR=27
FINES PKKPbc **PKKPbc 14 29 37.1 -3.2**
comp=Z,4.7nm,0.5s,baz=218,slow=3.2,SNR=23
FINES FINESS Array B 109.55 336 Pdif **Pdif 14 14 30.0 -1.4**
FINES PKiKP **PKiKP 14 18 31.8 -0.1**
FINES PKKPbc **PKKPbc 14 29 37.1 -3.2**
636A Smothers Creek 109.62 60 ⇓P PKiKP 14 18 34.1 +1.1
baz=110
436A Wall Ranch, Ga 109.67 59 ⇓P PKiKP 14 18 34.6 +1.5
baz=110
TUL1 Leonard 109.68 53 ⇓P PKiKP 14 18 34.4 +1.4
baz=110
TUL1 Leonard 109.68 53 *e*PKPdf **PKiKP 14 18 30.2 -2.8**
TUL1 *e*PP **PP 14 19 07.5 -4.6**
SFNV Sufian 109.78 307 *e*P **PKiKP 14 18 34.1 +0.8**
SPMN Marine on St. 109.79 43 *e*Pdif **Pdif 14 14 33.2 +0.3**
SPMN *e*PKPdf **PKiKP 14 18 32.2 -0.7**
SPMN *e*PP **PP 14 19 09.3 -3.1**
ANN Anapa 109.86 317 *i* P **Pdif 14 14 33.5 +0.3**
ANN *e* 14 19 11.4
ANN *e* 14 24 31.6
ANN *e*SP SP 14 28 00.0 +1.5
ANN *e*SS **SS 14 34 02.7 -1.7**
ANN *e*SSS SSS 14 38 15.3
ANN pmax pmax
comp=Z,93nm,1.1s
EYMN Ely 109.87 40 *e*PKPdf **PKiKP 14 18 31.1 -1.9**
EYMN *e*PP **PP 14 19 10.5 -2.4**
EYMN LR LR
comp=Z,3μm,19.0s
137A Heron Place, G 110.28 57 ⇓P PKiKP 14 18 35.5 +1.3
baz=110
237A Washetta, Mont 110.33 57 ⇓P PKiKP 14 18 34.8 +0.5
baz=110
SCIA State Center 110.37 46 *e*PKPdf **PKiKP 14 18 34.7 +0.6**
SCIA LR LR
comp=Z,3μm,20.0s
SUMG Summit 110.56 3 *e*PKIKP **PKiKP 14 18 33.8 -0.4**
SUMG Summit 110.56 3 *i* P **PKiKP 14 18 33.7 -0.4**
comp=Z,12nm,0.9s
SUMG Summit 110.56 3 *i* P **PKKPbc 14 29 34.3 -3.6**
SUMG Summit 110.56 3 *e*PKPdf **PKiKP 14 18 33.8 -0.4**
MALT Malatya 110.71 310 ⇓PKIKP **PKiKP 14 18 35.3 +0.3**
MALT Malatya 110.71 310 ⇓*i*P **PKiKP 14 18 35.3 +0.3**
MALT Malatya 110.71 310 ⇑*i*P **PKKPbc 14 29 36.7 +0.8**
VSU Vasula 110.78 333 ⇓*i*PKIKP **PKiKP 14 18 34.4 +0.1**
438A Sam Houston St 110.80 58 ⇓P PKiKP 14 18 36.1 +0.8
baz=111
138A Matatall Enter 110.82 56 ⇑P PKiKP 14 18 36.3 +1.1
baz=111
338A Crockett 110.85 58 ⇓P PKiKP 14 18 36.6 +1.3
baz=111
339A Huntington 111.49 58 ⇓P PKiKP 14 18 37.5 +0.9
baz=112
MIAR Mount Ida 111.72 54 *e*PKIKP **PKiKP 14 18 36.1 -0.8**
MIAR Mount Ida 111.72 54 *e*PKPdf **PKiKP 14 18 36.1 -0.8**
340A Bronson 112.04 58 ⇓P PKiKP 14 18 38.7 +1.2
baz=112
MICGM Minsk 112.11 329⇑*e*PKP **PKiKP 14 18 36.0 -1.0**
MNK Minsk 112.14 329⇑*e*PKIKP **PKiKP 14 18 36.0 -1.0**
MNK *e* **SKSac 14 24 40.0 +0.1**
MNK *e*PS **SP 14 28 20.0 +1.2**
MNK pmax pmax
comp=Z,60nm,1.0s
JFWS Jewell Farm 112.21 45 *e*PKIKP **PKiKP 14 18 35.9 -1.7**
JFWS MLR MLR
comp=Z,2μm,19.0s
JFWS Jewell Farm 112.21 45 *e*PKPdf **PKiKP 14 18 35.9 -1.7**
JFWS LR LR
comp=Z,2μm,19.0s
IDID Didziasalis 112.31 330 *e*P **PKiKP 14 18 36.3 -1.0**
IDID AMB AMB 14 18 42.0
comp=Z,16nm,1.2s
ILULI Ilulissat 112.44 9 *i* PKIKP **PKiKP 14 18 37.2 0.0**
ILULI pmax pmax
comp=Z,22nm,0.8s
ILULI Ilulissat 112.44 9 *i* P **PKiKP 14 18 37.2 0.0**
comp=Z,22nm,0.8s
NACGM Naroch 112.49 329 *e*PKP **PKiKP 14 18 36.0 -1.7**
ISAL Salakas 112.50 330 *e*P **PKiKP 14 18 36.9 -0.8**
ISAL AMB AMB 14 18 41.4
comp=Z,12nm,0.9s
IIGN Ignalina 112.56 330 *e*P **PKiKP 14 18 37.3 -0.5**
IIGN AMB AMB 14 18 40.9
comp=Z,16nm,1.4s
NSS Namsos 112.64 343 *e*SKSac **SKSac 14 24 34.5 -7.0**
NSS *e* 14 28 19.3
UALR University of 112.67 54 *e*PKPdf **PKiKP 14 18 37.4 -1.3**
UALR *e*PKKPab **PKKPab 14 29 38.3 +0.3**
BTCH Batrach 112.75 308 *e*P **PKiKP 14 18 39.3 +0.4**
CMIG Matias Romero 112.81 73 PKiKP **PKiKP 14 18 39.7 +0.3**
comp=Z,9.4nm,0.6s,baz=282,slow=1.5,SNR=16
CMIG PP **PP 14 19 33.3 -1.5**
comp=Z,8.9nm,0.8s,baz=265,slow=4.8,SNR=12
CMIG Matias Romero 112.81 73 PKiKP **PKiKP 14 18 39.7 +0.3**
CMIG PP **PP 14 19 33.3 -1.5**
USHA Ushuaia 112.96 156 PKiKP **PKiKP 14 18 38.4 -0.3**
comp=Z,23nm,0.9s,baz=241,slow=3.0,SNR=7.6
USHA Ushuaia 112.96 156 PKiKP **PKiKP 14 18 38.4 -0.3**
AKASG Malin Array Be 113.04 325 P **Pdif 14 14 46.5 -0.7**
AKASG *i* 14 18 38.1
AKASG Malin Array Be 113.04 325 Pdiff **Pdif 14 14 46.5 -0.7**
comp=Z,5.7nm,0.7s,baz=50,slow=4.9,SNR=16
AKASG PKiKP **PKiKP 14 18 38.0 -0.8**
comp=Z,31nm,0.5s,baz=53,slow=2.6,SNR=82
AKASG PP PP 14 19 27.5 -7.6
comp=Z,1.7nm,0.4s,baz=53,slow=6.3,SNR=6.2
AKASG SKP 14 21 35.0
comp=Z,3.6nm,0.7s,baz=59,slow=2.0,SNR=4.3
AKASG PKKPbc **PKKPbc 14 29 26.6 -2.0**
comp=Z,4.4nm,0.4s,baz=262,slow=3.7,SNR=18

AKASG	**Malin Array Be**	**113.04 325**	Pdif	**Pdif**	**14 14 46.5**	**-0.7**
AKASG			PKiKP	**PKiKP**	**14 18 38.0**	**-0.8**
AKASG			PP	PP	14 19 27.5	-7.6
AKASG			SKP		14 21 35.0	
AKASG			PKKPbc	**PKKPbc**	**14 29 26.6**	**-2.0**
KIEV	**Kiev**	**113.05 325**	*e*P	**Pdif**	**14 14 45.7**	**-1.6**
KIEV			*e*		14 18 37.6	
KIEV			MLR	MLR		
	comp=Z,5μm,21.0s					
KIEV	**Kiev**	**113.05 325**	*e*Pdif	**Pdif**	**14 14 45.7**	**-1.6**
KIEV			*e*PKPdf	**PKiKP**	**14 18 37.6**	**-1.3**
KIEV			*e*PKKPbc	**PKKPbc**	**14 29 26.6**	**-1.9**
KIEV			LR	LR		
	comp=Z,5μm,21.0s					
AK11	**Malin Array Si**	**113.08 325**	*e*PKiKP	**PKiKP**	**14 18 38.3**	**-0.7**
AK11			*e*PKKPbc	**PKKPbc**	**14 29 26.3**	**-2.1**
BIDA	**Albida**	**113.08 307**	*e*P	**PKiKP**	**14 18 40.0**	**+0.4**
HAWK	**Haweek**	**113.12 306**	*e*P	**PKiKP**	**14 18 39.8**	**+0.1**
ARNB	**Al Arnab**	**113.17 308**	*e*P	**PKiKP**	**14 18 40.9**	**+1.2**
ASF	**Jabal al Asfar**	**113.20 304**	PKKPbc	PKKPbc	14 29 29.0	+1.4
	comp=Z,8.6nm,0.8s,baz=181,slow=2.1,SNR=10					
ASF	**Jabal al Asfar**	**113.20 304**	PKKPbc	PKKPbc	14 29 29.0	+1.4
PBMO	**Poplar Bluff**	**113.73 51**	*e*PKiKP	**PKiKP**	**14 18 39.7**	**-1.0**
PBMO			*e*PP	**PP**	**14 19 38.1**	**-2.5**
PBMO			*e*PKKPbc	**PKKPbc**	**14 29 25.6**	**-0.2**
BRBR	**Barbar**	**113.73 305**	*e*P	**PKiKP**	**14 18 41.0**	**-0.1**
FURI	**Furi**	**113.82 278**	*e*PKiKP	**PKiKP**	**14 18 46.5**	**+4.6**
TCHB	**Talchebab**	**113.87 304**	*e*P	**PKiKP**	**14 18 40.0**	**-1.1**
BRTR	**Keskin Array B**	**113.97 312**	P	**Pdif**	**14 14 52.1**	**+0.3**
BRTR					14 19 42.2	
BRTR					14 29 24.2	
BRTR	**Keskin Array B**	**113.97 312**	Pdiff	**Pdif**	**14 14 52.1**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=88,slow=4.2,SNR=5.7					
BRTR			PKP	**PKiKP**	**14 18 36.5**	**-4.8**
	comp=Z,7.6nm,0.5s,baz=103,slow=4.4,SNR=3.9					
BRTR			PP	**PP**	**14 19 42.2**	**-0.1**
	comp=Z,22nm,1.0s,baz=108,slow=4.0,SNR=8.2					
BRTR			PKKPbc	**PKKPbc**	**14 29 24.1**	**-1.1**
	comp=Z,7.1nm,0.8s,baz=208,slow=4.7,SNR=13					
BRTR	**Keskin Array B**	**113.97 312**	Pdif	**Pdif**	**14 14 52.1**	**+0.3**
BRTR			PKP	**PKiKP**	**14 18 36.5**	**-4.8**
BRTR			PP	**PP**	**14 19 42.2**	**-0.1**
BRTR			PKKPbc	**PKKPbc**	**14 29 24.1**	**-1.1**
TBLU	**Trondheim**	**114.09 342**	*e*SKSac	**SKSac**	**14 24 47.9**	**+0.7**
SIUC	**Southern Illin**	**114.42 50**	*e*PKPdf	PKPdf	14 18 41.8	-0.1
SIUC			*e*PP	**PP**	**14 19 41.9**	**-3.4**
SFJD	**Kangerlussuaq**	**114.53 10**	*i* PKIKP	PKPdf	14 18 41.1	-0.2
SFJD			pmax	pmax		
	comp=Z,14nm,1.0s					
SFJD	**Kangerlussuaq**	**114.53 10**	*i* P	PKPdf	14 18 41.1	-0.2
	comp=Z,14nm,0.9s					
SFJD	**Kangerlussuaq**	**114.53 10**	*i* P	**PKKPbc**	**14 29 21.0**	**-3.1**
SFJD	**Kangerlussuaq**	**114.53 10**	PKKPbc	PKKPbc	14 29 21.4	-2.8
	comp=Z,8.3nm,0.6s,baz=177,slow=3.6,SNR=5.5					
SFJD	**Kangerlussuaq**	**114.53 10**	*e*PKPdf	PKPdf	14 18 39.9	-1.3
SFJD			PKKPbc	**PKKPbc**	**14 29 21.4**	**-2.8**
SFJD			LR	LR		
	comp=Z,2μm,20.0s					
ANTO	**Ankara**	**114.55 313**	⇑PKIKP	PKPdf	14 18 42.1	-0.1
ANTO	**Ankara**	**114.55 313**	⇑*i*P	PKPdf	14 18 42.1	-0.1
ANTO	**Ankara**	**114.55 313**	*e*PKPdf	PKPdf	14 18 41.3	-1.0
ANTO			*e*PP	**PP**	**14 19 46.6**	**+0.3**
ANTO			*e*PKKPbc	**PKKPbc**	**14 29 22.0**	**-1.2**
ANTO			LR	LR		
	comp=Z,2μm,22.0s					
VBMS	**Vicksburg**	**114.70 56**	*e*PKiKP	**PKiKP**	**14 18 44.2**	**+1.6**
VBMS			*e*PKKPab	**PKKPab**	**14 29 30.0**	**+1.0**
SUW	**Suwalki**	**114.76 330**	*e*PKIKP	PKPdf	14 18 42.5	+0.4
SUW			*e*		14 24 52.9	
SUW	**Suwalki**	**114.76 330**	*e*PKP	PKPdf	14 18 42.5	+0.4
SUW			*e*SKS	**SKSac**	**14 24 52.9**	**+2.8**
SUW			*e*SKKS	**SKKSac**	**14 26 04.2**	**-0.3**
SUW	**Suwalki**	**114.76 330**	*e*PKPdf	PKPdf	14 18 40.2	-1.9
SUW			*e*PKKPbc	**PKKPbc**	**14 29 22.0**	**-1.0**
KIS	**Kishinev**	**114.80 321**	*e*PKP	PKPdf	14 18 43.0	+0.6
KIS	**Kishinev**	**114.80 321**	*e*PP	PP	14 19 51.0	+3.4
KIS			*e*pPKP	pPKP	14 20 24.0	
KIS	**Kishinev**	**114.80 321**	*e*PPP	PPP	14 21 58.0	
KIS			*e*SKS	SKSdf	14 24 51.0	-23
KIS			*e*SKKS	**SKKSac**	**14 26 02.0**	**-3.1**
KIS	**Kishinev**	**114.80 321**	*e*PS	**SP**	**14 28 45.0**	**+1.5**
KIS	**Kishinev**	**114.80 321**	*e*PPS	PPS	14 30 00.0	
KIS			*e*SS	SS	14 35 00.0	-9.1
KIS			*e*SSS	SSS	14 39 20.0	
KIS			*e*LQ	LQ	14 45 32.0	
KIS			LRM	MLR	15 06 22.0	
	comp=Z,4μm,20.0s					
KMBO	**Kilima Mbogo**	**114.90 267**	PKIKP	PKPdf	14 18 44.1	+0.2
KMBO					14 19 50.0	
KMBO			MLR	MLR		
	comp=Z,1μm,19.0s					
KMBO	**Kilima Mbogo**	**114.90 267**	PKP	PKPdf	14 18 44.1	+0.2
	comp=Z,13nm,0.8s,baz=47,slow=5.8,SNR=30					
KMBO			PP	**PP**	**14 19 50.0**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=103,slow=7.6,SNR=4.7					
KMBO			PKKPbc	**PKKPbc**	**14 29 25.0**	**+3.7**
	comp=Z,9.4nm,0.9s,baz=260,slow=2.7,SNR=14					
KMBO	**Kilima Mbogo**	**114.90 267**	PKP	PKPdf	14 18 44.1	+0.2
KMBO			*e*PKPdf	**PKiKP**	**14 18 44.2**	**+0.3**
KMBO			PP	**PP**	**14 19 50.0**	**+0.1**
KMBO			PKKPbc	**PKKPbc**	**14 29 25.0**	**+3.7**
KMBO			LR	LR		
	comp=Z,1μm,19.0s					
OLIL	**Olney**	**114.98 49**	*e*PKPdf	PKPdf	14 18 43.3	+0.3
OLIL			*e*PP	**PP**	**14 19 46.6**	**-2.6**
OXF	**Oxford**	**115.08 53**	*e*PKIKP	**PKPdf**	**14 18 43.1**	**-0.2**
OXF			*e*		14 19 48.8	
OXF	**Oxford**	**115.08 53**	*e*PKPdf	**PKPdf**	**14 18 43.1**	**-0.2**
OXF			*e*PP	**PP**	**14 19 48.8**	**-1.3**
OXF			*e*PKKPab	**PKKPab**	**14 29 26.5**	**-0.8**
HFS	**Hagfors**	**115.17 339**	PKIKP	**PKPdf**	**14 18 41.9**	**-0.8**
HFS	**Hagfors**	**115.17 339**	PKP	**PKPdf**	**14 18 41.9**	**-0.8**
	comp=Z,18nm,0.6s,baz=72,slow=4.8,SNR=32					
HFS			PKKPbc	**PKKPbc**	**14 29 18.9**	**-2.9**
	comp=Z,3.7nm,0.6s,baz=183,slow=3.0,SNR=11					
HFS	**Hagfors**	**115.17 339**	PKP	**PKPdf**	**14 18 41.9**	**-0.8**
HFS			PKKPbc	**PKKPbc**	**14 29 18.9**	**-2.9**
SFIN	**Lafayette**	**115.23 47**	⇑P	**PKPdf**	**14 18 44.2**	**+0.8**
	baz=115					
SFIN	**Lafayette**	**115.23 47**	*e*PKPdf	**PKPdf**	**14 18 43.0**	**-0.4**
SFIN			*e*PP	**PP**	**14 19 49.1**	**-1.7**
MAUS	**Longido**	**115.33 265**	PKP	**SP**	**14 28 49.2**	**-1.5**
NB2	**NORSAR Subarra**	**115.41 340**	PKPdf	**PKPdf**	**14 18 42.5**	**-0.7**
	comp=Z,20nm,0.7s,baz=45,slow=1.9					
NB2	**NORSAR Subarra**	**115.41 340**	PKPdf	**PKPdf**	**14 18 42.5**	**-0.7**
	baz=45,slow=1.9					
NOA	**NORSAR Array B**	**115.41 340**	PKIKP	**PKPdf**	**14 18 42.5**	**-0.7**
NOA	**NORSAR Array B**	**115.41 340**	PKP	**PKPdf**	**14 18 42.5**	**-0.7**
	comp=Z,13nm,0.7s,baz=48,slow=1.9,SNR=19					
NOA			PKKPbc	**PKKPbc**	**14 29 22.1**	**+1.1**
	comp=Z,4.5nm,0.7s,baz=226,slow=4.2,SNR=12					
NOA	**NORSAR Array B**	**115.41 340**	PKP	**PKPdf**	**14 18 42.5**	**-0.7**
NOA			PKKPbc	**PKKPbc**	**14 29 22.1**	**+1.1**
CSS	**Prodhromos**	**115.48 307**	P	**PKPdf**	**14 18 43.5**	**-0.6**
CSS	**Prodhromos**	**115.48 307**	*e*PKPdf	**PKPdf**	**14 18 43.5**	**-0.6**
CSS			*e*PKKPbc	**PKKPbc**	**14 29 20.9**	**+1.1**
CSS			LR	LR		
	comp=Z,337nm,20.0s					
TLCR		**115.51 319**	⇑PKIKP	**PKPdf**	**14 18 44.4**	**+0.6**
TLCR		**115.51 319**	⇑*i*P	**PKPdf**	**14 18 44.4**	**+0.6**
NC602	**NORSAR Array S**	**115.51 340**	*e*PP	PP	14 19 52.1	+0.2
NC602			*e*SKSac	**SKSac**	**14 24 49.3**	**-3.4**
NC602			*e*SS	**SS**	**14 35 19.1**	**+1.9**
NBO02	**NORSAR Array S**	**115.52 340**	*e*PKPdf	**PKPdf**	**14 18 43.1**	**-0.3**
USIN	**University of**	**115.53 49**	*e*PKPdf	**PKPdf**	**14 18 43.5**	**-0.5**
USIN			*e*PP	**PP**	**14 19 50.3**	**-2.8**
WVT	**Waverly**	**115.92 51**	*e*PKIKP	**PKPdf**	**14 18 43.2**	**-1.7**
WVT	**Waverly**	**115.92 51**	*e*PKPdf	**PKPdf**	**14 18 43.1**	**-1.7**
WVT			*e*PKKPbc	**PKKPab**	**14 29 23.2**	**-0.4**
CFR	**Carcaliu**	**115.95 319**	⇑PKIKP	**PKPdf**	**14 18 44.3**	**-0.3**
CFR	**Carcaliu**	**115.95 319**	⇑*i*P	**PKPdf**	**14 18 44.3**	**-0.3**
CFR	**Carcaliu**	**115.95 319**	⇓*i*P	**PKKPbc**	**14 29 17.1**	**-1.4**
BLO	**Bloomington**	**116.03 48**	*e*PKIKP	**PKPdf**	**14 18 44.9**	**-0.1**
BLO	**Bloomington**	**116.03 48**	*e*PKPdf	**PKPdf**	**14 18 44.9**	**-0.1**
BLO			*e*PKKPbc	**PKKPbc**	**14 29 17.3**	**-0.8**
TIRR	**Tirgusor**	**116.05 319**	⇑PKIKP	**PKPdf**	**14 18 45.4**	**+0.5**
TIRR	**Tirgusor**	**116.05 319**	⇑*i*P	**PKPdf**	**14 18 45.4**	**+0.5**
TIRR	**Tirgusor**	**116.05 319**	⇑*i*P	**PKKPbc**	**14 29 14.9**	**-3.3**
TIRR	**Tirgusor**	**116.05 319**	*e*PKPdf	**PKPdf**	**14 18 44.7**	**-0.1**
MANR	**Mangalia**	**116.18 318**	⇑*i*P	**PKPdf**	**14 18 46.0**	**+0.9**
TESR	**Tescani**	**116.36 321**	⇑*i*P	**PKPdf**	**14 18 44.7**	**-0.7**
LVV	**L'vov**	**116.41 325**	*i* PKIKP	**PKPdf**	**14 18 44.8**	**-0.6**
LVV			*i*		14 19 58.2	
LVV			*e*		14 20 22.4	
LVV			*e*		14 24 57.6	
LVV			*i*		14 29 00.4	
WCI	**Wyandotte Cave**	**116.49 49**	*e*PKIKP	**PKPdf**	**14 18 45.4**	**-0.6**
WCI	**Wyandotte Cave**	**116.49 49**	*e*PKPdf	**PKPdf**	**14 18 45.4**	**-0.6**
PSN	**Preselentsi**	**116.50 318**	⇑PKIKP	**PKPdf**	**14 18 45.8**	**0.0**
PSN	**Preselentsi**	**116.50 318**	⇑*i*P	**PKPdf**	**14 18 45.8**	**0.0**
PSN	**Preselentsi**	**116.50 318**	⇓*i*P	**PKKPbc**	**14 29 15.3**	**-1.3**
VRI	**Vrincioaia**	**116.58 321**	⇑PKIKP	**PKPdf**	**14 18 46.1**	**+0.2**
VRI	**Vrincioaia**	**116.58 321**	⇑*i*P	**PKPdf**	**14 18 46.1**	**+0.2**
VRI	**Vrincioaia**	**116.58 321**	⇓*i*P	**PKKPbc**	**14 29 15.6**	**-0.9**
MSAB	**Monastry St. A**	**116.58 318**	⇑*i*P	**PKPdf**	**14 18 46.0**	**+0.1**
BURAR	**Bucovina Array**	**116.75 323**	⇑PKIKP	**PKPdf**	**14 18 47.3**	**+1.0**
BURAR	**Bucovina Array**	**116.75 323**	⇑*i*P	**PKPdf**	**14 18 47.3**	**+1.0**
BURAR	**Bucovina Array**	**116.75 323**	⇓*i*P	**PKKPbc**	**14 29 16.6**	**+0.6**
BUR04	**Bucovina Ar. S**	**116.75 323**	*e*Pdif	**Pdif**	**14 15 04.4**	**+0.5**
BUR04			*e*PKPdf	**PKiKP**	**14 18 46.8**	**+0.5**
ISP	**Isparta**	**116.86 311**	⇑PKIKP	**PKPdf**	**14 18 46.4**	**-0.4**
ISP	**Isparta**	**116.86 311**	⇑*i*P	**PKPdf**	**14 18 46.3**	**-0.5**
ISP	**Isparta**	**116.86 311**	*e*PKPdf	**PKPdf**	**14 18 46.1**	**-0.7**
ISP			*e*PP	**PP**	**14 20 02.3**	**-0.1**
AAM	**Ann Arbor**	**117.00 44**	*e*PKIKP	**PKPdf**	**14 18 46.4**	**-0.4**
AAM			*e*		14 20 01.3	
AAM			MLR	MLR		
	comp=Z,4μm,20.0s					
AAM	**Ann Arbor**	**117.00 44**	*e*PKPdf	**PKPdf**	**14 18 46.4**	**-0.4**
AAM			*e*PP	**PP**	**14 20 01.3**	**-1.7**
AAM			LR	LR		
	comp=Z,4μm,20.0s					
ISR	**Istrita**	**117.01 320**	⇓PKIKP	**PKPdf**	**14 18 47.2**	**+0.4**
ISR	**Istrita**	**117.01 320**	⇓*i*P	**PKPdf**	**14 18 47.2**	**+0.4**
BEL	**Belsk**	**117.14 329**	*e*PKIKP	**PKPdf**	**14 18 47.4**	**+0.7**
BEL			*e*		14 25 03.7	
BEL	**Belsk**	**117.14 329**	*e*PKP	**PKPdf**	**14 18 47.4**	**+0.7**
BEL			*e*SKS	**SKSac**	**14 25 03.7**	**+4.6**
BEL			*e*SKKS	**SKKSac**	**14 26 22.8**	**+2.3**
APG	**El Apazote**	**117.18 75**	PKP	**PKPdf**	**14 18 43.4**	**-4.8**
	comp=Z,17nm,0.6s,baz=338,slow=2.7,SNR=19					
APG			PP	PP	14 19 58.5	-7.2
	comp=Z,3.3nm,0.4s,baz=264,slow=10.0,SNR=5.1					
APG			PKKPbc	**PKKPbc**	**14 29 14.2**	**+0.5**
	comp=Z,8.8nm,0.7s,baz=126,slow=3.2,SNR=7.2					
APG	**El Apazote**	**117.18 75**	PKP	**PKPdf**	**14 18 43.4**	**-4.8**
PRD	**Provadia**	**117.22 318**	P	**PKPdf**	**14 18 47.0**	**-0.1**
MLR	**Muntele Rosu**	**117.23 320**	⇑PKIKP	**PKPdf**	**14 18 47.6**	**+0.3**
MLR	**Muntele Rosu**	**117.23 320**	⇑*i*P	**PKPdf**	**14 18 47.6**	**+0.3**
MLR	**Muntele Rosu**	**117.23 320**	⇓*i*P	**PKKPbc**	**14 29 11.7**	**-2.6**
MLR	**Muntele Rosu**	**117.23 320**	PKP	**PKPdf**	**14 18 47.2**	**-0.1**
MLR			PKKPbc	**PKKPbc**	**14 29 12.0**	**-2.3**
	comp=Z,2.0nm,0.5s,baz=332,slow=10,SNR=11					
MLR	**Muntele Rosu**	**117.23 320**	PKP	**PKPdf**	**14 18 47.2**	**-0.1**
MLR			PKKPbc	**PKKPbc**	**14 29 12.0**	**-2.3**
KWP	**Kalwaria Pacla**	**117.25 326**	*e*PKIKP	**PKPdf**	**14 18 47.8**	**+0.7**
KWP			*e*		14 25 02.1	
KWP	**Kalwaria Pacla**	**117.25 326**	*e*PKP	**PKPdf**	**14 18 47.8**	**+0.7**
KWP			*e*SKS	**SKSac**	**14 25 02.1**	**+2.5**
KWP	**Kalwaria Pacla**	**117.25 326**	PFAKE		14 19 00.0	+13
KWP			LR	LR		
	comp=Z,4μm,20.0s					
SECR		**117.35 320**	⇑*i*P	**PKPdf**	**14 18 47.8**	**+0.4**
DOPR	**Dopca**	**117.38 321**	⇑*i*P	**PKPdf**	**14 18 47.7**	**+0.3**
LRAL	**Lakeview Retre**	**117.40 54**	*e*PKPdf	**PKPdf**	**14 18 47.4**	**-0.5**
INCR	**INCERC-Sediu C**	**117.54 319**	⇑*i*P	**PKPdf**	**14 18 52.8**	**+5.1**
SWET	**Sewanee**	**117.66 52**	*e*PKPdf	**PKPdf**	**14 18 47.5**	**-0.8**
SWET			*e*PP	**PP**	**14 20 05.6**	**-2.3**
SWET			*e*PKKPbc	**PKKPbc**	**14 29 13.3**	**+1.0**
BMR	**Baia Mare**	**117.75 323**	⇑PKIKP	**PKPdf**	**14 18 50.3**	**+2.2**
BMR	**Baia Mare**	**117.75 323**	⇑*i*P	**PKPdf**	**14 18 50.3**	**+2.2**
BER	**Bergen**	**117.80 342**	*e*SKSac	**SKSac**	**14 25 00.8**	**-0.2**
VOIR		**117.83 321**	⇑PKIKP	**PKPdf**	**14 18 48.7**	**+0.3**
VOIR		**117.83 321**	⇑*i*P	**PKPdf**	**14 18 48.7**	**+0.3**
VOIR		**117.83 321**	⇓*i*P	**SP**	**14 29 11.3**	**+0.3**
KOLS	**Kolonicke sedl**	**117.85 325**	*e*PKIKP	**PKPdf**	**14 18 48.8**	**+0.6**
KOLS			*e*		14 29 11.3	
KOLS	**Kolonicke sedl**	**117.85 325**	*e*PKP	**PKPdf**	**14 18 48.8**	**+0.6**
KOLS	**Kolonicke sedl**	**117.85 325**	⇑*e*SKKSp	**SKKSac**	**14 26 26.4**	**+1.0**
KOLS			*e*	**SP**	**14 29 11.3**	**+0.4**
UZH	**Uzhgorod**	**117.99 325**	*e*P	**Pdif**	**14 15 09.5**	**+0.2**
UZH			*e*		14 18 48.1	
UZH			*e*		14 20 07.5	
UZH			*e*		14 20 28.9	
UZH			*e*		14 24 53.7	
UZH			*e*SS	SS	14 35 45.5	-4.6
BSD	**Bornholm Skovb**	**118.02 334**	*i* PKIKP	**PKPdf**	**14 18 48.8**	**+0.5**
BSD			pmax	pmax		
	comp=Z,43nm,0.8s					
BSD			MLR	MLR		
	comp=Z,43nm,15.0s					
BSD	**Bornholm Skovb**	**118.02 334**	*i* P	**PKPdf**	**14 18 48.8**	**+0.5**
	comp=Z,43nm,0.7s					
BSD			*i*		14 26 26.3	
KULA	**Kula-Manisa**	**118.03 312**	P	**PKPdf**	**14 18 48.4**	**-0.6**
KULA	**Kula-Manisa**	**118.03 312**	P	**PKPdf**	**14 18 48.4**	**-0.6**
JMB	**Yambol**	**118.06 317**	⇑PKIKP	**PKPdf**	**14 18 47.8**	**-1.0**
JMB	**Yambol**	**118.06 317**	⇑*i*P	**PKPdf**	**14 18 47.8**	**-1.0**
JMB	**Yambol**	**118.06 317**	⇓*i*P	**PKKPbc**	**14 29 08.4**	**-2.7**
TRPA	**Tarpa**	**118.10 324**	⇑*i*P	**PKPdf**	**14 18 48.5**	**-0.2**
TRPA	**Tarpa**	**118.10 324**	⇓*i*P	**PKKPbc**	**14 29 10.2**	**-0.9**
GKP	**Gorka Klasztor**	**118.10 331**	*e*PKIKP	**PKPdf**	**14 18 48.7**	**+0.2**
GKP			*e*		14 20 13.4	
GKP			*e*		14 25 07.5	
GKP	**Gorka Klasztor**	**118.10 331**	*e*PKP	**PKPdf**	**14 18 48.7**	**+0.2**
GKP			*e*PP	**PP**	**14 20 13.4**	**+3.4**
GKP			*e*SKS	**SKSac**	**14 25 07.4**	**+5.0**
GKP			*e*SKKS	**SKKSac**	**14 26 29.1**	**+2.4**
ARR	**Arges**	**118.12 321**	⇑*i*P	**PKPdf**	**14 18 50.1**	**+1.2**
CJR	**Cluj-Napoca**	**118.15 322**	⇑PKIKP	**PKPdf**	**14 18 49.7**	**+0.8**
CJR	**Cluj-Napoca**	**118.15 322**	⇑*i*P	**PKPdf**	**14 18 49.7**	**+0.8**
CJR	**Cluj-Napoca**	**118.15 322**	⇑*i*P	**PKKPbc**	**14 29 10.6**	**-0.4**
SZH	**Strazhica**	**118.17 318**	P	**PKPdf**	**14 18 49.3**	**+0.3**
STHS	**Stebnicka Huta**	**118.18 326**	*e*PKIKP	**PKPdf**	**14 18 49.8**	**+0.9**
STHS	**Stebnicka Huta**	**118.18 326**	*e*PKP	**PKPdf**	**14 18 49.8**	**+0.9**
ACSO	**Alum Creek Sta**	**118.24 46**	*e*PKPdf	**PKPdf**	**14 18 48.7**	**-0.6**
ACSO			*e*PKKPbc	**PKKPbc**	**14 29 10.0**	**-0.3**
ACSO			LR	LR		
	comp=Z,3μm,19.0s					
HUMR	**Humele**	**118.27 320**	⇓*i*P	**PKPdf**	**14 18 48.3**	**-0.8**
CRVS	**Cervenica-Dubn**	**118.33 325**	*e*PKIKP	**PKPdf**	**14 18 49.6**	**+0.4**
CRVS			*e*		14 29 08.8	
CRVS	**Cervenica-Dubn**	**118.33 325**	*e*PKP	**PKPdf**	**14 18 49.6**	**+0.4**
CRVS	**Cervenica-Dubn**	**118.33 325**	⇑*e*SKKSp	**SKKSac**	**14 26 30.2**	**+1.7**
CRVS			*e*	**PKKPbc**	**14 29 08.8**	**-1.6**
HOMB	**Homborsund**	**118.37 339**	*e*		14 29 09.0	
OJC	**Ojcow**	**118.55 327**	*e*PKIKP	**PKPdf**	**14 18 49.9**	**+0.4**
OJC	**Ojcow**	**118.55 327**	*e*PKPdf	**PKPdf**	**14 18 49.9**	**+0.4**
OJC			*e*SKKSac	SKKSac	14 26 29.9	0.0
OJC			L	L	15 06 18.0	
	comp=Z,5μm,20.5s					
OJC	**Ojcow**	**118.55 327**	*e*PKPdf	**PKPdf**	**14 18 49.1**	**-0.5**
OJC			*e*SP	SP	14 29 13.0	-4.0
LOT	**Lotru**	**118.63 321**	⇑*i*P	**PKPdf**	**14 18 50.0**	**0.0**
LOT	**Lotru**	**118.63 321**	⇓*i*P	**PKKPbc**	**14 29 07.7**	**-1.7**
DRGR		**118.65 323**	⇑PKIKP	**PKPdf**	**14 18 49.5**	**-0.4**
DRGR		**118.65 323**	⇑*i*P	**PKPdf**	**14 18 49.5**	**-0.4**
DRGR		**118.65 323**	⇑*i*P	**PKKPbc**	**14 29 08.5**	**-0.8**
CPCT	**Cooper Cave**	**118.69 51**	*e*PKPdf	**PKPdf**	**14 18 47.5**	**-2.7**
NIE	**Niedzica**	**118.70 326**	*e*PKIKP	**PKPdf**	**14 18 50.5**	**+0.6**
NIE			MLR	MLR		
	comp=Z,3μm,19.9s					
NIE	**Niedzica**	**118.70 326**	*e*PKPdf	**PKPdf**	**14 18 50.5**	**+0.6**
NIE			*e*SKKSac	SKKSac	14 26 31.5	+0.5
NIE			L	L	15 07 40.0	
	comp=Z,3μm,19.9s					
TEIG	**Tepich**	**118.75 69**	PKKPbc	PKKPbc	14 29 07.3	-0.6
	comp=Z,13nm,0.7s,baz=43,slow=3.9,SNR=6.1					
TEIG	**Tepich**	**118.75 69**	*e*PKPdf	**PKPdf**	**14 18 51.3**	**+0.5**
TEIG			PKKPbc	**PKKPbc**	**14 29 07.3**	**-0.6**
TEIG			LR	LR		
	comp=Z,2μm,21.0s					
LLD	**Lille Linde**	**119.04 335**	*i* PKIKP	**PKPdf**	**14 18 50.8**	**+0.6**
LLD	**Lille Linde**	**119.04 335**	*i* P	**PKPdf**	**14 18 50.8**	**+0.6**
ALN	**Alexandroupoli**	**119.04 316**	P	**PKPdf**	**14 18 49.1**	**-1.6**
ALN	**Alexandroupoli**	**119.04 316**	PKIKP	**PKPdf**	**14 18 49.1**	**-1.6**
ALN	**Alexandroupoli**	**119.04 316**	*e*P	**PKPdf**	**14 18 49.5**	**-1.2**
ALN	**Alexandroupoli**	**119.04 316**	P	**PKPdf**	**14 18 49.1**	**-1.6**
TZTN	**Tazewell**	**119.09 50**	*e*PKPdf	**PKPdf**	**14 18 50.6**	**-0.4**
KDZ	**Kurdzhali**	**119.18 317**	⇑PKIKP	**PKPdf**	**14 18 50.9**	**-0.1**
KDZ	**Kurdzhali**	**119.18 317**	⇑*i*P	**PKPdf**	**14 18 50.9**	**-0.1**
KDZ	**Kurdzhali**	**119.18 317**	⇑*i*P	**PKKPbc**	**14 29 05.4**	**-1.7**
KDZ	**Kurdzhali**	**119.18 317**	P	**PKPdf**	**14 18 50.6**	**-0.4**
ARG	**Arkhangelos**	**119.18 310**	*e*P	**PKPdf**	**14 18 51.1**	**-0.1**
TKL	**Tuckaleechee C**	**119.20 51**	*e*PKIKP	**PKPdf**	**14 18 50.9**	**-0.3**
TKL	**Tuckaleechee C**	**119.20 51**	PKP	**PKPdf**	**14 18 51.5**	**+0.2**
	comp=Z,59nm,0.7s,baz=177,slow=1.3,SNR=50					
TKL			PP	PP	14 20 12.9	-5.5
	comp=Z,8.9nm,0.9s,baz=299,slow=5.8,SNR=6.9					
TKL	**Tuckaleechee C**	**119.20 51**	*e*PKPdf	**PKPdf**	**14 18 50.9**	**-0.3**
TKL			PKP	**PKPdf**	**14 18 51.5**	**+0.2**
TKL			PP	PP	14 20 12.9	-5.5
GZR	**Gura Zlata**	**119.27 321**	⇓PKIKP	**PKPdf**	**14 18 51.3**	**+0.1**
GZR	**Gura Zlata**	**119.27 321**	⇓*i*P	**PKPdf**	**14 18 51.3**	**+0.1**
GZR	**Gura Zlata**	**119.27 321**	⇑*i*P	**PKKPab**	**14 29 07.3**	**-1.6**
RDO	**Rodhopi**	**119.30 316**	P	**PKPdf**	**14 18 49.8**	**-1.4**
RDO	**Rodhopi**	**119.30 316**	*e*P	**PKPdf**	**14 18 50.4**	**-0.8**
RDO	**Rodhopi**	**119.30 316**	P	**PKPdf**	**14 18 49.8**	**-1.4**
SRE	**Strehaia**	**119.34 321**	⇑PKIKP	**PKPdf**	**14 18 52.3**	**+1.1**
SRE	**Strehaia**	**119.34 321**	⇑*i*P	**PKPdf**	**14 18 52.3**	**+1.1**
EFI	**East Falkland**	**119.39 159**	PFAKE		14 19 00.0	+8.9
EFI			LR	LR		
	comp=Z,2μm,20.0s					
MUD	**Monsted U'grnd**	**119.46 337**	*i* PKIKP	**PKPdf**	**14 18 51.6**	**+0.6**
MUD			pmax	pmax		
	comp=Z,17nm,0.9s					
MUD	**Monsted U'grnd**	**119.46 337**	*i* P	**PKPdf**	**14 18 51.6**	**+0.6**
	comp=Z,17nm,0.9s					
PLD	**Plovdiv**	**119.48 317**	P	**PKPdf**	**14 18 49.8**	**-1.7**
SMTH	**Samothraki Isl**	**119.57 315**	P	**PKPdf**	**14 18 50.5**	**-1.3**
SMTH	**Sam

comp=Z,18nm,1.2s,baz=64,slow=3.0,SNR=3.5
VRAC PKKPbc **PKKPbc** **14 29 00.5 -1.1**
comp=Z,10nm,0.9s,baz=242,slow=3.4,SNR=9.6
VRAC Vranov 120.78 328 PKP **PKPdf** **14 18 53.8 0.0**
VRAC PP **PP** **14 20 27.2 -1.1**
VRAC SKP 14 21 50.4
VRAC PKKPbc **PKKPbc** **14 29 00.5 -1.1**
BSEG Bad Segeberg 120.80 335 *e*PKPdf **PKPdf** **14 18 53.7 0.0**
BSEG *e*SKKSac SKKSac 14 26 44.6 +0.3
BSEG *e*SS **SS** **14 36 26.3 +1.1**
APE Apeiranthos 120.85 312 ||PKIKP **PKPdf** **14 18 52.7 -1.7**
APE Apeiranthos 120.85 312 *e*P **PKPdf** **14 18 53.1 -1.3**
APE Apeiranthos 120.85 312 ||*i*P **PKPdf** **14 18 52.7 -1.7**
APE Apeiranthos 120.85 312 ||*i*P **PKKPab** **14 28 59.7 -2.3**
PKSG 120.87 325⇑*e* **PKPdf** **14 18 53.7 -0.4**
SOH Sokhos 120.94 317 *e*P **PKPdf** **14 18 53.5 -1.0**
CSKK Cs˘‡kako 120.96 325⇑*e* **PKPdf** **14 18 54.8 +0.6**
ZKR Zakros 121.01 309 *e*P **PKPdf** **14 18 54.4 -0.3**
PLG Polygyros 121.06 316 P **PKPdf** **14 18 53.2 -1.5**
PLG Polygyros 121.06 316 PKIKP **PKPdf** **14 18 53.2 -1.5**
PLG Polygyros 121.06 316 *e*P **PKPdf** **14 18 54.1 -0.6**
PLG Polygyros 121.06 316 P **PKPdf** **14 18 53.2 -1.5**
PAIG Paliouri 121.08 315 P **PKPdf** **14 18 53.2 -1.5**
PAIG Paliouri 121.08 315 PKIKP **PKPdf** **14 18 53.2 -1.5**
PAIG Paliouri 121.08 315 *e*P **PKPdf** **14 18 54.1 -0.6**
PAIG Paliouri 121.08 315 P **PKPdf** **14 18 53.2 -1.5**
PVCC Panska Ves 121.09 330 *e*PKIKP **PKPdf** **14 18 54.5 +0.1**
PVCC *e* 14 25 13.9
PVCC *e*SP SP 14 29 41.5 +2.0
PVCC MLR MLR
comp=Z,4μm,18.6s
PVCC Panska Ves 121.09 330 *e*PKPdf **PKPdf** **14 18 54.5 +0.1**
PVCC *e*SKS **SKSac** **14 25 13.9 +0.9**
PVCC *e*SKKS **SKKSac** **14 26 44.5 -1.9**
PVCC *e*SP **SP** **14 29 41.5 +2.0**
PVCC *e*x x 14 31 46.2
PVCC *e*SS SS 14 36 38.7 +9.5
PVCC AMS AMS 15 06 40.0
comp=Z,4μm,18.6s
LBTB Lobatse 121.09 238 *e*PKIKP **PKPdf** **14 18 54.8 -0.5**
LBTB Lobatse 121.09 238 *e*PKPdf **PKPdf** **14 18 54.8 -0.5**
LBTB *e*PKKPbc **PKKPbc** **14 29 00.1 +0.3**
KNT Kendrikon 121.10 317 P **PKPdf** **14 18 52.9 -1.8**
KNT Kendrikon 121.10 317 PKIKP **PKPdf** **14 18 52.9 -1.8**
KNT Kendrikon 121.10 317 *e*P **PKPdf** **14 18 54.2 -0.5**
KNT Kendrikon 121.10 317 P **PKPdf** **14 18 52.9 -1.8**
THR2 Thira island, 121.15 311 P **PKPdf** **14 18 54.0 -0.9**
THR2 Thira island, 121.15 311 P **PKPdf** **14 18 54.0 -0.9**
SANT Santorini 121.16 311 P **PKPdf** **14 18 53.6 -1.4**
SANT Santorini 121.16 311 *e*P **PKPdf** **14 18 53.7 -1.3**
SANT Santorini 121.16 311 *e*PKPdf **PKPdf** **14 18 54.0 -1.1**
SANT *e*PKKPbc **PKKPbc** **14 28 59.8 +0.1**
SANT LR LR
comp=Z,1μm,20.0s
THR1 Thera Island 121.16 311 P **PKPdf** **14 18 53.1 -1.9**
BRG Berggiesshubel 121.18 331 PDIFF **Pdif** **14 15 21.0 -2.4**
BRG pP 14 16 58.0
BRG Berggiesshubel 121.18 331 *i* PKP **PKPdf** **14 18 54.8 +0.3**
comp=Z,75nm,0.8s
BRG PP **PP** **14 20 28.0 -3.0**
BRG SKS **SKSac** **14 25 15.0 +1.7**
BRG *e* 14 26 44.0
comp=Z,24nm,1.9s
BRG *e*PKKP **PKKPbc** **14 28 58.4 -1.7**
comp=Z,25nm,1.5s
BRG SS **SS** **14 36 27.0 -3.4**
BRG Berggiesshubel 121.18 331 P **Pdif** **14 15 21.0 -2.4**
BRG *i* 14 18 54.8
BRG 14 20 28.0
BRG 14 25 15.0
BRG SS SS 14 36 27.0 -3.4
BRG pmax pmax
comp=Z,75nm,0.8s
BRG pmax pmax
comp=Z,25nm,1.5s
BRG MLR MLR
comp=N,2μm,21.7s
BRG MLR MLR
comp=E,3μm,26.8s
BRG MLR MLR
comp=Z,4μm,19.3s
BRG Berggiesshubel 121.18 331 *e*PKPdf **PKPdf** **14 18 54.3 -0.3**
BRG *e*SKPdf **SKiKP** **14 21 52.5 +2.4**
BRG *e*SKKSac **SKKSac** **14 26 47.8 +0.8**
BRG *e*SS **SS** **14 36 32.2 +1.8**
HORT Hortiatis 121.21 316 P **PKPdf** **14 18 53.5 -1.5**
HORT Hortiatis 121.21 316 *e*P **PKPdf** **14 18 53.6 -1.5**
HORT Hortiatis 121.21 316 P **PKPdf** **14 18 53.5 -1.5**
THR6 Thira Island, 121.21 311 P **PKPdf** **14 18 54.0 -1.0**
THR6 Thira Island, 121.21 311 P **PKPdf** **14 18 54.0 -1.0**
BLA Blacksburg 121.21 48 *e*PKIKP **PKPdf** **14 18 54.8 -0.3**
BLA MLR MLR
comp=Z,3μm,20.0s
BLA Blacksburg 121.21 48 *e*PKPdf **PKPdf** **14 18 54.8 -0.3**
BLA *e*PKKPbc **PKKPbc** **14 28 59.9 +0.4**
BLA LR LR
comp=Z,3μm,20.0s
PLCA Paso Flores 121.22 143 PKIKP **PKPdf** **14 18 55.0 -0.1**
PLCA Paso Flores 121.22 143 PKP **PKPdf** **14 18 55.0 -0.1**
comp=Z,62nm,0.6s,baz=249,slow=1.8,SNR=76
PLCA SKP 14 21 53.6
comp=Z,24nm,1.1s,baz=119,slow=2.6,SNR=3.4
PLCA Paso Flores 121.22 143 PKP **PKPdf** **14 18 55.0 -0.1**
PLCA *e*PKPdf **PKiKP** **14 18 55.3 +0.1**
PLCA SKP 14 21 53.6
PLCA *e*PKKPbc **PKKPbc** **14 28 59.6 -0.3**
THR5 Thira Island, 121.22 311 P **PKPdf** **14 18 54.0 -1.1**
AOS Alonnisos 121.25 315 P **PKPdf** **14 18 53.2 -1.8**
AOS Alonnisos 121.25 315 *e*P **PKPdf** **14 18 53.7 -1.3**
AOS Alonnisos 121.25 315 P **PKPdf** **14 18 53.2 -1.8**
VAY Valandovo 121.26 317 P **PKPdf** **14 18 52.6 -2.4**
VAY Valandovo 121.26 317 PKIKP **PKPdf** **14 18 52.6 -2.4**
VAY Valandovo 121.26 317 *i* PKP **PKPdf** **14 18 53.7 -1.3**
VAY Valandovo 121.26 317 P **PKPdf** **14 18 52.6 -2.4**
KMSC Kings Mountain 121.26 51 *e*PKPdf **PKPdf** **14 18 55.0 -0.2**
THE Thessaloniki 121.28 316 *e*P **PKPdf** **14 18 54.5 -0.5**
CLL Collm 121.36 331 *i* PKIKP **PKPdf** **14 18 55.0 +0.1**
CLL *e* 14 25 15.0
CLL pmax pmax
comp=Z,78nm,0.7s
CLL pmax pmax
comp=Z,24nm,1.2s
CLL Collm 121.36 331 *e*PKPdf **PKPdf** **14 18 54.4 -0.4**
CLL *e*SKPdf **SKiKP** **14 21 53.1 +2.6**
CLL *e*SKKSac **SKKSac** **14 26 48.5 +0.4**
CLL *e*SS **SS** **14 36 34.0 +1.4**
CLL Collm 121.36 331 *ep*Pdif **pPdif** **14 16 54.0 -6.9**
CLL *i* PKPdf **PKPdf** **14 18 55.0 +0.1**
comp=Z,78nm,0.7s
CLL *e* 14 18 57.0
CLL *e*PP **PP** **14 20 31.0 -1.1**
CLL *e*SKPdf **SKiKP** **14 21 53.0 +2.6**
CLL *e*SKSac **SKSac** **14 25 15.0 +1.2**
CLL *e*SKKSac **SKKSac** **14 26 48.0 -0.1**
CLL *es*SKSac sSKSac 14 28 22.0 +3.9
CLL *i* PKKPbc **PKKPbc** **14 28 58.3 -1.2**
comp=Z,24nm,1.2s
CLL *e*SKSP 14 29 47.0
CLL *e*PS **PS** **14 30 30.0 -1.4**
CLL *e*PPS PPS 14 31 56.0
CLL *e*SS SS 14 36 40.0 +7.4
CLL *e* 14 38 27.0
CLL *e*SSS SSS 14 41 12.0
CLL *e*SSSS 14 44 42.0
CLL Collm 121.36 331 *e*PKPdf **PKPdf** **14 18 54.5 -0.4**
CLL *e*PKKPbc **PKKPbc** **14 28 58.4 -1.0**
TREC Trest 121.37 328 *e*PKIKP **PKPdf** **14 18 54.9 -0.1**
TREC *e* 14 20 39.1
TREC *e* 14 25 15.5
TREC *e*SP SP 14 29 48.0 +5.9
TREC *e*SS **SS** **14 36 31.8 -1.2**
TREC MLR MLR
comp=Z,3μm,20.7s
TREC Trest 121.37 328 *e*PKPdf **PKPdf** **14 18 54.9 -0.1**
TREC *e*PP PP 14 20 39.1 +6.7
TREC *e*SKS **SKSac** **14 25 15.5 +1.4**
TREC *e*SP **SP** **14 29 48.0 +5.9**
TREC *ex* x 14 31 54.3
TREC *e*SS **SS** **14 36 31.8 -1.2**
TREC AMS AMS 15 11 10.0
comp=Z,3μm,20.7s
NPS Neapolis 121.43 310 P **PKPdf** **14 18 55.4 -0.1**

NPS Neapolis 121.43 310 PKIKP **PKPdf** **14 18 55.4 -0.1**
NPS Neapolis 121.43 310 *e*P **PKPdf** **14 18 55.7 +0.2**
NPS Neapolis 121.43 310 P **PKPdf** **14 18 55.4 -0.1**
PRU Pruhonice 121.44 329 *e*PKIKP **PKPdf** **14 18 55.1 0.0**
PRU *e* 14 20 32.6
PRU *e* 14 25 14.0
PRU *e*SP SP 14 29 43.0 +0.4
PRU *e*SS **SS** **14 36 34.1 +0.4**
PRU MLR MLR
comp=Z,3μm,20.2s
PRU Pruhonice 121.44 329 *e*PKPdf **PKPdf** **14 18 55.1 0.0**
PRU *e*PP **PP** **14 20 32.6 -0.1**
PRU *e*SKS **SKSac** **14 25 14.0 -0.2**
PRU *e*SKKS **SKKSac** **14 26 48.4 -0.3**
PRU *e*SP **SP** **14 29 43.0 +0.4**
PRU *ex* x 14 31 46.2
PRU *e*SS **SS** **14 36 34.1 +0.4**
PRU AMS AMS 15 07 10.0
comp=Z,3μm,20.2s
SKIA Skiathos 121.55 315 P **PKPdf** **14 18 54.2 -1.4**
SKIA Skiathos 121.55 315 *e*P **PKPdf** **14 18 54.6 -1.0**
LAST Lasithi 121.57 310 P **PKPdf** **14 18 55.5 -0.4**
LAST Lasithi 121.57 310 *e*P **PKPdf** **14 18 55.9 0.0**
LAST Lasithi 121.57 310 P **PKPdf** **14 18 55.5 -0.4**
DIVS Divibare 121.63 321 P **PKPdf** **14 18 55.2 -0.6**
SSPA Standing Stone 121.64 43 *e*PKPdf **PKPdf** **14 18 55.4 -0.3**
SSPA *e*PKKPbc **PKKPbc** **14 28 58.0 0.0**
MRKA Markates 121.65 314 P **PKPdf** **14 18 54.9 -1.0**
MRKA Markates 121.65 314 *e*P **PKPdf** **14 18 54.9 -1.0**
LSZ Lusaka 121.65 250 *e*PKIKP **PKPdf** **14 18 56.8 +0.2**
LSZ Lusaka 121.65 250 *e*PKPdf **PKPdf** **14 18 56.8 +0.2**
XOR Xorichti 121.66 315 P **PKPdf** **14 18 54.4 -1.5**
XOR Xorichti 121.66 315 *e*P **PKPdf** **14 18 54.9 -1.0**
XOR Xorichti 121.66 315 P **PKPdf** **14 18 54.4 -1.5**
NEO Neokhori 121.66 315 P **PKPdf** **14 18 54.1 -1.8**
NEO Neokhori 121.66 315 *e*P **PKPdf** **14 18 55.5 -0.4**
NEO Neokhori 121.66 315 P **PKPdf** **14 18 54.1 -1.8**
PTN Potsdam (NY) 121.68 38 *e*PKIKP **PKPdf** **14 18 55.0 -0.7**
PTN Potsdam (NY) 121.68 38 *e*PKPdf **PKPdf** **14 18 55.0 -0.7**
PTN *e*PKKPbc **PKKPab** **14 28 58.9 +0.6**
PTL Penteli 121.71 313 P **PKPdf** **14 18 54.2 -1.8**
PTL Penteli 121.71 313 *e*P **PKPdf** **14 18 54.9 -1.1**
PTL Penteli 121.71 313 P **PKPdf** **14 18 54.2 -1.8**
SKO Skopje 121.72 318 *i* PKP **PKPdf** **14 18 55.6 -0.3**
SOP Sopron 121.74 326||*e* **PKPdf** **14 18 56.1 +0.4**
LIT Litokhoron 121.84 316 P **PKPdf** **14 18 54.7 -1.5**
LIT Litokhoron 121.84 316 PKIKP **PKPdf** **14 18 54.7 -1.5**
LIT Litokhoron 121.84 316 *e*P **PKPdf** **14 18 55.2 -1.0**
LIT Litokhoron 121.84 316 P **PKPdf** **14 18 54.7 -1.5**
ATH Athens Observa 121.85 313 *e*P **PKPdf** **14 18 55.6 -0.6**
SMIA Simia 121.85 314 *e*P **PKPdf** **14 18 56.4 +0.2**
SUR Sutherland 121.88 228 PKP **PKPdf** **14 18 57.5 +0.7**
comp=Z,18nm,0.6s,baz=152,slow=5.4,SNR=26
SUR PKKPbc **PKKPab** **14 28 58.2 -0.1**
comp=Z,40nm,0.9s,baz=268,slow=2.7,SNR=20
SUR Sutherland 121.88 228 PKP **PKPdf** **14 18 57.5 +0.7**
SUR *e*PKPdf **PKiKP** **14 18 57.7 +0.7**
SUR *e*PKKPbc **PKKPbc** **14 28 57.8 +0.5**
SUR PKKPbc **PKKPab** **14 28 58.2 -0.1**
SUR LR LR
comp=Z,3μm,20.0s
NRDL Niedersach Rie 121.90 334 *e*PKPdf **PKPdf** **14 18 55.8 0.0**
NRDL *e*SKKSac SKKSac 14 26 51.9 +0.6
NRDL *e*SS **SS** **14 36 42.4 +3.4**
LONY Lake Ozonia 121.90 38 *e*PKPdf **PKPdf** **14 18 55.5 -0.7**
LONY *e*PP **PP** **14 20 34.4 -1.8**
LONY *e*PKKPbc **PKKPbc** **14 28 56.6 -0.7**
LONY LR LR
comp=Z,3μm,21.0s
CONA Conrad Observa 121.98 327||*i*PKiKP **PKPdf** **14 18 56.0 -0.3**
comp=Z,62nm,0.6s,SNR=54
HOPE Hope Point 122.08 174 *e*PKPdf **PKPdf** **14 18 56.0 -0.2**
HOPE LR LR
comp=Z,2μm,20.0s
SIVA Sivas 122.13 310 P **PKPdf** **14 18 56.9 +0.1**
SIVA Sivas 122.13 310 *e*P **PKPdf** **14 18 57.6 +0.8**
SIVA Sivas 122.13 310 P **PKPdf** **14 18 56.9 +0.1**
TANN Tannenbergstha 122.20 331 *e*PKPdf **PKPdf** **14 18 56.4 -0.2**
TANN *ep*PKPdf **PP** **14 20 37.9 0.0**
TANN *e*SKPdf **SKiKP** **14 21 54.3 +2.1**
TANN *e*SKKSac **SKKSac** **14 26 55.3 +1.6**
TANN *e*SS **SS** **14 36 45.2 +1.8**
BINY Binghamton 122.20 41 *e*PKPdf **PKPdf** **14 18 56.4 -0.4**
BINY *e*PKKPbc **PKKPab** **14 28 56.1 +0.1**
BINY LR LR
comp=Z,3μm,20.0s
CLZ Clausthal 122.23 333 *e*PKPdf **PKPdf** **14 18 56.6 0.0**
CLZ *e*SKPdf **SKiKP** **14 21 54.5 +2.3**
CLZ *e*SKKSac **SKKSac** **14 26 54.9 +1.1**
CLZ *e*SS **SS** **14 36 45.2 +1.7**
KZN Kozani 122.25 317 P **PKPdf** **14 18 55.9 -1.1**
KZN Kozani 122.25 317 PKIKP **PKPdf** **14 18 55.9 -1.1**
KZN Kozani 122.25 317 *e*P **PKPdf** **14 18 57.2 +0.2**
KZN Kozani 122.25 317 P **PKPdf** **14 18 55.9 -1.1**
AXAR Agios Charalam 122.28 315 P **PKPdf** **14 18 56.0 -1.1**
AXAR Agios Charalam 122.28 315 *e*P **PKPdf** **14 18 56.8 -0.3**
AXAR Agios Charalam 122.28 315 P **PKPdf** **14 18 56.0 -1.1**
IVA Berane 122.30 320||*i*PKP **PKPdf** **14 18 57.1 0.0**
FNA Florina 122.30 317 P **PKPdf** **14 18 55.8 -1.3**
FNA Florina 122.30 317 PKIKP **PKPdf** **14 18 55.8 -1.3**
FNA Florina 122.30 317 *e*P **PKPdf** **14 18 56.3 -0.8**
FNA Florina 122.30 317 P **PKPdf** **14 18 55.8 -1.3**
LTK Loutraki 122.37 314 P **PKPdf** **14 18 55.0 -2.3**
LTK Loutraki 122.37 314 *e*P **PKPdf** **14 18 56.0 -1.3**
LTK Loutraki 122.37 314 P **PKPdf** **14 18 55.0 -2.3**
PLE Pljevlja 122.40 321||*i*PKP **PKPdf** **14 18 57.6 +0.3**
THL Klokotos Trika 122.40 316 P **PKPdf** **14 18 55.6 -1.6**
THL Klokotos Trika 122.40 316 *e*P **PKPdf** **14 18 55.7 -1.5**
AGG Agios Georgios 122.41 315 P **PKPdf** **14 18 55.9 -1.4**
AGG Agios Georgios 122.41 315 PKIKP **PKPdf** **14 18 55.9 -1.4**
AGG Agios Georgios 122.41 315 *e*P **PKPdf** **14 18 56.3 -1.0**
AGG Agios Georgios 122.41 315 P **PKPdf** **14 18 55.9 -1.4**
MOX Moxa 122.46 331 *e*PKPdf **PKPdf** **14 18 56.7 -0.3**
MOX *e*SKKSac SKKSac 14 26 56.5 +1.2
MOX *e*SS **SS** **14 36 47.3 +0.8**
VAM Vamos 122.46 310 P **PKPdf** **14 18 55.6 -1.9**
VAM Vamos 122.46 310 PKIKP **PKPdf** **14 18 55.6 -1.9**
VAM Vamos 122.46 310 *e*P **PKPdf** **14 18 56.1 -1.4**
VAM Vamos 122.46 310 P **PKPdf** **14 18 55.6 -1.9**
KHC Kasperske Hory 122.46 329 *e*PKIKP **PKPdf** **14 18 57.1 0.0**
KHC *e* 14 20 38.4
KHC *e* 14 25 17.8
KHC *e*SP SP 14 29 55.3 +3.6
KHC *e*SS **SS** **14 36 47.1 +0.4**
KHC MLR MLR
comp=Z,2μm,17.1s
KHC Kasperske Hory 122.46 329 *e*PKPdf **PKPdf** **14 18 57.1 0.0**
KHC *e*PP **PP** **14 20 38.4 -1.3**
KHC *e*SKP 14 21 54.5
KHC *e*SKS **SKSac** **14 25 17.8 +0.1**
KHC *e*SKKS **SKKSac** **14 26 56.4 +1.0**
KHC *e*PKKP **PKKPab** **14 28 53.5 -1.4**
KHC *e*SP **SP** **14 29 55.3 +3.6**
KHC *ex* x 14 31 13.6
KHC *e*SS **SS** **14 36 47.1 +0.4**
KHC AMS AMS 15 07 50.0
comp=Z,2μm,17.1s
KHC Kasperske Hory 122.46 329 *e*PKPdf **PKPdf** **14 18 57.0 -0.1**
KHC *e*PKKPbc **PKKPab** **14 28 53.9 -1.0**
PHP Peshkopia 122.51 319 P **PKPdf** **14 18 56.6 -0.9**
PHP Peshkopia 122.51 319 PKIKP **PKPdf** **14 18 56.6 -0.9**
PHP Peshkopia 122.51 319 P **PKPdf** **14 18 56.6 -0.9**
OHR Ohrid 122.54 318 *i* PKP **PKPdf** **14 18 56.1 -1.5**
MAKR Makrakomi, Fth 122.56 315 P **PKPdf** **14 18 56.6 -1.0**
MAKR Makrakomi, Fth 122.56 315 *e*P **PKPdf** **14 18 57.4 -0.2**
MAKR Makrakomi, Fth 122.56 315 P **PKPdf** **14 18 56.6 -1.0**
ARSA Arzberg 122.56 326 *i* PKiKP **PKPdf** **14 18 57.1 -0.3**
comp=Z,23nm,0.8s,SNR=12
GEC2 GERESS Array S 122.58 329 *e*PKIKP **PKPdf** **14 18 57.1 -0.3**
GEC2 GERESS Array S 122.58 329 *e*PKPdf **PKPdf** **14 18 56.9 -0.5**
GEC2 *ep*PKPdf **pPKPdf** **14 20 39.5 +0.2**
GEC2 *e*SKPdf **SKiKP** **14 21 55.4 +2.3**
GEC2 *e*SKKSac **SKKSac** **14 26 57.4 +1.1**
GEC2 *e*SS **SS** **14 36 49.8 +1.5**
GEC2 GERESS Array S 122.58 329 *e*PKPdf **PKPdf** **14 18 57.1 -0.3**
GEC2 *e*PKPdf **PKPdf** **14 18 57.5 0.0**
GEC2 *e*PKKPbc **PKKPab** **14 28 53.2 -1.3**
GEC2 *e*PKKPbc **PKKPbc** **14 28 53.4 -1.6**
GERES GERESS Array B 122.58 329 PKIKP **PKPdf** **14 18 57.4 0.0**
GERES GERESS Array B 122.58 329 PKP **PKPdf** **14 18 57.4 0.0**
comp=Z,49nm,0.6s,baz=72,slow=1.6,SNR=220

GERES PKKPbc **PKKPab** **14 28 53.8 -0.7**
comp=Z,3.0nm,0.5s,baz=211,slow=2.7,SNR=20
GERES GERESS Array B 122.58 329 PKP **PKPdf** **14 18 57.4 0.0**
GERES PKKPbc **PKKPab** **14 28 53.8 -0.7**
KOGS Kog 122.62 325 *e*PKPdf **PKPdf** **14 18 57.5 0.0**
KSPA Keystone Colle 122.65 42 *e*PKPdf **PKPdf** **14 18 57.7 +0.1**
KSPA *e*PKKPbc **PKKPab** **14 28 52.8 -1.3**
KARN Karanos 122.67 310 P **PKPdf** **14 18 57.8 -0.1**
KARN Karanos 122.67 310 *e*P **PKPdf** **14 18 58.5 +0.6**
KARN Karanos 122.67 310 P **PKPdf** **14 18 57.8 -0.1**
NEST Nestorio 122.69 317 P **PKPdf** **14 18 56.9 -1.0**
NEST Nestorio 122.69 317 *e*P **PKPdf** **14 18 57.9 0.0**
ROTZ Rotzenmuhle 122.75 330 *e*PKPdf **PKPdf** **14 18 57.4 -0.2**
ROTZ *ep*PKPdf **pPKPdf** **14 20 39.8 +0.4**
ROTZ *e*SKKSac SKKSac 14 26 59.1 +2.0
ROTZ *e*SS **SS** **14 36 52.8 +2.6**
UPM Unac-Piva 122.77 321||*i*PKP **PKPdf** **14 18 57.1 -1.0**
WET Wettzell 122.81 329 *e*PKPdf **PKPdf** **14 18 57.6 -0.2**
WET *e*SKPdf **SKiKP** **14 21 55.9 +2.4**
WET *e*SKKSac **SKKSac** **14 26 59.5 +1.9**
WET *e*SS **SS** **14 36 52.9 +1.8**
KALE Kalithea 122.81 314 P **PKPdf** **14 18 57.2 -1.0**
KALE Kalithea 122.81 314 *e*P **PKPdf** **14 18 58.8 +0.6**
KALE Kalithea 122.81 314 P **PKPdf** **14 18 57.2 -1.0**
EVR Evrytania 122.82 315 P **PKPdf** **14 18 57.5 -0.7**
EVR Evrytania 122.82 315 *e*P **PKPdf** **14 18 59.0 +0.8**
EVR Evrytania 122.82 315 P **PKPdf** **14 18 57.5 -0.7**
JTS JuntasAbangare 122.83 80 *i*PKIKP **PKPdf** **14 18 58.9 +0.1**
JTS JuntasAbangare 122.83 80 PKP **PKPdf** **14 18 59.0 +0.2**
comp=Z,62nm,0.5s,baz=268,slow=1.6,SNR=27
JTS pPKP **PP** **14 20 42.2 -1.6**
comp=Z,19nm,1.0s,baz=311,slow=3.1,SNR=3.3
JTS JuntasAbangare 122.83 80 PKP **PKPdf** **14 18 59.0 +0.2**
JTS pPKP **PP** **14 20 42.2 -1.6**
JTS LR LR
comp=Z,2μm,20.0s
NHSC New Hope 122.84 52 PFAKE 14 19 10.0 +12
NHSC LR LR
comp=Z,2μm,20.0s
MEV Metsovon 122.85 316 P **PKPdf** **14 18 58.5 +0.2**
MEV Metsovon 122.85 316 P **PKPdf** **14 18 58.5 +0.2**
GUR Goura 122.86 314 P **PKPdf** **14 18 57.6 -0.7**
GUR Goura 122.86 314 *e*P **PKPdf** **14 18 57.8 -0.5**
GUR Goura 122.86 314 P **PKPdf** **14 18 57.6 -0.7**
MOA Molln 122.89 328 *i* PKiKP **PKPdf** **14 18 57.7 -0.3**
comp=Z,22nm,0.5s,SNR=14
SDMD Soldier's Deli 122.90 44 *e*PKPdf **PKPdf** **14 18 58.0 -0.2**
NKY Niksic 122.91 320||*i*PKP **PKPdf** **14 18 58.3 0.0**
VLI Veliai 122.91 312 P **PKPdf** **14 18 59.0 +0.7**
VLI Veliai 122.91 312 *e*P **PKPdf** **14 18 58.0 -0.3**
VLI Veliai 122.91 312 P **PKPdf** **14 18 59.0 +0.7**
TTG Podgorica 122.93 320||*i*PKP **PKPdf** **14 18 58.7 +0.6**
KLV Kalavryta, Ach 122.95 314 P **PKPdf** **14 18 57.4 -1.0**
KLV Kalavryta, Ach 122.95 314 *e*P **PKPdf** **14 18 58.1 -0.3**
KLV Kalavryta, Ach 122.95 314 P **PKPdf** **14 18 57.4 -1.0**
NKME Niksic 122.95 320 *e*PKP **PKPdf** **14 18 57.6 -0.7**
EFP Efpalio 122.96 315 *e*P **PKPdf** **14 18 59.7 +1.4**
ANKY Antikythira Is 122.97 311 P **PKPdf** **14 18 58.2 -0.2**
ANKY Antikythira Is 122.97 311 *e*P **PKPdf** **14 18 58.3 -0.2**
ANKY Antikythira Is 122.97 311 P **PKPdf** **14 18 58.2 -0.2**
CSU Charleston Sou 122.97 52 *e*PKPdf **PKPdf** **14 18 58.6 +0.1**
CSU *e*PP **PP** **14 20 42.6 -1.3**
MVL Millersville 122.98 43 *e*PKPdf **PKPdf** **14 18 58.3 0.0**
MVL *e*PKKPbc PKKPbc 14 29 02.8 +10
KYTH Kithira 123.01 312 P **PKPdf** **14 18 57.4 -1.2**
KYTH Kithira 123.01 312 *e*P **PKPdf** **14 18 58.4 -0.2**
KYTH Kithira 123.01 312 P **PKPdf** **14 18 57.4 -1.2**
IBBN Ibbenburen 123.05 335 *e*PKPdf **PKPdf** **14 18 58.0 -0.1**
IBBN *ep*PKPdf **pPKPdf** **14 20 40.6 +0.7**
VLX Vlachokerasia 123.06 313 P **PKPdf** **14 18 58.2 -0.5**
VLX Vlachokerasia 123.06 313 *e*P **PKPdf** **14 18 59.5 +0.8**
VLX Vlachokerasia 123.06 313 P **PKPdf** **14 18 58.2 -0.5**
MDV Middlebury 123.08 38 *e*PKPdf **PKPdf** **14 18 58.3 -0.1**
DRME Dracevica, Mon 123.09 320||*i*PKP **PKPdf** **14 18 58.7 +0.2**
UBBA Unterbreizbach 123.10 332 *e*PKPdf **PKPdf** **14 18 57.9 -0.2**
UBBA *e*SKPdf **SKiKP** **14 21 56.7 +2.9**
UBBA *e*SKKSac **SKKSac** **14 27 00.8 +1.7**
UBBA *e*SS **SS** **14 36 55.0 +0.8**
ACCN Adirondack Com 123.10 39 *e*PKPdf **PKPdf** **14 18 58.4 -0.1**
ACCN *e*PP **PP** **14 20 44.0 -0.1**
ULC Ulcinj 123.17 319||*i*PKP **PKPdf** **14 18 58.4 -0.3**
JAN Janina 123.17 316 P **PKPdf** **14 18 58.5 -0.3**
JAN Janina 123.17 316 PKIKP **PKPdf** **14 18 58.5 -0.3**
JAN Janina 123.17 316 *e*P **PKPdf** **14 18 59.1 +0.3**
JAN Janina 123.17 316 P **PKPdf** **14 18 58.5 -0.3**
SOKA Soboth 123.17 326 *i* PKiKP **PKPdf** **14 18 58.3 -0.4**
comp=Z,37nm,0.7s,SNR=20
URVA University of 123.19 46 *e*PKPdf **PKPdf** **14 18 58.8 +0.1**
URVA *e*PKKPbc **PKKPbc** **14 28 52.7 +0.6**
BUM Brajici-Budva 123.22 320||*i*PKP **PKPdf** **14 18 59.9 +0.3**
DSL Palaion Diasel 123.23 316 P **PKPdf** **14 18 58.4 -0.5**
DSL Palaion Diasel 123.23 316 *e*P **PKPdf** **14 18 59.3 +0.4**
DSL Palaion Diasel 123.23 316 P **PKPdf** **14 18 58.4 -0.5**
GRF Grafenberg Arr 123.28 331 *e*PKPdf **PKPdf** **14 18 58.3 -0.4**
GRF *e*SKKSac SKKSac 14 27 02.1 +1.5
GRF *e*SS **SS** **14 36 59.4 +2.6**
GRFO Grafenberg 123.28 331 *e*PKIKP **PKPdf** **14 18 58.9 +0.3**
GRFO *e* 14 20 43.2
GRFO Grafenberg 123.28 331 *e*PKPdf **PKPdf** **14 18 58.9 +0.3**
GRFO *e*PP **PP** **14 20 43.1 -1.9**
DRO Drossia 123.30 314 P **PKPdf** **14 18 59.1 0.0**
DRO Drossia 123.30 314 *e*P **PKPdf** **14 19 00.2 +1.1**
LUPA Lehigh Univers 123.37 42 *e*PKPdf **PKPdf** **14 18 59.1 0.0**
PDO Prodromos 123.40 315 P **PKPdf** **14 18 58.5 -0.7**
PDO Prodromos 123.40 315 *e*P **PKPdf** **14 18 59.5 +0.3**
HCY Herceg Novi 123.41 320||*i*PKP **PKPdf** **14 18 58.7 -0.4**
RLS Riolos of Patr 123.43 314 P **PKPdf** **14 18 59.4 +0.1**
RLS Riolos of Patr 123.43 314 P **PKPdf** **14 18 59.4 +0.1**
TRY Troy 123.44 39 *e*PKPdf **PKPdf** **14 18 59.5 +0.3**
ITM Ithomi 123.47 313 P **PKPdf** **14 18 58.6 -0.8**
ITM Ithomi 123.47 313 *e*P **PKPdf** **14 18 59.0 -0.4**
ITM Ithomi 123.47 313 P **PKPdf** **14 18 58.6 -0.8**
AMT Artemida-Makis 123.48 314 P **PKPdf** **14 18 58.7 -0.7**
AMT Artemida-Makis 123.48 314 *e*P **PKPdf** **14 18 59.9 +0.5**
OBKA Obir 123.54 326⇑*i*PKiKP **PKPdf** **14 18 58.8 -0.6**
comp=Z,17nm,0.7s,SNR=10
ITZ Itezhi-Tezhi 123.56 249 *i* P **PKPdf** **14 19 00.7 +0.5**
IGT Igoumenitsa 123.58 316 P **PKPdf** **14 18 58.9 -0.6**
IGT Igoumenitsa 123.58 316 PKIKP **PKPdf** **14 18 58.9 -0.6**
IGT Igoumenitsa 123.58 316 *e*P **PKPdf** **14 18 59.3 -0.2**
IGT Igoumenitsa 123.58 316 P **PKPdf** **14 18 58.9 -0.6**
ODNJ Ogdensburg 123.65 42 *e*PKPdf **PKPdf** **14 18 59.3 -0.3**
ODNJ *e*PP **PP** **14 20 47.8 -0.1**
ODNJ *e*PKKPbc **PKKPbc** **14 28 51.5 +1.1**
LKD2 Lefkada island 123.69 315 P **PKPdf** **14 18 59.4 -0.4**
LKD2 Lefkada island 123.69 315 *e*P **PKPdf** **14 18 59.8 0.0**
LKD2 Lefkada island 123.69 315 P **PKPdf** **14 18 59.4 -0.4**
STON Ston 123.69 321 P **PKPdf** **14 18 58.9 -0.7**
WTSB Winterswijk 123.70 335 *e*PKP **PKPdf** **14 18 59.4 +0.1**
comp=Z,133nm,0.7s
WTSB *ep*PKP **pPKPdf** **14 20 41.8 +0.6**
LBNH Lisbon 123.71 37 *e*PKIKP **PKPdf** **14 18 59.1 -0.5**
LBNH MLR MLR
comp=Z,3μm,19.0s
LBNH Lisbon 123.71 37 *e*PKPdf **PKPdf** **14 18 59.1 -0.5**
LBNH LR LR
comp=Z,3μm,19.0s
PYL PYLOS 123.72 313 P **PKPdf** **14 18 58.6 -1.3**
PYL PYLOS 123.72 313 *e*P **PKPdf** **14 18 58.9 -1.0**
PYL PYLOS 123.72 313 P **PKPdf** **14 18 58.6 -1.3**
BOJS Bojanci 123.73 325 *i* PKPdf **PKPdf** **14 18 59.9 +0.2**
BOJS *ep*PKPdf **pPKPdf** **14 20 40.5 -1.0**
BOJS *e*PP **PP** **14 20 52.8 +4.6**
RJOB Jochberg 123.74 328

BRNJ	**Basking Ridge**	**123.86**	**42**	*e*PKPdf	**PKPdf**	**14 19 00.0**	**0.0**
KEK	**Kerkira**	**123.87**	**317**	P	**PKPdf**	**14 18 59.6**	**-0.5**
KEK	**Kerkira**	**123.87**	**317**	*e*P	**PKPdf**	**14 18 59.9**	**-0.2**
KEK	**Kerkira**	**123.87**	**317**	P	**PKPdf**	**14 18 59.6**	**-0.5**
BUG	**Bochum--Univer**	**123.88**	**334**	*e*PKPdf	**PKPdf**	**14 18 59.4**	**-0.3**
BUG				*ep*PKPdf	**pPKPdf**	**14 20 41.3**	**-0.2**
BUG				*e*SKKSac	SKKSac	14 27 05.5	+1.3
BUG				*e*SS	**SS**	**14 37 05.8**	**+1.7**
GORS	**Gorjuse**	**123.96**	**326**	*e*PKPdf	**PKPdf**	**14 18 59.7**	**-0.4**
GORS				*ep*PKPdf	**pPKPdf**	**14 20 41.1**	**-0.9**
GORS				*e*PP	**PP**	**14 20 53.5**	**+3.6**
MYKA	**Terra Mystica**	**123.97**	**327**	*i* PKiKP	**PKPdf**	**14 18 59.5**	**-0.6**
	comp=Z,41nm,0.6s,SNR=19						
UDBI	**Udbina**	**123.98**	**324**	P	**PKPdf**	**14 18 59.8**	**-0.4**
VLS	**Valsamata**	**124.00**	**315**	P	**PKPdf**	**14 19 00.0**	**-0.4**
VLS	**Valsamata**	**124.00**	**315**	PKIKP	**PKPdf**	**14 19 00.0**	**-0.4**
VLS	**Valsamata**	**124.00**	**315**	*e*P	**PKPdf**	**14 19 00.2**	**-0.2**
VLS	**Valsamata**	**124.00**	**315**	P	**PKPdf**	**14 19 00.0**	**-0.4**
PAL	**Palisades**	**124.14**	**41**	*e*PKIKP	**PKPdf**	**14 19 00.4**	**-0.1**
PAL	**Palisades**	**124.14**	**41**	*e*PKPdf	**PKPdf**	**14 19 00.4**	**-0.1**
TNS	**Taunus Mts**	**124.23**	**333**	*e*PKPdf	**PKPdf**	**14 19 00.3**	**-0.2**
TNS				*e*SKKSac	SKKSac	14 27 08.9	+2.2
TNS				*e*SS	**SS**	**14 37 12.0**	**+3.3**
FUR	**Furstenfeldbru**	**124.25**	**329**	*e*PKPdf	**PKPdf**	**14 19 00.4**	**-0.2**
FUR				*ep*PKPdf	**pPKPdf**	**14 20 41.7**	**-0.7**
FUR				*e*SKKSac	SKKSac	14 27 06.3	-0.6
FUR				*e*SS	**SS**	**14 37 10.4**	**+1.3**
TRI	**Trieste**	**124.45**	**326**	*e*PKIKP	**PKPdf**	**14 19 00.2**	**-0.8**
TRI	**Trieste**	**124.45**	**326**	*e*PKPdf	**PKPdf**	**14 19 00.2**	**-0.8**
NVLJ	**Novalja**	**124.49**	**324**	P	**PKPdf**	**14 19 00.9**	**-0.2**
QUA2	**Belchertown**	**124.50**	**39**	*e*PKPdf	**PKPdf**	**14 19 01.3**	**+0.1**
ABTA	**Abfaltersbach**	**124.51**	**327**	⇓*i* PKPdf	**PKPdf**	**14 19 00.1**	**-1.1**
	comp=Z,69nm,0.7s,SNR=28						
EKA	**Eskdalemuir Ar**	**124.53**	**343**	PKIKP	**PKPdf**	**14 19 00.9**	**+0.1**
EKA	**Eskdalemuir Ar**	**124.53**	**343**	PKPdf	**PKPdf**	**14 19 00.9**	**+0.1**
	comp=Z,8.2nm,0.4s,baz=13,slow=2.3,SNR=48						
EKA				PKKPbc	**PKKPab**	**14 28 44.5**	**-1.4**
	comp=Z,4.2nm,0.6s,baz=216,slow=3.6,SNR=20						
EKA	**Eskdalemuir Ar**	**124.53**	**343**	PKP	**PKPdf**	**14 19 00.9**	**+0.1**
EKA				PKKPbc	**PKKPab**	**14 28 44.5**	**-1.4**
ESK	**Eskdalemuir**	**124.55**	**343**	*i* PKIKP	**PKPdf**	**14 19 01.5**	**+0.6**
ESK	**Eskdalemuir**	**124.55**	**343**	*e*PKPdf	**PKPdf**	**14 19 01.0**	**+0.1**
ESK				LR	LR		
	comp=Z,2μm,19.0s						
YLE	**Yale**	**124.62**	**41**	*e*PKPdf	**PKPdf**	**14 19 01.5**	**+0.1**
WATA	**Walderalm**	**124.63**	**328**	⇑*i* PKiKP	**PKPdf**	**14 19 01.2**	**-0.3**
	comp=Z,58nm,0.5s,SNR=43						
WTTA	**Wattenberg**	**124.65**	**328**	*i* PKiKP	**PKPdf**	**14 19 01.6**	**0.0**
	comp=Z,60nm,0.4s,SNR=42						
PKME	**Peaks-Kenny Pk**	**124.67**	**35**	*e*PKPdf	**PKPdf**	**14 19 01.3**	**-0.1**
PKME				LR	LR		
	comp=Z,2μm,20.0s						
WVL	**Waterville**	**124.87**	**36**	*e*PKPdf	**PKPdf**	**14 19 01.5**	**-0.3**
MOTA	**Moosalm**	**124.87**	**329**	*i* PKiKP	**PKPdf**	**14 19 01.8**	**-0.2**
	comp=Z,76nm,0.5s,SNR=58						
HRV	**Adam Dziewonsk**	**124.88**	**39**	*e*PKIKP	**PKPdf**	**14 19 01.8**	**-0.1**
HRV	**Adam Dziewonsk**	**124.88**	**39**	*e*PKPdf	**PKPdf**	**14 19 01.8**	**-0.1**
STU	**Stuttgart**	**124.88**	**331**	*e*PKIKP	**PKPdf**	**14 19 01.7**	**0.0**
STU	**Stuttgart**	**124.88**	**331**	*e*PKPdf	**PKPdf**	**14 19 01.5**	**-0.2**
STU				*e*SKPdf	**SKiKP**	**14 21 59.8**	**+2.2**
STU				*e*SKKSac	**SKKSac**	**14 27 11.1**	**+0.3**
STU				*e*SS	**SS**	**14 37 18.9**	**+2.1**
STU	**Stuttgart**	**124.88**	**331**	*e*PKPdf	**PKPdf**	**14 19 01.7**	**0.0**
HGN	**Heimansgroeve**	**124.95**	**335**	*e*PKP	**PKPdf**	**14 19 01.9**	**+0.1**
	comp=Z,110nm,1.0s						
HGN				*e*PKP	PKiKP	14 19 20.3	+18
HGN				*ep*PKP	**pPKPdf**	**14 20 45.5**	**+1.9**
RETA	**Reutte**	**124.96**	**329**	⇑*i* PKiKP	**PKPdf**	**14 19 01.8**	**-0.2**
	comp=Z,19nm,0.4s,SNR=15						
MEM	**Membach**	**125.03**	**334**	PKP	**PKPdf**	14 19 01.9	-0.1
MEM	**Membach**	**125.03**	**334**	APKP	pPKPdf	14 20 44.5	+0.7
MEM	**Membach**	**125.03**	**334**	*e*PKIKP	**PKPdf**	**14 19 02.3**	**+0.3**
MEM	**Membach**	**125.03**	**334**	*e*PKPdf	**PKPdf**	**14 19 02.2**	**+0.3**
MEM				*e*PKKPbc	**PKKPbc**	**14 28 45.0**	**-0.4**
BEBN	**Eben Emael**	**125.04**	**335**	PKP	**PKPdf**	**14 19 02.2**	**+0.3**
WES	**Weston**	**125.09**	**39**	*e*PKIKP	**PKPdf**	**14 19 02.8**	**+0.5**
WES	**Weston**	**125.09**	**39**	*e*PKPdf	**PKPdf**	**14 19 02.8**	**+0.5**
BRYW	**Bryant College**	**125.21**	**39**	*e*PKPdf	**PKPdf**	**14 19 02.9**	**+0.3**
FETA	**Feichten**	**125.28**	**329**	⇓*i* PKiKP	**PKPdf**	**14 19 02.6**	**-0.2**
	comp=Z,124nm,1.0s,SNR=39						
LANF	**Langenberg**	**125.40**	**332**	PKP	**PKPdf**	**14 19 03.5**	**+0.8**
BCLA	**Clavier**	**125.48**	**335**	PKP	**PKPdf**	**14 19 02.9**	**+0.1**
BCLA				APKP	**pPKPdf**	**14 20 46.6**	**+1.9**
DAVA	**Damuels**	**125.54**	**329**	*i* PKiKP	**PKPdf**	**14 19 03.3**	**0.0**
	comp=Z,106nm,0.9s,SNR=22						
BFO	**Black Forest**	**125.60**	**331**	*i* PKIKP	**PKPdf**	**14 19 03.5**	**+0.3**
BFO	**Black Forest**	**125.60**	**331**	*e*PKPdf	**PKPdf**	**14 19 02.5**	**-0.7**
BFO				*ep*PKPdf	**pPKPdf**	**14 20 43.9**	**-1.1**
BFO				*e*SKKSac	SKKSac	14 27 15.4	0.0
BFO				*e*SS	**SS**	**14 37 19.7**	**-6.1**
BFO	**Black Forest**	**125.60**	**331**	*e*PKPdf	**PKPdf**	**14 19 03.1**	**-0.1**
BFO				LR	LR		
	comp=Z,2μm,19.0s						
WLF	**Walferdange**	**125.66**	**334**	PKP	**PKPdf**	**14 19 04.4**	**+1.2**
WLF				APKP	**pPKPdf**	**14 20 46.3**	**+1.3**
WLF	**Walferdange**	**125.66**	**334**	*e*PKIKP	**PKPdf**	**14 19 04.2**	**+1.0**
WLF	**Walferdange**	**125.66**	**334**	*e*PKPdf	**PKPdf**	**14 19 03.7**	**+0.5**
WLF				*ep*PKPdf	**pPKPdf**	**14 20 44.4**	**-0.6**
WLF				*e*SKKSac	SKKSac	14 27 17.9	+2.2
WLF				*e*SS	**SS**	**14 37 19.9**	**-6.5**
WLF	**Walferdange**	**125.66**	**334**	*e*PKPdf	**PKPdf**	**14 19 04.2**	**+1.0**
SNF	**Seneffe**	**125.84**	**335**	PKP	**PKPdf**	**14 19 04.2**	**+0.8**
SNF				APKP	**pPKPdf**	**14 20 46.1**	**+0.9**
DAVOX	**Davos/Dischmat**	**125.88**	**329**	PKIKP	**PKPdf**	**14 19 04.1**	**+0.1**
DAVOX						14 20 46.0	
DAVOX	**Davos/Dischmat**	**125.88**	**329**	PKP	**PKPdf**	**14 19 04.1**	**+0.1**
	comp=Z,59nm,0.4s,baz=135,slow=1.4,SNR=7.7						
DAVOX				pPKP	**pPKPdf**	**14 20 45.9**	**+0.2**
	comp=Z,14nm,0.9s,baz=3.8,slow=1.3,SNR=2.3						
DAVOX				PKKPbc	**PKKPab**	**14 28 40.8**	**+0.4**
	comp=Z,21nm,1.0s,baz=226,slow=4.8,SNR=13						
DAVOX	**Davos/Dischmat**	**125.88**	**329**	PKP	**PKPdf**	**14 19 04.1**	**+0.1**
DAVOX				pPKP	**pPKPdf**	**14 20 46.0**	**+0.2**
DAVOX				PKKPbc	**PKKPab**	**14 28 40.8**	**+0.4**
GIVF	**Givet**	**125.92**	**335**	*e*PKIKP	**PKPdf**	**14 19 04.2**	**+0.5**
	comp=Z,285nm,1.0s						
GIVF	**Givet**	**125.92**	**335**	*e*PKIKP	**PKPdf**	**14 19 04.2**	**+0.5**
GIVF	**Givet**	**125.92**	**335**	*e*PKPdf	**PKPdf**	**14 19 04.2**	**+0.5**
DOU	**Dourbes**	**126.02**	**335**	PKP	**PKPdf**	**14 19 04.4**	**+0.5**
DOU				APKP	**pPKPdf**	**14 20 46.3**	**+0.6**
CDF	**Champ du Feu**	**126.05**	**332**	*e*PKIKP	**PKPdf**	**14 19 04.0**	**-0.1**
	comp=Z,94nm,0.8s						
CDF	**Champ du Feu**	**126.05**	**332**	*e*PKIKP	**PKPdf**	**14 19 04.0**	**-0.1**
CDF	**Champ du Feu**	**126.05**	**332**	*e*PKPdf	**PKPdf**	**14 19 04.0**	**-0.1**
TIP	**Timpagrande**	**126.19**	**318**	P	**PKPdf**	**14 19 04.3**	**-0.3**
TIP	**Timpagrande**	**126.19**	**318**	P	**PKPdf**	**14 19 04.3**	**-0.3**
TIP				*e*PKPdf	**PKiKP**	**14 19 04.7**	**-0.4**
TIP				LR	LR		
	comp=Z,1μm,22.0s						
BAIF	**Baives**	**126.21**	**335**	*e*PKIKP	**PKPdf**	**14 19 04.8**	**+0.6**
	comp=Z,152nm,1.0s						
BAIF	**Baives**	**126.21**	**335**	*e*PKIKP	**PKPdf**	**14 19 04.8**	**+0.6**
BAIF	**Baives**	**126.21**	**335**	*e*PKPdf	**PKPdf**	**14 19 04.8**	**+0.6**
ECH	**Echery**	**126.24**	**332**	*e*PKIKP	**PKPdf**	**14 19 04.3**	**-0.1**
ECH	**Echery**	**126.24**	**332**	PKP	**PKPdf**	**14 19 04.4**	**0.0**
ECH	**Echery**	**126.24**	**332**	*e*PKPdf	**PKPdf**	**14 19 04.3**	**-0.1**
TUE	**Stuetta**	**126.36**	**329**	*e*PKPdf	**PKPdf**	**14 19 05.3**	**+0.4**
CUC	**Castrocucco**	**126.40**	**319**	*e*PKPdf	**PKPdf**	**14 19 03.7**	**-1.3**
CUC				LR	LR		
	comp=Z,1μm,20.0s						
MOF	**Molkenrain**	**126.51**	**331**	PKP	**PKPdf**	**14 19 05.3**	**+0.3**
PAGF	**Fort de Pagny**	**126.67**	**333**	*e*PKIKP	**PKPdf**	**14 19 05.6**	**+0.4**
	comp=Z,13nm,0.6s						
PAGF	**Fort de Pagny**	**126.67**	**333**	*e*PKPdf	**PKPdf**	**14 19 05.6**	**+0.4**
HINF	**Hinteralfeld**	**126.67**	**332**	*e*PKIKP	**PKPdf**	**14 19 05.3**	**+0.1**
	comp=Z,233nm,1.1s						
HINF	**Hinteralfeld**	**126.67**	**332**	*e*PKIKP	**PKPdf**	**14 19 05.3**	**+0.1**
HINF	**Hinteralfeld**	**126.67**	**332**	*e*PKPdf	**PKPdf**	**14 19 05.3**	**+0.1**
HAU	**Haudompre**	**126.77**	**332**	*e*PKIKP	**PKPdf**	**14 19 05.6**	**+0.2**
	comp=Z,162nm,0.7s						
HAU	**Haudompre**	**126.77**	**332**	*e*PKIKP	**PKPdf**	**14 19 05.6**	**+0.2**
HAU	**Haudompre**	**126.77**	**332**	*e*PKPdf	**PKPdf**	**14 19 05.6**	**+0.2**
THEF	**They Montfort**	**126.78**	**332**	PKP	**PKPdf**	**14 19 06.2**	**+0.8**
MEZF	**Maizieres J'vi**	**127.01**	**333**	*e*PKIKP	**PKPdf**	**14 19 06.5**	**+0.7**
	comp=Z,173nm,0.8s						
MEZF	**Maizieres J'vi**	**127.01**	**333**	*e*PKPdf	**PKPdf**	**14 19 06.5**	**+0.7**
LOMF	**Lomont**	**127.01**	**331**	PKP	**PKPdf**	**14 19 06.6**	**+0.6**
CEL	**Celeste**	**127.23**	**317**	*e*PKPdf	**PKPdf**	**14 19 05.9**	**-0.7**
SFTF	**Sexfontaines**	**127.23**	**333**	*e*PKIKP	**PKPdf**	**14 19 06.6**	**+0.3**
	comp=Z,44nm,0.5s						
SFTF	**Sexfontaines**	**127.23**	**333**	*e*PKPdf	**PKPdf**	**14 19 06.6**	**+0.3**
VLC	**Villacollemand**	**127.30**	**326**	PFAKE		14 19 20.0	+13
VLC				LR	LR		
	comp=Z,4μm,19.0s						
SENIN	**Lac Senin/Sane**	**127.47**	**330**	*e*PKPdf	**PKPdf**	**14 19 03.5**	**-3.6**
LCO	**Las Campanas**	**127.70**	**131**	*e*PKPdf	**PKPdf**	**14 19 08.6**	**+0.6**
LCO				LR	LR		
	comp=Z,2μm,22.0s						
DRLN	**Deer Lake**	**127.72**	**24**	*e*PKPdf	**PKPdf**	**14 19 07.0**	**-0.1**
CABF	**La Chapelle**	**127.89**	**331**	*e*PKIKP	**PKPdf**	**14 19 08.4**	**+0.7**
	comp=Z,169nm,0.8s						
CABF	**La Chapelle**	**127.89**	**331**	*e*PKIKP	**PKPdf**	**14 19 08.4**	**+0.7**
CABF	**La Chapelle**	**127.89**	**331**	*e*PKPdf	**PKPdf**	**14 19 08.4**	**+0.7**
BCIP	**Isla Barro Col**	**127.92**	**81**	*e*PKPdf	**PKPdf**	**14 19 08.6**	**+0.1**
BCIP				LR	LR		
	comp=Z,2μm,21.0s						
TRQA	**Tornquist**	**127.98**	**146**	*e*PKPdf	**PKPdf**	**14 19 08.0**	**-0.1**
TRQA				LR	LR		
	comp=Z,2μm,20.0s						
CFAA	**Coronel Fontan**	**128.10**	**135**	PKP	**PKPdf**	**14 19 08.7**	**+0.2**
	comp=Z,14nm,0.7s,baz=250,slow=2.7,SNR=31						
CFAA				pPKP	**pPKPdf**	**14 20 51.0**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=347,slow=1.7,SNR=2.2						
CFAA	**Coronel Fontan**	**128.10**	**135**	PKP	**PKPdf**	**14 19 08.7**	**+0.2**
CFAA				pPKP	**pPKPdf**	**14 20 51.0**	**+0.7**
RSL	**Roselend**	**128.28**	**330**	PKP	**PKPdf**	**14 19 08.9**	**+0.4**
LPL	**La Plagne**	**128.34**	**330**	*e*PKIKP	**PKPdf**	**14 19 09.1**	**+0.4**
	comp=Z,40nm,0.5s						
LPL	**La Plagne**	**128.34**	**330**	*e*PKIKP	**PKPdf**	**14 19 09.1**	**+0.4**
LPL	**La Plagne**	**128.34**	**330**	*e*PKPdf	**PKPdf**	**14 19 09.1**	**+0.4**
LPG	**La Plagne**	**128.34**	**329**	*e*PKIKP	**PKPdf**	**14 19 09.3**	**+0.5**
	comp=Z,59nm,0.5s						
LPG	**La Plagne**	**128.34**	**329**	*e*PKIKP	**PKPdf**	**14 19 09.3**	**+0.5**
LPG	**La Plagne**	**128.34**	**329**	*e*PKPdf	**PKPdf**	**14 19 09.3**	**+0.5**
ATAH	**Atahualpa**	**128.36**	**102**	PKP	**PKPdf**	**14 19 11.7**	**+1.8**
	comp=Z,171nm,0.9s,baz=285,slow=1.8,SNR=48						
ATAH				SKP		14 21 56.5	
	comp=Z,75nm,1.1s,baz=12,slow=1.0,SNR=4.8						
ATAH	**Atahualpa**	**128.36**	**102**	PKP	**PKPdf**	**14 19 11.7**	**+1.8**
ATAH				SKP		14 21 56.5	
LOR	**Lormes**	**128.46**	**333**	*e*PKIKP	**PKPdf**	**14 19 09.1**	**+0.5**
	comp=Z,118nm,0.8s						
LOR	**Lormes**	**128.46**	**333**	*e*PKIKP	**PKPdf**	**14 19 09.1**	**+0.5**
LOR	**Lormes**	**128.46**	**333**	*e*PKPdf	**PKPdf**	**14 19 09.1**	**+0.5**
BNI	**Bardonecchia**	**128.69**	**329**	*e*PKIKP	**PKPdf**	**14 19 09.6**	**+0.3**
BNI	**Bardonecchia**	**128.69**	**329**	*e*PKPdf	**PKPdf**	**14 19 09.6**	**+0.3**
SSF	**Saint Saulge**	**128.78**	**333**	*e*PKIKP	**PKPdf**	**14 19 09.7**	**+0.5**
	comp=Z,105nm,0.8s						
SSF	**Saint Saulge**	**128.78**	**333**	*e*PKIKP	**PKPdf**	**14 19 09.7**	**+0.5**
SSF	**Saint Saulge**	**128.78**	**333**	*e*PKPdf	**PKPdf**	**14 19 09.7**	**+0.5**
NNA	**Nana**	**128.84**	**108**	PKIKP	**PKPdf**	**14 19 11.2**	**+0.9**
NNA				MLR	MLR		
	comp=Z,2μm,21.0s						
NNA	**Nana**	**128.84**	**108**	PKP	**PKPdf**	**14 19 11.2**	**+0.9**
	comp=Z,99nm,0.9s,baz=264,slow=4.4,SNR=27						
NNA	**Nana**	**128.84**	**108**	PKP	**PKPdf**	**14 19 11.2**	**+0.9**
NNA				*e*PKPdf	**PKPdf**	**14 19 11.3**	**+0.9**
NNA				LR	LR		
	comp=Z,2μm,21.0s						
MBDF	**Montbardon**	**128.87**	**329**	*e*PKIKP	**PKPdf**	**14 19 11.4**	**+1.7**
	comp=Z,52nm,0.6s						
MBDF	**Montbardon**	**128.87**	**329**	*e*PKIKP	**PKPdf**	**14 19 11.4**	**+1.7**
MBDF	**Montbardon**	**128.87**	**329**	*e*PKPdf	**PKPdf**	**14 19 11.4**	**+1.7**
GDM	**Grand'Maison**	**128.87**	**330**	PKP	**PKPdf**	**14 19 10.5**	**+0.8**
SMF	**Signal de Mont**	**128.93**	**332**	*e*PKIKP	**PKPdf**	**14 19 09.9**	**+0.3**
SMF	**Signal de Mont**	**128.93**	**332**	*e*PKIKP	**PKPdf**	**14 19 09.9**	**+0.3**
SMF	**Signal de Mont**	**128.93**	**332**	*e*PKPdf	**PKPdf**	**14 19 09.9**	**+0.3**
SAOF	**Saorge**	**128.96**	**328**	PKP	**PKPdf**	**14 19 09.8**	**+0.1**
HYF	**Humbligny**	**129.01**	**334**	*e*PKIKP	**PKPdf**	**14 19 10.7**	**+1.0**
HYF	**Humbligny**	**129.01**	**334**	*e*PKPdf	**PKPdf**	**14 19 10.7**	**+1.0**
SURF	**Saint Ours**	**129.01**	**329**	PKP	**PKPdf**	**14 19 11.1**	**+1.1**
AUTN	**L'Aution**	**129.02**	**328**	PKP	**PKPdf**	**14 19 11.1**	**+1.0**
GRN	**Grenoble**	**129.03**	**330**	PKP	**PKPdf**	**14 19 10.8**	**+0.9**
AVF	**Avril sur Loir**	**129.05**	**333**	*e*PKIKP	**PKPdf**	**14 19 09.9**	**+0.2**
	comp=Z,31nm,0.6s						
AVF	**Avril sur Loir**	**129.05**	**333**	*e*PKIKP	**PKPdf**	**14 19 09.9**	**+0.2**
AVF	**Avril sur Loir**	**129.05**	**333**	*e*PKPdf	**PKPdf**	**14 19 09.9**	**+0.2**
MTDJ	**Mount Denham**	**129.08**	**69**	PFAKE		14 19 20.0	+9.3
MTDJ				LR	LR		
	comp=Z,2μm,20.0s						
PGF	**Pioggiola**	**129.10**	**325**	*e*PKIKP	**PKPdf**	**14 19 10.0**	**-0.1**
	comp=Z,120nm,0.5s						
PGF	**Pioggiola**	**129.10**	**325**	*e*PKIKP	**PKPdf**	**14 19 10.0**	**-0.1**
PGF	**Pioggiola**	**129.10**	**325**	*e*PKPdf	**PKPdf**	**14 19 10.0**	**-0.1**
TOUF	**Mont Tournerai**	**129.10**	**328**	PKP	**PKPdf**	**14 19 10.7**	**+0.5**
SBF	**Sospel**	**129.10**	**328**	*e*PKIKP	**PKPdf**	**14 19 09.9**	**-0.1**
	comp=Z,146nm,0.7s						
SBF	**Sospel**	**129.10**	**328**	*e*PKIKP	**PKPdf**	**14 19 09.9**	**-0.1**
SBF	**Sospel**	**129.10**	**328**	*e*PKPdf	**PKPdf**	**14 19 09.9**	**-0.1**
LDF	**La Druitiere**	**129.13**	**337**	*e*PKIKP	**PKPdf**	**14 19 10.0**	**+0.2**
	comp=Z,52nm,0.7s						
LDF	**La Druitiere**	**129.13**	**337**	*e*PKIKP	**PKPdf**	**14 19 10.0**	**+0.2**
LDF	**La Druitiere**	**129.13**	**337**	*e*PKPdf	**PKPdf**	**14 19 10.0**	**+0.2**
FLN	**La Foliniere**	**129.13**	**337**	*e*PKIKP	**PKPdf**	**14 19 09.9**	**+0.1**
	comp=Z,128nm,0.7s						
FLN	**La Foliniere**	**129.13**	**337**	*e*PKIKP	**PKPdf**	**14 19 09.9**	**+0.1**
FLN	**La Foliniere**	**129.13**	**337**	*e*PKPdf	**PKPdf**	**14 19 09.9**	**+0.1**
ORIF	**Oris-en-Rattie**	**129.19**	**330**	*e*PKIKP	**PKPdf**	**14 19 10.8**	**+0.6**
	comp=Z,89nm,0.6s						
ORIF	**Oris-en-Rattie**	**129.19**	**330**	*e*PKIKP	**PKPdf**	**14 19 10.8**	**+0.6**
ORIF	**Oris-en-Rattie**	**129.19**	**330**	*e*PKPdf	**PKPdf**	**14 19 10.8**	**+0.6**
OTAV	**Otavalo**	**129.21**	**92**	*e*PKPdf	**PKPdf**	**14 19 11.9**	**+0.3**
REVF	**Revere**	**129.22**	**327**	PKP	**PKPdf**	**14 19 10.9**	**+0.7**
MVIF	**Mont Vial**	**129.23**	**328**	PKP	**PKPdf**	**14 19 10.7**	**+0.3**
WDD	**Wield Dalam**	**129.37**	**315**	PFAKE		14 19 20.0	+9.3
WDD				LR	LR		
	comp=Z,1μm,20.0s						
VAL	**Valentia**	**129.45**	**346**	⇓*i P*	SKPbc	14 21 53.5	+1.3
BGF	**Bois d'Agland**	**129.46**	**333**	*e*PKIKP	**PKPdf**	**14 19 10.9**	**+0.4**
	comp=Z,156nm,0.7s						
BGF	**Bois d'Agland**	**129.46**	**333**	*e*PKIKP	**PKPdf**	**14 19 10.9**	**+0.4**
BGF	**Bois d'Agland**	**129.46**	**333**	*e*PKPdf	**PKPdf**	**14 19 10.9**	**+0.4**
CALN	**Calern**	**129.47**	**328**	PKP	**PKPdf**	**14 19 10.5**	**-0.3**
OG25	**Le Caire**	**129.47**	**329**	PKP	**PKPdf**	**14 19 11.5**	**+0.7**
PLDF	**La Plantade**	**129.54**	**332**	PKP	**PKPdf**	**14 19 11.9**	**+1.1**
GRR	**Gorron**	**129.59**	**337**	*e*PKIKP	**PKPdf**	**14 19 10.3**	**-0.4**
	comp=Z,82nm,0.7s						
GRR	**Gorron**	**129.59**	**337**	*e*PKIKP	**PKPdf**	**14 19 10.3**	**-0.4**
GRR	**Gorron**	**129.59**	**337**	*e*PKPdf	**PKPdf**	**14 19 10.3**	**-0.4**
SSB	**Saint Sauveur**	**129.60**	**331**	*e*PKIKP	**PKPdf**	**14 19 10.9**	**0.0**
SSB				MLR	MLR		
	comp=Z,2μm,21.0s						
SSB	**Saint Sauveur**	**129.60**	**331**	PKP	**PKPdf**	**14 19 12.1**	**+1.2**
SSB	**Saint Sauveur**	**129.60**	**331**	PKP	**PKPdf**	**14 19 12.7**	**+1.8**
SSB	**Saint Sauveur**	**129.60**	**331**	*e*PKPdf	**PKPdf**	**14 19 10.9**	**0.0**
SSB				LR	LR		
	comp=Z,2μm,21.0s						
AGO	**Saint Agoulin**	**129.70**	**332**	PKP	**PKPdf**	**14 19 12.0**	**+1.0**
OG26	**St.-Nazaire-De**	**129.72**	**330**	PKP	**PKPdf**	**14 19 12.3**	**+1.1**
FRF	**La Foret Royal**	**129.73**	**328**	*e*PKIKP	**PKPdf**	**14 19 11.0**	**-0.1**
FRF	**La Foret Royal**	**129.73**	**328**	*e*PKIKP	**PKPdf**	**14 19 11.0**	**-0.1**
FRF	**La Foret Royal**	**129.73**	**328**	*e*PKPdf	**PKPdf**	**14 19 11.0**	**-0.1**
VIVF	**Saint-Julien-l**	**129.84**	**330**	*e*PKIKP	**PKPdf**	**14 19 11.6**	**+0.2**
	comp=Z,81nm,0.9s						
VIVF	**Saint-Julien-l**	**129.84**	**330**	*e*PKIKP	**PKPdf**	**14 19 11.6**	**+0.2**
VIVF	**Saint-Julien-l**	**129.84**	**330**	*e*PKPdf	**PKPdf**	**14 19 11.6**	**+0.2**
TCF	**Toulx Ste Croi**	**129.95**	**333**	*e*PKIKP	**PKPdf**	**14 19 13.1**	**+1.6**
	comp=Z,148nm,0.8s						
TCF	**Toulx Ste Croi**	**129.95**	**333**	*e*PKIKP	**PKPdf**	**14 19 13.1**	**+1.6**
TCF	**Toulx Ste Croi**	**129.95**	**333**	*e*PKPdf	**PKPdf**	**14 19 13.1**	**+1.6**
LMR	**La Mourre**	**129.96**	**328**	*e*PKIKP	**PKPdf**	**14 19 11.6**	**0.0**
	comp=Z,128nm,0.8s						
LMR	**La Mourre**	**129.96**	**328**	*e*PKIKP	**PKPdf**	**14 19 11.6**	**0.0**
LMR	**La Mourre**	**129.96**	**328**	*e*PKPdf	**PKPdf**	**14 19 11.6**	**0.0**
PYM	**Petit Puy Mans**	**129.99**	**332**	PKP	**PKPdf**	**14 19 12.5**	**+0.8**
SMRF	**Simiane la Rot**	**130.01**	**329**	*e*PKIKP	**PKPdf**	**14 19 12.7**	**+1.0**
	comp=Z,144nm,0.9s						
SMRF	**Simiane la Rot**	**130.01**	**329**	*e*PKPdf	**PKPdf**	**14 19 12.7**	**+1.0**
TSUM	**Tsumeb**	**130.12**	**241**	PKhKP	PKPpre	14 18 57.0	
	comp=Z,3.8nm,0.6s,baz=51,slow=2.6,SNR=4.6						
TSUM				PKP	**PKiKP**	**14 19 13.4**	**-0.2**
	comp=Z,25nm,0.7s,baz=108,slow=3.0,SNR=15						
TSUM				SKP		14 21 58.0	
	comp=Z,62nm,1.2s,baz=99,slow=3.8,SNR=9.8						
TSUM	**Tsumeb**	**130.12**	**241**	*e*PKPdf	**PKPdf**	**14 19 12.6**	**-0.1**
TSUM				PKP	**PKiKP**	**14 19 13.4**	**-0.2**
TSUM				SKP		14 21 58.0	
LBL	**Lubilhac**	**130.26**	**332**	PKP	**PKPdf**	**14 19 13.5**	**+1.3**
SGMF	**Saint Gilles**	**130.34**	**338**	*e*PKIKP	**PKPdf**	**14 19 12.1**	**0.0**
	comp=Z,76nm,0.7s						
SGMF	**Saint Gilles**	**130.34**	**338**	*e*PKIKP	**PKPdf**	**14 19 12.1**	**0.0**
SGMF	**Saint Gilles**	**130.34**	**338**	*e*PKPdf	**PKPdf**	**14 19 12.1**	**0.0**
ROSF	**Rostrenen**	**130.54**	**339**	*e*PKIKP	**PKPdf**	**14 19 13.9**	**+1.4**
	comp=Z,53nm,0.7s						
ROSF	**Rostrenen**	**130.54**	**339**	*e*PKIKP	**PKPdf**	**14 19 13.9**	**+1.4**
ROSF	**Rostrenen**	**130.54**	**339**	*

CELP			*e*PP	**PP**	**14 22 28.6**	**+0.2**
PCBR	**Castelo Branco**	**139.33 336**	PKPdf	**PKPdf**	**14 19 30.1**	**+1.0**
PCBR	**Castelo Branco**	**139.33 336**	*e*PKP	pPKPdf	14 21 11.9	+0.8
PCBR	**Castelo Branco**	**139.33 336**	*e*PP	PP	14 22 27.4	+0.2
PCBR			*i* P		14 23 58.6	
ICMP	**Isla Caja de M**	**139.35 66**	*e*PKPdf	**PKPdf**	**14 19 30.1**	**+0.3**
PCAS	**Casmilo, Conde**	**139.55 337**	PKPdf	**PKPdf**	**14 19 29.6**	**0.0**
PCAS	**Casmilo, Conde**	**139.55 337**	*e*PKP	pPKPdf	14 21 10.8	-0.7
PCAS	**Casmilo, Conde**	**139.55 337**	*e*PP	PP	14 22 25.8	-2.8
PCAS			*i* P		14 24 00.2	
SJG	**San Juan**	**139.63 66**	*e*PKIKP	**PKPdf**	**14 19 30.6**	**+0.4**
SJG					14 22 28.1	
SJG	**San Juan**	**139.63 66**	SKP	**SKPbc**	**14 22 28.1**	**+2.3**
comp=Z,123nm,1.1s,baz=296,slow=3.5,SNR=5.1						
SJG	**San Juan**	**139.63 66**	*e*PKPdf	**PKPdf**	**14 19 30.6**	**+0.4**
SJG			SKP		14 22 28.1	
PMRV	**Marv??o**	**139.64 335**	*e*PKPdf	**PKPdf**	**14 19 30.0**	**+0.2**
PMRV	**Marv??o**	**139.64 335**	*e*PKP	pPKPdf	14 21 09.4	-2.3
PMRV	**Marv??o**	**139.64 335**	*e*PP	PP	14 22 26.9	-2.3
CBYP	**Canovanas**	**139.85 66**	*e*PKPdf	**PKPdf**	**14 19 30.8**	**0.0**
PTOM	**Tomar**	**139.89 337**	PKPdf	**PKPdf**	**14 19 31.0**	**+0.8**
PTOM	**Tomar**	**139.89 337**	*e*PKP	pPKPdf	14 21 14.8	+2.7
PTOM	**Tomar**	**139.89 337**	*e*PP	PP	14 22 27.6	-3.0
MTP	**Monte Pirata**	**140.18 66**	*e*PKPdf	**PKPdf**	**14 19 30.4**	**-0.9**
PESTR	**Estremoz**	**140.20 335**	*e*PKPdf	**PKPdf**	**14 19 31.0**	**+0.2**
PESTR	**Estremoz**	**140.20 335**	*e*PKP	pPKPdf	14 21 11.1	-1.6
PESTR	**Estremoz**	**140.20 335**	*e*PP	PP	14 22 27.4	-5.2
PESTR			*i* P		14 24 02.2	
PMTG	**Montargil**	**140.29 336**	*e*PKPdf	**PKPdf**	**14 19 29.8**	**-1.1**
PMTG	**Montargil**	**140.29 336**	*e*PKP	pPKPdf	14 21 11.3	-1.6
PMTG	**Montargil**	**140.29 336**	*e*PP	PP	14 22 27.7	-5.4
PMTG			*i* P		14 24 01.5	
PBAR	**Barrancos**	**140.54 334**	PKPdf	PKPdf	14 19 23.5	-7.9
PBAR	**Barrancos**	**140.54 334**	*e*PKP	pPKPdf	14 21 05.5	-7.8
PBAR	**Barrancos**	**140.54 334**	*e*PP	PP	14 22 29.0	-5.7
PBAR			*i* P		14 24 04.4	
STVI	**Saint Thomas**	**140.64 65**	*e*PKPdf	**PKPdf**	**14 19 32.8**	**+0.7**
EVO	**Evora**	**140.66 335**	*e*PKIKP	**PKPdf**	**14 19 27.0**	**-4.6**
comp=Z,57nm,0.8s						
EVO	**Evora**	**140.66 335**	PKPdf	PKPdf	14 19 25.3	-6.3
EVO	**Evora**	**140.66 335**	*e*PKP	pPKPdf	14 21 06.8	-6.7
EVO	**Evora**	**140.66 335**	*e*PP	PP	14 22 29.6	-5.7
EVO			*i* P		14 24 07.2	
EVOP	**Sao Brissos**	**140.71 335**	*e*PKPdf	**PKPdf**	**14 19 27.0**	**-4.7**
PMAFR	**Mafra**	**140.81 337**	PKPdf	**PKPdf**	**14 19 28.5**	**-3.4**
PMAFR	**Mafra**	**140.81 337**	*e*PKP	pPKPdf	14 21 09.1	-4.7
PMAFR	**Mafra**	**140.81 337**	*e*PP	PP	14 22 35.2	-1.0
PMAFR			*i* P		14 24 06.6	
LIS	**Lisbon**	**140.96 337**	*e*P	**PKPdf**	**14 19 27.4**	**-4.7**
LIS			AMS	AMS	15 21 37.7	
comp=Z,2μm,18.4s						
LIS	**Lisbon**	**140.96 337**	*e*P	**PKPdf**	**14 19 27.4**	**-4.7**
LIS	**Lisbon**	**140.96 337**	A	A	15 21 37.7	
comp=Z,2μm,18.4s						
LIS	**Lisbon**	**140.96 337**	*e*PKHKP	PKPpre	14 19 27.3	
CDVI	**St. Croix**	**140.99 66**	*e*PKPdf	**PKPdf**	**14 19 32.8**	**+0.1**
PNCL	**Nicolau / Gran**	**141.23 336**	PKPdf	PKPdf	14 19 26.8	-5.8
PNCL	**Nicolau / Gran**	**141.23 336**	*e*PKP	pPKPdf	14 21 13.8	-0.8
PNCL	**Nicolau / Gran**	**141.23 336**	*e*PP	PP	14 22 31.2	-7.5
PNCL			*i* P		14 24 07.9	
MESJ	**Messejana**	**141.33 335**	*e*P	**PKPdf**	**14 19 27.9**	**-4.9**
MESJ			AMS	AMS	14 57 03.0	
comp=Z,2μm,24.7s						
MESJ	**Messejana**	**141.33 335**	PKPdf	PKPdf	14 19 26.9	-5.9
MESJ	**Messejana**	**141.33 335**	*e*PKP	**pPKPdf**	**14 21 14.4**	**-0.4**
MESJ			*i* P		14 24 07.7	
MESJ	**Messejana**	**141.33 335**	*e*PKHKP	PKPpre	14 19 27.9	
PVAQ	**Vaqueiros**	**141.48 334**	PKPdf	PKPdf	14 19 27.7	-5.4
PVAQ	**Vaqueiros**	**141.48 334**	*e*PKP	pPKPdf	14 21 14.9	-0.2
PVAQ	**Vaqueiros**	**141.48 334**	*e*PP	PP	14 22 32.0	-8.3
PVAQ			*i* P		14 24 10.4	
PBDV	**Barranco-do-Ve**	**141.71 334**	PKPdf	PKPdf	14 19 28.1	-5.5
PBDV	**Barranco-do-Ve**	**141.71 334**	*e*PKP	pPKPdf	14 21 15.7	+0.2
PBDV	**Barranco-do-Ve**	**141.71 334**	*e*PP	PP	14 22 32.5	-9.2
PBDV			*i* P		14 24 12.6	
PTEO	**Sao Teotonio**	**141.79 335**	PKPdf	PKPdf	14 19 27.4	-6.2
PTEO	**Sao Teotonio**	**141.79 335**	*e*PKP	pPKPdf	14 21 16.8	+1.2
PTEO	**Sao Teotonio**	**141.79 335**	*e*PP	PP	14 22 33.0	-9.1
PTEO			*i* P		14 24 16.0	
SIV	**San Ignacio**	**141.81 121**	PKhKP	PKPpre	14 19 29.7	
comp=Z,62nm,0.6s,baz=247,slow=3.3,SNR=72						
SIV	**San Ignacio**	**141.81 121**	PKPpre	PKPpre	14 19 29.7	
MORF	**Marmelete**	**141.96 335**	*e*P	**PKPdf**	**14 19 29.9**	**-4.1**
MORF			AMS	AMS	15 26 26.0	
comp=Z,2μm,24.7s						
MORF	**Marmelete**	**141.96 335**	*e*PKPdf	**PKPdf**	**14 19 29.4**	**-4.6**
MORF	**Marmelete**	**141.96 335**	*e*PKP	pPKPdf	14 21 14.8	-1.2
MORF	**Marmelete**	**141.96 335**	*e*PP	PP	14 22 18.9	-24
MORF			*i* P		14 24 11.4	
MORF	**Marmelete**	**141.96 335**	*e*PKHKP	PKPpre	14 19 29.9	
PFVI	**Vila Bisbo**	**142.18 335**	*e*PKPdf	**PKPdf**	**14 19 29.6**	**-4.8**
PFVI	**Vila Bisbo**	**142.18 335**	*e*PKP	pPKPdf	14 21 15.2	-1.1
PFVI	**Vila Bisbo**	**142.18 335**	*e*PP	PP	14 22 34.7	-10
PFVI			*i* P		14 24 14.1	
SABA	**Saba**	**142.42 65**	*e*P	**PKPdf**	**14 19 31.4**	**-3.9**
SABA	**Saba**	**142.42 65**	*e*PKPdf	**PKPdf**	**14 19 33.7**	**-1.6**
SMRT	**St. Maarten**	**142.43 65**	*e*P	PKPpre	14 19 31.1	
SMRT	**St. Maarten**	**142.43 65**	*e*PKPpre	PKPpre	14 19 31.0	
TAM	**Tamanrasset**	**142.47 304**	*e*PKIKP	**PKPdf**	**14 19 34.9**	**-0.6**
TAM	**Tamanrasset**	**142.47 304**	*e*PKPdf	**PKPdf**	**14 19 34.9**	**-0.6**
SAML	**Samuel**	**142.59 109**	*e*PKPdf	**PKPdf**	**14 19 34.6**	**-1.1**
SEUS	**St. Eustatius**	**142.69 65**	*e*PKPdf	**PKPdf**	**14 19 34.5**	**-1.3**
MDT	**Midelt**	**143.58 326**	PKP	PKPbc	14 19 35.9	+0.6
MDT	**Midelt**	**143.58 326**	PKP	PKPbc	14 19 35.9	+0.5
ANWB	**Willy Bob**	**143.72 64**	*e*P	PKPab	14 19 35.3	-0.6
ANWB	**Willy Bob**	**143.72 64**	*e*PKPdf	PKPab	14 19 35.6	-0.3
RTC	**Rabat Centre**	**143.86 330**	*e*PKPdf	**PKPdf**	**14 19 37.6**	**+0.2**
H07S1	**FLORES T-PHASB**	**144.02 5**	*e*PKP	**PKPdf**	**14 19 37.8**	**+0.2**
H07S1	**FLORES T-PHASB**	**144.02 5**	PKP	**PKPdf**	**14 19 37.1**	**-0.5**
SNR=30						
MLG	**Mont-d'or**	**144.28 67**	*e*P	PKPbc	14 19 37.8	-0.2
SSG	**Sans Toucher**	**144.30 67**	*e*P	PKPbc	14 19 38.0	-0.1
FNG	**Fond-Bernard**	**144.30 67**	*e*P	PKPbc	14 19 38.1	0.0
HMG	**Houelmont**	**144.31 67**	*e*P	**PKPab**	**14 19 38.2**	**0.0**
SCG	**Saint Claude**	**144.32 67**	*e*P	**PKPab**	**14 19 38.4**	**+0.1**
CRG	**Carmichael**	**144.33 67**	*e*P	**PKPab**	**14 19 38.5**	**+0.1**
LKG	**Breislack**	**144.34 67**	*e*P	**PKPab**	**14 19 38.6**	**+0.2**
ECG	**Echelle**	**144.34 67**	*e*P	PKPbc	14 19 37.9	-0.4
PHG	**Guadaloupe-2**	**144.36 67**	*e*P	**PKPab**	**14 19 38.6**	**+0.2**
SEG	**Port Louis**	**144.37 66**	*e*P	PKPbc	14 19 37.8	-0.4
DOG	**Dongo Capester**	**144.38 67**	*e*P	PKPbc	14 19 38.3	0.0
TBG	**Guadaloupe-3**	**144.40 67**	*e*P	**PKPab**	**14 19 38.5**	**0.0**
PGRA	**Graciosa**	**144.51 0**	*e*PKP	**PKPdf**	**14 19 39.7**	**+1.3**
BBL	**Barber's Block**	**144.66 68**	*e*P	PKPbc	14 19 39.0	-0.2
MGG	**Marie-Galante**	**144.69 67**	*e*P	PKPbc	14 19 39.0	-0.2
DEG	**La Desirade**	**144.80 66**	*e*P	**PKPdf**	**14 19 39.6**	**0.0**
H05N1	**Guadeloupe/Mar**	**144.81 66**	PKPbc	**PKPab**	**14 19 39.8**	**-0.2**
SNR=234						
ROSA	**Rosais**	**144.82 1**	*e*PKP	**PKPdf**	**14 19 38.8**	**-0.1**
DSHT	**Scott's Head**	**144.83 68**	*e*	**PKPab**	**14 19 41.3**	**+1.2**
ADH	**Angra Heroismo**	**144.88 359**	*e*PKP	**PKPab**	**14 19 40.7**	**+1.1**
PCED	**Cedros**	**144.90 1**	*e*PKP	**PKPab**	**14 19 40.4**	**+0.7**
PMAN	**Manadas**	**144.91 1**	*e*PKP	**PKPab**	**14 19 41.0**	**+1.3**
DLPL	**La Plaine**	**144.92 68**	*e*P	PKPbc	14 19 40.1	+0.1
DLPL	**La Plaine**	**144.92 68**	*e*	PKPbc	14 19 40.2	+0.2
TOPO	**Topo**	**144.95 0**	*e*PKP	**PKPdf**	**14 19 38.8**	**-0.4**
PICO	**Pico**	**145.03 1**	*e*PKP	**PKPab**	**14 19 40.1**	**-0.2**
PCAN	**Candelaria**	**145.07 1**	*e*PKP	**PKPdf**	**14 19 38.4**	**-1.0**
SVN	**Savane Anatole**	**145.13 69**	*e*P	**PKPab**	**14 19 41.6**	**+0.3**
FDF	**Fort de France**	**145.17 69**	*e*PKP2	**PKPbc**	**14 19 40.6**	**-0.2**
FDF	**Fort de France**	**145.17 69**	*e*P	**PKPbc**	**14 19 40.9**	**+0.1**
FDF	**Fort de France**	**145.17 69**	*e*P	**PKPab**	**14 19 41.5**	**0.0**
FDF	**Fort de France**	**145.17 69**	*e*PKPdf	**PKPbc**	**14 19 40.5**	**-0.2**
GRW	**Mount Saint Ca**	**145.30 74**	*e*	**PKPdf**	**14 19 38.7**	**-1.8**
BIM	**Bigot**	**145.30 69**	*e*P	**PKPab**	**14 19 42.2**	**+0.2**
GRGR	**Grenville**	**145.31 74**	*e*P	**PKPdf**	**14 19 38.6**	**-1.8**
GRGR	**Grenville**	**145.31 74**	*e*PKPdf	**PKPbc**	**14 19 41.3**	**+0.1**
GRGR			LR	LR		
comp=Z,1μm,21.0s						
TRMF	**Trois Ilets**	**145.32 69**	*e*P	**PKPab**	**14 19 42.7**	**+0.7**
ZAM	**Aeronautique**	**145.33 69**	*e*P	**PKPab**	**14 19 41.8**	**-0.2**
LPMF	**Morne Lapointe**	**145.39 69**	*e*P	**PKPbc**	**14 19 41.5**	**+0.2**
SVB	**Belmont**	**145.44 71**	*e*P	**PKPdf**	**14 19 40.3**	**-0.3**
SVB	**Belmont**	**145.44 71**	*e*	**PKPdf**	**14 19 40.6**	**-0.1**
MVM	**Montagne Vauci**	**145.46 69**	*e*P	**PKPbc**	**14 19 41.8**	**+0.2**
SVV	**Soufriere Volc**	**145.47 71**	*e*	**PKPbc**	**14 19 41.7**	**+0.1**
FCV	**Fort Charlotte**	**145.48 72**	*e*	**PKPbc**	**14 19 41.2**	**-0.5**
SSV	**Crater Summit**	**145.49 71**	*e*	**PKPbc**	**14 19 42.0**	**+0.2**
H05S1	**Guadeloupe/Mar**	**145.55 69**	PKPbc	**PKPbc**	**14 19 42.3**	**+0.5**
SNR=201						
MCLT	**Moule a Chique**	**145.63 71**	*e*	**PKPdf**	**14 19 41.4**	**+0.4**
PSET	**Sete Cidades**	**145.67 357**	*e*PKP	**PKPdf**	**14 19 39.9**	**-0.5**
BART	**Pico Bartolome**	**145.68 356**	*e*PKP	**PKPbc**	**14 19 41.8**	**+0.1**
TRN	**Trinidad (W)**	**145.82 76**	*e*	**PKPbc**	**14 19 42.2**	**-0.5**
TBH	**Brigand Hill**	**146.18 76**	*e*	**PKPbc**	**14 19 43.3**	**-0.5**
TPR	**Prospect**	**146.34 75**	*e*	**PKPbc**	**14 19 43.9**	**-0.3**
BOT	**Bacolet**	**146.40 75**	*e*	**PKPbc**	**14 19 44.4**	**+0.1**
PSMN	**Pico do Norte,**	**146.44 356**	*e*PKP	**PKPdf**	**14 19 40.6**	**-1.2**
PSMA	**Santa Maria**	**146.46 356**	*e*PKP	**PKPdf**	**14 19 40.8**	**-0.9**
TOSP	**Speyside**	**146.55 75**	*e*	**PKPdf**	**14 19 43.4**	**+1.0**
TOSP	**Speyside**	**146.55 75**	*e*P	**PKPbc**	**14 19 43.8**	**-0.9**
BBGH	**Gun Hill**	**147.07 71**	*e*PKPdf	**PKPdf**	**14 19 43.3**	**-0.1**
BBGH			*e*PKPab	**PKPab**	**14 19 49.4**	**+0.5**
BBGH			LR	LR		
comp=Z,3μm,22.0s						
PTGA	**Pitinga**	**147.51 97**	PKP	**PKPdf**	**14 19 44.4**	**+0.2**
comp=Z,422nm,0.9s,baz=275,slow=8.5,SNR=43						
PTGA			PKPbc	**PKPbc**	**14 19 47.7**	**+0.3**
comp=Z,546nm,0.8s,baz=258,slow=4.1,SNR=117						
PTGA	**Pitinga**	**147.51 97**	PKP	**PKPdf**	**14 19 44.4**	**+0.2**
PTGA			PKPbc	**PKPbc**	**14 19 47.7**	**+0.3**
PMOZ	**Porto Moniz, M**	**149.09 343**	*e*PKPdf	**PKPdf**	**14 19 44.4**	**-1.9**
PMOZ	**Porto Moniz, M**	**149.09 343**	*e*PKP		14 21 32.1	
PMAR	**Madeira**	**149.10 342**	PKPdf	**PKPbc**	**14 19 52.2**	**+1.1**
PMAR	**Madeira**	**149.10 342**	*e*PKP		14 21 34.7	
TOA0	**Torodi Ar. Sit**	**149.35 290**	*e*PKPdf	**PKPdf**	**14 19 46.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**149.35 290**	PKP	**PKPdf**	**14 19 46.8**	**-0.3**
comp=Z,92nm,0.9s,baz=22,slow=2.4,SNR=63						
TORD			PKPbc	**PKPbc**	**14 19 50.1**	**-1.9**
comp=Z,369nm,0.7s,baz=38,slow=1.5,SNR=588						
TORD			pPKPbc	**pPKPbc**	**14 21 34.1**	**+1.1**
comp=Z,158nm,1.1s,baz=50,slow=1.7,SNR=6.9						
TORD	**Torodi Ar. Bea**	**149.35 290**	PKP	**PKPdf**	**14 19 46.8**	**-0.3**
TORD			PKPbc	**PKPbc**	**14 19 50.1**	**-1.9**
TORD			pPKPbc	**pPKPbc**	**14 21 34.1**	**+1.1**
SHEL	**Horse Pasture**	**150.99 228**	*e*PKIKP	**PKPbc**	**14 19 56.9**	**+1.1**
SHEL	**Horse Pasture**	**150.99 228**	*e*PKPbc	**PKPbc**	**14 19 56.9**	**+1.1**
BDFB	**Brasilia**	**152.43 134**	PKIKP	**PKPdf**	**14 19 52.0**	**+0.1**
BDFB			*e*		14 19 52.7	
BDFB					14 20 11.5	
BDFB	**Brasilia**	**152.43 134**	PKP	**PKPdf**	**14 19 52.0**	**+0.1**
comp=Z,74nm,1.0s,baz=200,slow=1.8,SNR=50						
BDFB			PKPbc	**PKiKP**	**14 19 59.2**	**-0.1**
comp=Z,236nm,0.7s,baz=213,slow=2.1,SNR=62						
BDFB			PKPab	**PKPab**	**14 20 11.5**	**+0.4**
comp=Z,171nm,0.9s,baz=183,slow=6.6,SNR=6.7						
BDFB	**Brasilia**	**152.43 134**	PKP	**PKPdf**	**14 19 52.0**	**+0.1**
BDFB			*e*PKPdf	PKPbc	14 19 52.7	-6.5
BDFB			PKPbc	**PKiKP**	**14 19 59.2**	**-0.1**
BDFB			PKPab	**PKPab**	**14 20 11.5**	**+0.4**
KUK	**Kukurantumi**	**152.60 277**	*i* P	**PKPdf**	**14 19 50.6**	**-1.5**
KUK			PKP		14 21 34.7	
KUK			PKP		14 25 18.6	
KIC	**Kosan Boka**	**156.91 278**	*e*P	**PKPdf**	**14 19 56.7**	**-1.3**
comp=Z,284nm,0.8s						
DBIC	**Dimbokro**	**156.99 279**	*e*PKIKP	**PKPdf**	**14 19 56.3**	**-1.7**
DBIC	**Dimbokro**	**156.99 279**	PKP	**PKPdf**	**14 19 57.5**	**-0.5**
comp=Z,20nm,0.9s,baz=57,slow=1.2,SNR=13						
DBIC			PKPab	**PKPab**	**14 20 30.6**	**-0.1**
comp=Z,111nm,0.7s,baz=53,slow=5.0,SNR=16						
DBIC	**Dimbokro**	**156.99 279**	*e*PKPdf	**PKPdf**	**14 19 56.3**	**-1.7**
DBIC			PKP	**PKPdf**	**14 19 57.5**	**-0.5**
DBIC			PKPab	**PKPab**	**14 20 30.6**	**-0.1**
DBIC			*e*PKPab	PKPab	14 20 31.3	+0.6
TIC	**Toumodi**	**157.16 279**	*e*P	**PKPdf**	**14 19 58.1**	**-0.2**
comp=Z,182nm,0.7s						
LIC	**Lamto**	**157.21 278**	*e*PKIKP	**PKPdf**	**14 19 57.7**	**-0.6**
comp=Z,64nm,0.7s						
LIC	**Lamto**	**157.21 278**	*e*P	**PKPdf**	**14 19 58.0**	**-0.3**
comp=Z,178nm,0.8s						
LIC	**Lamto**	**157.21 278**	*e*PKPdf	**PKPdf**	**14 19 57.7**	**-0.6**
ASCN	**Ascension**	**162.57 230**	*e*PKPab	**PKPab**	**14 20 55.7**	**+0.7**
H10N1	**ASCENSION HYDR**	**162.72 230**	PKPab	**PKPab**	**14 20 57.3**	**+2.0**
baz=300,slow=75,SNR=2.3						
H10N2	**ASCENSION HYDR**	**162.73 230**	PKPab	**PKPab**	**14 20 57.3**	**+2.0**
baz=300,slow=75,SNR=2.3						
H10N3	**ASCENSION HYDR**	**162.74 230**	PKPab	**PKPab**	**14 20 57.3**	**+2.0**
baz=300,slow=75,SNR=2.0						
BBTS	**Babate**	**164.27 316**	PKP	**PKPdf**	**14 20 06.4**	**+0.7**
comp=Z,64nm,0.7s,baz=346,slow=0.7,SNR=16						
BBTS			PKPab	**PKPab**	**14 21 04.2**	**+1.8**
comp=Z,70nm,0.7s,baz=77,slow=0.6,SNR=12						
BBTS	**Babate**	**164.27 316**	PKP	**PKPdf**	**14 20 06.4**	**+0.7**
BBTS			PKPab	**PKPab**	**14 21 04.2**	**+1.8**
RCBR	**Riachuelo**	**167.74 138**	PKP	**PKPdf**	**14 20 08.7**	**+0.1**
comp=Z,22nm,0.7s,baz=218,slow=2.2,SNR=14						
RCBR			PKPab	**PKPab**	**14 21 18.5**	**+0.7**
comp=Z,59nm,0.9s,baz=197,slow=5.1,SNR=17						
RCBR			PP	**PP**	**14 25 05.1**	**-1.4**
comp=Z,12nm,1.1s,baz=208,slow=7.6,SNR=4.1						
RCBR	**Riachuelo**	**167.74 138**	*e*PKPdf	**PKPdf**	**14 20 08.1**	**-0.5**
RCBR			PKP		14 20 08.7	
RCBR			*e*PKPab	**PKPab**	**14 21 17.6**	**-0.2**
RCBR			PP	**PP**	**14 25 05.1**	**-1.4**
SACV	**Santiago Islan**	**167.79 341**	*e*PKPdf	**PKPdf**	**14 20 08.5**	**0.0**

JMA 20 14:06:20.0,33.°11N×131.°20E,h5km,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.27**	**273**	P	Pg	14 06 25.5	+0.1
JNU				*e*S	Sg	14 06 29.4	+0.4

*NEIC **20** 14:09:25.0,34.°01S×72.°41W,h35km,mb4.3/2, ML4.1(GUC),After GUC.*
NEIC Felt [II] at Rancagua.
*GUC **20** 14:09:25.4±0.3,34.°01S×72.°40W,h39km±3km,ML4.1*
ISC 20 14:09:23.7±1.7,34.°01S±0.°04×72.°45W±0.°08,h32km±13km, n10,σ1§03/17,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.19**	**35**	*e*P	**Pb**	**14 09 46.1**	**+0.4**
IHA				*e*S	**Sb**	**14 10 01.7**	**+0.9**
NICH	**Los Niches**	**1.41**	**135**	*e*P	**Pb**	**14 09 49.2**	**-0.2**
NICH				*e*S	**Sb**	**14 10 07.7**	**+0.6**
NICH				AML	AML	14 10 13.9	
comp=E,11μm,0.7s							
ANTU	**Antumapu**	**1.57**	**74**	*e*P	**Pb**	**14 09 52.0**	**-0.3**
ANTU				*e*S	**Sb**	**14 10 12.1**	**+0.3**
ANTU				AML	AML	14 10 12.6	
comp=N,3μm,0.5s							
CLCH	**Cerro Calan**	**1.71**	**69**	*e*P	**Pb**	**14 09 54.1**	**-0.5**
CLCH				*e*S	**Sb**	**14 10 15.6**	**0.0**
CLCH				AML	AML	14 10 22.6	
comp=E,3μm,0.4s							
FCH	**Farellones**	**1.92**	**70**	*e*P9	**Pn**	**14 09 55.2**	**+0.6**
FCH				*e*S	**Sn**	**14 10 19.6**	**+1.8**
FCH				AML	AML	14 10 26.1	
comp=E,2μm,0.3s							
YECH	**El Yeso**	**2.00**	**81**	*e*P4	**Pn**	**14 09 56.4**	**+0.8**
YECH				*e*S4	Sn	14 10 16.9	-2.7
LCO	**Las Campanas**	**5.20**	**17**	*e*Pn	**Pn**	**14 10 39.5**	**-0.1**
comp=E,23nm,0.4s							
LCO				*e*Sn	**Sn**	**14 11 39.4**	**+0.8**
PLCA	**Paso Flores**	**6.88**	**168**	*e*Pn	**Pn**	**14 11 04.7**	**+2.3**
PLCA				*e*Sn	**Sn**	**14 12 20.1**	**+0.6**
SNAA	**Sanae**	**51.70**	**158**	P	**P**	**14 18 26.4**	**-1.0**
comp=E,2.0nm,0.6s							
QSPA	**South Pole Qui**	**56.23**	**180**	*e*P	**P**	**14 19 00.1**	**-0.5**
comp=E,3.2nm,0.8s							

IDC 20 14:17:43.8±3.1,54.°25S×145.°47E,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.9/30,mbtmp4.2/3,MS4.8/1,Ms1 4.8/1, ms1mx4.2/22,Error ellipse: s-maj=256.1km s-min=27.6km az=81.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**29.17**	**299**	T	T	14 53 34.3	
baz=142,slow=75,SNR=12							
H01W2	**Cape Leeuwin H**	**29.18**	**299**	T	T	14 53 33.6	
baz=142,slow=75,SNR=11							
H01W3	**Cape Leeuwin H**	**29.18**	**299**	T	T	14 53 36.0	
baz=142,slow=75,SNR=14							
ASAR	**Alice Springs**	**31.75**	**340**	P	P	14 24 09.9	+0.3
1.3nm,0.8s,baz=165,slow=9.3,SNR=6.3							
WRA	**Warramunga Arr**	**35.29**	**342**	P	P	14 24 39.9	-0.5
2.0nm,0.5s,baz=166,slow=7.8,SNR=22							
QSPA	**South Pole Qui**	**35.86**	**180**	P	P	14 24 44.9	-0.2
11nm,1.0s,baz=359,slow=6.3,SNR=3.0							
QSPA				LR	LR	14 39 22.3	
comp=Z,2μm,19.1s,baz=96,slow=36							
H08S2	**Diego Garcia H**	**73.90**	**279**	T	T	15 49 14.5	
baz=144,slow=76,SNR=15							
H08S1	**Diego Garcia H**	**73.90**	**279**	T	T	15 49 21.6	
baz=144,slow=76,SNR=16							
H08S3	**Diego Garcia H**	**73.92**	**279**	T	T	15 49 14.8	
baz=144,slow=76,SNR=16							
FINES	**FINESS Array B**	**148.05**	**308**	PKPbc	PKPbc	14 37 29.4	-0.4
1.4nm,0.8s,baz=98,slow=3.9,SNR=3.4							

*ISCJB **20** 14:24:05.9±0.7,24.°25S±0.°06×67.°2W±0.°2,h175km, mb3.6/4,Error ellipse: s-maj=22.1km s-min=8.4km az=0.9*
*IDC **20** 14:24:05.6±1.8,24.°25S×67.°12W,h157km±17km,mb3.6/4, mb1 3.8/7,mb1mx3.5/44,mbtmp4.1/7,Error ellipse: s-maj=24.9km s-min=13.9km az=92.0*
ISC 20 14:24:06.9±0.7,24.°25S±0.°07×67.°2W±0.°2,h175km,n11, σ1§79/13,mb3.8/4,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.38**	**187**	P	**Pn**	**14 25 52.0**	**+0.1**
0.1nm,0.3s,baz=57,slow=20,SNR=6.4							
CFAA				S	**Sn**	**14 27 11.5**	**-3.5**
0.2nm,0.3s,baz=204,slow=13,SNR=6.0							
LPAZ	**La Paz**	**7.97**	**354**	P	**Pn**	**14 26 01.2**	**+0.7**
2.2nm,0.3s,baz=170,slow=8.9,SNR=33							
LPAZ				S	**Sn**	**14 27 26.4**	**-3.7**
0.1nm,0.3s,baz=332,slow=11,SNR=1.2							
PLCA	**Paso Flores**	**16.67**	**189**	P	**Pn**	**14 27 51.6**	**+1.2**
0.2nm,0.3s,baz=8.6,slow=9.7,SNR=5.1							
BDFB	**Brasilia**	**19.97**	**68**	P	**P**	**14 28 25.5**	**-0.5**
2.2nm,0.3s,baz=237,slow=10,SNR=8.4							
TORD	**Torodi Ar. Bea**	**76.85**	**69**	P	**P**	**14 35 40.0**	**0.0**
0.8nm,0.5s,baz=267,slow=5.8,SNR=14							
PDAR	**Pinedale Array**	**77.26**	**329**	P	**P**	**14 35 42.7**	**+0.8**
0.3nm,0.5s,baz=125,slow=7.8,SNR=4.9							
BOSA	**Boshof**	**80.80**	**117**	P	**P**	**14 36 01.7**	**+0.2**
1.5nm,0.8s,baz=230,slow=3.1,SNR=5.7							
YKA	**Yellowknife Ar**	**94.29**	**340**	P	**P**	**14

DPC	Dobruska-Polom	148.20	285	*e*PKP	PKPab	14 48 23.5	+2.0
UPC	Upice	148.45	285	*e*PKP	PKPab	14 48 24.7	+2.2
UPC				*e*x	x	14 48 37.6	
GERES	GERESS Array B	148.96	281	PKPbc	PKPbc	14 48 19.8	-0.8
	1.0nm,0.8s,baz=116,slow=3.1,SNR=5.5						
ARCES	ARCESS Array B	148.96	323	PKPbc	PKPbc	14 48 19.4	-0.4
	3.0nm,0.8s,baz=104,slow=3.8,SNR=2.9						
PRU	Pruhonice	149.04	283	*e*PKP	PKPab	14 48 29.4	+4.5
KHC	Kasperske Hory	149.18	281	*e*PKP	PKPab	14 48 28.9	+3.4
KHC				*e*x	x	14 48 38.1	
BRG	Berggiesshubel	149.79	284	*e*PKP	PKPab	14 48 32.3	+4.4
	13nm,1.6s						
CLL	Collm	150.51	284	*e*PKPab	PKPab	14 48 33.0	+2.1
	comp=Z,22nm,1.6s						
ESDC	Sonseca Array	153.69	249	PKPbc	PKPbc	14 48 32.6	+0.8
	comp=Z,0.6nm,0.7s,baz=50,slow=1.7,SNR=4.7						

TIR ***20*** *14:33:53.0, 40°.52N×20°.12E, h7km*
CSEM ***20*** *14:33:59.9±0.5, 40°.26N×19°.64E, h2km, MD3.2, Error ellipse: s-maj=12.5km s-min=6.9km az=66.0*
ATH ***20*** *14:34:02.2, 40°.22N×19°.71E, h9km±2km, MD3.2/14*
ISC 20 14:33:59.5±1.1, 40°.25N±0°.03×19°.66E±0°.04, h4km±11km, n31, σ1§35/50, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	Vlora	0.25	330	*e*PG	Pg	14 34 02.5	-1.9
VLO				*e*SG	Sg	14 34 10.0	+2.3
VLO	Vlora	0.25	330	*e*Pg	Pg	14 34 02.5	-1.9
VLO				*e*Sg	Sg	14 34 10.0	+2.3
SRN	Sarande	0.45	145	*e*PG	Pg	14 34 05.5	-2.7
SRN				*e*SG	Sg	14 34 15.2	+1.2
SRN	Sarande	0.45	145	*e*Pg	Pg	14 34 05.5	-2.7
SRN				*e*Sg	Sg	14 34 15.2	+1.2
KEK	Kerkira	0.55	169	*e*PB	Pg	14 34 11.0	+1.0
KEK				*e*SB	Sb	14 34 19.9	+0.1
KEK	Kerkira	0.55	169	*e*Pb	Pg	14 34 11.0	+1.0
KEK				*e*Sb	Sb	14 34 19.9	+0.1
IGT	Igoumenitsa	0.88	144	*e*PB	Pg	14 34 16.7	+0.3
IGT				*e*SB	Sb	14 34 30.1	+0.6
IGT	Igoumenitsa	0.88	144	*e*Pb	Pg	14 34 16.7	+0.3
IGT				*e*Sb	Sb	14 34 30.1	+0.6
NEST	Nestorio	1.07	81	*e*PB	Pn	14 34 21.8	+0.4
NEST	Nestorio	1.07	81	*e*Pb	Pn	14 34 21.8	+0.4
JAN	Janina	1.09	123	*e*PN	Pn	14 34 22.2	+0.7
JAN				*e*SB	Sn	14 34 36.5	-0.5
JAN	Janina	1.09	123	*e*Pn	Pn	14 34 22.2	+0.7
JAN				*e*Sb	Sn	14 34 36.5	-0.5
FNA	Florina	1.41	67	*e*PB	Pg	14 34 28.5	+1.9
FNA	Florina	1.41	67	*e*Pb	Pg	14 34 28.5	+1.9
DSL	Palaion Diasel	1.57	135	*e*PG	Pg	14 34 30.1	+0.5
DSL				*e*SB	Sg	14 34 51.8	+1.8
DSL	Palaion Diasel	1.57	135	*e*Pg	Pg	14 34 30.1	+0.5
DSL				*e*Sb	Sg	14 34 51.8	+1.8
LKD2	Lefkada island	1.65	152	*e*PG	Pg	14 34 31.2	+0.1
LKD2				*e*SB	Sg	14 34 54.3	+1.8
LKD2	Lefkada island	1.65	152	*e*Pg	Pg	14 34 31.2	+0.1
LKD2				*e*Sb	Sg	14 34 54.3	+1.8
THL	Klokotos Trika	1.94	110	*e*PN	Pg	14 34 36.0	-0.6
THL				*e*SG	Sg	14 35 00.8	-0.8
THL	Klokotos Trika	1.94	110	*e*Pn	Pg	14 34 36.0	-0.6
THL				*e*Sg	Sg	14 35 00.8	-0.8
EVR	Evrytania	2.13	128	*e*PN	Pg	14 34 40.0	-0.3
LIT	Litokhoron	2.17	93	*e*PG	Pg	14 34 41.7	+0.6
LIT	Litokhoron	2.17	93	*e*Pg	Pg	14 34 41.7	+0.6
VLS	Valsamata	2.19	160	*e*PN	Pb	14 34 40.8	+1.1
VLS				*e*SG	Sg	14 35 09.3	-0.6
MAKR	Makrakomi, Fth	2.27	122	*e*PN	Pg	14 34 42.2	-0.8
MAKR				*e*SG	Sg	14 35 11.0	-1.5
AGG	Agios Georgios	2.40	120	*e*PG	Pg	14 34 45.2	-0.2
AGG	Agios Georgios	2.40	120	*e*Pg	Pg	14 34 45.2	-0.2
KALE	Kalithea	2.67	133	*e*PB	Pb	14 34 46.4	-1.5
KALE				*e*SN	Sb	14 35 20.7	-0.3
DRO	Drossia	2.79	145	*e*PB	Pb	14 34 48.0	-1.9
KLV	Kalavryta, Ach	2.93	138	*e*PN	Pb	14 34 50.2	-2.1
KLV	Kalavryta, Ach	2.93	138	*e*Pn	Pb	14 34 50.2	-2.1

GUC 20 14:47:27.8±0.4, 37°.11S×73°.06W, h27km±2km, ML4.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	Angol	0.76	157	*e*P	Pb	14 47 42.5	+0.1
AGCH				*e*S	Sn	14 47 53.5	+0.4
COCH	Cobquecura	1.00	13	*e*P	Pn	14 47 46.3	+0.2
COCH				*e*S	Sb	14 48 00.8	+1.5
PSCH	Puerto Saavedr	1.70	189	*e*P	Pb	14 47 57.8	-0.7
TALC	Talca	2.06	34	*e*P	Pb	14 48 03.0	-1.5
TALC				*e*S	Sb	14 48 29.9	+0.1
TALC				AML	AML	14 48 42.3	
	comp=E,4μm,0.0s						
CLCH	Cerro Calan	4.25	30	*e*P	Pn	14 48 33.4	+2.6
CLCH				*e*S	Sn	14 49 23.4	+3.9
CLCH				AML	AML	14 49 44.1	
	comp=E,335nm,0.5s						

GUC 20 14:55:56.5±0.5, 33°.95S×72°.09W, h14km±6km, ML3.6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	1.00	22	*e*P	Pb	14 56 15.1	-0.5
IHA				*e*S	Sb	14 56 28.7	+0.1
NICH	Los Niches	1.26	146	*e*P	Pn	14 56 19.2	-0.6
NICH				*e*S	Sn	14 56 36.6	0.0
ANTU	Antumapu	1.27	73	*e*P	Pn	14 56 19.5	-0.5
ANTU				*e*S	Sn	14 56 36.9	0.0
CLCH	Cerro Calan	1.41	67	*e*P	Pn	14 56 21.6	-0.3
CLCH				*e*S	Sb	14 56 40.9	+0.3
CLCH				AML	AML	14 56 49.7	
	comp=E,2μm,0.7s						
CLCH				AML	AML	14 56 50.3	
	comp=E,2μm,0.5s						
PEL	Peldehue	1.42	56	*e*P	Pn	14 56 21.9	-0.2
PEL				*e*S	Sb	14 56 41.2	+0.2
PEL				AML	AML	14 56 47.1	
	comp=N,3μm,0.7s						
TALC	Talca	1.49	166	*e*P	Pn	14 56 22.8	-0.1
TALC				*e*S4	Sn	14 56 41.2	-1.0
FCH	Farellones	1.62	68	*e*P9	Pn	14 56 21.3	-3.9
FCH				*e*S	Sn	14 56 43.0	-3.2
FCH				AML	AML	14 56 49.6	
	comp=N,889nm,0.7s						

MEX 20 15:02:49.1±0.3, 16°.87N×100°.43W, h6km±3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.23	42	*e*P	Pg	15 02 53.5	-0.3
CAIG				*i* S	Sg	15 02 57.0	+0.1
ZIIG	Zihuatanejo	1.23	307	*i* P	Pg	15 03 08.8	-3.9
ZIIG				*e*S	Sg	15 03 24.8	-4.0
ARIG	Puente Sto Nin	1.40	3	*e*P	Pn	15 03 11.7	-3.6
ARIG				*i* S	Sb	15 03 28.8	-5.2
PLIG	Platanillo	1.75	30	*e*P	Pn	15 03 16.1	-4.1
PLIG				*i* S	Sn	15 03 38.1	-4.8
TLIG	Tlapa	1.91	69	*i* P	Pn	15 03 19.4	-2.9
TLIG				*i* S	Sn	15 03 41.9	-5.0

IDC ***20*** *15:45:36.0±3.1, 1°.63N×80°.66W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/27, mbtmp3.7/3, MS4.1/1, Ms1 4.1/1, ms1mx3.3/35, Error ellipse: s-maj=111.7km s-min=37.3km az=30.0*
IGQ ***20*** *15:45:44±1.1, 2°.48S×79°.79W, h4km±27km, Mb4.0, Error ellipse: s-maj=26.0km s-min=4.0km az=12.0*
ISC 20 15:45:37.4±1.3, 1°.7N±0°.2×80°.6W±0°.2, h10km, n15, σ0§77/13, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINO	Pino	2.72	133	S	Sb	15 47 01.1	+1.0
PINO	Pino	2.72	133	P	Pg	15 46 29.7	+0.1
TERV	Terraza Guagua	2.73	133	P	Pg	15 46 29.9	0.0
GGP	Refugio Guagua	2.74	133	P	Pg	15 46 29.8	-0.1
JUA2	San Juan 2	2.76	133	P	Pg	15 46 29.5	-0.9
CAYR	Refugio Cayamb	3.09	123	P	Pg	15 46 36.6	-0.1
VC1	Cotopaxi 1	3.20	136	P	Pg	15 46 38.6	-0.2
BVC2	Cotopaxi Volca	3.21	137	P	Pg	15 46 38.6	-0.3
BTAM	Cotopaxi Volca	3.23	137	P	Pg	15 46 39.0	-0.4
ATAH	Atahualpa	9.04	166	LR	LR	15 51 44.9	
	comp=Z,1μm,19.4s,baz=39,slow=41						
PTGA	Pitinga	20.78	96	P	Pn	15 50 21.0	-0.3
	3.2nm,0.6s,baz=293,slow=16,SNR=5.0						
YKA	Yellowknife Ar	65.75	343	P	P	15 56 23.1	+0.9
	0.2nm,0.6s,baz=134,slow=6.2,SNR=5.4						
TORD	Torodi Ar. Bea	82.12	77	P	P	15 57 58.0	-1.1
	0.3nm,0.5s,baz=282,slow=5.4,SNR=2.4						
ASAR	Alice Springs	140.08	234	PKP	PKPdf	16 05 08.2	+1.0
	0.5nm,1.1s,baz=119,slow=3.3,SNR=1.9						
WRA	Warramunga Arr	141.33	240	PKP	PKPdf	16 05 08.6	-0.9
	0.3nm,0.9s,baz=107,slow=2.2,SNR=1.5						

ISCJB ***20*** *15:58:37.5±1.3, 16°.17N±0°.05×98°.63W±0°.03, h13km±8km, mb4.3/15, Error ellipse: s-maj=9.0km s-min=4.9km az=15.9*
IDC ***20*** *15:58:37.2±2.0, 16°.29N×98°.49W, h0km, mb4.0/7, mb1 4.2/12, mb1mx3.9/36, mbtmp4.0/12, ML3.7/2, Error ellipse: s-maj=39.9km s-min=20.2km az=15.0*
MEX ***20*** *15:58:37.8±0.8, 16°.03N×98°.86W, h16km±11km, MD4.3*
NEIC ***20*** *15:58:39.5±1.0, 16°.19N×98°.62W, h25km, mb4.4/10, Error ellipse: s-maj=16.5km s-min=5.9km az=199.0*
ISC 20 15:58:38.2±1.8, 16°.19N±0°.06×98°.71W±0°.04, h12km±11km, n100, σ1§56/113, mb4.4/15, 30C-21D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.59	70	*i* P	Pg	15 58 49.7	-0.1
PNIG				*i* S	Sb	15 59 00.1	+1.2
PNIG	Pinotepa	0.59	70	*i* P	Pg	15 58 49.7	-0.1
PNIG				*i* S	Sb	15 59 00.1	+1.2
TLIG	Tlapa	1.38	6	*e*P	Pn	15 59 01.8	-1.5
TLIG				*e*S	Sn	15 59 19.8	-1.7
CAIG	El Cayaco	1.72	300	*e*P	Pn	15 59 03.7	-4.3
CAIG				*e*S	Sn	15 59 22.2	-7.7
CAIG	El Cayaco	1.72	300	*e*P	Pn	15 59 03.7	-4.3
CAIG				*e*S	Sn	15 59 22.2	-7.7
VHO	Vista Hermosa	2.09	65	*e*P	Pn	15 59 12.1	-1.1
VHO				*e*S	Sn	15 59 38.8	-0.4
VHO	Vista Hermosa	2.09	65	*e*P	Pn	15 59 12.1	-1.1
VHO				*e*S	Sn	15 59 38.8	-0.4
PLIG	Platanillo	2.32	341	*e*P	Pn	15 59 14.1	-2.3
PLIG				*e*S	Sn	15 59 42.4	-2.4
PLIG	Platanillo	2.32	341	*e*P	Pn	15 59 14.1	-2.3
PLIG				*e*S	Sn	15 59 42.4	-2.4
HUIG	Huatulco	2.54	99	*e*P	Pn	15 59 17.0	-2.1
HUIG				*e*S	Sn	15 59 48.4	-1.6
HUIG	Huatulco	2.54	99	*e*P	Pn	15 59 17.0	-2.1
HUIG				*e*S	Sn	15 59 48.4	-1.6
TPIG	Tehuac#an	2.56	30	*e*P	Pn	15 59 18.8	-0.9
TPIG				*e*S	Sn	15 59 50.7	-0.3
TPIG	Tehuac#an	2.56	30	*e*P	Pn	15 59 18.8	-0.9
TPIG				*e*S	Sn	15 59 50.7	-0.3
ARIG	Puente Sto Nin	2.60	323	*e*P	Pn	15 59 19.1	-1.1
ARIG				*e*S	Sn	15 59 48.2	-3.6
YAIG	Yautepec	2.68	353	*e*P	Pn	15 59 20.6	-0.7
YAIG				*i* S	Sn	15 59 52.0	-1.9
YAIG	Yautepec	2.68	353	*e*P	Pn	15 59 20.6	-0.7
YAIG				*i* S	Sn	15 59 52.0	-1.9
ZIIG	Zihuatanejo	2.99	299	*e*P	Pn	15 59 25.1	-0.4
ZIIG	Zihuatanejo	2.99	299	*e*P	Pn	15 59 25.1	-0.4
CMIG	Matias Romero	3.77	76	*e*P	Pn	15 59 34.9	-1.3
CMIG				*e*S	Sn	16 00 20.3	-0.3
CMIG	Matias Romero	3.77	76	Pn	Pn	15 59 34.9	-1.3
CMIG				Sn	Sn	16 00 17.9	-2.7
CMIG	Matias Romero	3.77	76	Pn	Pn	15 59 34.9	-1.3
CMIG				Sn	Sn	16 00 17.9	-2.7
CMIG				*e*S	Sb	16 00 20.3	-10
PCIG		5.30	94	*e*P	Pn	15 59 56.0	-1.2
PCIG				*e*S	Sn	16 00 55.0	-3.3
PCIG		5.30	94	*e*P	Pn	15 59 56.0	-1.2
PCIG				*e*S	Sn	16 00 55.0	-3.3
TGIG		5.39	83	*e*S	Sn	16 01 05.2	+4.6
APG	El Apazote	8.03	97	Pn	Pn	16 00 30.6	-4.3
	baz=248,slow=16						
APG				Sn	Sn	16 01 56.6	-9.2
	0.4nm,0.3s,baz=191,slow=20,SNR=2.7						
APG				Lg	Lg	16 02 55.5	
	0.5nm,0.3s,baz=228,slow=20,SNR=2.1						
TEIG	Tepich	10.70	66	Pn	Pn	16 01 09.4	-1.9
	1.1nm,0.3s,baz=246,slow=20,SNR=2.4						
TEIG				Sn	Sn	16 03 02.9	-8.1
	2.0nm,0.3s,baz=61,slow=23,SNR=5.7						
TXAR	Lajitas Array	13.86	342	Pn	Pn	16 01 55.6	+1.0
	baz=168,slow=14,SNR=3.1						
TXAR				Lg	Lg	16 06 07.9	
	0.1nm,0.3s,baz=146,slow=29,SNR=1.3						
232A	Coleman	15.65	357	⇓P	P	16 02 22.9	0.0
	baz=16,SNR=6.4						
231A	Bronte	15.75	355	⇑P	P	16 02 24.4	+0.5
	baz=16						
133A	Hamilton Ranch	16.35	359	⇓P	P	16 02 31.0	+0.5
	baz=16						
Z32A	Haskell	17.06	358	⇓P	P	16 02 39.6	+1.2
	baz=17						
Z31A	Sharp Cattle R	17.11	356	⇓P	P	16 02 40.4	+1.5
	baz=17						
Z30A	Sanderson Ranc	17.16	353	⇑P	P	16 02 39.9	+0.3
	baz=17						
Z29A	Hungry Hill Ra	17.21	351	⇑P	Pn	16 02 39.4	+0.8
	baz=17						
Z28A	Tucker Farm, M	17.35	350	⇓P	Pn	16 02 41.0	+0.7
	baz=17						
Y29A	Porterfield Fa	17.80	352	⇑P	P	16 02 47.0	+0.4
	baz=18						
MSTX	Muleshoe	18.08	349	⇓P	P	16 02 50.9	+1.1
	baz=18,SNR=6.1						
MSTX	Muleshoe	18.08	349	*e*Pn	Pn	16 02 49.3	-0.1
	10nm,0.8s						
X29A	Tulia	18.38	352	⇑P	Pn	16 02 54.5	+1.4
	baz=18						
Y24A	Capitan	18.67	342	⇑P	Pn	16 02 57.7	+1.0
	baz=19,SNR=12						
MIAR	Mount Ida	18.85	13	*e*P	Pn	16 02 58.7	0.0
	8.7nm,1.2s						
TUC	Tucson	19.44	328	*e*P	P	16 03 04.0	-0.7
	8.3nm,1.4s						
W24A	Lazy 6 Ranch,	19.87	344	⇓P	Pn	16 03 11.3	+0.1
	baz=20,SNR=6.9						
ANMO	Albuquerque	19.93	341	P	P	16 03 10.9	+0.8
	0.1nm,0.3s,baz=145,slow=12,SNR=7.2						
V25A	Rancho No Teng	20.27	346	⇑P	Pn	16 03 15.2	-0.7
	baz=20						
V24A	Rampart Ranch,	20.32	344	⇓P	Pn	16 03 15.8	-0.8
	baz=20						
V23A	Ortiz Mt. (NFS	20.59	342	⇑P	Pn	16 03 19.1	-0.6
	baz=21,SNR=5.4						
U26A	Atchley Ranch,	20.62	348	⇑P	P	16 03 18.9	+1.2
	baz=21						
V22A	San Miguel Ran	20.96	341	⇑P	P	16 03 22.8	+1.4
	baz=21,SNR=8.3						
U23A	El Rito	21.14	343	⇓P	P	16 03 24.8	+1.6
	baz=21,SNR=33						
T26A	Comanche Natio	21.35	349	P	P	16 03 26.6	+1.1
	baz=21						
113A	Mohawk Valley,	21.41	323	⇓P	P	16 03 27.2	+1.2
	baz=22						
X16A	Lo Mia Camp, P	21.46	330	⇑P	P	16 03 28.3	+1.6
	baz=22,SNR=7.0						
T25A	Trinidad	21.47	347	⇑P	P	16 03 28.1	+1.2
	baz=22,SNR=7.4						
T24B	San Luis	21.62	345	⇑P	P	16 03 29.9	+1.4
	baz=22,SNR=7.1						
T23A	Casias Ranch,	21.76	344	⇓P	P	16 03 31.6	+1.6
	baz=22						
Y14A	Wickenburg	21.87	327	⇓P	P	16 03 32.8	+1.8
	baz=22						
S25A	Robets Cordova	21.98	348	⇓P	P	16 03 33.4	+1.1
	baz=22						
GOGA	Godfrey	21.99	36	*e*P	P	16 03 31.2	-0.9
	32nm,1.5s						
WVT	Waverly	22.10	24	*e*P	P	16 03 32.8	-0.5
	15nm,1.0s						
R27A	Eads	22.31	351	⇑P	P	16 03 38.2	+2.5
	baz=22						
WUAZ	Wupatki	22.33	332	⇑P	P	16 03 38.5	+2.4
	baz=22						
WUAZ	Wupatki	22.33	332	*e*P	P	16 03 36.1	0.0
	18nm,1.2s						
R25A	Fountain Ranch	22.42	348	⇓P	P	16 03 37.9	+0.9
	baz=22,SNR=5.6						
R26A	Arlington	22.42	350	⇑P	P	16 03 37.9	+1.0
	baz=22						
S22A	4UR Ranch, Cre	22.64	343	⇓P	P	16 03 40.4	+0.9
	baz=23						
MVCO	Mesa Verde	22.66	339	⇓P	P	16 03 40.5	+0.9
	baz=23,SNR=9.2						
MVCO	Mesa Verde	22.66	339	*e*P	P	16 03 39.5	-0.1
	27nm,1.3s						
R24A	Sanders Place,	22.67	347	⇑P	P	16 03 41.1	+1.5
	baz=23						
R23A	Moffat	22.80	345	⇑P	P	16 03 42.4	+1.3
	baz=23						
Q28A	Sharon Springs	22.95	354	⇑P	P	16 03 44.3	+1.8
	baz=23						
KSCO	Kaye Shedlock'	23.00	352	⇓P	P	16 03 44.1	+1.0
	baz=23						
Q26A	Hugo	23.04	350	⇑P	P	16 03 44.9	+1.4
	baz=23						
IRM	Iron Mountain	23.22	323	⇑P	P	16 03 46.9	+1.7
	baz=23						
Q24A	Divide	23.38	347	⇓P	P	16 03 48.8	+1.6
	baz=24						
PV01	Paradox Valley	23.53	340	*e*P	P	16 03 47.3	-1.2
	498nm,1.1s						
P27A	Ficken Ranch,	23.53	352	⇑P	P	16 03 50.0	+1.6
	baz=24						
TKL	Tuckaleechee C	23.53	32	P	P	16 03 47.4	-0.9
	3.9nm,0.7s,baz=118,slow=16,SNR=5.2						
P23A	Jefferson	23.93	346	⇑P	P	16 03 54.2	+1.7
	baz=24						
ISCO	Idaho Springs	24.29	347	⇓P	P	16 03 57.1	+1.3
	baz=24,SNR=8.4						
ISCO	Idaho Springs	24.29	347	*e*P	P	16 03 55.1	-0.7
	14nm,1.4s						
P22A	Eagle	24.36	345	⇑P	P	16 03 57.7	+1.4
	baz=24,SNR=5.6						
KMSC	Kings Mountain	24.45	36	*e*P	P	16 03 57.8	+0.8
	16nm,1.2s						
TUQ	Turquoise Moun	24.58	324	⇑P	P	16 04 00.2	+1.9
	baz=25,SNR=7.6						
CIS	Catalina Islan	24.70	318	⇑P	P	16 04 00.2	+0.9
	baz=25						
O23A	Lake Granby, G	24.75	347	⇑P	P	16 04 02.0	+2.0
	baz=25,SNR=5.3						
OGNE	Ogallala	24.84	354	P	P	16 04 00.2	-0.3
	9.7nm,0.6s						
O22A	Kremmling	24.84	346	⇑P	P	16 04 02.6	+1.7
	baz=25,SNR=9.0						
N24A	Carr	25.13	349	P	P	16 04 05.3	+2.1
	baz=25						
N22A	Wattenberg Ran	25.43	346	⇓P	P	16 04 08.1	+2.0
	baz=26						
LRMC	Laurel Mtn Rad	25.62	322	⇓P	P	16 04 09.6	+1.8
	baz=26						
TPNV	Topopah Spring	25.87	326	⇑P	P	16 04 12.5	+2.5
	baz=26						
N20A	Spence Gulch,	25.92	343	⇑P	P	16 04 13.3	+2.8
	baz=26						
NVAR	Mina Array Bea	28.06	326	P	P	16 04 31.9	+2.1
	1.7nm,0.9s,baz=157,slow=8.1,SNR=12						
PDAR	Pinedale Array	28.07	343	P	P	16 04 30.2	+0.3
	2.2nm,0.5s,baz=133,slow=8.3,SNR=13						
ULM	Lac du Bonnet	34.05	3	P	P	16 05 21.2	-0.9
	1.1nm,0.6s,baz=174,slow=10,SNR=3.2						
SCHQ	Schefferville	45.73	25	P	P	16 06 58.6	-0.5
	5.3nm,0.9s,baz=228,slow=8.3,SNR=5.2						
YKA	Yellowknife Ar	47.59	350	P	P	16 07 13.5	-0.1
	0.4nm,0.7s,baz=158,slow=7.2,SNR=7.6						
ILAR	Eielson Array	58.34	338	P	P	16 08 33.3	+0.4
	2.2nm,1.0s,baz=143,slow=4.0,SNR=11						
WRA	Warramunga Arr	129.59	257	PKP	PKPdf	16 17 49.5	+1.6
	0.6nm,0.8s,baz=86,slow=2.5,SNR=4.9						

ISCJB ***20*** *16:08:01.5±0.7, 33°.08N±0°.06×131°.21E±0°.04, h12km, mb2.9/1, Error ellipse: s-maj=9.0km s-min=4.3km az=166.3*
JMA ***20*** *16:08:01.6, 33°.11N×131°.20E, h5km±1km, M3.2*
JMA Felt II J1.
IDC ***20*** *16:08:04.6±2.0, 33°.16N×131°.02E, h0km, mb3.0/1, mb1 3.1/3, mb1mx3.0/31, mbtmp3.0/3, ML2.7/2, Error ellipse: s-maj=16.3km s-min=10.1km az=91.0*
ISC 20 16:08:02.4±1.2, 33°.10N±0°.06×131°.21E±0°.03, h12km, n9, σ1§60/11, 1C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	Nakatsue	0.28	275	⇓P	Pg	16 08 07.0	-1.1
JNU				S	Sg	16 08 11.0	-1.0
JNU	Nakatsue	0.28	275	Pg	Pg	16 08 07.0	-1.1
	147nm,0.3s,baz=70,slow=6.7,SNR=1465						
JBEP	Beppuamama	0.29	35	P	Pg	16 08 07.6	-0.8
JBEP				S	Sg	16 08 11.4	-1.1
JUS	Usuki	0.46	94	⇓P	Pg	16 08 10.5	-0.9
JUS				*e*S	Sg	16 08 16.7	-0.8
JTA	Tamana	0.58	257	P	Pg	16 08 12.8	-0.9
JTA				S	Sg	16 08 20.8	-0.6
JIU2	Izumi 2	0.64	211	⇑P	Pg	16 08 14.2	-0.7
KSRS	Korea Array	5.11	329	Pn	Pn	16 09 21.1	+2.4
	0.1nm,0.3s,baz=144,slow=15,SNR=3.2						
KSRS				Lg	Lg	16 10 42.1	
	0.6nm,0.3s,baz=151,slow=30,SNR=6.2						
MJAR	Matsushiro Arr	6.71	57	Pn	Pn	16 09 44.5	+3.8
	0.3nm,0.3s,baz=242,slow=14,SNR=5.3						
SONM	Songino Array	23.80	316	P	P	16 13 18.6	+3.5
	0.4nm,0.8s,baz=122,slow=9.4,SNR=2.4						

JMA ***20*** *16:18:58.0±0.3, 43°.97N×148°.18E, h4km, M3.6*
SKHL ***20*** *16:18:58.4±0.9, 44°.34N×148°.49E, h56km±5km, mb4.3/2*
ISC 20 16:18:57.2±3.8, 44°.3N±0°.1×148°.5E±0°.2, h47km, n8, σ1§00/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.03	334	*e*P	Pn	16 19 15.4	+0.2

JWM	Minabe	0.36	161	⇓P		Pg	16 19 07.4 -0.5
JWM				S		Sg	16 19 12.3 -0.4
JAJ2	Tsuna	0.36	310	⇓P		Pg	16 19 07.2 -0.8
JAJ2				S		Sg	16 19 12.0 -0.7
JHE	Heguri	0.60	40	P		Pg	16 19 11.6 -0.9
JAI	Aioi	0.75	238	P		Pg	16 19 14.6 -0.7
JWZ	Kozaga	0.78	148	S		Sb	16 19 25.9 -1.0
JKS	Kasai	0.85	339	⇓P		Pg	16 19 16.1 -1.1
JKS				S		Sg	16 19 27.2 -1.1
JKN2	Miekihoku	0.88	86	P		Pg	16 19 16.6 -1.1
MAT	Matsushiro	3.39	45	P		Pn	16 19 55.0 +1.4
MAT				eS		Sn	16 20 35.3 +1.5
MJAR	Matsushiro Arr	3.39	45	Pn		Pn	16 19 55.0 +1.4
	0.6nm,0.3s,baz=244,slow=14,SNR=6.9						
MJAR				Pg		Pg	16 20 03.3 -2.4
	1.6nm,0.3s,baz=214,slow=17,SNR=14						
MJAR				Lg		Lg	16 20 47.9
	0.8nm,0.3s,baz=233,slow=26,SNR=4.5						
JNU	Nakatsue	3.77	255	Pn		Pn	16 20 01.7 +2.8
	0.8nm,0.3s,baz=83,slow=14,SNR=9.8						
JNU				Pg		Pg	16 20 10.2 -2.9
	1.5nm,0.3s,baz=54,slow=8.3,SNR=4.0						
JNU				Lg		Lg	16 20 59.1
	baz=234,slow=19,SNR=2.3						
KSRS	Korea Array	6.76	301	Pn		Pn	16 20 42.1 +2.1
	0.2nm,0.3s,baz=120,slow=15,SNR=2.9						
SONM	Songino Array	25.49	311	P		P	16 24 30.2 +1.0
	0.2nm,0.7s,baz=118,slow=12,SNR=2.8						

*IDC **20** 16:26:15.4±1.7, 40.°22N×42.°12E, h0km, mb2.9/1, mb1 3.4/3, mb1mx3.1/26, mbtmp3.2/3, ML1.9/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/25, Error ellipse: s-maj=20.6km s-min=12.2km az=29.0*
*ISK **20** 16:26:15.7, 40.°42N×42.°25E, h5km, MD3.8*
*DDA **20** 16:26:16.7, 40.°35N×42.°26E, h28km, ML3.8*
*CSEM **20** 16:26:17.3±0.2, 40.°39N×42.°22E, h2km, ML3.8, Error ellipse: s-maj=4.2km s-min=3.4km az=179.0*
*NSSP **20** 16:26:17.3, 40.°40N×42.°25E, h5km, Ms3.1*
*AZER **20** 16:26:23.1±6.3, 40.°58N×42.°15E, h2km, Error ellipse: s-maj=89.4km s-min=54.4km az=176.0*
ISC 20 16:26:16.7±0.8, 40.°41N±0.°02×42.°25E±0.°01, h2km±7km, n125, σ1§69/158, 17C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	Horasan	0.45	216	*i* P		Pg	16 26 25.2 -0.2
HOMI				*i* S		Sb	16 26 33.0 -1.9
EATA	Eleskirt	0.58	162	*i* P		Pg	16 26 27.5 -0.3
EATA				*i* S		Sg	16 26 36.3 +1.0
EATA	Eleskirt	0.58	162	*i* P		Pg	16 26 27.5 -0.3
EATA				*i* S		Sg	16 26 36.3 +1.0
KARS	Kars	0.67	71	*e*PG		Pb	16 26 29.8 -1.4
KARS				*e*SG		Sb	16 26 40.2 -0.7
KARS	Kars	0.67	71	*e*Pg		Pb	16 26 29.8 -1.4
KARS				*e*Sg		Sb	16 26 40.2 -0.7
DAGI	Agillar	0.71	339	*i* P		Pb	16 26 31.0 -1.0
DAGI				*i* S		Sb	16 26 41.7 -0.5
DBAD	Bademkaya	0.74	325	*i* P		Pb	16 26 31.4 -1.0
DBAD				*i* S		Sb	16 26 42.4 -0.7
DBAD	Bademkaya	0.74	325	*i* P		Pb	16 26 31.4 -1.0
DBAD				*i* S		Sb	16 26 42.4 -0.7
ARTV	Artvin	0.81	342	*i* P		Pb	16 26 33.0 -0.7
ARTV				*i* S		Sb	16 26 44.9 -0.3
ARTV	Artvin	0.81	342	*i* P		Pb	16 26 33.0 -0.7
ARTV				*i* S		Sb	16 26 44.9 -0.3
ERZM	Erzurum	0.85	234	*i* P		Pb	16 26 33.1 -1.2
ERZM				*i* S		Sg	16 26 43.4 -0.5
ERZM	Erzurum	0.85	234	*i* P		Pb	16 26 33.1 -1.2
ERZM				*i* S		Sg	16 26 43.4 -0.5
EZM	Erzurum	0.85	234	*e*PG		Pb	16 26 33.0 -1.3
DIGO	Kars	0.86	89	*i* P		Pg	16 26 32.7 -0.4
DIGO				*i* S		Sb	16 26 46.0 -0.5
DIGO	Kars	0.86	89	*i* P		Pg	16 26 32.7 -0.4
DIGO				*i* S		Sb	16 26 46.0 -0.5
AGRB	Hanur-Agry	1.01	146	*e*PG		Pg	16 26 35.2 -0.8
AGRB	Hanur-Agry	1.01	146	*e*Pg		Pg	16 26 35.3 -0.8
DBOC	Borcka	1.03	335	*i* P		Pb	16 26 36.5 -0.9
DBOC				*i* S		Sn	16 26 51.0 -2.4
DBOC	Borcka	1.03	335	*i* P		Pb	16 26 36.5 -0.9
DBOC				*i* S		Sn	16 26 51.0 -2.4
EAK	Akyaka	1.07	75	*i* P		Pb	16 26 37.2 -0.8
EAK	Akyaka	1.07	75	*i* P		Pb	16 26 37.2 -0.8
EAK				*i* S		Sn	16 26 57.2 +2.8
TUTA	Tutak	1.10	157	*i* S		Sg	16 26 51.2 -0.8
TUTA	Tutak	1.10	157	*i* P		Pg	16 26 34.3 -3.5
TUTA				*i* S		Sg	16 26 51.2 -0.8
BCA	Borcka	1.14	335	*e*PN		Pn	16 26 38.1 -1.6
BCA	Borcka	1.14	335	*e*Pn		Pn	16 26 38.1 -1.6
EKAR	Karacoban	1.16	187	*i* P		Pn	16 26 39.3 -1.0
EKAR	Karacoban	1.16	187	*i* P		Pn	16 26 39.3 -1.0
EKAR				*i* S		Sn	16 27 00.6 +3.8
VNNZ	Vanand	1.24	104	⇑*i*P		Pn	16 26 41.3 +0.1
VNNZ				⇓*i*S		Sn	16 26 58.6 0.0
VNNZ	Vanand	1.24	104	⇑P		Pn	16 26 41.3 +0.1
VNNZ				S		Sn	16 26 58.6 0.0
GMRZ	Gyumri	1.27	71	*e*P		Pn	16 26 46.0 +4.4
GMRZ				*e*S		Sn	16 27 05.0 +5.7
AKSZ	Araks	1.27	100	⇑*i*P		Pb	16 26 42.7 +1.3
AKSZ				⇓*i*S		Sn	16 27 00.4 +1.1
AKSZ	Araks	1.27	100	⇑P		Pb	16 26 42.7 +1.3
AKSZ				S		Sn	16 27 00.4 +1.1
BAW	Bavra	1.37	58	*e*		Pn	16 26 36.0 -7.1
VRTB	Varto-Mus	1.39	206	*e*PN		Pg	16 26 43.1 -0.3
VRTB	Varto-Mus	1.39	206	*e*Pn		Pg	16 26 43.1 -0.3
KOPT	Kop Dagi	1.40	254	*i* P		Pg	16 26 43.9 +0.4
KOPT	Kop Dagi	1.40	254	*i* P		Pg	16 26 43.9 +0.4
KOPT				*i* S		Sn	16 27 06.1 +3.3
DYDN	Diyadin	1.40	128	*i* P		Pg	16 26 43.0 -0.6
DYDN	Diyadin	1.40	128	*i* P		Pg	16 26 43.0 -0.6
DYDN				*i* S		Sg	16 27 05.9 +4.1
ARUZ	Aruch	1.41	95	⇑*i*P		Pg	16 26 44.9 +1.2
ARUZ				⇑*i*S		Sg	16 27 06.9 +4.9
ARUZ	Aruch	1.41	95	⇑P		Pg	16 26 44.9 +1.2
ARUZ				S		Sg	16 27 06.9 +4.9
AMBZ	Amberd	1.53	90	⇑*i*P		Pg	16 26 46.0 -0.1
AMBZ				⇑*i*S		Sg	16 27 09.6 +3.7
AMBZ	Amberd	1.53	90	⇑P		Pg	16 26 46.0 -0.1
AMBZ				S		Sg	16 27 09.6 +3.7
BAYT	Ayd¨–ntepe-Bay	1.61	270	*e*PN		Pb	16 26 46.4 -0.9
BAYT	Ayd¨–ntepe-Bay	1.61	270	*e*Pn		Pb	16 26 46.4 -0.9
BNGL	BINGOL	1.69	211	*i* P		Pg	16 26 48.6 -0.4
BNGL				*i* S		Sg	16 27 15.5 +4.6
ERE	Yerevan	1.71	97	*e*P		Pn	16 26 43.0 -4.7
STEZ	Stepenevan	1.73	70	⇑*i*P		Pg	16 26 49.2 -0.7
CLDR	Caldiran	1.80	134	*e*PN		Pb	16 26 49.2 -1.4
CLDR	Caldiran	1.80	134	*e*Pn		Pb	16 26 49.2 -1.4
BNGB	Bing¨¶l	1.87	221	*e*PN		Pb	16 26 50.5 -1.1
KAPZ	Kaputan	1.87	92	⇓*i*P		Pg	16 26 52.7 +0.1
KAPZ				⇓*i*S		Sg	16 27 20.6 +3.8
KAPZ	Kaputan	1.87	92	⇓P		Pg	16 26 52.7 +0.1
CKLZ	Chkalov	1.90	73	⇑*i*P		Pb	16 26 51.3 -0.9
TATV	Tatvan	1.90	180	*i* P		Pg	16 26 52.4 -0.8
TATV	Tatvan	1.90	180	*i* P		Pg	16 26 52.4 -0.8
TATV				*i* S		Sg	16 27 21.1 +3.3
GNI	Garni	1.92	97	⇓*i*P		Pb	16 26 51.6 -1.0
GNI				⇑*i*S		Sg	16 27 18.1 -0.3
GNI	Garni	1.92	97	Pn		Pb	16 26 51.7 -0.8
	21nm,0.3s,baz=305,slow=3.9,SNR=41						
GNI				Lg		Lg	16 27 22.3
	35nm,0.3s,baz=75,slow=4.2,SNR=6.1						
GNI	Garni	1.92	97	⇓P		Pb	16 26 51.6 -1.0
GNI				S		Sg	16 27 18.1 -0.3
KTUT	Trabzon	1.98	288	*e*PN		Pb	16 26 51.6 -1.8
KTUT	Trabzon	1.98	288	*e*Pn		Pb	16 26 51.6 -1.8
VANB	Van	2.02	154	*e*PN		Pb	16 26 52.5 -1.7
VANB	Van	2.02	154	*e*Pn		Pb	16 26 52.5 -1.7
BINT	Bingol	2.05	222	*e*Pn		Pn	16 26 50.5 -1.9
ERZN	Erzincan	2.11	248	*e*PN		Pb	16 26 53.9 -1.9
GUMT	Gumushane	2.12	272	*e*PN		Pb	16 26 53.8 -2.1
GUMT	Gumushane	2.12	272	*e*Pn		Pb	16 26 53.8 -2.1
GEVA	Gevas	2.19	163	*i* P		Pb	16 26 56.7 -0.4
GEVA	Gevas	2.19	163	*i* P		Pb	16 26 56.7 -0.4
TBLG	Delisi	2.29	54	*e*PN		Pb	16 26 56.0 -2.9
TBLG	Delisi	2.29	54	P		Pg	16 27 00.2 -0.5
TBLG				S		Sg	16 27 34.3 +3.9
TBLG	Delisi	2.29	54	*e*Pn		Pb	16 26 56.0 -2.9
TBLG	Delisi	2.29	54	P		Pg	16 27 00.2 -0.5
CHVG	Ch'k'valeri	2.31	357	*e*PN		Pb	16 26 58.3 -0.8
CHVG	Ch'k'valeri	2.31	357	P		Pg	16 27 02.5 +1.6
CHVG				S		Sg	16 27 35.2 +4.3
CHVG	Ch'k'valeri	2.31	357	*e*Pn		Pb	16 26 58.3 -0.8
KELT	Kelkit	2.31	264	*i* P		Pb	16 26 59.0 -0.2
KELT				*i* S		Sg	16 27 35.7 +4.9
EZC	Erzincan	2.32	254	*e*Pn		Pn	16 26 53.9 -2.2
ONI	Oni	2.35	22	P		Pb	16 26 58.5 -1.4
ONI				S		Sg	16 27 33.5 +1.1
ONI	Oni	2.35	22	P		Pb	16 26 58.5 -1.4
SVAN	Silvan-Diyarba	2.40	200	*e*PN		Pb	16 26 57.8 -2.9
QZX	Qazax, Azerbai	2.46	74	⇓P		Pb	16 26 58.4 -3.2
QZX				⇓S		Sg	16 27 40.8 +5.1
QZX	Qazax, Azerbai	2.46	74	P		Pb	16 26 58.4 -3.2
DUS	Dusheti	2.49	47	P		Pg	16 27 06.7 +2.2
DGRG	David-gareji	2.58	65	P		Pb	16 27 02.0 -1.8
DGRG				S		Sg	16 27 41.1 +1.5
DGRG	David-gareji	2.58	65	P		Pb	16 27 02.0 -1.8
BEST	Besiri	2.63	197	*i* P		Pb	16 27 04.2 -0.5
PTK	Pertek	2.68	236	*e*PN		Pn	16 27 01.6 +0.5
PTK	Pertek	2.68	236	*e*Pn		Pn	16 27 01.6 +0.5
VADZ	Vardenis	2.68	94	*e*P		Pg	16 27 07.0 -1.1
VADZ				*e*S		Sg	16 27 49.0 +6.1
ESPY	Espiye-Giresun	2.73	282	*e*PN		Pn	16 27 02.6 +1.0
ESPY	Espiye-Giresun	2.73	282	*e*Pn		Pn	16 27 02.6 +1.0
NAX	Nakhchivan	2.79	115	⇓P		Pg	16 27 08.6 -1.5
	SNR=13						
NAX				⇑S		Sg	16 27 54.1 +7.9
DYBB	Diyarbakir	2.95	214	*e*PN		Pn	16 27 05.4 +0.7
DIY	Diyarbakir	2.97	213	*e*Pn		Pn	16 27 05.4 +0.5
ILIC	ilic-Erzincan	2.99	252	*e*PN		Pn	16 27 06.1 +0.8
ILIC	ilic-Erzincan	2.99	252	*e*Pn		Pn	16 27 06.1 +0.8
SVRC	Sivrice-ELAZID	3.06	229	*e*PN		Pn	16 27 07.0 +0.7
SVRC	Sivrice-ELAZID	3.06	229	*e*Pn		Pn	16 27 07.0 +0.7
HAKT	HAKKARI	3.07	158	*i* P		Pb	16 27 12.1 -0.1
SUSE	Susehri	3.10	268	*i* P		Pg	16 27 13.9 -2.3
SUSE				*i* S		Sg	16 27 57.7 +1.2
GANJ	Ganja	3.11	84	⇓P		Pg	16 27 15.0 -1.3
	SNR=8.2						
GANJ				⇓S		Sg	16 27 53.6 -3.0
KEMA	Kemaliye	3.11	250	*i* P		Pb	16 27 13.3 +0.4
KEMA				*i* S		Sg	16 27 58.3 +1.6
ELZG	Elazig	3.17	234	*i* P		Pb	16 27 14.4 +0.5
MAZI	Mazidag	3.27	206	*e*PN		Pn	16 27 10.0 +0.9
MAZI	Mazidag	3.27	206	*e*Pn		Pn	16 27 10.0 +0.9
KBZ	Khabaz	3.35	8	Pn		Pb	16 27 13.5 -3.3
	0.6nm,0.3s,baz=189,slow=13,SNR=9.9						
KBZ				Pg		Pg	16 27 20.2 -0.7
	1.0nm,0.3s,baz=187,slow=11,SNR=23						
ZKTA	Zakatala	3.52	68	P		Pg	16 27 22.2 -2.1
	SNR=4.6						
MALT	Malatya	3.63	236	*e*PN		Pn	16 27 14.5 +0.4
MALT	Malatya	3.63	236	*e*Pn		Pn	16 27 14.5 +0.4
RSDY	Resadiye-TOKAT	3.76	271	*e*PN		Pn	16 27 17.1 +1.3
RSDY	Resadiye-TOKAT	3.76	271	*e*Pn		Pn	16 27 17.1 +1.3
BRDA	Brd	3.77	91	P		Pg	16 27 28.6 -0.3
	SNR=5.0						
SEKA	Sheki	3.84	76	P		Pg	16 27 28.2 -2.0
	SNR=5.3						
SVSK	Karacayir	4.06	265	*e*PN		Pn	16 27 21.6 +1.8
SVSK	Karacayir	4.06	265	*e*Pn		Pn	16 27 21.6 +1.8
DARE	Darende-Malaty	4.12	245	*e*PN		Pn	16 27 22.8 +1.9
DARE	Darende-Malaty	4.12	245	*e*Pn		Pn	16 27 22.8 +1.9
QUBA	Quba, Azerbaij	4.82	77	⇑P		Pg	16 27 47.5 -1.6
PQL	Pirkuli	4.84	83	⇑P		Pg	16 27 48.6 -0.9
LRK	Lerik	5.03	109	⇓P		Pg	16 27 52.1 -1.0
SIZA	Siyzn	5.09	80	⇑P		Pg	16 27 52.4 -1.9
BRTR	Keskin Array B	6.64	267	Pg		Pb	16 28 11.1 -1.9
	0.1nm,0.3s,baz=91,slow=13,SNR=2.2						
AKTO	Aktyubinsk	14.90	43	Pn		Pn	16 29 49.5 +1.2
	0.1nm,0.3s,baz=227,slow=18,SNR=2.9						
GERES	GERESS Array B	21.90	302	P		P	16 31 11.7 +0.6
	0.4nm,0.6s,baz=102,slow=8.3,SNR=4.3						
GERES				LR		LR	16 40 59.4
	comp=Z,144nm,19.4s,baz=139,slow=40						

*IDC **20** 16:27:14.6±0.7, 38.°04S×73.°23W, h0km, mb4.5/12, mb1 4.7/13, mb1mx4.6/18, mbtmp4.6/13, ML3.8/2, MS4.3/8, Ms1 4.3/8, ms1mx4.0/24, Error ellipse: s-maj=26.2km s-min=16.3km az=93.0*
*ISCJB **20** 16:27:15.6±1.2, 37.°94S±0.°03×73.°12W±0.°09, h15km±8km, mb4.8/31, MS4.3/7, Error ellipse: s-maj=11.4km s-min=5.2km az=1.7*
*GUC **20** 16:27:17.0±0.5, 37.°99S×73.°71W, h40km±2km, ML5.3*
*BJI **20** 16:27:18.4, 37.°55S×72.°60W, h34km, mB5.4/4, Ms5.2/3, Ms7 4.9/3*
*NEIC **20** 16:27:20.1±0.4, 37.°86S×73.°05W, h35km, mb4.8/20, Error ellipse: s-maj=12.3km s-min=7.9km az=77.0*
NEIC Felt at Chiguayante and Temuco.
ISC 20 16:27:18.6±0.9, 37.°99S±0.°04×73.°47W±0.°07, h30km±5km, n87, σ1§54/100, mb4.7/31, MS4.4/7, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	Angol	0.64	74	⇑*i*P		Pn	16 27 31.7 +0.2
AGCH				*i* S		Sn	16 27 42.8 +2.2
PSCH	Puerto Saavedr	0.81	176	⇑*i*P		Pn	16 27 32.2 -1.7
PSCH				*i* S		Sb	16 27 44.0 -0.7
VLCH	Valdivia	1.82	175	⇑*i*P		Pn	16 27 46.5 -1.3
VLCH				*e*S		Sn	16 28 09.2 -0.6
VLCH				AML	AML		16 28 20.8
	comp=N,40μm,0.6s						
COCH	Cobquecura	1.93	17	⇑*i*P		Pn	16 27 48.6 -0.8
COCH				*e*S1		Sn	16 28 12.7 +0.1
LNCH	Linares	2.61	36	*e*P1		Pn	16 27 59.0 +0.4
LNCH				*e*S1		Sn	16 28 30.7 +1.3
LNCH				AML	AML		16 28 46.5
	comp=N,12μm,1.1s						
TALC	Talca	2.98	30	*e*P1		Pn	16 28 03.9 +0.2
TALC				*e*S1		Sn	16 28 39.1 +0.7
PLCA	Paso Flores	3.55	141	Pn		Pn	16 28 12.8 +1.1
	comp=N,7.0nm,0.3s,baz=313,slow=10.0,SNR=202						
PLCA				Lg		Lg	16 29 05.7
	comp=N,19nm,0.3s,baz=40,slow=23,SNR=3.2						
PLCA	Paso Flores	3.55	141	*e*Pn		Pn	16 28 13.2 +1.5
PLCA				*e*Sn		Sn	16 28 49.8 -2.9
PLCA				Lg		Lg	16 29 05.7
CLCH	Cerro Calan	5.17	28	⇑*i*P		Pn	16 28 33.1 -0.8
CFAA	Coronel Fontan	7.69	36	Pn		Pn	16 29 07.2 -1.3
	comp=N,0.5nm,0.3s,baz=215,slow=13,SNR=35						
CFAA				LR	LR		16 32 23.7
	comp=N,139nm,20.4s,baz=236,slow=41						
TRQA	Tornquist	9.07	94	Pn		Pn	16 29 22.5 -4.9
TRQA				*e*Sn		Sn	16 30 57.8 -11
LCO	Las Campanas	9.25	15	*e*Pn		Pn	16 29 28.0 -2.2
LVC	Limon Verde	15.82	16	*e*Pn		Pn	16 30 55.5 -3.8
	comp=N,37nm,1.4s						
LVC				*e*Sn		Sn	16 33 50.2 -3.7
USHA	Ushuaia	17.19	170	P		Pn	16 31 16.6 +0.3
	comp=N,0.9nm,0.3s,baz=308,slow=7.5,SNR=3.8						
USHA				LR	LR		16 37 38.8
	comp=N,849nm,20.1s,baz=336,slow=36						
LPAZ	La Paz	22.13	14	P		P	16 32 13.6 +1.3
	comp=N,5.7nm,0.8s,baz=181,slow=11,SNR=14						
LPAZ				LR	LR		16 42 40.1
	comp=N,481nm,18.5s,baz=168,slow=42						
LPAZ	La Paz	22.13	14	*e*P		P	16 32 09.7 -2.6
	comp=N,15nm,0.9s						
SIV	San Ignacio	24.49	30	P		P	16 32 34.8 -0.4
	comp=N,6.2nm,0.8s,baz=215,slow=8.1,SNR=17						
SIV				LR	LR		16 43 56.5
	comp=N,680nm,18.3s,baz=233,slow=41						
SAML	Samuel	30.37	20	*e*P		P	16 33 25.7 -2.1
	comp=N,8.7nm,1.2s						
BDFB	Brasilia	31.62	52	P		P	16 33 37.9 -1.1
	comp=N,4.9nm,0.7s,baz=191,slow=6.9,SNR=7.0						
BDFB				LR	LR		16 47 58.0
	comp=N,730nm,18.3s,baz=224,slow=40						
OTAV	Otavalo	38.32	352	*e*P		P	16 34 34.8 -2.3
	comp=N,41nm,1.4s						
VNA3	Neumayer Olymp	46.14	156	P		P	16 35 40.9 +1.1
SDV	Santo Domingo	46.71	4	*e*P		P	16 35 43.0 -1.9
	comp=N,8.7nm,0.9s						
RCBR	Riachuelo	46.77	56	P		P	16 35 45.5 +0.1
	comp=N,7.1nm,0.8s,baz=202,slow=11,SNR=4.5						
RCBR	Riachuelo	46.77	56	*e*P		P	16 35 44.3 -1.1
	comp=N,21nm,1.2s						
VNA2	Neumayer--Watz	46.82	156	P		P	16 35 45.9 +0.8
SNAA	Sanae	48.36	156	P		P	16 35 58.0 +0.9
SNAA	Sanae	48.36	156	P		P	16 35 56.7 -0.5
	comp=N,8.1nm,1.0s,baz=294,slow=8.6,SNR=8.7						
QSPA	South Pole Qui	52.25	180	P		P	16 36 27.3 +0.6
	comp=N,3.5nm,0.7s,baz=164,slow=0.8,SNR=20						
RKT	Rikitea	54.10	267	*e*LR	LR		16 52 14.7
	comp=N,551nm,24.0s						
RKT	Rikitea	54.10	267	*e*T	T		17 34 33.2
	comp=N,4.6nm,0.2s						
SYO	Syowa Base	62.59	158	⇓*e*P	P		16 37 37.8 -1.5
TBI	Tubuai	65.33	259	*e*LR	LR		16 57 27.9
	comp=N,448nm,25.8s						
TBI	Tubuai	65.33	259	*e*T	T		17 48 30.9
	comp=N,8.4nm,0.3s						
MEH	Mehetia	67.24	265	*e*T	T		17 50 58.3
	comp=N,45nm,0.3s						
TVO	Taravao	68.23	264	*e*T	T		17 52 11.0
	comp=N,4.2nm,0.3s						
TIAR	Tiarei	68.43	264	*e*T	T		17 52 26.8
	comp=N,18nm,0.3s						
PAE	Paea	68.55	264	*e*T	T		17 52 35.9
	comp=N,7.5nm,0.3s						
PPT2	Papeete2	68.59	264	*e*LR	LR		16 58 59.4
	comp=N,440nm,25.8s						
PPT	Papeete	68.60	264	LR	LR		17 00 26.4
	comp=N,364nm,18.6s,baz=125,slow=29						
MAW	Mawson	69.69	164	LR	LR		17 08 51.0
	comp=N,220nm,18.0s,baz=235,slow=36						
TXAR	Lajitas Array	72.69	333	P		P	16 38 44.3 +0.8
	comp=N,1.9nm,0.6s,baz=153,slow=6.6,SNR=5.3						
TXAR				LR	LR		17 05 24.6
	comp=N,310nm,19.9s,baz=0.0,slow=31						
WVT	Waverly	74.94	348	*e*P		P	16 38 56.5 0.0
	comp=N,20nm,1.3s						
LIC	Lamto	77.14	72	*e*P		P	16 39 10.2 +0.7
	comp=N,105nm,0.9s						
TIC	Toumodi	77.42	71	*e*P		P	16 39 12.0 +0.9
	comp=N,14nm,0.2s						
KIC	Kosan Boka	77.44	72	*e*P		P	16 39 11.8 +0.6
	comp=N,99nm,0.9s						
DBIC	Dimbokro	77.56	71	P		P	16 39 12.7 +0.9
	comp=N,34nm,0.8s,baz=208,slow=6.1,SNR=34						
DBIC	Dimbokro	77.56	71	*e*P		P	16 39 11.5 -0.3
	comp=N,45nm,0.9s						
LAZ	Ladron	78.52	332	*e*P		P	16 39 18.8 +1.8
	comp=N,9.5nm,1.6s						
ANMO	Albuquerque	78.76	333	P		P	16 39 18.6 +0.3
	comp=N,10nm,1.2s						
TSUM	Tsumeb	79.24	106	*e*P		P	16 39 20.0 -1.3
	comp=N,14nm,1.4s						
BOSA	Boshof	79.24	118	P		P	16 39 21.0 -0.2
	comp=N,14nm,0.9s,baz=197,slow=4.6,SNR=15						
BOSA				LR	LR		17 11 27.5
	comp=N,110nm,18.3s,baz=215,slow=34						
BOSA	Boshof	79.24	118	*e*P		P	16 39 20.5 -0.7
	comp=N,24nm,1.1s						
SDCO	Great Sand Dun	80.95	335	*e*P		P	16 39 31.0 +0.9
	comp=N,7.6nm,1.4s						
LBTB	Lobatse	81.67	115	*e*P		P	16 39 34.5 +0.2
	comp=N,12nm,0.8s						
CCUT	Cedar City	83.70	329	*e*P		P	16 39 47.1 +2.6
	comp=N,20nm,1.5s						
ECSD	EROS Data Cent	84.01	343	*e*P		P	16 39 44.9 -0.7
	comp=N,31nm,1.3s						
MVU	Marysvale	84.06	330	*e*P		P	16 39 47.5 +1.1
	comp=N,5.9nm,1.1s						
DUG	Dugway, Tooele	85.76	331	P		P	16 39 55.9 +1.2
	comp=N,18nm,1.5s						
TPH	Tonopah	85.76	327	*e*P		P	16 39 56.3 +1.5
	comp=N,15nm,1.4s						
NVAR	Mina Array Bea	86.52	326	P		P	16 40 01.6 +3.0
	comp=N,1.5nm,0.8s,baz=150,slow=6.3,SNR=3.0						
TORD	Torodi Ar. Bea	86.64	71	P		P	16 39 59.5 0.0
	comp=N,6.6nm,0.9s,baz=232,slow=4.6,SNR=33						
PDAR	Pinedale Array	86.82	334	P		P	16 40 02.7 +2.7
	comp=N,2.7nm,1.1s,baz=163,slow=5.7,SNR=11						
HVU	Hanse-Valley	87.11	332	*e*P		P	16 40 01.9 +0.6
	comp=N,4.9nm,1.0s						
ULM	Lac du Bonnet	90.06	346	P		P	16 40 18.4 +3.6
	comp=N,1.6nm,0.5s,baz=278,slow=2.1,SNR=3.9						
ULM	Lac du Bonnet	90.06	346	*e*P		P	16

mb4.2/23, Error ellipse: s-maj=7.1km s-min=4.7km az=174.4
*DJA **20** 16:28:13.9±1.3, 4°N±11°×12°7E±°, h10km, M4.6/6, mb4.8/4, mB4.9/3, MLv4.5/6, Mw(mB)4.2/3*
*NEIC **20** 16:28:14.1±0.2, 4°14N×126°57E, h35km, mb4.4/6, Error ellipse: s-maj=10.6km s-min=4.8km az=79.0*
*MAN **20** 16:28:24, 4°65N×126°27E, h68km, mb4.8, ML3.7, MS3.8*

ISC 20 16:28:15.1±0.5, 4°13N±0°05×126°67E±0°07, h45km, n54, σ1§40/55, mb4.2/23, 2C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.22	249	P		P	Pn	16 28 34.8	-1.0
SGSI						S	Sn	16 28 50.8	-0.4
GSPH	General Santos	2.59	319	⇑iP		P	Pn	16 28 54.4	-0.2
MATI	Mati	2.83	352	eP		P	Pn	16 28 59.9	+2.1
MATI				eS		S	Sn	16 29 27.7	-2.9
TNTI	Ternate	3.41	168	P		P	Pn	16 29 05.5	-0.3
TNTI				S		S	Sn	16 29 25.3	-20
TNTI	Ternate	3.41	168	ePn		P	Pn	16 29 05.1	-0.7
CTBH	Cotabato--PC H	3.90	322	⇑iP		P	Pn	16 29 13.8	+1.2
BIPH	Bislig	4.04	356	||eP		P	Pn	16 29 18.8	+4.4
BUKP	Musuan	4.05	337	eP		P	Pn	16 29 16.3	+1.6
KMSI	Cibinong	4.44	217	P		P	Pn	16 29 20.4	+0.4
CGP	Cagayan de Oro	4.72	336	eP		P	Pn	16 29 30.1	+6.3
LBMI	Labuha	4.81	170	P		P	Pn	16 29 24.6	-0.5
BUTP	Butuan	4.92	348	eP		P	Pn	16 29 31.8	+5.3
PAGZ	Pagadian	4.93	319	eP		P	Pn	16 29 28.4	+1.7
GTOI	Gorontalo 67nm,1.0s,866nm0.3nm	5.04	227	P		P	Pn	16 29 29.5	+1.2
MRSI	Marisa 80nm,0.6s,796nm	5.96	233	P		P	Pn	16 29 42.0	+1.2
SANI	Sanana	6.18	186	P		P	Pn	16 29 48.1	+4.2
LUWI	Luwuk 172nm,1.1s,2μm	6.45	217	P		P	Pn	16 29 49.9	+2.3
LUWI	Luwuk 297nm,1.3s	6.45	217	ePn		P	Pn	16 29 45.6	-2.0
SWI	Sorong	6.76	137	P		P	Pn	16 29 51.2	-0.6
WRAB	Tennant Creek 13nm,0.9s	25.08	163	eP		P	P	16 33 35.7	+0.1
WRA	Warramunga Arr 5.4nm,0.6s,baz=345,slow=10,SNR=26	25.08	163	P		P	P	16 33 35.7	0.0
WB2	Warramunga Arr	25.09	163	eP		P	P	16 33 36.0	+0.2
AS31	Alice Springs	28.52	166	eP		P	P	16 34 07.1	+0.5
ASAR	Alice Springs 0.7nm,0.5s,baz=338,slow=6.4,SNR=10	28.52	166	P		P	P	16 34 06.5	-0.1
CMAR	Chiang Mai Arr 1.1nm,0.8s,baz=110,slow=6.9,SNR=11	30.62	300	P		P	P	16 34 25.1	-0.1
CHTO	Chiang Mai 2.2nm,0.8s	30.77	301	eP		P	P	16 34 26.1	-0.4
KSAR	Wonju Array Be	33.17	2	P		P	P	16 34 46.3	-1.1
KSRS	Korea Array 1.2nm,0.6s,baz=180,slow=9.9,SNR=2.7	33.18	2	P		P	P	16 34 46.3	-1.2
ASAJ	Asahikawa 6.7nm,0.8s,baz=235,slow=8.9,SNR=5.9	42.23	17	P		P	P	16 36 04.7	+0.9
TAPN	Taplejung	43.73	306	eP		P	P	16 36 14.9	-1.7
ODAN	Odare 9.5nm,0.7s	43.79	305	eP		P	P	16 36 16.2	-0.8
RAMN	Ramite 7.6nm,0.7s	44.47	305	eP		P	P	16 36 21.8	-0.7
JIRN	Jiri 14nm,0.7s	45.09	306	eP		P	P	16 36 25.6	-2.0
GUN	Gumba 9.5nm,0.6s	45.44	306	eP		P	P	16 36 28.2	-2.1
GKN	Gorkha	46.49	305	eP		P	P	16 36 37.4	-1.0
ULN	Ulaanbaatar 2.7nm,0.8s	46.72	342	eP		P	P	16 36 39.1	-0.7
SONM	Songino Array 1.4nm,0.5s,baz=160,slow=7.3,SNR=15	46.90	341	P		P	P	16 36 41.4	+0.2
SONM				PcP		PcP	PcP	16 38 14.3	+0.9
KOLN	Koldanda 0.4nm,0.6s,baz=148,slow=4.6,SNR=2.7 11nm,0.5s	47.25	305	eP		P	P	16 36 43.8	-0.6
DANN	Dangsing 17nm,0.5s	47.34	305	eP		P	P	16 36 43.8	-1.3
PETK	Petropavlovsk- 1.7nm,0.6s,baz=188,slow=2.6,SNR=8.1	55.08	22	P		P	P	16 37 43.4	+1.0
MKAR	Makanchi Array 1.5nm,0.4s,baz=121,slow=7.9,SNR=40	57.19	325	P		P	P	16 37 57.4	-0.3
MKAR				PcP		PcP	PcP	16 38 51.8	-0.1
MKAR	0.8nm,0.5s,baz=133,slow=3.3,SNR=5.2			ScP		ScP	ScP	16 42 54.4	+6.3
YAK	Yakutsk 0.2nm,0.6s,baz=104,slow=4.8,SNR=3.7	57.81	2	eP		P	P	16 38 01.3	-0.4
ZALV	Zalesovo Beam 0.9nm,0.4s,baz=114,slow=6.0,SNR=5.6	60.20	333	P		P	P	16 38 17.2	-1.2
KURBB	Kurchatov Arra 1.9nm,0.6s,baz=122,slow=6.3,SNR=30	61.37	327	P		P	P	16 38 25.9	-0.5
KURK	Kurchatov 2.2nm,0.6s	61.37	327	eP		P	P	16 38 25.1	-1.3
BVAR	Borovoye Array 0.9nm,0.6s,baz=130,slow=6.8,SNR=9.4	66.95	327	P		P	P	16 39 02.3	-0.7
TIXI	Tiksi 2.8nm,0.6s	67.44	1	eP		P	P	16 39 05.9	+0.2
GEYT	Alibeck 1.6nm,0.3s,baz=92,slow=4.8,SNR=8.5	70.60	309	P		P	P	16 39 26.5	+0.4
AKTO	Aktyubinsk 1.0nm,0.4s,baz=110,slow=9.0,SNR=7.5	73.31	322	P		P	P	16 39 41.0	-0.9
ILAR	Eielson Array 0.5nm,0.5s,baz=249,slow=5.6,SNR=5.8	84.77	25	P		P	P	16 40 44.9	+0.5
BRTR	Keskin Array B 0.7nm,0.9s,baz=126,slow=3.7,SNR=3.2	89.72	310	P		P	P	16 41 09.9	+0.9
ARCES	ARCESS Array B 2.6nm,0.9s,baz=18,slow=4.2,SNR=5.1	90.05	340	P		P	P	16 41 09.8	0.0
FINES	FINESS Array B 1.3nm,0.7s,baz=86,slow=7.8,SNR=6.9	91.45	332	P		P	P	16 41 16.3	-0.2
TORD	Torodi Ar. Bea 0.6nm,0.7s,baz=49,slow=1.0,SNR=3.6	122.74	288	PKP		PKPdf	PKPdf	16 47 07.3	+0.1

SJA 20 16:28:54.0±1.1, 31°36S×69°48W, h104km±10km, ML3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.46	160	eP		P	Pn	16 29 11.2	+0.9
SJA	San Juan	0.81	102	eP		P	Pn	16 29 14.4	+1.5
SJA				eS		S	Sn	16 29 27.8	+0.7
SJA	comp=Z,2μm,0.2s					AML	AML	16 29 32.0	
AUSP	Uspallata	0.86	175	eP		P	Pn	16 29 14.3	+0.6
AUSP				eP		P	Pn	16 29 14.3	+0.6
RTLL	Cerro Villicun	0.86	88	eP		P	Pn	16 29 14.0	+0.6
RTLL				eS		S	Sn	16 29 29.7	+1.7
CFAA	Coronel Fontan	1.09	103	eP		P	Pn	16 29 16.9	+1.1
CFAA				eS		S	Sn	16 29 33.2	+1.0
ASAL	Salagasta	1.34	156	eP		P	Pn	16 29 19.8	+1.1
ASAL				eS		S	Sn	16 29 38.2	+0.8
ARCO	CERRO ARCO	1.54	163	eP		P	Pn	16 29 22.5	+1.2
ARCO				eS		S	Sn	16 29 43.5	+1.6
ARCO	comp=Z,635nm,0.5s					AML	AML	16 29 45.4	
AVFE	Valle Fertil	1.88	69	eP		P	Pn	16 29 26.4	+1.1
AVFE				eS		S	Sn	16 29 50.0	+0.8
AVFE	comp=Z,434nm,0.7s					AML	AML	16 29 52.5	

*DJA **20** 16:34:50.4±3.5, 4°S±6°×14°2E±2°0, h13km±31km, M4.2/8, mB5.4/1, mb4.5/8, MLv4.0/3, Mw(mB)4.9/1*
*ISCJB **20** 16:34:53.8±0.7, 4°04S±0°06×141°35E±0°08, h54km, mb3.9/5, MS3.6/1, Error ellipse: s-maj=12.5km s-min=7.4km az=161.5*
*IDC **20** 16:34:55.3±1.8, 4°04S×141°24E, h47km±16km, mb3.4/5, mb1 3.8/8, mb1mx3.6/27, mbtmp3.9/8, ML3.8/3, MS3.7/1, Ms1 3.7/1, ms1mx3.0/17, Error ellipse: s-maj=30.6km s-min=12.6km az=79.0*

ISC 20 16:34:55.9±0.8, 4°01S±0°07×141°29E±0°10, h54km, n24, σ1§41/25, mb3.8/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	Jayapura	1.60	339	P		P	Pn	16 35 19.9	-2.0
JAY	Jayapura 20nm,0.3s,baz=184,slow=10,SNR=68	1.60	339	P		Pn	Pn	16 35 19.9	-2.0
JAY				S		S	Sn	16 35 40.9	-0.6
JAY	Jayapura baz=1.5,SNR=14	1.60	339	P		Pn	Pn	16 35 19.9	-2.0
JAY				S		S	Sn	16 35 41.2	-0.3
GENI	Genyem	1.80	322	P		P	Pn	16 35 23.5	-1.1
SMPI	Sarmi	3.27	308	P		P	Pn	16 35 46.4	+1.8
PMG	Port Moresby 1.2nm,0.3s,baz=287,slow=11,SNR=6.3	7.92	133	P		Pn	Pn	16 36 49.5	+1.0
PMG	Port Moresby baz=8.2,SNR=4.0	7.92	133	P		Pn	Pn	16 36 49.6	+1.1
FAKI	Fak Fak baz=8.8,SNR=4.5	9.09	277	P		Pn	Pn	16 37 03.1	-1.4
SWI	Sorong 18nm,0.8s	10.49	287	P		Pn	Pn	16 37 25.3	+1.5
WRA	Warramunga Arr 0.6nm,0.3s,baz=23,slow=12,SNR=24	17.22	203	P		Pn	Pn	16 38 51.2	-1.6
BATI	Baumata 1.4nm,0.3s,baz=54,slow=5.1,SNR=4.7	18.53	250	P		P	Pn	16 39 09.0	+0.7
GTOI	Gorontalo 66nm,0.8s	18.84	284	P		Pn	Pn	16 39 14.9	+2.3
MRSI	Marisa 20nm,0.8s	19.84	283	P		P	Pn	16 39 22.8	+0.3
APSI	Ampana 38nm,1.2s	19.86	278	P		Pn	Pn	16 39 24.6	-0.1
ASAR	Alice Springs 2.1nm,0.6s,baz=30,slow=9.9,SNR=35	20.80	199	P		P	Pn	16 39 31.9	-1.0
BNSI	Bone 18nm,1.1s	21.13	268	P		P	Pn	16 39 38.2	+1.7
BKSI	Bulukumba	21.14	266	P		P	Pn	16 39 37.9	+1.4
WRKA	Warakurna baz=24,SNR=7.8	24.35	210	P		P	Pn	16 40 07.8	-1.2
KKM	Kota Kinabalu baz=27,SNR=3.7	26.96	292	S		S	Pn	16 45 06.3	-0.3
DZM	Mont Dzumac comp=Z,154nm,21.4s,baz=159,slow=35	30.28	129	LR		LR	Pn	16 52 39.7	
CMAR	Chiang Mai Arr 0.5nm,0.8s,baz=110,slow=5.6,SNR=3.7	47.31	300	P		P	P	16 43 24.1	-0.6
PETK	Petropavlovsk- 2.1nm,0.8s,baz=166,slow=9.3,SNR=6.3	58.57	12	P		P	P	16 44 46.5	-0.4
SONM	Songino Array 0.2nm,0.4s,baz=157,slow=4.7,SNR=2.5	60.01	334	P		P	P	16 44 59.0	+1.9
MKAR	Makanchi Array 0.6nm,0.5s,baz=114,slow=6.5,SNR=12	72.39	322	P		P	P	16 46 15.8	-0.6

*ISCJB **20** 16:43:04.7±0.6, 30°65S±0°06×180°0W±0°1, h350km, mb3.5/3, Error ellipse: s-maj=17.0km s-min=6.6km az=19.6*
*IDC **20** 16:43:05.6±0.8, 30°51S×179°76W, h356km±10km, mb3.4/3, mb1 3.8/5, mb1mx3.4/19, mbtmp4.4/5, Error ellipse: s-maj=22.6km s-min=21.6km az=151.0*

ISC 20 16:43:04.9±0.8, 30°71S±0°09×179°9W±0°2, h350km, n46, σ1§22/53, mb3.4/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	Raoul Island 137nm,0.3s,baz=120,slow=8.2,SNR=17	2.21	50	P		P	Pn	16 43 59.2	+1.3
RAO						S	S	16 44 39.6	-0.7
MXZ	Matakaoa Point 192nm,0.3s,baz=56,slow=19,SNR=5.3	7.01	192	ePN		Pn	Pn	16 44 48.7	+1.5
MXZ						SN	S	16 46 09.6	-0.9
WMGZ	Waiomatatini S	7.24	191	PN		Pn	Pn	16 44 52.3	+2.3
HAZ	Te Kaha	7.30	195	PN		Pn	Pn	16 44 51.9	+1.3
PUZ	Puketiti	7.51	192	ePN		Pn	Pn	16 44 51.6	-1.6
PUZ				eSN		S	S	16 46 17.3	-4.1
TWGZ	Tauwhareparae	7.66	193	PN		Pn	Pn	16 44 56.3	+1.3
TWGZ				SN		S	S	16 46 23.4	-1.3
MWZ	Matawai	7.91	195	PN		Pn	Pn	16 44 57.9	0.0
MWZ				SN		S	S	16 46 29.2	-0.8
URZ	Urewera 2.2nm,0.3s,baz=274,slow=5.5,SNR=53	7.94	198	P		Pn	Pn	16 45 00.3	+2.1
URZ				S		S	S	16 46 31.6	+1.0
URZ	Urewera 16nm,0.3s,baz=297,slow=20,SNR=11	7.94	198	PN		Pn	Pn	16 44 58.6	+0.4
URZ				SN		S	S	16 46 30.1	-0.5
TKGZ	Te Karaka	7.94	193	PN		Pn	Pn	16 44 58.7	+0.4
RAGZ	Rawiri	8.09	195	PN		Pn	Pn	16 45 01.0	+0.9
RAGZ				SN		S	S	16 46 34.3	+0.3
RIGZ	Rimuhau	8.22	193	PN		P	P	16 45 04.1	-0.4
PRGZ	Paritu Road	8.41	192	PN		P	P	16 45 07.1	+0.5
TLZ	Tolley Road	8.50	205	ePN		P	P	16 45 09.6	+2.0
KNZ	Kokohu	8.54	193	PN		P	P	16 45 06.8	-1.2
RAHZ	Arahi	8.57	196	PN		Pn	Pn	16 45 06.6	+0.9
WHHZ	Waihua	8.69	195	PN		P	P	16 45 09.5	-0.1
HATZ	Hinemaiaia	8.82	201	PN		P	P	16 45 11.0	-0.1
BKZ	Black Stump Fm	8.96	199	ePN		Pn	P	16 45 09.8	-0.6
MCHZ	McNeill Hill	9.16	197	PN		P	P	16 45 15.8	+0.9
BHHZ	Black Hill Sta	9.38	200	PN		Pn	P	16 45 15.8	+0.4
KRHZ	Kereru	9.44	198	PN		Pn	P	16 45 16.6	+0.5
KAHZ	Kahuranaki	9.45	196	PN		Pn	P	16 45 16.8	+0.5
MTVZ	Mangateitei	9.47	203	PN		P	P	16 45 18.4	0.0
PXZ	Pawanui	9.68	195	ePN		Pn	P	16 45 18.8	-0.1
PNHZ	Pukenui	9.74	198	PN		Pn	P	16 45 19.6	0.0
WPHZ	Waipukurau	9.81	197	PN		Pn	P	16 45 22.0	-0.2
TSZ	Takapari Road	9.94	199	ePN		Pn	P	16 45 21.4	-0.6
DVHZ	Dannevirke	10.11	198	PN		P	P	16 45 24.7	-0.7
PRWZ	Pori Road	10.40	198	PN		P	P	16 45 29.3	+0.7
MRZ	Mangatainoka R	10.60	199	PN		Pn	P	16 45 28.6	-1.3
HOWZ	Holdsworth Sta	10.84	199	PN		Pn	P	16 45 32.7	-0.1
TMWZ	Te Maipa	10.94	197	PN		P	P	16 45 35.0	+0.4
KIW	Kapiti Island	10.99	201	ePN		Pn	P	16 45 33.6	-0.9
MTW	Mount Morrison	11.09	199	PN		P	P	16 45 35.7	-0.5
THZ	Tophouse	12.48	206	ePN		P	P	16 45 50.9	-0.9
MQZ	McQueen's Vall	14.28	203	PN		Pn	Pn	16 46 12.5	-0.7
ODZ	Otahua Downs	16.14	205	PN		Pn	P	16 46 36.5	+1.7
ASAR	Alice Springs 0.8nm,0.4s,baz=103,slow=7.2,SNR=32	41.50	268	P		P	P	16 50 20.1	+0.7
ASAR				ScP		ScP	ScP	16 55 24.5	-1.0
WRA	Warramunga Arr 4.3nm,0.4s,baz=112,slow=8.2,SNR=135	42.52	273	P		P	P	16 50 28.1	+0.6
QSPA	South Pole Qui 1.1nm,0.8s,baz=75,slow=8.8,SNR=5.5	59.40	180	P		P	P	16 52 33.3	+1.9
JOF	Joensuu 1.3nm,0.9s	142.10	337	ep		PKPdf	PKPdf	17 02 05.5	+11
KAF	Kangasniemi 1.1nm,0.5s	144.29	339	ep		PKPab	PKPab	17 01 55.3	-2.7
FINES	FINESS Array B 0.9nm,0.3s,baz=64,slow=3.5,SNR=22	144.87	339	PKP		PKPbc	PKPbc	17 01 59.0	-0.9
HFS	Hagfors 2.9nm,1.0s,baz=48,slow=4.3,SNR=5.9	149.20	347	PKPbc		PKPbc	PKPbc	17 02 10.3	-1.5
TORD	Torodi Ar. Bea 0.3nm,0.8s,baz=186,slow=2.9,SNR=2.6	162.47	185	PKPab		PKPab	PKPab	17 03 15.8	+0.3

MAN 20 16:44:01, 13°62N×120°11E, h35km, mb4.5, ML3.4, MS3.3, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LUBP	Lubang	0.17	49	eP		P	Pn	16 44 09.4	+1.8
LUBP				eS		S	Sn	16 44 13.5	+1.4
PGP	Puerto Galera	0.83	98	⇑iP		P	Pn	16 44 16.9	+0.7
SJMP	San Jose	1.51	139	eP		P	Pn	16 44 26.3	+0.7
SJMP				eS		S	Sn	16 44 40.8	-3.3
BUSP	Coron	1.61	177	eP		P	Pn	16 44 27.3	+0.3
BUSP				eS		S	Sn	16 44 44.6	-1.8
BOAC	Boac	1.69	95	eP		P	Pn	16 44 29.1	+1.0
ENPP	El Nido	2.49	196	eP		P	Pn	16 44 39.9	+0.9

GUC 20 17:03:46.4±0.3, 34°76S×72°63W, h35km±5km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TALC	Talca	1.04	128	eP		P	Pn	17 04 04.1	-0.3
TALC				eS		S	Sn	17 04 17.9	+0.2
NICH	Los Niches	1.18	102	eP		P	Pn	17 04 06.5	+0.1
NICH				eS		S	Sn	17 04 21.9	+0.6
COCH	Cobquecura	1.37	185	eP		P	Pn	17 04 09.6	+0.5
COCH				eS		S	Sn	17 04 26.9	+0.8
LNCH	Linares	1.37	142	eP9		P	Pn	17 04 10.0	+0.9
LNCH				eS		S	Sn	17 04 27.5	+1.4
PEL	Peldehue	2.28	46	eP		P	Pn	17 04 22.5	+0.8
PEL				eS		S	Sn	17 04 50.2	+1.5
PEL	comp=E,431nm,0.3s					AML	AML	17 05 06.1	

*IDC **20** 17:08:52.4±0.5, 3°34N×126°72E, h0km, mb4.4/24, mb1 4.4/24, mb1mx4.3/46, mbtmp4.3/24, Error ellipse: s-maj=23.7km s-min=11.3km az=74.0*
*DJA **20** 17:08:53.4±1.1, 4°N±9°×12°7E±°, h10km, M4.6/12, mb4.8/7, mB5.1/3, MLv4.6/12, Mw(mB)4.4/3*
*BJI **20** 17:08:57.0, 3°50N×127°00E, h51km, mB5.0/21, mb4.7/33, Ms4.4/10, Ms7 4.2/9*
*ISCJB **20** 17:08:57.9±0.5, 3°43N±0°03×126°89E±0°04, h58km±4km, mb4.5/43, Error ellipse: s-maj=7.5km s-min=4.2km az=158.8*
*NEIC **20** 17:08:58.4±0.8, 3°40N×126°86E, h48km±8km, mb4.6/20, Error ellipse: s-maj=10.7km s-min=5.3km az=65.0*
*MAN **20** 17:09:14, 4°49N×126°27E, h97km, mb5.4, ML4.3, MS4.6*

ISC 20 17:08:59.2±0.5, 3°49N±0°04×126°95E±0°06, h49km±4km, n137, σ1§55/152, mb4.5/41, 3C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.44	278	P		P	Pn	17 09 20.7	-2.1
SGSI				S		S	Sn	17 09 43.8	+3.2
TNTI	Ternate	2.73	171	P		Pn	Pn	17 09 39.6	-1.0
TNTI	Ternate	2.73	171	ePn		Pn	Pn	17 09 38.9	-1.8
GSPH	General Santos	3.26	322	⇑eP		Pn	Pn	17 09 46.8	-1.1
MATI	Mati	3.50	349	eP		Pn	Pn	17 09 53.3	+2.2
MATI				eS		Sn	Sn	17 10 22.6	-8.8
DAV	Davao City (W)	3.81	339	ePn		Pn	Pn	17 09 56.0	+0.6
LBMI	Labuha	4.14	172	P		Pn	Pn	17 10 00.1	+0.2
KMSI	Cibinong	4.15	226	P		Pn	Pn	17 10 00.5	+0.4
CTBH	Cotabato--PC H	4.58	324	⇑iP		Pn	Pn	17 10 06.4	+0.4
BIPH	Bislig	4.70	353	⇑eP		Pn	Pn	17 10 10.5	+2.9
BUKP	Musuan	4.75	337	eP		Pn	Pn	17 10 09.4	+1.1
GTOI	Gorontalo 52nm,1.0s,1μm0.3nm	4.86	234	P		Pn	Pn	17 10 09.8	0.0
SANI	Sanana	5.59	190	P		Pn	Pn	17 10 17.0	-2.8
BUTP	Butuan	5.60	346	eP		Pn	Pn	17 10 22.4	+2.4
PAGZ	Pagadian	5.60	321	eP		Pn	Pn	17 10 20.3	+0.3
MRSI	Marisa 92nm,0.8s,0.3nm	5.84	239	P		Pn	Pn	17 10 24.1	+0.9
SWI	Sorong 55nm,0.9s,0.2nm	6.10	135	P		Pn	Pn	17 10 26.7	-0.2
SWI	Sorong baz=6.0,SNR=9.9	6.10	135	P		Pn	Pn	17 10 27.8	+0.9
LUWI	Luwuk 175nm,1.0s,2μm0.7nm	6.14	223	P		Pn	Pn	17 10 30.2	+2.8
LUWI	Luwuk	6.14	223	ePn		Pn	Pn	17 10 30.2	+2.8
TOLI	Toli-Toli	6.59	249	Pn		Pn	Pn	17 10 29.0	-4.5
NLAI	Namlea 26nm,0.8s,0.1nm	6.69	179	P		Pn	Pn	17 10 36.0	+1.1
APSI	Ampana	6.87	231	P		Pn	Pn	17 10 41.7	+4.2
FAKI	Fak Fak baz=8.2,SNR=15	8.28	140	P		Pn	Pn	17 10 58.2	+1.4
FAKI	Fak Fak	8.28	140	ePn		Pn	Pn	17 10 55.8	-1.0
PALU	Palau baz=8.4,SNR=3.5	8.41	63	P		Pn	Pn	17 10 59.2	+0.7
MYLDM	Lahad Datu	8.60	282	ePn		Pn	Pn	17 10 59.9	-1.1
SBUM	Sibu	14.75	266	ePn		Pn	Pn	17 12 26.8	+1.8
KSM	Kuching baz=17,SNR=3.4	16.75	264	P		P	P	17 12 53.7	+1.5
KSM	Kuching 12nm,0.9s	16.75	264	ePn		P	P	17 12 53.2	+1.0
MTN	Manton Dam baz=17,SNR=5.0	16.75	166	P		Pn	P	17 12 48.4	-2.2
MTN				S		Sn	Sn	17 15 56.8	+1.0
KDU	Kakadu baz=17,SNR=5.5	16.98	161	P		Pn	P	17 12 53.5	0.0
KDU				S		S	S	17 16 23.2	+14
KNRA	Kununurra baz=19,SNR=5.0	19.13	175	P		P	P	17 13 17.4	-1.0
DLV	T Lat 17nm,0.7s	20.12	296	eP		P	P	17 13 29.6	+0.1
YULB	Yu-li 49nm,1.6s	20.53	345	eP		P	P	17 13 29.8	-3.8
TPUB	Ta-pu 45nm,0.7s	20.62	343	eP		P	P	17 13 32.1	-2.5
SSLB	Suanglung 24nm,0.8s	20.99	344	eP		P	P	17 13 36.6	-2.0
YHNB	Yeheng 22nm,0.7s	21.73	346	eP		P	P	17 13 45.8	-0.8
QIZ	Qiongzhong	22.77	314	P		P	P	17 13 57.0	-0.6
QIZ				S		S	S	17 18 02.9	-0.3
QIZ	13nm,1.6s			PMZ					
QIZ	190nm,19.8s			LN					
QIZ	190nm,19.8s			LZ					
QIZ	Qiongzhong	22.77	314	eP		P	P	17 13 57.2	-0.5
UBPT	Khong Chiam 20nm,1.4s	24.18	300	P		P	P	17 14 10.5	-0.8
WRAB	Tennant Creek	24.39	163	eP		P	P	17 14 11.7	-1.4
WRAB				eS		S	S	17 18 30.6	+1.1
WRA	Warramunga Arr 11nm,0.7s,baz=340,slow=10,SNR=74	24.39	163	P		P	P	17 14 11.5	-1.6
WRA				S		S	S	17 18 33.6	+4.0
WB2	Warramunga Arr 5.4nm,0.7s,baz=319,slow=25,SNR=10	24.40	163	eP		P	P	17 14 11.3	-1.8
WB2				eS		S	S	17 18 29.7	0.0
QIS	Mount Isa baz=27,SNR=7.9	26.93	153	P		P	P	17 14 36.3	+0.2
AS31	Alice Springs	27.83	166	eP		P	P	17 14 42.8	-1.4
ASAR	Alice Springs 1.9nm,0.6s,baz=350,slow=7.1,SNR=44	27.83	166	P		P	P	17 14 43.0	-1.1
ASAR				S		S	S	17 19 34.0	+10
AS01	Alice Springs 1.7nm,0.7s,baz=319,slow=17,SNR=14	27.84	166	eP		P	P	17 14 41.7	-2.5
WRKA	Warakurna baz=28,SNR=4.8	28.39	177	P		P	P	17 14 48.4	-0.7
WRKA				S		S	S	17 19 16.2	-17
PBKT	Sadao Pong 5.6nm,0.9s	28.64	299	P		P	P	17 14 52.4	+0.9
NJ2	Nanjing 30nm,0.8s	29.41	346	eP		P	P	17 14 56.3	-1.8
NJ2				PMZ					
WHN	Wuhan	29.43	337	P		P		17 15 03.9	+5.7
MEEK	Meekatharra baz=31,SNR=3.4	31.02	195	S		S		17 20 06.0	-8.1
CMAR	Chiang Mai Arr 1.5nm,0.4s,baz=121,slow=7.9,SNR=13	31.18	301	P		P	P	17 15 13.4	-0.6
CMMT	Chiang Mai 12nm,1.0s	31.33	301	P		P	P	17 15 14.8	-0.5
CMAI	Chiengmai2 11nm,0.8s	31.75	303	P		P	P	17 15 19.3	+0.2
KSAR	Wonju Array Be	33.80

230nm,16.7s
HHC LZ
150nm,16.1s
USRK Ussuriysk Ar. 40.78 6 P **P 17 16 36.9 +1.3**
5.7nm,0.8s,baz=200,slow=7.0,SNR=6.7
MDJ Mudanjiang 41.02 3 *e*P **P 17 16 38.5 +0.9**
14nm,1.0s
ARMA Armidale 41.15 147 P **P 17 16 39.6 +0.6**
baz=41,SNR=11
ARMA Armidale 41.15 147 *e*P **P 17 16 38.3 -0.7**
12nm,0.8s
H11S3 WAKE ISLAND Hy 41.62 66 T T 18 01 14.6
baz=253,slow=75,SNR=31
H11S1 WAKE ISLAND Hy 41.64 66 T T 18 01 14.1
baz=253,slow=75,SNR=16
H11S2 WAKE ISLAND Hy 41.64 66 T T 18 01 14.4
baz=253,slow=75,SNR=23
ASAJ Asahikawa 42.75 17 P **P 17 16 54.8 +3.0**
10nm,0.9s,baz=221,slow=9.3,SNR=4.0
LSA Lhasa 42.76 311 P **P 17 16 52.6 -0.1**
LSA Lhasa 42.76 311 *e*P **P 17 16 52.3 -0.3**
10nm,0.6s
GTA Gaotai 43.41 329 *e*P **P 17 16 57.1 -0.3**
GTA pP **pP 17 17 09.4 -1.1**
GTA sP **sP 17 17 14.8 -1.4**
GTA PMZ
3.0nm,1.2s
TAPN Taplejung 44.34 306 *e*P **P 17 17 03.8 -1.4**
9.0nm,0.6s
ODAN Odare 44.39 306 *e*P **P 17 17 03.8 -1.7**
12nm,0.6s
RAMN Ramite 45.07 305 *e*P **P 17 17 10.2 -0.8**
YSS Yuzh-Sakhalins 45.41 15 *e*P **P 17 17 12.5 -0.5**
JIRN Jiri 45.69 306 *e*P **P 17 17 13.9 -2.1**
HIA Hailar 46.02 353 *e*P **P 17 17 19.4 +1.5**
GUN Gumba 46.05 306 *e*P **P 17 17 17.2 -1.6**
PKI Pulchoki 46.29 305 *e*P **P 17 17 18.9 -1.8**
PKIN Phulchoki 46.30 305 *e*P **P 17 17 19.5 -1.2**
KKN Kakani 46.48 306 *e*P **P 17 17 21.1 -1.0**
DMN Daman 46.55 305 *e*P **P 17 17 20.7 -2.0**
10nm,0.8s
GKN Gorkha 47.09 306 *e*P **P 17 17 25.3 -1.4**
4.6nm,0.5s
ULN Ulaanbaatar 47.41 342 *e*P **P 17 17 29.4 +0.4**
4.6nm,0.8s
SONM Songino Array 47.59 341 P **P 17 17 30.8 +0.5**
3.1nm,0.7s,baz=154,slow=9.0,SNR=34
SONM PcP **PcP 17 19 00.1 +0.6**
0.8nm,0.6s,baz=164,slow=3.0,SNR=2.9
SONA1 Songino Array 47.60 341 *e*P **P 17 17 29.2 -1.1**
KOLN Koldanda 47.84 305 *e*P **P 17 17 31.4 -1.3**
34nm,0.6s
DANN Dangsing 47.94 306 *e*P **P 17 17 31.9 -1.6**
28nm,0.6s
HYB Hyderabad 49.41 290 *i*P **P 17 17 43.5 -1.1**
TLY Talaya 51.82 342 P **P 17 18 03.6 +1.3**
5.7nm,0.7s,baz=168,slow=4.4,SNR=5.4
TLY Talaya 51.82 342 *e*P **P 17 18 03.3 +1.0**
3.5nm,0.6s
WMQ Urumqi 53.05 325 *e*P **P 17 18 11.9 +0.4**
WMQ pP **pP 17 18 24.0 -1.0**
WMQ PMZ
2.0nm,1.0s
WMQ PMZ
250nm,4.5s
POO Poona 54.01 290 *ex* **P 17 18 17.0 -2.0**
PETK Petropavlovsk- 55.56 22 P **P 17 18 30.8 +1.2**
2.7nm,0.7s,baz=198,slow=3.0,SNR=5.3
MK01 Makanchi Array 57.86 325 *e*P **P 17 18 44.8 -1.2**
MKAR Makanchi Array 57.88 325 P **P 17 18 45.8 -0.4**
5.3nm,0.6s,baz=122,slow=8.2,SNR=56
MKAR PcP **PcP 17 19 38.5 +0.4**
1.3nm,0.6s,baz=138,slow=5.6,SNR=2.3
KSH Kashi 58.37 315 *e*P P 17 18 53.3 +3.4
KSH sP sP 17 19 11.3 +2.2
KSH PP **PP 17 21 02.0 +2.5**
KSH S **S 17 26 51.4 +2.1**
KSH sS sS 17 27 12.4 +0.3
KSH ScS **ScS 17 28 34.3 -1.5**
KSH SS **SS 17 30 45.4 +3.2**
KSH PMZ
80nm,3.2s
KSH LN
68nm,5.0s
KSH LE
44nm,4.8s
KSH LZ
170nm,8.5s
YAK Yakutsk 58.44 2 P P 17 18 46.3 -3.4
AAK Ala-Archa 60.68 318 P **P 17 19 06.3 +0.5**
1.7nm,0.8s,baz=100,slow=11,SNR=5.2
ZAA0 Zalesovo Array 60.90 333 *e*P **P 17 19 05.0 -1.8**
ZALV Zalesovo Beam 60.90 333 P **P 17 19 06.0 -0.9**
1.3nm,0.5s,baz=119,slow=4.3,SNR=11
KBL Kabul 61.84 308 *e*P **P 17 19 12.9 -1.0**
3.0nm,0.6s
KURBB Kurchatov Arra 62.06 327 P **P 17 19 14.2 -0.5**
5.8nm,0.6s,baz=132,slow=6.4,SNR=51
KURK Kurchatov 62.06 327 *e*P **P 17 19 14.0 -0.7**
6.6nm,0.6s
SEY Seymchan 62.21 13 P **P 17 19 17.6 +2.1**
2.2nm,0.9s,baz=211,slow=5.1,SNR=14
KKAR Karatay Array 63.56 317 *e*P **P 17 19 23.2 -1.7**
BVAR Borovoye Array 67.64 327 P **P 17 19 50.6 -0.4**
6.9nm,0.8s,baz=129,slow=9.2,SNR=48
BVAR PcP **PcP 17 20 19.8 +2.0**
1.6nm,0.8s,baz=129,slow=5.9,SNR=3.9
TIXI Tiksi 68.08 1 *e*P **P 17 19 52.2 -1.1**
15nm,1.7s
BILL Bilibino 69.72 15 P **P 17 20 01.8 -1.9**
CASY Casey 70.61 187 P **P 17 20 10.1 +1.0**
AKTO Aktyubinsk 73.98 322 P **P 17 20 29.5 -0.1**
baz=101,slow=11
GAMB Gambell 74.52 24 *e*P **P 17 20 34.0 +1.6**
7.4nm,0.9s
ARU Arti 75.26 328 *e*P **P 17 20 34.8 -2.0**
3.8nm,0.6s
SDPT Sand Point 77.27 34 *e*P **P 17 20 49.2 +1.0**
42nm,0.6s
RAYN Ar Rayn 80.78 293 *e*P **P 17 21 06.2 -2.0**
5.2nm,0.8s
KBZ Khabaz 83.30 313 P **P 17 21 21.4 +0.5**
0.9nm,0.7s,baz=104,slow=9.2,SNR=3.9
COLD Coldfoot 84.02 23 *e*P **P 17 21 24.2 0.0**
3.7nm,0.7s
MCK McKinley 84.28 26 P **P 17 21 26.4 +0.8**
20nm,1.5s
ILAR Eielson Array 85.22 25 P **P 17 21 30.4 +0.2**
0.5nm,0.5s,baz=250,slow=5.3,SNR=14
MMAI Mount Meron Ar 89.42 303 P **P 17 21 51.2 -0.1**
0.5nm,0.5s,baz=52,slow=2.4,SNR=4.1
KMBO Kilima Mbogo 89.77 269 P **P 17 21 54.2 +0.6**
1.6nm,0.6s,baz=44,slow=8.8,SNR=7.7
KMBO Kilima Mbogo 89.77 269 *e*P **P 17 21 54.0 +0.4**
2.5nm,0.8s
BRTR Keskin Array B 90.34 310 P **P 17 21 54.5 -1.1**
1.2nm,0.8s,baz=106,slow=5.3,SNR=9.1
ARCES ARCESS Array B 90.75 340 P **P 17 21 56.3 -0.4**
2.7nm,0.7s,baz=58,slow=4.8,SNR=5.7
BR231 Keskin MP Arra 91.00 310 *e*P P 17 21 55.4 -3.2
FINES FINESS Array B 92.15 332 P **P 17 22 02.9 -0.3**
1.1nm,0.8s,baz=125,slow=9.6,SNR=4.2
AKASG Malin Array Be 92.22 321 P **P 17 22 02.8 -1.0**
0.6nm,0.4s,baz=67,slow=5.0,SNR=3.2
BUR04 Bucovina Ar. S 95.33 318 *e*P **P 17 22 17.5 -0.9**
STHS Stebnicka Huta 97.51 321 *e* Pdif 17 22 30.5 +2.3
VYHS Vyhne 99.28 320 *e* **Pdif 17 22 38.3 +2.2**
YKA Yellowknife Ar 99.62 24 P **Pdif 17 22 38.4 +1.2**
0.3nm,0.7s,baz=298,slow=4.8,SNR=7.1
TORD Torodi Ar. Bea 123.20 288 PKP **PKPdf 17 27 51.3 -0.4**
1.0nm,0.8s,baz=41,slow=2.6,SNR=7.1

DDA ***20*** *17:12:26.8, 39°.70N×42°.68E, h7km, MD2.9*
CSEM ***20*** *17:12:26.4±0.2, 39°.63N×42°.55E, h10km, MD2.9, Error ellipse: s-maj=7.0km s-min=5.1km az=7.0*
ISCJB ***20*** *17:12:27.2±0.5, 39°.62N±0°.03×42°.58E±0°.04, h7km±5km, Error ellipse: s-maj=5.7km s-min=4.0km az=37.0*
ISK ***20*** *17:12:27.3, 39°.65N×42°.56E, h7km, MD2.7*
ISC 20 17:12:27.1±1.0, 39°.66N±0°.02×42°.59E±0°.02, h7km±9km, n29,σ1°31/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EATA	**Eleskirt**	**0.22**	**339**	*i* P		**Pg**	**17 12 31.1**	**-0.5**
EATA				*i* S		**Sg**	**17 12 35.2**	**+0.6**
EATA	**Eleskirt**	**0.22**	**339**	*i* P		**Pg**	**17 12 31.1**	**-0.5**
EATA				*i* S		**Sg**	**17 12 35.2**	**+0.6**
TUTA	**Tutak**	**0.31**	**146**	*i* P		**Pg**	**17 12 31.6**	**-1.6**
TUTA				*i* S		**Sg**	**17 12 37.9**	**+0.6**
TUTA	**Tutak**	**0.31**	**146**	*i* P		**Pg**	**17 12 31.6**	**-1.6**
TUTA				*i* S		**Sg**	**17 12 37.9**	**+0.6**
AGRB	**Hanur-Agry**	**0.32**	**105**	*e*PG		**Pg**	**17 12 34.3**	**+0.9**
AGRB				*e*SG		**Sb**	**17 12 40.0**	**-0.7**
AGRB	**Hanur-Agry**	**0.32**	**105**	*e*Pg		**Pg**	**17 12 34.3**	**+0.9**
AGRB				*e*Sg		**Sb**	**17 12 40.0**	**-0.7**
EKAR	**Karacoban**	**0.57**	**226**	*i* P		**Pn**	**17 12 40.4**	**-1.5**
EKAR				*i* S		**Sn**	**17 12 54.0**	**+2.2**
HOMI	**Horasan**	**0.66**	**306**	*i* P		**Pg**	**17 12 39.3**	**-0.5**
HOMI				*i* S		**Sn**	**17 12 52.0**	**-1.9**
DYDN	**Diyadin**	**0.85**	**97**	*i* P		**Pg**	**17 12 43.0**	**-0.5**
DYDN				*i* S		**Sg**	**17 12 55.2**	**+0.6**
DYDN	**Diyadin**	**0.85**	**97**	*i* P		**Pg**	**17 12 43.0**	**-0.5**
DYDN				*i* S		**Sg**	**17 12 55.2**	**+0.6**
DIGO	**Kars**	**0.96**	**38**	*i* P		**Pg**	**17 12 44.6**	**-1.0**
DIGO				*i* S		**Sn**	**17 13 01.8**	**+0.3**
DIGO	**Kars**	**0.96**	**38**	*i* P		**Pg**	**17 12 44.6**	**-1.0**
DIGO				*i* S		**Sn**	**17 13 01.8**	**+0.3**
ERZM	**Erzurum**	**0.98**	**285**	*i* P		**Pg**	**17 12 45.8**	**-0.1**
ERZM	**Erzurum**	**0.98**	**285**	*i* P		**Pg**	**17 12 45.8**	**-0.1**
ERZM				*i* S		**Sn**	**17 13 05.1**	**+3.3**
EZM	**Erzurum**	**0.98**	**285**	*e*PG		**Pb**	**17 12 46.3**	**-0.3**
VRTB	**Varto-Mus**	**1.01**	**241**	*e*PG		**Pb**	**17 12 46.6**	**-0.4**
VRTB	**Varto-Mus**	**1.01**	**241**	*e*Pg		**Pb**	**17 12 46.6**	**-0.4**
KARS	**Kars**	**1.04**	**21**	*e*PG		**Pb**	**17 12 47.9**	**+0.4**
KARS	**Kars**	**1.04**	**21**	*e*Pg		**Pb**	**17 12 47.9**	**+0.4**
CLDR	**Caldiran**	**1.15**	**116**	*e*PN		**Pn**	**17 12 49.8**	**0.0**
CLDR	**Caldiran**	**1.15**	**116**	*e*Pn		**Pn**	**17 12 49.8**	**0.0**
GEVA	**Gevas**	**1.39**	**165**	*i* P		**Pn**	**17 12 52.0**	**-1.1**
GEVA	**Gevas**	**1.39**	**165**	*i* P		**Pn**	**17 12 52.0**	**-1.1**
GEVA				*i* S		**Sg**	**17 13 16.2**	**+4.4**
DAGI	**Agillar**	**1.51**	**340**	*i* S		**Sg**	**17 13 17.4**	**+1.7**
DBAD	**Bademkaya**	**1.52**	**333**	*i* P		**Pn**	**17 12 54.4**	**-0.5**
DBAD	**Bademkaya**	**1.52**	**333**	*i* P		**Pn**	**17 12 54.4**	**-0.5**
BNGB	**Bing¶l**	**1.63**	**247**	*e*PN		**Pb**	**17 12 56.8**	**-0.7**
KOPT	**Kop Dagi**	**1.65**	**283**	*i* P		**Pg**	**17 13 00.2**	**+1.4**
KOPT				*i* S		Sg	17 13 28.0	+7.7
BINT	**Bingol**	**1.81**	**245**	*e*Pn		**Pn**	**17 12 56.8**	**-2.1**

JMA 20 17:12:46.6, 29°.74N×129°.98E, h104km±1km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.14**	**318**	P		Pn	17 13 01.2	+0.1
JNN				*e*S		Sn	17 13 12.1	+0.1
JYAK	**Yakushimahirau**	**0.68**	**43**	P		Pn	17 13 04.2	0.0
JYAK				S		Sn	17 13 17.1	-0.3
JKC	**Kuchinoerabu**	**0.74**	**15**	P		Pn	17 13 04.8	0.0
JKC				*e*S		Sn	17 13 18.4	0.0
JTAJ	**Takarajima**	**0.90**	**229**	P		Pn	17 13 06.3	+0.1
JTAJ				*e*S		Sn	17 13 21.1	+0.1
JTN	**Tanegashima 3**	**1.26**	**43**	P		Pn	17 13 10.4	+0.2
JTN				*e*S		Sn	17 13 28.4	+0.4
JAM	**Amami Oshima**	**1.36**	**194**	P		Pn	17 13 11.5	+0.1
JAM				S		Sn	17 13 30.1	-0.6
JTSR	**Tashiro 2**	**1.64**	**30**	P		Pn	17 13 15.0	+0.2
JTSR				*e*S		Sn	17 13 35.5	-0.8
JAMN	**Amaminishikomi**	**1.65**	**205**	P		Pn	17 13 14.9	0.0
JAMN				S		Sn	17 13 35.7	-0.7
JSU	**Suzuyama**	**1.81**	**13**	P		Pn	17 13 17.4	+0.5
JSU				*e*S		Sn	17 13 40.3	+0.3
JSJ	**Shimokoshiki**	**1.94**	**353**	P		Pn	17 13 18.6	0.0
JSJ				*e*S		Sn	17 13 42.8	-0.3
JNAR	**Kushima--Naru**	**2.10**	**32**	P		Pn	17 13 21.4	+0.8
JNAR				*e*S		Sn	17 13 46.8	+0.2
JTK	**Tokunoshima**	**2.15**	**205**	P		Pn	17 13 21.2	-0.1
JTK				*e*S		Sn	17 13 47.7	0.0

ISCJB ***20*** *17:12:46.8±0.8, 9°.30S±0°.09×124°.33E±0°.09, h78km±9km, mb3.5/4, Error ellipse: s-maj=19.3km s-min=7.9km az=40.7*
IDC ***20*** *17:12:49.1±3.8, 9°.44S×124°.26E, h85km±49km, mb3.3/4, mb1 3.5/6, mb1mx3.3/35, mbtmp3.7/6, ML3.9/2, Error ellipse: s-maj=80.7km s-min=28.3km az=38.0*
DJA ***20*** *17:12:50.2±0.5, 9°S±3°×12°4E±°, h10km, M4.0/8, mb4.2/3, MLv3.8/8*
ISC 20 17:12:47.9±1.0, 9°.33S±0°.09×124°.32E±0°.09, h72km±11km, n19,σ0°81/24, mb3.6/4, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.43**	**187**	P		**Pn**	**17 13 00.7**	**+0.3**
SOEI				S		**Sn**	**17 13 08.8**	**-0.7**
BATI	**Baumata**	**1.09**	**217**	P		**Pn**	**17 13 08.0**	**+0.4**
BATI				S		**Sn**	**17 13 23.6**	**+1.3**
BATI	**Baumata**	**1.09**	**217**	P		**Pn**	**17 13 07.9**	**+0.2**
19nm,0.3s,baz=78,slow=3.7,SNR=34								
BATI				S		**Sn**	**17 13 22.8**	**+0.5**
99nm,0.3s,baz=16,slow=20,SNR=36								
MMRI	**Maumere**	**2.17**	**288**	P		**Pn**	**17 13 22.2**	**+0.3**
MMRI				S		**Sn**	**17 13 48.4**	**+0.5**
EDFI	**Ende, Flores**	**2.66**	**282**	P		**Pn**	**17 13 28.7**	**0.0**
EDFI				S		**Sn**	**17 13 57.8**	**-2.2**
BKSI	**Bulukumba**	**5.76**	**313**	P		**Pn**	**17 14 10.9**	**0.0**
13nm,0.8s,0.0nm								
BNSI	**Bone**	**6.44**	**319**	P		**Pn**	**17 14 21.5**	**+1.3**
WRA	**Warramunga Arr**	**14.32**	**139**	P		**Pn**	**17 16 06.6**	**-0.6**
0.5nm,0.3s,baz=310,slow=14,SNR=6.3								
ASAR	**Alice Springs**	**16.95**	**148**	P		**P**	**17 16 41.2**	**-0.2**
0.5nm,0.3s,baz=320,slow=12,SNR=7.9								
CMAR	**Chiang Mai Arr**	**37.28**	**318**	P		**P**	**17 19 53.2**	**0.0**
0.6nm,0.7s,baz=138,slow=7.2,SNR=5.8								
ODAN	**Odare**	**50.77**	**316**	*e*P		**P**	**17 21 42.5**	**+1.1**
TAPN	**Taplejung**	**50.87**	**317**	*e*P		**P**	**17 21 41.4**	**-0.8**
RAMN	**Ramite**	**51.37**	**316**	*e*P		**P**	**17 21 45.9**	**0.0**
GUN	**Gumba**	**52.48**	**316**	*e*P		**P**	**17 21 54.2**	**0.0**
PKI	**Pulchoki**	**52.59**	**315**	*e*P		**P**	**17 21 54.3**	**-0.7**
DANN	**Dangsing**	**54.21**	**315**	*e*P		**P**	**17 22 06.1**	**-0.8**
7.3nm,0.4s								
SONM	**Songino Array**	**59.09**	**346**	P		**P**	**17 22 41.4**	**+0.5**
0.3nm,0.5s,baz=161,slow=7.1,SNR=4.7								
MKAR	**Makanchi Array**	**67.25**	**330**	P		**P**	**17 23 34.8**	**0.0**
0.4nm,0.5s,baz=133,slow=8.3,SNR=8.1								
KURBB	**Kurchatov Arra**	**71.69**	**331**	P		**P**	**17 24 02.1**	**+0.1**
0.5nm,0.7s,baz=141,slow=6.1,SNR=5.3								

IDC ***20*** *17:21:20.1±0.5, 51°.67N×166°.38W, h0km, mb4.7/31, mb1 4.9/31, mb1mx4.8/34, mbtmp4.7/31, MS3.7/18, Ms1 3.7/18, ms1mx3.5/51, Error ellipse: s-maj=19.2km s-min=10.3km az=177.0*
BJI ***20*** *17:21:21.7, 51°.75N×166°.30W, h27km, mB5.2/35, mb4.9/57, Ms4.9/27, Ms7 4.6/12*
ISCJB ***20*** *17:21:21.1±0.9, 51°.84N±0°.02×166°.37W±0°.02, h13km±5km, mb5.0/273, MS3.8/19, Error ellipse: s-maj=3.5km s-min=2.1km az=22.9*
NEIC ***20*** *17:21:23.4±0.8, 51°.88N×166°.40W, h17km±5km, mb5.1/174, Error ellipse: s-maj=4.3km s-min=2.5km az=191.0*
MOS ***20*** *17:21:23.9±1.1, 51°.78N×166°.36W, h33km, mb5.3/105, Error ellipse: s-maj=7.0km s-min=4.6km az=93.2*
SZGRF ***20*** *17:21:31.0, 52°.77N×166°.01W, h33km, mb5.0, Fox Islands, Aleutian Islands, United States*
ISC 20 17:21:24.8±0.4, 51°.83N±0°.05×166°.41W±0°.03, h30km±2km, h29km:pP-P, n1095,σ1°05/1152, mb5.0/286, MS3.7/19, 227C-221D, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.83**	**331**	P		**Pn**	**17 21 53.3**	**-0.9**
OKFG				S		**Sn**	**17 22 15.8**	**-0.6**
NIKH	**Nikolski High**	**1.89**	**308**	P		**Pn**	**17 21 53.9**	**-1.1**
NIKH				S		**Sn**	**17 22 16.2**	**-1.5**
MGOD	**Makushin Gods**	**1.99**	**352**	P		**Pn**	**17 21 55.3**	**-1.2**
MGOD				S		**Sn**	**17 22 19.7**	**-0.7**
MREP	**Makushin Rep't**	**1.99**	**354**	P		**Pn**	**17 21 55.8**	**-0.8**
MSOM	**Makushin Julie**	**2.02**	**351**	P		**Pn**	**17 21 55.7**	**-1.1**
MSOM				S		**Sn**	**17 22 21.1**	**+0.1**
MSOM	**Makushin Julie**	**2.02**	**351**	P		**Pn**	**17 21 55.7**	**-1.1**
MSOM				S		**Sn**	**17 22 21.1**	**+0.1**
UNV	**Unalaska Valle**	**2.02**	**358**	P		**Pn**	**17 21 55.0**	**-1.9**
UNV				S		**Sn**	**17 22 19.6**	**-1.5**
MSW	**Makushin Switc**	**2.10**	**354**	P		**Pn**	**17 21 56.8**	**-1.1**
ZRO	**Akutan Zero**	**2.28**	**6**	P		**Pn**	**17 21 59.1**	**-1.3**
AKRB	**Akutan Reef Bi**	**2.31**	**5**	P		**Pn**	**17 21 59.6**	**-1.3**
AKRB				S		**Sn**	**17 22 27.6**	**-0.7**
AKUT	**Akutan**	**2.34**	**9**	P		**Pn**	**17 21 59.6**	**-1.6**
AKUT				S		**Sn**	**17 22 27.9**	**-1.0**
AKGG	**Akutan Green G**	**2.38**	**6**	P		**Pn**	**17 22 01.0**	**-0.9**
WESE	**West Dahl East**	**2.87**	**22**	P		**Pn**	**17 22 07.4**	**-1.2**
SSLW	**Shishaldin Wes**	**3.25**	**24**	P		**Pn**	**17 22 13.4**	**-0.3**
SSLN	**Shishaldin Nor**	**3.32**	**25**	P		**Pn**	**17 22 14.4**	**-0.3**
FALS	**False Pass**	**3.52**	**29**	P		**Pn**	**17 22 16.4**	**-1.1**
FALS				S		**Sn**	**17 22 57.2**	**-0.8**
DRIA	**Deer Island**	**4.00**	**37**	P		**Pn**	**17 22 22.8**	**-1.3**
DT1	**Dutton Round H**	**4.11**	**35**	P		**Pn**	**17 22 24.7**	**-0.8**
DT1				S		**Sn**	**17 23 10.0**	**-2.5**
DTNA	**Dutton South F**	**4.15**	**35**	P		**Pn**	**17 22 25.3**	**-0.8**
DOL	**Dolgoi Island**	**4.29**	**37**	P		**Pn**	**17 22 26.9**	**-1.1**
DOL				S		**Sn**	**17 23 13.9**	**-3.1**
HAG	**Hague Volcano**	**4.40**	**36**	P		**Pn**	**17 22 29.5**	**-0.1**
HAG	**Hague Volcano**	**4.40**	**36**	P		**Pn**	**17 22 29.5**	**-0.1**
PS4A	**Pavlof South-4**	**4.44**	**36**	P		**Pn**	**17 22 30.1**	**0.0**
KOFP	**Korovin Flat P**	**4.77**	**278**	P		**Pn**	**17 22 35.3**	**+0.7**
SDPT	**Sand Point**	**4.99**	**43**	P		**Pn**	**17 22 36.8**	**-0.8**
ADK	**Adak**	**6.37**	**275**	P		**Pn**	**17 22 55.8**	**-0.8**
ADK	**Adak**	**6.37**	**275**	P		**Pn**	**17 22 55.8**	**-0.8**
SII	**Sitkinak Islan**	**8.59**	**52**	*e*Pn		**Pn**	**17 23 24.7**	**-2.3**
AMKA	**Amchitka**	**8.91**	**273**	*e*Pn		**Pn**	**17 23 29.7**	**-1.7**
KDAK	**Kodiak Island**	**9.95**	**48**	Pn		**Pn**	**17 23 43.0**	**-2.6**
137nm,0.5s,SNR=13								
KDAK	**Kodiak Island**	**9.95**	**48**	*e*P		**Pn**	**17 23 43.1**	**-2.6**
KDAK	**Kodiak Island**	**9.95**	**48**	*e*Pn		**Pn**	**17 23 43.5**	**-2.1**
RSO	**Redoubt South**	**11.50**	**36**	*e*Pn		**Pn**	**17 24 07.0**	**0.0**
GAMB	**Gambell**	**12.30**	**349**	*e*Pn		**Pn**	**17 24 17.7**	**0.0**
FX1	**Attu Island--F**	**12.53**	**283**	*e*P		**Pn**	**17 24 19.9**	**-1.0**
FX1							17 26 35.5	
FX1	**Attu Island--F**	**12.53**	**283**	Pn		**Pn**	**17 24 19.4**	**-1.5**
3.2nm,0.3s,baz=82,slow=2.3,SNR=17								
FX1				Sn		**Sn**	**17 26 35.5**	**-3.8**
1.2nm,0.3s,baz=72,slow=20,SNR=4.3								
FX1				LR		LR	17 29 09.0	
comp=Z,231nm,19.8s,baz=96,slow=37								
FX1	**Attu Island--F**	**12.53**	**283**	*e*Pn		**Pn**	**17 24 19.9**	**-1.0**
FX1				Sn		**Sn**	**17 26 35.5**	**-3.8**
RC01	**Rabbit Creek A**	**13.04**	**38**	*e*Pn		**Pn**	**17 24 25.0**	**-2.7**
PPLA	**Purkeypile**	**13.45**	**29**	*e*Pn		**Pn**	**17 24 34.6**	**+1.1**
PMR	**Palmer**	**13.58**	**37**	*e*P		Pn	17 24 31.5	-3.6
PMR	**Palmer**	**13.58**	**37**	*e*Pn		Pn	17 24 31.5	-3.6
TNA	**Tin City**	**13.79**	**357**	*e*Pn		**Pn**	**17 24 37.5**	**-0.5**
CAST	**Castle Rocks**	**13.88**	**28**	*e*Pn		**Pn**	**17 24 39.2**	**0.0**
KTH	**Kantishna Hill**	**14.32**	**29**	*e*Pn		**Pn**	**17 24 44.0**	**-1.3**
TRF	**Thorofare Moun**	**14.44**	**30**	*e*Pn		**Pn**	**17 24 44.7**	**-2.3**
DIV	**Divide**	**14.65**	**43**	*e*Pn		Pn	17 24 44.4	-5.5
RAGM	**Ragged Mountai**	**14.78**	**46**	*e*Pn		**Pn**	**17 24 48.9**	**-2.7**
MCK	**McKinley**	**15.06**	**31**	*e*P		**Pn**	**17 24 51.6**	**-3.7**
MCK				pmax		pmax		
comp=Z,14nm,1.0s								
MCK	**McKinley**	**15.06**	**31**	*e*Pn		**Pn**	**17 24 51.6**	**-3.7**
comp=Z,14nm,1.0s								
BMRM	**Bremner River**	**15.07**	**44**	*e*Pn		**Pn**	**17 24 52.8**	**-2.7**
comp=Z,62nm,0.8s								
IM04	**Indian Mountai**	**15.56**	**19**	*e*Pn		**Pn**	**17 25 01.9**	**+0.2**
PAX	**Paxson**	**15.78**	**37**	*e*P		**Pn**	**17 25 01.2**	**-3.5**
PAX							17 27 57.4	
PAX				pmax		pmax		
comp=Z,18nm,0.8s								
PAX	**Paxson**	**15.78**	**37**	*e*Pn		**Pn**	**17 25 01.2**	**-3.5**
comp=Z,18nm,0.8s								
PAX				Sn		**Sn**	**17 27 57.4**	**-1.0**
COLA	**College**	**16.20**	**29⇑**	*e*P		**Pn**	**17 25 09.0**	**-1.0**
COLA				pmax		pmax		
comp=Z,31nm,0.9s								
COLA	**College**	**16.20**	**29**	*e*Pn		Pn	17 25 04.9	-5.1
comp=Z,14nm,1.0s								
MENT	**Mentasta**	**16.42**	**39**	*e*Pn		**Pn**	**17 25 09.4**	**-3.5**
IL1	**Eielson Array**	**16.43**	**30**	*e*Pn		**Pn**	**17 25 09.6**	**-3.4**
IL1				*es*P		sP	17 25 16.0	-11
ILAR	**Eielson Array**	**16.43**	**30**	Pn		**Pn**	**17 25 08.2**	**-4.8**
comp=Z,0.1nm,0.3s,baz=226,slow=12,SNR=23								
ILAR				PcP		**PcP**	**17 30 02.8**	**-0.8**
comp=Z,0.1nm,0.3s,baz=269,slow=2.8,SNR=4.6								
DOT	**Dot Lake**	**16.69**	**36**	*e*Pn		**Pn**	**17 25 14.9**	**-1.3**
comp=Z,36nm,1.2s								
COLD	**Coldfoot**	**17.39**	**21**	*e*Pn		**Pn**	**17 25 24.3**	**-0.6**
comp=Z,89nm,1.4s								
HYT	**Haines Junctio**	**18.24**	**49**	*e*Pn		**P**	**17 25 36.9**	**+1.4**
EGAK	**Eagle**	**18.37**	**35**	*e*Pn		**P**	**17 25 33.6**	**-3.2**
comp=Z,20nm,0.8s								
DAWY	**Dawson**	**18.67**	**39**	*e*P		**Pn**	**17 25 42.4**	**+1.8**
SKAG	**Skagway**	**18.98**	**54**	*e*P		**Pn**	**17 25 45.4**	**+1.0**
comp=Z,39nm,0.9s								
WRAK	**Wrangell Islan**	**20.34**	**64**	*e*P		**P**	**17 25 59.0**	**+0.6**
comp=Z,131nm,1.8s								
BILL	**Bilibino**	**20.94**	**331**	*c i*P		**P**	**17 26 04.9**	**+0.1**
BILL				pmax		pmax		
comp=Z,63nm,1.7s								
BILL	**Bilibino**	**20.94**	**331**	*e*P		**P**	**17 26 05.2**	**+0.4**
comp=Z,30nm,0.9s								
PET	**Petropavlovsk**	**21.22**	**287**	*e*P		**P**	**17 26 07.4**	**-0.5**
PET				pmax		pmax		
comp=Z,63nm,0.7s								
PET	**Petropavlovsk**	**21.22**	**287**	*e*P		**P**	**17 26 07.4**	**-0.5**
comp=Z,63nm,0.7s								
DLBC	**Dease Lake**	**21.61**	**58**	P		**P**	**17 26 12.2**	**0.0**
comp=Z,40nm,0.9s,baz=272,slow=8.9,SNR=4.4								
DLBC	**Dease Lake**	**21.61**	**58**	*e*P		**P**	**17 26 13.1**	**+0.9**

J04D	Umpqua Nationa	30.70	88	⇑P		P	17 27 37.8 +0.7
	baz=31						
HAWA	Hanford	30.73	81	eP		P	17 27 38.3 +1.3
	comp=Z,62nm,1.0s						
OD2	Odessa Site #2	30.78	79	P		P	17 27 38.2 +0.7
C09A	Chrisman Ranch	30.86	78	eP		P	17 27 39.0 +0.7
	comp=Z,50nm,1.1s						
KHMM	Horse Mountain	31.00	94	eP		P	17 27 41.4 +1.7
YBH	Yreka Blue Hor	31.15	91	eP		P	17 27 42.6 +1.7
YBH				pmax		pmax	
	comp=Z,15nm,1.1s						
YBH	Yreka Blue Hor	31.15	91	eP		P	17 27 42.6 +1.7
	comp=Z,15nm,1.1s						
PINOR	Pine Mountain	31.17	87	eP		P	17 27 42.6 +1.7
	comp=Z,19nm,1.0s						
J05D	Fort Rock, OR	31.22	88	⇑P		P	17 27 43.3 +1.7
	baz=31,SNR=13						
K04D	Chiloquin, OR	31.25	89	⇑P		P	17 27 42.9 +1.1
	baz=31						
M02C	Callahan	31.25	92	⇑P		P	17 27 42.6 +0.8
	baz=31,SNR=7.4						
NEW	Newport	31.36	77	eP		P	17 27 43.4 +0.7
NEW				pmax		pmax	
	comp=Z,33nm,0.9s						
NEW	Newport	31.36	77	⇓P		P	17 27 44.0 +1.3
	baz=31,SNR=38						
NEW	Newport	31.36	77	eP		P	17 27 43.4 +0.7
	comp=Z,32nm,0.9s						
E09A	Wood Farm, Sta	31.52	80	eP		P	17 27 44.7 +0.7
	comp=Z,46nm,0.9s						
N02D	Trinity Center	31.58	93	⇑P		P	17 27 45.8 +1.2
	baz=32,SNR=6.5						
G08A	Pilot Rock	31.61	83	eP		P	17 27 45.6 +0.7
	comp=Z,21nm,1.1s						
M04C	Macdoel	31.66	91	⇑P		P	17 27 47.2 +1.7
	baz=32,SNR=9.9						
EDM	Edmonton	31.70	66	eP		P	17 27 46.0 +0.5
EDM	Edmonton	31.70	66	eP		P	17 27 46.0 +0.5
K05A	Summer Lake	31.73	88	eP		P	17 27 47.9 +1.7
	comp=Z,41nm,1.0s						
I07A	Izee	31.88	85	eP		P	17 27 48.6 +1.3
	comp=Z,31nm,1.0s						
WDC	Whiskeytown Da	31.91	93	eP		P	17 27 48.4 +1.0
WDC				pmax		pmax	
	comp=Z,11nm,0.9s						
WDC	Whiskeytown Da	31.91	93	eP		P	17 27 48.4 +1.0
	comp=Z,11nm,0.9s						
F10A	Beach Ranch, E	32.34	81	eP		P	17 27 52.0 +0.7
	comp=Z,16nm,0.9s						
MOD	Modoc Plateau	32.55	89	eP		P	17 27 54.4 +1.2
	comp=Z,34nm,1.1s						
BMO	Blue Mountains	32.84	82	eP		P	17 27 56.4 +0.7
BMO				pmax		pmax	
	comp=Z,30nm,1.4s						
BMO	Blue Mountains	32.84	82	eP		P	17 27 56.4 +0.7
	comp=Z,30nm,1.4s						
YSS	Yuzh-Sakhalins	32.89	282	eP		P	17 27 59.6 +3.7
YSS				pmax		pmax	
	comp=Z,22nm,1.0s						
YSS	Yuzh-Sakhalins	32.89	282	eP		P	17 27 59.6 +3.7
	comp=Z,22nm,1.0s						
WALA	Waterton Lakes	32.95	74	eP		P	17 27 57.1 +0.5
	comp=Z,17nm,1.0s						
BSMT	Bassoo Peak	32.95	76	eP		P	17 27 57.4 +0.6
BLMT	Blacktail Moun	33.14	76	eP		P	17 27 58.9 +0.5
WVOR	Wild Horse Val	33.29	87	eP		P	17 28 00.8 +1.1
WVOR				pmax		pmax	
	comp=Z,26nm,1.0s						
WVOR	Wild Horse Val	33.29	87	eP		P	17 28 00.8 +1.1
	comp=Z,26nm,1.0s						
JTMT	Jette	33.30	76	eP		P	17 28 00.3 +0.5
YBMT	Yellow Bay	33.41	76	eP		P	17 28 01.0 +0.3
SWMT	Swartz Lake	33.58	76	eP		P	17 28 02.4 +0.3
SWMT				ePcP		PcP	17 30 40.9 -1.1
MSO	Missoula	33.93	77	⇑P		P	17 28 05.7 +0.5
	baz=34,SNR=18						
MSO	Missoula	33.93	77	eP		P	17 28 05.5 +0.2
	comp=Z,58nm,1.6s						
MSO				ePcP		PcP	17 30 42.1 -0.9
SLMT	Seeley Lake	34.01	76	eP		P	17 28 05.9 0.0
TIXI	Tiksi	34.14	329	⇑eP		P	17 28 06.5 0.0
TIXI				pmax		pmax	
	comp=Z,13nm,1.7s						
TIXI	Tiksi	34.14	329	eP		P	17 28 05.5 -1.0
	comp=Z,5.9nm,0.8s						
TIXI				ePcP		PcP	17 30 43.0 +0.1
CHMT	Chamberlain Mo	34.31	77	eP		P	17 28 08.3 -0.3
ASAJ	Asahikawa	34.38	278	P		P	17 28 09.3 +0.3
	comp=Z,6.8nm,0.8s,baz=90,slow=12,SNR=2.9						
ASAJ				LR		LR	17 41 16.7
	comp=Z,151nm,21.6s,baz=79,slow=35						
MFID	Camas Ranch	34.49	84	eP		P	17 28 10.8 +0.6
	comp=Z,39nm,1.1s						
CMB	Columbia Colle	34.77	95	eP		P	17 28 13.1 +0.6
CMB				e			17 30 44.2
CMB				pmax		pmax	
	comp=Z,11nm,1.1s						
CMB	Columbia Colle	34.77	95	eP		P	17 28 13.1 +0.6
	comp=Z,11nm,1.1s						
CMB				ePcP		PcP	17 30 44.1 -1.3
YAK	Yakutsk	34.90	312	eP		P	17 28 11.8 -1.4
YAK				pmax		pmax	
	comp=Z,11nm,1.0s						
YAK	Yakutsk	34.90	312	eP		P	17 28 12.6 -0.6
	comp=Z,20nm,0.7s						
YAK				ePcP		PcP	17 30 44.9 -0.4
WAKR	Walker	35.07	94	eP		P	17 28 16.3 +1.1
HRY	Holter Researc	35.26	76	eP		P	17 28 17.0 +0.3
HLID	Hailey	35.29	83	⇓P		P	17 28 17.7 +0.6
	baz=35,SNR=37						
HLID	Hailey	35.29	83	eP		P	17 28 17.8 +0.8
	comp=Z,29nm,1.0s						
BMN	Battle Mountai	35.30	89	eP		P	17 28 18.0 +0.9
BMN				pmax		pmax	
	comp=Z,11nm,0.8s						
BMN	Battle Mountai	35.30	89	eP		P	17 28 18.0 +0.9
	comp=Z,11nm,0.8s						
LRM	Limekiln Ridge	35.33	78	eP		P	17 28 17.2 -0.2
DLMT	Dillon	35.47	79	eP		P	17 28 19.1 +0.6
	comp=Z,11nm,0.9s						
DLMT				ePcP		PcP	17 30 47.7 +0.2
MCMT	McKenzie Canyo	35.59	80	eP		P	17 28 20.1 +0.5
NV01	Mina Array Sit	35.82	93	eP		P	17 28 21.8 +0.1
NV01				ePcP		PcP	17 30 48.3 -0.4
NVAR	Mina Array Bea	35.82	93	P		P	17 28 22.4 +0.7
	comp=Z,12nm,0.8s,baz=293,slow=9.0,SNR=88						
NVAR				PcP		PcP	17 30 48.6 -0.1
	comp=Z,1.7nm,0.7s,baz=286,slow=2.6,SNR=6.0						
EGMT	Eagleton	35.88	73	⇓P		P	17 28 22.1 +0.2
	baz=36,SNR=29						
EGMT	Eagleton	35.88	73	eP		P	17 28 22.2 +0.2
	comp=Z,78nm,1.0s						
EGMT				ePcP		PcP	17 30 47.1 -1.4
BOZ	Bozeman (W)	35.91	78	eP		P	17 28 23.1 +0.8
BOZ				pmax		pmax	
	comp=Z,12nm,0.8s						
BOZ	Bozeman (W)	35.91	78	eP		P	17 28 23.1 +0.8
	comp=Z,12nm,0.8s						
MLAC	Mammoth, Mammo	35.99	94	⇓P		P	17 28 24.0 +0.8
	baz=36						
A19A	Klindworth Far	36.06	71	⇓P		P	17 28 23.7 +0.2
	baz=36,SNR=9.2						
RES	Resolute Bay	36.07	25	eP		P	17 28 23.9 +0.7
RES				pmax		pmax	
	comp=Z,6.0nm,0.8s						
RES	Resolute Bay	36.07	25	eP		P	17 28 23.9 +0.7
	comp=Z,6.3nm,0.8s						
B19A	Brinkman Farms	36.16	72	⇑P		P	17 28 24.3 -0.1
	baz=36						
ELK	Elko	36.34	87	eP		P	17 28 26.9 +0.7
ELK				pmax		pmax	
	comp=Z,29nm,1.4s						
ELK	Elko	36.34	87	eP		P	17 28 26.9 +0.7
	comp=Z,29nm,1.4s						
C19A	Slack Wire Ran	36.44	73	⇓P		P	17 28 27.4 +0.6
	baz=36,SNR=50						
QLMT	Earthquake Lak	36.45	79	eP		P	17 28 27.4 +0.4
A20A	Cobblestone Ra	36.57	71	⇑P		P	17 28 27.8 0.0
	baz=36,SNR=18						
RCTC	Rector, Farmer	36.57	96	⇑P		P	17 28 28.7 +0.9
	baz=36						
TPH	Tonopah	36.71	92	eP		P	17 28 30.1 +0.8
TPH				pmax		pmax	
	comp=Z,16nm,0.9s						
TPH	Tonopah	36.71	92	eP		P	17 28 30.1 +0.8
	comp=Z,16nm,0.9s						
B20A	Solberg Farm,	36.71	72	⇑P		P	17 28 29.2 +0.1
	baz=36						
SMMC	Simmler	36.76	98	⇓P		P	17 28 30.2 +0.7
	baz=37						
HABR	Khabarovsk	36.79	289	eP		P	17 28 28.5 -1.1
HABR				e*PP		pP	17 28 38.2 -0.1
HABR				e*SP		sP	17 28 42.4 +0.6
HABR				e			17 29 52.5
HABR				e			17 30 49.9
HABR				eS		S	17 34 10.9 -0.6
HABR				e*SS		sS	17 34 27.5 +1.7
HABR				eSS		SnSn	17 36 45.3 +1.5
HABR				e			17 38 40.9
HABR				pmax		pmax	
	comp=E,85nm,2.3s						
HABR				pmax		pmax	
	comp=N,61nm,2.3s						
HABR				pmax		pmax	
	comp=Z,186nm,2.3s						
HABR				MLR		MLR	
	comp=Z,124nm,20.0s						
D19A	Cripps Ranch,	36.81	74	⇑P		P	17 28 30.5 +0.6
	baz=37,SNR=13						
YMR	Madison River	36.82	79	eP		P	17 28 30.9 +0.7
	comp=Z,20nm,0.9s						
YNR	Norris Junctio	36.97	78	eP		P	17 28 32.5 +1.1
	comp=Z,25nm,1.0s						
VES	Vestal, Richgr	36.97	97	⇓P		P	17 28 32.3 +1.0
	baz=37						
YFT	Old Faithful	37.01	79	eP		P	17 28 33.6 +1.8
	comp=Z,33nm,1.5s						
GCMT	Greycliff	37.02	76	eP		P	17 28 31.8 -0.1
C20A	Veseth Ranch,	37.07	73	⇓P		P	17 28 32.7 +0.6
	baz=37,SNR=50						
A21A	Bergtoll Ranch	37.10	70	⇓P		P	17 28 32.5 +0.2
	baz=37,SNR=11						
PKM	Mcpherson Peak	37.14	99	⇑P		P	17 28 33.7 +0.8
	baz=37						
H17A	Grant Village	37.20	79	⇑P		P	17 28 34.2 +0.8
	baz=37,SNR=13						
H17A	Grant Village	37.20	79	eP		P	17 28 34.9 +1.5
	comp=Z,36nm,1.4s						
E19A	Rath Farm, Rou	37.22	75	⇑P		P	17 28 33.8 +0.4
	baz=37,SNR=22						
IMW	Indian Meadow	37.24	80	eP		P	17 28 34.7 +0.8
	comp=Z,16nm,0.9s						
HVU	Hansel Valley	37.28	84	eP		P	17 28 34.9 +0.9
HVU				pmax		pmax	
	comp=Z,29nm,0.9s						
HVU	Hansel Valley	37.28	84	eP		P	17 28 34.9 +0.9
	comp=Z,29nm,0.9s						
FLWY	Flagg Ranch	37.29	79	eP		P	17 28 35.4 +1.3
	comp=Z,44nm,1.6s						
D20A	Manuel Ranch,	37.29	74	⇓P		P	17 28 34.5 +0.5
	baz=37,SNR=15						
B21A	Ellsworth Farm	37.31	71	⇓P		P	17 28 34.7 +0.6
	baz=37						
FXWY	Fox Creek	37.33	80	eP		P	17 28 35.2 +0.7
	comp=Z,45nm,1.8s						
F19A	Roth Farm, Mol	37.43	76	⇑P		P	17 28 35.4 +0.2
	baz=37,SNR=12						
FFC	Flin Flon	37.43	59	P		P	17 28 35.0 0.0
	comp=Z,103nm,0.9s,SNR=11						
FFC	Flin Flon	37.43	59	eP		P	17 28 34.9 0.0
FFC				pmax		pmax	
	comp=Z,18nm,1.0s						
FFC	Flin Flon	37.43	59	eP		P	17 28 34.9 -0.1
	comp=Z,18nm,1.0s						
I17A	Pilgrim Ck.	37.45	80	⇑P		P	17 28 36.4 +0.9
	baz=37						
TPAW	Teton Pass	37.45	80	eP		P	17 28 36.6 +1.0
	comp=Z,21nm,1.1s						
ISA	Isabella, Lake	37.47	96	eP		P	17 28 35.7 +0.1
ISA				pmax		pmax	
	comp=Z,12nm,0.6s						
ISA	Isabella, Lake	37.47	96	⇓P		P	17 28 35.7 +0.1
	baz=37,SNR=21						
ISA	Isabella, Lake	37.47	96	eP		P	17 28 35.7 +0.1
	comp=Z,12nm,0.6s						
C21A	Desert Coulee	37.55	72	⇓P		P	17 28 36.6 +0.5
	baz=37,SNR=11						
R11A	Troy Canyon, C	37.56	91	⇓P		P	17 28 36.6 +0.2
	baz=37,SNR=29						
R11A	Troy Canyon, C	37.56	91	eP		P	17 28 36.8 +0.4
	comp=Z,18nm,1.0s						
REDW	Red Top Meadow	37.58	80	eP		P	17 28 37.5 +0.8
	comp=Z,28nm,1.1s						
SNOW	Snow King Moun	37.59	80	eP		P	17 28 38.2 +1.4
	comp=Z,14nm,0.9s						
E20A	Meyer Farm, Mu	37.59	74	⇑P		P	17 28 37.0 +0.5
	baz=37,SNR=14						
LOHW	Long Hollow	37.60	80	eP		P	17 28 37.4 +0.6
	comp=Z,77nm,2.3s						
ARVC	Arvin	37.60	97	⇓P		P	17 28 36.8 +0.2
	baz=38						
H18A	Shoshone NF, C	37.60	78	⇑P		P	17 28 37.4 +0.5
	baz=37						
BGU	Big Grassy Mou	37.61	85	eP		P	17 28 37.6 +0.7
	comp=Z,12nm,1.2s						
RLMT	Red Lodge	37.61	77	eP		P	17 28 37.5 +0.6
	comp=Z,39nm,1.1s						
DAC	Darwin (Calif)	37.61	95	eP		P	17 28 37.6 +0.6
DAC				pmax		pmax	
	comp=Z,21nm,1.3s						
DAC	Darwin (Calif)	37.61	95	eP		P	17 28 37.6 +0.6
	comp=Z,21nm,1.3s						
A22A	Carney Farms,	37.69	70	⇑P		P	17 28 37.4 +0.1
	baz=38,SNR=9.4						
SPUT	South Promonto	37.74	84	eP		P	17 28 38.7 +0.7
	comp=Z,121nm,2.1s						
AHID	Auburn Hatcher	37.76	81	eP		P	17 28 39.0 +0.9
	comp=Z,23nm,1.1s						
MPMC	Manual Prospec	37.82	95	⇑P		P	17 28 39.4 +0.7
	baz=38,SNR=13						
BSC	Santa Cruz Isl	37.86	99	⇓P		P	17 28 39.1 +0.3
	baz=38						
F20A	Billings	37.93	75	⇓P		P	17 28 39.4 -0.1
	baz=38						
FURC	Furnace Creek,	37.94	94	⇑P		P	17 28 40.4 +0.9
	baz=38,SNR=9.0						
B22A	Reddig Ranch S	37.97	71	⇑P		P	17 28 40.3 +0.6
	baz=38						
D21A	La Casta Ranch	37.98	73	⇓P		P	17 28 40.4 +0.6
	baz=38,SNR=11						
TPNV	Topopah Spring	38.02	93	eP		P	17 28 41.1 +0.7
TPNV				pmax		pmax	
	comp=Z,27nm,0.9s						
TPNV	Topopah Spring	38.02	93	⇓P		P	17 28 40.8 +0.5
	baz=38,SNR=40						
TPNV	Topopah Spring	38.02	93	eP		P	17 28 41.0 +0.7
	comp=Z,27nm,0.9s						
H19A	Powell	38.02	77	⇓P		P	17 28 40.7 +0.5
	baz=38,SNR=8.0						
LRMC	Laurel Mtn Rad	38.07	96	⇓P		P	17 28 40.9 +0.2
	baz=38,SNR=5.1						
DUG	Dugway, Tooele	38.17	86	eP		P	17 28 42.3 +0.8
DUG				pmax		pmax	
	comp=Z,53nm,1.2s						
DUG	Dugway, Tooele	38.17	86	⇑P		P	17 28 42.1 +0.5
	baz=38,SNR=30						
DUG	Dugway, Tooele	38.17	86	eP		P	17 28 42.3 +0.8
	comp=Z,53nm,1.2s						
G20A	Bridger	38.19	76	⇓P		P	17 28 42.2 +0.5
	baz=38,SNR=10						
E21A	Keefer Ranch,	38.20	74	⇓P		P	17 28 42.3 +0.7
	baz=38						
H11N2	WAKE ISLAND Hy	38.24	223	T		T	18 09 17.7
	baz=42						
H11N3	WAKE ISLAND Hy	38.25	223	T		T	18 09 18.8
	baz=42						
H11N1	WAKE ISLAND Hy	38.26	223	T		T	18 09 20.2
	baz=42						
EDW2	Edwards Air Fo	38.28	97	⇓P		P	17 28 42.3 -0.1
	baz=38						
A23A	Redstone	38.31	69	⇑P		P	17 28 42.6 +0.1
	baz=38						
I19A	Meeteetse	38.35	78	⇑P		P	17 28 43.3 +0.2
	baz=38,SNR=9.5						
KLR	Kul'dur	38.36	291	eP		P	17 28 39.8 -3.1
D22A	Cohagen	38.42	72	⇑P		P	17 28 44.3 +0.8
	baz=38,SNR=15						
B23A	Brockton	38.48	70	⇑P		P	17 28 44.5 +0.5
	baz=38,SNR=26						
DECC	Green Verdugo	38.49	98	⇑P		P	17 28 44.1 0.0
	baz=38						
TCUT	Toone Canyon	38.50	84	eP		P	17 28 45.0 +0.5
	comp=Z,28nm,1.0s						
F21A	Absaloka Mine,	38.54	75	⇓P		P	17 28 45.0 +0.5
	baz=38						
LAO	LASA Array	38.63	73	eP		P	17 28 45.3 0.0
	comp=Z,163nm,2.1s						
SHOC	Shoshone, Teco	38.67	94	⇑P		P	17 28 46.0 +0.4
	baz=39						
C23A	Lambert	38.69	71	⇑P		P	17 28 46.3 +0.6
	baz=38,SNR=51						
BW06	Boulder Array	38.70	80	eP		P	17 28 45.3 -0.8
PDAR	Pinedale Array	38.70	80	P		P	17 28 46.3 +0.2
	comp=Z,14nm,0.7s,baz=302,slow=4.5,SNR=121						
PDAR				LR		LR	17 42 46.2
	comp=Z,156nm,18.6s,baz=310,slow=33						
H20A	Greybull	38.71	77	⇑P		P	17 28 46.2 +0.2
	baz=39,SNR=10						
GSC	Goldstone, Bar	38.73	95	eP		P	17 28 46.7 +0.5
GSC				pmax		pmax	
	comp=Z,37nm,1.2s						
GSC	Goldstone, Bar	38.73	95	⇓P		P	17 28 46.9 +0.6
	baz=39,SNR=21						
GSC	Goldstone, Bar	38.73	95	eP		P	17 28 46.7 +0.5
	comp=Z,37nm,1.2s						
J19A	Crowheart	38.73	79	⇑P		P	17 28 46.8 +0.5
	baz=39						
NLU	North Lily Min	38.77	86	eP		P	17 28 47.3 +0.6
	comp=Z,30nm,1.0s						
G21A	Lodge Grass	38.80	76	⇓P		P	17 28 46.8 +0.1
	baz=39,SNR=9.7						
A24A	Westby	38.83	69	⇑P		P	17 28 47.4 +0.6
	baz=39,SNR=5.8						
FMP	Fort Macarthur	38.87	99	⇑P		P	17 28 48.2 +0.9
	baz=39						
BFSC	Mount Baldy Ra	38.91	97	⇑P		P	17 28 48.2 +0.4
	baz=39,SNR=10.0						
E22A	Miles City	38.92	73	⇓P		P	17 28 48.3 +0.6
	baz=39						
I20A	Worland	38.92	78	⇓P		P	17 28 48.2 +0.4
	baz=39,SNR=11						
SHPR	Sheep Range	38.97	93	eP		P	17 28 48.5 +0.2
D23A	Lindsay	38.99	72	⇑P		P	17 28 48.7 +0.5
	baz=39,SNR=15						
DAU	Daniels Canyon	39.00	85	eP		P	17 28 49.7 +1.0
DAU	Daniels Canyon	39.00	85	eP		P	17 28 49.7 +1.0
MPU	Maple Canyon	39.00	85	eP		P	17 28 49.1 +0.5
	comp=Z,27nm,1.0s						
TUQ	Turquoise Moun	39.19	94	⇓P		P	17 28 50.7 +0.6
	baz=39,SNR=7.0						
H21A	Big Horn, Sher	39.21	76	⇓P		P	17 28 50.6 +0.4
	baz=39						
ARUT	Antelope Range	39.23	90	eP		P	17 28 51.0 +0.5
ARUT	Antelope Range	39.23	90	eP		P	17 28 51.0 +0.5
C24A	Savage	39.27	71	⇓P		P	17 28 51.3 +0.7
	baz=39,SNR=26						
E23A	Ismay	39.27	73	⇓P		P	17 28 50.4 -0.2
	baz=39						
J20A	Shoshoni	39.28	79	⇓P		P	17 28 51.2 +0.4
	baz=39,SNR=20						
HEC	Hector,Ludlow	39.34	96	⇓P		P	17 28 50.7 -0.6
	baz=39						
A25A	Svangstu Ranch	39.34	68	⇓P		P	17 28 51.1 0.0
	baz=39,SNR=6.8						
H11S1	WAKE ISLAND Hy	39.41	223	T		T	18 10 48.6
	baz=10.0						
H11S2	WAKE ISLAND Hy	39.43	223	T		T	18 10 51.8
	baz=10.0						
CCUT	Cedar City	39.43	90	eP		P	17 28 52.3 0.0
	comp=Z,45nm,1.6s						
H11S3	WAKE ISLAND Hy	39.43	223	T		T	18 10 48.4
	baz=10.0						
I21A	Big Trails, Te	39.51	78	⇓P		P	17 28 52.6 -0.2
	baz=39,SNR=13						
D24A	Glendive	39.53	71	⇓P		P	17 28 53.8 +1.0
	baz=39,SNR=40						
MVU	Marysvale	39.55	88	eP		P	17 28 53.8 +0.5
	comp=Z,17nm,1.0s						
F23A	Volborg	39.62	74	⇓P		P	17 28 53.6 +0.1
	baz=39,SNR=22						
MURC	Murrieta	39.62	98	⇑P		P	17 28 53.7 +0.1
	baz=40						
B25A	Knox Farm, Ray	39.64	69	⇑P		P	17 28 54.2 +0.6
	baz=40,SNR=5.3						
H22A	Clearmont	39.65	76	⇑P		P	17 28 54.1 +0.2
	baz=40,SNR=11						
J21A	Lysite	39.67	78	⇓P		P	17 28 54.3 +0.1
	baz=40,SNR=16						
TMUT	Trail Mountain	39.70	86	eP		P	17 28 55.3 +0.8
	comp=Z,42nm,1.0s						
GMRC	Granite Mounta	39.78	95	⇓P		P	17 28 55.3 +0.2
	baz=40,SNR=11						
E24A	Baker	39.83	72	⇓P		P	17 28 55.5 +0.2
	baz=40,SNR=7.1						
FCC	Fort Churchill	39.87	51	eP		P	17 28 55.1 -0.3
FCC				pmax		pmax	
	comp=Z,24nm,0.9s						
FCC	Fort Churchill	39.87	51	eP		P	17 28 55.0 -0.3
	comp=Z,24nm,0.9s						
G23A	Biddle	39.90	75	⇓P		P	17 28 55.7 -0.2
	baz=40,SNR=9.9						
I22A	9 Mile Ranch,	39.95	77	⇑P		P	17 28 56.8 +0.4
	baz=40,SNR=6.6						
A26A	Wade Farm, Ken	39.98	68	⇓P		P	17 28 56.4 0.0
	baz=40,SNR=11						
PFO	Pinyon Flats O	40.07	97	P		P	17 28 57.6 +0.1
	comp=Z,64nm,1.5s,SNR=5.0						
PFO	Pinyon Flats O	40.07	97	eP		P	17 28 57.2 -0.3
PFO				pmax		pmax	
	comp=Z,30nm,1.5s						
PFO	Pinyon Flats O	40.07	97	⇓P		P	17 28 57.5 +0.1
	baz=40,SNR=6.2						
PFO	Pinyon Flats O	40.07	97	eP		P	17 28 57.2 -0.3
	comp=Z,30nm,1.5s						
BELC	Belle Mtn. Jos	40.09	96	⇓P		P	17 28 57.9 +0.2
	baz=40,SNR=9.1						
KNB	Kanab	40.10	90	eP		P	17 28 58.8 +1.0
KNB				pmax		pmax	
	comp=Z,72nm,1.7s						
KNB	Kanab	40.10	90	eP		P	17 28 58.8 +1.0
	comp=Z,72nm,1.7s						
D25A	Fairfield	40.11	71	⇓P		P	17 28 57.6 +0.1
	baz=40						
B26A	Jensen Ranch,	40.12	69	⇑P		P	17 28 57.6 -0.1
	baz=40						
F24A	Ekalaka	40.12	73	⇓P		P	17 28 57.7 -0.1
	baz=40,SNR=14						
109C	Camp Elliot, M	40.16	98	⇑P		P	17 28 58.3 +0.2
	baz=40						
K21A	Alcova	40.18	79	⇓P		P	17 28 58.2 -0.2
	baz=40,SNR=23						
J22A	Midwest	40.22	78	⇑P		P	17 28 58.6 -0.1
	baz=40,SNR=21						
SRU	San Rafael Swe	40.23	86	eP		P	17 28 59.1 +0.3
SRU				e			17 31 06.4
SRU				pmax		pmax	
	comp=Z,36nm,0.9s						
SRU	San Rafael Swe	40.23	86	eP		P	17 28 59.1 +0.3
	comp=Z,36nm,0.9s						
SRU				ePcP		PcP	17 31 06.4 +4.1
G24A	Alzada	40.41	74	⇑P		P	17 28 59.9 -0.3
	baz=40						
C26A	Wahner Farm, P	40

baz=41
USRK Ussuriysk Ar. 40.79 284 P P 17 29 03.2 0.0
comp=Z,2.9nm,0.7s,baz=46,slow=5.1,SNR=7.1
USRK PcP PcP 17 31 04.1 +0.4
comp=Z,4.0nm,0.8s,baz=87,slow=4.0,SNR=4.7
USRK LR LR 17 45 28.2
comp=Z,132nm,21.8s,baz=85,slow=35
U15A North Rim 40.80 90 ⇓P P 17 29 04.7 +1.0
baz=41,SNR=39
C27A Sayler Ranch, 40.88 69 ⇑P P 17 29 04.2 +0.3
baz=41
SWSC Sam W. Stewart 40.93 97 ⇓P P 17 29 04.7 +0.2
baz=41
E26A Carlson Angus 40.97 71 ⇓P P 17 29 04.8 +0.1
baz=41,SNR=11
A28A Rude Farm, Bot 40.98 67 ⇑P P 17 29 04.9 +0.2
baz=41,SNR=8.9
L22A Ellis Ranch, M 41.02 79 ⇓P P 17 29 05.6 +0.2
baz=41,SNR=7.3
O20A White River Ci 41.02 83 ⇑P P 17 29 05.7 +0.3
baz=41,SNR=38
O20A White River Ci 41.02 83 *e*P **P 17 29 05.1 -0.3**
comp=Z,53nm,0.9s
PDMCI Parker Dam,Lak 41.04 94 ⇑P P 17 29 05.8 +0.4
baz=41,SNR=5.7
G25A Newell 41.08 73 ⇓P P 17 29 05.7 0.0
baz=41
I24A Kuemmerle Ranc 41.09 76 ⇑P P 17 29 05.7 -0.1
baz=41
K23A Bowen Ranch, D 41.10 78 ⇓P P 17 29 06.2 +0.2
baz=41,SNR=5.6
B28A Dugan Ranch, T 41.16 68 ⇑P P 17 29 06.7 +0.5
baz=41,SNR=6.3
Y12C Blythe 41.17 95 ⇑P P 17 29 06.8 +0.5
baz=41
F26A Lodgepole 41.17 72 ⇓P P 17 29 06.7 +0.4
baz=41
D27A Center 41.18 70 ⇓P P 17 29 06.7 +0.3
baz=41
H25A Fruitdale 41.28 74 ⇑P P 17 29 07.4 +0.1
baz=41,SNR=7.6
M22A Cedar Creek Ra 41.29 80 ⇓P P 17 29 07.4 -0.2
baz=41,SNR=14
RSSD Black Hills 41.30 75 *e*P **P 17 29 06.9 -0.7**
RSSD *e* 17 31 04.5
RSSD pmax pmax
comp=Z,41nm,1.4s
RSSD Black Hills 41.30 75 *e*P **P 17 29 06.9 -0.7**
comp=Z,41nm,1.4s
RSSD *e*PcP **PcP 17 31 04.5 -1.3**
J24A Dixon Ranch, L 41.36 77 ⇓P P 17 29 08.2 +0.2
baz=41,SNR=8.4
L23A Garrett 41.42 79 ⇓P P 17 29 08.3 -0.4
baz=41,SNR=20
GLA Glamis 41.45 96 ⇑P P 17 29 08.9 +0.2
baz=41
VLA Vladivostok 41.46 283⇑e*P **P 17 29 07.5 -1.1**
VLA *e* 17 30 44.4
VLA *e* 17 31 04.7
VLA S **S 17 35 21.4 -0.4**
VLA pmax pmax
comp=Z,49nm,1.1s
PV09 Paradox Valley 41.46 85 *e*P **P 17 29 09.2 0.0**
PV09 *e*PP **PnPn 17 30 52.6 +2.8**
G26A Maurine 41.51 73 ⇓P P 17 29 09.5 +0.3
baz=41,SNR=25
E27A Carson 41.51 71 ⇑P P 17 29 09.5 +0.4
baz=41,SNR=6.1
MJAR Matsushiro Arr 41.52 271 P P 17 29 09.4 +0.1
comp=Z,2.9nm,0.7s,baz=44,slow=6.9,SNR=8.2
MJAR PcP **PcP 17 31 06.2 -0.1**
comp=Z,3.1nm,0.8s,baz=76,slow=3.8,SNR=5.7
MJAR LR LR 17 45 18.2
comp=Z,54nm,21.2s,baz=155,slow=35
MAJO Matsushiro 41.52 271⇑e*P **P 17 29 11.1 +1.9**
MAJO pmax pmax
comp=Z,206nm,1.7s
MAJO Matsushiro 41.52 271 *e*P **P 17 29 08.6 -0.7**
MAT Matsushiro 41.52 271 P P 17 29 09.4 +0.2
C28A Hausauer Farms 41.52 69 ⇑P P 17 29 09.4 +0.2
baz=41
I25A Rochford 41.54 75 ⇑P P 17 29 09.2 -0.3
baz=41,SNR=8.2
F27A Lemmon 41.54 72 ⇑P P 17 29 09.6 +0.2
baz=41,SNR=15
A29A Manning Farm, 41.57 66 ⇓P P 17 29 09.5 -0.1
baz=41,SNR=8.4
PV10 Paradox Valley 41.60 86 *e*P **P 17 29 10.8 +0.6**
PV10 *e*PP **PnPn 17 30 49.1 -2.2**
K24A Anderson Ranch 41.61 77 ⇑P P 17 29 10.0 -0.1
baz=42
PV04 Paradox Valley 41.67 85 *e*P **P 17 29 10.7 0.0**
PV04 *e*PP **PnPn 17 30 50.6 -1.5**
D28A Regan 41.69 69 ⇓P P 17 29 10.7 +0.2
baz=42,SNR=6.6
N22A Wattenberg Ran 41.73 81 ⇑P P 17 29 11.2 -0.1
baz=42,SNR=8.7
B29A Wagenman Farm, 41.73 67 ⇑P P 17 29 10.9 0.0
baz=42
PV05 Paradox Valley 41.74 86 *e*P **P 17 29 11.6 +0.2**
PV05 *e*PP **PP 17 30 46.7 -1.2**
H26A Fairpoint 41.78 74 ⇓P P 17 29 11.2 -0.2
baz=42
M23A Laramie 41.78 80 ⇓P P 17 29 11.6 0.0
baz=42
J25A Sunshine Ranch 41.85 76 ⇓P P 17 29 11.5 -0.5
baz=42,SNR=8.1
G27A Dupree 41.86 72 ⇓P P 17 29 11.8 -0.2
baz=42,SNR=10
MDND Maddock 41.91 68 ⇓P P 17 29 12.5 +0.2
baz=42
MDND Maddock 41.91 68 *e*P **P 17 29 12.4 +0.2**
comp=Z,31nm,1.2s
L24A Wheatland 41.93 78 ⇓P P 17 29 12.9 +0.2
baz=42
E28A Huff 41.95 70 ⇓P P 17 29 13.0 +0.3
baz=42,SNR=6.1
WUAZ Wupatki 41.96 91 ⇑P P 17 29 13.8 +0.7
baz=42,SNR=17
WUAZ Wupatki 41.96 91 *e*P **P 17 29 13.3 +0.3**
comp=Z,49nm,1.3s
WUAZ *e*PP **PnPn 17 31 01.3 +5.9**
Y14A Wickenburg 41.98 94 ⇑P P 17 29 13.3 +0.1
baz=42,SNR=8.9
N23A Red Feather La 41.99 80 ⇑P P 17 29 13.3 0.0
baz=42,SNR=18
MDJ Mudanjiang 42.00 286 P P 17 29 13.4 +0.3
MDJ PMZ
comp=Z,16nm,1.4s
MDJ PMZ
comp=Z,190nm,5.5s
MDJ Mudanjiang 42.00 286 P P 17 29 14.3 +1.2
PV01 Paradox Valley 42.04 86 *e*P **P 17 29 13.6 -0.1**
O22A Kremmling 42.05 82 ⇓P P 17 29 14.1 +0.1
baz=42,SNR=12
I26A New Underwood 42.05 75 ⇑P P 17 29 13.8 +0.2
baz=42
A30A Hoffart Farm, 42.09 66 ⇓P P 17 29 13.5 -0.2
baz=42,SNR=5.5
H27A Howes 42.19 73 ⇑P P 17 29 14.6 -0.1
baz=42,SNR=6.6
K25A Mack Ranch, Ha 42.25 77 ⇑P P 17 29 15.9 +0.6
baz=42
F28A McLaughlin 42.27 71 ⇓P P 17 29 15.8 +0.5
baz=42,SNR=11
113A Mohawk Valley, 42.30 96 ⇓P P 17 29 15.9 +0.3
baz=42
B30A Myrvik Farm, E 42.32 67 ⇓P P 17 29 15.8 +0.1
baz=42,SNR=8.6
D29A Pettibone, Tap 42.33 69 ⇓P P 17 29 15.8 +0.1
baz=42
J26A Sides Ranch, S 42.33 76 ⇓P P 17 29 16.1 +0.2
baz=42,SNR=5.6
M24A Cheyenne 42.33 79 ⇑P P 17 29 15.8 -0.2
baz=42
SMCO Snowmass 42.38 83 *e*P **P 17 29 16.6 -0.2**
comp=Z,12nm,1.2s
SMCO *e*PcP **PcP 17 31 11.8 +2.2**
Z14A Wintersburg 42.40 94 ⇓P P 17 29 16.9 +0.4
baz=42
O23A Lake Granby, G 42.41 81 ⇓P P 17 29 16.9 0.0
baz=42,SNR=10
L25A Engebretsen Ra 42.45 78 ⇑P P 17 29 17.6 +0.6
baz=42,SNR=6.7
I27A Quinn 42.51 74 ⇓P P 17 29 17.3 -0.1
baz=42
E29A Napoleon 42.56 70 ⇓P P 17 29 17.6 -0.1
baz=42
K26A Motz Farm, Whi 42.62 76 ⇑P P 17 29 18.1 -0.1
baz=42,SNR=7.7
G28A Parade 42.63 72 ⇑P P 17 29 18.3 0.0
baz=42
C30A Mose, Pekin 42.63 68 ⇓P P 17 29 18.1 -0.1
baz=42,SNR=7.0
X16A Lo Mia Camp, P 42.63 92 ⇑P P 17 29 19.8 +1.2
baz=42,SNR=7.4
MVCO Mesa Verde 42.66 87 ⇑P P 17 29 19.0 +0.2
baz=42,SNR=12
MVCO Mesa Verde 42.66 87 *e*P **P 17 29 18.2 -0.6**
comp=Z,459nm,1.0s
N24A Carr 42.67 80 ⇓P P 17 29 19.4 +0.5
baz=42
ULM Lac du Bonnet 42.78 63 *e*P **P 17 29 18.8 -0.5**
ULM pmax pmax
comp=Z,32nm,1.0s
ULM Lac du Bonnet 42.78 63 P P 17 29 18.8 -0.5
comp=Z,24nm,0.8s,baz=304,slow=8.1,SNR=43
ULM Lac du Bonnet 42.78 63 *e*P **P 17 29 18.8 -0.5**
comp=Z,32nm,1.0s
D30A Buchanan 42.78 68 ⇑P P 17 29 19.1 -0.3
baz=43,SNR=13
H28A Mission Ridge 42.79 73 ⇑P P 17 29 19.4 -0.1
baz=43,SNR=11
M25A Palm-Egli Farm 42.82 79 ⇑P P 17 29 20.7 +0.7
baz=43,SNR=5.7
ISCO Idaho Springs 42.84 81 *e*P **P 17 29 20.8 +0.4**
ISCO pmax pmax
comp=Z,18nm,1.5s
ISCO Idaho Springs 42.84 81 ⇑P P 17 29 21.2 +0.8
baz=43,SNR=6.5
ISCO Idaho Springs 42.84 81 *e*P **P 17 29 20.8 +0.4**
comp=Z,18nm,1.5s
F29A Eureka 42.85 71 ⇓P P 17 29 19.8 -0.2
baz=43
P23A Jefferson 42.96 82 ⇑P P 17 29 21.5 +0.1
baz=43,SNR=11
O24A Longmont 42.98 81 ⇓P P 17 29 21.9 +0.6
baz=43
J27A Elkhorn Farm, 43.00 75 ⇑P P 17 29 21.6 +0.2
baz=43,SNR=5.1
E30A Jud 43.02 69 ⇓P P 17 29 21.6 +0.2
baz=43
L26A Underwood Farm 43.06 77 ⇑P P 17 29 21.9 0.0
baz=43
I28A Midland 43.08 74 ⇓P P 17 29 21.8 -0.1
baz=43,SNR=27
G29A Hoven 43.15 71 ⇑P P 17 29 22.4 0.0
baz=43
K27A Flueckinger Fa 43.18 76 ⇑P P 17 29 22.7 -0.1
baz=43
W18A Petrified Fore 43.23 90 ⇓P P 17 29 24.0 +0.6
baz=43,SNR=5.5
W18A Petrified Fore 43.23 90 *e*P **P 17 29 23.5 0.0**
comp=Z,38nm,1.0s
Q23A Hartsel 43.25 83 ⇓P P 17 29 24.1 +0.4
baz=43
H29A Onida 43.30 72 ⇑P P 17 29 23.8 +0.1
baz=43,SNR=24
F30A Leola 43.32 70 ⇑P P 17 29 23.9 0.0
baz=43
S22A 4UR Ranch, Cre 43.35 85 ⇓P P 17 29 25.5 +1.0
baz=43,SNR=31
M26A McRoberts Ranc 43.36 78 ⇑P P 17 29 24.4 +0.1
baz=43
J28A Allard Ranch, 43.37 74 ⇓P P 17 29 24.5 +0.2
baz=43
214A Organ Pipe Nat 43.44 96 ⇓P P 17 29 25.5 +0.6
baz=43,SNR=7.5
214A Organ Pipe Nat 43.44 96 *e*P **P 17 29 24.7 -0.2**
comp=Z,18nm,1.3s
P24A Koer Place, 43.45 81 ⇑P P 17 29 26.0 +0.9
baz=43
X18A Snowflake 43.48 91 ⇑P P 17 29 26.6 +1.1
baz=43,SNR=9.2
L27A T5 Ranch, Ells 43.49 77 ⇑P P 17 29 26.2 +0.9
baz=43
O25A Wiggins 43.57 80 ⇓P P 17 29 27.1 +1.1
baz=43,SNR=6.4
I29A Vivian Onida 43.58 73 ⇓P P 17 29 26.0 0.0
baz=43,SNR=13
Q24A Divide 43.64 82 ⇑P P 17 29 27.5 +0.7
baz=44,SNR=5.8
G30A Faulkton 43.64 71 ⇑P P 17 29 26.2 -0.2
baz=44,SNR=28
N26A Koester Ranch, 43.69 79 ⇓P P 17 29 28.1 +1.2
baz=44,SNR=5.2
R23A Moffat 43.70 83 ⇓P P 17 29 27.6 +0.3
baz=44,SNR=9.2
K28A Ten Mile Ranch 43.70 75 ⇑P P 17 29 27.4 +0.5
baz=44
BOD Bodaibo 43.74 310 *e*P **P 17 29 27.0 0.0**
BOD pmax pmax
comp=Z,25nm,1.0s
M27A Reverse DX Ran 43.78 77 ⇑P P 17 29 27.8 +0.2
baz=44
AGMN Agassiz Nation 43.80 65 ⇑P P 17 29 27.1 -0.5
baz=44,SNR=8.3
AGMN Agassiz Nation 43.80 65 *e*P **P 17 29 26.4 -1.3**
comp=Z,44nm,1.1s
S23A Nye Farm, Mont 43.89 84 ⇓P P 17 29 28.3 -0.5
baz=44
P25A Willow Gulch B 43.90 81 ⇓P P 17 29 30.0 +1.3
baz=44,SNR=5.7
J29A Okreek 43.92 74 ⇓P P 17 29 28.7 0.0
baz=44,SNR=22
O26A Horse Wrangler 43.98 79 ⇑P P 17 29 29.6 +0.2
baz=44,SNR=5.4
R24A Sanders Place, 44.11 83 ⇑P P 17 29 30.9 +0.4
baz=44,SNR=10.0
N27A Anderson Farm, 44.12 78 ⇓P P 17 29 31.0 +0.6
baz=44,SNR=5.9
BRSD Miller 44.14 72 ⇑P P 17 29 30.2 -0.2
baz=44
BRSD Miller 44.14 72 *e*P **P 17 29 29.7 -0.7**
comp=Z,126nm,0.9s
I30A Oacoma 44.16 73 ⇑P P 17 29 30.4 -0.2
baz=44,SNR=12
U22A Llaves 44.21 86 ⇓P P 17 29 31.8 +0.5
baz=44,SNR=12
Q25A Bedland, Calha 44.22 82 ⇑P P 17 29 31.8 +0.5
baz=44,SNR=5.9
T23A Casias Ranch, 44.29 85 ⇓P P 17 29 32.2 +0.2
baz=44
K29A Lazy Trails An 44.30 75 ⇓P P 17 29 31.9 +0.1
baz=44,SNR=5.7
OGNE Ogallala 44.34 78 ⇓P P 17 29 32.5 +0.4
baz=44
OGNE Ogallala 44.34 78 *e*P **P 17 29 32.1 0.0**
comp=Z,43nm,1.2s
P26A Davis Ranch, A 44.38 80 ⇓P P 17 29 33.5 +1.0
baz=44,SNR=24
S24A Houchin Ranch, 44.42 84 ⇓P P 17 29 33.4 +0.4
baz=44,SNR=20
TUC Tucson 44.45 94 *e*P **P 17 29 33.1 0.0**
TUC *e* 17 31 15.7
TUC pmax pmax
comp=Z,41nm,1.5s
TUC Tucson 44.45 94 *e*P **P 17 29 33.1 0.0**
comp=Z,41nm,1.5s
TUC *e*PcP **PcP 17 31 15.7 -0.6**
J30A Dallas 44.46 73 ⇓P P 17 29 33.1 0.0
baz=44,SNR=25
V22A San Miguel Ran 44.47 87 ⇓P P 17 29 33.5 0.0
baz=44,SNR=20
M28A Bar X Bar Ranc 44.47 77 ⇓P P 17 29 33.5 +0.3
baz=44,SNR=5.9
O27A Beecher Island 44.52 79 ⇑P P 17 29 34.1 +0.5
baz=44,SNR=6.9
L29A Maesberg Ranch 44.61 75 ⇓P P 17 29 34.2 0.0
baz=44
U23A El Rito 44.65 86 ⇑P P 17 29 35.5 +0.6
baz=44,SNR=34
Q26A Hugo 44.66 81 ⇓P P 17 29 35.6 +0.8
baz=44
R25A Fountain Ranch 44.67 82 ⇑P P 17 29 35.1 +0.2
baz=44,SNR=14
T24B San Luis 44.68 84 ⇓P P 17 29 35.8 +0.6
baz=44,SNR=10
K30A Basset 44.77 74 ⇑P P 17 29 35.4 -0.1
baz=45,SNR=19
N28A Pribbeno Ranch 44.79 78 ⇑P P 17 29 36.2 +0.4
baz=45
P27A Ficken Ranch, 44.85 80 ⇑P P 17 29 36.4 +0.2
baz=45
M29A Burnside Ranch 44.85 76 ⇓P P 17 29 36.3 0.0
baz=45
S25A Robets Cordova 44.89 83 ⇑P P 17 29 36.7 +0.1
baz=45,SNR=18
CN2 Changchun 44.92 288 *e*P **P 17 29 37.0 +0.4**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,500nm,8.0s
O28A Krutsinger Ran 44.99 79 ⇑P P 17 29 37.3 -0.1
baz=45
V23A Ortiz Mt. (NFS 45.03 86 ⇓P P 17 29 38.6 +0.7
baz=45,SNR=22
R26A Arlington 45.09 82 ⇑P P 17 29 38.0 -0.2
baz=45,SNR=15
HIA Hailar 45.12 297 *d*P **P 17 29 41.1 +2.9**
HIA pmax pmax
comp=Z,27nm,1.2s
HIA Hailar 45.12 297 *e*P **P 17 29 41.3 +3.1**
comp=Z,5.9nm,0.6s
L30A Spencer Herefo 45.13 75 ⇑P P 17 29 38.2 -0.3
baz=45
KSCO Kaye Shedlock' 45.15 80 ⇓P P 17 29 39.1 +0.4
baz=45
KSCO Kaye Shedlock' 45.15 80 *e*P **P 17 29 39.1 +0.4**
comp=Z,17nm,0.4s
KSCO *e*PcP **PcP 17 31 17.5 -1.2**
U24A Moreno Valley 45.16 85 ⇑P P 17 29 39.7 +0.7
baz=45
T25A Trinidad 45.23 84 ⇑P P 17 29 39.8 +0.4
baz=45,SNR=30
N29A Votaw Ranch, W 45.27 77 ⇑P P 17 29 39.7 +0.2
baz=45
M30A Dale-Ortello V 45.29 76 ⇑P P 17 29 39.6 0.0
baz=45
LAZ Ladron 45.31 89 *e*P **P 17 29 40.6 +0.5**
LAZ *e*PP PP 17 31 31.7 +5.6
P28A Saint Francis 45.34 79 ⇑P P 17 29 40.5 +0.3
baz=45,SNR=8.4
ANMO Albuquerque 45.38 87 *e*P **P 17 29 40.7 +0.1**
ANMO pmax pmax
comp=Z,10.0nm,0.8s
ANMO Albuquerque 45.38 87 *e*P **P 17 29 40.7 +0.1**
comp=Z,9.9nm,0.8s
R27A Eads 45.50 81 ⇓P P 17 29 42.0 +0.6
baz=45,SNR=7.5
S26A Kim 45.50 82 ⇓P P 17 29 41.5 0.0
baz=45,SNR=31
L31A Butterfield Fa 45.53 74 ⇑P P 17 29 41.6 +0.1
baz=45,SNR=5.2
LENM Lemitar 45.57 89 *e*P **P 17 29 42.6 +0.5**
O29A 4D Ranch, Culb 45.58 78 ⇓P P 17 29 42.3 +0.3
baz=45,SNR=5.7
N30A Hueftle Ranch, 45.60 77 ⇓P P 17 29 42.1 0.0
baz=45
V24A Rampart Ranch, 45.60 86 ⇑P P 17 29 43.4 +0.9
baz=46,SNR=29
Q28A Sharon Springs 45.61 80 ⇑P P 17 29 42.8 +0.5
baz=45
LPM Los Pinos Moun 45.69 88 *e*P **P 17 29 43.4 +0.3**
U25A Circle Dot Ran 45.70 84 ⇑P P 17 29 43.7 +0.5
baz=46,SNR=23
T26A Comanche Natio 45.71 83 ⇑P P 17 29 43.3 +0.1
baz=46,SNR=15
BNM Barren Site 45.80 88 *e*P **P 17 29 44.6 +0.7**
S27A Las Animas 45.82 82 ⇑P P 17 29 44.2 +0.2
baz=46,SNR=11
P29A Atwood 45.82 79 ⇑P P 17 29 44.5 +0.5
baz=46,SNR=9.5
W24A Lazy 6 Ranch, 45.86 86 ⇑P P 17 29 45.1 +0.7
baz=46,SNR=18
ECSD EROS Data Cent 45.93 71 ⇓P P 17 29 43.4 -1.2
baz=46,SNR=25
ECSD EROS Data Cent 45.93 71 *e*P **P 17 29 42.9 -1.7**
comp=Z,40nm,1.2s
V25A Rancho No Teng 45.94 85 ⇓P P 17 29 45.0 0.0
baz=46,SNR=17
O30A MW Ranch, Wils 46.00 77 ⇑P P 17 29 45.4 +0.1
baz=46,SNR=9.5
319A Douglas 46.02 93 ⇑P P 17 29 46.0 +0.3
baz=46
R28A Tribune 46.07 81 ⇓P P 17 29 46.2 +0.3
baz=46,SNR=8.9
U26A Atchley Ranch, 46.12 84 ⇓P P 17 29 46.8 +0.4
baz=46,SNR=9.2
121A Cookes Peak, D 46.16 91 ⇑P P 17 29 47.4 +0.6
baz=46,SNR=16
121A Cookes Peak, D 46.16 91 *e*P **P 17 29 46.9 +0.1**
comp=Z,61nm,1.3s
Z22A Elephant Butte 46.18 90 ⇓P P 17 29 47.6 +0.7
baz=46,SNR=14
Q29A Oakley 46.23 79 ⇑P P 17 29 47.4 +0.2
baz=46,SNR=6.2
N31A Bailey Ranch, 46.27 76 ⇓P P 17 29 47.5 +0.1
baz=46
P30A Selden 46.27 78 ⇑P P 17 29 47.6 +0.1
baz=46,SNR=14
T27A Campo 46.32 83 ⇓P P 17 29 48.0 +0.1
baz=46
BGNE Belgrade 46.40 75 ⇓P P 17 29 48.4 0.0
baz=46,SNR=7.6
BGNE Belgrade 46.40 75 *e*P **P 17 29 47.6 -0.8**
comp=Z,116nm,0.8s
R29A Marienthal 46.43 80 ⇑P P 17 29 49.4 +0.7
baz=46
W25A X Bar L Ranch, 46.44 86 ⇑P P 17 29 49.5 +0.6
baz=46,SNR=39
EYMN Ely 46.44 64 *e*P **P 17 29 47.5 -1.1**
comp=Z,35nm,1.0s
O31A Woolen Ranch, 46.46 77 ⇑P P 17 29 49.0 +0.2
baz=46
V26A Tequesquite Ra 46.48 85 ⇓P P 17 29 49.3 +0.1
baz=46,SNR=14
S28A Manter 46.49 81 ⇑P P 17 29 49.9 +0.7
baz=46
T28A Walsh 46.66 82 ⇑P P 17 29 50.6 0.0
baz=46
U27A Thompson Grove 46.67 83 ⇑P P 17 29 50.5 -0.2
baz=46,SNR=12
Y24A Capitan 46.69 88 ⇓P P 17 29 50.9 0.0
baz=47,SNR=40
N32A Stulken Farm, 46.70 76 ⇓P P 17 29 50.9 +0.1
baz=46
X25A Clemmons Ranch 46.77 87 ⇑P P 17 29 51.3 -0.2
baz=47
P31A Stockton 46.82 78 ⇑P P 17 29 52.1 +0.4
baz=47,SNR=9.0
W26A Owens Ranch, T 46.95 85 ⇑P P 17 29 53.3 +0.4
baz=47,SNR=5.7
O32A Brockman Farm, 47.02 76 ⇓P P 17 29 53.2 -0.1
baz=47
R30A Dighton 47.04 80 ⇑P P 17 29 53.6 +0.1
baz=47,SNR=6.0
V27A Dan Oppiter Fa 47.09 84 ⇓P P 17 29 54.0 +0.1
baz=47
Q31A Ellis 47.13 78 ⇑P P 17 29 54.2 +0.1
baz=47
T29A Hugoton 47.14 81 ⇑P P 17 29 54.0 -0.2
baz=47
P32A Huiting Farm, 47.22 77 ⇓P P 17 29 54.4 -0.4
baz=47,SNR=11
SPMN Marine on St. 47.27 67 ⇓P P 17 29 54.1 -1.0
baz=47
SPMN Marine on St. 47.27 67 *e*P **P 17 29 54.0 -1.0**
comp=Z,27nm,1.4s
KSRS Korea Array 47.29 279 P P 17 29 56.1 +0.9
comp=Z,4.0nm,0.9s,baz=56,slow=9.1,SNR=6.1
KSRS PcP **PcP 17 31 26.5 +0.6**
comp=Z,4.6nm,1.0s,baz=60,slow=7.1,SNR=4.7
KSRS LR LR 17 48 40.6
comp=Z,76nm,20.7s,baz=60,slow=35
KS01 Wonju Array Si 47.29 279 *e*PcP **PcP 17 31 26.0 0.0**
KSAR Wonju Array Be 47.32 279 P P 17 29 56.2 +0.6
KSAR 17 31 26.5
KSAR Wonju Array Be 47.32 279 P P 17 29 56.1 +0.6
KSAR PcP **PcP 17 31 26.5 +0.4**
S30A Montezuma 47.34 80 ⇓P P 17 29 55.8 0.0
baz=47
V28A Channing 47.47 84 ⇑P P 17 29 56.7 -0.2
baz=47
R31A Burdett 47.50 79 ⇑P P 17 29 56.8 -0.2
baz=47,SNR=10
U29A Oasis Ranch, S 47.60 82 ⇓P P 17 29 57.8 -0.1
baz=48
Q32A Meitler Ranch, 47.64 78 ⇑P P 17 29 58.0 -0.2
baz=48,SNR=8.8
T30A Plains 47.67 81 ⇓P P 17 29 58.6 +0.2
baz=48
W28A Vega 47.80 84 ⇑P P 17 29 59.6 +0.1

baz=48
V29A Stinnett 47.83 83 ⇑P P 17 29 59.5 -0.1
baz=48
P33A Williams Farm, 47.89 77 ⇓P P 17 29 59.8 -0.2
baz=48
R32A Long Quarter, 47.91 78 ⇓P P 17 29 59.8 -0.4
baz=48,SNR=6.4
U30A WK&E Inc. Balk 47.93 82 ⇑P P 17 30 00.1 -0.4
baz=48
S31A Mullinville 47.95 80 ⇑P P 17 30 00.4 -0.1
baz=48
Q33A Connelly Farm, 48.08 77 ⇑P P 17 30 01.0 -0.5
baz=48,SNR=13
S32A Newby Ranch, P 48.23 79 ⇓P P 17 30 02.4 -0.3
baz=48
W29A Amarillo 48.24 84 ⇑P P 17 30 02.9 0.0
baz=48
X28A Dimmitt 48.30 85 ⇓P P 17 30 03.3 -0.1
baz=48
MSTX Muleshoe 48.31 86 ⇓P P 17 30 03.3 -0.1
baz=48
MSTX Muleshoe 48.31 86 *e*P P 17 30 03.3 -0.1
comp=Z,24nm,0.9s
AMTX Amarillo 48.38 84 ⇓P P 17 30 03.9 0.0
baz=48
AMTX Amarillo 48.38 84 *e*P P 17 30 02.4 -1.5
comp=Z,26nm,1.0s
V30A Spur Ranch, Mi 48.41 82 ⇑P P 17 30 04.1 0.0
baz=48
R33A Olander Ranch, 48.42 78 ⇓P P 17 30 04.2 +0.1
baz=48
U31A Nine Bar Ranch 48.53 81 ⇓P P 17 30 05.0 0.0
baz=48
T32A Huddler Ranch, 48.57 80 ⇓P P 17 30 05.3 0.0
baz=48
X29A Tulia 48.65 84 ⇑P P 17 30 05.9 -0.1
baz=48
Y28A McKinney Farm, 48.67 85 ⇑P P 17 30 06.1 -0.1
baz=48
KSU1 Kansas State U 48.75 76 ⇓P P 17 30 06.1 -0.6
baz=49,SNR=5.3
KSU1 Kansas State U 48.75 76 *e*P P 17 30 04.9 -1.7
comp=Z,41nm,1.0s
COWI Conover 48.83 64 *e*P P 17 30 05.5 -1.6
comp=Z,28nm,1.3s
S33A Kaszmaul Farm, 48.87 79 ⇑P P 17 30 07.5 -0.1
baz=49
V31A Spring Creek L 48.92 82 ⇓P P 17 30 07.9 -0.2
baz=49
Z28A Tucker Farm, M 49.00 86 ⇓P P 17 30 08.4 -0.4
baz=49,SNR=6.1
U32A Winter Ranch, 49.04 81 ⇑P P 17 30 08.9 -0.1
baz=49
Y29A Porterfield Fa 49.06 85 ⇑P P 17 30 09.3 +0.1
baz=49,SNR=5.8
X30A Coker Ranch, T 49.16 84 ⇑P P 17 30 09.9 0.0
baz=49
S34A Willow Spring 49.34 78 ⇑P P 17 30 10.6 -0.6
baz=49
128A Castleberry Fa 49.39 87 ⇑P P 17 30 11.4 -0.3
baz=49,SNR=12
Z29A Hungry Hill Ra 49.44 86 ⇓P P 17 30 11.7 -0.4
baz=49,SNR=16
KBS Kingsbay 49.50 0 *e*P P 17 30 18.4 +6.6
KBS Kingsbay 49.50 0 *e*pP P 17 30 18.4 +6.6
Y30A Stafford Cattl 49.53 84 ⇓P P 17 30 12.4 -0.3
baz=49,SNR=6.0
228A UT Block 9, Go 49.66 87 ⇑P P 17 30 13.5 -0.3
baz=50
W32A Sentinel 49.72 82 ⇑P P 17 30 14.1 0.0
baz=50
Z30A Sanderson Ranc 49.78 85 ⇓P P 17 30 14.1 -0.6
baz=50,SNR=14
V33A Lossen Ranch, 49.85 81 ⇑P P 17 30 14.8 -0.2
baz=50
U34A Anderson Ranch 49.90 80 ⇓P P 17 30 15.0 -0.5
baz=50,SNR=7.3
U34A Anderson Ranch 49.90 80 *e*P P 17 30 15.0 -0.5
comp=Z,80nm,1.4s
DAG Danmarks Havn 50.04 9⇓*i*P P 17 30 16.8 +0.8
DAG pmax pmax
comp=Z,18nm,0.8s
DAG Danmarks Havn 50.04 9⇓*i*P P 17 30 16.8 +0.8
comp=Z,24nm,0.8s
JFWS Jewell Farm 50.13 68 *e*P P 17 30 15.4 -1.7
JFWS pmax pmax
comp=Z,32nm,0.8s
JFWS Jewell Farm 50.13 68 *e*P P 17 30 15.3 -1.7
comp=Z,32nm,0.8s
W33A Caddo, Fort Co 50.17 81 ⇓P P 17 30 17.5 0.0
baz=50
S36A Lake Cedric, C 50.25 77 ⇑P P 17 30 17.7 -0.4
baz=50
WMOK Wichita Mounta 50.26 82 *e*P P 17 30 18.1 -0.1
WMOK pmax pmax
comp=Z,18nm,0.8s
WMOK Wichita Mounta 50.26 82 *e*P P 17 30 18.1 -0.1
comp=Z,18nm,0.8s
V34A Guthrie 50.31 80 ⇓P P 17 30 17.9 -0.6
baz=50
V34A Guthrie 50.31 80 *e*P P 17 30 18.2 -0.4
comp=Z,46nm,1.4s
Y32A R-V Farms, Ver 50.34 83 ⇓P P 17 30 18.4 -0.5
baz=50
130A Snyder 50.35 86 ⇑P P 17 30 18.4 -0.6
baz=50
Z31A Sharp Cattle R 50.37 84 ⇑P P 17 30 18.6 -0.5
baz=50,SNR=6.5
329A Wagon Wheel Ra 50.47 88 ⇑P P 17 30 19.9 -0.1
baz=50,SNR=7.4
W34A Bridge Creek, 50.55 81 ⇑P P 17 30 20.2 -0.1
baz=50
W34A Bridge Creek, 50.55 81 *e*P P 17 30 20.3 -0.1
comp=Z,41nm,1.3s
131A Roby 50.65 85 ⇓P P 17 30 21.3 +0.1
baz=50,SNR=8.9
230A Sterling City 50.74 86 ⇓P P 17 30 21.6 -0.3
baz=51,SNR=8.9
SUMG Summit 50.75 18 *e*P P 17 30 23.6 +1.8
SUMG pmax pmax
comp=Z,42nm,0.9s
SUMG Summit 50.75 18 *i* P **P 17 30 23.7 +1.8**
comp=Z,28nm,0.9s
SUMG Summit 50.75 18 *e*P P 17 30 23.6 +1.8
comp=Z,42nm,0.9s
V35A Meyer Ranch, C 50.77 80 ⇑P P 17 30 21.5 -0.5
baz=51
Z32A Haskell 50.79 84 ⇑P P 17 30 22.0 -0.2
baz=51,SNR=13
TX31 Lajitas Ar. Si 50.92 91 *e*P P 17 30 22.8 -0.6
TXAR Lajitas Array 50.92 91 P **P 17 30 23.3 0.0**
comp=Z,22nm,0.7s,baz=299,slow=5.6,SNR=90
X34A Smith Ranch, M 50.93 82 ⇑P P 17 30 22.9 -0.4
baz=51
330A Mertzon 51.03 87 ⇑P P 17 30 23.5 -0.6
baz=51,SNR=6.2
429A Davenport Ranc 51.12 88 ⇓P P 17 30 24.3 -0.5
baz=51,SNR=13
ABTX Abilene, Hawle 51.15 85 ⇑P P 17 30 24.8 -0.1
baz=51,SNR=5.2
ABTX Abilene, Hawle 51.15 85 *e*P P 17 30 24.1 -0.8
comp=Z,22nm,1.0s
231A Bronte 51.20 86 ⇓P P 17 30 25.1 -0.3
baz=51
529A Stev Forest Ra 51.27 89 ⇑P P 17 30 25.6 -0.3
baz=51,SNR=17
TUL1 Leonard 51.31 79 ⇓P P 17 30 25.5 -0.5
baz=51,SNR=7.1
TUL1 Leonard 51.31 79 *e*P P 17 30 24.8 -1.3
comp=Z,21nm,0.8s
Y34A Reagan Ranch, 51.41 82 ⇑P P 17 30 26.6 -0.3
baz=51,SNR=9.6
430A Baggett Ranch, 51.42 88 ⇓P P 17 30 26.4 -0.6
baz=51,SNR=7.4
IRK Irkutsk 51.47 308 *e*P P 17 30 28.2 +1.1
IRK pmax pmax
comp=Z,38nm,2.0s
331A San Angelo 51.56 87 ⇓P P 17 30 27.3 -0.8
baz=51,SNR=6.7
133A Hamilton Ranch 51.60 84 ⇑P P 17 30 28.3 0.0
baz=52,SNR=8.4
232A Coleman 51.65 85 ⇑P P 17 30 28.1 -0.5
baz=52
Z34A Collier Ranch, 51.70 83 ⇓P P 17 30 28.7 -0.4
baz=52,SNR=5.2
530A J-C Ranch, Com 51.80 88 ⇑P P 17 30 29.7 -0.2
baz=52,SNR=15
431A Sonora 51.88 87 ⇓P P 17 30 29.8 -0.6
baz=52,SNR=24
332A Millersview 51.93 86 ⇑P P 17 30 30.5 -0.4
baz=52
233A Rising Star 52.02 85 ⇑P P 17 30 31.4 0.0
baz=52,SNR=10.0
SFJD Kangerlussuaq 52.05 27 *e*P P 17 30 32.3 +1.2
SFJD pmax pmax
comp=Z,37nm,1.1s
SFJD Kangerlussuaq 52.05 27 *i* P **P 17 30 32.5 +1.4**
comp=Z,13nm,0.9s
SFJD Kangerlussuaq 52.05 27 *e*P P 17 30 32.3 +1.2
comp=Z,37nm,1.1s
TLY Talaya 52.12 308 *e*P P 17 30 34.0 +2.0
TLY *e* 17 30 43.3
TLY pmax pmax
comp=Z,21nm,0.9s
TLY Talaya 52.12 308 P **P 17 30 33.8 +1.9**
comp=Z,7.6nm,0.5s,baz=3.4,slow=7.8,SNR=8.8
TLY Talaya 52.12 308 *e*P P 17 30 33.5 +1.6
comp=Z,16nm,0.7s
Z35A Perchaven, San 52.14 82 ⇓P P 17 30 32.1 -0.2
baz=52
134A White-Moore Ra 52.15 84 ⇑P P 17 30 32.6 +0.3
baz=52
432A Menard 52.25 86 ⇑P P 17 30 32.6 -0.6
baz=52,SNR=6.8
531A Rocksprings 52.28 88 ⇑P P 17 30 32.7 -0.7
baz=52,SNR=13
333A Richland Sprin 52.44 85 ⇑P P 17 30 33.7 -0.8
baz=52,SNR=12
234A Clairette 52.50 84 ⇓P P 17 30 34.9 -0.1
baz=52
JCT Junction City 52.52 87 *e*P P 17 30 34.2 -1.0
JCT pmax pmax
comp=Z,33nm,0.9s
JCT Junction City 52.52 87 ⇓P P 17 30 34.4 -0.8
baz=52,SNR=9.2
JCT Junction City 52.52 87 *e*P P 17 30 34.2 -1.0
comp=Z,33nm,0.9s
135A Vickery Place, 52.57 83 ⇑P P 17 30 35.5 0.0
baz=52
BJI Beijing 52.68 290 P **P 17 30 37.1 +0.9**
BJI PMZ
comp=Z,10.0nm,1.0s
532A Rocksprings 52.70 87 ⇓P P 17 30 35.6 -1.0
baz=53
433A Art 52.77 86 ⇑P P 17 30 36.1 -0.9
baz=53
ULN Ulaanbaatar 52.77 302 *d i*P **P 17 30 37.9 +0.9**
ULN pmax pmax
comp=Z,19nm,1.0s
ULN Ulaanbaatar 52.77 302 *e*P P 17 30 37.8 +0.7
comp=Z,21nm,0.7s
631A Perdido Creek 52.78 88 ⇓P P 17 30 36.3 -0.8
baz=53,SNR=8.7
334A Lometa 52.90 85 ⇓P P 17 30 37.5 -0.4
baz=53,SNR=13
WHTX Lake Whitney, 52.93 84 ⇓P P 17 30 37.2 -1.0
baz=53
ZAK Zakamensk 53.11 307 *e*P P 17 30 40.3 +0.9
ZAK pmax pmax
comp=Z,9.0nm,1.4s
SONA1 Songino Array 53.12 303 *e*P P 17 30 40.6 +1.0
SONM Songino Array 53.14 303 P **P 17 30 41.1 +1.5**
comp=Z,8.9nm,0.9s,baz=74,slow=5.0,SNR=43
SONM PcP **PcP 17 31 48.7 +1.1**
comp=Z,4.0nm,0.9s,baz=34,slow=4.0,SNR=4.2
632A Uvalde 53.21 88 ⇓P P 17 30 39.5 -0.7
baz=53,SNR=6.1
434A Burnet 53.24 85 ⇓P P 17 30 40.1 -0.4
baz=53,SNR=16
533A Kerrville 53.28 87 ⇓P P 17 30 40.1 -0.7
baz=53,SNR=8.2
MOY Mondy 53.42 309 *e*P P 17 30 43.3 +1.7
MOY pmax pmax
comp=Z,22nm,1.4s
335A Moody 53.43 84 ⇓P P 17 30 41.7 -0.2
baz=53
137A Heron Place, G 53.56 82 ⇑P P 17 30 42.0 -0.8
baz=53
SFIN Lafayette 53.56 69 ⇓P P 17 30 41.6 -1.1
baz=53,SNR=6.0
SFIN Lafayette 53.56 69 *e*P P 17 30 41.3 -1.4
comp=Z,38nm,0.8s
MIAR Mount Ida 53.57 79 *e*P P 17 30 41.2 -1.7
MIAR pmax pmax
comp=Z,28nm,1.1s
MIAR Mount Ida 53.57 79 *e*P P 17 30 41.1 -1.7
comp=Z,28nm,1.1s
732A Laxson Ranch, 53.64 88 ⇓P P 17 30 42.8 -0.6
baz=54
534A Blanco 53.66 86 ⇑P P 17 30 42.7 -0.8
baz=54,SNR=6.8
435B Jarrell 53.68 85 ⇓P P 17 30 43.7 -0.1
baz=54
832A Faith Ranch, C 53.95 89 ⇓P P 17 30 45.5 -0.2
baz=54,SNR=7.0
OLIL Olney 54.05 71 *e*P P 17 30 44.9 -1.4
comp=Z,76nm,0.8s
733A Divot King Ran 54.07 88 ⇑P P 17 30 46.8 +0.2
baz=54,SNR=5.8
SIUC Southern Illin 54.07 73 *e*P P 17 30 44.4 -2.1
comp=Z,47nm,1.1s
436A Wall Ranch, Ga 54.18 84 ⇓P P 17 30 47.3 0.0
baz=54
535A Dale 54.22 86 ⇓P P 17 30 46.8 -0.8
baz=54
833A Chaparral WMA, 54.28 88 ⇑P P 17 30 48.2 +0.1
baz=54,SNR=7.8
238A Jacksonville 54.36 82 ⇑P P 17 30 48.9 +0.3
baz=54
734A La Parita Cree 54.43 87 ⇑P P 17 30 49.5 +0.3
baz=54
635A Leesville 54.54 86 ⇑P P 17 30 49.5 -0.4
baz=54
SCHQ Schefferville 54.56 44 P **P 17 30 48.9 -0.9**
comp=Z,7.2nm,0.8s,baz=319,slow=6.8,SNR=11
SCHQ Schefferville 54.56 44 *e*P P 17 30 49.5 -0.3
comp=Z,14nm,1.0s
TIA Tai'an 54.64 285 ⇓P P 17 30 50.9 +0.2
TIA PMZ
comp=Z,20nm,0.8s
BLO Bloomington 54.69 70 *e*P P 17 30 49.7 -1.2
BLO pmax pmax
comp=Z,42nm,0.8s
BLO Bloomington 54.69 70 *e*P P 17 30 49.7 -1.2
comp=Z,42nm,0.8s
239A Gary 54.75 81 ⇓P P 17 30 51.0 -0.4
baz=55
HHC Hu-ho-hao-te 54.81 293 *e*P P 17 30 52.8 +0.8
HHC PP **PP 17 32 56.6 +2.0**
HHC S **S 17 38 30.8 -0.1**
HHC sS **sS 17 38 41.8 -3.9**
HHC ScS **ScS 17 40 36.8 -2.1**
HHC SS **SS 17 42 11.8 -1.9**
HHC PMZ
comp=Z,33nm,1.3s
HHC PMZ
comp=Z,210nm,5.2s
HHC LN
comp=Z,210nm,16.7s
HHC LE
comp=Z,290nm,16.5s
USIN University of 54.82 72 *e*P P 17 30 49.8 -2.1
comp=Z,74nm,0.7s
933A Laredo 54.86 89 ⇑P P 17 30 52.1 -0.2
baz=55
438A Sam Houston St 55.01 83 ⇑P P 17 30 52.8 -0.5
baz=55
934A Benavides 55.34 88 ⇓P P 17 30 55.5 -0.2
baz=55
WCI Wyandotte Cave 55.45 70 *e*P P 17 30 51.7 -4.8
WCI pmax pmax
comp=Z,51nm,1.1s
WCI Wyandotte Cave 55.45 70 *e*P P 17 30 51.7 -4.8
comp=Z,50nm,1.1s
WVT Waverly 55.96 73 *e*P P 17 30 58.1 -2.0
WVT pmax pmax
comp=Z,43nm,1.1s
WVT Waverly 55.96 73 *e*P P 17 30 58.1 -2.0
comp=Z,43nm,1.1s
035A Encino 56.07 89 ⇑P P 17 31 00.9 -0.1
baz=56
OXF Oxford 56.11 76 *e*P P 17 30 59.8 -1.4
OXF pmax pmax
comp=Z,115nm,0.9s
OXF Oxford 56.11 76 *e*P P 17 30 59.8 -1.4
comp=Z,115nm,0.9s
NJ2 Nanjing 56.44 281 *e*P P 17 31 04.3 +0.7
NJ2 PMZ
comp=Z,40nm,0.8s
ERPA Erie 56.44 63 *e*P P 17 31 02.0 -1.5
comp=Z,38nm,1.0s
ALLY Alegheny Colle 56.67 64 *e*P P 17 31 03.9 -1.2
comp=Z,97nm,1.1s
HVS Khovu-Aksy 57.19 312 *ce*P **P 17 31 10.3 +1.5**
HVS pmax pmax
comp=Z,159nm,1.7s
PTN Potsdam (NY) 57.49 58 *e*P P 17 31 09.9 -1.0
PTN pmax pmax
comp=Z,76nm,1.0s
PTN Potsdam (NY) 57.49 58 *e*P P 17 31 09.9 -1.0
comp=Z,76nm,1.0s
LONY Lake Ozonia 57.67 58 *e*P P 17 31 10.8 -1.3
comp=Z,20nm,0.9s
NCB Newcomb 58.30 58 *e*Pn P 17 31 15.4 -1.2
comp=Z,15nm,0.7s
KEV Kevo 58.33 355 *e*P P 17 31 16.2 -0.1
KEV pmax pmax
comp=Z,9.0nm,0.7s
KEV Kevo 58.33 355 *e*p **P 17 31 16.2 -0.1**
comp=Z,9.3nm,0.7s
KEV Kevo 58.33 355 *e*P P 17 31 16.3 -0.1
BINY Binghamton 58.57 61 *e*P P 17 31 17.2 -1.3
comp=Z,34nm,1.0s
LRAL Lakeview Retre 58.58 75 *e*P P 17 31 16.5 -2.2
comp=Z,15nm,1.2s
SSPA Standing Stone 58.61 63 *e*P P 17 31 17.5 -1.2
comp=Z,65nm,1.1s
ARCES ARCESS Array B 58.63 355 P **P 17 31 19.1 +0.6**
comp=Z,6.7nm,0.8s,baz=4.6,slow=6.4,SNR=9.0
ARCES PcP **PcP 17 32 08.5 +0.2**
comp=Z,8.6nm,0.8s,baz=0.9,slow=5.5,SNR=3.7
ARCES LR LR 17 59 16.4
comp=Z,49nm,18.6s,baz=359,slow=39
ACCN Adirondack Com 59.00 58 *e*P P 17 31 20.5 -1.0
comp=Z,23nm,0.8s
NVS Novosibirsk 59.02 321⇑*i*P P 17 31 21.9 +0.6
NVS pmax pmax
comp=Z,16nm,1.2s
NVS pmax pmax
comp=N,8.0nm,1.3s
NVS pmax pmax
comp=E,13nm,1.3s
ZAA0 Zalesovo Array 59.04 319 *e*P P 17 31 22.4 +0.9
ZALV Zalesovo Beam 59.04 319 P **P 17 31 22.4 +0.9**
comp=E,7.8nm,0.8s,baz=38,slow=7.5,SNR=23
ZALV LR LR 18 00 15.6
comp=E,109nm,19.6s,baz=64,slow=40
KSPA Keystone Colle 59.13 61 *e*P P 17 31 21.7 -0.7
comp=E,18nm,0.7s
LBNH Lisbon 59.31 56 *e*P P 17 31 22.9 -0.7
LBNH pmax pmax
comp=Z,14nm,0.9s
LBNH Lisbon 59.31 56 *e*P P 17 31 22.9 -0.7
comp=Z,14nm,0.9s
TRY Troy 59.45 59 *e*P P 17 31 24.1 -0.4
comp=Z,21nm,0.8s
BLA Blacksburg 59.54 68 *e*P P 17 31 23.9 -1.5
BLA pmax pmax
comp=Z,43nm,0.9s
BLA Blacksburg 59.54 68 *e*P P 17 31 23.9 -1.5
comp=Z,43nm,0.9s
LVZ Lovozero 59.56 351 *e*P P 17 31 26.0 +1.1
LVZ *e*PP **pP 17 31 34.7 +0.7**
LVZ Lovozero 59.56 351 *e*P P 17 31 26.0 +1.1
LVZ *e*pP **pP 17 31 34.7 +0.7**
MVL Millersville 59.90 63 *e*P P 17 31 26.6 -1.0
comp=Z,22nm,1.0s
APA Apatity 59.99 351 *e*P P 17 31 34.0 +6.1
APA MLR MLR
comp=Z,800nm,10.0s
LUPA Lehigh Univers 60.01 62 *e*P P 17 31 27.9 -0.6
comp=Z,5.4nm,0.9s
SDMD Soldier's Deli 60.03 63 *e*P P 17 31 27.1 -1.5
comp=Z,49nm,1.2s
ODNJ Ogdensburg 60.09 61 *e*P P 17 31 28.2 -0.8
comp=Z,20nm,1.0s
WHN Wuhan 60.23 282⇓*i*P P 17 31 30.1 0.0
WHN pP **pP 17 31 39.8 +0.6**
GOGA Godfrey 60.42 73 *e*P P 17 31 29.1 -2.3
GOGA pmax pmax
comp=Z,20nm,0.8s
GOGA Godfrey 60.42 73 *e*P P 17 31 29.1 -2.3
comp=Z,20nm,0.8s
QUA2 Belchertown 60.46 58 *e*P P 17 31 31.1 -0.4
KMSC Kings Mountain 60.46 70 ⇑P P 17 31 30.3 -1.3
baz=60,SNR=6.2
KMSC Kings Mountain 60.46 70 *e*P P 17 31 30.3 -1.3
comp=Z,30nm,1.0s
PAL Palisades 60.52 60 *e*P P 17 31 31.2 -0.7
PAL pmax pmax
comp=Z,23nm,1.0s
PAL Palisades 60.52 60 *e*P P 17 31 31.2 -0.7
comp=Z,23nm,1.0s
HRV Adam Dziewonsk 60.72 58 *e*P P 17 31 32.1 -1.2
HRV pmax pmax
comp=Z,32nm,1.1s
HRV Adam Dziewonsk 60.72 58 *e*P P 17 31 32.1 -1.2
comp=Z,32nm,1.1s
WES Weston 60.93 58 *e*P P 17 31 34.1 -0.5
WES pmax pmax
comp=Z,43nm,0.8s
WES Weston 60.93 58 *e*P P 17 31 34.1 -0.5
comp=Z,43nm,0.8s
URVA University of 60.93 65 *e*P P 17 31 34.1 -0.6
XAN Xi'an 61.00 289 P **P 17 31 36.0 +0.6**
XAN PMZ
comp=Z,3.0nm,1.2s
XAN PMZ
comp=Z,29nm,9.6s
SSLB Suanglung 61.04 272 *e*P P 17 31 35.1 -0.6
comp=Z,24nm,0.8s
BRYW Bryant College 61.14 58 *e*P P 17 31 35.5 -0.7
comp=Z,34nm,1.1s
GTA Gaotai 62.34 299 *e*P P 17 31 45.1 +0.7
GTA pP **pP 17 31 55.3 +1.7**
GTA sP **sP 17 31 59.3 +2.2**
GTA S **S 17 40 12.3 +3.4**
GTA sS sS 17 40 29.3 +5.4
GTA PMZ
comp=Z,9.0nm,1.7s
GTA PMZ
comp=Z,140nm,5.2s
GTA LN
comp=Z,120nm,15.4s
GTA LE
comp=Z,110nm,17.8s
GTA LZ
comp=Z,170nm,15.4s
LZH Lanzhou 62.48 294 P **P 17 31 45.8 +0.4**
LZH pP **pP 17 31 56.3 +1.7**
LZH sP **sP 17 32 01.4 +3.3**
LZH PP **PP 17 34 02.4 -0.3**
LZH S **S 17 40 07.8 -3.0**
LZH sS **sS 17 40 22.0 -3.8**
LZH PMZ
comp=Z,17nm,1.0s
LZH PMZ
comp=Z,140nm,5.1s
LZH LN
comp=Z,440nm,13.3s
LZH LE
comp=Z,500nm,13.8s
LZH LZ
comp=Z,710nm,15.5s
NHSC New Hope 62.58 71 *e*P P 17 31 45.4 -0.4
comp=Z,86nm,1.0s
ENH Enshi 63.36 286 *e*P P 17 31 50.7 -0.5
comp=Z,18nm,1.1s
SOKR Solikamsk 63.57 337 *e*P P 17 31 53.3 +1.3
SOKR pmax pmax
comp=Z,20nm,1.1s
PRGR Permogore 64.04 344 *e*P P 17 31 55.4 +0.3
PRGR *e*PP **pP 17 32 03.9 -0.4**
PRGR 17 32 29.4
PRGR pmax pmax
comp=Z,49nm,1.5s
JOF Joensuu 64.74 351 *e*P P 17 31 59.9 +0.2
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 64.74 351 *e*p **P 17 31 59.9 +0.2**
comp=Z,3.2nm,0.5s

SVE	Sverdlovsk	65.00 334	⇑ *i* P	P		17 32 03.4 +1.9
SVE			pmax	pmax		
comp=Z,53nm,1.1s						
BVAR	Borovoye Array	65.19 326	LR	LR		18 00 58.4
comp=Z,114nm,21.9s,slow=36						
BRVK	Borovoye	65.19 326	P	P		17 32 04.7 +1.9
comp=Z,157nm,0.8s,SNR=6.0						
WMQ	Urumqi	65.29 310	P	P		17 32 05.3 +1.6
WMQ			pP	pP		17 32 12.3 -0.6
WMQ			PP	PP		17 34 31.3 +4.3
WMQ			S	S		17 40 45.9 +0.7
WMQ			sS	sS		17 40 58.8 -1.6
WMQ			ScS	SKSac		17 41 55.0 -1.5
WMQ			PMZ			
comp=Z,16nm,1.1s						
WMQ			PMZ			
comp=Z,120nm,4.4s						
WMQ			LN			
comp=Z,110nm,23.0s						
WMQ			LE			
comp=Z,15nm,24.0s						
MKAR	Makanchi Array	65.49 315	P	P		17 32 05.3 +0.5
comp=Z,5.0nm,0.8s,baz=48,slow=6.2,SNR=36						
MKAR			LR	LR		18 03 07.6
comp=Z,81nm,19.8s,baz=327,slow=38						
MKAR	Makanchi Array	65.49 315	*e*P	P		17 32 05.5 +0.6
MK01	Makanchi Array	65.50 315	*e*P	P		17 32 05.2 +0.2
KLMR	Klimovskoe	65.76 346	*e*P	P		17 32 06.1 -0.2
KLMR			pmax	pmax		
comp=Z,35nm,1.4s						
ARU	Arti	65.91 335	P	P		17 32 08.1 +0.7
comp=Z,208nm,0.9s,SNR=17						
ARU	Arti	65.91 335	*e*P	P		17 32 08.7 +1.3
ARU			pmax	pmax		
comp=Z,42nm,1.1s						
ARU	Arti	65.91 335	*e*P	P		17 32 08.7 +1.3
comp=Z,42nm,1.1s						
KAF	Kangasniemi	65.95 353	*e*P	P		17 32 07.1 -0.5
KAF			pmax	pmax		
comp=Z,9.0nm,0.7s						
KAF	Kangasniemi	65.95 353	*e*p	P		17 32 07.1 -0.5
comp=Z,8.5nm,0.7s						
CD2	Chengdu	66.27 290	P	P		17 32 11.0 +0.8
CD2			pP	pP		17 32 20.1 +0.7
CD2			S	S		17 40 58.0 +0.5
CD2			PMZ			
comp=Z,20nm,1.2s						
CD2			LE			
comp=Z,120nm,14.3s						
CD2			LZ			
comp=Z,200nm,19.0s						
FINES	FINESS Array B	66.64 354	P	P		17 32 12.6 +0.7
comp=Z,7.0nm,0.7s,baz=20,slow=5.4,SNR=19						
FINES			LR	LR		18 03 40.3
comp=Z,52nm,19.1s,baz=26,slow=38						
NB2	NORSAR Subarra	67.46 1	P	P		17 32 18.0 +0.7
comp=Z,2.9nm,0.8s,baz=359,slow=6.2						
NOA	NORSAR Array B	67.46 1	P	P		17 32 18.3 +1.0
comp=Z,4.6nm,0.9s,baz=0.4,slow=6.2,SNR=12						
NOA			LR	LR		17 59 31.6
comp=Z,14nm,21.9s,baz=350,slow=34						
GYA	Guiyang	67.83 285	⇑ *i* P	P		17 32 20.9 +0.7
GYA			pP	pP		17 32 30.8 +1.3
GYA			PP	PP		17 34 52.0 +2.3
GYA			ScP			17 36 47.6
GYA			S	S		17 41 15.3 -1.3
GYA			sS	sS		17 41 30.0 -1.8
GYA			SS	SS		17 45 37.4 -0.4
GYA			PMZ			
comp=Z,20nm,1.0s						
GYA			PMZ			
comp=Z,120nm,5.0s						
GYA			LN			
comp=Z,530nm,18.8s						
GYA			LE			
comp=Z,480nm,19.0s						
GYA			LZ			
comp=Z,500nm,18.5s						
VSU	Vasula	69.54 353	⇑ *e*P	P		17 32 31.3 +1.1
VSU			pmax	pmax		
comp=Z,62nm,1.0s						
PPT2	Papeete2	70.67 163	*e*S	S		17 41 49.5 -0.2
comp=Z,112nm,25.5s						
PPT2	Papeete2	70.67 163	*e*LR	LR		17 53 47.0
comp=Z,410nm,29.5s						
KMI	Kunming	71.17 287	P	P		17 32 41.3 +0.3
KMI			pP	pP		17 32 49.8 -0.5
KMI			PMZ			
comp=Z,11nm,1.0s						
TKM2	Tokmak 2	71.45 317	*e*P	P		17 32 41.3 -1.1
TKM2	Tokmak 2	71.45 317	*e*P	P		17 32 41.3 -1.1
OBN	Obninsk	71.72 346	⇑ *i* P	P		17 32 44.3 +0.8
OBN			pmax	pmax		
comp=Z,29nm,1.7s						
OBN	Obninsk	71.72 346	LR	LR		18 07 08.7
comp=Z,25nm,18.7s,baz=84,slow=38						
OBN	Obninsk	71.72 346	P	P		17 32 39.9 -3.6
AAK	Ala-Archa	72.15 317	*ce*P	P		17 32 48.2 +1.6
AAK			pmax	pmax		
comp=Z,94nm,1.7s						
AAK	Ala-Archa	72.15 317	*e*P	P		17 32 47.9 +1.3
comp=Z,16nm,0.8s						
EKS2	Erkin-Say	72.43 318	*e*P	P		17 32 49.2 +1.0
EKS2	Erkin-Say	72.43 318	*e*P	P		17 32 49.2 +1.0
SLVN	Son La	73.33 283	*e*P	P		17 32 53.7 0.0
comp=Z,23nm,1.5s						
MICGM	Minsk	73.37 351	*e*	P		17 32 52.0 -1.4
MNK	Minsk	73.37 351	*e*P	P		17 32 52.0 -1.4
KKAR	Karatay Array	73.39 320	*e*P	P		17 32 54.8 +1.1
KKAR	Karatay Array	73.39 320	*e*P	P		17 32 54.8 +1.1
KSH	Kashi	74.07 315	P	P		17 33 02.0 +4.1
KSH			sP	sP		17 33 16.9 +6.2
KSH			PP	PP		17 35 50.6 +7.8
KSH			S	S		17 42 32.3 +3.6
KSH			sS	sS		17 42 49.3 +5.3
KSH			ScS	ScS		17 43 06.3 +0.3
KSH			SS	SS		17 47 21.1 +8.3
KSH			PMZ			
comp=Z,16nm,0.8s						
KSH			LN			
comp=Z,140nm,5.4s						
KSH			LE			
comp=Z,90nm,5.1s						
KSH			LZ			
comp=Z,100nm,6.6s						
SUW	Suwalki	74.22 354	*e*P	P		17 32 58.8 +0.4
SUW			pmax	pmax		
comp=Z,55nm,1.1s						
SUW	Suwalki	74.22 354	*e*P	P		17 32 59.0 +0.6
SUW	Suwalki	74.22 354	*e*P	P		17 32 58.8 +0.4
comp=Z,56nm,1.1s						
LSA	Lhasa	74.32 298	P	P		17 33 00.8 +0.8
LSA			PMZ			
comp=Z,10.0nm,1.3s						
LSA	Lhasa	74.32 298	*e*P	P		17 33 01.1 +1.1
LSA			pmax	pmax		
comp=Z,10.0nm,0.7s						
LSA	Lhasa	74.32 298	*e*P	P		17 33 01.1 +1.1
comp=Z,9.5nm,0.7s						
BSEG	Bad Segeberg	74.57 2	*e*P	P		17 33 01.5 +1.2
comp=Z,16nm,1.2s						
VRHR	Novokhopersk	74.74 342	*e*P	P		17 33 00.8 -0.6
VRHR			pmax	pmax		
comp=N,6.0nm,0.7s						
VRHR			pmax	pmax		
comp=E,4.0nm,0.7s						
VRHR			pmax	pmax		
comp=Z,10.0nm,0.7s						
VSR	Storozhevoye	75.07 344	*e*P	P		17 33 03.4 +0.1
VSR			pmax	pmax		
comp=N,7.0nm,0.9s						
VSR			pmax	pmax		
comp=E,7.0nm,0.9s						
VSR			pmax	pmax		
comp=Z,10.0nm,0.9s						
FAKI	Fak Fak	75.08 245	*e*P	P		17 33 02.7 -1.2
comp=Z,27nm,0.9s						
VORD	Divnogorie	75.29 344	*e*P	P		17 33 04.1 -0.5
VORD			pmax	pmax		
comp=N,10.0nm,0.8s						
VORD			pmax	pmax		
comp=E,2.0nm,0.8s						
VORD			pmax	pmax		
comp=Z,9.0nm,0.8s						
NRDL	Niedersach Rie	76.01 2	*e*P	P		17 33 10.0 +1.4
comp=Z,13nm,1.1s						
IBBN	Ibbenburen	76.12 4	*e*P	P		17 33 10.5 +1.2
comp=Z,32nm,1.5s						
CLZ	Clausthal	76.67 2	*e*P	P		17 33 14.2 +1.7
comp=Z,134nm,3.1s						
BUG	Bochum--Univer	76.96 4	*e*P	P		17 33 15.1 +1.0
comp=Z,18nm,1.3s						
AKASG	Malin Array Be	76.99 350	*ce*P	P		17 33 14.3 +0.1
AKASG			pmax	pmax		
comp=Z,7.0nm,0.6s						
AKASG	Malin Array Be	76.99 350	P	P		17 33 14.4 +0.2
comp=Z,7.5nm,0.7s,baz=12,slow=5.7,SNR=16						
KIEV	Kiev	77.00 350	*d i* P	P		17 33 14.2 -0.1
KIEV	Kiev	77.00 350	*e*P	P		17 33 14.4 +0.1
comp=Z,10nm,0.8s						
UBPT	Khong Chiam	77.00 278	P	P		17 33 15.2 +0.4
comp=Z,18nm,1.1s						
CLL	Collm	77.23 0	*i* P	P		17 33 16.6 +1.0
CLL			pmax	pmax		
comp=Z,8.0nm,1.0s						
CLL	Collm	77.23 0	*e*P	P		17 33 16.6 +1.0
comp=Z,8.0nm,1.0s						
CLL	Collm	77.23 0	*i* P	P		17 33 16.6 +1.0
comp=Z,8.0nm,1.0s						
CLL			*i*			17 33 19.3
CLL	Collm	77.23 0	*e*P	P		17 33 16.1 +0.4
comp=Z,8.6nm,0.9s						
CMAI	Chiengmai2	77.32 286	P	P		17 33 17.1 +0.3
comp=Z,72nm,1.6s,comp=Z,16μm						
BRG	Berggiesshubel	77.67 360	*e*P	P		17 33 19.2 +1.1
comp=Z,7.8nm,0.9s						
BRG	Berggiesshubel	77.67 360	*e*P	P		17 33 19.2 +1.1
BRG			pmax	pmax		
comp=Z,8.0nm,1.0s						
BRG	Berggiesshubel	77.67 360	*e*P	P		17 33 19.2 +1.1
comp=Z,8.0nm,0.9s						
KSP	Ksiaz	77.68 358	*e*P	P		17 33 19.3 +1.2
MEM	Membach	77.73 5	P	P		17 33 19.7 +1.3
BCLA	Clavier	77.88 5	P	P		17 33 20.0 +0.8
MOX	Moxa	77.89 1	*e*P	P		17 33 20.6 +1.3
comp=Z,10.0nm,0.8s						
PVCC	Panska Ves	78.01 359	*i* P	P		17 33 21.8 +1.8
PVCC	Panska Ves	78.01 359	*i* P	P		17 33 21.8 +1.8
UPC	Upice	78.02 358	*i* P	P		17 33 21.8 +1.8
UPC	Upice	78.02 358	*i* P	P		17 33 21.8 +1.8
TAPN	Taplejung	78.04 299	*e*P	P		17 33 21.3 +0.4
comp=Z,25nm,0.9s						
LAMP	Lampang	78.06 285	P	P		17 33 24.5 +3.8
comp=Z,3.1nm,1.1s						
UTTA	Uttaradit	78.10 283	P	P		17 33 21.0 0.0
comp=Z,6.0nm,0.9s,comp=Z,46nm						
DPC	Dobruska-Polom	78.17 358	*i* P	P		17 33 22.6 +1.7
DPC			*e*			17 33 32.8
DPC	Dobruska-Polom	78.17 358	*e*P	P		17 33 22.7 +1.7
DPC			pmax	pmax		
comp=Z,122nm,1.1s						
DPC	Dobruska-Polom	78.17 358	*i* P	P		17 33 22.6 +1.7
DPC			*ex*	x		17 33 32.8
DPC	Dobruska-Polom	78.17 358	*e*P	P		17 33 22.7 +1.7
comp=Z,122nm,1.1s						
GIVF	Givet	78.17 6	*e*P	P		17 33 21.1 +0.2
GIVF	Givet	78.17 6	*e*P	P		17 33 21.1 +0.2
GIVF	Givet	78.17 6	*e*P	P		17 33 21.1 +0.2
BAIF	Baives	78.17 6	*e*P	P		17 33 21.3 +0.4
comp=Z,10.0nm,0.7s						
BAIF	Baives	78.17 6	*e*P	P		17 33 21.3 +0.4
BAIF			pmax	pmax		
comp=Z,10.0nm,0.7s						
BAIF	Baives	78.17 6	*e*P	P		17 33 21.3 +0.4
comp=Z,10.0nm,0.7s						
OJC	Ojcow	78.19 356	*e*P	P		17 33 21.2 +0.2
OJC	Ojcow	78.19 356	*e*P	P		17 33 21.2 +0.2
OJC	Ojcow	78.19 356	*e*P	P		17 33 22.4 +1.4
CMMT	Chiang Mai	78.24 285	P	P		17 33 21.9 +0.1
comp=Z,9.9nm,1.0s						
LVV	L'vov	78.34 353	*e*P	P		17 33 22.2 +0.4
KRLC	Kraliky	78.43 358	*i* P	P		17 33 24.1 +1.7
KRLC	Kraliky	78.43 358	*i* P	P		17 33 24.1 +1.7
CMAR	Chiang Mai Arr	78.52 285	P	P		17 33 23.4 +0.1
comp=Z,7.1nm,0.9s,baz=26,slow=5.9,SNR=41						
CM01	Chiang Mai Arr	78.54 285	*e*P	P		17 33 22.8 -0.6
PRU	Pruhonice	78.55 359	*i* P	P		17 33 24.5 +1.5
PRU	Pruhonice	78.55 359	*i* P	P		17 33 24.5 +1.5
GUN	Gumba	78.58 301	*e*P	P		17 33 24.5 +0.6
ODAN	Odare	78.60 299	*e*P	P		17 33 24.3 +0.4
JIRN	Jiri	78.61 300	*e*P	P		17 33 24.8 +0.6
comp=Z,27nm,0.7s						
OKC	Ostrava-Krasne	78.63 357	*i* P	P		17 33 25.0 +1.6
OKC	Ostrava-Krasne	78.63 357	*i* P	P		17 33 25.0 +1.6
MORC	Moravsky Berou	78.71 357	*e*P	P		17 33 24.9 +0.9
MORC			pmax	pmax		
comp=Z,14nm,1.1s						
MORC	Moravsky Berou	78.71 357	⇓ *i* P	P		17 33 25.5 +1.5
MORC	Moravsky Berou	78.71 357	*e*P	P		17 33 24.9 +0.9
comp=Z,14nm,1.1s						
PBKT	Sadao Pong	78.75 282	P	P		17 33 24.9 +0.3
comp=Z,10nm,0.9s						
ROTZ	Rotzenmuhle	78.77 1	*e*P	P		17 33 25.8 +1.6
comp=Z,16nm,1.5s						
GRF	Grafenberg Arr	78.83 2	*e*P	P		17 33 26.2 +1.6
comp=Z,24nm,1.3s						
GRFO	Grafenberg	78.83 2	*e*P	P		17 33 26.4 +1.8
GRFO			pmax	pmax		
comp=Z,10.0nm,0.9s						
GRFO	Grafenberg	78.83 2	*e*P	P		17 33 26.4 +1.8
comp=Z,9.9nm,0.9s						
STHS	Stebnicka Huta	78.92 355	*e*P	P		17 33 27.4 +2.3
STHS			pmax	pmax		
comp=Z,17nm,1.0s						
STHS	Stebnicka Huta	78.92 355	*e*P	P		17 33 27.4 +2.3
RAMN	Ramite	78.95 300	*e*P	P		17 33 26.1 +0.2
comp=Z,54nm,1.1s						
KKN	Kakani	78.99 301	*e*P	P		17 33 26.7 +0.6
PKI	Pulchoki	79.10 301	*e*P	P		17 33 26.9 +0.1
comp=Z,53nm,1.3s						
PKIN	Phulchoki	79.10 301	*e*P	P		17 33 26.8 +0.1
comp=Z,36nm,1.3s						
GKN	Gorkha	79.16 302	*e*P	P		17 33 27.2 +0.3
comp=Z,36nm,1.0s						
VRAC	Vranov	79.21 358	⇓ *i* P	P		17 33 28.2 +1.6
VRAC	Vranov	79.21 358	LR	LR		18 10 00.8
comp=Z,35nm,19.2s,baz=346,slow=37						
DMN	Daman	79.23 301	*e*P	P		17 33 27.9 +0.5
comp=Z,58nm,1.3s						
LDF	La Druitiere	79.27 9	*e*P	P		17 33 26.7 -0.2
LDF	La Druitiere	79.27 9	*e*P	P		17 33 26.7 -0.2
LDF	La Druitiere	79.27 9	*e*P	P		17 33 26.7 -0.2
KOLS	Kolonicke sedl	79.34 354	*e*P	P		17 33 28.9 +1.5
KOLS			pmax	pmax		
comp=Z,63nm,2.6s						
KOLS	Kolonicke sedl	79.34 354	*e*P	P		17 33 28.9 +1.5
MHMT	Maesarieng	79.34 286	P	P		17 33 28.3 +0.5
comp=Z,9.7nm,1.3s						
DANN	Dangsing	79.35 302	*e*P	P		17 33 28.7 +0.6
GRR	Gorron	79.40 10	*e*P	P		17 33 27.6 0.0
comp=Z,192nm,1.6s						
GRR	Gorron	79.40 10	*e*P	P		17 33 27.6 0.0
GRR			pmax	pmax		
comp=Z,192nm,1.6s						
GRR	Gorron	79.40 10	*e*P	P		17 33 27.6 0.0
comp=Z,192nm,1.6s						
WET	Wettzell	79.40 0	*e*P	P		17 33 29.4 +1.7
comp=Z,17nm,1.6s						
KHC	Kasperske Hory	79.42 0	*i* P	P		17 33 29.2 +1.4
KHC			*e*			17 33 37.7
KHC	Kasperske Hory	79.42 0	*i* P	P		17 33 29.2 +1.4
KHC			*ex*	x		17 33 37.7
KHC	Kasperske Hory	79.42 0	*e*P	P		17 33 28.9 +1.1
CRVS	Cervenica-Dubn	79.42 355	*e*P	P		17 33 29.0 +1.2
CRVS			pmax	pmax		
comp=Z,22nm,1.6s						
CRVS	Cervenica-Dubn	79.42 355	*e*P	P		17 33 29.0 +1.2
UZH	Uzhgorod	79.64 354	*e*P	P		17 33 27.9 -1.0
UZH			*i*			17 33 38.5
GEC2	GERESS Array S	79.70 360	*e*P	P		17 33 30.8 +1.4
comp=Z,9.0nm,1.0s						
GERES	GERESS Array B	79.70 360	P	P		17 33 31.0 +1.6
GERES	GERESS Array B	79.70 360	P	P		17 33 31.0 +1.6
comp=Z,4.2nm,0.8s,baz=4.3,slow=5.4,SNR=34						
STU	Stuttgart	79.70 3	*e*P	P		17 33 30.5 +1.2
comp=Z,17nm,0.9s						
PAGF	Fort de Pagny	79.77 5	*e*P	P		17 33 30.4 +0.7
comp=Z,7.5nm,0.9s						
PAGF	Fort de Pagny	79.77 5	*e*P	P		17 33 30.4 +0.7
comp=Z,7.5nm,0.9s						
MEZF	Maizieres J'vi	79.78 6	*e*P	P		17 33 30.1 +0.4
MEZF	Maizieres J'vi	79.78 6	*e*P	P		17 33 30.1 +0.4
KOLN	Koldanda	79.90 302	*e*P	P		17 33 31.2 +0.2
comp=Z,14nm,0.9s						
VYHS	Vyhne	79.95 356	*e*P	P		17 33 32.2 +1.5
VYHS			pmax	pmax		
comp=Z,9.0nm,1.0s						
VYHS	Vyhne	79.95 356	*e*P	P		17 33 32.2 +1.5
CDF	Champ du Feu	79.99 4	*e*P	P		17 33 31.2 +0.2
comp=Z,5.8nm,0.6s						
CDF	Champ du Feu	79.99 4	*e*P	P		17 33 31.2 +0.2
CDF			pmax	pmax		
comp=Z,6.0nm,0.6s						
CDF	Champ du Feu	79.99 4	*e*P	P		17 33 31.2 +0.2
comp=Z,5.8nm,0.6s						
SFTF	Sexfontaines	80.07 6	*e*P	P		17 33 31.6 +0.3
SFTF	Sexfontaines	80.07 6	*e*P	P		17 33 31.6 +0.3
BFO	Black Forest	80.12 4	*ce*P	P		17 33 34.2 +2.6
TRPA	Tarpa	80.12 354	⇓ *i* P	P		17 33 33.0 +1.4
GOF	Gofitskoye	80.20 339	*i* P	P		17 33 34.3 +2.2
GOF			pmax	pmax		
comp=Z,50nm,1.0s						
HAU	Haudompre	80.35 5	*e*P	P		17 33 33.2 +0.3
comp=Z,8.1nm,0.8s						
HAU	Haudompre	80.35 5	*e*P	P		17 33 33.2 +0.3
HAU			pmax	pmax		
comp=Z,8.0nm,0.8s						
HAU	Haudompre	80.35 5	*e*P	P		17 33 33.2 +0.3
comp=Z,8.1nm,0.8s						
FUR	Furstenfeldbru	80.36 2	*e*P	P		17 33 34.4 +1.5
comp=Z,27nm,1.3s						
BUR04	Bucovina Ar. S	80.43 352	*e*P	P		17 33 34.1 +0.7
BURAR	Bucovina Array	80.43 352	⇓ *i* P	P		17 33 34.8 +1.4
PSZ	Piszkesteto	80.48 356	*e*P	P		17 33 35.5 +1.9
PSZ	Piszkesteto	80.48 356	⇓ *i* P	P		17 33 35.6 +1.9
PSZ	Piszkesteto	80.48 356	⇑ *e*	P		17 33 35.6 +1.9
PSZ	Piszkesteto	80.48 356	*e*P	P		17 33 35.5 +1.9
HINF	Hinteralfeld	80.56 5	*e*P	P		17 33 34.1 +0.1
comp=Z,11nm,0.8s						
HINF	Hinteralfeld	80.56 5	*e*P	P		17 33 34.1 +0.1
HINF			pmax	pmax		
comp=Z,11nm,0.8s						
HINF	Hinteralfeld	80.56 5	*e*P	P		17 33 34.1 +0.1
comp=Z,11nm,0.8s						
CONA	Conrad Observa	80.60 358	*i* pP	P		17 33 36.2 +1.9
comp=Z,15nm,0.9s,SNR=12						
RJOB	Jochberg	80.81 1	*e*P	P		17 33 36.7 +1.3
comp=Z,14nm,0.9s						
LOR	Lormes	80.93 7	*e*P	P		17 33 36.1 +0.1
comp=Z,68nm,1.6s						
LOR	Lormes	80.93 7	*e*P	P		17 33 36.1 +0.1
LOR			pmax	pmax		
comp=Z,68nm,1.6s						
LOR	Lormes	80.93 7	*e*P	P		17 33 36.1 +0.1
comp=Z,68nm,1.6s						
RETA	Reutte	81.03 2	⇑ *i* pP	P		17 33 37.9 +1.3
comp=Z,11nm,1.2s						
PKSG		81.07 357	⇑ *e*	P		17 33 38.7 +2.0
SSF	Saint Saulge	81.11 7	*e*P	P		17 33 37.1 +0.2
comp=Z,22nm,0.8s						
SSF	Saint Saulge	81.11 7	*e*P	P		17 33 37.1 +0.2
SSF			pmax	pmax		
comp=Z,22nm,0.8s						
SSF	Saint Saulge	81.11 7	*e*P	P		17 33 37.1 +0.2
comp=Z,22nm,0.8s						
MOTA	Moosalm	81.18 2	⇑ *i* pP	P		17 33 39.1 +1.6
comp=Z,12nm,0.9s,SNR=7.8						
WATA	Walderalm	81.20 1	⇓ *i* pP	P		17 33 39.1 +1.5
comp=Z,5.7nm,0.6s						
DAVA	Damuels	81.21 3	⇑ *i* pP	P		17 33 40.4 +2.7
comp=Z,3.1nm,0.7s						
MFF	Saint Martin d	81.24 10	*e*P	P		17 33 37.8 +0.2
comp=Z,48nm,1.1s						
MFF	Saint Martin d	81.24 10	*e*P	P		17 33 37.8 +0.2
MFF			pmax	pmax		
comp=Z,48nm,1.1s						
MFF	Saint Martin d	81.24 10	*e*P	P		17 33 37.8 +0.2
comp=Z,48nm,1.1s						
KBL	Kabul	81.25 317	*e*P	P		17 33 37.1 -1.0
KBL	Kabul	81.25 317	*e*P	P		17 33 37.1 -1.0
WTTA	Wattenberg	81.27 1	*i* pP	P		17 33 39.7 +1.7
comp=Z,14nm,1.1s,SNR=5.2						
ARSA	Arzberg	81.28 359	*i* pP	P		17 33 39.9 +2.1
comp=Z,10nm,0.9s,SNR=8.1						
KIV	Kislovodsk	81.33 339	*de*P	P		17 33 39.6 +1.4
KIV			pmax	pmax		
comp=Z,17nm,1.0s						
KIV	Kislovodsk	81.33 339	*e*P	P		17 33 39.0 +0.8
AVF	Avril sur Loir	81.36 7	*e*P	P		17 33 38.3 +0.1
comp=Z,34nm,1.1s						
AVF	Avril sur Loir	81.36 7	*e*P	P		17 33 38.3 +0.1
AVF			pmax	pmax		
comp=Z,34nm,1.1s						
AVF	Avril sur Loir	81.36 7	*e*P	P		17 33 38.3 +0.1
comp=Z,34nm,1.1s						
DRGR		81.44 354	⇑ *i* P	P		17 33 39.8 +1.0
KBA	Koelnbreinsper	81.47 0	*i* pP	P		17 33 41.3 +2.2
comp=Z,58nm,1.1s,SNR=28						
FETA	Feichten	81.50 2	⇑ *i* pP	P		17 33 40.6 +1.5
comp=Z,20nm,1.1s						
KBZ	Khabaz	81.50 339	P	P		17 33 41.1 +2.1
comp=Z,4.0nm,0.9s,baz=51,slow=3.1,SNR=10						
KBZ			LR	LR		18 13 37.7
comp=Z,78nm,19.8s,baz=15,slow=38						
SMF	Signal de Mont	81.55 7	*e*P	P		17 33 39.4 +0.2
comp=Z,33nm,1.0s						
SMF	Signal de Mont	81.55 7	*e*P	P		17 33 39.4 +0.2
SMF			pmax	pmax		
comp=Z,33nm,1.0s						
SMF	Signal de Mont	81.55 7	*e*P	P		17 33 39.4 +0.2
comp=Z,33nm,1.0s						
BGF	Bois d'Agland	81.56 7	*e*P	P		17 33 39.5 +0.2
comp=Z,39nm,1.1s						
BGF	Bois d'Agland	81.56 7	*e*P	P		17 33 39.5 +0.2
BGF			pmax	pmax		
comp=Z,39nm,1.1s						
BGF	Bois d'Agland	81.56 7	*e*P	P		17 33 39.5 +0.2
comp=Z,39nm,1.1s						
LRS	Lares	81.56 71	*e*P	P		17 33 39.2 -0.6
DAVOX	Davos/Dischmat	81.72 3	LR	LR		18 12 51.5
comp=Z,24nm,18.5s,baz=325,slow=38						
CABF	La Chapelle	81.72 5	*e*P	P		17 33 41.0 +0.7
comp=Z,19nm,0.8s						
CABF	La Chapelle	81.72 5	*e*P	P		17 33 41.0 +0.7
CABF			pmax	pmax		
comp=Z,19nm,0.8s						
CABF	La Chapelle	81.72 5	*e*P	P		17 33 41.0 +0.7
comp=Z,19nm,0.8s						
TCF	Toulx Ste Croi	81.77 8	*e*P	P		17 33 40.4 -0.1
comp=Z,16nm,1.0s						
TCF	Toulx Ste Croi	81.77 8	*e*P	P		17 33 40.4 -0.1
TCF			pmax	pmax		
comp=Z,16nm,1.0s						
TCF	Toulx Ste Croi	81.77 8	*e*P	P		17 33 40.4 -0.1
comp=Z,16nm,1.0s						
ABTA	Abfaltersbach	81.80 1	⇓ *i* pP	P		17 33 42.2 +1.5
comp=Z,15nm,1.1s,SNR=8.1						
SOKA	Soboth	81.86 359	⇓ *i* pP	P		17 33 42.5 +1.5
comp=Z,24nm,1.1s,SNR=14						
FUORN	Ofenpass-Fuorn	81.89 2	*e*P	P		17 33 43.4 +2.0
comp=Z,9.8nm,0.9s						
PERS	Pernice	81.90 359	*e*P	P		17 33 42.8 +1.6
MYKA	Terra Mystica	81.92 360	⇑ *i* PcP	P		17 33 43.2 +2.0
comp=Z,6.8nm,0.9s						
TUE	Stuetta	82.01 3	*e*P	P		17 33 44.0 +2.1
comp=Z,15nm,1.3s						
OBKA	Obir	82.04 359

comp=Z,84nm,0.8s,SNR=6.0
GEYT Alibeck 82.52 326 P **P 17 33 45.1 +0.6**
comp=Z,9.2nm,0.8s,baz=350,slow=4.4,SNR=22
CFR Carcaliu 82.56 350 ⇓*iP* **P 17 33 44.7 +0.2**
VOIR 82.61 352 ⇓*iP* **P 17 33 45.8 +0.9**
RJF Les Rejaudoux 82.69 9 *eP* **P 17 33 45.1 -0.1**
comp=Z,14nm,0.7s
RJF Les Rejaudoux 82.69 9 *eP* **P 17 33 45.1 -0.1**
RJF pmax pmax
comp=Z,14nm,0.7s
RJF Les Rejaudoux 82.69 9 *eP* **P 17 33 45.1 -0.1**
comp=Z,14nm,0.7s
BZS Buzias 82.69 354 ⇓*iP* **P 17 33 46.0 +0.8**
ARR Arges 82.71 352 ⇓*iP* **P 17 33 46.8 +1.3**
GZR Gura Zlata 82.83 353 ⇓*iP* **P 17 33 46.9 +0.8**
LPL La Plagne 82.85 5 *eP* **P 17 33 47.6 +1.2**
comp=Z,9.9nm,0.9s
LPL La Plagne 82.85 5 *eP* **P 17 33 47.6 +1.2**
LPL pmax pmax
comp=Z,10.0nm,0.9s
LPL La Plagne 82.85 5 *eP* **P 17 33 47.6 +1.2**
comp=Z,9.9nm,0.9s
LPG La Plagne 82.87 5 *eP* **P 17 33 47.9 +1.3**
comp=Z,7.1nm,0.8s
LPG La Plagne 82.87 5 *eP* **P 17 33 47.9 +1.3**
LPG pmax pmax
comp=Z,7.0nm,0.8s
LPG La Plagne 82.87 5 *eP* **P 17 33 47.9 +1.3**
comp=Z,7.1nm,0.8s
LFF La Frestale 82.97 9 *eP* **P 17 33 47.0 +0.3**
comp=Z,87nm,1.1s
LFF La Frestale 82.97 9 *eP* **P 17 33 47.0 +0.3**
LFF pmax pmax
comp=Z,87nm,1.1s
LFF La Frestale 82.97 9 *eP* **P 17 33 47.0 +0.3**
comp=Z,87nm,1.1s
BOJS Bojanci 83.03 359 *eP* **P 17 33 48.2 +1.2**
CAF Calviac 83.11 8 *eP* **P 17 33 47.9 +0.4**
comp=Z,27nm,0.8s
CAF Calviac 83.11 8 *eP* **P 17 33 47.9 +0.4**
CAF pmax pmax
comp=Z,27nm,0.8s
CAF Calviac 83.11 8 *eP* **P 17 33 47.9 +0.4**
comp=Z,27nm,0.8s
TIRR Tirgusor 83.24 349 ⇓*iP* **P 17 33 48.6 +0.5**
BNI Bardonecchia 83.31 5 *eP* **P 17 33 51.2 +2.6**
BNI pmax pmax
comp=Z,27nm,1.1s
BNI Bardonecchia 83.31 5 *eP* **P 17 33 51.2 +2.6**
comp=Z,27nm,1.1s
VIVF Saint-Julien-I 83.39 6 *eP* **P 17 33 49.5 +0.6**
comp=Z,30nm,1.2s
VIVF Saint-Julien-I 83.39 6 *eP* **P 17 33 49.5 +0.6**
VIVF pmax pmax
comp=Z,30nm,1.2s
VIVF Saint-Julien-I 83.39 6 *eP* **P 17 33 49.5 +0.6**
comp=Z,30nm,1.2s
ORIF Oris-en-Rattie 83.40 6 *eP* **P 17 33 49.8 +0.8**
ORIF Oris-en-Rattie 83.40 6 *eP* **P 17 33 49.8 +0.8**
ORIF Oris-en-Rattie 83.40 6 *eP* **P 17 33 49.8 +0.8**
MBDF Montbardon 83.64 5 *eP* **P 17 33 51.7 +1.3**
comp=Z,37nm,0.9s
MBDF Montbardon 83.64 5 *eP* **P 17 33 51.7 +1.3**
MBDF pmax pmax
comp=Z,37nm,0.9s
MBDF Montbardon 83.64 5 *eP* **P 17 33 51.7 +1.3**
comp=Z,37nm,0.9s
LASF Ste Croix 84.10 7 *eP* **P 17 33 53.3 +0.7**
comp=Z,15nm,0.9s
LASF Ste Croix 84.10 7 *eP* **P 17 33 53.3 +0.7**
comp=Z,15nm,0.9s
SMRF Simiane la Rot 84.32 6 *eP* **P 17 33 54.8 +1.1**
comp=Z,30nm,1.0s
SMRF Simiane la Rot 84.32 6 *eP* **P 17 33 54.8 +1.1**
comp=Z,30nm,1.0s
GNI Garni 84.46 337 *deP* **P 17 33 56.4 +1.8**
GNI pmax pmax
comp=Z,21nm,1.7s
SBF Sospel 84.54 4 *eP* **P 17 33 55.0 +0.2**
comp=Z,70nm,0.9s
SBF Sospel 84.54 4 *eP* **P 17 33 55.0 +0.2**
SBF pmax pmax
comp=Z,70nm,0.9s
SBF Sospel 84.54 4 *eP* **P 17 33 55.0 +0.2**
comp=Z,70nm,0.9s
SJPF Ste Jean 84.57 11 *eP* **P 17 33 54.6 -0.3**
SJPF Ste Jean 84.57 11 *eP* **P 17 33 54.6 -0.3**
SJPF Ste Jean 84.57 11 *eP* **P 17 33 54.6 -0.3**
MTLF Montolieu 84.70 8 *eP* **P 17 33 55.9 +0.3**
comp=Z,40nm,1.0s
MTLF Montolieu 84.70 8 *eP* **P 17 33 55.9 +0.3**
MTLF pmax pmax
comp=Z,40nm,1.0s
MTLF Montolieu 84.70 8 *eP* **P 17 33 55.9 +0.3**
comp=Z,40nm,1.0s
FRF La Foret Royal 84.80 5 *eP* **P 17 33 56.3 +0.2**
comp=Z,32nm,1.0s
FRF La Foret Royal 84.80 5 *eP* **P 17 33 56.3 +0.2**
FRF pmax pmax
comp=Z,32nm,1.0s
FRF La Foret Royal 84.80 5 *eP* **P 17 33 56.3 +0.2**
comp=Z,32nm,1.0s
EPF Esparros 84.82 10 *eP* **P 17 33 55.7 -0.6**
comp=Z,13nm,0.9s
EPF Esparros 84.82 10 *eP* **P 17 33 55.7 -0.6**
EPF pmax pmax
comp=Z,13nm,0.9s
EPF Esparros 84.82 10 *eP* **P 17 33 55.7 -0.6**
comp=Z,13nm,0.9s
ETSF Etsaut 84.85 10 *eP* **P 17 33 56.9 +0.4**
ETSF Etsaut 84.85 10 *eP* **P 17 33 56.9 +0.4**
ETSF Etsaut 84.85 10 *eP* **P 17 33 56.9 +0.4**
VTS Vitosha 85.59 353 ⇓*iP* **P 17 33 59.9 -0.3**
BATI Baumata 85.89 248 P **P 17 34 01.2 -0.7**
comp=Z,10nm,0.6s,baz=11,slow=5.6,SNR=5.2
SURT Suratani 85.98 279 P **P 17 34 04.0 +1.6**
comp=Z,6.8nm,1.2s
MMB Musomiste 86.54 352 ⇑*iP* **P 17 34 05.9 +1.1**
SDV Santo Domingo 86.64 80 *eP* **P 17 34 03.9 -1.9**
BRTR Keskin Array B 87.16 345 P **P 17 34 09.0 +1.0**
comp=Z,5.4nm,0.8s,baz=2.6,slow=1.5,SNR=34
BR231 Keskin MP Arra 87.18 345 *eP* **P 17 34 09.6 +1.6**
ES19 SONSECA Array 87.58 13 *eP* **P 17 34 09.8 -0.1**
ESDC Sonseca Array 87.59 13 P **P 17 34 10.0 0.0**
comp=Z,3.9nm,0.8s,baz=348,slow=4.5,SNR=20
KULM Kulim 87.70 276 *eP* **P 17 34 10.5 -0.3**
IPM Ipoh 88.10 275 *eP* **P 17 34 11.5 -1.2**
WRAB Tennant Creek 88.12 234 ⇓*eP* **P 17 34 10.1 -2.4**
WRAB pmax pmax
comp=Z,42nm,1.7s
WRAB Tennant Creek 88.12 234 *eP* **P 17 34 09.8 -2.6**
comp=Z,5.9nm,0.9s
WB2 Warramunga Arr 88.13 234 *eP* **P 17 34 10.3 -2.2**
WRA Warramunga Arr 88.13 234 P **P 17 34 10.8 -1.7**
comp=Z,5.7nm,0.8s,baz=34,slow=5.9,SNR=74
HYB Hyderabad 91.00 300 *iP* **P 17 34 25.0 -1.3**
HYB *e* 17 34 34.5
AS01 Alice Springs 91.46 232 *eP* **P 17 34 26.8 -1.2**
AS31 Alice Springs 91.48 232 *eP* **P 17 34 27.0 -1.1**
ASAR Alice Springs 91.48 232 P **P 17 34 27.1 -1.1**
comp=Z,9.3nm,0.6s,baz=30,slow=4.6,SNR=291
ASAR PKKPbc **PKKPbc 17 51 47.5 +0.3**
comp=Z,0.1nm,0.4s,baz=209,slow=1.6,SNR=12
TORD Torodi Ar. Bea 114.47 13 PKP PKPdf 17 40 00.6 -1.4
comp=Z,1.4nm,0.8s,baz=344,slow=2.7,SNR=5.3
TORD PKKPbc **PKKPbc 17 50 37.7 -1.0**
comp=Z,1.8nm,0.5s,baz=168,slow=2.7,SNR=21
TORD PKKPab **PKKPab 17 50 47.4 -2.2**
comp=Z,0.7nm,0.6s,baz=163,slow=2.3,SNR=4.2
PLCA Paso Flores 123.91 114 *e*PKIKP **PKPdf 17 40 22.4 +3.1**
PLCA Paso Flores 123.91 114 *e*PKPdf **PKPdf 17 40 22.4 +3.1**
KMBO Kilima Mbogo 125.70 330 *c iP*KIKP **PKPdf 17 40 23.8 -0.1**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 125.70 330 PKP **PKPdf 17 40 23.9 +0.1**
comp=Z,2.7nm,0.8s,baz=16,slow=5.3,SNR=8.2
KMBO Kilima Mbogo 125.70 330 *e*PKPdf **PKPdf 17 40 24.0 +0.1**
TSUM Tsumeb 147.29 353 *e*PKPdf **PKPbc 17 41 04.5 -0.9**
LBTB Lobatse 151.70 337 *e*PKIKP **PKPbc 17 41 16.2 -0.1**
LBTB Lobatse 151.70 337 *e*PKPbc **PKPbc 17 41 16.2 -0.1**

NIED ***20*** *17:22:00, 33°.70N×132°.40E, h56km, Mw3.9 Best double couple: M0 8.28000×10^14 NP1:*ϕ_s*259.00000°,* δ*30.00000°,* λ*171.00000°. NP2:*ϕ_s*357.00000°,* δ*85.00000°,* λ*60.00000°.*

KMA ***20*** *17:22:22.9, 33°.78N×132°.44E, h0km*
ISCJB ***20*** *17:22:25.7±0.4, 33°.70N±0°.04×132°.32E±0°.06, h56km±6km, mb3.1/3, Error ellipse: s-maj=8.8km s-min=5.2km az=149.8*
IDC ***20*** *17:22:25.8±2.8, 33°.57N×132°.29E, h35km±23km, mb3.0/3, mb1 3.3/5, mb1mx3.1/37, mbtmp3.2/5, ML3.2/2, Error ellipse: s-maj=26.0km s-min=18.9km az=99.0*
JMA ***20*** *17:22:26.7, 33°.71N×132°.35E, h49km±1km, M4.0 Broadband fault plane solution: P waves. NP1:* ϕ_s*172.00000°,* δ*87.00000°,* λ*-48.00000°. NP2:* ϕ_s*265.00000°,* δ*42.00000°,* λ*-176.00000°. Principal axes: T Plg29.0000°, Azm229.0000°; N Plg42.0000°, Azm349.0000°; P Plg34.0000°, Azm117.0000°;*
JMA Felt I J1.
ISC 20 17:22:26.8±1.0, 33°.70N±0°.04×132°.36E±0°.05, h48km±9km, n25, σ**0°.52/33, mb3.4/3, 3C-2D, Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNA	**Nagahama**	**0.17**	**144**	⇑P	**Pn**	**17 22 34.5**	**-0.3**
JNA				S	**Sn**	**17 22 40.5**	**+0.1**
JHM	**Kurahashi**	**0.46**	**18**	⇑P	**Pn**	**17 22 37.3**	**-0.2**
JHM				*e*S	**Sn**	**17 22 45.2**	**+0.1**
UWA2	**Uwa jima 2**	**0.53**	**155**	P	**Pn**	**17 22 38.4**	**0.0**
UWA2				S	**Sn**	**17 22 47.0**	**+0.4**
JET	**Tanbara**	**0.58**	**82**	P	**Pn**	**17 22 38.8**	**-0.1**
JET				S	**Sn**	**17 22 47.9**	**+0.2**
JKU	**Kubokawa**	**0.71**	**123**	⇓P	**Pn**	**17 22 40.3**	**-0.2**
JKU				S	**Sn**	**17 22 51.6**	**+1.1**
JTO	**Tosashimizu**	**0.92**	**156**	⇓P	**Pn**	**17 22 43.3**	**0.0**
JTO				S	**Sn**	**17 22 55.8**	**+0.4**
JHT	**Toyohira**	**0.96**	**3**	⇑P	**Pn**	**17 22 44.1**	**+0.1**
JHT				*e*S	**Sn**	**17 22 56.7**	**0.0**
JNU	**Nakatsue**	**1.36**	**245**	Pg	**Pn**	**17 22 49.8**	**+0.3**
	114nm,0.3s,baz=77,slow=4.2,SNR=955						
JNU				Lg	Lg	17 23 07.5	
	86nm,0.3s,baz=141,slow=4.4,SNR=8.8						
KSBUS	**Busan**	**3.10**	**301**	P	**Pn**	**17 23 13.1**	**0.0**
	SNR=14						
KSBUS	**Busan**	**3.10**	**301**	P	**Pn**	**17 23 13.1**	**0.0**
	SNR=14						
KSPHA	**Pohang**	**3.50**	**316**	P	**Pn**	**17 23 18.1**	**-0.4**
	SNR=8.2						
KSPHA	**Pohang**	**3.50**	**316**	P	**Pn**	**17 23 18.1**	**-0.4**
	SNR=8.2						
KSDAG	**Daegu**	**3.52**	**307**	P	**Pn**	**17 23 18.8**	**-0.2**
	SNR=13						
KSDAG	**Daegu**	**3.52**	**307**	P	**Pn**	**17 23 18.8**	**-0.2**
	SNR=13						
KSKWJ	**Gwangju**	**4.67**	**290**	P	**Pn**	**17 23 34.9**	**+0.2**
	SNR=18						
KSKWJ	**Gwangju**	**4.67**	**290**	P	**Pn**	**17 23 34.9**	**+0.2**
	SNR=18						
KSCHJ	**Chungju**	**4.78**	**313**	P	**Pn**	**17 23 36.5**	**+0.2**
	SNR=8.5						
KSCHJ	**Chungju**	**4.78**	**313**	P	**Pn**	**17 23 36.5**	**+0.2**
	SNR=8.5						
KSJEU	**Jeongeup**	**4.82**	**293**	P	**Pn**	**17 23 37.3**	**+0.5**
	SNR=26						
KSRS	**Korea Array**	**5.21**	**317**	Pn	**Pn**	**17 23 42.5**	**+0.5**
	0.4nm,0.3s,baz=137,slow=15,SNR=5.7						
KSRS				Pg		17 24 03.9	
	0.6nm,0.3s,baz=140,slow=16,SNR=6.1						
KSRS				Sn	**Sn**	**17 24 41.2**	**+0.5**
	1.7nm,0.3s,baz=136,slow=23,SNR=7.5						
MJAR	**Matsushiro Arr**	**5.57**	**58**	Pn	**Pn**	**17 23 49.0**	**+1.9**
	1.4nm,0.3s,baz=238,slow=15,SNR=13						
SEHB	**SEOHWA**	**5.64**	**325**	P	**Pn**	**17 23 48.5**	**+0.4**
	SNR=23						
SONM	**Songino Array**	**24.06**	**314**	P	**P**	**17 27 37.4**	**-0.2**
	0.2nm,0.7s,baz=132,slow=9.8,SNR=3.0						
WRA	**Warramunga Arr**	**53.37**	**178**	P	**P**	**17 31 40.9**	**-0.6**
	0.2nm,0.5s,baz=356,slow=7.8,SNR=5.5						
ASAR	**Alice Springs**	**57.06**	**178**	P	**P**	**17 32 07.6**	**-0.5**
	0.3nm,0.7s,baz=8.4,slow=12,SNR=8.5						

NEIC ***20*** *17:25:58.7±4.2, 36°.28S×73°.44W, h6km±26km, mb4.8/4, ML4.9(GUC), Error ellipse: s-maj=16.5km s-min=7.2km az=82.0*
NEIC Felt [III] at Concepcion.
IDC ***20*** *17:25:58.1±0.7, 36°.33S×73°.34W, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.2/25, mbtmp4.2/14, ML4.0/2, MS2.9/2, Ms1 2.9/2, ms1mx2.8/27, Error ellipse: s-maj=25.2km s-min=14.0km az=83.0*
GUC ***20*** *17:25:59.9±0.4, 36°.42S×73°.38W, h29km±2km, ML4.9*
ISCJB ***20*** *17:26:00.1±0.5, 36°.34S±0°.05×73°.50W±0°.06, h27km, mb4.3/14, MS3.8/1, Error ellipse: s-maj=8.9km s-min=5.5km az=143.3*
ISC 20 17:26:01.7±0.6, 36°.26S±0°.06×73°.37W±0°.07, h27km, n32, σ**1°.15/33, mb4.4/14, 2C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.49**	**75**	*e*P	**Pn**	**17 26 11.7**	**-1.2**
COCH				*e*S	**Sn**	**17 26 20.2**	**-0.3**
LNCH	**Linares**	**1.49**	**74**	⇓*iP*	**Pb**	**17 26 27.2**	**-1.5**
LNCH				*e*S	**Sb**	**17 26 48.3**	**+1.1**
LNCH				AML	AML	17 26 55.8	
	comp=N,12μm,0.5s						
TALC	**Talca**	**1.65**	**59**	*e*P	**Pb**	**17 26 30.2**	**-1.2**
TALC				*e*S	**Sb**	**17 26 53.5**	**+1.6**
TALC				AML	AML	17 26 57.9	
	comp=N,24μm,0.4s						
NICH	**Los Niches**	**2.15**	**55**	⇑*iP*	**Pb**	**17 26 38.1**	**-1.8**
NICH				*e*S	**Sb**	**17 27 06.9**	**+0.8**
NICH				AML	AML	17 27 18.2	
	comp=E,13μm,0.5s						
ANTU	**Antumapu**	**3.50**	**41**	⇑*iP*	**Pn**	**17 26 55.2**	**+0.7**
FCH	**Farellones**	**3.87**	**42**	*e*P4	**Pb**	**17 27 09.0**	**-0.5**
FCH				*e*S4	**Sb**	**17 27 56.7**	**+0.7**
PLCA	**Paso Flores**	**4.98**	**155**	Pn	Pn	17 27 14.7	-0.1
	comp=E,3.0nm,0.3s,baz=328,slow=11,SNR=101						
PLCA				Lg	Lg	17 28 31.5	
	comp=E,4.2nm,0.3s,baz=286,slow=21,SNR=5.5						
PLCA	**Paso Flores**	**4.98**	**155**	*e*Pn	**Pn**	**17 27 14.3**	**-0.5**
PLCA				*e*Sg	Sb	17 28 30.6	+3.0
PLCA				Lg	Lg	17 28 31.5	
CFAA	**Coronel Fontan**	**6.30**	**44**	Pn	**Pn**	**17 27 33.5**	**+0.5**
	comp=E,0.6nm,0.3s,baz=236,slow=13,SNR=26						
CFAA				Sn	**Sn**	**17 28 46.0**	**+1.8**
	comp=E,0.8nm,0.3s,baz=56,slow=20,SNR=4.2						
CFAA				LR	LR	17 30 04.3	
	comp=E,12nm,21.9s,baz=244,slow=39						
LCO	**Las Campanas**	**7.57**	**18**	*e*Pn	**Pn**	**17 27 48.8**	**-1.8**
	comp=E,21nm,0.3s						
LCO				*e*Sn	**Sn**	**17 29 12.4**	**-3.2**
LCO				*e*Sb	Sb	17 29 51.5	+9.2
TRQA	**Tornquist**	**9.27**	**105**	*e*Pn	**Pn**	**17 28 14.2**	**+0.6**
	comp=E,35nm,0.9s						
LPAZ	**La Paz**	**20.43**	**15**	P	Pn	17 30 39.9	-0.1
	comp=E,3.7nm,0.7s,baz=190,slow=5.7,SNR=12						
LPAZ	**La Paz**	**20.43**	**15**	*e*P	Pn	17 30 39.4	-0.6
	comp=E,3.8nm,0.7s						
SIV	**San Ignacio**	**22.97**	**32**	P	**P**	**17 31 04.4**	**+0.2**
	comp=E,3.0nm,0.7s,baz=221,slow=12,SNR=10						
PMSA	**Palmer Station**	**29.09**	**172**	P	**P**	**17 31 59.6**	**0.0**
	comp=E,12nm,0.7s,baz=336,slow=6.8,SNR=4.7						
PMSA				LR	LR	17 41 55.0	
	comp=E,196nm,18.7s,baz=324,slow=33						
VNA3	**Neumayer Olymp**	**47.70**	**157**	P	P	17 34 36.1	+0.6
VNA2	**Neumayer--Watz**	**48.37**	**156**	P	P	17 34 41.3	+0.6
	baz=161,slow=8.6						
SNAA	**Sanae**	**49.92**	**157**	P	**P**	**17 34 51.8**	**-0.8**
SNAA	**Sanae**	**49.92**	**157**	P	**P**	**17 34 52.2**	**-0.4**
	comp=E,3.0nm,0.9s,baz=282,slow=9.3,SNR=4.5						
QSPA	**South Pole Qui**	**53.98**	**180**	P	**P**	**17 35 23.2**	**+0.1**
	comp=E,2.8nm,0.9s,baz=136,slow=8.4,SNR=6.9						
TEIG	**Tepich**	**57.92**	**343**	P	**P**	**17 35 50.7**	**-0.8**
	comp=E,20nm,1.0s						
TXAR	**Lajitas Array**	**71.20**	**332**	P	**P**	**17 37 19.4**	**+1.2**
	comp=E,0.6nm,0.5s,baz=153,slow=9.1,SNR=3.3						
DBIC	**Dimbokro**	**76.93**	**72**	P	**P**	**17 37 52.2**	**+0.3**
	comp=E,4.5nm,0.9s,baz=226,slow=5.0,SNR=3.2						
BOSA	**Boshof**	**79.98**	**118**	P	P	17 38 10.2	+1.3
	comp=E,4.8nm,1.1s,baz=259,slow=10.0,SNR=4.2						
LBTB	**Lobatse**	**82.34**	**115**	P	**P**	**17 38 21.4**	**0.0**
	comp=E,9.3nm,1.1s						
ECSD	**EROS Data Cent**	**82.38**	**343**	*e*P	**P**	**17 38 20.8**	**-0.1**
	comp=E,6.2nm,0.7s						
NVAR	**Mina Array Bea**	**85.13**	**326**	P	**P**	**17 38 36.4**	**+1.0**
	comp=E,0.8nm,0.7s,baz=156,slow=5.9,SNR=9.1						
PDAR	**Pinedale Array**	**85.30**	**334**	P	**P**	**17 38 37.2**	**+1.1**
	comp=E,0.4nm,0.5s,baz=134,slow=4.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**86.00**	**71**	P	**P**	**17 38 39.8**	**-0.1**
	comp=E,0.7nm,0.9s,baz=266,slow=5.9,SNR=3.6						
ULM	**Lac du Bonnet**	**88.41**	**346**	P	**P**	**17 38 50.6**	**-0.1**
	comp=E,1.7nm,0.5s,baz=126,slow=3.1,SNR=3.9						
WRA	**Warramunga Arr**	**118.26**	**210**	PKP	**PKPdf**	**17 44 47.4**	**+0.4**
	comp=E,0.1nm,0.6s,baz=155,slow=1.7,SNR=3.0						
MKAR	**Makanchi Array**	**159.04**	**52**	PKPab	**PKPab**	**17 46 34.8**	**+1.3**
	comp=E,0.4nm,1.0s,baz=236,slow=4.2,SNR=3.4						

MAN 20 17:30:33, 17°.66N×120°.22E, h29km, mb4.5, ML3.4, MS3.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.35**	**41**	⇓*eP*	Pn	17 30 42.5	+0.4
SIPP				*i* S	Sn	17 30 50.1	+2.0
ABRA	**Dolores**	**0.47**	**91**	*e*P	Pn	17 30 43.9	+0.1
ABRA				*e*S	Sn	17 30 52.8	+1.7
APYP	**Conner**	**1.00**	**78**	*e*P	Pb	17 30 52.3	+0.6
APYP				*e*S	Sb	17 31 07.2	+2.7

ROM 20 17:31:18.9±0.1, 41°.54N×13°.84E, h11km±5km, Md1.9/3, Error ellipse: s-maj=4.7km s-min=0.6km az=30.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERA	**Filignano**	**0.14**	**66**	Pg	Pg	17 31 22.7	+0.3
CERA				Sg	Sg	17 31 25.7	+0.9
SDI	**San Donato**	**0.17**	**352**	Pg	Pg	17 31 23.4	+0.6
SDI				Sg	Sg	17 31 26.5	+1.0
POFI	**Posta Fibreno**	**0.20**	**331**	Pg	Pg	17 31 23.9	+0.6
POFI				Sg	Sg	17 31 27.6	+1.2

GUC ***20*** *17:38:46.7±0.5, 34°.31S×72°.46W, h29km±2km, ML4.2*
IDC ***20*** *17:38:49.7±0.9, 34°.29S×72°.00W, h30km±5km, mb3.9/8, mb1 4.0/10, mb1mx3.9/18, mbtmp4.0/10, ML4.0/2, MS3.7/1, Ms1 3.7/1, ms1mx2.9/27, Error ellipse: s-maj=29.7km s-min=18.1km az=92.0*
NEIC ***20*** *17:38:49.5±0.9, 34°.27S×72°.24W, h33km±6km, mb4.0/3, Error ellipse: s-maj=14.5km s-min=8.2km az=85.0*
ISC 20 17:38:48.8±0.9, 34°.30S±0°.04×72°.32W±0°.07, h31km±5km, n38, σ**0°.93/49, mb4.2/10, 7C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.14**	**128**	⇑*iP*	**Pn**	**17 39 08.1**	**-0.5**
NICH				*i* S	**Sb**	**17 39 24.5**	**0.0**
TALC	**Talca**	**1.23**	**153**	⇓*iP*	**Pn**	**17 39 08.9**	**-1.0**
TALC				*e*S4	**Sn**	**17 39 24.7**	**-0.7**
TACH	**Talagante**	**1.32**	**61**	⇓*iP*	**Pn**	**17 39 10.8**	**-0.3**
IHA	**Instituto Hidr**	**1.39**	**24**	⇑*iP*	**Pn**	**17 39 11.8**	**-0.3**
ANTU	**Antumapu**	**1.58**	**63**	⇑*iP*	**Pn**	**17 39 15.5**	**+0.8**
ANTU				*i* S	**Sb**	**17 39 37.1**	**+0.1**
ANTU				AML	AML	17 39 43.8	
	comp=N,4μm,0.2s						
SAN	**Santiago**	**1.62**	**59**	⇑*iP*	**Pn**	**17 39 15.8**	**+0.6**
SAN				*e*S	**Sb**	**17 39 38.4**	**+0.3**
LNCH	**Linares**	**1.65**	**159**	⇑*iP*	**Pn**	**17 39 15.5**	**-0.2**
LNCH				*i* S	**Sn**	**17 39 37.1**	**+1.3**
CLCH	**Cerro Calan**	**1.73**	**59**	⇑*iP*	**Pn**	**17 39 17.5**	**+0.6**
CLCH				*i* S	**Sb**	**17 39 41.3**	**-0.2**
CLCH				AML	AML	17 39 51.8	
	comp=E,4μm,0.7s						
CLCH				AML	AML	17 39 59.6	
	comp=N,4μm,0.7s						
SJCH	**San Jose de Ma**	**1.76**	**69**	⇑*iP*	**Pn**	**17 39 18.2**	**+1.0**
SJCH				*i* S	**Sb**	**17 39 42.0**	**-0.2**
PEL	**Peldehue**	**1.78**	**50**	⇓*iP*	**Pn**	**17 39 18.4**	**+0.9**
PEL				*i* S	**Sb**	**17 39 42.7**	**-0.3**
PEL				AML	AML	17 39 48.8	
	comp=E,7μm,0.4s						
FCH	**Farellones**	**1.95**	**61**	AML	AML	17 39 54.0	
	comp=N,2μm,0.4s						
CFAA	**Coronel Fontan**	**4.36**	**53**	Pn	**Pn**	**17 39 54.4**	**+1.5**
	comp=N,1.1nm,0.3s,baz=214,slow=10,SNR=58						
CFAA				Lg	Lg	17 40 58.1	
	comp=N,1.1nm,0.3s,baz=354,slow=18,SNR=3.9						
LCO	**Las Campanas**	**5.45**	**15**	*e*Pn	**Pn**	**17 40 07.1**	**-1.1**
	comp=N,21nm,0.5s						
LCO				*e*Sn	**Sn**	**17 41 08.2**	**-1.8**
LCO				*e*Sg	Sb	17 41 39.0	+10
PLCA	**Paso Flores**	**6.57**	**168**	Pn	**Pn**	**17 40 24.0**	**+0.6**
	comp=N,0.5nm,0.3s,baz=336,slow=11,SNR=10						
TRQA	**Tornquist**	**9.16**	**117**	*e*Pn	**Pn**	**17 40 59.0**	**+0.3**
	comp=N,10.0nm,0.8s						
TRQA				*e*Sg	Sn	17 43 31.9	+51
LVC	**Limon Verde**	**12.02**	**15**	*e*Pn	Pn	17 41 33.0	-5.3
LPAZ	**La Paz**	**18.33**	**13**	P	**Pn**	**17 43 02.6**	**+1.3**
	comp=N,0.4nm,0.3s,baz=190,slow=7.3,SNR=15						
LPAZ	**La Paz**	**18.33**	**13**	*e*Pn	**Pn**	**17 43 02.4**	**+1.1**
	comp=N,3.7nm,0.7s						
SIV	**San Ignacio**	**20.85**	**32**	P	**P**	**17 43 27.6**	**-0.6**
	comp=N,7.4nm,0.8s,baz=225,slow=12,SNR=16						
SIV				LR	LR	17 53 24.6	
	comp=N,178nm,18.6s,baz=218,slow=42						
SAML	**Samuel**	**26.59**	**21**	*e*Pn	**P**	**17 44 24.1**	**-0.2**
	comp=N,2.9nm,0.8s						
BDFB	**Brasilia**	**28.69**	**56**	P	**P**	**17 44 41.1**	**-2.3**
	comp=N,2.7nm,0.5s,baz=219,slow=9.6,SNR=4.3						
BCIP	**Isla Barro Col**	**43.81**	**349**	P	**P**	**17 46 50.9**	**-1.0**
SNAA	**Sanae**	**51.40**	**158**	P	**P**	**17 47 50.3**	**+0.1**
	comp=N,0.9nm,0.8s,baz=279,slow=19,SNR=2.4						
QSPA	**South Pole Qui**	**55.94**	**180**	P	**P**	**17 48 24.1**	**+0.4**
	comp=N,2.1nm,0.9s,baz=118,slow=0.8,SNR=8.3						
TEIG	**Tepich**	**56.31**	**342**	P	**P**	**17 48 26.5**	**-0.1**
	comp=N,69nm,1.5s						
BBSR	**BB Station**	**66.71**	**7**	P	P	17 49 32.0	-4.6
DBIC	**Dimbokro**	**75.50**	**71**	P	**P**	**17 50 29.3**	**-1.1**
	comp=N,2.7nm,0.6s,baz=213,slow=6.5,SNR=4.5						
TSUM	**Tsumeb**	**79.35**	**106**	*e*P	**P**	**17 50 52.8**	**+0.6**
BOSA	**Boshof**	**80.14**	**118**	P	**P**	**17 50 56.6**	**+0.4**
	comp=N,1.4nm,0.8s,baz=260,slow=11,SNR=3.7						
BOSA				pP	**pP**	**17 51 07.1**	**+0.9**
	comp=N,5.7nm,0.9s,baz=222,slow=3.4,SNR=5.9						
LBTB	**Lobatse**	**82.39**	**115**	*e*P	**P**	**17 51 07.9**	**-0.3**
	comp=N,9.7nm,1.0s						
PDAR	**Pinedale Array**	**83.93**	**333**	pP	pP	17 51 26.6	+0.9
	comp=N,0.5nm,0.8s,baz=191,slow=4.3

CLCH				*e*S	Sn	17 45 10.6	+3.4
CLCH				AML	AML	17 45 22.5	
	comp=N,416nm,0.2s						
PEL	**Peldehue**	**2.21**	**41**	*e*P	Pn	17 44 45.5	+2.0
PEL				*e*S	Sn	17 45 12.8	+3.1
PEL				AML	AML	17 45 26.2	
	comp=N,464nm,0.3s						

IDC ***20*** *17:49:55.1±0.8,4˚.12N×126˚.64E,h0km,mb3.8/10, mb1 4.0/10,mb1mx3.8/45,mbtmp3.8/10,MS3.7/1, Ms1 3.7/1,ms1mx2.9/30,Error ellipse: s-maj=48.0km s-min=17.6km az=66.0*

ISCJB ***20*** *17:49:59.5±0.3,4˚.08N±0˚.03×126˚.72E±0˚.04,h45km, mb4.0/16,MS3.5/1,Error ellipse: s-maj=6.1km s-min=3.8km az=168.1*

NEIC ***20*** *17:50:00.9±1.3,4˚.00N×126˚.39E,h42km±12km,mb4.4/6, Error ellipse: s-maj=19.9km s-min=8.0km az=74.0*

DJA ***20*** *17:50:05.4±0.7,4˚N±5˚×12˚6E±˚,h10km,M4.3/11,mb4.4/6, mB4.8/3,MLv4.3/11,Mw(mB)4.0/3*

MAN ***20*** *17:50:10,4˚.52N×126˚.11E,h61km,mb5.1,ML4.0,MS4.1*

ISC 20 17:50:01.5±0.6,**4˚.12N**±0˚.04×**126˚.68E**±0˚.06,**h45**km,**n48,** σ1§**51**/47,**mb4.0**/15,**1C-1D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.23**	**250**	P	**Pn**	**17 50 21.0**	**-1.2**
SGSI				S	**Sn**	**17 50 37.3**	**-0.3**
GSPH	**General Santos**	**2.61**	**319**	⇑*i*P	**Pn**	**17 50 40.4**	**-0.9**
MATI	**Mati**	**2.84**	**351**	*e*P	Pn	17 50 48.7	+4.3
MATI				*e*S	**Sn**	**17 51 17.4**	**-0.1**
DAV	**Davao City (W)**	**3.13**	**340**	Pn	**Pn**	**17 50 48.5**	**+0.1**
TNTI	**Ternate**	**3.39**	**168**	P	**Pn**	**17 50 52.9**	**+1.0**
TNTI	**Ternate**	**3.39**	**168**	*e*Pn	**Pn**	**17 50 52.0**	**+0.1**
CTBH	**Cotabato--PC H**	**3.92**	**322**	⇓*i*P	**Pn**	**17 51 00.3**	**+1.0**
BUKP	**Musuan**	**4.07**	**337**	*e*P	**Pn**	**17 51 03.2**	**+1.8**
KMSI	**Cibinong**	**4.43**	**218**	P	**Pn**	**17 51 06.8**	**+0.6**
KMSI				S	**Sn**	**17 51 57.2**	**+0.6**
CGP	**Cagayan de Oro**	**4.74**	**335**	*e*P	**Pn**	**17 51 12.6**	**+2.1**
LBMI	**Labuha**	**4.79**	**170**	P	**Pn**	**17 51 13.3**	**+2.1**
PAGZ	**Pagadian**	**4.95**	**319**	*e*P	**Pn**	**17 51 15.2**	**+1.8**
GTOI	**Gorontalo**	**5.04**	**227**	P	**Pn**	**17 51 15.7**	**+1.1**
MRSI	**Marisa**	**5.96**	**233**	P	**Pn**	**17 51 28.6**	**+1.4**
	50nm,0.6s,747nm0.2nm						
SANI	**Sanana**	**6.16**	**186**	P	**Pn**	**17 51 28.0**	**-2.0**
	13nm,0.7s,432nm0.1nm						
SANI				S	**Sn**	**17 52 37.8**	**-1.4**
	13nm,0.7s,432nm0.1nm						
LUWI	**Luwuk**	**6.44**	**217**	P	**Pn**	**17 51 33.9**	**0.0**
	99nm,1.3s,1μm0.4nm						
LUWI	**Luwuk**	**6.44**	**217**	P	Pn	17 51 42.7	+8.9
	baz=6.8,SNR=3.7						
LUWI	**Luwuk**	**6.44**	**217**	Pn	Pn	17 51 27.7	-6.1
	227nm,1.4s						
SWI	**Sorong**	**6.74**	**137**	P	**Pn**	**17 51 39.7**	**+1.8**
	baz=6.7,SNR=4.8						
SWI				S	**Sn**	**17 52 52.6**	**-0.8**
	baz=6.7,SNR=7.6						
MPSI	**Mapaga**	**7.75**	**241**	P	**Pn**	**17 51 51.3**	**-0.5**
	12nm,1.0s,0.1nm						
FAKI	**Fak Fak**	**8.93**	**141**	P	Pn	17 52 14.0	+5.9
	baz=8.9,SNR=3.6						
MTN	**Manton Dam**	**17.42**	**165**	P	**Pn**	**17 53 59.9**	**-1.5**
	baz=18,SNR=8.8						
KDU	**Kakadu**	**17.66**	**161**	P	**Pn**	**17 54 03.1**	**-1.1**
	baz=18,SNR=4.9						
JAGI	**Jajag, Banyuwa**	**17.68**	**225**	P	**P**	**17 54 08.0**	**+3.0**
	baz=18,SNR=4.7						
KNRA	**Kununurra**	**19.77**	**174**	P	**P**	**17 54 28.2**	**+0.2**
	baz=20,SNR=11						
PMG	**Port Moresby**	**24.43**	**123**	LR	LR	18 07 05.0	
	comp=Z,148nm,18.5s,baz=23,slow=42						
WRAB	**Tennant Creek**	**25.06**	**163**	*e*P	**P**	**17 55 21.4**	**-0.4**
	18nm,1.1s						
WRA	**Warramunga Arr**	**25.06**	**163**	P	**P**	**17 55 21.6**	**-0.2**
	2.5nm,0.7s,baz=342,slow=10,SNR=22						
WB2	**Warramunga Arr**	**25.07**	**163**	*e*P	**P**	**17 55 21.3**	**-0.6**
MBWA	**Marble Bar**	**26.02**	**195**	P	**P**	**17 55 29.6**	**-1.0**
	18nm,1.2s						
AS31	**Alice Springs**	**28.50**	**166**	*e*P	**P**	**17 55 50.5**	**-2.3**
ASAR	**Alice Springs**	**28.50**	**166**	P	**P**	**17 55 52.2**	**-0.6**
	0.5nm,0.7s,baz=344,slow=7.2,SNR=10						
ASAR				ScS	ScS	18 06 38.6	+3.6
	0.1nm,0.8s,baz=347,slow=9.3,SNR=4.3						
WRKA	**Warakurna**	**29.02**	**177**	P	**P**	**17 55 57.6**	**+0.2**
	baz=29,SNR=5.7						
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P	**P**	**17 56 11.8**	**-0.1**
	1.1nm,0.9s,baz=116,slow=6.9,SNR=6.7						
CHTO	**Chiang Mai**	**30.78**	**301**	*e*P	**P**	**17 56 11.3**	**-1.9**
	3.3nm,0.9s						
PATS	**Pohnpei**	**31.60**	**84**	P	P	17 56 13.9	-6.4
	baz=31,SNR=4.0						
ULN	**Ulaanbaatar**	**46.74**	**342**	*e*P	**P**	**17 58 26.2**	**-0.2**
SONM	**Songino Array**	**46.92**	**341**	P	**P**	**17 58 27.5**	**-0.3**
	1.2nm,0.9s,baz=153,slow=6.1,SNR=7.7						
MKAR	**Makanchi Array**	**57.21**	**325**	P	**P**	**17 59 43.7**	**-0.5**
	0.5nm,0.6s,baz=131,slow=7.4,SNR=7.4						
MKAR				ScP	**ScP**	**18 04 40.0**	**+5.4**
	0.5nm,0.8s,baz=97,slow=6.2,SNR=3.8						
YAK	**Yakutsk**	**57.83**	**2**	*e*P	**P**	**17 59 48.5**	**+0.4**
	8.2nm,0.4s						
KURBB	**Kurchatov Arra**	**61.39**	**327**	P	**P**	**18 00 12.3**	**-0.6**
	0.9nm,0.7s,baz=125,slow=6.1,SNR=13						
KURK	**Kurchatov**	**61.39**	**327**	*e*P	**P**	**18 00 10.0**	**-3.0**
	2.3nm,0.8s						
BVAR	**Borovoye Array**	**66.97**	**327**	P	**P**	**18 00 48.4**	**-1.1**
	2.6nm,1.0s,baz=133,slow=11,SNR=6.0						
TIXI	**Tiksi**	**67.46**	**1**	*e*P	**P**	**18 00 51.8**	**-0.4**
	1.1nm,0.5s						
ILAR	**Eielson Array**	**84.78**	**25**	P	**P**	**18 02 31.6**	**+0.8**
	0.5nm,1.0s,baz=246,slow=6.8,SNR=4.5						
EGAK	**Eagle**	**87.23**	**25**	P	P	18 02 37.3	-5.6
BRTR	**Keskin Array B**	**89.74**	**310**	P	**P**	**18 02 56.9**	**+1.3**
	0.4nm,0.8s,baz=59,slow=8.9,SNR=2.5						
YKA	**Yellowknife Ar**	**99.17**	**24**	P	**Pdif**	**18 03 38.7**	**+0.8**
	0.2nm,0.8s,baz=301,slow=4.9,SNR=3.9						

IDC ***20*** *18:08:06.5±0.3,19˚.74N×75˚.36W,h0km,mb5.1/34, mb1 5.2/40,mb1mx5.2/42,mbtmp5.2/40,ML4.9/6,MS5.2/33, Ms1 5.2/33,ms1mx5.2/37,Error ellipse: s-maj=12.2km s-min=8.8km az=66.0*

MOS ***20*** *18:08:07.1±1.0,19˚.78N×75˚.33W,h10km,mb5.9/119, MS5.3/66,Error ellipse: s-maj=4.8km s-min=3.8km az=77.7*

BJI ***20*** *18:08:07.6,19˚.70N×75˚.30W,h16km,mB5.7/28,Ms5.8/28, Ms7 5.6/39*

GCMT ***20*** *18:08:08.7±0.1,19˚.86N×75˚.25W,h18km,MW5.7/119, Moment Tensor Solution. s87,c148; s119,c273; Duration: 1§6 Moment tensor: Scale 10¹⁷Nm; Mrr2.91±.06; Mθθ-3.31±.05; Mφφ0.39±.05; Mrθ-0.44±.10; Mθφ1.37±.03; Mφr-1.30±.12; Best double couple: M0 3.67800×10¹⁷ NP1:φs264.00000°,δ51.00000°, λ55.00000°. NP2:φs132.00000°,δ51.00000°,λ125.00000°. Principal axes: T 3.5950, Plg63.0000°, Azm108.0000°; N 0.1620, Plg27.0000°, Azm288.0000°; P -3.7610, Plg0.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB ***20*** *18:08:08.1±0.1,19˚.71N±0˚.02×75˚.31W±0˚.01,h17km, mb5.5/375,MS5.3/205 Error ellipse: s-maj=2.8km s-min=1.3km az=16.6*

NEIC ***20*** *18:08:08.7±0.4,19˚.67N×75˚.33W,h15km±2km,mb5.5/230, MS5.4/149,MW5.6,MW5.6,Error ellipse: s-maj=3.2km s-min=1.8km az=204.0,Moment Tensor Solution. s31 Moment tensor: Scale 10¹⁷Nm; Mrr2.65; Mθθ-2.76; Mφφ0.11; Mrθ-1.14; Mθφ1.61; Mφr-1.42; Best double couple: M0 3.60000×10¹⁷ NP1:φs141.00000°,δ48.00000°, λ133.00000°. NP2:φs266.00000°,δ57.00000°,λ52.00000°. Principal axes: T 3.7500, Plg58.0000°, Azm120.0000°; N -0.2200, Plg30.0000°, Azm289.0000°; P -3.5200, Plg4.0000°, Azm22.0000°;*

NEIC Felt [V] at Baracoa and Guantanamo, [IV] at Santiago de Cuba, [III] at Camaguey and [II] at Havana. Also felt at Banes, Bayamo and Pinar del Rio. Felt [II] at Half Way Tree and Mona, Jamaica. Also felt at Constant Spring, Gordon Town, Kingston, Montego Bay, Portmore and White House. Felt at Colonel Hill and Matthew Town, The Bahamas; Dajabon, Santiago and Santo Domingo, Dominican Republic; Abricots, Haiti.

NEIC ***20*** *18:08:09.0±0.0,19˚.73N×75˚.28W,h15km Best double couple: NP1:φs154.00000°,δ72.00000°,λ117.00000°. NP2:φs274.00000°,δ32.00000°,λ34.00000°. Principal axes: T 4.3600, Plg54.0000°, Azm98.0000°; N -1.5300, Plg26.0000°, Azm324.0000°; P -2.8400, Plg22.0000°, Azm223.0000°;*

JSN ***20*** *18:08:09.3±0.9,19˚.66N×75˚.56W,h0km±217km,MD5.4*

SZGRF ***20*** *18:08:12.2,19˚.84N×75˚.05W,h19km,mb5.8,MS5.2,Cuba region*

ISC 20 18:08:09.2±0.4,**19˚.69N**±0˚.03×**75˚.40W**±0˚.03,**h19**km±1km, **h19**km:**pP-P,n1704,**σ1§**51**/1801,**mb5.6**/373,**MS5.4**/207, **392C-282D,Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**0.36**	**49**	*e*Pg	**Pg**	**18 08 15.5**	**-1.5**
GTBY				*e*Sg	**Sg**	**18 08 21.2**	**-1.0**
CMJ	**Castle Mountai**	**1.80**	**211**	*i* P	**Pn**	**18 08 39.0**	**-0.2**
BNJ	**Bonny Gate**	**2.00**	**227**	*i* P	**Pn**	**18 08 41.1**	**-0.8**
BNJ	**Bonny Gate**	**2.00**	**227**	*i* P	**Pn**	**18 08 41.0**	**-1.0**
GWJ	**Greenwich**	**2.04**	**218**	*i* P	**Pn**	**18 08 41.8**	**-0.9**
GWJ	**Greenwich**	**2.04**	**218**	*i* P	**Pn**	**18 08 41.7**	**-0.9**
YHJ	**Yallahs**	**2.06**	**210**	*i* P	**Pn**	**18 08 42.8**	**-0.1**
YHJ	**Yallahs**	**2.06**	**210**	*i* P	**Pn**	**18 08 42.8**	**-0.1**
STH	**Stony Hill**	**2.08**	**220**	*i* P	**Pn**	**18 08 42.2**	**-1.0**
STH				*i* S	**Sn**	**18 09 07.1**	**-1.4**
STH	**Stony Hill**	**2.08**	**220**	*i* PA	**Pn**	**18 08 42.4**	**-0.8**
HOJ	**Hope**	**2.10**	**218**	*i* P	**Pn**	**18 08 42.3**	**-1.2**
HOJ	**Hope**	**2.10**	**218**	*i* P	**Pn**	**18 08 42.2**	**-1.2**
BBJ	**Bamboo Saint A**	**2.19**	**234**	*i* PA	**Pn**	**18 08 43.6**	**-1.0**
CVJ	**Coleyville**	**2.49**	**235**	*i* P	**Pn**	**18 08 47.5**	**-1.2**
CVJ	**Coleyville**	**2.49**	**235**	*i* P	**Pn**	**18 08 47.6**	**-1.2**
MTDJ	**Mount Denham**	**2.49**	**235**	*e*Pn	**Pn**	**18 08 47.3**	**-1.4**
PCJ	**Portland Cotta**	**2.55**	**221**	*i* P	**Pn**	**18 08 49.6**	**0.0**
PCJ	**Portland Cotta**	**2.55**	**221**	*i* P	**Pn**	**18 08 49.4**	**-0.2**
MCJ	**Malvern**	**2.78**	**231**	*i* P	**Pn**	**18 08 52.6**	**-0.2**
MCJ	**Malvern**	**2.78**	**231**	*i* P	**Pn**	**18 08 52.6**	**-0.2**
LGNH	**L0ogne**	**2.89**	**113**	*e*Pn	**Pn**	**18 08 53.2**	**-1.1**
PAPH	**Port-au-Prince**	**3.15**	**111**	*e*Pn	**Pn**	**18 08 56.3**	**-1.6**
SDDR	**Presa de Saban**	**3.95**	**100**	⇑*e*Pn	**Pn**	**18 09 07.7**	**-1.1**
SDDR				*e*Sn	**Sn**	**18 09 54.6**	**-0.1**
GRTK	**Grand Turk**	**4.39**	**65**	*e*Pn	**Pn**	**18 09 14.4**	**-0.5**
GRTK				*e*Sn	**Sn**	**18 10 01.1**	**-4.4**
AGP	**Aguadilla**	**7.92**	**98**	*e*Pn	**Pn**	**18 10 03.0**	**-0.4**
AGPR	**Aguadilla, PR**	**7.93**	**97**	*e*Pn	**Pn**	**18 10 02.4**	**-1.2**
	2μm,1.3s						
MPR	**Mayaguez**	**7.96**	**99**	*e*Pn	**Pn**	**18 10 01.6**	**-2.3**
LSP	**Las Mesas**	**8.01**	**99**	*e*Pn	**Pn**	**18 10 04.4**	**-0.3**
LSP				*e*Sn	Sn	18 11 26.3	-8.5
CRPR	**Cabo Rojo, PR**	**8.03**	**101**	*e*Pn	**Pn**	**18 10 04.3**	**-0.6**
CRPR				*e*Sn	**Sn**	**18 11 35.3**	**+0.1**
LRS	**Lares**	**8.22**	**98**	*e*Pn	**Pn**	**18 10 06.8**	**-0.6**
LRS				*e*Sn	Sn	18 11 31.1	-8.8
AOPR	**Arecibo Observ**	**8.29**	**98**	*e*Pn	**Pn**	**18 10 07.7**	**-0.8**
OBIP	**Obispado Ponce**	**8.49**	**100**	*e*Pn	**Pn**	**18 10 08.8**	**-2.4**
OBIP				*e*Sn	**Sn**	**18 11 43.9**	**-2.6**
CELP	**Cerrillos**	**8.51**	**99**	*e*Pn	**Pn**	**18 10 10.3**	**-1.2**
CELP				*e*Sn	**Sn**	**18 11 44.7**	**-2.3**
ICMP	**Isla Caja de M**	**8.60**	**101**	*e*Pn	**Pn**	**18 10 11.6**	**-1.1**
ICMP				*e*Sn	**Sn**	**18 11 49.4**	**+0.3**
SJG	**San Juan**	**8.90**	**99**	*e*P	**Pn**	**18 10 14.6**	**-2.2**
SJG				*e*		18 11 50.5	
SJG	**San Juan**	**8.90**	**99**	Pn	**Pn**	**18 10 16.0**	**-0.8**
	0.4nm,0.3s,baz=286,slow=13,SNR=19						
SJG				Sn	**Sn**	**18 11 51.1**	**-5.5**
	1.4nm,0.3s,baz=158,slow=19,SNR=4.7						
SJG	**San Juan**	**8.90**	**99**	*e*Pn	**Pn**	**18 10 14.6**	**-2.2**
SJG				*e*Sn	Sn	18 11 50.5	-6.0
CPD	**Cerro la Pandu**	**9.13**	**99**	*e*P	Pn	18 10 16.8	-3.2
CPD	**Cerro la Pandu**	**9.13**	**99**	*e*Pn	Pn	18 10 16.8	-3.2
CBYP	**Canovanas**	**9.14**	**97**	*e*Pn	Pn	18 10 16.8	-3.4
CBYP				*e*Sn	Sn	18 11 55.3	-7.3
HUMP	**Col San Antoni**	**9.17**	**98**	*e*Pn	**Pn**	**18 10 17.9**	**-2.7**
MTP	**Monte Pirata**	**9.46**	**98**	*e*Pn	**Pn**	**18 10 21.9**	**-2.5**
MTP				*e*Sn	**Sn**	**18 12 06.4**	**-4.0**
STVI	**Saint Thomas**	**9.97**	**96**	*e*Pn	Pn	18 10 27.9	-3.7
STVI				*e*Sn	Sn	18 12 12.4	-11
CDVI	**St. Croix**	**10.26**	**99**	*e*Pn	**Pn**	**18 10 34.9**	**-0.6**
	469nm,0.7s						
CDVI				*e*Sn	**Sn**	**18 12 27.4**	**-2.6**
BCIP	**Isla Barro Col**	**11.30**	**203**	*e*Pn	**Pn**	**18 10 48.3**	**-1.5**
SDV	**Santo Domingo**	**11.69**	**156**	*e*Pn	**Pn**	**18 10 55.1**	**-0.1**
SDV				*e*Sn	Sn	18 12 58.4	-7.0
SABA	**Saba**	**11.71**	**98**	*e*P	Pn	18 10 50.6	-4.8
SABA	**Saba**	**11.71**	**98**	*e*Pn	**Pn**	**18 10 52.6**	**-2.7**
SMRT	**St. Maarten**	**11.78**	**96**	*e*P	Pn	18 10 50.9	-5.4
SMRT	**St. Maarten**	**11.78**	**96**	*e*Pn	Pn	18 10 51.7	-4.6
TEIG	**Tepich**	**12.12**	**275**	Pn	**Pn**	**18 11 01.1**	**+0.1**
	20nm,0.3s,baz=77,slow=9.2,SNR=36						
TEIG				Sn	**Sn**	**18 13 12.9**	**-2.7**
	9.3nm,0.3s,baz=348,slow=23,SNR=7.3						
TEIG	**Tepich**	**12.12**	**275**	*e*Pn	**Pn**	**18 10 59.3**	**-1.6**
TEIG				*e*Sn	**Sn**	**18 13 10.0**	**-5.5**
ANWB	**Willy Bob**	**13.06**	**97**	*e*P	Pn	18 11 07.2	-6.7
ANWB	**Willy Bob**	**13.06**	**97**	*e*Pn	Pn	18 11 05.3	-8.5
JTS	**JuntasAbangare**	**13.12**	**226**	Pn	**Pn**	**18 11 17.3**	**+2.6**
	437nm,0.4s,SNR=18						
JTS	**JuntasAbangare**	**13.12**	**226**	⇑*i*P	**Pn**	**18 11 17.0**	**+2.3**
JTS				pmax	pmax		
	comp=Z,21nm,0.6s						
JTS	**JuntasAbangare**	**13.12**	**226**	Pn	**Pn**	**18 11 17.0**	**+2.3**
	comp=Z,13nm,0.3s,baz=88,slow=21,SNR=30						
JTS				LR	LR	18 16 21.1	
	comp=Z,12μm,18.6s,baz=44,slow=38						
JTS	**JuntasAbangare**	**13.12**	**226**	*e*Pn	**Pn**	**18 11 16.0**	**+1.3**
LZG	**Guadaloupe-1**	**13.44**	**103**	*e*P	**Pn**	**18 11 18.2**	**-0.8**
MLG	**Mont-d'or**	**13.52**	**103**	*e*P	**Pn**	**18 11 20.2**	**0.0**
SSG	**Sans Toucher**	**13.54**	**103**	*e*P	**Pn**	**18 11 21.2**	**+0.7**
HMG	**Houelmont**	**13.56**	**104**	*e*P	**Pn**	**18 11 20.0**	**-0.7**
TAG	**Tarade**	**13.57**	**103**	*e*P	**Pn**	**18 11 21.7**	**+0.8**
LKG	**Breislack**	**13.58**	**103**	*e*P	**Pn**	**18 11 21.0**	**-0.1**
SEG	**Port Louis**	**13.62**	**102**	*e*P	**Pn**	**18 11 19.9**	**-1.4**
TBG	**Guadaloupe-3**	**13.65**	**104**	*e*P	**Pn**	**18 11 22.9**	**+1.0**
TIGA	**Tifton**	**13.83**	**329**	⇑P	**Pn**	**18 11 24.1**	**-0.1**
	baz=14						
TIGA	**Tifton**	**13.83**	**329**	*e*Pn	**Pn**	**18 11 21.5**	**-2.8**
RGRS	**Roger Stewart**	**13.85**	**343**	*e*Pn	Pn	18 11 18.7	-5.8
CSU	**Charleston Sou**	**13.89**	**343**	*e*Pn	Pn	18 11 21.2	-3.8
BBL	**Barber's Block**	**13.91**	**105**	*e*P	**Pn**	**18 11 25.8**	**+0.3**
NHSC	**New Hope**	**14.03**	**343**	*e*Pn	Pn	18 11 21.4	-5.5
H05N1	**Guadeloupe/Mar**	**14.05**	**102**	Pn	**Pn**	**18 11 28.6**	**+1.2**
DLPL	**La Plaine**	**14.18**	**106**	*e*	**Pn**	**18 11 29.8**	**+0.7**
FDF	**Fort de France**	**14.48**	**108**	*e*P	**Pn**	**18 11 32.2**	**-1.1**
FDF				pmax	pmax		
	comp=Z,305nm,0.9s						
FDF	**Fort de France**	**14.48**	**108**	*e*P	**Pn**	**18 11 30.9**	**-2.4**
FDF	**Fort de France**	**14.48**	**108**	*e*Pn	**Pn**	**18 11 32.2**	**-1.1**
	comp=Z,305nm,0.9s						
ROSC	**El Rosal**	**14.78**	**176**	Pn	**P**	**18 11 41.8**	**-1.8**
	comp=Z,2.0nm,0.3s,baz=32,slow=2.7,SNR=14						
ROSC				LR	LR	18 17 56.4	
	comp=Z,4μm,20.8s,baz=7.5,slow=40						
ROSC	**El Rosal**	**14.78**	**176**	*e*Pn	**P**	**18 11 41.5**	**-2.1**
H05S1	**Guadeloupe/Mar**	**14.88**	**108**	Pn	**Pn**	**18 11 39.9**	**+1.3**
SVB	**Belmont**	**14.99**	**113**	*e*	**Pn**	**18 11 38.5**	**-1.7**
SVB	**Belmont**	**14.99**	**113**	*e*P	**Pn**	**18 11 39.1**	**-1.1**
MCLT	**Moule a Chique**	**15.07**	**111**	*e*	**Pn**	**18 11 38.0**	**-3.2**
APG	**El Apazote**	**15.11**	**254**	Pn	**Pn**	**18 11 41.5**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=53,slow=15,SNR=18						
GRGR	**Grenville**	**15.20**	**118**	*e*P	**Pn**	**18 11 42.3**	**-0.7**
GRGR	**Grenville**	**15.20**	**118**	*e*Pn	**Pn**	**18 11 40.4**	**-2.6**
	comp=Z,1μm,1.2s						
BRAL	**Brewton**	**15.42**	**319**	*e*Pn	**Pn**	**18 11 44.6**	**-1.1**
	comp=Z,314nm,1.1s						
GOGA	**Godfrey**	**15.45**	**334**	*e*P	Pn	18 11 41.0	-5.1
GOGA				pmax	pmax		
	comp=Z,93nm,1.0s						
GOGA	**Godfrey**	**15.45**	**334**	*e*Pn	Pn	18 11 41.0	-5.1
	comp=Z,93nm,1.0s						
CNNC	**Cliffs of the**	**15.65**	**352**	*e*Pn	**Pn**	**18 11 44.5**	**-4.1**
	comp=Z,250nm,1.0s						
BBSR	**BB Station**	**15.86**	**35**	*e*Pn	**Pn**	**18 11 46.8**	**-4.7**
	comp=Z,336nm,0.6s						
BBSR				*e*Sn	Sn	18 14 22.6	-24
TRN	**Trinidad (W)**	**16.22**	**122**	*e*	**P**	**18 11 59.1**	**-0.1**
KMSC	**Kings Mountain**	**16.26**	**342**	⇓P	**Pn**	**18 11 55.3**	**-1.3**
	baz=16,SNR=34						
KMSC	**Kings Mountain**	**16.26**	**342**	*e*Pn	Pn	18 11 51.0	-5.7
	comp=Z,138nm,1.0s						
KMSC				*e*Sn	Sn	18 14 40.8	-16
BOT	**Bacolet**	**16.49**	**119**	*e*	**Pn**	**18 11 59.4**	**-0.1**
BBGH	**Gun Hill**	**16.53**	**111**	*e*Pn	**Pn**	**18 12 00.5**	**+0.4**
	comp=Z,2μm,1.4s						
TOSP	**Speyside**	**16.57**	**118**	*e*P	**Pn**	**18 12 00.2**	**-0.4**
TBH	**Brigand Hill**	**16.58**	**121**	*e*	**Pn**	**18 12 01.9**	**+1.1**
LRAL	**Lakeview Retre**	**16.85**	**324**	*e*Pn	**Pn**	**18 11 59.9**	**-4.2**
	comp=Z,198nm,1.4s						
TKL	**Tuckaleechee C**	**17.54**	**337**	*e*P	**Pn**	**18 12 08.5**	**-4.2**
TKL				S	Sn	18 15 16.0	-12
TKL	**Tuckaleechee C**	**17.54**	**337**	P	**Pn**	**18 12 10.2**	**-2.5**
	comp=Z,3.2nm,0.3s,baz=159,slow=15,SNR=49						
TKL				S	Sn	18 15 15.9	-12
	comp=Z,2.1nm,0.3s,baz=90,slow=20,SNR=3.7						
TKL				LR	LR	18 19 33.2	
	comp=Z,30μm,18.8s,baz=152,slow=39						
TKL	**Tuckaleechee C**	**17.54**	**337**	*e*Pn	**Pn**	**18 12 08.4**	**-4.2**
TKL				S	Sn	18 15 15.9	-12
CPCT	**Cooper Cave**	**17.64**	**335**	*e*Pn	**P**	**18 12 14.7**	**-0.1**
URVA	**University of**	**17.92**	**354**	*e*Pn	Pn	18 12 12.3	-5.0
BLA	**Blacksburg**	**18.00**	**347**	*e*P	**Pn**	**18 12 14.2**	**-4.2**
BLA				pmax	pmax		
	comp=Z,306nm,0.8s						
BLA	**Blacksburg**	**18.00**	**347**	*e*Pn	**Pn**	**18 12 14.2**	**-4.2**
	comp=Z,306nm,0.8s						
BLA				*e*Sn	Sn	18 15 23.5	-15
SWET	**Sewanee**	**18.05**	**331**	*e*Pn	**Pn**	**18 12 17.9**	**-1.1**
JSRW	**J. Sargeant Re**	**18.07**	**354**	*e*Pn	Pn	18 12 13.0	-6.2
JSRW				*e*Sn	Sn	18 15 22.5	-18
TZTN	**Tazewell**	**18.25**	**339**	*e*Pn	**Pn**	**18 12 19.4**	**-2.1**
	comp=Z,372nm,1.4s						
CMIG	**Matias Romero**	**18.67**	**265**	P	**Pn**	**18 12 28.1**	**+1.5**
	comp=Z,1.6nm,0.3s,baz=72,slow=6.8,SNR=18						
OXF	**Oxford**	**19.29**	**323**	*e*P	**P**	**18 12 33.2**	**+0.2**
OXF				pmax	pmax		
	comp=Z,508nm,1.3s						
OXF	**Oxford**	**19.29**	**323**	*e*P	**P**	**18 12 33.2**	**+0.2**
	comp=Z,508nm,1.3s						
OTAV	**Otavalo**	**19.56**	**189**	*e*P	**Pn**	**18 12 39.6**	**+1.8**
	comp=Z,159nm,0.9s						
OTAV				*e*ScP	**ScP**	**18 20 33.4**	**+1.5**
WVT	**Waverly**	**19.69**	**329**	*e*P	**P**	**18 12 36.7**	**-0.6**
WVT				pmax	pmax		
	comp=Z,92nm,0.8s						
WVT	**Waverly**	**19.69**	**329**	*e*P	**P**	**18 12 36.7**	**-0.6**
	comp=Z,92nm,0.8s						
SDMD	**Soldier's Deli**	**19.70**	**357**	*e*P	**P**	**18 12 36.4**	**-0.9**
	comp=Z,1.5nm,1.0s						
SDMD				*e*S	S	18 15 57.7	-21
MVL	**Millersville**	**20.26**	**358**	*e*P	**P**	**18 12 43.4**	**-0.1**
	comp=Z,315nm,1.3s						
HALT	**Halls**	**20.29**	**326**	*e*P	**P**	**18 12 44.9**	**+1.1**
340A	**Bronson**	**20.33**	**309**	⇑P	**P**	**18 12 45.1**	**+0.8**
	baz=20						
GLAT	**Glass**	**20.53**	**326**	*e*P	**P**	**18 12 46.5**	**+0.1**
GNAR	**Gosnell**	**20.69**	**325**	*e*P	**P**	**18 12 49.1**	**+0.8**
HBAR	**Harrisburg**	**20.75**	**323**	*e*P	Pn	18 12 52.0	+0.7
WCI	**Wyandotte Cave**	**20.76**	**335**	*e*P	**P**	**18 12 48.5**	**-0.4**
WCI				pmax	pmax		
	comp=Z,180nm,0.9s						
WCI				MLR	MLR		
	comp=Z,16μm,20.0s						
WCI	**Wyandotte Cave**	**20.76**	**335**	*e*P	**P**	**18 12 48.5**	**-0.4**
	comp=Z,180nm,0.9s						
WCI				LR	LR		
	comp=Z,16μm

comp=Z,829nm,1.3s
ALLY eS Sn 18 17 23.6 +2.4
137A Heron Place, G 22.29 309 ⇓P P 18 13 07.9 +2.5
baz=22,SNR=13
735A Kenedy 22.34 298 ⇑P P 18 13 08.6 +2.6
baz=22
BRYW Bryant College 22.40 8 eP P 18 13 06.7 +0.1
comp=Z,535nm,1.5s
BINY Binghamton 22.45 359 eP P 18 13 07.1 +0.1
comp=Z,176nm,0.9s
BINY eS S 18 17 08.5 -4.1
BINY LR LR
comp=Z,8μm,20.0s
635A Leesville 22.49 300 ⇑P P 18 13 10.5 +2.9
baz=23
336A Riesel 22.54 305 ⇑P P 18 13 10.3 +2.2
baz=23,SNR=7.4
535A Dale 22.56 301 ⇓P P 18 13 10.1 +1.8
baz=23
934A Benavides 22.57 295 ⇓P P 18 13 10.6 +2.1
baz=23
034A Hebbronville 22.57 293 ⇑P P 18 13 12.1 +3.6
baz=23,SNR=40
QUA2 Belchertown 22.67 6 eP P 18 13 09.9 +0.5
comp=Z,139nm,1.0s
ERPA Erie 22.70 351 eP P 18 13 10.5 +0.9
comp=Z,213nm,1.1s
ERPA LR LR
comp=Z,5μm,18.2s
834A Tilden 22.74 296 ⇓P P 18 13 12.3 +2.0
baz=23,SNR=19
SLM Saint Louis 22.84 329 eP P 18 13 11.9 +0.7
SLM pmax pmax
comp=Z,300nm,1.3s
SLM MLR MLR
comp=Z,17μm,20.5s
SLM Saint Louis 22.84 329 eP P 18 13 11.9 +0.7
comp=Z,300nm,1.3s
SLM LR LR
comp=Z,17μm,20.5s
435B Jarrell 22.86 303 ⇑P P 18 13 13.4 +1.9
baz=23,SNR=22
WES Weston 22.89 8 eP P 18 13 12.0 +0.3
WES pmax pmax
comp=Z,336nm,1.2s
WES Weston 22.89 8 eP P 18 13 12.0 +0.3
comp=Z,336nm,1.2s
SFIN Lafayette 22.93 337 ⇓P P 18 13 13.7 +1.6
baz=23,SNR=18
SFIN Lafayette 22.93 337 eP P 18 13 11.1 -1.1
comp=Z,458nm,1.3s
SFIN LR LR
comp=Z,36μm,18.7s
335A Moody 22.94 305 ⇓P P 18 13 15.2 +2.9
baz=23,SNR=26
734A La Parita Cree 22.96 298 ⇓P P 18 13 14.9 +2.3
baz=23,SNR=9.1
634A China Grove, S 22.96 299 ⇑P P 18 13 14.4 +1.8
baz=23,SNR=7.7
HRV Adam Dziewonsk 22.98 7 eP P 18 13 12.6 -0.1
HRV eS S 18 17 10.1 -12
HRV pmax pmax
comp=Z,244nm,1.2s
HRV Adam Dziewonsk 22.98 7 eP P 18 13 12.6 -0.1
comp=Z,244nm,1.2s
HRV eS S 18 17 10.1 -12
TRY Troy 23.02 3 eP P 18 13 13.9 +0.8
933A Laredo 23.22 294 ⇑P P 18 13 17.3 +2.1
baz=23,SNR=15
WHTX Lake Whitney, 23.27 306 ⇓P P 18 13 17.8 +2.1
baz=23,SNR=7.1
WHTX Lake Whitney, 23.27 306 eP P 18 13 18.0 +2.3
comp=Z,212nm,0.9s
534A Blanco 23.29 301 ⇑P P 18 13 17.5 +1.5
baz=23,SNR=40
434A Burnet 23.41 303 ⇑P P 18 13 18.8 +1.6
baz=24,SNR=21
135A Vickery Place, 23.49 307 ⇑P P 18 13 20.1 +2.2
baz=24,SNR=9.6
833A Chaparral WMA, 23.51 296 ⇑P P 18 13 20.0 +1.9
baz=24,SNR=34
733A Divot King Ran 23.54 297 ⇑P P 18 13 20.5 +2.1
baz=24,SNR=15
334A Lometa 23.59 304 ⇑P P 18 13 20.5 +1.5
baz=24,SNR=13
AAM Ann Arbor 23.60 345 eP P 18 13 18.6 -0.2
AAM eS S 18 17 35.3 +3.0
AAM pmax pmax
comp=Z,172nm,0.9s
AAM MLR MLR
comp=Z,7μm,18.0s
AAM Ann Arbor 23.60 345 eP P 18 13 18.6 -0.2
comp=Z,172nm,0.9s
AAM eS S 18 17 35.3 +3.0
AAM LR LR
comp=Z,7μm,18.0s
633A Saathoff Ranch 23.67 299 ⇑P P 18 13 20.9 +1.3
baz=24,SNR=32
ACCN Adirondack Com 23.67 3 eP P 18 13 20.0 +0.5
comp=Z,728nm,1.8s
ACCN eS S 18 17 31.5 -1.9
Z35A Perchaven, San 23.75 309 ⇓P P 18 13 22.6 +2.2
baz=24
533A Kerrville 23.76 300 ⇓P P 18 13 22.0 +1.4
baz=24,SNR=20
234A Clairette 23.80 306 ⇓P P 18 13 22.6 +1.7
baz=24,SNR=11
832A Faith Ranch, C 23.99 296 ⇓P P 18 13 24.0 +1.3
baz=24,SNR=12
134A White-Moore Ra 24.00 307 ⇓P P 18 13 24.4 +1.6
baz=24,SNR=8.8
433A Art 24.05 302 ⇓P P 18 13 24.4 +1.1
baz=24,SNR=28
HNH Hanover 24.09 6 eP P 18 13 24.4 +0.9
comp=Z,290nm,1.3s
732A Laxson Ranch, 24.11 297 ⇓P P 18 13 24.7 +0.9
baz=24
TUL1 Leonard 24.14 316 ⇑P P 18 13 25.7 +1.6
baz=24,SNR=88
TUL1 Leonard 24.14 316 eP P 18 13 24.6 +0.5
comp=Z,313nm,0.9s
TUL1 LR LR
comp=Z,12μm,19.8s
333A Richland Sprin 24.18 303 ⇓P P 18 13 26.3 +1.8
baz=24,SNR=42
632A Uvalde 24.19 299 ⇓P P 18 13 26.4 +1.8
baz=24,SNR=20
NCB Newcomb 24.23 2 eP P 18 13 23.9 -0.9
comp=Z,38nm,0.5s
NCB LR LR
comp=Z,4μm,20.0s
Z34A Collier Ranch, 24.25 309 ⇓P P 18 13 27.2 +2.0
baz=24,SNR=11
MDV Middlebury 24.31 4 eP P 18 13 24.4 -1.2
MDV eS S 18 17 45.6 +2.1
233A Rising Star 24.39 305 ⇓P P 18 13 28.2 +1.7
baz=24
Y34A Reagan Ranch, 24.42 310 ⇑P P 18 13 28.7 +2.1
baz=24,SNR=30
532A Rocksprings 24.48 300 ⇓P P 18 13 29.6 +2.2
baz=24,SNR=102
JCT Junction City 24.52 301 eP P 18 13 29.3 +1.6
JCT pmax pmax
comp=Z,228nm,0.9s
JCT MLR MLR
comp=Z,1μm,22.0s
JCT Junction City 24.52 301 ⇑P P 18 13 29.6 +2.0
baz=25,SNR=54
JCT Junction City 24.52 301 eP P 18 13 29.3 +1.6
comp=Z,228nm,0.9s
JCT LR LR
comp=Z,1μm,22.0s
133A Hamilton Ranch 24.65 306 ⇓P P 18 13 30.8 +2.0
baz=25,SNR=20
432A Menard 24.65 302 ⇑P P 18 13 30.6 +1.8
baz=25,SNR=59
LBNH Lisbon 24.65 6 eP P 18 13 28.8 +0.2
LBNH eS S 18 17 53.6 +4.4
LBNH pmax pmax
comp=Z,330nm,1.4s
LBNH MLR MLR
comp=Z,6μm,20.0s
LBNH Lisbon 24.65 6 eP P 18 13 28.8 +0.2
comp=Z,330nm,1.4s
LBNH eS S 18 17 53.6 +4.4
LBNH LR LR
comp=Z,6μm,20.0s

V35A Meyer Ranch, C 24.74 315 ⇓P P 18 13 30.9 +1.4
baz=25,SNR=14
332A Millersview 24.80 303 ⇓P P 18 13 31.6 +1.5
baz=25,SNR=61
X34A Smith Ranch, M 24.80 311 ⇑P P 18 13 31.6 +1.5
baz=25,SNR=14
631A Perdido Creek 24.81 298 ⇑P P 18 13 31.9 +1.6
baz=25,SNR=36
PTN Potsdam (NY) 24.82 1 eP P 18 13 30.3 +0.2
PTN pmax pmax
comp=Z,1μm,2.1s
PTN Potsdam (NY) 24.82 1 eP P 18 13 30.3 +0.2
comp=Z,1μm,2.1s
Z33A Whitaker Ranch 24.84 308 ⇓P P 18 13 32.5 +2.1
baz=25,SNR=49
LONY Lake Ozonia 24.87 1 eP P 18 13 30.1 -0.5
comp=Z,208nm,1.4s
LONY eS S 18 17 59.2 +6.6
LONY LR LR
comp=Z,4μm,19.0s
232A Coleman 24.92 304 ⇑P P 18 13 33.0 +1.8
baz=25,SNR=18
PAYG Puerto Ayora 24.95 218 PFAKE 18 13 40.0 +8.4
PAYG LR LR
comp=Z,6μm,21.0s
531A Rocksprings 25.02 300 ⇓P P 18 13 34.2 +2.0
baz=25,SNR=14
Y33A Hilltop Ranch, 25.07 309 ⇑P P 18 13 34.4 +1.8
baz=25,SNR=7.4
W34A Bridge Creek, 25.09 313 ⇑P P 18 13 34.3 +1.6
baz=25,SNR=8.6
W34A Bridge Creek, 25.09 313 eP P 18 13 33.9 +1.2
comp=Z,380nm,1.7s
W34A ePcP PcP 18 17 07.3 +0.4
W34A LR LR
comp=Z,2μm,18.0s
S36A Lake Cedric, C 25.14 320 ⇓P P 18 13 34.6 +1.5
baz=25
SADO Sadowa 25.20 354 P P 18 13 33.7 +0.1
comp=Z,50nm,1.0s,baz=192,slow=9.8,SNR=22
SADO LR LR 18 24 07.1
comp=Z,5μm,18.0s,baz=159,slow=38
ABTX Abilene, Hawle 25.21 306 ⇑P P 18 13 35.5 +1.6
baz=25,SNR=19
ABTX Abilene, Hawle 25.21 306 eP P 18 13 34.9 +1.1
comp=Z,120nm,1.0s
431A Sonora 25.24 301 ⇓P P 18 13 36.2 +2.0
baz=25,SNR=43
V34A Guthrie 25.24 314 ⇓P P 18 13 35.2 +1.2
baz=25,SNR=33
V34A Guthrie 25.24 314 eP P 18 13 35.2 +1.2
comp=Z,445nm,1.4s
V34A LR LR
comp=Z,2μm,20.0s
X33A Lawton 25.25 311 ⇑P P 18 13 35.5 +1.4
baz=25,SNR=27
WVL Waterville 25.27 10 eP P 18 13 34.8 +0.6
comp=Z,185nm,1.1s
WVL LR LR
comp=Z,6μm,20.5s
331A San Angelo 25.32 302 ⇑P P 18 13 36.3 +1.5
baz=25,SNR=22
PTGA Pitinga 25.32 142 P P 18 13 36.4 +1.5
comp=Z,214nm,1.2s,baz=331,slow=10,SNR=65
PTGA LR LR 18 24 18.4
comp=Z,5μm,18.1s,baz=325,slow=38
PTGA Pitinga 25.32 142 eP P 18 13 35.8 +0.9
comp=Z,416nm,1.3s
Z32A Haskell 25.38 307 ⇑P P 18 13 37.2 +1.8
baz=25,SNR=11
231A Bronte 25.46 304 ⇑P P 18 13 37.2 +1.1
baz=26,SNR=15
W33A Caddo, Fort Co 25.53 312 ⇑P P 18 13 38.6 +1.9
baz=26,SNR=9.5
WMOK Wichita Mounta 25.54 311 eP P 18 13 37.6 +0.8
WMOK pmax pmax
comp=Z,107nm,0.9s
WMOK MLR MLR
comp=Z,4μm,19.0s
WMOK Wichita Mounta 25.54 311 eP P 18 13 37.6 +0.8
comp=Z,107nm,0.9s
WMOK LR LR
comp=Z,4μm,19.0s
U34A Anderson Ranch 25.59 315 ⇑P P 18 13 38.7 +1.5
baz=26,SNR=14
U34A Anderson Ranch 25.59 315 eP P 18 13 37.8 +0.6
comp=Z,174nm,0.9s
U34A LR LR
comp=Z,6μm,22.0s
530A J-C Ranch, Com 25.67 299 ⇓P P 18 13 40.1 +2.0
baz=26,SNR=26
Y32A R-V Farms, Ver 25.67 309 ⇓P P 18 13 39.8 +1.8
baz=26,SNR=15
X32A Elmer 25.75 310 ⇓P P 18 13 40.3 +1.6
baz=26,SNR=23
V33A Lossen Ranch, 25.76 313 ⇑P P 18 13 39.9 +1.1
baz=26,SNR=11
430A Baggett Ranch, 25.79 300 ⇓P P 18 13 41.1 +2.0
baz=26,SNR=19
131A Roby 25.81 305 ⇓P P 18 13 40.8 +1.5
baz=26,SNR=8.4
EMMW East Machias 25.81 13 PFAKE 18 13 50.0 +11
EMMW LR LR
comp=Z,7μm,20.1s
Z31A Sharp Cattle R 25.89 307 ⇓P P 18 13 42.1 +2.0
baz=26,SNR=24
330A Mertzon 25.95 302 ⇑P P 18 13 42.1 +1.5
baz=26,SNR=18
U33A Lingo Farm, Me 25.97 315 ⇑P P 18 13 42.3 +1.6
baz=26,SNR=7.1
PKME Peaks-Kenny Pk 26.00 10 eP P 18 13 39.8 -1.1
comp=Z,75nm,1.3s
PKME eS S 18 18 13.8 +3.2
PKME LR LR
comp=Z,5μm,20.0s
S34A Willow Spring 26.06 318 ⇓P P 18 13 42.9 +1.4
baz=26
W32A Sentinel 26.07 311 ⇓P P 18 13 43.4 +1.8
baz=26,SNR=27
230A Sterling City 26.07 303 ⇓P P 18 13 43.2 +1.5
baz=26,SNR=9.9
130A Snyder 26.22 304 ⇓P P 18 13 44.6 +1.5
baz=26
V32A Arapaho 26.23 312 ⇓P P 18 13 44.8 +1.7
baz=26,SNR=7.8
Y31A Rekieta Farm, 26.26 308 ⇑P P 18 13 45.2 +1.8
baz=26,SNR=22
429A Davenport Ranc 26.27 300 ⇓P P 18 13 44.8 +1.2
baz=26,SNR=15
JFWS Jewell Farm 26.32 335 eP P 18 13 41.9 -1.9
JFWS pmax pmax
comp=Z,216nm,1.0s
JFWS MLR MLR
comp=Z,27μm,19.0s
JFWS Jewell Farm 26.32 335 eP P 18 13 41.9 -1.9
comp=Z,216nm,1.0s
JFWS LR LR
comp=Z,27μm,19.0s
X31A McDonald Ranch 26.36 309 ⇓P P 18 13 45.2 +1.0
baz=26,SNR=9.7
529A Stev Forest Ra 26.39 298 ⇑P P 18 13 45.9 +1.3
baz=26,SNR=21
U32A Winter Ranch, 26.55 314 ⇓P P 18 13 47.4 +1.5
baz=27,SNR=9.6
S33A Kaszmaul Farm, 26.56 317 ⇑P P 18 13 48.1 +2.1
baz=27,SNR=6.7
W31A Holland Ranch, 26.59 311 ⇓P P 18 13 47.9 +1.5
baz=27,SNR=8.0
329A Wagon Wheel Ra 26.62 301 ⇑P P 18 13 48.4 +1.7
baz=27,SNR=23
Z30A Sanderson Ranc 26.62 306 ⇑P P 18 13 48.7 +2.0
baz=27
KSU1 Kansas State U 26.64 321 ⇑P P 18 13 48.3 +1.6
baz=27,SNR=33
KSU1 Kansas State U 26.64 321 eP P 18 13 46.6 -0.1
comp=Z,169nm,0.9s
KSU1 LR LR
comp=Z,15μm,21.0s
229A Bryant Ranch, 26.65 303 ⇑P P 18 13 48.8 +1.8
baz=27
Y30A Stafford Cattl 26.70 307 ⇓P P 18 13 48.9 +1.5
baz=27,SNR=22
SCIA State Center 26.81 330 eP P 18 13 48.0 -0.2
comp=Z,85nm,0.9s
SCIA LR LR
comp=Z,22μm,18.0s
V31A Spring Creek L 26.81 312 ⇑P P 18 13 50.4 +2.0
baz=27,SNR=10.0

ATAH Atahualpa 26.82 187 P P 18 13 52.8 +3.9
comp=Z,50nm,1.0s,baz=8.2,slow=6.9,SNR=40
ATAH LR LR 18 26 25.4
comp=Z,6μm,19.9s,baz=45,slow=41
X30A Coker Ranch, T 26.93 308 ⇓P P 18 13 50.9 +1.5
baz=27,SNR=18
T32A Huddler Ranch, 26.93 315 ⇓P P 18 13 51.2 +1.8
baz=27,SNR=8.2
129A Stewart Farms, 26.94 304 ⇑P P 18 13 51.0 +1.5
baz=27
R33A Olander Ranch, 26.98 318 ⇑P P 18 13 51.4 +1.6
baz=27,SNR=13
Z29A Hungry Hill Ra 27.06 305 ⇓P P 18 13 52.3 +1.7
baz=27,SNR=17
U31A Nine Bar Ranch 27.12 313 ⇑P P 18 13 52.9 +1.7
baz=27
S32A Newby Ranch, P 27.23 316 ⇓P P 18 13 53.6 +1.5
baz=27
Y29A Porterfield Fa 27.27 307 ⇑P P 18 13 54.2 +1.7
baz=27,SNR=7.3
Q33A Connelly Farm, 27.30 320 ⇑P P 18 13 54.3 +1.6
baz=27,SNR=29
228A UT Block 9, Go 27.33 302 ⇓P P 18 13 54.1 +1.0
baz=27,SNR=6.5
T31A Randall Ranch, 27.39 314 ⇓P P 18 13 54.6 +1.1
baz=28,SNR=8.2
TX31 Lajitas Ar. Si 27.39 296 eP P 18 13 55.1 +1.4
TXAR Lajitas Array 27.39 296 P P 18 13 55.1 +1.5
comp=Z,4.4nm,0.7s,baz=115,slow=9.2,SNR=30
TXAR PcP PcP 18 17 13.4 +0.8
comp=Z,8.9nm,0.9s,baz=128,slow=3.7,SNR=7.5
TXAR ScP ScP 18 20 52.2 0.0
comp=Z,4.2nm,1.0s,baz=98,slow=6.7,SNR=4.3
TXAR LR LR 18 27 32.9
comp=Z,2μm,19.0s,baz=0.0,slow=43
V30A Spur Ranch, Mi 27.41 311 ⇑P P 18 13 55.2 +1.5
baz=28
128A Castleberry Fa 27.42 303 ⇓P P 18 13 55.6 +1.7
baz=28,SNR=19
P33A Williams Farm, 27.50 320 ⇑P P 18 13 56.3 +1.8
baz=28
R32A Long Quarter, 27.50 318 ⇑P P 18 13 56.1 +1.6
baz=28,SNR=8.1
X29A Tulia 27.54 308 ⇓P P 18 13 56.2 +1.2
baz=28,SNR=15
S31A Mullinville 27.55 316 ⇓P P 18 13 56.7 +1.8
baz=28,SNR=24
Z28A Tucker Farm, M 27.59 305 ⇓P P 18 13 56.9 +1.4
baz=28,SNR=7.8
AMTX Amarillo 27.72 309 ⇑P P 18 13 58.0 +1.5
baz=28
AMTX Amarillo 27.72 309 eP P 18 13 55.8 -0.7
comp=Z,82nm,1.0s
Y28A McKinney Farm, 27.73 306 ⇑P P 18 13 57.9 +1.2
baz=28,SNR=7.2
Q32A Meitler Ranch, 27.75 319 ⇓P P 18 13 58.3 +1.6
baz=28,SNR=5.4
U30A WK&E Inc. Balk 27.76 312 ⇑P P 18 13 58.3 +1.4
baz=28,SNR=5.2
W29A Amarillo 27.80 309 ⇓P P 18 13 58.7 +1.5
baz=28
T30A Plains 27.94 314 ⇓P P 18 14 00.1 +1.6
baz=28
X28A Dimmitt 27.94 307 ⇓P P 18 14 00.8 +2.1
baz=28
R31A Burdett 27.95 317 ⇓P P 18 14 00.3 +1.8
baz=28,SNR=14
V29A Stinnett 28.05 311 ⇑P P 18 14 01.5 +2.0
baz=28,SNR=8.3
U29A Oasis Ranch, S 28.15 312 ⇑P P 18 14 02.1 +1.7
baz=28
MSTX Muleshoe 28.16 306 ⇓P P 18 14 01.9 +1.4
baz=28,SNR=6.7
MSTX Muleshoe 28.16 306 eP P 18 14 00.9 +0.4
comp=Z,71nm,0.9s
P32A Huiting Farm, 28.16 320 ⇑P P 18 14 01.2 +0.9
baz=28,SNR=9.2
S30A Montezuma 28.21 315 ⇑P P 18 14 02.9 +2.0
baz=28,SNR=6.5
W28A Vega 28.27 309 ⇑P P 18 14 03.2 +1.7
baz=28
Q31A Ellis 28.28 318 ⇓P P 18 14 03.5 +2.0
baz=28,SNR=5.5
O32A Brockman Farm, 28.36 321 ⇓P P 18 14 04.0 +1.8
baz=28,SNR=13
R30A Dighton 28.43 316 ⇑P P 18 14 04.9 +2.0
baz=28,SNR=16
V28A Channing 28.50 310 ⇑P P 18 14 04.8 +1.2
baz=29
T29A Hugoton 28.52 313 ⇑P P 18 14 05.9 +2.2
baz=29
P31A Stockton 28.57 319 ⇓P P 18 14 05.7 +1.6
baz=29,SNR=11
S29A Ulysses 28.64 314 ⇓P P 18 14 06.9 +2.2
baz=29,SNR=9.6
COWI Conover 28.67 340 eP P 18 14 04.6 -0.2
comp=Z,74nm,1.2s
COWI LR LR
comp=Z,10μm,19.0s
N32A Stulken Farm, 28.70 322 ⇓P P 18 14 06.3 +1.1
baz=29
Q30A Quinter 28.79 317 ⇓P P 18 14 08.0 +2.0
baz=29,SNR=21
U28A Mallet 28.79 311 ⇓P P 18 14 07.6 +1.4
baz=29
O31A Woolen Ranch, 28.93 320 ⇓P P 18 14 08.5 +1.3
baz=29,SNR=6.7
V27A Dan Oppiter Fa 28.95 309 ⇑P P 18 14 09.0 +1.4
baz=29
BGNE Belgrade 29.04 323 ⇑P P 18 14 09.0 +0.9
baz=29
BGNE Belgrade 29.04 323 eP P 18 14 08.1 -0.1
comp=Z,145nm,0.9s
BGNE LR LR
comp=Z,21μm,18.1s
R29A Marienthal 29.08 315 ⇑P P 18 14 09.9 +1.3
baz=29
N31A Bailey Ranch, 29.12 321 ⇑P P 18 14 10.0 +1.1
baz=29
P30A Selden 29.13 318 ⇑P P 18 14 10.8 +1.8
baz=29,SNR=27
S28A Manter 29.15 313 ⇓P P 18 14 11.1 +1.8
baz=29,SNR=8.4
Q29A Oakley 29.23 316 ⇑P P 18 14 11.7 +1.7
baz=29,SNR=23
U27A Thompson Grove 29.24 310 ⇑P P 18 14 11.3 +1.2
baz=29,SNR=14
SPMN Marine on St. 29.27 334 ⇑P P 18 14 11.9 +1.8
baz=29
SPMN Marine on St. 29.27 334 eP P 18 14 09.9 -0.2
comp=Z,42nm,1.1s
SPMN LR LR
comp=Z,29μm,18.3s
W26A Owens Ranch, T 29.36 307 ⇓P P 18 14 12.6 +1.4
baz=29
O30A MW Ranch, Wils 29.39 319 ⇓P P 18 14 12.9 +1.6
baz=30,SNR=8.6
M31A Lambtecht Ranc 29.47 322 ⇑P P 18 14 13.3 +1.3
baz=30,SNR=13
T27A Campo 29.47 312 ⇑P P 18 14 13.6 +1.4
baz=30,SNR=6.3
R28A Tribune 29.48 315 ⇑P P 18 14 13.9 +1.7
baz=30,SNR=40
P29A Atwood 29.60 318 ⇓P P 18 14 14.5 +1.3
baz=30,SNR=9.8
V26A Tequesquite Ra 29.66 309 ⇓P P 18 14 15.8 +1.9
baz=30,SNR=13
N30A Hueftle Ranch, 29.79 320 ⇓P P 18 14 16.4 +1.6
baz=30
O29A 4D Ranch, Culb 29.81 319 ⇑P P 18 14 16.4 +1.3
baz=30,SNR=12
X25A Clemmons Ranch 29.81 306 ⇓P P 18 14 17.1 +1.8
baz=30
ECSD EROS Data Cent 29.84 328 ⇓P P 18 14 16.0 +0.8
baz=30,SNR=25
ECSD EROS Data Cent 29.84 328 eP P 18 14 14.9 -0.3
comp=Z,58nm,1.2s
ECSD LR LR
comp=Z,16μm,18.0s
Q28A Sharon Springs 29.88 316 ⇑P P 18 14 17.2 +1.5
baz=30,SNR=16
S27A Las Animas 29.89 313 ⇑P P 18 14 17.3 +1.4
baz=30,SNR=22
U26A Atchley Ranch, 29.89 310 ⇑P P 18 14 17.6 +1.6
baz=30,SNR=12
W25A X Bar L Ranch, 29.93 307 ⇑P P 18 14 18.1 +1.8
baz=30,SNR=13
L31A Butterfield Fa 29.93 324 ⇓P P 18 14 16.9 +0.9

baz=30,SNR=12
P28A **Saint Francis** 30.11 317 ⇓P P 18 14 19.3 +1.6
baz=30,SNR=21
M30A **Dale-Ortello V** 30.11 322 ⇑P P 18 14 18.8 +1.1
baz=30
N29A **Votaw Ranch, W** 30.12 320 ⇑P P 18 14 19.2 +1.4
baz=30,SNR=9.4
R27A **Eads** 30.12 314 ⇑P P 18 14 19.5 +1.6
baz=30,SNR=18
T26A **Comanche Natio** 30.14 311 ⇑P P 18 14 19.5 +1.3
baz=30,SNR=13
Y24A **Capitan** 30.19 304 ⇑P P 18 14 20.8 +2.1
baz=30,SNR=25
S26A **Kim** 30.26 312 ⇓P P 18 14 20.4 +1.2
baz=30,SNR=8.9
L30A **Spencer Herefo** 30.28 322 ⇓P P 18 14 20.3 +1.1
baz=30,SNR=35
V25A **Rancho No Teng** 30.29 308 ⇓P P 18 14 21.6 +2.0
baz=30,SNR=34
KSCO **Kaye Shedlock'** 30.38 315 ⇑P P 18 14 21.8 +1.6
baz=30
KSCO **Kaye Shedlock'** 30.38 315 eP P 18 14 21.1 +1.0
comp=Z,69nm,1.0s
U25A **Circle Dot Ran** 30.38 309 ⇑P P 18 14 22.1 +1.8
baz=30,SNR=15
O28A **Krutsinger Ran** 30.43 318 ⇓P P 18 14 22.2 +1.6
baz=30
M29A **Burnside Ranch** 30.53 321 ⇓P P 18 14 23.2 +1.8
baz=31,SNR=5.2
R26A **Arlington** 30.57 313 ⇓P P 18 14 23.3 +1.4
baz=31,SNR=13
N28A **Pribbeno Ranch** 30.60 319 ⇑P P 18 14 23.6 +1.5
baz=31,SNR=12
P27A **Ficken Ranch,** 30.63 316 ⇑P P 18 14 24.1 +1.7
baz=31
W24A **Lazy 6 Ranch,** 30.64 307 ⇓P P 18 14 24.1 +1.5
baz=31,SNR=35
K30A **Basset** 30.69 324 ⇑P P 18 14 23.9 +1.1
baz=31,SNR=34
T25A **Trinidad** 30.70 311 ⇓P P 18 14 25.1 +1.9
baz=31,SNR=55
V24A **Rampart Ranch,** 30.74 308 ⇑P P 18 14 25.9 +2.3
baz=31,SNR=7.6
L29A **Maesberg Ranch** 30.79 322 ⇑P P 18 14 25.1 +1.4
baz=31,SNR=25
SAML **Samuel** 30.90 156 eP P 18 14 24.8 0.0
comp=Z,174nm,1.1s
SAML LR LR
comp=Z,2μm,19.0s
O27A **Beecher Island** 30.91 317 ⇓P P 18 14 26.5 +1.7
baz=31,SNR=10.0
M28A **Bar X Bar Ranc** 30.91 320 ⇓P P 18 14 26.8 +2.0
baz=31
Q26A **Hugo** 30.93 314 ⇑P P 18 14 27.4 +2.3
baz=31,SNR=28
S25A **Robets Cordova** 30.95 312 ⇑P P 18 14 27.4 +2.0
baz=31,SNR=52
U24A **Moreno Valley** 31.02 309 ⇑P P 18 14 28.3 +2.3
baz=31
J30A **Dallas** 31.05 325 ⇑P P 18 14 26.6 +0.6
baz=31,SNR=26
OGNE **Ogallala** 31.05 319 ⇓P P 18 14 27.3 +1.2
baz=31,SNR=6.7
OGNE **Ogallala** 31.05 319 eP P 18 14 26.8 +0.7
comp=Z,96nm,1.0s
OGNE LR LR
comp=Z,13μm,19.0s
EYMN **Ely** 31.07 339 eP P 18 14 25.9 -0.1
comp=Z,50nm,1.0s
EYMN LR LR
comp=Z,9μm,20.0s
R25A **Fountain Ranch** 31.07 312 ⇓P P 18 14 28.2 +1.8
baz=31,SNR=25
P26A **Davis Ranch, A** 31.14 316 ⇓P P 18 14 28.5 +1.6
baz=31,SNR=9.5
K29A **Lazy Trails An** 31.14 323 ⇓P P 18 14 28.3 +1.5
baz=31,SNR=6.2
Z22A **Elephant Butte** 31.18 302 ⇓P P 18 14 29.6 +2.3
baz=31,SNR=11
BNM **Barren Site** 31.20 304 eP P 18 14 30.3 +2.7
N27A **Anderson Farm,** 31.29 318 ⇓P P 18 14 29.9 +1.7
baz=31
ANMO **Albuquerque** 31.34 305 eP P 18 14 29.3 +0.4
ANMO pmax pmax
comp=Z,22nm,1.2s
ANMO MLR MLR
comp=Z,4μm,22.0s
ANMO **Albuquerque** 31.34 305 eP P 18 14 29.2 +0.4
comp=Z,22nm,1.2s
ANMO LR LR
comp=Z,4μm,22.0s
T24B **San Luis** 31.37 310 ⇑P P 18 14 31.9 +2.8
baz=31,SNR=42
L28A **Connealy Angus** 31.37 321 ⇑P P 18 14 30.3 +1.5
baz=31
I30A **Oacoma** 31.41 326 ⇑P P 18 14 30.0 +0.9
baz=32,SNR=11
Q25A **Bedland, Calha** 31.42 314 ⇑P P 18 14 30.8 +1.3
baz=32,SNR=8.7
V23A **Ortiz Mt. (NFS** 31.43 307 ⇑P P 18 14 31.5 +1.9
baz=32,SNR=9.5
O26A **Horse Wrangler** 31.48 317 ⇓P P 18 14 31.9 +2.1
baz=32,SNR=24
LENM **Lemitar** 31.48 304 eP P 18 14 31.7 +1.7
S24A **Houchin Ranch,** 31.50 311 ⇑P P 18 14 32.4 +2.1
baz=32,SNR=17
NNA **Nana** 31.51 183 P P 18 14 32.2 +2.0
comp=Z,582nm,1.0s,SNR=5.6
NNA **Nana** 31.51 183 eP P 18 14 30.9 +0.7
NNA pmax pmax
comp=Z,200nm,1.4s
NNA **Nana** 31.51 183 P P 18 14 32.1 +2.0
comp=Z,85nm,1.1s,baz=351,slow=8.0,SNR=16
NNA LR LR 18 29 31.9
comp=Z,3μm,18.4s,baz=341,slow=41
NNA **Nana** 31.51 183 eP P 18 14 30.9 +0.7
comp=Z,200nm,1.4s
BRSD **Miller** 31.53 327 ⇑P P 18 14 30.5 +0.4
baz=32
BRSD **Miller** 31.53 327 eP P 18 14 28.6 -1.6
comp=Z,148nm,0.8s
BRSD LR LR
comp=Z,20μm,18.9s
J29A **Okreek** 31.56 324 ⇑P P 18 14 31.2 +0.8
baz=32,SNR=13
M27A **Reverse DX Ran** 31.61 319 ⇑P P 18 14 32.4 +1.4
baz=32,SNR=11
121A **Cookes Peak, D** 31.64 300 ⇑P P 18 14 33.7 +2.3
baz=32,SNR=15
121A **Cookes Peak, D** 31.64 300 eP P 18 14 33.8 +2.3
comp=Z,46nm,1.0s
P25A **Willow Gulch B** 31.66 315 ⇑P P 18 14 33.3 +1.8
baz=32,SNR=16
U23A **El Rito** 31.66 308 ⇑P P 18 14 34.1 +2.4
baz=32,SNR=16
R24A **Sanders Place,** 31.69 312 ⇓P P 18 14 33.4 +1.5
baz=32,SNR=41
K28A **Ten Mile Ranch** 31.71 322 ⇑P P 18 14 33.3 +1.5
baz=32,SNR=5.3
N26A **Koester Ranch,** 31.74 318 ⇓P P 18 14 33.8 +1.7
baz=32,SNR=9.4
T23A **Casias Ranch,** 31.83 309 ⇑P P 18 14 35.4 +2.2
baz=32,SNR=11
L27A **T5 Ranch, Ells** 31.89 320 ⇓P P 18 14 34.9 +1.5
baz=32
O25A **Wiggins** 31.93 316 ⇓P P 18 14 34.8 +0.9
baz=32
I29A **Vivian Onida** 31.95 325 ⇓P P 18 14 34.6 +0.7
baz=32,SNR=12
V22A **San Miguel Ran** 32.04 307 ⇑P P 18 14 37.5 +2.5
baz=32,SNR=14
M26A **McRoberts Ranc** 32.04 319 ⇑P P 18 14 36.5 +1.7
baz=32,SNR=8.5
Q24A **Divide** 32.06 313 ⇓P P 18 14 36.8 +1.6
baz=32,SNR=18
J28A **Allard Ranch,** 32.08 323 ⇓P P 18 14 36.1 +1.0
baz=32,SNR=7.8
S23A **Nye Farm, Mont** 32.09 311 ⇓P P 18 14 37.6 +2.1
baz=32
G30A **Faulkton** 32.10 328 ⇑P P 18 14 35.6 +0.4
baz=32,SNR=24
P24A **Kohler Place,** 32.16 314 ⇑P P 18 14 37.9 +2.0
baz=32,SNR=8.2
U22A **Llaves** 32.17 308 ⇑P P 18 14 38.9 +2.7
baz=32,SNR=37
R23A **Moffat** 32.17 311 ⇑P P 18 14 38.1 +1.9
baz=32,SNR=42
K27A **Flueckinger Fa** 32.21 321 ⇑P P 18 14 37.5 +1.2
baz=32,SNR=15
N25A **Grover** 32.28 317 ⇓P P 18 14 38.5 +1.6
baz=32
H29A **Onida** 32.31 326 ⇑P P 18 14 37.6 +0.6
baz=32,SNR=11
L26A **Underwood Farm** 32.33 320 ⇓P P 18 14 38.7 +1.4
baz=32
I28A **Midland** 32.41 324 ⇓P P 18 14 38.8 +0.8
baz=32,SNR=22
J27A **Elkhorn Farm,** 32.41 322 ⇓P P 18 14 39.5 +1.5
baz=32,SNR=16
Q23A **Hartsel** 32.50 313 ⇑P P 18 14 40.7 +1.6
baz=33
F30A **Leola** 32.54 329 ⇓P P 18 14 40.4 +1.3
baz=33
G29A **Hoven** 32.54 327 ⇓P P 18 14 39.4 +0.4
baz=33
O24A **Longmont** 32.57 315 ⇑P P 18 14 41.8 +2.3
baz=33,SNR=8.7
319A **Douglas** 32.58 298 ⇓P P 18 14 41.5 +1.8
baz=33
M25A **Palm-Egli Farm** 32.59 318 ⇑P P 18 14 42.0 +2.3
baz=33,SNR=9.3
S22A **4UR Ranch, Cre** 32.70 310 ⇑P P 18 14 42.7 +1.8
baz=33,SNR=25
P23A **Jefferson** 32.72 313 ⇓P P 18 14 43.1 +2.0
baz=33,SNR=18
K26A **Motz Farm, Whi** 32.77 321 ⇓P P 18 14 42.6 +1.4
baz=33,SNR=18
H28A **Mission Ridge** 32.77 325 ⇓P P 18 14 42.1 +1.1
baz=33,SNR=22
ISCO **Idaho Springs** 32.77 314 eP P 18 14 42.5 +1.0
ISCO pmax pmax
comp=Z,68nm,1.1s
ISCO MLR MLR
comp=Z,7μm,21.0s
ISCO **Idaho Springs** 32.77 314 ⇓P P 18 14 43.3 +1.8
baz=33,SNR=49
ISCO **Idaho Springs** 32.77 314 eP P 18 14 42.5 +1.0
comp=Z,68nm,1.1s
ISCO LR LR
comp=Z,7μm,21.0s
N24A **Carr** 32.80 316 ⇓P P 18 14 43.6 +2.0
baz=33,SNR=14
DRLN **Deer Lake** 32.81 22 eP P 18 14 41.8 +0.5
comp=Z,88nm,1.4s
DRLN LR LR
comp=Z,6μm,18.9s
L25A **Engebretsen Ra** 32.94 319 ⇑P P 18 14 44.7 +2.1
baz=33,SNR=8.0
F29A **Eureka** 32.94 328 ⇑P P 18 14 42.9 +0.4
baz=33
I27A **Quinn** 32.95 324 ⇑P P 18 14 44.1 +1.5
baz=33
E30A **Jud** 32.96 330 ⇑P P 18 14 43.1 +0.4
baz=33
G28A **Parade** 32.98 326 ⇓P P 18 14 44.2 +1.3
baz=33,SNR=15
AGMN **Agassiz Nation** 32.99 335 ⇓P P 18 14 44.2 +1.4
baz=33,SNR=28
AGMN **Agassiz Nation** 32.99 335 eP P 18 14 43.0 +0.1
comp=Z,95nm,1.2s
AGMN LR LR
comp=Z,29μm,19.0s
J26A **Sides Ranch, S** 33.07 322 ⇑P P 18 14 44.5 +0.7
baz=33,SNR=16
M24A **Cheyenne** 33.10 317 ⇓P P 18 14 45.9 +1.8
baz=33,SNR=22
K25A **Mack Ranch, Ha** 33.13 320 ⇑P P 18 14 46.0 +1.6
baz=33,SNR=22
O23A **Lake Granby, G** 33.17 315 ⇑P P 18 14 46.8 +1.8
baz=33,SNR=17
H27A **Howes** 33.32 324 ⇑P P 18 14 46.9 +1.0
baz=33,SNR=36
D30A **Buchanan** 33.33 330 ⇓P P 18 14 46.6 +0.6
baz=33,SNR=13
E29A **Napoleon** 33.36 329 ⇑P P 18 14 46.3 +0.1
baz=33
I26A **New Underwood** 33.38 323 ⇓P P 18 14 47.4 +1.0
baz=34
SMCO **Snowmass** 33.42 312 eP P 18 14 48.6 +1.4
comp=Z,78nm,1.3s
SMCO LR LR
comp=Z,6μm,21.5s
F28A **McLaughlin** 33.44 327 ⇓P P 18 14 48.0 +1.1
baz=34,SNR=15
P22A **Eagle** 33.46 313 ⇑P P 18 14 49.3 +1.9
baz=34,SNR=12
L24A **Wheatland** 33.48 318 ⇓P P 18 14 49.2 +1.8
baz=34,SNR=9.1
N23A **Red Feather La** 33.53 316 ⇓P P 18 14 49.6 +1.6
baz=34,SNR=11
J25A **Sunshine Ranch** 33.54 321 ⇓P P 18 14 49.1 +1.2
baz=34,SNR=11
O22A **Kremmling** 33.58 314 ⇑P P 18 14 50.0 +1.6
baz=34,SNR=24
C30A **Mose, Pekin** 33.65 331 ⇑P P 18 14 49.7 +1.1
baz=34,SNR=7.9
M23A **Laramie** 33.67 317 ⇑P P 18 14 50.7 +1.4
baz=34,SNR=11
D29A **Pettibone, Tap** 33.69 330 ⇓P P 18 14 49.7 +0.6
baz=34,SNR=11
H26A **Fairpoint** 33.69 324 ⇑P P 18 14 49.9 +0.7
baz=34,SNR=15
MVCO **Mesa Verde** 33.71 308 ⇓P P 18 14 51.2 +1.6
baz=34,SNR=14
MVCO **Mesa Verde** 33.71 308 eP P 18 14 50.6 +1.0
comp=Z,55nm,1.3s
MVCO LR LR
comp=Z,3μm,22.0s
G27A **Dupree** 33.72 325 ⇓P P 18 14 50.1 +0.8
baz=34,SNR=19
N22A **Wattenberg Ran** 33.82 315 ⇑P P 18 14 51.9 +1.4
baz=34,SNR=30
I25A **Rochford** 33.87 322 ⇓P P 18 14 51.9 +1.1
baz=34,SNR=35
E28A **Huff** 33.89 328 ⇑P P 18 14 51.6 +0.8
baz=34,SNR=16
X18A **Snowflake** 33.93 303 ⇑P P 18 14 52.3 +0.8
baz=34,SNR=19
W18A **Petrified Fore** 33.94 304 ⇓P P 18 14 54.4 +2.8
baz=34,SNR=10
W18A **Petrified Fore** 33.94 304 eP P 18 14 54.4 +2.8
comp=Z,133nm,1.4s
L23A **Garrett** 34.00 318 ⇓P P 18 14 53.7 +1.7
baz=34,SNR=25
J24A **Dixon Ranch, L** 34.02 320 ⇑P P 18 14 54.2 +2.1
baz=34,SNR=6.2
G26A **Maurine** 34.02 325 ⇓P P 18 14 52.3 +0.3
baz=34,SNR=44
TUC **Tucson** 34.04 299 eP P 18 14 55.3 +3.0
TUC pmax pmax
comp=Z,23nm,1.0s
TUC MLR MLR
comp=Z,2μm,20.4s
TUC **Tucson** 34.04 299 eP P 18 14 55.3 +3.0
comp=Z,23nm,1.0s
TUC LR LR
comp=Z,2μm,20.4s
F27A **Lemmon** 34.09 326 ⇓P P 18 14 53.8 +1.2
baz=34,SNR=42
RSSD **Black Hills** 34.11 322 eP P 18 14 53.3 +0.3
RSSD pmax pmax
comp=Z,31nm,0.9s
RSSD MLR MLR
comp=Z,13μm,21.4s
RSSD **Black Hills** 34.11 322 eP P 18 14 53.3 +0.3
comp=Z,31nm,0.9s
RSSD LR LR
comp=Z,13μm,21.4s
PV01 **Paradox Valley** 34.11 310 eP P 18 14 54.4 +1.3
B30A **Myrvik Farm, E** 34.14 332 ⇓P P 18 14 54.0 +1.1
baz=34,SNR=30
H25A **Fruitdale** 34.16 323 ⇑P P 18 14 53.9 +0.7
baz=34,SNR=12
M22A **Cedar Creek Ra** 34.21 316 ⇑P P 18 14 55.5 +1.6
baz=34,SNR=10
E27A **Carson** 34.23 327 ⇑P P 18 14 55.5 +1.7
baz=34,SNR=19
D28A **Regan** 34.26 329 ⇓P P 18 14 54.5 +0.6
baz=34,SNR=7.2
MDND **Maddock** 34.27 331 ⇑P P 18 14 54.6 +0.6
baz=34
MDND **Maddock** 34.27 331 eP P 18 14 53.8 -0.2
comp=Z,47nm,1.2s
K23A **Bowen Ranch, D** 34.29 319 ⇓P P 18 14 56.1 +1.7
baz=34,SNR=10
I24A **Kuemmerle Ranc** 34.30 321 ⇑P P 18 14 56.1 +1.6
baz=34,SNR=22
G25A **Newell** 34.41 324 ⇓P P 18 14 56.3 +0.9
baz=34
L22A **Ellis Ranch, M** 34.42 317 ⇑P P 18 14 57.4 +1.7
baz=34
F26A **Lodgepole** 34.42 325 ⇓P P 18 14 56.4 +0.9
baz=34,SNR=11
PV04 **Paradox Valley** 34.46 310 eP P 18 14 57.7 +1.7
PV05 **Paradox Valley** 34.48 309 eP P 18 14 57.6 +1.4
A30A **Hoffart Farm,** 34.50 333 ⇓P P 18 14 56.9 +0.8
baz=35,SNR=30
C28A **Hausauer Farms** 34.54 330 ⇑P P 18 14 57.7 +1.3
baz=35
PV10 **Paradox Valley** 34.55 310 eP P 18 14 58.6 +1.7
ULM **Lac du Bonnet** 34.57 337 eP P 18 14 56.3 -0.3
ULM pmax pmax
comp=Z,101nm,1.2s
ULM **Lac du Bonnet** 34.57 337 P P 18 14 56.0 -0.5
comp=Z,32nm,0.9s,baz=143,slow=10,SNR=50
ULM LR LR 18 30 22.7
comp=Z,11μm,19.4s,baz=142,slow=39
ULM **Lac du Bonnet** 34.57 337 eP P 18 14 56.3 -0.3
comp=Z,101nm,1.2s
J23A **Dilts Ranch, B** 34.60 320 ⇓P P 18 14 59.4 +2.3
baz=35
B29A **Wagenman Farm,** 34.61 332 ⇑P P 18 14 58.5 +1.6
baz=35
PV09 **Paradox Valley** 34.66 310 eP P 18 14 60.0 +2.0
D27A **Center** 34.67 328 ⇓P P 18 14 59.0 +1.5
baz=35
E26A **Carlson Angus** 34.72 326 ⇑P P 18 14 59.0 +1.0
baz=35,SNR=21
O20A **White River Ci** 34.72 313 ⇑P P 18 14 59.8 +1.6
baz=35,SNR=23
O20A **White River Ci** 34.72 313 eP P 18 14 59.0 +0.8
comp=Z,195nm,1.8s
H24A **Dirks Ranch, A** 34.78 323 ⇓P P 18 14 59.0 +0.4
baz=35,SNR=29
K22A **Casper** 34.80 318 ⇓P P 18 15 00.4 +1.5
baz=35,SNR=10
K22A **Casper** 34.80 318 eP P 18 14 59.5 +0.6
comp=Z,56nm,0.9s
I23A **Meade Ranch, G** 34.86 321 ⇑P P 18 15 00.2 +0.8
baz=35
A29A **Manning Farm,** 34.89 332 ⇓P P 18 15 00.3 +0.8
baz=35
F25A **Bowman** 34.89 325 ⇑P P 18 14 59.8 +0.2
baz=35,SNR=10
N20A **Spence Gulch,** 35.05 314 ⇓P P 18 15 03.0 +1.9
baz=35,SNR=19
G24A **Alzada** 35.05 323 ⇑P P 18 15 01.6 +0.7
baz=35,SNR=9.5
B28A **Dugan Ranch, T** 35.05 331 ⇓P P 18 15 02.1 +1.3
baz=35,SNR=8.9
C27A **Sayler Ranch,** 35.07 329 ⇓P P 18 15 01.3 +0.3
baz=35
D26A **Manning** 35.07 327 ⇑P P 18 15 02.3 +1.2
baz=35,SNR=8.7
X16A **Lo Mia Camp, P** 35.08 302 ⇑P P 18 15 04.2 +2.7
baz=35,SNR=17
H23A **Clabaugh Cattl** 35.16 322 ⇓P P 18 15 03.8 +1.8
baz=35
J22A **Midwest** 35.17 319 ⇑P P 18 15 03.8 +1.7
baz=35,SNR=34
E25A **Miller Ranch,** 35.23 326 ⇑P P 18 15 03.4 +1.0
baz=35,SNR=10
K21A **Alcova** 35.25 318 ⇓P P 18 15 04.7 +1.9
baz=35,SNR=23
WUAZ **Wupatki** 35.34 304 ⇓P P 18 15 05.7 +2.1
baz=35,SNR=34
WUAZ **Wupatki** 35.34 304 eP P 18 15 03.6 0.0
comp=Z,84nm,0.9s
WUAZ LR LR
comp=Z,3μm,22.0s
A28A **Rude Farm, Bot** 35.34 331 ⇑P P 18 15 03.9 +0.5
baz=35
F24A **Ekalaka** 35.38 324 ⇓P P 18 15 04.9 +1.1
baz=36,SNR=12
I22A **9 Mile Ranch,** 35.43 320 ⇑P P 18 15 05.4 +1.1
baz=36,SNR=22
B27A **Peters Farms,** 35.44 330 ⇑P P 18 15 05.0 +0.8
baz=36
C26A **Wahner Farm, P** 35.44 329 ⇑P P 18 15 05.0 +0.8
baz=36,SNR=13
G23A **Biddle** 35.53 323 ⇓P P 18 15 05.7 +0.7
baz=36,SNR=9.6
D25A **Fairfield** 35.61 327 ⇓P P 18 15 06.6 +1.0
baz=36,SNR=9.9
214A **Organ Pipe Nat** 35.65 298 ⇑P P 18 15 08.8 +2.6
baz=36,SNR=31
214A **Organ Pipe Nat** 35.65 298 eP P 18 15 08.6 +2.4
comp=Z,35nm,0.9s
SCHQ **Schefferville** 35.69 8 P P 18 15 06.1 0.0
comp=Z,38nm,0.8s,baz=193,slow=9.9,SNR=86
SCHQ PcP PcP 18 17 34.1 -0.1
comp=Z,11nm,0.6s,baz=228,slow=5.4,SNR=5.5
SCHQ LR LR 18 28 29.1
comp=Z,5μm,21.0s,baz=204,slow=34
SCHQ **Schefferville** 35.69 8 eP P 18 15 06.2 0.0
comp=Z,136nm,0.9s
SCHQ PcP PcP 18 17 34.1 -0.1
J21A **Lysite** 35.74 318 ⇑P P 18 15 08.4 +1.4
baz=36,SNR=43
H22A **Clearmont** 35.74 321 ⇓P P 18 15 08.7 +1.8
baz=36
E24A **Baker** 35.75 325 ⇑P P 18 15 08.8 +1.9
baz=36
F23A **Volborg** 35.84 323 ⇓P P 18 15 08.4 +0.7
baz=36,SNR=15
I21A **Big Trails, Te** 35.88 319 ⇑P P 18 15 09.0 +0.8
baz=36,SNR=47
B26A **Jensen Ranch,** 35.89 329 ⇓P P 18 15 08.8 +0.8
baz=36
SRU **San Rafael Swe** 35.90 310 eP P 18 15 09.9 +1.4
SRU pmax pmax
comp=Z,47nm,1.2s
SRU **San Rafael Swe** 35.90 310 eP P 18 15 09.9 +1.4
comp=Z,47nm,1.2s
Z14A **Wintersburg** 36.04 300 ⇑P P 18 15 11.8 +2.3
baz=36,SNR=5.3
G22A **Birney** 36.06 322 ⇓P P 18 15 10.9 +1.3
baz=36,SNR=20
D24A **Glendive** 36.11 326 ⇓P P 18 15 11.4 +1.4
baz=36
J20A **Shoshoni** 36.14 318 ⇓P P 18 15 12.1 +1.7
baz=36,SNR=20
A26A **Wade Farm, Ken** 36.15 330 ⇓P P 18 15 10.6 +0.3
baz=36
H21A **Big Horn, Sher** 36.17 321 ⇑P P 18 15 11.4 +0.8
baz=36,SNR=7.7
Y14A **Wickenburg** 36.22 301 ⇑P P 18 15 14.0 +2.9
baz=36,SNR=17
E23A **Ismay** 36.25 324 ⇑P P 18 15 13.6 +2.4
baz=36
B25A **Knox Farm, Ray** 36.27 328 ⇓P P 18 15 13.2 +1.9
baz=36
U15A **North Rim** 36.31 305 ⇑P P 18 15 14.8 +2.6
baz=36,SNR=50
F22A **Rosebud** 36.36 323 ⇓P P 18 15 13.0 +0.9
baz=36,SNR=39
C24A **Savage** 36.43 326 ⇓P P 18 15 13.1 +0.5
baz=36
LPAZ **La Paz** 36.46 168 ⇑/P P 18 15 13.9 +0.1
LPAZ pmax pmax
comp=Z,322nm,1.6s
LPAZ **La Paz** 36.46 168 P P 18 15 14.2 +0.4
comp=Z,104nm,1.4s,baz=357,slow=9.2,SNR=98
LPAZ LR LR 18 32 20.3
comp=Z,4μm,18.4s,baz=344,slow=40
LPAZ **La Paz** 36.46 168 ⇑/P P 18 15 13.9 +0.1
comp=Z,322nm,1.6s
TMUT **Trail Mountain** 36.47 310 eP P 18 15 14.5 +1.1
comp=Z,51nm,1.1s
TMUT ePcP PcP 18 17 37.4 +0.2
I20A **Worland** 36.47 319 ⇑P P 18 15 14.5 +1.3
baz=36,SNR=27
E22A **Miles City** 36.57 324 ⇓P P 18 15 14.8 +0.9
baz=37
113A **Mohawk Valley,** 36.60 299 ⇓P P 18 15 17.0 +2.8
baz=37,SNR=12
G21A **Lodge Grass** 36.60 321 ⇑P P 18 15 14.8 +0.6
baz=37,SNR=12
D23A **Lindsay** 36.62 325 ⇑P P 18 15 15.2 +0.9
baz=37,SNR=10
H20A **Greybull** 36.67 320 ⇑P P 18 15 15.2 +0.3
baz=37,SNR=15
A25A **Svangstu Ranch** 36.70 329 ⇑P P 18 15 16.9 +1.9
baz=37

J19A	Crowheart	36.71 317	⇑P		P	18 15 16.7 +1.4
	baz=37,SNR=46					
BW06	Boulder Array	36.80 316	eP		P	18 15 15.5 -0.6
BW06			LR		LR	
	comp=Z,12μm,19.0s					
PDAR	Pinedale Array	36.80 316	P		P	18 15 16.4 +0.3
	comp=Z,14nm,1.0s,baz=121,slow=10.0,SNR=70					
PDAR			PKiKP		PKiKP	18 24 54.8 -1.4
	comp=Z,0.5nm,0.6s,baz=111,slow=4.5,SNR=4.9					
PDAR			LR		LR	18 31 30.9
	comp=Z,6μm,18.8s,baz=118,slow=38					
LAO	LASA Array	36.88 324	eP		P	18 15 17.0 +0.5
	comp=Z,61nm,1.2s					
LAO			LR		LR	
	comp=Z,12μm,21.0s					
F21A	Absaloka Mine,	36.88 322	⇓P		P	18 15 17.7 +1.1
	baz=37					
KNB	Kanab	36.90 306	eP		P	18 15 19.9 +2.9
KNB			pmax		pmax	
	comp=Z,99nm,1.1s					
KNB	Kanab	36.90 306	eP		P	18 15 19.9 +2.9
	comp=Z,99nm,1.1s					
MVU	Marysvale	36.91 308	eP		P	18 15 18.6 +1.4
	comp=Z,23nm,1.0s					
MVU			ePcP		PcP	18 17 39.8 +1.3
DAU	Daniels Canyon	36.93 312	eP		P	18 15 18.8 +1.4
DAU	Daniels Canyon	36.93 312	eP		P	18 15 18.8 +1.4
C23A	Lambert	37.00 326	⇑P		P	18 15 18.7 +1.2
	baz=37,SNR=32					
MPU	Maple Canyon	37.04 311	eP		P	18 15 19.3 +1.1
	comp=Z,46nm,1.2s					
MPU			ePcP		PcP	18 17 39.8 +1.0
I19A	Meeteetse	37.05 319	⇑P		P	18 15 19.6 +1.4
	baz=37,SNR=34					
A24A	Westby	37.12 328	⇓P		P	18 15 20.4 +1.9
	baz=37,SNR=10.0					
D22A	Cohagen	37.13 325	⇑P		P	18 15 20.1 +1.5
	baz=37,SNR=18					
G20A	Bridger	37.19 321	⇓P		P	18 15 19.6 +0.3
	baz=37					
W13A	Hualapai Mount	37.20 302	⇑P		P	18 15 22.9 +3.2
	baz=37					
PDMCI	Parker Dam,Lak	37.22 301	⇓P		P	18 15 22.4 +2.9
	baz=37,SNR=6.1					
E21A	Keefer Ranch,	37.27 323	⇓P		P	18 15 20.5 +0.6
	baz=37					
B23A	Brockton	37.32 327	⇓P		P	18 15 21.8 +1.6
	baz=37					
TCUT	Toone Canyon	37.32 313	eP		P	18 15 21.4 +0.8
	comp=Z,22nm,0.6s					
NLU	North Lily Min	37.33 311	eP		P	18 15 22.2 +1.5
	comp=Z,44nm,1.2s					
H19A	Powell	37.37 319	⇓P		P	18 15 22.1 +1.2
	baz=37,SNR=28					
Y12C	Blythe	37.41 300	⇓P		P	18 15 23.7 +2.5
	baz=38					
F20A	Billings	37.47 322	⇓P		P	18 15 22.9 +1.3
	baz=38,SNR=12					
CCUT	Cedar City	37.47 307	eP		P	18 15 23.6 +1.8
	comp=Z,41nm,1.1s					
CCUT			ePcP		PcP	18 17 41.5 +1.3
D21A	La Casta Ranch	37.52 324	⇑P		P	18 15 23.4 +1.4
	baz=38,SNR=16					
GLA	Glamis	37.53 299	eP		P	18 15 25.0 +2.8
GLA			pmax		pmax	
	comp=Z,100nm,1.5s					
GLA	Glamis	37.53 299	⇑P		P	18 15 25.3 +3.1
	baz=38,SNR=5.8					
GLA	Glamis	37.53 299	eP		P	18 15 25.0 +2.8
	comp=Z,100nm,1.5s					
A23A	Redstone	37.58 328	⇑P		P	18 15 24.3 +1.9
	baz=38					
ARUT	Antelope Range	37.60 307	eP		P	18 15 24.9 +2.0
ARUT	Antelope Range	37.60 307	eP		P	18 15 24.9 +2.0
NEE2	Needles Airpor	37.71 302	⇑P		P	18 15 26.9 +3.2
	baz=38					
B22A	Reddig Ranch S	37.73 326	⇑P		P	18 15 25.4 +1.6
	baz=38,SNR=7.1					
RLMT	Red Lodge	37.77 320	eP		P	18 15 24.2 -0.1
RLMT			eScP		ScP	18 21 27.4 -0.1
RLMT			LR		LR	
	comp=Z,6μm,19.0s					
H18A	Shoshone NF, C	37.79 319	⇑P		P	18 15 25.1 +0.6
	baz=38,SNR=31					
AHID	Auburn Hatcher	37.81 315	eP		P	18 15 25.1 +0.4
	comp=Z,26nm,0.8s					
AHID			LR		LR	
	comp=Z,7μm,19.0s					
E20A	Meyer Farm, Mu	37.84 323	⇑P		P	18 15 25.1 +0.4
	baz=38,SNR=30					
LOHW	Long Hollow	37.87 317	eP		P	18 15 26.4 +1.3
	comp=Z,60nm,0.9s					
SNOW	Snow King Moun	37.90 317	eP		P	18 15 26.8 +1.3
	comp=Z,61nm,1.1s					
REDW	Red Top Meadow	37.91 316	eP		P	18 15 26.7 +1.1
	comp=Z,84nm,1.0s					
DUG	Dugway, Tooele	37.95 311	eP		P	18 15 26.7 +0.9
DUG			pmax		pmax	
	comp=Z,62nm,1.1s					
DUG			MLR		MLR	
	comp=Z,3μm,19.0s					
DUG	Dugway, Tooele	37.95 311	⇑P		P	18 15 27.2 +1.4
	baz=38,SNR=64					
DUG	Dugway, Tooele	37.95 311	eP		P	18 15 26.7 +0.9
	comp=Z,62nm,1.1s					
DUG			LR		LR	
	comp=Z,3μm,19.0s					
F19A	Roth Farm, Mol	37.96 321	⇑P		P	18 15 26.8 +1.0
	baz=38,SNR=25					
I17A	Pilgrim Ck.	37.99 317	⇑P		P	18 15 27.8 +1.6
	baz=38,SNR=62					
IRM	Iron Mountain	38.01 301	⇑P		P	18 15 29.4 +3.2
	baz=38,SNR=30					
C21A	Desert Coulee	38.03 325	⇓P		P	18 15 27.9 +1.6
	baz=38					
TPAW	Teton Pass	38.04 317	eP		P	18 15 27.9 +1.2
	comp=Z,78nm,1.2s					
SPUT	South Promonto	38.11 313	⇑/P		P	18 15 28.2 +1.0
	comp=Z,56nm,1.1s					
A22A	Carney Farms,	38.12 327	⇓P		P	18 15 29.4 +2.3
	baz=38,SNR=12					
FLWY	Flagg Ranch	38.15 318	eP		P	18 15 28.6 +1.1
	comp=Z,257nm,1.8s					
FXWY	Fox Creek	38.15 317	eP		P	18 15 28.2 +0.6
	comp=Z,42nm,0.9s					
SIV	San Ignacio	38.15 157	P		P	18 15 27.7 +0.2
	comp=Z,58nm,1.0s,baz=358,slow=9.0,SNR=68					
BC3	Big Chuckawall	38.16 300	⇑P		P	18 15 30.6 +3.0
	baz=38,SNR=8.7					
D20A	Manuel Ranch,	38.18 323	⇑P		P	18 15 29.3 +1.8
	baz=38,SNR=10					
E19A	Rath Farm, Rou	38.20 322	⇑P		P	18 15 29.3 +1.5
	baz=38,SNR=45					
IMW	Indian Meadow	38.22 317	eP		P	18 15 28.8 +0.7
	comp=Z,43nm,0.8s					
H17A	Grant Village	38.22 318	⇓P		P	18 15 29.5 +1.3
	baz=38,SNR=12					
H17A	Grant Village	38.22 318	eP		P	18 15 29.1 +0.9
	comp=Z,49nm,1.3s					
SWSC	Sam W. Stewart	38.31 298	⇑P		P	18 15 31.7 +2.9
	baz=38,SNR=7.2					
B21A	Ellsworth Farm	38.35 326	⇓P		P	18 15 31.3 +2.3
	baz=38					
GCMT	Greycliff	38.36 321	eP		P	18 15 29.8 +0.6
BGU	Big Grassy Mou	38.37 312	eP		P	18 15 30.8 +1.5
	comp=Z,31nm,1.2s					
YFT	Old Faithful	38.41 318	eP		P	18 15 31.5 +1.7
	comp=Z,51nm,1.0s					
YNR	Norris Junctio	38.44 319	eP		P	18 15 30.9 +0.9
	comp=Z,38nm,1.0s					
C20A	Veseth Ranch,	38.46 324	⇓P		P	18 15 32.0 +2.1
	baz=38,SNR=16					
HVU	Hansel Valley	38.52 313	eP		P	18 15 30.7 +0.1
HVU			pmax		pmax	
	comp=Z,28nm,0.9s					
HVU	Hansel Valley	38.52 313	eP		P	18 15 30.7 +0.1
	comp=Z,28nm,0.9s					
GMRC	Granite Mounta	38.55 301	⇓P		P	18 15 33.7 +2.8
	baz=39,SNR=11					
SHPR	Sheep Range	38.56 304	eP		P	18 15 33.7 +2.7
YMR	Madison River	38.60 318	eP		P	18 15 31.4 +0.1
	comp=Z,40nm,1.0s					
D19A	Cripps Ranch,	38.64 323	⇑P		P	18 15 33.0 +1.5
	baz=39,SNR=25					
A21A	Bergtoll Ranch	38.64 327	⇓P		P	18 15 33.3 +1.9
	baz=39,SNR=18					
BELC	Belle Mtn. Jos	38.67 300	⇓P		P	18 15 34.4 +2.5
	baz=39,SNR=12					
MONP	Monument Peak,	38.82 298	⇑P		P	18 15 34.5 +1.2
	baz=39,SNR=17					
B20A	Solberg Farm,	38.89 325	⇓P		P	18 15 36.5 +3.0
	baz=39,SNR=7.5					
TUQ	Turquoise Moun	38.90 302	⇑P		P	18 15 36.9 +3.0
	baz=39,SNR=26					
QLMT	Earthquake Lak	38.96 318	eP		P	18 15 36.4 +2.0
PFO	Pinyon Flats O	38.97 299	P		P	18 15 36.4 +2.0
	comp=Z,76nm,1.7s,SNR=5.7					
PFO	Pinyon Flats O	38.97 299	eP		P	18 15 36.8 +2.3
PFO			pmax		pmax	
	comp=Z,67nm,1.5s					
PFO			MLR		MLR	
	comp=Z,2μm,20.0s					
PFO	Pinyon Flats O	38.97 299	⇑P		P	18 15 37.5 +3.0
	baz=39					
PFO	Pinyon Flats O	38.97 299	eP		P	18 15 36.8 +2.3
	comp=Z,67nm,1.5s					
PFO			LR		LR	
	comp=Z,2μm,20.0s					
BAR	Barrett	38.99 298	eP		P	18 15 32.9 -1.7
C19A	Slack Wire Ran	39.05 324	⇑P		P	18 15 36.0 +1.1
	baz=39,SNR=11					
HEC	Hector,Ludlow	39.10 301	⇓P		P	18 15 38.6 +3.1
	baz=39					
A20A	Cobblestone Ra	39.10 326	⇓P		P	18 15 37.3 +2.1
	baz=39,SNR=21					
SHOC	Shoshone, Teco	39.29 303	⇓P		P	18 15 40.2 +3.2
	baz=39					
R11A	Troy Canyon, C	39.38 307	⇑P		P	18 15 40.9 +2.9
	baz=39,SNR=37					
R11A	Troy Canyon, C	39.38 307	eP		P	18 15 39.7 +1.8
	comp=Z,28nm,1.1s					
R11A			ePcP		PcP	18 17 46.8 +0.7
109C	Camp Elliot, M	39.38 298	⇑P		P	18 15 40.5 +2.7
	baz=39					
B19A	Brinkman Farms	39.40 325	⇑P		P	18 15 39.4 +1.6
	baz=40,SNR=16					
BBRC	Big Bear Solar	39.47 300	⇓P		P	18 15 41.8 +3.1
	baz=40					
BOZ	Bozeman (W)	39.48 319	eP		P	18 15 39.3 +0.7
BOZ			pmax		pmax	
	comp=Z,52nm,1.2s					
BOZ			MLR		MLR	
	comp=Z,3μm,22.0s					
BOZ	Bozeman (W)	39.48 319	eP		P	18 15 39.3 +0.7
	comp=Z,52nm,1.2s					
BOZ			LR		LR	
	comp=Z,3μm,22.0s					
TPNV	Topopah Spring	39.52 305	eP		P	18 15 42.2 +3.2
TPNV			pmax		pmax	
	comp=Z,47nm,1.0s					
TPNV	Topopah Spring	39.52 305	⇓P		P	18 15 42.0 +3.0
	baz=40,SNR=30					
TPNV	Topopah Spring	39.52 305	eP		P	18 15 42.2 +3.2
	comp=Z,47nm,1.0s					
A19A	Klindworth Far	39.57 325	⇓P		P	18 15 40.7 +1.6
	baz=40,SNR=18					
GSC	Goldstone, Bar	39.58 302	eP		P	18 15 42.1 +2.6
GSC			pmax		pmax	
	comp=Z,70nm,1.5s					
GSC	Goldstone, Bar	39.58 302	⇑P		P	18 15 42.3 +2.8
	baz=40,SNR=14					
GSC	Goldstone, Bar	39.58 302	eP		P	18 15 42.1 +2.6
	comp=Z,70nm,1.5s					
MURC	Murrieta	39.58 299	⇓P		P	18 15 41.8 +2.3
	baz=40,SNR=11					
EGMT	Eagleton	39.61 324	⇓P		P	18 15 41.1 +1.5
	baz=40,SNR=13					
EGMT	Eagleton	39.61 324	eP		P	18 15 39.2 -0.3
	comp=Z,50nm,1.0s					
EGMT			LR		LR	
	comp=Z,15μm,19.0s					
MCMT	McKenzie Canyo	39.86 318	eP		P	18 15 43.5 +1.6
ELK	Elko	39.87 311	eP		P	18 15 43.3 +1.2
ELK			pmax		pmax	
	comp=Z,25nm,1.1s					
ELK	Elko	39.87 311	eP		P	18 15 43.3 +1.2
	comp=Z,25nm,1.1s					
FURC	Furnace Creek,	39.88 304	⇑P		P	18 15 45.1 +3.3
	baz=40,SNR=9.2					
DLMT	Dillon	39.94 318	eP		P	18 15 44.1 +1.7
	comp=Z,72nm,1.1s					
BFSC	Mount Baldy Ra	40.06 300	⇓P		P	18 15 46.1 +2.5
	baz=40,SNR=9.4					
LRM	Limekiln Ridge	40.07 319	eP		P	18 15 44.6 +1.0
HRY	Holter Researc	40.12 321	eP		P	18 15 44.7 +0.8
MPMC	Manual Prospec	40.28 303	⇑P		P	18 15 48.1 +2.6
	baz=40,SNR=15					
LRMC	Laurel Mtn Rad	40.32 302	⇑P		P	18 15 48.1 +2.5
	baz=40,SNR=9.7					
HLID	Hailey	40.34 315	⇓P		P	18 15 47.6 +1.8
	baz=40,SNR=48					
HLID	Hailey	40.34 315	eP		P	18 15 47.1 +1.2
	comp=Z,29nm,0.9s					
HLID			LR		LR	
	comp=Z,8μm,21.0s					
MWC	Mount Wilson	40.39 300	eP		P	18 15 48.9 +2.5
MWC			pmax		pmax	
	comp=Z,71nm,1.5s					
MWC	Mount Wilson	40.39 300	eP		P	18 15 48.9 +2.5
	comp=Z,71nm,1.5s					
FFC	Flin Flon	40.39 336	P		P	18 15 45.6 -0.2
	comp=Z,243nm,0.8s,SNR=19					
FFC	Flin Flon	40.39 336	eP		P	18 15 45.7 -0.1
FFC			pmax		pmax	
	comp=Z,41nm,0.9s					
FFC			MLR		MLR	
	comp=Z,10μm,20.0s					
FFC	Flin Flon	40.39 336	eP		P	18 15 45.7 -0.1
	comp=Z,41nm,0.9s					
FFC			LR		LR	
	comp=Z,10μm,20.0s					
DAC	Darwin (Calif)	40.41 303	eP		P	18 15 48.9 +2.4
DAC			pmax		pmax	
	comp=Z,24nm,0.9s					
DAC	Darwin (Calif)	40.41 303	eP		P	18 15 48.9 +2.4
	comp=Z,24nm,0.9s					
EDW2	Edwards Air Fo	40.45 301	⇑P		P	18 15 49.5 +2.8
	baz=40,SNR=18					
FMP	Fort Macarthur	40.50 299	⇑P		P	18 15 49.9 +2.9
	baz=40					
CIS	Catalina Islan	40.54 299	⇓P		P	18 15 47.3 -0.1
	baz=41,SNR=5.1					
TPH	Tonopah	40.55 306	eP		P	18 15 50.0 +2.4
TPH			pmax		pmax	
	comp=Z,69nm,1.1s					
TPH	Tonopah	40.55 306	eP		P	18 15 50.0 +2.4
	comp=Z,69nm,1.1s					
SCI	San Clemente I	40.60 298	⇓P		P	18 15 49.8 +1.9
	baz=41					
DECC	Green Verdugo	40.61 300	⇓P		P	18 15 51.1 +3.1
	baz=41					
ISA	Isabella, Lake	40.98 302	eP		P	18 15 53.2 +2.1
ISA	Isabella, Lake	40.98 302	⇓P		P	18 15 54.2 +3.1
	baz=41,SNR=9.8					
ISA	Isabella, Lake	40.98 302	eP		P	18 15 53.2 +2.1
CHMT	Chamberlain Mo	41.07 320	eP		P	18 15 52.5 +0.6
ARVC	Arvin	41.17 301	⇓P		P	18 15 54.7 +2.2
	baz=41					
BMN	Battle Mountai	41.20 309	eP		P	18 15 54.1 +1.1
BMN			pmax		pmax	
	comp=Z,31nm,1.2s					
BMN	Battle Mountai	41.20 309	eP		P	18 15 54.1 +1.1
	comp=Z,31nm,1.2s					
MFID	Camas Ranch	41.23 314	eP		P	18 15 53.8 +0.6
	comp=Z,31nm,1.1s					
FCC	Fort Churchill	41.32 345	eP		P	18 15 52.5 -0.9
FCC			pmax		pmax	
	comp=Z,71nm,1.3s					
FCC	Fort Churchill	41.32 345	eP		P	18 15 52.5 -0.9
	comp=Z,71nm,1.3s					
NV11	Mina Array Sit	41.35 306	eP		P	18 15 56.1 +1.9
SLMT	Seeley Lake	41.37 321	eP		P	18 15 54.7 +0.5
MSO	Missoula	41.45 320	⇓P		P	18 15 57.0 +2.1
	baz=42,SNR=12					
MSO	Missoula	41.45 320	eP		P	18 15 56.1 +1.3
	comp=Z,64nm,1.4s					
NV01	Mina Array Sit	41.46 306	eP		P	18 15 56.4 +1.2
NVAR	Mina Array Bea	41.46 306	P		P	18 15 57.2 +2.0
	comp=Z,12nm,1.0s,baz=114,slow=7.8,SNR=63					
NVAR			PcP		PcP	18 17 54.0 +1.2
	comp=Z,7.3nm,0.9s,baz=98,slow=2.7,SNR=7.0					
VES	Vestal, Richgr	41.51 302	⇓P		P	18 15 59.8 +4.5
	baz=42,SNR=13					
BSC	Santa Cruz Isl	41.64 299	⇓P		P	18 15 59.3 +2.8
	baz=42					
MLAC	Mammoth, Mammo	41.68 305	⇓P		P	18 16 00.1 +3.1
	baz=42,SNR=6.7					
SBC	Santa Barbara	41.77 300	⇑P		P	18 15 59.9 +2.4
	baz=42					
SWMT	Swartz Lake	41.80 321	eP		P	18 15 58.5 +0.7
PKM	Mcpherson Peak	41.93 301	⇓P		P	18 16 02.1 +3.1
	baz=42,SNR=7.0					
YBMT	Yellow Bay	41.98 321	eP		P	18 15 59.4 +0.3
JTMT	Jette	42.08 321	eP		P	18 16 00.7 +0.7
SMMC	Simmler	42.15 301	⇓P		P	18 16 03.6 +3.0
	baz=42					
BLMT	Blacktail Moun	42.26 321	eP		P	18 16 02.1 +0.6
WAKR	Walker	42.34 306	eP		P	18 16 04.2 +1.8
BSMT	Bassoo Peak	42.43 321	eP		P	18 16 03.8 +0.9
WALA	Waterton Lakes	42.50 323	eP		P	18 16 03.5 +0.1
	comp=Z,25nm,1.0s					
LVC	Limon Verde	42.52 171	eP		P	18 16 03.2 -0.6
	comp=Z,105nm,1.4s					
LVC			LR		LR	
	comp=Z,4μm,20.0s					
BMO	Blue Mountains	42.76 316	eP		P	18 16 05.1 -0.4
BMO			pmax		pmax	
	comp=Z,57nm,1.5s					
BMO			MLR		MLR	
	comp=Z,6μm,21.0s					
BMO	Blue Mountains	42.76 316	eP		P	18 16 05.1 -0.4
	comp=Z,57nm,1.5s					
BMO			LR		LR	
	comp=Z,6μm,21.0s					
WVOR	Wild Horse Val	42.83 312	eP		P	18 16 06.6 +0.4
WVOR			pmax		pmax	
	comp=Z,32nm,1.0s					
WVOR			MLR		MLR	
	comp=Z,4μm,19.0s					
WVOR	Wild Horse Val	42.83 312	eP		P	18 16 06.6 +0.4
	comp=Z,32nm,1.0s					
WVOR			LR		LR	
	comp=Z,4μm,19.0s					
CMB	Columbia Colle	42.97 305	eP		P	18 16 09.3 +2.1
CMB			pmax		pmax	
	comp=Z,17nm,0.9s					
CMB	Columbia Colle	42.97 305	eP		P	18 16 09.3 +2.1
	comp=Z,17nm,0.9s					
F10A	Beach Ranch, E	43.14 317	eP		P	18 16 08.9 +0.3
	comp=Z,33nm,0.9s					
SAO	San Andreas Ge	43.55 303	eP		P	18 16 14.2 +2.3
SAO			pmax		pmax	
	comp=Z,50nm,1.3s					
SAO	San Andreas Ge	43.55 303	eP		P	18 16 14.2 +2.3
	comp=Z,50nm,1.3s					
MOD	Modoc Plateau	43.86 310	eP		P	18 16 14.8 +0.3
	comp=Z,26nm,1.1s					
I07A	Izee	43.96 314	eP		P	18 16 15.8 +0.5
	comp=Z,112nm,2.3s					
G08A	Pilot Rock	44.01 316	eP		P	18 16 16.6 +0.9
	comp=Z,47nm,1.1s					
NEW	Newport	44.02 320	eP		P	18 16 16.0 +0.4
NEW			pmax		pmax	
	comp=Z,32nm,0.9s					
NEW			MLR		MLR	
	comp=Z,12μm,19.0s					
NEW	Newport	44.02 320	⇑P		P	18 16 16.3 +0.7
	baz=44,SNR=18					
NEW	Newport	44.02 320	eP		P	18 16 16.0 +0.4
	comp=Z,32nm,0.9s					
NEW			LR		LR	
	comp=Z,12μm,19.0s					
BDFB	Brasilia	44.25 141	P		P	18 16 18.0 +0.2
	comp=Z,72nm,1.0s,baz=298,slow=9.5,SNR=64					
BDFB			LR		LR	18 35 44.4
	comp=Z,4μm,19.2s,baz=314,slow=38					
FRB	Frobisher Bay	44.27 4	P		P	18 16 17.3 0.0
	comp=Z,34nm,0.9s,baz=189,slow=7.9,SNR=57					
FRB			LR		LR	18 34 12.2
	comp=Z,4μm,19.6s,baz=196,slow=35					
EDM	Edmonton	44.41 328	eP		P	18 16 18.6 0.0
EDM			e			18 18 01.0
EDM	Edmonton	44.41 328	eP		P	18 16 18.6 0.0
EDM			ePcP		PcP	18 18 01.0 -1.1
K05A	Summer Lake	44.51 311	eP		P	18 16 20.6 +0.8
	comp=Z,40nm,1.2s					
C09A	Chrisman Ranch	44.53 319	eP		P	18 16 20.4 +0.7
	comp=Z,41nm,0.9s					
OD2	Odessa Site #2	44.64 318	P		P	18 16 21.2 +0.7
JBO	Jordan Butte	44.65 315	P		P	18 16 21.8 +1.2
H2OWA	Water	44.71 317	P		P	18 16 22.0 +0.9
HAWA	Hanford	44.78 317	eP		P	18 16 21.7 +0.1
	comp=Z,20nm,0.9s					
HAWA			LR		LR	
	comp=Z,3μm,19.0s					
PINOR	Pine Mountain	44.81 313	eP		P	18 16 22.0 +0.2
	comp=Z,82nm,2.0s					
PINOR			ePP		PP	18 18 06.1 -0.6
J05D	Fort Rock, OR	44.91 312	⇓P		P	18 16 23.7 +0.8
	baz=45,SNR=11					
GBB	Gable Butte	44.92 317	P		P	18 16 23.8 +1.1
M04C	Macdoel	44.93 310	⇑P		P	18 16 24.3 +1.2
	baz=45					
BLTW	Bickleton	45.03 316	P		P	18 16 24.7 +1.0
E07A	Sunnyside	45.05 317	eP		P	18 16 24.9 +1.1
	comp=Z,29nm,1.0s					
K04D	Chiloquin, OR	45.09 311	⇓P		P	18 16 25.1 +0.8
	baz=45					
G06A	Carlson Farm,	45.10 315	eP		P	18 16 25.7 +1.4
	comp=Z,155nm,1.7s					
WDC	Whiskeytown Da	45.16 308	eP		P	18 16 24.0 -0.7
WDC			pmax		pmax	
	comp=Z,13nm,1.1s					
WDC	Whiskeytown Da	45.16 308	eP		P	18 16 24.0 -0.7
	comp=Z,13nm,1.1s					
HOPS	Hopland Field	45.22 306	eP		P	18 16 28.2 +2.9
	comp=Z,54nm,1.1s					
I05D	Terrebonne, OR	45.29 313	⇓P		P	18 16 26.0 +0.2
	baz=45					
N02D	Trinity Center	45.37 309	⇓P		P	18 16 27.3 +0.8
	baz=45					
B08A	Colville Reser	45.40 319	eP		P	18 16 26.8 +0.2
	comp=Z,36nm,0.8s					
J04D	Umpqua Nationa	45.51 312	⇓P		P	18 16 28.7 +0.9
	baz=46					
YBH	Yreka Blue Hor	45.55 310	eP		P	18 16 27.9 0.0
YBH			pmax		pmax	
	comp=Z,9.0nm,0.9s					
YBH	Yreka Blue Hor	45.55 310	LR		LR	18 37 36.1
	comp=Z,1μm,18.8s,baz=98,slow=39					
YBH	Yreka Blue Hor	45.55 310	eP		P	18 16 27.9 0.0
	comp=Z,9.4nm,0.9s					
G05D	Wamic, OR	45.56 315	⇑P		P	18 16 30.0 +2.1
	baz=46,SNR=5.2					
M02C	Callahan	45.57 309	⇓P		P	18 16 29.6 +1.5
	baz=46					
EBG	Ellensburg	45.63 317	P		P	18 16 30.0 +1.5
KIPM	Iron Peak	45.69 307	eP		P	18 16 29.3 +0.1
TBM	Table Mountain	45.74 317	P		P	18 16 31.1 +1.7
KCPM	Cahto Peak	45.75 307	eP		P	18 16 29.2 -0.4
	comp=Z,11nm,0.9s					
LTY	Liberty	45.82 318	eP		P	18 16 31.1 +1.1
	comp=Z,56nm,1.2s					
HBO	Huckleberry Mo	45.83 313	P		P	18 16 31.4 +1.3
I04A	Tendick Farm,	45.88 312	⇓P		P	18 16 31.5 +1.1
	baz=46,SNR=11					
HUMO	Hull Mountain	45.94 311	eP		P	18 16 29.6 -1.4
	comp=Z,15nm,1.0s					
ASR	Mount Adams--S	46.04 316	P		P	18 16 33.7 +2.0
KHMM	Horse Mountain	46.10 308	eP		P	18 16 33.8 +1.4
LON	Longmire	46.38 317	eP		P	18 16 35.1 +0.8
LON			pmax		pmax	
	comp=Z,33nm,1.1s					
LON	Longmire	46.38 317	eP		P	18 16 35.1 +0.8
	comp=Z,33nm,1.1s					
RCBR	Riachuelo	46.40 119	P		P	18 16 35.9 +1.0
	comp=Z,173nm,1.1s,baz=302,slow=8.4,SNR=39					
RCBR	Riachuelo	46.40 119	eP		P	18 16 36.4 +1.5
	comp=Z,262nm,1.1s					
RCBR			LR		LR	
	comp=Z,2μm,19.0s					
I03D	Drain, OR	46.50 312	⇓P		P	18 16 36.2 +0.9
	baz=46,SNR=11					
D05A	Enumclaw	46.64 317	eP		P	18 16 37.4 +1.1
G03D	McMinnville, O	46.86 314	⇑P		P	18 16 39.3 +1.2
	baz=47					
KEBM	Edson Butte	46.99 311	eP		P	18 16 40.2 +1.0
	comp=Z,206nm,1.4s					
NLWA	Neilton Look

PGC	**Sidney**	**48.06**	**318**	*e*P		**P**	**18 16 46.9**	**-0.4**
	comp=Z,25nm,0.9s							
LCO	**Las Campanas**	**48.63**	**175**	*e*P		**P**	**18 16 52.4**	**+0.2**
	comp=Z,235nm,1.5s							
LCO				LR		LR		
	comp=Z,1μm,20.0s							
SACV	**Santiago Islan**	**49.52**	**87**	*e*P		**P**	**18 16 58.8**	**-0.2**
	comp=Z,93nm,0.8s							
SACV				LR		LR		
	comp=Z,2μm,21.0s							
SFJD	**Kangerlussuaq**	**49.90**	**12**	*i* P		**P**	**18 17 01.1**	**0.0**
SFJD				pmax		pmax		
	comp=Z,22nm,1.0s							
SFJD				MLR		MLR		
	comp=Z,2μm,19.0s							
SFJD	**Kangerlussuaq**	**49.90**	**12**	*i* P		**P**	**18 17 01.1**	**0.0**
	comp=Z,22nm,1.0s							
SFJD	**Kangerlussuaq**	**49.90**	**12**	P		**P**	**18 17 01.0**	**0.0**
	comp=Z,30nm,0.9s,baz=201,slow=7.1							
SFJD	**Kangerlussuaq**	**49.90**	**12**	*e*P		**P**	**18 17 00.8**	**-0.3**
	comp=Z,48nm,1.0s							
SFJD				LR		LR		
	comp=Z,2μm,19.0s							
YKA	**Yellowknife Ar**	**50.53**	**338**	P		**P**	**18 17 05.5**	**-0.5**
	comp=Z,6,6nm,0.6s,baz=128,slow=8.6,SNR=129							
CFAA	**Coronel Fontan**	**51.46**	**172**	P		**P**	**18 17 13.3**	**-0.1**
	comp=Z,4.8nm,1.0s,baz=345,slow=8.3,SNR=36							
ILULI	**Ilulissat**	**51.73**	**11**	*i* P		**P**	**18 17 14.4**	**-0.5**
ILULI				pmax		pmax		
	comp=Z,42nm,0.9s							
ILULI	**Ilulissat**	**51.73**	**11**	*i* P		**P**	**18 17 14.4**	**-0.5**
	comp=Z,42nm,0.9s							
BBB	**Bella Bella**	**52.02**	**322**	P		**P**	**18 17 15.9**	**-1.4**
	comp=Z,13nm,1.0s,baz=140,slow=8.7,SNR=3.1							
BBB				LR		LR	18 40 52.0	
	comp=Z,8μm,19.2s,baz=118,slow=38							
PMOZ	**Porto Moniz, M**	**53.23**	**63**	*e*P		**P**	**18 17 28.0**	**+1.3**
	comp=Z,359nm,1.6s							
PMOZ				*e*S		S	18 25 05.5	+8.4
PMOZ				*e*LQ		LQ	18 31 03.4	
PMOZ				*e*LR		LR	18 33 28.0	
	comp=Z,2μm,20.0s							
DLBC	**Dease Lake**	**55.13**	**328**	P		**P**	**18 17 41.4**	**+1.3**
	comp=Z,22nm,0.8s,baz=110,slow=5.0,SNR=28							
DLBC				LR		LR	18 42 43.8	
	comp=Z,10μm,18.2s,baz=122,slow=38							
DLBC	**Dease Lake**	**55.13**	**328**	*e*P		**P**	**18 17 41.6**	**+1.4**
WRAK	**Wrangell Islan**	**55.66**	**326**	*e*P		P	18 17 55.2	+11
WRAK				LR		LR		
	comp=Z,4μm,22.0s							
KULLO	**Kullorsuaq**	**55.79**	**6**	*i* P		**P**	**18 17 43.7**	**-0.9**
KULLO				pmax		pmax		
	comp=Z,14nm,0.9s							
KULLO				MLR		MLR		
	comp=Z,2μm,19.0s							
KULLO	**Kullorsuaq**	**55.79**	**6**	*i* P		**P**	**18 17 43.7**	**-0.9**
	comp=Z,14nm,0.9s							
RES	**Resolute Bay**	**56.02**	**354**	*e*P		**P**	**18 17 45.2**	**-1.0**
RES				pmax		pmax		
	comp=Z,38nm,1.0s							
RES	**Resolute Bay**	**56.02**	**354**	P		**P**	**18 17 45.3**	**-1.0**
	comp=Z,12nm,0.8s,baz=179,slow=10,SNR=54							
RES	**Resolute Bay**	**56.02**	**354**	*e*P		**P**	**18 17 45.2**	**-1.0**
	comp=Z,38nm,1.0s							
SUMG	**Summit**	**56.89**	**12**	*i* P		**P**	**18 17 53.1**	**+0.2**
SUMG				pmax		pmax		
	comp=Z,53nm,1.0s							
SUMG				MLR		MLR		
	comp=Z,2μm,22.0s							
SUMG	**Summit**	**56.89**	**12**	*i* P		**P**	**18 17 53.1**	**+0.2**
	comp=Z,53nm,1.0s							
SUMG	**Summit**	**56.89**	**12**	*e*P		**P**	**18 17 52.7**	**-0.3**
	comp=Z,110nm,1.1s							
BORG	**Borgarnes**	**57.34**	**24**	P		**P**	**18 17 55.4**	**-0.3**
BORG				MLR		MLR		
	comp=Z,6μm,20.0s							
BORG	**Borgarnes**	**57.34**	**24**	P		**P**	**18 17 55.4**	**-0.3**
BORG				LR		LR		
	comp=Z,6μm,20.0s							
SKAG	**Skagway**	**58.06**	**329**	*e*P		**P**	**18 18 01.3**	**+0.5**
TRQA	**Tornquist**	**58.81**	**168**	*e*P		**P**	**18 18 06.2**	**-0.1**
	comp=Z,75nm,1.4s							
TRQA				LR		LR		
	comp=Z,2μm,20.0s							
VAL	**Valentia**	**59.47**	**41**	*e*P		**P**	**18 18 09.2**	**-1.5**
HYT	**Haines Junctio**	**59.47**	**330**	*e*P		**P**	**18 18 11.5**	**+0.7**
PMAFR	**Mafra**	**59.53**	**56**	*e*S		**S**	**18 26 19.8**	**-0.6**
LIS	**Lisbon**	**59.64**	**56**	*e*P		**P**	**18 18 12.6**	**+0.4**
LIS				AMS		AMS	18 39 34.2	
	comp=Z,3μm,20.7s							
LIS	**Lisbon**	**59.64**	**56**	*e*P		**P**	**18 18 12.6**	**+0.4**
LIS				A		A	18 39 34.2	
	comp=Z,3μm,20.7s							
LIS	**Lisbon**	**59.64**	**56**	*e*P		**P**	**18 18 12.6**	**+0.4**
MORF	**Marmelete**	**60.09**	**58**	*e*P		**P**	**18 18 15.6**	**+0.1**
MORF				AMS		AMS	18 39 02.1	
	comp=Z,2μm,18.6s							
MORF	**Marmelete**	**60.09**	**58**	*e*P		**P**	**18 18 16.2**	**+0.8**
	comp=Z,108nm,2.2s							
MORF				*e*S		S	18 26 34.8	+7.1
MORF	**Marmelete**	**60.09**	**58**	*e*P		**P**	**18 18 15.5**	**+0.1**
PCAS	**Casmilo, Conde**	**60.11**	**55**	*e*P		**P**	**18 18 16.5**	**+1.0**
	comp=Z,96nm,1.4s							
PCAS				*e*S		**S**	**18 26 32.3**	**+4.5**
PNCL	**Nicolau / Gran**	**60.15**	**57**	*e*P		**P**	**18 18 16.3**	**+0.6**
	comp=Z,75nm,1.3s							
PNCL				*e*S		**S**	**18 26 32.6**	**+4.3**
PTOM	**Tomar**	**60.19**	**55**	*e*P		**P**	**18 18 17.4**	**+1.4**
	comp=Z,131nm,1.3s							
PGAV	**Gavieira, Arco**	**60.25**	**52**	*e*P		**P**	**18 18 17.5**	**+1.0**
	comp=Z,108nm,1.7s							
PGAV				*e*S		**S**	**18 26 32.3**	**+2.5**
PGAV				*e*LQ		LQ	18 33 19.3	
PGAV				*e*LR		LR	18 36 48.5	
	comp=Z,2μm,22.0s							
PLCA	**Paso Flores**	**60.28**	**176**	*e*P		**P**	**18 18 16.6**	**+0.1**
PLCA				pmax		pmax		
	comp=Z,248nm,1.4s							
PLCA	**Paso Flores**	**60.28**	**176**	P		**P**	**18 18 16.9**	**+0.4**
	comp=Z,44nm,0.8s,baz=351,slow=7.4,SNR=28							
PLCA				LR		LR	18 45 07.0	
	comp=Z,614nm,20.7s,baz=6.5,slow=37							
PLCA	**Paso Flores**	**60.28**	**176**	*e*P		**P**	**18 18 16.6**	**+0.1**
	comp=Z,248nm,1.4s							
PMTG	**Montargil**	**60.35**	**56**	*e*P		**P**	**18 18 18.5**	**+1.4**
	comp=Z,117nm,1.3s							
PMTG				*e*S		S	18 26 56.3	+25
MESJ	**Messejana**	**60.41**	**57**	*e*P		**P**	**18 18 17.6**	**+0.1**
MESJ				AMS		AMS	18 40 34.0	
	comp=Z,2μm,13.4s							
MESJ	**Messejana**	**60.41**	**57**	*e*P		**P**	**18 18 18.9**	**+1.4**
	comp=Z,118nm,1.4s							
MESJ	**Messejana**	**60.41**	**57**	*e*P		**P**	**18 18 17.6**	**+0.1**
PCAB	**Cabril**	**60.44**	**53**	*e*P		**P**	**18 18 18.8**	**+1.1**
	comp=Z,91nm,1.4s							
EVOP	**Sao Brissos**	**60.45**	**56**	⇑*i*P		**P**	**18 18 18.7**	**+0.9**
EVOP				pmax		pmax		
	comp=Z,330nm,1.6s							
EVOP	**Sao Brissos**	**60.45**	**56**	⇑*i*P		**P**	**18 18 18.7**	**+0.9**
	comp=Z,330nm,1.6s							
EVO	**Evora**	**60.54**	**56**	⇑*i*P		**P**	**18 18 18.7**	**+0.3**
	comp=Z,330nm,1.6s							
EVO				*e*R				
	comp=Z,4μm,21.0s							
EVO	**Evora**	**60.54**	**56**	*e*P		**P**	**18 18 19.2**	**+0.8**
	comp=Z,90nm,1.0s							
PVIS	**Viseu**	**60.55**	**54**	*e*P		**P**	**18 18 19.3**	**+0.7**
	comp=Z,112nm,2.0s							
POLO	**Lamas de Olo**	**60.62**	**53**	*e*P		**P**	**18 18 20.3**	**+1.3**
	comp=Z,56nm,1.1s							
POLO				*e*S		S	18 26 59.9	+25
PBDV	**Barranco-do-Ve**	**60.67**	**58**	*e*P		**P**	**18 18 21.3**	**+2.0**
	comp=Z,216nm,1.9s							
PBDV				*e*S		**S**	**18 26 40.5**	**+5.4**
PVRL	**Vila Real**	**60.68**	**53**	*e*P		**P**	**18 18 20.5**	**+1.1**
	comp=Z,91nm,1.4s							
PVAQ	**Vaqueiros**	**60.83**	**58**	*e*P		**P**	**18 18 22.1**	**+1.7**
	comp=Z,141nm,1.5s							
PVAQ	**Vaqueiros**	**60.83**	**58**	*e*P		P	18 18 25.8	+5.4
PVAQ				*e*S		**S**	**18 26 41.5**	**+4.4**
PVAQ				*e*LQ		LQ	18 33 26.6	
PVAQ				*e*LR		LR	18 36 59.3	
	comp=Z,2μm,24.0s							
MTE	**Manteigas**	**60.83**	**54**	*e*P		**P**	**18 18 21.1**	**+0.7**
	comp=Z,102nm,1.9s							
MTE				*e*S		**S**	**18 26 42.1**	**+4.9**
MTE				*e*LQ		LQ	18 34 11.1	
MTE				*e*LR		LR	18 36 58.7	
	comp=Z,2μm,22.0s							
MTE	**Manteigas**	**60.83**	**54**	*e*P		**P**	**18 18 21.1**	**+0.7**
	comp=Z,97nm,1.4s							
MTE				LR		LR		
	comp=Z,2μm,20.0s							
PESTR	**Estremoz**	**60.85**	**56**	*e*P		**P**	**18 18 21.3**	**+0.7**
	comp=Z,121nm,1.0s							
PESTR				*e*S		**S**	**18 26 41.4**	**+4.0**
PCBR	**Castelo Branco**	**60.90**	**55**	*e*P		**P**	**18 18 22.0**	**+1.2**
	comp=Z,113nm,1.5s							
PMRV	**Marv??o**	**60.98**	**55**	*e*P		**P**	**18 18 19.3**	**-2.1**
	comp=Z,131nm,1.3s							
PMRV	**Marv??o**	**60.98**	**55**	*e*P		**P**	**18 18 22.3**	**+0.9**
	comp=Z,131nm,1.3s							
PMRV				*e*S		S	18 26 46.9	+7.9
PMRV				*e*LQ		LQ	18 33 45.6	
PMRV				*e*LR		LR	18 37 10.4	
	comp=Z,2μm,22.0s							
DAWY	**Dawson**	**61.15**	**333**	*e*P		**P**	**18 18 22.6**	**+0.4**
MVO	**Moncorvo**	**61.20**	**53**	*e*P		**P**	**18 18 23.9**	**+1.0**
	comp=Z,92nm,1.8s							
MVO				*e*S		**S**	**18 26 43.5**	**+1.6**
MVO				*e*LQ		LQ	18 33 19.7	
MVO				*e*LR		LR	18 37 08.5	
	comp=Z,1μm,20.0s							
PBAR	**Barrancos**	**61.32**	**57**	*e*P		**P**	**18 18 24.7**	**+1.0**
	comp=Z,232nm,1.9s							
PBAR				*e*S		**S**	**18 26 47.0**	**+3.7**
PBRG	**Braganca**	**61.40**	**52**	*e*P		**P**	**18 18 25.0**	**+0.7**
	comp=Z,89nm,1.6s							
RTC	**Rabat Centre**	**61.79**	**61**	P		**P**	**18 18 29.0**	**+2.0**
RTC				LR		LR		
	comp=Z,2μm,22.0s							
EGAK	**Eagle**	**62.07**	**334**	*e*P		**P**	**18 18 28.9**	**+0.6**
	comp=Z,45nm,0.9s							
EGAK				LR		LR		
	comp=Z,9μm,20.0s							
BMRM	**Bremner River**	**62.90**	**329**	*e*P		**P**	**18 18 35.1**	**+1.1**
	comp=Z,77nm,1.2s							
DOT	**Dot Lake**	**63.08**	**332**	*e*P		**P**	**18 18 36.0**	**+0.9**
	comp=Z,177nm,1.9s							
PAB	**San Pablo**	**63.33**	**55**	*e*P		**P**	**18 18 38.0**	**+0.8**
PAB				pmax		pmax		
	comp=Z,97nm,1.4s							
PAB				MLR		MLR		
	comp=Z,3μm,21.0s							
PAB	**San Pablo**	**63.33**	**55**	*e*P		**P**	**18 18 38.0**	**+0.8**
	comp=Z,97nm,1.4s							
PAB				LR		LR		
	comp=Z,3μm,21.0s							
DIV	**Divide**	**63.48**	**329**	*e*P		**P**	**18 18 37.2**	**-0.7**
	comp=Z,83nm,0.9s							
DAG	**Danmarks Havn**	**63.59**	**12**	⇑*i*P		**P**	**18 18 37.6**	**-0.6**
DAG				pmax		pmax		
	comp=Z,10.0nm,0.8s							
DAG				MLR		MLR		
	comp=Z,3μm,18.0s							
DAG	**Danmarks Havn**	**63.59**	**12**	⇑*i*P		**P**	**18 18 37.6**	**-0.6**
	comp=Z,14nm,0.8s							
PAX	**Paxson**	**63.60**	**331**	*e*P		**P**	**18 18 39.1**	**+0.5**
PAX				pmax		pmax		
	comp=Z,199nm,1.9s							
PAX	**Paxson**	**63.60**	**331**	*e*P		**P**	**18 18 39.1**	**+0.5**
	comp=Z,199nm,1.9s							
ESDC	**Sonseca Array**	**63.61**	**55**	P		**P**	**18 18 39.8**	**+0.7**
	comp=Z,45nm,1.2s,baz=276,slow=6.6,SNR=62							
ESDC				LR		LR	18 40 30.4	
	comp=Z,2μm,21.8s,baz=270,slow=31							
ESDC				PKPPKP		**P'P'df**	**18 47 34.2**	**-4.4**
	comp=Z,1.0nm,0.6s,baz=60,slow=3.1,SNR=4.4							
ES19	**SONSECA Array**	**63.66**	**55**	*e*P		**P**	**18 18 40.1**	**+0.7**
ROSF	**Rostrenen**	**63.74**	**45**	⇑*i*P		**P**	**18 18 40.4**	**+0.7**
	comp=Z,90nm,1.1s							
ROSF	**Rostrenen**	**63.74**	**45**	⇑*i*P		**P**	**18 18 40.4**	**+0.7**
ROSF				pmax		pmax		
	comp=Z,90nm,1.1s							
ROSF	**Rostrenen**	**63.74**	**45**	⇑*i*P		**P**	**18 18 40.4**	**+0.7**
	comp=Z,90nm,1.1s							
QUIF	**Quistinic**	**63.82**	**46**	⇑*i*P		**P**	**18 18 41.0**	**+0.8**
	comp=Z,372nm,1.7s							
QUIF	**Quistinic**	**63.82**	**46**	⇑*i*P		**P**	**18 18 41.0**	**+0.8**
QUIF				pmax		pmax		
	comp=Z,372nm,1.7s							
QUIF	**Quistinic**	**63.82**	**46**	⇑*i*P		**P**	**18 18 41.0**	**+0.8**
	comp=Z,372nm,1.7s							
ESK	**Eskdalemuir**	**63.93**	**37**	*e*P		**P**	**18 18 40.4**	**-0.4**
ESK				pmax		pmax		
	comp=Z,2μm,2.8s							
ESK				MLR		MLR		
	comp=Z,2μm,20.0s							
ESK	**Eskdalemuir**	**63.93**	**37**	*e*P		**P**	**18 18 40.4**	**-0.4**
	comp=Z,2μm,2.8s							
ESK				LR		LR		
	comp=Z,2μm,20.0s							
EDI	**Edinburgh**	**63.97**	**37**	*e*P		**P**	**18 18 39.7**	**-1.4**
EDI				pmax		pmax		
	comp=Z,202nm,2.5s							
EDI	**Edinburgh**	**63.97**	**37**	*e*P		**P**	**18 18 39.6**	**-1.4**
	comp=Z,202nm,2.5s							
SGMF	**Saint Gilles**	**64.22**	**45**	⇑*i*P		**P**	**18 18 43.5**	**+0.6**
	comp=Z,183nm,1.4s							
SGMF	**Saint Gilles**	**64.22**	**45**	⇑*i*P		**P**	**18 18 43.5**	**+0.6**
SGMF				pmax		pmax		
	comp=Z,183nm,1.4s							
SGMF	**Saint Gilles**	**64.22**	**45**	⇑*i*P		**P**	**18 18 43.5**	**+0.6**
	comp=Z,183nm,1.4s							
IL1	**Eielson Array**	**64.48**	**333**	*e*P		**P**	**18 18 42.7**	**-1.6**
ILAR	**Eielson Array**	**64.48**	**333**	P		**P**	**18 18 43.7**	**-0.6**
	comp=Z,6.5nm,1.0s,baz=99,slow=4.7,SNR=44							
ILAR				LR		LR	18 48 17.8	
	comp=Z,8μm,18.3s,baz=105,slow=37							
COLA	**College**	**64.90**	**333**	*e*P		**P**	**18 18 47.2**	**+0.2**
COLA				pmax		pmax		
	comp=Z,146nm,2.5s							
COLA				MLR		MLR		
	comp=Z,31μm,17.0s							
COLA	**College**	**64.90**	**333**	*e*P		**P**	**18 18 46.8**	**-0.2**
	comp=Z,23nm,0.8s							
COLA				LR		LR		
	comp=Z,5μm,19.0s							
PMR	**Palmer**	**65.14**	**330**	*e*P		**P**	**18 18 48.7**	**+0.1**
PMR				pmax		pmax		
	comp=Z,52nm,1.0s							
PMR	**Palmer**	**65.14**	**330**	*e*P		**P**	**18 18 48.6**	**+0.1**
	comp=Z,52nm,1.0s							
SEW	**Seward**	**65.19**	**328**	*e*P		**P**	**18 18 50.5**	**+1.5**
	comp=Z,71nm,1.2s							
MCK	**McKinley**	**65.24**	**332**	*e*P		**P**	**18 18 49.9**	**+0.6**
MCK	**McKinley**	**65.24**	**332**	*e*P		**P**	**18 18 49.9**	**+0.6**
GRR	**Gorron**	**65.35**	**45**	⇑*i*P		**P**	**18 18 50.9**	**+0.7**
	comp=Z,247nm,1.3s							
GRR	**Gorron**	**65.35**	**45**	⇑*i*P		**P**	**18 18 50.9**	**+0.7**
GRR				pmax		pmax		
	comp=Z,247nm,1.3s							
GRR	**Gorron**	**65.35**	**45**	⇑*i*P		**P**	**18 18 50.9**	**+0.7**
	comp=Z,247nm,1.3s							
RC01	**Rabbit Creek A**	**65.40**	**329**	*e*P		**P**	**18 18 51.0**	**+0.7**
	comp=Z,142nm,1.2s							
SJPF	**Ste Jean**	**65.41**	**51**	⇑*i*P		**P**	**18 18 52.0**	**+1.3**
	comp=Z,138nm,1.1s							
SJPF	**Ste Jean**	**65.41**	**51**	⇑*i*P		**P**	**18 18 52.0**	**+1.3**
SJPF				pmax		pmax		
	comp=Z,139nm,1.1s							
SJPF	**Ste Jean**	**65.41**	**51**	⇑*i*P		**P**	**18 18 52.0**	**+1.3**
	comp=Z,138nm,1.1s							
LARF	**Larrau**	**65.59**	**51**	⇓*e*P		**P**	**18 18 53.8**	**+1.9**
FLN	**La Foliniere**	**65.59**	**45**	⇑*i*P		**P**	**18 18 52.6**	**+0.8**
	comp=Z,229nm,1.6s							
FLN				*e*R				
	comp=Z,3μm,21.8s							
FLN	**La Foliniere**	**65.59**	**45**	⇑*i*P		**P**	**18 18 52.6**	**+0.8**
FLN				pmax		pmax		
	comp=Z,229nm,1.6s							
FLN	**La Foliniere**	**65.59**	**45**	⇑*i*P		**P**	**18 18 52.6**	**+0.8**
	comp=Z,229nm,1.6s							
TRF	**Thorofare Moun**	**65.82**	**332**	*e*P		**P**	**18 18 53.5**	**+0.2**
	comp=Z,174nm,1.4s							
LDF	**La Druitiere**	**65.83**	**45**	⇑*i*P		**P**	**18 18 54.2**	**+0.8**
	comp=Z,365nm,1.5s							
LDF	**La Druitiere**	**65.83**	**45**	⇑*i*P		**P**	**18 18 54.2**	**+0.8**
LDF				pmax		pmax		
	comp=Z,365nm,1.5s							
LDF	**La Druitiere**	**65.83**	**45**	⇑*i*P		**P**	**18 18 54.2**	**+0.8**
	comp=Z,365nm,1.5s							
ETSF	**Etsaut**	**65.91**	**51**	⇑*i*P		**P**	**18 18 55.3**	**+1.2**
	comp=Z,145nm,1.5s							
ETSF	**Etsaut**	**65.91**	**51**	⇑*i*P		**P**	**18 18 55.3**	**+1.2**
ETSF				pmax		pmax		
	comp=Z,145nm,1.5s							
ETSF	**Etsaut**	**65.91**	**51**	⇑*i*P		**P**	**18 18 55.3**	**+1.2**
	comp=Z,145nm,1.5s							
MFF	**Saint Martin d**	**65.93**	**47**	⇑*i*P		**P**	**18 18 54.9**	**+0.9**
	comp=Z,223nm,1.4s							
MFF	**Saint Martin d**	**65.93**	**47**	⇑*i*P		**P**	**18 18 54.9**	**+0.9**
MFF				pmax		pmax		
	comp=Z,223nm,1.4s							
MFF	**Saint Martin d**	**65.93**	**47**	⇑*i*P		**P**	**18 18 54.9**	**+0.9**
	comp=Z,223nm,1.4s							
REYF	**Montagne du Re**	**66.02**	**51**	⇓*e*P		**P**	**18 18 56.5**	**+1.7**
ASCN	**Ascension**	**66.05**	**108**	*e*P		**P**	**18 18 56.3**	**+1.0**
	comp=Z,348nm,1.0s							
ASCN				LR		LR		
	comp=Z,870nm,21.0s							
KTH	**Kantishna Hill**	**66.11**	**332**	*e*P		**P**	**18 18 55.4**	**+0.4**
	comp=Z,103nm,1.1s							
COLD	**Coldfoot**	**66.13**	**336**	*e*P		**P**	**18 18 55.1**	**+0.2**
	comp=Z,58nm,1.1s							
LABF	**Labassere**	**66.36**	**51**	⇓*e*P		**P**	**18 18 58.5**	**+1.6**
EPF	**Esparros**	**66.56**	**51**	⇑*i*P		**P**	**18 18 59.4**	**+1.2**
	comp=Z,332nm,1.5s							
EPF	**Esparros**	**66.56**	**51**	⇑*i*P		**P**	**18 18 59.4**	**+1.2**
EPF				pmax		pmax		
	comp=Z,332nm,1.5s							
EPF	**Esparros**	**66.56**	**51**	⇑*i*P		**P**	**18 18 59.4**	**+1.2**
	comp=Z,332nm,1.5s							
RESF	**Ens**	**66.58**	**51**	⇓*e*P		**P**	**18 19 00.4**	**+2.0**
CAST	**Castle Rocks**	**66.62**	**332**	*e*P		**P**	**18 18 59.3**	**+1.1**
	comp=Z,30nm,1.1s							
PPLA	**Purkeypile**	**66.65**	**331**	*e*P		**P**	**18 18 58.2**	**-0.3**
LFF	**La Frestale**	**66.67**	**49**	⇑*i*P		**P**	**18 18 59.6**	**+0.8**
	comp=Z,369nm,1.4s							
LFF	**La Frestale**	**66.67**	**49**	⇑*i*P		**P**	**18 18 59.6**	**+0.8**
LFF				pmax		pmax		
	comp=Z,369nm,1.4s							
LFF	**La Frestale**	**66.67**	**49**	⇑*i*P		**P**	**18 18 59.6**	**+0.8**
	comp=Z,369nm,1.4s							
KDAK	**Kodiak Island**	**66.75**	**325**	*i* P		**P**	**18 19 00.3**	**+1.3**
KDAK	**Kodiak Island**	**66.75**	**325**	*e*P		**P**	**18 19 00.8**	**+1.8**
	comp=Z,89nm,1.3s							
KDAK				LR		LR		
	comp=Z,5μm,19.0s							
RSO	**Redoubt South**	**66.85**	**328**	*e*P		**P**	**18 19 00.2**	**+0.3**
MELF	**Melles**	**66.88**	**51**	⇓*e*P		**P**	**18 19 01.7**	**+1.4**
OHAK	**Old Harbor**	**67.13**	**325**	*e*P		**P**	**18 19 02.1**	**+0.7**
RJF	**Les Rejaudoux**	**67.19**	**48**	⇑*i*P		**P**	**18 19 02.7**	**+0.6**
	comp=Z,353nm,1.7s							
RJF				*e*R				
	comp=Z,4μm,22.2s							
RJF	**Les Rejaudoux**	**67.19**	**48**	⇑*i*P		**P**	**18 19 02.7**	**+0.6**
RJF				pmax		pmax		
	comp=Z,353nm,1.7s							
RJF	**Les Rejaudoux**	**67.19**	**48**	⇑*i*P		**P**	**18 19 02.7**	**+0.6**
	comp=Z,353nm,1.7s							
IM04	**Indian Mountai**	**67.47**	**334**	*e*P		**P**	**18 19 03.0**	**-0.5**
TCF	**Toulx Ste Croi**	**67.58**	**47**	⇑*i*P		**P**	**18 19 05.0**	**+0.4**
	comp=Z,202nm,1.4s							
TCF	**Toulx Ste Croi**	**67.58**	**47**	⇑*i*P		**P**	**18 19 05.0**	**+0.4**
TCF				pmax		pmax		
	comp=Z,202nm,1.4s							
TCF	**Toulx Ste Croi**	**67.58**	**47**	⇑*i*P		**P**	**18 19 05.0**	**+0.4**
	comp=Z,202nm,1.4s							
CAF	**Calviac**	**67.61**	**49**	⇑*i*P		**P**	**18 19 05.5**	**+0.7**
	comp=Z,186nm,1.3s							
CAF	**Calviac**	**67.61**	**49**	⇑*i*P		**P**	**18 19 05.5**	**+0.7**
CAF				pmax		pmax		
	comp=Z,186nm,1.3s							
CAF	**Calviac**	**67.61**	**49**	⇑*i*P		**P**	**18 19 05.5**	**+0.7**
	comp=Z,186nm,1.3s							
SII	**Sitkinak Islan**	**67.64**	**324**	*e*P		**P**	**18 19 06.5**	**+1.8**
	comp=Z,98nm,1.2s							
HYF	**Humbligny**	**67.78**	**46**	*e*P		**P**	**18 19 06.6**	**+0.8**
HYF	**Humbligny**	**67.78**	**46**	*e*P		**P**	**18 19 06.6**	**+0.8**
VALF	**Valcebollere**	**67.85**	**51**	⇓*e*P		**P**	**18 19 08.3**	**+1.7**
MTLF	**Montolieu**	**67.89**	**50**	⇑*i*P		**P**	**18 19 07.3**	**+0.7**
	comp=Z,268nm,1.6s							
MTLF	**Montolieu**	**67.89**	**50**	⇑*i*P		**P**	**18 19 07.3**	**+0.7**
MTLF				pmax		pmax		
	comp=Z,268nm,1.6s							
MTLF	**Montolieu**	**67.89**	**50**	⇑*i*P		**P**	**18 19 07.3**	**+0.7**
	comp=Z,268nm,1.6s							
BGF	**Bois d'Agland**	**67.99**	**47**	*e*P		**P**	**18 19 07.5**	**+0.4**
	comp=Z,241nm,1.6s							
BGF	**Bois d'Agland**	**67.99**	**47**	*e*P		**P**	**18 19 07.5**	**+0.4**
BGF				pmax		pmax		
	comp=Z,241nm,1.6s							
BGF	**Bois d'Agland**	**67.99**	**47**	*e*P		**P**	**18 19 07.5**	**+0.4**
	comp=Z,241nm,1.6s							
EANR	**'Ain N'Sour**	**68.03**	**58**	P		**P**	**18 19 09.0**	**+1.4**
PYM	**Petit Puy M

SSB	**Saint Sauveur**	**69.31**	**48**	*eP*	**P**	**18 19 16.4**	**+1.0**
SSB				pmax	pmax		
	comp=Z,26nm,1.1s						
SSB				MLR	MLR		
	comp=Z,2µm,20.0s						
SSB	**Saint Sauveur**	**69.31**	**48⇓**	*eP*	**P**	**18 19 16.8**	**+1.3**
SSB	**Saint Sauveur**	**69.31**	**48**	*eP*	**P**	**18 19 16.4**	**+1.0**
	comp=Z,26nm,1.1s						
SSB				LR	LR		
	comp=Z,2µm,20.0s						
TIC	**Toumodi**	**69.34**	**90**	*eP*	**P**	**18 19 16.1**	**0.0**
	comp=Z,306nm,1.3s						
BEBN	**Eben Emael**	**69.42**	**42**	P	**P**	**18 19 17.2**	**+1.2**
	comp=Z,34nm,2.0s						
VIVF	**Saint-Julien-l**	**69.46**	**48⇑**	*iP*	**P**	**18 19 17.7**	**+1.3**
	comp=Z,257nm,1.4s						
VIVF	**Saint-Julien-l**	**69.46**	**48⇑**	*iP*	**P**	**18 19 17.7**	**+1.3**
VIVF				pmax	pmax		
	comp=Z,257nm,1.4s						
VIVF	**Saint-Julien-l**	**69.46**	**48⇑**	*iP*	**P**	**18 19 17.7**	**+1.3**
	comp=Z,257nm,1.4s						
EMHD	**Djebel Mahouad**	**69.47**	**58**	P	**P**	**18 19 17.5**	**+0.8**
LIC	**Lamto**	**69.47**	**91⇑**	*iP*	**P**	**18 19 16.7**	**-0.2**
	comp=Z,481nm,1.1s,baz=286						
LIC				*e*R			
	comp=Z,1µm,17.8s						
LIC	**Lamto**	**69.47**	**91**	*eP*	**P**	**18 19 17.0**	**+0.1**
	comp=Z,781nm,1.5s						
LIC	**Lamto**	**69.47**	**91⇑**	*iP*	**P**	**18 19 16.7**	**-0.2**
	comp=Z,481nm,1.1s						
DBIC	**Dimbokro**	**69.49**	**90**	*eP*	**P**	**18 19 16.8**	**-0.2**
DBIC				pmax	pmax		
	comp=Z,192nm,1.1s						
DBIC	**Dimbokro**	**69.49**	**90**	P	**P**	**18 19 16.6**	**-0.4**
	comp=Z,87nm,1.0s,baz=271,slow=5.1,SNR=42						
DBIC				LR	LR	18 45 42.6	
	comp=Z,767nm,21.6s,baz=268,slow=32						
DBIC	**Dimbokro**	**69.49**	**90**	*eP*	**P**	**18 19 16.8**	**-0.2**
	comp=Z,192nm,1.1s						
HGN	**Heimansgroeve**	**69.58**	**42**	*eP*	**P**	**18 19 17.0**	**+0.1**
	comp=Z,142nm,1.6s						
HGN				*e*S	**SKiKP**	**18 29 04.7**	**+0.2**
MEM	**Membach**	**69.65**	**42**	P	**P**	**18 19 18.4**	**+1.1**
	comp=Z,38nm,1.8s						
MEM				AP	**pP**	**18 19 23.2**	**-0.5**
MEM	**Membach**	**69.65**	**42**	*eP*	**P**	**18 19 18.6**	**+1.2**
MEM	**Membach**	**69.65**	**42**	*eP*	**P**	**18 19 18.6**	**+1.2**
KIC	**Kosan Boka**	**69.70**	**90**	*eP*	**P**	**18 19 18.5**	**+0.2**
	comp=Z,867nm,1.3s						
PAGF	**Fort de Pagny**	**69.71**	**44⇑**	*iP*	**P**	**18 19 18.5**	**+0.7**
	comp=Z,94nm,1.5s						
PAGF	**Fort de Pagny**	**69.71**	**44⇑**	*iP*	**P**	**18 19 18.5**	**+0.7**
	comp=Z,94nm,1.5s						
WLF	**Walferdange**	**69.85**	**43**	P	**P**	**18 19 20.0**	**+1.3**
	comp=Z,69nm,1.4s						
WLF	**Walferdange**	**69.85**	**43**	*eP*	**P**	**18 19 19.7**	**+1.1**
WLF				pmax	pmax		
	comp=Z,101nm,1.3s						
WLF				MLR	MLR		
	comp=Z,1µm,19.0s						
WLF	**Walferdange**	**69.85**	**43**	*eP*	**P**	**18 19 19.7**	**+1.1**
	comp=Z,140nm,1.5s						
WLF				*ep*P	**pP**	**18 19 25.1**	**+0.1**
WLF	**Walferdange**	**69.85**	**43**	*eP*	**P**	**18 19 19.7**	**+1.1**
	comp=Z,101nm,1.3s						
WLF				LR	LR		
	comp=Z,1µm,19.0s						
THEF	**They Montfort**	**69.92**	**45⇓**	*eP*	**P**	**18 19 20.3**	**+1.2**
OG26	**St.-Nazaire-De**	**69.94**	**49⇓**	*eP*	**P**	**18 19 21.3**	**+1.9**
WTSB	**Winterswijk**	**69.99**	**41**	*eP*	**P**	**18 19 20.3**	**+0.9**
	comp=Z,324nm,1.7s						
GRN	**Grenoble**	**70.16**	**48⇓**	*eP*	**P**	**18 19 22.3**	**+1.6**
HAU	**Haudompre**	**70.19**	**45⇑**	*iP*	**P**	**18 19 21.3**	**+0.5**
	comp=Z,254nm,1.6s						
HAU				*e*R			
	comp=Z,3µm,21.8s						
HAU	**Haudompre**	**70.19**	**45⇑**	*iP*	**P**	**18 19 21.3**	**+0.5**
HAU				pmax	pmax		
	comp=Z,254nm,1.6s						
HAU	**Haudompre**	**70.19**	**45⇑**	*iP*	**P**	**18 19 21.3**	**+0.5**
	comp=Z,254nm,1.6s						
CABF	**La Chapelle**	**70.20**	**46⇑**	*iP*	**P**	**18 19 21.5**	**+0.5**
	comp=Z,181nm,1.4s						
CABF	**La Chapelle**	**70.20**	**46⇑**	*iP*	**P**	**18 19 21.5**	**+0.5**
CABF				pmax	pmax		
	comp=Z,181nm,1.4s						
CABF	**La Chapelle**	**70.20**	**46⇑**	*iP*	**P**	**18 19 21.5**	**+0.5**
	comp=Z,181nm,1.4s						
SMRF	**Simiane la Rot**	**70.22**	**49⇑**	*iP*	**P**	**18 19 22.5**	**+1.4**
	comp=Z,57nm,1.2s						
SMRF	**Simiane la Rot**	**70.22**	**49⇑**	*iP*	**P**	**18 19 22.5**	**+1.4**
	comp=Z,57nm,1.2s						
ORIF	**Oris-en-Rattie**	**70.30**	**48⇑**	*iP*	**P**	**18 19 22.9**	**+1.3**
	comp=Z,227nm,1.3s						
ORIF				*e*R			
	comp=Z,3µm,19.8s						
ORIF	**Oris-en-Rattie**	**70.30**	**48⇑**	*iP*	**P**	**18 19 22.9**	**+1.3**
ORIF				pmax	pmax		
	comp=Z,227nm,1.3s						
ORIF	**Oris-en-Rattie**	**70.30**	**48⇑**	*iP*	**P**	**18 19 22.9**	**+1.3**
	comp=Z,227nm,1.3s						
KBS	**Kingsbay**	**70.31**	**12**	*eP*	P	18 19 27.9	+7.0
KBS				MLR	MLR		
	comp=Z,2µm,20.0s						
KBS	**Kingsbay**	**70.31**	**12**	*ep*P	P	18 19 27.9	+7.0
KBS				LR	LR		
	comp=Z,2µm,20.0s						
BUG	**Bochum--Univer**	**70.34**	**41**	*eP*	**P**	**18 19 22.4**	**+0.8**
	comp=Z,184nm,1.6s						
BUG				*ep*P	**pP**	**18 19 27.8**	**-0.1**
GDM	**Grand'Maison**	**70.42**	**48⇓**	*eP*	**P**	**18 19 23.8**	**+1.4**
IBBN	**Ibbenburen**	**70.53**	**40**	*eP*	**P**	**18 19 23.7**	**+1.0**
	comp=Z,224nm,1.5s						
IBBN				*ep*P	**pP**	**18 19 29.1**	**0.0**
HINF	**Hinteralfeld**	**70.55**	**45⇑**	*iP*	**P**	**18 19 23.2**	**+0.2**
	comp=Z,107nm,1.4s						
HINF	**Hinteralfeld**	**70.55**	**45⇑**	*iP*	**P**	**18 19 23.2**	**+0.2**
HINF				pmax	pmax		
	comp=Z,107nm,1.4s						
HINF	**Hinteralfeld**	**70.55**	**45⇑**	*iP*	**P**	**18 19 23.2**	**+0.2**
	comp=Z,107nm,1.4s						
LOMF	**Lomont**	**70.60**	**46⇓**	*eP*	**P**	**18 19 24.6**	**+1.2**
OG01	**Vacheresse**	**70.65**	**47⇓**	*eP*	**P**	**18 19 24.9**	**+1.2**
ECH	**Echery**	**70.70**	**45**	*eP*	**P**	**18 19 24.3**	**+0.4**
ECH				pmax	pmax		
	comp=Z,113nm,1.4s						
ECH				MLR	MLR		
	comp=Z,2µm,20.0s						
ECH	**Echery**	**70.70**	**45⇓**	*eP*	**P**	**18 19 25.1**	**+1.2**
ECH	**Echery**	**70.70**	**45**	*eP*	**P**	**18 19 24.3**	**+0.4**
	comp=Z,114nm,1.4s						
ECH				LR	LR		
	comp=Z,2µm,20.0s						
RSL	**Roselend**	**70.70**	**47⇓**	*eP*	**P**	**18 19 25.4**	**+1.2**
KONO	**Kongsberg**	**70.72**	**32**	*eP*	**P**	**18 19 22.0**	**-1.7**
KONO				pmax	pmax		
	comp=Z,90nm,1.6s						
KONO				MLR	MLR		
	comp=Z,2µm,19.0s						
KONO	**Kongsberg**	**70.72**	**32**	*eP*	**P**	**18 19 22.0**	**-1.7**
	comp=Z,90nm,1.6s						
KONO				LR	LR		
	comp=Z,2µm,19.0s						
MOF	**Molkenrain**	**70.73**	**45⇓**	*eP*	**P**	**18 19 25.0**	**+0.8**
CDF	**Champ du Feu**	**70.75**	**44⇑**	*iP*	**P**	**18 19 24.8**	**+0.5**
	comp=Z,247nm,1.6s						
CDF	**Champ du Feu**	**70.75**	**44⇑**	*iP*	**P**	**18 19 24.8**	**+0.5**
CDF				pmax	pmax		
	comp=Z,247nm,1.6s						
CDF	**Champ du Feu**	**70.75**	**44⇑**	*iP*	**P**	**18 19 24.8**	**+0.5**
	comp=Z,247nm,1.6s						
LPL	**La Plagne**	**70.81**	**48⇑**	*iP*	**P**	**18 19 25.9**	**+1.0**
	comp=Z,47nm,0.9s						
LPL	**La Plagne**	**70.81**	**48⇑**	*iP*	**P**	**18 19 25.9**	**+1.0**
LPL				pmax	pmax		
	comp=Z,47nm,0.9s						
LPL	**La Plagne**	**70.81**	**48⇑**	*iP*	**P**	**18 19 25.9**	**+1.0**
	comp=Z,47nm,0.9s						
LPG	**La Plagne**	**70.82**	**48⇑**	*iP*	**P**	**18 19 26.2**	**+1.2**
	comp=Z,152nm,1.3s						
LPG	**La Plagne**	**70.82**	**48⇑**	*iP*	**P**	**18 19 26.2**	**+1.2**
LPG				pmax	pmax		
	comp=Z,152nm,1.3s						
LPG	**La Plagne**	**70.82**	**48⇑**	*iP*	**P**	**18 19 26.2**	**+1.2**
	comp=Z,152nm,1.3s						
BNI	**Bardonecchia**	**70.84**	**48**	*eP*	**P**	**18 19 25.2**	**+0.2**
BNI				pmax	pmax		
	comp=Z,44nm,1.2s						
BNI				MLR	MLR		
	comp=Z,3µm,20.0s						
BNI	**Bardonecchia**	**70.84**	**48**	*eP*	**P**	**18 19 25.2**	**+0.2**
	comp=Z,44nm,1.2s						
BNI				LR	LR		
	comp=Z,3µm,20.0s						
MUD	**Monsted U'grnd**	**70.85**	**36**	*i* P	**P**	**18 19 25.9**	**+1.3**
MUD				pmax	pmax		
	comp=Z,23nm,0.9s						
MUD	**Monsted U'grnd**	**70.85**	**36**	*i* P	**P**	**18 19 25.9**	**+1.3**
	comp=Z,23nm,0.8s						
MBDF	**Montbardon**	**70.95**	**48⇑**	*iP*	**P**	**18 19 26.9**	**+1.2**
	comp=Z,144nm,1.4s						
MBDF	**Montbardon**	**70.95**	**48⇑**	*iP*	**P**	**18 19 26.9**	**+1.2**
MBDF				pmax	pmax		
	comp=Z,144nm,1.4s						
MBDF	**Montbardon**	**70.95**	**48⇑**	*iP*	**P**	**18 19 26.9**	**+1.2**
	comp=Z,144nm,1.4s						
LMR	**La Mourre**	**70.99**	**50⇑**	*iP*	**P**	**18 19 26.3**	**+0.6**
	comp=Z,73nm,1.3s						
LMR	**La Mourre**	**70.99**	**50⇑**	*iP*	**P**	**18 19 26.3**	**+0.6**
LMR				pmax	pmax		
	comp=Z,73nm,1.3s						
LMR	**La Mourre**	**70.99**	**50⇑**	*iP*	**P**	**18 19 26.3**	**+0.6**
	comp=Z,73nm,1.3s						
LANF	**Langenberg**	**71.01**	**44⇓**	*eP*	**P**	**18 19 27.2**	**+1.4**
SURF	**Saint Ours**	**71.02**	**49⇓**	*eP*	**P**	**18 19 28.3**	**+2.1**
FRF	**La Foret Royal**	**71.05**	**50⇑**	*iP*	**P**	**18 19 26.7**	**+0.6**
	comp=Z,79nm,1.2s						
FRF	**La Foret Royal**	**71.05**	**50⇑**	*iP*	**P**	**18 19 26.7**	**+0.6**
FRF				pmax	pmax		
	comp=Z,79nm,1.2s						
FRF	**La Foret Royal**	**71.05**	**50⇑**	*iP*	**P**	**18 19 26.7**	**+0.6**
	comp=Z,79nm,1.2s						
SENIN	**Lac Senin/Sane**	**71.07**	**47**	*eP*	**P**	**18 19 27.4**	**+1.0**
HSPB	**Hornsund (broa**	**71.17**	**14**	*eP*	**P**	**18 19 26.9**	**+0.7**
NBO02	**NORSAR Array S**	**71.19**	**31**	*eP*	**P**	**18 19 26.7**	**+0.1**
SPA0	**Spitsbergen Ar**	**71.24**	**13**	*eP*	**P**	**18 19 26.5**	**-0.2**
SPA0				*ep*P	**pP**	**18 19 32.6**	**-0.4**
SPITS	**Spitsbergen Ar**	**71.24**	**13**	P	**P**	**18 19 26.2**	**-0.4**
	comp=Z,5.7nm,0.5s,baz=134,slow=6.2,SNR=41						
SPITS				LR	LR	18 52 01.7	
	comp=Z,2µm,18.1s,baz=150,slow=37						
TNS	**Taunus Mts**	**71.25**	**42**	*eP*	**P**	**18 19 28.2**	**+1.0**
	comp=Z,149nm,1.5s						
TNS				*ep*P	**pP**	**18 19 33.6**	**0.0**
MVIF	**Mont Vial**	**71.36**	**49⇓**	*eP*	**P**	**18 19 29.4**	**+1.3**
NB2	**NORSAR Subarra**	**71.36**	**31**	P	**P**	**18 19 28.5**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=280,slow=6.5						
NB2	**NORSAR Subarra**	**71.36**	**31**	P	**P**	**18 19 28.5**	**+0.8**
	baz=280,slow=6.5						
NOA	**NORSAR Array B**	**71.36**	**31**	P	**P**	**18 19 28.7**	**+1.0**
	comp=Z,16nm,1.1s,baz=278,slow=6.1,SNR=12						
NOA				LR	LR	18 48 48.2	
	comp=Z,1µm,18.6s,baz=270,slow=34						
TOUF	**Mont Tournerai**	**71.41**	**49⇓**	*eP*	**P**	**18 19 29.8**	**+1.3**
SET	**Setif**	**71.41**	**57**	P	**P**	**18 19 30.0**	**+1.4**
BFO	**Black Forest**	**71.45**	**44**	P	**P**	**18 19 29.7**	**+1.2**
	comp=Z,134nm,1.4s,SNR=9.9						
BFO	**Black Forest**	**71.45**	**44**	*i* P	**P**	**18 19 29.1**	**+0.6**
BFO	**Black Forest**	**71.45**	**44**	*eP*	**P**	**18 19 28.9**	**+0.4**
	comp=Z,74nm,1.5s						
BFO				*ep*P	**pP**	**18 19 34.3**	**-0.6**
BFO	**Black Forest**	**71.45**	**44**	*eP*	**P**	**18 19 28.4**	**-0.1**
	comp=Z,74nm,1.5s						
BFO				LR	LR		
	comp=Z,3µm,20.0s						
LOF	**Lofoten**	**71.52**	**23**	*eP*	P	18 19 35.0	+6.6
CKHR	**Kef el Ahmar**	**71.54**	**58**	P	**P**	**18 19 30.7**	**+1.3**
REVF	**Revere**	**71.54**	**49⇓**	*eP*	**P**	**18 19 30.4**	**+1.3**
SBF	**Sospel**	**71.57**	**49⇑**	*iP*	**P**	**18 19 30.0**	**+0.7**
	comp=Z,196nm,1.3s						
SBF	**Sospel**	**71.57**	**49⇑**	*iP*	**P**	**18 19 30.0**	**+0.7**
SBF				pmax	pmax		
	comp=Z,196nm,1.3s						
SBF	**Sospel**	**71.57**	**49⇑**	*iP*	**P**	**18 19 30.0**	**+0.7**
	comp=Z,196nm,1.3s						
SAOF	**Saorge**	**71.63**	**49⇓**	*eP*	**P**	**18 19 30.9**	**+1.3**
DFRA	**Djebel Bou Aff**	**71.72**	**57**	P	**P**	**18 19 31.9**	**+1.4**
BSEG	**Bad Segeberg**	**71.84**	**38**	*eP*	**P**	**18 19 31.6**	**+1.0**
	comp=Z,116nm,1.6s						
BSEG				*ep*P	**pP**	**18 19 37.0**	**0.0**
NRDL	**Niedersach Rie**	**71.94**	**40**	*eP*	**P**	**18 19 32.4**	**+1.3**
	comp=Z,158nm,1.5s						
NRDL				*ep*P	**pP**	**18 19 37.8**	**+0.3**
STU	**Stuttgart**	**71.95**	**44**	*eP*	**P**	**18 19 31.8**	**+0.4**
STU				pmax	pmax		
	comp=Z,390nm,2.5s						
STU	**Stuttgart**	**71.95**	**44**	*eP*	**P**	**18 19 32.1**	**+0.7**
	comp=Z,281nm,2.2s						
STU				*ep*P	**pP**	**18 19 37.5**	**-0.3**
STU	**Stuttgart**	**71.95**	**44**	*eP*	**P**	**18 19 31.8**	**+0.4**
	comp=Z,390nm,2.5s						
RKT	**Rikitea**	**72.02**	**237**	*eS*	**S**	**18 28 50.6**	**-2.6**
	comp=Z,603nm,24.8s						
RKT				*e*LQ	LQ	18 38 31.2	
	comp=Z,904nm,33.2s						
RKT				*e*LR	LR	18 41 21.6	
	comp=Z,448nm,23.5s						
MOR8	**Moi Rana**	**72.12**	**25**	*eP*	**P**	**18 19 33.1**	**+1.0**
MOR8				*ep*P	**pP**	**18 19 38.3**	**-0.2**
UBBA	**Unterbreizbach**	**72.14**	**42**	*eP*	**P**	**18 19 33.3**	**+1.0**
	comp=Z,97nm,1.6s						
UBBA				*ep*P	**pP**	**18 19 38.7**	**0.0**
CLZ	**Clausthal**	**72.20**	**41**	*eP*	**P**	**18 19 34.1**	**+1.2**
	comp=Z,170nm,1.5s						
CLZ				*ep*P	**pP**	**18 19 39.4**	**+0.1**
CTEI	**Djebel Teioual**	**72.24**	**57**	P	**P**	**18 19 34.9**	**+1.3**
CASM	**Ain Smara**	**72.27**	**57**	P	**P**	**18 19 34.9**	**+1.3**
CKFL	**Kef-Lekhel**	**72.42**	**57**	P	**P**	**18 19 35.1**	**+0.5**
CAEH	**'Ain El Ouahch**	**72.44**	**57**	P	**P**	**18 19 35.1**	**+0.5**
TUE	**Stuetta**	**72.44**	**46⇓**	*eP*	**P**	**18 19 35.2**	**+0.5**
	comp=Z,154nm,1.5s						
TUE				LR	LR		
	comp=Z,3µm,19.0s						
DAVA	**Damuels**	**72.66**	**45⇑**	*iP*	**P**	**18 19 35.3**	**-0.6**
	comp=Z,77nm,1.5s,SNR=11						
EFI	**East Falkland**	**72.66**	**169**	P	**P**	**18 19 36.7**	**+1.4**
EFI				MLR	MLR		
	comp=Z,3µm,19.0s						
EFI	**East Falkland**	**72.66**	**169**	P	**P**	**18 19 36.7**	**+1.4**
EFI				LR	LR		
	comp=Z,3µm,19.0s						
CMAH	**Djebel Manchou**	**72.92**	**57**	P	**P**	**18 19 38.1**	**+0.5**
PGF	**Pioggiola**	**72.93**	**50⇑**	*iP*	**P**	**18 19 38.0**	**+0.5**
	comp=Z,154nm,1.3s						
PGF	**Pioggiola**	**72.93**	**50⇑**	*iP*	**P**	**18 19 38.0**	**+0.5**
PGF				pmax	pmax		
	comp=Z,154nm,1.3s						
PGF	**Pioggiola**	**72.93**	**50⇑**	*iP*	**P**	**18 19 38.0**	**+0.5**
	comp=Z,154nm,1.3s						
FUORN	**Ofenpass-Fuorn**	**73.04**	**46**	*eP*	**P**	**18 19 39.5**	**+1.2**
	comp=Z,138nm,1.1s						
ABSA	**Djebel Ababsia**	**73.04**	**57**	P	**P**	**18 19 39.3**	**+1.0**
GRFO	**Grafenberg**	**73.10**	**43**	*eP*	**P**	**18 19 38.6**	**+0.3**
GRFO				pmax	pmax		
	comp=Z,52nm,1.3s						
GRFO	**Grafenberg**	**73.10**	**43**	*eP*	**P**	**18 19 38.6**	**+0.3**
	comp=Z,52nm,1.3s						
GRF	**Grafenberg Arr**	**73.10**	**43**	*eP*	**P**	**18 19 39.2**	**+0.9**
	comp=Z,67nm,1.4s						
GRF				*ep*P	**pP**	**18 19 44.5**	**-0.2**
GRF				*e*L	L	18 50 53.0	
	comp=Z,1µm,18.2s						
MOX	**Moxa**	**73.17**	**42**	*eP*	**P**	**18 19 39.6**	**+0.9**
	comp=Z,107nm,1.5s						
MOX				*ep*P	**pP**	**18 19 45.0**	**-0.1**
MOX				*e*L	L	18 48 22.4	
	comp=Z,1µm,20.2s						
RETA	**Reutte**	**73.21**	**45⇑**	*iP*	**P**	**18 19 39.3**	**+0.3**
	comp=Z,121nm,1.3s,SNR=31						
FETA	**Feichten**	**73.28**	**45⇑**	*iP*	**P**	**18 19 40.2**	**+0.6**
	comp=Z,103nm,1.3s,SNR=30						
TNA	**Tin City**	**73.31**	**334**	*eP*	**P**	**18 19 39.0**	**-0.1**
	comp=Z,32nm,1.1s						
HOPEN	**Hopen**	**73.41**	**14**	*eP*	**P**	**18 19 39.6**	**0.0**
FUR	**Furstenfeldbru**	**73.42**	**44**	*eP*	**P**	**18 19 41.2**	**+1.0**
	comp=Z,180nm,1.5s						
FUR				*ep*P	**pP**	**18 19 46.5**	**-0.1**
MOTA	**Moosalm**	**73.47**	**45⇑**	*iP*	**P**	**18 19 41.5**	**+0.8**
	comp=Z,46nm,0.9s,SNR=27						
VLC	**Villacollemand**	**73.60**	**48**	*eP*	**P**	**18 19 40.1**	**-1.3**
	comp=Z,18nm,0.4s						
VLC				LR	LR		
	comp=Z,1µm,22.0s						
TOA0	**Torodi Ar. Sit**	**73.70**	**82**	*eP*	**P**	**18 19 42.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**73.70**	**82**	P	**P**	**18 19 42.0**	**-0.4**
	comp=Z,60nm,0.9s,baz=291,slow=4.1,SNR=164						
TORD				PKPPKP	P'P'df	18 47 14.0	-6.4
	comp=Z,0.8nm,0.8s,baz=103,slow=3.0,SNR=5.1						
TORD				LR	LR	18 47 27.4	
	comp=Z,3µm,21.7s,baz=285,slow=32						
ROTZ	**Rotzenmuhle**	**73.72**	**42**	*eP*	**P**	**18 19 43.2**	**+1.3**
	comp=Z,160nm,1.6s						
ROTZ				*ep*P	**pP**	**18 19 48.6**	**+0.3**
TANN	**Tannenbergstha**	**73.75**	**42**	*eP*	**P**	**18 19 43.1**	**+1.0**
	comp=Z,104nm,1.4s						
TANN				*ep*P	**pP**	**18 19 48.5**	**0.0**
WATA	**Walderalm**	**73.78**	**45⇑**	*iP*	**P**	**18 19 43.0**	**+0.5**
	comp=Z,60nm,1.3s,SNR=11						
VSL	**Villasalto**	**73.83**	**53**	*eP*	**P**	**18 19 43.9**	**+1.1**
	comp=Z,151nm,1.3s						
VSL				LR	LR		
	comp=Z,2µm,20.0s						
WTTA	**Wattenberg**	**73.84**	**45⇑**	*iP*	**P**	**18 19 43.1**	**+0.2**
	comp=Z,64nm,2.3s,SNR=14						
CLL	**Collm**	**73.91**	**41⇓**	*iP*	**P**	**18 19 44.0**	**+1.0**
CLL				*i*		18 19 48.7	
CLL				*e*S	**SKiKP**	**18 29 12.0**	**+1.1**
CLL				pmax	pmax		
	comp=Z,106nm,1.6s						
CLL				MLR	MLR		
	comp=Z,2µm,19.5s						
CLL	**Collm**	**73.91**	**41**	*eP*	**P**	**18 19 43.8**	**+0.8**
	comp=Z,106nm,1.6s						
CLL				*ep*P	**pP**	**18 19 49.2**	**-0.2**
CLL	**Collm**	**73.91**	**41⇓**	*iP*	**P**	**18 19 44.0**	**+1.0**
	comp=Z,106nm,1.6s						
CLL				*i* (sP)	**sP**	**18 19 48.7**	**-3.0**
CLL				*e*PP	**PP**	**18 22 31.0**	**+3.3**
CLL				*e*S	**SKiKP**	**18 29 12.0**	**+1.1**
CLL				*e*(PPS)		18 30 09.0	
CLL				*e*SS	**SS**	**18 33 59.0**	**+1.2**
CLL				*e*(SSS)		18 38 00.0	
CLL				*e*SSSS		18 38 54.0	
CLL				Lm	MLR	18 48 00.0	
	comp=N,300nm,21.3s						
CLL				Lm	MLR	18 48 00.0	
	comp=E,1µm,20.3s						
CLL				Lm	MLR	18 48 00.0	
	comp=Z,2µm,19.5s						
CLL	**Collm**	**73.91**	**41**	*eP*	**P**	**18 19 43.3**	**+0.4**
	comp=Z,127nm,1.6s						
RUE	**Ruedersdorf**	**74.15**	**39**	*eP*	**P**	**18 19 44.1**	**-0.2**
	comp=Z,202nm,1.9s						
WET	**Wettzell**	**74.27**	**43**	*eP*	**P**	**18 19 46.4**	**+1.2**
	comp=Z,163nm,1.5s						
WET				*ep*P	**pP**	**18 19 51.8**	**+0.2**
RJOB	**Jochberg**	**74.51**	**44**	*eP*	**P**	**18 19 47.5**	**+0.9**
	comp=Z,57nm,1.4s						
RJOB				*ep*P	**pP**	**18 19 52.9**	**-0.1**
ABTA	**Abfaltersbach**	**74.53**	**45⇑**	*iP*	**P**	**18 19 46.8**	**0.0**
	comp=Z,65nm,1.3s,SNR=24						
TAM	**Tamanrasset**	**74.57**	**71**	*eP*	**P**	**18 19 48.6**	**+1.0**
TAM				*e*		18 22 33.9	
TAM				pmax	pmax		
	comp=Z,61nm,1.3s						
TAM				MLR	MLR		
	comp=Z,1µm,22.0s						
TAM	**Tamanrasset**	**74.57**	**71**	*eP*	**P**	**18 19 48.6**	**+1.0**
	comp=Z,61nm,1.3s						
TAM				*e*PP	**PP**	**18 22 33.9**	**-0.3**
TAM				LR	LR		
	comp=Z,1µm,22.0s						
BRG	**Berggiesshubel**	**74.58**	**41**	*i* P	**P**	**18 19 48.1**	**+1.3**
	comp=Z,137nm,1.7s						
BRG				*e*PCP	**PcP**	**18 20 06.2**	**+4.9**
	comp=Z,34nm,1.3s						
BRG				S	**S**	**18 29 24.0**	**+2.6**
BRG				SS	**SS**	**18 34 03.0**	**-5.0**
BRG				*e*PKPPKP	**P'P'df**	**18 47 19.6**	**-0.1**
	comp=Z,9.1nm,1.5s						
BRG	**Berggiesshubel**	**74.58**	**41**	*i* P	**P**	**18 19 48.2**	**+1.3**
BRG				*e*		18 20 06.2	
BRG				S	**S**	**18 29 24.0**	**+2.6**
BRG				SS	**SS**	**18 34 03.0**	**-5.0**
BRG				pmax	pmax		
	comp=Z,137nm,1.7s						
BRG				pmax	pmax		
	comp=Z,9.0nm,1.5s						
BRG				MLR	MLR		
	comp=N,928nm,17.7s						
BRG				MLR	MLR		
	comp=E,2µm,16.3s						
BRG				MLR	MLR		
	comp=Z,1µm,21.1s						
BRG	**Berggiesshubel**	**74.58**	**41**	*eP*	**P**	**18 19 47.9**	**+1.0**
	comp=Z,135nm,1.6s						
BRG				*ep*P	**pP**	**18 19 53.3**	**0.0**
KEST	**Kesra**	**74.64**	**57**	P	**P**	**18 19 48.9**	**+1.2**
	comp=Z,26nm,0.9s,baz=247,slow=5.0,SNR=48						
KEST				PKPPKP	P'P'df	18 47 10.8	-8.8
	comp=Z,0.5nm,0.4s,baz=165,slow=21,SNR=16						
KEST				LR	LR	18 48 02.0	
	comp=Z,318nm,20.4s,baz=204,slow=32						
KHC	**Kasperske Hory**	**74.72**	**43**	*eP*	**P**	**18 19 48.3**	**+0.5**
KHC				*e*		18 19 53.8	
KHC				*e*S	**

TREC e 18 20 00.5
TREC MLR MLR
comp=Z,2μm,18.0s
TREC Trest 75.90 42 eP P 18 19 55.9 +1.3
TREC epP **pP 18 20 00.5 -0.5**
TREC AMS AMS 18 48 40.0
comp=Z,2μm,18.0s
KEV Kevo 75.91 21 eP P 18 19 53.7 -0.5
KEV pmax pmax
comp=Z,7.0nm,0.7s
KEV Kevo 75.91 21 ep P 18 19 53.7 -0.5
comp=Z,7.2nm,0.7s
KEV Kevo 75.91 21 eP P 18 19 52.4 -1.8
comp=Z,62nm,1.3s
KEV LR LR
comp=Z,825nm,20.0s
MOZS Mozjanca 75.93 46 eP P 18 19 55.0 +0.2
UPC Upice 75.94 41 *i* P **P 18 19 56.3 +1.5**
UPC e 18 20 01.2
UPC Upice 75.94 41 *i* P **P 18 19 56.3 +1.5**
UPC epP **pP 18 20 01.2 0.0**
OBKA Obir 75.95 45⇑ *i*P **P 18 19 55.4 +0.4**
comp=Z,84nm,1.2s,SNR=28
GKP Gorka Klasztor 76.01 38 eP P 18 19 56.5 +1.4
GKP Gorka Klasztor 76.01 38 eP P 18 19 56.4 +1.4
KSP Ksiaz 76.04 41 eP P 18 19 56.2 +0.9
KSP epP **pP 18 20 00.2 -1.5**
KSP eSP **sP 18 20 02.0 -2.0**
LJU Ljubljana 76.05 46 eP P 18 19 56.2 +0.7
AQU L'Aquila 76.15 50 eP P 18 19 56.6 +0.4
AQU pmax pmax
comp=Z,164nm,1.7s
AQU MLR MLR
comp=Z,1μm,19.0s
AQU L'Aquila 76.15 50 eP P 18 19 56.6 +0.4
comp=Z,164nm,1.7s
AQU LR LR
comp=Z,1μm,19.0s
DPC Dobruska-Polom 76.17 41 eP P 18 19 57.2 +1.0
DPC pmax pmax
comp=Z,500nm,1.4s
DPC Dobruska-Polom 76.17 41 eP P 18 19 57.2 +1.0
DPC epP **pP 18 20 02.4 -0.2**
DPC eS **S 18 29 41.1 +1.8**
DPC AMS AMS 18 49 20.0
DPC Dobruska-Polom 76.17 41 eP P 18 19 57.2 +1.0
comp=Z,500nm,1.4s
SOKA Soboth 76.24 45⇑ *i*P **P 18 19 56.4 -0.2**
comp=Z,89nm,1.3s,SNR=44
PERS Pernice 76.30 45 *i* P **P 18 19 56.8 -0.2**
ARSA Arzberg 76.42 44⇑ *i*P **P 18 19 57.8 +0.2**
comp=Z,37nm,1.3s,SNR=17
CONA Conrad Observa 76.48 44⇑ *i*P **P 18 19 58.3 +0.3**
comp=Z,60nm,1.6s,SNR=21
KRLC Kraliky 76.53 41 eP P 18 19 59.8 +1.6
KRLC Kraliky 76.53 41 eP P 18 19 59.8 +1.6
VRAC Vranov 76.60 42⇑ *i*P **P 18 19 59.3 +0.8**
NVLJ Novaljа 76.65 47 P **P 18 19 59.6 +0.8**
BOJS Bojanci 76.67 46 *i* P **P 18 19 59.4 +0.4**
BOJS eS **S 18 29 46.9 +2.0**
SOP Sopron 76.99 44⇑ *e*P **P 18 20 01.1 +0.3**
MORC Moravsky Berou 77.08 42 *e*P **P 18 20 02.4 +1.1**
MORC Moravsky Berou 77.08 42⇑ *i*P **P 18 20 02.0 +0.7**
MORC Moravsky Berou 77.08 42 *e*P **P 18 20 02.4 +1.1**
KOGS Kog 77.11 45 *e*P **P 18 20 01.8 +0.4**
OKC Ostrava-Krasne 77.44 41 *e*P **P 18 20 05.0 +1.8**
OKC *e* 18 20 09.9
OKC *e*S **S 18 29 55.4 +2.4**
OKC MLR MLR
comp=Z,1μm,17.2s
OKC Ostrava-Krasne 77.44 41 *e*P **P 18 20 05.0 +1.8**
OKC epP **pP 18 20 09.9 +0.2**
OKC eS **S 18 29 55.4 +2.4**
OKC AMS AMS 18 50 40.0
comp=Z,1μm,17.2s
PKST T"'s 78.07 44|| *e* **P 18 20 08.0 +1.2**
KAF Kangasniemi 78.13 28 *e*P **P 18 20 06.5 -0.3**
KAF pmax pmax
comp=Z,14nm,0.7s
KAF Kangasniemi 78.13 28 *ep* **P 18 20 06.5 -0.3**
comp=Z,14nm,0.7s
VYHS Vyhne 78.25 43 *e*P **P 18 20 09.1 +1.3**
VYHS pmax pmax
comp=Z,59nm,1.5s
VYHS Vyhne 78.25 43 *e*P **P 18 20 09.1 +1.3**
VYHS eS **S 18 30 03.6 +1.8**
FINES FINESS Array B 78.25 29 P **P 18 20 07.5 0.0**
comp=Z,7.2nm,0.4s,baz=260,slow=3.8,SNR=135
FINES PKKPbc **PKKPbc 18 39 04.5 -2.7**
comp=Z,0.8nm,0.5s,baz=93,slow=2.8,SNR=9.1
FINES LR LR 18 49 43.9
comp=Z,2μm,21.9s,baz=288,slow=32
PKSG 78.27 44|| *e* **P 18 20 09.1 +1.2**
OJC Ojcow 78.36 41 *e*P **P 18 20 09.1 +0.8**
OJC *e**PP **pP 18 20 14.5 -0.3**
OJC MLR MLR
comp=Z,2μm,20.0s
OJC Ojcow 78.36 41 *e*P **P 18 20 09.1 +0.8**
OJC epP **pP 18 20 14.5 -0.3**
OJC L L 18 51 09.0
comp=Z,2μm,20.0s
OJC Ojcow 78.36 41 *e*P **P 18 20 09.2 +0.8**
PKS9 Tamasi 78.42 45|| *e* **P 18 20 10.0 +1.3**
BEL Belsk 78.49 39 *e*P **P 18 20 10.7 +1.7**
BEL *e**PP **pP 18 20 14.5 -1.0**
BEL Belsk 78.49 39 *e*P **P 18 20 10.6 +1.6**
BEL epP **pP 18 20 14.4 -1.0**
CUC Castrocucco 78.52 52 *e*P **P 18 20 08.9 -0.7**
comp=Z,74nm,1.1s
CUC LR LR
comp=Z,1μm,20.0s
WDD Wield Dalam 78.68 56 *e*P **P 18 20 10.7 +0.4**
comp=Z,131nm,1.1s
WDD LR LR
comp=Z,844nm,20.0s
PKS7 Kunszentmiklos 78.87 44|| *e* **P 18 20 12.4 +1.2**
APA Apatity 78.89 22⇑ *i*P **P 18 20 12.0 +1.1**
APA *i* 18 20 14.8
APA *i* 18 23 09.0
APA *i* S **S 18 30 08.0 0.0**
APA pmax pmax
comp=Z,79nm,1.2s
NIE Niedzica 78.91 41 *e*P **P 18 20 13.2 +1.8**
NIE *e**PP **pP 18 20 18.6 +0.7**
NIE MLR MLR
comp=Z,1μm,18.9s
NIE Niedzica 78.91 41 *e*P **P 18 20 13.2 +1.8**
NIE epP **pP 18 20 18.6 +0.7**
NIE L L 18 54 29.0
comp=Z,1μm,18.9s
CEL Celeste 79.06 53 *e*P **P 18 20 09.4 -3.1**
comp=Z,27nm,1.4s
CEL LR LR
comp=Z,1μm,21.0s
PKS2 Kecel 79.06 45|| *e* **P 18 20 13.6 +1.3**
PSZ Piszkesteto 79.09 43 *e*P **P 18 20 13.8 +1.3**
PSZ MLR MLR
comp=Z,1μm,19.0s
PSZ Piszkesteto 79.09 43⇑ *i*P **P 18 20 14.0 +1.5**
PSZ Piszkesteto 79.09 43⇑ *e* **P 18 20 14.2 +1.7**
PSZ Piszkesteto 79.09 43 *e*P **P 18 20 13.8 +1.3**
PSZ LR LR
comp=Z,1μm,19.0s
LVZ Lovozero 79.18 21 *ce*P **P 18 20 14.2 +1.6**
LVZ pmax pmax
comp=Z,54nm,1.0s
LVZ MLR MLR
comp=Z,1μm,20.0s
LVZ Lovozero 79.18 21 *e*P **P 18 20 11.8 -0.8**
LVZ LR LR
comp=Z,1μm,20.0s
SUW Suwalki 79.20 36 *e*P **P 18 20 13.3 +0.4**
SUW *e**PP **pP 18 20 18.6 -0.7**
SUW Suwalki 79.20 36 *e*P **P 18 20 13.3 +0.4**
SUW epP **pP 18 20 18.5 -0.7**
SUW Suwalki 79.20 36 *e*P **P 18 20 13.0 +0.2**
comp=Z,108nm,1.0s
PKS6 Bocsa 79.26 44|| *e* **P 18 20 14.7 +1.3**
TIP Timpagrande 79.45 52 P **P 18 20 13.0 -1.6**
TIP Timpagrande 79.45 52 *e*P **P 18 20 13.8 -0.9**
comp=Z,20nm,0.9s
TIP LR LR
comp=Z,1μm,20.0s
STHS Stebnicka Huta 79.49 41 *e*P **P 18 20 16.7 +2.1**
STHS pmax pmax
comp=Z,14nm,1.2s
STHS Stebnicka Huta 79.49 41 *e*P **P 18 20 16.7 +2.1**
VSU Vasula 79.59 31 *c i*P **P 18 20 15.1 +0.3**
VSU pmax pmax
comp=Z,371nm,1.7s
HCY Herceg Novi 79.76 49 *e*P **P 18 20 17.3 +1.1**
CRVS Cervenica-Dubn 79.79 42 *e*P **P 18 20 17.8 +1.6**
CRVS pmax pmax
comp=Z,111nm,1.8s
CRVS Cervenica-Dubn 79.79 42 *e*P **P 18 20 17.8 +1.6**
CRVS Cervenica-Dubn 79.79 42 *e*S **S 18 30 23.4 +5.2**
UPM Unac-Piva 79.82 48 *e*P **P 18 20 17.5 +0.8**
NKME Niksic 79.99 48|| *i*P **P 18 20 18.4 +0.9**
JOF Joensuu 80.00 26 *e*P **P 18 20 16.8 -0.2**
JOF pmax pmax
comp=Z,25nm,0.8s
JOF Joensuu 80.00 26 *ep* **P 18 20 16.8 -0.2**
comp=Z,25nm,0.8s
NKY Niksic 80.00 48|| *i*P **P 18 20 18.5 +0.9**
BUM Brajici-Budva 80.08 49|| *i*P **P 18 20 19.2 +1.2**
PLE Pljevlja 80.12 48|| *i*P **P 18 20 18.9 +0.6**
KOLS Kolonicke sedl 80.28 42 *e*P **P 18 20 20.7 +1.8**
KOLS pmax pmax
comp=Z,75nm,1.6s
KOLS Kolonicke sedl 80.28 42 *e*P **P 18 20 20.7 +1.8**
KOLS Kolonicke sedl 80.28 42 *e*S **S 18 30 23.4 0.0**
KOLS *e* 18 36 01.7
ISAL Salakas 80.29 34 *e*P **P 18 20 18.6 -0.1**
ISAL AMB AMB 18 20 20.5
comp=Z,21nm,1.2s
TTG Podgorica 80.30 48|| *i*P **P 18 20 20.5 +1.4**
DIVS Divibare 80.31 47 P **P 18 20 19.6 +0.4**
DRME Dracevica, Mon 80.33 49|| *i*P **P 18 20 20.3 +1.1**
KWP Kalwaria Pacla 80.33 41 *e*P **P 18 20 20.9 +1.8**
KWP *e**PP **pP 18 20 23.8 -1.8**
KWP Kalwaria Pacla 80.33 41 *e*P **P 18 20 20.8 +1.7**
KWP epP **pP 18 20 23.7 -1.8**
KWP Kalwaria Pacla 80.33 41 *e*P **P 18 20 21.1 +2.0**
comp=Z,61nm,0.4s
KWP LR LR
comp=Z,1μm,19.0s
UZH Uzhgorod 80.39 42 *e*P **P 18 20 19.5 +0.1**
UZH *e* 18 20 27.0
UZH *e*S **S 18 30 20.5 -4.0**
UZH *e*SS **SS 18 35 34.5 -1.2**
IIGN Ignalina 80.42 35 *e*P **P 18 20 19.2 -0.2**
IIGN AMB AMB 18 20 21.8
comp=Z,36nm,1.3s
IIGN *e*PP2 18 23 23.6
ULC Ulcinj 80.44 49 *e*P **P 18 20 21.2 +1.3**
IVA Berane 80.61 48|| *i*P **P 18 20 22.1 +1.2**
IDID Didziasalis 80.71 34 *e*P **P 18 20 21.8 +0.8**
IDID AMB AMB 18 20 24.1
comp=Z,16nm,1.7s
TRPA Tarpa 80.71 42⇑ *i*P **P 18 20 22.4 +1.3**
TRPA Tarpa 80.71 42|| *e* **P 18 20 22.4 +1.3**
PVY Plav 80.75 48|| *i*P **P 18 20 22.8 +1.1**
PUL Pulkovo 80.81 30|| *e*P **P 18 20 22.6 +1.2**
PUL pmax pmax
comp=Z,85nm,0.6s
HOPE Hope Point 80.87 158 PFAKE 18 20 30.0 +8.4
HOPE LR LR
comp=Z,1μm,19.0s
BZS Buzias 80.92 45|| *i*P **P 18 20 23.6 +1.2**
LVV L'vov 81.08 40⇑ *i*P **P 18 20 24.6 +1.5**
LVV *e*S S 18 30 21.4 -10
LVV *e*PS **PnS 18 31 18.0 -1.2**
LVV MLR MLR
comp=Z,900nm,18.0s
LVV MLR MLR
comp=N,600nm,19.0s
LVV MLR MLR
comp=E,400nm,19.0s
DRGR 81.26 43⇑ *i*P **P 18 20 25.4 +1.2**
PHP Peshkopia 81.37 49 P **P 18 20 26.3 +1.4**
PHP Peshkopia 81.37 49 P **P 18 20 26.3 +1.4**
PHP Peshkopia 81.37 49 P **P 18 20 26.3 +1.4**
ADK Adak 81.46 322 PFAKE 18 20 40.0 +15
ADK LR LR
comp=Z,3μm,19.0s
BMR Baia Mare 81.47 42⇑ *i*P **P 18 20 26.8 +1.6**
MNK Minsk 81.59 35|| *e*P **P 18 20 25.0 -0.7**
MNK pmax pmax
comp=Z,210nm,1.5s
MICGM Minsk 81.62 35|| *e*P **P 18 20 25.0 -0.9**
PPT Papeete 81.68 248 LR LR 18 52 25.4
comp=Z,637nm,18.1s,baz=60,slow=32
PPT2 Papete2 81.69 248 *e*S **S 18 30 34.6 -4.5**
comp=Z,829nm,24.5s
PPT2 *e*SS **SS 18 35 57.0 -0.2**
comp=Z,722nm,27.2s
PPT2 *e*LQ LQ 18 42 28.0
comp=Z,2μm,31.2s
PPT2 *e*LR LR 18 46 00.7
comp=Z,440nm,24.8s
GZR Gura Zlata 81.77 45⇑ *i*P **P 18 20 28.1 +1.2**
OHR Ohrid 81.81 49 *i* P **P 18 20 28.0 +0.8**
XMAS Kiritimati 81.82 269 *e*P **P 18 20 28.3 +0.7**
comp=Z,210nm,1.4s
BILL Bilibino 81.83 340 *c i*P **P 18 20 27.2 +0.5**
BILL pmax pmax
comp=Z,96nm,1.7s
BILL MLR MLR
comp=Z,3μm,15.0s
BILL Bilibino 81.83 340 *e*P **P 18 20 26.5 -0.2**
comp=Z,71nm,1.1s
BILL LR LR
comp=Z,3μm,19.0s
TRIS Tristan da Cun 81.94 134 PFAKE 18 20 40.0 +12
TRIS LR LR
comp=Z,2μm,20.0s
IGT Igoumenitsa 81.98 51 P **P 18 20 28.9 +0.8**
IGT Igoumenitsa 81.98 51 P **P 18 20 28.9 +0.8**
IGT Igoumenitsa 81.98 51 *e*P **P 18 20 30.0 +1.9**
IGT Igoumenitsa 81.98 51 P **P 18 20 28.9 +0.8**
SKO Skopje 81.99 48 *i* P **P 18 20 29.1 +1.0**
TMCR Tamitsa 82.14 24 *e*P **P 18 20 29.0 +0.6**
TMCR *e* 18 20 34.6
TMCR *e* 18 23 36.2
TMCR pmax pmax
comp=Z,83nm,1.4s
NEST Nestorio 82.22 50 P **P 18 20 30.9 +1.5**
NEST Nestorio 82.22 50 *e*P **P 18 20 31.6 +2.2**
FNA Florina 82.33 50 P **P 18 20 30.8 +0.8**
FNA Florina 82.33 50 P **P 18 20 30.8 +0.8**
FNA Florina 82.33 50 *e*P **P 18 20 31.6 +1.6**
FNA Florina 82.33 50 P **P 18 20 30.8 +0.8**
LKD2 Lefkada island 82.46 52 *e*P **P 18 20 32.6 +1.9**
BUR04 Bucovina Ar. S 82.58 42 *e*P **P 18 20 32.2 +1.0**
BURAR Bucovina Array 82.58 42⇑ *i*P **P 18 20 32.3 +1.1**
VLS Valsamata 82.61 52 P **P 18 20 31.8 +0.4**
VLS Valsamata 82.61 52 P **P 18 20 31.8 +0.4**
VLS Valsamata 82.61 52 *e*P **P 18 20 32.8 +1.4**
VLS Valsamata 82.61 52 P **P 18 20 31.8 +0.4**
DSL Palaion Diasel 82.67 51 P **P 18 20 32.4 +0.6**
DSL Palaion Diasel 82.67 51 *e*P **P 18 20 33.6 +1.8**
DSL Palaion Diasel 82.67 51 P **P 18 20 32.4 +0.6**
KZN Kozani 82.77 50 P **P 18 20 33.0 +0.7**
KZN Kozani 82.77 50 P **P 18 20 33.0 +0.7**
KZN Kozani 82.77 50 *e*P **P 18 20 34.7 +2.4**
KZN Kozani 82.77 50 P **P 18 20 33.0 +0.7**
KFL Anninata 82.78 52 P **P 18 20 33.5 +1.2**
PDO Prodromos 82.91 52 P **P 18 20 33.8 +0.8**
PDO Prodromos 82.91 52 *e*P **P 18 20 34.7 +1.7**
VAY Valandovo 83.00 49 *i* P **P 18 20 34.0 +0.6**
ARR Arges 83.01 44|| *i*P **P 18 20 34.3 +0.9**
GRG Griva 83.01 49 P **P 18 20 34.4 +1.0**
GRG Griva 83.01 49 P **P 18 20 34.4 +1.0**
GRG Griva 83.01 49 *e*P **P 18 20 34.5 +1.0**
GRG Griva 83.01 49 P **P 18 20 34.4 +1.0**
VTS Vitosha 83.01 47 P **P 18 20 33.4 -0.2**
VTS Vitosha 83.01 47 P **P 18 20 33.4 -0.2**
VTS Vitosha 83.01 47|| *i*P **P 18 20 34.7 +1.1**
VTS Vitosha 83.01 47 *i* P **P 18 20 34.7 +1.1**
VTS Vitosha 83.01 47 P **P 18 20 33.4 -0.2**
MPEP Malo Peshtene 83.11 46 *i* P **P 18 20 34.0 +0.1**
KKB Krupnik 83.18 48 *i* P **P 18 20 36.6 +2.3**
THL Klokotos Trika 83.20 51 P **P 18 20 34.9 +0.5**
THL Klokotos Trika 83.20 51 *e*P **P 18 20 35.3 +0.9**
VOIR 83.25 44|| *i*P **P 18 20 36.0 +1.3**
EVR Evrytania 83.27 51 P **P 18 20 35.3 +0.4**
EVR Evrytania 83.27 51 *e*P **P 18 20 37.1 +2.2**
EVR Evrytania 83.27 51 P **P 18 20 35.3 +0.4**
DOPR Dopca 83.28 44|| *i*P **P 18 20 36.2 +1.4**
KNT Kendrikon 83.29 49 P **P 18 20 35.8 +0.9**
KNT Kendrikon 83.29 49 P **P 18 20 35.8 +0.9**
KNT Kendrikon 83.29 49 *e*P **P 18 20 36.1 +1.2**
KNT Kendrikon 83.29 49 P **P 18 20 35.8 +0.9**
RLS Riolos of Patr 83.30 52 *e*P **P 18 20 36.6 +1.6**
LIT Litokhoron 83.36 50 P **P 18 20 35.4 +0.1**
LIT Litokhoron 83.36 50 P **P 18 20 35.4 +0.1**
LIT Litokhoron 83.36 50 *e*P **P 18 20 36.4 +1.1**
LIT Litokhoron 83.36 50 P **P 18 20 35.4 +0.1**
MAKR Makrakomi, Fth 83.47 51 P **P 18 20 36.9 +1.0**
MAKR Makrakomi, Fth 83.47 51 *e*P **P 18 20 37.8 +1.9**
MAKR Makrakomi, Fth 83.47 51 P **P 18 20 36.9 +1.0**
EFP Efpalio 83.50 52 P **P 18 20 37.7 +1.7**
EFP Efpalio 83.50 52 *e*P **P 18 20 38.3 +2.3**
THE Thessaloniki 83.52 49 *e*P **P 18 20 37.9 +1.9**
DRO Drossia 83.52 52 P **P 18 20 35.8 -0.4**
DRO Drossia 83.52 52 *e*P **P 18 20 38.2 +2.0**
HUMR Humele 83.54 45⇑ *i*P **P 18 20 37.0 +0.9**
AGG Agios Georgios 83.61 51 P **P 18 20 37.7 +1.1**
AGG Agios Georgios 83.61 51 P **P 18 20 37.7 +1.1**
AGG Agios Georgios 83.61 51 *e*P **P 18 20 37.6 +1.0**
AGG Agios Georgios 83.61 51 P **P 18 20 37.7 +1.1**
HORT Hortiatis 83.63 49 P **P 18 20 37.6 +0.9**
HORT Hortiatis 83.63 49 *e*P **P 18 20 37.9 +1.2**
HORT Hortiatis 83.63 49 P **P 18 20 37.6 +0.9**
AMT Artemida-Makis 83.66 53 P **P 18 20 37.7 +0.8**
AMT Artemida-Makis 83.66 53 *e*P **P 18 20 38.4 +1.5**
KALE Kalithea 83.69 52 *e*P **P 18 20 38.9 +1.8**
MMB Musomiste 83.73 48 *i* P **P 18 20 38.3 +1.1**
SOH Sokhos 83.73 49 P **P 18 20 38.1 +0.9**
SOH Sokhos 83.73 49 P **P 18 20 38.1 +0.9**
SOH Sokhos 83.73 49 *e*P **P 18 20 38.9 +1.7**
SOH Sokhos 83.73 49 P **P 18 20 38.1 +0.9**
SRS Serrai 83.80 49 P **P 18 20 38.1 +0.6**
SRS Serrai 83.80 49 P **P 18 20 38.1 +0.6**
SRS Serrai 83.80 49 *e*P **P 18 20 39.0 +1.5**
SRS Serrai 83.80 49 P **P 18 20 38.1 +0.6**
KLV Kalavryta, Ach 83.82 52 P **P 18 20 39.0 +1.3**
KLV Kalavryta, Ach 83.82 52 *e*P **P 18 20 39.6 +1.9**
KLV Kalavryta, Ach 83.82 52 P **P 18 20 39.0 +1.3**
MLR Muntele Rosu 83.82 44|| *i*P **P 18 20 38.6 +0.9**
AK11 Malin Array Si 83.83 38 *e*P **P 18 20 37.7 +0.3**
KIEV Kiev 83.84 38 *c i*P **P 18 20 37.7 +0.2**
KIEV Kiev 83.84 38 *e*P **P 18 20 37.8 +0.2**
KIEV LR LR
comp=Z,2μm,20.0s
AKASG Malin Array Be 83.85 38 *ce*P **P 18 20 38.0 +0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 83.85 38 P **P 18 20 37.7 +0.1**
comp=Z,3.1nm,0.5s,baz=280,slow=4.6,SNR=25
AKASG PKKPbc **PKKPbc 18 38 52.7 -1.6**
comp=Z,1.5nm,0.5s,baz=95,slow=2.3,SNR=6.8
AKASG LR LR 18 55 23.7
comp=Z,2μm,19.5s,baz=270,slow=34
TESR Tescani 83.90 43⇑ *i*P **P 18 20 38.9 +1.0**
PYL PYLOS 83.90 53 P **P 18 20 38.5 +0.4**
PYL PYLOS 83.90 53 *e*P **P 18 20 38.0 -0.1**
PYL PYLOS 83.90 53 P **P 18 20 38.5 +0.4**
NVR Nevrokopi 83.90 48 P **P 18 20 37.9 -0.2**
NVR Nevrokopi 83.90 48 *e*P **P 18 20 39.1 +1.0**
NVR Nevrokopi 83.90 48 P **P 18 20 37.9 -0.2**
TBI Tubuai 83.92 243 *e*S **S 18 30 57.9 -3.6**
comp=Z,426nm,28.5s
TBI *e*SS **SS 18 36 27.2 -2.8**
comp=Z,332nm,30.8s
TBI Tubuai 83.92 243 *e*LR LR 18 46 57.4
comp=Z,619nm,27.0s
AXAR Agios Charalam 83.94 51 P **P 18 20 36.8 -1.5**
AXAR Agios Charalam 83.94 51 *e*P **P 18 20 39.5 +1.2**
AXAR Agios Charalam 83.94 51 P **P 18 20 36.8 -1.5**
ITM Ithomi 83.94 53 P **P 18 20 39.2 +0.9**
ITM Ithomi 83.94 53 *e*P **P 18 20 39.0 +0.7**
ITM Ithomi 83.94 53 P **P 18 20 39.2 +0.9**
PLG Polygyros 83.95 49 P **P 18 20 38.4 0.0**
PLG Polygyros 83.95 49 P **P 18 20 38.4 0.0**
PLG Polygyros 83.95 49 *e*P **P 18 20 39.0 +0.6**
PLG Polygyros 83.95 49 P **P 18 20 38.4 0.0**
GUR Goura 84.00 52 P **P 18 20 39.4 +0.7**
GUR Goura 84.00 52 *e*P **P 18 20 40.1 +1.4**
GUR Goura 84.00 52 P **P 18 20 39.4 +0.7**
XOR Xorichti 84.12 50 P **P 18 20 39.0 -0.2**
XOR Xorichti 84.12 50 *e*P **P 18 20 39.9 +0.7**
XOR Xorichti 84.12 50 P **P 18 20 39.0 -0.2**
PLOR Plostina 84.15 43|| *i*P **P 18 20 41.1 +1.9**
NEO Neokhori 84.17 53 *e*P **P 18 20 40.1 +0.6**
VRI Vrinciaia 84.19 43|| *i*P **P 18 20 41.0 +1.6**
VLX Vlachokerasia 84.22 53 P **P 18 20 40.9 +1.1**
VLX Vlachokerasia 84.22 53 *e*P **P 18 20 41.8 +2.0**
VLX Vlachokerasia 84.22 53 P **P 18 20 40.9 +1.1**
PLD Plovdiv 84.22 47 *i* P **P 18 20 40.4 +0.8**
PVL Pavlikeni 84.25 46 *i* P **P 18 20 40.0 +0.3**
PAIG Paliouri 84.28 50 P **P 18 20 40.9 +1.0**
PAIG Paliouri 84.28 50 P **P 18 20 40.9 +1.0**
PAIG Paliouri 84.28 50 *e*P **P 18 20 41.0 +1.0**
PAIG Paliouri 84.28 50 P **P 18 20 40.9 +1.0**
SULR 84.33 45⇑ *i*P **P 18 20 40.4 +0.3**
OUR Ouranopolis 84.35 49 P **P 18 20 40.6 +0.3**
OUR Ouranopolis 84.35 49 P **P 18 20 40.6 +0.3**
OUR Ouranopolis 84.35 49 *e*P **P 18 20 41.4 +1.1**
OUR Ouranopolis 84.35 49 P **P 18 20 40.6 +0.3**
RZN Rozhen 84.38 48 *i* P **P 18 20 42.1 +1.4**
SKIA Skiathos 84.39 51 *e*P P 18 20 34.2 -6.4
KLMR Klimovskoe 84.40 26 *c i*P **P 18 20 40.8 +0.7**
KLMR S S 18 30 58.6 -6.5
KLMR pmax pmax
comp=Z,343nm,1.7s
KLMR MLR MLR
comp=Z,1μm,18.0s
SZH Strazhica 84.64 46 *i* P **P 18 20 43.0 +1.3**
MRKA Markates 84.64 51 P **P 18 20 42.6 +0.7**
MRKA Markates 84.64 51 *e*P **P 18 20 42.2 +0.3**
DID Didima 84.81 52 P **P 18 20 42.0 -0.7**
DID Didima 84.81 52 *e*P **P 18 20 42.5 -0.2**
DID Didima 84.81 52 P **P 18 20 42.0 -0.7**
VI Veliai 84.86 53 *e*P **P 18 20 44.4 +1.4**
KDZ Kurdzhali 84.89 48|| *i*P **P 18 20 43.6 +0.6**
KDZ Kurdzhali 84.89 48 *i* P **P 18 20 43.4 +0.4**
PTL Penteli 85.08 51 P **P 18 20 44.6 +0.5**
PTL Penteli 85.08 51 *e*P **P 18 20 44.3 +0.2**
PTL Penteli 85.08 51 P **P 18 20 44.6 +0.5**
KIS Kishinev 85.08 42 *α i*P **P 18 20 44.0 +0.1**
KIS *e* 18 20 50.0
KIS *e*S **S 18 31 08.0 -4.4**
KIS *e*PS **PnS 18 32 04.0 -4.5**
KIS pmax pmax
comp=Z,340nm,2.0s
KIS smax smax
comp=N,900nm,13.0s
KIS smax smax
comp=E,500nm,13.0s
KIS MLR MLR
comp=N,1μm,18.0s
KIS MLR MLR
comp=E,1μm,18.0s
KIS MLR MLR
comp=Z,2μm,18.0s
KIS MLR MLR
comp=Z,2μm,18.0s
KIS Kishinev 85.08 42⇑ *i*P **P 18 20 44.0 +0.1**
comp=Z,300nm,2.0s
KIS *e*S **S 18 31 08.0 -4.4**
comp=Z,500nm,13.0s
KIS Kishinev 85.08 42 *e*PS 18 32 04.0
KIS *e*L L 18 47 58.0
KIS LRM MLR 18 59 56.0
comp=Z,2μm,18.0s
RDO Rodhopi 85.16 48 P **P 18 20 43.7 -0.6**
RDO Rodhopi 85.16 48 *e*P **P 18 20 44.7 +0.4**
RDO Rodhopi 85.16 48 P **P 18 20 43.7 -0.6**
LIA Limnos Island 85.37 49 *e*P **P 18 20 46.5 +1.1**
CFR Carcaliu 85.37 44⇑ *i*P **P 18 20 45.5 +0.2**
JMB Yambol 85.38 47 P **P 18 20 44.0 -1.5**
JMB Yambol 85.38 47 P **P 18 20 44.0 -1.5**
JMB Yambol 85.38 47⇑ *i*P **P 18 20 45.0 -0.5**
JMB Yambol 85.38 47 P **P 18 20 44.0 -1.5**
SMTH Samothraki Isl 85.40 49 *e*P **P 18 20 44.6 -1.0**
ALN Alexandroupoli 85.61 48 P **P 18 20 46.6 0.0**

ALN	**Alexandroupoli**	**85.61**	**48**	P	**P**	**18 20 46.6**	**0.0**
ALN	**Alexandroupoli**	**85.61**	**48**	*e*P	**P**	**18 20 47.2**	**+0.6**
ALN	**Alexandroupoli**	**85.61**	**48**	P	**P**	**18 20 46.6**	**0.0**
PRD	**Provadia**	**85.66**	**46**	*i* P	**P**	**18 20 47.2**	**+0.4**
EDRB	**Edirne**	**85.73**	**47**	P	**P**	**18 20 48.1**	**+0.9**
EDRB	**Edirne**	**85.73**	**47**	P	**P**	**18 20 48.1**	**+0.9**
TIRR	**Tirgusor**	**85.84**	**44**	*e*P	**P**	**18 20 48.2**	**+0.5**
TIRR				pmax	pmax		
	comp=Z,365nm,2.4s						
TIRR	**Tirgusor**	**85.84**	**44⇑**	*i P*	**P**	**18 20 48.5**	**+0.8**
TIRR	**Tirgusor**	**85.84**	**44**	*e*P	**P**	**18 20 48.2**	**+0.5**
	comp=Z,365nm,2.4s						
OBN	**Obninsk**	**85.90**	**32**	P	**P**	**18 20 48.3**	**+0.6**
	comp=Z,658nm,1.6s,SNR=9.0						
OBN	**Obninsk**	**85.90**	**32**	*d i*P	**P**	**18 20 48.6**	**+0.9**
OBN				*e*		18 20 53.6	
OBN				*e*		18 24 08.8	
OBN				pmax	pmax		
	comp=Z,312nm,1.7s						
OBN	**Obninsk**	**85.90**	**32**	*e*P	**P**	**18 20 47.3**	**-0.4**
OBN				LR	LR		
	comp=Z,2μm,20.0s						
PSN	**Preselentsi**	**85.99**	**45⇓**	*i P*	**P**	**18 20 49.3**	**+0.8**
KARN	**Karanos**	**86.07**	**54**	P	**P**	**18 20 49.7**	**+0.6**
KARN	**Karanos**	**86.07**	**54**	*e*P	**P**	**18 20 48.9**	**-0.2**
KARN	**Karanos**	**86.07**	**54**	P	**P**	**18 20 49.7**	**+0.6**
SIGR	**SIGRI**	**86.11**	**50**	P	**P**	**18 20 49.5**	**+0.4**
SIGR	**SIGRI**	**86.11**	**50**	*e*P	**P**	**18 20 49.8**	**+0.7**
SIGR	**SIGRI**	**86.11**	**50**	P	**P**	**18 20 49.5**	**+0.4**
MOS	**Moscow**	**86.12**	**31**	*e*P	**P**	**18 20 49.2**	**+0.4**
MOS				*e*S	S	18 31 10.7	-12
MOS				pmax	pmax		
	comp=Z,227nm,1.5s						
MOS				pmax	pmax		
	comp=N,90nm,1.1s						
MOS				pmax	pmax		
	comp=Z,500nm,2.0s						
MOS				MLR	MLR		
	comp=Z,1μm,18.0s						
VAM	**Vamos**	**86.29**	**54**	P	**P**	**18 20 48.8**	**-1.3**
VAM	**Vamos**	**86.29**	**54**	P	**P**	**18 20 48.8**	**-1.3**
VAM	**Vamos**	**86.29**	**54**	*e*P	**P**	**18 20 47.2**	**-2.9**
VAM	**Vamos**	**86.29**	**54**	P	**P**	**18 20 48.8**	**-1.3**
PRGR	**Permogore**	**86.43**	**24**	*e*P	**P**	**18 20 48.6**	**-1.6**
PRGR				pmax	pmax		
	comp=Z,209nm,1.8s						
CHOS	**Chios island**	**86.56**	**50**	P	**P**	**18 20 51.4**	**-0.1**
CHOS	**Chios island**	**86.56**	**50**	*e*P	**P**	**18 20 52.5**	**+1.0**
CHOS	**Chios island**	**86.56**	**50**	P	**P**	**18 20 51.4**	**-0.1**
APE	**Apeiranthos**	**86.67**	**52**	*c i*P	**P**	**18 20 51.8**	**-0.2**
APE				pmax	pmax		
	comp=Z,129nm,2.5s						
APE	**Apeiranthos**	**86.67**	**52**	*e*P	**P**	**18 20 52.0**	**0.0**
APE	**Apeiranthos**	**86.67**	**52⇑**	*i*P	**P**	**18 20 51.6**	**-0.4**
SANT	**Santorini**	**86.88**	**53**	P	**P**	**18 20 52.1**	**-0.9**
SANT	**Santorini**	**86.88**	**53**	*e*P	P	18 20 48.1	-4.9
SANT	**Santorini**	**86.88**	**53**	*e*P	**P**	**18 20 52.5**	**-0.5**
	comp=Z,119nm,1.2s						
SANT				LR	LR		
	comp=Z,808nm,22.0s						
SIVA	**Sivas**	**86.89**	**54**	*e*P	**P**	**18 20 54.3**	**+1.2**
LAST	**Lasithi**	**87.35**	**54**	P	**P**	**18 20 55.1**	**-0.3**
LAST	**Lasithi**	**87.35**	**54**	P	**P**	**18 20 55.1**	**-0.3**
TIXI	**Tiksi**	**87.39**	**353**	*c i*P	**P**	**18 20 54.8**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,51nm,1.7s						
TIXI				MLR	MLR		
	comp=Z,3μm,19.0s						
TIXI	**Tiksi**	**87.39**	**353**	*e*P	**P**	**18 20 54.0**	**-0.7**
	comp=Z,86nm,1.7s						
TIXI				LR	LR		
	comp=Z,3μm,19.0s						
KULA	**Kula-Manisa**	**88.39**	**50**	P	**P**	**18 20 59.9**	**-0.4**
KULA	**Kula-Manisa**	**88.39**	**50**	P	**P**	**18 20 59.9**	**-0.4**
KARP	**Karpathos**	**88.47**	**53**	*e*P	**P**	**18 21 01.1**	**+0.4**
ARG	**Arkhangelos**	**88.93**	**52**	*e*P	**P**	**18 21 02.6**	**-0.2**
VSR	**Storozhevoye**	**89.20**	**35**	*e*P	**P**	**18 21 03.0**	**-0.7**
VSR				pmax	pmax		
	comp=N,10.0nm,1.4s						
VSR				pmax	pmax		
	comp=E,30nm,1.4s						
VSR				pmax	pmax		
	comp=Z,50nm,1.4s						
VSR				MLR	MLR		
	comp=Z,1μm,18.0s						
VSR				MLR	MLR		
	comp=N,370nm,18.0s						
VSR				MLR	MLR		
	comp=E,990nm,18.0s						
ALT	**Altintas**	**89.20**	**49**	P	**P**	**18 21 02.8**	**-1.3**
ALT	**Altintas**	**89.20**	**49**	P	**P**	**18 21 02.8**	**-1.3**
SIM	**Simferopol'**	**89.30**	**42**	*e*P	P	18 21 07.7	+3.4
SIM				pmax	pmax		
	comp=Z,27nm,1.1s						
SIM				pmax	pmax		
	comp=Z,100nm,8.0s						
SIM				MLR	MLR		
	comp=Z,500nm,16.0s						
VORD	**Divnogorie**	**89.40**	**35**	*e*P	**P**	**18 21 03.7**	**-0.9**
VORD				pmax	pmax		
	comp=N,50nm,0.7s						
VORD				pmax	pmax		
	comp=E,30nm,0.7s						
VORD				pmax	pmax		
	comp=Z,20nm,0.7s						
SEY	**Seymchan**	**89.53**	**340**	P	**P**	**18 21 06.0**	**+1.0**
	comp=Z,17nm,1.1s,baz=66,slow=5.2,SNR=41						
MSKU	**Masuku**	**89.62**	**92**	*e*P	**P**	**18 21 06.5**	**0.0**
MSKU				LR	LR		
	comp=Z,2.0nm,21.0s						
ISP	**Isparta**	**90.01**	**50**	PFAKE		18 21 20.0	+12
ISP				LR	LR		
	comp=Z,901nm,19.0s						
VRHR	**Novokhopersk**	**90.58**	**34**	*e*P	**P**	**18 21 10.4**	**+0.3**
VRHR				pmax	pmax		
	comp=N,30nm,1.0s						
VRHR				pmax	pmax		
	comp=E,30nm,1.0s						
VRHR				pmax	pmax		
	comp=Z,100nm,1.0s						
VRHR				MLR	MLR		
	comp=Z,1μm,22.0s						
VRHR				MLR	MLR		
	comp=N,350nm,22.0s						
VRHR				MLR	MLR		
	comp=E,1μm,22.0s						
ANTO	**Ankara**	**90.72**	**47**	*e*P	**P**	**18 21 11.4**	**+0.2**
ANTO				pmax	pmax		
	comp=Z,97nm,1.4s						
ANTO				MLR	MLR		
	comp=Z,760nm,19.0s						
ANTO	**Ankara**	**90.72**	**47⇑**	*i*P	**P**	**18 21 11.7**	**+0.5**
ANTO	**Ankara**	**90.72**	**47**	*e*P	**P**	**18 21 11.3**	**+0.2**
	comp=Z,97nm,1.4s						
ANTO				LR	LR		
	comp=Z,760nm,19.0s						
BR231	**Keskin MP Arra**	**90.72**	**47**	*e*P	**P**	**18 21 13.9**	**+2.6**
BRTR	**Keskin Array B**	**91.37**	**47**	P	**P**	**18 21 15.0**	**+0.7**
	comp=Z,15nm,1.1s,baz=277,slow=3.9,SNR=63						
BRTR				PKKPbc	**PKKPbc**	**18 38 34.8**	**-1.2**
	comp=Z,2.4nm,0.6s,baz=146,slow=4.4,SNR=21						
BRTR				LR	LR	19 01 28.5	
	comp=Z,442nm,18.9s,baz=288,slow=35						
ANN	**Anapa**	**91.44**	**41**	*e*P	**P**	**18 21 12.9**	**-1.4**
ANN				*e*PP	**pP**	**18 21 20.8**	**0.0**
ANN				*e*SP	SP	18 33 28.7	+7.9
ANN				pmax	pmax		
	comp=Z,124nm,2.0s						
ANN				MLR	MLR		
	comp=N,535nm,20.0s						
ANN				MLR	MLR		
	comp=Z,1μm,20.0s						
ANN				MLR	MLR		
	comp=E,991nm,20.0s						
SOKR	**Solikamsk**	**91.92**	**22**	*e*P	**P**	**18 21 17.5**	**+1.3**
SOKR				pmax	pmax		
	comp=Z,40nm,1.6s						
SOKR				MLR	MLR		
	comp=Z,670nm,18.0s						
CSS	**Prodhromos**	**93.30**	**51**	*e*P	**P**	**18 21 23.9**	**+0.7**
	comp=Z,12nm,1.2s						
CSS				LR	LR		
	comp=Z,219nm,22.0s						
SOC	**Sochi**	**93.47**	**41**	*e*P	**P**	**18 21 23.0**	**-0.7**
SOC				*e*		18 25 05.0	
SOC				*e*S	**SKSac**	**18 31 55.8**	**-1.6**
SOC				*e*		18 32 28.0	
SOC				pmax	pmax		
	comp=Z,21nm,0.8s						
SOC				MLR	MLR		
	comp=Z,596nm,14.0s						
PET	**Petropavlovsk**	**93.85**	**331**	*e*P	**P**	**18 21 23.5**	**-1.7**
PET				*e*		18 31 55.6	
PET				*e*S	S	18 32 25.6	-8.4
PET				pmax	pmax		
	comp=Z,20nm,1.7s						
PET				MLR	MLR		
	comp=Z,2μm,18.0s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s						
PET	**Petropavlovsk**	**93.85**	**331**	*e*P	**P**	**18 21 26.6**	**+1.3**
PET				LR	LR		
	comp=Z,2μm,19.0s						
PETK	**Petropavlovsk-**	**94.24**	**331**	LR	LR	19 07 31.4	
	comp=Z,2μm,18.1s,baz=49,slow=38						
GOF	**Gofitskoye**	**94.70**	**39**	*e*P	**P**	**18 21 29.7**	**+0.4**
ARU	**Arti**	**94.87**	**24**	P	**P**	**18 21 31.2**	**+1.3**
	comp=Z,124nm,1.4s,SNR=8.1						
ARU	**Arti**	**94.87**	**24**	*c i*P	**P**	**18 21 31.0**	**+1.1**
ARU						18 25 19.3	
ARU				S	**SKSac**	**18 32 05.0**	**+0.6**
ARU				SP	**SP**	**18 34 02.1**	**+4.1**
ARU				pmax	pmax		
	comp=Z,55nm,1.7s						
ARU	**Arti**	**94.87**	**24**	*e*P	**P**	**18 21 30.5**	**+0.7**
	comp=Z,47nm,1.3s						
ARU				LR	LR		
	comp=Z,1μm,22.0s						
KIV	**Kislovodsk**	**95.09**	**40**	*c e*P	**P**	**18 21 32.2**	**+0.9**
KIV				*e*		18 25 21.9	
KIV				pmax	pmax		
	comp=Z,26nm,1.1s						
KIV				MLR	MLR		
	comp=Z,638nm,20.0s						
KIV	**Kislovodsk**	**95.09**	**40**	*e*P	**P**	**18 21 31.9**	**+0.6**
KIV				LR	LR		
	comp=Z,645nm,19.0s						
MALT	**Malatya**	**95.32**	**46⇓**	*i P*	**P**	**18 21 33.2**	**+0.7**
SVE	**Sverdlovsk**	**95.34**	**23⇑**	*i*P	**P**	**18 21 33.2**	**+1.2**
SVE				pmax	pmax		
	comp=Z,28nm,1.5s						
KBZ	**Khabaz**	**95.35**	**40**	P	**P**	**18 21 33.1**	**+0.8**
	comp=Z,7.1nm,1.0s,baz=242,slow=0.6,SNR=13						
KBZ				PKKP	**PKKPdf**	**18 38 24.2**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=148,slow=5.4,SNR=7.7						
KBZ				LR	LR	19 03 23.4	
	comp=Z,721nm,19.7s,baz=317,slow=35						
YAK	**Yakutsk**	**96.14**	**348**	*e*P	**P**	**18 21 34.7**	**-0.8**
YAK				*e*PP	**pP**	**18 21 43.0**	**+1.0**
YAK				*e*PPP	PPP	18 27 29.7	
YAK				*e*S	**SKSac**	**18 32 09.1**	**-1.8**
YAK				*e*		18 32 51.3	
YAK				pmax	pmax		
	comp=Z,13nm,1.2s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,140nm,2.8s						
YAK				pmax	pmax		
	comp=Z,83nm,2.9s						
YAK				pmax	pmax		
	comp=N,80nm,3.2s						
YAK				smax	smax		
	comp=N,139nm,4.2s						
YAK				smax	smax		
	comp=E,233nm,4.0s						
YAK	**Yakutsk**	**96.14**	**348**	*e*P	**P**	**18 21 35.7**	**+0.2**
	comp=E,37nm,1.4s						
YAK				LR	LR		
	comp=Z,2μm,19.0s						
ZEI	**Tsey**	**96.48**	**40**	*e*P	**P**	**18 21 36.5**	**-1.3**
ZEI				pmax	pmax		
	comp=Z,11nm,1.0s						
GNI	**Garni**	**98.49**	**42**	*c e*P	Pdif	18 21 48.0	+1.1
GNI				pmax	pmax		
	comp=Z,40nm,1.6s						
GNI	**Garni**	**98.49**	**42**	*e*P	Pdif	18 21 47.8	+0.9
	comp=Z,34nm,1.3s						
GNI				LR	LR		
	comp=Z,484nm,19.0s						
MAK	**Makhachkala**	**98.53**	**39**	*e*P	P	18 21 42.2	-4.5
MAK				*e*		18 25 50.7	
MAK				*e*S	**SKSac**	**18 32 18.7**	**-5.2**
MAK				pmax	pmax		
	comp=Z,91nm,2.0s						
TSUM	**Tsumeb**	**98.97**	**107**	*e*P	Pdif	18 21 50.6	+1.4
	comp=Z,1.2nm,1.3s						
TSUM				LR	LR		
	comp=Z,820nm,21.0s						
BOD	**Bodaibo**	**102.39**	**355**	*e*P	**Pdif**	**18 22 03.7**	**+0.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.9s						
SNAA	**Sanae**	**103.20**	**162**	*e*PP	PP	18 26 21.3	-0.9
ZAA0	**Zalesovo Array**	**104.71**	**12**	*e*Pdif	**Pdif**	**18 22 14.5**	**+0.5**
ZALV	**Zalesovo Beam**	**104.71**	**12**	Pdiff	**Pdif**	**18 22 14.2**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=345,slow=9.2,SNR=4.8						
ZALV				PKiKP	**PKiKP**	**18 26 30.7**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=341,slow=3.1,SNR=3.7						
YSS	**Yuzh-Sakhalins**	**105.28**	**334**	PFAKE		18 26 40.0	
YSS				LR	LR		
	comp=Z,911nm,20.0s						
SUR	**Sutherland**	**105.36**	**119**	PFAKE		18 26 40.0	
SUR				LR	LR		
	comp=Z,666nm,20.0s						
KURK	**Kurchatov**	**106.26**	**17**	PFAKE		18 26 40.0	
KURK				LR	LR		
	comp=Z,504nm,20.0s						
LSZ	**Lusaka**	**107.54**	**100**	PFAKE		18 26 50.0	
LSZ				LR	LR		
	comp=Z,700nm,20.0s						
GEYT	**Alibeck**	**107.94**	**37**	PKKPbc	PKKPbc	18 37 47.9	-1.3
	comp=Z,2.0nm,0.7s,baz=151,slow=3.3,SNR=7.0						
BOSA	**Boshof**	**108.23**	**115**	PKiKP	**PKiKP**	**18 26 35.9**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=301,slow=1.4,SNR=4.3						
TLY	**Talaya**	**108.94**	**1**	PFAKE		18 26 50.0	
TLY				LR	LR		
	comp=Z,2μm,21.0s						
ERM	**Erimo**	**109.01**	**331**	PFAKE		18 26 50.0	
ERM				LR	LR		
	comp=Z,1μm,20.0s						
QSPA	**South Pole Qui**	**109.62**	**180**	*e*P	**PKiKP**	**18 26 38.1**	**-0.1**
QSPA				LR	LR		
	comp=Z,1μm,20.0s						
TARA	**Tarawa**	**109.88**	**279**	PFAKE		18 26 50.0	
TARA				LR	LR		
	comp=Z,3μm,20.0s						
HIA	**Hailar**	**110.05**	**350**	PFAKE		18 26 50.0	
HIA				LR	LR		
	comp=Z,2μm,19.0s						
ZAK	**Zakamensk**	**110.23**	**1**	*e*PKIKP	PKPpre	18 26 21.1	
ZAK				pmax	pmax		
	comp=Z,4.0nm,2.2s						
MKAR	**Makanchi Array**	**110.83**	**16**	*c i*PKIKP	**PKiKP**	**18 26 45.0**	**+3.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**110.83**	**16**	PKKPbc	PKKPbc	18 37 37.1	-3.2
	comp=Z,0.7nm,0.5s,baz=126,slow=2.5,SNR=9.8						
MKAR	**Makanchi Array**	**110.83**	**16**	*e*PP	PP	18 27 23.0	+5.5
MKAR				PKKPbc	**PKKPbc**	**18 37 37.1**	**-3.2**
MK01	**Makanchi Array**	**110.86**	**16**	*e*PP	PP	18 27 22.7	+5.0
KMBO	**Kilima Mbogo**	**111.68**	**83**	PFAKE		18 27 00.0	
KMBO				LR	LR		
	comp=Z,1μm,19.0s						
EKS2	**Erkin-Say**	**111.76**	**24**	PFAKE		18 26 50.0	
EKS2				LR	LR		
	comp=Z,968nm,20.0s						
MDJ	**Mudanjiang**	**112.06**	**341**	Pdif	**Pdif**	**18 22 47.3**	**+0.4**
MDJ				PP	**PP**	**18 27 29.5**	**+3.2**
MDJ				LN			
	comp=Z,1μm,25.1s						
MDJ				LE			
	comp=Z,830nm,19.1s						
MDJ				LZ			
	comp=Z,2μm,25.1s						
MDJ	**Mudanjiang**	**112.06**	**341**	PFAKE		18 27 00.0	
MDJ				LR	LR		
	comp=Z,2μm,21.0s						
AAK	**Ala-Archa**	**112.06**	**24**	PKIKP	**PKiKP**	**18 26 45.0**	**+1.2**
AAK				MLR	MLR		
	comp=Z,967nm,20.0s						
AAK	**Ala-Archa**	**112.06**	**24**	P	**PKiKP**	**18 26 45.0**	**+1.2**
AAK				LR	LR		
	comp=Z,967nm,20.0s						
TKM2	**Tokmak 2**	**112.22**	**23**	PFAKE		18 27 00.0	
TKM2				LR	LR		
	comp=Z,1μm,19.0s						
ULN	**Ulaanbaatar**	**112.72**	**358**	*e*PP	PP	18 27 30.7	-0.4
ULN				LR	LR		
	comp=Z,2μm,19.0s						
SONA1	**Songino Array**	**112.76**	**359**	*e*PKiKP	**PKiKP**	**18 26 44.5**	**-0.4**
SONA1				*e*PP	**PP**	**18 27 29.9**	**-1.3**
SONM	**Songino Array**	**112.77**	**359**	PKiKP	**PKiKP**	**18 26 44.4**	**-0.5**
	comp=Z,1.3nm,1.1s,baz=8.4,slow=1.0,SNR=6.1						
SONM				PKKPbc	**PKKPbc**	**18 37 31.0**	**-3.1**
	comp=Z,2.6nm,1.1s,baz=180,slow=2.5,SNR=8.0						
CN2	**Changchun**	**113.99**	**344**	*e*Pdif	**Pdif**	**18 22 50.3**	**-5.2**
CN2				*e*PKP	**PKiKP**	**18 26 45.8**	**-1.4**
CN2				PPMZ			
	comp=Z,400nm,8.0s						
CN2				LZ			
	comp=Z,700nm,15.0s						
WMQ	**Urumqi**	**114.93**	**13**	*e*PKP	PKPdf	18 26 48.6	-0.5
WMQ				PP	**PP**	**18 27 50.8**	**+4.1**
WMQ				PKS	**PKSdf**	**18 30 24.0**	**-1.8**
WMQ				SKS	**SKSdf**	**18 33 59.6**	**-0.8**
WMQ				SKKS	**SKKSac**	**18 34 43.6**	**-5.1**
WMQ				PPMZ			
	comp=Z,230nm,4.5s						
WMQ				LN			
	comp=Z,1μm,20.0s						
WMQ				LE			
	comp=Z,720nm,24.0s						
WMQ				LZ			
	comp=Z,2μm,22.0s						
KSH	**Kashi**	**115.31**	**24**	*e*PKP	**PKPdf**	**18 26 51.3**	**+1.3**
KSH				sPKP		18 26 56.0	
KSH				PP	**PP**	**18 27 50.6**	**+0.9**
KSH				PKS	**PKSdf**	**18 30 28.0**	**+1.1**
KSH				PPMZ			
	comp=Z,110nm,5.5s						
KSH				LN			
	comp=Z,350nm,13.6s						
KSH				LE			
	comp=Z,940nm,18.0s						
KSH				LZ			
	comp=Z,560nm,16.8s						
MJAR	**Matsushiro Arr**	**115.69**	**330**	PKP	**PKPdf**	**18 26 50.0**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=92,slow=1.7,SNR=4.5						
MAJO	**Matsushiro**	**115.69**	**330**	PFAKE		18 27 00.0	+9.3
MAJO				LR	LR		
	comp=Z,1μm,21.0s						
SYO	**Syowa Base**	**117.12**	**158⇑**	*e*X	**PP**	**18 28 06.2**	**+3.7**
SNZO	**South Karori**	**117.50**	**233**	PFAKE		18 27 10.0	+16
SNZO				LR	LR		
	comp=Z,691nm,20.0s						
KS01	**Wonju Array Si**	**119.05**	**339**	*e*PKPdf	**PKPdf**	**18 26 56.3**	**-0.8**
KSRS	**Korea Array**	**119.06**	**339**	PKP	**PKPdf**	**18 26 56.8**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=27,slow=2.4,SNR=7.9						
KSAR	**Wonju Array Be**	**119.09**	**339**	PKIKP	**PKPdf**	**18 26 56.8**	**-0.4**
KSAR	**Wonju Array Be**	**119.09**	**339**	PKP	**PKPdf**	**18 26 56.8**	**-0.4**
HHC	**Hu-ho-hao-te**	**119.43**	**354**	*e*PKP	**PKPdf**	**18 27 00.0**	**+2.1**
HHC				PP	PP	18 28 24.6	+6.6
HHC				PKS	**PKSdf**	**18 30 35.4**	**+0.7**
HHC				SKS	**SKSdf**	**18 34 11.0**	**+1.7**
HHC				PPMZ			
	comp=Z,190nm,5.6s						
HHC				LZ			
	comp=Z,830nm,24.5s						
INCN	**Inchon**	**119.47**	**340**	PFAKE		18 27 10.0	+12
INCN				LR	LR		
	comp=Z,2μm,19.0s						
BJI	**Beijing**	**119.61**	**350**	PKP	**PKPdf**	**18 26 56.8**	**-1.3**
BJI				PP	**PP**	**18 28 18.8**	**-0.3**
BJI				LN			
	comp=Z,1μm,22.8s						
BJI				LE			
	comp=Z,800nm,24.5s						
BJI				LZ			
	comp=Z,1μm,26.1s						
GTA	**Gaotai**	**121.04**	**4**	PKP	**PKPdf**	**18 27 01.3**	**+0.2**
GTA				sPKP		18 27 10.0	
GTA				PP	**PP**	**18 28 32.8**	**+3.7**
GTA				SKS	**SKSdf**	**18 34 09.8**	**-2.6**
GTA				SKKS	**SKKSac**	**18 35 23.1**	**-6.3**
GTA				PPMZ			
	comp=Z,200nm,6.7s						
GTA				LN			
	comp=Z,950nm,20.0s						
GTA				LE			
	comp=Z,1μm,18.0s						
GTA				LZ			
	comp=Z,2μm,17.1s						
TIA	**Tai'an**	**123.16**	**348**	PKP	**PKPdf**	**18 27 05.6**	**+0.5**
TIA				PPMZ			
	comp=Z,420nm,3.6s						
TIA				LZ			
	comp=Z,2μm,21.2s						
LZH	**Lanzhou**	**124.53**	**1**	*e*PKP	**PKPdf**	**18 27 08.3**	**+0.4**
LZH				PP	**PP**	**18 28 56.6**	**+3.9**
LZH				SS	SS	18 45 42.0	-2.0
LZH				PPMZ			
	comp=Z,250nm,8.4s						
LZH				LN			
	comp=Z,1μm,14.4s						
LZH				LE			
	comp=Z,1μm,17.8s						
LZH				LZ			
	comp=Z,2μm,18.2s						
ABPO	**Ambohimpanom**	**126.10**	**100**	*e*PKIKP	**PKPdf**	**18 27 11.9**	**+0.7**
ABPO				MLR	MLR		
	comp=Z,770nm,22.0s						
ABPO	**Ambohimpanom**	**126.10**	**100**	*e*PKPdf	**PKPdf**	**18 27 11.9**	**+0.7**
ABPO				LR	LR		
	comp=Z,770nm,22.0s						
XAN	**Xi'an**	**126.42**	**356**	PKP	**PKPdf**	**18 27 11.4**	**0.0**
XAN				PPMZ			
	comp=Z,41nm,13.2s						
XAN				LN			
	comp=Z,1μm,20.2s						
XAN				LE			
	comp=Z,590nm,19.2s						
XAN				LZ			
	comp=Z,490nm,18.2s						
NJ2	**Nanjing**	**126.77**	**345**	*e*PKP	**PKPdf**	**18 27 15.3**	**+3.2**
NJ2				PP	**PP**	**18 29 11.0**	**+3.4**
NJ2				PPMZ			
	comp=Z,1μm,6.8s						
NJ2				LZ			
	comp=Z,3μm,18.5s						
DANN	**Dangsing**	**128.17**	**24**	*e*P	**PKPdf**	**18 27 14.7**	**-0.5**
	comp=Z,104nm,1.3s						
KOLN	**Koldanda**	**128.63**	**24**	*e*P	**PKPdf**	**18 27 15.2**	**-0.8**
	comp=Z,53nm,1.4s						
GKN	**Gorkha**	**128.81**	**23**	*e*P	**PKPdf**	**18 27 16.2**	**-0.1**
	comp=Z,160nm,1.3s						
WHN	**Wuhan**	**129.19**	**349⇑**	*i*PKP	**PKPdf**	**18 27 17.8**	**+1.1**
WHN				LZ			
	comp=Z,3μm,19.6s						
LSA	**Lhasa**	**129.22**	**15**	PKP	**PKPdf**	**18 27 17.8**	**+0.4**
LSA	**Lhasa**	**129.22**	**15**	*e*PKIKP	**PKPdf**	**18 27 17.0**	**-0.4**
LSA				MLR	MLR		
	comp=Z,966nm,19.0s						
LSA	**Lhasa**	**129.22**	**15**	*e*PKPdf	**PKPdf**	**18 27 17.0**	**-0.4**
LSA				LR	LR		
	comp=Z,966nm,19.0s						
KKN	**Kakani**	**129.23**	**22**	*e*P	**PKPdf**	**18 27 16.8**	**-0.4**
	comp=Z,63nm,1.3s						
GUN	**Gumba**	**129.33**	**22**	*e*P	**PKPdf**	**18 27 17.4**	**-0.1**
DMN	**Daman**	**129.34**	**23**	*e*P	**PKPdf**	**18 27 17.0**	**-0.4**
PKIN	**Phulchoki**	**129.47**	**22**	*e*P	**PKPdf**	**18 27 16.8**	**-0.9**
	comp=Z,26nm,1.2s						
PKI	**Pulchoki**	**129.48**	**22**	*e*P	**PKPdf**	**18 27 17.2**	**-0.6**
JIRN	**Jiri**	**129.67**	**21**	*e*P	**PKPdf**	**18 27 17.7**	**-0.5**
CD2	**Chengdu**	**129.69**	**1**	*e*PKP	**PKPdf**	**18 27 18.4**	**+0.7**
CD2				PP	**PP**	**18 29 31.3**	**+4.6**
CD

comp=Z,974nm,20.0s
MSEY Mahe Island 129.93 79 *e*PKPdf **PKPdf 18 27 19.9 +1.3**
MSEY LR LR
comp=Z,974nm,20.0s
ENH Enshi 130.11 354 PFAKE 18 27 30.0 +11
ENH LR LR
comp=Z,826nm,20.0s
TAPN Taplejung 130.46 20 *e*P **PKPdf 18 27 19.2 -0.4**
RAMN Ramite 130.46 21 *e*P **PKPdf 18 27 19.1 -0.5**
ODAN Odare 130.81 20 *e*P **PKPdf 18 27 19.7 -0.5**
TATO Taipei 132.66 339 PFAKE 18 27 40.0 +17
TATO LR LR
comp=Z,1μm,20.0s
YHNB Yeheng 132.98 339 PFAKE 18 27 40.0 +16
YHNB LR LR
comp=Z,1μm,20.0s
CASY Casey 133.27 183 *e*PKPdf **PKPdf 18 27 23.5 +0.3**
CASY LR LR
comp=Z,1μm,19.0s
SSLB Suanglung 133.94 339 *e*PKPdf **PKPdf 18 27 24.3 -1.7**
GYA Guiyang 134.09 357 Pdif **Pdif 18 24 24.0 -1.4**
GYA PKP **PKPdf 18 27 25.4 -0.9**
GYA PP **PP 18 29 59.8 +4.7**
GYA PKS **PKSdf 18 31 00.6 -2.3**
GYA SKKS 18 36 48.3
GYA SS **SS 18 47 41.8 -0.1**
GYA PPMZ
comp=Z,190nm,8.0s
GYA LN
comp=Z,280nm,21.4s
GYA LE
comp=Z,190nm,22.0s
GYA LZ
comp=Z,230nm,20.2s
HYB Hyderabad 135.12 36 *i* PKP **PKPdf 18 27 26.5 -1.8**
KMI Kunming 135.42 2 PKP **PKPdf 18 27 29.3 +0.4**
KMI PP **PP 18 30 08.3 +4.6**
KMI PKS **PKSdf 18 31 01.4 -4.2**
KMI SKKS 18 36 56.3
KMI LN
comp=Z,1μm,16.9s
KMI LE
comp=Z,740nm,15.0s
KMI LZ
comp=Z,2μm,16.0s
SLVN Son La 139.22 1 *e*PKPdf **PKPdf 18 27 35.8 -0.1**
PAF Port-aux-Franc 139.63 145 PP PP 18 29 59.0 -31
PAF SS SS 18 48 36.0 -13
PAF L L 19 04 00.0
SZP Santa 139.85 336 *e*PKPdf **PKPdf 18 27 38.4 +1.4**
CTAO Charters Tower 140.90 262 *e*PKIKP **PKPdf 18 27 39.2 +0.4**
CTAO Charters Tower 140.90 262 *e*PKPdf **PKPdf 18 27 39.2 +0.4**
QIZ Qiongzhong 141.18 352 PKP **PKPdf 18 27 39.3 0.0**
QIZ PP **PP 18 30 40.8 +1.6**
QIZ LN
comp=Z,790nm,18.2s
QIZ LE
comp=Z,230nm,19.7s
QIZ LZ
comp=Z,2μm,18.2s
QIZ Qiongzhong 141.18 352 PFAKE 18 27 50.0 +11
QIZ LR LR
comp=Z,2μm,19.0s
CHTO Chiang Mai 141.34 9 *e*PKHKP PKPpre 18 27 33.2
CHTO MLR MLR
comp=Z,989nm,20.0s
CHTO Chiang Mai 141.34 9 *e*PKPpre PKPpre 18 27 33.2
CHTO LR LR
comp=Z,989nm,20.0s
CMMT Chiang Mai 141.34 9 P **PKPdf 18 27 36.2 -3.5**
comp=Z,12nm,2.0s
CMAR Chiang Mai Arr 141.69 9 PKhKP PKPpre 18 27 35.2
comp=Z,2.2nm,0.8s,baz=324,slow=4.2,SNR=15
CM01 Chiang Mai Arr 141.73 9 *e*PKPpre PKPpre 18 27 35.2
MHMT Maesarieng 141.81 10 P **PKPdf 18 27 41.8 +1.3**
comp=Z,12nm,1.1s
COEN Coen 142.69 273 *e*PKPpre PKPpre 18 27 37.9
COEN *e*SKP 18 31 18.7
PALK Pallekele 144.34 44 *e*PKIKP **PKPab 18 27 43.0 -0.1**
PALK Pallekele 144.34 44 *e*PKPdf **PKPab 18 27 43.0 -0.1**
H08N2 Diego Garcia H 144.76 72 PKP **PKPdf 18 27 45.3 -0.1**
baz=256,slow=6.1,SNR=7.1
H08N3 Diego Garcia H 144.77 72 PKP **PKPdf 18 27 45.7 +0.4**
baz=256,slow=6.1,SNR=6.0
H08N1 Diego Garcia H 144.78 72 PKP **PKPab 18 27 43.0 -1.3**
baz=256,slow=6.1,SNR=5.5
KHLT Khaolaem Dam 145.23 10 P **PKPdf 18 27 46.4 -0.1**
comp=Z,68nm,1.6s
CGP Cagayan de Oro 145.74 323 *e*P **PKPdf 18 27 47.4 0.0**
SRDT SRDT 145.75 9 P **PKPbc 18 27 47.8 +0.1**
comp=Z,519nm,1.2s
DAV Davao City (W) 146.33 320 *e*PKPdf **PKPab 18 27 50.9 +0.5**
DAV LR LR
comp=Z,792nm,22.0s
DGAR Diego Garcia 146.53 73 *e*PKIKP **PKPdf 18 27 47.0 -1.8**
DGAR MLR MLR
comp=Z,1μm,21.0s
DGAR Diego Garcia 146.53 73 *e*PKPdf **PKPdf 18 27 47.0 -1.8**
DGAR LR LR
comp=Z,1μm,21.0s
H08S1 Diego Garcia H 146.64 73 PKPbc **PKPdf 18 27 49.1 +0.5**
H08S3 Diego Garcia H 146.65 73 PKPbc **PKPdf 18 27 49.1 +0.5**
H08S2 Diego Garcia H 146.66 73 PKPbc **PKPdf 18 27 49.1 +0.5**
CTBH Cotabato--PC H 147.00 322 ||*i*P **PKPdf 18 27 48.5 -1.1**
FAKI Fak Fak 148.27 298 *e*PKPdf **PKPdf 18 27 52.9 +1.1**
DLV T Lat 148.34 353 *e*PKPbc **PKPbc 18 27 55.6 +0.2**
BBOO Buckleboo 149.03 239 *e*PKPdf **PKPdf 18 27 51.6 -0.8**
BBOO *e*PKPdf **PKPbc 18 27 55.9 -0.6**
TNTI Ternate 149.80 310 *e*PKPdf **PKPdf 18 27 54.1 0.0**
TNTI *e*PKPbc **PKPbc 18 27 58.4 -0.5**
TNTI *e*PKPab **PKPab 18 28 06.5 +2.3**
SURA Surathani 150.91 10 P **PKPbc 18 28 02.3 +0.8**
comp=Z,47nm,0.8s
SURT Suratani 150.97 12 P **PKPbc 18 28 01.2 -0.5**
SRIT Nakonsritamara 151.47 10 P **PKPbc 18 28 02.8 -0.1**
comp=Z,231nm,1.1s
MYLDM Lahad Datu 151.75 330 *e*PKPdf **PKPdf 18 28 00.0 +2.8**
KKM Kota Kinabalu 151.99 335 *e*PKPbc **PKPbc 18 28 03.5 -0.7**
KKM LR LR
comp=Z,764nm,20.0s
WB2 Warramunga Arr 152.02 264 *e*PKPdf **PKPdf 18 27 56.4 -1.0**
WB2 *e*PKPbc **PKPbc 18 28 03.0 -0.9**
WRAB Tennant Creek 152.02 264 *e*PKIKP **PKPdf 18 27 56.8 -0.6**
WRAB *e* 18 28 03.2
WRAB MLR MLR
comp=Z,1μm,22.0s
WRAB Tennant Creek 152.02 264 *e*PKPdf **PKPdf 18 27 56.8 -0.6**
WRAB *e*PKPbc **PKPbc 18 28 03.2 -0.8**
WRAB LR LR
comp=Z,1μm,22.0s
WRA Warramunga Arr 152.03 264 PKP **PKPdf 18 27 57.0 -0.4**
comp=Z,45nm,0.8s,baz=78,slow=1.5,SNR=405
WRA PKPbc **PKPbc 18 28 03.4 -0.7**
comp=Z,84nm,0.6s,baz=86,slow=2.8,SNR=329
AS01 Alice Springs 152.46 256 *e*PKPdf **PKPdf 18 27 56.6 -1.4**
AS31 Alice Springs 152.50 256 *e*PKPdf **PKPdf 18 27 57.5 -0.6**
AS31 *e*PKPbc **PKPbc 18 28 03.7 -1.3**
ASAR Alice Springs 152.50 256 PKP **PKPdf 18 27 57.4 -0.7**
comp=Z,19nm,0.7s,baz=91,slow=1.4,SNR=389
ASAR PKPbc **PKPbc 18 28 04.2 -0.8**
comp=Z,55nm,0.4s,baz=81,slow=2.3,SNR=220
KULM Kulim 154.88 9 *e*pPKPdf **pPKPdf 18 28 09.4 +0.9**
KULM *e*PKPab **PKPab 18 28 23.7 -1.6**
KULM LR LR
comp=Z,829nm,21.0s
IPM Ipoh 155.73 9 *e*PKPdf **PKPdf 18 28 02.2 -0.7**
IPM *e*PKPab **PKPab 18 28 27.8 -1.2**
FORT Forrest 156.12 238 *e*PKPdf **PKPdf 18 28 02.1 -0.8**
SBUM Sibu 156.76 340 *e*PKPdf **PKPdf 18 28 05.7 +1.5**
KSM Kuching 158.24 344 PFAKE 18 28 20.0 +14
KSM LR LR
comp=Z,562nm,20.0s
SOEI Soe 158.59 295 *e*PKPdf **PKPdf 18 28 02.5 -4.1**
KAPI Kappang 159.25 313 *e*PKPdf **PKPdf 18 28 06.5 -0.8**
KAPI LR LR
comp=Z,587nm,21.0s
MBWA Marble Bar 165.74 262 *e*PKPdf **PKPdf 18 28 12.7 -0.7**
MBWA *e*PKPab **PKPab 18 29 12.6 -0.1**
MBWA LR LR
comp=Z,1μm,19.0s

DJA 20 18:24:25.6±0.8, 9°S±4°×11°4E±°, h19km±8km, M4.0/14, mb4.5/1, MLv3.8/14, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**0.91**	**8**	P	Pb	18 24 41.8	-1.1
JAGI				S	Sb	18 24 53.7	-0.9
IGBI	**Denpasar**	**1.23**	**63**	P	Pn	18 24 46.2	-1.7
IGBI				S	Sb	18 25 01.7	-2.2
GMJI	**Gumukmas**	**1.24**	**332**	P	Pn	18 24 46.7	-1.3
GMJI				S	Sb	18 25 02.2	-1.9
DNP	**Denpasar**	**1.36**	**59**	P	Pn	18 24 49.5	-0.1
ABJI	**Asem Bagus**	**1.59**	**7**	P	Pn	18 24 53.3	+0.6
BLJI	**Banyuglugur**	**1.68**	**345**	P	Pn	18 24 54.0	0.0
SRBI	**Singaraja**	**1.74**	**42**	P	Pn	18 24 54.7	-0.1
KMMI	**Kalianget**	**2.32**	**358**	P	Pn	18 25 03.5	+0.8
UGM	**Wanagama**	**3.76**	**293**	P	Pn	18 25 22.5	-0.2

IDC 20 18:27:46.7±721.0, 45°74N×64°69E, h0km, Error ellipse: s-maj=276.9km s-min=137.8km az=146.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.46**	**319**	*i*		19 07 11.4	
	baz=134,slow=338						
I46RU	**ZALESOVO INFRA**	**15.33**	**50**	*i*		20 00 30.0	
	baz=248,slow=321,SNR=1.5						

*CSEM **20** 18:29:32.8, 38°60N×30°38E, h12km, MD2.6*
ISK 20 18:29:32.8, 38°60N×30°38E, h12km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.15**	**110**	*e*PG	Pg	18 29 36.9	+0.4
SHUT				*e*SG	Sg	18 29 39.3	+0.2
SHUT	**Suhut-Afyon**	**0.15**	**110**	*e*Pg	Pg	18 29 36.9	+0.4
SHUT				*e*Sg	Sg	18 29 39.3	+0.2
ALT	**Altintas**	**0.50**	**335**	*e*PG	Pg	18 29 42.8	+0.1
ALT				*e*SG	Sb	18 29 50.6	-0.4
ALT	**Altintas**	**0.50**	**335**	*e*Pg	Pg	18 29 42.8	+0.1
ALT				*e*Sg	Sb	18 29 50.6	-0.4
KHL	**Karahalli**	**0.72**	**248**	*e*PG	Pg	18 29 47.0	0.0
KHL	**Karahalli**	**0.72**	**248**	*e*Pg	Pg	18 29 47.0	0.0
ISP	**Isparta**	**0.79**	**171**	*e*PG	Pb	18 29 48.5	-0.1
ISP	**Isparta**	**0.79**	**171**	*e*Pg	Pb	18 29 48.5	-0.1
TVSB	**Tavsanli**	**1.10**	**320**	*e*PN	Pn	18 29 54.4	+0.2
TVSB	**Tavsanli**	**1.10**	**320**	*e*Pn	Pn	18 29 54.4	+0.1
KIZT	**Kizilcal**	**1.21**	**76**	*e*PN	Pb	18 29 56.0	+0.2
KIZT	**Kizilcal**	**1.21**	**76**	*e*Pn	Pb	18 29 56.0	+0.2
SVRH	**Sivrihisar-ESK**	**1.23**	**46**	*e*PN	Pn	18 29 55.5	-0.5
SVRH	**Sivrihisar-ESK**	**1.23**	**46**	*e*Pn	Pn	18 29 55.5	-0.5
KULA	**Kula-Manisa**	**1.35**	**267**	*e*PN	Pb	18 29 58.1	0.0
KULA	**Kula-Manisa**	**1.35**	**267**	*e*Pn	Pb	18 29 58.1	0.0

*IDC **20** 18:38:00.8±1.7, 8°40S×124°43E, h0km, mb3.1/1, mb1 4.0/3, mb1mx3.5/30, mbtmp3.7/3, ML4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.9/10, Error ellipse: s-maj=55.3km s-min=26.0km az=77.0*
*ISCJB **20** 18:38:10.6±0.7, 9°11S±0°09×123°92E±0°08, h126km±7km, mb2.9/1, Error ellipse: s-maj=18.8km s-min=7.2km az=38.3*
*DJA **20** 18:38:13.0±0.5, 9°S±6°×12°4E±°, h87km±10km, M3.8/5, mb4.2/2, MLv3.6/5*
ISC 20 18:38:11.2±1.0, 9°0S±0°1×124°03E±0°08, h115km±11km, n16, σ1§62/19, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.79**	**163**	P	**Pn**	**18 38 31.4**	**+0.4**
SOEI				S	**Sn**	**18 38 45.9**	**0.0**
SOEI	**Soe**	**0.79**	**163**	P	**Pn**	**18 38 31.1**	**+0.1**
	baz=0.8,SNR=143						
SOEI				S	**Sn**	**18 38 45.7**	**-0.2**
	baz=0.8,SNR=9.0						
BATI	**Baumata**	**1.25**	**197**	P	**Pn**	**18 38 35.6**	**0.0**
BATI				S	**Sn**	**18 38 53.8**	**-0.3**
BATI	**Baumata**	**1.25**	**197**	Pn	**Pn**	**18 38 35.8**	**+0.2**
	68nm,0.3s,baz=79,slow=7.1,SNR=239						
BATI				Sn	**Sn**	**18 38 53.5**	**-0.6**
	99nm,0.3s,baz=330,slow=20,SNR=79						
MMRI	**Maumere**	**1.81**	**281**	P	**Pn**	**18 38 41.7**	**-0.4**
MMRI				S	**Sn**	**18 39 03.4**	**-2.2**
WSI	**Waingapu**	**3.75**	**259**	P	**Pn**	**18 39 07.2**	**0.0**
	baz=3.7,SNR=3.2						
BKSI	**Bulukumba**	**5.33**	**313**	P	**Pn**	**18 39 29.7**	**+1.1**
	14nm,1.0s,0.0nm						
MTN	**Manton Dam**	**7.95**	**119**	P	**Pn**	**18 40 05.7**	**+1.6**
	baz=8.0,SNR=19						
MTN				S	**Sn**	**18 41 27.8**	**-4.6**
	baz=8.0,SNR=14						
LUWI	**Luwuk**	**8.00**	**351**	S	Sn	18 41 25.0	-8.7
	baz=8.1,SNR=3.7						
KNRA	**Kununurra**	**8.09**	**146**	P	**Pn**	**18 40 05.4**	**-0.5**
	baz=8.1,SNR=48						
KNRA				S	Sn	18 41 30.1	-5.6
	baz=8.1,SNR=13						
KDU	**Kakadu**	**9.06**	**115**	P	**Pn**	**18 40 19.6**	**+0.5**
	baz=9.1,SNR=18						
JAGI	**Jajag, Banyuwa**	**9.78**	**272**	P	Pn	18 40 25.4	-3.5
	baz=9.8,SNR=5.2						
WRA	**Warramunga Arr**	**14.75**	**139**	Pn	**Pn**	**18 41 33.1**	**-1.1**
	0.7nm,0.3s,baz=315,slow=12,SNR=26						
WRA				Sn	Sn	18 44 06.5	-11
	1.0nm,0.3s,baz=313,slow=25,SNR=8.9						
ASAR	**Alice Springs**	**17.38**	**148**	P	**Pn**	**18 42 08.7**	**+2.0**
	0.7nm,0.3s,baz=321,slow=12,SNR=93						
ASAR				S	Sn	18 45 11.8	-8.8
	0.3nm,0.3s,baz=318,slow=23,SNR=9.7						
PMG	**Port Moresby**	**22.83**	**93**	LR	LR	18 51 53.2	
	comp=Z,106nm,18.3s,baz=347,slow=37						
MKAR	**Makanchi Array**	**66.83**	**330**	P	**P**	**18 48 52.3**	**+1.7**
	0.1nm,0.5s,baz=132,slow=8.0,SNR=3.1						

*ISCJB **20** 18:38:20.8±0.3, 19°78N±0°04×75°30W±0°04, h10km, mb4.0/14, MS3.6/2, Error ellipse: s-maj=6.3km s-min=5.0km az=150.2*
*IDC **20** 18:38:20.8±1.0, 19°66N×75°28W, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/33, mbtmp3.8/8, MS3.6/2, Ms1 3.6/2, ms1mx3.3/28, Error ellipse: s-maj=31.1km s-min=26.2km az=42.0*
*NEIC **20** 18:38:23.0±0.5, 19°80N×75°35W, h10km, mb4.4/9, Error ellipse: s-maj=8.9km s-min=8.3km az=172.0*
*JSN **20** 18:38:26.7±1.2, 19°44N×75°51W, h0km±378km, MD4.7*
ISC 20 18:38:23.1±0.5, 19°75N±0°06×75°34W±0°05, h10km, n38, σ1§65/39, mb4.0/14, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**0.28**	**50**	*e*Pg	**Pg**	**18 38 30.8**	**+2.0**
GTBY				*e*Sg	**Sg**	**18 38 34.4**	**+1.9**
GWJ	**Greenwich**	**2.12**	**219**	*i* P	Pn	18 38 56.9	-1.9
YHJ	**Yallahs**	**2.15**	**211**	*i* P	**Pn**	**18 38 58.2**	**-0.8**
STH	**Stony Hill**	**2.17**	**220**	*i* P	Pn	18 38 57.4	-1.9
STH				*i* S	Sn	18 39 21.1	-5.2
HOJ	**Hope**	**2.19**	**218**	*i* P	Pn	18 38 57.4	-2.2
MTDJ	**Mount Denham**	**2.57**	**234**	*e*Pn	Pn	18 39 02.1	-2.8
PCJ	**Portland Cotta**	**2.64**	**221**	*i* P	**Pn**	**18 39 04.8**	**-1.0**
MCJ	**Malvern**	**2.87**	**231**	*i* P	**Pn**	**18 39 08.7**	**-0.3**
SDDR	**Presa de Saban**	**3.90**	**101**	*e*Pn	**Pn**	**18 39 22.5**	**-0.6**
SDDR				*e*Sn	**Sn**	**18 40 07.4**	**-1.7**
GRTK	**Grand Turk**	**4.31**	**65**	*e*Pn	**Pn**	**18 39 28.6**	**-0.1**
GRTK				*e*Sn	**Sn**	**18 40 16.0**	**-3.1**
SDV	**Santo Domingo**	**11.72**	**156**	*e*Pn	**Pn**	**18 41 11.8**	**+1.1**
SDV				*e*Sn	Sn	18 43 11.2	-11
TEIG	**Tepich**	**12.17**	**274**	*e*Pn	**Pn**	**18 41 17.2**	**+0.6**
JTS	**JuntasAbangare**	**13.21**	**226**	*e*Pn	**Pn**	**18 41 32.1**	**+1.3**
BBSR	**BB Station**	**15.78**	**35**	*e*Pn	Pn	18 42 01.9	-3.6
OXF	**Oxford**	**19.28**	**323**	*e*P	**P**	**18 42 45.5**	**-2.5**
	37nm,1.0s						
OTAV	**Otavalo**	**19.63**	**189**	P	**P**	**18 42 54.4**	**+2.0**
	3.0nm,0.6s						
WVT	**Waverly**	**19.67**	**329**	*e*P	**P**	**18 42 52.2**	**-0.1**
	10.0nm,0.3s						
ACSO	**Alum Creek Sta**	**21.44**	**344**	*e*P	**P**	**18 43 10.1**	**-1.3**
	8.7nm,0.9s						
MIAR	**Mount Ida**	**21.87**	**316**	*e*P	**P**	**18 43 14.3**	**-1.7**
	6.7nm,1.1s						
TUL1	**Leonard**	**24.14**	**316**	*e*P	**P**	**18 43 39.0**	**-0.3**
	21nm,0.9s						
JCT	**Junction City**	**24.54**	**301**	P	**P**	**18 43 43.7**	**+0.6**
	11nm,0.9s						
SAML	**Samuel**	**30.93**	**156**	*e*P	**P**	**18 44 39.5**	**-0.8**
	3.5nm,0.9s						
ULM	**Lac du Bonnet**	**34.53**	**337**	P	**P**	**18 45 10.6**	**-0.9**
	1.4nm,0.5s,baz=157,slow=7.7,SNR=3.1						
SCHQ	**Schefferville**	**35.62**	**8**	P	**P**	**18 45 20.0**	**-0.9**
	1.3nm,0.6s,baz=198,slow=9.6,SNR=3.0						
SCHQ				LR	LR	19 01 21.2	
	comp=Z,290nm,18.0s,baz=237,slow=39						
PDAR	**Pinedale Array**	**36.79**	**316**	P	**P**	**18 45 32.0**	**+0.6**
	0.7nm,0.7s,baz=120,slow=10.0,SNR=7.8						
H17A	**Grant Village**	**38.22**	**318**	*e*P	**P**	**18 45 44.0**	**+0.6**
	5.9nm,0.6s						
NVAR	**Mina Array Bea**	**41.47**	**306**	P	**P**	**18 46 12.0**	**+1.4**
	0.5nm,0.7s,baz=101,slow=6.9,SNR=3.9						
YKA	**Yellowknife Ar**	**50.50**	**338**	P	**P**	**18 47 20.9**	**-0.2**
	0.4nm,0.6s,baz=124,slow=8.5,SNR=9.9						
CFAA	**Coronel Fontan**	**51.51**	**172**	LR	LR	19 09 39.8	
	comp=Z,15nm,19.2s,slow=36						
RES	**Resolute Bay**	**55.97**	**354**	P	**P**	**18 48 00.8**	**-0.4**
	1.2nm,0.8s,baz=175,slow=9.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**73.63**	**82**	P	**P**	**18 49 56.9**	**-0.5**
	0.5nm,0.6s,baz=288,slow=5.1,SNR=4.6						
FINES	**FINESS Array B**	**78.17**	**29**	P	**P**	**18 50 22.9**	**+0.5**
	2.4nm,1.0s,baz=268,slow=4.0,SNR=6.6						
WMQ	**Urumqi**	**114.86**	**13**	SS	SS	19 13 57.0	+1.2
HHC	**Hu-ho-hao-te**	**119.37**	**354**	*e*PKP	**PKPdf**	**18 57 12.8**	**-0.4**
HHC				PP	**PP**	**18 58 37.0**	**+4.0**
HHC				PKS	**PKSdf**	**19 00 48.3**	**-1.7**
HHC				SKS	**SKSdf**	**19 04 23.8**	**-1.9**
HHC	**Hu-ho-hao-te**	**119.37**	**354**	SS	SS	19 14 56.3	+1.7
LZH	**Lanzhou**	**124.46**	**1**	*e*PKP	**PKPdf**	**18 57 20.3**	**-2.9**
LZH				pPKP	**pPKPdf**	**18 57 30.6**	**+3.9**
LZH				sPKP		18 57 34.4	
WRA	**Warramunga Arr**	**152.10**	**265**	PKP	**PKPdf**	**18 58 12.7**	**-0.3**
	1.4nm,0.7s,baz=84,slow=2.6,SNR=17						
WRA				PKPbc	**PKPbc**	**18 58 18.3**	**-1.3**
	3.6nm,0.6s,baz=86,slow=3.0,SNR=34						
ASAR	**Alice Springs**	**152.58**	**257**	PKP	**PKPdf**	**18 58 13.0**	**-0.6**
	0.7nm,0.6s,baz=84,slow=1.9,SNR=20						
ASAR				PKPbc	**PKPbc**	**18 58 19.1**	**-1.5**
	2.7nm,0.5s,baz=90,slow=2.1,SNR=65						

*ISCJB **20** 18:44:56.9±1.0, 35°07S±0°03×72°20W±0°09, h29km, Error ellipse: s-maj=10.5km s-min=4.7km az=177.6*
*NEIC **20** 18:44:59.0, 35°03S×72°01W, h20km, ML3.9(GUC), After GUC.*
NEIC Felt [III] at Curico, Pencahue and Talca.
*GUC **20** 18:44:59.6±0.5, 35°03S×71°98W, h25km±7km, ML3.9*
ISC 20 18:44:58.6±1.3, 35°03S±0°03×72°1W±0°1, h29km, n10, σ1§16/18, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.50**	**138**	||*i*P	**Pb**	**18 45 09.2**	**+0.1**
TALC				*i* S	**Sb**	**18 45 16.0**	**-0.2**
TALC				AML	AML	18 45 16.2	
	comp=E,58μm,0.1s						
NICH	**Los Niches**	**0.67**	**88**	||*i*P	**Pb**	**18 45 11.5**	**-0.3**
NICH				*i* S	**Sb**	**18 45 20.5**	**-0.4**
NICH				AML	AML	18 45 20.9	
	comp=N,20μm,0.2s						
LNCH	**Linares**	**0.90**	**156**	*i* P9	**Pn**	**18 45 16.3**	**+1.0**
LNCH				*e*S	**Sn**	**18 45 27.9**	**+0.6**
LNCH				AML	AML	18 45 30.9	
	comp=E,3μm,0.8s						
ANTU	**Antumapu**	**1.87**	**39**	||*i*P	**Pb**	**18 45 30.5**	**-1.6**
ANTU				*i* S	**Sb**	**18 45 54.4**	**-0.7**
CLCH	**Cerro Calan**	**2.05**	**38**	||*i*P	**Pn**	**18 45 32.9**	**+1.7**
CLCH				*i* S	**Sb**	**18 45 58.7**	**-1.7**
FCH	**Farellones**	**2.23**	**41**	*e*P9	**Pb**	**18 45 38.1**	**-0.4**
FCH				*e*S	**Sb**	**18 46 06.3**	**+0.4**
FCH				AML	AML	18 46 11.9	
	comp=N,851nm,0.3s						
PLCA	**Paso Flores**	**5.82**	**169**	*e*Pn	**Pn**	**18 46 23.9**	**+0.8**
PLCA				*e*Sb	**Sb**	**18 47 45.8**	**-2.9**
LCO	**Las Campanas**	**6.11**	**11**	*e*Pn	**Pn**	**18 46 27.6**	**+0.5**
	comp=N,4.7nm,0.3s						
LCO				*e*Sn	**Sn**	**18 47 36.3**	**+0.1**
TRQA	**Tornquist**	**8.65**	**113**	*e*Pn	**Pn**	**18 47 01.9**	**+0.1**
LPAZ	**La Paz**	**18.99**	**12**	*e*P	**Pn**	**18 49 19.6**	**+0.2**

*ISCJB **20** 18:45:29.9±0.2, 32°93N±0°01×35°59E±0°02, h21km±2km, Error ellipse: s-maj=3.1km s-min=2.4km az=15.5*
*GII **20** 18:45:29.6±0.0, 32°91N×35°62E, h13km, MD3.6/5, Mm2.7/8*
*CSEM **20** 18:45:29.9±0.1, 32°93N×35°63E, h15km, MD3.6, Mw2.7, Error ellipse: s-maj=2.2km s-min=1.9km az=107.0*
*NSSC **20** 18:45:29.6±3.7, 32°93N×35°68E, h0km±10km, MD1.1, ML3.1, Fault plane solution: NP1:φ₀6.43000°, δ67.48000°, λ45.90000°.*
*GRAL **20** 18:45:30.7±0.5, 32°94N×35°66E, h5km±4km, MD3.6*
*NIC **20** 18:45:32.0, 32°94N×35°65E, h25km, mb4.1, ML3.5*
*HLW **20** 18:45:41.7, 31°85N×35°58E, h19km±34km, Md3.4, Ml2.8*
ISC 20 18:45:29.7±0.9, 32°93N±0°02×35°63E±0°02, h17km±7km, n120, σ0§71/164, 6C-7D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSHT	**Keshet**	**0.16**	**70**	Pg	**Pb**	**18 45 35.0**	**+0.7**
KSHT	**Keshet**	**0.16**	**70**	Pg	**Pb**	**18 45 35.0**	**+0.7**
MMA0B	**Mount Meron ar**	**0.21**	**294**	Pg	**Pb**	**18 45 35.1**	**-0.1**
MMA0B				Sg	**Sb**	**18 45 38.8**	**0.0**
MMA0B	**Mount Meron ar**	**0.21**	**294**	Pg	**Pb**	**18 45 35.1**	**-0.1**
MMA0B				Sg	**Sb**	**18 45 38.8**	**0.0**
MMC7	**Mount Meron ar**	**0.22**	**295**	Pg	**Pb**	**18 45 35.4**	**0.0**
MMC7	**Mount Meron ar**	**0.22**	**295**	Pg	**Pb**	**18 45 35.4**	**0.0**
KSDI	**Kefar Szold**	**0.26**	**5**	Pg	**Pg**	**18 45 35.6**	**0.0**
KSDI				Sg	**Sb**	**18 45 40.5**	**+0.2**
TCHB	**Talchebab**	**0.38**	**132**	*e*P	**Pg**	**18 45 37.8**	**+0.1**
	SNR=91						
TCHB				*e*S	**Sg**	**18 45 43.2**	**+0.2**
	SNR=59						
TCHB	**Talchebab**	**0.38**	**132**	||*e*P	**Pg**	**18 45 37.7**	**+0.1**
TCHB				*e*S	**Sg**	**18 45 43.2**	**+0.2**
HNTI	**Hanita**	**0.41**	**292**	Pg	**Pb**	**18 45 38.8**	**+0.2**
HNTI				Sg	**Sb**	**18 45 44.6**	**0.0**
HNTI	**Hanita**	**0.41**	**292**	Pg	**Pb**	**18 45 38.8**	**+0.2**
HNTI				Sg	**Sb**	**18 45 44.6**	**0.0**
BLGI	**Bet Lehem HaGe**	**0.42**	**243**	Pg	**Pg**	**18 45 38.4**	**+0.1**
NAQL	**Naqoura**	**0.45**	**295**	*e*P	**Pb**	**18 45 39.1**	**-0.1**
NAQL	**Naqoura**	**0.45**	**295**	*e*P	**Pb**	**18 45 39.1**	**-0.1**
MMLI	**Mount Malkishu**	**0.52**	**200**	*e*PG	**Pg**	**18 45 40.0**	**-0.1**
MMLI				*e*SG	**Sg**	**18 45 47.0**	**-0.1**
MMLI	**Mount Malkishu**	**0.52**	**200**	Pg	**Pg**	**18 45 39.8**	**-0.3**
MMLI				Sg	**Sb**	**18 45 47.7**	**+0.1**
MMLI	**Mount Malkishu**	**0.52**	**200**	*e*Pg	**Pg**	**18 45 40.0**	**-0.1**
MMLI				*e*Sg	**Sg**	**18 45 47.0**	**-0.1**
BRBR	**Barbar**	**0.55**	**29**	*e*P	**Pg**	**18 45 40.5**	**-0.3**
	SNR=92						
BRBR				*e*S	**Sg**	**18 45 47.7**	**-0.5**
	1μm,0.4s,SNR=59						
BRBR	**Barbar**	**0.55**	**29**	||*e*P	**Pg**	**18 45 40.5**	**-0.3**
BRBR				*e*S	**Sg

SNR=75
QASN eS Sb 18 45 56.4 +0.3
comp=E,2μm,0.2s,SNR=59
QASN Qassioun 0.81 42⇑ eP Pb 18 45 45.1 -0.3
QASN eS Sb 18 45 56.4 +0.3
QASN AML AML 18 45 58.0
comp=Z,818nm,0.2s
QASN AML AML 18 45 58.1
comp=E,45μm,0.2s
QASN AML AML 18 45 59.9
comp=N,2μm,0.2s
SLTI Sal'it 0.85 216 Pg Pb 18 45 45.5 -0.5
SLTI Sg Sg 18 45 57.9 +0.5
BEYL Beirut 0.95 353 eP Pb 18 45 47.9 +0.1
BEYL Beirut 0.95 353 eP Pb 18 45 47.8 +0.1
SALA Sala 0.95 103 eP Pb 18 45 47.5 -0.3
SNR=75
SALA eS Sb 18 46 00.5 +0.3
comp=N,867nm,0.3s,SNR=59
SALA Sala 0.95 103⇓ eP Pb 18 45 47.6 -0.3
SALA eS Sb 18 46 00.5 +0.3
SALA AML AML 18 46 01.3
comp=E,83nm,0.2s
SALA AML AML 18 46 04.8
comp=Z,834nm,0.3s
SALA AML AML 18 46 06.1
comp=N,867nm,0.3s
BHL Bhannes 0.97 1 eP Pb 18 45 47.7 -0.5
BHL Bhannes 0.97 1 eP Pb 18 45 47.7 -0.5
MARH Ras Al Marh 1.30 33 eP Pn 18 45 53.7 +0.2
SNR=57
MARH eS Sg 18 46 12.2 +0.2
comp=N,364nm,0.4s,SNR=49
MARH Ras Al Marh 1.30 33⇑ eP Pn 18 45 53.6 +0.2
MARH eS Sg 18 46 12.2 +0.2
MARH AML AML 18 46 17.0
comp=N,769nm,0.4s
MARH AML AML 18 46 17.3
comp=E,861nm,0.4s
MARH AML AML 18 46 17.5
comp=Z,364nm,0.4s
DSI Dead Sea 1.37 189 Pn Pn 18 45 53.3 -0.7
DSI Sn Sb 18 46 12.6 +0.5
HWQ Hawqa 1.37 11 eP Pn 18 45 54.4 +0.2
HWQ eS Sn 18 46 12.1 +0.1
HWQ Hawqa 1.37 11 eP Pn 18 45 54.4 +0.2
HWQ eS Sn 18 46 12.1 +0.1
MKRJ Makawir 1.37 180 Pn Pn 18 45 54.3 +0.2
ZALF Zalf 1.43 90 eP Pn 18 45 55.3 +0.4
SNR=57
ZALF eS Sb 18 46 14.0 +0.1
comp=Z,1μm,0.7s,SNR=49
ZALF Zalf 1.43 90⇓ eP Pn 18 45 55.1 +0.1
ZALF eS Sb 18 46 14.0 +0.1
ZALF AML AML 18 46 15.9
comp=Z,1μm,0.3s
ZALF AML AML 18 46 16.0
comp=E,3μm,0.4s
ZALF AML AML 18 46 18.0
comp=N,1μm,0.7s
FKH Fakeheh 1.47 26 eP Pb 18 45 56.2 -0.4
YTIR Yattir 1.62 196 Pn Pn 18 45 58.3 +0.7
YTIR Yattir 1.62 196 Pn Pn 18 45 58.3 +0.7
MZDA Masada 1.63 188 Pn Pn 18 45 57.8 +0.2
MZDA Sn Sb 18 46 19.8 +0.3
MZDA Masada 1.63 188 Pn Pn 18 45 57.8 +0.2
MZDA Sn Sb 18 46 19.8 +0.3
HAWK Haweek 1.71 22 eP Pn 18 45 59.9 +1.0
SNR=45
HAWK eS Sb 18 46 23.0 +0.9
comp=N,275nm,0.6s,SNR=40
HAWK Haweek 1.71 22⇑ eP Pb 18 46 00.0 -0.8
HAWK eS Sb 18 46 23.0 +0.9
HAWK AML AML 18 46 26.8
comp=E,577nm,0.5s
HAWK AML AML 18 46 26.9
comp=N,608nm,0.4s
HAWK AML AML 18 46 27.5
comp=Z,275nm,0.6s
ROOS tl_alroos 1.86 48 eP Pb 18 46 02.2 -1.1
SNR=45
ROOS eS Sb 18 46 26.0 -0.2
comp=Z,4.9nm,0.3s,SNR=40
ROOS tl_alroos 1.86 48⇓ eP Pb 18 46 02.1 -1.1
ROOS eS Sb 18 46 26.0 -0.2
ROOS AML AML 18 46 32.9
comp=Z,3.1nm,0.3s
ROOS AML AML 18 46 33.6
comp=N,3.3nm,0.4s
ROOS AML AML 18 46 35.0
comp=E,4.9nm,0.3s
RTMI Retamim 2.03 203 Pn Pn 18 46 03.7 +0.5
RTMI Retamim 2.03 203 Pn Pn 18 46 03.7 +0.5
BIDA Albida 2.16 15 eP Pb 18 46 06.9 -1.5
SNR=45
BIDA eS Sb 18 46 35.2 +0.3
comp=E,733nm,0.3s,SNR=40
BIDA Albida 2.16 15⇑ eP Pb 18 46 06.9 -1.5
BIDA eS Sb 18 46 35.2 +0.3
BIDA AML AML 18 46 38.0
comp=Z,210nm,0.6s
BIDA AML AML 18 46 39.2
comp=N,602nm,0.3s
BIDA AML AML 18 46 39.4
comp=E,733nm,0.3s
KZIT Kziot 2.27 208 Pn Pn 18 46 06.9 +0.4
KZIT Kziot 2.27 208 Pn Pn 18 46 06.9 +0.4
PHNC Paralimni 2.46 328 P Pn 18 46 08.7 -0.3
baz=146
PHNC S Sn 18 46 38.2 -0.5
PHNC Paralimni 2.46 328 P Pn 18 46 08.7 -0.3
PHNC S Sn 18 46 38.2 -0.5
KFRA Kufra 2.48 23 eP Pb 18 46 12.7 -1.1
SNR=45
KFRA Kufra 2.48 23 eP Pb 18 46 12.7 -1.1
KFRA eS Sb 18 46 46.5 +2.5
KFRA AML AML 18 46 54.1
comp=Z,652nm,0.3s
KFRA AML AML 18 46 55.8
comp=E,660nm,0.4s
KFRA AML AML 18 47 01.8
comp=N,252nm,0.5s
RSH 2.55 220 P Pn 18 46 10.4 +0.2
baz=242
CSS Prodhromos 2.79 317 P Pn 18 46 13.5 -0.1
baz=135
CSS Prodhromos 2.79 317 ePN Pn 18 46 14.0 +0.4
CSS Prodhromos 2.79 317 Pn Pn 18 46 13.1 -0.5
CSS Prodhromos 2.79 317 Pn Pn 18 46 13.1 -0.5
CSS Prodhromos 2.79 317 P Pn 18 46 13.5 -0.1
EREN Erenkoy 2.86 335 ePN Pn 18 46 15.2 +0.7
EREN Erenkoy 2.86 335 ePn Pn 18 46 15.3 +0.7
KRMI Paran Flat 2.91 196 Pn Pn 18 46 16.2 +1.0
KRMI Paran Flat 2.91 196 Pn Pn 18 46 16.2 +1.0
SZAC Souni-Zanaja 2.93 309 ⇓P Pn 18 46 15.5 0.0
baz=127
SZAC S Sn 18 46 49.9 -0.3
SZAC Souni-Zanaja 2.93 309 ⇓P Pn 18 46 15.5 0.0
SZAC S Sn 18 46 49.9 -0.3
HRFI Mount Harif 2.93 190 Pn Pn 18 46 16.0 +0.5
HRFI Mount Harif 2.93 190 Pn Pn 18 46 16.0 +0.5
ARNB Al Arnab 2.94 5 eP Pn 18 46 15.9 +0.2
SNR=45
ARNB eS Sn 18 46 49.8 -0.9
comp=N,60nm,0.7s,SNR=40
ARNB Al Arnab 2.94 5⇓ eP Pn 18 46 16.9 +1.2
ARNB eS Sn 18 46 49.8 -0.9
ARNB AML AML 18 47 03.6
comp=Z,154nm,0.6s
ARNB AML AML 18 47 06.7
comp=E,101nm,0.3s
ARNB AML AML 18 47 08.0
comp=N,60nm,0.7s
MAMC Mammari 3.00 319 P Pn 18 46 17.3 +0.8
baz=137
MAMC Mammari 3.00 319 P Pn 18 46 17.3 +0.8
AMAG Maghara 3.07 223 P Pn 18 46 17.9 +0.4
AMAG Maghara 3.07 223 P Pn 18 46 17.9 +0.4
baz=240
YAYL Yayladag 3.12 7 *i* P Pn 18 46 17.9 -0.4
YAYL *i* S Sn 18 46 54.5 -0.8
YAYL Yayladag 3.12 7 *i* P Pn 18 46 17.9 -0.4
YAYL *i* S Sn 18 46 54.5 -0.8
LEF Lefka 3.16 315 ePN Pn 18 46 18.6 0.0
LEF Lefka 3.16 315 ePn Pn 18 46 18.6 0.0
AKDN Akdeniz- K¨–br 3.24 318 ePN Pn 18 46 19.4 -0.2
AKDN Akdeniz- K¨–br 3.24 318 ePn Pn 18 46 19.5 -0.2
PPCY Paphos 3.36 306 P Pn 18 46 21.5 +0.1
baz=124
PPCY Paphos 3.36 306 P Pn 18 46 21.5 +0.1
ALFC Alevga 3.36 312 P Pn 18 46 22.2 +0.8
baz=130
ALFC S Sn 18 47 00.6 -0.3
ALFC Alevga 3.36 312 P Pn 18 46 22.2 +0.8
ALFC S Sn 18 47 00.6 -0.3
AKMC Akamas 3.45 308 P Pn 18 46 23.1 +0.4
baz=126
AKMC Akamas 3.45 308 P Pn 18 46 23.1 +0.4
KIZK Mersin 3.75 341 *i* P Pn 18 46 26.9 +0.2
KIZK *i* S Sn 18 47 08.9 -1.6
KIZK Mersin 3.75 341 *i* P Pn 18 46 26.9 +0.2
KIZK *i* S Sn 18 47 08.9 -1.6
MERS Mersin 4.04 347 ePN Pn 18 46 31.0 +0.3
MERS Mersin 4.04 347 ePn Pn 18 46 31.0 +0.3
HHAG Hagoal 4.23 226 P Pn 18 46 33.7 +0.3
HHAG Hagoal 4.23 226 P Pn 18 46 33.7 +0.3
baz=239
ERMK Ermenek 4.33 330 *i* P Pn 18 46 36.1 +1.2
ERMK *i* S Sn 18 47 26.8 +1.7
ERMK Ermenek 4.33 330 *i* P Pn 18 46 36.1 +1.2
ERMK *i* S Sn 18 47 26.8 +1.7
KARA Karaisali 4.35 354 ePN Pn 18 46 37.7 +2.7
KARA Karaisali 4.35 354 ePn Pn 18 46 37.7 +2.7
KOT Kottamia 4.42 228 P Pn 18 46 35.8 -0.2
KOT Kottamia 4.42 228 P Pn 18 46 35.8 -0.2
baz=241
KOT AMP 18 47 00.0
comp=E,30μm,0.2s,logA/T=5.2,baz=241
KOT S Sn 18 47 18.5 -8.5
baz=241
KOZT Kozan 4.54 2 ePN Pn 18 46 41.4 +3.7
KOZT Kozan 4.54 2 ePn Pn 18 46 41.4 +3.7
KMRS Kahramanmaras 4.68 12 ePN Pn 18 46 43.6 +4.0
KMRS Kahramanmaras 4.68 12 ePn Pn 18 46 43.6 +4.0
GLL Jalalah 4.74 226 P Pn 18 46 40.5 +0.1
GLL Jalalah 4.74 226 P Pn 18 46 40.5 +0.1
baz=237
URFA Urfa 5.20 29 ePN Pn 18 46 52.2 +5.3
KONT Konya--Tatoy 5.67 333 ePN Pn 18 46 55.4 +2.1
KONT Konya--Tatoy 5.67 333 ePn Pn 18 46 55.4 +2.1
MALT Malatya 5.83 22 ePn Pn 18 47 00.6 +5.1
ELL Elmali 6.06 311 ePN Pn 18 46 59.5 +0.9
ELL Elmali 6.06 311 ePn Pn 18 46 59.5 +0.9
FETY Fethiye 6.54 306 ePN Pn 18 47 05.0 -0.1
FETY Fethiye 6.54 306 ePn Pn 18 47 05.0 -0.1

NEIC ***20*** *19:14:26.9, 35.°26S×178.°96E, h276km, MG4.0(WEL), After WEL.*
WEL 20 19:14:27.2±0.9, 35.°12S×178.°59E, h253km±13km, ML4.0/13, 1D, Error ellipse: s-maj=15.6km s-min=11.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.45**	**185**	Pn	Pn	19 15 14.3	+0.2
MXZ	**Matakaoa Point**	**2.45**	**185**	Pn	Pn	19 15 14.3	+0.2
WMGZ	**Waiomatatini S**	**2.70**	**183**	Pn	Pn	19 15 17.1	+0.5
HAZ	**Te Kaha**	**2.71**	**194**	PN	Pn	19 15 16.8	+0.1
PUZ	**Puketiti**	**2.96**	**185**	Pn	Pn	19 15 19.4	-0.1
PUZ				SN	S	19 15 59.1	-1.7
PUZ	**Puketiti**	**2.96**	**185**	Pn	Pn	19 15 19.4	-0.1
TWGZ	**Tauwhareparae**	**3.09**	**189**	PN	Pn	19 15 21.5	+0.6
MWZ	**Matawai**	**3.33**	**195**	PN	Pn	19 15 24.1	+0.7
MWZ	**Matawai**	**3.33**	**195**	Pn	Pn	19 15 24.1	+0.7
URZ	**Urewera**	**3.36**	**200**	PN	Pn	19 15 23.7	+0.1
URZ	**Urewera**	**3.36**	**200**	Pn	Pn	19 15 23.9	+0.3
RAGZ	**Rawiri**	**3.50**	**195**	PN	Pn	19 15 26.5	+1.1
RIGZ	**Rimuhau**	**3.64**	**190**	PN	Pn	19 15 27.0	0.0
SNGZ	**Shannon Statio**	**3.79**	**195**	PN	Pn	19 15 29.3	+0.7
KNZ	**Kokohu**	**3.97**	**190**	PN	Pn	19 15 28.5	-2.1
RAHZ	**Arahi**	**3.98**	**197**	PN	Pn	19 15 31.5	+0.6
RAHZ	**Arahi**	**3.98**	**197**	Pn	Pn	19 15 31.5	+0.6
MHGZ	**Mahia Peninsul**	**4.07**	**188**	PN	Pn	19 15 31.7	-0.1
MHGZ	**Mahia Peninsul**	**4.07**	**188**	Pn	Pn	19 15 31.7	-0.1
NMHZ	**Naumai**	**4.22**	**199**	Pn	Pn	19 15 34.3	+0.5
NMHZ				SN	S	19 16 28.3	+1.6
NMHZ	**Naumai**	**4.22**	**199**	Pn	Pn	19 15 34.4	+0.6
ARHZ	**Aropaoanui**	**4.33**	**197**	PN	Pn	19 15 35.3	+0.4
BKZ	**Black Stump Fm**	**4.38**	**202**	PN	Pn	19 15 35.8	+0.3
BKZ	**Black Stump Fm**	**4.38**	**202**	Pn	Pn	19 15 35.8	+0.3
BHHZ	**Black Hill Sta**	**4.81**	**204**	PN	Pn	19 15 40.7	-0.1
BHHZ	**Black Hill Sta**	**4.81**	**204**	Pn	Pn	19 15 40.7	-0.1
TRVZ	**Turoa**	**4.83**	**209**	PN	Pn	19 15 42.1	+0.8
TRVZ	**Turoa**	**4.83**	**209**	Pn	Pn	19 15 42.1	+0.9
KRHZ	**Kereru**	**4.85**	**201**	PN	Pn	19 15 40.7	-0.5
KAHZ	**Kahuranaki**	**4.87**	**196**	PN	Pn	19 15 41.2	-0.2
KAHZ	**Kahuranaki**	**4.87**	**196**	Pn	Pn	19 15 41.2	-0.2
PXZ	**Pawanui**	**5.10**	**195**	PN	Pn	19 15 43.2	-0.9
PXZ	**Pawanui**	**5.10**	**195**	Pn	Pn	19 15 43.2	-0.9
PNHZ	**Pukenui**	**5.15**	**201**	PN	Pn	19 15 44.1	-0.8
PNHZ	**Pukenui**	**5.15**	**201**	Pn	Pn	19 15 44.1	-0.8
TSZ	**Takapari Road**	**5.36**	**202**	PN	Pn	19 15 46.4	-1.0
TSZ	**Takapari Road**	**5.36**	**202**	Pn	Pn	19 15 46.5	-1.0
PRHZ	**Porangahau**	**5.37**	**196**	PN	Pn	19 15 46.6	-1.0
PRHZ	**Porangahau**	**5.37**	**196**	Pn	Pn	19 15 46.6	-1.0
BFZ	**Birch Farm**	**5.86**	**198**	PN	Pn	19 15 52.6	-0.9
BFZ	**Birch Farm**	**5.86**	**198**	Pn	Pn	19 15 52.6	-0.9
MRZ	**Mangatainoka R**	**6.03**	**202**	⇓PN	Pn	19 15 54.2	-1.4
MRZ	**Mangatainoka R**	**6.03**	**202**	Pn	Pn	19 15 54.2	-1.4
HOWZ	**Holdsworth Sta**	**6.26**	**202**	PN	Pn	19 15 56.9	-1.7
HOWZ	**Holdsworth Sta**	**6.26**	**202**	Pn	Pn	19 15 57.1	-1.5
OGWZ	**Otaki Gorge**	**6.30**	**204**	PN	Pn	19 15 57.6	-1.4
OGWZ	**Otaki Gorge**	**6.30**	**204**	Pn	Pn	19 15 57.6	-1.4
TMWZ	**Te Maipa**	**6.35**	**199**	PN	Pn	19 15 58.0	-1.7
TMWZ	**Te Maipa**	**6.35**	**199**	Pn	Pn	19 15 58.0	-1.7
KIW	**Kapiti Island**	**6.43**	**206**	PN	Pn	19 15 59.4	-1.3
KIW	**Kapiti Island**	**6.43**	**206**	Pn	Pn	19 15 59.4	-1.3
MTW	**Mount Morrison**	**6.50**	**201**	PN	Pn	19 16 00.0	-1.5
MTW	**Mount Morrison**	**6.50**	**201**	Pn	Pn	19 16 00.0	-1.5
CAW	**Cannon Point**	**6.59**	**204**	PN	Pn	19 16 01.1	-1.6
MSWZ	**Moikau Station**	**6.82**	**202**	PN	Pn	19 16 03.8	-1.7
MSWZ	**Moikau Station**	**6.82**	**202**	Pn	Pn	19 16 03.8	-1.7
PLWZ	**Palliser**	**6.96**	**201**	PN	Pn	19 16 05.4	-1.9
PLWZ	**Palliser**	**6.96**	**201**	Pn	Pn	19 16 05.4	-1.9
TUWZ	**Tuamarina**	**7.29**	**209**	PN	Pn	19 16 09.5	-1.8
TUWZ	**Tuamarina**	**7.29**	**209**	Pn	Pn	19 16 09.5	-1.8
NNZ	**Nelson**	**7.34**	**212**	PN	Pn	19 16 10.1	-2.0
NNZ	**Nelson**	**7.34**	**212**	Pn	Pn	19 16 10.1	-2.0
KHZ	**Kahutara**	**8.29**	**207**	PN	Pn	19 16 22.5	-1.5
KHZ	**Kahutara**	**8.29**	**207**	Pn	Pn	19 16 22.5	-1.5
DSZ	**Denniston Nort**	**8.49**	**217**	PN	Pn	19 16 24.7	-2.0
DSZ	**Denniston Nort**	**8.49**	**217**	Pn	Pn	19 16 24.7	-2.0
LTZ	**Lake Taylor**	**9.10**	**211**	PN	Pn	19 16 31.1	-3.2
LTZ	**Lake Taylor**	**9.10**	**211**	Pn	Pn	19 16 31.1	-3.2

ISCJB ***20*** *19:14:47.3±0.7, 1.°79S±0.°05×79.°6W±0.°1, h60km, mb3.5/4, Error ellipse: s-maj=15.2km s-min=7.2km az=176.6*
IDC ***20*** *19:14:51.1±5.3, 1.°82S×79.°24W, h91km±58km, mb3.3/4, mb1 3.8/7, mb1mx3.4/29, mbtmp3.8/7, ML4.2/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/17, Error ellipse: s-maj=83.0km s-min=26.6km az=58.0*
NEIC ***20*** *19:14:53.3±1.3, 1.°94S×79.°68W, h108km±15km, MD4.4(IGQ), Error ellipse: s-maj=27.3km s-min=12.9km az=82.0*
NEIC Felt at Guayaquil.
ISC 20 19:14:48.5±0.8, 1.°81S±0.°06×79.°5W±0.°2, h60km, n11, σ2.°22/15, mb3.6/4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**2.29**	**27**	ePn	Pn	19 15 32.8	+8.6
OTAV				eSn	**Sn**	**19 15 51.4**	**-0.2**
ATAH	**Atahualpa**	**5.40**	**168**	P	Pn	19 16 10.9	+4.0
6.2nm,0.3s,baz=1.0,slow=12,SNR=14							
ATAH				S	**Sn**	**19 17 09.8**	**+1.9**
14nm,0.3s,baz=220,slow=17,SNR=7.8							
ATAH				LR	LR	19 18 35.8	
comp=Z,247nm,19.2s,baz=346,slow=42							
NNA	**Nana**	**10.44**	**166**	P	Pn	**19 17 17.3**	**+1.7**
5.4nm,0.3s,baz=334,slow=13,SNR=15							
NNA				S	**Sn**	**19 19 10.6**	**-0.6**
26nm,0.3s,baz=216,slow=16,SNR=23							
NNA	**Nana**	**10.44**	**166**	ePn	Pn	**19 17 16.9**	**+1.3**
NNA				eSn	**Sn**	**19 19 05.8**	**-5.4**
NNA				S	**Sn**	**19 19 10.6**	**-0.6**
SAML	**Samuel**	**17.70**	**114**	eP	**P**	**19 18 54.3**	**+3.0**
7.4nm,0.7s							
LPAZ	**La Paz**	**18.22**	**143**	P	**P**	**19 18 54.3**	**-3.2**
0.2nm,0.3s,baz=318,slow=4.6,SNR=4.8							
TXAR	**Lajitas Array**	**38.66**	**325**	P	**P**	**19 22 06.8**	**+0.2**
0.3nm,0.7s,baz=138,slow=8.4,SNR=3.2							
TXAR				PcP	**PcP**	**19 24 18.1**	**+0.3**
0.2nm,0.6s,baz=136,slow=5.9,SNR=3.7							
PDAR	**Pinedale Array**	**52.00**	**332**	P	**P**	**19 23 51.9**	**-0.1**
0.8nm,0.8s,baz=130,slow=11,SNR=7.4							
NVAR	**Mina Array Bea**	**53.69**	**322**	P	**P**	**19 24 05.1**	**+0.5**
1.1nm,0.6s,baz=129,slow=7.1,SNR=14							
YKA	**Yellowknife Ar**	**69.41**	**343**	P	**P**	**19 25 49.1**	**-0.7**
0.2nm,0.6s,baz=140,slow=6.7,SNR=5.4							
CMAR	**Chiang Mai Arr**	**163.39**	**5**	PKPab	**PKPab**	**19 35 36.0**	**-0.2**
0.5nm,0.7s,baz=340,slow=5.0,SNR=4.9							

GUC 20 19:15:51.2±0.4, 34.°81S×72.°44W, h20km±5km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.89**	**132**	eP	Pb	19 16 07.3	-0.7
TALC				eS	Sb	19 16 19.5	+0.1
NICH	**Los Niches**	**1.01**	**102**	eP	Pb	19 16 09.6	-0.5
NICH				eS	Sb	19 16 23.4	+0.3
LNCH	**Linares**	**1.25**	**147**	eP	Pn	19 16 12.9	-0.6
LNCH				eS	Sn	19 16 29.9	+0.1
ANTU	**Antumapu**	**1.94**	**51**	eP	Pn	19 16 24.5	+1.3
ANTU				eS	Sb	19 16 49.5	-0.4
CLCH	**Cerro Calan**	**2.12**	**49**	eP	Pn	19 16 27.2	+1.6
CLCH				eS	Sb	19 16 54.4	-0.5
CLCH				AML	AML	19 17 01.3	
comp=N,382nm,0.5s							
PEL	**Peldehue**	**2.21**	**42**	eP	Pn	19 16 28.4	+1.6
PEL				eS	Sb	19 16 57.1	-0.5
PEL				AML	AML	19 17 08.1	
comp=N,514nm,0.6s							

IDC 20 19:17:10.5±1.4, 3.°38N×126.°85E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/28, mbtmp3.6/5, Error ellipse: s-maj=78.5km s-min=19.1km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.32**	**163**	P	P	19 22 29.7	-0.3
0.8nm,0.4s,baz=338,slow=11,SNR=27							
ASAR	**Alice Springs**	**27.75**	**166**	P	P	19 23 01.7	+0.6
0.3nm,0.3s,baz=340,slow=7.7,SNR=22							
CMAR	**Chiang Mai Arr**	**31.16**	**301**	P	P	19 23 32.7	+1.3
0.3nm,0.6s,baz=119,slow=7.3,SNR=3.7							
SONM	**Songino Array**	**47.67**	**341**	P	P	19 25 48.3	-0.5
0.4nm,0.7s,baz=146,slow=8.5,SNR=3.6							
MKAR	**Makanchi Array**	**57.91**	**325**	P	P	19 27 03.5	-1.0
0.7nm,0.5s,baz=124,slow=7.9,SNR=15							

IDC ***20*** *19:31:27.2±0.4, 19.°73N×75.°40W, h0km, mb4.5/29, mb1 4.7/34, mb1mx4.6/48, mbtmp4.5/34, ML4.2/5, MS4.2/29, Ms1 4.2/29, ms1mx4.0/48, Error ellipse: s-maj=12.8km s-min=10.3km az=57.0*
NEIC ***20*** *19:31:28.8±0.1, 19.°76N×75.°36W, h10km, mb4.9/150, Error ellipse: s-maj=4.0km s-min=2.7km az=208.0*
NEIC Felt [IV] at Guantanamo. Also felt at Baracoa, Bayamo, Camaguey and Santiago de Cuba. Felt at Abricots, Haiti.
GCMT ***20*** *19:31:28.8±0.4, 19.°84N×75.°30W, h22km±1km, MW5.0/62, Moment Tensor Solution. s23,c25; s62,c77; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.75±.40; $M_{\theta\theta}$-4.38±.30; $M_{\phi\phi}$0.62±.24; $M_{r\theta}$0.91±.38; $M_{\theta\phi}$1.40±.16; $M_{\phi r}$-1.35±.35; Best double couple: $M_0$4.59600×10^{16} NP1:ϕ_s121.00000°, δ56.00000°, λ112.00000°. NP2: ϕ_s266.00000°, δ40.00000°, λ62.00000°. Principal axes: T 4.2690, Plg70.0000°, Azm82.0000°; N 0.6480, Plg18.0000°, Azm289.0000°; P -4.9220, Plg8.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***20*** *19:31:28.7, 19.°80N×75.°30W, h10km, Ms7 4.5/3*
ISCJB ***20*** *19:31:30.8±0.1, 19.°72N±0.°02×75.°33W±0.°02, h33km, mb4.8/202, MS4.2/24, Error ellipse: s-maj=3.3km s-min=1.9km az=13.3*
SZGRF ***20*** *19:31:31.0, 19.°14N×75.°27W, h33km, mb5.1, Cuba region*
JSN ***20*** *19:31:31.5±2.2, 19.°90N×75.°77W, h15km±44km, MD5.1*
ISC 20 19:31:29.8±1.6, 19.°75N±0.°04×75.°34W±0.°04, h18km±7km, n752, σ1.°9±17/767, mb4.9/204, MS4.2/24, 214C-169D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**0.28**	**51**	ePg	**Pb**	**19 31 36.8**	**+0.4**
GTBY				eSg	**Sb**	**19 31 42.0**	**+1.2**
BNJ	**Bonny Gate**	**2.08**	**227**	*i* P	**Pn**	**19 32 02.5**	**-1.4**
STH	**Stony Hill**	**2.17**	**220**	*i* P	**Pn**	**19 32 03.6**	**-1.4**
STH				*i* S	**Sn**	**19 32 30.0**	**-1.5**
HOJ	**Hope**	**2.19**	**218**	*i* P	Pn	19 32 03.6	-1.7
MTDJ	**Mount Denham**	**2.57**	**234**	ePn	**Pn**	**19 32 08.9**	**-1.7**
MTDJ				eSn	Sn	19 32 36.7	-4.7
CVJ	**Coleyville**	**2.57**	**234**	*i* P	**Pn**	**19 32 09.0**	**-1.7**
PCJ	**Portland Cotta**	**2.63**	**221**	*i* P	**Pn**	**19 32 11.0**	**-0.5**
MBJ	**Montego Bay**	**2.73**	**241**	*i* P	**Pn**	**19 32 11.3**	**-1.6**
MBJ				⇑*i* S	Sn	19 32 38.4	-7.2
LGNH	**LØogne**	**2.87**	**115**	ePn	**Pn**	**19 32 14.2**	**-0.5**
MCJ	**Malvern**	**2.87**	**231**	*i* P	**Pn**	**19 32 14.0**	**-0.8**
PAPH	**Port-au-Prince**	**3.12**	**112**	ePn	**Pn**	**19 32 17.9**	**-0.3**
SDDR	**Presa de Saban**	**3.90**	**101**	ePn	**Pn**	**19 32 28.5**	**-0.5**
SDDR				eSn	**Sn**	**19 33 15.0**	**+0.6**
GRTK	**Grand Turk**	**4.32**	**65**	ePn	**Pn**	**19 32 35.2**	**+0.6**
GRTK				eSn	**Sn**	**19 33 22.7**	**-1.8**
AGPR	**Aguadilla, PR**	**7.89**	**98**	ePn	**Pn**	**19 33 22.2**	**-1.5**
LSP	**Las Mesas**	**7.97**	**100**	ePn	**Pn**	**19 33 25.4**	**+0.6**
LSP				eSn	**Sn**	**19 34 56.5**	**+1.9**
CRPR	**Cabo Rojo, PR**	**7.99**	**101**	ePn	**Pn**	**19 33 25.0**	**0.0**
35nm,0.6s							
CRPR				eSn	**Sn**	**19 34 52.5**	**-2.4**
LRS	**Lares**	**8.17**	**99**	ePn	**Pn**	**19 33 28.5**	**+0.9**
AOPR	**Arecibo Observ**	**8.24**	**98**	ePn	**Pn**	**19 33 28.2**	**-0.4**
CELP	**Cerrillos**	**8.46**	**100**	ePn	**Pn**	**19 33 31.9**	**+0.3**
SJG	**San Juan**	**8.85**	**99**	Pn	**Pn**	**19 33 38.1**	**+1.2**
0.1nm,0.3s,baz=299,slow=19,SNR=6.2							
SJG				Sn	**Sn**	**19 35 15.1**	**-1.2**
0.2nm,0.3s,baz=280,slow=20,SNR=4.1							
SJG	**San Juan**	**8.85**	**99**	ePn	Pn	19 33 31.7	-5.2
SJG				eSn	**Sn**	**19 35 11.9**	**-4.4**
SJG				Sn	Sn	19 35 15.1	-1.2
BCIP	**Isla Barro Col**	**11.38**	**203**	ePn	**Pn**	**19 34 10.0**	**-1.7**
SDV	**Santo Domingo**	**11.72**	**156**	ePn	**Pn**	**19 34 17.5**	**+1.1**
TEIG	**Tepich**	**12.17**	**274**	Pn	**Pn**	**19 34 21.6**	**-0.8**
5.3nm,0.3s,baz=74,slow=15,SNR=20							
TEIG				Sn	Sn	19 36 30.5	-7.2
6.1nm,0.3s,baz=357,slow=21,SNR=12							
TEIG				LR	LR	19 39 06.7	
comp=Z,862nm,18.5s,baz=84,slow=38							
TEIG	**Tepich**	**12.17**	**274**	Pn	**Pn**	**19 34 21.6**	**-0.8**
TEIG				Sn	Sn	19 36 30.5	-7.2
TEIG				eSn	Sn	19 36 32.1	-5.6
JTS	**JuntasAbangare**	**13.20**	**226**	Pn	**Pn**	**19 34 38.3**	**+1.7**
11nm,0.3s,baz=150,slow=22,SNR=26							
JTS				LR	LR	19 39 48.4	
comp=Z,1μm,19.3s,baz=38,slow=38							
TIGA	**Tifton**	**13.81**	**329**	⇑P	**Pn**	**19 34 44.4**	**-0.3**
baz=14							
CSU	**Charleston Sou**	**13.85**	**343**	Pn	Pn	19 34 36.5	-8.7
ROSC	**El Rosal**	**14.83**	**176**	Pn	**P**	**19 35 03.4**	**-1.6**
1.6nm,0.3s,baz=307,slow=10,SNR=4.1							
ROSC				LR	LR	19 41 15.0	
comp=Z,501nm,20.0s,baz=15

LRAL	Lakeview Retre 13nm,0.9s	16.84 324	ePn	Pn	19 35 21.1 -3.6
LRAL			eSn	Sn	19 38 19.8 -12
TKL	Tuckaleechee C 0.5nm,0.3s,baz=147,slow=14,SNR=11	17.51 337	P	Pn	19 35 30.9 -2.2
TKL			Sn	Sn	19 38 34.2 -13
	0.6nm,0.3s,baz=234,slow=19,SNR=4.3				
TKL			LR	LR	19 42 45.3
	comp=Z,1µm,20.9s,baz=152,slow=39				
TKL	Tuckaleechee C	17.51 337	ePn	Pn	19 35 29.9 -3.1
TKL			Sn	Sn	19 38 34.2 -13
CPCT	Cooper Cave	17.61 335	ePn	P	19 35 35.7 +0.4
BLA	Blacksburg 63nm,0.9s	17.96 347	ePn	Pn	19 35 36.4 -2.2
BLA			eSn	Sn	19 38 38.0 -21
JSRW	J. Sargeant Re	18.02 353	ePn	Pn	19 35 36.6 -2.7
JSRW			eSn	Sn	19 38 41.2 -19
TZTN	Tazewell 49nm,1.4s	18.22 338	ePn	Pn	19 35 41.0 -0.8
CMIG	Matias Romero 0.4nm,0.3s,baz=62,slow=8.5,SNR=8.2	18.73 265	P	P	19 35 48.6 +0.8
CMIG			LR	LR	19 42 21.3
	comp=Z,258nm,22.0s,baz=64,slow=35				
OXF	Oxford 69nm,1.0s	19.28 323	eP	Pn	19 35 55.8 +1.1
OTAV	Otavalo 27nm,1.2s	19.63 189	ePn	Pn	19 36 01.4 +1.9
SDMD	Soldier's Deli 44nm,1.0s	19.64 357	eP	P	19 35 56.5 -1.0
SDMD			eS	S	19 39 19.6 -19
WVT	Waverly 24nm,0.8s	19.67 329	eP	P	19 35 57.1 -0.8
340A	Bronson baz=20	20.33 309	⇑P	P	19 36 05.1 -0.1
738A	Farr-Stevens R baz=21	20.58 300	⇓S	S	19 39 57.7 +0.3
WCI	Wyandotte Cave 40nm,0.9s	20.73 335	eP	P	19 36 06.0 -3.4
SSPA	Standing Stone 46nm,1.1s	20.93 355	eP	P	19 36 12.8 +1.2
SSPA			eS	S	19 39 51.9 -12
USIN	University of 36nm,0.6s	21.08 332	P	P	19 36 13.3 +0.1
HKT	Hockley 48nm,1.4s	21.16 303	eP	P	19 36 14.1 +0.1
PAL	Palisades 18nm,0.9s	21.23 3	eP	P	19 36 11.8 -2.9
ODNJ	Ogdensburg 51nm,1.4s	21.28 2	ePn	P	19 36 16.5 +1.2
ACSO	Alum Creek Sta 45nm,1.0s	21.44 344	eP	P	19 36 17.9 +0.8
SIUC	Southern Illin 76nm,1.1s	21.60 329	P	P	19 36 18.7 0.0
BLO	Bloomington 47nm,0.8s	21.63 336	eP	P	19 36 19.4 +0.2
138A	Matatall Enter baz=22	21.84 310	⇑P	P	19 36 23.3 +1.9
MIAR	Mount Ida 33nm,1.0s	21.86 316	eP	P	19 36 22.1 +0.4
OLIL	Olney 39nm,0.8s	21.91 332	eP	P	19 36 22.4 +0.3
636A	Smothers Creek baz=22	21.96 300	⇑P	P	19 36 24.7 +2.0
835A	Beeville baz=22	22.20 297	⇑P	P	19 36 27.8 +2.5
436A	Wall Ranch, Ga baz=22	22.25 304	⇑P	P	19 36 27.9 +2.1
BINY	Binghamton 24nm,0.9s	22.39 359	eP	P	19 36 27.6 +0.4
635A	Leesville baz=22	22.51 300	⇑P	P	19 36 30.8 +2.2
336A	Riesel baz=22	22.55 305	⇓P	P	19 36 31.0 +1.9
535A	Dale baz=23	22.57 301	⇑P	P	19 36 31.2 +1.9
034A	Hebbronville baz=23	22.60 293	⇑P	P	19 36 31.8 +2.2
ERPA	Erie 31nm,1.0s	22.65 351	P	P	19 36 28.7 -1.3
834A	Tilden baz=23	22.77 296	⇓P	P	19 36 32.7 +1.3
435B	Jarrell baz=23	22.88 303	⇓P	P	19 36 33.6 +1.1
SFIN	Lafayette baz=23	22.90 336	⇑P	P	19 36 33.7 +1.0
SFIN	Lafayette 276nm,2.0s	22.90 336	eP	P	19 36 32.3 -0.3
HRV	Adam Dziewonsk 52nm,1.4s	22.91 7	eP	P	19 36 31.0 -1.8
HRV			eS	S	19 40 38.5 -3.4
335A	Moody baz=23	22.95 304	⇑P	P	19 36 34.4 +1.1
734A	La Parita Cree baz=23	22.98 298	⇑P	P	19 36 34.5 +0.9
634A	China Grove, S baz=23	22.98 299	⇓P	P	19 36 34.5 +0.9
933A	Laredo baz=23	23.25 294	⇑P	P	19 36 38.0 +1.7
WHTX	Lake Whitney, baz=23	23.28 306	⇓P	P	19 36 38.0 +1.4
534A	Blanco baz=23	23.30 301	⇓P	P	19 36 38.3 +1.4
434A	Burnet baz=23	23.43 303	⇑P	P	19 36 39.1 +1.0
135A	Vickery Place, baz=24	23.50 307	⇑P	P	19 36 39.9 +1.0
833A	Chaparral WMA, baz=24	23.53 296	⇑P	P	19 36 40.6 +1.5
AAM	Ann Arbor 26nm,0.8s	23.56 344	P	P	19 36 39.0 -0.3
733A	Divot King Ran baz=24	23.56 297	⇑P	P	19 36 40.7 +1.3
334A	Lometa baz=24	23.61 304	⇑P	P	19 36 40.8 +0.9
ACCN	Adirondack Com 59nm,1.5s	23.61 3	eP	P	19 36 39.7 0.0
ACCN			eS	S	19 40 54.9 +1.5
633A	Saathoff Ranch baz=24	23.69 299	⇓P	P	19 36 42.0 +1.3
234A	Clairette baz=24	23.81 305	⇓P	P	19 36 43.1 +1.3
134A	White-Moore Ra baz=24	24.01 307	⇓P	P	19 36 44.8 +1.1
832A	Faith Ranch, C baz=24	24.02 295	⇑P	P	19 36 44.7 +0.9
433A	Art baz=24,SNR=7.5	24.06 302	⇓P	P	19 36 45.7 +1.4
TUL1	Leonard baz=24,SNR=12	24.14 316	⇓P	P	19 36 45.9 +1.1
TUL1	Leonard 60nm,0.9s	24.14 316	eP	P	19 36 45.1 +0.3
NCB	Newcomb 14nm,0.9s	24.17 2	eP	P	19 36 44.6 -0.5
333A	Richland Sprin baz=24,SNR=16	24.19 303	⇓P	P	19 36 46.4 +0.9
632A	Uvalde baz=24	24.21 298	⇓P	P	19 36 46.7 +1.1
Z34A	Collier Ranch, baz=24	24.26 309	⇑P	P	19 36 47.5 +1.4
Y34A	Reagan Ranch, baz=24,SNR=12	24.43 310	⇑P	P	19 36 49.5 +2.0
532A	Rocksprings baz=24,SNR=30	24.50 300	⇓P	P	19 36 49.4 +1.1
JCT	Junction City baz=24,SNR=28	24.54 301	⇓P	P	19 36 50.0 +1.4
JCT	Junction City 73nm,1.0s	24.54 301	eP	P	19 36 48.9 +0.3
LBNH	Lisbon 14nm,0.9s	24.59 6	eP	P	19 36 49.4 +0.5
133A	Hamilton Ranch baz=25	24.66 306	⇓P	P	19 36 51.4 +1.7
432A	Menard baz=25,SNR=14	24.67 302	⇓P	P	19 36 50.9 +1.1
V35A	Meyer Ranch, C baz=25	24.74 315	⇑P	P	19 36 51.9 +1.6
X34A	Smith Ranch, M baz=25	24.80 311	⇑P	P	19 36 52.3 +1.3
LONY	Lake Ozonia	24.81 1	eP	P	19 36 49.4 -1.5
332A	Millersview baz=25,SNR=11	24.81 303	⇓P	P	19 36 53.2 +2.1
631A	Perdido Creek baz=25	24.84 298	⇓P	P	19 36 52.7 +1.4
Z33A	Whitaker Ranch baz=25	24.85 308	⇑P	P	19 36 52.7 +1.4
232A	Coleman baz=25	24.93 304	⇓P	P	19 36 53.9 +1.7
531A	Rocksprings baz=25	25.04 299	⇓P	P	19 36 54.5 +1.3
Y33A	Hilltop Ranch, baz=25	25.08 309	⇑P	P	19 36 55.6 +2.1
W34A	Bridge Creek, baz=25	25.09 313	⇓P	P	19 36 55.3 +1.7
W34A	Bridge Creek, 30nm,0.8s	25.09 313	eP	P	19 36 53.1 -0.4
W34A			ePcP	PcP	19 40 28.3 +0.4
S36A	Lake Cedric, C baz=25	25.13 320	⇑P	P	19 36 55.5 +1.7
SADO	Sadowa 10nm,1.1s,baz=188,slow=12,SNR=4.7	25.15 354	P	P	19 36 54.7 +0.8
SADO			LR	LR	19 47 28.8
	comp=Z,315nm,18.7s,baz=39,slow=38				
ABTX	Abilene, Hawle baz=25	25.23 305	⇑P	P	19 36 56.5 +1.7
ABTX	Abilene, Hawle 20nm,0.9s	25.23 305	eP	P	19 36 55.6 +0.7
V34A	Guthrie baz=25	25.24 314	⇓P	P	19 36 56.6 +1.7
V34A	Guthrie 43nm,0.8s	25.24 314	eP	P	19 36 54.2 -0.7
X33A	Lawton baz=25,SNR=6.1	25.25 310	⇓P	P	19 36 56.8 +1.8
431A	Sonora baz=25	25.26 300	⇑P	P	19 36 56.0 +0.9
PTGA	Pitinga 12nm,0.9s,baz=328,slow=12,SNR=12	25.33 142	P	P	19 36 57.0 +1.2
PTGA			LR	LR	19 47 39.9
	comp=Z,400nm,18.9s,baz=322,slow=38				
PTGA	Pitinga 40nm,1.4s	25.33 142	eP	P	19 36 52.6 -3.2
331A	San Angelo baz=25	25.33 302	⇑P	P	19 36 56.8 +1.0
Z32A	Haskell baz=25,SNR=6.5	25.39 307	⇑P	P	19 36 57.4 +1.1
231A	Bronte baz=25	25.48 303	⇑P	P	19 36 58.3 +1.2
W33A	Caddo, Fort Co baz=26	25.53 312	⇓P	P	19 36 59.0 +1.4
WMOK	Wichita Mounta 12nm,0.9s	25.55 311	eP	P	19 36 58.6 +0.8
U34A	Anderson Ranch baz=26	25.59 315	⇑P	P	19 36 59.3 +1.3
U34A	Anderson Ranch 37nm,0.9s	25.59 315	eP	P	19 36 58.4 +0.4
Y32A	R-V Farms, Ver baz=26	25.68 308	⇑P	P	19 37 00.4 +1.5
530A	J-C Ranch, Com baz=26	25.69 299	⇓P	P	19 37 00.2 +1.1
V33A	Lossen Ranch, baz=26	25.76 313	⇓P	P	19 37 00.6 +1.0
X32A	Elmer baz=26	25.76 309	⇑P	P	19 37 00.9 +1.3
430A	Baggett Ranch, baz=26	25.80 300	⇑P	P	19 37 01.4 +1.2
131A	Roby baz=26	25.82 305	⇓P	P	19 37 01.6 +1.4
Z31A	Sharp Cattle R baz=26	25.90 306	⇑P	P	19 37 03.1 +2.1
330A	Mertzon baz=26	25.96 302	⇑P	P	19 37 02.4 +0.8
U33A	Lingo Farm, Me baz=26	25.97 315	⇑P	P	19 37 02.6 +1.1
S34A	Willow Spring baz=26	26.05 318	⇑P	P	19 37 03.0 +0.7
W32A	Sentinel baz=26	26.07 311	⇑P	P	19 37 03.0 +0.5
230A	Sterling City baz=26	26.09 303	⇑P	P	19 37 03.4 +0.7
130A	Snyder baz=26	26.24 304	⇑P	P	19 37 05.0 +1.0
Y31A	Rekieta Farm, baz=26,SNR=6.8	26.27 308	⇑P	P	19 37 05.5 +1.2
429A	Davenport Ranc baz=26	26.29 300	⇑P	P	19 37 05.0 +0.4
JFWS	Jewell Farm 20nm,0.9s	26.29 335	eP	P	19 37 03.6 -0.7
529A	Stev Forest Ra baz=26	26.41 298	⇑P	P	19 37 06.6 +1.0
U32A	Winter Ranch, baz=26	26.55 314	⇑P	P	19 37 08.0 +1.2
KSU1	Kansas State U baz=27	26.62 321	⇓P	P	19 37 08.1 +0.7
KSU1	Kansas State U 29nm,0.8s	26.62 321	P	P	19 37 04.0 -3.4
329A	Wagon Wheel Ra baz=27	26.64 301	⇓P	P	19 37 09.2 +1.5
229A	Bryant Ranch, baz=27	26.67 302	⇓P	P	19 37 09.8 +1.8
Y30A	Stafford Cattl baz=27	26.71 307	⇓P	P	19 37 09.7 +1.5
V31A	Spring Creek L baz=27	26.82 312	⇓P	P	19 37 10.7 +1.5
ATAH	Atahualpa	26.88 187	LR	LR	19 49 44.6
	comp=Z,511nm,19.8s,baz=75,slow=41				
T32A	Huddler Ranch, baz=27	26.93 315	⇓P	P	19 37 11.6 +1.4
X30A	Coker Ranch, T baz=27,SNR=6.9	26.94 308	⇑P	P	19 37 11.6 +1.3
129A	Stewart Farms, baz=27	26.95 304	⇓P	P	19 37 11.8 +1.3
R33A	Olander Ranch, baz=27	26.97 318	⇑P	P	19 37 12.1 +1.6
Z29A	Hungry Hill Ra baz=27	27.07 305	⇑P	P	19 37 12.7 +1.1
Y29A	Porterfield Fa baz=27	27.28 306	⇑P	P	19 37 14.1 +0.6
Q33A	Connelly Farm, baz=27	27.30 319	⇑P	P	19 37 15.0 +1.5
228A	UT Block 9, Go baz=27	27.34 302	⇑P	P	19 37 15.2 +1.2
V30A	Spur Ranch, Mi baz=27	27.41 311	⇑P	P	19 37 15.4 +0.8
TXAR	Lajitas Array 2.3nm,0.9s,baz=116,slow=8.5,SNR=11	27.41 296	P	P	19 37 15.3 +0.6
TXAR			PcP	PcP	19 40 34.1 +0.6
	2.3nm,0.8s,baz=138,slow=3.2,SNR=6.7				
TXAR			LR	LR	19 50 41.7
	comp=Z,122nm,19.7s,baz=0.0,slow=42				
128A	Castleberry Fa baz=27	27.43 303	⇑P	P	19 37 16.0 +1.1
R32A	Long Quarter, baz=28	27.50 318	⇓P	P	19 37 16.5 +1.2
S31A	Mullinville baz=28	27.54 315	⇓P	P	19 37 16.5 +0.7
X29A	Tulia baz=28	27.55 308	⇓P	P	19 37 17.3 +1.4
Z28A	Tucker Farm, M baz=28	27.61 305	⇓P	P	19 37 17.9 +1.5
Q32A	Meitler Ranch, baz=28	27.74 319	⇑P	P	19 37 18.8 +1.3
U30A	WK&E Inc. Balk baz=28	27.76 312	⇑P	P	19 37 19.3 +1.6
W29A	Amarillo baz=28	27.81 309	⇓P	P	19 37 19.9 +1.7
R31A	Burdett baz=28	27.95 317	⇓P	P	19 37 20.8 +1.5
V29A	Stinnett baz=28	28.06 310	⇑P	P	19 37 22.8 +2.4
P32A	Huiting Farm, baz=28	28.15 320	⇓P	P	19 37 23.6 +2.5
MSTX	Muleshoe baz=28	28.16 306	⇑P	P	19 37 23.5 +2.1
S30A	Montezuma baz=28	28.21 315	⇓P	P	19 37 23.0 +1.3
Q31A	Ellis baz=28	28.27 318	⇑P	P	19 37 24.1 +1.8
O32A	Brockman Farm, baz=28	28.35 321	⇑P	P	19 37 24.5 +1.6
R30A	Dighton baz=28	28.43 316	⇓P	P	19 37 24.9 +1.2
V28A	Channing baz=28	28.51 310	⇑P	P	19 37 25.8 +1.4
T29A	Hugoton baz=28	28.52 313	⇓P	P	19 37 26.0 +1.5
P31A	Stockton baz=29	28.57 319	⇓P	P	19 37 26.0 +1.1
S29A	Ulysses baz=29	28.64 314	⇑P	P	19 37 26.8 +1.2
Q30A	Quinter baz=29	28.78 317	⇑P	P	19 37 28.0 +1.3
U28A	Mallet baz=29	28.80 311	⇓P	P	19 37 28.0 +1.0
BGNE	Belgrade baz=29	29.02 323	⇑P	P	19 37 29.8 +1.0
T28A	Walsh baz=29	29.07 312	⇑P	P	19 37 30.5 +1.1
R29A	Marienthal baz=29	29.07 315	⇑P	P	19 37 30.3 +0.9
N31A	Bailey Ranch, baz=29	29.11 321	⇑P	P	19 37 30.5 +0.8
P30A	Selden baz=29,SNR=8.1	29.12 318	⇓P	P	19 37 30.9 +1.1
S28A	Manter baz=29	29.15 313	⇓P	P	19 37 31.3 +1.2
Q29A	Oakley baz=29,SNR=15	29.22 316	⇑P	P	19 37 32.0 +1.2
SPMN	Marine on St. baz=29	29.24 334	⇑P	P	19 37 31.6 +1.0
U27A	Thompson Grove baz=29	29.25 310	⇑P	P	19 37 31.7 +0.7
M31A	Lambtecht Ranc baz=30	29.45 322	⇓P	P	19 37 33.9 +1.2
MNTX	Cornudas Mount 23nm,1.4s	29.46 300	eP	P	19 37 33.8 +0.9
T27A	Campo baz=30	29.47 312	⇑P	P	19 37 33.4 +0.4
R28A	Tribune baz=30,SNR=19	29.48 315	⇓P	P	19 37 34.2 +1.1
P29A	Atwood baz=30	29.59 317	⇑P	P	19 37 35.4 +1.4
V26A	Tequesquite Ra baz=30	29.67 309	⇑P	P	19 37 35.9 +1.1
N30A	Hueftle Ranch, baz=30	29.77 320	⇑P	P	19 37 37.1 +1.5
O29A	4D Ranch, Culb baz=30	29.81 318	⇓P	P	19 37 37.2 +1.3
ECSD	EROS Data Cent baz=30	29.82 328	⇑P	P	19 37 36.0 +0.1
ECSD	EROS Data Cent 6.6nm,1.0s	29.82 328	eP	P	19 37 35.1 -0.8
X25A	Clemmons Ranch baz=30	29.82 306	⇑P	P	19 37 37.4 +1.2
Q28A	Sharon Springs baz=30	29.87 316	⇓P	P	19 37 38.3 +1.8
U26A	Atchley Ranch, baz=30	29.90 310	⇓P	P	19 37 37.6 +0.7
L31A	Butterfield Fa baz=30	29.91 324	⇓P	P	19 37 37.5 +0.8
W25A	X Bar L Ranch, baz=30	29.94 307	⇓P	P	19 37 38.3 +1.2
M30A	Dale-Ortello V baz=30	30.10 322	⇓P	P	19 37 39.3 +0.9
P28A	Saint Francis baz=30	30.10 317	⇓P	P	19 37 40.4 +1.9
N29A	Votaw Ranch, W baz=30	30.11 320	⇓P	P	19 37 40.1 +1.6
R27A	Eads baz=30	30.12 314	⇑P	P	19 37 40.3 +1.6
T26A	Comanche Natio baz=30	30.14 311	⇑P	P	19 37 40.4 +1.4
Y24A	Capitan baz=30,SNR=7.6	30.21 304	⇓P	P	19 37 41.8 +2.1
S26A	Kim baz=30	30.26 312	⇑P	P	19 37 41.4 +1.4
L30A	Spencer Herefo baz=30	30.27 322	⇓P	P	19 37 41.5 +1.6
V25A	Rancho No Teng baz=30,SNR=26	30.30 308	⇑P	P	19 37 42.3 +1.9
KSCO	Kaye Shedlock' baz=30	30.37 315	⇓P	P	19 37 42.1 +1.1
U25A	Circle Dot Ran baz=30,SNR=5.1	30.38 309	⇓P	P	19 37 42.7 +1.5
M29A	Burnside Ranch baz=30	30.52 321	⇑P	P	19 37 43.4 +1.2
R26A	Arlington baz=31	30.57 313	⇓P	P	19 37 44.0 +1.3
N28A	Pribbeno Ranch baz=31	30.59 319	⇑P	P	19 37 44.1 +1.2
P27A	Ficken Ranch, baz=31	30.63 316	⇑P	P	19 37 44.6 +1.4
W24A	Lazy 6 Ranch, baz=31,SNR=7.2	30.65 306	⇑P	P	19 37 46.2 +2.6
K30A	Basset baz=31	30.67 324	⇑P	P	19 37 44.8 +1.3
T25A	Trinidad baz=31,SNR=18	30.70 311	⇑P	P	19 37 45.6 +1.6
L29A	Maesberg Ranch baz=31	30.78 322	⇓P	P	19 37 45.7 +1.3
Q26A	Hugo baz=31,SNR=9.4	30.93 314	⇑P	P	19 37 47.2 +1.3
SAML	Samuel 15nm,0.9s	30.93 156	eP	P	19 37 46.0 +0.1
S25A	Robets Cordova baz=31,SNR=16	30.96 311	⇑P	P	19 37 47.5 +1.3
J30A	Dallas baz=31	31.04 325	⇓P	P	19 37 48.0 +1.3
R25A	Fountain Ranch baz=31	31.07 312	⇓P	P	19 37 48.5 +1.3
P26A	Davis Ranch, A baz=31	31.14 315	⇑P	P	19 37 49.0 +1.3
Z22A	Elephant Butte baz=31	31.20 302	⇑P	P	19 37 51.6 +3.2
ANMO	Albuquerque 3.1nm,1.0s	31.35 305	eP	P	19 37 49.0 -0.8
T24B	San Luis baz=31,SNR=15	31.37 310	⇑P	P	19 37 52.2 +2.2
Q25A	Bedland, Calha baz=31	31.42 314	⇑P	P	19 37 51.6 +1.3
V23A	Ortiz Mt. (NFS baz=31	31.44 307	⇑P	P	19 37 51.6 +1.1
O26A	Horse Wrangler baz=32	31.47 317	⇓P	P	19 37 51.9 +1.3
S24A	Houchin Ranch, baz=32	31.50 311	⇑P	P	19 37 52.3 +1.2
BRSD	Miller baz=32	31.51 327	⇑P	P	19 37 51.7 +1.0
J29A	Okreek baz=32	31.55 324	⇑P	P	19 37 52.2 +1.1
M27A	Reverse DX Ran baz=32	31.60 319	⇑P	P	19 37 53.2 +1.4
121A	Cookes Peak, D baz=32	31.65 300	⇓P	P	19 37 53.3 +0.9
P25A	Willow Gulch B baz=32	31.66 315	⇑P	P	19 37 53.7 +1.3
U23A	El Rito baz=32	31.67 308	⇑P	P	19 37 53.7 +1.1
R24A	Sanders Place, baz=32,SNR=10	31.69 312	⇓P	P	19 37 54.5 +1.9
LAZ	Ladron 9.2nm,1.4s	31.70 304	eP	P	19 37 52.2 -0.6
K28A	Ten Mile Ranch baz=32	31.70 322	⇑P	P	19 37 53.8 +1.2
N26A	Koester Ranch, baz=32	31.73 318	⇓P	P	19 37 54.4 +1.5
SDCO	Great Sand Dun 6.0nm,1.0s	31.75 311	eP	P	19 37 53.6 +0.3
O25A	Wiggins baz=32	31.93 316	⇑P	P	19 37 56.0 +1.3
I29A	Vivian Onida baz=32	31.94 325	⇑P	P	19 37 55.3 +0.8
M26A	McRoberts Ranc baz=32	32.03 319	⇓P	P	19 37 56.2 +0.7
V22A	San Miguel Ran baz=32	32.05 307	⇑P	P	19 37 57.6 +1.7
Q24A	Divide baz=32	32.06 313	⇓P	P	19 37 57.3 +1.3
J28A	Allard Ranch, baz=32	32.07 323	⇓P	P	19 37 56.6 +0.9
G30A	Faulkton baz=32	32.08 327	⇑P	P	19 37 56.1 +0.3
P24A	Kohler Place, baz=32	32.16 314	⇓P	P	19 37 58.2 +1.4
R23A	Moffat baz=32,SNR=13	32.18 311	⇓P	P	19 37 58.6 +1.5
U22A	Llaves baz=32,SNR=8.3	32.18 308	⇑P	P	19 37 59.1 +2.0
K27A	Flueckinger Fa baz=32	32.20 321	⇑P	P	19 37 58.3 +1.4
H29A	Onida baz=32	32.29 326	⇓P	P	19 37 59.4 +1.8
L26A	Underwood Farm baz=32	32.32 320	⇑P	P	19 37 59.0 +0.9
I28A	Midland baz=32	32.40 324	⇓P	P	19 37 59.1 +0.4
J27A	Elkhorn Farm, baz=32	32.40 322	⇑P	P	19 37 59.3 +0.6
F30A	Leola baz=32	32.52 329	⇓P	P	19 38 00.8 +1.2
O24A	Longmont baz=33	32.57 315	⇑P	P	19 38 01.0 +0.7
M25A	Palm-Egli Farm baz=33	32.59 318	⇓P	P	19 38 01.7 +1.2
319A	Douglas baz=33,SNR=13	32.60 298	⇑P	P	19 38 01.7 +1.0
S22A	4UR Ranch, Cre baz=33	32.70 310	⇓P	P	19 38 02.2 +0.5

P23A **Jefferson** 32.72 313 ⇑P P 19 38 02.4 +0.5
baz=33
H28A **Mission Ridge** 32.76 325 ⇓P P 19 38 03.0 +1.2
baz=33
K26A **Motz Farm, Whi** 32.76 320 ⇓P P 19 38 02.8 +0.9
baz=33
ISCO **Idaho Springs** 32.77 314 ⇑P P 19 38 02.9 +0.6
baz=33,SNR=15
ISCO **Idaho Springs** 32.77 314 eP P 19 38 02.5 +0.3
10.0nm,0.9s
N24A **Carr** 32.80 316 ⇑P P 19 38 03.5 +1.1
baz=33
F29A **Eureka** 32.92 328 ⇑P P 19 38 04.4 +1.2
baz=33
L25A **Engebretsen Ra** 32.93 319 ⇑P P 19 38 04.4 +1.0
baz=33
I27A **Quinn** 32.93 323 ⇓P P 19 38 04.1 +0.8
baz=33
E30A **Jud** 32.94 329 ⇓P P 19 38 04.0 +0.7
baz=33
AGMN **Agassiz Nation** 32.96 335 ⇑P P 19 38 04.3 +0.9
baz=33
AGMN **Agassiz Nation** 32.96 335 eP P 19 38 03.1 -0.3
20nm,1.4s
G28A **Parade** 32.96 326 ⇓P P 19 38 04.0 +0.4
baz=33
J26A **Sides Ranch, S** 33.06 321 ⇓P P 19 38 05.0 +0.6
baz=33
M24A **Cheyenne** 33.09 317 ⇓P P 19 38 05.7 +0.7
baz=33
K25A **Mack Ranch, Ha** 33.13 320 ⇓P P 19 38 06.4 +1.3
baz=33
O23A **Lake Granby, G** 33.17 315 ⇑P P 19 38 06.4 +0.6
baz=33,SNR=5.4
H27A **Howes** 33.30 324 ⇓P P 19 38 06.9 +0.4
baz=33
D30A **Buchanan** 33.31 330 ⇑P P 19 38 06.9 +0.4
baz=33
E29A **Napoleon** 33.34 329 ⇑P P 19 38 08.0 +1.1
baz=33
SMCO **Snowmass** 33.42 312 eP P 19 38 08.9 +0.9
29nm,1.5s
F28A **McLaughlin** 33.42 327 ⇑P P 19 38 08.2 +0.7
baz=33
P22A **Eagle** 33.46 313 ⇓P P 19 38 08.4 +0.2
baz=33
L24A **Wheatland** 33.47 318 ⇓P P 19 38 08.9 +0.8
baz=34
N23A **Red Feather La** 33.52 316 ⇑P P 19 38 09.6 +0.8
baz=34
J25A **Sunshine Ranch** 33.53 321 ⇑P P 19 38 09.8 +1.1
baz=34
O22A **Kremmling** 33.57 314 ⇑P P 19 38 10.2 +0.9
baz=34,SNR=7.5
C30A **Mose, Pekin** 33.62 331 ⇓P P 19 38 10.3 +1.0
baz=34
M23A **Laramie** 33.67 317 ⇑P P 19 38 10.7 +0.7
baz=34
D29A **Pettibone, Tap** 33.67 330 ⇓P P 19 38 10.3 +0.6
baz=34
H26A **Fairpoint** 33.68 324 ⇑P P 19 38 10.7 +0.8
baz=34
G27A **Dupree** 33.70 325 ⇑P P 19 38 10.7 +0.6
baz=34,SNR=9.3
MVCO **Mesa Verde** 33.72 308 ⇓P P 19 38 10.7 +0.3
baz=34
MVCO **Mesa Verde** 33.72 308 eP P 19 38 11.8 +1.3
13nm,1.3s
N22A **Wattenberg Ran** 33.82 315 ⇑P P 19 38 12.2 +0.8
baz=34,SNR=7.5
I25A **Rochford** 33.86 322 ⇑P P 19 38 12.5 +0.9
baz=34,SNR=5.9
E28A **Huff** 33.87 328 ⇑P P 19 38 12.1 +0.7
baz=34
X18A **Snowflake** 33.95 303 ⇑P P 19 38 12.8 +0.4
baz=34
W18A **Petrified Fore** 33.95 304 ⇓P P 19 38 13.1 +0.6
baz=34
L23A **Garrett** 33.99 318 ⇑P P 19 38 13.7 +1.0
baz=34
G26A **Maurine** 34.01 325 ⇑P P 19 38 12.9 +0.2
baz=34,SNR=10.0
J24A **Dixon Ranch, L** 34.01 320 ⇓P P 19 38 13.4 +0.6
baz=34
TUC **Tucson** 34.06 299 eP P 19 38 13.6 +0.3
14nm,1.6s
F27A **Lemmon** 34.07 326 ⇑P P 19 38 14.1 +0.8
baz=34,SNR=7.8
RSSD **Black Hills** 34.10 322 eP P 19 38 14.0 +0.3
2.9nm,0.8s
B30A **Myrvik Farm, E** 34.12 332 ⇑P P 19 38 14.2 +0.7
baz=34,SNR=5.7
PV01 **Paradox Valley** 34.12 310 eP P 19 38 15.1 +1.1
492nm,0.9s
H25A **Fruitdale** 34.15 323 ⇓P P 19 38 14.4 +0.5
baz=34
M22A **Cedar Creek Ra** 34.20 316 ⇓P P 19 38 14.7 +0.1
baz=34
E27A **Carson** 34.21 327 ⇑P P 19 38 14.8 +0.4
baz=34
D28A **Regan** 34.23 329 ⇑P P 19 38 14.8 +0.2
baz=34
MDND **Maddock** 34.24 331 ⇓P P 19 38 14.9 +0.2
baz=34
K23A **Bowen Ranch, D** 34.28 319 ⇓P P 19 38 15.3 +0.1
baz=34
I24A **Kuemmerle Ranc** 34.29 321 ⇓P P 19 38 15.2 -0.1
baz=34
G25A **Newell** 34.40 324 ⇓P P 19 38 16.0 -0.1
baz=34
F26A **Lodgepole** 34.40 325 ⇓P P 19 38 16.5 +0.4
baz=34
L22A **Ellis Ranch, M** 34.41 317 ⇓P P 19 38 16.2 -0.3
baz=34
A30A **Hoffart Farm,** 34.48 333 ⇑P P 19 38 17.1 +0.5
baz=34,SNR=6.7
ULM **Lac du Bonnet** 34.53 337 P P 19 38 16.6 -0.5
16nm,1.0s,baz=147,slow=9.6,SNR=15
ULM LR LR 19 53 44.9
comp=Z,785nm,20.5s,baz=156,slow=39
PV10 **Paradox Valley** 34.55 310 eP P 19 38 18.3 +0.5
189nm,0.9s
E26A **Carlson Angus** 34.70 326 ⇑P P 19 38 18.5 -0.2
baz=35
O20A **White River Ci** 34.72 313 ⇑P P 19 38 18.3 -0.8
baz=35
O20A **White River Ci** 34.72 313 eP P 19 38 20.5 +1.4
11nm,0.9s
H24A **Dirks Ranch, A** 34.77 322 ⇑P P 19 38 19.5 +0.2
baz=35
K22A **Casper** 34.79 318 ⇑P P 19 38 20.0 +0.4
baz=35
K22A **Casper** 34.79 318 eP P 19 38 19.5 -0.2
13nm,1.0s
A29A **Manning Farm,** 34.87 332 ⇑P P 19 38 20.6 +0.5
baz=35,SNR=8.1
F25A **Bowman** 34.88 325 ⇑P P 19 38 20.5 +0.3
baz=35
B28A **Dugan Ranch, T** 35.03 331 ⇓P P 19 38 21.8 +0.4
baz=35
G24A **Alzada** 35.04 323 ⇑P P 19 38 22.1 +0.4
baz=35
N20A **Spence Gulch,** 35.04 314 ⇓P P 19 38 21.5 -0.4
baz=35
D26A **Manning** 35.05 327 ⇑P P 19 38 21.5 -0.2
baz=35
J22A **Midwest** 35.16 319 ⇓P P 19 38 22.9 +0.1
baz=35,SNR=7.1
E25A **Miller Ranch,** 35.21 326 ⇓P P 19 38 23.6 +0.5
baz=35
K21A **Alcova** 35.24 317 ⇑P P 19 38 24.0 +0.4
baz=35
A28A **Rude Farm, Bot** 35.32 331 ⇓P P 19 38 24.9 +1.0
baz=35
WUAZ **Wupatki** 35.35 304 ⇓P P 19 38 25.4 +0.8
baz=35,SNR=14
WUAZ **Wupatki** 35.35 304 eP P 19 38 22.8 -1.7
16nm,0.8s
WUAZ ePcP PcP 19 40 55.8 +1.2
F24A **Ekalaka** 35.37 324 ⇓P P 19 38 25.1 +0.7
baz=35
B27A **Peters Farms,** 35.42 330 ⇑P P 19 38 25.7 +0.9
baz=35
C26A **Wahner Farm, P** 35.42 328 ⇓P P 19 38 25.5 +0.7
baz=35
I22A **9 Mile Ranch,** 35.42 320 ⇑P P 19 38 25.7 +0.7
baz=35
G23A **Biddle** 35.52 322 ⇓P P 19 38 25.5 -0.3
baz=36
D25A **Fairfield** 35.59 327 ⇓P P 19 38 27.1 +0.8
baz=36
SCHQ **Schefferville** 35.62 8 P P 19 38 27.1 +0.7
9.9nm,0.6s,baz=195,slow=6.8,SNR=32
SCHQ LR LR 19 52 31.4
comp=Z,274nm,20.0s,baz=199,slow=36
SCHQ **Schefferville** 35.62 8 eP P 19 38 26.2 -0.3
214A **Organ Pipe Nat** 35.67 298 ⇑P P 19 38 27.9 +0.7
baz=36
214A **Organ Pipe Nat** 35.67 298 eP P 19 38 28.6 +1.4
14nm,1.2s
J21A **Lysite** 35.73 318 ⇑P P 19 38 28.8 +1.0
baz=36,SNR=7.2
H22A **Clearmont** 35.73 321 ⇑P P 19 38 29.0 +1.3
baz=36
E24A **Baker** 35.73 325 ⇓P P 19 38 28.6 +1.0
baz=36
F23A **Volborg** 35.83 323 ⇑P P 19 38 28.9 +0.4
baz=36
B26A **Jensen Ranch,** 35.86 329 ⇓P P 19 38 29.2 +0.5
baz=36
I21A **Big Trails, Te** 35.88 319 ⇑P P 19 38 29.3 +0.3
baz=36,SNR=8.9
SRU **San Rafael Swe** 35.91 310 eP P 19 38 30.1 +0.7
16nm,1.3s
SRU ePcP PcP 19 40 56.2 -0.1
C25A **Freed Ranch, W** 35.92 327 ⇑P P 19 38 29.8 +0.7
baz=36
G22A **Birney** 36.05 322 ⇓P P 19 38 30.9 +0.5
baz=36
Z14A **Wintersburg** 36.06 300 ⇓P P 19 38 31.8 +1.3
baz=36
D24A **Glendive** 36.09 326 ⇓P P 19 38 31.6 +1.0
baz=36
A26A **Wade Farm, Ken** 36.13 330 ⇑P P 19 38 32.1 +1.2
baz=36
J20A **Shoshoni** 36.13 318 ⇓P P 19 38 32.5 +1.3
baz=36
H21A **Big Horn, Sher** 36.16 321 ⇓P P 19 38 32.6 +1.3
baz=36
Y14A **Wickenburg** 36.24 301 ⇓P P 19 38 33.5 +1.5
baz=36
B25A **Knox Farm, Ray** 36.25 328 ⇑P P 19 38 33.4 +1.5
baz=36
U15A **North Rim** 36.33 305 ⇑P P 19 38 34.8 +1.8
baz=36,SNR=12
F22A **Rosebud** 36.35 323 ⇓P P 19 38 33.5 +0.7
baz=36
C24A **Savage** 36.41 326 ⇑P P 19 38 34.4 +1.1
baz=36
I20A **Worland** 36.46 319 ⇓P P 19 38 34.7 +0.8
baz=36,SNR=5.2
TMUT **Trail Mountain** 36.47 310 eP P 19 38 36.5 +2.2
33nm,1.7s
LPAZ **La Paz** 36.51 168 P P 19 38 35.1 +0.1
2.5nm,0.7s,baz=356,slow=11,SNR=11
LPAZ LR LR 19 55 12.6
comp=Z,254nm,18.4s,baz=341,slow=39
LPAZ **La Paz** 36.51 168 eP P 19 38 35.0 0.0
19nm,1.3s
LPAZ ePcP PcP 19 40 56.9 -1.9
E22A **Miles City** 36.56 324 ⇑P P 19 38 35.5 +0.8
baz=37
G21A **Lodge Grass** 36.59 321 ⇑P P 19 38 35.6 +0.7
baz=37
D23A **Lindsay** 36.60 325 ⇓P P 19 38 35.7 +0.7
baz=37
113A **Mohawk Valley,** 36.62 299 ⇑P P 19 38 36.2 +1.0
baz=37
H20A **Greybull** 36.66 320 ⇓P P 19 38 35.8 +0.2
baz=37
A25A **Svangstu Ranch** 36.67 329 ⇑P P 19 38 36.2 +0.7
baz=37
J19A **Crowheart** 36.70 317 ⇑P P 19 38 36.6 +0.5
baz=37,SNR=11
BW06 **Boulder Array** 36.79 316 eP P 19 38 36.3 -0.6
4.4nm,0.8s
PDAR **Pinedale Array** 36.79 316 P P 19 38 36.9 0.0
3.9nm,0.7s,baz=122,slow=8.5,SNR=12
PDAR PcP PcP 19 40 58.5 -0.5
1.9nm,0.8s,baz=126,slow=4.6,SNR=4.1
PDAR LR LR 19 55 46.2
comp=Z,249nm,18.4s,baz=120,slow=40
MVU **Marysvale** 36.92 308 eP P 19 38 39.1 +1.0
9.5nm,1.4s
DAU **Daniels Canyon** 36.93 312 eP P 19 38 38.5 +0.3
DAU ePcP PcP 19 40 59.6 +0.2
C23A **Lambert** 36.98 326 ⇓P P 19 38 38.8 +0.6
baz=37
MPU **Maple Canyon** 37.04 311 eP P 19 38 40.1 +1.0
36nm,1.8s
I19A **Meeteetse** 37.05 318 ⇑P P 19 38 40.1 +1.1
baz=37,SNR=10.0
A24A **Westby** 37.10 328 ⇑P P 19 38 41.0 +1.8
baz=37
D22A **Cohagen** 37.11 325 ⇑P P 19 38 40.0 +0.7
baz=37
G20A **Bridger** 37.18 321 ⇑P P 19 38 39.7 -0.4
baz=37
H19A **Powell** 37.36 319 ⇓P P 19 38 42.2 +0.6
baz=37
Y12C **Blythe** 37.43 300 ⇓P P 19 38 42.7 +0.5
baz=37
F20A **Billings** 37.45 321 ⇑P P 19 38 42.8 +0.4
baz=37
CCUT **Cedar City** 37.48 306 eP P 19 38 44.4 +1.6
11nm,1.3s
D21A **La Casta Ranch** 37.51 324 ⇑P P 19 38 42.8 +0.1
baz=38
A23A **Redstone** 37.56 328 ⇑P P 19 38 43.3 +0.2
baz=38
ARUT **Antelope Range** 37.61 307 eP P 19 38 44.6 +0.8
147nm,0.8s
RLMT **Red Lodge** 37.76 320 eP P 19 38 45.1 0.0
36nm,1.4s
H18A **Shoshone NF, C** 37.78 319 ⇓P P 19 38 45.8 +0.5
baz=38
E20A **Meyer Farm, Mu** 37.83 322 ⇓P P 19 38 46.2 +0.7
baz=38,SNR=7.9
LOHW **Long Hollow** 37.86 317 eP P 19 38 46.9 +1.0
12nm,1.0s
REDW **Red Top Meadow** 37.91 316 eP P 19 38 46.9 +0.5
15nm,0.8s
DUG **Dugway, Tooele** 37.95 311 ⇓P P 19 38 47.3 +0.7
baz=38,SNR=21
DUG **Dugway, Tooele** 37.95 311 eP P 19 38 47.1 +0.4
19nm,1.1s
F19A **Roth Farm, Mol** 37.95 321 ⇓P P 19 38 47.4 +0.9
baz=38
I17A **Pilgrim Ck.** 37.99 317 ⇓P P 19 38 47.4 +0.4
baz=38,SNR=13
C21A **Desert Coulee** 38.01 325 ⇓P P 19 38 47.5 +0.5
baz=38
IRM **Iron Mountain** 38.03 300 ⇓P P 19 38 48.1 +0.9
baz=38,SNR=7.2
TPAW **Teton Pass** 38.03 317 eP P 19 38 48.2 +0.8
21nm,1.3s
SPUT **South Promonto** 38.11 313 P P 19 38 48.2 +0.2
17nm,1.1s
FLWY **Flagg Ranch** 38.14 318 eP P 19 38 49.3 +0.9
20nm,1.3s
FXWY **Fox Creek** 38.15 317 eP P 19 38 48.7 +0.3
34nm,1.6s
D20A **Manuel Ranch,** 38.16 323 ⇓P P 19 38 48.7 +0.4
baz=38
E19A **Rath Farm, Rou** 38.19 322 ⇓P P 19 38 49.3 +0.8
baz=38,SNR=8.5
SIV **San Ignacio** 38.19 157 P P 19 38 48.8 +0.2
5.5nm,0.9s,baz=346,slow=9.4,SNR=8.6
SIV PcP PcP 19 41 02.9 -0.3
2.6nm,0.6s,baz=300,slow=2.0,SNR=5.0
SIV LR LR 19 54 32.5
comp=Z,204nm,21.2s,baz=352,slow=36
IMW **Indian Meadow** 38.21 317 eP P 19 38 49.4 +0.4
9.0nm,0.8s
BGU **Big Grassy Mou** 38.37 312 eP P 19 38 50.8 +0.6
11nm,1.5s
C20A **Veseth Ranch,** 38.44 324 ⇑P P 19 38 51.9 +1.3
baz=38
HVU **Hansel Valley** 38.52 313 eP P 19 38 50.5 -0.9
5.9nm,0.9s
SHPR **Sheep Range** 38.57 304 eP P 19 38 53.4 +1.5
D19A **Cripps Ranch,** 38.62 323 ⇓P P 19 38 53.3 +1.1
baz=39,SNR=5.2
A21A **Bergtoll Ranch** 38.63 326 ⇓P P 19 38 53.1 +1.0
baz=39
BELC **Belle Mtn. Jos** 38.69 300 ⇑P P 19 38 53.8 +0.9
baz=39
MONP **Monument Peak,** 38.84 298 ⇓P P 19 38 55.1 +0.8
baz=39
TUQ **Turquoise Moun** 38.92 302 ⇑P P 19 38 55.7 +0.8
baz=39
QLMT **Earthquake Lak** 38.96 318 eP P 19 38 57.1 +2.0
3.2nm,1.4s
PFO **Pinyon Flats O** 38.99 299 ⇑P P 19 38 55.6 +0.2
baz=39
C19A **Slack Wire Ran** 39.04 324 ⇑P P 19 38 56.2 +0.6
baz=39
A20A **Cobblestone Ra** 39.09 326 ⇑P P 19 38 56.8 +0.9
baz=39
B19A **Brinkman Farms** 39.39 325 ⇓P P 19 38 59.4 +1.0
baz=39
R11A **Troy Canyon, C** 39.39 307 ⇑P P 19 38 59.5 +0.7
baz=39,SNR=9.7
R11A **Troy Canyon, C** 39.39 307 eP P 19 38 58.9 +0.1
40nm,2.3s
TPNV **Topopah Spring** 39.53 304 ⇓P P 19 39 01.2 +1.3
baz=40,SNR=13
TPNV **Topopah Spring** 39.53 304 eP P 19 39 00.5 +0.6
A19A **Klindworth Far** 39.55 325 ⇑P P 19 39 00.7 +0.9
baz=40
EGMT **Eagleton** 39.59 323 ⇓P P 19 39 00.9 +0.7
baz=40
GSC **Goldstone, Bar** 39.59 302 ⇓P P 19 39 00.9 +0.5
baz=40
GSC **Goldstone, Bar** 39.59 302 eP P 19 39 02.6 +2.1
24nm,1.8s
MURC **Murrieta** 39.60 299 ⇑P P 19 39 01.1 +0.7
baz=40
MCMT **McKenzie Canyo** 39.85 317 eP P 19 39 03.6 +1.0
2.7nm,0.7s
ELK **Elko** 39.88 311 eP P 19 39 04.0 +1.1
5.7nm,0.9s
DLMT **Dillon** 39.94 318 eP P 19 39 04.6 +1.3
21nm,1.4s
LRM **Limekiln Ridge** 40.06 319 eP P 19 39 03.2 -1.2
BFSC **Mount Baldy Ra** 40.08 300 ⇓P P 19 39 05.2 +0.6
baz=40
HRY **Holter Researc** 40.11 321 eP P 19 39 04.3 -0.4
MPMC **Manual Prospec** 40.30 303 ⇑P P 19 39 07.2 +0.7
baz=40
LRMC **Laurel Mtn Rad** 40.34 302 ⇓P P 19 39 07.2 +0.6
baz=40
HLID **Hailey** 40.34 315 ⇑P P 19 39 07.6 +0.9
baz=40,SNR=15
HLID **Hailey** 40.34 315 eP P 19 39 07.1 +0.5
8.0nm,0.9s
FFC **Flin Flon** 40.36 336 eP P 19 39 06.2 -0.2
8.0nm,0.8s
DAC **Darwin (Calif)** 40.43 303 ePcP PcP 19 41 11.7 +1.3
EDW2 **Edwards Air Fo** 40.47 301 ⇑P P 19 39 08.4 +0.7
baz=40
TPH **Tonopah** 40.56 306 eP P 19 39 09.7 +1.1
12nm,1.0s
CHMT **Chamberlain Mo** 41.06 320 eP P 19 39 12.2 -0.5
BMN **Battle Mountai** 41.21 309 eP P 19 39 14.6 +0.8
8.1nm,1.1s
MFID **Camas Ranch** 41.23 314 eP P 19 39 12.9 -1.0
52nm,2.2s
FCC **Fort Churchill** 41.28 345 eP P 19 39 12.8 -1.1
SLMT **Seeley Lake** 41.36 320 eP P 19 39 14.9 -0.1
MSO **Missoula** 41.44 320 ⇑P P 19 39 16.0 +0.4
baz=41
NVAR **Mina Array Bea** 41.47 306 P P 19 39 17.1 +1.0
3.2nm,0.8s,baz=104,slow=7.5,SNR=16
NVAR PcP PcP 19 41 14.9 +1.1
2.6nm,0.7s,baz=139,slow=4.5,SNR=7.2
SWMT **Swartz Lake** 41.79 321 eP P 19 39 18.7 +0.2
YBMT **Yellow Bay** 41.97 321 P P 19 39 19.2 -0.7
4.2nm,0.9s
JTMT **Jette** 42.07 321 eP P 19 39 21.3 +0.6
SMMC **Simmler** 42.16 301 ⇓P P 19 39 21.9 +0.3
baz=42
WAKR **Walker** 42.35 306 eP P 19 39 24.4 +1.1
BSMT **Bassoo Peak** 42.42 321 eP P 19 39 24.3 +0.6
LVC **Limon Verde** 42.57 171 P P 19 39 25.1 0.0
BMO **Blue Mountains** 42.76 316 eP P 19 39 27.0 +0.7
15nm,1.6s
WVOR **Wild Horse Val** 42.83 312 eP P 19 39 26.0 -1.0
13nm,1.2s
CMB **Columbia Colle** 42.98 305 eP P 19 39 29.1 +1.0
4.0nm,0.9s
F10A **Beach Ranch, E** 43.13 317 eP P 19 39 29.3 -0.1
138nm,2.8s
MOD **Modoc Plateau** 43.86 310 eP P 19 39 35.7 +0.3
7.5nm,1.1s
E09A **Wood Farm, Sta** 43.93 317 eP P 19 39 35.8 +0.2
26nm,1.6s
G08A **Pilot Rock** 44.01 316 eP P 19 39 37.0 +0.6
6.9nm,0.9s
NEW **Newport** 44.01 320 LR LR 19 59 38.9
comp=Z,660nm,19.4s,baz=111,slow=38
NEW **Newport** 44.01 320 ⇓P P 19 39 36.7 +0.4
baz=44,SNR=6.9
NEW **Newport** 44.01 320 eP P 19 39 36.3 -0.1
14nm,1.3s
FRB **Frobisher Bay** 44.21 4 LR LR 19 57 44.5
comp=Z,238nm,20.4s,baz=178,slow=36
BDFB **Brasilia** 44.26 141 P P 19 39 38.4 -0.3
8.9nm,0.8s,baz=313,slow=9.7,SNR=17
BDFB LR LR 19 58 32.8
comp=Z,315nm,20.7s,baz=315,slow=37
EDM **Edmonton** 44.39 328 eP P 19 39 39.8 +0.5
C09A **Chrisman Ranch** 44.52 319 eP P 19 39 41.0 +0.7
38nm,2.0s
J05D **Fort Rock, OR** 44.91 312 ⇓P P 19 39 43.7 -0.1
baz=45
G06A **Carlson Farm,** 45.10 315 eP P 19 39 46.1 +1.0
22nm,1.3s
B08A **Colville Reser** 45.39 319 eP P 19 39 47.3 0.0
9.6nm,0.9s
YBH **Yreka Blue Hor** 45.55 310 eP P 19 39 49.7 +0.9
5.9nm,1.0s
I04A **Tendick Farm,** 45.88 312 ⇑P P 19 39 51.6 +0.4
baz=46
H04A **Detroit Lake** 45.98 314 eP P 19 39 52.9 +0.8
189nm,2.8s
RCBR **Riachuelo** 46.38 119 eP P 19 39 55.9 +0.3
22nm,1.1s
LCO **Las Campanas** 48.68 175 P P 19 40 11.0 -2.4
YKA **Yellowknife Ar** 50.50 338 P P 19 40 26.4 -0.2
2.3nm,0.8s,baz=130,slow=8.8,SNR=55
YKA PcP PcP 19 41 44.7 +0.3
0.6nm,0.8s,baz=129,slow=3.0,SNR=3.9
CFAA **Coronel Fontan** 51.51 172 P P 19 40 34.3 -0.3
0.8nm,0.7s,baz=337,slow=6.2,SNR=8.5
BBB **Bella Bella** 52.01 322 LR LR 20 04 11.5
comp=Z,451nm,18.1s,baz=120,slow=38
PMOZ **Porto Moniz, M** 53.15 63 eLR LR 19 57 29.2
190nm,20.0s
DLBC **Dease Lake** 55.11 328 LR LR 20 05 34.6
comp=Z,681nm,19.9s,baz=98,slow=37
DLBC **Dease Lake** 55.11 328 eP P 19 41 01.4 +0.6
RES **Resolute Bay** 55.97 354 eP P 19 41 06.1 -0.5
12nm,1.3s
SUMG **Summit** 56.82 12 *i* P P 19 41 13.7 +0.4
9.5nm,0.8s
SUMG **Summit** 56.82 12 eP P 19 41 13.5 +0.2
PMTG **Montargil** 60.27 56 eP P 19 41 38.5 +1.1
28nm,1.3s
MESJ **Messejana** 60.33 57 eP P 19 41 39.3 +1.5
42nm,1.8s
PLCA **Paso Flores** 60.33 176 P P 19 41 38.0 +0.3
6.2nm,0.5s,baz=357,slow=7.7,SNR=14
EVOP **Sao Brissos** 60.37 56⇑*i*P P 19 41 38.9 +0.8
62nm,1.5s
EVO **Evora** 60.46 56⇑*i*P P 19 41 38.9 +0.2
62nm,1.5s
EVO eR
250nm,19.5s
PVAQ **Vaqueiros** 60.75 58 eP P 19 41 42.5 +1.8
79nm,1.6s
MTE **Manteigas** 60.75 54 eLQ LQ 19 56 26.7
PMRV **Marv??o** 60.90 55 eP P 19 41 42.5 +0.8
26nm,1.6s
MVO **Moncorvo** 61.12 53 eP P 19 41 44.7 +1.5
35nm,2.2s
DAWY **Dawson** 61.12 333 eP P 19 41 43.3 +0.4
EGAK **Eagle** 62.04 334 eP P 19 41 49.4 +0.5
6.6nm,1.0s
PAB **San Pablo** 63.25 55 eP P 19 41 58.9 +1.4
23nm,1.4s
DIV **Divide** 63.46 329 eP P 19 41 56.2 -2.3
27nm,1.0s

DAG	Danmarks Havn	63.52	12	*i* P		P	19 41 57.6 -1.0
	5.8nm,0.8s						
ESDC	Sonseca Array	63.53	55	P		P	19 41 59.9 +0.5
	2.6nm,0.8s,baz=278,slow=6.6,SNR=15						
ESDC					LR	LR	20 03 41.6
	comp=Z,133nm,21.6s,baz=290,slow=30						
PAX	Paxson	63.57	331	*e*P		P	19 41 59.8 +0.5
	12nm,1.1s						
MDT	Midelt	63.71	62	P		P	19 42 02.1 +1.3
	3.7nm,0.9s,baz=290,slow=6.2,SNR=6.8						
SGMF	Saint Gilles	64.14	45	*e*P		P	19 42 04.0 +0.8
	199nm,1.5s						
SGMF	Saint Gilles	64.14	45	*e*P		P	19 42 04.0 +0.8
	199nm,1.5s						
ILAR	Eielson Array	64.45	333	P		P	19 42 04.5 -0.4
	2.1nm,0.8s,baz=110,slow=4.7,SNR=23						
ILAR					LR	LR	20 11 38.4
	comp=Z,492nm,18.2s,baz=104,slow=37						
MCK	McKinley	65.22	332	*e*P		P	19 42 10.1 +0.2
	16nm,1.2s						
GRR	Gorron	65.27	45	*e*P		P	19 42 11.3 +0.7
	27nm,0.9s						
GRR	Gorron	65.27	45	*e*P		P	19 42 11.3 +0.7
	27nm,0.9s						
SJPF	Ste Jean	65.33	51	*e*P		P	19 42 12.4 +1.4
	21nm,1.2s						
SJPF	Ste Jean	65.33	51	*e*P		P	19 42 12.4 +1.4
	21nm,1.2s						
RC01	Rabbit Creek A	65.38	329	*e*P		P	19 42 12.2 +1.2
	35nm,1.2s						
FLN	La Foliniere	65.51	45	*e*P		P	19 42 13.0 +0.9
FLN				*e*R			
	234nm,22.8s						
FLN	La Foliniere	65.51	45	*e*P		P	19 42 13.0 +0.9
TRF	Thorofare Moun	65.80	332	*e*P		P	19 42 14.1 +0.2
	24nm,1.3s						
MFF	Saint Martin d	65.85	47	*e*P		P	19 42 15.5 +1.2
	41nm,1.2s						
MFF	Saint Martin d	65.85	47	*e*P		P	19 42 15.5 +1.2
	41nm,1.2s						
KTH	Kantishna Hill	66.09	332	*e*P		P	19 42 16.0 +0.3
	21nm,1.1s						
COLD	Coldfoot	66.10	336	P		P	19 42 14.7 -0.9
	15nm,1.4s						
EPF	Esparros	66.47	51	*e*P		P	19 42 19.8 +1.3
	65nm,1.5s						
EPF	Esparros	66.47	51	*e*P		P	19 42 19.8 +1.3
	65nm,1.5s						
LFF	La Frestale	66.59	49	*e*P		P	19 42 20.0 +0.9
	103nm,1.4s						
LFF	La Frestale	66.59	49	*e*P		P	19 42 20.0 +0.9
	103nm,1.4s						
RSO	Redoubt South	66.83	328	*e*P		P	19 42 20.7 0.0
RJF	Les Rejaudoux	67.10	48	*e*P		P	19 42 23.1 +0.7
RJF				*e*R			
	296nm,20.2s						
RJF	Les Rejaudoux	67.10	48	*e*P		P	19 42 23.1 +0.7
IM04	Indian Mountai	67.44	334	*e*P		P	19 42 23.9 -0.3
TCF	Toulx Ste Croi	67.50	47⇑	*i*P		P	19 42 25.4 +0.5
	32nm,1.3s						
TCF	Toulx Ste Croi	67.50	47⇑	*i*P		P	19 42 25.4 +0.5
	32nm,1.3s						
CAF	Calviac	67.53	49	*e*P		P	19 42 25.9 +0.8
	60nm,1.4s						
CAF	Calviac	67.53	49	*e*P		P	19 42 25.9 +0.8
	60nm,1.4s						
HYF	Humbligny	67.70	46	*e*P		P	19 42 27.1 +1.0
HYF	Humbligny	67.70	46	*e*P		P	19 42 27.1 +1.0
MTLF	Montolieu	67.81	50	*e*P		P	19 42 27.6 +0.7
	83nm,1.7s						
MTLF	Montolieu	67.81	50	*e*P		P	19 42 27.6 +0.7
	83nm,1.7s						
BGF	Bois d'Agland	67.91	47⇑	*i*P		P	19 42 28.0 +0.5
	18nm,0.9s						
BGF	Bois d'Agland	67.91	47⇑	*i*P		P	19 42 28.0 +0.5
	18nm,0.9s						
SVW2	Sparrevohn	68.21	329	*e*P		P	19 42 29.0 -0.1
AVF	Avril sur Loir	68.23	47	*e*P		P	19 42 29.9 +0.4
	39nm,1.3s						
AVF	Avril sur Loir	68.23	47	*e*P		P	19 42 29.9 +0.4
	39nm,1.3s						
SSF	Saint Saulge	68.31	46⇑	*i*P		P	19 42 30.4 +0.4
	65nm,1.4s						
SSF	Saint Saulge	68.31	46⇑	*i*P		P	19 42 30.4 +0.4
	65nm,1.4s						
BAIF	Baives	68.48	43	*e*P		P	19 42 31.5 +0.6
BAIF	Baives	68.48	43	*e*P		P	19 42 31.5 +0.6
SNF	Seneffe	68.48	42	P		P	19 42 31.8 +0.8
LOR	Lormes	68.52	46⇑	*i*P		P	19 42 31.8 +0.5
	39nm,1.3s						
LOR				*e*R			
	291nm,20.5s						
LOR	Lormes	68.52	46⇑	*i*P		P	19 42 31.8 +0.5
	39nm,1.3s						
SMF	Signal de Mont	68.58	47⇑	*i*P		P	19 42 32.0 +0.3
	47nm,1.2s						
SMF	Signal de Mont	68.58	47⇑	*i*P		P	19 42 32.0 +0.3
	47nm,1.2s						
DOU	Dourbes	68.72	43	P		P	19 42 32.5 0.0
	comp=Z,21nm,3.1s						
GIVF	Givet	68.87	43	*e*P		P	19 42 34.1 +0.7
	comp=Z,49nm,1.2s						
GIVF	Givet	68.87	43	*e*P		P	19 42 34.1 +0.7
	comp=Z,49nm,1.2s						
LASF	Ste Croix	68.90	49	*e*P		P	19 42 35.0 +1.3
LASF	Ste Croix	68.90	49	*e*P		P	19 42 35.0 +1.3
BCLA	Clavier	69.14	42	P		P	19 42 36.6 +1.6
MEZF	Maizieres J'vi	69.19	45⇑	*i*P		P	19 42 36.3 +0.9
	comp=Z,50nm,1.2s						
MEZF	Maizieres J'vi	69.19	45⇑	*i*P		P	19 42 36.3 +0.9
	comp=Z,50nm,1.2s						
SFTF	Sexfontaines	69.21	45⇑	*i*P		P	19 42 36.2 +0.6
	comp=Z,69nm,1.3s						
SFTF	Sexfontaines	69.21	45⇑	*i*P		P	19 42 36.2 +0.6
	comp=Z,69nm,1.3s						
TIC	Toumodi	69.29	90	*e*P		P	19 42 36.9 +0.3
	comp=Z,202nm,0.2s						
VIVF	Saint-Julien-l	69.38	48⇑	*i*P		P	19 42 38.2 +1.5
	comp=Z,13nm,0.9s						
VIVF	Saint-Julien-l	69.38	48⇑	*i*P		P	19 42 38.2 +1.5
	comp=Z,13nm,0.9s						
LIC	Lamto	69.42	91⇑	*i*P		P	19 42 37.7 +0.3
	comp=Z,44nm,0.8s,baz=277						
LIC				*e*R			
	comp=Z,145nm,18.5s						
LIC	Lamto	69.42	91	*e*P		P	19 42 37.6 +0.2
	comp=Z,67nm,0.8s						
LIC	Lamto	69.42	91⇑	*i*P		P	19 42 37.7 +0.3
	comp=Z,44nm,0.8s						
DBIC	Dimbokro	69.44	90	P		P	19 42 37.8 +0.3
	comp=Z,12nm,0.7s,baz=267,slow=5.5,SNR=13						
DBIC	Dimbokro	69.44	90	*e*P		P	19 42 37.7 +0.2
	comp=Z,93nm,1.8s						
MEM	Membach	69.57	42	P		P	19 42 38.9 +1.2
PAGF	Fort de Pagny	69.62	44	*e*P		P	19 42 38.9 +0.8
	comp=Z,31nm,1.5s						
PAGF	Fort de Pagny	69.62	44	*e*P		P	19 42 38.9 +0.8
	comp=Z,31nm,1.5s						
KIC	Kosan Boka	69.64	90	*e*P		P	19 42 39.1 +0.3
	comp=Z,121nm,1.3s						
WLF	Walferdange	69.77	43	P		P	19 42 40.0 +1.0
WLF	Walferdange	69.77	43	*e*P		P	19 42 39.9 +1.0
	comp=Z,87nm,2.5s						
THEF	They Montfort	69.84	45	*e*P		P	19 42 40.7 +1.2
HAU	Haudompre	70.11	45	*e*P		P	19 42 41.7 +0.6
HAU				*e*R			
	comp=Z,295nm,18.8s						
HAU	Haudompre	70.11	45	*e*P		P	19 42 41.7 +0.6
CABF	La Chapelle	70.12	46	*e*P		P	19 42 41.9 +0.6
CABF	La Chapelle	70.12	46	*e*P		P	19 42 41.9 +0.6
SMRF	Simiane la Rot	70.14	49	*e*P		P	19 42 42.6 +1.2
SMRF	Simiane la Rot	70.14	49	*e*P		P	19 42 42.6 +1.2
ORIF	Oris-en-Rattie	70.22	48	*e*P		P	19 42 43.4 +1.4
	comp=Z,29nm,1.2s						
ORIF				*e*R			
	comp=Z,316nm,22.0s						
ORIF	Oris-en-Rattie	70.22	48	*e*P		P	19 42 43.4 +1.4
	comp=Z,29nm,1.2s						
BUG	Bochum--Univer	70.26	41	*e*P		P	19 42 44.1 +2.2
	comp=Z,20nm,1.4s						
IBBN	Ibbenburen	70.45	40	*e*P		P	19 42 44.3 +1.2
	comp=Z,48nm,1.3s						
HINF	Hinteralfeld	70.47	45	*e*P		P	19 42 43.7 +0.3
HINF	Hinteralfeld	70.47	45	*e*P		P	19 42 43.7 +0.3
LOMF	Lomont	70.52	46	*e*P		P	19 42 45.4 +1.7
ECH	Echery	70.62	45	*e*P		P	19 42 44.5 +0.3
ECH	Echery	70.62	45	*e*P		P	19 42 44.6 +0.3
	comp=Z,15nm,1.1s						
MOF	Molkenrain	70.65	45	*e*P		P	19 42 45.2 +0.7
CDF	Champ du Feu	70.67	44⇑	*i*P		P	19 42 45.3 +0.7
CDF	Champ du Feu	70.67	44⇑	*i*P		P	19 42 45.3 +0.7
LPL	La Plagne	70.72	48	*e*P		P	19 42 46.3 +1.1
	comp=Z,28nm,1.2s						
LPL	La Plagne	70.72	48	*e*P		P	19 42 46.3 +1.1
	comp=Z,28nm,1.2s						
LPG	La Plagne	70.74	48	*e*P		P	19 42 46.6 +1.2
	comp=Z,16nm,1.0s						
LPG	La Plagne	70.74	48	*e*P		P	19 42 46.6 +1.2
	comp=Z,16nm,1.0s						
BNI	Bardonecchia	70.76	48	P		P	19 42 46.1 +0.8
	comp=Z,182nm,2.6s						
MBDF	Montbardon	70.87	48	*e*P		P	19 42 47.4 +1.4
	comp=Z,17nm,1.0s						
MBDF	Montbardon	70.87	48	*e*P		P	19 42 47.4 +1.4
	comp=Z,17nm,1.0s						
LMR	La Mourre	70.91	50	*e*P		P	19 42 46.7 +0.6
	comp=Z,48nm,1.4s						
LMR	La Mourre	70.91	50	*e*P		P	19 42 46.7 +0.6
	comp=Z,48nm,1.4s						
LANF	Langenberg	70.93	44	*e*P		P	19 42 45.9 -0.2
FRF	La Foret Royal	70.97	50	*e*P		P	19 42 47.2 +0.7
	comp=Z,42nm,1.3s						
FRF	La Foret Royal	70.97	50	*e*P		P	19 42 47.2 +0.7
	comp=Z,42nm,1.3s						
SENIN	Lac Senin/Sane	70.98	47	*e*P		P	19 42 48.3 +1.5
TNS	Taunus Mts	71.17	42	*e*P		P	19 42 48.8 +1.2
	comp=Z,38nm,1.6s						
NB2	NORSAR Subarra	71.28	31	P		P	19 42 49.2 +1.2
	comp=Z,36nm,1.4s,baz=279,slow=6.2						
NB2	NORSAR Subarra	71.28	31	P		P	19 42 49.2 +1.2
	baz=279,slow=6.2						
NOA	NORSAR Array B	71.28	31	P		P	19 42 49.2 +1.2
	comp=Z,8.3nm,1.1s,baz=278,slow=6.0,SNR=5.5						
NOA					LR	LR	20 12 01.0
	comp=Z,72nm,18.7s,baz=130,slow=34						
SBF	Sospel	71.48	49	*e*P		P	19 42 50.4 +0.8
	comp=Z,48nm,1.0s						
SBF	Sospel	71.48	49	*e*P		P	19 42 50.4 +0.8
	comp=Z,48nm,1.0s						
NRDL	Niedersach Rie	71.85	40	*e*P		P	19 42 52.7 +1.2
	comp=Z,27nm,1.4s						
CLZ	Clausthal	72.12	41	*e*P		P	19 42 54.6 +1.3
	comp=Z,29nm,1.3s						
TUE	Stuetta	72.36	46	*e*P		P	19 42 56.4 +1.3
	comp=Z,12nm,1.1s						
DAVOX	Davos/Dischmat	72.67	46	P		P	19 42 58.1 +1.3
	comp=Z,4.7nm,0.8s,baz=308,slow=8.3,SNR=9.3						
EFI	East Falkland	72.71	169	P		P	19 42 57.4 +1.0
PGF	Pioggiola	72.85	50	*e*P		P	19 42 58.5 +0.6
	comp=Z,34nm,1.1s						
PGF	Pioggiola	72.85	50	*e*P		P	19 42 58.5 +0.6
	comp=Z,34nm,1.1s						
FUORN	Ofenpass-Fuorn	72.96	46	*e*P		P	19 43 00.1 +1.4
GRF	Grafenberg Arr	73.02	43	*e*P		P	19 42 59.6 +1.0
	comp=Z,22nm,1.4s						
MOX	Moxa	73.09	42	*e*P		P	19 42 59.9 +0.8
	comp=Z,10.0nm,1.2s						
RETA	Reutte	73.13	45⇑	*i*pP		P	19 43 00.6 +1.2
	comp=Z,21nm,1.1s,SNR=7.1						
FETA	Feichten	73.20	45	*i* pP		P	19 43 01.3 +1.3
	comp=Z,21nm,1.3s,SNR=8.0						
TNA	Tin City	73.28	334	*e*P		P	19 42 59.9 +0.2
FUR	Furstenfeldbru	73.34	44	*e*P		P	19 43 01.5 +0.9
	comp=Z,31nm,1.2s						
MOTA	Moosalm	73.39	45⇑	*i*P		P	19 43 01.6 +0.6
	comp=Z,11nm,0.9s,SNR=8.1						
ROTZ	Rotzenmuhle	73.63	42	*e*P		P	19 43 03.5 +1.2
	comp=Z,19nm,1.4s						
TORD	Torodi Ar. Bea	73.64	82	P		P	19 43 02.9 0.0
	comp=Z,6.6nm,0.7s,baz=287,slow=4.3,SNR=50						
TORD					LR	LR	20 10 48.7
	comp=Z,273nm,21.7s,baz=305,slow=32						
TANN	Tannenbergstha	73.67	42	*e*P		P	19 43 03.3 +0.8
	comp=Z,14nm,1.1s						
CLL	Collm	73.83	41	*e*P		P	19 43 04.2 +0.9
	comp=Z,18nm,1.6s						
CLL	Collm	73.83	41⇓	*i*P		P	19 43 04.5 +1.2
	comp=Z,18nm,1.6s						
CLL				LmV			20 11 00.0
	comp=Z,200nm,19.6s						
WET	Wettzell	74.19	43	*e*P		P	19 43 06.6 +1.1
	comp=Z,35nm,1.5s						
RJOB	Jochberg	74.43	44	*e*P		P	19 43 07.7 +0.7
	comp=Z,7.0nm,1.0s						
ABTA	Abfaltersbach	74.45	46⇑	*i*P		P	19 43 07.8 +0.6
	comp=Z,13nm,1.1s						
TAM	Tamanrasset	74.49	71	*e*P		P	19 43 09.4 +1.4
	comp=Z,2.8nm,0.8s						
BRG	Berggiesshubel	74.50	41	*e*P		P	19 43 08.1 +0.8
	comp=Z,8.6nm,1.1s						
BRG	Berggiesshubel	74.50	41	*e*P		P	19 43 08.3 +1.0
	comp=Z,8.0nm,1.1s						
KEST	Kesra	74.56	57	P		P	19 43 09.1 +1.1
	comp=Z,4.8nm,1.0s,baz=300,slow=3.1,SNR=12						
KEST	Kesra	74.56	57	*e*P		P	19 43 09.0 +1.0
KHC	Kasperske Hory	74.64	43	*i* P		P	19 43 09.0 +0.8
KHC				*ex*		x	19 43 17.8
KHC	Kasperske Hory	74.64	43	*e*P		P	19 43 08.9 +0.7
	comp=Z,9.2nm,1.0s						
GEC2	GERESS Array S	74.78	43	*e*P		P	19 43 10.0 +0.9
	comp=Z,17nm,1.3s						
GEC2	GERESS Array S	74.78	43	*e*P		P	19 43 09.9 +0.9
GERES	GERESS Array B	74.78	43	P		P	19 43 09.8 +0.7
	comp=Z,4.8nm,0.9s,baz=273,slow=5.2,SNR=29						
GERES					LR	LR	20 12 15.8
	comp=Z,128nm,18.6s,baz=277,slow=33						
KBA	Koelnbreinsper	74.94	45	*i* P		P	19 43 10.7 +0.6
	comp=Z,14nm,1.3s,SNR=5.7						
PVCC	Panska Ves	74.96	41	*i* P		P	19 43 11.4 +1.4
PRU	Pruhonice	75.06	42	*i* P		P	19 43 12.0 +1.4
PRU				*ex*		x	19 43 19.6
GAMB	Gambell	75.25	333	*e*P		P	19 43 12.5 +1.2
	comp=Z,23nm,1.8s						
MOA	Molln	75.37	44⇑	*i*P		P	19 43 12.9 +0.5
	comp=Z,12nm,1.1s						
ARCES	ARCESS Array B	75.40	21	P		P	19 43 11.8 -0.3
	comp=Z,3.7nm,0.8s,baz=281,slow=3.9,SNR=8.8						
TREC	Trest	75.82	42	*i* P		P	19 43 16.2 +1.2
MOZS	Mozjanca	75.85	46	*e*P		P	19 43 15.9 +0.7
UPC	Upice	75.86	41	*e*P		P	19 43 16.4 +1.2
UPC				*e*PCP		PcP	19 43 25.1 -2.5
OBKA	Obir	75.87	45⇑	*i*P		P	19 43 16.0 +0.6
	comp=Z,20nm,1.3s,SNR=5.2						
DPC	Dobruska-Polom	76.09	41	*i* P		P	19 43 17.8 +1.3
DPC	Dobruska-Polom	76.09	41	*e*P		P	19 43 17.6 +1.1
SOKA	Soboth	76.15	45	*i* P		P	19 43 17.3 +0.4
	comp=Z,14nm,1.1s,SNR=8.1						
CONA	Conrad Observa	76.39	44⇑	*i*P		P	19 43 19.3 +0.9
	comp=Z,8.2nm,1.0s,SNR=5.3						
VRAC	Vranov	76.52	42	P		P	19 43 19.6 +0.7
	comp=Z,3.2nm,0.3s,baz=271,slow=5.6,SNR=7.3						
MORC	Moravsky Berou	77.00	42⇓	*i*P		P	19 43 23.3 +1.6
MORC	Moravsky Berou	77.00	42	*e*P		P	19 43 22.7 +1.0
	comp=Z,26nm,1.6s						
OKC	Ostrava-Krasne	77.36	41	*i* P		P	19 43 24.7 +1.1
OKC				*ex*		x	19 43 34.0
KAF	Kangasniemi	78.05	28	ep		P	19 43 25.8 -1.4
	comp=Z,2.2nm,0.6s						
VYHS	Vyhne	78.16	43	*e*P		P	19 43 29.4 +1.2
FINES	FINESS Array B	78.17	29	P		P	19 43 28.6 +0.7
	comp=Z,6.7nm,0.8s,baz=284,slow=5.6,SNR=37						
FINES					LR	LR	20 13 06.0
	comp=Z,112nm,21.9s,baz=262,slow=32						
OJC	Ojcow	78.28	41	*e*P		P	19 43 30.5 +1.8
CUC	Castrocucco	78.44	52	*e*P		P	19 43 29.8 -0.1
	comp=Z,14nm,1.1s						
PSZ	Piszkesteto	79.01	43⇓	*i*P		P	19 43 35.5 +2.6
PSZ	Piszkesteto	79.01	43	*e*P		P	19 43 34.1 +1.2
	comp=Z,22nm,1.3s						
STHS	Stebnicka Huta	79.41	41	*e*P		P	19 43 37.1 +2.1
CRVS	Cervenica-Dubn	79.70	42	*e*P		P	19 43 38.6 +2.0
JOF	Joensuu	79.92	26	ep		P	19 43 36.6 -0.8
	comp=Z,5.6nm,0.8s						
KOLS	Kolonicke sedl	80.20	42	*e*P		P	19 43 41.3 +2.0
TRPA	Tarpa	80.63	42⇓	*i*P		P	19 43 43.4 +1.8
BZS	Buzias	80.84	45⇓	*i*P		P	19 43 44.7 +1.9
DRGR		81.18	44⇓	*i*P		P	19 43 46.3 +1.6
GZR	Gura Zlata	81.69	45⇓	*i*P		P	19 43 48.6 +1.2
BILL	Billbino	81.79	340	*e*P		P	19 43 47.2 -0.1
	comp=Z,17nm,1.3s						
BURAR	Bucovina Array	82.50	42⇓	*i*P		P	19 43 53.2 +1.6
ARR	Arges	82.92	44⇓	*i*P		P	19 43 55.5 +1.7
VTS	Vitosha	82.93	47⇓	*i*P		P	19 43 55.8 +1.8
VOIR		83.17	44⇓	*i*P		P	19 43 56.3 +1.2
DOPR	Dopca	83.20	44⇓	*i*P		P	19 43 56.7 +1.5
MLR	Muntele Rosu	83.74	44⇓	*i*P		P	19 44 00.2 +2.1
MLR	Muntele Rosu	83.74	44	P		P	19 43 59.7 +1.6
	comp=Z,8.8nm,1.1s,baz=297,slow=6.8,SNR=25						
AKASG	Malin Array Be	83.77	38	P		P	19 43 57.4 -0.6
	comp=Z,0.6nm,0.5s,baz=291,slow=4.1,SNR=6.7						
AKASG					LR	LR	20 18 46.1
	comp=Z,113nm,19.3s,baz=295,slow=34						
PLOR	Plostina	84.06	43⇓	*i*P		P	19 44 01.4 +1.7
VRI	Vrincioaia	84.11	43⇓	*i*P		P	19 44 02.2 +2.3
KDZ	Kurdzhali	84.80	48⇓	*i*P		P	19 44 04.6 +1.1
CFR	Carcaliu	85.29	44⇓	*i*P		P	19 44 05.9 +0.1
OBN	Obninsk	85.82	32	*e*P		P	19 44 08.9 +0.8
	comp=Z,45nm,1.3s						
IDI	Anoyia	86.78	54	P		P	19 44 14.9 +1.5
	comp=Z,15nm,0.8s,baz=288,slow=6.3,SNR=21						
TIXI	Tiksi	87.34	353	*e*P		P	19 44 14.7 -0.7
BRTR	Keskin Array B	91.29	47	P		P	19 44 35.6 +0.9
	comp=Z,2.3nm,1.0s,baz=289,slow=3.8,SNR=12						
BRTR				PKKPbc		PKKPdf	20 01 55.4 +2.2
	comp=Z,0.9nm,0.6s,baz=144,slow=4.6,SNR=8.1						
PETK	Petropavlovsk-	94.21	331	LR		LR	20 30 52.6
	comp=Z,180nm,18.4s,baz=106,slow=38						
ARU	Arti	94.80	24	*e*P		P	19 44 49.5 -0.9
	comp=Z,8.0nm,1.2s						
TSUM	Tsumeb	98.93	107	LR		LR	20 22 55.1
	comp=Z,106nm,20.7s,baz=5.5,slow=31						
AKTO	Aktyubinsk	98.94	28	LR		LR	20 25 48.7
	comp=Z,84nm,21.9s,slow=33						
QSPA	South Pole Qui	109.68	180	PKiKP		PKiKP	19 49 59.4 +0.3
	comp=Z,1.4nm,0.8s,baz=256,slow=3.9,SNR=6.2						
MKAR	Makanchi Array	110.76	16	PKKPbc		PKKPbc	20 00 58.3 -3.1
	comp=Z,0.2nm,0.4s,baz=145,slow=3.0,SNR=3.5						
SONM	Songino Array	112.71	359	PKKPbc		PKKPbc	20 00 52.5 -2.6
	comp=Z,0.3nm,0.5s,baz=176,slow=3.0,SNR=4.6						
WMQ	Urumqi	114.86	13	*e*PKP		PKPdf	19 50 09.6 -0.2
WMQ				LZ			
	comp=Z,120nm,22.0s						
KSH	Kashi	115.23	24	*e*PKP		PKPdf	19 50 10.0 -0.7
KSH				sPKP			19 50 14.8
KSH				PKS		PKSdf	19 53 46.6 -1.0
KSH				SKS		SKSdf	19 57 22.5 +0.1
KSH				SKKS		SKKSac	19 58 08.4 -3.7
KSH				SS		SS	20 07 06.6 +0.6
KSH				LZ			
	comp=Z,140nm,5.7s						
HHC	Hu-ho-hao-te	119.37	354	*e*PKP		PKPdf	19 50 19.8 +1.1
HHC				PP		PP	19 51 44.0 +5.5
HHC				SKKS			19 58 36.0
HHC				SS		SS	20 08 01.0 +1.8
HHC				LZ			
	comp=Z,100nm,18.2s						
GTA	Gaotai	120.98	4	*e*PKP		PKPdf	19 50 22.1 +0.3
GTA				sPKP			19 50 29.3
LZH	Lanzhou	124.47	1	*e*PKP		PKPdf	19 50 27.0 -1.6
NJ2	Nanjing	126.73	345	*e*PKP		PKPdf	19 50 32.1 -0.7
DANN	Dangsing	128.09	24	*e*P		PKPdf	19 50 35.7 -0.2
KOLN	Koldanda	128.55	24	*e*P		PKPdf	19 50 36.1 -0.6
GKN	Gorkha	128.73	23	*e*P		PKPdf	19 50 36.3 -0.7
LSA	Lhasa	129.15	15	*e*PKPdf		PKPdf	19 50 38.0 -0.2
KKN	Kakani	129.16	22	*e*P		PKPdf	19 50 37.1 -0.8
GUN	Gumba	129.26	22	*e*P		PKPdf	19 50 37.8 -0.5
DMN	Daman	129.26	23	*e*P		PKPdf	19 50 37.6 -0.5
PKIN	Phulchoki	129.39	22	*e*P		PKPdf	19 50 37.0 -1.4
PKI	Pulchoki	129.40	22	*e*P		PKPdf	19 50 36.8 -1.7
JIRN	Jiri	129.59	21	*e*P		PKPdf	19 50 37.9 -1.0
TAPN	Taplejung	130.39	20	*e*P		PKPdf	19 50 39.5 -0.8
RAMN	Ramite	130.39	21	*e*P		PKPdf	19 50 39.6 -0.7
CMAR	Chiang Mai Arr	141.62	9	PKP		PKPdf	19 51 01.1 0.0
	comp=Z,1.4nm,0.8s,baz=318,slow=2.3,SNR=8.5						
WB2	Warramunga Arr	152.08	264	*e*PKPdf		PKPdf	19 51 17.6 -0.8
WB2				*e*PKPbc		PKPbc	19 51 24.0 -1.0
WRAB	Tennant Creek	152.08	265	*e*PKPdf		PKPdf	19 51 17.7 -0.7
WRAB				*e*PKPbc		PKPbc	19 51 24.1 -0.9
WRA	Warramunga Arr	152.09	264	PKP		PKPdf	19 51 18.0 -0.4
	comp=Z,19nm,0.8s,baz=78,slow=1.4,SNR=169						
WRA				PKPbc		PKPbc	19 51 23.9 -1.2
	comp=Z,29nm,0.7s,baz=85,slow=2.6,SNR=146						
AS31	Alice Springs	152.57	257	*e*PKPdf		PKPdf	19 51 18.3 -0.7
AS31				*e*PKPbc		PKPbc	19 51 24.7 -1.3
AS31				*e*PKPab		PKPab	19 51 36.8 +0.3
ASAR	Alice Springs	152.57	257	PKP		PKPdf	19 51 19.0 0.0
	comp=Z,9.1nm,0.8s,baz=95,slow=1.6,SNR=111						
ASAR

FX1 Sn **Sn** **19 57 54.5 +1.2**
FX1 S **Sn** **19 57 55.5 +2.2**
ADK Adak 4.45 84 P **Pn** **19 57 57.5 -0.3**
ADK S **Sn** **19 58 49.4 +1.2**
PETK Petropavlovsk- 11.38 285 Pn **Pn** **19 59 32.6 -0.1**
0.5nm,0.3s,baz=103,slow=17,SNR=6.5
GAMB Gambell 13.73 23 *e*Pn **Pn** **20 00 05.5 +0.8**
1.6nm,0.5s
TNA Tin City 16.13 24 *e*Pn **Pn** **20 00 36.3 +0.3**
2.8nm,0.8s
SEY Seymchan 16.98 321 P **Pn** **20 00 47.0 +0.4**
0.1nm,0.3s,baz=106,slow=18,SNR=6.9
ILAR Eielson Array 23.04 41 P **P** **20 01 50.8 -2.8**
0.5nm,0.5s,baz=244,slow=9.7,SNR=7.4
TIXI Tiksi 28.85 331 P **P** **20 02 46.1 -0.1**
2.0nm,0.6s
H11N2 WAKE ISLAND Hy 32.69 196 T T 20 38 12.0
baz=265,slow=74,SNR=175
H11N3 WAKE ISLAND Hy 32.70 196 T T 20 38 34.7
baz=8.8,slow=74,SNR=175
H11N1 WAKE ISLAND Hy 32.71 196 T T 20 37 56.6
SNR=26
H11S1 WAKE ISLAND Hy 33.92 196 T T 20 39 29.5
baz=10,slow=76,SNR=52
H11S3 WAKE ISLAND Hy 33.94 196 T T 20 39 30.5
baz=10,slow=76,SNR=33
H11S2 WAKE ISLAND Hy 33.94 196 T T 20 39 31.7
baz=10,slow=76,SNR=25
YKA Yellowknife Ar 37.30 46 P **P** **20 03 59.8 +0.1**
0.5nm,0.5s,baz=288,slow=8.5,SNR=9.2
TLY Talaya 43.22 300 LR LR 20 23 06.0
comp=Z,81nm,21.1s,baz=84,slow=36
SONM Songino Array 43.68 294 P **P** **20 04 53.6 +0.9**
1.5nm,0.5s,baz=64,slow=7.0,SNR=37
SONM PcP **PcP** **20 06 39.0 -0.1**
0.3nm,0.6s,baz=63,slow=2.1,SNR=2.9
PDAR Pinedale Array 49.19 69 P **P** **20 05 36.1 0.0**
0.3nm,0.5s,baz=290,slow=2.6,SNR=3.8
SPITS Spitsbergen Ar 49.83 355 P **P** **20 05 39.7 -0.6**
2.1nm,0.3s,baz=58,slow=8.7,SNR=53
ARCES ARCESS Array B 57.22 348 P **P** **20 06 33.7 -0.7**
1.3nm,0.6s,baz=25,slow=8.4,SNR=9.5
MKAR Makanchi Array 57.35 305 P **P** **20 06 35.2 -0.5**
1.1nm,0.5s,baz=52,slow=5.8,SNR=29
TXAR Lajitas Array 61.69 78 P **P** **20 07 06.4 +0.5**
0.2nm,0.4s,baz=302,slow=5.4,SNR=3.8
HNR Honiara 62.44 198 LR LR 20 27 58.3
comp=Z,187nm,21.7s,baz=132,slow=30
JOF Joensuu 62.45 343 *e*p **P** **20 07 09.5 -0.9**
1.8nm,0.6s
KAF Kangasniemi 64.07 345 *e*p **P** **20 07 19.9 -1.2**
1.6nm,0.5s
FINES FINESS Array B 64.74 345 P **P** **20 07 25.0 -0.5**
0.6nm,0.4s,baz=16,slow=5.8,SNR=15
NB2 NORSAR Subarra 67.00 352 P **P** **20 07 39.8 -0.3**
comp=Z,1.2nm,0.6s,baz=9.4,slow=6.5
NOA NORSAR Array B 67.00 352 P **P** **20 07 40.0 -0.1**
comp=Z,1.8nm,0.7s,baz=12,slow=6.4,SNR=6.0
CMAR Chiang Mai Arr 67.86 272 P **P** **20 07 46.7 +0.6**
comp=Z,0.6nm,0.5s,baz=27,slow=6.4,SNR=9.2
AKASG Malin Array Be 74.22 339 P **P** **20 08 24.2 +0.1**
comp=Z,0.9nm,0.4s,baz=24,slow=7.1,SNR=3.4
GEYT Alibeck 75.68 314 P **P** **20 08 34.0 +1.1**
comp=Z,2.8nm,0.8s,baz=66,slow=4.9,SNR=6.6
KBZ Khabaz 76.73 327 P **P** **20 08 39.1 +0.5**
comp=Z,1.3nm,0.8s,baz=0,slow=4.0,SNR=5.2
WRA Warramunga Arr 80.14 220 P **P** **20 08 57.0 -0.5**
comp=Z,0.3nm,0.5s,baz=30,slow=5.8,SNR=8.2
BRTR Keskin Array B 83.29 332 P **P** **20 09 15.0 +0.7**
comp=Z,0.6nm,0.7s,baz=32,slow=3.6,SNR=4.2
ASAR Alice Springs 83.67 218 P **P** **20 09 16.6 +0.5**
comp=Z,0.3nm,0.6s,baz=25,slow=5.1,SNR=10.0
TORD Torodi Ar. Bea 115.28 354 PKP **PKPdf** **20 15 28.5 -0.6**
comp=Z,0.2nm,0.5s,baz=327,slow=3.3,SNR=4.3

*IDC **20** 20:15:00.8±0.6, 13°.86N×92°.91E, h0km, mb4.2/22, mb1 4.3/23, mb1mx4.0/66, mbtmp4.2/23, ML3.6/2, MS3.6/1, Ms1 3.6/1, ms1mx2.8/32, Error ellipse: s-maj=21.6km s-min=13.3km az=60.0*
*ISCJB **20** 20:15:03.9±0.3, 14°.06N±0°.03×92°.95E±0°.05, h32km, mb4.2/27, Error ellipse: s-maj=6.4km s-min=4.4km az=171.4*
*NEIC **20** 20:15:05.8±0.4, 13°.91N×92°.94E, h35km, mb4.5/5, Error ellipse: s-maj=9.4km s-min=8.7km az=128.0*
ISC 20 20:15:05.5±0.5, 13°.96N±0°.05×92°.93E±0°.06, h32km, n63, σ1§32/61, mb4.2/27, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGPR	**DIGLIPUR**	**0.77**	**180**	*e*P	**Pb**	**20 15 21.0**	**+0.4**
DGPR				*e*S	**Sb**	**20 15 31.6**	**+0.9**
DGPR				AML	AML	20 15 36.1	
	comp=N,19μm,0.3s						
DGPR				AML	AML	20 15 36.4	
	comp=E,14μm,0.3s						
PBA	**Port Blair**	**2.29**	**185**	*e*P	Pn	20 15 42.8	+1.7
PBA				*e*S	Sn	20 16 08.3	0.0
CMBY	**CAMPBELL BAY**	**6.97**	**172**	*e*P	**Pn**	**20 16 44.2**	**-1.3**
CMBY				*e*x	x	20 17 17.7	
CMAR	**Chiang Mai Arr**	**7.30**	**51**	Pn	**Pn**	**20 16 51.0**	**+0.9**
	comp=E,0.1nm,0.3s,baz=243,slow=15,SNR=4.2						
CMAR				Sn	**Sn**	**20 18 10.4**	**-1.6**
	comp=E,1.2nm,0.3s,baz=240,slow=28,SNR=11						
CHTO	**Chiang Mai**	**7.52**	**49**	*e*Pn	**Pn**	**20 16 51.5**	**-1.6**
	comp=E,3.0nm,0.6s						
CHTO				*e*Sn	Sn	20 18 05.7	-12
VIS	**Vishakhapatnam**	**9.97**	**293**	*i* P	**Pn**	**20 17 26.8**	**+0.1**
VIS				*e*S	Sn	20 19 07.5	-10
VIS				AML	AML	20 19 10.7	
	comp=E,100nm,0.3s						
VIS				AML	AML	20 19 12.2	
	comp=N,95nm,0.1s						
PALK	**Pallekele**	**13.73**	**242**	Pn	**Pn**	**20 18 15.8**	**-2.4**
	comp=N,0.7nm,0.3s,baz=70,slow=14,SNR=4.1						
PALK				Sn	Sn	20 20 35.3	-14
	comp=N,0.8nm,0.3s,baz=139,slow=20,SNR=3.5						
PALK				LR	LR	20 23 13.5	
	comp=N,218nm,18.7s,baz=28,slow=36						
ODAN	**Odare**	**13.85**	**339**	*e*P	**Pn**	**20 18 16.8**	**-3.1**
	comp=N,24nm,0.3s						
TAPN	**Taplejung**	**14.19**	**341**	*e*P	**Pn**	**20 18 21.6**	**-3.1**
	comp=N,13nm,0.3s						
RAMN	**Ramite**	**14.22**	**336**	*e*P	Pn	20 18 21.2	-3.8
	comp=N,18nm,0.4s						
HYB	**Hyderabad**	**14.27**	**286**	*i* P	**P**	**20 18 33.0**	**+0.7**
HYB				*e*S	**Sn**	**20 21 02.0**	**-0.8**
HYB	**Hyderabad**	**14.27**	**286**	*e*P	**P**	**20 18 33.0**	**+0.7**
JIRN	**Jiri**	**15.02**	**336**	*e*P	**Pn**	**20 18 33.4**	**-2.5**
	comp=N,9.8nm,0.3s						
NGP	**Nagpur**	**15.04**	**300**	*e*P	**Pn**	**20 18 34.1**	**-1.8**
NGP				*e*x	x	20 21 11.9	
PKI	**Pulchoki**	**15.26**	**334**	*e*P	**Pn**	**20 18 36.8**	**-2.2**
	comp=N,8.6nm,0.3s						
PKIN	**Phulchoki**	**15.27**	**334**	*e*P	**Pn**	**20 18 36.4**	**-2.7**
	comp=N,11nm,0.4s						
GUN	**Gumba**	**15.36**	**336**	*e*P	**Pn**	**20 18 37.6**	**-2.8**
	comp=N,13nm,0.6s						
DMN	**Daman**	**15.42**	**333**	*e*P	**Pn**	**20 18 38.5**	**-2.6**
	comp=N,11nm,0.5s						
LSA	**Lhasa**	**15.76**	**354**	*e*Pn	**Pn**	**20 18 43.8**	**-1.8**
	comp=N,3.7nm,0.6s						
LSA				*e*Sn	Sn	20 21 28.8	-11
GKN	**Gorkha**	**15.97**	**332**	*e*P	**Pn**	**20 18 46.6**	**-1.5**
	comp=N,11nm,0.3s						
KOLN	**Koldanda**	**16.27**	**329**	*e*P	**Pn**	**20 18 50.5**	**-1.4**
	comp=N,16nm,0.5s						
DANN	**Dangsing**	**16.67**	**331**	*e*P	**Pn**	**20 18 56.5**	**-0.6**
	comp=N,9.7nm,0.5s						
BHPL	**Bhopal**	**17.35**	**304**	*e*P	**Pn**	**20 19 05.5**	**+0.1**
SMLA	**Simla**	**22.41**	**322**	*e*P	**P**	**20 20 02.4**	**+1.0**
DHRM	**DHARAMSHALA**	**23.73**	**323**	*e*P	**P**	**20 20 15.7**	**+0.6**
H08S3	**Diego Garcia H**	**29.52**	**225**	T	T	20 51 38.1	
	baz=42,slow=75,SNR=12						
H08S2	**Diego Garcia H**	**29.53**	**225**	T	T	20 51 51.2	
	baz=42,slow=75,SNR=18						
H08S1	**Diego Carcia H**	**29.54**	**225**	T	T	20 51 50.7	
	baz=42,slow=75,SNR=6.4						
KBL	**Kabul**	**29.77**	**318**	P	**P**	**20 21 10.4**	**+0.8**
AAK	**Ala-Archa**	**32.71**	**334**	P	**P**	**20 21 36.3**	**+1.0**
	comp=N,1.7nm,0.9s,baz=211,slow=1.9,SNR=4.4						
MKAR	**Makanchi Array**	**33.93**	**347**	P	**P**	**20 21 45.5**	**-0.3**
	comp=N,4.3nm,0.8s,baz=164,slow=8.2,SNR=40						
KKAR	**Karatay Array**	**34.87**	**331**	P	**P**	**20 21 54.4**	**+0.5**
SONM	**Songino Array**	**35.59**	**16**	P	**P**	**20 22 01.9**	**+1.7**
	comp=N,0.6nm,0.5s,baz=195,slow=8.5,SNR=9.0						
SONM				PcP	**PcP**	**20 24 29.8**	**+1.1**
	comp=N,0.4nm,0.8s,baz=202,slow=1.9,SNR=3.9						
KURBB	**Kurchatov Arra**	**38.40**	**345**	P	**P**	**20 22 25.1**	**+1.3**
	comp=N,4.0nm,0.8s,baz=163,slow=7.9,SNR=55						
KURK	**Kurchatov**	**38.46**	**345**	*e*P	**P**	**20 22 25.0**	**+0.6**
	comp=N,2.9nm,1.1s						
GEYT	**Alibeck**	**39.02**	**314**	P	**P**	**20 22 31.2**	**+2.0**
	comp=N,3.4nm,0.7s,baz=120,slow=8.8,SNR=9.2						
ZALV	**Zalesovo Beam**	**40.41**	**353**	P	**P**	**20 22 41.7**	**+1.1**
	comp=N,3.7nm,0.6s,baz=176,slow=8.3,SNR=20						
BVAR	**Borovoye Array**	**42.89**	**340**	P	**P**	**20 23 01.4**	**+0.4**
	comp=N,0.6nm,0.6s,baz=137,slow=7.3,SNR=5.7						
AKTO	**Aktyubinsk**	**46.11**	**329**	P	**P**	**20 23 27.4**	**+0.7**
	comp=N,0.9nm,0.5s,baz=144,slow=8.7,SNR=5.0						
MAJO	**Matsushiro**	**46.19**	**52**	P	P	20 23 34.6	+7.1
NWAO	**Narrogin (SRO)**	**52.08**	**154**	P	**P**	**20 24 11.7**	**-0.9**
	comp=N,12nm,1.0s,baz=327,slow=3.5,SNR=5.0						
WRA	**Warramunga Arr**	**52.86**	**129**	P	**P**	**20 24 18.3**	**-0.3**
	comp=N,2.7nm,0.7s,baz=306,slow=8.4,SNR=35						
WRA				PcP	**PcP**	**20 25 28.2**	**+0.6**
	comp=N,0.5nm,0.6s,baz=315,slow=3.5,SNR=5.2						
AS31	**Alice Springs**	**54.80**	**133**	*e*P	P	20 24 27.5	-5.3
ASAR	**Alice Springs**	**54.80**	**133**	P	**P**	**20 24 32.4**	**-0.4**
	comp=N,1.9nm,0.3s,baz=310,slow=7.4,SNR=48						
BRTR	**Keskin Array B**	**57.66**	**308**	P	**P**	**20 24 52.9**	**-0.4**
	comp=N,2.2nm,0.7s,baz=117,slow=7.4,SNR=17						
JOF	**Joensuu**	**64.89**	**334**	*e*p	**P**	**20 25 41.6**	**+0.1**
	comp=N,1.6nm,0.7s						
FINES	**FINESS Array B**	**66.83**	**331**	P	**P**	**20 25 54.4**	**+0.4**
	comp=N,1.5nm,0.6s,baz=107,slow=7.4,SNR=14						
GERES	**GERESS Array B**	**72.56**	**317**	P	**P**	**20 26 30.2**	**+0.6**
	comp=N,1.3nm,0.7s,baz=64,slow=6.1,SNR=12						
HFS	**Hagfors**	**72.65**	**329**	P	**P**	**20 26 30.1**	**+0.2**
	comp=N,1.9nm,0.8s,baz=81,slow=4.5,SNR=5.6						
SPITS	**Spitsbergen Ar**	**73.68**	**348**	P	**P**	**20 26 34.5**	**-1.2**
	comp=N,12nm,1.1s,baz=106,slow=9.1,SNR=2.9						
NB2	**NORSAR Subarra**	**73.89**	**330**	P	**P**	**20 26 36.5**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=89,slow=5.9						
NOA	**NORSAR Array B**	**73.89**	**330**	P	**P**	**20 26 37.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=87,slow=6.0,SNR=4.3						
LPG	**La Plagne**	**77.54**	**314**	*e*P	**P**	**20 26 59.1**	**+0.4**
	comp=Z,8.8nm,0.8s						
LPG	**La Plagne**	**77.54**	**314**	*e*P	**P**	**20 26 59.1**	**+0.4**
	comp=Z,8.8nm,0.8s						
LPL	**La Plagne**	**77.55**	**314**	*e*P	**P**	**20 26 59.1**	**+0.4**
	comp=Z,11nm,0.7s						
LPL	**La Plagne**	**77.55**	**314**	*e*P	**P**	**20 26 59.1**	**+0.4**
	comp=Z,11nm,0.7s						
BOSA	**Boshof**	**77.88**	**236**	P	**P**	**20 27 01.5**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=54,slow=6.5,SNR=5.5						
AVF	**Avril sur Loir**	**79.69**	**316**	*e*P	**P**	**20 27 10.1**	**-0.1**
	comp=Z,3.5nm,0.7s						
AVF	**Avril sur Loir**	**79.69**	**316**	*e*P	**P**	**20 27 10.1**	**-0.1**
	comp=Z,3.5nm,0.7s						
EKA	**Eskdalemuir Ar**	**82.08**	**325**	P	**P**	**20 27 23.4**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=83,slow=5.8,SNR=5.9						
ESDC	**Sonseca Array**	**86.42**	**310**	P	**P**	**20 27 45.3**	**0.0**
	comp=Z,0.4nm,0.6s,baz=69,slow=4.6,SNR=5.1						
TORD	**Torodi Ar. Bea**	**88.07**	**283**	P	**P**	**20 27 54.2**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=83,slow=4.5,SNR=8.2						
ILAR	**Eielson Array**	**89.58**	**22**	P	**P**	**20 27 60.0**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=312,slow=4.6,SNR=5.5						

*IDC **20** 20:23:23.6±1.6, 12°.41S×166°.35E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, ML4.0/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/27, Error ellipse: s-maj=48.4km s-min=28.5km az=117.0*
*ISCJB **20** 20:23:29.9±1.0, 12°.7S±0°.1×166°.3E±0°.2, h59km, mb3.8/6, MS3.6/1, Error ellipse: s-maj=30.2km s-min=16.1km az=178.2*
ISC 20 20:23:31.1±1.2, 12°.6S±0°.1×166°.4E±0°.3, h59km, n18, σ0§59/18, mb3.6/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.44**	**180**	Pn	**Pn**	**20 25 44.7**	**+0.2**
	1.4nm,0.3s,baz=194,slow=17,SNR=9.4						
DZM				Sn	Sn	20 27 40.7	+12
	0.9nm,0.3s,baz=342,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**31.59**	**252**	P	**P**	**20 29 47.8**	**-0.7**
	0.3nm,0.7s,baz=84,slow=9.2,SNR=3.3						
ASAR	**Alice Springs**	**32.71**	**246**	P	**P**	**20 29 57.5**	**-0.7**
	0.5nm,0.7s,baz=69,slow=9.7,SNR=11						
ASAR				LR	LR	20 42 52.1	
	comp=Z,102nm,18.2s,baz=70,slow=36						
CMAR	**Chiang Mai Arr**	**73.31**	**294**	P	**P**	**20 34 58.5**	**+1.6**
	1.5nm,0.8s,baz=125,slow=4.8,SNR=11						
SONM	**Songino Array**	**80.27**	**324**	P	**P**	**20 35 35.5**	**-0.2**
	0.9nm,0.7s,baz=136,slow=5.8,SNR=11						
ILAR	**Eielson Array**	**84.76**	**18**	P	**P**	**20 35 58.1**	**-0.3**
	0.2nm,0.6s,baz=239,slow=4.9,SNR=5.4						
ODAN	**Odare**	**86.04**	**298**	*e*P	**P**	**20 36 06.5**	**+0.5**
	9.0nm,0.8s						
JIRN	**Jiri**	**87.28**	**299**	*e*P	**P**	**20 36 12.6**	**+0.3**
GUN	**Gumba**	**87.61**	**299**	*e*P	**P**	**20 36 14.0**	**+0.2**
PKI	**Pulchoki**	**87.93**	**299**	*e*P	**P**	**20 36 15.3**	**0.0**
	5.5nm,0.6s						
PKIN	**Phulchoki**	**87.94**	**299**	*e*P	**P**	**20 36 15.1**	**-0.2**
	3.4nm,0.5s						
KKN	**Kakani**	**88.09**	**299**	*e*P	**P**	**20 36 16.0**	**0.0**
	6.4nm,0.7s						
DMN	**Daman**	**88.20**	**299**	*e*P	**P**	**20 36 16.7**	**+0.2**
	14nm,0.7s						
GKN	**Gorkha**	**88.70**	**299**	*e*P	**P**	**20 36 18.3**	**-0.4**
	9.0nm,0.8s						
KOLN	**Koldanda**	**89.53**	**298**	*e*P	**P**	**20 36 22.1**	**-0.6**
DANN	**Dangsing**	**89.54**	**299**	*e*P	**P**	**20 36 22.2**	**-0.6**
	6.4nm,0.7s						
MKAR	**Makanchi Array**	**95.07**	**317**	P	**P**	**20 36 47.4**	**-0.2**
	2.0nm,0.8s,baz=96,slow=6.2,SNR=19						
TORD	**Torodi Ar. Bea**	**165.07**	**274**	PKPab	**PKPab**	**20 44 26.7**	**-0.1**
	1.6nm,1.0s,baz=85,slow=4.2,SNR=8.1						

*IDC **20** 20:24:47.9±0.8, 39°.54N×23°.08E, h0km, mb3.6/13, mb1 3.7/17, mb1mx3.6/46, mbtmp3.6/17, ML3.5/4, MS3.1/6, Ms1 3.1/6, ms1mx2.8/38, Error ellipse: s-maj=15.1km s-min=12.2km az=107.0*
*ISCJB **20** 20:24:48.7±0.2, 39°.55N±0°.01×23°.44E±0°.01, h23km±2km, mb3.6/13, MS3.2/2, Error ellipse: s-maj=1.8km s-min=1.7km az=0.7*
*CSEM **20** 20:24:48.6±0.1, 39°.54N×23°.42E, h10km, ML4.0, Error ellipse: s-maj=1.6km s-min=1.4km az=96.0*
*ATH **20** 20:24:48.3, 39°.53N×23°.47E, h28km, MD3.5/52, ML3.9*
*PDG **20** 20:24:48.7±0.4, 39°.63N×23°.26E, h4km±2km, ML3.8/11, Error ellipse: s-maj=1.8km s-min=3.3km az=0.0*
*THE **20** 20:24:49.0, 39°.54N×23°.44E, h13km, ML4.0/16, Error ellipse: s-maj=0.6km s-min=0.3km az=119.0*
*NEIC **20** 20:24:49.0, 39°.54N×23°.44E, h13km, ML4.0(THE), After THE.*
NEIC Felt at Volos, Greece.
*BEO **20** 20:24:49.4±1.6, 39°.50N×23°.45E, h20km±8km, ML3.7/1*
*SOF **20** 20:24:50.5, 39°.77N×23°.46E, h2km, MD4.2*
ISC 20 20:24:48.7±0.8, 39°.54N±0°.01×23°.43E±0°.01, h16km±5km, n544, σ1§11/647, mb3.5/13, 45C-21D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XOR	**Xorichti**	**0.25**	**226**	P	**Pg**	**20 24 54.2**	**-0.1**
XOR				S	**Sg**	**20 24 58.2**	**0.0**
XOR	**Xorichti**	**0.25**	**226**	*e*PB	**Pg**	**20 24 54.4**	**+0.1**
XOR	**Xorichti**	**0.25**	**226**	P	**Pg**	**20 24 54.2**	**-0.1**
XOR				S	**Sg**	**20 24 58.2**	**0.0**
XOR	**Xorichti**	**0.25**	**226**	P	**Pg**	**20 24 54.2**	**-0.1**
XOR				S	**Sg**	**20 24 58.2**	**0.0**
NEO	**Neokhori**	**0.28**	**214**	P	**Pg**	**20 24 54.6**	**-0.2**
NEO				S	**Sg**	**20 24 59.1**	**+0.1**
NEO	**Neokhori**	**0.28**	**214**	*e*PB	**Pg**	**20 24 54.8**	**0.0**
NEO	**Neokhori**	**0.28**	**214**	P	**Pg**	**20 24 54.6**	**-0.2**
NEO				S	**Sg**	**20 24 59.1**	**+0.1**
NEO	**Neokhori**	**0.28**	**214**	P	**Pg**	**20 24 54.6**	**-0.2**
NEO				S	**Sg**	**20 24 59.1**	**+0.1**
SKIA	**Skiathos**	**0.38**	**175**	P	**Pg**	**20 24 56.5**	**+0.1**
SKIA				S	**Sg**	**20 25 02.1**	**+0.4**
SKIA	**Skiathos**	**0.38**	**175**	*e*PB	**Pg**	**20 24 56.6**	**+0.1**
SKIA				*e*SB	**Sb**	**20 25 02.5**	**-0.1**
SKIA	**Skiathos**	**0.38**	**175**	*e*Pb	**Pg**	**20 24 56.6**	**+0.1**
SKIA				S	**Sg**	**20 25 02.1**	**+0.4**
PAIG	**Paliouri**	**0.43**	**27**	P	**Pb**	**20 24 57.9**	**-0.1**
PAIG				S	**Sb**	**20 25 04.0**	**-0.2**
PAIG	**Paliouri**	**0.43**	**27**	*e*PB	**Pb**	**20 24 57.9**	**-0.1**
PAIG				*e*SB	**Sb**	**20 25 04.3**	**+0.1**
PAIG	**Paliouri**	**0.43**	**27**	P	**Pb**	**20 24 57.9**	**-0.1**
PAIG				S	**Sb**	**20 25 04.0**	**-0.2**
PAIG	**Paliouri**	**0.43**	**27**	P	**Pb**	**20 24 57.9**	**-0.1**
PAIG				S	**Sb**	**20 25 04.0**	**-0.2**
AOS	**Alonnisos**	**0.51**	**136**	P	**Pg**	**20 24 58.6**	**-0.3**
AOS				S	**Sb**	**20 25 06.2**	**-0.2**
AOS	**Alonnisos**	**0.51**	**136**	PG	**Pg**	**20 24 58.3**	**-0.6**
AOS				*e*SG	**Sb**	**20 25 06.5**	**0.0**
AOS	**Alonnisos**	**0.51**	**136**	*e*PB	**Pg**	**20 24 58.6**	**-0.3**
AOS				*e*SB	**Sg**	**20 25 05.9**	**+0.1**
AOS	**Alonnisos**	**0.51**	**136**	*i* Pg	**Pg**	**20 24 58.3**	**-0.6**
AOS	**Alonnisos**	**0.51**	**136**	P	**Pg**	**20 24 58.6**	**-0.3**
AOS				*e*Sb	**Sg**	**20 25 05.9**	**+0.1**
AOS				S	**Sb**	**20 25 06.2**	**-0.2**
AOS	**Alonnisos**	**0.51**	**136**	P	**Pg**	**20 24 58.6**	**-0.3**
SMIA	**Simia**	**0.68**	**194**	P	**Pg**	**20 25 02.3**	**+0.2**
SMIA				S	**Sb**	**20 25 11.8**	**+0.4**
SMIA	**Simia**	**0.68**	**194**	*e*PN	**Pb**	**20 25 02.4**	**+0.2**
SMIA				*e*SN	**Sb**	**20 25 12.4**	**+1.0**
SMIA	**Simia**	**0.68**	**194**	P	**Pg**	**20 25 02.3**	**+0.2**
SMIA				S	**Sb**	**20 25 11.8**	**+0.4**
SMIA				*e*Sn	**Sb**	**20 25 12.4**	**+1.0**
PLG	**Polygyros**	**0.83**	**1**	P	**Pb**	**20 25 04.6**	**-0.2**
PLG				S	**Sg**	**20 25 16.7**	**+0.8**
PLG	**Polygyros**	**0.83**	**1**	*e*PN	**Pb**	**20 25 04.7**	**-0.1**
PLG				*e*SN	**Sg**	**20 25 16.5**	**+0.6**
PLG	**Polygyros**	**0.83**	**1**	P	**Pb**	**20 25 04.6**	**-0.2**
PLG				S	**Sg**	**20 25 16.7**	**+0.8**
PLG	**Polygyros**	**0.83**	**1**	P	**Pb**	**20 25 04.6**	**-0.2**
PLG				S	**Sg**	**20 25 16.7**	**+0.8**
MRKA	**Markates**	**0.84**	**171**	P	**Pb**	**20 25 04.8**	**-0.2**
MRKA				S	**Sg**	**20 25 16.8**	**+0.5**
MRKA	**Markates**	**0.84**	**171**	*e*PN	**Pg**	**20 25 05.3**	**+0.2**
MRKA				*e*SN	**Sb**	**20 25 16.1**	**0.0**
MRKA	**Markates**	**0.84**	**171**	P	**Pb**	**20 25 04.8**	**-0.2**
MRKA	**Markates**	**0.84**	**171**	*e*Pn	**Pg**	**20 25 05.3**	**+0.2**
MRKA				*e*Sn	**Sb**	**20 25 16.1**	**0.0**
OUR	**Ouranopolis**	**0.90**	**28**	P	**Pg**	**20 25 06.3**	**+0.1**
OUR				S	**Sn**	**20 25 18.9**	**-0.4**
OUR	**Ouranopolis**	**0.90**	**28**	*e*PG	**Pg**	**20 25 06.2**	**+0.1**
OUR	**Ouranopolis**	**0.90**	**28**	*e*PN	**Pg**	**20 25 06.4**	**+0.2**
OUR				*e*SN	**Sg**	**20 25 18.6**	**+0.6**
OUR	**Ouranopolis**	**0.90**	**28**	P	**Pg**	**20 25 06.3**	**+0.1**
OUR				*e*Sn	**Sg**	**20 25 18.6**	**+0.6**
OUR	**Ouranopolis**	**0.90**	**28**	P	**Pg**	**20 25 06.3**	**+0.1**
OUR				S	**Sn**	**20 25 18.9**	**-0.4**
LIT	**Litokhoron**	**0.91**	**308**	P	**Pb**	**20 25 06.0**	**-0.2**
LIT				S	**Sg**	**20 25 19.3**	**+0.8**
LIT	**Litokhoron**	**0.91**	**308**	*e*PN	**Pb**	**20 25 06.4**	**+0.2**
LIT				*e*SN	**Sn**	**20 25 19.7**	**0.0**
LIT	**Litokhoron**	**0.91**	**308**	P	**Pb**	**20 25 06.0**	**-0.2**
LIT	**Litokhoron**	**0.91**	**308**	*e*Pn	**Pb**	**20 25 06.4**	**+0.2**
LIT				S	**Sg**	**20 25 19.3**	**+0.8**
LIT	**Litokhoron**	**0.91**	**308**	P	**Pb**	**20 25 06.0**	**-0.2**
LIT				S	**Sg**	**20 25 19.3**	**+0.8**
AXAR	**Agios Charalam**	**0.98**	**218**	P	**Pb**	**20 25 07.0**	**-0.3**
AXAR				S	**Sn**	**20 25 21.8**	**+0.5**
AXAR	**Agios Charalam**	**0.98**	**218**	*e*PN	**Pg**	**20 25 07.7**	**0.0**
AXAR				*e*SN	**Sg**	**20 25 21.0**	**+0.5**
AXAR	**Agios Charalam**	**0.98**	**218**	P	**Pb**	**20 25 07.0**	**-0.3**
AXAR	**Agios Charalam**	**0.98**	**218**	*e*Pn	**Pg**	**20 25 07.7**	**0.0**
AXAR				*e*Sn	**Sg**	**20 25 21.0**	**+0.5**
AXAR	**Agios Charalam**	**0.98**	**218**	P	**Pb**	**20 25 07.0**	**-0.3**
AXAR				S	**Sn**	**20 25 21.8**	**+0.5**
AGG	**Agios Georgios**	**1.00**	**239**	P	**Pb**	**20 25 07.6**	**0.0**
AGG	**Agios Georgios**	**1.00**	**239**	*e*PN	**Pb**	**20 25 07.7**	**+0.1**
AGG				*e*SN	Sn	20 25 23.0	+1.2
AGG	**Agios Georgios**	**1.00**	**239**	P	**Pb**	**20 25 07.6**	**0.0**
AGG				*e*Sn	**Sn**	**20 25 23.0**	**+1.2**
AGG	**Agios Georgios**	**1.00**	**239**	P	**Pb**	**20 25 07.6**	**0.0**
HORT	**Hortiatis**	**1.08**	**347**	P	**Pb**	**20 25 08.9**	**-0.2**
HORT				S	**Sg**	**20 25 24.6**	**+0.6**
HORT	**Hortiatis**	**1.08**	**347**	*e*PN	**Pb**	**20 25 09.0**	**-0.2**
HORT				*e*SN	**Sg**	**20 25 25.0**	**+1.0**
HORT	**Hortiatis**	**1.08**	**347**	P	**Pb**	**20 25 08.9**	**-0.2**
HORT				S	**Sg**	**

ATHU	Athens Univers	1.60 170	P	Pn	20 25 16.1	-0.2
ATHU	Athens Univers	1.60 170	P	Pn	20 25 16.1	-0.2
GRG	Griva	1.62 331	P	Pn	20 25 16.6	0.0
GRG	Griva	1.62 331	ePB	Pn	20 25 16.6	0.0
GRG	Griva	1.62 331	P	Pn	20 25 16.6	0.0
GRG	Griva	1.62 331	P	Pn	20 25 16.6	0.0
EFP	Efpalio	1.63 227	P	Pn	20 25 16.9	+0.2
EFP	Efpalio	1.63 227	ePN	Pn	20 25 17.5	+0.8
EFP	Efpalio	1.63 227	P	Pn	20 25 16.9	+0.2
EFP	Efpalio	1.63 227	ePn	Pn	20 25 17.5	+0.8
KNT	Kendrikon	1.67 346	P	Pn	20 25 17.9	+0.6
KNT	Kendrikon	1.67 346	ePN	Pn	20 25 18.2	+0.9
KNT	Kendrikon	1.67 346	P	Pn	20 25 17.9	+0.6
KNT	Kendrikon	1.67 346	ePn	Pn	20 25 18.2	+0.9
KNT	Kendrikon	1.67 346	P	Pn	20 25 17.9	+0.6
KAVA	Kavala	1.68 29	P	Pn	20 25 16.6	-0.7
KAVA	Kavala	1.68 29	ePN	Pn	20 25 17.7	+0.4
KAVA	Kavala	1.68 29	P	Pn	20 25 16.6	-0.7
KAVA	Kavala	1.68 29	ePn	Pn	20 25 17.7	+0.4
KAVA	Kavala	1.68 29	P	Pn	20 25 16.6	-0.7
NAIG	Nisos Aigina	1.78 178	ePN	Pn	20 25 19.8	+1.0
NAIG	Nisos Aigina	1.78 178	ePn	Pn	20 25 19.8	+1.0
KLV	Kalavryta, Ach	1.80 214	P	Pn	20 25 19.4	+0.3
KLV	Kalavryta, Ach	1.80 214	ePN	Pn	20 25 19.7	+0.6
KLV	Kalavryta, Ach	1.80 214	P	Pn	20 25 19.4	+0.3
KLV	Kalavryta, Ach	1.80 214	ePn	Pn	20 25 19.7	+0.6
KLV	Kalavryta, Ach	1.80 214	P	Pn	20 25 19.4	+0.3
GUR	Goura	1.81 208	P	Pn	20 25 19.4	+0.1
GUR	Goura	1.81 208	ePB	Pn	20 25 19.7	+0.4
GUR	Goura	1.81 208	P	Pn	20 25 19.4	+0.1
GUR	Goura	1.81 208	ePb	Pn	20 25 19.7	+0.4
GUR	Goura	1.81 208	P	Pn	20 25 19.4	+0.1
NVR	Nevrokopi	1.84 10	P	Pn	20 25 19.5	-0.1
NVR	Nevrokopi	1.84 10	ePB	Pn	20 25 19.6	-0.1
NVR	Nevrokopi	1.84 10	P	Pn	20 25 19.5	-0.1
NVR	Nevrokopi	1.84 10	P	Pn	20 25 19.5	-0.1
DSL	Palaion Diasel	1.85 258	P	Pn	20 25 20.1	+0.3
DSL	Palaion Diasel	1.85 258	P	Pn	20 25 20.1	+0.3
DSL	Palaion Diasel	1.85 258	P	Pn	20 25 20.1	+0.3
SMTH	Samothraki Isl	1.86 59	P	Pn	20 25 18.9	-1.1
SMTH	Samothraki Isl	1.86 59	ePN	Pn	20 25 20.4	+0.4
SMTH	Samothraki Isl	1.86 59	P	Pn	20 25 18.9	-1.1
SMTH	Samothraki Isl	1.86 59	ePn	Pn	20 25 20.4	+0.4
SMTH	Samothraki Isl	1.86 59	P	Pn	20 25 18.9	-1.1
VAY	Valandovo	1.89 340	P	Pn	20 25 20.7	+0.3
VAY	Valandovo	1.89 340	ePn	Pn	20 25 20.7	+0.3
VAY	Valandovo	1.89 340	ePg	Pg	20 25 24.6	-0.5
VAY	Valandovo	1.89 340	*i* Pn	Pn	20 25 21.1	+0.8
VAY	Valandovo	1.89 340	P	Pn	20 25 20.7	+0.3
VAY	Valandovo	1.89 340	ePg	Pg	20 25 24.6	-0.5
VAY	Valandovo	1.89 340	P	Pn	20 25 20.7	+0.3
SIGR	SIGRI	1.91 99	P	Pn	20 25 20.3	-0.3
SIGR	SIGRI	1.91 99	ePN	Pn	20 25 20.6	+0.1
SIGR	SIGRI	1.91 99	ePB	Pn	20 25 20.8	+0.2
SIGR	SIGRI	1.91 99	P	Pn	20 25 20.3	-0.3
SIGR	SIGRI	1.91 99	ePn	Pn	20 25 20.6	+0.1
SIGR	SIGRI	1.91 99	P	Pn	20 25 20.3	-0.3
PDO	Prodromos	1.98 242	P	Pb	20 25 23.4	-1.0
PDO	Prodromos	1.98 242	ePB	Pn	20 25 23.0	+1.4
PDO	Prodromos	1.98 242	ePb	Pn	20 25 23.0	+1.4
PDO	Prodromos	1.98 242	P	Pb	20 25 23.4	-1.0
JAN	Janina	1.99 274	ePB	Pn	20 25 23.1	+1.3
JAN	Janina	1.99 274	ePb	Pn	20 25 23.1	+1.3
FNA	Florina	2.00 309	P	Pn	20 25 22.3	+0.4
FNA	Florina	2.00 309	ePN	Pn	20 25 22.6	+0.7
FNA	Florina	2.00 309	P	Pn	20 25 22.3	+0.4
FNA	Florina	2.00 309	ePn	Pn	20 25 22.6	+0.7
FNA	Florina	2.00 309	P	Pn	20 25 22.3	+0.4
NEST	Nestorio	2.02 296	P	Pn	20 25 23.2	+1.0
NEST	Nestorio	2.02 296	ePN	Pn	20 25 23.3	+1.0
NEST	Nestorio	2.02 296	P	Pn	20 25 23.2	+1.0
BOZC	Bozcaada	2.05 81	*i* P	Pn	20 25 22.1	-0.3
BOZC			*i* S	Sg	20 25 53.5	-1.2
MMB	Musomiste	2.06 6	⇑*i* P	Pn	20 25 22.2	-0.5
MMB	Musomiste	2.06 6	S	Sb	20 25 51.9	+0.8
MMB	Musomiste	2.06 6	*i* P	Pb	20 25 25.4	-0.3
MMB	Musomiste	2.06 6	⇑*i* P	Pn	20 25 22.2	-0.5
DRO	Drossia	2.08 221	P	Pn	20 25 23.0	+0.1
DRO	Drossia	2.08 221	ePN	Pn	20 25 23.8	+0.9
DRO	Drossia	2.08 221	P	Pn	20 25 23.0	+0.1
DRO	Drossia	2.08 221	ePn	Pn	20 25 23.8	+0.9
RLS	Riolos of Patr	2.13 227	ePB	Pb	20 25 25.5	-1.4
RLS	Riolos of Patr	2.13 227	ePb	Pb	20 25 25.5	-1.4
PRK	Paraskevi	2.22 97	ePB	Pn	20 25 25.5	+0.6
PRK	Paraskevi	2.22 97	ePb	Pn	20 25 25.5	+0.6
EZN	Ezine	2.25 82	ePN	Pn	20 25 24.9	-0.4
EZN	Ezine	2.25 82	ePn	Pn	20 25 24.9	-0.4
RDO	Rodhopi	2.27 44	P	Pn	20 25 25.1	-0.5
RDO	Rodhopi	2.27 44	ePN	Pn	20 25 25.9	+0.3
RDO	Rodhopi	2.27 44	P	Pn	20 25 25.1	-0.5
RDO	Rodhopi	2.27 44	ePn	Pn	20 25 25.9	+0.3
RDO	Rodhopi	2.27 44	P	Pn	20 25 25.1	-0.5
LKD2	Lefkada island	2.28 252	P	Pb	20 25 28.5	-1.0
LKD2	Lefkada island	2.28 252	ePN	Pn	20 25 26.7	+1.0
LKD2	Lefkada island	2.28 252	ePn	Pn	20 25 26.7	+1.0
LKD2	Lefkada island	2.28 252	P	Pb	20 25 28.5	-1.0
LKD2	Lefkada island	2.28 252	P	Pb	20 25 28.5	-1.0
KBN	Korca	2.30 299	P	Pn	20 25 26.6	+0.6
KBN	Korca	2.30 299	P	Pn	20 25 26.6	+0.6
KBN	Korca	2.30 299	P	Pn	20 25 26.6	+0.6
VLX	Vlachokerasia	2.32 201	P	Pn	20 25 26.8	+0.5
VLX	Vlachokerasia	2.32 201	ePN	Pn	20 25 27.1	+0.8
VLX	Vlachokerasia	2.32 201	P	Pn	20 25 26.8	+0.5
VLX	Vlachokerasia	2.32 201	ePn	Pn	20 25 27.1	+0.8
VLX	Vlachokerasia	2.32 201	P	Pn	20 25 26.8	+0.5
KKB	Krupnik	2.34 354	*i* P	Pn	20 25 27.4	+0.9
KKB	Krupnik	2.34 354	*i* P	Pn	20 25 27.4	+0.9
CHOS	Chios island	2.35 119	P	Pn	20 25 26.9	+0.2
CHOS	Chios island	2.35 119	ePN	Pn	20 25 27.0	+0.3
CHOS	Chios island	2.35 119	ePN	Pn	20 25 26.9	+0.2
CHOS	Chios island	2.35 119	P	Pn	20 25 26.9	+0.2
CHOS	Chios island	2.35 119	P	Pn	20 25 26.9	+0.2
RZN	Rozhen	2.36 24	*i* P	Pn	20 25 28.3	+1.4
RZN	Rozhen	2.36 24	*i* P	Pn	20 25 28.3	+1.4
IGT	Igoumenitsa	2.39 271	P	Pb	20 25 30.1	-1.3
IGT	Igoumenitsa	2.39 271	ePN	Pn	20 25 28.7	+1.5
IGT	Igoumenitsa	2.39 271	ePn	Pn	20 25 28.7	+1.5
IGT	Igoumenitsa	2.39 271	P	Pb	20 25 30.1	-1.3
IGT	Igoumenitsa	2.39 271	P	Pb	20 25 30.1	-1.3
ENEZ	Enez	2.41 59	ePN	Pn	20 25 26.7	-0.7
ENEZ	Enez	2.41 59	ePn	Pn	20 25 26.7	-0.7
AMT	Artemida-Makis	2.42 214	P	Pn	20 25 28.4	+0.8
AMT	Artemida-Makis	2.42 214	ePN	Pn	20 25 28.9	+1.3
AMT	Artemida-Makis	2.42 214	P	Pn	20 25 28.4	+0.8
AMT	Artemida-Makis	2.42 214	ePn	Pn	20 25 28.9	+1.3
ALN	Alexandroupoli	2.42 55	P	Pn	20 25 27.0	-0.6
ALN	Alexandroupoli	2.42 55	ePN	Pn	20 25 27.1	-0.5
ALN	Alexandroupoli	2.42 55	ePN	Pn	20 25 27.9	+0.3
ALN	Alexandroupoli	2.42 55	P	Pn	20 25 27.0	-0.6
ALN	Alexandroupoli	2.42 55	ePn	Pn	20 25 27.9	+0.3
ALN	Alexandroupoli	2.42 55	P	Pn	20 25 27.0	-0.6
GELI	Tayfur-Gelibol	2.49 69	ePN	Pn	20 25 27.9	-0.7
GELI	Tayfur-Gelibol	2.49 69	ePn	Pn	20 25 27.9	-0.7
AYVA	Ayvalik	2.54 94	*i* P	Pn	20 25 30.2	+1.0
AYVA	Ayvalik	2.54 94	*i* P	Pn	20 25 30.2	+1.0
AYVA			*i* S	Sg	20 26 11.3	+1.0
OHR	Ohrid	2.55 309	ePn	Pn	20 25 26.7	-2.8
OHR	Ohrid	2.55 309	ePn	Pn	20 25 26.6	-2.8
KDZ	Kurdzhali	2.59 35	⇑*i* P	Pn	20 25 30.0	0.0
KDZ	Kurdzhali	2.59 35	⇑*i* P	Pn	20 25 30.0	0.0
VLS	Valsamata	2.60 239	P	Pn	20 25 32.1	+2.0
VLS	Valsamata	2.60 239	ePB	Pn	20 25 32.4	+2.3
VLS	Valsamata	2.60 239	P	Pn	20 25 32.1	+2.0
VLS	Valsamata	2.60 239	ePb	Pn	20 25 32.4	+2.3
VLS	Valsamata	2.60 239	P	Pn	20 25 32.1	+2.0
ERIK	Erikli-Kesan	2.62 64	ePN	Pn	20 25 29.6	-0.8
ERIK	Erikli-Kesan	2.62 64	ePn	Pn	20 25 29.6	-0.8
ITM	Ithomi	2.64 207	P	Pn	20 25 31.7	+1.1
ITM	Ithomi	2.64 207	ePB	Pn	20 25 32.3	+1.7
ITM	Ithomi	2.64 207	P	Pn	20 25 31.7	+1.1
ITM	Ithomi	2.64 207	ePb	Pn	20 25 32.3	+1.7
ITM	Ithomi	2.64 207	P	Pn	20 25 31.7	+1.1
SRN	Sarande	2.67 278	ePN	Pb	20 25 33.7	-2.3
SRN			eSN	Sb	20 26 08.6	+0.1
SRN	Sarande	2.67 278	ePn	Pb	20 25 33.7	-2.3
LPK	Lapseki	2.69 71	ePN	Pn	20 25 30.6	-0.7
LPK	Lapseki	2.69 71	ePn	Pn	20 25 30.6	-0.7
ZEY	˙zmir	2.73 117	*i* P	Pn	20 25 32.3	+0.5
ZEY			*i* S	Sb	20 26 13.1	+2.7
PLD	Plovdiv	2.74 20	P	Pn	20 25 32.6	+0.6
PLD	Plovdiv	2.74 20	ePn	Pn	20 25 33.9	+1.9
PLD	Plovdiv	2.74 20	*i* P	Pb	20 25 34.7	-2.6
PLD	Plovdiv	2.74 20	P	Pn	20 25 32.6	+0.6
PLD	Plovdiv	2.74 20	ePn	Pn	20 25 33.9	+1.9
PLD	Plovdiv	2.74 20	P	Pn	20 25 32.6	+0.6
KEK	Kerkira	2.81 275	ePN	Pn	20 25 34.3	+1.4
KEK	Kerkira	2.81 275	ePn	Pn	20 25 34.3	+1.4
VLI	Veliai	2.84 188	P	Pn	20 25 33.4	0.0
VLI	Veliai	2.84 188	ePN	Pn	20 25 33.8	+0.4
VLI	Veliai	2.84 188	P	Pn	20 25 33.4	0.0
VLI	Veliai	2.84 188	ePn	Pn	20 25 33.8	+0.4
VLI	Veliai	2.84 188	P	Pn	20 25 33.4	0.0
SKO	Skopje	2.86 329	ePn	Pn	20 25 31.1	-2.5
SKO	Skopje	2.86 329	ePn	Pn	20 25 31.1	-2.5
PYL	PYLOS	2.96 207	P	Pn	20 25 36.8	+1.8
PYL	PYLOS	2.96 207	ePN	Pn	20 25 36.5	+1.5
PYL	PYLOS	2.96 207	ePn	Pn	20 25 36.5	+1.5
PYL	PYLOS	2.96 207	P	Pn	20 25 36.8	+1.8
PYL	PYLOS	2.96 207	P	Pn	20 25 36.8	+1.8
SFD	Strofades	2.97 220	ePN	Pn	20 25 36.7	+1.6
SFD	Strofades	2.97 220	ePn	Pn	20 25 36.7	+1.6
APE	Apeiranthos	2.97 146	P	Pn	20 25 35.2	0.0
APE	Apeiranthos	2.97 146	ePN	Pn	20 25 34.9	-0.3
APE	Apeiranthos	2.97 146	ePN	Pn	20 25 35.2	0.0
APE	Apeiranthos	2.97 146	⇑*i* P	Pn	20 25 35.1	-0.1
APE	Apeiranthos	2.97 146	S	Sn	20 26 07.7	-2.8
APE	Apeiranthos	2.97 146	P	Pn	20 25 35.2	0.0
APE	Apeiranthos	2.97 146	P	Pn	20 25 35.2	0.0
DIM	Dimitrovgrad	2.97 32	*i* P	Pn	20 25 36.1	+0.9
DIM	Dimitrovgrad	2.97 32	*i* P	Pn	20 25 36.1	+0.9
BLCB	Balcova	3.04 111	ePN	Pn	20 25 36.4	+0.2
BLCB	Balcova	3.04 111	ePn	Pn	20 25 36.4	+0.2
VTS	Vitosha	3.05 357	ePn	Pn	20 25 37.6	+1.2
VTS			eSn	Sn	20 26 13.9	+1.2
VTS	Vitosha	3.05 357	⇑*i* P	Pn	20 25 38.2	+1.8
VTS	Vitosha	3.05 357	S	Sb	20 26 17.2	-2.6
VTS	Vitosha	3.05 357	*i* P	Pn	20 25 38.4	+2.0
VTS	Vitosha	3.05 357	ePn	Pn	20 25 37.6	+1.2
VTS	Vitosha	3.05 357	⇑*i* P	Pn	20 25 38.2	+1.8
VTS			eSn	Sn	20 26 13.9	+1.2
KRBG	Karabiga-Canak	3.09 73	ePN	Pn	20 25 36.7	-0.1
KRBG	Karabiga-Canak	3.09 73	ePn	Pn	20 25 36.7	-0.1
RKY	Sarkoy-Tekirda	3.10 67	ePN	Pn	20 25 37.6	+0.7
RKY	Sarkoy-Tekirda	3.10 67	ePn	Pn	20 25 37.6	+0.7
PHP	Peshkopia	3.12 314	P	Pn	20 25 38.2	+0.9
PHP	Peshkopia	3.12 314	P	Pn	20 25 38.2	+0.9
PHP	Peshkopia	3.12 314	P	Pn	20 25 38.2	+0.9
IZM	Izmir	3.20 110	ePN	Pn	20 25 38.0	-0.4
IZM	Izmir	3.20 110	ePn	Pn	20 25 38.0	-0.4
SMG	Samos	3.24 123	ePN	Pn	20 25 39.0	+0.2
SMG	Samos	3.24 123	ePn	Pn	20 25 39.0	+0.2
KYTH	Kithira	3.27 186	ePN	Pn	20 25 40.0	+0.7
KYTH	Kithira	3.27 186	ePn	Pn	20 25 40.0	+0.7
MRMT	Marmara Adasi	3.37 70	ePN	Pn	20 25 41.3	+0.6
MRMT	Marmara Adasi	3.37 70	ePn	Pn	20 25 41.3	+0.6
EDRB	Edirne	3.42 47	P	Pn	20 25 41.9	+0.6
EDRB	Edirne	3.42 47	ePN	Pn	20 25 41.8	+0.6
EDRB	Edirne	3.42 47	P	Pn	20 25 41.9	+0.6
EDRB	Edirne	3.42 47	P	Pn	20 25 41.9	+0.6
BALB	Balikesir	3.44 87	ePN	Pn	20 25 42.5	+0.9
BALB	Balikesir	3.44 87	ePn	Pn	20 25 42.5	+0.9
TKR	Tekirdag	3.46 64	ePN	Pn	20 25 42.7	+0.8
TKR	Tekirdag	3.46 64	ePn	Pn	20 25 42.7	+0.8
AKHS	Akhisar	3.47 100	*i* P	Pn	20 25 45.0	+2.9
AKHS	Akhisar	3.47 100	*i* P	Pn	20 25 45.0	+2.9
AKHS			*i* S	Sg	20 26 40.9	+0.7
AKS	Akhisar	3.47 100	ePN	Pn	20 25 43.2	+1.2
AKS	Akhisar	3.47 100	ePn	Pn	20 25 43.2	+1.2
THR2	Thira island,	3.47 152	P	Pn	20 25 42.1	0.0
THR2	Thira island,	3.47 152	P	Pn	20 25 42.1	0.0
THR2	Thira island,	3.47 152	P	Pn	20 25 42.1	0.0
BARS	Barje	3.49 340	⇓*i* Pn	Pn	20 25 43.0	+0.7
BARS	Barje	3.49 340	⇓*i* Pn	Pn	20 25 43.0	+0.7
EDC	Edincik	3.50 75	ePN	Pn	20 25 42.9	+0.4
EDC	Edincik	3.50 75	ePn	Pn	20 25 42.9	+0.4
THR6	Thira Island,	3.54 153	P	Pn	20 25 43.5	+0.5
THR6	Thira Island,	3.54 153	P	Pn	20 25 43.5	+0.5
THR6	Thira Island,	3.54 153	P	Pn	20 25 43.5	+0.5
SANT	Santorini	3.55 152	P	Pn	20 25 43.3	+0.1
SANT	Santorini	3.55 152	ePN	Pn	20 25 43.3	+0.1
SANT	Santorini	3.55 152	ePn	Pn	20 25 43.0	-0.2
SANT	Santorini	3.55 152	P	Pn	20 25 43.3	+0.1
SANT	Santorini	3.55 152	ePg	Pg	20 25 56.0	-0.7
SANT	Santorini	3.55 152	ePn	Pn	20 25 43.0	-0.2
SANT			ePg	Pg	20 25 56.0	-0.7
THR1	Thera Island	3.55 152	ePN	Pn	20 25 42.6	-0.5
THR1	Thera Island	3.55 152	ePn	Pn	20 25 42.7	-0.5
CRLT	Corlu	3.66 63	ePN	Pn	20 25 45.9	+1.3
CRLT	Corlu	3.66 63	ePn	Pn	20 25 45.9	+1.3
ANKY	Antikythira Is	3.67 182	ePN	Pn	20 25 45.2	+0.4
ANKY	Antikythira Is	3.67 182	ePn	Pn	20 25 45.2	+0.4
PHSR	Pinarhisar	3.75 55	ePN	Pn	20 25 47.4	+1.5
PHSR	Pinarhisar	3.75 55	ePn	Pn	20 25 47.4	+1.5
JMB	Yambol	3.77 38	⇑*i* P	Pn	20 25 48.7	+2.5
JMB	Yambol	3.77 38	S	Sb	20 26 37.8	-2.6
JMB	Yambol	3.77 38	⇑*i* P	Pn	20 25 48.7	+2.5
ZAPS	Zavoj	3.78 351	⇑*i* Pn	Pn	20 25 47.9	+1.6
MPEP	Malo Peshtene	3.82 3	P	Pn	20 25 48.3	+1.5
AYDB	Zeytinkoy-Aydi	3.84 113	ePN	Pn	20 25 48.5	+1.3
AYDB	Zeytinkoy-Aydi	3.84 113	ePn	Pn	20 25 48.5	+1.3
KCTX	Karacabey (Bur	3.86 78	ePN	Pn	20 25 47.9	+0.5
KCTX	Karacabey (Bur	3.86 78	ePn	Pn	20 25 47.9	+0.5
DURS	Dursunbey	3.90 88	*i* P	Pn	20 25 49.1	+1.1
DURS	Dursunbey	3.90 88	*i* P	Pn	20 25 49.1	+1.1
BODT	Bodrum	3.93 128	ePN	Pn	20 25 49.4	+1.0
BODT	Bodrum	3.93 128	ePn	Pn	20 25 49.4	+1.0
AYDN	Tasoluk	3.96 117	*i* P	Pn	20 25 50.3	+1.5
AYDN	Tasoluk	3.96 117	*i* P	Pn	20 25 50.3	+1.5
AYDN			*i* S	Sg	20 26 57.6	+1.7
ULC	Ulcinj	3.99 309	⇑*i* Pn	Pn	20 25 50.8	+1.6
ULC			eSn	Sn	20 26 36.6	+0.9
ULC	Ulcinj	3.99 309	⇑*i* Pn	Pn	20 25 50.8	+1.6
ULC			eSn	Sn	20 26 36.6	+0.9
BDRM	Kayabasi	4.01 127	*i* P	Pn	20 25 50.5	+1.0
BDRM	Kayabasi	4.01 127	*i* P	Pn	20 25 50.5	+1.0
PVY	Plav	4.02 320	⇑*i* Pn	Pn	20 25 51.3	+1.6
PVY			eSn	Sn	20 26 37.9	+1.3
PVY	Plav	4.02 320	⇑*i* Pn	Pn	20 25 51.3	+1.6
PVY			eSn	Sn	20 26 37.9	+1.3
SLVT	Silivri	4.02 64	ePN	Pn	20 25 51.2	+1.6
SLVT	Silivri	4.02 64	ePn	Pn	20 25 51.2	+1.6
SELS	Selova	4.06 335	ePn	Pn	20 25 50.1	-0.1
DRME	Dracevica, Mon	4.16 311	ePn	Pn	20 25 52.3	+0.7
DRME			eSn	Sn	20 26 40.7	+0.8
DRME	Dracevica, Mon	4.16 311	ePn	Pn	20 25 52.3	+0.7
DRME			eSn	Sn	20 26 40.7	+0.8
VAM	Vamos	4.17 171	ePN	Pn	20 25 51.9	+0.2
VAM	Vamos	4.17 171	ePn	Pn	20 25 51.9	+0.2
CTYL	Yal??k??y-??at	4.18 61	ePN	Pn	20 25 53.6	+1.9
CTYL	Yal??k??y-??at	4.18 61	ePn	Pn	20 25 53.7	+1.9
KULA	Kula-Manisa	4.20 102	ePN	Pn	20 25 53.5	+1.3
KULA	Kula-Manisa	4.20 102	ePn	Pn	20 25 53.5	+1.3
CTKS	Kestanelik-??a	4.23 65	ePN	Pn	20 25 54.1	+1.6
CTKS	Kestanelik-??a	4.23 65	ePn	Pn	20 25 54.1	+1.6
BEY	Berane	4.26 322	⇑*i* Pn	Pn	20 25 54.6	+1.6
BEY			eSn	Sn	20 26 43.2	+0.8
IVA	Berane	4.26 322	⇑*i* Pn	Pn	20 25 54.6	+1.6
IVA			eSn	Sn	20 26 43.2	+0.8
MDNY	Mudanya-Bursa	4.27 77	ePN	Pn	20 25 54.0	+0.9
MDNY	Mudanya-Bursa	4.27 77	ePn	Pn	20 25 54.0	+0.9
PDG	Podgorica	4.28 314	⇓*i* Pn	Pn	20 25 54.7	+1.6
PDG			eSn	Sn	20 26 43.6	+1.0
TTG	Podgorica	4.28 314	⇓*i* Pn	Pn	20 25 54.7	+1.6
TTG			eSn	Sn	20 26 43.6	+1.0
ARMT	Armutlu	4.29 74	ePN	Pn	20 25 55.3	+1.9
BGKT	Bogazkoy	4.40 66	ePN	Pn	20 25 56.2	+1.4
IDI	Anoyia	4.40 164	Pn	Pn	20 25 55.5	+0.6
	8.8nm,0.3s,baz=339,slow=11,SNR=75					
IDI			Lg	Lg	20 27 11.0	
	baz=18,slow=20,SNR=2.1					
BUM	Brajici-Budva	4.40 310	⇑*i* Pn	Pn	20 25 56.1	+1.2
BUM			eSn	Sn	20 26 45.9	0.0
BUM	Brajici-Budva	4.40 310	⇑*i* Pn	Pn	20 25 56.1	+1.2
BUM			eSn	Sn	20 26 45.9	0.0
BOLS	Boljevac	4.42 346	⇑*i* Pn	Pn	20 25 53.8	-1.3
BOLS	Boljevac	4.42 346	⇑*i* Pn	Pn	20 25 53.8	-1.3
ISK	Istanbul-Kandi	4.57 69	ePN	Pn	20 25 58.9	+1.8
ISK	Istanbul-Kandi	4.57 69	ePn	Pn	20 25 58.9	+1.8
NPS	Neapolis	4.61 157	ePN	Pn	20 25 58.0	+0.3
NPS	Neapolis	4.61 157	ePn	Pn	20 25 58.0	+0.3
KLYT	Kilyos	4.62 66	ePN	Pn	20 25 59.5	+1.8
KLYT	Kilyos	4.62 66	ePn	Pn	20 25 59.5	+1.8
NKME	Niksic	4.67 315	⇓*i* Pn	Pn	20 25 58.9	+0.4
NKME			eSn	Sn	20 26 53.6	+1.2
NKME	Niksic	4.67 315	⇓*i* Pn	Pn	20 25 58.9	+0.4
NKME			eSn	Sn	20 26 53.6	+1.2
TVSB	Tavsanli	4.67 89	ePN	Pn	20 26 00.4	+1.8
TVSB	Tavsanli	4.67 89	ePn	Pn	20 26 00.4	+1.8
NKY	Niksic	4.68 316	⇑*i* Pn	Pn	20 25 59.3	+0.6
NKY			eSn	Sn	20 26 52.9	+0.2
NKY	Niksic	4.68 316	⇑*i* Pn	Pn	20 25 59.3	+0.6
NKY			eSn	Sn	20 26 52.9	+0.2
GDZ	Gediz	4.72 94	*i* P	Pn	20 26 00.9	+1.6
GDZ	Gediz	4.72 94	*i* P	Pn	20 26 00.9	+1.6
GDZ			*i* S	Sg	20 27 17.6	-2.6
IVAS	Ivanjica	4.72 330	ePn	Pn	20 26 00.0	+0.7
IVAS	Ivanjica	4.72 330	ePn	Pn	20 26 00.0	+0.7
HCY	Herceg Novi	4.73 309	⇓*i* Pn	Pn	20 25 59.6	+0.3
HCY			eSn	Sn	20 26 53.4	-0.4
HCY	Herceg Novi	4.73 309	⇓*i* Pn	Pn	20 25 59.6	+0.3
HCY			eSn	Sn	20 26 53.4	-0.4
PE1	Pezze di Greco	4.77 287	ePn	Pn	20 26 00.5	+0.6
GRUS	Gruza	4.79 336	ePn	Pn	20 26 00.1	-0.1
GRUS	Gruza	4.79 336	ePn	Pn	20 26 00.1	-0.1
TAR1	Taranto	4.82 284	ePn	Pn	20 26 02.1	+1.6
PLE	Pljevlja	4.85 323	⇑*i* Pn	Pn	20 26 02.7	+1.6
PLE			eSn	Sn	20 26 58.0	+1.0
PLE	Pljevlja	4.85 323	⇑*i* Pn	Pn	20 26 02.7	+1.6
PLE			eSn	Sn	20 26 58.0	+1.0
ADVT	Abdulvahap	4.93 78	ePN	Pn	20 26 04.1	+2.1
ADVT	Abdulvahap	4.93 78	ePn	Pn	20 26 04.1	+2.1
ZKR	Zakros	4.95 152	ePN	Pn	20 26 03.4	+1.1
ZKR	Zakros	4.95 152	ePn	Pn	20 26 03.4	+1.1
KARP	Karpathos	4.97 142	ePN	Pn	20 26 03.6	+0.9
KARP	Karpathos	4.97 142	ePn	Pn	20 26 03.6	+0.9
TREB	Trebinje	4.98 311	ePn	Pn	20 26 04.6	+1.9
TREB	Trebinje	4.98 311	ePn	Pn	20 26 04.6	+1.9
CAVI	Cavuskoy	4.98 80	ePN	Pn	20 26 04.6	+1.8
CAVI	Cavuskoy	4.98 80	ePn	Pn	20 26 04.6	+1.8
UPM	Unac-Piva	5.00 319	ePn	Pn	20 26 04.7	+1.5
UPM			eSn	Sn	20 27 01.1	+0.5
UPM	Unac-Piva	5.00 319	ePn	Pn	20 26 04.7	+1.5
UPM			eSn	Sn	20

AKASG	Malin Array Be	11.88	18	Pn		Pn	20 27 39.6	+2.3
	0.5nm,0.3s,baz=203,slow=14,SNR=2.3							
KHC	Kasperske Hory	11.89	327	*e*P		Pn	20 27 39.6	+2.1
KHC				AMS	AMS		20 32 40.0	
	comp=Z,200nm,11.9s							
PRU	Pruhonice	12.20	332	AMS	AMS		20 33 00.0	
	comp=Z,200nm,15.0s							
ESDC	Sonseca Array	21.08	279	P		P	20 29 31.3	-1.0
	1.2nm,0.7s,baz=74,slow=9.9,SNR=16							
HFS	Hagfors	21.50	347	P		P	20 29 35.5	-1.1
	2.9nm,0.9s,baz=154,slow=14,SNR=4.2							
FINES	FINESS Array B	21.99	3	P		P	20 29 42.1	+0.4
	1.2nm,0.7s,baz=188,slow=12,SNR=6.6							
NB2	NORSAR Subarra	22.82	345	P		P	20 29 51.5	+0.8
	comp=Z,4.1nm,0.8s,baz=152,slow=11							
NB2	NORSAR Subarra	22.82	345	P		P	20 29 51.5	+0.8
	comp=Z,4.1nm,0.8s,SNR=8.7							
NOA	NORSAR Array B	22.82	345	P		P	20 29 51.7	+1.1
	comp=Z,1.9nm,0.8s,baz=153,slow=11,SNR=5.1							
NOA				LR	LR		20 39 46.5	
	comp=Z,47nm,21.6s,baz=125,slow=40							
MDT	Midelt	23.55	262	P		P	20 29 56.2	-2.2
	comp=Z,1.0nm,0.7s,baz=73,slow=8.9,SNR=4.8							
EKA	Eskdalemuir Ar	23.72	321	P		P	20 29 59.0	-0.8
	comp=Z,0.4nm,0.5s,baz=115,slow=10,SNR=4.7							
ARCES	ARCESS Array B	30.08	1	LR		LR	20 44 16.6	
	comp=Z,98nm,19.2s,baz=127,slow=39							
TORD	Torodi Ar. Bea	32.54	222	P		P	20 31 19.4	+0.4
	comp=Z,1.2nm,0.6s,baz=33,slow=9.5,SNR=14							
KURBB	Kurchatov Arra	39.59	55	P		P	20 32 24.0	+4.9
	comp=Z,1.6nm,0.2s,baz=281,slow=9.4,SNR=2.7							
DBIC	Dimbokro	41.45	225	P		P	20 32 32.1	-2.6
MKAR	Makanchi Array	42.66	60	P		P	20 32 45.9	+1.5
	comp=Z,0.6nm,0.5s,baz=275,slow=7.4,SNR=5.4							
ZALV	Zalesovo Beam	43.09	49	P		P	20 32 51.2	+3.5
	comp=Z,0.4nm,0.4s,baz=282,slow=6.9,SNR=3.0							
SONM	Songino Array	57.84	52	P		P	20 34 43.9	+4.5
	comp=Z,0.3nm,0.8s,baz=232,slow=6.3,SNR=3.3							
SCHQ	Schefferville	58.99	318	P		P	20 34 47.9	+0.6
	comp=Z,3.0nm,0.8s,baz=91,slow=3.6,SNR=6.5							
LBTB	Lobatse	64.25	178	P		P	20 35 15.6	-7.4
YKA	Yellowknife Ar	72.86	341	P		P	20 36 17.3	+1.0
	comp=Z,0.2nm,0.7s,baz=38,slow=5.3,SNR=6.0							

GUC 20 20:28:15.6±0.5, 34°.70S×71°.82W, h35km±4km, ML4.0, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.57	122	↓↓*i*P	Pn	20 28 27.1	-0.2
NICH				*i* S	Sn	20 28 35.8	+0.3
TALC	Talca	0.71	168	↓↓*i*P	Pn	20 28 29.2	0.0
TALC				*i* S	Sn	20 28 39.3	+0.4
LNV	Longovilo	0.81	25	↓↓*i*P	Pn	20 28 30.8	+0.2
LNCH	Linares	1.16	171	↑↑*i*P	Pn	20 28 35.9	+0.5
LNCH				*i* S	Sn	20 28 51.7	+1.7
CACH	El Canelo	1.16	60	↓↓*i*P	Pn	20 28 36.2	+0.7
CHCH	Chadas Angostu	1.23	52	↑↑*i*P	Pn	20 28 37.3	+0.9
ANTU	Antumapu	1.50	41	↑↑*i*P	Pn	20 28 41.3	+1.3
ANTU				*e*S	Sn	20 29 01.1	+2.7
ANTU				AML	AML	20 29 06.1	
	comp=E,3μm,0.4s						
SJCH	San Jose de Ma	1.61	49	↑*i*P	Pn	20 28 42.1	+0.4
SJCH				*e*S	Sn	20 29 02.7	+1.4
FSR	Penalolen	1.62	42	*e*P9	Pn	20 28 43.9	+2.1
FSR				*e*S	Sn	20 29 05.0	+3.5
CLCH	Cerro Calan	1.68	40	AML	AML	20 29 10.0	
	comp=E,4μm,0.3s						
YECH	El Yeso	1.77	55	↑↑*i*P	Pn	20 28 47.0	+2.9
YECH				*i* S	Sn	20 29 10.4	+4.7
YECH				AML	AML	20 29 14.3	
	comp=N,3μm,0.5s						
PEL	Peldehue	1.82	32	↑↑*i*P	Pn	20 28 46.0	+1.5
PEL				AML	AML	20 29 13.6	
	comp=E,2μm,0.3s						

*IDC **20** 21:12:48.5±1.4, 28°.94N×81°.55E, h0km, mb3.8/7, mb1 3.8/8, mb1mx3.4/45, mbtmp3.7/8, ML3.2/1, Error ellipse: s-maj=58.0km s-min=25.2km az=55.0*
*ISCJB **20** 21:12:51.5±1.2, 28°.9N±0°.2×81°.4E±0°.3, h33km, mb3.8/7, Error ellipse: s-maj=39.0km s-min=22.3km az=156.1*
ISC 20 21:12:53.6±1.4, 29°.0N±0°.3×81°.6E±0°.3, h33km, n10, σ0°.71/9, mb3.8/7, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	Lohaghat	1.25	292	*e*PG	Pb	21 13 26.5	+10
LGTI				*e*SG	Sb	21 13 42.6	+10
MKAR	Makanchi Array	17.78	2	P		P	21 16 59.8	+0.7
	0.1nm,0.3s,baz=192,slow=12,SNR=6.2							
ZALV	Zalesovo Beam	25.05	5	P		P	21 18 14.9	+0.2
	0.8nm,0.5s,baz=185,slow=8.7,SNR=5.9							
ARCES	ARCESS Array B	51.44	338	P		P	21 21 55.2	0.0
	2.7nm,0.9s,baz=102,slow=8.5,SNR=4.0							
HFS	Hagfors	54.38	325	P		P	21 22 17.7	+0.8
	2.7nm,0.7s,baz=101,slow=7.5,SNR=7.9							
NB2	NORSAR Subarra	55.63	326	P		P	21 22 26.2	+0.1
	comp=Z,1.0nm,0.6s,baz=89,slow=6.9							
NOA	NORSAR Array B	55.63	326	P		P	21 22 25.7	-0.4
	comp=Z,1.3nm,0.7s,baz=93,slow=6.9,SNR=4.4							
EKA	Eskdalemuir Ar	63.80	321	P		P	21 23 22.4	0.0
	comp=Z,0.4nm,0.5s,baz=76,slow=9.0,SNR=3.7							
WRA	Warramunga Arr	70.41	127	P		P	21 24 05.2	+0.4
	comp=Z,0.3nm,0.6s,baz=323,slow=6.1,SNR=3.1							
YKA	Yellowknife Ar	87.91	7	P		P	21 25 38.5	-1.2
	comp=Z,0.1nm,0.3s,baz=346,slow=4.5,SNR=3.3							

*ATH **20** 21:20:29.8, 38°.43N×21°.92E, h15km, MD3.6/45, ML3.2*
*ISCJB **20** 21:20:30.2±0.3, 38°.42N±0°.01×21°.91E±0°.02, h12km±2km, mb3.4/6, Error ellipse: s-maj=2.2km s-min=2.2km az=160.0*
*CSEM **20** 21:20:30.3±0.1, 38°.42N×21°.91E, h5km, MD3.6, Error ellipse: s-maj=2.3km s-min=2.2km az=71.0*
*IDC **20** 21:20:30.2±1.1, 38°.31N×21°.94E, h0km, mb3.4/7, mb1 3.4/10, mb1mx3.3/60, mbtmp3.4/10, ML2.8/3, Error ellipse: s-maj=20.0km s-min=18.8km az=132.0*
*THE **20** 21:20:30.5, 38°.44N×21°.93E, h1km, ML3.6/9, Error ellipse: s-maj=0.6km s-min=0.2km az=253.0*
ISC 20 21:20:30.6±0.7, 38°.43N±0°.01×21°.92E±0°.01, h5km±4km, n208, σ0°.82/279, mb3.5/6, 12C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.01	253	P	Pg	21 20 31.1	-0.4
EFP				S	Sg	21 20 31.8	-0.3
EFP	Efpalio	0.01	253	*e*PB	Pg	21 20 31.1	-0.4
EFP	Efpalio	0.01	253	P	Pg	21 20 31.1	-0.4
KALE	Kalithea	0.17	103	P	Pg	21 20 34.0	-0.1
KALE				S	Sg	21 20 36.8	+0.4
KALE	Kalithea	0.17	103	*e*PB	Pg	21 20 34.0	-0.1
KALE				*e*SB	Sg	21 20 37.1	+0.7
KALE	Kalithea	0.17	103	P	Pg	21 20 34.0	-0.1
KALE				S	Sg	21 20 36.8	+0.4
KALE				*e*Sb	Sg	21 20 37.1	+0.7
UPR	University Cam	0.18	216	P	Pg	21 20 34.4	+0.2
UPR				S	Sg	21 20 38.1	+1.6
UPR	University Cam	0.18	216	P	Pg	21 20 34.4	+0.2
UPR				S	Sg	21 20 37.4	+0.9
PVO	Paravola	0.36	301	P	Pg	21 20 37.6	0.0
PVO				S	Sg	21 20 43.0	+0.7
PVO	Paravola	0.36	301	P	Pg	21 20 37.5	0.0
PVO				S	Sg	21 20 43.0	+0.7
KLV	Kalavryta, Ach	0.43	155	P	Pg	21 20 38.3	-0.5
KLV				S	Sg	21 20 45.0	+0.6
KLV	Kalavryta, Ach	0.43	155	*e*PB	Pg	21 20 38.3	-0.5
KLV				*e*SB	Sg	21 20 44.6	+0.2
KLV	Kalavryta, Ach	0.43	155	P	Pg	21 20 38.3	-0.5
KLV				*e*Sb	Sg	21 20 44.6	+0.2
DSF	Desfina	0.47	92	P	Pg	21 20 38.8	-0.9
DSF				S	Sg	21 20 46.3	+0.4
DSF	Desfina	0.47	92	*e*PB	Pg	21 20 38.8	-0.9
DSF				*e*SB	Sg	21 20 46.5	+0.6
DSF	Desfina	0.47	92	P	Pg	21 20 38.8	-0.9
DSF				S	Sg	21 20 46.3	+0.4
EVR	Evrytania	0.49	350	P	Pg	21 20 39.8	-0.3
EVR				S	Sg	21 20 47.0	+0.5
EVR	Evrytania	0.49	350	*e*PB	Pg	21 20 39.8	-0.3
EVR				*e*SB	Sg	21 20 46.3	-0.2
EVR	Evrytania	0.49	350	P	Pg	21 20 39.8	-0.3
EVR				*e*Sb	Sg	21 20 46.3	-0.2
EVR				S	Sg	21 20 47.0	+0.5
DRO	Drossia	0.51	199	P	Pg	21 20 40.0	-0.2
DRO				S	Sg	21 20 47.6	+0.7
DRO	Drossia	0.51	199	*e*PN	Pg	21 20 40.1	-0.2
DRO				*e*SN	Sg	21 20 47.3	+0.4
DRO	Drossia	0.51	199	*e*Pn	Pg	21 20 40.1	-0.2
DRO				*e*Sn	Sg	21 20 47.3	+0.4
RLS	Riolos of Patr	0.52	224	P	Pg	21 20 40.5	0.0
RLS				S	Sg	21 20 48.5	+1.3
RLS	Riolos of Patr	0.52	224	*e*PN	Pg	21 20 40.5	0.0
RLS				*e*SN	Sg	21 20 47.3	+0.1
RLS	Riolos of Patr	0.52	224	P	Pg	21 20 40.5	0.0
RLS				*e*Sn	Sg	21 20 47.3	+0.1
RLS				S	Sb	21 20 48.0	-1.9
GUR	Goura	0.59	146	P	Pg	21 20 41.1	-0.9
GUR	Goura	0.59	146	*e*PN	Pg	21 20 40.8	-1.2
GUR				*e*SN	Sg	21 20 49.5	-0.2
GUR	Goura	0.59	146	*e*Pn	Pg	21 20 40.8	-1.2
GUR	Goura	0.59	146	P	Pg	21 20 41.1	-0.9
GUR				*e*Sn	Sg	21 20 49.5	-0.2
MAKR	Makrakomi, Fth	0.60	16	P	Pg	21 20 41.8	-0.4
MAKR				S	Sg	21 20 50.7	+0.6
MAKR	Makrakomi, Fth	0.60	16	*e*PN	Pg	21 20 42.0	-0.2
MAKR				*e*SN	Sg	21 20 50.1	0.0
MAKR	Makrakomi, Fth	0.60	16	*e*Pn	Pg	21 20 42.0	-0.2
MAKR				*e*Sn	Sg	21 20 50.1	0.0
PDO	Prodromos	0.60	286	P	Pg	21 20 41.6	-0.6
PDO	Prodromos	0.60	286	*e*PB	Pg	21 20 41.2	-1.0
PDO				*e*SN	Sg	21 20 49.7	-0.3
PDO	Prodromos	0.60	286	*e*Pb	Pg	21 20 41.2	-1.0
PDO	Prodromos	0.60	286	P	Pg	21 20 41.6	-0.6
PDO				*e*Sn	Sg	21 20 49.7	-0.3
PDO				S	Sb	21 20 52.4	0.0
AXAR	Agios Charalam	0.67	60	P	Pg	21 20 42.7	-0.7
AXAR				S	Sg	21 20 52.7	+0.6
AXAR	Agios Charalam	0.67	60	*e*PN	Pg	21 20 42.7	-0.7
AXAR				*e*SN	Sg	21 20 52.3	+0.2
AXAR	Agios Charalam	0.67	60	P	Pg	21 20 42.7	-0.7
AXAR				*e*Sn	Sg	21 20 52.3	+0.2
AGG	Agios Georgios	0.67	28	P	Pg	21 20 42.8	-0.7
AGG	Agios Georgios	0.67	28	*e*PB	Pg	21 20 42.3	-1.2
AGG				*e*SN	Sg	21 20 52.4	+0.2
AGG	Agios Georgios	0.67	28	*e*Pb	Pg	21 20 42.3	-1.2
AGG	Agios Georgios	0.67	28	P	Pg	21 20 42.8	-0.7
AGG				*e*Sn	Sg	21 20 52.4	+0.2
AMT	Artemida-Makis	0.91	191	P	Pg	21 20 47.4	-0.7
AMT	Artemida-Makis	0.91	191	*e*PN	Pg	21 20 47.4	-0.7
AMT				*e*SN	Sg	21 21 00.0	+0.1
AMT	Artemida-Makis	0.91	191	P	Pg	21 20 47.4	-0.7
LTK	Loutraki	0.92	116	P	Pg	21 20 47.6	-0.6
LTK	Loutraki	0.92	116	*e*PN	Pg	21 20 48.0	-0.2
LTK				*e*SN	Sg	21 21 00.1	0.0
LTK	Loutraki	0.92	116	P	Pg	21 20 47.6	-0.6
LTK	Loutraki	0.92	116	*e*Pn	Pg	21 20 48.0	-0.2
KFL	Anninata	0.95	251	P	Pg	21 20 48.2	-0.6
KFL				S	Sb	21 21 02.6	+0.2
KFL	Anninata	0.95	251	P	Pg	21 20 48.2	-0.6
KFL				S	Sb	21 21 02.6	+0.2
DSL	Palaion Diasel	0.95	318	P	Pg	21 20 47.5	-1.4
DSL	Palaion Diasel	0.95	318	*e*PN	Pg	21 20 48.0	-0.9
DSL				*e*SN	Sg	21 21 01.2	0.0
DSL	Palaion Diasel	0.95	318	P	Pg	21 20 47.5	-1.4
DSL	Palaion Diasel	0.95	318	*e*Pn	Pg	21 20 48.0	-0.9
LKD2	Lefkada island	1.05	290	P	Pg	21 20 50.1	-0.7
LKD2	Lefkada island	1.05	290	*e*PN	Pg	21 20 50.2	-0.6
LKD2				*e*SN	Sg	21 21 04.4	0.0
LKD2	Lefkada island	1.05	290	P	Pg	21 20 50.1	-0.7
LKD2				*e*Sn	Sg	21 21 04.4	0.0
VLS	Valsamata	1.08	257	P	Pg	21 20 49.4	-1.8
VLS				S	Sg	21 21 05.2	0.0
VLS	Valsamata	1.08	257	*e*PN	Pg	21 20 49.8	-1.4
VLS				*e*SN	Sg	21 21 05.2	0.0
VLS	Valsamata	1.08	257	P	Pg	21 20 49.4	-1.8
VLS	Valsamata	1.08	257	*e*Pn	Pg	21 20 49.8	-1.4
VLS				S	Sg	21 21 05.2	0.0
SMIA	Simia	1.10	66	P	Pg	21 20 50.7	-1.0
SMIA	Simia	1.10	66	*e*PN	Pg	21 20 50.7	-1.0
SMIA				*e*SN	Sb	21 21 06.6	-0.2
SMIA	Simia	1.10	66	P	Pg	21 20 50.7	-1.0
SMIA				*e*Sn	Sb	21 21 06.6	-0.2
VLX	Vlachokerasia	1.12	161	P	Pg	21 20 50.7	-1.3
VLX	Vlachokerasia	1.12	161	*e*PN	Pg	21 20 50.5	-1.5
VLX				*e*SN	Sg	21 21 06.2	-0.3
VLX	Vlachokerasia	1.12	161	P	Pg	21 20 50.7	-1.3
VLX				*e*Sn	Sg	21 21 06.2	-0.3
THL	Klokotos Trika	1.13	4	P	Pg	21 20 51.6	-0.7
THL				S	Sb	21 21 08.1	+0.4
THL	Klokotos Trika	1.13	4	P	Pg	21 20 51.6	-0.7
THL				S	Sb	21 21 08.1	+0.4
ITM	Ithomi	1.25	180	*e*PN	Pg	21 20 53.2	-1.3
ITM				*e*SN	Sb	21 21 11.0	0.0
ITM	Ithomi	1.25	180	*e*Pn	Pg	21 20 53.2	-1.3
ITM				*e*Sn	Sb	21 21 11.0	0.0
MRKA	Markates	1.33	78	P	Pn	21 20 55.3	-0.6
MRKA	Markates	1.33	78	*e*PN	Pn	21 20 54.8	-1.1
MRKA				*e*SN	Sn	21 21 14.0	0.0
MRKA	Markates	1.33	78	*e*Pn	Pn	21 20 54.8	-1.1
MRKA	Markates	1.33	78	P	Pn	21 20 55.3	-0.6
MRKA				*e*Sn	Sn	21 21 14.0	0.0
NEO	Neokhori	1.34	49	P	Pn	21 20 55.1	-0.9
NEO				S	Sn	21 21 14.5	+0.3
NEO	Neokhori	1.34	49	*e*PN	Pn	21 20 55.5	-0.5
NEO	Neokhori	1.34	49	P	Pn	21 20 55.1	-0.9
NEO	Neokhori	1.34	49	*e*Pn	Pn	21 20 55.5	-0.5
NEO				S	Sn	21 21 14.5	+0.3
XOR	Xorichti	1.36	46	P	Pn	21 20 56.0	-0.3
XOR	Xorichti	1.36	46	*e*PN	Pn	21 20 55.7	-0.6
XOR				*e*SN	Sg	21 21 14.4	+0.1
XOR	Xorichti	1.36	46	*e*Pn	Pn	21 20 55.7	-0.6
XOR	Xorichti	1.36	46	P	Pn	21 20 56.0	-0.3
XOR				*e*Sn	Sg	21 21 14.4	+0.1
DID	Didima	1.39	131	*e*PN	Pn	21 20 56.3	-0.4
DID	Didima	1.39	131	*e*Pn	Pn	21 20 56.3	-0.4
SKIA	Skiathos	1.41	58	P	Pn	21 20 56.6	-0.3
SKIA	Skiathos	1.41	58	*e*PN	Pn	21 20 56.6	-0.3
SKIA				*e*SN	Sg	21 21 16.5	+0.5
SKIA	Skiathos	1.41	58	P	Pn	21 20 56.6	-0.3
SKIA				*e*Sn	Sg	21 21 16.5	+0.5
JAN	Janina	1.48	326	*e*PN	Pn	21 20 58.1	+0.2
JAN	Janina	1.48	326	*e*Pn	Pn	21 20 58.1	+0.2
ATH	Athens Observa	1.49	107	*e*PN	Pn	21 20 57.4	-0.5
ATH	Athens Observa	1.49	107	*e*Pn	Pn	21 20 57.4	-0.5
PYL	PYLOS	1.54	185	P	Pn	21 20 58.2	-0.5
PYL	PYLOS	1.54	185	*e*PN	Pn	21 20 58.4	-0.3
PYL	PYLOS	1.54	185	*e*Pn	Pn	21 20 58.4	-0.3
PTL	Penteli	1.58	103	P	Pn	21 20 58.6	-0.6
PTL	Penteli	1.58	103	*e*PN	Pb	21 20 59.7	-0.5
PTL	Penteli	1.58	103	P	Pn	21 20 58.6	-0.6
PTL	Penteli	1.58	103	*e*Pn	Pb	21 20 59.7	-0.5
IGT	Igoumenitsa	1.66	312	*e*PN	Pn	21 21 00.9	+0.6
IGT	Igoumenitsa	1.66	312	*e*Pn	Pn	21 21 00.9	+0.6
AOS	Alonnisos	1.70	64	*e*PN	Pn	21 21 00.8	-0.1
AOS				*e*SN	Sb	21 21 24.4	+0.5
AOS	Alonnisos	1.70	64	*e*PN	Pn	21 21 00.5	-0.4
AOS	Alonnisos	1.70	64	*e*Pn	Pn	21 21 00.5	-0.4
AOS				*e*Sn	Sb	21 21 24.4	+0.5
LIT	Litokhoron	1.73	15	P	Pn	21 21 00.5	-0.8
LIT	Litokhoron	1.73	15	*e*PN	Pn	21 21 01.3	0.0
LIT	Litokhoron	1.73	15	P	Pn	21 21 00.5	-0.8
LIT	Litokhoron	1.73	15	*e*Pn	Pn	21 21 01.3	0.0
KZN	Kozani	1.88	356	*e*PN	Pn	21 21 03.9	+0.5
KZN	Kozani	1.88	356	*e*Pn	Pn	21 21 03.9	+0.5
VLI	Veliai	1.89	154	P	Pn	21 21 03.3	-0.2
VLI	Veliai	1.89	154	*e*PN	Pn	21 21 03.5	0.0
VLI	Veliai	1.89	154	P	Pn	21 21 03.3	-0.2
PAIG	Paliouri	2.02	42	*e*PB	Pn	21 21 05.0	-0.3
KEK	Kerkira	2.09	308	*e*PN	Pn	21 21 06.9	+0.6
KEK	Kerkira	2.09	308	*e*Pn	Pn	21 21 06.9	+0.6
NEST	Nestorio	2.09	341	*e*PN	Pn	21 21 06.7	+0.3
NEST	Nestorio	2.09	341	*e*Pn	Pn	21 21 06.7	+0.3
PLG	Polygyros	2.27	31	*e*PB	Pn	21 21 08.5	-0.3
KYTH	Kithira	2.32	157	*e*PN	Pn	21 21 11.1	+1.6
KYTH	Kithira	2.32	157	*e*Pn	Pn	21 21 11.1	+1.6
HORT	Hortiatis	2.35	22	*e*PB	Pn	21 21 09.5	-0.4
FNA	Florina	2.39	350	*e*PN	Pn	21 21 11.3	+0.9
FNA	Florina	2.39	350	*e*Pn	Pn	21 21 11.3	+0.9
OUR	Ouranopolis	2.48	39	*e*PN	Pn	21 21 11.2	-0.4
OUR				*e*SN	Sn	21 21 41.3	-1.0
OUR	Ouranopolis	2.48	39	*e*PB	Pn	21 21 11.6	0.0
OUR	Ouranopolis	2.48	39	*e*Pn	Pn	21 21 11.2	-0.4
OUR				*e*Sn	Sn	21 21 41.3	-1.0
GRG	Griva	2.55	8	P	Pn	21 21 12.6	0.0
GRG	Griva	2.55	8	*e*PB	Pn	21 21 13.7	+1.1
GRG	Griva	2.55	8	P	Pn	21 21 12.6	0.0
SOH	Sokhos	2.63	24	*e*PB	Pn	21 21 14.5	+0.8
KNT	Kendrikon	2.83	15	P	Pn	21 21 16.2	-0.2
KNT	Kendrikon	2.83	15	*e*PN	Pn	21 21 16.7	+0.3
KNT	Kendrikon	2.83	15	P	Pn	21 21 16.2	-0.2
KNT	Kendrikon	2.83	15	*e*Pn	Pn	21 21 16.7	+0.3
LIA	Limnos Island	2.93	59	*e*PN	Pn	21 21 18.0	+0.3
LIA	Limnos Island	2.93	59	*e*Pn	Pn	21 21 18.0	+0.3
VAY	Valandovo	2.93	10	*e*Pn	Pn	21 21 18.9	+1.1
VAY				*e*Sg	Sn	21 21 55.8	+2.5
VAY	Valandovo	2.93	10	*e*PN	Pn	21 21 18.9	+1.1
SRS	Serrai	2.98	25	*e*PN	Pn	21 21 18.1	-0.3
SRS	Serrai	2.98	25	*e*Pn	Pn	21 21 18.1	-0.3
APE	Apeiranthos	3.17	114	*e*PN	Pn	21 21 29.1	+0.8
APE	Apeiranthos	3.17	114	↑↑*i*P	Pn	21 21 17.6	-3.5
APE	Apeiranthos	3.17	114	S	Sn	21 21 51.7	-7.6
APE	Apeiranthos	3.17	114	↑↑*i*P	Pn	21 21 17.6	-3.5
APE	Apeiranthos	3.17	114	*e*Pn	Pn	21 21 29.1	+0.8
SIGR	SIGRI	3.17	75	*e*PN	Pn	21 21 21.1	0.0
SIGR	SIGRI	3.17	75	*e*Pn	Pn	21 21 21.1	0.0
CHOS	Chios island	3.25	90	*e*PN	Pn	21 21 23.4	+1.2
CHOS	Chios island	3.25	90	*e*PN	Pn	21 21 22.9	+0.7
CHOS	Chios island	3.25	90	*e*Pn	Pn	21 21 22.9	+0.7
NVR	Nevrokopi	3.27	26	*e*PN	Pn	21 21 22.9	+0.3
NVR	Nevrokopi	3.27	26	*e*Pn	Pn	21 21 22.9	+0.3
MMB	Musomiste	3.44	23	↑↑*i*P	Pn	21 21 24.8	-0.1
MMB	Musomiste	3.44	23	S	Sn	21 22 06.7	+0.5
MMB	Musomiste	3.44	23	↑↑*i*P	Pn	21 21 24.8	-0.1
BOZC	Bozcaada	3.51	65	*i* P	Pn	21 21 25.8	+0.1
BOZC				*i* S	Sn	21 21 51.3	-16
VAM	Vamos	3.53	148	*e*PN	Pn	21 21 27.1	+1.1
VAM	Vamos	3.53	148	*e*Pn	Pn	21 21 27.1	+1.1
EZN	Ezine	3.70	66	*e*PN	Pn	21 21 29.2	+0.9
EZN	Ezine	3.70	66	*e*Pn	Pn	21 21 29.2	+0.9
IDI	Anoyia	3.94	142	Pn	Pn	21 21 32.3	+0.5
	0.6nm,0.3s,baz=343,slow=7.4,SNR=9.7						
IDI				Sn	Sn	21 22 16.8	-1.5
	1.9nm,0.3s,baz=287,slow=19,SNR=3.9						
ENEZ	Enez	4.00	54	*e*PN	Pn	21 21 32.7	+0.2
ENEZ	Enez	4.00	54	*e*Pn	Pn	21 21 32.7	+0.2
ALN	Alexandroupoli	4.02	51	*e*PN	Pn	21 21 32.9	+0.1
ALN	Alexandroupoli	4.02	51	*e*Pn	Pn	21 21 32.9	+0.1
GELI	Tayfur-Gelibol	4.04	59	*e*PN	Pn	21 21 33.5	+0.5
GELI	Tayfur-Gelibol	4.04	59	*e*Pn	Pn	21 21 33.5	+0.5
KDZ	Kurdzhali	4.19	39	↑↑*i*P	Pn	21 21 34.7	-0.4
KDZ	Kurdzhali	4.19	39	↑↑*i*P	Pn	21 21 34.7	-0.4
ERIK	Erikli-Kesan	4.19	56	*e*PN	Pn	21 21 34.6	-0.5
ERIK	Erikli-Kesan	4.19	56	*e*Pn	Pn	21 21 34.7	-0.5
IZM	Izmir	4.19	89	*e*PN	Pn	21 21 37.0	+1.8
IZM	Izmir	4.19	89	*e*Pn	Pn	21 21 37.0	+1.8
LPK	Lapseki	4.22	61	*e*PN	Pn	21 21 35.9	+0.4
LPK	Lapseki	4.22	61	*e*Pn	Pn	21 21 35.9	+0.4
VTS	Vitosha	4.27	13	↓↓*i*P	Pn	21 21 37.5	+1.1
VTS	Vitosha	4.27	13	↓↓*i*P	Pn	21 21 37.5	+1.1
BARS	Barje	4.38	359

CMCH **Combarbala** 3.52 13 *e*P1 **Pn** **21 22 05.5 -0.4**
CFAA **Coronel Fontan** 4.31 47 Pn Pn 21 22 18.7 +1.9
comp=N,1.3nm,0.3s,baz=222,slow=12,SNR=115
CFAA Lg Lg 21 23 16.6
comp=N,3.6nm,0.3s,baz=294,slow=17,SNR=4.3
CFAA LR LR 21 24 10.8
comp=N,248nm,19.3s,baz=230,slow=42
LCO Las Campanas 5.68 11 *e*Pn **Pn** **21 22 34.7 -1.2**
LCO *e*Sn **Sn** **21 23 35.4 -5.0**
PLCA Paso Flores 6.20 170 *e*P **Pn** **21 22 43.7 +0.9**
PLCA *e* 21 24 04.4
PLCA Paso Flores 6.20 170 Pn **Pn** **21 22 43.7 +0.9**
comp=N,11nm,0.3s,baz=335,slow=12,SNR=151
PLCA Lg Lg 21 24 21.7
comp=N,4.3nm,0.3s,baz=281,slow=20,SNR=3.4
PLCA LR LR 21 25 16.5
comp=N,1µm,21.3s,baz=314,slow=40
PLCA Paso Flores 6.20 170 *e*Pn **Pn** **21 22 43.7 +0.9**
PLCA *e*Sn Sb 21 24 04.4 -10
TRQA Tornquist 8.73 116 *e*Pn **Pn** **21 23 18.7 +1.3**
LVC Limon Verde 12.25 13 *e*Pn Pn 21 24 00.7 -5.1
LPAZ La Paz 18.57 12 *e*P **Pn** **21 25 28.8 0.0**
LPAZ pmax pmax
comp=Z,55nm,0.9s
LPAZ La Paz 18.57 12 P **Pn** **21 25 28.9 +0.1**
comp=Z,1.7nm,0.3s,baz=183,slow=8.2,SNR=161
LPAZ La Paz 18.57 12 *e*P **Pn** **21 25 28.8 0.0**
comp=Z,55nm,0.9s
EFI East Falkland 19.77 154⇑ *e*P **Pn** **21 25 45.5 +3.2**
EFI pmax pmax
comp=Z,315nm,1.2s
EFI East Falkland 19.77 154 *e*P **P** **21 25 39.4 -1.4**
comp=Z,264nm,1.5s
USHA Ushuaia 20.36 174 P **P** **21 25 45.9 -1.2**
comp=Z,27nm,0.8s,baz=3.3,slow=13,SNR=3.0
USHA LR LR 21 34 28.1
comp=Z,979nm,19.8s,baz=16,slow=39
SIV San Ignacio 20.95 30 P **P** **21 25 53.4 -0.5**
comp=Z,36nm,0.9s,baz=217,slow=12,SNR=91
SIV LR LR 21 35 21.8
comp=Z,414nm,18.1s,baz=216,slow=41
NNA Nana 22.96 348 P **P** **21 26 16.7 +1.3**
comp=Z,354nm,0.8s,SNR=5.9
NNA Nana 22.96 348 *e*P **P** **21 26 16.0 +0.5**
NNA pmax pmax
comp=Z,47nm,0.8s
NNA Nana 22.96 348 P **P** **21 26 16.0 +0.5**
comp=Z,46nm,0.8s,baz=188,slow=11,SNR=20
NNA LR LR 21 33 13.3
comp=Z,103nm,21.6s,baz=166,slow=32
NNA Nana 22.96 348 *e*P **P** **21 26 16.0 +0.5**
comp=Z,47nm,0.8s
SAML Samuel 26.77 19 *e*P **P** **21 26 49.7 -1.0**
comp=Z,12nm,0.8s
ATAH Atahualpa 27.99 346 P **P** **21 27 02.6 +0.5**
comp=Z,4.5nm,0.8s,baz=188,slow=7.1,SNR=3.3
BDFB Brasilia 28.61 55 *e*P **P** **21 27 04.4 -2.8**
BDFB Brasilia 28.61 55 P **P** **21 27 06.7 -0.6**
comp=Z,12nm,0.8s,baz=229,slow=9.9,SNR=16
BDFB LR LR 21 39 10.0
comp=Z,196nm,18.4s,baz=224,slow=38
BDFB Brasilia 28.61 55 *e*P **P** **21 27 04.4 -2.8**
PMSA Palmer Station 30.57 173 LR LR 21 39 18.1
comp=Z,516nm,18.0s,baz=310,slow=36
OTAV Otavalo 35.20 349 *e*P **P** **21 28 04.1 -1.4**
comp=Z,31nm,1.4s
PTGA Pitinga 35.51 21 P **P** **21 28 07.2 -0.5**
comp=Z,33nm,0.6s,baz=206,slow=9.8,SNR=50
PTGA Pitinga 35.51 21 *e*P **P** **21 28 07.1 -0.5**
comp=Z,38nm,0.8s
SDV Santo Domingo 43.28 2 *e*P **P** **21 29 11.9 -0.8**
comp=Z,34nm,1.0s
RCBR Riachuelo 43.89 58 P **P** **21 29 17.4 -0.1**
comp=Z,4.9nm,0.6s,baz=209,slow=9.5,SNR=6.1
RCBR Riachuelo 43.89 58 *e*P **P** **21 29 15.0 -2.5**
comp=Z,41nm,1.6s
JTS JuntasAbangare 46.34 342 *de*P **P** **21 29 38.0 +1.2**
JTS pmax pmax
comp=Z,21nm,1.7s
GRGR Grenville 47.50 14 *e*P **P** **21 29 45.5 -0.3**
comp=Z,429nm,1.3s
VNA3 Neumayer Olymp 48.76 158 P **P** **21 29 57.9 +3.0**
VNA2 Neumayer--Watz 49.41 157 P **P** **21 30 01.8 +1.8**
SNAA Sanae 50.98 158 P **P** **21 30 12.6 +0.7**
SNAA Sanae 50.98 158⇑ *i*P P 21 30 15.2 +3.2
SNAA pmax pmax
comp=Z,38nm,1.7s
SNAA Sanae 50.98 158 P **P** **21 30 11.4 -0.6**
comp=Z,4.7nm,0.8s,baz=277,slow=12,SNR=7.8
SNAA Sanae 50.98 158 *e*P **P** **21 30 13.1 +1.1**
comp=Z,33nm,1.3s
CRPR Cabo Rojo, PR 52.53 6 *e*P **P** **21 30 22.9 -1.0**
comp=Z,25nm,0.6s
OBIP Obispado Ponce 52.61 6 *e*P **P** **21 30 24.4 -0.1**
comp=Z,34nm,0.8s
CELP Cerrillos 52.64 6 *e*P **P** **21 30 23.8 -1.0**
CPD Cerro la Pandu 52.67 7 *e*P **P** **21 30 24.0 -1.0**
CPD pmax pmax
comp=Z,109nm,2.0s
CPD Cerro la Pandu 52.67 7 *e*P **P** **21 30 24.0 -1.0**
comp=Z,109nm,2.0s
SJG San Juan 52.72 7 P **P** **21 30 24.3 -1.1**
MTDJ Mount Denham 52.82 353 *e*P **P** **21 30 26.2 0.0**
comp=Z,572nm,2.1s
LRS Lares 52.83 6 *e*P **P** **21 30 24.8 -1.4**
ANWB Willy Bob 52.88 12 *e*P **P** **21 30 25.1 -1.4**
comp=Z,88nm,0.6s
CBYP Canovanas 52.91 7 *e*P **P** **21 30 26.2 -0.6**
comp=Z,24nm,1.1s
GTBY Guantanamo Bay 54.32 356 *e*P **P** **21 30 36.8 -0.2**
comp=Z,195nm,1.6s
RKT Rikitea 55.60 264 *e*T T 22 30 28.4
comp=Z,2.9nm,0.2s
QSPA South Pole Qui 55.62 180 *e*P **P** **21 30 47.0 +0.8**
comp=Z,57nm,1.5s
NVL N'lazarevskaya 55.72 157 *e*P **P** **21 30 48.9 +2.3**
NVL pmax pmax
comp=Z,26nm,1.4s
TEIG Tepich 56.71 342 P **P** **21 30 54.1 -0.1**
comp=Z,24nm,0.6s,baz=180,slow=9.1
TEIG Tepich 56.71 342 *e*P **P** **21 30 54.6 +0.4**
comp=Z,63nm,1.1s
VNDA Vanda 63.52 191 *e*P **P** **21 31 42.2 +1.9**
VNDA pmax pmax
comp=Z,51nm,2.3s
VNDA Vanda 63.52 191 P **P** **21 31 40.6 +0.4**
comp=Z,2.9nm,0.9s,baz=125,slow=7.0,SNR=6.6
VNDA Vanda 63.52 191 *e*P **P** **21 31 42.2 +1.9**
comp=Z,51nm,2.3s
SYO Syowa Base 65.26 158⇑ *e*P **P** **21 31 49.8 -2.0**
TIGA Tifton 66.61 349 ⇑P **P** **21 32 01.0 +0.1**
baz=67
TIGA Tifton 66.61 349 *e*P **P** **21 32 00.3 -0.5**
comp=Z,26nm,0.7s
934A Benavides 66.80 334 ⇓P **P** **21 32 04.3 +2.2**
baz=67
933A Laredo 67.09 334 ⇓P **P** **21 32 05.8 +1.9**
baz=67
TBI Tubuai 67.27 257 *e*LR LR 21 52 31.0
comp=Z,249nm,29.2s
834A Tilden 67.29 335 ⇑P **P** **21 32 07.4 +2.2**
baz=68
CSU Charleston Sou 67.68 353 *e*P **P** **21 32 08.2 +0.6**
735A Kenedy 67.70 336 ⇑P **P** **21 32 09.4 +1.6**
baz=68
833A Chaparral WMA, 67.77 334 ⇑P **P** **21 32 09.9 +1.6**
baz=68,SNR=6.5
NHSC New Hope 67.81 353 *e*P **P** **21 32 08.4 +0.1**
comp=Z,59nm,1.1s
734A La Parita Cree 67.95 335 ⇓P **P** **21 32 10.8 +1.5**
baz=68
636A Smothers Creek 68.03 336 ⇑P **P** **21 32 11.7 +1.8**
baz=68
732A Laxson Ranch, 68.35 334 ⇑P **P** **21 32 13.0 +1.1**
baz=69,SNR=5.9
GOGA Godfrey 68.53 350 *e*P **P** **21 32 12.5 -0.4**
GOGA pmax pmax
comp=Z,15nm,0.6s
GOGA Godfrey 68.53 350 *e*P **P** **21 32 12.5 -0.4**
comp=Z,15nm,0.6s
536A Bastrop 68.58 337 ⇓P **P** **21 32 14.8 +1.5**
baz=69
535A Dale 68.70 336 ⇑P **P** **21 32 14.9 +0.8**
baz=69
633A Saathoff Ranch 68.73 335 ⇓P **P** **21 32 15.5 +1.2**
baz=69,SNR=7.6
VBMS Vicksburg 68.74 343 *e*P **P** **21 32 14.6 +0.3**
comp=Z,49nm,0.8s
LRAL Lakeview Retre 68.77 346 *e*P **P** **21 32 14.5 +0.1**
comp=Z,15nm,0.8s
340A Bronson 68.86 340 ⇓P **P** **21 32 16.4 +1.4**
baz=69
MEH Mehetia 68.86 262 *e*T T 22 47 01.0
comp=Z,60nm,0.2s
339A Huntington 68.97 339 ⇓P **P** **21 32 17.2 +1.5**
baz=69
632A Uvalde 68.99 334 ⇓P **P** **21 32 17.1 +1.2**
baz=69,SNR=10
534A Blanco 69.01 335 ⇑P **P** **21 32 17.0 +1.0**
baz=69
436A Wall Ranch, Ga 69.13 337 ⇑P **P** **21 32 18.3 +1.6**
baz=70
631A Perdido Creek 69.19 333 ⇑P **P** **21 32 18.0 +0.9**
baz=70
533A Kerrville 69.24 335 ⇓P **P** **21 32 18.4 +0.9**
baz=70,SNR=6.2
435B Jarrell 69.40 337 ⇓P **P** **21 32 19.7 +1.3**
baz=70
239A Gary 69.59 340 ⇑P **P** **21 32 21.0 +1.5**
baz=70
532A Rocksprings 69.60 334 ⇑P **P** **21 32 20.8 +1.1**
baz=70,SNR=21
434A Burnet 69.66 336 ⇓P **P** **21 32 20.8 +0.8**
baz=70,SNR=10
CNNC Cliffs of the 69.72 355 *e*P **P** **21 32 20.4 +0.2**
comp=Z,53nm,0.4s
336A Riesel 69.72 337 ⇑P **P** **21 32 21.7 +1.4**
baz=70
335A Moody 69.81 337 ⇑P **P** **21 32 21.6 +0.6**
baz=70,SNR=5.7
531A Rocksprings 69.86 334 ⇑P **P** **21 32 22.4 +1.1**
baz=70,SNR=12
JCT Junction City 69.88 335 *e*P **P** **21 32 21.8 +0.4**
JCT pmax pmax
comp=Z,24nm,0.8s
JCT Junction City 69.88 335 ⇑P **P** **21 32 22.5 +1.0**
baz=70,SNR=12
JCT Junction City 69.88 335 *e*P **P** **21 32 21.8 +0.4**
comp=Z,24nm,0.8s
433A Art 69.88 335 ⇑P **P** **21 32 22.3 +0.9**
baz=70,SNR=6.7
KMSC Kings Mountain 69.95 352 ⇓P **P** **21 32 21.8 +0.1**
baz=70,SNR=5.1
KMSC Kings Mountain 69.95 352 *e*P **P** **21 32 21.4 -0.3**
comp=Z,19nm,0.8s
TIAR Tiarei 70.07 262 *e*T T 22 48 31.3
comp=Z,15nm,0.2s
334A Lometa 70.12 336 ⇓P **P** **21 32 23.8 +0.9**
baz=70,SNR=5.7
530A J-C Ranch, Com 70.14 333 ⇑P **P** **21 32 24.5 +1.5**
baz=70,SNR=12
PAE Paea 70.21 262 *e*T T 22 48 41.5
comp=Z,3.8nm,0.3s
432A Menard 70.24 335 ⇑P **P** **21 32 24.2 +0.6**
baz=71,SNR=7.5
PPT2 Papeete2 70.24 262 *e*LR LR 21 53 42.4
comp=Z,268nm,30.2s
TXAR Lajitas Array 70.31 331 P **P** **21 32 24.9 +0.8**
comp=Z,8.4nm,0.7s,baz=153,slow=8.6,SNR=54
LTX Lajitas 70.32 331 *e*P **P** **21 32 25.0 +0.8**
LTX Lajitas 70.32 331 *e*P **P** **21 32 24.9 +0.8**
TX31 Lajitas Ar. Si 70.32 331 *e*P **P** **21 32 24.8 +0.6**
431A Sonora 70.35 334 ⇓P **P** **21 32 25.2 +0.8**
baz=71,SNR=8.0
333A Richland Sprin 70.37 336 ⇓P **P** **21 32 24.8 +0.4**
baz=71,SNR=9.4
529A Stev Forest Ra 70.45 332 ⇓P **P** **21 32 25.9 +0.9**
baz=71,SNR=18
WHTX Lake Whitney, 70.47 337 *e*P **P** **21 32 24.6 -0.4**
comp=Z,38nm,0.8s
430A Baggett Ranch, 70.68 333 ⇑P **P** **21 32 26.8 +0.4**
baz=71,SNR=11
332A Millersview 70.68 335 ⇑P **P** **21 32 26.6 +0.3**
baz=71,SNR=5.2
OXF Oxford 70.69 345 *e*P **P** **21 32 25.7 -0.5**
OXF pmax pmax
comp=Z,76nm,0.9s
OXF Oxford 70.69 345 *e*P **P** **21 32 25.6 -0.5**
comp=Z,76nm,0.9s
SWET Sewanee 70.69 348 *e*P **P** **21 32 26.3 0.0**
234A Clairette 70.70 337 ⇓P **P** **21 32 27.3 +0.9**
baz=71,SNR=5.3
429A Davenport Ranc 70.78 333 ⇑P **P** **21 32 27.6 +0.7**
baz=71,SNR=12
TKL Tuckaleechee C 70.78 350 *e*P **P** **21 32 25.7 -1.1**
TKL Tuckaleechee C 70.78 350 *e*P **P** **21 32 25.7 -1.1**
331A San Angelo 70.85 334 ⇓P **P** **21 32 27.8 +0.5**
baz=71,SNR=12
233A Rising Star 70.97 336 ⇓P **P** **21 32 28.7 +0.6**
baz=71,SNR=11
135A Vickery Place, 70.98 337 ⇓P **P** **21 32 28.2 +0.2**
baz=71
232A Coleman 71.11 335 ⇓P **P** **21 32 29.5 +0.6**
baz=71,SNR=9.0
134A White-Moore Ra 71.21 337 ⇑P **P** **21 32 30.1 +0.7**
baz=72
330A Mertzon 71.21 334 ⇑P **P** **21 32 29.9 +0.4**
baz=72,SNR=11
231A Bronte 71.38 335 ⇑P **P** **21 32 31.0 +0.4**
baz=72,SNR=16
133A Hamilton Ranch 71.52 336 ⇑P **P** **21 32 32.1 +0.8**
baz=72,SNR=7.4
329A Wagon Wheel Ra 71.58 333 ⇓P **P** **21 32 32.6 +0.8**
baz=72,SNR=16
230A Sterling City 71.62 334 ⇑P **P** **21 32 32.5 +0.5**
baz=72
MIAR Mount Ida 71.72 341 *e*P **P** **21 32 32.3 -0.2**
MIAR pmax pmax
comp=Z,45nm,1.9s
MIAR Mount Ida 71.72 341 *e*P **P** **21 32 32.2 -0.2**
comp=Z,45nm,1.9s
ABTX Abilene, Hawle 71.78 336 ⇓P **P** **21 32 33.7 +0.8**
baz=72,SNR=6.7
ABTX Abilene, Hawle 71.78 336 *e*P **P** **21 32 33.2 +0.3**
comp=Z,34nm,0.8s
Z34A Collier Ranch, 71.89 337 ⇑P **P** **21 32 34.2 +0.7**
baz=72,SNR=6.6
BLA Blacksburg 71.90 353 *e*P **P** **21 32 33.5 0.0**
BLA pmax pmax
comp=Z,41nm,0.6s
BLA Blacksburg 71.90 353 *e*P **P** **21 32 33.5 0.0**
comp=Z,41nm,0.6s
WVT Waverly 71.93 347 *e*P **P** **21 32 33.5 -0.2**
WVT pmax pmax
comp=Z,94nm,0.8s
WVT Waverly 71.93 347 *e*P **P** **21 32 33.5 -0.2**
comp=Z,94nm,0.8s
229A Bryant Ranch, 71.95 334 ⇑P **P** **21 32 34.7 +0.7**
baz=72,SNR=6.4
URVA University of 72.01 355 *e*P **P** **21 32 34.0 -0.1**
HALT Halls 72.02 345 *e*P **P** **21 32 33.9 -0.4**
131A Roby 72.08 335 ⇓P **P** **21 32 35.5 +0.8**
baz=72,SNR=8.9
Z33A Whitaker Ranch 72.09 337 ⇑P **P** **21 32 35.4 +0.7**
baz=72,SNR=7.3
JSRW J. Sargeant Re 72.16 355 *e*P **P** **21 32 34.7 -0.2**
130A Snyder 72.21 335 ⇓P **P** **21 32 35.7 +0.2**
baz=72,SNR=7.8
Z32A Haskell 72.34 336 ⇓P **P** **21 32 36.7 +0.5**
baz=73,SNR=7.3
GLAT Glass 72.36 345 *e*P **P** **21 32 36.9 +0.7**
228A UT Block 9, Go 72.38 333 ⇓P **P** **21 32 37.1 +0.5**
baz=73,SNR=12
Y34A Reagan Ranch, 72.38 338 ⇑P **P** **21 32 36.9 +0.4**
baz=73,SNR=6.9
MAW Mawson 72.56 163 LR LR 22 07 06.3
comp=Z,176nm,18.1s,baz=234,slow=38
129A Stewart Farms, 72.57 334 ⇓P **P** **21 32 38.2 +0.6**
baz=73
Z31A Sharp Cattle R 72.58 335 ⇑P **P** **21 32 38.3 +0.6**
baz=73,SNR=19
PVMO Portageville 72.58 345 *e*P **P** **21 32 37.9 +0.3**
comp=Z,206nm,0.6s
Y33A Hilltop Ranch, 72.71 337 ⇓P **P** **21 32 38.5 +0.1**
baz=73,SNR=7.3
128A Castleberry Fa 72.78 333 ⇑P **P** **21 32 39.5 +0.5**
baz=73,SNR=12
PARMO Parma 72.83 345 *e*P **P** **21 32 39.0 0.0**
Z30A Sanderson Ranc 72.89 335 ⇓P **P** **21 32 39.6 0.0**
baz=73,SNR=14
Y32A R-V Farms, Ver 72.97 336 ⇑P **P** **21 32 40.4 +0.4**
baz=73,SNR=8.1
X34A Smith Ranch, M 73.00 338 ⇓P **P** **21 32 40.5 +0.4**
baz=73,SNR=6.3
Z29A Hungry Hill Ra 73.08 334 ⇑P **P** **21 32 40.9 +0.2**
baz=73,SNR=11
PBMO Poplar Bluff 73.09 345 *e*P **P** **21 32 40.6 0.0**
X33A Lawton 73.16 337 ⇑P **P** **21 32 41.3 +0.2**
baz=74
Y31A Rekieta Farm, 73.21 336 ⇓P **P** **21 32 42.2 +0.8**
baz=74,SNR=5.8
X32A Elmer 73.30 337 ⇑P **P** **21 32 42.3 +0.4**
baz=74,SNR=5.2
Z28A Tucker Farm, M 73.35 334 ⇓P **P** **21 32 42.8 +0.4**
baz=74
Y30A Stafford Cattl 73.35 335 ⇓P **P** **21 32 42.9 +0.6**
baz=74
WMOK Wichita Mounta 73.43 337 *e*P **P** **21 32 42.2 -0.4**
WMOK pmax pmax
comp=Z,15nm,1.3s
WMOK Wichita Mounta 73.43 337 *e*P **P** **21 32 42.2 -0.4**
comp=Z,14nm,1.3s
W34A Bridge Creek, 73.57 338 ⇑P **P** **21 32 44.2 +0.7**
baz=74
W34A Bridge Creek, 73.57 338 *e*P **P** **21 32 43.4 -0.1**
comp=Z,20nm,0.6s
Y29A Porterfield Fa 73.60 335 ⇑P **P** **21 32 44.4 +0.6**
baz=74,SNR=10
TUL1 Leonard 73.61 340 ⇑P **P** **21 32 43.9 +0.2**
baz=74,SNR=8.5
TUL1 Leonard 73.61 340 *e*P **P** **21 32 43.7 0.0**
comp=Z,35nm,0.7s
USIN University of 73.68 347 *e*P **P** **21 32 43.5 -0.5**
comp=Z,49nm,1.0s
WCI Wyandotte Cave 73.69 348 *e*P **P** **21 32 43.1 -1.0**
WCI pmax pmax
comp=Z,12nm,0.6s
WCI Wyandotte Cave 73.69 348 *e*P **P** **21 32 43.1 -1.0**
comp=Z,12nm,0.6s
W33A Caddo, Fort Co 73.71 338 ⇑P **P** **21 32 45.4 +1.1**
baz=74,SNR=11
X31A McDonald Ranch 73.72 336 ⇓P **P** **21 32 44.9 +0.5**
baz=74,SNR=5.7
SIUC Southern Illin 73.74 346 *e*P **P** **21 32 43.8 -0.5**
comp=Z,26nm,0.7s
V35A Meyer Ranch, C 73.78 339 ⇓P **P** **21 32 44.7 +0.1**
baz=74,SNR=12
Y28A McKinney Farm, 73.85 334 ⇓P **P** **21 32 46.3 +1.0**
baz=74,SNR=5.1
X30A Coker Ranch, T 73.86 335 ⇑P **P** **21 32 46.6 +1.4**
baz=74
W32A Sentinel 73.93 337 ⇑P **P** **21 32 46.3 +0.7**
baz=74,SNR=14
V34A Guthrie 74.05 339 ⇓P **P** **21 32 46.5 +0.2**
baz=74,SNR=7.7
V34A Guthrie 74.05 339 *e*P **P** **21 32 45.8 -0.4**
comp=Z,30nm,0.8s
MSTX Muleshoe 74.10 334 ⇑P **P** **21 32 47.6 +0.9**
baz=74,SNR=10.0
MSTX Muleshoe 74.10 334 *e*P **P** **21 32 46.9 +0.1**
comp=Z,26nm,0.8s
X29A Tulia 74.14 335 ⇑P **P** **21 32 47.5 +0.6**
baz=74,SNR=5.1
W31A Holland Ranch, 74.22 336 ⇓P **P** **21 32 48.2 +0.9**
baz=75
V33A Lossen Ranch, 74.27 338 ⇓P **P** **21 32 48.1 +0.5**
baz=75,SNR=9.1
MVL Millersville 74.36 356 *e*P **P** **21 32 48.2 +0.3**
comp=Z,38nm,1.5s
X28A Dimmitt 74.38 334 ⇓P **P** **21 32 49.5 +1.1**
baz=75
V32A Arapaho 74.41 337 ⇓P **P** **21 32 49.2 +0.8**
baz=75,SNR=5.9
SUR Sutherland 74.45 119 P **P** **21 32 49.5 +0.3**
comp=Z,6.6nm,0.8s,baz=294,slow=11,SNR=3.7
SUR Sutherland 74.45 119 *e*P **P** **21 32 49.5 +0.3**
comp=Z,438nm,2.7s
319A Douglas 74.47 327 ⇑P **P** **21 32 50.3 +1.4**
baz=75,SNR=8.8
OLIL Olney 74.50 347 *e*P **P** **21 32 48.0 -0.9**
comp=Z,36nm,1.4s
AMTX Amarillo 74.53 335 ⇑P **P** **21 32 50.3 +1.1**
baz=75
AMTX Amarillo 74.53 335 *e*P **P** **21 32 49.2 0.0**
comp=Z,50nm,1.2s
U34A Anderson Ranch 74.61 339 ⇓P **P** **21 32 49.9 +0.3**
baz=75,SNR=5.4
U34A Anderson Ranch 74.61 339 *e*P **P** **21 32 49.3 -0.2**
comp=Z,30nm,0.8s
BLO Bloomington 74.65 348 *e*P **P** **21 32 48.9 -0.8**
BLO pmax pmax
comp=Z,20nm,0.6s
BLO Bloomington 74.65 348 *e*P **P** **21 32 48.9 -0.8**
comp=Z,20nm,0.6s
V31A Spring Creek L 74.72 337 ⇑P **P** **21 32 51.8 +1.6**
baz=75
W29A Amarillo 74.73 335 ⇓P **P** **21 32 51.1 +0.8**
baz=75,SNR=9.7
U33A Lingo Farm, Me 74.78 338 ⇓P **P** **21 32 50.9 +0.3**
baz=75
121A Cookes Peak, D 74.81 329 ⇓P **P** **21 32 52.5 +1.5**
baz=75,SNR=18
SLM Saint Louis 74.83 345 *e*P **P** **21 32 50.4 -0.3**
SLM pmax pmax
comp=Z,40nm,0.7s
SLM Saint Louis 74.83 345 *e*P **P** **21 32 50.4 -0.3**
comp=Z,40nm,0.7s
LIC Lamto 74.88 71 *e*P **P** **21 32 51.5 -0.1**
comp=Z,13nm,0.6s
LUPA Lehigh Univers 74.91 357 *e*P **P** **21 32 51.4 +0.2**
comp=Z,2.4nm,0.9s
BRNJ Basking Ridge 74.97 358 *e*P **P** **21 32 51.7 +0.2**
comp=Z,32nm,1.0s
V30A Spur Ranch, Mi 74.99 336 ⇑P **P** **21 32 53.5 +1.6**
baz=75
U32A Winter Ranch, 75.01 338 ⇓P **P** **21 32 52.8 +1.0**
baz=75,SNR=5.6
W28A Vega 75.05 335 ⇑P **P** **21 32 54.2 +2.0**
baz=75
Y24A Capitan 75.07 332 ⇓P **P** **21 32 53.7 +1.2**
baz=75,SNR=8.8
SSPA Standing Stone 75.08 355 *e*P **P** **21 32 51.8 -0.3**
comp=Z,10nm,0.7s
TIC Toumodi 75.14 71 *e*P **P** **21 32 53.0 -0.2**
comp=Z,3.9nm,0.2s
ACSO Alum Creek Sta 75.17 351 *e*P **P** **21 32 52.2 -0.5**
comp=Z,46nm,0.8s
KIC Kosan Boka 75.19 71 *e*P **P** **21 32 53.5 +0.1**
comp=Z,38nm,1.0s
S36A Lake Cedric, C 75.26 341 ⇓P **P** **21 32 53.8 +0.6**
baz=76
DBIC Dimbokro 75.29 71 *e*P **P** **21 32 53.7 -0.3**
DBIC pmax pmax
comp=Z,11nm,0.8s
DBIC Dimbokro 75.29 71 P **P** **21 32 54.1 +0.1**
comp=Z,8.8nm,0.8s,baz=203,slow=4.6,SNR=13
DBIC LR LR 22 03 26.4
comp=Z,106nm,19.1s,baz=232,slow=34
DBIC Dimbokro 75.29 71 *e*P **P** **21 32 53.7 -0.3**
comp=Z,11nm,0.8s
ODNJ Ogdensburg 75.37 358 *e*P **P** **21 32 54.6 +0.9**
comp=Z,12nm,0.7s
T33A Patterson Ranc 75.42 339 ⇑P **P** **21 32 55.4 +1.2**
baz=76,SNR=8.5
W26A Owens Ranch, T 75.46 333 ⇑P **P** **21 32 55.4 +0.8**
baz=76,SNR=6.9
V28A Channing 75.50 335 ⇓P **P** **21 32 56.1 +1.3**
baz=76,SNR=8.2
YLE Yale 75.56 359 *e*P **P** **21 32 55.6 +0.7**
comp=Z,37nm,0.9s
U30A WK&E Inc. Balk 75.67 336 ⇓P **P** **21 32 57.3 +1.6**
baz=76
T32A Huddler Ranch, 75.72 338 ⇓P **P** **21 32 57.3 +1.3**
baz=76
V27A Dan Oppiter Fa 75.72 334 ⇓P **P** **21 32 57.3 +1.2**
baz=76
BNM Barren Site 75.74 331 *e*P **P** **21 32 57.7 +1.3**
S33A Kaszmaul Farm, 75.82 339 ⇓P **P** **21 32 57.5 +1.0**
baz=76
W25A X Bar L Ranch, 75.84 333 ⇓P **P** **21 32 57.5 +0.7**
baz=76,SNR=10
T31A Randall Ranch, 75.88 337 ⇑P **P** **21 32 57.9 +1.1**
baz=76
LPM Los Pinos Moun 75.88 331 *e*P **P** **21 32 58.0 +0.9**
LENM Lemitar 75.89 331 *e*P **P** **21 32 57.0 -0.2**
SFIN Lafayette 75.92 348 ⇑P **P** **21 32 56.2 -0.7**
baz=76
SFIN Lafayette 75.92 348 *e*P **P** **21 32 56.4 -0.6**
comp=Z,16nm,0.8s
TUC Tucson 75.93 327 *e*P **P** **21 32 58.5 +1.2**
TUC pmax pmax
comp=Z,14nm,1.1s
TUC Tucson 75.93 327 *e*P **P** **21 32 58.5 +1.2**

comp=Z,14nm,1.1s
U28A **Mallet** 76.07 335 ⇓P P 21 32 59.4 +1.3
baz=76
BRYW **Bryant College** 76.16 0 eP P 21 32 59.1 +0.8
comp=Z,23nm,0.9s
LAZ **Ladron** 76.16 331 eP P 21 33 00.1 +1.3
W24A **Lazy 6 Ranch,** 76.19 332 ⇑P P 21 32 59.9 +1.0
baz=76,SNR=10
S32A **Newby Ranch, P** 76.20 338 ⇓P P 21 32 59.7 +1.1
baz=76,SNR=6.1
ALLY **Alegheny Colle** 76.27 354 eP P 21 32 58.2 -0.7
comp=Z,15nm,0.9s
S31A **Mullinville** 76.30 338 ⇓P P 21 33 00.3 +1.0
baz=77,SNR=6.3
U27A **Thompson Grove** 76.32 335 ⇑P P 21 33 00.6 +1.1
baz=77,SNR=6.8
ANMO **Albuquerque** 76.37 331 eP P 21 33 00.6 +0.7
ANMO pmax pmax
comp=Z,13nm,1.0s
ANMO **Albuquerque** 76.37 331 P P 21 33 00.8 +0.9
comp=Z,12nm,0.9s,baz=159,slow=7.5,SNR=23
ANMO **Albuquerque** 76.37 331 eP P 21 33 00.6 +0.7
comp=Z,13nm,1.0s
V25A **Rancho No Teng** 76.44 333 ⇑P P 21 33 01.0 +0.7
baz=77,SNR=22
T29A **Hugoton** 76.46 336 ⇓P P 21 33 01.2 +1.0
baz=77
R33A **Olander Ranch,** 76.48 339 ⇑P P 21 33 00.8 +0.6
baz=77,SNR=5.9
QUA2 **Belchertown** 76.52 360 eP P 21 33 01.0 +0.7
comp=Z,17nm,0.8s
BINY **Binghamton** 76.53 357 eP P 21 33 00.3 -0.1
comp=Z,12nm,0.9s
214A **Organ Pipe Nat** 76.57 325 ⇓P P 21 33 02.3 +1.4
baz=77,SNR=9.3
V24A **Rampart Ranch,** 76.59 333 ⇑P P 21 33 02.4 +1.2
baz=77,SNR=8.1
U26A **Atchley Ranch,** 76.62 334 ⇑P P 21 33 02.4 +1.1
baz=77
S30A **Montezuma** 76.63 337 ⇑P P 21 33 02.5 +1.4
baz=77
WES **Weston** 76.63 0 eP P 21 33 00.2 -0.7
WES pmax pmax
comp=Z,24nm,1.3s
WES **Weston** 76.63 0 eP P 21 33 00.2 -0.7
comp=Z,24nm,1.3s
T28A **Walsh** 76.70 336 ⇓P P 21 33 02.7 +1.1
baz=77,SNR=13
ERPA **Erie** 76.72 354 eP P 21 33 01.1 -0.3
comp=Z,20nm,0.7s
HRV **Adam Dziewonsk** 76.75 0 eP P 21 33 02.8 +1.2
HRV pmax pmax
comp=Z,15nm,0.8s
HRV **Adam Dziewonsk** 76.75 0 eP P 21 33 02.8 +1.2
comp=Z,15nm,0.8s
R32A **Long Quarter,** 76.80 339 ⇓P P 21 33 02.5 +0.5
baz=77,SNR=10
S29A **Ulysses** 76.82 337 ⇓P P 21 33 03.3 +1.1
baz=77,SNR=14
KSU1 **Kansas State U** 76.83 341 ⇓P P 21 33 02.4 +0.3
baz=77,SNR=5.6
KSU1 **Kansas State U** 76.83 341 eP P 21 33 02.1 0.0
comp=Z,22nm,0.7s
T27A **Campo** 76.86 335 ⇑P P 21 33 03.5 +1.0
baz=77,SNR=8.0
U25A **Circle Dot Ran** 76.87 334 ⇑P P 21 33 03.8 +1.1
baz=77,SNR=7.8
R31A **Burdett** 76.92 338 ⇑P P 21 33 03.7 +1.0
baz=77,SNR=9.5
V23A **Ortiz Mt. (NFS** 76.96 332 ⇓P P 21 33 04.6 +1.3
baz=77
TRY **Troy** 76.99 359 eP P 21 33 03.1 +0.2
comp=Z,29nm,1.0s
S28A **Manter** 77.05 336 ⇑P P 21 33 04.3 +0.8
baz=77,SNR=22
Q33A **Connelly Farm,** 77.07 340 ⇑P P 21 33 04.2 +0.6
baz=77,SNR=5.5
R30A **Dighton** 77.16 337 ⇓P P 21 33 05.0 +0.9
baz=78,SNR=5.5
T26A **Comanche Natio** 77.26 335 ⇓P P 21 33 06.0 +1.1
baz=78,SNR=15
Q32A **Meitler Ranch,** 77.28 339 ⇑P P 21 33 05.5 +0.8
baz=78
V22A **San Miguel Ran** 77.39 332 ⇓P P 21 33 07.4 +1.7
baz=78,SNR=19
X18A **Snowflake** 77.45 329 ⇓P P 21 33 07.4 +1.4
baz=78,SNR=5.7
U23A **El Rito** 77.47 332 ⇓P P 21 33 07.4 +1.2
baz=78,SNR=10
S27A **Las Animas** 77.48 335 ⇑P P 21 33 06.8 +0.8
baz=78,SNR=8.7
T25A **Trinidad** 77.53 334 ⇓P P 21 33 07.7 +1.4
baz=78,SNR=38
T25A **Trinidad** 77.53 334 eP P 21 33 07.6 +1.2
comp=Z,41nm,0.9s
Q31A **Ellis** 77.54 338 ⇓P P 21 33 07.3 +1.1
baz=78,SNR=11
R29A **Marienthal** 77.56 337 ⇓P P 21 33 07.5 +1.1
baz=78
S26A **Kim** 77.62 335 ⇓P P 21 33 08.1 +1.3
baz=78,SNR=35
ACCN **Adirondack Com** 77.64 359 eP P 21 33 07.1 +0.5
comp=Z,47nm,1.5s
113A **Mohawk Valley,** 77.70 325 ⇑P P 21 33 08.9 +1.7
baz=78
R28A **Tribune** 77.70 336 ⇑P P 21 33 08.3 +1.1
baz=78,SNR=19
FFD **Franklin Falls** 77.71 0 eP P 21 33 07.6 +0.6
comp=Z,32nm,0.8s
Q30A **Quinter** 77.77 338 ⇓P P 21 33 08.6 +1.1
baz=78,SNR=8.3
U22A **Llaves** 77.77 332 ⇓P P 21 33 09.7 +1.9
baz=78,SNR=6.5
Z14A **Wintersburg** 77.80 326 ⇓P P 21 33 09.8 +2.1
baz=78
T24B **San Luis** 77.81 333 ⇑P P 21 33 09.4 +1.3
baz=78,SNR=12
W18A **Petrified Fore** 77.86 329 ⇓P P 21 33 09.7 +1.4
baz=78
W18A **Petrified Fore** 77.86 329 eP P 21 33 09.1 +0.9
comp=Z,27nm,1.1s
P32A **Huiting Farm,** 77.88 339 ⇓P P 21 33 08.7 +0.7
baz=78
Q29A **Oakley** 77.93 337 ⇓P P 21 33 08.9 +0.5
baz=78,SNR=13
HNH **Hanover** 77.95 360 eP P 21 33 09.0 +0.8
comp=Z,14nm,0.7s
R27A **Eads** 77.98 336 ⇑P P 21 33 09.4 +0.6
baz=78,SNR=19
S25A **Robets Cordova** 78.00 334 ⇓P P 21 33 10.0 +1.0
baz=78,SNR=14
X16A **Lo Mia Camp, P** 78.00 327 ⇑P P 21 33 10.4 +1.3
baz=78,SNR=22
P31A **Stockton** 78.01 339 ⇓P P 21 33 09.2 +0.4
baz=78,SNR=9.8
T23A **Casias Ranch,** 78.04 333 ⇓P P 21 33 10.8 +1.5
baz=78,SNR=5.1
R26A **Arlington** 78.22 335 ⇓P P 21 33 11.1 +1.0
baz=79,SNR=16
MDV **Middlebury** 78.25 359 eP P 21 33 09.8 -0.1
S24A **Houchin Ranch,** 78.26 334 ⇓P P 21 33 12.5 +1.9
baz=79,SNR=23
P30A **Selden** 78.30 338 ⇑P P 21 33 11.5 +1.0
baz=79
Y14A **Wickenburg** 78.31 326 ⇓P P 21 33 11.8 +1.2
baz=79,SNR=11
Q28A **Sharon Springs** 78.36 337 ⇓P P 21 33 12.2 +1.3
baz=79
O32A **Brockman Farm,** 78.37 340 ⇓P P 21 33 12.1 +1.4
baz=79
R25A **Fountain Ranch** 78.38 334 ⇓P P 21 33 12.3 +1.3
baz=79
GLA **Glamis** 78.44 324 eP P 21 33 12.0 +0.7
GLA **Glamis** 78.44 324 ⇑P P 21 33 12.9 +1.6
baz=79
GLA **Glamis** 78.44 324 eP P 21 33 12.0 +0.7
LBNH **Lisbon** 78.48 360 eP P 21 33 11.7 +0.5
LBNH pmax pmax
comp=Z,24nm,0.8s
LBNH **Lisbon** 78.48 360 eP P 21 33 11.7 +0.5
comp=Z,24nm,0.8s
P29A **Atwood** 78.56 338 ⇑P P 21 33 13.2 +1.3
baz=79,SNR=20
KSCO **Kaye Shedlock'** 78.58 336 ⇑P P 21 33 13.1 +1.0
baz=79,SNR=7.4
KSCO **Kaye Shedlock'** 78.58 336 eP P 21 33 12.9 +0.8
comp=Z,27nm,0.9s
S23A **Nye Farm, Mont** 78.61 333 ⇓P P 21 33 14.1 +1.7
baz=79
SCIA **State Center** 78.62 344 eP P 21 33 11.8 -0.2
comp=Z,63nm,1.3s
R24A **Sanders Place,** 78.75 334 ⇑P P 21 33 14.6 +1.5
baz=79,SNR=34
P28A **Saint Francis** 78.80 337 ⇑P P 21 33 14.5 +1.3
baz=79
Q26A **Hugo** 78.80 335 ⇑P P 21 33 14.5 +1.2
baz=79,SNR=7.1
SWSC **Sam W. Stewart** 78.82 324 ⇓P P 21 33 15.0 +1.7
baz=79
O30A **MW Ranch, Wils** 78.82 338 ⇑P P 21 33 14.7 +1.4
baz=79
WVL **Waterville** 78.83 2 eP P 21 33 13.2 +0.1
comp=Z,20nm,0.9s
N32A **Stulken Farm,** 78.84 340 ⇓P P 21 33 14.4 +1.0
baz=79
PTN **Potsdam (NY)** 78.86 358 eP P 21 33 13.0 -0.3
PTN pmax pmax
comp=Z,35nm,1.0s
PTN **Potsdam (NY)** 78.86 358 eP P 21 33 13.0 -0.3
comp=Z,35nm,1.0s
Y12C **Blythe** 78.86 325 ⇓P P 21 33 15.6 +2.0
baz=79
LONY **Lake Ozonia** 78.90 358 eP P 21 33 13.7 +0.1
comp=Z,18nm,0.9s
WUAZ **Wupatki** 78.90 328 ⇓P P 21 33 15.3 +1.3
baz=79,SNR=12
WUAZ **Wupatki** 78.90 328 eP P 21 33 15.2 +1.2
comp=Z,20nm,1.1s
TSUM **Tsumeb** 78.95 106 eP P 21 33 14.5 -0.3
comp=Z,6.6nm,1.1s
JFWS **Jewell Farm** 78.96 346 eP P 21 33 13.6 -0.3
JFWS pmax pmax
comp=Z,29nm,0.9s
JFWS **Jewell Farm** 78.96 346 eP P 21 33 13.6 -0.3
comp=Z,29nm,0.9s
S22A **4UR Ranch, Cre** 78.96 332 ⇑P P 21 33 15.6 +1.1
baz=79,SNR=9.3
S22A **4UR Ranch, Cre** 78.96 332 eP P 21 33 15.2 +0.8
comp=Z,5.9nm,0.8s
R23A **Moffat** 78.97 333 ⇑P P 21 33 15.7 +1.3
baz=79,SNR=7.4
O29A **4D Ranch, Culb** 79.00 338 ⇓P P 21 33 15.9 +1.6
baz=79
BAR **Barrett** 79.04 323 eP P 21 33 15.9 +1.3
comp=Z,11nm,1.0s
Q25A **Bedland, Calha** 79.05 335 ⇑P P 21 33 15.8 +1.0
baz=79
P27A **Ficken Ranch,** 79.06 336 ⇓P P 21 33 16.3 +1.6
baz=79
MONP **Monument Peak,** 79.08 323 ⇑P P 21 33 17.0 +1.9
baz=79
N31A **Bailey Ranch,** 79.09 339 ⇓P P 21 33 17.1 +2.4
baz=79
PDMCI **Parker Dam,Lak** 79.14 325 ⇑P P 21 33 16.4 +1.4
baz=80
MVCO **Mesa Verde** 79.15 331 ⇓P P 21 33 16.8 +1.4
baz=80,SNR=7.5
MVCO **Mesa Verde** 79.15 331 eP P 21 33 16.6 +1.2
comp=Z,26nm,1.4s
BC3 **Big Chuckawall** 79.23 324 ⇑P P 21 33 17.3 +1.5
baz=80,SNR=14
O28A **Kreisinger Ran** 79.31 337 ⇑P P 21 33 17.5 +1.5
baz=80,SNR=7.0
P26A **Davis Ranch, A** 79.32 336 ⇓P P 21 33 17.3 +1.2
baz=80,SNR=5.6
BGNE **Belgrade** 79.40 340 ⇓P P 21 33 17.5 +1.1
baz=80
BGNE **Belgrade** 79.40 340 eP P 21 33 16.8 +0.4
comp=Z,54nm,1.0s
CASY **Casey** 79.41 181 eP P 21 33 17.9 +1.6
comp=Z,19nm,0.8s
Q24A **Divide** 79.41 334 ⇓P P 21 33 18.2 +1.3
baz=80,SNR=9.3
Q24A **Divide** 79.41 334 eP P 21 33 17.1 +0.2
comp=Z,19nm,0.6s
IRM **Iron Mountain** 79.50 325 ⇑P P 21 33 18.9 +1.8
baz=80,SNR=8.5
P25A **Willow Gulch B** 79.56 335 ⇓P P 21 33 19.4 +1.9
baz=80,SNR=7.4
M31A **Lambtecht Ranc** 79.58 340 ⇓P P 21 33 18.9 +1.5
baz=80
N29A **Votaw Ranch, W** 79.58 338 ⇑P P 21 33 18.5 +1.0
baz=80
W13A **Hualapai Mount** 79.68 326 ⇓P P 21 33 20.1 +1.8
baz=80
PFO **Pinyon Flats O** 79.68 323 P P 21 33 20.9 +2.7
comp=Z,86nm,0.8s,SNR=7.3
PFO **Pinyon Flats O** 79.68 323 eP P 21 33 19.6 +1.3
PFO pmax pmax
comp=Z,14nm,0.9s
PFO **Pinyon Flats O** 79.68 323 P P 21 33 19.2 +1.0
comp=Z,16nm,1.0s,baz=130,slow=4.6,SNR=16
PFO **Pinyon Flats O** 79.68 323 ⇑P P 21 33 20.2 +2.0
baz=80,SNR=9.4
PFO **Pinyon Flats O** 79.68 323 eP P 21 33 19.6 +1.3
comp=Z,14nm,0.9s
BOSA **Boshof** 79.70 118 eP P 21 33 18.1 -0.6
BOSA pmax pmax
comp=Z,16nm,0.9s
BOSA **Boshof** 79.70 118 P P 21 33 18.9 +0.1
comp=Z,13nm,0.8s,baz=240,slow=5.4,SNR=21
BOSA **Boshof** 79.70 118 eP P 21 33 18.1 -0.6
comp=Z,16nm,0.9s
NEE2 **Needles Airpor** 79.74 325 ⇓P P 21 33 20.3 +1.9
baz=80
N28A **Pribbeno Ranch** 79.75 338 ⇓P P 21 33 19.8 +1.5
baz=80
BELC **Belle Mtn. Jos** 79.78 324 ⇓P P 21 33 20.1 +1.4
baz=80,SNR=6.3
P24A **Kohler Place,** 79.81 335 ⇓P P 21 33 20.8 +1.9
baz=80
O26A **Horse Wrangler** 79.92 336 ⇓P P 21 33 20.8 +1.5
baz=80,SNR=9.1
PV01 **Paradox Valley** 79.97 331 eP P 21 33 20.9 +1.0
M30A **Dale-Ortello V** 80.01 339 ⇑P P 21 33 21.0 +1.2
baz=80
P23A **Jefferson** 80.02 334 ⇑P P 21 33 21.4 +1.2
baz=80
MURC **Mulvieta** 80.04 323 ⇓P P 21 33 21.9 +1.8
baz=80
U15A **North Rim** 80.07 328 ⇓P P 21 33 22.4 +1.9
baz=80,SNR=19
O25A **Wiggins** 80.08 335 ⇓P P 21 33 22.2 +1.9
baz=80
OGNE **Ogallala** 80.14 337 ⇑P P 21 33 22.5 +2.0
baz=80
PV05 **Paradox Valley** 80.14 331 eP P 21 33 21.4 +0.6
N27A **Anderson Farm,** 80.17 337 ⇑P P 21 33 22.2 +1.5
baz=80,SNR=7.8
M29A **Burnside Ranch** 80.17 338 ⇓P P 21 33 21.8 +1.2
baz=80
SCI **San Clemente I** 80.23 322 ⇑P P 21 33 22.3 +1.3
baz=81
GMRC **Granite Mounta** 80.25 325 ⇑P P 21 33 23.0 +1.7
baz=81,SNR=18
SMCO **Snowmass** 80.27 333 eP P 21 33 22.8 +1.2
comp=Z,14nm,0.8s
L31A **Butterfield Fa** 80.31 340 ⇑P P 21 33 22.6 +1.4
baz=81
ISCO **Idaho Springs** 80.32 334 eP P 21 33 22.6 +0.8
ISCO pmax pmax
comp=Z,38nm,1.8s
ISCO **Idaho Springs** 80.32 334 ⇓P P 21 33 23.0 +1.2
baz=81,SNR=10
ISCO **Idaho Springs** 80.32 334 eP P 21 33 22.6 +0.8
comp=Z,38nm,1.8s
PV04 **Paradox Valley** 80.33 331 eP P 21 33 21.2 -0.5
M28A **Bar X Bar Ranc** 80.34 338 ⇑P P 21 33 23.3 +1.7
baz=81
L30A **Spencer Herefo** 80.35 339 ⇑P P 21 33 23.2 +1.7
baz=81
PV10 **Paradox Valley** 80.37 331 eP P 21 33 22.1 +0.1
O24A **Longmont** 80.41 335 ⇓P P 21 33 23.5 +1.4
baz=81
N26A **Koester Ranch,** 80.42 336 ⇓P P 21 33 23.5 +1.5
baz=81
BBRC **Big Bear Solar** 80.44 324 ⇑P P 21 33 23.6 +1.2
baz=81
PV09 **Paradox Valley** 80.51 331 eP P 21 33 22.9 +0.1
P22A **Eagle** 80.56 333 ⇓P P 21 33 24.2 +1.2
baz=81,SNR=8.3
HEC **Hector,Ludlow** 80.61 324 ⇓P P 21 33 24.7 +1.6
baz=81
L29A **Maesberg Ranch** 80.68 339 ⇓P P 21 33 25.2 +1.9
baz=81
FMP **Fort Macarthur** 80.68 322 ⇑P P 21 33 25.6 +2.2
baz=81
M27A **Reverse DX Ran** 80.78 337 ⇑P P 21 33 25.9 +2.0
baz=81
BFSC **Mount Baldy Ra** 80.78 323 ⇑P P 21 33 26.0 +1.9
baz=81,SNR=8.6
O23A **Lake Granby, G** 80.79 334 ⇓P P 21 33 25.5 +1.3
baz=81,SNR=19
KNB **Kanab** 80.79 328 eP P 21 33 25.0 +0.8
KNB pmax pmax
comp=Z,17nm,0.8s
KNB **Kanab** 80.79 328 eP P 21 33 25.0 +0.8
comp=Z,17nm,0.8s
TUQ **Turquoise Moun** 80.90 325 ⇓P P 21 33 26.3 +1.5
baz=81,SNR=12
M26A **McRoberts Ranc** 80.96 337 ⇑P P 21 33 26.8 +1.9
baz=81
N24A **Carr** 80.97 335 ⇓P P 21 33 26.7 +1.6
baz=81
O22A **Kremmling** 80.97 334 ⇑P P 21 33 26.1 +0.9
baz=81,SNR=14
K30A **Basset** 80.98 340 ⇓P P 21 33 26.1 +1.2
baz=81,SNR=11
ECSD **EROS Data Cent** 81.16 342 ⇑P P 21 33 26.2 +0.5
baz=82,SNR=47
ECSD **EROS Data Cent** 81.16 342 eP P 21 33 24.8 -1.0
comp=Z,41nm,0.8s
GSC **Goldstone, Bar** 81.22 324 eP P 21 33 27.5 +1.1
GSC pmax pmax
comp=Z,8.0nm,0.8s
GSC **Goldstone, Bar** 81.22 324 ⇑P P 21 33 28.0 +1.6
baz=82,SNR=9.9
GSC **Goldstone, Bar** 81.22 324 eP P 21 33 27.5 +1.1
comp=Z,7.6nm,0.8s
M25A **Palm-Egli Farm** 81.23 336 ⇓P P 21 33 27.7 +1.3
baz=82
K29A **Lazy Trails An** 81.27 339 ⇓P P 21 33 27.6 +1.1
baz=82,SNR=5.1
N23A **Red Feather La** 81.40 335 ⇑P P 21 33 28.8 +1.3
baz=82,SNR=8.0
N23A **Red Feather La** 81.40 335 eP P 21 33 28.2 +0.7
comp=Z,12nm,1.0s
SHPR **Sheep Range** 81.42 326 eP P 21 33 28.6 +1.1
EDW2 **Edwards Air Fo** 81.46 323 ⇓P P 21 33 28.8 +1.1
baz=82,SNR=10
CCUT **Cedar City** 81.47 328 eP P 21 33 29.4 +1.5
comp=Z,14nm,1.0s
N22A **Wattenberg Ran** 81.50 334 ⇓P P 21 33 29.6 +1.6
baz=82,SNR=11
M24A **Cheyenne** 81.52 336 ⇓P P 21 33 29.6 +1.6
baz=82
K28A **Ten Mile Ranch** 81.54 339 ⇑P P 21 33 29.6 +1.7
baz=82
J30A **Dallas** 81.55 340 ⇑P P 21 33 28.3 +0.4
baz=82,SNR=6.8
O20A **White River Ci** 81.58 333 ⇑P P 21 33 29.3 +1.0
baz=82
O20A **White River Ci** 81.58 333 eP P 21 33 28.6 +0.2
comp=Z,7.2nm,0.7s
SRU **San Rafael Swe** 81.59 331 eP P 21 33 28.9 +0.5
SRU pmax pmax
comp=Z,11nm,0.7s
SRU **San Rafael Swe** 81.59 331 eP P 21 33 28.9 +0.5
comp=Z,10nm,0.7s
OSI **Osito Audit: C** 81.61 323 ⇑P P 21 33 30.1 +1.7
baz=82
SPMN **Marine on St.** 81.69 345 ⇓P P 21 33 28.2 -0.3
baz=82,SNR=9.7
SPMN **Marine on St.** 81.69 345 eP P 21 33 27.2 -1.3
comp=Z,21nm,0.8s
ARUT **Antelope Range** 81.71 328 eP P 21 33 30.3 +1.3
ARUT **Antelope Range** 81.71 328 eP P 21 33 30.3 +1.3
MVU **Marysvale** 81.78 329 eP P 21 33 30.2 +0.7
comp=Z,5.8nm,0.8s
LRMC **Laurel Mtn Rad** 81.79 324 ⇑P P 21 33 31.1 +1.7
baz=82
K27A **Flueckinger Fa** 81.79 338 ⇑P P 21 33 30.8 +1.5
baz=82,SNR=6.1
COWI **Conover** 81.83 348 eP P 21 33 28.9 -0.4
comp=Z,11nm,0.6s
M23A **Laramie** 81.83 335 ⇓P P 21 33 31.1 +1.4
baz=82
L25A **Engebretsen Ra** 81.85 337 ⇑P P 21 33 31.3 +1.7
baz=82
J29A **Okreek** 81.86 340 ⇑P P 21 33 30.3 +0.8
baz=82,SNR=30
LBTB **Lobatse** 81.96 115 eP P 21 33 30.3 -0.5
LBTB pmax pmax
comp=Z,11nm,0.8s
LBTB **Lobatse** 81.96 115 eP P 21 33 30.3 -0.5
comp=Z,11nm,0.8s
SBC **Santa Barbara** 81.97 322 ⇓P P 21 33 31.2 +0.9
baz=82
L24A **Wheatland** 82.07 336 ⇓P P 21 33 32.2 +1.4
baz=82
I30A **Oacoma** 82.08 340 ⇑P P 21 33 31.0 +0.3
baz=82,SNR=6.2
M22A **Cedar Creek Ra** 82.08 334 ⇓P P 21 33 32.8 +1.8
baz=82
K26A **Motz Farm, Whi** 82.09 337 ⇑P P 21 33 32.3 +1.5
baz=82
J28A **Allard Ranch,** 82.14 339 ⇓P P 21 33 32.3 +1.2
baz=82,SNR=9.8
MPMC **Manual Prospec** 82.16 324 ⇓P P 21 33 33.0 +1.5
baz=82,SNR=5.9
FURC **Furnace Creek,** 82.19 325 ⇓P P 21 33 33.2 +1.9
baz=82
N20A **Spence Gulch,** 82.19 333 ⇑P P 21 33 32.5 +0.9
baz=82,SNR=5.2
J27A **Elkhorn Farm,** 82.22 338 ⇓P P 21 33 33.3 +1.8
baz=83,SNR=14
K25A **Mack Ranch, Ha** 82.23 337 ⇑P P 21 33 33.5 +1.8
baz=83
TPNV **Topopah Spring** 82.29 326 eP P 21 33 33.2 +1.1
TPNV pmax pmax
comp=Z,7.0nm,0.8s
TPNV **Topopah Spring** 82.29 326 ⇑P P 21 33 33.9 +1.9
baz=83,SNR=10
TPNV **Topopah Spring** 82.29 326 eP P 21 33 33.2 +1.1
comp=Z,7.1nm,0.8s
ISA **Isabella, Lake** 82.32 323 eP P 21 33 32.5 +0.3
ISA pmax pmax
comp=Z,8.0nm,0.8s
ISA **Isabella, Lake** 82.32 323 ⇑P P 21 33 34.0 +1.8
baz=83,SNR=9.7
ISA **Isabella, Lake** 82.32 323 eP P 21 33 32.5 +0.3
comp=Z,8.3nm,0.8s
PKM **Mcpherson Peak** 82.38 322 ⇓P P 21 33 34.6 +1.9
baz=83,SNR=7.6
L23A **Garrett** 82.40 335 ⇑P P 21 33 33.5 +0.9
baz=83
I29A **Vivian Onida** 82.42 340 ⇑P P 21 33 32.9 +0.4
baz=83,SNR=9.4
BRSD **Miller** 82.44 341 ⇑P P 21 33 33.8 +1.3
baz=83
L22A **Ellis Ranch, M** 82.58 335 ⇑P P 21 33 35.1 +1.5
baz=83
J26A **Sides Ranch, S** 82.61 338 ⇑P P 21 33 35.1 +1.6
baz=83,SNR=6.6
K24A **Anderson Ranch** 82.64 336 ⇑P P 21 33 35.5 +1.7
baz=83
I28A **Midland** 82.65 339 ⇑P P 21 33 34.6 +1.0
baz=83,SNR=15
VES **Vestal, Richgr** 82.76 323 ⇓P P 21 33 37.1 +2.8
baz=83
MPU **Maple Canyon** 82.81 330 eP P 21 33 34.1 -0.7
comp=Z,11nm,0.8s
GRAC **Grapevine Rang** 82.85 325 ⇑P P 21 33 36.8 +1.9
baz=83
J25A **Sunshine Ranch** 82.91 337 ⇑P P 21 33 36.0 +0.9
baz=83,SNR=8.4
K23A **Bowen Ranch, D** 82.94 336 ⇓P P 21 33 36.2 +0.9
baz=83,SNR=6.7
NLU **North Lily Min** 82.94 330 eP P 21 33 35.9 +0.4
comp=Z,40nm,1.7s
H29A **Onida** 82.95 340 ⇓P P 21 33 35.9 +0.7
baz=83,SNR=8.3
I27A **Quinn** 82.98 339 ⇓P P 21 33 36.6 +1.2
baz=83,SNR=5.8
DAU **Daniels Canyon** 83.00 331 eP P 21 33 35.4 -0.5
DAU **Daniels Canyon** 83.00 331 eP P 21 33 35.4 -0.5
G30A **Faulkton** 83.12 341 ⇓P P 21 33 37.2 +1.2
baz=84
R11A **Troy Canyon, C** 83.12 327 ⇓P P 21 33 38.2 +1.7
baz=84,SNR=19
R11A **Troy Canyon, C** 83.12 327 eP P 21 33 37.0 +0.6
comp=Z,8.1nm,0.9s
J24A **Dixon Ranch, L** 83.13 337 ⇑P P 21 33 37.6 +1.3
baz=84,SNR=6.1

K22A **Casper** 83.16 335 ⇊P P 21 33 37.6 +1.1
baz=84,SNR=6.8
K22A **Casper** 83.16 335 *e*P P 21 33 36.6 +0.1
comp=Z,22nm,1.0s
I26A **New Underwood** 83.19 338 ⇑P P 21 33 38.1 +1.6
baz=84
H28A **Mission Ridge** 83.22 340 ⇑P P 21 33 37.1 +0.5
baz=84,SNR=14
TIN **Tinemaha, Big** 83.31 324 ⇑P P 21 33 38.8 +1.5
baz=84
G29A **Hoven** 83.39 340 ⇊P P 21 33 37.8 +0.3
baz=84
K21A **Alcova** 83.40 335 ⇊P P 21 33 38.7 +1.0
baz=84,SNR=13
DUG **Dugway, Tooele** 83.45 330 *e*P P 21 33 38.6 +0.6
DUG pmax pmax
comp=Z,18nm,1.1s
DUG **Dugway, Tooele** 83.45 330 ⇊P P 21 33 39.2 +1.2
baz=84,SNR=17
DUG **Dugway, Tooele** 83.45 330 *e*P P 21 33 38.6 +0.6
comp=Z,18nm,1.1s
I25A **Rochford** 83.45 337 ⇑P P 21 33 39.0 +1.0
baz=84,SNR=13
H27A **Howes** 83.50 339 ⇑P P 21 33 39.0 +0.9
baz=84,SNR=13
G28A **Parade** 83.56 340 ⇊P P 21 33 39.5 +1.1
baz=84,SNR=8.7
I24A **Kuemmerle Ranc** 83.59 337 ⇊P P 21 33 39.3 +0.6
baz=84
RSSD **Black Hills** 83.64 337 *e*P P 21 33 38.7 -0.3
RSSD pmax pmax
comp=Z,11nm,0.8s
RSSD **Black Hills** 83.64 337 *e*P P 21 33 38.7 -0.3
comp=Z,11nm,0.8s
TPH **Tonopah** 83.65 326 *e*P P 21 33 39.7 +0.5
TPH pmax pmax
comp=Z,13nm,1.0s
TPH **Tonopah** 83.65 326 *e*P P 21 33 39.7 +0.5
comp=Z,13nm,1.0s
TCUT **Toone Canyon** 83.66 331 *e*P P 21 33 39.6 +0.4
comp=Z,53nm,1.7s
F30A **Leola** 83.74 341 ⇊P P 21 33 40.0 +0.8
baz=84
J22A **Midwest** 83.81 335 ⇊P P 21 33 40.0 +0.2
baz=84,SNR=8.4
H25A **Fruitdale** 83.95 338 ⇊P P 21 33 41.3 +0.9
baz=84
F29A **Eureka** 83.95 341 ⇑P P 21 33 40.8 +0.5
baz=84,SNR=8.9
MLAC **Mammoth, Mammo** 84.06 324 ⇑P P 21 33 43.1 +1.8
baz=84
J21A **Lysite** 84.09 335 ⇑P P 21 33 42.5 +1.2
baz=84
G27A **Dupree** 84.13 339 ⇑P P 21 33 41.7 +0.5
baz=84,SNR=6.0
BGU **Big Grassy Mou** 84.15 330 *e*P P 21 33 41.8 +0.2
comp=Z,10nm,1.7s
SPUT **South Promonto** 84.23 331 *e*P P 21 33 41.1 -0.9
comp=Z,13nm,0.9s
F28A **McLaughlin** 84.24 340 ⇑P P 21 33 42.3 +0.6
baz=85,SNR=10
I22A **9 Mile Ranch,** 84.24 336 ⇑P P 21 33 42.4 +0.4
baz=85,SNR=8.0
G26A **Maurine** 84.25 339 ⇑P P 21 33 42.3 +0.4
baz=85,SNR=5.8
J20A **Shoshoni** 84.32 334 ⇊P P 21 33 43.6 +1.2
baz=85,SNR=18
E30A **Jud** 84.33 342 ⇑P P 21 33 42.8 +0.6
baz=85,SNR=5.6
TOA0 **Torodi Ar. Sit** 84.33 70 *e*P P 21 33 43.0 0.0
TORD **Torodi Ar. Bea** 84.33 70 P P 21 33 43.0 +0.1
comp=Z,6.3nm,0.9s,baz=252,slow=4.6,SNR=50
BW06 **Boulder Array** 84.35 333 *e*P P 21 33 41.9 -0.8
comp=Z,6.1nm,1.0s
PD31 **Pinedale Array** 84.35 333 *e*P P 21 33 42.5 -0.1
PDAR **Pinedale Array** 84.35 333 P P 21 33 42.5 -0.1
comp=Z,3.6nm,0.7s,baz=148,slow=5.3,SNR=32
H24A **Dirks Ranch, A** 84.36 337 ⇑P P 21 33 43.0 +0.5
baz=85,SNR=6.4
G25A **Newell** 84.41 338 ⇑P P 21 33 43.5 +0.8
baz=85,SNR=5.9
NV01 **Mina Array Sit** 84.44 325 *e*P P 21 33 43.9 +0.6
NVAR **Mina Array Bea** 84.44 325 P P 21 33 44.3 +1.1
comp=Z,4.4nm,0.7s,baz=158,slow=6.2,SNR=42
I21A **Big Trails, Te** 84.45 335 ⇊P P 21 33 43.5 +0.5
baz=85,SNR=13
E29A **Napoleon** 84.58 341 ⇑P P 21 33 44.4 +0.9
baz=85
J19A **Crowheart** 84.60 334 ⇊P P 21 33 44.4 +0.5
baz=85,SNR=20
F27A **Lemmon** 84.61 339 ⇊P P 21 33 44.2 +0.6
baz=85,SNR=11
HVU **Hansel Valley** 84.76 331 *e*P P 21 33 44.4 -0.3
HVU pmax pmax
comp=Z,14nm,0.7s
HVU **Hansel Valley** 84.76 331 *e*P P 21 33 44.4 -0.3
comp=Z,14nm,0.7s
F26A **Lodgepole** 84.78 339 ⇊P P 21 33 45.2 +0.7
baz=85
H22A **Clearmont** 84.81 336 ⇑P P 21 33 45.1 +0.2
baz=85
G24A **Alzada** 84.84 338 ⇑P P 21 33 45.8 +0.9
baz=85
D30A **Buchanan** 84.85 342 ⇊P P 21 33 45.4 +0.6
baz=85,SNR=11
I20A **Worland** 84.86 335 ⇊P P 21 33 45.8 +0.7
baz=85,SNR=14
E28A **Huff** 84.87 341 ⇊P P 21 33 45.6 +0.7
baz=85,SNR=5.6
ELK **Elko** 84.93 328 *e*P P 21 33 45.5 -0.2
ELK pmax pmax
comp=Z,6.0nm,0.8s
ELK **Elko** 84.93 328 P P 21 33 46.0 +0.3
comp=Z,4.6nm,0.8s,baz=162,slow=5.1,SNR=23
ELK **Elko** 84.93 328 *e*P P 21 33 45.5 -0.2
comp=Z,5.8nm,0.8s
E27A **Carson** 84.98 340 ⇑P P 21 33 46.4 +0.8
baz=85
D29A **Pettibone, Tap** 85.03 341 ⇑P P 21 33 46.4 +0.7
baz=85
G23A **Biddle** 85.04 337 ⇑P P 21 33 46.4 +0.5
baz=85
WAKR **Walker** 85.04 324 *e*P P 21 33 47.1 +0.9
H21A **Big Horn, Sher** 85.08 336 ⇑P P 21 33 46.5 +0.3
baz=85
F25A **Bowman** 85.08 339 ⇊P P 21 33 46.9 +0.9
baz=85,SNR=5.5
CMB **Columbia Colle** 85.13 324 *e*P P 21 33 46.4 -0.1
CMB pmax pmax
comp=Z,12nm,1.6s
CMB **Columbia Colle** 85.13 324 *e*P P 21 33 46.4 -0.1
comp=Z,12nm,1.6s
I19A **Meeteetse** 85.24 334 ⇑P P 21 33 47.7 +0.6
baz=86,SNR=7.3
AGMN **Agassiz Nation** 85.27 344 ⇊P P 21 33 47.3 +0.5
baz=86,SNR=7.9
AGMN **Agassiz Nation** 85.27 344 *e*P P 21 33 46.4 -0.4
comp=Z,18nm,0.6s
E26A **Carlson Angus** 85.28 339 ⇑P P 21 33 47.9 +0.9
baz=86
H20A **Greybull** 85.28 335 ⇑P P 21 33 47.6 +0.4
baz=86,SNR=26
F24A **Ekalaka** 85.31 338 ⇊P P 21 33 48.0 +0.8
baz=86
C30A **Mose, Pekin** 85.33 342 ⇊P P 21 33 48.0 +0.8
baz=86,SNR=9.4
G22A **Birney** 85.35 336 ⇊P P 21 33 47.9 +0.4
baz=86
REDW **Red Top Meadow** 85.35 333 *e*P P 21 33 47.8 +0.1
comp=Z,28nm,1.6s
D28A **Regan** 85.41 341 ⇊P P 21 33 48.5 +0.9
baz=86
LOHW **Long Hollow** 85.47 333 *e*P P 21 33 47.9 -0.3
comp=Z,30nm,1.8s
TPAW **Teton Pass** 85.50 333 *e*P P 21 33 48.2 -0.3
comp=Z,7.6nm,0.8s
F23A **Volborg** 85.50 337 ⇊P P 21 33 48.6 +0.4
baz=86,SNR=8.9
E25A **Miller Ranch,** 85.58 339 ⇑P P 21 33 49.6 +1.1
baz=86
D27A **Center** 85.59 340 ⇑P P 21 33 50.2 +1.7
baz=86
FXWY **Fox Creek** 85.65 333 *e*P P 21 33 49.2 0.0
comp=Z,24nm,1.8s
G21A **Lodge Grass** 85.66 336 ⇑P P 21 33 49.5 +0.5
baz=86,SNR=7.6
I17A **Pilgrim Ck.** 85.72 333 ⇊P P 21 33 50.3 +0.8
baz=86,SNR=14

MDND **Maddock** 85.75 342 ⇊P P 21 33 50.0 +0.7
baz=86,SNR=5.6
MDND **Maddock** 85.75 342 *e*P P 21 33 49.4 +0.1
comp=Z,12nm,0.8s
D26A **Manning** 85.78 340 ⇊P P 21 33 50.5 +1.0
baz=86,SNR=5.4
H19A **Powell** 85.79 334 ⇊P P 21 33 50.6 +0.8
baz=86,SNR=6.7
F22A **Rosebud** 85.83 337 ⇑P P 21 33 50.9 +1.1
baz=86
IMW **Indian Meadow** 85.84 333 *e*P P 21 33 50.1 0.0
comp=Z,16nm,1.3s
FLWY **Flagg Ranch** 85.91 333 *e*P P 21 33 50.9 +0.5
comp=Z,16nm,0.7s
E24A **Baker** 85.91 338 ⇊P P 21 33 51.1 +0.9
baz=86,SNR=6.5
B30A **Myrvik Farm, E** 85.99 343 ⇑P P 21 33 51.2 +0.7
baz=86,SNR=15
G20A **Bridger** 86.00 335 ⇑P P 21 33 50.8 +0.1
baz=86,SNR=20
H18A **Shoshone NF, C** 86.04 334 ⇑P P 21 33 51.7 +0.6
baz=86,SNR=33
H17A **Grant Village** 86.13 333 ⇊P P 21 33 53.0 +1.4
baz=86
H17A **Grant Village** 86.13 333 *e*P P 21 33 51.2 -0.3
comp=Z,3.3nm,0.8s
C27A **Sayler Ranch,** 86.14 340 ⇑P P 21 33 52.4 +1.1
baz=86
D25A **Fairfield** 86.14 339 ⇊P P 21 33 52.6 +1.3
baz=86,SNR=9.8
F21A **Absaloka Mine,** 86.15 336 ⇑P P 21 33 52.0 +0.6
baz=86
E23A **Ismay** 86.16 338 ⇊P P 21 33 52.5 +1.1
baz=86
B29A **Wagenman Farm,** 86.26 342 ⇊P P 21 33 52.9 +1.2
baz=87
YFT **Old Faithful** 86.27 333 *e*P P 21 33 52.4 +0.2
comp=Z,12nm,1.0s
RLMT **Red Lodge** 86.28 335 *e*P P 21 33 52.0 -0.3
comp=Z,12nm,0.7s
E22A **Miles City** 86.31 337 ⇊P P 21 33 52.9 +0.7
baz=87
C26A **Wahner Farm, P** 86.41 340 ⇊P P 21 33 53.6 +1.0
baz=87,SNR=5.3
D24A **Glendive** 86.41 338 ⇑P P 21 33 53.5 +0.9
baz=87,SNR=6.1
A30A **Hoffart Farm,** 86.44 343 ⇊P P 21 33 52.9 +0.2
baz=87,SNR=8.9
F20A **Billings** 86.48 336 ⇑P P 21 33 53.5 +0.4
baz=87
B28A **Dugan Ranch, T** 86.51 341 ⇑P P 21 33 53.7 +0.7
baz=87,SNR=8.8
YMR **Madison River** 86.51 333 *e*P P 21 33 54.0 +0.7
comp=Z,22nm,0.8s
LAO **LASA Array** 86.62 337 *e*P P 21 33 53.0 -0.7
comp=Z,27nm,1.0s
A29A **Manning Farm,** 86.66 342 ⇊P P 21 33 54.1 +0.4
baz=87,SNR=12
B27A **Peters Farms,** 86.70 341 ⇑P P 21 33 54.3 +0.3
baz=87
D23A **Lindsay** 86.73 338 ⇑P P 21 33 55.1 +0.9
baz=87,SNR=14
E21A **Keefer Ranch,** 86.77 337 ⇑P P 21 33 55.4 +1.1
baz=87
F19A **Roth Farm, Mol** 86.80 335 ⇊P P 21 33 54.9 +0.2
baz=87,SNR=7.7
C24A **Savage** 86.81 339 ⇑P P 21 33 55.7 +1.1
baz=87,SNR=24
QLMT **Earthquake Lak** 86.82 333 *e*P P 21 33 55.2 +0.3
A28A **Rude Farm, Bot** 86.91 342 ⇑P P 21 33 56.0 +1.0
baz=87
HLID **Hailey** 86.92 331 ⇊P P 21 33 56.4 +1.1
baz=87,SNR=20
HLID **Hailey** 86.92 331 *e*P P 21 33 55.4 +0.1
comp=Z,8.6nm,0.9s
B26A **Jensen Ranch,** 86.94 340 ⇊P P 21 33 56.4 +1.2
baz=87
D22A **Cohagen** 87.02 337 ⇑P P 21 33 56.6 +1.0
baz=87,SNR=10
E20A **Meyer Farm, Mu** 87.09 336 ⇑P P 21 33 56.7 +0.7
baz=87,SNR=24
B25A **Knox Farm, Ray** 87.11 340 ⇑P P 21 33 57.2 +1.2
baz=88
ULM **Lac du Bonnet** 87.11 345 *e*P P 21 33 55.4 -0.5
ULM pmax pmax
comp=Z,16nm,0.9s
ULM **Lac du Bonnet** 87.11 345 P P 21 33 55.4 -0.5
comp=Z,14nm,0.9s,baz=164,slow=5.3,SNR=25
ULM **Lac du Bonnet** 87.11 345 *e*P P 21 33 55.4 -0.5
comp=Z,16nm,0.9s
A27A **Ledoux Ranch,** 87.20 341 ⇑P P 21 33 57.9 +1.5
baz=88
D21A **La Casta Ranch** 87.20 337 ⇊P P 21 33 57.1 +0.6
baz=88,SNR=14
E19A **Rath Farm, Rou** 87.27 335 ⇊P P 21 33 57.2 +0.3
baz=88,SNR=21
C23A **Lambert** 87.29 338 ⇑P P 21 33 57.5 +0.6
baz=88,SNR=17
MCMT **McKenzie Canyo** 87.36 332 *e*P P 21 33 58.0 +0.5
A26A **Wade Farm, Ken** 87.37 341 ⇊P P 21 33 57.7 +0.6
baz=88,SNR=5.6
MFID **Camas Ranch** 87.38 330 *e*P P 21 33 58.1 +0.6
comp=Z,5.0nm,0.9s
D20A **Manuel Ranch,** 87.60 336 ⇊P P 21 33 58.9 +0.4
baz=88,SNR=8.3
A25A **Svangstu Ranch** 87.70 340 ⇑P P 21 33 59.9 +1.1
baz=88
DLMT **Dillon** 87.71 333 *e*P P 21 33 59.5 +0.4
comp=Z,22nm,1.4s
WVOR **Wild Horse Val** 87.79 327 *e*P P 21 34 00.2 +0.7
WVOR pmax pmax
comp=Z,8.0nm,1.2s
WVOR **Wild Horse Val** 87.79 327 *e*P P 21 34 00.2 +0.7
comp=Z,8.2nm,1.2s
B23A **Brockton** 87.82 339 ⇊P P 21 34 00.4 +1.0
baz=88
C21A **Desert Coulee** 87.91 337 ⇑P P 21 34 00.2 +0.4
baz=88,SNR=12
D19A **Cripps Ranch,** 87.92 336 ⇊P P 21 34 00.5 +0.6
baz=88
A24A **Westby** 87.94 339 ⇑P P 21 34 01.1 +1.2
baz=88
B22A **Reddig Ranch S** 87.98 338 ⇑P P 21 34 01.1 +0.9
baz=88
LRM **Limekiln Ridge** 88.04 333 *e*P P 21 34 01.0 +0.2
C20A **Veseth Ranch,** 88.10 337 ⇊P P 21 34 01.1 +0.4
baz=88,SNR=9.1
MOD **Modoc Plateau** 88.13 326 *e*P P 21 34 01.2 0.0
comp=Z,10nm,0.8s
WDC **Whiskeytown Da** 88.16 324 *e*P P 21 34 00.9 -0.2
WDC pmax pmax
comp=Z,10.0nm,0.7s
WDC **Whiskeytown Da** 88.16 324 *e*P P 21 34 00.9 -0.2
comp=Z,9.5nm,0.7s
A23A **Redstone** 88.23 339 ⇑P P 21 34 02.5 +1.2
baz=89
B21A **Ellsworth Farm** 88.41 337 ⇑P P 21 34 02.9 +0.7
baz=89
C19A **Slack Wire Ran** 88.47 336 ⇊P P 21 34 03.0 +0.4
baz=89,SNR=6.0
N02D **Trinity Center** 88.54 324 ⇑P P 21 34 03.8 +0.7
baz=89
A22A **Carney Farms,** 88.57 338 ⇑P P 21 34 03.6 +0.6
baz=89,SNR=9.1
B20A **Solberg Farm,** 88.74 337 ⇑P P 21 34 05.1 +1.3
baz=89
M04C **Macdoel** 88.75 325 ⇑P P 21 34 05.1 +1.0
baz=89
A21A **Bergtoll Ranch** 88.88 338 ⇊P P 21 34 04.9 +0.5
baz=89
M02C **Callahan** 88.93 324 ⇑P P 21 34 05.7 +0.8
baz=89
EGMT **Eagleton** 88.96 336 ⇊P P 21 34 05.5 +0.7
baz=89
K05A **Summer Lake** 89.04 326 *e*P P 21 34 05.6 0.0
B19A **Brinkman Farms** 89.06 336 ⇊P P 21 34 05.9 +0.6
baz=89,SNR=6.2
A20A **Cobblestone Ra** 89.10 337 ⇑P P 21 34 06.1 +0.6
baz=89,SNR=6.6
BMO **Blue Mountains** 89.16 330 *e*P P 21 34 05.3 -0.6
BMO pmax pmax
comp=Z,30nm,2.3s
BMO **Blue Mountains** 89.16 330 *e*P P 21 34 05.3 -0.6
comp=Z,30nm,2.3s
SCHQ **Schefferville** 89.19 3 P P 21 34 04.9 -0.8
comp=Z,3.1nm,0.8s,baz=187,slow=7.7,SNR=6.2
SCHQ **Schefferville** 89.19 3 *e*P P 21 34 04.7 -0.9
comp=Z,158nm,2.8s

K04D **Chiloquin, OR** 89.36 326 ⇑P P 21 34 08.0 +1.1
baz=90
A19A **Klindworth Far** 89.41 337 ⇊P P 21 34 07.3 +0.4
baz=90,SNR=6.5
MSO **Missoula** 89.45 333 ⇑P P 21 34 08.4 +1.2
baz=90
I07A **Izee** 89.49 328 *e*P P 21 34 07.7 +0.2
comp=Z,14nm,1.5s
J05D **Fort Rock, OR** 89.64 326 ⇊P P 21 34 09.7 +1.5
baz=90
JTMT **Jette** 90.34 333 *e*P P 21 34 10.3 -1.1
BSMT **Bassoo Peak** 90.62 333 *e*P P 21 34 11.1 -1.6
HAWA **Hanford** 91.33 329 *e*P P 21 34 16.5 +0.7
comp=Z,13nm,1.3s
NEW **Newport** 91.86 332 *e*P P 21 34 16.9 -1.4
NEW pmax pmax
comp=Z,51nm,2.7s
NEW **Newport** 91.86 332 P P 21 34 17.4 -0.9
comp=Z,0.4nm,0.3s,baz=220,slow=13,SNR=3.5
NEW **Newport** 91.86 332 *e*P P 21 34 16.9 -1.4
comp=Z,51nm,2.7s
C09A **Chrisman Ranch** 91.94 331 *e*P P 21 34 18.2 -0.5
comp=Z,6.5nm,0.8s
EDM **Edmonton** 94.59 336 *e*P P 21 34 29.5 -1.3
EDM **Edmonton** 94.59 336 *e*P P 21 34 29.5 -1.3
FCC **Fort Churchill** 94.85 349 *e*P P 21 34 31.5 -0.2
FCC pmax pmax
comp=Z,5.0nm,0.7s
FCC **Fort Churchill** 94.85 349 *e*P P 21 34 31.5 -0.2
comp=Z,5.3nm,0.7s
YKA **Yellowknife Ar** 102.67 341 P Pdif 21 35 06.2 -0.6
comp=Z,0.7nm,0.8s,baz=142,slow=4.7,SNR=14
YKB5 **Yellowknife Ar** 102.67 341 *e*Pdif Pdif 21 35 05.6 -1.2
AS12 **Alice Springs** 117.06 207 *e*PKPdf PKPdf 21 39 54.3 -1.7
ASAR **Alice Springs** 117.06 207 PKP PKPdf 21 39 54.3 -1.7
comp=Z,0.4nm,0.5s,baz=131,slow=1.9,SNR=8.7
WRA **Warramunga Arr** 120.27 209 PKP PKPdf 21 40 00.9 -1.3
comp=Z,1.5nm,0.6s,baz=161,slow=1.7,SNR=39
BR231 **Keskin MP Arra** 121.47 61 *e*PKPdf PKPdf 21 40 03.5 -0.4
BR101 **Keskin Array S** 122.05 61 *e*PKPdf PKPdf 21 40 04.4 -0.7
BRTR **Keskin Array B** 122.05 61 *c i*PKIKP PKPdf 21 40 08.0 +2.9
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR **Keskin Array B** 122.05 61 PKP PKPdf 21 40 04.4 -0.7
comp=Z,0.9nm,0.8s,baz=243,slow=1.6,SNR=6.4
H11S2 **WAKE ISLAND Hyl** 25.85 269 T T 23 58 26.0
baz=119,slow=75,SNR=50
H11S1 **WAKE ISLAND Hyl** 25.87 269 T T 23 58 27.3
baz=119,slow=75,SNR=82
H11S3 **WAKE ISLAND Hyl** 25.87 269 T T 23 58 29.2
baz=119,slow=75,SNR=68
H11N3 **WAKE ISLAND Hyl** 26.28 270 T T 23 58 56.9
baz=114,slow=79,SNR=97
H11N1 **WAKE ISLAND Hyl** 26.30 270 T T 23 58 56.9
baz=114,slow=79,SNR=338
H11N2 **WAKE ISLAND Hyl** 26.30 270 T T 23 58 58.2
baz=114,slow=79,SNR=172
KIV **Kislovodsk** 129.73 59 ⇑ *i*PKIKP PKPdf 21 40 20.0 +0.5
KIV pmax pmax
comp=Z,4.0nm,1.0s
KLMR **Klimovskoe** 129.84 36 *e*PKIKP PKPdf 21 40 15.0 -4.1
KLMR pmax pmax
comp=Z,22nm,1.6s
BILL **Bilibino** 133.43 334 ⇑ *e*PKIKP PKPdf 21 40 26.7 +1.0
BILL pmax pmax
comp=Z,5.0nm,1.7s
ARU **Arti** 140.14 41 *i* PKIKP PKPdf 21 40 38.2 -0.2
ARU 21 43 30.8
SEY **Seymchan** 140.61 330 PKP PKPdf 21 40 38.5 -0.6
comp=Z,1.8nm,0.8s,baz=106,slow=4.6,SNR=6.6
POO **Poona** 145.65 109 *e*P PKPdf 21 40 49.0 -0.4
SBUM **Sibu** 147.77 188 *e*PKPdf PKPdf 21 40 54.3 +1.2
KBL **Kabul** 148.00 79 *e*PKIKP PKPdf 21 40 53.4 +0.2
KBL **Kabul** 148.00 79 *e*PKPdf PKPdf 21 40 53.4 +0.2
HYB **Hyderabad** 148.58 115 *i* PKP PKPbc 21 40 57.0 -1.0
LHMI **Lhok Sumawe** 149.00 158 *e*PKPdf PKPdf 21 40 55.1 0.0
YAK **Yakutsk** 149.34 340 *e*PKP2 PKPbc 21 40 57.4 -1.1
YAK pmax pmax
comp=Z,26nm,1.1s
YAK **Yakutsk** 149.34 340 *e*PKPbc PKPbc 21 40 57.9 -0.5
KKAR **Karatay Array** 149.75 62 *e*PKPdf PKPdf 21 40 57.4 +2.0
YSS **Yuzh-Sakhalins** 151.23 306 *e*PKIKP PKPbc 21 41 06.5 +3.0
YSS pmax pmax
comp=Z,46nm,2.5s
EKS2 **Erkin-Say** 152.18 63 *e*PKIKP PKPbc 21 41 04.7 -1.3
EKS2 **Erkin-Say** 152.18 63 *e*PKPbc PKPbc 21 41 04.7 -1.3
AAK **Ala-Archa** 152.71 63 *e*PKIKP PKPbc 21 41 07.5 +0.2
AAK **Ala-Archa** 152.71 63 *e*PKPbc PKPbc 21 41 07.5 +0.2
NVS **Novosibirsk** 153.41 33 ⇊ *i*PKIKP PKPbc 21 41 07.6 -0.5
NVS pmax pmax
comp=N,2.0nm,1.1s
NVS pmax pmax
comp=E,5.0nm,1.1s
NVS pmax pmax
comp=Z,12nm,1.1s
KSH **Kashi** 154.00 70 PKPbc PKPdf 21 41 03.3 +1.2
KSH sPKP 21 41 16.6
KSH PKS PKSdf 21 44 37.0 +0.6
KSH PP PP 21 44 57.6 -1.3
KSH SKS SKSdf 21 48 07.8 +0.5
KSH PPMZ
comp=Z,69nm,5.0s
KSH LN
comp=Z,120nm,6.7s
KSH LE
comp=Z,110nm,6.8s
KSH LZ
comp=Z,140nm,5.9s
ZAA1 **Zalesovo Array** 154.69 33 *e*PKPdf PKPdf 21 41 01.7 -0.7
ZAA1 *e*PKPbc PKiKP 21 41 11.1 +0.2
ZAA1 *e*PKPab PKPab 21 41 26.2 +0.3
ZALV **Zalesovo Beam** 154.69 33 PKP PKPdf 21 41 01.7 -0.7
comp=Z,1.4nm,0.7s,baz=299,slow=3.0,SNR=6.6
ZALV PKPbc PKiKP 21 41 11.1 +0.2
comp=Z,4.5nm,0.8s,baz=302,slow=3.2,SNR=15
ZALV PKPab PKPab 21 41 26.2 +0.3
comp=Z,4.7nm,0.6s,baz=316,slow=4.0,SNR=9.4
BOD **Bodaibo** 156.45 352 *e*PKP2 PKPab 21 41 32.4 -0.8
BOD pmax pmax
comp=Z,9.0nm,1.0s
MK32 **Makanchi Array** 157.09 50 *e*PKPdf PKPdf 21 41 05.3 -0.5
MK32 *e*PKPab PKPab 21 41 35.7 -0.8
MKAR **Makanchi Array** 157.09 50 *e*PKIKP PKPdf 21 41 05.1 -0.8
MKAR **Makanchi Array** 157.09 50 PKP PKPdf 21 41 05.3 -0.5
comp=Z,1.2nm,1.0s,baz=300,slow=0.7,SNR=7.2
MKAR PKPab PKPab 21 41 35.7 -0.8
comp=Z,1.4nm,0.8s,baz=295,slow=2.8,SNR=7.3
MKAR **Makanchi Array** 157.09 50 *e*PKPdf PKPdf 21 41 05.1 -0.8
MK01 **Makanchi Array** 157.10 50 *e*PKPdf PKPdf 21 41 04.9 -1.0
WMQ **Urumqi** 161.76 54 *e*PKP PKPdf 21 41 11.3 -0.1
WMQ pPKP pPKPdf 21 41 22.0 +2.0
WMQ PKPab PKPab 21 41 57.9 +0.9
WMQ PKS PKSdf 21 44 43.3 -1.3
WMQ PP PP 21 45 42.9 +1.9
WMQ SKS SKSdf 21 48 11.0 -3.6
WMQ SKKS SKKSac 21 52 25.8 -1.6
WMQ SS SS 22 05 53.9 -3.9
WMQ PPMZ
comp=Z,140nm,5.6s
WMQ LN
comp=Z,78nm,22.0s
WMQ LE
comp=Z,68nm,20.0s
WMQ LZ
comp=Z,71nm,22.0s
CM31 **Chiang Mai Arr** 161.97 151 *e*PKPab PKPab 21 41 56.6 -1.6
CMAR **Chiang Mai Arr** 161.97 151 PKPab PKPab 21 41 56.7 -1.6
comp=Z,0.7nm,0.9s,baz=226,slow=4.8,SNR=3.5
TLY **Talaya** 162.64 9 *e*PKP2 PKPab 21 42 02.0 +1.6
TLY pmax pmax
comp=Z,5.0nm,1.0s
CN2 **Changchun** 163.73 309 *e*PKP PKPdf 21 41 15.8 +2.6
QIZ **Qiongzhong** 164.40 186 PKP PKPdf 21 41 15.9 +1.3
QIZ PP PP 21 45 57.8 +4.2
QIZ SS SS 22 06 28.5 +5.7
QIZ LN
comp=Z,250nm,17.4s
QIZ LZ
comp=Z,370nm,17.7s
LSA **Lhasa** 164.85 104 *e*PKIKP PKPdf 21 41 13.7 -1.6
LSA *e* 21 42 11.6
LSA **Lhasa** 164.85 104 *e*PKPdf PKPdf 21 41 13.7 -1.6
LSA *e*PKPab PKPab 21 42 11.6 +0.2
SONA1 **Songino Array** 166.72 5 *e*PKPdf PKPdf 21 41 15.2 -0.6
SONA1 *e*PKPab PKPab 21 42 18.5 -0.1

SONA0	**Songino Array**	**166.73**	**5**	*e*PKPdf	**PKPdf**	**21 41 14.8**	**-1.0**
SONA0				*e*PKPab	**PKPab**	**21 42 19.1**	**+0.6**
SONM	**Songino Array**	**166.73**	**5**	PKP	**PKPdf**	**21 41 14.8**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=236,slow=0.7,SNR=7.6						
SONM				PKPab	**PKPab**	**21 42 19.1**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=337,slow=3.7,SNR=16						
ULN	**Ulaanbaatar**	**166.74**	**3**	*e*PKIKP	**PKPdf**	**21 41 14.6**	**-1.3**
ULN	**Ulaanbaatar**	**166.74**	**3**	*e*PKPdf	**PKPdf**	**21 41 14.6**	**-1.3**
ULN				*e*PKPab	**PKPab**	**21 42 18.9**	**+0.3**
NJ2	**Nanjing**	**170.63**	**257**	*e*PKP	**PKPdf**	**21 41 20.8**	**+2.2**
BJI	**Beijing**	**171.58**	**312**	PKP	**PKPdf**	**21 41 20.3**	**+1.4**
BJI				LN			
	comp=Z,250nm,23.2s						
BJI				LE			
	comp=Z,300nm,18.1s						
BJI				LZ			
	comp=Z,210nm,24.7s						
GYA	**Guiyang**	**171.78**	**171**	*e*PKP	**PKPdf**	**21 41 20.0**	**+0.4**
GYA				PKPab	**PKPab**	**21 42 44.4**	**+3.0**
GYA				PKS	**PKSdf**	**21 44 51.3**	**-0.8**
GYA				PP	**PP**	**21 46 35.6**	**+4.2**
GYA				SKKS		21 53 18.3	
GYA				SS	**SS**	**22 07 39.5**	**+2.3**
GYA				PPMZ			
	comp=Z,120nm,8.4s						
GYA				LN			
	comp=Z,120nm,21.0s						
GYA				LE			
	comp=Z,110nm,22.2s						
GYA				LZ			
	comp=Z,120nm,21.8s						
GTA	**Gaotai**	**171.84**	**52**	*e*PKP	**PKPdf**	**21 41 19.8**	**+0.6**
GTA				pPKP	**pPKPdf**	**21 41 30.5**	**+2.7**
GTA				sPKP		21 41 34.3	
GTA				PKPab	**PKPab**	**21 42 42.5**	**+0.9**
WHN	**Wuhan**	**173.33**	**234**	PKP	**PKPdf**	**21 41 18.1**	**-1.8**
CD2	**Chengdu**	**174.82**	**134**	*e*PKP	**PKPdf**	**21 41 21.3**	**+0.8**
LZH	**Lanzhou**	**176.24**	**66**	*e*PKP	**PKPdf**	**21 41 21.5**	**+0.6**
LZH				pPKP	**pPKPdf**	**21 41 28.5**	**-1.0**
LZH				sPKP		21 41 31.8	

MAN 20 21:28:48, 10.°96N×124.°91E, h1km, mb4.0, ML2.8, MS2.5, 2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.22**	**18**	‖*e*P	Pg	21 28 52.6	+0.4
OCLP	**Ormoc**	**0.31**	**288**	*e*P	Pg	21 28 48.2	-5.7
OCLP				*e*S	Sg	21 28 52.5	-5.6
MSLP	**Maasin**	**0.82**	**184**	*e*P	Pb	21 29 05.0	0.0
MSLP				*e*S	Sn	21 29 20.8	+1.3
LLP	**Lapu-Lapu**	**1.12**	**236**	‖*e*P	Pb	21 29 10.3	0.0
LLP				*e*S	Sg	21 29 23.7	-0.5

*ATH **20** 21:31:10.9, 39.°54N×23.°48E, h30km, MD3.6/43, ML2.8*
*ISCJB **20** 21:31:11.2±0.4, 39.°54N±0.°01×23.°45E±0.°02, h13km±2km, Error ellipse: s-maj=2.8km s-min=1.9km az=24.6*
*THE **20** 21:31:11.6, 39.°53N×23.°43E, h12km, ML3.0/9, Error ellipse: s-maj=0.8km s-min=0.3km az=121.0*
*CSEM **20** 21:31:11.6±0.1, 39.°54N×23.°43E, h15km, ML3.0, Error ellipse: s-maj=3.4km s-min=2.5km az=117.0*
ISC 20 21:31:10.6±0.9, 39.°55N±0.°01×23.°49E±0.°02, h12km±7km, n183, σ0°82/238, 11C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.29**	**233**	P	**Pg**	**21 31 16.6**	**0.0**
XOR				S	**Sg**	**21 31 20.8**	**+0.2**
XOR	**Xorichti**	**0.29**	**233**	*e*PB	**Pb**	**21 31 17.7**	**-0.1**
XOR				*e*SB	**Sb**	**21 31 23.6**	**+1.0**
XOR	**Xorichti**	**0.29**	**233**	P	**Pg**	**21 31 16.6**	**0.0**
XOR	**Xorichti**	**0.29**	**233**	*e*Pb	**Pb**	**21 31 17.7**	**-0.1**
XOR				*e*Sb	**Sb**	**21 31 23.6**	**+1.0**
NEO	**Neokhori**	**0.32**	**221**	P	**Pg**	**21 31 17.1**	**+0.1**
NEO				S	**Sg**	**21 31 21.5**	**+0.2**
NEO	**Neokhori**	**0.32**	**221**	*e*PB	**Pb**	**21 31 18.2**	**0.0**
NEO				*e*SB	**Sb**	**21 31 24.1**	**+0.8**
NEO	**Neokhori**	**0.32**	**221**	P	**Pg**	**21 31 17.1**	**+0.1**
NEO	**Neokhori**	**0.32**	**221**	*e*Pb	**Pb**	**21 31 18.2**	**0.0**
NEO				S	**Sg**	**21 31 21.5**	**+0.2**
NEO				*e*Sb	**Sb**	**21 31 24.1**	**+0.8**
SKIA	**Skiathos**	**0.38**	**183**	P	**Pb**	**21 31 18.9**	**-0.3**
SKIA				S	**Sb**	**21 31 24.4**	**-0.6**
SKIA	**Skiathos**	**0.38**	**183**	*e*PB	**Pb**	**21 31 18.9**	**-0.3**
SKIA				*e*SB	**Sb**	**21 31 24.9**	**-0.1**
SKIA	**Skiathos**	**0.38**	**183**	P	**Pb**	**21 31 18.9**	**-0.3**
SKIA				S	**Sb**	**21 31 24.4**	**-0.6**
PAIG	**Paliouri**	**0.41**	**21**	P	**Pb**	**21 31 20.3**	**+0.6**
PAIG				S	**Sb**	**21 31 27.0**	**+1.1**
PAIG	**Paliouri**	**0.41**	**21**	*e*PB	**Pb**	**21 31 20.4**	**+0.7**
PAIG				*e*SB	**Sb**	**21 31 27.0**	**+1.1**
PAIG	**Paliouri**	**0.41**	**21**	*e*Pb	**Pb**	**21 31 20.4**	**+0.7**
PAIG				S	**Sb**	**21 31 27.0**	**+1.1**
AOS	**Alonnisos**	**0.48**	**141**	P	**Pb**	**21 31 21.0**	**+0.1**
AOS				S	**Sb**	**21 31 28.5**	**+0.5**
AOS	**Alonnisos**	**0.48**	**141**	*e*PG	**Pb**	**21 31 20.7**	**-0.2**
AOS				*e*SG	**Sb**	**21 31 28.4**	**+0.4**
AOS	**Alonnisos**	**0.48**	**141**	*e*PB	**Pb**	**21 31 21.5**	**+0.6**
AOS				*e*SB	**Sb**	**21 31 28.5**	**+0.5**
AOS	**Alonnisos**	**0.48**	**141**	*e*Pg	**Pb**	**21 31 20.7**	**-0.2**
AOS	**Alonnisos**	**0.48**	**141**	P	**Pb**	**21 31 21.0**	**+0.1**
AOS	**Alonnisos**	**0.48**	**141**	*e*Pb	**Pb**	**21 31 21.5**	**+0.6**
AOS				*e*Sg	**Sb**	**21 31 28.4**	**+0.5**
SMIA	**Simia**	**0.70**	**198**	P	**Pb**	**21 31 24.8**	**+0.1**
SMIA				S	**Sb**	**21 31 34.5**	**+0.2**
SMIA	**Simia**	**0.70**	**198**	*e*PN	**Pb**	**21 31 24.8**	**+0.1**
SMIA				*e*SN	**Sb**	**21 31 34.8**	**+0.5**
SMIA	**Simia**	**0.70**	**198**	P	**Pb**	**21 31 24.8**	**+0.1**
SMIA				S	**Sb**	**21 31 34.5**	**+0.2**
PLG	**Polygyros**	**0.83**	**357**	P	**Pb**	**21 31 27.1**	**+0.2**
PLG				S	**Sb**	**21 31 39.0**	**+0.9**
PLG	**Polygyros**	**0.83**	**357**	*e*PN	**Pb**	**21 31 27.1**	**+0.2**
PLG				*e*SN	**Sb**	**21 31 38.6**	**+0.5**
PLG	**Polygyros**	**0.83**	**357**	P	**Pb**	**21 31 27.1**	**+0.2**
PLG				*e*Sn	**Sb**	**21 31 38.6**	**+0.5**
PLG				S	**Sb**	**21 31 39.0**	**+0.9**
MRKA	**Markates**	**0.84**	**175**	P	**Pb**	**21 31 27.4**	**+0.3**
MRKA				S	**Sn**	**21 31 39.5**	**-1.0**
MRKA	**Markates**	**0.84**	**175**	*e*PN	**Pb**	**21 31 27.5**	**+0.3**
MRKA				*e*SN	**Sb**	**21 31 39.3**	**+0.9**
MRKA	**Markates**	**0.84**	**175**	P	**Pb**	**21 31 27.4**	**+0.3**
MRKA				*e*Sn	**Sb**	**21 31 39.3**	**+0.9**
OUR	**Ouranopolis**	**0.87**	**25**	P	**Pn**	**21 31 28.8**	**+0.1**
OUR				S	**Sn**	**21 31 41.7**	**+0.4**
OUR	**Ouranopolis**	**0.87**	**25**	*e*PG	**Pn**	**21 31 28.8**	**+0.1**
OUR				*e*SG	**Sn**	**21 31 42.8**	**+1.5**
OUR	**Ouranopolis**	**0.87**	**25**	*e*PN	**Pn**	**21 31 28.8**	**+0.1**
OUR				*e*SN	**Sn**	**21 31 41.0**	**-0.3**
OUR	**Ouranopolis**	**0.87**	**25**	P	**Pn**	**21 31 28.8**	**+0.1**
OUR				*e*Sn	**Sn**	**21 31 41.0**	**-0.3**
OUR				*e*Sg	**Sn**	**21 31 42.8**	**+1.5**
LIT	**Litokhoron**	**0.95**	**306**	P	**Pg**	**21 31 28.8**	**-0.2**
LIT				S	**Sb**	**21 31 41.8**	**+0.2**
LIT	**Litokhoron**	**0.95**	**306**	*e*PN	**Pg**	**21 31 28.7**	**-0.2**
LIT				*e*SN	**Sb**	**21 31 42.3**	**+0.7**
LIT	**Litokhoron**	**0.95**	**306**	P	**Pg**	**21 31 28.8**	**-0.2**
LIT				S	**Sb**	**21 31 41.8**	**+0.2**
LIT				*e*Sn	**Sb**	**21 31 42.3**	**+0.7**
AXAR	**Agios Charalam**	**1.01**	**220**	P	**Pb**	**21 31 29.9**	**-0.1**
AXAR	**Agios Charalam**	**1.01**	**220**	*e*PN	**Pb**	**21 31 29.9**	**-0.1**
AXAR				*e*SN	**Sn**	**21 31 44.1**	**-0.6**
AXAR	**Agios Charalam**	**1.01**	**220**	P	**Pb**	**21 31 29.9**	**-0.1**
AXAR				*e*Sn	**Sn**	**21 31 44.1**	**-0.6**
AGG	**Agios Georgios**	**1.04**	**240**	P	**Pb**	**21 31 30.0**	**-0.6**
AGG	**Agios Georgios**	**1.04**	**240**	*e*PB	**Pb**	**21 31 30.0**	**-0.6**
AGG				*e*SN	**Sn**	**21 31 45.6**	**+0.1**
AGG	**Agios Georgios**	**1.04**	**240**	P	**Pb**	**21 31 30.0**	**-0.6**
AGG				*e*Sn	**Sn**	**21 31 45.6**	**+0.1**
HORT	**Hortiatis**	**1.09**	**344**	P	**Pb**	**21 31 31.5**	**0.0**
HORT	**Hortiatis**	**1.09**	**344**	*e*PN	**Pb**	**21 31 31.5**	**0.0**
HORT				*e*SN	**Sg**	**21 31 46.3**	**+0.4**
HORT	**Hortiatis**	**1.09**	**344**	P	**Pb**	**21 31 31.5**	**0.0**
HORT				*e*Sn	**Sg**	**21 31 46.3**	**+0.4**
THL	**Klokotos Trika**	**1.14**	**271**	P	**Pb**	**21 31 31.6**	**-0.6**
THL				S	**Sn**	**21 31 47.9**	**0.0**
THL	**Klokotos Trika**	**1.14**	**271**	P	**Pb**	**21 31 31.6**	**-0.6**
THL				S	**Sn**	**21 31 47.9**	**0.0**
THE	**Thessaloniki**	**1.16**	**340**	*e*PN	**Pn**	**21 31 32.7**	**+0.1**
THE				*e*SN	**Sn**	**21 31 49.0**	**+0.7**
THE	**Thessaloniki**	**1.16**	**340**	*e*Pn	**Pn**	**21 31 32.7**	**+0.1**
THE				*e*Sn	**Sn**	**21 31 49.0**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.18**	**244**	P	**Pn**	**21 31 32.9**	**0.0**
MAKR	**Makrakomi, Fth**	**1.18**	**244**	*e*PN	**Pn**	**21 31 32.8**	**-0.1**
MAKR				*e*SN	**Sn**	**21 31 49.3**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.18**	**244**	P	**Pn**	**21 31 32.9**	**0.0**
MAKR				*e*Sn	**Sn**	**21 31 49.3**	**+0.3**
SOH	**Sokhos**	**1.28**	**355**	P	**Pg**	**21 31 35.1**	**-0.1**
SOH	**Sokhos**	**1.28**	**355**	*e*PN	**Pg**	**21 31 35.5**	**+0.3**
SOH				*e*SN	**Sg**	**21 31 52.4**	**+0.6**
SOH	**Sokhos**	**1.28**	**355**	P	**Pg**	**21 31 35.1**	**-0.1**
SOH	**Sokhos**	**1.28**	**355**	*e*Pn	**Pg**	**21 31 35.5**	**+0.3**
SOH				*e*Sn	**Sg**	**21 31 52.4**	**+0.6**
LIA	**Limnos Island**	**1.35**	**74**	P	**Pn**	**21 31 35.0**	**-0.2**
LIA				S	**Sg**	**21 31 55.5**	**+1.4**
LIA	**Limnos Island**	**1.35**	**74**	*e*PB	**Pn**	**21 31 35.2**	**0.0**
LIA				*e*SN	**Sg**	**21 31 53.7**	**-0.4**
LIA	**Limnos Island**	**1.35**	**74**	P	**Pn**	**21 31 35.0**	**-0.2**
LIA				*e*Sn	**Sg**	**21 31 53.7**	**-0.4**
DSF	**Desfina**	**1.36**	**214**	P	**Pn**	**21 31 34.8**	**-0.6**
DSF	**Desfina**	**1.36**	**214**	*e*PN	**Pb**	**21 31 36.1**	**+0.1**
DSF				*e*SN	**Sn**	**21 31 53.0**	**-0.4**
DSF	**Desfina**	**1.36**	**214**	P	**Pn**	**21 31 34.8**	**-0.6**
DSF	**Desfina**	**1.36**	**214**	*e*Pn	**Pb**	**21 31 36.1**	**+0.1**
DSF				*e*Sn	**Sn**	**21 31 53.0**	**-0.4**
EVR	**Evrytania**	**1.45**	**245**	*e*PN	**Pn**	**21 31 37.1**	**+0.4**
EVR				*e*SN	**Sn**	**21 31 55.8**	**+0.1**
EVR	**Evrytania**	**1.45**	**245**	*e*Pn	**Pn**	**21 31 37.1**	**+0.4**
EVR				*e*Sn	**Sn**	**21 31 55.8**	**+0.1**
PTL	**Penteli**	**1.52**	**169**	P	**Pn**	**21 31 37.6**	**0.0**
PTL	**Penteli**	**1.52**	**169**	*e*PN	**Pn**	**21 31 37.7**	**+0.1**
PTL				*e*SN	**Sn**	**21 31 56.7**	**-0.6**
PTL	**Penteli**	**1.52**	**169**	*e*Pn	**Pn**	**21 31 37.7**	**+0.1**
PTL				*e*Sn	**Sn**	**21 31 56.7**	**-0.6**
KALE	**Kalithea**	**1.56**	**223**	P	**Pn**	**21 31 38.5**	**+0.3**
KALE	**Kalithea**	**1.56**	**223**	*e*PN	**Pb**	**21 31 39.0**	**-0.4**
KALE	**Kalithea**	**1.56**	**223**	P	**Pn**	**21 31 38.5**	**+0.3**
KALE	**Kalithea**	**1.56**	**223**	*e*Pn	**Pb**	**21 31 39.0**	**-0.4**
SRS	**Serrai**	**1.57**	**3**	P	**Pn**	**21 31 38.5**	**+0.2**
SRS	**Serrai**	**1.57**	**3**	*e*PB	**Pn**	**21 31 38.5**	**+0.2**
SRS	**Serrai**	**1.57**	**3**	P	**Pn**	**21 31 38.5**	**+0.2**
LTK	**Loutraki**	**1.57**	**195**	*e*PN	**Pn**	**21 31 38.5**	**+0.2**
LTK	**Loutraki**	**1.57**	**195**	*e*Pn	**Pn**	**21 31 38.5**	**+0.2**
ATH	**Athens Observa**	**1.58**	**174**	*e*PN	**Pn**	**21 31 38.7**	**+0.3**
ATH	**Athens Observa**	**1.58**	**174**	*e*Pn	**Pn**	**21 31 38.7**	**+0.3**
GRG	**Griva**	**1.64**	**330**	P	**Pn**	**21 31 39.3**	**+0.1**
GRG	**Griva**	**1.64**	**330**	*e*PB	**Pn**	**21 31 39.3**	**+0.1**
GRG	**Griva**	**1.64**	**330**	P	**Pn**	**21 31 39.3**	**+0.1**
KAVA	**Kavala**	**1.65**	**28**	*e*PN	**Pb**	**21 31 40.4**	**-0.5**
KAVA	**Kavala**	**1.65**	**28**	*e*Pn	**Pb**	**21 31 40.4**	**-0.5**
EFP	**Efpalio**	**1.67**	**228**	*e*PN	**Pn**	**21 31 39.9**	**+0.3**
EFP	**Efpalio**	**1.67**	**228**	*e*Pn	**Pn**	**21 31 39.9**	**+0.3**
KNT	**Kendrikon**	**1.68**	**344**	P	**Pn**	**21 31 40.5**	**+0.7**
KNT	**Kendrikon**	**1.68**	**344**	*e*PN	**Pn**	**21 31 40.4**	**+0.7**
KNT	**Kendrikon**	**1.68**	**344**	*e*Pn	**Pn**	**21 31 40.4**	**+0.7**
SMTH	**Samothraki Isl**	**1.82**	**59**	*e*PB	**Pn**	**21 31 42.7**	**+1.0**
SMTH	**Samothraki Isl**	**1.82**	**59**	*e*Pb	**Pn**	**21 31 42.7**	**+1.0**
NVR	**Nevrokopi**	**1.82**	**9**	P	**Pn**	**21 31 41.9**	**+0.2**
NVR	**Nevrokopi**	**1.82**	**9**	*e*PN	**Pn**	**21 31 42.0**	**+0.2**
NVR	**Nevrokopi**	**1.82**	**9**	*e*Pn	**Pn**	**21 31 42.0**	**+0.2**
KLV	**Kalavryta, Ach**	**1.83**	**215**	*e*PN	**Pn**	**21 31 42.2**	**+0.3**
KLV	**Kalavryta, Ach**	**1.83**	**215**	*e*Pn	**Pn**	**21 31 42.2**	**+0.3**
GUR	**Goura**	**1.84**	**210**	P	**Pn**	**21 31 42.5**	**+0.4**
GUR	**Goura**	**1.84**	**210**	*e*PB	**Pn**	**21 31 42.4**	**+0.4**
GUR	**Goura**	**1.84**	**210**	P	**Pn**	**21 31 42.5**	**+0.4**
SIGR	**SIGRI**	**1.86**	**100**	*e*PB	**Pn**	**21 31 43.2**	**+1.0**
SIGR	**SIGRI**	**1.86**	**100**	*e*Pb	**Pn**	**21 31 43.2**	**+1.0**
DSL	**Palaion Diasel**	**1.90**	**258**	P	**Pn**	**21 31 43.5**	**+0.6**
DSL	**Palaion Diasel**	**1.90**	**258**	*e*PB	**Pn**	**21 31 43.5**	**+0.6**
DSL	**Palaion Diasel**	**1.90**	**258**	P	**Pn**	**21 31 43.5**	**+0.6**
VAY	**Valandovo**	**1.91**	**339**	*e*Pn	**Pn**	**21 31 43.0**	**+0.1**
PDO	**Prodromos**	**2.03**	**243**	P	**Pb**	**21 31 46.2**	**-1.2**
PDO	**Prodromos**	**2.03**	**243**	*e*PB	**Pn**	**21 31 45.5**	**+0.9**
PDO	**Prodromos**	**2.03**	**243**	*e*Pb	**Pn**	**21 31 45.5**	**+0.9**
PDO	**Prodromos**	**2.03**	**243**	P	**Pb**	**21 31 46.2**	**-1.2**
FNA	**Florina**	**2.04**	**308**	*e*PN	**Pn**	**21 31 44.6**	**-0.2**
FNA	**Florina**	**2.04**	**308**	*e*Pn	**Pn**	**21 31 44.6**	**-0.2**
MMB	**Musomiste**	**2.05**	**5**	‖*e*P	**Pg**	**21 31 50.1**	**+0.2**
MMB	**Musomiste**	**2.05**	**5**	S	**Sn**	**21 32 05.9**	**-4.5**
MMB	**Musomiste**	**2.05**	**5**	‖*e*P	**Pg**	**21 31 50.1**	**+0.2**
NEST	**Nestorio**	**2.07**	**296**	*e*PB	**Pn**	**21 31 46.6**	**+1.4**
NEST	**Nestorio**	**2.07**	**296**	*e*Pb	**Pn**	**21 31 46.6**	**+1.4**
DRO	**Drossia**	**2.11**	**222**	*e*PN	**Pn**	**21 31 46.5**	**+0.7**
DRO	**Drossia**	**2.11**	**222**	*e*Pn	**Pn**	**21 31 46.5**	**+0.7**
PRK	**Paraskevi**	**2.17**	**97**	*e*PN	**Pn**	**21 31 47.6**	**+1.1**
PRK	**Paraskevi**	**2.17**	**97**	*e*Pn	**Pn**	**21 31 47.6**	**+1.1**
EZN	**Ezine**	**2.20**	**82**	*e*PN	**Pb**	**21 31 50.5**	**+0.2**
EZN	**Ezine**	**2.20**	**82**	*e*Pn	**Pb**	**21 31 50.5**	**+0.2**
RDO	**Rodhopi**	**2.24**	**44**	*e*PN	**Pn**	**21 31 48.2**	**+0.8**
RDO	**Rodhopi**	**2.24**	**44**	*e*Pn	**Pn**	**21 31 48.2**	**+0.8**
CHOS	**Chios island**	**2.31**	**119**	*e*PN	**Pb**	**21 31 51.0**	**-1.2**
CHOS	**Chios island**	**2.31**	**119**	*e*PN	**Pn**	**21 31 49.3**	**+0.8**
CHOS	**Chios island**	**2.31**	**119**	*e*Pn	**Pn**	**21 31 49.3**	**+0.8**
LKD2	**Lefkada island**	**2.33**	**252**	*e*PB	**Pb**	**21 31 50.9**	**-1.6**
LKD2	**Lefkada island**	**2.33**	**252**	*e*Pb	**Pb**	**21 31 50.9**	**-1.6**
VLX	**Vlachokerasia**	**2.34**	**202**	*e*PN	**Pn**	**21 31 49.3**	**+0.4**
VLX	**Vlachokerasia**	**2.34**	**202**	*e*Pn	**Pn**	**21 31 49.3**	**+0.4**
ENEZ	**Enez**	**2.36**	**59**	*e*PN	**Pb**	**21 31 52.1**	**-0.8**
ENEZ	**Enez**	**2.36**	**59**	*e*Pn	**Pb**	**21 31 52.2**	**-0.8**
ALN	**Alexandroupoli**	**2.38**	**55**	*e*PN	**Pb**	**21 31 52.5**	**-0.7**
ALN	**Alexandroupoli**	**2.38**	**55**	*e*PN	**Pn**	**21 31 49.8**	**+0.5**
ALN	**Alexandroupoli**	**2.38**	**55**	*e*Pn	**Pn**	**21 31 49.8**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.44**	**69**	*e*PN	**Pb**	**21 31 53.6**	**-0.8**
GELI	**Tayfur-Gelibol**	**2.44**	**69**	*e*Pn	**Pb**	**21 31 53.6**	**-0.8**
IGT	**Igoumenitsa**	**2.44**	**271**	*e*PN	**Pn**	**21 31 51.4**	**+1.1**
IGT	**Igoumenitsa**	**2.44**	**271**	*e*Pn	**Pn**	**21 31 51.4**	**+1.1**
AMT	**Artemida-Makis**	**2.45**	**215**	*e*PN	**Pn**	**21 31 50.9**	**+0.5**
AMT	**Artemida-Makis**	**2.45**	**215**	*e*Pn	**Pn**	**21 31 50.9**	**+0.5**
KDZ	**Kurdzhali**	**2.56**	**34**	⇑‖*e*P	**Pb**	**21 31 56.1**	**-0.4**
KDZ	**Kurdzhali**	**2.56**	**34**	S	**Sg**	**21 32 30.9**	**-2.0**
KDZ	**Kurdzhali**	**2.56**	**34**	⇑‖*e*P	**Pb**	**21 31 56.1**	**-0.4**
ERIK	**Erikli-Kesan**	**2.58**	**63**	*e*PN	**Pb**	**21 31 55.8**	**-0.9**
ERIK	**Erikli-Kesan**	**2.58**	**63**	*e*Pn	**Pb**	**21 31 55.8**	**-0.9**
LPK	**Lapseki**	**2.64**	**71**	*e*PN	**Pb**	**21 31 56.4**	**-1.5**
LPK	**Lapseki**	**2.64**	**71**	*e*Pn	**Pb**	**21 31 56.4**	**-1.5**
VLS	**Valsamata**	**2.65**	**240**	*e*PN	**Pn**	**21 31 54.0**	**+0.9**
VLS	**Valsamata**	**2.65**	**240**	*e*Pn	**Pn**	**21 31 54.0**	**+0.9**
ITM	**Ithomi**	**2.66**	**208**	*e*PB	**Pn**	**21 31 55.0**	**+1.7**
ITM	**Ithomi**	**2.66**	**208**	*e*Pb	**Pn**	**21 31 55.0**	**+1.7**
VLI	**Veliai**	**2.86**	**189**	*e*PN	**Pn**	**21 31 56.2**	**+0.3**
VLI	**Veliai**	**2.86**	**189**	*e*Pn	**Pn**	**21 31 56.2**	**+0.3**
KEK	**Kerkira**	**2.86**	**275**	*e*PN	**Pn**	**21 31 57.4**	**+1.4**
KEK	**Kerkira**	**2.86**	**275**	*e*Pn	**Pn**	**21 31 57.4**	**+1.4**
APE	**Apeiranthos**	**2.95**	**146**	*e*PN	**Pn**	**21 31 57.6**	**+0.4**
APE	**Apeiranthos**	**2.95**	**146**	*e*PN	**Pn**	**21 31 57.6**	**+0.4**
APE	**Apeiranthos**	**2.95**	**146**	‖*e*P	**Pb**	**21 32 03.1**	**+0.1**
APE	**Apeiranthos**	**2.95**	**146**	S	**Sg**	**21 32 45.0**	**-0.2**
APE	**Apeiranthos**	**2.95**	**146**	*e*Pn	**Pn**	**21 31 57.6**	**+0.4**
PYL	**PYLOS**	**2.98**	**208**	*e*PN	**Pn**	**21 31 59.3**	**+1.6**
PYL	**PYLOS**	**2.98**	**208**	*e*Pn	**Pn**	**21 31 59.3**	**+1.6**
KRBG	**Karabiga-Canak**	**3.04**	**73**	*e*PN	**Pb**	**21 32 02.0**	**-2.6**
KRBG	**Karabiga-Canak**	**3.04**	**73**	*e*Pn	**Pb**	**21 32 02.0**	**-2.6**
VTS	**Vitosha**	**3.05**	**356**	⇑‖*e*P	**Pn**	**21 31 59.6**	**+0.8**
VTS	**Vitosha**	**3.05**	**356**	S	**Sn**	**21 32 34.7**	**-0.6**
VTS	**Vitosha**	**3.05**	**356**	⇑‖*e*P	**Pn**	**21 31 59.6**	**+0.8**
KYTH	**Kithira**	**3.28**	**186**	*e*PN	**Pn**	**21 32 02.6**	**+0.8**
KYTH	**Kithira**	**3.28**	**186**	*e*Pn	**Pn**	**21 32 02.6**	**+0.8**
MRMT	**Marmara Adasi**	**3.32**	**70**	*e*PN	**Pb**	**21 32 06.0**	**-3.4**
MRMT	**Marmara Adasi**	**3.32**	**70**	*e*Pn	**Pb**	**21 32 06.0**	**-3.4**
JMB	**Yambol**	**3.74**	**38**	⇑‖*e*P	**Pn**	**21 32 11.7**	**+3.6**
JMB	**Yambol**	**3.74**	**38**	S	**Sg**	**21 33 10.6**	**0.0**
JMB	**Yambol**	**3.74**	**38**	⇑‖*e*P	**Pn**	**21 32 11.7**	**+3.6**
ARR	**Arges**	**5.88**	**8**	⇑‖*e*P	**Pn**	**21 32 37.5**	**0.0**
ARR	**Arges**	**5.88**	**8**	⇑‖*e*P	**Pn**	**21 32 37.5**	**0.0**
VOIR		**6.00**	**11**	⇑‖*e*P	**Pn**	**21 32 40.1**	**+0.9**
VOIR		**6.00**	**11**	S	**Sg**	**21 34 21.8**	**-1.3**
VOIR		**6.00**	**11**	⇑‖*e*P	**Pn**	**21 32 40.1**	**+0.9**
BZS	**Buzias**	**6.22**	**348**	⇑‖*e*P	**Pn**	**21 32 39.9**	**-2.3**
BZS	**Buzias**	**6.22**	**348**	S	**Sg**	**21 34 26.6**	**-3.7**

*ISCJB **20** 21:33:00.3±0.3, 19.°51N±0.°03×105.°50W±0.°02, h33km, mb4.8/132, MS3.6/4, Error ellipse: s-maj=3.9km s-min=2.8km az=8.5*
*MEX **20** 21:33:04.9±0.8, 19.°90N×105.°73W, h32km±14km, MD4.8*
*BJI **20** 21:33:05.3, 19.°60N×105.°40W, h45km, mB5.1/1, Ms7 4.4/3*
*NEIC **20** 21:33:06.9±1.8, 19.°87N×105.°47W, h63km±6km, mb4.7/150, MD4.8(MEX), Error ellipse: s-maj=15.6km s-min=10.0km az=57.0*
NEIC Felt [III] at Puerto Vallarta and [II] at Bucerias, La Penita de Jaltemba, Las Jarretaderas and Valle de Banderas. Also felt at Cihuatlan, Jalisco, La Huerta, Mascota, Nuevo Mexico, San Vicente, Sayula, Tepic and Tomatlan.
*GCMT **20** 21:33:06.9±0.6, 19.°96N×105.°80W, h33km±1km, MW5.0/70, Moment Tensor Solution. s24,c27; s70,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.20±.23; $M_{\theta\theta}$-3.35±.16; $M_{\phi\phi}$3.55±.18; $M_{r\theta}$-0.64±.21; $M_{\theta\phi}$-1.24±.14; $M_{r\phi}$0.77±.20; Best double couple: $M_0$3.79400×10^{16} NP1:ϕ_s305.00000°, δ88.00000°, λ166.00000°. NP2: ϕ_s36.00000°, δ76.00000°, λ2.00000°. Principal axes: T 3.9480, Plg12.0000°, Azm259.0000°; N -0.3090, Plg75.0000°, Azm116.0000°; P -3.6400, Plg8.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **20** 21:33:08.6±2.9, 19.°95N×105.°40W, h75km±24km, mb4.1/21, mb1 4.3/24, mb1mx4.2/41, mbtmp4.4/24, MS3.9/9, Ms1 3.9/9, ms1mx3.6/43 Error ellipse: s-maj=24.8km s-min=12.1km az=50.0*
ISC 20 21:33:03.9±0.4, 19.°76N±0.°04×105.°60W±0.°04, h35km, n600, σ1°34/581, mb4.8/129, MS3.6/4, 157C-156D, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUVA	**Puert Vallarta**	**0.93**	**22**	*i*P	**Pn**	**21 33 18.5**	**-2.0**
PUVA				*i*S	**Sn**	**21 33 30.0**	**-2.7**
ANIG	**Ahuacatlan**	**1.64**	**38**	*i*P	**Pn**	**21 33 29.2**	**-1.1**
ANIG				*i*S	**Sn**	**21 33 49.3**	**-0.9**
ANIG	**

baz=14
BNM Barren Site 14.36 357 ePn Pn 21 36 27.4 +2.4
MSTX Muleshoe 14.38 9 ⇑P Pn 21 36 28.0 +3.0
baz=14,SNR=5.5
MSTX Muleshoe 14.38 9 ePn Pn 21 36 26.7 +1.6
LENM Lemitar 14.40 355 ePn Pn 21 36 25.7 +0.2
Y28A McKinney Farm, 14.40 11 ⇑P Pn 21 36 26.5 +1.1
baz=14
Y29A Porterfield Fa 14.47 13 ⇓P Pn 21 36 27.8 +1.4
baz=14
LPM Los Pinos Moun 14.52 357 ePn Pn 21 36 29.0 +1.9
Z32A Haskell 14.56 21 ⇑P Pn 21 36 29.3 +1.9
baz=14
LAZ Ladron 14.65 355 ePn Pn 21 36 29.3 +0.4
Y30A Stafford Cattl 14.67 16 ⇓P Pn 21 36 30.6 +1.6
baz=15
135A Vickery Place, 14.70 28 ⇑P Pn 21 36 30.1 +0.7
baz=15
Z33A Whitaker Ranch 14.79 23 ⇓P Pn 21 36 32.3 +1.8
baz=15
113A Mohawk Valley, 14.87 332 ⇓P Pn 21 36 34.7 +3.0
baz=15,SNR=5.9
Y31A Rekieta Farm, 14.92 17 ⇓P Pn 21 36 33.7 +1.4
baz=15,SNR=6.0
X28A Dimmitt 15.01 11 ⇓P Pn 21 36 35.8 +2.2
baz=15
237A Washetta, Mont 15.03 34 ⇑P Pn 21 36 34.9 +1.2
baz=15
X29A Tulia 15.03 13 ⇑P Pn 21 36 34.9 +1.0
baz=15,SNR=5.5
Z14A Wintersburg 15.05 336 ⇓P Pn 21 36 36.8 +2.8
baz=15,SNR=22
ANMO Albuquerque 15.15 357 P Pn 21 36 37.4 +1.9
0.1nm,0.3s,baz=174,slow=15,SNR=12
ANMO LR LR 21 42 40.3
comp=Z,554nm,18.5s,baz=172,slow=38
ANMO Albuquerque 15.15 357 ePn Pn 21 36 36.2 +0.8
27nm,1.4s
Z34A Collier Ranch, 15.19 25 ⇓P Pn 21 36 36.9 +1.0
baz=15
APG El Apazote 15.20 106 P Pn 21 36 31.6 -4.6
1.4nm,0.3s,baz=305,slow=16,SNR=12
APG LR LR 21 41 49.4
comp=Z,1µm,20.8s,baz=280,slow=35
Y32A R-V Farms, Ver 15.21 20 ⇓P Pn 21 36 37.6 +1.5
baz=15
X18A Snowflake 15.21 346 ⇓P Pn 21 36 38.6 +2.3
baz=15,SNR=20
X30A Coker Ranch, T 15.22 15 ⇓P Pn 21 36 37.9 +1.6
baz=15
W26A Owens Ranch, T 15.36 6 ⇑P Pn 21 36 40.4 +2.2
baz=15
W24A Lazy 6 Ranch, 15.39 1 ⇓P Pn 21 36 40.4 +1.6
baz=15,SNR=14
238A Jacksonville 15.40 36 ⇑P Pn 21 36 39.3 +0.7
baz=15
Z35A Perchaven, San 15.43 27 ⇑P Pn 21 36 40.3 +1.3
baz=15
W25A X Bar L Ranch, 15.43 4 ⇓P Pn 21 36 40.5 +1.3
baz=15,SNR=6.6
AMTX Amarillo 15.46 12 ⇑P Pn 21 36 40.7 +1.3
baz=15
AMTX Amarillo 15.46 12 ePn Pn 21 36 39.3 -0.2
39nm,0.9s
NATX Nacogdoches 15.47 37 ePn P 21 36 43.0 -0.7
114nm,0.6s
Y33A Hilltop Ranch, 15.49 22 ⇑P Pn 21 36 40.7 +1.0
baz=15
X16A Lo Mia Camp, P 15.49 342 ⇓P Pn 21 36 42.2 +2.2
baz=16,SNR=60
Y14A Wickenburg 15.58 336 ⇑P Pn 21 36 43.0 +2.0
baz=16,SNR=23
GLA Glamis 15.60 330 ⇓P Pn 21 36 43.8 +2.6
baz=16
GLA Glamis 15.60 330 ePn Pn 21 36 42.6 +1.4
74nm,1.3s
X31A McDonald Ranch 15.63 17 ⇑P Pn 21 36 42.6 +1.0
baz=16
X32A Elmer 15.64 20 ⇑P Pn 21 36 42.0 +0.2
baz=16
340A Bronson 15.68 40 ⇓P Pn 21 36 42.2 0.0
baz=16
W29A Amarillo 15.70 12 ⇑P Pn 21 36 44.0 +1.5
baz=16
W18A Petrified Fore 15.73 347 ⇓P Pn 21 36 45.5 +2.4
baz=16,SNR=20
W18A Petrified Fore 15.73 347 ePn Pn 21 36 45.1 +2.1
89nm,1.0s
Y34A Reagan Ranch, 15.77 25 ⇑P Pn 21 36 43.9 +0.5
baz=16
V24A Rampart Ranch, 15.91 1 ⇓P Pn 21 36 47.6 +2.2
baz=16,SNR=8.8
V23A Ortiz Mt. (NFS 15.93 358 ⇑P Pn 21 36 47.6 +1.9
baz=16,SNR=18
SWSC Sam W. Stewart 15.98 327 ⇓P Pn 21 36 48.1 +2.0
baz=16,SNR=8.0
X33A Lawton 16.01 22 ⇑P Pn 21 36 47.9 +1.4
baz=16
Y12C Blythe 16.04 332 ⇓P Pn 21 36 49.5 +2.6
baz=16,SNR=16
V25A Rancho No Teng 16.04 3 ⇓P Pn 21 36 48.3 +1.2
baz=16,SNR=14
V26A Tequesquite Ra 16.06 5 ⇓P Pn 21 36 48.4 +1.2
baz=16,SNR=9.1
WMOK Wichita Mounta 16.10 21 ePn Pn 21 36 47.2 -0.4
18nm,1.0s
V27A Dan Oppiter Fa 16.12 8 ⇑P Pn 21 36 49.2 +1.2
baz=16
V22A San Miguel Ran 16.14 356 ⇓P P 21 36 50.6 -0.6
baz=16,SNR=24
W31A Holland Ranch, 16.16 17 ⇓P Pn 21 36 49.0 +0.6
baz=16
V28A Channing 16.21 10 ⇓P Pn 21 36 51.1 +2.0
baz=16
BAR Barrett 16.24 325 ePn Pn 21 36 50.8 +1.4
16nm,1.2s
MONP Monument Peak, 16.27 326 ⇓P Pn 21 36 52.3 +2.3
baz=16,SNR=5.0
TEIG Tepich 16.29 85 P Pn 21 36 48.1 -2.0
1.7nm,0.3s,baz=270,slow=12,SNR=11
TEIG Tepich 16.29 85 ePn Pn 21 36 48.4 -1.7
34nm,1.0s
W32A Sentinel 16.30 19 ⇓P Pn 21 36 51.5 +1.3
baz=16
X34A Smith Ranch, M 16.31 23 ⇓P Pn 21 36 51.1 +0.8
baz=16
PDMCI Parker Dam,Lak 16.35 334 ⇓P P 21 36 53.3 -0.1
baz=16,SNR=20
BC3 Big Chuckawall 16.39 330 ⇑P Pn 21 36 53.5 +2.1
baz=16,SNR=16
V29A Stinnett 16.45 12 ⇑P Pn 21 36 53.5 +1.4
baz=16
WUAZ Wupatki 16.50 343 ⇑P P 21 36 55.5 +0.2
baz=16,SNR=58
WUAZ Wupatki 16.50 343 ePn Pn 21 36 55.0 +2.1
107nm,1.1s
U23A El Rito 16.52 358 ⇓P P 21 36 55.2 -0.3
baz=16,SNR=12
V30A Spur Ranch, Mi 16.52 14 ⇓P Pn 21 36 54.3 +1.2
baz=16
W33A Caddo, Fort Co 16.58 21 ⇑P Pn 21 36 55.0 +1.3
baz=16
U22A Llaves 16.59 356 ⇑P P 21 36 56.8 +0.5
baz=17,SNR=13
U25A Circle Dot Ran 16.61 3 ⇓P Pn 21 36 56.0 +1.7
baz=17,SNR=19
109C Camp Elliot, M 16.64 324 ⇓P P 21 36 56.9 +0.3
baz=17
U26A Atchley Ranch, 16.65 5 ⇑P P 21 36 57.2 +0.3
baz=17,SNR=5.6
IRM Iron Mountain 16.66 331 ⇑P Pn 21 36 56.9 +2.0
baz=17,SNR=32
V31A Spring Creek L 16.74 16 ⇓P Pn 21 36 56.6 +0.8
baz=17
U27A Thompson Grove 16.78 8 ⇑P P 21 36 58.0 -0.2
baz=17,SNR=8.6
U28A Mallet 16.82 9 ⇑P Pn 21 36 58.1 +1.2
baz=17
PFO Pinyon Flats O 16.85 327 P Pn 21 36 58.6 +1.4
0.1nm,0.3s,baz=137,slow=12,SNR=16
PFO LR LR 21 42 49.7
comp=Z,515nm,20.0s,baz=162,slow=35
PFO Pinyon Flats O 16.85 327 ⇑P Pn 21 36 57.6 +0.4
baz=17,SNR=15
PFO Pinyon Flats O 16.85 327 ePn Pn 21 36 58.6 +1.4
47nm,1.3s
W34A Bridge Creek, 16.89 23 ⇑P Pn 21 36 58.4 +0.6
baz=17
W34A Bridge Creek, 16.89 23 ePn Pn 21 36 58.3 +0.6
40nm,1.0s
V32A Arapaho 16.92 19 ⇑P Pn 21 36 58.7 +0.7
baz=17
BELC Belle Mtn. Jos 16.93 329 ⇑P Pn 21 37 00.1 +1.8
baz=17,SNR=20
W13A Hualapai Mount 16.95 336 ⇓P P 21 37 00.9 +0.7
baz=17
NEE2 Needles Airpor 16.95 334 ⇑P P 21 37 01.3 +1.3
baz=17
T23A Casias Ranch, 17.22 359 ⇓P P 21 37 04.6 +1.3
baz=17
MURC Murrieta 17.23 325 ⇑P P 21 37 05.0 +1.8
baz=17
T24B San Luis 17.24 1 ⇑P P 21 37 05.3 +1.7
baz=17,SNR=7.9
V33A Lossen Ranch, 17.25 20 ⇑P P 21 37 03.5 +0.2
baz=17
U30A WK&E Inc. Balk 17.26 14 ⇓P Pn 21 37 03.6 +1.2
baz=17
U31A Nine Bar Ranch 17.30 16 ⇓P P 21 37 04.2 +0.3
baz=17
T25A Trinidad 17.35 3 ⇓P P 21 37 06.2 +1.5
baz=17,SNR=6.9
T25A Trinidad 17.35 3 ePn Pn 21 37 02.9 -0.7
32nm,0.9s
GMRC Granite Mounta 17.41 331 ⇑P P 21 37 06.6 +1.3
baz=17,SNR=30
T27A Campo 17.42 8 ⇓P P 21 37 06.0 +0.7
baz=17,SNR=5.1
LDFC Landfair 17.42 333 ePn P 21 37 07.8 +2.4
80nm,1.1s
T26A Comanche Natio 17.44 5 ⇓P P 21 37 06.7 +1.1
baz=17
V34A Guthrie 17.52 22 ⇑P Pn 21 37 06.5 +1.0
baz=17
V34A Guthrie 17.52 22 ePn Pn 21 37 04.2 -1.3
20nm,0.9s
SCI San Clemente I 17.53 321 ⇑P P 21 37 07.6 +1.2
baz=18
U32A Winter Ranch, 17.54 18 ⇑P P 21 37 07.2 +0.6
baz=18
T28A Walsh 17.56 9 ⇑P P 21 37 07.2 +0.3
baz=18
MVCO Mesa Verde 17.57 352 ⇑P P 21 37 08.1 +0.9
baz=18,SNR=30
MVCO Mesa Verde 17.57 352 ePn Pn 21 37 06.5 +0.2
50nm,1.1s
BBRC Big Bear Solar 17.60 327 ⇓P P 21 37 08.8 +1.3
baz=18
U15A North Rim 17.61 342 ⇓P P 21 37 09.4 +1.7
baz=18,SNR=55
V35A Meyer Ranch, C 17.71 24 ⇑P Pn 21 37 08.3 +0.5
baz=18
T29A Hugoton 17.74 11 ⇑P P 21 37 10.2 +1.4
baz=18
CIS Catalina Islan 17.75 323 ⇓P P 21 37 10.7 +1.8
baz=18
HEC Hector,Ludlow 17.77 330 ⇓P P 21 37 11.1 +2.0
baz=18,SNR=6.8
T30A Plains 17.79 13 ⇓P P 21 37 09.9 +0.6
baz=18
S24A Houchin Ranch, 17.82 1 ⇑P P 21 37 11.9 +1.9
baz=18,SNR=7.8
U33A Lingo Farm, Me 17.86 20 ⇓P P 21 37 10.7 +0.6
baz=18
S25A Robets Cordova 17.87 3 ⇓P P 21 37 12.0 +1.6
baz=18
S23A Nye Farm, Mont 17.89 359 ⇓P P 21 37 12.3 +1.6
baz=18
S26A Kim 17.89 6 ⇓P P 21 37 12.1 +1.5
baz=18,SNR=12
FMP Fort Macarthur 17.91 323 ⇓P P 21 37 12.7 +2.1
baz=18
S22A 4UR Ranch, Cre 17.95 357 ⇑P P 21 37 13.6 +2.2
baz=18,SNR=21
S22A 4UR Ranch, Cre 17.95 357 eP P 21 37 12.4 +1.0
46nm,1.4s
BFSC Mount Baldy Ra 17.96 326 ⇓P P 21 37 13.3 +1.9
baz=18,SNR=7.3
S27A Las Animas 18.02 7 ⇓P P 21 37 12.8 +0.9
baz=18,SNR=5.9
S28A Manter 18.06 10 ⇓P Pn 21 37 12.8 +0.7
baz=18,SNR=7.6
U34A Anderson Ranch 18.06 21 ⇓P P 21 37 12.9 +0.6
baz=18
U34A Anderson Ranch 18.06 21 eP Pn 21 37 11.5 -0.6
37nm,0.9s
TUQ Turquoise Moun 18.08 332 ⇑P P 21 37 14.5 +1.9
baz=18,SNR=24
MWC Mount Wilson 18.16 325 eP Pn 21 37 14.8 +1.2
34nm,1.4s
MIAR Mount Ida 18.18 33 eP Pn 21 37 12.3 -1.3
17nm,1.0s
PASC Pasadena Art C 18.19 325 eP P 21 37 15.2 +1.4
S29A Ulysses 18.22 11 ⇑P P 21 37 15.1 +1.0
baz=18
TUL1 Leonard 18.26 26 ⇓P Pn 21 37 14.9 +0.4
baz=18
TUL1 Leonard 18.26 26 eP Pn 21 37 13.3 -1.2
36nm,0.9s
T32A Huddler Ranch, 18.31 17 ⇑P P 21 37 15.7 +0.6
baz=18
KNB Kanab 18.32 341 eP Pn 21 37 17.4 +1.9
67nm,1.1s
DECC Green Verdugo 18.33 325 ⇑P Pn 21 37 18.0 +2.6
baz=18
R25A Fountain Ranch 18.36 3 ⇓P Pn 21 37 17.4 +1.5
baz=18
R23A Moffat 18.37 359 ⇓P Pn 21 37 18.1 +2.0
baz=18,SNR=18
S30A Montezuma 18.37 13 ⇓P Pn 21 37 16.7 +0.7
baz=18
GSC Goldstone, Bar 18.37 330 ⇑P Pn 21 37 18.3 +2.2
baz=18,SNR=17
GSC Goldstone, Bar 18.37 330 eP Pn 21 37 17.2 +1.1
70nm,1.5s
R24A Sanders Place, 18.41 1 ⇑P Pn 21 37 18.5 +1.9
baz=18,SNR=19
T33A Patterson Ranc 18.42 19 ⇑P Pn 21 37 17.3 +0.8
baz=18
PV01 Paradox Valley 18.49 353 eP Pn 21 37 18.4 +0.8
PV05 Paradox Valley 18.51 351 eP P 21 37 18.2 +0.7
R26A Arlington 18.57 5 ⇑P Pn 21 37 20.1 +1.7
baz=18,SNR=8.6
R27A Eads 18.62 7 ⇑P Pn 21 37 20.9 +1.8
baz=19
SHOC Shoshone, Teco 18.63 332 ⇓P Pn 21 37 21.4 +2.3
baz=19
EDW2 Edwards Air Fo 18.63 326 ⇑P Pn 21 37 21.4 +2.3
baz=19,SNR=6.2
SHPR Sheep Range 18.67 335 eP Pn 21 37 20.8 +1.1
PV04 Paradox Valley 18.79 352 eP P 21 37 21.3 +0.8
PV10 Paradox Valley 18.79 352 eP P 21 37 20.6 0.0
R28A Tribune 18.81 9 ⇓P Pn 21 37 22.4 +1.2
baz=19
BSC Santa Cruz Isl 18.88 321 ⇓P Pn 21 37 24.2 +2.1
baz=19
PV09 Paradox Valley 18.92 351 eP P 21 37 22.9 +0.8
LRMC Laurel Mtn Rad 18.94 328 ⇑P Pn 21 37 24.9 +1.9
baz=19,SNR=14
S33A Kaszmaul Farm, 18.96 19 ⇓P Pn 21 37 24.1 +1.0
baz=19
CCUT Cedar City 18.98 341 eP P 21 37 23.4 +0.8
43nm,1.3s
R29A Marienthal 19.00 11 ⇑P Pn 21 37 24.9 +1.3
baz=19
UALR University of 19.01 35 eP P 21 37 20.6 -2.1
18nm,0.9s
R30A Dighton 19.03 13 ⇑P Pn 21 37 25.1 +1.2
baz=19
Q23A Hartsel 19.08 359 ⇑P Pn 21 37 26.1 +1.3
baz=19
Q25A Bedland, Calha 19.12 3 ⇓P Pn 21 37 25.6 +0.4
baz=19,SNR=9.1
Q24A Divide 19.14 1 ⇓P Pn 21 37 26.1 +0.5
baz=19
Q24A Divide 19.14 1 eP P 21 37 25.2 +0.7
9.7nm,0.8s
Q26A Hugo 19.18 5 ⇑P Pn 21 37 26.6 +0.7
baz=19,SNR=7.1
R31A Burdett 19.20 15 ⇓P Pn 21 37 26.2 +0.2
baz=19
ARUT Antelope Range 19.22 341 eP Pn 21 37 27.1 +0.8
ARVC Arvin 19.26 325 ⇑P Pn 21 37 27.6 +1.0
baz=19
MPMC Manual Prospec 19.31 330 ⇑P P 21 37 27.9 +1.6
baz=19,SNR=19
KSCO Kaye Shedlock' 19.36 7 ⇓P Pn 21 37 28.0 +0.1
baz=19
KSCO Kaye Shedlock' 19.36 7 eP P 21 37 26.7 +0.1
99nm,1.7s
FURC Furnace Creek, 19.36 332 ⇓P Pn 21 37 28.6 +0.8
baz=19
SMCO Snowmass 19.39 357 eP P 21 37 28.5 +1.2
36nm,0.7s
Q29A Oakley 19.48 11 ⇓P P 21 37 29.0 +1.1
baz=19,SNR=6.2
ISA Isabella, Lake 19.48 327 ⇓P Pn 21 37 30.2 +0.7
baz=20,SNR=17
ISA Isabella, Lake 19.48 327 eP P 21 37 29.6 +1.6
18nm,1.1s
TPNV Topopah Spring 19.50 334 ⇓P Pn 21 37 30.4 +0.7
baz=20,SNR=28
TPNV Topopah Spring 19.50 334 eP Pn 21 37 30.2 +0.5
48nm,1.1s
Q28A Sharon Springs 19.51 9 ⇓P P 21 37 29.3 +1.0
baz=19
R32A Long Quarter, 19.53 16 ⇑P P 21 37 29.5 +1.0
baz=19
DAC Darwin (Calif) 19.54 330 eP P 21 37 29.9 +1.1
43nm,1.4s
MVU Marysvale 19.54 344 eP Pn 21 37 30.7 +0.5
29nm,1.0s
P23A Jefferson 19.55 359 ⇓P Pn 21 37 30.8 +0.4
baz=20,SNR=11
R33A Olander Ranch, 19.63 18 ⇑P P 21 37 30.7 +1.2
baz=20
PKM Mcpherson Peak 19.64 323 ⇓P Pn 21 37 32.8 +1.5
baz=20,SNR=5.2
Q30A Quinter 19.71 13 ⇑P Pn 21 37 32.0 0.0
baz=20
P25A Willow Gulch B 19.73 3 ⇑P Pn 21 37 33.0 +0.7
baz=20
SRU San Rafael Swe 19.75 349 eP P 21 37 31.7 +0.7
47nm,0.9s
P22A Eagle 19.79 357 ⇑P Pn 21 37 33.4 +0.2
baz=20,SNR=51
P26A Davis Ranch, A 19.83 5 ⇓P P 21 37 33.0 +1.2
baz=20
S36A Lake Cedric, C 19.91 24 ⇓P P 21 37 33.5 +1.0
baz=20
Q31A Ellis 19.91 14 ⇑P P 21 37 34.1 +1.5
baz=20
VES Vestal, Richgr 19.94 326 ⇓P Pn 21 37 35.4 +0.7
baz=20,SNR=19
ISCO Idaho Springs 19.97 360 ⇑P P 21 37 34.6 +1.1
baz=20,SNR=14
ISCO Idaho Springs 19.97 360 eP P 21 37 33.7 +0.2
18nm,1.1s
P28A Saint Francis 20.02 9 ⇓P Pn 21 37 35.8 0.0
baz=20
GRAC Grapevine Rang 20.03 332 ⇓P Pn 21 37 36.1 +0.4
baz=20
TMUT Trail Mountain 20.06 347 eP P 21 37 35.8 +1.2
86nm,0.8s
BRAL Brewton 20.12 53 eP P 21 37 34.9 +0.1
85nm,0.8s
P29A Atwood 20.18 10 ⇑P P 21 37 37.1 +1.5
baz=20
P30A Seiden 20.25 12 ⇑P P 21 37 37.8 +1.5
baz=20
O24A Longmont 20.30 1 ⇓P P 21 37 38.4 +1.4
baz=20,SNR=7.2
O22A Kremmling 20.35 358 ⇑P P 21 37 39.0 +1.4
baz=20,SNR=22
RCTC Rector, Farmer 20.38 327 ⇓P Pn 21 37 40.3 +0.5
baz=20
O23A Lake Granby, G 20.39 359 ⇑P P 21 37 39.8 +1.7
baz=20,SNR=16
P31A Stockton 20.41 14 ⇑P P 21 37 39.2 +1.2
baz=20
O20A White River Ci 20.43 354 ⇑P P 21 37 40.2 +1.7
baz=20,SNR=36
O20A White River Ci 20.43 354 eP P 21 37 39.3 +0.8
66nm,0.9s
R11A Troy Canyon, C 20.45 337 ⇓P P 21 37 40.5 +1.9
baz=20,SNR=29
R11A Troy Canyon, C 20.45 337 eP P 21 37 39.6 +1.0
28nm,1.3s
TIN Tinemaha, Big 20.47 330 ⇓P Pn 21 37 41.4 +0.3
baz=20
O26A Horse Wrangler 20.51 5 ⇑P P 21 37 40.3 +1.1
baz=20,SNR=7.3
HBAR Harrisburg 20.52 37 eP P 21 37 38.2 -0.9
OXF Oxford 20.54 41 eP P 21 37 38.6 -0.7
70nm,0.9s
O27A Beecher Island 20.54 7 ⇑P P 21 37 40.4 +0.9
baz=20
O28A Krutsinger Ran 20.56 8 ⇑P P 21 37 40.5 +0.8
baz=20,SNR=6.3
P32A Huiting Farm, 20.69 15 ⇓P P 21 37 41.6 +0.6
baz=21
O29A 4D Ranch, Culb 20.71 10 ⇓P P 21 37 41.7 +0.4
baz=21
KSU1 Kansas State U 20.78 20 ⇑P P 21 37 42.5 +0.5
baz=21
KSU1 Kansas State U 20.78 20 eP P 21 37 40.5 -1.4
31nm,0.8s
MPU Maple Canyon 20.84 347 eP P 21 37 43.2 +0.3
55nm,1.2s
TPH Tonopah 20.86 333 eP P 21 37 44.2 +1.1
65nm,1.4s
NLU North Lily Min 20.88 346 eP P 21 37 44.5 +1.2
30nm,1.2s
O30A MW Ranch, Wils 20.90 12 ⇑P P 21 37 43.8 +0.4
baz=21
N22A Wattenberg Ran 20.99 358 ⇓P P 21 37 45.7 +1.2
baz=21,SNR=16
N24A Carr 21.01 2 ⇓P P 21 37 45.8 +1.2
baz=21
O31A Woolen Ranch, 21.03 13 ⇓P P 21 37 45.4 +0.7
baz=21
N23A Red Feather La 21.07 359 ⇓P P 21 37 46.6 +1.2
baz=21,SNR=16
N23A Red Feather La 21.07 359 eP P 21 37 45.9 +0.5
52nm,1.4s
N20A Spence Gulch, 21.13 354 ⇑P P 21 37 47.3 +1.3
baz=21,SNR=31
N27A Anderson Farm, 21.14 6 ⇑P P 21 37 46.7 +0.7
baz=21
DAU Daniels Canyon 21.15 348 eP P 21 37 47.5 +1.2
MLAC Mammoth, Mammo 21.22 330 ⇑P P 21 37 49.0 +2.0
baz=21
LRAL Lakeview Retre 21.23 48 eP P 21 37 45.9 -0.9
80nm,0.6s
DUG Dugway, Tooele 21.29 345 ⇓P P 21 37 49.1 +1.5
baz=21,SNR=56
DUG Dugway, Tooele 21.29 345 eP P 21 37 48.7 +1.1
45nm,1.0s
OGNE Ogallala 21.34 7 ⇑P P 21 37 49.3 +1.3
baz=21
O32A Brockman Farm, 21.38 16 ⇑P P 21 37 49.4 +1.0
baz=21
M22A Cedar Creek Ra 21.59 358 ⇓P P 21 37 52.1 +1.2
baz=22,SNR=7.1
NV01 Mina Array Sit 21.62 332 eP P 21 37 52.0 +0.7
NVAR Mina Array Bea 21.62 332 P P 21 37 53.0 +1.7
18nm,0.8s,baz=154,slow=12,SNR=117
M23A Laramie 21.64 360 ⇓P P 21 37 53.1 +1.6
baz=22,SNR=7.6
M25A Palm-Egli Farm 21.65 3 ⇓P P 21 37 52.6 +1.1
baz=22
M24A Cheyenne 21.65 2 ⇓P P 21 37 52.6 +1.1
baz=22
M26A McRoberts Ranc 21.74 5 ⇑P P 21 37 53.6 +1.2
baz=22
PARMO Parma 21.82 36 eP P 21 37 52.0 -1.2
TCUT Toone Canyon 21.86 348 eP P 21 37 53.8 -0.1
38nm,0.9s
JTS JuntasAbangare 22.03 112 P P 21 37 57.1 +1.5
25nm,0.6s,baz=307,slow=9.2,SNR=20
JTS JuntasAbangare 22.03 112 eP P 21 37 57.1 +1.5
31nm,0.8s
BGU Big Grassy Mou 22.03 345 eP P 21 37 56.1 +0.5
16nm,1.2s
WAKR Walker 22.20 330 eP P 21 37 59.0 +1.5
L22A Ellis Ranch, M 22.21 358 ⇓P P 21 37 58.4 +0.8
baz=22,SNR=9.6
L24A Wheatland 22.22 1 ⇓P P 21 37 58.6 +1.0
baz=22
SPUT South Promonto 22.26 346 eP P 21 37 58.9 +0.9
32nm,1.0s
L23A Garrett 22.29 360 ⇑P P 21 37 59.2 +0.9
baz=22,SNR=14
CMB Columbia Colle 22.29 328 eP P 21 37 58.5 +0.3

	11nm,0.8s							
L25A	Engebretsen Ra	22.37	3	⇓P	P	21 38 00.2	+1.0	
	baz=22							
L28A	Connealy Angus	22.45	8	⇓P	P	21 38 00.4	+0.4	
	baz=22							
ELK	Elko	22.48	341	P	P	21 38 01.3	+0.7	
	9.5nm,0.9s,baz=179,slow=7.8,SNR=28							
ELK	Elko	22.48	341	eP	P	21 38 01.1	+0.6	
	14nm,1.1s							
BGNE	Belgrade	22.49	15	⇑P	P	21 38 00.7	+0.3	
	baz=22							
BGNE	Belgrade	22.49	15	eP	P	21 37 59.8	-0.5	
	73nm,1.0s							
WVT	Waverly	22.57	40	eP	P	21 37 59.3	-1.9	
	21nm,0.7s							
L30A	Spencer Herefo	22.68	11	⇑P	P	21 38 03.0	+0.7	
	baz=23							
HVU	Hansel Valley	22.78	346	eP	P	21 38 03.8	+0.3	
	26nm,0.8s							
K25A	Mack Ranch, Ha	22.83	3	⇑P	P	21 38 04.6	+0.5	
	baz=23							
K22A	Casper	22.84	358	⇑P	P	21 38 04.6	+0.5	
	baz=23,SNR=10							
K22A	Casper	22.84	358	eP	P	21 38 04.1	-0.1	
	62nm,1.5s							
K21A	Alcova	22.85	357	⇑P	P	21 38 04.5	+0.2	
	baz=23,SNR=16							
SIUC	Southern Illin	22.88	35	eP	P	21 38 01.9	-2.5	
	27nm,0.7s							
BMN	Battle Mountai	22.89	337	eP	P	21 38 05.3	+0.6	
	114nm,1.7s							
K24A	Anderson Ranch	22.90	1	⇑P	P	21 38 05.9	+1.0	
	baz=23							
K23A	Bowen Ranch, D	22.93	360	⇑P	P	21 38 05.5	+0.4	
	baz=23,SNR=5.3							
TIGA	Tifton	22.96	55	⇑P	P	21 38 03.9	-1.4	
	baz=23,SNR=11							
TIGA	Tifton	22.96	55	eP	P	21 38 03.1	-2.2	
	249nm,1.7s							
K26A	Motz Farm, Whi	22.96	5	⇑P	P	21 38 06.6	+1.2	
	baz=23							
SLM	Saint Louis	23.04	32	eP	P	21 38 04.4	-1.7	
	89nm,0.7s							
K27A	Flueckinger Fa	23.05	6	⇑P	P	21 38 07.2	+0.9	
	baz=23							
BW06	Boulder Array	23.18	353	eP	P	21 38 06.9	-0.8	
PD31	Pinedale Array	23.18	353	eP	P	21 38 06.8	-0.9	
PDAR	Pinedale Array	23.18	353	P	P	21 38 06.8	-0.9	
	19nm,0.9s,baz=163,slow=9.2,SNR=87							
PDAR				LR	LR	21 47 12.2		
	comp=Z,247nm,18.1s,baz=164,slow=37							
SWET	Sewanee	23.20	44	eP	P	21 38 06.0	-1.8	
K30A	Basset	23.40	11	⇓P	P	21 38 09.8	+0.2	
	baz=23							
AHID	Auburn Hatcher	23.40	350	eP	P	21 38 10.4	+0.5	
	28nm,1.0s							
J24A	Dixon Ranch, L	23.51	2	⇓P	P	21 38 10.9	+0.1	
	baz=24							
J21A	Lysite	23.57	357	⇑P	P	21 38 12.1	+0.6	
	baz=24							
J26A	Sides Ranch, S	23.58	5	⇑P	P	21 38 11.8	+0.4	
	baz=24							
J22A	Midwest	23.59	358	⇑P	P	21 38 12.6	+0.9	
	baz=24							
J25A	Sunshine Ranch	23.61	3	⇓P	P	21 38 12.7	+0.9	
	baz=24							
J19A	Crowheart	23.61	354	⇓P	P	21 38 12.2	+0.3	
	baz=24,SNR=27							
J20A	Shoshoni	23.62	355	⇓P	P	21 38 12.3	+0.5	
	baz=24,SNR=9.5							
J27A	Elkhorn Farm,	23.62	7	⇓P	P	21 38 12.5	+0.6	
	baz=24							
USIN	University of	23.92	37	eP	P	21 38 13.5	-1.1	
	145nm,0.7s							
REDW	Red Top Meadow	23.94	351	eP	P	21 38 15.0	0.0	
	55nm,1.1s							
GOGA	Godfrey	23.95	51	eP	P	21 38 12.9	-2.0	
	44nm,0.8s							
J29A	Okreek	23.99	9	⇑P	P	21 38 15.5	+0.3	
	baz=24							
I21A	Big Trails, Te	24.02	357	⇓P	P	21 38 16.4	+0.6	
	baz=24,SNR=7.9							
SNOW	Snow King Moun	24.03	351	eP	P	21 38 16.1	+0.2	
	56nm,0.9s							
J30A	Dallas	24.05	11	⇓P	P	21 38 16.4	+0.6	
	baz=24							
I22A	9 Mile Ranch,	24.07	358	⇑P	P	21 38 16.9	+0.7	
	baz=24							
TPAW	Teton Pass	24.08	350	eP	P	21 38 16.2	-0.2	
	36nm,0.9s							
LOHW	Long Hollow	24.15	351	eP	P	21 38 16.9	-0.1	
	30nm,0.8s							
I20A	Worland	24.21	356	⇓P	P	21 38 18.3	+0.9	
	baz=24,SNR=17							
OLIL	Olney	24.22	35	eP	P	21 38 15.4	-2.0	
	49nm,1.0s							
FXWY	Fox Creek	24.24	350	eP	P	21 38 18.1	+0.3	
	41nm,0.9s							
I25A	Rochford	24.24	3	⇑P	P	21 38 18.0	+0.2	
	baz=24,SNR=12							
CPCT	Cooper Cave	24.28	46	eP	P	21 38 18.9	+0.9	
I26A	New Underwood	24.31	5	⇑P	P	21 38 18.6	+0.3	
	baz=24							
RSSD	Black Hills	24.33	3	eP	P	21 38 18.1	-0.5	
	6.6nm,0.9s							
I19A	Meeteetse	24.37	354	⇑P	P	21 38 19.8	+0.8	
	baz=24,SNR=23							
I17A	Pilgrim Ck.	24.45	351	⇑P	P	21 38 20.6	+0.9	
	baz=24,SNR=43							
I28A	Midland	24.45	8	⇓P	P	21 38 20.1	+0.6	
	baz=24							
IMW	Indian Meadow	24.48	351	eP	P	21 38 19.7	-0.4	
	25nm,0.8s							
I29A	Vivian Onida	24.59	9	⇓P	P	21 38 21.4	+0.6	
	baz=24							
FLWY	Flagg Ranch	24.62	351	eP	P	21 38 21.6	+0.3	
	33nm,0.9s							
H20A	Greybull	24.74	356	⇑P	P	21 38 22.7	+0.5	
	baz=25,SNR=12							
H22A	Clearmont	24.77	359	⇑P	P	21 38 23.3	+0.8	
	baz=25,SNR=7.7							
H21A	Big Horn, Sher	24.83	358	⇓P	P	21 38 23.4	+0.4	
	baz=25,SNR=8.9							
H25A	Fruitdale	24.85	3	⇑P	P	21 38 23.6	+0.5	
	baz=25							
HLID	Hailey	24.86	345	⇑P	P	21 38 24.1	+0.7	
	baz=25,SNR=15							
HLID	Hailey	24.86	345	eP	P	21 38 23.7	+0.3	
	8.6nm,0.8s							
WCI	Wyandotte Cave	24.89	38	eP	P	21 38 21.1	-2.4	
	27nm,0.7s							
TKL	Tuckaleechee C	24.90	46	P	P	21 38 21.5	-2.1	
	14nm,0.9s,baz=216,slow=11,SNR=16							
TKL	Tuckaleechee C	24.90	46	eP	P	21 38 21.7	-1.9	
H17A	Grant Village	24.91	352	⇑P	P	21 38 24.8	+0.8	
	baz=25,SNR=8.4							
H17A	Grant Village	24.91	352	eP	P	21 38 24.4	+0.4	
	32nm,1.3s							
H24A	Dirks Ranch, A	24.93	2	⇓P	P	21 38 23.9	-0.1	
	baz=25							
H27A	Howes	24.98	6	⇑P	P	21 38 24.4	+0.1	
	baz=25							
H19A	Powell	25.00	354	⇓P	P	21 38 25.5	+0.9	
	baz=25,SNR=13							
YFT	Old Faithful	25.01	351	eP	P	21 38 26.1	+1.4	
	38nm,0.8s							
ECSD	EROS Data Cent	25.06	15	eP	P	21 38 24.5	-0.5	
	24nm,1.3s							
H18A	Shoshone NF, C	25.08	353	⇓P	P	21 38 25.9	+0.5	
	baz=25,SNR=11							
MFID	Camas Ranch	25.10	342	eP	P	21 38 25.0	-0.5	
	18nm,0.9s							
H28A	Mission Ridge	25.14	8	⇑P	P	21 38 26.4	+0.7	
	baz=25							
WVOR	Wild Horse Val	25.15	337	eP	P	21 38 25.8	-0.2	
	23nm,1.3s							
YMR	Madison River	25.24	351	eP	P	21 38 25.9	-0.9	
	31nm,0.8s							
YNR	Norris Junctio	25.24	351	eP	P	21 38 26.9	0.0	
	22nm,1.1s							
WDC	Whiskeytown Da	25.31	329	eP	P	21 38 26.4	-0.9	
	7.0nm,0.8s							
MOD	Modoc Plateau	25.36	334	eP	P	21 38 28.1	+0.2	
	40nm,1.4s							
G23A	Biddle	25.37	0	⇓P	P	21 38 28.2	+0.3	
	baz=25							
G22A	Birney	25.40	359	⇑P	P	21 38 29.4	+1.3	
	baz=25,SNR=10							
BLO	Bloomington	25.40	36	eP	P	21 38 27.2	-0.9	
	32nm,0.6s							
G21A	Lodge Grass	25.43	357	⇓P	P	21 38 28.9	+0.4	
	baz=25							
QLMT	Earthquake Lak	25.47	350	eP	P	21 38 29.5	+0.6	
RLMT	Red Lodge	25.48	354	eP	P	21 38 28.6	-0.3	
	41nm,1.8s							
G20A	Bridger	25.48	356	⇓P	P	21 38 28.9	-0.1	
	baz=25,SNR=6.2							
G24A	Alzada	25.52	2	⇑P	P	21 38 29.5	+0.3	
	baz=26							
G28A	Parade	25.54	8	⇑P	P	21 38 29.9	+0.6	
	baz=26							
TZTN	Tazewell	25.55	45	eP	P	21 38 27.6	-1.9	
	50nm,0.7s							
G26A	Maurine	25.59	5	⇓P	P	21 38 30.5	+0.7	
	baz=26							
MCMT	McKenzie Canyo	25.71	348	eP	P	21 38 31.5	+0.3	
G27A	Dupree	25.73	6	⇓P	P	21 38 31.3	+0.2	
	baz=26							
G30A	Faulkton	25.86	11	⇑P	P	21 38 33.0	+0.7	
	baz=26							
F23A	Volborg	25.89	0	⇑P	P	21 38 32.0	-0.6	
	baz=26,SNR=6.3							
M04C	Macdoel	25.92	331	⇑P	P	21 38 34.1	+1.1	
	baz=26							
SFIN	Lafayette	25.95	34	⇓P	P	21 38 32.1	-1.0	
	baz=26,SNR=11							
SFIN	Lafayette	25.95	34	eP	P	21 38 31.6	-1.5	
	47nm,0.6s							
F22A	Rosebud	25.95	359	⇑P	P	21 38 32.9	-0.3	
	baz=26							
F24A	Ekalaka	26.03	2	⇑P	P	21 38 33.9	0.0	
	baz=26							
F20A	Billings	26.06	356	⇑P	P	21 38 34.4	+0.3	
	baz=26							
M02C	Callahan	26.09	330	⇓P	P	21 38 35.2	+0.8	
	baz=26							
F26A	Lodgepole	26.13	5	⇓P	P	21 38 35.3	+0.5	
	baz=26							
F25A	Bowman	26.16	3	⇑P	P	21 38 35.3	+0.3	
	baz=26							
F19A	Roth Farm, Mol	26.17	355	⇓P	P	21 38 35.8	+0.6	
	baz=26							
RGRS	Roger Stewart	26.18	55	eP	P	21 38 34.5	-0.7	
NHSC	New Hope	26.28	54	eP	P	21 38 34.8	-1.3	
	112nm,1.0s							
K05A	Summer Lake	26.28	334	eP	P	21 38 34.8	-1.5	
	33nm,1.3s							
YBH	Yreka Blue Hor	26.29	330	LR	LR	21 48 11.3		
	comp=Z,165nm,21.7s,baz=174,slow=34							
BOZ	Bozeman (W)	26.29	350	eP	P	21 38 36.3	0.0	
	23nm,0.8s							
CSU	Charleston Sou	26.31	55	eP	P	21 38 35.9	-0.5	
F28A	McLaughlin	26.32	8	⇓P	P	21 38 36.9	+0.5	
	baz=26							
KMSC	Kings Mountain	26.33	49	eP	P	21 38 34.4	-2.2	
	157nm,0.3s							
F29A	Eureka	26.44	9	⇑P	P	21 38 37.3	-0.1	
	baz=26							
JFWS	Jewell Farm	26.46	26	eP	P	21 38 35.4	-2.3	
	25nm,0.7s							
LRM	Limekiln Ridge	26.60	349	eP	P	21 38 39.4	+0.2	
E20A	Meyer Farm, Mu	26.75	356	⇑P	P	21 38 40.3	-0.1	
	baz=27,SNR=7.0							
E19A	Rath Farm, Rou	26.76	355	⇑P	P	21 38 40.5	+0.1	
	baz=27,SNR=7.3							
E27A	Carson	26.80	6	⇓P	P	21 38 41.2	+0.4	
	baz=27							
BMO	Blue Mountains	26.85	341	eP	P	21 38 40.7	-0.6	
	8.8nm,1.1s							
J05D	Fort Rock, OR	26.89	334	⇑P	P	21 38 42.5	+0.8	
	baz=27							
I07A	Izee	26.89	337	eP	P	21 38 41.1	-0.6	
	7.4nm,1.0s							
D21A	La Casta Ranch	27.26	358	⇓P	P	21 38 45.4	+0.5	
	baz=27							
D24A	Glendive	27.31	2	⇑P	P	21 38 45.4	+0.1	
	baz=27							
D26A	Manning	27.32	5	⇑P	P	21 38 45.6	+0.2	
	baz=27							
D22A	Cohagen	27.32	359	⇓P	P	21 38 45.6	+0.1	
	baz=27,SNR=8.2							
HRY	Holter Researc	27.36	351	eP	P	21 38 45.5	-0.4	
C24A	Savage	27.72	2	⇓P	P	21 38 49.0	+0.1	
	baz=28							
G08A	Pilot Rock	27.76	340	eP	P	21 38 49.5	0.0	
	13nm,1.4s							
CHMT	Chamberlain Mo	27.80	349	eP	P	21 38 49.4	-0.5	
D30A	Buchanan	27.85	10	⇑P	P	21 38 50.0	-0.1	
	baz=28							
F10A	Beach Ranch, E	27.85	342	eP	P	21 38 49.1	-1.1	
	7.6nm,1.0s							
MSO	Missoula	27.85	348	⇓P	P	21 38 50.7	+0.5	
	baz=28,SNR=22							
MSO	Missoula	27.85	348	eP	P	21 38 50.0	-0.3	
	35nm,1.2s							
C20A	Veseth Ranch,	27.95	357	⇓P	P	21 38 51.2	+0.1	
	baz=28,SNR=7.3							
C23A	Lambert	27.98	1	⇑P	P	21 38 51.1	-0.1	
	baz=28,SNR=5.8							
BLA	Blacksburg	28.01	46	eP	P	21 38 49.8	-2.0	
	19nm,0.9s							
C21A	Desert Coulee	28.02	358	⇑P	P	21 38 51.5	-0.2	
	baz=28,SNR=7.1							
C19A	Slack Wire Ran	28.05	355	⇓P	P	21 38 52.2	+0.3	
	baz=28,SNR=5.8							
ACSO	Alum Creek Sta	28.14	39	eP	P	21 38 50.4	-2.4	
	12nm,0.9s							
C26A	Wahner Farm, P	28.14	5	⇑P	P	21 38 52.7	0.0	
	baz=28							
EGMT	Eagleton	28.40	354	⇑P	P	21 38 55.1	0.0	
	baz=28							
EGMT	Eagleton	28.40	354	eP	P	21 38 54.4	-0.7	
	19nm,1.4s							
B23A	Brockton	28.64	1	⇓P	P	21 38 57.6	+0.4	
	baz=29							
B19A	Brinkman Farms	28.75	355	⇓P	P	21 38 58.7	+0.5	
	baz=29,SNR=6.3							
JTMT	Jette	28.80	348	eP	P	21 38 57.9	-0.8	
A20A	Cobblestone Ra	29.11	357	⇑P	P	21 39 01.4	0.0	
	baz=29							
AAM	Ann Arbor	29.14	35	eP	P	21 38 59.8	-1.8	
	20nm,0.6s							
A22A	Carney Farms,	29.17	360	⇓P	P	21 39 02.0	+0.2	
	baz=29,SNR=8.0							
A19A	Klindworth Far	29.21	356	⇓P	P	21 39 02.4	+0.1	
	baz=29							
AGMN	Agassiz Nation	29.54	13	⇑P	P	21 39 04.9	-0.2	
	baz=30							
AGMN	Agassiz Nation	29.54	13	eP	P	21 39 03.2	-1.9	
	6.3nm,0.8s							
A29A	Manning Farm,	29.54	9	⇑P	P	21 39 05.1	0.0	
	baz=30							
COWI	Conover	29.56	24	eP	P	21 39 03.3	-2.1	
A30A	Hoffart Farm,	29.70	10	⇓P	P	21 39 06.4	-0.2	
	baz=30							
NEW	Newport	29.93	344	P	P	21 39 07.5	-1.0	
	4.8nm,0.9s,baz=155,slow=14,SNR=10							
NEW				LR	LR	21 53 14.7		
	comp=Z,193nm,18.2s,baz=184,slow=40							
NEW	Newport	29.93	344	⇑P	P	21 39 08.6	0.0	
	baz=30,SNR=6.7							
NEW	Newport	29.93	344	eP	P	21 39 07.6	-1.0	
	7.4nm,1.0s							
WALA	Waterton Lakes	29.99	349	eP	P	21 39 09.1	-0.1	
	13nm,1.0s							
JSRW	J. Sargeant Re	30.00	48	eP	P	21 39 07.2	-2.1	
URVA	University of	30.18	48	eP	P	21 39 09.4	-1.5	
EYMN	Ely	30.36	19	eP	P	21 39 10.3	-2.1	
	18nm,0.8s							
B08A	Colville Reser	30.61	342	eP	P	21 39 14.9	+0.2	
	24nm,1.1s							
ALLY	Alegheny Colle	30.70	39	eP	P	21 39 13.2	-2.3	
	17nm,0.8s							
ERPA	Erie	31.08	39	eP	P	21 39 16.5	-2.3	
	18nm,0.8s							
ULM	Lac du Bonnet	31.39	12	P	P	21 39 18.9	-2.5	
	2.5nm,0.5s,baz=198,slow=11,SNR=6.3							
ULM	Lac du Bonnet	31.39	12	eP	P	21 39 18.9	-2.5	
	14nm,1.4s							
SSPA	Standing Stone	31.51	43	eP	P	21 39 20.6	-2.0	
	15nm,0.9s							
A05A	Maple Falls	32.04	339	eP	P	21 39 27.5	+0.4	
	15nm,0.8s							
MVL	Millersville	32.17	45	eP	P	21 39 26.4	-2.0	
	17nm,0.8s							
OTAV	Otavalo	32.92	123	eP	P	21 39 34.0	-1.7	
	24nm,1.5s							
LUPA	Lehigh Univers	33.12	45	eP	P	21 39 34.9	-1.8	
	4.1nm,0.7s							
SADO	Sadowa	33.23	35	P	P	21 39 36.5	-1.1	
	19nm,0.6s,baz=244,slow=9.6,SNR=27							
KSPA	Keystone Colle	33.35	43	eP	P	21 39 35.9	-2.8	
	10nm,1.0s							
BINY	Binghamton	33.56	42	eP	P	21 39 37.4	-3.1	
	26nm,0.8s							
ODNJ	Ogdensburg	33.87	44	eP	P	21 39 41.6	-1.6	
	24nm,0.8s							
EDM	Edmonton	33.94	352	eP	P	21 39 42.8	-0.9	
PAL	Palisades	34.29	45	eP	P	21 39 45.3	-1.6	
	48nm,0.8s							
FFC	Flin Flon	35.02	4	eP	P	21 39 51.3	-1.7	
	7.1nm,0.8s							
YLE	Yale	35.08	45	eP	P	21 39 51.9	-1.8	
	37nm,0.8s							
PTN	Potsdam (NY)	35.48	39	eP	P	21 39 55.1	-2.0	
	51nm,1.4s							
SDV	Santo Domingo	35.48	103	eP	P	21 39 57.5	-0.3	
	20nm,0.8s							
ACCN	Adirondack Com	35.63	41	eP	P	21 39 56.2	-2.3	
	12nm,0.9s							
LONY	Lake Ozonia	35.74	39	eP	P	21 39 57.1	-2.2	
	59nm,2.3s							
QUA2	Belchertown	35.92	44	eP	P	21 39 59.0	-1.9	
	24nm,0.8s							
MDV	Middlebury	36.25	41	eP	P	21 40 01.5	-2.2	
BRYW	Bryant College	36.29	45	eP	P	21 40 02.0	-2.1	
	26nm,0.7s							
HRV	Adam Dziewonsk	36.55	44	eP	P	21 40 04.4	-1.9	
	18nm,0.7s							
WES	Weston	36.65	44	eP	P	21 40 05.5	-1.7	
	15nm,0.8s							
LBNH	Lisbon	37.15	41	eP	P	21 40 09.5	-2.0	
	16nm,0.9s							
MTP	Monte Pirata	37.86	86	eP	P	21 40 16.6	-1.1	
FCC	Fort Churchill	39.84	9	eP	P	21 40 32.1	-1.6	
	12nm,1.0s							
DLBC	Dease Lake	42.53	341	P	P	21 40 57.4	+1.3	
	10nm,0.8s,baz=163,slow=6.1,SNR=25							
DLBC	Dease Lake	42.53	341	eP	P	21 40 56.2	+0.2	
YKA	Yellowknife Ar	43.15	354	P	P	21 40 59.6	-1.2	
	2.9nm,0.8s,baz=165,slow=8.2,SNR=45							
TAOE	Nuku Hiva Isla	44.34	233	eT	T	22 28 28.0		
	750nm,0.3s							
SCHQ	Schefferville	45.65	30	P	P	21 41 19.4	-1.7	
	9.8nm,0.7s,baz=244,slow=6.3,SNR=20							
SCHQ	Schefferville	45.65	30	eP	P	21 41 19.0	-2.0	
	12nm,0.8s							
PTGA	Pitinga	49.13	109	eP	P	21 41 47.4	-1.3	
	8.4nm,0.8s							
DAWY	Dawson	49.76	341	eP	P	21 41 52.0	-0.8	
FRB	Frobisher Bay	50.56	20	P	P	21 41 56.9	-1.8	
	2.0nm,0.7s,baz=219,slow=10,SNR=7.3							
SAML	Samuel	50.58	120	eP	P	21 41 57.8	-1.8	
	15nm,1.3s							
EGAK	Eagle	50.81	341	eP	P	21 42 00.1	-0.5	
	7.4nm,0.8s							
RKT	Rikitea	51.36	215	eT	T	22 37 06.9		
	33nm,0.3s							
LPAZ	La Paz	51.37	132	P	P	21 42 06.3	+0.1	
	1.4nm,0.6s,baz=274,slow=2.2,SNR=7.1							
RSO	Redoubt South	52.46	333	eP	P	21 42 12.5	-0.8	
IL1	Eielson Array	52.63	339	eP	P	21 42 13.4	-0.8	
ILAR	Eielson Array	52.63	339	P	P	21 42 13.9	-0.3	
	2.4nm,0.7s,baz=156,slow=6.9,SNR=32							
ILB	Eielson Array	52.63	339	eP	P	21 42 13.9	-0.3	
MCK	McKinley	52.72	337	eP	P	21 42 15.0	+0.1	
	138nm,2.8s							
TRF	Thorofare Moun	53.05	337	eP	P	21 42 17.1	-0.5	
	13nm,0.8s							
PPLA	Purkeypile	53.47	336	eP	P	21 42 19.8	-0.9	
	10nm,0.9s							
COLD	Coldfoot	55.21	341	eP	P	21 42 31.3	-1.7	
	4.5nm,0.8s							
RES	Resolute Bay	55.26	3	P	P	21 42 31.4	-1.8	
	1.4nm,0.6s,baz=186,slow=10,SNR=7.4							
RES	Resolute Bay	55.26	3	eP	P	21 42 31.0	-2.2	
	50nm,2.8s							
IM04	Indian Mountai	55.69	338	eP	P	21 42 35.1	-1.4	
PPT2	Papeete2	56.94	232	eLR	LR	21 59 11.8		
	122nm,24.5s							
TBI	Tubual	60.55	227	eLR	LR	22 00 58.3		
	186nm,28.8s							
TNA	Tin City	60.82	335	eP	P	21 43 11.3	-1.0	
	7.6nm,0.9s							
SUMG	Summit	64.49	18	iP	P	21 43 34.8	-2.4	
	5.2nm,1.0s							
SUMG	Summit	64.49	18	eP	P	21 43 34.5	-2.6	
	9.4nm,1.0s							
BDFB	Brasilia	66.65	118	P	P	21 43 51.4	-0.2	
	1.6nm,0.5s,baz=308,slow=5.7,SNR=2.4							
BDFB	Brasilia	66.65	118	eP	P	21 43 50.8	-0.9	
FX1	Attu Island--F	69.25	320	LR	LR	22 11 11.1		
	comp=Z,15nm,18.2s,baz=81,slow=33							
DAG	Danmarks Havn	70.21	14	iP	P	21 44 11.1	-1.7	
	3.5nm,1.0s							
SEY	Seymchan	77.93	333	P	P	21 44 57.5	-0.6	
	1.0nm,0.7s,baz=75,slow=15,SNR=5.9							
H11N3	WAKE ISLAND Hy	81.28	288	T	T	23 15 40.0		
	baz=63							
H11N2	WAKE ISLAND Hy	81.29	288	T	T	23 15 40.7		
	baz=63							
H11N1	WAKE ISLAND Hy	81.30	288	T	T	23 15 25.5		
	baz=63							
TIXI	Tiksi	81.64	345	eP	P	21 45 16.9	-1.1	
	14nm,1.4s							
H11S1	WAKE ISLAND Hy	81.84	287	T	T	23 16 03.2		
	baz=66							
H11S2	WAKE ISLAND Hy	81.84	287	T	T	23 15 52.1		
	baz=66							
H11S3	WAKE ISLAND Hy	81.86	287	T	T	23 16 10.7		
	baz=66							
PVIS	Viseu	82.97	49	eP	P	21 45 29.3	+3.6	
	22nm,1.9s							
PMTG	Montargil	83.29	51	eP	P	21 45 26.6	-0.7	
	21nm,2.2s							
MTE	Manteigas	83.33	50	eP	P	21 45 26.4	-1.2	
	34nm,2.4s							
PBRG	Braganca	83.41	48	eP	P	21 45 29.4	+1.4	
	35nm,2.1s							
PTEO	Sao Teotonio	83.44	53	eP	P	21 45 28.7	+0.6	
	80nm,1.8s							
EVO	Evora	83.63	51	eP	P	21 45 28.7	-0.4	
	23nm,1.0s							
PMRV	Marv??o

comp=Z,94nm,18.6s
WMQ Urumqi 115.57 349 *e*PKP **PKPdf 21 51 42.8 +0.2**
WMQ LZ
comp=Z,73nm,26.0s
WHN Wuhan 116.94 322 PKP **PKPdf 21 51 47.8 +2.3**
LZH Lanzhou 117.86 333 *e*PKP **PKPdf 21 51 50.3 +2.9**
LZH sPKP 21 52 05.1
KSH Kashi 121.02 359 *e*PKP **PKPdf 21 51 53.6 +0.3**
KSH sPKP 21 52 14.3
KSH PKS **PKSdf 21 55 30.3 +0.2**
KSH SKS **SKSdf 21 59 01.8 -1.2**
KSH PPMZ
comp=Z,59nm,4.6s
KSH LZ
comp=Z,220nm,5.6s
WRA Warramunga Arr 123.91 259 PKP **PKPdf 21 51 58.4 -0.7**
comp=Z,0.6nm,0.5s,baz=79,slow=2.8,SNR=10.0
ASAR Alice Springs 124.92 254 PKP **PKPdf 21 51 59.5 -1.6**
comp=Z,0.4nm,0.6s,baz=90,slow=2.6,SNR=6.0
CMAR Chiang Mai Arr 135.03 326 PKP **PKPdf 21 52 20.5 +0.2**
comp=Z,0.2nm,0.6s,baz=29,slow=2.1,SNR=2.5

IDC 20 21:34:01.8±7.0, 22°.19N×143°.35E, h256km±68km, mb2.9/8, mb1 3.2/8, mb1mx3.0/44, mbtmp3.6/8, Error ellipse: s-maj=34.9km s-min=14.1km az=83.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.22**	**322**	P	P	21 38 17.7	0.0
	1.1nm,0.7s,baz=145,slow=8.0,SNR=5.5						
SONM	**Songino Array**	**39.06**	**320**	P	P	21 41 04.3	0.0
	0.3nm,0.5s,baz=127,slow=7.5,SNR=8.2						
WRA	**Warramunga Arr**	**42.79**	**193**	P	P	21 41 34.6	-0.2
	0.6nm,1.0s,baz=6.0,slow=9.1,SNR=12						
WRA				pP	pP	21 42 35.2	+7.2
	0.3nm,0.5s,baz=12,slow=8.6,SNR=2.6						
ASAR	**Alice Springs**	**46.49**	**192**	P	P	21 42 03.7	-0.2
	0.1nm,0.4s,baz=9.6,slow=8.4,SNR=3.1						
MKAR	**Makanchi Array**	**54.48**	**312**	P	P	21 43 03.5	+0.3
	0.2nm,0.6s,baz=89,slow=8.1,SNR=3.7						
YKA	**Yellowknife Ar**	**75.95**	**28**	P	P	21 45 20.1	-0.2
	0.5nm,0.4s,baz=293,slow=6.0,SNR=11						
NVAR	**Mina Array Bea**	**82.72**	**52**	P	P	21 45 58.2	+0.6
	0.5nm,0.7s,baz=302,slow=5.2,SNR=4.4						
FINES	**FINESS Array B**	**82.81**	**335**	P	P	21 45 56.9	-0.4
	0.7nm,0.3s,baz=72,slow=4.9,SNR=16						

IDC 20 21:42:10.9±2.0, 2°.33N×124°.88E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/24, mbtmp3.3/3, Error ellipse: s-maj=201.6km s-min=25.6km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.00**	**158**	P	P	21 47 27.0	-0.6
	0.7nm,0.6s,baz=336,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**27.29**	**162**	P	P	21 47 58.5	+1.1
	0.3nm,0.8s,baz=347,slow=7.9,SNR=3.7						
MKAR	**Makanchi Array**	**57.67**	**327**	P	P	21 52 02.7	-0.6
	0.3nm,0.8s,baz=134,slow=6.2,SNR=5.5						

*ISCJB **20** 21:50:36.8±0.6, 32°.96S±0°.04×70°.18W±0°.05, h111km±5km, mb3.8/2, Error ellipse: s-maj=8.4km s-min=4.8km az=137.6*
*GUC **20** 21:50:37.0±0.4, 32°.93S×70°.28W, h116km±2km, ML3.9*
*IDC **20** 21:50:38.7±4.6, 32°.88S×70°.09W, h114km±33km, mb3.5/2, mb1 3.4/3, mb1mx3.3/16, mbtmp3.7/3, Error ellipse: s-maj=88.1km s-min=29.6km az=117.0*
*SJA **20** 21:50:38.0±0.9, 32°.91S×70°.03W, h111km±6km, ML3.7*
ISC 20 21:50:37.4±0.9, 32°.94S±0°.05×70°.22W±0°.04, h108km±6km, n28, σ0°65/41, 4C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.39**	**189**	AML	AML	21 50 59.0	
	comp=E,4μm,0.2s						
PEL	**Peldehue**	**0.44**	**243**	⇑*i*P	**Pn**	**21 50 53.6**	**-0.2**
PEL				*i* S	**Sn**	**21 51 06.0**	**0.0**
PEL				AML	AML	21 51 06.5	
	comp=E,10μm,0.4s						
CLCH	**Cerro Calan**	**0.52**	**211**	⇓*i*P	**Pn**	**21 50 54.2**	**-0.1**
CLCH				*i* S	**Sn**	**21 51 07.4**	**+0.4**
CLCH				AML	AML	21 51 09.0	
	comp=E,5μm,0.4s						
CLCH				AML	AML	21 51 09.5	
	comp=E,6μm,0.4s						
LACH	**Col Las Americ**	**0.57**	**207**	⇑*i*P	**Pn**	**21 50 54.5**	**-0.2**
LACH				*i* S	**Sn**	**21 51 07.8**	**+0.2**
SJCH	**San Jose de Ma**	**0.70**	**189**	⇓*i*P	**Pn**	**21 50 54.9**	**-0.9**
SJCH				*i* S	**Sn**	**21 51 09.0**	**-0.5**
ANTU	**Antumapu**	**0.71**	**209**	⇓*i*P	**Pn**	**21 50 55.8**	**0.0**
ANTU				*i* S	**Sn**	**21 51 09.7**	**+0.2**
ANTU				AML	AML	21 51 10.6	
	comp=E,3μm,0.5s						
AUSP	**Uspallata**	**1.00**	**45**	*e*P	**Pn**	**21 50 59.1**	**+0.2**
AUSP				*i* S	**Sn**	**21 51 15.0**	**+0.1**
CHCH	**Chadas Angostu**	**1.05**	**200**	⇑*i*P	**Pn**	**21 50 59.1**	**+0.1**
ARCO	**CERRO ARCO**	**1.09**	**85**	*i* P	**Pn**	**21 50 59.8**	**+0.2**
ARCO				*i* S	**Sn**	**21 51 15.7**	**-0.6**
ARCO				AML	AML	21 51 18.6	
	comp=Z,2μm,0.6s						
AAGR	**Agrelo**	**1.18**	**97**	*i* P	**Pn**	**21 51 00.9**	**+0.4**
AAGR				*i* S	**Sn**	**21 51 17.3**	**-0.6**
IHA	**Instituto Hidr**	**1.20**	**266**	*e*P1	**Pn**	**21 50 60.0**	**-0.6**
IHA				*i* S1	**Sn**	**21 51 17.2**	**-0.9**
CACH	**El Canelo**	**1.21**	**195**	⇓*i*P	**Pn**	**21 51 01.4**	**+0.5**
ASAL	**Salagasta**	**1.22**	**74**	*e*P	**Pn**	**21 51 01.2**	**+0.3**
ASAL				*i* S	**Sn**	**21 51 17.9**	**-0.8**
RTLS	**Leoncito**	**1.38**	**35**	*e*P	**Pn**	**21 51 04.1**	**+1.0**
LNV	**Longovilo**	**1.42**	**224**	⇑*i*P	**Pn**	**21 51 02.5**	**-0.6**
CMCH	**Combarbala**	**1.89**	**339**	⇓*i*P	**Pn**	**21 51 08.4**	**-0.6**
CMCH				*i* S	**Sn**	**21 51 32.8**	**-0.2**
CFAA	**Coronel Fontan**	**2.14**	**52**	P	**Pn**	**21 51 12.3**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=226,slow=15,SNR=61						
CFAA				S	**Sn**	**21 51 38.1**	**-0.7**
	comp=Z,6.2nm,0.3s,baz=289,slow=3.2,SNR=33						
CFAA	**Coronel Fontan**	**2.14**	**52**	*e*P	**Pn**	**21 51 12.3**	**+0.1**
CFAA				*e*P	**Pn**	**21 51 12.3**	**+0.1**
RTLL	**Cerro Villicun**	**2.19**	**43**	*e*P	**Pn**	**21 51 13.2**	**+0.4**
RTLL				*e*S	**Sn**	**21 51 39.5**	**-0.3**
AMOG	**MOGNA**	**2.48**	**37**	*e*P	**Pn**	**21 51 17.0**	**+0.4**
ACAN	**Cantantal**	**2.64**	**76**	*e*P	**Pn**	**21 51 18.4**	**-0.3**
ACAN				*e*S	**Sn**	**21 51 48.0**	**-2.5**
AVFE	**Valle Fertil**	**3.27**	**47**	AML	AML	21 52 05.5	
	comp=Z,126nm,0.7s						
ACHE	**Chepes**	**3.50**	**61**	*e*P	**Pn**	**21 51 29.6**	**-0.6**
AGUA	**GUANDACOL**	**3.75**	**24**	*e*P	**Pn**	**21 51 34.0**	**+0.4**
QSPA	**South Pole Qui**	**57.29**	**180**	P	**P**	**22 00 14.8**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=187,slow=8.1,SNR=7.3						
TORD	**Torodi Ar. Bea**	**82.42**	**69**	P	**P**	**22 02 47.6**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=238,slow=3.0,SNR=4.0						
WRA	**Warramunga Arr**	**122.41**	**208**	PKP	**PKPdf**	**22 09 20.1**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=155,slow=1.6,SNR=6.7						
ZALV	**Zalesovo Beam**	**152.52**	**33**	PKPbc	**PKPbc**	**22 10 21.2**	**+0.6**
	comp=Z,1.7nm,0.4s,baz=300,slow=3.0,SNR=9.1						

*IDC **20** 21:55:38.1±0.5, 15°.97N×91°.29W, h0km, mb4.8/32, mb1 4.9/34, mb1mx4.9/39, mbtmp4.8/34, ML4.4/2, MS4.7/26, Ms1 4.7/26, ms1mx4.6/30, Error ellipse: s-maj=18.1km s-min=8.7km az=58.0*
*CASC **20** 21:55:40.3±2.7, 16°.20N×91°.28W, h0km±55km, MD5.1, ML4.5, mb5.3(NEIC)*
*MOS **20** 21:55:41.8±1.1, 16°.02N×91°.22W, h33km, mb5.5/64, MS4.9/10, Error ellipse: s-maj=6.3km s-min=3.9km az=93.1*
*NEIC **20** 21:55:43.5±0.4, 15°.93N×91°.29W, h40km±4km, mb5.3/222, MD5.4(MEX), Error ellipse: s-maj=4.0km s-min=2.6km az=208.0*
NEIC Felt [IV] at Coban and [II] at Antigua Guatemala and Guatemala. Also felt at Ätitlan, Cahabon, Flores, Huehuetenango, Mixco, Quetzaltenango, San Cristobal Verapaz, San Miguel Chicaj, San Miguel Duenas, Santa Clara La Laguna and Santa Cruz La Laguna. Felt [III] at Belize City and [II] at San Ignacio, Belize. Also felt at Belmopan and Dangriga. Felt at Cacahoatan, Campeche, Motozintla, Ocosingo, Palenque, San Cristobal de Las Casas, Tapachula and Tuxtla Gutierrez, Mexico.

*SZGRF **20** 21:55:44.7, 15°.97N×89°.92W, h16km, mb5.7, MS4.9, Guatemala*
*MEX **20** 21:55:44.7±0.8, 16°.10N×91°.36W, h45km±20km, MD5.4*
*GCMT **20** 21:55:44.7±0.2, 16°.30N×91°.34W, h25km, MW5.2/102, Moment Tensor Solution. s77,c122; s102,c154; Duration: 1s0 Moment tensor: Scale 10^17Nm; M_{rr}0.60±.02; $M_{\theta\theta}$-0.28±.01; $M_{\phi\phi}$-0.32±.01; $M_{r\theta}$-0.56±.03; $M_{\theta\phi}$0.39±.01; $M_{\phi r}$0.35±.03; Best double couple: $M_0$0.92600×10^17 NP1:ϕ_s305.00000°, δ68.00000°, λ80.00000°. NP2:ϕ_s150.00000°, δ24.00000°, λ113.00000°. Principal axes: T 0.8930, Plg65.0000°, Azm199.0000°; N 0.0680, Plg9.0000°, Azm309.0000°; P -0.9590, Plg23.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **20** 21:55:45.4±0.3, 15°.99N±0°.02×91°.30W±0°.02, h65km±2km, mb5.2/303 Error ellipse: s-maj=4.1km s-min=2.0km az=42.8*
*BJI **20** 21:55:47.9, 16°.10N×91°.30W, h73km, mB5.2/19, Ms5.5/20, Ms7 5.1/21*
ISC 20 21:55:45.9±0.5, 16°.08N±0°.03×91°.31W±0°.03, h58km±4km, n1228, σ1°56/1240, mb5.3/310, MS4.8/36, 223C-252D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.82**	**284**	*i* P	Pn	21 55 57.1	-4.7
CCIG				*i* S	**Sn**	**21 56 08.5**	**-4.8**
CCIG	**Comitan**	**0.82**	**284**	*i* P	Pn	21 55 57.1	-4.7
CCIG				*i* S	**Sn**	**21 56 08.5**	**-4.8**
APG	**El Apazote**	**1.34**	**143**	Pn	Pn	21 56 01.4	-7.2
	1μm,0.3s,baz=313,slow=17,SNR=2408						
APG				Sn	**Sn**	**21 56 20.7**	**-5.0**
	4μm,0.3s,baz=127,slow=20,SNR=40						
APG				LR	LR	21 56 35.8	
	comp=Z,19μm,18.6s,baz=188,slow=46						
GCG	**Guatemala City**	**1.67**	**153**	⇑*e*P	**Pn**	**21 56 13.3**	**+0.3**
GCG				*e*S	**Sn**	**21 56 36.3**	**+2.9**
NBG	**Las Nubes**	**1.75**	**148**	*e*P	**Pn**	**21 56 13.6**	**-0.6**
NBG				*e*S	**Sn**	**21 56 40.3**	**+4.7**
JAT	**Jato**	**1.79**	**190**	*e*P	**Pn**	**21 56 14.6**	**+0.2**
PCG	**Pacaya**	**1.81**	**158**	*e*P	**Pn**	**21 56 15.4**	**+0.4**
PCG				*e*S	Sn	21 56 43.5	+6.5
MRL	**Marmol**	**1.85**	**123**	*e*P	**Pn**	**21 56 14.4**	**-1.1**
PCIG		**1.88**	**259**	*i* P	**Pn**	**21 56 12.9**	**-2.8**
PCIG				*i* S	**Sn**	**21 56 33.4**	**-4.9**
PCIG		**1.88**	**259**	*i* P	**Pn**	**21 56 12.9**	**-2.8**
RBDL	**Robledal**	**2.51**	**141**	*e*P	**Pn**	**21 56 23.0**	**-1.5**
MTO2	**Montecristo 2**	**2.51**	**131**	*e*P	**Pn**	**21 56 23.2**	**-1.4**
RTR	**El Retiro**	**2.70**	**143**	*e*P	**Pn**	**21 56 25.6**	**-1.5**
SNJE	**San Jose**	**2.75**	**143**	*e*P	**Pn**	**21 56 26.4**	**-1.4**
SBLS	**San Blas**	**2.76**	**144**	*e*P	**Pn**	**21 56 26.4**	**-1.5**
SCIG	**Sabancuy**	**2.87**	**2**	*e*P	**Pn**	**21 56 27.0**	**-2.2**
SCIG				*i* S	**Sn**	**21 56 58.8**	**-3.8**
SCIG	**Sabancuy**	**2.87**	**2**	*e*P	**Pn**	**21 56 27.0**	**-2.2**
SCIG				*e*Sn	**Sn**	**21 56 58.8**	**-3.8**
SNET	**Serv Nac Est T**	**3.11**	**140**	AML	AML	21 57 40.8	
	comp=Z,3μm,0.6s						
LFRS	**El Faro**	**3.27**	**138**	*e*P	**Pn**	**21 56 34.3**	**-0.5**
TUIG	**Tuzandepetl**	**3.56**	**303**	*e*P	**Pn**	**21 56 35.6**	**-3.0**
TUIG				*e*S	**Sn**	**21 57 15.1**	**-4.4**
TUIG	**Tuzandepetl**	**3.56**	**303**	*e*P	**Pn**	**21 56 35.6**	**-3.0**
TUIG				*e*Sn	**Sn**	**21 57 15.1**	**-4.4**
CMIG	**Matias Romero**	**3.58**	**287**	Pn	Pn	21 56 35.3	-3.5
	comp=Z,16nm,0.3s,baz=101,slow=8.7,SNR=58						
CMIG				Sn	Sn	21 57 30.0	+10
	comp=Z,865nm,0.3s,baz=356,slow=19,SNR=14						
HUIG	**Huatulco**	**4.63**	**267**	*e*P	Pn	21 56 49.6	-3.7
HUIG				*e*S	**Sn**	**21 57 41.6**	**-4.3**
HUIG	**Huatulco**	**4.63**	**267**	*e*P	Pn	21 56 49.6	-3.7
HUIG				*e*Sn	**Sn**	**21 57 41.6**	**-4.3**
TEIG	**Tepich**	**5.03**	**34**	*e*P	**Pn**	**21 56 57.2**	**-1.5**
TEIG				*i* S	**Sn**	**21 57 52.7**	**-2.8**
TEIG	**Tepich**	**5.03**	**34**	Pn	**Pn**	**21 56 57.2**	**-1.5**
	comp=Z,2μm,0.3s,baz=231,slow=14,SNR=2345						
TEIG				Sn	**Sn**	**21 57 54.2**	**-1.3**
	comp=Z,856nm,0.3s,baz=67,slow=22,SNR=18						
TEIG				Lg	Lg	21 58 25.5	
	comp=Z,373nm,0.3s,baz=308,slow=23,SNR=7.4						
TEIG				LR	LR	21 59 30.4	
	comp=Z,16μm,20.7s,baz=224,slow=46						
TEIG	**Tepich**	**5.03**	**34**	*e*Pn	**Pn**	**21 56 57.5**	**-1.2**
TEIG				*e*Sn	**Sn**	**21 57 52.8**	**-2.8**
TEIG				Lg	Lg	21 58 25.5	
VHO	**Vista Hermosa**	**5.30**	**281**	*e*P	**Pn**	**21 57 00.2**	**-2.5**
VHO				*e*S	**Sn**	**21 57 59.0**	**-3.6**
VHO	**Vista Hermosa**	**5.30**	**281**	*e*P	**Pn**	**21 57 00.2**	**-2.5**
VHO				*e*Sn	**Sn**	**21 57 59.0**	**-3.6**
TPIG	**Tehuac#an**	**6.24**	**293**	*e*P	Pn	21 57 12.0	-3.6
TPIG				*e*S	Sn	21 58 19.1	-6.5
TPIG	**Tehuac#an**	**6.24**	**293**	*e*P	Pn	21 57 12.0	-3.6
TPIG				*e*Sn	Sn	21 58 19.1	-6.5
PNIG	**Pinotepa**	**6.56**	**274**	*e*P	**Pn**	**21 57 16.9**	**-2.9**
PNIG				*e*S	**Sn**	**21 58 30.1**	**-3.2**
PNIG	**Pinotepa**	**6.56**	**274**	*e*P	**Pn**	**21 57 16.9**	**-2.9**
PNIG				*e*Sn	**Sn**	**21 58 30.1**	**-3.2**
TLIG	**Tlapa**	**7.11**	**283**	*e*P	**Pn**	**21 57 25.7**	**-1.7**
TLIG				*e*S	**Sn**	**21 58 44.6**	**-2.3**
PLIG	**Platanillo**	**8.16**	**288**	*e*P	**Pn**	**21 57 39.2**	**-2.7**
PLIG				*i* S	**Sn**	**21 59 10.4**	**-2.3**
PLIG	**Platanillo**	**8.16**	**288**	*e*P	**Pn**	**21 57 39.2**	**-2.7**
PLIG				*e*Sn	**Sn**	**21 59 10.4**	**-2.3**
JTS	**JuntasAbangare**	**8.45**	**132**	Pn	**Pn**	**21 57 47.9**	**+2.2**
	comp=Z,682nm,1.3s,SNR=18						
JTS	**JuntasAbangare**	**8.45**	**132**	*c i*P	**Pn**	**21 57 46.5**	**+0.8**
JTS	**JuntasAbangare**	**8.45**	**132**	Pn	**Pn**	**21 57 45.5**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=301,slow=16,SNR=29						
JTS				Lg	Lg	21 59 53.8	
	comp=Z,0.4nm,0.3s,baz=72,slow=20,SNR=1.3						
CAIG	**El Cayaco**	**8.65**	**278**	*e*P	**Pn**	**21 57 45.6**	**-2.7**
CAIG				*e*S	**Sn**	**21 59 21.1**	**-3.4**
CAIG	**El Cayaco**	**8.65**	**278**	*e*P	**Pn**	**21 57 45.6**	**-2.7**
CAIG				*e*Sn	**Sn**	**21 59 21.1**	**-3.4**
JCR	**Jicaral**	**8.65**	**135**	*e*P	**Pn**	**21 57 50.0**	**+1.5**
ARIG	**Puente Sto Nin**	**8.91**	**285**	*e*P	**Pn**	**21 57 49.5**	**-2.5**
ARIG				*i* S	**Sn**	**21 59 27.8**	**-3.3**
QCR	**Quepos**	**9.61**	**133**	*e*P	**Pn**	**21 58 02.8**	**+1.2**
URSC	**Urasca**	**9.61**	**129**	*e*P	**Pn**	**21 58 03.6**	**+1.8**
BUS	**Buena Vista**	**9.81**	**131**	⇑*e*P	**Pn**	**21 58 07.1**	**+2.4**
MOIG	**Morelia**	**10.07**	**292**	*e*P	**Pn**	**21 58 06.0**	**-2.1**
MOIG				*e*S	**Sn**	**21 59 56.6**	**-3.0**
MOIG	**Morelia**	**10.07**	**292**	*e*Pn	**Pn**	**21 58 06.0**	**-2.1**
MOIG				*e*Sn	**Sn**	**21 59 56.6**	**-3.0**
ACR	**Cerro Adams**	**10.85**	**132**	*e*P	**Pn**	**21 58 20.2**	**+1.6**
MMIG	**Aquila**	**11.71**	**283**	*e*P	**Pn**	**21 58 28.4**	**-1.9**
MMIG	**Aquila**	**11.71**	**283**	*e*Pn	**Pn**	**21 58 28.4**	**-1.9**
035A	**Encino**	**12.51**	**331**	⇑P	Pn	21 58 43.8	+2.6
	baz=12						
035A				⇓S	Sn	22 00 52.3	-6.7
	baz=12						
034A	**Hebbronville**	**12.90**	**329**	⇑P	Pn	21 58 48.9	+2.4
	baz=13						
934A	**Benavides**	**13.27**	**331**	⇑P	Pn	21 58 54.4	+2.9
	baz=13						
CVJ	**Coleyville**	**13.33**	**79**	*i* P	Pn	21 58 55.3	+2.8
MTDJ	**Mount Denham**	**13.33**	**79**	*e*Pn	**Pn**	**21 58 54.3**	**+1.8**
835A	**Beeville**	**13.56**	**335**	⇓P	Pn	21 58 58.1	+2.6
	baz=14						
BBJ	**Bamboo Saint A**	**13.61**	**78**	*i* P	**Pn**	**21 58 58.0**	**+1.8**
933A	**Laredo**	**13.64**	**329**	⇓P	Pn	21 58 59.0	+2.3
	baz=14						
834A	**Tilden**	**13.73**	**332**	⇓P	Pn	21 59 00.1	+2.4
	baz=14						
STH	**Stony Hill**	**14.00**	**80**	*i* P	**Pn**	**21 59 01.1**	**-0.4**
HOJ	**Hope**	**14.05**	**80**	*i* P	**Pn**	**21 59 01.1**	**-1.0**
735A	**Kenedy**	**14.05**	**336**	⇑P	Pn	21 59 04.5	+2.4
	baz=14						
GWJ	**Greenwich**	**14.08**	**80**	*i* P	**Pn**	**21 59 03.1**	**+0.5**
YHJ	**Yallahs**	**14.28**	**81**	⇑*i*P	**Pn**	**21 59 07.7**	**+2.4**
833A	**Chaparral WMA,**	**14.29**	**330**	⇑P	**Pn**	**21 59 06.7**	**+1.5**
	baz=14,SNR=13						
636A	**Smothers Creek**	**14.35**	**339**	⇑P	Pn	21 59 08.2	+2.3
	baz=14						
734A	**La Parita Cree**	**14.36**	**333**	⇑P	Pn	21 59 08.4	+2.3
	baz=14						
HKT	**Hockley**	**14.41**	**344**	*e*P	**Pn**	**21 59 07.8**	**+1.0**
HKT				*e*		22 01 49.9	
HKT	**Hockley**	**14.41**	**344**	*e*Pn	**Pn**	**21 59 07.8**	**+1.0**
HKT				*e*Sn	**Sn**	**22 01 49.9**	**+4.7**
635A	**Leesville**	**14.52**	**337**	⇓P	**Pn**	**21 59 10.2**	**+2.0**
	baz=14						
832A	**Faith Ranch, C**	**14.55**	**328**	⇑P	Pn	21 59 10.9	+2.3
	baz=14						
733A	**Divot King Ran**	**14.58**	**331**	⇓P	**Pn**	**21 59 11.1**	**+2.1**
	baz=15,SNR=7.6						
537A	**Green Hill Far**	**14.67**	**343**	⇑P	**Pn**	**21 59 12.4**	**+2.2**
	baz=15						
634A	**China Grove, S**	**14.74**	**335**	⇑P	**Pn**	**21 59 13.2**	**+2.1**
	baz=15						
536A	**Bastrop**	**14.90**	**340**	⇓P	**P**	**21 59 15.5**	**-2.1**
	baz=15						
732A	**Laxson Ranch,**	**14.91**	**329**	⇓P	**Pn**	**21 59 14.6**	**+1.3**
	baz=15						
535A	**Dale**	**15.02**	**339**	⇑P	**P**	**21 59 16.7**	**-2.2**
	baz=15,SNR=8.6						
438A	**Sam Houston St**	**15.09**	**346**	⇓P	**P**	**21 59 17.8**	**-1.9**
	baz=15						
633A	**Saathoff Ranch**	**15.15**	**333**	⇓P	**P**	**21 59 18.5**	**-1.9**
	baz=15,SNR=19						
437A	**Phantom Ranch,**	**15.33**	**344**	⇓P	**P**	**21 59 20.4**	**-1.9**
	baz=15						
BRAL	**Brewton**	**15.36**	**14**	*e*Pn	**P**	**21 59 21.1**	**-1.6**
	comp=Z,149nm,0.8s						
534A	**Blanco**	**15.36**	**336**	⇑P	**Pn**	**21 59 20.3**	**+1.1**
	baz=15,SNR=23						
340A	**Bronson**	**15.45**	**352**	⇑P	**Pn**	**21 59 21.5**	**+1.4**
	baz=16						
436A	**Wall Ranch, Ga**	**15.46**	**342**	⇑P	**P**	**21 59 22.2**	**-1.6**
	baz=16,SNR=7.1						
339A	**Huntington**	**15.47**	**350**	⇑P	**P**	**21 59 22.1**	**-1.8**
	baz=16						
632A	**Uvalde**	**15.47**	**331**	⇑P	**Pn**	**21 59 22.0**	**+1.5**
	baz=16,SNR=22						
533A	**Kerrville**	**15.62**	**334**	⇑P	**P**	**21 59 24.2**	**-1.5**
	baz=16,SNR=12						
338A	**Crockett**	**15.64**	**347**	⇓P	**Pn**	**21 59 23.8**	**+1.1**
	baz=16,SNR=6.5						
435B	**Jarrell**	**15.72**	**340**	⇓P	**Pn**	**21 59 24.8**	**+1.1**
	baz=16						
631A	**Perdido Creek**	**15.77**	**329**	⇑P	**Pn**	**21 59 24.8**	**+0.4**
	baz=16,SNR=17						
GTBY	**Guantanamo Bay**	**15.87**	**74**	*e*Pn	**Pn**	**21 59 25.3**	**-0.4**
	comp=Z,546nm,1.0s						
NATX	**Nacogdoches**	**15.90**	**350**	*e*Pn	**Pn**	**21 59 25.9**	**-0.1**
	comp=Z,112nm,0.7s						
434A	**Burnet**	**15.99**	**338**	⇑P	**Pn**	**21 59 27.9**	**+0.8**
	baz=16,SNR=16						
336A	**Riesel**	**16.05**	**343**	⇑P	**Pn**	**21 59 29.0**	**+1.1**
	baz=16,SNR=5.9						
532A	**Rocksprings**	**16.05**	**332**	⇓P	**Pn**	**21 59 28.7**	**+0.7**
	baz=16,SNR=19						
VBMS	**Vicksburg**	**16.08**	**2**	*e*Pn	**Pn**	**21 59 25.7**	**-2.5**
	comp=Z,320nm,0.8s						
VBMS				*e*Sn	**Sn**	**22 02 23.9**	**-1.7**
239A	**Gary**	**16.12**	**350**	⇑P	**Pn**	**21 59 29.8**	**+1.0**
	baz=16						
335A	**Moody**	**16.13**	**341**	⇓P	**P**	**21 59 30.0**	**-1.2**
	baz=16,SNR=21						
238A	**Jacksonville**	**16.22**	**348**	⇓P	**P**	**21 59 32.4**	**+0.1**
	baz=16						
433A	**Art**	**16.25**	**335**	⇑P	**P**	**21 59 32.9**	**+0.4**
	baz=16,SNR=13						
JCT	**Junction City**	**16.31**	**333**	*e*P	**Pn**	**21 59 30.6**	**-0.6**
JCT				pmax	pmax		
	comp=Z,141nm,1.1s						
JCT	**Junction City**	**16.31**	**333**	⇓P	**P**	**21 59 33.6**	**+0.4**
	baz=16,SNR=15						
JCT	**Junction City**	**16.31**	**333**	*e*Pn	**Pn**	**21 59 30.6**	**-0.6**
	comp=Z,141nm,1.1s						
JCT				*e*Sn	Sn	22 02 20.6	-11
237A	**Washetta, Mont**	**16.37**	**346**	⇑P	**P**	**21 59 34.2**	**+0.4**
	baz=16						
531A	**Rocksprings**	**16.38**	**330**	⇑P	**P**	**21 59 34.1**	**0.0**
	baz=16,SNR=13						
334A	**Lometa**	**16.45**	**339**	⇓P	**P**	**21 59 35.3**	**+0.6**
	baz=16,SNR=19						
432A	**Menard**	**16.64**	**334**	⇑P	**P**	**21 59 37.7**	**+0.7**
	baz=17,SNR=30						
PAYG	**Puerto Ayora**	**16.68**	**176**	*e*Pn	**Pn**	**21 59 34.0**	**-2.0**
	comp=Z,202nm,1.0s						
333A	**Richland Sprin**	**16.71**	**337**	⇑P	**P**	**21 59 38.5**	**+0.8**
	baz=17,SNR=36						
530A	**J-C Ranch, Com**	**16.75**	**328**	⇓P	**P**	**21 59 39.0**	**+0.8**
	baz=17,SNR=25						
WHTX	**Lake Whitney,**	**16.80**	**342**	⇑P	**P**	**21 59 39.1**	**+0.5**
	baz=17						
WHTX	**Lake Whitney,**	**16.80**	**342**	*e*Pn	**P**	**21 59 39.5**	**+0.9**
	comp=Z,275nm,0.9s						
WHTX				*e*Sn	**Sn**	**22 02 38.7**	**-4.4**
TIGA	**Tifton**	**16.83**	**23**	⇓P	**P**	**21 59 39.0**	**+0.1**
	baz=17						
TIGA	**Tifton**	**16.83**	**23**	*e*Pn	**Pn**	**21 59 35.3**	**-2.

comp=Z,239nm,1.1s
MIAR eS Sn 22 03 18.6 -5.5
130A Snyder 18.63 334 ⇓P Pn 22 00 01.0 +1.3
baz=19,SNR=20
UALR University of 18.64 357 eP P 21 59 58.8 -0.1
comp=Z,199nm,1.1s
UALR eS Sn 22 03 25.1 -2.4
GOGA Godfrey 18.65 21 eP P 21 59 57.8 -1.2
GOGA eS Sn 22 03 17.1 -11
GOGA pmax pmax
comp=Z,96nm,0.9s
GOGA Godfrey 18.65 21 eP P 21 59 57.8 -1.2
comp=Z,96nm,0.9s
GOGA eS Sn 22 03 17.1 -11
Z32A Haskell 18.67 338 ⇑P Pn 22 00 01.7 +1.5
baz=19,SNR=40
Y34A Reagan Ranch, 18.72 343 ⇑P Pn 22 00 02.0 +1.2
baz=19,SNR=42
Z31A Sharp Cattle R 18.93 337 ⇓P Pn 22 00 04.0 +0.7
baz=19,SNR=29
228A UT Block 9, Go 18.98 329 ⇓P Pn 22 00 04.1 +0.2
baz=19,SNR=32
Y33A Hilltop Ranch, 19.03 341 ⇑P Pn 22 00 05.3 +0.9
baz=19,SNR=13
129A Stewart Farms, 19.05 332 ⇑P Pn 22 00 05.1 +0.2
baz=19,SNR=38
SLBS Sierra La Lagu 19.08 296 eP Pn 22 00 05.7 +0.5
comp=Z,307nm,1.8s
Y32A R-V Farms, Ver 19.29 339 ⇓P Pn 22 00 07.7 +0.1
baz=19,SNR=32
Z30A Sanderson Ranc 19.29 334 ⇓P Pn 22 00 07.6 0.0
baz=19,SNR=30
SDDR Presa de Saban 19.30 78 eP Pn 22 00 07.4 -0.5
comp=Z,115nm,1.0s
128A Castleberry Fa 19.34 330 ⇑P Pn 22 00 07.8 -0.4
baz=19,SNR=97
X34A Smith Ranch, M 19.35 344 ⇓P Pn 22 00 08.9 +0.7
baz=19,SNR=31
HBAR Harrisburg 19.40 2 eP Pn 22 00 08.4 -0.5
X33A Lawton 19.48 342 ⇓P Pn 22 00 10.9 +1.0
baz=20,SNR=17
Z29A Hungry Hill Ra 19.52 333 ⇑P Pn 22 00 09.8 -0.6
baz=20,SNR=73
LPIG La Paz 19.53 297 P Pn 22 00 10.7 +0.2
baz=82,slow=3.6,SNR=9.1
LPIG LR LR 22 07 42.8
comp=Z,6μm,18.9s,baz=126,slow=37
Y31A Rekieta Farm, 19.55 337 ⇓P Pn 22 00 10.8 +0.2
baz=20,SNR=56
X32A Elmer 19.62 340 ⇓P Pn 22 00 11.2 -0.2
baz=20,SNR=31
SWET Sewanee 19.65 13 eP Pn 22 00 10.8 -1.0
SWET eS S 22 03 39.3 -9.4
CSU Charleston Sou 19.66 29 eP Pn 22 00 11.3 -0.7
NHSC New Hope 19.71 29 eP Pn 22 00 11.8 -0.7
comp=Z,1μm,1.1s
Y30A Stafford Cattl 19.71 336 ⇓P Pn 22 00 12.2 -0.4
baz=20,SNR=19
WMOK Wichita Mounta 19.75 342 eP P 22 00 11.4 +0.3
WMOK eS S 22 03 39.3 -11
WMOK pmax pmax
comp=Z,200nm,1.4s
WMOK Wichita Mounta 19.75 342 eP P 22 00 11.4 +0.3
comp=Z,200nm,1.4s
WMOK eS S 22 03 39.3 -11
GRTK Grand Turk 19.84 71 eP Pn 22 00 13.3 -0.8
comp=Z,689nm,1.2s
Z28A Tucker Farm, M 19.84 332 ⇓P Pn 22 00 13.4 -0.8
baz=20,SNR=74
W34A Bridge Creek, 19.93 344 ⇓P Pn 22 00 14.8 -0.3
baz=20,SNR=14
W34A Bridge Creek, 19.93 344 eP Pn 22 00 14.2 -1.0
comp=Z,216nm,0.9s
Y29A Porterfield Fa 20.02 334 ⇓P Pn 22 00 15.6 -0.7
baz=20,SNR=41
W33A Caddo, Fort Co 20.04 343 ⇓P Pn 22 00 16.4 -0.1
baz=20,SNR=18
X31A McDonald Ranch 20.05 339 ⇓P Pn 22 00 16.4 -0.1
baz=20,SNR=29
ROSC El Rosal 20.05 122 P Pn 22 00 16.1 -1.2
comp=Z,47nm,0.8s,baz=36,slow=1.7,SNR=25
ROSC LR LR 22 08 47.9
comp=Z,2μm,19.0s,baz=345,slow=40
ROSC El Rosal 20.05 122 eP P 22 00 15.8 +0.9
TUL1 Leonard 20.15 349 ⇑P Pn 22 00 17.4 -0.3
baz=20,SNR=21
TUL1 Leonard 20.15 349 eP Pn 22 00 17.1 -0.6
comp=Z,187nm,0.8s
TUL1 eS **S 22 03 52.7 -5.7**
WVT Waverly 20.20 8 eP P 22 00 16.5 +0.6
WVT eS **S 22 03 53.7 -5.8**
WVT pmax pmax
comp=Z,155nm,1.2s
WVT Waverly 20.20 8 eP P 22 00 16.5 +0.6
comp=Z,155nm,1.2s
WVT eS **S 22 03 53.7 -5.8**
X30A Coker Ranch, T 20.21 337 ⇑P Pn 22 00 17.6 -0.9
baz=20,SNR=49
V35A Meyer Ranch, C 20.21 347 ⇓P Pn 22 00 18.4 0.0
baz=20,SNR=40
CPCT Cooper Cave 20.22 16 eP Pn 22 00 20.3 +1.8
CPCT eS **S 22 03 58.3 -1.5**
OTAV Otavalo 20.22 140 eP P 22 00 17.1 +0.3
comp=Z,84nm,1.0s
W32A Sentinel 20.25 341 ⇓P Pn 22 00 18.4 -0.6
baz=20,SNR=42
Y28A McKinney Farm, 20.30 333 ⇑P P 22 00 18.1 +0.9
baz=20,SNR=78
V34A Guthrie 20.44 345 ⇑P Pn 22 00 20.0 -1.1
baz=20,SNR=56
V34A Guthrie 20.44 345 eP P 22 00 18.2 -0.3
comp=Z,349nm,0.9s
X29A Tulia 20.53 335 ⇓P P 22 00 20.8 +1.1
baz=21,SNR=30
W31A Holland Ranch, 20.54 339 ⇑P Pn 22 00 21.5 -0.8
baz=21,SNR=17
PARMO Parma 20.54 4 eP Pn 22 00 21.4 -0.9
MSTX Muleshoe 20.59 332 ⇓P P 22 00 21.2 +0.9
baz=21,SNR=35
MSTX Muleshoe 20.59 332 eP P 22 00 20.6 +0.4
comp=Z,222nm,1.0s
V33A Lossen Ranch, 20.62 344 ⇓P Pn 22 00 22.2 -1.1
baz=21,SNR=42
TKL Tuckaleechee C 20.62 18 eP P 22 00 21.1 +0.6
TKL eS **S 22 04 03.1 -4.7**
TKL Tuckaleechee C 20.62 18 P P 22 00 21.4 +0.8
comp=Z,40nm,0.9s,baz=213,slow=13,SNR=38
TKL S **S 22 04 04.0 -3.9**
comp=Z,55nm,0.9s,baz=293,slow=6.4,SNR=5.2
TKL LR LR 22 09 12.0
comp=Z,4μm,21.1s,baz=199,slow=39
TKL Tuckaleechee C 20.62 18 eP P 22 00 21.1 +0.6
TKL eS **S 22 04 03.1 -4.7**
PBMO Poplar Bluff 20.63 2 eP Pn 22 00 22.4 -0.9
comp=Z,212nm,1.1s
V32A Arapaho 20.74 342 ⇑P Pn 22 00 23.8 -1.0
baz=21,SNR=30
W30A Crocket Farms 20.75 338 P Pn 22 00 24.8 -0.1
baz=21
X28A Dimmitt 20.80 334 ⇑P Pn 22 00 24.2 -1.4
baz=21,SNR=16
AMTX Amarillo 20.91 335 ⇓P Pn 22 00 25.3 -1.5
baz=21
AMTX Amarillo 20.91 335 eP P 22 00 24.1 +0.4
comp=Z,208nm,0.8s
KMSC Kings Mountain 20.98 23 ⇑P Pn 22 00 26.2 -1.3
baz=21
KMSC Kings Mountain 20.98 23 eP P 22 00 24.3 0.0
comp=Z,116nm,1.0s
KMSC eS **S 22 04 07.9 -6.9**
U34A Anderson Ranch 21.02 346 ⇑P P 22 00 27.0 +2.3
baz=21,SNR=9.2
U34A Anderson Ranch 21.02 346 eP P 22 00 25.7 +1.0
comp=Z,152nm,0.9s
V31A Spring Creek L 21.04 340 ⇓P P 22 00 26.9 +1.9
baz=21,SNR=10
W29A Amarillo 21.10 336 ⇑P P 22 00 27.0 +1.2
baz=21,SNR=19
U33A Lingo Farm, Me 21.15 345 P P 22 00 28.0 +1.8
baz=21
V30A Spur Ranch, Mi 21.31 339 ⇑P P 22 00 30.2 +2.1
baz=21,SNR=22
U32A Winter Ranch, 21.34 343 ⇓P P 22 00 30.7 +2.4
baz=21,SNR=9.5
SDV Santo Domingo 21.40 107 eP P 22 00 30.3 +1.1
comp=Z,316nm,0.8s
W28A Vega 21.44 335 ⇑P P 22 00 30.4 +1.0
baz=22,SNR=13
TZTN Tazewell 21.51 17 eP P 22 00 31.3 +1.3
comp=Z,155nm,1.1s
U31A Nine Bar Ranch 21.59 341 ⇑P P 22 00 33.1 +2.2
baz=22
SIUC Southern Illin 21.63 4 eP P 22 00 32.7 +1.5
comp=Z,666nm,0.9s
V29A Stinnett 21.71 337 ⇑P P 22 00 34.2 +1.9
baz=22
T33A Patterson Ranc 21.80 345 ⇑P P 22 00 35.3 +2.2
baz=22
Y24A Capitan 21.86 327 ⇓P P 22 00 35.5 +1.6
baz=22,SNR=85
V28A Channing 21.88 336 ⇑P P 22 00 35.9 +1.8
baz=22,SNR=10
S36A Lake Cedric, C 21.89 351 ⇑P P 22 00 36.5 +2.5
baz=22
W26A Owens Ranch, T 21.97 332 ⇓P P 22 00 37.0 +1.9
baz=22,SNR=12
U30A WK&E Inc. Balk 22.00 340 ⇓P P 22 00 37.2 +1.9
baz=22,SNR=17
USIN University of 22.03 8 eP P 22 00 36.3 +0.7
comp=Z,798nm,1.1s
T32A Huddler Ranch, 22.07 344 ⇓P P 22 00 38.1 +2.0
baz=22,SNR=11
V27A Dan Oppiter Fa 22.13 334 ⇑P P 22 00 38.0 +1.2
baz=22,SNR=7.1
S34A Willow Spring 22.14 348 ⇓P P 22 00 38.9 +2.1
baz=22
U29A Oasis Ranch, S 22.14 338 ⇓P P 22 00 38.4 +1.5
baz=22,SNR=12
121A Cookes Peak, D 22.17 321 ⇑P P 22 00 39.0 +1.7
baz=22,SNR=105
T31A Randall Ranch, 22.21 342 ⇑P P 22 00 39.6 +2.1
baz=22,SNR=11
319A Douglas 22.37 316 ⇓P P 22 00 41.3 +1.9
baz=22,SNR=77
W25A X Bar L Ranch, 22.40 331 ⇑P P 22 00 40.5 +0.7
baz=22,SNR=53
U28A Mallet 22.43 336 ⇓P P 22 00 41.1 +1.1
baz=22,SNR=20
T30A Plains 22.43 340 ⇑P P 22 00 41.7 +1.7
baz=22
SLM Saint Louis 22.49 2 eP P 22 00 41.9 +1.4
SLM pmax pmax
comp=Z,124nm,1.0s
SLM Saint Louis 22.49 2 eP P 22 00 41.9 +1.4
comp=Z,124nm,1.0s
WCI Wyandotte Cave 22.50 10 eP P 22 00 41.1 +0.4
WCI pmax pmax
comp=Z,976nm,1.8s
WCI Wyandotte Cave 22.50 10 eP P 22 00 41.0 +0.4
comp=Z,976nm,1.8s
CNNC Cliffs of the 22.54 30 eP P 22 00 41.8 +0.7
comp=Z,378nm,1.0s
S32A Newby Ranch, P 22.56 344 ⇓P P 22 00 42.6 +1.3
baz=23
V26A Tequesquite Ra 22.57 333 ⇓P P 22 00 42.8 +1.2
baz=23,SNR=27
S31A Mullinville 22.64 343 ⇑P P 22 00 44.2 +2.0
baz=23,SNR=6.5
BNM Barren Site 22.67 325 eP P 22 00 43.9 +1.2
U27A Thompson Grove 22.70 335 ⇓P P 22 00 43.9 +1.0
baz=23,SNR=41
OLIL Olney 22.74 6 eP P 22 00 44.5 +1.4
comp=Z,265nm,1.0s
Y22D IRIS PASSCAL I 22.77 325 ⇑P P 22 00 45.1 +1.4
baz=23
T29A Hugoton 22.78 339 ⇓P P 22 00 45.5 +1.8
baz=23,SNR=10
LPM Los Pinos Moun 22.79 326 eP P 22 00 45.0 +1.1
W24A Lazy 6 Ranch, 22.85 329 ⇓P P 22 00 46.4 +1.8
baz=23,SNR=58
LENM Lemitar 22.87 325 eP P 22 00 46.0 +1.2
R33A Olander Ranch, 22.91 346 ⇓P P 22 00 47.0 +2.1
baz=23,SNR=13
S30A Montezuma 22.95 341 ⇑P P 22 00 47.2 +1.8
baz=23
V25A Rancho No Teng 22.98 331 ⇑P P 22 00 47.6 +1.7
baz=23,SNR=79
T28A Walsh 23.04 337 ⇑P P 22 00 47.7 +1.3
baz=23,SNR=11
U26A Atchley Ranch, 23.06 334 ⇓P P 22 00 47.6 +0.9
baz=23,SNR=49
LAZ Ladron 23.13 325 eP P 22 00 49.0 +1.5
S29A Ulysses 23.14 340 ⇑P P 22 00 48.3 +1.0
baz=23,SNR=15
BLA Blacksburg 23.15 23 eP P 22 00 48.7 +1.3
BLA pmax pmax
comp=Z,532nm,1.3s
BLA Blacksburg 23.15 23 eP P 22 00 48.7 +1.3
comp=Z,532nm,1.3s
ANMO Albuquerque 23.18 327 eP P 22 00 48.4 +0.6
ANMO pmax pmax
comp=Z,39nm,1.2s
ANMO Albuquerque 23.18 327 P P 22 00 48.6 +0.8
comp=Z,11nm,1.0s,baz=136,slow=12,SNR=18
ANMO LR LR 22 11 58.2
comp=Z,553nm,19.3s,baz=178,slow=42
ANMO Albuquerque 23.18 327 eP P 22 00 48.4 +0.6
comp=Z,38nm,1.2s
R32A Long Quarter, 23.19 345 ⇓P P 22 00 48.9 +1.2
baz=23,SNR=14
V24A Rampart Ranch, 23.20 330 ⇓P P 22 00 49.1 +1.0
baz=23,SNR=42
T27A Campo 23.22 336 ⇑P P 22 00 48.9 +0.8
baz=23,SNR=31
R31A Burdett 23.27 343 ⇓P P 22 00 50.1 +1.6
baz=23,SNR=26
U25A Circle Dot Ran 23.35 333 ⇓P P 22 00 50.2 +0.7
baz=23,SNR=41
S28A Manter 23.38 338 ⇓P P 22 00 50.5 +0.9
baz=23,SNR=8.4
BLO Bloomington 23.38 9 eP P 22 00 50.5 +1.0
BLO pmax pmax
comp=Z,252nm,1.3s
BLO Bloomington 23.38 9 eP P 22 00 50.5 +1.0
comp=Z,252nm,1.3s
KSU1 Kansas State U 23.40 350 ⇑P P 22 00 50.8 +1.1
baz=24
KSU1 Kansas State U 23.40 350 eP P 22 00 49.4 -0.2
comp=Z,108nm,0.9s
LRS Lares 23.47 81 eP P 22 00 50.5 -0.1
R30A Dighton 23.48 342 ⇑P P 22 00 51.6 +1.0
baz=24,SNR=40
Q33A Connelly Farm, 23.54 347 ⇓P P 22 00 52.1 +1.1
baz=24
V23A Ortiz Mt. (NFS 23.66 329 ⇓P P 22 00 53.9 +1.5
baz=24,SNR=45
T26A Comanche Natio 23.66 335 ⇑P P 22 00 53.3 +0.9
baz=24,SNR=15
Q32A Meitler Ranch, 23.69 346 ⇓P P 22 00 54.1 +1.7
baz=24
CELP Cerrillos 23.71 82 eP P 22 00 54.1 +1.2
U24A Moreno Valley 23.75 331 P P 22 00 55.5 +2.1
baz=24
S27A Las Animas 23.83 337 ⇓P P 22 00 54.7 +0.8
baz=24,SNR=51
R29A Marienthal 23.88 341 ⇑P P 22 00 55.3 +1.1
baz=24
Q31A Ellis 23.91 344 ⇓P P 22 00 55.9 +1.4
baz=24,SNR=17
P33A Williams Farm, 23.93 348 ⇓P P 22 00 56.1 +1.5
baz=24
TUC Tucson 23.95 316 eP P 22 00 56.8 +1.9
TUC pmax pmax
comp=Z,166nm,1.1s
TUC Tucson 23.95 316 eP P 22 00 56.8 +1.9
comp=Z,166nm,1.1s
T25A Trinidad 23.97 334 ⇓P P 22 00 56.9 +1.7
baz=24,SNR=179
T25A Trinidad 23.97 334 eP P 22 00 57.0 +1.7
comp=Z,584nm,1.4s
S26A Kim 24.00 336 ⇑P P 22 00 56.9 +1.5
baz=24,SNR=47
R28A Tribune 24.02 339 ⇑P P 22 00 57.3 +1.8
baz=24,SNR=20
Q30A Quinter 24.11 343 ⇓P P 22 00 57.9 +1.7
baz=24,SNR=16
SJG San Juan 24.12 82 eP P 22 00 57.4 +0.9
SJG e 22 04 37.7
SJG pmax pmax
comp=Z,89nm,1.2s
SJG San Juan 24.12 82 P P 22 00 57.6 +1.1
comp=Z,83nm,1.1s,baz=269,slow=9.4,SNR=8.0
SJG LR LR 22 11 05.6
comp=Z,1μm,19.8s,baz=270,slow=38
SJG San Juan 24.12 82 eP P 22 00 57.4 +0.9
comp=Z,89nm,1.2s
SJG ePcP PcP 22 04 37.7 +1.1
U23A El Rito 24.12 329 ⇑P P 22 00 58.0 +1.3
baz=24,SNR=83
V22A San Miguel Ran 24.16 328 ⇑P P 22 00 58.3 +1.4
baz=24,SNR=54
Q29A Oakley 24.25 341 ⇓P P 22 00 59.1 +1.4
baz=24,SNR=15
P32A Huiting Farm, 24.30 346 ⇓P P 22 00 59.3 +1.3
baz=24,SNR=20
R27A Eads 24.32 338 ⇓P P 22 01 00.2 +1.9
baz=24,SNR=21
T24B San Luis 24.34 332 ⇑P P 22 01 00.2 +1.5
baz=24,SNR=65
CPD Cerro la Pandu 24.34 82 eP P 22 00 58.2 -0.4
CPD pmax pmax
comp=Z,60nm,0.9s
CPD Cerro la Pandu 24.34 82 eP P 22 00 58.2 -0.4
comp=Z,60nm,0.9s
P31A Stockton 24.39 345 ⇑P P 22 01 00.4 +1.6
baz=24,SNR=17
CBYP Canovanas 24.41 81 eP P 22 00 59.2 0.0
comp=Z,73nm,1.0s
HUMP Col San Antoni 24.41 81 eP P 22 00 58.1 -1.0
comp=Z,58nm,0.9s
HUMP ePcP PcP 22 04 36.1 -1.1
S25A Robets Cordova 24.42 334 ⇑P P 22 01 00.6 +1.3
baz=24,SNR=84
SFIN Lafayette 24.48 8 ⇑P P 22 01 01.3 +1.7
baz=25,SNR=19
SFIN Lafayette 24.48 8 eP P 22 01 00.1 +0.5
comp=Z,101nm,0.9s
U22A Llaves 24.49 329 ⇓P P 22 01 01.8 +1.8
baz=24,SNR=46
JSRW J. Sargeant Re 24.58 26 eP P 22 01 01.9 +1.4
R26A Arlington 24.58 337 ⇓P P 22 01 02.3 +1.7
baz=25,SNR=23
T23A Casias Ranch, 24.62 331 ⇓P P 22 01 02.6 +1.5
baz=25,SNR=19
URVA University of 24.62 27 eP P 22 01 02.6 +1.8
P30A Selden 24.65 343 ⇑P P 22 01 03.1 +1.9
baz=25,SNR=24
Q28A Sharon Springs 24.68 340 ⇓P P 22 01 03.0 +1.5
baz=25
S24A Houchin Ranch, 24.74 333 ⇓P P 22 01 03.8 +1.4
baz=25,SNR=31
R25A Fountain Ranch 24.77 335 ⇓P P 22 01 04.3 +1.8
baz=25,SNR=17
O32A Brockman Farm, 24.84 347 ⇑P P 22 01 04.8 +1.9
baz=25
X18A Snowflake 24.85 321 ⇑P P 22 01 05.1 +1.9
baz=25,SNR=21
P29A Atwood 24.89 342 ⇓P P 22 01 05.2 +1.7
baz=25,SNR=11
KSCO Kaye Shedlock' 24.91 339 ⇑P P 22 01 05.5 +1.9
baz=25,SNR=16
KSCO Kaye Shedlock' 24.91 339 eP P 22 01 04.5 +0.9
comp=Z,195nm,1.4s
O31A Woolen Ranch, 24.98 345 ⇑P P 22 01 05.7 +1.5
baz=25,SNR=9.3
P28A Saint Francis 25.12 341 ⇓P P 22 01 07.1 +1.6
baz=25,SNR=9.2
ACSO Alum Creek Sta 25.13 15 eP P 22 01 07.2 +1.7
comp=Z,381nm,1.3s
W18A Petrified Fore 25.13 322 ⇓P P 22 01 08.1 +2.3
baz=25,SNR=11
W18A Petrified Fore 25.13 322 eP P 22 01 07.2 +1.5
comp=Z,98nm,1.3s
214A Organ Pipe Nat 25.14 313 ⇓P P 22 01 08.4 +2.7
baz=25,SNR=31
S23A Nye Farm, Mont 25.15 332 ⇑P P 22 01 07.9 +1.9
baz=25,SNR=10
Q26A Hugo 25.15 337 ⇑P P 22 01 07.8 +2.0
baz=25,SNR=13
O30A MW Ranch, Wils 25.19 344 ⇑P P 22 01 07.4 +1.3
baz=25,SNR=14
R24A Sanders Place, 25.19 334 ⇑P P 22 01 08.6 +2.3
baz=25,SNR=27
STVI Saint Thomas 25.26 81 eP P 22 01 08.2 +1.3
comp=Z,219nm,1.2s
N32A Stulken Farm, 25.33 348 ⇓P P 22 01 08.9 +1.5
baz=25
O29A 4D Ranch, Culb 25.34 343 ⇑P P 22 01 08.9 +1.4
baz=25
P27A Ficken Ranch, 25.38 339 ⇓P P 22 01 09.3 +1.5
baz=25,SNR=8.4
Q25A Bedland, Calha 25.42 336 ⇓P P 22 01 10.0 +1.6
baz=25,SNR=18
R23A Moffat 25.47 333 ⇑P P 22 01 10.3 +1.4
baz=26,SNR=28
N31A Bailey Ranch, 25.53 346 ⇓P P 22 01 10.7 +1.5
baz=26
S22A 4UR Ranch, Cre 25.56 331 ⇓P P 22 01 11.4 +1.6
baz=26,SNR=81
S22A 4UR Ranch, Cre 25.56 331 eP P 22 01 11.3 +1.5
comp=Z,67nm,1.0s
O28A Krutsinger Ran 25.63 341 ⇑P P 22 01 11.6 +1.4
baz=26
P26A Davis Ranch, A 25.65 338 ⇑P P 22 01 11.7 +1.3
baz=26,SNR=15
X16A Lo Mia Camp, P 25.70 319 ⇑P P 22 01 11.9 +1.0
baz=26,SNR=18
N30A Hueftle Ranch, 25.78 345 ⇑P P 22 01 12.9 +1.5
baz=26
SCIA State Center 25.79 357 eP P 22 01 12.3 +0.9
comp=Z,291nm,1.8s
Q24A Divide 25.82 335 ⇓P P 22 01 13.4 +1.2
baz=26,SNR=12
Q24A Divide 25.82 335 eP P 22 01 13.3 +1.2
comp=Z,52nm,1.3s
P25A Willow Gulch B 25.91 337 ⇑P P 22 01 14.3 +1.5
baz=26
O27A Beecher Island 25.91 340 ⇑P P 22 01 14.0 +1.3
baz=26,SNR=8.2
BGNE Belgrade 25.92 348 ⇓P P 22 01 14.5 +1.8
baz=26
BGNE Belgrade 25.92 348 eP P 22 01 12.9 +0.2
comp=Z,118nm,0.8s
N29A Votaw Ranch, W 25.94 344 ⇑P P 22 01 14.6 +1.7
baz=26
MVCO Mesa Verde 25.97 327 ⇑P P 22 01 14.6 +1.2
baz=26,SNR=42
MVCO Mesa Verde 25.97 327 eP P 22 01 14.7 +1.2
comp=Z,120nm,1.3s
M31A Lambtecht Ranc 26.03 347 ⇓P P 22 01 15.5 +1.8
baz=26
Z14A Wintersburg 26.03 315 ⇓P P 22 01 15.1 +1.3
baz=26,SNR=8.0
Q23A Hartsel 26.06 334 ⇑P P 22 01 15.8 +1.4
baz=26
N28A Pribbeno Ranch 26.08 342 ⇑P P 22 01 15.8 +1.6
baz=26
P24A Kohler Place, 26.20 336 ⇓P P 22 01 16.9 +1.5
baz=26
O26A Horse Wrangler 26.24 339 ⇓P P 22 01 17.2 +1.5
baz=26
113A Mohawk Valley, 26.26 313 ⇓P P 22 01 17.3 +1.6
baz=26
ATAH Atahualpa 26.37 150 P P 22 01 18.8 +1.3
comp=Z,21nm,1.0s,baz=322,slow=12,SNR=11
ATAH LR LR 22 10 56.0
comp=Z,1μm,18.1s,baz=327,slow=35
WUAZ Wupatki 26.38 321 ⇓P P 22 01 18.3 +1.2
baz=26,SNR=27
WUAZ Wupatki 26.38 321 eP P 22 01 18.7 +1.6
comp=Z,48nm,1.0s
Y14A Wickenburg 26.41 316 ⇓P P 22 01 18.2 +1.0
baz=26,SNR=19
O25A Wiggins 26.41 338 ⇑P P 22 01 18.8 +1.5
baz=26
M30A Dale-Ortello V 26.42 345 ⇑P P 22 01 18.4 +1.2
baz=26
P23A Jefferson 26.46 334 ⇓P P 22 01 19.2 +1.3
baz=26,SNR=41
OGNE Ogallala 26.46 342 ⇓P P 22 01 19.0 +1.3
baz=26
N27A Anderson Farm, 26.49 341 ⇑P P 22 01 19.1 +1.2
baz=26
M29A Burnside Ranch 26.54 344 ⇓P P 22 01 19.7 +1.4
baz=27
M28A Bar X Bar Ranc 26.68 343 ⇑P P 22 01 20.7 +1.1
baz=27
PV01 Paradox Valley 26.72 329 eP P 22 01 20.9 +0.8
ISCO Idaho Springs 26.72 335 eP P 22 01 20.4 +0.1
ISCO pmax pmax
comp=Z,50nm,1.3s
ISCO Idaho Springs 26.72 335 ⇓P P 22 01 21.3 +1.0
baz=27,SNR=30

ISCO	Idaho Springs	26.72	335	eP	P	22 01 20.4 +0.1
	comp=Z,50nm,1.3s					
N26A	Koester Ranch,	26.73	340	⇑P	P	22 01 21.7 +1.6
	baz=27					
JFWS	Jewell Farm	26.76	2	eP	P	22 01 20.2 0.0
JFWS				pmax	pmax	
	comp=Z,72nm,0.8s					
JFWS	Jewell Farm	26.76	2	eP	P	22 01 20.1 0.0
	comp=Z,72nm,0.8s					
L30A	Spencer Herefo	26.77	346	⇓P	P	22 01 21.9 +1.5
	baz=27					
O24A	Longmont	26.78	336	⇓P	P	22 01 22.2 +1.6
	baz=27					
SMCO	Snowmass	26.79	332	eP	P	22 01 22.1 +1.1
	comp=Z,33nm,1.0s					
L31A	Butterfield Fa	26.80	348	⇑P	P	22 01 22.1 +1.5
	baz=27					
PV05	Paradox Valley	26.94	328	eP	P	22 01 23.3 +1.1
AAM	Ann Arbor	26.94	13	eP	P	22 01 24.1 +2.3
AAM				pmax	pmax	
	comp=Z,57nm,0.9s					
AAM	Ann Arbor	26.94	13	eP	P	22 01 24.1 +2.3
	comp=Z,57nm,0.9s					
P22A	Eagle	27.04	333	⇑P	P	22 01 24.4 +1.4
	baz=27,SNR=11					
L29A	Maesberg Ranch	27.07	345	⇑P	P	22 01 24.7 +1.7
	baz=27					
PV04	Paradox Valley	27.08	329	eP	P	22 01 24.7 +1.4
SSPA	Standing Stone	27.09	23	eP	P	22 01 24.7 +1.5
	comp=Z,115nm,1.0s					
PV10	Paradox Valley	27.14	328	eP	P	22 01 25.1 +1.1
GLA	Glamis	27.16	313	eP	P	22 01 25.2 +1.2
GLA				pmax	pmax	
	comp=Z,88nm,1.5s					
GLA	Glamis	27.16	313	⇑P	P	22 01 25.1 +1.2
	baz=27,SNR=12					
GLA	Glamis	27.16	313	eP	P	22 01 25.2 +1.2
	comp=Z,88nm,1.5s					
MVL	Millersville	27.16	26	eP	P	22 01 25.8 +2.0
	comp=Z,74nm,0.9s					
O23A	Lake Granby, G	27.20	335	⇑P	P	22 01 25.5 +1.0
	baz=27					
ALLY	Alegheny Colle	27.23	18	eP	P	22 01 27.1 +2.7
	comp=Z,141nm,1.0s					
PV09	Paradox Valley	27.28	328	eP	P	22 01 26.8 +1.5
M26A	McRoberts Ranc	27.28	340	⇑P	P	22 01 26.7 +1.6
	baz=27					
L28A	Connealy Angus	27.29	343	⇓P	P	22 01 26.7 +1.6
	baz=27					
N24A	Carr	27.32	337	⇑P	P	22 01 26.8 +1.4
	baz=27					
Y12C	Blythe	27.33	314	⇓P	P	22 01 26.6 +1.2
	baz=27					
PDMCI	Parker Dam,Lak	27.39	316	⇓P	P	22 01 27.4 +1.5
	baz=27,SNR=27					
O22A	Kremmling	27.41	334	⇓P	P	22 01 27.5 +1.1
	baz=27,SNR=12					
K30A	Basset	27.44	347	⇓P	P	22 01 27.9 +1.5
	baz=28					
U15A	North Rim	27.54	321	⇑P	P	22 01 28.6 +1.0
	baz=28,SNR=15					
M25A	Palm-Egli Farm	27.56	339	⇑P	P	22 01 29.0 +1.4
	baz=28					
K29A	Lazy Trails An	27.69	346	⇓P	P	22 01 29.9 +1.3
	baz=28					
W13A	Hualapai Mount	27.69	317	⇓P	P	22 01 29.9 +1.0
	baz=28,SNR=34					
L26A	Underwood Farm	27.78	341	⇑P	P	22 01 30.8 +1.4
	baz=28					
N23A	Red Feather La	27.79	336	⇓P	P	22 01 30.6 +0.9
	baz=28					
N23A	Red Feather La	27.79	336	eP	P	22 01 30.9 +1.1
	comp=Z,25nm,1.0s					
SWSC	Sam W. Stewart	27.79	312	⇓P	P	22 01 30.9 +1.3
	baz=28,SNR=6.5					
M24A	Cheyenne	27.86	338	⇓P	P	22 01 32.0 +1.7
	baz=28					
K28A	Ten Mile Ranch	27.91	344	⇑P	P	22 01 32.3 +1.7
	baz=28					
N22A	Wattenberg Ran	27.91	335	⇓P	P	22 01 31.9 +1.0
	baz=28,SNR=11					
BC3	Big Chuckawall	27.93	313	⇓P	P	22 01 32.2 +1.3
	baz=28,SNR=49					
ECSD	EROS Data Cent	27.93	352	⇑P	P	22 01 32.9 +2.2
	baz=28					
ECSD	EROS Data Cent	27.93	352	eP	P	22 01 30.7 0.0
	comp=Z,49nm,1.1s					
NEE2	Needles Airpor	27.98	316	⇓P	P	22 01 32.5 +1.3
	baz=28					
IRM	Iron Mountain	27.99	314	⇓P	P	22 01 32.4 +1.0
	baz=28,SNR=17					
J30A	Dallas	28.04	347	⇓P	P	22 01 33.3 +1.6
	baz=28					
LUPA	Lehigh Univers	28.07	26	eP	P	22 01 32.9 +0.9
	comp=Z,14nm,0.8s					
K27A	Flueckinger Fa	28.14	343	⇑P	P	22 01 34.0 +1.4
	baz=28					
O20A	White River Ci	28.14	332	⇓P	P	22 01 34.0 +1.3
	baz=28					
O20A	White River Ci	28.14	332	eP	P	22 01 34.1 +1.3
	comp=Z,76nm,1.1s					
L25A	Engebretsen Ra	28.17	340	⇑P	P	22 01 34.6 +1.6
	baz=28					
M23A	Laramie	28.19	337	⇑P	P	22 01 34.9 +1.6
	baz=28					
MONP	Monument Peak,	28.21	311	⇑P	P	22 01 34.5 +0.9
	baz=28,SNR=9.2					
KNB	Kanab	28.25	322	eP	P	22 01 36.0 +2.2
KNB				pmax	pmax	
	comp=Z,37nm,1.1s					
KNB	Kanab	28.25	322	eP	P	22 01 36.0 +2.2
	comp=Z,37nm,1.1s					
BAR	Barrett	28.29	310	eP	P	22 01 34.8 +0.7
	comp=Z,35nm,1.5s					
J29A	Okreek	28.30	346	⇓P	P	22 01 35.3 +1.3
	baz=28					
L24A	Wheatland	28.40	338	⇓P	P	22 01 36.2 +1.1
	baz=28					
K26A	Motz Farm, Whi	28.41	341	⇓P	P	22 01 36.5 +1.4
	baz=28					
SRU	San Rafael Swe	28.45	327	eP	P	22 01 36.0 +0.4
SRU				pmax	pmax	
	comp=Z,89nm,1.5s					
SRU	San Rafael Swe	28.45	327	eP	P	22 01 36.0 +0.4
	comp=Z,89nm,1.5s					
M22A	Cedar Creek Ra	28.48	335	⇑P	P	22 01 36.8 +0.9
	baz=28					
LDFC	Landfair	28.49	316	eP	P	22 01 38.4 +2.5
	comp=Z,79nm,0.8s					
BRNJ	Basking Ridge	28.49	27	eP	P	22 01 38.6 +3.0
	comp=Z,86nm,0.8s					
BELC	Belle Mtn. Jos	28.49	313	⇑P	P	22 01 36.6 +0.6
	baz=28,SNR=24					
J28A	Allard Ranch,	28.54	345	⇑P	P	22 01 37.2 +1.1
	baz=29,SNR=16					
K25A	Mack Ranch, Ha	28.55	340	⇓P	P	22 01 37.8 +1.4
	baz=29					
J27A	Elkhorn Farm,	28.58	344	⇑P	P	22 01 38.0 +1.4
	baz=29					
I30A	Oacoma	28.59	348	⇓P	P	22 01 38.1 +1.6
	baz=29					
PFO	Pinyon Flats O	28.61	312	P	P	22 01 39.2 +2.2
	comp=Z,102nm,1.2s,SNR=7.8					
PFO	Pinyon Flats O	28.61	312	eP	P	22 01 38.6 +1.6
PFO				pmax	pmax	
	comp=Z,37nm,1.3s					
PFO	Pinyon Flats O	28.61	312	P	P	22 01 38.6 +1.6
	comp=Z,14nm,1.1s,baz=116,slow=8.8,SNR=18					
PFO				LR	LR	22 14 29.4
	comp=Z,2µm,18.0s,baz=149,slow=39					
PFO	Pinyon Flats O	28.61	312	⇑P	P	22 01 39.1 +2.1
	baz=29,SNR=11					
PFO	Pinyon Flats O	28.61	312	eP	P	22 01 38.6 +1.6
	comp=Z,37nm,1.3s					
GMRC	Granite Mounta	28.69	315	⇓P	P	22 01 38.9 +1.2
	baz=29,SNR=45					
KSPA	Keystone Colle	28.71	25	eP	P	22 01 38.9 +1.3
	comp=Z,115nm,1.3s					
N20A	Spence Gulch,	28.71	333	⇓P	P	22 01 39.2 +1.3
	baz=29,SNR=23					
109C	Camp Elliot, M	28.71	310	⇓P	P	22 01 38.8 +1.0
	baz=29					
L23A	Garrett	28.74	337	⇓P	P	22 01 39.4 +1.2
	baz=29					
ODNJ	Ogdensburg	28.80	27	eP	P	22 01 39.6 +1.2
	comp=Z,61nm,1.2s					
I29A	Vivian Onida	28.88	346	⇓P	P	22 01 39.8 +0.7
	baz=29,SNR=22					
MVU	Marysvale	28.92	325	eP	P	22 01 41.5 +1.7
	comp=Z,41nm,1.5s					
CCUT	Cedar City	28.93	322	eP	P	22 01 41.6 +1.7
	comp=Z,26nm,1.1s					
J26A	Sides Ranch, S	28.94	342	⇓P	P	22 01 41.1 +1.3
	baz=29,SNR=13					
TMUT	Trail Mountain	28.95	327	eP	P	22 01 41.1 +1.0
	comp=Z,29nm,1.2s					
K24A	Anderson Ranch	28.96	339	⇓P	P	22 01 40.5 +0.5
	baz=29					
BRSD	Miller	29.00	349	⇓P	P	22 01 41.1 +0.9
	baz=29					
BRSD	Miller	29.00	349	eP	P	22 01 40.4 +0.2
	comp=Z,60nm,0.9s					
PAL	Palisades	29.04	28	eP	P	22 01 42.0 +1.4
PAL	Palisades	29.04	28	eP	P	22 01 42.0 +1.4
I28A	Midland	29.06	345	⇑P	P	22 01 41.7 +1.0
	baz=29					
BBSR	BB Station	29.07	51	eP	P	22 01 41.0 +0.1
	comp=Z,92nm,0.9s					
SPMN	Marine on St.	29.08	358	⇑P	P	22 01 41.6 +0.8
	baz=29,SNR=12					
SPMN	Marine on St.	29.08	358	eP	P	22 01 40.5 -0.3
	comp=Z,46nm,0.9s					
ARUT	Antelope Range	29.13	322	eP	P	22 01 43.3 +1.7
ARUT	Antelope Range	29.13	322	eP	P	22 01 43.3 +1.7
MURC	Murrieta	29.14	312	⇑P	P	22 01 43.4 +1.9
	baz=29,SNR=10					
BINY	Binghamton	29.16	24	eP	P	22 01 42.8 +1.1
	comp=Z,97nm,0.8s					
HEC	Hector,Ludlow	29.17	314	⇑P	P	22 01 43.8 +1.8
	baz=29,SNR=9.5					
J25A	Sunshine Ranch	29.23	341	⇓P	P	22 01 43.3 +0.9
	baz=29					
TUQ	Turquoise Moun	29.24	316	⇑P	P	22 01 44.6 +2.0
	baz=29,SNR=34					
BBRC	Big Bear Solar	29.28	313	⇓P	P	22 01 42.9 -0.2
	baz=29					
I27A	Quinn	29.35	344	⇑P	P	22 01 44.5 +1.2
	baz=29					
SHPR	Sheep Range	29.37	318	eP	P	22 01 45.8 +2.1
H29A	Onida	29.43	347	⇑P	P	22 01 45.2 +1.2
	baz=30,SNR=13					
J24A	Dixon Ranch, L	29.45	340	⇓P	P	22 01 45.3 +1.0
	baz=30					
K22A	Casper	29.51	337	⇓P	P	22 01 46.0 +1.1
	baz=30					
K22A	Casper	29.51	337	eP	P	22 01 45.3 +0.4
	comp=Z,56nm,1.3s					
I26A	New Underwood	29.53	343	⇑P	P	22 01 46.2 +1.2
	baz=30					
H28A	Mission Ridge	29.66	346	⇑P	P	22 01 47.5 +1.4
	baz=30					
RRX	Edison Barstow	29.66	314	⇓P	P	22 01 46.9 +0.7
	baz=30					
MPU	Maple Canyon	29.70	327	eP	P	22 01 48.0 +1.4
	comp=Z,49nm,1.1s					
G30A	Faulkton	29.70	349	⇓P	P	22 01 47.7 +1.3
	baz=30					
YLE	Yale	29.73	29	eP	P	22 01 47.7 +1.0
	comp=Z,153nm,1.5s					
GSC	Goldstone, Bar	29.76	315	eP	P	22 01 48.7 +1.6
GSC				pmax	pmax	
	comp=Z,59nm,1.5s					
GSC	Goldstone, Bar	29.76	315	⇑P	P	22 01 48.1 +1.0
	baz=30,SNR=20					
GSC	Goldstone, Bar	29.76	315	eP	P	22 01 48.7 +1.6
	comp=Z,59nm,1.5s					
I25A	Rochford	29.78	342	⇓P	P	22 01 48.5 +1.2
	baz=30					
K21A	Alcova	29.78	336	⇑P	P	22 01 48.6 +1.3
	baz=30					
BFSC	Mount Baldy Ra	29.79	312	⇑P	P	22 01 48.2 +0.8
	baz=30,SNR=7.9					
DAU	Daniels Canyon	29.80	328	eP	P	22 01 49.1 +1.4
DAU	Daniels Canyon	29.80	328	eP	P	22 01 49.1 +1.4
J23A	Dilts Ranch, B	29.82	339	⇓P	P	22 01 48.6 +1.0
	baz=30					
SCI	San Clemente I	29.82	309	⇓P	P	22 01 48.9 +1.3
	baz=30					
H27A	Howes	29.88	344	⇓P	P	22 01 49.2 +1.2
	baz=30					
NLU	North Lily Min	29.88	327	eP	P	22 01 50.0 +1.7
	comp=Z,27nm,1.2s					
I24A	Kuemmerle Ranc	29.91	340	⇓P	P	22 01 49.6 +1.2
	baz=30					
G29A	Hoven	29.91	348	⇓P	P	22 01 49.3 +1.0
	baz=30					
CIS	Catalina Islan	29.92	310	⇑P	P	22 01 49.5 +1.0
	baz=30					
RSSD	Black Hills	29.96	341	eP	P	22 01 49.9 +1.0
RSSD				pmax	pmax	
	comp=Z,15nm,1.0s					
RSSD	Black Hills	29.96	341	eP	P	22 01 49.9 +1.0
	comp=Z,15nm,1.0s					
COWI	Conover	29.98	3	eP	P	22 01 49.9 +1.0
	comp=Z,44nm,0.9s					
FMP	Fort Macarthur	29.98	311	⇑P	P	22 01 49.2 +0.2
	baz=30					
G28A	Parade	30.02	346	⇓P	P	22 01 51.4 +2.2
	baz=30					
MWC	Mount Wilson	30.07	312	eP	P	22 01 51.2 +1.2
MWC				pmax	pmax	
	comp=Z,85nm,1.6s					
MWC	Mount Wilson	30.07	312	eP	P	22 01 51.2 +1.2
	comp=Z,86nm,1.6s					
PASC	Pasadena Art C	30.13	312	eP	P	22 01 52.1 +1.7
	comp=Z,80nm,1.5s					
J22A	Midwest	30.15	338	⇓P	P	22 01 52.0 +1.4
	baz=30					
DECC	Green Verdugo	30.27	312	⇓P	P	22 01 54.1 +2.5
	baz=30					
H25A	Fruitdale	30.29	342	⇓P	P	22 01 53.4 +1.7
	baz=30					
TPNV	Topopah Spring	30.33	318	eP	P	22 01 54.5 +2.2
TPNV				pmax	pmax	
	comp=Z,62nm,1.5s					
TPNV	Topopah Spring	30.33	318	⇓P	P	22 01 54.3 +2.0
	baz=30,SNR=26					
TPNV	Topopah Spring	30.33	318	eP	P	22 01 54.5 +2.2
	comp=Z,62nm,1.5s					
EDW2	Edwards Air Fo	30.35	313	⇑P	P	22 01 54.2 +1.9
	baz=30,SNR=14					
TCUT	Toone Canyon	30.41	329	eP	P	22 01 54.4 +1.4
	comp=Z,72nm,1.1s					
DUG	Dugway, Tooele	30.45	326	eP	P	22 01 55.0 +1.8
DUG				pmax	pmax	
	comp=Z,18nm,1.0s					
DUG	Dugway, Tooele	30.45	326	⇑P	P	22 01 55.5 +2.3
	baz=30,SNR=23					
DUG	Dugway, Tooele	30.45	326	eP	P	22 01 55.0 +1.8
	comp=Z,18nm,1.0s					
FURC	Furnace Creek,	30.45	317	⇑P	P	22 01 55.8 +2.7
	baz=30,SNR=11					
J21A	Lysite	30.46	336	⇓P	P	22 01 55.2 +1.9
	baz=30,SNR=18					
LRMC	Laurel Mtn Rad	30.46	314	⇑P	P	22 01 55.5 +2.1
	baz=30,SNR=20					
F29A	Eureka	30.51	348	⇑P	P	22 01 55.3 +1.7
	baz=31					
G27A	Dupree	30.54	345	⇓P	P	22 01 55.5 +1.7
	baz=31					
TRY	Troy	30.55	26	eP	P	22 01 54.6 +0.8
	comp=Z,64nm,0.8s					
I22A	9 Mile Ranch,	30.57	338	⇓P	P	22 01 56.9 +2.6
	baz=31,SNR=6.2					
G26A	Maurine	30.63	344	⇑P	P	22 01 56.8 +2.1
	baz=31					
MPMC	Manual Prospec	30.64	315	⇓P	P	22 01 57.0 +1.9
	baz=31,SNR=42					
H24A	Dirks Ranch, A	30.69	341	⇓P	P	22 01 56.7 +1.5
	baz=31					
J20A	Shoshoni	30.71	336	⇑P	P	22 01 56.8 +1.3
	baz=31,SNR=17					
F28A	McLaughlin	30.72	347	⇑P	P	22 01 56.8 +1.3
	baz=31,SNR=11					
OSI	Osito Audit: C	30.74	312	eP	P	22 01 57.6 +1.9
	comp=Z,73nm,1.4s					
QUA2	Belchertown	30.76	28	eP	P	22 01 56.9 +1.1
	comp=Z,46nm,0.8s					
R11A	Troy Canyon, C	30.78	321	⇓P	P	22 01 57.7 +1.5
	baz=31					
R11A	Troy Canyon, C	30.78	321	eP	P	22 01 57.8 +1.5
	comp=Z,45nm,1.6s					
I21A	Big Trails, Te	30.80	337	⇑P	P	22 01 57.7 +1.4
	baz=31					
DAC	Darwin (Calif)	30.83	316	eP	P	22 01 58.0 +1.3
DAC				pmax	pmax	
	comp=Z,51nm,1.4s					
DAC	Darwin (Calif)	30.83	316	eP	P	22 01 58.0 +1.3
	comp=Z,51nm,1.4s					
BW06	Boulder Array	30.84	333	eP	P	22 01 57.1 +0.3
	comp=Z,33nm,1.4s					
PD31	Pinedale Array	30.84	333	eP	P	22 01 56.6 -0.1
PDAR	Pinedale Array	30.84	333	P	P	22 01 57.4 +0.6
	comp=Z,3.2nm,0.8s,baz=140,slow=7.8,SNR=18					
PDAR				LR	LR	22 17 34.9
	comp=Z,590nm,18.2s,baz=142,slow=43					
BRYW	Bryant College	30.86	29	eP	P	22 01 57.9 +1.3
	comp=Z,173nm,1.9s					
E30A	Jud	30.98	350	⇓P	P	22 01 59.2 +1.5
	baz=31					
F27A	Lemmon	31.03	345	⇓P	P	22 01 59.8 +1.7
	baz=31					
J19A	Crowheart	31.03	334	⇓P	P	22 01 59.2 +0.8
	baz=31,SNR=14					
SPUT	South Promonto	31.07	328	eP	P	22 01 59.8 +1.1
	comp=Z,107nm,1.6s					
ARVC	Arvin	31.07	313	⇓P	P	22 02 01.1 +2.5
	baz=31,SNR=5.6					
ACCN	Adirondack Com	31.09	25	eP	P	22 02 00.3 +1.6
	comp=Z,37nm,0.9s					
BGU	Big Grassy Mou	31.09	327	eP	P	22 01 59.7 +0.9
	comp=Z,16nm,1.1s					
GRAC	Grapevine Rang	31.09	317	⇑P	P	22 02 01.0 +2.2
	baz=31,SNR=13					
BSC	Santa Cruz Isl	31.10	310	⇓P	P	22 02 00.5 +1.6
	baz=31					
ISA	Isabella, Lake	31.10	314	eP	P	22 02 00.5 +1.5
ISA				pmax	pmax	
	comp=Z,53nm,1.4s					
ISA	Isabella, Lake	31.10	314	⇑P	P	22 02 01.4 +2.5
	baz=31,SNR=25					
ISA	Isabella, Lake	31.10	314	eP	P	22 02 00.5 +1.5
	comp=Z,53nm,1.4s					
F26A	Lodgepole	31.17	345	⇓P	P	22 02 01.6 +2.2
	baz=31					
G24A	Alzada	31.17	342	⇓P	P	22 02 01.3 +1.9
	baz=31					
E29A	Napoleon	31.18	349	⇑P	P	22 02 01.2 +1.8
	baz=31					
I20A	Worland	31.23	336	⇓P	P	22 02 00.8 +0.7
	baz=31,SNR=15					
HRV	Adam Dziewonsk	31.30	29	eP	P	22 02 01.9 +1.4
HRV				pmax	pmax	
	comp=Z,43nm,0.9s					
HRV	Adam Dziewonsk	31.30	29	eP	P	22 02 01.9 +1.4
	comp=Z,43nm,0.9s					
WES	Weston	31.32	29	eP	P	22 02 02.9 +2.2
WES				pmax	pmax	
	comp=Z,192nm,1.8s					
WES	Weston	31.32	29	eP	P	22 02 02.9 +2.2
	comp=Z,192nm,1.8s					
NNA	Nana	31.35	152	P	P	22 02 01.3 +0.1
	comp=Z,8.5nm,0.7s,baz=302,slow=6.2,SNR=3.1					
G23A	Biddle	31.36	341	⇑P	P	22 02 02.6 +1.5
	baz=31					
SBC	Santa Barbara	31.37	311	⇑P	P	22 02 02.5 +1.3
	baz=31					
E28A	Huff	31.39	348	⇓P	P	22 02 02.5 +1.2
	baz=31					
H21A	Big Horn, Sher	31.41	338	⇑P	P	22 02 02.5 +0.8
	baz=31					
E27A	Carson	31.44	346	⇑P	P	22 02 03.3 +1.5
	baz=32					
F25A	Bowman	31.44	344	⇑P	P	22 02 03.4 +1.5
	baz=32					
AHID	Auburn Hatcher	31.53	332	eP	P	22 02 03.1 +0.4
	comp=Z,75nm,1.2s					
D30A	Buchanan	31.55	350	⇓P	P	22 02 04.0 +1.4
	baz=32					
PTN	Potsdam (NY)	31.57	23	eP	P	22 02 04.6 +1.7
PTN				pmax	pmax	
	comp=Z,158nm,1.1s					
PTN	Potsdam (NY)	31.57	23	eP	P	22 02 04.6 +1.7
	comp=Z,158nm,1.1s					
HVU	Hansel Valley	31.58	328	eP	P	22 02 04.3 +1.1
HVU				pmax	pmax	
	comp=Z,144nm,1.7s					
HVU	Hansel Valley	31.58	328	eP	P	22 02 04.3 +1.1
	comp=Z,144nm,1.7s					
VES	Vestal, Richgr	31.62	314	⇓P	P	22 02 07.6 +4.2
	baz=32,SNR=15					
TPH	Tonopah	31.63	319	eP	P	22 02 05.3 +1.6
TPH				pmax	pmax	
	comp=Z,54nm,1.4s					
TPH	Tonopah	31.63	319	eP	P	22 02 05.2 +1.6
	comp=Z,54nm,1.4s					
H20A	Greybull	31.64	337	⇓P	P	22 02 04.6 +1.0
	baz=32,SNR=7.7					
F24A	Ekalaka	31.65	342	⇓P	P	22 02 04.9 +1.2
	baz=32					
I19A	Meeteetse	31.65	335	⇓P	P	22 02 05.1 +1.3
	baz=32,SNR=20					
PKM	Mcpherson Peak	31.66	312	⇑P	P	22 02 06.2 +2.1
	baz=32,SNR=13					
G22A	Birney	31.67	340	⇓P	P	22 02 05.3 +1.4
	baz=32					
E26A	Carlson Angus	31.69	345	⇑P	P	22 02 05.8 +1.8
	baz=32,SNR=11					
LONY	Lake Ozonia	31.76	23	eP	P	22 02 06.0 +1.5
	comp=Z,106nm,0.9s					
EYMN	Ely	31.77	360	eP	P	22 02 06.0 +1.3
	comp=Z,17nm,0.9s					
MDV	Middlebury	31.79	25	eP	P	22 02 05.9 +1.1
F23A	Volborg	31.82	341	⇓P	P	22 02 06.8 +1.6
	baz=32					
REDW	Red Top Meadow	31.89	332	eP	P	22 02 06.6 +0.6
	comp=Z,287nm,1.4s					
SNOW	Snow King Moun	31.92	333	eP	P	22 02 06.8 +0.5
	comp=Z,136nm,0.8s					
D28A	Regan	31.96	348	⇓P	P	22 02 07.8 +1.5
	baz=32					
E25A	Miller Ranch,	31.96	344	⇓P	P	22 02 08.2 +1.8
	baz=32					
RCTC	Rector, Farmer	31.97	314	⇑P	P	22 02 07.9 +1.5
	baz=32,SNR=11					
LOHW	Long Hollow	31.98	333	eP	P	22 02 07.1 +0.3
	comp=Z,39nm,0.9s					
G21A	Lodge Grass	31.98	339	⇓P	P	22 02 08.1 +1.5
	baz=32					
SMMC	Simmler	31.99	312	⇓P	P	22 02 08.0 +1.3
	baz=32,SNR=8.0					
TPAW	Teton Pass	32.03	333	eP	P	22 02 08.0 +0.7
	comp=Z,126nm,1.1s					
D27A	Center	32.08	347	⇑P	P	22 02 09.1 +1.8
	baz=32					
C30A	Mose, Pekin	32.08	351	⇓P	P	22 02 08.7 +1.4
	baz=32,SNR=11					
F22A	Rosebud	32.15	340	⇓P	P	22 02 09.5 +1.5
	baz=32					
ELK	Elko	32.15	325	eP	P	22 02 09.5 +1.2
ELK				pmax	pmax	
	comp=Z,78nm,2.1s					
ELK	Elko	32.15	325	eP	P	22 02 09.5 +1.2
	comp=Z,78nm,2.1s					
H19A	Powell	32.17	336	⇑P	P	22 02 09.9 +1.5
	baz=32					
FXWY	Fox Creek	32.18	333	eP	P	22 02 08.8 +0.2
	comp=Z,40nm,1.1s					
I17A	Pilgrim Ck.	32.21	333	⇓P	P	22 02 10.2 +1.5
	baz=32,SNR=45					
D26A	Manning	32.21	346	⇓P	P	22 02 10.2 +1.7
	baz=32					
E24A	Baker	32.26	343	⇓P	P	22 02 10.9 +1.9
	baz=32,SNR=11					
AGMN	Agassiz Nation	32.34	354	⇓P	P	22 02 11.6 +2.0
	baz=32					
AGMN	Agassiz Nation	32.34	354	eP	P	22 02 09.8 +0.2
	comp=Z,41nm,1.4s					
G20A	Bridger	32.34	337	⇑P	P	22 02 11.2 +1.4
	baz=32					
IMW	Indian Meadow	32.35	333	eP	P	22 02 10.6 +0.5
	comp=Z,21nm,0.8s					
FLWY	Flagg Ranch	32.39	333	eP	P	22 02 11.4 +1.0
	comp=Z,69nm,1.1s					
MDND	Maddock	32.41	350	⇑P	P	22 02 12.2 +2.0
	baz=32					
MDND

E23A **Ismay** 32.49 342 ⇓P P 22 02 12.5 +1.5
baz=32
NV01 **Mina Array Sit** 32.52 318 eP P 22 02 13.4 +1.8
NVAR **Mina Array Bea** 32.52 318 P P 22 02 13.7 +2.1
comp=Z,51nm,1.1s,baz=129,slow=7.1,SNR=125
D25A **Fairfield** 32.54 345 ⇓P P 22 02 13.0 +1.5
baz=33
H17A **Grant Village** 32.59 334 ⇓P P 22 02 13.7 +1.5
baz=33,SNR=18
H17A **Grant Village** 32.59 334 eP P 22 02 13.8 +1.5
comp=Z,41nm,1.1s
E22A **Miles City** 32.64 341 ⇑P P 22 02 14.0 +1.8
baz=33
C27A **Sayler Ranch,** 32.65 347 ⇓P P 22 02 13.8 +1.5
baz=33
RLMT **Red Lodge** 32.66 336 eP P 22 02 12.7 0.0
comp=Z,33nm,1.2s
YFT **Old Faithful** 32.75 334 eP P 22 02 15.7 +2.2
comp=Z,74nm,1.0s
D24A **Glendive** 32.77 343 ⇑P P 22 02 15.1 +1.6
baz=33,SNR=15
B30A **Myrvik Farm, E** 32.79 351 ⇓P P 22 02 15.5 +2.0
baz=33,SNR=8.3
F20A **Billings** 32.82 338 ⇓P P 22 02 15.7 +1.8
baz=33
C26A **Wahner Farm, P** 32.88 347 ⇓P P 22 02 15.7 +1.4
baz=33,SNR=17
YNR **Norris Junctio** 32.90 334 eP P 22 02 16.5 +1.7
comp=Z,47nm,1.2s
LAO **LASA Array** 32.95 341 eP P 22 02 15.2 +0.2
comp=Z,64nm,1.5s
B29A **Wagenman Farm,** 32.96 350 ⇓P P 22 02 16.6 +1.6
baz=33
YMR **Madison River** 32.98 334 eP P 22 02 16.9 +1.4
comp=Z,77nm,1.0s
C25A **Freed Ranch, W** 33.05 345 ⇑P P 22 02 17.5 +1.6
baz=33
D23A **Lindsay** 33.08 343 ⇑P P 22 02 18.3 +2.2
baz=33,SNR=11
BMN **Battle Mountai** 33.08 322 eP P 22 02 17.7 +1.3
BMN pmax pmax
comp=Z,97nm,1.8s
BMN **Battle Mountai** 33.08 322 eP P 22 02 17.7 +1.3
comp=Z,97nm,1.8s
E21A **Keefer Ranch,** 33.09 340 ⇓P P 22 02 18.1 +1.9
baz=33
B28A **Dugan Ranch, T** 33.12 349 ⇓P P 22 02 18.5 +2.1
baz=33,SNR=20
F19A **Roth Farm, Mol** 33.15 337 ⇑P P 22 02 18.3 +1.4
baz=33
C24A **Savage** 33.18 344 ⇑P P 22 02 19.1 +2.1
baz=33,SNR=6.2
A30A **Hoffart Farm,** 33.26 352 ⇓P P 22 02 19.0 +1.3
baz=33,SNR=9.6
WAKR **Walker** 33.29 318 eP P 22 02 20.8 +2.5
QLMT **Earthquake Lak** 33.31 334 eP P 22 02 19.5 +1.2
D22A **Cohagen** 33.34 341 ⇑P P 22 02 19.9 +1.5
baz=33,SNR=17
A29A **Manning Farm,** 33.39 350 ⇑P P 22 02 20.0 +1.2
baz=33,SNR=12
E20A **Meyer Farm, Mu** 33.41 339 ⇓P P 22 02 20.3 +1.2
baz=33,SNR=15
D21A **La Casta Ranch** 33.52 340 ⇓P P 22 02 22.1 +2.1
baz=34
B25A **Knox Farm, Ray** 33.55 346 ⇑P P 22 02 21.9 +1.7
baz=34
A28A **Rude Farm, Bot** 33.55 349 ⇑P P 22 02 22.0 +1.8
baz=34
E19A **Rath Farm, Rou** 33.61 338 ⇑P P 22 02 22.7 +1.9
baz=34,SNR=13
C23A **Lambert** 33.64 343 ⇑P P 22 02 22.9 +1.9
baz=34,SNR=11
CMB **Columbia Colle** 33.66 316 eP P 22 02 22.8 +1.5
CMB pmax pmax
comp=Z,27nm,1.0s
CMB **Columbia Colle** 33.66 316 eP P 22 02 22.8 +1.5
comp=Z,27nm,1.0s
HLID **Hailey** 33.71 329 ⇓P P 22 02 23.6 +1.8
baz=34,SNR=34
HLID **Hailey** 33.71 329 eP P 22 02 22.5 +0.6
comp=Z,72nm,1.6s
SAO **San Andreas Ge** 33.73 313 eP P 22 02 23.0 +1.1
SAO pmax pmax
comp=Z,20nm,1.0s
SAO **San Andreas Ge** 33.73 313 eP P 22 02 23.0 +1.1
comp=Z,20nm,1.0s
C22A **Vida** 33.79 342 P P 22 02 24.2 +1.9
baz=34
A26A **Wade Farm, Ken** 33.88 347 ⇑P P 22 02 25.1 +2.0
baz=34,SNR=16
D20A **Manuel Ranch,** 33.92 339 ⇑P P 22 02 25.0 +1.5
baz=34
MCMT **McKenzie Canyo** 33.93 332 eP P 22 02 25.7 +1.9
BOZ **Bozeman (W)** 34.05 334 eP P 22 02 25.4 +0.7
BOZ pmax pmax
comp=Z,28nm,1.0s
BOZ **Bozeman (W)** 34.05 334 eP P 22 02 25.4 +0.7
comp=Z,28nm,1.0s
A25A **Svangstu Ranch** 34.16 346 ⇑P P 22 02 27.4 +1.9
baz=34
B23A **Brockton** 34.19 344 ⇓P P 22 02 28.1 +2.3
baz=34
C21A **Desert Coulee** 34.23 341 ⇑P P 22 02 28.2 +2.1
baz=34
DLMT **Dillon** 34.23 333 eP P 22 02 27.4 +1.0
comp=Z,110nm,1.4s
D19A **Cripps Ranch,** 34.25 339 ⇓P P 22 02 28.2 +1.9
baz=34,SNR=11
ULM **Lac du Bonnet** 34.28 355 eP P 22 02 25.4 -1.0
ULM pmax pmax
comp=Z,20nm,0.9s
ULM **Lac du Bonnet** 34.28 355 P P 22 02 25.4 -1.0
comp=Z,16nm,1.0s,baz=174,slow=9.9,SNR=18
ULM LR LR 22 20 14.6
comp=Z,1μm,18.5s,baz=178,slow=43
ULM **Lac du Bonnet** 34.28 355 eP P 22 02 25.4 -1.0
comp=Z,20nm,0.9s
MFID **Camas Ranch** 34.32 328 eP P 22 02 27.9 +0.9
comp=Z,19nm,0.9s
A24A **Westby** 34.36 345 ⇑P P 22 02 29.2 +2.0
baz=34
C20A **Veseth Ranch,** 34.42 340 ⇑P P 22 02 29.8 +2.0
baz=34
LRM **Limekiln Ridge** 34.53 334 eP P 22 02 29.8 +0.8
A23A **Redstone** 34.61 344 ⇑P P 22 02 31.2 +1.8
baz=35
C19A **Slack Wire Ran** 34.79 339 ⇓P P 22 02 32.6 +1.6
baz=35,SNR=10
A22A **Carney Farms,** 34.92 343 ⇓P P 22 02 34.0 +1.9
baz=35
HRY **Holter Researc** 34.98 335 eP P 22 02 33.4 +0.7
B20A **Solberg Farm,** 35.06 341 ⇓P P 22 02 34.9 +1.6
baz=35
PTGA **Pitinga** 35.16 115 P P 22 02 33.7 -0.8
comp=Z,51nm,0.9s,baz=308,slow=9.9,SNR=30
PTGA **Pitinga** 35.16 115 eP P 22 02 33.7 -0.8
comp=Z,64nm,0.9s
WVOR **Wild Horse Val** 35.18 324 eP P 22 02 35.2 +0.7
WVOR pmax pmax
comp=Z,33nm,1.2s
WVOR **Wild Horse Val** 35.18 324 eP P 22 02 35.2 +0.7
comp=Z,33nm,1.2s
A21A **Bergtoll Ranch** 35.21 342 ⇓P P 22 02 36.2 +1.6
baz=35
EGMT **Eagleton** 35.29 338 ⇓P P 22 02 36.6 +1.3
baz=35,SNR=15
EGMT **Eagleton** 35.29 338 eP P 22 02 35.8 +0.5
comp=Z,43nm,1.0s
B19A **Brinkman Farms** 35.38 340 ⇓P P 22 02 37.4 +1.4
baz=35
MCCM **Marconi Confer** 35.40 315 eP P 22 02 38.0 +1.7
comp=Z,95nm,1.2s
A20A **Cobblestone Ra** 35.42 341 ⇓P P 22 02 38.0 +1.6
baz=36,SNR=10
A19A **Klindworth Far** 35.72 340 ⇑P P 22 02 40.0 +1.0
baz=36
CHMT **Chamberlain Mo** 35.73 334 eP P 22 02 39.8 +0.5
MOD **Modoc Plateau** 35.82 322 eP P 22 02 40.4 +0.4
comp=Z,27nm,1.2s
HOPS **Hopland Field** 35.96 316 eP P 22 02 42.4 +1.3
comp=Z,79nm,1.5s
MSO **Missoula** 35.96 333 ⇓P P 22 02 42.4 +1.3
baz=36,SNR=26
MSO **Missoula** 35.96 333 eP P 22 02 41.6 +0.5
comp=Z,70nm,1.4s
BMO **Blue Mountains** 36.09 328 eP P 22 02 42.1 -0.1
comp=Z,65nm,1.5s
SLMT **Seeley Lake** 36.09 334 eP P 22 02 42.1 -0.2

WDC **Whiskeytown Da** 36.44 318 eP P 22 02 44.9 -0.2
WDC pmax pmax
comp=Z,19nm,1.4s
WDC **Whiskeytown Da** 36.44 318 eP P 22 02 44.9 -0.2
comp=Z,18nm,1.4s
SWMT **Swartz Lake** 36.52 334 eP P 22 02 45.8 -0.1
KIPM **Iron Peak** 36.64 317 eP P 22 02 47.5 +0.5
KCPM **Cahto Peak** 36.65 316 eP P 22 02 47.3 +0.3
comp=Z,73nm,1.5s
K05A **Summer Lake** 36.66 322 eP P 22 02 47.1 -0.2
comp=Z,149nm,2.4s
M04C **Macdoel** 36.67 320 ⇓P P 22 02 48.7 +1.5
baz=37,SNR=5.7
I07A **Izee** 36.73 325 eP P 22 02 47.7 -0.1
comp=Z,21nm,0.9s
N02D **Trinity Center** 36.76 319 ⇑P P 22 02 49.6 +1.7
baz=37
YBMT **Yellow Bay** 36.80 334 eP P 22 02 48.0 -0.3
JTMT **Jette** 36.82 334 eP P 22 02 48.7 +0.2
F10A **Beach Ranch, E** 36.84 329 eP P 22 02 48.6 0.0
comp=Z,69nm,1.1s
KMRM **Mail Ridge** 37.01 317 eP P 22 02 50.4 +0.3
comp=Z,62nm,1.1s
BLMT **Blacktail Moun** 37.06 334 eP P 22 02 50.9 +0.3
M02C **Callahan** 37.08 319 ⇑P P 22 02 51.6 +0.9
baz=37
K04D **Chiloquin, OR** 37.11 322 ⇑P P 22 02 52.0 +1.0
baz=37
BSMT **Bassoo Peak** 37.12 334 eP P 22 02 51.2 +0.1
J05D **Fort Rock, OR** 37.20 323 ⇑P P 22 02 53.0 +1.2
baz=37
G08A **Pilot Rock** 37.24 327 eP P 22 02 51.9 -0.1
comp=Z,26nm,1.4s
PINOR **Pine Mountain** 37.32 324 eP P 22 02 52.8 +0.3
comp=Z,65nm,1.4s
SAML **Samuel** 37.33 130 eP P 22 02 50.5 -2.5
comp=Z,39nm,1.0s
E09A **Wood Farm, Sta** 37.67 329 eP P 22 02 55.5 0.0
comp=Z,81nm,1.9s
J04D **Umpqua Nationa** 37.69 322 ⇑P P 22 02 56.9 +0.9
baz=38
I05D **Terrebonne, OR** 37.91 324 ⇑P P 22 02 58.6 +0.9
baz=38
I04A **Tendick Farm,** 38.19 323 ⇓P P 22 03 00.9 +0.9
comp=Z,10nm,0.8s
HAWA **Hanford** 38.28 328 eP P 22 03 00.6 -0.1
comp=Z,10nm,0.8s
D08A **Wollman Farm,** 38.43 329 eP P 22 03 02.2 +0.3
comp=Z,85nm,1.8s
NEW **Newport** 38.46 332 eP P 22 03 02.2 0.0
NEW pmax pmax
comp=Z,87nm,2.0s
NEW **Newport** 38.46 332 ⇑P P 22 03 02.7 +0.5
baz=38,SNR=14
NEW **Newport** 38.46 332 eP P 22 03 02.1 0.0
comp=Z,87nm,2.0s
G05D **Wamic, OR** 38.47 325 ⇓P P 22 03 03.3 +1.0
baz=38
E07A **Sunnyside** 38.56 328 eP P 22 03 03.4 +0.4
comp=Z,29nm,1.0s
H04A **Detroit Lake** 38.60 324 eP P 22 03 03.7 +0.3
comp=Z,44nm,1.0s
C09A **Chrisman Ranch** 38.65 331 eP P 22 03 04.7 +0.9
comp=Z,270nm,2.0s
I03D **Drain, OR** 38.69 322 ⇑P P 22 03 05.4 +1.3
baz=39
KEBM **Edson Butte** 38.82 320 eP P 22 03 05.8 +0.6
comp=Z,140nm,1.1s
FFC **Flin Flon** 39.44 350 P P 22 03 10.6 +0.4
comp=Z,151nm,1.2s,SNR=7.0
FFC **Flin Flon** 39.44 350 eP P 22 03 10.1 -0.1
FFC pmax pmax
comp=Z,57nm,1.4s
FFC **Flin Flon** 39.44 350 eP P 22 03 10.1 -0.1
comp=Z,57nm,1.4s
LTY **Liberty** 39.44 328 eP P 22 03 10.6 +0.2
comp=Z,74nm,1.4s
LPAZ **La Paz** 39.47 144 eP P 22 03 11.2 -0.4
LPAZ pmax pmax
comp=Z,21nm,1.1s
LPAZ **La Paz** 39.47 144 P P 22 03 11.2 -0.4
comp=Z,9.7nm,0.8s,baz=336,slow=7.4,SNR=41
LPAZ LR LR 22 20 02.1
comp=Z,686nm,18.2s,baz=314,slow=37
LPAZ **La Paz** 39.47 144 eP P 22 03 11.2 -0.4
comp=Z,21nm,1.1s
G03D **McMinnville, O** 39.53 324 ⇑P P 22 03 12.5 +1.4
baz=40
B08A **Colville Reser** 39.55 331 eP P 22 03 11.1 -0.2
comp=Z,12nm,0.9s
LON **Longmire** 39.70 327 eP P 22 03 12.6 0.0
LON pmax pmax
comp=Z,157nm,2.4s
LON **Longmire** 39.70 327 eP P 22 03 12.6 0.0
comp=Z,157nm,2.4s
D05A **Enumclaw** 40.07 327 eP P 22 03 15.6 0.0
B06A **Marblemount** 40.69 329 eP P 22 03 20.6 0.0
comp=Z,32nm,1.0s
EDM **Edmonton** 40.91 340 eP P 22 03 22.3 -0.1
EDM **Edmonton** 40.91 340 eP P 22 03 22.3 -0.1
A05A **Maple Falls** 41.31 329 eP P 22 03 25.8 +0.1
PGC **Sidney** 41.77 328 eP P 22 03 30.1 +0.6
comp=Z,73nm,1.5s
FCC **Fort Churchill** 42.66 358 eP P 22 03 36.3 -0.2
FCC pmax pmax
comp=Z,30nm,1.0s
FCC **Fort Churchill** 42.66 358 eP P 22 03 36.3 -0.2
comp=Z,30nm,1.0s
DRLN **Deer Lake** 42.99 32 eP P 22 03 39.1 -0.4
comp=Z,231nm,1.7s
SCHQ **Schefferville** 43.05 21 P P 22 03 41.0 +1.1
comp=Z,97nm,0.9s,baz=219,slow=7.9,SNR=23
SCHQ LR LR 22 22 36.6
comp=Z,4μm,18.2s,baz=218,slow=38
SCHQ **Schefferville** 43.05 21 eP P 22 03 40.6 +0.8
comp=Z,117nm,0.9s
SIV **San Ignacio** 43.66 135 P P 22 03 44.4 -0.9
comp=Z,32nm,0.8s,baz=314,slow=10,SNR=58
LVC **Limon Verde** 44.27 150 eP P 22 03 50.7 +0.4
comp=Z,38nm,1.0s
LCO **Las Campanas** 49.05 156 eP P 22 04 26.5 -1.2
comp=Z,22nm,0.9s
YKA **Yellowknife Ar** 49.17 346 P P 22 04 27.7 -0.1
comp=Z,2.0nm,0.6s,baz=145,slow=7.5,SNR=50
DLBC **Dease Lake** 51.05 335 eP P 22 04 43.7 +1.5
CFAA **Coronel Fontan** 52.33 155 P P 22 04 52.1 +0.1
comp=Z,1.2nm,0.6s,baz=328,slow=7.3,SNR=18
BDFB **Brasilia** 53.10 124 eP P 22 04 55.8 -2.3
BDFB **Brasilia** 53.10 124 P P 22 04 56.7 -1.3
comp=Z,9.6nm,1.0s,baz=294,slow=9.7,SNR=12
BDFB LR LR 22 30 35.3
comp=Z,739nm,18.1s,baz=258,slow=40
BDFB **Brasilia** 53.10 124 eP P 22 04 55.8 -2.3
HYT **Haines Junctio** 55.52 335 eP P 22 05 15.8 +0.7
SFJD **Kangerlussuaq** 57.34 18 eP P 22 05 27.8 +0.1
SFJD pmax pmax
comp=Z,21nm,0.9s
SFJD **Kangerlussuaq** 57.34 18 i P P 22 05 29.9 +2.2
comp=Z,13nm,0.8s
SFJD **Kangerlussuaq** 57.34 18 P P 22 05 29.1 +1.5
comp=Z,10nm,0.9s,baz=228,slow=7.7,SNR=3.8
SFJD **Kangerlussuaq** 57.34 18 eP P 22 05 27.8 +0.1
comp=Z,21nm,0.9s
RKT **Rikitea** 57.81 229 eS S 22 13 30.4 +3.4
comp=Z,698nm,27.2s
RKT eLR LR 22 22 25.9
comp=Z,1μm,25.0s,baz=41
DAWY **Dawson** 58.02 337 eP P 22 05 32.9 +0.3
BMRM **Bremner River** 58.63 333 eP P 22 05 36.8 -0.1
comp=Z,34nm,1.3s
RES **Resolute Bay** 58.64 359 eP P 22 05 36.2 -0.5
RES pmax pmax
comp=Z,23nm,1.0s
RES **Resolute Bay** 58.64 359 P P 22 05 37.0 +0.3
comp=Z,6.3nm,0.8s,baz=188,slow=10.0,SNR=23
RES **Resolute Bay** 58.64 359 eP P 22 05 36.2 -0.5
comp=Z,23nm,1.0s
RCBR **Riachuelo** 58.98 107 eP P 22 05 39.3 -0.8
comp=Z,130nm,0.9s
EGAK **Eagle** 59.05 338 eP P 22 05 39.3 -0.4
comp=Z,9.6nm,1.0s
DOT **Dot Lake** 59.60 336 eP P 22 05 43.8 +0.2
comp=Z,45nm,1.5s
PLCA **Paso Flores** 59.72 162 eP P 22 05 44.4 -0.3
PLCA pmax pmax
comp=Z,60nm,1.1s
PLCA **Paso Flores** 59.72 162 P P 22 05 44.9 +0.1

comp=Z,30nm,1.0s,baz=339,slow=7.7,SNR=20
PLCA LR LR 22 26 13.9
comp=Z,579nm,20.9s,baz=312,slow=31
PLCA **Paso Flores** 59.72 162 eP P 22 05 44.4 -0.3
comp=Z,60nm,1.1s
PAX **Paxson** 59.86 335 eP P 22 05 46.0 +0.5
PAX pmax pmax
comp=Z,17nm,0.9s
PAX **Paxson** 59.86 335 eP P 22 05 46.0 +0.5
comp=Z,17nm,0.9s
TRQA **Tornquist** 60.49 154 eP P 22 05 48.8 -1.2
comp=Z,32nm,1.1s
RC01 **Rabbit Creek A** 60.98 332 eP P 22 05 53.0 0.0
comp=Z,30nm,1.0s
IL1 **Eielson Array** 61.21 336 eP P 22 05 54.7 +0.2
ILAR **Eielson Array** 61.21 336 P P 22 05 55.2 +0.7
comp=Z,8.5nm,1.1s,baz=121,slow=4.3,SNR=43
ILAR LR LR 22 36 24.4
comp=Z,222nm,19.6s,baz=122,slow=40
ILB **Eielson Array** 61.21 336 eP P 22 05 54.4 0.0
KULLO **Kullorsuaq** 61.42 10 i P P 22 05 55.5 -0.3
KULLO pmax pmax
comp=Z,9.0nm,1.1s
KULLO **Kullorsuaq** 61.42 10 i P P 22 05 55.5 -0.3
comp=Z,8.7nm,1.0s
MCK **McKinley** 61.60 335 eP P 22 05 57.6 +0.4
MCK pmax pmax
comp=Z,15nm,1.0s
MCK **McKinley** 61.60 335 eP P 22 05 57.5 +0.4
comp=Z,14nm,1.0s
COLA **College** 61.62 336 d iP P 22 05 57.8 +0.6
COLA pmax pmax
comp=Z,43nm,1.2s
COLA **College** 61.62 336 eP P 22 05 57.5 +0.3
comp=Z,95nm,1.6s
TRF **Thorofare Moun** 62.06 334 eP P 22 06 01.2 +0.8
comp=Z,52nm,1.2s
KTH **Kantishna Hill** 62.36 334 eP P 22 06 01.9 -0.4
comp=Z,23nm,1.2s
PPLA **Purkeypile** 62.68 333 eP P 22 06 04.6 +0.1
comp=Z,62nm,1.6s
COLD **Coldfoot** 63.45 338 eP P 22 06 09.8 +0.3
comp=Z,30nm,1.5s
SVW2 **Sparrevohn** 63.68 331 eP P 22 06 11.4 +0.3
SUMG **Summit** 64.06 15 eP P 22 06 13.7 -0.1
SUMG pmax pmax
comp=Z,59nm,1.3s
SUMG **Summit** 64.06 15 i P P 22 06 15.3 +1.5
comp=Z,23nm,0.9s
SUMG **Summit** 64.06 15 eP P 22 06 13.7 -0.1
comp=Z,59nm,1.3s
IM04 **Indian Mountai** 64.34 336 eP P 22 06 15.0 -0.3
PPT **Papeete** 66.44 242 LR LR 22 28 09.5
comp=Z,543nm,21.2s,baz=32,slow=29
PPT2 **Papeete2** 66.45 242 eS S 22 15 18.8 +2.5
comp=Z,289nm,27.8s
PPT2 **Papeete2** 66.45 242 eLR LR 22 26 25.6
comp=Z,591nm,24.2s,baz=54
PMOZ **Porto Moniz, M** 68.27 61 eLR LR 22 27 57.9
comp=Z,499nm,20.0s
TBI **Tubuai** 69.04 237 eS S 22 15 50.1 +3.2
comp=Z,508nm,29.8s
TBI **Tubuai** 69.04 237 eLR LR 22 27 39.1
comp=Z,502nm,26.0s,baz=57
TNA **Tin City** 69.94 334 eP P 22 06 50.5 -0.3
comp=Z,24nm,1.4s
DAG **Danmarks Havn** 70.49 13 i P P 22 06 54.0 +0.1
DAG pmax pmax
comp=Z,9.0nm,0.9s
DAG **Danmarks Havn** 70.49 13 i P P 22 06 54.0 +0.1
comp=Z,10nm,0.9s
GAMB **Gambell** 71.46 332 eP P 22 06 59.6 -0.4
comp=Z,15nm,1.3s
PGAV **Gavieira, Arco** 74.31 50 eP P 22 07 21.3 +3.8
comp=Z,83nm,2.0s
PGAV **Gavieira, Arco** 74.31 50 eLQ LQ 22 24 12.9
PGAV eLR LR 22 30 42.9
comp=Z,522nm,20.0s
PCAS **Casmilo, Conde** 74.40 52 eP P 22 07 19.9 +2.0
comp=Z,73nm,1.5s
PTOM **Tomar** 74.53 53 eP P 22 07 24.0 +5.3
comp=Z,64nm,1.1s
MORF **Marmelete** 74.68 55 eP P 22 07 24.5 +4.8
comp=Z,73nm,1.7s
POLO **Lamas de Olo** 74.75 51 eP P 22 07 24.6 +4.6
comp=Z,28nm,1.6s
PMTG **Montargil** 74.75 53 eP P 22 07 19.7 -0.3
comp=Z,45nm,1.8s
PVIS **Viseu** 74.77 51 eP P 22 07 21.2 +1.1
comp=Z,38nm,1.1s
EVOP **Sao Brissos** 74.91 54 eP P 22 07 20.3 -0.6
EVOP **Sao Brissos** 74.91 54 eP P 22 07 20.3 -0.6
MESJ **Messejana** 74.94 54 eP P 22 07 26.4 +5.3
comp=Z,34nm,1.8s
EVO **Evora** 75.00 54 eP P 22 07 20.3 -1.1
comp=Z,70nm,1.0s
EVO eR
comp=Z,510nm,20.8s
EVO **Evora** 75.00 54 eP P 22 07 22.4 +1.0
comp=Z,54nm,1.6s
MTE **Manteigas** 75.08 52 eP P 22 07 26.8 +4.9
comp=Z,40nm,1.6s
MTE **Manteigas** 75.08 52 eLQ LQ 22 27 46.9
MTE eLR LR 22 31 32.0
comp=Z,416nm,20.0s
PCBR **Castelo Branco** 75.21 52 eP P 22 07 25.1 +2.5
comp=Z,23nm,1.6s
PBDV **Barranco-do-Ve** 75.26 55 eP P 22 07 28.6 +5.6
comp=Z,63nm,1.5s
PESTR **Estremoz** 75.27 53 eP P 22 07 23.8 +0.8
comp=Z,44nm,1.3s
PMRV **Marv??o** 75.34 53 eP P 22 07 24.6 +1.2
comp=Z,35nm,1.3s
PMRV **Marv??o** 75.34 53 eLR LR 22 31 54.0
comp=Z,407nm,18.0s
MVO **Moncorvo** 75.35 51 eP P 22 07 28.3 +4.8
comp=Z,44nm,1.5s
MVO **Moncorvo** 75.35 51 eLR LR 22 31 46.3
comp=Z,341nm,18.0s
PVAQ **Vaqueiros** 75.40 55 eP P 22 07 20.5 -3.2
comp=Z,57nm,1.7s
PVAQ **Vaqueiros** 75.40 55 eLR LR 22 31 21.7
comp=Z,396nm,20.0s
PBRG **Braganca** 75.47 50 eP P 22 07 28.5 +4.4
comp=Z,47nm,1.6s
PBAR **Barrancos** 75.81 54 eP P 22 07 27.9 +1.8
comp=Z,91nm,1.4s
ESK **Eskdalemuir** 75.87 36 P P 22 07 26.7 +0.7
comp=Z,555nm,0.9s,SNR=7.2
ESK **Eskdalemuir** 75.87 36 eP P 22 07 24.9 -1.1
ESK pmax pmax
comp=Z,386nm,1.0s
ESK **Eskdalemuir** 75.87 36 eP P 22 07 24.9 -1.1
comp=Z,386nm,1.0s
KBS **Kingsbay** 76.85 11 eP P 22 07 30.4 -0.8
KBS pmax pmax
comp=Z,181nm,2.2s
KBS **Kingsbay** 76.85 11 eP P 22 07 30.4 -0.8
comp=Z,180nm,2.2s
ROSF **Rostrenen** 76.87 43 eP P 22 07 31.7 -0.2
comp=Z,131nm,1.4s
ROSF **Rostrenen** 76.87 43 eP P 22 07 31.7 -0.2
ROSF **Rostrenen** 76.87 43 eP P 22 07 31.7 -0.2
QUIF **Quistinic** 77.01 44 eP P 22 07 32.5 -0.2
comp=Z,427nm,1.7s
QUIF **Quistinic** 77.01 44 eP P 22 07 32.5 -0.2
QUIF **Quistinic** 77.01 44 eP P 22 07 32.5 -0.2
SGMF **Saint Gilles** 77.36 43 eP P 22 07 34.2 -0.4
comp=Z,106nm,1.3s
SGMF **Saint Gilles** 77.36 43 eP P 22 07 34.2 -0.4
SGMF **Saint Gilles** 77.36 43 eP P 22 07 34.2 -0.4
PAB **San Pablo** 77.64 52 eP P 22 07 34.9 -1.6
PAB pmax pmax
comp=Z,36nm,1.1s
PAB **San Pablo** 77.64 52 eP P 22 07 34.9 -1.6
comp=Z,36nm,1.1s
ESDC **Sonseca Array** 77.91 52 P P 22 07 37.9 0.0
comp=Z,5.4nm,0.8s,baz=288,slow=5.5,SNR=26
ESDC LR LR 22 36 29.5
comp=Z,334nm,21.3s,baz=300,slow=31
SPA0 **Spitsbergen Ar** 77.92 12 eP P 22 07 37.2 -0.1
SPITS **Spitsbergen Ar** 77.92 12 P P 22 07 37.2 -0.1
comp=Z,1.5nm,0.6s,baz=224,slow=6.0,SNR=5.2
ES19 **SONSECA Array** 77.95 52 eP P 22 07 37.3 -0.9
GRR **Gorron** 78.45 43 eP P 22 07 40.5 -0.1
comp=Z,136nm,1.1s
GRR **Gorron** 78.45 43 eP P 22 07 40.5 -0.1

GRR	Gorron	78.45	43	eP	P	22 07 40.5	-0.1
FLN	La Foliniere	78.62	42	eP	P	22 07 41.6	0.0
FLN				eR			
	comp=Z,808nm,21.0s						
FLN	La Foliniere	78.62	42	eP	P	22 07 41.6	0.0
FLN	La Foliniere	78.62	42	eP	P	22 07 41.6	0.0
LDF	La Druitiere	78.89	43	eP	P	22 07 43.0	-0.1
	comp=Z,140nm,1.3s						
LDF	La Druitiere	78.89	43	eP	P	22 07 43.0	-0.1
LDF	La Druitiere	78.89	43	eP	P	22 07 43.0	-0.1
SJPF	Ste Jean	79.25	48	eP	P	22 07 45.0	-0.2
	comp=Z,106nm,1.3s						
SJPF	Ste Jean	79.25	48	eP	P	22 07 45.0	-0.2
SJPF	Ste Jean	79.25	48	eP	P	22 07 45.0	-0.2
MFF	Saint Martin d	79.28	45	eP	P	22 07 44.9	-0.4
	comp=Z,72nm,1.1s						
MFF	Saint Martin d	79.28	45	eP	P	22 07 44.9	-0.4
MFF	Saint Martin d	79.28	45	eP	P	22 07 44.9	-0.4
LARF	Larrau	79.44	48	eP	P	22 07 47.2	+1.0
ETSF	Etsaut	79.77	48	eP	P	22 07 48.1	0.0
	comp=Z,79nm,1.2s						
ETSF	Etsaut	79.77	48	eP	P	22 07 48.1	0.0
ETSF	Etsaut	79.77	48	eP	P	22 07 48.1	0.0
BILL	Bilibino	79.79	338	eP	P	22 07 48.7	+1.1
BILL				e		22 07 59.3	
BILL				e		22 10 50.3	
BILL				pmax	pmax		
	comp=Z,53nm,1.7s						
BILL	Bilibino	79.79	338	eP	P	22 07 47.1	-0.5
	comp=Z,38nm,1.2s						
REYF	Montagne du Re	79.86	48	eP	P	22 07 49.3	+0.7
MENF	Mencas	79.92	40	eP	P	22 07 50.1	+1.5
VIEF	Viey	80.19	48	eP	P	22 07 51.3	+0.9
LFF	La Frestale	80.24	46	eP	P	22 07 50.1	-0.4
LFF	La Frestale	80.24	46	eP	P	22 07 50.1	-0.4
LFF	La Frestale	80.24	46	eP	P	22 07 50.1	-0.4
EPF	Esparros	80.39	48	eP	P	22 07 51.2	-0.2
	comp=Z,127nm,1.4s						
EPF	Esparros	80.39	48	eP	P	22 07 51.2	-0.2
EPF	Esparros	80.39	48	eP	P	22 07 51.2	-0.2
RESF	Ens	80.44	48	eP	P	22 07 52.6	+0.8
RJF	Les Rejaudoux	80.70	46	eP	P	22 07 52.5	-0.5
	comp=Z,76nm,1.1s						
RJF				eR			
	comp=Z,846nm,21.5s						
RJF	Les Rejaudoux	80.70	46	eP	P	22 07 52.5	-0.5
RJF	Les Rejaudoux	80.70	46	eP	P	22 07 52.5	-0.5
TCF	Toulx Ste Croi	80.94	44	eP	P	22 07 53.7	-0.6
	comp=Z,69nm,1.1s						
TCF	Toulx Ste Croi	80.94	44	eP	P	22 07 53.7	-0.6
TCF	Toulx Ste Croi	80.94	44	eP	P	22 07 53.7	-0.6
HYF	Humbligny	80.99	43	eP	P	22 07 54.4	-0.1
HYF	Humbligny	80.99	43	eP	P	22 07 54.4	-0.1
CAF	Calviac	81.16	46	eP	P	22 07 55.0	-0.5
	comp=Z,26nm,1.0s						
CAF	Calviac	81.16	46	eP	P	22 07 55.0	-0.5
CAF	Calviac	81.16	46	eP	P	22 07 55.0	-0.5
BGF	Bois d'Agland	81.30	44	eP	P	22 07 55.7	-0.4
	comp=Z,102nm,1.0s						
BGF	Bois d'Agland	81.30	44	eP	P	22 07 55.7	-0.4
BGF	Bois d'Agland	81.30	44	eP	P	22 07 55.7	-0.4
BAIF	Baives	81.32	40	eP	P	22 07 56.2	+0.1
BAIF	Baives	81.32	40	eP	P	22 07 56.2	+0.1
BAIF	Baives	81.32	40	eP	P	22 07 56.2	+0.1
DOU	Dourbes	81.55	40	P	P	22 07 58.1	+0.8
AVF	Avril sur Loir	81.58	44	eP	P	22 07 56.9	-0.7
	comp=Z,51nm,1.1s						
AVF	Avril sur Loir	81.58	44	eP	P	22 07 56.9	-0.7
AVF	Avril sur Loir	81.58	44	eP	P	22 07 56.9	-0.7
PYM	Petit Puy Mans	81.61	45	eP	P	22 07 58.0	+0.1
SSF	Saint Saulge	81.61	44	eP	P	22 07 57.2	-0.6
	comp=Z,64nm,1.0s						
SSF	Saint Saulge	81.61	44	eP	P	22 07 57.2	-0.6
SSF	Saint Saulge	81.61	44	eP	P	22 07 57.2	-0.6
MTLF	Montolieu	81.65	47	eP	P	22 07 57.7	-0.4
	comp=Z,114nm,1.3s						
MTLF	Montolieu	81.65	47	eP	P	22 07 57.7	-0.4
MTLF	Montolieu	81.65	47	eP	P	22 07 57.7	-0.4
GIVF	Givet	81.69	40	eP	P	22 07 58.4	+0.3
	comp=Z,141nm,1.4s						
GIVF	Givet	81.69	40	eP	P	22 07 58.4	+0.3
GIVF	Givet	81.69	40	eP	P	22 07 58.4	+0.3
VALF	Valcebollere	81.74	48	eP	P	22 07 59.4	+0.7
LOR	Lormes	81.80	43	eP	P	22 07 58.5	-0.3
	comp=Z,118nm,1.1s						
LOR				eR			
	comp=Z,500nm,21.2s						
LOR	Lormes	81.80	43	eP	P	22 07 58.5	-0.3
LOR	Lormes	81.80	43	eP	P	22 07 58.5	-0.3
NBO02	NORSAR Array S	81.84	29	eP	P	22 07 57.2	-1.5
LBL	Lubilhac	81.90	45	eP	P	22 07 59.2	-0.2
BCLA	Clavier	81.90	40	P	P	22 08 00.1	+0.9
	comp=Z,40nm,1.6s						
SMF	Signal de Mont	81.94	44	eP	P	22 07 58.8	-0.7
	comp=Z,63nm,1.0s						
SMF	Signal de Mont	81.94	44	eP	P	22 07 58.8	-0.7
SMF	Signal de Mont	81.94	44	eP	P	22 07 58.8	-0.7
NB2	NORSAR Subarra	82.00	29	P	P	22 08 00.8	+1.2
	comp=Z,50nm,1.4s,baz=289,slow=5.6						
NB2	NORSAR Subarra	82.00	29	P	P	22 08 00.8	+1.2
	baz=289,slow=5.6						
NB200	NORSAR Array S	82.00	29	eP	P	22 08 01.9	+2.3
NOA	NORSAR Array B	82.00	29	P	P	22 08 01.9	+2.3
	comp=Z,8.7nm,1.1s,baz=287,slow=5.0,SNR=7.6						
NOA				LR	LR	22 42 24.8	
	comp=Z,706nm,21.5s,baz=280,slow=34						
BEBN	Eben Emael	82.03	39	P	P	22 08 01.5	+1.6
HGN	Heimansgroeve	82.20	39	eP	P	22 08 00.9	+0.1
	comp=Z,81nm,1.7s						
MEZF	Maizieres J'vi	82.25	42	eP	P	22 08 01.3	+0.2
	comp=Z,72nm,0.9s						
MEZF	Maizieres J'vi	82.25	42	eP	P	22 08 01.3	+0.2
MEM	Membach	82.28	40	P	P	22 08 02.2	+1.0
	comp=Z,36nm,2.0s						
MEM	Membach	82.28	40	eP	P	22 08 00.0	-1.2
MEM				pmax	pmax		
	comp=Z,76nm,1.3s						
MEM	Membach	82.28	40	eP	P	22 07 60.0	-1.2
	comp=Z,76nm,1.3s						
SFTF	Sexfontaines	82.32	42	eP	P	22 08 01.3	-0.2
	comp=Z,128nm,1.2s						
SFTF	Sexfontaines	82.32	42	eP	P	22 08 01.3	-0.2
SJAF	Saint Jean de	82.34	48	eP	P	22 08 02.5	+0.8
WTSB	Winterswijk	82.39	38	eP	P	22 08 02.7	+1.0
	comp=Z,109nm,1.2s						
LASF	Ste Croix	82.62	46	eP	P	22 08 03.4	+0.3
	comp=Z,116nm,1.4s						
LASF	Ste Croix	82.62	46	eP	P	22 08 03.4	+0.3
WLF	Walferdange	82.63	41	P	P	22 08 03.6	+0.5
	comp=Z,49nm,1.7s						
WLF	Walferdange	82.63	41	eP	P	22 08 01.6	-1.5
WLF				pmax	pmax		
	comp=Z,93nm,1.4s						
WLF	Walferdange	82.63	41	eP	P	22 08 03.4	+0.3
	comp=Z,127nm,1.6s						
WLF				epP	PcP	22 08 08.1	+0.2
	comp=Z,127nm,1.6s						
WLF	Walferdange	82.63	41	eP	P	22 08 01.6	-1.5
	comp=Z,93nm,1.4s						
PAGF	Fort de Pagny	82.67	42	eP	P	22 08 03.6	+0.3
	comp=Z,20nm,0.8s						
PAGF	Fort de Pagny	82.67	42	eP	P	22 08 03.6	+0.3
BUG	Bochum--Univer	82.82	39	eP	P	22 08 04.2	+0.3
	comp=Z,65nm,1.4s						
BUG				epP	PcP	22 08 08.8	+0.1
	comp=Z,65nm,1.4s						
IBBN	Ibbenburen	82.86	38	eP	P	22 08 04.7	+0.6
	comp=Z,244nm,2.3s						
IBBN				epP	PcP	22 08 09.4	+0.6
	comp=Z,57nm,1.3s						
THEF	They Montfort	82.93	42	↓eP	P	22 08 05.6	+1.0
VIVF	Saint-Julien-I	82.97	45	eP	P	22 08 05.4	+0.4
	comp=Z,134nm,1.3s						
VIVF	Saint-Julien-I	82.97	45	eP	P	22 08 05.4	+0.4
VIVF	Saint-Julien-I	82.97	45	eP	P	22 08 05.4	+0.4
HAU	Haudompre	83.22	42	eP	P	22 08 06.2	0.0
	comp=Z,100nm,1.0s						
HAU				eR			
	comp=Z,494nm,22.2s						
HAU	Haudompre	83.22	42	eP	P	22 08 06.2	0.0
HAU	Haudompre	83.22	42	eP	P	22 08 06.2	0.0
CABF	La Chapelle	83.44	43	eP	P	22 08 07.4	0.0
CABF	La Chapelle	83.44	43	eP	P	22 08 07.4	0.0
CABF	La Chapelle	83.44	43	eP	P	22 08 07.4	0.0
HFS	Hagfors	83.46	29	P	P	22 08 08.0	+0.9
	comp=Z,4.8nm,0.9s,baz=280,slow=8.6,SNR=4.3						
HINF	Hinteralfeld	83.60	42	eP	P	22 08 07.9	-0.3
	comp=Z,60nm,1.1s						
HINF	Hinteralfeld	83.60	42	eP	P	22 08 07.9	-0.3
HINF	Hinteralfeld	83.60	42	eP	P	22 08 07.9	-0.3
ECH	Echery	83.68	42	↓eP	P	22 08 09.6	+1.1
CDF	Champ du Feu	83.70	42	eP	P	22 08 08.8	+0.1
	comp=Z,64nm,1.1s						
CDF	Champ du Feu	83.70	42	eP	P	22 08 08.8	+0.1
CDF	Champ du Feu	83.70	42	eP	P	22 08 08.8	+0.1
LOMF	Lomont	83.72	43	↓eP	P	22 08 09.6	+0.8
MOF	Molkenrain	83.77	42	↓eP	P	22 08 09.8	+0.7
ORIF	Oris-en-Rattie	83.78	45	eP	P	22 08 09.5	+0.3
	comp=Z,31nm,0.9s						
ORIF				eR			
	comp=Z,656nm,22.2s						
ORIF	Oris-en-Rattie	83.78	45	eP	P	22 08 09.5	+0.3
ORIF	Oris-en-Rattie	83.78	45	eP	P	22 08 09.5	+0.3
BSEG	Bad Segeberg	83.83	36	eP	P	22 08 10.2	+1.1
	comp=Z,136nm,1.8s						
BSEG				epP	PcP	22 08 14.9	+1.9
	comp=Z,136nm,1.8s						
SMRF	Simiane la Rot	83.84	46	eP	P	22 08 10.1	+0.7
	comp=Z,39nm,0.9s						
SMRF	Simiane la Rot	83.84	46	eP	P	22 08 10.1	+0.7
LANF	Langenberg	83.87	41	↓eP	P	22 08 10.7	+1.2
TNS	Taunus Mts	83.89	40	eP	P	22 08 10.0	+0.4
	comp=Z,197nm,2.0s						
TNS				epP	PcP	22 08 14.7	+1.2
	comp=Z,197nm,2.0s						
ARA0	ARCESS Array S	83.96	18	eP	P	22 08 10.6	+1.1
ARCES	ARCESS Array B	83.96	18	P	P	22 08 10.6	+1.1
	comp=Z,7.5nm,0.7s,baz=301,slow=3.4,SNR=21						
ARCES				LR	LR	22 46 11.0	
	comp=Z,853nm,18.0s,baz=306,slow=36						
RSL	Roselend	84.06	44	↓eP	P	22 08 11.6	+0.9
OG25	Le Caire	84.07	46	↓eP	P	22 08 11.7	+1.0
NRDL	Niedersach Rie	84.17	37	eP	P	22 08 11.8	+1.0
	comp=Z,114nm,1.7s						
NRDL				epP	PcP	22 08 16.4	+1.9
	comp=Z,114nm,1.7s						
LPL	La Plagne	84.19	44	eP	P	22 08 12.0	+0.6
	comp=Z,66nm,1.3s						
LPL	La Plagne	84.19	44	eP	P	22 08 12.0	+0.6
LPL	La Plagne	84.19	44	eP	P	22 08 12.0	+0.6
LPG	La Plagne	84.20	44	eP	P	22 08 12.2	+0.6
	comp=Z,73nm,1.3s						
LPG	La Plagne	84.20	44	eP	P	22 08 12.2	+0.6
LPG	La Plagne	84.20	44	eP	P	22 08 12.2	+0.6
BNI	Bardonecchia	84.29	45	eP	P	22 08 10.1	-1.7
BNI				pmax	pmax		
	comp=Z,20nm,1.0s						
BNI	Bardonecchia	84.29	45	eP	P	22 08 10.1	-1.7
	comp=Z,20nm,1.0s						
KEV	Kevo	84.30	18	eP	P	22 08 19.2	+8.1
KEV	Kevo	84.30	18	ep	P	22 08 19.2	+8.1
	comp=Z,0.4nm,0.3s						
SENIN	Lac Senin/Sane	84.32	43	eP	P	22 08 10.8	-1.3
BFO	Black Forest	84.39	41	eP	P	22 08 11.3	-0.8
BFO				pmax	pmax		
	comp=Z,36nm,1.3s						
BFO	Black Forest	84.39	41	eP	P	22 08 12.5	+0.3
	comp=Z,40nm,1.3s						
BFO				epP	PcP	22 08 17.0	+1.3
	comp=Z,40nm,1.3s						
BFO	Black Forest	84.39	41	eP	P	22 08 11.3	-0.8
	comp=Z,36nm,1.3s						
MBDF	Montbardon	84.44	45	eP	P	22 08 12.9	+0.3
	comp=Z,41nm,0.8s						
MBDF	Montbardon	84.44	45	eP	P	22 08 12.9	+0.3
MBDF	Montbardon	84.44	45	eP	P	22 08 12.9	+0.3
CLZ	Clausthal	84.54	38	eP	P	22 08 13.8	+1.0
	comp=Z,156nm,1.9s						
CLZ				epP	PcP	22 08 18.5	+2.2
	comp=Z,156nm,1.9s						
TIC	Toumodi	84.63	85	eP	P	22 08 14.8	+0.8
	comp=Z,44nm,0.9s						
UBBA	Unterbreizbach	84.65	39	eP	P	22 08 13.9	+0.7
	comp=Z,76nm,1.7s						
UBBA				epP	PcP	22 08 18.7	+2.1
	comp=Z,76nm,1.7s						
LMR	La Mourre	84.67	47	eP	P	22 08 13.8	+0.2
	comp=Z,164nm,1.4s						
LMR	La Mourre	84.67	47	eP	P	22 08 13.8	+0.2
LMR	La Mourre	84.67	47	eP	P	22 08 13.8	+0.2
FRF	La Foret Royal	84.70	46	eP	P	22 08 13.8	0.0
	comp=Z,102nm,1.1s						
FRF	La Foret Royal	84.70	46	eP	P	22 08 13.8	0.0
FRF	La Foret Royal	84.70	46	eP	P	22 08 13.8	0.0
LIC	Lamto	84.74	85	⇑iP	P	22 08 15.4	+0.9
	comp=Z,98nm,1.2s,baz=284						
LIC				eR			
	comp=Z,345nm,20.5s						
LIC	Lamto	84.74	85	eP	P	22 08 15.5	+0.9
	comp=Z,112nm,1.2s						
LIC	Lamto	84.74	85	eP	P	22 08 15.4	+0.9
DBIC	Dimbokro	84.78	85	eP	P	22 08 12.5	-2.2
DBIC				pmax	pmax		
	comp=Z,60nm,1.4s						
DBIC	Dimbokro	84.78	85	P	P	22 08 15.4	+0.7
	comp=Z,9.2nm,0.7s,baz=273,slow=3.8,SNR=17						
DBIC				LR	LR	22 46 45.8	
	comp=Z,243nm,18.3s,baz=262,slow=36						
DBIC	Dimbokro	84.78	85	eP	P	22 08 12.5	-2.2
	comp=Z,60nm,1.4s						
STU	Stuttgart	84.80	41	eP	P	22 08 13.2	-1.0
STU				pmax	pmax		
	comp=Z,251nm,2.3s						
STU	Stuttgart	84.80	41	eP	P	22 08 14.4	+0.2
	comp=Z,208nm,2.2s						
STU				epP	PcP	22 08 19.2	+1.7
	comp=Z,58nm,1.5s						
STU	Stuttgart	84.80	41	eP	P	22 08 13.2	-1.0
	comp=Z,251nm,2.3s						
CALN	Calern	84.81	46	↓eP	P	22 08 15.7	+1.2
MVIF	Mont Vial	84.95	46	↓eP	P	22 08 16.1	+0.9
KIC	Kosan Boka	84.98	85	eP	P	22 08 16.7	+1.0
	comp=Z,82nm,1.0s						
TOUF	Mont Tournerai	84.98	46	↓eP	P	22 08 16.3	+0.9
SBF	Sospel	85.16	46	eP	P	22 08 16.2	+0.1
	comp=Z,303nm,1.4s						
SBF	Sospel	85.16	46	eP	P	22 08 16.2	+0.1
SBF	Sospel	85.16	46	eP	P	22 08 16.2	+0.1
SAOF	Saorge	85.20	46	↓eP	P	22 08 16.7	+0.4
TUE	Stuetta	85.63	43	eP	P	22 08 18.7	+0.1
	comp=Z,56nm,1.1s						
MOX	Moxa	85.67	38	eP	P	22 08 19.1	+0.6
	comp=Z,136nm,2.0s						
MOX				epP	PcP	22 08 23.8	+2.5
	comp=Z,136nm,2.0s						
MOX				eL	L	22 45 50.6	
	comp=Z,514nm,20.0s						
DAVA	Damuels	85.72	42	i PcP	P	22 08 20.4	+1.4
	comp=Z,100nm,1.8s,SNR=15						
GRF	Grafenberg Arr	85.76	39	eP	P	22 08 19.7	+0.8
	comp=Z,130nm,1.7s						
GRF				epP	PcP	22 08 24.4	+2.7
	comp=Z,130nm,1.7s						
GRF				eL	L	22 44 12.5	
	comp=Z,562nm,19.3s						
GRFO	Grafenberg	85.76	39	eP	P	22 08 17.4	-1.5
GRFO				pmax	pmax		
	comp=Z,54nm,1.2s						
GRFO	Grafenberg	85.76	39	eP	P	22 08 17.4	-1.5
	comp=Z,54nm,1.2s						
SET	Setif	85.92	54	P	P	22 08 22.0	+1.9
CKHR	Kef el Ahmar	86.06	54	P	P	22 08 21.6	+0.7
FUORN	Ofenpass-Fuorn	86.18	43	eP	P	22 08 20.6	-0.8
	comp=Z,48nm,0.9s						
DFRA	Djebel Bou Aff	86.19	53	P	P	22 08 21.8	+0.3
RETA	Reutte	86.21	42	i PcP	P	22 08 22.2	+0.9
	comp=Z,63nm,1.1s,SNR=27						
TANN	Tannenbergstha	86.26	39	eP	P	22 08 22.1	+0.6
	comp=Z,165nm,2.1s						
TANN				epP	PcP	22 08 26.8	+2.8
	comp=Z,165nm,2.1s						
CLL	Collm	86.26	38	↓iP	P	22 08 22.7	+1.4
CLL				i		22 08 33.6	
CLL				eS	SKSac	22 18 45.0	+2.3
CLL				pmax	pmax		
	comp=Z,34nm,1.6s						
CLL	Collm	86.26	38	eP	P	22 08 21.9	+0.6
	comp=Z,156nm,2.2s						
CLL				epP	PcP	22 08 26.6	+2.8
	comp=Z,156nm,2.2s						
CLL	Collm	86.26	38	↓iP	P	22 08 22.7	+1.4
	comp=Z,34nm,1.6s						
CLL				i Pmax		22 08 26.7	
	comp=Z,156nm,2.2s						
CLL				i pP	pP	22 08 33.6	-4.1
CLL				ePP	PP	22 11 47.0	+4.6
CLL				eSKSac	SKSac	22 18 45.0	+2.3
CLL				ePPS	PPS	22 20 23.0	
CLL				LmV		22 26 00.0	
	comp=Z,200nm,18.0s						
CLL				Lm	MLR	22 45 00.0	
	comp=N,200nm,21.7s						
CLL				Lm	MLR	22 45 00.0	
	comp=E,400nm,20.6s						
CLL				Lm	MLR	22 45 00.0	
	comp=Z,500nm,21.1s						
CLL	Collm	86.26	38	eP	P	22 08 21.9	+0.6
	comp=Z,189nm,2.2s						
FUR	Furstenfeldbru	86.31	41	eP	P	22 08 22.0	+0.3
	comp=Z,48nm,1.4s						
FUR				epP	PcP	22 08 26.7	+2.5
	comp=Z,48nm,1.4s						
ROTZ	Rotzenmuhle	86.33	39	eP	P	22 08 22.8	+1.0
	comp=Z,84nm,1.8s						
ROTZ				epP	PcP	22 08 27.5	+3.3
	comp=Z,58nm,1.5s						
FETA	Feichten	86.35	42	⇑iPcP	P	22 08 22.5	+0.4
	comp=Z,33nm,1.0s,SNR=19						
MOTA	Moosalm	86.48	42	i PcP	P	22 08 23.7	+1.0
	comp=Z,30nm,0.9s,SNR=26						
PGF	Pioggiola	86.65	47	eP	P	22 08 23.4	-0.2
	comp=Z,160nm,1.0s						
PGF	Pioggiola	86.65	47	eP	P	22 08 23.4	-0.2
PGF	Pioggiola	86.65	47	eP	P	22 08 23.4	-0.2
CTEI	Djebel Teioual	86.74	54	P	P	22 08 24.4	+0.2
CASM	Ain Smara	86.75	53	P	P	22 08 24.7	+0.6
WATA	Walderalm	86.79	42	↓iPcP	P	22 08 25.3	+1.1
	comp=Z,24nm,1.2s,SNR=11						
WTTA	Wattenberg	86.85	42	⇑iPcP	P	22 08 25.2	+0.6
	comp=Z,28nm,1.0s,SNR=5.9						
CKFL	Kef-Lekhel	86.88	53	P	P	22 08 25.6	+0.7
WET	Wettzell	86.96	40	eP	P	22 08 25.7	+0.8
	comp=Z,107nm,1.6s						
WET				epP	PcP	22 08 30.4	+3.3
	comp=Z,107nm,1.6s						
BRG	Berggiesshubel	86.97	38	eP	P	22 08 25.6	+0.8
	comp=Z,41nm,1.8s						
BRG	Berggiesshubel	86.97	38	S	S	22 19 08.0	+9.0
BRG	Berggiesshubel	86.97	38	eP	P	22 08 25.6	+0.8
BRG				S	S	22 19 08.0	+9.0
BRG				pmax	pmax		
	comp=Z,9.0nm,1.8s						
BRG				MLR	MLR		
	comp=N,41μm,17.3s						
BRG				MLR	MLR		
	comp=E,303nm,21.2s						
BRG				MLR	MLR		
	comp=Z,197nm,18.8s						
BRG	Berggiesshubel	86.97	38	eP	P	22 08 25.5	+0.7
	comp=Z,26nm,1.4s						
BRG				epP	PcP	22 08 30.2	+3.2
	comp=Z,26nm,1.4s						
VLC	Villacollemand	87.08	45	eP	P	22 08 23.8	-1.8
	comp=Z,57nm,1.1s						
SEY	Seymchan	87.14	336	P	P	22 08 26.0	+0.6
	comp=Z,5.4nm,0.8s,baz=79,slow=4.6,SNR=24						
KHC	Kasperske Hory	87.40	39	eP	P	22 08 28.1	+1.1
KHC				MLR	MLR		
	comp=Z,600nm,24.0s						
KHC	Kasperske Hory	87.40	39	eP	P	22 08 28.1	+1.1
KHC				ex	x	22 08 33.0	
KHC				ex	x	22 08 56.8	
KHC				AMS	AMS	22 44 30.0	
	comp=Z,600nm,24.0s						
KHC	Kasperske Hory	87.40	39	eP	P	22 08 26.1	-0.9
	comp=Z,71nm,1.8s						
RJOB	Jochberg	87.42	41	eP	P	22 08 27.5	+0.3
	comp=Z,54nm,1.5s						
RJOB				epP	PcP	22 08 32.2	+3.1
	comp=Z,54nm,1.5s						
PVCC	Panska Ves	87.47	38	eP	P	22 08 30.5	+3.2
PVCC				MLR	MLR		
	comp=Z,500nm,16.9s						
PVCC	Panska Ves	87.47	38	eP	P	22 08 30.5	+3.2
PVCC				AMS	AMS	22 48 40.0	
	comp=Z,500nm,16.9s						
ABSA	Djebel Ababsia	87.50	53	P	P	22 08 29.3	+1.4
GEC2	GERESS Array S	87.58	40	eP	P	22 08 29.1	+1.1
GEC2	GERESS Array S	87.58	40	eP	P	22 08 28.4	+0.4
	comp=Z,48nm,1.6s						
GEC2				epP	PcP	22 08 33.1	+3.2
	comp=Z,48nm,1.6s						
GEC2	GERESS Array S	87.58	40	eP	P	22 08 29.1	+1.1
GERES	GERESS Array B	87.58	40	P	P	22 08 29.1	+1.1
	comp=Z,2.6nm,0.8s,baz=298,slow=2.9,SNR=21						
GERES				LR	LR	22 45 28.1	
	comp=Z,427nm,21.0s,baz=288,slow=34						
ABTA	Abfaltersbach	87.59	42	⇑iPcP	P	22 08 28.7	+0.6
	comp=Z,52nm,1.2s,SNR=16						
PRU	Pruhonice	87.66	38	eP	P	22 08 28.8	+0.6
PRU				e		22 18 50.9	
PRU				MLR	MLR		
	comp=Z,600nm,23.1s						
PRU	Pruhonice	87.66	38	eP	P	22 08 28.8	+0.6
PRU				eSKS	SKSac	22 18 50.9	-0.5
PRU				AMS	AMS	22 48 50.0	
	comp=Z,600nm,23.1s						
VSL	Villasalto	87.91	50	eP	P	22 08 28.1	-1.5
	comp=Z,49nm,1.0s						
KBA	Koelnbreinsper	88.00	41	⇑iPcP	P	22 08 30.9	+0.8
	comp=Z,35nm,1.3s,SNR=13						
KAF	Kangasniemi	88.08	25	eP	P	22 08 28.8	-1.1
KAF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KAF	Kangasniemi	88.08	25	ep	P	22 08 28.8	-1.1
	comp=Z,3.7nm,0.7s						
UPC	Upice	88.33	38	eP	P	22 08 32.5	+1.1
UPC	Upice	88.33	38	eP	P	22 08 32.5	+1.1
UPC				ex	x	22 09 02.7	
FIA0	FINESS Array S	88.34	25	eP	P	22 08 31.6	+0.5
FIA0	FINESS Array S	88.34	25	eP	P	22 08 31

MORC	**Moravsky Berou**	**89.52**	**38**	*e*P	**P**	**22 08 36.2**	**-0.8**
	comp=Z,42nm,1.9s						
JOF	**Joensuu**	**89.56**	**23**	*e*P	**P**	**22 08 37.6**	**+0.7**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.7s						
JOF	**Joensuu**	**89.56**	**23**	*e*p	**P**	**22 08 37.6**	**+0.7**
	comp=Z,2.2nm,0.7s						
AQU	**L'Aquila**	**89.78**	**46**	*e*P	**P**	**22 08 36.2**	**-2.2**
AQU				pmax	pmax		
	comp=Z,19nm,1.0s						
AQU	**L'Aquila**	**89.78**	**46**	*e*P	**P**	**22 08 36.2**	**-2.2**
	comp=Z,19nm,1.0s						
OKC	**Ostrava-Krasne**	**89.86**	**38**	*e*P	**P**	**22 08 39.8**	**+1.3**
OKC				MLR	MLR		
	comp=Z,700nm,21.9s						
OKC	**Ostrava-Krasne**	**89.86**	**38**	*e*P	**P**	**22 08 39.8**	**+1.3**
OKC				AMS	AMS	22 47 50.0	
	comp=Z,700nm,21.9s						
BEL	**Belsk**	**90.48**	**35**	*e*P	**P**	**22 08 43.0**	**+1.6**
BEL	**Belsk**	**90.48**	**35**	*e*P	**P**	**22 08 42.9**	**+1.6**
OJC	**Ojcow**	**90.65**	**37**	*e*P	**P**	**22 08 41.2**	**-1.0**
OJC				pmax	pmax		
	comp=Z,57nm,2.1s						
OJC	**Ojcow**	**90.65**	**37**	*e*P	**P**	**22 08 41.2**	**-1.0**
	comp=Z,57nm,2.1s						
VYHS	**Vyhne**	**90.84**	**39**	*e*P	**P**	**22 08 43.4**	**+0.2**
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
VYHS	**Vyhne**	**90.84**	**39**	*e*P	**P**	**22 08 43.4**	**+0.2**
PSZ	**Piszkesteto**	**91.72**	**39**	⇓P	**P**	**22 08 49.4**	**+2.0**
PSZ	**Piszkesteto**	**91.72**	**39**	⇓*i*P	**P**	**22 08 49.4**	**+2.0**
PSZ	**Piszkesteto**	**91.72**	**39**	*e*P	**P**	**22 08 45.2**	**-2.1**
	comp=Z,66nm,2.0s						
STHS	**Stebnicka Huta**	**91.85**	**37**	*e*P	**P**	**22 08 49.2**	**+1.4**
STHS				pmax	pmax		
	comp=Z,5.0nm,1.6s						
STHS	**Stebnicka Huta**	**91.85**	**37**	*e*P	**P**	**22 08 49.2**	**+1.4**
CRVS	**Cervenica-Dubn**	**92.21**	**38**	*e*P	**P**	**22 08 51.0**	**+1.5**
CRVS				pmax	pmax		
	comp=Z,12nm,1.5s						
CRVS	**Cervenica-Dubn**	**92.21**	**38**	*e*P	**P**	**22 08 51.0**	**+1.5**
CUC	**Castrocucco**	**92.36**	**47**	*e*P	**P**	**22 08 48.1**	**-2.3**
	comp=Z,28nm,1.0s						
KWP	**Kalwaria Pacla**	**92.59**	**36**	*e*P	**P**	**22 08 53.2**	**+2.0**
KWP	**Kalwaria Pacla**	**92.59**	**36**	*e*P	**P**	**22 08 53.2**	**+2.0**
KOLS	**Kolonicke sedl**	**92.67**	**37**	*e*P	**P**	**22 08 53.2**	**+1.6**
KOLS				pmax	pmax		
	comp=Z,19nm,1.7s						
KOLS	**Kolonicke sedl**	**92.67**	**37**	*e*P	**P**	**22 08 53.2**	**+1.6**
UZH	**Uzhgorod**	**92.83**	**37**	*e*P	**P**	**22 08 52.7**	**+0.4**
UZH				*e*		22 12 32.9	
UZH				*e*S	S	22 19 47.3	-5.9
UZH				MLR	MLR		
	comp=Z,200nm,15.0s						
TRPA	**Tarpa**	**93.21**	**38**	⇓*i*P	**P**	**22 08 55.7**	**+1.6**
LVV	**L'vov**	**93.25**	**36**	*e*P	**P**	**22 08 56.2**	**+1.9**
TIP	**Timpagrande**	**93.35**	**48**	*e*P	**P**	**22 08 54.0**	**-1.1**
	comp=Z,28nm,1.6s						
BZS	**Buzias**	**93.82**	**40**	⇓P	**P**	**22 08 58.2**	**+1.2**
BZS	**Buzias**	**93.82**	**40**	⇓*i*P	**P**	**22 08 58.2**	**+1.2**
KLMR	**Klimovskoe**	**93.87**	**22**	*e*P	**P**	**22 08 56.3**	**-0.6**
KLMR				*e*		22 12 42.7	
KLMR				pmax	pmax		
	comp=Z,19nm,1.5s						
KLMR				MLR	MLR		
	comp=Z,792nm,17.0s						
DRGR		**93.94**	**39**	⇓P	**P**	**22 08 57.8**	**+0.2**
DRGR		**93.94**	**39**	⇓*i*P	**P**	**22 08 57.8**	**+0.2**
GZR	**Gura Zlata**	**94.65**	**40**	⇑P	**P**	**22 09 01.6**	**+0.7**
GZR	**Gura Zlata**	**94.65**	**40**	⇑*i*P	**P**	**22 09 01.6**	**+0.7**
BUR04	**Bucovina Ar. S**	**95.03**	**37**	*e*P	**P**	**22 09 00.1**	**-2.5**
PRGR	**Permogore**	**95.36**	**19**	*e*P	**P**	**22 09 03.1**	**-0.6**
PRGR				pmax	pmax		
	comp=Z,13nm,1.1s						
KIEV	**Kiev**	**95.62**	**33**	⇑*e*P	**P**	**22 09 04.5**	**-0.6**
AKASG	**Malin Array Be**	**95.63**	**33**	*ce*P	**P**	**22 09 06.6**	**+1.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**95.63**	**33**	P	**P**	**22 09 06.1**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=295,slow=3.6,SNR=4.1						
AKASG				LR	LR	22 55 14.4	
	comp=Z,256nm,18.0s,baz=280,slow=37						
AKBB	**Malin Array Si**	**95.63**	**33**	*e*P	**P**	**22 09 06.1**	**+1.0**
AKBB	**Malin Array Si**	**95.63**	**33**	*e*P	**P**	**22 09 06.1**	**+1.0**
YAK	**Yakutsk**	**95.70**	**342**	*e*P	**P**	**22 09 04.7**	**-0.5**
YAK				pmax	pmax		
	comp=Z,13nm,1.2s						
ARR	**Arges**	**95.81**	**40**	⇓*i*P	**P**	**22 09 06.9**	**+0.7**
VOIR		**96.03**	**39**	⇑P	**P**	**22 09 08.1**	**+0.9**
VOIR		**96.03**	**39**	⇑*i*P	**P**	**22 09 08.1**	**+0.9**
OBN	**Obninsk**	**96.53**	**27**	⇓*e*P	**P**	**22 09 09.7**	**+0.6**
OBN				*e*		22 13 08.7	
OBN				pmax	pmax		
	comp=Z,28nm,1.4s						
MLR	**Muntele Rosu**	**96.54**	**39**	⇑P	**P**	**22 09 11.0**	**+1.4**
MLR	**Muntele Rosu**	**96.54**	**39**	⇑*i*P	**P**	**22 09 11.0**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**100.67**	**322**	*d i*P	**Pdif**	**22 09 23.3**	**-4.6**
YUK				*i*		22 13 34.4	
YUK				*i* PPP	PPP	22 15 43.6	
YUK				*i* PS	PS	22 22 26.8	-11
YUK				*i* SS	SS	22 27 54.5	-3.0
YUK				MLR	MLR		
	comp=N,815nm,18.0s						
YUK				MLR	MLR		
	comp=Z,470nm,18.0s						
ANN	**Anapa**	**103.59**	**35**	*i* P	**Pdif**	**22 09 32.2**	**-8.7**
ANN				pmax	pmax		
	comp=Z,131nm,1.3s						
ANN				MLR	MLR		
	comp=Z,880nm,19.0s						
ANN				MLR	MLR		
	comp=N,517nm,19.0s						
ZAA1	**Zalesovo Array**	**110.17**	**2**	*e*PP	PP	22 14 45.3	+0.8
ZALV	**Zalesovo Beam**	**110.17**	**2**	PP	PP	22 14 45.3	+0.7
	comp=N,14nm,0.8s,baz=15,slow=6.3,SNR=4.3						
ULN	**Ulaanbaatar**	**114.26**	**347**	⇑*i*PKIKP	PKPdf	22 14 19.7	+0.4
ULN				pmax	pmax		
	comp=Z,3.0nm,1.7s						
SONA0	**Songino Array**	**114.43**	**347**	*e*PKiKP	**PKiKP**	**22 14 18.8**	**-0.8**
SONM	**Songino Array**	**114.43**	**347**	PKP	PKPdf	22 14 18.8	-0.8
	comp=Z,1.2nm,1.0s,baz=358,slow=1.5,SNR=5.9						
MK32	**Makanchi Array**	**117.15**	**5**	*e*PKPdf	**PKPdf**	**22 14 23.1**	**-1.6**
MKAR	**Makanchi Array**	**117.15**	**5**	*c i*PKIKP	**PKPdf**	**22 14 24.3**	**-0.4**
MKAR	**Makanchi Array**	**117.15**	**5**	PKP	**PKPdf**	**22 14 23.1**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=1.9,slow=2.5,SNR=4.6						
MK01	**Makanchi Array**	**117.17**	**5**	*e*PKPdf	**PKPdf**	**22 14 23.6**	**-1.2**
SYO	**Syowa Base**	**118.92**	**162**	⇓*e*PP	PP	22 15 50.4	+3.5
GEYT	**Alibeck**	**119.07**	**27**	PKP	**PKPdf**	**22 14 28.2**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=305,slow=5.1,SNR=5.6						
HHC	**Hu-ho-hao-te**	**119.51**	**340**	*e*PKP	**PKPdf**	**22 14 27.0**	**-2.6**
HHC				PP	**PP**	**22 15 53.0**	**+2.2**
HHC				PKS	**PKSdf**	**22 18 02.4**	**-3.9**
HHC				SKS	SKSdf	22 21 27.9	-9.1
HHC				PPMZ			
	comp=Z,170nm,5.4s						
HHC				LN			
	comp=Z,170nm,18.0s						
HHC				LE			
	comp=Z,270nm,18.0s						
HHC				LZ			
	comp=Z,160nm,18.6s						
WMQ	**Urumqi**	**120.38**	**1**	*e*PKP	**PKPdf**	**22 14 30.5**	**-0.6**
WMQ				sPKP		22 15 00.0	
WMQ				PP	PP	22 16 02.3	+5.8
WMQ				PKS	**PKSdf**	**22 18 05.9**	**-1.9**
WMQ				SKS	SKSdf	22 21 31.0	-7.5
WMQ				SKKS	SKKSac	22 22 44.0	-8.7
WMQ				SS	**SS**	**22 32 19.6**	**-0.2**
WMQ				PPMZ			
	comp=Z,77nm,7.2s						
WMQ				LN			
	comp=Z,350nm,26.0s						
WMQ				LE			
	comp=Z,520nm,26.0s						
WMQ				LZ			
	comp=Z,400nm,20.0s						
BOSA	**Boshof**	**120.61**	**114**	PKP	**PKPdf**	**22 14 30.2**	**-1.7**
	comp=Z,2.8nm,0.8s,baz=247,slow=2.5,SNR=3.9						
KSH	**Kashi**	**123.43**	**12**	PKP	**PKPdf**	**22 14 36.6**	**-0.6**
KSH				sPKP		22 15 07.8	
KSH				PKS	**PKSdf**	**22 18 13.3**	**-0.6**
KSH				SKS	**SKSdf**	**22 21 41.1**	**-3.4**
KSH				SKKS	**SKKSac**	**22 23 09.3**	**-3.4**
KSH				SS	**SS**	**22 33 00.6**	**+1.7**
KSH				PPMZ			
	comp=Z,76nm,3.8s						
KSH				LN			
	comp=Z,97nm,5.5s						
KSH				LE			
	comp=Z,120nm,6.3s						
KSH				LZ			
	comp=Z,260nm,14.5s						
GTA	**Gaotai**	**123.83**	**350**	*e*PKP	**PKPdf**	**22 14 38.8**	**+0.9**
GTA				PP	PP	22 16 26.3	+6.3
GTA				SKS	**SKSdf**	**22 21 39.1**	**-6.2**
GTA				SKKS	SKKSac	22 23 08.0	-7.3
GTA				SS	**SS**	**22 33 02.3**	**-1.6**
GTA				PPMZ			
	comp=Z,130nm,5.0s						
GTA				LN			
	comp=Z,310nm,18.0s						
GTA				LE			
	comp=Z,340nm,18.0s						
GTA				LZ			
	comp=Z,350nm,19.5s						
NJ2	**Nanjing**	**124.09**	**329**	*e*PKP	**PKPdf**	**22 14 37.8**	**-0.6**
LZH	**Lanzhou**	**126.17**	**345**	*e*PKP	**PKPdf**	**22 14 41.1**	**-1.5**
LZH				PP	**PP**	**22 16 39.3**	**+3.5**
LZH				SKKS		22 23 23.6	
LZH				PPMZ			
	comp=Z,100nm,5.8s						
LZH				LN			
	comp=Z,420nm,14.0s						
LZH				LE			
	comp=Z,630nm,17.2s						
LZH				LZ			
	comp=Z,860nm,19.0s						
XAN	**Xi'an**	**126.56**	**339**	PKP	**PKPdf**	**22 14 43.8**	**+0.6**
KMBO	**Kilima Mbogo**	**127.19**	**79**	PKP	**PKPdf**	**22 14 46.2**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=265,slow=4.2,SNR=7.2						
WHN	**Wuhan**	**127.47**	**332**	PKP	**PKPdf**	**22 14 42.0**	**-2.9**
WHN				LZ			
	comp=Z,850nm,18.2s						
CD2	**Chengdu**	**131.08**	**343**	*e*PKP	**PKPdf**	**22 14 52.6**	**+0.7**
CD2				PP	PP	22 17 12.8	+4.9
CD2				PKS	**PKSdf**	**22 18 23.9**	**-4.7**
CD2				SKS	SKSdf	22 21 51.8	-7.1
CD2				SKKS	**SKKSac**	**22 23 59.0**	**-2.0**
CD2				SS	**SS**	**22 34 38.4**	**+4.2**
CD2				PPMZ			
	comp=Z,150nm,10.7s						
CD2				LN			
	comp=Z,460nm,19.0s						
CD2				LE			
	comp=Z,390nm,17.8s						
CD2				LZ			
	comp=Z,570nm,15.5s						
GYA	**Guiyang**	**134.25**	**337**	Pdif	**Pdif**	**22 11 55.8**	**-2.0**
GYA				PKP	**PKPdf**	**22 14 56.4**	**-1.7**
GYA				sPKP		22 15 29.0	
GYA				PP	**PP**	**22 17 31.6**	**+3.2**
GYA				PKS	**PKSdf**	**22 18 31.5**	**-3.2**
GYA				SKKS		22 24 14.0	
GYA				SS	**SS**	**22 35 11.8**	**-1.2**
GYA				PPMZ			
	comp=Z,140nm,8.2s						
GYA				LN			
	comp=Z,180nm,20.4s						
GYA				LE			
	comp=Z,140nm,21.0s						
GYA				LZ			
	comp=Z,170nm,20.8s						
LSA	**Lhasa**	**134.42**	**357**	PKP	**PKPdf**	**22 14 59.8**	**+1.0**
LSA	**Lhasa**	**134.42**	**357**	*e*PKIKP	**PKPdf**	**22 14 58.9**	**+0.1**
LSA	**Lhasa**	**134.42**	**357**	*e*PKPdf	**PKPdf**	**22 14 58.9**	**+0.1**
WRA	**Warramunga Arr**	**136.52**	**258**	PKhKP	PKPpre	22 14 50.2	
	comp=Z,0.4nm,0.5s,baz=89,slow=3.4,SNR=6.3						
WRA				PKP	**PKPdf**	**22 15 01.9**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=85,slow=2.5,SNR=7.5						
KMI	**Kunming**	**136.81**	**341**	PKP	**PKPdf**	**22 15 04.8**	**+1.8**
KMI				PP	**PP**	**22 17 45.9**	**+1.3**
KMI				LN			
	comp=Z,330nm,19.4s						
KMI				LE			
	comp=Z,210nm,18.8s						
KMI				LZ			
	comp=Z,370nm,21.1s						
AS01	**Alice Springs**	**136.92**	**252**	*e*PKPdf	**PKPdf**	**22 15 02.9**	**-0.1**
AS12	**Alice Springs**	**136.96**	**252**	*e*PKPpre	PKPpre	22 14 50.4	
AS12				*e*PKPdf	**PKPdf**	**22 15 02.4**	**-0.6**
ASAR	**Alice Springs**	**136.96**	**252**	PKhKP	PKPpre	22 14 50.3	
	comp=Z,0.6nm,0.9s,baz=97,slow=3.1,SNR=3.9						
ASAR				PKP	**PKPdf**	**22 15 02.4**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=99,slow=2.0,SNR=7.9						
CHTO	**Chiang Mai**	**143.88**	**343**	*e*PKIKP	PKPab	22 15 12.4	-0.4
CHTO	**Chiang Mai**	**143.88**	**343**	*e*PKPdf	PKPab	22 15 12.4	-0.3
CM31	**Chiang Mai Arr**	**144.22**	**343**	*e*PKPdf	PKPbc	22 15 14.8	+0.3
CMAR	**Chiang Mai Arr**	**144.22**	**343**	PKP	PKPbc	22 15 14.8	+0.3
	comp=Z,8.9nm,0.8s,baz=344,slow=3.9,SNR=62						
CM01	**Chiang Mai Arr**	**144.25**	**343**	*e*PKPdf	PKPbc	22 15 14.6	0.0
FITZ	**Fitzroy Crossi**	**144.67**	**261**	*e*PKPbc	**PKPab**	**22 15 15.9**	**+0.1**
SOEI	**Soe**	**144.80**	**276**	*e*PKPbc	PKPbc	22 15 17.2	+0.6
HYB	**Hyderabad**	**145.24**	**17**	*i* PKP	**PKPbc**	**22 15 16.5**	**-1.2**
MRIV	**Mauritius Mete**	**150.09**	**103**	*e*PKPdf	**PKPdf**	**22 15 23.1**	**-2.9**
SBUM	**Sibu**	**150.34**	**306**	*e*PKPdf	**PKPdf**	**22 15 25.5**	**-1.0**
KSM	**Kuching**	**152.43**	**307**	*e*PKPdf	**PKPdf**	**22 15 30.3**	**+0.6**

*CSEM **20** 22:08:44.7, 13.°73N×45.°51E, h3km, ML3.9*
DHMR 20 22:08:44.7±1.3, 13.°73N×45.°51E, h3km±12km, ML3.9, 2C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**0.25**	**12**	⇑*i*P	Pg	22 08 49.6	-0.4
BDHA				*i* S	Sg	22 08 52.8	-0.7
BDHA				AML	AML	22 08 53.0	
	comp=E,14μm,0.1s						
BDHA	**Al Bayda'**	**0.25**	**12**	⇑*i*P	Pg	22 08 49.6	-0.4
BDHA				*i* S	Sg	22 08 52.8	-0.7
DHBB	**Dhamar BB**	**1.38**	**308**	*i* P	Pn	22 09 11.0	-0.2
DHBB				*i* S	Sn	22 09 30.4	+0.2
DHBB	**Dhamar BB**	**1.38**	**308**	*i* P	Pn	22 09 11.0	-0.2
DHBB				*i* S	Sn	22 09 30.4	+0.2
TRBA	**At Turbah**	**1.45**	**250**	⇓*i*P	Pn	22 09 11.6	-0.5
TRBA				*i* S	Sn	22 09 31.7	0.0
TRBA	**At Turbah**	**1.45**	**250**	⇓*i*P	Pn	22 09 11.6	-0.5
TRBA				*i* S	Sn	22 09 31.7	-0.1
UDYN	**Al 'Udayn**	**1.52**	**279**	⇓*i*P	Pn	22 09 13.2	+0.2
UDYN				*i* S	Sg	22 09 34.1	+0.1
SANA	**San'a**	**2.08**	**323**	*i* P	Pn	22 09 21.9	+1.0
SANA				*i* S	Sb	22 09 51.0	+1.0
SANA				AML	AML	22 09 53.2	
	comp=E,1μm,0.5s						

GUC 20 22:19:38.7±0.4, 36.°86S×73.°53W, h24km±2km, ML4.3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.94**	**40**	*e*P	Pb	22 19 55.4	-0.8
COCH				*e*S	Sb	22 20 07.9	-0.3
LNCH	**Linares**	**1.85**	**58**	*e*P	Pn	22 20 09.6	+0.7
LNCH				*e*S	Sb	22 20 33.5	-1.1
LNCH				AML	AML	22 20 39.4	
	comp=N,2μm,0.4s						
TALC	**Talca**	**2.11**	**47**	*e*P	Pn	22 20 13.6	+1.1
TALC				*e*S	Sb	22 20 40.2	-1.9
NICH	**Los Niches**	**2.63**	**46**	AML	AML	22 21 07.7	
	comp=N,2μm,0.6s						
CLCH	**Cerro Calan**	**4.23**	**36**	AML	AML	22 21 56.8	
	comp=N,359nm,0.6s						
FCH	**Farellones**	**4.41**	**38**	AML	AML	22 21 58.1	
	comp=N,135nm,0.4s						

*ISCJB **20** 22:33:06.2±0.7, 22.°6N±0.°1×94.°02E±0.°09, h88km, mb3.8/10, Error ellipse: s-maj=18.3km s-min=5.9km az=38.4*
*IDC **20** 22:33:08.1±3.3, 22.°59N×94.°42E, h105km±32km, mb3.6/11, mb1 3.7/12, mb1mx3.3/41, mbtmp3.9/12, Error ellipse: s-maj=46.3km s-min=12.4km az=60.0*
ISC 20 22:33:08.5±0.9, 22.°6N±0.°1×94.0E±0.°1, h88km, n25, σ1§85/29, mb3.9/10, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.58**	**327**	*i* PN	**Pn**	**22 34 04.9**	**+2.9**
SHL				*i* SN	**Sn**	**22 34 43.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**6.16**	**131**	P	Pn	22 34 32.6	-4.4
	0.9nm,0.3s,baz=312,slow=13,SNR=18						
ODAN	**Odare**	**7.39**	**307**	*e*Pn	Pn	22 34 57.1	+3.2
ODAN				*e*Sn	**Sn**	**22 36 15.9**	**-0.5**
	132nm,0.3s						
TAPN	**Taplejung**	**7.45**	**311**	*e*Pn	**Pn**	**22 34 57.2**	**+2.4**
TAPN				*e*Sn	**Sn**	**22 36 17.4**	**-0.5**
	125nm,0.4s						
RAMN	**Ramite**	**8.03**	**305**	*e*Pn	Pn	22 35 05.9	+3.2
RAMN				*e*Sn	**Sn**	**22 36 30.7**	**-1.3**
	74nm,0.4s						
JIRN	**Jiri**	**8.72**	**307**	*e*Pn	**Pn**	**22 35 15.0**	**+2.8**
JIRN				*e*Sn	**Sn**	**22 36 47.9**	**-1.1**
	97nm,0.3s						
GUN	**Gumba**	**9.09**	**308**	*e*Pn	**Pn**	**22 35 19.8**	**+2.6**
GUN				*e*Sn	**Sn**	**22 36 56.9**	**-1.1**
	90nm,0.3s						
PKI	**Pulchoki**	**9.26**	**304**	*e*Pn	**Pn**	**22 35 21.8**	**+2.3**
PKIN	**Phulchoki**	**9.27**	**304**	*e*Pn	**Pn**	**22 35 22.2**	**+2.6**
KKN	**Kakani**	**9.47**	**305**	*e*Pn	Pn	22 35 25.5	+3.2
KKN				*e*Sn	**Sn**	**22 37 06.5**	**-0.6**
	34nm,0.3s						
DMN	**Daman**	**9.51**	**304**	*e*Pn	**Pn**	**22 35 25.0**	**+2.1**
GKN	**Gorkha**	**10.07**	**305**	*e*Pn	**Pn**	**22 35 32.5**	**+2.1**
GKN				*e*Sn	**Sn**	**22 37 20.0**	**-1.6**
	61nm,0.3s						
KOLN	**Koldanda**	**10.76**	**301**	*e*Pn	**Pn**	**22 35 41.4**	**+1.5**
KOLN				*e*Sn	**Sn**	**22 37 36.1**	**-2.5**
	74nm,0.3s						
DANN	**Dangsing**	**10.91**	**304**	*e*Pn	**Pn**	**22 35 43.4**	**+1.4**
DANN				*e*Sn	**Sn**	**22 37 40.4**	**-1.9**
	29nm,0.4s						
PSI	**Prapat**	**20.21**	**166**	P	**P**	**22 37 35.9**	**-0.7**
	1.4nm,0.4s,baz=338,slow=19,SNR=2.9						
MKAR	**Makanchi Array**	**25.97**	**341**	P	**P**	**22 38 32.9**	**0.0**
	1.4nm,0.6s,baz=146,slow=10,SNR=26						
KURBB	**Kurchatov Arra**	**30.52**	**340**	P	**P**	**22 39 11.8**	**-1.4**
	0.4nm,0.6s,baz=155,slow=7.4,SNR=6.2						
KURBB				PcP	**PcP**	**22 42 07.7**	**-2.5**
	0.4nm,0.8s,baz=159,slow=2.7,SNR=4.8						
ZALV	**Zalesovo Beam**	**32.11**	**350**	P	P	22 39 24.8	-2.5
	0.8nm,0.4s,baz=170,slow=11,SNR=5.4						
AKTO	**Aktyubinsk**	**39.51**	**324**	P	**P**	**22 40 30.4**	**-0.1**
	0.7nm,0.4s,baz=153,slow=5.4,SNR=3.6						
WRA	**Warramunga Arr**	**57.74**	**134**	P	P	22 42 46.6	-4.0
	1.7nm,0.6s,baz=321,slow=7.5,SNR=29						
FINES	**FINESS Array B**	**59.91**	**329**	P	**P**	**22 43 03.8**	**-1.3**
	1.2nm,0.9s,baz=91,slow=8.6,SNR=4.1						
ASAR	**Alice Springs**	**60.13**	**137**	P	P	22 43 03.4	-3.7
	1.2nm,0.5s,baz=321,slow=7.0,SNR=37						
ARCES	**ARCESS Array B**	**61.57**	**338**	P	**P**	**22 43 14.2**	**-2.0**
	4.5nm,1.0s,baz=5.7,slow=19,SNR=2.9						
GERES	**GERESS Array B**	**67.10**	**315**	P	**P**	**22 43 51.2**	**-1.6**
	0.5nm,0.6s,baz=77,slow=6.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**87.14**	**283**	P	**P**	**22 45 44.8**	**-0.6**
	0.2nm,0.6s,baz=20,slow=4.6,SNR=3.6						

*CSEM **20** 22:57:54.1±0.2, 38.°47N×39.°61E, h30km, MD2.6, Error ellipse: s-maj=4.7km s-min=1.9km az=112.0*
*DDA **20** 22:57:55.9, 38.°54N×39.°51E, h28km, MD2.6*
ISC 20 22:57:55.1±2.6, 38.°56N±0.°07×39.°6E±0.°1, h9km, n6, σ0§32/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.31**	**233**	*e*PG	**Pg**	**22 58 01.1**	**-0.3**
SVRC				*e*SG	**Sg**	**22 58 05.9**	**+0.4**
SVRC	**Sivrice-ELAZID**	**0.31**	**233**	*e*Pg	**Pg**	**22 58 01.1**	**-0.3**
SVRC				*e*Sg	**Sg**	**22 58 05.9**	**+0.4**
PTK	**Pertek**	**0.37**	**331**	*e*PG	**Pb**	**22 58 04.0**	**-0.1**
PTK				*e*SG	**Sb**	**22 58 10.4**	**+0.4**
PTK	**Pertek**	**0.37**	**331**	*e*Pg	**Pb**	**22 58 04.0**	**-0.1**
PTK				*e*Sg	**Sb**	**22 58 10.5**	**+0.4**
ELZG	**Elazig**	**0.50**	**263**	*i* P	**Pg**	**22 58 04.7**	**-0.2**
ELZG				*i* S	**Sg**	**22 58 11.5**	**-0.1**
ELZG	**Elazig**	**0.50**	**263**	*i* P	**Pg**	**22 58 04.7**	**-0.2**
ELZG				*i* S	**Sg**	**22 58 11.5**	**-0.1**

*IDC **20** 23:10:20.7±2.0, 40.°48S×105.°97E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/22, mbtmp3.8/4, ML1.6/1, Error ellipse: s-maj=71.1km s-min=28.9km az=118.0*
ISC 20 23:10:21.0±2.2, 40.°35±0.°3×105.°8E±0.°4, h10km, n10, σ0§88/7, mb3.6/3, Southwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**8.57**	**53**	T	T	23 21 07.5	
	baz=226,slow=72,SNR=91						
H01W3	**Cape Leeuwin H**	**8.58**	**53**	T	T	23 21 06.7	
	baz=226,slow=59,SNR=59						
H01W1	**Cape Leeuwin H**	**8.59**	**53**	T	T	23 21 06.9	
	baz=226,slow=72,SNR=81						
NWAO	**Narrogin (SRO)**	**11.80**	**55**	Pn	**Pn**	**23 13 08.5**	**-0.8**
	0.2nm,0.3s,baz=229,slow=9.3,SNR=5.2						
ASAR	**Alice Springs**	**28.91**	**63**	P	**P**	**23 16 21.2**	**+1.0**
	0.5nm,0.7s,baz=224,slow=7.7,SNR=6.7						
WRA	**Warramunga Arr**	**31.77**	**59**	P	**P**	**23 16 46.4**	**+0.9**
	0.8nm,1.0s,baz=224,slow=8.3,SNR=3.7						
VNDA	**Vanda**	**43.78**	**165**	P	**P**	**23 18 25.9**	**-0.3**
	1.2nm,0.9s,baz=294,slow=6.6,SNR=4.7						
NVAR	**Mina Array Bea**	**146.14**	**79**	PKPbc	**PKPab**	**23 30 02.5**	**+0.4**
	0.6n

AKRB	Akutan Reef Bi	2.25	10	P	Pn	23 49 06.5	-0.5
AKRB				S	Sn	23 49 33.8	-0.5
AHB	Akutan Harbor	2.26	14	P	Pn	23 49 06.7	-0.6
AHB				S	Sn	23 49 34.7	-0.1
AKUT	Akutan	2.29	14	P	Pn	23 49 06.9	-0.7
AKUT				S	Sn	23 49 34.3	-1.0
AKGG	Akutan Green G	2.32	11	P	Pn	23 49 07.5	-0.6
AKGG				S	Sn	23 49 35.5	-0.7
WESE	West Dahl East	2.86	26	P	Pn	23 49 15.5	-0.1
SSLW	Shishaldin Wes	3.25	28	P	Pn	23 49 21.1	+0.2
SSLN	Shishaldin Nor	3.33	28	P	Pn	23 49 22.1	+0.2
FALS	False Pass	3.55	33	P	Pn	23 49 24.5	-0.4
FALS				S	Sn	23 50 04.5	-1.8
DRIA	Deer Island	4.05	39	P	Pn	23 49 31.5	-0.4
DRIA				S	Sn	23 50 16.1	-2.8
HAG	Hague Volcano	4.45	38	P	Pn	23 49 37.7	+0.4
SDPT	Sand Point	5.06	45	P	Pn	23 49 45.3	-0.4
SDPT				S	Sn	23 50 40.9	-2.8
ILAR	Eielson Array	16.45	31	Pn	Pn	23 52 16.4	-4.0
	0.1nm,0.3s,baz=226,slow=12,SNR=6.1						
PETK	Petropavlovsk-	21.55	287	P	P	23 53 14.6	-4.2
	1.0nm,0.3s,baz=54,slow=14,SNR=4.6						
DLBC	Dease Lake	21.73	58	P	P	23 53 24.3	+3.4
	4.0nm,0.8s,baz=263,slow=10,SNR=9.5						
YKA	Yellowknife Ar	29.32	48	P	P	23 54 32.0	+0.2
	0.7nm,0.7s,baz=268,slow=7.8,SNR=18						
NVAR	Mina Array Bea	36.03	93	P	P	23 55 31.5	+0.4
	0.6nm,0.7s,baz=296,slow=9.5,SNR=5.1						
PDAR	Pinedale Array	38.88	80	P	P	23 55 55.5	+0.3
	0.9nm,0.5s,baz=306,slow=2.9,SNR=13						
ULM	Lac du Bonnet	42.91	63	P	P	23 56 27.1	-0.9
	1.8nm,0.7s,baz=314,slow=7.9,SNR=4.6						
DAG	Danmarks Havn	49.98	9	*i* P	P	23 57 23.7	+0.6
	4.5nm,0.8s						
DAG				*e*		23 58 03.5	
SUMG	Summit	50.72	18	*i* P	P	23 57 30.8	+1.6
	4.5nm,0.8s						
TXAR	Lajitas Array	51.12	91	P	P	23 57 31.6	-0.9
	0.6nm,0.6s,baz=289,slow=5.6,SNR=3.4						
SONM	Songino Array	52.92	303	P	P	23 57 46.3	+0.7
	0.3nm,0.5s,baz=58,slow=2.9,SNR=5.3						
JOW	Kunigami	54.10	269	P	P	23 57 53.4	-1.1
	baz=356,slow=13						
SCHQ	Schefferville	54.63	44	P	P	23 57 57.3	-0.7
	1.9nm,0.7s,baz=293,slow=16,SNR=3.3						
ARCES	ARCESS Array B	58.52	355	P	P	23 58 25.4	0.0
	3.0nm,0.8s,baz=16,slow=7.7,SNR=5.5						
ZALV	Zalesovo Beam	58.84	319	P	P	23 58 27.5	-0.3
	0.4nm,0.4s,baz=35,slow=5.3,SNR=2.9						
JOF	Joensuu	64.62	351	*ep*	P	23 59 06.3	-0.3
	1.1nm,0.6s						
MKAR	Makanchi Array	65.28	315	P	P	23 59 11.2	0.0
	0.3nm,0.8s,baz=63,slow=8.5,SNR=3.3						
KAF	Kangasniemi	65.84	353	*ep*	P	23 59 14.5	0.0
	1.6nm,0.5s						
FINES	FINESS Array B	66.52	353	P	P	23 59 19.3	+0.4
	1.1nm,0.6s,baz=6.9,slow=5.6,SNR=9.8						
NB2	NORSAR Subarra	67.37	1	P	P	23 59 24.7	+0.3
	comp=Z,0.7nm,0.6s,baz=358,slow=6.2						
NOA	NORSAR Array B	67.37	1	P	P	23 59 24.9	+0.5
	comp=Z,0.9nm,0.7s,baz=0.2,slow=6.3,SNR=5.8						
AKASG	Malin Array Be	76.86	350	P	P	00 00 21.0	-0.3
	comp=Z,0.3nm,0.3s,baz=10,slow=5.8,SNR=4.2						
GERES	GERESS Array B	79.61	360	P	P	00 00 37.7	+1.0
	comp=Z,0.7nm,0.8s,baz=19,slow=4.5,SNR=6.3						
GEYT	Alibeck	82.33	326	P	P	00 00 52.0	+0.7
	comp=Z,1.9nm,0.7s,baz=268,slow=7.4,SNR=4.1						
BRTR	Keskin Array B	87.01	344	P	P	00 01 15.9	+0.9
	comp=Z,0.8nm,0.9s,baz=32,slow=3.2,SNR=4.1						
ESDC	Sonseca Array	87.55	13	P	P	00 01 16.8	-0.7
	comp=Z,0.1nm,0.4s,baz=355,slow=5.2,SNR=4.1						
WRA	Warramunga Arr	88.03	234	P	P	00 01 17.6	-2.2
	comp=Z,0.3nm,0.3s,baz=32,slow=5.8,SNR=2.5						
ASAR	Alice Springs	91.38	232	P	P	00 01 34.0	-1.5
	comp=Z,0.3nm,0.7s,baz=39,slow=4.7,SNR=4.1						
TORD	Torodi Ar. Bea	114.43	12	PKP	PKPdf	00 07 07.6	-2.1
	comp=Z,0.2nm,0.7s,baz=171,slow=2.8,SNR=6.8						

DDA ***20*** *23:49:05.5,35°.22N×29°.39E, h25km, MD3.5*
ISK ***20*** *23:49:08.5,35°.52N×29°.16E, h10km, MD3.4*
HLW ***20*** *23:49:12.4,35°.27N×29°.52E, h8km±13km, Ml3.1*
CSEM ***20*** *23:49:13.4±0.3,35°.71N×29°.33E, h30km, MD3.5, Error ellipse: s-maj=7.9km s-min=4.8km az=168.0*
ATH ***20*** *23:49:20.0,35°.79N×28°.63E, h55km±6km, MD3.5/8*
ISC 20 23:49:10.9±1.2, 35°.50N±0°.05×29°.46E±0°.04, h52km±28km, n53, σ1s76/57, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	Kas	0.74	9	*i* P	Pn	23 49 24.5	-0.9
AKAS	Kas	0.74	9	*i* P	Pn	23 49 24.5	-0.9
AKAS				*i* S	Sn	23 49 40.0	+4.0
FETY	Fethiye	1.18	345	*e*PN	Pn	23 49 30.6	-0.5
FETY				*e*SN	Sn	23 49 45.7	-0.4
FETY	Fethiye	1.18	345	*e*Pn	Pn	23 49 30.6	-0.5
FETY				*e*Sn	Sn	23 49 45.7	-0.4
ARG	Arkhangelos	1.30	304	*e*P	Pn	23 49 33.4	+0.7
ARG				*e*S	Sn	23 49 43.2	-5.8
ARG	Arkhangelos	1.30	304	*e*P	Pn	23 49 33.4	+0.7
ELL	Elmali	1.30	16	*e*PN	Pn	23 49 33.1	+0.2
ELL	Elmali	1.30	16	*e*Pn	Pn	23 49 33.1	+0.2
DALY	Dalyan (Mu¨la	1.47	334	*e*PN	Pn	23 49 34.5	-0.5
DALY	Dalyan (Mu¨la	1.47	334	*e*Pn	Pn	23 49 34.5	-0.5
KORT	Korkueli	1.67	25	*i* P	Pn	23 49 38.0	+0.2
KORT				*i* S	Sn	23 49 58.1	0.0
KORT	Korkueli	1.67	25	*i* P	Pn	23 49 38.0	+0.2
KORT				*i* S	Sn	23 49 58.1	0.0
ANTB	Antalya	1.70	34	*e*PN	Pn	23 49 41.5	+3.3
ANTB	Antalya	1.70	34	*e*Pn	Pn	23 49 41.5	+3.3
GOLH	Golhisar	1.74	3	*i* P	Pn	23 49 39.9	+1.1
GOLH				*i* S	Sn	23 50 01.8	+1.9
GOLH	Golhisar	1.74	3	*i* P	Pn	23 49 39.9	+1.1
GOLH				*i* S	Sn	23 50 01.8	+1.9
KARP	Karpathos	1.87	272	*e*P	Pn	23 49 42.1	+1.5
KARP	Karpathos	1.87	272	*e*P	Pn	23 49 42.1	+1.5
YER	Yerkesik	1.89	330	*e*PN	Pn	23 49 39.8	-1.0
YER	Yerkesik	1.89	330	*e*Pn	Pn	23 49 39.8	-1.0
BODT	Bodrum	2.33	313	*e*PN	Pn	23 49 45.0	-1.8
BODT	Bodrum	2.33	313	*e*Pn	Pn	23 49 45.0	-1.8
GAZI	Gazipasa	2.44	72	*i* P	Pn	23 49 46.6	-1.6
GAZI				*i* S	Sn	23 50 12.5	-4.3
ZKR	Zakros	2.68	263	*e*P	Pn	23 49 53.2	+1.7
ZKR	Zakros	2.68	263	*e*P	Pn	23 49 53.2	+1.7
AYDB	Zeytinkoy-Aydi	2.75	333	*e*PN	Pn	23 49 52.2	-0.4
AYDB	Zeytinkoy-Aydi	2.75	333	*e*Pn	Pn	23 49 52.3	-0.4
LEF	Lefka	2.83	97	*e*PN	Pn	23 49 58.8	+5.1
LEF	Lefka	2.83	97	*e*Pn	Pn	23 49 58.8	+5.1
ERMK	Ermenek	3.02	67	*i* P	Pn	23 49 58.6	+2.1
ERMK				*i* S	Sn	23 50 32.4	+0.8
ERMK	Ermenek	3.02	67	*i* P	Pn	23 49 58.6	+2.1
ERMK				*i* S	Sn	23 50 32.4	+0.8
NPS	Neapolis	3.15	267	*e*P	Pn	23 50 00.2	+2.2
NPS	Neapolis	3.15	267	*e*P	Pn	23 50 00.2	+2.2
CSS	Prodhromos	3.21	98	*e*PN	Pn	23 50 03.5	+4.6
CSS	Prodhromos	3.21	98	*e*Pn	Pn	23 50 03.5	+4.6
LAST	Lasithi	3.27	265	*e*P	Pn	23 50 01.9	+2.2
LAST	Lasithi	3.27	265	*e*P	Pn	23 50 01.9	+2.2
BLCB	Balcova	3.47	327	*e*PN	Pn	23 50 02.2	-0.2
BLCB	Balcova	3.47	327	*e*Pn	Pn	23 50 02.2	-0.2
APE	Apeiranthos	3.54	297	*e*P	Pn	23 50 04.3	+0.9
APE	Apeiranthos	3.54	297	*e*P	Pn	23 50 04.3	+0.9
SIVA	Sivas	3.83	264	*e*P	Pn	23 50 09.6	+2.2
SIVA	Sivas	3.83	264	*e*P	Pn	23 50 09.6	+2.2
CHOS	Chios island	3.97	318	*e*PN	Pn	23 50 08.3	-1.0
CHOS	Chios island	3.97	318	*e*Pn	Pn	23 50 08.3	-1.0
MERS	Mersin	4.32	70	*e*PN	Pn	23 50 18.9	+4.8
MERS	Mersin	4.32	70	*e*Pn	Pn	23 50 18.9	+4.8
KARN	Karanos	4.52	270	*e*P	Pn	23 50 18.8	+1.9
KARN	Karanos	4.52	270	*e*P	Pn	23 50 18.8	+1.9
HMAT	Matruh	4.82	205	P	Pn	23 50 20.5	-0.4
	baz=207						
HMAT				S	Sn	23 51 12.4	-3.0
	baz=207						
SLUM		5.34	223	P	Pn	23 50 28.8	+0.7
	baz=225						
SLUM				AMP		23 51 00.0	
	comp=N,30μm,1.0s,logA/T=4.5,baz=225						
AMAG	Maghara	5.77	146	P	Pn	23 50 33.1	-0.9
	baz=145						
SUZ		6.32	152	P	Pn	23 50 41.2	-0.3
	baz=151						

CSEM ***20*** *23:50:13.7,40°.77N×27°.37E, h12km, MD2.3*
DDA ***20*** *23:50:15.2,40°.75N×27°.40E, h7km, MD2.6*
ISK 20 23:50:13.7, 40°.77N×27°.37E, h12km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKY	Sarkoy-Tekirda	0.17	240	*e*PG	Pg	23 50 17.8	+0.1
RKY				*e*SG	Sg	23 50 21.2	+0.8
RKY	Sarkoy-Tekirda	0.17	240	*e*Pg	Pg	23 50 17.8	+0.2
RKY				*e*Sg	Sg	23 50 21.2	+0.8
MRMT	Marmara Adasi	0.24	135	*e*PG	Pg	23 50 19.1	+0.2
MRMT				*e*SG	Sg	23 50 22.9	+0.5
MRMT	Marmara Adasi	0.24	135	*e*Pg	Pg	23 50 19.1	+0.2
MRMT				*e*Sg	Sg	23 50 22.9	+0.5
TKR	Tekirdag	0.25	30	*e*PG	Pg	23 50 19.4	+0.4
TKR				*e*SG	Sg	23 50 23.4	+0.9
TKR	Tekirdag	0.25	30	*e*Pg	Pg	23 50 19.4	+0.4
TKR				*e*Sg	Sg	23 50 23.5	+1.0
KRBG	Karabiga-Canak	0.38	188	*e*PG	Pg	23 50 21.8	+0.4
KRBG				*e*SG	Sb	23 50 27.7	-0.6
KRBG	Karabiga-Canak	0.38	188	*e*Pg	Pg	23 50 21.8	+0.5
KRBG				*e*Sg	Sb	23 50 27.7	-0.6
LPK	Lapseki	0.61	229	*e*PG	Pb	23 50 26.1	-0.3
LPK	Lapseki	0.61	229	*e*Pg	Pb	23 50 26.1	-0.3
GELI	Tayfur-Gelibol	0.78	242	*e*PG	Pb	23 50 29.1	-0.1
GELI	Tayfur-Gelibol	0.78	242	*e*Pg	Pb	23 50 29.1	-0.1
ENEZ	Enez	0.93	268	*e*PG	Pb	23 50 31.9	+0.3
ENEZ	Enez	0.93	268	*e*Pg	Pb	23 50 31.9	+0.2
CTKS	Kestanelik-??a	0.98	61	*e*PG	Pn	23 50 33.1	-0.1
CTKS	Kestanelik-??a	0.98	61	*e*Pg	Pn	23 50 33.1	-0.1
ALN	Alexandroupoli	1.01	277	*e*PG	Pg	23 50 33.4	+0.2
ALN	Alexandroupoli	1.01	277	*e*Pg	Pg	23 50 33.4	+0.2
EDRB	Edirne	1.17	336	*e*PN	Pg	23 50 36.6	+0.3
EDRB	Edirne	1.17	336	*e*Pn	Pg	23 50 36.6	+0.3

IDC 20 23:57:13.8±2.5, 14°.23S×66°.29E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/30, mbtmp3.4/3, MS3.6/3, Ms1 3.6/3, ms1mx3.0/27, Error ellipse: s-maj=98.4km s-min=36.3km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	8.93	44	T	T	00 09 01.4	
	baz=222,slow=75,SNR=57						
H08S2	Diego Garcia H	8.94	44	T	T	00 08 58.7	
	baz=222,slow=75,SNR=202						
H08S3	Diego Garcia H	8.95	43	T	T	00 08 55.5	
	baz=222,slow=75,SNR=57						
H08N3	Diego Garcia H	9.10	31	T	T	00 09 04.2	
	baz=210,slow=76,SNR=284						
H08N1	Diego Garcia H	9.11	31	T	T	00 09 06.1	
	baz=210,slow=76,SNR=213						
H08N2	Diego Garcia H	9.12	31	T	T	00 09 05.9	
	baz=210,slow=76,SNR=255						
OPO	Ambohidratompo	18.82	254	LR	LR	00 07 16.3	
	comp=Z,169nm,18.3s,baz=95,slow=32						
CMAR	Chiang Mai Arr	45.73	46	LR	LR	00 21 32.2	
	comp=Z,17nm,21.9s,baz=290,slow=32						
H01W3	Cape Leeuwin H	47.62	124	T	T	00 56 43.2	
	baz=283						
H01W2	Cape Leeuwin H	47.62	124	T	T	00 56 43.7	
	baz=283						
H01W1	Cape Leeuwin H	47.63	124	T	T	00 56 43.0	
	baz=283						
BATI	Baumata	56.11	93	LR	LR	00 25 43.7	
	comp=Z,217nm,21.6s,slow=30						
MKAR	Makanchi Array	62.42	12	P	P	00 07 38.6	0.0
	0.2nm,0.7s,baz=212,slow=5.1,SNR=3.3						
ASAR	Alice Springs	64.15	110	P	P	00 07 50.2	-0.5
	0.2nm,0.5s,baz=287,slow=5.1,SNR=4.3						
WRA	Warramunga Arr	64.92	106	P	P	00 07 56.2	+0.5
	0.3nm,0.3s,baz=276,slow=5.6,SNR=4.5						
YKA	Yellowknife Ar	131.80	1	PKP	PKPdf	00 16 27.3	-1.3
	0.2nm,0.9s,baz=344,slow=2.1,SNR=3.3						
PDAR	Pinedale Array	151.34	354	PKPbc	PKPbc	00 17 10.4	+0.4
	0.7nm,0.8s,baz=83,slow=3.0,SNR=5.3						

ISCJB ***20*** *23:57:39.5±0.7,47°.07N±0°.09×153°.5E±0°.1, h31km, mb3.6/11, Error ellipse: s-maj=16.9km s-min=5.6km az=135.2*
MOS ***20*** *23:57:41.2±1.5,47°.22N×153°.46E, h48km, mb4.2/4, Error ellipse: s-maj=22.8km s-min=12.8km az=71.4*
SKHL ***20*** *23:57:42.6±0.5,47°.05N×153°.50E, h11km±14km, mb4.7/2, msh5.4/1*
IDC ***20*** *23:57:45.0±3.1,47°.18N×153°.41E, h64km±27km, mb3.4/11, mb1 3.6/13, mb1mx3.3/35, mbtmp3.7/13, ML3.2/2, Error ellipse: s-maj=22.8km s-min=18.3km az=117.0*
ISC 20 23:57:41.2±0.9, 47°.1N±0°.1×153°.5E±0°.1, h31km, n32, σ1s83/29, mb3.7/11, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.95	25	*e*PN	Pn	23 58 37.0	-2.5
SKR				*e*S	Sn	23 59 21.1	-3.7
SKR				pmax	pmax		
	comp=N,30nm,0.4s						
SKR				pmax	pmax		
	comp=Z,30nm,0.4s						
SKR				smax	smax		
	comp=N,60nm,0.2s						
SKR				smax	smax		
	comp=E,120nm,0.2s						
SKR	Severo-Kuril's	3.95	25	*e*P	Pn	23 58 42.5	+3.0
SKR				AMB	AMB	23 58 47.1	
	comp=E,30nm,0.7s						
SKR				*e*S	Sn	23 59 27.8	+3.0
SKR				A	A	23 59 33.8	
	comp=E,120nm,0.2s						
SKR				A	A	23 59 33.8	
	comp=E,60nm,0.2s						
KUR	Kuril'sk	4.36	246	*d* PN	Pn	23 58 47.0	+1.7
KUR				*i* S	Sn	23 59 34.9	-0.1
KUR				pmax	pmax		
	comp=Z,128nm,0.5s						
KUR				pmax	pmax		
	comp=E,18nm,0.1s						
KUR				pmax	pmax		
	comp=N,30nm,0.3s						
KUR				smax	smax		
	comp=N,3μm,3.3s						
KUR				smax	smax		
	comp=E,400nm,1.6s						
KUR	Kuril'sk	4.36	246	*e*P	Pn	23 58 47.0	+1.7
KUR				AMB	AMB	23 58 47.4	
	comp=E,130nm,0.5s						
KUR				*e*S	Sn	23 59 34.9	-0.1
KUR				A	A	23 59 38.2	
	comp=E,3μm,3.3s						
KUR				A	A	23 59 40.0	
	comp=E,250nm,0.6s						
PAU	Pauzhetka	4.85	25	*e*S	Sn	23 59 50.1	+3.2
SHO	Shikotan	5.72	238	*e*P	Pn	23 59 05.0	+1.1
PETK	Petropavlovsk-	6.56	23	P	Pn	23 59 19.0	+3.6
	comp=E,0.3nm,0.3s,baz=234,slow=28,SNR=4.7						
YSS	Yuzh-Sakhalins	7.37	273	*e*P	Pn	23 59 27.7	+1.2
ASAJ	Asahikawa	8.23	253	PN	Pn	23 59 41.0	+2.6
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	8.23	253	P	Pn	23 59 41.0	+2.6
	comp=Z,0.8nm,0.3s,baz=73,slow=19,SNR=5.0						
H11N2	WAKE ISLAND Hy	29.42	154	T	T	00 35 15.4	
	baz=342						
H11N1	WAKE ISLAND Hy	29.44	154	T	T	00 35 09.3	
	baz=342						
H11N3	WAKE ISLAND Hy	29.44	154	T	T	00 35 35.8	
	baz=342						
H11S1	WAKE ISLAND Hy	30.52	155	T	T	00 36 44.5	
	baz=335						
H11S3	WAKE ISLAND Hy	30.53	155	T	T	00 36 41.7	
	baz=335						
H11S2	WAKE ISLAND Hy	30.54	155	T	T	00 36 41.5	
	baz=335						
ZALV	Zalesovo Beam	42.62	306	P	P	00 05 32.8	-1.5
	comp=Z,0.4nm,0.4s,baz=79,slow=11,SNR=2.3						
MKAR	Makanchi Array	47.02	297	P	P	00 06 07.8	-1.7
	comp=Z,0.3nm,0.4s,baz=67,slow=6.9,SNR=9.2						
YKA	Yellowknife Ar	50.45	37	P	P	00 06 34.9	-0.5
	comp=Z,0.1nm,0.5s,baz=286,slow=6.8,SNR=2.3						
FINES	FINESS Array B	63.82	335	P	P	00 08 10.2	+0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	63.82	335	P	P	00 08 10.2	+0.3
	comp=Z,1.3nm,0.4s,baz=39,slow=7.6,SNR=19						
NB2	NORSAR Subarra	67.97	341	P	P	00 08 37.2	+0.5
	comp=Z,0.9nm,0.6s,baz=27,slow=6.5						
NOA	NORSAR Array B	67.97	341	P	P	00 08 37.6	+1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	NORSAR Array B	67.97	341	P	P	00 08 37.6	+1.0
	comp=Z,0.9nm,0.5s,baz=27,slow=6.5,SNR=9.5						
WRA	Warramunga Arr	68.96	199	P	P	00 08 45.2	+2.0
	comp=Z,0.3nm,0.3s,baz=18,slow=8.0,SNR=2.8						
AKASG	Malin Array Be	71.39	326	P	P	00 08 57.5	-0.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	71.39	326	P	P	00 08 57.5	-0.3
	comp=Z,0.6nm,0.4s,baz=34,slow=6.7,SNR=3.3						
ASAR	Alice Springs	72.65	199	P	P	00 09 04.2	-1.4
	comp=Z,0.4nm,0.7s,baz=11,slow=5.4,SNR=4.7						
TXAR	Lajitas Array	77.06	61	P	P	00 09 31.1	-0.3
	comp=Z,0.4nm,0.6s,baz=291,slow=2.5,SNR=3.0						
GERES	GERESS Array B	78.24	334	P	P	00 09 37.4	-0.3
	comp=Z,0.1nm,0.3s,baz=7.5,slow=8.2,SNR=3.0						
BRTR	Keskin Array B	78.31	317	P	P	00 09 37.1	-1.2
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	78.31	317	P	P	00 09 37.1	-1.2
	comp=Z,0.6nm,0.8s,baz=75,slow=5.4,SNR=4.1						

JMA 20 23:58:36.5±0.2, 42°.81N×142°.89E, h116km±2km, M1.9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBT2	Biratori 2	0.39	266	P	Pn	23 58 53.2	-0.1
JBT2				*e*S	Sn	23 59 06.4	+0.4
JCH	Churui	0.40	119	P	Pn	23 58 53.3	-0.1
JCH				*e*S	Sn	23 59 06.3	+0.2
JFR	Furan	0.41	328	P	Pn	23 58 53.5	0.0
JNBK	Urakawa-nobuka	0.54	191	P	Pn	23 58 54.7	+0.5
JOB	Onbets	0.70	82	P	Pn	23 58 56.2	+0.8
JOB				*e*S	Sn	23 59 11.3	+1.6
JAR	Ashorobuto	0.81	53	P	Pn	23 58 56.6	+0.3
JAR				*e*S	Sn	23 59 12.4	+1.1
JHR	Hokuryu	1.26	318	*e*S	Sn	23 59 20.5	+1.0
JAK	Akkeshi	1.34	81	*e*S	Sn	23 59 21.4	+0.4
JTKR	Abashiri--Toko	1.38	32	P	Pn	23 59 02.6	+0.4
JTKR				*e*S	Sn	23 59 23.2	+1.5
JKB	Kayabe	1.66	237	P	Pn	23 59 03.7	-1.8
JKB				*e*S	Sn	23 59 24.6	-3.0

IDC 21 00:12:17.7±5.1, 1°.67S×98°.79E, h0km, mb3.2/3, mb1 3.3/3, mb1mx3.2/43, mbtmp3.2/3, Error ellipse: s-maj=194.9km s-min=29.7km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	26.86	256	T	T	00 45 50.2	
	baz=78,slow=75,SNR=592						
H08S3	Diego Garcia H	26.87	256	T	T	00 45 50.2	
	baz=78,slow=75,SNR=607						
H08S1	Diego Garcia H	26.88	256	T	T	00 45 50.2	
	baz=78,slow=75,SNR=242						
WRA	Warramunga Arr	39.20	120	P	P	00 19 47.7	-0.2
	0.3nm,0.6s,baz=302,slow=9.0,SNR=2.3						
SONM	Songino Array	49.75	7	P	P	00 21 12.6	+0.6
	0.1nm,0.4s,baz=182,slow=8.9,SNR=3.7						
MKAR	Makanchi Array	50.40	345	P	P	00 21 16.3	-0.6
	0.2nm,0.6s,baz=156,slow=7.4,SNR=3.2						

IDC ***21*** *00:17:13.7±0.6,33°.45S×72°.18W, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.2/28, mbtmp4.2/14, ML4.5/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/22, Error ellipse: s-maj=23.3km s-min=16.7km az=92.0*
ISCJB ***21*** *00:17:14.8±1.1,33°.43S±0°.03×72°.40W±0°.05, h20km±7km, mb4.3/14, MS3.7/4, Error ellipse: s-maj=7.8km s-min=5.6km az=162.8*
GUC ***21*** *00:17:16.0±0.7,33°.48S×72°.35W, h29km±7km, ML4.4*
NEIC ***21*** *00:17:18.9±0.3,33°.43S×72°.12W, h35km, mb4.7/5, Error ellipse: s-maj=9.6km s-min=5.6km az=87.0*
ISC 21 00:17:13.8±1.8, 33°.41S±0°.04×72°.30W±0°.06, h2km±11km, n52, σ0s72/61, mb4.4/13, MS3.6/4, 5C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.67	55	⇓*i*P	Pn	00 17 29.9	-0.4
IHA				*i* S1	Sn	00 17 40.0	-1.4
LNV	Longovilo	0.92	126	⇓*i*P	Pb	00 17 32.6	+0.2
PEL	Peldehue	1.38	79	⇑*i*P	Pb	00 17 41.0	+0.7
PEL				*i* S	Sn	00 17 60.0	+1.1
PEL				AML	AML	00 18 08.5	
	comp=E,15μm,0.6s						
ANTU	Antumapu	1.40	97	⇓*i*P	Pb	00 17 40.8	+0.2
ANTU				*i* S4	Sn	00 17 59.0	-0.4
ANTU				AML	AML	00 18 01.6	
	comp=E,9μm,0.5s						
CHCH	Chadas Angostu	1.47	111	⇓*i*P	Pn	00 17 41.1	-0.1
CLCH	Cerro Calan	1.47	90	⇓*i*P	Pg	00 17 42.3	+0.3
CLCH				*i* S

WVT	**Waverly**	**70.69**	**347**	*e*P	**P**	**00 28 30.8**	**-0.1**
	comp=N,6.3nm,0.9s						
DBIC	**Dimbokro**	**75.20**	**72**	P	**P**	**00 28 57.9**	**-0.2**
	comp=N,2.3nm,0.6s,baz=208,slow=7.5,SNR=5.9						
DBIC				LR	LR	01 00 52.9	
	comp=N,36nm,18.8s,baz=156,slow=35						
DBIC	**Dimbokro**	**75.20**	**72**	*e*P	**P**	**00 28 57.5**	**-0.6**
BOSA	**Boshof**	**80.53**	**118**	P	**P**	**00 29 27.8**	**-0.2**
	comp=N,1.7nm,0.7s,baz=186,slow=0.4,SNR=4.6						
BOSA	**Boshof**	**80.53**	**118**	*e*P	**P**	**00 29 27.9**	**0.0**
PDAR	**Pinedale Array**	**83.14**	**333**	P	**P**	**00 29 42.5**	**+1.2**
	comp=N,0.5nm,0.8s,baz=158,slow=4.3,SNR=3.5						
NVAR	**Mina Array Bea**	**83.28**	**325**	P	**P**	**00 29 43.8**	**+1.7**
	comp=N,0.6nm,0.8s,baz=131,slow=8.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**84.22**	**70**	P	**P**	**00 29 46.7**	**-0.4**
	comp=N,3.3nm,0.7s,baz=255,slow=4.4,SNR=26						
ULM	**Lac du Bonnet**	**85.88**	**345**	P	**P**	**00 29 54.3**	**-0.3**
	comp=N,0.8nm,0.4s,baz=112,slow=3.9,SNR=3.7						
SCHQ	**Schefferville**	**88.01**	**3**	P	**P**	**00 30 05.0**	**+0.1**
	comp=N,2.4nm,0.9s,baz=222,slow=8.9,SNR=5.3						
YKA	**Yellowknife Ar**	**101.43**	**341**	P	**Pdif**	**00 31 05.7**	**-0.4**
	comp=N,0.2nm,0.6s,baz=141,slow=4.6,SNR=6.2						
ASAR	**Alice Springs**	**117.99**	**207**	PKP	**PKPdf**	**00 36 00.8**	**-1.8**
	comp=N,0.2nm,0.6s,baz=145,slow=1.9,SNR=4.1						
WRA	**Warramunga Arr**	**121.17**	**210**	PKP	**PKPdf**	**00 36 08.1**	**-0.7**
	comp=N,0.7nm,0.8s,baz=129,slow=1.9,SNR=3.0						
BRTR	**Keskin Array B**	**121.74**	**61**	PKP	**PKPdf**	**00 36 08.8**	**-0.6**
	comp=N,0.6nm,0.8s,baz=186,slow=2.5,SNR=4.3						
FINES	**FINESS Array B**	**122.63**	**34**	PKP	**PKPdf**	**00 36 10.1**	**-0.1**
	comp=N,1.1nm,0.9s,baz=188,slow=3.9,SNR=3.9						
HYB	**Hyderabad**	**149.37**	**114**	*i* PKP	**PKPbc**	**00 37 03.5**	**-1.4**
AAK	**Ala-Archa**	**152.41**	**61**	*e*PKPbc	**PKPbc**	**00 37 12.1**	**+0.6**
ZALV	**Zalesovo Beam**	**153.84**	**31**	PKP	**PKPdf**	**00 37 06.0**	**-0.1**
	comp=N,0.8nm,0.7s,baz=270,slow=3.0,SNR=5.0						
ZALV				PKPbc	**PKiKP**	**00 37 14.2**	**+0.1**
	comp=N,3.1nm,0.5s,baz=306,slow=3.2,SNR=15						
MKAR	**Makanchi Array**	**156.54**	**48**	PKP	**PKPdf**	**00 37 09.9**	**-0.1**
	comp=N,0.7nm,1.0s,baz=9.5,slow=1.5,SNR=3.9						
MKAR				PKPab	**PKPab**	**00 37 39.2**	**+0.3**
	comp=N,2.6nm,0.6s,baz=294,slow=3.7,SNR=24						
ULN	**Ulaanbaatar**	**165.56**	**2**	*e*PKPab	**PKPab**	**00 38 18.8**	**+0.6**
SONM	**Songino Array**	**165.56**	**4**	PKPab	**PKPab**	**00 38 19.2**	**+1.0**
	comp=N,0.7nm,0.8s,baz=318,slow=3.2,SNR=6.1						

*ISCJB **21** 00:20:30.9±0.4, 6°.12S±0°.03×130°.49E±0°.04, h10km, mb3.8/6, MS3.2/4, Error ellipse: s-maj=5.8km s-min=4.2km az=14.0*
*IDC **21** 00:20:31.6±0.8, 6°.09S×130°.41E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/35, mbtmp4.0/9, ML4.0/2, MS3.3/4, Ms1 3.4/4, ms1mx2.8/30, Error ellipse: s-maj=32.3km s-min=18.9km az=57.0*
*DJA **21** 00:20:37.2±0.4, 6°.5±2°×13°.1E±°, h46km±31km, M4.7/14, mb4.7/12, mB5.4/4, MLv4.6/14, Mw(mB)4.8/4*

ISC 21 00:20:32.9±0.6, 6°.09S±0°.04×130°.51E±0°.06, h10km, n36, σ1°23/40, mb3.8/6, MS3.1/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.67**	**339**	P	**Pn**	**00 21 00.8**	**-1.5**
BNDI				S	**Sn**	**00 21 22.0**	**-1.8**
SAUI	**Saumlaki**	**2.04**	**157**	P	**Pb**	**00 21 10.2**	**+0.1**
SAUI				S	**Sb**	**00 21 35.5**	**0.0**
MSAI	**Masohi**	**3.15**	**330**	P	**Pn**	**00 21 20.7**	**-2.0**
MSAI				S	**Sn**	**00 21 58.8**	**-1.6**
FAKI	**Fak Fak**	**3.59**	**29**	P	**Pn**	**00 21 29.7**	**+0.9**
FAKI				S	**Sn**	**00 22 12.1**	**+0.8**
FAKI	**Fak Fak**	**3.59**	**29**	P	**Pn**	**00 21 29.9**	**+1.1**
	baz=3.6,SNR=33						
FAKI				S	**Sn**	**00 22 11.8**	**+0.4**
	baz=3.6,SNR=6.0						
NLAI	**Namlea**	**4.43**	**310**	P	**Pn**	**00 21 40.1**	**-0.1**
SWI	**Sorong**	**5.25**	**8**	P	**Pn**	**00 21 52.2**	**+0.7**
	95nm,0.7s,2μm0.6nm						
SWI				S	**Sn**	**00 22 51.1**	**-1.0**
	95nm,0.7s,2μm0.6nm						
SWI	**Sorong**	**5.25**	**8**	P	**Pn**	**00 21 52.4**	**+0.9**
	baz=5.2,SNR=4.9						
RKPI	**Ransiki, Papua**	**5.84**	**39**	P	**Pn**	**00 21 59.1**	**-0.5**
	163nm,0.7s,15μm2.8nm						
SANI	**Sanana**	**6.04**	**311**	P	**Pn**	**00 22 03.5**	**+1.1**
	33nm,0.7s,0.1nm						
LBMI	**Labuha**	**6.19**	**331**	P	**Pn**	**00 22 06.3**	**+1.8**
	54nm,1.0s,0.2nm						
MTN	**Manton Dam**	**6.74**	**175**	P	**Pn**	**00 22 12.3**	**+0.3**
	baz=6.8,SNR=99						
KDU	**Kakadu**	**6.83**	**164**	P	**Pn**	**00 22 12.7**	**-0.7**
	baz=6.9,SNR=106						
SOEI	**Soe**	**7.18**	**239**	P	**Pn**	**00 22 19.0**	**+0.8**
	64nm,0.8s,0.3nm						
SOEI				S	**Sn**	**00 23 39.3**	**-0.6**
	64nm,0.8s,0.3nm						
SOEI	**Soe**	**7.18**	**239**	P	**Pn**	**00 22 19.7**	**+1.6**
	baz=7.2,SNR=11						
SOEI				S	**Sn**	**00 23 41.5**	**+1.6**
	baz=7.2,SNR=7.9						
BATI	**Baumata**	**7.92**	**238**	P	**Pn**	**00 22 29.5**	**+1.3**
	26nm,0.7s,0.1nm						
BATI	**Baumata**	**7.92**	**238**	Pn	**Pn**	**00 22 29.1**	**+0.9**
	6.3nm,0.3s,baz=77,slow=3.6,SNR=11						
BATI				Sn	**Sn**	**00 23 56.7**	**-1.3**
	4.5nm,0.3s,baz=106,slow=23,SNR=6.5						
MMRI	**Maumere**	**8.59**	**252**	P	**Pn**	**00 22 38.4**	**+1.0**
	52nm,1.1s,2μm						
KNRA	**Kununurra**	**9.68**	**190**	P	**Pn**	**00 22 50.5**	**-1.9**
	baz=9.8,SNR=17						
KNRA				S	Sn	00 24 32.6	-8.7
	baz=9.8,SNR=5.7						
BKSI	**Bulukumba**	**10.37**	**274**	P	**Pn**	**00 23 03.3**	**+1.5**
	20nm,1.0s						
MRSI	**Marisa**	**10.76**	**307**	P	**Pn**	**00 23 08.8**	**+1.6**
WRA	**Warramunga Arr**	**14.26**	**165**	Pn	Pn	00 23 50.5	-4.7
	1.4nm,0.3s,baz=351,slow=13,SNR=14						
WRA				Sn	Sn	00 26 22.6	-11
	2.3nm,0.3s,baz=341,slow=22,SNR=7.1						
PMG	**Port Moresby**	**16.82**	**102**	Pn	**Pn**	**00 24 29.0**	**+0.3**
	0.9nm,0.3s,baz=250,slow=13,SNR=2.8						
ASAR	**Alice Springs**	**17.78**	**170**	P	**Pn**	**00 24 37.9**	**-2.8**
	1.0nm,0.3s,baz=331,slow=8.6,SNR=40						
ASAR				S	Sn	00 27 46.9	-12
	0.5nm,0.3s,baz=353,slow=25,SNR=7.6						
CTA	**Charters Tower**	**20.67**	**134**	P	Pn	00 25 14.7	-0.9
	11nm,0.8s,baz=325,slow=14,SNR=7.6						
HNR	**Honiara**	**29.35**	**98**	LR	LR	00 38 11.5	
	comp=Z,70nm,21.1s,baz=99,slow=36						
NWAO	**Narrogin (SRO)**	**29.43**	**203**	LR	LR	00 38 56.5	
	comp=Z,305nm,21.4s,baz=18,slow=38						
JOW	**Kunigami**	**32.80**	**356**	LR	LR	00 40 21.5	
	comp=Z,305nm,21.4s,baz=306,slow=36						
CMAR	**Chiang Mai Arr**	**39.55**	**309**	P	**P**	**00 28 03.6**	**-0.9**
	0.8nm,0.4s,baz=160,slow=8.2,SNR=5.3						
CMAR				LR	LR	00 44 52.1	
	comp=Z,16nm,20.7s,baz=130,slow=37						
SONM	**Songino Array**	**57.75**	**341**	P	**P**	**00 30 24.6**	**+0.3**
	0.3nm,0.4s,baz=162,slow=6.9,SNR=4.6						
MKAR	**Makanchi Array**	**67.75**	**326**	P	**P**	**00 31 30.5**	**-0.4**
	0.7nm,0.6s,baz=123,slow=8.0,SNR=11						
SEY	**Seymchan**	**70.83**	**10**	P	**P**	**00 31 51.1**	**+1.6**
	0.4nm,0.3s,baz=265,slow=18,SNR=3.8						
ZALV	**Zalesovo Beam**	**71.00**	**333**	P	**P**	**00 31 51.0**	**+0.2**
	0.3nm,0.3s,baz=104,slow=6.1,SNR=2.9						
VNDA	**Vanda**	**73.28**	**173**	P	**P**	**00 32 04.4**	**+0.3**
	0.4nm,0.6s,baz=0.0,slow=7.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**129.13**	**282**	PKP	**PKPdf**	**00 39 40.9**	**-1.5**
	0.2nm,0.8s,baz=132,slow=2.1,SNR=2.2						
LPAZ	**La Paz**	**151.11**	**141**	PKPbc	**PKPbc**	**00 40 28.9**	**+0.7**
	0.9nm,0.4s,baz=340,slow=1.4,SNR=9.4						

NNC 21 00:24:31.6±2.9, 37°.79N×71°.74E, h0km, mb3.8, mpv3.3, 4C-2D, Error ellipse: s-maj=27.6km s-min=10.3km az=156.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.51**	**295**	⇑P	Pn	00 25 13.6	-0.3
DZET				⇑S	Sn	00 25 46.8	+1.5
AAK	**Ala-Archa**	**5.28**	**23**	⇓P	Pn	00 25 52.0	0.0
	3.7nm,0.5s						
AAK				⇓S	Sn	00 26 54.0	+0.2
	2.4nm,0.5s						
KK31	**Karatay Array**	**5.39**	**350**	P	Pn	00 25 54.1	+0.7
	3.5nm,0.4s,baz=164,slow=12,SNR=37						
KK31				S	Sn	00 26 56.5	+0.3
	1.3nm,0.3s,baz=171,slow=22,SNR=9.8						
TKM2	**Tokmak 2**	**51.29**	**29**	⇑P	Pn	00 25 59.8	-1.0
	0.5nm,0.5s						
TKM2				⇑S	Sn	00 27 12.3	+2.8
	3.3nm,0.8s						

*ISCJB **21** 00:26:19.3±1.0, 20°.5S±0°.1×179°.0W±0°.1, h645km, mb4.0/6, Error ellipse: s-maj=17.3km s-min=13.4km az=173.4*
*IDC **21** 00:26:22.1±5.8, 20°.34S×178°.93W, h671km±87km, mb3.3/6, mb1 3.5/8, mb1mx3.1/35, mbtmp4.4/8, Error ellipse: s-maj=45.5km s-min=26.1km az=18.0*

ISC 21 00:26:20.6±1.1, 20°.4S±0°.1×178°.9W±0°.1, h645km, n14, σ1°64/17, mb4.0/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.76**	**261**	P	**P**	**00 29 18.5**	**+2.7**
	0.7nm,0.3s,baz=112,slow=19,SNR=7.0						
URZ	**Urewera**	**18.09**	**190**	P	**P**	**00 29 56.2**	**+1.3**
	1.4nm,0.3s,baz=32,slow=9.5,SNR=8.3						
URZ				S	**S**	**00 32 46.3**	**-2.2**
	0.1nm,0.3s,baz=41,slow=20,SNR=2.0						
CTA	**Charters Tower**	**32.66**	**264**	P	**P**	**00 32 03.5**	**+0.8**
	9.6nm,0.4s,baz=89,slow=11,SNR=18						
PMG	**Port Moresby**	**34.51**	**283**	P	**P**	**00 32 17.7**	**-0.4**
	17nm,0.8s,baz=127,slow=5.1,SNR=5.2						
COEN	**Coen**	**36.74**	**274**	P	**P**	**00 32 36.9**	**+0.5**
	baz=36,SNR=23						
JAY	**Jayapura**	**43.23**	**289**	P	**P**	**00 33 28.6**	**+0.7**
	baz=42,SNR=3.1						
ASAR	**Alice Springs**	**43.71**	**257**	P	**P**	**00 33 32.0**	**+0.5**
	2.1nm,0.3s,baz=87,slow=8.7,SNR=36						
ASAR				S	**S**	**00 39 14.5**	**-2.6**
	1.5nm,0.8s,baz=94,slow=16,SNR=11						
WRA	**Warramunga Arr**	**43.78**	**262**	P	**P**	**00 33 31.6**	**-0.4**
	2.3nm,0.4s,baz=98,slow=6.8,SNR=20						
WRA				S	**S**	**00 39 15.0**	**-3.1**
	0.2nm,0.3s,baz=94,slow=13,SNR=3.7						
KDU	**Kakadu**	**47.11**	**272**	P	**P**	**00 33 57.0**	**-0.2**
	baz=46,SNR=8.5						
MTN	**Manton Dam**	**48.32**	**271**	P	**P**	**00 34 05.6**	**-0.6**
	baz=48,SNR=3.5						
WRKA	**Warakurna**	**48.67**	**254**	P	**P**	**00 34 09.1**	**+0.4**
	baz=48,SNR=4.3						
KNRA	**Kununurra**	**49.82**	**266**	P	**P**	**00 34 17.1**	**-0.1**
	baz=49,SNR=3.8						
NVAR	**Mina Array Bea**	**81.56**	**44**	P	**P**	**00 37 33.8**	**+0.6**
	0.5nm,0.6s,baz=224,slow=8.1,SNR=4.0						
ILAR	**Eielson Array**	**88.45**	**13**	P	**P**	**00 38 03.4**	**-2.1**
	0.5nm,0.5s,baz=213,slow=4.0,SNR=8.0						

*ISCJB **21** 00:36:55.6±0.5, 26°.88S±0°.04×26°.78E±0°.04, h10km±4km, mb3.6/1, MS3.8/3, Error ellipse: s-maj=7.7km s-min=4.6km az=144.1*
*PRE **21** 00:36:55.2±5.1, 26°.94S×26°.87E, h2km, ML3.1*
*IDC **21** 00:36:57.8±3.1, 26°.78S×26°.34E, h0km, mb3.5/1, mb1 3.6/2, mb1mx3.2/39, mbtmp3.6/2, ML3.7/1, MS3.8/3, Ms1 3.8/3, ms1mx3.0/21, Error ellipse: s-maj=88.1km s-min=17.0km az=106.0*

ISC 21 00:36:55.6±0.9, 26°.87S±0°.04×26°.77E±0°.04, h10km±6km, n21, σ1°40/33, MS3.9/3, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOAB	**Moab Khotsong**	**0.12**	**168**	*e*P	**Pg**	**00 36 58.8**	**+0.2**
MOAB				*e*S	**Sg**	**00 36 59.4**	**-1.3**
MOAB				AML	AML	00 37 00.3	
	comp=Z,5μm,0.1s						
TLEK	**Tau Lekoa**	**0.13**	**224**	*e*P	**Pg**	**00 36 59.2**	**+0.5**
TLEK				*e*S	**Sg**	**00 37 00.4**	**-0.4**
TLEK				AML	AML	00 37 01.1	
	comp=Z,4μm,0.1s						
PRYS	**Parys**	**0.53**	**96**	*e*P	**Pg**	**00 37 06.4**	**+0.5**
PRYS				*e*S	**Sg**	**00 37 11.2**	**-1.7**
PRYS				AML	AML	00 37 18.1	
	comp=Z,774nm,0.8s						
WDLM	**Western Deep L**	**0.73**	**53**	*i* P	**Pb**	**00 37 10.7**	**+0.1**
WDLM				*e*S	**Sg**	**00 37 19.1**	**-0.3**
WDLM				AML	AML	00 37 27.6	
	comp=Z,549nm,0.2s						
KLOF	**Kloof**	**0.91**	**56**	*e*P	**Pb**	**00 37 13.9**	**+0.3**
KLOF				*e*S	**Sg**	**00 37 23.2**	**-1.9**
KLOF				AML	AML	00 37 30.8	
	comp=Z,2μm,0.3s						
KSR	**Koster**	**1.02**	**6**	*e*P	**Pb**	**00 37 16.0**	**+0.5**
KSR				*e*S	**Sb**	**00 37 29.0**	**-0.1**
KSR				AML	AML	00 37 35.0	
	comp=Z,128nm,0.1s						
ERPM	**east rand prop**	**1.42**	**69**	*e*P	**Pg**	**00 37 23.7**	**+0.9**
ERPM				*e*S	**Sb**	**00 37 39.8**	**-0.7**
ERPM				AML	AML	00 37 44.0	
	comp=Z,189nm,0.4s						
SEK	**Senekal**	**1.64**	**153**	*e*P	**Pb**	**00 37 26.2**	**+0.3**
SEK				*e*S	Sn	00 37 39.5	-6.3
SEK				AML	AML	00 37 49.9	
	comp=Z,365nm,0.2s						
BOSA	**Boshof**	**2.20**	**217**	Pn	**Pn**	**00 37 33.5**	**+1.1**
	comp=Z,16nm,0.3s,baz=35,slow=15,SNR=230						
BOSA				Lg	Lg	00 38 03.7	
	comp=Z,22nm,0.3s,baz=314,slow=19,SNR=23						
BOSA	**Boshof**	**2.20**	**217**	*i* P	**Pn**	**00 37 33.7**	**+1.4**
BOSA				*i*		00 37 33.8	
	baz=43,slow=18						
BOSA				*i* S	**Sn**	**00 37 58.2**	**-1.4**
BOSA	**Boshof**	**2.20**	**217**	*i* P	**Pn**	**00 37 33.8**	**+1.4**
BOSA				*i*		00 37 34.0	
	baz=41,slow=16						
BOSA				*i* S	**Sn**	**00 37 59.9**	**+0.2**
BOSA	**Boshof**	**2.20**	**217**	*i* P	**Pn**	**00 37 33.6**	**+1.4**
BOSA				*i*		00 37 33.8	
	baz=40,slow=16						
BOSA				*i* S	**Sn**	**00 37 57.8**	**-1.8**
KSD	**Kokstad**	**4.33**	**148**	*e*P	**Pn**	**00 38 03.8**	**+2.1**
KSD				*e*S	Sn	00 38 46.8	-5.6
KSD				AML	AML	00 39 11.6	
	comp=Z,29nm,0.6s						
MATP	**Matopo**	**6.61**	**14**	*i* P	**Pn**	**00 38 34.9**	**+1.8**
MATP				*i*		00 38 35.0	
	baz=195,slow=16						
MATP				*i* S	**Sb**	**00 40 07.9**	**-1.9**
MATP	**Matopo**	**6.61**	**14**	*i* P	**Pn**	**00 38 34.7**	**+1.7**
MATP				*i*		00 38 34.8	
	baz=200,slow=16						
MATP				*i* S	**Sn**	**00 39 48.1**	**-0.4**
MATP	**Matopo**	**6.61**	**14**	*i* P	**Pn**	**00 38 34.8**	**+1.8**
MATP				*i*		00 38 35.0	
	baz=199,slow=16						
MATP				*i* S	**Sn**	**00 39 48.1**	**-0.4**
KOMG	**Komaggas**	**8.69**	**248**	*e*P	**Pn**	**00 39 02.4**	**+1.0**
KOMG				*e*S	**Sn**	**00 40 35.7**	**-3.8**
KOMG				AML	AML	00 41 37.2	
	comp=Z,13nm,0.4s						
MAW	**Mawson**	**46.23**	**162**	LR	LR	01 01 27.4	
	comp=Z,143nm,19.9s,baz=184,slow=32						
TORD	**Torodi Ar. Bea**	**46.65**	**325**	P	**P**	**00 45 25.2**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=144,slow=6.4,SNR=9.3						
TORD				LR	LR	01 05 39.2	
	comp=Z,46nm,18.6s,baz=210,slow=37						
VNDA	**Vanda**	**72.47**	**171**	LR	LR	01 17 32.4	
	comp=Z,89nm,21.9s,baz=110,slow=34						
NVAR	**Mina Array Bea**	**148.59**	**300**	PKPbc	**PKPab**	**00 56 46.5**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=107,slow=3.0,SNR=3.6						

*ISCJB **21** 00:46:13.9±1.8, 34°.57S±0°.05×72°.06W±0°.07, h10km±12km, mb4.1/11, MS3.2/1, Error ellipse: s-maj=10.4km s-min=6.4km az=32.8*
*IDC **21** 00:46:14.1±0.9, 34°.58S×72°.14W, h0km, mb4.0/9, mb1 4.1/12, mb1mx4.0/28, mbtmp3.9/12, ML3.4/3, MS2.9/3, Ms1 2.9/3, ms1mx2.8/21, Error ellipse: s-maj=26.3km s-min=22.7km az=85.0*
*GUC **21** 00:46:17.3±0.3, 34°.68S×71°.82W, h62km±4km, ML4.5*
*NEIC **21** 00:46:19.2±0.5, 34°.55S×72°.02W, h35km, mb4.3/6, Error ellipse: s-maj=15.1km s-min=8.9km az=88.0*

ISC 21 00:46:15.3±2.0, 34°.58S±0°.05×72°.08W±0°.08, h9km±12km, n41, σ1°32/43, mb4.2/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.82**	**121**	*e*P4	**Pb**	**00 46 33.4**	**+1.6**
NICH				*e*S4	**Sn**	**00 46 44.6**	**-0.8**
TALC	**Talca**	**0.90**	**156**	*e*P	**Pg**	**00 46 32.0**	**-0.6**
LNCH	**Linares**	**1.32**	**163**	*e*P	**Pn**	**00 46 38.0**	**-2.1**
ANTU	**Antumapu**	**1.57**	**50**	*e*P	**Pn**	**00 46 42.3**	**-1.1**
ANTU				*e*S	**Sn**	**00 47 01.3**	**-2.6**
IHA	**Instituto Hidr**	**1.59**	**13**	*e*P4	**Pn**	**00 46 43.3**	**-0.4**
LACH	**Col Las Americ**	**1.71**	**49**	*e*P	**Pn**	**00 46 44.5**	**-0.9**
LACH				*e*S	**Sn**	**00 47 05.0**	**-2.5**
CLCH	**Cerro Calan**	**1.74**	**48**	*e*P	**Pn**	**00 46 45.1**	**-0.8**
CLCH				*e*S	**Sn**	**00 47 05.9**	**-2.4**
CLCH				AML	AML	00 47 14.1	
	comp=N,7μm,0.7s						
PEL	**Peldehue**	**1.84**	**39**	*e*P	**Pn**	**00 46 46.5**	**-0.7**
PEL				*e*S	**Sn**	**00 47 09.2**	**-1.6**
PEL				AML	AML	00 47 15.2	
	comp=E,9μm,0.5s						
YECH	**El Yeso**	**1.89**	**62**	*e*P	**Pn**	**00 46 46.7**	**-1.5**
YECH				*e*S	**Sn**	**00 47 09.3**	**-2.9**
CFAA	**Coronel Fontan**	**4.38**	**48**	**Pn**	**Pn**	**00 47 23.7**	**+1.6**
	comp=E,0.5nm,0.3s,baz=220,slow=12,SNR=16						
CFAA				Sn	**Sn**	**00 48 15.8**	**+2.4**
	comp=E,0.9nm,0.3s,baz=253,slow=20,SNR=3.1						
CFAA				LR	LR	00 48 56.2	
	comp=E,19nm,19.4s,baz=225,slow=37						
LCO	**Las Campanas**	**5.67**	**12**	*e*Pn	**Pn**	**00 47 38.9**	**-1.2**
PLCA	**Paso Flores**	**6.26**	**169**	Pn	**Pn**	**00 47 47.0**	**-1.0**
	comp=E,0.2nm,0.3s,baz=348,slow=13,SNR=5.2						
PLCA				Lg	Lg	00 49 31.1	
	comp=E,0.4nm,0.3s,baz=74,slow=19,SNR=2.6						
PLCA				LR	LR	00 50 31.9	
	comp=E,200nm,19.4s,baz=306,slow=41						
PLCA	**Paso Flores**	**6.26**	**169**	*e*Pn	**Pn**	**00 47 47.4**	**-0.6**
PLCA				Lg	Lg	00 49 31.1	
TRQA	**Tornquist**	**8.86**	**116**	*e*Pn	**Pn**	**00 48 23.1**	**-0.5**
LVC	**Limon Verde**	**12.24**	**14**	Pn	**Pn**	**00 49 10.0**	**-0.1**
LPAZ	**La Paz**	**18.56**	**12**	*e*P	**Pn**	**00 50 33.8**	**+0.5**
	comp=E,0.2nm,0.3s,baz=195,slow=8.5,SNR=9.9						
LPAZ	**La Paz**	**18.56**	**12**	*e*P	**Pn**	**00 50 33.5**	**+0.2**
	comp=E,6.1nm,0.9s						
SIV	**San Ignacio**	**20.99**	**31**	P	**P**	**00 50 57.9**	**-1.2**
	comp=E,1.7nm,0.7s,baz=240,slow=11,SNR=3.3						
SIV				LR	LR	01 00 41.4	
	comp=E,106nm,18.5s,baz=244,slow=41						
SAML	**Samuel**	**26.79**	**20**	*e*P	**P**	**00 51 54.6**	**-1.2**
	comp=E,4.6nm,1.0s						
BDFB	**Brasilia**	**28.69**	**55**	P	**P**	**00 52 14.7**	**+1.7**
	comp=E,1.4nm,0.5s,baz=168,slow=9.3,SNR=2.7						
PTGA	**Pitinga**	**35.53**	**21**	P	**P**	**00 53 12.1**	**-0.7**
	comp=E,6.3nm,0.8s,baz=206,slow=12,SNR=9.3						
QSPA	**South Pole Qui**	**55.66**	**180**	*e*P	**P**	**00 55 52.2**	**+0.6**
	comp=E,6.7nm,1.1s						
TXAR	**Lajitas Array**	**70.22**	**331**	P	**P**	**00 57 29.5**	**+0.8**
	comp=E,0.4nm,0.5s,baz=144,slow=7.8,SNR=3.5						
WVT	**Waverly**	**71.86**	**347**	*e*P	**P**	**00 57 37.3**	**-1.1**
	comp=E,8.2nm,0.8s						
DBIC	**Dimbokro**	**75.40**	**71**	P	**P**	**00 58 00.1**	**+0.3**
	comp=E,2.4nm,0.6s,baz=204,slow=5.4,SNR=5.4						
DBIC	**Dimbokro**	**75.40**	**71**	*e*P	**P**	**00 58 00.1**	**+0.3**
	comp=E,2.8nm,0.6s						
BOSA	**Boshof**	**79.83**	**118**	P	**P**	**00 58 25.8**	**+1.2**
	comp=E,1.5nm,0.5s,baz=181,slow=2.8,SNR=5.5						
BOSA	**Boshof**	**79.83**	**118**	*e*P	**P**	**00 58 25.9**	**+1.3**
	comp=E,1.7nm,0.6s						
PDAR	**Pinedale Array**	**84.26**	**333**	P	**P**	**00 58 47.8**	**+0.4**
	comp=E,0.6nm,0.9s,baz=128,slow=9.6,SNR=4.5						
NVAR	**Mina Array Bea**	**84.34**	**325**	P	**P**	**00 58 48.4**	**+0.5**
	comp=E,0.3nm,0.6s,baz=134,slow=6.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**84.44**	**70**	P	**P**	**00 58 48.9**	**+0.2**
	comp=E,2.1nm,0.7s,baz=279,slow=6.3,SNR=22						
WRA	**Warramunga Arr**	**120.24**	**209**	PKP	**PKPdf**	**01 05 07.7**	**+0.3**
	comp=E,0.3nm,0.5s,baz=158,slow=1.7,SNR=5.1						
H11S2	**WAKE ISLAND Hyl**	**25.72**	**269**	T	T	03 23 35.9	
	baz=120,slow=76,SNR=25						
H11S1	**WAKE ISLAND Hyl**	**25.74**	**269**	T	T	03 23 37.0	
	baz=120,slow=76,SNR=51						
H11S3	**WAKE ISLAND Hyl**	**25.74**	**269**	T	T	03 23 37.7	
	baz=120,slow=76,SNR=32						
H11N3	**WAKE ISLAND Hyl**	**26.15**	**270**	T	T	03 24 09.5	
	baz=121,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hyl**	**26.16**	**270**	T	T	03 24 08.1	
	baz=121,slow=76,SNR=49						
H11N2	**WAKE ISLAND Hyl**	**26.17**	**270**	T	T	03 24 08.3	
	baz=121,slow=76,SNR=25						
ZALV	**Zalesovo Beam**	**154.73**	**33

*IDC **21** 01:17:37.0±7.0, 42°.90N×127°.59W, h0km, mb2.8/2, mb1 3.4/3, mb1mx3.1/30, mbtmp3.0/3, ML3.8/1, MS3.2/2, Ms1 3.3/2, ms1mx3.0/4, Error ellipse: s-maj=129.6km s-min=27.4km az=26.0*
*ISCJB **21** 01:17:43.4±1.4, 43°.55N±0°.08×127°.3W±0°.2, h15km, mb3.0/1, MS3.1/1, Error ellipse: s-maj=17.5km s-min=10.6km az=162.3*
*NEIC **21** 01:17:45.0±1.5, 43°.65N×127°.27W, h10km, ML3.0, Error ellipse: s-maj=19.4km s-min=11.2km az=72.0*

ISC 21 01:17:45.6±2.2, 43°.7N±0°.1×127°.2W±0°.2, h15km, n23, σ1°24/16, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COR	**Corvallis**	**2.98**	**70**	*e*Pn	**Pn**	**01 18 30.9**	**-1.4**
HUMO	**Hull Mountain**	**3.30**	**107**	*e*Pn	**Pn**	**01 18 38.9**	**+2.0**
BROR	**Big Rock Looko**	**3.51**	**78**	P	**Pn**	**01 18 38.8**	**-0.9**
BMW	**Boistfort Moun**	**4.00**	**44**	P	**Pn**	**01 18 46.0**	**-0.5**
RVW	**Rose Valley**	**4.05**	**50**	P	**Pn**	**01 18 47.6**	**+0.5**
LVP	**Lakeview Peak**	**4.20**	**53**	P	**Pn**	**01 18 50.0**	**+0.8**
MTMW	**Mount Mitchell**	**4.29**	**55**	P	**Pn**	**01 18 51.0**	**+0.6**
FL2	**Flat Top 2**	**4.30**	**52**	P	**Pn**	**01 18 51.3**	**+0.6**
VLL	**Laurance Lake**	**4.37**	**64**	P	**Pn**	**01 18 52.2**	**+0.7**
LON	**Longmire**	**4.93**	**49**	*e*P	**Pn**	**01 18 59.6**	**+0.4**
WAKR	**Walker**	**7.82**	**128**	*e*Pn	**Pn**	**01 19 38.3**	**-0.7**
NEW	**Newport**	**8.42**	**53**	*e*Pn	**Pn**	**01 19 44.7**	**-2.4**
ISA	**Isabella, Lake**	**10.45**	**137**	*e*Pn	**Pn**	**01 20 14.7**	**-0.3**
BGU	**Big Grassy Mou**	**10.87**	**100**	*e*Pn	**Pn**	**01 20 21.1**	**+0.2**
PDAR	**Pinedale Array**	**12.93**	**88**	Pn	**Pn**	**01 20 51.0**	**+2.0**
	0.1nm,0.3s,baz=276,slow=13,SNR=3.6						
PDAR				LR	LR	01 25 58.1	
	comp=Z,93nm,18.8s,baz=280,slow=38						
YKA	**Yellowknife Ar**	**20.27**	**17**	P	Pn	01 22 22.3	+0.1
	0.1nm,0.4s,baz=204,slow=10,SNR=3.9						
ILAR	**Eielson Array**	**23.87**	**339**	P	**P**	**01 22 57.5**	**-0.6**
	0.5nm,0.9s,baz=148,slow=8.6,SNR=7.6						
ILAR				LR	LR	01 30 20.9	
	comp=Z,62nm,19.4s,baz=127,slow=31						
H11N3	**WAKE ISLAND Hy**	**59.31**	**269**	T	T	02 31 32.4	
	baz=49,slow=75,SNR=25						
H11N2	**WAKE ISLAND Hy**	**59.31**	**269**	T	T	02 31 33.8	
	baz=49,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**59.32**	**269**	T	T	02 31 37.7	
	baz=49,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**60.23**	**268**	T	T	02 32 40.6	
	baz=50,slow=75,SNR=162						
H11S2	**WAKE ISLAND Hy**	**60.24**	**268**	T	T	02 32 44.6	
	baz=50,slow=75,SNR=104						
H11S3	**WAKE ISLAND Hy**	**60.25**	**268**	T	T	02 32 45.4	
	baz=50,slow=75,SNR=118						

KRSC 21 01:24:26.5±0.5, 53°.87N×160°.36E, h82km±10km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.56**	**288**	*i* P	Pn	01 24 41.9	+0.9
KII				*e*S	Sn	01 24 52.8	+0.9
MKZ	**Mys Kozlova**	**1.06**	**49**	*i* P	Pn	01 24 48.5	+2.2
MKZ				*e*S	Sn	01 25 03.4	+2.3
SDLR	**Sedlovina**	**1.06**	**237**	*i* P	Pn	01 24 47.9	+1.4
SDLR				*e*S	Sn	01 25 02.5	+1.0
SMAR	**Somma**	**1.11**	**237**	*i* P	Pn	01 24 48.7	+1.5
SMAR				*e*S	Sn	01 25 03.7	+0.9
KRER	**Koryakskii**	**1.11**	**240**	*i* P	Pn	01 24 48.8	+1.6
KRER				*i* S	Sn	01 25 04.5	+1.7
UGLR	**Uglovaya**	**1.13**	**235**	*i* P	Pn	01 24 49.0	+1.7
UGLR				*e*S	Sn	01 25 04.4	+1.4
KRX	**Arik**	**1.14**	**244**	*i* P	Pn	01 24 48.8	+1.3
KRX				*e*S	Sn	01 25 04.2	+1.0
AVH	**Avacha**	**1.14**	**238**	*i* P	Pn	01 24 49.2	+1.8
AVH				*e*S	Sn	01 25 04.8	+1.7
KOK	**Koryaka**	**1.18**	**241**	*i* P	Pn	01 24 49.5	+1.6
KOK				*i* S	Sn	01 25 05.1	+1.1
PET	**Petropavlovsk**	**1.33**	**231**	*e*P	Pn	01 24 51.3	+1.7
PET				*e*S	Sn	01 25 08.4	+1.4
TUMR	**Tumrok**	**1.42**	**355**	*i* P	Pn	01 24 52.7	+1.7
TUMR				*e*S	Sn	01 25 11.6	+2.1
GNL	**Ganaly**	**1.44**	**264**	*i* P	Pn	01 24 52.3	+1.0
GNL				*e*S	Sn	01 25 10.3	+0.3
RUS	**Russkaya**	**1.82**	**218**	*i* P	Pn	01 24 57.4	+1.4
RUS				*e*S	Sn	01 25 19.2	+0.8
KMNR	**Kamenistaya**	**1.89**	**358**	*e*P	Pn	01 24 59.2	+2.1
MTVR	**Mutnovka**	**1.91**	**224**	*e*P	Pn	01 24 59.6	+2.2
MTVR				*e*S	Sn	01 25 23.2	+2.3
APC	**Apacha**	**2.14**	**245**	*e*P	Pn	01 25 02.0	+1.8
APC				*e*S	Sn	01 25 26.7	+0.8
ESO	**Esso**	**2.27**	**336**	*i* P	Pn	01 25 03.2	+1.2
KBTR	**Krutoberegovo**	**2.74**	**30**	P	Pn	01 25 10.8	+2.6
KBTR				*e*S	Sn	01 25 43.1	+2.8
BDR	**Baidarnaya**	**2.75**	**10**	P	Pn	01 25 09.3	+0.8
SMKR	**Semkarok**	**2.79**	**13**	*e*P	Pn	01 25 11.9	+2.8
SMKR				*e*S	Sn	01 25 44.4	+2.6
SRKR	**Sorokina**	**2.83**	**9**	P	Pn	01 25 12.3	+2.8
SRKR				S	Sn	01 25 45.6	+2.9
PAU	**Pauzhetka**	**3.23**	**223**	P	Pn	01 25 18.5	+3.6
BKI	**Bering**	**3.53**	**66**	*e*P	Pn	01 25 21.4	+2.5
BKI				*e*S	Sn	01 25 59.6	0.0

*IDC **21** 01:39:36.5±1.3, 12°.63N×87°.34W, h0km, mb3.7/7, mb1 3.9/10, mb1mx3.7/38, mbtmp3.6/10, ML2.9/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/27, Error ellipse: s-maj=47.6km s-min=15.8km az=46.0*
*ISCJB **21** 01:39:40.5±1.2, 12°.2N±0°.2×87°.7W±0°.2, h67km, mb3.7/8, Error ellipse: s-maj=33.9km s-min=12.1km az=36.8*

ISC 21 01:39:43.1±1.1, 12°.3N±0°.2×87°.6W±0°.2, h67km, n15, σ1°03/13, mb3.8/8, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**3.29**	**127**	Pn	**Pn**	**01 40 30.8**	**-1.4**
	2.0nm,0.3s,baz=316,slow=11,SNR=12						
JTS				Lg	Lg	01 41 22.2	
	4.5nm,0.3s,baz=19,slow=11,SNR=6.6						
JTS				LR	LR	01 42 00.9	
	comp=Z,171nm,20.1s,baz=340,slow=44						
APG	**El Apazote**	**3.86**	**314**	Pn	**Pn**	**01 40 38.3**	**-1.9**
	0.4nm,0.3s,baz=102,slow=19,SNR=4.6						
CMIG	**Matias Romero**	**8.49**	**305**	Pn	**Pn**	**01 41 43.1**	**-0.3**
	0.3nm,0.3s,baz=121,slow=12,SNR=3.4						
TXAR	**Lajitas Array**	**22.59**	**321**	P	**P**	**01 44 39.1**	**+0.8**
	4.3nm,0.8s,baz=135,slow=11,SNR=35						
TKL	**Tuckaleechee C**	**23.51**	**8**	P	**P**	**01 44 48.5**	**+1.3**
	1.9nm,0.5s,baz=172,slow=10,SNR=4.9						
PDAR	**Pinedale Array**	**35.83**	**332**	P	**P**	**01 46 37.5**	**+1.0**
	0.5nm,0.8s,baz=113,slow=11,SNR=4.8						
ULM	**Lac du Bonnet**	**38.45**	**351**	P	**P**	**01 46 57.5**	**-0.7**
	1.1nm,0.5s,baz=132,slow=2.8,SNR=3.2						
SIV	**San Ignacio**	**38.47**	**136**	LR	LR	02 01 07.5	
	comp=Z,58nm,20.9s,baz=236,slow=34						
SCHQ	**Schefferville**	**45.47**	**17**	P	**P**	**01 47 55.1**	**-0.3**
	2.1nm,0.9s,baz=228,slow=11,SNR=3.2						
YKA	**Yellowknife Ar**	**53.72**	**345**	P	**P**	**01 48 57.7**	**-0.2**
	0.4nm,0.7s,baz=138,slow=7.9,SNR=11						
RES	**Resolute Bay**	**62.50**	**358**	P	**P**	**01 49 58.8**	**-0.4**
	0.4nm,0.6s,baz=187,slow=9.4,SNR=3.6						
ILAR	**Eielson Array**	**66.09**	**336**	P	**P**	**01 50 22.9**	**0.0**
	0.4nm,0.8s,baz=127,slow=4.8,SNR=4.1						
ASAR	**Alice Springs**	**139.06**	**248**	PKhKP	PKPpre	01 59 03.0	
	0.5nm,1.1s,baz=232,slow=1.4,SNR=5.5						
WRA	**Warramunga Arr**	**139.07**	**254**	PKP	**PKPdf**	**01 59 04.0**	**+0.9**
	0.4nm,0.8s,baz=79,slow=2.5,SNR=2.7						
CMAR	**Chiang Mai Arr**	**148.76**	**348**	PKPbc	**PKPbc**	**01 59 24.3**	**+0.5**
	0.8nm,0.3s,baz=314,slow=3.3,SNR=5.4						

IDC 21 01:49:07.3±2.6, 2°.90N×128°.37E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, Error ellipse: s-maj=191.1km s-min=25.9km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.45**	**166**	P	P	01 54 18.2	-0.3
	0.7nm,0.5s,baz=345,slow=10.0,SNR=4.7						
ASAR	**Alice Springs**	**26.95**	**169**	P	P	01 54 50.5	-0.2
	0.1nm,0.4s,baz=342,slow=9.3,SNR=2.6						
MKAR	**Makanchi Array**	**59.17**	**325**	P	P	01 59 10.4	+0.3
	0.1nm,0.4s,baz=117,slow=7.9,SNR=6.3						

GUC 21 01:56:14.9±0.3, 35°.10S×72°.73W, h20km±4km, ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.95**	**109**	*e*P	Pn	01 56 32.9	-0.2
TALC				*e*S	Sn	01 56 46.4	+0.4
COCH	**Cobquecura**	**1.03**	**183**	*e*P	Pn	01 56 34.1	-0.1
COCH				*e*S4	Sn	01 56 47.9	-0.1
LNCH	**Linares**	**1.19**	**129**	*e*P	Pb	01 56 37.0	+0.2
LNCH				*e*S	Sg	01 56 53.6	+0.1
NICH	**Los Niches**	**1.24**	**86**	*e*P	Pb	01 56 37.9	+0.3
NICH				*e*S	Sg	01 56 55.2	+0.1
CLCH	**Cerro Calan**	**2.49**	**48**	*e*P	Pb	01 56 57.2	-1.9
CLCH				*e*S	Sb	01 57 29.4	-0.1
CLCH				AML	AML	01 57 39.4	
	comp=N,771nm,0.6s						
PEL	**Peldehue**	**2.59**	**42**	*e*P	Pb	01 56 58.4	-2.3
PEL				*e*S	Sb	01 57 31.6	-0.6
PEL				AML	AML	01 57 44.7	
	comp=E,571nm,1.0s						

*ISK **21** 01:58:24.5, 38°.24N×26°.65E, h5km, MD3.4*
*ATH **21** 01:58:24.7, 38°.24N×26°.67E, h28km, MD3.6/28, ML3.0*
*ISCJB **21** 01:58:25.3±0.3, 38°.18N±0°.01×26°.56E±0°.02, h10km±2km, Error ellipse: s-maj=2.6km s-min=2.4km az=139.0*
*DDA **21** 01:58:25.8, 38°.21N×26°.62E, h10km, MD3.3*
*CSEM **21** 01:58:25.0±0.1, 38°.18N×26°.56E, h2km, MD3.3, Error ellipse: s-maj=2.4km s-min=2.3km az=159.0*
*THE **21** 01:58:26.1, 38°.19N×26°.59E, h15km, ML3.7/4, Error ellipse: s-maj=0.9km s-min=0.3km az=230.0*

ISC 21 01:58:25.6±0.8, 38°.19N±0°.02×26°.59E±0°.02, h12km±5km, n229, σ0°93/270, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEY	**¨zmir**	**0.09**	**307**	*i* P	**Pg**	**01 58 28.6**	**+0.3**
ZEY				*i* S	**Sg**	**01 58 30.7**	**+0.5**
URLA	**Izmir**	**0.17**	**1**	*i* P	**Pg**	**01 58 29.2**	**-0.4**
URLA				*i* S	**Sg**	**01 58 32.2**	**-0.2**
URLA	**Izmir**	**0.17**	**1**	*i* P	**Pg**	**01 58 29.2**	**-0.4**
URLA				*i* S	**Sg**	**01 58 32.2**	**-0.2**
BLCB	**Balcova**	**0.41**	**61**	*e*PG	**Pg**	**01 58 32.5**	**-1.2**
BLCB				*e*SG	**Sg**	**01 58 38.2**	**-1.0**
BLCB	**Balcova**	**0.41**	**61**	*e*Pg	**Pg**	**01 58 32.5**	**-1.2**
BLCB				*e*Sg	**Sg**	**01 58 38.2**	**-1.0**
CHOS	**Chios island**	**0.47**	**295**	P	**Pg**	**01 58 35.2**	**+0.4**
CHOS				S	**Sb**	**01 58 42.5**	**-0.2**
CHOS	**Chios island**	**0.47**	**295**	*e*PG	**Pb**	**01 58 35.3**	**-0.6**
CHOS				*e*SG	**Sb**	**01 58 43.6**	**+0.9**
CHOS	**Chios island**	**0.47**	**295**	*e*PN	**Pb**	**01 58 35.3**	**-0.6**
CHOS				*e*SN	**Sb**	**01 58 42.6**	**-0.2**
CHOS	**Chios island**	**0.47**	**295**	P	**Pb**	**01 58 35.2**	**-0.6**
CHOS				S	**Sb**	**01 58 42.5**	**-0.2**
SMG	**Samos**	**0.52**	**158**	P	**Pg**	**01 58 36.2**	**+0.4**
SMG				S	**Sb**	**01 58 44.2**	**+0.1**
SMG	**Samos**	**0.52**	**158**	*e*PN	**Pg**	**01 58 36.2**	**+0.4**
SMG				*e*SN	**Sb**	**01 58 44.2**	**+0.1**
SMG	**Samos**	**0.52**	**158**	P	**Pg**	**01 58 36.2**	**+0.4**
SMG				S	**Sb**	**01 58 44.2**	**+0.1**
IZM	**Izmir**	**0.57**	**68**	*e*PG	**Pg**	**01 58 35.8**	**-1.0**
IZM				*e*SG	**Sg**	**01 58 44.2**	**-0.1**
IZM	**Izmir**	**0.57**	**68**	*e*Pg	**Pg**	**01 58 35.8**	**-1.0**
IZM				*e*Sg	**Sg**	**01 58 44.2**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**103**	*e*PG	**Pb**	**01 58 45.0**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**103**	*e*Pg	**Pb**	**01 58 45.0**	**-0.9**
PRK	**Paraskevi**	**1.08**	**347**	P	**Pb**	**01 58 45.5**	**-0.8**
PRK				S	**Sb**	**01 59 00.3**	**-0.2**
PRK	**Paraskevi**	**1.08**	**347**	*e*PN	**Pb**	**01 58 45.6**	**-0.8**
PRK				*e*SN	**Sb**	**01 58 59.8**	**-0.7**
PRK	**Paraskevi**	**1.08**	**347**	P	**Pb**	**01 58 45.5**	**-0.8**
PRK				*e*Sn	**Sb**	**01 58 59.8**	**-0.7**
PRK				S	**Sb**	**01 59 00.3**	**-0.2**
AYVA	**Ayvalik**	**1.12**	**4**	*i* P	**Pb**	**01 58 46.6**	**-0.4**
AYVA				*i* S	**Sn**	**01 59 02.9**	**+0.4**
AYVA	**Ayvalik**	**1.12**	**4**	*i* P	**Pb**	**01 58 46.6**	**-0.4**
AYVA				*i* S	**Sn**	**01 59 02.9**	**+0.4**
AYDN	**Tasoluk**	**1.15**	**117**	*i* P	**Pn**	**01 58 47.6**	**0.0**
AYDN				*i* S	**Sn**	**01 59 03.5**	**+0.3**
AYDN	**Tasoluk**	**1.15**	**117**	*i* P	**Pn**	**01 58 47.6**	**0.0**
AYDN				*i* S	**Sn**	**01 59 03.5**	**+0.3**
SIGR	**SIGRI**	**1.17**	**331**	P	**Pn**	**01 58 46.7**	**-1.2**
SIGR				S	**Sb**	**01 59 02.3**	**-0.7**
SIGR	**SIGRI**	**1.17**	**331**	*e*PN	**Pn**	**01 58 46.9**	**-0.9**
SIGR	**SIGRI**	**1.17**	**331**	*e*PN	**Pn**	**01 58 46.7**	**-1.2**
SIGR				*e*SN	**Sb**	**01 59 01.8**	**-1.2**
SIGR	**SIGRI**	**1.17**	**331**	P	**Pn**	**01 58 46.7**	**-1.2**
SIGR				*e*Sn	**Sb**	**01 59 01.8**	**-1.2**
SIGR				S	**Sb**	**01 59 02.3**	**-0.7**
AKS	**Akhisar**	**1.18**	**54**	*e*PN	**Pn**	**01 58 47.0**	**-0.9**
AKS	**Akhisar**	**1.18**	**54**	*e*Pn	**Pn**	**01 58 47.1**	**-0.9**
AKHS	**Akhisar**	**1.18**	**54**	*i* P	**Pn**	**01 58 47.3**	**-0.7**
AKHS				*i* S	**Sn**	**01 59 03.4**	**-0.7**
AKHS	**Akhisar**	**1.18**	**54**	*i* P	**Pn**	**01 58 47.3**	**-0.7**
AKHS				*i* S	**Sn**	**01 59 03.4**	**-0.7**
BODT	**Bodrum**	**1.26**	**153**	*e*PN	**Pn**	**01 58 48.6**	**-0.5**
BODT	**Bodrum**	**1.26**	**153**	*e*Pn	**Pn**	**01 58 48.6**	**-0.5**
BDRM	**Kayabasi**	**1.31**	**149**	*i* P	**Pn**	**01 58 49.2**	**-0.6**
BDRM				*i* S	**Sg**	**01 59 08.1**	**+0.3**
BDRM	**Kayabasi**	**1.31**	**149**	*i* P	**Pn**	**01 58 49.2**	**-0.6**
BDRM				*i* S	**Sg**	**01 59 08.1**	**+0.3**
APE	**Apeiranthos**	**1.40**	**217**	P	**Pn**	**01 58 49.8**	**-1.2**
APE	**Apeiranthos**	**1.40**	**217**	*e*PB	**Pn**	**01 58 49.8**	**-1.2**
APE				*e*SN	**Sg**	**01 59 11.4**	**+0.7**
APE	**Apeiranthos**	**1.40**	**217**	P	**Pn**	**01 58 49.8**	**-1.2**
APE				*e*Sn	**Sg**	**01 59 11.4**	**+0.7**
EZN	**Ezine**	**1.65**	**353**	*e*PN	**Pn**	**01 58 54.1**	**-0.2**
EZN	**Ezine**	**1.65**	**353**	*e*Pn	**Pn**	**01 58 54.2**	**-0.2**
NIS1	**Nisyros Isl.**	**1.65**	**163**	P	**Pn**	**01 58 53.3**	**-1.2**
NIS1	**Nisyros Isl.**	**1.65**	**163**	*e*PN	**Pg**	**01 58 56.7**	**-0.6**
NIS1	**Nisyros Isl.**	**1.65**	**163**	*e*PN	**Pn**	**01 58 54.2**	**-0.3**
NIS1	**Nisyros Isl.**	**1.65**	**163**	P	**Pn**	**01 58 53.3**	**-1.2**
NIS1	**Nisyros Isl.**	**1.65**	**163**	*e*Pn	**Pg**	**01 58 56.7**	**-0.6**
KULA	**Kula-Manisa**	**1.66**	**78**	P	**Pn**	**01 58 53.6**	**-1.1**
KULA				S	**Sn**	**01 59 14.9**	**-1.0**
KULA	**Kula-Manisa**	**1.66**	**78**	*e*PN	**Pn**	**01 58 55.2**	**+0.5**
KULA	**Kula-Manisa**	**1.66**	**78**	P	**Pn**	**01 58 53.6**	**-1.1**
KULA	**Kula-Manisa**	**1.66**	**78**	*e*Pn	**Pn**	**01 58 55.2**	**+0.5**
KULA				S	**Sn**	**01 59 14.9**	**-1.0**
BOZC	**Bozcaada**	**1.70**	**346**	*i* P	**Pb**	**01 58 56.9**	**0.0**
BOZC				*i* S	**Sg**	**01 59 20.1**	**-0.4**
YER	**Yerkesik**	**1.71**	**128**	*e*PN	**Pn**	**01 58 54.8**	**-0.4**
YER	**Yerkesik**	**1.71**	**128**	*e*Pn	**Pn**	**01 58 54.8**	**-0.4**
BALY	**Balya**	**1.75**	**27**	*i* P	**Pb**	**01 58 58.2**	**+0.6**
BALY				*i* S	**Sg**	**01 59 22.3**	**+0.5**
BALY	**Balya**	**1.75**	**27**	*i* P	**Pb**	**01 58 58.2**	**+0.6**
BALY				*i* S	**Sg**	**01 59 22.3**	**+0.5**
BALB	**Balikesir**	**1.77**	**34**	*e*PN	**Pn**	**01 58 56.5**	**+0.5**
BALB	**Balikesir**	**1.77**	**34**	*e*Pn	**Pn**	**01 58 56.5**	**+0.5**
THR2	**Thira island,**	**1.97**	**208**	P	**Pn**	**01 58 57.9**	**-0.9**
THR2	**Thira island,**	**1.97**	**208**	P	**Pn**	**01 58 57.9**	**-0.9**
DENT	**Denizli**	**1.98**	**102**	*e*PN	**Pb**	**01 59 00.5**	**-1.1**
DENT	**Denizli**	**1.98**	**102**	*e*Pn	**Pb**	**01 59 00.5**	**-1.1**
DNZL	**Cakiroluk**	**2.00**	**104**	*i* P	**Pg**	**01 59 03.8**	**-0.3**
DNZL	**Cakiroluk**	**2.00**	**104**	*i* P	**Pg**	**01 59 03.8**	**-0.3**
DNZL				*i* S	**Sg**	**01 59 31.0**	**+0.8**
SANT	**Santorini**	**2.03**	**207**	P	**Pn**	**01 58 58.7**	**-0.9**
SANT	**Santorini**	**2.03**	**207**	P	**Pn**	**01 58 58.7**	**-0.9**
THR1	**Thera Island**	**2.03**	**207**	P	**Pn**	**01 58 58.7**	**-0.9**
THR1	**Thera Island**	**2.03**	**207**	*e*PN	**Pb**	**01 59 02.2**	**-0.2**
THR1	**Thera Island**	**2.03**	**207**	P	**Pn**	**01 58 58.7**	**-0.9**
THR1	**Thera Island**	**2.03**	**207**	*e*Pn	**Pb**	**01 59 02.2**	**-0.2**
LIA	**Limnos Island**	**2.03**	**328**	P	**Pn**	**01 58 59.0**	**-0.6**
LIA	**Limnos Island**	**2.03**	**328**	*e*PB	**Pn**	**01 58 59.3**	**-0.3**
LIA	**Limnos Island**	**2.03**	**328**	P	**Pn**	**01 58 59.0**	**-0.6**
LIA	**Limnos Island**	**2.03**	**328**	*e*Pb	**Pn**	**01 58 59.3**	**-0.3**
DURS	**Dursunbey**	**2.04**	**46**	*i* P	**Pb**	**01 59 03.1**	**+0.4**
DURS				*i* S	**Sb**	**01 59 29.3**	**+1.3**
DURS	**Dursunbey**	**2.04**	**46**	*i* P	**Pb**	**01 59 03.1**	**+0.4**
DURS				*i* S	**Sb**	**01 59 29.3**	**+1.3**
THR6	**Thira Island,**	**2.06**	**208**	P	**Pn**	**01 58 59.2**	**-0.9**
THR6	**Thira Island,**	**2.06**	**208**	P	**Pn**	**01 58 59.2**	**-0.9**
DST	**Dursunbey**	**2.12**	**48**	*e*PN	**Pn**	**01 59 00.9**	**-0.1**
DST	**Dursunbey**	**2.12**	**48**	*e*Pn	**Pn**	**01 59 00.9**	**-0.1**
DALY	**Dalyan (Mu¨la**	**2.14**	**129**	*e*PN	**Pb**	**01 59 02.6**	**-1.7**
DALY	**Dalyan (Mu¨la**	**2.14**	**129**	*e*Pn	**Pb**	**01 59 02.6**	**-1.7**
PTL	**Penteli**	**2.15**	**267**	P	**Pn**	**01 59 01.1**	**-0.3**
PTL	**Penteli**	**2.15**	**267**	*e*PN	**Pn**	**01 59 01.4**	**0.0**
PTL	**Penteli**	**2.15**	**267**	P	**Pn**	**01 59 01.1**	**-0.3**
PTL	**Penteli**	**2.15**	**267**	*e*Pn	**Pn**	**01 59 01.4**	**0.0**
LPK	**Lapseki**	**2.19**	**3**	*e*PN	**Pn**	**01 59 02.7**	**+0.9**
LPK	**Lapseki**	**2.19**	**3**	*e*PN	**Pn**	**01 59 02.7**	**+0.9**
GELI	**Tayfur-Gelibol**	**2.21**	**358**	*e*PN	**Pn**	**01 59 03.4**	**+1.3**
GELI	**Tayfur-Gelibol**	**2.21**	**358**	*e*Pn	**Pn**	**01 59 03.4**	**+1.3**
KRBG	**Karabiga-Canak**	**2.27**	**14**	*e*PN	**Pn**	**01 59 03.3**	**+0.4**
KRBG	**Karabiga-Canak**	**2.27**	**14**	*e*Pn	**Pn**	**01 59 03.3**	**+0.4**
ATH	**Athens Observa**	**2.28**	**265**	*e*PN	**Pn**	**01 59 03.3**	**+0.3**
ATH	**Athens Observa**	**2.28**	**265**	*e*Pn	**Pn**	**01 59 03.3**	**+0.3**
ARG	**Arkhangelos**	**2.32**	**148**	P	**Pn**	**01 59 02.9**	**-0.7**
ARG	**Arkhangelos**	**2.32**	**148**	P	**Pn**	**01 59 02.9**	**-0.7**
AOS	**Alonnisos**	**2.34**	**296**	P	**Pn**	**01 59 03.9**	**0.0**
AOS	**Alonnisos**	**2.34**	**296**	*e*PN	**Pb**	**01 59 05.9**	**-1.8**
AOS	**Alonnisos**	**2.34**	**296**	*e*PN	**Pn**	**01 59 03.8**	**-0.1**
AOS	**Alonnisos**	**2.34**	**296**	P	**Pn**	**01 59 03.9**	**0.0**
EDC	**Edincik**	**2.37**	**24**	*e*PN	**Pn**	**01 59 05.3**	**+1.0**
EDC	**Edincik**	**2.37**	**24**	*e*Pn	**Pn**	**01 59 05.3**	**+1.0**
MRKA	**Markates**	**2.41**	**283**	*e*PN	**Pn**	**01 59 05.2**	**+0.2**
MRKA	**Markates**	**2.41**	**283**	*e*Pn	**Pn**	**01 59 05.2**	**+0.2**
SMTH	**Samothraki Isl**	**2.42**	**341**	P	**Pn**	**01 59 04.0**	**-1.1**
SMTH	**Samothraki Isl**	**2.42**	**341**	*e*PN	**Pn**	**01 59 04.7**	**-0.4**
SMTH	**Samothraki Isl**	**2.42**	**341**	P	**Pn**	**01 59 04.0**	**-1.1**
SMTH	**Samothraki Isl**	**2.42**	**341**	*e*Pn	**Pn**	**01 59 04.7**	**-0.4**
GDZ	**Gediz**	**2.44**	**67**	*i* P	**Pg**	**01 59 11.1**	**-1.3**
GDZ				*i* S	**Sg**	**01 59 44.5**	**+0.6**
ERIK	**Erikli-Kesan**	**2.48**	**359**	*e*PN	**Pn**	**01 59 06.1**	**+0.3**
ERIK	**Erikli-Kesan**	**2.48**	**359**	*e*Pn	**Pn**	**01 59 06.1**	**+0.3**
KCTX	**Karacabey (Bur**	**2.49**	**33**	*e*PN	**Pn**	**01 59 06.8**	**+0.8**
KCTX	**Karacabey (Bur**	**2.49**	**33**	*e*Pn	**Pn**	**01 59 06.8**	**+0.8**
FETY	**Fethiye**	**2.52**	**127**	*e*PN	**Pn**	**01 59 07.7**	**+1.3**
FETY	**Fethiye**	**2.52**	**127**	*e*Pn	**Pn**	**01 59 07.7**	**+1.3**
MRMT	**Marmara Adasi**	**2.54**	**18**	*e*PN	**Pn**	**01 59 07.5**	**+0.9**
MRMT	**Marmara Adasi**	**2.54**	**18**	*e*Pn	**Pn**	**01 59 07.5**	**+0.9**
RKY	**Sarkoy-Tekirda**	**2.54**	**10**	*e*PN	**Pn**	**01 59 08.0**	**+1.3**
RKY	**Sarkoy-Tekirda**	**2.54**	**10**	*e*Pn	**Pn**	**01 59 08.0**	**+1.3**
ENEZ	**Enez**	**2.57**	**353**	*e*PN	**Pn**	**01 59 08.1**	**+1.1**
ENEZ	**Enez**	**2.57**	**353**	*e*Pn	**Pn**	**01 59 08.1**	**+1.1**
TVSB	**Tavsanli**	**2.57**	**60**	*e*PN	**Pn**	**01 59 08.0**	**+0.8**
TVSB	**Tavsanli**	**2.57**	**60**	*e*Pn	**Pn**	**01 59 08.0**	**+0.8**
SKIA	**Skiathos**	**2.63**	**293**	*e*PN	**Pn**	**01 59 08.1**	**+0.1**
SKIA	**Skiathos**	**2.63**	**293**	*e*Pn	**Pn**	**01 59 08.1**	**+0.1**
KARP	**Karpathos**

GUC 21 02:11:06.9±0.4, 35°.14S×72°.75W, h19km±3km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.95	106	eP	Pb	02 11 24.2	-0.6
TALC				eS	Sb	02 11 37.2	+0.2
COCH	Cobquecura	0.99	182	eP	Pb	02 11 24.9	-0.6
COCH				eS	Sb	02 11 38.2	+0.1
LNCH	Linares	1.17	127	eP9	Pn	02 11 29.6	+1.2
LNCH				eS	Sg	02 11 45.3	+0.2
NICH	Los Niches	1.25	84	eP	Pn	02 11 29.1	-0.4
NICH				eS	Sn	02 11 46.2	+0.3
LNV	Longovilo	1.62	44	eP	Pn	02 11 34.6	+0.2
CHCH	Chadas Angostu	2.11	56	eP	Pn	02 11 42.8	+1.5
CLCH	Cerro Calan	2.53	47	eP	Pn	02 11 49.2	+2.1
CLCH				eS	Sb	02 12 21.1	-1.6
CLCH				AML	AML	02 12 30.4	
	comp=N,262nm,0.5s						
PEL	Peldehue	2.63	41	AML	AML	02 12 34.9	
	comp=E,220nm,0.6s						

WEL 21 02:12:53.6±0.7, 46°.20S×165°.94E, h12km, ML3.6/8, 2C, Error ellipse: s-maj=7.1km s-min=2.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	1.11	50	P*	Pb	02 13 11.7	-3.1
DCZ				S*	Sb	02 13 29.2	-0.1
DCZ				AML	AML	02 13 30.0	
WHZ	Wether Hill Ro	1.43	79	PN	Pn	02 13 18.0	-1.5
WHZ				SN	Sn	02 13 36.4	-1.8
WHZ				AML	AML	02 13 42.7	
APZ	The Paps	1.55	115	⇑PN	Pn	02 13 20.2	-1.0
APZ				SN	Sn	02 13 41.1	-0.2
APZ				AML	AML	02 13 51.8	
MLZ	Mavora Lakes	1.78	62	⇑PN	Pn	02 13 22.8	-1.5
MLZ				SN	Sn	02 13 44.2	-2.7
MLZ				AML	AML	02 13 52.7	
SYZ	Scrubby Hill	2.24	100	PN	Pn	02 13 29.4	-1.1
SYZ				SN	Sn	02 13 57.4	-0.8
SYZ				AML	AML	02 14 06.4	
EAZ	Earnscleugh	2.55	69	PN	Pn	02 13 34.9	+0.1
EAZ				AML	AML	02 14 14.8	
EAZ				AML	AML	02 14 16.3	
WKZ	Wanaka	2.56	59	PN	Pn	02 13 34.2	-0.8
WKZ				AML	AML	02 14 15.0	
WKZ				AML	AML	02 14 16.9	
TUZ	Tuapeka	2.58	86	PN	Pn	02 13 35.0	-0.2
JCZ	Jackson Bay	2.91	44	PN	Pn	02 13 38.0	-1.9
JCZ				AML	AML	02 14 31.7	
JCZ				AML	AML	02 14 32.4	
ODZ	Otahua Downs	3.50	72	PN	Pn	02 13 46.2	-1.6
LBZ	Lake Benmore	3.50	60	PN	Pn	02 13 46.6	-1.3
FOZ	Fox Glacier	3.75	47	PN	Pn	02 13 49.8	-1.4
RPZ	Rata Peaks	4.40	58	PN	Pn	02 13 58.2	-2.0
LTZ	Lake Taylor	5.67	55	PN	Pn	02 14 14.7	-3.0
DSZ	Denniston Nort	6.14	46	PN	Pn	02 14 21.6	-2.6

*ISCJB **21** 02:18:37.8±0.4, 9°.67S±0°.06×117°.75E±0°.03, h71km, mb3.8/6, Error ellipse: s-maj=8.3km s-min=3.3km az=14.4*
*DJA **21** 02:18:41.4±0.3, 9°.S±4°.×11°.8E±°, h51km±13km, M4.5/24, mb4.7/7, mB4.9/5, MLv4.6/24, Mw(mB)4.2/5*
*IDC **21** 02:18:51.5±4.0, 8°.53S×119°.11E, h170km±43km, mb3.5/7, mb1 3.6/9, mb1mx3.4/35, mbtmp4.0/9, Error ellipse: s-maj=43.5km s-min=16.7km az=73.0*
ISC 21 02:18:38.7±0.7, 9°.69S±0°.08×117°.75E±0°.05, h71km, n34, σ1ˢ27/39, mb3.8/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	2.51	90	P	Pn	02 19 12.1	-5.2
DNP	Denpasar	2.71	292	P	Pn	02 19 23.1	+3.1
DNP				S	Sn	02 19 52.9	+1.2
IGBI	Denpasar	2.72	288	P	Pn	02 19 20.0	-0.1
IGBI				S	Sn	02 19 49.9	-2.0
BASI	Baing, Sumba	2.83	101	P	Pn	02 19 26.4	+4.7
SRBI	Singaraja	2.98	302	P	Pn	02 19 24.0	+0.4
SRBI				S	Sn	02 19 58.6	+0.4
JAGI	Jajag, Banyuwa	3.76	289	P	Pn	02 19 33.9	-0.4
JAGI				S	Sn	02 20 16.7	-0.7
JAGI	Jajag, Banyuwa	3.76	289	P	Pn	02 19 34.3	0.0
	baz=3.8,SNR=49						
JAGI				S	Sn	02 20 16.7	-0.7
	baz=3.8,SNR=9.6						
ABJI	Asem Bagus	3.96	298	P	Pn	02 19 38.1	+1.1
EDFI	Ende, Flores	4.00	77	P	Pn	02 19 38.5	+0.8
BSSI	Bau Bau, Buton	4.45	38	P	Pn	02 19 45.2	+1.4
GMJI	Gumukmas	4.48	288	P	Pn	02 19 44.6	+0.4
GMJI				S	Sn	02 20 34.1	-1.1
BLJI	Banyuglugur	4.54	295	P	Pn	02 19 45.8	+0.8
BLJI				S	Sn	02 20 39.0	+2.4
MMRI	Maumere	4.55	77	P	Pn	02 19 46.6	+1.4
KMMI	Kalianget	4.57	305	P	Pn	02 19 47.2	+1.7
KMMI				S	Sn	02 20 37.9	+0.5
BKSI	Bulukumba	4.94	29	P	Pn	02 19 50.0	-0.5
BNSI	Bone	5.75	24	P	Pn	02 20 02.6	+1.0
	79nm,0.8s,1μm0.4nm						
BATI	Baumata	5.85	96	P	Pn	02 20 07.5	+4.6
	28nm,0.5s,654nm0.3nm						
BATI	Baumata	5.85	96	P	Pn	02 20 03.5	+0.6
	8.8nm,0.3s,baz=314,slow=2.6,SNR=7.1						
BATI				S	Sn	02 21 08.1	-0.5
	16nm,0.3s,baz=29,slow=23,SNR=10						
GRJI	Gresik	5.90	297	P	Pn	02 20 05.1	+1.4
	119nm,0.5s,2μm0.6nm						
SPSI	Sidrap Palu	6.03	20	P	Pn	02 20 05.1	-0.3
	25nm,0.6s,0.3nm						
PWJI	Pagerwojo	6.11	285	P	Pn	02 20 07.7	+1.2
	62nm,0.7s,1μm0.8nm						
SOEI	Soe	6.42	91	P	Pn	02 20 14.5	+3.6
SOEI	Soe	6.42	91	P	Pn	02 20 12.8	+1.9
	baz=6.4,SNR=7.1						
UGM	Wanagama	7.36	283	P	Pn	02 20 25.3	+1.6
	baz=7.4,SNR=9.7						
UGM				S	Sn	02 21 46.3	+0.6
	baz=7.4,SNR=3.7						
KNRA	Kununurra	12.28	120	P	Pn	02 21 29.6	-1.1
	baz=12,SNR=10						
GIRL	Giralia	13.31	194	P	Pn	02 21 45.6	+0.9
	baz=13,SNR=7.1						
WRA	Warramunga Arr	18.98	124	P	Pn	02 22 56.0	-0.1
	0.5nm,0.3s,baz=304,slow=13,SNR=9.4						
WRA				S	S	02 26 15.9	-11
	0.2nm,0.3s,baz=306,slow=17,SNR=8.8						
ASAR	Alice Springs	20.76	134	P	Pn	02 23 16.6	-0.5
	1.9nm,0.4s,baz=310,slow=11,SNR=61						
ASAR				S	S	02 27 00.1	-1.9
	0.5nm,0.6s,baz=310,slow=24,SNR=4.1						
NWAO	Narrogin (SRO)	23.13	181	P	P	02 23 54.6	+16
	4.3nm,0.4s,baz=11,slow=11,SNR=14						
NWAO				S	S	02 27 46.4	+1.7
	2.4nm,0.4s,baz=112,slow=19,SNR=2.7						
CMAR	Chiang Mai Arr	33.57	326	P	P	02 25 12.9	+0.7
	1.8nm,0.3s,baz=173,slow=9.0,SNR=4.2						
SONM	Songino Array	58.15	351	P	P	02 28 23.1	-2.2
	0.7nm,0.8s,baz=173,slow=8.6,SNR=6.4						
MKAR	Makanchi Array	64.52	334	P	P	02 29 07.7	-0.5
	0.7nm,0.6s,baz=153,slow=6.9,SNR=16						
ZALV	Zalesovo Beam	69.25	340	P	P	02 29 35.3	-2.7
	0.6nm,0.6s,baz=155,slow=5.8,SNR=2.8						
BVAR	Borovoye Array	74.33	333	P	P	02 30 07.6	-1.0
	0.6nm,0.8s,baz=162,slow=5.9,SNR=4.5						

GUC 21 02:27:35.7±0.5, 34°.66S×72°.17W, h34km±2km, ML4.0, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.85	114	⇓iP	Pn	02 27 51.4	+0.1
NICH				eS1	Sg	02 28 02.9	
TALC	Talca	0.86	150	⇑iP	Pn	02 27 51.2	-0.3
TALC				i S	Sb	02 28 03.4	-0.1
LNV	Longovilo	0.94	42	⇓iP	Pn	02 27 52.3	-0.1
LNV				eS1	Sb	02 28 05.4	-0.3
LNCH	Linares	1.28	159	eP	Pn	02 27 57.9	+0.7
LNCH				eS	Sb	02 28 14.9	-0.4
CACH	El Canelo	1.40	68	⇓iP	Pb	02 28 00.6	-1.0
CACH				i S1	Sg	02 28 19.5	
CHCH	Chadas Angostu	1.45	61	⇑iP	Pn	02 28 00.8	+1.3
COCH	Cobquecura	1.56	199	eP9	Pn	02 28 00.9	-0.1
COCH				eS	Sn	02 28 21.0	+0.9
ANTU	Antumapu	1.67	50	⇑iP	Pb	02 28 04.4	-1.6
ANTU				eS	Sb	02 28 25.7	-1.1
ANTU				AML	AML	02 28 30.8	
	comp=E,3μm,0.4s						
SJCH	San Jose de Ma	1.81	57	i P	Pn	02 28 06.0	+1.3
SJCH				eS	Sb	02 28 29.3	-1.6
CLCH	Cerro Calan	1.85	48	eP1	Pn	02 28 06.5	+1.4
CLCH				i S	Sb	02 28 30.0	-1.8
CLCH				AML	AML	02 28 33.7	
	comp=N,2μm,0.5s						
CLCH				AML	AML	02 28 34.3	
	comp=N,2μm,0.5s						
PEL	Peldehue	1.95	40	⇑iP	Pn	02 28 08.2	+1.7
PEL				eS	Sn	02 28 32.0	+2.2
PEL				AML	AML	02 28 40.2	
	comp=N,2μm,0.5s						
YECH	El Yeso	1.99	61	eP	Pn	02 28 08.8	+1.4
YECH				eS4	Sb	02 28 36.1	-0.3
YECH				AML	AML	02 28 37.2	
	comp=N,1μm,0.3s						
SYO	Syowa Base	65.30	158	⇑eP	P	02 38 17.9	+4.2

*ISCJB **21** 02:44:27.3±0.4, 18°.41N±0°.05×72°.48W±0°.03, h10km, mb3.7/9, MS2.9/1, Error ellipse: s-maj=6.9km s-min=4.2km az=18.3*
*NEIC **21** 02:44:29.1±0.4, 18°.47N×72°.50W, h10km, mb4.1/3, Error ellipse: s-maj=9.9km s-min=5.4km az=192.0*
NEIC Felt [IV] at Carrefour and [II] at Port-au-Prince and Petionville. Also felt at Anse Rouge, Delmas, Pignon and Vieux Bourg d'Aquin.
*IDC **21** 02:44:32.1±4.8, 19°.26N×72°.32W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.6/31, mbtmp3.7/8, ML3.9/1, MS2.9/3, Ms1 2.9/3, ms1mx2.5/36, Error ellipse: s-maj=142.5km s-min=25.4km az=20.0*
ISC 21 02:44:29.0±0.6, 18°.45N±0°.06×72°.47W±0°.04, h10km, n33, σ1ˢ54/36, mb3.7/9, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGNH	LØogne	0.14	294	ePg	Pg	02 44 32.0	-0.2
PAPH	Port-au-Prince	0.18	67	ePg	Pg	02 44 31.7	-1.1
WSYH	La Gonave Hosp	0.53	316	i P	Pg	02 44 38.8	-0.5
WSYH				i S	Sb	02 44 47.2	-0.9
SDDR	Presa de Saban	1.24	65	ePn	Pn	02 44 50.3	-2.2
SDDR				eSn	Sb	02 45 08.1	-0.5
GTBY	Guantanamo Bay	2.89	301	ePn	Pn	02 45 13.9	-1.2
GTBY				eSn	Sn	02 45 47.0	-3.0
GRTK	Grand Turk	3.29	22	Pn	Pn	02 45 16.5	-4.2
GRTK				eSn	Sn	02 45 57.8	-2.1
MTDJ	Mount Denham	4.81	268	Pn	Pn	02 45 42.4	+0.7
CRPR	Cabo Rojo, PR	5.12	94	ePn	Pn	02 45 45.3	-0.4
LSP	Las Mesas	5.12	92	Pn	Pn	02 45 46.5	+0.6
LRS	Lares	5.35	91	Pn	Pn	02 45 49.9	+0.9
AOPR	Arecibo Observ	5.43	90	ePn	Pn	02 45 52.7	+2.6
CELP	Cerrillos	5.61	93	Pn	Pn	02 45 52.5	-0.1
SJG	San Juan	6.02	92	Pn	Pn	02 46 00.5	+2.3
	0.1nm,0.3s,baz=266,slow=16,SNR=4.9						
SJG				Sn	Sn	02 47 05.1	-2.0
	0.0nm,0.3s,baz=331,slow=19,SNR=1.6						
SJG				LR	LR	02 48 25.6	
	comp=Z,87nm,21.9s,baz=270,slow=39						
SJG	San Juan	6.02	92	Pn	Pn	02 45 58.1	0.0
SJG				Sn	Sn	02 47 05.1	-2.0
CPD	Cerro la Pandu	6.25	93	ePn	Pn	02 46 02.8	+1.4
HUMP	Col San Antoni	6.30	92	ePn	Pn	02 46 04.9	+2.9
MTP	Monte Pirata	6.58	92	ePn	Pn	02 46 05.4	-0.6
SDV	Santo Domingo	9.68	169	ePn	Pn	02 46 48.3	-0.3
JTS	JuntasAbangare	14.55	238	P	Pn	02 47 54.6	-0.6
TKL	Tuckaleechee C	19.85	332	LR	LR	02 56 12.6	
	comp=Z,48nm,21.4s,baz=178,slow=36						
BLA	Blacksburg	19.95	341	eP	P	02 49 00.3	-1.0
	34nm,1.8s						
SSPA	Standing Stone	22.59	349	eP	P	02 49 33.0	+3.3
	8.6nm,1.2s						
PTGA	Pitinga	22.69	146	LR	LR	02 58 12.4	
	comp=Z,45nm,19.7s,baz=230,slow=35						
SAML	Samuel	28.73	161	eP	P	02 50 26.1	-0.7
	1.6nm,0.9s						
NNA	Nana	30.55	188	P	P	02 50 42.9	-0.1
PDAR	Pinedale Array	39.60	316	P	P	02 52 01.7	+0.7
	0.4nm,0.8s,baz=111,slow=4.9,SNR=3.6						
YKA	Yellowknife Ar	52.74	337	P	P	02 53 42.8	-1.0
	0.9nm,0.9s,baz=126,slow=7.6,SNR=11						
ESDC	Sonseca Array	62.07	54	P	P	02 54 51.1	+1.0
	0.1nm,0.3s,baz=276,slow=7.5,SNR=4.1						
ILAR	Eielson Array	66.82	333	P	P	02 55 21.0	+0.3
	0.3nm,0.9s,baz=100,slow=3.7,SNR=3.9						
ILAR	Eielson Array	66.82	333	P	P	02 55 21.0	+0.3
GERES	GERESS Array B	73.86	43	P	P	02 56 04.2	0.0
	0.6nm,0.8s,baz=263,slow=5.8,SNR=4.6						
FINES	FINESS Array B	77.99	29	P	P	02 56 28.3	+0.9
	1.4nm,0.8s,baz=337,slow=6.0,SNR=3.4						
BRTR	Keskin Array B	90.16	48	P	P	02 57 32.7	+2.6
	0.9nm,1.0s,baz=297,slow=6.3,SNR=3.1						

*GUC **21** 02:56:37.9±0.7, 34°.77S×72°.47W, h28km±4km, ML4.2*
*IDC **21** 02:56:39.5±1.0, 34°.80S×72°.40W, h32km±6km, mb3.6/6, mb1 3.9/8, mb1mx3.8/22, mbtmp3.8/8, ML4.1/2, MS3.0/3, Ms1 3.0/3, ms1mx2.8/18, Error ellipse: s-maj=27.2km s-min=22.2km az=63.0*
*NEIC **21** 02:56:39.1±3.6, 34°.78S×72°.47W, h32km±25km, mb4.4/10, Error ellipse: s-maj=19.0km s-min=9.8km az=82.0*
ISC 21 02:56:39.1±0.8, 34°.80S±0°.04×72°.53W±0°.07, h34km±2km, n45, σ1ˢ25/52, mb4.2/15, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.95	129	⇑iP	Pn	02 56 54.5	-1.5
TALC				i S	Sn	02 57 07.0	-1.3
NICH	Los Niches	1.09	101	⇓iP	Pn	02 56 56.7	-1.2
NICH				i S	Sn	02 57 10.8	-1.0
LNV	Longovilo	1.25	48	⇑iP	Pn	02 56 58.8	-1.3
LNV				i S1	Sn	02 57 14.7	-1.0
LNCH	Linares	1.29	144	⇓iP	Pn	02 57 00.4	-0.3
LNCH				i S	Sn	02 57 17.3	+0.5
CACH	El Canelo	1.73	67	⇓iP	Pn	02 57 07.0	+0.1
CHCH	Chadas Angostu	1.77	61	⇑iP	Pn	02 57 07.3	-0.1
CHCH				i S1	Sn	02 57 29.2	+0.4
ANTU	Antumapu	1.99	53	ePn	Pn	02 57 11.2	+0.7
ANTU				eS	Sn	02 57 35.6	+1.4
ANTU				AML	AML	02 57 44.4	
	comp=N,3μm,0.6s						
SJCH	San Jose de Ma	2.14	58	⇓iP	Pn	02 57 12.4	0.0
SJCH				i S	Sn	02 57 39.3	+1.4
SJCH				AML	AML	02 57 46.5	
	comp=N,2μm,0.5s						
CLCH	Cerro Calan	2.17	50	eP1	Pn	02 57 12.6	-0.2
CLCH				eS	Sn	02 57 39.5	+1.0
CLCH				AML	AML	02 57 52.7	
	comp=E,2μm,0.6s						
CLCH				AML	AML	02 57 57.3	
	comp=N,2μm,0.6s						
PEL	Peldehue	2.25	43	⇑iP	Pn	02 57 13.8	-0.1
PEL				i S4	Sb	02 57 44.5	-2.1
PEL				AML	AML	02 57 49.4	
	comp=E,3μm,0.7s						
YECH	El Yeso	2.32	62	⇑iP	Pn	02 57 16.7	+1.6
YECH				eS	Sn	02 57 44.6	+2.0
YECH				AML	AML	02 57 50.5	
	comp=E,2μm,0.6s						
CFAA	Coronel Fontan	4.80	50	Pn	Pn	02 57 49.5	+0.4
	comp=E,0.1nm,0.3s,baz=226,slow=19,SNR=28						
CFAA				Lg	Lg	02 58 54.2	
	comp=E,0.4nm,0.3s,baz=271,slow=13,SNR=4.3						
CFAA				LR	LR	02 59 44.1	
	comp=E,23nm,20.1s,baz=228,slow=39						
LCO	Las Campanas	5.97	16	ePn	Pn	02 58 03.2	-2.1
	comp=E,7.9nm,0.4s						
LCO				eSn	Sn	02 59 09.1	-3.7
LCO				eLg	Lg	02 59 39.2	
PLCA	Paso Flores	6.13	166	Pn	Pn	02 58 08.8	+1.6
	comp=E,1.6nm,0.3s,baz=338,slow=13,SNR=49						
PLCA				Lg	Lg	02 59 42.6	
	comp=E,0.5nm,0.3s,baz=264,slow=18,SNR=3.3						
PLCA				LR	LR	03 00 37.3	
	comp=E,241nm,19.7s,baz=332,slow=39						
PLCA	Paso Flores	6.13	166	ePn	Pn	02 58 08.1	+0.8
	comp=E,19nm,0.8s						
PLCA				eLg	Lg	02 59 42.5	
TRQA	Tornquist	9.10	114	ePn	Pn	02 58 48.9	+0.9
TRQA				eLg	Lg	03 01 21.5	
LPAZ	La Paz	18.85	13	P	Pn	03 00 58.4	+0.8
	comp=E,0.2nm,0.3s,baz=196,slow=7.3,SNR=12						
LPAZ	La Paz	18.85	13	eP	P	03 00 56.7	-0.2
	comp=E,3.1nm,0.9s						
SIV	San Ignacio	21.36	32	P	P	03 01 22.9	-0.7
	comp=E,2.5nm,0.7s,baz=216,slow=12,SNR=8.3						
BDFB	Brasilia	29.12	55	LR	LR	03 15 29.4	
	comp=E,88nm,20.4s,baz=214,slow=39						
OTAV	Otavalo	35.29	350	eP	P	03 03 32.9	+1.5
	comp=E,5.7nm,1.2s						
CBYP	Canovanas	53.16	8	eP	P	03 05 51.6	-2.2
VNDA	Vanda	63.24	191	eP	P	03 07 01.2	-2.4
	comp=E,6.9nm,1.3s						
TXAR	Lajitas Array	70.23	331	P	P	03 07 50.1	+1.4
	comp=E,0.6nm,0.6s,baz=150,slow=8.8,SNR=8.6						
TXAR				pP	pP	03 07 59.8	+0.4
	comp=E,0.6nm,0.5s,baz=154,slow=8.0,SNR=7.3						
SWET	Sewanee	70.77	348	eP	P	03 07 52.1	+0.3
	comp=E,3.5nm,0.7s						
ABTX	Abilene, Hawle	71.74	336	eP	P	03 07 58.9	+1.2
	comp=E,3.5nm,0.6s						
WVT	Waverly	71.99	347	eP	P	03 07 59.0	-0.1
	comp=E,1.5nm,0.6s						
ANMO	Albuquerque	76.29	332	eP	P	03 08 26.2	+1.7
	comp=E,2.4nm,1.1s						
WUAZ	Wupatki	78.80	329	eP	P	03 08 40.5	+2.0
	comp=E,3.1nm,0.9s						
BOSA	Boshof	80.06	118	P	P	03 08 45.8	+0.1
	comp=E,2.8nm,0.8s,baz=211,slow=6.2,SNR=5.2						
DUG	Dugway, Tooele	83.36	330	eP	P	03 09 02.9	+0.3
	comp=E,5.8nm,1.4s						
PDAR	Pinedale Array	84.29	334	P	P	03 09 08.4	+1.0
	comp=E,0.3nm,0.7s,baz=140,slow=4.4,SNR=2.9						
NVAR	Mina Array Bea	84.31	326	P	P	03 09 08.5	+0.9
	comp=E,0.5nm,0.8s,baz=176,slow=5.3,SNR=5.6						
NVAR				pP	pP	03 09 18.9	+0.5
	comp=E,0.2nm,0.5s,baz=215,slow=49,SNR=3.8						
TORD	Torodi Ar. Bea	84.86	70	P	P	03 09 10.5	-0.2
	comp=E,0.6nm,0.8s,baz=229,slow=4.2,SNR=3.5						
TORD				pP	pP	03 09 21.0	-0.4
	comp=E,1.0nm,1.1s,baz=279,slow=4.8,SNR=3.2						
TAM	Tamanrasset	93.53	65	eP	P	03 09 52.6	+0.8
	comp=E,1.0nm,0.9s						
FCC	Fort Churchill	94.93	349	eP	P	03 09 57.4	+0.2
WRA	Warramunga Arr	119.87	209	PKP	PKPdf	03 15 26.5	+0.1
	comp=E,0.3nm,0.5s,baz=150,slow=1.4,SNR=2.9						
H11S2	WAKE ISLAND Hyl	25.35	269	T	T	05 34 09.2	
	baz=120						
H11S1	WAKE ISLAND Hyl	25.36	269	T	T	05 34 05.0	
	baz=120						
H11S3	WAKE ISLAND Hyl	25.37	269	T	T	05 33 47.4	
	baz=120						
H11N3	WAKE ISLAND Hyl	25.78	270	T	T	05 34 20.4	
	baz=110						
H11N1	WAKE ISLAND Hyl	25.80	270	T	T	05 34 13.4	
	baz=110						
H11N2	WAKE ISLAND Hyl	25.80	270	T	T	05 34 20.6	
	baz=110						
KURK	Kurchatov	153.74	44	ePKPbc	PKPbc	03 16 34.0	0.0
MKAR	Makanchi Array	157.59	50	PKPab	PKPab	03 17 03.9	+0.2
	comp=E,0.5nm,0.8s,baz=316,slow=3.3,SNR=4.7						

*IDC **21** 03:01:00.2±0.9, 25°.94N×128°.64E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/26, mbtmp3.7/9, ML3.4/1, Error ellipse: s-maj=43.7km s-min=18.6km az=74.0*
*ISCJB **21** 03:01:02.2±1.0, 26°.03N±0°.04×128°.77E±0°.04, h28km±6km, mb3.6/8, Error ellipse: s-maj=7.2km s-min=6.3km az=163.8*
*JMA **21** 03:01:04.0±0.3, 26°.07N×128°.70E, h37km, M3.3*
ISC 21 03:01:01.6±1.7, 26°.00N±0°.05×128°.76E±0°.04, h13km±10km, n20, σ1ˢ55/31, mb3.7/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.84	308	P	Pb	03 01 18.0	-0.1
JNTH				eS	Sg	03 01 28.3	-0.6
JJT2	Tamagusuku 2	0.92	279	P	Pn	03 01 20.0	-0.3
JJT2				S	Sb	03 01 31.6	0.0
JOW	Kunigami	0.94	332	P	Pg	03 01 19.8	+0.1
JOW				eS	Sb	03 01 31.0	-1.1
JIH	Iheya	1.25	326	P	Pb	03 01 24.8	-0.3
JIH				eS	Sb	03 01 39.9	-1.3
JOKE	Okinoerabujima	1.37	353	P	Pn	03 01 26.4	0.0
JOKE				eS	Sn	03 01 42.8	-1.6
JAGN	Aguni-jima	1.49	294	P	Pn	03 01 27.9	-0.1
JAGN				eS	Sn	03 01 44.5	-2.8
JTK	Tokunoshima	1.79	5	P	Pn	03 01 32.0	-0.2
JTK				S	Sn	03 01 52.0	-2.8
JKE	Kume jima 2	1.81	281	P	Pn	03 01 31.5	-0.9
JKE				eS	Sn	03 01 52.3	-2.9
JMZ	Minamidaito 2	2.22	94	P	Pn	03 01 37.1	-1.0
JMZ				eS	Sn	03 02 01.6	-3.9
JAMN	Amaminishikomi	2.27	9	P	Pn	03 01 38.8	+0.1
JAM	Amami Oshima	2.52	17	P	Pn	03 01 41.8	-0.4
JAM				eS	Sn	03 02 10.2	-2.6
JNU	Nakatsue	7.33	14	Pn	Pn	03 02 50.0	+1.6
	0.5nm,0.3s,baz=236,slow=7.3,SNR=6.0						
SONM	Songino Array	28.01	327	P	P	03 06 54.7	+2.4
	0.7nm,0.6s,baz=140,slow=10,SNR=7.8						
MKAR	Makanchi Array	42.04	312	P	P	03 08 52.6	-0.3
	0.4nm,0.6s,baz=102,slow=9.1,SNR=6.5						
MKAR				PcP	PcP	03 10 48.0	+0.3
	0.2nm,0.6s,baz=81,slow=1.5,SNR=2.8						
WRA	Warramunga Arr	45.99	173	P	P	03 09 25.0	+0.2
	1.4nm,0.7s,baz=350,slow=8.5,SNR=8.8						
ASAR	Alice Springs	49.62	174	P	P	03 09 53.5	+0.5
	1.1nm,0.8s,baz=3.1,slow=8.0,SNR=14						
FINES	FINESS Array B	73.30	331	P	P	03 12 32.6	+0.1
	0.8nm,0.6s,baz=64,slow=4

CLCH					*e*S		Sn	03 13 00.3 -1.6
CLCH					AML		AML	03 13 06.4
	comp=N,1μm,0.6s							
PEL	**Peldehue**	**1.66**	**34**	*e*P			Pn	03 12 42.8 -0.9
PEL				*e*S			Sn	03 13 03.7 -1.2
PEL				AML			AML	03 13 09.8
	comp=N,2μm,0.5s							

CSEM ***21*** *03:21:42.9±0.4, 35°.87N×4°.28W, h5km, ML1.6, Error ellipse: s-maj=7.6km s-min=4.8km az=175.0*
SFS ***21*** *03:21:43.0, 35°.81N×4°.30W, h0km, ML1.6*
MDD 21 03:21:42.9±2.1, 35°.81N×4°.29W, h0km, mbLg1.6/2, Error ellipse: s-maj=18.6km s-min=10.4km az=15.0, PRXIMO SIN SOLUCIN, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.85**	**333**	P	Pg	03 21 58.0	-1.2
	0.5nm,0.1s,SNR=9.8						
EMIJ				S	Sg	03 22 10.3	0.0
	13nm,0.3s,SNR=7.4						
EMIJ	**Mijas**	**0.85**	**333**	P	Pg	03 21 58.0	-1.2
	0.5nm,0.1s,SNR=9.8						
EMIJ				S	Sg	03 22 10.3	0.0
	13nm,0.3s,SNR=7.4						
EMAL	**Malaga-Limoner**	**0.95**	**353**	*e*P	Pg	03 21 59.8	-1.4
EMAL				*e*S	Sg	03 22 11.4	-2.2
EBER	**Berja**	**1.56**	**46**	P	Pn	03 22 10.8	-1.5
	0.3nm,0.2s,SNR=4.0						
EBER				S	Sn	03 22 25.3	-8.1
	1.9nm,0.3s,SNR=8.9						
EBER	**Berja**	**1.56**	**46**	P	Pn	03 22 10.8	-1.4
	0.3nm,0.2s,SNR=4.0						
EQES	**Quesada**	**2.21**	**26**	P	Pn	03 22 19.4	-1.7
	0.4nm,0.2s,SNR=7.9						
EQES				S	Sn	03 22 47.2	-2.1
	0.9nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.21**	**26**	P	Pn	03 22 19.4	-1.7
	0.4nm,0.2s,SNR=7.9						
EQES				S	Sn	03 22 47.2	-2.1
	0.9nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**2.43**	**338**	S	Sn	03 22 51.7	-2.8
	0.2nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**2.43**	**338**	S	Sn	03 22 51.7	-2.8
	0.2nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**2.69**	**31**	S	Sn	03 22 59.4	-1.8
	1.0nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**2.69**	**31**	S	Sn	03 22 59.4	-1.8
	1.0nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.09**	**305**	P	Pn	03 22 32.1	-0.8
	0.1nm,0.1s,SNR=7.9						
EGRO				S	Sn	03 23 08.3	-2.3
	0.3nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.09**	**305**	P	Pn	03 22 32.1	-0.8
	0.1nm,0.1s,SNR=7.9						
EGRO				S	Sn	03 23 08.3	-2.3
	0.3nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**3.18**	**301**	*e*Pn		Pn	03 22 33.8	-0.4
PVAQ				*e*Sn		Sn	03 23 10.2	-2.7
PVAQ	**Vaqueiros**	**3.18**	**301**	*e*Pn		Pn	03 22 33.8	-0.4
PVAQ				*e*Sn		Sn	03 23 10.2	-2.7

IDC ***21*** *03:22:22.2±0.7, 33°.95S×72°.26W, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.1/25, mbtmp4.1/12, ML3.5/3, MS4.0/11, Ms1 4.0/11, ms1mx3.7/23, Error ellipse: s-maj=24.9km s-min=17.6km az=91.0*
ISCJB ***21*** *03:22:23.4±1.7, 33°.93S±0°.03×72°.50W±0°.05, h22km±12km, mb4.4/23, MS4.0/10, Error ellipse: s-maj=6.8km s-min=5.3km az=169.3*
GUC ***21*** *03:22:25.0±0.6, 33°.97S×72°.40W, h29km±4km, ML4.3*
NEIC ***21*** *03:22:27.3±0.8, 33°.92S×72°.33W, h35km±6km, mb4.6/18, Error ellipse: s-maj=10.4km s-min=5.4km az=78.0*
ISC 21 03:22:24.2±1.8, 33°.93S±0°.05×72°.35W±0°.06, h15km±10km, n67, σ0s62/81, mb4.6/23, MS4.0/10, 6C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.08**	**33**	⇓*i*P		**Pg**	**03 22 45.4**	**+0.4**
TACH	**Talagante**	**1.21**	**77**	⇓*i*P		**Pn**	**03 22 46.6**	**0.0**
TACH				*i* S1		**Sn**	**03 23 03.5**	**+0.8**
NICH	**Los Niches**	**1.41**	**140**	⇑*i*P		**Pn**	**03 22 49.4**	**0.0**
NICH				*i* S		**Sb**	**03 23 08.3**	**+0.1**
ANTU	**Antumapu**	**1.47**	**76**	⇑*i*P		**Pb**	**03 22 51.4**	**0.0**
ANTU				*i* S		**Sg**	**03 23 11.0**	**-0.6**
ANTU				AML		AML	03 23 19.5
	comp=E,4μm,0.6s						
SAN	**Santiago**	**1.48**	**72**	⇓*i*P		**Pb**	**03 22 51.1**	**-0.4**
SAN				*i* S		**Sg**	**03 23 11.6**	**-0.5**
TALC	**Talca**	**1.58**	**158**	⇑*i*P		**Pn**	**03 22 51.6**	**-0.1**
TALC				*i* S		**Sn**	**03 23 12.0**	**+0.1**
PEL	**Peldehue**	**1.59**	**61**	⇓*i*P		**Pb**	**03 22 53.3**	**-0.1**
PEL				*e*S4		**Sg**	**03 23 15.4**	**-0.2**
PEL				AML		AML	03 23 24.6
	comp=N,16μm,0.5s						
CLCH	**Cerro Calan**	**1.60**	**71**	⇑*i*P		**Pb**	**03 22 53.0**	**-0.6**
CLCH				*i* S		**Sg**	**03 23 14.9**	**-0.8**
CLCH				AML		AML	03 23 28.9
	comp=N,5μm,0.6s						
CLCH				AML		AML	03 23 29.4
	comp=N,6μm,0.5s						
SJCH	**San Jose de Ma**	**1.68**	**81**	*e*P9		**Pn**	**03 22 53.3**	**+0.1**
SJCH				*i* S		**Sb**	**03 23 16.1**	**0.0**
SJCH				AML		AML	03 23 23.6
	comp=N,3μm,0.4s						
LNCH	**Linares**	**2.01**	**162**	⇑*i*P		**Pn**	**03 22 58.0**	**+0.4**
LNCH				*i* S		**Sn**	**03 23 23.0**	**+0.5**
CFAA	**Coronel Fontan**	**4.17**	**57**	Pn		**Pn**	**03 23 28.4**	**+1.0**
	comp=N,0.7nm,0.3s,baz=239,slow=12,SNR=11						
CFAA				Lg		Lg	03 24 34.2
	comp=N,2.7nm,0.3s,baz=299,slow=23,SNR=6.9						
CFAA				LR		LR	03 24 37.4
	comp=N,53nm,18.1s,baz=254,slow=33						
LCO	**Las Campanas**	**5.10**	**16**	*e*Pn		**Pn**	**03 23 40.1**	**-0.3**
	comp=N,73nm,0.8s						
LCO				*e*Lg		Lg	03 25 04.6
PLCA	**Paso Flores**	**6.94**	**169**	Pn		**Pn**	**03 24 05.4**	**-0.1**
	comp=N,0.3nm,0.3s,baz=335,slow=12,SNR=11						
PLCA				Lg		Lg	03 25 59.0
	comp=N,0.9nm,0.3s,baz=255,slow=18,SNR=2.8						
PLCA				LR		LR	03 26 41.5
	comp=N,481nm,18.3s,baz=346,slow=38						
PLCA	**Paso Flores**	**6.94**	**169**	*e*Pn		**Pn**	**03 24 05.7**	**+0.2**
	comp=N,25nm,1.2s						
PLCA				Lg		Lg	03 25 59.0
TRQA	**Tornquist**	**9.35**	**119**	*e*Pn		**Pn**	**03 24 41.2**	**+2.7**
	comp=N,38nm,1.1s						
LVC	**Limon Verde**	**11.67**	**16**	*e*Pn		**Pn**	**03 25 11.6**	**+1.0**
LPAZ	**La Paz**	**17.97**	**13**	P		**P**	**03 26 35.6**	**+0.8**
	comp=N,0.2nm,0.3s,baz=190,slow=7.4,SNR=13						
LPAZ	**La Paz**	**17.97**	**13**	*e*P		**P**	**03 26 36.1**	**+1.4**
	comp=N,28nm,1.3s						
SIV	**San Ignacio**	**20.55**	**32**	P		**P**	**03 27 02.1**	**-0.3**
	comp=N,3.8nm,0.8s,baz=232,slow=12,SNR=13						
SIV				LR		LR	03 36 25.0
	comp=N,584nm,18.3s,baz=229,slow=41						
SAML	**Samuel**	**26.25**	**21**	*e*P		**P**	**03 27 59.2**	**+0.2**
	comp=N,20nm,1.4s						
BDFB	**Brasilia**	**28.51**	**56**	P		**P**	**03 28 17.8**	**-1.6**
	comp=N,4.6nm,0.8s,baz=254,slow=6.5,SNR=6.6						
BDFB				LR		LR	03 41 03.8
	comp=N,557nm,18.3s,baz=221,slow=39						
ROSC	**El Rosal**	**38.62**	**357**	LR		LR	03 46 22.0
	comp=N,102nm,18.2s,baz=196,slow=37						
SDV	**Santo Domingo**	**42.61**	**3**	*e*P		**P**	**03 30 19.8**	**-0.4**
	comp=N,9.3nm,1.1s						
SNAA	**Sanae**	**51.75**	**158**	P		**P**	**03 31 30.8**	**+0.1**
	comp=N,3.6nm,0.9s,baz=288,slow=8.2,SNR=5.9						
SNAA	**Sanae**	**51.75**	**158**	*e*P		**P**	**03 31 30.6**	**-0.1**
	comp=N,30nm,1.3s						
QSPA	**South Pole Qui**	**56.31**	**180**	P		**P**	**03 32 05.0**	**+0.8**
	comp=N,3.5nm,0.9s,baz=141,slow=5.8,SNR=7.0						
QSPA	**South Pole Qui**	**56.31**	**180**	*e*P		**P**	**03 32 04.6**	**+0.4**
	comp=N,9.4nm,0.9s						
TBI	**Tubuai**	**67.08**	**257**	*e*LR		LR	03 53 46.5
	comp=N,177nm,29.0s						
LRAL	**Lakeview Retre**	**68.02**	**347**	*e*P		**P**	**03 33 22.4**	**-0.4**
	comp=N,3.2nm,1.0s						
KMSC	**Kings Mountain**	**69.23**	**352**	*e*P		**P**	**03 33 30.5**	**+0.2**
	comp=N,4.6nm,0.9s						
TXAR	**Lajitas Array**	**69.55**	**331**	P		**P**	**03 33 33.7**	**+1.2**
	comp=N,0.6nm,0.8s,baz=153,slow=8.4,SNR=5.0						
TXAR				LR		LR	03 59 27.4
	comp=N,100nm,18.8s,baz=0.0,slow=32						
SWET	**Sewanee**	**69.95**	**348**	*e*P		**P**	**03 33 35.7**	**+0.9**
	comp=N,7.1nm,1.0s						
PPT2	**Papeete2**	**69.99**	**262**	*e*S		SKiKP	03 43 07.9	-14
	comp=N,77nm,23.2s						
PPT2	**Papeete2**	**69.99**	**262**	*e*LR		LR	03 55 14.3
	comp=N,134nm,26.5s						
PPT	**Papeete**	**70.00**	**262**	LR		LR	03 58 04.7
	comp=N,132nm,18.1s,baz=175,slow=31						
ABTX	**Abilene, Hawle**	**71.01**	**336**	*e*P		**P**	**03 33 41.1**	**-0.2**
	comp=N,5.1nm,0.7s						
WVT	**Waverly**	**71.18**	**347**	*e*P		**P**	**03 33 42.3**	**+0.1**
	comp=N,14nm,0.9s						
SUR	**Sutherland**	**75.09**	**119**	*e*P		**P**	**03 34 04.7**	**-1.3**
	comp=N,25nm,1.4s						
LAZ	**Ladron**	**75.40**	**331**	*e*P		**P**	**03 34 07.5**	**0.0**
	comp=N,4.1nm,1.6s						
DBIC	**Dimbokro**	**75.40**	**71**	P		**P**	**03 34 07.9**	**+0.2**
	comp=N,7.5nm,1.0s,baz=180,slow=6.4,SNR=4.3						
DBIC				LR		LR	04 06 15.1
	comp=N,45nm,18.4s,baz=195,slow=35						
ANMO	**Albuquerque**	**75.60**	**332**	*e*P		**P**	**03 34 08.5**	**-0.1**
	comp=N,11nm,1.6s						
WUAZ	**Wupatki**	**78.14**	**328**	*e*P		**P**	**03 34 22.3**	**-0.6**
	comp=N,9.5nm,1.3s						
TSUM	**Tsumeb**	**79.48**	**106**	*e*P		**P**	**03 34 30.8**	**0.0**
	comp=N,7.3nm,1.3s						
BOSA	**Boshof**	**80.33**	**118**	P		**P**	**03 34 34.8**	**-0.4**
	comp=N,3.8nm,0.8s,baz=185,slow=8.8,SNR=6.1						
BOSA				LR		LR	04 06 20.8
	comp=N,42nm,18.1s,baz=168,slow=33						
BOSA	**Boshof**	**80.33**	**118**	*e*P		**P**	**03 34 34.7**	**-0.4**
	comp=N,4.6nm,0.9s						
DUG	**Dugway, Tooele**	**82.68**	**330**	*e*P		**P**	**03 34 46.7**	**-0.4**
	comp=N,42nm,2.2s						
PDAR	**Pinedale Array**	**83.58**	**333**	P		**P**	**03 34 53.0**	**+1.2**
	comp=N,0.1nm,0.6s,baz=190,slow=4.6,SNR=2.2						
NVAR	**Mina Array Bea**	**83.68**	**325**	P		**P**	**03 34 51.9**	**-0.6**
	comp=N,0.4nm,0.8s,baz=149,slow=3.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**84.43**	**70**	P		**P**	**03 34 56.4**	**-0.1**
	comp=N,6.6nm,0.9s,baz=259,slow=4.4,SNR=34						
TORD				LR		LR	04 12 07.5
	comp=N,68nm,18.7s,baz=230,slow=35						
MSKU	**Masuku**	**85.73**	**89**	LR		LR	04 08 46.5
	comp=N,67nm,19.8s,baz=196,slow=32						
YBH	**Yreka Blue Hor**	**88.36**	**325**	LR		LR	04 09 26.5
	comp=N,257nm,21.8s,baz=250,slow=32						
TAM	**Tamanrasset**	**93.03**	**65**	*e*P		**P**	**03 35 37.9**	**+0.3**
	comp=N,3.6nm,1.1s						
WRA	**Warramunga Arr**	**120.70**	**209**	PKP		**PKPdf**	**03 41 15.7**	**-0.5**
	comp=N,0.4nm,0.7s,baz=208,slow=1.3,SNR=3.0						
BRTR	**Keskin Array B**	**122.02**	**61**	PKP		**PKPdf**	**03 41 18.4**	**+0.1**
	comp=N,1.2nm,0.9s,baz=180,slow=1.2,SNR=8.2						
KIEV	**Kiev**	**122.32**	**48**	*e*PKPdf		**PKPdf**	**03 41 17.9**	**-0.3**
PALK	**Pallekele**	**143.62**	**131**	*e*PKPdf		**PKPdf**	**03 41 58.5**	**-0.7**
POO	**Poona**	**146.20**	**108**	*e*P		**PKPab**	**03 42 05.0**	**-0.3**
KBL	**Kabul**	**148.20**	**78**	*e*PKPdf		**PKPdf**	**03 42 06.5**	**-0.1**
KBL				*e*PKPbc		**PKPbc**	**03 42 09.8**	**-0.2**
KBL				*e*PKPab		**PKPab**	**03 42 12.7**	**-0.2**
HYB	**Hyderabad**	**149.19**	**115**	*i* PKP		**PKPbc**	**03 42 12.0**	**-0.7**
KKAR	**Karatay Array**	**149.74**	**61**	*e*PKPbc		**PKPbc**	**03 42 13.3**	**-0.1**
KKAR				*e*PKPab		**PKPab**	**03 42 18.2**	**-0.5**
EKS2	**Erkin-Say**	**152.17**	**62**	*e*PKPbc		**PKPbc**	**03 42 19.2**	**0.0**
EKS2				*e*PKPab		**PKPab**	**03 42 28.9**	**-0.1**
AAK	**Ala-Archa**	**152.70**	**62**	*e*PKPdf		**PKPdf**	**03 42 13.4**	**+0.1**
AAK				*e*PKPbc		**PKiKP**	**03 42 21.0**	**+0.4**
AAK				*e*PKPab		**PKPab**	**03 42 31.3**	**+0.1**
KURK	**Kurchatov**	**153.00**	**43**	*e*PKPdf		**PKPdf**	**03 42 13.6**	**+0.3**
KURK				*e*PKPbc		**PKiKP**	**03 42 20.8**	**0.0**
KURK				*e*PKPab		**PKPab**	**03 42 32.0**	**+0.1**
TKM2	**Tokmak 2**	**153.46**	**61**	*e*PKPdf		**PKPdf**	**03 42 14.9**	**+0.4**
TKM2				*e*PKPbc		**PKiKP**	**03 42 22.3**	**+0.1**
TKM2				*e*PKPab		**PKPab**	**03 42 34.8**	**+0.3**
ZALV	**Zalesovo Beam**	**154.30**	**32**	PKP		**PKPdf**	**03 42 14.8**	**-0.2**
	comp=N,0.4nm,0.4s,baz=260,slow=2.7,SNR=3.7						
ZALV				PKPbc		**PKiKP**	**03 42 24.0**	**+0.7**
	comp=N,6.5nm,0.8s,baz=280,slow=4.1,SNR=17						
MKAR	**Makanchi Array**	**156.91**	**49**	PKP		**PKPdf**	**03 42 18.6**	**-0.2**
	comp=N,0.5nm,0.9s,baz=4.8,slow=1.5,SNR=5.2						
MKAR				PKPab		**PKPab**	**03 42 49.1**	**+0.2**
	comp=N,1.3nm,0.7s,baz=301,slow=3.9,SNR=8.8						
SONM	**Songino Array**	**166.08**	**4**	PKPab		**PKPab**	**03 43 29.8**	**+1.0**
	comp=N,0.9nm,1.0s,baz=7.4,slow=3.1,SNR=5.7						

WEL 21 03:41:25.1±0.3, 39°.64S×174°.22E, h208km±2km, ML3.5/14, 3C-5D, Error ellipse: s-maj=2.8km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.60**	**102**	PN	Pn	03 41 54.0	+0.5
WAZ				SN	S	03 42 15.0	-0.7
PKVZ	**Pokaka**	**0.94**	**69**	PN	Pn	03 41 55.1	-0.3
PKVZ				SN	S	03 42 17.4	-1.3
MTVZ	**Mangateitei**	**1.00**	**76**	PN	Pn	03 41 55.7	-0.1
MTVZ				SN	S	03 42 18.2	-1.3
TRVZ	**Turoa**	**1.08**	**72**	⇓PN	Pn	03 41 56.3	-0.3
TRVZ				SN	S	03 42 19.0	-1.8
WNVZ	**Wahianoa**	**1.11**	**74**	⇓PN	Pn	03 41 56.5	-0.1
WPVZ	**Whakapapa**	**1.11**	**68**	PN	Pn	03 41 56.2	-0.5
DUWZ	**D'Urville Isla**	**1.19**	**191**	PN	Pn	03 41 57.1	+0.1
KIW	**Kapiti Island**	**1.33**	**157**	PN	Pn	03 41 58.1	0.0
OGWZ	**Otaki Gorge**	**1.39**	**149**	⇑PN	Pn	03 41 58.7	+0.2
TSZ	**Takapari Road**	**1.41**	**108**	PN	Pn	03 41 58.8	0.0
BHHZ	**Black Hill Sta**	**1.43**	**85**	PN	Pn	03 41 58.3	-0.7
MRZ	**Mangatainoka R**	**1.46**	**135**	PN	Pn	03 41 59.2	0.0
PNHZ	**Pukenui**	**1.55**	**101**	PN	Pn	03 41 60.0	0.0
TCW	**Tory Channel**	**1.57**	**178**	PN	Pn	03 42 00.3	+0.2
TCW				AML	AML	03 42 27.6
HOWZ	**Holdsworth Sta**	**1.60**	**142**	PN	Pn	03 42 00.2	-0.2
CAW	**Cannon Point**	**1.61**	**156**	PN	Pn	03 42 00.3	-0.1
KRHZ	**Kereru**	**1.66**	**91**	PN	Pn	03 42 00.9	-0.1
NNZ	**Nelson**	**1.70**	**202**	⇑PN	Pn	03 42 01.1	-0.2
TIWZ	**Tintock**	**1.71**	**132**	AML	AML	03 42 30.2
TIWZ				AML	AML	03 42 30.4
QRZ	**Quartz Range**	**1.76**	**227**	PN	Pn	03 42 00.8	-1.0
TUWZ	**Tuamarina**	**1.80**	**187**	PN	Pn	03 42 02.2	-0.1
MTW	**Mount Morrison**	**1.81**	**148**	PN	Pn	03 42 02.0	-0.3
BKZ	**Black Stump Fm**	**1.82**	**76**	⇓PN	Pn	03 42 01.8	-0.7
MCHZ	**McNeill Hill**	**1.93**	**85**	⇓PN	Pn	03 42 03.9	+0.4
MSWZ	**Moikau Station**	**1.94**	**156**	PN	Pn	03 42 03.2	-0.4
KAHZ	**Kahuranaki**	**2.06**	**95**	PN	Pn	03 42 05.0	+0.2
PXZ	**Pawanui**	**2.07**	**102**	⇓PN	Pn	03 42 05.0	+0.1
NMHZ	**Naumai**	**2.08**	**76**	PN	Pn	03 42 05.3	+0.2
PLWZ	**Palliser**	**2.09**	**158**	PN	Pn	03 42 04.7	-0.4
BSWZ	**Blackbirch Sta**	**2.09**	**187**	PN	Pn	03 42 05.5	+0.4
ARHZ	**Aropaoanui**	**2.18**	**81**	PN	Pn	03 42 06.2	+0.1
THZ	**Tophouse**	**2.35**	**205**	PN	Pn	03 42 07.3	-0.6
WHHZ	**Waihua**	**2.40**	**77**	PN	Pn	03 42 08.1	-0.3
KNZ	**Kokohu**	**2.75**	**78**	PN	Pn	03 42 11.5	-0.7
DSZ	**Denniston Nort**	**2.79**	**220**	⇑PN	Pn	03 42 11.7	-1.1
KHZ	**Kahutara**	**2.82**	**190**	PN	Pn	03 42 12.5	-0.5
MWZ	**Matawai**	**2.89**	**64**	PN	Pn	03 42 12.4	-1.6
MHGZ	**Mahia Peninsul**	**2.90**	**82**	PN	Pn	03 42 13.8	-0.2
RIGZ	**Rimuhau**	**2.91**	**72**	PN	Pn	03 42 13.3	-0.9
HAZ	**Te Kaha**	**3.36**	**57**	PN	Pn	03 42 16.9	-2.5
LTZ	**Lake Taylor**	**3.47**	**204**	PN	Pn	03 42 19.4	-1.3
OXZ	**Oxford**	**4.03**	**203**	PN	Pn	03 42 25.7	-1.9
MQZ	**McQueen's Vall**	**4.23**	**196**	PN	Pn	03 42 28.2	-1.8

ISCJB ***21*** *03:49:00.9±1.2, 8°.15S±0°.05×107°.23E±0°.04, h28km±10km, Error ellipse: s-maj=8.6km s-min=6.8km az=172.5*
DJA ***21*** *03:49:01.8±0.7, 8°S±4°×10°7E±°, h23km±7km, M3.8/8, MLv3.8/8*
ISC 21 03:49:01.3±1.6, 8°.13S±0°.06×107°.24E±0°.04, h27km±15km, n11, σ0s78/17, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.81**	**45**	P	**Pb**	**03 49 16.7**	**-0.1**
CISI				S	**Sb**	**03 49 26.8**	**-0.6**
CISI	**Cisompet, Garu**	**0.81**	**45**	P	**Pb**	**03 49 16.8**	**-0.1**
	baz=35,SNR=111						
CMJI	**Cimerak**	**1.25**	**74**	P	**Pn**	**03 49 22.7**	**-0.3**
CMJI				S	**Sn**	**03 49 37.6**	**-1.4**
SKJI	**Sukabumi**	**1.30**	**329**	P	**Pn**	**03 49 23.7**	**-0.1**
SKJI				S	**Sn**	**03 49 40.2**	**-0.1**
LEM	**Lembang**	**1.35**	**16**	P	**Pb**	**03 49 25.4**	**-0.6**
LEM				S	**Sb**	**03 49 43.8**	**+0.9**
LEM	**Lembang**	**1.35**	**16**	P	**Pb**	**03 49 26.1**	**0.0**
	baz=35,SNR=8.6						
KPJI	**Karang Pucung**	**1.86**	**65**	P	**Pn**	**03 49 32.6**	**+1.2**
KPJI				S	**Sn**	**03 49 54.7**	**+0.7**
CGJI	**Cibinong**	**2.15**	**314**	P	**Pn**	**03 49 36.3**	**+0.9**
CGJI				S	**Sn**	**03 50 00.1**	**-1.1**
XMI	**Christmas Isla**	**2.77**	**213**	P	**Pn**	**03 49 44.5**	**+0.5**
	baz=37,SNR=3.3						
XMIS	**Christmas Isla**	**2.81**	**214**	P	**Pn**	**03 49 44.8**	**+0.2**
	baz=38,SNR=12						
UGM	**Wanagama**	**3.26**	**86**	P	**Pn**	**03 49 51.2**	**+0.4**

SKHL 21 03:50:12.8±0.5, 44°.37N×147°.99E, h30km, mb4.1/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.87**	**354**	*e*P	Pn	03 50 27.4	-1.5
KUR				AMB	AMB	03 50 27.9
	80nm,0.4s						
KUR				*e*S	Sn	03 50 38.8	-1.8
KUR				A	A	03 50 41.1
	70nm,0.3s						
KUR				A	A	03 50 41.1
	179nm,0.3s						
SHO	**Shikotan**	**0.97**	**240**	*e*P	Pn	03 50 28.9	-1.5
SHO				*e*S	Sn	03 50 40.7	-2.5
YUK	**Yuzh-Kuril'sk**	**1.57**	**258**	*e*P	Pn	03 50 38.4	-0.1
YUK				AMB	AMB	03 50 39.5
	36nm,0.1s						
YUK				*e*S	Sn	03 50 57.4	-0.4
YUK				A	A	03 51 04.1
	84nm,0.3s						
YUK				A	A	03 51 04.1
	101nm,0.3s						

ISCJB ***21*** *04:05:44.8±1.4, 33°.22S±0°.04×72°.49W±0°.06, h17km±10km, mb3.9/10, MS3.1/2, Error ellipse: s-maj=9.0km s-min=6.2km az=167.2*
IDC ***21*** *04:05:44.5±1.3, 33°.25S×72°.29W, h0km, mb3.5/3, mb1 4.0/6, mb1mx3.8/23, mbtmp3.7/6, ML4.0/3, MS2.8/3, Ms1 2.8/3, ms1mx2.7/17, Error ellipse: s-maj=32.2km s-min=30.3km az=63.0*
GUC ***21*** *04:05:46.0±0.7, 33°.28S×72°.45W, h23km±7km, ML4.2*
NEIC ***21*** *04:05:46.7±3.6, 33°.23S×72°.30W, h16km±22km, mb4.1/8, Error ellipse: s-maj=15.2km s-min=6.7km az=83.0*
ISC 21 04:05:45.0±1.8, 33°.24S±0°.04×72°.41W±0°.06, h8km±11km, n30, σ0s79/39, mb4.1/10, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.68**	**72**	⇓*i*P		**Pg**	**04 05 59.3**	**+1.2**
IHA				*i* S1		**Sb**	**04 06 09.4**	**+0.8**
LNV	**Longovilo**	**1.09**	**131**	⇑*i*P		**Pb**	**04 06 05.5**	**-0.7**
LNV				*e*S1		**Sb**	**04 06 19.5**	**-1.1**
PEL	**Peldehue**	**1.45**	**87**	⇓*i*P		**Pn**	**04 06 11.5**	**0.0**
PEL				*i* S		**Sb**	**04 06 31.4**	**+0.5**
PEL				AML	AML	04 06 34.9
	comp=E,8μm,0.4s						
ANTU	**Antumapu**	**1.52**	**103**	*e*P		**Pn**	**04 06 12.8**	**+0.3**
ANTU				*i* S		**Sn**	**04 06 32.5**	**-0.1**
ANTU				AML	AML	04 06 40.1
	comp=E,3μm,0.6s						
CLCH	**Cerro Calan**	**1.57**	**96**	⇑*i*P		**Pn**	**04 06 13.2**	**-0.2**
CLCH				*i* S		**Sn**	**04 06 34.1**	**+0.1**
CLCH				AML	AML	04 06 42.5
	comp=N,4μm,0.8s						
CLCH				AML	AML	04 06 43.1
	comp=N,5μm,0.8s						
CACH	**El Canelo**	**1.74**	**121**	⇓*i*P		**Pn**	**04 06 16.2**	**+0.5**
NICH	**Los Niches**	**2.01**	**151**	⇓*i*P		**Pn**	**04 06 19.5**	**+0.3**
NICH				*i* S		**Sn**	**04 06 45.2**	**+0.7**
TALC	**Talca**	**2.24**	**164**	*e*P		**Pn**	**04 06 22.4**	**0.0**
TALC				*i* S1		**Sn**	**04 06 50.4**	**0.0**
CFAA	**Coronel Fontan**	**3.88**	**66**	Pn		**Pn**	**04 06 46.2**	**+1.1**
	comp=N,0.2nm,0.3s,baz=241,slow=13,SNR=19						
CFAA				LR		LR	04 07 41.3
	comp=N,15nm,21.7s,baz=322,slow=31						
CFAA				Lg		Lg	04 07 44.0
	comp=N,1.2nm,0.3s,baz=187,slow=18,SNR=4.5						
LCO

JHE	**Heguri**	0.79	29	P		**Pb**	04 21 04.4	+0.4
JHE				S		**Sb**	04 21 15.1	+0.4
JKN2	**Miekihoku**	0.92	73	P		**Pn**	04 21 06.8	-0.3
JKN2				S		**Sb**	04 21 19.2	+0.8
MAT	**Matsushiro**	3.55	43	P		**Pn**	04 21 44.2	+0.9
MAT				*e*S		**Sn**	04 22 25.7	+0.4
MJAR	**Matsushiro Arr**	3.55	43	Pn		**Pn**	04 21 44.3	+0.9
	0.9nm,0.3s,baz=236,slow=14,SNR=12							
MJAR				Pg		**Pg**	04 21 54.4	-1.8
	2.3nm,0.3s,baz=236,slow=14,SNR=17							
MJAR				Lg		Lg	04 22 38.9	
	3.2nm,0.3s,baz=222,slow=29,SNR=9.7							
JNU	**Nakatsue**	3.72	258	Pn		**Pn**	04 21 46.0	+0.3
	4.4nm,0.3s,baz=56,slow=5.2,SNR=21							
JNU				Pg		**Pg**	04 21 57.7	-1.7
	32nm,0.3s,baz=49,slow=6.1,SNR=54							
JNU				Lg		Lg	04 22 45.8	
	7.7nm,0.3s,baz=13,slow=14,SNR=1.9							
KSRS	**Korea Array**	6.88	302	Pn		**Pn**	04 22 30.4	+1.3
	0.6nm,0.3s,baz=121,slow=14,SNR=5.6							
KSRS				Sn		**Sn**	04 23 47.0	-0.3
	0.7nm,0.3s,baz=119,slow=24,SNR=5.3							
SONM	**Songino Array**	25.64	311	P		**P**	04 26 18.0	0.0
	1.3nm,0.8s,baz=125,slow=9.4,SNR=8.4							
H11N2	**WAKE ISLAND Hy**	31.48	109	T		T	04 59 40.0	
	baz=303,slow=74,SNR=11							
H11N1	**WAKE ISLAND Hy**	31.48	109	T		T	04 59 37.8	
	baz=303,slow=74,SNR=6.3							
H11N3	**WAKE ISLAND Hy**	31.49	109	T		T	04 59 37.2	
	baz=303,slow=74,SNR=6.8							
H11S3	**WAKE ISLAND Hy**	32.00	111	T		T	05 00 16.6	
	baz=304,slow=75,SNR=11							
H11S1	**WAKE ISLAND Hy**	32.00	111	T		T	05 00 28.9	
	baz=304,slow=75,SNR=8.3							
H11S2	**WAKE ISLAND Hy**	32.02	111	T		T	05 00 18.9	
	baz=304,slow=75,SNR=6.6							
MKAR	**Makanchi Array**	41.55	304	P		**P**	04 28 36.0	+0.1
	0.5nm,0.6s,baz=84,slow=12,SNR=9.3							
WRA	**Warramunga Arr**	53.62	181	P		**P**	04 30 09.6	-0.1
	2.3nm,0.5s,baz=357,slow=7.8,SNR=22							
ILAR	**Eielson Array**	54.75	31	P		**P**	04 30 17.5	0.0
	0.2nm,0.7s,baz=270,slow=5.6,SNR=4.4							
ASAR	**Alice Springs**	57.33	181	P		**P**	04 30 36.4	0.0
	1.0nm,0.6s,baz=12,slow=14,SNR=23							
YKA	**Yellowknife Ar**	68.93	28	P		**P**	04 31 53.4	+0.4
	0.4nm,0.9s,baz=287,slow=6.4,SNR=6.9							
FINES	**FINESS Array B**	69.10	331	P		**P**	04 31 53.5	-0.5
	1.4nm,0.9s,baz=352,slow=3.9,SNR=3.7							

MAN 21 04:27:34,18°.62N×120°.93E,h34km,mb4.0,ML2.8,MS2.5, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	0.41	225	⇑*i*P	Pn	04 27 44.6	+0.9
PIP				*e*S	Sn	04 27 50.0	-0.1
APYP	**Conner**	0.81	158	*e*P	Pb	04 27 49.7	0.0
APYP				*e*S	Sn	04 27 58.8	-1.0
SIPP	**Brgy, Tapao**	0.82	213	⇓*e*P	Pb	04 27 50.8	+0.8
SIPP				*e*S	Sb	04 28 01.2	+0.4
ABRA	**Dolores**	0.99	192	*e*P	Pb	04 27 52.3	-0.3
ABRA				*e*S	Sn	04 28 02.2	-2.0

BJI ***21*** *04:29:12.8,14°.91S×177°.09W,h339km,mB5.1/17, mb4.6/28*
ISCJB ***21*** *04:29:17.8±0.2,14°.92S±0°.06×177°.64W±0°.04,h372km, mb4.7/95,Error ellipse: s-maj=9.2km s-min=4.3km az=153.7*
MOS ***21*** *04:29:17.5±1.3,15°.03S×177°.56W,h373km,mb4.8/27, Error ellipse: s-maj=12.0km s-min=8.1km az=60.2*
IDC ***21*** *04:29:23.7±3.7,14°.88S×177°.64W,h422km±37km, mb4.0/14,mb1 4.2/15,mb1mx4.1/29,mbtmp4.7/15,Error ellipse: s-maj=18.8km s-min=13.8km az=126.0*
NEIC ***21*** *04:29:24.2±1.2,14°.89S×177°.71W,h428km±13km, mb4.7/81,Error ellipse: s-maj=9.3km s-min=4.5km az=149.0*

ISC 21 04:29:18.2±0.3,14°.98S±0°.07×177°.47W±0°.06,h372km, n440,σ1°.24/425,mb4.8/95,26C-45D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	5.09	237	*e*P	**Pn**	04 30 42.1	+2.1
MSVF	**Nonsavu**	5.09	237	*e*Pn	**Pn**	04 30 42.1	+2.1
AFI	**Afiamalu**	5.62	80	*e*P	**Pn**	04 30 44.3	-1.4
AFI	**Afiamalu**	5.62	80	*e*Pn	**Pn**	04 30 44.3	-1.4
NIUE	**Niue**	8.29	120	P	**Pn**	04 31 16.5	+0.4
	baz=8.0,SNR=4.0						
DZM	**Mont Dzumac**	16.79	243	P	**Pn**	04 32 54.8	-0.6
	3.1nm,0.3s,baz=62,slow=17,SNR=27						
DZM	**Mont Dzumac**	16.79	243	*e*P	**Pn**	04 32 55.0	-0.4
	18nm,0.6s						
OUZ	**Omahuta**	21.69	200	*e*P	**P**	04 33 42.0	+2.0
	52nm,0.6s						
URZ	**Urewera**	23.68	191	P	**P**	04 33 54.5	-3.5
	16nm,0.7s,baz=33,slow=2.9,SNR=12						
URZ	**Urewera**	23.68	191	*e*P	**P**	04 33 55.1	-2.8
	19nm,0.8s						
ARMA	**Armidale**	32.24	236	P	P	04 35 17.3	+3.6
	baz=32,SNR=4.7						
CTAO	**Charters Tower**	34.91	256	*e*P	**P**	04 35 36.0	-0.6
CTAO	**Charters Tower**	34.91	256	*e*P	**P**	04 35 36.0	-0.6
MTSU	**Mount Surprise**	36.72	260	S	**S**	04 41 04.4	-3.2
	baz=37,SNR=8.8						
QLP	**Quilpie**	37.48	246	P	**P**	04 35 57.7	-0.2
	baz=38,SNR=13						
COEN	**Coen**	38.09	266	P	**P**	04 36 04.3	+1.2
	baz=38,SNR=9.6						
COEN	**Coen**	38.09	266	*e*P	**P**	04 36 03.7	+0.5
BBOO	**Buckleboo**	45.65	239	P	**P**	04 37 03.3	-0.1
	baz=46,SNR=8.6						
WB2	**Warramunga Arr**	46.10	257	*e*P	**P**	04 37 05.7	-1.4
WB2				*e*PcP	**PcP**	04 38 36.7	+0.3
WRAB	**Tennant Creek**	46.10	257	⇑*e*P	**P**	04 37 06.1	-1.0
WRAB				pmax	pmax		
	comp=Z,21nm,1.2s						
WRAB	**Tennant Creek**	46.10	257	*e*P	**P**	04 37 06.5	-0.7
	comp=Z,147nm,3.0s						
WRA	**Warramunga Arr**	46.11	257	*i*P	**P**	04 37 06.5	-0.7
WRA	**Warramunga Arr**	46.11	257	P	**P**	04 37 06.3	-0.9
	comp=Z,2.6nm,0.7s,baz=90,slow=7.1,SNR=22						
WRA				PcP	**PcP**	04 38 36.9	+0.4
	comp=Z,4.3nm,0.7s,baz=84,slow=3.8,SNR=16						
WRA				S	**S**	04 43 21.1	-3.5
	comp=Z,0.4nm,0.8s,baz=93,slow=14,SNR=2.7						
AS31	**Alice Springs**	46.51	252	*e*P	**P**	04 37 09.7	-0.6
ASAR	**Alice Springs**	46.51	252	P	**P**	04 37 10.1	-0.2
	comp=Z,22nm,0.8s,baz=83,slow=8.2,SNR=286						
ASAR				PcP	**PcP**	04 38 37.9	+0.1
	comp=Z,2.7nm,0.7s,baz=88,slow=4.8,SNR=7.3						
ASAR				S	**S**	04 43 27.8	-2.3
	comp=Z,2.5nm,1.0s,baz=86,slow=16,SNR=11						
KDU	**Kakadu**	48.58	266	P	**P**	04 37 26.2	+0.3
	baz=49,SNR=8.0						
MTN	**Manton Dam**	49.84	266	P	**P**	04 37 35.5	0.0
	baz=50,SNR=4.8						
WRKA	**Warakurna**	51.64	250	P	**P**	04 37 48.6	-0.1
	baz=52,SNR=56						
WRKA				S	**S**	04 44 40.6	-0.3
	baz=52,SNR=3.3						
KNRA	**Kununurra**	51.74	262	P	**P**	04 37 49.1	-0.3
	baz=52,SNR=6.3						
FORT	**Forrest**	52.11	243	*e*P	**P**	04 37 51.1	-0.9
	comp=Z,19nm,0.6s						
SOEI	**Soe**	57.02	268	P	**P**	04 38 28.6	+1.4
	baz=57,SNR=5.8						
SOEI	**Soe**	57.02	268	*e*P	**P**	04 38 28.9	+1.7
	comp=Z,23nm,0.9s						
MEEK	**Meekatharra**	60.34	248	P	**P**	04 38 49.1	-0.5
	baz=61,SNR=4.6						
KAPI	**Kappang**	62.44	272	*e*P	**P**	04 39 02.9	-0.8
	comp=Z,19nm,0.7s						
VNDA	**Vanda**	63.42	185	*e*P	**P**	04 39 10.8	+1.8
VNDA	**Vanda**	63.42	185	P	**P**	04 39 10.3	+1.4
	comp=Z,3.1nm,0.6s,baz=358,slow=7.5,SNR=39						
VNDA	**Vanda**	63.42	185	*e*P	**P**	04 39 10.8	+1.8
MJAR	**Matsushiro Arr**	66.14	322	P	**P**	04 39 26.2	-0.8
	comp=Z,4.0nm,0.7s,baz=148,slow=5.6,SNR=7.7						
MAJO	**Matsushiro**	66.14	322	*e*P	**P**	04 39 26.6	-0.4
MAJO				pmax	pmax		
	comp=Z,18nm,1.0s						
MAJO	**Matsushiro**	66.14	322	*e*P	**P**	04 39 26.6	-0.4
	comp=Z,18nm,1.0s						
FX1	**Attu Island--F**	68.07	354	*e*P	**P**	04 39 38.6	0.0
FX1	**Attu Island--F**	68.07	354	*e*P	**P**	04 39 38.6	0.0
KKM	**Kota Kinabalu**	68.95	283	*e*P	**P**	04 39 45.3	+0.3
	comp=Z,8.9nm,0.7s						
YULB	**Yu-li**	70.98	302	*e*P	**P**	04 39 54.3	-2.6
	comp=Z,16nm,1.0s						
PETK	**Petropavlovsk-**	71.11	344	P	**P**	04 39 57.2	+0.3
	comp=Z,19nm,0.8s,baz=135,slow=9.0,SNR=26						
YSS	**Yuzh-Sakhalins**	71.24	332	⇑*e*P	**P**	04 39 58.8	+0.9
YSS	**Yuzh-Sakhalins**	71.24	332	*e*P	**P**	04 39 57.5	-0.3
KSRS	**Korea Array**	73.15	317	P	**P**	04 40 09.4	+0.1
	comp=Z,2.0nm,0.9s,baz=146,slow=7.3,SNR=4.7						
KSAR	**Wonju Array Be**	73.17	317	P	**P**	04 40 09.4	0.0
KSAR	**Wonju Array Be**	73.17	317	P	**P**	04 40 09.4	0.0
SAO	**San Andreas Ge**	73.70	44	*e*P	**P**	04 40 14.3	+1.8
SAO	**San Andreas Ge**	73.70	44	*e*P	**P**	04 40 14.3	+1.8
	comp=Z,18nm,1.0s						
HOPS	**Hopland Field**	73.89	41	*e*P	**P**	04 40 14.8	+1.2
	comp=Z,34nm,1.1s						
KIPM	**Iron Peak**	74.11	40	*e*P	**P**	04 40 16.5	+1.6
	comp=Z,60nm,1.7s						
KMRM	**Mail Ridge**	74.21	40	*e*P	**P**	04 40 17.5	+2.1
	comp=Z,79nm,0.9s						
OHAK	**Old Harbor**	74.69	13	*e*P	**P**	04 40 17.4	-0.2
	comp=Z,27nm,0.8s						
MWC	**Mount Wilson**	74.71	48	*e*P	**P**	04 40 19.5	+0.8
MWC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MWC	**Mount Wilson**	74.71	48	*e*P	**P**	04 40 19.4	+0.8
	comp=Z,8.7nm,0.7s						
QSPA	**South Pole Qui**	75.06	180	*e*P	**P**	04 40 20.7	+0.8
	comp=Z,24nm,1.2s						
CMB	**Columbia Colle**	75.11	43	*e*P	**P**	04 40 21.6	+1.0
CMB				pmax	pmax		
	comp=Z,24nm,1.1s						
CMB	**Columbia Colle**	75.11	43	*e*P	**P**	04 40 21.6	+1.0
	comp=Z,24nm,1.1s						
WDC	**Whiskeytown Da**	75.14	40	*e*P	**P**	04 40 21.7	+1.0
WDC				pmax	pmax		
	comp=Z,28nm,1.1s						
WDC	**Whiskeytown Da**	75.14	40	*e*P	**P**	04 40 21.7	+1.0
	comp=Z,28nm,1.1s						
ISA	**Isabella, Lake**	75.15	46	*e*P	**P**	04 40 22.2	+1.3
ISA	**Isabella, Lake**	75.15	46	*e*P	**P**	04 40 22.2	+1.3
KDAK	**Kodiak Island**	75.36	13	*i*P	**P**	04 40 21.8	+0.3
YBH	**Yreka Blue Hor**	75.70	39	*e*P	**P**	04 40 25.7	+1.8
YBH				pmax	pmax		
	comp=Z,27nm,0.9s						
YBH	**Yreka Blue Hor**	75.70	39	*e*P	**P**	04 40 25.7	+1.8
	comp=Z,27nm,0.9s						
HABR	**Khabarovsk**	75.94	330	*e*P	P	04 40 34.7	+10
HABR				*e*		04 43 18.0	
HABR				*e*PPP	PPP	04 45 06.6	
HABR				pmax	pmax		
	comp=Z,40nm,1.7s						
HABR				MLR	MLR		
	comp=Z,74nm,20.0s						
WAKR	**Walker**	75.99	43	*e*P	**P**	04 40 27.0	+1.3
HUMO	**Hull Mountain**	76.06	38	*e*P	**P**	04 40 27.9	+2.0
DAC	**Darwin (Calif)**	76.08	46	*e*P	**P**	04 40 27.3	+1.0
DAC	**Darwin (Calif)**	76.08	46	*e*P	**P**	04 40 27.3	+1.0
GSC	**Goldstone, Bar**	76.14	47	*e*P	**P**	04 40 27.5	+1.0
GSC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GSC	**Goldstone, Bar**	76.14	47	*e*P	**P**	04 40 27.5	+1.0
	comp=Z,8.1nm,1.1s						
MDJ	**Mudanjiang**	76.34	324	P	**P**	04 40 29.1	+1.8
MDJ				PMZ			
	comp=Z,810nm,5.2s						
NVAR	**Mina Array Bea**	76.70	44	P	**P**	04 40 30.9	+1.1
	comp=Z,13nm,1.0s,baz=229,slow=9.1,SNR=58						
NJ2	**Nanjing**	76.81	309	*e*P	**P**	04 40 30.6	+0.5
NJ2				PMZ			
	comp=Z,60nm,0.6s						
LDFC	**Landfair**	77.25	48	*e*P	**P**	04 40 34.3	+1.6
	comp=Z,36nm,1.1s						
TPH	**Tonopah**	77.25	45	*e*P	**P**	04 40 33.8	+1.1
TPH				pmax	pmax		
	comp=Z,21nm,1.2s						
TPH	**Tonopah**	77.25	45	*e*P	**P**	04 40 33.8	+1.1
	comp=Z,22nm,1.2s						
MOD	**Modoc Plateau**	77.28	40	*e*P	**P**	04 40 33.8	+1.1
	comp=Z,18nm,1.2s						
TPNV	**Topopah Spring**	77.35	46	*e*P	**P**	04 40 32.7	-0.6
TPNV				pmax	pmax		
	comp=Z,13nm,0.9s						
TPNV	**Topopah Spring**	77.35	46	*e*P	**P**	04 40 32.6	-0.6
	comp=Z,13nm,0.9s						
K05A	**Summer Lake**	77.38	39	*e*P	**P**	04 40 34.7	+1.4
	comp=Z,24nm,1.0s						
RSO	**Redoubt South**	77.77	12	*e*P	**P**	04 40 34.3	-0.7
SHPR	**Sheep Range**	77.90	47	*e*P	**P**	04 40 37.6	+1.3
PINOR	**Pine Mountain**	78.00	38	*e*P	**P**	04 40 38.0	+1.7
	comp=Z,37nm,1.1s						
CN2	**Changchun**	78.28	322	*e*P	**P**	04 40 39.0	+1.0
BMN	**Battle Mountai**	78.46	43	*e*P	**P**	04 40 40.1	+0.9
BMN				pmax	pmax		
	comp=Z,13nm,0.8s						
BMN	**Battle Mountai**	78.46	43	*e*P	**P**	04 40 40.1	+0.9
	comp=Z,13nm,0.8s						
R11A	**Troy Canyon, C**	78.50	45	*e*P	**P**	04 40 40.3	+0.8
FL2	**Flat Top 2**	78.52	36	P	**P**	04 40 41.0	+1.6
WVOR	**Wild Horse Val**	78.61	40	*e*P	**P**	04 40 41.0	+1.0
WVOR				pmax	pmax		
	comp=Z,13nm,1.0s						
WVOR	**Wild Horse Val**	78.61	40	*e*P	**P**	04 40 41.0	+1.0
	comp=Z,13nm,1.0s						
GAMB	**Gambell**	78.64	3	*e*P	**P**	04 40 40.0	+0.6
	comp=Z,37nm,1.4s						
MNAI	**Manna**	78.82	268	*e*P	P	04 40 38.1	-3.5
	comp=Z,120nm,1.0s						
I07A	**Izee**	78.97	38	*e*P	**P**	04 40 43.1	+1.3
	comp=Z,14nm,0.9s						
RC01	**Rabbit Creek A**	78.98	13	*e*P	**P**	04 40 41.2	-0.1
	comp=Z,30nm,1.4s						
QIZ	**Qiongzhong**	79.11	293	P	**P**	04 40 43.5	+0.5
QIZ				pP	pP	04 41 59.5	-7.8
QIZ				sP	sP	04 42 33.9	-13
QIZ				S	**S**	04 50 14.1	+2.8
QIZ				ScS	**ScS**	04 50 33.4	+2.5
QIZ				sS	sS	04 52 28.8	-12
QIZ				PMZ			
	comp=Z,7.0nm,1.4s						
QIZ				PMZ			
	comp=Z,53nm,6.5s						
TUC	**Tucson**	79.21	52	*e*P	**P**	04 40 45.0	+1.6
TUC				pmax	pmax		
	comp=Z,13nm,1.0s						
TUC	**Tucson**	79.21	52	*e*P	**P**	04 40 45.0	+1.6
	comp=Z,13nm,1.0s						
D05A	**Enumclaw**	79.30	35	*e*P	**P**	04 40 45.2	+1.8
	comp=Z,94nm,1.7s						
PMR	**Palmer**	79.56	13	*e*P	**P**	04 40 44.4	0.0
PMR	**Palmer**	79.56	13	*e*P	**P**	04 40 44.4	0.0
BLTW	**Bickleton**	79.59	37	P	**P**	04 40 46.2	+1.2
TRW	**Toppenish Ridg**	79.60	36	P	**P**	04 40 46.4	+1.3
CCUT	**Cedar City**	79.66	47	*e*P	**P**	04 40 47.5	+1.6
	comp=Z,8.1nm,0.8s						
NAC	**Naches**	79.69	36	P	**P**	04 40 46.7	+1.2
ARUT	**Antelope Range**	79.72	46	*e*P	**P**	04 40 46.9	+0.8
ARUT	**Antelope Range**	79.72	46	*e*P	**P**	04 40 46.9	+0.8
	comp=Z,82nm,0.7s						
DIV	**Divide**	79.95	15	*e*P	**P**	04 40 45.0	-1.7
	comp=Z,19nm,0.7s						
G08A	**Pilot Rock**	79.96	38	*e*P	**P**	04 40 48.4	+1.3
LTY	**Liberty**	80.08	35	*e*P	**P**	04 40 48.4	+0.8
	comp=Z,7.9nm,0.9s						
BMRM	**Bremner River**	80.11	16	*e*P	**P**	04 40 47.2	-0.2
	comp=Z,41nm,1.4s						
E07A	**Sunnyside**	80.14	36	*e*P	**P**	04 40 49.1	+1.2
	comp=Z,16nm,0.8s						
WUAZ	**Wupatki**	80.16	49	*e*P	**P**	04 40 50.4	+1.9
HAWA	**Hanford**	80.23	37	*e*P	**P**	04 40 49.3	+1.0
ETW	**Entiat**	80.46	35	P	**P**	04 40 50.5	+0.7
CAST	**Castle Rocks**	80.60	11	*e*P	**P**	04 40 49.2	-0.8
TNA	**Tin City**	80.63	4	*e*P	**P**	04 40 50.6	+0.7
	comp=Z,46nm,0.8s						
BMO	**Blue Mountains**	80.71	39	*e*P	**P**	04 40 51.8	+0.7
BMO				pmax	pmax		
	comp=Z,11nm,1.1s						
BMO	**Blue Mountains**	80.71	39	*e*P	**P**	04 40 51.8	+0.7
	comp=Z,11nm,1.1s						
WTV	**Waterville**	80.73	35	P	**P**	04 40 51.5	+0.5
MFID	**Camas Ranch**	80.88	41	*e*P	**P**	04 40 53.2	+1.2
	comp=Z,16nm,1.2s						
MVU	**Marysvale**	80.91	46	*e*P	**P**	04 40 54.1	+1.7
	comp=Z,10nm,0.9s						
KTH	**Kantishna Hill**	80.94	12	*e*P	**P**	04 40 50.3	-1.5
	comp=Z,15nm,0.9s						
TRF	**Thorofare Moun**	80.98	12	*e*P	**P**	04 40 51.6	-0.5
	comp=Z,33nm,0.8s						
SAW	**Saint Andrews**	81.04	35	P	**P**	04 40 53.2	+0.6
E09A	**Wood Farm, Sta**	81.10	37	*e*P	**P**	04 40 53.5	+0.6
DUG	**Dugway, Tooele**	81.28	44	*e*P	**P**	04 40 55.1	+0.9
DUG				pmax	pmax		
	comp=Z,9.0nm,1.0s						
DUG	**Dugway, Tooele**	81.28	44	*e*P	**P**	04 40 55.1	+0.9
	comp=Z,8.7nm,1.0s						
F10A	**Beach Ranch, E**	81.35	38	*e*P	**P**	04 40 54.8	+0.5
	comp=Z,15nm,0.8s						
BGU	**Big Grassy Mou**	81.47	44	*e*P	**P**	04 40 56.4	+1.2
MCK	**McKinley**	81.51	12	*e*P	**P**	04 40 54.3	-0.4
MCK				pmax	pmax		
	comp=Z,29nm,0.8s						
MCK	**McKinley**	81.51	12	*e*P	**P**	04 40 54.3	-0.4
	comp=Z,29nm,0.8s						
121A	**Cookes Peak, D**	81.61	53	*e*P	**P**	04 40 57.8	+1.7
	comp=Z,11nm,0.9s						
PAX	**Paxson**	81.61	14	*e*P	**P**	04 40 54.8	-0.5
PAX				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PAX	**Paxson**	81.61	14	*e*P	**P**	04 40 54.8	-0.5
	comp=Z,5.1nm,0.8s						
SKAG	**Skagway**	81.66	20	*e*P	**P**	04 40 56.2	+0.7
HLID	**Hailey**	81.84	41	*e*P	**P**	04 40 58.5	+1.4
	comp=Z,18nm,0.9s						
TMUT	**Trail Mountain**	81.96	46	*e*P	**P**	04 40 59.7	+1.8
	comp=Z,42nm,1.0s						
MPU	**Maple Canyon**	82.00	45	*e*P	**P**	04 40 58.6	+0.6
	comp=Z,16nm,1.0s						
HYT	**Haines Junctio**	82.01	19	*e*P	**P**	04 40 57.6	+0.1
HVU	**Hansel Valley**	82.04	43	*e*P	**P**	04 40 59.3	+1.2
HVU				pmax	pmax		
	comp=Z,19nm,0.9s						
HVU	**Hansel Valley**	82.04	43	*e*P	**P**	04 40 59.3	+1.2
	comp=Z,19nm,0.9s						
SRU	**San Rafael Swe**	82.36	46	*e*P	**P**	04 41 01.0	+1.1
SRU				pmax	pmax		
	comp=Z,29nm,1.0s						
SRU	**San Rafael Swe**	82.36	46	*e*P	**P**	04 41 01.0	+1.1
	comp=Z,29nm,1.0s						
BJI	**Beijing**	82.36	315	P	**P**	04 41 00.6	+1.1
BJI				PMZ			
	comp=Z,23nm,0.8s						
DAU	**Daniels Canyon**	82.43	45	*e*P	**P**	04 41 01.8	+1.5
DAU	**Daniels Canyon**	82.43	45	*e*P	**P**	04 41 01.8	+1.5
DOT	**Dot Lake**	82.52	14	*e*P	**P**	04 40 59.8	-0.2
	comp=Z,28nm,1.1s						
NEW	**Newport**	82.63	36	*e*P	**P**	04 41 01.0	+0.2
NEW				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NEW	**Newport**	82.63	36	*e*P	**P**	04 41 01.0	+0.2
	comp=Z,6.9nm,0.7s						
COLA	**College**	82.74	12	*d i*P	**P**	04 41 00.4	-0.5
COLA	**College**	82.74	12	*e*P	**P**	04 41 00.7	-0.2
	comp=Z,64nm,0.8s						
DLBC	**Dease Lake**	82.80	23	*e*P	**P**	04 41 01.9	+0.5
ILAR	**Eielson Array**	82.85	13	P	**P**	04 41 01.1	-0.4
	comp=Z,20nm,0.9s,baz=228,slow=6.1,SNR=122						
LAZ	**Ladron**	82.85	52	*e*P	**P**	04 41 03.7	+1.2
	comp=Z,8.0nm,1.5s						
IPM	**Ipoh**	82.97	277	*e*P	**P**	04 41 04.0	+0.7
	comp=Z,6.6nm,0.9s						
MVCO	**Mesa Verde**	82.98	49	*e*P	**P**	04 41 04.4	+1.3
	comp=Z,10nm,1.2s						
MNTX	**Cornudas Mount**	83.17	55	*e*P	**P**	04 41 05.3	+1.4
PV04	**Paradox Valley**	83.19	47	*e*P	**P**	04 41 05.5	+1.4
LPM	**Los Pinos Moun**	83.20	52	*e*P	**P**	04 41 05.3	+1.1
PV01	**Paradox Valley**	83.32	48	*e*P	**P**	04 41 05.5	+0.7
MCMT	**McKenzie Canyo**	83.44	40	*e*P	**P**	04 41 06.2	+0.9
	comp=Z,8.9nm,1.1s						
ANMO	**Albuquerque**	83.58	51	*e*P	**P**	04 41 06.7	+0.6
ANMO				pmax	pmax		
	comp=Z,20nm,1.3s						
ANMO	**Albuquerque**	83.58	51	*e*P	**P**	04 41 06.7	+0.6
	comp=Z,20nm,1.3s						
BILL	**Bilibino**	83.63	354	*d i*P	**P**	04 41 05.2

comp=Z,83nm,8.7s
YKA Yellowknife Ar 91.31 24 P **P** **04 41 41.8 -0.3**
comp=Z,1.7nm,0.9s,baz=239,slow=4.5,SNR=21
ULN Ulaanbaatar 91.53 319⇑ *e*P **P** **04 41 43.8 +0.1**
ULN pmax pmax
comp=Z,11nm,2.6s
ULN Ulaanbaatar 91.53 319 *e*P **P** **04 41 43.7 +0.1**
comp=Z,1.9nm,0.6s
SONM Songino Array 91.94 319 P **P** **04 41 45.5 0.0**
comp=Z,1.1nm,0.8s,baz=122,slow=3.3,SNR=7.3
SYO Syowa Base 92.19 193⇑ *e*P **P** **04 41 46.5 +0.4**
SNAA Sanae 93.48 178 *e*P **P** **04 41 51.8 -0.4**
SNAA Sanae 93.48 178 *e*P **P** **04 41 51.8 -0.4**
TIXI Tiksi 93.57 345⇓ *e*P **P** **04 41 51.2 -1.1**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
ECSD EROS Data Cent 93.77 46 *e*P **P** **04 41 53.3 -0.5**
comp=Z,13nm,1.4s
GTA Gaotai 93.87 310 *e*P **P** **04 41 55.5 +0.9**
GTA pP **pP** **04 43 18.0 -3.4**
GTA sP sP 04 43 52.9 -7.0
GTA PMZ
comp=Z,7.0nm,0.8s
ULM Lac du Bonnet 96.10 40 P **P** **04 42 03.0 -1.2**
comp=Z,1.3nm,0.5s,baz=196,slow=6.4,SNR=4.0
LPAZ La Paz 103.64 111 *e*P **Pdif** **04 42 39.2 -0.3**
LPAZ pmax pmax
comp=Z,9.0nm,0.8s
LPAZ La Paz 103.64 111 *e*Pdif **Pdif** **04 42 39.2 -0.3**
comp=Z,9.3nm,0.8s
MKAR Makanchi Array 107.74 315 PKiKP **PKiKP** **04 47 00.9 -0.9**
comp=Z,1.7nm,0.8s,baz=44,slow=1.0,SNR=14
KURK Kurchatov 110.24 319 PKiKP **PKiKP** **04 47 05.5 -0.8**
KURBB Kurchatov Arra 110.30 319 PKiKP **PKiKP** **04 47 05.5 -0.9**
comp=Z,1.6nm,0.8s,baz=98,slow=1.9,SNR=16
KSH Kashi 112.08 307 *e*PKP **PKiKP** **04 47 10.0 -0.4**
KSH PP **PP** **04 48 04.8 +3.7**
KSH PKS **PKSdf** **04 50 46.1 -1.0**
KSH SKS **SKSdf** **04 53 46.8 +0.2**
KSH SKKS **SKKSac** **04 54 21.0 -3.1**
KSH SS **SS** **05 03 14.1 +3.9**
KSH PPMZ
comp=Z,130nm,5.1s
KSH LN
comp=Z,31nm,4.5s
KSH LE
comp=Z,29nm,4.5s
KSH LZ
comp=Z,100nm,5.9s
AAK Ala-Archa 113.21 310 *i*PKIKP **PKiKP** **04 47 12.6 +0.1**
AAK pmax pmax
comp=Z,7.0nm,1.7s
AAK Ala-Archa 113.21 310 PKiKP **PKiKP** **04 47 11.9 -0.6**
comp=Z,1.2nm,0.6s,baz=126,slow=2.6,SNR=5.1
AAK Ala-Archa 113.21 310 *e*PKP **PKiKP** **04 47 12.2 -0.3**
KBL Kabul 117.58 301 *e*PKIKP **PKPdf** **04 47 21.5 +0.3**
KBL Kabul 117.58 301 *e*PKPdf **PKPdf** **04 47 21.5 +0.3**
ARU Arti 120.90 328 *i*PKIKP **PKPdf** **04 47 26.3 -0.3**
ARU 04 48 57.0
ARU 04 53 50.0
ARU Arti 120.90 328 *e*PKPdf **PKPdf** **04 47 25.8 -0.8**
ARCES ARCESS Array B 123.60 351 PKP **PKPdf** **04 47 31.2 -0.3**
comp=Z,7.3nm,0.7s,baz=321,slow=0.8,SNR=31
PRGR Permogore 124.24 337 PKIKP **PKPdf** **04 47 31.5 -1.3**
PRGR pmax pmax
comp=Z,6.0nm,0.7s
GEYT Alibeck 126.10 306 PKP **PKPdf** **04 47 37.4 +0.2**
comp=Z,5.3nm,0.8s,baz=240,slow=2.9,SNR=12
KLMR Klimovskoe 127.01 338 *e*PKIKP **PKPdf** **04 47 35.8 -2.4**
KLMR pmax pmax
comp=Z,29nm,2.0s
JOF Joensuu 128.03 344 *e*PKIKP **PKPdf** **04 47 39.8 -0.3**
JOF pmax pmax
comp=Z,7.0nm,0.6s
JOF Joensuu 128.03 344 *e*p **PKPdf** **04 47 39.8 -0.3**
comp=Z,6.9nm,0.6s
SUR Sutherland 129.76 200 *e*PKPdf **PKPdf** **04 47 46.1 +1.4**
KAF Kangasniemi 129.98 346 *e*PKIKP **PKPdf** **04 47 43.3 -0.5**
KAF pmax pmax
comp=Z,5.0nm,0.6s
KAF Kangasniemi 129.98 346 *e*p **PKPdf** **04 47 43.3 -0.5**
comp=Z,4.5nm,0.6s
FINES FINESS Array B 130.62 345*c* *i*PKIKP **PKPdf** **04 47 45.2 +0.2**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 130.62 345 PKP **PKPdf** **04 47 45.1 +0.1**
comp=Z,1.9nm,0.5s,baz=68,slow=1.6,SNR=17
BOSA Boshof 131.40 207 PKP **PKPdf** **04 47 48.5 +0.8**
comp=Z,4.5nm,1.1s,baz=73,slow=2.8,SNR=3.2
BOSA Boshof 131.40 207 PKP **PKPdf** **04 47 48.5 +0.8**
BOSA *e*PKPdf **PKiKP** **04 47 49.0 +0.3**
OBN Obninsk 132.10 334⇓ PKIKP **PKPdf** **04 47 49.3 +1.3**
OBN *i* 04 49 22.3
OBN pmax pmax
comp=Z,27nm,2.2s
NB2 NORSAR Subarra 133.58 354 PKP **PKPdf** **04 47 51.6 +0.9**
comp=Z,1.1nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B 133.58 354 PKP **PKPdf** **04 47 51.2 +0.5**
comp=Z,1.5nm,0.7s,baz=14,slow=4.0,SNR=9.4
ZEI Tsey 135.05 316 *e*PKIKP **PKPdf** **04 47 56.0 +1.8**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 135.33 319 *e*PKIKP **PKPdf** **04 47 55.3 +0.8**
KIV Kislovodsk 135.33 319 *e*PKPdf **PKPdf** **04 47 55.3 +0.8**
GNI Garni 135.53 313 *e*PKIKP **PKPdf** **04 47 56.3 +1.1**
GNI Garni 135.53 313 *e*PKPdf **PKPdf** **04 47 56.3 +1.1**
AKASG Malin Array Be 138.36 335*c* *i*PKIKP **PKPdf** **04 48 03.2 +3.4**
AKASG Malin Array Be 138.36 335 PKP **PKPdf** **04 48 00.2 +0.4**
comp=Z,2.1nm,0.6s,baz=28,slow=1.9,SNR=4.4
KIEV Kiev 138.37 335 *e*PKIKP **PKPdf** **04 48 00.2 +0.4**
KIEV Kiev 138.37 335 *e*PKPdf **PKPdf** **04 48 00.2 +0.4**
SFNV Sufian 140.32 310 *e*P PKPdf 04 47 56.9 -7.0
MALT Malatya 140.76 313 ⇓PKIKP **PKPdf** **04 48 07.0 +2.3**
MALT Malatya 140.76 313 ⇓*i*P **PKPdf** **04 48 07.0 +2.3**
SLMH Al Salmeh 142.02 310 *e*P PKPdf 04 48 01.5 -5.4
KMBO Kilima Mbogo 142.11 248 PKP **PKPdf** **04 48 05.0 -3.0**
comp=Z,2.2nm,0.7s,baz=62,slow=6.1,SNR=6.4
STHS Stebnicka Huta 142.40 340 *e*PKP **PKPdf** **04 48 04.3 -2.9**
BURAR Bucovina Array 142.41 335 ⇑PKIKP **PKPdf** **04 48 08.2 +0.8**
BURAR Bucovina Array 142.41 335 ⇑*i*P **PKPdf** **04 48 08.2 +0.8**
KOLS Kolonicke sedl 142.46 339 *e*PKP **PKPdf** **04 48 04.1 -3.2**
KSP Ksiaz 142.54 346 *e*PKP **PKPdf** **04 48 04.5 -2.9**
NIE Niedzica 142.71 341 *e*PKPdf **PKPdf** **04 48 05.2 -2.5**
UZH Uzhgorod 142.77 338 ⇓*i*PKIKP **PKPdf** **04 48 04.7 -3.0**
CRVS Cervenica-Dubn 142.77 339 *e*PKP **PKPdf** **04 48 05.1 -2.8**
CLL Collm 142.80 349 *e*PKHKP PKPpre **04 48 04.0**
CLL *i* 04 48 06.1
CLL Collm 142.80 349 *e*PKPpre PKPpre **04 48 04.0**
CLL *i*PKPdf **PKPdf** **04 48 06.1 -1.7**
comp=Z,10.0nm,0.8s
CLL *i*PKiKP **PKiKP** **04 48 11.3 +0.2**
UPC Upice 142.92 346 *e*PKIKP **PKPdf** **04 48 05.2 -2.9**
UPC Upice 142.92 346 ⇓*e*PKP **PKPdf** **04 48 05.2 -2.9**
UPC *ex* x 04 48 11.1
CFR Carcaliu 142.94 330 ⇓PKIKP **PKPdf** **04 48 06.4 -1.8**
CFR Carcaliu 142.94 330 ⇓*i*P **PKPdf** **04 48 06.4 -1.8**
WTSB Winterswijk 142.95 356 *e*PKPbc **PKPdf** **04 48 05.1 -2.9**
comp=Z,17nm,1.1s
OKC Ostrava-Krasne 142.98 343 *e*PKIKP **PKPdf** **04 48 05.4 -2.8**
OKC Ostrava-Krasne 142.98 343 ⇓*e*PKP **PKPdf** **04 48 05.4 -2.8**
DPC Dobruska-Polom 142.99 345 *e*PKIKP **PKPdf** **04 48 05.9 -2.3**
DPC Dobruska-Polom 142.99 345 *e*PKP **PKPdf** **04 48 05.9 -2.3**
DPC *ex* x 04 48 11.6
BRG Berggiesshubel 143.03 348 *e*PKP PKPbc 04 48 06.9 +1.0
comp=Z,2.3nm,0.7s
BRG *e* 04 48 11.1
comp=Z,9.4nm,1.3s
TRPA Tarpa 143.04 338 ⇓*i*P PKPbc 04 48 05.7 -0.3
BTCH Batrach 143.17 311 *e*P PKPab 04 48 06.3 +0.4
MORC Moravsky Berou 143.20 344 ⇓PKIKP PKPbc 04 48 06.9 +0.4
MORC Moravsky Berou 143.20 344 ⇓*i*P PKPbc 04 48 06.9 +0.4
MORC Moravsky Berou 143.20 344 *e*PKPdf PKPbc 04 48 06.5 0.0
PVCC Panska Ves 143.23 347 *e*PKIKP PKPab 04 48 05.9 +0.3
PVCC Panska Ves 143.23 347 ⇓*e*PKP PKPab 04 48 05.9 +0.3
BRTR Keskin Array B 143.29 318 PKP PKPbc 04 48 07.2 0.0
comp=Z,17nm,0.8s,baz=100,slow=1.6,SNR=88
TIRR Tirgusor 143.32 328 ⇓PKIKP PKPbc 04 48 07.3 +0.4
TIRR Tirgusor 143.32 328 ⇓*i*P PKPbc 04 48 07.3 +0.4
WRDH Warideh 143.43 310 *e*P PKPab 04 48 04.6 -2.3
ARNB Al Arnab 143.60 311 *e*P **PKPdf** **04 48 10.0 +0.2**
PRA Prague 143.69 347 *e*PKIKP PKPbc 04 48 07.9 +0.1
PRA Prague 143.69 347 ⇓*e*PKP PKPbc 04 48 07.9 +0.1
BIDA Albida 143.71 310 *e*P PKPab 04 48 06.0 -2.0
PRU Pruhonice 143.74 347 *e*PKIKP PKPbc 04 48 07.9 -0.1
PRU Pruhonice 143.74 347 ⇓*e*PKP PKPbc 04 48 07.9 -0.1
AMRR Amara 143.75 330 ⇑PKIKP **PKPdf** **04 48 09.3 -0.3**
AMRR Amara 143.75 330 ⇑*i*P **PKPdf** **04 48 09.3 -0.3**
MLR Muntele Rosu 143.75 332 ⇓PKIKP PKPbc 04 48 09.1 +0.7
MLR Muntele Rosu 143.75 332 ⇓*i*P PKPbc 04 48 09.1 +0.7
ANTO Ankara 143.75 319 ⇓PKIKP PKPbc 04 48 09.0 +0.5
ANTO Ankara 143.75 319 ⇓*i*P PKPbc 04 48 09.0 +0.5
ANTO Ankara 143.75 319 *e*PKPdf PKPbc 04 48 08.9 +0.4
HAWK Haweek 143.85 309 *e*P PKPab 04 48 07.0 -1.6
MSAB Monastry St. A 143.88 329 ⇓*i*P **PKPdf** **04 48 09.4 -0.5**
VRAC Vranov 143.88 344 ⇓PKIKP PKPbc 04 48 08.9 +0.4
VRAC Vranov 143.88 344 ⇓*i*P PKPbc 04 48 08.9 +0.4
PSN Preselentsi 143.98 328 *e*P **PKPdf** **04 48 09.7 -0.4**
MARH Ras Al Marh 143.99 308 *e*P **PKPdf** **04 48 10.6 -0.2**
DRGR 144.09 336 ⇑PKIKP **PKPab** **04 48 08.6 -0.5**
DRGR 144.09 336 ⇑*i*P **PKPab** **04 48 08.6 -0.5**
PSZ Piszkesteto 144.15 340 ⇓PKIKP PKPdf 04 48 24.7 +14
PSZ Piszkesteto 144.15 340 ⇓*i*P PKPdf 04 48 24.7 +14
PSZ Piszkesteto 144.15 340 ⇓*e* PKPdf 04 48 24.6 +14
TREC Trest 144.17 345 *e*PKIKP PKPbc 04 48 09.6 +0.2
TREC Trest 144.17 345 ⇓*e*PKP PKPbc 04 48 09.6 +0.2
BEBN Eben Emael 144.19 357 PKP PKPbc 04 48 09.8 +0.4
VOIR 144.19 333 ⇓PKIKP **PKPdf** **04 48 10.7 +0.2**
VOIR 144.19 333 ⇓*i*P **PKPdf** **04 48 10.7 +0.2**
HGN Heimansgroeve 144.21 356 *e*PKPbc **PKPab** **04 48 09.1 -0.1**
comp=Z,26nm,0.9s
UCC Uccle 144.25 358 PKP PKPbc 04 48 09.5 0.0
TOTH TOTAH 144.29 307 *e*P **PKPab** **04 48 05.8 -4.4**
QASN Qassioun 144.34 307 *e*P **PKPab** **04 48 08.7 -1.8**
MEM Membach 144.35 356 PKP PKPbc 04 48 10.0 +0.1
ROTZ Rotzenmuhle 144.42 349 *e*PKPbc **PKPdf** **04 48 10.6 -0.1**
ARR Arges 144.43 333 ⇓*i*P **PKPdf** **04 48 11.8 +0.9**
TNS Taunus Mts 144.53 353 *e*PKPbc **PKPab** **04 48 10.6 0.0**
SNF Seneffe 144.54 358 PKP **PKPdf** **04 48 10.7 -0.1**
BCLA Clavier 144.59 357 PKP **PKPab** **04 48 10.8 +0.1**
BRBR Barbar 144.63 307 *e*P PKPbc 04 48 08.7 -2.9
GRF Grafenberg Arr 144.66 350 *e*PKPbc **PKPdf** **04 48 11.2 +0.1**
GRFO Grafenberg 144.66 350 *e*PKIKP PKPbc 04 48 11.0 +0.1
GRFO Grafenberg 144.66 350 *e*PKPdf **PKPab** **04 48 11.0 -0.1**
LOT Lotru 144.74 334 ⇓*i*P PKPbc 04 48 11.2 -0.2
KHC Kasperske Hory 144.76 347 *e*PKIKP PKPbc 04 48 11.1 -0.2
KHC Kasperske Hory 144.76 347 ⇓*i*PKP **PKPab** **04 48 11.5 0.0**
KHC *ex* x 04 48 15.4
KHC Kasperske Hory 144.76 347 *e*PKPdf PKPbc 04 48 11.1 -0.1
WET Wettzell 144.89 348 *e*PKPbc **PKPab** **04 48 11.9 -0.1**
TCHB Talchebab 144.91 306 *e*P **PKPdf** **04 48 11.8 -0.3**
DOU Dourbes 144.94 358 PKP **PKPab** **04 48 11.9 -0.1**
GEC2 GERESS Array S 145.00 347 *e*PKPbc **PKPbc** **04 48 12.1 0.0**
GERES GERESS Array B 145.00 347 PKP **PKPbc** **04 48 12.1 0.0**
comp=Z,9.3nm,0.8s,baz=16,slow=3.3,SNR=78
GZR Gura Zlata 145.20 335 ⇓PKIKP **PKPbc** **04 48 12.9 +0.1**
GZR Gura Zlata 145.20 335 ⇓*i*P **PKPbc** **04 48 12.9 +0.1**
WLF Walferdange 145.29 356 PKP **PKPab** **04 48 13.6 +0.2**
WLF Walferdange 145.29 356 *e*PKP2 **PKPbc** **04 48 12.9 +0.1**
WLF Walferdange 145.29 356 *e*PKPbc **PKPab** **04 48 13.6 +0.2**
WLF Walferdange 145.29 356 *e*PKPdf **PKPbc** **04 48 12.9 +0.1**
CONA Conrad Observa 145.34 344 ⇑*i*PKPab **PKPbc** **04 48 13.1 -0.1**
comp=Z,55nm,1.9s,SNR=12
BZS Buzias 145.49 336 ⇓PKP2 **PKPbc** **04 48 13.9 +0.4**
BZS Buzias 145.49 336 ⇓*i*P **PKPbc** **04 48 13.9 +0.4**
JMB Yambol 145.67 328 ⇑PKIKP **PKPdf** **04 48 13.1 +0.1**
JMB Yambol 145.67 328 ⇑*i*P **PKPdf** **04 48 13.1 +0.1**
MOA Molln 145.81 346 *i*PKPab **PKPbc** **04 48 15.0 +0.5**
comp=Z,21nm,0.9s,SNR=14
LANF Langenberg 145.82 354 PKP **PKPab** **04 48 15.2 -0.3**
STU Stuttgart 145.86 352 *e*PKP2 **PKPbc** **04 48 14.0 -0.5**
STU Stuttgart 145.86 352 *e*PKPbc **PKPbc** **04 48 14.0 -0.5**
CSS Prodhromos 145.93 311 *e*PKPbc **PKPdf** **04 48 14.5 +0.7**
ARSA Arzberg 146.06 344 ⇑*i*PKPdf **PKPdf** **04 48 11.3 -2.3**
comp=Z,14nm,1.1s,SNR=10.0
FUR Furstenfeldbru 146.13 349 *e*PKPbc **PKPbc** **04 48 15.7 +0.3**
MPEP Malo Peshtene 146.40 332 *e*P **PKPbc** **04 48 16.7 +0.5**
BFO Black Forest 146.40 353 *i*PKP2 **PKPbc** **04 48 15.8 -0.3**
BFO Black Forest 146.40 353 *e*PKPbc **PKPbc** **04 48 16.4 +0.2**
ECH Echery 146.64 354 *e*PKP2 **PKPbc** **04 48 16.5 -0.3**
ECH Echery 146.64 354 PKP **PKPbc** **04 48 16.9 +0.1**
ECH Echery 146.64 354 *e*PKPbc **PKPbc** **04 48 16.5 -0.3**
SOKA Soboth 146.72 344 ⇑*i*PKPdf **PKPdf** **04 48 14.1 -0.7**
comp=Z,20nm,0.9s,SNR=15
THEF They Montfort 146.73 356 PKP **PKPbc** **04 48 17.8 +0.8**
PERS Pernice 146.73 344 *e*PKPbc **PKPbc** **04 48 16.8 -0.3**
KBA Koelnbreinsper 146.75 346 ⇑*i*PKPdf **PKPdf** **04 48 12.9 -2.1**
comp=Z,12nm,0.7s,SNR=9.1
PGB Panagyurishte 146.82 330 *e*P **PKPbc** **04 48 17.5 0.0**
KDZ Kurdzhali 146.86 328 ⇓PKP2 **PKPbc** **04 48 18.0 +0.4**
KDZ Kurdzhali 146.86 328 ⇓*i*P **PKPbc** **04 48 18.0 +0.4**
KDZ Kurdzhali 146.86 328 *e*P **PKPbc** **04 48 17.7 +0.1**
WATA Walderalm 146.88 349 ⇓*i*PKPab **PKPbc** **04 48 17.3 -0.3**
comp=Z,16nm,0.9s,SNR=13
RETA Reute 146.88 350 ⇑*i*PKPbc **PKPdf** **04 48 15.1 0.0**
comp=Z,19nm,1.2s,SNR=5.3
WTTA Wattenberg 146.93 349 ⇑*i*PKPbc **PKPdf** **04 48 15.8 +0.5**
comp=Z,27nm,0.8s,SNR=12
MOTA Moosalm 146.95 349 ⇑*i*PKPbc **PKPdf** **04 48 15.4 +0.2**
comp=Z,24nm,1.0s,SNR=15
MOF Molkenrain 147.00 354 PKP **PKPab** **04 48 20.0 -0.3**
MYKA Terra Mystica 147.11 346 *i*PKPbc **PKPbc** **04 48 17.8 -0.4**
comp=Z,17nm,0.8s,SNR=9.3
DAVA Damuels 147.22 351 *i*PKiKP **PKPbc** **04 48 18.8 +0.3**
comp=Z,20nm,0.9s,SNR=6.7
VTS Vitosha 147.24 331 P **PKPbc** **04 48 18.9 +0.2**
VTS Vitosha 147.24 331 ⇓PKP2 **PKPbc** **04 48 19.3 +0.5**
VTS Vitosha 147.24 331 ⇓*i*P **PKPbc** **04 48 19.3 +0.5**
VTS Vitosha 147.24 331 *e*P **PKPbc** **04 48 19.0 +0.2**
ABTA Abfaltersbach 147.25 347 ⇑*i*PKPdf **PKPdf** **04 48 15.6 -0.1**
comp=Z,30nm,1.0s,SNR=12
FETA Feichten 147.33 350 ⇑*i*PKPbc **PKPdf** **04 48 16.3 +0.4**
comp=Z,18nm,1.1s,SNR=6.6
LJU Ljubljana 147.44 344 *i*PKPbc **PKPbc** **04 48 19.0 0.0**
LOMF Lomont 147.53 355 PKP **PKPbc** **04 48 18.5 -0.8**
BOJS Bojanci 147.74 343 *i*PKPbc **PKPbc** **04 48 20.2 +0.4**
MMB Musomiste 147.76 329 *e*P **PKPdf** **04 48 13.6 -3.0**
KKB Krupnik 147.86 330 *e*P **PKPbc** **04 48 20.4 +0.2**
NVR Nevrokopi 147.87 329 P **PKPbc** **04 48 20.1 -0.2**
TUE Stuetta 148.09 351 *e*PKPdf **PKPdf** **04 48 17.2 0.0**
TUE *e*PKPbc **PKPbc** **04 48 21.6 +0.7**
VAY Valandovo 148.52 330 *e*PKP **PKPdf** **04 48 18.6 +0.8**
AGO Saint Agoulin 149.02 359 PKP **PKPbc** **04 48 22.6 -0.4**
PLDF La Plantade 149.10 359 PKP **PKPbc** **04 48 24.0 +0.7**
PYM Petit Puy Mans 149.33 359 PKP **PKPbc** **04 48 24.5 +0.6**
FNA Florina 149.50 331 P **PKPbc** **04 48 24.0 -0.4**
OHR Ohrid 149.51 332 *e*PKP **PKPbc** **04 48 23.2 -1.3**
BNI Bardonecchia 149.82 354 *e*PKP2 **PKPbc** **04 48 25.8 +0.6**
BNI Bardonecchia 149.82 354 *e*PKPbc **PKPbc** **04 48 25.8 +0.6**
BNI *e*PKPab **PKPab** **04 48 32.4 +0.5**
LBL Lubilhac 149.84 359 PKP **PKPbc** **04 48 26.3 +1.2**
NEST Nestorio 149.95 331 P **PKPbc** **04 48 25.6 0.0**
APE Apeiranthos 149.97 321 ⇑*i*P **PKPbc** **04 48 24.6 -1.0**
SANT Santorini 150.46 320 P **PKPbc** **04 48 25.7 -1.1**
THR6 Thira Island, 150.51 320 P **PKPbc** **04 48 26.3 -0.6**
SAOF Saorge 150.78 353 PKP **PKPbc** **04 48 27.8 +0.5**
AUTN L'Aution 150.78 353 PKP **PKPbc** **04 48 28.4 +0.8**
TOUF Mont Tournerai 150.79 353 PKP **PKPbc** **04 48 27.5 0.0**
KALE Kalithea 150.96 327 P **PKPbc** **04 48 27.8 -0.1**
DID Didima 151.00 325 P **PKPbc** **04 48 26.9 -1.1**
REVF Revere 151.04 353 PKP **PKPdf** **04 48 23.9 +2.1**
EFP Efpalio 151.06 327 P **PKPbc** **04 48 28.7 +0.6**
NPS Neapolis 151.07 318 P **PKPbc** **04 48 28.6 +0.4**
CALN Calern 151.09 353 PKP **PKPbc** **04 48 29.1 +0.9**
AQU L'Aquila 151.16 343 *e*PKIKP **PKPbc** **04 48 28.3 0.0**
AQU L'Aquila 151.16 343 *e*PKPbc **PKPbc** **04 48 28.3 0.0**
GUR Goura 151.19 326 P **PKPbc** **04 48 28.2 -0.3**
LAST Lasithi 151.22 318 P **PKPbc** **04 48 28.9 +0.2**
PDO Prodromos 151.29 329 P **PKPbc** **04 48 28.7 +0.1**
LKD2 Lefkada island 151.41 329 P **PKPbc** **04 48 29.1 +0.2**
VLX Vlachokerasia 151.58 325 P **PKPbc** **04 48 29.4 0.0**
VLX Vlachokerasia 151.58 325 *e*P **PKPbc** **04 48 29.5 0.0**
VLX Vlachokerasia 151.58 325 *e*P **PKPbc** **04 48 29.5 0.0**
VLI Veliai 151.73 324 *e*P **PKPbc** **04 48 29.3 -0.4**
VLI *e*S **PKPab** **04 48 37.6 -2.4**
VLI Veliai 151.73 324 *e*P **PKPbc** **04 48 29.3 -0.4**
VLI *e*S **PKPab** **04 48 37.6 -2.4**
ITM Ithomi 151.97 326 *e*P **PKPbc** **04 48 29.9 -0.3**
ITM Ithomi 151.97 326 *e*P **PKPbc** **04 48 29.9 -0.3**
PYL PYLOS 152.27 325 *e*P **PKPbc** **04 48 30.1 -0.8**
PYL PYLOS 152.27 325 *e*P **PKPbc** **04 48 30.1 -0.8**
TIP Timpagrande 152.84 335 *e*PKPbc **PKPbc** **04 48 32.1 -0.1**
TIP *e*PKPab **PKPab** **04 48 44.8 +0.1**
ESDC Sonseca Array 154.75 12 PKPbc **PKPbc** **04 48 36.1 -0.1**
comp=Z,0.5nm,0.6s,baz=338,slow=4.0,SNR=5.9
ESDC PKPab **PKPab** **04 48 51.1 -1.7**
comp=Z,1.7nm,0.9s,baz=334,slow=3.3,SNR=8.3
KEST Kesra 158.45 345 PKPab **PKPab** **04 49 09.1 +0.2**
comp=Z,1.7nm,0.9s,baz=38,slow=1.5,SNR=6.7
KEST Kesra 158.45 345 *e*PKPdf **PKPdf** **04 48 31.2 -1.0**
KEST *e*PKPab **PKPab** **04 49 09.0 +0.1**
DBIC Dimbokro 169.01 138 PKP **PKPdf** **04 48 41.5 -0.7**
comp=Z,5.0nm,0.9s,baz=161,slow=5.3,SNR=3.5
DBIC Dimbokro 169.01 138 PKP **PKPdf** **04 48 41.5 -0.7**
DBIC *e*PKPdf PKPdf 04 48 41.8 -0.5
TAM Tamanrasset 171.73 340 *e*PKIKP **PKPdf** **04 48 44.6 +0.9**
TAM Tamanrasset 171.73 340 *e*PKPdf **PKPdf** **04 48 44.6 +0.9**
TORD Torodi Ar. Bea 178.00 156 PKP **PKPdf** **04 48 44.4 -1.2**
comp=Z,2.6nm,1.0s,baz=303,slow=0.8,SNR=12
TORD PKPab 04 50 36.2
comp=Z,2.7nm,1.1s,baz=233,slow=4.3,SNR=7.8

GUC 21 04:35:05.7±0.4, 35°.14S×72°.55W, h33km±4km, ML3.5,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
TALC	**Talca**	**0.79**	**109**	*e*P		Pn	04 35 20.2	-0.3
TALC				*e*S4		Sn	04 35 30.6	-0.7
COCH	**Cobquecura**	**1.01**	**191**	*e*P		Pn	04 35 23.6	0.0
COCH				*e*S		Sb	04 35 37.1	-0.5
LNCH	**Linares**	**1.05**	**133**	*e*S		Sb	04 35 38.5	-0.3
NICH	**Los Niches**	**1.09**	**83**	*e*P		Pn	04 35 25.2	+0.5
NICH				*e*S		Sb	04 35 39.7	-0.4
CLCH	**Cerro Calan**	**2.41**	**44**	*e*P		Pn	04 35 45.2	+2.2
CLCH				*e*S		Sb	04 36 15.3	-2.7
CLCH				AML		AML	04 36 27.2	
comp=N,314nm,0.6s								
PEL	**Peldehue**	**2.52**	**38**	*e*P		Pn	04 35 46.5	+2.1
PEL				*e*S		Sn	04 36 17.5	+3.3
PEL				AML		AML	04 36 32.4	
comp=E,241nm,0.4s								

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*ISCJB **21** 04:39:03.9±1.0, 26°.40N±0°.04×128°.89E±0°.04, h30km±7km, mb3.7/10, Error ellipse: s-maj=6.4km s-min=5.0km az=147.7*
*JMA **21** 04:39:05.1±0.3, 26°.43N×128°.84E, h37km±4km, M3.6*
*IDC **21** 04:39:07.2±1.0, 26°.40N×128°.59E, h38km±7km, mb3.6/9, mb1 3.7/12, mb1mx3.6/36, mbtmp3.8/12, ML3.2/3, MS3.2/3, Ms1 3.2/3, ms1mx2.7/22, Error ellipse: s-maj=30.9km s-min=12.7km az=68.0*
ISC 21 04:39:05.3±0.9, 26°.41N±0°.04×128°.87E±0°.04, h29km±6km, n27, σ1§40/41, mb3.8/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JOW	**Kunigami**	**0.68**	**309**	P		**Pb**	**04 39 17.8**	**-0.9**
JOW				*e*S		**Sb**	**04 39 26.8**	**-1.0**
JOW	**Kunigami**	**0.68**	**309**	Pn		**Pb**	**04 39 17.8**	**-0.9**
77nm,0.3s,baz=123,slow=22,SNR=1347								
JOW				Sn		**Sb**	**04 39 26.1**	**-1.7**
42nm,0.3s,baz=127,slow=20,SNR=16								
JNTH	**Nagotoyohara**	**0.77**	**278**	P		**Pn**	**04 39 18.9**	**-1.3**
JNTH				*e*S		**Sb**	**04 39 28.3**	**-2.0**
JOKE	**Okinoerabujima**	**0.99**	**344**	P		**Pn**	**04 39 22.6**	**-0.7**
JOKE				*e*S		**Sn**	**04 39 35.1**	**-1.2**
JIH	**Iheya**	**1.02**	**308**	P		**Pn**	**04 39 23.1**	**-0.6**
JIH				*e*S		**Sn**	**04 39 36.0**	**-1.1**
JJT2	**Tamagusuku 2**	**1.04**	**255**	P		**Pn**	**04 39 23.6**	**-0.4**
JJT2				*e*S		**Sn**	**04 39 37.3**	**-0.3**
JTK	**Tokunoshima**	**1.38**	**3**	P		**Pn**	**04 39 27.8**	**-0.8**
JTK				*e*S		**Sn**	**04 39 44.0**	**-1.9**
JAGN	**Aguni-jima**	**1.47**	**277**	P		**Pn**	**04 39 29.7**	**-0.2**
JAGN				*e*S		**Sn**	**04 39 47.4**	**-0.8**
JAMN	**Amaminishikomi**	**1.85**	**8**	P		**Pn**	**04 39 34.6**	**-0.5**
JAMN				*e*S		**Sn**	**04 39 56.8**	**-0.7**
JKE	**Kume jima 2**	**1.87**	**268**	P		**Pn**	**04 39 34.5**	**-0.9**
JAM	**Amami Oshima**	**2.10**	**18**	P		**Pn**	**04 39 37.8**	**-0.8**
JAM				*e*S		**Sn**	**04 40 02.9**	**-0.9**
JZK	**Kikaishima**	**2.14**	**27**	P		**Pn**	**04 39 39.0**	**-0.1**
JZK				*e*S		**Sn**	**04 40 04.7**	**0.0**
JMZ	**Minamidaito 2**	**2.19**	**105**	P		**Pn**	**04 39 38.7**	**-1.1**
JMZ				*e*S		**Sn**	**04 40 02.4**	**-3.6**
JNU	**Nakatsue**	**6.92**	**14**	Pn		**Pn**	**04 40 45.4**	**+0.6**
0.9nm,0.3s,baz=200,slow=8.9,SNR=8.5								
JNU				Sn		**Sn**	**04 41 59.3**	**-3.2**
0.4nm,0.3s,baz=60,slow=20,SNR=2.7								
KSRS	**Korea Array**	**11.04**	**356**	Pn		**Pn**	**04 41 42.6**	**+1.2**
0.3nm,0.3s,baz=176,slow=14,SNR=3.5								
KSRS				LR		LR	04 46 28.7	
comp=Z,83nm,19.4s,baz=160,slow=40								
JCJ	**Chichijima**	**11.92**	**84**	LR		LR	04 45 34.6	
comp=Z,288nm,19.6s,baz=112,slow=32								
USRK	**Ussuriysk Ar.**	**17.93**	**7**	P		**P**	**04 43 15.0**	**+2.2**
0.1nm,0.3s,baz=193,slow=11,SNR=3.5								
USRK				LR		LR	04 49 54.9	
comp=Z,58nm,20.9s,baz=155,slow=36								
SONM	**Songino Array**	**27.72**	**326**	P		**P**	**04 44 52.7**	**+1.4**
2.9nm,0.7s,baz=142,slow=10,SNR=19								
MKAR	**Makanchi Array**	**41.85**	**312**	P		**P**	**04 46 51.5**	**-1.2**
0.3nm,0.5s,baz=92,slow=9.4,SNR=11								
ZALV	**Zalesovo Beam**	**42.45**	**322**	P		**P**	**04 46 56.0**	**-1.6**

comp=Z,0.1nm,0.3s,baz=37,slow=13,SNR=4.5
PLCA Lg Lg 04 48 06.6
comp=Z,0.0nm,0.3s,baz=227,slow=23,SNR=3.0
PLCA LR LR 04 49 53.6
comp=Z,435nm,21.5s,baz=32,slow=39
PLCA Paso Flores 15.16 191 *e*Pn **Pn 04 43 55.0 +2.0**
PLCA Lg Lg 04 48 06.6
SAML Samuel 17.17 12 *e*Pn **Pn 04 44 18.5 -0.2**
BDFB Brasilia 20.28 64 P **P 04 44 53.4 -1.0**
comp=Z,1.0nm,0.4s,baz=200,slow=12,SNR=3.8
BDFB Lg Lg 04 50 51.5
comp=Z,1.7nm,0.8s,baz=318,slow=19,SNR=2.1
BDFB LR LR 04 52 45.9
comp=Z,220nm,20.7s,baz=236,slow=37
OTAV Otavalo 28.27 335 *e*P **P 04 46 12.3 +0.1**
comp=Z,4.1nm,1.1s
SDV Santo Domingo 34.73 353 *e*P **P 04 47 07.1 -1.6**
comp=Z,9.7nm,1.0s
JTS JuntasAbangare 40.04 332 *e*P **P 04 47 53.5 +0.1**
comp=Z,20nm,1.5s
ASCN Ascension 52.88 80 *e*P **P 04 49 32.6 -1.7**
comp=Z,97nm,1.1s
GOGA Godfrey 61.03 344 *e*P **P 04 50 32.0 +0.5**
comp=Z,4.0nm,1.0s
LRAL Lakeview Retre 61.64 341 *e*P **P 04 50 35.8 +0.1**
comp=Z,3.8nm,1.1s
KMSC Kings Mountain 62.21 347 *e*P **P 04 50 40.6 +1.1**
comp=Z,5.1nm,0.9s
JCT Junction City 64.31 329 *e*P **P 04 50 54.4 +0.8**
comp=Z,6.8nm,0.9s
QSPA South Pole Qui 64.35 180 *e*P **P 04 50 55.0 +1.5**
comp=Z,51nm,2.1s
WVT Waverly 64.77 341 *e*P **P 04 50 56.0 -0.3**
comp=Z,5.7nm,1.1s
TXAR Lajitas Array 65.29 325 P **P 04 51 00.0 0.0**
comp=Z,0.3nm,0.7s,baz=168,slow=8.9,SNR=3.4
DBIC Dimbokro 68.24 71 *e*P **P 04 51 18.4 -0.7**
comp=Z,18nm,1.4s
ANMO Albuquerque 71.18 326 *e*P **P 04 51 38.4 +1.4**
comp=Z,2.7nm,1.0s
MVCO Mesa Verde 73.98 326 *e*P **P 04 51 52.5 -1.1**
comp=Z,5.5nm,1.0s
WUAZ Wupatki 74.17 323 *e*P **P 04 51 55.1 +0.4**
comp=Z,2.2nm,0.7s
ISCO Idaho Springs 74.67 330 *e*P **P 04 51 57.7 0.0**
comp=Z,4.4nm,1.2s
MVU Marysvale 76.86 325 *e*P **P 04 52 11.6 +1.5**
comp=Z,2.0nm,0.8s
TSUM Tsumeb 77.00 105 *e*P **P 04 52 10.0 -1.3**
comp=Z,2.4nm,0.8s
TORD Torodi Ar. Bea 77.08 68 P P 04 52 08.4 -3.1
comp=Z,1.3nm,0.7s,baz=256,slow=5.1,SNR=16
TORD LR LR 05 22 38.2
comp=Z,30nm,21.6s,baz=205,slow=33
DUG Dugway, Tooele 78.43 326 *e*P **P 04 52 19.1 +0.4**
comp=Z,2.4nm,1.0s
PDAR Pinedale Array 78.83 329 P **P 04 52 21.1 +0.2**
comp=Z,0.9nm,1.0s,baz=129,slow=9.4,SNR=4.3
ULM Lac du Bonnet 80.04 342 LR LR 05 30 16.5
comp=Z,32nm,20.4s,baz=338,slow=37
SCHQ Schefferville 80.36 360 LR LR 05 28 59.8
comp=Z,28nm,21.4s,baz=14,slow=36
HLID Hailey 81.74 327 *e*P **P 04 52 38.2 +1.6**
comp=Z,1.6nm,0.8s
MCMT McKenzie Canyo 81.94 329 *e*P **P 04 52 38.7 +1.0**
comp=Z,1.1nm,0.9s
FCC Fort Churchill 87.30 346 *e*P **P 04 53 04.2 +0.1**
YKA Yellowknife Ar 95.92 340 P **P 04 53 44.3 +0.2**
comp=Z,0.2nm,0.5s,baz=138,slow=5.7,SNR=5.1
ASAR Alice Springs 126.84 204 PKP **PKPdf 04 59 20.7 -1.5**
comp=Z,0.2nm,0.5s,baz=151,slow=2.1,SNR=3.7
KURK Kurchatov 143.75 38 *e*PKPdf **PKPdf 04 59 51.8 -0.8**
ZALV Zalesovo Beam 144.94 29 PKPbc **PKPab 04 59 52.4 -1.4**
comp=Z,5.8nm,0.7s,baz=293,slow=4.8,SNR=15
TKM2 Tokmak 2 144.96 51 *e*PKPdf PKPbc 04 59 54.2 -0.4
MKAR Makanchi Array 147.82 41 PKPbc **PKPdf 05 00 01.0 +1.3**
comp=Z,1.3nm,0.8s,baz=327,slow=2.0,SNR=9.8

*ISCJB **21** 04:41:51.5±0.9, 7°.6N±0°.1×93°.9E±0°.2, h20km, mb3.6/11, Error ellipse: s-maj=25.6km s-min=15.6km az=150.1*
*IDC **21** 04:42:01.1±3.8, 7°.81N×94°.12E, h82km±34km, mb3.4/11, mb1 3.6/13, mb1mx3.4/39, mbtmp3.7/13, Error ellipse: s-maj=44.3km s-min=15.1km az=58.0*
ISC 21 04:41:53.2±1.1, 7°.5N±0°.2×93°.8E±0°.2, h20km, n17, σ1§07/13, mb3.9/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.94**	**132**	P	Pn	04 43 40.5	+6.6
	0.6nm,0.3s,baz=300,slow=20,SNR=3.3						
CMAR	**Chiang Mai Arr**	**11.94**	**24**	P	**Pn**	**04 44 43.7**	**+1.2**
	0.2nm,0.3s,baz=205,slow=15,SNR=3.8						
H08S3	**Diego Garcia H**	**26.06**	**235**	T	T	05 14 14.8	
	baz=54,slow=75,SNR=62						
H08S2	**Diego Garcia H**	**26.06**	**235**	T	T	05 14 16.9	
	baz=54,slow=75,SNR=87						
H08S1	**Diego Garcia H**	**26.08**	**235**	T	T	05 14 14.1	
	baz=54,slow=75,SNR=83						
MKAR	**Makanchi Array**	**40.34**	**348**	P	**P**	**04 49 28.5**	**-1.0**
	0.1nm,0.5s,baz=181,slow=6.6,SNR=2.5						
SONM	**Songino Array**	**41.56**	**13**	P	**P**	**04 49 38.0**	**-1.5**
	0.4nm,0.6s,baz=193,slow=12,SNR=3.2						
GEYT	**Alibeck**	**44.23**	**319**	P	**P**	**04 50 03.1**	**+1.9**
	0.8nm,0.3s,baz=180,slow=5.8,SNR=2.1						
KURBB	**Kurchatov Arra**	**44.78**	**346**	P	**P**	**04 50 04.5**	**-1.0**
	0.1nm,0.3s,baz=174,slow=7.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**46.84**	**353**	P	**P**	**04 50 20.9**	**-0.7**
	0.8nm,0.5s,baz=206,slow=5.8,SNR=3.6						
WRA	**Warramunga Arr**	**48.34**	**125**	P	**P**	**04 50 34.1**	**+0.3**
	0.5nm,0.5s,baz=304,slow=8.8,SNR=3.9						
ASAR	**Alice Springs**	**49.96**	**130**	P	**P**	**04 50 46.4**	**+0.1**
	0.6nm,0.5s,baz=302,slow=7.6,SNR=13						
FINES	**FINESS Array B**	**72.85**	**332**	P	**P**	**04 53 19.7**	**-0.7**
	0.6nm,0.6s,baz=109,slow=10,SNR=6.7						
ARCES	**ARCESS Array B**	**75.46**	**340**	P	**P**	**04 53 36.3**	**+0.7**
	4.5nm,0.9s,baz=95,slow=6.4,SNR=2.8						
GERES	**GERESS Array B**	**77.85**	**318**	P	**P**	**04 53 49.8**	**+0.2**
	0.2nm,0.5s,baz=82,slow=4.7,SNR=3.7						
NB2	**NORSAR Subarra**	**79.85**	**331**	P	**P**	**04 53 59.9**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=92,slow=5.3						
NOA	**NORSAR Array B**	**79.85**	**331**	P	**P**	**04 53 59.6**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=114,slow=3.5,SNR=3.0						

*CSEM **21** 04:46:16.4±0.1, 43°.14N×0°.61W, h10km, ML1.3/5, Error ellipse: s-maj=3.0km s-min=1.6km az=179.0*
*STR **21** 04:46:17.1±0.2, 43°.11N×0°.61W, h5km, Ml1.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **21** 04:46:17.0±0.1, 43°.09N×0°.63W, h10km, Md1.7/3, Ml1.4/2, Error ellipse: s-maj=2.3km s-min=1.2km az=5.0*
MDD 21 04:46:17.3±0.3, 43°.10N×0°.62W, h10km±1km, mbLg0.7/5, Error ellipse: s-maj=4.1km s-min=2.2km az=11.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.06**	**252**	Pg	Pg	04 46 19.3	-0.1
	151nm,0.0s,SNR=7.9						
ATE				Lg	Lg	04 46 21.1	
	1.3nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.06**	**252**	Pg	Pg	04 46 19.3	-0.1
ATE				Sg	Sg	04 46 21.2	+0.2
ATE	**Arette**	**0.06**	**252**	Pg	Pg	04 46 19.3	-0.1
	151nm,0.0s,SNR=7.9						
ATE				Lg	Lg	04 46 21.1	
	1.3nm,0.1s,SNR=7.9						
ATE				Sg	Sg	04 46 21.2	+0.2
REYF	**Montagne du Re**	**0.17**	**101**	Pg	Pg	04 46 20.9	-0.3
REYF				Lg	Lg	04 46 23.9	
REYF	**Montagne du Re**	**0.17**	**101**	Pg	Pg	04 46 20.8	-0.3
REYF				Sg	Sg	04 46 23.7	-0.1
REYF	**Montagne du Re**	**0.17**	**101**	Pg	Pg	04 46 20.8	-0.3
REYF				Sg	Sg	04 46 23.7	-0.1
ETSF	**Etsaut**	**0.21**	**167**	*e*Pg	Pg	04 46 21.3	-0.5
ETSF				*e*Sg	Sg	04 46 24.2	-0.6
	15nm,0.2s						
ETSF	**Etsaut**	**0.21**	**167**	Pg	Pg	04 46 21.3	-0.5
ETSF				Lg	Lg	04 46 24.2	
	7.6nm,0.2s						
ETSF	**Etsaut**	**0.21**	**167**	Pg	Pg	04 46 21.3	-0.5
ETSF				*e*Sg	Sg	04 46 24.2	-0.6
	7.6nm,0.2s						
ORDF	**Ordiarp**	**0.25**	**296**	Pg	Pg	04 46 22.1	-0.4
ORDF				Lg	Lg	04 46 26.7	
ORDF	**Ordiarp**	**0.25**	**296**	Pg	Pg	04 46 22.3	-0.2
ORDF				Sg	Sg	04 46 26.8	+0.8
ORDF	**Ordiarp**	**0.25**	**296**	Pg	Pg	04 46 22.1	-0.4
ORDF				Lg	Lg	04 46 26.7	
LARF	**Larrau**	**0.28**	**256**	Pg	Pg	04 46 22.7	-0.2
LARF				Lg	Lg	04 46 26.9	
LARF	**Larrau**	**0.28**	**256**	Pg	Pg	04 46 22.6	-0.3
LARF				Sg	Sg	04 46 26.8	+0.1
LARF	**Larrau**	**0.28**	**256**	Pg	Pg	04 46 22.6	-0.3
LARF				Sg	Sg	04 46 26.8	+0.1
LARF				Lg	Lg	04 46 27.0	
SJPF	**Ste Jean**	**0.44**	**271**	*e*Pg	Pg	04 46 25.2	-0.8
SJPF				*e*Sg	Sg	04 46 31.2	-0.6
	2.6nm,0.2s						
SJPF	**Ste Jean**	**0.44**	**271**	Pg	Pg	04 46 25.2	-0.8
SJPF				Lg	Lg	04 46 31.2	
	1.3nm,0.2s						
SJPF	**Ste Jean**	**0.44**	**271**	Pg	Pg	04 46 25.2	-0.8
SJPF				*e*Sg	Sg	04 46 31.2	-0.6
	1.3nm,0.2s						
IELO	**Elcoad**	**0.52**	**240**	Pg	Pg	04 46 27.1	-0.4
	0.7nm,0.1s,SNR=7.9						
IELO				Lg	Lg	04 46 34.1	
	1.7nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.52**	**240**	Pg	Pg	04 46 27.1	-0.4
	0.7nm,0.1s,SNR=7.9						
IELO				Lg	Lg	04 46 34.1	
	1.7nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.57**	**236**	Pg	Pg	04 46 28.0	-0.5
	SNR=7.9						
IEPA				Lg	Lg	04 46 36.1	
	SNR=7.9						
IEPA	**Eparoz**	**0.57**	**236**	Pg	Pg	04 46 28.0	-0.5
	SNR=7.9						
IEPA				Lg	Lg	04 46 36.2	
	SNR=7.9						
EALK	**Alkurruntz**	**0.66**	**280**	Pg	Pg	04 46 28.4	-1.6
	0.2nm,0.1s,SNR=7.9						
EALK				Lg	Lg	04 46 38.6	
	0.8nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.66**	**280**	Pg	Pg	04 46 28.4	-1.6
	0.2nm,0.1s,SNR=7.9						
EALK				Lg	Lg	04 46 38.6	
	0.8nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.67**	**275**	Lg	Lg	04 46 38.4	
	0.7nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.67**	**275**	Lg	Lg	04 46 38.4	
	0.7nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.71**	**96**	*e*Pg	Pg	04 46 30.4	-0.7
EPF				*e*Sg	Sg	04 46 40.0	-0.5
	2.0nm,0.3s						
EPF	**Esparros**	**0.71**	**96**	Pg	Pg	04 46 30.4	-0.7
EPF				Lg	Lg	04 46 40.0	
	1.0nm,0.3s						
EPF	**Esparros**	**0.71**	**96**	Pg	Pg	04 46 30.4	-0.7
EPF				*e*Sg	Sg	04 46 40.0	-0.5
	1.0nm,0.3s						
CSOR	**Sort**	**1.48**	**119**	Pg	Pn	04 46 44.5	+0.3
	0.4nm,0.3s,SNR=7.9						
CSOR				Lg	Lg	04 47 05.5	
	0.4nm,0.3s,SNR=7.9						
CSOR	**Sort**	**1.48**	**119**	Pg	Pn	04 46 44.5	+0.3
	0.4nm,0.3s,SNR=7.9						
CSOR				Lg	Lg	04 47 05.5	
	0.4nm,0.3s,SNR=7.9						
CLLI	**Llivia**	**2.01**	**107**	Lg	Lg	04 47 22.0	
	0.3nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**2.01**	**107**	Lg	Lg	04 47 22.0	
	0.3nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.08**	**28**	*e*Pn	Pn	04 46 50.6	-1.6
LFF				*e*Sn	Sn	04 47 15.4	-2.8
	1.3nm,0.3s						
LFF	**La Frestale**	**2.08**	**28**	Pn	Pn	04 46 50.6	-1.6
LFF				Sn	Sn	04 47 15.4	-2.8
	0.6nm,0.3s						
LFF	**La Frestale**	**2.08**	**28**	Pn	Pn	04 46 50.6	-1.6
LFF				*e*Sn	Sn	04 47 15.4	-2.8
	0.6nm,0.3s						
MTLF	**Montolieu**	**2.09**	**83**	*e*Pg	Pb	04 46 55.9	+0.6
MTLF				*e*Sg	Sg	04 47 23.0	-1.5
	0.2nm,0.2s						
MTLF	**Montolieu**	**2.09**	**83**	Pg	Pb	04 46 55.9	+0.6
MTLF				Lg	Lg	04 47 23.0	
	0.1nm,0.2s						
MTLF	**Montolieu**	**2.09**	**83**	Pg	Pb	04 46 55.9	+0.6
MTLF				*e*Sg	Sg	04 47 23.0	-1.5
	0.1nm,0.2s						
EPOB	**Poblet**	**2.16**	**144**	Lg	Lg	04 47 26.0	
	0.3nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.16**	**144**	Lg	Lg	04 47 26.0	
	0.3nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.26**	**161**	Lg	Lg	04 47 30.7	
	0.3nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.26**	**161**	Lg	Lg	04 47 30.7	
	0.3nm,0.1s,SNR=7.9						

*ISK **21** 05:17:42.4, 38°.21N×26°.64E, h9km, MD2.7*
*DDA **21** 05:17:42.3, 38°.23N×26°.60E, h6km, MD2.7*
*ISCJB **21** 05:17:43.1±0.6, 38°.24N±0°.06×26°.63E±0°.04, h7km±6km, Error ellipse: s-maj=10.0km s-min=5.0km az=3.5*
*CSEM **21** 05:17:43.2±0.2, 38°.23N×26°.63E, h10km, MD2.7, Error ellipse: s-maj=6.2km s-min=4.0km az=13.0*
ISC 21 05:17:43.2±1.0, 38°.21N±0°.05×26°.64E±0°.03, h8km±9km, n21, σ0§44/27, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEY	**¨zmir**	**0.11**	**287**	*i* P	Pg	05 17 41.6	-4.1
ZEY				*i* S	**Sg**	**05 17 47.7**	**+0.2**
BLCB	**Balcova**	**0.37**	**61**	*e*PG	**Pg**	**05 17 50.1**	**-0.3**
BLCB				*e*SG	**Sg**	**05 17 55.5**	**+0.4**
BLCB	**Balcova**	**0.37**	**61**	*e*Pg	**Pg**	**05 17 50.1**	**-0.3**
BLCB				*e*Sg	**Sg**	**05 17 55.6**	**+0.4**
CHOS	**Chios island**	**0.49**	**292**	*e*PG	**Pg**	**05 17 52.6**	**-0.1**
CHOS				*e*SG	**Sg**	**05 17 59.8**	**+0.6**
CHOS	**Chios island**	**0.49**	**292**	*e*Pg	**Pg**	**05 17 52.6**	**-0.1**
CHOS				*e*Sg	**Sg**	**05 17 59.8**	**+0.6**
IZM	**Izmir**	**0.53**	**69**	*e*PG	**Pg**	**05 17 53.2**	**-0.2**
IZM	**Izmir**	**0.53**	**69**	*e*Pg	**Pg**	**05 17 53.2**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.02**	**104**	*e*PG	**Pg**	**05 18 02.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.02**	**104**	*e*Pg	**Pg**	**05 18 02.5**	**-0.3**
AYDN	**Tasoluk**	**1.12**	**119**	*i* P	**Pn**	**05 18 06.2**	**+1.0**
AYDN				*i* S	**Sn**	**05 18 21.1**	**+0.3**
AYDN	**Tasoluk**	**1.12**	**119**	*i* P	**Pn**	**05 18 06.2**	**+1.0**
AYDN				*i* S	**Sn**	**05 18 21.1**	**+0.3**
SIGR	**SIGRI**	**1.18**	**329**	*e*PN	**Pb**	**05 18 05.3**	**-0.4**
SIGR	**SIGRI**	**1.18**	**329**	*e*Pn	**Pb**	**05 18 05.3**	**-0.4**
BODT	**Bodrum**	**1.26**	**155**	*e*PN	**Pn**	**05 18 06.7**	**-0.3**
BODT	**Bodrum**	**1.26**	**155**	*e*Pn	**Pn**	**05 18 06.7**	**-0.3**
APE	**Apeiranthos**	**1.44**	**218**	*e*PN	**Pn**	**05 18 09.4**	**-0.1**
APE	**Apeiranthos**	**1.44**	**218**	*e*Pn	**Pn**	**05 18 09.4**	**-0.1**
KULA	**Kula-Manisa**	**1.62**	**78**	*e*PN	**Pn**	**05 18 11.8**	**-0.3**
KULA	**Kula-Manisa**	**1.62**	**78**	*e*Pn	**Pn**	**05 18 11.8**	**-0.3**
EZN	**Ezine**	**1.64**	**352**	*e*PN	**Pn**	**05 18 12.3**	**+0.1**
EZN	**Ezine**	**1.64**	**352**	*e*Pn	**Pn**	**05 18 12.3**	**+0.1**

*ISCJB **21** 05:23:54.8±0.4, 30°.89N±0°.05×130°.0E±0°.1, h205km±3km, mb3.3/9, Error ellipse: s-maj=16.8km s-min=7.9km az=12.1*
*IDC **21** 05:23:56.0±1.4, 30°.90N×129°.80E, h204km±12km, mb3.2/9, mb1 3.3/11, mb1mx3.2/30, mbtmp3.6/11, Error ellipse: s-maj=25.3km s-min=16.2km az=93.0*
*JMA **21** 05:23:56.6±0.1, 30°.90N×129°.99E, h195km±2km, M3.5*
ISC 21 05:23:55.6±0.7, 30°.87N±0°.05×129°.9E±0°.1, h200km±6km, n22, σ1§03/32, mb3.3/9, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKC	**Kuchinoerabu**	**0.47**	**148**	P	**Pn**	**05 24 23.3**	**+0.7**
JKC				*e*S	**Sn**	**05 24 44.7**	**+1.2**
JSU	**Suzuyama**	**0.79**	**36**	P	**Pn**	**05 24 24.3**	**+0.2**
JSU				*e*S	**Sn**	**05 24 46.2**	**-0.2**
JYAK	**Yakushimahirau**	**0.81**	**140**	P	**Pn**	**05 24 24.6**	**+0.4**
JYAK				*e*S	**Sn**	**05 24 45.5**	**-0.8**
JSJ	**Shimokoshiki**	**0.83**	**349**	P	**Pn**	**05 24 24.3**	**0.0**
JSJ				*e*S	**Sn**	**05 24 46.1**	**-0.6**
JTSR	**Tashiro 2**	**0.92**	**71**	P	**Pn**	**05 24 24.6**	**-0.3**
JTSR				S	**Sn**	**05 24 46.2**	**-1.4**
JTN	**Tanegashima 3**	**0.94**	**103**	P	**Pn**	**05 24 25.8**	**+0.8**
JTN				*e*S	**Sn**	**05 24 46.7**	**-1.1**
JNN	**Nakanoshima**	**1.02**	**182**	P	**Pn**	**05 24 26.4**	**+0.8**
JNN				*e*S	**Sn**	**05 24 49.7**	**+0.9**
JTZ	**Takazaki**	**1.44**	**44**	P	**Pn**	**05 24 29.2**	**+0.4**
JTZ				*e*S	**Sn**	**05 24 53.7**	**-1.0**
JTAJ	**Takarajima**	**1.81**	**200**	P	**Pn**	**05 24 33.6**	**+1.3**
JIU2	**Izumi 2**	**1.84**	**25**	P	**Pn**	**05 24 33.1**	**+0.6**
JIU2				*e*S	**Sn**	**05 25 00.7**	**-0.7**
JNU	**Nakatsue**	**2.40**	**20**	P	**Pn**	**05 24 38.9**	**+0.5**
	22nm,0.3s,baz=292,slow=3.2,SNR=134						
JOW	**Kunigami**	**4.27**	**200**	P	**Pn**	**05 25 00.4**	**-0.4**
	0.4nm,0.3s,baz=127,slow=18,SNR=12						
JOW				S	**Sn**	**05 25 48.6**	**-3.4**
	1.1nm,0.3s,baz=101,slow=29,SNR=16						
KSRS	**Korea Array**	**6.78**	**346**	P	**Pn**	**05 25 33.8**	**+1.0**
	0.1nm,0.3s,baz=170,slow=14,SNR=3.9						
SONM	**Songino Array**	**24.71**	**320**	P	**P**	**05 28 57.5**	**-0.8**
	0.6nm,0.7s,baz=145,slow=8.6,SNR=4.0						
ASAR	**Alice Springs**	**54.36**	**175**	P	**P**	**05 33 02.5**	**+0.8**
	0.4nm,0.8s,baz=360,slow=12,SNR=4.2						
ILAR	**Eielson Array**	**59.68**	**30**	P	**P**	**05 33 38.2**	**-0.3**
	0.2nm,0.6s,baz=255,slow=6.5,SNR=3.4						
ARCES	**ARCESS Array B**	**66.26**	**338**	P	**P**	**05 34 21.0**	**-0.7**
	3.2nm,0.9s,baz=41,slow=7.4,SNR=3.3						
FINES	**FINESS Array B**	**69.58**	**330**	P	**P**	**05 34 41.7**	**-0.8**
	0.6nm,0.4s,baz=54,slow=5.7,SNR=8.8						
YKA	**Yellowknife Ar**	**73.72**	**26**	P	**P**	**05 35 07.6**	**+0.4**
	0.3nm,0.6s,baz=304,slow=5.8,SNR=7.6						
BRTR	**Keskin Array B**	**75.37**	**308**	P	**P**	**05 35 18.1**	**+0.8**
	0.1nm,0.4s,baz=91,slow=5.1,SNR=3.7						
NOA	**NORSAR Array B**	**75.82**	**334**	P	**P**	**05 35 18.4**	**-0.9**
	1.2nm,0.9s,baz=50,slow=5.7,SNR=2.8						
PDAR	**Pinedale Array**	**88.64**	**39**	P	**P**	**05 36 26.8**	**+0.4**
	0.4nm,0.7s,baz=251,slow=1.6,SNR=3.7						

IDC 21 06:03:00.5±4.6, 9.75S×155°.97E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/17, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/15, Error ellipse: s-maj=132.2km s-min=44.3km az=121.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.85**	**142**	LR	LR	06 12 02.4	
	comp=Z,94nm,18.6s,baz=202,slow=34						
WRA	**Warramunga Arr**	**23.20**	**242**	P	P	06 08 08.6	-0.7
	0.3nm,0.3s,baz=65,slow=9.7,SNR=5.5						
ASAR	**Alice Springs**	**25.21**	**234**	P	P	06 08 27.8	-0.3
	0.7nm,0.8s,baz=64,slow=11,SNR=6.9						
MKAR	**Makanchi Array**	**86.09**	**319**	P	P	06 15 44.3	+0.9
	0.2nm,0.6s,baz=116,slow=6.6,SNR=3.2						

*ISCJB **21** 06:12:35.5±0.4, 32°.32N±0°.02×115°.21W±0°.02, h14km±3km, mb3.2/1, MS3.2/1, Error ellipse: s-maj=3.0km s-min=2.5km az=6.3*
*NEIC **21** 06:12:37.0, 32°.31N×115°.27W, h5km, ML3.9(PAS), ML4.1(ECX), After ECX.*
NEIC Felt at Guadalupe Victoria.
*IDC **21** 06:12:37.4±1.7, 32°.31N×115°.13W, h0km, mb3.2/1, mb1 3.5/7, mb1mx3.3/29, mbtmp3.1/7, ML3.4/5, MS3.0/6, Ms1 3.0/6, ms1mx2.8/19, Error ellipse: s-maj=26.4km s-min=8.8km az=34.0*
*ECX **21** 06:12:37.0±0.6, 32°.31N×115°.27W, h5km, MD3.9, ML4.1*
*MEX **21** 06:12:38.0±0.3, 32°.33N×115°.24W, h6km±27km, MD4.1*
ISC 21 06:12:36.2±0.9, 32°.30N±0°.02×115°.26W±0°.02, h11km±6km, n76, σ1§29/95, 3C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.12**	**24**	*i* P	**Pg**	**06 12 39.6**	**+0.4**
MBIG				*e*P	**Pg**	**06 12 39.6**	**+0.4**
CPBX	**Cerro Prieto**	**0.13**	**341**	⇓*i*P	**Pg**	**06 12 39.0**	**-0.3**
CPBX				*e*S	**Sg**	**06 12 41.6**	**+0.1**
RDX	**Rancho Dawling**	**0.69**	**238**	⇑*e*P	**Pg**	**06 12 49.3**	**-0.2**
RDX				*e*S	**Sg**	**06 12 58.4**	**-0.2**
RMX	**La Rumorosa**	**0.76**	**294**	⇑*e*P	**Pg**	**06 12 50.0**	**-0.9**
RMX				⇓*e*		06 13 02.4	
	comp=E,7μm,0.4s						
SWSC	**Sam W. Stewart**	**0.79**	**325**	P	**Pg**	**06 12 50.1**	**-1.3**
	baz=0.8						
GLA	**Glamis**	**0.84**	**26**	⇓*i*P	**Pg**	**06 12 51.2**	**-1.1**
GLA	**Glamis**	**0.84**	**26**	P	**Pg**	**06 12 51.2**	**-1.1**
	baz=0.8						
GLA				S	**Sg**	**06 13 02.3**	**-1.0**
	baz=0.8						
GLA	**Glamis**	**0.84**	**26**	*e*Pg	**Pg**	**06 12 51.7**	**-0.6**
GLA				*e*Sg	**Sg**	**06 13 03.4**	**+0.1**
ECBX	**El Chinero**	**0.84**	**168**	*e*P	**Pg**	**06 12 51.6**	**-0.8**
ECBX				*e*S	**Sg**	**06 13 03.1**	**-0.3**
MONP	**Monument Peak,**	**1.15**	**301**	P	**Pb**	**06 12 56.3**	**-1.9**
	baz=1.1						
MONP				S	**Sb**	**06 13 11.5**	**-1.7**
	baz=1.1						
ZAX	**El Zacaton**	**1.17**	**228**	*e*P	**Pb**	**06 12 57.6**	**-0.8**
ZAX				*e*S	**Sb**	**06 13 13.1**	**-0.5**
CBX	**Cerro Bola**	**1.19**	**271**	*e*P	**Pb**	**06 12 57.8**	**-1.1**
CBX				*e*S	**Sb**	**06 13 13.3**	**-1.1**
BAR	**Barrett**	**1.26**	**288**	*e*Pn	**Pn**	**06 12 58.8**	**-1.0**
BAR				*e*S	**Sb**	**06 13 14.8**	**-1.3**
SPIG	**San Pedro Mart**	**1.26**	**188**	*e*P	**Pn**	**06 12 59.3**	**-0.8**
SPIG				*e*S	**Sb**	**06 13 15.7**	**-0.9**
SPIG	**San Pedro Mart**	**1.26**	**188**	*e*P	**Pn**	**06 12 59.3**	**-0.8**
SPIG				*e*S	**Sb**	**06 13 15.7**	**-0.9**
SPX	**San Pedro Mart**	**1.26**	**188**	*e*P	**Pn**	**06 12 59.3**	**-0.8**
SPX				*e*S	**Sb**	**06 13 16.3**	**-0.3**
SPX				⇑*e*		06 13 20.0	

TUC	**Tucson**	**3.79**	**89**	*e*P		**Pn**	**06 13 35.0**	**+0.3**
TUC				*e*S		**Sn**	**06 14 18.2**	**-1.0**
SHPR	**Sheep Range**	**4.20**	**1**	*e*Pn		**Pn**	**06 13 40.5**	**+0.1**
ISA	**Isabella, Lake**	**4.29**	**322**	*e*Pn		**Pn**	**06 13 42.0**	**+0.5**
DAC	**Darwin (Calif)**	**4.42**	**335**	*e*Pn		**Pn**	**06 13 43.6**	**+0.2**
WUAZ	**Wupatki**	**4.55**	**44**	*e*Pn		**Pn**	**06 13 45.3**	**+0.1**
TPNV	**Topopah Spring**	**4.71**	**350**	*e*Pn		**Pn**	**06 13 48.8**	**+1.3**
HSIG		**4.94**	**130**	*e*P		**Pn**	**06 13 51.5**	**+1.1**
HSIG				*e*S		**Sn**	**06 14 48.2**	**+0.5**
HSIG		**4.94**	**130**	*e*P		**Pn**	**06 13 51.5**	**+1.1**
HSIG				*e*S		**Sn**	**06 14 48.2**	**+0.5**
W18A	**Petrified Fore**	**5.39**	**57**	*e*Pn		**Pn**	**06 13 57.0**	**+0.2**
CCUT	**Cedar City**	**5.47**	**16**	*e*Pn		**Pn**	**06 13 56.1**	**-1.8**
ARUT	**Antelope Range**	**5.68**	**15**	*e*Pn		**Pn**	**06 14 01.9**	**+1.2**
TPH	**Tonopah**	**5.99**	**345**	*e*Pg		**Pg**	**06 14 31.8**	**+1.0**
R11A	**Troy Canyon, C**	**6.04**	**358**	*e*Pn		**Pn**	**06 14 06.3**	**+0.6**
R11A				*e*Sg		**Sg**	**06 15 49.7**	**-0.5**
CGIG		**6.52**	**105**	*e*P		**Pn**	**06 14 12.8**	**+0.5**
CGIG				*e*S		**Sn**	**06 15 26.5**	**-0.2**
CGIG		**6.52**	**105**	*e*P		**Pn**	**06 14 12.8**	**+0.5**
CGIG				*e*S		**Sn**	**06 15 26.5**	**-0.2**
NVAR	**Mina Array Bea**	**6.61**	**339**	Pn		Pn	06 14 17.9	+4.4
	comp=N,0.1nm,0.3s,baz=138,slow=19,SNR=2.2							
NVAR				Pg		Pg	06 14 39.4	-3.3
	comp=N,0.3nm,0.3s,baz=161,slow=17,SNR=8.5							
NVAR				Lg		Lg	06 16 12.9	
	baz=223,slow=44,SNR=0.9							
MVU	**Marysvale**	**6.67**	**21**	*e*Pn		**Pn**	**06 14 16.0**	**+1.6**
WAKR	**Walker**	**7.07**	**332**	*e*Pg		**Pg**	**06 14 54.7**	**+3.1**
CMB	**Columbia Colle**	**7.10**	**325**	*e*Pg		Pg	06 14 58.9	+6.8
LENM	**Lemitar**	**7.18**	**73**	*e*Pn		**Pn**	**06 14 22.5**	**+1.1**
TMUT	**Trail Mountain**	**7.72**	**24**	*e*Pg		**Pg**	**06 15 02.5**	**-1.5**
ANMO	**Albuquerque**	**7.80**	**68**	Pn		Pn	**06 14 30.8**	**+1.0**
	comp=N,0.1nm,0.3s,baz=252,slow=9.6,SNR=3.7							
ANMO				Pg		Pb	06 14 58.5	+7.0
	comp=N,0.2nm,0.3s,baz=257,slow=15,SNR=3.7							
ANMO				Lg		Lg	06 16 40.8	
	comp=N,0.1nm,0.3s,baz=183,slow=22,SNR=1.0							
ANMO	**Albuquerque**	**7.80**	**68**	Pn		**Pn**	**06 14 30.8**	**+1.0**
ANMO				Pg		Pb	06 14 58.5	+7.0
ANMO				*e*Pg		Pg	06 15 01.9	-3.7
ANMO				Lg		Lg	06 16 40.8	
DUG	**Dugway, Tooele**	**8.12**	**13**	*e*Pg		**Pg**	**06 15 12.4**	**+0.7**
MNTX	**Cornudas Mount**	**8.41**	**91**	*e*Pn		**Pn**	**06 14 38.6**	**+0.6**
ELK	**Elko**	**8.43**	**0**	Pn		Pn	06 14 42.6	+4.1
	comp=N,0.1nm,0.3s,baz=189,slow=19,SNR=3.4							
ELK				Lg		Lg	06 17 00.2	
	comp=N,0.1nm,0.3s,baz=243,slow=18,SNR=2.0							
ELK				LR		LR	06 18 06.7	
	comp=N,76nm,20.3s,baz=180,slow=39							
ELK	**Elko**	**8.43**	**0**	Pn		Pn	06 14 42.6	+4.1
ELK				*e*Pg		**Pg**	**06 15 20.7**	**+3.1**
ELK				Lg		Lg	06 17 00.2	
LPIG	**La Paz**	**9.26**	**151**	LR		LR	06 17 40.8	
	comp=N,54nm,20.1s,baz=2.0,slow=33							
SMCO	**Snowmass**	**9.61**	**42**	*e*Pn		Pn	06 14 58.8	+3.9
TXAR	**Lajitas Array**	**10.39**	**103**	Pn		**Pn**	**06 15 07.5**	**+2.2**
	comp=N,0.2nm,0.3s,baz=281,slow=13,SNR=15							
TXAR				Lg		Lg	06 17 58.6	
	comp=N,0.0nm,0.3s,baz=289,slow=14,SNR=2.6							
TXAR				LR		LR	06 18 58.1	
	comp=N,57nm,20.2s,baz=0.0,slow=37							
MSTX	**Muleshoe**	**10.60**	**78**	*e*Pn		**Pn**	**06 15 08.8**	**+0.7**
YBH	**Yreka Blue Hor**	**11.14**	**330**	LR		LR	06 19 21.2	
	comp=N,93nm,19.7s,baz=177,slow=36							
PDAR	**Pinedale Array**	**11.38**	**22**	Pn		Pn	06 15 25.5	+6.5
	comp=N,0.0nm,0.3s,baz=216,slow=9.0,SNR=2.7							
PDAR				Lg		Lg	06 18 44.2	
	baz=170,slow=22,SNR=1.8							
NEW	**Newport**	**16.01**	**355**	Pn		**P**	**06 16 24.7**	**-0.1**
	comp=N,0.1nm,0.3s,baz=176,slow=16,SNR=7.9							
NEW				LR		LR	06 22 56.5	
	comp=N,88nm,18.1s,baz=177,slow=39							
BBB	**Bella Bella**	**21.97**	**339**	LR		LR	06 26 24.3	
	comp=N,89nm,19.0s,baz=230,slow=38							
ILAR	**Eielson Array**	**37.86**	**339**	P		**P**	**06 19 55.8**	**+3.0**
	comp=N,0.3nm,0.7s,baz=149,slow=7.2,SNR=5.3							

GUC 21 06:13:48.4±0.4, 35°.03S×73°.04W, h19km±4km, ML3.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.21**	**108**	*e*P	Pn	06 14 09.4	-0.9
TALC				*e*S	Sb	06 14 25.0	-0.8
LNCH	**Linares**	**1.43**	**125**	*e*P	Pn	06 14 12.8	-0.6
LNCH				*e*S	Sn	06 14 31.5	-0.1
NICH	**Los Niches**	**1.48**	**90**	*e*P	Pn	06 14 13.8	-0.2
NICH				*e*S	Sn	06 14 33.0	+0.1
LNV	**Longovilo**	**1.71**	**52**	*e*P4	Pn	06 14 16.6	-0.7
CHCH	**Chadas Angostu**	**2.25**	**62**	*e*P	Pn	06 14 25.6	+0.9
CHCH				*e*S	Sb	06 14 54.3	-1.8
CLCH	**Cerro Calan**	**2.63**	**53**	*e*P	Pn	06 14 31.1	+1.1
CLCH				*e*S	Sn	06 15 03.6	+2.1
CLCH				AML	AML	06 15 14.0	
	comp=E,481nm,0.8s						

CSEM ***21*** *06:15:32.2, 39°.66N×29°.48E, h7km, MD2.9, Mining explosion.*

DDA 21 06:15:32.2, 39°.66N×29°.48E, h7km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.57**	**180**	*i* P	Pg	06 15 43.5	0.0
GDZ				*i* S	Sb	06 15 52.8	-0.5
GDZ	**Gediz**	**0.57**	**180**	*i* P	Pg	06 15 43.5	0.0
GDZ				*i* S	Sb	06 15 52.8	-0.6
DURS	**Dursunbey**	**0.78**	**266**	*i* P	Pg	06 15 46.6	-0.7
DURS				*i* S	Sb	06 15 59.3	+0.2
DURS	**Dursunbey**	**0.78**	**266**	*i* P	Pg	06 15 46.6	-0.8
DURS				*i* S	Sb	06 15 59.3	+0.2
BORA	**Eskisehir**	**0.78**	**74**	*i* P	Pg	06 15 47.4	0.0
BORA				*i* S	Sb	06 16 00.2	+1.0
BORA	**Eskisehir**	**0.78**	**74**	*i* P	Pg	06 15 47.4	0.0
BORA				*i* S	Sb	06 16 00.2	+0.9
SEYT	**Eskypehyr**	**1.07**	**97**	*i* P	Pg	06 15 51.5	-1.5
SEYT				*i* S	Sn	06 16 12.6	+3.5
SEYT	**Eskypehyr**	**1.07**	**97**	*i* P	Pg	06 15 51.5	-1.4
SEYT				*i* S	Sn	06 16 12.6	+3.5
BUY	**Buyukada**	**1.22**	**347**	*i* P	Pb	06 15 55.5	-0.1
BUY				*i* S	Sn	06 16 14.0	+1.6
BUY	**Buyukada**	**1.22**	**347**	*i* P	Pb	06 15 55.5	-0.1
BUY				*i* S	Sn	06 16 14.0	+1.6
MANT	**Manisa**	**1.37**	**212**	*i* P	Pn	06 15 57.3	-0.8
MANT	**Manisa**	**1.37**	**212**	*i* P	Pn	06 15 57.3	-0.8
BALY	**Balya**	**1.44**	**274**	*i* P	Pb	06 15 59.4	0.0
BALY				*i* S	Sg	06 16 19.8	+1.2
BALY	**Balya**	**1.44**	**274**	*i* P	Pb	06 15 59.4	0.0
BALY				*i* S	Sg	06 16 19.8	+1.3
BTAS	**Taskesti**	**1.48**	**52**	*i* P	Pg	06 16 00.8	+0.1
BTAS				*i* S	Sg	06 16 24.7	+4.7
BTAS	**Taskesti**	**1.48**	**52**	*i* P	Pg	06 16 00.8	+0.1
BTAS				*i* S	Sg	06 16 24.7	+4.7

CSEM ***21*** *06:17:13.2, 38°.94N×40°.02E, h11km, MD2.5*

ISK 21 06:17:13.2, 38°.94N×40°.02E, h11km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTK	**Pertek**	**0.49**	**265**	*e*PG	Pg	06 17 23.2	+0.1
PTK				*e*SG	Sg	06 17 30.6	+0.8
PTK	**Pertek**	**0.49**	**265**	*e*Pg	Pg	06 17 23.2	+0.1
PTK				*e*Sg	Sg	06 17 30.6	+0.8
SVRC	**Sivrice-ELAZID**	**0.79**	**225**	*e*PG	Pb	06 17 28.9	-0.2
SVRC	**Sivrice-ELAZID**	**0.79**	**225**	*e*Pg	Pg	06 17 28.9	+0.2
SVAN	**Silvan-Diyarba**	**1.21**	**130**	*e*PN	Pg	06 17 36.8	+0.2
ILIC	**ilic-Erzincan**	**1.24**	**295**	*e*PN	Pb	06 17 36.9	+0.1
ILIC	**ilic-Erzincan**	**1.24**	**295**	*e*Pn	Pb	06 17 36.9	+0.1
MAZI	**Mazidag**	**1.51**	**167**	*e*PN	Pn	06 17 40.7	+0.3
MAZI	**Mazidag**	**1.51**	**167**	*e*Pn	Pn	06 17 40.7	+0.3

NEIC ***21*** *06:25:45.8, 51°.30N×173°.22W, h35km, ML3.3(AEIC), After AEIC.*
ISCJB ***21*** *06:25:47.2±0.7, 51°.44N±0°.10×173°.28W±0°.07, h37km, mb3.7/15, Error ellipse: s-maj=14.4km s-min=5.7km az=172.9*
IDC ***21*** *06:25:50.7±0.8, 51°.58N×173°.37W, h48km±5km, mb3.4/15, mb1 3.6/17, mb1mx3.5/51, mbtmp3.7/17, Error ellipse: s-maj=21.6km s-min=13.6km az=179.0*

ISC 21 06:25:49.9±0.7, 51°.5N±0°.1×173°.35W±0°.06, h37km, n29, σ1§55/32, mb3.7/15, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**0.89**	**329**	P	**Pn**	**06 26 05.6**	**-0.2**
KOKL	**Mount Kliuchef**	**0.96**	**327**	P	**Pn**	**06 26 06.8**	**0.0**
ADK	**Adak**	**2.11**	**281**	P	**Pn**	**06 26 21.7**	**-0.8**
ADK				S	**Sn**	**06 26 48.5**	**+1.0**
AMKA	**Amchitka**	**4.60**	**271**	P	**Pn**	**06 26 54.7**	**-2.0**
MREP	**Makushin Rep't**	**4.62**	**58**	P	**Pn**	**06 26 55.8**	**-1.3**
UNV	**Unalaska Valle**	**4.77**	**58**	P	**Pn**	**06 26 58.0**	**-1.1**
UNV				S	**Sn**	**06 27 54.8**	**+1.8**
FX1	**Attu Island--F**	**8.40**	**285**	P	**Pn**	**06 27 51.2**	**+2.3**
	1.0nm,0.3s,baz=78,slow=20,SNR=6.1						
ILAR	**Eielson Array**	**19.06**	**36**	P	**P**	**06 30 06.3**	**-2.3**
	0.3nm,0.3s,baz=232,slow=8.8,SNR=25						
ILAR				pP	**pP**	**06 30 21.2**	**+3.1**
	0.2nm,0.3s,baz=230,slow=8.7,SNR=3.6						
SEY	**Seymchan**	**21.49**	**315**	P	**P**	**06 30 34.4**	**-0.5**
	0.3nm,0.3s,baz=74,slow=15,SNR=3.2						
DLBC	**Dease Lake**	**25.42**	**57**	P	**P**	**06 31 14.4**	**+0.7**
	1.4nm,0.7s,baz=241,slow=10,SNR=3.1						
YKA	**Yellowknife Ar**	**32.64**	**47**	P	**P**	**06 32 16.9**	**-0.8**
	0.2nm,0.4s,baz=271,slow=7.7,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**35.32**	**213**	T	T	07 10 48.1	
	baz=21,slow=75,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**35.33**	**213**	T	T	07 10 48.1	
	baz=21,slow=75,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**35.34**	**213**	T	T	07 10 51.2	
	baz=21,slow=75,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**36.52**	**213**	T	T	07 11 57.3	
	baz=11,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**36.54**	**213**	T	T	07 11 58.0	
	baz=11						
H11S3	**WAKE ISLAND Hy**	**36.54**	**213**	T	T	07 12 02.2	
	baz=11						
PDAR	**Pinedale Array**	**42.99**	**76**	P	**P**	**06 33 45.6**	**+0.1**
	0.4nm,0.7s,baz=316,slow=2.1,SNR=4.2						
SONM	**Songino Array**	**49.59**	**299**	P	**P**	**06 34 37.1**	**-0.1**
	0.7nm,0.5s,baz=58,slow=8.7,SNR=4.0						
TXAR	**Lajitas Array**	**55.25**	**85**	P	**P**	**06 35 18.9**	**-0.4**
	0.2nm,0.7s,baz=286,slow=4.6,SNR=3.4						
TXAR				pP	**pP**	**06 35 31.1**	**+0.8**
	0.4nm,0.8s,baz=252,slow=2.5,SNR=3.4						
TXAR				sP	**sP**	**06 35 38.5**	**+3.8**
	0.3nm,0.6s,baz=289,slow=3.8,SNR=3.7						
MKAR	**Makanchi Array**	**62.56**	**311**	P	**P**	**06 36 08.3**	**-1.4**
	0.4nm,0.6s,baz=45,slow=5.4,SNR=5.4						
MKAR				pP	**pP**	**06 36 22.1**	**+1.3**
	0.2nm,0.5s,baz=52,slow=7.1,SNR=3.3						
BVAR	**Borovoye Array**	**62.92**	**323**	P	**P**	**06 36 11.6**	**-0.3**
	1.2nm,0.5s,baz=49,slow=5.8,SNR=13						
BVAR				pP	**pP**	**06 36 23.9**	**+0.8**
	0.8nm,0.5s,baz=56,slow=6.0,SNR=5.0						
FINES	**FINESS Array B**	**66.32**	**350**	P	**P**	**06 36 33.1**	**-0.8**
	2.0nm,1.0s,baz=354,slow=11,SNR=3.2						
FINES				PcP	**PcP**	**06 37 03.4**	**-0.2**
	1.5nm,1.0s,baz=104,slow=8.0,SNR=3.4						
NOA	**NORSAR Array B**	**67.73**	**358**	P	**P**	**06 36 42.2**	**-0.8**
	0.3nm,0.6s,baz=6.4,slow=6.7,SNR=2.5						
AAK	**Ala-Archa**	**69.33**	**313**	P	**P**	**06 36 52.9**	**-0.5**
	1.0nm,0.5s,baz=45,slow=7.1,SNR=5.2						
AKASG	**Malin Array Be**	**76.36**	**345**	P	**P**	**06 37 32.9**	**-1.8**
	0.4nm,0.3s,baz=17,slow=5.8,SNR=3.0						
GERES	**GERESS Array B**	**79.83**	**355**	P	**P**	**06 37 53.9**	**-0.2**
	0.5nm,0.6s,baz=28,slow=6.0,SNR=6.2						
WRA	**Warramunga Arr**	**84.57**	**228**	P	**P**	**06 38 17.9**	**-1.2**
	0.2nm,0.4s,baz=30,slow=5.6,SNR=7.4						
ASAR	**Alice Springs**	**87.99**	**227**	P	**P**	**06 38 35.5**	**-0.4**
	0.4nm,0.8s,baz=26,slow=5.5,SNR=5.1						
ASAR				pP	**pP**	**06 38 50.7**	**+3.3**
	0.2nm,0.5s,baz=32,slow=5.6,SNR=1.2						

ISCJB ***21*** *06:35:20.7±0.6, 14°.01N±0°.07×91°.47W±0°.04, h73km±7km, mb3.4/5, Error ellipse: s-maj=12.8km s-min=4.1km az=25.9*
CASC ***21*** *06:35:22.9±1.3, 13°.90N×91°.32W, h28km±11km, MD3.7, ML3.8*
IDC ***21*** *06:35:23.2±1.1, 14°.34N×91°.14W, h66km±7km, mb3.3/5, mb1 3.7/8, mb1mx3.4/25, mbtmp3.6/8, MS3.0/6, Ms1 3.0/6, ms1mx2.8/17, Error ellipse: s-maj=27.3km s-min=11.9km az=31.0*
MEX ***21*** *06:35:23.4±0.4, 13°.86N×91°.78W, h74km±55km, MD4.5*
NEIC ***21*** *06:35:23.4, 13°.86N×91°.78W, h74km, MD4.5(MEX), After MEX.*

ISC 21 06:35:21.0±0.8, 13°.88N±0°.07×91°.54W±0°.04, h63km±8km, n41, σ1§63/55, mb3.6/5, 2C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.44**	**348**	‖*e*P	**Pn**	**06 35 33.0**	**+0.3**
GCG	**Guatemala City**	**1.20**	**54**	*e*P	**Pn**	**06 35 41.8**	**-0.3**
NBG	**Las Nubes**	**1.35**	**59**	*e*P	**Pn**	**06 35 44.2**	**0.0**
APG	**El Apazote**	**1.53**	**43**	P	Pn	06 35 40.0	-6.4
	52nm,0.3s,baz=214,slow=11,SNR=1893						
APG				S	Sn	06 35 58.6	-6.8
	72nm,0.3s,baz=238,slow=5.6,SNR=9.2						
APG				LR	LR	06 36 17.3	
	comp=Z,564nm,19.5s,baz=180,slow=58						
RBDL	**Robledal**	**1.82**	**83**	⇑*i*P	**Pn**	**06 35 49.5**	**-0.7**
RTR	**El Retiro**	**1.84**	**89**	*i* P	**Pn**	**06 35 50.3**	**-0.2**
RTR				*e*S	**Sn**	**06 36 11.8**	**-1.2**
SBLS	**San Blas**	**1.86**	**91**	*i* P	**Pn**	**06 35 50.5**	**-0.4**
SBLS				*e*S	**Sn**	**06 36 12.4**	**-1.3**
SNJE	**San Jose**	**1.88**	**90**	*i* P	**Pn**	**06 35 50.8**	**-0.3**
MRL	**Marmol**	**2.15**	**57**	*e*P	**Pn**	**06 35 54.2**	**-0.5**
BOQS	**Boqueron**	**2.20**	**94**	⇑*i*P	**Pn**	**06 35 55.4**	**-0.2**
BOQS				*e*S	**Sn**	**06 36 20.1**	**-1.7**
SNET	**Serv Nac Est T**	**2.25**	**95**	*e*P	**Pn**	**06 35 55.9**	**-0.2**
SNET				*e*S	**Sn**	**06 36 20.1**	**-2.8**
SNET				AML	AML	06 36 30.1	
	comp=Z,1μm,0.3s						
LFRS	**El Faro**	**2.42**	**96**	*i* P	**Pn**	**06 35 58.6**	**+0.2**
LFRS				*e*S	**Sn**	**06 36 25.0**	**-2.1**
PCIG		**2.43**	**318**	*e*P	**Pn**	**06 35 58.4**	**0.0**
PCIG				*e*S	**Sn**	**06 36 24.8**	**-2.2**
PCIG		**2.43**	**318**	*e*P	**Pn**	**06 35 58.4**	**0.0**
PCIG				*e*S	**Sn**	**06 36 24.8**	**-2.2**
LBRS	**Las Brisas**	**2.43**	**93**	*i* P	**Pn**	**06 35 57.9**	**-0.6**
CCIG	**Comitan**	**2.45**	**347**	*e*P	**Pn**	**06 35 59.5**	**+0.6**
CCIG				*e*S	**Sn**	**06 36 28.7**	**+0.8**
CCIG	**Comitan**	**2.45**	**347**	*e*P	**Pn**	**06 35 59.5**	**+0.6**
CCIG				*e*S	**Sn**	**06 36 28.7**	**+0.8**
CNCH	**Conchagua**	**3.66**	**99**	*e*P	**Pn**	**06 36 15.5**	**+0.2**
CMIG	**Matias Romero**	**4.53**	**315**	P	**Pn**	**06 36 28.3**	**+1.1**
	comp=Z,4.6nm,0.3s,baz=143,slow=9.7,SNR=61						
CMIG				S	**Sn**	**06 37 20.1**	**+1.5**
	comp=Z,15nm,0.3s,baz=233,slow=23,SNR=11						
CMIG				LR	LR	06 37 45.5	
	comp=Z,31nm,22.0s,baz=129,slow=32						
HUIG	**Huatulco**	**4.80**	**294**	*e*P	**Pn**	**06 36 30.2**	**-0.5**
HUIG				*e*S	**Sn**	**06 37 20.9**	**-4.2**
HUIG	**Huatulco**	**4.80**	**294**	*e*P	**Pn**	**06 36 30.2**	**-0.5**
HUIG				*e*S	**Sn**	**06 37 20.9**	**-4.2**
VHO	**Vista Hermosa**	**5.92**	**303**	*e*P	**Pn**	**06 36 45.9**	**-0.5**
VHO				*e*S	**Sn**	**06 37 50.4**	**-2.6**
VHO	**Vista Hermosa**	**5.92**	**303**	*e*P	**Pn**	**06 36 45.9**	**-0.5**
VHO				*e*S	**Sn**	**06 37 50.4**	**-2.6**
TEIG	**Tepich**	**7.04**	**26**	*e*P	**Pn**	**06 37 00.3**	**-1.2**
TEIG	**Tepich**	**7.04**	**26**	P	Pn	06 36 56.7	-4.8
	comp=Z,1.1nm,0.3s,baz=210,slow=14,SNR=10						
TEIG				S	Sn	06 38 07.2	-13
	baz=25,slow=23,SNR=0.8						
TEIG	**Tepich**	**7.04**	**26**	*e*Pn	**Pn**	**06 37 00.7**	**-0.7**
TEIG				*e*Sn	**Sn**	**06 38 17.0**	**-3.1**
JTS	**JuntasAbangare**	**7.37**	**118**	P	**Pn**	**06 37 08.4**	**+2.4**
	comp=Z,1.0nm,0.3s,baz=312,slow=19,SNR=11						
JTS				S	**Sn**	**06 38 28.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=30,slow=24,SNR=1.8						
JTS	**JuntasAbangare**	**7.37**	**118**	*e*Pn	Pn	06 37 09.3	+3.2
	comp=Z,9.6nm,0.5s						
TLIG	**Tlapa**	**7.69**	**299**	*e*P	**Pn**	**06 37 12.0**	**+1.5**
TXAR	**Lajitas Array**	**19.04**	**326**	P	**Pn**	**06 39 40.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=12						
LPIG	**La Paz**	**20.43**	**303**	LR	LR	06 47 55.6	
	comp=Z,43nm,21.0s,baz=188,slow=37						
TKL	**Tuckaleechee C**	**22.78**	**17**	P	**P**	**06 40 16.5**	**-1.9**
	comp=Z,2.2nm,0.8s,baz=176,slow=13,SNR=3.1						
TKL				LR	LR	06 49 48.6	
	comp=Z,50nm,19.9s,baz=190,slow=39						
SJG	**San Juan**	**24.76**	**77**	LR	LR	06 49 15.6	
	comp=Z,44nm,21.1s,baz=270,slow=34						
ANMO	**Albuquerque**	**24.92**	**330**	P	**P**	**06 40 40.1**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=146,slow=15,SNR=4.4						
PDAR	**Pinedale Array**	**32.71**	**335**	P	**P**	**06 41 46.8**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=181,slow=5.2,SNR=2.7						
PDAR				PcP	**PcP**	**06 44 32.6**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=124,slow=7.7,SNR=3.0						
PDAR				LR	LR	06 58 16.1	
	comp=Z,29nm,19.3s,baz=186,slow=42						
NVAR	**Mina Array Bea**	**34.04**	**321**	P	**P**	**06 42 02.1**	**+2.6**
	comp=Z,2.3nm,0.9s,baz=138,slow=7.3,SNR=16						
NVAR				pP	**pP**	**06 42 17.8**	**+2.8**
	comp=Z,2.0nm,0.8s,baz=136,slow=8.9,SNR=9.6						
NVAR				PcP	**PcP**	**06 44 37.5**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=141,slow=3.0,SNR=4.5						
SCHQ	**Schefferville**	**45.18**	**20**	LR	LR	07 02 52.6	
	comp=Z,56nm,18.1s,baz=326,slow=37						
YKA	**Yellowknife Ar**	**51.24**	**347**	P	**P**	**06 44 16.5**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=148,slow=7.7,SNR=9.2						
YKA				pP	**pP**	**06 44 32.9**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=152,slow=8.6,SNR=3.0						
YKA				PcP	**PcP**	**06 45 31.5**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=147,slow=4.0,SNR=6.2						
WRA	**Warramunga Arr**	**135.79**	**256**	PKP	**PKPdf**	**06 54 36.6**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=83,slow=1.6,SNR=2.7						
PAF	**Port-aux-Franc**	**141.59**	**161**	R		07 04 00.0	
CMAR	**Chiang Mai Arr**	**146.24**	**342**	PKPbc	**PKPdf**	**06 54 55.0**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=338,slow=4.0,SNR=11						
CMAR				pPKPbc	pPKPbc	06 55 14.4	+0.9
	comp=Z,1.0nm,0.3s,baz=344,slow=3.7,SNR=2.4						

BJI ***21*** *06:55:31.6, 30°.07S×60°.32E, h5km, mB5.2/21, mb4.8/28, Ms4.9/15, Ms7 4.4/15*
IDC ***21*** *06:55:35.7±0.4, 29°.39S×60°.97E, h0km, mb4.5/21, mb1 4.6/22, mb1mx4.5/31, mbtmp4.5/22, ML4.4/1, MS3.9/29, Ms1 4.0/29, ms1mx3.9/42, Error ellipse: s-maj=15.6km s-min=14.0km az=36.0*
ISCJB ***21*** *06:55:35.3±4.3, 29°.48S±0°.06×60°.89E±0°.05, h7km±26km, mb4.9/75, MS4.0/29, Error ellipse: s-maj=9.6km s-min=7.4km az=2.4*
MOS ***21*** *06:55:36.4±1.2, 29°.41S×60°.89E, h10km, mb5.3/40, Error ellipse: s-maj=12.5km s-min=7.1km az=107.8*
GCMT ***21*** *06:55:37.7±0.3, 29°.29S×60°.93E, h19km, MW5.1/71, Moment Tensor Solution. s33,c41; s71,c93; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.41±.22; Mθθ3.73±.15; Mφφ-0.31±.15; Mrθ1.32±.27; Mφθ2.07±.11; Mφr-1.88±.39; Best double couple: M₀4.72800×10¹⁶ NP1:φs275.00000°, δ56.00000°, λ-51.00000°. NP2: φs40.00000°, δ50.00000°, λ-133.00000°. Principal axes: T 4.6340, Plg4.0000°, Azm339.0000°; N 0.1900, Plg32.0000°, Azm71.0000°; P -4.8220, Plg58.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***21*** *06:55:37.7±0.2, 29°.41S×60°.91E, h10km, mb5.2/28 Error ellipse: s-maj=10.5km s-min=7.0km az=31.0*
SZGRF ***21*** *06:55:42.0, 27°.99S×62°.40E, h33km, mb4.7, Southwest Indian Ridge*

ISC 21 06:55:38.8±0.5, 29°.48S±0°.07×60°.78E±0°.06, h16km±2km, h16km:pP-P, n434, σ1§10/455, mb4.9/75, MS4.0/29, 23C-1D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.46**	**330**	*e*Pn	Pn	06 57 49.8	-4.6
	197nm,0.8s						
ABPO	**Ambohimpanom**	**16.15**	**307**	*e*P	**

QSPA South Pole Qui 60.67 180 P **P 07 05 48.9 -0.1**
comp=Z,14nm,1.0s,baz=276,slow=1.3,SNR=32
QSPA LR LR 07 27 34.3
comp=Z,142nm,21.9s,baz=66,slow=32
KOLN Koldanda 60.98 23 *eP* **P 07 05 49.5 -2.0**
PYUN Piuthan 61.08 22 *eP* **P 07 05 50.8 -1.4**
comp=Z,162nm,0.7s
RAMN Ramite 61.33 26 *eP* **P 07 05 52.4 -1.5**
comp=Z,48nm,0.8s
DMN Daman 61.36 25 *eP* **P 07 05 52.1 -2.1**
comp=Z,46nm,0.9s
PKI Pulchoki 61.44 25 *eP* **P 07 05 53.1 -1.7**
PKIN Phulchoki 61.44 25 *eP* **P 07 05 53.0 -1.7**
GKN Gorkha 61.55 24 *eP* **P 07 05 53.1 -2.2**
comp=Z,86nm,0.9s
ODAN Odare 61.55 27 *eP* **P 07 05 52.4 -3.1**
comp=Z,45nm,1.1s
DANN Dangsing 61.56 23 *eP* **P 07 05 52.9 -2.7**
comp=Z,96nm,0.8s
KKN Kakani 61.59 25 *eP* **P 07 05 53.2 -2.5**
comp=Z,41nm,0.9s
JIRN Jiri 61.81 26 *eP* **P 07 05 54.5 -2.8**
comp=Z,34nm,0.8s
GUN Gumba 61.92 25 *eP* P 07 05 54.5 -3.6
comp=Z,64nm,1.0s
TAPN Taplejung 62.12 27 *eP* P 07 05 54.8 -4.5
comp=Z,42nm,0.9s
VNDA Vanda 63.80 166 P **P 07 06 09.7 +0.2**
comp=Z,3.9nm,0.9s,baz=281,slow=6.2,SNR=16
VNDA Vanda 63.80 166 *eP* **P 07 06 09.8 +0.2**
comp=Z,109nm,3.0s
KBL Kabul 64.16 8 *eP* **P 07 06 11.4 -1.2**
KBL pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 64.16 8 *eP* **P 07 06 11.4 -1.2**
comp=Z,7.1nm,0.9s
ASAR Alice Springs 64.69 104 P **P 07 06 14.4 -2.0**
comp=Z,6.2nm,0.7s,baz=244,slow=6.2,SNR=46
ASAR LR LR 07 31 30.0
comp=Z,93nm,18.8s,baz=242,slow=33
AS31 Alice Springs 64.69 104 *eP* **P 07 06 14.4 -2.0**
WRA Warramunga Arr 66.54 100 P **P 07 06 26.3 -2.0**
comp=Z,8.7nm,0.9s,baz=247,slow=5.7,SNR=24
WRA LR LR 07 32 15.5
comp=Z,131nm,19.0s,baz=245,slow=33
WB2 Warramunga Arr 66.55 100 *eP* **P 07 06 26.1 -2.2**
WRAB Tennant Creek 66.55 100 P **P 07 06 26.9 -1.5**
comp=Z,91nm,0.9s,SNR=6.8
WRAB Tennant Creek 66.55 100⇑*iP* **P 07 06 27.1 -1.3**
WRAB pmax pmax
comp=Z,16nm,1.0s
WRAB Tennant Creek 66.55 100 *eP* **P 07 06 26.4 -1.9**
comp=Z,19nm,1.1s
GEYT Alibeck 67.11 358 P **P 07 06 29.7 -1.7**
comp=Z,0.7nm,0.4s,baz=132,slow=2.1,SNR=2.1
GEYT LR LR 07 33 41.0
comp=Z,67nm,20.6s,baz=175,slow=34
SANI Sanana 67.50 79 P P 07 06 40.7 +6.3
QIZ Qiongzhong 67.56 51 P **P 07 06 34.0 -0.6**
QIZ S **S 07 15 32.3 +1.4**
QIZ PMZ
comp=Z,12nm,1.5s
QIZ PMZ
comp=Z,120nm,6.0s
QIZ LN
comp=Z,140nm,15.3s
QIZ LE
comp=Z,69nm,18.8s
QIZ LZ
comp=Z,200nm,16.2s
NLAI Namlea 67.85 81 P **P 07 06 36.6 0.0**
CSS Prodhromos 69.13 336 *eP* **P 07 06 44.4 +0.3**
KSH Kashi 70.09 12 P **P 07 06 48.1 -2.0**
KSH sP **sP 07 06 55.1 -2.2**
KSH PP **PP 07 09 25.0 -0.7**
KSH S S 07 15 54.0 -6.4
KSH ScS SKSac 07 16 43.3 -7.4
KSH PMZ
comp=Z,120nm,4.7s
KSH LN
comp=Z,170nm,9.0s
KSH LE
comp=Z,120nm,5.3s
KSH LZ
comp=Z,120nm,8.9s
GNI Garni 70.86 347⇑*eP* **P 07 06 55.0 +0.1**
GNI pmax pmax
comp=Z,19nm,1.7s
GYA Guiyang 70.91 43 P **P 07 06 56.8 +1.4**
GYA PP **PP 07 09 36.4 +3.5**
GYA S **S 07 16 12.8 +2.3**
GYA SKS **SKSac 07 16 55.0 -2.4**
GYA SS **SS 07 20 46.6 +2.7**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.2s
GYA LN
comp=Z,580nm,19.8s
GYA LE
comp=Z,520nm,20.4s
GYA LZ
comp=Z,560nm,19.6s
TORD Torodi Ar. Bea 70.99 298 P **P 07 06 56.3 +0.3**
comp=Z,8.6nm,1.0s,baz=127,slow=4.9,SNR=37
TORD PP PP 07 09 24.3 -9.3
comp=Z,0.8nm,0.8s,baz=130,slow=9.6,SNR=3.7
TORD LR LR 07 38 15.8
comp=Z,168nm,18.3s,baz=140,slow=36
ZKR Zakros 72.05 331 *eP* **P 07 07 02.5 +0.6**
KIC Kosan Boka 72.23 288 *eP* **P 07 07 04.5 +1.0**
comp=Z,46nm,1.1s
LIC Lamto 72.39 288 *eP* **P 07 07 05.2 +0.8**
comp=Z,13nm,0.8s
LIC *e*R
comp=Z,270nm,20.2s
LIC Lamto 72.39 288 *eP* **P 07 07 05.3 +0.8**
comp=Z,25nm,0.9s
LIC Lamto 72.39 288 *eP* **P 07 07 05.2 +0.8**
comp=Z,13nm,0.8s
LAST Lasithi 72.40 330 *eP* **P 07 07 04.0 -0.1**
FAKI Fak Fak 72.45 83 *eP* **P 07 07 04.9 0.0**
DBIC Dimbokro 72.49 288 P **P 07 07 05.4 +0.3**
comp=Z,9.6nm,0.8s,baz=112,slow=6.5,SNR=9.4
DBIC LR LR 07 38 00.3
comp=Z,186nm,18.7s,baz=114,slow=35
SIVA Sivas 72.57 330 *eP* **P 07 07 08.0 +3.0**
TIC Toumodi 72.61 288 *eP* **P 07 07 06.7 +0.9**
comp=Z,6.7nm,0.3s
CD2 Chengdu 72.67 38 P **P 07 07 07.3 +1.5**
CD2 sP **sP 07 07 14.0 +1.0**
CD2 PP **PP 07 09 49.6 +1.7**
CD2 S **S 07 16 32.8 +2.4**
CD2 PMZ
comp=Z,20nm,0.7s
CD2 PMZ
comp=Z,100nm,9.5s
CD2 LE
comp=Z,160nm,13.1s
CD2 LZ
comp=Z,180nm,15.5s
EKS2 Erkin-Say 72.78 10 *eP* **P 07 07 05.7 -0.6**
EKS2 pmax pmax
comp=Z,19nm,0.8s
EKS2 Erkin-Say 72.78 10 *eP* **P 07 07 05.7 -0.6**
comp=Z,19nm,0.8s
KK31 Karatay Array 72.78 7 *i* P **P 07 07 07.6 +1.4**
KK31 pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 72.86 11 P **P 07 07 08.3 +1.5**
comp=Z,66nm,1.1s,SNR=5.7
AAK Ala-Archa 72.86 11⇓*eP* **P 07 07 06.6 -0.2**
AAK pmax pmax
comp=Z,21nm,1.0s
AAK Ala-Archa 72.86 11 *eP* **P 07 07 08.4 +1.5**
comp=Z,14nm,1.1s
TKM2 Tokmak 2 73.33 11 P **P 07 07 10.7 +1.1**
TKM2 pmax pmax
comp=Z,13nm,1.2s
TKM2 Tokmak 2 73.33 11 *eP* **P 07 07 08.6 -1.1**
comp=Z,11nm,0.8s
BRTR Keskin Array B 73.34 338*ceP* **P 07 07 08.8 -0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 73.34 338 P **P 07 07 08.2 -1.4**
comp=Z,3.3nm,0.9s,baz=157,slow=6.7,SNR=17
BRTR LR LR 07 36 28.4
comp=Z,42nm,20.4s,baz=135,slow=34
APE Apeiranthos 74.00 331⇓*eP* **P 07 07 12.9 -0.6**
APE pmax pmax
comp=Z,7.0nm,0.7s
APE Apeiranthos 74.00 331⇑*iP* **P 07 07 12.0 -1.5**
PDGK Podgornoye 74.46 14 P **P 07 07 16.7 +0.8**
KBZ Khabaz 74.68 347 P **P 07 07 16.5 -0.7**
comp=Z,2.1nm,1.0s,baz=189,slow=6.2,SNR=4.3
KBZ LR LR 07 38 15.6
comp=Z,139nm,21.7s,baz=154,slow=34
KIV Kislovodsk 74.94 347 *eP* **P 07 07 19.1 +0.2**
KIV pmax pmax
comp=Z,9.0nm,1.0s
ITM Ithomi 75.66 329 *eP* **P 07 07 22.0 -1.1**
LTK Loutraki 75.90 330 *eP* **P 07 07 23.5 -0.9**
GUR Goura 76.10 330 *eP* **P 07 07 25.0 -0.7**
KLV Kalavryta, Ach 76.27 330 *eP* **P 07 07 26.0 -0.6**
DRO Drossia 76.39 329 *eP* **P 07 07 27.5 +0.3**
KALE Kalithea 76.56 330 *eP* **P 07 07 27.0 -1.3**
RLS Riolos of Patr 76.59 329 *eP* **P 07 07 28.5 +0.2**
PMSA Palmer Station 76.76 201 LR LR 07 33 19.9
comp=Z,186nm,21.4s,baz=242,slow=29
ANN Anapa 76.94 343 *eP* **P 07 07 27.0 -3.1**
ANN *e*S **S 07 17 16.0 -1.3**
ANN pmax pmax
comp=Z,110nm,1.5s
AGG Agios Georgios 77.00 330 *eP* **P 07 07 30.0 -0.7**
WMQ Urumqi 77.00 20 *eP* **P 07 07 31.3 +0.7**
WMQ sP **sP 07 07 37.8 -0.1**
WMQ S **S 07 17 18.0 -0.3**
WMQ ScS **SKKSac 07 17 44.0 +1.2**
WMQ PMZ
comp=Z,6.0nm,2.4s
WMQ PMZ
comp=Z,140nm,6.0s
WMQ LN
comp=Z,62nm,20.0s
WMQ LE
comp=Z,130nm,22.0s
ALN Alexandroupoli 77.07 334 *eP* **P 07 07 28.5 -2.4**
MAKR Makrakomi, Fth 77.08 330 *eP* **P 07 07 33.5 +2.4**
EVR Evrytania 77.14 330 *eP* **P 07 07 31.0 -0.6**
PDO Prodromos 77.16 329 *eP* **P 07 07 31.5 0.0**
GTA Gaotai 77.58 30 *eP* **P 07 07 34.8 +0.7**
GTA pP **pP 07 07 39.4 0.0**
GTA sP **sP 07 07 41.8 +0.5**
GTA PcP **PcP 07 07 45.3 +1.1**
GTA S **S 07 17 25.6 +0.7**
GTA SKS **SKSac 07 17 43.0 -3.8**
GTA SS **SS 07 22 28.3 +3.1**
GTA PMZ
comp=Z,5.0nm,1.2s
GTA PMZ
comp=Z,160nm,5.2s
GTA LN
comp=Z,380nm,17.6s
GTA LE
comp=Z,390nm,19.9s
GTA LZ
comp=Z,150nm,16.2s
THL Klokotos Trika 77.59 330 *eP* **P 07 07 33.0 -0.9**
LIT Litokhoron 77.83 331 *eP* **P 07 07 34.0 -1.3**
KDZ Kurdzhali 77.95 334⇑*iP* **P 07 07 35.0 -0.9**
OTUK Ortayu 78.07 8 P **P 07 07 35.0 -1.4**
MK31 Makanchi Array 78.37 15 *i P* **P 07 07 38.7 +0.6**
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 78.37 15*ceP* **P 07 07 39.5 +1.4**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 78.37 15 P **P 07 07 36.8 -1.3**
comp=Z,3.8nm,0.9s,baz=182,slow=5.6,SNR=33
MKAR LR LR 07 39 59.1
comp=Z,41nm,19.0s,baz=182,slow=34
AB31 Akbulak array 78.39 359 *i* P **P 07 07 36.6 -1.5**
AB31 pmax pmax
comp=Z,8.0nm,0.7s
KNT Kendrikon 78.55 332 *eP* **P 07 07 38.0 -1.2**
MMB Musomiste 78.57 333⇑*iP* **P 07 07 38.2 -1.2**
PSN Preselentsi 78.70 337⇑*iP* **P 07 07 39.6 -0.4**
NEST Nestorio 78.71 330 *eP* **P 07 07 40.0 -0.2**
FNA Florina 78.87 331 *eP* **P 07 07 40.0 -1.1**
TIRR Tirgusor 79.30 337⇑*iP* **P 07 07 42.9 -0.3**
AKTO Aktyubinsk 79.60 358 P **P 07 07 43.0 -1.7**
AKTO pmax pmax
comp=Z,5.0nm,0.8s
CFR Carcaliu 80.03 337⇓*iP* **P 07 07 46.9 -0.3**
KEST Kesra 80.93 320 LR LR 07 43 19.4
comp=Z,63nm,20.2s,baz=304,slow=35
MLR Muntele Rosu 81.06 336⇓*iP* **P 07 07 52.5 -0.4**
VRI Vrincioaia 81.11 337⇑*iP* **P 07 07 52.9 -0.1**
PLOR Plostina 81.13 337⇑*iP* **P 07 07 52.5 -0.6**
VOIR 81.34 335⇑*iP* **P 07 07 53.2 -1.1**
KURK Kurchatov 81.39 11 P **P 07 07 56.0 +1.7**
comp=Z,29nm,1.1s,SNR=6.1
KURK Kurchatov 81.39 11 P **P 07 07 55.6 +1.3**
KURK pmax pmax
comp=Z,6.0nm,1.1s
ARR Arges 81.43 335⇑*iP* **P 07 07 53.8 -1.0**
VRHR Novokhopersk 81.99 348 *eP* **P 07 07 56.5 -1.0**
VRHR pmax pmax
comp=N,4.0nm,0.7s
VRHR pmax pmax
comp=E,5.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
NJ2 Nanjing 82.36 47 *eP* **P 07 07 59.0 -0.9**
NJ2 PMZ
comp=Z,40nm,0.8s
VSR Storozhevoye 82.58 346 *eP* **P 07 07 59.1 -1.5**
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,6.0nm,0.9s
VSR pmax pmax
comp=Z,8.0nm,0.9s
BVA0 Borovoye Array 82.59 6 *i* P **P 07 08 01.0 +0.4**
BVA0 pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 82.59 6 LR LR 07 42 03.0
comp=Z,136nm,21.2s,baz=214,slow=34
BZS Buzias 82.78 333⇑*iP* **P 07 08 00.9 -0.9**
BURAR Bucovina Array 83.15 337⇑*iP* **P 07 08 03.7 -0.1**
DRGR 83.35 335⇑*iP* **P 07 08 03.9 -0.9**
HHC Hu-ho-hao-te 84.31 36 *eP* **P 07 08 09.8 -0.1**
HHC sP **sP 07 08 18.5 +1.3**
HHC PP PP 07 11 31.0 +5.8
HHC S **SKKSac 07 18 37.0 -1.2**
HHC sS **ScS 07 18 48.4 +1.6**
HHC SS SS 07 24 14.4 +8.8
HHC PMZ
comp=Z,31nm,1.0s
HHC PMZ
comp=Z,250nm,5.0s
HHC LN
comp=Z,360nm,17.1s
HHC LE
comp=Z,340nm,15.7s
HHC LZ
comp=Z,190nm,15.3s
KIEV Kiev 84.57 340 *eP* **P 07 08 09.7 -1.1**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 84.57 340 *eP* **P 07 08 09.7 -1.1**
comp=Z,8.7nm,0.9s
AKASG Malin Array Be 84.57 340*ceP* **P 07 08 09.6 -1.2**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 84.57 340 P **P 07 08 09.5 -1.2**
comp=Z,3.1nm,0.8s,baz=160,slow=4.6,SNR=6.3
HVS Khovu-Aksy 85.36 20⇑*iP* **P 07 08 15.8 +0.9**
HVS pmax pmax
comp=Z,36nm,1.1s
CRVS Cervenica-Dubn 85.57 335 *eP* **P 07 08 17.5 +1.6**
ARU Arti 85.59 359*d iP* **P 07 08 15.2 -0.6**
ARU 07 11 29.4
ARU S S 07 18 39.7 -7.0
ARU SS **SS 07 24 19.6 -4.0**
ARU pmax pmax
comp=Z,28nm,1.7s
ZALV Zalesovo Beam 85.66 14 P **P 07 08 14.9 -1.3**
comp=Z,5.4nm,0.8s,baz=215,slow=4.7,SNR=16
ZALV LR LR 07 43 55.4
comp=Z,41nm,20.6s,baz=24,slow=34
SVE Sverdlovsk 85.97 360 *eP* **P 07 08 17.7 +0.1**
SVE pmax pmax
comp=Z,31nm,1.4s
PGF Pioggiola 86.06 324 *eP* **P 07 08 18.9 +0.3**
comp=Z,46nm,1.2s
PGF Pioggiola 86.06 324 *eP* **P 07 08 18.9 +0.3**
PGF pmax pmax
comp=Z,46nm,1.3s
PGF Pioggiola 86.06 324 *eP* **P 07 08 18.9 +0.3**
comp=Z,46nm,1.3s
STHS Stebnicka Huta 86.08 335 *eP* **P 07 08 18.3 -0.1**
NVS Novosibirsk 86.18 13 *eP* **P 07 08 19.2 +0.5**
BJI Beijing 86.20 39 P **P 07 08 20.8 +1.6**
BJI PMZ
comp=Z,10.0nm,0.8s
BJI LZ
comp=Z,66nm,26.1s
OBN Obninsk 86.78 346⇑*eP* **P 07 08 22.4 +0.7**
OBN pmax pmax
comp=Z,28nm,1.5s
OBN MLR MLR
comp=Z,62nm,18.0s
CONA Conrad Observa 86.97 332⇑*iP* **P 07 08 22.4 -0.5**
comp=Z,6.9nm,1.1s
MOS Moscow 87.16 347 *eP* P 07 08 12.9 -11
SONM Songino Array 87.19 29 P **P 07 08 22.2 -1.9**
comp=Z,1.1nm,0.9s,baz=222,slow=3.9,SNR=6.1
ULN Ulaanbaatar 87.49 29⇓*iP* **P 07 08 26.6 +1.1**
ULN pmax pmax
comp=Z,6.0nm,2.5s
MOA Molln 87.58 331⇑*iP* **P 07 08 25.3 -0.5**
comp=Z,8.0nm,1.4s
OKC Ostrava-Krasne 87.58 334 *eP* **P 07 08 25.2 -0.5**
OKC *e* 07 08 30.2
OKC Ostrava-Krasne 87.58 334 *eP* **P 07 08 25.2 -0.5**
OKC *ep*P **pP 07 08 30.2 -0.9**
SBF Sospel 87.80 325 *eP* **P 07 08 27.2 +0.2**
comp=Z,18nm,0.7s
SBF Sospel 87.80 325 *eP* **P 07 08 27.2 +0.2**
SBF pmax pmax
comp=Z,18nm,0.7s
SBF Sospel 87.80 325 *eP* **P 07 08 27.2 +0.2**
comp=Z,18nm,0.7s
LMR La Mourre 87.90 324 *eP* **P 07 08 27.8 +0.4**
comp=Z,31nm,1.2s
LMR La Mourre 87.90 324 *eP* **P 07 08 27.8 +0.4**
LMR pmax pmax
comp=Z,31nm,1.2s
LMR La Mourre 87.90 324 *eP* **P 07 08 27.8 +0.4**
comp=Z,31nm,1.2s
FRF La Foret Royal 87.99 324 *eP* **P 07 08 28.2 +0.4**
comp=Z,31nm,1.2s
FRF La Foret Royal 87.99 324 *eP* **P 07 08 28.2 +0.4**
FRF pmax pmax
comp=Z,31nm,1.2s
FRF La Foret Royal 87.99 324 *eP* **P 07 08 28.2 +0.4**
comp=Z,31nm,1.2s
WTTA Wattenberg 88.28 329⇓*iP* **P 07 08 28.5 -0.8**
comp=Z,6.3nm,0.8s
MICGM Minsk 88.32 342 *e* **P 07 08 27.0 -2.1**
MNK Minsk 88.34 341 *eP* **P 07 08 27.0 -2.2**
FETA Feichten 88.51 328⇓*iP* **P 07 08 30.3 -0.2**
comp=Z,13nm,1.1s
MOTA Moosalm 88.58 329⇓*iP* **P 07 08 30.1 -0.7**
comp=Z,4.9nm,0.7s
GERES GERESS Array B 88.59 331 P **P 07 08 29.1 -1.6**
comp=Z,0.7nm,0.7s,baz=145,slow=4.9,SNR=6.8
GERES LR LR 07 48 04.8
comp=Z,32nm,18.7s,baz=259,slow=36
DPC Dobruska-Polom 88.70 333 *eP* **P 07 08 29.8 -1.3**
DPC *e* 07 08 35.9
DPC Dobruska-Polom 88.70 333 *eP* **P 07 08 29.8 -1.3**
DPC *ep*P **pP 07 08 35.9 -0.6**
MBDF Montbardon 88.75 325 *eP* **P 07 08 32.3 +0.7**
comp=Z,21nm,0.7s
MBDF Montbardon 88.75 325 *eP* **P 07 08 32.3 +0.7**
MBDF pmax pmax
comp=Z,21nm,0.7s
MBDF Montbardon 88.75 325 *eP* **P 07 08 32.3 +0.7**
comp=Z,21nm,0.7s
SMRF Simiane la Rot 88.83 324 *eP* **P 07 08 33.3 +1.5**
comp=Z,22nm,1.0s
SMRF Simiane la Rot 88.83 324 *eP* **P 07 08 33.3 +1.5**
comp=Z,22nm,1.0s
RETA Reutte 88.85 329⇓*iP* **P 07 08 31.5 -0.3**
comp=Z,7.2nm,0.7s
KHC Kasperske Hory 88.86 331 *eP* **P 07 08 29.8 -2.1**
KHC *e* 07 08 37.8
KHC Kasperske Hory 88.86 331 *eP* **P 07 08 29.8 -2.1**
KHC *ep*P **pP 07 08 37.8 +0.5**
UPC Upice 88.94 333 *eP* **P 07 08 30.7 -1.5**
UPC *e* 07 08 37.5
UPC Upice 88.94 333 *eP* **P 07 08 30.7 -1.5**
UPC *ep*P **pP 07 08 37.5 -0.1**
NACGM Naroch 88.98 341 *e* **P 07 08 33.0 +0.8**
DAVA Damuels 89.10 328⇑*iP* **P 07 08 32.8 -0.4**
comp=Z,10nm,0.9s
KSP Ksiaz 89.10 334 *eP* **P 07 08 32.4 -0.5**
PRU Pruhonice 89.12 332 *eP* **P 07 08 31.9 -1.1**
PRU Pruhonice 89.12 332 *eP* **P 07 08 31.9 -1.1**
TLY Talaya 89.16 25 LR LR 07 45 54.7
comp=Z,66nm,20.4s,baz=201,slow=34
SUW Suwalki 89.29 339 *eP* **P 07 08 33.4 -0.2**
SUW *e* 07 08 43.6
LPG La Plagne 89.31 325 *eP* **P 07 08 34.0 -0.4**
comp=Z,7.8nm,0.8s
LPG La Plagne 89.31 325 *eP* **P 07 08 34.0 -0.4**
LPG pmax pmax
comp=Z,8.0nm,0.8s
LPG La Plagne 89.31 325 *eP* **P 07 08 34.0 -0.4**
comp=Z,7.8nm,0.8s
LPL La Plagne 89.33 325 *eP* **P 07 08 34.0 -0.4**
comp=Z,4.6nm,0.6s
LPL La Plagne 89.33 325 *eP* **P 07 08 34.0 -0.4**
LPL pmax pmax
comp=Z,5.0nm,0.6s
LPL La Plagne 89.33 325 *eP* **P 07 08 34.0 -0.4**
comp=Z,4.6nm,0.6s
ORIF Oris-en-Rattie 89.33 324 *eP* **P 07 08 34.6 +0.3**
comp=Z,12nm,0.8s
ORIF *e*R
comp=Z,122nm,21.5s
ORIF Oris-en-Rattie 89.33 324 *eP* **P 07 08 34.6 +0.3**
ORIF pmax pmax
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 89.33 324 *eP* **P 07 08 34.6 +0.3**
comp=Z,12nm,0.8s
LASF Ste Croix 89.80 323 *eP* **P 07 08 37.0 +0.6**
comp=Z,8.8nm,0.9s
LASF Ste Croix 89.80 323 *eP* **P 07 08 37.0 +0.6**
comp=Z,8.8nm,0.9s
VIVF Saint-Julien-I 89.91 324 *eP* **P 07 08 36.6 -0.3**
comp=Z,10.0nm,0.8s
VIVF Saint-Julien-I 89.91 324 *eP* **P 07 08 36.6 -0.3**
VIVF pmax pmax
comp=Z,10.0nm,0.8s
VIVF Saint-Julien-I 89.91 324 *eP* **P 07 08 36.6 -0.3**
comp=Z,10.0nm,0.8s
BRG Berggiesshubel 90.05 332 *eP* **P 07 08 37.6 +0.3**
comp=Z,3.4nm,1.0s
MTLF Montolieu 90.18 322 *eP* **P 07 08 38.6 +0.5**
MTLF Montolieu 90.18 322 *eP* **P 07 08 38.6 +0.5**
MTLF Montolieu 90.18 322 *eP* **P 07 08 38.6 +0.5**
GRF Grafenberg Arr 90.29 330 *eP* **P 07 08 38.5 0.0**
comp=Z,6.0nm,1.0s
CABF La Chapelle 90.42 326 *eP* **P 07 08 39.7 +0.4**
comp=Z,12nm,0.9s
CABF La Chapelle 90.42 326 *eP* **P 07 08 39.7 +0.4**
CABF pmax pmax
comp=Z,12nm,0.9s
CABF La Chapelle 90.42 326 *eP* **P 07 08 39.7 +0.4**
comp=Z,12nm,0.9s
HINF Hinteralfeld 90.90 327 *eP* **P 07 08 42.9 +1.5**
HINF Hinteralfeld 90.90 327 *eP* **P 07 08 42.9 +1.5**
HINF Hinteralfeld 90.90 327 *eP* **P 07 08 42.9 +1.5**
JNU Nakatsue 90.99 52 LR LR 07 48 49.6
comp=Z,48nm,18.1s,baz=298,slow=35
EPF Esparros 91.00 320 *eP* **P 07 08 42.6 +0.6**
EPF Esparros 91.00 320 *eP* **P 07 08 42.6 +0.6**
EPF Esparros 91.00 320 *eP* **P 07 08 42.6 +0.6**
CDF Champ du Feu 91.12 328 *eP* **P 07 08 43.1 +0.6**
CDF Champ du Feu 91.12 328 *eP* **P 07 08 43.1 +0.6**
CDF Champ du Feu 91.12 328 *eP* **P 07 08 43.1 +0.6**
HAU Haudompre 91.27 327 *eP* **P 07 08 44.2 +1.1**

HAU *e*R
comp=Z,60nm,20.5s
HAU Haudompre 91.27 327 *e*P **P 07 08 44.2 +1.1**
HAU Haudompre 91.27 327 *e*P **P 07 08 44.2 +1.1**
CAF Calviac 91.32 323 *e*P **P 07 08 44.2 +0.8**
CAF Calviac 91.32 323 *e*P **P 07 08 44.2 +0.8**
CAF Calviac 91.32 323 *e*P **P 07 08 44.2 +0.8**
ESDC Sonseca Array 91.39 316 P **P 07 08 45.2 +1.3**
comp=Z,5.3nm,1.0s,baz=112,slow=3.8,SNR=16
ESDC LR LR 07 48 29.1
comp=Z,60nm,21.6s,baz=10.0,slow=35
ETSF Etsaut 91.42 320 *e*P **P 07 08 44.3 +0.3**
ETSF Etsaut 91.42 320 *e*P **P 07 08 44.3 +0.3**
ETSF Etsaut 91.42 320 *e*P **P 07 08 44.3 +0.3**
PRGR Permogore 91.62 353 *e*P **P 07 08 44.6 +0.3**
PRGR pmax pmax
comp=Z,16nm,0.8s
KLMR Klimovskoe 91.67 350 *e*P P 07 08 40.3 -4.3
KLMR pmax pmax
comp=Z,26nm,1.3s
SJPF Ste Jean 91.93 320 *e*P **P 07 08 47.4 +1.1**
comp=Z,32nm,1.4s
SJPF Ste Jean 91.93 320 *e*P **P 07 08 47.4 +1.1**
SJPF pmax pmax
comp=Z,32nm,1.4s
SJPF Ste Jean 91.93 320 *e*P **P 07 08 47.4 +1.1**
comp=Z,32nm,1.4s
LOR Lormes 91.97 325 *e*P **P 07 08 46.4 0.0**
LOR *e*R
comp=Z,73nm,20.0s
LOR Lormes 91.97 325 *e*P **P 07 08 46.4 0.0**
LOR Lormes 91.97 325 *e*P **P 07 08 46.4 0.0**
SSF Saint Saulge 92.01 325 *e*P **P 07 08 46.7 +0.2**
comp=Z,6.6nm,0.9s
SSF Saint Saulge 92.01 325 *e*P **P 07 08 46.7 +0.2**
SSF pmax pmax
comp=Z,7.0nm,0.9s
SSF Saint Saulge 92.01 325 *e*P **P 07 08 46.7 +0.2**
comp=Z,6.6nm,0.9s
SFTF Sexfontaines 92.04 326 *e*P **P 07 08 46.8 +0.1**
SFTF Sexfontaines 92.04 326 *e*P **P 07 08 46.8 +0.1**
GIVF Givet 93.46 328 *e*P **P 07 08 53.2 +0.1**
GIVF Givet 93.46 328 *e*P **P 07 08 53.2 +0.1**
GIVF Givet 93.46 328 *e*P **P 07 08 53.2 +0.1**
FINES FINESS Array B 94.88 344 LR LR 07 51 47.6
comp=Z,45nm,21.3s,baz=155,slow=36
GRR Gorron 95.10 324 *e*P **P 07 09 01.1 +0.4**
GRR Gorron 95.10 324 *e*P **P 07 09 01.1 +0.4**
GRR Gorron 95.10 324 *e*P **P 07 09 01.1 +0.4**
FLN La Foliniere 95.15 324 *e*P **P 07 09 02.0 +1.1**
comp=Z,18nm,1.0s
FLN *e*R
comp=Z,98nm,22.8s
FLN La Foliniere 95.15 324 *e*P **P 07 09 02.0 +1.1**
FLN pmax pmax
comp=Z,18nm,1.0s
FLN La Foliniere 95.15 324 *e*P **P 07 09 02.0 +1.1**
comp=Z,18nm,1.0s
MDJ Mudanjiang 96.76 42 P **P 07 09 07.8 -0.6**
MDJ PMZ
comp=Z,10.0nm,1.5s
MJAR Matsushiro Arr 97.90 53 LR LR 07 53 36.3
comp=Z,26nm,18.2s,baz=230,slow=36
USRK Ussuriysk Ar. 97.94 43 LR LR 07 52 42.9
comp=Z,41nm,19.2s,baz=206,slow=35
NOA NORSAR Array B 98.77 338 LR LR 07 53 48.1
comp=Z,32nm,19.9s,baz=120,slow=35
BILL Bilibino 122.77 26 *e*PKIKP **PKPdf 07 14 32.7 -0.3**
BILL pmax pmax
comp=Z,2.0nm,0.5s
RES Resolute Bay 133.09 351 *e*PKIKP **PKPdf 07 14 52.3 -0.2**
RES Resolute Bay 133.09 351 *e*PKPdf **PKPdf 07 14 52.3 -0.2**
ILAR Eielson Array 140.66 18 PKP **PKPdf 07 15 03.8 -3.0**
comp=Z,3.9nm,1.0s,baz=296,slow=2.9,SNR=17
EGAK Eagle 142.09 15 *e*PKPdf **PKPdf 07 15 08.7 -0.6**
PMR Palmer 142.32 23 *e*PKIKP **PKPdf 07 15 11.6 +1.8**
PMR Palmer 142.32 23 *e*PKPdf **PKPdf 07 15 11.6 +1.8**
PAX Paxson 142.45 19 PKIKP **PKPdf 07 15 13.0 +2.9**
PAX Paxson 142.45 19 PKPdf **PKPdf 07 15 13.0 +2.9**
RC01 Rabbit Creek A 142.47 24 PKPdf **PKPdf 07 15 12.1 +2.0**
DAWY Dawson 143.10 15 *e*PKPdf **PKPdf 07 15 10.0 -1.2**
DIV Divide 143.77 22 *e*PKPdf **PKPdf 07 15 14.3 +1.8**
SDMD Soldier's Deli 143.96 297 *e*PKPdf PKPab 07 15 10.8 0.0
SSPA Standing Stone 144.68 300 *e*PKPdf **PKPab 07 15 13.2 -0.2**
JSRW J. Sargeant Re 144.83 295 *e*PKPdf PKPbc 07 15 14.2 +0.1
FCC Fort Churchill 146.03 337 *e*PKP2 **PKPdf 07 15 16.5 +0.2**
FCC Fort Churchill 146.03 337 *e*PKPbc **PKPdf 07 15 16.5 +0.2**
ALLY Alegheny Colle 146.25 302 *e*PKPbc **PKPab 07 15 20.5 +1.3**
HYT Haines Junctio 146.36 16 *e*PKPbc **PKPbc 07 15 18.4 0.0**
YKA Yellowknife Ar 146.85 356 PKP **PKPdf 07 15 16.2 -1.4**
comp=Z,13nm,0.8s,baz=352,slow=3.0,SNR=162
YKA PKPbc **PKPbc 07 15 18.3 -1.2**
comp=Z,15nm,0.8s,baz=353,slow=2.9,SNR=138
BLA Blacksburg 146.86 294 *e*PKIKP **PKPdf 07 15 18.6 +0.1**
BLA Blacksburg 146.86 294 *e*PKPdf **PKPdf 07 15 18.6 +0.1**
KMSC Kings Mountain 147.62 290 *e*PKPdf **PKPdf 07 15 20.0 +0.1**
DLBC Dease Lake 150.11 11 PKPbc **PKPbc 07 15 28.1 -0.1**
comp=Z,10nm,1.0s,baz=343,slow=4.1,SNR=14
DLBC Dease Lake 150.11 11 *e*PKPbc **PKPbc 07 15 27.9 -0.3**
COWI Conover 151.24 314 *e*PKPbc **PKPbc 07 15 31.2 -0.1**
COWI *e*PKPab **PKPab 07 15 41.0 +1.8**
WRAK Wrangell Islan 151.52 15 *e*PKPbc **PKPbc 07 15 30.9 -0.5**
WRAK *e*PKPab **PKPab 07 15 41.5 +1.6**
EYMN Ely 151.81 319 *e*PKPbc **PKPbc 07 15 32.4 -0.1**
EYMN *e*PKPab **PKPab 07 15 42.7 +1.2**
FFC Flin Flon 151.87 339 *e*PKIKP **PKPbc 07 15 31.4 -1.0**
FFC *e* 07 15 41.0
FFC Flin Flon 151.87 339 *e*PKPbc **PKPbc 07 15 31.4 -1.0**
FFC *e*PKPab **PKPab 07 15 41.0 -0.4**
ULM Lac du Bonnet 152.79 326 PKP **PKPdf 07 15 26.4 -1.0**
comp=Z,2.8nm,0.9s,baz=346,slow=2.2,SNR=3.4
ULM PKPbc **PKPbc 07 15 33.5 -1.0**
comp=Z,15nm,0.8s,baz=46,slow=3.0,SNR=27
ULM PKPab **PKPab 07 15 43.4 -2.1**
comp=Z,16nm,0.7s,baz=44,slow=3.0,SNR=13
JFWS Jewell Farm 153.20 308 *e*PKIKP **PKPdf 07 15 27.8 -0.5**
JFWS *e* 07 15 35.9
JFWS *e* 07 15 45.9
JFWS Jewell Farm 153.20 308 *e*PKPdf **PKPdf 07 15 27.8 -0.5**
JFWS *e*PKPbc **PKiKP 07 15 35.9 0.0**
JFWS *e*PKPab **PKPab 07 15 45.9 -1.6**
SPMN Marine on St. 153.93 314 *e*PKPbc **PKPbc 07 15 36.8 -0.4**
ECSD EROS Data Cent 157.04 314 P **PKPdf 07 15 32.4 -1.1**
baz=157
H28A Mission Ridge 159.08 321 P **PKPdf 07 15 35.3 -0.7**
baz=159
I29A Vivian Onida 159.09 319 P **PKPdf 07 15 34.7 -1.4**
baz=159
138A Matatall Enter 159.10 285 P **PKPdf 07 15 35.0 -1.3**
baz=159
G26A Maurine 159.49 325 P **PKPdf 07 15 35.9 -0.6**
baz=160
I28A Midland 159.59 320 P **PKPdf 07 15 35.6 -1.0**
baz=160
C20A Veseth Ranch, 159.84 338 P **PKPdf 07 15 35.8 -1.0**
baz=160
S34A Willow Spring 159.87 300 P **PKPdf 07 15 37.2 +0.1**
baz=160
J28A Allard Ranch, 159.99 319 P **PKPdf 07 15 37.3 +0.1**
baz=160
H26A Fairpoint 160.05 324 P **PKPdf 07 15 36.8 -0.3**
baz=160
EGMT Eagleton 160.10 341 P **PKPdf 07 15 37.1 -0.1**
baz=160
EGMT Eagleton 160.10 341 *e*PKPdf **PKPdf 07 15 36.7 -0.4**
C19A Slack Wire Ran 160.15 339 P **PKPdf 07 15 37.2 0.0**
baz=160
H24A Dirks Ranch, A 160.84 327 P **PKPdf 07 15 37.6 -0.5**
baz=161
I25A Rochford 160.96 324 P **PKPdf 07 15 38.4 +0.1**
baz=161
NEW Newport 161.18 356 PKP **PKPdf 07 15 37.2 -1.0**
comp=Z,2.7nm,0.9s,baz=275,slow=1.5,SNR=7.1
NEW Newport 161.18 356 P **PKPdf 07 15 37.6 -0.7**
baz=161
JTMT Jette 161.37 350 *e*PKPab **PKPab 07 16 24.7 +2.1**
SWMT Swartz Lake 161.55 349 *e*PKPdf **PKPdf 07 15 37.6 -1.2**
SWMT *e*PKPab **PKPab 07 16 22.9 -0.5**
334A Lometa 161.81 281 P **PKPdf 07 15 39.7 +0.3**
baz=162
534A Blanco 161.97 277 P **PKPdf 07 15 39.7 +0.1**
baz=162
R30A Dighton 162.01 304 P **PKPdf 07 15 39.6 +0.1**
baz=162
MSO Missoula 162.20 348 P **PKPdf 07 15 38.9 -0.5**
baz=162
133A Hamilton Ranch 162.32 285 P **PKPdf 07 15 38.9 -1.0**
baz=162
233A Rising Star 162.35 283 P **PKPdf 07 15 40.2 +0.3**
baz=162
I22A 9 Mile Ranch, 162.39 328 P **PKPdf 07 15 39.2 -0.6**
baz=162
333A Richland Sprin 162.44 281 P **PKPdf 07 15 39.2 -0.9**
baz=163
433A Art 162.53 279 P **PKPdf 07 15 40.5 +0.3**
baz=163
633A Saathoff Ranch 162.54 275 P **PKPdf 07 15 40.5 +0.3**
baz=163
R29A Marienthal 162.57 306 P **PKPdf 07 15 40.1 +0.1**
baz=163
H20A Greybull 162.57 332 P **PKPdf 07 15 39.2 -0.6**
baz=163
Y32A R-V Farms, Ver 162.59 290 P **PKPdf 07 15 40.5 +0.3**
baz=163
833A Chaparral WMA, 162.60 271 P **PKPdf 07 15 41.0 +0.7**
baz=163
Z32A Haskell 162.72 288 P **PKPdf 07 15 40.4 +0.2**
baz=163
I21A Big Trails, Te 162.82 330 P **PKPdf 07 15 39.3 -1.0**
baz=163
X31A McDonald Ranch 162.91 292 P **PKPdf 07 15 40.4 0.0**
baz=163
I20A Worland 163.07 331 P **PKPdf 07 15 40.2 -0.2**
baz=163
632A Uvalde 163.07 275 P **PKPdf 07 15 40.6 -0.2**
baz=163
R28A Tribune 163.08 306 P **PKPdf 07 15 40.7 +0.1**
baz=163
432A Menard 163.14 280 P **PKPdf 07 15 40.4 -0.3**
baz=163
JCT Junction City 163.14 278 *e*PKP2 **PKPab 07 16 31.9 +0.9**
JCT Junction City 163.14 278 *e*PKPab **PKPab 07 16 31.9 +0.9**
I19A Meeteetse 163.34 333 P **PKPdf 07 15 40.8 0.0**
baz=163
YMR Madison River 163.49 339 *e*PKPdf **PKPdf 07 15 41.5 +0.6**
YMR *e*PKPab **PKPab 07 16 31.0 -1.1**
H17A Grant Village 163.61 338 *e*PKPdf **PKPdf 07 15 43.1 +2.0**
631A Perdido Creek 163.75 274 P **PKPdf 07 15 41.7 +0.3**
baz=164
531A Rocksprings 163.77 277 P **PKPdf 07 15 41.6 +0.2**
baz=164
R27A Eads 163.80 307 P **PKPdf 07 15 41.6 +0.3**
baz=164
431A Sonora 163.84 279 P **PKPdf 07 15 41.4 0.0**
baz=164
Q26A Hugo 163.97 310 P **PKPdf 07 15 41.6 +0.1**
baz=164
J19A Crowheart 164.01 332 P **PKPdf 07 15 41.2 -0.2**
baz=164
Z30A Sanderson Ranc 164.09 288 P **PKPdf 07 15 41.4 -0.2**
baz=164
R26A Arlington 164.24 308 P **PKPdf 07 15 41.7 +0.1**
baz=164
T27A Campo 164.28 303 P **PKPdf 07 15 41.9 +0.1**
baz=164
O24A Longmont 164.28 316 P **PKPdf 07 15 41.9 +0.2**
baz=164
430A Baggett Ranch, 164.38 279 P **PKPdf 07 15 41.8 -0.2**
baz=164
Y29A Porterfield Fa 164.44 291 P **PKPdf 07 15 42.1 +0.2**
baz=164
530A J-C Ranch, Com 164.46 277 P **PKPdf 07 15 42.1 +0.1**
baz=165
Q25A Bedland, Calha 164.46 311 P **PKPdf 07 15 42.3 +0.3**
baz=164
Z29A Hungry Hill Ra 164.57 289 P **PKPdf 07 15 41.9 -0.2**
baz=165
S26A Kim 164.58 306 P **PKPdf 07 15 42.0 0.0**
baz=165
U27A Thompson Grove 164.60 301 P **PKPdf 07 15 42.5 +0.4**
baz=165
BW06 Boulder Array 164.63 332 *e*PKPdf **PKPdf 07 15 41.3 -0.7**
PDAR Pinedale Array 164.63 332 PKP **PKPdf 07 15 41.4 -0.7**
comp=Z,3.1nm,0.9s,baz=135,slow=2.8,SNR=20
N22A Wattenberg Ran 164.64 321 P **PKPdf 07 15 42.1 0.0**
baz=165
O23A Lake Granby, G 164.73 318 P **PKPdf 07 15 42.0 -0.3**
baz=165
ISCO Idaho Springs 164.81 316 *e*PKIKP **PKPdf 07 15 42.7 +0.3**
ISCO Idaho Springs 164.81 316 P **PKPdf 07 15 42.1 -0.2**
baz=165
ISCO Idaho Springs 164.81 316 *e*PKPdf **PKPdf 07 15 42.7 +0.3**
R25A Fountain Ranch 164.89 309 P **PKPdf 07 15 42.3 0.0**
baz=165
429A Davenport Ranc 164.95 279 P **PKPdf 07 15 42.6 +0.1**
baz=165
329A Wagon Wheel Ra 165.00 282 P **PKPdf 07 15 43.0 +0.6**
baz=165
O22A Kremmling 165.12 319 P **PKPdf 07 15 42.3 -0.3**
baz=165
529A Stev Forest Ra 165.22 277 P **PKPdf 07 15 42.9 +0.2**
baz=165
S25A Robets Cordova 165.23 307 P **PKPdf 07 15 42.9 +0.3**
baz=165
128A Castleberry Fa 165.32 287 P **PKPdf 07 15 42.7 0.0**
baz=165
R24A Sanders Place, 165.40 310 P **PKPdf 07 15 42.9 +0.1**
baz=165
HLID Hailey 165.43 346 P **PKPdf 07 15 42.8 +0.2**
baz=165
N20A Spence Gulch, 165.57 325 P **PKPdf 07 15 43.3 +0.5**
baz=166
P22A Eagle 165.62 318 P **PKPdf 07 15 42.9 -0.1**
baz=166
S24A Houchin Ranch, 165.78 309 P **PKPdf 07 15 43.2 -0.1**
baz=166
U25A Circle Dot Ran 165.78 303 P **PKPdf 07 15 43.3 +0.1**
baz=166
R23A Moffat 165.89 311 P **PKPdf 07 15 43.4 +0.1**
baz=166
O20A White River Ci 166.07 323 P **PKPdf 07 15 43.3 0.0**
baz=166
V25A Rancho No Teng 166.17 301 P **PKPdf 07 15 43.2 -0.2**
baz=166
W25A X Bar L Ranch, 166.28 298 P **PKPdf 07 15 43.7 +0.1**
baz=166
U24A Moreno Valley 166.41 304 P **PKPdf 07 15 44.0 +0.2**
baz=166
TXAR Lajitas Array 166.44 273 PKP **PKPdf 07 15 44.3 +0.5**
comp=Z,0.8nm,0.8s,baz=129,slow=1.8,SNR=6.5
TXAR PKPab **PKPab 07 16 45.6 0.0**
comp=Z,0.7nm,0.8s,baz=116,slow=5.7,SNR=5.2
V24A Rampart Ranch, 166.70 301 P **PKPdf 07 15 44.6 +0.6**
baz=167
TCUT Toone Canyon 166.76 333 *e*PKPdf **PKPdf 07 15 41.7 -2.1**
S22A 4UR Ranch, Cre 166.80 312 P **PKPdf 07 15 44.7 +0.7**
baz=167
W24A Lazy 6 Ranch, 167.00 300 P **PKPdf 07 15 44.6 +0.4**
baz=167
U23A El Rito 167.10 305 P **PKPdf 07 15 44.7 +0.5**
baz=167
DAU Daniels Canyon 167.30 331 *e*PKIKP **PKPdf 07 15 45.3 +0.9**
DAU *e* 07 16 48.9
DAU Daniels Canyon 167.30 331 *e*PKPdf **PKPdf 07 15 45.3 +0.9**
DAU *e*PKPab **PKPab 07 16 48.9 -0.3**
V23A Ortiz Mt. (NFS 167.36 303 P **PKPdf 07 15 45.1 +0.7**
baz=167
PV01 Paradox Valley 167.64 317 *e*PKPdf **PKPdf 07 15 43.9 -0.7**
V22A San Miguel Ran 167.81 305 P **PKPdf 07 15 45.1 +0.4**
baz=168
ANMO Albuquerque 167.90 300 PKP **PKPdf 07 15 45.4 +0.6**
comp=Z,1.2nm,0.9s,baz=90,slow=1.0,SNR=4.6
SRU San Rafael Swe 168.01 326 *e*PKIKP **PKPdf 07 15 44.6 -0.1**
SRU *e* 07 16 52.2
SRU San Rafael Swe 168.01 326 *e*PKPdf **PKPdf 07 15 44.6 -0.1**
SRU *e*PKPab **PKPab 07 16 52.2 0.0**
DUG Dugway, Tooele 168.09 336 P **PKPdf 07 15 45.1 +0.4**
baz=168
ELK Elko 168.30 345 PKP **PKPdf 07 15 45.4 +0.4**
comp=Z,1.6nm,0.9s,baz=282,slow=8.1,SNR=5.1
ELK PKPab **PKPab 07 16 54.0 +0.6**
comp=Z,2.9nm,1.0s,baz=343,slow=5.7,SNR=7.1
LAZ Ladron 168.63 299 *e*PKPdf **PKPdf 07 15 46.0 +0.7**
MVU Marysvale 169.29 329 *e*PKPdf **PKPdf 07 15 47.5 +1.8**
NVAR Mina Array Bea 171.04 355 PKP **PKPdf 07 15 47.0 +0.4**
comp=Z,1.5nm,0.9s,baz=204,slow=1.6,SNR=9.8
NVAR PKPab **PKPab 07 17 05.8 +0.3**
comp=Z,0.5nm,0.8s,baz=50,slow=2.8,SNR=2.7
WUAZ Wupatki 171.05 314 P **PKPdf 07 15 47.4 +0.7**
baz=171
319A Douglas 171.21 285 P **PKPdf 07 15 48.2 +1.4**
baz=171
X16A Lo Mia Camp, P 171.76 309 P **PKPdf 07 15 47.7 +0.7**
baz=172
TUC Tucson 172.22 293 *e*PKIKP **PKPdf 07 15 48.7 +1.5**
TUC Tucson 172.22 293 *e*PKPdf **PKPdf 07 15 48.7 +1.5**
FURC Furnace Creek, 172.76 345 P **PKPdf 07 15 47.8 +0.7**
baz=173
W13A Hualapai Mount 172.81 322 P **PKPdf 07 15 48.1 +0.6**
baz=173
MPMC Manual Prospec 173.28 348 P **PKPdf 07 15 48.4 +0.8**
baz=173
ISA Isabella, Lake 173.81 354 *e*PKIKP **PKPdf 07 15 47.6 -0.1**
ISA Isabella, Lake 173.81 354 P **PKPdf 07 15 48.6 +0.8**
baz=174
ISA Isabella, Lake 173.81 354 *e*PKPdf **PKPdf 07 15 47.5 -0.1**
LRMC Laurel Mtn Rad 173.88 348 P **PKPdf 07 15 49.0 +1.2**
baz=174
GMRC Granite Mounta 173.92 331 P **PKPdf 07 15 49.3 +1.4**
baz=174
214A Organ Pipe Nat 173.96 296 P **PKPdf 07 15 49.2 +1.3**
baz=174
HEC Hector,Ludlow 174.13 336 P **PKPdf 07 15 49.9 +2.1**
baz=174
IRM Iron Mountain 174.19 324 P **PKPdf 07 15 49.4 +1.5**
baz=174
BELC Belle Mtn. Jos 174.73 329 P **PKPdf 07 15 50.0 +1.9**
baz=175
BC3 Big Chuckawall 174.74 323 P **PKPdf 07 15 49.6 +1.5**
baz=175
SWSC Sam W. Stewart 175.47 320 P **PKPdf 07 15 50.1 +1.9**
baz=176
MONP Monument Peak, 175.84 325 P **PKPdf 07 15 48.3 -0.3**
baz=176

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*NEIC **21** 07:00:19.0, 34°.72S×71°.76W, h35km, mb4.1/2, ML4.1(GUC), After GUC.*
NEIC Felt [IV] at Curico and Talca and [II] at San Fernando.
*GUC **21** 07:00:19.5±0.5, 34°.70S×71°.79W, h35km±3km, ML4.1*
*ISCJB **21** 07:00:20.1±0.6, 34°.80S±0°.04×71°.7W±0°.1, h61km±5km, mb4.1/10, Error ellipse: s-maj=14.5km s-min=4.6km az=16.5*
*IDC **21** 07:00:20.8±0.8, 34°.76S×71°.55W, h50km±6km, mb3.6/7, mb1 3.8/10, mb1mx3.6/19, mbtmp3.8/10, MS1.5/1, Ms1 1.5/1, ms1mx1.5/24, Error ellipse: s-maj=28.2km s-min=16.7km az=91.0*

ISC 21 07:00:20.9±0.6, 34.79S±0°.04×71.69W±0°.08, h50km±5km, n30, σ1§36/45, mb4.0/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.43**	**119**	*e*P1	**Pn**	**07 00 30.9**	**-0.5**
NICH				*e*S	**Sn**	**07 00 39.0**	**+0.1**
TALC	**Talca**	**0.60**	**176**	*e*P	**Pn**	**07 00 33.0**	**-0.5**
TALC				*i* S	**Sn**	**07 00 42.8**	**+0.4**
LNCH	**Linares**	**1.05**	**176**	*e*P	**Pn**	**07 00 39.5**	**+0.2**
LNCH				*e*S	**Sn**	**07 00 55.1**	**+2.1**
CACH	**El Canelo**	**1.12**	**53**	*e*P	**Pn**	**07 00 40.1**	**-0.3**
ANTU	**Antumapu**	**1.50**	**36**	*e*P	**Pn**	**07 00 45.3**	**-0.2**
ANTU				*e*S	**Sn**	**07 01 04.6**	**+0.6**
ANTU				AML	AML	07 01 07.3	
	comp=E,5μm,0.5s						
SAN	**Santiago**	**1.58**	**33**	*e*P	**Pn**	**07 00 46.6**	**0.0**
SAN				*e*S	**Sn**	**07 01 06.6**	**+0.7**
FSR	**Penalolen**	**1.63**	**37**	*e*P9	**Pn**	**07 00 48.6**	**+1.4**
FSR				*e*S	**Sn**	**07 01 09.6**	**+2.6**
LACH	**Col Las Americ**	**1.65**	**36**	*e*P9	**Pn**	**07 00 46.7**	**-0.8**
LACH				*e*S	**Sn**	**07 01 07.8**	**+0.3**
CLCH	**Cerro Calan**	**1.69**	**35**	*e*P	**Pn**	**07 00 48.2**	**+0.1**
CLCH				*e*S	**Sn**	**07 01 10.0**	**+1.4**
CLCH				AML	AML	07 01 14.1	
	comp=N,4μm,0.3s						
YECH	**El Yeso**	**1.74**	**50**	*e*P9	**Pn**	**07 00 47.5**	**-1.5**
YECH				*e*S	**Sn**	**07 01 10.5**	**+0.3**
YECH				AML	AML	07 01 17.6	
	comp=N,2μm,0.4s						
IHA	**Instituto Hidr**	**1.76**	**1**	*e*P	**Pn**	**07 00 48.2**	**-0.9**
PEL	**Peldehue**	**1.84**	**27**	*e*P	**Pn**	**07 00 50.4**	**+0.2**
PEL				*e*S	**Sn**	**07 01 13.7**	**+1.3**
PEL				AML	AML	07 01 21.5	
	comp=N,3μm,0.3s						
CFAA	**Coronel Fontan**	**4.30**	**43**	P	**Pn**	**07 01 23.5**	**-0.3**
	comp=N,0.7nm,0.3s,baz=227,slow=6.8,SNR=43						
CFAA				S	**Sn**	**07 02 18.3**	**+5.6**
	comp=N,1.3nm,0.3s,baz=120,slow=22,SNR=13						
CFAA				LR	LR	07 02 36.5	
	comp=N,6.5nm,21.4s,baz=226,slow=32						
LCO	**Las Campanas**	**5.83**	**9**	*e*Pn	**Pn**	**07 01 44.9**	**-0.1**
PLCA	**Paso Flores**	**6.00**	**172**	P	**Pn**	**07 01 49.0**	**+1.9**
	comp=N,1.0nm,0.3s,baz=335,slow=12,SNR=40						
PLCA	**Paso Flores**	**6.00**	**172**	*e*Pn	**Pn**	**07 01 49.3**	**+2.2**
	comp=N,0.7nm,0.5s						
TRQA	**Tornquist**	**8.47**	**115**	*e*Pn	**Pn**	**07 02 22.4**	**+1.4**
LPAZ	**La Paz**	**18.70**	**11**	P	**P**	**07 04 34.9**	**-0.9**
	comp=N,0.1nm,0.3s,baz=186,slow=7.1,SNR=7.0						
LPAZ				pP	**pP**	**07 04 47.9**	**+0.6**
	comp=N,0.1nm,0.3s,baz=207,slow=5.1,SNR=5.5						
LPAZ	**La Paz**	**18.70**	**11**	P	**P**	**07 04 35.7**	**-0.1**
	comp=N,1.5nm,0.8s						
SIV	**San Ignacio**	**21.01**	**30**	P	**P**	**07 04 59.0**	**-1.4**
	comp=N,3.8nm,0.8s,baz=228,slow=11,SNR=11						
SAML	**Samuel**	**26.88**	**19**	*e*P	**P**	**07 05 55.8**	**-1.3**
	comp=N,7.1nm,1.8s						
RPN	**Rapa Nui**	**33.03**	**273**	LR	LR	07 17 02.2	
	comp=N,143nm,20.4s,baz=42,slow=30						
QSPA	**South Pole Qui**	**55.44**	**180**	P	**P**	**07 09 50.1**	**0.0**
	comp=N,1.5nm,1.0s,baz=146,slow=4.1,SNR=3.8						
QSPA				pP	**pP**	**07 10 03.9**	**0.0**
	comp=N,1.9nm,0.8s,baz=70,slow=1.7,SNR=2.8						
TXAR	**Lajitas Array**	**70.57**	**331**	P	**P**	**07 11 30.8**	**0.0**
	comp=N,0.1nm,0.5s,baz=156,slow=7.1,SNR=4.8						
TXAR				pP	**pP**	**07 11 44.5**	**-0.6**
	comp=N,0.2nm,0.5s,baz=158,slow=10,SNR=2.7						
TXAR				sP	**sP**	**07 11 51.5**	**+0.8**
	comp=N,0.2nm,0.4s,baz=156,slow=6.9,SNR=2.4						
ABTX	**Abilene, Hawle**	**72.02**	**335**	*e*P	**P**	**07 11 39.5**	**+0.1**
	comp=N,1.6nm,0.5s						
DBIC	**Dimbokro**	**75.16**	**71**	P	**P**	**07 11 57.5**	**-0.8**
	comp=N,2.0nm,0.6s,baz=216,slow=7.8,SNR=3.1						
BOSA	**Boshof**	**79.45**	**117**	P	**P**	**07 12 21.7**	**-0.6**
	comp=N,1.6nm,0.5s,baz=206,slow=3.2,SNR=6.1						
PV01	**Paradox Valley**	**80.22**	**331**	*e*P	**P**	**07 12 27.5**	**+1.3**
	comp=N,558nm,1.5s						
TORD	**Torodi Ar. Bea**	**84.21**	**70**	P	**P**	**07 12 46.5**	**-0.7**
	comp=N,1.2nm,0.7s,baz=268,slow=3.3,SNR=6.4						
TORD				pP	**pP**	**07 13 00.3**	**-1.6**
	comp=N,0.3nm,0.7s,baz=271,slow=3.4,SNR=1.7						
NVAR	**Mina Array Bea**	**84.70**	**325**	P	**P**	**07 12 50.1**	**+0.6**
	comp=N,0.2nm,0.5s,baz=166,slow=4.6,SNR=2.3						

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*ISCJB **21** 07:05:36.7±0.4, 6°.17S±0°.05×127°.71E±0°.06, h400km, mb3.5/8, Error ellipse: s-maj=8.7km s-min=6.2km az=3.4*
*IDC **21** 07:05:37.4±1.6, 6°.29S×127°.75E, h395km±20km, mb3.2/8, mb1 3.5/12, mb1mx3.4/22, mbtmp4.2/12, Error ellipse: s-maj=20.0km s-min=10.1km az=65.0*

ISC 21 07:05:37.5±0.6, 6°.21S±0°.06×127.75E±0°.08, h400km, n19, σ1§66/22, mb3.5/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.93**	**224**	P	**Pn**	**07 06 59.8**	**+0.8**
	baz=5.0,SNR=8.4						
FAKI	**Fak Fak**	**5.55**	**54**	P	**Pn**	**07 07 05.4**	**+0.1**
	baz=5.5,SNR=62						
FAKI				S	S	07 08 09.8	-7.0
	baz=5.5,SNR=6.9						
BATI	**Baumata**	**5.67**	**225**	P	**Pn**	**07 07 07.3**	**+0.7**
	16nm,0.3s,baz=52,slow=1.9,SNR=10						
BATI				S	**S**	**07 08 15.2**	**-4.0**
	6.4nm,0.3s,baz=307,slow=22,SNR=6.2						
SWI	**Sorong**	**6.36**	**34**	S	**S**	**07 08 30.1**	**-2.8**
	baz=6.3,SNR=5.3						
LUWI	**Luwuk**	**7.14**	**316**	P	**Pn**	**07 07 20.3**	**-2.6**
	baz=7.0,SNR=4.7						
MTN	**Manton Dam**	**7.39**	**153**	P	**P**	**07 07 26.8**	**+0.7**
	baz=7.6,SNR=27						
KDU	**Kakadu**	**7.95**	**144**	P	**P**	**07 07 32.9**	**+0.5**
	baz=8.2,SNR=14						
KNRA	**Kununurra**	**9.46**	**174**	P	**Pn**	**07 07 49.9**	**+0.5**
	baz=9.7,SNR=9.0						
WRA	**Warramunga Arr**	**15.08**	**155**	P	**P**	**07 08 51.2**	**+0.2**
	4.7nm,0.3s,baz=337,slow=12,SNR=203						
WRA				S	**S**	**07 11 28.4**	**-2.7**

0.6nm,0.3s,baz=329,slow=18,SNR=8.9
ASAR Alice Springs 18.34 162 P **P 07 09 25.8 0.0**
1.8nm,0.3s,baz=346,slow=11,SNR=105
ASAR S **S 07 12 33.8 -0.3**
0.2nm,0.3s,baz=339,slow=21,SNR=19
PMG Port Moresby 19.49 101 P **P 07 09 37.9 +0.5**
0.9nm,0.3s,baz=323,slow=10,SNR=3.1
PSI Prapat 30.14 286 P **P 07 11 13.8 +0.9**
5.4nm,0.9s,baz=116,slow=15,SNR=4.7
CMAR Chiang Mai Arr 37.52 311 P **P 07 12 18.0 +2.6**
0.6nm,0.2s,baz=148,slow=7.1,SNR=4.3
KSRS Korea Array 43.44 0 P **P 07 13 03.7 +0.8**
0.9nm,0.5s,baz=177,slow=11,SNR=3.8
MJAR Matsushiro Arr 43.64 12 P **P 07 13 03.6 -1.0**
0.5nm,0.4s,baz=211,slow=6.1,SNR=3.3
SONM Songino Array 57.01 343 P **P 07 14 44.6 +1.2**
0.5nm,0.5s,baz=164,slow=6.0,SNR=3.3
PETK Petropavlovsk- 64.30 20 P **P 07 15 32.8 +1.2**
1.8nm,0.7s,baz=174,slow=4.3,SNR=3.5
MKAR Makanchi Array 66.36 328 P **P 07 15 45.3 +0.4**
0.6nm,0.5s,baz=119,slow=8.3,SNR=18
ZALV Zalesovo Beam 69.90 335 P **P 07 16 05.9 -0.5**
0.8nm,0.6s,baz=168,slow=7.6,SNR=4.0

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*IDC **21** 07:08:52.8±2.4, 41°.29N×127°.16W, h0km, mb2.7/3, mb1 3.3/6, mb1mx3.2/29, mbtmp2.9/6, ML3.4/2, MS2.8/3, Ms1 2.8/3, ms1mx2.6/9, Error ellipse: s-maj=37.1km s-min=19.3km az=32.0*
*ISCJB **21** 07:08:53.1±1.5, 41°.3N±0°.2×127°.2W±0°.1, h11km, mb2.5/3, Error ellipse: s-maj=24.3km s-min=12.3km az=20.5*
ISC 21 07:08:54.5±2.0, **41°.3N**±0°.2×**127°.2W**±0°.1, **h11**km, **n15, σ0$45/6, mb2.6/3, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBH	**Yreka Blue Hor**	**3.39**	**81**	Pn	**Pn**	**07 09 47.9**	**+0.4**
	3.1nm,0.3s,baz=264,slow=15,SNR=43						
YBH				Sn	**Sn**	**07 10 27.5**	**-0.3**
	0.5nm,0.3s,baz=151,slow=20,SNR=1.3						
YBH				LR	LR	07 10 54.1	
	comp=Z,114nm,21.4s,baz=270,slow=36						
NVAR	**Mina Array Bea**	**7.41**	**110**	**Pn**	**Pn**	**07 10 42.6**	**-0.2**
	0.1nm,0.3s,baz=294,slow=14,SNR=7.0						
ELK	**Elko**	**9.05**	**90**	LR	LR	07 14 29.0	
	comp=Z,71nm,21.1s,baz=179,slow=37						
H02N1	**VAN INLET T-PH**	**12.49**	**345**	T	T	07 26 16.2	
	SNR=6.2						
PDAR	**Pinedale Array**	**13.19**	**78**	Pn	Pn	07 12 06.0	+4.1
	baz=284,slow=18,SNR=2.0						
ANMO	**Albuquerque**	**17.49**	**105**	LR	LR	07 18 43.8	
	comp=Z,37nm,20.0s,baz=354,slow=34						
YKA	**Yellowknife Ar**	**22.52**	**15**	P	**P**	**07 13 53.5**	**-0.4**
	0.1nm,0.5s,baz=205,slow=11,SNR=5.5						
TXAR	**Lajitas Array**	**22.53**	**115**	P	**P**	**07 13 54.8**	**+0.3**
	0.1nm,0.4s,baz=321,slow=13,SNR=2.5						
ILAR	**Eielson Array**	**26.09**	**341**	P	**P**	**07 14 28.0**	**+0.1**
	0.1nm,0.7s,baz=155,slow=11,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**59.31**	**270**	T	T	08 22 51.7	
	baz=52,slow=75,SNR=43						
H11N2	**WAKE ISLAND Hy**	**59.31**	**270**	T	T	08 22 51.9	
	baz=52,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy**	**59.33**	**270**	T	T	08 22 53.0	
	baz=52,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**60.20**	**269**	T	T	08 23 57.5	
	baz=52,slow=75,SNR=73						
H11S2	**WAKE ISLAND Hy**	**60.20**	**269**	T	T	08 23 58.1	
	baz=52,slow=75,SNR=58						
H11S3	**WAKE ISLAND Hy**	**60.22**	**269**	T	T	08 23 58.7	
	baz=52,slow=75,SNR=35						

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*IDC **21** 07:11:43.4±1.6, 0°.05S×122°.97E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/33, mbtmp3.3/3, Error ellipse: s-maj=179.0km s-min=24.5km az=62.0*
*ISCJB **21** 07:11:52.0±0.6, 0°.38S±0°.05×122°.55E±0°.06, h83km±7km, mb3.2/3, Error ellipse: s-maj=9.5km s-min=8.0km az=12.2*
*DJA **21** 07:11:52.6±0.3, 0°.S±2°×12°.3E±°, h77km±6km, M3.8/8, MLv3.8/8*
ISC 21 07:11:52.5±1.0, **0°.33S**±0°.05×**122°.71E**±0°.05, **h81**km±10km, **n12, σ1$90/16, mb3.3/3, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.71**	**175**	P	**Pn**	**07 12 08.3**	**-0.1**
LUWI				S	**Sn**	**07 12 19.7**	**-0.4**
GTOI	**Gorontalo**	**1.01**	**18**	P	**Pn**	**07 12 13.1**	**+1.4**
MRSI	**Marisa**	**1.11**	**316**	P	**Pn**	**07 12 11.2**	**-1.7**
MRSI				S	**Sn**	**07 12 25.8**	**-2.4**
APSI	**Ampana**	**1.20**	**241**	P	**Pn**	**07 12 13.0**	**-1.1**
APSI				S	**Sn**	**07 12 34.7**	**+4.4**
KMSI	**Cibinong**	**1.56**	**55**	P	Pn	07 12 26.6	+7.9
KMSI				S	Sn	07 12 43.7	+5.3
MPSI	**Mapaga**	**2.88**	**283**	P	**Pn**	**07 12 36.3**	**0.0**
SANI	**Sanana**	**3.70**	**118**	P	**Pn**	**07 12 46.7**	**-0.7**
SANI				S	**Sn**	**07 13 28.2**	**-1.7**
TTSI	**Tana Toraja**	**3.95**	**227**	P	**Pn**	**07 12 50.7**	**-0.1**
SPSI	**Sidrap Palu**	**4.65**	**219**	P	**Pn**	**07 12 59.8**	**-0.6**
SPSI				S	**Sn**	**07 13 50.6**	**-2.5**
WRA	**Warramunga Arr**	**22.58**	**150**	P	**P**	**07 16 47.1**	**+0.6**
	1.0nm,0.6s,baz=329,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**25.62**	**156**	P	**P**	**07 17 15.7**	**+1.1**
	0.4nm,0.5s,baz=344,slow=15,SNR=12						
MKAR	**Makanchi Array**	**58.74**	**329**	P	**P**	**07 21 42.6**	**+0.5**
	0.1nm,0.4s,baz=139,slow=6.2,SNR=2.9						

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*ISCJB **21** 07:13:31.3±0.8, 37°.68S±0°.08×73°.0W±0°.2, h33km, mb3.8/6, Error ellipse: s-maj=19.0km s-min=9.8km az=17.2*
*IDC **21** 07:13:31.9±0.7, 37°.72S×73°.03W, h30km±5km, mb3.6/6, mb1 3.9/8, mb1mx3.7/26, mbtmp3.7/8, ML3.8/2, MS2.2/1, Ms1 2.2/1, ms1mx2.2/22, Error ellipse: s-maj=27.8km s-min=15.6km az=93.0*
ISC 21 07:13:32.0±0.7, **37°.72S**±0°.09×**73°.2W**±0°.1, **h33**km, **n10, σ0$99/16, mb3.8/6, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.64**	**147**	Pn	**Pn**	**07 14 26.9**	**+0.8**
	3.1nm,0.3s,baz=318,slow=12,SNR=121						
PLCA				Lg	Lg	07 15 19.6	
	6.2nm,0.3s,baz=47,slow=15,SNR=4.2						
CFAA	**Coronel Fontan**	**7.33**	**35**	Pn	**Pn**	**07 15 17.6**	**+0.7**
	0.4nm,0.3s,baz=211,slow=9.0,SNR=26						
CFAA				Sn	**Sn**	**07 16 39.0**	**-0.1**
	0.3nm,0.3s,baz=188,slow=17,SNR=1.7						
CFAA				Lg	Lg	07 17 21.7	
	0.1nm,0.3s,baz=260,slow=19,SNR=5.5						
CFAA				LR	LR	07 18 25.4	
	comp=Z,19nm,21.7s,baz=214,slow=40						
LPAZ	**La Paz**	**21.81**	**13**	P	**P**	**07 18 21.4**	**-0.6**
	2.0nm,0.9s,baz=160,slow=8.8,SNR=6.5						
QSPA	**South Pole Qui**	**52.52**	**180**	P	**P**	**07 22 42.0**	**+0.2**
	0.8nm,0.4s,baz=67,slow=14,SNR=18						
QSPA				pP	**pP**	**07 22 51.8**	**0.0**
	3.0nm,1.0s,baz=189,slow=6.0,SNR=4.5						
TXAR	**Lajitas Array**	**72.55**	**332**	P	**P**	**07 24 56.3**	**+0.5**
	0.8nm,0.9s,baz=150,slow=8.4,SNR=5.9						
TXAR				pP	**pP**	**07 25 05.8**	**-0.4**
	0.8nm,0.9s,baz=153,slow=8.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**86.34**	**70**	P	**P**	**07 26 10.3**	**-0.8**
	0.8nm,0.5s,baz=221,slow=4.5,SNR=6.8						
NVAR	**Mina Array Bea**	**86.42**	**326**	P	**P**	**07 26 12.7**	**+1.5**
	0.4nm,0.8s,baz=140,slow=5.8,SNR=3.0						
NVAR				pP	**pP**	**07 26 22.1**	**+0.4**
	0.6nm,0.7s,baz=151,slow=6.5,SNR=6.2						
PDAR	**Pinedale Array**	**86.67**	**334**	P	**P**	**07 26 13.4**	**+1.1**
	0.6nm,1.0s,baz=165,slow=3.7,SNR=2.9						
PDAR				pP	**pP**	**07 26 22.3**	**-0.5**
	0.9nm,1.0s,baz=148,slow=8.7,SNR=5.4						
WRA	**Warramunga Arr**	**117.07**	**209**	PKP	**PKPdf**	**07 32 12.6**	**-1.5**
	0.3nm,0.4s,baz=177,slow=1.7,SNR=7.6						
WRA				pPKP	**pPKPdf**	**07 32 23.0**	**-1.9**
	1.0nm,1.1s,baz=164,slow=1.3,SNR=3.0						
MKAR	**Makanchi Array**	**159.78**	**56**	PKPab	**PKPab**	**07 34 05.3**	**-1.0**
	0.5nm,0.8s,baz=273,slow=3.6,SNR=3.3						

IDC 21 07:20:22.5±1.6, **33°.96S×73°.24W, h0**km, **mb3.5/2, mb1 3.7/4, mb1mx3.5/21, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=35.0km s-min=31.7km az=79.0, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.83**	**62**	Pn	Pn	07 21 37.0	+0.5
	0.2nm,0.3s,baz=234,slow=14,SNR=7.0						
CFAA				Sn	Sn	07 22 32.6	-0.6
	0.2nm,0.3s,baz=236,slow=15,SNR=2.7						
PLCA	**Paso Flores**	**7.09**	**163**	Pn	Pn	07 22 08.2	+0.5
	0.4nm,0.3s,baz=336,slow=8.7,SNR=13						
LPAZ	**La Paz**	**18.19**	**16**	P	P	07 24 38.1	+0.4
	0.1nm,0.3s,baz=204,slow=15,SNR=3.1						
TXAR	**Lajitas Array**	**69.22**	**332**	P	P	07 31 31.1	-0.1
	0.3nm,0.5s,baz=157,slow=7.9,SNR=6.1						
TORD	**Torodi Ar. Bea**	**85.14**	**71**	P	P	07 33 00.5	-0.3
	0.1nm,0.5s,baz=205,slow=6.2,SNR=2.7						

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*IDC **21** 07:22:48.5±1.5, 0°.23N×122°.18E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/27, mbtmp3.5/3, Error ellipse: s-maj=202.6km s-min=24.3km az=61.0*
*ISCJB **21** 07:23:07.8±0.7, 0°.20N±0°.08×122°.40E±0°.08, h150km, mb3.3/3, Error ellipse: s-maj=13.2km s-min=8.8km az=141.4*
*DJA **21** 07:23:10.2±0.7, 0°.N±3°×12°.2E±°, h123km±6km, M4.0/6, mb4.5/1, MLv3.8/6*
ISC 21 07:23:07.8±1.2, **0°.22N**±0°.09×**122°.45E**±0°.08, **h150**km, **n9, σ2$07/13, mb3.5/3, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.57**	**297**	P	**Pn**	**07 23 29.5**	**0.0**
MRSI				S	**Sn**	**07 23 45.8**	**-0.2**
GTOI	**Gorontalo**	**0.70**	**54**	P	**Pn**	**07 23 30.4**	**+0.1**
LUWI	**Luwuk**	**1.29**	**165**	P	**Pn**	**07 23 35.3**	**+0.1**
LUWI				S	**Sn**	**07 23 55.8**	**-0.5**
APSI	**Ampana**	**1.37**	**215**	P	**Pn**	**07 23 36.1**	**0.0**
APSI				S	**Sn**	**07 23 58.2**	**+0.5**
KMSI	**Cibinong**	**1.57**	**77**	P	**Pn**	**07 23 40.0**	**+1.9**
KMSI				S	**Sn**	**07 24 03.7**	**+2.3**
TTSI	**Tana Toraja**	**4.17**	**219**	P	**Pn**	**07 24 11.4**	**+1.1**
TTSI				S	**Sn**	**07 25 03.2**	**+4.3**
WRA	**Warramunga Arr**	**23.18**	**150**	P	**P**	**07 27 58.6**	**-2.7**
	1.5nm,0.8s,baz=327,slow=11,SNR=12						
ASAR	**Alice Springs**	**26.22**	**156**	P	**P**	**07 28 26.3**	**-2.6**
	0.2nm,0.5s,baz=331,slow=10.0,SNR=8.9						
MKAR	**Makanchi Array**	**58.14**	**329**	P	P	07 32 43.1	-2.7
	0.3nm,0.4s,baz=130,slow=8.4,SNR=8.0						

KRSC 21 07:26:15.4±1.1, **50°.39N×156°.92E, h31**km±19km, **ML3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.59**	**300**	*i* P	Pb	07 26 27.3	0.0
SKR				*i* S	Sn	07 26 36.2	+0.1
PAU	**Pauzhetka**	**1.08**	**356**	*i* P	Pb	07 26 35.4	-0.1
PAU				*i* S	Sb	07 26 50.1	+0.8
MIPR	**Malaya Ipel'ka**	**1.89**	**357**	P	Pn	07 26 47.1	+1.6
MTVR	**Mutnovka**	**2.24**	**20**	P	Pb	07 26 53.7	-1.7
MTVR				S	Sn	07 27 19.6	+2.3
RUS	**Russkaya**	**2.28**	**25**	P	Pn	07 26 51.8	+1.0
UGLR	**Uglovaya**	**3.06**	**22**	P	Pn	07 27 05.4	+3.7
KOK	**Koryaka**	**3.10**	**19**	P	Pn	07 27 05.9	+3.7
KRER	**Koryakskii**	**3.13**	**21**	P	Pn	07 27 06.3	+3.5
KRX	**Arik**	**3.16**	**19**	P	Pn	07 27 06.8	+3.6

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*ISCJB **21** 07:37:29.0±1.1, 24°.93N±0°.06×127°.98E±0°.06, h46km±18km, mb3.4/3, Error ellipse: s-maj=12.3km s-min=5.0km az=141.7*
*JMA **21** 07:37:29.1±0.5, 24°.97N×128°.09E, h77km, M3.4*
*IDC **21** 07:37:30.9±1.9, 25°.10N×128°.91E, h37km±8km, mb3.1/3, mb1 3.3/3, mb1mx3.1/24, mbtmp3.3/3, Error ellipse: s-maj=126.2km s-min=16.8km az=72.0*
ISC 21 07:37:29.7±1.0, **24°.91N**±0°.05×**128°.10E**±0°.05, **h41**km±14km, **n21, σ1$96/34, mb3.5/3, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.27**	**345**	P	**Pn**	**07 37 50.9**	**-0.1**
JJT2				*e*S	**Sn**	**07 38 07.3**	**+0.5**
JNTH	**Nagotoyohara**	**1.61**	**357**	P	**Pn**	**07 37 54.9**	**-0.7**
JNTH				*e*S	**Sn**	**07 38 13.3**	**-1.8**
JAGN	**Aguni-jima**	**1.85**	**335**	P	**Pn**	**07 37 59.1**	**+0.2**
JAGN				S	**Sn**	**07 38 20.5**	**-0.5**
JKE	**Kume jima 2**	**1.85**	**320**	P	**Pn**	**07 37 58.7**	**-0.2**
JKE				*e*S	**Sn**	**07 38 20.2**	**-0.9**
JOW	**Kunigami**	**1.92**	**5**	P	**Pn**	**07 37 59.5**	**-0.5**
JOW	**Kunigami**	**1.92**	**5**	Pn	**Pn**	**07 37 59.5**	**-0.5**
	1.2nm,0.3s,baz=118,slow=25,SNR=53						
JOW				Sn	**Sn**	**07 38 20.7**	**-2.3**
	2.8nm,0.3s,baz=120,slow=26,SNR=10.0						
JIH	**Iheya**	**2.12**	**357**	P	**Pn**	**07 38 02.7**	**0.0**
JIH				*e*S	**Sn**	**07 38 26.2**	**-1.6**
JOKE	**Okinoerabujima**	**2.48**	**10**	P	**Pn**	**07 38 07.3**	**-0.3**
JMJ	**Miyako jima 2**	**2.55**	**269**	*e*S	**Sn**	**07 38 37.4**	**-1.1**
JIRB	**Irabujima**	**2.66**	**269**	P	**Pn**	**07 38 09.6**	**-0.5**
JIRB				*e*S	**Sn**	**07 38 39.0**	**-2.1**
JMZ	**Minamidaito 2**	**2.96**	**71**	P	Pn	07 38 11.5	-2.7
JMZ				*e*S	**Sn**	**07 38 43.6**	**-5.0**
JTK	**Tokunoshima**	**2.97**	**15**	P	**Pn**	**07 38 14.9**	**+0.6**
JTK				*e*S	**Sn**	**07 38 45.5**	**-3.2**
JTJ	**Tarama**	**3.10**	**266**	P	**Pn**	**07 38 15.8**	**-0.3**
JTJ				*e*S	**Sn**	**07 38 49.3**	**-2.7**
JAMN	**Amaminishikomi**	**3.46**	**16**	P	**Pn**	**07 38 21.6**	**+0.6**
JAMN				*e*S	**Sn**	**07 38 58.2**	**-2.6**
JISG	**Ishigakijimahi**	**3.46**	**266**	P	**Pn**	**07 38 20.2**	**-0.9**
JISG				*e*S	**Sn**	**07 38 57.8**	**-3.1**
JIJ	**Ishigaki jima**	**3.64**	**262**	P	**Pn**	**07 38 22.5**	**-1.1**
JIJ				*e*S	Sn	07 39 00.8	-4.6
JAM	**Amami Oshima**	**3.74**	**21**	P	**Pn**	**07 38 25.6**	**+0.7**
JAM				*e*S	**Sn**	**07 39 04.7**	**-3.0**
JKRS	**Kuro-shima**	**3.79**	**261**	*e*S	**Sn**	**07 39 05.6**	**-3.3**
WRA	**Warramunga Arr**	**44.99**	**172**	P	**P**	**07 45 42.8**	**+1.6**
	0.5nm,0.8s,baz=353,slow=8.7,SNR=6.7						
WRA				pP	**pP**	**07 45 53.9**	**+1.2**
	0.8nm,0.7s,baz=352,slow=8.5,SNR=6.9						
ASAR	**Alice Springs**	**48.61**	**173**	P	**P**	**07 46 11.4**	**+1.9**
	0.1nm,0.3s,baz=356,slow=13,SNR=3.7						
ASAR				pP	**pP**	**07 46 23.8**	**+2.7**
	0.2nm,0.5s,baz=360,slow=16,SNR=2.4						
BRTR	**Keskin Array B**	**77.76**	**308**	P	P	07 49 28.3	+5.4
	0.3nm,0.5s,baz=86,slow=7.9,SNR=2.3						
BRTR				pP	pP	07 49 38.1	+3.0
	0.3nm,0.4s,baz=59,slow=5.9,SNR=2.6						

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*ISCJB **21** 07:43:08.9±0.8, 62°.62S±0°.10×159°.6W±0°.3, h10km, mb3.9/4, MS4.5/13, Error ellipse: s-maj=23.4km s-min=12.0km az=21.3*
*IDC **21** 07:43:09.0±0.9, 62°.64S×159°.28W, h0km, mb3.9/4, mb1 4.1/5, mb1mx4.0/11, mbtmp3.9/5, ML4.0/1, MS4.5/14, Ms1 4.4/14, ms1mx4.4/18, Error ellipse: s-maj=34.8km s-min=26.7km az=31.0*
*NEIC **21** 07:43:10.8±0.8, 62°.61S×159°.34W, h10km, Error ellipse: s-maj=26.2km s-min=23.2km az=76.0*
*GCMT **21** 07:43:12.0±0.2, 62°.75S×158°.46W, h19km±1km, MW5.3/103, Moment Tensor Solution. s54,c78; s103,c151; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁷ Nm; M_{rr}-0.16±.02; $M_{\theta\theta}$0.92±.03; $M_{\phi\phi}$-0.76±.02; $M_{r\theta}$0.05±.04; $M_{\theta\phi}$0.29±.02; $M_{\phi r}$0.43±.05; Best double couple: $M_0$0.99400×10¹⁷ NP1:ϕ₁218.00000°, δ77.00000°, λ-156.00000°. NP2:ϕ₂123.00000°, δ67.00000°, λ-14.00000°. Principal axes: T 0.9780, Plg6.0000°, Azm349.0000°; N 0.0320, Plg63.0000°, Azm246.0000°; P -1.0110, Plg26.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 21 07:43:10.7±0.8, **62°.7S**±0°.1×**159°.2W**±0°.2, **h10**km, **n34, σ1$09/15, mb4.0/4, MS4.4/13, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.27**	**204**	P	**Pn**	**07 47 36.8**	**+0.7**
	0.5nm,0.3s,baz=72,slow=17,SNR=30						
VNDA				LR	LR	07 53 06.0	
	comp=Z,2μm,21.0s,baz=62,slow=31						
QSPA	**South Pole Qui**	**27.45**	**180**	P	**P**	**07 48 55.7**	**-0.9**
	3.6nm,1.0s,baz=49,slow=7.6,SNR=5.6						
QSPA				LR	LR	07 57 50.8	
	comp=Z,1μm,18.1s,baz=70,slow=32						
URZ	**Urewera**	**28.39**	**318**	LR	LR	07 58 09.5	
	comp=Z,738nm,21.4s,baz=168,slow=32						
TBI	**Tubuai**	**39.85**	**14**	*e*S	**S**	**07 56 48.8**	**+0.3**
	283nm,28.0s						
TBI				*e*LR	LR	08 01 28.7	
	2μm,28.0s,baz=184						
TBI	**Tubuai**	**39.85**	**14**	*e*T	T	08 32 46.7	
	59nm,0.4s						
RKT	**Rikitea**	**42.79**	**34**	*e*S	**S**	**07 57 31.5**	**-0.6**
	344nm,35.0s						
RKT				*e*LQ	LQ	08 00 55.4	
	3μm,29.8s						
RKT				*e*LR	LR	08 03 02.7	
	575nm,26.2s,baz=199						
RKT	**Rikitea**	**42.79**	**34**	*e*T	T	08 36 23.0	
	11nm,0.3s						
TVO	**Taravao**	**45.38**	**13**	*e*T	T	08 39 40.7	
	4.1nm,0.3s						
MEH	**Mehetia**	**45.42**	**15**	*e*T	T	08 39 43.5	
	78nm,0.3s						
PAE	**Paea**	**45.46**	**13**	*e*T	T	08 39 47.0	
	10nm,0.4s						
PPT2	**Papeete2**	**45.53**	**13**	*e*S	**S**	**07 58 12.2**	**0.0**
	304nm,24.5s						
PPT2				*e*LQ	LQ	08 02 07.5	
	2μm,29.5s						
PPT2				*e*LR	LR	08 04 02.6	
	2μm,27.5s,baz=190						
PPT2	**Papeete2**	**45.53**	**13**	*e*T	T	08 39 52.6	
	8.6nm,0.3s						
PPT	**Papeete**	**45.55**	**13**	LR	LR	08 05 09.6	
	comp=Z,503nm,21.1s,baz=185,slow=29						
MAW	**Mawson**	**46.52**	**201**	LR	LR	08 09 17.7	
	comp=Z,427nm,20.1s,baz=148,slow=34						
DZM	**Mont Dzumac**	**46.78**	**314**	LR	LR	08 07 39.4	
	comp=Z,569nm,21.6s,baz=189,slow=32						
VAH	**Vaihoa**	**48.07**	**15**	*e*T	T	08 43 02.3	
	217nm,0.3s						
PLCA	**Paso Flores**	**54.20**	**110**	LR	LR	08 11 08.3	
	comp=Z,321nm,18.8s,baz=200,slow=31						
CTA	**Charters Tower**	**56.33**	**293**	LR	LR	08 13 09.9	
	comp=Z,227nm,19.1s,baz=151,slow=32						
H01W1	**Cape Leeuwin H**	**58.18**	**255**	T	T	08 57 04.6	
	baz=146,slow=76,SNR=7.7						
H01W2	**Cape Leeuwin H**	**58.18**	**255**	T	T	08 57 10.1	
	baz=146,slow=76,SNR=7.1						
H01W3	**Cape Leeuwin H**	**58.19**	**255**	T	T	08 57 10.4	
	baz=146,slow=76,SNR=9.3						
ASAR	**Alice Springs**	**58.66**	**279**	P	**P**	**07 53 07.2**	**-0.8**
	0.9nm,0.8s,baz=148,slow=6.8,SNR=10						
ASAR				LR	LR	08 14 22.6	
	comp=Z,507nm,21.8s,baz=144,slow=32						
WRA	**Warramunga Arr**	**61.70**	**282**	P	**P**	**07 53 27.5**	**-1.4**
	0.8nm,1.0s,baz=154,slow=5.6,SNR=4.8						
WRA				LR	LR	08 18 16.4	
	comp=Z,315nm,18.2s,baz=155,slow=34						
LPAZ	**La Paz**	**76.17**	**99**	P	**P**	**07 55 00.1**	**+0.5**
	1.2nm,0.8s,baz=234,slow=6.4,SNR=3.4						
BDFB	**Brasilia**	**85.58**	**116**	LR	LR	08 31 00.7	
	comp=Z,579nm,19.6s,baz=198,slow=34						
BOSA	**Boshof**	**88.97**	**184**	LR	LR	08 34 16.9	
	comp=Z,422nm,18.2s,baz=169,slow=34						
ROSC	**El Rosal**	**91.91**	**83**	LR	LR	08 29 51.1	
	comp=Z,98nm,19.0s,baz=200,slow=30						
PTGA	**Pitinga**	**93.60**	**99**	LR	LR	08 31 32.0	
	comp=Z,90nm,21.2s,baz=190,slow=31						
ILAR	**Eielson Array**	**127.46**	**7**	PKP	**PKPdf**	**08 02 14.4**	**+0.4**
	0.8nm,0.9s,baz=250,slow=2.1,SNR=4.0						
MKAR	**Makanchi Array**	**142.75**	**274**	PKP	**PKPdf**	**08 02 43.9**	**+0.8**
	0.3nm,0.8s,baz=147,slow=2.9,SNR=2.4						
KURBB	**Kurchatov Arra**	**147.23**	**276**	PKPbc	**PKPdf**	**08 02 51.4**	**+0.9**
	3.5nm,1.0s,baz=135,slow=1.9,SNR=13						
KURK	**Kurchatov**	**147.26**	**276**	PKPbc	**PKPdf**	**08 02 51.4**	**+0.8**
ESDC	**Sonseca Array**	**152.56**	**135**	PKPbc	**PKPbc**	**08 03 06.6**	**+0.1**
	0.1nm,0.3s,baz=197,slow=2.3,SNR=2.8						
ESDC				PKPab	**PKPab**	**08 03 15.0**	**-2.0**
	0.7nm,0.9s,baz=198,slow=2.4,SNR=3.9						
BVAR	**Borovoye Array**	**152.59**	**273**	PKPbc	**PKPbc**	**08 03 07.9**	**+1.9**
	0.3nm,0.5s,baz=111,slow=3.2,SNR=3.2						

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*ISCJB **21** 07:49:39.3±0.5, 24°.82N±0°.04×95°.16E±0°.03, h118km±5km, mb4.1/32, Error ellipse: s-maj=6.2km s-min=3.7km az=17.8*
*BJI **21** 07:49:39.9, 24°.86N×95°.29E, h122km, mB4.7/13, mb4.6/24*
*IDC **21** 07:49:41.3±0.7, 24°.81N×95°.40E, h124km±6km, mb3.7/24, mb1 3.8/25, mb1mx3.7/45, mbtmp4.1/25, Error ellipse: s-maj=14.1km s-min=9.5km az=55.0*
*NEIC **21** 07:49:41.8±0.9, 24°.83N×95°.38E, h125km±11km, mb4.4/10, Error ellipse: s-maj=12.3km s-min=7.4km az=220.0*
ISC 21 07:49:41.2±0.5, **24°.83N**±0°.05×**95°.23E**±0°.04, **h125**km±4km, **h125**km:**pP-P, n84, σ2$17/114, mb4.1/33, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.12**	**284**	*e*P	**Pn**	**07 50 28.1**	**-1.1**
SHL				*e*S	**Sn**	**07 51 03.4**	**-3.0**
SHL				AML	AML	07 51 07.6	
	comp=N,1μm,0.1s						
SHL				AML	AML	07 51 08.4	
	comp=E,1μm,0.1s						
LSA	**Lhasa**	**6.06**	**324**	P	**Pn**	**07 51 09.5**	**+0.7**
LSA				S	**Sn**	**07 52 14.3**	**-2.9**
LSA				SMN			
	comp=E,180nm,0.7s						
LSA				SME			
	comp=E,240nm,0.7s						
LSA	**Lhasa**	**6.06**	**324**	*e*Pn	**Pn

comp=E,124nm,0.6s
DANN Dangsing 10.84 291 *e*Pn Pn 07 52 10.7 -2.5
DANN *e*Sn **Sn** 07 54 07.2 -5.6
comp=E,202nm,0.7s
PYUN Piuthan 11.44 289 *e*Pn Pn 07 52 17.9 -3.1
PYUN *e*Sn Sn 07 54 18.7 -8.3
comp=E,179nm,0.4s
DGPR DIGLIPUR 11.79 191 *e*P Pn 07 52 23.6 -2.0
VIS Vishakhapatnam 13.15 240 *e*P Pn 07 52 43.6 +0.5
VIS *ex* x 07 54 55.3
VIS AML AML 07 55 00.6
comp=E,46nm,0.0s
VIS AML AML 07 55 05.6
comp=N,35nm,0.4s
LZH Lanzhou 13.45 31 P Pn 07 52 48.1 +1.0
LZH sP 07 53 21.0
LZH PMZ
comp=N,26nm,1.0s
LZH PMZ
comp=N,85nm,4.2s
ENH Enshi 13.76 64 *e*Pn Pn 07 52 49.7 -1.3
QIZ Qiongzhong 14.74 110 Pn Pn 07 53 03.7 +0.2
comp=N,24nm,1.1s
XAN Xi'an 15.04 49 P P 07 53 09.8 +0.2
GTA Gaotai 15.05 14 *e*P P 07 53 08.8 -0.9
GTA pP Pn 07 53 15.8 +8.4
GTA PMZ
comp=N,4.0nm,0.9s
NGP Nagpur 15.34 259 *e*P P 07 53 13.0 +0.1
BHPL Bhopal 16.34 268 *e*P Pn 07 53 23.7 +0.2
NDI New Delhi 16.54 287 *e*P P 07 53 28.0 +1.9
NDI *ex* x 07 56 16.0
SMLA Simla 17.13 296 *e*P Pn 07 53 33.5 +0.5
SMLA *ex* x 07 56 31.2
HYB Hyderabad 17.20 248 *i*P Pn 07 53 35.0 +1.0
HYB eS Sn 07 56 33.0 -13
HYB Hyderabad 17.20 248 *e*P Pn 07 53 34.0 0.0
HYB Hyderabad 17.20 248 *e*P Pn 07 53 35.0 +1.0
HYB eS Sn 07 56 33.0 -13
AKL Akola 17.29 260 *e*P Pn 07 53 36.9 +2.0
CMBY CAMPBELL BAY 17.76 184 *e*P Pn 07 53 40.5 -0.2
DHRM DHARAMSHALA 18.18 298 *ex* P 07 53 35.1 -9.4
WMQ Urumqi 19.92 344 *e*P P 07 54 04.3 +1.2
WMQ PP **pP** 07 54 29.3 +3.5
WMQ sP **sP** 07 54 43.1 +1.5
WMQ S **S** 07 57 37.0 -3.4
WMQ sS sS 07 58 11.0 -7.2
WMQ SS Sn 07 58 15.0 +24
WMQ PMZ
comp=N,15nm,1.2s
WMQ PMZ
comp=N,190nm,5.0s
WMQ LN
comp=N,14nm,27.0s
WMQ LZ
comp=N,33nm,16.0s
HHC Hu-ho-hao-te 21.01 37 *e*P P 07 54 15.9 +1.1
HHC pP **pP** 07 54 38.8 +1.1
HHC PP **PnPn** 07 54 44.0 +2.8
HHC sP **sP** 07 54 56.1 +2.6
HHC S **S** 07 57 57.0 -4.8
HHC sS **sS** 07 58 36.1 -4.1
HHC SS **SnSn** 07 58 41.1 +5.9
HHC PMZ
comp=N,50nm,0.9s
HHC PMZ
comp=N,190nm,6.6s
PSI Prapat 22.19 170 P P 07 54 28.9 +1.5
comp=N,2.7nm,0.3s,baz=0.0,slow=7.1,SNR=3.5
PALK Pallekele 22.31 221 P P 07 54 29.6 +0.9
comp=N,11nm,0.7s,baz=33,slow=8.6,SNR=5.5
TKM2 Tokmak 2 24.21 323 *e*P P 07 54 48.0 +1.6
comp=N,13nm,0.3s
MKAR Makanchi Array 24.23 338 P P 07 54 48.0 +1.7
comp=N,5.6nm,0.6s,baz=149,slow=10,SNR=84
MKAR PcP **PcP** 07 58 24.0 +0.7
comp=N,0.3nm,0.7s,baz=175,slow=3.6,SNR=2.5
MKAR ScP **ScP** 08 01 49.6 -0.8
comp=N,0.2nm,0.5s,baz=101,slow=7.5,SNR=3.5
MKAR Makanchi Array 24.23 338 *e*P P 07 54 48.0 +1.7
SONM Songino Array 24.61 18 P P 07 54 49.6 -0.2
comp=N,2.4nm,0.7s,baz=194,slow=10.0,SNR=11
SONM pP **pP** 07 55 12.6 -3.7
comp=N,3.1nm,0.9s,baz=201,slow=11,SNR=5.3
SONM ScP **ScP** 08 01 50.2 -1.4
comp=N,0.3nm,0.5s,baz=197,slow=4.5,SNR=3.6
AAK Ala-Archa 24.64 321 P P 07 54 51.9 +1.7
comp=N,1.6nm,0.6s,baz=156,slow=7.5,SNR=7.5
AAK Ala-Archa 24.64 321 *e*P P 07 54 52.0 +1.7
comp=N,4.3nm,1.1s
KBL Kabul 24.66 299 *e*P P 07 54 53.2 +2.7
comp=N,7.5nm,0.8s
ULN Ulaanbaatar 24.83 19 *e*P P 07 54 51.8 -0.1
comp=N,89nm,3.0s
EKS2 Erkin-Say 25.07 320 *e*P P 07 54 56.6 +2.5
comp=N,3.8nm,0.6s
KURBB Kurchatov Arra 28.80 338 P P 07 55 28.2 +1.0
comp=N,1.3nm,0.6s,baz=147,slow=9.6,SNR=22
KURBB pP **pP** 07 55 53.4 -0.8
comp=N,0.4nm,0.5s,baz=146,slow=9.6,SNR=2.2
KURBB ScP **ScP** 08 02 03.6 -0.1
comp=N,0.5nm,0.8s,baz=154,slow=2.5,SNR=6.0
KURK Kurchatov 28.85 338 *e*P P 07 55 29.4 +1.8
comp=N,1.6nm,0.8s
JOW Kunigami 29.77 79 P P 07 55 35.2 -0.8
comp=N,2.1nm,0.6s,baz=265,slow=11,SNR=6.8
ZALV Zalesovo Beam 30.11 348 P P 07 55 41.1 +2.4
comp=N,0.5nm,0.3s,baz=173,slow=13,SNR=3.3
ZALV pP **pP** 07 56 04.6 -1.3
comp=N,0.7nm,0.4s,baz=183,slow=11,SNR=2.4
BVAR Borovoye Array 33.81 333 P P 07 56 13.0 +1.8
comp=N,0.6nm,0.4s,baz=143,slow=12,SNR=9.8
BVAR ScP **ScP** 08 02 20.4 -0.2
comp=N,0.3nm,0.5s,baz=108,slow=4.8,SNR=4.3
GEYT Alibeck 34.04 302 P P 07 56 15.6 +2.2
comp=N,1.7nm,0.7s,baz=138,slow=11,SNR=3.9
MDJ Mudanjiang 34.11 46 P P 07 56 13.3 -0.5
MDJ PMZ
comp=N,5.0nm,2.2s
MDJ PMZ
comp=N,38nm,3.1s
USRK Ussuriysk Ar. 35.54 48 P P 07 56 24.6 -1.5
comp=N,2.7nm,0.8s,baz=251,slow=9.0,SNR=3.2
AKTO Aktyubinsk 38.39 321 P P 07 56 52.1 +1.9
comp=N,0.8nm,0.4s,baz=120,slow=4.3,SNR=4.1
MJAR Matsushiro Arr 38.48 62 P P 07 56 50.5 -0.6
comp=N,4.3nm,0.8s,baz=265,slow=9.6,SNR=8.4
TIXI Tiksi 50.53 13 *e*P P 07 58 24.9 -1.3
comp=N,7.0nm,1.4s
BRTR Keskin Array B 53.18 302 P P 07 58 48.1 +1.4
comp=N,0.7nm,0.6s,baz=115,slow=6.4,SNR=3.9
AKASG Malin Array Be 56.13 316 P P 07 59 07.5 0.0
comp=N,0.5nm,0.3s,baz=82,slow=6.9,SNR=4.2
JOF Joensuu 56.35 330 *ep* P 07 59 11.6 +2.8
comp=N,0.7nm,0.3s
WRA Warramunga Arr 58.56 136 P P 07 59 24.3 -0.6
comp=N,2.9nm,0.6s,baz=324,slow=7.5,SNR=32
WRAB Tennant Creek 58.56 136 *e*P P 07 59 24.2 -0.7
comp=N,3.0nm,0.6s
FINES FINESS Array B 58.56 328 P P 07 59 25.2 +0.9
comp=N,0.8nm,0.4s,baz=107,slow=8.1,SNR=15
WB2 Warramunga Arr 58.56 136 *e*P P 07 59 24.2 -0.7
ARCES ARCESS Array B 59.89 338 P P 07 59 34.6 +1.2
comp=N,2.0nm,0.8s,baz=105,slow=4.5,SNR=11
ASAR Alice Springs 61.07 139 P P 07 59 41.7 -0.4
comp=N,1.5nm,0.6s,baz=322,slow=7.0,SNR=27
CRVS Cervenica-Dubn 61.22 314 *e*P P 07 59 41.7 -1.1
NB2 NORSAR Subarra 65.74 328 P P 08 00 12.5 +0.2
comp=Z,2.0nm,0.8s,baz=84,slow=6.9
NOA NORSAR Array B 65.74 328 P P 08 00 12.7 +0.4
comp=Z,1.6nm,0.7s,baz=84,slow=6.6,SNR=6.3
GERES GERESS Array B 66.30 314 P P 08 00 17.1 +0.9
comp=Z,0.5nm,0.4s,baz=68,slow=6.1,SNR=6.6
GERES pP **pP** 08 00 47.2 +0.4
comp=Z,0.9nm,0.8s,baz=86,slow=6.8,SNR=3.1
ILAR Eielson Array 78.75 23 P P 08 01 28.7 -0.9
comp=Z,0.3nm,0.6s,baz=303,slow=5.2,SNR=5.5
ILAR pP **pP** 08 02 02.1 +1.1
comp=Z,0.5nm,0.9s,baz=301,slow=5.2,SNR=3.5
RSO Redoubt South 78.82 28 *e*P P 08 01 35.1 +4.8
comp=Z,40nm,0.7s
BOSA Boshof 85.72 236 P P 08 02 06.8 +0.3
comp=Z,3.6nm,0.8s,baz=70,slow=3.0,SNR=7.3
TORD Torodi Ar. Bea 87.72 283 P P 08 02 17.1 +0.7
comp=Z,0.8nm,0.7s,baz=73,slow=3.2,SNR=5.4
SDV Santo Domingo 143.76 336 *e*PKPdf PKPab 08 08 59.4 -0.3
BDFB Brasilia 144.41 278 PKP PKPbc 08 09 02.4 +0.1
comp=Z,2.4nm,0.8s,baz=65,slow=4.3,SNR=5.7
LPAZ La Paz 162.26 295 *e*PKPdf PKPdf 08 09 37.3 +7.9

*ISCJB **21** 07:55:13.5±1.7, 6°.8S±0°.2×129°.2E±0°.5, h10km, mb3.3/1, Error ellipse: s-maj=81.4km s-min=18.4km az=161.0*
*IDC **21** 07:55:14.7±2.9, 6°.95S×128°.69E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.2/28, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=304.3km s-min=32.2km az=66.0*
ISC 21 07:55:15.2±1.8, 6°.8S±0°.2×129°.4E±0°.5, h10km, n7, σ0°76/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.29**	**164**	P	**Sn**	**07 57 59.8**	**-0.2**
	baz=3.0,SNR=10						
KDU	**Kakadu**	**6.64**	**153**	P	**Sn**	**07 58 07.8**	**-0.9**
	baz=3.9,SNR=6.6						
KNRA	**Kununurra**	**8.87**	**184**	P	Pn	07 57 29.5	+6.0
	baz=1.1,SNR=11						
WRA	**Warramunga Arr**	**13.96**	**160**	Pn	**Pn**	**07 58 34.1**	**+0.8**
	0.1nm,0.3s,baz=334,slow=13,SNR=4.6						
WRA				Sn	Sn	08 00 57.0	-12
	0.2nm,0.3s,baz=331,slow=25,SNR=4.9						
ASAR	**Alice Springs**	**17.36**	**166**	P	**P**	**07 59 19.2**	**+0.1**
	0.2nm,0.3s,baz=344,slow=10.0,SNR=16						
ASAR				S	Sn	08 02 21.5	-10
	0.1nm,0.3s,baz=340,slow=25,SNR=1.9						
WRKA	**Warakurna**	**18.19**	**183**	P	**P**	**07 59 27.9**	**-0.4**
	baz=9.5,SNR=3.3						
MKAR	**Makanchi Array**	**67.68**	**327**	P	**P**	**08 06 12.5**	**-0.2**
	0.1nm,0.3s,baz=115,slow=8.2,SNR=5.0						

*IDC **21** 07:55:47.5±3.3, 36°.35N×71°.07E, h132km±30km, mb3.2/6, mb1 3.3/11, mb1mx3.1/43, mbtmp3.7/11, MS3.5/1, Ms1 3.5/1, ms1mx2.4/27, Error ellipse: s-maj=27.3km s-min=17.0km az=165.0*
*ISCJB **21** 07:55:49.7±0.5, 36°.41N±0°.05×71°.07E±0°.07, h188km, mb3.2/5, Error ellipse: s-maj=8.6km s-min=5.3km az=140.3*
*NNC **21** 07:55:55.2±3.7, 36°.84N×70°.90E, h139km±42km, mb3.2, mpv4.1, Error ellipse: s-maj=30.6km s-min=20.1km az=4.0*
ISC 21 07:55:51.4±0.8, 36°.47N±0°.07×71°.20E±0°.08, h188km, n30, σ1°86/28, mb3.3/5, 7C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.00**	**322**	⇓P	Pn	07 56 37.0	-3.5
DZET				⇑S	Sn	07 57 11.0	-8.0
KK31	**Karatay Array**	**6.65**	**356**	⇓P	**Pn**	**07 57 25.2**	**-1.7**
	4.5nm,0.3s,baz=174,slow=12,SNR=133						
KK31				⇓S	Sn	07 58 36.7	-5.8
	12nm,0.7s,baz=179,slow=22,SNR=13						
AAK	**Ala-Archa**	**6.66**	**21**	P	**Pn**	**07 57 26.9**	**-0.3**
	1.6nm,0.3s,baz=180,slow=6.3,SNR=21						
AAK				S	**Sn**	**07 58 38.9**	**-4.1**
	1.5nm,0.3s,baz=333,slow=19,SNR=14						
TKM2	**Tokmak 2**	**7.28**	**26**	⇓P	**Pn**	**07 57 36.1**	**+0.7**
	10nm,0.5s						
TKM2				⇑S	**Sn**	**07 58 55.1**	**-2.6**
	5.4nm,0.8s						
GEYT	**Alibeck**	**10.54**	**282**	P	**Pn**	**07 58 14.8**	**-3.0**
	0.5nm,0.3s,baz=116,slow=10,SNR=5.3						
GEYT				S	Sn	08 00 08.1	-7.1
	0.8nm,0.3s,baz=96,slow=14,SNR=2.8						
PYUN	**Piuthan**	**12.99**	**127**	*e*P	**Pn**	**07 58 47.7**	**-1.8**
	44nm,0.3s						
MK31	**Makanchi Array**	**13.22**	**35**	⇑P	**P**	**07 58 57.0**	**+1.8**
	1.4nm,0.7s						
MKAR	**Makanchi Array**	**13.22**	**35**	P	**Pn**	**07 58 53.5**	**+1.5**
	0.1nm,0.3s,baz=209,slow=11,SNR=4.2						
DANN	**Dangsing**	**13.34**	**124**	*e*P	**Pn**	**07 58 52.4**	**-1.5**
	22nm,0.6s						
KOLN	**Koldanda**	**13.61**	**126**	*e*P	**Pn**	**07 58 54.8**	**-2.4**
	15nm,0.6s						
GKN	**Gorkha**	**14.15**	**123**	*e*P	**Pn**	**07 59 03.0**	**-0.9**
	19nm,0.4s						
DMN	**Daman**	**14.72**	**123**	*e*P	**Pn**	**07 59 09.9**	**-1.1**
KKN	**Kakani**	**14.72**	**122**	*e*P	**Pn**	**07 59 10.0**	**-1.0**
	19nm,0.6s						
PKIN	**Phulchoki**	**14.94**	**122**	*e*P	**P**	**07 59 13.5**	**-1.2**
	13nm,0.4s						
PKI	**Pulchoki**	**14.95**	**122**	*e*P	**P**	**07 59 13.6**	**-1.3**
	18nm,0.6s						
GUN	**Gumba**	**15.06**	**120**	*e*P	**P**	**07 59 15.4**	**-0.8**
	14nm,0.4s						
KURBB	**Kurchatov Arra**	**15.10**	**18**	⇑P	**P**	**07 59 18.8**	**+2.8**
	1.7nm,0.7s						
KURBB	**Kurchatov Arra**	**15.10**	**18**	P	**Pn**	**07 59 14.6**	**-0.5**
	0.1nm,0.3s,baz=206,slow=11,SNR=7.6						
AB31	**Akbulak array**	**15.19**	**331**	⇑P	**Pn**	**07 59 16.3**	**0.0**
	0.9nm,0.5s,baz=150,slow=12,SNR=18						
KURK	**Kurchatov**	**15.21**	**18**	⇑P	**P**	**07 59 18.1**	**+1.0**
	1.0nm,0.8s						
JIRN	**Jiri**	**15.43**	**120**	*e*P	**P**	**07 59 20.3**	**0.0**
	21nm,0.4s						
BVA0	**Borovoye Array**	**16.57**	**358**	⇑P	**Pn**	**07 59 33.6**	**+0.7**
	2.1nm,1.1s,baz=162,slow=11,SNR=3.5						
BVAR	**Borovoye Array**	**16.57**	**358**	P	**Pn**	**07 59 33.6**	**+0.8**
	0.1nm,0.3s,baz=162,slow=11,SNR=3.5						
ZALV	**Zasovo Beam**	**19.88**	**24**	P	**P**	**08 00 10.1**	**+2.0**
	4.0nm,0.6s,baz=223,slow=11,SNR=16						
PALK	**Pallekele**	**30.33**	**161**	LR	LR	08 13 27.2	
	comp=Z,83nm,19.4s,baz=210,slow=35						
NOA	**NORSAR Array B**	**44.50**	**323**	P	**P**	**08 03 46.4**	**+2.5**
	1.1nm,0.8s,baz=97,slow=7.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**65.88**	**269**	P	**P**	**08 06 18.1**	**+0.9**
	0.3nm,0.8s,baz=57,slow=6.9,SNR=2.2						
YKA	**Yellowknife Ar**	**81.27**	**3**	P	P	08 07 49.5	+3.5
	0.2nm,0.6s,baz=347,slow=5.0,SNR=4.5						
WRA	**Warramunga Arr**	**81.84**	**122**	P	**P**	**08 07 52.0**	**+2.3**
	0.5nm,0.9s,baz=325,slow=4.8,SNR=8.4						
ASAR	**Alice Springs**	**84.10**	**125**	P	P	08 08 03.8	+2.5
	0.5nm,0.8s,baz=308,slow=5.0,SNR=7.8						

*ISCJB **21** 08:17:38.7±1.1, 51°.55N±0°.06×173°.34W±0°.04, h25km±7km, mb4.3/74, MS4.2/4, Error ellipse: s-maj=9.6km s-min=3.6km az=168.0*
*BJI **21** 08:17:38.5, 51°.60N×173°.40W, h41km, mB5.2/12, mb4.8/23, Ms4.9/5, Ms7 4.5/5*
*IDC **21** 08:17:42.4±3.0, 51°.65N×173°.42W, h44km±27km, mb3.9/23, mb1 4.1/26, mb1mx4.0/41, mbtmp4.1/26, ML4.1/3, MS3.9/7, Ms1 3.9/7, ms1mx3.4/42, Error ellipse: s-maj=20.8km s-min=11.2km az=174.0*
*NEIC **21** 08:17:42.3±0.3, 51°.62N×173°.39W, mb4.4/34, ML4.0(AEIC), Error ellipse: s-maj=7.8km s-min=3.3km az=173.0*
*SZGRF **21** 08:17:46.4, 52°.16N×174°.54W, h33km, mb4.4, Andreanof Islands, Aleutian Islands, United States*
ISC 21 08:17:42.6±0.6, 51°.60N±0°.10×173°.35W±0°.04, h46km±3km, h46km: pP-P, n187, σ1°09/205, mb4.4/75, MS4.2/4, 16C-2D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOKL	**Mount Kliuchef**	**0.90**	**325**	P	**Pn**	**08 17 58.7**	**-0.2**
ADK	**Adak**	**2.09**	**279**	P	**Pn**	**08 18 14.2**	**-1.0**
ADK				S	**Sn**	**08 18 40.9**	**+1.0**
NIKH	**Nikolski High**	**3.09**	**62**	P	**Pn**	**08 18 25.8**	**-3.0**
NIKH				S	**Sn**	**08 19 02.9**	**-1.6**
OKFG	**Magazine Ridge**	**3.79**	**59**	P	**Pn**	**08 18 36.6**	**-1.8**
OKFG				S	**Sn**	**08 19 22.4**	**+0.7**
CEAP	**Semis' Anvil P**	**4.41**	**278**	P	**Pn**	**08 18 46.0**	**-0.8**
MREP	**Makushin Rep't**	**4.59**	**59**	P	**Pn**	**08 18 48.1**	**-1.3**
AMKA	**Amchitka**	**4.59**	**270**	P	**Pn**	**08 18 48.0**	**-1.5**
MSW	**Makushin Switc**	**4.62**	**57**	P	**Pn**	**08 18 47.9**	**-1.9**
UNV	**Unalaska Valle**	**4.74**	**59**	P	**Pn**	**08 18 50.0**	**-1.4**
UNV				S	**Sn**	**08 19 45.3**	**+0.4**
LSSE	**Little Sitkin**	**5.03**	**277**	P	**Pn**	**08 18 53.8**	**-1.6**
LSNW	**Little Sitkin**	**5.06**	**277**	P	**Pn**	**08 18 55.1**	**-0.8**
SPIA	**Saint Paul Isl**	**5.88**	**17**	P	**Pn**	**08 19 08.7**	**+1.7**
DTNA	**Dutton South F**	**7.53**	**57**	P	**Pn**	**08 19 28.7**	**-1.0**
FX1	**Attu Island--F**	**8.38**	**284**	P	**Pn**	**08 19 41.6**	**+0.3**
	4.9nm,0.3s,baz=173,slow=6.8,SNR=14						
FX1				LR	LR	08 22 53.2	
	comp=Z,272nm,21.4s,baz=112,slow=37						
GAMB	**Gambell**	**12.25**	**3**	*e*Pn	**Pn**	**08 20 37.1**	**+3.0**
	6.0nm,0.5s						
TNA Tin City 14.28 9 *e*Pn Pn 08 21 02.8 +1.1
6.8nm,1.0s
RC01 Rabbit Creek A 16.09 45 *e*Pn Pn 08 21 24.4 -0.8
KTH Kantishna Hill 16.85 36 *e*P P 08 21 36.3 -0.2
25nm,1.2s
TRF Thorofare Moun 17.03 37 *e*P Pn 08 21 38.0 +0.7
28nm,1.5s
MCK McKinley 17.69 37 *e*P Pn 08 21 44.1 -1.2
14nm,1.1s
PETK Petropavlovsk- 17.70 286 P Pn 08 21 44.9 -0.6
0.8nm,0.3s,baz=99,slow=13,SNR=22
PETK LR LR 08 27 50.6
comp=Z,106nm,19.6s,baz=104,slow=34
COLA College 18.71 35 *e*P P 08 21 57.0 +0.3
6.1nm,0.9s
COLA *e*PcP **PcP** 08 26 23.1 +0.4
PAX Paxson 18.71 42 *e*P P 08 21 56.5 -0.4
7.9nm,1.0s
ILAR Eielson Array 19.00 36 P P 08 21 58.0 -2.1
1.2nm,0.3s,baz=242,slow=10,SNR=87
ILAR LR LR 08 30 12.8
comp=Z,257nm,18.1s,baz=250,slow=40
COLD Coldfoot 19.40 27 *e*P Pn 08 22 05.2 -0.7
11nm,1.0s
COLD *e*S **S** 08 25 38.8 -2.2
MENT Mentasta 19.43 43 *e*P P 08 22 04.7 -0.1
DOT Dot Lake 19.57 41 *e*P Pn 08 22 07.5 -0.4
4.1nm,0.7s
EGAK Eagle 21.19 39 *e*P P 08 22 23.4 -0.3
43nm,0.7s
SEY Seymchan 21.43 315 P P 08 22 24.3 -2.0
1.1nm,0.3s,baz=97,slow=12,SNR=6.4
DAWY Dawson 21.64 42 *e*P P 08 22 27.6 -1.1
HYT Haines Junctio 21.71 51 *e*P P 08 22 30.9 +1.4
DLBC Dease Lake 25.39 57 P P 08 23 04.1 -1.2
10nm,1.0s,baz=290,slow=9.5,SNR=17
DLBC Dease Lake 25.39 57 *e*P P 08 23 07.7 +2.4
TIXI Tiksi 32.14 330 *e*P P 08 24 04.5 -0.6
2.1nm,0.5s
YKA Yellowknife Ar 32.59 47 P P 08 24 09.0 -0.1
0.5nm,0.4s,baz=271,slow=9.1,SNR=15
YKA PcP **PcP** 08 26 54.6 +0.3
0.2nm,0.3s,baz=287,slow=2.8,SNR=4.6
HAWA Hanford 35.02 77 *e*P P 08 24 32.4 +2.0
13nm,1.2s
H11N2 WAKE ISLAND Hy 35.38 213 T T 09 02 47.7
baz=21,slow=76,SNR=10
H11N3 WAKE ISLAND Hy 35.39 213 T T 09 02 51.1
baz=21,slow=76,SNR=32
H11N1 WAKE ISLAND Hy 35.40 213 T T 09 02 38.8
baz=21,slow=76,SNR=12
NEW Newport 35.59 73 *e*P P 08 24 36.3 +0.9
4.8nm,0.8s
H11S1 WAKE ISLAND Hy 36.58 213 T T 09 04 00.7
baz=20,slow=76,SNR=15
H11S2 WAKE ISLAND Hy 36.60 213 T T 09 03 58.9
baz=20,slow=76,SNR=12
H11S3 WAKE ISLAND Hy 36.60 213 T T 09 03 52.5
baz=20,slow=76,SNR=8.4
USRK Ussuriysk Ar. 36.62 280 P P 08 24 43.8 -0.4
3.6nm,0.7s,baz=60,slow=8.6,SNR=7.0
BSMT Bassoo Peak 37.17 72 *e*P P 08 24 49.9 +0.9
4.4nm,1.0s
WVOR Wild Horse Val 37.61 82 P P 08 24 49.2 -3.6
8.9nm,1.4s
MDJ Mudanjiang 37.87 283 P P 08 24 53.1 -1.7
MDJ PMZ
4.0nm,1.0s
MDJ PMZ
230nm,3.6s
SLMT Seeley Lake 38.23 72 *e*P P 08 24 58.3 +0.3
8.6nm,1.4s
CHMT Chamberlain Mo 38.54 73 *e*P P 08 25 00.7 +0.1
1.3nm,0.8s
MCMT McKenzie Canyo 39.85 75 *e*P P 08 25 12.0 +0.4
1.2nm,0.6s
EGMT Eagleton 40.05 69 *e*P P 08 25 13.2 +0.2
8.4nm,0.9s
NVAR Mina Array Bea 40.14 87 P P 08 25 15.3 +1.3
1.3nm,0.8s,baz=281,slow=8.9,SNR=8.3
TPH Tonopah 41.03 87 *e*P P 08 25 23.4 +2.0
3.7nm,1.2s
FFC Flin Flon 41.22 57 *e*P P 08 25 21.3 -1.2
3.3nm,0.9s
BW06 Boulder Array 42.98 76 *e*P P 08 25 37.8 +0.6
3.6nm,0.9s
PDAR Pinedale Array 42.98 76 P P 08 25 37.9 +0.6
2.0nm,0.8s,baz=301,slow=3.7,SNR=15
KSRS Korea Array 43.03 275 P P 08 25 37.8 +0.4
3.4nm,0.8s,baz=52,slow=8.5,SNR=8.0
GSC Goldstone, Bar 43.04 89 *e*P P 08 25 38.7 +1.1
5.9nm,0.8s
KSAR Wonju Array Be 43.06 275 P P 08 25 37.8 +0.1
FCC Fort Churchill 43.31 48 *e*P P 08 25 39.5 +0.1
0.1nm,0.6s
DAU Daniels Canyon 43.31 80 *e*P P 08 25 41.5 +1.5
11nm,1.3s
ARUT Antelope Range 43.56 84 *e*P P 08 25 44.2 +2.3
54nm,0.9s
PV04 Paradox Valley 45.99 80 *e*P P 08 26 02.3 +1.1
PV01 Paradox Valley 46.35 80 *e*P P 08 26 04.2 0.0
315nm,0.8s
ULM Lac du Bonnet 46.68 59 P P 08 26 06.5 +0.3
1.4nm,0.4s,baz=311,slow=5.6,SNR=4.8
ULM LR LR 08 47 04.3
comp=Z,180nm,18.6s,baz=259,slow=38
ULN Ulaanbaatar 49.18 299 *e*P P 08 26 25.9 +0.1
2.2nm,0.7s
SONM Songino Array 49.55 299 P P 08 26 28.4 -0.3
2.0nm,0.5s,baz=55,slow=7.3,SNR=11
HHC Hu-ho-hao-te 50.87 289 *e*P P 08 26 39.3 +0.6
HHC pP **pP** 08 26 50.3 -1.2
HHC sP **sP** 08 26 57.3 +0.4
HHC PP **PP** 08 28 33.9 -1.1
HHC S **S** 08 33 48.3 -3.3
HHC sS **sS** 08 34 13.4 +0.4
HHC SS **SS** 08 37 23.0 -3.2
HHC PMZ
30nm,1.0s
HHC PMZ
290nm,5.6s
HHC LN
440nm,15.9s
HHC LE
530nm,16.7s
HHC LZ
140nm,13.6s
LPIG La Paz 54.85 95 LR LR 08 46 24.9
comp=Z,292nm,19.2s,baz=334,slow=31
TXAR Lajitas Array 55.25 85 P P 08 27 11.2 +0.2
0.6nm,0.6s,baz=301,slow=5.5,SNR=9.0
TXAR LR LR 08 48 15.7
comp=Z,239nm,20.8s,baz=0.0,slow=33
ARCES ARCESS Array B 58.39 352 P P 08 27 32.4 -0.3
2.8nm,0.8s,baz=14,slow=6.9,SNR=11
ARCES PcP **PcP** 08 28 23.5 +0.5
0.9nm,0.4s,baz=18,slow=4.9,SNR=5.8
LZH Lanzhou 58.56 290 *e*P P 08 27 35.8 +1.3
LZH pP **pP** 08 27 47.0 -0.5
LZH sP **sP** 08 27 52.0 -0.8
LZH PMZ
17nm,1.5s
LZH PMZ
49nm,7.4s
LZH LN
280nm,15.0s
LZH LE
300nm,15.3s
LZH LZ
370nm,19.0s
GTA Gaotai 58.60 295 *e*P P 08 27 34.5 -0.2
GTA PMZ
8.0nm,1.1s
WCI Wyandotte Cave 59.55 66 *e*P P 08 27 41.0 -0.1
6.1nm,0.9s
KURK Kurchatov 61.27 316 *e*P P 08 27 52.6 -0.1
1.0nm,0.4s
WMQ Urumqi 62.03 306 *e*P P 08 27 59.9 +1.9
WMQ pP **pP** 08 28 11.8 +0.7
WMQ PcP **PcP** 08 28 39.8 +1.7
WMQ PP **PP** 08 30 19.0 +4.6
WMQ S **S** 08 36 19.4 +0.4
WMQ sS **sS** 08 36 41.0 +0.1
WMQ ScS **SKKSac** 08 37 44.0 -1.8
WMQ PMZ
6.0nm,1.0s
WMQ PMZ

140nm,4.0s
WMQ LN
130nm,22.0s
WMQ LE
97nm,28.0s
WMQ LZ
76nm,25.5s
SSPA Standing Stone 62.49 59 *eP* **P 08 28 01.2 +0.2**
5.9nm,0.9s
MKAR Makanchi Array 62.51 311 P **P 08 28 00.8 -0.2**
1.6nm,0.7s,baz=47,slow=6.5,SNR=24
KMSC Kings Mountain 64.54 65 *eP* **P 08 28 14.8 +0.1**
6.0nm,0.8s
KMSC *ep*P **pP 08 28 27.4 -0.4**
FINES FINESS Array B 66.25 350 P **P 08 28 24.5 -0.7**
1.4nm,0.9s,baz=9.6,slow=6.7,SNR=12
NB2 NORSAR Subarra 67.65 358 P **P 08 28 33.9 -0.3**
comp=Z,0.6nm,0.5s,baz=5.7,slow=6.9
NOA NORSAR Array B 67.65 358 P **P 08 28 34.4 +0.2**
comp=Z,0.6nm,0.8s,baz=2.5,slow=7.1,SNR=5.6
TKM2 Tokmak 2 68.54 313 *eP* **P 08 28 40.7 +0.4**
comp=Z,6.0nm,1.0s
TKM2 *ep*P **pP 08 28 52.3 -1.3**
AAK Ala-Archa 69.27 313 *eP* **P 08 28 45.5 +0.7**
comp=Z,9.9nm,0.9s
EKS2 Erkin-Say 69.58 314 *eP* **P 08 28 47.8 +1.1**
comp=Z,8.8nm,0.9s
EKS2 *ep*P **pP 08 28 59.8 -0.2**
CMIG Matias Romero 69.66 88 LR LR 08 55 46.0
comp=Z,150nm,19.6s,baz=204,slow=33
KKAR Karatay Array 70.67 316 *eP* **P 08 28 53.2 0.0**
comp=Z,1.9nm,0.4s
KKAR *ep*P **pP 08 29 05.7 -0.9**
TAPN Taplejung 74.28 294 *eP* **P 08 29 16.1 +0.9**
comp=Z,46nm,1.0s
CMAR Chiang Mai Arr 74.35 280 P **P 08 29 14.8 -0.7**
comp=Z,1.0nm,0.3s,baz=24,slow=7.2,SNR=9.4
BSEG Bad Segeberg 74.79 358 *eP* **P 08 29 18.5 +1.1**
comp=Z,4.0nm,0.9s
ODAN Odare 74.83 294 *eP* **P 08 29 19.2 +0.8**
GUN Gumba 74.88 296 *eP* **P 08 29 19.7 +0.9**
comp=Z,20nm,0.4s
JIRN Jiri 74.90 295 *eP* **P 08 29 19.9 +1.0**
comp=Z,63nm,1.0s
RAMN Ramite 75.21 295 *eP* **P 08 29 21.1 +0.5**
comp=Z,48nm,0.9s
KKN Kakani 75.31 296 *eP* **P 08 29 21.7 +0.6**
PKI Pulchoki 75.41 296 *eP* **P 08 29 22.2 +0.4**
comp=Z,34nm,1.0s
PKIN Phulchoki 75.41 296 *eP* **P 08 29 22.0 +0.3**
GKN Gorkha 75.50 297 *eP* **P 08 29 22.7 +0.6**
DMN Daman 75.55 296 *eP* **P 08 29 23.3 +0.8**
comp=Z,34nm,1.1s
DANN Dangsing 75.72 298 *eP* **P 08 29 24.2 +0.6**
comp=Z,59nm,0.9s
KOLN Koldanda 76.26 297 *eP* **P 08 29 27.0 +0.5**
comp=Z,12nm,0.7s
AKASG Malin Array Be 76.29 345 P **P 08 29 25.4 -0.6**
comp=Z,1.1nm,0.3s,baz=17,slow=5.8,SNR=7.5
PYUN Piuthan 76.34 298 *eP* **P 08 29 27.4 +0.4**
comp=Z,53nm,0.8s
IBBN Ibbenburen 76.47 359 *eP* **P 08 29 28.2 +1.2**
comp=Z,4.0nm,0.7s
CLZ Clausthal 76.89 358 *eP* **P 08 29 30.5 +1.0**
comp=Z,4.0nm,0.9s
CLL Collm 77.33 356 *eP* **P 08 29 32.2 +0.3**
comp=Z,2.0nm,0.8s
CLL Collm 77.33 356 *eP* **P 08 29 32.0 +0.1**
comp=Z,3.0nm,0.7s
NEUB Neuenburg 77.48 357 *eP* **P 08 29 33.8 +1.1**
BRG Berggiesshubel 77.72 355 *eP* P 08 29 24.3 -10
comp=Z,3.8nm,1.4s
BRG *e* 08 29 34.5
comp=Z,5.3nm,0.9s
BRG Berggiesshubel 77.72 355 *eP* **P 08 29 34.4 +0.3**
comp=Z,3.0nm,0.8s
PVCC Panska Ves 78.03 355 *eP* **P 08 29 36.5 +0.7**
MOX Moxa 78.05 357 *eP* **P 08 29 36.5 +0.6**
comp=Z,4.0nm,1.0s
DPC Dobruska-Polom 78.10 354 *eP* **P 08 29 36.9 +0.7**
DPC *ex* x 08 29 42.7
DPC *ex* x 08 30 04.8
TANN Tannenbergstha 78.25 356 *eP* **P 08 29 37.3 +0.2**
comp=Z,1.0nm,0.8s
KBL Kabul 78.31 312 *eP* **P 08 29 37.5 -0.4**
comp=Z,12nm,1.1s
OKC Ostrava-Krasne 78.47 352 *eP* **P 08 29 37.2 -1.0**
TNS Taunus Mts 78.55 359 *eP* **P 08 29 39.1 +0.4**
comp=Z,3.0nm,0.8s
PRU Pruhonice 78.57 355 *eP* **P 08 29 38.0 -0.8**
STHS Stebnicka Huta 78.60 350 *eP* **P 08 29 39.6 +0.6**
MANZ Manzenberg 78.69 356 *eP* **P 08 29 39.9 +0.4**
BAIF Baives 78.70 2 *eP* **P 08 29 40.1 +0.6**
BAIF Baives 78.70 2 *eP* **P 08 29 40.1 +0.6**
ROTZ Rotzenmuhle 78.90 356 *eP* **P 08 29 41.1 +0.5**
comp=Z,3.0nm,1.0s
KOLS Kolonicke sedl 78.96 350 *eP* **P 08 29 42.8 +1.8**
GRF Grafenberg Arr 79.01 357 *eP* **P 08 29 42.1 +0.8**
comp=Z,7.0nm,0.9s
CRVS Cervenica-Dubn 79.08 350 *eP* **P 08 29 41.9 +0.3**
VRAC Vranov 79.11 353⇑ *iP* **P 08 29 42.6 +0.8**
KHC Kasperske Hory 79.48 355 *eP* **P 08 29 44.4 +0.6**
KHC *e*PCP **PcP 08 29 50.3 -1.4**
KHC Kasperske Hory 79.48 355 *eP* **P 08 29 43.8 0.0**
comp=Z,4.6nm,1.1s
KHC *e*PcP **PcP 08 29 52.5 +0.8**
WET Wettzell 79.50 356 *eP* **P 08 29 44.7 +0.8**
comp=Z,1.0nm,0.8s
TRPA Tarpa 79.72 349⇓ *iP* **P 08 29 46.1 +1.0**
GEC2 GERESS Array S 79.75 355 *eP* **P 08 29 45.8 +0.4**
comp=Z,3.0nm,0.9s
GERES GERESS Array B 79.75 355 P **P 08 29 44.9 -0.5**
comp=Z,2.0nm,0.8s,baz=316,slow=5.6,SNR=6.6
BURAR Bucovina Array 79.89 347⇑ *iP* **P 08 29 46.4 +0.2**
KBZ Khabaz 80.00 334 P **P 08 29 46.0 -0.6**
comp=Z,3.0nm,0.9s,baz=5.6,slow=1.3,SNR=9.1
ROSF Rostrenen 80.08 7 *eP* **P 08 29 47.4 +0.3**
ROSF Rostrenen 80.08 7 *eP* **P 08 29 47.4 +0.3**
GEYT Alibeck 80.14 321 P **P 08 29 47.5 -0.1**
comp=Z,4.6nm,0.9s,baz=319,slow=4.3,SNR=9.0
PAGF Fort de Pagny 80.22 1 *eP* **P 08 29 49.6 +1.8**
comp=Z,5.2nm,0.8s
PAGF Fort de Pagny 80.22 1 *eP* **P 08 29 49.6 +1.8**
comp=Z,5.2nm,0.8s
CDF Champ du Feu 80.37 360 *eP* **P 08 29 49.0 +0.3**
CDF Champ du Feu 80.37 360 *eP* **P 08 29 49.0 +0.3**
BFO Black Forest 80.44 359 *eP* **P 08 29 50.1 +1.1**
comp=Z,2.0nm,0.8s
CONA Conrad Observa 80.54 354⇑ *iP* **P 08 29 50.3 +0.6**
comp=Z,5.1nm,0.8s
SFTF Sexfontaines 80.57 1 *eP* **P 08 29 50.1 +0.4**
comp=Z,5.8nm,0.6s
SFTF Sexfontaines 80.57 1 *eP* **P 08 29 50.1 +0.4**
comp=Z,5.8nm,0.6s
HAU Haudompre 80.78 0 *eP* **P 08 29 51.2 +0.4**
comp=Z,8.6nm,0.8s
HAU *e*R
comp=Z,165nm,22.5s
HAU Haudompre 80.78 0 *eP* **P 08 29 51.2 +0.4**
comp=Z,8.6nm,0.8s
HINF Hinteralfeld 80.97 360 *eP* **P 08 29 52.2 +0.3**
HINF Hinteralfeld 80.97 360 *eP* **P 08 29 52.2 +0.3**
DRGR 81.02 349⇓ *iP* **P 08 29 51.8 -0.4**
VRI Vrincioaia 81.38 346⇑ *iP* **P 08 29 56.9 +2.8**
PLOR Plostina 81.41 346⇑ *iP* **P 08 29 57.0 +2.7**
LOR Lormes 81.48 2 *eP* **P 08 29 55.0 +0.4**
comp=Z,6.3nm,0.7s
LOR *e*R
comp=Z,220nm,21.0s
LOR Lormes 81.48 2 *eP* **P 08 29 55.0 +0.4**
comp=Z,6.3nm,0.7s
KBA Koelnbreinsper 81.54 355⇑ *iP* **P 08 29 56.3 +1.3**
comp=Z,11nm,1.0s
SSF Saint Saulge 81.68 2 *eP* **P 08 29 56.0 +0.4**
comp=Z,7.2nm,0.8s
SSF Saint Saulge 81.68 2 *eP* **P 08 29 56.0 +0.4**
comp=Z,7.2nm,0.8s
FETA Feichten 81.70 357⇑ *iP*cP **P 08 29 57.2 +1.2**
comp=Z,6.6nm,1.0s
SOKA Soboth 81.84 354⇑ *iP* **P 08 29 57.3 +0.7**
comp=Z,5.9nm,1.0s
MLR Muntele Rosu 81.87 346⇑ *iP* **P 08 29 56.1 -0.7**
AVF Avril sur Loir 81.95 2 *eP* **P 08 29 57.3 +0.3**
comp=Z,10nm,0.9s
AVF Avril sur Loir 81.95 2 *eP* **P 08 29 57.3 +0.3**
comp=Z,10nm,0.9s
MFF Saint Martin d 82.01 5 *eP* **P 08 29 57.8 +0.5**
MFF Saint Martin d 82.01 5 *eP* **P 08 29 57.8 +0.5**
VOIR 82.05 347⇑ *iP* **P 08 29 59.2 +1.5**
SMF Signal de Mont 82.11 2 *eP* **P 08 29 58.2 +0.3**
comp=Z,9.2nm,0.8s
SMF Signal de Mont 82.11 2 *eP* **P 08 29 58.2 +0.3**
comp=Z,9.2nm,0.8s
BGF Bois d'Agland 82.17 3 *eP* **P 08 29 58.7 +0.5**
BGF Bois d'Agland 82.17 3 *eP* **P 08 29 58.7 +0.5**
CABF La Chapelle 82.17 0 *eP* **P 08 29 59.1 +0.8**
CABF La Chapelle 82.17 0 *eP* **P 08 29 59.1 +0.8**
ARR Arges 82.17 347⇑ *iP* **P 08 29 56.4 -1.9**
BZS Buzias 82.31 349⇑ *iP* **P 08 29 59.0 +0.1**
GZR Gura Zlata 82.39 349⇑ *iP* **P 08 29 58.0 -1.5**
TCF Toulx Ste Croi 82.42 3 *eP* **P 08 29 59.9 +0.4**
TCF Toulx Ste Croi 82.42 3 *eP* **P 08 29 59.9 +0.4**
TIRR Tirgusor 82.49 344⇑ *iP* **P 08 30 00.4 +0.6**
LFF La Frestale 83.71 4 *eP* **P 08 30 06.7 +0.5**
LFF La Frestale 83.71 4 *eP* **P 08 30 06.7 +0.5**
WRA Warramunga Arr 84.62 228 P **P 08 30 09.8 -1.2**
comp=Z,0.4nm,0.2s,baz=34,slow=6.2,SNR=17
KDZ Kurdzhali 85.70 346⇑ *iP* **P 08 30 17.5 +1.2**
MMB Musomiste 86.01 347⇑ *iP* **P 08 30 19.0 +1.2**
BRTR Keskin Array B 86.05 339 P **P 08 30 19.4 +1.1**
comp=Z,1.6nm,0.8s,baz=31,slow=2.9,SNR=9.7
ASAR Alice Springs 88.04 227 P **P 08 30 27.6 -0.1**
comp=Z,1.6nm,0.8s,baz=31,slow=5.0,SNR=18
ESDC Sonseca Array 88.63 8 P **P 08 30 30.1 -0.4**
comp=Z,0.7nm,0.7s,baz=353,slow=4.4,SNR=5.9
BOSA Boshof 153.14 322 PKPbc **PKPbc 08 37 34.6 -0.4**
comp=Z,0.9nm,0.5s,baz=70,slow=0.2,SNR=2.8

*IDC **21** 08:30:32.5±0.8,35.°45S×72.°93W,h0km,mb4.2/10,*
mb1 4.2/12,mb1mx4.0/36,mbtmp4.1/12,ML3.5/2,MS3.9/10,
Ms1 3.8/10,ms1mx3.7/24,Error ellipse: s-maj=27.1km
s-min=17.2km az=108.0
*ISCJB **21** 08:30:41.5±0.5,35.°42S±0.°08×71.°5W±0.°1,h35km,*
mb4.4/20,MS3.9/9,Error ellipse: s-maj=16.1km
s-min=10.0km az=159.1
*BJI **21** 08:30:42.7,35.°30S×71.°10W,h35km,mB5.2/3,Ms5.2/3,*
Ms7 5.0/4
*NEIC **21** 08:30:43.0±0.4,35.°33S×71.°38W,h35km,mb4.6/6,Error*
ellipse: s-maj=15.6km s-min=8.4km az=72.0
ISC 21 08:30:43.0±0.5,35.°36S±0.°08×71.°5W±0.°1,h35km,n47,
σ1§96/48,mb4.5/20,MS3.9/9,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.61**	**37**	Pn	Pn	08 31 57.1	+6.8
	0.7nm,0.3s,baz=218,slow=9.8,SNR=11						
CFAA				Lg	Lg	08 33 26.8	
	0.7nm,0.3s,baz=98,slow=13,SNR=3.6						
PLCA	**Paso Flores**	**5.41**	**173**	LR	LR	08 33 25.4	
	comp=Z,167nm,21.6s,baz=321,slow=31						
PLCA	**Paso Flores**	**5.41**	**173**	*e*Pn	**Pn**	**08 32 00.7**	**-0.6**
LCO	**Las Campanas**	**6.36**	**6**	*e*Pn	**Pn**	**08 32 11.9**	**-2.5**
TRQA	**Tornquist**	**8.08**	**112**	Pn	**Pn**	**08 32 37.6**	**-0.2**
LPAZ	**La Paz**	**19.23**	**10**	P	**P**	**08 35 04.1**	**-0.7**
	0.1nm,0.3s,baz=180,slow=6.1,SNR=10						
LPAZ	**La Paz**	**19.23**	**10**	*e*P	**P**	**08 35 04.7**	**-0.1**
	44nm,1.8s						
SIV	**San Ignacio**	**21.41**	**28**	P	**P**	**08 35 30.4**	**+2.5**
	10nm,1.0s,baz=227,slow=13,SNR=11						
SIV				LR	LR	08 45 52.2	
	comp=Z,886nm,18.3s,baz=228,slow=42						
NNA	**Nana**	**23.77**	**347**	LR	LR	08 42 20.9	
	comp=Z,175nm,20.3s,baz=173,slow=30						
SAML	**Samuel**	**27.36**	**18**	*e*P	**P**	**08 36 23.9**	**-0.9**
	3.4nm,0.9s						
BDFB	**Brasilia**	**28.74**	**53**	P	**P**	**08 36 39.5**	**+2.1**
	3.1nm,0.9s,baz=227,slow=10,SNR=4.3						
BDFB				LR	LR	08 50 53.6	
	comp=Z,296nm,18.4s,baz=222,slow=41						
RPN	**Rapa Nui**	**33.24**	**274**	LR	LR	08 46 10.9	
	comp=Z,278nm,20.0s,baz=38,slow=29						
PTGA	**Pitinga**	**36.08**	**20**	P	**P**	**08 37 39.2**	**-2.2**
	3.6nm,0.7s,baz=232,slow=10.0,SNR=5.1						
PTGA	**Pitinga**	**36.08**	**20**	*e*P	**P**	**08 37 40.9**	**-0.5**
	16nm,1.1s						
RCBR	**Riachuelo**	**43.98**	**56**	LR	LR	08 59 39.8	
	comp=Z,329nm,21.0s,baz=204,slow=39						
SDV	**Santo Domingo**	**44.01**	**1**	P	**P**	**08 38 47.1**	**-0.3**
	8.6nm,1.1s						
JTS	**JuntasAbangare**	**47.16**	**342**	LR	LR	08 55 18.2	
	comp=Z,48nm,18.3s,baz=158,slow=32						
SNAA	**Sanae**	**50.15**	**157**	P	**P**	**08 39 32.5**	**-2.0**
	4.0nm,1.1s,baz=298,slow=9.0,SNR=4.5						
SNAA	**Sanae**	**50.15**	**157**	*e*P	**P**	**08 39 33.3**	**-1.2**
	55nm,1.6s						
APG	**El Apazote**	**53.23**	**337**	LR	LR	08 57 25.8	
	comp=Z,123nm,18.7s,baz=278,slow=30						
QSPA	**South Pole Qui**	**54.88**	**180**	P	P	08 40 03.9	-5.8
	2.2nm,1.0s,baz=180,slow=12,SNR=5.6						
TEIG	**Tepich**	**57.54**	**341**	LR	LR	09 00 13.0	
	comp=Z,96nm,18.5s,baz=108,slow=31						
TXAR	**Lajitas Array**	**71.15**	**331**	P	P	08 41 49.3	-8.8
	0.3nm,0.5s,baz=150,slow=8.4,SNR=4.7						
TXAR				LR	LR	09 07 20.9	
	comp=Z,65nm,20.0s,baz=0.0,slow=31						
DBIC	**Dimbokro**	**75.18**	**71**	P	**P**	**08 42 24.8**	**+2.7**
	4.3nm,0.7s,baz=189,slow=4.7,SNR=4.8						
ANMO	**Albuquerque**	**77.20**	**331**	*e*P	**P**	**08 42 33.9**	**+0.6**
	2.6nm,0.8s						
NCB	**Newcomb**	**79.00**	**358**	*e*P	**P**	**08 42 42.6**	**-0.2**
	26nm,0.9s						
BOSA	**Boshof**	**79.03**	**117**	P	**P**	**08 42 44.5**	**+0.7**
	4.8nm,1.0s,baz=258,slow=3.4,SNR=4.1						
WUAZ	**Wupatki**	**79.73**	**328**	*e*P	**P**	**08 42 47.9**	**+0.6**
	4.7nm,1.1s						
SMCO	**Snowmass**	**81.10**	**333**	*e*P	**P**	**08 42 55.6**	**+0.7**
	7.7nm,1.4s						
KNB	**Kanab**	**81.62**	**328**	*e*P	**P**	**08 42 58.0**	**+0.6**
	8.4nm,1.0s						
CCUT	**Cedar City**	**82.30**	**328**	*e*P	**P**	**08 43 01.7**	**+0.7**
	38nm,2.3s						
TOA0	**Torodi Ar. Sit**	**84.23**	**70**	*e*P	**P**	**08 43 12.4**	**+1.2**
TORD	**Torodi Ar. Bea**	**84.23**	**70**	P	**P**	**08 43 11.7**	**+0.4**
	1.8nm,0.9s,baz=260,slow=4.5,SNR=9.0						
DUG	**Dugway, Tooele**	**84.28**	**329**	*e*P	**P**	**08 43 10.7**	**-0.3**
	7.4nm,1.4s						
NVAR	**Mina Array Bea**	**85.27**	**325**	P	P	08 43 09.1	-7.0
	0.7nm,1.0s,baz=157,slow=4.8,SNR=2.4						
WALA	**Waterton Lakes**	**92.13**	**334**	*e*P	**P**	**08 43 49.5**	**+1.0**
	6.2nm,0.9s						
BILL	**Bilibino**	**134.26**	**334**	*e*PKPdf	**PKPdf**	**08 49 55.0**	**-0.9**
SEY	**Seymchan**	**141.44**	**329**	PKP	**PKPdf**	**08 50 04.1**	**-5.1**
	0.3nm,0.3s,baz=172,slow=6.4,SNR=5.2						
KKAR	**Karatay Array**	**149.75**	**64**	*e*PKPdf	**PKPdf**	**08 50 23.9**	**-0.2**
KSH	**Kashi**	**153.90**	**71**	PKPbc	**PKPdf**	**08 50 30.3**	**-0.3**
KSH				sPKP		08 50 43.8	
KSH				PKS	**PKSdf**	**08 54 05.1**	**+0.1**
KSH				PP	**PP**	**08 54 25.4**	**-1.7**
KSH				SKS	**SKSdf**	**08 57 35.0**	**+0.1**
KSH				SS	**SS**	**09 13 59.1**	**-3.5**
KSH				PPMZ			
	120nm,5.5s						
KSH				LN			
	47nm,5.2s						
KSH				LE			
	25nm,6.4s						
KSH				LZ			
	150nm,6.7s						
ZALV	**Zalesovo Beam**	**155.10**	**34**	PKPbc	**PKPdf**	**08 50 35.9**	**+4.2**
	0.5nm,0.4s,baz=294,slow=4.4,SNR=3.5						
ZALV				PKPab	**PKPab**	**08 50 54.0**	**-2.4**
	1.7nm,0.7s,baz=316,slow=4.1,SNR=5.4						
MKAR	**Makanchi Array**	**157.26**	**52**	PKPab	**PKPab**	**08 51 04.1**	**-1.9**
	0.8nm,0.9s,baz=289,slow=3.7,SNR=4.3						
WMQ	**Urumqi**	**161.88**	**56**	*e*PKP	**PKPdf**	**08 50 38.9**	**-1.3**
WMQ				LZ			
	41nm,21.0s						
QIZ	**Qiongzhong**	**163.69**	**184**	PKP	**PKPdf**	**08 50 42.3**	**-0.3**
QIZ				PP	**PP**	**08 55 19.6**	**+0.9**
QIZ				SS	SS	09 15 44.8	+1.4
QIZ				PPMZ			
	120nm,6.4s						
GTA	**Gaotai**	**171.97**	**57**	*e*PKP	**PKPdf**	**08 50 52.0**	**+4.0**
GTA				pPKP	**pPKPdf**	**08 51 02.8**	**+3.3**
GTA				sPKP		08 51 06.6	
HHC	**Hu-ho-hao-te**	**174.02**	**337**	*e*PKP	**PKPdf**	**08 50 47.9**	**-0.8**
HHC				pPKP	**pPKPdf**	**08 50 56.8**	**-3.4**
HHC				sPKP		08 51 04.4	
HHC				PP	**PP**	**08 56 12.8**	**+1.4**
HHC				SKS	SKSdf	08 57 41.3	-7.9
HHC				SKKS	**SKKSac**	**09 02 57.8**	**+2.2**
HHC				SS	**SS**	**09 17 30.3**	**+3.1**
HHC				PPMZ			
	160nm,6.2s						
HHC				LN			
	390nm,19.4s						
HHC				LE			
	260nm,20.8s						
HHC				LZ			
	230nm,16.4s						
LZH	**Lanzhou**	**176.12**	**78**	*e*PKP	**PKPdf**	**08 50 48.8**	**-0.8**
LZH				pPKP	**pPKPdf**	**08 51 00.0**	**-1.1**
LZH				sPKP		08 51 03.8	
LZH				LN			
	230nm,17.9s						
LZH				LE			
	280nm,18.0s						
LZH				LZ			
	300nm,20.3s						

MEX 21 08:33:40.2±0.7,16.°96N×100.°35W,h12km±3km,MD4.2,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.12**	**40**	*i* P	Pg	08 33 42.4	-1.0
CAIG				*i* S	Sg	08 33 45.1	-0.5
ACP2	**Acapulco**	**0.45**	**100**	*e*P	Pg	08 33 46.5	-2.6
ACP2				*e*S	Sg	08 33 53.1	-1.9
ZIIG	**Zihuatanejo**	**1.25**	**301**	*e*P	Pn	08 33 59.7	-3.8
ZIIG				*e*S	Sb	08 34 15.8	-3.9
ARIG	**Puente Sto Nin**	**1.32**	**360**	*e*P	Pn	08 34 00.1	-4.3
ARIG				*e*S	Sb	08 34 16.5	-5.3
PLIG	**Platanillo**	**1.64**	**29**	*e*P	Pn	08 34 05.7	-3.3
PLIG				*e*S	Sn	08 34 25.1	-5.0
TLIG	**Tlapa**	**1.80**	**70**	*e*P	Pn	08 34 08.1	-3.2
TLIG				*e*S	Sn	08 34 28.5	-5.8
PNIG	**Pinotepa**	**2.20**	**104**	*i* P	Pn	08 34 13.9	-2.6
PNIG				*i* S	Sn	08 34 39.9	-3.9
YAIG	**Yautepec**	**2.25**	**33**	*e*P	Pn	08 34 14.4	-3.1
YAIG				*e*S	Sn	08 34 40.1	-5.2

*ISCJB **21** 08:38:50.3±1.9,35.°41S±0.°04×73.°39W±0.°05,h12km±13km,*
mb4.1/9,Error ellipse: s-maj=7.5km s-min=6.5km az=2.9
*IDC **21** 08:38:51.1±1.2,35.°44S×73.°00W,h0km,mb4.1/8,*
mb1 4.1/12,mb1mx3.9/42,mbtmp4.1/12,ML3.5/4,MS3.5/1,
Ms1 3.5/1,ms1mx3.1/18,Error ellipse: s-maj=35.5km
s-min=17.6km az=90.0
*GUC **21** 08:38:52.5±0.5,35.°43S×73.°33W,h26km±4km,ML4.8*
*NEIC **21** 08:38:55.9±0.8,35.°41S×73.°12W,h35km,mb4.3/2,Error*
ellipse: s-maj=19.3km s-min=9.8km az=88.0
ISC 21 08:38:52.1±1.9,35.°42S±0.°05×73.°28W±0.°08,h11km±12km,
n30,σ0§93/36,mb4.2/9,2C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.81**	**151⇓**	*e*P	**Pg**	**08 39 07.5**	**-0.3**
COCH				*e*S	**Sg**	**08 39 18.7**	**+0.2**
TALC	**Talca**	**1.35**	**89⇑**	*e*P	**Pn**	**08 39 16.3**	**-0.4**
TALC				*e*S	**Sb**	**08 39 34.5**	**0.0**
LNCH	**Linares**	**1.44**	**108⇑**	*e*P	**Pn**	**08 39 17.7**	**-0.2**
LNCH				*e*S	**Sn**	**08 39 36.5**	**-0.3**
NICH	**Los Niches**	**1.73**	**77**	*e*P	**Pn**	**08 39 22.5**	**+0.5**
NICH				*e*S	**Sb**	**08 39 45.3**	**-0.3**
CACH	**El Canelo**	**2.56**	**60**	*e*P	**Pn**	**08 39 34.4**	**+0.8**
CHCH	**Chadas Angostu**	**2.63**	**56**	*e*P	**Pn**	**08 39 35.1**	**+0.7**
ANTU	**Antumapu**	**2.86**	**51**	*e*P	**Pn**	**08 39 38.0**	**+0.4**
ANTU				*e*S	**Sn**	**08 40 13.4**	**+1.3**
ANTU				IAML		08 40 30.5	
	comp=E,3μm,0.6s						
CLCH	**Cerro Calan**	**3.04**	**49**	*e*P	**Pn**	**08 39 40.9**	**+0.8**
CLCH				*e*S	**Sn**	**08 40 17.4**	**+0.9**
CLCH				IAML		08 40 38.8	
	comp=E,3μm,0.7s						
CFAA	**Coronel Fontan**	**5.68**	**49**	Pn	**Pn**	**08 40 16.1**	**-0.2**
	comp=E,0.3nm,0.3s,baz=227,slow=18,SNR=30						
PLCA	**Paso Flores**	**5.72**	**159**	Pn	**Pn**	**08 40 16.5**	**-0.5**
	comp=E,0.4nm,0.3s,baz=333,slow=11,SNR=10						
PLCA				LR	LR	08 42 31.2	
	comp=E,460nm,18.8s,baz=288,slow=39						
PLCA	**Paso Flores**	**5.72**	**159**	Pn	**Pn**	**08 40 16.5**	**-0.5**
	comp=E,7.3nm,0.3s						
LCO	**Las Campanas**	**6.75**	**20**	*e*Pn	**Pn**	**08 40 30.3**	**-1.1**
	comp=E,21nm,0.8s						
LCO				*e*Sn	**Sn**	**08 41 46.2**	**-2.2**
TRQA	**Tornquist**	**9.45**	**109**	*e*Pn	**Pn**	**08 41 09.5**	**+1.5**
	comp=E,8.6nm,0.6s						
LPAZ	**La Paz**	**19.60**	**15**	P	**Pn**	**08 43 23.0**	**+0.7**
	comp=E,0.1nm,0.3s,baz=180,slow=7.3,SNR=14						
LPAZ	**La Paz**	**19.60**	**15**	*e*P	**Pn**	**08 43 24.0**	**+1.7**
	comp=E,4.3nm,0.8s						
USHA	**Ushuaia**	**19.70**	**172**	P	**Pn**	**08 43 23.0**	**+0.4**
	comp=E,0.2nm,0.3s,baz=297,slow=6.6,SNR=4.1						
SIV	**San Ignacio**	**22.22**	**33**	P	**P**	**08 43 48.6**	**0.0**
	comp=E,4.7nm,0.9s,baz=232,slow=14,SNR=9.1						
BDFB	**Brasilia**	**29.98**	**55**	P	**P**	**08 44 59.2**	**-1.5**
	comp=E,1.8nm,0.7s,baz=294,slow=11,SNR=5.2						
PTGA	**Pitinga**	**36.67**	**23**	P	**P**	**08 45 58.4**	**-0.5**
	comp=E,2.1nm,0.5s,baz=176,slow=18,SNR=3.8						
VNA3	**Neumayer Olymp**	**48.44**	**157**	P	**P**	**08 47 35.4**	**+1.5**
VNA1	**Neumayer--Stat**	**48.78**	**156**	P	P	08 47 47.1	+11
VNA2	**Neumayer--Watz**	**49.11**	**157**	P	**P**	**08 47 39.7**	**+0.6**
	baz=320,slow=7.9						
SNAA	**Sanae**	**50.67**	**157**	P	**P**	**08 47 52.1**	**+1.2**
SNAA	**Sanae**	**50.67**	**157**	P	**P**	**08 47 50.8**	**-0.1**
	comp=E,2.7nm,0.9s,baz=273,slow=10,SNR=5.6						
TXAR	**Lajitas Array**	**70.49**	**332**	P	**P**	**08 50 08.1**	**+1.5**
	comp=E,0.1nm,0.3s,baz=135,slow=9.0,SNR=2.0						
WHTX	**Lake Whitney,**	**70.80**	**338**	*e*P	**P**	**08 50 08.2**	**-0.1**
	comp=E,6.1nm,0.6s						
DBIC	**Dimbokro**	**76.60**	**72**	P	**P**	**08 50 42.0**	**-0.9**
	comp=E,3.6nm,0.7s,baz=264,slow=6.1,SNR=4.6						
BOSA	**Boshof**	**80.31**	**118**	P	**P**	**08 51 02.7**	**-0.8**
	comp=E,4.2nm,0.8s,baz=286,slow=3.1,SNR=6.9						
TORD	**Torodi Ar. Bea**	**85.65**	**71**	P	**P**	**08 51 31.3**	**+0.3**
	comp=E,1.5nm,0.8s,baz=249,slow=4.6,SNR=8.5						
MKAR	**Makanchi Array**	**158.46**	**51**	PKPab	**PKPab**	**08 59 24.1**	**+0.1**
	comp=E,0.6nm,0.8s,baz=316,slow=3.3,SNR=5.9						

*DJA **21** 08:58:06.0±1.0,5.°S±9.°×15.°4E±1.°2,h10km,M4.8/14,*
mB5.7/1,mb4.8/14,Mw(mB)5.2/1
*ISCJB **21** 08:58:09.2±1.5,5.°61S±0.°05×154.°10E±0.°05,h33km±13km,*
mb4.6/49,MS3.8/10,Error ellipse: s-maj=9.0km
s-min=8.7km az=160.1
*IDC **21** 08:58:11.9±0.7,5.°58S×154.°15E,h44km±5km,mb4.1/17,*
mb1 4.2/18,mb1mx4.1/30,mbtmp4.3/18,ML4.0/2,MS3.7/13,
Ms1 3.8/13,ms1mx3.5/32,Error ellipse: s-maj=15.6km
s-min=11.9km az=97.0
*N

JAY	**Jayapura**	**13.76 283**	LR	LR	09 07 09.8	
	comp=Z,275nm,19.8s,baz=76,slow=39					
CTA	**Charters Tower**	**16.24 207**	P	**Pn**	**09 01 57.8**	**-0.5**
	0.2nm,0.3s,baz=36,slow=12,SNR=4.3					
CTAO	**Charters Tower**	**16.24 207**	*e*P	**Pn**	**09 01 59.0**	**+0.8**
	10nm,0.9s					
DZM	**Mont Dzumac**	**20.18 145**	P	**P**	**09 02 44.7**	**+0.9**
	27nm,0.9s,baz=114,slow=7.3,SNR=16					
DZM			LR	LR	09 08 22.2	
	comp=Z,136nm,20.2s,baz=3.0,slow=30					
QIS	**Mount Isa**	**20.44 222**	P	**P**	**09 02 47.0**	**+0.5**
	baz=21,SNR=14					
RMQ	**Roma**	**21.31 193**	P	**P**	**09 02 57.5**	**+1.6**
	baz=22,SNR=3.9					
KDU	**Kakadu**	**22.48 250**	P	**P**	**09 03 07.5**	**-1.0**
	baz=23,SNR=8.1					
KDU			S	Sn	09 07 21.1	-6.7
	baz=23,SNR=6.3					
SWI	**Sorong**	**23.33 281**	P	**P**	**09 03 13.0**	**-4.1**
	40nm,1.0s					
MTN	**Manton Dam**	**23.78 251**	P	**P**	**09 03 21.5**	**+0.2**
	baz=24,SNR=6.5					
WRAB	**Tennant Creek**	**23.89 232**	*e*P	**P**	**09 03 21.8**	**-0.5**
	13nm,0.7s					
WB2	**Warramunga Arr**	**23.89 232**	*e*P	**P**	**09 03 22.1**	**-0.2**
WRA	**Warramunga Arr**	**23.91 232**	P	**P**	**09 03 22.5**	**+0.1**
	8.1nm,0.6s,baz=55,slow=9.7,SNR=123					
WRA			PcP	**PcP**	**09 07 03.5**	**-0.6**
	2.6nm,1.0s,baz=50,slow=2.5,SNR=5.1					
WRA			pPcP		09 07 15.7	
	1.8nm,0.7s,baz=59,slow=2.3,SNR=6.0					
WRA			ScP	**ScP**	**09 10 39.0**	**+1.3**
	0.3nm,0.8s,baz=96,slow=9.5,SNR=3.0					
WRA			LR	LR	09 12 43.1	
	comp=Z,196nm,19.5s,baz=70,slow=36					
ARMA	**Armidale**	**24.72 185**	P	**P**	**09 03 31.2**	**+1.4**
	baz=25,SNR=17					
ARMA	**Armidale**	**24.72 185**	*e*P	**P**	**09 03 31.2**	**+1.4**
	27nm,0.8s					
AS31	**Alice Springs**	**26.44 225**	*e*P	**P**	**09 03 45.1**	**-0.3**
ASAR	**Alice Springs**	**26.44 225**	P	**P**	**09 03 45.1**	**-0.3**
	2.7nm,0.8s,baz=59,slow=8.9,SNR=35					
ASAR			PcP	**PcP**	**09 07 09.8**	**+0.1**
	3.0nm,0.8s,baz=71,slow=2.3,SNR=9.3					
ASAR			pPcP		09 07 21.9	
	2.2nm,0.8s,baz=55,slow=3.0,SNR=6.2					
ASAR			LR	LR	09 13 50.9	
	comp=Z,252nm,21.1s,baz=86,slow=35					
KNRA	**Kununurra**	**26.81 246**	P	**P**	**09 03 47.9**	**-0.8**
	baz=27,SNR=6.0					
KNRA			S	S	09 08 51.3	+30
	baz=27,SNR=3.1					
H11S3	**WAKE ISLAND Hy 27.03 27**		T	T	09 32 09.9	
	baz=208,slow=76,SNR=77					
H11S2	**WAKE ISLAND Hy 27.03 27**		T	T	09 32 04.1	
	baz=208,slow=76,SNR=106					
H11S1	**WAKE ISLAND Hy 27.04 27**		T	T	09 32 13.9	
	baz=208,slow=76,SNR=57					
SOEI	**Soe**	**29.87 260**	P	P	09 04 20.4	+4.2
	20nm,1.3s					
SOEI	**Soe**	**29.87 260**	*e*P	**P**	**09 04 16.7**	**+0.5**
	9.0nm,0.4s					
FITZ	**Fitzroy Crossi**	**30.44 244**	*e*P	**P**	**09 04 20.1**	**-0.9**
	11nm,0.8s					
WRKA	**Warakurna**	**31.37 229**	P	**P**	**09 04 28.1**	**-1.1**
	baz=32,SNR=11					
EDFI	**Ende, Flores**	**32.33 263**	P	**P**	**09 04 35.7**	**-2.2**
	27nm,0.9s					
BNSI	**Bone**	**33.92 271**	P	P	09 04 47.6	-4.1
	24nm,0.9s					
KAPI	**Kappang**	**34.24 269**	*e*P	**P**	**09 04 54.5**	**+0.1**
	14nm,0.9s					
SPSI	**Sidrap Palu**	**34.29 271**	P	P	09 04 47.2	-7.6
	15nm,0.9s					
MPSI	**Mapaga**	**34.70 279**	P	**P**	**09 04 57.0**	**-1.4**
RAO	**Raoul Island**	**35.31 135**	*e*P	**P**	**09 05 04.6**	**+1.1**
URZ	**Urewera**	**38.56 150**	P	**P**	**09 05 30.6**	**-0.3**
	5.1nm,0.3s,baz=221,slow=1.8,SNR=20					
URZ	**Urewera**	**38.56 150**	P	**P**	**09 05 30.6**	**-0.3**
	4.4nm,0.7s					
MEEK	**Meekatharra**	**39.75 234**	P	**P**	**09 05 40.8**	**-0.3**
	baz=40,SNR=4.6					
MORW	**Morawa**	**42.85 233**	P	**P**	**09 06 06.0**	**-0.5**
	baz=43,SNR=4.0					
NWAO	**Narrogin (SRO)**	**43.74 227**	LR	LR	09 24 49.0	
	comp=Z,233nm,18.9s,baz=33,slow=36					
JNU	**Nakatsue**	**44.46 332**	P	**P**	**09 06 17.6**	**-1.8**
	10nm,0.8s,baz=64,slow=5.7,SNR=5.4					
MJAR	**Matsushiro Arr**	**44.58 342**	P	**P**	**09 06 17.8**	**-2.4**
	1.0nm,0.8s,baz=167,slow=8.2,SNR=4.0					
MJAR			LR	LR	09 23 02.8	
	comp=Z,24nm,21.8s,baz=270,slow=34					
CISI	**Cisompet, Garu**	**46.03 265**	P	P	09 06 36.2	+4.0
	baz=46,SNR=5.4					
DLV	**T Lat**	**48.66 291**	*e*P	**P**	**09 06 52.5**	**-0.2**
	31nm,1.0s					
KSRS	**Korea Array**	**49.39 332**	P	**P**	**09 06 55.0**	**-2.6**
	4.8nm,1.0s,baz=149,slow=9.0,SNR=7.8					
KSAR	**Wonju Array Be**	**49.40 332**	P	**P**	**09 06 55.0**	**-2.7**
QIZ	**Qiongzhong**	**50.06 300**	P	**P**	**09 07 03.4**	**+0.3**
QIZ			S	**S**	**09 14 10.9**	**+0.5**
QIZ			LZ			
	140nm,19.1s					
NJ2	**Nanjing**	**50.37 320**	*e*P	**P**	**09 07 05.4**	**+0.2**
NJ2			PMZ			
	40nm,0.5s					
UBPT	**Khong Chiam**	**52.52 294**	P	**P**	**09 07 22.9**	**+1.4**
	9.9nm,1.3s					
KULM	**Kulim**	**54.51 281**	*e*P	**P**	**09 07 35.8**	**-0.4**
	8.9nm,0.6s					
MDJ	**Mudanjiang**	**54.72 339**	P	P	09 07 40.5	+3.4
MDJ			PMZ			
	3.0nm,0.7s					
NONG	**Nongkai**	**55.56 296**	P	**P**	**09 07 44.3**	**+0.6**
	22nm,1.0s					
ENH	**Enshi**	**55.73 313**	*e*P	**P**	**09 07 45.4**	**+0.7**
	9.3nm,0.9s					
PSI	**Prapat**	**55.78 277**	P	**P**	**09 07 45.5**	**-0.1**
	7.5nm,0.9s,baz=164,slow=6.8,SNR=4.2					
GYA	**Guiyang**	**55.99 307**	*e*P	**P**	**09 07 48.6**	**+1.8**
GYA			pP	**pP**	**09 08 03.3**	**+1.0**
GYA			sP	**sP**	**09 08 11.8**	**+2.9**
GYA			PP	**PP**	**09 09 55.4**	**+3.2**
GYA			S	**S**	**09 15 31.0**	**-0.1**
GYA			sS	**sS**	**09 15 55.8**	**-1.4**
GYA			SS	**SS**	**09 19 18.6**	**+0.5**
GYA			PMZ			
	10.0nm,1.0s					
GYA			PMZ			
	90nm,5.4s					
GYA			LN			
	480nm,18.0s					
GYA			LE			
	420nm,19.2s					
GYA			LZ			
	490nm,18.4s					
GSI	**Gunungsitoli**	**56.91 275**	*e*P	**P**	**09 07 52.0**	**-1.4**
	20nm,0.8s					
PBKT	**Sadao Pong**	**57.03 294**	P	**P**	**09 07 55.5**	**+1.3**
	12nm,0.8s					
LOEI	**Loei**	**57.06 295**	P	**P**	**09 07 52.5**	**-1.9**
	15nm,1.1s					
UTTA	**Uttaradit**	**57.78 295**	P	**P**	**09 08 00.5**	**+1.1**
	6.0nm,0.9s					
NANT	**Nan**	**57.99 296**	P	**P**	**09 08 01.7**	**+0.7**
	48nm,0.6s					
UTHA	**Uthaitani**	**58.12 292**	P	**P**	**09 08 03.2**	**+1.3**
	4.9nm,0.8s					
PETK	**Petropavlovsk-**	**58.65 3**	P	**P**	**09 08 05.4**	**+0.5**
	3.9nm,0.9s,baz=159,slow=9.7,SNR=4.2					
PETK			pP	**pP**	**09 08 17.1**	**-3.4**
	4.6nm,0.8s,baz=163,slow=11,SNR=5.1					
PETK			LR	LR	09 29 35.6	
	comp=Z,40nm,21.1s,baz=215,slow=32					
CRAI	**Chiangrai**	**58.76 298**	P	**P**	**09 08 04.7**	**-1.6**
	6.4nm,0.9s					
LAMP	**Lampang**	**58.86 295**	P	pP	09 08 20.2	-2.4
CMAR	**Chiang Mai Arr**	**59.46 295**	P	**P**	**09 08 11.4**	**+0.2**
	7.4nm,0.9s,baz=114,slow=5.3,SNR=30					
CMAR			pP	**pP**	**09 08 24.0**	**-2.8**
	4.0nm,0.7s,baz=119,slow=4.9,SNR=4.8					
CMAR			LR	LR	09 32 39.9	
	comp=Z,29nm,20.7s,baz=50,slow=35					
CMMT	**Chiang Mai**	**59.56 296**	P	**P**	**09 08 13.1**	**+1.2**
	11nm,1.4s					
CHTO	**Chiang Mai**	**59.57 296**	*e*P	**P**	**09 08 12.8**	**+0.8**
	3.9nm,0.9s					
CMAI	**Chiengmai2**	**59.84 297**	P	**P**	**09 08 15.1**	**+1.1**
CD2	**Chengdu**	**60.32 310** ⇑	*i*P	**P**	**09 08 17.4**	**+0.5**
CD2			pP	**pP**	**09 08 32.4**	**-0.2**
CD2			sP	**sP**	**09 08 37.3**	**-1.9**
CD2			PP	**PP**	**09 10 34.5**	**+3.9**
CD2			S	**S**	**09 16 27.4**	**0.0**
CD2			sS	**sS**	**09 16 52.4**	**-1.4**
CD2			PMZ			
	60nm,0.8s					
CD2			PMZ			
	140nm,7.1s					
CD2			LN			
	180nm,9.5s					
CD2			LZ			
	180nm,11.8s					
HHC	**Hu-ho-hao-te**	**60.54 324**	*e*P	**P**	**09 08 20.4**	**+2.1**
HHC			pP	**pP**	**09 08 37.3**	**+3.3**
HHC			sP	sP	09 08 46.1	+5.6
HHC			PP	**PP**	**09 10 35.8**	**+3.4**
HHC			S	**S**	**09 16 29.3**	**-0.7**
HHC			sS	**sS**	**09 16 56.8**	**+0.4**
HHC			SS	**SS**	**09 20 27.1**	**-2.1**
HHC			PMZ			
	18nm,0.9s					
HHC			PMZ			
	420nm,5.6s					
HHC			LN			
	300nm,16.5s					
HHC			LE			
	470nm,17.8s					
HHC			LZ			
	290nm,16.1s					
LZH	**Lanzhou**	**62.79 316**	*e*P	**P**	**09 08 34.5**	**+0.9**
LZH			pP	**pP**	**09 08 49.3**	**-0.1**
LZH			sP	**sP**	**09 08 55.6**	**-0.3**
LZH			PP	**PP**	**09 10 54.8**	**+2.4**
LZH			PMZ			
	23nm,1.5s					
LZH			PMZ			
	85nm,7.6s					
LZH			LN			
	380nm,15.4s					
LZH			LE			
	400nm,16.0s					
LZH			LZ			
	510nm,19.3s					
GTA	**Gaotai**	**67.21 317**	*e*P	**P**	**09 09 03.4**	**+1.2**
GTA			pP	**pP**	**09 09 19.4**	**+1.3**
GTA			sP	**sP**	**09 09 26.9**	**+2.3**
GTA			PcP	**PcP**	**09 09 30.1**	**+0.3**
GTA			S	**S**	**09 17 52.3**	**-0.5**
GTA			sS	**sS**	**09 18 20.3**	**+0.7**
GTA			SS	**SS**	**09 22 13.9**	**+0.5**
GTA			PMZ			
	10.0nm,1.2s					
GTA			PMZ			
	49nm,4.3s					
GTA			LN			
	270nm,16.6s					
GTA			LE			
	380nm,19.0s					
GTA			LZ			
	86nm,14.7s					
ULN	**Ulaanbaatar**	**67.45 328**	*e*P	**P**	**09 09 03.8**	**+0.2**
	4.2nm,0.8s					
SONM	**Songino Array**	**67.78 327**	P	**P**	**09 09 05.5**	**-0.2**
	2.2nm,0.6s,baz=127,slow=6.3,SNR=4.9					
SEY	**Seymchan**	**68.44 359**	P	**P**	**09 09 08.8**	**-0.5**
	0.2nm,0.2s,baz=171,slow=6.4,SNR=4.6					
LSA	**Lhasa**	**69.83 304**	*e*P	**P**	**09 09 20.0**	**+0.7**
	8.0nm,0.4s					
VNDA	**Vanda**	**71.91 178**	P	**P**	**09 09 31.1**	**+0.7**
	3.0nm,0.7s,baz=329,slow=6.8,SNR=16					
VNDA			LR	LR	09 36 39.1	
	comp=Z,250nm,18.6s,baz=118,slow=32					
TAPN	**Taplejung**	**72.00 301**	*e*P	**P**	**09 09 32.5**	**+0.3**
	21nm,0.8s					
ODAN	**Odare**	**72.14 300**	*e*P	**P**	**09 09 33.2**	**+0.2**
	28nm,0.6s					
RAMN	**Ramite**	**72.84 300**	*e*P	**P**	**09 09 37.1**	**-0.1**
JIRN	**Jiri**	**73.38 301**	*e*P	**P**	**09 09 40.6**	**+0.1**
	12nm,0.7s					
GUN	**Gumba**	**73.72 301**	*e*P	**P**	**09 09 42.6**	**+0.2**
	28nm,0.8s					
PKI	**Pulchoki**	**74.03 301**	*e*P	**P**	**09 09 44.2**	**0.0**
PKIN	**Phulchoki**	**74.04 301**	*e*P	**P**	**09 09 44.1**	**-0.1**
KKN	**Kakani**	**74.19 301**	*e*P	**P**	**09 09 45.0**	**-0.1**
DMN	**Daman**	**74.30 301**	*e*P	**P**	**09 09 46.0**	**+0.3**
	56nm,1.1s					
GKN	**Gorkha**	**74.80 301**	*e*P	**P**	**09 09 48.4**	**-0.1**
KOLN	**Koldanda**	**75.63 300**	*e*P	**P**	**09 09 53.3**	**0.0**
	33nm,0.9s					
DANN	**Dangsing**	**75.64 301**	*e*P	**P**	**09 09 53.2**	**-0.3**
	22nm,0.8s					
PYUN	**Piuthan**	**76.23 301**	*e*P	**P**	**09 09 56.3**	**-0.5**
	76nm,0.9s					
WMQ	**Urumqi**	**77.29 317**	*e*P	**P**	**09 10 02.9**	**+0.7**
WMQ			pP	**pP**	**09 10 19.0**	**+0.6**
WMQ			PMZ			
	5.0nm,1.0s					
WMQ			PMZ			
	110nm,4.5s					
WMQ			LZ			
	70nm,21.0s					
RC01	**Rabbit Creek A**	**79.42 24**	*e*P	**P**	**09 10 13.6**	**0.0**
	3.3nm,0.8s					
MCK	**McKinley**	**81.17 22**	*e*P	**P**	**09 10 22.8**	**-0.1**
	9.7nm,1.1s					
MKAR	**Makanchi Array**	**81.86 319**	P	**P**	**09 10 26.7**	**-0.3**
	1.3nm,0.6s,baz=102,slow=5.9,SNR=20					
MKAR			pP	**pP**	**09 10 39.5**	**-3.8**
	4.6nm,0.8s,baz=97,slow=6.6,SNR=17					
COLA	**College**	**82.18 21**	*e*P	**P**	**09 10 26.9**	**-1.2**
	1.9nm,0.7s					
ILAR	**Eielson Array**	**82.48 22**	P	**P**	**09 10 28.4**	**-1.3**
	1.2nm,0.8s,baz=244,slow=5.2,SNR=21					
ILAR			pP	**pP**	**09 10 41.0**	**-5.1**
	1.5nm,0.7s,baz=253,slow=4.9,SNR=8.1					
ILAR			LR	LR	09 44 19.1	
	comp=Z,98nm,19.2s,baz=248,slow=34					
ZALV	**Zalesovo Beam**	**82.62 326**	P	**P**	**09 10 29.5**	**-1.2**
	2.4nm,0.7s,baz=102,slow=6.2,SNR=10					
QSPA	**South Pole Qui**	**84.28 180**	*e*P	**P**	**09 10 39.2**	**0.0**
	17nm,0.8s					
KSH	**Kashi**	**84.52 310**	P	**P**	**09 10 42.9**	**+2.0**
KSH			sP	**sP**	**09 11 07.1**	**+3.4**
KSH			PP	**PP**	**09 14 02.0**	**+4.9**
KSH			SKS	**SKSac**	**09 20 56.3**	**-4.0**
KSH			S	**S**	**09 21 02.3**	**-1.2**
KSH			sS	**sS**	**09 21 31.3**	**+0.1**
KSH			SS	**SS**	**09 26 38.5**	**+3.0**
KSH			PMZ			
	19nm,1.4s					
KSH			PMZ			
	62nm,3.9s					
KSH			LN			
	55nm,4.8s					
KSH			LE			
	100nm,5.3s					
KSH			LZ			
	200nm,5.2s					
EGAK	**Eagle**	**84.65 23**	*e*P	**P**	**09 10 41.6**	**+0.8**
	19nm,1.7s					
KURK	**Kurchatov**	**85.28 322**	*e*P	**P**	**09 10 43.3**	**-1.0**
	8.6nm,1.5s					
TKM2	**Tokmak 2**	**85.50 314**	*e*P	**P**	**09 10 45.8**	**-0.1**
	6.7nm,0.6s					
AAK	**Ala-Archa**	**86.24 313**	*e*P	**P**	**09 10 50.5**	**+1.0**
	4.9nm,0.9s					
NVAR	**Mina Array Bea**	**91.58 52**	P	**P**	**09 11 14.9**	**0.0**
	0.2nm,0.6s,baz=231,slow=4.5,SNR=5.1					
PDAR	**Pinedale Array**	**98.45 48**	LR	LR	09 49 10.7	
	comp=Z,84nm,21.7s,baz=282,slow=31					
CRVS	**Cervenica-Dubn**	**121.27 325**	*e*PKP	**PKPdf**	**09 17 00.7**	**+0.3**
BDFB	**Brasilia**	**149.50 134**	PKPbc	**PKPbc**	**09 17 56.7**	**-1.0**
	2.2nm,0.8s,baz=209,slow=5.9,SNR=3.5					
TORD	**Torodi Ar. Bea**	**151.84 287**	PKPbc	**PKPbc**	**09 18 02.0**	**-1.1**
	2.1nm,0.4s,baz=47,slow=1.9,SNR=34					
TORD			PKPab	**PKPab**	**09 18 11.6**	**-0.8**
	9.1nm,1.0s,baz=58,slow=2.7,SNR=14					

*CSEM **21** 08:59:55.8, 36°.47N×23°.75E, h4km, MD2.7*
ATH 21 08:59:55.8, 36°.47N×23°.75E, h4km, MD2.7/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.61**	**252**	P	Pg	09 00 08.1	+0.6
KYTH				S	Sg	09 00 14.3	-1.1
KYTH	**Kithira**	**0.61**	**252**	*e*PB	Pg	09 00 08.1	+0.6
KYTH	**Kithira**	**0.61**	**252**	P	Pg	09 00 08.1	+0.6
KYTH				S	Sg	09 00 14.3	-1.1
KYTH	**Kithira**	**0.61**	**252**	*e*Pb	Pg	09 00 08.1	+0.6
VLI	**Veliai**	**0.70**	**291**	*e*PG	Pg	09 00 07.8	-1.5
VLI	**Veliai**	**0.70**	**291**	*e*Pg	Pg	09 00 07.8	-1.5
ANKY	**Antikythira Is**	**0.70**	**211**	*e*PG	Pg	09 00 08.9	-0.4
ANKY	**Antikythira Is**	**0.70**	**211**	*e*Pg	Pg	09 00 08.9	-0.4
KARN	**Karanos**	**1.07**	**173**	P	Pn	09 00 17.4	-0.3
KARN				S	Sg	09 00 28.5	-1.9
KARN	**Karanos**	**1.07**	**173**	*e*PG	Pb	09 00 16.8	-0.2
KARN				*e*SG	Sg	09 00 30.1	-0.3
KARN	**Karanos**	**1.07**	**173**	P	Pn	09 00 17.4	-0.3
KARN				S	Sg	09 00 28.5	-1.9
KARN	**Karanos**	**1.07**	**173**	*e*Pg	Pb	09 00 16.8	-0.2
KARN				*e*Sg	Sg	09 00 30.1	-0.3
VAM	**Vamos**	**1.12**	**161**	*e*PB	Pg	09 00 17.0	-0.3
VAM	**Vamos**	**1.12**	**161**	*e*Pb	Pg	09 00 17.0	-0.3
ITM	**Ithomi**	**1.62**	**296**	*e*PB	Pg	09 00 27.0	0.0
ITM	**Ithomi**	**1.62**	**296**	*e*Pb	Pg	09 00 27.0	0.0

*ATH **21** 09:00:05.9, 38°.08N×23°.21E, h21km±1km, MD3.0/18, ML2.0*
*THE **21** 09:00:06.5, 38°.12N×23°.23E, h6km±2km, ML2.2/6, Error ellipse: s-maj=2.0km s-min=0.4km az=193.0*
CSEM 21 09:00:06.0±0.2, 38°.10N×23°.22E, h15km, MD3.0, Error ellipse: s-maj=4.1km s-min=3.1km az=164.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.21**	**250**	P	Pg	09 00 10.7	-0.2
LTK				S	Sg	09 00 14.5	+0.4
LTK	**Loutraki**	**0.21**	**250**	*e*PB	Pg	09 00 10.8	-0.1
LTK				*e*SB	Sb	09 00 14.9	-0.5
LTK	**Loutraki**	**0.21**	**250**	*e*Pb	Pg	09 00 10.8	-0.1
LTK				S	Sg	09 00 14.5	+0.4
ATH	**Athens Observa**	**0.41**	**107**	*e*PB	Pg	09 00 14.4	+0.1
ATH				*e*SB	Sg	09 00 20.5	+0.5
ATH	**Athens Observa**	**0.41**	**107**	*e*Pb	Pg	09 00 14.4	+0.1
ATH				*e*Sb	Sg	09 00 20.5	+0.5
PTL	**Penteli**	**0.51**	**95**	P	Pg	09 00 16.2	0.0
PTL				S	Sb	09 00 23.8	-0.3
PTL	**Penteli**	**0.51**	**95**	*e*PN	Pb	09 00 16.8	0.0
PTL	**Penteli**	**0.51**	**95**	P	Pg	09 00 16.2	0.0
PTL	**Penteli**	**0.51**	**95**	*e*Pn	Pb	09 00 16.8	0.0
PTL				S	Sb	09 00 23.8	-0.3
DSF	**Desfina**	**0.63**	**300**	P	Pg	09 00 18.3	-0.1
DSF				S	Sb	09 00 27.6	+0.1
DSF	**Desfina**	**0.63**	**300**	*e*PN	Pg	09 00 18.5	+0.1
DSF				*e*SN	Sb	09 00 27.5	0.0
DSF	**Desfina**	**0.63**	**300**	P	Pg	09 00 18.3	-0.1
DSF				S	Sb	09 00 27.6	+0.1
MRKA	**Markates**	**0.68**	**25**	P	Pg	09 00 18.5	-0.8
MRKA				S	Sg	09 00 28.2	-0.1
MRKA	**Markates**	**0.68**	**25**	*e*PB	Pg	09 00 18.7	-0.6
MRKA				*e*SN	Sb	09 00 29.5	+0.8
MRKA	**Markates**	**0.68**	**25**	P	Pg	09 00 18.5	-0.8
MRKA				S	Sg	09 00 28.2	-0.1
GUR	**Goura**	**0.71**	**257**	P	Pg	09 00 20.1	+0.1
GUR				S	Sb	09 00 31.0	+1.1
GUR	**Goura**	**0.71**	**257**	*e*PN	Pg	09 00 19.9	-0.1
GUR	**Goura**	**0.71**	**257**	P	Pg	09 00 20.1	+0.1
GUR				S	Sb	09 00 31.0	+1.1
SMIA	**Simia**	**0.78**	**359**	*e*PN	Pb	09 00 21.6	+0.2
SMIA				*e*SN	Sn	09 00 33.4	-0.7
SMIA	**Simia**	**0.78**	**359**	*e*Pn	Pb	09 00 21.6	+0.2
SMIA				*e*Sn	Sn	09 00 33.4	-0.7
AXAR	**Agios Charalam**	**0.80**	**327**	P	Pg	09 00 21.3	-0.3
AXAR				S	Sb	09 00 32.9	+0.5
AXAR	**Agios Charalam**	**0.80**	**327**	*e*PN	Pg	09 00 21.6	0.0
AXAR	**Agios Charalam**	**0.80**	**327**	P	Pg	09 00 21.3	-0.3
AXAR	**Agios Charalam**	**0.80**	**327**	*e*Pn	Pg	09 00 21.6	0.0
AXAR				S	Sb	09 00 32.9	+0.5
KLV	**Kalavryta, Ach**	**0.84**	**267**	*e*PN	Pn	09 00 23.0	-0.5
KLV	**Kalavryta, Ach**	**0.84**	**267**	*e*Pn	Pn	09 00 23.0	-0.5
KALE	**Kalithea**	**0.90**	**289**	*e*PN	Pg	09 00 23.6	+0.1
KALE				*e*SN	Sg	09 00 35.9	+0.5
KALE	**Kalithea**	**0.90**	**289**	*e*Pn	Pg	09 00 23.6	+0.1
KALE				*e*Sn	Sg	09 00 35.9	+0.5
VLX	**Vlachokerasia**	**0.98**	**223**	*e*PN	Pb	09 00 24.1	-0.8
VLX				*e*SN	Sb	09 00 37.7	-0.1
VLX	**Vlachokerasia**	**0.98**	**223**	*e*Pn	Pb	09 00 24.1	-0.8
VLX				*e*Sn	Sb	09 00 37.7	-0.1
EFP	**Efpalio**	**1.08**	**288**	*e*PN	Pb	09 00 26.0	-0.5
EFP	**Efpalio**	**1.08**	**288**	*e*Pn	Pb	09 00 26.0	-0.5
SKIA	**Skiathos**	**1.09**	**10**	*e*PN	Pg	09 00 27.1	+0.1
SKIA				*e*SN	Sn	09 00 42.9	+1.4
SKIA	**Skiathos**	**1.09**	**10**	*e*Pn	Pg	09 00 27.1	+0.1
SKIA				*e*Sn	Sn	09 00 42.9	+1.4
AGG	**Agios Georgios**	**1.16**	**323**	P	Pb	09 00 27.8	0.0
AGG	**Agios Georgios**	**1.16**	**323**	*e*PN	Pg	09 00 28.4	0.0
AGG				*e*SN	Sg	09 00 44.2	+0.6
AGG	**Agios Georgios**	**1.16**	**323**	P	Pb	09 00 27.8	0.0
AGG	**Agios Georgios**	**1.16**	**323**	*e*Pn	Pg	09 00 28.4	0.0
AGG				*e*Sn	Sg	09 00 44.2	+0.6
AOS	**Alonnisos**	**1.19**	**26**	P	Pn	09 00 27.4	-0.7
AOS				S	Sg	09 00 44.9	+0.3
AOS	**Alonnisos**	**1.19**	**26**	*e*PN	Pg	09 00 28.9	-0.1
AOS				*e*SN	Sg	09 00 44.9	+0.3
AOS	**Alonnisos**	**1.19**	**26**	P	Pn	09 00 27.4	-0.7
AOS	**Alonnisos**	**1.19**	**26**	*e*Pn	Pg	09 00 28.9	-0.1
AOS				S	Sg	09 00 44.9	+0.3
DRO	**Drossia**	**1.20**	**264**	*e*PN	Pb	09 00 28.4	-0.1
DRO	**Drossia**	**1.20**	**264**	*e*Pn	Pb	09 00 28.4	-0.1
NEO	**Neokhori**	**1.21**	**0**	*e*PN	Pg	09 00 29.1	-0.3
NEO	**Neokhori**	**1.21**	**0**	*e*Pn	Pg	09 00 29.1	-0.3
MAKR	**Makrakomi, Fth**	**1.25**	**317**	*e*PN	Pb	09 00 29.7	+0.3
MAKR	**Makrakomi, Fth**	**1.25**	**317**	*e*Pn	Pb	09 00 29.7	+0.3
XOR	**Xorichti**	**1.27**	**359**	P	Pn	09 00 29.4	+0.1
XOR	**Xorichti**	**1.27**	**359**	P	Pn	09 00 29.4	+0.1
AMT	**Artemida-Makis**	**1.32**	**245**	*e*PN	Pg	09 00 31.1	-0.4
AMT	**Artemida-Makis**	**1.32**	**245**	*e*Pn	Pg	09 00 31.1	-0.4
PDO	**Prodromos**	**1.68**	**288**	*e*PN	Pb	09 00 36.1	-0.5
PDO	**Prodromos**

*DJA **21** 09:20:29.9±0.8, 2°N±5°×12°9E±°, h10km, M4.0/4, MLv4.0/4*
*NEIC **21** 09:20:31.3±0.4, 2°34N×128°89E, h35km, mb4.0/3, Error ellipse: s-maj=14.4km s-min=7.5km az=99.0*

ISC 21 09:20:31.6±0.7, 2°36N±0°07×128°87E±0°08, h35km, n25, σ1§02/21, mb4.0/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.18**	**224**	P	**Pn**	**09 21 04.6**	**-0.8**
TNTI				S	**Sn**	**09 21 32.6**	**+1.4**
TNTI	**Ternate**	**2.18**	**224**	*e*Pn	**Pn**	**09 21 04.5**	**-0.9**
LBMI	**Labuha**	**3.28**	**205**	P	**Pn**	**09 21 20.8**	**+0.3**
SGSI	**Sangihe**	**3.58**	**292**	P	Pn	09 21 19.5	-5.2
SGSI				S	**Sn**	**09 22 08.2**	**+2.3**
SWI	**Sorong**	**4.00**	**143**	P	**Pn**	**09 21 31.5**	**+1.1**
KAPI	**Kappang**	**11.69**	**231**	*e*Pn	**Pn**	**09 23 16.8**	**+0.7**
WRAB	**Tennant Creek** 4.8nm,0.9s	**22.80**	**167**	*e*P	**P**	**09 25 31.7**	**+0.2**
WRA	**Warramunga Arr** 2.3nm,0.8s,baz=346,slow=13,SNR=14	**22.81**	**167**	P	**P**	**09 25 30.4**	**-1.2**
ASAR	**Alice Springs** 1.0nm,0.8s,baz=353,slow=8.8,SNR=16	**26.33**	**170**	P	**P**	**09 26 03.5**	**-0.9**
KSAR	**Wonju Array Be**	**34.92**	**359**	P	**P**	**09 27 21.1**	**+1.1**
KSRS	**Korea Array** 1.8nm,0.8s,baz=180,slow=10.0,SNR=4.9	**34.93**	**359**	P	**P**	**09 27 21.1**	**+1.0**
MJAR	**Matsushiro Arr** 2.9nm,0.9s,baz=182,slow=8.8,SNR=6.4	**35.09**	**13**	P	**P**	**09 27 20.8**	**-0.8**
H11S3	**WAKE ISLAND Hy 40.37** baz=251,slow=75,SNR=45	**64**		T	T	10 11 25.1	
H11S2	**WAKE ISLAND Hy 40.38** baz=251,slow=75,SNR=24	**64**		T	T	10 11 22.7	
H11S1	**WAKE ISLAND Hy 40.38** baz=251,slow=75,SNR=30	**64**		T	T	10 11 22.4	
H11N1	**WAKE ISLAND Hy 40.95** baz=250,slow=75,SNR=49	**62**		T	T	10 12 05.2	
H11N2	**WAKE ISLAND Hy 40.96** baz=250,slow=75,SNR=18	**62**		T	T	10 12 04.1	
H11N3	**WAKE ISLAND Hy 40.97** baz=250,slow=75,SNR=35	**62**		T	T	10 12 07.2	
ULN	**Ulaanbaatar** 1.1nm,0.6s	**49.09**	**341**	*e*P	**P**	**09 29 15.7**	**0.0**
SONM	**Songino Array** 0.9nm,0.6s,baz=146,slow=8.3,SNR=4.6	**49.28**	**340**	P	**P**	**09 29 16.6**	**-0.6**
PETK	**Petropavlovsk-** 3.3nm,0.9s,baz=246,slow=1.5,SNR=3.6	**55.92**	**21**	P	**P**	**09 30 06.0**	**+0.1**
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=115,slow=8.4,SNR=21	**59.89**	**325**	P	**P**	**09 30 33.6**	**-0.5**
MKAR				PcP	**PcP**	**09 31 19.6**	**-0.7**
KURK	**Kurchatov** 1.1nm,0.8s	**64.04**	**327**	*e*P	**P**	**09 31 01.4**	**-0.3**
ILAR	**Eielson Array** 0.1nm,0.6s,baz=261,slow=5.9,SNR=4.4	**85.42**	**25**	P	**P**	**09 33 05.6**	**+0.3**
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=211,slow=1.7,SNR=2.7	**125.37**	**288**	PKP	**PKPdf**	**09 39 28.6**	**-1.3**

IDC 21 09:21:36.7±1.3, 3°10N×126°12E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/35, mbtmp4.0/4, MS3.7/2, Ms1 3.6/2, ms1mx2.9/36, Error ellipse: s-maj=140.0km s-min=20.1km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 6.0nm,0.7s,baz=338,slow=10,SNR=22	**24.28**	**161**	P	P	09 26 55.5	-0.5
ASAR	**Alice Springs** 0.9nm,0.6s,baz=344,slow=6.7,SNR=15	**27.67**	**164**	P	P	09 27 27.1	+0.6
JCJ	**Chichijima** comp=Z,164nm,19.5s,baz=164,slow=38	**28.38**	**31**	LR	LR	09 39 35.9	
SONM	**Songino Array** 0.6nm,0.6s,baz=150,slow=6.1,SNR=2.5	**47.70**	**342**	P	P	09 30 13.9	-1.4
MKAR	**Makanchi Array** 1.4nm,0.5s,baz=120,slow=7.7,SNR=12	**57.72**	**326**	P	P	09 31 30.2	+0.8
KBZ	**Khabaz** comp=Z,33nm,20.4s,baz=158,slow=39	**82.96**	**314**	LR	LR	10 15 30.1	

*IDC **21** 09:24:30.2±0.7, 3°35N×126°73E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.0/35, mbtmp4.1/12, Error ellipse: s-maj=46.3km s-min=12.8km az=72.0*
*ISCJB **21** 09:24:35.4±0.4, 3°38N±0°06×126°7E±0°1, h48km, mb4.2/17, Error ellipse: s-maj=20.0km s-min=6.6km az=160.2*
*NEIC **21** 09:24:35.6±0.4, 3°33N×126°65E, h35km, mb4.4/6, Error ellipse: s-maj=21.1km s-min=8.6km az=66.0*

ISC 21 09:24:37.4±0.5, 3°42N±0°09×126°7E±0°1, h48km, n36, σ1§30/36, mb4.2/17, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.52**	**327**	⇑*i*P	Pn	09 25 48.0	+4.7
FAKI	**Fak Fak** baz=8.2,SNR=5.5	**8.36**	**139**	P	**Pn**	**09 26 36.6**	**+0.5**
JAY	**Jayapura** 0.6nm,0.3s,baz=297,slow=1.5,SNR=5.1	**15.15**	**113**	Pn	**Pn**	**09 28 10.0**	**+1.5**
JAY	**Jayapura** baz=15,SNR=4.1	**15.15**	**113**	P	**P**	**09 28 12.7**	**-0.1**
MTN	**Manton Dam** baz=17,SNR=5.8	**16.73**	**165**	P	**Pn**	**09 28 26.5**	**-2.1**
KDU	**Kakadu** baz=17,SNR=4.3	**16.98**	**161**	P	**P**	**09 28 33.3**	**+0.3**
KNRA	**Kununurra** baz=19,SNR=11	**19.08**	**174**	P	**P**	**09 28 56.6**	**+0.5**
JOW	**Kunigami** 7.8nm,0.8s	**23.33**	**3**	*e*P	**P**	**09 29 40.5**	**-0.9**
COEN	**Coen** 32nm,0.9s	**23.74**	**137**	*e*P	**P**	**09 29 43.1**	**-2.4**
WRAB	**Tennant Creek**	**24.38**	**162**	*e*P	**P**	**09 29 49.9**	**-1.3**
WRA	**Warramunga Arr** 9.2nm,0.6s,baz=341,slow=10,SNR=30	**24.39**	**162**	P	**P**	**09 29 50.1**	**-1.2**
WRA	1.1nm,0.9s,baz=346,slow=17,SNR=4.6			S	**S**	**09 34 11.3**	**+3.4**
WB2	**Warramunga Arr**	**24.39**	**162**	*e*P	**P**	**09 29 49.6**	**-1.8**
QIS	**Mount Isa** baz=27,SNR=5.7	**26.96**	**153**	P	**P**	**09 30 14.8**	**+0.1**
AS31	**Alice Springs**	**27.81**	**166**	*e*P	**P**	**09 30 20.6**	**-1.7**
ASAR	**Alice Springs** 1.3nm,0.6s,baz=348,slow=7.7,SNR=14	**27.81**	**166**	P	**P**	**09 30 21.4**	**-0.9**
WRKA	**Warakurna** baz=28,SNR=9.5	**28.33**	**177**	P	**P**	**09 30 27.0**	**+0.1**
KSAR	**Wonju Array Be**	**33.88**	**2**	P	**P**	**09 31 15.8**	**+0.3**
KSRS	**Korea Array** 0.5nm,0.5s,baz=178,slow=9.5,SNR=3.0	**33.89**	**2**	P	**P**	**09 31 15.8**	**+0.2**
QLP	**Quilpie** baz=34,SNR=3.3	**34.29**	**151**	P	**P**	**09 31 18.8**	**-0.4**
BBOO	**Buckleboo** baz=37,SNR=8.8	**37.10**	**167**	P	**P**	**09 31 43.0**	**-0.3**
ARMA	**Armidale** baz=41,SNR=5.8	**41.20**	**147**	P	**P**	**09 32 18.1**	**+0.3**
ARMA	**Armidale** 5.0nm,0.6s	**41.20**	**147**	*e*P	**P**	**09 32 17.1**	**-0.7**
SONM	**Songino Array** 1.0nm,0.7s,baz=152,slow=9.0,SNR=5.1	**47.59**	**342**	P	**P**	**09 33 07.4**	**-1.2**
MKAR	**Makanchi Array** 2.1nm,0.6s,baz=123,slow=7.0,SNR=16	**57.82**	**325**	P	**P**	**09 34 23.1**	**-0.9**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=124,slow=7.2,SNR=2.7	**60.87**	**333**	P	**P**	**09 34 45.0**	**+0.2**
KURK	**Kurchatov** 3.1nm,0.6s	**62.01**	**328**	*e*P	**P**	**09 34 52.9**	**+0.3**
GEYT	**Alibeck** 0.9nm,0.5s,baz=87,slow=10,SNR=2.8	**71.10**	**309**	P	**P**	**09 35 50.8**	**-0.2**
VNDA	**Vanda** 1.9nm,0.9s,baz=316,slow=3.5,SNR=5.4	**83.12**	**173**	P	**P**	**09 36 56.3**	**-1.3**
VNDA	**Vanda** 1.9nm,0.9s	**83.12**	**173**	*e*P	**P**	**09 36 58.4**	**+0.8**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=254,slow=5.8,SNR=5.5	**85.38**	**25**	P	**P**	**09 37 09.0**	**-0.3**
KMBO	**Kilima Mbogo** 0.5nm,0.4s,baz=60,slow=1.5,SNR=4.0	**89.56**	**269**	P	**P**	**09 37 31.4**	**+0.6**
KMBO	**Kilima Mbogo** 1.9nm,1.0s	**89.56**	**269**	*e*P	**P**	**09 37 31.0**	**+0.2**
ARCES	**ARCESS Array B** 4.3nm,1.0s,baz=64,slow=8.2,SNR=3.7	**90.74**	**340**	P	**P**	**09 37 36.5**	**+1.5**
FINES	**FINESS Array B** 0.4nm,0.5s,baz=112,slow=5.1,SNR=3.9	**92.11**	**332**	P	**P**	**09 37 43.2**	**+1.8**
QSPA	**South Pole Qui** 57nm,2.4s	**93.33**	**180**	*e*P	**P**	**09 37 49.9**	**+2.8**
TORD	**Torodi Ar. Bea** 0.5nm,0.7s,baz=19,slow=2.0,SNR=3.9	**123.03**	**288**	PKP	**PKPdf**	**09 43 28.9**	**-0.7**

*ISCJB **21** 09:39:01.7±0.5, 37°06N±0°03×30°80E±0°04, h90km±5km, Error ellipse: s-maj=6.0km s-min=4.9km az=150.5*
*ISK **21** 09:39:01.6, 37°06N×30°81E, h80km, MD3.1*
*CSEM **21** 09:39:02.5±0.2, 37°06N×30°80E, h83km±2km, MD3.1, Error ellipse: s-maj=4.1km s-min=3.6km az=76.0*
*DDA **21** 09:39:03.2, 37°18N×30°78E, h54km, MD3.1*
*HLW **21** 09:39:07.5, 36°61N×30°77E, h33km±32km, Md3.6*

ISC 21 09:39:03.2±1.1, 37°13N±0°03×30°74E±0°03, h75km±6km, n64, σ1§40/89, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.24**	**196**	*e*PG	**Pn**	**09 39 13.4**	**-1.1**
ANTB				*e*SG	**Sn**	**09 39 22.9**	**0.0**
ANTB	**Antalya**	**0.24**	**196**	*e*Pg	**Pn**	**09 39 13.4**	**-1.1**
ANTB				*e*Sg	**Sn**	**09 39 22.9**	**0.0**
KORT	**Korkueli**	**0.33**	**248**	*i* P	**Pn**	**09 39 15.3**	**0.0**
KORT				*i* S	**Sn**	**09 39 26.0**	**+1.8**
KORT	**Korkueli**	**0.33**	**248**	*i* P	**Pn**	**09 39 15.3**	**0.0**
KORT				*i* S	**Sn**	**09 39 26.0**	**+1.8**
BCK	**Bucak**	**0.35**	**341**	*e*PG	**Pn**	**09 39 15.5**	**+0.1**
BCK				*e*SG	**Sn**	**09 39 25.6**	**+1.2**
BCK	**Bucak**	**0.35**	**341**	*e*Pg	**Pn**	**09 39 15.5**	**+0.1**
BCK				*e*Sg	**Sn**	**09 39 25.6**	**+1.2**
ISP	**Isparta**	**0.71**	**346**	*e*PG	**Pn**	**09 39 19.6**	**+0.9**
ISP				*e*SG	**Sn**	**09 39 31.9**	**+1.6**
ISP	**Isparta**	**0.71**	**346**	*e*Pg	**Pn**	**09 39 19.6**	**+0.9**
ISP				*e*Sg	**Sn**	**09 39 31.9**	**+1.6**
ELL	**Elmali**	**0.76**	**240**	*e*PG	**Pn**	**09 39 20.1**	**+0.8**
ELL	**Elmali**	**0.76**	**240**	*e*Pg	**Pn**	**09 39 20.1**	**+0.8**
GOLH	**Golhisar**	**0.94**	**277**	*i* P	**Pn**	**09 39 22.2**	**+0.8**
GOLH				*i* S	**Sn**	**09 39 37.3**	**+2.3**
GOLH	**Golhisar**	**0.94**	**277**	*i* P	**Pn**	**09 39 22.2**	**+0.8**
GOLH				*i* S	**Sn**	**09 39 37.3**	**+2.3**
AKAS	**Kas**	**1.27**	**226**	*i* P	**Pn**	**09 39 25.9**	**+0.4**
AKAS				*i* S	**Sn**	**09 39 44.5**	**+2.2**
AKAS	**Kas**	**1.27**	**226**	*i* P	**Pn**	**09 39 25.9**	**+0.4**
AKAS				*i* S	**Sn**	**09 39 44.5**	**+2.2**
FETY	**Fethiye**	**1.41**	**250**	*e*PN	**Pn**	**09 39 27.8**	**+0.6**
FETY	**Fethiye**	**1.41**	**250**	*e*Pn	**Pn**	**09 39 27.8**	**+0.6**
SHUT	**Suhut-Afyon**	**1.43**	**354**	*e*PN	**Pn**	**09 39 28.1**	**+0.6**
SHUT	**Suhut-Afyon**	**1.43**	**354**	*e*Pn	**Pn**	**09 39 28.1**	**+0.6**
DNZL	**Cakiroluk**	**1.46**	**293**	*i* P	**Pn**	**09 39 28.6**	**+0.6**
DNZL				*i* S	**Sn**	**09 39 48.2**	**+1.6**
DNZL	**Cakiroluk**	**1.46**	**293**	*i* P	**Pn**	**09 39 28.6**	**+0.6**
DNZL				*i* S	**Sn**	**09 39 48.2**	**+1.6**
DENT	**Denizli**	**1.49**	**295**	*e*PN	**Pn**	**09 39 28.9**	**+0.6**
DENT	**Denizli**	**1.49**	**295**	*e*Pn	**Pn**	**09 39 28.9**	**+0.6**
KONT	**Konya--Tatoy**	**1.53**	**57**	*e*PN	**Pn**	**09 39 28.9**	**+0.2**
KONT	**Konya--Tatoy**	**1.53**	**57**	*e*Pn	**Pn**	**09 39 28.9**	**+0.2**
KHL	**Karahalli**	**1.53**	**321**	*e*PN	**Pn**	**09 39 29.3**	**+0.5**
KHL	**Karahalli**	**1.53**	**321**	*e*Pn	**Pn**	**09 39 29.3**	**+0.5**
GAZI	**Gazipasa**	**1.55**	**125**	*i* P	**Pn**	**09 39 28.6**	**-0.4**
GAZI				*i* S	**Sn**	**09 39 50.3**	**+1.8**
GAZI	**Gazipasa**	**1.55**	**125**	*i* P	**Pn**	**09 39 28.6**	**-0.4**
GAZI				*i* S	**Sn**	**09 39 50.3**	**+1.8**
LADK	**Ladik-KONYA**	**1.68**	**50**	*e*PN	**Pn**	**09 39 30.4**	**-0.3**
LADK	**Ladik-KONYA**	**1.68**	**50**	*e*Pn	**Pn**	**09 39 30.4**	**-0.3**
DALY	**Dalyan (Mu˙la**	**1.70**	**260**	*e*PN	**Pn**	**09 39 31.5**	**+0.6**
DALY	**Dalyan (Mu˙la**	**1.70**	**260**	*e*Pn	**Pn**	**09 39 31.5**	**+0.6**
ERMK	**Ermenek**	**1.81**	**105**	*i* P	**Pn**	**09 39 33.0**	**+0.4**
ERMK				*i* S	**Sn**	**09 39 57.9**	**+3.0**
ERMK	**Ermenek**	**1.81**	**105**	*i* P	**Pn**	**09 39 33.0**	**+0.4**
ERMK				*i* S	**Sn**	**09 39 57.9**	**+3.0**
YER	**Yerkesik**	**1.96**	**271**	*e*PN	**Pn**	**09 39 35.2**	**+0.8**
YER	**Yerkesik**	**1.96**	**271**	*e*Pn	**Pn**	**09 39 35.3**	**+0.8**
KIZT	**Kizilcal**	**1.97**	**27**	*e*PN	**Pn**	**09 39 34.8**	**+0.1**
KIZT	**Kizilcal**	**1.97**	**27**	*e*Pn	**Pn**	**09 39 34.8**	**+0.1**
ALT	**Altintas**	**1.99**	**346**	*e*PN	**Pn**	**09 39 35.4**	**+0.5**
ALT	**Altintas**	**1.99**	**346**	*e*Pn	**Pn**	**09 39 35.4**	**+0.5**
KULA	**Kula-Manisa**	**2.15**	**311**	*e*PN	**Pn**	**09 39 37.3**	**+0.3**
KULA	**Kula-Manisa**	**2.15**	**311**	*e*Pn	**Pn**	**09 39 37.3**	**+0.3**
GDZ	**Gediz**	**2.19**	**334**	*i* P	**Pn**	**09 39 38.0**	**+0.3**
GDZ				*i* S	**Sn**	**09 40 05.1**	**+1.1**
GDZ	**Gediz**	**2.19**	**334**	*i* P	**Pn**	**09 39 38.0**	**+0.3**
GDZ				*i* S	**Sn**	**09 40 05.1**	**+1.1**
AYDN	**Tasoluk**	**2.34**	**284**	*i* P	**Pn**	**09 39 41.2**	**+1.7**
AYDN				*i* S	**Sn**	**09 40 08.8**	**+1.5**
AYDN	**Tasoluk**	**2.34**	**284**	*i* P	**Pn**	**09 39 41.2**	**+1.7**
AYDN				*i* S	**Sn**	**09 40 08.8**	**+1.5**
SVRH	**Sivrihisar-ESK**	**2.40**	**15**	*e*PN	**Pn**	**09 39 41.0**	**+0.6**
SVRH	**Sivrihisar-ESK**	**2.40**	**15**	*e*Pn	**Pn**	**09 39 41.0**	**+0.6**
TVSB	**Tavsanli**	**2.53**	**337**	*e*PN	**Pn**	**09 39 42.7**	**+0.6**
TVSB	**Tavsanli**	**2.53**	**337**	*e*Pn	**Pn**	**09 39 42.7**	**+0.6**
KIZK	**Mersin**	**2.81**	**102**	*i* P	**Pn**	**09 39 47.9**	**+2.0**
KIZK				*i* S	**Sn**	**09 40 21.1**	**+2.4**
KIZK	**Mersin**	**2.81**	**102**	*i* P	**Pn**	**09 39 47.9**	**+2.0**
KIZK				*i* S	**Sn**	**09 40 21.1**	**+2.4**
DURS	**Dursunbey**	**3.04**	**325**	*i* P	**Pn**	**09 39 49.6**	**+0.5**
DURS				*i* S	**Sn**	**09 40 24.9**	**+0.4**
DURS	**Dursunbey**	**3.04**	**325**	*i* P	**Pn**	**09 39 49.6**	**+0.5**
DURS				*i* S	**Sn**	**09 40 24.9**	**+0.4**
HMAT	**Matruh**	**6.73**	**208**	P	**Pn**	**09 40 37.6**	**-1.8**
HMAT	**Matruh** baz=211	**6.73**	**208**	P	**Pn**	**09 40 37.6**	**-1.8**
HMAT				S	Sn	09 41 46.2	-8.4
AMAG	**Maghara** baz=160	**6.79**	**162**	P	**Pn**	**09 40 38.1**	**-2.0**
KOT	**Kottamia**	**7.24**	**172**	P	**Pn**	**09 40 43.7**	**-2.6**
KOT	**Kottamia** baz=172	**7.24**	**172**	P	**Pn**	**09 40 43.7**	**-2.6**
KOT				S	Sn	09 41 56.3	-11
HHAG	**Hagoal** baz=170	**7.25**	**171**	S	Sn	09 41 57.3	-10
GLL	**Jalalah**	**7.57**	**174**	P	**Pn**	**09 40 48.4**	**-2.5**
GLL	**Jalalah** baz=173	**7.57**	**174**	P	**Pn**	**09 40 48.4**	**-2.5**
HKAT	**Jabal Katrina**	**9.01**	**161**	P	**Pn**	**09 41 07.7**	**-2.9**
HKAT	**Jabal Katrina** baz=160	**9.01**	**161**	P	**Pn**	**09 41 07.7**	**-2.9**

IDC 21 09:41:40.6±1.9, 3°50N×126°86E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/36, mbtmp3.7/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/39, Error ellipse: s-maj=148.2km s-min=24.1km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.7nm,0.6s,baz=343,slow=10,SNR=35	**24.43**	**163**	P	P	09 47 01.2	0.0
ASAR	**Alice Springs** 0.4nm,0.3s,baz=350,slow=7.8,SNR=11	**27.86**	**166**	P	P	09 47 32.2	0.0
ASAR				LR	LR	09 58 21.4	
KSRS	comp=Z,82nm,21.3s,baz=82,slow=36 **Korea Array** comp=Z,25nm,21.1s,baz=35,slow=35	**33.81**	**2**	LR	LR	10 01 29.4	
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=124,slow=7.9,SNR=12	**57.82**	**325**	P	P	09 51 34.0	-0.1

GUC 21 09:43:07.1±0.6, 34°45S×71°99W, h15km±4km, MD3.6, ML3.6, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.69**	**45**	⇓*i*P	Pg	09 43 19.7	-0.8
LNV				*i* S1	Sb	09 43 29.0	-1.0
NICH	**Los Niches**	**0.84**	**132**	⇑*i*P	Pb	09 43 22.5	-0.9
NICH				*i* S	Sg	09 43 33.6	-0.9
TALC	**Talca**	**0.99**	**163**	⇑*i*P	Pb	09 43 24.4	-1.6
TALC				*i* S	Sb	09 43 37.5	-1.4
TACH	**Talagante**	**1.18**	**48**	⇓*i*P	Pn	09 43 27.2	-1.9
TACH				*e*S1	Sb	09 43 43.0	-1.3
CACH	**El Canelo**	**1.20**	**74**	⇑*i*P	Pn	09 43 28.8	-0.7
CACH				*i* S1	Sb	09 43 45.1	0.0
CHCH	**Chadas Angostu**	**1.22**	**66**	*e*P1	Pn	09 43 28.3	-1.4
ANTU	**Antumapu**	**1.43**	**53**	*e*P	Pn	09 43 31.8	-0.7
ANTU				*i* S	Sn	09 43 50.2	-0.9
ANTU				AML	AML	09 43 57.5	
LNCH	comp=N,1μm,0.2s **Linares**	**1.43**	**167**	⇓*i*P	Pn	09 43 31.7	-0.9
LNCH				*i* S	Sn	09 43 50.4	-0.8
IHA	**Instituto Hidr**	**1.45**	**12**	⇑*i*P	Pn	09 43 31.8	-0.9
SAN	**Santiago**	**1.48**	**48**	*e*P1	Pn	09 43 32.8	-0.5
SAN				*e*S1	Sn	09 43 51.6	-0.9
CLCH	**Cerro Calan** comp=E,1μm,0.3s	**1.60**	**49**	AML	AML	09 44 03.2	
PEL	**Peldehue**	**1.69**	**40**	⇓*i*P	Pn	09 43 35.9	-0.3
PEL				*e*S1	Sn	09 43 57.7	0.0
PEL				AML	AML	09 44 06.5	
YECH	comp=E,1μm,0.4s **El Yeso**	**1.76**	**64**	⇑*i*P	Pn	09 43 37.9	+0.4
YECH				*i* S	Sn	09 44 00.8	+0.8

IDC 21 09:45:16.2±1.7, 2°05N×124°02E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/37, mbtmp3.6/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/35, Error ellipse: s-maj=192.2km s-min=24.3km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.7nm,0.5s,baz=334,slow=11,SNR=29	**24.09**	**156**	P	P	09 50 32.9	-0.8
WRA				LR	LR	10 01 13.8	
ASAR	comp=Z,43nm,18.1s,baz=170,slow=40 **Alice Springs** 0.7nm,0.9s,baz=335,slow=6.4,SNR=8.8	**27.32**	**160**	P	P	09 51 04.2	+1.3
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=118,slow=7.5,SNR=8.4	**57.43**	**327**	P	P	09 55 06.3	-0.5

*ISCJB **21** 09:56:23.4±0.4, 4°77S±0°05×101°60E±0°04, h30km, mb4.3/19, MS3.2/1, Error ellipse: s-maj=7.5km s-min=4.0km az=33.2*
*DJA **21** 09:56:25.7±0.9, 5°5±3°×10°2E±°, h16km±9km, M4.7/7, mb4.9/2, MLv4.6/7*
*NEIC **21** 09:56:26.9±2.2, 4°54S×101°80E, h38km±17km, mb4.4/7, Error ellipse: s-maj=23.8km s-min=6.7km az=53.0*
NEIC Felt [II] at Bengkulu.
*IDC **21** 09:56:26.9±1.1, 4°47S×101°82E, h35km±5km, mb4.0/13, mb1 4.1/13, mb1mx3.9/37, mbtmp4.2/13, MS3.3/2, Ms1 3.3/2, ms1mx2.8/29, Error ellipse: s-maj=30.9km s-min=14.6km az=47.0*

ISC 21 09:56:25.5±0.6, 4°71S±0°08×101°65E±0°07, h30km, n67, σ0§95/67, mb4.3/19, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.35**	**75**	P	**Pn**	**09 56 47.9**	**-0.3**
MNAI				S	**Sn**	**09 57 04.6**	**-0.5**
MNAI	**Manna** baz=1.1,SNR=96	**1.35**	**75**	P	**Pn**	**09 56 46.8**	**-1.5**
MNAI				S	**Sn**	**09 57 04.7**	**-0.5**
MNAI	**Manna** baz=1.1,SNR=6.1	**1.35**	**75**	*e*Pn	**Pn**	**09 56 47.0**	**-1.2**
MASI	**Maura Aman, Be**	**1.66**	**21**	P	**Pn**	**09 56 52.3**	**-0.3**
MASI				S	**Sn**	**09 57 13.9**	**+0.9**
LHSI	**Lahat**	**2.06**	**65**	P	**Pn**	**09 56 58.5**	**+0.4**
LWLI	**Liwa**	**2.42**	**97**	P	**Pn**	**09 57 03.5**	**+0.4**
MDSI	**Maura Dua**	**2.53**	**85**	P	**Pn**	**09 57 04.6**	**+0.1**
MDSI				S	**Sn**	**09 57 35.1**	**+0.8**
KASI	**Kota Agung**	**2.95**	**106**	P	**Pn**	**09 57 10.5**	**+0.2**
KASI				S	**Sn**	**09 57 44.8**	**+0.1**
KLI	**Kotabumi**	**3.20**	**93**	P	**Pn**	**09 57 16.5**	**+2.8**
PDSI	**Padang**	**3.95**	**342**	P	**Pn**	**09 57 25.6**	**+1.4**
CGJI	**Cibinong**	**4.45**	**115**	P	**Pn**	**09 57 31.1**	**+0.2**
DSRI	**Dabo** 188nm,0.9s,0.9nm	**5.12**	**35**	P	**Pn**	**09 57 40.7**	**+0.6**
LEM	**Lembang**	**6.30**	**110**	P	**Pn**	**09 57 59.4**	**+2.9**
CISI	**Cisompet, Garu**	**6.75**	**115**	P	**Pn**	**09 58 02.1**	**-0.6**
CISI	**Cisompet, Garu** baz=6.4,SNR=5.5	**6.75**	**115**	P	**Pn**	**09 58 02.4**	**-0.2**
GSI	**Gunungsitoli**	**7.23**	**326**	P	**Pn**	**09 58 10.1**	**+0.9**
CMJI	**Cimerak**	**7.42**	**115**	P	**Pn**	**09 58 11.6**	**-0.1**
KPJI	**Karang Pucung**	**7.70**	**110**	P	**Pn**	**09 58 17.0**	**+1.4**
PSI	**Prapat** comp=Z,250nm,18.8s,baz=191,slow=42	**7.94**	**340**	LR	LR	10 01 52.9	
UGM	**Wanagama** baz=9.1,SNR=3.3	**9.38**	**110**	P	**Pn**	**09 58 39.6**	**+0.9**
CMAR	**Chiang Mai Arr** 0.9nm,0.5s,baz=186,slow=8.2,SNR=5.2	**23.17**	**353**	P	P	**10 01 28.0**	**-1.8**
FITZ	**Fitzroy Crossi** baz=27,SNR=4.5	**26.97**	**122**	P	**P**	**10 02 05.0**	**+0.3**
FITZ	**Fitzroy Crossi** 5.3nm,0.8s	**26.97**	**122**	*e*P	**P**	**10 02 04.3**	**-0.4**
KNRA	**Kununurra** baz=28,SNR=6.5	**28.78**	**114**	P	**P**	**10 02 20.0**	**-0.9**
H08S2	**Diego Garcia H** baz=86,slow=76,SNR=158	**29.13**	**263**	T	T	10 32 46.1	
H08S3	**Diego Garcia H** baz=86,slow=76,SNR=14	**29.14**	**263**	T	T	10 32 46.7	
H08S1	**Diego Garcia H** baz=86,slow=76,SNR=137	**29.15**	**263**	T	T	10 32 47.5	
MTN	**Manton Dam** baz=30,SNR=4.1	**30.21**	**107**	P	**P**	**10 02 32.9**	**-0.7**
MTN				S	**S**	**10 07 31.5**	**+0.1**
H01W3	baz=30,SNR=3.3 **Cape Leeuwin H** baz=338,slow=76,SNR=11	**32.18**	**161**	T	T	10 36 52.3	
H01W2	**Cape Leeuwin H** baz=338,slow=76,SNR=14	**32.19**	**161**	T	T	10 36 53.3	
H01W1	**Cape Leeuwin H** baz=338,slow=76,SNR=14	**32.19**	**160**	T	T	10 36 53.4	
ODAN	**Odare** 12nm,0.5s	**34.28**	**337**	*e*P	**P**	**10 03 10.5**	**+1.0**
TAPN	**Taplejung** 17nm,0.8s	**34.60**	**338**	*e*P	**P**	**10 03 12.9**	**+0.6**
RAMN	**Ramite**	**34.67**	**336**	*e*P	**P**	**10 03 13.9**	**+1.0**
WRA	**Warramunga Arr** 1.0nm,0.6s,baz=302,slow=9.0,SNR=23	**35.24**	**118**	P	**P**	**10 03 17.5**	**-0.1**
WRA				LR	LR	10 20 49.0	
WRAB	comp=Z,40nm,18.7s,baz=170,slow=42 **Tennant Creek** 7.3nm,1.2s	**35.24**	**118**	*e*P	**P**	**10 03 17.8**	**+0.1**
WB2	**Warramunga Arr**	**35.25**	**118**	*e*P	**P**	**10 03 17.3**	**-0.4**
JIRN	**Jiri** 14nm,0.7s	**35.47**	**336**	*e*P	**P**	**10 03 20.6**	**+0.7**
GUN	**Gumba** 17nm,0.5s	**35.82**	**336**	*e*P	**P**	**10 03 23.5**	**+0.6**
AS31	**Alice Springs**	**36.35**	**124**	*e*P	**P**	**10 03 27.7**	**+0.5**
ASAR	**Alice Springs** 1.8nm,0.6s,baz=294,slow=7.3,SNR=51	**36.35**

IDC 21 10:00:22.1±2.1,3°.13N×126°.24E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.6/31,mbtmp3.7/3,Error ellipse: s-maj=191.1km s-min=25.2km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**8.49**	**135**	P	Pn	10 02 27.1	+0.5
	baz=30,SNR=4.0						
WRA	**Warramunga Arr**	**24.27**	**161**	P	P	10 05 41.1	-0.1
	1.7nm,0.5s,baz=340,slow=11,SNR=17						
ASAR	**Alice Springs**	**27.66**	**165**	P	P	10 06 12.4	+0.5
	0.3nm,0.3s,baz=346,slow=6.7,SNR=5.2						
MKAR	**Makanchi Array**	**57.77**	**326**	P	P	10 10 14.8	-0.4
	0.4nm,0.5s,baz=138,slow=5.3,SNR=3.7						

GUC 21 10:08:38.2±0.4,35°.59S×72°.68W,h28km±6km,ML4.2, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.55**	**189**	*e*P	Pb	10 08 48.9	-0.5
COCH				*e*S	Sb	10 08 56.7	-0.3
TALC	**Talca**	**0.88**	**78**	*e*P	Pn	10 08 53.9	-0.7
TALC				*e*S	Sb	10 09 05.8	-0.3
LNCH	**Linares**	**0.92**	**107**	*e*P	Pn	10 08 54.8	-0.4
LNCH				*e*S	Sb	10 09 07.2	-0.1
NICH	**Los Niches**	**1.32**	**64**	*e*P	Pn	10 09 01.4	+0.6
NICH				*e*S	Sb	10 09 18.6	-0.4
NICH				IAML		10 09 19.8	
	comp=N,8μm,0.3s						
PEL	**Peldehue**	**2.94**	**35**	*e*P	Pn	10 09 25.1	+1.9
PEL				*e*S4	Sb	10 10 04.5	-1.2
PEL				IAML		10 10 16.4	
	comp=E,540nm,0.5s						

MEX 21 10:14:50.8±0.9,20°.46N×99°.03W,h5km,MD3.7,Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEIG	**Demacu**	**0.16**	**183**	*e*P	Pg	10 14 52.9	-1.3
DEIG				*i* S	Sg	10 14 56.2	-0.4
ZUVM	**ZUMPANGO**	**0.63**	**184**	*e*P	Pg	10 15 01.8	-1.5
ZUVM				*e*S	Sg	10 15 11.7	-0.1
VTVM	**Tizayuca**	**0.72**	**161**	*e*P	Pg	10 15 03.9	-1.2
VTVM				*e*S	Sg	10 15 14.7	-0.1
PTVM	**Pico Tres Padr**	**0.86**	**185**	*e*P	Pg	10 15 06.1	-1.7
PTVM				*i* S	Sg	10 15 18.3	-1.0
IIO	**Organos**	**0.91**	**162**	*e*P	Pg	10 15 06.8	-1.9
IIO				*i* S	Sg	10 15 18.1	-2.8
ATVM	**ATLACOMULCO**	**1.03**	**228**	*e*P	Pg	10 15 08.5	-2.6
MZVM		**1.28**	**189**	*i* P	Pn	10 15 12.4	-2.9
MZVM				*i* S	Sg	10 15 27.9	-3.9
YAIG	**Yautepec**	**1.59**	**181**	*e*P	Pn	10 15 17.9	-1.9
YAIG				*e*S	Sn	10 15 36.8	-4.1
PLIG	**Platanillo**	**2.10**	**192**	*i* P	Pn	10 15 23.3	-3.5
PLIG				*i* S	Sn	10 15 49.5	-3.9
IGIG	**Irapuato, Guan**	**2.18**	**278**	*e*P	Pn	10 15 25.3	-2.7
IGIG				*e*S	Sn	10 15 52.0	-3.6
ARIG	**Puente Sto Nin**	**2.50**	**210**	*e*P	Pn	10 15 29.8	-2.4

*IDC **21** 10:23:00.1±1.0,1°.98N×98°.93E,h0km,mb3.8/6,mb1 3.9/7, mb1mx3.7/26,mbtmp3.8/7,ML4.1/1,MS3.3/2,Ms1 3.4/2, ms1mx2.8/30,Error ellipse: s-maj=33.0km s-min=9.9km az=83.0*
*DJA **21** 10:23:04.1±0.3,2°.N±3°.×9°.9E±°,h10km,M4.0/13,mb4.1/1, MLv4.0/13*
*ISCJB **21** 10:23:05.3±0.6,2°.07N±0°.05×99°.04E±0°.05,h50km±8km, mb3.8/7,Error ellipse: s-maj=9.0km s-min=7.8km az=148.9*
*NEIC **21** 10:23:05.1±0.6,2°.11N×98°.93E,h35km,mb4.2/2,Error ellipse: s-maj=12.7km s-min=9.6km az=98.0*
ISC 21 10:23:05.0±1.2,2°.04N±0°.04×98°.94E±0°.04,h31km±11km, n28,σ1°.39/27,mb3.9/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.76**	**359**	Pg	Pb	10 23 14.6	-5.3
	77nm,0.3s,baz=161,slow=8.5,SNR=98						
PSI				Lg	Lg	10 23 23.6	
	40nm,0.3s,baz=135,slow=14,SNR=14						
PSI				LR	LR	10 23 32.4	
	comp=Z,198nm,20.0s,baz=308,slow=46						
MNSI	**Mandailing Nat**	**1.39**	**153**	P	**Pn**	**10 23 28.1**	**-0.1**
TSI	**Tuntungan**	**1.50**	**345**	P	**Pb**	**10 23 30.9**	**-1.4**
GSI	**Gunungsitoli**	**1.55**	**242**	P	**Pb**	**10 23 31.9**	**-1.2**
GSI				S	**Sb**	**10 23 53.1**	**+0.8**
GSI	**Gunungsitoli**	**1.55**	**242**	*e*Pn	**Pn**	**10 23 30.1**	**-0.3**
GSI				*e*Sn	**Sb**	**10 23 53.5**	**+1.1**
KCSI	**Kotacane, Aceh**	**1.88**	**322**	P	**Pb**	**10 23 36.7**	**-2.0**
KCSI				S	**Sb**	**10 24 06.2**	**+4.3**
TPTI		**2.14**	**305**	P	**Pn**	**10 23 39.7**	**+1.2**
TPTI				S	**Sb**	**10 24 08.4**	**-0.8**
SNSI	**Sinabang, Aceh**	**2.64**	**278**	P	**Pn**	**10 23 45.7**	**+0.3**
BKNI	**Bangkinang**	**2.70**	**129**	P	**Pb**	**10 23 52.6**	**0.0**
BKNI	**Bangkinang**	**2.70**	**129**	*e*Pn	**Pb**	**10 23 51.1**	**-1.5**
IPM	**Ipoh**	**3.19**	**41**	*e*Pn	**Pn**	**10 23 53.5**	**+0.4**
IPM				*e*S	Sb	10 24 45.9	+6.3
PDSI	**Padang**	**3.30**	**153**	P	**Pn**	**10 23 56.2**	**+1.7**
KULM	**Kulim**	**3.65**	**28**	*e*Pn	**Pn**	**10 23 59.2**	**-0.2**
LHMI	**Lhok Sumawe**	**3.74**	**328**	P	**Pn**	**10 24 02.4**	**+1.8**
CMAR	**Chiang Mai Arr**	**16.32**	**360**	Pn	**Pn**	**10 26 52.3**	**+0.4**
	0.3nm,0.3s,baz=191,slow=13,SNR=3.8						
CMAR				LR	LR	10 32 50.5	
	comp=Z,60nm,18.9s,baz=182,slow=36						
PALK	**Pallekele**	**18.91**	**287**	LR	LR	10 33 36.6	
	comp=Z,162nm,19.2s,baz=129,slow=34						
H08N1	**Diego Carcia H**	**29.10**	**253**	T	T	10 59 41.1	
	baz=73,slow=75,SNR=3.9						
H08N2	**Diego Garcia H**	**29.11**	**253**	T	T	10 59 42.7	
	baz=73,slow=75,SNR=5.9						
H08N3	**Diego Garcia H**	**29.12**	**253**	T	T	10 59 43.3	
	baz=73,slow=75,SNR=4.2						
WRA	**Warramunga Arr**	**41.02**	**124**	P	**P**	**10 30 45.0**	**-0.7**
	1.5nm,0.6s,baz=303,slow=9.1,SNR=29						
WRAB	**Tennant Creek**	**41.03**	**124**	*e*P	**P**	**10 30 45.6**	**-0.1**
	1.6nm,0.6s						
WB2	**Warramunga Arr**	**41.03**	**124**	*e*P	**P**	**10 30 45.9**	**+0.1**
ASAR	**Alice Springs**	**42.53**	**129**	P	**P**	**10 30 58.0**	**0.0**
	0.3nm,0.7s,baz=306,slow=8.2,SNR=5.2						
MKAR	**Makanchi Array**	**46.88**	**344**	P	**P**	**10 31 31.7**	**-0.7**
	0.2nm,0.5s,baz=155,slow=8.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**53.03**	**350**	P	**P**	**10 32 17.2**	**-1.7**
	0.5nm,0.5s,baz=191,slow=6.6,SNR=2.9						
BOSA	**Boshof**	**76.70**	**240**	P	**P**	**10 34 55.0**	**+1.3**
	1.6nm,0.9s,baz=105,slow=12,SNR=2.8						
BOSA	**Boshof**	**76.70**	**240**	*e*P	**P**	**10 34 54.5**	**+0.8**
	7.5nm,1.4s						
FINES	**FINESS Array B**	**80.07**	**332**	P	**P**	**10 35 11.1**	**-0.3**
	8.5nm,1.3s,baz=109,slow=7.5,SNR=3.8						

*IDC **21** 10:25:42.5±0.7,33°.27S×72°.45W,h0km,mb3.9/9, mb1 4.1/11,mb1mx4.0/19,mbtmp3.9/11,ML4.1/2,Error ellipse: s-maj=20.3km s-min=15.3km az=127.0*
*ISCJB **21** 10:25:43.4±1.3,33°.21S±0°.04×72°.52W±0°.05,h18km±9km, mb4.1/10,Error ellipse: s-maj=7.1km s-min=6.7km az=5.5*
*GUC **21** 10:25:45.1±0.9,33°.29S×72°.45W,h37km±3km,MD3.8, ML4.1*
*NEIC **21** 10:25:45.7±3.7,33°.23S×72°.41W,h20km±23km,mb4.5/4, Error ellipse: s-maj=13.1km s-min=7.7km az=93.0*
ISC 21 10:25:44.1±1.9,33°.26S±0°.04×72°.49W±0°.05,h12km±11km, n34,σ1°.12/43,mb4.1/10,6C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.75**	**72**	*i* P	**Pg**	**10 25 58.9**	**+0.3**
IHA				*i* S1	**Sb**	**10 26 09.5**	**+0.3**
LNV	**Longovilo**	**1.14**	**128**	*i* P	**Pb**	**10 26 04.4**	**-1.3**
LNV				*e*S1	**Sb**	**10 26 19.5**	**-0.9**
PEL	**Peldehue**	**1.52**	**86**	*i* P	**Pn**	**10 26 10.9**	**-0.2**
PEL				*i* S	**Sn**	**10 26 30.2**	**-0.6**
PEL				AML	AML	10 26 38.5	
	comp=N,7μm,0.4s						
ANTU	**Antumapu**	**1.58**	**102**	*e*P	**Pn**	**10 26 11.5**	**-0.5**
ANTU				*e*S	**Sn**	**10 26 31.8**	**-0.7**
ANTU				AML	AML	10 26 39.1	
	comp=E,3μm,0.6s						
CLCH	**Cerro Calan**	**1.64**	**95**	*i* P	**Pn**	**10 26 12.5**	**-0.3**
CLCH				*i* S	**Sn**	**10 26 32.7**	**-1.2**
CLCH				AML	AML	10 26 44.5	
	comp=N,3μm,0.6s						
CLCH				AML	AML	10 26 45.0	
	comp=N,4μm,0.4s						
FSR	**Penalolen**	**1.66**	**98**	*e*P9	**Pn**	**10 26 13.8**	**+0.7**
FSR				*e*S	**Sn**	**10 26 35.2**	**+0.9**
CHCH	**Chadas Angostu**	**1.67**	**114**	*i* P	**Pn**	**10 26 12.4**	**-0.9**
CACH	**El Canelo**	**1.79**	**119**	*i* P	**Pn**	**10 26 15.0**	**0.0**
YECH	**El Yeso**	**2.05**	**102**	*i* P	**Pn**	**10 26 19.1**	**+0.4**
YECH				AML	AML	10 26 59.7	
	comp=N,2μm,0.6s						
CMCH	**Combarbala**	**2.43**	**32**	*i* P	**Pn**	**10 26 22.5**	**-1.2**
CMCH				*i* S	**Sn**	**10 26 51.4**	**-2.1**
COCH	**Cobquecura**	**2.88**	**185**	*e*P	**Pn**	**10 26 29.2**	**-0.6**
COCH				*e*S4	**Sn**	**10 27 01.1**	**-3.2**
CFAA	**Coronel Fontan**	**3.95**	**67**	Pn	**Pn**	**10 26 45.6**	**+1.0**
	comp=N,0.4nm,0.3s,baz=239,slow=13,SNR=34						
CFAA				Lg	Lg	10 27 49.0	
	comp=N,2.2nm,0.3s,baz=119,slow=11,SNR=6.2						
LCO	**Las Campanas**	**4.50**	**20**	*e*Pn	**Pn**	**10 26 50.7**	**-1.7**
LCO				*e*Sn	**Sn**	**10 27 42.0**	**-2.8**
PLCA	**Paso Flores**	**7.62**	**169**	Pn	**Pn**	**10 27 36.2**	**+1.2**
	comp=N,1.0nm,0.3s,baz=336,slow=11,SNR=22						
PLCA	**Paso Flores**	**7.62**	**169**	*e*Pn	**Pn**	**10 27 35.8**	**+0.8**
	comp=N,11nm,0.9s						
TRQA	**Tornquist**	**9.80**	**122**	*e*Pn	**Pn**	**10 28 04.5**	**-0.4**
LPAZ	**La Paz**	**17.35**	**14**	P	**P**	**10 29 48.0**	**-0.1**
	comp=N,0.2nm,0.3s,baz=195,slow=8.4,SNR=13						
LPAZ	**La Paz**	**17.35**	**14**	*e*P	**Pn**	**10 29 46.7**	**-0.1**
	comp=N,6.0nm,0.9s						
SIV	**San Ignacio**	**20.05**	**34**	P	**P**	**10 30 17.0**	**-0.3**
	comp=N,1.9nm,0.8s,baz=234,slow=9.4,SNR=5.7						
SAML	**Samuel**	**25.67**	**22**	*e*P	**P**	**10 31 15.0**	**+1.0**
	comp=N,3.6nm,0.8s						
BDFB	**Brasilia**	**28.24**	**58**	P	**P**	**10 31 37.9**	**+0.6**
	comp=N,1.5nm,0.5s,baz=219,slow=7.2,SNR=4.3						
RPN	**Rapa Nui**	**32.31**	**271**	P	**P**	**10 32 15.1**	**+2.0**
	comp=N,24nm,0.3s,baz=114,slow=2.5,SNR=4.4						
SNAA	**Sanae**	**52.41**	**158**	P	**P**	**10 34 56.9**	**+0.9**
	comp=N,0.7nm,0.6s,baz=303,slow=17,SNR=5.0						
QSPA	**South Pole Qui**	**56.98**	**180**	P	**P**	**10 35 29.8**	**+0.5**
	comp=N,2.1nm,0.8s,baz=167,slow=3.0,SNR=9.4						
QSPA	**South Pole Qui**	**56.98**	**180**	*e*P	**P**	**10 35 30.4**	**+1.1**
	comp=N,22nm,1.8s						
VNDA	**Vanda**	**64.75**	**191**	P	**P**	**10 36 21.4**	**-0.4**
	comp=N,1.1nm,1.0s,baz=166,slow=4.2,SNR=2.0						
TXAR	**Lajitas Array**	**68.91**	**331**	P	**P**	**10 36 50.1**	**+1.2**
	comp=N,0.4nm,0.6s,baz=161,slow=9.5,SNR=6.3						
BOSA	**Boshof**	**80.75**	**118**	P	**P**	**10 37 57.5**	**-0.3**
	comp=N,2.8nm,0.8s,baz=253,slow=8.9,SNR=3.9						
BOSA	**Boshof**	**80.75**	**118**	*e*P	**P**	**10 37 57.9**	**+0.1**
	comp=N,24nm,1.6s						
NVAR	**Mina Array Bea**	**83.06**	**325**	P	**P**	**10 38 09.3**	**-0.3**
	comp=N,0.2nm,0.6s,baz=156,slow=4.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P	**P**	**10 38 15.8**	**-0.5**
	comp=N,0.9nm,0.6s,baz=288,slow=5.6,SNR=10						
WRA	**Warramunga Arr**	**121.22**	**210**	PKP	**PKPdf**	**10 44 37.8**	**+0.2**
	comp=N,0.5nm,1.1s,baz=174,slow=1.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**153.79**	**31**	PKPbc	**PKPbc**	**10 45 41.9**	**-0.7**
	comp=N,0.5nm,0.4s,baz=349,slow=4.4,SNR=3.4						
MKAR	**Makanchi Array**	**156.55**	**47**	PKPab	**PKPab**	**10 46 07.0**	**-0.7**
	comp=N,0.2nm,0.5s,baz=292,slow=3.8,SNR=3.5						

*ISCJB **21** 10:33:02.7±0.6,6°.92N±0°.07×73°.09W±0°.08,h156km, mb3.8/2,Error ellipse: s-maj=13.6km s-min=6.2km az=38.3*
*FUNV **21** 10:33:03.9,6°.87N×73°.14W,h166km,MW3.4*
*IDC **21** 10:33:06.2±2.9,6°.76N×73°.56W,h177km±19km,mb3.5/2, mb1 3.6/3,mb1mx3.1/22,mbtmp4.0/3,Error ellipse: s-maj=121.4km s-min=27.9km az=102.0*
ISC 21 10:33:03.4±1.0,6°.90N±0°.07×73°.08W±0°.09,h156km,n16, σ1°.22/21,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**38**	*e*P	**Pn**	**10 33 32.2**	**+1.2**
CAPV				*e*S	**Sn**	**10 33 53.5**	**+1.4**
ROSC	**El Rosal**	**2.38**	**212**	P	**Pn**	**10 33 44.3**	**+0.5**
	48nm,0.3s,baz=38,slow=2.1,SNR=101						
ROSC				S	**Sn**	**10 34 13.6**	**-1.3**
	34nm,0.3s,baz=98,slow=23,SNR=11						
VIGV	**El Vigia**	**2.57**	**41**	*e*P	**Pn**	**10 33 46.0**	**+0.3**
VIGV				*e*S	**Sn**	**10 34 18.8**	**+0.3**
SOCV	**Socops**	**2.60**	**58**	*e*P	**Pn**	**10 33 46.3**	**+0.3**
SOCV				*e*S	**Sn**	**10 34 17.6**	**-1.4**
ELOV	**Elorza**	**3.57**	**88**	*e*P	**Pn**	**10 33 58.5**	**+0.3**
VIRV	**Villa del Rosa**	**3.64**	**10**	*e*P	**Pn**	**10 33 58.8**	**-0.4**
VIRV				*e*S	**Sn**	**10 34 39.7**	**-2.9**
CURV	**Curarigua**	**4.37**	**45**	*e*P	**Pn**	**10 34 09.1**	**+0.4**
TEPV	**Terepaima**	**4.90**	**51**	*e*P	**Pn**	**10 34 16.4**	**+0.7**
BAUV	**El Baul**	**5.38**	**68**	*e*P	**Pn**	**10 34 21.0**	**-1.1**
MONV	**Montecano**	**5.88**	**31**	*e*P	**Pn**	**10 34 28.6**	**-0.1**
TURV	**Turiamo**	**6.26**	**55**	*e*P	**Pn**	**10 34 33.4**	**-0.3**
CUPV	**Cœpira**	**7.86**	**66**	*e*P	**Pn**	**10 34 54.1**	**-0.9**
SCHQ	**Schefferville**	**48.06**	**5**	P	**P**	**10 41 28.7**	**+1.8**
	3.2nm,0.9s,baz=196,slow=5.6,SNR=4.2						
YKA	**Yellowknife Ar**	**63.21**	**340**	P	**P**	**10 43 15.1**	**+0.4**
	0.5nm,0.5s,baz=132,slow=6.6,SNR=10						
ASAR	**Alice Springs**	**149.19**	**234**	PKPbc	**PKPbc**	**10 52 33.0**	**-1.4**
	0.2nm,0.7s,baz=118,slow=3.1,SNR=3.9						
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc	**PKPbc**	**10 52 36.0**	**-1.4**
	0.2nm,0.7s,baz=107,slow=2.8,SNR=5.2						

*ISCJB **21** 10:49:48.4±0.5,19°.60S±0°.06×69°.1W±0°.1,h114km±8km, mb4.0/3,Error ellipse: s-maj=16.7km s-min=9.0km az=6.6*
*GUC **21** 10:49:49.8±0.4,19°.67S×69°.25W,h114km±3km,ML4.0*
*NEIC **21** 10:49:52.8±1.1,19°.54S×68°.76W,h128km±10km,mb4.3/2, Error ellipse: s-maj=24.1km s-min=11.0km az=111.0*
*IDC **21** 10:49:54.7±4.4,19°.45S×68°.73W,h142km±31km,mb3.8/5, mb1 3.8/7,mb1mx3.5/21,mbtmp4.3/7,Error ellipse: s-maj=49.3km s-min=28.2km az=21.0*
ISC 21 10:49:49.3±0.8,19°.60S±0°.06×69°.1W±0°.1,h107km±9km, n22,σ1°.17/25,mb4.0/3,4C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minimini**	**0.66**	**315**	*e*P	**Pn**	**10 50 08.8**	**+1.5**
MNMC				*e*S	**Sn**	**10 50 22.6**	**+1.7**
PSGC	**Pisagua**	**0.96**	**270**	*e*P	**Pn**	**10 50 10.1**	**+0.1**
PSGC				*e*S	**Sn**	**10 50 25.6**	**0.0**
PSGC				IAML		10 50 26.3	
	comp=N,5μm,0.3s						
HMBC	**Humberstone**	**1.00**	**227**	*e*P	**Pn**	**10 50 10.5**	**0.0**
HMBC				*e*S	**Sn**	**10 50 26.2**	**-0.2**
HMBC				IAML		10 50 27.4	
	comp=E,4μm,0.2s						
PB01	**IPOC Station P**	**1.48**	**194**	*e*P	**Pn**	**10 50 16.3**	**+0.5**
PB01				*e*S	**Sn**	**10 50 36.0**	**0.0**
PATCX	**Punta Patache**	**1.57**	**219**	*e*P	**Pn**	**10 50 16.7**	**-0.1**
PATCX				*e*S	**Sn**	**10 50 36.9**	**-0.8**
PB07	**IPOC Station P**	**2.24**	**199**	*e*P	**Pn**	**10 50 25.6**	**+0.2**
PB07				*e*S4	**Sn**	**10 50 51.2**	**-1.9**
PB07				IAML		10 50 59.4	
	comp=E,1μm,0.2s						
PB04	**IPOC Station P**	**2.68**	**188**	*e*P	Pn	10 50 34.3	+3.4
PB04				IAML		10 51 17.6	
	comp=E,581nm,0.7s						
LVC	**Limon Verde**	**3.01**	**177**	*e*Pn	**Pn**	**10 50 38.2**	**+2.7**
LPAZ	**La Paz**	**3.42**	**16**	P	Pn	10 50 45.5	+4.2
	comp=E,5.7nm,0.3s,baz=186,slow=7.6,SNR=194						
SIV	**San Ignacio**	**8.45**	**66**	P	**Pn**	**10 51 48.0**	**-1.0**
	comp=E,3.1nm,0.3s,baz=181,slow=3.0,SNR=43						
LCO	**Las Campanas**	**9.48**	**189**	*e*Pn	Pn	10 52 10.3	+7.2
SAML	**Samuel**	**12.04**	**29**	*e*Pn	**Pn**	**10 52 35.9**	**-1.5**
BDFB	**Brasilia**	**20.48**	**82**	P	**P**	**10 54 18.3**	**-0.5**
	comp=E,4.0nm,0.5s,baz=263,slow=8.8,SNR=9.7						
PTGA	**Pitinga**	**20.78**	**27**	P	**P**	**10 54 21.1**	**-0.8**
	comp=E,5.1nm,0.3s,baz=218,slow=22,SNR=14						
PTGA	**Pitinga**	**20.78**	**27**	*e*P	**P**	**10 54 20.9**	**-1.0**
	comp=E,6.2nm,0.7s						
DBIC	**Dimbokro**	**68.38**	**74**	P	**P**	**11 00 39.9**	**0.0**
	comp=E,3.4nm,0.5s,baz=233,slow=6.1,SNR=8.2						
DBIC	**Dimbokro**	**68.38**	**74**	*e*P	**P**	**11 00 39.9**	**0.0**
	comp=E,4.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.90**	**71**	P	**P**	**11 01 29.4**	**-0.9**
	comp=E,0.9nm,0.3s,baz=253,slow=5.7,SNR=31						
YKA	**Yellowknife Ar**	**89.34**	**341**	P	**P**	**11 02 34.6**	**+1.5**
	comp=E,0.3nm,0.5s,baz=133,slow=4.6,SNR=6.4						
ASAR	**Alice Springs**	**131.50**	**209**	PKP	**PKPdf**	**11 08 51.2**	**+1.1**
	comp=E,0.2nm,0.8s,baz=143,slow=1.6,SNR=4.9						
WRA	**Warramunga Arr**	**134.48**	**212**	PKP	**PKPdf**	**11 08 56.6**	**+0.9**
	comp=E,0.2nm,0.5s,baz=139,slow=1.6,SNR=6.4						
WRAB	**Tennant Creek**	**134.49**	**212**	*e*P	**PKPdf**	**11 08 57.0**	**+1.2**

*ISCJB **21** 11:08:48.0±0.8,9°.9S±0°.1×33°.6E±0°.1,h10km,mb3.8/2, MS3.0/2,Error ellipse: s-maj=24.9km s-min=7.9km az=42.1*
*IDC **21** 11:08:49.0±1.2,9°.97S×33°.78E,h0km,mb3.8/3,mb1 4.2/7, mb1mx3.8/29,mbtmp4.2/7,ML2.5/1,MS3.1/2,Ms1 3.1/2, ms1mx2.7/39,Error ellipse: s-maj=54.0km s-min=16.6km az=130.0*
ISC 21 11:08:49.2±0.9,9°.9S±0°.1×33°.6E±0°.2,h10km,n11, σ3°.30/10,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.52**	**224**	Pn	Pn	11 10 42.0	+2.9
	8.6nm,0.3s,baz=48,slow=13,SNR=64						
LSZ				Sn	**Sn**	**11 12 07.8**	**+3.2**
	21nm,0.3s,baz=347,slow=16,SNR=11						
LSZ				Lg	Lg	11 12 50.5	
	14nm,0.3s,baz=8.2,slow=8.5,SNR=12						
KMBO	**Kilima Mbogo**	**9.41**	**23**	Pn	**Pn**	**11 11 05.6**	**+0.4**
	2.6nm,0.3s,baz=197,slow=15,SNR=16						
KMBO				Sn	**Sn**	**11 12 47.9**	**-3.4**
	2.2nm,0.3s,baz=113,slow=22,SNR=13						
KMBO				Lg	Lg	11 13 40.2	
	1.4nm,0.3s,baz=58,slow=20,SNR=6.2						
MATP	**Matopo**	**11.59**	**204**	*i* P	**Pn**	**11 11 35.3**	**+0.4**
MATP				*i*		11 11 35.5	
	baz=13,slow=28						
MATP				*i* S	Sn	11 13 35.8	-8.8
LBTB	**Lobatse**	**16.88**	**206**	Pn	**Pn**	**11 12 45.3**	**-0.4**
	1.6nm,0.3s,baz=40,slow=12,SNR=17						
LBTB				Sn	**Sn**	**11 15 47.8**	**-5.7**
	0.7nm,0.3s,baz=192,slow=9.3,SNR=3.7						
TSUM	**Tsumeb**	**18.03**	**237**	Pn	**P**	**11 13 03.0**	**+2.4**
	0.9nm,0.3s,baz=39,slow=12,SNR=12						
TSUM				Sn	**Sn**	**11 16 17.9**	**-3.6**
	0.5nm,0.3s,baz=171,slow=19,SNR=4.5						
TSUM				Lg	Lg	11 18 24.0	
	0.2nm,0.3s,baz=26,slow=15,SNR=3.5						
BOSA	**Boshof**	**20.23**	**202**	P	Pn	11 13 25.9	-0.7
	1.7nm,0.5s,baz=32,slow=10,SNR=8.0						
BOSA				Lg	Lg	11 19 17.9	
	6.3nm,0.8s,baz=279,slow=19,SNR=3.4						
BOSA	**Boshof**	**20.23**	**202**	*i* P	Pn	11 13 25.4	-1.3
BOSA				*i*		11 13 25.4	
	baz=34,slow=28						
BOSA				*i* S	S	11 16 59.0	-13
MSKU	**Masuku**	**21.43**	**291**	Lg	Lg	11 20 15.5	
	12nm,0.6s,baz=186,slow=21,SNR=4.2						
MSKU				LR	LR	11 22 03.2	
	comp=Z,36nm,21.2s,baz=154,slow=37						
IDI	**Anoyia**	**45.63**	**350**	LR	LR	11 36 04.7	
	comp=Z,32nm,19.2s,baz=88,slow=36						
MKAR	**Makanchi Array**	**71.15**	**33**	P	**P**	**11 20 09.7**	**+1.6**
	0.9nm,0.8s,baz=225,slow=5.4,SNR=9.2						
ASAR	**Alice Springs**	**95.42**	**115**	P	**P**	**11 22 14.9**	**+0.1**
	0.3nm,0.6s,baz=267,slow=4.3,SNR=9.5						

*CSEM **21** 11:14:29.7,38°.38N×21°.82E,h5km,MD2.6*
ATH 21 11:14:29.7,38°.38N×21°.82E,h5km±3km,MD2.6/9,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.08**	**55**	*e*PG	Pg	11 14 31.5	0.0
EFP				*e*SG	Sg	11 14 33.2	+0.4
EFP	**Efpalio**	**0.08**	**55**	*e*Pg	Pg	11 14 31.5	0.0
EFP				*e*Sg	Sg	11 14 33.2	+0.4
KALE	**Kalithea**	**0.25**	**87**	*e*PG	Pg	11 14 34.8	+0.1
KALE	**Kalithea**	**0.25**	**87**	*e*Pg	Pg	11 14 34.8	+0.1
KLV	**Kalavryta, Ach**	**0.42**	**142**	*e*PB	Pg	11 14 38.1	+0.1
KLV				*e*SB	Sg	11 14 43.7	+0.1
KLV	**Kalavryta, Ach**	**0.42**	**142**	*e*Pb	Pg	11 14 38.1	+0.1
KLV				*e*Sb	Sg	11 14 43.7	+0.1
RLS	**Riolos of Patr**	**0.42**	**221**	*e*PG	Pg	11 14 37.7	-0.2
RLS	**Riolos of Patr**	**0.42**	**221**	*e*Pg	Pg	11 14 37.7	-0.2
DRO	**Drossia**	**0.44**	**191**	*e*PB	Pg	11 14 38.3	+0.1
DRO	**Drossia**	**0.44**	**191**	*e*Pb	Pg	11 14 38.3	+0.1
EVR	**Evrytania**	**0.54**

KORT	Korkueli	0.12	3	*i* P	Pg	11 30 12.6	-0.4
KORT				*i* S	Sg	11 30 15.4	+0.4
ANTB	Antalya	0.25	86	*e*PG	Pg	11 30 15.6	+0.4
ANTB				*e*SG	Sb	11 30 20.3	-1.1
ANTB	Antalya	0.25	86	*e*Pg	Pg	11 30 15.6	+0.4
ANTB				*e*Sg	Sb	11 30 20.3	-1.1
ELL	Elmali	0.37	249	*e*PG	Pg	11 30 16.8	-0.8
ELL	Elmali	0.37	249	*e*Pg	Pg	11 30 16.8	-0.8
BCK	Bucak	0.61	19	*e*PG	Pg	11 30 21.8	-0.2
BCK				*e*SG	Sb	11 30 31.8	-0.1
BCK	Bucak	0.61	19	*e*Pg	Pg	11 30 21.8	-0.2
BCK				*e*Sg	Sb	11 30 31.8	-0.1
AKAS	Kas	0.88	223	*i* P	Pg	11 30 25.8	-1.4
AKAS	Kas	0.88	223	*i* P	Pg	11 30 25.8	-1.4
AKAS				*i* S	Sn	11 30 42.4	+0.5
ISP	Isparta	0.95	9	P	Pg	11 30 28.4	0.0
ISP	Isparta	0.95	9	*e*PG	Pg	11 30 28.5	0.0
ISP	Isparta	0.95	9	*e*Pg	Pg	11 30 28.5	0.0
FETY	Fethiye	1.04	257	*e*PG	Pg	11 30 30.1	-0.1
FETY	Fethiye	1.04	257	*e*Pg	Pg	11 30 30.1	-0.1
DALY	Dalyan (Mu¨la	1.36	268	*e*PN	Pg	11 30 36.4	+0.1
DALY	Dalyan (Mu¨la	1.36	268	*e*Pn	Pg	11 30 36.4	+0.1
DENT	Denizli	1.36	310	*e*PN	Pg	11 30 36.4	+0.1
DENT	Denizli	1.36	310	*e*Pn	Pg	11 30 36.4	+0.1
KHL	Karahalli	1.58	336	*e*PN	Pn	11 30 39.1	+0.6
KHL	Karahalli	1.58	336	*e*Pn	Pn	11 30 39.1	+0.6
YER	Yerkesik	1.67	279	*e*PN	Pg	11 30 41.9	-0.3
YER	Yerkesik	1.67	279	*e*Pn	Pg	11 30 41.9	-0.3
SHUT	Suhut-Afyon	1.67	6	*e*PN	Pb	11 30 41.3	0.0
SHUT	Suhut-Afyon	1.67	6	*e*Pn	Pb	11 30 41.3	0.0
GAZI	Gazipasa	1.72	112	*i* P	Pg	11 30 43.3	+0.2
GAZI	Gazipasa	1.72	112	*i* P	Pg	11 30 43.3	+0.2
GAZI				*i* S	Sg	11 31 10.4	+5.0
ARG	Arkhangelos	1.91	250	P	Pn	11 30 44.0	+1.1
ARG				S	Sb	11 31 10.0	+0.9
ARG	Arkhangelos	1.91	250	*e*P	Pg	11 30 47.0	+0.2
ARG	Arkhangelos	1.91	250	P	Pn	11 30 44.0	+1.1
ARG				S	Sb	11 31 10.0	+0.9
KONT	Konya--Tatoy	1.92	56	*e*PN	Pn	11 30 43.5	+0.3
KONT	Konya--Tatoy	1.92	56	*e*Pn	Pn	11 30 43.6	+0.3
LADK	Ladik-KONYA	2.08	50	*e*PN	Pb	11 30 47.0	-1.1
LADK	Ladik-KONYA	2.08	50	*e*Pn	Pb	11 30 47.0	-1.1
ERMK	Ermenek	2.08	96	*i* P	Pg	11 30 50.3	+0.2
ERMK				*i* S	Sg	11 31 17.2	+0.1
KULA	Kula-Manisa	2.10	321	P	Pn	11 30 46.2	+0.4
KULA				S	Sb	11 31 13.8	-1.1
KULA	Kula-Manisa	2.10	321	*e*PN	Pn	11 30 46.4	+0.7
KULA	Kula-Manisa	2.10	321	*e*Pn	Pn	11 30 46.4	+0.7
KULA				S	Sb	11 31 13.8	-1.1
MANT	Manisa	2.14	319	*i* P	Pn	11 30 47.2	+0.8
MANT	Manisa	2.14	319	*i* P	Pn	11 30 47.2	+0.8
KDHN	Kadinhani	2.16	40	*i* P	Pn	11 30 47.2	+0.7
KDHN	Kadinhani	2.16	40	*i* P	Pn	11 30 47.2	+0.7
KDHN				*i* S	Sb	11 31 17.9	+1.5
ALT	Altintas	2.17	355	P	Pn	11 30 47.9	+1.2
ALT	Altintas	2.17	355	*e*PN	Pn	11 30 47.9	+1.2
ALT	Altintas	2.17	355	P	Pn	11 30 47.9	+1.2
AYDB	Zeytinkoy-Aydi	2.22	299	*e*PN	Pn	11 30 48.4	+1.0
AYDB	Zeytinkoy-Aydi	2.22	299	*e*Pn	Pn	11 30 48.4	+1.0
KIZT	Kizilcal	2.33	31	*e*PN	Pn	11 30 50.3	+1.3
KIZT	Kizilcal	2.33	31	*e*Pn	Pn	11 30 50.3	+1.3
BODT	Bodrum	2.44	275	*e*PN	Pn	11 30 52.1	+1.9
BODT	Bodrum	2.44	275	*e*Pn	Pn	11 30 52.1	+1.9
AKMC	Akamas baz=126	2.46	138	P	Pn	11 30 50.5	0.0
AKMC	Akamas	2.46	138	P	Pn	11 30 50.5	0.0
ALFC	Alevga baz=130	2.51	133	P	Pn	11 30 51.5	+0.2
ALFC	Alevga	2.51	133	P	Pn	11 30 51.5	+0.2
NIS1	Nisyros Isl.	2.56	265	P	Pn	11 30 53.2	+1.3
NIS1				S	Sb	11 31 26.3	-1.6
NIS1	Nisyros Isl.	2.56	265	*e*P	Pb	11 30 56.5	+0.2
NIS1	Nisyros Isl.	2.56	265	P	Pn	11 30 53.2	+1.3
NIS1				S	Sb	11 31 26.3	-1.6
PPCY	Paphos baz=124	2.57	140	P	Pn	11 30 52.0	-0.1
PPCY	Paphos	2.57	140	P	Pn	11 30 52.0	-0.1
TVSB	Tavsanli	2.65	345	*e*PN	Pn	11 30 54.1	+0.8
TVSB	Tavsanli	2.65	345	*e*Pn	Pn	11 30 54.1	+0.8
LEF	Lefka	2.71	130	*e*PN	Pn	11 30 53.4	-0.7
LEF	Lefka	2.71	130	*e*Pn	Pn	11 30 53.4	-0.7
SVRH	Sivrihisar-ESK	2.72	20	*e*PN	Pn	11 30 56.0	+1.7
SVRH	Sivrihisar-ESK	2.72	20	*e*Pn	Pn	11 30 56.0	+1.7
AKHS	Akhisar	2.82	316	*i* P	Pn	11 30 56.5	+1.0
AKHS	Akhisar	2.82	316	*i* P	Pn	11 30 56.5	+1.0
AKS	Akhisar	2.82	316	*e*PN	Pn	11 30 56.5	+0.9
AKS	Akhisar	2.82	316	*e*Pn	Pn	11 30 56.5	+0.9
IZM	Izmir	2.87	303	*e*PN	Pn	11 30 57.9	+1.6
IZM	Izmir	2.87	303	*e*Pn	Pn	11 30 57.9	+1.6
MAMC	Mammari baz=137	2.89	125	P	Pn	11 30 58.3	+1.8
MAMC	Mammari	2.89	125	P	Pn	11 30 58.3	+1.8
KARP	Karpathos	2.90	244	P	Pn	11 30 57.8	+1.2
KARP	Karpathos	2.90	244	*e*P	Pn	11 30 58.5	+1.9
KARP	Karpathos	2.90	244	P	Pn	11 30 57.8	+1.2
SMG	Samos	2.91	287	P	Pn	11 30 57.8	+1.0
SMG	Samos	2.91	287	*e*P	Pn	11 30 58.5	+1.7
SMG	Samos	2.91	287	P	Pn	11 30 57.8	+1.0
SZAC	Souni-Zanaja baz=127	2.96	135	⇑P	Pn	11 31 00.1	+2.6
SZAC	Souni-Zanaja	2.96	135	⇑P	Pn	11 31 00.1	+2.6
BLCB	Balcova	3.02	301	*e*PN	Pn	11 31 00.1	+1.9
BLCB	Balcova	3.02	301	*e*Pn	Pn	11 31 00.1	+1.9
KIZK	Mersin	3.08	96	*i* P	Pb	11 31 02.7	-2.6
KIZK	Mersin	3.08	96	*i* P	Pb	11 31 02.7	-2.6
KIZK				*i* S	Sb	11 31 40.7	-2.3
CSS	Prodhromos baz=135	3.09	127	P	Pn	11 30 59.2	-0.1
CSS	Prodhromos	3.09	127	P	Pn	11 30 56.6	-2.7
CSS	Prodhromos	3.09	127	*e*PN	Pn	11 31 00.2	+0.9
CSS	Prodhromos	3.09	127	P	Pn	11 30 59.2	-0.1
CSS	Prodhromos	3.09	127	*e*Pn	Pn	11 31 00.2	+0.9
CAVI	Cavuskoy	3.34	353	*e*PN	Pn	11 31 04.0	+1.3
CAVI	Cavuskoy	3.34	353	*e*Pn	Pn	11 31 04.0	+1.3
AFSR	Af¨ar-Bala (A	3.34	39	*e*PN	Pn	11 31 03.9	+1.1
AFSR	Af¨ar-Bala (A	3.34	39	*e*Pn	Pn	11 31 03.9	+1.1
MERS	Mersin	3.35	89	*e*PN	Pn	11 31 03.5	+0.6
MERS	Mersin	3.35	89	*e*Pn	Pn	11 31 03.5	+0.6
BALB	Balikesir	3.37	326	*e*PN	Pn	11 31 04.9	+1.9
BALB	Balikesir	3.37	326	*e*Pn	Pn	11 31 04.9	+1.9
EREN	Erenkoy	3.38	112	*e*PN	Pn	11 31 03.9	+0.7
EREN	Erenkoy	3.38	112	*e*Pn	Pn	11 31 03.9	+0.7
ANTO	Ankara	3.55	32	*e*PN	Pn	11 31 07.0	+1.5
ANTO	Ankara	3.55	32	⇑*i*P	Pn	11 31 07.3	+1.7
ANTO	Ankara	3.55	32	*e*Pn	Pn	11 31 07.1	+1.5
MDUB	Mudurnu	3.64	10	*e*PN	Pn	11 31 08.8	+1.9
MDUB	Mudurnu	3.64	10	*e*Pn	Pn	11 31 08.8	+1.9
CHOS	Chios island	3.72	295	*e*P	Pn	11 31 11.0	+3.1
ZKR	Zakros	3.78	243	P	Pn	11 31 10.2	+1.4
ZKR				S	Sn	11 31 56.0	+2.6
ZKR	Zakros	3.78	243	*e*P	Pn	11 31 11.0	+2.2
ZKR	Zakros	3.78	243	P	Pn	11 31 10.2	+1.4
ZKR				S	Sn	11 31 56.0	+2.6
BRTR	Keskin Array B 3.8nm,0.3s,baz=211,slow=15,SNR=108	3.84	41	Pn	Pn	11 31 10.7	+1.0
BRTR				Sn	Sn	11 31 57.8	+2.7
	3.7nm,0.3s,baz=217,slow=26,SNR=11						
APE	Apeiranthos	3.86	274	*e*P	Pn	11 31 13.0	+3.2
APE	Apeiranthos	3.86	274	⇑*i*P	Pn	11 31 13.1	+3.2
APE	Apeiranthos	3.86	274	⇑*i*P	Pn	11 31 13.1	+3.2
SANT	Santorini	3.96	264	*e*P	Pn	11 31 14.0	+2.8
PRK	Paraskevi	3.98	308	*e*P	Pn	11 31 14.0	+2.5
NPS	Neapolis	4.16	249	*e*P	Pn	11 31 14.5	+0.6
SIGR	SIGRI	4.24	305	*e*P	Pn	11 31 18.0	+3.0
LAST	Lasithi	4.30	248	P	Pn	11 31 17.0	+1.0
LAST	Lasithi	4.30	248	*e*P	Pn	11 31 18.0	+2.0
LAST	Lasithi	4.30	248	P	Pn	11 31 17.0	+1.0
IDI	Anoyia 2.9nm,0.3s,baz=66,slow=17,SNR=15	4.69	252	Pn	Pn	11 31 21.8	+0.4
IDI				Sn	Sn	11 32 20.0	+4.0
	2.6nm,0.3s,baz=165,slow=21,SNR=4.7						
SIVA	Sivas	4.86	249	*e*P	Pn	11 31 24.0	+0.5
VAM	Vamos	5.18	255	*e*P	Pn	11 31 30.5	+2.5
SMTH	Samothraki Isl	5.20	315	*e*P	Pn	11 31 30.0	+1.8
ALN	Alexandroupoli	5.22	321	*e*P	Pn	11 31 30.0	+1.5
PTL	Penteli	5.28	285	*e*P	Pn	11 31 33.0	+3.6
KARN	Karanos	5.41	256	P	Pn	11 31 32.5	+1.4
KARN	Karanos	5.41	256	*e*P	Pn	11 31 34.0	+2.9
KARN	Karanos	5.41	256	P	Pn	11 31 32.5	+1.4
AOS	Alonnisos	5.59	296	*e*P	Pn	11 31 35.0	+1.4
MRKA	Markates	5.65	291	*e*P	Pn	11 31 39.0	+4.6
RDO	Rodhopi	5.67	320	*e*P	Pn	11 31 35.0	+0.4
MMAI	Mount Meron Ar 4.5nm,0.3s,baz=318,slow=11,SNR=7.0	5.67	131	Pn	Pn	11 31 34.0	-0.7
MMAI				Sn	Sn	11 32 42.8	+2.7
	3.0nm,0.3s,baz=309,slow=26,SNR=3.4						
SKIA	Skiathos	5.89	295	*e*P	Pn	11 31 40.5	+2.8
KYTH	Kithira	5.91	266	*e*P	Pn	11 31 40.0	+2.0
VLI	Veliai	5.95	271	*e*P	Pn	11 31 45.5	+7.0
LTK	Loutraki	5.98	281	*e*P	Pb	11 31 52.0	-2.6
OUR	Ouranopolis	6.05	307	*e*P	Pn	11 31 42.0	+2.1
KDZ	Kurdzhali	6.10	323	⇑*i*P	Pn	11 31 42.5	+1.9
KDZ	Kurdzhali	6.10	323	⇑*i*P	Pn	11 31 42.5	+1.9
KAVA	Kavala	6.12	314	*e*P	Pn	11 31 43.0	+2.1
JMB	Yambol	6.28	334	⇑*i*P	Pn	11 31 42.7	-0.4
JMB	Yambol	6.28	334	⇑*i*P	Pn	11 31 42.7	-0.4
PLG	Polygyros	6.42	305	*e*P	Pb	11 32 03.5	+1.3
GUR	Goura	6.45	282	*e*P	Pn	11 31 50.5	+4.9
KLV	Kalavryta, Ach	6.62	283	*e*P	Pn	11 31 50.5	+2.7
KALE	Kalithea	6.68	285	*e*P	Pn	11 31 50.0	+1.4
ITM	Ithomi	6.74	275	*e*P	Pn	11 31 55.0	+5.6
SRS	Serrai	6.74	311	*e*P	Pn	11 31 49.5	+0.1
HORT	Hortiatis	6.77	305	*e*P	Pn	11 31 52.5	+2.7
MAKR	Makrakomi, Fth	6.83	291	*e*P	Pn	11 31 56.5	+5.9
AMT	Artemida-Makis	6.92	278	*e*P	Pn	11 31 58.0	+6.1
LIT	Litokhoron	6.95	300	*e*P	Pn	11 31 55.0	+2.8
DRO	Drossia	6.95	281	*e*P	Pn	11 32 00.5	+8.2
PSN	Preselentsi	6.99	347	⇑*i*P	Pn	11 31 53.5	+0.8
PSN	Preselentsi	6.99	347	⇑*i*P	Pn	11 31 53.5	+0.8
EVR	Evrytania	7.05	289	*e*P	Pn	11 31 59.5	+5.8
THL	Klokotos Trika	7.08	295	*e*P	Pn	11 31 59.0	+5.0
RLS	Riolos of Patr	7.16	282	*e*P	Pn	11 32 04.0	+8.9
ASF	Jabal al Asfar 0.2nm,0.3s,baz=304,slow=18,SNR=2.3	7.17	129	Pn	Pn	11 31 54.6	-0.7
KNT	Kendrikon	7.20	309	*e*P	Pn	11 31 58.0	+2.3
GRG	Griva	7.41	306	*e*P	Pn	11 32 02.0	+3.5
PDO	Prodromos	7.46	286	*e*P	Pn	11 32 07.5	+8.3
DSL	Palaion Diasel	7.64	290	*e*P	Pn	11 32 08.0	+6.3
TIRR	Tirgusor	7.71	350	⇑*i*P	Pn	11 32 04.0	+1.4
TIRR	Tirgusor	7.71	350	⇑*i*P	Pn	11 32 04.0	+1.4
LKD2	Lefkada island	7.90	287	*e*P	Pn	11 32 14.0	+8.7
EIL	Elat 1.8nm,0.3s,baz=122,slow=22,SNR=5.5	8.16	150	Pn	Pn	11 32 08.4	-0.5
IGT	Igoumenitsa	8.31	292	*e*P	Pn	11 32 19.5	+8.6
CFR	Carcaliu	8.45	349	⇑*i*P	Pn	11 32 13.9	+1.1
CFR	Carcaliu	8.45	349	⇑*i*P	Pn	11 32 13.9	+1.1
MLR	Muntele Rosu	9.21	340	⇑*i*P	Pn	11 32 25.3	+1.9
MLR	Muntele Rosu 0.1nm,0.3s,baz=175,slow=8.9,SNR=4.7	9.21	340	Pn	Pn	11 32 25.1	+1.7
MLR	Muntele Rosu	9.21	340	⇑*i*P	Pn	11 32 25.3	+1.9
VRI	Vrincioaia	9.38	344	⇑*i*P	Pn	11 32 27.7	+2.2
VRI	Vrincioaia	9.38	344	⇑*i*P	Pn	11 32 27.7	+2.2
VOIR		9.43	337	⇑*i*P	Pn	11 32 27.8	+1.5
VOIR		9.43	337	⇑*i*P	Pn	11 32 27.8	+1.5
ARR	Arges	9.50	335	⇑*i*P	Pn	11 32 29.5	+2.2
ARR	Arges	9.50	335	⇑*i*P	Pn	11 32 29.5	+2.2
TESR	Tescani	10.01	345	⇑*i*P	Pn	11 32 35.8	+1.6
TESR	Tescani	10.01	345	⇑*i*P	Pn	11 32 35.8	+1.6
GERES	GERESS Array B 0.1nm,0.3s,baz=128,slow=8.8,SNR=3.0	17.03	320	P	P	11 34 10.1	-0.4
PGF	Pioggiola 51nm,1.2s	17.35	296	*e*P	Pn	11 34 09.5	-3.2
FRF	La Foret Royal	19.25	298	*e*P	Pn	11 34 36.7	+0.9
FRF	La Foret Royal	19.25	298	*e*P	Pn	11 34 36.7	+0.9
MBDF	Montbardon 10nm,1.0s	19.44	301	*e*P	Pn	11 34 38.7	+0.4
MBDF	Montbardon 5.2nm,1.0s	19.44	301	*e*P	Pn	11 34 38.7	+0.4
LPG	La Plagne 8.3nm,0.8s	19.68	303	*e*P	Pn	11 34 42.7	+1.5
LPG	La Plagne 4.2nm,0.8s	19.68	303	*e*P	Pn	11 34 42.7	+1.5
LPL	La Plagne 4.4nm,0.7s	19.69	303	*e*P	Pn	11 34 42.6	+1.2
LPL	La Plagne 2.2nm,0.7s	19.69	303	*e*P	Pn	11 34 42.6	+1.2
CDF	Champ du Feu 26nm,1.1s	20.42	312	*e*P	P	11 34 48.7	+1.0
CDF	Champ du Feu 13nm,1.1s	20.42	312	*e*P	P	11 34 48.7	+1.0
HINF	Hinterlalfeld	20.43	310	*e*P	P	11 34 47.1	-0.7
HINF	Hinterlalfeld	20.43	310	*e*P	P	11 34 47.1	-0.7
HAU	Haudompre 49nm,1.2s	20.82	310	*e*P	P	11 34 52.5	+0.6
HAU	Haudompre 24nm,1.2s	20.82	310	*e*P	P	11 34 52.5	+0.6
VIVF	Saint-Julien-l 7.2nm,0.9s	20.92	300	*e*P	Pn	11 34 56.5	+0.9
VIVF	Saint-Julien-l 3.6nm,0.9s	20.92	300	*e*P	Pn	11 34 56.5	+0.9
SFTF	Sexfontaines	21.70	309	*e*P	P	11 35 02.5	+1.0
SFTF	Sexfontaines	21.70	309	*e*P	P	11 35 02.5	+1.0
SMF	Signal de Mont 20nm,1.1s	21.95	305	*e*P	P	11 35 03.7	-0.4
SMF	Signal de Mont 10nm,1.1s	21.95	305	*e*P	P	11 35 03.7	-0.4
GEYT	Alibeck 1.1nm,0.5s,baz=343,slow=4.6,SNR=4.3	22.06	79	P	P	11 35 05.8	+0.4
LOR	Lormes	22.13	306	*e*P	P	11 35 06.3	+0.3
LOR	Lormes	22.13	306	*e*P	P	11 35 06.3	+0.3
AVF	Avril sur Loir 8.0nm,1.0s	22.32	305	*e*P	P	11 35 07.9	-0.1
AVF	Avril sur Loir 4.0nm,1.0s	22.32	305	*e*P	P	11 35 07.9	-0.1
BAIF	Baives 25nm,1.4s	22.95	313	*e*P	P	11 35 13.7	-1.0
BAIF	Baives 13nm,1.4s	22.95	313	*e*P	P	11 35 13.7	-1.0
RJF	Les Rejaudoux 16nm,1.2s	23.20	300	*e*P	P	11 35 16.2	-1.2
RJF	Les Rejaudoux 7.9nm,1.2s	23.20	300	*e*P	P	11 35 16.2	-1.2
AKTO	Aktyubinsk 1.1nm,0.7s,baz=232,slow=5.8,SNR=4.1	24.00	47	P	P	11 35 24.9	-0.3
MFF	Saint Martin d 10nm,1.0s	24.60	303	*e*P	P	11 35 30.4	-0.3
MFF	Saint Martin d 5.2nm,1.0s	24.60	303	*e*P	P	11 35 30.4	-0.3
FINES	FINESS Array B 2.5nm,1.1s,baz=152,slow=13,SNR=5.0	24.73	355	P	P	11 35 31.6	0.0
ROSF	Rostrenen 85nm,1.5s	27.05	306	*e*P	P	11 35 53.8	+1.0
ROSF	Rostrenen 43nm,1.5s	27.05	306	*e*P	P	11 35 53.8	+1.0
ARCES	ARCESS Array B 4.1nm,0.9s,baz=169,slow=6.8,SNR=5.7	32.81	357	P	P	11 36 44.0	+0.3
TORD	Torodi Ar. Bea 0.5nm,0.6s,baz=36,slow=8.5,SNR=6.8	34.87	235	P	P	11 37 01.7	-0.3
TORD				LR	LR	11 53 02.7	
	comp=Z,52nm,18.6s,baz=125,slow=39						
MKAR	Makanchi Array 2.1nm,0.7s,baz=279,slow=6.7,SNR=27	39.31	59	P	P	11 37 39.6	+0.1
ZALV	Zalesovo Beam 0.5nm,0.5s,baz=294,slow=10,SNR=3.4	40.76	47	P	P	11 37 50.6	-0.8
SONM	Songino Array 0.4nm,0.4s,baz=283,slow=7.2,SNR=2.7	55.12	53	P	P	11 39 40.5	-2.4
CMAR	Chiang Mai Arr 0.4nm,0.4s,baz=301,slow=7.9,SNR=5.9	62.24	87	P	P	11 40 30.9	-1.8
YKA	Yellowknife Ar 0.2nm,0.5s,baz=22,slow=5.7,SNR=3.8	77.02	344	P	P	11 42 01.3	-1.8

GUC 21 11:31:35.1±0.7, 34°.70S×71°.78W, h29km±4km, ML3.5, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.54	123	⇓*i*P	Pb	11 31 46.2	0.0
NICH				*e*S	Sb	11 31 54.1	+0.2
TALC	Talca	0.70	170	⇑*i*P	Pb	11 31 48.5	-0.4
TALC				*i* S	Sb	11 31 58.1	-0.2
LNCH	Linares	1.15	173	⇑*i*P	Pn	11 31 54.9	-0.3
LNCH				*i* S	Sn	11 32 10.4	+0.4
TACH	Talagante	1.26	34	⇑*i*P	Pn	11 31 57.2	+0.4
TACH				*i* S1	Sb	11 32 13.9	-0.3
ANTU	Antumapu	1.48	40	*e*P	Pn	11 32 00.5	+0.6
ANTU				*e*S	Sb	11 32 20.1	-0.4
ANTU				AML	AML	11 32 24.5	
	comp=E,1μm,0.2s						
SAN	Santiago	1.56	37	*e*P	Pn	11 32 01.3	+0.5
SAN				*i* S	Sb	11 32 22.1	-0.6
FSR	Penalolen	1.60	41	*e*P1	Pn	11 32 03.0	+1.4
COCH	Cobquecura	1.65	210	*e*S	Sb	11 32 24.5	-0.6
CLCH	Cerro Calan	1.66	39	⇑*i*P	Pn	11 32 03.0	+0.6
CLCH				*i* S	Sb	11 32 24.9	-0.9
CLCH				AML	AML	11 32 29.7	
	comp=E,747nm,0.3s						
PEL	Peldehue	1.80	31	⇑*i*P	Pn	11 32 05.5	+1.2
PEL				*i* S	Sb	11 32 29.0	-0.8
PEL				AML	AML	11 32 33.3	
	comp=N,1μm,0.7s						

WEL 21 11:37:50.5±0.3, 44°.46S×167°.04E, h5km, ML3.6/6, Error ellipse: s-maj=3.3km s-min=2.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.67	109	P*	Pg	11 38 03.0	-0.3
MSZ				SG	Sg	11 38 12.8	+0.7
MSZ				AML	AML	11 38 13.0	
MLZ	Mavora Lakes	1.20	138	P*	Pg	11 38 12.9	-0.7
MLZ				S*	Sg	11 38 28.7	-0.5
MLZ				AML	AML	11 38 30.9	
WKZ	Wanaka	1.46	106	PN	Pn	11 38 17.2	-0.3
WKZ				SN	Sb	11 38 37.1	0.0
WKZ				AML	AML	11 38 38.2	
WKZ				AML	AML	11 38 39.9	
WKZ				AML	AML	11 38 45.7	
WHZ	Wether Hill Ro	1.58	156	PN	Pn	11 38 18.3	-0.8
WHZ				SN	Sn	11 38 38.6	-1.3
WHZ				AML	AML	11 38 41.5	
EAZ	Earnscleugh	1.79	117	PN	Pn	11 38 21.2	-0.9
EAZ				AML	AML	11 38 46.4	
EAZ				AML	AML	11 38 47.3	
EAZ				AML	AML	11 38 47.6	
EAZ				AML	AML	11 38 47.6	
FOZ	Fox Glacier	2.11	66	PN	Pn	11 38 26.8	+0.4
FOZ				AML	AML	11 38 59.4	
LBZ	Lake Benmore	2.25	89	PN	Pn	11 38 27.5	-0.9
TUZ	Tuapeka	2.37	130	PN	Pn	11 38 30.5	+0.5
SYZ	Scrubby Hill	2.55	145	PN	Pn	11 38 32.0	-0.5
ODZ	Otahua Downs	2.63	104	PN	Pn	11 38 32.7	-1.0

DDA ***21*** *11:47:54.9, 38°.59N×43°.27E, h2km, MD2.8*
ISCJB ***21*** *11:47:55.3±0.8, 38°.33N±0°.03×42°.67E±0°.05, h5km±8km, Error ellipse: s-maj=6.8km s-min=5.2km az=31.1*
ISK ***21*** *11:47:55.1, 38°.32N×42°.71E, h8km, MD2.7*
CSEM ***21*** *11:47:55.5±0.2, 38°.32N×42°.71E, h10km, MD2.8, Error ellipse: s-maj=6.4km s-min=5.5km az=63.0*
ISC 21 11:47:55.1±1.3, 38°.35N±0°.03×42°.71E±0°.04, h3km±11km, n21, σ1.905/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.28	97	*i* P	Pg	11 48 00.3	-0.2
GEVA				*i* S	Sb	11 48 07.6	-0.5
GEVA	Gevas	0.28	97	*i* P	Pg	11 48 00.3	-0.2
GEVA				*i* S	Sb	11 48 07.6	-0.5
VANB	Van	0.59	65	*e*PG	Pb	11 48 07.4	-0.8
VANB				*e*SG	Sb	11 48 15.9	-1.1
VANB	Van	0.59	65	*e*Sg	Sb	11 48 15.9	-1.1
SIRT	Sirnak	0.87	194	*e*PG	Pg	11 48 11.5	-0.2
SIRT				*e*SG	Sb	11 48 24.0	-1.0
EKAR	Karacoban	1.04	331	*i* P	Pn	11 48 16.4	-0.4
EKAR	Karacoban	1.04	331	*i* P	Pn	11 48 16.4	-0.4
EKAR				*i* S	Sn	11 48 34.2	+2.2
TUTA	Tutak	1.06	5	*i* S	Sg	11 48 29.3	+0.2
TUTA	Tutak	1.06	5	*i* P	Pg	11 48 12.8	-2.7
TUTA				*i* S	Sg	11 48 29.3	+0.2
HAKT	HAKKARI	1.12	135	*i* P	Pg	11 48 16.3	-0.2
HAKT				*i* S	Sb	11 48 31.7	-0.5
HAKT	HAKKARI	1.12	135	*i* P	Pg	11 48 16.3	-0.2
HAKT				*i* S	Sb	11 48 31.7	-0.5
CLDR	Caldiran	1.24	50	*e*PN	Pg	11 48 19.5	+0.7

QSPA	South Pole Qui	55.08	180	P		P	12 10 15.9	-0.7
	comp=N,1.9nm,0.8s,baz=268,slow=1.0,SNR=14							
QSPA				pP		pP	12 10 29.2	+3.7
	comp=N,2.3nm,0.7s,baz=270,slow=2.7,SNR=4.6							
QSPA	South Pole Qui	55.08	180	*e*P		P	12 10 16.9	+0.3
	comp=N,2.9nm,0.8s							
LPIG	La Paz	69.19	323	LR		LR	12 35 38.9	
	comp=N,36nm,19.5s,baz=206,slow=30							
TXAR	Lajitas Array	70.73	331	P		P	12 12 01.6	+0.7
	comp=N,0.6nm,0.4s,baz=153,slow=7.9,SNR=16							
TXAR				pP		pP	12 12 13.3	+3.3
	comp=N,0.6nm,0.5s,baz=157,slow=8.1,SNR=7.0							
TXAR				sP		sP	12 12 20.1	+6.7
	comp=N,0.5nm,0.4s,baz=151,slow=8.5,SNR=3.9							
WVT	Waverly	72.43	347	*e*P		P	12 12 09.9	-1.0
	comp=N,8.0nm,0.7s							
DBIC	Dimbokro	75.56	71	P		P	12 12 28.1	-1.7
	comp=N,5.3nm,0.8s,baz=166,slow=3.1,SNR=5.5							
DBIC	Dimbokro	75.56	71	*e*P		P	12 12 28.9	-0.9
	comp=N,6.9nm,1.0s							
ACSO	Alum Creek Sta	75.69	351	*e*P		P	12 12 29.2	-0.7
	comp=N,15nm,1.2s							
BOSA	Boshof	79.55	118	P		P	12 12 50.5	-1.6
	comp=N,2.2nm,0.7s,baz=266,slow=2.0,SNR=6.2							
BOSA				sP		sP	12 13 09.0	+4.3
	comp=N,3.3nm,0.6s,baz=240,slow=4.6,SNR=3.1							
BOSA	Boshof	79.55	118	*e*P		P	12 12 50.9	-1.2
	comp=N,14nm,1.3s							
ECSD	EROS Data Cent	81.64	342	*e*P		P	12 13 01.9	-0.7
	comp=N,3.4nm,1.0s							
TORD	Torodi Ar. Bea	84.61	70	P		P	12 13 17.4	-1.1
	comp=N,2.7nm,0.7s,baz=271,slow=5.2,SNR=21							
TORD				pP		pP	12 13 30.9	+3.0
	comp=N,0.7nm,0.6s,baz=285,slow=4.7,SNR=3.1							
PDAR	Pinedale Array	84.78	333	P		P	12 13 19.2	+0.1
	comp=N,0.4nm,0.7s,baz=152,slow=7.8,SNR=4.1							
NVAR	Mina Array Bea	84.82	325	P		P	12 13 20.5	+1.2
	comp=N,0.4nm,0.8s,baz=153,slow=6.1,SNR=3.9							
ULM	Lac du Bonnet	87.61	345	P		P	12 13 32.4	-0.1
	comp=N,2.3nm,0.8s,baz=145,slow=3.5,SNR=3.8							
WRA	Warramunga Arr	119.75	209	PKP		PKPdf	12 19 34.0	-1.3
	comp=N,0.2nm,0.5s,baz=174,slow=1.5,SNR=2.7							
BVAR	Borovoye Array	148.12	44	PKPbc		PKPbc	12 20 29.0	-0.9
	comp=N,1.3nm,0.5s,baz=323,slow=2.2,SNR=9.9							
KKAR	Karatay Array	150.09	63	*e*PKPbc		PKPbc	12 20 33.5	-1.7
EKS2	Erkin-Say	152.51	64	*e*PKPdf		PKPdf	12 20 34.4	+0.4
EKS2				*e*PKPbc		PKPbc	12 20 40.0	-0.9
AAK	Ala-Archa	153.04	64	PKPbc		PKPbc	12 20 40.6	-1.6
	comp=N,3.3nm,0.6s,baz=208,slow=3.4,SNR=17							
AAK				PKPab		PKPab	12 20 51.9	-1.8
	comp=N,2.6nm,0.8s,baz=223,slow=2.4,SNR=5.8							
AAK	Ala-Archa	153.04	64	*e*PKPbc		PKPbc	12 20 41.9	-0.2
AAK				PKPab		PKPab	12 20 51.9	-1.8
KURBB	Kurchatov Arra	153.71	45	PKPbc		PKPbc	12 20 41.7	-1.4
	comp=N,0.6nm,0.5s,baz=294,slow=3.1,SNR=8.5							
KURBB				PKPab		PKPab	12 20 55.0	-1.0
	comp=N,0.7nm,0.6s,baz=292,slow=4.0,SNR=8.1							
KURK	Kurchatov	153.72	45	*e*PKPdf		PKPdf	12 20 34.1	-1.2
KURK				PKPbc		PKPbc	12 20 41.7	-1.4
KURK				PKPab		PKPab	12 20 55.0	-1.1
TKM2	Tokmak 2	153.82	63	*e*PKPbc		PKPbc	12 20 42.8	-1.2
ZALV	Zalesovo Beam	155.20	34	PKPab		PKPab	12 21 00.5	-1.8
	comp=N,0.9nm,0.5s,baz=315,slow=5.3,SNR=4.4							
MKAR	Makanchi Array	157.51	51	PKPab		PKPab	12 21 10.9	-1.6
	comp=N,0.9nm,0.7s,baz=298,slow=3.2,SNR=9.1							
SONM	Songino Array	167.28	5	PKPab		PKPab	12 21 55.4	+0.2
	comp=N,1.3nm,0.7s,baz=326,slow=7.7,SNR=4.1							

*IDC **21** 12:16:00.4±0.8, 38°.20N×21°.50E, h0km, mb3.7/12, mb1 3.7/18, mb1mx3.6/37, mbtmp3.7/18, ML3.7/6, MS3.1/5, Ms1 3.1/5, ms1mx2.6/50, Error ellipse: s-maj=17.4km s-min=14.7km az=41.0*
*ISCJB **21** 12:16:03.7±0.2, 38°.22N±0°.02×21°.47E±0°.02, h24km±2km, mb3.6/12, MS3.2/2, Error ellipse: s-maj=2.8km s-min=2.5km az=140.3*
*CSEM **21** 12:16:03.9±0.1, 38°.22N×21°.49E, h10km, ML4.0, Error ellipse: s-maj=3.1km s-min=2.6km az=48.0*
*ATH **21** 12:16:03.5, 38°.23N×21°.47E, h22km, MD3.1/21, ML3.7*
*THE **21** 12:16:03.7, 38°.22N×21°.49E, h21km, ML4.0/7, Error ellipse: s-maj=0.8km s-min=0.3km az=191.0*
ISC 21 12:16:03.6±0.6, 38°.24N±0°.01×21°.48E±0°.01, h18km±1km, n183, σ1§20/237, mb3.6/12, 19C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.18	182	P	Pb	12 16 08.4	+0.6
RLS				S	Sb	12 16 12.4	+1.8
RLS	Riolos of Patr	0.18	182	*e*PB	Pb	12 16 08.5	+0.6
RLS				*e*SB	Sb	12 16 12.7	+2.1
RLS	Riolos of Patr	0.18	182	P	Pb	12 16 08.4	+0.6
RLS				S	Sb	12 16 11.8	+1.2
RLS				*e*Sb	Sb	12 16 12.7	+2.1
UPR	University Cam	0.25	79	P	Pb	12 16 09.6	+0.2
UPR				S	Sb	12 16 13.9	+0.6
UPR	University Cam	0.25	79	P	Pb	12 16 09.6	+0.2
UPR				S	Sg	12 16 13.6	+0.4
DRO	Drossia	0.34	147	P	Pg	12 16 10.6	-0.2
DRO				S	Sb	12 16 16.1	-0.1
DRO	Drossia	0.34	147	*e*PB	Pg	12 16 10.7	-0.1
DRO				*e*SB	Sb	12 16 16.5	+0.3
DRO	Drossia	0.34	147	P	Pg	12 16 10.6	-0.2
DRO				S	Sg	12 16 15.7	0.0
DRO				*e*Sb	Sb	12 16 16.5	+0.3
PVO	Paravola	0.38	6	P	Pg	12 16 11.9	+0.4
PVO				S	Sb	12 16 17.8	+0.4
PVO	Paravola	0.38	6	P	Pg	12 16 11.9	+0.4
PVO				S	Sb	12 16 17.8	+0.4
EFP	Efpalio	0.39	61	P	Pg	12 16 11.5	-0.1
EFP				S	Sg	12 16 17.5	+0.4
EFP	Efpalio	0.39	61	*e*PB	Pg	12 16 11.5	-0.1
EFP				*e*SB	Sb	12 16 18.4	+0.8
EFP	Efpalio	0.39	61	P	Pg	12 16 11.5	-0.1
EFP				S	Sg	12 16 17.4	+0.4
EFP				*e*Sb	Sb	12 16 18.4	+0.8
PDO	Prodromos	0.43	328	P	Pg	12 16 12.6	+0.2
PDO				S	Sb	12 16 20.0	+1.2
PDO	Prodromos	0.43	328	*e*PB	Pb	12 16 12.7	+0.1
PDO				*e*SB	Sb	12 16 19.3	+0.5
PDO	Prodromos	0.43	328	*e*Pb	Pb	12 16 12.7	+0.1
PDO				*e*Sb	Sb	12 16 19.3	+0.5
KALE	Kalithea	0.54	73	P	Pg	12 16 13.8	-0.7
KALE				S	Sg	12 16 22.1	+0.2
KALE	Kalithea	0.54	73	*e*PN	Pg	12 16 14.0	-0.5
KALE				*e*SN	Sb	12 16 22.8	+0.7
KALE	Kalithea	0.54	73	*e*Pn	Pg	12 16 14.0	-0.5
KALE				S	Sg	12 16 22.1	+0.2
KFL	Anninata	0.56	257	P	Pg	12 16 14.4	-0.3
KFL				S	Sb	12 16 23.4	+1.0
KFL	Anninata	0.56	257	P	Pg	12 16 14.4	-0.3
KFL				S	Sb	12 16 23.4	+1.0
KLV	Kalavryta, Ach	0.57	110	P	Pg	12 16 14.2	-0.6
KLV				S	Sg	12 16 22.4	-0.1
KLV	Kalavryta, Ach	0.57	110	*e*PN	Pg	12 16 14.3	-0.6
KLV				*e*SN	Sg	12 16 22.9	+0.4
KLV	Kalavryta, Ach	0.57	110	P	Pg	12 16 14.3	-0.6
KLV				S	Sg	12 16 22.4	-0.1
VLS	Valsamata	0.70	265	P	Pg	12 16 16.5	-0.9
VLS				S	Sb	12 16 27.6	+1.1
VLS	Valsamata	0.70	265	*e*PB	Pg	12 16 16.4	-0.9
VLS				*e*SN	Sn	12 16 28.3	-0.7
VLS	Valsamata	0.70	265	P	Pg	12 16 16.5	-0.9
VLS				S	Sb	12 16 27.6	+1.1
VLS				*e*Sn	Sn	12 16 28.3	-0.7
EVR	Evrytania	0.73	21	P	Pg	12 16 17.6	-0.3
EVR				S	Sb	12 16 28.4	+1.0
EVR	Evrytania	0.73	21	*e*PN	Pg	12 16 17.4	-0.5
EVR				*e*SN	Sb	12 16 28.5	+1.0
EVR	Evrytania	0.73	21	P	Pg	12 16 17.6	-0.3
EVR				S	Sb	12 16 28.4	+1.0
AMT	Artemida-Makis	0.73	165	P	Pg	12 16 17.3	-0.6
AMT				S	Sb	12 16 27.7	+0.4
AMT	Artemida-Makis	0.73	165	*e*PN	Pg	12 16 17.6	-0.3
AMT				*e*SN	Sb	12 16 27.8	+0.4
AMT	Artemida-Makis	0.73	165	P	Pg	12 16 17.4	-0.5
AMT				S	Sb	12 16 27.7	+0.4
GUR	Goura	0.75	113	P	Pg	12 16 16.9	-1.3
GUR				S	Sg	12 16 28.0	-0.2
GUR	Goura	0.75	113	*e*PB	Pg	12 16 17.3	-0.9
GUR				*e*SN	Sb	12 16 29.2	+1.2
GUR	Goura	0.75	113	P	Pg	12 16 17.1	-1.1
GUR				S	Sg	12 16 28.0	-0.2
GUR				*e*Sn	Sb	12 16 29.2	+1.2
LKD2	Lefkada island	0.85	311	P	Pg	12 16 19.2	-0.9
LKD2	Lefkada island	0.85	311	*e*PN	Pb	12 16 20.1	+0.4
LKD2	Lefkada island	0.85	311	P	Pg	12 16 19.2	-0.9
LKD2	Lefkada island	0.85	311	*e*Pn	Pb	12 16 20.1	+0.4
MAKR	Makrakomi, Fth	0.93	33	P	Pb	12 16 21.4	+0.3
MAKR				S	Sb	12 16 34.0	+0.8
MAKR	Makrakomi, Fth	0.93	33	*e*PN	Pb	12 16 21.5	+0.3
MAKR	Makrakomi, Fth	0.93	33	P	Pb	12 16 21.4	+0.3
MAKR				S	Sb	12 16 34.0	+0.8
DSL	Palaion Diasel	0.94	342	P	Pb	12 16 21.3	-0.1
DSL	Palaion Diasel	0.94	342	*e*PN	Pb	12 16 21.8	+0.4
DSL	Palaion Diasel	0.94	342	P	Pb	12 16 21.3	-0.1
DSL	Palaion Diasel	0.94	342	*e*Pn	Pb	12 16 21.8	+0.4
AGG	Agios Georgios	1.03	40	P	Pb	12 16 22.3	-0.6
AGG	Agios Georgios	1.03	40	*e*PN	Pb	12 16 23.1	+0.2
AGG	Agios Georgios	1.03	40	P	Pb	12 16 22.6	-0.3
AGG	Agios Georgios	1.03	40	*e*Pn	Pb	12 16 23.1	+0.2
AXAR	Agios Charalam	1.07	60	P	Pb	12 16 22.6	-0.9
AXAR				S	Sb	12 16 37.4	+0.2
AXAR	Agios Charalam	1.07	60	*e*PB	Pb	12 16 23.0	-0.6
AXAR				*e*SN	Sn	12 16 39.4	+1.4
AXAR	Agios Charalam	1.07	60	P	Pb	12 16 22.9	-0.6
AXAR				S	Sb	12 16 37.9	+0.7
AXAR				*e*Sn	Sn	12 16 39.4	+1.4
ITM	Ithomi	1.11	161	P	Pb	12 16 23.8	-0.5
ITM	Ithomi	1.11	161	*e*PN	Pb	12 16 24.4	+0.1
ITM				*e*SN	Sn	12 16 40.4	+1.2
ITM	Ithomi	1.11	161	P	Pb	12 16 24.0	-0.3
ITM	Ithomi	1.11	161	*e*Pn	Pb	12 16 24.4	+0.1
ITM				S	Sn	12 16 40.4	+1.2
VLX	Vlachokerasia	1.12	140	*e*PN	Pb	12 16 24.6	+0.1
VLX				*e*SN	Sn	12 16 40.7	+1.2
VLX	Vlachokerasia	1.12	140	P	Pb	12 16 24.3	-0.2
VLX	Vlachokerasia	1.12	140	*e*Pn	Pb	12 16 24.6	+0.1
VLX				*e*Sn	Sn	12 16 40.7	+1.2
LTK	Loutraki	1.20	100	*e*PN	Pg	12 16 26.6	-0.1
LTK				*e*SN	Sg	12 16 44.0	+1.7
LTK	Loutraki	1.20	100	P	Pn	12 16 25.7	+0.3
LTK	Loutraki	1.20	100	*e*Pn	Pg	12 16 26.6	-0.1
LTK				*e*Sn	Sg	12 16 44.0	+1.7
PYL	PYLOS	1.36	171	*e*PN	Pg	12 16 29.0	-0.7
PYL	PYLOS	1.36	171	P	Pb	12 16 28.7	+0.3
PYL	PYLOS	1.36	171	*e*Pn	Pg	12 16 29.0	-0.7
THL	Klokotos Trika	1.39	17	*e*PN	Pb	12 16 29.3	+0.3
THL				*e*SN	Sg	12 16 49.2	+0.7
THL	Klokotos Trika	1.39	17	*e*Pn	Pb	12 16 29.3	+0.3
THL				*e*Sn	Sg	12 16 49.2	+0.7
JAN	Janina	1.50	341	*e*PN	Pg	12 16 32.1	-0.4
JAN	Janina	1.50	341	*e*Pn	Pg	12 16 32.1	-0.4
SMIA	Simia	1.50	64	*e*PN	Pb	12 16 30.9	+1.3
SMIA	Simia	1.50	64	*e*Pn	Pb	12 16 30.9	+1.3
IGT	Igoumenitsa	1.57	326	*e*PN	Pb	12 16 33.0	+0.9
IGT	Igoumenitsa	1.57	326	*e*Pn	Pb	12 16 33.0	+0.9
MRKA	Markates	1.72	74	*e*PB	Pn	12 16 33.3	+0.7
MRKA	Markates	1.72	74	*e*Pb	Pn	12 16 33.3	+0.7
NEO	Neokhori	1.73	51	*e*PB	Pn	12 16 33.7	+0.9
NEO				*e*SN	Sb	12 16 57.7	+1.4
NEO	Neokhori	1.73	51	*e*Pb	Pn	12 16 33.7	+0.9
NEO				*e*Sn	Sb	12 16 57.7	+1.4
ATH	Athens Observa	1.79	98	*e*PN	Pn	12 16 35.0	+1.5
ATH				*e*SN	Sb	12 16 59.6	+1.8
ATH	Athens Observa	1.79	98	*e*Pn	Pn	12 16 35.0	+1.5
ATH				*e*Sn	Sb	12 16 59.6	+1.8
SKIA	Skiathos	1.81	59	*e*PN	Pn	12 16 35.6	+1.7
SKIA	Skiathos	1.81	59	*e*Pn	Pn	12 16 35.6	+1.7
PTL	Penteli	1.89	95	*e*PN	Pn	12 16 36.5	+1.5
PTL				*e*SN	Sb	12 17 01.4	+0.5
PTL	Penteli	1.89	95	*e*Pn	Pn	12 16 36.5	+1.5
PTL				*e*Sn	Sb	12 17 01.4	+0.5
VLI	Veliai	1.91	142	*e*PN	Pb	12 16 37.5	-0.4
VLI	Veliai	1.91	142	*e*Pn	Pb	12 16 37.5	-0.4
KEK	Kerkira	1.97	319	*e*PN	Pn	12 16 37.8	+1.8
KEK	Kerkira	1.97	319	*e*Pn	Pn	12 16 37.8	+1.8
KZN	Kozani	2.08	6	*e*PN	Pb	12 16 40.2	-0.6
KZN				*e*SN	Sb	12 17 06.2	-0.1
KZN	Kozani	2.08	6	*e*Pn	Pb	12 16 40.2	-0.6
KZN				*e*Sn	Sb	12 17 06.2	-0.1
AOS	Alonnisos	2.10	63	P	Pn	12 16 37.1	-0.7
AOS	Alonnisos	2.10	63	*e*PN	Pn	12 16 38.6	+0.8
AOS	Alonnisos	2.10	63	P	Pn	12 16 37.1	-0.7
AOS	Alonnisos	2.10	63	*e*Pn	Pn	12 16 38.6	+0.8
OUR	Ouranopolis	2.86	42	*e*PN	Pn	12 16 48.9	+0.7
OUR	Ouranopolis	2.86	42	*e*Pn	Pn	12 16 48.9	+0.7
OHR	Ohrid	2.92	350	*e*PN	Pb	12 16 55.2	+0.1
OHR	Ohrid	2.92	350	*e*Pn	Pb	12 16 55.2	+0.1
VAY	Valandovo	3.19	15	*e*Pn	Pn	12 16 56.0	+3.2
VAY				*e*Sn	Sn	12 17 30.5	+0.1
VAY	Valandovo	3.19	15	*e*Pn	Pn	12 16 56.0	+3.2
VAY				*e*Sn	Sn	12 17 30.5	+0.1
LIA	Limnos Island	3.33	59	*e*PN	Pn	12 16 56.5	+1.8
LIA	Limnos Island	3.33	59	*e*Pn	Pn	12 16 56.5	+1.8
APE	Apeiranthos	3.42	109	*e*PN	Pn	12 16 56.9	+0.9
APE	Apeiranthos	3.42	109	*e*PN	Pn	12 16 57.5	+1.4
APE	Apeiranthos	3.42	109	P⃗	Pn	12 16 56.8	+0.7
APE	Apeiranthos	3.42	109	P⃗*e*P	Pn	12 16 56.8	+0.7
APE	Apeiranthos	3.42	109	*e*Pn	Pn	12 16 57.5	+1.4
SIGR	SIGRI	3.56	73	*e*PN	Pn	12 16 59.7	+1.8
SIGR	SIGRI	3.56	73	*e*Pn	Pn	12 16 59.7	+1.8
CHOS	Chios island	3.60	86	*e*PN	Pn	12 16 59.9	+1.3
CHOS	Chios island	3.60	86	*e*Pn	Pn	12 16 59.9	+1.3
MMB	Musomiste	3.77	27	P⃗	Pn	12 17 03.6	+2.8
MMB	Musomiste	3.77	27	P⃗*e*P	Pn	12 17 03.6	+2.8
IDI	Anoyia	4.02	136	Pn	Pn	12 17 03.4	-0.9
	0.7nm,0.3s,baz=322,slow=18,SNR=5.3						
IDI				Sn	Sn	12 17 52.0	+1.0
	2.9nm,0.3s,baz=135,slow=23,SNR=4.1						
IDI				LR	LR	12 18 55.8	
	comp=Z,110nm,18.5s,baz=330,slow=44						
PE1	Pezze di Greco	4.05	311	*e*Pn	Pn	12 17 08.3	+3.7
EZN	Ezine	4.10	66	*e*PN	Pn	12 17 07.2	+2.0
EZN	Ezine	4.10	66	*e*Pn	Pn	12 17 07.2	+2.0
ENEZ	Enez	4.39	54	*e*PN	Pn	12 17 10.4	+1.0
ENEZ	Enez	4.39	54	*e*Pn	Pn	12 17 10.4	+1.0
ALN	Alexandroupoli	4.42	52	*e*PN	Pn	12 17 10.5	+0.8
ALN	Alexandroupoli	4.42	52	*e*Pn	Pn	12 17 10.5	+0.8
GELI	Tayfur-Gelibol	4.44	59	*e*PN	Pn	12 17 11.3	+1.4
GELI	Tayfur-Gelibol	4.44	59	*e*Pn	Pn	12 17 11.3	+1.4
SG1	Sgolgore (BA)	4.53	307	*e*Pn	Pn	12 17 12.3	+1.1
VTS	Vitosha	4.55	16	P⃗	Pn	12 17 15.4	+3.8
VTS	Vitosha	4.55	16	P⃗*e*P	Pn	12 17 15.4	+3.8
IZM	Izmir	4.55	86	*e*PN	Pn	12 17 13.4	+1.8
IZM	Izmir	4.55	86	*e*Pn	Pn	12 17 13.4	+1.8
KDZ	Kurdzhali	4.56	40	P⃗	Pn	12 17 13.4	+1.8
KDZ	Kurdzhali	4.56	40	P⃗*e*P	Pn	12 17 13.4	+1.8
BARS	Barje	4.58	3	*e*Pn	Pn	12 17 15.4	+3.5
ERIK	Erikli-Kesan	4.59	56	*e*PN	Pn	12 17 13.2	+1.1
ERIK	Erikli-Kesan	4.59	56	*e*Pn	Pn	12 17 13.2	+1.1
LPK	Lapseki	4.62	61	*e*PN	Pn	12 17 13.7	+1.2
LPK	Lapseki	4.62	61	*e*Pn	Pn	12 17 13.7	+1.2
BODT	Bodrum	4.78	102	*e*PN	Pn	12 17 16.6	+2.0
BODT	Bodrum	4.78	102	*e*Pn	Pn	12 17 16.6	+2.0
CDT	Castel del Mon	4.92	307	*e*Pn	Pn	12 17 14.4	+0.8
KRBG	Karabiga-Canak	5.00	63	*e*PN	Pn	12 17 19.4	+1.7
KRBG	Karabiga-Canak	5.00	63	*e*Pn	Pn	12 17 19.4	+1.7
BALB	Balikesir	5.19	72	*e*PN	Pn	12 17 22.0	+1.8
BALB	Balikesir	5.19	72	*e*Pn	Pn	12 17 22.0	+1.8
EDRB	Edirne	5.42	47	*e*PN	Pn	12 17 24.5	+1.1
EDRB	Edirne	5.42	47	*e*Pn	Pn	12 17 24.5	+1.1
STON	Ston	5.45	329	Sn	Sn	12 18 24.9	-1.2
BBLS	Lazići	5.84	345	*e*Pn	Pn	12 17 30.9	+1.7
DIVS	Divibare	5.96	350	*e*Pn	Pn	12 17 31.2	+0.2
GZR	Gura Zlata	7.22	7	P⃗	Pn	12 17 50.7	+2.5
GZR	Gura Zlata	7.22	7	P⃗*e*P	Pn	12 17 50.7	+2.5
ARR	Arges	7.50	17	P⃗	Pn	12 17 55.7	+3.6
ARR	Arges	7.50	17	P⃗*e*P	Pn	12 17 55.7	+3.6
VOIR		7.67	19	P⃗	Pn	12 17 57.6	+3.2
VOIR		7.67	19	P⃗*e*P	Pn	12 17 57.6	+3.2
MLR	Muntele Rosu	7.98	23	P⃗	Pn	12 18 01.3	+2.6
MLR	Muntele Rosu	7.98	23	P⃗*e*P	Pn	12 18 01.3	+2.6
	0.2nm,0.3s,baz=320,slow=5.2,SNR=8.1						
MLR	Muntele Rosu	7.98	23	Pn	Pn	12 18 02.8	+4.2
NVLJ	Novalja	8.03	324	*e*Pn	Pn	12 17 58.0	-1.3
NVLJ				Sn	Sn	12 19 25.0	-4.7
PLOR	Plostina	8.52	25	P⃗	Pn	12 18 09.3	+3.2
PLOR	Plostina	8.52	25	P⃗*e*P	Pn	12 18 09.3	+3.2
VRI	Vrincioaia	8.56	25	P⃗	Pn	12 18 09.5	+2.9
VRI	Vrincioaia	8.56	25	P⃗*e*P	Pn	12 18 09.5	+2.9
BRTR	Keskin Array B	9.59	77	Pn	Pn	12 18 22.8	+2.0
	0.6nm,0.3s,baz=258,slow=12,SNR=17						
SOKA	Soboth	9.68	333	P⃗*e*Pn	Pn	12 18 19.9	-2.1
VRAC	Vranov	11.61	344	LR	LR	12 24 47.7	
	comp=Z,46nm,18.9s,baz=172,slow=45						
GERES	GERESS Array B	12.00	335	Pn	Pn	12 18 55.7	+2.0
	0.1nm,0.3s,baz=160,slow=20,SNR=3.1						
MMAI	Mount Meron Ar	12.47	110	Pn	Pn	12 19 00.5	+0.4
	1.2nm,0.3s,baz=300,slow=12,SNR=2.3						
KBZ	Khabaz	17.06	64	Pn	P	12 20 03.6	+0.9
	0.1nm,0.3s,baz=267,slow=6.9,SNR=4.4						
GNI	Garni	18.13	77	LR	LR	12 28 02.5	
	comp=Z,58nm,20.6s,baz=262,slow=40						
ESDC	Sonseca Array	19.82	282	P	P	12 20 33.8	+0.6
	0.2nm,0.3s,baz=76,slow=10,SNR=7.1						
HFS	Hagfors	22.47	350	P	P	12 21 01.9	+0.4
	0.7nm,0.4s,baz=168,slow=10,SNR=6.3						
FINES	FINESS Array B	23.41	6	P	P	12 21 09.6	-1.6
	0.8nm,0.6s,baz=169,slow=12,SNR=6.1						
FINES				LR	LR	12 30 44.0	
	comp=Z,50nm,18.9s,baz=316,slow=38						
NOA	NORSAR Array B	23.71	348	P	P	12 21 15.1	+0.8
	0.4nm,0.5s,baz=187,slow=19,SNR=5.4						
EKA	Eskdalemuir Ar	23.82	324	P	P	12 21 14.5	-0.7
	2.0nm,0.8s,baz=122,slow=10.0,SNR=6.0						
TORD	Torodi Ar. Bea	30.56	220	P	P	12 22 15.5	-0.7
	1.6nm,0.7s,baz=33,slow=9.6,SNR=10						
BVAR	Borovoye Array	36.50	50	P	P	12 23 07.8	+0.2
	0.3nm,0.5s,baz=283,slow=7.2,SNR=2.9						
AAK	Ala-Archa	40.05	66	P	P	12 23 38.0	+0.2
	0.8nm,0.8s,baz=201,slow=14,SNR=3.0						
KURBB	Kurchatov Arra	41.59	54	P	P	12 23 48.9	-1.2
	0.6nm,0.4s,baz=282,slow=8.8,SNR=7.7						
KMBO	Kilima Mbogo	41.79	156	P	P	12 23 50.9	-1.4
	1.3nm,0.3s,baz=151,slow=2.1,SNR=4.0						
MKAR	Makanchi Array	44.63	59	P	P	12 24 14.1	-0.7
	1.8nm,0.4s,baz=274,slow=7.5,SNR=58						
ZALV	Zalesovo Beam	45.09	48	P	P	12 24 17.4	-0.9
	1.7nm,0.6s,baz=278,slow=6.9,SNR=8.8						
SFJD	Kangerlussuaq	48.55	330	LR	LR	12 44 59.1	
	comp=Z,49nm,19.5s,baz=166,slow=36						
ILAR	Eielson Array	76.92	355	P	P	12 27 54.1	-0.2
	0.2nm,0.7s,baz=352,slow=3.5,SNR=4.8						

*IDC **21** 12:46:41.7±1.6, 26°.90S×63°.66W, h569km±20km, mb3.0/4, mb1 3.2/5, mb1mx2.9/31, mbtmp4.0/5, Error ellipse: s-maj=30.3km s-min=16.3km az=84.0*
ISC 21 12:46:41.1±0.8, 26°.95S±0°.09×63°.5W±0°.1, h561km, n11, σ1§13/12, mb3.5/4, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	6.24	221	P	P	12 48 23.1	+0.7

AKS	Akhisar	3.00	315	*e*Pn	Pn	12 49 00.3 -0.2
IZM	Izmir	3.05	303	*e*PN	Pn	12 49 01.8 +0.5
IZM	Izmir	3.05	303	*e*Pn	Pn	12 49 01.8 +0.5
CAVI	Cavuskoy	3.45	351	*e*PN	Pn	12 49 07.4 +0.7
CAVI	Cavuskoy	3.45	351	*e*Pn	Pn	12 49 07.4 +0.7
NIG	Nigde	3.50	67	*e*PN	Pb	12 49 12.1 -2.6
NIG	Nigde	3.50	67	*e*Pn	Pb	12 49 12.1 -2.6
BRTR	Keskin Array B	3.81	39	Pn	Pn	12 49 14.6 +2.7
	1.2nm,0.3s,baz=219,slow=14,SNR=33					
BRTR				Sn	Sn	12 49 59.8 +2.3
	1.2nm,0.3s,baz=216,slow=26,SNR=9.9					
IDI	Anoyia	4.81	254	Pn	Pn	12 49 26.5 +1.0
	0.5nm,0.3s,baz=76,slow=19,SNR=4.0					
IDI				Sn	Sn	12 50 23.4 +1.4
	0.5nm,0.3s,baz=88,slow=14,SNR=4.0					
IDI				LR	LR	12 51 56.5
	comp=Z,9.4nm,20.8s,baz=330,slow=47					
MMAI	Mount Meron Ar	5.49	132	Pn	Pn	12 49 41.8 +6.8
	1.1nm,0.3s,baz=323,slow=11,SNR=2.5					
NOA	NORSAR Array B	27.18	339	LR	LR	13 06 56.1
	comp=Z,7.7nm,20.0s,baz=45,slow=42					
MKAR	Makanchi Array	39.22	59	P	P	12 55 42.9 +1.2
	0.5nm,0.7s,baz=280,slow=7.3,SNR=6.6					
ZALV	Zalesovo Beam	40.71	47	P	P	12 55 53.4 -0.5
	0.4nm,0.3s,baz=269,slow=8.1,SNR=2.9					

WEL 21 12:48:30.0±0.4, 34°.97S×177°.90E, h33km, ML3.7/3, Error ellipse: s-maj=7.4km s-min=2.6km az=90.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.62	173	PN	Pn	12 49 09.5	-0.5
MXZ				SN	Sn	12 49 39.8	-0.8
HAZ	Te Kaha	2.79	182	PN	Pn	12 49 12.4	+0.1
HAZ				SN	Sn	12 49 43.1	-1.7
WMGZ	Waiomatatini S	2.88	172	PN	Pn	12 49 12.9	-0.7
WMGZ				SN	Sn	12 49 45.4	-1.7
PUZ	Puketiti	3.12	175	PN	Pn	12 49 15.3	-1.6
MWZ	Matawai	3.38	185	PN	Pn	12 49 19.8	-0.8
MWZ				SN	Sn	12 49 57.0	-2.5

*ISCJB **21** 12:57:43.2±2.6, 33°.67S±0°.06×72°.63W±0°.08, h2km±18km, mb3.9/3, Error ellipse: s-maj=11.3km s-min=9.2km az=34.4*
*IDC **21** 12:57:44.4±1.1, 33°.66S×72°.49W, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.7/18, mbtmp3.6/4, ML4.1/2, Error ellipse: s-maj=50.3km s-min=30.2km az=81.0*
*GUC **21** 12:57:44.3±0.5, 33°.70S×72°.65W, h10km±7km, ML4.1*
*NEIC **21** 12:57:48.3±3.8, 33°.59S×72°.58W, h24km±26km, mb4.0/2, Error ellipse: s-maj=27.2km s-min=10.4km az=87.0*
ISC 21 12:57:45.3±2.4, 33°.62S±0°.06×72°.54W±0°.09, h6km±14km, n19, σ0°.96/24, mb3.8/3, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.96	52	⇑*i*P	Pg	12 58 03.9	+0.2
IHA				*i* S1	Sn	12 58 18.2	-1.0
ANTU	Antumapu	1.59	89	*e*P	Pn	12 58 13.5	-0.5
PEL	Peldehue	1.62	73	⇓*i*P	Pn	12 58 13.9	-0.5
PEL				*i* S	Sg	12 58 37.1	-0.3
PEL				AML	AML	12 58 42.0	
	comp=E,4μm,0.4s						
CLCH	Cerro Calan	1.69	83	⇑*i*P	Pn	12 58 15.1	-0.3
CLCH				*e*S	Sg	12 58 38.8	-0.7
CLCH				AML	AML	12 58 45.6	
	comp=N,3μm,0.5s						
CLCH				AML	AML	12 58 46.0	
	comp=N,3μm,0.7s						
NICH	Los Niches	1.75	142	*e*P4	Pn	12 58 15.9	-0.3
NICH				*e*S4	Sn	12 58 38.9	0.0
TALC	Talca	1.92	157	*e*P1	Pn	12 58 17.0	-1.6
TALC				*i* S	Sn	12 58 41.2	-1.8
LCO	Las Campanas	4.86	19	*e*Pn	Pn	12 58 58.4	-0.8
PLCA	Paso Flores	7.27	168	Pn	Pn	12 59 32.8	+0.7
	comp=N,1.2nm,0.3s,baz=334,slow=11,SNR=26						
PLCA	Paso Flores	7.27	168	*e*Pn	Pn	12 59 33.0	+0.9
	comp=N,3.8nm,0.4s						
TRQA	Tornquist	9.64	120	*e*Pn	Pn	13 00 06.8	+2.2
LPAZ	La Paz	17.71	14	P	P	13 01 54.6	+0.4
	comp=N,0.1nm,0.3s,baz=199,slow=8.4,SNR=9.0						
LPAZ	La Paz	17.71	14	*e*P	P	13 01 55.2	+0.9
	comp=N,3.1nm,0.9s						
QSPA	South Pole Qui	56.61	180	*e*P	P	13 07 30.0	+1.1
	comp=N,7.4nm,1.2s						
TXAR	Lajitas Array	69.20	331	P	P	13 08 53.6	+0.6
	comp=N,0.5nm,1.1s,baz=142,slow=8.9,SNR=3.7						
TORD	Torodi Ar. Bea	84.47	70	P	P	13 10 19.0	-0.3
	comp=N,0.4nm,0.7s,baz=264,slow=4.3,SNR=3.1						
WRA	Warramunga Arr	120.89	210	PKP	PKPdf	13 16 38.6	-0.5
	comp=N,0.1nm,0.5s,baz=160,slow=1.8,SNR=4.1						
WRAB	Tennant Creek	120.89	210	*e*PKPdf	PKPdf	13 16 38.4	-0.7
ZALV	Zalesovo Beam	154.13	31	PKPbc	PKPbc	13 17 45.3	-0.2
	comp=N,1.1nm,0.7s,baz=344,slow=3.7,SNR=4.5						
MKAR	Makanchi Array	156.82	48	PKPab	PKPab	13 18 11.0	0.0
	comp=N,0.3nm,0.3s,baz=327,slow=2.3,SNR=8.8						

MAN 21 13:00:33, 8°.15N×126°.29E, h3km, mb4.1, ML2.8, MS2.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.08	64	⇓*i*P	Pg	13 00 35.6	+0.9
BIPH				*i* S	Sg	13 00 45.9	+10
BUTP	Butuan	1.05	321	*e*P	Pb	13 00 53.7	-0.1
BUTP				*e*S	Sg	13 01 04.6	-2.2
BUKP	Musuan	1.24	258	*e*P	Pg	13 00 56.5	-0.4
BUKP				*e*S	Sg	13 01 12.2	-0.9
PAGZ	Pagadian	2.89	264	*e*P	Pn	13 01 13.0	-7.0

*ISCJB **21** 13:14:14.5±0.9, 40°.13N±0°.04×142°.6E±0°.1, h50km±8km, mb3.6/8, Error ellipse: s-maj=12.9km s-min=6.9km az=5.3*
*JMA **21** 13:14:15.8±0.1, 40°.11N×142°.47E, h34km±1km, M3.6*
*IDC **21** 13:14:15.9±2.6, 40°.11N×142°.78E, h56km±23km, mb3.3/8, mb1 3.5/11, mb1mx3.3/27, mbtmp3.6/11, ML3.3/2, Error ellipse: s-maj=29.0km s-min=15.7km az=99.0*
ISC 21 13:14:15.2±1.6, 40°.10N±0°.05×142°.52E±0°.09, h40km±15km, n27, σ0°.95/25, mb3.5/8, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.53	253	⇓P	Pn	13 14 26.2	-0.2
JTH				*e*S	Sn	13 14 34.0	-0.3
MIYJ	Miyakonagasawa	0.75	226	⇓P	Pn	13 14 29.4	0.0
MIYJ				S	Sn	13 14 38.8	-0.7
JANG	Nango	0.82	290	⇓P	Pn	13 14 30.1	-0.2
JANG				*e*S	Sn	13 14 40.1	-1.2
JKZ	Kuzumaki	0.92	264	⇓P	Pn	13 14 32.2	+0.4
JOM	Ohasama	1.13	237	⇓P	Pn	13 14 35.5	+0.9
JOM				*e*S	Sn	13 14 49.9	+0.9
OFUJ	Ofunato	1.21	213	P	Pn	13 14 36.7	+1.0
JTM	Tenmabayashi	1.31	302	P	Pn	13 14 37.7	+0.7
JTM				*e*S	Sn	13 14 53.8	+0.6
JAH	Hinai	1.45	274	P	Pn	13 14 40.2	+1.3
JAH				*e*S	Sn	13 14 57.7	+1.0
JMK	Ichinoseki	1.52	222	P	Pn	13 14 41.3	+1.4
ASAJ	Asahikawa	4.02	1	P	Pn	13 15 15.6	+1.4
	1.6nm,0.3s,baz=201,slow=14,SNR=13						
ASAJ				S	Sn	13 15 59.9	-0.2
	0.6nm,0.3s,baz=143,slow=20,SNR=2.5						
MJAR	Matsushiro Arr	4.91	225	P	Pn	13 15 29.3	+2.8
	1.2nm,0.3s,baz=33,slow=13,SNR=43						
MAT	Matsushiro	4.91	225	P	Pn	13 15 30.1	+3.6
USRK	Ussuriysk Ar.	8.83	301	P	Pn	13 16 24.3	+4.0
	0.1nm,0.3s,baz=128,slow=18,SNR=4.2						
SONM	Songino Array	26.94	299	P	P	13 19 52.9	+0.2
	0.4nm,0.4s,baz=115,slow=10.0,SNR=3.0						
H11N2	WAKE ISLAND Hy	29.13	127	T	T	13 50 59.0	
	baz=319,slow=75,SNR=43						
H11N1	WAKE ISLAND Hy	29.14	127	T	T	13 50 59.8	
	baz=319,slow=75,SNR=47						
H11N3	WAKE ISLAND Hy	29.15	127	T	T	13 51 02.3	
	baz=319,slow=75,SNR=30						
H11S1	WAKE ISLAND Hy	29.95	129	T	T	13 52 09.2	
	baz=320,slow=76,SNR=13						
H11S3	WAKE ISLAND Hy	29.95	129	T	T	13 51 58.7	
	baz=320,slow=76,SNR=8.4						
H11S2	WAKE ISLAND Hy	29.96	129	T	T	13 52 10.8	
	baz=320,slow=76,SNR=9.4						
ZALV	Zalesovo Beam	40.56	310	P	P	13 21 50.9	+0.4
	0.7nm,0.6s,baz=87,slow=9.5,SNR=3.8						
MKAR	Makanchi Array	43.30	300	P	P	13 22 13.5	+0.6
	0.3nm,0.5s,baz=90,slow=10,SNR=5.2						
ILAR	Eielson Array	46.46	34	P	P	13 22 36.6	-1.2
	0.3nm,0.8s,baz=252,slow=7.5,SNR=3.3						
WRA	Warramunga Arr	60.21	189	P	P	13 24 18.7	-0.4
	0.2nm,0.6s,baz=7.8,slow=7.7,SNR=5.7						
GEYT	Alibeck	63.14	298	P	P	13 24 38.5	-0.4
	0.8nm,0.5s,baz=101,slow=1.5,SNR=4.1						
ASAR	Alice Springs	63.94	189	P	P	13 24 42.0	-2.2
	0.2nm,0.2s,baz=15,slow=4.8,SNR=2.7						
FINES	FINESS Array B	66.52	332	P	P	13 25 00.3	-0.1
	1.4nm,1.0s,baz=358,slow=4.2,SNR=2.8						

*NEIC **21** 13:15:30.9, 53°.08N×166°.84W, h26km, ML3.8(AEIC), After AEIC.*
*ISCJB **21** 13:15:31.7±0.8, 53°.2N±0°.1×166°.93W±0°.09, h54km±10km, mb3.4/6, MS3.1/3, Error ellipse: s-maj=18.8km s-min=5.1km az=154.8*
*IDC **21** 13:15:32.0±1.7, 53°.24N×167°.02W, h38km±9km, mb3.3/6, mb1 3.6/7, mb1mx3.3/30, mbtmp3.4/7, ML3.0/1, MS3.1/5, Ms1 3.1/5, ms1mx2.8/19, Error ellipse: s-maj=38.5km s-min=27.3km az=4.0*
ISC 21 13:15:32.3±0.8, 53°.16N±0°.07×166°.90W±0°.05, h40km±10km, n38, σ0°.99/38, mb3.5/6, MS2.9/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGOD	Makushin Gods	0.64	1	P	Pn	13 15 44.6	-0.4
OKFG	Magazine Ridge	0.66	293	P	Pn	13 15 44.8	-0.4
OKFG				S	Sn	13 15 55.3	+0.9
MREP	Makushin Rep't	0.66	8	P	Pn	13 15 45.4	+0.1
MSOM	Makushin Julie	0.66	357	P	Pn	13 15 45.1	-0.1
UNV	Unalaska Valle	0.73	19	P	Pn	13 15 45.0	-1.1
UNV				S	Sn	13 15 55.9	-0.1
MNAT	Makushin Natee	0.74	10	P	Pn	13 15 46.0	-0.3
MSW	Makushin Switc	0.76	5	P	Pn	13 15 46.2	-0.4
ZRO	Akutan Zero	1.08	30	P	Pn	13 15 50.4	-0.6
AKRB	Akutan Reef Bi	1.09	27	P	Pn	13 15 50.9	-0.3
AKRB				S	Sn	13 16 06.5	+1.5
AKGG	Akutan Green G	1.17	27	P	Pn	13 15 52.2	-0.1
AKUT	Akutan	1.19	34	P	Pn	13 15 51.7	-0.6
AKUT				S	Sn	13 16 07.7	+0.4
NIKH	Nikolski High	1.19	262	P	Pn	13 15 51.5	-1.0
NIKH				S	Sn	13 16 06.9	-0.6
WESE	West Dahl East	1.90	45	P	Pn	13 16 02.6	+0.3
SSLW	Shishaldin Wes	2.30	44	P	Pn	13 16 08.1	+0.3
SSLN	Shishaldin Nor	2.38	45	P	Pn	13 16 09.5	+0.6
FALS	False Pass	2.67	49	P	Pn	13 16 13.7	+1.0
DRIA	Deer Island	3.28	55	P	Pn	13 16 22.2	+1.0
DT1	Dutton Round H	3.34	52	P	Pn	13 16 23.4	+1.4
HAG	Hague Volcano	3.64	52	P	Pn	13 16 27.4	+1.2
SDPT	Sand Point	4.36	57	P	Pn	13 16 36.2	+0.3
SPIA	Saint Paul Isl	4.46	336	P	Pn	13 16 39.7	+2.4
KOFP	Korovin Flat P	4.47	261	P	Pn	13 16 39.1	+1.6
ADK	Adak	6.11	262	P	Pn	13 17 01.2	+1.2
FX1	Attu Island--F	12.01	277	LR	LR	13 22 32.4	
	comp=Z,44nm,20.5s,baz=111,slow=35						
ILAR	Eielson Array	15.46	33	Pn	Pn	13 19 05.3	-1.9
	0.0nm,0.3s,baz=232,slow=15,SNR=2.8						
ILAR				LR	LR	13 25 30.1	
	comp=Z,58nm,18.4s,baz=150,slow=39						
PETK	Petropavlovsk-	21.11	284	P	P	13 20 12.3	-0.9
	2.5nm,0.9s,baz=90,slow=14,SNR=2.3						
PETK				LR	LR	13 28 26.7	
	comp=Z,29nm,21.1s,baz=80,slow=37						
DLBC	Dease Lake	21.19	61	P	P	13 20 15.8	+1.7
	2.3nm,0.7s,baz=281,slow=11,SNR=4.4						
DLBC				LR	LR	13 28 15.9	
	comp=Z,49nm,18.6s,baz=25,slow=36						
YKA	Yellowknife Ar	28.59	50	P	P	13 21 22.8	-1.3
	0.2nm,0.5s,baz=271,slow=9.1,SNR=6.6						
NVAR	Mina Array Bea	36.20	94	P	P	13 22 32.0	+0.8
	0.4nm,0.9s,baz=295,slow=6.5,SNR=3.9						
NVAR				pP	pP	13 22 42.6	+0.3
	0.6nm,0.7s,baz=293,slow=8.6,SNR=4.3						
PDAR	Pinedale Array	38.79	82	P	P	13 22 52.9	-0.3
	0.3nm,0.5s,baz=328,slow=5.3,SNR=4.2						
PDAR				pP	pP	13 23 03.9	-0.4
	0.3nm,0.6s,baz=309,slow=4.3,SNR=2.3						
H11N2	WAKE ISLAND Hy	39.02	221	T	T	14 04 26.8	
	baz=25,slow=76,SNR=124						
H11N3	WAKE ISLAND Hy	39.03	221	T	T	14 04 23.4	
	baz=25,slow=76,SNR=155						
H11N1	WAKE ISLAND Hy	39.04	221	T	T	14 04 24.3	
	baz=25,slow=76,SNR=103						
H11S1	WAKE ISLAND Hy	40.21	221	T	T	14 06 09.8	
	baz=24,slow=76,SNR=114						
H11S2	WAKE ISLAND Hy	40.22	221	T	T	14 06 10.9	
	baz=24,slow=76,SNR=93						
H11S3	WAKE ISLAND Hy	40.22	221	T	T	14 05 55.4	
	baz=24,slow=76,SNR=63						
JCJ	Chichijima	45.56	256	LR	LR	13 45 22.8	
	comp=Z,67nm,18.2s,baz=160,slow=39						
TXAR	Lajitas Array	51.25	92	P	P	13 24 32.3	+0.2
	0.4nm,0.6s,baz=295,slow=5.5,SNR=7.0						
TXAR				pP	pP	13 24 43.4	-0.1
	1.6nm,0.8s,baz=301,slow=5.4,SNR=11						

IDC 21 13:24:46.4±2.2, 1°.88N×126°.88E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/27, mbtmp3.4/3, Error ellipse: s-maj=191.8km s-min=25.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.89	162	P	P	13 29 52.4	+0.5
	0.5nm,0.3s,baz=342,slow=12,SNR=5.3						
ASAR	Alice Springs	26.30	165	P	P	13 30 23.8	-0.2
	0.2nm,0.5s,baz=351,slow=15,SNR=2.8						
MKAR	Makanchi Array	59.16	326	P	P	13 34 48.9	-0.2
	0.3nm,0.4s,baz=117,slow=7.3,SNR=7.7						

IDC 21 13:35:06.5±12.0, 18°.52S×175°.73W, h232km±113km, mb3.5/4, mb1 3.9/4, mb1mx3.4/18, mbtmp4.1/4, Error ellipse: s-maj=40.2km s-min=23.6km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	47.02	260	P	P	13 43 14.7	-0.4
	1.3nm,0.5s,baz=98,slow=6.6,SNR=53						
WRA				PcP	PcP	13 44 43.4	0.0
	0.3nm,0.6s,baz=100,slow=3.1,SNR=3.8						
ASAR	Alice Springs	47.08	255	P	P	13 43 15.6	+0.1
	6.6nm,0.7s,baz=88,slow=8.4,SNR=99						
ASAR				PcP	PcP	13 44 43.1	-0.4
	0.3nm,0.6s,baz=94,slow=3.8,SNR=4.6						
NVAR	Mina Array Bea	78.12	43	P	P	13 46 40.0	-0.3
	0.8nm,0.7s,baz=222,slow=9.5,SNR=7.6						
PMSA	Palmer Station	82.24	156	P	P	13 47 01.4	0.0
	18nm,0.5s,baz=270,slow=10,SNR=8.8						
TXAR	Lajitas Array	84.19	57	P	P	13 47 12.8	+0.6
	0.9nm,0.9s,baz=220,slow=7.6,SNR=5.8						

MAN 21 13:55:34, 11°.09N×124°.69E, h9km, mb4.4, ML3.3, MS3.1, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.09	241	*e*P	Pg	13 55 37.2	+0.9
OCLP				*e*S	Sg	13 55 41.8	+3.9
PLP	Palo	0.30	76	⇓*e*P	Pb	13 55 40.8	-0.7
MSLP	Maasin	0.97	170	*e*P	Pn	13 55 53.6	-0.1
MSLP				*e*S	Sn	13 56 08.6	+1.0
LLP	Lapu-Lapu	1.04	223	⇑*e*P	Pn	13 55 55.0	+0.1
LLP				*e*S	Sn	13 56 09.5	-0.1
GUIM	Jordan	2.11	258	*e*P	Pb	13 56 11.1	-1.4

*IDC **21** 14:16:28.6±1.3, 36°.82S×73°.48W, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.5/18, mbtmp3.4/6, ML3.3/2, MS2.3/2, Ms1 2.4/2, ms1mx2.3/17, Error ellipse: s-maj=36.2km s-min=18.2km az=84.0*
*ISCJB **21** 14:16:29.1±1.0, 36°.79S±0°.09×73°.5W±0°.2, h14km, mb3.6/3, Error ellipse: s-maj=22.4km s-min=10.4km az=20.9*
ISC 21 14:16:30.5±1.2, 36°.8S±0°.1×73°.6W±0°.2, h14km, n7, σ0°.49/7, mb3.8/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.58	150	Pn	Pn	14 17 39.6	+0.2
	0.7nm,0.3s,baz=325,slow=10,SNR=24						
PLCA				LR	LR	14 18 50.5	
	comp=Z,72nm,21.9s,baz=270,slow=31						
PLCA				Lg	Lg	14 18 51.7	
	1.3nm,0.3s,baz=331,slow=11,SNR=4.5						
CFAA	Coronel Fontan	6.79	42	Pn	Pn	14 18 09.7	-0.1
	0.2nm,0.3s,baz=216,slow=13,SNR=6.9						
CFAA				Sn	Sn	14 19 27.4	+0.5
	0.0nm,0.3s,baz=211,slow=19,SNR=2.4						
CFAA				LR	LR	14 21 08.7	
	comp=Z,18nm,21.9s,baz=224,slow=41						
LPAZ	La Paz	20.98	15	P	Pn	14 21 15.7	-1.0
	1.4nm,0.8s,baz=210,slow=8.1,SNR=5.0						
QSPA	South Pole Qui	53.45	180	P	P	14 25 50.1	+0.2
	1.2nm,0.8s,baz=153,slow=4.9,SNR=8.8						
TXAR	Lajitas Array	71.59	333	P	P	14 27 51.6	+0.3
	0.2nm,0.7s,baz=146,slow=8.8,SNR=2.9						
TORD	Torodi Ar. Bea	86.31	71	P	P	14 29 11.5	-0.8
	0.5nm,0.8s,baz=232,slow=4.7,SNR=2.8						
MKAR	Makanchi Array	159.47	53	PKPab	PKPab	14 37 06.2	-0.1
	0.3nm,0.8s,baz=273,slow=3.4,SNR=4.8						

*ISCJB **21** 14:17:35.9±0.6, 25°.8S±0°.1×78°.6E±0°.1, h10km, mb4.0/11, MS3.4/4, Error ellipse: s-maj=18.7km s-min=15.9km az=34.4*
*IDC **21** 14:17:36.0±0.7, 25°.82S×78°.54E, h0km, mb4.0/11, mb1 4.1/11, mb1mx4.0/23, mbtmp4.0/11, MS3.4/4, Ms1 3.5/4, ms1mx3.0/39, Error ellipse: s-maj=22.9km s-min=19.3km az=36.0*
*NEIC **21** 14:17:38.2±0.6, 25°.78S×78°.39E, h10km, mb4.6/2, Error ellipse: s-maj=21.4km s-min=15.9km az=206.0*
ISC 21 14:17:37.6±0.7, 25°.8S±0°.1×78°.6E±0°.1, h10km, n25, σ0°.47/16, mb4.1/11, MS3.4/4, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	18.98	341	T	T	14 41 21.1	
	baz=165,slow=74,SNR=72						
H08S1	Diego Garcia H	18.98	341	T	T	14 41 22.8	
	baz=165,slow=74,SNR=61						
H08S3	Diego Garcia H	19.00	341	T	T	14 41 23.0	
	baz=165,slow=74,SNR=80						
H08N1	Diego Garcia H	20.67	338	T	T	14 43 43.2	
	baz=154,slow=78,SNR=4.3						
H08N3	Diego Garcia H	20.67	338	T	T	14 43 40.6	
	baz=154,slow=78,SNR=5.0						
H08N2	Diego Garcia H	20.69	338	T	T	14 43 40.9	
	baz=154,slow=78,SNR=4.1						
OPO	Ambohidratompo	29.88	278	LR	LR	14 33 13.1	
	comp=Z,63nm,18.1s,baz=172,slow=31						
KMBO	Kilima Mbogo	46.74	295	P	P	14 26 07.8	+0.2
	0.6nm,0.3s,baz=94,slow=7.3,SNR=4.1						
BOSA	Boshof	47.17	254	P	P	14 26 10.8	+0.2
	4.5nm,0.8s,baz=68,slow=5.3,SNR=6.4						
BOSA	Boshof	47.17	254	*e*P	P	14 26 10.7	0.0
	5.0nm,0.8s						
CMAR	Chiang Mai Arr	48.27	26	P	P	14 26 19.1	+0.1
	0.2nm,0.3s,baz=214,slow=6.4,SNR=2.6						
CMAR				LR	LR	14 44 01.6	
	comp=Z,31nm,19.7s,baz=280,slow=33						
ASAR	Alice Springs	49.99	100	P	P	14 26 32.8	+0.3
	1.8nm,0.8s,baz=261,slow=6.8,SNR=4.7						
ASAR				PcP	PcP	14 27 52.2	-0.3
	0.6nm,0.7s,baz=254,slow=2.6,SNR=4.5						
AS31	Alice Springs	49.99	100	*e*P	P	14 26 36.7	+4.3
WRA	Warramunga Arr	51.41	96	P	P	14 26 43.9	+0.8
	3.6nm,0.8s,baz=257,slow=7.6,SNR=28						
WRA				PcP	PcP	14 27 57.1	-0.6
	0.3nm,0.5s,baz=255,slow=2.7,SNR=5.2						
WRAB	Tennant Creek	51.42	96	*e*P	P	14 26 47.7	+4.5
VNDA	Vanda	63.53	166	P	P	14 28 07.7	0.0
	1.6nm,0.8s,baz=270,slow=8.3,SNR=6.9						
QSPA	South Pole Qui	64.30	180	P	P	14 28 12.5	-0.6
	3.1nm,1.0s,baz=264,slow=2.0,SNR=8.6						
QSPA	South Pole Qui	64.30	180	*e*P	P	14 28 13.1	0.0
	4.2nm,1.1s						
KKAR	Karatay Array	68.98	354	*e*P	P	14 28 43.3	+0.3
MKAR	Makanchi Array	72.35	3	P	P	14 29 02.5	-0.9
	0.4nm,0.8s,baz=197,slow=6.3,SNR=2.3						
KBZ	Khabaz	76.56	334	P	P	14 29 28.2	+0.3
	1.2nm,0.8s,baz=194,slow=4.2,SNR=2.2						
BRTR	Keskin Array B	77.50	326	P	P	14 29 33.2	-0.3
	0.7nm,0.6s,baz=165,slow=10,SNR=4.5						
IDI	Anoyia	79.18	318	LR	LR	15 01 36.2	
	comp=Z,25nm,20.2s,baz=330,slow=33						
TORD	Torodi Ar. Bea	84.17	288	P	P	14 30 09.9	+0.3
	0.5nm,0.7s,baz=108,slow=3.1,SNR=2.6						
MLR	Muntele Rosu	85.58	326	LR	LR	15 05 57.9	
	comp=Z,27nm,21.4s,baz=53,slow=34						

*IDC **21** 14:31:57.3±1.6, 36°.17S×71°.02W, h0km, mb3.1/1, mb1 3.5/3, mb1mx3.4/16, mbtmp3.1/3, ML3.3/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/9, Error ellipse: s-maj=65.0km s-min=21.1km az=90.0*
*GUC **21** 14:32:16.0±0.7, 33°.83S×71°.84W, h30km±10km, MD3.8, ML3.5*
ISC 21 14:32:15.6±2.1, 33°.83S±0°.07×71°.87W±0°.10, h25km±13km, n13, σ1°.27/14, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.40	108	⇓*i*P	Pb	14 32 24.6	+0.3
LNV				*i* S1	Sn	14 32 30.6	-2.1
IHA	Instituto Hidr	0.83	14	⇑*i*P	Pb	14 32 30.6	-0.7
IHA				*i* S1	Sn	14 32 42.7	-0.4

SRKR	**Sorokina**	**1.71**	**330**	*i* P	Pn	14 49 00.8	+2.4
SRKR				S	Sn	14 49 21.8	+2.3
KOZ	**Kozyrevsk**	**1.83**	**300**	*i* P	Pn	14 49 02.9	+3.0
KOZ				S	Sn	14 49 25.2	+2.9
BKI	**Bering**	**1.87**	**88**	P	Pn	14 49 02.9	+2.5
BKI				S	Sn	14 49 24.7	+1.5
SRDR	**Sredinnyy**	**2.04**	**305**	*i* P	Pn	14 49 05.2	+2.5
SRDR				S	Sn	14 49 29.7	+2.4
KII	**Karymskiy**	**2.22**	**240**	*i* P	Pn	14 49 07.8	+2.6
KII				S	Sn	14 49 33.7	+1.9
ESO	**Esso**	**2.39**	**290**	P	Pn	14 49 09.4	+1.9
ESO				S	Sn	14 49 36.7	+0.8
SDLR	**Sedlovina**	**2.95**	**231**	P	Pn	14 49 18.1	+3.0
SDLR				S	Sn	14 49 51.1	+1.6
KRER	**Koryakskii**	**2.99**	**233**	P	Pn	14 49 18.9	+3.1
KRER				S	Sn	14 49 53.0	+2.2
SMAR	**Somma**	**2.99**	**232**	P	Pn	14 49 18.7	+2.8
SMAR				S	Sn	14 49 52.4	+1.5
KRX	**Arik**	**3.00**	**234**	P	Pn	14 49 18.5	+2.6
KRX				S	Sn	14 49 52.4	+1.5
UGLR	**Uglovaya**	**3.02**	**231**	*i* P	Pn	14 49 19.7	+3.6
UGLR				S	Sn	14 49 53.6	+2.3
AVH	**Avacha**	**3.02**	**232**	*i* P	Pn	14 49 19.7	+3.6
AVH				S	Sn	14 49 54.5	+3.3
KOK	**Koryaka**	**3.05**	**233**	P	Pn	14 49 19.2	+2.7
GNL	**Ganaly**	**3.16**	**244**	*i* P	Pn	14 49 21.5	+3.5
PET	**Petropavlovsk**	**3.22**	**229**	P	Pn	14 49 21.3	+2.6
PET				S	Sn	14 49 57.8	+1.9
RUS	**Russkaya**	**3.71**	**224**	S	Sn	14 50 07.7	-0.2
MTVR	**Mutnovka**	**3.81**	**227**	P	Pn	14 49 29.6	+2.7
MTVR				S	Sn	14 50 11.7	+1.1
APC	**Apacha**	**3.98**	**238**	P	Pn	14 49 33.1	+4.1
APC				S	Sn	14 50 18.9	+4.6
OSSR	**Ossora**	**4.08**	**3**	P	Pn	14 49 32.3	+2.0
OSSR				S	Sn	14 50 16.8	0.0

*CSEM **21** 14:48:39.7, 40.°22N×23.°92E, h10km, MD2.6*
ATH 21 14:48:39.7, 40.°22N×23.°92E, h10km±4km, MD2.6/9, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.12**	**22**	*e*PG	Pg	14 48 42.9	+0.3
OUR				*e*SG	Sg	14 48 45.0	+0.3
OUR	**Ouranopolis**	**0.12**	**22**	*e*Pg	Pg	14 48 42.9	+0.3
OUR				*e*Sg	Sg	14 48 45.0	+0.3
PAIG	**Paliouri**	**0.35**	**212**	*e*PG	Pg	14 48 46.3	-0.3
PAIG				*e*SB	Sg	14 48 51.2	0.0
PAIG	**Paliouri**	**0.35**	**212**	*e*Pg	Pg	14 48 46.3	-0.3
PAIG				*e*Sb	Sg	14 48 51.2	0.0
PLG	**Polygyros**	**0.39**	**293**	*e*PG	Pg	14 48 47.2	-0.4
PLG				*e*SB	Sg	14 48 52.2	-0.7
PLG	**Polygyros**	**0.39**	**293**	*e*Pg	Pg	14 48 47.2	-0.4
PLG				*e*Sb	Sg	14 48 52.2	-0.7
HORT	**Hortiatis**	**0.73**	**301**	*e*PB	Pb	14 48 54.7	0.0
HORT				*e*SB	Sg	14 49 03.0	-0.7
HORT	**Hortiatis**	**0.73**	**301**	*e*Pb	Pb	14 48 54.7	0.0
HORT				*e*Sb	Sg	14 49 03.0	-0.7
SOH	**Sokhos**	**0.74**	**325**	*e*PB	Pg	14 48 54.3	+0.2
SOH				*e*SB	Sg	14 49 03.8	-0.1
SOH	**Sokhos**	**0.74**	**325**	*e*Pb	Pg	14 48 54.3	+0.2
SOH				*e*Sb	Sg	14 49 03.8	-0.1
KAVA	**Kavala**	**0.90**	**30**	*e*PG	Pg	14 48 56.4	-0.6
KAVA				*e*SB	Sg	14 49 08.4	-0.3
KAVA	**Kavala**	**0.90**	**30**	*e*Pg	Pg	14 48 56.4	-0.6
KAVA				*e*Sb	Sg	14 49 08.4	-0.3
SRS	**Serrai**	**0.93**	**345**	*e*PN	Pg	14 48 57.8	+0.1
SRS	**Serrai**	**0.93**	**345**	*e*Pn	Pg	14 48 57.8	+0.1
XOR	**Xorichti**	**1.02**	**214**	*e*PN	Pb	14 48 59.7	+0.2
XOR	**Xorichti**	**1.02**	**214**	*e*Pn	Pb	14 48 59.7	+0.2
NVR	**Nevrokopi**	**1.13**	**358**	*e*PB	Pb	14 48 59.9	-1.5
NVR	**Nevrokopi**	**1.13**	**358**	*e*Pb	Pb	14 48 59.9	-1.5
KNT	**Kendrikon**	**1.22**	**321**	*e*PB	Pg	14 49 03.3	+0.1
KNT	**Kendrikon**	**1.22**	**321**	*e*Pb	Pg	14 49 03.3	+0.1

*IDC **21** 14:52:40.5±1.3, 8.°47S×110.°48E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/42, mbtmp3.9/8, ML4.2/1, Error ellipse: s-maj=60.6km s-min=18.3km az=45.0*
*ISCJB **21** 14:52:47.9±0.4, 8.°72S±0.°05×110.°53E±0.°03, h74km±6km, mb3.6/8, Error ellipse: s-maj=8.7km s-min=4.5km az=6.7*
*NEIC **21** 14:52:48.4±1.0, 8.°65S×110.°53E, h64km±12km, mb3.6/2, Error ellipse: s-maj=18.7km s-min=9.5km az=202.0*
NEIC Felt [III] at Bantul, Gunung Kidul and Pacitan. Also felt at Sewon.
*DJA **21** 14:52:49.7±0.6, 9.°S±5.°×11.°1E±.°, h28km±5km, M4.3/23, MLv4.3/23*
ISC 21 14:52:48.0±0.9, 8.°79S±0.°05×110.°53E±0.°03, h64km±9km, n50, σ1°89/55, mb3.6/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.87**	**47**	P	**Pn**	**14 53 04.4**	**-0.2**
PCJI				S	**Sn**	**14 53 15.2**	**-1.6**
UGM	**Wanagama**	**0.87**	**360**	P	**Pn**	**14 53 04.9**	**+0.3**
UGM				S	**Sn**	**14 53 16.1**	**-0.8**
UGM	**Wanagama**	**0.87**	**360**	P	**Pn**	**14 53 04.9**	**+0.3**
baz=1.0,SNR=978							
UGM				S	**Sn**	**14 53 16.1**	**-0.8**
baz=1.0,SNR=9.8							
WOJI	**Wonogiri, Jawa**	**1.02**	**22**	P	**Pn**	**14 53 06.2**	**-0.3**
WOJI				S	**Sn**	**14 53 19.5**	**-0.7**
PWJI	**Pagerwojo**	**1.47**	**59**	P	**Pn**	**14 53 12.8**	**+0.4**
PWJI				S	**Sn**	**14 53 30.5**	**-0.3**
KPJI	**Karang Pucung**	**2.15**	**312**	P	**Pn**	**14 53 23.4**	**+1.9**
CMJI	**Cimerak**	**2.29**	**296**	P	**Pn**	**14 53 25.0**	**+1.5**
CMJI				S	**Sn**	**14 53 50.0**	**-0.6**
TBJI	**Tambak Boyo**	**2.35**	**34**	P	**Pn**	**14 53 25.6**	**+1.2**
UWJI	**Ujung Watu**	**2.39**	**10**	P	**Pn**	**14 53 25.7**	**+0.8**
GRJI	**Gresik**	**2.68**	**46**	P	**Pn**	**14 53 30.1**	**+1.3**
GMJI	**Gumukmas**	**2.93**	**80**	P	**Pn**	**14 53 34.8**	**+2.6**
CISI	**Cisompet, Garu**	**2.95**	**294**	P	**Pn**	**14 53 34.2**	**+1.6**
CISI				S	**Sn**	**14 54 06.4**	**-0.5**
CISI	**Cisompet, Garu**	**2.95**	**294**	P	**Pn**	**14 53 33.6**	**+1.0**
baz=2.9,SNR=35							
CISI				S	**Sn**	**14 54 06.6**	**-0.4**
baz=2.9,SNR=10							
CISI	**Cisompet, Garu**	**2.95**	**294**	*e*P	**Pn**	**14 53 33.4**	**+0.8**
CISI				*e*S	**Sn**	**14 54 06.7**	**-0.2**
BLJI	**Banyuglugur**	**3.21**	**71**	P	**Pn**	**14 53 38.1**	**+2.1**
LEM	**Lembang**	**3.48**	**304**	P	**Pn**	**14 53 41.7**	**+1.8**
LEM	**Lembang**	**3.48**	**304**	P	Pn	14 53 44.2	+4.3
baz=3.4,SNR=3.4							
JAGI	**Jajag, Banyuwa**	**3.60**	**85**	P	**Pn**	**14 53 43.6**	**+2.3**
JAGI	**Jajag, Banyuwa**	**3.60**	**85**	P	**Pn**	**14 53 43.3**	**+2.0**
baz=3.7,SNR=36							
JAGI				S	**Sn**	**14 54 21.0**	**-1.6**
baz=3.7,SNR=4.7							
JAGI	**Jajag, Banyuwa**	**3.60**	**85**	*e*P	**Pn**	**14 53 42.6**	**+1.3**
JAGI				*e*S	**Sn**	**14 54 21.3**	**-1.3**
BWJI	**Bawean**	**3.60**	**36**	P	**Pn**	**14 53 42.4**	**+1.0**
CNJI	**Cibinong**	**3.67**	**293**	P	**Pn**	**14 53 44.1**	**+1.7**
ABJI	**Asem Bagus**	**3.80**	**75**	P	**Pn**	**14 53 46.7**	**+2.7**
KMMI	**Kalianget**	**3.82**	**63**	P	**Pn**	**14 53 45.4**	**+1.1**
SKJI	**Sukabumi**	**4.32**	**294**	P	**Pn**	**14 53 53.0**	**+1.8**
XMI	**Christmas Isla**	**5.05**	**251**	P	**Pn**	**14 54 02.2**	**+0.9**
baz=4.9,SNR=5.4							
XMI				S	**Sn**	**14 54 53.1**	**-5.2**
baz=4.9,SNR=4.4							
XMIS	**Christmas Isla**	**5.09**	**250**	*e*P	**Pn**	**14 54 02.6**	**+0.7**
XMIS				*e*S	Sn	14 54 52.3	-7.1
WSI	**Waingapu**	**9.68**	**96**	S	**Sn**	**14 56 48.0**	**-3.8**
baz=9.8,SNR=14							
BATI	**Baumata**	**13.03**	**97**	Pn	**Pn**	**14 55 49.9**	**-0.5**
1.2nm,0.3s,baz=262,slow=5.8,SNR=3.6							
BATI				Sn	Sn	14 58 06.7	-7.0
1.3nm,0.3s,baz=291,slow=17,SNR=2.8							
SOEI	**Soe**	**13.59**	**95**	P	**Pn**	**14 55 59.2**	**+1.1**
baz=14,SNR=6.3							
GIRL	**Giralia**	**14.23**	**166**	P	**Pn**	**14 56 07.7**	**+1.4**
baz=14,SNR=4.4							
GIRL				S	Sn	14 58 35.9	-6.8
baz=14,SNR=4.5							
MBWA	**Marble Bar**	**15.16**	**145**	*e*P	**Pn**	**14 56 18.1**	**-0.4**
2.8nm,0.4s							
FITZ	**Fitzroy Crossi**	**17.35**	**124**	S	Sn	14 59 50.1	-8.5
baz=17,SNR=3.4							
KNRA	**Kununurra**	**19.08**	**113**	P	**Pn**	**14 57 08.4**	**+1.5**
baz=19,SNR=7.4							
MEEK	**Meekatharra**	**19.34**	**158**	P	**Pn**	**14 57 13.2**	**+3.3**
baz=19,SNR=6.7							
MEEK				S	**S**	**15 00 38.1**	**-5.8**
baz=19,SNR=8.0							
MTN	**Manton Dam**	**20.63**	**103**	P	Pn	14 57 24.8	-0.5
baz=21,SNR=3.7							
WRA	**Warramunga Arr**	**25.55**	**118**	P	**P**	**14 58 13.1**	**+2.0**
0.5nm,0.6s,baz=290,slow=11,SNR=10							
WRA				PcP	**PcP**	**15 01 42.1**	**+0.9**
0.4nm,1.1s,baz=294,slow=1.8,SNR=4.6							
WRAB	**Tennant Creek**	**25.56**	**118**	*e*P	**P**	**14 58 13.4**	**+2.2**
0.7nm,0.5s							
ASAR	**Alice Springs**	**26.81**	**126**	P	**P**	**14 58 25.2**	**+2.7**
0.4nm,0.6s,baz=305,slow=8.7,SNR=7.6							
CMAR	**Chiang Mai Arr**	**29.39**	**337**	P	**P**	**14 58 44.1**	**-1.3**
0.3nm,0.5s,baz=163,slow=9.4,SNR=3.8							
H08S2	**Diego Garcia H**	**37.65**	**269**	T	T	15 40 04.7	
baz=94,slow=76,SNR=2.3							
H08S3	**Diego Garcia H**	**37.66**	**269**	T	T	15 40 04.0	
baz=94,slow=76,SNR=2.0							
H08S1	**Diego Carcia H**	**37.67**	**269**	T	T	15 40 05.2	
baz=94,slow=76,SNR=5.1							
H08N1	**Diego Carcia H**	**39.23**	**271**	T	T	15 42 28.5	
baz=140							
H08N2	**Diego Garcia H**	**39.25**	**271**	T	T	15 42 25.1	
baz=140							
H08N3	**Diego Garcia H**	**39.26**	**271**	T	T	15 42 25.7	
baz=140							
MKAR	**Makanchi Array**	**60.79**	**338**	P	**P**	**15 02 52.1**	**-1.3**
0.4nm,0.4s,baz=147,slow=7.8,SNR=7.4							
ZALV	**Zalesovo Beam**	**66.17**	**344**	P	**P**	**15 03 27.3**	**-1.4**
0.4nm,0.3s,baz=163,slow=6.0,SNR=3.6							
PETK	**Petropavlovsk-**	**73.50**	**27**	P	**P**	**15 04 12.9**	**-0.8**
1.9nm,0.6s,baz=198,slow=4.6,SNR=4.5							
BRTR	**Keskin Array B**	**85.63**	**311**	P	**P**	**15 05 20.5**	**+0.5**
1.8nm,0.7s,baz=138,slow=6.8,SNR=11							

*BJI **21** 14:59:59.9, 6.°70N×73.°10W, h155km*
*ISCJB **21** 15:00:00.2±0.4, 6.°83N±0.°05×72.°99W±0.°04, h166km, mb3.9/1, Error ellipse: s-maj=7.6km s-min=4.6km az=142.4*
*IDC **21** 15:00:00.7±1.2, 6.°78N×72.°94W, h157km±12km, mb3.6/9, mb1 3.9/14, mb1mx3.7/26, mbtmp4.2/14, Error ellipse: s-maj=17.7km s-min=14.7km az=115.0*
*NEIC **21** 15:00:00.9±1.0, 6.°74N×73.°11W, h155km±14km, mb4.5/6, Error ellipse: s-maj=14.9km s-min=13.0km az=80.0*
*FUNV **21** 15:00:06.5, 7.°25N×72.°95W, h163km, MW4.1*
ISC 21 15:00:01.4±0.5, 6.°83N±0.°06×73.°01W±0.°06, h166km, n45, σ1°64/56, mb3.9/11, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.24**	**34**	⇑*i*P	**Pn**	**15 00 30.4**	**+0.4**
CAPV				*e*S	**Sn**	**15 00 49.6**	**-2.5**
ROSC	**El Rosal**	**2.36**	**214**	P	**Pn**	**15 00 42.5**	**+0.4**
212nm,0.3s,baz=92,slow=22,SNR=259							
ROSC				S	**Sn**	**15 01 11.9**	**-1.8**
165nm,0.3s,baz=86,slow=22,SNR=8.0							
VIGV	**El Vigia**	**2.58**	**39**	*e*P	**Pn**	**15 00 45.1**	**+0.8**
VIGV				*e*S	**Sn**	**15 01 12.1**	**-5.5**
SOCV	**Socops**	**2.58**	**56**	*e*P	**Pn**	**15 00 44.8**	**+0.4**
SOCV				*e*S	**Sn**	**15 01 14.4**	**-3.2**
SDV	**Santo Domingo**	**3.12**	**49**	*e*Pn	**Pn**	**15 00 51.8**	**+0.7**
SDV				*e*Sn	**Sn**	**15 01 29.4**	**-0.3**
ELOV	**Elorza**	**3.50**	**87**	*e*S	**Sn**	**15 01 37.2**	**-0.9**
VIRV	**Villa del Rosa**	**3.69**	**9**	*e*P	**Pn**	**15 00 57.4**	**-0.8**
VIRV				*e*S	Sn	15 01 33.3	-9.2
SANV	**Sanarito**	**4.34**	**52**	*e*P	**Pn**	**15 01 06.4**	**-0.3**
SANV				*e*S	Sn	15 01 50.9	-6.8
CURV	**Curarigua**	**4.37**	**43**	*e*P	**Pn**	**15 01 07.1**	**+0.1**
CURV				*e*S	Sn	15 01 50.5	-7.7
DABV	**Dabajuro**	**4.69**	**30**	*e*P	**Pn**	**15 01 09.4**	**-1.7**
SIQV	**Siquisique**	**4.94**	**40**	*e*P	**Pn**	**15 01 13.4**	**-1.0**
SIQV				*e*S	Sn	15 02 02.6	-8.9
MAPV	**Macapo**	**5.40**	**56**	*e*P	**Pn**	**15 01 19.9**	**-0.6**
MONV	**Montecano**	**5.91**	**30**	*e*S	Sn	15 02 23.2	-11
JACV	**Jacura**	**5.91**	**44**	*e*P	**Pn**	**15 01 25.4**	**-1.8**
BCIP	**Isla Barro Col**	**7.15**	**289**	*e*Pn	**Pn**	**15 01 40.7**	**-2.8**
OTAV	**Otavalo**	**8.51**	**220**	*e*Pn	**Pn**	**15 02 00.3**	**-1.7**
7.9nm,0.6s							
PCRV	**Puerto La Cruz**	**8.92**	**68**	P	**Pn**	**15 02 06.8**	**-0.3**
2.9nm,0.3s,baz=256,slow=5.9,SNR=18							
MTDJ	**Mount Denham**	**12.15**	**339**	*e*P	**Pn**	**15 02 50.8**	**+1.4**
39nm,0.4s							
SJG	**San Juan**	**13.05**	**30**	P	**Pn**	**15 02 59.5**	**-1.3**
0.0nm,0.3s,baz=216,slow=19,SNR=3.8							
ATAH	**Atahualpa**	**14.88**	**201**	P	**P**	**15 03 25.4**	**-0.3**
0.4nm,0.3s,baz=16,slow=20,SNR=1.9							
SAML	**Samuel**	**18.49**	**148**	*e*P	**P**	**15 04 04.9**	**-0.1**
4.1nm,0.5s							
TEIG	**Tepich**	**19.91**	**313**	P	**Pn**	**15 04 22.2**	**-1.8**
2.4nm,0.3s,baz=162,slow=19,SNR=12							
TEIG	**Tepich**	**19.91**	**313**	*e*P	**P**	**15 04 22.0**	**+1.6**
9.1nm,0.4s							
LPAZ	**La Paz**	**23.48**	**168**	pP	pP	15 05 28.1	-0.4
3.7nm,0.8s,baz=353,slow=12,SNR=15							
SIV	**San Ignacio**	**25.57**	**153**	pP	pP	15 05 49.3	-0.2
2.1nm,0.8s,baz=311,slow=10,SNR=3.8							
TXAR	**Lajitas Array**	**36.54**	**312**	P	**P**	**15 06 52.4**	**+1.0**
0.7nm,0.4s,baz=125,slow=8.9,SNR=15							
TXAR				PcP	**PcP**	**15 09 13.0**	**+1.6**
0.1nm,0.5s,baz=124,slow=4.8,SNR=3.3							
ECSD	**EROS Data Cent**	**42.18**	**334**	*e*P	**P**	**15 07 38.3**	**+0.5**
2.0nm,0.5s							
BRSD	**Miller**	**43.78**	**333**	*e*P	**P**	**15 07 50.4**	**-0.2**
20nm,0.3s							
ULM	**Lac du Bonnet**	**47.31**	**340**	P	**P**	**15 08 18.2**	**0.0**
6.8nm,0.5s,baz=140,slow=6.2,SNR=14							
SCHQ	**Schefferville**	**48.12**	**5**	P	**P**	**15 08 25.2**	**+0.9**
2.4nm,0.5s,baz=194,slow=8.2,SNR=7.3							
PDAR	**Pinedale Array**	**48.13**	**324**	P	**P**	**15 08 25.5**	**+0.5**
0.9nm,0.5s,baz=128,slow=9.5,SNR=11							
NVAR	**Mina Array Bea**	**51.55**	**315**	P	**P**	**15 08 52.2**	**+1.3**
0.5nm,0.6s,baz=124,slow=7.2,SNR=4.7							
YBH	**Yreka Blue Hor**	**56.01**	**316**	P	**P**	**15 09 21.7**	**-1.3**
1.0nm,0.6s,baz=115,slow=5.5,SNR=5.1							
YKA	**Yellowknife Ar**	**63.29**	**340**	P	**P**	**15 10 12.8**	**+0.6**
3.1nm,0.5s,baz=132,slow=6.8,SNR=55							
TORD	**Torodi Ar. Bea**	**73.63**	**78**	P	**P**	**15 11 16.6**	**-0.7**
0.1nm,0.3s,baz=284,slow=6.5,SNR=4.0							
ILAR	**Eielson Array**	**77.00**	**335**	P	**P**	**15 11 36.3**	**+0.7**
0.3nm,0.5s,baz=100,slow=4.4,SNR=7.9							
MKAR	**Makanchi Array**	**122.27**	**20**	PKP	**PKPdf**	**15 18 37.0**	**+0.1**
0.1nm,0.3s,baz=323,slow=2.7,SNR=4.8							
KSH	**Kashi**	**125.69**	**29**	*e*PKP	**PKPdf**	**15 18 44.4**	**+0.6**
KSH				sPKP		15 19 39.8	
KSH				PP	**PP**	**15 20 38.6**	**+1.7**
KSH				PKS	**PKSdf**	**15 22 21.1**	**+0.5**
KSH				SKS	**SKSdf**	**15 25 42.3**	**+1.9**
KSH				SKKS	**SKKSac**	**15 27 20.9**	**+1.3**
KSH				SS	**SS**	**15 37 28.1**	**+4.9**
KSH				LN			
65nm,4.1s							
KSH				LE			
53nm,4.9s							
KSH				LZ			
180nm,5.9s							
WMQ	**Urumqi**	**126.64**	**17**	*e*PKP	**PKPdf**	**15 18 45.1**	**-0.4**
HHC	**Hu-ho-hao-te**	**132.37**	**355**	*e*PKP	**PKPdf**	**15 18 55.0**	**-1.5**
HHC				sPKP		15 19 56.6	
HHC				SKS	**SKSdf**	**15 25 52.3**	**-0.2**
HHC				SKKS	**SKKSac**	**15 27 57.6**	**-3.3**
LZH	**Lanzhou**	**137.21**	**4**	*e*PKP	**PKPdf**	**15 19 03.4**	**-2.3**
LZH				sPKP		15 20 02.8	
LZH				LN			
100nm,18.1s							
LZH				LE			
120nm,18.4s							
LZH				LZ			
150nm,20.0s							
NJ2	**Nanjing**	**139.71**	**344**	*e*PKP	**PKPdf**	**15 19 10.3**	**+0.1**
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	**PKPbc**	**15 19 31.1**	**-0.1**
0.5nm,0.6s,baz=120,slow=3.4,SNR=10							
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	**PKPbc**	**15 19 34.3**	**0.0**
0.4nm,0.4s,baz=108,slow=2.8,SNR=19							
WRA				pPKPbc	**pPKPbc**	**15 20 17.2**	**-0.6**
0.4nm,0.5s,baz=106,slow=2.7,SNR=3.2							
CMAR	**Chiang Mai Arr**	**153.65**	**17**	PKPbc	**PKPbc**	**15 19 42.1**	**+0.6**
0.5nm,0.5s,baz=328,slow=3.1,SNR=4.9							

IDC 21 15:00:33.2±3.0, 25.°10S×179.°66E, h481km±34km, mb3.1/4, mb1 3.5/5, mb1mx3.2/17, mbtmp4.1/5, Error ellipse: s-maj=41.1km s-min=23.4km az=168.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.30**	**189**	P	P	15 03 24.2	-1.4
2.3nm,0.3s,baz=8.7,slow=1.1,SNR=22							
URZ				S	S	15 05 48.2	+0.4
0.3nm,0.3s,baz=30,slow=20,SNR=6.1							
ASAR	**Alice Springs**	**41.55**	**262**	P	P	15 07 38.2	+0.2
0.8nm,0.3s,baz=93,slow=7.3,SNR=34							
WRA	**Warramunga Arr**	**42.03**	**268**	P	P	15 07 41.6	-0.3
1.6nm,0.3s,baz=99,slow=6.9,SNR=80							
WRA				ScP	ScP	15 12 29.0	-1.4
0.5nm,1.0s,baz=104,slow=3.7,SNR=4.6							
NVAR	**Mina Array Bea**	**85.82**	**44**	P	P	15 12 21.3	-0.1
0.4nm,0.8s,baz=218,slow=9.3,SNR=4.4							
TXAR	**Lajitas Array**	**91.32**	**58**	P	P	15 12 47.5	+0.3
0.3nm,0.7s,baz=218,slow=5.7,SNR=4.7							

GUC 21 15:02:55.8±0.4, 34.°02S×73.°14W, h54km±10km, ML3.7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.85**	**138**	*e*S4	Sn	15 03 47.8	+0.5
NICH	**Los Niches**	**1.85**	**122**	*e*P	Pn	15 03 26.1	+0.9
NICH				*e*S	Sn	15 03 48.9	+1.4
ANTU	**Antumapu**	**2.13**	**78**	*e*S	Sn	15 03 56.0	+1.5
ANTU				IAML		15 03 56.5	
comp=N,445nm,0.5s							
LNCH	**Linares**	**2.21**	**146**	*e*P	Pn	15 03 31.0	+0.9
LNCH				*e*S	Sn	15 03 57.6	+1.3
PEL	**Peldehue**	**2.23**	**67**	*e*P	Pn	15 03 31.1	+0.8
PEL				*e*S	Sn	15 03 58.4	+1.7
PEL				IAML		15 04 01.4	
comp=E,960nm,0.5s							

*JMA **21** 15:07:21.0, 23.°89N×121.°67E, h32km±1km, M3.0*
*ISCJB **21** 15:07:22.2±0.3, 23.°96N±0.°02×121.°74E±0.°02, h28km±2km, Error ellipse: s-maj=3.4km s-min=2.2km az=142.8*
*TAP **21** 15:07:22.0, 23.°98N×121.°68E, h37km, ML3.6, B*
ISC 21 15:07:22.9±1.0, 23.°98N±0.°02×121.°69E±0.°02, h34km±2km, n69, σ0°93/107, 16C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.08**	**270**	⇓*i*P	**Pb**	**15 07 28.3**	**-0.3**
baz=270							
HWA				S	**Sb**	**15 07 33.5**	**+0.9**
baz=270							
TWD	**Chiawan**	**0.14**	**319**	⇓*i*P	Pn	15 07 28.4	+2.0
baz=328							
TWD				*i* S	**Sb**	**15 07 33.2**	**+0.1**
baz=328							
ESF	**Shoufeng Towns**	**0.20**	**238**	*e*P	**Pb**	**15 07 29.9**	**+0.3**
baz=247							
ESF				*e*S	**Sb**	**15 07 34.5**	**+0.5**
baz=247							
ESL	**Shilin**	**0.29**	**236**	⇑*i*P	**Pn**	**15 07 29.6**	**-1.0**
baz=241							
TEGC	**Jichi Village**	**0.30**	**208**	*e*P	**Pb**	**15 07 31.1**	**+0.4**
baz=195							
EHP	**Heping Village**	**0.33**	**7**	*e*P	**Pb**	**15 07 30.2**	**-1.0**
baz=15							
WHF	**Hehuan Shan**	**0.43**	**293**	⇑*i*P	**Pb**	**15 07 31.7**	**-1.1**
baz=288							
WHF				*e*S	**Sb**	**15 07 38.4**	**-1.2**
baz=288							
ENA	**Nanau**	**0.45**	**6**	⇓P	**Pb**	**15 07 31.9**	**-0.9**
baz=14							
NNS	**Nan Shan**	**0.55**	**328**	⇑*i*P	**Pn**	**15 07 33.4**	**-1.0**
baz=324							
NNS				S	**Sb**	**15 07 41.1**	**-1.1**
baz=324							
TWT	**Tachien**	**0.55**	**300**	⇑*i*P	**Pn**	**15 07 33.8**	**-0.6**
baz=300							
TWT				S	**Sb**	**15 07 41.3**	**-1.0**
baz=300							
WDT	**Danda**	**0.56**	**247**	⇑*i*P	**Pn**	**15 07 33.7**	**-1.0**
baz=239							
WDT				S	**Sn**	**15 07 41.3**	**-1.7**
baz=239							
EHY	**Hungye**	**0.58**	**216**	P	**Pn**	**15 07 32.9**	**-1.8**
baz=222							
TWC	**Suao**	**0.65**	**13**	P	**Pn**	**15 07 35.2**	**-0.4**
baz=21							
TWC				*e*S	**Sb**	**15 07 46.3**	**+1.6**
baz=21							
ENTT	**Nioudou**	**0.67**	**350**	⇑*i*P	**Pn**	**15 07 35.2**	**-0.8**
baz=351							
ENTT				S	**Sn**	**15 07 44.4**	**-0.9**
baz=351							
TWF1	**Yuli**	**0.72**	**210**	⇓P	**Pn**	**15 07 34.9**

TWS1 eS **Sn** **15 07 58.2 +1.1**
baz=356
STYT Tauyuan 1.18 227 eP **Pn** **15 07 42.9 -0.2**
baz=223
STYT eS **Sn** **15 07 57.9 -0.2**
baz=223
CHN4 Tsaushan 1.19 239 eP **Pn** **15 07 43.7 +0.6**
baz=229
CHN4 S **Sb** **15 08 00.1 +0.1**
baz=229
CHN2 Minshiung 1.20 249 eP **Pn** **15 07 43.9 +0.6**
baz=249
CHN2 eS **Sb** **15 08 01.3 +0.9**
baz=249
WTP Ta-pu 1.23 234 eP **Pn** **15 07 44.1 +0.4**
baz=234
WTP eS **Sn** **15 08 01.0 +1.7**
baz=234
JYNG Yonagunijimaku 1.24 67 P **Pn** **15 07 43.6 -0.2**
JYNG S **Sn** **15 07 59.2 -0.1**
CHY Chiayi 1.26 248 eP **Pn** **15 07 45.0 +0.9**
baz=247
TWG Pinlang 1.28 207 eP **Pn** **15 07 42.4 -2.1**
baz=195
YOJ Yonaguni jima 1.30 68 P **Pn** **15 07 44.4 -0.2**
YOJ eS **Sn** **15 08 01.6 +0.8**
YOJ Yonaguni jima 1.30 68 eP **Pn** **15 07 44.4 -0.2**
baz=68
WTCT Ta-ch'eng 1.30 265 eP **Pn** **15 07 45.3 +0.7**
baz=276
WTCT eS **Sb** **15 08 03.2 +0.1**
baz=276
TWK Hsinying 1.31 238 ⇑P **Pn** **15 07 45.6 +0.7**
baz=228
TWK eS **Sn** **15 08 03.2 +1.9**
baz=228
CHN1 Nanshi 1.33 234 eP **Pn** **15 07 45.5 +0.4**
baz=234
SGST Jiashian 1.35 229⇑*i*P **Pn** **15 07 46.6 +1.2**
baz=230
SGST eS **Sb** **15 08 04.5 -0.3**
baz=230
WSF Szhu 1.39 256 eP **Pn** **15 07 46.9 +1.0**
baz=256
WSF S **Sb** **15 08 05.9 +0.2**
baz=256
CHN3 Shinhua 1.51 234 eP **Pn** **15 07 48.9 +1.3**
baz=234
ECL Taimali 1.53 206 eP **Pn** **15 07 45.8 -2.1**
baz=198
SSD Sandimen 1.57 219 eP **Pn** **15 07 49.2 +0.9**
baz=221
SSD eS **Sn** **15 08 09.7 +2.2**
baz=221
SCLT Jiali 1.59 240 eP **Pn** **15 07 49.0 +0.3**
baz=240
TWM1 Shoushan 1.64 226 eP **Pn** **15 07 51.3 +1.9**
baz=237
EAST Anshuo 1.77 206 eP **Pn** **15 07 51.1 0.0**
baz=200
SCZT Fangliau 1.88 212 eP **Pn** **15 07 53.4 +0.7**
baz=213
IRIF Iriomote-Funau 1.89 79 P **Pn** **15 07 52.8 0.0**
IRIF S **Sn** **15 08 15.7 +0.2**
HATJ Hateruma jima 1.93 87 S **Sn** **15 08 16.7 +0.2**
WDGT Dungji 2.00 249 eP **Pn** **15 07 53.3 -0.9**
baz=249
PNG Penghu 2.00 259 eP **Pn** **15 07 54.4 +0.1**
baz=258
JKRS Kuro-shima 2.13 83 P **Pn** **15 07 56.4 +0.3**
JKRS S **Sn** **15 08 22.9 +1.5**
HEN Hengchun 2.15 204 eP **Pn** **15 07 56.9 +0.5**
baz=199
TWK1 Hengchun 2.18 202 eP **Pn** **15 07 58.3 +1.5**
baz=195
JIJ Ishigaki jima 2.27 80 P **Pn** **15 07 57.8 -0.2**
JIJ S **Sn** **15 08 23.8 -1.0**
JISG Ishigakijimahi 2.46 75 P **Pn** **15 08 00.5 -0.2**
JISG S **Sn** **15 08 28.7 -0.9**
JTJ Tarama 2.82 76 eS **Sn** **15 08 39.3 +0.8**
KNM Kinmen 3.01 279 eP **Pn** **15 08 08.5 +0.3**
baz=277

*CSEM **21** 15:14:40.9±0.2, 40°.30N×24°.60E, h15km, MD2.8, Error ellipse: s-maj=4.8km s-min=3.4km az=25.0*
ATH 21 15:14:40.6, 40°.30N×24°.59E, h29km±1km, MD2.8/12, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.47**	**274**	ePB	Pn	15 14 50.9	-0.4
OUR				eSB	Sb	15 14 57.0	-0.1
OUR	**Ouranopolis**	**0.47**	**274**	ePb	Pn	15 14 50.9	-0.4
OUR				eSb	Sb	15 14 57.0	-0.1
LIA	**Limnos Island**	**0.61**	**131**	ePN	Pn	15 14 53.3	+0.1
LIA				eSN	Sn	15 15 02.0	-0.1
LIA	**Limnos Island**	**0.61**	**131**	ePn	Pn	15 14 53.3	+0.1
LIA				eSn	Sn	15 15 02.0	-0.1
KAVA	**Kavala**	**0.70**	**355**	ePN	Pn	15 14 55.6	+1.1
KAVA				eSN	Sb	15 15 03.6	0.0
KAVA	**Kavala**	**0.70**	**355**	ePn	Pn	15 14 55.6	+1.1
KAVA				eSn	Sb	15 15 03.6	0.0
SMTH	**Samothraki Isl**	**0.74**	**76**	ePN	Pn	15 14 55.5	+0.4
SMTH				eSN	Sn	15 15 05.2	-0.2
SMTH	**Samothraki Isl**	**0.74**	**76**	ePn	Pn	15 14 55.5	+0.4
SMTH				eSn	Sn	15 15 05.2	-0.2
PAIG	**Paliouri**	**0.79**	**242**	ePN	Pb	15 14 56.8	+1.0
PAIG				eSN	Sn	15 15 07.3	+0.7
PAIG	**Paliouri**	**0.79**	**242**	ePn	Pb	15 14 56.8	+1.0
PAIG				eSn	Sn	15 15 07.3	+0.7
PLG	**Polygyros**	**0.88**	**275**	ePN	Pb	15 14 58.2	+0.8
PLG	**Polygyros**	**0.88**	**275**	ePn	Pb	15 14 58.2	+0.8
SOH	**Sokhos**	**1.08**	**299**	ePN	Pb	15 15 01.6	+0.9
SOH				eSN	Sb	15 15 16.7	+2.2
SOH	**Sokhos**	**1.08**	**299**	ePn	Pb	15 15 01.6	+0.9
SOH				eSn	Sb	15 15 16.7	+2.2
SRS	**Serrai**	**1.11**	**317**	ePN	Pb	15 15 02.5	+1.2
SRS				eSN	Sb	15 15 16.2	+0.7
SRS	**Serrai**	**1.11**	**317**	ePn	Pb	15 15 02.5	+1.2
SRS				eSn	Sb	15 15 16.2	+0.7
HORT	**Hortiatis**	**1.18**	**285**	ePN	Pb	15 15 03.7	+1.3
HORT				eSN	Sb	15 15 19.5	+2.1
HORT	**Hortiatis**	**1.18**	**285**	ePn	Pb	15 15 03.7	+1.3
HORT				eSn	Sb	15 15 19.5	+2.1
NVR	**Nevrokopi**	**1.19**	**332**	ePN	Pb	15 15 02.9	+0.3
NVR				eSN	Sb	15 15 19.2	+1.6
NVR	**Nevrokopi**	**1.19**	**332**	ePn	Pb	15 15 02.9	+0.3
NVR				eSn	Sb	15 15 19.2	+1.6
AOS	**Alonnisos**	**1.25**	**206**	ePN	Pb	15 15 04.1	+0.5
AOS				eSN	Sb	15 15 21.2	+1.8
AOS	**Alonnisos**	**1.25**	**206**	ePn	Pb	15 15 04.1	+0.5
AOS				eSn	Sb	15 15 21.2	+1.8
ALN	**Alexandroupoli**	**1.26**	**61**	ePN	Pb	15 15 04.6	+0.9
ALN				eSN	Sb	15 15 20.4	+0.9
ALN	**Alexandroupoli**	**1.26**	**61**	ePn	Pb	15 15 04.6	+0.9
ALN				eSn	Sb	15 15 20.4	+0.9
XOR	**Xorichti**	**1.42**	**230**	ePB	Pn	15 15 05.4	+0.8
KNT	**Kendrikon**	**1.55**	**304**	ePN	Pb	15 15 10.1	+1.5
KNT				eSN	Sb	15 15 27.5	-0.4
KNT	**Kendrikon**	**1.55**	**304**	ePn	Pb	15 15 10.1	+1.5
KNT				eSn	Sb	15 15 27.5	-0.4

IDC 21 15:21:20.5±2.0, 57°.65S×141°.64W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/12, mbtmp3.8/2, MS3.5/2, Ms1 3.5/2, ms1mx3.1/26, Error ellipse: s-maj=373.7km s-min=43.1km az=179.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**33.05**	**288**	LR	LR	15 37 50.1	
	comp=Z,81nm,18.1s,baz=166,slow=30						
PPT	**Papeete**	**40.45**	**348**	LR	LR	15 41 18.6	
	comp=Z,50nm,19.7s,baz=161,slow=30						
ASAR	**Alice Springs**	**67.41**	**261**	P	P	15 32 17.5	-0.2
	0.7nm,0.7s,baz=144,slow=6.6,SNR=16						
H01W1	**Cape Leeuwin H**	**68.18**	**239**	T	T	16 47 55.4	
	baz=144,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**68.19**	**239**	T	T	16 47 56.1	
	baz=144,slow=76,SNR=16						
H01W3	**Cape Leeuwin H**	**68.20**	**239**	T	T	16 47 56.9	
	baz=144,slow=76,SNR=17						
WRA	**Warramunga Arr**	**70.21**	**264**	P	P	15 32 35.6	+0.5
	0.7nm,0.8s,baz=147,slow=5.6,SNR=10						
H10S3	**ASCENSION HYDR**	**00.91**	**127**	T	T	17 28 56.7	
	baz=206,slow=74,SNR=2.3						
H10S2	**ASCENSION HYDR**	**00.91**	**127**	T	T	17 28 48.3	
	baz=206,slow=74,SNR=2.9						
H10S1	**ASCENSION HYDR**	**00.92**	**127**	T	T	17 28 58.5	
	baz=206,slow=74,SNR=3.4						
H10N3	**ASCENSION HYDR**	**01.97**	**126**	T	T	17 30 02.9	
	baz=201						
H10N1	**ASCENSION HYDR**	**01.97**	**126**	T	T	17 30 06.3	
	baz=201						
H10N2	**ASCENSION HYDR**	**01.99**	**126**	T	T	17 30 06.9	
	baz=201						
ESDC	**Sonseca Array**	**147.45**	**105**	PKPbc	PKPbc	15 41 05.1	-0.5
	0.1nm,0.2s,baz=244,slow=3.5,SNR=4.0						
MKAR	**Makanchi Array**	**151.48**	**267**	PKPbc	PKPbc	15 41 14.7	-0.7
	0.2nm,0.7s,baz=116,slow=3.4,SNR=2.4						
MKAR				PKPab	PKPab	15 41 23.3	-0.5
	1.1nm,0.9s,baz=126,slow=3.6,SNR=6.9						

*ISCJB **21** 15:25:13.2±0.5, 32°.32N±0°.02×115°.24W±0°.02, h13km±3km, Error ellipse: s-maj=3.9km s-min=3.3km az=159.7*
*NEIC **21** 15:25:14.5, 32°.33N×115°.26W, h5km, ML3.0(PAS), ML3.8(ECX), After ECX.*
*ECX **21** 15:25:14.5±0.4, 32°.33N×115°.26W, h5km, MD3.6, ML3.8*
*MEX **21** 15:25:15.1±0.4, 32°.38N×115°.34W, h9km±15km, MD4.2*
ISC 21 15:25:13.3±0.9, 32°.30N±0°.02×115°.25W±0°.02, h13km±6km, n37, σ1°.08/56, 8C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.12**	**23**	*i* P	**Pb**	**15 25 17.3**	**-0.2**
MBIG				eS	**Sg**	**15 25 19.4**	**+0.6**
MBIG				*i* S	**Sg**	**15 25 19.5**	**+0.6**
CPBX	**Cerro Prieto**	**0.13**	**340**⇓	eP	**Pg**	**15 25 16.7**	**+0.1**
CPBX				eS	**Sg**	**15 25 18.5**	**-0.5**
RDX	**Rancho Dawling**	**0.69**	**238**⇑	eP	**Pg**	**15 25 26.8**	**0.0**
RDX				eS	**Sg**	**15 25 36.3**	**+0.4**
RDX			⇑	*e*		15 25 38.0	
	comp=N,2μm,0.4s						
RMX	**La Rumorosa**	**0.76**	**294**⇓	eP	**Pg**	**15 25 27.6**	**-0.5**
RMX				eS	**Sg**	**15 25 37.6**	**-0.6**
RMX			⇑	*e*		15 25 40.2	
	comp=E,2μm,0.2s						
SWSC	**Sam W. Stewart**	**0.79**	**325**	P	**Pg**	**15 25 27.8**	**-0.8**
	baz=0.8						
GLA	**Glamis**	**0.83**	**25**	P	**Pg**	**15 25 28.9**	**-0.6**
	baz=0.8						
GLA				S	**Sg**	**15 25 40.0**	**-0.5**
	baz=0.8						
GLA	**Glamis**	**0.83**	**25**	ePg	**Pg**	**15 25 28.8**	**-0.7**
ECBX	**El Chinero**	**0.84**	**168**⇓	eP	**Pg**	**15 25 29.5**	**0.0**
ECBX				eS	**Sb**	**15 25 41.5**	**+0.5**
ECBX			⇓	*e*		15 25 42.7	
	comp=N,5μm,0.4s						
MONP	**Monument Peak,**	**1.15**	**301**	P	**Pb**	**15 25 33.9**	**-1.4**
	baz=1.1						
MONP				S	**Sb**	**15 25 49.1**	**-1.0**
	baz=1.1						
ZAX	**El Zacaton**	**1.17**	**228**⇑	eP	**Pb**	**15 25 35.1**	**-0.3**
ZAX				eS	**Sg**	**15 25 51.1**	**+0.1**
CBX	**Cerro Bola**	**1.20**	**271**⇑	eP	**Pn**	**15 25 35.3**	**-0.6**
CBX				eS	**Sb**	**15 25 51.1**	**-0.3**
BAR	**Barrett**	**1.26**	**288**	eP	**Pn**	**15 25 36.3**	**-0.4**
BAR				eSg	**Sb**	**15 25 52.1**	**-1.0**
SPIG	**San Pedro Mart**	**1.26**	**188**	*i* P	**Pn**	**15 25 36.6**	**-0.3**
SPIG				eS	**Sb**	**15 25 52.8**	**-0.6**
SPIG	**San Pedro Mart**	**1.26**	**188**	*i* P	**Pn**	**15 25 36.6**	**-0.3**
SPIG				eS	**Sb**	**15 25 52.8**	**-0.6**
SPX	**San Pedro Mart**	**1.26**	**188**⇑	eP	**Pn**	**15 25 36.7**	**-0.3**
SPX			⇓	*e*		15 25 55.9	
	comp=E,840nm,0.6s						
ECNX	**Esteban Cantu**	**1.31**	**241**⇑	eP	**Pn**	**15 25 37.3**	**-0.1**
ECNX				eS	**Sg**	**15 25 55.4**	**-0.1**
113A	**Mohawk Valley,**	**1.34**	**69**	P	**Pn**	**15 25 37.0**	**-0.7**
	baz=1.3						
113A				S	**Sb**	**15 25 53.5**	**-1.9**
	baz=1.3						
BC3	**Big Chuckawall**	**1.37**	**353**	P	**Pn**	**15 25 36.7**	**-1.6**
	baz=1.3						
PBX	**Punta Banda**	**1.37**	**247**⇑	eP	**Pn**	**15 25 38.1**	**0.0**
PBX				eS	**Sb**	**15 25 56.8**	**+0.6**
PFO	**Pinyon Flats O**	**1.65**	**323**	P	**Pn**	**15 25 40.5**	**-1.8**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.65**	**323**	ePn	**Pn**	**15 25 40.4**	**-1.8**
PFO				ePg	**Pg**	**15 25 46.0**	**+1.0**
109C	**Camp Elliot, M**	**1.67**	**291**	Pg	**Pn**	**15 25 43.0**	**+0.7**
	baz=1.7						
109C				Sb	**Sn**	**15 26 04.2**	**+0.6**
	baz=1.7						
MURC	**Murrieta**	**2.09**	**309**	P	**Pn**	**15 25 46.9**	**-1.2**
	baz=2.1						
MURC				Sb	**Sb**	**15 26 17.9**	**+0.8**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.10**	**99**	P	**Pn**	**15 25 47.2**	**-1.1**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.10**	**99**	ePn	**Pn**	**15 25 47.6**	**-0.6**
SCI	**San Clemente I**	**2.86**	**285**	Sb	**Sb**	**15 26 39.7**	**+0.4**
	baz=2.8						
MWC	**Mount Wilson**	**3.04**	**310**	Pn	**Pb**	**15 26 04.6**	**-2.8**
PASC	**Pasadena Art C**	**3.09**	**308**	ePg	**Pb**	**15 26 09.2**	**+1.1**
TUC	**Tucson**	**3.78**	**89**	ePn	**Pn**	**15 26 12.6**	**+1.1**
SHPR	**Sheep Range**	**4.20**	**1**	ePn	**Pn**	**15 26 17.9**	**+0.6**
ISA	**Isabella, Lake**	**4.29**	**322**	Pn	**Pn**	**15 26 18.9**	**+0.5**
ISA				ePg	Pb	15 26 32.2	+3.5
DAC	**Darwin (Calif)**	**4.42**	**335**	ePn	**Pn**	**15 26 22.4**	**+2.1**
DAC				ePg	**Pg**	**15 26 40.4**	**+2.5**
WUAZ	**Wupatki**	**4.55**	**44**	ePn	**Pn**	**15 26 24.1**	**+2.0**
CCUT	**Cedar City**	**5.47**	**16**	ePn	Pn	15 26 38.7	+3.9
	comp=E,6.7nm,0.8s						
121A	**Cookes Peak, D**	**6.32**	**86**	ePn	**Pn**	**15 26 47.0**	**+0.6**
	comp=E,3.6nm,0.5s						
MVU	**Marysvale**	**6.67**	**21**	ePg	**Pg**	**15 27 21.0**	**-0.1**
	comp=E,5.5nm,0.8s						
PV04	**Paradox Valley**	**7.99**	**39**	ePn	**Pn**	**15 27 11.8**	**+2.4**

*IDC **21** 15:28:52.4±0.6, 36°.46S×73°.26W, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.3/20, mbtmp4.2/14, ML3.7/2, MS3.9/5, Ms1 3.9/5, ms1mx3.5/24, Error ellipse: s-maj=25.2km s-min=13.5km az=84.0*
*GUC **21** 15:28:54.6±0.5, 36°.35S×73°.60W, h22km±11km, ML4.7*
*ISCJB **21** 15:28:55.1±0.4, 36°.48S±0°.06×73°.29W±0°.09, h27km, mb4.5/22, MS4.0/5, Error ellipse: s-maj=10.9km s-min=8.2km az=4.5*
*BJI **21** 15:28:56.3, 36°.40S×73°.20W, h22km, mB5.4/1, Ms5.2/3, Ms7 4.8/3*
*NEIC **21** 15:28:58.0±1.1, 36°.43S×73°.19W, h36km±9km, mb4.7/7, ML4.7(GUC), Error ellipse: s-maj=13.5km s-min=6.0km az=84.0*
NEIC Felt [III] at Concepcion.
ISC 21 15:28:56.2±0.4, 36°.46S±0°.07×73°.33W±0°.07, h27km, n61, σ1°.39/67, mb4.5/22, MS4.0/5, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**1.52**	**67**⇓	*i*P	**Pb**	**15 29 23.0**	**-0.8**
LNCH				eS2	**Sb**	**15 29 45.2**	**+2.6**
LNCH				AML	AML	15 29 51.2	
	comp=N,12μm,0.5s						
TALC	**Talca**	**1.73**	**53**	*i* P	**Pb**	**15 29 26.0**	**-1.4**
TALC				*i* S1	**Sb**	**15 29 49.2**	**+0.5**
TALC				AML	AML	15 30 01.3	
	comp=N,10μm,0.5s						
NICH	**Los Niches**	**2.24**	**50**	eP1	**Pn**	**15 29 32.9**	**+1.4**
NICH				AML	AML	15 30 14.6	
	comp=E,8μm,0.6s						
LNV	**Longovilo**	**2.95**	**33**	*i* P1	**Pn**	**15 29 41.8**	**+0.5**
CHCH	**Chadas Angostu**	**3.34**	**42**	*i* P1	**Pn**	**15 29 47.9**	**+1.2**
CLCH	**Cerro Calan**	**3.82**	**38**	*i* P	**Pn**	**15 29 54.1**	**+0.7**
FCH	**Farellones**	**4.00**	**39**	*i* P4	**Pn**	**15 29 58.1**	**+2.1**
PLCA	**Paso Flores**	**4.79**	**154**	Pn	**Pn**	**15 30 07.7**	**+1.0**
	comp=E,1.2nm,0.3s,baz=320,slow=12,SNR=27						
PLCA				Lg	Lg	15 31 23.5	
	comp=E,11nm,0.3s,baz=246,slow=20,SNR=4.9						
CFAA	**Coronel Fontan**	**6.42**	**43**	Pn	**Pn**	**15 30 29.8**	**+0.6**
	comp=E,0.4nm,0.3s,baz=212,slow=13,SNR=30						
CFAA				Lg	Lg	15 32 04.6	
	comp=E,0.2nm,0.3s,baz=100,slow=16,SNR=5.1						
LCO	**Las Campanas**	**7.75**	**17**	eP	**Pn**	**15 30 46.5**	**-1.0**
	comp=E,20nm,0.8s						
TRQA	**Tornquist**	**9.19**	**103**	eP	**Pn**	**15 31 06.5**	**-0.5**
	comp=E,24nm,1.0s						
LPAZ	**La Paz**	**20.61**	**14**	P	**P**	**15 33 33.2**	**-0.9**
	comp=E,1.3nm,0.6s,baz=194,slow=9.2,SNR=3.6						
SIV	**San Ignacio**	**23.12**	**31**	P	**P**	**15 34 00.2**	**-0.1**
	comp=E,8.2nm,1.1s,baz=224,slow=12,SNR=8.1						
SAML	**Samuel**	**28.90**	**21**	P	**P**	**15 34 53.8**	**+0.9**
	comp=E,2.8nm,1.0s						
BDFB	**Brasilia**	**30.61**	**54**	LR	LR	15 48 34.1	
	comp=E,340nm,21.0s,baz=222,slow=39						
PTGA	**Pitinga**	**37.65**	**22**	P	**P**	**15 36 08.8**	**-0.3**
	comp=E,3.1nm,0.4s,baz=296,slow=5.4,SNR=4.9						
SDV	**Santo Domingo**	**45.17**	**4**	eP	**P**	**15 37 10.8**	**-0.2**
	comp=E,18nm,1.3s						
RCBR	**Riachuelo**	**45.84**	**57**	LR	LR	15 58 23.2	
	comp=E,186nm,19.8s,baz=175,slow=39						
SNAA	**Sanae**	**49.73**	**157**	P	**P**	**15 37 46.0**	**+0.3**
	comp=E,3.8nm,1.0s,baz=263,slow=6.7,SNR=4.9						
SNAA	**Sanae**	**49.73**	**157**	eP	**P**	**15 37 46.3**	**+0.6**
QSPA	**South Pole Qui**	**53.78**	**180**	P	**P**	**15 38 16.3**	**+0.1**
	comp=E,5.2nm,0.8s,baz=146,slow=3.4,SNR=16						
QSPA	**South Pole Qui**	**53.78**	**180**	eP	**P**	**15 38 16.8**	**+0.7**
RKT	**Rikitea**	**54.30**	**266**	eT	T	16 36 33.9	
	comp=E,1.1nm,0.2s						
CMIG	**Matias Romero**	**57.02**	**335**	LR	LR	15 57 10.9	
	comp=E,57nm,19.3s,baz=318,slow=30						
VNDA	**Vanda**	**61.49**	**192**	P	**P**	**15 39 10.9**	**+1.0**
	comp=E,0.8nm,0.8s,baz=166,slow=9.8,SNR=2.6						
SYO	**Syowa Base**	**63.97**	**158**⇑	eP	**P**	**15 39 25.5**	**-1.1**
PPT2	**Papeete2**	**68.87**	**263**	eLR	LR	16 00 50.0	
	comp=E,148nm,24.0s						
PPT	**Papeete**	**68.88**	**263**	LR	LR	16 02 48.8	
	comp=E,127nm,18.0s,baz=130,slow=30						
TXAR	**Lajitas Array**	**71.39**	**332**	P	**P**	**15 40 14.8**	**+0.9**
	comp=E,1.4nm,0.9s,baz=149,slow=8.8,SNR=9.6						
LIC	**Lamto**	**76.55**	**72**	eP	P	15 40 48.8	+4.5
	comp=E,6.9nm,0.4s						
TIC	**Toumodi**	**76.82**	**71**	eP	**P**	**15 40 48.3**	**+2.4**
	comp=E,17nm,0.2s						
KIC	**Kosan Boka**	**76.85**	**72**	eP	**P**	**15 40 46.7**	**+0.6**
	comp=E,16nm,1.0s						
DBIC	**Dimbokro**	**76.96**	**72**	P	**P**	**15 40 46.2**	**-0.4**
	comp=E,4.9nm,0.9s,baz=254,slow=6.1,SNR=4.5						
DBIC				LR	LR	16 11 17.0	
	comp=E,55nm,19.9s,baz=187,slow=33						
DBIC	**Dimbokro**	**76.96**	**72**	eP	**P**	**15 40 47.4**	**+0.7**
ANMO	**Albuquerque**	**77.45**	**333**	eP	**P**	**15 40 50.5**	**+1.4**
	comp=E,4.3nm,1.1s						
BOSA	**Boshof**	**79.86**	**118**	P	**P**	**15 41 03.1**	**+0.4**
	comp=E,8.0nm,1.0s,baz=192,slow=3.9,SNR=6.1						
ECSD	**EROS Data Cent**	**82.58**	**343**	eP	**P**	**15 41 16.2**	**-0.2**
	comp=E,11nm,1.1s						
ARUT	**Antelope Range**	**82.68**	**329**	eP	**P**	**15 41 18.9**	**+1.7**
	comp=E,22nm,0.8s						
DAU	**Daniels Canyon**	**84.06**	**332**	eP	**P**	**15 41 25.5**	**+1.0**
	comp=E,7.1nm,1.2s						
DUG	**Dugway, Tooele**	**84.48**	**331**	eP	**P**	**15 41 27.6**	**+1.1**
	comp=E,6.8nm,1.3s						
NVAR	**Mina Array Bea**	**85.31**	**326**	P	**P**	**15 41 32.6**	**+1.8**
	comp=E,1.3nm,1.0s,baz=149,slow=5.5,SNR=6.3						
PDAR	**Pinedale Array**	**85.49**	**334**	P	**P**	**15 41 32.4**	**+0.8**
	comp=E,2.9nm,1.1s,baz=134,slow=4.3,SNR=15						
TORD	**Torodi Ar. Bea**	**86.03**	**71**	P	**P**	**15 41 34.9**	**+0.2**
	comp=E,3.0nm,1.0s,baz=249,slow=3.6,SNR=11						
ULM	**Lac du Bonnet**	**88.60**	**346**	P	**P**	**15 41 46.0**	**-0.1**
	comp=E,1.2nm,0.5s,baz=98,slow=2.8,SNR=3.8						
WRA	**Warramunga Arr**	**118.11**	**210**	PKP	**PKPdf**	**15 47 40.6**	**-0.6**
	comp=E,0.3nm,1.0s,baz=153,slow=1.7,SNR=3.7						
BRTR	**Keskin Array B**	**123.92**	**63**	PKP	**PKPdf**	**15 47 51.3**	**-0.5**
	comp=E,0.2nm,0.6s,baz=204,slow=1.2,SNR=3.8						
H11S2	**WAKE ISLAND Hyl**	**24.66**	**268**	T	T	18 04 56.3	
	baz=110,SNR=6.2						
H11S1	**WAKE ISLAND Hyl**	**24.67**	**268**	T	T	18 04 57.4	
	baz=110						
H11S3	**WAKE ISLAND Hyl**	**24.68**	**268**	T	T	18 04 59.1	
	baz=110						
PSI	**Prapat**	**145.75**	**166**	PKPbc	**PKPdf**	**15 48 32.2**	**-0.8**
	comp=E,7.6nm,0.6s,baz=207,slow=4.9,SNR=7.0						
HYB	**Hyderabad**	**148.74**	**120**	*i* PKP	**PKPbc**	**15 48 41.0**	**-0.6**
YAK	**Yakutsk**	**150.65**	**338**	ePKPbc	**PKPbc**	**15 48 45.0**	**+0.2**
KKAR	**Karatay Array**	**151.59**	**65**	PKPbc	**PKPbc**	**15 48 48.0**	**+0.3**
KSH	**Kashi**	**155.67**	**73**	ePKP	**PKPdf**	**15 48 47.1**	**-0.4**
KSH				sPKP		15 48 56.5	
KSH				PKS	**PKSdf**	**15 52 21.3**	**-0.3**
KSH				PP	**PP**	**15 52 49.4**	**-2.0**
KSH				SKS	**SKSdf**	**15 55 52.5**	**+0.4**
KSH				SKKS	**SKKSac**	**15 59 39.4**	**+0.6**
KSH				SS	**SS**	**16 12 34.3**	**-2.8**
KSH				PPMZ			
	comp=E,160nm,4.8s						
KSH				LN			
	comp=E,68nm,6.8s						
KSH				LE			
	comp=E,41nm,6.3s						
KSH				LZ			
	comp=E,160nm,5.5s						
ZALV	**Zalesovo Beam**	**156.85**	**34**	PKP	**PKPdf**	**15 48 48.2**	**-0.2**
	comp=E,0.7nm,0.6s,baz=300,slow=2.9,SNR=6.3						
ZALV				PKPab	**PKPab**	**15 49 19.2**	**+0.9**
	comp=E,1.7nm,0.9s,baz=286,slow=5.5,SNR=5.8						
MKAR	**Makanchi Array**	**159.13**	**53**	PKP	**PKPdf**	**15 48 51.3**	**-0.2**
	comp=E,0.8nm,0.9s,baz=27,slow=0.3,SNR=5.6						
MKAR				PKPab	**PKPab**	**15 49 28.6**	**+0.1**
	comp=E,0.7nm,0.8s,baz=294,slow=3.6,SNR=5.6						
WMQ	**Urumqi**	**163.75**	**57**	ePKP	**PKPdf**	**15 48 55.3**	**-1.2**
WMQ				pPKP	**pPKPdf**	**15 49 06.0**	**+0.5**
SONM	**Songino Array**	**168.63**	**1**	PKPab	**PKPab**	**15 50 11.0**	**+0.8**
	comp=E,0.4nm,0.6s,baz=316,slow=4.0,SNR=4.1						
NJ2	**Nanjing**	**169.01**	**250**	ePKP	**PKPdf**	**15 49 01.3**	**+0.5**
HHC	**Hu-ho-hao-te**	**174.18**	**320**	ePKP	**PKPdf**	**15 49 01.8**	**-1.4**
HHC				pPKP	**pPKPdf**	**15 49 10.8**	**-1.5**
HHC				sPKP		15 49 19.0	
HHC				PP	**PP**	**15 54 28.9**	**+1.8**
HHC				SKS	**SKSdf**	**15 55 58.3**	**-6.2**
HHC				SKKS	**SKKSac**	**16 01 13.6**	**+1.8**
HHC				SS	**SS**	**16 15 45.1**	**+0.3**
HHC				LN			
	comp=E,210nm,20.0s						
HHC				LE			
	comp=E,290nm,19.2s						
HHC				LZ			
	comp=E,160nm,22

ARCES	**ARCESS Array B**	**82.19 342**	P		**P**	**15 49 51.2**	**0.0**
	4.5nm,0.9s,baz=90,slow=8.1,SNR=2.7						
NVAR	**Mina Array Bea**	**83.21 52**	P		**P**	**15 49 57.5**	**+0.2**
	0.4nm,0.6s,baz=246,slow=7.0,SNR=4.6						
FINES	**FINESS Array B**	**86.56 335**	P		**P**	**15 50 10.9**	**-2.2**
	0.9nm,0.4s,baz=88,slow=4.8,SNR=16						

IDC 21 15:47:23.1±5.4, 7°.47S×119°.49E, h272km±47km, mb2.7/3, mb1 3.0/5, mb1mx2.8/23, mbtmp3.5/5, Error ellipse: s-maj=126.9km s-min=20.1km az=60.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.33**	**160**	P	Pn	15 48 12.4	+2.0
	baz=6.6,SNR=4.7						
BATI	**Baumata**	**4.94**	**124**	P	Pn	15 48 39.7	+0.7
	8.5nm,0.3s,baz=300,slow=8.1,SNR=18						
BATI				S	S	15 49 39.3	-0.4
	2.9nm,0.3s,baz=291,slow=17,SNR=4.0						
SOEI	**Soe**	**5.24**	**116**	P	Pn	15 48 43.7	+1.0
	baz=9.5,SNR=97						
JAGI	**Jajag, Banyuwa**	**5.38**	**259**	S	Pn	15 48 43.1	-1.2
	baz=4.7,SNR=4.2						
KNRA	**Kununurra**	**12.20**	**133**	P	Pn	15 50 08.3	-0.5
	baz=17,SNR=14						
MTN	**Manton Dam**	**12.64**	**116**	P	P	15 50 16.3	+0.6
	baz=17,SNR=36						
KDU	**Kakadu**	**13.79**	**113**	P	P	15 50 28.9	+0.4
	baz=18,SNR=11						
WRA	**Warramunga Arr**	**19.00**	**132**	P	P	15 51 25.4	+0.1
	0.2nm,0.3s,baz=304,slow=12,SNR=24						
ASAR	**Alice Springs**	**21.23**	**141**	P	P	15 51 48.5	+0.1
	0.3nm,0.4s,baz=314,slow=8.8,SNR=22						
SONM	**Songino Array**	**56.27**	**349**	P	P	15 56 35.8	+0.1
	0.2nm,0.5s,baz=158,slow=4.2,SNR=3.2						
MKAR	**Makanchi Array**	**63.33**	**332**	P	P	15 57 23.2	-0.3
	0.2nm,0.4s,baz=156,slow=7.7,SNR=5.1						

*IDC **21** 15:52:38.0±3.3, 22°.75S×68°.47W, h0km, mb4.0/2, mb1 3.9/4, mb1mx3.6/18, mbtmp3.9/4, ML3.6/2, Error ellipse: s-maj=78.3km s-min=50.2km az=80.0*
*ISCJB **21** 15:52:53.5±0.8, 21°.9S±0°.1×68°.2W±0°.2, h117km, mb3.8/2, Error ellipse: s-maj=29.4km s-min=10.8km az=38.8*
*NEIC **21** 15:52:54.6±0.9, 21°.86S×68°.07W, h103km±11km, mb4.0/2, Error ellipse: s-maj=28.9km s-min=13.7km az=121.0*

ISC 21 15:52:54.6±1.0, 21°.87S±0°.09×68°.2W±0°.1, h117km, n8, σ1ˢ29/9, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.96**	**220**	*e*P	**Pn**	**15 53 16.4**	**+0.1**
LVC				*e*S	**Sn**	**15 53 31.3**	**-1.4**
LPAZ	**La Paz**	**5.56**	**1**	Pn	**Pn**	**15 54 14.4**	**-1.2**
	0.5nm,0.3s,baz=187,slow=5.0,SNR=13						
LPAZ	**La Paz**	**5.56**	**1**	*e*P	**Pn**	**15 54 15.5**	**-0.2**
	1.3nm,0.4s						
SIV	**San Ignacio**	**8.96**	**50**	Pn	**Pn**	**15 54 59.4**	**-1.8**
	1.2nm,0.3s,baz=245,slow=12,SNR=11						
DBIC	**Dimbokro**	**68.25**	**73**	P	**P**	**16 03 44.3**	**+1.0**
	2.7nm,0.6s,baz=229,slow=3.1,SNR=4.6						
DBIC	**Dimbokro**	**68.25**	**73**	*e*P	**P**	**16 03 44.4**	**+1.2**
	7.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**76.90**	**70**	P	**P**	**16 04 35.1**	**+0.6**
	0.3nm,0.5s,baz=255,slow=5.8,SNR=6.1						
MKAR	**Makanchi Array**	**145.57**	**37**	PKPbc	**PKPab**	**16 12 20.6**	**+0.8**
	0.1nm,0.5s,baz=320,slow=4.3,SNR=2.6						

*ISCJB **21** 15:57:02.0±1.1, 35°.09S±0°.06×72°.0W±0°.2, h52km±11km, mb3.8/4, MS3.8/2, Error ellipse: s-maj=24.5km s-min=8.6km az=11.6*
*NEIC **21** 15:57:03.0, 35°.11S×71°.93W, h40km, mb4.3/1, After GUC.*
NEIC Felt [III] at San Fernando.
*GUC **21** 15:57:03.2±0.6, 35°.11S×71°.93W, h40km±5km, ML4.3*
*IDC **21** 15:57:05.2±3.2, 35°.12S×71°.73W, h65km±28km, mb3.4/4, mb1 3.5/6, mb1mx3.4/18, mbtmp3.6/6, ML3.5/2, MS3.8/4, Ms1 3.8/4, ms1mx3.4/12, Error ellipse: s-maj=45.1km s-min=20.9km az=101.0*

ISC 21 15:57:03.2±1.3, 35°.13S±0°.05×71°.9W±0°.1, h48km±11km, n19, σ0ˢ96/22, mb3.8/4, 1C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.36**	**138**	⇓*i*P	**Pn**	**15 57 12.6**	**-0.1**
TALC				*i* S	**Sn**	**15 57 19.1**	**-0.5**
TALC				AML	AML	15 57 20.1	
	comp=E,70μm,0.1s						
NICH	**Los Niches**	**0.59**	**78**	⇓*i*P	**Pn**	**15 57 15.2**	**-0.2**
NICH				*i* S	**Sn**	**15 57 24.3**	**+0.1**
NICH				AML	AML	15 57 24.6	
	comp=E,54μm,0.2s						
LNCH	**Linares**	**0.76**	**160**	⇑*i*P	**Pn**	**15 57 17.9**	**+0.2**
LNCH				*i* S	**Sn**	**15 57 29.1**	**+0.8**
ANTU	**Antumapu**	**1.89**	**35**	⇓*i*P	**Pn**	**15 57 34.2**	**+1.1**
ANTU				*i* S1	**Sn**	**15 57 57.1**	**+1.4**
ANTU				AML	AML	15 58 01.3	
	comp=E,3μm,0.5s						
IHA	**Instituto Hidr**	**2.11**	**7**	*e*P1	**Pn**	**15 57 36.4**	**+0.3**
YECH	**El Yeso**	**2.11**	**47**	*e*P9	**Pn**	**15 57 35.8**	**-0.6**
YECH				*e*S1	**Sn**	**15 58 02.2**	**+0.6**
YECH				AML	AML	15 58 11.3	
	comp=N,1μm,0.2s						
CFAA	**Coronel Fontan**	**4.68**	**42**	P	**Pn**	**15 58 12.4**	**+1.1**
	comp=N,0.4nm,0.3s,baz=222,slow=14,SNR=19						
PLCA	**Paso Flores**	**5.70**	**169**	P	**Pn**	**15 58 26.9**	**+1.6**
	comp=N,0.8nm,0.3s,baz=338,slow=13,SNR=14						
PLCA				LR	LR	16 01 03.5	
	comp=N,871nm,18.7s,baz=337,slow=42						
LCO	**Las Campanas**	**6.19**	**10**	*e*P	**Pn**	**15 58 31.2**	**-1.1**
LPAZ	**La Paz**	**19.07**	**11**	*e*P	**P**	**16 01 22.5**	**+0.2**
USHA	**Ushuaia**	**19.85**	**174**	LR	LR	16 09 13.6	
	comp=N,330nm,19.3s,baz=144,slow=37						
SIV	**San Ignacio**	**21.40**	**30**	P	**P**	**16 01 45.1**	**-1.8**
	comp=N,2.2nm,0.9s,baz=204,slow=4.5,SNR=3.6						
PMSA	**Palmer Station**	**30.06**	**173**	LR	LR	16 14 10.2	
	comp=N,202nm,19.3s,baz=284,slow=34						
QSPA	**South Pole Qui**	**55.11**	**180**	P	**P**	**16 06 30.4**	**+0.2**
	comp=N,1.2nm,0.8s,baz=154,slow=2.8,SNR=4.4						
QSPA	**South Pole Qui**	**55.11**	**180**	*e*P	**P**	**16 06 30.9**	**+0.7**
	comp=N,3.5nm,1.0s						
TXAR	**Lajitas Array**	**70.76**	**331**	P	**P**	**16 08 15.4**	**+0.9**
	comp=N,0.2nm,0.4s,baz=151,slow=7.7,SNR=7.4						
TXAR				LR	LR	16 36 28.5	
	comp=N,43nm,18.3s,baz=0.0,slow=33						
TORD	**Torodi Ar. Bea**	**84.51**	**70**	P	**P**	**16 09 31.1**	**-0.3**
	comp=N,1.0nm,0.8s,baz=234,slow=5.8,SNR=5.9						
WRA	**Warramunga Arr**	**119.82**	**209**	PKP	**PKPdf**	**16 15 47.6**	**-1.0**
	comp=N,0.5nm,1.1s,baz=152,slow=1.7,SNR=3.8						
MKAR	**Makanchi Array**	**157.42**	**51**	PKPab	**PKPab**	**16 17 24.3**	**-1.0**
	comp=N,0.2nm,0.6s,baz=319,slow=4.2,SNR=3.6						

*IDC **21** 15:58:19.2±1.1, 37°.97S×73°.48W, h0km, mb3.9/7, mb1 4.1/9, mb1mx4.0/18, mbtmp3.9/9, ML4.3/1, MS3.5/1, Ms1 3.5/1, ms1mx3.0/16, Error ellipse: s-maj=33.4km s-min=16.7km az=68.0*
*ISCJB **21** 15:58:21.3±0.8, 37°.95S±0°.09×73°.4W±0°.2, h22km, mb3.9/8, MS3.3/1, Error ellipse: s-maj=23.7km s-min=12.1km az=174.0*
*NEIC **21** 15:58:25.2±2.3, 37°.96S×73°.29W, h36km±19km, mb4.0/3, Error ellipse: s-maj=32.7km s-min=11.4km az=87.0*

ISC 21 15:58:23.0±0.9, 37°.97S±0°.10×73°.4W±0°.2, h22km, n19, σ0ˢ99/15, mb3.9/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.53**	**142**	Pn	**Pn**	**15 59 17.2**	**+0.7**
	6.7nm,0.3s,baz=321,slow=14,SNR=26						
PLCA				Lg	Lg	16 00 13.8	
	18nm,0.3s,baz=26,slow=17,SNR=7.3						
PLCA	**Paso Flores**	**3.53**	**142**	*e*P	**Pn**	**15 59 17.8**	**+1.2**
PLCA				Lg	Lg	16 00 13.8	
CFAA	**Coronel Fontan**	**7.63**	**35**	Pn	**Pn**	**16 00 12.3**	**-0.6**
	baz=139,slow=19						
LPAZ	**La Paz**	**22.09**	**14**	P	**P**	**16 03 16.6**	**-0.7**
	3.3nm,0.8s,baz=177,slow=5.7,SNR=5.0						
LPAZ	**La Paz**	**22.09**	**14**	*e*P	**P**	**16 03 17.8**	**+0.5**
	4.2nm,0.9s						
SIV	**San Ignacio**	**24.44**	**30**	P	**P**	**16 03 40.4**	**+0.2**
	1.4nm,0.6s,baz=234,slow=9.9,SNR=3.4						
SIV				LR	LR	16 14 48.4	
	comp=Z,116nm,21.4s,baz=242,slow=40						
SAML	**Samuel**	**30.32**	**20**	*e*P	**P**	**16 04 32.7**	**-0.2**
SDV	**Santo Domingo**	**46.68**	**4**	*e*P	**P**	**16 06 52.1**	**+1.8**
	4.5nm,0.7s						
SNAA	**Sanae**	**48.36**	**156**	*e*P	P	16 07 08.5	+5.8
QSPA	**South Pole Qui**	**52.27**	**180**	P	**P**	**16 07 31.5**	**-1.0**
	1.5nm,0.8s,baz=124,slow=5.0,SNR=3.6						
QSPA	**South Pole Qui**	**52.27**	**180**	*e*P	**P**	**16 07 31.8**	**-0.6**
	0.8nm,0.6s						
TXAR	**Lajitas Array**	**72.70**	**333**	P	**P**	**16 09 48.9**	**-0.3**
	1.6nm,1.0s,baz=160,slow=8.1,SNR=9.4						
BOSA	**Boshof**	**79.19**	**118**	P	**P**	**16 10 25.8**	**-0.8**
	1.4nm,0.7s,baz=235,slow=5.4,SNR=3.5						
NVAR	**Mina Array Bea**	**86.54**	**326**	P	**P**	**16 11 04.2**	**-0.2**
	0.3nm,0.7s,baz=128,slow=3.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**86.58**	**71**	P	**P**	**16 11 03.9**	**-0.9**
	0.5nm,0.9s,baz=215,slow=3.6,SNR=3.0						
H11S2	**WAKE ISLAND Hyl**	**24.55**	**267**	T	T	18 33 49.1	
	baz=128						
H11S1	**WAKE ISLAND Hyl**	**24.56**	**267**	T	T	18 33 51.4	
	baz=128						
H11S3	**WAKE ISLAND Hyl**	**24.57**	**267**	T	T	18 33 50.8	
	baz=128						
MKAR	**Makanchi Array**	**160.05**	**56**	PKP	**PKPdf**	**16 18 21.6**	**+1.6**
	0.2nm,0.5s,baz=295,slow=4.0,SNR=3.2						

KRSC 21 16:23:26.8±1.0, 52°.54N×159°.63E, h48km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.66**	**345**	P	Pn	16 23 40.8	+1.0
NLC				S	Sn	16 23 50.2	+0.9
RUS	**Russkaya**	**0.69**	**262**	*i* P	Pn	16 23 40.9	+0.7
RUS				S	Sn	16 23 50.4	+0.4
PET	**Petropavlovsk**	**0.77**	**310**	*i* P	Pn	16 23 42.1	+0.8
PET				S	Sn	16 23 52.2	+0.4
UGLR	**Uglovaya**	**0.83**	**324**	*i* P	Pn	16 23 43.7	+1.4
UGLR				S	Sn	16 23 55.0	+1.3
SDLR	**Sedlovina**	**0.87**	**329**	*i* P	Pn	16 23 43.8	+1.0
SDLR				S	Sn	16 23 55.2	+0.6
SMAR	**Somma**	**0.88**	**326**	*i* P	Pn	16 23 44.2	+1.1
SMAR				S	Sn	16 23 56.0	+0.9
MTVR	**Mutnovka**	**0.89**	**267**	*i* P	Pn	16 23 43.9	+0.9
MTVR				S	Sn	16 23 56.0	+1.0
AVH	**Avacha**	**0.91**	**324**	P	Pn	16 23 44.6	+1.3
AVH				S	Sn	16 23 57.1	+1.7
KRER	**Koryakskii**	**0.94**	**326**	*i* P	Pn	16 23 45.2	+1.4
KRER				S	Sn	16 23 57.9	+1.6
KOK	**Koryaka**	**0.97**	**322**	P	Pn	16 23 45.2	+1.1
KOK				S	Sn	16 23 58.0	+1.1
KRX	**Arik**	**1.02**	**325**	*i* P	Pn	16 23 46.0	+1.2
KRX				S	Sn	16 23 58.8	+0.7
KII	**Karymskiy**	**1.51**	**356**	P	Pn	16 23 54.2	+2.8
KII				S	Sn	16 24 13.2	+3.2
GNL	**Ganaly**	**1.54**	**319**	*i* P	Pn	16 23 54.1	+2.1
GNL				S	Sn	16 24 13.7	+2.8
APC	**Apacha**	**1.55**	**286**	P	Pn	16 23 53.7	+1.8
APC				S	Sn	16 24 13.2	+2.4
PAU	**Pauzhetka**	**2.04**	**240**	P	Pn	16 24 00.9	+2.3
MKZ	**Mys Kozlova**	**2.38**	**31**	P	Pn	16 24 06.1	+2.9
MKZ				S	Sn	16 24 33.2	+2.0
TUMR	**Tumrok**	**2.77**	**6**	P	Pn	16 24 12.3	+3.5
TUMR				S	Sn	16 24 44.2	+3.1
ESO	**Esso**	**3.44**	**351**	P	Pn	16 24 21.2	+3.4
KBTR	**Krutoberegovo**	**4.13**	**26**	P	Pn	16 24 30.2	+3.0
KBTR				S	Sn	16 25 16.5	+2.4
SMKR	**Semkarok**	**4.19**	**14**	P	Pn	16 24 32.4	+4.2
SMKR				S	Sn	16 25 19.5	+3.5
SRKR	**Sorokina**	**4.22**	**12**	P	Pn	16 24 33.4	+4.8
SRKR				S	Sn	16 25 21.7	+5.0

*IDC **21** 16:25:14.1±0.6, 34°.64S×71°.99W, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.4/26, mbtmp4.4/13, ML4.5/2, MS3.6/7, Ms1 3.6/7, ms1mx3.3/21, Error ellipse: s-maj=22.4km s-min=17.0km az=89.0*
*ISCJB **21** 16:25:16.9±1.0, 34°.63S±0°.04×71°.88W±0°.07, h23km±7km, mb4.7/39, MS3.6/6, Error ellipse: s-maj=10.0km s-min=6.0km az=8.2*
*NEIC **21** 16:25:16.0, 34°.63S×72°.02W, h16km, mb4.8/28, ML4.7(GUC), After GUC.*
NEIC Felt [V] at Paredones and Santa Cruz; [III] at Curico, Licanten, Linares, Molina, Rancagua, San Fernando and Talca; [II] at Cauquenes, Constitucion, Pelluhue, Pichilemu, Santiago and Valparaiso.
*GUC **21** 16:25:16.7±0.7, 34°.63S×72°.02W, h16km±5km, ML4.7*
*BJI **21** 16:25:19.7, 34°.60S×71°.80W, h33km, mB5.1/4, Ms5.2/4, Ms7 5.0/4*

ISC 21 16:25:18.1±0.8, 34°.67S±0°.03×71°.91W±0°.06, h26km±5km, n464, σ1ˢ05/478, mb4.7/39, MS3.7/6, 196C-186D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.65**	**121**	⇑*i*P	**Pb**	**16 25 30.2**	**-0.7**
NICH				*i* S1	**Sn**	**16 25 40.7**	**-0.4**
NICH				AML	AML	16 25 48.4	
	comp=N,48μm,0.3s						
TALC	**Talca**	**0.76**	**163**	⇑*i*P	**Pb**	**16 25 30.9**	**-1.8**
TALC				*i* S1	**Sg**	**16 25 41.9**	**-0.8**
LNV	**Longovilo**	**0.82**	**30**	⇑*i*P	**Pb**	**16 25 31.6**	**-2.2**
LNCH	**Linares**	**1.20**	**168**	⇑*i*P	**Pn**	**16 25 38.3**	**-0.9**
LNCH				*i* S	**Sb**	**16 25 55.1**	**-0.2**
LNCH				AML	AML	16 25 56.4	
	comp=N,17μm,0.3s						
CACH	**El Canelo**	**1.22**	**63**	⇑*i*P	**Pn**	**16 25 39.2**	**-0.3**
CHCH	**Chadas Angostu**	**1.27**	**55**	⇓*i*P	**Pn**	**16 25 39.8**	**-0.5**
ANTU	**Antumapu**	**1.53**	**44**	*e*P1	**Pn**	**16 25 43.7**	**0.0**
ANTU				*i* S1	**Sn**	**16 26 03.4**	**+0.7**
ANTU				AML	AML	16 26 10.8	
	comp=N,21μm,0.6s						
FSR	**Penalolen**	**1.65**	**44**	⇓*i*P	**Pb**	**16 25 46.8**	**-1.1**
FSR				*e*S1	**Sn**	**16 26 08.7**	**+2.8**
IHA	**Instituto Hidr**	**1.66**	**8**	⇓*i*P	**Pn**	**16 25 44.6**	**-0.8**
IHA				*i* S1	**Sn**	**16 26 05.0**	**-0.8**
CLCH	**Cerro Calan**	**1.71**	**42**	*e*P1	**Pn**	**16 25 46.2**	**0.0**
CLCH				*i* S1	**Sn**	**16 26 09.3**	**+2.1**
CLCH				AML	AML	16 26 14.2	
	comp=N,17μm,0.7s						
FCH	**Farellones**	**1.90**	**46**	⇑*i*P	**Pn**	**16 25 49.3**	**+0.3**
FCH				*i* S1	**Sb**	**16 26 15.1**	**-0.6**
FCH				AML	AML	16 26 19.7	
	comp=N,11μm,0.3s						
CFAA	**Coronel Fontan**	**4.34**	**46**	Pn	**Pn**	**16 26 23.4**	**+1.0**
	comp=N,0.8nm,0.3s,baz=220,slow=11,SNR=31						
CFAA				Lg	Lg	16 27 27.0	
	comp=N,4.1nm,0.3s,baz=161,slow=17,SNR=5.5						
CFAA				LR	LR	16 28 18.4	
	comp=N,50nm,20.3s,baz=278,slow=42						
LCO	**Las Campanas**	**5.74**	**11**	*e*P	**Pn**	**16 26 40.4**	**-1.4**
	comp=N,50nm,0.4s						
PLCA	**Paso Flores**	**6.15**	**170**	Pn	**Pn**	**16 26 48.8**	**+1.6**
	comp=N,3.6nm,0.3s,baz=354,slow=10,SNR=79						
PLCA				Lg	Lg	16 28 24.3	
	comp=N,1.5nm,0.3s,baz=26,slow=14,SNR=3.9						
PLCA				LR	LR	16 29 31.1	
	comp=N,202nm,19.3s,baz=44,slow=42						
PLCA	**Paso Flores**	**6.15**	**170**	*e*P	**Pn**	**16 26 48.9**	**+1.6**
	comp=N,57nm,0.6s						
PLCA				Lg	Lg	16 28 24.3	
TRQA	**Tornquist**	**8.69**	**116**	*e*P	**Pn**	**16 27 23.9**	**+1.8**
	comp=N,25nm,0.9s						
LVC	**Limon Verde**	**12.30**	**13**	*e*P	Pn	16 28 05.2	-6.6
LPAZ	**La Paz**	**18.62**	**11**	P	**Pn**	**16 29 34.9**	**+0.3**
	comp=N,0.4nm,0.3s,baz=182,slow=7.6,SNR=35						
LPAZ	**La Paz**	**18.62**	**11**	*e*P	**Pn**	**16 29 34.6**	**0.0**
	comp=N,16nm,0.9s						
USHA	**Ushuaia**	**20.31**	**174**	LR	LR	16 37 39.2	
	comp=N,285nm,18.4s,baz=164,slow=37						
SIV	**San Ignacio**	**20.99**	**30**	P	**P**	**16 29 59.6**	**0.0**
	comp=N,9.7nm,0.9s,baz=226,slow=12,SNR=18						
SIV				LR	LR	16 38 53.9	
	comp=N,96nm,21.3s,baz=193,slow=39						
NNA	**Nana**	**23.02**	**348**	P	**P**	**16 30 20.4**	**-0.9**
	comp=N,18nm,0.8s,baz=185,slow=12,SNR=7.6						
NNA	**Nana**	**23.02**	**348**	*e*P	**P**	**16 30 21.9**	**+0.7**
SAML	**Samuel**	**26.82**	**19**	*e*P	**P**	**16 30 55.6**	**-0.7**
	comp=N,2.4nm,0.6s						
BDFB	**Brasília**	**28.63**	**55**	P	**P**	**16 31 12.7**	**0.0**
	comp=N,4.1nm,0.8s,baz=210,slow=9.4,SNR=8.2						
BDFB				LR	LR	16 44 57.9	
	comp=N,104nm,18.9s,baz=220,slow=41						
OTAV	**Otavalo**	**35.26**	**349**	*e*P	**P**	**16 32 11.5**	**+0.3**
	comp=N,8.6nm,1.2s						
SDV	**Santo Domingo**	**43.34**	**2**	*e*P	**P**	**16 33 17.2**	**-1.0**
	comp=N,7.9nm,0.8s						
CELP	**Cerrillos**	**52.70**	**6**	*e*P	**P**	**16 34 29.6**	**-0.8**
VNDA	**Vanda**	**63.47**	**191**	P	**P**	**16 35 46.9**	**+1.7**
	comp=N,1.8nm,0.9s,baz=147,slow=4.7,SNR=6.8						
035A	**Encino**	**66.10**	**334**	⇑P	**P**	**16 36 04.9**	**+2.0**
	baz=66						
034A	**Hebbronville**	**66.43**	**334**	⇑P	**P**	**16 36 06.8**	**+1.9**
	baz=67						
TIGA	**Tifton**	**66.67**	**349**	⇓P	**P**	**16 36 07.8**	**+1.4**
	baz=67						
934A	**Benavides**	**66.86**	**334**	⇑P	**P**	**16 36 09.1**	**+1.5**
	baz=67						
738A	**Farr-Stevens R**	**67.03**	**337**	⇓P	**P**	**16 36 10.3**	**+1.5**
	baz=67						
933A	**Laredo**	**67.14**	**334**	⇑P	**P**	**16 36 10.9**	**+1.4**
	baz=67						
835A	**Beeville**	**67.24**	**335**	⇓P	**P**	**16 36 11.8**	**+1.7**
	baz=68						
834A	**Tilden**	**67.35**	**335**	⇑P	**P**	**16 36 12.2**	**+1.4**
	baz=68						
735A	**Kenedy**	**67.76**	**336**	⇓P	**P**	**16 36 14.6**	**+1.3**
	baz=68						
833A	**Chaparral WMA,**	**67.83**	**334**	⇑P	**P**	**16 36 14.6**	**+0.8**
	baz=68						
832A	**Faith Ranch, C**	**68.01**	**333**	⇑P	**P**	**16 36 15.9**	**+0.9**
	baz=68						
734A	**La Parita Cree**	**68.01**	**335**	⇑P	**P**	**16 36 17.0**	**+2.0**
	baz=68						
636A	**Smothers Creek**	**68.08**	**336**	⇑P	**P**	**16 36 16.5**	**+1.1**
	baz=68						
635A	**Leesville**	**68.23**	**336**	⇓P	**P**	**16 36 17.9**	**+1.5**
	baz=68						
537A	**Green Hill Far**	**68.40**	**337**	⇓P	**P**	**16 36 18.6**	**+1.2**
	baz=69						
732A	**Laxson Ranch,**	**68.41**	**334**	⇑P	**P**	**16 36 18.4**	**+0.9**
	baz=69						
536A	**Bastrop**	**68.63**	**337**	⇓P	**P**	**16 36 20.9**	**+2.1**
	baz=69						
535A	**Dale**	**68.76**	**336**	⇑P	**P**	**16 36 21.1**	**+1.5**
	baz=69						
438A	**Sam Houston St**	**68.76**	**338**	⇓P	**P**	**16 36 21.8**	**+2.2**
	baz=69						
633A	**Saathoff Ranch**	**68.78**	**335**	⇓P	**P**	**16 36 20.9**	**+1.0**
	baz=69						
340A	**Bronson**	**68.92**	**340**	⇓P	**P**	**16 36 22.5**	**+1.9**
	baz=69						
339A	**Huntington**	**69.03**	**339**	⇑P	**P**	**16 36 23.2**	**+1.9**
	baz=69						
437A	**Phantom Ranch,**	**69.03**	**338**	⇓P	**P**	**16 36 23.1**	**+1.8**
	baz=69						
632A	**Uvalde**	**69.05**	**334**	⇑P	**P**	**16 36 22.6**	**+1.1**
	baz=69,SNR=6.1						
534A	**Blanco**	**69.06**	**335**	⇓P	**P**	**16 36 22.7**	**+1.1**
	baz=69						
436A	**Wall Ranch, Ga**	**69.19**	**337**	⇓P	**P**	**16 36 24.2**	**+1.9**
	baz=69						
631A	**Perdido Creek**	**69.25**	**333**	⇑P	**P**	**16 36 23.3**	**+0.6**
	baz=70						
338A	**Crockett**	**69.27**	**339**	⇑P	**P**	**16 36 24.4**	**+1.6**
	baz=70						
533A	**Kerrville**	**69.29**	**335**	⇓P	**P**	**16 36 24.2**	**+1.2**
	baz=70						
435B	**Jarrell**	**69.45**	**337**	⇓P	**P**	**16 36 25.1**	**+1.2**
	baz=70						
239A	**Gary**	**69.65**	**340**	⇓P	**P**	**16 36 26.0**	**+1.0**
	baz=70						
532A	**Rocksprings**	**69.65**	**334**	⇑P	**P**	**16 36 26.1**	**+0.9**
	baz=70,SNR=9.8						
434A	**Burnet**	**69.71**	**336**	⇑P	**P**	**16 36 26.7**	**+1.2**
	baz=70						
336A	**Riesel**	**69.78**	**337**	⇑P	**P**	**16 36 27.1**	**+1.2**
	baz=70						
238A	**Jacksonville**	**69.82**	**339**	⇑P	**P**	**16 36 27.6**	**+1.5**
	baz=70						
335A	**Moody**	**69.86**	**337**	⇓P	**P**	**16 36 27.1**	**+0.7**
	baz=70						
531A	**Rocksprings**	**69.92**	**334**	⇓P	**P**	**16 36 28.1**	**+1.2**
	baz=70,SNR=6.6						
JCT	**Junction City**	**69.93**	**335**	⇓P	**P**	**16 36 27.4**	**+0.5**
	baz=70,SNR=5.2						
JCT	**Junction City**	**69.93**	**335**	*e*P	**P**	**16 36 26.5**	**-0.4**
	comp=N,18nm,1.2s						
433A	**Art**	**69.94**	**335**	⇓P	**P**	**16 36 27.3**	**+0.4**
	baz=70,SNR=5.2						
KMSC	**Kings Mountain**	**70.01**	**352**	⇓P	**P**	**16 36 27.9**	**+0.6**
	baz=70						
334A	**Lometa**	**70.18**	**336**	⇓P	**P**	**16 36 29.4**	**+1.0**
	baz=70						
530A	**J-C Ranch, Com**	**70.19**	**333**	⇓P	**P**	**16 36 29.4**	**+0.9**
	baz=70,SNR=7.6						
432A	**Menard**	**70.29**	**335**	⇑P	**P**	**16 36 30.3**	**+1.1**
	baz=70						
TXAR	**Lajitas Array**	**70.37**	**331**	P	**P**	**16 36 30.0**	**+0.3**
	comp=N,3.0nm,0.6s,baz=152,slow=8.4,SNR=40						
TXAR				LR	LR	17 03 00.9	
	comp=N,37nm,18.4s,baz=0.0,slow=32						
431A	**Sonora**	**70.41**	**334**	⇓P	**P**	**16 36 30.3**	**+0.4**
	baz=71						

128A	Castleberry Fa baz=73,SNR=5.8	72.84 333	⇓P	P	16 36 44.8 +0.3
Z30A	Sanderson Ranc baz=73,SNR=5.3	72.95 335	⇓P	P	16 36 45.4 +0.3
Y32A	R-V Farms, Ver baz=73	73.03 336	⇑P	P	16 36 46.2 +0.7
X34A	Smith Ranch, M baz=73	73.06 338	⇓P	P	16 36 46.6 +0.9
Z29A	Hungry Hill Ra baz=73,SNR=6.8	73.13 334	⇑P	P	16 36 46.1 -0.1
Y31A	Rekieta Farm, baz=74	73.26 336	⇓P	P	16 36 47.6 +0.7
X32A	Elmer baz=74	73.36 337	⇓P	P	16 36 48.5 +1.0
Z28A	Tucker Farm, M baz=74	73.40 334	⇑P	P	16 36 48.1 +0.2
W34A	Bridge Creek, baz=74	73.63 338	⇓P	P	16 36 49.7 +0.7
Y29A	Porterfield Fa baz=74,SNR=7.0	73.66 335	⇑P	P	16 36 49.7 +0.3
TUL1	Leonard baz=74	73.67 340	⇑P	P	16 36 49.5 +0.2
CPRX	Cap Rock comp=N,1.7nm,0.6s	73.72 332	eP	P	16 36 50.3 +0.5
W33A	Caddo, Fort Co baz=74	73.77 338	⇑P	P	16 36 50.9 +1.0
X31A	McDonald Ranch baz=74	73.78 336	⇓P	P	16 36 50.4 +0.5
V35A	Meyer Ranch, C baz=74	73.83 339	⇓P	P	16 36 50.2 0.0
Y28A	McKinney Farm, baz=74	73.91 334	⇓P	P	16 36 51.5 +0.6
X30A	Coker Ranch, T baz=74	73.91 335	⇑P	P	16 36 51.7 +1.0
W32A	Sentinel baz=74,SNR=7.7	73.99 337	⇑P	P	16 36 51.6 +0.5
V34A	Guthrie baz=74	74.10 339	⇓P	P	16 36 52.4 +0.6
MSTX	Muleshoe baz=74	74.15 334	⇓P	P	16 36 52.8 +0.5
MSTX	Muleshoe comp=N,13nm,1.0s	74.15 334	eP	P	16 36 51.2 -1.0
X29A	Tulia baz=74	74.20 335	⇑P	P	16 36 52.9 +0.5
W31A	Holland Ranch, baz=74	74.27 336	⇓P	P	16 36 53.7 +0.9
V33A	Lossen Ranch, baz=75	74.33 338	⇑P	P	16 36 53.9 +0.8
X28A	Dimmitt baz=75	74.44 334	⇓P	P	16 36 54.7 +0.8
V32A	Arapaho baz=75	74.47 337	⇑P	P	16 36 54.8 +0.8
319A	Douglas baz=75	74.52 327	⇓P	P	16 36 55.4 +0.9
AMTX	Amarillo baz=75	74.59 335	⇓P	P	16 36 55.3 +0.6
U34A	Anderson Ranch baz=75	74.67 339	⇓P	P	16 36 55.0 0.0
V31A	Spring Creek L baz=75	74.78 337	⇓P	P	16 36 55.9 +0.1
W29A	Amarillo baz=75	74.79 335	⇓P	P	16 36 56.4 +0.5
U33A	Lingo Farm, Me baz=75	74.84 338	⇓P	P	16 36 56.1 +0.1
121A	Cookes Peak, D baz=75,SNR=10.0	74.86 329	⇑P	P	16 36 57.8 +1.3
121A	Cookes Peak, D comp=N,14nm,0.9s	74.86 329	eP	P	16 36 57.6 +1.1
LIC	Lamto comp=N,38nm,1.8s	74.89 71	eP	P	16 36 56.5 -0.4
V30A	Spur Ranch, Mi baz=75	75.04 336	⇓P	P	16 36 59.5 +2.1
U32A	Winter Ranch, baz=75	75.06 338	⇑P	P	16 36 58.3 +0.9
W28A	Vega baz=75	75.11 335	⇑P	P	16 36 59.1 +1.3
Y24A	Capitan baz=75,SNR=6.2	75.12 332	⇑P	P	16 36 58.8 +0.8
TIC	Toumodi comp=N,15nm,0.2s	75.15 71	eP	P	16 36 55.9 -2.5
KIC	Kosan Boka comp=N,31nm,1.2s	75.19 71	eP	P	16 36 58.6 -0.1
DBIC	Dimbokro comp=N,3.4nm,0.9s,baz=285,slow=1.2,SNR=4.5	75.30 71	P	P	16 36 59.5 +0.4
DBIC			LR	LR	17 07 47.3
DBIC	Dimbokro comp=N,42nm,20.0s,baz=188,slow=34	75.30 71	eP	P	16 36 59.6 +0.4
S36A	Lake Cedric, C baz=76	75.31 341	⇑P	P	16 36 58.9 +0.2
U31A	Nine Bar Ranch baz=76	75.32 337	⇑P	P	16 36 59.8 +0.9
V29A	Stinnett baz=76	75.43 336	⇓P	P	16 37 00.0 +0.5
T33A	Patterson Ranc baz=76	75.48 339	⇑P	P	16 37 00.8 +1.1
W26A	Owens Ranch, T baz=76	75.52 333	⇑P	P	16 37 01.0 +0.8
V28A	Channing baz=76	75.56 335	⇓P	P	16 37 01.6 +1.2
U30A	WK&E Inc. Balk baz=76	75.73 336	⇑P	P	16 37 02.2 +1.0
T32A	Huddler Ranch, baz=76	75.78 338	⇓P	P	16 37 02.5 +1.0
V27A	Dan Oppiter Fa baz=76	75.78 334	⇓P	P	16 37 03.0 +1.4
Y22D	IRIS PASSCAL I baz=76	75.84 331	⇓P	P	16 37 02.5 +0.4
U29A	Oasis Ranch, S baz=76	75.86 336	⇓P	P	16 37 03.0 +0.9
S33A	Kaszmaul Farm, baz=76	75.88 339	⇑P	P	16 37 03.2 +1.2
W25A	X Bar L Ranch, baz=76,SNR=5.0	75.89 333	⇓P	P	16 37 02.7 +0.4
T31A	Randall Ranch, baz=76	75.94 337	⇓P	P	16 37 03.6 +1.3
SFIN	Lafayette baz=76	75.98 348	⇑P	P	16 37 03.8 +1.4
U28A	Mallet baz=76	76.12 335	⇑P	P	16 37 04.4 +0.8
V26A	Tequesquite Ra baz=76	76.16 334	⇑P	P	16 37 04.4 +0.6
T30A	Plains baz=76	76.17 337	⇓P	P	16 37 05.1 +1.4
LAZ	Ladron comp=N,3.0nm,1.0s	76.22 331	eP	P	16 37 05.4 +1.2
W24A	Lazy 6 Ranch, baz=76,SNR=5.4	76.24 332	⇑P	P	16 37 05.1 +0.7
S32A	Newby Ranch, P baz=76	76.26 338	⇓P	P	16 37 05.3 +1.2
S31A	Mullinville baz=77	76.35 338	⇑P	P	16 37 06.4 +1.7
U27A	Thompson Grove baz=77	76.37 335	⇓P	P	16 37 06.5 +1.5
ANMO	Albuquerque comp=N,7.2nm,1.0s	76.42 331	eP	P	16 37 05.1 -0.3
V25A	Rancho No Teng baz=77,SNR=10	76.50 333	⇑P	P	16 37 06.8 +1.0
T29A	Hugoton baz=77	76.51 336	⇑P	P	16 37 07.2 +1.5
R33A	Olander Ranch, baz=77	76.53 339	⇓P	P	16 37 07.6 +1.8
214A	Organ Pipe Nat baz=77,SNR=5.4	76.63 325	⇑P	P	16 37 07.6 +1.2
V24A	Rampart Ranch, baz=77	76.65 333	⇓P	P	16 37 07.9 +1.2
U26A	Atchley Ranch, baz=77	76.67 334	⇑P	P	16 37 07.3 +0.5
S30A	Montezuma baz=77	76.68 337	⇑P	P	16 37 07.4 +0.8
T28A	Walsh baz=77,SNR=9.8	76.76 336	⇑P	P	16 37 07.9 +0.8
R32A	Long Quarter, baz=77	76.86 339	⇑P	P	16 37 08.1 +0.5
S29A	Ulysses baz=77,SNR=5.1	76.88 337	⇑P	P	16 37 08.5 +0.7
KSU1	Kansas State U baz=77	76.88 340	⇑P	P	16 37 07.8 +0.2
T27A	Campo baz=77,SNR=5.6	76.91 335	⇓P	P	16 37 08.6 +0.5
U25A	Circle Dot Ran baz=77,SNR=6.4	76.92 334	⇓P	P	16 37 09.1 +0.9
R31A	Burdett baz=77	76.98 338	⇓P	P	16 37 09.2 +0.9
V23A	Ortiz Mt. (NFS baz=77	77.01 332	⇓P	P	16 37 09.2 +0.5
S28A	Manter baz=77,SNR=6.9	77.11 336	⇓P	P	16 37 09.7 +0.6
Q33A	Connelly Farm, baz=77	77.13 340	⇑P	P	16 37 10.1 +1.0
R30A	Dighton baz=78	77.21 337	⇓P	P	16 37 10.3 +0.7
U24A	Moreno Valley baz=78	77.25 333	⇑P	P	16 37 10.8 +0.6
T26A	Comanche Natio baz=78,SNR=6.7	77.32 335	⇑P	P	16 37 10.9 +0.5
Q32A	Meitler Ranch, baz=78	77.33 339	⇑P	P	16 37 11.1 +0.9
V22A	San Miguel Ran baz=78,SNR=9.6	77.44 332	⇑P	P	16 37 12.6 +1.4
P33A	Williams Farm, baz=78	77.50 340	⇓P	P	16 37 12.3 +1.2
X18A	Snowflake baz=78	77.50 329	⇑P	P	16 37 12.3 +0.9
U23A	El Rito baz=78,SNR=5.7	77.53 332	⇓P	P	16 37 12.7 +1.0
S27A	Las Animas baz=78	77.53 335	⇑P	P	16 37 12.4 +0.9
T25A	Trinidad baz=78,SNR=12	77.58 334	⇓P	P	16 37 12.7 +0.8
Q31A	Ellis baz=78	77.60 338	⇓P	P	16 37 12.7 +0.9
R29A	Marienthal baz=78	77.61 337	⇑P	P	16 37 13.0 +1.1
S26A	Kim baz=78,SNR=15	77.68 335	⇑P	P	16 37 13.4 +1.1
113A	Mohawk Valley, baz=78	77.75 325	⇑P	P	16 37 13.5 +0.8
R28A	Tribune baz=78,SNR=10	77.76 336	⇑P	P	16 37 13.3 +0.6
Q30A	Quinter baz=78,SNR=8.4	77.83 338	⇓P	P	16 37 14.0 +1.0
U22A	Llaves baz=78	77.83 332	⇓P	P	16 37 13.8 +0.5
T24B	San Luis baz=78,SNR=5.8	77.87 333	⇑P	P	16 37 14.8 +1.2
W18A	Petrified Fore baz=78	77.91 329	⇓P	P	16 37 15.2 +1.4
P32A	Huiting Farm, baz=78	77.93 339	⇓P	P	16 37 15.4 +1.8
Q29A	Oakley baz=78,SNR=5.8	77.99 337	⇑P	P	16 37 14.4 +0.4
R27A	Eads baz=78,SNR=9.8	78.04 336	⇓P	P	16 37 15.0 +0.7
S25A	Robets Cordova baz=78,SNR=7.0	78.05 334	⇓P	P	16 37 15.6 +1.1
X16A	Lo Mia Camp, P baz=78,SNR=12	78.06 327	⇓P	P	16 37 15.4 +0.8
P31A	Stockton baz=78	78.07 339	⇓P	P	16 37 15.6 +1.3
T23A	Casias Ranch, baz=78	78.09 333	⇑P	P	16 37 16.5 +1.7
R26A	Arlington baz=78,SNR=7.8	78.28 335	⇑P	P	16 37 16.4 +0.8
MDV	Middlebury	78.31 359	eP	P	16 37 15.8 +0.3
S24A	Houchin Ranch, baz=79,SNR=9.3	78.32 334	⇑P	P	16 37 17.0 +0.9
P30A	Selden baz=79	78.35 338	⇑P	P	16 37 17.5 +1.6
Y14A	Wickenburg baz=79	78.36 326	⇑P	P	16 37 17.3 +1.2
Q28A	Sharon Springs baz=79	78.42 337	⇓P	P	16 37 17.8 +1.5
O32A	Brockman Farm, baz=79	78.43 340	⇓P	P	16 37 17.0 +0.8
R25A	Fountain Ranch baz=79	78.43 334	⇓P	P	16 37 17.3 +0.8
GLA	Glamis baz=79	78.49 324	⇓P	P	16 37 17.4 +0.6
P29A	Atwood baz=79,SNR=7.0	78.62 338	⇓P	P	16 37 18.4 +1.0
O31A	Wooten Ranch, baz=79	78.63 339	⇓P	P	16 37 18.3 +0.8
KSCO	Kaye Shedlock' baz=79	78.64 336	⇑P	P	16 37 18.3 +0.7
KSCO	Kaye Shedlock'	78.64 336	eP	P	16 37 18.1 +0.5
S23A	Nye Farm, Mont baz=79	78.67 333	⇑P	P	16 37 19.4 +1.4
R24A	Sanders Place, baz=79,SNR=11	78.80 334	⇓P	P	16 37 20.0 +1.4
P28A	Saint Francis baz=79	78.86 337	⇓P	P	16 37 20.4 +1.6
Q26A	Hugo baz=79	78.86 335	⇑P	P	16 37 20.6 +1.7
SWSC	Sam W. Stewart baz=79	78.87 324	⇑P	P	16 37 20.4 +1.5
O30A	MW Ranch, Wils baz=79	78.88 338	⇑P	P	16 37 20.5 +1.7
N32A	Stulken Farm, baz=79	78.90 340	⇓P	P	16 37 20.2 +1.3
Y12C	Blythe baz=79	78.92 325	⇓P	P	16 37 20.2 +1.1
WUAZ	Wupatki baz=79,SNR=5.1	78.95 328	⇓P	P	16 37 20.9 +1.4
WUAZ	Wupatki comp=N,9.1nm,1.0s	78.95 328	eP	P	16 37 20.3 +0.9
JFWS	Jewell Farm comp=N,12nm,0.7s	79.01 346	eP	P	16 37 19.1 -0.3
R23A	Moffat baz=79,SNR=5.7	79.03 333	⇓P	P	16 37 21.4 +1.4
O29A	4D Ranch, Culb baz=79	79.06 338	⇓P	P	16 37 20.9 +1.1
Q25A	Bedland, Calha baz=79	79.10 335	⇑P	P	16 37 21.4 +1.1
P27A	Ficken Ranch, baz=79	79.11 336	⇓P	P	16 37 21.5 +1.3
MONP	Monument Peak, baz=79	79.14 323	⇑P	P	16 37 21.3 +0.7
N31A	Bailey Ranch, baz=79	79.14 339	⇓P	P	16 37 21.8 +1.6
PDMCI	Parker Dam,Lak baz=79	79.19 325	⇓P	P	16 37 21.6 +1.1
MVCO	Mesa Verde baz=79	79.20 331	⇓P	P	16 37 22.3 +1.4
BC3	Big Chuckawall baz=80,SNR=9.5	79.28 324	⇑P	P	16 37 22.9 +1.6
O28A	Krutsinger Ran baz=80	79.36 337	⇓P	P	16 37 22.9 +1.4
P26A	Davis Ranch, A baz=80	79.37 336	⇑P	P	16 37 22.7 +1.1
N30A	Hueftle Ranch, baz=80	79.46 339	⇑P	P	16 37 23.6 +1.7
BGNE	Belgrade baz=80	79.46 340	⇓P	P	16 37 23.2 +1.3
Q24A	Divide baz=80	79.47 334	⇑P	P	16 37 23.5 +1.2
109C	Camp Elliot, M baz=80	79.47 323	⇓P	P	16 37 23.7 +1.5
IRM	Iron Mountain baz=80,SNR=5.9	79.55 325	⇑P	P	16 37 23.6 +1.1
P25A	Willow Gulch B baz=80,SNR=9.0	79.61 335	⇓P	P	16 37 24.4 +1.5
M31A	Lambtecht Ranc baz=80	79.63 340	⇑P	P	16 37 24.0 +1.2
N29A	Votaw Ranch, W baz=80	79.64 338	⇑P	P	16 37 24.4 +1.4
O27A	Beecher Island baz=80	79.65 337	⇑P	P	16 37 24.4 +1.4
Q23A	Hartsel baz=80	79.66 334	⇑P	P	16 37 24.5 +1.0
BOSA	Boshof comp=N,4.1nm,0.7s,baz=233,slow=4.9,SNR=10	79.67 118	P	P	16 37 24.5 +0.8
BOSA			LR	LR	17 10 43.8
W13A	Hualapai Mount baz=80	79.73 326	⇓P	P	16 37 24.5 +0.8
PFO	Pinyon Flats O baz=80,SNR=6.8	79.73 323	⇓P	P	16 37 25.0 +1.3
PFO	Pinyon Flats O comp=N,9.6nm,1.0s	79.73 323	eP	P	16 37 24.4 +0.6
NEE2	Needles Airpor baz=80	79.80 325	⇓P	P	16 37 25.4 +1.6
BELC	Belle Mtn. Jos baz=80	79.83 324	⇑P	P	16 37 25.4 +1.1
P24A	Kohler Place, baz=80	79.87 335	⇑P	P	16 37 25.9 +1.5
O26A	Horse Wrangler baz=80	79.97 336	⇑P	P	16 37 26.1 +1.2
MURC	Murrieta baz=80	80.09 323	⇑P	P	16 37 26.8 +1.2
U15A	North Rim baz=80,SNR=8.3	80.12 328	⇓P	P	16 37 27.2 +1.3
N27A	Anderson Farm, baz=80	80.23 337	⇑P	P	16 37 27.2 +1.0
M29A	Burnside Ranch baz=80	80.23 338	⇓P	P	16 37 27.5 +1.3
LDFC	Landfair comp=N,7.2nm,0.9s	80.28 325	eP	P	16 37 27.3 +0.6
GMRC	Granite Mounta baz=80,SNR=7.8	80.30 325	⇓P	P	16 37 28.1 +1.4
L31A	Butterfield Fa baz=81	80.36 340	⇓P	P	16 37 27.7 +1.0
ISCO	Idaho Springs baz=81,SNR=6.0	80.37 334	⇑P	P	16 37 28.3 +1.1
ISCO	Idaho Springs comp=N,4.1nm,0.9s	80.37 334	eP	P	16 37 27.8 +0.6
L30A	Spencer Herefo baz=81	80.40 339	⇑P	P	16 37 28.6 +1.6
CIS	Catalina Islan baz=81	80.54 322	⇓P	P	16 37 29.4 +1.5
P22A	Eagle baz=81	80.61 333	⇓P	P	16 37 29.3 +0.9
HEC	Hector,Ludlow baz=81,SNR=6.4	80.66 324	⇓P	P	16 37 30.3 +1.7
BFSC	Mount Baldy Ra baz=81,SNR=5.9	80.83 323	⇓P	P	16 37 30.4 +0.8
O23A	Lake Granby, G baz=81,SNR=8.0	80.85 334	⇑P	P	16 37 30.9 +1.2
TUQ	Turquoise Moun baz=81,SNR=12	80.96 325	⇑P	P	16 37 31.4 +1.2
N24A	Carr baz=81	81.03 335	⇓P	P	16 37 32.4 +1.8
O22A	Kremmling baz=81,SNR=5.0	81.03 334	⇓P	P	16 37 32.2 +1.5
ECSD	EROS Data Cent baz=82,SNR=6.9	81.22 342	⇓P	P	16 37 30.6 -0.7
ECSD	EROS Data Cent comp=N,19nm,0.8s	81.22 342	eP	P	16 37 30.5 -0.7
GSC	Goldstone, Bar baz=82	81.27 324	⇑P	P	16 37 33.4 +1.5
N23A	Red Feather La baz=82	81.46 335	⇓P	P	16 37 34.1 +1.1
SHPR	Sheep Range comp=N,13nm,1.3s	81.47 326	eP	P	16 37 34.1 +1.1
EDW2	Edwards Air Fo baz=82,SNR=6.0	81.51 323	⇓P	P	16 37 33.9 +0.8
N22A	Wattenberg Ran baz=82	81.56 334	⇓P	P	16 37 34.7 +1.2
M24A	Cheyenne baz=82	81.58 336	⇑P	P	16 37 34.5 +1.0
J30A	Dallas baz=82	81.61 340	⇓P	P	16 37 34.5 +1.1
BSC	Santa Cruz Isl baz=82	81.63 322	⇓P	P	16 37 35.5 +1.8
O20A	White River Ci baz=82	81.63 333	⇑P	P	16 37 34.7 +0.8
SRU	San Rafael Swe comp=N,6.2nm,0.9s	81.65 331	eP	P	16 37 34.4 +0.5
OSI	Osito Audit: C baz=82	81.66 323	⇓P	P	16 37 35.8 +1.9
SPMN	Marine on St. baz=82	81.75 345	⇑P	P	16 37 33.6 -0.4
SPMN	Marine on St. comp=N,5.2nm,0.4s	81.75 345	eP	P	16 37 32.7 -1.3
ARUT	Antelope Range comp=N,49nm,0.8s	81.76 328	eP	P	16 37 35.8 +1.3
LRMC	Laurel Mtn Rad baz=82,SNR=5.0	81.84 324	⇑P	P	16 37 36.2 +1.2
J29A	Okreek baz=82,SNR=9.9	81.92 339	⇓P	P	16 37 35.8 +0.7
I30A	Oacoma baz=82	82.13 340	⇓P	P	16 37 36.4 +0.3
M22A	Cedar Creek Ra baz=82	82.14 334	⇑P	P	16 37 38.1 +1.5
J28A	Allard Ranch, baz=82	82.20 339	⇓P	P	16 37 38.2 +1.7
MPMC	Manual Prospec baz=82	82.21 324	⇓P	P	16 37 38.0 +1.0
N20A	Spence Gulch, baz=82	82.25 333	⇓P	P	16 37 38.0 +0.9
J27A	Elkhorn Farm, baz=83	82.28 338	⇑P	P	16 37 38.6 +1.6
K25A	Mack Ranch, Ha baz=83	82.28 337	⇑P	P	16 37 38.4 +1.3
TPNV	Topopah Spring baz=83,SNR=5.6	82.34 326	⇓P	P	16 37 39.1 +1.6
ISA	Isabella, Lake baz=83,SNR=7.3	82.37 323	⇓P	P	16 37 39.1 +1.4
PKM	Mcpherson Peak baz=83	82.44 322	⇑P	P	16 37 39.5 +1.4
I29A	Vivian Onida baz=83	82.48 340	⇓P	P	16 37 38.1 +0.2
J26A	Sides Ranch, S baz=83	82.66 338	⇑P	P	16 37 40.8 +1.8
K24A	Anderson Ranch baz=83	82.69 336	⇑P	P	16 37 41.0 +1.7
I28A	Midland baz=83,SNR=6.4	82.71 339	⇓P	P	16 37 40.0 +0.8
VES	Vestal, Richgr baz=83	82.81 323	⇓P	P	16 37 42.0 +2.2
GRAC	Grapevine Rang baz=83	82.91 325	⇓P	P	16 37 42.0 +1.7
J25A	Sunshine Ranch baz=83	82.96 337	⇓P	P	16 37 41.7 +1.1
K23A	Bowen Ranch, D baz=83	83.00 336	⇓P	P	16 37 41.8 +0.9
H29A	Onida baz=83,SNR=7.0	83.01 340	⇑P	P	16 37 41.2 +0.5
I27A	Quinn baz=83	83.03 339	⇑P	P	16 37 41.3 +0.4
R11A	Troy Canyon, C baz=83,SNR=11	83.17 327	⇑P	P	16 37 42.4 +0.5
G30A	Faulkton baz=84	83.18 341	⇓P	P	16 37 42.3 +0.8
J24A	Dixon Ranch, L baz=84	83.19 337	⇓P	P	16 37 43.0 +1.2
K22A	Casper baz=84	83.21 335	⇑P	P	16 37 43.0 +1.0
I26A	New Underwood baz=84	83.24 338	⇑P	P	16 37 42.3 +0.3
H28A	Mission Ridge baz=84	83.28 340	⇑P	P	16 37 43.0 +0.9
G29A	Hoven baz=84	83.45 340	⇓P	P	16 37 44.3 +1.4
K21A	Alcova baz=84,SNR=7.1	83.45 335	⇑P	P	16 37 44.0 +0.7
DUG	Dugway, Tooele baz=84	83.50 330	⇓P	P	16 37 44.9 +1.4
I25A	Rochford baz=84,SNR=5.8	83.50 337	⇓P	P	16 37 44.4 +0.9
J23A	Dilts Ranch, B baz=84	83.55 336	⇑P	P	16 37 44.2 +0.5
H27A	Howes baz=84,SNR=5.1	83.55 339	⇑P	P	16 37 44.1 +0.6
G28A	Parade baz=84	83.62 340	⇓P	P	16 37 44.4 +0.6
I24A	Kuemmerle Ranc baz=84	83.65 337	⇑P	P	16 37 45.1 +1.0
RSSD	Black Hills comp=N,5.3nm,0.9s	83.69 337	eP	P	16 37 44.8 +0.3
F30A	Leola baz=84	83.80 341	⇑P	P	16 37 45.5 +0.7
J22A	Midwest baz=84	83.87 335	⇑P	P	16 37 45.9 +0.6
F29A	Eureka baz=84	84.01 341	⇓P	P	16 37 46.4 +0.6
J21A	Lysite baz=84	84.15 335	⇓P	P	16 37 47.8 +1.1
G27A	Dupree baz=84	84.19 339	⇓P	P	16 37 47.4 +0.7
F28A	McLaughlin baz=85	84.29 340	⇓P	P	16 37 48.5 +1.3
I22A	9 Mile Ranch, baz=85	84.29 336	⇓P	P	16 37 48.5 +1.0
G26A	Maurine baz=85	84.31 339	⇓P	P	16 37 49.0 +1.6
TORD	Torodi Ar. Bea comp=N,4.5nm,0.9s,baz=250,slow=4.9,SNR=14	84.34 70	P	P	16 37 48.2 0.0
J20A	Shoshoni baz=85,SNR=9.4	84.38 334	⇓P	P	16 37 49.2 +1.3
E30A	Jud baz=85	84.39 342	⇓P	P	16 37 49.0 +1.3
PDAR	Pinedale Array comp=N,1.8nm,0.7s,baz=154,slow=4.7,SNR=17	84.41 333	P	P	16 37 47.8 -0.4
H24A	Dirks Ranch, A baz=85	84.42 337	⇓P	P	16 37 48.7 +0.7
G25A	Newell baz=85	84.46 338	⇑P	P	16 37 49.1 +1.0
NVAR	Mina Array Bea comp=N,2.3nm,0.7s,baz=156,slow=6.3,SNR=23	84.49 325	P	P	16 37 49.6 +0.9
I21A	Big Trails, Te baz=85	84.50 335	⇑P	P	16 37 49.5 +1.0
H23A	Clabaugh Cattl baz=85,SNR=13	84.53 337	⇓P	P	16 37 44.5 -4.0

E29A	Napoleon baz=85	84.64 341	⇑P	P	16 37 49.7	+0.7
J19A	Crowheart baz=85,SNR=6.4	84.65 334	⇓P	P	16 37 49.7	+0.4
F27A	Lemmon baz=85	84.66 339	⇑P	P	16 37 49.8	+0.7
HVU	Hansel Valley comp=N,6.4nm,0.8s	84.82 331	*e*P	P	16 37 50.0	-0.2
F26A	Lodgepole baz=85	84.83 339	⇓P	P	16 37 51.5	+1.5
D30A	Buchanan baz=85	84.91 342	⇑P	P	16 37 51.2	+0.9
I20A	Worland baz=85	84.91 335	⇑P	P	16 37 51.5	+0.9
E28A	Huff baz=85	84.93 341	⇓P	P	16 37 51.7	+1.3
E27A	Carson baz=85	85.04 340	⇓P	P	16 37 51.6	+0.6
D29A	Pettibone, Tap baz=85	85.08 341	⇑P	P	16 37 51.4	+0.2
G23A	Biddle baz=85	85.09 337	⇑P	P	16 37 52.4	+1.0
H21A	Big Horn, Sher baz=85	85.13 336	⇑P	P	16 37 51.8	+0.2
F25A	Bowman baz=85	85.14 338	⇑P	P	16 37 52.5	+0.9
I19A	Meeteetse baz=86	85.30 334	⇑P	P	16 37 53.6	+1.0
AGMN	Agassiz Nation baz=86,SNR=6.4	85.33 344	⇓P	P	16 37 52.2	-0.2
AGMN	Agassiz Nation comp=N,5.8nm,0.6s	85.33 344	*e*P	P	16 37 51.6	-0.7
E26A	Carlson Angus baz=86	85.33 339	⇑P	P	16 37 53.3	+0.8
H20A	Greybull baz=86,SNR=7.4	85.34 335	⇑P	P	16 37 53.0	+0.4
F24A	Ekalaka baz=86	85.37 338	⇑P	P	16 37 53.3	+0.6
C30A	Mose, Pekin baz=86,SNR=7.4	85.39 342	⇑P	P	16 37 53.2	+0.5
G22A	Birney baz=86	85.40 336	⇑P	P	16 37 53.6	+0.6
F23A	Volborg baz=86	85.56 337	⇓P	P	16 37 54.7	+1.0
E25A	Miller Ranch, baz=86	85.64 339	⇓P	P	16 37 55.1	+1.1
G21A	Lodge Grass baz=86	85.71 336	⇑P	P	16 37 55.1	+0.6
I17A	Pilgrim Ck. baz=86,SNR=8.4	85.78 333	⇓P	P	16 37 55.7	+0.7
MDND	Maddock baz=86	85.81 342	⇑P	P	16 37 55.8	+1.1
MDND	Maddock comp=N,8.4nm,1.1s	85.81 342	*e*P	P	16 37 55.0	+0.2
D26A	Manning baz=86	85.83 340	⇑P	P	16 37 56.3	+1.3
H19A	Powell baz=86,SNR=5.0	85.84 334	⇓P	P	16 37 55.2	0.0
F22A	Rosebud baz=86	85.89 337	⇑P	P	16 37 55.4	+0.2
C28A	Hausauer Farms baz=86	85.89 341	⇑P	P	16 37 55.6	+0.4
E24A	Baker baz=86	85.97 338	⇓P	P	16 37 56.4	+0.7
B30A	Myrvik Farm, E baz=86,SNR=16	86.05 343	⇑P	P	16 37 56.0	+0.1
G20A	Bridger baz=86,SNR=5.8	86.05 335	⇑P	P	16 37 56.3	+0.1
H18A	Shoshone NF, C baz=86,SNR=15	86.09 334	⇓P	P	16 37 56.8	+0.2
H17A	Grant Village baz=86	86.18 333	⇑P	P	16 37 57.2	+0.2
C27A	Sayler Ranch, baz=86	86.19 340	⇓P	P	16 37 57.0	+0.3
D25A	Fairfield baz=86	86.20 339	⇓P	P	16 37 57.5	+0.7
F21A	Absaloka Mine, baz=86	86.21 336	⇑P	P	16 37 57.0	+0.1
B29A	Wagenman Farm, baz=87	86.32 342	⇓P	P	16 37 58.1	+0.8
RLMT	Red Lodge comp=N,5.0nm,0.8s	86.33 335	*e*P	P	16 37 57.2	-0.5
E22A	Miles City baz=87	86.37 337	⇑P	P	16 37 57.7	+0.1
C26A	Wahner Farm, P baz=87	86.46 340	⇑P	P	16 37 58.4	+0.4
D24A	Glendive baz=87	86.47 338	⇑P	P	16 37 58.6	+0.5
A30A	Hoffart Farm, baz=87,SNR=6.0	86.50 343	⇑P	P	16 37 58.5	+0.3
F20A	Billings baz=87	86.54 336	⇑P	P	16 38 00.0	+1.5
C25A	Freed Ranch, W baz=87	86.69 339	⇓P	P	16 38 00.1	+1.0
A29A	Manning Farm, baz=87	86.71 342	⇑P	P	16 37 59.5	+0.3
B27A	Peters Farms, baz=87	86.76 341	⇓P	P	16 38 00.3	+0.8
D23A	Lindsay baz=87,SNR=11	86.79 338	⇑P	P	16 38 00.4	+0.7
E21A	Keefer Ranch, baz=87	86.83 337	⇓P	P	16 38 00.9	+1.0
F19A	Roth Farm, Mol baz=87	86.86 335	⇓P	P	16 38 00.7	+0.6
C24A	Savage baz=87,SNR=15	86.87 339	⇑P	P	16 38 01.0	+1.0
A28A	Rude Farm, Bot baz=87	86.96 342	⇓P	P	16 38 01.2	+0.8
HLID	Hailey baz=87,SNR=12	86.97 331	⇑P	P	16 38 02.0	+1.2
B26A	Jensen Ranch, baz=87	87.00 340	⇑P	P	16 38 01.4	+0.8
D22A	Cohagen baz=87	87.07 337	⇑P	P	16 38 02.0	+0.9
E20A	Meyer Farm, Mu baz=87,SNR=9.0	87.14 336	⇓P	P	16 38 01.8	+0.3
B25A	Knox Farm, Ray baz=87	87.17 340	⇓P	P	16 38 02.1	+0.6
ULM	Lac du Bonnet comp=N,6.2nm,0.9s,baz=143,slow=2.4,SNR=12	87.17 345	P	P	16 38 00.9	-0.5
E19A	Rath Farm, Rou baz=88,SNR=8.4	87.33 335	⇑P	P	16 38 02.3	0.0
C23A	Lambert baz=88,SNR=5.1	87.34 338	⇑P	P	16 38 02.8	+0.5
MCMT	McKenzie Canyo comp=N,4.4nm,1.1s	87.41 332	*e*P	P	16 38 03.7	+0.7
A26A	Wade Farm, Ken baz=88	87.42 341	⇓P	P	16 38 03.5	+0.9
D20A	Manuel Ranch, baz=88	87.66 336	⇓P	P	16 38 04.6	+0.8
A25A	Svangstu Ranch baz=88	87.76 340	⇑P	P	16 38 05.2	+1.0
B23A	Brockton baz=88	87.88 339	⇑P	P	16 38 05.3	+0.4
C21A	Desert Coulee baz=88	87.96 337	⇑P	P	16 38 06.1	+0.8
D19A	Cripps Ranch, baz=88	87.97 336	⇑P	P	16 38 05.8	+0.4
A24A	Westby baz=88	88.00 339	⇑P	P	16 38 06.4	+0.9
B22A	Reddig Ranch S baz=88	88.04 338	⇑P	P	16 38 06.3	+0.7
C20A	Veseth Ranch, baz=88	88.16 337	⇓P	P	16 38 06.4	+0.1
B21A	Ellsworth Farm baz=89	88.47 337	⇑P	P	16 38 08.4	+0.7
C19A	Slack Wire Ran baz=89	88.52 336	⇑P	P	16 38 08.7	+0.7
A22A	Carney Farms, baz=89,SNR=5.1	88.63 338	⇑P	P	16 38 08.8	+0.3
M04C	Macdoel baz=89	88.80 325	⇑P	P	16 38 09.7	+0.2
A21A	Bergtoll Ranch baz=89	88.94 338	⇑P	P	16 38 10.3	+0.5
B19A	Brinkman Farms baz=89	89.11 336	⇑P	P	16 38 10.6	-0.1
A20A	Cobblestone Ra baz=89	89.15 337	⇓P	P	16 38 12.2	+1.3
J05D	Fort Rock, OR baz=90	89.69 326	⇑P	P	16 38 14.4	+0.7
YKA	Yellowknife Ar comp=N,0.4nm,0.6s,baz=135,slow=4.8,SNR=6.2	102.72 341	P	Pdif	16 39 11.6	-0.6
ASAR	Alice Springs comp=N,0.3nm,0.8s,baz=139,slow=1.4,SNR=3.8	117.02 207	PKP	PKPdf	16 43 59.7	-1.4
WRA	Warramunga Arr comp=N,0.4nm,0.4s,baz=152,slow=1.9,SNR=30	120.23 209	PKP	PKPdf	16 44 06.5	-0.9
BRTR	Keskin Array B comp=N,0.3nm,0.4s,baz=205,slow=0.5,SNR=3.8	122.06 61	PKP	PKPdf	16 44 10.1	-0.2
H11S2	WAKE ISLAND Hyl baz=125	25.86 269	T	T	19 02 32.3	
H11S1	WAKE ISLAND Hyl baz=125	25.88 269	T	T	19 02 33.4	
H11S3	WAKE ISLAND Hyl baz=125	25.88 269	T	T	19 02 35.8	
H11N3	WAKE ISLAND Hyl baz=115,slow=79,SNR=13	26.29 270	T	T	19 03 05.5	
H11N1	WAKE ISLAND Hyl baz=115,slow=79,SNR=36	26.31 270	T	T	19 03 04.6	
H11N2	WAKE ISLAND Hyl baz=115,slow=79,SNR=27	26.31 270	T	T	19 03 07.0	
HYB	Hyderabad	148.55 116	*i* PKP	PKPbc	16 45 02.0	-1.1
YAK	Yakutsk	149.40 340	*e*PKPbc	PKPbc	16 45 03.5	-0.3
KKAR	Karatay Array	149.76 63	PKPbc	PKPbc	16 45 05.1	-0.3
EKS2	Erkin-Say	152.19 63	*e*PKPbc	PKPbc	16 45 12.0	+0.7
AAK	Ala-Archa	152.72 63	*e*PKPbc	PKPbc	16 45 13.2	+0.7
KURK	Kurchatov	153.29 44	PKPbc	PKPbc	16 45 13.0	-0.2
KSH	Kashi	154.01 70	*e*PKPbc	PKPdf	16 45 07.3	0.0
KSH			sPKP		16 45 20.8	
KSH			PKS	PKSdf	16 48 41.3	-0.3
KSH			PP	PP	16 49 02.8	-1.3
KSH			SKS	SKSdf	16 52 12.1	-0.3
KSH			SKKS	SKKSac	16 55 52.1	0.0
KSH			SS	SS	17 08 38.1	-3.0
KSH	comp=N,83nm,5.3s		PPMZ			
KSH	comp=N,73nm,4.5s		LN			
KSH	comp=N,44nm,6.1s		LE			
KSH	comp=N,200nm,5.2s		LZ			
ZALV	Zalesovo Beam comp=N,1.0nm,0.8s,baz=306,slow=3.2,SNR=4.8	154.73 33	PKP	PKPdf	16 45 07.1	-0.5
ZALV	comp=N,1.7nm,0.7s,baz=300,slow=6.7,SNR=4.7		PKPab	PKPab	16 45 31.8	+0.5
MKAR	Makanchi Array comp=N,0.5nm,0.8s,baz=326,slow=0.4,SNR=4.5	157.12 50	PKP	PKPdf	16 45 11.3	+0.3
MKAR	comp=N,1.1nm,0.9s,baz=269,slow=3.6,SNR=6.5		PKPab	PKPab	16 45 41.7	-0.1
WMQ	Urumqi	161.79 54	*e*PKP	PKPdf	16 45 15.3	-1.3
WMQ			pPKP	pPKPdf	16 45 26.0	+0.6
SONM	Songino Array comp=N,0.2nm,0.4s,baz=322,slow=9.1,SNR=2.5	166.79 5	PKP	PKPdf	16 45 18.6	-2.5
SONM	comp=N,0.9nm,0.9s,baz=22,slow=1.6,SNR=5.9		PKPab	PKPab	16 46 23.9	-0.1
NJ2	Nanjing	170.63 257	*e*PKP	PKPdf	16 45 23.6	-0.2
GTA	Gaotai	171.87 52	*e*PKP	PKPdf	16 45 28.3	+3.9
GTA			pPKP	pPKPdf	16 45 39.1	+5.9
GTA			sPKP		16 45 42.6	
HHC	Hu-ho-hao-te	173.25 337	*e*PKP	PKPdf	16 45 24.6	-0.3
HHC			pPKP	pPKPdf	16 45 33.3	-0.4
HHC			sPKP		16 45 39.0	
HHC			PP	PP	16 50 43.0	-1.1
HHC			SKS	SKSdf	16 52 25.0	-1.4
HHC			SKKS	SKKSac	16 57 30.1	+0.8
HHC			SS	SS	17 11 56.4	-0.6
HHC	comp=N,170nm,10.2s		PPMZ			
HHC	comp=N,250nm,22.6s		LN			
HHC	comp=N,280nm,21.1s		LE			
HHC	comp=N,150nm,19.0s		LZ			
LZH	Lanzhou	176.25 67	*e*PKP	PKPdf	16 45 26.1	0.0
LZH			pPKP	pPKPdf	16 45 37.0	+2.1
LZH			sPKP		16 45 40.6	
LZH	comp=N,190nm,18.2s		LN			
LZH	comp=N,200nm,18.5s		LE			
LZH	comp=N,240nm,20.1s		LZ			

DJA 21 16:29:04.9±0.7, 5°S±5°×10°3E±°, h23km±7km, M3.5/9, MLv3.5/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	0.63	353	P		Pb	16 29 17.3	0.0
MNAI				S		Sn	16 29 26.9	-0.9
LWLI	Liwa	1.02	92	P		Pn	16 29 23.3	-0.7
LWLI				S		Sn	16 29 37.6	-0.2
MDSI	Maura Dua	1.25	66	P		Pn	16 29 26.7	-0.3
MDSI				S		Sn	16 29 42.9	-0.2
LHSI	Lahat	1.26	23	P		Pn	16 29 26.1	-1.0
KASI	Kota Agung	1.55	110	P		Pn	16 29 31.0	-0.2
KASI				S		Sn	16 29 49.9	-0.7
KLSI		1.72	80	P		Pn	16 29 33.3	-0.2
KLSI				S		Sn	16 29 55.2	+0.5
KLI	Kotabumi	1.82	86	P		Pn	16 29 35.1	+0.2
KLI				S		Sb	16 29 58.7	-1.4

IDC 21 16:30:22.8±17.0, 57°79S×28°00W, h0km, mb3.7/1, mb1 3.7/1, mb1mx3.4/14, mbtmp3.7/1, Error ellipse: s-maj=1139.0km s-min=76.7km az=143.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea 0.3nm,0.4s,baz=200,slow=6.3,SNR=4.8	74.79	30	P		P	16 42 04.6	0.0
YKA	Yellowknife Ar 0.2nm,0.5s,baz=134,slow=1.9,SNR=4.4	137.16	317	PKP		PKPdf	16 49 45.7	-0.5
ILAR	Eielson Array 0.3nm,0.7s,baz=147,slow=2.3,SNR=4.6	150.91	309	PKPbc		PKPbc	16 50 15.4	-0.3

IDC 21 16:38:05.7±11.0, 15°61S×174°54W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/18, mbtmp3.4/2, Error ellipse: s-maj=521.6km s-min=67.8km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.2nm,0.6s,baz=90,slow=8.0,SNR=7.3	48.73	257	P		P	16 46 52.5	0.0
ASAR	Alice Springs 0.4nm,0.5s,baz=86,slow=7.7,SNR=13	49.00	252	P		P	16 46 54.4	-0.2
BRTR	Keskin Array B 0.3nm,0.4s,baz=39,slow=2.8,SNR=3.1	145.62	320	PKPbc		PKPdf	16 57 45.9	-0.7

*ISCJB **21** 16:47:32.2±1.0, 20°8S±0°2×178°4W±0°2, h587km, mb3.3/7, Error ellipse: s-maj=31.3km s-min=22.7km az=137.6*
*IDC **21** 16:47:35.8±4.8, 20°70S×178°44W, h615km±57km, mb2.9/7, mb1 3.2/8, mb1mx3.0/23, mbtmp3.9/8, Error ellipse: s-maj=26.5km s-min=24.6km az=77.0*

ISC 21 16:47:33.5±1.0, 20°7S±0°2×178°3W±0°2, h587km, n11, σ1§10/11, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac 0.5nm,0.3s,baz=101,slow=19,SNR=5.2	14.31	262	P		P	16 50 37.3	+1.6
ASAR	Alice Springs 2.2nm,0.7s,baz=88,slow=8.1,SNR=65	44.23	257	P		P	16 54 51.7	-0.4
ASAR	0.4nm,0.5s,baz=106,slow=4.0,SNR=9.5			PcP		PcP	16 56 23.6	-0.1
WRA	Warramunga Arr 1.1nm,0.3s,baz=97,slow=7.6,SNR=75	44.33	262	P		P	16 54 51.8	-1.1
VNDA	Vanda 0.3nm,0.5s,baz=14,slow=6.9,SNR=3.6	57.72	185	P		P	16 56 28.1	-0.6
KSRS	Korea Array 0.3nm,0.5s,baz=124,slow=6.8,SNR=2.9	76.85	319	P		P	16 58 24.9	-1.1
NVAR	Mina Array Bea 0.3nm,0.5s,baz=223,slow=4.8,SNR=3.2	81.32	43	P		P	16 58 51.5	+1.6
ILAR	Eielson Array 0.3nm,0.4s,baz=219,slow=5.1,SNR=8.3	88.54	13	P		P	16 59 22.9	-1.1
CMAR	Chiang Mai Arr 0.5nm,0.8s,baz=97,slow=2.1,SNR=4.7	89.93	290	P		P	16 59 31.6	+0.1
FINES	FINESS Array B 0.5nm,0.6s,baz=347,slow=5.7,SNR=3.2	135.87	343	PKP		PKPdf	17 05 47.9	+0.1
AKASG	Malin Array Be 1.1nm,0.4s,baz=44,slow=4.0,SNR=4.1	143.04	331	PKhKP		PKPpre	17 05 55.9	
BRTR	Keskin Array B 0.5nm,0.4s,baz=140,slow=4.2,SNR=4.0	146.77	312	PKPbc		PKPdf	17 06 08.8	+0.8

IDC 21 17:01:24.6±7.4, 26°22S×177°70W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/16, mbtmp3.6/2, Error ellipse: s-maj=304.2km s-min=115.2km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs 0.3nm,0.5s,baz=97,slow=7.4,SNR=15	43.76	262	P		P	17 09 31.6	-0.5
WRA	Warramunga Arr 0.4nm,0.3s,baz=105,slow=8.1,SNR=13	44.37	268	P		P	17 09 37.3	+0.2
FINES	FINESS Array B 3.3nm,1.2s,baz=40,slow=2.4,SNR=4.4	141.30	342	PKP		PKPdf	17 20 56.2	-0.5

*IDC **21** 17:31:29.8±1.2, 3°77S×138°42E, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.5/18, mbtmp3.5/6, ML3.3/2, Error ellipse: s-maj=38.6km s-min=26.5km az=108.0*
*ISCJB **21** 17:31:32.5±0.9, 3°9S±0°1×138°6E±0°1, h33km, mb3.5/3, Error ellipse: s-maj=23.9km s-min=9.9km az=136.2*

ISC 21 17:31:34.0±1.0, 4°0S±0°1×138°6E±0°2, h35km, n6, σ1§92/7, mb3.6/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura 0.8nm,0.3s,baz=221,slow=19,SNR=4.6	2.55	55	Pn		Pn	17 32 12.7	-0.2
JAY	4.2nm,0.3s,baz=135,slow=20,SNR=6.1			Sn		Sn	17 32 41.8	-0.9
WRA	Warramunga Arr 0.2nm,0.3s,baz=19,slow=12,SNR=16	16.40	194	Pn		P	17 35 22.6	-1.5
ASAR	Alice Springs 1.0nm,0.7s,baz=29,slow=9.6,SNR=29	20.09	193	P		Pn	17 36 07.5	+0.8
MKAR	Makanchi Array 0.2nm,0.6s,baz=103,slow=4.6,SNR=3.2	70.74	323	P		P	17 42 44.7	-2.0
BVAR	Borovoye Array 0.4nm,0.6s,baz=114,slow=7.0,SNR=3.3	80.30	325	P		P	17 43 41.8	+0.5
ILAR	Eielson Array 0.3nm,0.7s,baz=257,slow=4.7,SNR=4.8	87.03	24	P		P	17 44 18.1	+2.6

IDC 21 17:35:49.0±1.7, 36°91S×73°60W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/27, mbtmp3.4/4, ML2.7/2, MS3.4/2, Ms1 3.4/2, ms1mx3.0/18, Error ellipse: s-maj=48.0km s-min=20.7km az=66.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores 0.2nm,0.3s,baz=318,slow=12,SNR=3.4	4.50	149	Pn		Pn	17 36 58.7	+0.2
PLCA	0.7nm,0.3s,baz=38,slow=17,SNR=4.9			Lg		Lg	17 38 13.4	
PLCA	comp=Z,119nm,19.2s,baz=274,slow=43			LR		LR	17 39 01.0	
CFAA	Coronel Fontan 0.0nm,0.3s,baz=220,slow=16,SNR=2.9	6.90	42	Pn		Pn	17 37 30.9	-0.6
LPAZ	La Paz 0.8nm,0.7s,baz=188,slow=5.7,SNR=3.5	21.10	15	P		P	17 40 37.8	+1.8
CMIG	Matias Romero comp=Z,159nm,21.6s,baz=186,slow=29	57.34	336	LR		LR	18 03 20.7	
TXAR	Lajitas Array 0.2nm,0.7s,baz=153,slow=8.1,SNR=3.2	71.69	333	P		P	17 47 12.8	0.0
TORD	Torodi Ar. Bea 0.2nm,0.6s,baz=212,slow=5.1,SNR=2.4	86.38	71	P		P	17 48 32.6	-0.9

*DDA **21** 18:00:22.7, 38°88N×32°01E, h4km, MD3.5*
*ISK **21** 18:00:24.1, 38°81N×31°93E, h5km, ML3.6*
*CSEM **21** 18:00:24.9±0.1, 38°84N×31°95E, h2km, ML3.6, Error ellipse: s-maj=2.9km s-min=2.3km az=34.0*
*ATH **21** 18:01:17.5, 41°02N×27°72E, h37km, MD3.3/5*

ISC 21 18:00:24.8±0.9, 38°82N±0°02×31°90E±0°02, h8km±7km, n155, σ1§14/172, 16C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KIZT	Kizilcal	0.06	346	PG		Pg	18 00 26.8	0.0
KIZT	Kizilcal	0.06	346	*i* Pg		Pg	18 00 26.8	0.0
KDHN	Kadinhani	0.34	150	*i* P		Pg	18 00 30.7	-0.9
KDHN				*i* S		Sg	18 00 35.5	-0.6
KDHN	Kadinhani	0.34	150	*i* P		Pg	18 00 30.7	-0.9
KDHN				*i* S		Sg	18 00 35.5	-0.6
SVRH	Sivrihisar-ESK	0.69	335	PG		Pg	18 00 37.3	-0.9
SVRH	Sivrihisar-ESK	0.69	335	*i* Pg		Pg	18 00 37.3	-0.9
LADK	Ladik-KONYA	0.72	149	PG		Pg	18 00 37.6	-1.1
LADK	Ladik-KONYA	0.72	149	*i* Pg		Pg	18 00 37.6	-1.1
KONT	Konya--Tatoy	0.94	157	PG		Pg	18 00 41.7	-1.3
KONT	Konya--Tatoy	0.94	157	*i* Pg		Pg	18 00 41.7	-1.3
ESKT	Eskisehir	1.08	311	*e*PN		Pg	18 00 44.5	-1.0
SHUT	Suhut-Afyon	1.09	256	*e*PN		Pg	18 00 45.1	-0.6
AFSR	Af¨ar-Bala (A	1.11	55	*e*PN		Pg	18 00 45.6	-0.5
AFSR				*e*SN		Sb	18 01 01.4	+0.4
AFSR	Af¨ar-Bala (A	1.11	55	*e*Pn		Pg	18 00 45.6	-0.5
AFSR				*e*Sn		Sb	18 01 01.4	+0.4
BBAL	Bala	1.19	52	*i* P		Pb	18 00 47.7	-0.1
BBAL				*i* S		Sn	18 01 06.0	+1.4
BBAL	Bala	1.19	52	*i* P		Pb	18 00 47.7	-0.1
BBAL				*i* S		Sn	18 01 06.0	+1.4
ANTO	Ankara	1.26	33	*e*PN		Pg	18 00 49.1	+0.1
ANTO	Ankara	1.26	33	*e*Pn		Pg	18 00 49.1	+0.1
LOD	Lodumlu	1.26	32	*e*PN		Pn	18 00 48.4	-0.5
LOD	Lodumlu	1.26	32	*e*Pn		Pn	18 00 48.4	-0.5
SULT	Sultanhani-AKS	1.41	116	*e*PN		Pn	18 00 50.8	-0.2
SULT	Sultanhani-AKS	1.41	116	*e*Pn		Pn	18 00 50.8	-0.2
ALT	Altintas	1.42	280	*e*PN		Pn	18 00 50.9	-0.1
ALT	Altintas	1.42	280	*e*Pn		Pn	18 00 50.9	-0.1
ISP	Isparta	1.47	228	*e*PN		Pb	18 00 52.7	+0.2
ISP	Isparta	1.47	228	*e*Pn		Pb	18 00 52.7	+0.2
BORA	Eskisehir	1.54	314	*i* P		Pn	18 00 52.5	-0.3
BORA				*i* S		Sn	18 01 12.7	-0.4
BORA	Eskisehir	1.54	314	*i* P		Pn	18 00 52.5	-0.3
BORA				*i* S		Sn	18 01 12.7	-0.4
BCK	Bucak	1.71	218	*e*PN		Pb	18 00 56.5	0.0
BCK	Bucak	1.71	218	*e*Pn		Pb	18 00 56.5	0.0
MDUB	Mudurnu	1.74	342	*e*PN		Pn	18 00 55.9	+0.4
MDUB	Mudurnu	1.74	342	*e*Pn		Pn	18 00 55.9	+0.4
BTAS	Taskesti	1.88	339	*i* P		Pn	18 00 57.7	+0.3
BTAS				*i* S		Sg	18 01 26.2	+0.8
BTAS	Taskesti	1.88	339	*i* P		Pn	18 00 57.7	+0.3
BTAS				*i* S		Sg	18 01 26.2	+0.8
GDZ	Gediz	1.91	279	*i* P		Pn	18 00 59.0	+1.2
GDZ				*i* S		Sn	18 01 22.4	+0.3
GDZ	Gediz	1.91	279	*i* P		Pn	18 00 59.0	+1.2
GDZ				*i* S		Sn	18 01 22.4	+0.3
GPA	Golpazari	1.92	321	*e*PN		Pn	18 00 58.8	+0.9
GPA	Golpazari	1.92	321	*e*Pn		Pn	18 00 58.8	+0.9
KHL	Karahalli	1.93	256	*e*PN		Pn	18 00 58.8	+0.7
KHL	Karahalli	1.93	256	*e*Pn		Pn	18 00 58.8	+0.7
GULT	Gulveren	1.94	327	*e*PN		Pn	18 00 58.9	+0.7
GULT	Gulveren	1.94	327	*e*Pn		Pn	18 00 58.9	+0.7
BCAM	Yenicaga	2.00	4	*i* P		Pn	18 00 58.8	-0.3
BCAM				*i* S		Sg	18 01 29.5	+0.4
BCAM	Yenicaga	2.00	4	*i* P		Pn	18 00 58.8	-0.3
BCAM				*i* S		Sg	18 01 29.5	+0.4
TVSB	Tavsanli	2.00	289	*e*PN		Pb	18 01 00.6	-0.9
TVSB	Tavsanli	2.00	289	*e*Pn		Pb	18 01 00.6	-0.9
ELDT	Eldivan	2.04	35	*i* P		Pn	18 00 59.5	-0.3
ELDT				*i* S		Sb	18 01 27.8	-0.2
ELDT	Eldivan	2.04	35	*i* P		Pn	18 00 59.5	-0.3
ELDT				*i* S		Sb	18 01 27.8	-0.2
CDAG	Cicekdag	2.08	66	*i* P		Pn	18 01 00.8	+0.6
CDAG				*i* S		Sn	18 01 26.8	+0.4
CDAG	Cicekdag	2.08	66	*i* P		Pn	18 01 00.8	+0.6
CDAG				*i* S		Sn	18 01 26.8	+0.4
CAVI	Cavuskoy	2.11	312	*e*PN		Pn	18 01 01.4	+0.9
CAVI	Cavuskoy	2.11	312	*e*Pn		Pn	18 01 01.4	+0.9
ANTB	Antalya	2.15	208	*e*PN		Pn	18 01 02.2	+1.1
ANTB	Antalya	2.15	208	*e*Pn		Pn	18 01 02.2	+1.1
CANT	Cankiri	2.22	36	*e*PN		Pn	18 01 02.5	+0.4
SPNC	Sapanca-Adapaz	2.23	327	*e*PN		Pn	18 01 03.2	+1.1
SPNC	Sapanca-Adapaz	2.23	327	*e*Pn		Pn	18 01 03.3	+1.1
NIG	Nigde	2.24	108	*e*PN		Pn	18 01 03.2	+0.7

ELL	Elmali	2.60 218	*e*PN	Pn	18 01 09.2	+1.9
ELL	Elmali	2.60 218	*e*Pn	Pn	18 01 09.3	+1.9
ORLT	Orhaneli	2.63 299	*e*PN	Pn	18 01 09.0	+1.3
ORLT	Orhaneli	2.63 299	*e*Pn	Pn	18 01 09.0	+1.3
HRT	Hereke	2.64 320	*e*PN	Pn	18 01 08.9	+1.1
HRT	Hereke	2.64 320	*e*Pn	Pn	18 01 08.9	+1.1
GEMT	Gemlik	2.64 308	*e*PN	Pn	18 01 08.4	+0.6
GEMT	Gemlik	2.64 308	*e*Pn	Pn	18 01 08.4	+0.6
DST	Dursunbey	2.67 288	*e*PN	Pn	18 01 09.6	+1.4
DST	Dursunbey	2.67 288	*e*Pn	Pn	18 01 09.6	+1.4
YOZ	Yozgat	2.78 72	*e*PN	Pn	18 01 10.1	+0.2
YOZ	Yozgat	2.78 72	*e*Pn	Pn	18 01 10.1	+0.2
MDNY	Mudanya-Bursa	2.80 305	*e*PN	Pn	18 01 11.5	+1.6
MDNY	Mudanya-Bursa	2.80 305	*e*Pn	Pn	18 01 11.5	+1.6
MERS	Mersin	2.85 132	*e*PN	Pn	18 01 11.6	+0.9
MERS	Mersin	2.85 132	*e*Pn	Pn	18 01 11.6	+0.9
SILT	Sile	2.91 324	*e*PN	Pn	18 01 12.8	+1.4
SILT	Sile	2.91 324	*e*Pn	Pn	18 01 12.8	+1.4
ARMT	Armutlu	2.92 308	*e*PN	Pn	18 01 11.8	+0.2
ARMT	Armutlu	2.92 308	*e*Pn	Pn	18 01 11.9	+0.2
KARA	Karaisali	2.94 121	*e*PN	Pn	18 01 12.9	+1.0
KARA	Karaisali	2.94 121	*e*Pn	Pn	18 01 12.9	+1.0
KCTX	Karacabey (Bur	3.10 299	*e*PN	Pn	18 01 16.0	+1.9
KCTX	Karacabey (Bur	3.10 299	*e*Pn	Pn	18 01 16.0	+1.9
FETY	Fethiye	3.12 227	*e*PN	Pn	18 01 16.2	+1.8
FETY	Fethiye	3.12 227	*e*Pn	Pn	18 01 16.2	+1.8
ISK	Istanbul-Kandi	3.13 317	*e*PN	Pn	18 01 16.0	+1.5
ISK	Istanbul-Kandi	3.13 317	*e*Pn	Pn	18 01 16.0	+1.5
AKS	Akhisar	3.19 272	*e*PN	Pn	18 01 17.1	+1.7
AKS	Akhisar	3.19 272	*e*Pn	Pn	18 01 17.1	+1.7
BALB	Balikesir	3.23 286	*e*PN	Pn	18 01 17.7	+1.8
BALB	Balikesir	3.23 286	*e*Pn	Pn	18 01 17.7	+1.8
AYDB	Zeytinkoy-Aydi	3.27 256	*e*PN	Pn	18 01 18.4	+1.8
AYDB	Zeytinkoy-Aydi	3.27 256	*e*Pn	Pn	18 01 18.4	+1.8
KLYT	Kilyos	3.27 319	*e*PN	Pn	18 01 17.9	+1.4
KLYT	Kilyos	3.27 319	*e*Pn	Pn	18 01 17.9	+1.4
BGKT	Bogazkoy	3.37 315	*e*PN	Pn	18 01 19.4	+1.6
BGKT	Bogazkoy	3.37 315	*e*Pn	Pn	18 01 19.4	+1.6
KOZT	Kozan	3.37 112	*e*PN	Pn	18 01 19.0	+1.1
KOZT	Kozan	3.37 112	*e*Pn	Pn	18 01 19.0	+1.1
EDC	Edincik	3.47 297	*e*PN	Pn	18 01 21.2	+2.0
EDC	Edincik	3.47 297	*e*Pn	Pn	18 01 21.2	+2.0
BZK	Bozkurt	3.52 26	*e*PN	Pn	18 01 21.2	+1.3
BZK	Bozkurt	3.52 26	*e*Pn	Pn	18 01 21.2	+1.3
CTKS	Kestanelik-??a	3.55 314	*e*PN	Pn	18 01 21.0	+0.7
CTKS	Kestanelik-??a	3.55 314	*e*Pn	Pn	18 01 21.0	+0.7
IZM	Izmir	3.66 265	*e*PN	Pn	18 01 23.5	+1.7
IZM	Izmir	3.66 265	*e*Pn	Pn	18 01 23.5	+1.7
EREN	Erenkoy	3.75 150	*e*PN	Pn	18 01 24.6	+1.6
EREN	Erenkoy	3.75 150	*e*Pn	Pn	18 01 24.6	+1.6
MRMT	Marmara Adasi	3.77 300	*e*PN	Pn	18 01 25.7	+2.4
MRMT	Marmara Adasi	3.77 300	*e*Pn	Pn	18 01 25.7	+2.3
KRBG	Karabiga-Canak	3.89 295	*e*PN	Pn	18 01 26.9	+2.0
KRBG	Karabiga-Canak	3.89 295	*e*Pn	Pn	18 01 26.9	+2.0
CSS	Prodhromos	4.02 163	*e*PN	Pn	18 01 28.7	+2.0
CSS	Prodhromos	4.02 163	*e*Pn	Pn	18 01 28.7	+2.0
SVSK	Karacayir	4.10 73	*e*PN	Pn	18 01 29.1	+1.3
SVSK	Karacayir	4.10 73	*e*Pn	Pn	18 01 29.1	+1.3
LPK	Lapseki	4.26 293	*e*PN	Pn	18 01 32.5	+2.4
LPK	Lapseki	4.26 293	*e*Pn	Pn	18 01 32.5	+2.4
SIGR	SIGRI	4.72 277	*e*PN	Pg	18 01 54.9	-0.4
ALN	Alexandroupoli	4.96 297	*e*PB	Pn	18 01 40.0	+0.3
ALN			*e*SN	Pg	18 01 57.2	-2.6
MALT	Malatya	5.14 94	⇑*i*P	Pn	18 01 48.1	+5.8
SMTH	Samothraki Isl	5.19 291	*e*PB	Pn	18 01 47.6	+4.8
RDO	Rodhopi	5.41 297	*e*PB	Pn	18 01 46.5	+0.6
JMB	Yambol	5.44 314	⇓*i*P	Pb	18 01 57.5	-2.7
KDZ	Kurdzhali	5.71 302	⇑*i*P	Pn	18 01 49.7	-0.3
KDZ	Kurdzhali	5.71 302	⇑*i*P	Pn	18 01 49.7	-0.3
KAVA	Kavala	6.08 293	*e*PN	Pn	18 01 56.0	+0.9
TIRR	Tirgusor	6.21 336	⇑*i*P	Pn	18 01 56.9	+0.1
TIRR	Tirgusor	6.21 336	⇑*i*P	Pn	18 01 56.9	+0.1
NVR	Nevrokopi	6.66 295	*e*PN	Pn	18 02 03.8	+0.7
MMB	Musomiste	6.84 296	⇓*i*P	Pn	18 02 05.7	+0.2
MMB	Musomiste	6.84 296	⇓*i*P	Pn	18 02 05.7	+0.2
CFR	Carcaliu	6.95 337	⇑*i*P	Pn	18 02 07.0	+0.1
CFR	Carcaliu	6.95 337	⇑*i*P	Pn	18 02 07.0	+0.1
KNT	Kendrikon	7.30 292	*e*PN	Pn	18 02 14.0	+2.2
VTS	Vitosha	7.60 302	⇑*i*P	Pn	18 02 15.8	-0.3
VTS	Vitosha	7.60 302	⇑*i*P	Pn	18 02 15.8	-0.3
VRI	Vrincioaia	8.02 333	⇑*i*P	Pn	18 02 22.3	+0.7
VRI	Vrincioaia	8.02 333	⇑*i*P	Pn	18 02 22.3	+0.7
PLOR	Plostina	8.03 333	⇑*i*P	Pn	18 02 26.7	+4.8
VOIR		8.34 325	⇑*i*P	Pn	18 02 27.8	+1.6
VOIR		8.34 325	⇑*i*P	Pn	18 02 27.8	+1.6
DOPR	Dopca	8.61 328	⇑*i*P	Pn	18 02 30.5	+0.7
DOPR	Dopca	8.61 328	⇑*i*P	Pn	18 02 30.5	+0.7

MEX 21 18:01:55.0±1.2, 15°.38N×95°.82W, h16km±16km, MD4.3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.47	325	*i* P	Pg	18 02 02.9	-1.6
HUIG				*e*S	Sg	18 02 09.8	-1.2
VHO	Vista Hermosa	1.90	333	*e*P	Pn	18 02 24.3	-2.7
VHO				*e*S	Sn	18 02 46.0	-4.7
CMIG	Matias Romero	1.93	28	*e*P	Pn	18 02 23.1	-4.1
CMIG				*i* S	Sn	18 02 46.3	-4.8
PNIG	Pinotepa	2.44	295	*e*P	Pn	18 02 32.0	-2.1
PNIG				*e*S	Sn	18 02 58.2	-5.5
PCIG		2.53	82	*e*P	Pn	18 02 29.9	-5.6
PCIG				*e*S	Sn	18 02 58.2	-7.7
TLIG	Tlapa	3.41	310	*i* P	Pn	18 02 45.5	-2.2
TLIG				*e*S	Sn	18 03 24.1	-4.0
CCIG	Comitan	3.66	75	*e*P	Pn	18 02 47.3	-4.0
CCIG				*i* S	Sn	18 03 31.5	-2.8
CAIG	El Cayaco	4.58	292	*e*P	Pn	18 03 02.1	-1.6
ARIG	Puente Sto Nin	5.21	304	*e*P	Pn	18 03 13.0	+0.7

IDC 21 18:10:35.4±1.8, 35°.56S×72°.25W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/15, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=57.6km s-min=23.9km az=77.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.34	166	Pn	Pn	18 11 55.8	-0.6
	0.4nm,0.3s,baz=345,slow=15,SNR=6.8						
PLCA				Lg	Lg	18 13 25.6	
	0.8nm,0.3s,baz=254,slow=20,SNR=3.2						
TXAR	Lajitas Array	71.01	331	P	P	18 21 55.0	-0.1
	0.1nm,0.4s,baz=163,slow=7.6,SNR=2.5						
DBIC	Dimbokro	75.84	71	P	P	18 22 22.8	-1.0
	3.5nm,1.0s,baz=229,slow=11,SNR=2.3						
TORD	Torodi Ar. Bea	84.90	70	P	P	18 23 14.4	+1.9
	1.1nm,1.0s,baz=224,slow=4.0,SNR=4.1						

*TAP **21** 18:11:58.9, 24°.22N×121°.74E, h15km, ML3.5, B*
*JMA **21** 18:11:58.6±0.1, 24°.19N×121°.72E, h16km±1km, M2.7*
ISC 21 18:11:58.7±0.9, 24°.19N±0°.02×121°.76E±0°.02, h13km±7km, n64, σ0°78/99, 9C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.12	350	*e*P	Pb	18 12 02.9	0.0
	baz=7.0						
EHP				S	Sb	18 12 05.2	-0.3
	baz=7.0						
TWD	Chiawan	0.19	233	⇑*i*P	Pb	18 12 03.5	-0.5
	baz=229						
TWD				*i* S	Sb	18 12 06.8	-0.8
	baz=229						
ENA	Nanau	0.23	355	⇑*i*P	Pg	18 12 03.9	+0.1
	baz=2.0						
ENA				*i* S	Sg	18 12 07.0	-0.2
	baz=2.0						
HWA	Hwalien	0.26	214	*e*P	Pb	18 12 05.3	+0.1
	baz=211						
ESF	Shoufeng Towns	0.40	216	*e*P	Pb	18 12 07.7	+0.1
	baz=222						
TWC	Suao	0.42	11	⇑*i*P	Pg	18 12 07.3	+0.1
	baz=11						
TWC				S	Sg	18 12 12.8	0.0
	baz=11						
NNS	Nan Shan	0.43	305	⇑*i*P	Pg	18 12 07.3	0.0
	baz=304						
NNS				S	Sg	18 12 13.1	-0.1
	baz=304						
WHF	Hehuan Shan	0.46	264	⇑*i*P	Pg	18 12 08.0	+0.1
	baz=261						
WHF				S	Sg	18 12 14.1	-0.1
	baz=261						
ENTT	Nioudou	0.48	338	⇑*i*P	Pb	18 12 08.3	-0.7
	baz=339						
ENTT				*i* S	Sg	18 12 14.6	0.0
	baz=339						
ESL	Shilin	0.48	219	⇑P	Pb	18 12 08.5	-0.5
	baz=221						
TEGC	Jichi Village	0.52	203	*e*P	Pn	18 12 11.2	-0.7
	baz=193						
TWT	Tachien	0.54	276	*i* P	Pb	18 12 09.9	-0.3
	baz=274						
TWT				S	Sb	18 12 16.6	-1.3
	baz=274						
ILA	Ilan	0.57	359	*e*P	Pg	18 12 10.0	+0.1
	baz=353						
NSK	Sanguang	0.61	323	⇑*i*P	Pg	18 12 10.4	-0.2
	baz=323						
NSK				S	Sg	18 12 18.4	-0.3
	baz=323						
EGS		0.67	13	*e*P	Pg	18 12 11.7	0.0
	baz=22						
WDT	Danda	0.72	233	⇑*i*P	Pb	18 12 13.0	-0.3
	baz=239						
WDT				S	Sb	18 12 22.8	-0.5
	baz=239						
EHY	Hungye	0.79	211	*e*P	Pb	18 12 13.4	-1.0
	baz=221						
EHY				*e*S	Sn	18 12 25.7	-1.6
	baz=221						
TWA	Mucha	0.80	348	*e*P	Pb	18 12 14.6	+0.1
	baz=348						
TWA				*e*S	Sb	18 12 25.5	+0.3
	baz=348						
NSTT	Nanjuang	0.82	302	*e*P	Pg	18 12 14.5	-0.1
	baz=301						
TWB1	Santiao Chiao	0.84	14	*e*P	Pb	18 12 14.4	-0.7
	baz=10.0						
SMLT	Sun Moon Lake	0.85	249	*e*P	Pg	18 12 15.2	+0.1
	baz=241						
SMLT				*e*S	Sb	18 12 25.7	-0.9
	baz=241						
TAP1	Taipei	0.87	346	*e*P	Pb	18 12 13.4	-2.3
	baz=336						
NWF	Wu-fen Shan	0.87	1	*e*P	Pg	18 12 15.8	+0.2
	baz=353						
NWF				*e*S	Sb	18 12 26.7	-0.7
	baz=353						
TYC	Yuchr	0.88	251	P	Pg	18 12 15.6	-0.1
	baz=243						
TYC				*e*S	Sg	18 12 27.4	+0.2
	baz=243						
TWQ1	Liyutan	0.92	280	P	Pn	18 12 17.5	+0.2
	baz=279						
TWQ1				*e*S	Sn	18 12 29.6	-0.7
	baz=279						
NCU	National Centr	0.93	326	*e*P	Pn	18 12 17.7	+0.1
	baz=326						
NCU				S	Sn	18 12 31.1	+0.3
	baz=326						
NSY	Sanyi	0.94	284	*e*P	Pn	18 12 17.7	+0.1
	baz=283						
NSY				*e*S	Sn	18 12 30.7	-0.2
	baz=283						
TWF1	Yuli	0.94	207	*e*P	Pb	18 12 15.4	-1.4
	baz=217						
HSN	Hsinchu	0.94	310	*e*P	Pn	18 12 17.6	0.0
	baz=304						
HSN				*e*S	Sn	18 12 31.7	+0.8
	baz=304						
TWS1	Kuangyinshan	0.96	341	*e*P	Pn	18 12 17.8	-0.1
	baz=347						
TWS1				*e*S	Sn	18 12 31.4	+0.1
	baz=347						
TCU	Taichung	0.99	268	*e*P	Pn	18 12 19.4	+1.1
	baz=267						
YUS	Yu-Shan	1.02	227	P	Pb	18 12 18.5	-0.1
	baz=227						
YUS				*e*S	Sn	18 12 33.6	0.0
	baz=227						
WNT	Mingjian	1.03	253	*e*P	Pg	18 12 19.3	+0.6
	baz=249						
WNT				S	Sn	18 12 34.7	+1.5
	baz=249						
TWY	Chenhua	1.09	352	*e*P	Pg	18 12 21.2	+1.5
	baz=338						
ALS	Alishan	1.11	232	*e*P	Pn	18 12 19.9	-0.3
	baz=232						
JYNG	Yonagunijimaku	1.11	76	P	Pn	18 12 19.9	0.0
JYNG				*e*S	Sb	18 12 34.5	+0.4
CHKT	Chengkung	1.15	199	*e*P	Pn	18 12 18.7	-1.7
	baz=181						
CHN5	Tsauling	1.16	239	*e*P	Pg	18 12 20.9	-0.1
	baz=241						
CHN5				S	Sg	18 12 38.7	+2.6
	baz=241						
YOJ	Yonaguni jima	1.17	77	P	Pn	18 12 20.8	+0.1
YOJ				*e*S	Sn	18 12 37.1	+0.6
YOJ	Yonaguni jima	1.17	77	*e*P	Pn	18 12 20.9	+0.1
	baz=66						
WGK	Gukeng	1.21	246	*e*P	Pg	18 12 22.2	+0.3
	baz=247						
WGK				*e*S	Sg	18 12 39.7	+1.9
	baz=247						
ELDTW	Lidau	1.21	215	*e*P	Pn	18 12 20.6	-0.9
	baz=214						
CHN2	Minshiung	1.35	241	*e*P	Pg	18 12 24.4	-0.2
	baz=228						
CHN4	Tsaushan	1.36	232	P	Pg	18 12 24.7	-0.2
	baz=235						
CHN4				*e*S	Sg	18 12 45.4	+2.8
	baz=235						
STYT	Tauyuan	1.38	222	*e*P	Pn	18 12 23.6	0.0
	baz=223						
WTCT	Ta-ch'eng	1.39	257	*e*P	Pg	18 12 25.0	-0.5
	baz=257						
CHY	Chiayi	1.41	241	*e*P	Pg	18 12 25.8	0.0
	baz=228						
WTP	Ta-pu	1.41	228	*e*P	Pb	18 12 25.0	+0.1
	baz=229						
TWK	Hsinying	1.49	232	*e*P	Pb	18 12 26.4	+0.2
	baz=235						
TWK				*e*S	Sg	18 12 47.0	+0.3
	baz=235						
TWG	Pinlang	1.51	205	*e*P	Pn	18 12 24.7	-0.7
	baz=190						
CHN1	Nanshi	1.51	229	*e*P	Pb	18 12 26.9	+0.3
	baz=232						
CHN1				*e*S	Sg	18 12 48.5	+1.1
	baz=232						
WSF	Szhu	1.51	249	*e*P	Pb	18 12 26.2	-0.4
	baz=240						
WSF				*e*S	Sg	18 12 47.7	+0.2
	baz=240						
SGST	Jiashian	1.55	225	*e*P	Pb	18 12 27.2	0.0
	baz=227						
SGST				*e*S	Sg	18 12 49.6	+1.1
	baz=227						
CHN3	Shinhua	1.70	229	*e*P	Pb	18 12 29.0	-0.7
	baz=232						
ECL	Taimali	1.75	205	*e*P	Pn	18 12 28.1	-0.7
	baz=193						
SSD	Sandimen	1.78	216	*e*P	Pb	18 12 30.7	-0.4
	baz=231						
SSD				*e*S	Sg	18 12 55.7	-0.2
	baz=231						
IRIF	Iriomote-Funau	1.80	85	P	Pn	18 12 28.4	-1.0
EAST	Anshuo	1.99	205	*e*P	Pb	18 12 34.5	-0.3
	baz=194						
JKRS	Kuro-shima	2.05	88	P	Pn	18 12 33.9	+1.0
JKRS				*e*S	Sn	18 12 59.5	+1.2
SCZT	Fangliau	2.10	210	*e*P	Pn	18 12 34.7	+1.2
	baz=194						
PNG	Penghu	2.12	253	*e*P	Pn	18 12 33.9	+0.2
	baz=255						
WDGT	Dungji	2.14	245	*e*P	Pn	18 12 34.9	+0.8
	baz=247						
JIJ	Ishigaki jima	2.18	85	P	Pn	18 12 34.6	0.0
JIJ				*e*S	Sn	18 13 01.2	-0.3
JISG	Ishigakijimahi	2.36	80	P	Pn	18 12 37.4	+0.3
JISG				*e*S	Sn	18 13 05.9	+0.1

IDC 21 18:18:26.3±5.4, 20°.34S×178°.50E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/17, mbtmp3.4/2, Error ellipse: s-maj=323.0km s-min=68.4km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	41.36	257	P	P	18 26 14.2	-0.2
	0.4nm,0.8s,baz=81,slow=8.7,SNR=3.2						
WRA	Warramunga Arr	41.37	263	P	P	18 26 14.3	-0.2
	0.5nm,0.8s,baz=100,slow=8.2,SNR=5.4						
FINES	FINESS Array B	134.65	342	PKP	PKPdf	18 37 45.9	-0.4
	0.7nm,0.5s,baz=48,slow=2.1,SNR=9.3						

*ISCJB **21** 18:26:51.7±0.6, 35°.01S±0°.04×71°.5W±0°.1, h63km±5km, mb3.9/4, Error ellipse: s-maj=17.7km s-min=6.1km az=12.4*
*GUC **21** 18:26:51.6±1.0, 35°.10S×71°.43W, h68km±5km, ML4.2*
*NEIC **21** 18:26:53.2±1.2, 34°.95S×71°.43W, h56km±11km, mb3.9/1, Error ellipse: s-maj=21.5km s-min=9.5km az=87.0*
NEIC Felt [IV] at Curico; [III] at Cauquenes, Iloca, Linares and Talca; [II] at Parral.
*IDC **21** 18:26:53.6±3.0, 34°.98S×71°.56W, h63km±25km, mb3.6/3, mb1 3.7/6, mb1mx3.5/17, mbtmp3.7/6, ML3.8/3, Error ellipse: s-maj=40.3km s-min=24.1km az=80.0*
ISC 21 18:26:52.9±0.8, 35°.03S±0°.04×71°.50W±0°.10, h58km±6km, n22, σ1s06/31, mb4.0/4, 3C-6D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.22	84	⇓*i*P	Pn	18 27 02.5	+0.2
NICH				*i* S	Sn	18 27 09.8	+0.8
NICH				AML	AML	18 27 10.2	
	comp=E,51μm,0.2s						
TALC	Talca	0.39	197	⇑*i*P	Pn	18 27 03.5	-0.1
TALC				*i* S	Sn	18 27 11.4	+0.1
TALC				AML	AML	18 27 11.8	
	comp=N,62μm,0.1s						
LNCH	Linares	0.82	186	⇑*i*P	Pn	18 27 07.0	-1.6
LNCH				*i* S	Sn	18 27 18.6	-1.5
LNV	Longovilo	1.07	4	⇓*i*P	Pn	18 27 11.6	-0.2
CACH	El Canelo	1.17	39	⇓*i*P	Pn	18 27 13.2	-0.1
CHCH	Chadas Angostu	1.29	33	⇑*i*P	Pn	18 27 14.8	-0.1
ANTU	Antumapu	1.62	26	*i* P1	Pn	18 27 19.4	+0.1
ANTU				*i* S1	Sn	18 27 39.7	+0.6
ANTU				AML	AML	18 27 43.1	
	comp=E,2μm,0.3s						
YECH	El Yeso	1.79	41	⇓*i*P	Pn	18 27 19.5	-2.3
YECH				*i* S1	Sn	18 27 42.6	-1.0
YECH				AML	AML	18 27 46.2	
	comp=N,2μm,0.5s						
CLCH	Cerro Calan	1.81	26	⇓*i*P	Pn	18 27 22.0	+0.2
CLCH				*i* S1	Sn	18 27 44.5	+0.7
CLCH				AML	AML	18 27 49.3	
	comp=N,2μm,0.4s						
FCH	Farellones	1.97	31	⇓*i*P	Pn	18 27 23.0	-1.3
FCH				*i* S1	Sn	18 27 47.5	-0.5
FCH				AML	AML	18 27 53.9	
	comp=N,2μm,0.2s						
CFAA	Coronel Fontan	4.37	40	P	Pn	18 27 56.6	-0.2
	comp=N,0.7nm,0.3s,baz=203,slow=14,SNR=28						
CFAA				S	Sn	18 28 53.4	+6.9
	comp=N,1.3nm,0.3s,baz=298,slow=23,SNR=9.1						
PLCA	Paso Flores	5.75	173	P	Pn	18 28 17.7	+2.0
	comp=N,1.7nm,0.3s,baz=333,slow=11,SNR=44						
PLCA	Paso Flores	5.75	173	*e*Pn	Pn	18 28 17.4	+1.7
LCO	Las Campanas	6.04	7	Pn	Pn	18 28 18.0	-1.9
LCO				*e*Sn	Sn	18 29 28.2	+0.4
TRQA	Tornquist	8.23	114	Pn	Pn	18 28 48.9	-0.8
LPAZ	La Paz	18.90	10	P	Pn	18 31 10.4	-0.2
	comp=N,0.1nm,0.3s,baz=171,slow=11,SNR=4.0						
QSPA	South Pole Qui	55.21	180	*e*P	P	18 36 21.2	+1.6
	comp=N,0.6nm,0.5s						
TXAR	Lajitas Array	70.85	331	P	P	18 38 03.0	-0.6
	comp=N,0.2nm,0.5s,baz=147,slow=8.5,SNR=2.8						
TXAR				pP	pP	18 38 18.8	-0.8
	comp=N,0.1nm,0.3s,baz=152,slow=9.8,SNR=3.4						
BOSA	Boshof	79.20	117	P	P	18 38 52.2	+0.1
	comp=N,2.1nm,0.8s,baz=219,slow=6.5,SNR=3.1						
TORD	Torodi Ar. Bea	84.14	70	P	P	18 39 18.5	+0.4
	comp=N,1.2nm,0.7s,baz=232,slow=4.7,SNR=8.6						
BVAR	Borovoye Array	147.71	44	PKPbc	PKPbc	18 46 30.2	-0.3
	comp=N,0.6nm,0.5s,baz=297,slow=3.8,SNR=7.2						
MKAR	Makanchi Array	157.08	51	PKPab	PKPab	18 47 12.6	+0.1
	comp=N,0.2nm,0.6s,baz=288,slow=1.4,SNR=2.9						

IDC 21 18:27:07.0±2.4, 6°.21S×133°.46E, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.3/24, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=65.2km s-min=32.1km az=82.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	5.75	337	P	Pn	18 28 34.5	+0.8
	baz=5.6,SNR=14						
SWI				S	Sn	18 29 33.0	-7.4
	baz=5.6,SNR=12						
KDU	Kakadu	6.51	189	P	Pn	18 28 48.1	+4.0
	baz=6.8,SNR=17						
MTN	Manton Dam	6.98	199	P	Pn	18 28 55.2	+4.6
	baz=7.3,SNR=7.7						
MTN				S	Sn	18 30 14.0	+3.3
	baz=7.3,SNR=4.9						
SOEI	Soe	9.76	248	P	Pn	18 29 30.8	+1.8
	baz=9.9,SNR=5.0						
BATI	Baumata	10.48	247	Pn	Pn	18 29 38.7	0.0
	2.0nm,0.3s,baz=98,slow=6.9,SNR=8.5						
BATI				Sn	Sn	18 31 31.4	-5.5
	1.2nm,0.3s,baz=50,slow=18,SNR=4.6						
WRA	Warramunga Arr	13.68	177	Pn	Pn	18 30 22.3	-0.1
	0.1nm,0.3s,baz=356,slow=13,SNR=15						
WRA				Sn	Sn	18 32 45.4	-10
	0.3nm,0.3s,baz=358,slow=23,SNR=6.5						
ASAR	Alice Springs	17.36	179	P	Pn	18 31 10.9	0.0
	0.1nm,0.3s,baz=358,slow=12,SNR=15						
ASAR				S	Sn	18 34 14.5	-10
	0.1nm,0.3s,baz=357,slow=27,SNR=4.7						
MKAR	Makanchi Array	69.50	325	P	P	18 38 17.5	0.0
	0.1nm,0.4s,baz=123,slow=7.1,SNR=5.6						

*GUC **21** 18:30:58.6±0.7, 36°.36S×73°.68W, h10km±9km, ML5.9*
*IDC **21** 18:30:58.5±0.4, 36°.48S×73°.24W, h0km, mb5.3/17, mb1 5.3/19, mb1mx5.3/23, mbtmp5.2/19, ML4.4/3, MS4.9/18, Ms1 4.9/18, ms1mx4.8/27, Error ellipse: s-maj=18.7km s-min=11.4km az=81.0*
*ISCJB **21** 18:31:01.7±0.1, 36°.32S±0°.

Linares, Mulchen and Nacimiento.
*BJI **21** 18:31:04.5, 36°30S×73°00W, h35km, mB5.4/33, Ms5.5/40, Ms7 5.3/41*
ISC 21 18:31:02.8±0.2, **36°33S**±0°04×**73°07W**±0°05, **h25**km, **n1129**, σ1°22/1108, **mb5.7**/171, **MS5.2**/164, **274C-263D**,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**1.28**	**69**	⇑*i*P	**Pb**	**18 31 29.1**	**+2.9**
LNCH				*i* S	Sb	18 31 51.6	+9.3
LNCH				AML	AML	18 31 59.7	
	comp=N,126μm,0.5s						
TALC	**Talca**	**1.49**	**52**	⇑*i*P	**Pb**	**18 31 31.3**	**+1.6**
TALC				*e*S1	Sb	18 31 55.6	+7.3
TALC				AML	AML	18 32 06.8	
	comp=E,121μm,0.8s						
NICH	**Los Niches**	**2.00**	**49**	*e*P1	**Pb**	**18 31 39.3**	**+0.8**
NICH				*e*S1	Sb	18 32 10.2	+7.4
NICH				AML	AML	18 32 21.5	
	comp=E,127μm,0.6s						
LNV	**Longovilo**	**2.73**	**30**	*i* P1	**Pn**	**18 31 47.2**	**+2.3**
CACH	**El Canelo**	**2.99**	**43**	⇓*i*P	Pn	18 31 52.3	+3.6
ANTU	**Antumapu**	**3.40**	**37**	*e*P1	Pn	18 31 57.8	+3.5
IHA	**Instituto Hidr**	**3.50**	**20**	⇑*i*P	**Pn**	**18 31 56.9**	**+1.3**
LACH	**Col Las Americ**	**3.55**	**37**	*e*P1	Pn	18 31 59.5	+3.2
CLCH	**Cerro Calan**	**3.59**	**36**	⇑*i*P	**Pn**	**18 31 59.7**	**+2.8**
OSCH	**Osorno**	**4.24**	**181**	*e*P1	**Pn**	**18 32 04.1**	**-1.7**
PLCA	**Paso Flores**	**4.82**	**157**	*e*P	**Pn**	**18 32 13.6**	**-0.3**
PLCA				*e*		18 33 08.4	
PLCA	**Paso Flores**	**4.82**	**157**	Pn	**Pn**	**18 32 12.1**	**-1.8**
	comp=E,8.5nm,0.3s,baz=327,slow=12,SNR=76						
PLCA				Lg	Lg	18 33 29.9	
	comp=E,128nm,0.3s,baz=213,slow=21,SNR=5.2						
PLCA				LR	LR	18 34 00.4	
	comp=E,14μm,18.6s,baz=332,slow=38						
PLCA	**Paso Flores**	**4.82**	**157**	*e*Pn	**Pn**	**18 32 13.6**	**-0.3**
PLCA				*e*Sn	**Sn**	**18 33 08.4**	**-0.5**
PLCA				Lg	Lg	18 33 29.9	
CFAA	**Coronel Fontan**	**6.19**	**42**	Pn	**Pn**	**18 32 34.6**	**+2.0**
	comp=E,3.2nm,0.3s,baz=218,slow=12,SNR=88						
CFAA				Lg	Lg	18 34 09.5	
	comp=E,2.7nm,0.3s,baz=117,slow=20,SNR=7.0						
CFAA				LR	LR	18 35 26.4	
	comp=E,2μm,18.3s,baz=224,slow=42						
LCO	**Las Campanas**	**7.56**	**16**	*e*Pn	**Pn**	**18 32 52.0**	**+0.3**
LCO				*e*Sn	**Sn**	**18 34 11.9**	**-4.9**
TRQA	**Tornquist**	**9.02**	**104**	*e*Pn	Pn	18 33 14.8	+3.4
COYC	**Coyhaique**	**9.27**	**176**	*e*P2	**Pn**	**18 33 12.8**	**-2.0**
LVC	**Limon Verde**	**14.13**	**16**	*e*Pn	Pn	18 34 18.9	-2.8
LVC				*e*Sn	**Sn**	**18 36 54.3**	**-3.6**
EFI	**East Falkland**	**18.70**	**150**	P	**P**	**18 35 19.5**	**+0.4**
	comp=E,575nm,0.6s,SNR=5.5						
EFI	**East Falkland**	**18.70**	**150**	*i* P	**P**	**18 35 19.5**	**+0.4**
EFI				pmax	pmax		
	comp=Z,213nm,1.5s						
EFI	**East Falkland**	**18.70**	**150**	*e*P	**P**	**18 35 17.8**	**-1.3**
	comp=Z,917nm,2.2s						
USHA	**Ushuaia**	**18.78**	**172**	P	**P**	**18 35 19.5**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=327,slow=12,SNR=11						
LPAZ	**La Paz**	**20.44**	**14**	*e*P	Pn	18 35 42.2	+0.9
LPAZ				pmax	pmax		
	comp=Z,136nm,0.8s						
LPAZ				MLR	MLR		
	comp=Z,3μm,18.8s						
LPAZ	**La Paz**	**20.44**	**14**	P	Pn	18 35 41.5	+0.2
	comp=Z,27nm,0.7s,baz=183,slow=10,SNR=85						
LPAZ	**La Paz**	**20.44**	**14**	*e*Pn	Pn	18 35 42.2	+0.8
	comp=Z,136nm,0.8s						
LPAZ				LR	LR		
	comp=Z,3μm,18.8s						
SIV	**San Ignacio**	**22.90**	**31**	P	**P**	**18 36 05.9**	**+1.1**
	comp=Z,114nm,1.0s,baz=225,slow=11,SNR=120						
NNA	**Nana**	**24.47**	**351**	P	**P**	**18 36 20.8**	**+0.8**
	comp=Z,475nm,1.1s,SNR=6.2						
NNA	**Nana**	**24.47**	**351**	*e*P	**P**	**18 36 18.3**	**-1.6**
NNA				pmax	pmax		
	comp=Z,109nm,1.1s						
NNA				MLR	MLR		
	comp=Z,3μm,19.0s						
NNA	**Nana**	**24.47**	**351**	P	**P**	**18 36 20.8**	**+0.8**
	comp=Z,52nm,0.8s,baz=183,slow=10,SNR=14						
NNA	**Nana**	**24.47**	**351**	*e*P	**P**	**18 36 18.3**	**-1.6**
	comp=Z,109nm,1.1s						
NNA				LR	LR		
	comp=Z,3μm,19.0s						
SAML	**Samuel**	**28.70**	**21**	*e*P	**P**	**18 36 57.9**	**-0.1**
	comp=Z,49nm,1.4s						
SAML				LR	LR		
	comp=Z,4μm,22.0s						
PMSA	**Palmer Station**	**28.99**	**172**	*e*P	**P**	**18 37 00.6**	**+0.5**
	comp=Z,80nm,0.8s						
PMSA				LR	LR		
	comp=Z,6μm,20.0s						
ATAH	**Atahualpa**	**29.46**	**349**	P	**P**	**18 37 07.3**	**+2.2**
	comp=Z,14nm,0.9s,baz=186,slow=7.4,SNR=13						
ATAH				LR	LR	18 46 29.2	
	comp=Z,1μm,20.7s,baz=141,slow=32						
BDFB	**Brasilia**	**30.36**	**54**	P	**P**	**18 37 13.7**	**+0.8**
	comp=Z,38nm,1.0s,baz=223,slow=7.3,SNR=36						
BDFB				LR	LR	18 50 41.7	
	comp=Z,8μm,20.4s,baz=240,slow=39						
HOPE	**Hope Point**	**30.91**	**137**	PFAKE		18 37 30.0	+13
HOPE				LR	LR		
	comp=Z,2μm,19.0s						
OTAV	**Otavalo**	**36.72**	**351**	P	**P**	**18 38 08.0**	**-0.5**
	comp=Z,131nm,1.5s						
OTAV				LR	LR		
	comp=Z,1μm,19.0s						
PTGA	**Pitinga**	**37.45**	**22**	P	**P**	**18 38 14.0**	**-0.2**
	comp=Z,66nm,0.7s						
PTGA				LR	LR		
	comp=Z,2μm,19.0s						
PAYG	**Puerto Ayora**	**38.90**	**332**	PFAKE		18 38 40.0	+14
PAYG				LR	LR		
	comp=Z,3μm,20.0s						
ROSC	**El Rosal**	**40.98**	**358**	P	**P**	**18 38 45.6**	**+1.4**
	comp=Z,26nm,0.7s,baz=191,slow=2.3,SNR=25						
SDV	**Santo Domingo**	**45.03**	**3**	*e*P	**P**	**18 39 16.1**	**-0.6**
	comp=Z,122nm,1.1s						
SDV				LR	LR		
	comp=Z,3μm,19.0s						
RCBR	**Riachuelo**	**45.60**	**57**	*e*P	**P**	**18 39 19.5**	**-1.6**
	comp=Z,152nm,1.5s						
RCBR				LR	LR		
	comp=Z,3μm,20.0s						
BCIP	**Isla Barro Col**	**45.70**	**351**	*e*P	**P**	**18 39 22.0**	**+0.3**
	comp=Z,66nm,1.1s						
BCIP				LR	LR		
	comp=Z,906nm,21.0s						
VNA3	**Neumayer Olymp**	**47.54**	**157**	P	**P**	**18 39 35.7**	**+0.1**
JTS	**JuntasAbangare**	**47.70**	**344**	P	**P**	**18 39 39.8**	**+2.3**
	comp=Z,195nm,1.5s,SNR=5.3						
JTS	**JuntasAbangare**	**47.70**	**344**	*c i*P	**P**	**18 39 35.9**	**-1.6**
JTS				pmax	pmax		
	comp=Z,63nm,1.4s						
JTS	**JuntasAbangare**	**47.70**	**344**	*e*P	**P**	**18 39 36.5**	**-0.9**
	comp=Z,130nm,1.6s						
JTS				LR	LR		
	comp=Z,1μm,19.0s						
VNA1	**Neumayer--Stat**	**47.88**	**156**	P	**P**	**18 39 39.2**	**+1.0**
VNA2	**Neumayer--Watz**	**48.21**	**156**	P	**P**	**18 39 41.4**	**+0.5**
GRGR	**Grenville**	**49.39**	**15**	PFAKE		18 40 00.0	+10
GRGR				LR	LR		
	comp=Z,2μm,20.0s						
SNAA	**Sanae**	**49.77**	**157**	P	**P**	**18 39 52.8**	**0.0**
SNAA	**Sanae**	**49.77**	**157**	⇓*i*P	**P**	**18 39 52.5**	**-0.3**
SNAA	**Sanae**	**49.77**	**157**	*c i*P	**P**	**18 39 51.7**	**-1.1**
SNAA				pmax	pmax		
	comp=Z,178nm,1.2s						
SNAA	**Sanae**	**49.77**	**157**	P	**P**	**18 39 52.1**	**-0.7**
	comp=Z,36nm,1.1s,baz=276,slow=7.3,SNR=35						
SNAA				LR	LR	19 00 15.2	
	comp=Z,296nm,18.0s,baz=274,slow=35						
SNAA	**Sanae**	**49.77**	**157**	*e*P	**P**	**18 39 51.9**	**-1.0**
	comp=Z,172nm,1.2s						
BBGH	**Gun Hill**	**50.83**	**17**	PFAKE		18 40 10.0	+8.7
BBGH				LR	LR		
	comp=Z,2μm,20.0s						
LPMF	**Morne Lapointe**	**51.90**	**15**	*e*P	**P**	**18 40 10.7**	**+1.3**
FDF	**Fort de France**	**52.02**	**15**	*e*P	**P**	**18 40 08.8**	**-1.4**
FDF				pmax	pmax		
	comp=Z,232nm,1.0s						
FDF				MLR	MLR		
	comp=Z,2μm,19.0s						
FDF	**Fort de France**	**52.02**	**15**	*e*P	**P**	**18 40 10.3**	**0.0**
FDF	**Fort de France**	**52.02**	**15**	*e*P	**P**	**18 40 08.8**	**-1.4**
	comp=Z,232nm,1.0s						
FDF				LR	LR		
	comp=Z,2μm,19.0s						
QSPA	**South Pole Qui**	**53.91**	**180**	LR	LR	19 01 54.6	
	comp=Z,796nm,19.4s,baz=156,slow=34						
QSPA	**South Pole Qui**	**53.91**	**180**	*e*P	**P**	**18 40 22.9**	**-1.0**
	comp=Z,148nm,1.1s						
ICMP	**Isla Caja de M**	**54.27**	**8**	*e*P	**P**	**18 40 25.9**	**-0.9**
CRPR	**Cabo Rojo, PR**	**54.33**	**7**	*e*P	**P**	**18 40 26.1**	**-1.1**
	comp=Z,184nm,1.0s						
OBIP	**Obispado Ponce**	**54.42**	**8**	*e*P	**P**	**18 40 27.0**	**-0.8**
	comp=Z,213nm,1.0s						
MTDJ	**Mount Denham**	**54.42**	**355**	PFAKE		18 40 40.0	+12
MTDJ				LR	LR		
	comp=Z,639nm,20.0s						
CELP	**Cerrillos**	**54.45**	**8**	P	**P**	**18 40 26.5**	**-1.6**
SABA	**Saba**	**54.45**	**12**	*e*P	**P**	**18 40 28.5**	**+0.4**
	comp=Z,303nm,1.2s						
LSP	**Las Mesas**	**54.50**	**7**	*e*P	**P**	**18 40 27.3**	**-1.1**
RKT	**Rikitea**	**54.52**	**266**	*e*S	**S**	**18 48 09.2**	**+2.7**
	comp=Z,1μm,26.5s						
RKT				*e*LR	LR	18 56 15.6	
	comp=Z,2μm,30.5s,baz=115						
RKT	**Rikitea**	**54.52**	**266**	*e*T	T	19 38 36.8	
	comp=Z,8.9nm,0.2s						
NVL	**N'lazarevskaya**	**54.53**	**156**	⇑*i*P	**P**	**18 40 26.6**	**-1.5**
NVL				*e*S	S	18 48 15.5	+10
NVL				pmax	pmax		
	comp=Z,104nm,0.9s						
SJG	**San Juan**	**54.54**	**8**	*e*P	P	18 40 25.4	-3.3
SJG				pmax	pmax		
	comp=Z,155nm,1.0s						
SJG	**San Juan**	**54.54**	**8**	*e*P	P	18 40 25.4	-3.3
	comp=Z,155nm,1.0s						
HUMP	**Col San Antoni**	**54.60**	**8**	*e*P	**P**	**18 40 29.5**	**+0.4**
LRS	**Lares**	**54.64**	**7**	*e*P	P	18 40 26.9	-2.6
AOPR	**Arecibo Observ**	**54.70**	**7**	*e*P	**P**	**18 40 28.9**	**-1.0**
	comp=Z,109nm,1.0s						
CBYP	**Canovanas**	**54.73**	**8**	*e*P	**P**	**18 40 29.3**	**-0.8**
	comp=Z,86nm,0.8s						
ANWB	**Willy Bob**	**54.75**	**13**	*e*P	**P**	**18 40 29.6**	**-0.7**
	comp=Z,148nm,1.0s						
ANWB				LR	LR		
	comp=Z,2μm,20.0s						
SMRT	**St. Maarten**	**54.90**	**12**	*e*P	**P**	**18 40 31.4**	**0.0**
	comp=Z,108nm,1.3s						
STVI	**Saint Thomas**	**54.92**	**9**	*e*P	**P**	**18 40 31.0**	**-0.4**
	comp=Z,85nm,1.3s						
SDDR	**Presa de Saban**	**55.03**	**2**	*e*P	P	18 40 29.4	-2.9
	comp=Z,71nm,1.3s						
SDDR				LR	LR		
	comp=Z,1μm,19.0s						
GTBY	**Guantanamo Bay**	**55.98**	**358**	*e*P	**P**	**18 40 39.2**	**+0.1**
	comp=Z,111nm,0.8s						
GTBY				LR	LR		
	comp=Z,907nm,22.0s						
GRTK	**Grand Turk**	**57.55**	**2**	PFAKE		18 41 00.0	+10
GRTK				LR	LR		
	comp=Z,1μm,19.0s						
TEIG	**Tepich**	**58.06**	**343**	*e*P	**P**	**18 40 52.6**	**-1.1**
	comp=Z,83nm,0.8s						
TEIG				LR	LR		
	comp=Z,697nm,19.0s						
ASCN	**Ascension**	**60.24**	**77**	PFAKE		18 41 20.0	+11
ASCN				LR	LR		
	comp=Z,2μm,20.0s						
SBA	**Scott Base**	**60.63**	**192**	*e*P	**P**	**18 41 10.5**	**-0.4**
SBA				pmax	pmax		
	comp=Z,94nm,1.4s						
SBA	**Scott Base**	**60.63**	**192**	*e*P	**P**	**18 41 10.5**	**-0.4**
	comp=Z,94nm,1.4s						
VNDA	**Vanda**	**61.66**	**192**	*e*P	**P**	**18 41 18.2**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,76nm,1.4s						
VNDA	**Vanda**	**61.66**	**192**	P	**P**	**18 41 17.9**	**0.0**
	comp=Z,14nm,1.2s,baz=143,slow=6.7,SNR=20						
VNDA				LR	LR	19 04 28.3	
	comp=Z,956nm,18.6s,baz=129,slow=33						
VNDA	**Vanda**	**61.66**	**192**	*e*P	**P**	**18 41 18.2**	**+0.3**
	comp=Z,76nm,1.4s						
SHEL	**Horse Pasture**	**62.57**	**90**	PFAKE		18 41 40.0	+15
SHEL				LR	LR		
	comp=Z,2μm,22.0s						
SYO	**Syowa Base**	**64.02**	**158**	⇓*e*P	P	18 41 31.2	-2.5
SYO	**Syowa Base**	**64.02**	**158**	‖*e*P	**P**	**18 41 36.4**	**+2.7**
SYO	**Syowa Base**	**64.02**	**158**	‖*i*P	P	18 41 41.6	+7.9
TBI	**Tubuai**	**65.98**	**258**	*e*S	**S**	**18 50 38.3**	**+4.8**
	comp=Z,1μm,26.5s						
TBI	**Tubuai**	**65.98**	**258**	*e*LR	LR	19 01 32.9	
	comp=Z,3μm,27.0s,baz=124						
TBI	**Tubuai**	**65.98**	**258**	*e*T	T	19 52 58.1	
	comp=Z,6.4nm,0.3s						
035A	**Encino**	**67.20**	**336**	⇓P	**P**	**18 41 56.4**	**+1.6**
	baz=68						
936A	**North Padre Is**	**67.39**	**337**	⇑P	**P**	**18 41 57.1**	**+1.2**
	baz=68						
034A	**Hebbronville**	**67.52**	**335**	⇑P	**P**	**18 41 58.3**	**+1.6**
	baz=68,SNR=7.2						
KVTX	**Kingsville**	**67.70**	**336**	PFAKE		18 42 10.0	+12
KVTX				LR	LR		
	comp=Z,620nm,19.0s						
MEH	**Mehetia**	**67.73**	**264**	*e*T	T	19 55 07.1	
	comp=Z,154nm,0.2s						
934A	**Benavides**	**67.96**	**336**	⇓P	**P**	**18 42 01.1**	**+1.6**
	baz=68,SNR=8.0						
TIGA	**Tifton**	**68.13**	**350**	⇓P	**P**	**18 42 01.2**	**+0.8**
	baz=68						
TIGA	**Tifton**	**68.13**	**350**	*e*P	**P**	**18 42 00.7**	**+0.2**
	comp=Z,751nm,2.1s						
933A	**Laredo**	**68.22**	**335**	⇓P	**P**	**18 42 02.2**	**+1.1**
	baz=68,SNR=14						
835A	**Beeville**	**68.37**	**337**	⇓P	**P**	**18 42 03.9**	**+1.9**
	baz=69						
834A	**Tilden**	**68.45**	**336**	⇑P	**P**	**18 42 04.5**	**+1.9**
	baz=69,SNR=17						
TVO	**Taravao**	**68.73**	**263**	*e*T	T	19 56 22.4	
	comp=Z,3.6nm,0.3s						
BBSR	**BB Station**	**68.79**	**8**	P	**P**	**18 42 04.2**	**-0.3**
	comp=Z,53nm,1.1s						
BBSR				LR	LR		
	comp=Z,515nm,20.0s						
735A	**Kenedy**	**68.89**	**337**	⇑P	**P**	**18 42 07.2**	**+2.0**
	baz=69,SNR=13						
833A	**Chaparral WMA,**	**68.92**	**335**	⇓P	**P**	**18 42 06.6**	**+1.2**
	baz=69,SNR=18						
TIAR	**Tiarei**	**68.92**	**263**	*e*T	T	19 56 37.0	
	comp=Z,23nm,0.3s						
832A	**Faith Ranch, C**	**69.08**	**335**	⇓P	**P**	**18 42 07.5**	**+1.0**
	baz=69,SNR=21						
PPT2	**Papeete2**	**69.09**	**263**	*e*S	**S**	**18 51 14.4**	**+3.2**
	comp=Z,1μm,23.5s						
PPT2	**Papeete2**	**69.09**	**263**	*e*LR	LR	19 02 58.2	
	comp=Z,3μm,24.8s,baz=123						
PPT	**Papeete**	**69.10**	**263**	LR	LR	19 04 39.0	
	comp=Z,2μm,18.8s,baz=134,slow=29						
734A	**La Parita Cree**	**69.12**	**336**	⇑P	**P**	**18 42 08.1**	**+1.4**
	baz=69						
SACV	**Santiago Islan**	**69.15**	**52**	PFAKE		18 42 20.0	+13
SACV				LR	LR		
	comp=Z,954nm,19.0s						
636A	**Smothers Creek**	**69.23**	**338**	⇑P	**P**	**18 42 09.5**	**+2.1**
	baz=70,SNR=12						
733A	**Divot King Ran**	**69.25**	**335**	⇑P	**P**	**18 42 08.8**	**+1.3**
	baz=70,SNR=6.3						
HKT	**Hockley**	**69.31**	**339**	*e*P	P	18 42 05.4	-2.4
HKT				pmax	pmax		
	comp=Z,100nm,1.8s						
HKT	**Hockley**	**69.31**	**339**	*e*P	P	18 42 05.4	-2.4
	comp=Z,100nm,1.8s						
635A	**Leesville**	**69.37**	**337**	⇓P	**P**	**18 42 09.1**	**+0.9**
	baz=70						
NHSC	**New Hope**	**69.39**	**354**	P	**P**	**18 42 07.3**	**-0.9**
	comp=Z,292nm,1.1s						
NHSC				LR	LR		
	comp=Z,759nm,21.0s						
538A	**Harpers Horsep**	**69.47**	**339**	⇑P	**P**	**18 42 10.8**	**+2.0**
	baz=70						
732A	**Laxson Ranch,**	**69.48**	**335**	⇑P	**P**	**18 42 10.2**	**+1.2**
	baz=70,SNR=20						
634A	**China Grove, S**	**69.55**	**337**	⇑P	**P**	**18 42 10.8**	**+1.5**
	baz=70						
537A	**Green Hill Far**	**69.57**	**339**	⇓P	**P**	**18 42 11.2**	**+1.7**
	baz=70,SNR=5.8						
536A	**Bastrop**	**69.79**	**338**	⇓P	**P**	**18 42 12.3**	**+1.4**
	baz=70,SNR=5.8						
633A	**Saathoff Ranch**	**69.89**	**336**	⇓P	**P**	**18 42 12.4**	**+0.9**
	baz=70,SNR=14						
535A	**Dale**	**69.90**	**337**	⇓P	**P**	**18 42 13.0**	**+1.4**
	baz=70,SNR=6.7						
GOGA	**Godfrey**	**70.06**	**351**	*e*P	**P**	**18 42 11.9**	**-0.5**
GOGA				pmax	pmax		
	comp=Z,57nm,0.9s						
GOGA				MLR	MLR		
	comp=Z,816nm,21.0s						
GOGA	**Godfrey**	**70.06**	**351**	*e*P	**P**	**18 42 11.9**	**-0.5**
	comp=Z,57nm,0.9s						
GOGA				LR	LR		
	comp=Z,816nm,21.0s						
VBMS	**Vicksburg**	**70.12**	**344**	*e*P	**P**	**18 42 14.3**	**+1.5**
	comp=Z,139nm,0.9s						
632A	**Uvalde**	**70.14**	**335**	⇓P	**P**	**18 42 14.0**	**+1.0**
	baz=70,SNR=20						
340A	**Bronson**	**70.16**	**341**	⇓P	**P**	**18 42 14.1**	**+1.1**
	baz=70						
534A	**Blanco**	**70.19**	**337**	⇓P	**P**	**18 42 14.1**	**+0.7**
	baz=70,SNR=7.3						
LRAL	**Lakeview Retre**	**70.22**	**348**	*e*P	**P**	**18 42 12.7**	**-0.7**
	comp=Z,56nm,1.0s						
437A	**Phantom Ranch,**	**70.22**	**339**	⇓P	**P**	**18 42 15.1**	**+1.6**
	baz=70						
339A	**Huntington**	**70.26**	**341**	⇓P	**P**	**18 42 15.3**	**+1.7**
	baz=71,SNR=6.3						
631A	**Perdido Creek**	**70.32**	**335**	⇓P	**P**	**18 42 14.7**	**+0.6**
	baz=71,SNR=12						
436A	**Wall Ranch, Ga**	**70.36**	**338**	⇓P	**P**	**18 42 16.0**	**+1.7**
	baz=71						
533A	**Kerrville**	**70.41**	**336**	⇑P	**P**	**18 42 15.8**	**+1.1**
	baz=71,SNR=29						
338A	**Crockett**	**70.48**	**340**	⇓P	**P**	**18 42 17.3**	**+2.2**
	baz=71,SNR=8.9						
337A	**Centerville**	**70.61**	**339**	⇓P	**P**	**18 42 17.5**	**+1.6**
	baz=71						
435B	**Jarrell**	**70.61**	**338**	⇓P	**P**	**18 42 17.2**	**+1.3**
	baz=71,SNR=7.8						
532A	**Rocksprings**	**70.75**	**336**	⇓P	**P**	**18 42 17.9**	**+1.1**
	baz=71,SNR=34						
434A	**Burnet**	**70.85**	**337**	⇑P	**P**	**18 42 18.2**	**+0.8**
	baz=71,SNR=38						
239A	**Gary**	**70.88**	**341**	⇓P	**P**	**18 42 18.8**	**+1.3**
	baz=71,SNR=6.7						
336A	**Riesel**	**70.95**	**339**	⇑P	**P**	**18 42 19.3**	**+1.4**
	baz=71,SNR=9.7						
531A	**Rocksprings**	**71.00**	**335**	⇑P	**P**	**18 42 19.3**	**+1.0**
	baz=71,SNR=18						
335A	**Moody**	**71.03**	**338**	⇑P	**P**	**18 42 19.5**	**+1.1**
	baz=71,SNR=13						
JCT	**Junction City**	**71.04**	**336**	*e*P	**P**	**18 42 18.2**	**-0.3**
JCT				pmax	pmax		
	comp=Z,120nm,1.1s						
JCT				MLR	MLR		
	comp=Z,329nm,20.0s						
JCT	**Junction City**	**71.04**	**336**	⇓P	**P**	**18 42 19.3**	**+0.8**
	baz=71,SNR=26						
JCT	**Junction City**	**71.04**	**336**	*e*P	**P**	**18 42 18.2**	**-0.3**
	comp=Z,120nm,1.1s						
JCT				LR	LR		
	comp=Z,329nm,20.0s						
238A	**Jacksonville**	**71.04**	**340**	⇓P	**P**	**18 42 20.1**	**+1.7**
	baz=71						
433A	**Art**	**71.06**	**336**	⇑P	**P**	**18 42 19.5**	**+0.9**
	baz=71,SNR=20						
MAW	**Mawson**	**71.19**	**164**	LR	LR	19 13 05.0	
	comp=Z,2μm,20.6s,baz=229,slow=36						
237A	**Washetta, Mont**	**71.23**	**340**	⇓P	**P**	**18 42 20.8**	**+1.2**
	baz=72						
530A	**J-C Ranch, Com**	**71.26**	**334**	⇓P	**P**	**18 42 20.6**	**+0.7**
	baz=72,SNR=28						
334A	**Lometa**	**71.32**	**337**	⇓P	**P**	**18 42 21.1**	**+0.9**
	baz=72,SNR=47						
CNNC	**Cliffs of the**	**71.34**	**356**	PFAKE		18 42 30.0	+10
CNNC				LR	LR		
	comp=Z,567nm,20.0s						
TXAR	**Lajitas Array**	**71.37**	**332**	P	**P**	**18 42 21.0**	**+0.4**
TXAR	**Lajitas Array**	**71.37**	**332**	P	**P**	**18 42 21.0**	**+0.4**
	comp=Z,13nm,0.6s,baz=155,slow=8.3,SNR=72						
TXAR				LR	LR	19 09 06.1	
	comp=Z,1μm,18.1s,baz=0.0,slow=32						
432A	**Menard**	**71.40**	**336**	⇑P	**P**	**18 42 21.4**	**+0.7**
	baz=72,SNR=14						
431A	**Sonora**	**71.49**	**335**	⇑P	**P**	**18 42 22.2**	**+0.9**
	baz=72,SNR=26						
KMSC	**Kings Mountain**	**71.52**	**353**	⇓P	**P**	**18 42 21.9**	**+0.6**
	baz=72,SNR=22						
529A	**Stev Forest Ra**	**71.55**	**334**	⇓P	**P**	**18 42 22.3**	**+0.7**
	baz=72,SNR=21						
333A	**Richland Sprin**	**71.55**	**337**	⇑P	**P**	**18 42 22.1**	**+0.5**
	baz=72,SNR=37						
138A	**Matatall Enter**	**71.66**	**341**	⇓P	**P**	**18 42 23.5**	**+1.4**
	baz=72,SNR=6.5						
WHTX	**Lake Whitney,**	**71.70**	**338**	⇓P	**P**	**18 42 23.3**	**+0.9**
	baz=72,SNR=8.0						
WHTX	**Lake Whitney,**	**71.70**	**338**	*e*P	**P**	**18 42 21.5**	**-0.9**
	comp=Z,74nm,0.8s						
137A	**Heron Place, G**	**71.78**	**340**	⇑P	**P**	**18 42 24.3**	**+1.4**
	baz=72,SNR=6.5						
430A	**Baggett Ranch,**	**71.80**	**335**	⇑P	**P**	**18 42 23.7**	**+0.6**
	baz=72,SNR=42						
332A	**Millersview**	**71.85**	**336**	⇓P	**P**	**18 42 23.7**	**+0.4**
	baz=72,SNR=22						
429A	**Davenport Ranc**	**71.89**	**334**	⇑P	**P**	**18 42 24.2**	**+0.5**
	baz=72,SNR=26						
234A	**Clairette**	**71.92**	**338**	⇑P	**P**	**18 42 24.4**	**+0.7**
	baz=72,SNR=23						
331A	**San Angelo**	**72.01**	**336**	⇓P	**P**	**18 42 24.5**	**+0.2**
	baz=72,SNR=31						
OXF	**Oxford**	**72.10**	**346**	*e*P	**P**	**18 42 23.8**	**-1.0**
OXF				pmax	pmax		
	comp=Z,115nm,0.9s						
OXF	**Oxford**	**72.10**	**346**	*e*P	**P**	**18 42 23.8**	**-1.0**
	comp=Z,115nm,0.9s						
233A	**Rising Star**	**72.17**	**337

comp=Z,175nm,1.1s
HALT Halls 73.45 346 P P 18 42 29.4 -3.3
KOMG Komaggas 73.45 115 ⇓*i*P **P 18 42 34.8 +1.6**
KOMG AMB AMB 18 42 35.6
comp=Z,96nm,1.3s
KOMG Komaggas 73.45 115 P **P 18 42 34.8 +1.6**
comp=Z,96nm,1.3s
BLA Blacksburg 73.49 354 *e*P **P 18 42 32.5 -0.5**
BLA pmax pmax
comp=Z,42nm,1.0s
BLA MLR MLR
comp=Z,597nm,20.0s
BLA Blacksburg 73.49 354 *e*P **P 18 42 32.5 -0.5**
comp=Z,42nm,1.0s
BLA LR LR
comp=Z,597nm,20.0s
228A UT Block 9, Go 73.49 334 ⇓P **P 18 42 33.5 +0.3**
baz=74,SNR=26
Z32A Haskell 73.54 337 ⇓P **P 18 42 34.0 +0.6**
baz=74,SNR=43
Y34A Reagan Ranch, 73.62 339 ⇓P **P 18 42 34.4 +0.6**
baz=74,SNR=23
129A Stewart Farms, 73.70 335 ⇓P **P 18 42 35.2 +0.8**
baz=74,SNR=13
Z31A Sharp Cattle R 73.76 337 ⇑P **P 18 42 35.4 +0.7**
baz=74,SNR=31
GLAT Glass 73.78 346 *e*P **P 18 42 34.0 -0.6**
JSRW J. Sargeant Re 73.78 356 *e*P **P 18 42 34.9 +0.3**
128A Castleberry Fa 73.91 334 ⇓P **P 18 42 36.0 +0.3**
baz=74,SNR=41
Y33A Hilltop Ranch, 73.93 338 ⇑P **P 18 42 36.3 +0.7**
baz=74,SNR=19
Z30A Sanderson Ranc 74.05 336 ⇑P **P 18 42 36.8 +0.3**
baz=74,SNR=37
MNTX Cornudas Mount 74.14 332 *e*P **P 18 42 35.9 -1.0**
comp=Z,23nm,1.0s
Y32A R-V Farms, Ver 74.17 337 ⇓P **P 18 42 37.8 +0.8**
baz=74,SNR=12
Z29A Hungry Hill Ra 74.22 335 ⇓P **P 18 42 37.7 +0.3**
baz=74,SNR=51
X34A Smith Ranch, M 74.25 339 ⇑P **P 18 42 38.2 +0.7**
baz=75,SNR=11
DRV Dumont d'Urvil 74.25 193 S SKiKP 18 51 53.0 -9.5
DRV SS **SS 18 56 51.0 -2.6**
DRV L L 19 01 00.0
DRV R 19 05 00.0
PARMO Parma 74.26 346 *e*P **P 18 42 37.6 +0.1**
X33A Lawton 74.39 338 ⇓P **P 18 42 38.5 +0.2**
baz=75,SNR=5.1
Y31A Rekieta Farm, 74.39 337 ⇓P **P 18 42 39.1 +0.8**
baz=75,SNR=23
SUR Sutherland 74.45 119 P **P 18 42 41.0 +1.8**
comp=Z,513nm,1.0s,SNR=7.9
SUR Sutherland 74.45 119 P **P 18 42 38.9 -0.3**
comp=Z,76nm,1.0s
SUR LR LR
comp=Z,1μm,19.0s
Z28A Tucker Farm, M 74.48 335 ⇓P **P 18 42 39.6 +0.6**
baz=75,SNR=12
PBMO Poplar Bluff 74.50 346 *e*P **P 18 42 37.9 -1.0**
comp=Z,64nm,0.8s
X32A Elmer 74.51 338 ⇑P **P 18 42 39.8 +0.8**
baz=75
Y30A Stafford Cattl 74.52 336 ⇓P **P 18 42 39.8 +0.7**
baz=75
WMOK Wichita Mounta 74.65 338 *e*P **P 18 42 39.5 -0.4**
WMOK pmax pmax
comp=Z,55nm,1.1s
WMOK MLR MLR
comp=Z,354nm,20.0s
WMOK Wichita Mounta 74.65 338 *e*P **P 18 42 39.5 -0.4**
comp=Z,55nm,1.1s
WMOK LR LR
comp=Z,354nm,20.0s
Y29A Porterfield Fa 74.76 336 ⇓P **P 18 42 41.0 +0.5**
baz=75,SNR=25
W34A Bridge Creek, 74.82 339 ⇑P **P 18 42 41.3 +0.5**
baz=75,SNR=9.0
TUL1 Leonard 74.91 341 ⇓P **P 18 42 41.5 +0.2**
baz=75,SNR=24
TUL1 Leonard 74.91 341 *e*P **P 18 42 41.0 -0.3**
comp=Z,131nm,0.9s
X31A McDonald Ranch 74.92 337 ⇑P **P 18 42 41.9 +0.5**
baz=75,SNR=28
W33A Caddo, Fort Co 74.95 339 ⇓P **P 18 42 42.6 +1.1**
baz=75,SNR=24
Y28A McKinney Farm, 75.00 335 ⇑P **P 18 42 42.5 +0.5**
baz=75,SNR=11
X30A Coker Ranch, T 75.03 336 ⇓P **P 18 42 42.4 +0.3**
baz=75,SNR=11
V35A Meyer Ranch, C 75.05 340 ⇑P **P 18 42 42.5 +0.4**
baz=75,SNR=21
USIN University of 75.15 348 *e*P **P 18 42 41.8 -0.7**
comp=Z,165nm,1.0s
W32A Sentinel 75.15 338 ⇓P **P 18 42 43.3 +0.6**
baz=76,SNR=58
SIUC Southern Illin 75.17 347 *e*P **P 18 42 42.3 -0.5**
comp=Z,76nm,0.9s
WCI Wyandotte Cave 75.19 349 *e*P **P 18 42 42.0 -0.8**
WCI pmax pmax
comp=Z,32nm,1.0s
WCI Wyandotte Cave 75.19 349 *e*P **P 18 42 42.0 -0.8**
comp=Z,32nm,1.0s
MSTX Muleshoe 75.23 335 ⇓P **P 18 42 43.7 +0.3**
baz=76,SNR=21
MSTX Muleshoe 75.23 335 *e*P **P 18 42 43.3 0.0**
comp=Z,62nm,1.0s
X29A Tulia 75.30 336 ⇑P **P 18 42 44.4 +0.7**
baz=76,SNR=20
V34A Guthrie 75.31 340 ⇑P **P 18 42 43.9 +0.3**
baz=76,SNR=19
V34A Guthrie 75.31 340 *e*P **P 18 42 43.0 -0.6**
comp=Z,97nm,0.9s
319A Douglas 75.42 329 ⇑P **P 18 42 45.1 +0.6**
baz=76,SNR=18
W31A Holland Ranch, 75.42 338 ⇓P **P 18 42 44.6 +0.3**
baz=76,SNR=13
SDMD Soldier's Deli 75.44 357 P **P 18 42 43.7 -0.5**
comp=Z,53nm,1.0s
V33A Lossen Ranch, 75.52 339 ⇓P **P 18 42 45.2 +0.4**
baz=76,SNR=23
X28A Dimmitt 75.53 335 ⇓P **P 18 42 45.5 +0.4**
baz=76,SNR=8.3
W30A Crocket Farms 75.62 337 ⇑P **P 18 42 46.8 +1.3**
baz=76
V32A Arapaho 75.64 338 ⇓P **P 18 42 46.5 +1.0**
baz=76,SNR=12
AMTX Amarillo 75.70 336 ⇓P **P 18 42 47.1 +1.2**
baz=76
AMTX Amarillo 75.70 336 *e*P **P 18 42 45.8 -0.1**
comp=Z,120nm,1.0s
121A Cookes Peak, D 75.81 330 ⇑P **P 18 42 48.4 +1.6**
baz=76,SNR=18
121A Cookes Peak, D 75.81 330 *e*P **P 18 42 46.9 +0.1**
comp=Z,87nm,1.4s
U34A Anderson Ranch 75.88 340 ⇓P **P 18 42 47.4 +0.6**
baz=76,SNR=16
U34A Anderson Ranch 75.88 340 *e*P **P 18 42 46.6 -0.2**
comp=Z,94nm,1.0s
W29A Amarillo 75.90 336 ⇑P **P 18 42 47.5 +0.4**
baz=76,SNR=26
V31A Spring Creek L 75.94 338 ⇓P **P 18 42 48.6 +1.4**
baz=76,SNR=20
OLIL Olney 75.97 348 *e*P **P 18 42 46.0 -1.3**
comp=Z,89nm,1.2s
MVL Millersville 76.01 357 *e*P **P 18 42 48.8 +1.3**
comp=Z,79nm,1.3s
U33A Lingo Farm, Me 76.04 339 ⇓P **P 18 42 48.5 +0.7**
baz=76,SNR=8.7
Y24A Capitan 76.14 333 ⇓P **P 18 42 49.5 +0.8**
baz=76,SNR=6.7
BLO Bloomington 76.14 349 *e*P **P 18 42 47.4 -0.9**
BLO pmax pmax
comp=Z,93nm,1.0s
BLO Bloomington 76.14 349 *e*P **P 18 42 47.4 -0.9**
comp=Z,94nm,1.0s
V30A Spur Ranch, Mi 76.19 337 ⇓P **P 18 42 50.1 +1.4**
baz=76,SNR=15
W28A Vega 76.21 336 ⇓P **P 18 42 50.0 +1.1**
baz=76
U32A Winter Ranch, 76.25 339 ⇑P **P 18 42 49.8 +0.9**
baz=77,SNR=23
SLM Saint Louis 76.26 346 *e*P **P 18 42 48.3 -0.6**
SLM pmax pmax
comp=Z,139nm,0.9s
SLM Saint Louis 76.26 346 *e*P **P 18 42 48.3 -0.6**
comp=Z,139nm,0.9s
LIC Lamto 76.31 72 ⇑*i*P **P 18 42 50.9 +1.1**
comp=Z,253nm,1.2s,baz=238
LIC Lamto 76.31 72 *e*P **P 18 42 51.0 +1.1**
comp=Z,267nm,1.2s
LIC Lamto 76.31 72 ⇑*i*P **P 18 42 50.9 +1.1**
comp=Z,253nm,1.2s
U31A Nine Bar Ranch 76.49 338 ⇑P **P 18 42 51.7 +1.3**
baz=77
V29A Stinnett 76.55 337 ⇑P **P 18 42 51.8 +1.0**
baz=77
S36A Lake Cedric, C 76.58 342 ⇑P **P 18 42 51.1 +0.3**
baz=77
TIC Toumodi 76.58 71 *e*P **P 18 42 52.7 +1.3**
comp=Z,112nm,1.0s
W26A Owens Ranch, T 76.59 335 ⇓P **P 18 42 52.0 +0.9**
baz=77,SNR=7.9
KIC Kosan Boka 76.61 72 *e*P **P 18 42 52.8 +1.2**
comp=Z,330nm,1.1s
V28A Channing 76.67 336 ⇓P **P 18 42 52.6 +1.2**
baz=77,SNR=9.3
T33A Patterson Ranc 76.68 340 ⇓P **P 18 42 52.5 +1.1**
baz=77,SNR=12
SSPA Standing Stone 76.72 356 *e*P **P 18 42 51.7 +0.3**
comp=Z,62nm,1.3s
DBIC Dimbokro 76.72 71 ⇓*i*P **P 18 42 54.0 +1.8**
DBIC Dimbokro 76.72 71 *e*P **P 18 42 53.6 +1.4**
DBIC pmax pmax
comp=Z,99nm,0.9s
DBIC Dimbokro 76.72 71 P **P 18 42 52.7 +0.5**
comp=Z,57nm,0.8s,baz=204,slow=6.2,SNR=77
DBIC LR LR 19 15 37.7
comp=Z,1μm,18.0s,baz=208,slow=35
DBIC Dimbokro 76.72 71 *e*P **P 18 42 53.6 +1.4**
comp=Z,99nm,0.9s
ACSO Alum Creek Sta 76.73 352 *e*P **P 18 42 51.1 -0.4**
comp=Z,129nm,0.9s
ACSO LR LR
comp=Z,802nm,22.0s
TUC Tucson 76.87 328 *e*P **P 18 42 53.0 +0.4**
TUC pmax pmax
comp=Z,44nm,1.2s
TUC MLR MLR
comp=Z,551nm,20.0s
TUC Tucson 76.87 328 *e*P **P 18 42 53.0 +0.4**
comp=Z,44nm,1.2s
TUC LR LR
comp=Z,551nm,20.0s
V27A Dan Oppiter Fa 76.88 336 ⇑P **P 18 42 53.7 +1.1**
baz=77,SNR=8.3
U30A WK&E Inc. Balk 76.88 337 ⇑P **P 18 42 53.6 +1.0**
baz=77,SNR=18
LPM Los Pinos Moun 76.94 332 *e*P **P 18 42 54.0 +0.9**
LENM Lemitar 76.94 332 *e*P **P 18 42 53.5 +0.4**
W25A X Bar L Ranch, 76.95 334 ⇓P **P 18 42 53.8 +0.7**
baz=77,SNR=45
S34A Willow Spring 76.95 341 ⇓P **P 18 42 53.3 +0.4**
baz=77
T32A Huddler Ranch, 76.97 339 ⇑P **P 18 42 53.9 +0.9**
baz=77,SNR=15
U29A Oasis Ranch, S 77.00 337 ⇑P **P 18 42 54.1 +0.8**
baz=77
S33A Kaszmaul Farm, 77.09 340 ⇓P **P 18 42 54.5 +0.8**
baz=77,SNR=7.2
T31A Randall Ranch, 77.11 338 ⇑P **P 18 42 54.5 +0.7**
baz=77,SNR=9.5
LAZ Ladron 77.21 332 *e*P **P 18 42 55.5 +0.9**
comp=Z,40nm,1.3s
V26A Tequesquite Ra 77.23 335 ⇑P **P 18 42 55.4 +0.7**
baz=78,SNR=5.4
U28A Mallet 77.24 336 ⇑P **P 18 42 55.5 +0.8**
baz=78,SNR=12
YLE Yale 77.27 0 *e*P **P 18 42 56.5 +2.0**
comp=Z,162nm,1.1s
W24A Lazy 6 Ranch, 77.28 333 ⇓P **P 18 42 55.7 +0.6**
baz=78,SNR=34
T30A Plains 77.33 338 ⇑P **P 18 42 56.1 +1.0**
baz=78
SFIN Lafayette 77.41 349 ⇑P **P 18 42 55.1 -0.2**
baz=78,SNR=7.8
ANMO Albuquerque 77.43 332 *e*P **P 18 42 56.6 +0.7**
ANMO pmax pmax
comp=Z,72nm,1.1s
ANMO MLR MLR
comp=Z,884nm,21.0s
ANMO Albuquerque 77.43 332 *e*P **P 18 42 56.5 +0.7**
comp=Z,72nm,1.1s
ANMO LR LR
comp=Z,884nm,21.0s
S32A Newby Ranch, P 77.45 339 ⇑P **P 18 42 56.6 +0.9**
baz=78,SNR=11
214A Organ Pipe Nat 77.46 326 ⇓P **P 18 42 56.8 +0.9**
baz=78,SNR=19
214A Organ Pipe Nat 77.46 326 *e*P **P 18 42 56.0 +0.1**
comp=Z,57nm,1.3s
U27A Thompson Grove 77.48 336 ⇓P **P 18 42 56.9 +0.9**
baz=78,SNR=17
S31A Mullinville 77.54 339 ⇓P **P 18 42 57.0 +0.8**
baz=78,SNR=13
KSPA Keystone Colle 77.55 358 *e*P **P 18 42 57.3 +1.1**
comp=Z,42nm,1.4s
V25A Rancho No Teng 77.56 334 ⇑P **P 18 42 57.4 +0.7**
baz=78,SNR=48
T29A Hugoton 77.66 337 ⇓P **P 18 42 57.6 +0.6**
baz=78,SNR=12
CASY Casey 77.68 181 PFAKE 18 43 10.0 +13
CASY LR LR
comp=Z,2μm,19.0s
V24A Rampart Ranch, 77.69 334 ⇑P **P 18 42 58.2 +0.8**
baz=78,SNR=23
R33A Olander Ranch, 77.75 340 ⇑P **P 18 42 58.2 +0.8**
baz=78,SNR=18
U26A Atchley Ranch, 77.76 335 ⇑P **P 18 42 58.5 +0.8**
baz=78,SNR=6.8
S30A Montezuma 77.85 338 ⇓P **P 18 42 58.7 +0.7**
baz=78,SNR=17
T28A Walsh 77.88 337 ⇓P **P 18 42 58.9 +0.6**
baz=78,SNR=41
U25A Circle Dot Ran 78.00 335 ⇑P **P 18 42 59.6 +0.6**
baz=78,SNR=34
T27A Campo 78.03 336 ⇓P **P 18 43 00.0 +1.0**
baz=78,SNR=17
S29A Ulysses 78.03 338 ⇑P **P 18 42 59.9 +0.9**
baz=78,SNR=23
V23A Ortiz Mt. (NFS 78.04 333 ⇑P **P 18 43 00.3 +1.0**
baz=78,SNR=15
R32A Long Quarter, 78.06 340 ⇑P **P 18 43 00.1 +1.0**
baz=78,SNR=25
KSU1 Kansas State U 78.14 341 ⇓P **P 18 42 59.9 +0.4**
baz=78,SNR=8.9
KSU1 Kansas State U 78.14 341 *e*P **P 18 42 59.7 +0.2**
comp=Z,58nm,1.0s
KSU1 LR LR
comp=Z,326nm,21.0s
R31A Burdett 78.17 339 ⇑P **P 18 43 00.6 +0.8**
baz=78,SNR=22
BINY Binghamton 78.20 358 *e*P **P 18 42 59.7 0.0**
comp=Z,74nm,1.5s
BINY LR LR
comp=Z,777nm,20.0s
S28A Manter 78.25 337 ⇑P **P 18 43 01.1 +0.8**
baz=79,SNR=48
U24A Moreno Valley 78.31 334 ⇓P **P 18 43 02.2 +1.3**
baz=79,SNR=7.2
ERPA Erie 78.33 355 *e*P **P 18 42 59.3 -1.1**
comp=Z,51nm,0.9s
ERPA LR LR
comp=Z,696nm,19.0s
Q33A Connelly Farm, 78.36 341 ⇑P **P 18 43 01.6 +0.8**
baz=79,SNR=19
R30A Dighton 78.39 338 ⇑P **P 18 43 01.9 +0.9**
baz=79,SNR=14
T26A Comanche Natio 78.42 336 ⇓P **P 18 43 02.4 +1.0**
baz=79,SNR=36
X18A Snowflake 78.43 330 ⇓P **P 18 43 02.5 +1.0**
baz=79,SNR=15
V22A San Miguel Ran 78.46 333 ⇑P **P 18 43 03.1 +1.5**
baz=79,SNR=88
HRV Adam Dziewonsk 78.47 1 *e*P **P 18 43 01.2 0.0**
HRV pmax pmax
comp=Z,41nm,1.0s
HRV Adam Dziewonsk 78.47 1 *e*P **P 18 43 01.2 0.0**
comp=Z,41nm,1.0s
Q32A Meitler Ranch, 78.55 340 ⇓P **P 18 43 02.5 +0.7**
baz=79,SNR=19
U23A El Rito 78.56 333 ⇑P **P 18 43 03.3 +1.1**
baz=79,SNR=41
113A Mohawk Valley, 78.57 326 ⇓P **P 18 43 03.5 +1.5**
baz=79,SNR=9.2
S27A Las Animas 78.65 336 ⇓P **P 18 43 03.4 +0.9**
baz=79
T25A Trinidad 78.66 335 ⇑P **P 18 43 04.0 +1.3**
baz=79,SNR=86
TRY Troy 78.68 360 *e*P **P 18 43 03.9 +1.6**
comp=Z,112nm,1.1s
Z14A Wintersburg 78.71 327 ⇓P **P 18 43 03.7 +1.0**
baz=79
P33A Williams Farm, 78.73 341 ⇓P **P 18 43 03.6 +0.8**
baz=79,SNR=8.3
HVD Gariep Dam 78.75 120 *e*P **P 18 43 04.6 +1.0**
HVD AMB AMB 18 43 05.1
comp=Z,113nm,1.3s
HVD AMS AMS 19 14 03.7
comp=Z,1μm,21.2s
HVD Gariep Dam 78.75 120 P **P 18 43 04.6 +1.0**
HVD pmax pmax
comp=Z,113nm,1.3s
HVD Gariep Dam 78.75 120 P **P 18 43 04.6 +1.0**
comp=Z,113nm,1.3s
R29A Marienthal 78.78 338 ⇓P **P 18 43 04.2 +1.1**
baz=79,SNR=16
S26A Kim 78.78 336 ⇑P **P 18 43 04.6 +1.3**
baz=79,SNR=63
Q31A Ellis 78.80 339 ⇓P **P 18 43 04.1 +0.9**
baz=79,SNR=18
AAM Ann Arbor 78.85 352 *e*P **P 18 43 01.8 -1.5**
AAM pmax pmax
comp=Z,92nm,1.1s
AAM MLR MLR
comp=Z,866nm,21.0s
AAM Ann Arbor 78.85 352 *e*P **P 18 43 01.8 -1.5**
comp=Z,92nm,1.1s
AAM LR LR
comp=Z,866nm,21.0s
U22A Llaves 78.85 333 ⇑P **P 18 43 05.7 +1.9**
baz=79,SNR=29
W18A Petrified Fore 78.86 330 ⇓P **P 18 43 05.1 +1.3**
baz=79,SNR=7.6
W18A Petrified Fore 78.86 330 *e*P P 18 43 00.9 -2.9
R28A Tribune 78.91 337 ⇓P **P 18 43 04.6 +0.7**
baz=79,SNR=47
T24B San Luis 78.93 334 ⇓P **P 18 43 05.8 +1.5**
baz=79,SNR=38
X16A Lo Mia Camp, P 78.96 328 ⇑P **P 18 43 05.5 +1.1**
baz=79,SNR=30
Q30A Quinter 79.01 339 ⇑P **P 18 43 05.3 +0.9**
baz=79,SNR=38
T23A Casias Ranch, 79.14 334 ⇓P **P 18 43 06.7 +1.3**
baz=80,SNR=9.8
S25A Robets Cordova 79.14 335 ⇓P **P 18 43 06.7 +1.4**
baz=80,SNR=38
P32A Huiting Farm, 79.15 340 ⇑P **P 18 43 05.8 +0.7**
baz=80,SNR=20
Q29A Oakley 79.16 338 ⇓P **P 18 43 06.0 +0.8**
baz=80,SNR=21
R27A Eads 79.17 337 ⇓P **P 18 43 05.9 +0.6**
baz=80,SNR=38
Y14A Wickenburg 79.22 327 ⇓P **P 18 43 07.1 +1.4**
baz=80,SNR=13
P31A Stockton 79.27 340 ⇑P **P 18 43 06.7 +0.9**
baz=80,SNR=21
GLA Glamis 79.29 325 *e*P **P 18 43 05.3 -0.8**
GLA pmax pmax
comp=Z,56nm,1.3s
GLA Glamis 79.29 325 ⇓P **P 18 43 07.3 +1.2**
baz=80,SNR=12
GLA Glamis 79.29 325 *e*P **P 18 43 05.2 -0.8**
comp=Z,56nm,1.3s
S24A Houchin Ranch, 79.39 335 ⇓P **P 18 43 08.0 +1.2**
baz=80,SNR=72
TSUM Tsumeb 79.39 106 P **P 18 43 07.2 0.0**
comp=Z,70nm,1.3s
TSUM LR LR
comp=Z,1μm,20.0s
R26A Arlington 79.39 336 ⇑P **P 18 43 08.0 +1.4**
baz=80,SNR=61
R25A Fountain Ranch 79.53 335 ⇓P **P 18 43 08.5 +1.2**
baz=80,SNR=8.6
P30A Selden 79.54 339 ⇑P **P 18 43 08.3 +1.0**
baz=80,SNR=11
Q28A Sharon Springs 79.57 338 ⇑P **P 18 43 08.7 +1.2**
baz=80,SNR=14
SDCO Great Sand Dun 79.58 334 *e*P **P 18 43 08.4 +0.6**
comp=Z,29nm,1.0s
SWSC Sam W. Stewart 79.65 325 ⇓P **P 18 43 09.4 +1.5**
baz=80,SNR=5.7
HNH Hanover 79.66 1 *e*P **P 18 43 09.1 +1.5**
comp=Z,54nm,1.0s
O32A Brockman Farm, 79.66 341 ⇑P **P 18 43 08.9 +1.1**
baz=80,SNR=12
S23A Nye Farm, Mont 79.72 334 ⇓P **P 18 43 10.0 +1.5**
baz=80,SNR=11
BOSA Boshof 79.74 118 ⇓*i*P **P 18 43 09.8 +0.9**
BOSA AMB AMB 18 43 10.0
comp=Z,100nm,1.2s
BOSA AMS AMS 19 18 55.0
comp=Z,1μm,19.0s
BOSA Boshof 79.74 118 P **P 18 43 09.8 +0.9**
BOSA pmax pmax
comp=Z,100nm,1.3s
BOSA Boshof 79.74 118 P **P 18 43 09.1 +0.2**
comp=Z,81nm,1.1s,baz=234,slow=5.7,SNR=45
BOSA LR LR 19 16 26.7
comp=Z,804nm,18.4s,baz=230,slow=34
BOSA Boshof 79.74 118 P **P 18 43 09.8 +0.9**
comp=Z,100nm,1.3s
Y12C Blythe 79.74 326 ⇓P **P 18 43 09.9 +1.5**
baz=80
KSCO Kaye Shedlock' 79.78 337 ⇑P **P 18 43 10.0 +1.3**
baz=80,SNR=7.2
KSCO Kaye Shedlock' 79.78 337 *e*P **P 18 43 08.7 0.0**
comp=Z,116nm,1.3s
P29A Atwood 79.80 338 ⇓P **P 18 43 09.8 +1.1**
baz=80,SNR=18
O31A Woolen Ranch, 79.85 340 ⇓P **P 18 43 09.9 +1.0**
baz=80,SNR=8.8
BAR Barrett 79.85 324 *e*P **P 18 43 08.8 -0.2**
comp=Z,24nm,1.1s
BAR *e*PcP **PcP 18 43 16.8 +0.2**
WUAZ Wupatki 79.87 329 ⇑P **P 18 43 11.0 +1.7**
baz=80,SNR=29
WUAZ Wupatki 79.87 329 *e*P **P 18 43 09.2 0.0**
WUAZ *e*PcP **PcP 18 43 17.1 +0.3**
WUAZ LR LR
comp=Z,687nm,19.0s
R24A Sanders Place, 79.88 335 ⇓P **P 18 43 10.6 +1.3**
baz=80,SNR=91
MONP Monument Peak, 79.90 324 ⇑P **P 18 43 10.8 +1.3**
baz=80,SNR=8.4
Q26A Hugo 79.98 336 ⇑P **P 18 43 11.1 +1.3**
baz=80,SNR=27
SCIA State Center 80.01 345 *e*P **P 18 43 08.5 -1.2**
comp=Z,133nm,1.2s
SCIA LR LR
comp=Z,460nm,20.0s
P28A Saint Francis 80.02 338 ⇑P **P 18 43 11.5 +1.6**
baz=80,SNR=7.0
PDMCI Parker Dam,Lak 80.03 326 ⇑P **P 18 43 11.4 +1.4**
baz=80,SNR=6.5
S22A 4UR Ranch, Cre 80.06 333 ⇓P **P 18 43 11.5 +1.1**
baz=80,SNR=40
O30A MW Ranch, Wils 80.08 339 ⇑P **P 18 43 11.5 +1.4**
baz=80,SNR=16
BC3 Big Chuckawall 80.08 325 ⇑P **P 18 43 11.9 +1.5**
baz=80,SNR=32
R23A Moffat 80.10 334 ⇓P **P 18 43 11.7 +1.1**
baz=80,SNR=32
N32A Stulken Farm, 80.14 341 ⇓P **P 18 43 11.1 +0.7**
baz=80,SNR=6.0
LBNH Lisbon 80.20 1 *e*P **P 18 43 10.6 0.0**
LBNH pmax pmax
comp=Z,50nm,0.9s
LBNH MLR MLR
comp=Z,514nm,20.0s
LBNH Lisbon 80.20 1 *e*P **P 18 43 10.6 0.0**
comp=Z,50nm,0.9s
LBNH LR LR
comp=Z,514nm,20.0s
MVCO Mesa Verde 80.20 332 ⇓P **P 18 43 11.9 +0.8**
baz=80,SNR=47
MVCO Mesa Verde 80.20 332 *e*P **P 18 43 10.7 -0.5**
comp=Z,70nm,1.1s
MVCO *e*PcP **PcP 18 43 18.5 +0.2**
MVCO LR LR
comp=Z,1μm,20.0s
Q25A Bedland, Calha 80.21 336 ⇑P **P 18 43 12.1 +1.0**
baz=80,SNR=12
109C Camp Elliot, M 80.23 324 ⇑P **P 18 43 12.3 +1.2**

baz=80
O29A **4D Ranch, Culb** 80.24 339 ⇑P P 18 43 12.3 +1.3
baz=81,SNR=9.7
P27A **Ficken Ranch,** 80.26 337 ⇑P P 18 43 12.7 +1.5
baz=81,SNR=6.1
IRM **Iron Mountain** 80.37 326 ⇑P P 18 43 13.0 +1.1
baz=81,SNR=24
N31A **Bailey Ranch,** 80.37 340 ⇓P P 18 43 13.4 +1.8
baz=81
JFWS **Jewell Farm** 80.41 347 PFAKE 18 43 20.0 +8.2
JFWS LR LR
comp=Z,627nm,21.0s
P26A **Davis Ranch, A** 80.50 337 ⇑P P 18 43 13.9 +1.3
baz=81,SNR=22
PFO **Pinyon Flats O** 80.51 324 P P 18 43 14.9 +2.2
comp=Z,200nm,1.0s,SNR=17
PFO **Pinyon Flats O** 80.51 324 eP P 18 43 11.7 -1.0
PFO pmax pmax
comp=Z,51nm,1.1s
PFO MLR MLR
comp=Z,1μm,19.0s
PFO **Pinyon Flats O** 80.51 324 ⇑P P 18 43 14.3 +1.6
baz=81,SNR=25
PFO **Pinyon Flats O** 80.51 324 eP P 18 43 11.7 -1.0
comp=Z,51nm,1.1s
PFO LR LR
comp=Z,1μm,19.0s
O28A **Krutsinger Ran** 80.53 338 ⇓P P 18 43 14.6 +1.9
baz=81
PTN **Potsdam (NY)** 80.54 359 eP P 18 43 13.1 +0.7
PTN pmax pmax
comp=Z,129nm,1.1s
PTN **Potsdam (NY)** 80.54 359 eP P 18 43 13.1 +0.7
comp=Z,129nm,1.1s
Q24A **Divide** 80.56 335 ⇑P P 18 43 14.0 +0.9
baz=81,SNR=20
WVL **Waterville** 80.58 2 eP P 18 43 14.3 +1.8
comp=Z,61nm,1.0s
LONY **Lake Ozonia** 80.58 359 eP P 18 43 12.9 +0.2
comp=Z,85nm,1.1s
LONY ePcP PcP 18 43 19.2 -0.2
LONY LR LR
comp=Z,625nm,19.0s
W13A **Hualapai Mount** 80.59 327 ⇑P P 18 43 14.7 +1.5
baz=81,SNR=24
BELC **Belle Mtn. Jos** 80.62 325 ⇑P P 18 43 15.2 +1.9
baz=81,SNR=11
NEE2 **Needles Airpor** 80.63 326 ⇑P P 18 43 15.0 +1.8
baz=81
N30A **Hueftle Ranch,** 80.66 340 ⇓P P 18 43 15.4 +2.1
baz=81
BGNE **Belgrade** 80.70 341 ⇓P P 18 43 14.1 +0.7
baz=81,SNR=8.5
P25A **Willow Gulch B** 80.72 336 ⇑P P 18 43 15.4 +1.6
baz=81,SNR=34
O27A **Beecher Island** 80.81 338 ⇓P P 18 43 15.4 +1.3
baz=81,SNR=5.4
N29A **Votaw Ranch, W** 80.83 339 ⇓P P 18 43 15.8 +1.6
baz=81,SNR=7.6
MURC **Murrieta** 80.86 324 ⇑P P 18 43 15.5 +1.1
baz=81,SNR=12
M31A **Lambtecht Ranc** 80.86 341 ⇑P P 18 43 15.7 +1.4
baz=81,SNR=14
P24A **Kohler Place,** 80.97 336 ⇑P P 18 43 16.8 +1.6
baz=81
N28A **Pribbeno Ranch** 80.98 338 ⇓P P 18 43 16.5 +1.5
baz=81,SNR=6.1
SCI **San Clemente I** 81.00 323 ⇑P P 18 43 16.8 +1.6
baz=81
U15A **North Rim** 81.03 329 ⇑P P 18 43 17.1 +1.5
baz=81,SNR=54
PV01 **Paradox Valley** 81.04 332 eP P 18 43 15.3 -0.3
comp=Z,5μm,1.1s
PV01 ePcP PcP 18 43 21.5 -0.4
O26A **Horse Wrangler** 81.11 337 ⇑P P 18 43 17.5 +1.7
baz=81,SNR=21
GMRC **Granite Mounta** 81.11 326 ⇓P P 18 43 17.4 +1.5
baz=81,SNR=18
LDFC **Landfair** 81.11 326 eP P 18 43 17.0 +1.1
LDFC ePcP PcP 18 43 22.4 +0.2
P23A **Jefferson** 81.16 335 ⇑P P 18 43 18.1 +1.8
baz=82,SNR=11
O25A **Wiggins** 81.25 336 ⇑P P 18 43 18.1 +1.5
baz=82
BKZ **Black Stump Fm** 81.27 227 eP P 18 43 17.4 +0.6
comp=Z,48nm,1.2s
CIS **Catalina Islan** 81.28 323 ⇓P P 18 43 17.7 +1.0
baz=82,SNR=7.4
M30A **Dale-Ortello V** 81.29 340 ⇑P P 18 43 18.5 +1.9
baz=82
PKME **Peaks-Kenny Pk** 81.29 3 eP P 18 43 17.9 +1.5
comp=Z,28nm,1.0s
PKME LR LR
comp=Z,590nm,22.0s
OGNE **Ogallala** 81.36 338 ⇑P P 18 43 18.4 +1.4
baz=82
OGNE **Ogallala** 81.36 338 eP P 18 43 17.3 +0.3
comp=Z,19nm,0.6s
OGNE LR LR
comp=Z,344nm,20.0s
N27A **Anderson Farm,** 81.39 338 ⇓P P 18 43 18.5 +1.2
baz=82,SNR=16
PV04 **Paradox Valley** 81.39 332 eP P 18 43 16.3 -1.1
PV04 ePcP PcP 18 43 23.8 +0.4
M29A **Burnside Ranch** 81.43 339 ⇓P P 18 43 18.4 +1.0
baz=82,SNR=7.1
HEC **Hector,Ludlow** 81.46 325 ⇑P P 18 43 19.2 +1.4
baz=82,SNR=16
ISCO **Idaho Springs** 81.47 335 eP P 18 43 18.4 +0.5
ISCO pmax pmax
comp=Z,38nm,1.1s
ISCO MLR MLR
comp=Z,465nm,20.0s
ISCO **Idaho Springs** 81.47 335 ⇓P P 18 43 18.9 +1.0
baz=82,SNR=35
ISCO **Idaho Springs** 81.47 335 eP P 18 43 18.4 +0.5
comp=Z,38nm,1.1s
ISCO LR LR
comp=Z,465nm,20.0s
URZ **Urewera** 81.48 228 LR LR 19 11 38.7
comp=Z,1μm,18.8s,baz=188,slow=30
URZ **Urewera** 81.48 228 eP P 18 43 16.2 -1.7
URZ ePcP PcP 18 43 24.5 +0.6
O24A **Longmont** 81.57 336 ⇓P P 18 43 19.7 +1.4
baz=82
M28A **Bar X Bar Ranc** 81.58 339 ⇑P P 18 43 19.7 +1.5
baz=82,SNR=5.2
SEK **Senekal** 81.59 119 eP P 18 43 19.5 +0.6
SEK AMB AMB 18 43 20.4
comp=Z,70nm,4.2s
SEK **Senekal** 81.59 119 P P 18 43 19.5 +0.6
comp=Z,70nm,4.2s
BFSC **Mount Baldy Ra** 81.60 324 ⇓P P 18 43 19.7 +1.1
baz=82,SNR=15
L31A **Butterfield Fa** 81.60 341 ⇑P P 18 43 19.3 +1.1
baz=82,SNR=20
N26A **Koester Ranch,** 81.62 337 ⇓P P 18 43 20.1 +1.7
baz=82
L30A **Spencer Herefo** 81.63 340 ⇑P P 18 43 19.6 +1.2
baz=82,SNR=6.5
P22A **Eagle** 81.68 334 ⇓P P 18 43 20.0 +1.1
baz=82,SNR=20
MWC **Mount Wilson** 81.78 324 eP P 18 43 18.4 -1.1
MWC **Mount Wilson** 81.78 324 eP P 18 43 18.4 -1.1
TUQ **Turquoise Moun** 81.78 326 ⇓P P 18 43 20.7 +1.3
baz=82,SNR=34
PASC **Pasadena Art C** 81.79 324 eP P 18 43 18.5 -0.9
comp=Z,50nm,1.4s
PASC ePcP PcP 18 43 25.6 +0.6
RRX **Edison Barstow** 81.81 325 ⇓P P 18 43 21.4 +1.9
baz=82
N25A **Grover** 81.88 337 ⇓P P 18 43 22.1 +2.2
baz=82
DECC **Green Verdugo** 81.93 324 ⇓P P 18 43 21.9 +1.7
baz=82
O23A **Lake Granby, G** 81.94 335 ⇓P P 18 43 21.7 +1.3
baz=82,SNR=47
L29A **Maesberg Ranch** 81.94 340 ⇑P P 18 43 21.4 +1.3
baz=82,SNR=13
M27A **Reverse DX Ran** 82.00 338 ⇑P P 18 43 21.7 +1.3
baz=82,SNR=7.1
GSC **Goldstone, Bar** 82.07 325 ⇑P P 18 43 22.2 +1.3
baz=82,SNR=22
LBTB **Lobatse** 82.09 115 ⇓/P P 18 43 22.2 +0.8
LBTB AMB AMB 18 43 22.6
comp=Z,104nm,1.3s
LBTB AMS AMS 19 18 17.9
comp=Z,1μm,17.5s

LBTB **Lobatse** 82.09 115 P P 18 43 22.3 +0.8
LBTB pmax pmax
comp=Z,105nm,1.3s
LBTB **Lobatse** 82.09 115 P P 18 43 22.2 +0.8
comp=Z,104nm,1.3s
O22A **Kremmling** 82.11 335 ⇓P P 18 43 22.6 +1.3
baz=82,SNR=58
N24A **Carr** 82.15 336 ⇓P P 18 43 22.7 +1.4
baz=82,SNR=12
M26A **McRoberts Ranc** 82.17 338 ⇓P P 18 43 22.8 +1.4
baz=82
L28A **Connealy Angus** 82.19 339 ⇑P P 18 43 22.8 +1.4
baz=82
PRYS **Parys** 82.23 118 eP P 18 43 22.3 0.0
PRYS AMB AMB 18 43 23.0
comp=Z,31nm,1.3s
PRYS **Parys** 82.23 118 P P 18 43 22.3 0.0
comp=Z,31nm,1.3s
K30A **Basset** 82.27 341 ⇑P P 18 43 22.9 +1.2
baz=83,SNR=19
EDW2 **Edwards Air Fo** 82.28 324 ⇓P P 18 43 23.0 +1.1
baz=82,SNR=17
SHOC **Shoshone, Teco** 82.33 326 ⇑P P 18 43 23.8 +1.7
baz=83
SHPR **Sheep Range** 82.33 327 eP P 18 43 22.9 +0.5
BSC **Santa Cruz Isl** 82.35 323 ⇑P P 18 43 24.1 +1.8
baz=83
OSI **Osito Audit: C** 82.41 323 ⇓P P 18 43 24.0 +1.3
baz=83,SNR=5.7
OSI **Osito Audit: C** 82.41 323 eP P 18 43 22.7 0.0
comp=Z,58nm,1.3s
M25A **Palm-Egli Farm** 82.43 337 ⇑P P 18 43 24.0 +1.2
baz=83,SNR=9.8
CCUT **Cedar City** 82.44 329 eP P 18 43 24.4 +1.4
comp=Z,66nm,1.1s
CCUT ePcP PcP 18 43 27.4 -0.6
L27A **T5 Ranch, Ells** 82.49 338 ⇑P P 18 43 24.4 +1.4
baz=83
ECSD **EROS Data Cent** 82.51 343 ⇓P P 18 43 23.5 +0.6
baz=83,SNR=153
ECSD **EROS Data Cent** 82.51 343 eP P 18 43 22.0 -0.9
comp=Z,130nm,0.9s
ECSD ePcP PcP 18 43 28.2 +0.2
ECSD LR LR
comp=Z,366nm,19.0s
KSR **Koster** 82.54 116 eP P 18 43 24.6 +0.7
KSR AMB AMB 18 43 25.1
comp=Z,40nm,1.3s
KSR **Koster** 82.54 116 P P 18 43 24.6 +0.7
comp=Z,40nm,1.3s
K29A **Lazy Trails An** 82.55 340 ⇓P P 18 43 24.3 +1.1
baz=83,SNR=10
N23A **Red Feather La** 82.56 335 ⇓P P 18 43 24.6 +1.1
baz=83,SNR=36
WDLM **Western Deep L** 82.58 117 eP P 18 43 24.2 +0.1
WDLM AMB AMB 18 43 25.1
comp=Z,48nm,1.5s
LRMC **Laurel Mtn Rad** 82.62 325 ⇑P P 18 43 25.6 +1.7
baz=83
SRU **San Rafael Swe** 82.64 332 eP P 18 43 23.9 0.0
SRU pmax pmax
comp=Z,50nm,0.8s
SRU **San Rafael Swe** 82.64 332 eP P 18 43 23.9 0.0
comp=Z,50nm,0.8s
N22A **Wattenberg Ran** 82.65 335 ⇑P P 18 43 25.5 +1.5
baz=83,SNR=42
L26A **Underwood Farm** 82.68 338 ⇑P P 18 43 25.0 +1.0
baz=83
O20A **White River Ci** 82.68 334 ⇑P P 18 43 25.2 +1.1
baz=83,SNR=15
O20A **White River Ci** 82.68 334 eP P 18 43 23.5 -0.6
comp=Z,64nm,1.2s
M24A **Cheyenne** 82.71 336 ⇑P P 18 43 25.5 +1.3
baz=83,SNR=19
KLOF **Kloof** 82.76 117 eP P 18 43 25.7 +0.6
KLOF AMB AMB 18 43 25.9
comp=Z,63nm,1.4s
KLOF **Kloof** 82.76 117 P P 18 43 25.7 +0.6
comp=Z,63nm,1.4s
MVU **Marysvale** 82.78 330 eP P 18 43 25.2 +0.5
comp=Z,51nm,1.1s
MVU ePcP PcP 18 43 30.0 +0.4
K28A **Ten Mile Ranch** 82.79 339 ⇓P P 18 43 26.1 +1.6
baz=83,SNR=10
J30A **Dallas** 82.85 341 ⇓P P 18 43 25.4 +0.7
baz=83,SNR=14
ARVC **Arvin** 82.88 324 ⇑P P 18 43 26.8 +1.7
baz=83
M23A **Laramie** 83.00 336 ⇑P P 18 43 27.6 +1.8
baz=83
MPMC **Manual Prospec** 83.01 325 ⇓P P 18 43 26.6 +0.7
baz=83,SNR=20
K27A **Flueckinger Fa** 83.04 339 ⇓P P 18 43 27.1 +1.3
baz=83,SNR=12
L25A **Engebretsen Ra** 83.06 337 ⇑P P 18 43 27.6 +1.6
baz=83
FURC **Furnace Creek,** 83.06 326 ⇓P P 18 43 27.7 +1.8
baz=83
TMUT **Trail Mountain** 83.06 331 eP P 18 43 26.7 +0.4
comp=Z,55nm,0.9s
SPMN **Marine on St.** 83.11 346 ⇓P P 18 43 26.0 0.0
baz=84,SNR=12
SPMN **Marine on St.** 83.11 346 eP P 18 43 24.3 -1.6
comp=Z,32nm,0.8s
ISA **Isabella, Lake** 83.14 324 eP P 18 43 26.9 +0.4
ISA pmax pmax
comp=Z,37nm,1.1s
ISA **Isabella, Lake** 83.14 324 ⇓P P 18 43 28.1 +1.7
baz=83,SNR=37
ISA **Isabella, Lake** 83.14 324 eP P 18 43 26.9 +0.4
comp=Z,37nm,1.1s
J29A **Okreek** 83.14 340 ⇑P P 18 43 27.1 +0.9
baz=84,SNR=54
PKM **Mcpherson Peak** 83.17 323 ⇓P P 18 43 27.8 +1.1
baz=83,SNR=37
TPNV **Topopah Spring** 83.18 326 eP P 18 43 27.9 +1.1
TPNV pmax pmax
comp=Z,30nm,1.0s
TPNV **Topopah Spring** 83.18 326 ⇓P P 18 43 28.4 +1.6
baz=84,SNR=38
TPNV **Topopah Spring** 83.18 326 eP P 18 43 27.9 +1.1
comp=Z,30nm,1.0s
ERPM **east rand prop** 83.21 118 eP P 18 43 28.0 +0.6
ERPM AMB AMB 18 43 28.6
comp=Z,76nm,1.5s
ERPM **east rand prop** 83.21 118 P P 18 43 28.0 +0.6
comp=Z,76nm,1.5s
M22A **Cedar Creek Ra** 83.23 335 ⇓P P 18 43 28.4 +1.3
baz=84,SNR=17
DAC **Darwin (Calif)** 83.24 325 eP P 18 43 26.5 -0.6
DAC pmax pmax
comp=Z,53nm,1.1s
DAC **Darwin (Calif)** 83.24 325 eP P 18 43 26.5 -0.6
comp=Z,53nm,1.1s
L24A **Wheatland** 83.26 337 ⇑P P 18 43 28.3 +1.3
baz=84,SNR=6.5
N20A **Spence Gulch,** 83.31 334 ⇓P P 18 43 28.5 +1.1
baz=84,SNR=38
K26A **Motz Farm, Whi** 83.31 338 ⇑P P 18 43 28.4 +1.1
baz=84
COWI **Conover** 83.32 349 eP P 18 43 25.8 -1.2
comp=Z,60nm,1.2s
COWI LR LR
comp=Z,551nm,20.0s
I30A **Oacoma** 83.38 341 ⇓P P 18 43 27.8 +0.3
baz=84,SNR=23
J28A **Allard Ranch,** 83.41 340 ⇑P P 18 43 28.7 +1.0
baz=84,SNR=22
K25A **Mack Ranch, Ha** 83.44 338 ⇑P P 18 43 29.4 +1.4
baz=84,SNR=10
J27A **Elkhorn Farm,** 83.47 339 ⇓P P 18 43 29.3 +1.3
baz=84,SNR=27
L23A **Garrett** 83.57 336 ⇑P P 18 43 29.6 +0.8
baz=84,SNR=11
VES **Vestal, Richgr** 83.58 324 ⇑P P 18 43 30.4 +1.8
baz=84,SNR=23
SMMC **Simmler** 83.59 323 ⇑P P 18 43 30.5 +1.7
baz=84,SNR=11
SLR **Silverton** 83.61 117 eP P 18 43 28.5 -1.0
SLR AMB AMB 18 43 30.0
comp=Z,94nm,1.3s
SLR AMS AMS 19 18 28.5
comp=Z,1μm,15.1s
SLR **Silverton** 83.61 117 P P 18 43 28.5 -1.0
SLR pmax pmax
comp=Z,94nm,1.3s
SLR **Silverton** 83.61 117 P P 18 43 28.5 -1.0
comp=Z,94nm,1.3s

I29A **Vivian Onida** 83.71 341 ⇓P P 18 43 29.9 +0.7
baz=84,SNR=13
GRAC **Grapevine Rang** 83.73 326 ⇑P P 18 43 30.8 +1.4
baz=84
L22A **Ellis Ranch, M** 83.74 336 ⇑P P 18 43 30.7 +1.1
baz=84,SNR=6.2
BRSD **Miller** 83.75 342 ⇓P P 18 43 29.5 +0.2
baz=84,SNR=8.1
BRSD **Miller** 83.75 342 eP P 18 43 28.8 -0.5
comp=Z,100nm,0.9s
K24A **Anderson Ranch** 83.84 337 ⇓P P 18 43 30.7 +0.8
baz=84,SNR=9.8
J26A **Sides Ranch, S** 83.84 338 ⇓P P 18 43 31.0 +1.2
baz=84,SNR=16
MPU **Maple Canyon** 83.85 331 eP P 18 43 29.3 -0.9
MPU ePcP PcP 18 43 34.3 +0.1
CRZF **Crozet Islands** 83.91 145 P P 18 43 14.0 -16
CRZF R 19 10 00.0
RAO **Raoul Island** 83.92 238 LR LR 19 16 00.2
comp=Z,461nm,18.8s,baz=130,slow=32
I28A **Midland** 83.93 340 ⇓P P 18 43 30.9 +0.6
baz=84,SNR=22
NLU **North Lily Min** 83.97 331 eP P 18 43 30.0 -0.8
NLU ePcP PcP 18 43 34.5 -0.2
RCTC **Rector, Farmer** 84.03 324 ⇑P P 18 43 31.9 +1.0
baz=84
DAU **Daniels Canyon** 84.04 332 eP P 18 43 30.8 -0.5
DAU **Daniels Canyon** 84.04 332 eP P 18 43 30.8 -0.5
R11A **Troy Canyon, C** 84.05 328 ⇓P P 18 43 32.8 +1.6
baz=84,SNR=72
R11A **Troy Canyon, C** 84.05 328 P P 18 43 30.6 -0.6
comp=Z,56nm,1.2s
R11A ePcP PcP 18 43 35.4 +0.4
K23A **Bowen Ranch, D** 84.12 337 ⇓P P 18 43 32.6 +1.2
baz=84,SNR=21
J25A **Sunshine Ranch** 84.13 338 ⇑P P 18 43 32.5 +1.1
baz=84,SNR=24
TIN **Tinemaha, Big** 84.16 325 ⇓P P 18 43 33.4 +1.7
baz=84,SNR=6.2
I27A **Quinn** 84.24 339 ⇑P P 18 43 32.5 +0.7
baz=85,SNR=14
H29A **Onida** 84.25 341 ⇓P P 18 43 32.2 +0.4
baz=85,SNR=26
K22A **Casper** 84.32 336 ⇑P P 18 43 33.4 +0.9
baz=85,SNR=24
K22A **Casper** 84.32 336 eP P 18 43 31.4 -1.1
comp=Z,174nm,1.3s
K22A ePcP PcP 18 43 36.1 0.0
J24A **Dixon Ranch, L** 84.34 337 ⇑P P 18 43 33.6 +1.2
baz=85,SNR=38
I26A **New Underwood** 84.43 339 ⇑P P 18 43 33.5 +0.6
baz=85,SNR=8.4
G30A **Faulkton** 84.44 342 ⇑P P 18 43 33.1 +0.3
baz=85,SNR=19
DUG **Dugway, Tooele** 84.46 331 eP P 18 43 33.9 +0.7
DUG pmax pmax
comp=Z,102nm,1.1s
DUG MLR MLR
comp=Z,673nm,20.0s
DUG **Dugway, Tooele** 84.46 331 ⇓P P 18 43 33.8 +0.5
baz=85,SNR=111
DUG **Dugway, Tooele** 84.46 331 eP P 18 43 33.9 +0.7
comp=Z,102nm,1.1s
DUG LR LR
comp=Z,673nm,20.0s
H28A **Mission Ridge** 84.51 340 ⇓P P 18 43 34.0 +0.8
baz=85,SNR=8.2
TPH **Tonopah** 84.55 326 eP P 18 43 35.3 +1.5
TPH pmax pmax
comp=Z,79nm,1.1s
TPH **Tonopah** 84.55 326 eP P 18 43 35.2 +1.5
comp=Z,79nm,1.1s
K21A **Alcova** 84.55 335 ⇑P P 18 43 34.4 +0.7
baz=85,SNR=24
I25A **Rochford** 84.68 338 ⇓P P 18 43 35.1 +0.8
baz=85,SNR=60
J23A **Dilts Ranch, B** 84.68 337 ⇑P P 18 43 34.8 +0.6
baz=85
G29A **Hoven** 84.70 341 ⇑P P 18 43 35.2 +1.1
baz=85,SNR=6.8
TCUT **Toone Canyon** 84.71 332 eP P 18 43 34.6 +0.1
comp=Z,64nm,0.9s
TCUT ePcP PcP 18 43 37.7 -0.3
H27A **Howes** 84.76 340 ⇓P P 18 43 34.9 +0.4
baz=85,SNR=30
I24A **Kuemmerle Ranc** 84.81 338 ⇓P P 18 43 35.2 +0.3
baz=85,SNR=18
G28A **Parade** 84.85 341 ⇓P P 18 43 35.6 +0.7
baz=85,SNR=12
RSSD **Black Hills** 84.86 338 eP P 18 43 35.2 -0.1
RSSD pmax pmax
comp=Z,60nm,1.0s
RSSD **Black Hills** 84.86 338 eP P 18 43 35.1 -0.1
comp=Z,60nm,1.0s
MLAC **Mammoth, Mammo** 84.91 325 ⇑P P 18 43 36.7 +1.1
baz=85
H26A **Fairpoint** 84.94 339 ⇓P P 18 43 35.8 +0.4
baz=85
J22A **Midwest** 84.99 336 ⇓P P 18 43 35.9 +0.1
baz=85,SNR=9.0
F30A **Leola** 85.07 342 ⇓P P 18 43 36.6 +0.6
baz=85,SNR=11
I23A **Meade Ranch, G** 85.16 337 ⇑P P 18 43 36.8 +0.2
baz=86
BGU **Big Grassy Mou** 85.17 331 eP P 18 43 36.7 -0.1
comp=Z,18nm,1.1s
H25A **Fruitdale** 85.19 339 ⇑P P 18 43 37.4 +0.7
baz=86,SNR=41
J21A **Lysite** 85.25 336 ⇓P P 18 43 37.4 +0.2
baz=86,SNR=22
F29A **Eureka** 85.27 342 ⇓P P 18 43 37.3 +0.4
baz=86,SNR=14
SPUT **South Promonto** 85.27 331 eP P 18 43 37.4 +0.1
comp=Z,145nm,1.2s
SPUT ePcP PcP 18 43 40.7 +0.4
NVAR **Mina Array Bea** 85.32 326 P P 18 43 38.4 +0.7
comp=Z,12nm,0.8s,baz=152,slow=5.9,SNR=78
NVAR PP PP 18 46 55.5 -0.7
comp=Z,0.7nm,0.4s,baz=150,slow=11,SNR=5.5
NVAR PKKPbc PKKPbc 19 01 43.3 -0.2
comp=Z,0.9nm,0.6s,baz=297,slow=1.8,SNR=7.3
G27A **Dupree** 85.41 340 ⇓P P 18 43 38.1 +0.4
baz=86,SNR=6.9
I22A **9 Mile Ranch,** 85.42 336 ⇑P P 18 43 38.2 +0.3
baz=86,SNR=47
PDAR **Pinedale Array** 85.46 334 P P 18 43 38.3 0.0
comp=Z,54nm,1.2s,baz=133,slow=5.9,SNR=121
PDAR PKKPbc PKKPbc 19 01 41.4 -2.2
comp=Z,0.8nm,0.5s,baz=325,slow=1.4,SNR=6.9
BW06 **Boulder Array** 85.47 334 eP P 18 43 37.7 -0.6
comp=Z,74nm,1.3s
BW06 LR LR
comp=Z,1μm,19.0s
J20A **Shoshoni** 85.47 335 ⇓P P 18 43 38.8 +0.6
baz=86,SNR=70
EYMN **Ely** 85.50 348 eP P 18 43 36.4 -1.6
comp=Z,54nm,1.2s
EYMN ePcP PcP 18 43 40.6 -0.4
EYMN LR LR
comp=Z,450nm,20.0s
G26A **Maurine** 85.52 340 ⇓P P 18 43 38.6 +0.4
baz=86,SNR=60
F28A **McLaughlin** 85.54 341 ⇓P P 18 43 39.0 +0.7
baz=86,SNR=6.3
H24A **Dirks Ranch, A** 85.59 338 ⇓P P 18 43 38.9 +0.2
baz=86,SNR=57
I21A **Big Trails, Te** 85.61 336 ⇑P P 18 43 39.0 +0.1
baz=86,SNR=78
G25A **Newell** 85.66 339 ⇓P P 18 43 39.5 +0.5
baz=86,SNR=35
E30A **Jud** 85.67 342 ⇓P P 18 43 39.2 +0.3
baz=86,SNR=14
H23A **Clabaugh Cattl** 85.68 337 ⇓P P 18 43 39.3 +0.2
baz=86
J19A **Crowheart** 85.72 335 ⇑P P 18 43 39.6 +0.1
baz=86,SNR=100
TORD **Torodi Ar. Bea** 85.79 70 P P 18 43 40.8 +0.5
comp=Z,61nm,1.1s,baz=224,slow=4.6,SNR=135
TORD PP PP 18 47 04.4 +4.4
comp=Z,7.4nm,1.1s,baz=231,slow=9.5,SNR=4.4
TORD LR LR 19 20 46.3
comp=Z,1μm,18.0s,baz=235,slow=35
HVU **Hansel Valley** 85.80 331 eP P 18 43 40.1 +0.2
HVU pmax pmax
comp=Z,79nm,1.0s
HVU **Hansel Valley** 85.80 331 eP P 18 43 40.1 +0.2
comp=Z,79nm,1.0s

F27A	Lemmon	85.89 340	⇑P		P	18 43 40.5 +0.4
	baz=86,SNR=67					
WAKR	Walker	85.90 325	eP		P	18 43 41.6 +1.1
	comp=Z,60nm,1.5s					
E29A	Napoleon	85.91 342	⇑P		P	18 43 40.7 +0.5
	baz=86,SNR=6.4					
CMB	Columbia Colle	85.96 324	eP		P	18 43 40.2 -0.4
CMB				pmax	pmax	
	comp=Z,26nm,1.2s					
CMB	Columbia Colle	85.96 324	eP		P	18 43 40.2 -0.4
	comp=Z,26nm,1.2s					
H22A	Clearmont	86.01 337	⇓P		P	18 43 40.9 +0.2
	baz=86,SNR=35					
I20A	Worland	86.01 335	⇑P		P	18 43 41.4 +0.6
	baz=86,SNR=51					
AHID	Auburn Hatcher	86.02 333	eP		P	18 43 40.9 -0.1
	comp=Z,105nm,1.3s					
AHID				ePcP	PcP	18 43 43.6 -0.1
AHID				LR	LR	
	comp=Z,983nm,20.0s					
F26A	Lodgepole	86.05 340	⇑P		P	18 43 41.4 +0.5
	baz=86,SNR=46					
G24A	Alzada	86.07 338	⇓P		P	18 43 41.4 +0.3
	baz=86,SNR=16					
E28A	Huff	86.18 341	⇓P		P	18 43 42.3 +0.8
	baz=86,SNR=14					
D30A	Buchanan	86.20 343	⇑P		P	18 43 42.0 +0.5
	baz=86,SNR=37					
G23A	Biddle	86.25 338	⇑P		P	18 43 42.0 0.0
	baz=87,SNR=26					
H21A	Big Horn, Sher	86.26 336	⇓P		P	18 43 42.0 -0.1
	baz=87,SNR=13					
E27A	Carson	86.28 341	⇓P		P	18 43 42.5 +0.6
	baz=87,SNR=14					
F25A	Bowman	86.34 339	⇑P		P	18 43 42.7 +0.4
	baz=87,SNR=34					
D29A	Pettibone, Tap	86.36 342	⇑P		P	18 43 42.8 +0.4
	baz=87,SNR=13					
I19A	Meeteetse	86.38 335	⇑P		P	18 43 43.5 +0.7
	baz=87,SNR=24					
H20A	Greybull	86.44 336	⇓P		P	18 43 43.1 +0.1
	baz=87,SNR=67					
BMN	Battle Mountai	86.49 328	eP		P	18 43 42.3 -1.1
BMN				pmax	pmax	
	comp=Z,16nm,1.1s					
BMN	Battle Mountai	86.49 328	eP		P	18 43 42.2 -1.1
	comp=Z,16nm,1.1s					
G22A	Birney	86.55 337	⇓P		P	18 43 43.5 +0.1
	baz=87,SNR=22					
F24A	Ekalaka	86.55 339	⇓P		P	18 43 43.6 +0.2
	baz=87,SNR=29					
E26A	Carlson Angus	86.56 340	⇑P		P	18 43 43.5 +0.1
	baz=87,SNR=31					
AGMN	Agassiz Nation	86.67 345	⇓P		P	18 43 44.3 +0.5
	baz=87,SNR=28					
AGMN	Agassiz Nation	86.67 345	eP		P	18 43 42.9 -0.9
	comp=Z,46nm,0.9s					
AGMN				ePcP	PcP	18 43 46.6 +0.5
AGMN				LR	LR	
	comp=Z,496nm,20.0s					
C30A	Mose, Pekin	86.69 343	⇑P		P	18 43 44.6 +0.7
	baz=87,SNR=25					
D28A	Regan	86.72 342	⇓P		P	18 43 44.7 +0.6
	baz=87,SNR=7.5					
F23A	Volborg	86.73 338	⇓P		P	18 43 44.3 0.0
	baz=87,SNR=27					
I17A	Pilgrim Ck.	86.83 334	⇑P		P	18 43 45.9 +0.9
	baz=87,SNR=71					
G21A	Lodge Grass	86.84 337	⇓P		P	18 43 45.0 +0.1
	baz=87,SNR=10					
E25A	Miller Ranch,	86.85 340	⇓P		P	18 43 45.4 +0.6
	baz=87,SNR=31					
D27A	Center	86.89 341	⇓P		P	18 43 45.4 +0.5
	baz=87,SNR=6.7					
MSNA	Messina	86.93 115	eP		P	18 43 46.8 +0.8
MSNA				AMB	AMB	18 43 47.6
	comp=Z,38nm,1.5s					
MSNA				AMS	AMS	19 26 18.9
	comp=Z,721nm,16.1s					
MSNA	Messina	86.93 115	P		P	18 43 46.8 +0.8
	comp=Z,38nm,1.5s					
H19A	Powell	86.94 335	⇓P		P	18 43 45.6 +0.2
	baz=87,SNR=19					
F22A	Rosebud	87.04 337	⇑P		P	18 43 45.8 0.0
	baz=87,SNR=27					
D26A	Manning	87.06 340	⇑P		P	18 43 46.4 +0.6
	baz=87,SNR=46					
MDND	Maddock	87.09 342	⇑P		P	18 43 46.3 +0.4
	baz=87,SNR=15					
MDND	Maddock	87.09 342	P		P	18 43 44.6 -1.3
	comp=Z,98nm,1.2s					
E24A	Baker	87.16 339	⇑P		P	18 43 47.0 +0.7
	baz=88,SNR=27					
C28A	Hausauer Farms	87.16 342	⇑P		P	18 43 47.0 +0.8
	baz=88					
G20A	Bridger	87.17 336	⇑P		P	18 43 46.4 -0.1
	baz=88,SNR=17					
H18A	Shoshone NF, C	87.17 335	⇑P		P	18 43 46.8 +0.2
	baz=88,SNR=46					
H17A	Grant Village	87.25 334	⇓P		P	18 43 48.3 +1.3
	baz=88,SNR=12					
H17A	Grant Village	87.25 334	eP		P	18 43 46.6 -0.5
	comp=Z,28nm,1.2s					
F21A	Absaloka Mine,	87.35 337	⇑P		P	18 43 47.6 +0.3
	baz=88					
B30A	Myrvik Farm, E	87.36 343	⇓P		P	18 43 47.7 +0.5
	baz=88,SNR=106					
YFT	Old Faithful	87.39 334	eP		P	18 43 47.6 -0.1
	comp=Z,79nm,1.2s					
E23A	Ismay	87.40 338	⇓P		P	18 43 47.6 +0.2
	baz=88					
D25A	Fairfield	87.42 340	⇑P		P	18 43 48.5 +0.9
	baz=88					
RLMT	Red Lodge	87.43 335	eP		P	18 43 46.8 -1.1
	comp=Z,59nm,1.3s					
RLMT				LR	LR	
	comp=Z,643nm,20.0s					
C27A	Sayler Ranch,	87.45 341	⇓P		P	18 43 48.4 +0.8
	baz=88,SNR=41					
E22A	Miles City	87.54 338	⇑P		P	18 43 48.0 -0.1
	baz=88,SNR=5.2					
YNR	Norris Junctio	87.56 334	eP		P	18 43 48.9 +0.3
	comp=Z,18nm,1.1s					
B29A	Wagenman Farm,	87.61 343	⇓P		P	18 43 48.7 +0.3
	baz=88,SNR=34					
YMR	Madison River	87.62 334	P		P	18 43 47.5 -1.3
	comp=Z,147nm,1.2s					
F20A	Billings	87.66 336	⇑P		P	18 43 48.8 0.0
	baz=88,SNR=5.9					
D24A	Glendive	87.67 339	⇑P		P	18 43 49.5 +0.7
	baz=88,SNR=14					
C26A	Wahner Farm, P	87.70 341	⇓P		P	18 43 49.5 +0.6
	baz=88,SNR=11					
A30A	Hoffart Farm,	87.81 344	⇓P		P	18 43 49.7 +0.4
	baz=88,SNR=25					
B28A	Dugan Ranch, T	87.84 342	⇑P		P	18 43 50.1 +0.7
	baz=88,SNR=24					
LAO	LASA Array	87.84 338		PFAKE		18 44 00.0 +10
LAO				LR	LR	
	comp=Z,452nm,19.0s					
C25A	Freed Ranch, W	87.91 340	⇑P		P	18 43 50.6 +0.8
	baz=88,SNR=9.1					
HLID	Hailey	87.95 331	⇑P		P	18 43 51.3 +0.9
	baz=88,SNR=50					
HLID	Hailey	87.95 331	P		P	18 43 50.2 -0.2
	comp=Z,56nm,1.3s					
HLID				LR	LR	
	comp=Z,870nm,19.0s					
F19A	Roth Farm, Mol	87.97 336	⇓P		P	18 43 50.8 +0.5
	baz=88,SNR=12					
E21A	Keefer Ranch,	87.97 337	⇓P		P	18 43 50.6 +0.4
	baz=88					
D23A	Lindsay	87.98 339	⇓P		P	18 43 50.8 +0.6
	baz=88,SNR=21					
A29A	Manning Farm,	88.01 343	⇓P		P	18 43 50.5 +0.2
	baz=88,SNR=92					
B27A	Peters Farms,	88.02 342	⇑P		P	18 43 51.1 +0.7
	baz=88,SNR=7.1					
C24A	Savage	88.07 339	⇑P		P	18 43 51.4 +0.7
	baz=88,SNR=63					
A28A	Rude Farm, Bot	88.24 342	⇓P		P	18 43 51.8 +0.4
	baz=89,SNR=16					
D22A	Cohagen	88.25 338	⇓P		P	18 43 52.1 +0.6
	baz=89,SNR=16					
B26A	Jensen Ranch,	88.25 341	⇓P		P	18 43 52.4 +1.0
	baz=89					
E20A	Meyer Farm, Mu	88.28 337	⇑P		P	18 43 51.6 -0.1
	baz=89,SNR=26					
MFID	Camas Ranch	88.39 330	eP		P	18 43 52.1 -0.2
	comp=Z,64nm,1.3s					
B25A	Knox Farm, Ray	88.40 340	⇑P		P	18 43 52.9 +0.8
	baz=89,SNR=9.4					
D21A	La Casta Ranch	88.42 338	⇓P		P	18 43 52.6 +0.3
	baz=89					
MCMT	McKenzie Canyo	88.44 333	P		P	18 43 53.6 +0.9
E19A	Rath Farm, Rou	88.45 336	⇑P		P	18 43 52.7 +0.2
	baz=89,SNR=32					
A27A	Ledoux Ranch,	88.53 342	⇑P		P	18 43 53.3 +0.6
	baz=89,SNR=13					
ULM	Lac du Bonnet	88.53 346	P		P	18 43 52.1 -0.5
	comp=Z,63nm,1.2s,baz=170,slow=3.8,SNR=41					
C23A	Lambert	88.54 339	⇑P		P	18 43 53.2 +0.4
	baz=89,SNR=29					
A26A	Wade Farm, Ken	88.68 341	⇓P		P	18 43 54.0 +0.5
	baz=89,SNR=12					
PAF	Port-aux-Franc	88.69 157	S		S	18 54 31.0 -7.9
PAF			SS		SS	19 00 21.0 -7.8
PAF			L		L	19 07 00.0
PAF			R			19 15 00.0
BOZ	Bozeman (W)	88.70 334	PFAKE			18 44 00.0 +6.2
BOZ			LR		LR	
	comp=Z,1μm,20.0s					
WVOR	Wild Horse Val	88.74 328	P		P	18 43 52.2 -1.9
WVOR			pmax		pmax	
	comp=Z,62nm,1.2s					
WVOR			MLR		MLR	
	comp=Z,663nm,20.0s					
WVOR	Wild Horse Val	88.74 328	P		P	18 43 52.2 -1.9
	comp=Z,62nm,1.2s					
WVOR			LR		LR	
	comp=Z,663nm,20.0s					
D20A	Manuel Ranch,	88.80 337	⇑P		P	18 43 54.1 0.0
	baz=89,SNR=26					
LCCM	Lewis and Clar	88.96 334	P		P	18 43 55.8 +0.8
A25A	Svangstu Ranch	89.00 341	⇓P		P	18 43 55.5 +0.6
	baz=89,SNR=17					
MOD	Modoc Plateau	89.03 327	eP		P	18 43 54.2 -1.3
	comp=Z,56nm,1.1s					
B23A	Brockton	89.08 339	⇑P		P	18 43 55.8 +0.4
	baz=89,SNR=9.2					
D19A	Cripps Ranch,	89.10 336	⇓P		P	18 43 55.6 +0.1
	baz=89					
C21A	Desert Coulee	89.13 338	⇓P		P	18 43 55.7 +0.1
	baz=90,SNR=8.3					
LRM	Limekiln Ridge	89.15 334	eP		P	18 43 55.4 -0.6
	comp=Z,346nm,1.3s					
A24A	Westby	89.22 340	⇓P		P	18 43 56.7 +0.7
	baz=90,SNR=8.0					
B22A	Reddig Ranch S	89.22 339	⇓P		P	18 43 56.5 +0.4
	baz=90,SNR=11					
C20A	Veseth Ranch,	89.31 337	⇑P		P	18 43 56.4 0.0
	baz=90,SNR=11					
N02D	Trinity Center	89.38 325	⇓P		P	18 43 56.8 -0.3
	baz=90					
A23A	Redstone	89.50 340	⇓P		P	18 43 57.5 +0.2
	baz=90					
M04C	Macdoel	89.62 326	⇑P		P	18 43 58.4 +0.1
	baz=90,SNR=6.5					
B21A	Ellsworth Farm	89.64 338	⇑P		P	18 43 58.4 +0.4
	baz=90,SNR=6.6					
C19A	Slack Wire Ran	89.66 337	⇓P		P	18 43 58.1 -0.1
	baz=90,SNR=13					
M02C	Callahan	89.78 325	⇓P		P	18 43 58.5 -0.4
	baz=90					
A22A	Carney Farms,	89.82 339	⇓P		P	18 43 59.0 +0.2
	baz=90,SNR=14					
LSZ	Lusaka	89.87 109	P		P	18 44 01.8 +1.7
	SNR=12					
LSZ	Lusaka	89.87 109	PFAKE			18 44 10.0 +10
LSZ			LR		LR	
	comp=Z,2μm,19.0s					
B20A	Solberg Farm,	89.96 338	⇓P		P	18 43 59.7 +0.2
	baz=90,SNR=6.7					
A21A	Bergtoll Ranch	90.12 338	⇓P		P	18 44 00.0 -0.2
	baz=90					
EGMT	Eagleton	90.14 336	⇑P		P	18 44 00.4 0.0
	baz=90					
EGMT	Eagleton	90.14 336	PFAKE			18 44 10.0 +10
EGMT			LR		LR	
	comp=Z,389nm,19.0s					
BMO	Blue Mountains	90.17 330	P		P	18 43 59.7 -1.0
BMO			pmax		pmax	
	comp=Z,24nm,1.3s					
BMO			MLR		MLR	
	comp=Z,713nm,19.0s					
BMO	Blue Mountains	90.17 330	P		P	18 43 59.7 -1.0
	comp=Z,24nm,1.3s					
BMO			LR		LR	
	comp=Z,713nm,19.0s					
K04D	Chiloquin, OR	90.25 326	⇑P		P	18 44 01.4 +0.2
	baz=90					
B19A	Brinkman Farms	90.26 337	⇑P		P	18 44 00.9 0.0
	baz=91					
A20A	Cobblestone Ra	90.32 338	⇑P		P	18 44 01.1 -0.1
	baz=91,SNR=14					
CHMT	Chamberlain Mo	90.37 334	eP		P	18 44 02.3 +0.7
	comp=Z,19nm,1.3s					
MSO	Missoula	90.55 333	⇓P		P	18 44 03.3 +1.0
	baz=91,SNR=18					
J05D	Fort Rock, OR	90.55 327	⇑P		P	18 44 03.8 +1.2
	baz=91,SNR=8.5					
A19A	Klindworth Far	90.61 337	⇑P		P	18 44 02.5 -0.1
	baz=91,SNR=11					
L02D	Cave Junction,	90.73 325	⇑P		P	18 44 03.0 -0.2
	baz=91					
SLMT	Seeley Lake	90.73 334	eP		P	18 44 03.4 +0.1
	comp=Z,28nm,1.2s					
J04D	Umpqua Nationa	90.90 327	⇑P		P	18 44 05.4 +1.1
	baz=91					
SCHQ	Schefferville	90.95 4	P		P	18 44 03.5 -0.4
	comp=Z,13nm,1.0s,baz=150,slow=4.1,SNR=7.1					
SCHQ			LR		LR	19 24 52.0
	comp=Z,280nm,21.0s,baz=216,slow=36					
SWMT	Swartz Lake	91.14 334	eP		P	18 44 05.2 +0.1
	comp=Z,22nm,1.2s					
I05D	Terrebonne, OR	91.44 328	⇑P		P	18 44 08.0 +1.5
	baz=92					
JTMT	Jette	91.45 334	eP		P	18 44 06.5 -0.1
	comp=Z,25nm,1.2s					
I04A	Tendick Farm,	91.47 327	⇑P		P	18 44 07.8 +1.2
	baz=92					
BSMT	Bassoo Peak	91.72 333	eP		P	18 44 07.8 -0.1
I03D	Drain, OR	91.82 326	⇑P		P	18 44 09.0 +0.8
	baz=92					
H2OWA	Water	92.29 330	P		P	18 44 11.3 +1.0
HAWA	Hanford	92.33 330	eP		P	18 44 09.9 -0.6
	comp=Z,60nm,1.2s					
HAWA			LR		LR	
	comp=Z,755nm,19.0s					
WALA	Waterton Lakes	92.43 334	eP		P	18 44 10.0 -1.1
	comp=Z,1.8nm,1.2s					
OD2	Odessa Site #2	92.82 331	P		P	18 44 13.4 +0.6
NEW	Newport	92.92 332	eP		P	18 44 12.0 -1.3
NEW			pmax		pmax	
	comp=Z,23nm,1.2s					
NEW			MLR		MLR	
	comp=Z,306nm,22.0s					
NEW	Newport	92.92 332	⇓P		P	18 44 13.3 0.0
	baz=93,SNR=16					
NEW	Newport	92.92 332	eP		P	18 44 12.0 -1.3
	comp=Z,23nm,1.2s					
NEW			LR		LR	
	comp=Z,306nm,22.0s					
G03D	McMinnville, O	92.97 327	⇓P		P	18 44 13.2 -0.3
	baz=93					
ASR	Mount Adams--S	92.99 329	P		P	18 44 14.6 +0.9
RTC	Rabat Centre	93.30 50	PFAKE			18 44 30.0 +15
RTC			LR		LR	
	comp=Z,2μm,20.0s					
F04D	Rainier, OR	93.54 328	⇑P		P	18 44 17.6 +1.6
	baz=94					
WTV	Waterville	93.56 330	P		P	18 44 16.7 +0.5
ETW	Entiat	93.63 330	P		P	18 44 17.1 +0.4
NLW	Nelson Butte	94.02 330	P		P	18 44 18.4 0.0
FFC	Flin Flon	94.03 344	P		P	18 44 17.0 -1.1
	comp=Z,50nm,1.3s,SNR=5.5					
FFC	Flin Flon	94.03 344	eP		P	18 44 17.0 -1.1
FFC			pmax		pmax	
	comp=Z,16nm,1.2s					
FFC			MLR		MLR	
	comp=Z,549nm,19.0s					
FFC	Flin Flon	94.03 344	eP		P	18 44 17.0 -1.1
	comp=Z,16nm,1.2s					
FFC			LR		LR	
	comp=Z,549nm,19.0s					
MORF	Marmelete	94.47 46	eP		P	18 44 21.5 +0.8
MORF				AMS	AMS	19 28 41.1
	comp=Z,2μm,14.7s					
MORF	Marmelete	94.47 46	eP		P	18 44 21.5 +0.8
TAM	Tamanrasset	94.58 65	P		P	18 44 19.9 -1.7
TAM			pmax		pmax	
	comp=Z,37nm,1.2s					
TAM			MLR		MLR	
	comp=Z,1μm,20.0s					
TAM	Tamanrasset	94.58 65	P		P	18 44 19.9 -1.7
	comp=Z,37nm,1.2s					
TAM			LR		LR	
	comp=Z,1μm,20.0s					
NLWA	Neilton Lookou	94.93 328	PFAKE			18 44 30.0 +7.5
NLWA			LR		LR	
	comp=Z,524nm,19.0s					
MESJ	Messejana	95.08 46	eP		P	18 44 24.0 +0.6
MESJ			ePP		PP	18 48 13.6 0.0
MESJ			AMS		AMS	19 29 09.5
	comp=Z,2μm,15.1s					
MESJ	Messejana	95.08 46	eP		P	18 44 23.9 +0.6
MESJ			e			18 48 13.6
EVOP	Sao Brissos	95.60 46	eP		P	18 44 26.5 +0.8
EVOP	Sao Brissos	95.60 46	eP		P	18 44 26.5 +0.8
EVO	Evora	95.67 46	eP		P	18 44 26.5 +0.4
FCC	Fort Churchill	96.34 349	eP		P	18 44 27.1 -1.5
FCC	Fort Churchill	96.34 349	eP		P	18 44 27.1 -1.5
	comp=Z,0.5nm,1.2s					
MTE	Manteigas	97.20 44	PFAKE			18 44 40.0 +6.9
MTE			LR		LR	
	comp=Z,1μm,20.0s					
PAB	San Pablo	98.48 47	PFAKE			18 44 50.0 +11
PAB			LR		LR	
	comp=Z,781nm,19.0s					
CAN	Canberra	98.67 214	PFAKE			18 44 50.0 +10
CAN			LR		LR	
	comp=Z,1μm,19.0s					
ESDC	Sonseca Array	98.79 47	P		P	18 44 40.6 +0.4
	comp=Z,1.6nm,0.7s,baz=244,slow=3.5,SNR=11					
ESDC			PP		PP	18 48 35.1 -7.1
	comp=Z,1.6nm,1.0s,baz=248,slow=6.8,SNR=4.3					
ESDC			LR		LR	19 29 25.7
	comp=Z,508nm,18.3s,baz=255,slow=35					
DZM	Mont Dzumac	99.19 234	LR		LR	19 18 59.0
	comp=Z,666nm,21.9s,baz=176,slow=29					
ABPO	Ambohimpanom	101.21 124	PFAKE			18 45 00.0 +8.2
ABPO			LR		LR	
	comp=Z,900nm,19.0s					
SJPF	Ste Jean	102.56 45	eP		Pdif	18 44 58.7 +1.9
	comp=Z,19nm,1.1s					
SJPF	Ste Jean	102.56 45	eP		Pdif	18 44 58.7 +1.9
SJPF			pmax		pmax	
	comp=Z,19nm,1.1s					
SJPF	Ste Jean	102.56 45	eP		Pdif	18 44 58.7 +1.9
	comp=Z,19nm,1.1s					
ETSF	Etsaut	102.81 46	eP		Pdif	18 45 00.0 +2.0
	comp=Z,14nm,1.1s					
ETSF	Etsaut	102.81 46	eP		Pdif	18 45 00.0 +2.0
ETSF			pmax		pmax	
	comp=Z,14nm,1.1s					
ETSF	Etsaut	102.81 46	eP		Pdif	18 45 00.0 +2.0
	comp=Z,14nm,1.1s					
YKA	Yellowknife Ar	103.99 342	Pdiff		Pdif	18 45 02.1 -0.5
	comp=Z,1.5nm,0.9s,baz=143,slow=4.6,SNR=18					
YKA			PKKPbc		PKKPbc	19 00 49.3 -4.4
	comp=Z,0.6nm,1.0s,baz=335,slow=4.5,SNR=5.1					
SFJD	Kangerlussuaq	104.42 9	PFAKE			18 45 20.0 +16
SFJD			LR		LR	
	comp=Z,533nm,20.0s					
KMBO	Kilima Mbogo	105.60 103	PFAKE			18 49 40.0
KMBO			LR		LR	
	comp=Z,2μm,19.0s					
VSL	Villasalto	106.95 53	PFAKE			18 49 40.0
VSL			LR		LR	
	comp=Z,1μm,19.0s					
SSB	Saint Sauveur	107.18 46	PFAKE			18 49 40.0
SSB			LR		LR	
	comp=Z,1μm,19.0s					
AVF	Avril sur Loir	107.35 44	eP		Pdif	18 45 19.3 +1.3
	comp=Z,40nm,1.6s					
AVF	Avril sur Loir	107.35 44	eP		Pdif	18 45 19.3 +1.3
AVF			pmax		pmax	
	comp=Z,40nm,1.6s					
AVF	Avril sur Loir	107.35 44	eP		Pdif	18 45 19.3 +1.3
	comp=Z,40nm,1.6s					
SMF	Signal de Mont	107.55 45	eP		Pdif	18 45 20.7 +1.8
SMF	Signal de Mont	107.55 45	eP		Pdif	18 45 20.7 +1.8
SMF	Signal de Mont	107.55 45	eP		Pdif	18 45 20.7 +1.8
BNI	Bardonecchia	108.31 47	PFAKE			18 49 40.0
BNI			LR		LR	
	comp=Z,1μm,19.0s					
WDD	Wield Dalam	108.45 59	PFAKE			18 49 40.0
WDD			LR		LR	
	comp=Z,3μm,20.0s					
VLC	Villacollemand	110.07 50	PFAKE			18 49 40.0
VLC			LR		LR	
	comp=Z,545nm,19.0s					
ECH	Echery	110.29 45	PFAKE			18 49 40.0
ECH			LR		LR	
	comp=Z,774nm,20.0s					
WLF	Walferdange	110.50 43	PFAKE			18 49 40.0
WLF			LR		LR	
	comp=Z,1μm,20.0s					
CEL	Celeste	110.62 57	PFAKE			18 49 40.0
CEL			LR		LR	
	comp=Z,2μm,21.0s					
TUE	Stuetta	110.65 47	PFAKE			18 49 40.0
TUE			LR		LR	
	comp=Z,833nm,20.0s					
BFO	Black Forest	111.02 45	eSP		SP	18 59 50.9 +11
BFO	Black Forest	111.02 45	PFAKE			18 49 50.0
BFO			LR		LR	
	comp=Z,609nm,22.0s					
AQU	L'Aquila	111.04 52	PFAKE			18 49 50.0
AQU			LR		LR	
	comp=Z,1μm,20.0s					
SUMG	Summit	111.23 11	iP		PP	18 50 00.8 -13
	comp=Z,4.6nm,1.0s					
CUC	Castrocucco	111.44 56	PFAKE			18 49 50.0
CUC			LR		LR	
	comp=Z,752nm,20.0s					
TIP	Timpagrande	111.67 57	PFAKE			18 49 50.0
TIP			LR		LR	
	comp=Z,1μm,22.0s					
HNR	Honiara	112.54 239	PFAKE			18 49 50.0
HNR			LR		LR	
	comp=Z,552nm,22.0s					
ABTA	Abfaltersbach	112.67 48	⇑iPKiKP		PKiKP	18 49 35.8 -0.9
	comp=Z,6.4nm,1.2s					
CTAO	Charters Tower	112.69 220	PFAKE			18 49 50.0
CTAO			LR		LR	
	comp=Z,629nm,21.0s					
IBBN	Ibbenburen	112.74 41	eSP		SP	19 00 05.8 +10
UBBA	Unterbreizbach	113.21 43	eSP		SP	19 00 12.5 +12
GRF	Grafenberg Arr	113.35 45	ePP		PP	18 50 17.0 -12
GRF			eSP		SP	19 00 15.8 +14
GRF			eL		L	19 35 12.7
	comp=Z,697nm,21.2s					
EGAK	Eagle	113.81 334	PFAKE			18 49 50.0
EGAK			LR		LR	
	comp=Z,436nm,21.0s					
CLZ	Clausthal	113.91 42	eSP		SP	19 00 19.3 +13
ROTZ	Rotzenmuhle	113.95 45	eSP		SP	19 00 18.6 +12
MOX	Moxa	114.03 44	eSP		SP	19 00 22.3 +15
MOX			eL		L	19 40 48.6
	comp=Z,873nm,18.3s					
WET	Wettzell	114.04 46	eSP		SP	19 00 22.1 +14
GEC2	GERESS Array S	114.38 46	eSP		SP	19 00 22.5 +11
GERES	GERESS Array B	114.38 46	PKP		PKPdf	18 49 39.8 -0.2
	comp=Z,4.5nm,1.0s,baz=150,slow=0.8,SNR=18					
TANN	Tannenbergstha	114.40 44	eSP		SP	19 00 24.3 +13
KHC	Kasperske Hory	114.44 46	ePKIKP		PKPdf	18 49 38.7 -1.3
KHC			e			18 49 47.6
KHC			eSP		SP	19 00 14.5 +2.9
KHC			e			19 01 24.6
KHC			MLR		MLR	
	comp=Z,1μm,19.4s					
KHC	Kasperske Hory	114.44 46	ePKP		PKPdf	18 49 38.7 -1.3
KHC			ex		x	18 49 47.6
KHC			ePP		PP	18 50 34.8 -2.4
KHC			eSP		SP	19 00 14.5 +2.9
KHC			ex		x	19 01 24.6
KHC			AMS		AMS	19 41 00.0
	comp=Z,1μm,19.4s					
ARSA	Arzberg	114.72 49	⇑iPKiKP		PKPdf	18 49 41.1 +0.6

comp=Z,7.0nm,1.0s
BSEG Bad Segeberg 114.88 40 *e*SP SP 19 00 25.6 +10
CLL Collm 115.11 44 *i* PKIKP **PKPdf 18 49 41.6 +0.5**
CLL pmax pmax
comp=Z,10.0nm,1.4s
CLL MLR MLR
comp=Z,800nm,20.7s
CLL Collm 115.11 44 *e*SP SP 19 00 27.6 +10
CLL Collm 115.11 44 *ep*Pdif **pPdif 18 46 02.0 +1.4**
CLL *i* PKIKP **PKPdf 18 49 41.6 +0.5**
comp=Z,10.0nm,1.4s
CLL *e*PP **PP 18 50 46.0 +4.2**
CLL *e*PPP PPP 18 53 24.0
CLL *e*(Sdif) 18 58 36.0
CLL *e*PS **PS 19 00 27.0 +6.0**
CLL *e*PPS PPS 19 01 44.0
CLL *e*SS SS 19 06 44.0 +6.9
CLL *e*SSS SSS 19 11 00.0
CLL *e*SSSS 19 14 30.0
CLL *e* 19 17 36.0
CLL Lm MLR 19 36 00.0
comp=N,300nm,21.2s
CLL Lm MLR 19 36 00.0
comp=E,500nm,20.3s
CLL Lm MLR 19 36 00.0
comp=Z,800nm,20.7s
ASAR Alice Springs 115.12 207 PKP **PKPdf 18 49 40.3 -2.0**
comp=Z,0.7nm,0.7s,baz=153,slow=1.6,SNR=14
ASAR PKKPbc **PKKPbc 19 00 16.4 -0.4**
comp=Z,1.1nm,0.5s,baz=340,slow=3.1,SNR=19
CONA Conrad Observa 115.24 48⇑*i*PKPdf **PKPdf 18 49 40.6 -1.0**
comp=Z,6.6nm,1.3s
PRU Pruhonice 115.39 46 *e*PKIKP **PKPdf 18 49 42.1 +0.4**
PRU *e* 18 49 52.2
PRU *e* 18 50 48.7
PRU *e*SP SP 19 00 18.9 -1.3
PRU *e* 19 01 42.1
PRU MLR MLR
comp=Z,1μm,16.5s
PRU Pruhonice 115.39 46 *e*PKP **PKPdf 18 49 42.1 +0.4**
PRU *ep*PKP **pPKiKP 18 49 52.2 +2.1**
PRU *e*PP **PP 18 50 48.7 +4.9**
PRU *e*SP SP 19 00 18.9 -1.3
PRU *ex* x 19 01 42.1
PRU AMS AMS 19 41 50.0
comp=Z,1μm,16.5s
BRG Berggiesshubel 115.44 44 *e*PKP **PKPdf 18 49 42.7 +0.9**
comp=Z,5.2nm,1.1s
BRG PP **PP 18 50 44.0 -0.2**
BRG SS SS 19 06 25.0 -16
BRG Berggiesshubel 115.44 44 *e*SP SP 19 00 33.5 +13
TREC Trest 115.63 47 *e*PKIKP **PKPdf 18 49 43.0 +0.8**
TREC *e* 18 49 50.9
TREC *e* 18 50 45.1
TREC *e*SP SP 19 00 24.1 +1.7
TREC MLR MLR
comp=Z,700nm,17.5s
TREC Trest 115.63 47 *e*PKP **PKPdf 18 49 43.0 +0.8**
TREC *ep*PKP **pPKiKP 18 49 50.9 +0.3**
TREC *e*PP **PP 18 50 45.1 -0.4**
TREC *e*SP SP 19 00 24.1 +1.7
TREC AMS AMS 19 41 20.0
comp=Z,700nm,17.5s
PVCC Panska Ves 115.65 45 *e*PKIKP **PKPdf 18 49 42.1 -0.1**
PVCC *e* 18 49 50.6
PVCC *e* 18 50 43.9
PVCC MLR MLR
comp=Z,800nm,15.1s
PVCC Panska Ves 115.65 45 *e*PKP **PKPdf 18 49 42.1 -0.1**
PVCC *ep*PKP **pPKiKP 18 49 50.6 0.0**
PVCC *e*PP **PP 18 50 43.9 -1.7**
PVCC AMS AMS 19 43 00.0
comp=Z,800nm,15.1s
ILAR Eielson Array 115.88 333 PKP **PKPdf 18 49 41.6 -0.6**
comp=Z,0.7nm,0.7s,baz=129,slow=1.7,SNR=8.2
ILAR PP **PP 18 50 45.4 -1.4**
comp=Z,1.2nm,0.9s,baz=101,slow=4.7,SNR=4.3
ILAR PKKPab **PKKPbc 19 00 16.3 +1.3**
comp=Z,0.4nm,0.8s,baz=295,slow=3.6,SNR=5.0
COLA College 116.28 333 *i* PKIKP **PKPdf 18 49 41.6 -1.3**
COLA College 116.28 333 PFAKE 18 49 50.0 +7.1
COLA LR LR
comp=Z,385nm,21.0s
SANT Santorini 116.42 63 PFAKE 18 50 00.0 +16
SANT LR LR
comp=Z,628nm,20.0s
UPC Upice 116.47 45 *e*PKIKP **PKPdf 18 49 43.2 -0.6**
UPC *e* 18 50 52.6
UPC Upice 116.47 45 *e*PKP **PKPdf 18 49 43.2 -0.6**
UPC *e*PP **PP 18 50 52.6 +1.3**
DPC Dobruska-Polom 116.58 46 *e*PKIKP **PKPdf 18 49 44.1 0.0**
DPC *e* 18 49 53.2
DPC *e* 18 50 53.1
DPC *e*SP SP 19 00 32.9 +1.9
DPC *e* 19 01 49.3
DPC Dobruska-Polom 116.58 46 *e*PKP **PKPdf 18 49 44.1 0.0**
DPC *ep*PKP pPKPdf 18 49 53.2 +0.8
DPC *e*PP **PP 18 50 53.1 +0.9**
DPC *e*SP SP 19 00 32.9 +1.9
DPC *ex* x 19 01 49.3
DPC AMS AMS 19 42 30.0
KSP Ksiaz 116.77 45 *e*PKP **PKPdf 18 49 44.6 +0.3**
MSEY Mahe Island 116.99 119 PFAKE 18 50 00.0 +14
MSEY LR LR
comp=Z,656nm,19.0s
MORC Moravsky Berou 117.04 47⇑PKIKP **PKPdf 18 49 45.9 +0.9**
MORC Moravsky Berou 117.04 47⇑*i*P **PKPdf 18 49 45.9 +0.9**
KONO Kongsberg 117.11 34 PFAKE 18 50 00.0 +15
KONO LR LR
comp=Z,877nm,20.0s
VYHS Vyhne 117.28 48 *e*PKP **PKPdf 18 49 45.5 +0.1**
OKC Ostrava-Krasne 117.42 47 *e*PKIKP **PKPdf 18 49 44.9 -0.7**
OKC *e* 18 49 52.7
OKC *e*SP SP 19 00 41.1 +2.4
OKC *e* 19 02 08.9
OKC MLR MLR
comp=Z,600nm,14.6s
OKC Ostrava-Krasne 117.42 47 *e*PKP **PKPdf 18 49 44.9 -0.7**
OKC *ex* x 18 49 52.7
OKC *e*SP SP 19 00 41.1 +2.4
OKC *ex* x 19 02 08.9
OKC AMS AMS 19 44 10.0
comp=Z,600nm,14.6s
MMB Musomiste 117.50 57⇑PKIKP **PKPdf 18 49 44.6 -1.5**
MMB Musomiste 117.50 57⇑*i*P **PKPdf 18 49 44.6 -1.5**
VTS Vitosha 117.58 56⇑PKIKP **PKPdf 18 49 47.0 +0.6**
VTS Vitosha 117.58 56⇑*i*P **PKPdf 18 49 47.0 +0.6**
PSZ Piszkesteto 117.68 49 PFAKE 18 50 00.0 +14
PSZ LR LR
comp=Z,644nm,21.0s
DAG Danmarks Havn 117.76 12 *e*PKIKP **PKPdf 18 49 45.3 -0.2**
DAG pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 117.76 12 *i* P **PKPdf 18 49 45.3 -0.2**
comp=Z,2.6nm,0.9s
BZS Buzias 117.80 52⇓PKIKP **PKPdf 18 49 46.8 +0.3**
BZS Buzias 117.80 52⇓*i*P **PKPdf 18 49 46.8 +0.3**
WRA Warramunga Arr 118.32 209 PKP **PKPdf 18 49 46.3 -2.2**
comp=Z,1.4nm,0.6s,baz=173,slow=1.5,SNR=18
WRA PKKPbc **PKKPbc 19 00 05.4 -0.1**
comp=Z,2.8nm,1.0s,baz=344,slow=4.0,SNR=9.2
WRAB Tennant Creek 118.33 209 *i* PKIKP **PKPdf 18 49 46.2 -2.3**
WRAB Tennant Creek 118.33 209 PFAKE 18 50 00.0 +12
WRAB LR LR
comp=Z,1μm,21.0s
NB2 NORSAR Subarra118.43 33 PKKP PKKPab 19 00 14.5 +9.3
comp=Z,1.2nm,0.7s,baz=66,slow=4.4
NOA NORSAR Array B 118.43 33 PKP **PKPdf 18 49 46.6 -0.7**
comp=Z,2.5nm,1.1s,baz=238,slow=1.7,SNR=3.1
NOA PKKPbc **PKKPbc 19 00 07.0 +1.2**
comp=Z,0.8nm,0.8s,baz=67,slow=4.5,SNR=2.5
GZR Gura Zlata 118.46 53⇑PKIKP **PKPdf 18 49 47.8 -0.1**
GZR Gura Zlata 118.46 53⇑*i*P **PKPdf 18 49 47.8 -0.1**
KDZ Kurdzhali 118.67 58⇑PKIKP **PKPdf 18 49 48.3 0.0**
KDZ Kurdzhali 118.67 58⇑*i*P **PKPdf 18 49 48.3 0.0**
DEV Deva 118.73 52⇑PKIKP **PKPdf 18 49 49.2 +0.9**
DEV Deva 118.73 52⇑*i*P **PKPdf 18 49 49.2 +0.9**
DRGR 118.97 51⇑PKIKP **PKPdf 18 49 49.3 +0.5**
DRGR 118.97 51⇑*i*P **PKPdf 18 49 49.3 +0.5**
CRVS Cervenica-Dubn 119.03 49 *e*PKP **PKPdf 18 49 49.1 +0.3**
TRPA Tarpa 119.39 50⇑*i*P **PKPdf 18 49 49.0 -0.4**
UZH Uzhgorod 119.43 49 *e*PKIKP **PKPdf 18 49 47.7 -1.8**
UZH *e* 18 49 55.5
UZH *e* 18 50 00.7
KOLS Kolonicke sedl 119.54 49 *e*PKP **PKPdf 18 49 50.0 +0.2**
HUMR Humele 119.54 54⇓*i*P **PKPdf 18 49 50.2 +0.3**
ARR Arges 119.65 53⇓*i*P **PKPdf 18 49 50.6 +0.4**
BEL Belsk 119.75 45 *e*PKP **PKPdf 18 49 51.2 +1.2**
JMB Yambol 119.80 57⇑PKIKP **PKPdf 18 49 47.4 -3.0**
JMB Yambol 119.80 57⇑*i*P **PKPdf 18 49 47.4 -3.0**
BMR Baia Mare 119.81 51⇑PKIKP PKPdf 18 49 41.6 -8.7
BMR Baia Mare 119.81 51⇑*i*P PKPdf 18 49 41.6 -8.7
VOIR 119.94 54⇑PKIKP **PKPdf 18 49 51.1 +0.4**
VOIR 119.94 54⇑*i*P **PKPdf 18 49 51.1 +0.4**
KWP Kalwaria Pacla 120.06 48 *e*PKP **PKPdf 18 49 51.0 +0.3**
KWP Kalwaria Pacla 120.06 48 PFAKE 18 50 00.0 +9.3
KWP LR LR
comp=Z,1μm,20.0s
DOPR Dopca 120.36 53⇑*i*P **PKPdf 18 49 51.8 +0.3**
SECR 120.45 54⇑*i*P **PKPdf 18 49 52.7 +1.1**
MLR Muntele Rosu 120.55 54⇑PKIKP **PKPdf 18 49 52.1 +0.1**
MLR Muntele Rosu 120.55 54⇑*i*P **PKPdf 18 49 52.1 +0.1**
ISP Isparta 120.69 64 PFAKE 18 50 00.0 +7.5
ISP LR LR
comp=Z,962nm,21.0s
PMG Port Moresby 120.84 228 PFAKE 18 50 00.0 +6.6
PMG LR LR
comp=Z,1μm,21.0s
BURAR Bucovina Array 120.87 51⇓PKIKP **PKPdf 18 49 53.1 +0.6**
BURAR Bucovina Array 120.87 51⇓*i*P **PKPdf 18 49 53.1 +0.6**
LVV L'vov 120.93 49 *e*PKIKP **PKPdf 18 49 51.2 -1.2**
LVV MLR MLR
comp=Z,400nm,17.0s
LVV MLR MLR
comp=N,600nm,18.0s
LVV MLR MLR
comp=E,600nm,18.0s
PLOR Plostina 121.14 54⇑PKIKP **PKPdf 18 49 52.7 -0.3**
PLOR Plostina 121.14 54⇑*i*P **PKPdf 18 49 52.7 -0.3**
VRI Vrincioaia 121.19 54⇑PKIKP **PKPdf 18 49 52.9 -0.2**
VRI Vrincioaia 121.19 54⇑*i*P **PKPdf 18 49 52.8 -0.3**
MSAB Monastry St. A 121.26 56⇑*i*P **PKPdf 18 49 52.7 -0.5**
TESR Tescani 121.38 53⇑*i*P **PKPdf 18 49 53.5 +0.1**
PRAR RASCA 121.42 52⇑*i*P **PKPdf 18 49 56.8 +3.4**
MBWA Marble Bar 121.56 194 PFAKE 18 50 10.0 +15
MBWA LR LR
comp=Z,672nm,20.0s
CSS Prodhromos 121.58 68 *e*PKPdf **PKPdf 18 49 54.9 +0.8**
CSS LR LR
comp=Z,130nm,19.0s
TIRR Tirgusor 121.79 56⇓PKIKP **PKPdf 18 49 54.6 +0.4**
TIRR Tirgusor 121.79 56⇓*i*P **PKPdf 18 49 54.6 +0.4**
CFR Carcaliu 121.87 55⇓PKIKP **PKPdf 18 49 54.3 0.0**
CFR Carcaliu 121.87 55⇓*i*P **PKPdf 18 49 54.3 0.0**
SUW Suwalki 121.87 44 *e*PKIKP **PKPdf 18 49 54.2 +0.2**
SUW Suwalki 121.87 44 *e*PKP **PKPdf 18 49 53.9 -0.1**
SUW Suwalki 121.87 44 *e*PKPdf **PKPdf 18 49 54.2 +0.2**
TLCR 122.32 55⇓PKIKP **PKPdf 18 49 55.2 0.0**
TLCR 122.32 55⇓*i*P **PKPdf 18 49 55.2 0.0**
LEOM Leova 122.40 53⇑PKIKP **PKPdf 18 49 55.5 +0.2**
LEOM Leova 122.40 53⇑*i*P **PKPdf 18 49 55.5 +0.2**
ANTO Ankara 123.13 62⇑PKIKP **PKPdf 18 49 57.2 +0.2**
ANTO Ankara 123.13 62⇑*i*P **PKPdf 18 49 57.2 +0.2**
ANTO Ankara 123.13 62 PFAKE 18 50 10.0 +13
ANTO LR LR
comp=Z,666nm,22.0s
BRTR Keskin Array B 123.68 63 PKP **PKPdf 18 49 58.2 0.0**
comp=Z,6.0nm,0.8s,baz=197,slow=1.5,SNR=32
KIEV Kiev 124.36 49⇓*i*PKIKP **PKPdf 18 49 58.1 -0.8**
KIEV Kiev 124.36 49 *e*PKPdf **PKPdf 18 49 58.1 -0.8**
KIEV LR LR
comp=Z,501nm,19.0s
AKASG Malin Array Be 124.37 49 PKP **PKPdf 18 49 58.5 -0.5**
comp=Z,7.1nm,0.9s,baz=266,slow=2.6,SNR=20
AKASG PP **PP 18 51 42.5 -3.0**
comp=Z,0.6nm,0.4s,baz=252,slow=8.3,SNR=10
TNA Tin City 124.39 330 *e*PKPdf **PKPdf 18 49 58.4 -0.1**
H11S2 WAKE ISLAND Hyl 24.87 268 T T 21 07 03.0
baz=138
H11S1 WAKE ISLAND Hyl 24.88 268 T T 21 07 02.4
baz=138
H11S3 WAKE ISLAND Hyl 24.89 268 T T 21 07 05.2
baz=138
VSU Vasula 125.03 39⇓*i*PKIKP **PKPdf 18 49 59.5 -0.4**
H11N3 WAKE ISLAND Hyl 25.34 269 T T 21 07 36.2
baz=115,slow=78,SNR=9.3
H11N1 WAKE ISLAND Hyl 25.35 269 T T 21 07 35.3
baz=115,slow=78,SNR=17
H11N2 WAKE ISLAND Hyl 25.36 270 T T 21 07 36.9
baz=115,slow=78,SNR=22
FINES FINESS Array B 125.38 36 PKP **PKPdf 18 50 00.3 -0.2**
comp=Z,4.0nm,1.0s,baz=242,slow=3.0,SNR=5.8
SIM Simferopol' 125.78 57 *e*PKIKP **PKPdf 18 50 01.0 -0.9**
SIM *e* 18 52 01.0
SIM pmax pmax
comp=Z,30nm,7.8s
SIM MLR MLR
comp=Z,310nm,17.8s
RAYN Ar Rayn 126.06 86 *e*PKPdf **PKPdf 18 50 03.5 +0.4**
ARCES ARCESS Array B 126.47 26 PKP **PKPdf 18 50 02.4 -0.1**
comp=Z,6.6nm,1.0s,baz=256,slow=3.1,SNR=7.9
MALT Malatya 126.65 66⇓PKIKP **PKPdf 18 50 04.7 +0.8**
MALT Malatya 126.65 66⇓*i*P **PKPdf 18 50 04.7 +0.8**
ANN Anapa 127.99 58 *e*PKIKP PKPdf 18 50 14.6 +8.6
ANN pmax pmax
comp=Z,59nm,0.9s
ABTO Aybut 129.21 97 PKPdf **PKPdf 18 50 09.8 +0.5**
SNR=9.2
SOC Sochi 129.23 60 *d i* PKIKP **PKPdf 18 50 08.8 +0.3**
SOC *e* 18 52 17.8
SOC pmax pmax
comp=Z,26nm,0.9s
APA Apatity 129.24 28 *e*PKIKP **PKPdf 18 50 04.0 -3.7**
APA MLR MLR
comp=Z,1μm,15.0s
OBN Obninsk 129.69 45⇓*i*PKIKP **PKPdf 18 50 08.6 -0.3**
OBN *i* 18 50 17.3
OBN *e* 18 52 26.8
OBN *i* SS SS 19 10 01.4 +19
OBN pmax pmax
comp=Z,56nm,1.4s
OBN Obninsk 129.69 45 PFAKE 18 50 20.0 +11
OBN LR LR
comp=Z,723nm,20.0s
LVZ Lovozero 129.71 28 PFAKE 18 50 20.0 +11
LVZ LR LR
comp=Z,833nm,21.0s
MOS Moscow 130.38 44 *e*PKIKP **PKPdf 18 50 10.3 +0.1**
VSR Storozhevoye 130.60 50 *e*PKIKP **PKPdf 18 50 09.6 -1.2**
VSR pmax pmax
comp=Z,30nm,1.4s
VSR pmax pmax
comp=N,8.0nm,1.1s
VSR pmax pmax
comp=E,4.0nm,1.1s
VSR MLR MLR
comp=N,500nm,23.0s
VSR MLR MLR
comp=E,440nm,23.0s
VSR MLR MLR
comp=Z,520nm,23.0s
VORD Divnogorie 130.63 50 *e*PKIKP **PKPdf 18 50 08.6 -2.3**
VORD pmax pmax
comp=Z,10.0nm,1.2s
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,3.0nm,0.6s
VORD MLR MLR
comp=N,2μm,24.0s
VORD MLR MLR
comp=E,2μm,24.0s
VORD MLR MLR
comp=Z,690nm,24.0s
CHVG Ch'k'valeri 130.66 62 P **PKPdf 18 50 11.9 +0.6**
TMCR Tamitsa 131.12 33 *e*PKIKP **PKPdf 18 50 11.1 -0.3**
TMCR *e* 18 52 41.2
TMCR pmax pmax
comp=Z,52nm,1.4s
SOEI Soe 131.34 203 *e*PKPdf **PKPdf 18 50 13.6 -0.1**
KIV Kislovodsk 131.41 60 *i* PKIKP **PKPdf 18 50 12.6 -0.1**
KIV *e* 18 52 30.9
KIV *e*PPP PPP 18 55 21.5
KIV *e*PS **PS 19 02 49.1 +3.0**
KIV *e*SS SS 19 10 07.2 +2.9
KIV pmax pmax
comp=Z,32nm,1.1s
KIV Kislovodsk 131.41 60 PKPdf **PKPdf 18 50 13.6 +0.9**
SNR=13
KIV Kislovodsk 131.41 60⇑*i*PKPdf **PKPdf 18 50 12.7 -0.1**
SNR=9.7
KIV Kislovodsk 131.41 60 *e*PKPdf **PKPdf 18 50 13.6 +0.9**
KIV LR LR
comp=Z,363nm,20.0s
KBZ Khabaz 131.50 60 PKP **PKPdf 18 50 13.4 +0.7**
comp=Z,6.0nm,0.9s,baz=257,slow=4.8,SNR=10.0
ONI Oni 131.60 62 P **PKPdf 18 50 13.6 +0.4**
KLMR Klimovskoe 131.77 37 *e*PKHKP PKPpre 18 49 59.8
KLMR pmax pmax
comp=Z,75nm,1.5s
KLMR MLR MLR
comp=Z,1μm,20.0s
GNI Garni 131.88 66*c i*PKIKP **PKPdf 18 50 14.2 +0.3**
GNI pmax pmax
comp=Z,30nm,1.2s
GNI Garni 131.88 66 PKPdf **PKPdf 18 50 15.4 +1.5**
SNR=7.1
GNI Garni 131.88 66⇑*i*PKPdf **PKPdf 18 50 13.7 -0.1**
SNR=7.0
GNI Garni 131.88 66 *e*PKPdf **PKPdf 18 50 14.8 +0.9**
GNI LR LR
comp=Z,481nm,20.0s
GOF Gofitskoye 131.91 59 *e*PKIKP **PKPdf 18 50 13.7 +0.2**
GOF pmax pmax
comp=Z,40nm,1.2s
ZEI Tsey 131.98 62 *i* PKIKP **PKPdf 18 50 13.4 -0.6**
ZEI pmax pmax
comp=Z,16nm,1.3s
VRHR Novokhopersk 132.11 51 *e*PKIKP **PKPdf 18 50 12.5 -1.2**
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,1.1s
VRHR pmax pmax
comp=Z,10.0nm,1.1s
VRHR MLR MLR
comp=N,260nm,22.0s
VRHR MLR MLR
comp=Z,480nm,22.0s
VRHR MLR MLR
comp=E,1μm,20.0s
TBLG Delisi 132.31 64 P **PKPdf 18 50 15.4 +1.0**
DGRG David-gareji 132.69 64 P **PKPdf 18 50 15.3 +0.1**
BILL Bilibino 134.54 333⇓*e*PKIKP **PKPdf 18 50 17.2 -0.6**
BILL pmax pmax
comp=Z,18nm,1.9s
BILL Bilibino 134.54 333 PFAKE 18 50 30.0 +12
BILL LR LR
comp=Z,139nm,21.0s
MAK Makhachkala 134.59 63 *i* PKIKP **PKPdf 18 50 17.3 -1.3**
MAK *e* 18 57 26.3
MAK *e*PS **PS 19 03 11.1 -2.1**
MAK pmax pmax
comp=Z,87nm,1.4s
MAK MLR MLR
comp=Z,685nm,20.0s
PRGR Permogore 134.70 36 *e*PKIKP **PKPdf 18 50 16.6 -1.6**
PRGR pmax pmax
comp=Z,21nm,0.9s
WBK Wadi Bani Khal 136.48 95 PKPdf **PKPdf 18 50 23.5 +0.7**
SNR=7.1
KAPI Kappang 137.16 199 *e*PKPdf **PKPdf 18 50 24.6 +0.2**
KAPI LR LR
comp=Z,404nm,20.0s
PETK Petropavlovsk- 141.12 312 PKP **PKPdf 18 50 29.3 -1.0**
comp=Z,26nm,1.2s,baz=202,slow=1.6,SNR=5.8
GEYT Alibeck 141.40 73 PKhKP PKPpre 18 50 25.7
comp=Z,10nm,0.8s,baz=258,slow=4.1,SNR=28
ARU Arti 142.04 42 *i* PKIKP **PKPdf 18 50 29.2 -2.7**
ARU MLR MLR
comp=Z,870nm,20.0s
ARU Arti 142.04 42 PFAKE 18 50 40.0 +8.1
ARU LR LR
comp=Z,914nm,20.0s
AKTO Aktyubinsk 142.45 52 PKHKP PKPpre 18 50 28.1
AKTO pmax pmax
comp=Z,31nm,1.2s
TIXI Tiksi 142.82 349 *e*PKIKP **PKPdf 18 50 33.0 +0.2**
TIXI Tiksi 142.82 349 *e*PKPdf **PKPdf 18 50 33.0 +0.2**
SVE Sverdlovsk 143.08 41 *i* PKIKP PKPab 18 50 29.8 +0.7
SVE pmax pmax
comp=Z,25nm,1.4s
SVE MLR MLR
comp=Z,981nm,24.0s
AB31 Akbulak array 143.76 54 *e*PKIKP PKPab 18 50 32.7 +0.7
AB31 pmax pmax
comp=Z,36nm,0.7s
GSI Gunungsitoli 144.09 164 *e*PKPdf **PKPab 18 50 35.5 +1.1**
KSM Kuching 145.18 186 *e*PKPdf **PKPbc 18 50 37.6 -0.6**
KSM LR LR
comp=Z,491nm,20.0s
MYKOM Kota Tinggi 145.52 175⇑P **PKPdf 18 50 39.0 -0.3**
KGM Kluang 145.70 174⇓P **PKPdf 18 50 39.8 +0.2**
POO Poona 145.93 112⇓*i*P **PKPdf 18 50 40.0 +0.1**
comp=Z,8.0nm,1.2s
SBUM Sibu 145.94 189⇑P **PKPdf 18 50 40.8 +0.8**
DAV Davao City (W) 146.25 215 PFAKE 18 50 50.0 +7.6
DAV LR LR
comp=Z,346nm,19.0s
BTM Bintulu 146.55 191⇑P **PKPdf 18 50 42.4 +1.3**
FRIM Kepong 146.71 170⇑P **PKPbc 18 50 43.2 +0.2**
CTBH Cotabato--PC H 146.99 213⇓*i*P **PKPdf 18 50 40.2 -1.6**
LHMI Lhok Sumawe 147.72 161 *e*PKPdf **PKPdf 18 50 43.0 0.0**
LHMI *e*PKPbc **PKPbc 18 50 45.2 -0.5**
LHMI *e*PKPab **PKiKP 18 50 48.0 +0.2**
IPM Ipoh 147.84 169⇓P **PKPdf 18 50 43.4 +0.1**
IPM Ipoh 147.84 169 *e*PKPbc **PKPdf 18 50 44.8 +1.6**
SDKM Sandakan 148.04 200⇓P **PKPdf 18 50 45.7 +2.1**
KULM Kulim 148.58 168 *e*PKPbc **PKPdf 18 50 46.8 +2.4**
KULM LR LR
comp=Z,490nm,19.0s
HYB Hyderabad 148.63 119 *i* PKP **PKPdf 18 50 43.5 -0.9**
HYB *e* 18 50 47.0
HYB *e* 18 50 54.0
KKM Kota Kinabalu 148.68 198 PFAKE 18 51 00.0 +8.0
KKM LR LR
comp=Z,380nm,19.0s
KBL Kabul 149.21 82 *e*PKIKP **PKPdf 18 50 43.2 -1.9**
KBL *e* 18 50 49.9
KBL Kabul 149.21 82 *e*PKPdf **PKPdf 18 50 43.2 -1.9**
KBL *e*PKPbc **PKPbc 18 50 49.9 +0.5**
YUK Yuzh-Kuril'sk 149.50 297 *i* PKP2 **PKPbc 18 50 52.9 +3.4**
YUK *i* 18 54 17.8
YUK MLR MLR
comp=Z,410nm,18.0s
BVAR Borovoye Array 149.54 45 PKP **PKPdf 18 50 44.4 -0.3**
comp=Z,8.2nm,1.0s,baz=249,slow=1.2,SNR=26
BVAR PKPbc **PKPbc 18 50 50.1 +0.8**
comp=Z,9.6nm,0.6s,baz=290,slow=2.3,SNR=43
YAK Yakutsk 150.60 338 *e*PKIKP **PKPdf 18 50 42.8 -3.3**
YAK *e* 18 54 27.4
YAK *e*SS SS 19 13 37.7 -8.2
YAK pmax pmax
comp=Z,22nm,1.2s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,72nm,1.5s
YAK pmax pmax
comp=E,20nm,1.7s
YAK pmax pmax
comp=N,275nm,3.8s
YAK Yakutsk 150.60 338 *e*PKPdf **PKPdf 18 50 45.0 -1.1**
YAK *e*PKPbc **PKPbc 18 50 51.0 -0.6**
AJM Ajmer 150.86 101 *e*P **PKPdf 18 50 47.0 -0.7**
KK31 Karatay Array 151.34 65 PKIKP **PKPdf 18 50 48.0 +0.1**
KK31 pmax pmax
comp=Z,95nm,1.3s
KKAR Karatay Array 151.34 65 *e*PKIKP **PKPdf 18 50 48.0 +0.1**
KKAR *e* 18 50 54.2
KKAR *e* 18 51 02.3
KKAR Karatay Array 151.34 65 *e*PKPdf **PKPdf 18 50 48.0 +0.1**
KKAR *e*PKPbc **PKPbc 18 50 54.2 +0.2**
KKAR *e*PKPab **PKPab 18 51 02.2 0.0**
YSS Yuzh-Sakhalins 151.43 303⇓*i*PKIKP **PKPbc 18 50 52.5 -1.5**
YSS *e* 18 51 02.0
YSS pmax pmax
comp=Z,70nm,1.1s
YSS Yuzh-Sakhalins 151.43 303 *e*PKPbc **PKPbc 18 50 53.6 -0.4**
OTUK Ortayu 152.01 54 PKIKP **PKPbc 18 50 56.0 +0.7**

AML	**Almayashu**	**153.72**	**67**	P	**PKPdf**	**18 50 52.2**	**+0.3**
	SNR=7.3						
EKS2	**Erkin-Say**	**153.76**	**66**	P	**PKPdf**	**18 50 52.4**	**+0.8**
	SNR=13						
EKS2	**Erkin-Say**	**153.76**	**66**	*e*PKIKP	**PKPdf**	**18 50 52.2**	**+0.5**
EKS2				*e*		18 50 59.6	
EKS2				MLR	MLR		
	comp=Z,621nm,19.0s						
EKS2	**Erkin-Say**	**153.76**	**66**	*e*PKPdf	**PKPdf**	**18 50 52.1**	**+0.5**
EKS2				*e*PKPbc	**PKPbc**	**18 50 59.6**	**+0.1**
EKS2				LR	LR		
	comp=Z,621nm,19.0s						
USP	**Ospenovka**	**154.25**	**64**	P	**PKPdf**	**18 50 52.9**	**+0.7**
	SNR=9.6						
AAK	**Ala-Archa**	**154.29**	**66**	*e*PKIKP	**PKPdf**	**18 50 52.4**	**-0.1**
AAK				*e*		18 50 59.5	
AAK				MLR	MLR		
	comp=Z,590nm,20.0s						
AAK	**Ala-Archa**	**154.29**	**66**	PKPdf	**PKPdf**	**18 50 53.2**	**+0.8**
	SNR=15						
AAK	**Ala-Archa**	**154.29**	**66**	*e*PKPdf	**PKPdf**	**18 50 52.4**	**-0.1**
AAK				*e*PKPbc	**PKPbc**	**18 50 59.5**	**-1.3**
AAK				*e*PKPab	**PKPab**	**18 51 16.3**	**+1.4**
AAK				LR	LR		
	comp=Z,590nm,20.0s						
UCH	**Uchtor**	**154.32**	**67**	P	**PKPdf**	**18 50 53.5**	**+0.6**
	SNR=14						
FRU	**Bishkek**	**154.37**	**65**	*e*PKIKP	**PKPdf**	**18 50 53.0**	**+0.6**
FRU				*i*		18 51 01.0	
FRU				*i*		18 51 16.0	
FRU				*i*		18 54 51.0	
FRU				pmax	pmax		
	comp=Z,68nm,2.0s						
CHMS	**Chumysh**	**154.45**	**65**	P	**PKPab**	**18 51 16.0**	**+0.7**
	SNR=5.5						
KZA	**Kyzart**	**154.88**	**67**	P	**PKPdf**	**18 50 54.7**	**+1.1**
	SNR=9.1						
MJAR	**Matsushiro Arr**	**154.89**	**280**	PKP	**PKPdf**	**18 50 51.3**	**-1.9**
	comp=Z,2.9nm,1.1s,baz=188,slow=2.3,SNR=4.2						
MJAR				PKPab	**PKPab**	**18 51 16.7**	**-0.7**
	comp=Z,8.1nm,1.1s,baz=137,slow=3.6,SNR=5.9						
TKM2	**Tokmak 2**	**155.08**	**65**	P	**PKPdf**	**18 50 54.1**	**+0.5**
	SNR=14						
TKM2	**Tokmak 2**	**155.08**	**65**	PKIKP	**PKPdf**	**18 50 53.2**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,53nm,1.1s						
TKM2	**Tokmak 2**	**155.08**	**65**	*e*PKPdf	**PKPdf**	**18 50 53.5**	**-0.1**
TKM2				*e*PKPbc	PKPbc	18 51 02.5	
TKM2				LR	LR		
	comp=Z,653nm,20.0s						
KURK	**Kurchatov**	**155.13**	**46**	*e*PKIKP	**PKPdf**	**18 50 52.9**	**-0.2**
KURK				*e*		18 51 01.9	
KURK				MLR	MLR		
	comp=Z,261nm,20.0s						
KURK	**Kurchatov**	**155.13**	**46**	PKPdf	**PKPdf**	**18 50 53.7**	**+0.6**
	SNR=7.1						
KURK	**Kurchatov**	**155.13**	**46**	*e*PKPdf	**PKPdf**	**18 50 52.9**	**-0.2**
KURK				*e*PKPbc	PKPbc	18 51 01.9	
KURK				LR	LR		
	comp=Z,261nm,20.0s						
NVS	**Novosibirsk**	**155.35**	**34⇑**	*i*PKIKP	**PKPdf**	**18 50 51.7**	**-1.5**
NVS				pmax	pmax		
	comp=Z,48nm,1.2s						
KSH	**Kashi**	**155.43**	**73**	PKPbc	**PKPdf**	**18 50 54.4**	**+0.3**
KSH				sPKP		18 51 07.8	
KSH				PKS	**PKSdf**	**18 54 28.9**	**+0.7**
KSH				PP	**PP**	**18 54 55.8**	**-1.1**
KSH				SKS	**SKSdf**	**18 57 58.6**	**-0.3**
KSH				SKKS	**SKKSac**	**19 01 45.6**	**+0.9**
KSH				SS	**SS**	**19 14 38.6**	**-2.9**
KSH				LN			
	comp=Z,230nm,9.6s						
KSH				LE			
	comp=Z,130nm,7.8s						
KSH				LZ			
	comp=Z,200nm,6.6s						
ULHL	**Ulahol**	**155.60**	**67**	P	**PKPab**	**18 51 21.8**	**+1.3**
	SNR=8.3						
HABR	**Khabarovsk**	**156.09**	**309**	*e*PKP2	**PKPab**	**18 51 18.9**	**-3.2**
HABR				*e*		18 57 55.5	
HABR				*e*SS	SS	19 14 42.7	-4.7
HABR				*e*SSS	SSS	19 20 40.8	
HABR				pmax	pmax		
	comp=Z,80nm,2.0s						
ZALV	**Zalesovo Beam**	**156.63**	**34**	PKP	**PKPdf**	**18 50 53.9**	**-1.1**
	comp=Z,15nm,0.8s,baz=281,slow=2.0,SNR=73						
ZALV				PKPab	**PKPab**	**18 51 24.8**	**+0.6**
	comp=Z,23nm,0.9s,baz=305,slow=5.2,SNR=13						
KLR	**Kul'dur**	**157.80**	**313**	*e*PKIKP	**PKPdf**	**18 50 53.0**	**-3.6**
PDGK	**Podgornoye**	**157.86**	**63**	PKIKP	**PKPdf**	**18 50 56.4**	**-0.4**
BOD	**Bodaibo**	**157.99**	**350**	*e*PKIKP	**PKPdf**	**18 50 53.6**	**-3.0**
BOD				*e*		18 51 27.6	
BOD				pmax	pmax		
	comp=Z,42nm,0.1s						
KOLN	**Koldanda**	**158.50**	**107**	*e*P	**PKPdf**	**18 50 57.4**	**-1.1**
MK31	**Makanchi Array**	**158.89**	**53**	PKIKP	**PKPdf**	**18 50 56.6**	**-1.5**
MK31				pmax	pmax		
	comp=Z,48nm,1.4s						
MKAR	**Makanchi Array**	**158.89**	**53**	PKP	**PKPdf**	**18 50 57.4**	**-0.6**
	comp=Z,12nm,1.0s,baz=318,slow=1.6,SNR=66						
MKAR				PKPab	**PKPab**	**18 51 35.1**	**+0.9**
	comp=Z,7.1nm,0.6s,baz=286,slow=2.7,SNR=16						
MKAR				PP	**PP**	**18 55 13.3**	**-2.0**
	comp=Z,6.3nm,1.0s,baz=276,slow=4.5,SNR=7.9						
DANN	**Dangsing**	**158.90**	**106**	*e*P	**PKPdf**	**18 50 58.4**	**-0.6**
GKN	**Gorkha**	**159.42**	**107**	*e*P	**PKPdf**	**18 50 58.2**	**-1.3**
DMN	**Daman**	**159.58**	**109**	*e*P	**PKPdf**	**18 50 58.9**	**-0.9**
PKIN	**Phulchoki**	**159.78**	**109**	*e*P	**PKPdf**	**18 50 58.7**	**-1.3**
PKI	**Pulchoki**	**159.79**	**109**	*e*P	**PKPdf**	**18 50 58.8**	**-1.3**
KKN	**Kakani**	**159.80**	**109**	*e*P	**PKPdf**	**18 50 58.7**	**-1.3**
GUN	**Gumba**	**160.32**	**109**	*e*P	**PKPdf**	**18 50 59.7**	**-1.0**
RAMN	**Ramite**	**160.36**	**113**	*e*P	**PKPdf**	**18 51 00.1**	**-0.6**
JIRN	**Jiri**	**160.43**	**110**	*e*P	**PKPdf**	**18 50 59.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**160.85**	**156**	PKP	**PKPdf**	**18 51 00.2**	**-0.9**
	comp=Z,5.4nm,1.1s,baz=242,slow=2.1,SNR=27						
CMAR				PKPab	**PKPab**	**18 51 42.1**	**-1.2**
	comp=Z,3.3nm,1.0s,baz=223,slow=4.3,SNR=8.4						
ODAN	**Odare**	**160.90**	**114**	*e*P	**PKPdf**	**18 51 00.5**	**-0.7**
MDJ	**Mudanjiang**	**160.92**	**303**	PKP	**PKPdf**	**18 51 01.3**	**+0.9**
CHTO	**Chiang Mai**	**161.19**	**156**	*e*PKIKP	**PKPdf**	**18 51 00.2**	**-1.3**
CHTO				MLR	MLR		
	comp=Z,470nm,19.0s						
CHTO	**Chiang Mai**	**161.19**	**156**	*e*PKPdf	**PKPdf**	**18 51 00.2**	**-1.3**
CHTO				LR	LR		
	comp=Z,470nm,19.0s						
TAPN	**Taplejung**	**161.40**	**113**	*e*P	**PKPdf**	**18 51 00.8**	**-1.1**
QIZ	**Qiongzhong**	**162.58**	**189**	PKP	**PKPdf**	**18 51 03.4**	**+0.5**
QIZ				PP	**PP**	**18 55 36.8**	**+2.7**
QIZ				SS	SS	19 15 56.8	+2.6
QIZ				LN			
	comp=Z,290nm,18.5s						
QIZ				LZ			
	comp=Z,350nm,21.5s						
QIZ	**Qiongzhong**	**162.58**	**189**	PFAKE		18 51 10.0	+7.1
QIZ				LR	LR		
	comp=Z,370nm,19.0s						
YHNB	**Yeheng**	**163.00**	**231**	PFAKE		18 51 10.0	+6.8
YHNB				LR	LR		
	comp=Z,338nm,20.0s						
KSRS	**Korea Array**	**163.17**	**280**	PKP	**PKPdf**	**18 51 01.3**	**-1.6**
	comp=Z,2.9nm,0.9s,baz=186,slow=1.4,SNR=12						
KSRS				PKPab	**PKPab**	**18 51 52.0**	**-1.2**
	comp=Z,6.5nm,1.1s,baz=92,slow=4.0,SNR=7.7						
KSAR	**Wonju Array Be**	**163.20**	**280**	PKIKP	**PKPdf**	**18 51 01.3**	**-1.6**
KSAR						18 51 52.0	
KSAR	**Wonju Array Be**	**163.20**	**280**	PKP	**PKPdf**	**18 51 01.3**	**-1.6**
KSAR				PKPab	**PKPab**	**18 51 52.0**	**-1.4**
WMQ	**Urumqi**	**163.51**	**57**	PKP	**PKPdf**	**18 51 02.8**	**-0.3**
WMQ				pPKP	**pPKPdf**	**18 51 13.5**	**+2.0**
WMQ				PKPab	**PKPab**	**18 51 56.3**	**+1.7**
WMQ				PKS	**PKSdf**	**18 54 34.8**	**-1.3**
WMQ				PP	**PP**	**18 55 41.6**	**+1.3**
WMQ				SKS	**SKSdf**	**18 58 02.0**	**-4.0**
WMQ				SKKS	**SKKSac**	**19 02 24.5**	**-1.8**
WMQ				SS	**SS**	**19 16 00.0**	**-6.1**
WMQ				PPMZ			
	comp=Z,360nm,10.0s						
WMQ				LN			
	comp=Z,420nm,24.0s						
WMQ				LE			
	comp=Z,380nm,23.0s						
WMQ				LZ			
	comp=Z,470nm,26.0s						
IRK	**Irkutsk**	**163.97**	**6**	*e*PKP2	**PKPab**	**18 51 56.2**	**0.0**
IRK				*e*		18 55 39.5	
IRK				pmax	pmax		
	comp=Z,56nm,1.4s						
HIA	**Hailar**	**164.04**	**328**	PFAKE		18 51 10.0	+6.6
HIA				LR	LR		
	comp=Z,742nm,20.0s						
MOY	**Mondy**	**164.09**	**14**	*e*PKP2	**PKPab**	**18 51 57.9**	**+1.0**
INCN	**Inchon**	**164.19**	**280**	PFAKE		18 51 10.0	+6.1
INCN				LR	LR		
	comp=Z,459nm,20.0s						
TLY	**Talaya**	**164.47**	**8**	*i* PKIKP	**PKPdf**	**18 51 02.5**	**-1.2**
TLY				*e*		19 09 27.5	
TLY				*e*SS	SS	19 16 11.5	-2.3
TLY				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TLY	**Talaya**	**164.47**	**8**	PFAKE		18 51 10.0	+6.3
TLY				LR	LR		
	comp=Z,506nm,20.0s						
SLVN	**Son La**	**164.83**	**169**	*e*PKPdf	**PKPdf**	**18 51 04.8**	**-0.2**
LSA	**Lhasa**	**165.21**	**112**	*e*PKIKP	**PKPdf**	**18 51 05.4**	**-0.2**
LSA				*e*		18 52 02.8	
LSA				MLR	MLR		
	comp=Z,603nm,22.0s						
LSA	**Lhasa**	**165.21**	**112**	*e*PKPdf	**PKPdf**	**18 51 05.4**	**-0.2**
LSA				*e*PKPab	**PKPab**	**18 52 02.8**	**-0.3**
LSA				LR	LR		
	comp=Z,603nm,22.0s						
ZAK	**Zakamensk**	**165.71**	**9**	*e*PKIKP	**PKPdf**	**18 51 01.8**	**-3.1**
ZAK				*e*		18 52 04.2	
ZAK				*e*		18 55 51.7	
ZAK				pmax	pmax		
	comp=Z,3.0nm,2.5s						
SSE	**Sheshan**	**167.04**	**250**	PKP	**PKPdf**	**18 51 06.6**	**+0.2**
SSE				PP	**PP**	**18 56 03.3**	**+4.4**
SSE				SS	SS	19 16 43.0	+0.5
SSE				PPMZ			
	comp=Z,80nm,11.2s						
SSE				LN			
	comp=Z,220nm,17.6s						
SSE				LE			
	comp=Z,240nm,17.6s						
SSE				LZ			
	comp=Z,390nm,14.0s						
KMI	**Kunming**	**168.27**	**161**	PKP	**PKPdf**	**18 51 11.9**	**+4.2**
KMI				PP	**PP**	**18 56 08.8**	**+4.7**
KMI				SS	SS	19 16 50.1	-2.9
KMI				LN			
	comp=Z,210nm,17.8s						
KMI				LE			
	comp=Z,240nm,22.0s						
KMI				LZ			
	comp=Z,410nm,21.4s						
ULN	**Ulaanbaatar**	**168.47**	**360**	*e*PKIKP	**PKPdf**	**18 51 05.4**	**-1.7**
ULN	**Ulaanbaatar**	**168.47**	**360**	PKPdf	**PKPdf**	**18 51 05.9**	**-1.1**
	SNR=5.5						
ULN	**Ulaanbaatar**	**168.47**	**360**	*e*PKPdf	**PKPdf**	**18 51 05.4**	**-1.7**
SONM	**Songino Array**	**168.49**	**2**	PKP	**PKPdf**	**18 51 05.0**	**-2.0**
	comp=Z,4.2nm,1.1s,baz=242,slow=0.7,SNR=21						
SONM				PKPab	**PKPab**	**18 52 16.5**	**+0.1**
	comp=Z,7.9nm,0.8s,baz=343,slow=3.6,SNR=20						
SONM				PP	**PP**	**18 56 04.2**	**-0.8**
	comp=Z,3.4nm,1.2s,baz=345,slow=4.4,SNR=5.7						
NJ2	**Nanjing**	**169.25**	**250**	*e*PKP	**PKPdf**	**18 51 09.3**	**+1.5**
NJ2				PP	**PP**	**18 56 11.0**	**+0.9**
NJ2				PPMZ			
	comp=Z,2μm,6.4s						
NJ2				LN			
	comp=Z,310nm,21.8s						
NJ2				LE			
	comp=Z,620nm,20.8s						
NJ2				LZ			
	comp=Z,440nm,24.5s						
GYA	**Guiyang**	**170.16**	**179**	*i* PKP	**PKPdf**	**18 51 06.9**	**-1.8**
GYA				PKPab	**PKPab**	**18 52 25.6**	**+1.3**
GYA				PKS	**PKSdf**	**18 54 39.0**	**-2.4**
GYA				PP	**PP**	**18 56 17.4**	**+4.0**
GYA				SKKS		19 02 59.3	
GYA				SS	**SS**	**19 17 11.8**	**+0.6**
GYA				PPMZ			
	comp=Z,160nm,8.5s						
GYA				LN			
	comp=Z,190nm,21.8s						
GYA				LE			
	comp=Z,160nm,22.0s						
GYA				LZ			
	comp=Z,180nm,21.4s						
WHN	**Wuhan**	**171.53**	**229**	PKP	PKPdf	18 51 04.8	-4.4
WHN				PP	**PP**	**18 56 19.4**	**-1.6**
WHN				SS	SS	19 17 23.3	-3.0
WHN				LZ			
	comp=Z,900nm,16.4s						
TIA	**Tai'an**	**171.76**	**272**	PKP	**PKPdf**	**18 51 08.8**	**-0.3**
TIA				PPMZ			
	comp=Z,420nm,4.2s						
TIA				LN			
	comp=Z,410nm,15.9s						
TIA				LE			
	comp=Z,460nm,19.0s						
TIA				LZ			
	comp=Z,640nm,23.7s						
BJI	**Beijing**	**171.83**	**300**	PKP	**PKPdf**	**18 51 10.1**	**+1.1**
BJI				PP	**PP**	**18 56 24.3**	**+1.5**
BJI				SS	SS	19 17 33.3	+3.5
BJI				PPMZ			
	comp=Z,290nm,6.5s						
BJI				LN			
	comp=Z,340nm,20.4s						
BJI				LE			
	comp=Z,610nm,18.7s						
BJI				LZ			
	comp=Z,470nm,21.2s						
BJT	**Baijiatuan**	**171.84**	**300**	PFAKE		18 51 20.0	+11
BJT				LR	LR		
	comp=Z,613nm,20.0s						
GTA	**Gaotai**	**173.59**	**59**	⇑PKP	**PKPdf**	**18 51 09.5**	**-0.5**
GTA				pPKP	**pPKPdf**	**18 51 20.3**	**+1.9**
GTA				sPKP		18 51 23.5	
GTA				PKPab	**PKPab**	**18 52 40.0**	**+0.6**
GTA				PP	**PP**	**18 56 32.9**	**+1.2**
GTA				SKS	**SKSdf**	**18 58 07.3**	**-4.2**
GTA				SKKS	**SKKSac**	**19 03 14.4**	**-1.9**
GTA				SS	**SS**	**19 17 42.5**	**-4.7**
GTA				PPMZ			
	comp=Z,440nm,5.8s						
GTA				LN			
	comp=Z,490nm,20.4s						
GTA				LE			
	comp=Z,470nm,19.0s						
GTA				LZ			
	comp=Z,690nm,20.0s						
ENH	**Enshi**	**173.59**	**200**	PFAKE		18 51 20.0	+10
ENH				LR	LR		
	comp=Z,246nm,22.0s						
CD2	**Chengdu**	**173.99**	**153**	PKP	**PKPdf**	**18 51 09.8**	**-0.5**
CD2				sPKP		18 51 23.3	
CD2				PKPab	**PKPab**	**18 52 40.5**	**-0.6**
CD2				PKS	**PKSdf**	**18 54 43.0**	**+0.4**
CD2				SKKS		19 03 16.8	
CD2				SS	**SS**	**19 17 48.5**	**-0.7**
CD2				PPMZ			
	comp=Z,290nm,7.1s						
CD2				LN			
	comp=Z,460nm,16.6s						
CD2				LE			
	comp=Z,380nm,17.8s						
CD2				LZ			
	comp=Z,460nm,20.2s						
HHC	**Hu-ho-hao-te**	**174.21**	**323**	*e*PKP	**PKPdf**	**18 51 09.6**	**-0.5**
HHC				pPKP	**pPKPdf**	**18 51 19.9**	**+1.4**
HHC				sPKP		18 51 25.3	
HHC				PP	**PP**	**18 56 33.6**	**-0.4**
HHC				SKS	**SKSdf**	**18 58 09.3**	**-2.3**
HHC				SKKS	**SKKSac**	**19 03 21.0**	**+2.1**
HHC				SS	**SS**	**19 17 52.6**	**+0.6**
HHC				PPMZ			
	comp=Z,380nm,9.2s						
HHC				LN			
	comp=Z,1μm,21.1s						
HHC				LE			
	comp=Z,1μm,21.1s						
HHC				LZ			
	comp=Z,800nm,20.1s						
XAN	**Xi'an**	**177.19**	**216**	PKP	**PKPdf**	**18 51 06.9**	**-4.1**
XAN				PP	**PP**	**18 56 51.6**	**+3.5**
XAN				SKKS		19 03 33.4	
XAN				LN			
	comp=Z,300nm,21.9s						
XAN				LE			
	comp=Z,83nm,21.9s						
LZH	**Lanzhou**	**177.49**	**95**	*e*PKP	**PKPdf**	**18 51 11.0**	**-0.1**
LZH				pPKP	**pPKPdf**	**18 51 22.5**	**+2.9**
LZH				sPKP		18 51 26.3	
LZH				PP	**PP**	**18 56 52.3**	**+1.4**
LZH				SKS	**SKSdf**	**18 58 08.6**	**-4.0**
LZH				SKKS	**SKKSac**	**19 03 33.3**	**-1.8**
LZH				*e*SS	**SS**	**19 18 20.5**	**-5.0**
LZH				PPMZ			
	comp=Z,660nm,9.7s						
LZH				LN			
	comp=Z,1μm,18.3s						
LZH				LE			
	comp=Z,2μm,18.0s						
LZH				LZ			
	comp=Z,2μm,20.1s						

*IDC **21** 18:36:31.1±0.8, 28°.08N×139°.91E, h434km±24km, mb2.8/7, mb1 3.0/7, mb1mx2.7/24, mbtmp3.6/7, Error ellipse: s-maj=69.2km s-min=18.9km az=71.0*
*JMA **21** 18:36:31.8±0.3, 28°.18N×139°.55E, h416km, M3.8*
ISC 21 18:36:31.1±1.1, 28°.1N±0°.2×139°.3E±0°.2, h400km, n11, σ0°95/13, mb3.0/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.77**	**111**	P	**Pn**	**18 37 33.1**	**+0.6**
CBIJ				S	**S**	**18 38 21.2**	**-0.9**
JCJ	**Chichijima**	**2.77**	**111**	P	**Pn**	**18 37 33.1**	**+0.6**
	baz=301,slow=19						
JCJ				S	**S**	**18 38 20.8**	**-1.3**
	baz=307,slow=20						
JHHJ	**Haha-jima-NKT**	**2.97**	**119**	P	**Pn**	**18 37 35.0**	**+0.9**
JHHJ				S	**S**	**18 38 25.5**	**+0.5**
JHO	**Hitachi**	**8.55**	**7**	P	**P**	**18 38 33.1**	**+0.6**
SONM	**Songino Array**	**32.21**	**317**	P	**P**	**18 42 24.8**	**+0.8**
	0.2nm,0.5s,baz=120,slow=9.7,SNR=3.4						
ZALV	**Zalesovo Beam**	**47.04**	**319**	P	**P**	**18 44 24.0**	**-0.2**
	0.3nm,0.3s,baz=88,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**47.84**	**309**	P	**P**	**18 44 30.7**	**+0.2**
	0.2nm,0.7s,baz=91,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**48.00**	**186**	P	P	18 44 29.2	-2.6
	0.1nm,0.4s,baz=5.3,slow=7.7,SNR=3.2						
BVAR	**Borovoye Array**	**55.55**	**317**	P	**P**	**18 45 26.7**	**+0.2**
	1.1nm,0.4s,baz=97,slow=7.2,SNR=19						
KBZ	**Khabaz**	**75.43**	**312**	P	**P**	**18 47 32.1**	**-0.2**
	1.8nm,1.1s,baz=90,slow=14,SNR=3.5						
FINES	**FINESS Array B**	**75.89**	**333**	P	**P**	**18 47 32.7**	**-1.9**
	0.6nm,0.3s,baz=85,slow=5.6,SNR=7.8						

GUC 21 18:45:37.8±0.4, 35°.16S×72°.83W, h12km±3km, ML3.6, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.97**	**178⇑**	*e*P	Pg	18 45 55.4	-1.2
COCH				*e*S	Sg	18 46 08.5	-0.8
TALC	**Talca**	**1.01**	**104⇑**	*e*P	Pb	18 45 55.7	-1.6
TALC				*e*S	Sg	18 46 09.8	-0.6
LNCH	**Linares**	**1.22**	**125⇑**	*e*P	Pn	18 45 59.2	-1.5
LNCH				*e*S	Sb	18 46 15.7	-0.9
NICH	**Los Niches**	**1.32**	**84**	*e*P	Pn	18 46 00.9	-1.2
NICH				*e*S	Sb	18 46 18.5	-1.0
CLCH	**Cerro Calan**	**2.59**	**48**	*e*P	Pn	18 46 20.8	+1.1
CLCH				*e*S	Sn	18 46 53.1	+1.9
CLCH				IAML		18 47 11.7	
	comp=E,267nm,0.4s						

*IDC **21** 18:51:38.7±0.9, 36°.41S×73°.19W, h0km, mb4.0/9, mb1 4.1/11, mb1mx4.0/19, mbtmp4.0/11, ML3.7/2, MS4.2/1, Ms1 4.2/1, ms1mx3.4/30, Error ellipse: s-maj=30.1km s-min=16.9km az=77.0*
*ISCJB **21** 18:51:40.5±0.7, 36°.40S±0°.08×73°.1W±0°.2, h25km, mb4.1/9, MS4.2/1, Error ellipse: s-maj=21.7km s-min=11.3km az=179.2*
*NEIC **21** 18:51:43.8±0.6, 36°.40S×73°.08W, h35km, mb4.0/2, Error ellipse: s-maj=20.8km s-min=11.0km az=89.0*
ISC 21 18:51:42.5±0.8, 36°.42S±0°.09×73°.1W±0°.2, h25km, n20, σ1°07/17, mb4.1/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.76**	**156**	Pn	**Pn**	**18 52 52.4**	**-0.3**
	1.1nm,0.3s,baz=244,slow=16,SNR=4.0						
PLCA				Lg	Lg	18 54 10.1	
	4.1nm,0.3s,baz=254,slow=16,SNR=2.9						
CFAA	**Coronel Fontan**	**6.29**	**42**	Pn	**Pn**	**18 53 13.7**	**-0.1**
	0.5nm,0.3s,baz=212,slow=13,SNR=13						
CFAA				Lg	Lg	18 54 47.0	
	1.2nm,0.3s,baz=218,slow=11,SNR=8.9						
LPAZ	**La Paz**	**20.54**	**14**	P	**P**	**18 56 18.8**	**-1.0**
	1.2nm,0.8s,baz=179,slow=7.0,SNR=2.1						
SIV	**San Ignacio**	**23.00**	**31**	P	**P**	**18 56 43.6**	**-2.0**
	3.7nm,0.9s,baz=225,slow=8.6,SNR=3.6						
SNAA	**Sanae**	**49.70**	**157**	P	**P**	**19 00 32.0**	**0.0**
	1.0nm,0.6s						
QSPA	**South Pole Qui**	**53.82**	**180**	P	**P**	**19 01 02.8**	**-0.2**
	2.3nm,0.9s,baz=163,slow=4.4,SNR=5.6						
QSPA	**South Pole Qui**	**53.82**	**180**	*e*P	**P**	**19 01 02.0**	**-1.0**
	1.2nm,0.7s						
CMIG	**Matias Romero**	**57.06**	**335**	LR	LR	19 20 42.0	
	comp=Z,203nm,18.5s,baz=158,slow=31						
TXAR	**Lajitas Array**	**71.43**	**332**	P	**P**	**19 03 01.8**	**+1.1**
	0.6nm,0.8s,baz=151,slow=8.0,SNR=4.5						
DBIC	**Dimbokro**	**76.80**	**71**	P	**P**	**19 03 33.5**	**+1.2**
	2.6nm,0.6s,baz=248,slow=5.4,SNR=5.5						
BOSA	**Boshof**	**79.74**	**118**	P	**P**	**19 03 48.7**	**0.0**
	5.4nm,1.1s,baz=239,slow=5.9,SNR=3.8						
NVAR	**Mina Array Bea**	**85.37**	**326**	P	**P**	**19 04 16.1**	**-1.5**
	1.0nm,0.9s,baz=160,slow=6.4,SNR=4.7						
PDAR	**Pinedale Array**	**85.53**	**334**	P	**P**	**19 04 17.4**	**-0.9**
	1.9nm,1.2s,baz=147,slow=5.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**85.87**	**70**	P	**P**	**19 04 20.1**	**-0.3**
	2.2nm,1.0s,baz=250,slow=3.2,SNR=8.1						
H11S2	**WAKE ISLAND Hyl**	**24.81**	**268**	T	T	21 27 44.2	
	baz=116						
H11S1	**WAKE ISLAND Hyl**	**24.83**	**268**	T	T	21 27 44.2	
	baz=116						
H11S3	**WAKE ISLAND Hyl**	**24.83**	**268**	T	T	21 27 44.8	
	baz=116						
ZALV	**Zalesovo Beam**	**156.74**	**34**	PKP	**PKPdf**	**19 11 35.2**	**+0.4**
	1.1nm,0.9s,baz=259,slow=1.5,SNR=4.2						
MKAR	**Makanchi Array**	**158.98**	**53**	PKP	**PKPdf**	**19 11 38.5**	**+0.6**
	0.3nm,0.8s,baz=194,slow=0.7,SNR=4.2						
MKAR				PKPab	**PKPab**	**19 12 15.8**	**+1.3**
	0.7nm,0.8s,baz=296,slow=3.9,SNR=6.6						
SONM	**Songino Array**	**168.59**	**2**	PKPab	**PKPab**	**19 12 57.9**	**+1.3**
	0.3nm,0.7s,baz=321,slow=3.7,SNR=3.2						

*ISCJB **21** 18:56:44.0±1.7, 34°.30S±0°.04

ANTU AML AML 18 57 32.0
comp=E,15μm,0.5s
FSR Penalolen 1.51 58 *e*P9 **Pn 18 57 12.9 +0.5**
FSR *i* S **Sn 18 57 32.9 +0.1**
LACH Col Las Americ 1.52 57 *e*P **Pn 18 57 11.6 -1.0**
LACH *e*S **Sn 18 57 31.7 -1.4**
LACH Col Las Americ 1.52 57 *e*P **Pn 18 57 12.1 -0.5**
LACH *e*S **Sn 18 57 32.2 -0.9**
LACH AML AML 18 57 36.0
comp=N,6μm,0.5s
CLCH Cerro Calan 1.55 56 *e*P **Pn 18 57 12.2 -0.8**
CLCH *e*S **Sn 18 57 32.6 -1.2**
CLCH IAML 18 57 42.7
comp=N,10μm,0.7s
CLCH Cerro Calan 1.55 56⇑*i*P **Pn 18 57 12.5 -0.5**
CLCH *i* S **Sn 18 57 33.3 -0.5**
CLCH AML AML 18 57 41.4
comp=E,10μm,0.8s
CLCH AML AML 18 57 42.0
comp=E,11μm,0.7s
PEL Peldehue 1.62 46 *e*P **Pn 18 57 13.6 -0.3**
PEL *e*S **Sn 18 57 35.0 -0.5**
PEL Peldehue 1.62 46⇑*i*P **Pn 18 57 14.3 +0.4**
PEL *i* S **Sn 18 57 35.0 -0.5**
PEL AML AML 18 57 39.6
comp=N,21μm,0.6s
FCH Farellones 1.76 58 *e*P9 **Pn 18 57 14.1 -1.9**
FCH *e*S **Sn 18 57 37.9 -1.4**
FCH IAML 18 57 44.1
comp=N,5μm,0.6s
FCH Farellones 1.76 58 *e*P4 **Pn 18 57 14.2 -1.9**
FCH *i* S4 **Sn 18 57 39.5 +0.2**
FCH AML AML 18 57 44.2
comp=E,5μm,0.5s
YECH El Yeso 1.76 70⇑*i*P **Pg 18 57 18.4 +0.6**
YECH *i* S **Sb 18 57 41.0 +0.9**
YECH AML AML 18 57 42.0
comp=N,7μm,0.5s
CFAA Coronel Fontan 4.18 51 Pn **Pn 18 57 50.2 +1.1**
comp=N,0.2nm,0.3s,baz=221,slow=14,SNR=4.2
CFAA Lg Lg 18 58 56.3
comp=N,3.7nm,0.3s,baz=313,slow=5.1,SNR=21
CFAA LR LR 18 59 44.1
comp=N,99nm,20.7s,baz=238,slow=43
LCO Las Campanas 5.38 13 *e*Pn **Pn 18 58 03.5 -2.4**
comp=N,46nm,0.8s
PLCA Paso Flores 6.55 170 Pn **Pn 18 58 22.8 +1.1**
comp=N,1.9nm,0.3s,baz=356,slow=9.8,SNR=5.3
PLCA Lg Lg 19 00 05.5
comp=N,0.9nm,0.3s,baz=246,slow=20,SNR=3.1
LPAZ La Paz 18.27 12 P **P 19 01 01.1 +1.2**
comp=N,0.3nm,0.3s,baz=186,slow=9.7,SNR=5.9
LPAZ La Paz 18.27 12 *e*P **Pn 19 00 57.9 -1.7**
comp=N,5.8nm,0.7s
SIV San Ignacio 20.73 31 P **P 19 01 25.5 -0.7**
comp=N,3.0nm,0.6s,baz=203,slow=6.1,SNR=8.1
SAML Samuel 26.50 20 *e*P **P 19 02 21.2 -2.1**
comp=N,1.6nm,0.7s
BDFB Brasilia 28.51 55 P **P 19 02 43.0 +1.6**
comp=N,2.8nm,0.7s,baz=236,slow=11,SNR=5.8
SNAA Sanae 51.33 158 P **P 19 05 50.3 +0.6**
comp=N,2.6nm,1.0s,baz=288,slow=6.2,SNR=5.2
SNAA Sanae 51.33 158 *e*P **P 19 05 49.5 -0.3**
comp=N,2.3nm,0.8s
QSPA South Pole Qui 55.95 180 P **P 19 06 24.8 +1.0**
comp=N,9.7nm,1.0s,baz=150,slow=5.8,SNR=13
QSPA South Pole Qui 55.95 180 *e*P **P 19 06 22.3 -1.4**
comp=N,12nm,1.0s
TXAR Lajitas Array 69.97 331 P **P 19 07 58.7 +1.3**
comp=N,0.9nm,0.8s,baz=155,slow=6.6,SNR=5.6
WVT Waverly 71.58 347 P **P 19 08 06.0 -0.9**
comp=N,9.7nm,0.8s
DBIC Dimbokro 75.29 71 P **P 19 08 29.5 +0.2**
comp=N,1.4nm,0.6s,baz=205,slow=6.0,SNR=4.9
KSCO Kaye Shedlock' 78.23 336 P **P 19 08 45.8 +0.3**
comp=N,29nm,0.8s
BOSA Boshof 79.96 118 P **P 19 08 55.7 +0.3**
comp=N,3.8nm,0.8s,baz=237,slow=2.8,SNR=7.4
ECSD EROS Data Cent 80.81 342 *e*P **P 19 08 58.2 -1.1**
comp=N,11nm,1.1s
SHPR Sheep Range 81.08 326 *e*P **P 19 09 00.4 -0.6**
comp=N,4.2nm,0.9s
NVAR Mina Array Bea 84.10 325 P **P 19 09 17.9 +1.0**
comp=N,0.8nm,0.7s,baz=154,slow=6.4,SNR=6.6
TORD Torodi Ar. Bea 84.33 70 P **P 19 09 17.9 -0.4**
comp=N,1.4nm,0.7s,baz=227,slow=4.8,SNR=9.0
YKA Yellowknife Ar 102.32 341 P **Pdif 19 10 40.9 +0.3**
comp=N,0.2nm,0.7s,baz=140,slow=4.9,SNR=4.7
WRA Warramunga Arr 120.50 209 PKP **PKPdf 19 15 37.9 -0.2**
comp=N,0.5nm,0.5s,baz=161,slow=1.7,SNR=11
BRTR Keskin Array B 121.99 61 PKP **PKPdf 19 15 41.0 +0.6**
comp=N,0.4nm,0.8s,baz=248,slow=1.9,SNR=3.4
H11S2 WAKE ISLAND Hyl 25.74 269 T T 21 34 02.1
baz=120,slow=76,SNR=48
H11S1 WAKE ISLAND Hyl 25.76 269 T T 21 34 02.5
baz=120,slow=76,SNR=141
H11S3 WAKE ISLAND Hyl 25.76 269 T T 21 34 03.8
baz=120,slow=76,SNR=119
H11N3 WAKE ISLAND Hyl 26.16 270 T T 21 34 39.0
baz=116
H11N1 WAKE ISLAND Hyl 26.18 270 T T 21 34 36.4
baz=116
H11N2 WAKE ISLAND Hyl 26.18 270 T T 21 34 39.0
baz=116
ZALV Zalesovo Beam 154.48 33 PKPbc **PKPbc 19 16 46.6 +0.6**
comp=N,1.6nm,0.6s,baz=296,slow=3.0,SNR=8.4
ZALV PKPab **PKPab 19 17 00.9 +0.6**
comp=N,1.8nm,0.8s,baz=313,slow=5.5,SNR=3.9
MKAR Makanchi Array 156.97 49 PKP **PKPdf 19 16 41.7 +0.5**
comp=N,0.5nm,0.9s,baz=270,slow=1.2,SNR=3.5
MKAR PKPab **PKPab 19 17 11.3 0.0**
comp=N,0.7nm,0.8s,baz=295,slow=2.4,SNR=5.0
CMAR Chiang Mai Arr 162.31 151 PKP **PKPdf 19 16 48.3 +0.2**
comp=N,0.8nm,1.0s,baz=211,slow=1.1,SNR=4.4

*IDC **21** 19:05:31.4±0.7, 38°.07S×73°.82W, h0km, mb4.1/10, mb1 4.2/12, mb1mx4.0/34, mbtmp4.0/12, ML3.7/2, MS3.5/2, Ms1 3.5/2, ms1mx3.3/26, Error ellipse: s-maj=23.0km s-min=14.5km az=63.0*
*ISCJB **21** 19:05:33.1±0.6, 37°.98S±0°.05×73°.6W±0°.1, h18km, mb4.3/14, MS4.1/1, Error ellipse: s-maj=11.4km s-min=6.8km az=174.6*
*NEIC **21** 19:05:36.5±0.5, 38°.00S×73°.74W, h35km, mb4.4/3, Error ellipse: s-maj=15.2km s-min=10.8km az=80.0*
ISC 21 19:05:34.4±0.7, 38°.03S±0°.06×73°.66W±0°.10, h18km, n31, σ1°08/33, mb4.2/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.62**	**139**	Pn		**Pn**	**19 06 30.6**	**+1.0**
	2.5nm,0.3s,baz=303,slow=10,SNR=39							
PLCA					Pg	**Pb**	**19 06 38.6**	**+0.8**
	18nm,0.3s,baz=311,slow=17,SNR=58							
PLCA					Lg	Lg	19 07 28.9	
	14nm,0.3s,baz=240,slow=20,SNR=3.9							
PLCA	**Paso Flores**	**3.62**	**139**	*e*Pn		**Pn**	**19 06 30.4**	**+0.8**
PLCA				*e*Sn		**Sn**	**19 07 11.4**	**-0.5**
PLCA					Lg	Lg	19 07 28.9	
CFAA	**Coronel Fontan**	**7.80**	**36**	Pn		**Pn**	**19 07 26.3**	**-0.8**
	0.4nm,0.3s,baz=206,slow=10.0,SNR=18							
CFAA					Sn	**Sn**	**19 08 56.6**	**+1.6**
	0.2nm,0.3s,baz=244,slow=23,SNR=4.0							
CFAA					LR	LR	19 11 10.3	
	comp=Z,69nm,18.5s,baz=224,slow=43							
TRQA	**Tornquist**	**9.21**	**94**	*e*Pn		Pn	19 07 49.3	+2.9
	16nm,0.8s							
TRQA				*e*Sn		**Sn**	**19 09 26.8**	**-2.8**
LCO	**Las Campanas**	**9.33**	**16**	*e*Pn		**Pn**	**19 07 46.6**	**-1.6**
	26nm,0.5s							
LCO				*e*Sn		**Sn**	**19 09 31.5**	**-1.3**
LPAZ	**La Paz**	**22.20**	**14**	P		**P**	**19 10 31.6**	**+1.1**
	6.5nm,1.0s,baz=180,slow=11,SNR=14							
LPAZ	**La Paz**	**22.20**	**14**	*e*P		**P**	**19 10 29.9**	**-0.6**
	7.6nm,0.8s							
BDFB	**Brasilia**	**31.76**	**52**	P		**P**	**19 11 59.9**	**+2.2**
	2.8nm,0.8s,baz=198,slow=8.7,SNR=3.9							
BDFB					LR	LR	19 25 40.0	
	comp=Z,390nm,20.6s,baz=290,slow=38							
SNAA	**Sanae**	**48.39**	**156**	*e*P		**P**	**19 14 12.6**	**-2.2**
	17nm,1.3s							
QSPA	**South Pole Qui**	**52.21**	**180**	P		**P**	**19 14 43.9**	**-0.1**
	4.0nm,1.0s,baz=113,slow=6.1,SNR=11							
QSPA	**South Pole Qui**	**52.21**	**180**	*e*P		**P**	**19 14 44.2**	**+0.2**
	2.9nm,0.8s							
TXAR	**Lajitas Array**	**72.66**	**333**	P		**P**	**19 17 01.3**	**+0.3**
	0.8nm,0.8s,baz=160,slow=8.9,SNR=6.2							
LIC	**Lamto**	**77.29**	**72**	*e*P		**P**	**19 17 28.7**	**+0.7**
	29nm,1.2s							
TIC	**Toumodi**	**77.57**	**71**	*e*P		**P**	**19 17 30.2**	**+0.6**
	2.6nm,0.2s							
KIC	**Kosan Boka**	**77.59**	**72**	*e*P		**P**	**19 17 30.5**	**+0.8**
	9.1nm,0.6s							
DBIC	**Dimbokro**	**77.71**	**71**	P		**P**	**19 17 31.3**	**+0.9**
	4.5nm,0.9s,baz=200,slow=6.0,SNR=5.9							
ANMO	**Albuquerque**	**78.73**	**333**	P		**P**	**19 17 36.4**	**+0.6**
	1.8nm,0.8s,baz=173,slow=8.1,SNR=3.9							
BOSA	**Boshof**	**79.35**	**118**	P		**P**	**19 17 39.8**	**+0.3**
	3.6nm,0.8s,baz=234,slow=4.2,SNR=4.9							
NVAR	**Mina Array Bea**	**86.47**	**326**	P		**P**	**19 18 15.8**	**-0.3**
	0.1nm,0.3s,baz=134,slow=5.2,SNR=1.8							
TORD	**Torodi Ar. Bea**	**86.80**	**71**	P		**P**	**19 18 17.9**	**-0.1**
	1.2nm,0.7s,baz=219,slow=4.2,SNR=8.8							
ELK	**Elko**	**87.14**	**330**	P		**P**	**19 18 18.9**	**-0.4**
	0.2nm,0.4s,baz=146,slow=3.6,SNR=3.4							
WRA	**Warramunga Arr**	**116.61**	**210**	PKP		**PKPdf**	**19 24 16.4**	**-1.5**
	0.8nm,1.1s,baz=156,slow=1.9,SNR=4.2							
BRTR	**Keskin Array B**	**124.86**	**64**	PKP		**PKPdf**	**19 24 32.8**	**-0.4**
	0.6nm,0.9s,baz=169,slow=2.0,SNR=4.9							
GEYT	**Alibeck**	**142.33**	**75**	PKhKP		PKPpre	19 25 01.6	
	0.4nm,0.5s,baz=247,slow=3.0,SNR=3.2							
AKTO	**Aktyubinsk**	**143.84**	**54**	PKP		PKPbc	19 25 05.6	-0.1
	3.0nm,0.9s,baz=289,slow=3.5,SNR=9.3							
BVAR	**Borovoye Array**	**151.05**	**47**	PKPbc		**PKPbc**	**19 25 25.9**	**+0.2**
	2.6nm,0.8s,baz=286,slow=3.8,SNR=19							
AAK	**Ala-Archa**	**155.37**	**69**	PKPab		**PKPab**	**19 25 52.4**	**+0.2**
	3.6nm,0.8s,baz=305,slow=2.4,SNR=7.9							
KURBB	**Kurchatov Arra**	**156.61**	**48**	PKPab		**PKPab**	**19 25 57.0**	**+0.1**
	1.1nm,0.9s,baz=290,slow=4.8,SNR=8.4							
KURK	**Kurchatov**	**156.63**	**48**	PKPab		**PKPab**	**19 25 57.0**	**0.0**
ZALV	**Zalesovo Beam**	**158.29**	**36**	PKPab		**PKPab**	**19 26 04.3**	**+0.3**
	1.3nm,0.5s,baz=305,slow=5.2,SNR=6.0							
MKAR	**Makanchi Array**	**160.26**	**56**	PKPab		**PKPab**	**19 26 12.7**	**-0.3**
	1.1nm,0.7s,baz=284,slow=4.2,SNR=13							

GUC 21 19:17:31.3±0.7, 34°.38S×72°.03W, h9km±5km, ML3.7, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.67**	**50**⇑*i*P			Pg	19 17 44.2	0.0
LNV					*i* S1	Sb	19 17 53.8	-0.7
NICH	**Los Niches**	**0.90**	**133**⇓*i*P			Pg	19 17 48.3	-0.5
NICH					*i* S	Sg	19 18 00.9	+0.4
TALC	**Talca**	**1.06**	**162**⇑*i*P			Pg	19 17 50.3	-1.5
TALC					*e*S	Sg	19 18 05.0	-0.6
CACH	**El Canelo**	**1.21**	**78**⇑*i*P			Pb	19 17 53.5	-1.1
CACH					*e*S1	Sb	19 18 11.1	+0.5
CHCH	**Chadas Angostu**	**1.23**	**69**⇑*i*P			Pn	19 17 53.3	-1.4
CHCH					*i* S1	Sb	19 18 09.8	-1.0
IHA	**Instituto Hidr**	**1.39**	**14**	*e*P1		Pn	19 17 56.3	-0.6
LNCH	**Linares**	**1.50**	**167**⇑*i*P			Pn	19 17 57.8	-0.6
LNCH					*e*S	Sn	19 18 17.6	-0.5
SJCH	**San Jose de Ma**	**1.58**	**62**	*e*P		Pn	19 17 58.7	-0.9
SJCH					*e*S	Sn	19 18 20.1	-0.1
CLCH	**Cerro Calan**	**1.58**	**52**⇑*i*P			Pn	19 17 59.2	-0.4
CLCH					*i* S	Sn	19 18 20.0	-0.3
CLCH					AML	AML	19 18 28.7	
	comp=N,1μm,0.6s							
CLCH					AML	AML	19 18 29.0	
	comp=E,2μm,0.5s							
PEL	**Peldehue**	**1.67**	**43**	*e*P1		Pn	19 18 00.5	-0.3
PEL					*i* S	Sn	19 18 22.1	-0.3
PEL					AML	AML	19 18 27.4	
	comp=N,2μm,0.7s							
FCH	**Farellones**	**1.79**	**54**	*e*P9		Pn	19 18 01.9	-1.0
FCH					*i* S	Sn	19 18 26.3	+0.3
FCH					AML	AML	19 18 32.2	
	comp=N,833nm,0.3s							

*ISCJB **21** 19:21:53.3±0.8, 6°.90N±0°.07×73°.01W±0°.06, h172km±8km, mb3.3/2, Error ellipse: s-maj=11.7km s-min=9.3km az=140.2*
*FUNV **21** 19:21:53.3, 6°.76N×73°.19W, h166km, MW3.7*
*IDC **21** 19:21:54.0±3.9, 6°.68N×73°.13W, h166km±29km, mb3.0/2, mb1 3.4/3, mb1mx3.0/22, mbtmp3.5/3, Error ellipse: s-maj=66.4km s-min=29.4km az=80.0*
ISC 21 19:21:53.4±1.0, 6°.84N±0°.07×73°.04W±0°.07, h164km±8km, n21, σ1°23/30, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.25**	**35**⇓*i*P			**Pn**	**19 22 23.0**	**+1.1**
CAPV					*e*S	**Sn**	**19 22 44.0**	**+0.1**
ROSC	**El Rosal**	**2.35**	**213**	P		**Pn**	**19 22 33.8**	**-0.1**
	17nm,0.3s,baz=200,slow=2.6,SNR=37							
ROSC					S	**Sn**	**19 23 02.3**	**-2.9**
	16nm,0.3s,baz=101,slow=14,SNR=6.2							
VIGV	**El Vigia**	**2.59**	**40**	*e*P		**Pn**	**19 22 37.4**	**+1.0**
VIGV					*e*S	**Sn**	**19 23 09.2**	**-0.6**
SOCV	**Socops**	**2.60**	**56**	*e*P		**Pn**	**19 22 37.2**	**+0.7**
SOCV					*e*S	**Sn**	**19 23 09.7**	**-0.1**
ELOV	**Elorza**	**3.53**	**87**	*e*P		**Pn**	**19 22 49.2**	**+1.1**
ELOV					*e*S	**Sn**	**19 23 30.7**	**+0.1**
VIRV	**Villa del Rosa**	**3.70**	**10**	*e*P		**Pn**	**19 22 49.7**	**-0.5**
VIRV					*e*S	**Sn**	**19 23 32.6**	**-1.9**
SANV	**Sanarito**	**4.36**	**52**	*e*P		**Pn**	**19 22 59.4**	**+0.5**
SANV					*e*S	**Sn**	**19 23 48.8**	**-1.2**
CURV	**Curarigua**	**4.38**	**44**	*e*P		**Pn**	**19 22 59.5**	**+0.4**
DABV	**Dabajuro**	**4.70**	**30**	*e*P		**Pn**	**19 23 03.9**	**+0.7**
TEPV	**Terepaima**	**4.91**	**51**	*e*P		**Pn**	**19 23 06.6**	**+0.6**
SIQV	**Siquisique**	**4.95**	**40**	*e*P		**Pn**	**19 23 06.7**	**+0.2**
SIQV					*e*S	**Sn**	**19 24 01.6**	**-2.2**
BAUV	**El Baul**	**5.37**	**67**	*e*P		**Pn**	**19 23 11.4**	**-0.7**
BAUV					*e*S	**Sn**	**19 24 10.1**	**-3.5**
MAPV	**Macapo**	**5.42**	**56**	*e*P		**Pn**	**19 23 12.8**	**+0.1**
MONV	**Montecano**	**5.92**	**31**	*e*P		**Pn**	**19 23 19.1**	**-0.1**
TURV	**Turiamo**	**6.27**	**55**	*e*P		**Pn**	**19 23 24.0**	**+0.1**
CUPV	**Cœpira**	**7.85**	**65**	*e*P		**Pn**	**19 23 44.0**	**-0.9**
TXAR	**Lajitas Array**	**36.51**	**312**	P		**P**	**19 28 44.5**	**+1.2**
	0.4nm,0.6s,baz=141,slow=10,SNR=1.8							
YKA	**Yellowknife Ar**	**63.28**	**340**	P		**P**	**19 32 04.6**	**+0.3**
	0.4nm,0.6s,baz=130,slow=6.7,SNR=7.9							
MKAR	**Makanchi Array**	**122.28**	**20**	PKP		**PKPdf**	**19 40 30.1**	**+0.9**
	0.1nm,0.7s,baz=347,slow=1.9,SNR=2.8							
ASAR	**Alice Springs**	**149.19**	**234**	PKPbc		**PKPbc**	**19 41 23.1**	**-0.4**
	0.3nm,0.7s,baz=120,slow=3.4,SNR=4.4							
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc		**PKPbc**	**19 41 25.9**	**-0.6**
	0.2nm,0.4s,baz=103,slow=2.6,SNR=5.1							

*IDC **21** 19:24:12.4±1.6, 1°.78N×126°.12E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.3/40, mbtmp3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/33, Error ellipse: s-maj=172.5km s-min=20.1km az=66.0*
*ISCJB **21** 19:24:16.4±0.9, 2°.00N±0°.10×126°.57E±0°.05, h47km, mb3.7/4, Error ellipse: s-maj=13.8km s-min=7.5km az=179.9*
*DJA **21** 19:24:19.2±1.3, 2°N±9°×12°6E±°, h16km±23km, M3.7/8, mb3.8/2, mB4.7/1, MLv3.6/8, Mw(mB)4.0/1*
ISC 21 19:24:18.4±1.4, 1°.9N±0°.1×126°.59E±0°.07, h47km, n11, σ0°97/13, mb3.8/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.37**	**145**	P		**Pn**	**19 24 41.3**	**+0.1**
LBMI	**Labuha**	**2.69**	**160**	P		**Pn**	**19 24 59.3**	**+0.1**
KMSI	**Cibinong**	**2.92**	**243**	P		**Pn**	**19 25 01.5**	**-0.9**
KMSI					S	**Sn**	**19 25 35.5**	**-0.8**
GTOI	**Gorontalo**	**3.79**	**251**	P		**Pn**	**19 25 14.4**	**+0.1**
GTOI					S	**Sn**	**19 25 59.7**	**+2.0**
MRSI	**Marisa**	**4.86**	**253**	P		**Pn**	**19 25 30.4**	**+1.4**
MRSI					S	**Sn**	**19 26 23.8**	**-0.2**
APSI	**Ampana**	**5.68**	**240**	P		**Pn**	**19 25 39.3**	**-0.9**
TGY	**Tagaytay City**	**13.34**	**336**	LR		LR	19 32 26.0	
	comp=Z,116nm,21.5s,baz=120,slow=37							
WRA	**Warramunga Arr**	**23.01**	**161**	P		**P**	**19 29 19.7**	**+0.2**
	1.9nm,0.4s,baz=338,slow=11,SNR=23							
ASAR	**Alice Springs**	**26.40**	**165**	P		**P**	**19 29 50.9**	**+0.1**
	0.3nm,0.3s,baz=346,slow=11,SNR=9.2							
MKAR	**Makanchi Array**	**58.97**	**326**	P		**P**	**19 34 13.3**	**+0.2**
	0.3nm,0.4s,baz=121,slow=7.2,SNR=14							
KURBB	**Kurchatov Arra**	**63.19**	**328**	P		**P**	**19 34 40.7**	**-0.9**
	0.4nm,0.5s,baz=130,slow=6.5,SNR=9.2							

*DJA **21** 19:35:57.7±1.1, 2°N±12°×13°0E±°, h54km±15km, M4.4/5, mb4.6/4, mB4.7/1, MLv4.3/5, Mw(mB)3.9/1*
*IDC **21** 19:35:58.2±2.0, 2°.58N×128°.68E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/37, mbtmp3.4/5, Error ellipse: s-maj=172.7km s-min=20.8km az=69.0*
*ISCJB **21** 19:36:00.3±1.0, 2°.72N±0°.09×129°.14E±0°.09, h35km, mb3.4/5, Error ellipse: s-maj=15.5km s-min=10.3km az=44.5*
ISC 21 19:36:02.2±1.4, 2°.6N±0°.1×129°.3E±0°.1, h35km, n10, σ2°07/11, mb3.4/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.60**	**227**	P		**Pn**	**19 36 38.7**	**-3.1**
TNTI					S	**Sn**	**19 37 11.8**	**-0.4**
KMSI	**Cibinong**	**5.64**	**250**	P		**Pn**	**19 37 22.6**	**-1.0**
	122nm,0.7s,0.4nm							
KMSI					S	**Sn**	**19 38 29.9**	**+2.6**
	122nm,0.7s,0.4nm							
GTOI	**Gorontalo**	**6.54**	**253**	P		**Pn**	**19 37 35.9**	**-0.1**
	28nm,0.7s,0.1nm							
GTOI					S	Sn	19 38 55.9	+6.5
	28nm,0.7s,0.1nm							
MRSI	**Marisa**	**7.61**	**254**	P		**Pn**	**19 37 49.7**	**-1.0**
	36nm,0.8s,455nm0.1nm							
TTSI	**Tana Toraja**	**10.97**	**240**	P		Pn	19 38 32.7	-4.0
WRA	**Warramunga Arr**	**22.91**	**168**	P		**P**	**19 41 05.3**	**+2.2**
	0.6nm,0.6s,baz=346,slow=11,SNR=8.7							
ASAR	**Alice Springs**	**26.46**	**170**	P		**P**	**19 41 38.2**	**+2.1**
	0.4nm,0.8s,baz=352,slow=7.7,SNR=4.3							
MKAR	**Makanchi Array**	**59.96**	**325**	P		**P**	**19 46 03.5**	**-1.6**
	0.5nm,0.7s,baz=120,slow=6.9,SNR=8.3							
KURBB	**Kurchatov Arra**	**64.09**	**327**	P		**P**	**19 46 30.8**	**-1.9**
	0.3nm,0.5s,baz=123,slow=6.3,SNR=4.8							
BVAR	**Borovoye Array**	**69.68**	**327**	P		**P**	**19 47 09.1**	**+0.8**
	0.2nm,0.5s,baz=127,slow=9.2,SNR=2.8							

*CSEM **21** 19:37:12.4, 35°.34N×23°.01E, h57km, MD3.5*
ATH 21 19:37:12.4, 35°.34N×23°.01E, h57km±9km, MD3.5/12, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.58**	**24**	*e*P		Pn	19 37 25.9	+0.9
ANKY					*e*S	Sn	19 37 35.2	+1.0
ANKY	**Antikythira Is**	**0.58**	**24**	*e*P		Pn	19 37 25.9	+0.9
ANKY					*e*S	Sn	19 37 35.2	+1.0
KARN	**Karanos**	**0.74**	**85**	*e*P		Pn	19 37 28.3	+1.2
KARN	**Karanos**	**0.74**	**85**	*e*P		Pn	19 37 28.3	+1.2
KYTH	**Kithira**	**0.94**	**1**	*e*P		Pn	19 37 28.8	-0.8
KYTH	**Kithira**	**0.94**	**1**	*e*P		Pn	19 37 28.8	-0.8
VAM	**Vamos**	**0.97**	**86**	*e*P		Pn	19 37 29.9	-0.1
VAM					*e*S	Sn	19 37 44.2	+1.2
VAM	**Vamos**	**0.97**	**86**	*e*P		Pn	19 37 29.9	-0.1
VAM					*e*S	Sn	19 37 44.2	+1.2
VLI	**Veliai**	**1.38**	**358**	*e*P		Pn	19 37 35.9	+0.5
VLI					*e*S	Sn	19 37 54.6	+2.0
VLI	**Veliai**	**1.38**	**358**	*e*P		Pn	19 37 35.9	+0.5
VLI					*e*S	Sn	19 37 54.6	+2.0
PYL	**PYLOS**	**1.86**	**327**	*e*P		Pn	19 37 43.3	+1.4
PYL	**PYLOS**	**1.86**	**327**	*e*P		Pn	19 37 43.3	+1.4
LAST	**Lasithi**	**2.03**	**94**	*e*P		Pn	19 37 46.3	+2.0
LAST	**Lasithi**	**2.03**	**94**	*e*P		Pn	19 37 46.3	+2.0
ITM	**Ithomi**	**2.03**	**335**	*e*P		Pn	19 37 46.0	+1.7
ITM	**Ithomi**	**2.03**	**335**	*e*P		Pn	19 37 46.0	+1.7
NPS	**Neapolis**	**2.13**	**91**	*e*P		Pn	19 37 47.1	+1.5
NPS	**Neapolis**	**2.13**	**91**	*e*P		Pn	19 37 47.1	+1.5
ZKR	**Zakros**	**2.63**	**94**	*e*P		Pn	19 37 54.7	+2.2
ZKR	**Zakros**	**2.63**	**94**	*e*P		Pn	19 37 54.7	+2.2
APE	**Apeiranthos**	**2.67**	**49**	*e*P		Pn	19 37 54.3	+1.3
APE	**Apeiranthos**	**2.67**	**49**	*e*P		Pn	19 37 54.3	+1.3
KARP	**Karpathos**	**3.40**	**85**	*e*P		Pn	19 38 04.3	+1.4
KARP	**Karpathos**	**3.40**	**85**	*e*P		Pn	19 38 04.3	+1.4

MAN 21 19:38:19, 18°.18N×120°.55E, h41km, mb4.1, ML2.9, MS2.6, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.16**	**25**⇑*i*P			Pn	19 38 27.4	+1.3
PIP					*e*S	Sn	19 38 33.5	+2.4
SIPP	**Brgy, Tapao**	**0.27**	**198**⇓*i*P			Pn	19 38 28.3	+1.2
SIPP					*i* S	Sn	19 38 35.9	+3.3
ABRA	**Dolores**	**0.55**	**163**	*e*P		Pn	19 38 31.8	+1.4
ABRA					*e*S	Sn	19 38 40.9	+2.3
APYP	**Conner**	**0.73**	**115**	*e*P		Pn	19 38 34.3	+1.4
APYP					*e*S	Sn	19 38 45.0	+2.0

DJA 21 19:48:05.6±0.5, 1°N±4°×12°0E±°, h10km, M3.8/12, mb3.8/2, MLv3.8/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.84**	**225**	P		Pg	19 48 20.5	-1.4
MPSI					S	Sg	19 48 31.9	-0.9
MRSI	**Marisa**	**1.52**	**108**	P		Pn	19 48 32.0	-0.9
MRSI					S	Sn	19 48 51.1	-1.7
APSI	**Ampana**	**2.17**	**148**	P		Pn	19 48 42.1	+0.2
APSI					S	Sn	19 49 09.0	+0.1
GTOI	**Gorontalo**	**2.54**	**97**	P		Pn	19 48 45.2	-1.7
LUWI	**Luwuk**	**3.01**	**131**	P		Pn	19 48 54.8	+1.4
LUWI					S	Sb	19 49 34.3	-2.0
KMSI	**Cibinong**	**3.51

	baz=1.1							
H22A	**Clearmont**	**1.20**	**321**	P		**Pg**	**20 01 07.1**	**0.0**
	baz=1.2,SNR=49							
H22A				⇑S		**Sb**	**20 01 24.7**	**+0.7**
	baz=1.2							
H24A	**Dirks Ranch, A**	**1.21**	**26**	⇑P		**Pg**	**20 01 06.4**	**-0.8**
	baz=1.2							
K22A	**Casper**	**1.35**	**222**	⇑P		**Pg**	**20 01 08.8**	**-1.2**
	baz=1.4,SNR=40							
K22A	**Casper**	**1.35**	**222**	*e*Pn		**Pg**	**20 01 08.8**	**-1.2**
K22A				*e*Sn		**Sn**	**20 01 30.0**	**+0.9**
I21A	**Big Trails, Te**	**1.45**	**277**	⇑P		**Pn**	**20 01 10.7**	**-1.1**
	baz=1.5,SNR=99							
K25A	**Mack Ranch, Ha**	**1.48**	**135**	⇑P		**Pn**	**20 01 11.7**	**-0.4**
	baz=1.5,SNR=12							
G23A	**Biddle**	**1.54**	**358**	⇑P		**Pn**	**20 01 12.7**	**-0.2**
	baz=1.5,SNR=58							
H25A	**Fruitdale**	**1.56**	**51**	⇓P		**Pn**	**20 01 13.4**	**+0.3**
	baz=1.5,SNR=33							
H25A				⇓S		**Sg**	**20 01 35.4**	**+1.3**
	baz=1.5							
L23A	**Garrett**	**1.57**	**191**	⇓P		**Pn**	**20 01 12.7**	**-0.8**
	baz=1.6,SNR=67							
H21A	**Big Horn, Sher**	**1.58**	**308**	⇓P		**Pn**	**20 01 13.4**	**-0.1**
	baz=1.6,SNR=45							
J21A	**Lysite**	**1.59**	**259**	⇑P		**Pn**	**20 01 12.7**	**-1.0**
	baz=1.6,SNR=116							
J21A				⇑S		**Sb**	**20 01 35.3**	**0.0**
	baz=1.6							
L24A	**Wheatland**	**1.64**	**170**	⇓P		**Pn**	**20 01 14.0**	**-0.3**
	baz=1.6,SNR=7.5							
J26A	**Sides Ranch, S**	**1.66**	**101**	⇓P		**Pb**	**20 01 15.4**	**-0.1**
	baz=1.6,SNR=9.0							
G22A	**Birney**	**1.71**	**336**	⇓P		**Pn**	**20 01 15.8**	**+0.5**
	baz=1.7,SNR=60							
K21A	**Alcova**	**1.76**	**235**	⇓P		**Pn**	**20 01 16.0**	**0.0**
	baz=1.8,SNR=46							
G24A	**Alzada**	**1.78**	**20**	⇓P		**Pn**	**20 01 17.2**	**+1.0**
	baz=1.8,SNR=19							
L25A	**Engebretsen Ra**	**1.80**	**147**	⇓P		**Pn**	**20 01 17.1**	**+0.7**
	baz=1.8,SNR=16							
I26A	**New Underwood**	**1.80**	**77**	⇓P		**Pn**	**20 01 17.1**	**+0.7**
	baz=1.7,SNR=19							
G25A	**Newell**	**2.04**	**41**	⇓P		**Pn**	**20 01 21.2**	**+1.4**
	baz=2.0,SNR=19							
J20A	**Shoshoni**	**2.05**	**262**	⇑Pb		**Pb**	**20 01 21.5**	**-0.8**
	baz=2.1,SNR=119							
H26A	**Fairpoint**	**2.05**	**61**	⇓P		**Pn**	**20 01 21.0**	**+1.1**
	baz=2.0,SNR=12							
F23A	**Volborg**	**2.06**	**358**	P		**Pn**	**20 01 20.3**	**+0.3**
	baz=2.0,SNR=46							
I20A	**Worland**	**2.07**	**279**	⇑P		**Pn**	**20 01 21.3**	**+1.1**
	baz=2.1,SNR=78							
G21A	**Lodge Grass**	**2.08**	**319**	P		**Pn**	**20 01 20.8**	**+0.5**
	baz=2.1,SNR=26							
H20A	**Greybull**	**2.12**	**294**	⇑P		**Pn**	**20 01 21.1**	**+0.3**
	baz=2.1,SNR=40							
F22A	**Rosebud**	**2.23**	**342**	⇓P		**Pn**	**20 01 22.6**	**+0.3**
	baz=2.2,SNR=35							
F24A	**Ekalaka**	**2.27**	**15**	⇑P		**Pn**	**20 01 23.7**	**+0.8**
	baz=2.2,SNR=15							
I27A	**Quinn**	**2.38**	**79**	⇑P		**Pb**	**20 01 26.4**	**-1.5**
	baz=2.3,SNR=7.2							
M22A	**Cedar Creek Ra**	**2.45**	**203**	⇓Pb		**Pb**	**20 01 27.7**	**-1.5**
	baz=2.5,SNR=113							
G26A	**Maurine**	**2.53**	**49**	⇓P		**Pn**	**20 01 28.0**	**+1.6**
	baz=2.5,SNR=26							
G20A	**Bridger**	**2.61**	**308**	⇑P		**Pn**	**20 01 27.3**	**-0.3**
	baz=2.6,SNR=19							
F25A	**Bowman**	**2.62**	**29**	⇓P		**Pn**	**20 01 29.3**	**+1.6**
	baz=2.6,SNR=11							
I19A	**Meeteetse**	**2.70**	**279**	⇓P		**Pn**	**20 01 30.1**	**+1.1**
	baz=2.7,SNR=20							
J19A	**Crowheart**	**2.76**	**263**	⇑P		**Pn**	**20 01 31.5**	**+1.8**
	baz=2.8,SNR=22							
N23A	**Red Feather La**	**2.81**	**190**	⇑P		**Pn**	**20 01 31.3**	**+0.8**
	baz=2.8,SNR=28							
F26A	**Lodgepole**	**2.88**	**40**	⇑P		**Pn**	**20 01 31.9**	**+0.6**
	baz=2.8,SNR=7.3							
F20A	**Billings**	**2.95**	**317**	⇓P		**Pn**	**20 01 32.4**	**+0.1**
	baz=3.0,SNR=6.7							
G27A	**Dupree**	**2.96**	**53**	⇑P		**Pn**	**20 01 33.1**	**+0.8**
	baz=2.9,SNR=11							
E24A	**Baker**	**2.98**	**13**	⇓P		**Pn**	**20 01 33.4**	**+0.7**
	baz=3.0,SNR=10							
RLMT	**Red Lodge**	**3.20**	**299**	*e*Pn		**Pn**	**20 01 36.1**	**+0.3**
RLMT				*e*Sn		**Sn**	**20 02 16.1**	**+1.4**
RLMT				*e*Sg		**Sg**	**20 02 28.8**	**+2.0**
BW06	**Boulder Array**	**3.24**	**255**	*e*Pn		**Pn**	**20 01 37.6**	**+1.3**
BW06				*e*Sg		**Sb**	**20 02 25.3**	**+2.6**
PDAR	**Pinedale Array**	**3.24**	**255**	Pn		**Pn**	**20 01 37.1**	**+0.7**
	1.9nm,0.3s,baz=79,slow=17,SNR=36							
PDAR				Lg		Lg	20 02 21.7	
	9.7nm,0.3s,baz=72,slow=35,SNR=22							
F19A	**Roth Farm, Mol**	**3.40**	**311**	⇓P		**Pn**	**20 01 39.2**	**+0.8**
	baz=3.4,SNR=13							
E26A	**Carlson Angus**	**3.45**	**35**	⇓P		**Pn**	**20 01 40.3**	**+1.1**
	baz=3.4,SNR=6.4							
OGNE	**Ogallala**	**3.64**	**137**	*e*Pn		**Pn**	**20 01 42.0**	**+0.3**
OGNE				*e*Pg		**Pg**	**20 01 52.9**	**-0.9**
OGNE				*e*Sn		**Sn**	**20 02 26.5**	**+1.2**
OGNE				*e*Sg		**Sg**	**20 02 41.1**	**+0.2**
E19A	**Rath Farm, Rou**	**3.73**	**320**	⇑P		**Pn**	**20 01 43.5**	**+0.5**
	baz=3.7							
D25A	**Fairfield**	**3.76**	**21**	⇓P		**Pn**	**20 01 44.2**	**+0.8**
	baz=3.7,SNR=7.1							
GCMT	**Greycliff**	**3.77**	**306**	*e*Pn		**Pn**	**20 01 44.7**	**+1.1**
GCMT				*e*Sn		**Sn**	**20 02 29.7**	**+0.9**
GCMT				*e*Sg		**Sg**	**20 02 46.6**	**+1.4**
ISCO	**Idaho Springs**	**3.87**	**184**	*e*Pn		**Pn**	**20 01 45.8**	**+0.7**
ISCO				*e*Sn		**Sn**	**20 02 31.3**	**0.0**
ISCO				*e*Sg		**Sg**	**20 02 53.0**	**+4.7**
H17A	**Grant Village**	**3.88**	**283**	Pn		**Pn**	**20 01 45.9**	**+0.8**
H17A				*e*Sn		**Sb**	**20 02 37.4**	**-3.6**
C24A	**Savage**	**3.92**	**9**	⇑P		**Pn**	**20 01 47.1**	**+1.6**
	baz=3.9,SNR=8.7							
D26A	**Manning**	**3.93**	**30**	⇓P		**Pn**	**20 01 46.7**	**+1.1**
	baz=3.9,SNR=8.3							
C23A	**Lambert**	**4.14**	**1**	⇑P		**Pn**	**20 01 50.1**	**+1.5**
	baz=4.1,SNR=8.0							
O20A	**White River Ci**	**4.15**	**213**	*e*Pn		**Pn**	**20 01 50.5**	**+1.6**
O20A				*e*Sn		**Sn**	**20 02 41.8**	**+3.6**
YMR	**Madison River**	**4.20**	**286**	*e*Pn		Pn	20 01 52.9	+3.3
C26A	**Wahner Farm, P**	**4.73**	**27**	P		**Pn**	**20 01 57.5**	**+0.9**
	baz=4.7,SNR=6.6							
B25A	**Knox Farm, Ray**	**4.85**	**17**	⇓P		**Pn**	**20 01 59.1**	**+0.9**
	baz=4.8,SNR=8.1							
KSCO	**Kaye Shedlock'**	**5.06**	**156**	*e*Pn		**Pn**	**20 02 00.6**	**-0.8**
KSCO				*e*Sg		**Sg**	**20 03 31.1**	**+4.5**
R26A	**Arlington**	**5.54**	**165**	⇓P		**Pn**	**20 02 08.3**	**+0.5**
	baz=5.5,SNR=15							
SRU	**San Rafael Swe**	**6.01**	**223**	*e*Pn		**Pn**	**20 02 14.7**	**+0.4**
SRU				*e*Sn		**Sn**	**20 03 26.7**	**+2.7**
SRU				*e*Sg		**Sg**	**20 03 53.1**	**-3.9**
ECSD	**EROS Data Cent**	**6.30**	**86**	*e*Pn		**Pn**	**20 02 18.6**	**+0.5**
ECSD				*e*Pg		Pb	20 02 39.7	+5.2
ECSD				*e*Sg		Sg	20 03 58.8	-7.4
DUG	**Dugway, Tooele**	**6.59**	**241**	*e*Pn		**Pn**	**20 02 23.0**	**+0.7**
AGMN	**Agassiz Nation**	**8.04**	**52**	Pn		**Pn**	**20 02 41.2**	**-0.9**
AGMN				*e*Pg		Pb	20 03 10.0	+5.8
AGMN				*e*Sg		**Sg**	**20 04 58.0**	**-4.1**
I10CA	**LAC DU BONNET**	**9.11**	**41**	*i*			21 00 10.0	
	baz=223,slow=312,SNR=0.7							
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn		**Pn**	**20 02 55.8**	**-2.4**
	1.5nm,0.3s,baz=235,slow=14,SNR=12							
ULM				Lg		Lg	20 05 30.2	
	0.2nm,0.3s,baz=151,slow=19,SNR=1.9							
YKA	**Yellowknife Ar**	**19.64**	**347**	P		**P**	**20 05 14.0**	**0.0**
	0.1nm,0.3s,baz=158,slow=11,SNR=3.5							

*IDC **21** 20:59:47.1±1.1,22°.34S×174°.72W,h0km,mb4.4/11, mb1 4.6/11,mb1mx4.3/34,mbtmp4.4/11,MS3.7/1, Ms1 3.7/1,ms1mx3.0/26,Error ellipse: s-maj=46.6km s-min=24.6km az=150.0*
*SZGRF **21** 20:59:53.2,21°.95S×174°.18W,h33km,Tonga Islands*
*ISCJB **21** 20:59:56.7±2.5,22°.50S±0°.08×174°.9W±0°.1,h80km±20km, mb4.8/26,Error ellipse: s-maj=18.9km s-min=13.4km az=17.1*
*NEIC **21** 20:59:57.8±2.2,22°.48S×174°.82W,h78km±17km,mb5.1/16, Error ellipse: s-maj=16.4km s-min=12.3km az=107.0*
*BJI **21** 21:00:00.0,22°.90S×175°.50W,h82km,mB5.6/21, mb5.1/30,Ms5.3/14,Ms7 4.8/12*
ISC 21 20:59:58.8±0.6,22°.51S±0°.09×174°.78W±0°.09,h81km±2km,

h81km:pP-P,n109,σ1♀68/135,mb5.0/25,19C-6D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.24**	**304**	Pn	**Pn**	**21 01 55.0**	**-0.8**
	372nm,1.0s,SNR=7.3						
MSVF	**Nonsavu**	**8.24**	**304**	*e*Pn	**Pn**	**21 01 55.0**	**-0.8**
NFK	**Norfolk Island**	**16.86**	**244**	S	**S**	**21 07 04.3**	**+2.0**
	baz=18,SNR=3.8						
URZ	**Urewera**	**17.17**	**202**	*e*P	**P**	**21 03 53.9**	**0.0**
	21nm,1.2s						
DZM	**Mont Dzumac**	**17.38**	**268**	P	**P**	**21 03 57.5**	**+1.1**
	0.4nm,0.3s,baz=86,slow=10,SNR=4.4						
KHZ	**Kahutara**	**22.12**	**203**	*e*P	**P**	**21 04 45.3**	**-2.2**
	168nm,1.9s						
PPT2	**Papeete2**	**24.17**	**83**	*e*LR	LR	21 10 13.3	
	193nm,26.0s						
PPT	**Papeete**	**24.17**	**83**	LR	LR	21 12 52.8	
	comp=Z,157nm,18.6s,baz=250,slow=33						
EIDS	**Eidsvold**	**31.28**	**258**	P	**P**	**21 06 10.8**	**-0.5**
	baz=32,SNR=3.6						
EIDS	**Eidsvold**	**31.28**	**258**	*e*P	**P**	**21 06 09.1**	**-2.1**
	101nm,2.3s						
CMSA	**Cobar Meteorol**	**36.18**	**247**	P	**P**	**21 06 54.4**	**+0.7**
	baz=37,SNR=6.3						
CTAO	**Charters Tower**	**36.31**	**266**	*e*P	**P**	**21 06 53.6**	**-1.3**
	58nm,1.6s						
QLP	**Quilpie**	**37.39**	**255**	P	**P**	**21 07 03.0**	**-1.0**
	baz=38,SNR=5.7						
COEN	**Coen**	**40.72**	**275**	P	**P**	**21 07 31.2**	**-0.7**
	baz=42,SNR=4.7						
COEN	**Coen**	**40.72**	**275**	*e*P	**P**	**21 07 30.6**	**-1.3**
	182nm,1.8s						
BBOO	**Buckleboo**	**44.39**	**246**	*e*P	**P**	**21 07 58.8**	**-2.7**
	2μm,2.3s						
AS31	**Alice Springs**	**47.01**	**258**	*e*P	**P**	**21 08 20.8**	**-1.5**
ASAR	**Alice Springs**	**47.01**	**258**	P	**P**	**21 08 20.9**	**-1.4**
	8.8nm,0.8s,baz=92,slow=8.3,SNR=79						
ASAR				PcP	**PcP**	**21 09 53.1**	**-0.4**
	1.6nm,0.8s,baz=106,slow=3.3,SNR=5.2						
WB2	**Warramunga Arr**	**47.30**	**263**	*e*P	**P**	**21 08 22.3**	**-2.3**
WRAB	**Tennant Creek**	**47.31**	**263**	P	**P**	**21 08 22.2**	**-2.4**
	43nm,0.9s,SNR=12						
WRAB	**Tennant Creek**	**47.31**	**263**	*e*P	P	21 08 21.3	-3.3
WRAB				*e*P	**P**	**21 08 22.6**	**-2.1**
WRAB				*e*PcP	**PcP**	**21 09 54.8**	**+0.3**
WRA	**Warramunga Arr**	**47.31**	**263**	P	**P**	**21 08 22.8**	**-1.9**
	2.2nm,0.5s,baz=101,slow=8.0,SNR=68						
WRA				PcP	**PcP**	**21 09 54.0**	**-0.6**
	2.2nm,0.8s,baz=100,slow=3.4,SNR=6.6						
KDU	**Kakadu**	**51.00**	**272**	P	**P**	**21 08 51.0**	**-1.7**
	baz=52,SNR=4.9						
FORT	**Forrest**	**51.28**	**248**	*e*P	**P**	**21 08 53.2**	**-1.6**
	35nm,0.8s						
WRKA	**Warakurna**	**51.83**	**255**	P	**P**	**21 08 57.8**	**-1.2**
	baz=52,SNR=33						
KNRA	**Kununurra**	**53.53**	**267**	P	**P**	**21 09 10.2**	**-1.3**
	baz=54,SNR=6.2						
FITZ	**Fitzroy Crossi**	**55.74**	**263**	P	**P**	**21 09 26.7**	**-0.8**
	baz=56,SNR=8.9						
FITZ	**Fitzroy Crossi**	**55.74**	**263**	*e*P	P	21 09 24.4	-3.1
FITZ				*e*P	**P**	**21 09 26.8**	**-0.8**
SOEI	**Soe**	**59.56**	**272**	P	**P**	**21 09 54.8**	**+0.3**
	baz=60,SNR=9.4						
SOEI	**Soe**	**59.56**	**272**	*e*P	**P**	**21 09 54.8**	**+0.3**
	39nm,0.9s						
MBWA	**Marble Bar**	**60.35**	**258**	*e*P	**P**	**21 09 58.9**	**-0.8**
	16nm,1.3s						
MORW	**Morawa**	**61.85**	**248**	P	**P**	**21 10 09.9**	**+0.1**
	baz=62,SNR=3.3						
QSPA	**South Pole Qui**	**67.57**	**180**	*e*P	**P**	**21 10 48.3**	**+1.8**
	16nm,1.3s						
MJAR	**Matsushiro Arr**	**73.61**	**322**	P	**P**	**21 11 21.0**	**-2.5**
	2.4nm,0.8s,baz=161,slow=5.8,SNR=5.7						
PETK	**Petropavlovsk-**	**79.01**	**344**	P	**P**	**21 11 51.9**	**-1.7**
	7.4nm,1.0s,baz=120,slow=5.7,SNR=3.5						
KSRS	**Korea Array**	**80.38**	**317**	P	**P**	**21 12 00.7**	**-0.7**
	1.8nm,0.7s,baz=134,slow=5.5,SNR=6.8						
KSAR	**Wonju Array Be**	**80.40**	**317**	P	**P**	**21 12 00.7**	**-0.8**
USRK	**Ussuriysk Ar.**	**82.32**	**324**	P	**P**	**21 12 09.6**	**-1.8**
	6.3nm,0.9s,baz=107,slow=5.0,SNR=7.1						
NJ2	**Nanjing**	**83.47**	**308**	*e*P	**P**	**21 12 19.3**	**+1.6**
NJ2				PMZ			
	50nm,1.1s						
MDJ	**Mudanjiang**	**83.89**	**324**	P	**P**	**21 12 19.9**	**+0.3**
MDJ				PMZ			
	14nm,1.1s						
MDJ				PMZ			
	790nm,4.8s						
MDJ	**Mudanjiang**	**83.89**	**324**	*e*P	**P**	**21 12 19.4**	**-0.2**
	16nm,1.0s						
QIZ	**Qiongzhong**	**84.40**	**293**	P	**P**	**21 12 25.3**	**+2.5**
QIZ				pP	**pP**	**21 12 45.0**	**+0.4**
QIZ				sP	**sP**	**21 12 52.9**	**-0.4**
QIZ				S	**SKKSac**	**21 22 44.1**	**-1.2**
QIZ				sS	**sS**	**21 23 17.3**	**-2.7**
TXAR	**Lajitas Array**	**85.65**	**56**	P	**P**	**21 12 27.0**	**-1.9**
	1.0nm,1.1s,baz=220,slow=6.8,SNR=4.2						
IPM	**Ipoh**	**86.34**	**276**	*e*P	**P**	**21 12 32.9**	**+0.2**
	19nm,0.8s						
TIA	**Tai'an**	**86.84**	**311**	⇑P	**P**	**21 12 34.8**	**+0.3**
TIA				PMZ			
	20nm,0.9s						
GSI	**Gunungsitoli**	**88.31**	**272**	*e*P	**P**	**21 12 43.6**	**+1.5**
	40nm,0.8s						
BJI	**Beijing**	**89.43**	**314**	P	P	21 12 51.1	+4.5
BJI				PMZ			
	11nm,0.8s						
BJI				LZ			
	85nm,18.8s						
ILAR	**Eielson Array**	**89.64**	**12**	P	**P**	**21 12 45.0**	**-2.1**
	0.8nm,0.8s,baz=216,slow=5.4,SNR=8.4						
GYA	**Guiyang**	**90.24**	**299**	P	**P**	**21 12 53.0**	**+2.0**
GYA				pP	**pP**	**21 13 15.3**	**+2.4**
GYA				sP	**sP**	**21 13 23.8**	**+2.1**
GYA				PP	**PP**	**21 16 30.5**	**+4.4**
GYA				SKS	**SKSac**	**21 23 15.0**	**-0.2**
GYA				S	**S**	**21 23 37.9**	**-0.8**
GYA				sS	**sS**	**21 24 14.3**	**-2.1**
GYA				SS	**SS**	**21 29 41.6**	**+1.2**
GYA				PMZ			
	20nm,1.0s						
GYA				PMZ			
	130nm,5.0s						
GYA				LN			
	440nm,18.6s						
GYA				LE			
	360nm,19.0s						
GYA				LZ			
	420nm,18.4s						
SLVN	**Son La**	**90.43**	**293**	*e*P	**P**	**21 12 53.1**	**+1.3**
	3.8nm,1.1s						
DAWY	**Dawson**	**90.60**	**15**	*e*P	**P**	**21 12 50.8**	**-0.9**
HHC	**Hu-ho-hao-te**	**92.90**	**313**	*e*P	P	21 13 07.9	+5.0
HHC				pP	pP	21 13 26.8	+1.9
HHC				sP	sP	21 13 38.5	+4.8
HHC				PP	**PP**	**21 16 50.3**	**+3.5**
HHC				S	**ScS**	**21 24 06.3**	**+2.4**
HHC				sS	sS	21 24 43.9	+4.0
HHC				PMZ			
	23nm,0.9s						
HHC				PMZ			
	220nm,4.9s						
HHC				LN			
	270nm,16.2s						
HHC				LE			
	580nm,18.1s						
HHC				LZ			
	150nm,17.8s						
CMAR	**Chiang Mai Arr**	**93.60**	**288**	P	**P**	**21 13 06.3**	**-0.2**
	5.5nm,0.8s,baz=129,slow=3.1,SNR=42						
CHTO	**Chiang Mai**	**93.73**	**289**	*e*P	**P**	**21 13 08.2**	**+1.1**
	6.9nm,0.7s						
CD2	**Chengdu**	**94.39**	**302**	*e*P	P	21 13 12.9	+3.0
CD2				pP	pP	21 13 34.8	+2.8
CD2				SKS	**SKSac**	**21 23 35.1**	**-3.0**
CD2				S	**S**	**21 24 17.9**	**+2.4**
CD2				sS	sS	21 24 50.0	-3.4
CD2				PMZ			
	10.0nm,0.7s						
CD2				PMZ			
	80nm,10.7s						
CD2				LE			
	120nm,10.7s						
CD2				LZ			
	120nm,14.3s						
LZH	**Lanzhou**	**96.37**	**306**	*e*P	**P**	**21 13 20.3**	**+1.3**
LZH				pP	**pP**	**21 13 41.5**	**+0.5**
LZH				sP	**sP**	**21 13 49.5**	**-0.2**
LZH				*e*PP	**PP**	**21 17 16.5**	**+2.6**
LZH				SKS	**SKSac**	**21 23 50.0**	**+1.4**
LZH				*e*S	**S**	**21 24 30.3**	**-2.3**
LZH				sS	**sS**	**21 25 06.8**	**-3.8**
LZH				*e*SS	**SS**	**21 31 07.6**	**-0.2**
LZH				PMZ			
	20nm,1.5s						
LZH				PMZ			
	130nm,8.3s						
LZH				LN			
	390nm,18.0s						
LZH				LE			
	400nm,17.5s						
LZH				LZ			
	500nm,19.7s						
YKA	**Yellowknife Ar**	**97.10**	**24**	P	**P**	**21 13 19.2**	**-2.2**
	0.3nm,0.7s,baz=237,slow=4.5,SNR=8.1						
SONM	**Songino Array**	**99.24**	**318**	P	**Pdif**	**21 13 31.2**	**-0.4**
	0.4nm,0.7s,baz=128,slow=6.4,SNR=3.6						
WMQ	**Urumqi**	**110.50**	**310**	*e*PKP	**PKiKP**	**21 18 24.9**	**+3.0**
WMQ				LN			
	35nm,15.0s						
WMQ				LE			
	41nm,21.0s						
MKAR	**Makanchi Array**	**114.75**	**312**	PKP	PKPdf	21 18 29.2	-0.7
	0.3nm,0.7s,baz=82,slow=1.4,SNR=4.5						
KSH	**Kashi**	**118.49**	**304**	*e*PKP	**PKPdf**	**21 18 41.4**	**+3.9**
KSH				sPKP		21 19 09.3	
KSH				PP	**PP**	**21 19 59.4**	**+3.7**
KSH				PKS	**PKSdf**	**21 22 18.1**	**+3.9**
KSH				PPMZ			
	86nm,6.9s						
KSH				LN			
	47nm,4.3s						
KSH				LE			
	67nm,4.6s						
KSH				LZ			
	230nm,5.0s						
ARCES	**ARCESS Array B**	**131.41**	**351**	PKP	**PKPdf**	**21 18 59.5**	**-1.6**
	1.6nm,0.7s,baz=56,slow=2.3,SNR=6.3						
GEYT	**Alibeck**	**132.38**	**301**	PKP	**PKPdf**	**21 19 03.0**	**-1.0**
	1.1nm,0.7s,baz=90,slow=0.3,SNR=3.8						
SUW	**Suwalki**	**145.74**	**341**	*e*PKP	**PKPbc**	**21 19 27.7**	**-0.5**
AKASG	**Malin Array Be**	**146.20**	**332**	PKPbc	**PKPdf**	**21 19 28.3**	**-0.2**
	5.3nm,0.6s,baz=40,slow=4.1,SNR=21						
KIEV	**Kiev**	**146.21**	**332**	*e*PKPdf	**PKPbc**	**21 19 28.8**	**-0.9**
BSEG	**Bad Segeberg**	**148.39**	**354**	*e*PKPbc	**PKPbc**	**21 19 35.3**	**-0.3**
PRAR	**RASCA**	**150.00**	**331**	⇑*i*P	**PKPab**	**21 19 44.1**	**-1.7**
IBBN	**Ibbenburen**	**150.19**	**357**	*e*PKPbc	**PKPbc**	**21 19 40.1**	**0.0**
BURAR	**Bucovina Array**	**150.25**	**332**	⇓*i*P	**PKPbc**	**21 19 42.9**	**+2.3**
STHS	**Stebnicka Huta**	**150.31**	**339**	*e*PKP	**PKPab**	**21 19 47.9**	**+0.9**
KOLS	**Kolonicke sedl**	**150.36**	**337**	*e*PKP	**PKPbc**	**21 19 41.1**	**+0.4**
BRTR	**Keskin Array B**	**150.40**	**312**	PKPbc	**PKPbc**	**21 19 40.9**	**-0.4**
	2.7nm,0.7s,baz=128,slow=3.3,SNR=23						
KSP	**Ksiaz**	**150.43**	**346**	*e*PKP	**PKPbc**	**21 19 41.3**	**+0.5**
TESR	**Tescani**	**150.43**	**329**	⇑*i*P	**PKPbc**	**21 19 41.6**	**+0.6**
CLZ	**Clausthal**	**150.45**	**354**	*e*PKPbc	**PKPbc**	**21 19 41.1**	**+0.2**
CLL	**Collm**	**150.62**	**350**	*e*PKPbc	**PKPbc**	**21 19 40.9**	**-0.3**
CLL	**Collm**	**150.62**	**350**	⇑*i*PKPbc	**PKPbc**	**21 19 41.1**	**-0.1**
	comp=Z,14nm,1.0s						
CRVS	**Cervenica-Dubn**	**150.68**	**338**	*e*PKP	**PKPab**	**21 19 48.1**	**-0.5**
UPC	**Upice**	**150.81**	**346**	⇑*e*PKP	**PKPbc**	**21 19 43.8**	**+2.1**
DPC	**Dobruska-Polom**	**150.88**	**345**	⇑*e*PKP	**PKPbc**	**21 19 42.1**	**+0.2**
DPC				*ex*	x	21 19 54.5	
DPC				*e*pPKP	**pPKPdf**	**21 20 02.2**	**+3.0**
BRG	**Berggiesshubel**	**150.88**	**349**	*e*PKP	**PKPdf**	**21 19 36.9**	**+0.7**
	comp=Z,2.2nm,1.0s						
BRG				*i*		21 19 41.9	
	comp=Z,9.8nm,0.9s						
BRG	**Berggiesshubel**	**150.88**	**349**	*e*PKPbc	**PKPbc**	**21 19 41.7**	**-0.2**
ANTO	**Ankara**	**150.91**	**313**	⇑*i*P	**PKPbc**	**21 19 43.0**	**+0.6**
TRPA	**Tarpa**	**150.93**	**336**	⇑*i*P	**PKPbc**	**21 19 42.6**	**+0.6**
KRLC	**Kraliky**	**151.03**	**345**	⇑*e*PKP	**PKPbc**	**21 19 42.2**	**-0.1**
KRLC				*e*PKPAB	**PKPab**	**21 19 52.1**	**+2.1**
KRLC				*e*pPKP	**pPKPdf**	**21 20 02.4**	**+3.0**
KRLC				*ex*	x	21 20 13.0	
PVCC	**Panska Ves**	**151.09**	**348**	⇑*e*PKP	**PKPbc**	**21 19 43.0**	**+0.6**
MORC	**Moravsky Berou**	**151.11**	**343**	⇑*i*P	**PKPbc**	**21 19 43.0**	**+0.5**
DOPR	**Dopca**	**151.43**	**330**	⇑*i*P	**PKPbc**	**21 19 44.2**	**+0.9**
MOX	**Moxa**	**151.48**	**351**	*e*PKPbc	**PKPbc**	**21 19 42.9**	**-0.4**
PRA	**Prague**	**151.56**	**347**	⇑*e*PKP	**PKPbc**	**21 19 43.7**	**+0.3**
TANN	**Tannenbergstha**	**151.58**	**350**	*e*PKPbc	**PKPbc**	**21 19 43.5**	**-0.1**
PRU	**Pruhonice**	**151.61**	**347**	⇑*e*PKP	**PKPbc**	**21 19 43.0**	**-0.6**

0.2nm,0.7s,baz=235,slow=3.3,SNR=1.9

*IDC **21** 21:09:30.9±0.8,34.°72S×73.°71W,h0km,mb4.0/9, mb1 4.1/12,mb1mx4.0/29,mbtmp3.9/12,ML3.6/3,MS3.0/1, Ms1 3.0/1,ms1mx2.7/26,Error ellipse: s-maj=26.0km s-min=18.0km az=88.0*

*ISCJB **21** 21:09:33.7±0.5,34.°68S±0.°04×73.°68W×0.°05,h33km, mb4.1/11,Error ellipse: s-maj=6.3km s-min=5.6km az=139.9*

*GUC **21** 21:09:33.1±0.4,34.°65S×73.°68W,h27km±3km,ML3.9*

*NEIC **21** 21:09:35.8±0.5,34.°70S×73.°56W,h35km,mb4.5/6,Error ellipse: s-maj=11.7km s-min=7.4km az=88.0*

ISC 21 21:09:35.7±0.6,34.°66S±0.°05×73.°68W±0.°08,h35km,n33, σ1§07/39,mb4.2/11,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.83**	**114**	*e*P	**Pn**	**21 10 03.3**	**-1.4**
TALC				*e*S	**Sn**	**21 10 26.5**	**-0.2**
NICH	**Los Niches**	**2.05**	**100**	*e*S	**Sn**	**21 10 32.0**	**0.0**
NICH				IAML		21 10 34.3	
	comp=N,2μm,0.5s						
LNCH	**Linares**	**2.07**	**125**	*e*P	**Pn**	**21 10 07.1**	**-0.9**
LNCH				*e*S	**Sn**	**21 10 32.4**	**-0.2**
CHCH	**Chadas Angostu**	**2.61**	**75**	*e*P	**Pn**	**21 10 14.4**	**-1.0**
CHCH				*e*S	**Sn**	**21 10 45.6**	**-0.4**
CLCH	**Cerro Calan**	**2.90**	**65**	*e*P	**Pn**	**21 10 18.2**	**-1.3**
CLCH				*e*S	**Sn**	**21 10 53.0**	**-0.2**
CLCH				IAML		21 10 58.1	
	comp=N,260nm,0.5s						
CFAA	**Coronel Fontan**	**5.49**	**58**	Pn	**Pn**	**21 10 55.1**	**0.0**
	comp=N,0.8nm,0.3s,baz=231,slow=12,SNR=25						
CFAA				Sn	**Sn**	**21 11 58.0**	**+0.9**
	comp=N,0.1nm,0.3s,baz=127,slow=20,SNR=3.6						
LCO	**Las Campanas**	**6.18**	**25**	*e*Pn	**Pn**	**21 11 02.4**	**-2.3**
LCO				*e*Sn	**Sn**	**21 12 10.9**	**-3.4**
PLCA	**Paso Flores**	**6.55**	**159**	Pn	**Pn**	**21 11 08.7**	**-0.9**
	comp=N,0.3nm,0.3s,baz=332,slow=13,SNR=5.2						
PLCA				LR	LR	21 13 49.6	
	comp=N,139nm,20.6s,baz=314,slow=40						
PLCA	**Paso Flores**	**6.55**	**159**	*e*Pn	**Pn**	**21 11 07.3**	**-2.3**
	comp=N,5.4nm,0.7s						
PLCA				*e*Sn	**Sn**	**21 12 22.5**	**-0.6**
TRQA	**Tornquist**	**10.03**	**113**	*e*Pn	**Pn**	**21 11 55.9**	**-1.3**
LVC	**Limon Verde**	**12.71**	**20**	*e*P	**Pn**	**21 12 33.5**	**-0.7**
LPAZ	**La Paz**	**18.96**	**17**	P	**Pn**	**21 13 56.7**	**+1.2**
	comp=N,0.1nm,0.3s,baz=166,slow=7.2,SNR=10						
LPAZ	**La Paz**	**18.96**	**17**	*e*P	**P**	**21 13 54.6**	**-0.1**
	comp=N,5.2nm,0.8s						
SIV	**San Ignacio**	**21.77**	**34**	P	**P**	**21 14 24.6**	**+0.1**
	comp=N,4.0nm,0.8s,baz=225,slow=9.2,SNR=7.7						
PTGA	**Pitinga**	**36.11**	**24**	*e*P	**P**	**21 16 34.3**	**-0.1**
	comp=N,3.3nm,0.7s						
RCBR	**Riachuelo**	**45.15**	**59**	*e*P	**P**	**21 17 49.2**	**+0.1**
SNAA	**Sanae**	**51.49**	**158**	P	**P**	**21 18 37.4**	**0.0**
	comp=N,0.9nm,0.8s,baz=230,slow=7.9,SNR=7.1						
SNAA	**Sanae**	**51.49**	**158**	*e*P	**P**	**21 18 36.1**	**-1.3**
	comp=N,6.2nm,1.0s						
QSPA	**South Pole Qui**	**55.58**	**180**	P	**P**	**21 19 07.5**	**0.0**
	comp=N,3.6nm,1.1s,baz=119,slow=1.8,SNR=7.8						
QSPA	**South Pole Qui**	**55.58**	**180**	*e*P	**P**	**21 19 07.2**	**-0.3**
	comp=N,6.5nm,1.2s						
TXAR	**Lajitas Array**	**69.67**	**332**	P	**P**	**21 20 42.6**	**+0.9**
	comp=N,1.5nm,0.8s,baz=151,slow=8.3,SNR=12						
DBIC	**Dimbokro**	**76.68**	**72**	P	**P**	**21 21 24.6**	**+1.2**
	comp=N,2.4nm,0.8s,baz=226,slow=7.6,SNR=3.9						
DBIC	**Dimbokro**	**76.68**	**72**	*e*P	**P**	**21 21 23.6**	**+0.2**
	comp=N,2.8nm,0.7s						
TSUM	**Tsumeb**	**80.34**	**107**	*e*P	**P**	**21 21 43.5**	**-0.3**
BOSA	**Boshof**	**80.96**	**118**	P	**P**	**21 21 47.8**	**+0.8**
	comp=N,2.3nm,0.9s,baz=214,slow=7.3,SNR=4.3						
NVAR	**Mina Array Bea**	**83.66**	**326**	P	**P**	**21 22 01.5**	**+0.7**
	comp=N,0.5nm,0.7s,baz=134,slow=5.1,SNR=4.2						
PDAR	**Pinedale Array**	**83.75**	**334**	P	**P**	**21 22 02.0**	**+0.8**
	comp=N,0.5nm,0.8s,baz=139,slow=6.0,SNR=4.2						
HVU	**Hansel Valley**	**84.11**	**332**	*e*P	**P**	**21 22 03.1**	**+0.2**
	comp=N,3.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**85.71**	**71**	P	**P**	**21 22 11.9**	**+0.5**
	comp=N,0.8nm,1.0s,baz=260,slow=4.1,SNR=4.0						
BRTR	**Keskin Array B**	**123.34**	**62**	PKP	**PKPdf**	**21 28 29.3**	**+0.2**
	comp=N,0.3nm,0.6s,baz=275,slow=2.7,SNR=3.3						
ZALV	**Zalesovo Beam**	**155.51**	**31**	PKPbc	PKPdf	21 29 34.6	+10
	comp=N,0.8nm,0.7s,baz=347,slow=3.3,SNR=3.9						
MKAR	**Makanchi Array**	**158.22**	**49**	PKPab	**PKPab**	**21 30 03.4**	**+0.5**
	comp=N,0.4nm,0.7s,baz=305,slow=4.3,SNR=6.7						
ULN	**Ulaanbaatar**	**166.80**	**358**	*e*PKPdf	**PKPdf**	**21 29 38.2**	**+0.8**

GUC 21 21:15:35.4±0.5,33.°50S×72.°32W,h12km±6km,ML3.5, 6C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.74**	**50**	⇓*i*P	Pg	21 15 49.1	-0.7
IHA				*i* S1	Sg	21 15 59.6	+0.1
TACH	**Talagante**	**1.16**	**98**	⇑*i*P	Pb	21 15 55.7	-1.8
TACH				*i* S1	Sb	21 16 11.8	-0.8
SAN	**Santiago**	**1.39**	**88**	⇑*i*P	Pn	21 15 59.6	-1.0
SAN				*i* S	Sn	21 16 17.7	-1.2
ANTU	**Antumapu**	**1.41**	**93**	⇑*i*P	Pn	21 16 00.1	-0.9
ANTU				*i* S	Sn	21 16 18.3	-1.2
ANTU				AML	AML	21 16 20.9	
	comp=N,804nm,1.0s						
PEL	**Peldehue**	**1.41**	**76**	⇓*i*P	Pn	21 16 00.1	-0.9
PEL				*i* S	Sn	21 16 18.8	-0.8
PEL				AML	AML	21 16 26.8	
	comp=N,2μm,0.3s						
CLCH	**Cerro Calan**	**1.49**	**86**	⇑*i*P	Pn	21 16 01.4	-0.8
CLCH				*i* S	Sn	21 16 20.9	-0.7
CLCH				AML	AML	21 16 26.3	
	comp=E,1μm,0.9s						
CLCH				AML	AML	21 16 40.0	
	comp=E,1μm,0.5s						
SJCH	**San Jose de Ma**	**1.65**	**95**	⇑*i*P	Pn	21 16 03.3	-1.0
SJCH				*e*S	Sn	21 16 25.2	-0.3
FCH	**Farellones**	**1.71**	**85**	⇑*i*P	Pn	21 16 05.6	+0.2
FCH				*i* S	Sb	21 16 28.3	-0.5
FCH				AML	AML	21 16 36.1	
	comp=E,787nm,0.5s						
NICH	**Los Niches**	**1.75**	**149**	*e*P1	Pn	21 16 05.2	-0.3
NICH				*e*S	Sn	21 16 27.9	+0.2

GUC 21 21:22:34.1±0.7,34.°66S×72.°09W,h11km±5km,ML3.7, 4C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.79**	**116**	⇑*i*P	Pg	21 22 49.2	-0.2
NICH				*i* S	Sb	21 23 00.1	-0.4
TALC	**Talca**	**0.82**	**153**	⇑*i*P	Pg	21 22 49.3	-0.7
TALC				*i* S	Sg	21 23 00.6	-0.2
LNCH	**Linares**	**1.25**	**161**	⇓*i*P	Pn	21 22 56.5	-1.1
LNCH				*i* S	Sb	21 23 13.3	-0.5
COCH	**Cobquecura**	**1.57**	**201**	⇑*i*P	Pn	21 23 01.3	-0.6
COCH				*i* S	Sn	21 23 21.9	-0.4
ANTU	**Antumapu**	**1.63**	**48**	*e*P	Pn	21 23 02.7	-0.1
ANTU				*i* S	Sn	21 23 23.9	+0.1
ANTU				AML	AML	21 23 29.9	
	comp=N,1μm,0.6s						
SJCH	**San Jose de Ma**	**1.76**	**55**	⇓*i*P	Pn	21 23 04.3	-0.5
SJCH				*i* S	Sn	21 23 27.8	+0.5
CLCH	**Cerro Calan**	**1.81**	**46**	⇓*i*P	Pn	21 23 05.1	-0.2
CLCH				*i* S	Sn	21 23 28.9	+0.6
CLCH				AML	AML	21 23 41.3	
	comp=E,1μm,0.6s						
CLCH				AML	AML	21 23 41.9	
	comp=E,1μm,0.6s						
PEL	**Peldehue**	**1.91**	**38**	⇑*i*P	Pn	21 23 06.6	-0.2
PEL				AML	AML	21 23 36.4	
	comp=N,1μm,0.6s						

*ISCJB **21** 21:35:55.6±1.2,25.°95S±0.°09×179.°8E±0.°2,h475km, mb4.1/6,Error ellipse: s-maj=21.1km s-min=10.9km az=161.4*

*IDC **21** 21:35:58.5±2.1,26.°00S×179.°73E,h497km±22km,mb3.7/6, mb1 3.8/8,mb1mx3.4/31,mbtmp4.5/8,Error ellipse: s-maj=20.4km s-min=15.4km az=7.0*

ISC 21 21:35:56.9±1.1,26.°0S±0.°1×179.°8E±0.°1,h475km,n25, σ1§12/26,mb4.2/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.40**	**190**	P	**P**	**21 38 39.8**	**0.0**
	1.7nm,0.3s,baz=284,slow=4.2,SNR=7.0						
URZ				S	**S**	**21 40 54.3**	**+0.2**
	1.1nm,0.3s,baz=86,slow=23,SNR=6.5						
DZM	**Mont Dzumac**	**12.79**	**285**	P	**P**	**21 38 46.4**	**+2.1**
	0.6nm,0.3s,baz=106,slow=16,SNR=5.3						
EIDS	**Eidsvold**	**25.84**	**265**	P	**P**	**21 40 50.0**	**+0.6**
	baz=26,SNR=9.1						
RMQ	**Roma**	**27.78**	**262**	P	**P**	**21 41 08.4**	**+1.9**
	baz=28,SNR=7.5						
CMSA	**Cobar Meteorol**	**30.29**	**252**	P	**P**	**21 41 28.8**	**+0.5**
	baz=30,SNR=9.0						
CTA	**Charters Tower**	**31.34**	**274**	P	**P**	**21 41 37.9**	**+0.3**
	12nm,0.4s,baz=96,slow=13						
QLP	**Quilpie**	**31.80**	**261**	P	**P**	**21 41 41.6**	**+0.2**
	baz=32,SNR=16						
COEN	**Coen**	**36.30**	**282**	P	**P**	**21 42 20.2**	**+0.8**
	baz=36,SNR=8.7						
QIS	**Mount Isa**	**37.18**	**270**	P	**P**	**21 42 26.5**	**-0.3**
	baz=37,SNR=7.0						
BBOO	**Buckleboo**	**38.46**	**249**	P	**P**	**21 42 36.4**	**-0.7**
	baz=38,SNR=5.4						
ASAR	**Alice Springs**	**41.52**	**263**	P	**P**	**21 43 01.5**	**-0.4**
	6.6nm,0.4s,baz=95,slow=8.1,SNR=89						
ASAR				S	**S**	**21 48 41.7**	**-1.0**
	0.5nm,0.8s,baz=103,slow=16,SNR=3.7						
WRA	**Warramunga Arr**	**42.10**	**269**	P	**P**	**21 43 05.7**	**-0.8**
	5.4nm,0.4s,baz=104,slow=8.0,SNR=205						
WRA				S	**S**	**21 48 49.3**	**-1.7**
	0.7nm,1.0s,baz=98,slow=13,SNR=3.8						
WRKA	**Warakurna**	**46.20**	**259**	P	**P**	**21 43 37.6**	**-0.8**
	baz=46,SNR=7.1						
KDU	**Kakadu**	**46.31**	**277**	P	**P**	**21 43 38.2**	**-1.0**
	baz=46,SNR=16						
KNRA	**Kununurra**	**48.50**	**272**	P	**P**	**21 43 55.7**	**-0.1**
	baz=48,SNR=13						
FITZ	**Fitzroy Crossi**	**50.49**	**267**	P	**P**	**21 44 10.4**	**-0.1**
	baz=50,SNR=8.1						
MORW	**Morawa**	**55.97**	**251**	P	**P**	**21 44 48.5**	**-1.0**
	baz=56,SNR=3.6						
QSPA	**South Pole Qui**	**64.07**	**180**	P	**P**	**21 45 43.5**	**+0.5**
	2.6nm,0.7s,baz=4.9,slow=0.8,SNR=12						
MJAR	**Matsushiro Arr**	**73.53**	**326**	P	**P**	**21 46 39.9**	**-0.7**
	1.7nm,0.9s,baz=155,slow=9.1,SNR=4.1						
KSRS	**Korea Array**	**79.74**	**321**	P	**P**	**21 47 14.4**	**-0.2**
	1.0nm,0.6s,baz=136,slow=6.3,SNR=4.1						
NB2	**NORSAR Subarra**	**144.14**	**351**	PKP	PKPbc	21 54 35.1	-1.6
	comp=Z,0.8nm,0.5s,baz=18,slow=3.1						
NOA	**NORSAR Array B**	**144.14**	**351**	PKP	PKPbc	21 54 35.3	-1.4
	comp=Z,1.3nm,0.7s,baz=27,slow=2.6,SNR=5.8						
HFS	**Hagfors**	**144.57**	**348**	PKP	**PKPdf**	**21 54 36.6**	**-1.5**
	comp=Z,1.9nm,0.5s,baz=39,slow=3.3,SNR=13						
BRTR	**Keskin Array B**	**148.64**	**304**	PKPbc	**PKPdf**	**21 54 48.5**	**+2.7**
	comp=Z,0.3nm,0.5s,baz=122,slow=2.5,SNR=4.3						
EKA	**Eskdalemuir Ar**	**150.64**	**3**	PKPbc	**PKPbc**	**21 54 53.0**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=339,slow=2.1,SNR=4.3						

*ISCJB **21** 21:41:15.3±0.5,15.°20N±0.°05×94.°68W±0.°03,h10km, mb4.2/21,MS3.5/8,Error ellipse: s-maj=7.6km s-min=4.2km az=16.7*

*IDC **21** 21:41:15.3±1.0,15.°57N×94.°40W,h0km,mb3.8/10, mb1 4.1/13,mb1mx3.9/28,mbtmp3.9/13,ML3.6/3,MS3.4/12, Ms1 3.4/12,ms1mx3.1/46,Error ellipse: s-maj=30.0km s-min=11.8km az=63.0*

*MEX **21** 21:41:20.0±0.5,15.°41N×94.°74W,h16km±6km,MD4.3*

*NEIC **21** 21:41:20.0,15.°41N×94.°74W,h16km,mb4.4/18, MD4.3(MEX),After MEX.*

ISC 21 21:41:16.3±0.7,15.°40N±0.°06×94.°73W±0.°03,h10km,n249, σ1§99/190,mb4.3/21,MS3.4/8,86C-74D,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.38**	**286**	*e*P	**Pn**	**21 41 40.9**	**-0.7**
HUIG				*i* S	**Sb**	**21 41 56.6**	**-3.2**
HUIG	**Huatulco**	**1.38**	**286**	*e*P	**Pn**	**21 41 40.9**	**-0.7**
HUIG				*i* S	**Sb**	**21 41 56.6**	**-3.2**
PCIG		**1.49**	**78**	*e*P	**Pn**	**21 41 42.2**	**-1.0**
PCIG				*e*S	**Sn**	**21 42 00.7**	**-2.0**
PCIG		**1.49**	**78**	*e*P	**Pn**	**21 41 42.2**	**-1.0**
PCIG				*e*S	**Sn**	**21 42 00.7**	**-2.0**
CMIG	**Matias Romero**	**1.69**	**355**	*e*P	**Pn**	**21 41 45.1**	**-0.8**
CMIG				*e*S	**Sn**	**21 42 04.6**	**-3.1**
CMIG	**Matias Romero**	**1.69**	**355**	Pg	**Pn**	**21 41 45.0**	**-0.9**
	68nm,0.3s,baz=158,slow=13,SNR=603						
CMIG				Lg	Lg	21 42 04.6	
	1μm,0.3s,baz=71,slow=14,SNR=82						
CMIG				LR	LR	21 42 28.1	
	comp=Z,848nm,21.1s,baz=188,slow=46						
THIG		**2.43**	**101**	*e*P	**Pn**	**21 41 55.8**	**-0.4**
THIG				*e*S	**Sn**	**21 42 24.2**	**-1.8**
THIG		**2.43**	**101**	*e*P	**Pn**	**21 41 55.8**	**-0.4**
THIG				*e*S	**Sn**	**21 42 24.2**	**-1.8**
VHO	**Vista Hermosa**	**2.54**	**311**	*i* P	**Pn**	**21 41 58.4**	**+0.5**
VHO				*e*S	**Sn**	**21 42 27.6**	**-1.4**
VHO	**Vista Hermosa**	**2.54**	**311**	*i* P	**Pn**	**21 41 58.4**	**+0.5**
VHO				*e*S	**Sn**	**21 42 27.6**	**-1.4**
CCIG	**Comitan**	**2.65**	**70**	*e*P	**Pn**	**21 42 00.2**	**+0.8**
CCIG				*e*S	**Sn**	**21 42 29.9**	**-1.7**
CCIG	**Comitan**	**2.65**	**70**	*e*P	**Pn**	**21 42 00.2**	**+0.8**
CCIG				*e*S	**Sn**	**21 42 29.9**	**-1.7**
PNIG	**Pinotepa**	**3.41**	**287**	*e*P	**Pn**	**21 42 10.1**	**+0.4**
PNIG				*e*S	**Sn**	**21 42 49.0**	**-1.3**
PNIG	**Pinotepa**	**3.41**	**287**	*e*P	**Pn**	**21 42 10.1**	**+0.4**
PNIG				*e*S	**Sn**	**21 42 49.0**	**-1.3**
APG	**El Apazote**	**4.14**	**95**	Pn	Pn	21 42 16.1	-3.8
	5.9nm,0.3s,baz=297,slow=16,SNR=29						
APG				Sn	Sn	21 43 01.8	-6.7
	12nm,0.3s,baz=30,slow=9.6,SNR=4.5						
TLIG	**Tlapa**	**4.26**	**301**	*e*P	**Pn**	**21 42 24.0**	**+2.6**
TLIG				*e*S	**Sn**	**21 43 10.6**	**-0.8**
CAIG	**El Cayaco**	**5.56**	**288**	*e*P	**Pn**	**21 42 40.4**	**+1.1**
CAIG	**El Cayaco**	**5.56**	**288**	*e*P	**Pn**	**21 42 40.4**	**+1.1**
TEIG	**Tepich**	**7.80**	**51**	Pn	Pn	21 43 05.7	-4.3
	0.3nm,0.3s,baz=270,slow=19,SNR=2.2						
TEIG				Sn	Sn	21 44 30.4	-8.1
	3.4nm,0.3s,baz=255,slow=18,SNR=4.1						
TEIG				LR	LR	21 46 35.8	
	comp=Z,290nm,19.8s,baz=194,slow=43						
TEIG	**Tepich**	**7.80**	**51**	*e*Pn	**Pn**	**21 43 10.4**	**+0.4**
	87nm,0.5s						
TEIG				*e*Sn	**Sn**	**21 44 38.1**	**-0.4**
JTS	**JuntasAbangare**	**10.80**	**117**	LR	LR	21 47 46.2	
	comp=Z,148nm,18.6s,baz=344,slow=37						
035Z	**Hargill**	**11.44**	**345**	⇓P	Pn	21 44 06.6	+6.7
	baz=12						
035A	**Encino**	**11.90**	**345**	⇑P	Pn	21 44 12.7	+6.5
	baz=12						
835A	**Beeville**	**13.14**	**348**	⇓P	Pn	21 44 28.4	+5.2
	baz=13						
834A	**Tilden**	**13.15**	**345**	⇓P	P	21 44 28.7	-4.8
	baz=13						
738A	**Farr-Stevens R**	**13.41**	**357**	⇓P	P	21 44 32.7	-3.6
	baz=14						
833A	**Chaparral WMA,**	**13.57**	**342**	⇓P	P	21 44 34.6	-3.5
	baz=14,SNR=12						
733A	**Divot King Ran**	**13.91**	**343**	⇑P	P	21 44 38.3	-3.7
	baz=14,SNR=9.1						
633A	**Saathoff Ranch**	**14.58**	**344**	⇑P	**P**	**21 44 46.7**	**-2.7**
	baz=15,SNR=10						
632A	**Uvalde**	**14.80**	**343**	⇑P	**P**	**21 44 50.3**	**-1.5**
	baz=15,SNR=11						
534A	**Blanco**	**14.96**	**347**	⇓P	**P**	**21 44 51.7**	**-1.9**
	baz=15,SNR=20						
533A	**Kerrville**	**15.13**	**346**	⇓P	**P**	**21 44 54.5**	**-1.0**
	baz=15						
532A	**Rocksprings**	**15.41**	**343**	⇓P	**P**	**21 44 58.6**	**-0.1**
	baz=16,SNR=7.3						
435B	**Jarrell**	**15.54**	**351**	⇑P	**P**	**21 44 59.1**	**-0.8**
	baz=16						
531A	**Rocksprings**	**15.64**	**341**	⇑P	**P**	**21 45 00.1**	**-1.0**
	baz=16,SNR=6.0						
434A	**Burnet**	**15.69**	**349**	⇓P	**P**	**21 45 01.4**	**-0.3**
	baz=16,SNR=7.2						
JCT	**Junction City**	**15.72**	**344**	⇓P	**P**	**21 45 01.6**	**-0.4**
	baz=16						
JCT	**Junction City**	**15.72**	**344**	*e*Pn	**Pn**	**21 44 59.8**	**+1.8**
	13nm,0.7s						
433A	**Art**	**15.80**	**346**	⇑P	**P**	**21 45 03.5**	**+0.6**
	baz=16,SNR=8.4						
337A	**Centerville**	**15.88**	**356**	⇓P	**P**	**21 45 04.4**	**+0.6**
	baz=16						
530A	**J-C Ranch, Com**	**15.89**	**339**	⇓P	**P**	**21 45 03.8**	**-0.2**
	baz=16						
338A	**Crockett**	**15.90**	**358**	⇑P	**P**	**21 45 03.8**	**-0.2**
	baz=16						
335A	**Moody**	**16.00**	**352**	⇑P	**P**	**21 45 05.2**	**0.0**
	baz=16						
432A	**Menard**	**16.09**	**344**	⇑P	**P**	**21 45 05.8**	**-0.4**
	baz=16,SNR=7.7						
TXAR	**Lajitas Array**	**16.13**	**331**	Pn	**Pn**	**21 45 04.4**	**+0.9**
	0.1nm,0.3s,baz=153,slow=12,SNR=16						
TXAR				LR	LR	21 51 48.0	
	comp=Z,42nm,19.2s,baz=0.0,slow=39						
431A	**Sonora**	**16.14**	**342**	⇓P	**P**	**21 45 06.3**	**-0.4**
	baz=16						
334A	**Lometa**	**16.18**	**349**	⇑P	**P**	**21 45 07.2**	**+0.1**
	baz=16,SNR=20						
529A	**Stev Forest Ra**	**16.19**	**336**	⇓P	**P**	**21 45 08.0**	**+0.6**
	baz=16						
333A	**Richland Sprin**	**16.32**	**347**	⇑P	**P**	**21 45 08.9**	**+0.2**
	baz=16,SNR=7.4						
430A	**Baggett Ranch,**	**16.44**	**340**	⇓P	**P**	**21 45 10.7**	**+0.7**
	baz=16						
429A	**Davenport Ranc**	**16.52**	**338**	⇑P	**P**	**21 45 12.1**	**+1.1**
	baz=17,SNR=5.1						
239A	**Gary**	**16.55**	**1**	⇑P	**P**	**21 45 12.4**	**+1.3**
	baz=17						
237A	**Washetta, Mont**	**16.56**	**357**	⇓P	**P**	**21 45 12.4**	**+1.1**
	baz=17						
331A	**San Angelo**	**16.67**	**343**	⇓P	**P**	**21 45 13.7**	**+1.1**
	baz=17						
WHTX	**Lake Whitney,**	**16.71**	**352**	⇓P	**P**	**21 45 13.9**	**+1.0**
	baz=17						
WHTX	**Lake Whitney,**	**16.71**	**352**	*e*Pn	**P**	**21 45 12.2**	**-0.7**
	17nm,0.5s						
234A	**Clairette**	**16.82**	**350**	⇓P	**P**	**21 45 15.4**	**+1.2**
	baz=17,SNR=14						
233A	**Rising Star**	**16.98**	**348**	⇓P	**P**	**21 45 17.4**	**+1.4**
	baz=17						
330A	**Mertzon**	**16.99**	**341**	⇑P	**P**	**21 45 17.7**	**+1.5**
	baz=17						
LPIG	**La Paz**	**17.01**	**303**	LR	LR	21 52 20.6	
	comp=Z,94nm,19.3s,baz=344,slow=39						
232A	**Coleman**	**17.02**	**346**	⇑P	**P**	**21 45 17.2**	**+0.8**
	baz=17,SNR=6.0						
231A	**Bronte**	**17.23**	**344**	⇑P	**P**	**21 45 21.2**	**+2.3**
	baz=17,SNR=7.0						
135A	**Vickery Place,**	**17.26**	**352**	⇓P	**P**	**21 45 20.8**	**+1.8**
	baz=17						
329A	**Wagon Wheel Ra**	**17.33**	**339**	⇓P	**P**	**21 45 22.3**	**+2.4**
	baz=17						
134A	**White-Moore Ra**	**17.37**	**350**	⇑P	**P**	**21 45 21.8**	**+1.5**
	baz=17						
230A	**Sterling City**	**17.42**	**342**	⇑P	**P**	**21 45 23.3**	**+2.5**
	baz=18,SNR=5.4						
133A	**Hamilton Ranch**	**17.55**	**348**	⇑P	**P**	**21 45 24.7**	**+2.4**
	baz=18,SNR=8.2						
229A	**Bryant Ranch,**	**17.71**	**340**	⇑P	**P**	**21 45 26.7**	**+2.6**
	baz=18						
ABTX	**Abilene, Hawle**	**17.72**	**346**	⇑P	**P**	**21 45 26.9**	**+2.7**
	baz=18						
ABTX	**Abilene, Hawle**	**17.72**	**346**	*e*Pn	**P**	**21 45 24.1**	**-0.1**
	15nm,0.7s						
131A	**Roby**	**17.95**	**344**	⇓P	**P**	**21 45 29.4**	**+2.7**
	baz=18						
Z35A	**Perchaven, San**	**18.00**	**353**	⇓P	**P**	**21 45 29.6**	**+2.4**
	baz=18						
130A	**Snyder**	**18.04**	**343**	⇑P	**P**	**21 45 30.2**	**+2.5**
	baz=18						
228A	**UT Block 9, Go**	**18.12**	**338**	⇑P	**P**	**21 45 30.5**	**+1.8**
	baz=18						
Z34A	**Collier Ranch,**	**18.13**	**351**	⇑P	**P**	**21 45 30.9**	**+2.2**
	baz=18						
Z33A	**Whitaker Ranch**	**18.18**	**349**	⇑P	**P**	**21 45 31.6**	**+2.4**
	baz=18						
129A	**Stewart Farms,**	**18.34**	**341**	⇓P	**P**	**21 45 33.8**	**+2.7**
	baz=18						
Z32A	**Haskell**	**18.34**	**347**	⇑P	**P**	**21 45 32.7**	**+1.7**
	baz=18						
Z31A	**Sharp Cattle R**	**18.50**	**346**	⇑P	**Pn**	**21 45 34.3**	**+1.4**
	baz=19						
128A	**Castleberry Fa**	**18.54**	**339**	⇓P	**Pn**	**21 45 36.4**	**+3.0**
	baz=19,SNR=6.3						
Y34A	**Reagan Ranch,**	**18.68**	**352**	⇓P	**Pn**	**21 45 37.5**	**+2.5**
	baz=19						
Z30A	**Sanderson Ranc**	**18.73**	**343**	⇑P	**Pn**	**21 45 38.0**	**+2.3**
	baz=19						
Y33A	**Hilltop Ranch,**	**18.86**	**350**	⇓P	**Pn**	**21 45 39.4**	**+2.1**
	baz=19						
Z29A	**Hungry Hill Ra**	**18.87**	**342**	⇓P	**Pn**	**21 45 40.0**	**+2.5**
	baz=19						
TIGA	**Tifton**	**18.94**	**31**	⇑P	Pn	21 45 48.0	+10
	baz=19						
Y32A	**R-V Farms, Ver**	**19.01**	**348**	⇑P	**Pn**	**21 45 40.5**	**+1.4**
	baz=19						
MIAR	**Mount Ida**	**19.10**	**3**	*e*Pn	**Pn**	**21 45 40.9

V28A	Channing	21.35 343	⇓P	P	21 46 06.0 +2.1
	baz=21				
U31A	Nine Bar Ranch	21.38 349	⇓P	P	21 46 06.0 +1.8
	baz=21				
V27A	Dan Oppiter Fa	21.53 342	⇑P	P	21 46 07.7 +1.8
	baz=22				
W25A	X Bar L Ranch,	21.58 338	⇑P	P	21 46 08.7 +2.2
	baz=22,SNR=7.4				
Y22D	IRIS PASSCAL I	21.61 332	⇑P	P	21 46 09.5 +2.8
	baz=22				
U30A	WK&E Inc. Balk	21.70 347	⇑P	P	21 46 08.9 +1.3
	baz=22				
T33A	Patterson Ranc	21.82 352	⇑P	P	21 46 10.4 +1.6
	baz=22				
V26A	Tequesquite Ra	21.87 340	⇓P	P	21 46 11.2 +1.6
	baz=22				
W24A	Lazy 6 Ranch,	21.93 336	⇑P	P	21 46 12.3 +2.1
	baz=22				
U28A	Mallet	21.94 344	⇓P	P	21 46 11.6 +1.4
	baz=22				
T31A	Randall Ranch,	22.06 349	⇓P	P	21 46 13.2 +1.8
	baz=22				
ANMO	Albuquerque	22.13 334	P	P	21 46 13.7 +1.2
	2.3nm,0.8s,baz=151,slow=12,SNR=8.7				
U27A	Thompson Grove	22.15 342	⇑P	P	21 46 15.0 +2.5
	baz=22,SNR=7.9				
T30A	Plains	22.18 348	⇓P	P	21 46 14.8 +2.1
	baz=22				
V25A	Rancho No Teng	22.19 338	⇓P	P	21 46 14.9 +1.8
	baz=22,SNR=19				
S36A	Lake Cedric, C	22.25 358	⇑P	P	21 46 15.4 +1.9
	baz=22				
TUC	Tucson	22.29 322	eP	P	21 46 14.5 +0.5
	2.8nm,0.9s				
V24A	Rampart Ranch,	22.33 337	⇑P	P	21 46 17.2 +2.6
	baz=22				
U26A	Atchley Ranch,	22.40 341	⇑P	P	21 46 17.0 +1.7
	baz=22,SNR=13				
TKL	Tuckaleechee C	22.44 24	LR	LR	21 57 30.6
	comp=Z,83nm,18.6s,baz=232,slow=44				
S32A	Newby Ranch, P	22.52 351	⇑P	P	21 46 19.1 +2.7
	baz=23				
S31A	Mullinville	22.53 350	⇑P	P	21 46 18.8 +2.3
	baz=23				
T28A	Walsh	22.61 345	⇑P	P	21 46 19.0 +1.6
	baz=23				
U25A	Circle Dot Ran	22.63 339	⇑P	P	21 46 19.4 +1.7
	baz=23,SNR=5.9				
V23A	Ortiz Mt. (NFS	22.71 335	⇓P	P	21 46 21.3 +2.7
	baz=23,SNR=7.1				
T27A	Campo	22.72 343	⇓P	P	21 46 20.5 +1.9
	baz=23				
S30A	Montezuma	22.73 348	⇑P	P	21 46 21.1 +2.5
	baz=23				
S29A	Ulysses	22.85 347	⇑P	P	21 46 22.2 +2.3
	baz=23,SNR=5.1				
U24A	Moreno Valley	22.94 338	⇑P	P	21 46 24.5 +3.3
	baz=23				
S28A	Manter	23.00 345	⇑P	P	21 46 24.7 +3.3
	baz=23				
KMSC	Kings Mountain	23.05 29	⇑P	P	21 46 31.4 +9.5
	baz=23				
T26A	Comanche Natio	23.07 342	⇓P	P	21 46 23.6 +1.3
	baz=23				
V22A	San Miguel Ran	23.15 334	⇑P	P	21 46 25.3 +2.1
	baz=23,SNR=8.4				
R31A	Burdett	23.19 350	⇑P	P	21 46 25.9 +2.5
	baz=23				
R32A	Long Quarter,	23.20 352	⇓P	P	21 46 26.3 +2.8
	baz=23				
U23A	El Rito	23.22 336	⇑P	P	21 46 26.2 +2.3
	baz=23				
T25A	Trinidad	23.30 340	⇑P	P	21 46 26.6 +1.9
	baz=23				
214A	Organ Pipe Nat	23.30 318	⇑P	P	21 46 30.8 +6.2
	baz=23				
R30A	Dighton	23.32 349	⇑P	P	21 46 26.2 +1.6
	baz=23				
S27A	Las Animas	23.35 343	⇑P	P	21 46 27.3 +2.2
	baz=23				
S26A	Kim	23.45 342	⇓P	P	21 46 28.0 +1.9
	baz=24				
X18A	Snowflake	23.46 327	⇓P	P	21 46 30.0 +3.6
	baz=24				
U22A	Llaves	23.53 335	⇑P	P	21 46 29.6 +2.6
	baz=24				
T24B	San Luis	23.56 338	⇓P	P	21 46 29.7 +2.2
	baz=24				
R29A	Marienthal	23.62 347	⇓P	P	21 46 29.7 +2.0
	baz=24				
Q33A	Connelly Farm,	23.67 354	⇑P	P	21 46 30.5 +2.4
	baz=24				
KSU1	Kansas State U	23.67 356	⇓P	P	21 46 30.6 +2.5
	baz=24				
R28A	Tribune	23.70 346	⇓P	P	21 46 30.9 +2.5
	baz=24				
Q32A	Meitler Ranch,	23.74 353	⇑P	P	21 46 31.0 +2.2
	baz=24				
T23A	Casias Ranch,	23.78 337	⇓P	P	21 46 33.2 +3.7
	baz=24				
S25A	Robets Cordova	23.78 341	⇓P	P	21 46 31.9 +2.5
	baz=24				
Q31A	Ellis	23.87 351	⇓P	P	21 46 33.1 +3.0
	baz=24				
R27A	Eads	23.89 344	⇑P	P	21 46 33.2 +2.8
	baz=24				
Q30A	Quinter	23.98 349	⇑P	P	21 46 33.2 +2.1
	baz=24				
S24A	Houchin Ranch,	24.02 339	⇑P	P	21 46 34.3 +2.4
	baz=24				
R26A	Arlington	24.08 343	⇓P	P	21 46 34.0 +1.9
	baz=24				
R25A	Fountain Ranch	24.18 341	⇑P	P	21 46 36.1 +3.0
	baz=24				
X16A	Lo Mia Camp, P	24.19 325	⇑P	P	21 46 37.4 +4.1
	baz=24				
S23A	Nye Farm, Mont	24.36 338	⇓P	P	21 46 37.9 +2.9
	baz=24				
P32A	Huiting Farm,	24.37 353	⇓P	P	21 46 37.8 +3.1
	baz=24				
P31A	Stockton	24.38 351	⇓P	P	21 46 37.2 +2.4
	baz=24				
R24A	Sanders Place,	24.52 340	⇓P	P	21 46 39.4 +3.1
	baz=25				
P30A	Selden	24.54 350	⇓P	P	21 46 38.6 +2.3
	baz=25				
S22A	4UR Ranch, Cre	24.70 337	⇑P	P	21 46 40.6 +2.6
	baz=25				
P29A	Atwood	24.72 348	⇑P	P	21 46 40.0 +2.1
	baz=25				
R23A	Moffat	24.73 339	⇑P	P	21 46 41.2 +2.9
	baz=25				
WUAZ	Wupatki	24.97 326	⇑P	P	21 46 44.4 +4.1
	baz=25,SNR=5.7				
WUAZ	Wupatki	24.97 326	eP	P	21 46 42.2 +1.9
	6.0nm,0.9s				
PV01	Paradox Valley	25.73 334	eP	P	21 46 49.3 +1.9
	493nm,0.9s				
P23A	Jefferson	25.80 340	⇓P	P	21 46 50.6 +2.6
	baz=26				
PV04	Paradox Valley	26.09 334	eP	P	21 46 51.0 +0.4
ISCO	Idaho Springs	26.11 341	⇑P	P	21 46 53.2 +2.4
	baz=26				
OGNE	Ogallala	26.23 347	⇑P	P	21 46 55.9 +4.2
	baz=26				
P22A	Eagle	26.31 339	⇑P	P	21 46 56.9 +4.3
	baz=26				
PFO	Pinyon Flats O	26.73 317	LR	LR	21 58 22.2
	comp=Z,166nm,21.1s,baz=134,slow=38				
ATAH	Atahualpa	27.63 143	LR	LR	21 56 13.3
	comp=Z,89nm,18.8s,baz=342,slow=33				
PDAR	Pinedale Array	30.10 338	P	P	21 47 25.8 -0.6
	0.6nm,0.9s,baz=134,slow=5.2,SNR=5.1				
NVAR	Mina Array Bea	30.94 322	P	P	21 47 35.8 +1.9
	0.6nm,0.7s,baz=143,slow=9.7,SNR=4.0				
NNA	Nana	32.47 146	LR	LR	21 58 33.5
	comp=Z,61nm,20.6s,baz=295,slow=32				
MCMT	McKenzie Canyo	33.10 336	eP	P	21 47 53.3 +0.6
	1.6nm,1.0s				
ULM	Lac du Bonnet	34.77 359	P	P	21 48 05.6 -1.3
	1.4nm,0.5s,baz=187,slow=8.1,SNR=3.7				
ULM			LR	LR	22 04 19.8
	comp=Z,72nm,18.2s,baz=260,slow=40				
SCHQ	Schefferville	44.90 23	LR	LR	22 10 03.1
	comp=Z,128nm,18.3s,baz=232,slow=39				
YKA	Yellowknife Ar	49.09 348	P	P	21 50 02.8 -0.8
	0.7nm,0.8s,baz=152,slow=7.4,SNR=13				
CFAA	Coronel Fontan	53.20 152	P	P	21 50 35.5 +0.4
	0.3nm,0.6s,baz=322,slow=7.2,SNR=6.6				
PLCA	Paso Flores	60.19 159	P	P	21 51 25.0 +0.5
	2.8nm,0.8s,baz=327,slow=10,SNR=3.9				
ILAR	Eielson Array	60.53 337	P	P	21 51 26.5 0.0
	0.8nm,1.0s,baz=133,slow=4.7,SNR=8.1				
EKA	Eskdalemuir Ar	78.38 36	P	P	21 53 15.5 -1.6
	2.7nm,1.2s,baz=278,slow=4.8,SNR=2.8				
ESDC	Sonseca Array	80.92 51	LR	LR	22 28 20.1
	comp=Z,26nm,18.7s,baz=115,slow=35				
GRR	Gorron	81.19 42	eP	P	21 53 40.9 +8.5
GRR	Gorron	81.19 42	eP	P	21 53 40.9 +8.5
FLN	La Foliniere	81.34 42	eP	P	21 53 42.0 +8.8
FLN	La Foliniere	81.34 42	eP	P	21 53 42.0 +8.8
LDF	La Druitiere	81.61 42	eP	P	21 53 43.4 +8.7
	4.7nm,0.7s				
LDF	La Druitiere	81.61 42	eP	P	21 53 43.4 +8.7
	4.7nm,0.7s				
ETSF	Etsaut	82.68 48	eP	P	21 53 49.3 +8.8
ETSF	Etsaut	82.68 48	eP	P	21 53 49.3 +8.8
LFF	La Frestale	83.08 45	eP	P	21 53 51.0 +8.6
LFF	La Frestale	83.08 45	eP	P	21 53 51.0 +8.6
EPF	Esparros	83.29 47	eP	P	21 53 52.3 +8.7
EPF	Esparros	83.29 47	eP	P	21 53 52.3 +8.7
RJF	Les Rejaudoux	83.52 45	eP	P	21 53 53.0 +8.3
RJF	Les Rejaudoux	83.52 45	eP	P	21 53 53.0 +8.3
TCF	Toulx Ste Croi	83.73 44	eP	P	21 53 54.1 +8.3
TCF	Toulx Ste Croi	83.73 44	eP	P	21 53 54.1 +8.3
CAF	Calviac	84.00 45	eP	P	21 53 55.6 +8.4
	6.0nm,1.0s				
CAF	Calviac	84.00 45	eP	P	21 53 55.6 +8.4
	6.0nm,1.0s				
BGF	Bois d'Agland	84.08 43	eP	P	21 53 56.8 +9.3
	10nm,0.9s				
BGF	Bois d'Agland	84.08 43	eP	P	21 53 56.8 +9.3
	10nm,0.9s				
NOA	NORSAR Array B	84.17 28	LR	LR	22 30 00.9
	comp=Z,19nm,21.6s,baz=290,slow=35				
AVF	Avril sur Loir	84.35 43	eP	P	21 53 57.8 +8.9
	13nm,1.1s				
AVF	Avril sur Loir	84.35 43	eP	P	21 53 57.8 +8.9
	13nm,1.1s				
SSF	Saint Saulge	84.37 43	eP	P	21 53 58.3 +9.3
SSF	Saint Saulge	84.37 43	eP	P	21 53 58.3 +9.3
LOR	Lormes	84.55 43	eP	P	21 53 58.4 +8.5
LOR	Lormes	84.55 43	eP	P	21 53 58.4 +8.5
MEZF	Maizieres J'vi	84.95 41	eP	P	21 54 01.0 +9.1
	4.9nm,0.6s				
MEZF	Maizieres J'vi	84.95 41	eP	P	21 54 01.0 +9.1
	4.9nm,0.6s				
SFTF	Sexfontaines	85.03 41	eP	P	21 54 01.0 +8.7
SFTF	Sexfontaines	85.03 41	eP	P	21 54 01.0 +8.7
PAGF	Fort de Pagny	85.36 41	eP	P	21 54 03.3 +9.3
	1.7nm,0.7s				
PAGF	Fort de Pagny	85.36 41	eP	P	21 54 03.3 +9.3
	1.7nm,0.6s				
ARCES	ARCESS Array B	85.63 18	P	P	21 53 56.2 +1.3
	2.6nm,0.9s,baz=302,slow=5.2,SNR=2.5				
VIVF	Saint-Julien-l	85.79 45	eP	P	21 54 06.8 +11
	7.3nm,1.0s				
VIVF	Saint-Julien-l	85.79 45	eP	P	21 54 06.8 +11
	7.3nm,1.0s				
HAU	Haudompre	85.93 41	eP	P	21 54 05.7 +8.9
HAU	Haudompre	85.93 41	eP	P	21 54 05.7 +8.9

IDC 21 21:42:40.5±3.0, 0°.66S×134°.15E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.1/30, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=145.8km s-min=26.8km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.17	179	P	P	21 47 05.0	-0.9
	0.1nm,0.3s,baz=358,slow=12,SNR=4.7						
ASAR	Alice Springs	22.88	181	P	P	21 47 46.6	+0.7
	0.2nm,0.5s,baz=12,slow=11,SNR=2.9						
MKAR	Makanchi Array	65.42	324	P	P	21 53 25.1	-0.1
	0.3nm,0.8s,baz=123,slow=7.1,SNR=2.5						

*CSEM **21** 21:52:01.2±0.2, 43°.39N×12°.66E, h64km±1km, ML1.8/10, Error ellipse: s-maj=2.5km s-min=2.2km az=27.0*

ROM 21 21:52:01.5±0.2, 43°.38N×12°.63E, h61km±2km, Md2.1/15, Ml1.8/10, Error ellipse: s-maj=2.1km s-min=1.2km az=47.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MURB	Monte Urbino	0.14	213	Pg	Pn	21 52 10.9	0.0
MURB				Sg	Sn	21 52 17.9	+0.3
	182nm,0.3s						
MURB	Monte Urbino	0.14	213	Pg	Pn	21 52 10.9	0.0
MURB				Sg	Sn	21 52 17.9	+0.3
	182nm,0.3s						
PIEI	Pieia	0.17	335	Pg	Pn	21 52 10.8	-0.2
PIEI				Sg	Sn	21 52 18.0	+0.2
	52nm,0.1s						
PIEI	Pieia	0.17	335	Pg	Pn	21 52 10.8	-0.2
PIEI				Sg	Sn	21 52 18.0	+0.2
	52nm,0.1s						
ARVD	Arcevia	0.25	63	Pg	Pn	21 52 11.0	-0.4
ARVD				Sg	Sn	21 52 18.5	0.0
	44nm,0.1s						
ARVD	Arcevia	0.25	63	Pg	Pn	21 52 11.0	-0.4
ARVD				Sg	Sn	21 52 18.5	0.0
	44nm,0.1s						
BADI	Badiali	0.31	294	Pg	Pn	21 52 12.4	+0.6
BADI				Sg	Sn	21 52 20.1	+0.9
	33nm,0.4s						
BADI	Badiali	0.31	294	Pg	Pn	21 52 12.4	+0.6
BADI				Sg	Sn	21 52 20.1	+0.9
	33nm,0.4s						
FSSB	Fossombrone	0.33	19	Pg	Pn	21 52 12.2	+0.3
FSSB				Sg	Sn	21 52 20.6	+1.1
	63nm,0.2s						
FSSB	Fossombrone	0.33	19	Pg	Pn	21 52 12.2	+0.3
FSSB				Sg	Sn	21 52 20.6	+1.1
	63nm,0.2s						
PARC	Parchiule	0.39	313	Pg	Pn	21 52 13.0	+0.5
PARC				Sg	Sn	21 52 21.1	+0.6
	50nm,1.0s						
PARC	Parchiule	0.39	313	Pg	Pn	21 52 13.0	+0.5
PARC				Sg	Sn	21 52 21.1	+0.6
	50nm,1.0s						
CING	Cingoli	0.41	91	Pg	Pn	21 52 12.7	0.0
CING				Sg	Sn	21 52 21.2	+0.4
	29nm,0.5s						
CING	Cingoli	0.41	91	Pg	Pn	21 52 12.7	0.0
CING				Sg	Sn	21 52 21.2	+0.4
	29nm,0.5s						
CESI	CESI - Serrava	0.43	152	Pg	Pn	21 52 12.9	0.0
CESI				Sg	Sn	21 52 21.5	+0.4
	7.0nm,0.3s						
CESI	CESI - Serrava	0.43	152	Pg	Pn	21 52 12.9	0.0
CESI				Sg	Sn	21 52 21.5	+0.4
	7.0nm,0.3s						
FDMO	Fiordimonte	0.48	136	Pg	Pn	21 52 13.3	-0.1
FDMO				Sg	Sn	21 52 22.8	+0.8
FDMO	Fiordimonte	0.48	136	Pg	Pn	21 52 13.3	-0.1
FDMO				Sg	Sn	21 52 22.8	+0.8
CRE	Caprese Michel	0.55	296	Pg	Pn	21 52 14.7	+0.5
CRE				Sg	Sn	21 52 23.6	+0.1
CRE	Caprese Michel	0.55	296	Pg	Pn	21 52 14.7	+0.5
CRE				Sg	Sn	21 52 23.6	+0.1
MGAB	Montegabbione	0.60	219	Pg	Pn	21 52 14.8	+0.1
MGAB				Sg	Sn	21 52 24.7	+0.3
	16nm,0.2s						
MGAB	Montegabbione	0.60	219	Pg	Pn	21 52 14.8	+0.1
MGAB				Sg	Sn	21 52 24.7	+0.3
	16nm,0.2s						
NRCA	Norcia	0.65	147	Pg	Pn	21 52 15.6	+0.3
NRCA				Sg	Sn	21 52 26.1	+0.7
	9.0nm,0.6s						
NRCA	Norcia	0.65	147	Pg	Pn	21 52 15.6	+0.3
NRCA				Sg	Sn	21 52 26.1	+0.7
	9.0nm,0.6s						
AOI	Ancona	0.73	76	Pg	Pn	21 52 16.1	0.0
AOI	Ancona	0.73	76	Pg	Pn	21 52 16.1	0.0
SMA1	SAN MARTINO	0.91	145	Pg	Pn	21 52 19.5	+0.9
SMA1				Sg	Sn	21 52 31.5	+0.3
	51nm,0.9s						
GUMA	Gualdo di Mace	1.00	108	Pg	Pn	21 52 15.5	-4.2
GUMA				Sg	Sn	21 52 25.2	-7.9
	70nm,0.4s						
NVLJ	Novalja	2.00	53	ePn	Pn	21 52 32.5	-0.5
NVLJ				Sn	Sn	21 52 55.9	-1.0
NVLJ	Novalja	2.00	53	ePn	Pn	21 52 32.4	-0.5
NVLJ				Sn	Sn	21 52 55.8	-1.1

*IDC **21** 21:55:58.8±0.9, 2°.04S×125°.81E, h0km, mb4.0/9, mb1 4.3/11, mb1mx4.0/37, mbtmp4.1/11, ML4.5/2, MS3.3/3, Ms1 3.4/3, ms1mx2.8/36, Error ellipse: s-maj=37.3km s-min=16.9km az=77.0*

*ISCJB **21** 21:56:01.6±0.3, 2°.15S±0°.03×125°.54E±0°.02, h32km, mb4.3/15, MS3.2/3, Error ellipse: s-maj=4.1km s-min=3.4km az=6.8*

*DJA **21** 21:56:02.3±0.4, 2°.S±2°.×12°.6E±°, h13km±4km, M4.6/29, mb4.8/20, mB5.1/9, MLv4.7/29, Mw(mB)4.4/9*

*NEIC **21** 21:56:03.2±2.0, 2°.15S×125°.60E, h30km±17km, mb4.5/10, Error ellipse: s-maj=8.2km s-min=5.6km az=49.0*

ISC 21 21:56:03.3±0.5, 2°.16S±0°.05×125°.58E±0°.04, h32km, n68, σ1§24/68, mb4.1/14, MS3.1/3, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	0.43	76	P	Pb	21 56 10.8	-1.9
SANI				S	Sb	21 56 18.9	-0.2
NLAI	Namlea	1.87	125	P	Pn	21 56 33.6	+0.6
LBMI	Labuha	2.44	52	P	Pn	21 56 40.8	-0.2
LBMI				S	Sn	21 57 09.9	+0.1
LUWI	Luwuk	3.01	291	P	Pn	21 56 48.3	-0.5
LUWI	Luwuk	3.01	291	P	Pn	21 56 47.3	-1.5
	baz=3.0,SNR=9.7						
LUWI	Luwuk	3.01	291	ePn	Pn	21 56 46.9	-1.9
LUWI				eSn	Sn	21 57 23.9	+0.1
KMSI	Cibinong	3.15	330	P	Pn	21 56 49.6	-1.0
KMSI				S	Sn	21 57 26.5	-0.6
TNTI	Ternate	3.42	32	P	Pn	21 56 54.1	-0.2
TNTI	Ternate	3.42	32	ePn	Pn	21 56 53.8	-0.5
TNTI				eSn	Sn	21 57 33.9	+0.1
MSAI	Masohi	3.55	110	P	Pn	21 56 58.4	+2.2
GTOI	Gorontalo	3.78	317	P	Pn	21 57 01.0	+1.7
APSI	Ampana	4.11	287	P	Pn	21 57 03.2	-0.8
MRSI	Marisa	4.48	306	P	Pn	21 57 08.3	-0.6
BNDI	Bandanaira	4.92	119	P	Pn	21 57 17.4	+2.4
	323nm,0.6s,3μm1.6nm						
TOLI	Toli-Toli	5.78	304	ePn	Pn	21 57 29.2	+2.3
TTSI	Tana Toraja	5.82	261	P	Pn	21 57 27.9	+0.5
	38nm,0.6s,988nm0.4nm						
SWI	Sorong	5.83	77	P	Pn	21 57 28.5	+1.0
	42nm,0.4s,0.5nm						
SWI	Sorong	5.83	77	P	Pn	21 57 29.0	+1.5
	baz=5.8,SNR=4.9						
SWI				S	Sn	21 58 35.1	+1.8
	baz=5.8,SNR=9.5						
BNSI	Bone	5.90	248	P	Pn	21 57 26.5	-2.0
	24nm,0.6s,0.1nm						
SPSI	Sidrap Palu	6.07	253	P	Pn	21 57 30.9	+0.1
	156nm,0.5s,2μm0.7nm						
MPSI	Mapaga	6.19	294	P	Pn	21 57 31.6	-0.9
	58nm,0.8s,873nm0.2nm						
BKSI	Bulukumba	6.28	240	P	Pn	21 57 34.8	+1.0
	97nm,0.6s,1μm0.3nm						
KAPI	Kappang	6.47	244	ePn	Pn	21 57 36.6	+0.3
FAKI	Fak Fak	6.71	97	P	Pn	21 57 45.6	+5.9
	44nm,0.7s,782nm0.2nm						
FAKI	Fak Fak	6.71	97	P	Pn	21 57 39.6	-0.1
	baz=6.7,SNR=36						
FAKI				S	Sn	21 58 52.7	-2.4
	baz=6.7,SNR=8.3						
FAKI	Fak Fak	6.71	97	ePn	Pn	21 57 40.1	+0.4
FAKI				eSn	Sn	21 58 49.9	-5.2
MMRI	Maumere	7.24	207	P	Pn	21 57 46.8	-0.2
	31nm,0.5s,0.2nm						
EDFI	Ende, Flores	7.61	210	P	Pn	21 57 53.2	+1.1
	54nm,0.7s,0.2nm						
SOEI	Soe	7.66	190	P	Pn	21 57 58.6	+5.7
	100nm,0.8s,0.3nm						
SOEI	Soe	7.66	190	P	Pn	21 57 58.5	+5.6
	baz=7.8,SNR=6.0						
SOEI	Soe	7.66	190	ePn	Pn	21 57 54.8	+1.9
BATI	Baumata	8.22	193	P	Pn	21 58 04.5	+4.0
	28nm,0.7s						
BATI	Baumata	8.22	193	Pn	Pn	21 58 03.6	+3.1
	5.7nm,0.3s,baz=300,slow=8.1,SNR=11						
MYLDM	Lahad Datu	10.15	316	ePn	Pn	21 58 27.7	+0.9
MTN	Manton Dam	11.96	153	P	Pn	21 58 55.6	+3.9
	baz=12,SNR=7.1						
KDU	Kakadu	12.50	147	P	Pn	21 58 59.4	+0.4
	baz=13,SNR=4.9						
SBUM	Sibu	14.11	289	ePn	Pn	21 59 22.0	+0.9
KSM	Kuching	15.68	283	P	Pn	21 59 43.1	+1.0
	baz=16,SNR=3.9						
KSM	Kuching	15.68	283	ePn	Pn	21 59 41.3	-0.8
	15nm,0.9s						
FITZ	Fitzroy Crossi	15.85	180	P	Pn	21 59 43.9	-0.3
	baz=16,SNR=4.9						
FITZ	Fitzroy Crossi	15.85	180	ePn	Pn	21 59 43.6	-0.6
	6.0nm,0.9s						
WRAB	Tennant Creek	19.64	155	eP	P	22 00 29.6	+0.2
	22nm,0.9s						
WRA	Warramunga Arr	19.64	155	P	P	22 00 28.8	-0.7
	1.5nm,0.3s,baz=338,slow=12,SNR=54						
MBWA	Marble Bar	19.73	196	eP	Pn	22 00 30.6	-1.4
	22nm,1.4s						
COEN	Coen	20.98	125	P	P	22 00 43.7	-0.3
	baz=21,SNR=36						
COEN	Coen	20.98	125	eP	P	22 00 43.8	-0.3
	135nm,0.7s						
PMG	Port Moresby	22.64	109	LR	LR	22 13 12.5	
	comp=Z,67nm,19.7s,baz=257,slow=46						
PMG	Port Moresby	22.64	109	eP	P	22 01 02.1	+0.3
	23nm,0.9s						
QIS	Mount Isa	22.85	144	P	P	22 01 04.6	+0.6
	baz=23,SNR=5.5						
ASAR	Alice Springs	22.86	160	P	P	22 01 03.8	-0.3
	4.6nm,0.7s,baz=343,slow=9.9,SNR=54						
WRKA	Warakurna	22.90	174	P	P	22 01 04.6	0.0
	baz=23,SNR=15						
WRKA				S	Sn	22 05 38.9	+10
	baz=23,SNR=3.5						
MEEK	Meekatharra	25.24	195	P	P	22 01 26.9	+0.3
	baz=26,SNR=4.5						
PSI	Prapat	27.09	280	LR	LR	22 13 33.0	
	comp=Z,81nm,18.7s,baz=116,slow=39						
CMAR	Chiang Mai Arr	33.27	309	P	P	22 02 38.4	+0.4
	0.7nm,0.7s,baz=134,slow=6.7,SNR=5.8						
CMAR				LR	LR	22 18 15.5	
	comp=Z,37nm,18.8s,baz=150,slow=40						
KSAR	Wonju Array Be	39.45	3	P	P	22 03 30.3	-0.3
KSRS	Korea Array	39.47	3	P	P	22 03 30.3	-0.4
	1.1nm,0.5s,baz=177,slow=9.4,SNR=2.7						
MJAR	Matsushiro Arr	40.26	16	P	P	22 03 36.1	-1.2
	3.3nm,1.0s,baz=191,slow=8.4,SNR=4.3						
USRK	Ussuriysk Ar.	46.50	6	P	P	22 04 26.5	-1.0
	2.1nm,0.9s,baz=146,slow=8.0,SNR=4.3						
ULN	Ulaanbaatar	52.38	344	eP	P	22 05 12.7	+0.1
	3.0nm,0.9s						
SONM	Songino Array	52.53	344	P	P	22 05 13.6	0.0
	1.4nm,0.8s,baz=155,slow=8.3,SNR=12						
MKAR	Makanchi Array	61.79	328	P	P	22 06 19.6	+0.6
	1.4nm,0.5s,baz=120,slow=8.5,SNR=19						
MKAR	Makanchi Array	61.79	328	eP	P	22 06 19.9	+0.9
KBL	Kabul	64.29	310	P	P	22 06 36.7	+0.6
	baz=64,SNR=9.9						
KBL	Kabul	64.29	310	eP	P	22 06 36.8	+0.6
	7.8nm,

Rio Claro, San Fernando and Talca.
*GUC **21** 21:56:06.8±0.6, 34°.92S×71°.58W, h58km±4km, ML4.2*
ISC 21 21:56:06.4±1.1, 34.89S±0°.05×71.7W±0°.1, h59km±10km, n17, σ0.90/21, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.37**	**107**	↓↓	*iP*		**Pn**	**21 56 17.0**	**0.0**
NICH					*i*	S	**Sn**	**21 56 24.4**	**-0.2**
NICH						AML	AML	21 56 24.9	
	comp=E,41μm,0.1s								
TALC	**Talca**	**0.51**	**178**	↑	*iP*		**Pn**	**21 56 18.8**	**+0.4**
TALC					*i*	S	**Sn**	**21 56 27.4**	**+0.4**
TALC						AML	AML	21 56 28.8	
	comp=N,60μm,0.1s								
LNCH	**Linares**	**0.95**	**177**	↑	*iP*		**Pn**	**21 56 24.1**	**+0.3**
LNCH					*i*	S	**Sn**	**21 56 37.1**	**+0.5**
LNV	**Longovilo**	**0.96**	**13**	↑	*iP*		**Pn**	**21 56 24.5**	**+0.7**
CACH	**El Canelo**	**1.17**	**49**	↓	*iP*		**Pn**	**21 56 26.9**	**+0.1**
CHCH	**Chadas Angostu**	**1.27**	**41**	↑	*iP*		**Pn**	**21 56 28.4**	**+0.3**
ANTU	**Antumapu**	**1.57**	**33**		*eP*		**Pn**	**21 56 32.8**	**+0.7**
ANTU					*i*	S	**Sn**	**21 56 52.5**	**+1.2**
CLCH	**Cerro Calan**	**1.76**	**32**	↓↓	*iP*		**Pn**	**21 56 35.6**	**+0.9**
CLCH					*i*	S	**Sn**	**21 56 57.5**	**+1.4**
CLCH						AML	AML	21 57 02.7	
	comp=E,2μm,0.3s								
CLCH						AML	AML	21 57 03.2	
	comp=E,2μm,0.3s								
YECH	**El Yeso**	**1.79**	**47**		*eP*		**Pn**	**21 56 36.4**	**+1.1**
PLCA	**Paso Flores**	**5.90**	**172**		*ePn*		**Pn**	**21 57 31.7**	**+0.4**
	comp=E,6.9nm,0.5s								
LCO	**Las Campanas**	**5.92**	**8**		*ePn*		**Pn**	**21 57 30.3**	**-1.5**
LCO						*e*Sn	**Sn**	**21 58 37.1**	**-1.3**
TRQA	**Tornquist**	**8.41**	**115**		*ePn*		**Pn**	**21 58 04.8**	**-0.8**
LPAZ	**La Paz**	**18.80**	**11**		*eP*		**P**	**22 00 20.9**	**-0.9**
	comp=E,0.8nm,0.6s								
USHA	**Ushuaia**	**20.07**	**175**		LR		LR	22 05 37.2	
	comp=E,258nm,20.2s,baz=192,slow=36								
RCBR	**Riachuelo**	**43.85**	**57**		P		**P**	**22 04 06.2**	**-0.9**
TXAR	**Lajitas Array**	**70.66**	**331**		P		P	22 07 29.4	+13
	comp=E,0.5nm,0.8s,baz=153,slow=8.1,SNR=4.2								
TORD	**Torodi Ar. Bea**	**84.22**	**70**		P		**P**	**22 08 32.5**	**+0.7**
	comp=E,0.5nm,0.6s,baz=245,slow=5.0,SNR=6.2								

*IDC **21** 21:56:04.8±0.7, 15°.14S×173°.68W, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.9/40, mbtmp3.8/9, MS3.6/12, Ms1 3.6/12, ms1mx3.4/30, Error ellipse: s-maj=37.7km s-min=19.9km az=136.0*
*NEIC **21** 21:56:09.7±0.5, 15°.16S×173°.57W, h35km, mb4.3/4, Error ellipse: s-maj=26.4km s-min=11.4km az=143.0*
ISC 21 21:56:09.3±0.7, 15.1S±0°.2×173.4W±0°.2, h30km, n34, σ2.9/12, mb4.0/11, MS3.7/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.95**	**52**		*ePn*		**Pn**	**21 56 40.5**	**+0.1**
AFI					*e*Sn		**Sn**	**21 56 59.5**	**-4.3**
DZM	**Mont Dzumac**	**20.34**	**247**		LR		LR	22 07 26.4	
	comp=Z,148nm,19.2s,baz=33,slow=34								
TBI	**Tubuai**	**23.99**	**114**		*e*LR		LR	22 06 24.8	
	201nm,28.0s								
URZ	**Urewera**	**24.55**	**198**		LR		LR	22 10 11.9	
	comp=Z,227nm,19.1s,baz=38,slow=35								
HNR	**Honiara**	**26.67**	**279**		LR		LR	22 09 28.8	
	comp=Z,42nm,19.4s,baz=108,slow=30								
H11S2	**WAKE ISLAND Hy 38.73**	**329**			T		T	22 44 51.7	
	baz=149,slow=76,SNR=20								
H11S3	**WAKE ISLAND Hy 38.74**	**329**			T		T	22 44 31.5	
	baz=149,slow=76,SNR=9.9								
H11S1	**WAKE ISLAND Hy 38.75**	**329**			T		T	22 44 28.4	
	baz=149,slow=76,SNR=10								
H11N3	**WAKE ISLAND Hy 39.68**	**330**			T		T	22 46 07.9	
	baz=149,slow=76,SNR=43								
H11N1	**WAKE ISLAND Hy 39.68**	**330**			T		T	22 45 59.3	
	baz=149,slow=76,SNR=14								
H11N2	**WAKE ISLAND Hy 39.69**	**330**			T		T	22 45 44.7	
	baz=149,slow=76,SNR=9.0								
WRAB	**Tennant Creek**	**49.93**	**257**		*eP*		**P**	**22 04 58.4**	**-2.4**
	1.0nm,0.5s								
WRA	**Warramunga Arr**	**49.94**	**257**		P		**P**	**22 04 58.4**	**-2.5**
	0.9nm,0.6s,baz=91,slow=7.1,SNR=9.6								
ASAR	**Alice Springs**	**50.23**	**252**		P		**P**	**22 05 00.5**	**-2.5**
	3.5nm,0.6s,baz=85,slow=8.2,SNR=34								
ASAR						LR	LR	22 25 04.7	
	comp=Z,84nm,20.0s,baz=89,slow=35								
VNDA	**Vanda**	**63.67**	**186**		P		**P**	**22 06 37.0**	**-0.3**
	1.3nm,1.0s,baz=22,slow=7.1,SNR=3.8								
VNDA	**Vanda**	**63.67**	**186**		*eP*		**P**	**22 06 36.6**	**-0.7**
	1.4nm,0.8s								
MJAR	**Matsushiro Arr**	**68.74**	**320**		LR		LR	22 31 50.9	
	comp=Z,33nm,21.7s,baz=120,slow=31								
PETK	**Petropavlovsk-**	**72.36**	**342**		LR		LR	22 32 25.8	
	comp=Z,18nm,22.0s,baz=132,slow=30								
NVAR	**Mina Array Bea**	**74.09**	**42**		P		**P**	**22 07 44.8**	**+1.8**
	1.6nm,1.0s,baz=231,slow=8.0,SNR=8.4								
TPH	**Tonopah**	**74.60**	**43**		*eP*		**P**	**22 07 46.7**	**+0.8**
	2.7nm,0.4s								
QSPA	**South Pole Qui**	**74.93**	**180**		P		**P**	**22 07 47.4**	**+0.1**
	3.5nm,0.9s,baz=44,slow=3.5,SNR=3.1								
QSPA	**South Pole Qui**	**74.93**	**180**		*eP*		**P**	**22 07 46.9**	**-0.5**
	9.8nm,1.4s								
KSRS	**Korea Array**	**75.97**	**315**		LR		LR	22 35 01.4	
	comp=Z,20nm,19.5s,baz=154,slow=31								
USRK	**Ussuriysk Ar.**	**77.17**	**323**		LR		LR	22 35 17.2	
	comp=Z,70nm,19.9s,baz=153,slow=30								
TXAR	**Lajitas Array**	**80.42**	**56**		P		**P**	**22 08 20.5**	**+2.0**
	0.2nm,0.9s,baz=308,slow=4.4,SNR=2.7								
TXAR						LR	LR	22 38 23.3	
	comp=Z,30nm,18.7s,baz=0.0,slow=32								
PDAR	**Pinedale Array**	**82.03**	**42**		P		**P**	**22 08 28.1**	**+1.2**
	0.2nm,0.5s,baz=190,slow=3.6,SNR=2.3								
PDAR						LR	LR	22 39 14.7	
	comp=Z,44nm,19.8s,baz=239,slow=32								
ILAR	**Eielson Array**	**82.16**	**11**		P		**P**	**22 08 27.0**	**+0.1**
	0.3nm,0.5s,baz=204,slow=6.7,SNR=6.1								
PLCA	**Paso Flores**	**89.68**	**132**		LR		LR	22 41 41.1	
	comp=Z,50nm,18.8s,baz=229,slow=30								
YKA	**Yellowknife Ar**	**89.82**	**23**		P		**P**	**22 09 05.4**	**+0.8**
	0.2nm,0.8s,baz=242,slow=4.5,SNR=3.4								
ULM	**Lac du Bonnet**	**93.69**	**39**		LR		LR	22 46 00.4	
	comp=Z,71nm,18.1s,baz=276,slow=32								
DPC	**Dobruska-Polom**	**143.98**	**349**		*e*pPKP		pPKPdf	22 16 00.4	+8.6
KHC	**Kasperske Hory**	**145.60**	**352**		*e*pPKP		**pPKPdf**	**22 15 59.1**	**+4.4**
KHC					*ex*		x	22 16 07.5	
GERES	**GERESS Array B**	**145.86**	**352**		PKPbc		**PKPdf**	**22 15 45.3**	**+0.1**
	0.3nm,0.5s,baz=5.7,slow=2.0,SNR=2.5								
BRTR	**Keskin Array B**	**145.95**	**321**		PKPbc		**PKPab**	**22 15 46.9**	**-0.1**
	0.6nm,0.6s,baz=29,slow=3.3,SNR=5.3								

*ISCJB **21** 21:56:43.2±1.9, 16°.67N±0°.03×122°.72E±0°.05, h7km±12km, mb3.5/7, MS2.4/1, Error ellipse: s-maj=8.5km s-min=5.7km az=0.6*
*IDC **21** 21:56:43.6±1.0, 16°.86N×122°.81E, h0km, mb3.5/7, mb1 3.8/8, mb1mx3.5/26, mbtmp3.6/8, ML4.5/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/29, Error ellipse: s-maj=48.7km s-min=20.3km az=78.0*
*MAN **21** 21:56:44, 16°.70N×122°.69E, h10km, mb4.6, ML3.5, MS3.4*
ISC 21 21:56:43.8±2.5, 16.70N±0°.04×122.67E±0°.07, h4km±16km, n24, σ1.10/25, mb3.5/7, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BALP	**Baler**	**1.42**	**228**		*eP*		**Pn**	**21 57 08.9**	**-1.5**
BALP					*e*S		**Sb**	**21 57 27.3**	**-2.0**
SGCP	**Mt. Cagua**	**1.65**	**339**		*eP*		**Pn**	**21 57 11.8**	**-1.7**
SGCP					*e*S		**Sg**	**21 57 37.6**	**+0.8**
APYP	**Conner**	**1.79**	**311**		*eP*		**Pn**	**21 57 15.7**	**+0.2**
APYP					*e*S		**Sb**	**21 57 40.0**	**0.0**
PCPH	**Palayan**	**1.89**	**233**	↑	*eP*		**Pn**	**21 57 16.5**	**-0.3**
PCPH					*e*S		**Sn**	**21 57 40.9**	**-0.2**
BCPH	**Baguio City Da**	**2.03**	**261**	↑	*iP*		**Pn**	**21 57 19.5**	**+0.5**
BCPH					*i* S		**Sn**	**21 57 44.9**	**0.0**
ABRA	**Dolores**	**2.10**	**297**		*eP*		**Pn**	**21 57 19.2**	**-0.5**
ABRA					*e*S		**Sn**	**21 57 46.9**	**+0.6**
BOLP	**Bolinao**	**2.66**	**264**		*eP*		**Pn**	**21 57 29.5**	**+1.9**
GQP	**Guinayangan**	**2.78**	**184**	↓↓	*eP*		**Pn**	**21 57 30.7**	**+1.5**
GQP					*e*S		**Sn**	**21 58 01.7**	**-1.6**
SCZP	**Santa Cruz**	**2.80**	**251**		*eP*		**Pn**	**21 57 30.4**	**+1.0**
TGY	**Tagaytay City**	**3.07**	**213**	Pn			**Pb**	**21 57 38.4**	**-0.7**
	53nm,0.3s,baz=75,slow=5.6,SNR=6.2								
TGY						Sn	**Sn**	**21 58 11.5**	**+1.0**
	51nm,0.3s,baz=311,slow=20,SNR=6.8								

KSRS	**Korea Array**	**21.19**	**12**	LR	LR	22 09 06.7	
	comp=Z,16nm,20.0s,baz=50,slow=35						
SONM	**Songino Array**	**33.82**	**340**	P	**P**	**22 03 27.4**	**+0.1**
	0.4nm,0.7s,baz=155,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**38.17**	**162**	P	**P**	**22 04 05.9**	**+1.2**
	0.3nm,0.6s,baz=344,slow=9.2,SNR=4.2						
ASAR	**Alice Springs**	**41.59**	**164**	P	**P**	**22 04 33.3**	**+0.2**
	0.2nm,0.5s,baz=347,slow=7.0,SNR=3.1						
H11S3	**WAKE ISLAND Hy**	**41.92**	**81**	T	T	22 49 34.8	
	baz=268						
H11S1	**WAKE ISLAND Hy**	**41.93**	**81**	T	T	22 49 33.6	
	baz=268						
H11S2	**WAKE ISLAND Hy**	**41.94**	**81**	T	T	22 49 34.2	
	baz=268						
H11N1	**WAKE ISLAND Hy**	**42.03**	**79**	T	T	22 49 43.7	
	baz=278						
H11N2	**WAKE ISLAND Hy**	**42.03**	**79**	T	T	22 49 42.1	
	baz=278						
H11N3	**WAKE ISLAND Hy**	**42.05**	**79**	T	T	22 49 45.4	
	baz=278						
MKAR	**Makanchi Array**	**44.84**	**321**	P	**P**	**22 04 59.1**	**-0.1**
	0.2nm,0.6s,baz=110,slow=8.3,SNR=3.1						
FINES	**FINESS Array B**	**78.61**	**331**	P	**P**	**22 08 45.9**	**-0.7**
	2.4nm,0.8s,baz=74,slow=5.3,SNR=11						
NOA	**NORSAR Array B**	**85.48**	**333**	P	**P**	**22 09 22.0**	**-0.8**
	0.7nm,0.6s,baz=67,slow=4.9,SNR=2.5						
YKA	**Yellowknife Ar**	**89.29**	**23**	P	**P**	**22 09 42.1**	**+1.0**
	0.2nm,0.6s,baz=304,slow=4.5,SNR=4.8						

*IDC **21** 22:20:35.1±0.9, 36°.31N×21°.78E, h0km, mb3.6/13, mb1 3.6/18, mb1mx3.6/34, mbtmp3.5/18, ML3.1/5, MS3.3/4, Ms1 3.3/4, ms1mx2.5/55, Error ellipse: s-maj=18.7km s-min=15.1km az=7.0*
*ISCJB **21** 22:20:36.6±0.7, 36°.06N±0°.03×21°.54E±0°.04, h22km±5km, mb3.5/12, MS3.6/2, Error ellipse: s-maj=6.1km s-min=3.7km az=41.4*
*CSEM **21** 22:20:37.9±0.3, 36°.12N×21°.61E, h10km, ML3.6, Error ellipse: s-maj=7.8km s-min=3.5km az=40.0*
*ATH **21** 22:20:38.2, 36°.11N×21°.65E, h31km±3km, MD3.8/54, ML3.5*
*THE **21** 22:20:40.8, 36°.22N×21°.74E, h10km, ML3.6/5, Error ellipse: s-maj=1.1km s-min=0.6km az=34.0*
*BEO **21** 22:20:40.9±1.0, 36°.45N×21°.00E, h0km, ML4.1/5*
ISC 21 22:20:38.2±1.5, 36.14N±0°.04×21.62E±0°.04, h16km±9km, n219, σ1.27/207, mb3.5/12, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.76**	**7**		P		**Pg**	**22 20 53.6**	**+0.5**
PYL					S		**Sb**	**22 21 03.5**	**+0.3**
PYL	**PYLOS**	**0.76**	**7**		*e*PN		**Pg**	**22 20 53.7**	**+0.6**
PYL					*e*SN		**Sb**	**22 21 05.0**	**+1.8**
PYL	**PYLOS**	**0.76**	**7**		P		**Pg**	**22 20 53.6**	**+0.5**
PYL					S		**Sb**	**22 21 03.5**	**+0.3**
PYL					*e*Sn		**Sb**	**22 21 05.0**	**+1.8**
ITM	**Ithomi**	**1.07**	**13**		P		**Pg**	**22 20 58.7**	**-0.2**
ITM					S		**Sb**	**22 21 13.0**	**+0.9**
ITM	**Ithomi**	**1.07**	**13**		*e*PN		**Pg**	**22 20 58.6**	**-0.3**
ITM					*e*SN		**Sn**	**22 21 13.8**	**+0.8**
ITM	**Ithomi**	**1.07**	**13**		P		**Pg**	**22 20 58.7**	**-0.2**
ITM					S		**Sb**	**22 21 13.0**	**+0.9**
KYTH	**Kithira**	**1.16**	**82**		P		**Pg**	**22 21 00.7**	**+0.2**
KYTH	**Kithira**	**1.16**	**82**		*e*PN		**Pg**	**22 21 00.5**	**0.0**
KYTH	**Kithira**	**1.16**	**82**		P		**Pg**	**22 21 00.7**	**+0.2**
VLI	**Veliai**	**1.21**	**61**		P		**Pb**	**22 21 01.0**	**+0.3**
VLI					S		**Sn**	**22 21 16.8**	**+0.3**
VLI	**Veliai**	**1.21**	**61**		*e*PN		**Pb**	**22 21 01.5**	**+0.8**
VLI					*e*SN		**Sn**	**22 21 17.0**	**+0.5**
VLI	**Veliai**	**1.21**	**61**		P		**Pb**	**22 21 01.0**	**+0.3**
VLI	**Veliai**	**1.21**	**61**		*e*Pn		**Pb**	**22 21 01.5**	**+0.8**
VLI					S		**Sn**	**22 21 16.8**	**+0.3**
SFD	**Strofades**	**1.21**	**337**		*e*PN		**Pb**	**22 21 01.0**	**+0.3**
SFD	**Strofades**	**1.21**	**337**		*e*Pn		**Pb**	**22 21 01.0**	**+0.3**
VLX	**Vlachokerasia**	**1.37**	**26**		P		**Pn**	**22 21 03.6**	**+0.8**
VLX					S		**Sg**	**22 21 21.3**	**-1.3**
VLX	**Vlachokerasia**	**1.37**	**26**		*e*PN		**Pn**	**22 21 03.5**	**+0.8**
VLX					*e*SN		**Sn**	**22 21 22.2**	**+1.5**
VLX	**Vlachokerasia**	**1.37**	**26**		P		**Pn**	**22 21 03.6**	**+0.8**
VLX					S		**Sg**	**22 21 21.3**	**-1.3**
VLX					*e*Sn		**Sn**	**22 21 22.2**	**+1.5**
ANKY	**Antikythira Is**	**1.39**	**101**		P		**Pn**	**22 21 04.3**	**+1.4**
ANKY					S		**Sb**	**22 21 22.4**	**+1.1**
ANKY	**Antikythira Is**	**1.39**	**101**		*e*PN		**Pn**	**22 21 03.7**	**+0.8**
ANKY					*e*SN		**Sb**	**22 21 21.2**	**-0.1**
ANKY	**Antikythira Is**	**1.39**	**101**		*e*Pn		**Pn**	**22 21 03.7**	**+0.8**
ANKY	**Antikythira Is**	**1.39**	**101**		P		**Pn**	**22 21 04.3**	**+1.4**
ANKY					*e*Sn		**Sb**	**22 21 21.2**	**-0.1**
ANKY					S		**Sb**	**22 21 22.4**	**+1.1**
AMT	**Artemida-Makis**	**1.39**	**3**		P		**Pn**	**22 21 03.9**	**+0.9**
AMT					S		**Sb**	**22 21 22.6**	**+1.2**
AMT	**Artemida-Makis**	**1.39**	**3**		*e*PN		**Pn**	**22 21 03.9**	**+0.9**
AMT	**Artemida-Makis**	**1.39**	**3**		P		**Pn**	**22 21 03.9**	**+0.9**
AMT					S		**Sb**	**22 21 22.6**	**+1.2**
DRO	**Drossia**	**1.81**	**2**		P		**Pn**	**22 21 10.2**	**+1.4**
DRO	**Drossia**	**1.81**	**2**		*e*PB		**Pn**	**22 21 10.1**	**+1.3**
DRO	**Drossia**	**1.81**	**2**		*e*Pb		**Pn**	**22 21 10.1**	**+1.3**
GUR	**Goura**	**1.89**	**18**		*e*PB		**Pn**	**22 21 11.2**	**+1.4**
GUR	**Goura**	**1.89**	**18**		*e*Pb		**Pn**	**22 21 11.2**	**+1.4**
RLS	**Riolos of Patr**	**1.92**	**356**		P		**Pn**	**22 21 12.1**	**+1.9**
RLS	**Riolos of Patr**	**1.92**	**356**		*e*PB		**Pn**	**22 21 12.1**	**+1.9**
RLS	**Riolos of Patr**	**1.92**	**356**		P		**Pn**	**22 21 12.1**	**+1.9**
KLV	**Kalavryta, Ach**	**1.95**	**12**		P		**Pn**	**22 21 11.9**	**+1.2**
KLV	**Kalavryta, Ach**	**1.95**	**12**		*e*PB		**Pn**	**22 21 12.2**	**+1.5**
KLV	**Kalavryta, Ach**	**1.95**	**12**		P		**Pn**	**22 21 11.9**	**+1.2**
KLV	**Kalavryta, Ach**	**1.95**	**12**		*e*Pb		**Pn**	**22 21 12.2**	**+1.5**
KARN	**Karanos**	**2.01**	**111**		P		**Pn**	**22 21 12.4**	**+1.0**
KARN	**Karanos**	**2.01**	**111**		*e*PB		**Pn**	**22 21 12.5**	**+1.0**
KARN	**Karanos**	**2.01**	**111**		P		**Pn**	**22 21 12.4**	**+1.0**
LTK	**Loutraki**	**2.17**	**29**		*e*PN		**Pn**	**22 21 14.4**	**+0.8**
LTK	**Loutraki**	**2.17**	**29**		*e*Pn		**Pn**	**22 21 14.4**	**+0.8**
VLS	**Valsamata**	**2.20**	**338**		P		**Pn**	**22 21 15.0**	**+0.9**
VLS	**Valsamata**	**2.20**	**338**		*e*PN		**Pn**	**22 21 14.9**	**+0.9**
VLS	**Valsamata**	**2.20**	**338**		*e*Pn		**Pn**	**22 21 14.9**	**+0.9**
VAM	**Vamos**	**2.22**	**108**		P		Pn	22 21 12.7	-1.6
VAM	**Vamos**	**2.22**	**108**		*e*PN		Pn	22 21 12.8	-1.6
VAM	**Vamos**	**2.22**	**108**		*e*Pn		Pn	22 21 12.8	-1.6
KALE	**Kalithea**	**2.29**	**10**		P		**Pn**	**22 21 16.8**	**+1.5**
KALE	**Kalithea**	**2.29**	**10**		*e*PB		**Pn**	**22 21 17.0**	**+1.7**
KALE	**Kalithea**	**2.29**	**10**		*e*Pb		**Pn**	**22 21 17.0**	**+1.7**
EFP	**Efpalio**	**2.30**	**6**		*e*PB		**Pn**	**22 21 17.3**	**+1.9**
EFP	**Efpalio**	**2.30**	**6**		*e*Pb		**Pn**	**22 21 17.3**	**+1.9**
DSF	**Desfina**	**2.38**	**17**		*e*PN		**Pn**	**22 21 17.3**	**+0.7**
DSF	**Desfina**	**2.38**	**17**		*e*Pn		**Pn**	**22 21 17.3**	**+0.7**
PDO	**Prodromos**	**2.48**	**352**		P		**Pn**	**22 21 20.2**	**+2.3**
PDO	**Prodromos**	**2.48**	**352**		*e*PN		**Pn**	**22 21 19.7**	**+1.8**
PDO	**Prodromos**	**2.48**	**352**		*e*Pn		**Pn**	**22 21 19.7**	**+1.8**
PDO	**Prodromos**	**2.48**	**352**		P		**Pn**	**22 21 20.2**	**+2.3**
ATH	**Athens Observa**	**2.48**	**42**		*e*PN		**Pn**	**22 21 18.3**	**+0.4**
ATH	**Athens Observa**	**2.48**	**42**		*e*Pn		**Pn**	**22 21 18.3**	**+0.4**
PTL	**Penteli**	**2.62**	**43**		*e*PN		**Pn**	**22 21 20.0**	**+0.1**
PTL	**Penteli**	**2.62**	**43**		*e*Pn		**Pn**	**22 21 20.0**	**+0.1**
AXAR	**Agios Charalam**	**2.75**	**17**		*e*PN		**Pn**	**22 21 22.9**	**+1.2**
AXAR	**Agios Charalam**	**2.75**	**17**		*e*Pn		**Pn**	**22 21 22.9**	**+1.2**
LKD2	**Lefkada island**	**2.75**	**344**		P		**Pn**	**22 21 23.7**	**+2.0**
LKD2	**Lefkada island**	**2.75**	**344**		*e*PN		**Pn**	**22 21 23.8**	**+2.0**
LKD2	**Lefkada island**	**2.75**	**344**		P		**Pn**	**22 21 23.7**	**+2.0**
EVR	**Evrytania**	**2.78**	**3**		*e*PB		**Pn**	**22 21 24.9**	**+2.8**
EVR	**Evrytania**	**2.78**	**3**		*e*Pb		**Pn**	**22 21 24.9**	**+2.8**
IDI	**Anoyia**	**2.79**	**107**		Pn		**Pn**	**22 21 22.4**	**+0.1**
	1.6nm,0.3s,baz=293,slow=18,SNR=28								
IDI						Sn	**Sn**	**22 21 54.3**	**-1.4**
	8.5nm,0.3s,baz=301,slow=22,SNR=7.1								
MAKR	**Makrakomi, Fth**	**2.90**	**8**		P		**Pn**	**22 21 26.4**	**+2.7**
MAKR	**Makrakomi, Fth**	**2.90**	**8**		*e*PN		**Pn**	**22 21 25.7**	**+2.0**
MAKR	**Makrakomi, Fth**	**2.90**	**8**		*e*Pn		**Pn**	**22 21 25.7**	**+2.0**
MAKR	**Makrakomi, Fth**	**2.90**	**8**		P		**Pn**	**22 21 26.4**	**+2.7**
AGG	**Agios Georgios**	**2.94**	**11**		P		**Pn**	**22 21 25.9**	**+1.7**
AGG	**Agios Georgios**	**2.94**	**11**		*e*PN		**Pn**	**22 21 26.3**	**+2.1**
AGG	**Agios Georgios**	**2.94**	**11**		P		**Pn**	**22 21 25.9**	**+1.7**
AGG	**Agios Georgios**	**2.94**	**11**		*e*Pn		**Pn**	**22 21 26.3**	**+2.1**
MRKA	**Markates**	**3.00**	**31**		*e*PN		**Pn**	**22 21 26.8**	**+1.7**
MRKA	**Markates**	**3.00**	**31**		*e*Pn		**Pn**	**22 21 26.8**	**+1.7**
SMIA	**Simia**	**3.02**	**24**		*e*PN		**Pn**	**22 21 25.6**	**+0.3**
SMIA	**Simia**	**3.02**	**24**		*e*Pn		**Pn**	**22 21 25.6**	**+0.3**
DSL	**Palaion Diasel**	**3.02**	**352**		P		**Pn**	**22 21 27.1**	**+1.7**
DSL	**Palaion Diasel**	**3.02**	**352**		*e*PN		**Pn**	**22 21 27.1**	**+1.7**
DSL	**Palaion Diasel**	**3.02**	**352**		P		**Pn**	**22 21 27.1**	**+1.7**
THR1	**Thera Island**	**3.11**	**85**		*e*P		**Pn**	**22 21 27.7**	**+1.1**
THR1	**Thera Island**	**3.11**	**85**		*e*P		**Pn**	**22 21 27.7**	**+1.1**
APE	**Apeiranthos**	**3.28**	**72**		*e*P		**Pn**	**22 21 27.6**	**-1.4**
APE	**Apeiranthos**	**3.28**	**72**		*e*PN		**Pn**	**22 21 28.4**	**-0.6**
APE	**Apeiranthos**	**3.28**	**72**		*e*P		**Pn**	**22 21 27.6**	**-1.4**
APE	**Apeiranthos**	**3.28**	**72**		*e*Pn		**Pn**	**22 21 28.4**	**-0.6**
LAST	**Lasithi**	**3.29**	**106**		*e*PN		**Pn**	**22 21 30.2**	**+1.1**
LAST	**Lasithi**	**3.29**	**106**		*e*Pn		**Pn**	**22 21 30.2**	**+1.1**
SKIA	**Skiathos**	**3.36**	**25**		*e*PN		**Pn**	**22 21 31.5**	**+1.5**
SKIA	**Skiathos**	**3.36**	**25**		*e*Pn		**Pn**	**22 21 31.5**	**+1.5**
THL	**Klokotos Trika**	**3.44**	**5**		P		**Pn**	**22 21 32.2**	**+1.2**
THL	**Klokotos Trika**	**3.44**	**5**		P		**Pn**	**22 21 32.2**	**+1.2**
XOR	**Xorichti**	**3.46**	**21**		P		**Pn**	**22 21 32.8**	**+1.5**
XOR	**Xorichti**	**3.46**	**21**		*e*PN		**Pn**	**22 21 33.2**	**+1.9**
XOR	**Xorichti**	**3.46**	**21**		P		**Pn**	**22 21 32.8**	**+1.5**
XOR	**Xorichti**	**3.46**	**21**		*e*Pn		**Pn**	**22 21 33.2**	**+1.9**
AOS	**Alonnisos**	**3.52**	**30**		*e*P		Pn	22 21 29.0	-3.2
AOS	**Alonnisos**	**3.52**	**30**		*e*PN		**Pn**	**22 21 33.7**	**+1.5**
AOS	**Alonnisos**	**3.52**	**30**		*e*P		Pn	22 21 29.0	-3.2
AOS	**Alonnisos**	**3.52**	**30**		*e*Pn		**Pn**	**22 21 33.7**	**+1.5**
IGT	**Igoumenitsa**	**3.54**	**344**		*e*PN		**Pn**	**22 21 32.9**	**+0.4**
IGT	**Igoumenitsa**	**3.54**	**344**		*e*Pn		**Pn**	**22 21 32.9**	**+0.4**
JAN	**Janina**	**3.57**	**350**		*e*PN		**Pn**	**22 21 34.2**	**+1.3**
JAN	**Janina**	**3.57**	**350**		*e*Pn		**Pn**	**22 21 34.2**	**+1.3**
KEK	**Kerkira**	**3.85**	**339**		*e*PN		**Pn**	**22 21 37.3**	**+0.6**
KEK	**Kerkira**	**3.85**	**339**		*e*Pn		**Pn**	**22 21 37.3**	**+0.6**
ZKR	**Zakros**	**3.88**	**104**		*e*PN		**Pn**	**22 21 36.9**	**-0.3**
ZKR	**Zakros**	**3.88**	**104**		*e*Pn		**Pn**	**22 21 36.9**	**-0.3**
SRN	**Sarande**	**3.95**	**342**		P		**Pn**	**22 21 38.5**	**+0.4**
SRN	**Sarande**	**3.95**	**342**

comp=Z,12nm,21.9s,baz=155,slow=37
BBB Bella Bella 88.15 342 LR LR 23 13 46.0
comp=Z,51nm,21.8s,baz=336,slow=36

BJI ***21*** *22:40:41.7, 3.60S×102.00E, h85km, mB5.1/12, mb4.7/23, Ms4.7/2, Ms7.4 4.4/3*
KLM ***21*** *22:40:43.6, 3.73S×101.98E, h94km, mb5.0, ML5.1, MS5.8*
IDC ***21*** *22:40:43.9±0.6, 3.50S×102.25E, h88km±4km, mb4.3/32, mb1 4.3/33, mb1mx4.3/35, mbtmp4.6/33, MS3.5/9, Ms1 3.5/9, ms1mx3.1/35, Error ellipse: s-maj=14.1km s-min=8.9km az=50.0*
DJA ***21*** *22:40:43.8±0.3, 4.5S±3.3×10.2E±.*, h88km±3km, M4.9/46, mB5.4/27, mb5.2/46, MLv5.0/5, Mw(mB)4.8/27*
ISCJB ***21*** *22:40:43.5±0.4, 3.62S±0.03×102.14E±0.03, h103km±3km, mb4.6/71, Error ellipse: s-maj=6.8km s-min=3.0km az=138.6*
NEIC ***21*** *22:40:45.0±0.8, 3.49S×102.28E, h96km±6km, mb4.9/13, Error ellipse: s-maj=8.4km s-min=4.3km az=225.0*
NEIC Felt [III] at Kapahiang. Also felt at Bengkulu.
MOS ***21*** *22:40:44.3±1.3, 3.41S×102.26E, h101km, mb4.6/18, Error ellipse: s-maj=12.2km s-min=6.6km az=114.2*
ISC 21 22:40:44.1±0.5,**3.56S**±0.05×**102.16E**±0.05,**h94**km±3km,
h94km:**pP-P,n328,**σ1§**39**/326,**mb4.6**/70,**43C-64D,**
Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.13**	**135**	P	**Pn**	**22 41 05.8**	**+0.2**
LHSI	**Lahat**	**1.39**	**101**	P	**Pn**	**22 41 09.2**	**+0.5**
MDSI	**Maura Dua**	**2.22**	**115**	P	**Pn**	**22 41 19.9**	**+0.6**
LWLI	**Liwa**	**2.39**	**127**	P	**Pn**	**22 41 23.2**	**+1.5**
JMBI	**JAMBI**	**2.42**	**38**	P	**Pn**	**22 41 23.0**	**+1.0**
SDSI	**Sungai Dareh**	**2.71**	**344**	P	**Pn**	**22 41 27.3**	**+1.4**
KLI	**Kotabumi**	**2.99**	**116**	P	**Pn**	**22 41 30.6**	**+1.0**
KASI	**Kota Agung**	**3.04**	**130**	P	**Pn**	**22 41 30.8**	**+0.5**
BLSI	**Bandar Lampung**	**3.57**	**120**	P	**Pn**	**22 41 38.0**	**+0.6**
BKNI	**Bangkinang**	**4.02**	**344**	P	**Pn**	**22 41 44.6**	**+1.1**
BKNI	**Bangkinang**	**4.02**	**344**	⇓P	**Pn**	**22 41 44.9**	**+1.4**
	baz=4.2,SNR=19						
CGJI	**Cibinong**	**4.65**	**131**	P	**Pn**	**22 41 50.8**	**-1.3**
SBJI	**Serang**	**4.71**	**123**	P	**Pn**	**22 41 53.3**	**+0.5**
MNSI	**Mandailing Nat**	**5.03**	**329**	P	**Pn**	**22 41 58.0**	**+0.7**
TPRI	**Tanjung Pinang**	**5.04**	**28**	P	**Pn**	**22 42 00.2**	**+2.8**
BTDF	**Bukit Timah Da**	**5.15**	**18**	⇓P	**Pn**	**22 42 00.2**	**+1.3**
	baz=5.4,SNR=7.2						
SKJI	**Sukabumi**	**5.56**	**128**	P	Pn	22 42 10.3	+5.8
MYKOM	**Kota Tinggi**	**5.58**	**18**	⇓P	**Pn**	**22 42 06.5**	**+1.9**
KGM	**Kluang**	**5.66**	**12**	⇓P	**Pn**	**22 42 07.7**	**+1.9**
CNJI	**Cibinong**	**6.20**	**127**	P	**Pn**	**22 42 11.7**	**-1.4**
LEM	**Lembang**	**6.33**	**121**	P	**Pn**	**22 42 15.9**	**+0.8**
	231nm,1.3s,3μm1.1nm						
GSI	**Gunungsitoli**	**6.65**	**316**	P	**Pn**	**22 42 19.2**	**-0.1**
FRIM	**Kepong**	**6.77**	**356**	⇓P	**Pn**	**22 42 22.8**	**+1.9**
CISI	**Cisompet, Garu**	**6.89**	**125**	P	**Pn**	**22 42 21.1**	**-1.5**
CISI	**Cisompet, Garu**	**6.89**	**125**	⇑P	**Pn**	**22 42 20.7**	**-2.0**
	baz=6.9,SNR=8.7						
PSI	**Prapat**	**7.09**	**333**	P	**Pn**	**22 42 24.2**	**-1.2**
	5.4nm,0.3s,baz=166,slow=9.3,SNR=28						
PSI	**Prapat**	**7.09**	**333**	⇓P	**Pn**	**22 42 23.6**	**-1.8**
	baz=7.1,SNR=18						
XMIS	**Christmas Isla**	**7.70**	**153**	*e*Pn	Pn	22 42 26.8	-6.8
	197nm,0.4s						
XMIS				*e*Sn	Sn	22 43 43.4	-16
KPJI	**Karang Pucung**	**7.72**	**119**	P	**Pn**	**22 42 34.7**	**+0.9**
TSI	**Tuntungan**	**7.88**	**333**	P	**Pn**	**22 42 39.1**	**+3.1**
	100nm,0.8s,0.6nm						
IPM	**Ipoh**	**8.06**	**352**	⇓P	**Pn**	**22 42 41.0**	**+2.4**
KCSI	**Kotacane, Aceh**	**8.29**	**328**	P	**Pn**	**22 42 39.8**	**-1.8**
SNSI	**Sinabang, Aceh**	**8.31**	**315**	P	**Pn**	**22 42 41.4**	**-0.5**
TPTI	**Prapat**	**8.40**	**324**	P	**Pn**	**22 42 42.0**	**-1.2**
	30nm,0.4s,34μm						
KTGM	**Kuala Trenggan**	**8.88**	**6**	⇓P	**Pn**	**22 42 52.1**	**+2.4**
KULM	**Kulim**	**8.92**	**350**	⇓P	**Pn**	**22 42 53.1**	**+3.0**
KULM	**Kulim**	**8.92**	**350**	*e*Pn	**Pn**	**22 42 50.7**	**+0.5**
	40nm,0.6s						
UGM	**Wanagama**	**9.38**	**118**	⇑P	**Pn**	**22 42 55.4**	**-1.1**
	baz=9.5,SNR=30						
PBKI	**Pangkalan Bun**	**9.54**	**85**	P	Pn	22 43 01.9	+3.3
	204nm,0.9s,2μm						
KSM	**Kuching**	**9.56**	**59**	⇑P	**Pn**	**22 43 01.0**	**+2.1**
	baz=9.8,SNR=5.5						
KSM	**Kuching**	**9.56**	**59**	⇑P	**Pn**	**22 43 00.9**	**+1.9**
KSM	**Kuching**	**9.56**	**59**	*e*Pn	**Pn**	**22 42 58.5**	**-0.4**
	24nm,0.9s						
KSM				*e*Sn	**Sn**	**22 44 44.4**	**-0.2**
STKI	**Sintang**	**9.99**	**69**	P	**Pn**	**22 43 06.9**	**+2.1**
LHMI	**Lhok Sumawe**	**10.16**	**329**	P	**Pn**	**22 43 05.4**	**-1.7**
	91nm,0.7s						
LHMI	**Lhok Sumawe**	**10.16**	**329**	⇑P	**Pn**	**22 43 05.3**	**-1.8**
	baz=10,SNR=11						
PWJI	**Pagerwojo**	**10.57**	**115**	P	**Pn**	**22 43 13.2**	**+0.5**
	66nm,0.8s						
GRJI	**Gresik**	**10.81**	**108**	P	**Pn**	**22 43 17.4**	**+1.5**
SBUM	**Sibu**	**11.70**	**59**	⇑P	Pn	22 43 31.9	+4.0
BLJI	**Banyuglugur**	**12.12**	**111**	P	**Pn**	**22 43 35.3**	**+1.7**
GMJI	**Gumukmas**	**12.16**	**113**	P	**Pn**	**22 43 33.6**	**-0.6**
KMMI	**Kalianget**	**12.26**	**107**	P	**Pn**	**22 43 36.6**	**+1.1**
BBKI	**Banjar Baru**	**12.66**	**90**	P	**P**	**22 43 49.3**	**+0.9**
ABJI	**Asem Bagus**	**12.73**	**110**	P	**Pn**	**22 43 42.9**	**+1.1**
	465nm,0.6s,6μm						
BTM	**Bintulu**	**12.82**	**59**	⇑P	P	22 43 46.7	-3.5
JAGI	**Jajag, Banyuwa**	**12.89**	**113**	P	**Pn**	**22 43 41.3**	**-2.6**
	256nm,0.5s,6μm						
JAGI	**Jajag, Banyuwa**	**12.89**	**113**	⇓P	**Pn**	**22 43 41.5**	**-2.3**
	baz=13,SNR=66						
MTKI	**Muara Teweh, K**	**12.99**	**79**	P	**P**	**22 43 54.1**	**+2.0**
SRBI	**Singaraja**	**13.74**	**110**	P	**Pn**	**22 43 53.7**	**-1.4**
	188nm,0.6s						
BKB	**Balikpapan**	**14.90**	**82**	P	P	22 44 18.0	+4.7
KKM	**Kota Kinabalu**	**16.97**	**56**	⇓P	**P**	**22 44 37.5**	**+1.1**
	baz=17,SNR=7.9						
KKM	**Kota Kinabalu**	**16.97**	**56**	⇑P	**P**	**22 44 38.5**	**+2.1**
KKM	**Kota Kinabalu**	**16.97**	**56**	*e*Pn	**Pn**	**22 44 35.0**	**-1.0**
	44nm,1.0s						
TSM	**Tawau**	**17.54**	**64**	⇓P	**Pn**	**22 44 45.3**	**+2.6**
SPSI	**Sidrap Palu**	**17.58**	**92**	P	**Pn**	**22 44 43.6**	**+0.3**
	97nm,1.0s,666nm						
SDKM	**Sandakan**	**17.58**	**59**	⇓P	**Pn**	**22 44 46.0**	**+2.6**
KAPI	**Kappang**	**17.61**	**95**	*e*Pn	**P**	**22 44 43.4**	**+0.1**
	566nm,1.0s						
TTSI	**Tana Toraja**	**17.64**	**89**	P	**Pn**	**22 44 45.9**	**+1.9**
	80nm,0.9s,746nm						
PCI	**Palu**	**17.86**	**82**	P	pP	22 45 07.7	+3.7
BNSI	**Bone**	**17.93**	**93**	P	**Pn**	**22 44 48.6**	**+1.1**
	131nm,0.9s,1μm						
KDM	**Kudat**	**17.97**	**55**	⇑P	**Pn**	**22 44 50.7**	**+2.8**
BKSI	**Bulukumba**	**18.00**	**96**	P	**Pn**	**22 44 48.9**	**+0.6**
	169nm,0.9s,2μm						
MPSI	**Mapaga**	**18.15**	**78**	P	**Pn**	**22 44 51.2**	**+1.0**
	105nm,1.1s,1μm						
MYLDM	**Lahad Datu**	**18.49**	**62**	⇑P	**Pn**	**22 44 56.2**	**+1.9**
UBPT	**Khong Chiam**	**19.00**	**10**	P	**Pn**	**22 45 00.0**	**-0.3**
	42nm,1.1s,705nm						
WSI	**Waingapu**	**19.01**	**110**	P	Pn	22 45 10.8	+10
UTHA	**Uthaitani**	**19.18**	**352**	P	**Pn**	**22 45 04.5**	**+2.1**
	4.4nm,0.8s						
CHAI	**Chaiyaphum**	**19.34**	**360**	P	**P**	**22 45 02.9**	**+0.7**
	11nm,0.9s,162nm						
BASI	**Baing, Sumba**	**19.44**	**111**	P	Pn	22 45 18.4	+13
APSI	**Ampana**	**19.65**	**83**	P	**Pn**	**22 45 06.9**	**-1.1**
	260nm,0.9s,2μm						
PBKT	**Sadao Pong**	**20.03**	**357**	P	**P**	**22 45 10.2**	**+0.5**
	18nm,0.8s						
EDFI	**Ende, Flores**	**20.09**	**106**	P	**P**	**22 45 09.6**	**-0.9**
MRSI	**Marisa**	**20.18**	**79**	P	**P**	**22 45 12.6**	**+1.2**
MMRI	**Maumere**	**20.59**	**105**	P	**P**	**22 45 15.2**	**-0.6**
	81nm,0.9s,4μm						
LUWI	**Luwuk**	**20.75**	**84**	P	Pn	22 45 19.5	-1.3
	218nm,1.2s,3μm						
LUWI	**Luwuk**	**20.75**	**84**	⇓P	Pn	22 45 19.3	-1.4
	baz=21,SNR=10						
LUWI	**Luwuk**	**20.75**	**84**	*e*P	**P**	**22 45 16.6**	**-0.9**
	261nm,1.1s						
LOEI	**Loei**	**20.95**	**358**	P	**P**	**22 45 18.9**	**-0.7**
	59nm,0.8s						
UTTA	**Uttaradit**	**21.23**	**356**	P	**P**	**22 45 22.8**	**+0.3**
	5.1nm,0.7s,56nm						
GTOI	**Gorontalo**	**21.26**	**79**	P	**P**	**22 45 22.3**	**-0.7**
	165nm,0.7s,2μm						
LAMP	**Lampang**	**22.08**	**354**	P	**P**	**22 45 34.0**	**+2.3**
	3.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**22.10**	**352**	P	**P**	**22 45 31.4**	**-0.5**
	8.2nm,0.8s,baz=345,slow=27,SNR=4.1						
CMAR				ScP	**ScP**	**22 52 55.7**	**+0.4**
	2.2nm,0.5s,baz=206,slow=3.4,SNR=20						
CMAR				LR	LR	22 54 14.9	
	comp=Z,103nm,20.2s,baz=172,slow=37						
KMSI	**Cibinong**	**22.20**	**80**	P	**P**	**22 45 36.5**	**+3.5**
	214nm,0.6s						
BATI	**Baumata**	**22.34**	**108**	P	**P**	**22 45 33.4**	**-1.2**
BATI	**Baumata**	**22.34**	**108**	P	**P**	**22 45 33.3**	**-1.2**
	114nm,0.6s,baz=240,slow=1.3,SNR=17						
BATI				S	S	22 49 23.4	-11
	28nm,0.6s,baz=297,slow=16,SNR=4.3						
CMMT	**Chiang Mai**	**22.45**	**352**	P	**P**	**22 45 36.0**	**+0.4**
	11nm,1.0s						
CHTO	**Chiang Mai**	**22.45**	**352**	*e*P	**P**	**22 45 34.7**	**-0.9**
CHTO				*e*		22 49 31.0	
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHTO	**Chiang Mai**	**22.45**	**352**	*e*P	**P**	**22 45 34.7**	**-0.9**
	comp=Z,3.0nm,0.6s						
CHTO				*e*PcP	**PcP**	**22 49 31.0**	**+4.1**
SOEI	**Soe**	**22.80**	**107**	P	**P**	**22 45 37.0**	**-2.4**
CRAI	**Chiangrai**	**23.70**	**356**	P	**P**	**22 45 44.5**	**-3.1**
	comp=Z,199nm,0.7s,comp=Z,28μm						
SANI	**Sanana**	**23.85**	**87**	P	**P**	**22 45 48.9**	**-0.1**
PALK	**Pallekele**	**23.96**	**297**	P	**P**	**22 45 52.0**	**+1.9**
PALK	**Pallekele**	**23.96**	**297**	P	**P**	**22 45 52.0**	**+1.9**
	comp=Z,16nm,0.9s,baz=134,slow=8.8,SNR=5.2						
MBWA	**Marble Bar**	**24.46**	**137**	*e*P	**P**	**22 45 54.9**	**+0.4**
	comp=Z,7.9nm,0.6s						
MBWA				*e*S	S	22 50 17.8	+10
SLVN	**Son La**	**24.80**	**4**	*e*P	**P**	**22 45 58.8**	**+1.2**
	comp=Z,29nm,0.8s						
NLAI	**Namlea**	**24.90**	**90**	P	**P**	**22 46 00.7**	**+2.1**
LBMI	**Labuha**	**25.49**	**84**	P	**P**	**22 46 05.4**	**+1.5**
TGY	**Tagaytay City**	**25.59**	**46**	P	**P**	**22 46 05.4**	**+0.5**
	comp=Z,108nm,0.3s,baz=292,slow=19,SNR=2.1						
FITZ	**Fitzroy Crossi**	**27.16**	**124**	⇓P	**P**	**22 46 18.4**	**-0.5**
	baz=27,SNR=67						
FITZ	**Fitzroy Crossi**	**27.16**	**124**	*e*P	**P**	**22 46 18.5**	**-0.5**
	comp=Z,30nm,0.8s						
TRD	**Trivandrum**	**27.84**	**296**	‖*e*P	pP	22 46 43.9	-2.3
MEEK	**Meekatharra**	**27.84**	**147**	⇓P	**P**	**22 46 25.7**	**+0.7**
	baz=28,SNR=13						
KNRA	**Kununurra**	**28.82**	**116**	P	**P**	**22 46 32.0**	**-1.7**
	baz=29,SNR=25						
SWI	**Sorong**	**29.20**	**85**	P	**P**	**22 46 37.8**	**+0.7**
H08S2	**Diego Garcia H**	**29.79**	**261**	T	T	23 16 39.8	
	baz=84,slow=75,SNR=273						
H08S3	**Diego Garcia H**	**29.80**	**261**	T	T	23 16 48.5	
	baz=84,slow=75,SNR=259						
H08S1	**Diego Carcia H**	**29.81**	**261**	T	T	23 16 44.2	
	baz=84,slow=75,SNR=49						
FAKI	**Fak Fak**	**30.05**	**90**	P	**P**	**22 46 43.6**	**-1.1**
FAKI	**Fak Fak**	**30.05**	**90**	⇓P	**P**	**22 46 43.6**	**-1.1**
	baz=30,SNR=9.8						
MTN	**Manton Dam**	**30.09**	**110**	⇑P	**P**	**22 46 43.7**	**-1.3**
	baz=30,SNR=4.1						
BLDU	**Ballidu**	**30.22**	**155**	⇓P	**P**	**22 46 46.0**	**0.0**
	baz=30,SNR=4.6						
NWAO	**Narrogin (SRO)**	**32.45**	**156**	P	**P**	**22 47 06.5**	**+1.1**
	comp=Z,9.1nm,0.5s,baz=321,slow=7.4,SNR=12						
NWAO				LR	LR	22 59 12.8	
	comp=Z,70nm,20.5s,baz=360,slow=34						
NWAO	**Narrogin (SRO)**	**32.45**	**156**	⇑P	**P**	**22 47 06.3**	**+0.8**
	baz=32,SNR=8.8						
WRKA	**Warakurna**	**32.99**	**133**	⇓P	**P**	**22 47 11.1**	**+0.6**
	baz=33,SNR=40						
H01W3	**Cape Leeuwin H**	**33.09**	**162**	T	T	23 21 25.7	
	baz=339,slow=76,SNR=32						
H01W2	**Cape Leeuwin H**	**33.11**	**162**	T	T	23 21 27.0	
	baz=339,slow=76,SNR=35						
H01W1	**Cape Leeuwin H**	**33.11**	**162**	T	T	23 21 22.7	
	baz=339,slow=76,SNR=29						
KMBL	**Kambalda**	**33.32**	**148**	⇑P	**P**	**22 47 13.5**	**+0.3**
	baz=33,SNR=14						
ODAN	**Odare**	**33.44**	**336**	*e*P	**P**	**22 47 15.2**	**+0.7**
	comp=Z,44nm,0.5s						
TAPN	**Taplejung**	**33.74**	**336**	*e*P	**P**	**22 47 18.1**	**+0.9**
	comp=Z,85nm,0.9s						
RKGY	**Rocky Gully**	**33.83**	**158**	⇓P	**P**	**22 47 17.9**	**+0.5**
	baz=34,SNR=6.8						
RAMN	**Ramite**	**33.85**	**335**	*e*P	**P**	**22 47 19.3**	**+1.3**
	comp=Z,23nm,0.4s						
JIRN	**Jiri**	**34.65**	**335**	*e*P	**P**	**22 47 26.0**	**+1.0**
LSA	**Lhasa**	**34.71**	**343**	*e*P	**P**	**22 47 25.5**	**-0.2**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
LSA	**Lhasa**	**34.71**	**343**	*e*P	**P**	**22 47 25.5**	**-0.2**
	comp=Z,4.6nm,0.4s						
PKI	**Pulchoki**	**34.91**	**333**	*e*P	**P**	**22 47 27.9**	**+0.6**
	comp=Z,27nm,0.7s						
PKIN	**Phulchoki**	**34.92**	**333**	*e*P	**P**	**22 47 27.8**	**+0.5**
GUN	**Gumba**	**35.00**	**334**	*e*P	**P**	**22 47 29.0**	**+0.9**
	comp=Z,224nm,0.8s						
DMN	**Daman**	**35.08**	**333**	*e*P	**P**	**22 47 29.4**	**+0.8**
KKN	**Kakani**	**35.16**	**333**	*e*P	**P**	**22 47 30.1**	**+0.8**
WRA	**Warramunga Arr**	**35.35**	**120**	P	**P**	**22 47 30.5**	**-0.4**
	comp=Z,31nm,0.5s,baz=302,slow=9.0,SNR=421						
WRA				PcP	**PcP**	**22 49 59.8**	**+0.4**
	comp=Z,5.0nm,0.5s,baz=305,slow=2.1,SNR=8.6						
WRA				S	**S**	**22 52 53.1**	**-5.6**
	comp=Z,1.7nm,0.8s,baz=291,slow=15,SNR=5.1						
WRA				ScP	**ScP**	**22 53 36.9**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=312,slow=3.0,SNR=7.1						
WRAB	**Tennant Creek**	**35.36**	**120**	*c i*P	**P**	**22 47 30.3**	**-0.6**
GKN	**Gorkha**	**35.63**	**333**	*e*P	**P**	**22 47 34.0**	**+0.8**
KOLN	**Koldanda**	**35.92**	**331**	*e*P	**P**	**22 47 37.0**	**+1.2**
	comp=Z,126nm,0.7s						
DANN	**Dangsing**	**36.33**	**332**	*e*P	**P**	**22 47 40.4**	**+1.0**
	comp=Z,197nm,0.6s						
FORT	**Forrest**	**36.48**	**141**	⇓P	**P**	**22 47 40.8**	**+0.6**
	baz=36,SNR=10						
AS31	**Alice Springs**	**36.60**	**126**	*e*P	**P**	**22 47 41.4**	**-0.1**
ASAR	**Alice Springs**	**36.60**	**126**	P	**P**	**22 47 41.6**	**+0.1**
	comp=Z,18nm,0.5s,baz=297,slow=8.2,SNR=132						
ASAR				pP	**pP**	**22 48 01.9**	**-1.3**
	comp=Z,4.6nm,0.4s,baz=302,slow=8.6,SNR=2.4						
ASAR				PcP	**PcP**	**22 50 03.9**	**+0.9**
	comp=Z,6.9nm,0.5s,baz=309,slow=2.9,SNR=12						
ASAR				S	**S**	**22 53 13.2**	**-4.5**
	comp=Z,4.0nm,0.9s,baz=297,slow=18,SNR=15						
ASAR				ScP	**ScP**	**22 53 41.9**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=302,slow=3.8,SNR=8.0						
NDI	**New Delhi**	**40.02**	**325**	*e*P	**P**	**22 48 11.0**	**+0.9**
QIS	**Mount Isa**	**40.18**	**118**	⇑P	**P**	**22 48 11.1**	**-0.5**
	baz=40,SNR=63						
COEN	**Coen**	**41.77**	**107**	⇑P	**P**	**22 48 23.0**	**-1.6**
	baz=42,SNR=12						
COEN	**Coen**	**41.77**	**107**	*e*P	**P**	**22 48 22.9**	**-1.6**
	comp=Z,78nm,0.8s						
GTA	**Gaotai**	**42.81**	**357**	*e*P	**P**	**22 48 33.9**	**+1.1**
GTA				PMZ			
	comp=Z,3.0nm,0.9s						
BBOO	**Buckleboo**	**43.04**	**137**	⇑P	**P**	**22 48 34.9**	**+0.2**
	baz=43,SNR=29						
BBOO	**Buckleboo**	**43.04**	**137**	*e*P	**P**	**22 48 35.1**	**+0.3**
	comp=Z,326nm,0.6s						
PMG	**Port Moresby**	**45.06**	**100**	⇑*i*P	**P**	**22 48 50.5**	**-0.6**
PMG				pmax	pmax		
	comp=Z,17nm,0.7s						
JNU	**Nakatsue**	**45.49**	**34**	LR	LR	23 06 15.4	
	comp=Z,54nm,21.5s,slow=34						
CTA	**Charters Tower**	**45.99**	**115**	PcP	**PcP**	**22 50 34.7**	**+0.9**
	baz=330,slow=2.3						
CTA				ScP	**ScP**	**22 54 17.9**	**-0.7**
	comp=Z,4.0nm,0.9s,baz=297,slow=2.3,SNR=2.6						
CTAO	**Charters Tower**	**45.99**	**115**	*e*P	**P**	**22 48 57.8**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,41nm,1.0s						
CTAO	**Charters Tower**	**45.99**	**115**	*e*P	**P**	**22 48 57.8**	**-0.6**
	comp=Z,41nm,1.0s						
QLP	**Quilpie**	**46.30**	**124**	⇑P	**P**	**22 49 01.3**	**+0.6**
	baz=46,SNR=7.3						
KSAR	**Wonju Array Be**	**47.29**	**28**	P	**P**	**22 49 08.9**	**+0.7**
KSAR						22 50 37.7	
KSAR	**Wonju Array Be**	**47.29**	**28**	P	**P**	**22 49 08.9**	**+0.7**
KSAR				PcP	**PcP**	**22 50 37.7**	**-0.2**
KSAR				ScP	**ScP**	**22 54 22.1**	**-1.4**
KSRS	**Korea Array**	**47.31**	**28**	P	**P**	**22 49 08.9**	**+0.5**
	comp=Z,5.6nm,0.8s,baz=218,slow=8.0,SNR=17						
KSRS				PcP	**PcP**	**22 50 37.7**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=218,slow=4.1,SNR=3.3						
KSRS				ScP	**ScP**	**22 54 22.1**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=225,slow=3.7,SNR=5.0						
KSRS				LR	LR	23 07 59.7	
	comp=Z,62nm,20.8s,baz=172,slow=35						
WMQ	**Urumqi**	**48.93**	**346**	P	**P**	**22 49 22.3**	**+1.5**
WMQ				PMZ			
	comp=Z,12nm,1.0s						
WMQ				PMZ			
	comp=Z,82nm,4.0s						
WMQ				LZ			
	comp=Z,47nm,18.0s						
KSH	**Kashi**	**49.17**	**333**	P	**P**	**22 49 22.3**	**-0.5**
KSH				pP	**pP**	**22 49 42.1**	**-3.4**
KSH				PP	**PP**	**22 51 16.8**	**-0.7**
KSH				S	S	22 56 14.6	-6.9
KSH				SS	**SS**	**22 59 48.1**	**-6.0**
KSH				PMZ			
	comp=Z,9.0nm,0.6s						
KSH				PMZ			
	comp=Z,130nm,4.0s						
KSH				LN			
	comp=Z,120nm,5.5s						
KSH				LE			
	comp=Z,91nm,6.2s						
KSH				LZ			
	comp=Z,160nm,5.8s						
CMSA	**Cobar Meteorol**	**49.47**	**129**	⇓P	**P**	**22 49 25.4**	**+0.3**
	baz=50,SNR=44						
RMQ	**Roma**	**50.06**	**122**	⇑P	**P**	**22 49 30.3**	**+0.6**
	baz=50,SNR=7.0						
SONM	**Songino Array**	**51.31**	**4**	P	**P**	**22 49 40.3**	**+1.5**
	comp=Z,9.0nm,0.6s,baz=187,slow=9.4,SNR=110						
SONM				PcP	**PcP**	**22 50 52.8**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=176,slow=4.2,SNR=3.5						
SONM				ScP	**ScP**	**22 54 38.9**	**-1.8**
	comp=Z,1.2nm,0.9s,baz=175,slow=4.1,SNR=6.0						
ULN	**Ulaanbaatar**	**51.39**	**4**	*e*P	**P**	**22 49 40.5**	**+1.1**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ULN	**Ulaanbaatar**	**51.39**	**4**	*e*P	**P**	**22 49 40.5**	**+1.1**
	comp=Z,8.1nm,1.2s						
EIDS	**Eidsvold**	**51.72**	**120**	⇓P	**P**	**22 49 42.4**	**+0.3**
	baz=52,SNR=14						
EIDS	**Eidsvold**	**51.72**	**120**	*e*P	**P**	**22 49 43.2**	**+1.0**
	comp=Z,16nm,0.6s						
TOO	**Toolangi**	**52.10**	**136**	⇑P	**P**	**22 49 45.7**	**+0.8**
	baz=52,SNR=4.7						
MJAR	**Matsushiro Arr**	**52.17**	**37**	P	**P**	**22 49 44.6**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=212,slow=8.2,SNR=11						
MJAR				ScP	**ScP**	**22 54 44.2**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=206,slow=5.1,SNR=4.2						
AAK	**Ala-Archa**	**52.35**	**334**	⇓*e*P	**P**	**22 49 47.5**	**+0.8**
AAK				pmax	pmax		
	comp=Z,18nm,1.2s						
EKS2	**Erkin-Say**	**52.69**	**334**	*e*P	**P**	**22 49 50.0**	**+0.8**
EKS2				pmax	pmax		
	comp=Z,16nm,0.7s						
EKS2	**Erkin-Say**	**52.69**	**334**	*e*P	**P**	**22 49 50.0**	**+0.8**
	comp=Z,16nm,0.7s						
YNG	**Young**	**52.69**	**131**	⇑P	**P**	**22 49 49.9**	**+0.6**
	baz=53,SNR=6.1						
MKAR	**Makanchi Array**	**53.12**	**343**	P	**P**	**22 49 52.6**	**+0.5**
	comp=Z,3.7nm,0.5s,baz=149,slow=9.3,SNR=87						
MKAR				ScP	**ScP**	**22 54 49.2**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=122,slow=5.7,SNR=2.9						
MKAR				LR	LR	23 15 38.9	
	comp=Z,28nm,21.9s,baz=152,slow=40						
ARMA	**Armidale**	**53.75**	**125**	⇓P	**P**	**22 49 57.9**	**+0.7**
	baz=54,SNR=7.6						
USRK	**Ussuriysk Ar.**	**54.56**	**26**	P	**P**	**22 50 03.2**	**+0.6**
	comp=Z,22nm,0.6s,baz=218,slow=5.6,SNR=61						
TLY	**Talaya**	**55.04**	**1**	*e*P	**P**	**22 50 07.7**	**+1.7**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GEYT	**Alibeck**	**58.02**	**320**	P	**P**	**22 50 28.1**	**+0.7**
	comp=Z,4.6nm,0.8s,baz=155,slow=7.4,SNR=13						
KLR	**Kul'dur**	**58.51**	**22**	*e*P	P	22 50 26.7	-3.8

PRGR Permogore 77.95 336 P **P 22 52 31.0 -0.7**
PRGR pmax pmax
comp=Z,6.0nm,0.4s
OBN Obninsk 79.25 328 *de*P **P 22 52 38.9 0.0**
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 79.25 328 P **P 22 52 38.7 -0.2**
comp=Z,3.6nm,0.4s,baz=147,slow=24,SNR=2.8
KLMR Klimovskoe 80.16 334 *e*P **P 22 52 41.5 -2.3**
KLMR pmax pmax
comp=Z,14nm,1.1s
VNDA Vanda 80.23 169 P **P 22 52 45.5 +1.6**
comp=Z,4.8nm,0.9s,baz=312,slow=5.9,SNR=25
FX1 Attu Island--F 81.50 35 *e*P **P 22 52 49.9 -1.2**
FX1 Attu Island--F 81.50 35 P **P 22 52 50.4 -0.7**
comp=Z,15nm,0.7s,baz=252,slow=1.6,SNR=6.1
FX1 Attu Island--F 81.50 35 *e*P **P 22 52 49.9 -1.2**
IDI Anoyia 81.69 306 P **P 22 52 53.6 +1.1**
comp=Z,4.5nm,0.7s,baz=90,slow=3.0,SNR=6.1
AKASG Malin Array Be 82.03 322 P **P 22 52 53.5 -0.3**
comp=Z,0.7nm,0.4s,baz=92,slow=4.8,SNR=4.0
KIEV Kiev 82.03 322 ⇓*e*P **P 22 52 53.8 -0.1**
BILL Bilibino 83.87 20 *e*P **P 22 53 02.8 -0.3**
BILL pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 84.54 334 *e*P **P 22 53 07.9 +1.4**
JOF pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 84.54 334 *ep* **P 22 53 07.9 +1.4**
comp=Z,1.1nm,0.5s
KOLS Kolonickie sedl 86.03 319 *e*P **P 22 53 15.7 +1.4**
FINES FINESS Array B 86.48 332 P **P 22 53 16.4 +0.2**
comp=Z,1.2nm,0.5s,baz=155,slow=4.1,SNR=9.0
FINES pP **pP 22 53 38.2 -2.8**
comp=Z,0.8nm,0.6s,baz=137,slow=5.3,SNR=1.5
KAF Kangasniemi 86.54 333 *e*P **P 22 53 18.1 +1.6**
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 86.54 333 *ep* **P 22 53 18.1 +1.6**
comp=Z,1.7nm,0.7s
STHS Stebnicka Huta 86.77 320 *e*P **P 22 53 20.6 +2.6**
VYHS Vyhne 88.21 319 *e*P **P 22 53 25.1 +0.2**
ARCES ARCESS Array B 88.66 340 P **P 22 53 27.5 +1.0**
comp=Z,3.0nm,0.8s,baz=101,slow=5.9,SNR=9.5
ARCES LR LR 23 36 22.4
comp=Z,29nm,20.9s,baz=146,slow=38
DPC Dobruska-Polom 90.05 320 *e*P **P 22 53 35.8 +2.3**
DPC Dobruska-Polom 90.05 320 *e*P **P 22 53 35.8 +2.3**
DPC *ex* x 22 53 40.1
GERES GERESS Array B 91.63 319 P **P 22 53 41.7 +0.8**
comp=Z,0.1nm,0.4s,baz=113,slow=6.5,SNR=4.0
HFS Hagfors 92.29 330 P **P 22 53 44.5 +1.0**
comp=Z,2.8nm,0.9s,baz=140,slow=11,SNR=3.0
SPITS Spitsbergen Ar 92.59 348 P **P 22 53 43.8 -0.9**
comp=Z,2.6nm,0.7s,baz=105,slow=11,SNR=9.9
NOA NORSAR Array B 93.55 331 P **P 22 53 50.2 +0.8**
comp=Z,0.6nm,0.8s,baz=94,slow=4.7,SNR=2.5
DAVOX Davos/Dischmat 94.13 316 P **P 22 53 54.5 +1.8**
comp=Z,0.4nm,0.3s,baz=105,slow=15
TORD Torodi Ar. Bea 100.98 283 PKKPbc PKKPbc 23 10 35.2 -0.2
comp=Z,0.3nm,0.5s,baz=301,slow=3.5,SNR=11
ILAR Eielson Array 102.05 24 PKKPbc PKKPbc 23 10 32.5 -1.5
comp=Z,0.4nm,0.7s,baz=141,slow=2.0,SNR=6.0
YKA Yellowknife Ar 115.20 18 PKP **PKPdf 22 59 14.8 +0.5**
comp=Z,0.3nm,0.8s,baz=340,slow=0.6,SNR=4.5
NEW Newport 124.20 31 PKP **PKPdf 22 59 31.9 -0.2**
comp=Z,1.0nm,0.6s,baz=9.5,slow=6.1,SNR=3.3
NVAR Mina Array Bea 129.39 41 PKP **PKPdf 22 59 43.0 +0.5**
comp=Z,1.2nm,0.7s,baz=298,slow=1.9,SNR=8.8
NVAR pPKP **pPKPdf 23 00 06.1 -2.5**
comp=Z,0.8nm,0.8s,baz=222,slow=1.2,SNR=3.6
NVAR SKPbc SKPab 23 02 54.8 -0.4
comp=Z,1.1nm,0.7s,baz=273,slow=4.5,SNR=7.6
ELK Elko 129.98 37 PKP **PKPdf 22 59 44.8 +1.2**
comp=Z,0.6nm,0.6s,baz=77,slow=10,SNR=6.7
ELK SKPbc SKPab 23 02 57.6 0.0
comp=Z,1.6nm,0.9s,baz=349,slow=1.8,SNR=5.6
ULM Lac du Bonnet 131.04 15 PKP **PKPdf 22 59 45.5 +0.5**
comp=Z,1.2nm,0.5s,baz=316,slow=5.3,SNR=3.1
ULM SKPbc **SKPbc 23 02 58.5 -2.6**
comp=Z,7.1nm,0.8s,baz=323,slow=5.4,SNR=14
F22A Rosebud 131.18 26 ⇓SKP **SKPbc 23 03 01.5 -0.4**
baz=131
C26A Wahner Farm, P 131.21 22 ⇓SKP **SKPbc 23 03 00.8 -1.1**
baz=131,SNR=6.2
A29A Manning Farm, 131.25 19 ⇑SKP **SKPbc 23 03 00.6 -1.4**
baz=131,SNR=8.3
B28A Dugan Ranch, T 131.29 20 ⇑SKP **SKPbc 23 03 01.3 -0.9**
baz=131,SNR=5.5
D25A Fairfield 131.30 23 ⇓SKP **SKPbc 23 03 01.6 -0.7**
baz=131
H20A Greybull 131.36 29 ⇓SKP **SKPbc 23 03 01.3 -1.4**
baz=131
E24A Baker 131.39 24 ⇓SKP **SKPbc 23 03 01.7 -1.0**
baz=131
C27A Sayler Ranch, 131.52 21 ⇓SKP **SKPbc 23 03 02.0 -1.1**
baz=131
A30A Hoffart Farm, 131.53 18 ⇑SKP **SKPbc 23 03 01.5 -1.6**
baz=131,SNR=5.8
F23A Volborg 131.59 26 ⇓SKP **SKPbc 23 03 02.3 -1.2**
baz=131,SNR=6.9
G22A Birney 131.60 27 ⇓SKP **SKPbc 23 03 02.4 -1.2**
baz=131
I20A Worland 131.69 29 ⇓SKP **SKPbc 23 03 02.7 -1.3**
baz=132,SNR=8.3
H21A Big Horn, Sher 131.71 28 ⇑SKP **SKPbc 23 03 02.6 -1.4**
baz=132
J19A Crowheart 131.74 30 ⇓SKP **SKPbc 23 03 03.2 -1.0**
baz=132,SNR=7.2
DUG Dugway, Tooele 131.77 36 ⇓SKP **SKPbc 23 03 04.0 -0.3**
baz=132,SNR=20
PDAR Pinedale Array 131.83 31 PKP **PKPdf 22 59 47.5 +0.4**
comp=Z,0.5nm,0.6s,baz=321,slow=1.2,SNR=4.7
PDAR SKPbc **SKPbc 23 03 03.2 -1.4**
comp=Z,5.5nm,0.8s,baz=66,slow=0.8,SNR=29
B30A Myrvik Farm, E 131.95 18 ⇑SKP **SKPbc 23 03 03.2 -1.4**
baz=132,SNR=16
GMRC Granite Mounta 133.16 44 ⇓SKP **SKPbc 23 03 09.2 -0.2**
baz=133,SNR=6.3
BELC Belle Mtn. Jos 133.34 45 ⇓SKP **SKPbc 23 03 09.8 -0.2**
baz=133,SNR=6.1
IRM Iron Mountain 133.85 44 ⇑SKP **SKPbc 23 03 11.7 +0.1**
baz=134,SNR=6.6
PLCA Paso Flores 135.42 188 SKPbc **SKPbc 23 03 16.8 +0.2**
comp=Z,1.8nm,0.7s,baz=199,slow=0.7,SNR=4.3
Y31A Rekieta Farm, 143.24 32 P PKPbc 23 00 06.1 +0.9
baz=143
Z30A Sanderson Ranc 143.28 34 P PKPbc 23 00 05.9 +0.5
baz=143
Z31A Sharp Cattle R 143.80 33 ⇓P PKPbc 23 00 07.1 +0.3
baz=144
229A Bryant Ranch, 143.87 36 P PKPbc 23 00 07.8 +0.7
baz=144
130A Snyder 143.89 34 P PKPbc 23 00 07.2 0.0
baz=144
X34A Smith Ranch, M 143.96 29 P PKPbc 23 00 07.3 +0.1
baz=144
329A Wagon Wheel Ra 144.12 37 ⇓P PKPbc 23 00 08.1 +0.2
baz=144
131A Roby 144.15 34 ⇓P PKPbc 23 00 07.8 -0.2
baz=144,SNR=9.8
Z32A Haskell 144.16 32 ⇓P PKPbc 23 00 08.1 +0.1
baz=144,SNR=7.6
230A Sterling City 144.33 35 ⇑P PKPbc 23 00 08.5 -0.1
baz=144,SNR=7.4
Y34A Reagan Ranch, 144.52 29 ⇓P **PKPab 23 00 08.8 0.0**
baz=144,SNR=8.0
TXAR Lajitas Array 144.54 41 PKP **PKPdf 23 00 10.2 -0.3**
comp=Z,6.7nm,0.7s,baz=247,slow=1.2,SNR=73
TXAR SKPbc **SKPbc 23 03 41.5 +0.1**
comp=Z,1.2nm,0.8s,baz=318,slow=2.6,SNR=4.5
ABTX Abilene, Hawle 144.60 33 ⇑P PKPbc 23 00 09.7 +0.4
baz=144
WCI Wyandotte Cave 144.64 12 *e*PKIKP **PKPab 23 00 08.4 -0.7**
WCI Wyandotte Cave 144.64 12 *e*PKPdf **PKPab 23 00 08.4 -0.7**
330A Mertzon 144.65 36 ⇓P **PKPab 23 00 09.4 0.0**
baz=144,SNR=7.4
231A Bronte 144.75 34 ⇑P **PKPab 23 00 09.7 -0.1**
baz=144
429A Davenport Ranc 144.78 38 P **PKPab 23 00 09.9 -0.1**
baz=145
BDFB Brasilia 144.85 236 PKIKP **PKPdf 23 00 13.0 +1.6**
BDFB Brasilia 144.85 236 PKP **PKPdf 23 00 12.9 +1.6**
comp=Z,6.8nm,0.6s,baz=146,slow=1.7,SNR=15
Z34A Collier Ranch, 144.91 30 ⇑P **PKPab 23 00 09.9 -0.4**
baz=145
529A Stev Forest Ra 144.93 38 ⇑P **PKPdf 23 00 11.0 -0.1**
baz=145,SNR=19
133A Hamilton Ranch 145.00 32 ⇓P **PKPab 23 00 10.7 +0.1**
baz=145,SNR=11
430A Baggett Ranch, 145.06 37 P **PKPab 23 00 10.9 0.0**
baz=145
331A San Angelo 145.15 35 ⇑P **PKPbc 23 00 11.0 -0.1**
baz=145,SNR=7.9
232A Coleman 145.16 34 ⇑P **PKPdf 23 00 11.4 -0.1**
baz=145
Z35A Perchaven, San 145.27 29 P **PKPbc 23 00 11.1 -0.3**
baz=145
530A J-C Ranch, Com 145.46 38 ⇓P **PKPab 23 00 12.7 +0.3**
baz=145,SNR=30
233A Rising Star 145.47 33 ⇑P **PKPab 23 00 12.4 +0.1**
baz=145,SNR=18
332A Millersview 145.49 34 ⇓P **PKPab 23 00 12.6 +0.1**
baz=145,SNR=25
431A Sonora 145.51 36 ⇓P **PKPdf 23 00 12.1 0.0**
baz=145,SNR=9.2
135A Vickery Place, 145.82 30 P **PKPbc 23 00 12.9 -0.2**
baz=146
432A Menard 145.84 35 ⇓P **PKPbc 23 00 13.4 +0.1**
baz=146,SNR=7.1
MIAR Mount Ida 145.88 24 *e*PKP2 **PKPab 23 00 13.6 -0.2**
MIAR Mount Ida 145.88 24 *e*PKPdf **PKPab 23 00 13.6 -0.2**
234A Clairette 145.88 32 ⇓P **PKPbc 23 00 13.6 +0.2**
baz=146,SNR=8.7
531A Rocksprings 145.92 37 ⇓P **PKPab 23 00 14.1 0.0**
baz=146,SNR=15
333A Richland Sprin 145.95 33 ⇑P **PKPbc 23 00 13.8 +0.2**
baz=146,SNR=19
JCT Junction City 146.13 35 *e*PKP2 **PKPbc 23 00 14.0 -0.2**
JCT Junction City 146.13 35 ⇑P **PKPbc 23 00 14.4 +0.2**
baz=146,SNR=24
JCT Junction City 146.13 35 *e*PKPdf **PKPbc 23 00 14.0 -0.2**
WVT Waverly 146.30 15 *e*PKP2 **PKPbc 23 00 14.0 -0.5**
WVT Waverly 146.30 15 *e*PKPdf **PKPbc 23 00 14.0 -0.5**
433A Art 146.33 34 ⇓P **PKPbc 23 00 14.6 -0.1**
baz=146,SNR=9.5
532A Rocksprings 146.33 36 ⇓P **PKPbc 23 00 14.9 0.0**
baz=146,SNR=8.0
334A Lometa 146.35 33 ⇓P **PKPbc 23 00 14.9 +0.1**
baz=146,SNR=6.5
631A Perdido Creek 146.44 38 ⇑P **PKPbc 23 00 15.2 +0.1**
baz=146
434A Burnet 146.74 33 ⇓P **PKPbc 23 00 15.5 -0.4**
baz=146,SNR=9.1
335A Moody 146.82 32 ⇑P **PKPbc 23 00 16.3 +0.2**
baz=147,SNR=11
632A Uvalde 146.85 37 ⇓P **PKPbc 23 00 16.8 +0.5**
baz=147,SNR=9.0
533A Kerrville 146.87 35 P **PKPbc 23 00 16.7 +0.3**
baz=147
534A Blanco 147.22 34 ⇓P **PKPbc 23 00 17.3 0.0**
baz=147
TKL Tuckaleechee C 147.59 9 *e*PKP2 **PKPbc 23 00 17.3 -0.8**
TKL Tuckaleechee C 147.59 9 *e*PKPdf **PKPbc 23 00 17.3 -0.8**
832A Faith Ranch, C 147.62 38 ⇑P **PKPbc 23 00 19.1 +0.7**
baz=147,SNR=20
833A Chaparral WMA, 147.94 38 ⇑P **PKPbc 23 00 20.5 +1.3**
baz=148
KMSC Kings Mountain 148.41 5 P **PKPbc 23 00 20.0 -0.3**
baz=148
KMSC Kings Mountain 148.41 5 *e*PKPdf **PKPbc 23 00 21.7 +1.4**
933A Laredo 148.53 38 ⇓P **PKPbc 23 00 22.1 +1.3**
baz=148
835A Beeville 148.90 36 P **PKPbc 23 00 23.6 +1.8**
baz=149
934A Benavides 149.00 37 P **PKPbc 23 00 23.8 +1.8**
baz=149
034A Hebbronville 149.28 38 ⇓P **PKPbc 23 00 24.7 +1.9**
baz=149
LRAL Lakeview Retre 149.45 15 *e*PKPdf **PKPbc 23 00 22.2 -0.7**
035A Encino 149.73 38 ⇓P **PKPbc 23 00 25.7 +1.8**
baz=150
LPAZ La Paz 158.07 206 PKP **PKPdf 23 00 33.5 +1.6**
comp=Z,1.5nm,1.0s,baz=38,slow=4.0,SNR=4.4

*IDC **21** 22:41:48.2±1.4, 35.°14S×72.°47W, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.8/19, mbtmp3.8/8, ML4.3/2, Error ellipse: s-maj=45.6km s-min=21.0km az=89.0*
*GUC **21** 22:41:52.1±0.8, 35.°14S×72.°42W, h15km±5km, ML4.4*
*NEIC **21** 22:41:52.9±0.7, 35.°11S×72.°45W, h35km, mb4.2/3, Error ellipse: s-maj=17.1km s-min=8.0km az=90.0*
ISC 21 22:41:50.6±1.8, 35.°16S±0.°04×72.°49W±0.°06, h17km±10km, n29, σ1§43/38, mb3.8/7, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.74**	**109**	⇓*i*P	**Pg**	**22 42 05.0**	**-0.1**
TALC				*i* S	**Sg**	**22 42 14.2**	**-0.6**
LNCH	**Linares**	**1.00**	**134**	⇑*i*P	**Pb**	**22 42 09.6**	**+0.2**
LNCH				*i* S	**Sb**	**22 42 22.4**	**+0.1**
COCH	**Cobquecura**	**1.00**	**194**	*e*P1	**Pb**	**22 42 09.8**	**+0.4**
COCH				*e*S	**Sb**	**22 42 23.9**	**+1.6**
NICH	**Los Niches**	**1.05**	**82**	⇓*i*P	**Pb**	**22 42 09.9**	**-0.3**
NICH				*i* S	**Sb**	**22 42 23.1**	**-0.5**
LNV	**Longovilo**	**1.50**	**37**	*e*P4	**Pn**	**22 42 16.0**	**-0.7**
CACH	**El Canelo**	**1.87**	**57**	⇑*i*P	**Pn**	**22 42 22.9**	**+0.9**
CHCH	**Chadas Angostu**	**1.95**	**52**	*e*P1	**Pn**	**22 42 24.1**	**+1.1**
ANTU	**Antumapu**	**2.21**	**45**	*e*P1	**Pn**	**22 42 28.4**	**+1.8**
ANTU				*i* S	**Sn**	**22 42 55.7**	**+2.2**
ANTU				AML	AML	22 43 02.4	
comp=E,3μm,0.5s							
FSR	**Penalolen**	**2.34**	**45**	*e*P9	**Pn**	**22 42 31.4**	**+3.1**
FSR				*i* S	**Sb**	**22 42 60.0**	**-0.9**
CLCH	**Cerro Calan**	**2.39**	**43**	*e*P	**Pn**	**22 42 31.3**	**+2.2**
CLCH				AML	AML	22 43 10.0	
comp=E,3μm,0.3s							
CLCH				AML	AML	22 43 10.6	
comp=E,4μm,0.3s							
PEL	**Peldehue**	**2.51**	**37**	⇓*i*P	**Pn**	**22 42 31.7**	**+1.0**
PEL				*i* S	**Sn**	**22 43 03.4**	**+2.5**
PEL				AML	AML	22 43 24.6	
comp=N,3μm,0.5s							
FCH	**Farellones**	**2.58**	**46**	*e*P9		22 42 31.2	
FCH				*e*S	**Sn**	**22 43 03.8**	**+0.7**
FCH				AML	AML	22 43 15.1	
comp=E,1μm,0.7s							
CFAA	**Coronel Fontan**	**5.02**	**46**	Pn	**Pn**	**22 43 06.2**	**+1.0**
comp=E,0.5nm,0.3s,baz=218,slow=14,SNR=47							
CFAA				Lg	Lg	22 44 17.4	
comp=E,2.0nm,0.3s,baz=325,slow=11,SNR=6.6							
PLCA	**Paso Flores**	**5.77**	**165**	Pn	**Pn**	**22 43 17.6**	**+2.1**
comp=E,3.9nm,0.3s,baz=339,slow=11,SNR=101							
PLCA				Lg	Lg	22 44 48.5	
comp=E,2.1nm,0.3s,baz=301,slow=17,SNR=3.6							
PLCA	**Paso Flores**	**5.77**	**165**	*e*Pn	**Pn**	**22 43 17.2**	**+1.7**
comp=E,13nm,0.4s							
PLCA				*e*Sn	**Sn**	**22 44 18.6**	**-2.8**
PLCA				Lg	Lg	22 44 48.5	
LCO	**Las Campanas**	**6.32**	**14**	*e*Pn	**Pn**	**22 43 22.2**	**-1.0**
comp=E,14nm,0.4s							
LCO				*e*Sn	**Sn**	**22 44 33.5**	**-1.7**
TRQA	**Tornquist**	**8.93**	**112**	*e*Pn	**Pn**	**22 43 58.9**	**0.0**
comp=E,12nm,1.1s							
TRQA				*e*Sn	**Sn**	**22 45 41.2**	**+2.1**
LVC	**Limon Verde**	**12.89**	**15**	*e*Pn	Pn	22 44 49.1	-4.2
LPAZ	**La Paz**	**19.20**	**13**	P	**P**	**22 46 15.4**	**+1.2**
comp=E,0.1nm,0.3s,baz=193,slow=7.9,SNR=8.8							
LPAZ	**La Paz**	**19.20**	**13**	*e*P	**P**	**22 46 13.7**	**-0.6**
comp=E,3.1nm,0.9s							
SIV	**San Ignacio**	**21.66**	**31**	P	**P**	**22 46 39.0**	**-1.4**
comp=E,2.5nm,0.6s,baz=216,slow=9.9,SNR=9.5							
SAML	**Samuel**	**27.45**	**20**	P	**P**	**22 47 34.4**	**-1.3**
comp=E,0.4nm,0.4s							
SNAA	**Sanae**	**50.66**	**157**	P	**P**	**22 50 48.9**	**+0.3**
comp=E,1.7nm,0.9s,baz=251,slow=8.6,SNR=8.6							
SNAA	**Sanae**	**50.66**	**157**	*e*P	**P**	**22 50 48.4**	**-0.2**
QSPA	**South Pole Qui**	**55.08**	**180**	*e*P	**P**	**22 51 20.8**	**-0.6**
comp=E,4.3nm,0.9s							
TXAR	**Lajitas Array**	**70.57**	**331**	P	**P**	**22 53 05.2**	**+0.4**
comp=E,0.3nm,0.8s,baz=158,slow=9.7,SNR=2.8							
BOSA	**Boshof**	**79.86**	**118**	P	**P**	**22 53 58.2**	**-0.4**
comp=E,2.1nm,0.5s,baz=221,slow=5.4,SNR=6.0							
BOSA	**Boshof**	**79.86**	**118**	*e*P	**P**	**22 53 57.8**	**-0.9**
comp=E,1.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**84.95**	**70**	P	**P**	**22 54 25.4**	**+0.2**
comp=E,0.2nm,0.5s,baz=270,slow=9.9,SNR=4.4							

DJA 21 22:52:41.9±0.5, 0.°N±6.°×12.°5E±.°, h74km±10km, M3.8/8, MLv3.8/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.70**	**297**	P	Pn	22 52 58.7	+1.6
KMSI				S	Sn	22 53 10.7	+2.4
GTOI	**Gorontalo**	**1.64**	**284**	P	Pn	22 53 12.1	+3.3
GTOI				S	Sn	22 53 34.2	+5.1
LUWI	**Luwuk**	**2.23**	**235**	P	Pn	22 53 21.4	+4.6
LUWI				S	Sn	22 53 45.7	+2.2
MRSI	**Marisa**	**2.67**	**275**	P	Pn	22 53 21.4	-1.3
SANI	**Sanana**	**2.67**	**149**	P	Pn	22 53 21.6	-1.2
SANI				S	Sn	22 53 50.3	-3.8
LBMI	**Labuha**	**3.03**	**107**	P	Pn	22 53 27.8	+0.2
LBMI				S	Sn	22 54 05.0	+2.1
APSI	**Ampana**	**3.17**	**249**	P	Pn	22 53 30.8	+1.3
APSI				S	Sn	22 54 07.0	+0.8
NLAI	**Namlea**	**4.27**	**144**	P	Pn	22 53 44.2	-0.3
MPSI	**Mapaga**	**4.70**	**271**	P	Pn	22 53 50.4	0.0

*IDC **21** 23:00:30.3±1.0, 16.°67N×122.°51E, h0km, mb3.5/7, mb1 3.8/8, mb1mx3.6/26, mbtmp3.6/8, ML4.3/1, MS1.4/1, Ms1 1.4/1, ms1mx1.3/26, Error ellipse: s-maj=49.7km s-min=20.0km az=78.0*
*ISCJB **21** 23:00:33.8±1.1, 16.°66N±0.°04×122.°71E±0.°08, h35km±11km, mb3.5/7, Error ellipse: s-maj=12.6km s-min=6.6km az=177.9*
*MAN **21** 23:00:33, 16.°60N×122.°69E, h20km, mb4.6, ML3.5, MS3.4*
ISC 21 23:00:34.5±1.8, 16.°69N±0.°04×122.°48E±0.°07, h28km±13km, n24, σ1§67/25, mb3.5/7, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**1.28**	**223**	*e*P	**Pn**	**23 00 56.2**	**-0.4**
BALP				*e*S	**Sn**	**23 01 13.9**	**+0.9**
SGCP	**Mt. Cagua**	**1.60**	**345**	*e*P	**Pb**	**23 01 03.4**	**-0.1**
SGCP				*e*S	**Sn**	**23 01 19.7**	**-1.1**
APYP	**Conner**	**1.66**	**315**	*e*P	**Pn**	**23 01 03.0**	**+1.2**
APYP				*e*S	**Sn**	**23 01 18.3**	**-4.0**
PCPH	**Palayan**	**1.74**	**230**	⇓*e*P	**Pn**	**23 01 03.8**	**+0.8**
PCPH				*e*S	**Sb**	**23 01 28.3**	**+0.9**
BCPH	**Baguio City Da**	**1.85**	**261**	⇑*i*P	**Pn**	**23 01 06.9**	**+2.3**
BCPH				*i* S	**Sb**	**23 01 32.5**	**+1.8**
ABRA	**Dolores**	**1.94**	**300**	*e*P	**Pn**	**23 01 07.7**	**+1.9**
ABRA				*e*S	**Sn**	**23 01 26.6**	**-2.7**
PIP	**Pasuquin**	**2.41**	**313**	⇑*e*P	**Pb**	**23 01 15.5**	**-1.8**
BOLP	**Bolinao**	**2.48**	**263**	*e*P	**Pb**	**23 01 16.7**	**-1.8**
SCZP	**Santa Cruz**	**2.63**	**250**	*e*P	**Pn**	**23 01 17.7**	**+2.5**
GQP	**Guinayangan**	**2.77**	**181**	⇓*e*P	**Pn**	**23 01 17.8**	**+0.7**
GQP				*e*S	**Sn**	**23 01 48.7**	**-0.9**
TGY	**Tagaytay City**	**2.97**	**210**	Pn	**Pn**	**23 01 19.7**	**-0.3**
39nm,0.3s,baz=201,slow=8.6,SNR=2.2							
TGY				Lg	Lg	23 01 59.4	
59nm,0.3s,baz=306,slow=19,SNR=4.7							
TGY				LR	LR	23 02 25.9	
comp=Z,6.9nm,21.8s,baz=302,slow=39							
SONM	**Songino Array**	**33.76**	**340**	P	**P**	**23 07 15.4**	**+1.4**
0.6nm,0.9s,baz=151,slow=6.6,SNR=4.2							
WRA	**Warramunga Arr**	**38.22**	**162**	P	**P**	**23 07 50.8**	**-1.4**
0.2nm,0.4s,baz=343,slow=9.3,SNR=2.1							
ASAR	**Alice Springs**	**41.63**	**164**	P	**P**	**23 08 20.8**	**+0.2**
0.3nm,0.5s,baz=11,slow=12,SNR=4.5							
H11S3	**WAKE ISLAND Hy 42.10**	**81**		T	T	23 53 21.7	
baz=275,slow=74,SNR=168							
H11S1	**WAKE ISLAND Hy 42.11**	**81**		T	T	23 53 25.0	
baz=275,slow=74,SNR=87							
H11S2	**WAKE ISLAND Hy 42.12**	**81**		T	T	23 53 25.4	
baz=275,slow=74,SNR=62							
H11N1	**WAKE ISLAND Hy 42.21**	**79**		T	T	23 53 28.4	
baz=274,slow=74,SNR=56							
H11N2	**WAKE ISLAND Hy 42.21**	**79**		T	T	23 53 30.8	
baz=274,slow=74,SNR=36							
H11N3	**WAKE ISLAND Hy 42.22**	**79**		T	T	23 53 31.7	
baz=274,slow=74,SNR=31							
MKAR	**Makanchi Array**	**44.73**	**321**	P	**P**	**23 08 44.8**	**-0.6**
0.3nm,0.8s,baz=113,slow=5.7,SNR=3.7							
FINES	**FINESS Array B**	**78.53**	**331**	P	**P**	**23 12 33.0**	**0.0**
0.8nm,0.6s,baz=57,slow=5.1,SNR=7.9							
NOA	**NORSAR Array B**	**85.40**	**333**	P	**P**	**23 13 09.3**	**0.0**
0.4nm,0.6s,baz=64,slow=5.0,SNR=2.6							
YKA	**Yellowknife Ar**	**89.37**	**23**	P	**P**	**23 13 29.0**	**+0.7**
0.2nm,0.5s,baz=305,slow=4.2,SNR=5.6							

*IDC **21** 23:05:09.8±5.4, 32.°42S×179.°67E, h456km±60km, mb3.1/3, mb1 3.3/4, mb1mx3.1/17, mbtmp4.1/4, Error ellipse: s-maj=75.1km s-min=27.4km az=21.0*
ISC 21 23:05:06.2±1.1, 31.°83S±0.°09×178.°8E±0.°3, h400km, n35, σ1§34/41, mb3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.74**	**184**	*e*Pn	**Pn**	**23 06 36.6**	**+0.8**
MXZ				SN	**S**	**23 07 46.7**	**-2.2**
HAZ	**Te Kaha**	**5.97**	**188**	*e*Pn	**Pn**	**23 06 38.9**	**+0.5**
HAZ				*e*SN	**S**	**23 07 51.6**	**-1.9**
WMGZ	**Waiomatatini S**	**5.98**	**183**	PN	**Pn**	**23 06 40.6**	**+2.1**
PUZ	**Puketiti**	**6.25**	**184**	*e*Pn	**Pn**	**23 06 42.7**	**+1.4**
PUZ				SN	**S**	**23 07 56.8**	**-2.3**
URZ	**Urewera**	**6.56**	**192**	P	**P**	**23 06 46.5**	**+1.0**
12nm,0.3s,baz=43,slow=4.6,SNR=108							
URZ				S	**S**	**23 08 05.0**	**-0.4**
12nm,0.3s,baz=255,slow=19,SNR=26							
URZ	**Urewera**	**6.56**	**192**	PN	**Pn**	**23 06 44.7**	**-0.2**
URZ				SN	**S**	**23 08 04.5**	**-0.9**
MWZ	**Matawai**	**6.58**	**189**	PN	**Pn**	**23 06 45.2**	**+0.2**
MWZ				SN	**S**	**23 08 05.2**	**-0.6**
CNGZ	**Carnagh Statio**	**6.66**	**184**	*e*Pn	**P**	**23 06 47.2**	**+0.6**
RIGZ	**Rimuhau**	**6.91**	**187**	PN	**P**	**23 06 50.9**	**+1.5**
RIGZ				SN	**S**	**23 08 12.1**	**-0.5**
SNGZ	**Shannon Statio**	**7.04**	**189**	PN	**P**	**23 06 51.7**	**+0.9**
KNZ	**Kokohu**	**7.24**	**187**	*e*Pn	**P**	**23 06 53.9**	**+1.0**
KNZ				SN	**S**	**23 08 17.6**	**-1.5**
MHGZ	**Mahia Peninsul**	**7.34**	**186**	*e*Pn	**P**	**23 06 55.6**	**+1.5**
ARHZ	**Aropaoanui**	**7.56**	**191**	*e*Pn	**P**	**23 06 58.5**	**+1.9**
MCHZ	**McNeill Hill**	**7.79**	**192**	*e*Pn	**P**	**23 06 59.8**	**+0.7**
CKHZ	**Cape Kidnapper**	**7.94**	**190**	*e*Pn	**P**	**23 07 02.2**	**+1.5**
BHHZ	**Black Hill Sta**	**7.96**	**196**	PN	**P**	**23 07 01.8**	**+0.8**
KRHZ	**Kereru**	**8.05**	**194**	PN	**Pn**	**23 07 02.5**	**+0.9**
KAHZ	**Kahuranaki**	**8.10**	**191**	*e*Pn	**Pn**	**23 07 03.2**	**+0.9**
PXZ	**Pawanui**	**8.34**	**190**	*e*Pn	**Pn**	**23 07 05.7**	**+0.9**
PXZ				SN	**S**	**23 08 39.6**	**-2.6**
PNHZ	**Pukenui**	**8.34**	**194**	*e*Pn	**Pn**	**23 07 05.6**	**+0.6**
BFZ	**Birch Farm**	**9.07**	**192**	*e*Pn	**P**	**23 07 15.4**	**+2.1**
MRZ	**Mangatainoka R**	**9.19**	**196**	PN	**Pn**	**23 07 15.6**	**+0.8**
MRZ				*e*SN	**S**	**23 08 57.6**	**-2.6**
TCW	**Tory Channel**	**10.05**	**200**	SN	**S**	**23 09 17.2**	**-0.7**
KHZ	**Kahutara**	**11.37**	**200**	*e*Pn	**Pn**	**23 07 41.0**	**+1.1**
MQZ	**McQueen's Vall**	**12.81**	**201**	SN	**S**	**23 10 14.2**	**+0.3**
**CTA

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDSI				S			
BKNI	**Bangkinang**	**2.42**	**47**	P	**Pb**	**23 06 12.8**	**-1.4**
BKNI				S	**Sb**	**23 06 45.2**	**+1.5**
GSI	**Gunungsitoli**	**3.13**	**327**	P	Pn	23 06 22.6	+4.0
PSI	**Prapat**	**4.13**	**355**	Pn	**Pn**	**23 06 31.3**	**-1.2**
1.6nm,0.3s,baz=198,slow=12,SNR=5.3							
JMBI	**JAMBI**	**4.37**	**94**	P	Pb	23 06 42.0	-5.4
MNAI	**Manna**	**4.74**	**129**	P	**Pn**	**23 06 40.5**	**-0.2**
MNAI				S	**Sn**	**23 07 35.0**	**+0.3**
SNSI	**Sinabang, Aceh**	**4.75**	**322**	P	Pn	23 06 44.7	+3.8
LHSI	**Lahat**	**4.91**	**120**	P	**Pn**	**23 06 44.3**	**+1.3**
KCSI	**Kotacane, Aceh**	**5.07**	**343**	P	Pn	23 06 49.1	+3.9
20nm,1.1s,0.1nm							
CMAR	**Chiang Mai Arr**	**19.68**	**359**	P	**P**	**23 09 56.4**	**-1.7**
baz=190,slow=10.0,SNR=4.1							
H08S2	**Diego Garcia H**	**27.41**	**256**	T	T	23 39 11.5	
baz=78,slow=76,SNR=136							
H08S3	**Diego Garcia H**	**27.41**	**256**	T	T	23 39 10.4	
baz=78,slow=76,SNR=173							
H08S1	**Diego Carcia H**	**27.43**	**256**	T	T	23 39 11.6	
baz=78,slow=76,SNR=42							
H01W3	**Cape Leeuwin H**	**36.13**	**159**	T	T	23 50 17.2	
baz=335,slow=76,SNR=7.8							
H01W2	**Cape Leeuwin H**	**36.14**	**159**	T	T	23 50 22.1	
baz=335,slow=76,SNR=6.9							
H01W1	**Cape Leeuwin H**	**36.14**	**159**	T	T	23 50 26.8	
baz=335,slow=76,SNR=4.8							
WRA	**Warramunga Arr**	**38.95**	**121**	P	**P**	**23 12 53.7**	**-1.2**
5.1nm,0.7s,baz=298,slow=9.2,SNR=27							
ASAR	**Alice Springs**	**40.22**	**126**	P	**P**	**23 13 03.6**	**-1.9**
1.3nm,0.7s,baz=301,slow=8.4,SNR=11							
ASAR				PcP	**PcP**	**23 15 09.8**	**+0.6**
0.2nm,0.3s,baz=306,slow=3.1,SNR=4.6							
KSRS	**Korea Array**	**46.84**	**32**	P	**P**	**23 13 57.6**	**-0.9**
1.4nm,0.7s,baz=225,slow=7.8,SNR=6.5							
SONM	**Songino Array**	**49.37**	**6**	P	**P**	**23 14 19.6**	**+1.5**
1.1nm,0.8s,baz=191,slow=9.0,SNR=8.4							
SONM				PcP	**PcP**	**23 15 41.2**	**+0.9**
0.8nm,0.7s,baz=189,slow=2.9,SNR=3.7							
MKAR	**Makanchi Array**	**50.21**	**345**	P	**P**	**23 14 25.1**	**+0.7**
1.4nm,0.6s,baz=160,slow=8.4,SNR=19							
USRK	**Ussuriysk Ar.**	**53.93**	**29**	P	**P**	**23 14 51.7**	**-0.4**
4.0nm,0.7s,baz=216,slow=7.0,SNR=8.7							
ZALV	**Zalesovo Beam**	**56.40**	**350**	P	**P**	**23 15 10.2**	**+0.6**
2.3nm,0.5s,baz=182,slow=4.3,SNR=14							
KBZ	**Khabaz**	**67.34**	**319**	P	**P**	**23 16 23.8**	**+0.3**
1.4nm,0.8s,baz=139,slow=7.8,SNR=5.4							
BRTR	**Keskin Array B**	**72.35**	**313**	P	**P**	**23 16 54.1**	**-0.6**
0.4nm,0.7s,baz=140,slow=7.6,SNR=3.2							
SEY	**Seymchan**	**75.30**	**22**	P	**P**	**23 17 11.5**	**+0.2**
2.6nm,0.6s,baz=171,slow=8.2							
FINES	**FINESS Array B**	**83.20**	**332**	P	**P**	**23 17 55.0**	**+0.5**
0.9nm,0.8s,baz=126,slow=8.8,SNR=4.8							
GERES	**GERESS Array B**	**88.08**	**319**	P	**P**	**23 18 20.1**	**+1.0**
0.2nm,0.6s,baz=116,slow=6.7,SNR=3.3							
TXAR	**Lajitas Array**	**144.61**	**36**	PKP	**PKPdf**	**23 25 05.7**	**-0.1**
2.2nm,0.7s,baz=241,slow=1.0,SNR=22							
TKL	**Tuckaleechee C**	**145.74**	**4**	PKPbc	**PKPdf**	**23 25 07.2**	**-0.2**
6.0nm,1.0s,baz=150,slow=6.7,SNR=3.5							

*ISCJB **21** 23:10:18.3±0.4, 32°.33N±0°.02×115°.20W±0°.03, h18km±4km, Error ellipse: s-maj=3.8km s-min=3.7km az=16.4*
*NEIC **21** 23:10:19.7, 32°.32N×115°.27W, h9km, ML3.4(PAS), ML3.6(ECX), After ECX.*
*ECX **21** 23:10:19.7±0.5, 32°.32N×115°.27W, h9km, MD3.5, ML3.6*
*MEX **21** 23:10:20.0±0.7, 32°.33N×115°.34W, h4km±81km, MD3.9*
ISC 21 23:10:18.3±0.9, 32°.30N±0°.02×115°.23W±0°.02, h13km±6km, n37, σ0°.95/64, 11C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.11**	**16**	*e*P	**Pb**	**23 10 22.4**	**+0.1**
MBIG				*e*S	**Sb**	**23 10 24.9**	**-0.1**
CPBX	**Cerro Prieto**	**0.13**	**333**	⇓*e*P	**Pg**	**23 10 21.8**	**+0.1**
CPBX				*e*S	**Sg**	**23 10 24.2**	**+0.1**
CPBX	**Cerro Prieto**	**0.13**	**333**	⇓*e*P	**Pg**	**23 10 21.8**	**+0.1**
CPBX				*e*S	**Sg**	**23 10 24.2**	**+0.1**
RDX	**Rancho Dawling**	**0.71**	**239**	⇑*e*P	**Pg**	**23 10 31.9**	**-0.1**
RDX				*e*S	**Sg**	**23 10 41.2**	**-0.2**
RDX				⇓*e*		23 10 43.4	
comp=N,1μm,0.4s							
RDX	**Rancho Dawling**	**0.71**	**239**	⇑*e*P	**Pg**	**23 10 31.9**	**-0.1**
RDX				*e*S	**Sg**	**23 10 41.2**	**-0.2**
RMX	**La Rumorosa**	**0.78**	**293**	⇓*e*P	**Pg**	**23 10 32.8**	**-0.6**
RMX				*e*S	**Sg**	**23 10 42.7**	**-0.8**
RMX				*e*		23 10 45.6	
comp=E,1μm,0.2s							
RMX	**La Rumorosa**	**0.78**	**293**	⇓*e*P	**Pg**	**23 10 32.8**	**-0.6**
RMX				*e*S	**Sg**	**23 10 42.7**	**-0.8**
SWSC	**Sam W. Stewart**	**0.80**	**324**	P	**Pg**	**23 10 32.9**	**-0.8**
baz=0.8							
GLA	**Glamis**	**0.82**	**24**	P	**Pg**	**23 10 34.0**	**-0.3**
baz=0.8							
ECBX	**El Chinero**	**0.84**	**169**	⇓*e*P	**Pb**	**23 10 34.7**	**0.0**
ECBX				*e*S	**Sb**	**23 10 46.7**	**+0.8**
ECBX				⇓*e*		23 10 48.0	
comp=N,5μm,0.4s							
ECBX	**El Chinero**	**0.84**	**169**	⇓*e*P	**Pb**	**23 10 34.7**	**0.0**
ECBX				*e*S	**Sb**	**23 10 46.7**	**+0.8**
MONP	**Monument Peak,**	**1.16**	**301**	P	**Pn**	**23 10 38.9**	**-1.5**
baz=1.1							
MONP				S	**Sb**	**23 10 54.5**	**-0.9**
baz=1.1							
ZAX	**El Zacaton**	**1.18**	**229**	⇑*e*P	**Pn**	**23 10 40.4**	**-0.2**
ZAX				*e*S	**Sb**	**23 10 56.0**	**+0.2**
CBX	**Cerro Bola**	**1.21**	**271**	⇑*e*P	**Pn**	**23 10 40.4**	**-0.6**
CBX				*e*S	**Sb**	**23 10 56.1**	**-0.6**
CBX	**Cerro Bola**	**1.21**	**271**	⇑*e*P	**Pn**	**23 10 40.4**	**-0.6**
CBX				*e*S	**Sb**	**23 10 56.1**	**-0.6**
SPIG	**San Pedro Mart**	**1.27**	**189**	*e*P	**Pn**	**23 10 41.6**	**-0.4**
SPIG				*e*S	**Sb**	**23 10 57.1**	**-1.4**
SPIG	**San Pedro Mart**	**1.27**	**189**	*e*P	**Pn**	**23 10 41.6**	**-0.4**
SPIG				*e*S	**Sb**	**23 10 57.1**	**-1.4**
SPX	**San Pedro Mart**	**1.27**	**189**	⇑*e*P	**Pn**	**23 10 41.8**	**-0.2**
SPX				*e*S	**Sg**	**23 10 59.5**	**+0.3**
SPX				⇓*e*		23 11 04.5	
comp=N,722nm,0.6s							
SPX	**San Pedro Mart**	**1.27**	**189**	⇑*e*P	**Pn**	**23 10 41.8**	**-0.2**
SPX				*e*S	**Sg**	**23 10 59.5**	**+0.3**
113A	**Mohawk Valley,**	**1.32**	**69**	P	**Pn**	**23 10 42.1**	**-0.3**
baz=1.3							
ECNX	**Esteban Cantu**	**1.32**	**241**	⇑*e*P	**Pn**	**23 10 42.5**	**-0.1**
ECNX				*e*S	**Sn**	**23 11 00.3**	**+0.1**
ECNX	**Esteban Cantu**	**1.32**	**241**	⇑*e*P	**Pn**	**23 10 42.5**	**-0.1**
ECNX				*e*S	**Sn**	**23 11 00.3**	**+0.1**
BC3	**Big Chuckawall**	**1.36**	**352**	P	**Pn**	**23 10 41.7**	**-1.4**
baz=1.3							
PBX	**Punta Banda**	**1.38**	**247**	⇑*e*P	**Pn**	**23 10 43.3**	**0.0**
PBX				*e*S	**Sb**	**23 11 01.9**	**+0.3**
PBX	**Punta Banda**	**1.38**	**247**	⇑*e*P	**Pn**	**23 10 43.3**	**0.0**
PBX				*e*S	**Sb**	**23 11 01.9**	**+0.3**
PFO	**Pinyon Flats O**	**1.66**	**322**	P	**Pn**	**23 10 45.3**	**-1.9**
baz=1.6							
PFO	**Pinyon Flats O**	**1.66**	**322**	*e*Pn	**Pn**	**23 10 45.3**	**-1.9**
109C	**Camp Elliot, M**	**1.69**	**291**	Pg	**Pn**	**23 10 48.1**	**+0.7**
baz=1.6							
109C				Sb	**Sb**	**23 11 09.5**	**-0.7**
baz=1.6							
214A	**Organ Pipe Nat**	**2.08**	**99**	*e*Pn	**Pn**	**23 10 52.6**	**-0.3**
214A				*e*Sn	**Sn**	**23 11 17.8**	**-1.0**
MURC	**Murrieta**	**2.10**	**309**	Sb	**Sb**	**23 11 23.1**	**+0.8**
baz=2.1							
LDFC	**Landfair**	**2.77**	**2**	*e*Pn	**Pn**	**23 11 03.8**	**+1.3**
LDFC				Sn	**Sb**	**23 11 39.1**	**-2.6**
PASC	**Pasadena Art C**	**3.10**	**308**	*e*Pn	**Pn**	**23 11 07.6**	**+0.7**
PASC				*e*Sn	**Sn**	**23 11 46.1**	**+2.3**
GSC	**Goldstone, Bar**	**3.27**	**337**	*e*Pn	**Pn**	**23 11 11.8**	**+2.5**
GSC				*e*Pg	**Pg**	**23 11 23.4**	**+2.5**
TUC	**Tucson**	**3.77**	**89**	*e*Pn	**Pn**	**23 11 16.2**	**0.0**
TUC				*e*Sn	**Sn**	**23 12 00.2**	**-0.2**
ISA	**Isabella, Lake**	**4.30**	**322**	*e*Pn	**Pn**	**23 11 24.0**	**+0.6**
WUAZ	**Wupatki**	**4.54**	**44**	*e*Pn	**Pn**	**23 11 26.3**	**-0.5**
121A	**Cookes Peak, D**	**6.30**	**86**	*e*Pn	**Pn**	**23 11 51.5**	**+0.5**

*IDC **21** 23:16:01.6±9.4, 22°.38S×67°.67W, h180km±69km, mb3.6/2, mb1 3.4/5, mb1mx3.2/18, mbtmp4.0/5, Error ellipse: s-maj=105.3km s-min=35.6km az=6.0*
ISC 21 23:15:60.0±1.7, 22°.5S±0°.2×67°.7W±0°.2, h167km, n6, σ0°.95/7, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.23**	**356**	P	**Pn**	**23 17 30.4**	**-0.1**
0.6nm,0.3s,baz=174,slow=7.1,SNR=17							
SIV	**San Ignacio**	**9.00**	**45**	P	**Pn**	**23 18 06.0**	**-0.6**
2.3nm,0.3s,baz=244,slow=10,SNR=49							
SIV				S	**Sn**	**23 19 47.0**	**+0.1**
1.1nm,0.3s,baz=142,slow=22,SNR=11							
BDFB	**Brasilia**	**19.78**	**73**	P	**P**	**23 20 18.9**	**+1.4**
0.6nm,0.3s,baz=236,slow=2.9,SNR=5.3							
DBIC	**Dimbokro**	**67.92**	**72**	P	**P**	**23 26 40.1**	**-1.0**
1.0nm,0.6s,baz=216,slow=7.8,SNR=3.4							
TORD	**Torodi Ar. Bea**	**76.61**	**70**	P	**P**	**23 27 33.0**	**+0.4**
1.1nm,0.4s,baz=261,slow=5.9,SNR=30							
MKAR	**Makanchi Array**	**145.76**	**38**	PKPbc	**PKPdf**	**23 35 18.6**	**+0.1**
0.2nm,0.6s,baz=320,slow=1.3,SNR=3.2							

*NOU **21** 23:41:26.9±1.2, 14°.45S×167°.37E, h30km±999km, MD4.1*
*ISCJB **21** 23:41:27.5±0.9, 14°.76S±0°.03×167°.15E±0°.03, h72km±8km, mb5.1/124, Error ellipse: s-maj=5.3km s-min=4.8km az=138.6*
*MOS **21** 23:41:28.7±1.3, 14°.65S×167°.12E, h76km, mb5.4/32, Error ellipse: s-maj=9.4km s-min=8.6km az=117.5*
*GCMT **21** 23:41:29.7±0.2, 14°.78S×166°.87E, h89km±1km, MW5.3/105, Moment Tensor Solution. s87,c123; s105,c182; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.05±.02; $M_{\theta\theta}$0.95±.02; $M_{\phi\phi}$-0.89±.02; $M_{r\theta}$-0.56±.01; $M_{r\phi}$0.41±.02; $M_{\theta\phi}$0.30±.01; Best double couple: $M_0$1.19300×10^{17} NP1:ϕ_s122.00000°, δ90.00000°, λ-32.00000°. NP2:ϕ_s213.00000°, δ58.00000°, λ-180.00000°. Principal axes: T 1.2300, Plg22.0000°, Azm172.0000°; N -0.0740, Plg58.0000°, Azm302.0000°; P -1.1560, Plg22.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 23:41:29.7±0.5, 14°.72S×167°.19E, h81km±4km, mb5.2/84 Error ellipse: s-maj=4.7km s-min=4.1km az=139.0*
*BJI **21** 23:41:30.3, 14°.30S×167°.47E, h90km, mB5.1/34, mb5.0/54*
*IDC **21** 23:41:30.1±0.6, 14°.83S×167°.22E, h83km±4km, mb4.6/29, mb1 4.7/30, mb1mx4.7/32, mbtmp4.9/30, MS3.9/17, Ms1 3.9/17, ms1mx3.8/27, Error ellipse: s-maj=13.8km s-min=10.0km az=89.0*
ISC 21 23:41:31.1±0.3, 14°.77S±0°.04×167°.15E±0°.05, h92km±2km, h92km:pP-P, n441, σ1§35/501, mb5.1/123, 17C-17D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.30**	**185**	P	**Pn**	**23 43 14.9**	**-0.2**
113nm,0.3s,baz=335,slow=12,SNR=383							
DZM				S	**Sn**	**23 44 33.6**	**-2.9**
28nm,0.3s,baz=100,slow=23,SNR=4.4							
NOUC	**Port Laguerre**	**7.34**	**186**	*e*P	**Pn**	**23 43 15.2**	**-0.5**
NOUC				*e*S	**Sn**	**23 44 34.8**	**-2.6**
NOUC				AMP		23 44 50.0	
comp=Z,100nm,9.5s							
BAYA	**Yate Dam**	**7.35**	**182**	*e*P	**Pn**	**23 43 15.2**	**-0.6**
BAYA				*e*S	**Sn**	**23 44 35.7**	**-2.0**
NORM	**Noumea**	**7.45**	**185**	*e*P	**Pn**	**23 43 17.4**	**+0.3**
NORM				*e*S	**Sn**	**23 44 39.3**	**-0.8**
HNR	**Honiara**	**8.81**	**306**	*e*P	**Pn**	**23 43 35.1**	**-0.7**
HNR				*e*		23 45 09.9	
HNR	**Honiara**	**8.81**	**306**	LR	LR	23 46 41.3	
comp=Z,721nm,18.2s,baz=142,slow=35							
HNR	**Honiara**	**8.81**	**306**	*e*Pn	**Pn**	**23 43 35.1**	**-0.7**
HNR				*e*Sn	**Sn**	**23 45 09.9**	**-3.6**
MSVF	**Nonsavu**	**10.88**	**107**	Pn	Pn	23 44 10.0	+6.1
comp=Z,3μm,1.2s,SNR=6.4							
MSVF	**Nonsavu**	**10.88**	**107**	*e*P	Pn	23 44 09.4	+5.5
MSVF	**Nonsavu**	**10.88**	**107**	*e*Pn	Pn	23 44 09.4	+5.5
TARA	**Tarawa**	**17.00**	**20**	*e*Pn	**Pn**	**23 45 21.0**	**-2.3**
comp=Z,477nm,1.1s							
EIDS	**Eidsvold**	**18.39**	**233**	⇓P	**Pn**	**23 45 40.6**	**+0.5**
baz=19,SNR=9.3							
EIDS	**Eidsvold**	**18.39**	**233**	*e*P	**Pn**	**23 45 40.3**	**+0.2**
comp=Z,104nm,1.4s							
PMG	**Port Moresby**	**20.25**	**283**	*d i*P	**P**	**23 46 00.5**	**+1.2**
PMG				pmax	pmax		
comp=Z,181nm,1.5s							
PMG	**Port Moresby**	**20.25**	**283**	P	Pn	23 46 00.8	-1.3
comp=Z,76nm,1.0s,baz=100,slow=7.7,SNR=30							
PMG	**Port Moresby**	**20.25**	**283**	*e*P	**P**	**23 45 59.3**	**0.0**
comp=Z,119nm,1.0s							
CTA	**Charters Tower**	**20.62**	**252**	P	**P**	**23 46 04.2**	**+0.9**
comp=Z,49nm,1.0s,baz=76,slow=14,SNR=24							
CTAO	**Charters Tower**	**20.62**	**252**	*e*P	**P**	**23 46 03.2**	**-0.1**
CTAO				pmax	pmax		
comp=Z,55nm,1.0s							
CTAO	**Charters Tower**	**20.62**	**252**	*e*P	**P**	**23 46 03.2**	**-0.1**
comp=Z,55nm,1.0s							
RMQ	**Roma**	**20.76**	**233**	P	**P**	**23 46 06.2**	**+1.5**
baz=21,SNR=36							
RMQ				P	Pn	23 46 06.4	-1.6
baz=21,SNR=23							
ARMA	**Armidale**	**21.13**	**220**	⇑P	**P**	**23 46 09.7**	**+1.0**
baz=21,SNR=9.0							
ARMA	**Armidale**	**21.13**	**220**	*e*P	**P**	**23 46 10.0**	**+1.3**
comp=Z,546nm,2.1s							
OUZ	**Omahuta**	**21.18**	**165**	*e*P	**P**	**23 46 10.7**	**+1.7**
comp=Z,435nm,1.1s							
OUZ				*e*S	**S**	**23 49 55.0**	**-4.4**
COEN	**Coen**	**23.24**	**269**	⇑P	**P**	**23 46 30.6**	**-0.1**
baz=23,SNR=8.0							
COEN	**Coen**	**23.24**	**269**	*e*P	**P**	**23 46 31.1**	**+0.4**
comp=Z,437nm,1.3s							
MGCD	**Mangrove Creek**	**23.44**	**216**	P	**P**	**23 46 33.7**	**+1.4**
baz=24,SNR=8.0							
QLP	**Quilpie**	**24.41**	**238**	P	**P**	**23 46 41.6**	**+0.6**
baz=25,SNR=4.4							
URZ	**Urewera**	**25.01**	**161**	P*	**P**	**23 46 45.7**	**-0.7**
URZ	**Urewera**	**25.01**	**161**	P	**P**	**23 46 45.7**	**-0.7**
comp=Z,81nm,0.9s,baz=315,slow=5.1,SNR=11							
URZ				LR	LR	23 55 14.3	
comp=Z,692nm,21.2s,baz=355,slow=33							
URZ	**Urewera**	**25.01**	**161**	*e*P	**P**	**23 46 45.8**	**-0.6**
comp=Z,138nm,1.0s							
BKZ	**Black Stump Fm**	**25.66**	**163**	*e*P	**P**	**23 46 51.9**	**-0.6**
comp=Z,199nm,1.8s							
CMSA	**Cobar Meteorol**	**25.77**	**226**	⇓P	**P**	**23 46 53.2**	**-0.2**
baz=26,SNR=30							
YNG	**Young**	**25.79**	**218**	P	**P**	**23 46 54.9**	**+1.3**
baz=26,SNR=6.9							
CNB	**Canberra Magne**	**25.96**	**215**	P	**P**	**23 46 56.0**	**+0.8**
baz=26,SNR=5.1							
QIS	**Mount Isa**	**26.85**	**254**	P	**P**	**23 47 03.3**	**-0.1**
baz=27,SNR=6.3							
BFZ	**Birch Farm**	**27.01**	**165**	*e*P	**P**	**23 47 03.1**	**-1.4**
comp=Z,29nm,0.7s							
KHZ	**Kahutara**	**28.10**	**170**	*e*P	**P**	**23 47 14.8**	**+0.7**
comp=Z,72nm,1.0s							
JAY	**Jayapura**	**28.79**	**293**	LR	LR	23 58 07.5	
comp=Z,234nm,19.1s,baz=126,slow=34							
RPZ	**Rata Peaks**	**29.05**	**174**	*e*P	**P**	**23 47 23.0**	**+0.4**
comp=Z,398nm,2.2s							
TOO	**Toolangi**	**29.75**	**216**	P	**P**	**23 47 29.6**	**+0.7**
baz=30,SNR=4.8							
SMPI	**Sarmi**	**30.81**	**292**	P	P	23 47 41.8	+3.3
comp=Z,47nm,1.2s,comp=Z,7μm							
WRAB	**Tennant Creek**	**31.69**	**256**	P	**P**	**23 47 45.0**	**-1.2**
comp=Z,51nm,1.2s,SNR=8.4							
WRAB	**Tennant Creek**	**31.69**	**256**	⇓*i*P	**P**	**23 47 45.1**	**-1.2**
WRAB				pmax	pmax		
comp=Z,36nm,1.4s							
WRA	**Warramunga Arr**	**31.70**	**256**	P	**P**	**23 47 45.1**	**-1.3**
comp=Z,7.2nm,0.9s,baz=85,slow=8.5,SNR=35							
WRA				ScP	**ScP**	**23 54 13.7**	**+2.3**
comp=Z,5.2nm,1.0s,baz=84,slow=3.4,SNR=11							
WRA				LR	LR	23 59 11.5	
comp=Z,268nm,21.8s,baz=80,slow=33							
AS01	**Alice Springs**	**32.51**	**249**	*e*P	**P**	**23 47 52.5**	**-1.0**
AS01				*e*PcP	**PcP**	**23 50 38.6**	**+0.2**
AS01				*e*ScP	**ScP**	**23 54 15.8**	**+1.7**
ASAR	**Alice Springs**	**32.55**	**249**	P	**P**	**23 47 52.5**	**-1.2**
comp=Z,12nm,0.8s,baz=74,slow=9.3,SNR=59							
ASAR				ScP	**ScP**	**23 54 16.0**	**+1.8**
comp=Z,6.0nm,1.0s,baz=85,slow=3.3,SNR=17							
ASAR				LR	LR	00 01 12.6	
comp=Z,436nm,18.3s,baz=76,slow=36							
SRPI	**Serui, Papua**	**33.09**	**290**	P	**P**	**23 48 01.6**	**+3.1**
comp=Z,226nm,0.3s,comp=Z,11μm							
BBOO	**Buckleboo**	**33.47**	**232**	⇓P	**P**	**23 48 01.8**	**+0.2**
baz=34,SNR=20							

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBOO	**Buckleboo**	**33.47**	**232**	*e*P	**P**	**23 48 02.2**	**+0.6**
comp=Z,609nm,1.0s							
KDU	**Kakadu**	**33.73**	**269**	⇓P	**P**	**23 48 03.4**	**-0.7**
baz=34,SNR=4.3							
FAKI	**Fak Fak**	**36.37**	**286**	*e*P	**P**	**23 48 26.4**	**-0.4**
comp=Z,27nm,1.1s							
KNRA	**Kununurra**	**37.02**	**263**	P	**P**	**23 48 31.4**	**-0.8**
baz=37,SNR=8.4							
WRKA	**Warakurna**	**37.82**	**248**	P	**P**	**23 48 38.0**	**-0.9**
baz=38,SNR=12							
BNDI	**Bandanaira**	**38.04**	**282**	P	P	23 48 44.9	+4.0
comp=Z,168nm,1.6s,comp=Z,2μm							
FORT	**Forrest**	**39.18**	**239**	⇑P	**P**	**23 48 50.1**	**-0.2**
baz=39,SNR=16							
FORT	**Forrest**	**39.18**	**239**	*e*P	**P**	**23 48 49.8**	**-0.5**
comp=Z,108nm,1.2s							
FITZ	**Fitzroy Crossi**	**39.90**	**259**	*e*P	**P**	**23 48 55.6**	**-0.8**
PPT2	**Papeete2**	**41.59**	**100**	*e*S	**S**	**23 55 24.3**	**+4.2**
comp=Z,93nm,23.5s							
PPT2				*e*LQ	LQ	23 59 00.9	
comp=Z,3μm,39.2s							
PPT2				*e*LR	LR	00 00 50.7	
comp=Z,545nm,27.2s							
TBI	**Tubuai**	**41.76**	**109**	*e*S	**S**	**23 55 23.0**	**+0.7**
comp=Z,325nm,27.4s							
TBI				*e*LQ	LQ	23 59 08.2	
comp=Z,1μm,29.5s							
TBI				*e*LR	LR	00 00 57.3	
comp=Z,407nm,30.5s							
SOEI	**Soe**	**42.15**	**272**	*e*P	**P**	**23 49 15.1**	**0.0**
comp=Z,41nm,1.1s							
BATI	**Baumata**	**42.65**	**271**	LR	LR	00 07 37.9	
comp=Z,342nm,19.0s,baz=96,slow=37							
MMRI	**Maumere**	**44.34**	**273**	*e*P	**P**	**23 49 31.2**	**-1.3**
comp=Z,38nm,0.9s							
KMBL	**Kambalda**	**44.47**	**240**	⇑P	**P**	**23 49 32.6**	**-0.9**
baz=45,SNR=5.5							
SGSI	**Sangihe**	**45.13**	**291**	P	P	23 49 42.5	+3.7
comp=Z,237nm,0.6s							
KMSI	**Cibinong**	**45.33**	**286**	P	**P**	**23 49 41.4**	**+1.0**
comp=Z,242nm,0.5s							
MBWA	**Marble Bar**	**45.42**	**255**	*e*P	**P**	**23 49 40.2**	**-0.9**
comp=Z,35nm,1.1s							
LUWI	**Luwuk**	**45.90**	**283**	*e*P	**P**	**23 49 44.3**	**-0.6**
comp=Z,68nm,1.1s							
MEEK	**Meekatharra**	**46.66**	**247**	⇓P	**P**	**23 49 50.2**	**-0.6**
baz=47,SNR=22							
MRSI	**Marisa**	**47.20**	**285**	P	P	23 50 03.4	+8.3
KAPI	**Kappang**	**47.60**	**277**	*e*P	**P**	**23 49 58.1**	**-0.1**
comp=Z,41nm,1.0s							
TTSI	**Tana Toraja**	**48.08**	**279**	P	**P**	**23 50 03.0**	**+1.1**
comp=Z,21nm,1.2s							
NWAO	**Narrogin (SRO)**	**48.63**	**239**	P	**P**	**23 50 05.7**	**-0.2**
baz=49,SNR=5.7							
MPSI	**Mapaga**	**49.07**	**284**	P	**P**	**23 50 09.7**	**+0.2**
comp=Z,33nm,1.0s,comp=Z,372nm							
MORW	**Morawa**	**49.15**	**244**	P	**P**	**23 50 09.7**	**-0.2**
baz=49,SNR=6.7							
TWSI	**Taliwang, Sumb**	**49.50**	**271**	P	**P**	**23 50 15.6**	**+2.9**
comp=Z,2μm,0.7s							
SRBI	**Singaraja**	**51.25**	**271**	P	**P**	**23 50 27.5**	**+1.6**
comp=Z,37nm,1.4s							
MYLDM	**Lahad Datu**	**52.13**	**289**	*e*P	**P**	**23 50 33.0**	**+0.5**
comp=Z,34nm,1.1s							
ABJI	**Asem Bagus**	**52.26**	**272**	P	**P**	**23 50 35.4**	**+2.0**
comp=Z,68nm,1.2s							
BBKI	**Banjar Baru**	**52.73**	**277**	P	P	23 50 40.5	+3.5
comp=Z,42nm,1.3s,comp=Z,5μm							
KKM	**Kota Kinabalu**	**54.56**	**289**	⇓P	**P**	**23 50 50.2**	**-0.2**
baz=55							
KKM	**Kota Kinabalu**	**54.56**	**289**	*e*P	**P**	**23 50 50.5**	**0.0**
comp=Z,40nm,1.0s							
RKT	**Rikitea**	**55.08**	**108**	*e*LR	LR	00 07 08.3	
comp=Z,388nm,42.0s							
SBUM	**Sibu**	**57.00**	**283**	*e*P	**P**	**23 51 07.0**	**-0.8**
comp=Z,20nm,1.4s							
KPJI	**Karang Pucung**	**57.49**	**271**	P	P	23 51 23.2

HABR			*e*			00 02 17.1
HABR			*e*SS	SS		00 05 54.1 +0.3
HABR			pmax	pmax		
comp=Z,26nm,2.0s						
TIA	**Tai'an**	**69.29 319** ⇓	P	**P**		**23 52 28.5 -0.1**
TIA			PMZ			
comp=Z,20nm,0.9s						
TIA			PMZ			
comp=Z,310nm,5.1s						
TIA			LN			
comp=Z,270nm,4.6s						
TIA			LE			
comp=Z,270nm,5.6s						
CN2	**Changchun**	**69.62 329**	*e*P	**P**		**23 52 30.6 +0.1**
CN2			*e*S	**S**		**00 01 35.5 +4.0**
CN2			PMZ			
comp=Z,20nm,1.0s						
CN2			PMZ			
comp=Z,100nm,3.0s						
CN2			LN			
comp=Z,600nm,15.0s						
CN2			LE			
comp=Z,400nm,15.0s						
CN2			LZ			
comp=Z,500nm,12.0s						
PSI	**Prapat**	**69.75 279**	P	**P**		**23 52 31.7 -0.4**
comp=Z,3.7nm,0.5s,baz=172,slow=7.8,SNR=5.7						
MIR	**Mirnyy**	**70.25 204** ⇑	*i*P	**P**		**23 52 36.0 +2.0**
MIR			pmax	pmax		
comp=Z,84nm,1.0s						
GSI	**Gunungsitoli**	**70.62 277**	*e*P	**P**		**23 52 37.3 0.0**
comp=Z,18nm,0.8s						
KLR	**Kul'dur**	**70.99 336**	*e*P	**P**		**23 52 35.8 -3.0**
KLR			pmax	pmax		
comp=E,28nm,1.6s						
KLR			pmax	pmax		
comp=Z,50nm,1.6s						
ENH	**Enshi**	**71.30 309**	*e*P	**P**		**23 52 40.3 -0.8**
comp=Z,22nm,1.3s						
GYA	**Guiyang**	**71.64 305**	P	**P**		**23 52 44.8 +1.5**
GYA			pP	**pP**		**23 53 11.0 +4.0**
GYA			PP	**PP**		**23 55 27.4 +3.7**
GYA			S	**S**		**00 01 55.3 -0.7**
GYA			SKS	**SKSac**		**00 02 35.8 -3.2**
GYA			sS	**ScS**		**00 02 40.6 -0.2**
GYA			SS	**SS**		**00 06 35.5 +1.9**
GYA			PMZ			
comp=Z,30nm,1.0s						
GYA			PMZ			
comp=Z,140nm,5.4s						
GYA			LN			
comp=Z,780nm,19.4s						
GYA			LE			
comp=Z,590nm,20.0s						
GYA			LZ			
comp=Z,660nm,19.2s						
SLVN	**Son La**	**71.67 299**	*e*P	**P**		**23 52 43.7 +0.2**
comp=Z,12nm,1.3s						
BJT	**Baijiatuau**	**72.21 321**	*e*P	**P**		**23 52 45.9 -0.4**
BJT			pmax	pmax		
comp=Z,24nm,0.5s						
BJT	**Baijiatuau**	**72.21 321**	*e*P	**P**		**23 52 45.9 -0.4**
comp=Z,24nm,0.5s						
BJI	**Beijing**	**72.22 321**	P	**P**		**23 52 47.3 +1.0**
BJI			PMZ			
comp=Z,24nm,0.8s						
PBKT	**Sadao Pong**	**72.37 293**	P	**P**		**23 52 49.3 +1.6**
comp=Z,10nm,1.4s						
SRDT	**SRDT**	**73.24 290**	P	**P**		**23 52 55.8 +3.0**
comp=Z,36nm,0.8s						
KMI	**Kunming**	**74.23 302**	P	**P**		**23 53 00.3 +1.5**
KMI			pP	**pP**		**23 53 23.8 +1.3**
KMI			sP	**sP**		**23 53 32.3 -0.2**
KMI			PMZ			
comp=Z,25nm,1.1s						
CM01	**Chiang Mai Arr**	**74.83 294**	*e*P	**P**		**23 53 02.0 -0.1**
CMAR	**Chiang Mai Arr**	**74.86 294**	P	**P**		**23 53 02.9 +0.6**
comp=Z,4.4nm,0.7s,baz=117,slow=4.5,SNR=26						
CMAR			pP	**pP**		**23 53 25.5 -0.6**
comp=Z,9.6nm,0.9s,baz=120,slow=4.6,SNR=5.9						
QSPA	**South Pole Qui**	**75.26 180**	P	**P**		**23 53 04.2 +0.3**
comp=Z,31nm,0.9s,baz=18,slow=1.5						
CMAI	**Chiengmai2**	**75.31 296**	P	**P**		**23 53 06.8 +1.8**
comp=Z,63nm,0.7s						
HHC	**Hu-ho-hao-te**	**75.54 320**	*e*P	**P**		**23 53 06.8 +1.0**
HHC			pP	**pP**		**23 53 28.0 -1.7**
HHC			sP	**sP**		**23 53 42.4 +2.8**
HHC			PP	**PP**		**23 55 58.6 +2.1**
HHC			S	**S**		**00 02 36.9 -2.4**
HHC			sS	**sS**		**00 03 18.9 -1.2**
HHC			SS	**SS**		**00 07 31.3 -1.2**
HHC			PMZ			
comp=Z,36nm,0.9s						
HHC			PMZ			
comp=Z,260nm,4.4s						
HHC			LN			
comp=Z,190nm,17.7s						
HHC			LE			
comp=Z,610nm,18.6s						
HHC			LZ			
comp=Z,170nm,18.1s						
CD2	**Chengdu**	**75.94 308**	P	**P**		**23 53 09.3 +1.0**
CD2			pP	**pP**		**23 53 35.0 +2.9**
CD2			sP	**sP**		**23 53 43.0 +0.9**
CD2			PP	**PP**		**23 56 04.1 +4.0**
CD2			S	**S**		**00 02 46.8 +2.8**
CD2			ScS	**SKSac**		**00 03 10.8 -0.1**
CD2			sS	**sS**		**00 03 21.4 -3.5**
CD2			SS	**SS**		**00 07 35.4 -3.4**
CD2			PMZ			
comp=Z,20nm,1.2s						
CD2			PMZ			
comp=Z,150nm,7.1s						
CD2			LN			
comp=Z,150nm,16.6s						
CD2			LZ			
comp=Z,160nm,16.7s						
HIA	**Hailar**	**76.26 330**	*e*P	**P**		**23 53 07.3 -2.4**
HIA			pmax	pmax		
comp=Z,33nm,1.4s						
HIA	**Hailar**	**76.26 330**	*e*P	**P**		**23 53 07.3 -2.4**
comp=Z,33nm,1.4s						
SEY	**Seymchan**	**78.30 353**	P	**P**		**23 53 20.6 -0.1**
comp=Z,8.8nm,1.0s,baz=151,slow=7.1,SNR=17						
SEY			pP	**pP**		**23 53 44.1 -0.6**
comp=Z,4.7nm,0.8s,baz=150,slow=3.2,SNR=2.9						
KDAK	**Kodiak Island**	**79.54 21**	*e*P	**P**		**23 53 28.2 +0.7**
KDAK			pmax	pmax		
comp=Z,68nm,1.8s						
KDAK	**Kodiak Island**	**79.54 21**	*e*P	**P**		**23 53 28.2 +0.7**
comp=Z,68nm,1.8s						
RSO	**Redoubt South**	**81.56 19**	*e*P	**P**		**23 53 38.9 +0.2**
YAK	**Yakutsk**	**82.03 343**	*e*P	**P**		**23 53 40.1 -0.6**
YAK			*e**PP	**pP**		**23 54 05.2 +0.3**
YAK			*e*S	**S**		**00 03 42.6 -4.7**
YAK			*e*SS	**SS**		**00 09 06.3 -2.4**
YAK			*e*SSS	SSS		00 12 34.0
YAK			pmax	pmax		
comp=Z,44nm,0.9s						
YAK			pmax	pmax		
comp=N,8.0nm,1.0s						
YAK			pmax	pmax		
comp=E,4.0nm,1.0s						
YAK			smax	smax		
comp=N,343nm,4.8s						
YAK			smax	smax		
comp=E,85nm,4.2s						
YAK	**Yakutsk**	**82.03 343**	*e*P	**P**		**23 53 40.7 0.0**
comp=E,62nm,0.8s						
ULN	**Ulaanbaatar**	**82.10 324**	*d i*P	**P**		**23 53 42.3 +0.6**
ULN			pmax	pmax		
comp=Z,34nm,1.7s						
ULN	**Ulaanbaatar**	**82.10 324**	*e*P	**P**		**23 53 42.1 +0.4**
comp=Z,16nm,0.9s						
TNA	**Tin City**	**82.26 10**	*e*P	**P**		**23 53 42.5 +0.7**
comp=Z,17nm,1.1s						
SEW	**Seward**	**82.36 20**	*e*P	**P**		**23 53 42.4 -0.1**
comp=Z,19nm,0.8s						
SONM	**Songino Array**	**82.46 324**	P	**P**		**23 53 44.1 +0.6**
comp=Z,6.5nm,0.9s,baz=149,slow=5.8,SNR=39						
SONM			pP	**pP**		**23 54 06.4 -1.3**
comp=Z,3.3nm,0.9s,baz=139,slow=7.9,SNR=4.0						
SONM			LR	LR		00 31 54.2
comp=Z,39nm,18.1s,baz=134,slow=37						
SONA1	**Songino Array**	**82.46 324**	*e*P	**P**		**23 53 43.3 -0.3**
BILL	**Bilibino**	**82.58 360**	*d i*P	**P**		**23 53 44.0 +0.5**
BILL			pmax	pmax		
comp=Z,91nm,1.7s						
BILL	**Bilibino**	**82.58 360**	*e*P	**P**		**23 53 43.3 -0.2**
comp=Z,40nm,0.8s						
GTA	**Gaotai**	**82.61 314**	*e*P	**P**		**23 53 46.1 +1.6**
GTA			pP	**pP**		**23 54 10.4 +1.7**
GTA			sP	**sP**		**23 54 22.3 +3.7**
GTA			S	**S**		**00 03 56.1 +1.6**
GTA			sS	**sS**		**00 04 39.8 +3.9**
GTA			PMZ			
comp=Z,17nm,1.0s						
GTA			PMZ			
comp=Z,140nm,5.3s						
GTA			LN			
comp=Z,100nm,16.9s						
GTA			LE			
comp=Z,87nm,17.6s						
GTA			LZ			
comp=Z,85nm,20.0s						
RC01	**Rabbit Creek A**	**83.00 20**	*e*P	**P**		**23 53 45.7 -0.1**
comp=Z,22nm,0.9s						
SHL	**Shillong**	**83.48 298**	*e*P	**P**		**23 53 51.0 +1.6**
PMR	**Palmer**	**83.57 19**	*e*P	**P**		**23 53 48.2 -0.5**
PMR	**Palmer**	**83.57 19**	*e*P	**P**		**23 53 48.2 -0.5**
PPLA	**Purkeypile**	**83.63 17**	*e*P	**P**		**23 53 49.3 +0.1**
comp=Z,15nm,1.2s						
CAST	**Castle Rocks**	**84.06 17**	*e*P	**P**		**23 53 50.6 -0.6**
comp=Z,21nm,0.8s						
KCPM	**Cahto Peak**	**84.08 47**	*e*P	**P**		**23 53 52.1 +0.1**
comp=Z,26nm,1.5s						
KMRM	**Mail Ridge**	**84.21 46**	*e*P	**P**		**23 53 53.4 +0.8**
comp=Z,287nm,2.7s						
DIV	**Divide**	**84.36 21**	*e*P	**P**		**23 53 51.5 -1.4**
comp=Z,12nm,0.8s						
BOD	**Bodaibo**	**84.46 335**	*e*P	**P**		**23 53 52.7 -0.6**
BOD			pmax	pmax		
comp=Z,10.0nm,0.1s						
KTH	**Kantishna Hill**	**84.50 17**	*e*P	**P**		**23 53 52.6 -0.9**
comp=Z,19nm,0.8s						
MCK	**McKinley**	**85.22 18**	*e*P	**P**		**23 53 57.1 0.0**
MCK			pmax	pmax		
comp=Z,21nm,0.9s						
MCK	**McKinley**	**85.22 18**	*e*P	**P**		**23 53 57.0 0.0**
comp=Z,21nm,0.9s						
M02C	**Callahan**	**85.29 45**	P	**P**		**23 53 58.7 +0.7**
baz=85						
LSA	**Lhasa**	**85.48 302**	*e*P	**P**		**23 54 00.5 +0.8**
LSA			pmax	pmax		
comp=Z,9.0nm,1.0s						
LSA	**Lhasa**	**85.48 302**	*e*P	**P**		**23 54 00.5 +0.8**
comp=Z,9.3nm,1.0s						
ZAK	**Zakamensk**	**85.52 325**	*e*P	**P**		**23 53 59.0 +0.1**
ZAK			*e*			23 54 21.9
ZAK			pmax	pmax		
comp=Z,14nm,1.0s						
YBH	**Yreka Blue Hor**	**85.52 45**	*e*P	**P**		**23 54 00.2 +1.0**
YBH			pmax	pmax		
comp=Z,133nm,2.6s						
YBH	**Yreka Blue Hor**	**85.52 45**	*e*P	**P**		**23 54 00.2 +1.0**
comp=Z,133nm,2.6s						
IM04	**Indian Mountai**	**85.61 15**	*e*P	**P**		**23 53 59.3 +0.3**
CMB	**Columbia Colle**	**85.71 49**	*e*P	**P**		**23 54 00.0 -0.2**
CMB			pmax	pmax		
comp=Z,5.0nm,0.9s						
CMB	**Columbia Colle**	**85.71 49**	*e*P	**P**		**23 53 60.0 -0.2**
comp=Z,5.1nm,0.9s						
HUMO	**Hull Mountain**	**85.72 44**	*e*P	**P**		**23 54 00.9 +0.8**
comp=Z,120nm,2.3s						
PAX	**Paxson**	**85.76 20**	*e*P	**P**		**23 54 00.0 +0.2**
PAX			pmax	pmax		
comp=Z,55nm,2.4s						
PAX	**Paxson**	**85.76 20**	*e*P	**P**		**23 53 60.0 +0.2**
comp=Z,55nm,2.4s						
VES	**Vestal, Richgr**	**85.86 51**	P	**P**		**23 54 01.6 +0.7**
baz=86						
TLY	**Talaya**	**85.96 326**	*e*P	**P**		**23 54 01.5 +0.5**
TLY			pmax	pmax		
comp=Z,14nm,0.8s						
TLY	**Talaya**	**85.96 326**	P	**P**		**23 54 01.5 +0.5**
comp=Z,8.9nm,0.6s,baz=148,slow=4.3,SNR=12						
TLY			LR	LR		00 28 41.5
comp=Z,67nm,21.9s,baz=124,slow=33						
TLY	**Talaya**	**85.96 326**	*e*P	**P**		**23 54 00.8 -0.2**
comp=Z,15nm,0.8s						
MWC	**Mount Wilson**	**86.07 53**	*e*P	**P**		**23 54 01.9 -0.3**
MWC			pmax	pmax		
comp=Z,8.0nm,0.8s						
MWC	**Mount Wilson**	**86.07 53**	*e*P	**P**		**23 54 01.9 -0.3**
comp=Z,8.4nm,0.8s						
M04C	**Macdoel**	**86.14 45**	P	**P**		**23 54 02.6 +0.3**
baz=86						
ISA	**Isabella, Lake**	**86.26 52**	*e*P	**P**		**23 54 03.0 +0.1**
ISA			pmax	pmax		
comp=Z,6.0nm,1.0s						
ISA	**Isabella, Lake**	**86.26 52**	P	**P**		**23 54 03.3 +0.4**
baz=86						
ISA	**Isabella, Lake**	**86.26 52**	*e*P	**P**		**23 54 03.0 +0.1**
comp=Z,5.8nm,1.0s						
MENT	**Mentasta**	**86.31 20**	*e*P	**P**		**23 54 01.9 -0.6**
EDW2	**Edwards Air Fo**	**86.36 53**	P	**P**		**23 54 03.8 +0.4**
baz=86						
COLA	**College**	**86.39 18**	*de*P	**P**		**23 54 02.7 0.0**
COLA			pmax	pmax		
comp=Z,51nm,0.8s						
COLA	**College**	**86.39 18**	*e*P	**P**		**23 54 01.8 -1.0**
comp=Z,15nm,0.8s						
WAKR	**Walker**	**86.58 49**	*e*P	**P**		**23 54 04.5 -0.1**
IL1	**Eielson Array**	**86.60 18**	*e*P	**P**		**23 54 02.5 -1.3**
ILAR	**Eielson Array**	**86.60 18**	P	**P**		**23 54 03.0 -0.8**
ILAR	**Eielson Array**	**86.60 18**	P	**P**		**23 54 03.0 -0.8**
comp=Z,14nm,0.8s,baz=237,slow=4.7,SNR=157						
ILAR			PKiKP	**PKiKP**		**23 59 08.9 -1.0**
comp=Z,0.3nm,0.6s,baz=280,slow=3.1,SNR=4.7						
ILAR			LR	LR		00 27 19.4
comp=Z,193nm,19.3s,baz=236,slow=32						
ILB	**Eielson Array**	**86.60 18**	*e*P	**P**		**23 54 02.4 -1.4**
MONP	**Monument Peak,**	**86.90 55**	P	**P**		**23 54 06.7 +0.4**
baz=87						
PFO	**Pinyon Flats O**	**87.11 54**	*e*P	**P**		**23 54 06.7 -0.5**
PFO			pmax	pmax		
comp=Z,4.0nm,0.8s						
PFO	**Pinyon Flats O**	**87.11 54**	P	**P**		**23 54 07.6 +0.4**
baz=87						
PFO	**Pinyon Flats O**	**87.11 54**	*e*P	**P**		**23 54 06.7 -0.5**
comp=Z,4.3nm,0.8s						
J05D	**Fort Rock, OR**	**87.15 44**	P	**P**		**23 54 07.9 +0.8**
baz=87						
MPMC	**Manual Prospec**	**87.15 52**	P	**P**		**23 54 07.8 +0.4**
baz=87						
K05A	**Summer Lake**	**87.16 45**	*e*P	**P**		**23 54 07.5 +0.2**
comp=Z,162nm,2.7s						
HYT	**Haines Junctio**	**87.21 24**	*e*P	**P**		**23 54 06.7 -0.4**
NV01	**Mina Array Sit**	**87.38 49**	*e*P	**P**		**23 54 07.8 -0.8**
NVAR	**Mina Array Bea**	**87.38 49**	P	**P**		**23 54 08.9 +0.4**
comp=Z,3.0nm,0.8s,baz=232,slow=7.7,SNR=16						
SWSC	**Sam W. Stewart**	**87.41 55**	P	**P**		**23 54 08.6 +0.1**
baz=88						
TAPN	**Taplejung**	**87.60 299**	*e*P	**P**		**23 54 10.2 +0.3**
comp=Z,14nm,0.8s						
BELC	**Belle Mtn. Jos**	**87.60 54**	P	**P**		**23 54 10.0 +0.5**
baz=88						
HEC	**Hector,Ludlow**	**87.62 53**	P	**P**		**23 54 09.7 +0.1**
baz=88						
ODAN	**Odare**	**87.72 298**	*e*P	**P**		**23 54 10.6 +0.2**
comp=Z,24nm,0.7s						
FURC	**Furnace Creek,**	**87.77 52**	P	**P**		**23 54 10.5 +0.4**
baz=88						
BC3	**Big Chuckawall**	**87.92 55**	P	**P**		**23 54 11.5 +0.5**
baz=88						
GMRC	**Granite Mounta**	**88.12 53**	P	**P**		**23 54 12.3 +0.3**
baz=88						
TUQ	**Turquoise Moun**	**88.14 53**	P	**P**		**23 54 12.6 +0.5**
baz=88						
GLA	**Glamis**	**88.22 55**	*e*P	**P**		**23 54 10.5 -1.9**
GLA			pmax	pmax		
comp=Z,9.0nm,0.8s						
GLA	**Glamis**	**88.22 55**	*e*P	**P**		**23 54 10.5 -1.9**
comp=Z,8.8nm,0.8s						
IRM	**Iron Mountain**	**88.32 54**	P	**P**		**23 54 13.1 +0.3**
baz=88						
EGAK	**Eagle**	**88.39 20**	*e*P	**P**		**23 54 12.4 0.0**
comp=Z,81nm,2.4s						
TPNV	**Topopah Spring**	**88.39 51**	*e*P	**P**		**23 54 12.8 -0.5**
TPNV			pmax	pmax		
comp=Z,4.0nm,0.8s						
TPNV	**Topopah Spring**	**88.39 51**	P	**P**		**23 54 13.5 +0.2**
baz=88						
TPNV	**Topopah Spring**	**88.39 51**	*e*P	**P**		**23 54 12.8 -0.5**
comp=Z,4.0nm,0.8s						
PALK	**Pallekele**	**88.42 278**	P	**P**		**23 54 14.1 +0.4**
comp=Z,6.3nm,0.7s,baz=76,slow=8.3,SNR=2.8						
RAMN	**Ramite**	**88.42 298**	*e*P	**P**		**23 54 13.8 +0.1**
comp=Z,21nm,1.2s						
I07A	**Izee**	**88.61 44**	*e*P	**P**		**23 54 14.6 +0.5**
comp=Z,26nm,1.7s						
SYO	**Syowa Base**	**88.64 197** ⇑	*e*P	**P**		**23 54 12.3 -1.3**
SYO	**Syowa Base**	**88.64 197** ⇑	*e*PcP	**PcP**		**23 54 16.8 +1.6**
LDFC	**Landfair**	**88.65 53**	*e*P	**P**		**23 54 15.3 +0.8**
comp=Z,24nm,0.4s						
BMN	**Battle Mountai**	**88.87 48**	*e*P	**P**		**23 54 13.5 -2.0**
BMN			pmax	pmax		
comp=Z,35nm,2.2s						
BMN	**Battle Mountai**	**88.87 48**	*e*P	**P**		**23 54 13.5 -2.0**
comp=Z,35nm,2.2s						
JIRN	**Jiri**	**88.98 299**	*e*P	**P**		**23 54 16.7 +0.2**
comp=Z,16nm,0.7s						
SHPR	**Sheep Range**	**89.07 52**	*e*P	**P**		**23 54 15.8 -0.7**
PDMCI	**Parker Dam,Lak**	**89.16 54**	P	**P**		**23 54 17.4 +0.7**
baz=89						
GUN	**Gumba**	**89.31 299**	*e*P	**P**		**23 54 18.0 0.0**
comp=Z,29nm,1.0s						
E07A	**Sunnyside**	**89.32 41**	*e*P	**P**		**23 54 17.3 +0.1**
comp=Z,7.8nm,0.8s						
R11A	**Troy Canyon, C**	**89.36 50**	P	**P**		**23 54 18.0 +0.2**
baz=89						
G08A	**Pilot Rock**	**89.42 43**	*e*P	**P**		**23 54 18.2 +0.4**
comp=Z,8.5nm,0.9s						
HAWA	**Hanford**	**89.46 42**	*e*P	**P**		**23 54 16.9 -0.9**
comp=Z,5.9nm,0.8s						
W13A	**Hualapai Mount**	**89.61 54**	P	**P**		**23 54 19.7 +0.6**
baz=90						
PKI	**Pulchoki**	**89.61 299**	*e*P	**P**		**23 54 19.2 -0.2**
comp=Z,43nm,1.2s						
PKIN	**Phulchoki**	**89.63 299**	*e*P	**P**		**23 54 19.3 -0.1**
KKN	**Kakani**	**89.79 299**	*e*P	**P**		**23 54 20.1 0.0**
comp=Z,19nm,0.9s						
Z14A	**Wintersburg**	**89.81 55**	P	**P**		**23 54 20.3 +0.5**
baz=90						
DMN	**Daman**	**89.88 298**	*e*P	**P**		**23 54 20.8 +0.2**
TIXI	**Tiksi**	**89.98 349** ⇓	*i*P	**P**		**23 54 19.3 -0.4**
TIXI			pmax	pmax		
comp=Z,8.0nm,0.9s						
TIXI	**Tiksi**	**89.98 349**	*e*P	**P**		**23 54 19.1 -0.5**
comp=Z,8.8nm,1.1s						
D08A	**Wollman Farm,**	**90.10 41**	*e*P	**P**		**23 54 20.5 -0.3**
comp=Z,49nm,2.3s						
B08A	**Colville Reser**	**90.32 40**	*e*P	**P**		**23 54 21.2 -0.6**
comp=Z,87nm,2.8s						
BMO	**Blue Mountains**	**90.36 44**	*e*P	**P**		**23 54 20.8 -1.4**
BMO			pmax	pmax		
comp=Z,6.0nm,0.9s						
BMO	**Blue Mountains**	**90.36 44**	*e*P	**P**		**23 54 20.8 -1.4**
comp=Z,5.7nm,0.9s						
GKN	**Gorkha**	**90.39 299**	*e*P	**P**		**23 54 22.4 -0.4**
E09A	**Wood Farm, Sta**	**90.40 42**	*e*P	**P**		**23 54 20.6 -1.6**
ELK	**Elko**	**90.40 48**	*e*P	**P**		**23 54 21.8 -0.9**
ELK			pmax	pmax		
comp=Z,4.0nm,0.9s						
ELK	**Elko**	**90.40 48**	LR	LR		00 25 39.5
comp=Z,108nm,21.4s,baz=180,slow=29						
ELK	**Elko**	**90.40 48**	*e*P	**P**		**23 54 21.8 -0.9**
comp=Z,3.7nm,0.9s						
CCUT	**Cedar City**	**90.77 51**	*e*P	**P**		**23 54 23.6 -0.9**
comp=Z,4.3nm,1.0s						
ARUT	**Antelope Range**	**90.78 51**	*e*P	**P**		**23 54 21.5 -3.0**
ARUT	**Antelope Range**	**90.78 51**	*e*P	**P**		**23 54 21.4 -3.0**
F10A	**Beach Ranch, E**	**90.80 43**	*e*P	**P**		**23 54 23.5 -0.8**
comp=Z,10nm,0.8s						
MFID	**Camas Ranch**	**90.87 45**	*e*P	**P**		**23 54 24.3 -0.4**
comp=Z,3.7nm,0.8s						
KNB	**Kanab**	**91.02 52**	*e*P	**P**		**23 54 23.7 -1.9**
KNB			pmax	pmax		
comp=Z,16nm,1.5s						
KNB	**Kanab**	**91.02 52**	*e*P	**P**		**23 54 23.7 -1.9**
comp=Z,16nm,1.5s						
DANN	**Dangsing**	**91.23 299**	*e*P	**P**		**23 54 26.0 -0.9**
TUC	**Tucson**	**91.24 57**	*e*P	**P**		**23 54 27.0 +0.4**
TUC			pmax	pmax		
comp=Z,5.0nm,1.0s						
TUC	**Tucson**	**91.24 57**	*e*P	**P**		**23 54 27.0 +0.4**
comp=Z,4.8nm,1.0s						
U15A	**North Rim**	**91.25 53**	P	**P**		**23 54 27.3 +0.6**
baz=91						
X16A	**Lo Mia Camp, P**	**91.32 55**	P	**P**		**23 54 27.8 +0.8**
baz=91						
HVS	**Khovu-Aksy**	**91.32 323**	*d i*P	**P**		**23 54 26.8 +0.3**
HVS			pmax	pmax		
comp=Z,73nm,1.2s						
NEW	**Newport**	**91.67 40**	*e*P	**P**		**23 54 26.5 -1.6**
NEW			pmax	pmax		
comp=Z,40nm,2.3s						
NEW	**Newport**	**91.67 40**	P	**P**		**23 54 27.1 -1.0**
comp=Z,4.6nm,1.0s,baz=235,slow=2.2,SNR=7.8						
NEW	**Newport**	**91.67 40**	P	**P**		**23 54 28.3 +0.1**
baz=92						
NEW	**Newport**	**91.67 40**	*e*P	**P**		**23 54 26.5 -1.6**
comp=Z,40nm,2.3s						
HLID	**Hailey**	**91.89 45**	P	**P**		**23 54 29.8 +0.4**
baz=92						
HLID	**Hailey**	**91.89 45**	*e*P	**P**		**23 54 29.4 -0.1**
comp=Z,36nm,2.6s						
MVU	**Marysvale**	**91.92 51**	*e*P	**P**		**23 54 27.8 -2.1**
comp=Z,4.5nm,1.1s						
319A	**Douglas**	**92.21 58**	P	**P**		**23 54 31.8 +0.7**
baz=92						
WMQ	**Urumqi**	**92.67 315**	*e*P	**P**		**23 54 32.9 0.0**
WMQ			pP	**pP**		**23 54 59.8 +2.4**
WMQ			PP	**PP**		**23 58 17.3 +1.2**
WMQ			SKS	**SKSac**		**00 04 55.5 -2.9**
WMQ			S	**S**		**00 05 25.9 -4.3**
WMQ			sS	**sS**		**00 06 10.0 -2.4**
WMQ			SS	**SS**		**00 11 44.0 -1.1**
WMQ			PMZ			
comp=Z,14nm,1.0s						
WMQ			PMZ			
comp=Z,67nm,4.0s						
WMQ			LN			
comp=Z,74nm,28.0s						
WMQ			LE			
comp=Z,81nm,28.0s						
WMQ			LZ			
comp=Z,69nm,25.0s						
SNAA	**Sanae**	**93.51 183**	P	**P**		**23 54 35.9 -0.4**
SNAA	**Sanae**	**93.51 183**	*d i*P	**P**		**23 54 35.9 -0.4**
SNAA			pmax	pmax		
comp=Z,11nm,0.9s						
SNAA	**Sanae**	**93.51 183**	P	**P**		**23 54 34.6 -1.7**
comp=Z,2.6nm,0.8s,baz=198,slow=4.4,SNR=13						
SNAA	**Sanae**	**93.51 183**	*e*P	**P**		**23 54 34.5 -1.8**
comp=Z,74nm,1.9s						
VNA3	**Neumayer Olymp**	**94.18 181**	P	**P**		**23 54 38.6 -0.8**
PV09	**Paradox Valley**	**94.24 51**	*e*P	**P**		**23 54 40.7 +0.1**
VNA2	**Neumayer--Watz**	**94.44 182**	P	**P**		**23 54 39.0 -1.5**
baz=182,slow=3.2						
PDAR	**Pinedale Array**	**95.06 47**	P	**P**		**23 54 43.0 -1.1**
comp=Z,0.4nm,0.7s,baz=191,slow=4.5,SNR=4.3						
PDAR			PP	**PP**		**23 58 34.4 -0.6**
comp=Z,0.1nm,0.5s,baz=200,slow=4.6,SNR=4.5						
PDAR			LR	LR		00 33 06.3
comp=Z,50nm,18.1s,baz=252,slow=33						
TXAR	**Lajitas Array**	**96.39 61**	P	**P**		**23 54 49.9 -0.5**
comp=Z,0.7nm,0.7s,baz=220,slow=4.8,SNR=9.2						
TXAR			LR	LR		00 29 24.6
comp=Z,48nm,21.7s,baz=0.0,slow=30						
O22A	**Kremmling**	**96.60 50**	P	**P**		**23 54 51.3 0.0**
baz=97						
MK01	**Makanchi Array**	**97.14 316**	*e*P	**P**		**23

YKA				PKiKP	**PKiKP**	23 59 28.6	-0.1
	comp=Z,0.4nm,0.6s,baz=245,slow=1.3,SNR=10						
YKB5	**Yellowknife Ar**	**97.63**	**27**	*e*P	**P**	23 54 54.2	-0.7
NVS	**Novosibirsk**	**98.47**	**324**	*e*S	**SKSac**	00 05 23.7	-4.6
NVS				pmax	pmax		
	comp=Z,12nm,1.8s						
NVS				smax	smax		
	comp=E,16nm,2.0s						
KSH	**Kashi**	**100.13**	**308**	*e*P	**Pdif**	23 55 07.1	+0.2
KSH				SKS	**SKSac**	00 05 35.1	-2.5
KSH				S	**Sdif**	00 06 29.6	-5.0
KSH				sS	**sS**	00 07 15.6	-1.6
KSH				SS	**SS**	00 13 31.8	+1.0
KSH				PMZ			
	comp=E,52nm,5.4s						
KSH				LN			
	comp=E,53nm,4.4s						
KSH				LE			
	comp=E,95nm,4.6s						
KSH				LZ			
	comp=E,100nm,5.4s						
KURK	**Kurchatov**	**100.35**	**320**	P	**Pdif**	23 55 06.9	-0.6
KURK	**Kurchatov**	**100.35**	**320**	P	**Pdif**	23 55 06.8	-0.6
KURBB	**Kurchatov Arra**	**100.39**	**320**	P	**Pdif**	23 55 06.8	-0.8
	comp=E,0.6nm,0.6s,baz=98,slow=4.2,SNR=9.0						
ULM	**Lac du Bonnet**	**105.64**	**41**	PKiKP	**PKiKP**	23 59 42.5	-1.1
	comp=E,1.0nm,0.5s,baz=182,slow=3.2,SNR=3.6						
BVAR	**Borovoye Array**	**105.70**	**321**	Pdiff	**Pdif**	23 55 30.6	-0.6
	comp=E,0.6nm,0.6s,baz=102,slow=6.2,SNR=5.8						
RES	**Resolute Bay**	**106.24**	**16**	PKiKP	**PKiKP**	23 59 43.6	-0.5
	comp=E,1.4nm,0.7s,baz=254,slow=2.8,SNR=11						
KEV	**Kevo**	**119.73**	**345**	*e*p	**PKPdf**	00 00 06.4	-3.5
	comp=E,0.5nm,0.4s						
ARA0	**ARCESS Array S**	**120.26**	**345**	*e*PKPdf	**PKPdf**	00 00 11.1	+0.1
ARCES	**ARCESS Array B**	**120.26**	**345**	PKP	**PKPdf**	00 00 11.2	+0.2
	comp=E,7.3nm,0.7s,baz=63,slow=2.0,SNR=25						
SUMG	**Summit**	**120.29**	**9**	*e*PKIKP	**PKPdf**	00 00 11.6	+0.2
SUMG	**Summit**	**120.29**	**9**	*e*PKPdf	**PKPdf**	00 00 11.6	+0.2
KLMR	**Klimovskoe**	**120.66**	**333**	*e*PKIKP	**PKPdf**	00 00 10.9	-1.0
KLMR				pmax	pmax		
	comp=Z,20nm,1.3s						
SCHQ	**Schefferville**	**122.39**	**34**	PKP	**PKPdf**	00 00 14.8	-0.6
	comp=Z,4.6nm,0.9s,baz=322,slow=0.7,SNR=5.7						
SCHQ	**Schefferville**	**122.39**	**34**	*e*PKPdf	**PKPdf**	00 00 15.2	-0.2
JOF	**Joensuu**	**122.88**	**338**	*e*p	**PKPdf**	00 00 14.7	-1.4
	comp=Z,5.8nm,0.8s						
SDV	**Santo Domingo**	**123.26**	**89**	*e*PKPdf	**PKPdf**	00 00 18.7	+0.1
BOSA	**Boshof**	**123.27**	**220**	*e*PKIKP	**PKPdf**	00 00 18.5	+0.3
BOSA	**Boshof**	**123.27**	**220**	PKP	**PKPdf**	00 00 18.9	+0.7
	comp=Z,2.4nm,0.7s,baz=147,slow=2.1,SNR=6.0						
BOSA	**Boshof**	**123.27**	**220**	*e*PKPdf	**PKPdf**	00 00 18.5	+0.3
VRHR	**Novokhopersk**	**123.44**	**322**	*e*PKIKP	**PKPdf**	00 00 16.8	-0.7
VRHR				pmax	pmax		
	comp=N,20nm,0.8s						
VRHR				pmax	pmax		
	comp=E,9.0nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEI	**Tsey**	**124.19**	**312**	*i* PKIKP	**PKPdf**	00 00 19.8	+0.3
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**124.69**	**313**	PKP	**PKPdf**	00 00 19.8	-0.4
	comp=Z,1.6nm,0.8s,baz=128,slow=8.4,SNR=5.0						
KIV	**Kislovodsk**	**124.79**	**314**	*i* PKIKP	**PKPdf**	00 00 21.1	+0.6
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VSR	**Storozhevoye**	**124.84**	**323**	*e*PKIKP	**PKPdf**	00 00 19.8	-0.4
VSR				pmax	pmax		
	comp=N,2.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,4.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VORD	**Divnogorie**	**124.86**	**323**	*e*PKIKP	**PKPdf**	00 00 18.8	-1.4
VORD				pmax	pmax		
	comp=N,5.0nm,0.9s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KAF	**Kangasniemi**	**125.19**	**339**	*e*p	**PKPdf**	00 00 19.1	-1.4
	comp=Z,4.1nm,0.6s						
FINES	**FINESS Array B**	**125.71**	**338**	PKP	**PKPdf**	00 00 21.2	-0.4
	comp=Z,3.9nm,0.8s,baz=15,slow=1.3,SNR=17						
FINES				pPKP	**pPKPdf**	00 00 45.9	-1.2
	comp=Z,4.0nm,1.0s,baz=103,slow=1.9,SNR=2.7						
NB2	**NORSAR Subarra**	**130.63**	**345**	PKPdf	**PKPdf**	00 00 31.5	+0.4
	comp=Z,2.6nm,0.9s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**130.63**	**345**	PKP	**PKPdf**	00 00 31.5	+0.4
	comp=Z,2.9nm,0.7s,baz=34,slow=2.0,SNR=13						
NOA				SKPbc	**SKPab**	00 03 48.4	+1.7
	comp=Z,14nm,0.9s,baz=31,slow=3.0,SNR=22						
AKASG	**Malin Array Be**	**130.70**	**326**	PKP	**PKPdf**	00 00 31.9	+0.5
	comp=Z,0.8nm,0.5s,baz=58,slow=2.4,SNR=5.1						
AKASG				SKPbc	**SKPab**	00 03 49.1	+1.8
	comp=Z,5.2nm,0.7s,baz=48,slow=4.6,SNR=10						
NBO02	**NORSAR Array S**	**130.71**	**345**	*e*SKPbc	**SKPab**	00 03 49.4	+2.3
KIEV	**Kiev**	**130.71**	**326**	*e*SKPbc	**SKPab**	00 03 48.0	+0.7
AK11	**Malin Array Si**	**130.74**	**326**	*e*PKPdf	**PKPdf**	00 00 30.9	-0.5
AK11				*e*SKPbc	**SKPab**	00 03 48.9	+1.4
PTGA	**Pitinga**	**130.92**	**104**	SKPbc	**SKPab**	00 03 49.8	+0.3
	comp=Z,12nm,0.8s,baz=240,slow=4.7,SNR=19						
PTGA	**Pitinga**	**130.92**	**104**	*e*SKPbc	**SKPbc**	00 03 49.2	0.0
SUW	**Suwalki**	**131.77**	**332**	*e*SKPbc	**SKPbc**	00 03 51.3	+0.4
BRTR	**Keskin Array B**	**132.45**	**311**	PKhKP	PKPpre	00 00 30.7	
	comp=Z,0.3nm,0.9s,baz=316,slow=10,SNR=3.3						
BRTR				PKP	**PKiKP**	00 00 36.0	-0.3
	comp=Z,0.8nm,0.9s,baz=108,slow=2.7,SNR=5.5						
BRTR				pPKP	pPKPdf	00 00 59.8	-1.1
	comp=Z,0.9nm,0.9s,baz=122,slow=1.9,SNR=3.6						
BRTR				SKPbc	**SKPab**	00 03 56.0	+0.7
	comp=Z,1.8nm,0.8s,baz=116,slow=2.9,SNR=10						
ANTO	**Ankara**	**133.02**	**311**	*e*SKPbc	**SKPab**	00 03 58.3	+0.6
BR231	**Keskin MP Arra**	**133.04**	**311**	*e*PKPdf	**PKPdf**	00 00 35.2	-1.2
BR231				*e*SKPbc	**SKPbc**	00 03 56.9	+0.9
LEOM	**Leova**	**133.38**	**321**	⇑PKIKP	**PKPdf**	00 00 37.8	+1.2
BDFB	**Brasilia**	**133.95**	**130**	PKP	**PKPdf**	00 00 39.7	+1.0
	comp=Z,1.6nm,0.5s,baz=190,slow=6.1,SNR=3.1						
BDFB				SKPbc	**SKPbc**	00 03 59.4	-0.4
	comp=Z,5.0nm,0.8s,baz=242,slow=3.1,SNR=8.1						
BDFB	**Brasilia**	**133.95**	**130**	PKP	**PKPdf**	00 00 39.7	+1.0
BDFB				*e*SKPbc	**SKPbc**	00 03 58.8	-1.0
CSS	**Prodhromos**	**134.00**	**305**	*e*SKPbc	**SKPab**	00 04 01.2	-0.9
CFR	**Carcaliu**	**134.07**	**320**	⇑PKIKP	**PKPdf**	00 00 39.2	+1.3
BURAR	**Bucovina Array**	**134.57**	**324**	⇑PKIKP	**PKPdf**	00 00 39.8	+0.8
BUR04	**Bucovina Ar. S**	**134.57**	**324**	*e*PKPdf	**PKPdf**	00 00 40.7	+1.8
BUR04				*e*SKPbc	**SKPab**	00 04 04.0	-0.2
VRI	**Vrincioaia**	**134.60**	**321**	⇑PKIKP	**PKPdf**	00 00 38.1	-0.9
DRGR		**136.45**	**325**	⇑PKIKP	**PKPdf**	00 00 43.2	+0.7
OKC	**Ostrava-Krasne**	**136.88**	**331**	*e*PKIKP	**PKPdf**	00 00 45.3	+2.2
OKC	**Ostrava-Krasne**	**136.88**	**331**	*e*PKPdf	**PKPdf**	00 00 45.3	+2.2
OKC				*e*SKP		00 04 10.6	
KSP	**Ksiaz**	**137.02**	**333**	*e*PKP	**PKPdf**	00 00 46.3	+3.0
GZR	**Gura Zlata**	**137.21**	**323**	⇑PKIKP	**PKPdf**	00 00 43.0	-0.9
KRLC	**Kraliky**	**137.35**	**332**	*e*PKIKP	**PKPdf**	00 00 44.7	+0.7
KRLC				*e*		00 01 10.1	
KRLC	**Kraliky**	**137.35**	**332**	*e*PKPdf	**PKPdf**	00 00 44.7	+0.7
KRLC				*ex*	x	00 01 10.1	
KRLC				*e*SKP		00 04 13.7	
KRLC				*ex*	x	00 04 55.0	
DPC	**Dobruska-Polom**	**137.36**	**333**	*e*PKIKP	**PKPdf**	00 00 46.0	+2.0
DPC				*e*		00 01 11.9	
DPC	**Dobruska-Polom**	**137.36**	**333**	*e*PKPdf	**PKPdf**	00 00 46.0	+2.0
DPC				*ex*	x	00 01 11.9	
DPC				*e*SKP		00 04 12.5	
DPC				*ex*	x	00 04 55.0	
UPC	**Upice**	**137.38**	**333**	*e*PKIKP	**PKPdf**	00 00 46.2	+2.2
UPC	**Upice**	**137.38**	**333**	*e*PKPdf	**PKPdf**	00 00 46.2	+2.2
BZS	**Buzias**	**137.75**	**324**	⇑PKIKP	**PKPdf**	00 00 45.1	+0.3
PVCC	**Panska Ves**	**137.99**	**334**	*e*PKIKP	**PKPdf**	00 00 46.1	+1.0
PVCC				*e*		00 01 12.2	
PVCC	**Panska Ves**	**137.99**	**334**	*e*PKPdf	**PKPdf**	00 00 46.1	+1.0
PVCC				*ex*	x	00 01 12.2	
BRG	**Berggiesshubel**	**137.99**	**335**	*e*PKP	**PKPdf**	00 00 47.6	+2.5
	comp=Z,4.5nm,0.8s						
BRG	**Berggiesshubel**	**137.99**	**335**	*e*PKIKP	**PKPdf**	00 00 47.6	+2.5
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CLL	**Collm**	**138.04**	**336**	*i* PKIKP	**PKPdf**	00 00 47.2	+2.1
CLL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CLL	**Collm**	**138.04**	**336**	*i* PKiKP	**PKPdf**	00 00 47.2	+2.1
	comp=Z,5.0nm,0.8s						
CLL				*e*SKPbc	**SKPbc**	00 04 09.0	-2.1
CLL				*e*SKPab		00 05 00.0	
CLL				*e*(SS)		00 22 18.0	
CLL				*e*SSS	SSS	00 26 54.0	
PRU	**Pruhonice**	**138.41**	**333**	*e*PKIKP	**PKPdf**	00 00 48.0	+2.1
PRU	**Pruhonice**	**138.41**	**333**	*e*PKPdf	**PKPdf**	00 00 48.0	+2.1
PRU				*e*SKP	**SKPbc**	00 04 15.5	+3.3
VTS	**Vitosha**	**138.44**	**319**	⇑PKHKP	PKPpre	00 00 36.1	
TREC	**Trest**	**138.50**	**332**	*e*SKP	**SKPbc**	00 04 14.9	+2.4
CONA	**Conrad Observa**	**139.29**	**330**	⇓PKiKP	**PKPdf**	00 00 48.5	+0.8
	comp=Z,3.6nm,0.6s						
KHC	**Kasperske Hory**	**139.46**	**333**	*e*PKIKP	**PKPdf**	00 00 49.2	+1.3
KHC				*e*		00 01 17.7	
KHC	**Kasperske Hory**	**139.46**	**333**	*e*PKPpre	PKPpre	00 00 42.0	
KHC				*e*PKPdf	**PKPdf**	00 00 49.2	+1.3
KHC				*es*PKP		00 01 17.7	
KHC				*e*SKP		00 04 16.9	
KHC				*ex*	x	00 04 22.4	
KHC				*ex*	x	00 04 28.6	
KHC				*ex*	x	00 05 00.0	
GERES	**GERESS Array B**	**139.62**	**333**	PKhKP	PKPpre	00 00 41.9	
	comp=Z,1.1nm,0.7s,baz=51,slow=2.6,SNR=12						
GERES				PKP	**PKPdf**	00 00 48.3	+0.1
	comp=Z,1.5nm,0.7s,baz=19,slow=4.3,SNR=10						
GERES				pPKP	pPKPdf	00 01 10.6	-3.2
	comp=Z,1.0nm,0.9s,baz=132,slow=1.5,SNR=2.2						
GERES				SKPbc	**SKPbc**	00 04 16.0	+0.3
	comp=Z,0.7nm,0.7s,baz=338,slow=2.1,SNR=5.0						
SOKA	**Soboth**	**140.57**	**330**	⇑PKPdf	**PKPdf**	00 00 49.4	-0.6
	comp=Z,3.4nm,0.7s						
MEM	**Membach**	**141.12**	**341**	E	**PKiKP**	00 00 54.6	+1.1
WTTA	**Wattenberg**	**141.73**	**333**	⇓PKPdf	**PKPdf**	00 00 49.2	-3.1
	comp=Z,6.0nm,0.7s						
DOU	**Dourbes**	**142.01**	**342**	PKP	**PKPdf**	00 00 50.9	-1.5
FUORN	**Ofenpass-Fuorn**	**142.82**	**333**	*e*PKPdf	**PKPdf**	00 00 51.8	-2.5
MOF	**Molkenrain**	**143.09**	**337**	PKP	**PKPdf**	00 00 55.1	+0.6
LOMF	**Lomont**	**143.62**	**337**	PKP	PKPbc	00 00 54.0	+0.9
SENIN	**Lac Senin/Sane**	**144.26**	**336**	*e*PKPdf	PKPbc	00 00 55.9	+0.7
TIP	**Timpagrande**	**144.40**	**319**	*e*PKPdf	**PKPdf**	00 00 56.4	-0.6
AQU	**L'Aquila**	**144.40**	**326**	*e*PKIKP	**PKPdf**	00 00 56.3	-0.6
AQU	**L'Aquila**	**144.40**	**326**	*e*PKPdf	**PKPdf**	00 00 56.3	-0.6
CUC	**Castrocucco**	**144.51**	**321**	*e*PKPdf	**PKPab**	00 00 55.0	-0.8
VLC	**Villacollemand**	**144.65**	**331**	*e*PKPdf	**PKPab**	00 00 54.7	-1.4
CEL	**Celeste**	**145.48**	**318**	*e*PKPdf	**PKPbc**	00 00 59.1	0.0
BNI	**Bardonecchia**	**145.58**	**335**	*e*PKP2	**PKPab**	00 00 59.7	0.0
BNI	**Bardonecchia**	**145.58**	**335**	*e*PKPdf	**PKPab**	00 00 59.6	0.0
GDM	**Grand'Maison**	**145.68**	**336**	PKP	**PKPab**	00 01 00.8	+0.7
GRN	**Grenoble**	**145.79**	**336**	PKP	**PKPab**	00 01 01.2	+0.8
PLDF	**La Plantade**	**145.95**	**339**	PKP	**PKPbc**	00 01 00.6	+0.3
SURF	**Saint Ours**	**145.99**	**334**	PKP	**PKPab**	00 01 01.7	+0.4
AGO	**Saint Agoulin**	**146.04**	**340**	PKP	**PKPbc**	00 01 00.6	+0.1
SAOF	**Saorge**	**146.07**	**333**	PKP	**PKPbc**	00 01 00.7	0.0
AUTN	**L'Aution**	**146.12**	**333**	PKP	**PKPbc**	00 01 01.4	+0.3
TOUF	**Mont Tournerai**	**146.19**	**334**	PKP	**PKPbc**	00 01 01.2	-0.1
MVIF	**Mont Vial**	**146.32**	**344**	PKP	**PKPbc**	00 01 01.2	-0.4
PYM	**Petit Puy Mans**	**146.35**	**340**	PKP	**PKPbc**	00 01 01.8	+0.3
REVF	**Revere**	**146.35**	**333**	PKP	**PKPbc**	00 01 01.8	+0.2
CALN	**Calern**	**146.55**	**334**	PKP	**PKPbc**	00 01 02.0	-0.3
LBL	**Lubilhac**	**146.72**	**339**	PKP	**PKPbc**	00 01 03.2	+0.6
VSL	**Villasalto**	**148.58**	**326**	*e*PKPbc	**PKPbc**	00 01 07.7	-0.1
LRDF	**Laroque-de-Fa**	**148.97**	**338**	PKP	**PKPbc**	00 01 09.5	+0.9
MSKU	**Masuku**	**149.14**	**240**	*e*PKPbc	**PKPbc**	00 01 09.9	-0.1
LABF	**Labassere**	**149.71**	**341**	PKP	**PKPbc**	00 01 11.4	+0.9
RESF	**Ens**	**149.84**	**340**	PKP	**PKPbc**	00 01 12.6	+1.7
VIEF	**Viey**	**149.87**	**341**	PKP	**PKPbc**	00 01 12.6	+1.6
ATE	**Arette**	**149.91**	**342**	PKP	**PKPbc**	00 01 11.7	+0.7
LARF	**Larrau**	**150.04**	**342**	PKP	**PKPbc**	00 01 12.6	+1.3
KEST	**Kesra**	**151.16**	**320**	PKPbc	**PKPbc**	00 01 15.1	+0.7
	comp=Z,8.4nm,0.7s,baz=85,slow=1.2,SNR=29						
KEST	**Kesra**	**151.16**	**320**	*e*PKPbc	**PKPbc**	00 01 14.9	+0.7
CMAH	**Djebel Manchou**	**151.70**	**324**	P	**PKPbc**	00 01 16.0	+0.6
CKFL	**Kef-Lekhel**	**152.26**	**325**	P	**PKPbc**	00 01 17.2	+0.4
CASM	**Ain Smara**	**152.49**	**325**	P	**PKPbc**	00 01 17.9	+0.7
PBRG	**Braganca**	**152.54**	**350**	*e*PKPbc	**PKPbc**	00 01 17.6	+0.5
PBRG	**Braganca**	**152.54**	**350**	*e*PKPab	**PKPab**	00 01 29.1	+1.4
PGAV	**Gavieira, Arco**	**152.61**	**353**	*e*PKPbc	**PKPbc**	00 01 18.7	+1.3
DFRA	**Djebel Bou Aff**	**152.62**	**326**	P	**PKPbc**	00 01 18.8	+1.2
PCAB	**Cabril**	**152.83**	**352**	*e*PKPbc	**PKPbc**	00 01 18.5	+0.7
PCAB	**Cabril**	**152.83**	**352**	PKPab	**PKPab**	00 01 29.9	+1.0
POLO	**Lamas de Olo**	**153.13**	**352**	*e*PKPbc	**PKPbc**	00 01 19.5	+1.0
POLO	**Lamas de Olo**	**153.13**	**352**	*e*PKPab	**PKPab**	00 01 31.4	+1.1
PVRL	**Vila Real**	**153.21**	**351**	*e*PKPbc	**PKPbc**	00 01 19.9	+1.3
PVRL	**Vila Real**	**153.21**	**351**	*e*PKPab	**PKPab**	00 01 31.7	+1.2
MVO	**Moncorvo**	**153.21**	**350**	*e*PKPbc	**PKPbc**	00 01 20.0	+1.3
PVIS	**Viseu**	**153.79**	**351**	*e*PKPab	**PKPab**	00 01 34.0	+1.0
ES19	**SONSECA Array**	**153.95**	**344**	*e*PKPbc	**PKPbc**	00 01 20.2	0.0
ESDC	**Sonseca Array**	**153.99**	**344**	PKPbc	**PKPbc**	00 01 20.5	+0.1
	comp=Z,1.8nm,0.7s,baz=5.7,slow=3.0,SNR=15						
ESDC				PKPab	**PKPab**	00 01 35.0	+1.0
	comp=Z,1.8nm,0.6s,baz=12,slow=4.1,SNR=8.7						
MTE	**Manteigas**	**154.04**	**351**	*e*PKPbc	**PKPbc**	00 01 21.3	+0.8
MTE	**Manteigas**	**154.04**	**351**	*e*PKPab	**PKPab**	00 01 35.3	+1.2
MTE	**Manteigas**	**154.04**	**351**	*e*PKPdf	**PKPdf**	00 01 10.6	-1.8
PCAS	**Casmilo, Conde**	**154.52**	**352**	*e*PKPab	**PKPab**	00 01 36.9	+0.8
PCBR	**Castelo Branco**	**154.58**	**350**	*e*PKPbc	**PKPbc**	00 01 22.2	+0.7
PTOM	**Tomar**	**154.94**	**352**	*e*PKPbc	**PKPbc**	00 01 24.0	+1.7
PTOM	**Tomar**	**154.94**	**352**	*e*PKPab	**PKPab**	00 01 38.9	+1.1
PMRV	**Marv??o**	**154.97**	**350**	*e*PKPbc	**PKPbc**	00 01 23.3	+0.9
PNCL	**Nicolau / Gran**	**156.43**	**351**	*e*PKPab	**PKPab**	00 01 46.0	+1.7
MESJ	**Messejana**	**156.65**	**351**	*e*PKPab	**PKPab**	00 01 46.4	+1.2
TOA0	**Torodi Ar. Sit**	**165.79**	**265**	*e*PKPdf	**PKPdf**	00 01 25.0	-1.2
TOA0				*e*PKPab	**PKPab**	00 02 25.8	-0.3
TORD	**Torodi Ar. Bea**	**165.79**	**265**	PKP	**PKPdf**	00 01 25.3	-0.9
	comp=Z,0.8nm,0.7s,baz=340,slow=1.6,SNR=6.9						
TORD				pPKP	**pPKPdf**	00 01 48.8	-3.0
	comp=Z,1.1nm,1.0s,baz=45,slow=1.1,SNR=3.0						
TORD				PKPab	**PKPab**	00 02 26.2	+0.2
	comp=Z,2.1nm,0.9s,baz=93,slow=3.6,SNR=7.2						
TORD				pPKPab	**pPKPab**	00 02 49.3	-1.4
	comp=Z,4.0nm,1.1s,baz=84,slow=3.1,SNR=3.7						
DBIC	**Dimbokro**	**168.76**	**225**	PKP	**PKPdf**	00 01 28.4	+0.1
	comp=Z,1.5nm,0.7s,baz=51,slow=2.7,SNR=2.9						

WEL 21 23:46:28.9±0.2, 39°.00S×177°.83E, h12km, ML2.5/2, 1C-1D, Error ellipse: s-maj=1.7km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRGZ	**Paritu Road**	**0.08**	**30**	PG	Pg	Pg	23 46 30.4	-1.1
PRGZ				SG	Sg	Sg	23 46 33.2	-0.3
KNZ	**Kokohu**	**0.13**	**258**	⇓PG	Pg	Pg	23 46 31.8	-0.2
MHGZ	**Mahia Peninsul**	**0.17**	**160**	PG	Pg	Pg	23 46 33.0	+0.2
RIGZ	**Rimuhau**	**0.29**	**349**	P*	Pg	Pg	23 46 34.5	-0.5
RIGZ				S*	Sb	Sb	23 46 40.2	-0.8
SNGZ	**Shannon Statio**	**0.44**	**299**	P*	Pg	Pg	23 46 37.8	+0.2
RAHZ	**Arahi**	**0.59**	**277**	P*	Pg	Pg	23 46 40.7	+0.3
RAHZ				S*	Sg	Sg	23 46 48.0	-0.2
CNGZ	**Carnagh Statio**	**0.59**	**30**	P*	Pg	Pg	23 46 40.5	+0.1
MWZ	**Matawai**	**0.70**	**340**	⇑P*	Pg	Pg	23 46 41.9	-0.6
MWZ				AML	AML	AML	23 46 54.1	
MWZ				AML	AML	AML	23 46 54.1	
ARHZ	**Aropaoanui**	**0.70**	**247**	P*	Pg	Pg	23 46 42.0	-0.5

*IDC **21** 23:49:14.0±0.8, 34°.70S×73°.68W, h0km, mb3.9/8, mb1 4.1/11, mb1mx4.0/28, mbtmp3.9/11, ML3.7/3, Error ellipse: s-maj=25.9km s-min=18.1km az=89.0*
*GUC **21** 23:49:16.3±0.6, 34°.65S×73°.63W, h16km±4km, ML4.1*
*ISCJB **21** 23:49:17.2±0.6, 34°.68S±0°.05×73°.71W±0°.05, h33km, mb3.9/8, Error ellipse: s-maj=6.8km s-min=6.2km az=165.7*

ISC 21 23:49:19.2±0.8, 34°.69S±0°.06×73°.67W±0°.08, h35km, n24, σ0 72/32, mb4.0/8, 3C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.82**	**113**	⇓*i*P		**Pn**	**23 49 46.9**	**-1.0**
TALC				*i* S		**Sn**	**23 50 09.7**	**0.0**
LNV	**Longovilo**	**2.01**	**69**	⇓*i*P		**Pn**	**23 49 48.9**	**-1.8**
LNV				*i* S1		**Sn**	**23 50 14.0**	**-0.6**
NICH	**Los Niches**	**2.03**	**99**	*e*P		**Pn**	**23 49 50.2**	**-0.8**
NICH				*e*S		**Sn**	**23 50 15.9**	**+0.8**
LNCH	**Linares**	**2.05**	**125**	⇑*i*P		**Pn**	**23 49 50.6**	**-0.6**
LNCH				*i* S		**Sn**	**23 50 16.1**	**+0.6**
CACH	**El Canelo**	**2.61**	**78**	⇓*i*P		**Pn**	**23 49 58.8**	**-0.1**
CACH				*i* S1		**Sn**	**23 50 31.1**	**+1.6**
CHCH	**Chadas Angostu**	**2.61**	**74**	⇓*i*P		**Pn**	**23 49 58.4**	**-0.6**
CHCH				*i* S1		**Sn**	**23 50 29.9**	**+0.4**
ANTU	**Antumapu**	**2.76**	**67**	*i* S		**Sn**	**23 50 33.7**	**+0.6**
ANTU				AML		AML	23 50 34.9	
	comp=N,858nm,0.6s							
CLCH	**Cerro Calan**	**2.91**	**64**	⇑*i*P		**Pn**	**23 50 02.3**	**-0.8**
CLCH				*i* S		**Sn**	**23 50 37.5**	**+0.7**
CLCH				AML		AML	23 50 42.0	
	comp=N,515nm,0.6s							
CLCH				AML		AML	23 50 42.7	
	comp=N,620nm,0.7s							
PEL	**Peldehue**	**2.93**	**59**	⇑*i*P		**Pn**	**23 50 02.4**	**-0.9**
PEL				*i* S		**Sn**	**23 50 37.4**	**+0.1**
PEL				AML		AML	23 50 40.6	
	comp=N,591nm,0.3s							
CFAA	**Coronel Fontan**	**5.50**	**57**	Pn		**Pn**	**23 50 38.7**	**0.0**
	comp=N,0.9nm,0.3s,baz=226,slow=11,SNR=70							
CFAA				Sn		**Sn**	**23 51 41.5**	**+0.7**
	comp=N,0.4nm,0.3s,baz=114,slow=20,SNR=4.0							
PLCA	**Paso Flores**	**6.52**	**159**	Pn		**Pn**	**23 50 52.2**	**-0.4**
	comp=N,0.5nm,0.3s,baz=333,slow=10,SNR=5.1							
PLCA				Sn		Sn	23 52 14.2	+8.4
	comp=N,0.5nm,0.3s,baz=267,slow=19,SNR=3.5							
LPAZ	**La Paz**	**18.99**	**17**	P		**P**	**23 53 38.6**	**+0.2**
	comp=N,0.1nm,0.3s,baz=183,slow=6.6,SNR=13							
SIV	**San Ignacio**	**21.79**	**34**	P		**P**	**23 54 08.2**	**0.0**
	comp=N,5.0nm,0.9s,baz=235,slow=12,SNR=9.3							
SNAA	**Sanae**	**51.46**	**158**	P		**P**	**23 58 20.6**	**0.0**
	comp=N,1.0nm,0.8s,baz=252,slow=9.6,SNR=5.8							
QSPA	**South Pole Qui**	**55.54**	**180**	P		**P**	**23 58 51.1**	**+0.3**
	comp=N,1.7nm,0.8s,baz=150,slow=0.3,SNR=7.3							
TXAR	**Lajitas Array**	**69.70**	**332**	P		**P**	**00 00 25.9**	**+0.4**
	comp=N,1.1nm,0.6s,baz=156,slow=8.9,SNR=14							
DBIC	**Dimbokro**	**76.68**	**72**	P		**P**	**00 01 06.8**	**-0.1**
	comp=N,2.0nm,0.7s,baz=237,slow=5.6,SNR=4.5	

couple: $M_0$1.20800×10^{17} NP1:ϕ_0=345.00000°, δ80.00000°, λ-115.00000°. NP2:ϕ_0=235.00000°, δ27.00000°, λ-23.00000°. Principal axes: T 1.2890, Plg30.0000°, Azm96.0000°; N -0.1600, Plg25.0000°, Azm350.0000°; P -1.1280, Plg49.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

BJI ***22*** *01:00:40.3, 16˚.20S×69˚.50W, h167km, mB5.2/13*

NEIC ***22*** *01:00:41.2±0.4, 16˚.19S×69˚.52W, h189km±3km, mb4.9/171, Error ellipse: s-maj=4.9km s-min=3.6km az=53.0*

NEIC Felt [III] at Desaguadero, Ilo and Juli; [II] at Arequipa, Mollendo, Puerto Maldonado and Tacna. Also felt at Huancane, Ilave, Moquegua, Puno, Putina, Tambopata and Yunguyo. Felt [III] at Arica and Cuya, Chile. Also felt at Iquique. Felt [II] at La Paz, Bolivia. Also felt at Copacabana.

IDC ***22*** *01:00:43.9±0.4, 16˚.13S×69˚.43W, h214km±3km, mb4.5/19, mb1 4.6/23, mb1mx4.6/25, mbtmp5.0/23, Error ellipse: s-maj=8.9km s-min=7.4km az=60.0*

LDG ***22*** *01:00:43.2±1.0, 16˚.52S×69˚.13W, h216km, Mb4.7/32, Ms4.0/8, Error ellipse: s-maj=71.9km s-min=15.5km az=72.0.*

MOS ***22*** *01:00:43.3±0.9, 15˚.92S×69˚.52W, h212km, mb5.0/61, Error ellipse: s-maj=9.6km s-min=6.7km az=101.9*

ISC 22 01:00:43.6±0.4, 16˚.25S±0˚.04×69˚.55W±0.05, h209km±2km, h209km:pP-P, n870, σ1s11/945, mb4.9/209, 215C-189D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I08BO	**LAS PENAS INFR**	**1.05**	**88**	P	**Pn**	**01 01 15.5**	**+0.3**
	baz=263,slow=14						
LPAZ	**La Paz**	**1.36**	**92**	P	**Pn**	**01 01 17.6**	**0.0**
	807nm,0.3s,baz=304,slow=6.6,SNR=5357						
LPAZ				S	**S**	**01 01 43.4**	**-0.3**
	218nm,0.3s,baz=145,slow=21,SNR=10.0						
ARE	**Arequipa**	**1.88**	**263**	⇑iP	Pn	01 01 16.9	-5.0
ARE				eS	**S**	**01 01 50.0**	**-1.3**
ARE	**Arequipa**	**1.88**	**263**	⇑iP	Pn	01 01 16.9	-5.0
ARE				eS	**S**	**01 01 50.0**	**-1.3**
LVC	**Limon Verde**	**6.36**	**175**	ePn	Pn	01 02 12.3	-3.5
LVC				eS	S	01 03 20.7	-8.2
SIV	**San Ignacio**	**8.15**	**89**	P	**Pn**	**01 02 37.2**	**-1.6**
	7.9nm,0.3s,baz=275,slow=15,SNR=141						
SIV				S	**S**	**01 04 09.0**	**-1.9**
	7.4nm,0.3s,baz=176,slow=24,SNR=3.4						
NNA	**Nana**	**8.25**	**300**	Pn	Pn	01 02 35.9	-4.3
	4μm,0.4s,SNR=18						
NNA	**Nana**	**8.25**	**300**	eP	Pn	01 02 35.8	-4.3
NNA				eS	S	01 04 04.4	-8.9
NNA	**Nana**	**8.25**	**300**	P	Pn	01 02 36.1	-4.0
	47nm,0.3s,baz=137,slow=12,SNR=73						
NNA				S	S	01 04 05.1	-8.2
	67nm,0.3s,baz=32,slow=13,SNR=6.0						
NNA	**Nana**	**8.25**	**300**	ePn	Pn	01 02 35.8	-4.3
NNA				eS	S	01 04 04.4	-8.9
SAML	**Samuel**	**9.55**	**41**	ePn	**Pn**	**01 02 55.9**	**-1.1**
SAML				eS	**S**	**01 04 43.9**	**-0.3**
ATAH	**Atahualpa**	**12.53**	**315**	P	**Pn**	**01 03 33.9**	**-1.5**
	0.5nm,0.3s,baz=134,slow=9.4,SNR=33						
LCO	**Las Campanas**	**12.75**	**185**	ePn	Pn	01 03 34.6	-3.3
LCO				eS	S	01 05 50.3	-9.2
CFAA	**Coronel Fontan**	**15.34**	**176**	P	**Pn**	**01 04 09.4**	**-0.1**
	1.1nm,0.3s,baz=347,slow=12,SNR=63						
CFAA				S	S	01 06 47.6	-12
	1.2nm,0.3s,baz=125,slow=15,SNR=12						
PTGA	**Pitinga**	**18.08**	**32**	P	**P**	**01 04 40.0**	**+0.1**
	16nm,0.3s,baz=214,slow=10,SNR=102						
PTGA				S	**S**	**01 07 53.8**	**-2.4**
	0.6nm,0.3s,baz=127,slow=20,SNR=3.5						
PTGA	**Pitinga**	**18.08**	**32**	⇑iPn	**P**	**01 04 40.1**	**+0.3**
	174nm,1.1s						
PTGA				eS	**S**	**01 07 59.0**	**+2.8**
OTAV	**Otavalo**	**18.59**	**331**	ePn	**P**	**01 04 45.9**	**+0.1**
	275nm,2.3s						
OTAV				eS	**S**	**01 08 10.7**	**+3.6**
BDFB	**Brasilia**	**20.71**	**91**	eP	**P**	**01 05 07.1**	**-1.1**
BDFB	**Brasilia**	**20.71**	**91**	P	**P**	**01 05 07.4**	**-0.8**
	172nm,0.9s,baz=252,slow=12,SNR=87						
BDFB	**Brasilia**	**20.71**	**91**	eP	**P**	**01 05 07.1**	**-1.1**
ROSC	**El Rosal**	**21.50**	**347**	P	**P**	**01 05 14.2**	**-2.4**
	11nm,0.5s,baz=225,slow=16,SNR=7.5						
ROSC				S	**S**	**01 08 59.1**	**-2.4**
	1.8nm,0.4s,baz=276,slow=19,SNR=3.7						
ROSC	**El Rosal**	**21.50**	**347**	eP	**P**	**01 05 16.9**	**+0.3**
ROSC				S	**S**	**01 08 59.1**	**-2.4**
TRQA	**Tornquist**	**22.73**	**164**	eP	**P**	**01 05 26.4**	**-1.3**
	248nm,1.4s						
TRQA				eS	**S**	**01 09 23.1**	**+2.8**
PLCA	**Paso Flores**	**24.41**	**182**	eP	**P**	**01 05 41.7**	**-1.3**
PLCA						01 09 16.9	
PLCA				pmax	pmax		
	comp=Z,113nm,0.9s						
PLCA	**Paso Flores**	**24.41**	**182**	P	**P**	**01 05 42.2**	**-0.8**
	comp=Z,93nm,0.9s,baz=1.7,slow=9.9,SNR=24						
PLCA				PcP	**PcP**	**01 09 16.9**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=30,slow=4.6,SNR=3.4						
PLCA				ScP	**ScP**	**01 12 36.7**	**+1.5**
	comp=Z,8.0nm,0.9s,baz=333,slow=2.8,SNR=6.8						
PLCA	**Paso Flores**	**24.41**	**182**	eP	**P**	**01 05 41.7**	**-1.3**
	comp=Z,114nm,0.9s						
PLCA				PcP	**PcP**	**01 09 16.9**	**+0.6**
PLCA				ScP	**ScP**	**01 12 36.7**	**+1.5**
SDV	**Santo Domingo**	**24.99**	**357**	eP	**P**	**01 05 46.4**	**-2.2**
	comp=Z,19nm,0.8s						
GRGR	**Grenville**	**29.26**	**16**	eP	**P**	**01 06 25.6**	**-0.8**
	comp=Z,157nm,1.0s						
JTS	**JuntasAbangare**	**30.46**	**329**	P	**P**	**01 06 38.0**	**+1.0**
	comp=Z,180nm,0.7s,SNR=5.6						
JTS	**JuntasAbangare**	**30.46**	**329**	d iP	**P**	**01 06 38.5**	**+1.5**
JTS				pmax	pmax		
	comp=Z,54nm,0.9s						
JTS	**JuntasAbangare**	**30.46**	**329**	eP	**P**	**01 06 38.1**	**+1.0**
	comp=Z,29nm,0.9s						
FDF	**Fort de France**	**31.88**	**16**	eP	**P**	**01 06 48.0**	**-1.5**
FDF				pmax	pmax		
	comp=Z,61nm,0.9s						
FDF	**Fort de France**	**31.88**	**16**	eP	**P**	**01 06 48.0**	**-1.5**
	comp=Z,61nm,0.9s						
CRPR	**Cabo Rojo, PR**	**34.12**	**4**	eP	**P**	**01 07 07.2**	**-1.5**
	comp=Z,93nm,1.1s						
OBIP	**Obispado Ponce**	**34.20**	**5**	eP	**P**	**01 07 07.8**	**-1.6**
	comp=Z,55nm,0.9s						
CELP	**Cerrillos**	**34.23**	**5**	eP	**P**	**01 07 09.1**	**-0.6**
LSP	**Las Mesas**	**34.29**	**4**	eP	**P**	**01 07 08.8**	**-1.5**
SJG	**San Juan**	**34.30**	**6**	eP	**P**	**01 07 08.6**	**-1.8**
SJG				pmax	pmax		
	comp=Z,49nm,0.8s						
SJG	**San Juan**	**34.30**	**6**	eP	**P**	**01 07 08.6**	**-1.8**
	comp=Z,49nm,0.8s						
LRS	**Lares**	**34.42**	**5**	eP	**P**	**01 07 09.5**	**-1.9**
AOPR	**Arecibo Observ**	**34.48**	**5**	eP	**P**	**01 07 10.9**	**-1.1**
	comp=Z,48nm,0.7s						
CBYP	**Canovanas**	**34.49**	**6**	eP	**P**	**01 07 10.0**	**-2.1**
	comp=Z,101nm,0.8s						
RCBR	**Riachuelo**	**34.55**	**76**	eP	**P**	**01 07 12.6**	**0.0**
	comp=Z,106nm,0.9s						
SMRT	**St. Maarten**	**34.67**	**11**	eP	**P**	**01 07 11.1**	**-2.4**
	comp=Z,149nm,1.3s						
EFI	**East Falkland**	**36.51**	**168**	⇑eP	**P**	**01 07 27.1**	**-1.7**
EFI				pmax	pmax		
	comp=Z,299nm,1.4s						
EFI	**East Falkland**	**36.51**	**168**	eP	**P**	**01 07 26.8**	**-2.0**
USHA	**Ushuaia**	**38.52**	**179**	P	**P**	**01 07 45.1**	**-0.4**
	comp=Z,50nm,0.8s,baz=355,slow=5.8,SNR=23						
TEIG	**Tepich**	**40.65**	**332**	eP	**P**	**01 08 02.5**	**-1.1**
	comp=Z,13nm,0.6s						
PMSA	**Palmer Station**	**48.63**	**177**	P	**P**	**01 09 06.2**	**+0.3**
	comp=Z,28nm,1.0s,baz=336,slow=7.3,SNR=4.0						
TIGA	**Tifton**	**49.29**	**344**	⇑P	**P**	**01 09 09.4**	**-2.0**
	baz=50						
035Z	**Hargill**	**50.70**	**326**	⇑P	**P**	**01 09 21.3**	**-0.8**
	baz=51						
035A	**Encino**	**51.10**	**327**	⇑P	**P**	**01 09 25.6**	**+0.5**
	baz=51						
034A	**Hebbronville**	**51.51**	**326**	⇑P	**P**	**01 09 28.1**	**0.0**
	baz=52,SNR=6.8						
934A	**Benavides**	**51.86**	**327**	⇑P	**P**	**01 09 30.1**	**-0.6**
	baz=52						
835A	**Beeville**	**52.05**	**328**	⇓P	**P**	**01 09 32.2**	**+0.1**
	baz=52						
933A	**Laredo**	**52.27**	**326**	⇓P	**P**	**01 09 33.5**	**-0.1**
	baz=52,SNR=9.2						
834A	**Tilden**	**52.29**	**327**	⇓P	**P**	**01 09 34.0**	**+0.1**
	baz=52,SNR=10						
KMSC	**Kings Mountain**	**52.32**	**348**	⇑P	**P**	**01 09 31.8**	**-2.1**
	baz=52						
HKT	**Hockley**	**52.46**	**331**	eP	**P**	**01 09 34.2**	**-0.8**
HKT	**Hockley**	**52.46**	**331**	eP	**P**	**01 09 34.2**	**-0.8**
735A	**Kenedy**	**52.51**	**328**	⇑P	**P**	**01 09 34.6**	**-0.8**
	baz=53						
636A	**Smothers Creek**	**52.65**	**330**	⇓P	**P**	**01 09 36.8**	**+0.3**
	baz=53,SNR=9.6						
734A	**La Parita Cree**	**52.88**	**328**	⇑P	**P**	**01 09 37.5**	**-0.7**
	baz=53						
833A	**Chaparral WMA,**	**52.90**	**327**	⇑P	**P**	**01 09 38.0**	**-0.3**
	baz=53,SNR=20						
635A	**Leesville**	**52.92**	**329**	⇓P	**P**	**01 09 38.0**	**-0.5**
	baz=53						
536A	**Bastrop**	**53.15**	**330**	⇓P	**P**	**01 09 39.6**	**-0.5**
	baz=53,SNR=6.1						
832A	**Faith Ranch, C**	**53.17**	**326**	⇓P	**P**	**01 09 39.8**	**-0.6**
	baz=53,SNR=16						
634A	**China Grove, S**	**53.21**	**328**	⇑P	**P**	**01 09 40.2**	**-0.4**
	baz=53						
437A	**Phantom Ranch,**	**53.34**	**331**	⇓P	**P**	**01 09 41.2**	**-0.3**
	baz=54						
535A	**Dale**	**53.35**	**329**	⇑P	**P**	**01 09 40.8**	**-0.7**
	baz=54						
338A	**Crockett**	**53.41**	**332**	⇓P	**P**	**01 09 41.9**	**-0.1**
	baz=54						
732A	**Laxson Ranch,**	**53.52**	**326**	⇑P	**P**	**01 09 42.2**	**-0.7**
	baz=54,SNR=9.0						
436A	**Wall Ranch, Ga**	**53.59**	**331**	⇑P	**P**	**01 09 42.6**	**-0.7**
	baz=54						
239A	**Gary**	**53.61**	**334**	⇓P	**P**	**01 09 43.2**	**-0.2**
	baz=54						
633A	**Saathoff Ranch**	**53.69**	**328**	⇓P	**P**	**01 09 43.5**	**-0.6**
	baz=54,SNR=17						
534A	**Blanco**	**53.80**	**329**	⇓P	**P**	**01 09 43.8**	**-1.0**
	baz=54,SNR=8.3						
238A	**Jacksonville**	**53.88**	**333**	⇓P	**P**	**01 09 45.0**	**-0.3**
	baz=54						
435B	**Jarrell**	**53.98**	**330**	⇑P	**P**	**01 09 45.6**	**-0.6**
	baz=54,SNR=6.3						
632A	**Uvalde**	**54.05**	**327**	⇑P	**P**	**01 09 46.1**	**-0.6**
	baz=54,SNR=16						
533A	**Kerrville**	**54.11**	**328**	⇓P	**P**	**01 09 46.4**	**-0.8**
	baz=54,SNR=7.0						
336A	**Riesel**	**54.13**	**331**	⇓P	**P**	**01 09 46.5**	**-0.7**
	baz=54,SNR=5.6						
335A	**Moody**	**54.32**	**330**	⇑P	**P**	**01 09 47.7**	**-0.9**
	baz=54,SNR=17						
434A	**Burnet**	**54.34**	**329**	⇓P	**P**	**01 09 47.6**	**-1.2**
	baz=54,SNR=8.5						
631A	**Perdido Creek**	**54.39**	**326**	⇓P	**P**	**01 09 48.1**	**-1.0**
	baz=55,SNR=25						
138A	**Matatall Enter**	**54.43**	**333**	⇓P	**P**	**01 09 49.5**	**+0.2**
	baz=55						
532A	**Rocksprings**	**54.60**	**328**	⇑P	**P**	**01 09 50.0**	**-0.8**
	baz=55,SNR=13						
137A	**Heron Place, G**	**54.66**	**333**	⇑P	**P**	**01 09 50.5**	**-0.5**
	baz=55						
433A	**Art**	**54.70**	**329**	⇑P	**P**	**01 09 50.3**	**-1.0**
	baz=55,SNR=24						
334A	**Lometa**	**54.75**	**330**	⇑P	**P**	**01 09 50.7**	**-0.9**
	baz=55,SNR=14						
JCT	**Junction City**	**54.83**	**328**	eP	**P**	**01 09 51.3**	**-1.0**
JCT						01 10 51.8	
JCT				pmax	pmax		
	comp=Z,37nm,0.9s						
JCT	**Junction City**	**54.83**	**328**	⇑P	**P**	**01 09 51.3**	**-1.0**
	baz=55,SNR=14						
JCT	**Junction City**	**54.83**	**328**	eP	**P**	**01 09 51.3**	**-1.0**
	comp=Z,36nm,0.9s						
JCT				PcP	**PcP**	**01 10 51.8**	**-0.1**
WVT	**Waverly**	**54.89**	**342**	eP	P	01 09 49.2	-3.3
WVT				pmax	pmax		
	comp=Z,15nm,1.1s						
WVT	**Waverly**	**54.89**	**342**	eP	P	01 09 49.2	-3.3
	comp=Z,15nm,1.1s						
WHTX	**Lake Whitney,**	**54.92**	**331**	⇑P	**P**	**01 09 52.2**	**-0.6**
	baz=55,SNR=9.7						
WHTX	**Lake Whitney,**	**54.92**	**331**	eP	**P**	**01 09 52.8**	**-0.1**
	comp=Z,65nm,0.9s						
531A	**Rocksprings**	**54.97**	**327**	⇓P	**P**	**01 09 52.9**	**-0.5**
	baz=55,SNR=47						
333A	**Richland Sprin**	**55.11**	**329**	⇑P	**P**	**01 09 53.2**	**-1.0**
	baz=55,SNR=17						
432A	**Menard**	**55.15**	**328**	⇓P	**P**	**01 09 53.6**	**-0.9**
	baz=55,SNR=45						
UALR	**University of**	**55.17**	**337**	eP	**P**	**01 09 53.0**	**-1.6**
	comp=Z,13nm,0.8s						
234A	**Clairette**	**55.25**	**330**	⇓P	**P**	**01 09 54.6**	**-0.7**
	baz=56,SNR=31						
530A	**J-C Ranch, Com**	**55.37**	**326**	⇓P	**P**	**01 09 55.3**	**-0.9**
	baz=56,SNR=20						
135A	**Vickery Place,**	**55.37**	**331**	⇑P	**P**	**01 09 55.3**	**-0.8**
	baz=56						
431A	**Sonora**	**55.41**	**327**	⇓P	**P**	**01 09 55.5**	**-1.0**
	baz=56,SNR=37						
MIAR	**Mount Ida**	**55.44**	**336**	eP	**P**	**01 09 54.8**	**-1.7**
MIAR				pmax	pmax		
	comp=Z,17nm,1.0s						
MIAR	**Mount Ida**	**55.44**	**336**	eP	**P**	**01 09 54.8**	**-1.7**
	comp=Z,17nm,1.0s						
332A	**Millersview**	**55.53**	**329**	⇑P	**P**	**01 09 56.5**	**-0.8**
	baz=56,SNR=53						
233A	**Rising Star**	**55.63**	**330**	⇑P	**P**	**01 09 57.2**	**-0.8**
	baz=56,SNR=43						
134A	**White-Moore Ra**	**55.70**	**331**	⇑P	**P**	**01 09 57.8**	**-0.6**
	baz=56,SNR=17						
331A	**San Angelo**	**55.82**	**328**	⇓P	**P**	**01 09 58.4**	**-1.0**
	baz=56,SNR=30						
430A	**Baggett Ranch,**	**55.82**	**327**	⇑P	**P**	**01 09 58.3**	**-1.1**
	baz=56,SNR=22						
529A	**Stev Forest Ra**	**55.83**	**326**	⇑P	**P**	**01 09 58.6**	**-0.9**
	baz=56,SNR=49						
232A	**Coleman**	**55.89**	**329**	⇓P	**P**	**01 09 58.7**	**-1.1**
	baz=56,SNR=48						
Z35A	**Perchaven, San**	**55.95**	**332**	⇓P	**P**	**01 09 59.5**	**-0.7**
	baz=56,SNR=9.6						
PARMO	**Parma**	**55.98**	**340**	eP	**P**	**01 09 59.1**	**-1.1**
TXAR	**Lajitas Array**	**56.02**	**324**	P	**P**	**01 09 59.6**	**-1.4**
	comp=Z,5.1nm,0.8s,baz=146,slow=7.8,SNR=44						
TXAR				pP	**pP**	**01 10 48.8**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=155,slow=8.7,SNR=2.2						
429A	**Davenport Ranc**	**56.04**	**326**	⇑P	**P**	**01 10 00.0**	**-1.0**
	baz=56,SNR=22						
133A	**Hamilton Ranch**	**56.12**	**330**	⇑P	**P**	**01 10 00.5**	**-1.0**
	baz=56,SNR=31						
231A	**Bronte**	**56.26**	**328**	⇑P	**P**	**01 10 01.1**	**-1.4**
	baz=56,SNR=9.5						
330A	**Mertzon**	**56.28**	**327**	⇓P	**P**	**01 10 01.3**	**-1.3**
	baz=56,SNR=11						
Z34A	**Collier Ranch,**	**56.28**	**331**	⇑P	**P**	**01 10 01.8**	**-0.8**
	baz=56,SNR=12						
PBMO	**Poplar Bluff**	**56.30**	**340**	eP	**P**	**01 10 00.5**	**-2.0**
	comp=Z,77nm,1.1s						
WCI	**Wyandotte Cave**	**56.42**	**344**	eP	P	01 10 00.0	-3.5
WCI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WCI	**Wyandotte Cave**	**56.42**	**344**	eP	P	01 09 60.0	-3.5
	comp=Z,9.1nm,0.5s						
ABTX	**Abilene, Hawle**	**56.49**	**329**	⇑P	**P**	**01 10 03.1**	**-1.0**
	baz=57,SNR=31						
ABTX	**Abilene, Hawle**	**56.49**	**329**	eP	**P**	**01 10 02.8**	**-1.2**
	comp=Z,79nm,1.0s						
ABTX				e		01 10 54.8	
Z33A	**Whitaker Ranch**	**56.61**	**331**	⇓P	**P**	**01 10 04.1**	**-0.8**
	baz=57,SNR=36						
230A	**Sterling City**	**56.63**	**328**	⇑P	**P**	**01 10 04.0**	**-1.0**
	baz=57,SNR=12						
Y34A	**Reagan Ranch,**	**56.70**	**332**	⇑P	**P**	**01 10 04.5**	**-1.0**
	baz=57,SNR=24						
329A	**Wagon Wheel Ra**	**56.76**	**327**	⇓P	**P**	**01 10 04.8**	**-1.3**
	baz=57,SNR=26						
SIUC	**Southern Illin**	**56.77**	**341**	eP	**P**	**01 10 03.1**	**-2.8**
	comp=Z,67nm,1.0s						
131A	**Roby**	**56.89**	**329**	⇑P	**P**	**01 10 06.0**	**-0.9**
	baz=57,SNR=30						
Z32A	**Haskell**	**56.97**	**330**	⇑P	**P**	**01 10 06.5**	**-0.9**
	baz=57,SNR=14						
229A	**Bryant Ranch,**	**57.05**	**327**	⇓P	**P**	**01 10 07.1**	**-1.0**
	baz=57,SNR=16						
130A	**Snyder**	**57.12**	**328**	⇓P	**P**	**01 10 07.4**	**-1.1**
	baz=57,SNR=22						
Y33A	**Hilltop Ranch,**	**57.14**	**331**	⇑P	**P**	**01 10 07.7**	**-0.9**
	baz=57,SNR=25						
X34A	**Smith Ranch, M**	**57.28**	**332**	⇑P	**P**	**01 10 08.7**	**-0.9**
	baz=58,SNR=14						
Z31A	**Sharp Cattle R**	**57.30**	**330**	⇓P	**P**	**01 10 08.7**	**-1.1**
	baz=58,SNR=44						
BLO	**Bloomington**	**57.37**	**344**	eP	**P**	**01 10 07.7**	**-2.3**
BLO				pmax	pmax		
	comp=Z,19nm,1.0s						
BLO	**Bloomington**	**57.37**	**344**	eP	**P**	**01 10 07.7**	**-2.3**
	comp=Z,19nm,1.0s						
TUL1	**Leonard**	**57.52**	**335**	⇑P	**P**	**01 10 10.1**	**-1.0**
	baz=58						
TUL1	**Leonard**	**57.52**	**335**	eP	**P**	**01 10 10.3**	**-0.9**
	comp=Z,22nm,1.1s						
Y32A	**R-V Farms, Ver**	**57.52**	**331**	⇓P	**P**	**01 10 10.3**	**-0.9**
	baz=58,SNR=33						
X33A	**Lawton**	**57.53**	**332**	⇓P	**P**	**01 10 09.9**	**-1.4**
	baz=58,SNR=7.3						
228A	**UT Block 9, Go**	**57.58**	**327**	⇓P	**P**	**01 10 10.4**	**-1.4**
	baz=58,SNR=10.0						
129A	**Stewart Farms,**	**57.61**	**328**	⇑P	**P**	**01 10 10.7**	**-1.2**
	baz=58,SNR=15						
Z30A	**Sanderson Ranc**	**57.75**	**329**	⇑P	**P**	**01 10 11.6**	**-1.3**
	baz=58,SNR=52						
W34A	**Bridge Creek,**	**57.78**	**333**	eP	**P**	**01 10 12.4**	**-0.6**
	comp=Z,22nm,0.9s						
X32A	**Elmer**	**57.79**	**331**	⇑P	**P**	**01 10 12.1**	**-1.0**
	baz=58,SNR=16						
V35A	**Meyer Ranch, C**	**57.83**	**334**	⇑P	**P**	**01 10 12.0**	**-1.3**
	baz=58,SNR=6.6						
Y31A	**Rekieta Farm,**	**57.88**	**330**	⇓P	**P**	**01 10 12.7**	**-1.0**
	baz=58,SNR=47						
128A	**Castleberry Fa**	**57.92**	**327**	⇓P	**P**	**01 10 12.8**	**-1.4**
	baz=58,SNR=13						
W33A	**Caddo, Fort Co**	**58.02**	**332**	⇓P	**P**	**01 10 14.0**	**-0.7**
	baz=58,SNR=31						
Z29A	**Hungry Hill Ra**	**58.02**	**328**	⇓P	**P**	**01 10 13.3**	**-1.6**
	baz=58,SNR=15						
Y30A	**Stafford Cattl**	**58.12**	**329**	⇓P	**P**	**01 10 14.0**	**-1.5**
	baz=58,SNR=6.7						
V34A	**Guthrie**	**58.18**	**333**	⇑P	**P**	**01 10 14.1**	**-1.6**
	baz=58,SNR=21						
V34A	**Guthrie**	**58.18**	**333**	eP	**P**	**01 10 14.5**	**-1.3**
	comp=Z,56nm,1.0s						
X31A	**McDonald Ranch**	**58.29**	**331**	⇓P	**P**	**01 10 15.3**	**-1.3**
	baz=58,SNR=39						
W32A	**Sentinel**	**58.35**	**332**	⇑P	**P**	**01 10 16.0**	**-1.0**
	baz=59,SNR=72						
Z28A	**Tucker Farm, M**	**58.39**	**328**	⇑P	**P**	**01 10 15.7**	**-1.7**
	baz=59,SNR=21						
ALLY	**Alegheny Colle**	**58.43**	**351**	eP	**P**	**01 10 15.5**	**-1.9**
	comp=Z,30nm,0.8s						
BINY	**Binghamton**	**58.45**	**354**	eP	**P**	**01 10 15.7**	**-1.8**
	comp=Z,21nm,1.1s						
Y29A	**Porterfield Fa**	**58.48**	**329**	⇓P	**P**	**01 10 16.4**	**-1.6**
	baz=59,SNR=25						
HRV	**Adam Dziewonsk**	**58.49**	**358**	eP	**P**	**01 10 16.1**	**-1.6**
HRV				pmax	pmax		
	comp=Z,14nm,0.9s						
HRV	**Adam Dziewonsk**	**58.49**	**358**	eP	**P**	**01 10 16.1**	**-1.6**
	comp=Z,14nm,0.9s						
V33A	**Lossen Ranch,**	**58.50**	**333**	⇓P	**P**	**01 10 16.7**	**-1.3**
	baz=59,SNR=17						
X30A	**Coker Ranch, T**	**58.56**	**330**	⇑P	**P**	**01 10 17.0**	**-1.5**
	baz=59,SNR=12						
GDL2	**Guadalupe Moun**	**58.59**	**325**	eP	**P**	**01 10 18.8**	**0.0**
SFIN	**Lafayette**	**58.65**	**344**	eP	P	01 10 15.7	-3.3
	comp=Z,3.3nm,0.4s						
U34A	**Anderson Ranch**	**58.70**	**334**	⇑P	**P**	**01 10 18.2**	**-1.1**
	baz=59,SNR=8.0						
U34A	**Anderson Ranch**	**58.70**	**334**	eP	**P**	**01 10 18.6**	**-0.7**
	comp=Z,43nm,0.8s						
W31A	**Holland Ranch,**	**58.73**	**331**	⇑P	**P**	**01 10 18.0**	**-1.6**
	baz=59,SNR=5.7						
V32A	**Arapaho**	**58.75**	**332**	⇑P	**P**	**01 10 18.8**	**-1.0**
	baz=59,SNR=12						
MNTX	**Cornudas Mount**	**58.77**	**324**	eP	**P**	**01 10 18.3**	**-1.7**
	comp=Z,17nm,1.0s						
Y28A	**McKinney Farm,**	**58.81**	**328**	⇓P	**P**	**01 10 18.7**	**-1.6**
	baz=59,SNR=10						
ERPA	**Erie**	**58.87**	**351**	eP	**P**	**01 10 18.1**	**-2.2**
	comp=Z,33nm,0.9s						
U33A	**Lingo Farm, Me**	**58.94**	**333**	⇑P	**P**	**01 10 19.4**	**-1.6**
	baz=59						
X29A	**Tulia**	**58.97**	**329**	⇑P	**P**	**01 10 19.7**	**-1.7**
	baz=59,SNR=11						
S36A	**Lake Cedric, C**	**59.01**	**336**	⇑P	**P**	**01 10 19.8**	**-1.7**
	baz=59,SNR=11						
MSTX	**Muleshoe**	**59.13**	**328**	⇓P	**P**	**01 10 21.2**	**-1.2**
	baz=59,SNR=28						
MSTX	**Muleshoe**	**59.13**	**328**	eP	**P**	**01 10 21.3**	**-1.1**
	comp=Z,89nm,1.0s						
V31A	**Spring Creek L**	**59.16**	**331**	⇓P	**P**	**01 10 21.9**	**-0.7**
	baz=59,SNR=14						
X28A	**Dimmitt**	**59.27**	**329**	⇑P	**P**	**01 10 22.2**	**-1.3**
	baz=60						
U32A	**Winter Ranch,**	**59.28**	**333**	⇓P	**P**	**01 10 22.3**	**-1.1**
	baz=60,SNR=12						
AMTX	**Amarillo**	**59.31**	**329**	⇑P	**P**	**01 10 22.4**	**-1.2**
	baz=60						
**AMTX

baz=62,SNR=7.2
Q32A Meitler Ranch, 61.29 334 ⇑P P 01 10 35.7 -1.2
baz=62,SNR=9.1
P33A Williams Farm, 61.31 335 ⇓P P 01 10 35.5 -1.6
baz=62
T28A Walsh 61.32 331 ⇓P P 01 10 35.7 -1.6
baz=62
LPM Los Pinos Moun 61.43 325 eP P 01 10 37.8 -0.4
R30A Dighton 61.43 333 ⇑P P 01 10 36.8 -1.1
baz=62,SNR=13
W24A Lazy 6 Ranch, 61.45 327 ⇓P P 01 10 37.0 -1.3
baz=62,SNR=9.2
LENM Lemitar 61.51 325 eP P 01 10 39.1 +0.4
U26A Atchley Ranch, 61.52 329 ⇑P P 01 10 37.8 -0.9
baz=62,SNR=44
V25A Rancho No Teng 61.53 328 ⇑P P 01 10 38.0 -0.8
baz=62,SNR=40
T27A Campo 61.56 330 ⇑P P 01 10 37.7 -1.2
baz=62,SNR=8.4
S28A Manter 61.59 331 ⇑P P 01 10 37.9 -1.2
baz=62,SNR=18
Q31A Ellis 61.65 334 ⇑P P 01 10 38.6 -0.7
baz=62
LAZ Ladron 61.77 325 eP P 01 10 40.1 -0.4
comp=Z,20nm,1.4s
LAZ e 01 11 35.3
V24A Rampart Ranch, 61.78 327 ⇑P P 01 10 39.3 -1.3
baz=62,SNR=15
ANMO Albuquerque 61.81 326 eP P 01 10 40.2 -0.5
ANMO pmax pmax
comp=Z,32nm,1.7s
ANMO Albuquerque 61.81 326 eP P 01 10 40.1 -0.5
comp=Z,32nm,1.7s
P32A Huiting Farm, 61.84 335 ⇓P P 01 10 39.8 -0.8
baz=62
SCIA State Center 61.86 340 eP P 01 10 38.8 -1.9
comp=Z,17nm,0.9s
U25A Circle Dot Ran 61.86 328 ⇑P P 01 10 40.1 -0.9
baz=62,SNR=37
JFWS Jewell Farm 61.87 343 eP P 01 10 38.3 -2.4
JFWS pmax pmax
comp=Z,17nm,0.8s
JFWS Jewell Farm 61.87 343 eP P 01 10 38.3 -2.4
comp=Z,17nm,0.8s
R29A Marienthal 61.93 332 ⇑P P 01 10 40.2 -1.1
baz=62,SNR=9.6
Q30A Quinter 61.98 333 ⇓P P 01 10 40.9 -0.7
baz=62,SNR=5.2
T26A Comanche Natio 62.07 330 ⇓P P 01 10 41.4 -1.0
baz=62,SNR=29
P31A Stockton 62.08 334 ⇓P P 01 10 41.1 -1.1
baz=62,SNR=7.9
S27A Las Animas 62.14 330 ⇓P P 01 10 41.5 -1.2
baz=62,SNR=9.6
R28A Tribune 62.16 332 ⇑P P 01 10 41.7 -1.2
baz=62,SNR=7.2
Q29A Oakley 62.24 333 ⇓P P 01 10 42.4 -1.0
baz=62,SNR=15
V23A Ortiz Mt. (NFS 62.27 327 ⇑P P 01 10 43.4 -0.4
baz=62,SNR=17
U24A Moreno Valley 62.31 328 ⇓P P 01 10 43.7 -0.4
baz=62,SNR=8.8
S26A Kim 62.36 330 ⇓P P 01 10 43.7 -0.5
baz=63,SNR=52
TUC Tucson 62.37 321 eP P 01 10 43.4 -0.9
TUC pmax pmax
comp=Z,8.0nm,0.9s
TUC Tucson 62.37 321 eP P 01 10 43.4 -0.9
comp=Z,7.7nm,0.9s
T25A Trinidad 62.44 329 ⇑P P 01 10 44.5 -0.4
baz=63,SNR=18
P30A Selden 62.46 334 ⇑P P 01 10 43.9 -0.9
baz=63,SNR=6.4
R27A Eads 62.58 331 ⇓P P 01 10 44.7 -0.9
baz=63,SNR=9.8
O31A Woolen Ranch, 62.59 335 ⇓P P 01 10 44.6 -0.9
baz=63
U23A El Rito 62.72 327 ⇓P P 01 10 46.4 -0.4
baz=63,SNR=12
Q28A Sharon Springs 62.76 332 ⇓P P 01 10 45.8 -1.0
baz=63,SNR=5.4
V22A San Miguel Ran 62.78 326 ⇓P P 01 10 46.8 -0.4
baz=63,SNR=20
S25A Robets Cordova 62.86 329 ⇓P P 01 10 47.0 -0.6
baz=63,SNR=25
T24B San Luis 62.87 328 ⇑P P 01 10 47.6 -0.2
baz=63,SNR=17
R26A Arlington 62.89 330 ⇑P P 01 10 46.9 -0.8
baz=63,SNR=34
O30A MW Ranch, Wils 62.91 334 ⇓P P 01 10 46.8 -0.9
baz=63,SNR=6.9
KSCO Kaye Shedlock' 63.08 332 ⇓P P 01 10 48.4 -0.5
baz=63,SNR=5.3
KSCO Kaye Shedlock' 63.08 332 eP P 01 10 48.8 -0.2
comp=Z,76nm,1.1s
U22A Llaves 63.10 327 ⇓P P 01 10 49.4 +0.1
baz=63,SNR=12
P28A Saint Francis 63.14 332 ⇓P P 01 10 48.9 -0.4
baz=63
R25A Fountain Ranch 63.17 330 ⇑P P 01 10 48.8 -0.8
baz=63,SNR=6.8
T23A Casias Ranch, 63.18 328 ⇓P P 01 10 49.4 -0.5
baz=63,SNR=9.1
O29A 4D Ranch, Culb 63.18 334 ⇑P P 01 10 49.0 -0.5
baz=63,SNR=10
BGNE Belgrade 63.18 336 ⇓P P 01 10 49.0 -0.5
baz=63
BGNE Belgrade 63.18 336 eP P 01 10 48.1 -1.3
comp=Z,54nm,0.6s
S24A Houchin Ranch, 63.23 329 ⇓P P 01 10 50.2 0.0
baz=63,SNR=16
214A Organ Pipe Nat 63.38 319 ⇑P P 01 10 50.7 -0.2
baz=64,SNR=34
214A Organ Pipe Nat 63.38 319 eP P 01 10 51.0 +0.1
comp=Z,58nm,1.1s
Q26A Hugo 63.42 331 ⇓P P 01 10 50.9 -0.4
baz=64,SNR=20
X18A Snowflake 63.45 323 ⇑P P 01 10 51.4 -0.2
baz=64,SNR=15
M31A Lambtecht Ranc 63.45 336 ⇓P P 01 10 51.0 -0.2
baz=64
SDCO Great Sand Dun 63.45 329 eP P 01 10 51.4 -0.2
comp=Z,49nm,1.1s
P27A Ficken Ranch, 63.50 332 ⇓P P 01 10 51.1 -0.6
baz=64
O28A Krutsinger Ran 63.60 333 ⇑P P 01 10 51.9 -0.4
baz=64,SNR=8.7
R24A Sanders Place, 63.64 329 ⇑P P 01 10 52.4 -0.3
baz=64,SNR=15
S23A Nye Farm, Mont 63.68 328 ⇑P P 01 10 52.7 -0.3
baz=64
N29A Votaw Ranch, W 63.68 334 ⇓P P 01 10 52.4 -0.4
baz=64,SNR=6.1
W18A Petrified Fore 63.75 324 ⇓P P 01 10 53.0 -0.5
baz=64
W18A Petrified Fore 63.75 324 eP P 01 10 52.1 -1.4
comp=Z,32nm,1.2s
Q25A Bedland, Calha 63.76 330 ⇓P P 01 10 52.7 -0.8
baz=64,SNR=7.5
P26A Davis Ranch, A 63.85 331 ⇓P P 01 10 53.5 -0.5
baz=64,SNR=5.6
R23A Moffat 63.96 329 ⇑P P 01 10 54.8 -0.2
baz=64,SNR=13
N28A Pribbeno Ranch 63.96 333 ⇑P P 01 10 54.1 -0.5
baz=64,SNR=8.6
O27A Beecher Island 63.97 332 ⇑P P 01 10 54.5 -0.3
baz=64,SNR=11
L31A Butterfield Fa 64.11 336 ⇑P P 01 10 54.9 -0.6
baz=64,SNR=5.6
S22A 4UR Ranch, Cre 64.13 328 ⇓P P 01 10 55.5 -0.5
baz=64,SNR=19
P25A Willow Gulch B 64.20 331 ⇑P P 01 10 56.2 -0.1
baz=64,SNR=10
M29A Burnside Ranch 64.23 334 ⇓P P 01 10 56.1 -0.3
baz=64
Q24A Divide 64.23 330 ⇑P P 01 10 56.2 -0.5
baz=64,SNR=11
X16A Lo Mia Camp, P 64.24 322 ⇑P P 01 10 56.6 -0.1
baz=64,SNR=33
L30A Spencer Herefo 64.26 335 ⇑P P 01 10 56.0 -0.5
baz=64
O26A Horse Wrangler 64.39 332 ⇑P P 01 10 57.5 0.0
baz=65,SNR=8.3
OGNE Ogallala 64.39 333 ⇑P P 01 10 56.9 -0.5
baz=65,SNR=9.0
OGNE Ogallala 64.39 333 eP P 01 10 57.1 -0.3
comp=Z,72nm,1.0s
Z14A Wintersburg 64.41 320 ⇓P P 01 10 57.5 -0.1
baz=65,SNR=6.0
M28A Bar X Bar Ranc 64.48 334 ⇓P P 01 10 57.9 -0.1
baz=65,SNR=6.0
113A Mohawk Valley, 64.52 319 ⇑P P 01 10 58.2 -0.1
baz=65,SNR=12
P24A Kohler Place, 64.55 330 ⇑P P 01 10 58.3 -0.3
baz=65
MVCO Mesa Verde 64.60 326 ⇓P P 01 10 58.4 -0.6
baz=65,SNR=19
MVCO Mesa Verde 64.60 326 eP P 01 10 58.4 -0.6
comp=Z,39nm,1.3s
ECSD EROS Data Cent 64.63 339 ⇑P P 01 10 56.8 -2.0
baz=65,SNR=11
ECSD EROS Data Cent 64.63 339 eP P 01 10 57.0 -1.8
comp=Z,11nm,1.0s
O25A Wiggins 64.65 331 ⇓P P 01 10 59.5 +0.3
baz=65,SNR=5.2
L29A Maesberg Ranch 64.66 335 ⇓P P 01 10 59.1 0.0
baz=65
SPMN Marine on St. 64.72 342 ⇓P P 01 10 57.2 -2.1
baz=65,SNR=6.4
SPMN Marine on St. 64.72 342 eP P 01 10 56.9 -2.4
comp=Z,13nm,0.9s
N26A Koester Ranch, 64.82 332 ⇑P P 01 10 59.8 -0.4
baz=65
K30A Basset 64.83 336 ⇑P P 01 10 59.8 -0.3
baz=65,SNR=10
Y14A Wickenburg 64.84 321 ⇑P P 01 10 59.8 -0.7
baz=65,SNR=6.7
P23A Jefferson 64.89 330 ⇓P P 01 11 00.9 -0.1
baz=65,SNR=8.3
WUAZ Wupatki 64.97 323 ⇑P P 01 11 01.1 -0.3
baz=65,SNR=18
WUAZ Wupatki 64.97 323 eP P 01 11 01.4 0.0
comp=Z,34nm,1.1s
M27A Reverse DX Ran 65.02 333 ⇓P P 01 11 01.5 +0.1
baz=65
L28A Connealy Angus 65.05 334 ⇑P P 01 11 01.7 +0.1
baz=65
O24A Longmont 65.10 331 ⇓P P 01 11 02.2 0.0
baz=65,SNR=7.5
ISCO Idaho Springs 65.11 330 eP P 01 11 01.7 -0.6
ISCO pmax pmax
comp=Z,25nm,1.0s
ISCO Idaho Springs 65.11 330 ⇓P P 01 11 01.9 -0.4
baz=65,SNR=27
ISCO Idaho Springs 65.11 330 eP P 01 11 01.7 -0.6
comp=Z,24nm,1.0s
K29A Lazy Trails An 65.18 335 ⇑P P 01 11 02.0 -0.5
baz=65,SNR=9.4
N25A Grover 65.19 332 ⇑P P 01 11 02.8 +0.1
baz=65
VNA3 Neumayer Olymp 65.23 162 P P 01 11 02.3 0.0
SMCO Snowmass 65.29 329 eP P 01 11 03.6 -0.1
comp=Z,18nm,0.8s
M26A McRoberts Ranc 65.30 333 ⇓P P 01 11 03.5 +0.2
baz=66
PV01 Paradox Valley 65.32 327 eP P 01 11 03.3 -0.4
comp=Z,3μm,1.1s
J30A Dallas 65.33 336 ⇓P P 01 11 02.6 -0.8
baz=66,SNR=7.0
GLA Glamis 65.37 319 eP P 01 11 04.0 +0.1
GLA pmax pmax
comp=Z,15nm,1.2s
GLA Glamis 65.37 319 ⇓P P 01 11 03.5 -0.3
baz=66,SNR=6.4
GLA Glamis 65.37 319 eP P 01 11 04.0 +0.1
comp=Z,15nm,1.2s
VNA1 Neumayer--Stat 65.42 161 P P 01 11 04.0 +0.5
P22A Eagle 65.51 329 ⇓P P 01 11 04.9 +0.1
baz=66,SNR=21
K28A Ten Mile Ranch 65.57 335 ⇓P P 01 11 05.2 +0.2
baz=66,SNR=6.3
N24A Carr 65.57 331 ⇓P P 01 11 05.1 -0.1
baz=66
O23A Lake Granby, G 65.58 330 ⇓P P 01 11 05.4 +0.1
baz=66,SNR=19
Y12C Blythe 65.64 320 ⇓P P 01 11 05.2 -0.4
baz=66
M25A Palm-Egli Farm 65.68 332 ⇓P P 01 11 05.9 +0.1
baz=66
PV04 Paradox Valley 65.69 327 eP P 01 11 06.0 0.0
J29A Okreek 65.73 336 ⇓P P 01 11 05.5 -0.4
baz=66,SNR=20
L26A Underwood Farm 65.73 333 ⇑P P 01 11 05.7 -0.3
baz=66
PDMCI Parker Dam,Lak 65.78 320 ⇓P P 01 11 06.2 -0.2
baz=66,SNR=6.9
VNA2 Neumayer--Watz 65.79 161 P P 01 11 06.3 +0.4
I30A Oacoma 65.81 337 ⇑P P 01 11 06.0 -0.4
baz=66
O22A Kremmling 65.84 330 ⇓P P 01 11 07.0 -0.1
baz=66,SNR=39
SWSC Sam W. Stewart 65.92 318 ⇑P P 01 11 07.5 +0.3
baz=66
K27A Flueckinger Fa 65.92 334 ⇓P P 01 11 07.4 +0.2
baz=66,SNR=7.8
M24A Cheyenne 66.05 332 ⇑P P 01 11 08.7 +0.5
baz=66,SNR=13
J28A Allard Ranch, 66.11 335 ⇑P P 01 11 08.1 -0.2
baz=66,SNR=19
N23A Red Feather La 66.12 331 ⇑P P 01 11 08.8 0.0
baz=66,SNR=17
U15A North Rim 66.14 323 ⇑P P 01 11 09.2 +0.2
baz=66,SNR=23
W13A Hualapai Mount 66.16 321 ⇓P P 01 11 09.0 -0.1
baz=66
BC3 Big Chuckawall 66.16 319 ⇓P P 01 11 09.0 +0.1
baz=66,SNR=13
L25A Engebretsen Ra 66.22 333 ⇓P P 01 11 09.2 0.0
baz=66
I29A Vivian Onida 66.24 336 ⇑P P 01 11 08.0 -1.1
baz=66,SNR=5.8
J27A Elkhorn Farm, 66.28 335 ⇓P P 01 11 09.5 0.0
baz=66,SNR=23
MONP Monument Peak, 66.28 318 ⇑P P 01 11 09.8 -0.1
baz=66,SNR=6.4
N22A Wattenberg Ran 66.29 330 ⇑P P 01 11 09.5 -0.4
baz=66,SNR=15
IRM Iron Mountain 66.31 320 ⇑P P 01 11 09.7 -0.1
baz=66,SNR=29
BAR Barrett 66.31 318 eP P 01 11 10.4 +0.6
comp=Z,32nm,1.0s
K26A Motz Farm, Whi 66.32 334 ⇓P P 01 11 09.4 -0.3
baz=66,SNR=5.9
M23A Laramie 66.47 331 ⇓P P 01 11 10.7 -0.1
baz=67
K25A Mack Ranch, Ha 66.54 333 ⇑P P 01 11 11.4 +0.2
baz=67
I28A Midland 66.56 336 ⇓P P 01 11 10.3 -0.9
baz=67,SNR=5.3
L24A Wheatland 66.56 332 ⇓P P 01 11 11.8 +0.4
baz=67
O20A White River Ci 66.66 329 ⇓P P 01 11 11.9 -0.2
baz=67,SNR=15
O20A White River Ci 66.66 329 eP P 01 11 11.8 -0.2
comp=Z,40nm,1.1s
H29A Onida 66.71 337 ⇑P P 01 11 10.9 -1.2
baz=67,SNR=6.0
109C Camp Elliot, M 66.73 317 ⇓P P 01 11 12.4 0.0
baz=67
BELC Belle Mtn. Jos 66.73 319 ⇑P P 01 11 12.3 -0.3
baz=67,SNR=12
PFO Pinyon Flats O 66.77 318 P P 01 11 11.1 -1.7
comp=Z,86nm,0.9s,SNR=6.3
PFO Pinyon Flats O 66.77 318 eP P 01 11 13.0 +0.1
PFO pmax pmax
comp=Z,14nm,0.9s
PFO Pinyon Flats O 66.77 318 ⇓P P 01 11 12.7 -0.1
baz=67,SNR=9.3
PFO Pinyon Flats O 66.77 318 eP P 01 11 13.0 +0.1
comp=Z,14nm,0.9s
J26A Sides Ranch, S 66.77 334 ⇓P P 01 11 12.7 +0.1
baz=67,SNR=27
M22A Cedar Creek Ra 66.83 330 ⇓P P 01 11 13.1 -0.1
baz=67,SNR=11
EYMN Ely 66.85 344 eP P 01 11 10.8 -2.1
comp=Z,14nm,1.0s
LDFC Landfair 66.89 320 eP P 01 11 13.8 +0.2
comp=Z,30nm,0.9s
L23A Garrett 66.97 332 ⇑P P 01 11 13.7 -0.3
baz=67,SNR=8.5
I27A Quinn 66.97 335 ⇑P P 01 11 13.9 +0.1
baz=67,SNR=8.7
GMRC Granite Mounta 67.03 320 ⇓P P 01 11 14.4 -0.1
baz=67,SNR=19
K24A Anderson Ranch 67.05 332 ⇑P P 01 11 14.7 +0.3
baz=67,SNR=6.4
SRU San Rafael Swe 67.08 326 eP P 01 11 14.3 -0.4
SRU San Rafael Swe 67.08 326 eP P 01 11 14.3 -0.4
J25A Sunshine Ranch 67.14 334 ⇑P P 01 11 15.2 +0.2
baz=67
N20A Spence Gulch, 67.20 329 ⇓P P 01 11 15.4 -0.2
baz=67,SNR=24
L22A Ellis Ranch, M 67.24 331 ⇓P P 01 11 16.0 +0.3
baz=67
MURC Murrieta 67.24 318 ⇓P P 01 11 15.6 -0.1
baz=67
I26A New Underwood 67.27 335 ⇓P P 01 11 15.4 -0.3
baz=68,SNR=6.3
G28A Parade 67.36 336 ⇓P P 01 11 15.9 -0.3
baz=68,SNR=6.7
SNAA Sanae 67.42 162 P P 01 11 16.3 0.0
SNAA Sanae 67.42 162 ⇑/P P 01 11 16.1 -0.2
SNAA pmax pmax
comp=Z,18nm,0.7s
SNAA Sanae 67.42 162 eP P 01 11 16.1 -0.2
comp=Z,18nm,0.7s
K23A Bowen Ranch, D 67.44 332 ⇑P P 01 11 16.9 0.0
baz=68,SNR=5.9
H27A Howes 67.45 335 ⇑P P 01 11 16.2 -0.6
baz=68,SNR=13
J24A Dixon Ranch, L 67.47 333 ⇓P P 01 11 17.3 +0.3
baz=68,SNR=8.2
HEC Hector,Ludlow 67.48 320 ⇑P P 01 11 17.4 +0.2
baz=68,SNR=11
CCUT Cedar City 67.53 323 eP P 01 11 18.2 +0.5
comp=Z,26nm,1.0s
MVU Marysvale 67.56 325 eP P 01 11 17.9 0.0
comp=Z,21nm,1.0s
TMUT Trail Mountain 67.58 326 eP P 01 11 17.4 -0.6
comp=Z,18nm,1.4s
F29A Eureka 67.59 338 ⇓P P 01 11 16.9 -0.8
baz=68
LIC Lamto 67.61 76 eP P 01 11 17.4 -1.0
comp=Z,76nm,0.9s,baz=253
LIC epP pP 01 12 07.4 +0.3
LIC Lamto 67.61 76 eP P 01 11 17.3 -1.1
comp=Z,112nm,0.8s
LIC Lamto 67.61 76 eP P 01 11 17.4 -1.0
comp=Z,76nm,0.9s
LIC epP pP 01 12 07.4 +0.3
I25A Rochford 67.62 334 ⇑P P 01 11 18.1 +0.1
baz=68,SNR=101
TUQ Turquoise Moun 67.62 320 ⇓P P 01 11 18.2 0.0
baz=68,SNR=6.6
ARUT Antelope Range 67.74 324 eP P 01 11 19.5 +0.6
ARUT Antelope Range 67.74 324 eP P 01 11 19.5 +0.6
comp=Z,611nm,1.0s
TIC Toumodi 67.76 76 eP P 01 11 18.3 -1.1
comp=Z,11nm,0.2s
K22A Casper 67.76 331 ⇑P P 01 11 18.8 -0.1
baz=68,SNR=8.7
K22A Casper 67.76 331 eP P 01 11 18.1 -0.8
comp=Z,30nm,1.1s
RSSD Black Hills 67.83 334 eP P 01 11 19.2 -0.2
RSSD pmax pmax
comp=Z,23nm,0.9s
RSSD Black Hills 67.83 334 eP P 01 11 19.1 -0.2
comp=Z,23nm,0.9s
SHPR Sheep Range 67.87 322 eP P 01 11 19.8 0.0
SHPR ePcP PcP 01 11 44.7 0.0
I24A Kuemmerle Ranc 67.87 333 ⇑P P 01 11 19.5 -0.1
baz=68,SNR=15
DBIC Dimbokro 67.92 76 eP P 01 11 19.3 -1.0
DBIC pmax pmax
comp=Z,68nm,0.9s
DBIC Dimbokro 67.92 76 P P 01 11 18.9 -1.4
comp=Z,53nm,0.9s,baz=230,slow=6.1,SNR=45
DBIC Dimbokro 67.92 76 eP P 01 11 19.3 -1.0
comp=Z,68nm,0.9s
KIC Kosan Boka 67.92 76 eP P 01 11 19.3 -1.0
comp=Z,256nm,1.1s
BFSC Mount Baldy Ra 67.94 318 ⇑P P 01 11 20.4 +0.2
baz=68,SNR=8.2
F28A McLaughlin 67.97 337 ⇓P P 01 11 19.6 -0.4
baz=68
G27A Dupree 68.01 336 ⇑P P 01 11 19.8 -0.4
baz=68
H25A Fruitdale 68.06 334 ⇓P P 01 11 20.3 -0.3
baz=68,SNR=8.0
GSC Goldstone, Bar 68.08 320 eP P 01 11 20.7 -0.3
GSC pmax pmax
comp=Z,42nm,1.4s
GSC Goldstone, Bar 68.08 320 ⇑P P 01 11 21.1 +0.1
baz=68,SNR=16
GSC Goldstone, Bar 68.08 320 eP P 01 11 20.7 -0.3
comp=Z,42nm,1.4s
K21A Alcova 68.09 331 ⇑P P 01 11 21.0 0.0
baz=68,SNR=13
SHOC Shoshone, Teco 68.15 320 ⇑P P 01 11 21.7 +0.4
baz=68
MWC Mount Wilson 68.19 318 eP P 01 11 22.4 +0.6
MWC pmax pmax
comp=Z,61nm,1.3s
MWC Mount Wilson 68.19 318 eP P 01 11 22.4 +0.6
comp=Z,60nm,1.3s
G26A Maurine 68.20 336 ⇑P P 01 11 20.5 -0.9
baz=68,SNR=18
PASC Pasadena Art C 68.23 318 eP P 01 11 22.1 +0.3
comp=Z,58nm,1.3s
D30A Buchanan 68.31 339 ⇓P P 01 11 21.0 -1.0
baz=68,SNR=5.4
MPU Maple Canyon 68.32 326 eP P 01 11 22.0 -0.5
comp=Z,28nm,1.1s
J22A Midwest 68.34 332 ⇑P P 01 11 21.8 -0.7
baz=68,SNR=26
DECC Green Verdugo 68.38 318 ⇑P P 01 11 22.3 -0.4
baz=69
AGMN Agassiz Nation 68.41 341 ⇓P P 01 11 20.9 -1.7
baz=69,SNR=10
AGMN Agassiz Nation 68.41 341 eP P 01 11 20.8 -1.8
comp=Z,18nm,0.9s
DAU Daniels Canyon 68.41 327 eP P 01 11 23.2 0.0
DAU Daniels Canyon 68.41 327 eP P 01 11 23.1 0.0
G25A Newell 68.45 335 ⇑P P 01 11 22.6 -0.4
baz=69,SNR=9.0
F27A Lemmon 68.45 336 ⇑P P 01 11 22.5 -0.5
baz=69,SNR=14
NLU North Lily Min 68.51 326 eP P 01 11 23.6 -0.1
comp=Z,16nm,1.1s
E28A Huff 68.54 337 ⇓P P 01 11 22.9 -0.6
baz=69
EDW2 Edwards Air Fo 68.56 319 ⇑P P 01 11 23.7 -0.2
baz=69,SNR=16
H24A Dirks Ranch, A 68.56 334 ⇑P P 01 11 22.9 -0.9
baz=69,SNR=25
F26A Lodgepole 68.69 336 ⇓P P 01 11 23.8 -0.7
baz=69,SNR=16
I22A 9 Mile Ranch, 68.72 332 ⇑P P 01 11 24.1 -0.7
baz=69,SNR=25
C30A Mose, Pekin 68.73 339 ⇓P P 01 11 23.8 -0.8
baz=69,SNR=5.1
J21A Lysite 68.73 331 ⇓P P 01 11 24.5 -0.4
baz=69,SNR=23
E27A Carson 68.74 337 ⇓P P 01 11 24.4 -0.4
baz=69
LRMC Laurel Mtn Rad 68.75 319 ⇑P P 01 11 25.3 +0.2
baz=69,SNR=5.2
H23A Clabaugh Cattl 68.77 333 ⇑P P 01 11 24.9 -0.2
baz=69
TPNV Topopah Spring 68.82 321 eP P 01 11 26.3 +0.7
TPNV pmax pmax
comp=Z,29nm,0.8s
TPNV Topopah Spring 68.82 321 ⇓P P 01 11 26.2 +0.5
baz=69,SNR=32
TPNV Topopah Spring 68.82 321 eP P 01 11 26.3 +0.7
comp=Z,29nm,0.8s
FURC Furnace Creek, 68.88 321 ⇓P P 01 11 26.2 +0.5
baz=69,SNR=15
G24A Alzada 68.97 334 ⇑P P 01 11 25.7 -0.5
baz=69,SNR=14
MPMC Manual Prospec 69.00 320 ⇑P P 01 11 26.3 -0.5
baz=69,SNR=16
TCUT Toone Canyon 69.00 327 eP P 01 11 27.0 +0.3
comp=Z,14nm,1.0s
I21A Big Trails, Te 69.02 332 ⇓P P 01 11 26.0 -0.7
baz=69,SNR=43
J20A Shoshoni 69.03 331 ⇑P P 01 11 26.6 -0.1
baz=69,SNR=8.6
F25A Bowman 69.06 335 ⇑P P 01 11 26.4 -0.4
baz=69,SNR=13
BSC Santa Cruz Isl 69.06 317 ⇑P P 01 11 27.1 +0.1
baz=69
DUG Dugway, Tooele 69.08 326 ⇑P P 01 11 27.1 0.0
baz=69,SNR=22

E26A **Carlson Angus** 69.12 336 ⇓P P 01 11 26.8 -0.3
baz=69
DAC **Darwin (Calif)** 69.20 320 eP P 01 11 28.0 0.0
DAC pmax pmax
comp=Z,26nm,1.0s
DAC **Darwin (Calif)** 69.20 320 eP P 01 11 28.0 0.0
comp=Z,26nm,1.0s
H22A **Clearmont** 69.21 333 ⇑P P 01 11 27.5 -0.3
baz=69,SNR=8.6
MDND **Maddock** 69.24 339 ⇑P P 01 11 26.8 -1.0
baz=70
ARVC **Arvin** 69.25 318 ⇑P P 01 11 28.6 +0.6
baz=69
G23A **Biddle** 69.28 334 ⇓P P 01 11 27.6 -0.5
baz=70,SNR=24
BW06 **Boulder Array** 69.29 330 eP P 01 11 27.3 -1.1
comp=Z,12nm,1.0s
PDAR **Pinedale Array** 69.29 330 P P 01 11 27.2 -1.2
comp=Z,5.3nm,0.8s,baz=140,slow=7.1,SNR=35
ISA **Isabella, Lake** 69.36 319 eP P 01 11 28.9 0.0
ISA e 01 12 21.6
ISA pmax pmax
comp=Z,27nm,1.0s
ISA **Isabella, Lake** 69.36 319 ⇑P P 01 11 29.0 +0.2
baz=70,SNR=24
ISA **Isabella, Lake** 69.36 319 eP P 01 11 28.9 0.0
comp=Z,27nm,1.0s
ISA e 01 12 21.6
R11A **Troy Canyon, C** 69.36 323 ⇓P P 01 11 29.2 +0.2
baz=70,SNR=22
R11A **Troy Canyon, C** 69.36 323 eP P 01 11 28.9 0.0
comp=Z,56nm,1.8s
F24A **Ekalaka** 69.40 335 ⇑P P 01 11 28.5 -0.4
baz=70,SNR=36
J19A **Crowheart** 69.42 330 ⇑P P 01 11 29.0 -0.2
baz=70,SNR=45
I20A **Worland** 69.51 331 ⇓P P 01 11 29.2 -0.5
baz=70,SNR=12
E25A **Miller Ranch,** 69.51 336 ⇑P P 01 11 29.3 -0.2
baz=70,SNR=6.9
GRAC **Grapevine Rang** 69.53 321 ⇑P P 01 11 30.2 +0.4
baz=70,SNR=9.6
H21A **Big Horn, Sher** 69.54 332 ⇑P P 01 11 29.1 -0.8
baz=70,SNR=8.9
G22A **Birney** 69.68 333 ⇓P P 01 11 29.7 -1.0
baz=70,SNR=9.5
B29A **Wagenman Farm,** 69.68 339 ⇑P P 01 11 30.3 -0.1
baz=70
SPUT **South Promonto** 69.68 327 eP P 01 11 30.6 -0.2
comp=Z,30nm,1.3s
F23A **Volborg** 69.70 334 ⇓P P 01 11 30.4 -0.3
baz=70,SNR=32
BGU **Big Grassy Mou** 69.72 326 eP P 01 11 30.2 -0.8
comp=Z,8.9nm,1.1s
PKM **Mcpherson Peak** 69.74 318 ⇑P P 01 11 31.5 +0.2
baz=70,SNR=26
VES **Vestal, Richgr** 69.86 319 ⇓P P 01 11 32.9 +1.1
baz=70,SNR=18
H20A **Greybull** 69.86 332 ⇑P P 01 11 31.0 -0.8
baz=70,SNR=20
E24A **Baker** 69.92 335 ⇑P P 01 11 32.2 +0.1
baz=70,SNR=5.7
I19A **Meeteetse** 69.98 331 ⇑P P 01 11 32.6 0.0
baz=70,SNR=14
D25A **Fairfield** 70.02 336 ⇓P P 01 11 32.8 +0.3
baz=70,SNR=6.4
A29A **Manning Farm,** 70.04 340 ⇓P P 01 11 31.6 -1.0
baz=70
G21A **Lodge Grass** 70.08 333 ⇑P P 01 11 32.6 -0.5
baz=70,SNR=12
TIN **Tinemaha, Big** 70.09 320 ⇓P P 01 11 33.6 +0.2
baz=70
F22A **Rosebud** 70.11 334 ⇑P P 01 11 32.6 -0.5
baz=70,SNR=12
SMMC **Simmler** 70.11 318 ⇑P P 01 11 34.0 +0.6
baz=70,SNR=8.8
C26A **Wahner Farm, P** 70.11 337 ⇓P P 01 11 32.7 -0.4
baz=70,SNR=6.1
TPH **Tonopah** 70.14 322 eP P 01 11 34.2 +0.5
TPH pmax pmax
comp=Z,24nm,1.0s
TPH **Tonopah** 70.14 322 eP P 01 11 34.2 +0.5
comp=Z,24nm,1.0s
ULM **Lac du Bonnet** 70.15 342 eP P 01 11 31.0 -2.3
ULM **Lac du Bonnet** 70.15 342 P P 01 11 30.9 -2.3
comp=Z,11nm,0.4s,baz=156,slow=5.7,SNR=36
ULM **Lac du Bonnet** 70.15 342 eP P 01 11 31.0 -2.3
HVU **Hansel Valley** 70.19 327 eP P 01 11 33.2 -0.7
HVU pmax pmax
comp=Z,25nm,1.1s
HVU **Hansel Valley** 70.19 327 eP P 01 11 33.2 -0.7
comp=Z,25nm,1.1s
RCTC **Rector, Farmer** 70.25 319 ⇑P P 01 11 33.7 -0.5
baz=70
E23A **Ismay** 70.28 335 ⇑P P 01 11 33.6 -0.5
baz=70,SNR=8.8
REDW **Red Top Meadow** 70.36 329 eP P 01 11 34.8 -0.2
comp=Z,28nm,1.3s
D24A **Glendive** 70.38 336 ⇑P P 01 11 34.9 +0.2
baz=71,SNR=6.4
LOHW **Long Hollow** 70.43 330 eP P 01 11 35.1 -0.3
comp=Z,14nm,1.0s
C25A **Freed Ranch, W** 70.45 337 ⇓P P 01 11 34.7 -0.5
baz=71
H19A **Powell** 70.46 331 ⇓P P 01 11 34.6 -0.8
baz=71
E22A **Miles City** 70.50 334 ⇓P P 01 11 34.9 -0.6
baz=71,SNR=11
TPAW **Teton Pass** 70.51 329 eP P 01 11 35.8 -0.2
comp=Z,14nm,0.9s
G20A **Bridger** 70.53 332 ⇓P P 01 11 34.8 -1.0
baz=71,SNR=13
B26A **Jensen Ranch,** 70.62 338 ⇑P P 01 11 35.7 -0.5
baz=71
I17A **Pilgrim Ck.** 70.64 330 ⇓P P 01 11 37.0 +0.3
baz=71,SNR=29
FXWY **Fox Creek** 70.65 329 eP P 01 11 36.4 -0.3
comp=Z,15nm,1.0s
C24A **Savage** 70.76 336 ⇓P P 01 11 37.2 +0.1
baz=71
H18A **Shoshone NF, C** 70.78 331 ⇑P P 01 11 37.1 -0.4
baz=71,SNR=26
D23A **Lindsay** 70.78 335 ⇓P P 01 11 37.4 +0.1
baz=71,SNR=9.1
ELK **Elko** 70.79 325 eP P 01 11 37.5 -0.2
ELK pmax pmax
comp=Z,6.0nm,0.8s
ELK **Elko** 70.79 325 eP P 01 11 37.5 -0.2
comp=Z,6.2nm,0.8s
IMW **Indian Meadow** 70.80 330 eP P 01 11 37.7 0.0
comp=Z,28nm,1.1s
LAO **LASA Array** 70.81 334 eP P 01 11 36.9 -0.5
comp=Z,44nm,1.2s
FLWY **Flagg Ranch** 70.82 330 eP P 01 11 38.1 +0.3
comp=Z,54nm,1.0s
SCHQ **Schefferville** 70.83 2 P P 01 11 35.2 -2.0
comp=Z,4.7nm,0.7s,baz=181,slow=6.6,SNR=7.1
SCHQ pP pP 01 12 28.2 +1.8
comp=Z,18nm,1.1s,baz=175,slow=5.0,SNR=7.9
B25A **Knox Farm, Ray** 70.88 337 ⇓P P 01 11 37.5 -0.2
baz=71
RLMT **Red Lodge** 70.93 331 eP P 01 11 38.0 -0.3
comp=Z,32nm,1.2s
F20A **Billings** 70.95 332 ⇑P P 01 11 37.9 -0.4
baz=71,SNR=6.1
A26A **Wade Farm, Ken** 70.99 338 ⇓P P 01 11 38.0 -0.3
baz=71
H17A **Grant Village** 71.00 330 ⇑P P 01 11 39.1 +0.3
baz=71,SNR=7.5
H17A **Grant Village** 71.00 330 eP P 01 11 38.9 +0.1
comp=Z,16nm,1.3s
NVAR **Mina Array Bea** 71.02 321 P P 01 11 39.0 -0.1
comp=Z,11nm,0.9s,baz=146,slow=6.6,SNR=48
E21A **Keefer Ranch,** 71.06 334 ⇑P P 01 11 38.8 -0.1
baz=71,SNR=5.6
D22A **Cohagen** 71.16 335 ⇑P P 01 11 39.4 -0.1
baz=71,SNR=20
YFT **Old Faithful** 71.16 330 eP P 01 11 41.2 +1.4
comp=Z,25nm,1.0s
C23A **Lambert** 71.28 335 ⇓P P 01 11 40.1 0.0
baz=72,SNR=8.3
YNR **Norris Junctio** 71.28 330 eP P 01 11 40.8 +0.2
comp=Z,14nm,0.9s
F19A **Roth Farm, Mol** 71.34 332 ⇑P P 01 11 40.5 -0.2
baz=72,SNR=27
YMR **Madison River** 71.39 330 eP P 01 11 41.5 +0.4
E20A **Meyer Farm, Mu** 71.48 333 ⇑P P 01 11 41.8 +0.3
baz=72,SNR=26

A24A **Westby** 71.73 337 ⇑P P 01 11 43.0 +0.1
baz=72,SNR=9.4
E19A **Rath Farm, Rou** 71.74 333 ⇓P P 01 11 43.0 0.0
baz=72,SNR=59
B23A **Brockton** 71.74 336 ⇑P P 01 11 42.9 0.0
baz=72,SNR=14
WAKR **Walker** 71.75 321 eP P 01 11 44.0 +0.5
NVL **N'lazarevskaya** 71.94 160 eP P 01 11 43.5 -0.2
NVL pmax pmax
comp=Z,20nm,0.8s
D20A **Manuel Ranch,** 71.94 333 ⇓P P 01 11 43.9 -0.3
baz=72,SNR=22
B22A **Reddig Ranch S** 72.00 335 ⇓P P 01 11 44.8 +0.3
baz=72
CMB **Columbia Colle** 72.04 320 eP P 01 11 44.9 0.0
CMB pmax pmax
comp=Z,10.0nm,1.1s
CMB **Columbia Colle** 72.04 320 eP P 01 11 44.9 0.0
comp=Z,10nm,1.1s
C21A **Desert Coulee** 72.08 334 ⇓P P 01 11 44.6 -0.4
baz=72,SNR=19
A23A **Redstone** 72.10 336 ⇑P P 01 11 45.0 0.0
baz=72
HLID **Hailey** 72.31 327 ⇑P P 01 11 47.0 +0.4
baz=72,SNR=29
HLID **Hailey** 72.31 327 eP P 01 11 46.5 0.0
comp=Z,24nm,1.1s
D19A **Cripps Ranch,** 72.32 333 ⇓P P 01 11 46.3 -0.1
baz=72,SNR=17
C20A **Veseth Ranch,** 72.37 334 ⇓P P 01 11 46.3 -0.4
baz=73,SNR=10
MCMT **McKenzie Canyo** 72.42 329 eP P 01 11 47.4 +0.1
comp=Z,12nm,1.0s
BOZ **Bozeman (W)** 72.43 330 eP P 01 11 46.6 -0.6
BOZ pmax pmax
comp=Z,21nm,1.1s
BOZ **Bozeman (W)** 72.43 330 eP P 01 11 46.6 -0.6
comp=Z,21nm,1.1s
B21A **Ellsworth Farm** 72.52 335 ⇑P P 01 11 47.2 -0.3
baz=73
A22A **Carney Farms,** 72.53 336 ⇓P P 01 11 47.4 -0.1
baz=73,SNR=11
DLMT **Dillon** 72.68 330 eP P 01 11 49.3 +0.6
comp=Z,21nm,1.4s
C19A **Slack Wire Ran** 72.83 333 ⇑P P 01 11 49.3 -0.1
baz=73,SNR=33
A21A **Bergtoll Ranch** 72.93 335 ⇑P P 01 11 49.5 -0.4
baz=73,SNR=9.1
B20A **Solberg Farm,** 72.94 334 ⇑P P 01 11 49.6 -0.4
baz=73,SNR=10
MFID **Camas Ranch** 72.94 327 eP P 01 11 50.2 0.0
comp=Z,46nm,1.0s
LRM **Limekiln Ridge** 72.95 330 eP P 01 11 50.2 -0.2
A20A **Cobblestone Ra** 73.25 335 ⇑P P 01 11 51.5 -0.3
baz=74,SNR=14
HRY **Holter Researc** 73.31 331 eP P 01 11 52.4 +0.1
B19A **Brinkman Farms** 73.34 334 ⇓P P 01 11 52.0 -0.4
baz=74,SNR=6.4
EGMT **Eagleton** 73.36 333 ⇑P P 01 11 52.2 -0.3
baz=74,SNR=8.7
EGMT **Eagleton** 73.36 333 eP P 01 11 51.8 -0.8
comp=Z,34nm,0.9s
OHCM **Honcut** 73.52 320 eP P 01 11 53.8 +0.3
A19A **Klindworth Far** 73.62 334 ⇑P P 01 11 53.8 -0.2
baz=74,SNR=18
WVOR **Wild Horse Val** 73.81 324 eP P 01 11 56.0 +0.6
WVOR pmax pmax
comp=Z,13nm,1.4s
WVOR **Wild Horse Val** 73.81 324 eP P 01 11 56.0 +0.6
comp=Z,13nm,1.4s
QSPA **South Pole Qui** 73.92 180 eP P 01 11 55.4 -0.2
comp=Z,81nm,1.1s
CHMT **Chamberlain Mo** 74.12 330 eP P 01 11 57.7 +0.6
MSO **Missoula** 74.39 330 ⇑P P 01 11 58.8 +0.3
baz=75,SNR=7.3
MSO **Missoula** 74.39 330 eP P 01 11 59.4 +0.8
comp=Z,33nm,1.4s
MOD **Modoc Plateau** 74.42 323 eP P 01 11 58.8 -0.1
comp=Z,32nm,1.0s
SLMT **Seeley Lake** 74.47 331 eP P 01 11 59.2 +0.1
BMO **Blue Mountains** 74.70 327 eP P 01 12 00.3 -0.1
comp=Z,14nm,0.8s
SWMT **Swartz Lake** 74.90 331 eP P 01 12 01.7 +0.2
WDC **Whiskeytown Da** 74.92 321 eP P 01 12 00.3 -1.3
WDC pmax pmax
comp=Z,13nm,0.8s
WDC **Whiskeytown Da** 74.92 321 eP P 01 12 00.3 -1.3
comp=Z,13nm,0.8s
YBMT **Yellow Bay** 75.16 331 eP P 01 12 03.0 0.0
JTMT **Jette** 75.21 331 eP P 01 12 03.4 +0.2
M04C **Macdoel** 75.24 322 ⇑P P 01 12 03.4 -0.2
baz=75,SNR=15
N02D **Trinity Center** 75.26 321 ⇓P P 01 12 02.9 -0.7
baz=75,SNR=6.3
K05A **Summer Lake** 75.28 323 eP P 01 12 05.0 +1.1
comp=Z,35nm,1.0s
I07A **Izee** 75.37 325 eP P 01 12 04.8 +0.6
comp=Z,17nm,0.9s
KMRM **Mail Ridge** 75.42 320 eP P 01 12 05.8 +1.2
comp=Z,38nm,0.9s
F10A **Beach Ranch, E** 75.42 328 eP P 01 12 05.1 +0.7
comp=Z,24nm,1.0s
BLMT **Blacktail Moun** 75.43 331 eP P 01 12 03.4 -1.3
BSMT **Bassoo Peak** 75.52 330 eP P 01 12 05.3 +0.2
M02C **Callahan** 75.60 321 ⇓P P 01 12 05.1 -0.5
baz=76,SNR=6.9
K04D **Chiloquin, OR** 75.71 323 ⇑P P 01 12 06.1 -0.1
baz=76
YBH **Yreka Blue Hor** 75.72 322 eP P 01 12 05.1 -1.1
YBH pmax pmax
comp=Z,12nm,0.9s
YBH **Yreka Blue Hor** 75.72 322 eP P 01 12 05.1 -1.1
comp=Z,12nm,0.9s
KHMM **Horse Mountain** 75.82 321 eP P 01 12 07.5 +0.6
comp=Z,103nm,1.6s
J05D **Fort Rock, OR** 75.82 324 ⇓P P 01 12 07.3 +0.4
baz=76,SNR=6.3
G08A **Pilot Rock** 75.86 326 eP P 01 12 07.7 +0.6
comp=Z,12nm,1.0s
FFC **Flin Flon** 75.89 341 eP P 01 12 05.9 -0.9
FFC pmax pmax
comp=Z,60nm,2.6s
FFC **Flin Flon** 75.89 341 eP P 01 12 05.9 -0.9
comp=Z,60nm,2.6s
WALA **Waterton Lakes** 75.98 332 eP P 01 12 07.4 -0.2
comp=Z,0.5nm,0.9s
TORD **Torodi Ar. Bea** 76.23 72 P P 01 12 08.1 -1.4
comp=Z,48nm,0.9s,baz=258,slow=4.7,SNR=142
TORD S S 01 21 32.6 -4.3
comp=Z,1.6nm,0.9s,baz=258,slow=12,SNR=4.7
E09A **Wood Farm, Sta** 76.25 328 eP P 01 12 09.5 +0.4
comp=Z,21nm,1.0s
J04D **Umpqua Nationa** 76.30 323 ⇓P P 01 12 09.9 +0.3
baz=76,SNR=7.6
L02D **Cave Junction,** 76.51 322 ⇑P P 01 12 11.2 +0.6
baz=77,SNR=5.2
I05D **Terrebonne, OR** 76.55 325 ⇑P P 01 12 11.7 +0.9
baz=77,SNR=6.6
G06A **Carlson Farm,** 76.73 326 eP P 01 12 13.1 +1.3
comp=Z,17nm,1.0s
I04A **Tendick Farm,** 76.81 324 ⇑P P 01 12 12.5 +0.2
baz=77
NEW **Newport** 76.93 330 eP P 01 12 12.9 +0.1
NEW pmax pmax
comp=Z,60nm,2.5s
NEW **Newport** 76.93 330 ⇑P P 01 12 13.1 +0.2
baz=77
NEW **Newport** 76.93 330 eP P 01 12 12.9 +0.1
comp=Z,60nm,2.5s
D08A **Wollman Farm,** 77.01 328 eP P 01 12 14.0 +0.7
comp=Z,29nm,1.4s
G05D **Wamic, OR** 77.11 325 ⇓P P 01 12 14.7 +0.9
baz=77,SNR=5.4
E07A **Sunnyside** 77.17 327 eP P 01 12 15.8 +1.6
comp=Z,24nm,1.2s
C09A **Chsman Ranch** 77.18 329 eP P 01 12 14.9 +0.7
comp=Z,28nm,1.1s
H04A **Detroit Lake** 77.23 324 eP P 01 12 14.8 +0.2
comp=Z,23nm,0.9s
I03D **Drain, OR** 77.29 323 ⇑P P 01 12 15.7 +0.8
baz=78
FCC **Fort Churchill** 77.40 347 eP P 01 12 13.9 -1.2
FCC **Fort Churchill** 77.40 347 eP P 01 12 13.9 -1.2
comp=Z,0.1nm,0.7s
LTY **Liberty** 78.05 327 eP P 01 12 19.4 +0.3
comp=Z,33nm,1.4s
B08A **Colville Reser** 78.08 329 eP P 01 12 19.2 -0.1
comp=Z,12nm,1.0s

ETW **Entiat** 78.10 328 P P 01 12 19.9 +0.5
F04A **Amboy** 78.14 325 eP P 01 12 20.1 +0.6
comp=Z,37nm,0.9s
MORF **Marmelete** 78.19 45 eP P 01 12 19.6 -0.4
MORF AMb AMB 01 12 21.1
comp=Z,66nm,2.2s
MORF **Marmelete** 78.19 45 eP P 01 12 19.7 -0.4
comp=Z,86nm,1.9s
MORF pP pP 01 13 14.3 +4.1
MORF **Marmelete** 78.19 45 eP P 01 12 19.6 -0.4
PTEO **Sao Teotonio** 78.26 45 eP P 01 12 20.7 +0.4
comp=Z,80nm,1.5s
LON **Longmire** 78.33 326 eP P 01 12 19.9 -0.7
LON pmax pmax
comp=Z,7.0nm,1.0s
LON **Longmire** 78.33 326 eP P 01 12 19.9 -0.7
comp=Z,7.2nm,1.0s
PBDV **Barranco-do-Ve** 78.65 46 pP pP 01 13 16.9 +4.2
PNCL **Nicolau / Gran** 78.68 45 eP P 01 12 23.1 +0.4
comp=Z,33nm,1.6s
PNCL pP pP 01 13 17.1 +4.3
D05A **Enumclaw** 78.70 327 eP P 01 12 21.6 -1.0
comp=Z,35nm,0.9s
MESJ **Messejana** 78.75 45 eP P 01 12 22.7 -0.3
MESJ AMb AMB 01 12 36.1
comp=Z,30nm,2.4s
MESJ **Messejana** 78.75 45 eP P 01 12 24.7 +1.7
comp=Z,30nm,2.0s
MESJ pP pP 01 13 17.5 +4.3
MESJ **Messejana** 78.75 45 eP P 01 12 22.7 -0.3
E03A **Lebam** 79.14 325 eP P 01 12 26.1 +1.2
comp=Z,82nm,1.1s
EVOP **Sao Brissos** 79.17 45 eP P 01 12 25.1 -0.2
EVOP e*PP pP 01 13 18.0 +2.5
EVOP pmax pmax
comp=Z,50nm,1.1s
EVOP **Sao Brissos** 79.17 45 eP P 01 12 25.1 -0.2
comp=Z,50nm,1.1s
EVOP epP pP 01 13 18.0 +2.5
EVO **Evora** 79.25 45 eP P 01 12 25.1 -0.6
comp=Z,50nm,1.1s
EVO epP pP 01 13 18.0 +2.0
EVO eR
comp=Z,144nm,20.2s
EVO **Evora** 79.25 45 pP pP 01 13 19.2 +3.2
B06A **Marblemount** 79.28 328 eP P 01 12 25.6 0.0
comp=Z,45nm,1.0s
PMTG **Montargil** 79.38 44 eP P 01 12 26.8 +0.4
comp=Z,26nm,1.7s
PMTG pP pP 01 13 20.1 +3.4
PTOM **Tomar** 79.54 43 eP P 01 12 28.1 +0.8
comp=Z,44nm,1.8s
PTOM pP pP 01 13 20.6 +3.0
MBW **Mount Baker** 79.66 328 P P 01 12 27.8 -0.2
PCAS **Casmilo, Conde** 79.70 43 pP pP 01 13 22.3 +3.8
PBAR **Barrancos** 79.73 45 eP P 01 12 27.8 -0.5
comp=Z,33nm,1.8s
PBAR pP pP 01 13 20.6 +2.0
OSD **Olympics--Snow** 80.00 326 P P 01 12 31.1 +1.2
PCBR **Castelo Branco** 80.27 44 eP P 01 12 32.0 +0.8
comp=Z,20nm,2.1s
PCBR pP pP 01 13 24.9 +3.3
PGC **Sidney** 80.38 327 eP P 01 12 32.8 +1.3
PVIS **Viseu** 80.44 43 pP pP 01 13 22.2 -0.4
MTE **Manteigas** 80.51 43 eP P 01 12 33.1 +0.5
comp=Z,36nm,1.5s
MTE pP pP 01 13 26.6 +3.6
POLO **Lamas de Olo** 80.85 42 pP pP 01 13 28.4 +3.6
PVRL **Vila Real** 80.85 42 pP pP 01 13 28.5 +3.8
SBA **Scott Base** 80.86 190 eP P 01 12 34.8 +1.0
SBA pmax pmax
comp=Z,15nm,1.0s
SBA **Scott Base** 80.86 190 eP P 01 12 34.8 +1.0
comp=Z,15nm,1.0s
MVO **Moncorvo** 81.23 43 eP P 01 12 36.9 +0.5
comp=Z,13nm,1.4s
MVO pP pP 01 13 30.5 +3.6
SYO **Syowa Base** 81.61 160 eP P 01 12 36.4 -1.4
PBRG **Braganca** 81.75 42 pP pP 01 13 33.1 +3.5
VNDA **Vanda** 81.89 190 eP P 01 12 39.5 +0.3
VNDA pmax pmax
comp=Z,8.0nm,0.8s
VNDA **Vanda** 81.89 190 P P 01 12 39.6 +0.3
comp=Z,6.4nm,0.8s,baz=133,slow=4.5,SNR=34
VNDA **Vanda** 81.89 190 eP P 01 12 39.5 +0.3
comp=Z,7.5nm,0.8s
TSUM **Tsumeb** 82.16 108 eP P 01 12 42.0 +0.1
comp=Z,37nm,1.0s
PAB **San Pablo** 82.23 45 eP P 01 12 41.2 -0.4
PAB pmax pmax
comp=Z,14nm,1.1s
PAB **San Pablo** 82.23 45 eP P 01 12 41.1 -0.4
comp=Z,14nm,1.1s
ESDC **Sonseca Array** 82.55 45 P P 01 12 43.1 -0.1
comp=Z,0.9nm,0.4s,baz=254,slow=5.5,SNR=25
ESDC pP pP 01 13 36.0 +2.1
comp=Z,6.3nm,0.9s,baz=250,slow=5.6,SNR=6.4
TAM **Tamanrasset** 83.03 64 eP P 01 12 46.2 -0.1
TAM pmax pmax
comp=Z,15nm,1.1s
TAM **Tamanrasset** 83.03 64 eP P 01 12 46.1 -0.1
comp=Z,15nm,1.1s
SJPF **Ste Jean** 85.96 43 eP P 01 12 59.6 -0.7
comp=Z,25nm,1.2s
SJPF **Ste Jean** 85.96 43 eP P 01 12 59.6 -0.7
SJPF pmax pmax
comp=Z,25nm,1.3s
SJPF **Ste Jean** 85.96 43 eP P 01 12 59.6 -0.7
comp=Z,25nm,1.3s
YKA **Yellowknife Ar** 86.06 341 P P 01 12 59.3 -0.9
comp=Z,10nm,0.8s,baz=134,slow=4.8,SNR=162
ETSF **Etsaut** 86.30 43 eP P 01 13 01.4 -0.6
comp=Z,14nm,1.1s
ETSF **Etsaut** 86.30 43 eP P 01 13 01.4 -0.6
ETSF pmax pmax
comp=Z,14nm,1.1s
ETSF **Etsaut** 86.30 43 eP P 01 13 01.4 -0.6
comp=Z,14nm,1.1s
BOSA **Boshof** 86.46 119 P P 01 13 02.4 -0.9
comp=Z,3.6nm,0.7s,baz=264,slow=4.6,SNR=8.1
BOSA pP pP 01 13 55.2 +0.9
comp=Z,11nm,1.0s,baz=259,slow=6.3,SNR=5.0
EPF **Esparros** 86.95 44 eP P 01 13 05.3 +0.2
EPF **Esparros** 86.95 44 eP P 01 13 05.3 +0.2
EPF **Esparros** 86.95 44 eP P 01 13 05.3 +0.2
QUIF **Quistinic** 86.95 38 eP P 01 13 04.0 -0.9
QUIF **Quistinic** 86.95 38 eP P 01 13 04.0 -0.9
QUIF **Quistinic** 86.95 38 eP P 01 13 04.0 -0.9
LFF **La Frestale** 88.03 42 eP P 01 13 08.7 -1.4
comp=Z,59nm,1.4s
LFF epP pP 01 14 01.3 -0.1
LFF **La Frestale** 88.03 42 eP P 01 13 08.7 -1.4
LFF e*PP pP 01 14 01.3 -0.1
LFF pmax pmax
comp=Z,59nm,1.4s
LFF **La Frestale** 88.03 42 eP P 01 13 08.7 -1.4
comp=Z,59nm,1.4s
LFF epP pP 01 14 01.3 -0.1
MTLF **Montolieu** 88.33 44 eP P 01 13 11.2 -0.4
comp=Z,20nm,1.1s
MTLF **Montolieu** 88.33 44 eP P 01 13 11.2 -0.4
MTLF pmax pmax
comp=Z,20nm,1.1s
MTLF **Montolieu** 88.33 44 eP P 01 13 11.2 -0.4
comp=Z,20nm,1.1s
GRR **Gorron** 88.54 38 eP P 01 13 11.4 -1.0
comp=Z,48nm,1.1s
GRR epP pP 01 14 05.0 +1.2
GRR **Gorron** 88.54 38 eP P 01 13 11.4 -1.0
GRR e*PP pP 01 14 05.0 +1.2
GRR pmax pmax
comp=Z,48nm,1.1s
GRR **Gorron** 88.54 38 eP P 01 13 11.4 -1.0
comp=Z,48nm,1.1s
GRR epP pP 01 14 05.0 +1.2
RJF **Les Rejaudoux** 88.68 42 eP P 01 13 12.5 -0.7
comp=Z,13nm,1.1s
RJF eR
comp=Z,123nm,22.0s
RJF **Les Rejaudoux** 88.68 42 eP P 01 13 12.5 -0.7
RJF pmax pmax
comp=Z,13nm,1.1s
RJF **Les Rejaudoux** 88.68 42 eP P 01 13 12.5 -0.7
comp=Z,13nm,1.1s

CAF	**Calviac**	**88.88**	**42**	*e*P	**P**	**01 13 13.7 -0.5**
	comp=Z,21nm,1.2s					
CAF	**Calviac**	**88.88**	**42**	*e*P	**P**	**01 13 13.7 -0.5**
CAF				pmax	pmax	
	comp=Z,21nm,1.2s					
CAF	**Calviac**	**88.88**	**42**	*e*P	**P**	**01 13 13.7 -0.5**
	comp=Z,21nm,1.2s					
FLN	**La Foliniere**	**88.93**	**38**	*e*P	**P**	**01 13 13.3 -1.0**
	comp=Z,52nm,1.3s					
FLN				*e*R		
	comp=Z,87nm,20.8s					
FLN	**La Foliniere**	**88.93**	**38**	*e*P	**P**	**01 13 13.3 -1.0**
FLN				pmax	pmax	
	comp=Z,52nm,1.3s					
FLN	**La Foliniere**	**88.93**	**38**	*e*P	**P**	**01 13 13.3 -1.0**
	comp=Z,52nm,1.3s					
LDF	**La Druitiere**	**89.07**	**38**	*e*P	**P**	**01 13 14.0 -0.9**
	comp=Z,40nm,1.2s					
LDF				*e*pP	**pP**	**01 14 06.6 +0.3**
LDF	**La Druitiere**	**89.07**	**38**	*e*P	**P**	**01 13 14.0 -0.9**
LDF				*e**PP	**pP**	**01 14 06.6 +0.3**
LDF				pmax	pmax	
	comp=Z,40nm,1.2s					
LDF	**La Druitiere**	**89.07**	**38**	*e*P	**P**	**01 13 14.0 -0.9**
	comp=Z,40nm,1.2s					
LDF				*e*pP	**pP**	**01 14 06.6 +0.3**
WRAK	**Wrangell Islan**	**89.27**	**330**	*e*P	**P**	**01 13 16.5 +0.9**
	comp=Z,26nm,0.9s					
DLBC	**Dease Lake**	**89.29**	**333**	*e*P	**P**	**01 13 15.9 +0.1**
MAW	**Mawson**	**89.51**	**164**	P	**P**	**01 13 17.2 +0.5**
	comp=Z,83nm,1.2s,baz=214,slow=7.3,SNR=3.6					
TCF	**Toulx Ste Croi**	**89.53**	**41**	*e*P	**P**	**01 13 16.3 -0.9**
	comp=Z,6.0nm,0.9s					
TCF	**Toulx Ste Croi**	**89.53**	**41**	*e*P	**P**	**01 13 16.3 -0.9**
TCF				pmax	pmax	
	comp=Z,6.0nm,0.9s					
TCF	**Toulx Ste Croi**	**89.53**	**41**	*e*P	**P**	**01 13 16.3 -0.9**
	comp=Z,6.0nm,0.9s					
LASF	**Ste Croix**	**89.71**	**44**	*e*P	**P**	**01 13 17.9 -0.2**
	comp=Z,19nm,1.2s					
LASF	**Ste Croix**	**89.71**	**44**	*e*P	**P**	**01 13 17.9 -0.2**
	comp=Z,19nm,1.2s					
BGF	**Bois d'Agland**	**90.04**	**41**	*e*P	**P**	**01 13 17.9 -1.6**
	comp=Z,23nm,1.1s					
BGF				*e*pP	**pP**	**01 14 11.4 +0.4**
BGF	**Bois d'Agland**	**90.04**	**41**	*e*P	**P**	**01 13 17.9 -1.6**
BGF				*e**PP	**pP**	**01 14 11.4 +0.4**
BGF				pmax	pmax	
	comp=Z,23nm,1.1s					
BGF	**Bois d'Agland**	**90.04**	**41**	*e*P	**P**	**01 13 17.9 -1.6**
	comp=Z,23nm,1.1s					
BGF				*e*pP	**pP**	**01 14 11.4 +0.4**
AVF	**Avril sur Loir**	**90.45**	**41**	*e*P	**P**	**01 13 20.3 -1.1**
	comp=Z,17nm,1.3s					
AVF	**Avril sur Loir**	**90.45**	**41**	*e*P	**P**	**01 13 20.3 -1.1**
AVF				pmax	pmax	
	comp=Z,17nm,1.3s					
AVF	**Avril sur Loir**	**90.45**	**41**	*e*P	**P**	**01 13 20.3 -1.1**
	comp=Z,17nm,1.3s					
VIVF	**Saint-Julien-l**	**90.55**	**43**	*e*P	**P**	**01 13 22.0 0.0**
	comp=Z,20nm,1.1s					
VIVF				*e*pP	**pP**	**01 14 14.7 +1.3**
VIVF	**Saint-Julien-l**	**90.55**	**43**	*e*P	**P**	**01 13 22.0 0.0**
VIVF				*e**PP	**pP**	**01 14 14.7 +1.3**
VIVF				pmax	pmax	
	comp=Z,20nm,1.1s					
VIVF	**Saint-Julien-l**	**90.55**	**43**	*e*P	**P**	**01 13 22.0 0.0**
	comp=Z,20nm,1.1s					
VIVF				*e*pP	**pP**	**01 14 14.7 +1.3**
KEST	**Kesra**	**90.64**	**53**	P	**P**	**01 13 22.4 -0.2**
	comp=Z,2.9nm,0.9s,baz=245,slow=6.4,SNR=6.2					
KEST	**Kesra**	**90.64**	**53**	*e*P	**P**	**01 13 22.5 -0.1**
SSF	**Saint Saulge**	**90.66**	**41**	*e*P	**P**	**01 13 21.2 -1.2**
	comp=Z,5.6nm,0.9s					
SSF	**Saint Saulge**	**90.66**	**41**	*e*P	**P**	**01 13 21.2 -1.2**
SSF				pmax	pmax	
	comp=Z,6.0nm,0.9s					
SSF	**Saint Saulge**	**90.66**	**41**	*e*P	**P**	**01 13 21.2 -1.2**
	comp=Z,5.6nm,0.9s					
SMF	**Signal de Mont**	**90.71**	**41**	*e*P	**P**	**01 13 21.0 -1.6**
	comp=Z,17nm,1.0s					
SMF				*e*pP	**pP**	**01 14 14.6 +0.5**
SMF	**Signal de Mont**	**90.71**	**41**	*e*P	**P**	**01 13 21.0 -1.6**
SMF				*e**PP	**pP**	**01 14 14.6 +0.5**
SMF				pmax	pmax	
	comp=Z,17nm,1.0s					
SMF	**Signal de Mont**	**90.71**	**41**	*e*P	**P**	**01 13 21.0 -1.6**
	comp=Z,17nm,1.0s					
SMF				*e*pP	**pP**	**01 14 14.6 +0.5**
SMRF	**Simiane la Rot**	**90.82**	**44**	*e*P	**P**	**01 13 23.8 +0.6**
	comp=Z,31nm,1.3s					
SMRF	**Simiane la Rot**	**90.82**	**44**	*e*P	**P**	**01 13 23.8 +0.6**
	comp=Z,31nm,1.3s					
LOR	**Lormes**	**90.96**	**41**	*e*P	**P**	**01 13 22.5 -1.3**
	comp=Z,9.6nm,1.0s					
LOR				*e*R		
	comp=Z,107nm,21.0s					
LOR	**Lormes**	**90.96**	**41**	*e*P	**P**	**01 13 22.5 -1.3**
LOR				pmax	pmax	
	comp=Z,10.0nm,1.0s					
LOR	**Lormes**	**90.96**	**41**	*e*P	**P**	**01 13 22.5 -1.3**
	comp=Z,9.6nm,1.0s					
SUMG	**Summit**	**90.99**	**9**	*i* P	**P**	**01 13 24.4 +0.6**
SUMG				pmax	pmax	
	comp=Z,7.0nm,0.9s					
SUMG	**Summit**	**90.99**	**9**	*i* P	**P**	**01 13 24.4 +0.6**
	comp=Z,6.5nm,0.9s					
SUMG	**Summit**	**90.99**	**9**	*i* P	pP	01 14 18.3 +3.0
	comp=Z,8.4nm,1.1s					
LMR	**La Mourre**	**91.22**	**45**	*e*P	**P**	**01 13 25.0 0.0**
	comp=Z,41nm,1.3s					
LMR				*e*pP	**pP**	**01 14 17.4 +0.9**
LMR	**La Mourre**	**91.22**	**45**	*e*P	**P**	**01 13 25.0 0.0**
LMR				*e**PP	**pP**	**01 14 17.4 +0.9**
LMR				pmax	pmax	
	comp=Z,41nm,1.3s					
LMR	**La Mourre**	**91.22**	**45**	*e*P	**P**	**01 13 25.0 0.0**
	comp=Z,41nm,1.3s					
LMR				*e*pP	**pP**	**01 14 17.4 +0.9**
ORIF	**Oris-en-Rattie**	**91.37**	**43**	*e*P	**P**	**01 13 26.1 +0.3**
	comp=Z,36nm,1.2s					
ORIF				*e*pP	**pP**	**01 14 18.8 +1.5**
ORIF				*e*R		
	comp=Z,182nm,18.2s					
ORIF	**Oris-en-Rattie**	**91.37**	**43**	*e*P	**P**	**01 13 26.1 +0.3**
ORIF				*e**PP	**pP**	**01 14 18.8 +1.5**
ORIF				pmax	pmax	
	comp=Z,36nm,1.2s					
ORIF	**Oris-en-Rattie**	**91.37**	**43**	*e*P	**P**	**01 13 26.1 +0.3**
	comp=Z,36nm,1.2s					
ORIF				*e*pP	**pP**	**01 14 18.8 +1.5**
FRF	**La Foret Royal**	**91.39**	**45**	*e*P	**P**	**01 13 25.8 0.0**
	comp=Z,43nm,1.6s					
FRF	**La Foret Royal**	**91.39**	**45**	*e*P	**P**	**01 13 25.8 0.0**
FRF				pmax	pmax	
	comp=Z,43nm,1.6s					
FRF	**La Foret Royal**	**91.39**	**45**	*e*P	**P**	**01 13 25.8 0.0**
	comp=Z,43nm,1.6s					
MBDF	**Montbardon**	**91.89**	**44**	*e*P	**P**	**01 13 28.5 +0.2**
	comp=Z,17nm,1.2s					
MBDF	**Montbardon**	**91.89**	**44**	*e*P	**P**	**01 13 28.5 +0.2**
MBDF				pmax	pmax	
	comp=Z,17nm,1.2s					
MBDF	**Montbardon**	**91.89**	**44**	*e*P	**P**	**01 13 28.5 +0.2**
	comp=Z,17nm,1.2s					
SFTF	**Sexfontaines**	**92.06**	**40**	*e*P	**P**	**01 13 27.8 -1.0**
	comp=Z,21nm,1.0s					
SFTF				*e*pP	**pP**	**01 14 20.6 +0.3**
SFTF	**Sexfontaines**	**92.06**	**40**	*e*P	**P**	**01 13 27.8 -1.0**
	comp=Z,21nm,1.0s					
SFTF				*e*pP	**pP**	**01 14 20.6 +0.3**
CABF	**La Chapelle**	**92.13**	**42**	*e*P	**P**	**01 13 28.8 -0.5**
	comp=Z,18nm,1.2s					
CABF	**La Chapelle**	**92.13**	**42**	*e*P	**P**	**01 13 28.8 -0.5**
CABF				pmax	pmax	
	comp=Z,18nm,1.2s					
CABF	**La Chapelle**	**92.13**	**42**	*e*P	**P**	**01 13 28.8 -0.5**
	comp=Z,18nm,1.2s					
LPL	**La Plagne**	**92.15**	**43**	*e*P	**P**	**01 13 29.9 +0.3**
	comp=Z,20nm,1.2s					
LPL	**La Plagne**	**92.15**	**43**	*e*P	**P**	**01 13 29.9 +0.3**
LPL				pmax	pmax	
	comp=Z,20nm,1.2s					
LPL	**La Plagne**	**92.15**	**43**	*e*P	**P**	**01 13 29.9 +0.3**
	comp=Z,20nm,1.2s					
LPG	**La Plagne**	**92.16**	**43**	*e*P	**P**	**01 13 30.0 +0.3**
	comp=Z,19nm,1.2s					
LPG				*e*pP	**pP**	**01 14 22.7 +1.5**
LPG	**La Plagne**	**92.16**	**43**	*e*P	**P**	**01 13 30.0 +0.3**
LPG				*e**PP	**pP**	**01 14 22.7 +1.5**
LPG				pmax	pmax	
	comp=Z,19nm,1.2s					
LPG	**La Plagne**	**92.16**	**43**	*e*P	**P**	**01 13 30.0 +0.3**
	comp=Z,19nm,1.2s					
LPG				*e*pP	**pP**	**01 14 22.7 +1.5**
MEZF	**Maizieres J'vi**	**92.17**	**40**	*e*P	**P**	**01 13 28.8 -0.5**
MEZF	**Maizieres J'vi**	**92.17**	**40**	*e*P	**P**	**01 13 28.8 -0.5**
BAIF	**Baives**	**92.26**	**38**	*e*P	**P**	**01 13 29.0 -0.7**
	comp=Z,22nm,1.3s					
BAIF	**Baives**	**92.26**	**38**	*e*P	**P**	**01 13 29.0 -0.7**
BAIF				pmax	pmax	
	comp=Z,22nm,1.3s					
BAIF	**Baives**	**92.26**	**38**	*e*P	**P**	**01 13 29.0 -0.7**
	comp=Z,22nm,1.3s					
PAGF	**Fort de Pagny**	**92.61**	**40**	*e*P	**P**	**01 13 30.8 -0.6**
	comp=Z,7.3nm,1.2s					
PAGF	**Fort de Pagny**	**92.61**	**40**	*e*P	**P**	**01 13 30.8 -0.6**
	comp=Z,7.3nm,1.3s					
GIVF	**Givet**	**92.64**	**38**	*e*P	**P**	**01 13 30.9 -0.5**
GIVF	**Givet**	**92.64**	**38**	*e*P	**P**	**01 13 30.9 -0.5**
GIVF	**Givet**	**92.64**	**38**	*e*P	**P**	**01 13 30.9 -0.5**
HAU	**Haudompre**	**92.80**	**41**	*e*P	**P**	**01 13 31.4 -0.9**
HAU				*e*R		
	comp=Z,84nm,20.8s					
HAU	**Haudompre**	**92.80**	**41**	*e*P	**P**	**01 13 31.4 -0.9**
HAU	**Haudompre**	**92.80**	**41**	*e*P	**P**	**01 13 31.4 -0.9**
CDF	**Champ du Feu**	**93.52**	**41**	*e*P	**P**	**01 13 35.0 -0.7**
	comp=Z,6.4nm,0.9s					
CDF	**Champ du Feu**	**93.52**	**41**	*e*P	**P**	**01 13 35.0 -0.7**
CDF				pmax	pmax	
	comp=Z,6.0nm,0.9s					
CDF	**Champ du Feu**	**93.52**	**41**	*e*P	**P**	**01 13 35.0 -0.7**
	comp=Z,6.4nm,0.9s					
RETA	**Reutte**	**95.43**	**42⇑**	*i* P	**P**	**01 13 44.2 -0.2**
	comp=Z,5.4nm,1.2s					
MOTA	**Moosalm**	**95.61**	**42⇓**	*i* P	**P**	**01 13 44.2 -1.1**
	comp=Z,2.3nm,0.8s					
WTTA	**Wattenberg**	**95.93**	**43⇑**	*i* P	**P**	**01 13 46.5 -0.3**
	comp=Z,6.6nm,1.0s					
GRF	**Grafenberg Arr**	**96.39**	**40**	*e*P	**P**	**01 13 48.8 +0.1**
	comp=Z,6.0nm,1.0s					
GERES	**GERESS Array B**	**97.71**	**41**	P	**P**	**01 13 53.9 -0.8**
	comp=Z,0.8nm,0.9s,baz=243,slow=4.3,SNR=5.9					
GERES				pP	**pP**	**01 14 46.8 +0.5**
	comp=Z,1.4nm,0.9s,baz=270,slow=2.0,SNR=5.3					
GERES				PKKPbc	**PKKPbc**	**01 30 29.6 -1.8**
	comp=Z,0.3nm,0.6s,baz=74,slow=3.6,SNR=5.7					
CLL	**Collm**	**97.95**	**39**	*e*SKSac	**SKSac**	**01 24 19.0 +6.2**
CLL				*e*Sdif	Sdif	01 25 04.0 +0.5
CLL				*e*PS	PS	01 26 42.0 -13
CLL				*e*PPS	PPS	01 27 31.0
ILAR	**Eielson Array**	**99.26**	**335**	P	**Pdif**	**01 14 00.0 -1.1**
	comp=Z,1.3nm,0.9s,baz=131,slow=3.1,SNR=10					
ILAR				PP	PP	01 17 59.6 -7.3
	comp=Z,0.8nm,0.9s,baz=109,slow=7.7,SNR=7.2					
COLA	**College**	**99.69**	**335⇑**	*e*P	**Pdif**	**01 14 02.1 -0.9**
COLA				pmax	pmax	
	comp=Z,25nm,1.1s					
ARCES	**ARCESS Array B**	**106.86**	**21**	PKKPbc	PKKPbc	01 30 01.6 -3.5
	comp=Z,5.3nm,1.0s,baz=97,slow=3.7,SNR=8.0					
BRTR	**Keskin Array B**	**110.24**	**53**	PKiKP	**PKiKP**	**01 18 50.8 -0.2**
	comp=Z,0.3nm,0.7s,baz=184,slow=3.2,SNR=3.6					
BRTR				PKKPab	**PKKPab**	**01 30 02.9 -0.4**
	comp=Z,1.2nm,0.8s,baz=110,slow=4.8,SNR=10					
KBZ	**Khabaz**	**117.22**	**49**	PKP	**PKPdf**	**01 19 04.3 +0.3**
	comp=Z,1.2nm,0.7s,baz=234,slow=7.6,SNR=5.2					
TIXI	**Tiksi**	**123.53**	**353**	*i* PKIKP	**PKPdf**	**01 19 14.3 -1.0**
TIXI				pmax	pmax	
	comp=Z,2.0nm,0.7s					
ARU	**Arti**	**124.09**	**32**	*i* PKIKP	**PKPdf**	**01 19 17.4 +0.6**
ARU						01 21 12.1
ARU						01 26 01.9
ARU				SS	SS	01 37 56.5 +19
ARU	**Arti**	**124.09**	**32**	*e*PKPdf	**PKPdf**	**01 19 17.4 +0.6**
SEY	**Seymchan**	**125.04**	**338**	PKP	**PKPdf**	**01 19 18.8 +0.4**
	comp=Z,3.9nm,0.6s,baz=73,slow=20,SNR=8.7					
AKTO	**Aktyubinsk**	**126.03**	**39**	PKIKP	**PKPdf**	**01 19 19.5 -1.2**
AKTO				pmax	pmax	
	comp=Z,3.0nm,0.8s					
AB31	**Akbulak array**	**127.61**	**40**	*i* PKIKP	**PKPdf**	**01 19 24.5 +0.7**
AB31				pmax	pmax	
	comp=Z,3.0nm,0.6s					
GEYT	**Alibeck**	**129.37**	**54**	PKP	**PKPdf**	**01 19 28.1 +0.5**
	comp=Z,1.1nm,0.7s,baz=270,slow=2.6,SNR=5.6					
BVA0	**Borovoye Array**	**131.73**	**31**	*i* PKIKP	**PKPdf**	**01 19 31.2 -0.3**
BVA0				pmax	pmax	
	comp=Z,2.0nm,1.1s					
BVAR	**Borovoye Array**	**131.73**	**31**	SKPab	**SKPab**	**01 22 40.3 +1.9**
	comp=Z,4.7nm,0.8s,baz=298,slow=3.4,SNR=12					
ASAR	**Alice Springs**	**134.19**	**211**	PKnKP	PKPpre	01 19 22.1
	comp=Z,0.7nm,0.7s,baz=137,slow=2.3,SNR=5.6					
ASAR				PKP	**PKPdf**	**01 19 36.5 -0.7**
	comp=Z,3.9nm,0.7s,baz=132,slow=2.1,SNR=22					
ASAR				SKPbc	**SKPbc**	**01 22 46.5 -0.6**
	comp=Z,6.8nm,0.9s,baz=140,slow=3.9,SNR=18					
PMG	**Port Moresby**	**135.62**	**237**	*i* PKIKP	**PKPdf**	**01 19 39.7 -0.3**
PMG				pmax	pmax	
	comp=Z,14nm,1.7s					
COEN	**Coen**	**135.88**	**229**	P	**Pdif**	**01 16 45.1 -0.1**
	baz=26,SNR=5.6					
COEN	**Coen**	**135.88**	**229**	*e*PKPdf	**PKPdf**	**01 19 40.6 +0.2**
NVS	**Novosibirsk**	**136.13**	**22**	*e*PKIKP	**PKPdf**	**01 19 39.3 -0.4**
NVS				*e*		01 20 34.0
KK31	**Karatay Array**	**136.78**	**43**	*i* PKIKP	**PKPdf**	**01 19 42.0 +0.7**
WB2	**Warramunga Arr**	**137.05**	**214**	*e*Pdif	**Pdif**	**01 16 51.0 +0.7**
WB2				*e*PKPdf	**PKPdf**	**01 19 42.2 -0.3**
WRA	**Warramunga Arr**	**137.06**	**214**	PKhKP	PKPpre	01 19 29.0
	comp=Z,1.1nm,0.6s,baz=139,slow=2.5,SNR=5.8					
WRA				PKP	**PKPdf**	**01 19 42.2 -0.3**
	comp=Z,12nm,0.9s,baz=155,slow=1.6,SNR=26					
WRA				SKPbc	**SKPbc**	**01 22 55.2 -0.7**
	comp=Z,16nm,1.0s,baz=144,slow=2.6,SNR=22					
WRAB	**Tennant Creek**	**137.06**	**214**	*i* PKIKP	**PKPdf**	**01 19 42.0 -0.5**
WRAB				pmax	pmax	
	comp=Z,41nm,1.2s					
WRAB	**Tennant Creek**	**137.06**	**214**	*e*Pdif	**Pdif**	**01 16 51.1 +0.7**
WRAB				*e*PKPdf	**PKPdf**	**01 19 42.3 -0.2**
KURK	**Kurchatov**	**137.17**	**30**	*e*PKIKP	**PKPdf**	**01 19 42.3 +0.5**
KURK	**Kurchatov**	**137.17**	**30**	*e*PKPdf	**PKPdf**	**01 19 42.2 +0.5**
KURK				SKP		01 22 56.5
KURBB	**Kurchatov Arra**	**137.19**	**30**	SKP	**SKPbc**	**01 22 56.5 +1.3**
	comp=Z,4.7nm,0.9s,baz=305,slow=3.0,SNR=14					
ZALV	**Zalesovo Beam**	**137.41**	**22**	PKP	**PKPdf**	**01 19 41.3 -0.7**
	comp=Z,15nm,0.7s,baz=321,slow=2.1,SNR=52					
ZALV				pPKP	**pPKPdf**	**01 20 37.5 +1.4**
	comp=Z,7.3nm,0.9s,baz=339,slow=3.0,SNR=3.3					
ZALV				SKP		01 22 57.0
	comp=Z,12nm,0.8s,baz=328,slow=3.5,SNR=19					
EKS2	**Erkin-Say**	**139.11**	**42**	*e*PKIKP	**PKPdf**	**01 19 47.9 +2.1**
EKS2	**Erkin-Say**	**139.11**	**42**	*e*PKPdf	**PKPdf**	**01 19 47.9 +2.1**
AAK	**Ala-Archa**	**139.59**	**42**	*e*PKIKP	**PKPdf**	**01 19 48.3 +1.6**
AAK	**Ala-Archa**	**139.59**	**42**	SKPbc	**SKiKP**	**01 23 04.5 -0.8**
	comp=Z,12nm,1.0s,baz=166,slow=4.2,SNR=15					
AAK	**Ala-Archa**	**139.59**	**42**	*e*PKPdf	**PKPdf**	**01 19 48.3 +1.6**
AAK				SKPbc	**SKiKP**	**01 23 04.5 -0.8**
TKM2	**Tokmak 2**	**140.14**	**41**	PKIKP	**PKPdf**	**01 19 46.9 -0.8**
TKM2				pmax	pmax	
	comp=Z,3.0nm,1.0s					
TKM2	**Tokmak 2**	**140.14**	**41**	*e*PKPdf	**PKPdf**	**01 19 47.5 -0.3**
MK31	**Makanchi Array**	**141.62**	**31**	*i* PKHKP	PKPpre	01 19 45.0
MK31				pmax	pmax	
	comp=Z,1.0nm,0.3s					
MKAR	**Makanchi Array**	**141.62**	**31**	PKhKP	PKPpre	01 19 45.4
	comp=Z,1.2nm,0.7s,baz=323,slow=3.7,SNR=18					
MKAR				pPKP	pPKPdf	01 20 50.2 +6.2
	comp=Z,1.6nm,0.8s,baz=300,slow=3.1,SNR=3.1					
MKAR				SKPbc	**SKPbc**	**01 23 07.8 +0.3**
	comp=Z,6.0nm,0.8s,baz=323,slow=2.4,SNR=13					
KSH	**Kashi**	**142.06**	**45**	PKP	**PKPdf**	**01 19 51.9 +0.7**
KSH				sPKP		01 20 51.1
KSH				PP	**PP**	**01 22 59.3 +0.4**
KSH				PKS	**PKSdf**	**01 23 27.8 +0.7**
KSH				SKS	**SKSdf**	**01 26 46.8 +5.4**
KSH				SKKS	**SKKSac**	**01 29 37.9 +6.4**
KSH				SS	**SS**	**01 41 20.1 +4.7**
KSH				PPMZ		
	comp=Z,90nm,4.0s					
KSH				LN		
	comp=Z,57nm,4.4s					
KSH				LE		
	comp=Z,30nm,4.2s					
KSH				LZ		
	comp=Z,160nm,6.3s					
HABR	**Khabarovsk**	**142.07**	**333**	*e*PKIKP	**PKPdf**	**01 19 47.6 -3.1**
HABR				*e*		01 20 39.5
HABR				*e*		01 23 02.8
HABR				*e*PPP	PPP	01 26 05.5
HABR				*e*		01 26 38.1
HABR				*e*SS	SS	01 41 15.3 +1.4
HABR				*e*SSS	SSS	01 46 36.3
HABR				pmax	pmax	
	comp=Z,10.0nm,0.9s					
HABR				MLR	MLR	
	comp=Z,110nm,21.0s					
HVS	**Khovu-Aksy**	**142.69**	**17**	*i* PKIKP	**PKPdf**	**01 19 51.3 -0.6**
MOY	**Mondy**	**143.87**	**10**	*e*PKIKP	**PKPdf**	**01 19 58.5 +4.5**
TLY	**Talaya**	**144.23**	**7**	*e*PKIKP	**PKPdf**	**01 19 54.6 +0.1**
TLY				*e*		01 23 13.3
TLY				*e*SS	SS	01 42 46.8 +69
TLY				pmax	pmax	
	comp=Z,13nm,0.9s					
TLY	**Talaya**	**144.23**	**7**	PKP	**PKPdf**	**01 19 54.3 -0.2**
	comp=Z,9.0nm,0.7s,baz=313,slow=3.7,SNR=12					
JAY	**Jayapura**	**144.77**	**241**	PKP	**PKPdf**	**01 19 56.5 -0.1**
	comp=Z,33nm,1.0s,baz=243,slow=2.3,SNR=4.0					
POO	**Poona**	**145.03**	**81**	*e*P	**PKPbc**	**01 19 55.0 -1.7**
ZAK	**Zakamensk**	**145.46**	**8**	*e*PKP2	**PKPdf**	**01 19 56.9 +0.2**
ZAK				pmax	pmax	
	comp=Z,11nm,1.0s					
HIA	**Hailar**	**146.21**	**349**	*e*PKP2	**PKPdf**	**01 19 58.6 +0.6**
HIA	**Hailar**	**146.21**	**349**	*e*PKPdf	**PKPdf**	**01 19 58.6 +0.6**
WMQ	**Urumqi**	**146.41**	**30**	PKPbc	**PKPbc**	**01 19 59.6 -0.6**
WMQ				PP	PP	01 23 29.8 +5.6
WMQ				LN		
	comp=Z,81nm,24.0s					
WMQ				LE		
	comp=Z,44nm,24.0s					
WMQ				LZ		
	comp=Z,69nm,20.0s					
USRK	**Ussuriysk Ar.**	**146.70**	**331**	PKPbc	**PKPbc**	**01 20 01.0 +0.1**
	comp=Z,28nm,0.8s,baz=32,slow=1.8,SNR=35					
USRK				pPKPbc	pPKPbc	01 20 57.8 +3.6
	comp=Z,9.1nm,0.9s,baz=333,slow=1.6,SNR=3.0					
DDI	**Dehra Dun**	**147.24**	**59**	*ex*	**PKSbc**	**01 23 42.6 +0.1**
MDJ	**Mudanjiang**	**147.43**	**334**	PKPbc	**PKPbc**	**01 20 02.5 -0.4**
MJAR	**Matsushiro Arr**	**148.15**	**315**	PKPbc	**PKPbc**	**01 20 04.7 -0.4**
	comp=Z,30nm,1.0s,baz=86,slow=0.8,SNR=41					
MJAR				pPKPbc	**pPKPbc**	**01 20 59.7 +1.1**
	comp=Z,11nm,0.8s,baz=100,slow=0.9,SNR=4.1					
MAT	**Matsushiro**	**148.15**	**315**	PKP	**PKPbc**	**01 20 04.4 -0.7**
SONM	**Songino Array**	**148.32**	**5**	PKPbc	**PKPbc**	**01 20 05.0 -0.3**
	comp=Z,26nm,0.8s,baz=335,slow=1.5,SNR=123					
SONM				pPKPbc	**pPKPbc**	**01 21 00.7 +1.8**
	comp=Z,6.6nm,0.8s,baz=352,slow=2.3,SNR=3.1					
ULN	**Ulaanbaatar**	**148.34**	**4**	*e*PKIKP	**PKPdf**	**01 20 02.1 +0.4**
ULN				*e*		01 20 06.3
ULN	**Ulaanbaatar**	**148.34**	**4**	*e*PKPdf	**PKPdf**	**01 20 02.1 +0.4**
ULN				*e*PKPbc	**PKiKP**	**01 20 06.3 -0.6**
HYB	**Hyderabad**	**149.46**	**83**	*i* PKP	**PKPdf**	**01 20 04.0 -0.2**
HYB				*e*		01 21 03.0
CN2	**Changchun**	**149.72**	**338**	*e*PKPbc	**PKPbc**	**01 20 09.1 +0.4**
BATI	**Baumata**	**150.65**	**207**	PKPbc	**PKPbc**	**01 20 12.1 +0.3**
	comp=Z,78nm,1.1s,baz=68,slow=2.4,SNR=12					
BATI				PKPab	**PKPab**	**01 20 20.3 +1.1**
	comp=Z,48nm,0.8s,baz=127,slow=7.1,SNR=7.6					
SOEI	**Soe**	**150.77**	**209**	*e*PKPdf	**PKPdf**	**01 20 07.1 +0.6**
SOEI				*e*PKPbc	**PKiKP**	**01 20 13.1 +0.2**
SOEI				*e*PKPab	**PKPab**	**01 20 22.2 +2.3**
FAKI	**Fak Fak**	**151.25**	**230**	*e*PKPbc	**PKPbc**	**01 20 13.4 +0.1**
KSRS	**Korea Array**	**153.84**	**327**	PKP	**PKPdf**	**01 20 10.9 +0.8**
	comp=Z,4.1nm,0.8s,baz=50,slow=1.4,SNR=14					
KSRS				PKPbc	**PKPbc**	**01 20 18.3 0.0**
	comp=Z,12nm,0.9s,baz=18,slow=1.5,SNR=18					
KSRS				pPKPbc	**pPKPbc**	**01 21 07.3 -4.8**
	comp=Z,3.3nm,0.8s,baz=21,slow=0.7,SNR=3.2					
KSAR	**Wonju Array Be**	**153.87**	**327**	PKIKP	**PKPdf**	**01 20 10.9 +0.7**
KSAR						01 21 07.3
KSAR	**Wonju Array Be**	**153.87**	**327**	PKP	**PKPdf**	**01 20 10.9 +0.7**
KSAR				PKPbc	**PKPbc**	**01 20 18.3 -0.1**
KSAR				pPKPbc	**pPKPbc**	**01 21 07.3 -4.8**
GTA	**Gaotai**	**155.12**	**20**	*e*PKP	**PKPdf**	**01 20 13.6 +1.5**
GTA				pPKP	pPKPdf	01 20 56.5 -10
GTA				sPKP		01 21 12.6
HHC	**Hu-ho-hao-te**	**155.47**	**358**	*e*PKP	**PKPdf**	**01 20 12.6 +0.1**
HHC				pPKP	pPKPdf	01 20 55.3 -11
HHC				sPKP		01 21 11.9
HHC				PP	**PP**	**01 24 19.5 +4.2**
HHC				SKS	**SKSdf**	**01 27 01

JAY	Jayapura	15.99	116	LR	LR	01 20 21.7	
	comp=Z,61nm,20.6s,baz=268,slow=33						
WRA	Warramunga Arr	25.72	163	P	P	01 16 51.1	+0.4
	1.4nm,0.6s,baz=341,slow=10,SNR=15						
JCJ	Chichijima	26.87	32	LR	LR	01 26 22.7	
	comp=Z,149nm,21.0s,baz=141,slow=33						
ASAR	Alice Springs	29.15	166	P	P	01 17 21.9	+0.5
	0.5nm,0.4s,baz=343,slow=7.0,SNR=8.4						
CMAR	Chiang Mai Arr	30.10	299	P	P	01 17 28.5	-1.4
	0.9nm,0.3s,baz=110,slow=6.8,SNR=3.2						
KSRS	Korea Array	32.61	2	P	P	01 17 53.5	+2.0
	1.0nm,0.5s,baz=176,slow=10,SNR=4.7						
SONM	Songino Array	46.26	341	P	P	01 19 45.5	+0.4
	0.3nm,0.4s,baz=161,slow=7.7,SNR=6.0						
MKAR	Makanchi Array	56.56	325	P	P	01 21 02.4	+0.5
	0.9nm,0.4s,baz=123,slow=7.5,SNR=15						
MKAR				PcP	PcP	01 21 56.6	-0.9
	1.5nm,0.5s,baz=118,slow=3.5,SNR=5.6						
KURBB	Kurchatov Arra	60.74	327	P	P	01 21 29.7	-1.0
	2.1nm,0.4s,baz=128,slow=6.3,SNR=36						
BVAR	Borovoye Array	66.32	327	P	P	01 22 07.1	-0.4
	0.8nm,0.3s,baz=132,slow=8.6,SNR=10						
ILAR	Eielson Array	84.35	25	P	P	01 23 51.6	+1.0
	0.2nm,0.5s,baz=254,slow=4.8,SNR=6.0						
ILAR				LR	LR	01 58 20.8	
	comp=Z,27nm,21.8s,baz=126,slow=33						
JOF	Joensuu	88.16	333	*ep*	P	01 24 08.0	-1.2
	2.3nm,0.5s						
KEV	Kevo	88.86	340	*ep*	P	01 24 12.0	-0.4
	0.5nm,0.4s						
BRTR	Keskin Array B	89.14	310	P	P	01 24 12.7	-1.9
	0.2nm,0.4s,baz=61,slow=3.6,SNR=5.9						
ARCES	ARCESS Array B	89.41	340	P	P	01 24 14.8	-0.3
	4.1nm,0.8s,baz=85,slow=5.7,SNR=18						
KAF	Kangasniemi	90.58	332	*ep*	P	01 24 19.0	-1.6
	1.5nm,0.4s						
FINES	FINESS Array B	90.81	332	P	P	01 24 21.1	-0.7
	0.7nm,0.4s,baz=79,slow=4.0,SNR=15						
NB2	NORSAR Subarra	97.76	334	P	P	01 24 52.4	-1.2
	comp=Z,0.7nm,0.6s,baz=66,slow=4.8						
NOA	NORSAR Array B	97.76	334	P	P	01 24 52.5	-1.2
	comp=Z,1.1nm,0.7s,baz=66,slow=4.6,SNR=5.6						
YKA	Yellowknife Ar	98.73	24	P	Pdif	01 24 58.8	+0.9
	comp=Z,0.1nm,0.6s,baz=300,slow=4.6,SNR=3.9						
TORD	Torodi Ar. Bea	122.30	289	PKP	PKPdf	01 30 14.3	-0.1
	comp=Z,0.2nm,0.3s,baz=61,slow=1.7,SNR=17						

*ISCJB **22** 01:18:03.4±0.5, 26°.98N±0°.05×140°.4E±0°.1, h443km, mb3.6/15, Error ellipse: s-maj=12.6km s-min=6.4km az=170.4*
*IDC **22** 01:18:03.8±0.6, 26°.91N×140°.44E, h434km±8km, mb3.2/13, mb1 3.4/13, mb1mx3.2/25, mbtmp4.0/13, Error ellipse: s-maj=24.1km s-min=14.3km az=81.0*
*JMA **22** 01:18:05.6±0.2, 27°.18N×140°.95E, h449km, M4.3*
ISC 22 01:18:04.5±0.7, 27°.01N±0°.08×140°.5E±0°.2, h443km, n24, σ1§18/32, mb3.6/15, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.50	87	P	P	01 19 02.3	+0.4
CBIJ				*eS*	S	01 19 47.2	-1.2
JCJ	Chichijima	1.50	87	P	P	01 19 02.5	+0.6
	baz=300,slow=20						
JCJ				S	S	01 19 46.6	-1.8
	54nm,0.3s,baz=254,slow=24,SNR=9.5						
JHHJ	Haha-jima-NKT	1.54	104	P	P	01 19 03.1	+1.0
JHHJ				*eS*	S	01 19 48.0	-0.7
JHJ2	Mitsune	6.11	355	P	P	01 19 40.9	+1.4
JHJ2				S	S	01 20 55.9	-1.4
BSO3	Boso 3	7.76	0	P	P	01 19 57.9	+1.0
BSO3				S	S	01 21 26.0	-3.1
BSO4	Boso 4	7.95	359	P	P	01 19 59.1	0.0
BSO4				*eS*	S	01 21 32.4	-0.8
TATJ	Tateyama 2	8.01	356	S	S	01 21 32.4	-2.1
JHO	Hitachi	9.57	0	P	P	01 20 18.7	+1.9
JHO				S	S	01 22 03.7	-2.1
WRA	Warramunga Arr	47.06	188	P	P	01 25 53.8	-1.1
	1.5nm,0.4s,baz=5.4,slow=7.7,SNR=11						
ZALV	Zalesovo Beam	48.57	319	P	P	01 26 05.9	+0.1
	0.7nm,0.3s,baz=109,slow=7.2,SNR=6.5						
ZALV				PcP	PcP	01 27 22.8	-0.7
	0.5nm,0.5s,baz=108,slow=4.7,SNR=2.7						
MKAR	Makanchi Array	49.37	310	P	P	01 26 12.2	+0.2
	0.5nm,0.5s,baz=94,slow=9.3,SNR=7.7						
ASAR	Alice Springs	50.79	188	P	P	01 26 21.7	-0.9
	0.3nm,0.6s,baz=1.8,slow=5.9,SNR=4.5						
KURBB	Kurchatov Arra	52.03	314	P	P	01 26 31.5	+0.2
	1.6nm,0.5s,baz=92,slow=8.4,SNR=20						
BVAR	Borovoye Array	57.09	317	P	P	01 27 07.2	+0.2
	0.8nm,0.4s,baz=81,slow=7.8,SNR=6.3						
ILAR	Eielson Array	58.50	29	P	P	01 27 17.4	+0.9
	0.3nm,0.6s,baz=262,slow=5.5,SNR=4.5						
YKA	Yellowknife Ar	72.92	28	P	P	01 28 48.4	+1.3
	0.2nm,0.3s,baz=298,slow=5.6,SNR=5.2						
ARCES	ARCESS Array B	73.12	341	P	P	01 28 49.1	+0.8
	4.3nm,0.9s,baz=68,slow=7.8,SNR=7.8						
JOF	Joensuu	74.49	333	*ep*	P	01 28 55.6	-0.5
	1.4nm,0.5s						
KAF	Kangasniemi	76.89	334	*ep*	P	01 29 09.0	-0.6
	3.4nm,0.5s						
KBZ	Khabaz	76.96	312	P	P	01 29 10.9	+0.7
	1.3nm,0.9s,baz=210,slow=17,SNR=3.4						
FINES	FINESS Array B	77.35	333	P	P	01 29 12.3	+0.2
	3.6nm,0.3s,baz=80,slow=4.8,SNR=71						
AKASG	Malin Array Be	81.79	323	P	P	01 29 35.5	-0.3
	1.0nm,0.5s,baz=53,slow=5.3,SNR=4.5						
NB2	NORSAR Subarra	83.12	338	P	P	01 29 42.1	-0.4
	comp=Z,0.8nm,0.4s,baz=56,slow=5.1						
NOA	NORSAR Array B	83.12	338	P	P	01 29 42.1	-0.4
	comp=Z,1.5nm,0.5s,baz=38,slow=5.0,SNR=12						

*ISCJB **22** 01:24:05.7±0.4, 35°.91S±0°.04×72°.81W±0°.06, h35km, mb4.4/18, MS3.8/5, Error ellipse: s-maj=7.5km s-min=5.5km az=27.0*
*IDC **22** 01:24:06.6±0.8, 35°.91S×72°.59W, h26km±5km, mb4.1/12, mb1 4.3/14, mb1mx4.2/19, mbtmp4.2/14, ML4.3/2, MS3.8/5, Ms1 3.7/5, ms1mx3.4/20, Error ellipse: s-maj=23.0km s-min=13.1km az=92.0*
*GUC **22** 01:24:07.8±0.6, 35°.85S×72°.62W, h11km±5km, ML4.9*
*NEIC **22** 01:24:07.7±0.4, 35°.88S×72°.73W, h35km, mb4.5/6, Error ellipse: s-maj=12.3km s-min=6.6km az=88.0*
ISC 22 01:24:07.5±0.5, 35°.97S±0°.05×72°.77W±0°.08, h35km, n44, σ1§50/53, mb4.3/18, MS3.8/5, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	Linares	0.95	83	‖*iP*	Pn	01 24 24.0	-0.3
LNCH				*i* S	Sn	01 24 36.3	-0.5
TALC	Talca	1.08	59	‖*iP*	Pn	01 24 25.8	-0.3
TALC				*i* S	Sn	01 24 39.0	-0.9
NICH	Los Niches	1.58	53	‖*iP*	Pn	01 24 34.1	+1.1
NICH				*i* S4	Sn	01 24 55.1	+2.9
ANTU	Antumapu	2.97	37	*eP*	Pn	01 24 55.0	+2.9
ANTU				*i* S	Sn	01 25 31.7	+5.1
ANTU				IAML		01 25 45.8	
	comp=E,3μm,0.4s						
PEL	Peldehue	3.30	32	⇑*iP*	Pn	01 24 57.1	+0.4
PEL				*i* S	Sn	01 25 39.1	+4.4
PEL				IAML		01 26 00.9	
	comp=E,4μm,1.0s						
PLCA	Paso Flores	5.07	161	Pn	Pn	01 25 22.1	+1.2
	comp=E,3.3nm,0.3s,baz=330,slow=11,SNR=79						
PLCA				Lg	Lg	01 26 37.5	
	comp=E,1.1nm,0.3s,baz=266,slow=19,SNR=2.2						
PLCA	Paso Flores	5.07	161	*ePn*	Pn	01 25 22.3	+1.3
	comp=E,98nm,0.8s						
PLCA				Lg	Lg	01 26 37.5	
CFAA	Coronel Fontan	5.76	42	Pn	Pn	01 25 29.8	-0.7
	comp=E,0.3nm,0.3s,baz=4.7,slow=6.2,SNR=62						
CFAA				Sn	Sn	01 26 35.8	+0.4
	comp=E,0.4nm,0.3s,baz=270,slow=15,SNR=2.2						
CFAA				Lg	Lg	01 26 53.8	
	comp=E,0.9nm,0.3s,baz=74,slow=4.8,SNR=10.0						
CFAA				LR	LR	01 27 58.5	
	comp=E,52nm,21.2s,baz=240,slow=41						
LCO	Las Campanas	7.15	15	*ePn*	Pn	01 25 47.8	-2.0
	comp=E,35nm,0.8s						
LCO				*eS*	Sn	01 27 07.8	-2.3
TRQA	Tornquist	8.88	107	*ePn*	Pn	01 26 15.4	+2.2
	comp=E,32nm,0.8s						
TRQA				*eS*	Sn	01 28 04.5	+12
LVC	Limon Verde	13.72	15	*ePn*	Pn	01 27 20.3	+0.5
EFI	East Falkland	18.89	151	*eP*	P	01 28 23.9	-0.8
	comp=E,76nm,1.2s						
USHA	Ushuaia	19.10	172	P	Pn	01 28 29.8	+1.8
	comp=E,0.2nm,0.3s,baz=346,slow=12,SNR=2.9						
LPAZ	La Paz	20.03	13	P	P	01 28 39.1	+1.0
	comp=E,0.3nm,0.3s,baz=191,slow=7.4,SNR=23						
LPAZ	La Paz	20.03	13	*eP*	P	01 28 37.5	-0.6
	comp=E,6.8nm,0.8s						
SIV	San Ignacio	22.46	31	P	P	01 29 02.3	-1.4
	comp=E,9.4nm,0.7s,baz=236,slow=13,SNR=39						
BDFB	Brasilia	29.95	54	P	P	01 30 11.1	-1.5
	comp=E,3.1nm,0.7s,baz=229,slow=11,SNR=6.3						
BDFB				LR	LR	01 43 31.5	
	comp=E,158nm,21.2s,baz=234,slow=39						
OTAV	Otavalo	36.41	350	*eP*	P	01 31 09.6	+0.4
	comp=E,1.2nm,0.6s						
RCBR	Riachuelo	45.20	57	*eP*	P	01 32 21.8	+0.5
	comp=E,7.5nm,0.8s						
VNA3	Neumayer Olymp	47.77	157	P	P	01 32 41.3	+0.5
VNA2	Neumayer--Watz	48.44	156	P	P	01 32 46.3	+0.4
	baz=282,slow=10.0						
SNAA	Sanae	50.00	157	P	P	01 32 58.6	+0.7
SNAA	Sanae	50.00	157	P	P	01 32 58.3	+0.4
	comp=E,2.4nm,0.8s,baz=282,slow=8.8,SNR=7.7						
QSPA	South Pole Qui	54.27	180	P	P	01 33 30.3	+0.5
	comp=E,4.0nm,0.7s,baz=289,slow=0.9,SNR=23						
QSPA				pP	pP	01 33 38.9	-1.4
	comp=E,6.9nm,0.9s,baz=201,slow=2.4,SNR=8.9						
QSPA	South Pole Qui	54.27	180	*eP*	P	01 33 30.7	+0.9
	comp=E,5.7nm,0.9s						
QSPA				pP	pP	01 33 38.9	-1.4
VNDA	Vanda	62.06	192	P	P	01 34 25.1	+1.2
	comp=E,0.2nm,0.5s,baz=118,slow=8.1,SNR=1.9						
VNDA				pP	pP	01 34 33.4	-1.2
	comp=E,1.0nm,0.9s,baz=42,slow=2.0,SNR=3.5						
PPT	Papeete	69.39	263	LR	LR	01 58 10.7	
	comp=E,85nm,18.9s,baz=178,slow=29						
LPIG	La Paz	69.49	324	LR	LR	02 00 45.9	
	comp=E,38nm,18.1s,baz=178,slow=32						
TXAR	Lajitas Array	71.17	332	P	P	01 35 23.3	+0.6
	comp=E,1.6nm,0.6s,baz=153,slow=8.5,SNR=20						
TXAR				LR	LR	02 00 53.1	
	comp=E,58nm,20.3s,baz=0.0,slow=31						
LIC	Lamto	75.96	72	*eP*	P	01 35 50.5	-0.6
	comp=E,10nm,0.7s						
TIC	Toumodi	76.23	71	*eP*	P	01 35 52.0	-0.7
	comp=E,4.1nm,0.2s						
KIC	Kosan Boka	76.27	72	*eP*	P	01 35 52.6	-0.3
	comp=E,23nm,1.0s						
DBIC	Dimbokro	76.38	71	P	P	01 35 53.1	-0.3
	comp=E,2.5nm,0.7s,baz=200,slow=7.0,SNR=7.9						
DBIC				LR	LR	02 06 01.6	
	comp=E,61nm,21.2s,baz=185,slow=33						
BOSA	Boshof	79.69	118	P	P	01 36 11.7	-0.2
	comp=E,7.4nm,0.7s,baz=242,slow=4.3,SNR=20						
ECSD	EROS Data Cent	82.24	343	*eP*	P	01 36 24.0	-0.7
	comp=E,6.0nm,0.7s						
NVAR	Mina Array Bea	85.16	326	P	P	01 36 41.3	+1.1
	comp=E,1.4nm,0.6s,baz=158,slow=5.7,SNR=9.9						
PDAR	Pinedale Array	85.25	334	P	P	01 36 40.2	-0.3
	comp=E,0.3nm,0.6s,baz=134,slow=5.2,SNR=3.2						
TORD	Torodi Ar. Bea	85.44	70	P	P	01 36 40.2	-1.6
	comp=E,1.6nm,1.0s,baz=224,slow=4.9,SNR=7.9						
ULM	Lac du Bonnet	88.24	345	P	P	01 36 53.5	-1.0
	comp=E,3.9nm,0.7s,baz=158,slow=2.4,SNR=8.7						
ULM				pP	PcP	01 37 02.8	+6.6
	comp=E,3.3nm,0.8s,baz=182,slow=4.5,SNR=5.3						
PSI	Prapat	146.11	165	PKPbc	PKPdf	01 43 43.3	-0.4
	comp=E,9.6nm,0.8s,baz=128,slow=3.0,SNR=9.9						
KKAR	Karatay Array	150.97	64	*e*PKPbc	PKPbc	01 43 56.0	-0.3
ZALV	Zalesovo Beam	156.20	34	PKPab	PKPab	01 44 25.1	-0.4
	comp=E,1.5nm,0.7s,baz=295,slow=4.4,SNR=5.2						
MKAR	Makanchi Array	158.47	52	PKP	PKPdf	01 44 00.8	0.0
	comp=E,0.3nm,0.8s,baz=318,slow=1.9,SNR=3.6						
MKAR				PKPab	PKPab	01 44 35.4	-0.4
	comp=E,0.8nm,0.7s,baz=299,slow=3.3,SNR=8.1						
SONM	Songino Array	168.13	3	PKPab	PKPab	01 45 18.3	+0.3
	comp=E,0.7nm,0.8s,baz=339,slow=3.7,SNR=4.8						
SONM				pPKPab	pPKPab	01 45 26.4	-2.7
	comp=E,0.5nm,0.7s,baz=324,slow=4.3,SNR=3.6						

*ISK **22** 01:24:28.3, 35°.69N×28°.33E, h8km, MD3.4*
*DDA **22** 01:24:28.5, 35°.64N×28°.47E, h24km, MD3.6*
*CSEM **22** 01:24:29.3±0.3, 35°.48N×28°.45E, h30km, MD3.3, Error ellipse: s-maj=7.6km s-min=3.8km az=162.0*
*ATH **22** 01:24:30.5, 35°.56N×28°.26E, h41km±3km, MD3.3/8*
ISC 22 01:24:26.4±1.5, 35°.57N±0°.05×28°.40E±0°.02, h4km±11km, n76, σ1§30/98, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.68	341	*eP*	Pn	01 24 44.5	+1.7
ARG				*eS*	Sn	01 24 54.7	+0.9
ARG	Arkhangelos	0.68	341	*eP*	Pn	01 24 44.5	+1.7
ARG				*eS*	Sn	01 24 54.7	+0.9
KARP	Karpathos	1.01	269	*eP*	Pn	01 24 48.4	+1.0
KARP				*eS*	Sb	01 25 00.1	-0.1
KARP	Karpathos	1.01	269	*eP*	Pn	01 24 48.4	+1.0
KARP				*eS*	Sb	01 25 00.1	-0.1
AKAS	Kas	1.18	56	*i* P	Pb	01 24 49.8	+0.4
AKAS				*i* S	Sg	01 25 05.3	+1.0
AKAS	Kas	1.18	56	*i* P	Pb	01 24 49.8	+0.4
AKAS				*i* S	Sg	01 25 05.3	+1.0
FETY	Fethiye	1.19	27	*e*PN	Pn	01 24 50.4	+0.5
FETY				*e*SN	Sn	01 25 06.0	-0.5
FETY	Fethiye	1.19	27	*e*Pn	Pn	01 24 50.4	+0.5
FETY				*e*Sn	Sn	01 25 06.1	-0.5
DALY	Dalyan (Mu¨la	1.26	9	*e*PN	Pn	01 24 50.7	0.0
DALY	Dalyan (Mu¨la	1.26	9	*e*Pn	Pn	01 24 50.7	0.0
NIS1	Nisyros Isl.	1.43	316	*e*PN	Pb	01 24 53.1	-0.5
NIS1	Nisyros Isl.	1.43	316	*eP*	Pg	01 24 54.6	+0.9
NIS1				*eS*	Sn	01 25 12.4	+0.1
NIS1	Nisyros Isl.	1.43	316	*e*Pn	Pb	01 24 53.1	-0.5
NIS1	Nisyros Isl.	1.43	316	*eP*	Pg	01 24 54.6	+0.9
NIS1				*eS*	Sn	01 25 12.4	+0.1
YER	Yerkesik	1.56	356	*e*PN	Pb	01 24 55.4	-0.5
YER	Yerkesik	1.56	356	*e*Pn	Pb	01 24 55.4	-0.5
BDRM	Kayabasi	1.68	333	*i* P	Pg	01 24 58.3	-0.2
BDRM				*i* S	Sg	01 25 20.5	+0.2
BDRM	Kayabasi	1.68	333	*i* P	Pg	01 24 58.3	-0.2
BDRM				*i* S	Sg	01 25 20.5	+0.2
ELL	Elmali	1.69	46	*e*PN	Pn	01 24 58.2	+1.4
ELL	Elmali	1.69	46	*e*Pn	Pn	01 24 58.2	+1.4
BODT	Bodrum	1.73	330	*e*PN	Pb	01 24 57.8	-0.9
BODT	Bodrum	1.73	330	*e*Pn	Pb	01 24 57.8	-0.9
ZKR	Zakros	1.84	256	*eP*	Pn	01 24 59.3	+0.5
ZKR	Zakros	1.84	256	*eP*	Pn	01 24 59.3	+0.5
GOLH	Golhisar	1.91	29	*i* P	Pb	01 25 01.6	-0.2
GOLH				*i* S	Sg	01 25 26.7	-0.9
GOLH	Golhisar	1.91	29	*i* P	Pb	01 25 01.6	-0.2
GOLH				*i* S	Sg	01 25 26.7	-0.9
KORT	Korkueli	2.12	47	*i* P	Pn	01 25 03.1	+0.3
KORT				*i* S	Sn	01 25 30.8	+1.1
KORT	Korkueli	2.12	47	*i* P	Pn	01 25 03.1	+0.3
KORT				*i* S	Sn	01 25 30.8	+1.1
AYDN	Tasoluk	2.12	349	*i* P	Pb	01 25 05.6	+0.1
AYDN				*i* S	Sg	01 25 32.3	-2.4
AYDN	Tasoluk	2.12	349	*i* P	Pb	01 25 05.6	+0.1
AYDN				*i* S	Sg	01 25 32.3	-2.4
DNZL	Cakiroluk	2.17	14	*i* P	Pn	01 25 04.7	+1.1
DNZL				*i* S	Sn	01 25 31.3	+0.3
DNZL	Cakiroluk	2.17	14	*i* P	Pn	01 25 04.7	+1.1
DNZL				*i* S	Sn	01 25 31.3	+0.3
ANTB	Antalya	2.25	53	*e*PN	Pn	01 25 06.4	+2.0
ANTB	Antalya	2.25	53	*e*Pn	Pn	01 25 06.4	+2.0
NPS	Neapolis	2.30	263	*eP*	Pn	01 25 06.6	+1.5
NPS	Neapolis	2.30	263	*eP*	Pn	01 25 06.6	+1.5
AYDB	Zeytinkoy-Aydi	2.40	350	*e*PN	Pn	01 25 07.6	+1.0
AYDB	Zeytinkoy-Aydi	2.40	350	*e*Pn	Pn	01 25 07.6	+1.0
LAST	Lasithi	2.42	261	*eP*	Pn	01 25 08.1	+1.2
LAST	Lasithi	2.42	261	*eP*	Pn	01 25 08.1	+1.2
SMG	Samos	2.48	330	*eP*	Pb	01 25 09.0	-2.4
SMG	Samos	2.48	330	*eP*	Pb	01 25 09.0	-2.4
BCK	Bucak	2.58	42	*e*PN	Pn	01 25 11.2	+2.2
BCK	Bucak	2.58	42	*e*Pn	Pn	01 25 11.2	+2.2
APE	Apeiranthos	2.76	304	*e*PN	Pn	01 25 11.8	+0.4
APE	Apeiranthos	2.76	304	*eP*	Pn	01 25 12.7	+1.3
APE	Apeiranthos	2.76	304	*e*Pn	Pn	01 25 11.8	+0.4
APE	Apeiranthos	2.76	304	*eP*	Pn	01 25 12.7	+1.3
ISP	Isparta	2.82	37	*e*PN	Pn	01 25 14.7	+2.4
ISP	Isparta	2.82	37	*e*Pn	Pn	01 25 14.7	+2.4
KULA	Kula-Manisa	2.94	4	*e*PN	Pn	01 25 15.1	+1.1
KULA	Kula-Manisa	2.94	4	*e*Pn	Pn	01 25 15.1	+1.1
IZM	Izmir	2.96	342	*e*PN	Pn	01 25 15.5	+1.2
IZM	Izmir	2.96	342	*e*Pn	Pn	01 25 15.5	+1.2
BLCB	Balcova	3.01	339	*e*PN	Pn	01 25 15.5	+0.7
BLCB	Balcova	3.01	339	*e*Pn	Pn	01 25 15.5	+0.7
GAZI	Gazipasa	3.25	77	*i* P	Pn	01 25 15.3	-2.8
GAZI	Gazipasa	3.25	77	*i* P	Pn	01 25 15.3	-2.8
GAZI				*i* S	Sn	01 25 49.2	-8.1
AKS	Akhisar	3.33	352	*e*PN	Pn	01 25 19.8	+0.5
AKS	Akhisar	3.33	352	*e*Pn	Pn	01 25 19.8	+0.5
VAM	Vamos	3.43	268	*eP*	Pn	01 25 20.7	0.0
VAM	Vamos	3.43	268	*eP*	Pn	01 25 20.7	0.0
SHUT	Suhut-Afyon	3.43	29	*e*PN	Pn	01 25 22.1	+1.3
SHUT	Suhut-Afyon	3.43	29	*e*Pn	Pn	01 25 22.1	+1.3
KARN	Karanos	3.66	269	*eP*	Pn	01 25 25.5	+1.6
KARN	Karanos	3.66	269	*eP*	Pn	01 25 25.5	+1.6
ERMK	Ermenek	3.80	72	*i* P	Pn	01 25 25.5	-0.4
ERMK				*i* S	Sn	01 26 08.0	-3.2
ERMK	Ermenek	3.80	72	*i* P	Pn	01 25 25.5	-0.4
ERMK				*i* S	Sn	01 26 08.0	-3.2
TVSB	Tavsanli	3.96	12	*e*PN	Pn	01 25 30.4	+2.4
TVSB	Tavsanli	3.96	12	*e*Pn	Pn	01 25 30.4	+2.4
KDHN	Kadinhani	4.18	44	*i* P	Pn	01 25 31.6	+0.6
KDHN				*i* S	Sn	01 26 18.9	-1.5
KDHN	Kadinhani	4.18	44	*i* P	Pn	01 25 31.6	+0.6
KDHN				*i* S	Sn	01 26 18.9	-1.5
KYTH	Kithira	4.41	281	*eP*	Pn	01 25 35.9	+1.8
KYTH	Kithira	4.41	281	*eP*	Pn	01 25 35.9	+1.8
VLI	Veliai	4.57	286	*eP*	Pn	01 25 37.6	+1.3
VLI	Veliai	4.57	286	*eP*	Pn	01 25 37.6	+1.3

*ISK **22** 01:32:10.8, 40°.75N×35°.20E, h3km, ML3.5*
*DDA **22** 01:32:10.6, 40°.71N×35°.24E, h7km, ML3.6*
*CSEM **22** 01:32:11.8±0.1, 40°.75N×35°.21E, h2km, ML3.6, Error ellipse: s-maj=3.6km s-min=2.8km az=177.0*
ISC 22 01:32:11.6±1.1, 40°.73N±0°.02×35°.23E±0°.02, h5km±12km, n90, σ1§11/109, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	Corum	0.35	252	*i* P	Pg	01 32 18.2	-0.2
CTKT				*i* S	Sg	01 32 23.6	+0.5
CTKT	Corum	0.35	252	*i* P	Pg	01 32 18.2	-0.2
CTKT				*i* S	Sg	01 32 23.6	+0.5
HAVZ	Havza	0.50	47	*i* P	Pg	01 32 20.8	-0.4
HAVZ				*i* S	Sg	01 32 28.6	+0.8
HAVZ	Havza	0.50	47	*i* P	Pg	01 32 20.8	-0.4
HAVZ				*i* S	Sg	01 32 28.6	+0.8
KVT	Kavak	0.71	60	PG	Pg	01 32 24.5	-0.7
KVT	Kavak	0.71	60	*i* Pg	Pg	01 32 24.5	-0.7
CORM	Corum	0.72	220	PG	Pg	01 32 25.0	-0.4
CORM				*e*SG	Sg	01 32 36.0	+1.3
CORM	Corum	0.72	220	*i* Pg	Pg	01 32 25.0	-0.4
CORM				*e*Sg	Sg	01 32 36.0	+1.3
BOYT	Boyabat	0.73	340	*i* P	Pg	01 32 25.4	-0.2
BOYT				*i* S	Sg	01 32 35.9	+0.8
BOYT	Boyabat	0.73	340	*i* P	Pg	01 32 25.4	-0.2
BOYT				*i* S	Sg	01 32 35.9	+0.8
BYBT	Boyabat	0.81	335	PG	Pg	01 32 26.9	-0.3
BYBT	Boyabat	0.81	335	*i* Pg	Pg	01 32 26.9	-0.3
DIKM	Dikmen	0.92	1	PG	Pg	01 32 29.4	+0.2
DIKM	Dikmen	0.92	1	*i* Pg	Pg	01 32 29.4	+0.2
TOS	Tosya	0.96	289	*e*PG	Pg	01 32 29.8	-0.3
TOS	Tosya	0.96	289	*e*Pg	Pg	01 32 29.8	-0.3
TOKA	Tokat	1.04	113	*i* P	Pg	01 32 30.0	-1.4
TOKA				*i* S	Sg	01 32 44.6	-0.2
TOKA	Tokat	1.04	113	*i* P	Pg	01 32 30.0	-1.4
TOKA				*i* S	Sg	01 32 44.6	-0.2
YOZ	Yozgat	1.09	176	*e*PN	Pb	01 32 32.5	-0.6
YOZ	Yozgat	1.09

mb3.8/8, Error ellipse: s-maj=12.7km s-min=7.0km az=19.8

DJA ***22*** *01:39:16.4±1.1, 2°N±6°×12°8E±°, h16km±8km, M4.1/7, mb4.2/4, mB4.8/2, MLv4.0/7, Mw(mB)4.0/2*

ISC 22 01:39:17.8±0.7, 1.97N±0.07×128.4E±0.1, h92km, n26, σ1§40/20, mb3.9/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.59**	**222**	**P**	**Pn**	**01 39 42.1**	**-2.7**
TNTI				S	**Sn**	**01 40 02.8**	**-2.5**
LBMI	**Labuha**	**2.75**	**200**	**P**	**Pn**	**01 39 59.5**	**-0.5**
LBMI				S	**Sn**	**01 40 31.7**	**-0.7**
SANI	**Sanana**	**4.67**	**211**	**P**	**Pn**	**01 40 25.9**	**-0.1**
GTOI	**Gorontalo**	**5.58**	**256**	**P**	**Pn**	**01 40 39.8**	**+1.5**
	42nm,0.9s,0.2nm						
APSI	**Ampana**	**7.36**	**247**	**P**	**Pn**	**01 41 03.5**	**+1.0**
	27nm,0.9s,554nm0.1nm						
MPSI	**Mapaga**	**8.68**	**259**	**P**	**Pn**	**01 41 21.0**	**+0.4**
WRA	**Warramunga Arr**	**22.53**	**165**	**P**	**P**	**01 44 10.3**	**+0.1**
	1.8nm,0.6s,baz=334,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**26.03**	**169**	**P**	**P**	**01 44 44.1**	**+1.6**
	0.9nm,0.5s,baz=352,slow=7.7,SNR=12						
ASAR				PcP	**PcP**	**01 48 09.6**	**+1.0**
	0.3nm,0.6s,baz=349,slow=2.3,SNR=4.7						
WRKA	**Warakurna**	**26.84**	**180**	**P**	**P**	**01 44 51.6**	**+1.8**
	baz=26,SNR=4.8						
KSRS	**Korea Array**	**35.32**	**359**	LR	LR	01 59 08.1	
	comp=Z,21nm,21.0s,baz=170,slow=34						
BBOO	**Buckleboo**	**35.33**	**169**	**P**	**P**	**01 46 06.3**	**+2.0**
	baz=33,SNR=6.0						
MJAR	**Matsushiro Arr**	**35.58**	**14**	**P**	P	01 46 02.9	-3.4
	2.2nm,0.7s,baz=185,slow=9.7,SNR=6.5						
H11S3	**WAKE ISLAND Hy 40.93**	**64**		T	T	02 30 07.5	
	baz=251,slow=75,SNR=51						
H11S2	**WAKE ISLAND Hy 40.95**	**64**		T	T	02 30 04.9	
	baz=251,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy 40.95**	**64**		T	T	02 30 06.3	
	baz=251,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy 41.52**	**62**		T	T	02 30 48.7	
	baz=250,slow=75,SNR=241						
H11N2	**WAKE ISLAND Hy 41.53**	**62**		T	T	02 30 49.6	
	baz=250,slow=75,SNR=116						
H11N3	**WAKE ISLAND Hy 41.54**	**62**		T	T	02 30 50.0	
	baz=250,slow=75,SNR=193						
USRK	**Ussuriysk Ar.**	**42.17**	**4**	**P**	**P**	**01 47 00.1**	**-1.2**
	3.0nm,0.7s,baz=180,slow=5.8,SNR=6.3						
SONM	**Songino Array**	**49.51**	**341**	**P**	**P**	**01 47 58.2**	**-0.9**
	0.3nm,0.5s,baz=147,slow=9.0,SNR=3.7						
MKAR	**Makanchi Array**	**59.96**	**325**	**P**	**P**	**01 49 14.4**	**-0.1**
	0.8nm,0.5s,baz=114,slow=8.1,SNR=19						
SEY	**Seymchan**	**63.38**	**12**	**P**	**P**	**01 49 37.3**	**+0.2**
	1.1nm,0.3s,baz=223,slow=4.9,SNR=7.5						
ILAR	**Eielson Array**	**85.96**	**25**	**P**	**P**	**01 51 46.3**	**-1.2**
	0.3nm,0.6s,baz=249,slow=6.0,SNR=8.1						
OBN	**Obninsk**	**89.47**	**325**	LR	LR	02 33 08.0	
	comp=Z,27nm,21.4s,baz=273,slow=36						
YKA	**Yellowknife Ar**	**100.39**	**25**	**P**	**Pdif**	**01 52 54.2**	**+0.1**
	0.2nm,0.6s,baz=298,slow=4.2,SNR=6.1						
TORD	**Torodi Ar. Bea**	**125.07**	**287**	PKP	**PKPdf**	**01 58 09.4**	**+1.0**
	0.2nm,0.4s,baz=91,slow=1.3,SNR=6.7						

IDC 22 01:42:08.1±6.6, 20.04S×68.23W, h163km±44km, mb3.7/3, mb1 3.6/6, mb1mx3.4/20, mbtmp4.1/6, Error ellipse: s-maj=69.2km s-min=21.9km az=24.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.73**	**1**	P	Pn	01 43 05.5	-0.6
	1.6nm,0.3s,baz=187,slow=6.0,SNR=38						
LPAZ				S	Sn	01 43 51.7	+0.5
	baz=285,slow=20,SNR=2.8						
SIV	**San Ignacio**	**7.91**	**61**	P	Pn	01 43 59.8	-0.6
	1.7nm,0.3s,baz=269,slow=9.4,SNR=17						
SIV				S	Sn	01 45 28.3	-0.6
	0.2nm,0.3s,baz=233,slow=15,SNR=2.4						
BDFB	**Brasilia**	**19.73**	**80**	P	P	01 46 26.5	+1.0
	0.9nm,0.3s,baz=257,slow=10,SNR=9.7						
DBIC	**Dimbokro**	**67.72**	**74**	P	P	01 52 48.6	+0.2
	2.2nm,0.6s,baz=234,slow=6.5,SNR=6.2						
TORD	**Torodi Ar. Bea**	**76.27**	**70**	P	P	01 53 39.1	-0.2
	2.6nm,0.6s,baz=252,slow=5.5,SNR=49						
YKA	**Yellowknife Ar**	**90.03**	**340**	P	P	01 54 48.5	-0.2
	0.3nm,0.6s,baz=132,slow=4.4,SNR=8.0						
YKA				pP	pP	01 55 25.1	-4.5
	0.7nm,0.7s,baz=135,slow=4.6,SNR=9.5						
MKAR	**Makanchi Array**	**144.08**	**35**	PKP	PKPdf	02 01 23.7	-0.6
	0.1nm,0.4s,baz=293,slow=2.8,SNR=3.5						

IDC 22 01:47:18.6±9.0, 15.80S×173.90W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/29, mbtmp3.8/3, Error ellipse: s-maj=408.1km s-min=36.4km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.00**	**131**	P	Pg	01 49 03.5	+9.1
	baz=57,SNR=5.7						
WRA	**Warramunga Arr**	**49.28**	**257**	P	P	01 56 09.4	-0.3
	0.5nm,0.6s,baz=94,slow=8.2,SNR=5.1						
ASAR	**Alice Springs**	**49.53**	**252**	P	P	01 56 11.3	-0.2
	2.7nm,0.6s,baz=87,slow=8.6,SNR=42						
ILAR	**Eielson Array**	**82.93**	**11**	P	P	01 59 44.2	-0.8
	0.3nm,0.7s,baz=224,slow=5.0,SNR=4.3						
BRTR	**Keskin Array B**	**146.16**	**320**	PKPbc	PKPbc	02 07 01.5	+0.2
	1.1nm,0.7s,baz=76,slow=2.4,SNR=11						

NNC ***22*** *02:01:28.6±3.3, 36°.94N×71°.02E, h228km±30km, mb2.5, mpv3.7, Error ellipse: s-maj=39.2km s-min=23.0km az=147.0*

ISC 22 02:01:26.2±3.1, 36.7N±0.2×71.28E±0.10, h200km, n15, σ1§29/19, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.85**	**318**	⇓P	**Pn**	**02 02 14.8**	**+0.6**
DZET				⇑S	**Sn**	**02 02 51.8**	**0.0**
AML	**Almayashu**	**5.72**	**18**	**P**	**Pn**	**02 02 51.6**	**+1.4**
	SNR=169						
UCH	**Uchtor**	**6.05**	**23**	**P**	**Pn**	**02 02 55.7**	**+1.2**
	SNR=66						
KZA	**Kyzart**	**6.18**	**29**	**P**	**Pn**	**02 02 56.6**	**+0.5**
	SNR=7.1						
EKS2	**Erkin-Say**	**6.25**	**17**	**P**	**Pn**	**02 02 58.5**	**+1.8**
	SNR=7.4						
KK31	**Karatay Array**	**6.41**	**355**	**P**	**Pn**	**02 02 59.2**	**+0.5**
	0.6nm,0.3s,baz=177,slow=13,SNR=19						
KK31				⇑S	**Sn**	**02 04 10.9**	**-1.2**
	5.5nm,0.4s,baz=182,slow=24,SNR=18						
AAK	**Ala-Archa**	**6.41**	**22**	⇓P	**Pn**	**02 03 00.4**	**+1.5**
	4.8nm,0.3s						
KBK	**Karagaybulak**	**6.58**	**24**	**P**	**Pn**	**02 03 02.6**	**+1.6**
	SNR=6.7						
ULHL	**Ulahol**	**6.73**	**33**	**P**	**Pn**	**02 03 03.8**	**+0.8**
	SNR=9.8						
USP	**Ospenovka**	**7.00**	**20**	**P**	**Pn**	**02 03 08.6**	**+2.3**
	SNR=5.5						
TKM2	**Tokmak 2**	**7.03**	**27**	⇓P	**Pn**	**02 03 07.8**	**+0.8**
	5.3nm,0.4s						
TKM2				⇑S	**Sn**	**02 04 27.4**	**+0.4**
	8.2nm,1.4s						
TKM2	**Tokmak 2**	**7.03**	**27**	**P**	**Pn**	**02 03 08.3**	**+1.3**
	SNR=10.0						
MK31	**Makanchi Array**	**12.99**	**36**	⇑P	**Pn**	**02 04 21.9**	**-1.5**
	0.3nm,0.5s,baz=218,slow=15,SNR=6.1						
MK31				S	**S**	**02 06 48.0**	**-0.2**
	4.6nm,1.6s,baz=74,slow=3.4,SNR=3.7						
AB31	**Akbulak array**	**15.01**	**330**	⇑P	**Pn**	**02 04 47.7**	**-0.6**
	0.1nm,0.2s,baz=350,slow=24,SNR=16						
AKTO	**Aktyubinsk**	**16.71**	**329**	⇑P	**P**	**02 05 06.3**	**-1.4**
	1.8nm,0.6s						

ISCJB ***22*** *02:03:17.1±0.8, 13°.1N±0°.1×143°.5E±0°.2, h150km, mb3.5/10, Error ellipse: s-maj=33.7km s-min=16.2km az=3.4*

IDC ***22*** *02:03:26.9±8.6, 13°.05N×143°.54E, h232km±85km, mb3.3/10, mb1 3.5/10, mb1mx3.3/25, mbtmp3.8/10, Error ellipse: s-maj=36.4km s-min=15.9km az=87.0*

ISC 22 02:03:18.5±0.9, 13.1N±0.1×143.6E±0.3, h150km, n10, σ1§18/10, mb3.6/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**23.85**	**349**	**P**	**P**	**02 08 19.3**	**+1.2**
	0.6nm,0.4s,baz=171,slow=8.6,SNR=2.6						
WRA	**Warramunga Arr**	**34.07**	**196**	P	**P**	**02 09 48.9**	**+0.1**
	4.4nm,0.7s,baz=17,slow=9.3,SNR=22						
ASAR	**Alice Springs**	**37.74**	**195**	**P**	**P**	**02 10 20.3**	**+0.3**
	0.8nm,0.6s,baz=18,slow=13,SNR=15						
SONM	**Songino Array**	**46.44**	**326**	P	**P**	**02 11 31.0**	**+0.7**
	0.4nm,0.5s,baz=147,slow=7.0,SNR=4.0						
MKAR	**Makanchi Array**	**60.99**	**316**	P	**P**	**02 13 16.3**	**+0.1**
	0.4nm,0.6s,baz=91,slow=7.8,SNR=6.4						
ILAR	**Eielson Array**	**69.54**	**25**	P	**P**	**02 14 10.1**	**-0.8**
	0.3nm,0.6s,baz=254,slow=5.8,SNR=7.2						
YKA	**Yellowknife Ar**	**83.87**	**27**	P	**P**	**02 15 30.9**	**-0.2**
	0.1nm,0.5s,baz=285,slow=4.9,SNR=3.4						
ARCES	**ARCESS Array B**	**87.17**	**342**	P	**P**	**02 15 46.8**	**-0.7**
	2.1nm,0.9s,baz=71,slow=6.1,SNR=2.9						
NVAR	**Mina Array Bea**	**88.19**	**51**	P	**P**	**02 15 54.3**	**+1.1**
	0.4nm,0.6s,baz=280,slow=5.4,SNR=4.3						
FINES	**FINESS Array B**	**91.09**	**335**	P	**P**	**02 16 03.5**	**-2.3**
	1.5nm,0.8s,baz=74,slow=5.9,SNR=6.5						

DJA 22 02:10:36.6±0.7, 1°S±3°×13°3E±°, h15km±18km, M3.7/5, mb3.8/1, MLv3.6/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.20**	**130**	P	Pn	02 10 57.8	-1.1
RKPI				S	Sb	02 11 13.7	-0.8
SWI	**Sorong**	**2.00**	**266**	P	Pn	02 11 09.3	-0.6
SWI				S	Sn	02 11 35.4	+0.6
FAKI	**Fak Fak**	**2.40**	**205**	P	Pn	02 11 15.6	+0.2
FAKI				S	Sn	02 11 44.9	+0.4

IDC ***22*** *02:14:12.2±4.0, 37°.97S×72°.37W, h35km±30km, mb3.9/8, mb1 4.0/9, mb1mx3.7/29, mbtmp4.0/9, ML3.5/2, MS3.2/4, Ms1 3.2/4, ms1mx3.0/25, Error ellipse: s-maj=35.8km s-min=16.5km az=88.0*

ISC 22 02:14:11.5±1.1, 38.09S±0.09×72.7W±0.2, h35km, n15, σ1§90/15, mb4.3/11, MS3.5/3, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.11**	**149**	Pn	**Pn**	**02 14 59.5**	**+1.3**
	3.0nm,0.3s,baz=327,slow=16,SNR=15						
PLCA				Lg	Lg	02 15 52.8	
	7.7nm,0.3s,baz=31,slow=17,SNR=6.2						
PLCA				LR	LR	02 16 00.2	
	comp=Z,113nm,20.7s,baz=268,slow=35						
CFAA	**Coronel Fontan**	**7.43**	**31**	Pn	**Pn**	**02 15 56.8**	**-0.7**
	0.1nm,0.3s,baz=216,slow=15,SNR=8.1						
CFAA				Sn	**Sn**	**02 17 25.1**	**+4.5**
	0.2nm,0.3s,baz=139,slow=20,SNR=4.6						
LPAZ	**La Paz**	**22.09**	**12**	P	**P**	**02 19 05.0**	**+0.8**
	1.5nm,0.7s,baz=188,slow=3.9,SNR=6.9						
LPAZ				LR	LR	02 27 46.8	
	comp=Z,52nm,21.4s,baz=171,slow=37						
SIV	**San Ignacio**	**24.28**	**28**	P	**P**	**02 19 23.7**	**-1.9**
	2.3nm,0.9s,baz=240,slow=8.3,SNR=4.7						
BDFB	**Brasilia**	**31.20**	**51**	P	**P**	**02 20 25.9**	**-1.7**
	1.4nm,0.8s,baz=216,slow=17,SNR=2.5						
BDFB				LR	LR	02 34 33.4	
	comp=Z,120nm,21.0s,baz=215,slow=40						
QSPA	**South Pole Qui**	**52.15**	**180**	P	**P**	**02 23 20.6**	**+2.3**
	3.6nm,1.0s,baz=139,slow=4.3,SNR=6.2						
LPIG	**La Paz**	**71.24**	**324**	LR	LR	02 50 30.8	
	comp=Z,43nm,21.4s,baz=202,slow=31						
TXAR	**Lajitas Array**	**73.07**	**332**	P	**P**	**02 25 38.7**	**+0.7**
	0.5nm,0.7s,baz=146,slow=6.6,SNR=6.1						
LIC	**Lamto**	**76.59**	**71**	*e*P	**P**	**02 25 58.7**	**+0.1**
	19nm,0.9s						
TIC	**Toumodi**	**76.87**	**71**	*e*P	**P**	**02 26 00.2**	**0.0**
	9.2nm,0.7s						
KIC	**Kosan Boka**	**76.89**	**71**	*e*P	**P**	**02 26 00.5**	**+0.2**
	18nm,0.8s						
DBIC	**Dimbokro**	**77.01**	**71**	P	**P**	**02 26 00.6**	**-0.4**
	7.4nm,0.8s,baz=197,slow=6.7,SNR=13						
BOSA	**Boshof**	**78.65**	**117**	P	**P**	**02 26 09.0**	**-1.2**
	3.1nm,0.9s,baz=180,slow=8.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**86.10**	**70**	P	**P**	**02 26 47.6**	**-1.4**
	1.9nm,0.9s,baz=222,slow=4.7,SNR=11						
MKAR	**Makanchi Array**	**159.66**	**57**	PKPab	**PKPab**	**02 34 42.9**	**-2.0**
	0.6nm,0.8s,baz=296,slow=2.5,SNR=4.9						

IDC ***22*** *02:20:32.6±1.6, 34°.56S×72°.01W, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.6/18, mbtmp3.6/7, ML4.0/2, Error ellipse: s-maj=38.4km s-min=27.1km az=105.0*

GUC ***22*** *02:20:33.5±0.9, 34°.85S×72°.70W, h30km±9km, ML4.0*

ISC 22 02:20:31.8±2.4, 34.80S±0.05×72.7W±0.1, h11km±14km, n16, σ1§46/18, mb3.8/4, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.02**	**126**	⇓*i*P	**Pg**	**02 20 51.5**	**0.0**
NICH	**Los Niches**	**1.18**	**100**	⇓*i*P	**Pg**	**02 20 54.9**	**+0.3**
NICH				*e*S1	**Sg**	**02 21 10.7**	**+0.8**
NICH				AML	AML	02 21 15.8	
	comp=N,9μm,0.3s						
LNV	**Longovilo**	**1.32**	**51**	⇓*i*P	**Pg**	**02 20 57.2**	**0.0**
LNV				*i* S4	**Sg**	**02 21 14.8**	**+0.4**
COCH	**Cobquecura**	**1.34**	**185**	⇑*i*P	**Pn**	**02 20 56.1**	**-0.4**
COCH				*i* S1	**Sn**	**02 21 11.6**	**-2.7**
LNCH	**Linares**	**1.35**	**141**	⇓*i*P	**Pn**	**02 20 56.7**	**0.0**
LNCH				*i* S1	**Sn**	**02 21 14.3**	**-0.4**
LNCH				AML	AML	02 21 18.4	
	comp=N,5μm,0.3s						
CACH	**El Canelo**	**1.82**	**69**	⇑*i*P	**Pb**	**02 21 05.1**	**-0.2**
CHCH	**Chadas Angostu**	**1.86**	**63**	⇑*i*P	**Pb**	**02 21 05.7**	**-0.2**
CHCH				*i* S1	**Sg**	**02 21 30.2**	**-1.5**
ANTU	**Antumapu**	**2.07**	**54**	AML	AML	02 21 41.1	
	comp=N,2μm,0.4s						
LACH	**Col Las Americ**	**2.21**	**53**	AML	AML	02 21 55.9	
	comp=N,899nm,0.5s						
CFAA	**Coronel Fontan**	**4.88**	**50**	Pn	Pn	02 21 37.5	-7.7
	comp=N,0.4nm,0.3s,baz=270,slow=9.2,SNR=24						
CFAA				Pg	Pb	02 21 49.6	-7.7
	comp=N,1.1nm,0.3s,baz=209,slow=16,SNR=19						
CFAA				Lg	Lg	02 22 59.2	
	comp=N,0.9nm,0.3s,baz=115,slow=16,SNR=5.5						
PLCA	**Paso Flores**	**6.16**	**165**	Pn	**Pn**	**02 22 04.2**	**+1.5**
	comp=N,2.7nm,0.3s,baz=340,slow=17,SNR=40						
LPAZ	**La Paz**	**18.87**	**14**	P	**P**	**02 24 50.2**	**-2.6**
	comp=N,0.0nm,0.3s,baz=285,slow=12,SNR=2.0						
SIV	**San Ignacio**	**21.41**	**32**	P	**P**	**02 25 18.0**	**-1.9**
	comp=N,1.1nm,0.7s,baz=229,slow=11,SNR=4.7						
TXAR	**Lajitas Array**	**70.19**	**331**	P	**P**	**02 31 47.1**	**+2.4**
	comp=N,0.2nm,0.5s,baz=153,slow=7.0,SNR=4.0						
DBIC	**Dimbokro**	**75.91**	**71**	P	**P**	**02 32 19.7**	**+0.8**
	comp=N,1.5nm,0.7s,baz=247,slow=7.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**84.95**	**70**	P	**P**	**02 33 07.5**	**+0.1**
	comp=N,1.0nm,1.0s,baz=252,slow=5.2,SNR=6.8						

ISCJB ***22*** *02:31:51.2±0.8, 33°.21N±0°.04×141°.47E±0°.07, h10km, mb3.6/6, Error ellipse: s-maj=9.0km s-min=6.1km az=166.1*

IDC ***22*** *02:31:51.3±1.0, 33°.12N×141°.49E, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.5/47, mbtmp3.5/7, ML3.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/29, Error ellipse: s-maj=31.9km s-min=19.9km az=79.0*

JMA ***22*** *02:31:53.9±0.2, 33°.30N×141°.32E, h9km, M3.4*

ISC 22 02:31:53.4±1.0, 33.26N±0.05×141.30E±0.09, h10km, n16, σ1§68/22, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.25**	**264**	P	**Pn**	**02 32 17.6**	**+0.7**
JHJ2				*e*S	**Sn**	**02 32 34.8**	**+1.0**
BSO1	**Boso 1**	**1.42**	**349**	P	**Pb**	**02 32 19.4**	**-0.2**
BSO1				*e*S	**Sg**	**02 32 37.4**	**-1.5**
BSO2	**Boso 2**	**1.56**	**343**	*e*S	**Sb**	**02 32 41.4**	**-0.3**
BSO3	**Boso 3**	**1.67**	**337**	P	**Pn**	**02 32 23.1**	**+0.6**
BSO3				*e*S	**Sb**	**02 32 45.2**	**+0.1**
BSO4	**Boso 4**	**1.90**	**336**	*e*S	**Sb**	**02 32 50.7**	**-1.2**
JOD2	**Odawara 2**	**2.71**	**318**	P	**Pn**	**02 32 37.7**	**+0.7**
JOD2				*e*S	**Sn**	**02 33 11.1**	**+1.2**
JAG	**Ashikaga**	**3.50**	**335**	P	**Pn**	**02 32 50.1**	**+2.2**
JAG				*e*S	**Sn**	**02 33 30.1**	**+0.7**
MJAR	**Matsushiro Arr**	**4.14**	**323**	Pn	**Pn**	**02 32 58.8**	**+2.1**
	0.9nm,0.3s,baz=152,slow=11,SNR=11						
MJAR				Sn	**Sb**	**02 33 51.7**	**-4.8**
	0.5nm,0.3s,baz=264,slow=33,SNR=2.9						
MAT	**Matsushiro**	**4.14**	**323**	P	**Pn**	**02 32 59.2**	**+2.5**
MAT				S	**Sn**	**02 33 45.8**	**+0.5**
JNU	**Nakatsue**	**8.73**	**272**	LR	LR	02 37 17.2	
	comp=Z,53nm,20.9s,baz=102,slow=37						
SONM	**Songino Array**	**29.96**	**309**	P	**P**	**02 38 03.6**	**+1.7**
	1.3nm,1.1s,baz=112,slow=8.3,SNR=5.9						
MKAR	**Makanchi Array**	**46.13**	**305**	P	**P**	**02 40 18.0**	**+0.2**
	0.2nm,0.5s,baz=87,slow=8.4,SNR=5.3						
ILAR	**Eielson Array**	**52.76**	**31**	P	**P**	**02 41 07.6**	**-0.6**
	0.3nm,0.9s,baz=260,slow=5.4,SNR=4.9						
WRA	**Warramunga Arr**	**53.32**	**188**	P	**P**	**02 41 11.4**	**-1.3**
	1.7nm,0.5s,baz=5.9,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**57.05**	**188**	P	**P**	**02 41 38.2**	**-1.4**
	0.4nm,0.5s,baz=358,slow=6.7,SNR=6.6						
YKA	**Yellowknife Ar**	**67.13**	**29**	P	**P**	**02 42 46.9**	**0.0**
	0.3nm,0.9s,baz=295,slow=5.9,SNR=4.6						

ISCJB ***22*** *02:37:15.8±0.4, 35°.57N±0°.01×96°.66W±0°.01, h5km±3km, mb3.8/1, Error ellipse: s-maj=1.9km s-min=1.9km az=16.0*

IDC ***22*** *02:37:17.5±1.0, 35°.75N×96°.81W, h0km, mb1 3.8/6, mb1mx3.5/32, mbtmp3.5/6, ML3.5/6, Error ellipse: s-maj=16.6km s-min=10.9km az=158.0*

NEIC ***22*** *02:37:18.3±0.2, 35°.56N×96°.75W, h8km, MW3.7, Error ellipse: s-maj=3.6km s-min=2.2km az=176.0, Moment Tension Solution. s24 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.29; $M_{\theta\theta}$3.25; $M_{\phi\phi}$-2.96; $M_{r\theta}$-1.49; $M_{\theta\phi}$-1.29; $M_{\phi r}$-1.25; Best double couple: $M_0$3.90000×10^{14} NP1: ϕ_s325.00000°, δ60.00000°, λ-5.00000°. NP2:ϕ_s57.00000°, δ86.00000°, λ-150.00000°. Principal axes: T 3.8900, Plg17.0000°, Azm187.0000°; N 0.0000, Plg59.0000°, Azm64.0000°; P -3.8900, Plg23.0000°, Azm285.0000°;*

NEIC Felt [IV] at Prague and Sparks; [III] at Chandler, Meeker and Stroud; [II] at Choctaw, Davenport, Newalla, Norman, Oklahoma City, Paden, Shawnee, Tecumseh, Tulsa and Wellston. Also felt at Bethany, Bixby, Bristow, Broken Arrow, Buffalo, Claremore, Cushing, Depew, Earlsboro, Edmond, Fort Gibson, Glenpool, Jenks, Lawton, McLoud, Sand Springs, Seminole, Stillwater and Yukon. Felt at Wichita, Kansas and at Siloam Springs, Arkansas.

ISC 22 02:37:17.8±1.1, 35.55N±0.02×96.73W±0.02, h2km±8km, n270, σ1§11/325, 123C-96D, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
V35A	**Meyer Ranch, C**	**0.23**	**336**	⇑P	**Pg**	**02 37 23.2**	**+1.0**
	baz=0.2,SNR=1000						
V35A				⇑S	**Sg**	**02 37 27.0**	**+1.9**
	baz=0.2						
OK002	**Wilshire Harra**	**0.38**	**269**	*i* P	**Pg**	**02 37 25.6**	**+0.4**
OK002				*i* S	**Sg**	**02 37 30.6**	**+0.4**
OK005	**Luther M Schoo**	**0.39**	**285**	*i* P	**Pg**	**02 37 25.5**	**+0.2**
OK005				*i* S	**Sg**	**02 37 30.9**	**+0.4**
OK006	**Choctaw High**	**0.46**	**261**	*i* P	**Pg**	**02 37 26.4**	**-0.2**
OK006				*i* S	**Sg**	**02 37 32.5**	**0.0**
OK001	**Jones High Sch**	**0.46**	**271**	*i* P	**Pg**	**02 37 26.5**	**-0.1**
V34A	**Guthrie**	**0.70**	**294**	⇑P	**Pg**	**02 37 30.7**	**-0.6**
	baz=0.7,SNR=898						
V34A				⇓S	**Sg**	**02 37 40.5**	**0.0**
	baz=0.7						
V34A	**Guthrie**	**0.70**	**294**	*e*Pg	**Pg**	**02 37 30.8**	**-0.5**
V34A				*e*Sg	**Sg**	**02 37 40.4**	**0.0**
TUL1	**Leonard**	**0.84**	**65**	⇑P	**Pg**	**02 37 34.6**	**+0.7**
	baz=0.9,SNR=351						
TUL1				⇑S	**Sg**	**02 37 46.5**	**+1.7**
	baz=0.9						
TUL1	**Leonard**	**0.84**	**65**	*e*Pg	**Pg**	**02 37 34.6**	**+0.7**
TUL1				*e*Sg	**Sg**	**02 37 45.1**	**+0.4**
W34A	**Bridge Creek,**	**0.91**	**250**	P	**Pg**	**02 37 34.6**	**-0.7**
	baz=0.9,SNR=238						
W34A				⇑S	**Sg**	**02 37 46.7**	**-0.4**
	baz=0.9						
W34A	**Bridge Creek,**	**0.91**	**250**	*e*Pg	**Pg**	**02 37 34.5**	**-0.7**
W34A				*e*Sg	**Sg**	**02 37 47.0**	**-0.1**
U34A	**Anderson Ranch**	**1.10**	**324**	⇑P	**Pg**	**02 37 38.2**	**-0.6**
	baz=1.1,SNR=94						
U34A				⇑S	**Sg**	**02 37 53.4**	**+0.3**
	baz=1.1						
U34A	**Anderson Ranch**	**1.10**	**324**	*e*Pg	**Pg**	**02 37 38.3**	**-0.6**
U34A				*e*Sg	**Sg**	**02 37 53.5**	**+0.3**
V33A	**Lossen Ranch,**	**1.30**	**282**	P	**Pn**	**02 37 41.3**	**-1.7**
	baz=1.3,SNR=176						
V33A				⇓S	**Sb**	**02 37 59.3**	**-0.8**
	baz=1.3						
X34A	**Smith Ranch, M**	**1.31**	**224**	⇓P	**Pn**	**02 37 42.1**	**-1.1**
	baz=1.3						
X34A				⇑S	**Sg**	**02 38 00.3**	**+0.2**
	baz=1.3						
U33A	**Lingo Farm, Me**	**1.43**	**308**	P	**Pn**	**02 37 43.9**	**-0.9**
	baz=1.4,SNR=364						
U33A				⇓S	**Sg**	**02 38 03.5**	**-0.

T31A	Randall Ranch,	2.84	304	⇑P	Pn	02 38 04.3 +0.2
	baz=2.8					
R33A	Olander Ranch,	2.93	340	⇓P	Pn	02 38 05.8 +0.4
	baz=2.9,SNR=19					
R33A				⇓S	Sn	02 38 41.8 +0.7
	baz=2.9					
S31A	Mullinville	3.03	314	⇓P	Pn	02 38 06.6 -0.2
	baz=3.0,SNR=14					
135A	Vickery Place,	3.04	191	⇓P	Pn	02 38 07.0 0.0
	baz=3.0					
W30A	Crocket Farms	3.17	264	⇑P	Pn	02 38 08.4 -0.3
	baz=3.1					
134A	White-Moore Ra	3.18	201	⇑P	Pn	02 38 08.9 +0.1
	baz=3.2,SNR=17					
138A	Matatall Enter	3.19	154	⇓P	Pn	02 38 09.0 0.0
	baz=3.2					
Z32A	Haskell	3.19	226	⇑P	Pn	02 38 08.8 -0.2
	baz=3.2,SNR=54					
V30A	Spur Ranch, Mi	3.23	275	⇑P	Pn	02 38 10.0 +0.3
	baz=3.2,SNR=40					
V30A				⇓S	Sn	02 38 48.8 0.0
	baz=3.2					
R32A	Long Quarter,	3.27	332	⇓P	Pn	02 38 09.8 -0.4
	baz=3.3					
Y31A	Rekieta Farm,	3.32	242	⇓P	Pn	02 38 11.3 +0.6
	baz=3.3					
U30A	WK&E Inc. Balk	3.33	288	⇓P	Pn	02 38 11.0 +0.1
	baz=3.3,SNR=33					
U30A				⇓S	Sn	02 38 51.2 +0.1
	baz=3.3					
T30A	Plains	3.42	297	⇓P	Pn	02 38 12.2 0.0
	baz=3.4,SNR=8.8					
133A	Hamilton Ranch	3.46	212	⇓P	Pn	02 38 13.2 +0.6
	baz=3.4					
R31A	Burdett	3.53	321	⇑P	Pn	02 38 13.9 +0.1
	baz=3.5,SNR=48					
KSU1	Kansas State U	3.54	1	⇓P	Pn	02 38 13.7 -0.1
	baz=3.6,SNR=17					
KSU1	Kansas State U	3.54	1	ePn	Pn	02 38 13.7 -0.1
KSU1				ePg	Pg	02 38 25.6 -0.1
KSU1				eSg	Sg	02 39 12.9 +1.3
Q33A	Connelly Farm,	3.55	346	⇑P	Pn	02 38 13.9 0.0
	baz=3.6,SNR=58					
X30A	Coker Ranch, T	3.58	253	⇑P	Pn	02 38 14.1 -0.3
	baz=3.6,SNR=24					
Z31A	Sharp Cattle R	3.60	233	⇓P	Pn	02 38 15.2 +0.6
	baz=3.6,SNR=11					
WHTX	Lake Whitney,	3.60	190	⇑P	Pn	02 38 14.5 -0.1
	baz=3.6					
WHTX	Lake Whitney,	3.60	190	ePn	Pn	02 38 14.6 -0.1
WHTX				eS	Sg	02 39 11.8 -1.8
237A	Washetta, Mont	3.62	168	⇑P	Pn	02 38 15.1 +0.2
	baz=3.6					
S30A	Montezuma	3.66	306	⇑P	Pn	02 38 15.9 +0.5
	baz=3.6					
UALR	University of	3.67	101	ePn	Pn	02 38 16.7 +1.1
UALR				ePg	Pb	02 38 25.8 +2.3
UALR				eS	Sg	02 39 15.2 -0.6
Q32A	Meitler Ranch,	3.73	337	⇑P	Pn	02 38 16.0 -0.4
	baz=3.7,SNR=7.4					
234A	Clairette	3.73	199	⇓P	Pn	02 38 15.7 -0.7
	baz=3.7					
U29A	Oasis Ranch, S	3.79	285	⇑P	Pn	02 38 17.0 -0.3
	baz=3.8,SNR=16					
ABTX	Abilene, Hawle	3.79	220	⇑P	Pn	02 38 16.7 -0.7
	baz=3.8,SNR=18					
ABTX	Abilene, Hawle	3.79	220	ePn	Pn	02 38 16.7 -0.7
ABTX				eS	Sb	02 39 13.6 +1.6
Y30A	Stafford Cattl	3.82	245	⇑P	Pn	02 38 18.1 +0.3
	baz=3.8,SNR=16					
V29A	Stinnett	3.92	276	⇑P	Pn	02 38 18.8 -0.2
	baz=3.9					
R30A	Dighton	3.94	315	⇓P	Pn	02 38 19.2 -0.2
	baz=3.9					
P33A	Williams Farm,	3.95	349	⇑P	Pn	02 38 19.4 -0.1
	baz=4.0,SNR=13					
233A	Rising Star	3.96	208	⇑P	Pn	02 38 19.0 -0.6
	baz=4.0,SNR=15					
239A	Gary	4.00	151	⇑P	Pn	02 38 19.8 -0.2
	baz=4.0					
T29A	Hugoton	4.02	295	⇑P	Pn	02 38 20.3 -0.1
	baz=4.0,SNR=14					
W29A	Amarillo	4.05	265	⇑P	Pn	02 38 20.5 -0.3
	baz=4.0					
Q31A	Ellis	4.05	329	⇑P	Pn	02 38 21.0 +0.2
	baz=4.1,SNR=11					
S29A	Ulysses	4.09	302	⇓P	Pn	02 38 21.5 +0.1
	baz=4.1,SNR=7.2					
AMTX	Amarillo	4.11	262	⇓P	Pn	02 38 21.6 -0.1
	baz=4.1					
AMTX	Amarillo	4.11	262	ePn	Pn	02 38 21.9 +0.1
AMTX				eS	Sn	02 39 13.6 +3.1
NATX	Nacogdoches	4.16	155	ePn	Pn	02 38 21.5 -0.8
NATX				eS	Sn	02 39 07.7 -3.8
131A	Roby	4.18	228	⇑P	Pn	02 38 21.9 -0.7
	baz=4.2,SNR=8.1					
X29A	Tulia	4.23	256	⇑P	Pn	02 38 23.4 0.0
	baz=4.2					
Z30A	Sanderson Ranc	4.28	239	⇓P	Pn	02 38 24.6 +0.5
	baz=4.3,SNR=12					
335A	Moody	4.30	188	⇑P	Pn	02 38 24.1 -0.1
	baz=4.3					
P32A	Huiting Farm,	4.33	340	⇑P	Pn	02 38 23.6 -1.0
	baz=4.3					
232A	Coleman	4.39	214	⇑P	Pn	02 38 26.0 +0.4
	baz=4.4,SNR=10					
334A	Lometa	4.40	197	⇑P	Pn	02 38 24.5 -1.1
	baz=4.4					
Q30A	Quinter	4.41	322	⇑P	Pn	02 38 25.7 -0.1
	baz=4.4,SNR=29					
Y29A	Porterfield Fa	4.41	249	⇑P	Pn	02 38 26.1 +0.2
	baz=4.4,SNR=14					
V28A	Channing	4.48	274	⇑P	Pn	02 38 26.3 -0.5
	baz=4.5,SNR=11					
P31A	Stockton	4.49	333	⇑P	Pn	02 38 26.2 -0.7
	baz=4.5,SNR=26					
W28A	Vega	4.49	268	⇓P	Pn	02 38 26.3 -0.6
	baz=4.5					
U28A	Mallet	4.54	282	⇑P	Pn	02 38 26.8 -0.8
	baz=4.5					
R29A	Marienthal	4.55	310	⇓P	Pn	02 38 28.0 +0.3
	baz=4.5,SNR=19					
130A	Snyder	4.59	231	⇑P	Pn	02 38 27.5 -0.8
	baz=4.6					
X28A	Dimmitt	4.61	259	⇓P	Pn	02 38 28.2 -0.4
	baz=4.6					
333A	Richland Sprin	4.62	205	⇑P	Pn	02 38 27.8 -0.9
	baz=4.6					
T28A	Walsh	4.62	291	⇑P	Pn	02 38 28.4 -0.3
	baz=4.6,SNR=18					
S28A	Manter	4.63	298	⇓P	Pn	02 38 28.5 -0.4
	baz=4.6,SNR=61					
231A	Bronte	4.69	221	⇑P	Pn	02 38 28.3 -1.3
	baz=4.7					
Z29A	Hungry Hill Ra	4.71	242	⇓P	Pn	02 38 30.4 +0.5
	baz=4.7,SNR=8.7					
Q29A	Oakley	4.75	316	⇑P	Pn	02 38 31.0 +0.5
	baz=4.8,SNR=24					
435B	Jarrell	4.81	189	⇑P	Pn	02 38 31.0 -0.3
	baz=4.8					
Y28A	McKinney Farm,	4.83	252	⇑P	Pn	02 38 31.2 -0.5
	baz=4.8,SNR=23					
O32A	Brockman Farm,	4.86	346	⇑P	Pn	02 38 31.7 -0.2
	baz=4.9					
332A	Millersview	4.86	212	⇑P	Pn	02 38 30.8 -1.3
	baz=4.9					
P30A	Selden	4.87	326	⇓P	Pn	02 38 32.4 +0.3
	baz=4.9					
434A	Burnet	4.90	196	⇑P	Pn	02 38 31.7 -0.9
	baz=4.9					
R28A	Tribune	4.93	306	⇓P	Pn	02 38 32.8 -0.2
	baz=4.9,SNR=24					
HBAR	Harrisburg	4.95	88	ePn	Pn	02 38 34.2 +1.1
HBAR				eS	Sg	02 39 58.4 +1.6
V27A	Dan Oppiter Fa	4.98	274	⇑P	Pn	02 38 32.7 -1.0
	baz=5.0,SNR=20					
U27A	Thompson Grove	5.02	282	⇑P	Pn	02 38 33.5 -0.8
	baz=5.0,SNR=31					
O31A	Woolen Ranch,	5.03	337	⇑P	Pn	02 38 33.4 -0.9
	baz=5.0,SNR=7.6					
T27A	Campo	5.07	289	⇓P	Pn	02 38 34.3 -0.7
	baz=5.1,SNR=27					
129A	Stewart Farms,	5.17	237	⇑P	Pn	02 38 35.9 -0.3
	baz=5.1,SNR=6.6					
230A	Sterling City	5.17	226	⇓P	Pn	02 38 35.2 -1.1
	baz=5.2					
433A	Art	5.18	203	⇑P	Pn	02 38 35.0 -1.4
	baz=5.2					
Z28A	Tucker Farm, M	5.20	246	⇓P	Pn	02 38 36.5 -0.1
	baz=5.2,SNR=14					
MSTX	Muleshoe	5.22	254	⇑P	Pn	02 38 36.1 -0.9
	baz=5.2,SNR=19					
MSTX	Muleshoe	5.22	254	ePn	Pn	02 38 36.1 -0.9
MSTX				ePg	Pb	02 38 53.5 +3.6
MSTX				eS	Sg	02 39 59.6 -6.0
PBMO	Poplar Bluff	5.24	75	ePn	Pn	02 38 37.7 +0.5
P29A	Atwood	5.24	322	⇑P	Pn	02 38 37.0 -0.3
	baz=5.2,SNR=13					
331A	San Angelo	5.24	217	⇓P	Pn	02 38 36.4 -0.9
	baz=5.2					
O30A	MW Ranch, Wils	5.32	331	⇑P	Pn	02 38 38.1 -0.2
	baz=5.3,SNR=12					
432A	Menard	5.33	210	⇓P	Pn	02 38 37.7 -0.7
	baz=5.3					
N32A	Stulken Farm,	5.35	347	⇓P	Pn	02 38 38.5 -0.1
	baz=5.4					
S27A	Las Animas	5.40	295	⇓P	Pn	02 38 39.0 -0.5
	baz=5.4					
GNAR	Gosnell	5.47	84	Pn	Pn	02 38 40.5 +0.2
GNAR				ePg	Pb	02 38 58.4 +4.3
GNAR				eS	Sb	02 39 53.8 -6.4
N31A	Bailey Ranch,	5.55	342	⇑P	Pn	02 38 41.0 -0.4
	baz=5.6					
330A	Mertzon	5.56	223	⇑P	Pn	02 38 41.7 0.0
	baz=5.5,SNR=10.0					
R27A	Eads	5.58	301	⇓P	Pn	02 38 41.2 -0.7
	baz=5.6,SNR=20					
O29A	4D Ranch, Culb	5.59	326	⇑P	Pn	02 38 41.8 -0.2
	baz=5.6					
128A	Castleberry Fa	5.60	240	⇓P	Pn	02 38 41.9 -0.4
	baz=5.6,SNR=16					
HKT	Hockley	5.64	172	ePn	Pn	02 38 41.9 -0.7
P28A	Saint Francis	5.66	317	⇑P	Pn	02 38 42.6 -0.5
	baz=5.7,SNR=22					
JCT	Junction City	5.68	208	⇑P	Pn	02 38 42.2 -1.1
	baz=5.7					
JCT	Junction City	5.68	208	ePn	Pn	02 38 42.4 -0.9
JCT				ePg	Pb	02 39 00.4 +2.7
JCT				eS	Sb	02 40 05.7 -0.6
534A	Blanco	5.70	195	⇑P	Pn	02 38 42.4 -1.2
	baz=5.7					
V26A	Tequesquite Ra	5.75	274	⇑P	Pn	02 38 43.2 -1.1
	baz=5.7					
U26A	Atchley Ranch,	5.75	280	⇓P	Pn	02 38 43.1 -1.3
	baz=5.7,SNR=27					
T26A	Comanche Natio	5.77	288	⇑P	Pn	02 38 43.7 -0.9
	baz=5.8,SNR=18					
W26A	Owens Ranch, T	5.77	267	⇑P	Pn	02 38 44.0 -0.7
	baz=5.7,SNR=13					
533A	Kerrville	5.80	200	⇓P	Pn	02 38 45.0 0.0
	baz=5.8					
S26A	Kim	5.81	293	⇑P	Pn	02 38 44.0 -1.0
	baz=5.8,SNR=28					
KSCO	Kaye Shedlock'	5.83	308	⇑P	Pn	02 38 44.9 -0.6
	baz=5.8					
KSCO	Kaye Shedlock'	5.83	308	ePn	Pn	02 38 45.5 0.0
KSCO				ePg	Pb	02 39 04.2 +3.8
KSCO				eS	Sg	02 40 23.0 -2.2
431A	Sonora	5.85	215	⇑P	Pn	02 38 44.8 -0.8
	baz=5.8					
N30A	Hueftle Ranch,	5.87	334	⇑P	Pn	02 38 46.1 +0.2
	baz=5.9					
BGNE	Belgrade	5.95	350	⇑P	Pn	02 38 46.4 -0.6
	baz=6.0,SNR=21					
BGNE	Belgrade	5.95	350	ePn	Pn	02 38 46.4 -0.6
BGNE				ePg	Pg	02 39 09.3 -2.5
BGNE				eS	Sn	02 39 52.4 -3.3
HALT	Halls	6.02	84	ePn	Pn	02 38 47.6 -0.3
HALT				eS	Sg	02 40 26.8 -4.3
SLM	Saint Louis	6.03	57	ePn	Pn	02 38 48.6 +0.6
SLM				eSn	Sn	02 39 55.1 -2.5
SLM				eSg	Sg	02 40 26.6 -4.9
532A	Rocksprings	6.04	207	⇓P	Pn	02 38 46.6 -1.5
	baz=6.0					
R26A	Arlington	6.04	299	⇑P	Pn	02 38 47.2 -1.1
	baz=6.0,SNR=18					
M31A	Lambtecht Ranc	6.04	344	⇓P	Pn	02 38 47.8 -0.4
	baz=6.1					
O28A	Krutsinger Ran	6.06	320	⇑P	Pn	02 38 48.6 +0.1
	baz=6.1,SNR=29					
430A	Baggett Ranch,	6.07	220	⇑P	Pn	02 38 47.3 -1.4
	baz=6.1					
GLAT	Glass	6.08	81	ePn	Pn	02 38 47.9 -0.8
GLAT				eSg	Sg	02 40 29.8 -3.2
N29A	Votaw Ranch, W	6.09	331	⇑P	Pn	02 38 48.8 -0.1
	baz=6.1,SNR=20					
OXF	Oxford	6.09	98	ePn	Pn	02 38 49.0 +0.1
OXF				eSg	Sg	02 40 32.1 -1.4
P27A	Ficken Ranch,	6.13	312	⇑P	Pn	02 38 49.5 0.0
	baz=6.1,SNR=14					
531A	Rocksprings	6.26	212	⇑P	Pn	02 38 49.5 -1.7
	baz=6.3					
U25A	Circle Dot Ran	6.29	280	P	Pn	02 38 50.7 -1.0
	baz=6.3,SNR=47					
W25A	X Bar L Ranch,	6.33	269	⇑P	Pn	02 38 51.6 -0.7
	baz=6.3,SNR=16					
N28A	Pribbeno Ranch	6.38	325	⇑P	Pn	02 38 52.7 -0.1
	baz=6.4					
Q26A	Hugo	6.38	304	⇓P	Pn	02 38 52.8 -0.1
	baz=6.4					
T25A	Trinidad	6.40	287	⇑P	Pn	02 38 52.4 -0.9
	baz=6.4,SNR=8.4					
SIUC	Southern Illin	6.41	68	ePn	Pn	02 38 54.0 +0.7
SIUC				eSg	Sg	02 40 39.5 -4.2
633A	Saathoff Ranch	6.42	199	⇓P	Pn	02 38 53.2 -0.2
	baz=6.4					
UTMT	University of	6.43	81	ePn	Pn	02 38 53.2 -0.2
V25A	Rancho No Teng	6.43	275	⇑P	Pn	02 38 52.6 -1.0
	baz=6.4,SNR=66					
M30A	Dale-Ortello V	6.46	339	⇓P	Pn	02 38 52.9 -1.1
	baz=6.5,SNR=12					
O27A	Beecher Island	6.49	317	⇑P	Pn	02 38 54.6 +0.2
	baz=6.5					
S25A	Robets Cordova	6.55	291	⇓P	Pn	02 38 54.1 -1.2
	baz=6.5,SNR=21					
429A	Davenport Ranc	6.55	223	⇓P	Pn	02 38 54.2 -1.1
	baz=6.5					
632A	Uvalde	6.56	204	⇓P	Pn	02 38 54.7 -0.7
	baz=6.6					
R25A	Fountain Ranch	6.59	295	⇓P	Pn	02 38 55.2 -0.7
	baz=6.6,SNR=9.4					
P26A	Davis Ranch, A	6.61	309	⇑P	Pn	02 38 55.9 -0.2
	baz=6.6,SNR=26					
530A	J-C Ranch, Com	6.64	217	⇓P	Pn	02 38 55.5 -1.0
	baz=6.6					
M29A	Burnside Ranch	6.65	333	⇓P	Pn	02 38 56.6 -0.1
	baz=6.7					
735A	Kenedy	6.74	188	⇑P	Pn	02 38 58.2 +0.4
	baz=6.7					
L30A	Spencer Herefo	6.80	341	⇓P	Pn	02 38 57.9 -0.8
	baz=6.8,SNR=5.6					
OGNE	Ogallala	6.81	324	⇓P	Pn	02 38 59.1 +0.2
	baz=6.8,SNR=8.0					
OGNE	Ogallala	6.81	324	ePn	Pn	02 38 58.9 +0.1
	58nm,0.6s					
OGNE				eS	Sg	02 40 52.2 -4.3
Q25A	Bedland, Calha	6.87	301	⇑P	Pn	02 38 59.8 0.0
	baz=6.9,SNR=13					
M28A	Bar X Bar Ranc	6.88	329	⇑P	Pn	02 38 59.4 -0.3
	baz=6.9					
SCIA	State Center	6.91	22	ePn	Pn	02 39 00.1 0.0
SCIA				ePg	Pg	02 39 28.6 -1.6
SCIA				eSn	Sn	02 40 21.1 +1.8
631A	Perdido Creek	6.93	209	⇓P	Pn	02 38 58.9 -1.5
	baz=6.9					
N27A	Anderson Farm,	6.96	321	⇑P	Pn	02 39 00.7 -0.2
	baz=7.0,SNR=12					
O26A	Horse Wrangler	7.00	314	⇓P	Pn	02 39 00.7 -0.7
	baz=7.0,SNR=31					
W24A	Lazy 6 Ranch,	7.10	270	⇓P	Pn	02 39 02.5 -0.4
	baz=7.1,SNR=14					
P25A	Willow Gulch B	7.11	306	⇑P	Pn	02 39 03.2 +0.2
	baz=7.1					
S24A	Houchin Ranch,	7.14	289	⇑P	Pn	02 39 03.1 -0.5
	baz=7.1					
T24B	San Luis	7.15	285	⇓P	Pn	02 39 03.2 -0.4
	baz=7.1					
GDL2	Guadalupe Moun	7.18	244	ePn	Pn	02 39 03.9 0.0
R24A	Sanders Place,	7.23	294	⇓P	Pn	02 39 04.2 -0.5
	baz=7.2					
WVT	Waverly	7.25	83	ePn	Pn	02 39 03.9 -0.9
WVT				eSn	Sn	02 40 18.9 -8.8
WVT				eSg	Sg	02 41 04.9 -5.7
SDCO	Great Sand Dun	7.38	290	ePn	Pn	02 39 07.0 +0.1
O25A	Wiggins	7.41	310	⇓P	Pn	02 39 06.6 -0.5
	baz=7.4					
K30A	Basset	7.46	343	⇑P	Pn	02 39 07.3 -0.3
	baz=7.5,SNR=12					
Q24A	Divide	7.53	299	⇑P	Pn	02 39 08.1 -0.8
	baz=7.5					
833A	Chaparral WMA,	7.56	198	⇑P	Pn	02 39 09.0 0.0
	baz=7.6					
P24A	Kohler Place,	7.61	304	⇓P	Pn	02 39 09.7 -0.1
	baz=7.6					
USIN	University of	7.66	69	ePn	Pn	02 39 10.6 +0.2
K29A	Lazy Trails An	7.72	340	⇑P	Pn	02 39 11.2 -0.1
	baz=7.7					
R23A	Moffat	7.75	293	⇑P	Pn	02 39 11.7 -0.2
	baz=7.7					
N25A	Grover	7.82	314	⇓P	Pn	02 39 12.7 0.0
	baz=7.8,SNR=9.3					
ANMO	Albuquerque	7.98	268	Pn	Pn	02 39 14.2 -0.8
	0.2nm,0.3s,baz=76,slow=17,SNR=5.6					
ANMO				Pg	Pb	02 39 42.1 +5.1
	1.1nm,0.3s,baz=81,slow=18,SNR=8.2					
ANMO				Lg	Lg	02 41 27.5
	2.5nm,0.3s,baz=36,slow=19,SNR=6.1					
ANMO	Albuquerque	7.98	268	ePn	Pn	02 39 14.2 -0.8
ANMO				Pg	Pb	02 39 42.1 +5.1
ANMO				ePg	Pg	02 39 45.7 -5.1
ANMO				Lg	Lg	02 41 27.5
ANMO				eSg	Sg	02 41 27.6 -6.6
K28A	Ten Mile Ranch	8.01	335	⇓P	Pn	02 39 15.7 +0.5
	baz=8.0					
O24A	Longmont	8.02	307	⇓P	Pn	02 39 15.0 -0.5
	baz=8.0,SNR=14					
J30A	Dallas	8.05	345	⇑P	Pn	02 39 14.9 -0.9
	baz=8.1					
L26A	Underwood Farm	8.15	324	⇓P	Pn	02 39 17.5 +0.3
	baz=8.2					
ECSD	EROS Data Cent	8.17	1	⇑P	Pn	02 39 16.1 -1.2
	baz=8.2					
ECSD	EROS Data Cent	8.17	1	ePn	Pn	02 39 16.1 -1.2
ECSD				eSn	Sn	02 40 47.6 -2.6
MNTX	Cornudas Mount	8.18	244	ePn	Pn	02 39 18.4 +0.9
P23A	Jefferson	8.19	300	⇑P	Pn	02 39 17.8 -0.2
	baz=8.2					
M25A	Palm-Egli Farm	8.21	318	⇑P	Pn	02 39 17.9 -0.2
	baz=8.2					
ISCO	Idaho Springs	8.22	304	⇓P	Pn	02 39 17.9 -0.5
	baz=8.2,SNR=12					
ISCO	Idaho Springs	8.22	304	ePn	Pn	02 39 18.2 -0.1
ISCO				eS	Sg	02 41 36.9 -4.9
N24A	Carr	8.30	312	⇓P	Pn	02 39 19.3 -0.1
	baz=8.3					
J29A	Okreek	8.32	342	⇓P	Pn	02 39 18.7 -0.8
	baz=8.3,SNR=7.9					
K27A	Flueckinger Fa	8.32	331	⇑P	Pn	02 39 18.8 -0.8
	baz=8.3,SNR=9.6					
LRAL	Lakeview Retre	8.43	105	ePn	Pn	02 39 20.7 -0.3
LRAL				eS	Sn	02 40 55.1 -1.6
TXAR	Lajitas Array	8.53	225	Pn	Pn	02 39 22.5 0.0
	0.4nm,0.3s,baz=53,slow=11,SNR=29					
TXAR				Pg	Pg	02 39 50.1 -11
	1.6nm,0.3s,baz=19,slow=12,SNR=10.0					
TXAR				Lg	Lg	02 41 42.7
	3.4nm,0.3s,baz=50,slow=25,SNR=6.4					
J28A	Allard Ranch,	8.60	337	⇑P	Pn	02 39 22.5 -0.8
	baz=8.6,SNR=13					
I30A	Oacoma	8.60	347	⇓P	Pn	02 39 23.0 -0.4
	baz=8.6					
LAZ	Ladron	8.62	265	Pn	Pn	02 39 25.8 +2.0
O23A	Lake Granby, G	8.62	305	⇑P	Pn	02 39 24.6 +0.7
	baz=8.6					
M24A	Cheyenne	8.67	315	⇑P	Pn	02 39 23.8 -0.5
	baz=8.7,SNR=9.1					
J27A	Elkhorn Farm,	8.70	334	⇓P	Pn	02 39 24.4 -0.4
	baz=8.7					
K26A	Motz Farm, Whi	8.72	327	⇓P	Pn	02 39 25.0 0.0
	baz=8.7					
WCI	Wyandotte Cave	8.77	69	ePn	Pn	02 39 26.7 +1.0
BLO	Bloomington	8.89	63	ePn	Pn	02 39 28.5 +1.2
BLO				eS	Sn	02 41 08.0 +0.1
I29A	Vivian Onida	8.89	343	⇑P	Pn	02 39 26.3 -1.0
	baz=8.9					
JFWS	Jewell Farm	8.90	32	ePn	Pn	02 39 25.2 -2.2
SMCO	Snowmass	8.92	297	ePn	Pn	02 39 28.0 -0.1
K25A	Mack Ranch, Ha	8.97	324	⇓P	Pn	02 39 27.5 -1.0
	baz=9.0					
N23A	Red Feather La	9.00	309	⇓P	Pn	02 39 29.0 0.0
	baz=9.0,SNR=13					
SFIN	Lafayette	9.00	55	⇓P	Pn	02 39 29.6 +0.9
	baz=9.0,SNR=5.5					
O22A	Kremmling	9.02	304	⇓P	Pn	02 39 29.2 -0.2
	baz=9.0					
I28A	Midland	9.10	339	⇑P	Pn	02 39 29.3 -0.9
	baz=9.1,SNR=8.8					
I27A	Quinn	9.44	336	⇓P	Pn	02 39 34.0 -0.8
	baz=9.4,SNR=6.9					
H29A	Onida	9.45	345	⇓P	Pn	02 39 33.3 -1.6
	baz=9.5					
J25A	Sunshine Ranch	9.54	327	⇓P	Pn	02 39 35.4 -1.0
	baz=9.5,SNR=5.4					
PV01	Paradox Valley	9.84	289	ePn	Pn	02 39 41.3 +0.9
I25A	Rochford	10.02	330	⇑P	Pn	02 39 41.8 -1.1
	baz=10.0					
SPMN	Marine on St.	10.11	16	⇓P	Pn	02 39 42.0 -2.0
	baz=10					
SPMN	Marine on St.	10.11	16	ePn	Pn	02 39 41.5 -2.5
RSSD	Black Hills	10.23	329	ePn	Pn	02 39 45.7 -0.2
RSSD				eS	Sn	02 41 42.9 +1.7
K22A	Casper	10.39	316	ePn	Pn	02 39 46.3 -1.8
K22A				eS	Sn	02 41 50.4 +5.2
TKL	Tuckaleechee C	10.55	86	Pn	Pn	02 39 48.9 -1.1
	0.4nm,0.3s,baz=286,slow=12,SNR=6.5					
TKL				Lg	Lg	02 42 46.9
	4.7nm,0.3s,baz=180,slow=9.3,SNR=6.2					
J22A	Midwest	10.87	319	⇓P	Pn	02 39 53.3 -1.3
	baz=11					
H24A	Dirks Ranch, A	10.96	329	⇓P	Pn	02 39 55.0 -0.7
	baz=11					
GOGA	Godfrey	11.15	97	ePn	Pn	02 39 57.5 -0.7
SRU	San Rafael Swe	11.54	292	Pn	Pn	02 40 04.9 +1.1
ACSO	Alum Creek Sta	11.82	63	ePn	Pn	02 40 06.1 -1.3
COWI	Conover	11.99	26	ePn	Pn	02 40 07.9 -1.8
COWI				eSn	Sn	02 42 17.5 -6.6
PDAR	Pinedale Array	12.28

Constanza, Jarabacoa, La Vega, Licey al Medio, Luperon, Moca, Montellano and Villa Gonzalez. Felt at Fort Liberte, Haiti.

ISC 22 02:53:50.1±1.5, 19°.72N±0°.04×70°.93W±0°.03, h17km±9km, n150, σ1§44/160, mb4.5/62, MS4.0/21, 1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.81**	**205**	*ePg*	**Pb**	**02 54 04.8**	**-1.0**
SDDR				*eSg*	**Sg**	**02 54 16.7**	**+0.1**
PAPH	**Port-au-Prince**	**1.76**	**227**	*ePn*	**Pb**	**02 54 20.7**	**-1.2**
PAPH				*eSn*	**Sn**	**02 54 41.0**	**-0.9**
GRTK	**Grand Turk**	**1.79**	**354**	*ePn*	**Pn**	**02 54 19.2**	**-1.0**
GRTK				*eSn*	**Sn**	**02 54 42.8**	**+0.3**
LGNH	**LØogne**	**1.99**	**233**	*ePn*	**Pb**	**02 54 24.6**	**-1.3**
LGNH				*eSn*	**Sn**	**02 54 47.8**	**+0.3**
JAKH	**Jacmel**	**2.11**	**226**	*ePn*	**Pb**	**02 54 25.9**	**-1.9**
JAKH				*eS*	**Sb**	**02 54 54.3**	**+0.6**
AGPR	**Aguadilla, PR**	**3.82**	**108**	*ePn*	**Pn**	**02 54 49.5**	**+1.4**
AGPR				*eS*	**Sb**	**02 55 43.6**	**+0.4**
GTBY	**Guantanamo Bay**	**3.94**	**274**	*ePn*	**Pn**	**02 54 48.1**	**-1.7**
GTBY				*eS*	**Sb**	**02 55 46.0**	**-0.5**
LSP	**Las Mesas**	**3.95**	**112**	*ePn*	**Pn**	**02 54 51.4**	**+1.4**
LSP				*eS*	**Sn**	**02 55 38.8**	**+2.8**
CRPR	**Cabo Rojo, PR**	**4.00**	**115**	*ePn*	**Pn**	**02 54 53.1**	**+2.4**
CRPR				*eS*	**Sb**	**02 55 49.1**	**+0.8**
LRS	**Lares**	**4.12**	**110**	*ePn*	**Pn**	**02 54 53.4**	**+1.0**
LRS				*eSn*	**Sn**	**02 55 43.5**	**+3.4**
AOPR	**Arecibo Observ**	**4.18**	**108**	*ePn*	**Pn**	**02 54 55.4**	**+2.2**
AOPR				*eSn*	**Sn**	**02 55 44.0**	**+2.3**
OBIP	**Obispado Ponce**	**4.42**	**112**	*ePn*	**Pn**	**02 54 57.8**	**+1.4**
OBIP				*eS*	**Sb**	**02 56 04.5**	**+4.1**
CELP	**Cerrillos**	**4.43**	**111**	*ePn*	**Pn**	**02 54 58.6**	**+2.0**
CELP				*eS*	**Sn**	**02 55 51.4**	**+3.5**
ICMP	**Isla Caja de M**	**4.55**	**113**	*ePn*	Pn	02 55 02.1	+3.9
ICMP				*eS*	**Sn**	**02 55 52.4**	**+1.6**
SJG	**San Juan**	**4.80**	**109**	Pn	**Pn**	**02 55 03.0**	**+1.4**
	0.2nm,0.3s,baz=300,slow=12,SNR=14						
SJG				Pg	**Pb**	**02 55 11.3**	**-2.5**
	1.9nm,0.3s,baz=289,slow=12,SNR=5						
SJG				Sn	**Sn**	**02 55 56.7**	**-0.2**
	1.9nm,0.3s,baz=262,slow=24,SNR=6.5						
SJG				Lg	Lg	02 56 13.2	
	3.2nm,0.3s,baz=270,slow=23,SNR=7.9						
SJG	**San Juan**	**4.80**	**109**	*ePn*	**Pn**	**02 55 02.9**	**+1.2**
SJG				*eS*	**Sn**	**02 55 58.7**	**+1.8**
SJG				Lg	Lg	02 56 13.2	
CBYP	**Canovanas**	**5.01**	**106**	*ePn*	**Pn**	**02 55 04.3**	**-0.3**
	258nm,0.6s						
CBYP				*eS*	**Sn**	**02 56 02.5**	**+0.3**
HUMP	**Col San Antoni**	**5.06**	**107**	*ePn*	**Pn**	**02 55 05.9**	**+0.7**
MTP	**Monte Pirata**	**5.34**	**107**	*ePn*	**Pn**	**02 55 10.1**	**+1.0**
	130nm,0.6s						
MTP				*eS*	**Sn**	**02 56 08.9**	**-1.4**
STVI	**Saint Thomas**	**5.82**	**103**	*ePn*	**Pn**	**02 55 15.7**	**+0.1**
	104nm,0.5s						
STVI				*eS*	**Sn**	**02 56 19.4**	**-2.5**
CDVI	**St. Croix**	**6.16**	**108**	*ePn*	**Pn**	**02 55 22.3**	**+2.0**
	218nm,0.6s						
CDVI				*eS*	**Sn**	**02 56 31.9**	**+1.4**
MTDJ	**Mount Denham**	**6.42**	**258**	*ePn*	**Pn**	**02 55 23.9**	**-0.2**
	53nm,0.6s						
MTDJ				*eS*	**Sn**	**02 56 39.4**	**+2.3**
SMRT	**St. Maarten**	**7.62**	**101**	*ePn*	**Pn**	**02 55 40.2**	**-0.2**
SMRT				*eSn*	**Sn**	**02 57 02.8**	**-3.7**
ANWB	**Willy Bob**	**8.90**	**102**	*ePn*	**Pn**	**02 55 56.3**	**-1.8**
ANWB				*eS*	**Sn**	**02 57 37.4**	**-0.7**
FDF	**Fort de France**	**10.58**	**116**	*ePn*	Pn	02 56 25.0	+3.9
SDV	**Santo Domingo**	**10.78**	**178**	*ePn*	**Pn**	**02 56 26.4**	**+2.5**
SDV				*eS*	**Sn**	**02 58 25.2**	**+0.8**
GRGR	**Grenville**	**11.68**	**129**	*ePn*	**Pn**	**02 56 38.0**	**+1.8**
GRGR				*eS*	**Sn**	**02 58 46.1**	**-0.1**
BBGH	**Gun Hill**	**12.72**	**119**	*ePn*	**Pn**	**02 56 51.0**	**+0.7**
BCIP	**Isla Barro Col**	**13.58**	**221**	*ePn*	**Pn**	**02 57 02.1**	**+0.1**
	39nm,0.7s						
BBSR	**BB Station**	**13.78**	**23**	*ePn*	**Pn**	**02 57 02.0**	**-2.6**
	17nm,0.5s						
ROSC	**El Rosal**	**15.14**	**193**	Pn	**P**	**02 57 26.8**	**-2.0**
	0.9nm,0.3s,baz=106,slow=9.4,SNR=5.0						
ROSC	**El Rosal**	**15.14**	**193**	*eP*	**P**	**02 57 29.7**	**+0.9**
RGRS	**Roger Stewart**	**15.52**	**330**	*ePn*	**Pn**	**02 57 27.6**	**-0.6**
TEIG	**Tepich**	**16.32**	**275**	Pn	**Pn**	**02 57 39.3**	**+0.8**
	0.4nm,0.3s,baz=80,slow=6.1,SNR=3.1						
TEIG				LR	LR	03 04 32.0	
	comp=Z,769nm,18.2s,baz=134,slow=39						
JTS	**JuntasAbangare**	**16.46**	**237**	Pn	**P**	**02 57 42.2**	**-0.8**
	0.3nm,0.3s,baz=27,slow=11,SNR=2.6						
JTS				LR	LR	03 04 23.3	
	comp=Z,573nm,18.6s,baz=66,slow=38						
JTS	**JuntasAbangare**	**16.46**	**237**	*ePn*	**P**	**02 57 42.5**	**-0.5**
	20nm,1.0s						
KMSC	**Kings Mountain**	**17.90**	**331**	Pn	**P**	**02 58 00.7**	**+1.9**
	206nm,2.8s						
JSRW	**J. Sargeant Re**	**18.90**	**343**	*eP*	**Pn**	**02 58 11.1**	**+0.6**
APG	**El Apazote**	**19.22**	**259**	P	**Pn**	**02 58 16.2**	**+1.5**
	0.5nm,0.3s,baz=81,slow=9.1,SNR=8.7						
BLA	**Blacksburg**	**19.30**	**337**	*eP*	**Pn**	**02 58 16.9**	**+1.6**
	4.7nm,0.6s						
BLA				*eS*	Sn	03 01 36.8	-15
TKL	**Tuckaleechee C**	**19.49**	**327**	P	**Pn**	**02 58 20.2**	**+2.6**
	0.2nm,0.3s,baz=149,slow=11,SNR=3.5						
TKL				LR	LR	03 05 43.7	
	comp=Z,506nm,19.6s,baz=142,slow=37						
TKL	**Tuckaleechee C**	**19.49**	**327**	*eP*	**Pn**	**02 58 20.6**	**+2.9**
OTAV	**Otavalo**	**20.72**	**202**	*eP*	Pn	02 58 31.6	-1.2
	27nm,1.3s						
MVL	**Millersville**	**20.74**	**348**	*eP*	**P**	**02 58 30.7**	**+0.9**
	40nm,1.5s						
SSPA	**Standing Stone**	**21.68**	**346**	*eP*	**P**	**02 58 41.0**	**+1.1**
	37nm,1.5s						
SSPA				*eS*	**S**	**03 02 38.7**	**-0.6**
WVT	**Waverly**	**22.08**	**321**	*eP*	**P**	**02 58 43.9**	**-0.4**
	48nm,1.9s						
HRV	**Adam Dziewonsk**	**22.72**	**359**	*eP*	**P**	**02 58 55.1**	**+4.0**
	56nm,1.3s						
BINY	**Binghamton**	**22.81**	**350**	*eP*	**P**	**02 58 53.2**	**+1.1**
	24nm,1.3s						
ACSO	**Alum Creek Sta**	**22.91**	**336**	*eP*	**P**	**02 58 54.2**	**+1.1**
	57nm,1.4s						
PTGA	**Pitinga**	**23.00**	**151**	P	**P**	**02 58 52.6**	**-1.6**
	2.5nm,0.4s,baz=330,slow=15,SNR=7.3						
PTGA				LR	LR	03 08 27.0	
	comp=Z,450nm,18.4s,baz=323,slow=38						
ACCN	**Adirondack Com**	**23.70**	**355**	*eP*	**P**	**02 59 03.4**	**+2.4**
	9.8nm,0.6s						
MDV	**Middlebury**	**24.28**	**356**	P	P	02 59 12.0	+5.6
	37μm,0.4s						
LONY	**Lake Ozonia**	**25.01**	**354**	P	**P**	**02 59 16.5**	**+3.4**
	5.5nm,0.8s						
SADO	**Sadowa**	**25.89**	**347**	P	**P**	**02 59 21.6**	**+0.6**
	2.7nm,0.7s,baz=158,slow=9.4,SNR=5.2						
SADO				LR	LR	03 09 27.0	
	comp=Z,416nm,18.7s,baz=173,slow=36						
TUL1	**Leonard**	**27.15**	**312**	*eP*	**P**	**02 59 32.1**	**-0.5**
	12nm,1.0s						
ATAH	**Atahualpa**	**27.68**	**196**	LR	LR	03 12 11.9	
	comp=Z,265nm,20.2s,baz=345,slow=40						
WMOK	**Wichita Mounta**	**28.80**	**307**	*eP*	**P**	**02 59 47.2**	**-0.1**
	3.2nm,0.7s						
SAML	**Samuel**	**29.50**	**164**	*eP*	P	02 59 49.9	-3.6
	2.8nm,0.5s						
TXAR	**Lajitas Array**	**31.19**	**294**	P	**P**	**03 00 09.1**	**+0.5**
	0.8nm,0.7s,baz=107,slow=10,SNR=9.8						
TXAR				LR	LR	03 15 44.3	
	comp=Z,161nm,20.9s,baz=0.0,slow=42						
MSTX	**Muleshoe**	**31.61**	**303**	*eP*	**P**	**03 00 11.9**	**-0.3**
	5.3nm,0.8s						
ECSD	**EROS Data Cent**	**32.16**	**324**	*eP*	**P**	**03 00 16.5**	**-0.5**
	5.6nm,1.0s						
MNTX	**Cornudas Mount**	**33.11**	**298**	*eP*	**P**	**03 00 26.0**	**+0.6**
	15nm,1.5s						
SDCO	**Great Sand Dun**	**34.97**	**308**	*eP*	**P**	**03 00 42.0**	**+0.2**
	26nm,2.3s						
SCHQ	**Schefferville**	**35.19**	**4**	P	**P**	**03 00 44.5**	**+1.4**
	2.0nm,0.6s,baz=192,slow=8.1,SNR=5.4						
SCHQ				LR	LR	03 16 22.5	
	comp=Z,213nm,18.1s,baz=228,slow=38						
ISCO	**Idaho Springs**	**35.84**	**312**	*eP*	**P**	**03 00 50.1**	**+0.8**
	17nm,1.8s						
LPAZ	**La Paz**	**35.89**	**175**	P	**P**	**03 00 50.1**	**0.0**
	2.2nm,0.5s,baz=346,slow=3.5,SNR=24						
LPAZ				LR	LR	03 16 49.9	
	comp=Z,519nm,18.3s,baz=0.5,slow=39						
LPAZ	**La Paz**	**35.89**	**175**	*eP*	**P**	**03 00 50.1**	**0.0**
	25nm,2.3s						
ULM	**Lac du Bonnet**	**36.33**	**333**	P	**P**	**03 00 53.2**	**+0.3**
	1.9nm,0.7s,baz=132,slow=11,SNR=4.5						
ULM				LR	LR	03 15 45.3	
	comp=Z,259nm,19.5s,baz=110,slow=36						
RWWY	**Rawlins**	**37.71**	**314**	*eP*	**P**	**03 01 03.2**	**-2.0**
	23nm,0.6s						
PDAR	**Pinedale Array**	**39.74**	**314**	P	**P**	**03 01 21.7**	**-0.4**
	0.4nm,0.7s,baz=119,slow=10,SNR=3.3						
PDAR				LR	LR	03 19 00.2	
	comp=Z,215nm,19.1s,baz=123,slow=38						
LOHW	**Long Hollow**	**40.78**	**315**	*eP*	**P**	**03 01 30.9**	**+0.3**
	4.6nm,0.9s						
REDW	**Red Top Meadow**	**40.85**	**314**	*eP*	**P**	**03 01 32.3**	**+1.0**
	12nm,1.2s						
FXWY	**Fox Creek**	**41.07**	**315**	*eP*	**P**	**03 01 35.0**	**+1.9**
	15nm,1.8s						
DUG	**Dugway, Tooele**	**41.16**	**309**	*eP*	**P**	**03 01 34.5**	**+0.8**
	10nm,1.5s						
SPUT	**South Promonto**	**41.24**	**311**	*eP*	**P**	**03 01 34.7**	**+0.2**
	3.9nm,0.7s						
BGU	**Big Grassy Mou**	**41.53**	**310**	*eP*	**P**	**03 01 37.2**	**+0.3**
	2.9nm,0.9s						
HVU	**Hansel Valley**	**41.62**	**311**	*eP*	**P**	**03 01 40.2**	**+2.6**
	5.6nm,0.6s						
BDFB	**Brasilia**	**41.75**	**146**	P	**P**	**03 01 35.9**	**-2.9**
	1.3nm,0.4s,baz=351,slow=17,SNR=6.1						
BDFB				LR	LR	03 20 22.2	
	comp=Z,274nm,18.3s,baz=262,slow=38						
FCC	**Fort Churchill**	**42.46**	**342**	*eP*	**P**	**03 01 45.5**	**+1.5**
RCBR	**Riachuelo**	**42.81**	**123**	P	**P**	**03 01 47.6**	**+0.2**
	2.1nm,0.5s,baz=287,slow=8.1,SNR=6.9						
NVAR	**Mina Array Bea**	**44.87**	**305**	P	**P**	**03 02 05.3**	**+1.4**
	2.3nm,0.7s,baz=91,slow=7.2,SNR=18						
NEW	**Newport**	**46.74**	**319**	P	**P**	**03 02 18.7**	**+0.4**
	1.0nm,0.6s,baz=106,slow=7.4,SNR=3.0						
NEW	**Newport**	**46.74**	**319**	*eP*	**P**	**03 02 19.8**	**+1.5**
	6.1nm,1.0s						
LCO	**Las Campanas**	**48.45**	**180**	*eP*	**P**	**03 02 30.6**	**-1.4**
YKA	**Yellowknife Ar**	**52.16**	**336**	P	**P**	**03 02 59.1**	**-0.3**
	0.5nm,0.7s,baz=114,slow=7.1,SNR=8.5						
DLBC	**Dease Lake**	**57.33**	**328**	P	**P**	**03 03 37.8**	**+0.7**
	1.7nm,0.6s,baz=152,slow=8.8,SNR=3.3						
TRQA	**Tornquist**	**58.09**	**172**	*eP*	**P**	**03 03 40.2**	**-2.3**
	0.4nm,0.2s						
ESDC	**Sonseca Array**	**60.15**	**55**	P	**P**	**03 03 57.2**	**+0.2**
	1.1nm,0.7s,baz=283,slow=7.2,SNR=10.0						
ESDC				LR	LR	03 25 50.6	
	comp=Z,146nm,19.7s,baz=275,slow=32						
PLCA	**Paso Flores**	**60.15**	**180**	LR	LR	03 31 14.3	
	comp=Z,131nm,18.3s,baz=142,slow=37						
SJPF	**Ste Jean**	**62.11**	**51**	*eP*	**P**	**03 04 11.5**	**+1.3**
	17nm,0.8s						
SJPF	**Ste Jean**	**62.11**	**51**	*eP*	**P**	**03 04 11.5**	**+1.3**
	17nm,0.8s						
GRR	**Gorron**	**62.35**	**45**	*eP*	**P**	**03 04 12.0**	**+0.3**
GRR	**Gorron**	**62.35**	**45**	*eP*	**P**	**03 04 12.0**	**+0.3**
ETSF	**Etsaut**	**62.61**	**51**	*eP*	**P**	**03 04 14.8**	**+1.2**
	9.3nm,1.0s						
ETSF	**Etsaut**	**62.61**	**51**	*eP*	**P**	**03 04 14.8**	**+1.2**
	9.3nm,1.0s						
MFF	**Saint Martin d**	**62.82**	**47**	*eP*	**P**	**03 04 14.9**	**0.0**
	9.9nm,0.7s						
MFF	**Saint Martin d**	**62.82**	**47**	*eP*	**P**	**03 04 14.9**	**0.0**
	9.9nm,0.7s						
LDF	**La Druitiere**	**62.84**	**45**	*eP*	**P**	**03 04 15.3**	**+0.3**
LDF	**La Druitiere**	**62.84**	**45**	*eP*	**P**	**03 04 15.3**	**+0.3**
EPF	**Esparros**	**63.26**	**51**	*eP*	**P**	**03 04 19.3**	**+1.3**
EPF	**Esparros**	**63.26**	**51**	*eP*	**P**	**03 04 19.3**	**+1.3**
LFF	**La Frestale**	**63.48**	**49**	*eP*	**P**	**03 04 19.7**	**+0.5**
LFF	**La Frestale**	**63.48**	**49**	*eP*	**P**	**03 04 19.7**	**+0.5**
RJF	**Les Rejaudoux**	**64.01**	**48**	*eP*	**P**	**03 04 23.3**	**+0.5**
	25nm,1.3s						
RJF				*eR*			
	99nm,17.8s						
RJF	**Les Rejaudoux**	**64.01**	**48**	*eP*	**P**	**03 04 23.3**	**+0.5**
	25nm,1.3s						
CAF	**Calviac**	**64.42**	**49**	*eP*	**P**	**03 04 25.9**	**+0.4**
	8.6nm,0.9s						
CAF	**Calviac**	**64.42**	**49**	*eP*	**P**	**03 04 25.9**	**+0.4**
	8.6nm,0.9s						
TCF	**Toulx Ste Croi**	**64.46**	**47**	*eP*	**P**	**03 04 26.2**	**+0.5**
	17nm,1.2s						
TCF	**Toulx Ste Croi**	**64.46**	**47**	*eP*	**P**	**03 04 26.2**	**+0.5**
	17nm,1.2s						
TIC	**Toumodi**	**65.13**	**92**	*eP*	P	03 04 36.8	+6.2
	1.9nm,0.2s						
AVF	**Avril sur Loir**	**65.22**	**47**	*eP*	**P**	**03 04 30.8**	**+0.1**
AVF	**Avril sur Loir**	**65.22**	**47**	*eP*	**P**	**03 04 30.8**	**+0.1**
LIC	**Lamto**	**65.26**	**92**	*eP*	P	03 04 36.4	+5.0
	22nm,1.2s,baz=266						
LIC	**Lamto**	**65.26**	**92**	*eP*	P	03 04 37.4	+6.0
	34nm,1.6s						
LIC	**Lamto**	**65.26**	**92**	*eP*	P	03 04 36.4	+5.0
	22nm,1.2s						
DBIC	**Dimbokro**	**65.28**	**92**	P	**P**	**03 04 30.9**	**-0.7**
	0.7nm,0.6s,baz=292,slow=8.7,SNR=3.2						
KIC	**Kosan Boka**	**65.49**	**92**	*eP*	P	03 04 39.4	+6.5
	28nm,1.5s						
LOR	**Lormes**	**65.55**	**46**	*eP*	**P**	**03 04 32.8**	**0.0**
	10nm,0.8s						
LOR				*eR*			
	264nm,19.2s						
LOR	**Lormes**	**65.55**	**46**	*eP*	**P**	**03 04 32.8**	**0.0**
	10nm,0.8s						
SMF	**Signal de Mont**	**65.57**	**47**	*eP*	**P**	**03 04 32.9**	**0.0**
	8.4nm,0.9s						
SMF	**Signal de Mont**	**65.57**	**47**	*eP*	**P**	**03 04 32.9**	**0.0**
	8.4nm,0.9s						
PAX	**Paxson**	**65.60**	**331**	*eP*	P	03 04 39.2	+6.2
	26nm,2.0s						
MEZF	**Maizieres J'vi**	**66.28**	**45**	*eP*	**P**	**03 04 37.9**	**+0.5**
	20nm,0.8s						
MEZF	**Maizieres J'vi**	**66.28**	**45**	*eP*	**P**	**03 04 37.9**	**+0.5**
	20nm,0.8s						
SFTF	**Sexfontaines**	**66.29**	**45**	*eP*	**P**	**03 04 36.3**	**-1.2**
SFTF	**Sexfontaines**	**66.29**	**45**	*eP*	**P**	**03 04 36.3**	**-1.2**
ILAR	**Eielson Array**	**66.35**	**333**	P	**P**	**03 04 36.8**	**-0.9**
	1.3nm,0.7s,baz=87,slow=5.8,SNR=9.2						
ILAR				LR	LR	03 34 25.2	
	comp=Z,260nm,19.3s,baz=110,slow=37						
HAU	**Haudompre**	**67.18**	**45**	*eP*	**P**	**03 04 43.2**	**0.0**
HAU				*eR*			
	178nm,19.8s						
HAU	**Haudompre**	**67.18**	**45**	*eP*	**P**	**03 04 43.2**	**0.0**
HINF	**Hinteralfeld**	**67.53**	**45**	*eP*	**P**	**03 04 44.4**	**-1.1**
HINF	**Hinteralfeld**	**67.53**	**45**	*eP*	**P**	**03 04 44.4**	**-1.1**
TRF	**Thorofare Moun**	**67.80**	**332**	*eP*	**P**	**03 04 47.0**	**-0.1**
	3.7nm,0.8s						
KTH	**Kantishna Hill**	**68.08**	**332**	*eP*	**P**	**03 04 50.0**	**+1.2**
	36nm,1.9s						
NOA	**NORSAR Array B**	**69.16**	**31**	LR	LR	03 33 23.8	
	comp=Z,57nm,18.5s,baz=275,slow=34						
TORD	**Torodi Ar. Bea**	**69.52**	**83**	P	**P**	**03 04 57.6**	**-0.8**
	0.3nm,0.6s,baz=301,slow=6.7,SNR=5.8						
TORD				LR	LR	03 32 04.3	
	comp=Z,164nm,19.7s,baz=310,slow=33						
KEST	**Kesra**	**71.06**	**58**	LR	LR	03 31 16.3	
	comp=Z,38nm,21.2s,baz=258,slow=32						
GERES	**GERESS Array B**	**71.94**	**44**	P	**P**	**03 05 11.5**	**-1.2**
	0.7nm,0.8s,baz=297,slow=6.5,SNR=5.8						
GERES				LR	LR	03 34 41.3	
	comp=Z,148nm,18.3s,baz=264,slow=34						
CONA	**Conrad Observa**	**73.52**	**44**	*↓iP*	**P**	**03 05 22.3**	**+0.2**
	1.6nm,1.0s						
ARCES	**ARCESS Array B**	**73.92**	**21**	P	**P**	**03 05 23.3**	**-0.6**
	1.7nm,0.7s,baz=297,slow=4.0,SNR=4.3						
ARCES				LR	LR	03 30 45.2	
	comp=Z,52nm,21.3s,baz=274,slow=30						
FINES	**FINESS Array B**	**76.17**	**29**	P	**P**	**03 05 36.6**	**-0.5**
	0.7nm,0.5s,baz=255,slow=4.2,SNR=9.3						
FINES				LR	LR	03 34 15.6	
	comp=Z,96nm,22.0s,baz=255,slow=32						
AKASG	**Malin Array Be**	**81.18**	**39**	LR	LR	03 42 31.2	
	comp=Z,128nm,18.0s,baz=290,slow=36						
PPT	**Papeete**	**85.62**	**250**	LR	LR	03 39 24.6	
	comp=Z,65nm,21.5s,baz=146,slow=32						
PPT2	**Papeete2**	**85.63**	**250**	*eLR*	LR	03 33 26.7	
	98nm,22.2s						
TBI	**Tubuai**	**87.71**	**244**	*eLR*	LR	03 34 26.2	
	152nm,24.5s						
BRTR	**Keskin Array B**	**88.24**	**48**	P	**P**	**03 06 40.5**	**-0.3**
	0.7nm,0.8s,baz=297,slow=4.4,SNR=5.0						
BRTR				LR	LR	03 46 27.4	
	comp=Z,31nm,18.0s,baz=294,slow=36						
HHC	**Hu-ho-hao-te**	**119.69**	**358**	*ePKP*	**PKPdf**	**03 12 40.3**	**+0.6**
HHC				PP	**PP**	**03 14 03.5**	**+2.5**
HHC				SKS	**SKSdf**	**03 19 52.1**	**+0.8**
HHC				SKKS	**SKKSac**	**03 21 00.1**	**-2.0**
HHC	**Hu-ho-hao-te**	**119.69**	**358**	SS	SS	03 30 27.3	+3.5
LZH	**Lanzhou**	**124.27**	**5**	*ePKP*	PKPdf	03 12 42.1	-6.6
LZH				pPKP	**PKiKP**	**03 12 45.3**	**-3.7**
LZH				sPKP		03 12 46.8	
WRA	**Warramunga Arr**	**156.23**	**265**	PKP	**PKPdf**	**03 13 43.4**	**-1.2**
	0.5nm,0.7s,baz=76,slow=1.4,SNR=3.9						
ASAR	**Alice Springs**	**156.60**	**256**	PKPab	**PKPab**	**03 14 13.2**	**-0.9**
	0.9nm,0.5s,baz=102,slow=4.5,SNR=11						

GUC 22 03:15:59.5±0.4, 36°.05S×73°.44W, h29km±4km, ML4.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.54**	**99**	*eP*	Pb	03 16 10.2	-0.3
COCH				*eS*	Sb	03 16 17.6	-0.3
LNCH	**Linares**	**1.51**	**83**	*eP*	Pn	03 16 25.2	+0.6
LNCH				*eS*	Sb	03 16 45.1	-0.4
TALC	**Talca**	**1.61**	**67**	*eP*	Pn	03 16 27.0	+1.1
TALC				*eS*	Sb	03 16 47.8	-0.6
NICH	**Los Niches**	**2.08**	**61**	*eP*	Pn	03 16 34.4	+1.9
NICH				*eS*	Sb	03 17 01.0	-1.1
CLCH	**Cerro Calan**	**3.57**	**43**	*eP9*	Pn	03 16 53.6	+0.6
CLCH				*eS*	Sn	03 17 35.8	+1.5
CLCH				IAML		03 17 59.1	
	comp=E,696nm,0.9s						

GUC 22 03:20:43.3±0.4, 34°.64S×71°.98W, h34km±3km, ML3.6, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.72**	**120**	*eP*	Pn	03 20 56.9	-0.1
NICH				*eS*	Sn	03 21 06.9	+0.1
TALC	**Talca**	**0.81**	**159**	*↑iP*	Pn	03 20 58.0	-0.2
TALC				*i S*	Sb	03 21 09.4	-0.2
LNCH	**Linares**	**1.24**	**166**	*eP*	Pn	03 21 05.2	+1.0
LNCH				*eS*	Sb	03 21 21.7	-0.3
ANTU	**Antumapu**	**1.55**	**47**	*i S*	Sb	03 21 30.4	-0.5
ANTU				IAML		03 21 33.5	
	comp=E,871nm,0.5s						
COCH	**Cobquecura**	**1.62**	**204**	*↓↓iP*	Pn	03 21 10.9	+1.4
COCH				*i S*	Sb	03 21 32.2	-0.6
CLCH	**Cerro Calan**	**1.73**	**44**	*eP*	Pb	03 21 13.2	-1.4
CLCH				*eS*	Sb	03 21 35.6	-0.5
CLCH				IAML		03 21 39.2	
	comp=E,785nm,0.7s						
PEL	**Peldehue**	**1.84**	**36**	*i S*	Sb	03 21 38.4	-0.9
PEL				IAML		03 21 42.5	
	comp=N,1μm,0.6s						

*ISK **22** 03:33:58.2, 35°.12N×27°.70E, h6km, MD3.4*
*DDA **22** 03:34:00.5, 35°.13N×27°.64E, h21km, MD3.6*
*ISCJB **22** 03:34:01.4±0.9, 35°.35N±0°.04×27°.81E±0°.03, h5km±5km, Error ellipse: s-maj=6.7km s-min=3.4km az=157.6*
*CSEM **22** 03:34:02.4±0.2, 35°.39N×27°.80E, h5km, ML2.7, Error ellipse: s-maj=6.9km s-min=3.2km az=156.0*
*ATH **22** 03:34:02.7, 35°.37N×27°.78E, h19km±2km, MD3.3/10*
*THE **22** 03:34:03.9, 35°.50N×27°.73E, h0km±1km, ML2.7/2, Error ellipse: s-maj=4.6km s-min=1.3km az=137.0*

ISC 22 03:34:02.0±1.3, 35°.33N±0°.04×27°.80E±0°.02, h9km±10km, n90, σ1§06/124, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.56**	**293**	P	**Pb**	**03 34 13.3**	**-0.7**
KARP				S	**Sb**	**03 34 21.3**	**-0.8**
KARP	**Karpathos**	**0.56**	**293**	*ePN*	**Pb**	**03 34 13.4**	**-0.6**
KARP				*eSN*	**Sb**	**03 34 21.1**	**-1.0**
KARP	**Karpathos**	**0.56**	**293**	*ePn*	**Pb**	**03 34 13.4**	**-0.6**
KARP				*eSn*	**Sb**	**03 34 21.1**	**-1.0**
ARG	**Arkhangelos**	**0.92**	**17**	P	**Pg**	**03 34 19.9**	**+0.2**
ARG				S	**Sb**	**03 34 32.7**	**+0.2**
ARG	**Arkhangelos**	**0.92**	**17**	*ePN*	**Pg**	**03 34 20.0**	**+0.2**
ARG				*eSN*	**Sb**	**03 34 32.6

VAM	**Vamos**	**2.94**	**272**	*e*Pn	**Pn**	**03 34 49.2**	**+0.3**
BCK	**Bucak**	**3.10**	**46**	*e*PN	**Pn**	**03 34 52.6**	**+1.5**
BCK	**Bucak**	**3.10**	**46**	*e*Pn	**Pn**	**03 34 52.6**	**+1.5**
KARN	**Karanos**	**3.17**	**272**	P	**Pn**	**03 34 54.1**	**+2.0**
KARN				S	**Sn**	**03 35 31.6**	**+1.6**
KARN	**Karanos**	**3.17**	**272**	*e*PN	**Pn**	**03 34 54.5**	**+2.4**
KARN	**Karanos**	**3.17**	**272**	P	**Pn**	**03 34 54.1**	**+2.0**
KARN	**Karanos**	**3.17**	**272**	*e*Pn	**Pn**	**03 34 54.5**	**+2.4**
KARN				S	**Sn**	**03 35 31.6**	**+1.6**
KULA	**Kula-Manisa**	**3.25**	**12**	P	**Pn**	**03 34 51.8**	**-1.4**
KULA	**Kula-Manisa**	**3.25**	**12**	*e*PN	**Pn**	**03 34 54.5**	**+1.3**
KULA	**Kula-Manisa**	**3.25**	**12**	P	**Pn**	**03 34 51.8**	**-1.4**
KULA	**Kula-Manisa**	**3.25**	**12**	*e*Pn	**Pn**	**03 34 54.5**	**+1.3**
CHOS	**Chios island**	**3.35**	**336**	P	**Pn**	**03 34 53.5**	**-1.1**
CHOS	**Chios island**	**3.35**	**336**	P	**Pn**	**03 34 53.5**	**-1.1**
GAZI	**Gazipasa**	**3.78**	**75**	*i* P	**Pn**	**03 34 59.3**	**-1.2**
GAZI				*i* S	**Sn**	**03 35 42.4**	**-2.7**
GAZI	**Gazipasa**	**3.78**	**75**	*i* P	**Pn**	**03 34 59.3**	**-1.2**
GAZI				*i* S	**Sn**	**03 35 42.4**	**-2.7**
KYTH	**Kithira**	**3.98**	**285**	P	**Pn**	**03 35 04.2**	**+1.0**
KYTH	**Kithira**	**3.98**	**285**	*e*PN	**Pn**	**03 35 04.5**	**+1.3**
KYTH	**Kithira**	**3.98**	**285**	P	**Pn**	**03 35 04.2**	**+1.0**
KYTH	**Kithira**	**3.98**	**285**	*e*Pn	**Pn**	**03 35 04.5**	**+1.3**
VLI	**Veliai**	**4.17**	**291**	P	**Pn**	**03 35 06.3**	**+0.5**
VLI	**Veliai**	**4.17**	**291**	*e*PN	**Pn**	**03 35 06.3**	**+0.5**
VLI	**Veliai**	**4.17**	**291**	P	**Pn**	**03 35 06.3**	**+0.5**
ERMK	**Ermenek**	**4.35**	**71**	*i* P	**Pn**	**03 35 09.8**	**+1.4**
ERMK				*i* S	**Sn**	**03 35 59.3**	**0.0**
ERMK	**Ermenek**	**4.35**	**71**	*i* P	**Pn**	**03 35 09.8**	**+1.4**
ERMK				*i* S	**Sn**	**03 35 59.3**	**0.0**
EZN	**Ezine**	**4.63**	**346**	*e*PN	**Pn**	**03 35 13.6**	**+1.5**
EZN	**Ezine**	**4.63**	**346**	*e*Pn	**Pn**	**03 35 13.6**	**+1.5**
LKD2	**Lefkada island**	**6.67**	**303**	P	**Pn**	**03 35 40.6**	**+0.5**
LKD2	**Lefkada island**	**6.67**	**303**	P	**Pn**	**03 35 40.6**	**+0.5**

ISCJB ***22*** *03:46:51.0±0.6, 41°.95N±0°.02×126°.00W±0°.06, h11km, mb3.9/6, MS3.1/4, Error ellipse: s-maj=6.0km s-min=2.9km az=170.1*
IDC ***22*** *03:46:51.5±1.8, 41°.90N×125°.94W, h0km, mb3.5/4, mb1 3.8/9, mb1mx3.5/42, mbtmp3.5/9, ML3.4/4, MS3.2/10, Ms1 3.2/10, ms1mx3.0/27, Error ellipse: s-maj=29.5km s-min=16.5km az=33.0*
NEIC ***22*** *03:46:52.2±1.2, 41°.87N×125°.99W, h10km, mb4.3/6, Error ellipse: s-maj=15.9km s-min=5.7km az=74.0*
ISC 22 03:46:54.1±1.0,**41°.94N**±0°.03×**125°.88W**±0°.07,**h11**km,**n96,** σ1**9**/**84**/110,**mb3.7**/**6,MS3.0**/**4,13C-8D,Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.26**	**77**	*e*Pn	**Pn**	**03 47 15.8**	**-2.0**
KBO				*e*S	**Sn**	**03 47 35.7**	**+0.9**
KEBM	**Edson Butte**	**1.47**	**50**	*e*Pn	**Pn**	**03 47 18.7**	**-2.0**
KEBM				*e*S	**Sn**	**03 47 35.7**	**-4.3**
KSXB	**Camp Six Broad**	**1.50**	**94**	P	**Pn**	**03 47 19.1**	**-2.0**
L02D	**Cave Junction,**	**1.71**	**82**	P	**Pn**	**03 47 22.2**	**-1.7**
	baz=2.0,SNR=621						
L02D				⇓S	**Sb**	**03 47 45.7**	**-1.4**
	baz=2.0						
KTRM	**Thompson Ridge**	**1.87**	**90**	P	**Pn**	**03 47 24.1**	**-2.0**
KHMM	**Horse Mountain**	**1.94**	**123**	*e*Pn	**Pn**	**03 47 24.4**	**-2.7**
KHMM				*e*S	**Sn**	**03 47 51.6**	**+0.1**
HUMO	**Hull Mountain**	**2.27**	**72**	*e*Pn	**Pn**	**03 47 30.2**	**-1.4**
HUMO				*e*S	**Sb**	**03 48 01.3**	**-1.9**
M02C	**Callahan**	**2.33**	**103**	⇓P	**Pn**	**03 47 31.1**	**-1.4**
	baz=2.6,SNR=323						
KMRM	**Mail Ridge**	**2.38**	**136**	*e*Pn	**Pn**	**03 47 30.1**	**-3.0**
KMRM				*e*Sn	**Sn**	**03 47 59.0**	**-3.3**
YBH	**Yreka Blue Hor**	**2.38**	**94**	Pn	**Pn**	**03 47 32.4**	**-0.7**
	29nm,0.3s,baz=279,slow=14,SNR=337						
YBH				Sn	**Sb**	**03 48 04.9**	**-1.5**
	14nm,0.3s,baz=108,slow=20,SNR=3.7						
YBH				LR	LR	03 48 11.3	
	comp=Z,164nm,21.7s,baz=209,slow=33						
YBH	**Yreka Blue Hor**	**2.38**	**94**	*e*Pn	**Pn**	**03 47 32.5**	**-0.6**
YBH				*e*S	**Sb**	**03 48 06.5**	**+0.1**
LAMM	**Antelope Mount**	**2.46**	**97**	P	**Pn**	**03 47 33.8**	**-0.5**
RNO	**Roman Nose**	**2.52**	**38**	P	**Pn**	**03 47 33.5**	**-1.6**
I03D	**Drain, OR**	**2.56**	**46**	⇓P	**Pn**	**03 47 33.4**	**-2.1**
	baz=2.8,SNR=179						
I03D				⇑S	**Sn**	**03 48 05.2**	**-1.5**
	baz=2.8						
N02D	**Trinity Center**	**2.58**	**111**	⇑P	**Pn**	**03 47 33.8**	**-2.1**
	baz=2.8,SNR=20						
N02D				⇓S	**Sn**	**03 48 06.8**	**-0.4**
	baz=2.8						
KIPM	**Iron Peak**	**2.80**	**139**	*e*Pn	Pn	03 47 35.5	-3.5
KIPM				*e*S	**Sn**	**03 48 10.9**	**-1.9**
KCPM	**Cahto Peak**	**2.85**	**142**	*e*Pn	Pn	03 47 35.6	-4.0
KCPM				*e*S	**Sn**	**03 48 10.8**	**-3.3**
WDC	**Whiskeytown Da**	**2.86**	**117**	*e*Pn	**Pn**	**03 47 38.0**	**-1.7**
WDC				*e*S	**Sn**	**03 48 13.6**	**-0.5**
M04C	**Macdoel**	**3.02**	**92**	⇑P	**Pn**	**03 47 41.9**	**-0.2**
	baz=3.3,SNR=53						
J04D	**Umpqua Nationa**	**3.07**	**64**	⇑P	**Pn**	**03 47 42.3**	**-0.5**
	baz=3.4						
J04D				⇓Sb	**Sb**	**03 48 28.2**	**+1.7**
	baz=3.4						
K04D	**Chiloquin, OR**	**3.14**	**76**	⇓P	**Pn**	**03 47 42.7**	**-0.9**
	baz=3.4,SNR=13						
I04A	**Tendick Farm,**	**3.15**	**53**	⇓P	**Pn**	**03 47 43.2**	**-0.6**
	baz=3.4,SNR=63						
I04A				⇓S	**Sn**	**03 48 22.4**	**+1.1**
	baz=3.4						
COR	**Corvallis**	**3.24**	**35**	*e*Pn	**Pn**	**03 47 43.8**	**-1.1**
COR				*e*S	**Sn**	**03 48 21.8**	**-1.7**
J05D	**Fort Rock, OR**	**3.68**	**67**	⇑P	**Pn**	**03 47 50.4**	**-0.7**
	baz=4.0						
K05A	**Summer Lake**	**3.78**	**76**	*e*Pb	**Pn**	**03 47 51.6**	**-0.9**
G03D	**McMinnville, O**	**3.78**	**29**	⇑P	**Pn**	**03 47 50.8**	**-1.5**
	baz=4.0,SNR=51						
G03D				⇑S	**Sn**	**03 48 35.2**	**-1.5**
	baz=4.0						
H04A	**Detroit Lake**	**3.84**	**43**	*e*Pn	**Pn**	**03 47 52.3**	**-0.9**
H04A				*e*Sn	**Sn**	**03 48 36.2**	**-2.2**
I05D	**Terrebonne, OR**	**4.09**	**53**	⇑P	**Pn**	**03 47 55.8**	**-0.9**
	baz=4.4,SNR=17						
I05D				⇑S	**Sn**	**03 48 45.9**	**+1.2**
	baz=4.4						
PINOR	**Pine Mountain**	**4.13**	**61**	*e*Pn	**Pn**	**03 47 56.6**	**-0.5**
PINOR				*e*S	**Sb**	**03 48 52.2**	**-4.4**
MOD	**Modoc Plateau**	**4.16**	**89**	*e*Pn	**Pn**	**03 47 56.5**	**-1.2**
OHCM	**Honcut**	**4.24**	**126**	*e*Pn	**Pn**	**03 47 55.8**	**-2.8**
OHCM				*e*Sn	Sn	03 48 33.7	-14
F04D	**Rainier, OR**	**4.63**	**26**	⇑P	**Pn**	**03 48 03.9**	**-0.1**
	baz=4.8,SNR=9.0						
F04D				⇑S	**Sn**	**03 48 56.8**	**-0.9**
	baz=4.8						
G05D	**Wamic, OR**	**4.67**	**44**	⇑P	**Pn**	**03 48 04.1**	**-0.5**
	baz=4.9,SNR=43						
G05D				⇑S	**Sn**	**03 48 59.8**	**+0.8**
	baz=4.9						
F04A	**Amboy**	**4.71**	**31**	*e*Pn	**Pn**	**03 48 04.7**	**-0.4**
F04A				*e*Sn	**Sn**	**03 48 57.3**	**-2.3**
LVP	**Lakeview Peak**	**4.83**	**30**	P	**Pn**	**03 48 06.2**	**-0.6**
MTMW	**Mount Mitchell**	**4.86**	**32**	P	**Pn**	**03 48 06.6**	**-0.7**
E03A	**Lebam**	**4.89**	**19**	*e*Pn	**Pn**	**03 48 06.7**	**-1.0**
E03A				*e*Sn	**Sn**	**03 49 00.8**	**-3.4**
G06A	**Carlson Farm,**	**5.03**	**47**	*e*Pn	**Pn**	**03 48 09.3**	**-0.3**
I07A	**Izee**	**5.14**	**63**	*e*Pn	Pn	03 48 15.7	+4.5
WVOR	**Wild Horse Val**	**5.40**	**82**	*e*Pn	**Pn**	**03 48 13.1**	**-1.7**
LON	**Longmire**	**5.62**	**30**	*e*Pn	**Pn**	**03 48 17.3**	**-0.4**
LON				*e*S	**Sn**	**03 49 18.7**	**-3.6**
NLWA	**Neilton Lookou**	**5.63**	**14**	*e*Pn	**Pn**	**03 48 16.7**	**-1.2**
NLWA				*e*S	**Sn**	**03 49 20.1**	**-2.4**
CMB	**Columbia Colle**	**5.75**	**131**	*e*Pn	**Pn**	**03 48 17.8**	**-1.6**
CMB				*e*S	**Sn**	**03 49 24.2**	**-1.1**
D05A	**Enumclaw**	**5.94**	**27**	*e*Pn	**Pn**	**03 48 22.6**	**+0.7**
D05A				*e*Sn	**Sn**	**03 49 27.5**	**-2.4**
WAKR	**Walker**	**6.01**	**123**	*e*Pn	**Pn**	**03 48 23.5**	**+0.4**
HAWA	**Hanford**	**6.37**	**44**	*e*Pn	**Pn**	**03 48 27.6**	**-0.4**
HAWA				*e*S	**Sn**	**03 49 35.8**	**-4.8**
LTY	**Liberty**	**6.49**	**33**	*e*Pn	**Pn**	**03 48 29.6**	**+0.1**
NVAR	**Mina Array Bea**	**6.78**	**119**	Pn	**Pn**	**03 48 32.9**	**-0.8**
	0.9nm,0.3s,baz=296,slow=14,SNR=20						
BMO	**Blue Mountains**	**6.89**	**62**	*e*Pn	**Pn**	**03 48 35.5**	**+0.3**
B06A	**Marblemount**	**7.27**	**24**	*e*Pn	**Pn**	**03 48 40.4**	**+0.2**
F10A	**Beach Ranch, E**	**7.43**	**54**	*e*Pn	**Pn**	**03 48 43.9**	**+1.4**
B08A	**Colville Reser**	**7.91**	**34**	*e*Pn	**Pn**	**03 48 48.4**	**-0.7**
ELK	**Elko**	**8.10**	**95**	Pn	**Pn**	**03 48 53.4**	**+1.6**
	0.3nm,0.3s,baz=318,slow=3.1,SNR=10						
ELK				LR	LR	03 52 26.7	
	comp=Z,403nm,18.4s,baz=2.0,slow=41						
ELK	**Elko**	**8.10**	**95**	*e*Pn	**Pn**	**03 48 54.2**	**+2.4**
ISA	**Isabella, Lake**	**8.53**	**135**	*e*Pn	**Pn**	**03 48 57.3**	**-0.3**
HLID	**Hailey**	**8.59**	**75**	*e*Pn	**Pn**	**03 48 59.7**	**+1.1**
R11A	**Troy Canyon, C**	**8.66**	**111**	*e*Pn	**Pn**	**03 48 59.6**	**+0.1**
NEW	**Newport**	**8.85**	**41**	*e*Pn	**Pn**	**03 49 04.0**	**+2.1**
BGU	**Big Grassy Mou**	**9.71**	**92**	*e*Pn	**Pn**	**03 49 16.1**	**+2.2**
HVU	**Hansel Valley**	**9.78**	**87**	*e*Pn	**Pn**	**03 49 16.9**	**+2.1**
BSMT	**Bassoo Peak**	**9.84**	**49**	*e*Pn	**Pn**	**03 49 17.6**	**+2.0**
DUG	**Dugway, Tooele**	**10.02**	**96**	*e*Pn	**Pn**	**03 49 19.6**	**+1.5**
BBB	**Bella Bella**	**10.36**	**352**	LR	LR	03 52 31.3	
	comp=Z,79nm,20.8s,baz=284,slow=33						
ARUT	**Antelope Range**	**10.42**	**109**	*e*Pn	**Pn**	**03 49 25.7**	**+2.1**
	189nm,1.2s						
CCUT	**Cedar City**	**10.59**	**110**	*e*Pn	**Pn**	**03 49 28.7**	**+2.8**
TCUT	**Toone Canyon**	**10.88**	**90**	*e*Pn	**Pn**	**03 49 32.3**	**+2.3**
MVU	**Marysvale**	**11.00**	**104**	*e*Pn	**Pn**	**03 49 33.8**	**+2.2**
DAU	**Daniels Canyon**	**11.13**	**93**	*e*Pn	**Pn**	**03 49 35.9**	**+2.4**
PFO	**Pinyon Flats O**	**11.16**	**135**	LR	LR	03 54 06.3	
	comp=Z,77nm,20.9s,baz=308,slow=39						
TMUT	**Trail Mountain**	**11.46**	**98**	*e*Pn	**Pn**	**03 49 39.3**	**+1.3**
SRU	**San Rafael Swe**	**12.02**	**99**	*e*Pn	Pn	03 49 50.7	+5.1
PDAR	**Pinedale Array**	**12.11**	**81**	Pn	**Pn**	**03 49 48.6**	**+1.8**
	0.0nm,0.3s,baz=276,slow=8.1,SNR=3.7						
PDAR				LR	LR	03 55 00.6	
	comp=Z,136nm,19.6s,baz=290,slow=40						
PV04	**Paradox Valley**	**13.46**	**100**	*e*Pn	**Pn**	**03 50 07.8**	**+2.6**
PV01	**Paradox Valley**	**13.79**	**100**	*e*Pn	**Pn**	**03 50 10.0**	**+0.2**
	681nm,1.2s						
SDCO	**Great Sand Dun**	**16.20**	**98**	*e*Pn	**P**	**03 50 44.3**	**-0.8**
	44nm,2.3s						
ANMO	**Albuquerque**	**16.72**	**108**	Pn	**Pn**	**03 50 49.1**	**+0.6**
	0.1nm,0.3s,baz=316,slow=10,SNR=4.8						
ANMO				LR	LR	03 57 38.0	
	comp=Z,108nm,20.1s,baz=294,slow=39						
ANMO	**Albuquerque**	**16.72**	**108**	*e*P	**P**	**03 50 53.1**	**+2.2**
121A	**Cookes Peak, D**	**17.17**	**117**	*e*Pn	**P**	**03 50 56.2**	**+0.4**
	7.6nm,1.2s						
MNTX	**Cornudas Mount**	**19.29**	**115**	*e*Pn	**Pn**	**03 51 23.7**	**+3.7**
	33nm,2.8s						
AMTX	**Amarillo**	**20.19**	**102**	*e*P	Pn	03 51 29.9	-0.9
	18nm,1.3s						
FFC	**Flin Flon**	**20.27**	**43**	*e*Pn	**P**	**03 51 29.0**	**-0.5**
YKA	**Yellowknife Ar**	**21.65**	**14**	P	**P**	**03 51 43.1**	**-1.2**
	1.7nm,0.9s,baz=204,slow=11,SNR=10						
TXAR	**Lajitas Array**	**21.93**	**118**	P	**P**	**03 51 48.2**	**+0.5**
	1.4nm,1.0s,baz=307,slow=8.9,SNR=10.0						
TXAR				LR	LR	04 01 32.2	
	comp=Z,55nm,20.2s,baz=0.0,slow=40						
ULM	**Lac du Bonnet**	**22.28**	**58**	P	**P**	**03 51 51.7**	**+0.5**
	2.2nm,0.8s,baz=270,slow=8.9,SNR=4.2						
ULM				LR	LR	04 01 03.2	
	comp=Z,66nm,20.4s,baz=44,slow=38						
W34A	**Bridge Creek,**	**22.90**	**98**	*e*P	**P**	**03 52 00.5**	**+2.6**
	43nm,1.5s						
JFWS	**Jewell Farm**	**26.20**	**76**	*e*P	**P**	**03 52 33.2**	**+4.5**
	19nm,1.3s						
RES	**Resolute Bay**	**35.72**	**14**	LR	LR	04 08 07.0	
	comp=Z,29nm,21.4s,baz=22,slow=36						
ROSC	**El Rosal**	**58.78**	**114**	LR	LR	04 26 30.0	
	comp=Z,36nm,18.7s,baz=197,slow=40						
H11N3	**WAKE ISLAND Hy**	**60.29**	**270**	T	T	05 01 42.7	
	baz=52,slow=75,SNR=29						
H11N2	**WAKE ISLAND Hy**	**60.29**	**270**	T	T	05 01 54.2	
	baz=52,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**60.31**	**270**	T	T	05 01 52.6	
	baz=52,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**61.19**	**270**	T	T	05 03 02.5	
	baz=52,slow=75,SNR=27						
H11S2	**WAKE ISLAND Hy**	**61.20**	**270**	T	T	05 03 04.0	
	baz=52,slow=75,SNR=32						
H11S3	**WAKE ISLAND Hy**	**61.21**	**270**	T	T	05 03 01.2	
	baz=52,slow=75,SNR=18						
KURK	**Kurchatov**	**85.27**	**345**	P	**P**	**03 59 31.6**	**+0.9**
KURBB	**Kurchatov Arra**	**85.38**	**345**	P	**P**	**03 59 31.6**	**+0.4**
	0.5nm,0.8s,baz=20,slow=4.6,SNR=4.7						

ISCJB ***22*** *03:55:44.9±0.6, 38°.54N±0°.04×26°.70E±0°.04, h9km±6km, Error ellipse: s-maj=6.5km s-min=5.8km az=7.2*
ISK ***22*** *03:55:44.9, 38°.49N×26°.71E, h15km, MD2.7*
DDA ***22*** *03:55:45.2, 38°.50N×26°.72E, h7km, MD2.6*
CSEM ***22*** *03:55:45.2±0.2, 38°.51N×26°.71E, h10km, MD2.6, Error ellipse: s-maj=4.7km s-min=3.5km az=24.0*
ISC 22 03:55:45.5±0.9,**38°.50N**±0°.04×**26°.72E**±0°.03,**h13**km±7km,**n28,** σ0**9**/**64**/39,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.17**	**214**	*i* P	**Pg**	**03 55 49.1**	**-0.3**
URLA				*i* S	**Sg**	**03 55 52.2**	**+0.1**
URLA	**Izmir**	**0.17**	**214**	*i* P	**Pg**	**03 55 49.1**	**-0.3**
URLA				*i* S	**Sg**	**03 55 52.2**	**+0.1**
BLCB	**Balcova**	**0.28**	**114**	*e*PG	**Pb**	**03 55 51.7**	**-0.7**
BLCB				*e*SG	**Sg**	**03 55 55.9**	**+0.7**
BLCB	**Balcova**	**0.28**	**114**	*e*Pg	**Pb**	**03 55 51.7**	**-0.7**
BLCB				*e*Sg	**Sg**	**03 55 55.9**	**+0.7**
ZEY	**¨zmir**	**0.31**	**213**	*i* P	**Pg**	**03 55 51.0**	**-0.7**
ZEY				*i* S	**Sg**	**03 55 56.4**	**+0.5**
IZM	**Izmir**	**0.44**	**103**	*e*PG	**Pg**	**03 55 54.3**	**+0.1**
IZM	**Izmir**	**0.44**	**103**	*e*Pg	**Pg**	**03 55 54.3**	**+0.1**
CHOS	**Chios island**	**0.53**	**258**	*e*PG	**Pg**	**03 55 55.9**	**0.0**
CHOS	**Chios island**	**0.53**	**258**	*e*Pg	**Pg**	**03 55 55.9**	**0.0**
AKS	**Akhisar**	**0.94**	**66**	*e*PG	**Pg**	**03 56 03.2**	**-0.3**
AKHS	**Akhisar**	**0.94**	**66**	*i* P	**Pg**	**03 56 03.4**	**-0.2**
AKHS				*i* S	**Sb**	**03 56 17.0**	**+1.0**
AKHS	**Akhisar**	**0.94**	**66**	*i* P	**Pg**	**03 56 03.4**	**-0.2**
AKHS				*i* S	**Sb**	**03 56 17.0**	**+1.0**
SIGR	**SIGRI**	**0.98**	**317**	*e*PG	**Pg**	**03 56 04.1**	**-0.2**
SIGR	**SIGRI**	**0.98**	**317**	*e*Pg	**Pg**	**03 56 04.1**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.08**	**120**	*e*PG	**Pg**	**03 56 05.6**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.08**	**120**	*e*Pg	**Pg**	**03 56 05.6**	**-0.7**
AYDN	**Tasoluk**	**1.24**	**132**	*i* P	**Pb**	**03 56 08.8**	**0.0**
AYDN				*i* S	**Sn**	**03 56 26.6**	**+1.3**
AYDN	**Tasoluk**	**1.24**	**132**	*i* P	**Pb**	**03 56 08.8**	**0.0**
AYDN				*i* S	**Sn**	**03 56 26.6**	**+1.3**
EZN	**Ezine**	**1.36**	**347**	*e*PN	**Pn**	**03 56 10.2**	**+0.1**
EZN	**Ezine**	**1.36**	**347**	*e*Pn	**Pn**	**03 56 10.2**	**+0.1**
BALB	**Balikesir**	**1.46**	**38**	*e*PN	**Pn**	**03 56 11.8**	**+0.3**
BALB	**Balikesir**	**1.46**	**38**	*e*Pn	**Pn**	**03 56 11.8**	**+0.3**
BODT	**Bodrum**	**1.51**	**162**	*e*PN	**Pn**	**03 56 11.7**	**-0.6**
KULA	**Kula-Manisa**	**1.53**	**89**	*e*PN	**Pn**	**03 56 12.2**	**-0.4**
DURS	**Dursunbey**	**1.76**	**51**	*i* P	**Pn**	**03 56 14.9**	**-0.8**
DURS				*i* S	**Sn**	**03 56 36.8**	**-1.2**
DURS	**Dursunbey**	**1.76**	**51**	*i* P	**Pn**	**03 56 14.9**	**-0.8**
DURS				*i* S	**Sn**	**03 56 36.8**	**-1.2**
KRBG	**Karabiga-Canak**	**1.94**	**13**	*e*PN	**Pn**	**03 56 18.4**	**+0.2**
KRBG	**Karabiga-Canak**	**1.94**	**13**	*e*Pn	**Pn**	**03 56 18.4**	**+0.2**

SKHL ***22*** *04:00:25.5±0.4, 46°.67N×153°.11E, h78km±7km, mb5.4/5*
JMA ***22*** *04:00:25.3±0.7, 46°.86N×152°.77E, h30km, M5.0*
ISCJB ***22*** *04:00:25.6±0.1, 46°.86N±0°.04×152°.68E±0°.03, h56km, mb4.5/100, MS3.9/9, Error ellipse: s-maj=5.4km s-min=2.1km az=159.9*
MOS ***22*** *04:00:26.6±1.0, 46°.86N×152°.63E, h66km, mb4.9/28, Error ellipse: s-maj=7.7km s-min=5.7km az=98.1*
BJI ***22*** *04:00:27.4, 47°.12N×152°.92E, h86km, mB5.0/15, mb4.7/21, Ms4.6/6, Ms7 4.5/4*
IDC ***22*** *04:00:28.4±2.5, 46°.86N×152°.69E, h69km±21km, mb4.0/26, mb1 4.2/30, mb1mx4.2/31, mbtmp4.3/30, MS3.6/11, Ms1 3.6/11, ms1mx3.2/36, Error ellipse: s-maj=16.0km s-min=10.5km az=152.0*
NEIC ***22*** *04:00:31.4±0.7, 46°.99N×152°.63E, h90km±6km, mb4.6/51, Error ellipse: s-maj=8.1km s-min=4.4km az=151.0*
SZGRF ***22*** *04:00:33.3, 48°.08N×151°.91E, h33km, mb4.7, Kuril Islands, Russia*
ISC 22 04:00:26.8±0.4,**46°.83N**±0°.06×**152°.76E**±0°.05,**h56**km,**n547,** σ0**9**/**96**/543,**mb4.6**/**100,MS3.8**/**9,123C-110D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.76**	**247**	*e*PN	**Pn**	**04 01 23.4**	**+1.1**
KUR				*i* S	**Sn**	**04 02 06.0**	**+0.8**
KUR				pmax	pmax		
	comp=Z,341nm,0.4s						
KUR				smax	smax		
	comp=N,1μm,0.6s						
KUR				smax	smax		
	comp=E,267nm,0.6s						
KUR	**Kuril'sk**	**3.76**	**247**	*e*P	**Pn**	**04 01 24.3**	**+2.0**
KUR				AMB	AMB	04 01 25.5	
	comp=E,340nm,0.4s						
KUR				*e*S	**Sn**	**04 02 08.7**	**+3.5**
KUR				A	A	04 02 17.5	
	comp=E,1μm,0.6s						
KUR				A	A	04 02 17.5	
	comp=E,270nm,0.6s						
SKR	**Severo-Kuril's**	**4.45**	**29**	*e*PN	Pn	04 01 25.7	-6.0
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR	**Severo-Kuril's**	**4.45**	**29**	*e*P	**Pn**	**04 01 31.1**	**-0.6**
SKR				*e*S	**Sn**	**04 02 20.3**	**-1.9**
SKR				A	A	04 02 37.2	
	comp=Z,422nm,0.5s						
SHO	**Shikotan**	**5.12**	**237**	*e*P	**Pn**	**04 01 39.8**	**-1.1**
SHO				AMB	AMB	04 01 51.6	
	comp=Z,1μm,0.5s						
SHO				*e*S	**Sn**	**04 02 35.3**	**-3.3**
SHO				A	A	04 02 59.7	
	comp=Z,1μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.60**	**243**	*c i*PN	**Pn**	**04 01 49.1**	**+1.7**
YUK				*i* S	**Sn**	**04 02 52.2**	**+1.8**
YUK				pmax	pmax		
	comp=Z,508nm,0.3s						
YUK				pmax	pmax		
	comp=N,184nm,0.1s						
YUK				pmax	pmax		
	comp=E,79nm,0.1s						
YUK				smax	smax		
	comp=N,21nm,0.3s						
YUK				smax	smax		
	comp=E,89nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.60**	**243**	*e*P	**Pn**	**04 01 49.1**	**+1.7**
YUK				AMB	AMB	04 01 56.6	
	comp=E,510nm,0.3s						
YUK				*e*S	**Sn**	**04 02 52.2**	**+1.8**
YUK				A	A	04 03 10.1	
	comp=E,210nm,0.3s						
YUK				A	A	04 03 10.1	
	comp=E,89nm,0.3s						
NEM2	**Nemuro 2**	**6.05**	**238**	P	**Pn**	**04 01 52.2**	**-1.4**
NEM2				*e*S	**Sn**	**04 02 56.4**	**-5.1**
JRA	**Rausu**	**6.10**	**245**	P	**Pn**	**04 01 55.6**	**+1.2**
JNK	**Nakash**	**6.54**	**243**	P	**Pn**	**04 02 01.2**	**+0.9**
JTKR	**Abashiri--Toko**	**6.85**	**249**	P	**Pn**	**04 02 06.4**	**+1.8**
YSS	**Yuzh-Sakhalins**	**6.86**	**275**	⇑*e*PN	Pn	04 02 07.7	+3.0
YSS				*e*S	**Sn**	**04 03 21.7**	**+0.5**
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax	smax		
	comp=E,50nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.86**	**275**	*e*Pn	Pn	04 02 07.7	+3.0
YSS				AMB	AMB	04 02 10.0	
	comp=E,60nm,1.0s						
YSS				*e*S	**Sn**	**04 03 21.7**	**+0.5**
YSS				A	A	04 03 26.0	
	comp=E,50nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.86**	**275**	*e*Pn	**Pn**	**04 02 06.8**	**+2.1**
YSS				*e*S	**Sn**	**04 03 19.6**	**-1.6**
JAK	**Akkeshi**	**6.88**	**239**	P	**Pn**	**04 02 03.9**	**-1.2**
JAK				*e*S	**Sn**	**04 03 16.9**	**-5.0**
PETK	**Petropavlovsk-**	**7.05**	**25**	P	**Pn**	**04 02 08.3**	**+1.0**
	comp=E,1.3nm,0.3s,baz=182,

HIA Hailar 22.11 289 eP P 04 05 15.8 -1.5
BILL Bilibino 22.37 13 eP P 04 05 21.3 +1.4
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 22.37 13 eP P 04 05 21.3 +1.4
BOD Bodaibo 25.75 310 eP P 04 05 50.5 -1.4
BOD pmax pmax
comp=Z,3.0nm,0.1s
H11N2 WAKE ISLAND Hy 29.40 152 T T 04 37 48.0
baz=340,slow=76,SNR=5530
H11N1 WAKE ISLAND Hy 29.41 152 T T 04 37 47.3
baz=340,slow=76,SNR=3530
H11N3 WAKE ISLAND Hy 29.42 152 T T 04 37 47.8
baz=340,slow=76,SNR=3369
H11S1 WAKE ISLAND Hy 30.48 153 T T 04 39 10.1
baz=341,slow=76,SNR=3370
H11S3 WAKE ISLAND Hy 30.49 153 T T 04 39 11.2
baz=341,slow=76,SNR=3814
H11S2 WAKE ISLAND Hy 30.50 153 T T 04 39 08.9
baz=341,slow=76,SNR=3648
ULN Ulaanbaatar 30.64 289 eP P 04 06 34.3 -1.5
ULN pmax pmax
comp=Z,1.0nm,0.8s
ULN Ulaanbaatar 30.64 289 eP P 04 06 34.3 -1.5
ULN Ulaanbaatar 30.64 289 eP P 04 06 39.5 +3.8
comp=Z,7.2nm,0.9s
SONM Songino Array 31.08 289 eP P 04 06 39.9 +0.3
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 31.08 289 P P 04 06 38.4 -1.2
comp=Z,1.7nm,0.9s,baz=74,slow=8.5,SNR=9.0
SONM PcP PcP 04 09 34.2 +0.4
comp=Z,0.5nm,0.7s,baz=110,slow=2.4,SNR=3.8
SONM LR LR 04 20 23.4
comp=Z,133nm,18.2s,baz=95,slow=38
TLY Talaya 31.93 297 eP P 04 06 45.5 -1.4
TLY pmax pmax
comp=Z,1.0nm,0.7s
TLY Talaya 31.93 297 eP P 04 06 45.4 -1.4
ZAK Zakamensk 32.42 295 eP P 04 06 49.0 -2.3
ZAK pmax pmax
comp=Z,2.0nm,0.9s
IM04 Indian Mountai 33.84 36 eP P 04 07 04.0 +0.6
KTH Kantishna Hill 34.86 41 eP P 04 07 13.5 +1.2
comp=Z,9.6nm,0.9s
TRF Thorofare Moun 35.15 41 eP P 04 07 15.7 +0.8
comp=Z,62nm,2.4s
COLD Coldfoot 35.41 34 eP P 04 07 16.9 0.0
comp=Z,6.1nm,1.0s
COLA College 36.23 38 eP P 04 07 24.5 +0.6
COLA pmax pmax
comp=Z,28nm,1.2s
COLA College 36.23 38 eP P 04 07 24.5 +0.6
COLA College 36.23 38 eP P 04 07 24.9 +1.0
comp=Z,7.0nm,0.6s
ILAR Eielson Array 36.64 39 eP P 04 07 27.9 +0.4
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 36.64 39 P P 04 07 27.6 +0.1
comp=Z,2.8nm,1.0s,baz=261,slow=6.8,SNR=20
ILAR Eielson Array 36.64 39 eP P 04 07 27.9 +0.4
EGAK Eagle 39.09 38 eP P 04 07 48.0 -0.1
comp=Z,5.3nm,0.6s
ZALV Zalesovo Beam 42.37 306 eP P 04 08 13.8 -1.4
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 42.37 306 P P 04 08 13.3 -1.9
comp=Z,1.4nm,0.5s,baz=63,slow=6.7,SNR=6.1
ZALV PcP PcP 04 10 07.7 +0.2
comp=Z,1.6nm,0.5s,baz=70,slow=2.2,SNR=8.4
ZALV LR LR 04 27 11.3
comp=Z,147nm,18.7s,baz=70,slow=38
MKAR Makanchi Array 46.69 297 P P 04 08 49.2 -0.6
comp=Z,3.2nm,0.7s,baz=68,slow=7.4,SNR=33
MKAR PcP PcP 04 10 22.6 0.0
comp=Z,1.5nm,0.6s,baz=77,slow=1.9,SNR=7.5
MKAR LR LR 04 29 37.6
comp=Z,146nm,18.5s,baz=56,slow=38
MKAR Makanchi Array 46.69 297 eP P 04 08 48.5 -1.3
MKAR PcP PcP 04 10 22.6 0.0
SLVN Son La 46.83 254 eP P 04 08 52.2 +1.0
comp=Z,4.9nm,0.8s
KURK Kurchatov 47.12 303 eP P 04 08 51.5 -1.5
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 47.12 303 eP P 04 08 51.0 -2.0
KURK Kurchatov 47.12 303 eP P 04 08 51.5 -1.5
comp=Z,2.3nm,0.8s
LSA Lhasa 50.02 273 eP P 04 09 18.2 +2.0
LSA pmax pmax
comp=Z,14nm,0.6s
LSA Lhasa 50.02 273 eP P 04 09 18.2 +2.0
comp=Z,14nm,0.6s
RES Resolute Bay 50.84 18 P P 04 09 21.4 +0.2
comp=Z,0.8nm,0.3s,baz=323,slow=8.8,SNR=6.1
YKA Yellowknife Ar 51.01 37 P P 04 09 23.2 +0.6
comp=Z,1.2nm,0.8s,baz=296,slow=7.1,SNR=17
YKA PcP PcP 04 10 38.0 +0.2
comp=Z,0.8nm,0.4s,baz=302,slow=3.7,SNR=12
CHTO Chiang Mai 51.90 256 eP P 04 09 31.0 +1.2
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 51.90 256 eP P 04 09 31.0 +1.2
comp=Z,6.4nm,0.8s
CMAR Chiang Mai Arr 52.15 256 P P 04 09 33.0 +1.3
comp=Z,4.7nm,0.6s,baz=36,slow=7.5,SNR=22
AAK Ala-Archa 53.58 296 eP P 04 09 41.2 -1.0
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 53.58 296 LR LR 04 33 30.4
comp=Z,86nm,18.6s,baz=28,slow=37
AAK Ala-Archa 53.58 296 eP P 04 09 41.2 -1.0
AAK Ala-Archa 53.58 296 eP P 04 09 42.2 0.0
comp=Z,2.6nm,0.8s
TAPN Taplejung 53.85 273 eP P 04 09 45.3 +0.8
comp=Z,32nm,0.8s
EKS2 Erkin-Say 54.01 297 eP P 04 09 45.7 +0.5
EKS2 pmax pmax
comp=Z,3.0nm,0.7s
EKS2 Erkin-Say 54.01 297 eP P 04 09 45.7 +0.5
comp=Z,3.2nm,0.7s
ODAN Odare 54.38 273 eP P 04 09 48.9 +0.6
comp=Z,9.7nm,0.4s
JIRN Jiri 54.70 274 eP P 04 09 51.5 +0.8
comp=Z,35nm,0.7s
GUN Gumba 54.75 275 eP P 04 09 51.5 +0.4
comp=Z,14nm,0.4s
ARU Arti 54.79 317 eP P 04 09 49.5 -1.0
ARU pmax pmax
comp=Z,3.0nm,1.2s
ARU Arti 54.79 317 eP P 04 09 49.5 -1.0
RAMN Ramite 54.87 273 eP P 04 09 52.3 +0.5
KKN Kakani 55.24 275 eP P 04 09 55.7 +1.3
comp=Z,25nm,0.6s
PKI Pulchoki 55.29 275 eP P 04 09 55.4 +0.5
comp=Z,22nm,0.8s
PKIN Phulchoki 55.29 275 eP P 04 09 55.5 +0.6
comp=Z,10nm,0.5s
DMN Daman 55.47 275 eP P 04 09 57.2 +1.0
comp=Z,44nm,0.8s
GKN Gorkha 55.54 276 eP P 04 09 57.2 +0.7
KKAR Karatay Array 55.75 299 eP P 04 09 58.6 +0.9
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 55.75 299 eP P 04 09 58.6 +0.9
comp=Z,0.8nm,0.4s
DANN Dangsing 55.92 277 eP P 04 10 00.4 +1.0
comp=Z,22nm,0.5s
KOLN Koldanda 56.40 276 eP P 04 10 03.5 +0.8
comp=Z,26nm,0.7s
DAG Danmarks Havn 56.56 358 i P P 04 10 01.9 -1.0
DAG pmax pmax
comp=Z,1.0nm,0.8s
DAG Danmarks Havn 56.56 358 i P P 04 10 01.9 -1.0
comp=Z,1.4nm,0.8s
PYUN Piuthan 56.60 277 eP P 04 10 04.9 +0.7
comp=Z,34nm,0.5s
KEV Kevo 57.19 340 ep P 04 10 05.5 -1.9
comp=Z,0.5nm,0.4s
I05D Terrebonne, OR 57.21 58 ⇓P P 04 10 08.6 +0.5
baz=57
KULLO Kullorsuaq 57.23 9 i P P 04 10 07.0 -0.6
comp=Z,8.6nm,0.8s
NEW Newport 57.32 53 ⇓P P 04 10 09.6 +0.8
baz=57
ARCES ARCESS Array B 57.70 341 eP P 04 10 11.4 +0.3
ARCES pmax pmax
comp=Z,7.0nm,1.0s
ARCES ARCESS Array B 57.70 341 P P 04 10 10.9 -0.2
comp=Z,6.6nm,1.0s,baz=19,slow=7.7,SNR=8.3
ARCES ARCESS Array B 57.70 341 eP P 04 10 11.4 +0.3
WALA Waterton Lakes 58.58 50 eP P 04 10 18.6 +0.9
SLMT Seeley Lake 59.90 52 eP P 04 10 28.0 +1.2
MSO Missoula 59.91 52 ⇓P P 04 10 27.4 +0.5
baz=60,SNR=5.7
MSO Missoula 59.91 52 eP P 04 10 28.1 +1.2
comp=Z,4.0nm,0.9s
MSO epP pP 04 10 44.1 +2.1
SUMG Summit 60.64 4 i P P 04 10 32.1 +0.3
SUMG pmax pmax
comp=Z,16nm,0.9s
SUMG Summit 60.64 4 i P P 04 10 32.1 +0.3
comp=Z,16nm,0.9s
SUMG Summit 60.64 4 eP P 04 10 31.9 +0.1
comp=Z,22nm,0.9s
FFC Flin Flon 60.84 40 eP P 04 10 33.6 +0.6
FFC pmax pmax
comp=Z,6.0nm,1.1s
FFC Flin Flon 60.84 40 eP P 04 10 33.5 +0.6
comp=Z,6.2nm,1.1s
HRY Holter Researc 61.12 51 eP P 04 10 36.6 +1.5
JOF Joensuu 61.16 334 ep P 04 10 33.2 -1.7
comp=Z,2.5nm,0.6s
FCC Fort Churchill 61.33 33 eP P 04 10 35.8 -0.4
FCC Fort Churchill 61.33 33 eP P 04 10 35.8 -0.4
comp=Z,0.1nm,0.6s
LRM Limekiln Ridge 61.34 53 eP P 04 10 38.1 +1.2
A19A Klindworth Far 61.34 48 ⇓P P 04 10 37.2 +0.7
baz=61
EGMT Eagleton 61.40 49 ⇑P P 04 10 37.6 +0.7
baz=61
EGMT Eagleton 61.40 49 eP P 04 10 37.4 +0.5
comp=Z,5.9nm,0.9s
B19A Brinkman Farms 61.54 49 ⇓P P 04 10 38.6 +0.7
baz=61
HLID Hailey 61.67 56 ⇑P P 04 10 40.0 +1.0
baz=61
A20A Cobblestone Ra 61.79 48 ⇑P P 04 10 40.1 +0.5
baz=62,SNR=7.3
C19A Slack Wire Ran 61.95 49 ⇑P P 04 10 41.6 +1.0
baz=62,SNR=6.8
B20A Solberg Farm, 62.03 48 ⇓P P 04 10 42.0 +0.8
baz=62
A21A Bergtoll Ranch 62.23 47 ⇑P P 04 10 43.4 +1.0
baz=62,SNR=14
D19A Cripps Ranch, 62.40 50 ⇓P P 04 10 44.4 +0.7
baz=62
C20A Veseth Ranch, 62.50 49 ⇑P P 04 10 45.5 +1.1
baz=62,SNR=9.2
NVAR Mina Array Bea 62.62 62 P P 04 10 46.2 +0.8
comp=Z,1.3nm,0.7s,baz=296,slow=7.1,SNR=13
A22A Carney Farms, 62.73 47 ⇑P P 04 10 46.6 +0.8
baz=62,SNR=16
D20A Manuel Ranch, 62.84 49 ⇓P P 04 10 47.8 +1.2
baz=62,SNR=7.2
C21A Desert Coulee 62.90 48 ⇑P P 04 10 47.9 +0.9
baz=63,SNR=5.1
E19A Rath Farm, Rou 62.90 50 ⇑P P 04 10 47.4 +0.4
baz=63
F19A Roth Farm, Mol 63.21 51 ⇑P P 04 10 50.3 +1.1
baz=63
KAF Kangasniemi 63.27 335 ep P 04 10 47.4 -1.7
comp=Z,3.7nm,0.6s
FXWY Fox Creek 63.52 54 eP P 04 10 53.2 +1.8
comp=Z,4.0nm,1.3s
B23A Brockton 63.54 47 ⇑P P 04 10 52.2 +1.0
baz=63
I17A Pilgrim Ck. 63.58 53 ⇑P P 04 10 53.0 +1.2
baz=63
TPAW Teton Pass 63.66 54 eP P 04 10 54.5 +2.2
comp=Z,4.4nm,0.8s
A24A Westby 63.72 46 ⇑P P 04 10 52.7 +0.4
baz=63
D22A Cohagen 63.81 48 ⇑P P 04 10 53.5 +0.5
baz=64
FINES FINESS Array B 63.87 335 P P 04 10 52.6 -0.4
comp=Z,8.1nm,0.4s,baz=40,slow=6.7,SNR=112
FINES LR LR 04 41 32.0
comp=Z,48nm,18.6s,baz=34,slow=39
C23A Lambert 63.88 47 ⇓P P 04 10 53.8 +0.4
baz=64
H19A Powell 63.96 52 ⇓P P 04 10 54.8 +0.7
baz=64
LAO LASA Array 64.09 49 eP P 04 10 56.0 +1.2
comp=Z,7.5nm,0.8s
GRAC Grapevine Rang 64.10 63 ⇓P P 04 10 56.5 +1.4
baz=64
A25A Svangstu Ranch 64.15 45 ⇓P P 04 10 55.9 +0.8
baz=64
R11A Troy Canyon, C 64.31 61 ⇑P P 04 10 57.6 +1.0
baz=64
R11A Troy Canyon, C 64.31 61 eP P 04 10 57.2 +0.7
comp=Z,22nm,2.4s
I19A Meeteetse 64.37 52 ⇑P P 04 10 58.1 +1.1
baz=64
C24A Savage 64.45 47 ⇓P P 04 10 57.8 +0.7
baz=64
MPMC Manual Prospec 64.63 64 ⇑P P 04 10 59.2 +0.4
baz=64
F22A Rosebud 64.68 49 ⇓P P 04 10 59.3 +0.6
baz=64
E23A Ismay 64.69 48 ⇓P P 04 10 59.3 +0.6
baz=64
DUG Dugway, Tooele 64.74 58 eP P 04 11 00.7 +1.4
DUG pmax pmax
comp=Z,32nm,2.5s
DUG Dugway, Tooele 64.74 58 ⇓P P 04 11 00.4 +1.1
baz=64
DUG Dugway, Tooele 64.74 58 eP P 04 11 00.7 +1.4
comp=Z,32nm,2.5s
DUG epP pP 04 11 11.5 -3.1
FURC Furnace Creek, 64.75 63 ⇑P P 04 11 00.4 +1.2
baz=64
D24A Glendive 64.77 47 ⇑P P 04 11 00.4 +1.1
baz=64,SNR=5.0
TPNV Topopah Spring 64.81 62 ⇓P P 04 11 01.2 +1.3
baz=65
J19A Crowheart 64.85 53 ⇑P P 04 11 00.6 +0.6
baz=65
I20A Worland 64.90 52 ⇑P P 04 11 01.2 +1.0
baz=65
PDAR Pinedale Array 64.90 54 P P 04 11 00.9 +0.4
comp=Z,2.3nm,0.8s,baz=302,slow=1.4,SNR=20
C25A Freed Ranch, W 64.91 46 ⇓P P 04 11 00.9 +0.8
baz=65
H21A Big Horn, Sher 65.03 51 ⇑P P 04 11 02.0 +0.8
baz=65,SNR=6.5
G22A Birney 65.03 50 ⇓P P 04 11 01.5 +0.4
baz=65
EDW2 Edwards Air Fo 65.09 65 ⇑P P 04 11 02.9 +1.4
baz=65
F23A Volborg 65.16 49 ⇓P P 04 11 02.3 +0.4
baz=65,SNR=6.2
D25A Fairfield 65.26 47 ⇓P P 04 11 03.2 +0.8
baz=65
J20A Shoshoni 65.32 52 ⇓P P 04 11 04.0 +1.0
baz=65
C26A Wahner Farm, P 65.40 46 ⇓P P 04 11 04.1 +0.8
baz=65,SNR=5.9
I21A Big Trails, Te 65.44 52 ⇑P P 04 11 04.8 +0.9
baz=65
G23A Biddle 65.52 49 ⇓P P 04 11 04.9 +0.7
baz=65
A28A Rude Farm, Bot 65.54 44 ⇑P P 04 11 04.8 +0.5
baz=65
GSC Goldstone, Bar 65.55 64 ⇓P P 04 11 05.1 +0.6
baz=65
F24A Ekalaka 65.57 48 ⇓P P 04 11 05.3 +0.7
baz=65,SNR=5.1
E25A Miller Ranch, 65.66 47 ⇓P P 04 11 05.9 +0.8
baz=65
J21A Lysite 65.67 52 ⇓P P 04 11 06.0 +0.7
baz=65
C27A Sayler Ranch, 65.77 45 ⇓P P 04 11 06.3 +0.6
baz=66
D26A Manning 65.78 46 ⇓P P 04 11 06.4 +0.6
baz=66
B28A Dugan Ranch, T 65.82 44 ⇑P P 04 11 06.3 +0.3
baz=66
I22A 9 Mile Ranch, 65.82 51 ⇑P P 04 11 06.7 +0.5
baz=66
G24A Alzada 65.94 49 ⇑P P 04 11 07.3 +0.4
baz=66
A29A Manning Farm, 66.02 43 ⇓P P 04 11 07.8 +0.5
baz=66,SNR=5.8
F25A Bowman 66.02 48 ⇑P P 04 11 08.0 +0.6
baz=66
J22A Midwest 66.15 52 ⇑P P 04 11 09.5 +1.1
baz=66
HEC Hector,Ludlow 66.15 64 ⇓P P 04 11 09.5 +1.0
baz=66
E26A Carlson Angus 66.15 47 ⇑P P 04 11 08.8 +0.6
baz=66
K21A Alcova 66.25 53 ⇓P P 04 11 09.6 +0.5
baz=66
H24A Dirks Ranch, A 66.26 49 ⇓P P 04 11 09.3 +0.3
baz=66
B29A Wagenman Farm, 66.29 44 ⇓P P 04 11 09.4 +0.5
baz=66
GEYT Alibeck 66.35 301 P P 04 11 10.0 +0.3
comp=Z,4.1nm,0.5s,baz=350,slow=3.5,SNR=7.0
A30A Hoffart Farm, 66.45 43 ⇑P P 04 11 10.7 +0.7
baz=66
F26A Lodgepole 66.47 48 ⇑P P 04 11 10.8 +0.5
baz=66,SNR=5.8
MDND Maddock 66.60 44 ⇓P P 04 11 11.7 +0.7
baz=66
ULM Lac du Bonnet 66.62 41 P P 04 11 10.8 -0.3
comp=Z,0.5nm,0.4s,baz=338,slow=6.8,SNR=5.1
E27A Carson 66.63 47 ⇑P P 04 11 12.0 +0.7
baz=66
K22A Casper 66.64 52 ⇓P P 04 11 12.3 +0.8
baz=66
J23A Dilts Ranch, B 66.65 51 ⇑P P 04 11 11.8 +0.2
baz=66
B30A Myrvik Farm, E 66.78 43 ⇓P P 04 11 12.4 +0.2
baz=66
SRU San Rafael Swe 66.78 57 eP P 04 11 13.2 +0.7
SRU pmax pmax
comp=Z,3.0nm,0.8s
SRU San Rafael Swe 66.78 57 eP P 04 11 13.2 +0.7
comp=Z,3.4nm,0.8s
F27A Lemmon 66.79 47 ⇓P P 04 11 12.7 +0.5
baz=66
H25A Fruitdale 66.84 49 ⇓P P 04 11 12.8 +0.2
baz=66
G26A Maurine 66.89 48 ⇑P P 04 11 13.1 +0.2
baz=67,SNR=8.1
N20A Spence Gulch, 66.91 55 ⇑P P 04 11 14.4 +1.1
baz=67
RSSD Black Hills 66.96 50 eP P 04 11 14.1 +0.5
RSSD pmax pmax
comp=Z,5.0nm,0.7s
RSSD Black Hills 66.96 50 eP P 04 11 14.1 +0.5
comp=Z,5.4nm,0.7s
L22A Ellis Ranch, M 67.11 53 ⇓P P 04 11 14.7 +0.1
baz=67
J24A Dixon Ranch, L 67.17 51 ⇓P P 04 11 15.4 +0.5
baz=67
G27A Dupree 67.17 48 ⇑P P 04 11 15.1 +0.4
baz=67
I25A Rochford 67.19 50 ⇓P P 04 11 15.6 +0.5
baz=67
O20A White River Ci 67.39 55 ⇓P P 04 11 17.6 +1.2
baz=67
F28A McLaughlin 67.42 47 ⇓P P 04 11 16.4 +0.1
baz=67
M22A Cedar Creek Ra 67.45 53 ⇓P P 04 11 17.3 +0.5
baz=67
D30A Buchanan 67.53 45 ⇑P P 04 11 17.3 +0.4
baz=67
H27A Howes 67.62 48 ⇓P P 04 11 17.7 +0.2
baz=67
I26A New Underwood 67.64 49 ⇑P P 04 11 18.1 +0.4
baz=67
G28A Parade 67.90 47 ⇓P P 04 11 19.6 +0.3
baz=68
F29A Eureka 67.91 46 ⇓P P 04 11 20.0 +0.7
baz=68
N22A Wattenberg Ran 67.94 54 ⇓P P 04 11 20.5 +0.6
baz=68
J26A Sides Ranch, S 68.02 50 ⇑P P 04 11 20.9 +0.7
baz=68
I27A Quinn 68.03 49 ⇑P P 04 11 20.8 +0.7
baz=68
AGMN Agassiz Nation 68.04 42 ⇑P P 04 11 19.4 -0.7
baz=68
NB2 NORSAR Subarra 68.08 341 P P 04 11 19.7 -0.4
comp=Z,8.9nm,0.7s,baz=28,slow=6.5
NOA NORSAR Array B 68.08 341 P P 04 11 19.9 -0.2
comp=Z,7.0nm,0.6s,baz=27,slow=6.4,SNR=52
NOA LR LR 04 44 19.0
comp=Z,20nm,19.4s,baz=315,slow=39
H28A Mission Ridge 68.13 48 ⇑P P 04 11 21.4 +0.7
baz=68
GLA Glamis 68.27 65 ⇑P P 04 11 22.1 +0.3
baz=68
M24A Cheyenne 68.37 52 ⇓P P 04 11 23.2 +0.7
baz=68
WRA Warramunga Arr 68.51 199 P P 04 11 22.4 -0.8
comp=Z,2.2nm,0.8s,baz=21,slow=7.5,SNR=3.4
I28A Midland 68.53 48 ⇓P P 04 11 23.6 +0.4
baz=68
H29A Onida 68.57 47 ⇑P P 04 11 24.0 +0.5
baz=68
P22A Eagle 68.60 55 ⇓P P 04 11 24.6 +0.6
baz=68
O23A Lake Granby, G 68.64 54 ⇑P P 04 11 25.4 +1.0
baz=68
K27A Flueckinger Fa 68.89 50 ⇓P P 04 11 25.9 +0.3
baz=69
J28A Allard Ranch, 68.90 49 ⇓P P 04 11 26.1 +0.5
baz=69
I29A Vivian Onida 68.95 48 ⇓P P 04 11 25.9 0.0
baz=69
ISCO Idaho Springs 69.09 54 eP P 04 11 28.5 +1.3
ISCO Idaho Springs 69.09 54 ⇓P P 04 11 28.5 +1.3
baz=69
ISCO Idaho Springs 69.09 54 eP P 04 11 28.5 +1.3
M26A McRoberts Ranc 69.28 51 ⇓P P 04 11 29.3 +1.3
baz=69
K28A Ten Mile Ranch 69.34 49 ⇑P P 04 11 29.1 +0.7
baz=69
J29A Okreek 69.38 48 ⇓P P 04 11 28.9 +0.4
baz=69
N26A Koester Ranch, 69.68 52 ⇑P P 04 11 31.5 +0.9
baz=69
S22A 4UR Ranch, Cre 69.83 56 ⇑P P 04 11 32.9 +1.1
baz=70
K29A Lazy Trails An 69.84 49 ⇓P P 04 11 32.0 +0.5
baz=70
J30A Dallas 69.86 48 ⇓P P 04 11 31.8 +0.3
baz=70
P25A Willow Gulch B 70.09 53 ⇓P P 04 11 34.2 +1.1
baz=70
R23A Moffat 70.09 55 ⇑P P 04 11 34.6 +1.3
baz=70
OGNE Ogallala 70.24 51 ⇑P P 04 11 34.4 +0.5
baz=70
K30A Basset 70.27 48 ⇑P P 04 11 34.7 +0.7
baz=70
M28A Bar X Bar Ranc 70.27 50 ⇓P P 04 11 34.7 +0.6
baz=70
R24A Sanders Place, 70.47 55 ⇑P P 04 11 36.3 +0.8
baz=70
P26A Davis Ranch, A 70.51 53 ⇓P P 04 11 36.4 +0.7
baz=70
KBZ Khabaz 70.63 314 P P 04 11 36.8 +0.7
comp=Z,3.2nm,0.7s,baz=341,slow=2.3,SNR=11
ZEI Tsey 70.81 312 eP P 04 11 36.7 -0.8
ZEI pmax pmax
comp=Z,3.0nm,0.9s
S24A Houchin Ranch, 70.82 55 ⇓P P 04 11 38.5 +0.7
baz=71
Q26A Hugo 70.86 53 ⇓P P 04 11 38.4 +0.5
baz=71
O28A Krutsinger Ran 70.96 51 ⇑P P 04 11 38.9 +0.5
baz=71
R25A Fountain Ranch 70.99 54 ⇑P P 04 11 39.3 +0.7
baz=71
ECSD EROS Data Cent 71.01 46 ⇓P P 04 11 38.3 -0.1
baz=71
ECSD EROS Data Cent 71.01 46 eP P 04 11 38.4 -0.1
comp=Z,4.9nm,0.9s
L31A Butterfield Fa 71.03 48 ⇓P P 04 11 39.2 +0.6
baz=71
T24B San Luis 71.13 56 ⇓P P 04 11 40.7 +1.0
baz=71
U23A El Rito 71.19 57 ⇑P P 04 11 40.6 +0.7
baz=71
S25A Robets Cordova 71.25 55 ⇓P P 04 11 40.7 +0.5
baz=71
R26A Arlington 71.34 54 ⇓P P 04 11 41.5 +0.7

baz=71
AKASG Malin Array Be 71.35 326 *e*P **P 04 11 39.7 -0.6**
AKASG pmax pmax
comp=Z,10.0nm,0.4s
AKASG Malin Array Be 71.35 326 P **P 04 11 39.8 -0.6**
comp=Z,6.8nm,0.4s,baz=33,slow=6.2,SNR=22
KIEV Kiev 71.36 326 *e*P **P 04 11 39.3 -1.1**
KIEV pmax pmax
comp=Z,10.0nm,0.7s
KIEV Kiev 71.36 326 *e*P **P 04 11 39.3 -1.1**
comp=Z,9.8nm,0.7s
O29A 4D Ranch, Culb 71.48 51 ⇓P **P 04 11 42.3 +0.8**
baz=71
V23A Ortiz Mt. (NFS 71.60 57 ⇑P **P 04 11 43.4 +1.0**
baz=71
T25A Trinidad 71.63 55 ⇓P **P 04 11 42.9 +0.4**
baz=71
U24A Moreno Valley 71.65 56 ⇑P **P 04 11 43.8 +1.0**
baz=71
SPMN Marine on St. 71.73 43 ⇓P **P 04 11 42.7 0.0**
baz=71
O30A MW Ranch, Wils 71.84 50 ⇑P **P 04 11 43.5 0.0**
baz=72
T26A Comanche Natio 72.06 55 ⇓P **P 04 11 45.5 +0.4**
baz=72
V24A Rampart Ranch, 72.14 57 ⇓P **P 04 11 46.8 +1.1**
baz=72
U25A Circle Dot Ran 72.15 56 ⇑P **P 04 11 46.8 +1.1**
baz=72
P30A Selden 72.19 51 ⇑P **P 04 11 46.0 +0.2**
baz=72
ASAR Alice Springs 72.20 198 P **P 04 11 46.0 +0.3**
ASAR Alice Springs 72.20 198 P **P 04 11 46.0 +0.3**
comp=Z,3.0nm,0.6s,baz=14,slow=5.9,SNR=8.3
ASAR Alice Springs 72.20 198 *e*P **P 04 11 46.4 +0.7**
R28A Tribune 72.22 53 ⇓P **P 04 11 46.1 +0.1**
baz=72
Q29A Oakley 72.27 52 ⇓P **P 04 11 46.6 +0.4**
baz=72
PALK Pallekele 72.46 262 *e*P **P 04 11 48.4 +0.8**
PALK pmax pmax
comp=Z,7.0nm,0.8s
PALK Pallekele 72.46 262 *e*P **P 04 11 48.4 +0.8**
comp=Z,7.3nm,0.8s
R29A Marienthal 72.52 52 ⇓P **P 04 11 47.5 -0.2**
baz=72
U26A Atchley Ranch, 72.53 55 ⇓P **P 04 11 47.3 -0.7**
baz=72
Q30A Quinter 72.62 51 ⇓P **P 04 11 48.4 +0.2**
baz=72
P31A Stockton 72.67 50 ⇑P **P 04 11 48.6 0.0**
baz=72
S28A Manter 72.71 53 ⇓P **P 04 11 49.0 +0.1**
baz=72
319A Douglas 72.83 62 ⇓P **P 04 11 50.2 +0.5**
baz=73
V26A Tequesquite Ra 72.94 56 ⇓P **P 04 11 50.4 +0.1**
baz=73
W25A X Bar L Ranch, 72.97 57 ⇓P **P 04 11 51.4 +0.9**
baz=73
P32A Huiting Farm, 73.01 50 ⇓P **P 04 11 49.8 -0.7**
baz=73
U27A Thompson Grove 73.03 55 ⇓P **P 04 11 51.1 +0.3**
baz=73
R30A Dighton 73.09 52 ⇑P **P 04 11 50.9 -0.2**
baz=73
SCHQ Schefferville 73.33 23 P **P 04 11 52.2 +0.1**
comp=Z,1.5nm,0.7s,baz=315,slow=7.1,SNR=3.5
BEL Belsk 73.43 331 *e*P **P 04 11 53.2 +0.5**
S30A Montezuma 73.46 52 ⇑P **P 04 11 52.9 -0.4**
baz=73
Q32A Meitler Ranch, 73.49 50 ⇑P **P 04 11 53.0 -0.4**
baz=73
R32A Long Quarter, 73.83 51 ⇑P **P 04 11 55.2 -0.1**
baz=74
Q33A Connelly Farm, 73.87 50 ⇓P **P 04 11 55.2 -0.4**
baz=74
SCIA State Center 74.03 45 *e*P **P 04 11 56.5 +0.1**
comp=Z,17nm,0.7s
W28A Vega 74.22 55 ⇑P **P 04 11 59.1 +1.3**
baz=74
KWP Kalwaria Pacla 74.63 329 *e*P **P 04 12 00.4 +0.6**
KWP pmax pmax
comp=Z,32nm,1.1s
KWP Kalwaria Pacla 74.63 329 *e*P **P 04 12 00.5 +0.6**
KWP Kalwaria Pacla 74.63 329 *e*P **P 04 12 00.3 +0.6**
comp=Z,32nm,1.1s
AMTX Amarillo 74.79 55 ⇑P **P 04 12 02.1 +1.1**
baz=74
X29A Tulia 75.09 55 ⇑P **P 04 12 03.7 +0.9**
baz=75
OJC Ojcow 75.13 331 *e*P **P 04 12 02.7 0.0**
V31A Spring Creek L 75.16 53 ⇑P **P 04 12 03.7 +0.6**
baz=75
U32A Winter Ranch, 75.18 52 ⇑P **P 04 12 03.5 +0.3**
baz=75
STHS Stebnicka Huta 75.33 330 *e*P **P 04 12 04.9 +1.1**
KOLS Kolonicke sedl 75.37 329 *e*P **P 04 12 04.0 -0.1**
BURAR Bucovina Array 75.39 326 ⇑P **P 04 12 04.5 +0.2**
BURAR Bucovina Array 75.39 326 ⇑*i*P **P 04 12 04.5 +0.2**
NIE Niedzica 75.64 330 *e*P **P 04 12 06.3 +0.6**
CRVS Cervenica-Dubn 75.69 329 *e*P **P 04 12 06.1 +0.2**
KSP Ksiaz 75.72 333 *e*P **P 04 12 05.8 -0.2**
TESR Tescani 75.74 325 ⇑*i*P **P 04 12 05.8 -0.4**
TRPA Tarpa 75.95 328 ⇑*i*P **P 04 12 07.6 +0.2**
Z29A Hungry Hill Ra 75.95 56 ⇓P **P 04 12 08.5 +0.7**
baz=76
W32A Sentinel 75.97 53 ⇑P **P 04 12 08.6 +0.9**
baz=76
V33A Lossen Ranch, 75.98 52 ⇓P **P 04 12 07.6 -0.1**
baz=76
OKC Ostrava-Krasne 76.01 332 *e*P **P 04 12 08.4 +0.7**
OKC Ostrava-Krasne 76.01 332 *e*P **P 04 12 08.4 +0.7**
UPC Upice 76.10 333 *e*P **P 04 12 08.8 +0.6**
UPC Upice 76.10 333 *e*P **P 04 12 08.8 +0.6**
DPC Dobruska-Polom 76.14 333 *e*P **P 04 12 08.9 +0.4**
DPC Dobruska-Polom 76.14 333 *e*P **P 04 12 08.9 +0.4**
DPC Dobruska-Polom 76.14 333 *e*P **P 04 12 09.0 +0.4**
CFR Carcaliu 76.23 323 ⇑P **P 04 12 09.0 0.0**
CFR Carcaliu 76.23 323 ⇑*i*P **P 04 12 09.0 0.0**
VRI Vrincioaia 76.24 324 ⇑P **P 04 12 09.0 -0.1**
VRI Vrincioaia 76.24 324 ⇑*i*P **P 04 12 09.0 -0.1**
Z30A Sanderson Ranc 76.26 56 ⇓P **P 04 12 09.7 +0.2**
baz=76
CLL Collm 76.29 335 *i* P **P 04 12 08.9 -0.4**
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL MLR MLR
comp=Z,500nm,21.3s
CLL Collm 76.29 335 *e*P **P 04 12 08.8 -0.5**
comp=Z,9.0nm,0.8s
CLL Collm 76.29 335 *i* P **P 04 12 08.9 -0.4**
comp=Z,9.0nm,0.8s
CLL Collm 76.29 335 *e*P **P 04 12 08.7 -0.6**
comp=Z,13nm,1.0s
BRG Berggiesshubel 76.41 335 *e*P **P 04 12 09.7 -0.2**
comp=Z,5.5nm,1.2s
BRG Berggiesshubel 76.41 335 *e*P **P 04 12 09.7 -0.2**
BRG pmax pmax
comp=Z,6.0nm,1.2s
CLZ Clausthal 76.54 337 *e*P **P 04 12 11.0 +0.3**
comp=Z,8.0nm,0.9s
Y32A R-V Farms, Ver 76.69 54 ⇑P **P 04 12 12.3 +0.5**
baz=76
Z31A Sharp Cattle R 76.80 55 ⇓P **P 04 12 13.0 +0.5**
baz=76
V35A Meyer Ranch, C 76.81 52 ⇓P **P 04 12 11.8 -0.7**
baz=76
X33A Lawton 76.81 53 ⇓P **P 04 12 13.0 +0.5**
baz=76
MLR Muntele Rosu 76.86 325 ⇑P **P 04 12 13.5 +0.7**
MLR Muntele Rosu 76.86 325 ⇑*i*P **P 04 12 13.5 +0.7**
130A Snyder 76.86 56 ⇑P **P 04 12 13.7 +0.8**
baz=77
MALT Malatya 76.92 313 ⇑P **P 04 12 14.7 +1.5**
MALT Malatya 76.92 313 ⇑*i*P **P 04 12 14.7 +1.5**
VYHS Vyhne 76.94 331 *e*P **P 04 12 13.3 +0.3**
VRAC Vranov 76.97 332 ⇑P **P 04 12 13.6 +0.4**
VRAC Vranov 76.97 332 ⇑*i*P **P 04 12 13.6 +0.4**
PRU Pruhonice 77.01 334 *e*P **P 04 12 13.2 -0.1**
PRU Pruhonice 77.01 334 *e*P **P 04 12 13.2 -0.1**
DRGR 77.02 327 ⇑P **P 04 12 13.5 0.0**
DRGR 77.02 327 ⇑*i*P **P 04 12 13.5 0.0**
PSZ Piszkesteto 77.07 330 ⇑P **P 04 12 15.0 +1.2**
PSZ Piszkesteto 77.07 330 ⇑*i*P **P 04 12 15.0 +1.2**
X34A Smith Ranch, M 77.13 53 ⇑P **P 04 12 15.3 +1.0**
baz=77
131A Roby 77.13 56 ⇓P **P 04 12 15.1 +0.7**
baz=77
Y33A Hilltop Ranch, 77.14 54 ⇓P **P 04 12 14.1 -0.3**
baz=77
Z32A Haskell 77.18 55 ⇑P **P 04 12 14.5 -0.1**
baz=77
MSAB Monastry St. A 77.25 323 ⇑*i*P **P 04 12 15.0 +0.3**
TUL1 Leonard 77.25 51 ⇓P **P 04 12 15.1 +0.2**
baz=77
MOX Moxa 77.28 336 *e*P **P 04 12 14.9 0.0**
comp=Z,5.0nm,0.9s
230A Sterling City 77.30 57 ⇓P **P 04 12 16.1 +0.8**
baz=77
TREC Trest 77.33 333 *e*P **P 04 12 15.2 0.0**
TREC Trest 77.33 333 *e*P **P 04 12 15.2 0.0**
ARR Arges 77.48 325 ⇑*i*P **P 04 12 17.8 +1.6**
ABTX Abilene, Hawle 77.59 55 ⇑P **P 04 12 17.0 0.0**
baz=77
Z33A Whitaker Ranch 77.59 54 ⇑P **P 04 12 17.3 +0.3**
baz=77
330A Mertzon 77.62 57 ⇑P **P 04 12 17.8 +0.7**
baz=77
Y34A Reagan Ranch, 77.65 53 ⇑P **P 04 12 17.3 +0.1**
baz=77
TXAR Lajitas Array 77.67 60 P **P 04 12 18.1 +0.6**
comp=Z,1.1nm,0.6s,baz=297,slow=4.7,SNR=32
ROTZ Rotzenmuhle 77.90 335 *e*P **P 04 12 19.0 +0.7**
comp=Z,4.0nm,0.9s
529A Stev Forest Ra 77.95 59 ⇑P **P 04 12 20.3 +1.3**
baz=78
430A Baggett Ranch, 78.04 58 ⇓P **P 04 12 20.0 +0.5**
baz=78
KHC Kasperske Hory 78.06 334 *e*P **P 04 12 19.1 -0.2**
KHC pmax pmax
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 78.06 334 *e*P **P 04 12 19.2 -0.1**
KHC *ex* x 04 12 23.8
KHC Kasperske Hory 78.06 334 *e*P **P 04 12 18.3 -1.0**
KHC Kasperske Hory 78.06 334 *e*P **P 04 12 19.1 -0.2**
comp=Z,6.3nm,1.0s
BRTR Keskin Array B 78.17 316 P **P 04 12 20.6 +0.4**
comp=Z,2.7nm,0.8s,baz=75,slow=4.1,SNR=22
GZR Gura Zlata 78.17 327 ⇑P **P 04 12 19.7 -0.3**
GZR Gura Zlata 78.17 327 ⇑*i*P **P 04 12 19.7 -0.3**
GRF Grafenberg Arr 78.25 336 *e*P **P 04 12 20.6 +0.3**
comp=Z,12nm,0.9s
GERES GERESS Array B 78.28 334 *e*P **P 04 12 20.5 -0.1**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 78.28 334 P **P 04 12 20.3 -0.2**
comp=Z,1.6nm,0.7s,baz=36,slow=5.0,SNR=14
GERES GERESS Array B 78.28 334 *e*P **P 04 12 20.5 -0.1**
CONA Conrad Observa 78.41 332 ⇓*i*P **P 04 12 21.8 +0.5**
comp=Z,5.9nm,0.8s
BZS Buzias 78.42 327 ⇑P **P 04 12 20.2 -1.0**
BZS Buzias 78.42 327 ⇑*i*P **P 04 12 20.2 -1.0**
332A Millersview 78.46 56 ⇓P **P 04 12 22.1 +0.3**
baz=78
233A Rising Star 78.46 55 ⇑P **P 04 12 21.8 0.0**
baz=78
431A Sonora 78.48 57 ⇑P **P 04 12 22.4 +0.5**
baz=78
TNS Taunus Mts 78.53 338 *e*P **P 04 12 22.0 +0.2**
comp=Z,5.0nm,0.8s
MEM Membach 78.79 339 P **P 04 12 23.9 +0.7**
comp=Z,6.0nm,1.1s
MEM Membach 78.79 339 *e*P **P 04 12 24.0 +0.8**
MEM pmax pmax
comp=Z,9.0nm,0.8s
MEM Membach 78.79 339 *e*P **P 04 12 24.0 +0.8**
comp=Z,9.0nm,0.8s
432A Menard 78.80 57 ⇑P **P 04 12 24.1 +0.4**
baz=79
531A Rocksprings 78.89 58 ⇓P **P 04 12 24.9 +0.7**
baz=79
333A Richland Sprin 78.93 56 ⇑P **P 04 12 24.7 +0.3**
baz=79
MOA Molln 78.99 333 ⇑*i*P **P 04 12 24.7 +0.3**
comp=Z,3.9nm,0.9s
JCT Junction City 79.09 57 ⇓P **P 04 12 25.6 +0.3**
baz=79
BCLA Clavier 79.14 339 P **P 04 12 25.8 +0.7**
532A Rocksprings 79.29 57 ⇓P **P 04 12 27.1 +0.7**
baz=79
334A Lometa 79.35 55 ⇓P **P 04 12 27.3 +0.6**
baz=79
631A Perdido Creek 79.44 58 ⇑P **P 04 12 28.1 +0.9**
baz=79
BAIF Baives 79.73 340 *e*P **P 04 12 26.9 -1.4**
BAIF Baives 79.73 340 *e*P **P 04 12 26.9 -1.4**
BAIF Baives 79.73 340 *e*P **P 04 12 26.9 -1.4**
SOKA Soboth 79.78 332 ⇓*i*P **P 04 12 28.8 0.0**
comp=Z,8.8nm,1.1s
KBA Koelnbreinsper 79.96 333 ⇑*i*P **P 04 12 30.6 +0.7**
comp=Z,8.1nm,0.8s
534A Blanco 80.19 56 ⇑P **P 04 12 31.4 +0.2**
baz=80
RAO Raoul Island 80.23 154 LR LR 04 42 48.1
comp=Z,224nm,20.3s,baz=134,slow=32
BFO Black Forest 80.29 337 *i* P **P 04 12 32.0 +0.6**
BFO Black Forest 80.29 337 *e*P **P 04 12 31.6 +0.2**
comp=Z,6.0nm,1.0s
BFO Black Forest 80.29 337 *e*P **P 04 12 31.2 -0.3**
comp=Z,4.7nm,0.9s
WTTA Wattenberg 80.31 334 ⇑*i*P **P 04 12 32.3 +0.5**
comp=Z,10.0nm,0.8s
VTS Vitosha 80.37 325 ⇑P **P 04 12 32.4 +0.3**
VTS Vitosha 80.37 325 ⇑*i*P **P 04 12 32.4 +0.3**
CDF Champ du Feu 80.49 337 *e*P **P 04 12 31.9 -0.7**
comp=Z,14nm,1.0s
CDF Champ du Feu 80.49 337 *e*P **P 04 12 31.9 -0.7**
CDF pmax pmax
comp=Z,14nm,1.0s
CDF Champ du Feu 80.49 337 *e*P **P 04 12 31.9 -0.7**
comp=Z,14nm,1.0s
RDO Rodhopi 80.63 322 *e*P **P 04 12 33.1 -0.2**
PAGF Fort de Pagny 80.76 339 *e*P **P 04 12 33.5 -0.4**
comp=Z,5.3nm,0.9s
PAGF Fort de Pagny 80.76 339 *e*P **P 04 12 33.5 -0.4**
comp=Z,5.3nm,0.9s
FETA Feichten 80.80 335 ⇑*i*P **P 04 12 35.4 +1.0**
comp=Z,4.3nm,1.0s
DAVA Damuels 80.81 335 ⇑*i*P **P 04 12 34.3 -0.1**
comp=Z,9.7nm,1.4s
MEZF Maizieres J'vi 80.98 339 *e*P **P 04 12 34.8 -0.3**
comp=Z,14nm,0.7s
MEZF Maizieres J'vi 80.98 339 *e*P **P 04 12 34.8 -0.3**
comp=Z,14nm,0.7s
MMB Musomiste 81.00 324 ⇓P **P 04 12 36.2 +0.8**
MMB Musomiste 81.00 324 ⇓*i*P **P 04 12 36.2 +0.8**
HAU Haudompre 81.11 338 *e*P **P 04 12 34.9 -0.9**
comp=Z,7.8nm,0.9s
HAU *e*R
comp=Z,49nm,19.5s
HAU Haudompre 81.11 338 *e*P **P 04 12 34.9 -0.9**
HAU pmax pmax
comp=Z,8.0nm,0.9s
HAU Haudompre 81.11 338 *e*P **P 04 12 34.9 -0.9**
comp=Z,7.8nm,0.9s
HINF Hinteralfeld 81.15 338 *e*P **P 04 12 35.0 -1.1**
HINF Hinteralfeld 81.15 338 *e*P **P 04 12 35.0 -1.1**
HINF Hinteralfeld 81.15 338 *e*P **P 04 12 35.0 -1.1**
SFTF Sexfontaines 81.26 339 *e*P **P 04 12 36.1 -0.5**
comp=Z,15nm,0.8s
SFTF Sexfontaines 81.26 339 *e*P **P 04 12 36.1 -0.5**
comp=Z,15nm,0.8s
PMOR Pomariorio Ree 81.30 123 *e*T T 05 42 19.6
comp=Z,14nm,0.2s
FUORN Ofenpass-Fuorn 81.30 335 *e*P **P 04 12 37.8 +0.7**
comp=Z,6.0nm,1.0s
339A Huntington 81.40 53 ⇑P **P 04 12 39.5 +1.9**
baz=81
KNT Kendrikon 81.70 324 *e*P **P 04 12 38.8 -0.2**
TUE Stuetta 81.70 335 *e*P **P 04 12 39.7 +0.5**
comp=Z,5.6nm,0.8s
PLG Polygyros 82.14 323 *e*P **P 04 12 41.0 -0.4**
PPT2 Papeete2 82.42 126 *e*LR LR 04 38 43.0
comp=Z,107nm,25.0s
LOR Lormes 82.42 339 *e*P **P 04 12 42.1 -0.6**
comp=Z,8.5nm,0.8s
LOR *e*R
comp=Z,74nm,21.8s
LOR Lormes 82.42 339 *e*P **P 04 12 42.1 -0.6**
LOR pmax pmax
comp=Z,9.0nm,0.8s
LOR Lormes 82.42 339 *e*P **P 04 12 42.1 -0.6**
comp=Z,8.5nm,0.8s
PAIG Paliouri 82.42 323 *e*P **P 04 12 42.3 -0.5**
CABF La Chapelle 82.47 338 *e*P **P 04 12 42.5 -0.6**
comp=Z,21nm,1.2s
CABF La Chapelle 82.47 338 *e*P **P 04 12 42.5 -0.6**
CABF pmax pmax
comp=Z,21nm,1.2s
CABF La Chapelle 82.47 338 *e*P **P 04 12 42.5 -0.6**
comp=Z,21nm,1.2s
FNA Florina 82.62 325 *e*P **P 04 12 43.4 -0.6**
SSF Saint Saulge 82.70 339 *e*P **P 04 12 43.3 -0.9**
comp=Z,5.6nm,0.9s
SSF Saint Saulge 82.70 339 *e*P **P 04 12 43.3 -0.9**
SSF pmax pmax
comp=Z,6.0nm,0.9s
SSF Saint Saulge 82.70 339 *e*P **P 04 12 43.3 -0.9**
comp=Z,5.6nm,0.9s
AVF Avril sur Loir 82.99 339 *e*P **P 04 12 45.1 -0.5**
AVF Avril sur Loir 82.99 339 *e*P **P 04 12 45.1 -0.5**
AVF Avril sur Loir 82.99 339 *e*P **P 04 12 45.1 -0.5**
SMF Signal de Mont 83.00 339 *e*P **P 04 12 45.4 -0.4**
comp=Z,19nm,1.0s
SMF Signal de Mont 83.00 339 *e*P **P 04 12 45.4 -0.4**
SMF pmax pmax
comp=Z,19nm,1.0s
SMF Signal de Mont 83.00 339 *e*P **P 04 12 45.4 -0.4**
comp=Z,19nm,1.0s
NEST Nestorio 83.07 325 *e*P **P 04 12 46.3 0.0**
LPL La Plagne 83.31 337 *e*P **P 04 12 47.6 0.0**
comp=Z,10nm,1.0s
LPL La Plagne 83.31 337 *e*P **P 04 12 47.6 0.0**
LPL pmax pmax
comp=Z,10.0nm,1.0s
LPL La Plagne 83.31 337 *e*P **P 04 12 47.6 0.0**
comp=Z,10nm,1.0s
LPG La Plagne 83.32 337 *e*P **P 04 12 48.0 +0.2**
comp=Z,5.1nm,0.7s
LPG La Plagne 83.32 337 *e*P **P 04 12 48.0 +0.2**
LPG pmax pmax
comp=Z,5.0nm,0.7s
LPG La Plagne 83.32 337 *e*P **P 04 12 48.0 +0.2**
comp=Z,5.1nm,0.7s
MRKA Markates 83.49 322 *e*P **P 04 12 46.6 -1.8**
TCF Toulx Ste Croi 83.73 340 *e*P **P 04 12 49.2 -0.3**
TCF Toulx Ste Croi 83.73 340 *e*P **P 04 12 49.2 -0.3**
TCF Toulx Ste Croi 83.73 340 *e*P **P 04 12 49.2 -0.3**
MAKR Makrakomi, Fth 83.83 324 *e*P **P 04 12 49.9 -0.3**
ORIF Oris-en-Rattie 84.09 337 *e*P **P 04 12 51.6 +0.1**
comp=Z,9.9nm,0.8s
ORIF *e*R
comp=Z,57nm,23.0s
ORIF Oris-en-Rattie 84.09 337 *e*P **P 04 12 51.6 +0.1**
ORIF pmax pmax
comp=Z,10.0nm,0.8s
ORIF Oris-en-Rattie 84.09 337 *e*P **P 04 12 51.6 +0.1**
comp=Z,9.9nm,0.8s
DSL Palaion Diasel 84.15 324 *e*P **P 04 12 51.5 -0.3**
RAYN Ar Rayn 84.17 298 *e*P **P 04 12 52.3 +0.2**
comp=Z,5.0nm,0.8s
DSF Desfina 84.18 323 *e*P **P 04 12 50.4 -1.6**
KALE Kalithea 84.36 323 *e*P **P 04 12 52.3 -0.6**
VIVF Saint-Julien-I 84.46 338 *e*P **P 04 12 53.4 +0.1**
comp=Z,7.0nm,0.9s
VIVF Saint-Julien-I 84.46 338 *e*P **P 04 12 53.4 +0.1**
VIVF pmax pmax
comp=Z,7.0nm,0.9s
VIVF Saint-Julien-I 84.46 338 *e*P **P 04 12 53.4 +0.1**
comp=Z,7.0nm,0.9s
KARP Karpathos 84.56 318 *e*P P 04 12 50.1 -3.8
PDO Prodromos 84.57 324 *e*P **P 04 12 53.5 -0.4**
KMSC Kings Mountain 85.04 42 ⇓P **P 04 12 56.6 +0.3**
baz=85
VLS Valsamata 85.17 324 *e*P **P 04 12 56.1 -0.8**
ZKR Zakros 85.35 319 *e*P **P 04 12 57.7 -0.1**
LMR La Mourre 85.38 336 *e*P **P 04 12 57.3 -0.5**
comp=Z,23nm,1.2s
LMR La Mourre 85.38 336 *e*P **P 04 12 57.3 -0.5**
LMR pmax pmax
comp=Z,23nm,1.2s
LMR La Mourre 85.38 336 *e*P **P 04 12 57.3 -0.5**
comp=Z,23nm,1.2s
LAST Lasithi 85.64 319 *e*P **P 04 12 59.0 -0.4**
SIVA Sivas 86.06 320 *e*P **P 04 13 01.3 -0.1**
TIGA Tifton 87.02 45 ⇑P **P 04 13 05.6 -0.5**
baz=87
TBI Tubuai 87.14 129 *e*T T 05 49 31.8
comp=Z,15nm,0.3s
ESDC Sonseca Array 91.41 342 P **P 04 13 25.8 -0.9**
comp=Z,0.9nm,0.8s,baz=354,slow=3.1,SNR=6.5
KEST Kesra 91.48 331 P **P 04 13 28.1 +0.9**
comp=Z,0.9nm,0.9s,baz=308,slow=2.9,SNR=4.3
TORD Torodi Ar. Bea 114.90 329 PKP PKPdf 04 19 00.6 -1.0
comp=Z,0.3nm,0.8s,baz=20,slow=1.8,SNR=5.9
QSPA South Pole Qui 136.56 180 PKP **PKPdf 04 19 42.2 +0.9**
comp=Z,1.3nm,0.8s,baz=102,slow=14,SNR=5.8
BDFB Brasilia 144.42 36 PKP **PKPab 04 19 55.3 0.0**
comp=Z,4.2nm,0.7s,baz=264,slow=4.0,SNR=9.5
CFAA Coronel Fontan 145.22 79 PKPbc **PKPbc 04 19 56.7 -1.0**
comp=Z,0.5nm,0.5s,baz=256,slow=5.7,SNR=5.7
PLCA Paso Flores 148.46 95 PKPbc **PKPdf 04 20 05.3 +2.2**
comp=Z,3.4nm,0.8s,baz=307,slow=1.9,SNR=7.8

BJI ***22*** *04:02:11.1,4°.36S×144°.32E,h96km,mB5.1/13,mb4.8/19*
ISCJB ***22*** *04:02:12.8±0.3,4°.64S±0°.03×143°.96E±0°.03,h110km, mb4.6/38, Error ellipse: s-maj=5.0km s-min=4.2km az=23.6*
IDC ***22*** *04:02:12.4±1.8,4°.57S×144°.08E,h93km±16km,mb3.9/16, mb1 4.0/20,mb1mx4.0/31,mbtmp4.2/20,MS3.0/1, Ms1 3.0/1,ms1mx2.4/22,Error ellipse: s-maj=16.5km s-min=9.3km az=90.0*
NEIC ***22*** *04:02:12.8±1.9,4°.52S×143°.91E,h93km±8km,mb4.9/19, Error ellipse: s-maj=18.3km s-min=13.3km az=72.0*
DJA ***22*** *04:02:15.8±1.1,5°.S±3°.×14°.4E±°,h32km±11km,M4.9/27, mB5.4/11,mb5.1/27,MLv5.1/6,Mw(mB)4.8/11*
ISC 22 04:02:13.9±0.4,4°.61S±0°.05×144°.00E±0°.06,h110km,n117,
σ1§63/133,**mb4.7**/37,**Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.90**	**302**	P	**Pn**	**04 03 11.8**	**-0.1**
JAY	**Jayapura**	**3.90**	**302**	P	**Pn**	**04 03 10.6**	**-1.3**
	19nm,0.3s,baz=153,slow=8.2,SNR=32						
JAY	**Jayapura**	**3.90**	**302**	P	**Pn**	**04 03 10.7**	**-1.3**
	baz=3.8,SNR=17						
MANU	**Manus Island**	**4.21**	**53**	S	Px	04 03 39.6	
	baz=4.0,SNR=4.1						
GENI	**Genyem**	**4.32**	**297**	P	**Pn**	**04 03 17.5**	**-0.1**
GENI				S	**Sn**	**04 04 07.5**	**+0.5**
MMPI	**Merauke**	**5.26**	**223**	P	**Pn**	**04 03 28.8**	**-1.4**
	351nm,0.6s,15μm4.6nm						
MMPI				S	**Sn**	**04 04 27.7**	**-1.9**
	351nm,0.6s,15μm4.6nm						
PMG	**Port Moresby**	**5.70**	**147**	P	**Pn**	**04 03 36.3**	**0.0**
	8.0nm,0.3s,baz=299,slow=13,SNR=15						
PMG				S	**Sn**	**04 04 37.3**	**-3.1**
	12nm,0.3s,baz=319,slow=19,SNR=5.0						
PMG				LR	LR	04 06 28.6	
	comp=Z,127nm,18.7s,baz=14,slow=45						
PMG	**Port Moresby**	**5.70**	**147**	P	**Pn**	**04 03 36.8**	**+0.5**
	baz=5.9,SNR=4.9						
PMG	**Port Moresby**	**5.70**	**147**	*e*Pn	**Pn**	**04 03 36.6**	**+0.3**
PMG				*e*Sn	**Sn**	**04 04 36.9**	**-3.6**
SMPI	**Sarmi**	**5.89**	**296**	P	**Pn**	**04 03 37.9**	**-0.9**
	276nm,0.8s,1.1nm						
SMPI				S	**Sn**	**04 04 43.6**	**-1.4**
	276nm,0.8s,1.1nm						
SRPI	**Serui, Papua**	**8.21**	**289**	P	**Pn**	**04 04 11.4**	**+1.1**
	365nm,0.6s,10μm						
COEN	**Coen**	**9.33**	**185**	P	**Pn**	**04 04 26.8**	**+1.4**
	baz=9.6,SNR=74						
COEN	**Coen**	**9.33**	**185**	*e*Pn	**Pn**	**04 04 26.5**	**+1.0**
RKPI	**Ransiki, Papua**	**10.28**	**287**	P	**Pn**	**04 04 39.4**	**+1.0**
	138nm,0.7s						
FAKI	**Fak Fak**	**11.85**	**278**	P	**Pn**	**04 04 57.9**	**-1.5**
	35nm,0.9s,677nm						
FAKI	**Fak Fak**	**11.85**	**278**	P	**Pn**	**04 04 57.5**	**-2.0**
	baz=12,SNR=22						
FAKI	**Fak Fak**	**11.85**	**278**	*e*Pn	**Pn**	**04 04 56.9**	**-2.6**
SWI	**Sorong**	**13.26**	**286**	P	**Pn**	**04 05 16.6**	**-1.4**
	168nm,0.6s,2μm						
SWI	**Sorong**	**13.26**	**286**	P	**Pn**	**04 05 18.7**	**+0.8**
	baz=13,SNR=12						
KDU	**Kakadu**	**13.94**	**234**	P	**Pn**	**04 05 25.6**	**-1.1**
	baz=14,SNR=8.2						

KDU			S		Sn	04 07 50.1 -10
	baz=14,SNR=3.8					
BNDI	**Bandanaira**	**14.05 270**	P		**Pn**	**04 05 30.0 +1.7**
	110nm,0.9s					
MTN	**Manton Dam**	**15.12 236**	P		**Pn**	**04 05 41.6 -0.2**
	baz=15,SNR=5.6					
MTN			S		Sn	04 08 18.6 -10
	baz=15,SNR=4.2					
CTA	**Charters Tower**	**15.54 172**	P		**P**	**04 05 48.5 -0.5**
	0.2nm,0.3s,baz=1.1,slow=3.1,SNR=3.0					
CTAO	**Charters Tower**	**15.54 172**	*e*P		**P**	**04 05 50.8 +1.8**
	27nm,1.4s					
QIS	**Mount Isa**	**16.42 195**	P		**P**	**04 06 02.4 +3.7**
	baz=17,SNR=22					
NLAI	**Namlea**	**16.92 274**	P		**P**	**04 06 05.7 +1.4**
	36nm,0.4s					
LBMI	**Labuha**	**16.95 283**	P		**P**	**04 06 07.8 +3.2**
	77nm,1.1s,1μm					
TNTI	**Ternate**	**17.46 287**	*e*Pn		**P**	**04 06 09.0 -1.2**
	71nm,1.1s					
WRAB	**Tennant Creek**	**17.90 211**	*e*P		**P**	**04 06 15.3 +0.2**
WRA	**Warramunga Arr**	**17.91 211**	P		**P**	**04 06 15.1 -0.2**
	0.8nm,0.3s,baz=31,slow=13,SNR=18					
WRA			S		S	04 09 27.4 -8.2
	0.5nm,0.3s,baz=32,slow=24,SNR=5.3					
KNRA	**Kununurra**	**18.58 233**	P		**P**	**04 06 21.8 -0.8**
	baz=19,SNR=98					
KNRA			S		S	04 09 41.1 -7.8
	baz=19,SNR=4.1					
SOEI	**Soe**	**20.23 254**	P		**P**	**04 06 42.1 +1.5**
	212nm,0.9s,2μm					
SOEI	**Soe**	**20.23 254**	P		**P**	**04 06 41.8 +1.2**
	baz=20,SNR=8.8					
SOEI	**Soe**	**20.23 254**	*e*P		**P**	**04 06 41.2 +0.6**
	152nm,0.8s					
KMSI	**Cibinong**	**20.66 284**	P		Pn	04 06 50.7 +2.3
	205nm,1.0s					
BATI	**Baumata**	**20.92 253**	P		**P**	**04 06 48.6 +0.7**
BATI	**Baumata**	**20.92 253**	P		**P**	**04 06 48.3 +0.4**
	50nm,0.4s,baz=103,slow=3.5,SNR=10					
AS01	**Alice Springs**	**21.28 206**	*e*P		**P**	**04 06 52.6 +0.8**
AS12	**Alice Springs**	**21.31 206**	*e*P		**P**	**04 06 52.3 +0.3**
AS12			*e*S		**S**	**04 10 45.6 +3.1**
ASAR	**Alice Springs**	**21.31 206**	P		**P**	**04 06 52.3 +0.3**
	4.0nm,0.7s,baz=33,slow=11,SNR=17					
ASAR			S		**S**	**04 10 45.6 +3.1**
	1.9nm,0.9s,baz=20,slow=27,SNR=4.2					
MMRI	**Maumere**	**21.98 258**	P		P	04 07 04.2 +5.0
	98nm,1.0s					
MMRI	**Maumere**	**21.98 258**	*e*P		**P**	**04 06 57.1 -2.1**
	129nm,1.3s					
FITZ	**Fitzroy Crossi**	**22.41 232**	P		**P**	**04 07 03.7 +0.1**
	baz=23,SNR=33					
FITZ			S		S	04 11 12.4 +10
	baz=23,SNR=3.1					
FITZ	**Fitzroy Crossi**	**22.41 232**	*e*P		**P**	**04 07 04.1 +0.4**
EDFI	**Ende, Flores**	**22.54 258**	P		P	04 07 10.5 +5.4
	33nm,0.9s					
MRSI	**Marisa**	**22.61 282**	P		P	04 07 11.0 +5.3
	58nm,0.8s,765nm					
APSI	**Ampana**	**22.63 279**	P		P	04 07 12.1 +6.3
	78nm,1.0s,664nm					
BKSI	**Bulukumba**	**23.80 267**	P		P	04 07 23.4 +6.5
	68nm,0.8s,461nm					
BNSI	**Bone**	**23.82 270**	P		P	04 07 23.3 +6.2
	37nm,1.0s					
TOLI	**Toli-Toli**	**23.88 283**	*e*P		**P**	**04 07 15.1 -2.5**
	88nm,0.5s					
WSI	**Waingapu**	**24.05 257**	P		P	04 07 25.7 +6.7
	792nm,0.5s,48μm					
KAPI	**Kappang**	**24.17 268**	*e*P		**P**	**04 07 18.9 -1.2**
	7.3nm,0.6s					
SPSI	**Sidrap Palu**	**24.18 271**	P		P	04 07 26.8 +6.6
	26nm,0.8s					
TTSI	**Tana Toraja**	**24.18 273**	P		P	04 07 26.2 +5.9
	21nm,1.1s					
MPSI	**Mapaga**	**24.58 281**	P		P	04 07 29.5 +5.6
WRKA	**Warakurna**	**25.30 215**	P		**P**	**04 07 29.5 -0.9**
	baz=26,SNR=9.1					
CMSA	**Cobar Meteorol**	**26.84 177**	S		S	04 12 20.2 +7.8
	baz=27,SNR=5.6					
MBWA	**Marble Bar**	**28.74 233**	*e*P		**P**	**04 07 58.8 -2.4**
	41nm,1.2s					
MEEK	**Meekatharra**	**32.69 225**	P		**P**	**04 08 36.4 +0.4**
	baz=33,SNR=3.3					
NFK	**Norfolk Island**	**33.25 140**	P		**P**	**04 08 38.3 -2.5**
	baz=34,SNR=5.4					
UGM	**Wanagama**	**33.44 263**	P		**P**	**04 08 44.9 +2.3**
	baz=34,SNR=11					
UGM	**Wanagama**	**33.44 263**	*e*P		**P**	**04 08 44.7 +2.0**
	103nm,0.6s					
QIZ	**Qiongzhong**	**41.02 306**	P		**P**	**04 09 46.8 +0.2**
QIZ			pP		**pP**	**04 10 07.8 -4.0**
QIZ			sP		sP	04 10 18.3 -6.0
QIZ			S		**S**	**04 15 52.4 +1.3**
QIZ			sS		sS	04 16 28.9 -5.8
QIZ			PMZ			
	9.0nm,1.2s					
MJAR	**Matsushiro Arr**	**41.29 353**	P		**P**	**04 09 48.1 -0.4**
	1.3nm,0.6s,baz=171,slow=5.9,SNR=3.2					
MAJO	**Matsushiro**	**41.29 353**	*e*P		**P**	**04 09 48.1 -0.4**
	118nm,2.2s					
NJ2	**Nanjing**	**43.61 328**	*e*P		**P**	**04 10 06.3 -1.1**
NJ2			PMZ			
	20nm,0.6s					
KSRS	**Korea Array**	**44.45 342**	P		**P**	**04 10 14.3 +0.3**
	5.4nm,1.0s,baz=160,slow=8.9,SNR=12					
KS15	**Wonju Array Si**	**44.45 342**	*e*P		**P**	**04 10 14.3 +0.3**
KS15			*e*PP		**PP**	**04 12 02.6 +2.7**
KS01	**Wonju Array Si**	**44.48 342**	*e*P		**P**	**04 10 14.0 -0.2**
GYA	**Guiyang**	**47.54 313**	*e*P		**P**	**04 10 40.0 +1.4**
GYA			pP		**pP**	**04 11 02.6 -1.8**
GYA			sP		**sP**	**04 11 14.8 -2.0**
GYA			PP		**PP**	**04 12 31.3 +0.2**
GYA			S		**S**	**04 17 25.4 -0.3**
GYA			sS		**sS**	**04 18 06.0 -4.1**
GYA			SS		**SS**	**04 20 49.3 -6.0**
GYA			PMZ			
	10.0nm,1.0s					
GYA			PMZ			
	90nm,4.8s					
GYA			LN			
	480nm,17.8s					
GYA			LE			
	360nm,18.2s					
GYA			LZ			
	510nm,18.5s					
USRK	**Ussuriysk Ar.**	**49.77 349**	P		**P**	**04 10 55.3 +0.1**
	2.4nm,0.6s,baz=146,slow=5.3,SNR=5.6					
KMI	**Kunming**	**49.80 308**	P		**P**	**04 10 57.0 +1.0**
KMI			PMZ			
	6.0nm,0.5s					
CM31	**Chiang Mai Arr**	**49.97 299**	*e*P		**P**	**04 10 58.0 +0.9**
CMAR	**Chiang Mai Arr**	**49.97 299**	P		**P**	**04 10 58.0 +0.9**
	1.2nm,0.4s,baz=116,slow=6.1,SNR=5.2					
CN2	**Changchun**	**51.01 343**	*e*P		**P**	**04 11 04.0 -0.5**
CN2			PMZ			
	10.0nm,0.9s					
CD2	**Chengdu**	**52.18 315**	*e*P		**P**	**04 11 16.3 +2.7**
CD2			sP		**sP**	**04 11 50.6 -1.5**
CD2			PP		**PP**	**04 13 13.0 -0.2**
CD2			S		**S**	**04 18 30.8 +0.8**
CD2			PMZ			
	10.0nm,0.8s					
HHC	**Hu-ho-hao-te**	**54.11 330**	*e*P		**P**	**04 11 29.6 +1.9**
HHC			pP		**pP**	**04 11 53.3 -0.7**
HHC			sP		**sP**	**04 12 03.8 -2.4**
HHC			S		**S**	**04 18 57.8 +1.8**
HHC			sS		**sS**	**04 19 38.6 -2.7**
HHC			ScS		**ScS**	**04 21 06.8 +0.4**
HHC			PMZ			
	22nm,0.5s					
HHC			PMZ			
	230nm,5.5s					
HHC			LN			
	260nm,18.6s					
HHC			LE			
	570nm,18.1s					
HHC			LZ			
	91nm,19.7s					
LZH	**Lanzhou**	**55.23 321**	*e*P		**P**	**04 11 37.4 +1.5**
LZH			pP		**pP**	**04 12 01.3 -1.0**
LZH			sP		**sP**	**04 12 12.5 -2.0**
LZH			PP		**PP**	**04 13 44.0 +3.4**
LZH			PMZ			
	25nm,1.3s					
LZH			PMZ			
	89nm,7.0s					
LZH			LN			
	470nm,15.0s					
LZH			LE			
	500nm,14.9s					
LZH			LZ			
	580nm,18.3s					
PETK	**Petropavlovsk-**	**58.65 10**	P		**P**	**04 12 00.4 +0.9**
	6.5nm,0.6s,baz=158,slow=7.0,SNR=11					
PEA2	**Petropavlovsk-**	**58.66 10**	*e*P		**P**	**04 12 00.4 +0.9**
ULN	**Ulaanbaatar**	**61.48 333**	*e*P		**P**	**04 12 20.4 +1.2**
	2.5nm,0.5s					
SONA0	**Songino Array**	**61.77 332**	*e*P		**P**	**04 12 22.0 +1.0**
SONM	**Songino Array**	**61.77 332**	P		**P**	**04 12 22.0 +1.0**
	0.8nm,0.6s,baz=152,slow=5.4,SNR=9.9					
SEY	**Seymchan**	**67.66 4**	P		**P**	**04 12 59.2 +0.4**
	0.5nm,0.3s,baz=162,slow=19,SNR=3.7					
WMQ	**Urumqi**	**69.81 320**	P		**P**	**04 13 14.8 +2.2**
WMQ			pP		**pP**	**04 13 40.0 -0.2**
WMQ			PMZ			
	5.0nm,1.0s					
WMQ			PMZ			
	84nm,4.0s					
VNDA	**Vanda**	**73.48 176**	P		**P**	**04 13 35.8 +1.8**
	0.3nm,0.6s,baz=333,slow=7.4,SNR=5.3					
MK32	**Makanchi Array**	**74.54 321**	*e*P		**P**	**04 13 41.0 +0.2**
MKAR	**Makanchi Array**	**74.54 321**	P		**P**	**04 13 41.0 +0.2**
	0.6nm,0.4s,baz=95,slow=8.3,SNR=13					
KSH	**Kashi**	**76.24 312**	P		**P**	**04 13 52.5 +1.8**
KSH			pP		**pP**	**04 14 18.5 -0.2**
KSH			PP		**PP**	**04 16 47.5 +4.0**
KSH			S		**S**	**04 23 24.6 -1.9**
KSH			ScS		**SKKSac**	**04 23 52.6 0.0**
KSH			sS		sS	04 24 08.5 -6.0
KSH			SS		**SS**	**04 28 22.5 -0.2**
KSH			PMZ			
	3.0nm,0.5s					
KSH			PMZ			
	85nm,4.3s					
KSH			LN			
	190nm,5.8s					
KSH			LE			
	120nm,9.3s					
KSH			LZ			
	89nm,5.4s					
ZALV	**Zalesovo Beam**	**76.26 328**	P		**P**	**04 13 49.9 -0.4**
	2.0nm,0.7s,baz=104,slow=6.5,SNR=8.9					
ZAA1	**Zalesovo Array**	**76.27 328**	*e*P		**P**	**04 13 49.9 -0.5**
SVW2	**Sparrevohn**	**80.25 25**	*e*P		**P**	**04 14 14.1 +1.9**
PPLA	**Purkeypile**	**82.50 24**	*e*P		**P**	**04 14 24.3 +0.1**
	42nm,1.9s					
RC01	**Rabbit Creek A**	**82.80 27**	*e*P		**P**	**04 14 25.8 +0.2**
	10nm,0.5s					
PMR	**Palmer**	**83.27 26**	*e*P		**P**	**04 14 28.2 +0.3**
KTH	**Kantishna Hill**	**83.30 24**	*e*P		**P**	**04 14 28.1 -0.1**
	24nm,1.6s					
TRF	**Thorofare Moun**	**83.51 24**	*e*P		**P**	**04 14 29.3 -0.1**
	62nm,2.5s					
MCK	**McKinley**	**84.18 24**	*e*P		**P**	**04 14 32.8 +0.1**
	7.4nm,0.6s					
COLD	**Coldfoot**	**85.09 21**	*e*P		**P**	**04 14 38.4 +1.3**
	7.6nm,1.4s					
QSPA	**South Pole Qui**	**85.35 180**	P		**P**	**04 14 39.4 +0.7**
	1.4nm,0.5s,baz=274,slow=1.4,SNR=22					
ILAR	**Eielson Array**	**85.40 24**	P		**P**	**04 14 37.8 -1.0**
	4.3nm,0.7s,baz=258,slow=4.7,SNR=57					
ILB	**Eielson Array**	**85.40 24**	*e*P		**P**	**04 14 37.8 -1.0**
IL1	**Eielson Array**	**85.40 24**	*e*P		**P**	**04 14 38.0 -0.8**
DOT	**Dot Lake**	**86.19 25**	*e*P		**P**	**04 14 43.0 +0.3**
	5.8nm,0.8s					
EGAK	**Eagle**	**87.73 24**	*e*P		**P**	**04 14 51.1 +1.0**
	24nm,2.0s					
DAWY	**Dawson**	**88.29 25**	*e*P		**P**	**04 14 54.0 +1.2**
	68nm,3.0s					
NV01	**Mina Array Sit**	**98.87 52**	*e*P		Pdif	04 15 44.0 +1.8
NVAR	**Mina Array Bea**	**98.87 52**	P		Pdif	04 15 42.4 +0.2
	0.2nm,0.6s,baz=277,slow=7.2,SNR=3.2					
YKA	**Yellowknife Ar**	**99.33 27**	P		**Pdif**	**04 15 42.9 -0.4**
	0.2nm,0.6s,baz=283,slow=5.6,SNR=5.5					
PV05	**Paradox Valley**	**106.12 52**	*e*Pdif		**Pdif**	**04 16 16.9 +2.4**
GERES	**GERESS Array B**	**119.07 325**	PKP		**PKPdf**	**04 20 49.9 -0.2**
	0.3nm,0.4s,baz=0.0,slow=1.3,SNR=5.2					
TORD	**Torodi Ar. Bea**	**141.85 285**	PKhKP		PKPpre	04 21 27.8
	0.5nm,0.4s,baz=68,slow=3.7,SNR=17					
LPAZ	**La Paz**	**142.04 124**	PKhKP		PKPpre	04 21 31.6
	0.9nm,0.6s,baz=254,slow=1.9,SNR=3.7					
KIC	**Kosan Boka**	**148.84 275**	*e*PKP2		**PKPbc**	**04 21 50.3 +0.5**
	85nm,2.0s					
DBIC	**Dimbokro**	**148.95 275**	PKPbc		**PKPbc**	**04 21 50.3 +0.3**
	3.7nm,0.5s,baz=54,slow=2.3,SNR=19					
TIC	**Tomodi**	**149.11 275**	*e*PKP2		**PKPbc**	**04 21 51.4 +0.9**
	5.6nm,0.2s					
LIC	**Lamto**	**149.13 274**	*e*PKP2		**PKPbc**	**04 21 51.5 +1.0**
	17nm,0.5s					

ISCJB ***22*** *04:06:02.2±1.2,30°.73S±0°.09×178°.0W±0°.2,h46km, mb4.1/4,MS3.6/1,Error ellipse: s-maj=31.0km s-min=9.4km az=18.6*
IDC ***22*** *04:06:03.0±2.5,30°.66S×177°.90W,h42km±20km,mb4.0/4, mb1 4.2/5,mb1mx3.9/18,mbtmp4.1/5,ML3.4/1,MS3.6/1, Ms1 3.6/1,ms1mx2.7/26,Error ellipse: s-maj=32.2km s-min=17.4km az=115.0*

ISC 22 04:06:03.2±1.0,30°.60S±0°.09×177°.9W±0°.2,h46km,n14, σ1°.27/16,mb4.1/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.34**	**1**	P	**Pn**	**04 06 25.4**	**-0.1**
	195nm,0.3s,baz=198,slow=23,SNR=12						
RAO				S	**Sn**	**04 06 39.9**	**-2.2**
	516nm,0.3s,baz=139,slow=19,SNR=7.7						
URZ	**Urewera**	**8.67**	**207**	P	**Pn**	**04 08 05.5**	**-0.5**
	0.4nm,0.3s,baz=323,slow=5.1,SNR=3.4						
URZ				S	**Sn**	**04 09 41.2**	**-1.3**
	3.4nm,0.3s,baz=70,slow=15,SNR=13						
CTA	**Charters Tower**	**33.89**	**279**	P	**P**	**04 12 43.7**	**+1.9**
	4.7nm,0.5s,baz=108,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**43.16**	**267**	P	**P**	**04 13 59.9**	**+0.3**
	1.3nm,0.6s,baz=97,slow=7.5,SNR=4.3						
WRA	**Warramunga Arr**	**44.16**	**272**	P	**P**	**04 14 08.2**	**+0.4**
	3.3nm,0.6s,baz=110,slow=8.1,SNR=7.8						
NWAO	**Narrogin (SRO)**	**54.38**	**249**	LR	LR	04 37 03.1	
	comp=Z,47nm,18.8s,slow=34						
NVAR	**Mina Array Bea**	**88.34**	**43**	P	**P**	**04 18 52.0**	**+1.8**
	0.4nm,0.7s,baz=222,slow=7.5,SNR=5.6						
FINES	**FINESS Array B**	**145.35**	**340**	PKPbc	**PKPbc**	**04 25 34.9**	**-0.2**
	2.5nm,0.7s,baz=65,slow=3.9,SNR=14						
NB2	**NORSAR Subarra**	**148.95**	**351**	PKP	**PKPbc**	**04 25 45.4**	**0.0**
	comp=Z,0.9nm,0.5s,baz=10,slow=2.6						
NOA	**NORSAR Array B**	**148.95**	**351**	PKPbc	**PKPbc**	**04 25 45.2**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=14,slow=4.1,SNR=5.5						
AKASG	**Malin Array Be**	**151.49**	**323**	PKPbc	**PKPbc**	**04 25 50.2**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=45,slow=1.6,SNR=3.2						
BRTR	**Keskin Array B**	**152.74**	**298**	PKPbc	**PKPbc**	**04 25 53.5**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=151,slow=1.5,SNR=2.4						
BRTR				PKPab	**PKPab**	**04 26 05.8**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=113,slow=3.3,SNR=3.1						
GERES	**GERESS Array B**	**159.74**	**337**	PKPab	**PKPab**	**04 26 36.9**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=0.0,slow=3.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**162.63**	**179**	PKPab	**PKPab**	**04 26 49.1**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=187,slow=3.1,SNR=6.1						

CSEM ***22*** *04:15:35.9,42°.35N×13°.29E,h11km,MD2.0/11*

ROM 22 04:15:35.9±0.1,42°.35N×13°.29E,h11km,Md2.0/11, Ml1.6/4,Error ellipse: s-maj=1.0km s-min=0.8km az=121.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0104	**Madonna delle**	**0.04**	**73**	Pg	Pg	04 15 38.4	+0.4
T0104				Sg	Sg	04 15 39.7	+0.1
AQU	**L'Aquila**	**0.09**	**86**	Pg	Pg	04 15 39.0	+0.5
AQU				Sg	Sg	04 15 40.9	+0.5
	505nm,0.3s						
AQU	**L'Aquila**	**0.09**	**86**	Pg	Pg	04 15 39.0	+0.5
AQU				Sg	Sg	04 15 40.9	+0.5
	505nm,0.3s						
FIAM	**Fiamignano**	**0.15**	**237**	Pg	Pg	04 15 40.0	+0.6
FIAM				Sg	Sg	04 15 42.8	+0.9
	68nm,0.5s						
FIAM	**Fiamignano**	**0.15**	**237**	Pg	Pg	04 15 40.0	+0.6
FIAM				Sg	Sg	04 15 42.8	+0.9
	68nm,0.5s						
CAMP	**Campotosto**	**0.21**	**26**	Pg	Pg	04 15 41.0	+0.5
CAMP				Sg	Sg	04 15 44.5	+0.8
CAMP	**Campotosto**	**0.21**	**26**	Pg	Pg	04 15 41.0	+0.5
CAMP				Sg	Sg	04 15 44.5	+0.8
FAGN	**Fagnano**	**0.24**	**110**	Pg	Pg	04 15 41.6	+0.7
FAGN				Sg	Sg	04 15 45.4	+1.1
	205nm,0.3s						
FAGN	**Fagnano**	**0.24**	**110**	Pg	Pg	04 15 41.6	+0.7
FAGN				Sg	Sg	04 15 45.4	+1.1
	205nm,0.3s						
SMA1	**SAN MARTINO**	**0.28**	**7**	Pg	Pg	04 15 42.4	+0.5
SMA1				Sg	Sb	04 15 47.1	-1.1
	69nm,0.3s						
PTQR	**Pietraquaria**	**0.34**	**165**	Pg	Pg	04 15 43.0	+0.2
PTQR				Sg	Sg	04 15 48.1	+0.7
	7.0nm,0.2s						
PTQR	**Pietraquaria**	**0.34**	**165**	Pg	Pg	04 15 43.0	+0.2
PTQR				Sg	Sg	04 15 48.1	+0.7
	7.0nm,0.2s						
TERO	**Teramo**	**0.36**	**40**	Pg	Pg	04 15 43.2	0.0
TERO				Sg	Sg	04 15 48.8	+0.7
TERO	**Teramo**	**0.36**	**40**	Pg	Pg	04 15 43.2	0.0
TERO				Sg	Sg	04 15 48.8	+0.7
VCEL	**Villa Celiera**	**0.41**	**83**	Pg	Pg	04 15 44.8	+0.6
VCEL				Sg	Sb	04 15 51.4	-0.5
	58nm,0.5s						
VCEL	**Villa Celiera**	**0.41**	**83**	Pg	Pg	04 15 44.8	+0.6
VCEL				Sg	Sb	04 15 51.4	-0.5
	58nm,0.5s						
CERT	**Cerreto**	**0.46**	**210**	Pg	Pg	04 15 45.1	+0.1
CERT				Sg	Sb	04 15 52.1	-0.9
CERT	**Cerreto**	**0.46**	**210**	Pg	Pg	04 15 45.1	+0.1
CERT				Sg	Sb	04 15 52.1	-0.9
NRCA	**Norcia**	**0.50**	**345**	Pg	Pg	04 15 45.9	0.0
NRCA				Sg	Sb	04 15 53.5	-0.9
	7.0nm,0.1s						
NRCA	**Norcia**	**0.50**	**345**	Pg	Pg	04 15 45.9	0.0
NRCA				Sg	Sb	04 15 53.5	-0.9
	7.0nm,0.1s						

MAN 22 04:17:07,16°.21N×120°.53E,h8km,mb4.3,ML3.2,MS3.0, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.17**	**16**	↑*i*P	Pg	04 17 12.6	+1.7
BCPH				*i*S	Sg	04 17 16.1	+2.5
BOLP	**Bolinao**	**0.62**	**286**	*e*P	Pb	04 17 20.1	0.0
SCZP	**Santa Cruz**	**0.74**	**234**	*e*P	Pb	04 17 21.8	-0.3
PCPH	**Palayan**	**0.84**	**140**	||*e*P	Pn	04 17 24.6	-0.6
PCPH				*e*S	Sn	04 17 37.5	-0.3
BALP	**Baler**	**1.11**	**115**	*e*P	Pn	04 17 29.0	+0.1
BALP				*e*S	Sn	04 17 45.0	+0.7
APYP	**Conner**	**1.78**	**22**	*e*P	Pn	04 17 38.8	+0.7

CSEM ***22*** *04:25:50.3,37°.51N×25°.06W,h5km,ML1.8*

PDA 22 04:25:50.3±0.7,37°.51N×25°.06W,h5km,MD3.7,ML1.8, Error ellipse: s-maj=5.0km s-min=1.4km az=76.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.28**	**342**	*e*P	Pg	04 25 55.4	-0.6
BART				*e*S	Sg	04 25 59.8	0.0
BART				A	A	04 26 01.9	
	143nm,0.3s						
BART	**Pico Bartolome**	**0.28**	**342**	*e*P	Pg	04 25 55.4	-0.6
BART				*e*S	Sg	04 25 59.8	0.0
GRON	**Grota Negra**	**0.46**	**304**	*e*P	Pg	04 25 57.1	-2.1
GRON				*e*S	Sg	04 26 01.9	-3.4
GRON				A	A	04 26 02.5	
	8.9nm,0.1s						
PSMN	**Pico do Norte,**	**0.51**	**181**	*e*P	Pg	04 25 59.0	-1.1
PSMN				*e*S	Sg	04 26 05.7	-0.9
PSMN				A	A	04 26 08.6	
	17nm,0.4s						
PSMN	**Pico do Norte,**	**0.51**	**181**	*e*P	Pg	04 25 59.0	-1.1
PSMN				*e*S	Sg	04 26 05.7	-0.9
PSMA	**Santa Maria**	**0.52**	**186**	*e*S	Sg	04 26 06.0	-1.0
PSMA				A	A	04 26 06.7	
	43nm,0.4s						
PDA	**Ponta Delgada**	**0.54**	**296**	*e*P	Pg	04 25 59.3	-1.3
PDA				*e*S	Sg	04 26 06.5	-1.1
PDA				A	A	04 26 07.5	
	37nm,0.4s						
PDA	**Ponta Delgada**	**0.54**	**296**	*e*P	Pg	04 25 59.3	-1.3
PDA				*e*S	Sg	04 26 06.5	-1.1
PSET	**Sete Cidades**	**0.61**	**301**	*e*S	Sg	04 26 08.7	-1.5
PSET				A	A	04 26 11.2	
	20nm,0.1s						
PSET	**Sete Cidades**	**0.61**	**301**	*e*S	Sg	04 26 08.7	-1.5

GUC 22 04:29:30.4±0.5,34°.94S×72°.59W,h63km±46km,ML3.8,1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.20**	**188**	*e*P	Pn	04 29 51.1	0.0
COCH				*i*S	Sn	04 30 06.3	-0.3
ANTU	**Antumapu**	**2.12**	**50**	*e*P	Pn	04 30 03.4	-0.2
ANTU				*i*S	Sn	04 30 28.9	-0.1
FSR	**Penalolen**	**2.25**	**50**	*i*S	Sn	04 30 32.2	+0.1
SJCH	**San Jose de Ma**	**2.26**	**56**	*e*P	Pn	04 30 05.3	-0.2
SJCH				*i*S	Sn	04 30 32.2	-0.3
PEL	**Peldehue**	**2.39**	**42**	||*i*P	Pn	04 30 07.4	+0.1
PEL				*i*S	Sn	04 30 35.1	-0.4
PEL				IAML		04 30 44.4	
	comp=N,596nm,0.6s						

ISCJB ***22*** *04:30:51.6±0.7,35°.00N±0°.07×138°.5E±0°.1,h215km±3km, mb3.4/7,Error ellipse: s-maj=19.3km s-min=9.8km az=20.7*
IDC ***22*** *04:30:51.6±1.6,34°.95N×138°.68E,h208km±10km,mb3.3/7, mb1 3.4/7,mb1mx3.1/26,mbtmp3.8/7,Error ellipse: s-maj=54.1km s-min=21.7km az=73.0*
JMA ***22*** *04:30:52.4±0.2,34°.95N×138°.51E,h211km±2km,M2.7*

ISC 22 04:30:52.6±0.9,35°.01N±0°.08×138°.5E±0°.1,h212km±6km, n14,σ0°.68/21,mb3.3/7,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHZ3	**Shizuoka 3**	**0.22**	**286**	P	**Pn**	**04 31 20.4**	**0.0**
SHZ3				S	**S**	**04 31 42.0**	**-0.1**
JOD2	**Odawara 2**	**0.57**	**63**	P	**Pn**	**04 31 21.2**	**-0.1**
JOD2				*e*S	**S**	**04 31 43.2**	**-0.5**
JRY	**Ryogami san**	**1.07**	**19**	P	**Pn**	**04 31 24.6**	**+0.6**
JRY				*e*S	**S**	**04 31 48.4**	**-0.1**
TK02	**

MS4.8/10, Error ellipse: s-maj=12.3km s-min=5.9km az=68.5

NEIC ***22*** *04:36:07.2±0.3, 17°.56S×13°.08W, h10km, mb5.2/49, Error ellipse: s-maj=8.1km s-min=6.5km az=148.0*

BJI ***22*** *04:36:07.2, 17°.60S×13°.10W, h10km, mB5.6/6, mb5.5/1, Ms5.4/6, Ms7 4.9/7*

GCMT ***22*** *04:36:07.2±0.1, 17°.71S×13°.14W, h12km, MW5.3/115, Moment Tensor Solution. s84,c122; s115,c221; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr-0.16±.02; Mθθ 0.39±.02; Mφφ-0.22±.02; Mrθ 0.09±.04; Mθφ-1.04±.01; Mφr 0.21±.04; Best double couple: M0 1.11300×1017 NP1:φs 171.00000°, δ82.00000°, λ-11.00000°. NP2:φs 262.00000°, δ79.00000°, λ-172.00000°. Principal axes: T 1.1690, Plg2.0000°, Azm217.0000°; N -0.1130, Plg76.0000°, Azm316.0000°; P -1.0570, Plg14.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***22*** *04:36:07.1±0.2, 17°.60S±0°.04×13°.01W±0°.05, h22km, mb4.8/100, MS4.6/39 Error ellipse: s-maj=6.8km s-min=6.0km az=30.2*

SZGRF ***22*** *04:36:08.9, 16°.98S×14°.36W, h33km, mb5.0, Southern Mid-Atlantic Ridge*

ISC 22 04:36:08.5±0.6, 17°.66S±0°.06×13°.04W±0°.06, h19km±2km, h18km:pP-P, n322, σ1s62/310, mb5.0/99, MS4.6/40, 37C-2D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SHEL	**Horse Pasture**	**7.19**	**77**	Pn	**Pn**	**04 37 51.1**	**-1.6**
	10μm,0.4s,SNR=44						
SHEL	**Horse Pasture**	**7.19**	**77**	*e*P	**Pn**	**04 37 51.4**	**-1.3**
SHEL	**Horse Pasture**	**7.19**	**77**	*e*Pn	**Pn**	**04 37 51.4**	**-1.3**
H10S2	**ASCENSION HYDR**	**8.79**	**350**	T	T	04 47 00.6	
	baz=170,slow=75,SNR=376						
H10S3	**ASCENSION HYDR**	**8.79**	**349**	T	T	04 46 60.0	
	baz=170,slow=75,SNR=253						
H10S1	**ASCENSION HYDR**	**8.80**	**350**	T	T	04 47 00.6	
	baz=170,slow=75,SNR=488						
H10N1	**ASCENSION HYDR**	**9.85**	**352**	T	T	04 48 17.8	
	baz=169,slow=76,SNR=12						
H10N3	**ASCENSION HYDR**	**9.86**	**352**	T	T	04 48 18.4	
	baz=169,slow=76,SNR=42						
H10N2	**ASCENSION HYDR**	**9.87**	**352**	T	T	04 48 21.1	
	baz=169,slow=76,SNR=13						
H09W1	**TRISTAN DA CUN**	**19.38**	**178**	T	T	05 00 42.2	
LIC	**Lamto**	**25.01**	**19**	*e*P	**P**	**04 41 30.0**	**-1.5**
	202nm,1.3s,baz=208						
LIC				*e*R			
	3μm,19.1s						
LIC	**Lamto**	**25.01**	**19**	*e*P	**P**	**04 41 30.3**	**-1.2**
	205nm,1.3s						
LIC	**Lamto**	**25.01**	**19**	*e*P	**P**	**04 41 30.0**	**-1.5**
	202nm,1.3s						
KIC	**Kosan Boka**	**25.23**	**20**	*e*P	**P**	**04 41 33.7**	**+0.2**
	115nm,0.9s						
RCBR	**Riachuelo**	**25.24**	**295**	P	**P**	**04 41 31.5**	**-2.1**
	41nm,1.1s,baz=116,slow=12,SNR=11						
RCBR				LR	LR	04 48 47.5	
	comp=Z,1μm,20.8s,baz=106,slow=30						
RCBR	**Riachuelo**	**25.24**	**295**	*e*P	**P**	**04 41 32.6**	**-1.1**
	69nm,1.2s						
TIC	**Toumodi**	**25.41**	**19**	*e*P	**P**	**04 41 33.7**	**-1.4**
	59nm,0.8s						
DBIC	**Dimbokro**	**25.49**	**19**	*e*P	**P**	**04 41 34.8**	**-1.0**
DBIC	**Dimbokro**	**25.49**	**19**	*e*P	**P**	**04 41 34.5**	**-1.2**
DBIC				pmax	pmax		
	comp=Z,86nm,1.1s						
DBIC	**Dimbokro**	**25.49**	**19**	P	**P**	**04 41 34.2**	**-1.5**
	comp=Z,62nm,1.1s,baz=182,slow=12,SNR=27						
DBIC				LR	LR	04 49 08.3	
	comp=Z,2μm,19.9s,baz=170,slow=31						
DBIC	**Dimbokro**	**25.49**	**19**	*e*P	**P**	**04 41 34.5**	**-1.2**
	comp=Z,86nm,1.1s						
TSUM	**Tsumeb**	**29.08**	**98**	P	**P**	**04 42 05.9**	**-2.3**
	comp=Z,3.2nm,0.7s,baz=323,slow=11,SNR=3.8						
TSUM				LR	LR	04 51 37.3	
	comp=Z,568nm,18.9s,baz=265,slow=32						
TSUM	**Tsumeb**	**29.08**	**98**	*e*P	**P**	**04 42 08.9**	**+0.7**
	comp=Z,14nm,0.9s						
BDFB	**Brasilia**	**33.54**	**268**	LR	LR	04 53 28.0	
	comp=Z,1μm,21.9s,baz=97,slow=31						
SUR	**Sutherland**	**33.83**	**122**	P	**P**	**04 42 49.5**	**-0.5**
	comp=Z,11nm,0.9s,baz=230,slow=2.4,SNR=5.6						
SUR	**Sutherland**	**33.83**	**122**	*e*P	**P**	**04 42 50.5**	**+0.5**
	comp=Z,337nm,2.5s						
TORD	**Torodi Ar. Bea**	**33.89**	**26**	P	**P**	**04 42 49.2**	**-1.1**
	comp=Z,82nm,0.9s,baz=205,slow=8.6,SNR=322						
TORD				LR	LR	04 53 51.9	
	comp=Z,2μm,21.6s,baz=205,slow=32						
LBTB	**Lobatse**	**36.63**	**108**	*e*P	**P**	**04 43 13.3**	**-0.9**
LBTB				AMB	AMB	04 43 22.1	
	comp=Z,32nm,3.2s						
LBTB				AMS	AMS	04 55 12.3	
	comp=Z,806nm,16.0s						
LBTB	**Lobatse**	**36.63**	**108**	*e*P	**P**	**04 43 13.0**	**-1.1**
LBTB				pmax	pmax		
	comp=Z,12nm,0.9s						
LBTB	**Lobatse**	**36.63**	**108**	P	**P**	**04 43 11.8**	**-2.3**
	comp=Z,6.0nm,0.8s,baz=276,slow=12,SNR=9.2						
LBTB	**Lobatse**	**36.63**	**108**	*e*P	**P**	**04 43 13.0**	**-1.1**
	comp=Z,12nm,0.9s						
BOSA	**Boshof**	**36.72**	**114**	*e*P	**P**	**04 43 13.6**	**-1.3**
BOSA				AMB	AMB	04 43 16.7	
	comp=Z,26nm,2.5s						
BOSA				AMS	AMS	04 55 08.1	
	comp=Z,842nm,20.1s						
BOSA	**Boshof**	**36.72**	**114**	*e*P	**P**	**04 43 13.6**	**-1.3**
BOSA				pmax	pmax		
	comp=Z,28nm,1.3s						
BOSA	**Boshof**	**36.72**	**114**	P	**P**	**04 43 12.8**	**-2.0**
	comp=Z,8.8nm,1.0s,baz=288,slow=5.0,SNR=7.3						
BOSA				LR	LR	04 55 38.0	
	comp=Z,910nm,20.5s,baz=283,slow=32						
BOSA	**Boshof**	**36.72**	**114**	*e*P	**P**	**04 43 13.6**	**-1.3**
	comp=Z,28nm,1.3s						
PRYS	**Parys**	**38.37**	**111**	*e*P	**P**	**04 43 26.9**	**-2.0**
	comp=Z,16nm,3.3s						
PRYS				AMB	AMB	04 43 28.7	
	comp=Z,16nm,3.3s						
SEK	**Senekal**	**38.75**	**113**	*e*P	**P**	**04 43 29.3**	**-2.8**
SEK				AMB	AMB	04 43 33.6	
	comp=Z,31nm,4.3s						
SLR	**Silverton**	**39.10**	**109**	*e*P	**P**	**04 43 35.2**	**+0.2**
SLR				AMB	AMB	04 43 44.6	
	comp=Z,31nm,2.1s						
SLR				AMS	AMS	04 55 47.7	
	comp=Z,1μm,18.9s						
ERPM	**east rand prop**	**39.10**	**110**	*e*P	**P**	**04 43 32.2**	**-2.9**
ERPM				AMB	AMB	04 43 33.8	
	comp=Z,20nm,3.4s						
LSZ	**Lusaka**	**39.55**	**93**	*e*P	**P**	**04 43 39.4**	**+0.5**
LSZ	**Lusaka**	**39.55**	**93**	P	**P**	**04 43 38.8**	**-0.1**
	comp=Z,7.0nm,0.8s,baz=348,slow=2.9,SNR=7.8						
LSZ	**Lusaka**	**39.55**	**93**	*e*P	**P**	**04 43 39.4**	**+0.5**
MSNA	**Messina**	**40.63**	**104**	*e*P	**P**	**04 43 48.5**	**+0.8**
MSNA				AMB	AMB	04 43 54.5	
	comp=Z,19nm,2.3s						
MSNA				AMS	AMS	04 56 25.0	
	comp=Z,802nm,22.4s						
TAM	**Tamanrasset**	**44.11**	**25**	*e*P	**P**	**04 44 15.9**	**-0.1**
TAM				pmax	pmax		
	comp=Z,13nm,1.3s						
TAM	**Tamanrasset**	**44.11**	**25**	*e*P	**P**	**04 44 15.9**	**-0.1**
	comp=Z,12nm,1.3s						
SIV	**San Ignacio**	**45.91**	**265**	P	**P**	**04 44 29.7**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=130,slow=4.5,SNR=6.5						
TRQA	**Tornquist**	**47.20**	**234**	*e*P	**P**	**04 44 42.1**	**+1.9**
	comp=Z,26nm,1.0s						
PTGA	**Pitinga**	**49.09**	**285**	P	**P**	**04 44 53.5**	**-1.6**
	comp=Z,9.1nm,1.0s,baz=131,slow=20,SNR=3.9						
SAML	**Samuel**	**49.44**	**273**	*e*P	**P**	**04 44 56.6**	**-1.2**
	comp=Z,4.3nm,0.8s						
SAML				*e*PcP	**PcP**	**04 46 21.9**	**+1.9**
CFAA	**Coronel Fontan**	**51.57**	**243**	P	**P**	**04 45 14.1**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=63,slow=9.0,SNR=2.6						
KMBO	**Kilima Mbogo**	**52.05**	**77**	*e*P	**P**	**04 45 18.7**	**+0.9**
KMBO				pmax	pmax		
	comp=Z,35nm,1.4s						
KMBO	**Kilima Mbogo**	**52.05**	**77**	P	**P**	**04 45 18.4**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=240,slow=8.2,SNR=11						
KMBO				LR	LR	05 06 26.7	
	comp=Z,418nm,18.1s,baz=250,slow=35						
KMBO	**Kilima Mbogo**	**52.05**	**77**	*e*P	**P**	**04 45 18.7**	**+0.9**
	comp=Z,35nm,1.4s						
LPAZ	**La Paz**	**52.55**	**263**	P	**P**	**04 45 22.0**	**0.0**
LPAZ	**La Paz**	**52.55**	**263**	P	**P**	**04 45 21.9**	**0.0**
	comp=Z,1.5nm,0.9s,baz=126,slow=9.0,SNR=5.0						
LPAZ				LR	LR	05 06 41.8	
	comp=Z,368nm,18.4s,baz=102,slow=35						
VNA1	**Neumayer--Stat**	**53.06**	**178**	P	**P**	**04 45 26.2**	**+2.0**
VNA2	**Neumayer--Watz**	**53.37**	**178**	P	**P**	**04 45 28.0**	**+1.6**
VNA3	**Neumayer Olymp**	**53.62**	**179**	P	**P**	**04 45 30.9**	**+2.6**
PLCA	**Paso Flores**	**54.19**	**232**	P	**P**	**04 45 31.8**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=107,slow=19,SNR=2.5						
PLCA				LR	LR	05 04 36.9	
	comp=Z,735nm,21.8s,baz=98,slow=32						
SNAA	**Sanae**	**54.35**	**176**	P	**P**	**04 45 35.4**	**+1.7**
SNAA	**Sanae**	**54.35**	**176**	*e*P	**P**	**04 45 34.4**	**+0.8**
SNAA				pmax	pmax		
	comp=Z,17nm,1.3s						
SNAA	**Sanae**	**54.35**	**176**	P	**P**	**04 45 33.0**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=329,slow=4.8,SNR=7.0						
SNAA	**Sanae**	**54.35**	**176**	*e*P	**P**	**04 45 35.1**	**+1.5**
	comp=Z,16nm,1.0s						
PVAQ	**Vaqueiros**	**54.99**	**5**	*e*P	**P**	**04 45 41.2**	**+2.6**
	comp=Z,33nm,2.6s						
PVAQ				*e*S	S	04 53 27.4	+7.6
PVAQ				*e*LQ	LQ	04 58 57.5	
PVAQ				*e*LR	LR	05 03 04.5	
	comp=Z,662nm,22.0s						
NVL	**N'lazarevskaya**	**55.17**	**170**	*e*P	P	04 45 47.3	+7.8
NVL				pmax	pmax		
	comp=Z,20nm,0.9s						
PNCL	**Nicolau / Gran**	**55.63**	**4**	*e*S	S	04 53 39.0	+11
EVOP	**Sao Brissos**	**56.08**	**5**	*e*P	**P**	**04 45 45.1**	**-1.3**
EVOP				pmax	pmax		
	comp=Z,63nm,1.3s						
EVOP	**Sao Brissos**	**56.08**	**5**	*e*P	**P**	**04 45 45.1**	**-1.3**
	comp=Z,63nm,1.3s						
EVO	**Evora**	**56.09**	**5**	*e*P	**P**	**04 45 45.1**	**-1.4**
	comp=Z,63nm,1.3s						
EVO				*e*R			
	comp=Z,1μm,22.0s						
EVO	**Evora**	**56.09**	**5**	*e*P	**P**	**04 45 47.8**	**+1.3**
	comp=Z,34nm,1.6s						
EVO				pP	**pP**	**04 45 55.2**	**+2.7**
PMAFR	**Mafra**	**56.42**	**4**	*e*S	S	04 53 53.0	+14
PMTG	**Montargil**	**56.61**	**4**	*e*P	**P**	**04 45 52.1**	**+2.0**
	comp=Z,16nm,1.4s						
PMTG				*e*S	S	04 53 50.7	+9.4
PMRV	**Marv??o**	**57.03**	**5**	*e*P	**P**	**04 45 56.0**	**+2.8**
	comp=Z,18nm,1.8s						
PMRV				*e*S	S	04 54 10.0	+23
PMRV				*e*LQ	LQ	04 59 51.0	
PMRV				*e*LR	LR	05 03 59.6	
	comp=Z,768nm,22.0s						
PTOM	**Tomar**	**57.14**	**4**	*e*P	P	04 45 57.1	+3.2
	comp=Z,26nm,1.7s						
KEST	**Kesra**	**57.18**	**22**	P	**P**	**04 45 53.5**	**-0.9**
	comp=Z,4.7nm,0.9s,baz=180,slow=5.8,SNR=6.5						
KEST				LR	LR	05 09 07.0	
	comp=Z,282nm,21.3s,baz=180,slow=35						
KEST	**Kesra**	**57.18**	**22**	*e*P	**P**	**04 45 55.1**	**+0.7**
PCBR	**Castelo Branco**	**57.43**	**5**	*e*P	**P**	**04 45 58.6**	**+2.6**
	comp=Z,13nm,1.3s						
PCAS	**Camilo, Conde**	**57.57**	**4**	*e*S	S	04 54 05.0	+11
ESDC	**Sonseca Array**	**57.66**	**8**	P	**P**	**04 45 56.9**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=186,slow=7.5,SNR=18						
ESDC				LR	LR	05 09 25.9	
	comp=Z,440nm,20.2s,baz=185,slow=35						
MTE	**Manteigas**	**57.98**	**5**	*e*P	**P**	**04 46 01.7**	**+1.8**
	comp=Z,23nm,1.5s						
MTE				pP	**pP**	**04 46 08.7**	**+2.8**
MTE				*e*S	S	04 54 17.6	+18
MTE				*e*LQ	LQ	05 00 21.3	
MTE				*e*LR	LR	05 04 17.6	
	comp=Z,544nm,22.0s						
MVO	**Moncorvo**	**58.79**	**5**	*e*P	**P**	**04 46 08.2**	**+2.7**
	comp=Z,31nm,1.2s						
MVO				pP	**pP**	**04 46 14.5**	**+3.0**
MVO				*e*S	S	04 54 17.5	+7.6
MVO				*e*LQ	LQ	05 00 36.7	
MVO				*e*LR	LR	05 04 44.9	
	comp=Z,572nm,20.0s						
POLO	**Lamas de Olo**	**58.93**	**5**	*e*P	P	04 46 10.8	+4.2
	comp=Z,9.9nm,1.4s						
PCAB	**Cabril**	**59.25**	**4**	*e*P	P	04 46 14.8	+6.1
	comp=Z,33nm,1.4s						
PGAV	**Gavieira, Arco**	**59.48**	**4**	*e*P	P	04 46 16.1	+5.7
	comp=Z,40nm,1.7s						
PGAV	**Gavieira, Arco**	**59.48**	**4**	*e*LQ	LQ	04 59 06.7	
PGAV				*e*LR	LR	05 05 08.9	
	comp=Z,674nm,18.0s						
SYO	**Syowa Base**	**60.68**	**161⇑**	*e*P	**P**	**04 46 15.4**	**-2.7**
ETSF	**Etsaut**	**61.34**	**10**	*e*P	**P**	**04 46 22.7**	**-0.3**
	comp=Z,20nm,1.0s						
ETSF	**Etsaut**	**61.34**	**10**	*e*P	**P**	**04 46 22.7**	**-0.3**
ETSF				pmax	pmax		
	comp=Z,21nm,1.0s						
ETSF	**Etsaut**	**61.34**	**10**	*e*P	**P**	**04 46 22.7**	**-0.3**
	comp=Z,20nm,1.0s						
SJPF	**Ste Jean**	**61.44**	**10**	*e*P	**P**	**04 46 23.2**	**-0.4**
	comp=Z,14nm,0.8s						
SJPF	**Ste Jean**	**61.44**	**10**	*e*P	**P**	**04 46 23.2**	**-0.4**
SJPF				pmax	pmax		
	comp=Z,14nm,0.8s						
SJPF	**Ste Jean**	**61.44**	**10**	*e*P	**P**	**04 46 23.2**	**-0.4**
	comp=Z,14nm,0.8s						
EPF	**Esparros**	**61.63**	**11**	*e*P	**P**	**04 46 24.9**	**-0.1**
EPF	**Esparros**	**61.63**	**11**	*e*P	**P**	**04 46 24.9**	**-0.1**
EPF	**Esparros**	**61.63**	**11**	*e*P	**P**	**04 46 24.9**	**-0.1**
CEL	**Celeste**	**61.90**	**26**	*e*P	**P**	**04 46 25.4**	**-1.5**
	comp=Z,29nm,1.0s						
CEL				*e*PP	**PP**	**04 48 44.5**	**+1.0**
MTLF	**Montolieu**	**62.29**	**13**	*e*P	**P**	**04 46 29.6**	**+0.2**
	comp=Z,9.0nm,1.1s						
MTLF	**Montolieu**	**62.29**	**13**	*e*P	**P**	**04 46 29.6**	**+0.2**
MTLF				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MTLF	**Montolieu**	**62.29**	**13**	*e*P	**P**	**04 46 29.6**	**+0.2**
	comp=Z,9.0nm,1.1s						
SDV	**Santo Domingo**	**62.70**	**290**	*e*P	**P**	**04 46 31.6**	**-1.3**
	comp=Z,26nm,0.9s						
TIP	**Timpagrande**	**63.04**	**26**	*e*P	**P**	**04 46 35.2**	**+0.7**
	comp=Z,8.3nm,1.0s						
CUC	**Castrocucco**	**63.35**	**25**	*e*P	**P**	**04 46 37.5**	**+0.9**
	comp=Z,6.9nm,0.9s						
LASF	**Ste Croix**	**63.35**	**14**	*e*P	**P**	**04 46 35.4**	**-1.0**
	comp=Z,65nm,1.8s						
LASF	**Ste Croix**	**63.35**	**14**	*e*P	**P**	**04 46 35.4**	**-1.0**
	comp=Z,65nm,1.8s						
LFF	**La Frestale**	**63.55**	**11**	*e*P	**P**	**04 46 36.8**	**-0.9**
	comp=Z,24nm,0.8s						
LFF	**La Frestale**	**63.55**	**11**	*e*P	**P**	**04 46 36.8**	**-0.9**
LFF				pmax	pmax		
	comp=Z,24nm,0.8s						
LFF	**La Frestale**	**63.55**	**11**	*e*P	**P**	**04 46 36.8**	**-0.9**
	comp=Z,24nm,0.8s						
SMRF	**Simiane la Rot**	**63.66**	**15**	*e*P	**P**	**04 46 38.2**	**-0.3**
	comp=Z,23nm,1.1s						
SMRF	**Simiane la Rot**	**63.66**	**15**	*e*P	**P**	**04 46 38.2**	**-0.3**
	comp=Z,23nm,1.1s						
ITM	**Ithomi**	**63.73**	**31**	*e*P	**P**	**04 46 40.3**	**+1.2**
VLI	**Veliai**	**63.86**	**32**	*e*P	**P**	**04 46 41.9**	**+2.0**
AMT	**Artemida-Makis**	**63.90**	**30**	*e*P	P	04 46 49.7	+9.5
LAST	**Lasithi**	**64.00**	**35**	*e*P	**P**	**04 46 40.5**	**-0.5**
VLX	**Vlachokerasia**	**64.10**	**31**	*e*P	**P**	**04 46 42.7**	**+1.1**
NPS	**Neapolis**	**64.15**	**35**	*e*P	**P**	**04 46 42.7**	**+0.8**
RLS	**Riolos of Patr**	**64.20**	**30**	*e*P	**P**	**04 46 42.7**	**+0.6**
DRO	**Drossia**	**64.24**	**30**	*e*P	**P**	**04 46 43.7**	**+1.3**
VIVF	**Saint-Julien-l**	**64.27**	**14**	*e*P	**P**	**04 46 41.8**	**-0.7**
	comp=Z,35nm,1.3s						
VIVF	**Saint-Julien-l**	**64.27**	**14**	*e*P	**P**	**04 46 41.8**	**-0.7**
VIVF				pmax	pmax		
	comp=Z,35nm,1.3s						
VIVF	**Saint-Julien-l**	**64.27**	**14**	*e*P	**P**	**04 46 41.8**	**-0.7**
	comp=Z,35nm,1.3s						
ZKR	**Zakros**	**64.37**	**35**	*e*P	**P**	**04 46 43.3**	**0.0**
LKD2	**Lefkada island**	**64.42**	**29**	*e*P	**P**	**04 46 44.4**	**+0.8**
ROSC	**El Rosal**	**64.47**	**284**	P	**P**	**04 46 44.0**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=162,slow=3.2,SNR=3.7						
ROSC				LR	LR	05 14 33.0	
	comp=Z,858nm,18.1s,baz=164,slow=36						
KLV	**Kalavryta, Ach**	**64.52**	**30**	*e*P	P	04 46 47.9	+3.6
GUR	**Goura**	**64.53**	**30**	*e*P	**P**	**04 46 47.3**	**+2.9**
ORIF	**Oris-en-Rattie**	**64.62**	**15**	*e*P	**P**	**04 46 44.4**	**-0.4**
	comp=Z,39nm,1.3s						
ORIF				*e*R			
	comp=Z,1μm,21.0s						
ORIF	**Oris-en-Rattie**	**64.62**	**15**	*e*P	**P**	**04 46 44.4**	**-0.4**
ORIF				pmax	pmax		
	comp=Z,39nm,1.3s						
ORIF	**Oris-en-Rattie**	**64.62**	**15**	*e*P	**P**	**04 46 44.4**	**-0.4**
	comp=Z,39nm,1.3s						
SSB	**Saint Sauveur**	**64.64**	**14**	*e*P	**P**	**04 46 46.1**	**+1.2**
SSB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SSB	**Saint Sauveur**	**64.64**	**14**	*e*P	**P**	**04 46 46.1**	**+1.2**
	comp=Z,4.8nm,0.9s						
MBDF	**Montbardon**	**64.66**	**16**	*e*P	**P**	**04 46 44.8**	**-0.4**
	comp=Z,29nm,1.0s						
MBDF	**Montbardon**	**64.66**	**16**	*e*P	**P**	**04 46 44.8**	**-0.4**
MBDF				pmax	pmax		
	comp=Z,29nm,1.0s						
MBDF	**Montbardon**	**64.66**	**16**	*e*P	**P**	**04 46 44.8**	**-0.4**
	comp=Z,29nm,1.0s						
EFP	**Efpalio**	**64.71**	**30**	*e*P	**P**	**04 46 46.4**	**+1.0**
KALE	**Kalithea**	**64.79**	**30**	*e*P	**P**	**04 46 46.0**	**-0.1**
IGT	**Igoumenitsa**	**64.87**	**28**	*e*P	**P**	**04 46 46.6**	**+0.1**
DSL	**Palaion Diasel**	**64.89**	**29**	*e*P	**P**	**04 46 47.3**	**+0.6**
SANT	**Santorini**	**64.90**	**34**	*e*P	**P**	**04 46 46.2**	**-0.5**
	comp=Z,47nm,1.0s						
BNI	**Bardonecchia**	**64.94**	**15**	*e*P	**P**	**04 46 49.5**	**+2.5**
BNI				pmax	pmax		
	comp=Z,21nm,1.5s						
BNI	**Bardonecchia**	**64.94**	**15**	*e*P	**P**	**04 46 49.5**	**+2.5**
	comp=Z,21nm,1.5s						
TCF	**Toulx Ste Croi**	**65.12**	**12**	*e*P	**P**	**04 46 47.6**	**-0.4**
	comp=Z,17nm,1.0s						
TCF	**Toulx Ste Croi**	**65.12**	**12**	*e*P	**P**	**04 46 47.6**	**-0.4**
TCF				pmax	pmax		
	comp=Z,17nm,1.0s						
TCF	**Toulx Ste Croi**	**65.12**	**12**	*e*P	**P**	**04 46 47.6**	**-0.4**
	comp=Z,17nm,1.0s						
KARP	**Karpathos**	**65.20**	**35**	*e*P	**P**	**04 46 49.0**	**+0.2**
LPG	**La Plagne**	**65.38**	**15**	*e*P	**P**	**04 46 49.5**	**-0.5**
	comp=Z,43nm,1.0s						
LPG	**La Plagne**	**65.38**	**15**	*e*P	**P**	**04 46 49.5**	**-0.5**
LPG				pmax	pmax		
	comp=Z,43nm,1.0s						
LPG	**La Plagne**	**65.38**	**15**	*e*P	**P**	**04 46 49.5**	**-0.5**
	comp=Z,43nm,1.0s						
LPL	**La Plagne**	**65.39**	**15**	*e*P	**P**	**04 46 49.3**	**-0.7**
	comp=Z,32nm,0.9s						
LPL	**La Plagne**	**65.39**	**15**	*e*P	**P**	**04 46 49.3**	**-0.7**
LPL				pmax	pmax		
	comp=Z,32nm,0.9s						
LPL	**La Plagne**	**65.39**	**15**	*e*P	**P**	**04 46 49.3**	**-0.7**
	comp=Z,32nm,0.9s						
SMIA	**Simia**	**65.69**	**30**	*e*P	**P**	**04 46 52.4**	**+0.6**
SMF	**Signal de Mont**	**65.79**	**13**	*e*P	**P**	**04 46 51.0**	**-1.3**
SMF	**Signal de Mont**	**65.79**	**13**	*e*P	**P**	**04 46 51.0**	**-1.3**
SMF	**Signal de Mont**	**65.79**	**13**	*e*P	**P**	**04 46 51.0**	**-1.3**
NEST	**Nestorio**	**65.91**	**28**	*e*P	**P**	**04 46 54.4**	**+1.1**
SKIA	**Skiathos**	**66.04**	**30**	*e*P	P	04 46 50.1	-3.9
XOR	**Xorichti**	**66.06**	**30**	*e*P	P	04 46 48.5	-5.7
SSF	**Saint Saulge**	**66.12**	**12**	*e*P	**P**	**04 46 53.4**	**-1.0**
	comp=Z,20nm,1.0s						
SSF	**Saint Saulge**	**66.12**	**12**	*e*P	**P**	**04 46 53.4**	**-1.0**
SSF				pmax	pmax		
	comp=Z,20nm,1.0s						
SSF	**Saint Saulge**	**66.12**	**12**	*e*P	**P**	**04 46 53.4**	**-1.0**
	comp=Z,20nm,1.0s						
CABF	**La Chapelle**	**66.26**	**14**	*e*P	**P**	**04 46 55.3**	**-0.1**
	comp=Z,27nm,1.0s						
CABF	**La Chapelle**	**66.26**	**14**	*e*P	**P**	**04 46 55.3**	**-0.1**
CABF				pmax	pmax		
	comp=Z,27nm,1.0s						
CABF	**La Chapelle**	**66.26**	**14**	*e*P	**P**	**04 46 55.3**	**-0.1**
	comp=Z,27nm,1.0s						
LIT	**Litokhoron**	**66.31**	**29**	*e*P	**P**	**04 46 55.5**	**-0.3**
LOR	**Lormes**	**66.39**	**12**	*e*P	**P**	**04 46 55.7**	**-0.4**
LOR				*e*R			
	comp=Z,615nm,20.2s						
LOR	**Lormes**	**66.39**	**12**	*e*P	**P**	**04 46 55.7**	**-0.4**
LOR	**Lormes**	**66.39**	**12**	*e*P	**P**	**04 46 55.7**	**-0.4**
OTAV	**Otavalo**	**66.70**	**278**	*e*P	**P**	**04 46 59.9**	**+0.4**
	comp=Z,8.9nm,1.1s						
SOH	**Sokhos**	**67.28**	**29**	*e*P	**P**	**04 47 01.5**	**-0.5**
SFTF	**Sexfontaines**	**67.53**	**13**	*e*P	**P**	**04 47 02.2**	**-1.1**
	comp=Z,54nm,1.3s						
SFTF	**Sexfontaines**	**67.53**	**13**	*e*P	**P**	**04 47 02.2**	**-1.1**
	comp=Z,54nm,1.3s						
TRI	**Trieste**	**67.59**	**20**	*e*P	**P**	**04 47 06.0**	**+2.2**
TRI				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TRI	**Trieste**	**67.59**	**20**	*e*P	**P**	**04 47 06.0**	**+2.2**
	comp=Z,1.2nm,0.4s						
HAU	**Haudompre**	**67.63**	**14**	*e*P	**P**	**04 47 02.6**	**-1.4**
	comp=Z,17nm,1.1s						
HAU				*e*R			
	comp=Z,258nm,22.0s						
HAU	**

PRU eS S 04 56 49.9 +2.9
PRU MLR MLR
comp=Z,400nm,19.7s
PRU Pruhonice 71.62 18 eP **P 04 47 30.4 +1.8**
PRU epP **pP 04 47 35.5 +0.8**
PRU eS **S 04 56 49.9 +2.9**
PRU AMS AMS 05 16 10.0
comp=Z,400nm,19.7s
PSZ Piszkesteto 71.63 23 eP **P 04 47 29.1 +0.3**
PSZ pmax pmax
comp=Z,9.0nm,0.8s
PSZ Piszkesteto 71.63 23 eP **P 04 47 29.1 +0.3**
comp=Z,8.8nm,0.8s
VOIR 71.68 27 ⇑P **P 04 47 28.7 -0.5**
VOIR 71.68 27 ⇑iP **P 04 47 28.7 -0.5**
VYHS Vyhne 71.73 22 eP **P 04 47 28.3 -1.0**
VYHS esP **sP 04 47 37.0 -0.7**
BRTR Keskin Array B 71.78 36 P **P 04 47 29.7 -0.3**
comp=Z,8.1nm,0.8s,baz=209,slow=7.2,SNR=22
BRTR PP **PP 04 50 06.8 -2.9**
comp=Z,2.7nm,1.1s,baz=212,slow=6.8,SNR=6.3
BRTR LR LR 05 19 19.4
comp=Z,109nm,20.2s,baz=228,slow=36
ISR Istrita 72.10 28 ⇑P **P 04 47 31.2 -0.4**
ISR Istrita 72.10 28 ⇑iP **P 04 47 31.2 -0.4**
PVCC Panska Ves 72.11 18 eP **P 04 47 31.3 -0.2**
PVCC e 04 47 36.6
PVCC e 04 47 39.0
PVCC MLR MLR
comp=Z,400nm,23.6s
PVCC Panska Ves 72.11 18 eP **P 04 47 31.3 -0.2**
PVCC epP **pP 04 47 36.6 -1.0**
PVCC ex x 04 47 39.0
PVCC AMS AMS 05 18 00.0
comp=Z,400nm,23.6s
MLR Muntele Rosu 72.12 28 ⇑P **P 04 47 30.3 -1.5**
MLR Muntele Rosu 72.12 28 ⇑iP **P 04 47 30.3 -1.5**
BRG Berggiesshubel 72.24 18 eP **P 04 47 32.4 +0.2**
comp=Z,2.5nm,0.9s
BRG S **S 04 56 59.0 +5.0**
BRG Berggiesshubel 72.24 18 eP **P 04 47 32.4 +0.2**
BRG S **S 04 56 59.0 +5.0**
BRG pmax pmax
comp=Z,11nm,0.8s
BRG MLR MLR
comp=N,2μm,15.5s
BRG MLR MLR
comp=E,217nm,12.2s
BRG MLR MLR
comp=Z,198nm,17.7s
DOPR Dopca 72.25 27 ⇑iP **P 04 47 32.2 -0.3**
CLL Collm 72.36 17 ePP PP 04 50 14.0 -0.2
CLL eS **S 04 56 59.0 +3.6**
CLL ePS **PnS 04 57 33.0 +5.9**
CLL e 04 58 28.0
CLL eSS **SS 05 01 30.0 -4.3**
CLL eSSS SSS 05 04 52.0
CLL eSSSS 05 06 29.0
CLL Lm MLR 05 17 00.0
comp=Z,500nm,21.3s
MORC Moravsky Berou 72.39 20 ⇑P P 04 47 40.5 +7.3
MORC Moravsky Berou 72.39 20 ⇑iP P 04 47 40.5 +7.3
PAF Port-aux-Franc 72.46 137 S **SKiKP 04 57 09.0 +0.7**
PAF R 05 09 00.0
TIRR Tirgusor 72.46 30 ⇑P **P 04 47 31.4 -2.3**
TIRR Tirgusor 72.46 30 ⇑iP **P 04 47 31.4 -2.3**
DPC Dobruska-Polom 72.49 19 eP **P 04 47 35.9 +2.1**
DPC Dobruska-Polom 72.49 19 eP P 04 47 29.5 -4.3
DPC epP **P 04 47 36.0 +2.1**
DPC esP sP 04 47 41.0 -1.2
DPC AMS AMS 05 17 20.0
DPC Dobruska-Polom 72.49 19 eP **P 04 47 35.9 +2.1**
UPC Upice 72.53 19 eP **P 04 47 33.5 -0.5**
UPC e 04 47 42.2
UPC Upice 72.53 19 eP **P 04 47 33.5 -0.5**
UPC ex x 04 47 42.2
OKC Ostrava-Krasne 72.64 21 eP **P 04 47 33.7 -1.0**
OKC e 04 47 41.2
OKC MLR MLR
comp=Z,400nm,17.9s
OKC Ostrava-Krasne 72.64 21 eP **P 04 47 33.7 -1.0**
OKC epP **pP 04 47 41.2 +0.4**
OKC AMS AMS 05 19 30.0
comp=Z,400nm,17.9s
VRI Vrincioaia 72.76 28 ⇑P **P 04 47 34.5 -1.0**
VRI Vrincioaia 72.76 28 ⇑iP **P 04 47 34.5 -1.0**
CFR Carcaliu 72.87 29 ⇑P P 04 47 40.9 +4.8
CFR Carcaliu 72.87 29 ⇑iP P 04 47 40.9 +4.8
CRVS Cervenica-Dubn 73.03 23 eP **P 04 47 38.2 +1.2**
CRVS esP **sP 04 47 44.9 -0.5**
UZH Uzhgorod 73.12 24 ⇓iP P 04 47 44.9 +7.4
UZH e 04 47 57.3
KOLS Kolonicke sedl 73.36 23 esP sP 04 47 45.3 -2.0
STHS Stebnicka Huta 73.37 23 epP pP 04 47 43.7 -1.5
BURAR Bucovina Array 73.47 26 ⇑P **P 04 47 39.4 -0.4**
BURAR Bucovina Array 73.47 26 ⇑iP **P 04 47 39.4 -0.4**
MALT Malatya 73.67 40 ⇑P **P 04 47 42.5 +1.3**
MALT Malatya 73.67 40 ⇑iP **P 04 47 42.5 +1.3**
LVV L'vov 74.75 24 eP P 04 47 54.4 +7.3
JTS JuntasAbangare 76.24 286 eP **P 04 47 58.6 +2.1**
JTS pmax pmax
comp=Z,6.0nm,0.9s
ANN Anapa 77.27 34 eP **P 04 48 01.1 -0.4**
ANN e 04 48 11.7
ANN e 04 50 54.3
ANN eS **S 04 57 51.7 +1.2**
ANN eSS **SS 05 02 52.9 +3.6**
ANN pmax pmax
comp=Z,73nm,1.3s
KIEV Kiev 77.51 26 eP **P 04 48 01.2 -1.5**
KIEV pmax pmax
comp=Z,16nm,0.8s
KIEV Kiev 77.51 26 eP **P 04 48 01.2 -1.5**
comp=Z,16nm,0.8s
AKASG Malin Array Be 77.52 26 P **P 04 48 01.5 -1.3**
comp=Z,3.8nm,0.7s,baz=221,slow=5.3,SNR=7.0
AKASG LR LR 05 25 02.1
comp=Z,116nm,18.4s,baz=220,slow=38
SOC Sochi 77.75 36 eP **P 04 48 03.5 -0.8**
SOC eS **S 04 57 55.7 0.0**
SOC eSS **SS 05 02 55.2 -1.3**
GNI Garni 78.70 41 eP **P 04 48 07.4 -2.4**
GNI pmax pmax
comp=Z,11nm,1.3s
GNI Garni 78.70 41 eP **P 04 48 11.0 +1.1**
comp=Z,18nm,1.0s
KBZ Khabaz 79.66 38 P **P 04 48 14.1 -0.6**
comp=Z,3.8nm,1.0s,baz=274,slow=5.9,SNR=4.0
KIV Kislovodsk 79.67 37 eP **P 04 48 14.7 -0.3**
KIV e 04 51 15.0
KIV eS **S 04 58 16.4 -0.1**
KIV eSS **SS 05 03 24.6 -1.1**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV Kislovodsk 79.67 37 eP **P 04 48 15.0 0.0**
comp=Z,15nm,0.9s
ZEI Tsey 79.70 39 eP **P 04 48 12.4 -2.9**
ZEI pmax pmax
comp=Z,9.0nm,1.2s
NACGM Naroch 79.81 22 e **P 04 48 14.0 -1.3**
MIR Mirnyy 80.17 157 eP **P 04 48 18.0 +0.8**
MIR e 04 48 26.0
MIR pmax pmax
comp=Z,42nm,1.0s
NB2 NORSAR Subarra 80.81 12 P **P 04 48 21.2 +0.6**
comp=Z,5.8nm,1.0s,baz=203,slow=6.2
NOA NORSAR Array B 80.81 12 P **P 04 48 21.1 +0.5**
comp=Z,3.6nm,1.2s,baz=206,slow=6.0,SNR=4.0
NOA LR LR 05 25 57.3
comp=Z,279nm,18.0s,baz=205,slow=37
MAK Makhachkala 81.98 40 eP P 04 48 23.0 -4.2
MAK ePPP PPP 04 53 22.4
MAK eS **S 04 58 39.5 -0.9**
MAK pmax pmax
comp=Z,31nm,0.6s
MAK MLR MLR
comp=Z,327nm,19.0s
VORD Divnogorie 82.25 30 eP **P 04 48 26.8 -1.6**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=Z,9.0nm,0.9s
VORD pmax pmax
comp=E,5.0nm,0.7s
VSR Storozhevoye 82.35 30 eP **P 04 48 29.8 +0.9**
VSR pmax pmax
comp=N,8.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,20nm,1.1s
VSU Vasula 82.61 20 eP **P 04 48 29.7 -0.4**
VSU pmax pmax
comp=Z,41nm,1.2s
VRHR Novokhopersk 83.47 31 eP **P 04 48 31.6 -3.1**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,4.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 83.79 26 eP **P 04 48 36.7 +0.5**
OBN i 04 48 43.9
OBN pmax pmax
comp=Z,21nm,1.7s
OBN MLR MLR
comp=Z,307nm,19.0s
FINES FINESS Array B 84.78 18 P **P 04 48 39.6 -1.5**
comp=Z,3.0nm,0.9s,baz=248,slow=11,SNR=4.8
FINES LR LR 05 26 00.9
comp=Z,385nm,21.3s,baz=216,slow=35
PUL Pulkovo 84.79 20 eP **P 04 48 41.2 0.0**
PUL pmax pmax
comp=Z,19nm,0.6s
VNDA Vanda 84.97 179 eP **P 04 48 43.8 +1.7**
VNDA pmax pmax
comp=Z,11nm,1.1s
VNDA Vanda 84.97 179 P **P 04 48 43.3 +1.2**
comp=Z,3.5nm,0.8s,baz=229,slow=4.8,SNR=10
VNDA LR LR 05 22 16.3
comp=Z,359nm,19.7s,baz=175,slow=33
VNDA Vanda 84.97 179 eP **P 04 48 43.8 +1.7**
comp=Z,11nm,1.1s
TKL Tuckaleechee C 85.34 310 LR LR 05 18 45.9
comp=Z,151nm,21.5s,baz=124,slow=30
SCHQ Schefferville 85.41 332 LR LR 05 19 30.5
comp=Z,148nm,20.9s,baz=106,slow=30
SADO Sadowa 86.36 319 LR LR 05 18 56.4
comp=Z,183nm,21.2s,baz=124,slow=30
GEYT Alibeck 86.62 49 P **P 04 48 50.9 -0.1**
comp=Z,2.6nm,0.8s,baz=258,slow=6.8,SNR=5.4
GEYT LR LR 05 25 42.5
comp=Z,378nm,20.3s,baz=255,slow=34
WCI Wyandotte Cave 88.25 311 eP **P 04 48 57.1 -1.7**
WCI pmax pmax
comp=Z,7.0nm,0.8s
WCI Wyandotte Cave 88.25 311 eP **P 04 48 57.1 -1.7**
comp=Z,7.1nm,0.8s
WVT Waverly 88.54 309 eP **P 04 48 58.8 -1.4**
WVT pmax pmax
comp=Z,6.0nm,0.8s
WVT Waverly 88.54 309 eP **P 04 48 58.8 -1.4**
comp=Z,6.3nm,0.8s
KLMR Klimovskoe 88.80 23 eP P 04 48 55.2 -5.6
KLMR pmax pmax
comp=Z,28nm,1.9s
KLMR MLR MLR
comp=Z,787nm,23.0s
ARCES ARCESS Array B 91.14 13 LR LR 05 29 56.7
comp=Z,252nm,21.0s,baz=220,slow=36
APA Apatity 91.50 16 eP P 04 49 24.6 +11
APA MLR MLR
comp=Z,1μm,21.0s
PRGR Permogore 91.61 24 P **P 04 49 11.1 -2.8**
JFWS Jewell Farm 92.83 314 eP **P 04 49 21.9 +1.9**
JFWS pmax pmax
comp=Z,6.0nm,0.6s
JFWS Jewell Farm 92.83 314 eP **P 04 49 21.9 +1.9**
comp=Z,5.6nm,0.6s
ARU Arti 94.79 32 c iP **P 04 49 27.5 -1.2**
ARU 04 53 15.0
ARU S **SKSac 05 00 02.5 -0.5**
ARU pmax pmax
comp=Z,11nm,2.5s
ULM Lac du Bonnet 98.91 320 LR LR 05 27 02.0
comp=Z,141nm,21.3s,baz=70,slow=31
TXAR Lajitas Array 98.98 298 P Pdif 04 49 49.2 +0.7
comp=Z,0.2nm,0.8s,baz=151,slow=2.1,SNR=2.9
TXAR LR LR 05 33 08.4
comp=Z,42nm,22.0s,baz=0.0,slow=35
KSH Kashi 100.28 52 eP **Pdif 04 49 53.3 -0.7**
KSH pP pP 04 49 58.3 -2.0
KSH PP **PP 04 54 00.3 -0.1**
KSH SKS **SKSac 05 00 28.1 -4.2**
KSH S **Sdif 05 01 21.0 -8.2**
KSH SS SS 05 08 17.1 -7.3
KSH PMZ
comp=Z,3.0nm,0.4s
KSH PMZ
comp=Z,43nm,6.3s
KSH LN
comp=Z,87nm,4.7s
KSH LE
comp=Z,83nm,8.4s
KSH LZ
comp=Z,170nm,6.5s
ZALV Zalesovo Beam 108.68 38 PP PP 04 55 01.1 -1.2
comp=Z,0.5nm,0.3s,baz=276,slow=7.1,SNR=3.2
RKT Rikitea 110.28 236 eLR LR 05 27 15.9
comp=Z,405nm,26.0s
YKA Yellowknife Ar 110.84 331 PKKPab PKKPab 05 05 50.3 +3.2
comp=Z,0.3nm,0.8s,baz=273,slow=4.2,SNR=4.8
KMI Kunming 120.21 71 PKP **PKPdf 04 54 59.8 +0.5**
KMI PP **PP 04 56 30.0 +5.0**
KMI PPMZ
comp=Z,77nm,3.1s
KMI LZ
comp=Z,120nm,27.6s
TBI Tubuai 121.06 228 eLR LR 05 32 11.9
comp=Z,367nm,36.2s
CD2 Chengdu 121.57 64 ePKP **PKPdf 04 55 01.9 +0.4**
LZH Lanzhou 121.74 58 ePKP **PKPdf 04 55 03.3 +1.5**
LZH sPKP 04 55 07.8
LZH ePP PP 04 56 40.5 +5.4
LZH eSS SS 05 13 13.5 +2.1
LZH PPMZ
comp=Z,120nm,8.5s
LZH LN
comp=Z,210nm,18.0s
LZH LE
comp=Z,220nm,17.9s
LZH LZ
comp=Z,250nm,20.0s
SONM Songino Array 122.58 44 PKP **PKPdf 04 55 04.1 +1.1**
comp=Z,0.6nm,0.9s,baz=222,slow=3.6,SNR=4.1
ILAR Eielson Array 123.74 338 PKP **PKPdf 04 55 05.7 +1.1**
comp=Z,0.3nm,0.8s,baz=324,slow=2.4,SNR=4.1
GYA Guiyang 123.86 70 ePdif **Pdif 04 51 38.9 -0.3**
GYA PKP **PKPdf 04 55 06.0 -0.1**
GYA PP **PP 04 56 53.3 +3.6**
GYA PKS **PKSdf 04 58 42.0 -1.0**
GYA SKKS 05 03 43.5
GYA SS **SS 05 13 39.8 +1.0**
GYA PPMZ
comp=Z,120nm,7.9s
GYA LN
comp=Z,130nm,20.9s
GYA LE
comp=Z,120nm,21.0s
GYA LZ
comp=Z,140nm,20.8s
COLA College 124.02 339 PKIKP **PKPdf 04 55 05.4 +0.3**
PPT2 Papeete2 124.72 233 eSS SS 05 13 48.6 +0.3
comp=Z,183nm,25.8s
PPT2 Papeete2 124.72 233 eLR LR 05 33 58.6
comp=Z,282nm,23.8s
HHC Hu-ho-hao-te 127.39 52 ePKP **PKPdf 04 55 14.8 +2.4**
HHC PP PP 04 57 18.0 +5.4
HHC SKS **SKSdf 05 02 24.6 +1.1**
HHC SKKS **SKKSac 05 04 10.8 +1.3**
HHC SS **SS 05 14 25.8 +3.7**
HHC PPMZ
comp=Z,130nm,6.1s
HHC LN
comp=Z,280nm,20.0s
HHC LE
comp=Z,450nm,21.6s
HHC LZ
comp=Z,250nm,21.0s
ASAR Alice Springs 127.76 141 PKP **PKPdf 04 55 13.6 0.0**
comp=Z,0.6nm,0.8s,baz=248,slow=1.0,SNR=4.8
BILL Bilibino 129.64 0 i PKIKP **PKPdf 04 55 16.1 +0.3**
BILL pmax pmax
comp=Z,12nm,2.1s
WRA Warramunga Arr 130.79 138 PKP **PKPdf 04 55 19.4 -0.1**
comp=Z,0.4nm,0.9s,baz=238,slow=2.1,SNR=8.9
MJAR Matsushiro Arr 148.42 48 PKPbc **PKPbc 04 55 53.4 -0.8**
comp=Z,2.9nm,0.8s,baz=279,slow=3.1,SNR=4.5

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*IDC **22** 04:38:17.6±1.5, 30°.65S×177°.43W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/27, mbtmp3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/23, Error ellipse: s-maj=45.2km s-min=23.8km az=82.0*

*ISCJB **22** 04:38:19.8±5.5, 30°.7S±0°.1×177°.3W±0°.8, h35km, mb3.6/2, Error ellipse: s-maj=101.5km s-min=15.0km az=179.3*

ISC 22 04:38:22.4±1.8, 30°.7S±0°.1×177°.4W±0°.3, h35km, n7, σ0 92/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.47**	**341**	Pn	**Pn**	**04 38 45.7**	**-0.7**
	350nm,0.3s,baz=90,slow=20,SNR=16						
RAO				Sn	**Sn**	**04 39 05.1**	**+0.7**
	314nm,0.3s,baz=128,slow=19,SNR=15						
DZM	**Mont Dzumac**	**16.82**	**297**	LR	LR	04 47 35.0	
	comp=Z,90nm,18.4s,baz=216,slow=33						
ASAR	**Alice Springs**	**43.64**	**267**	P	**P**	**04 46 24.2**	**+0.5**
	0.4nm,0.6s,baz=104,slow=8.3,SNR=4.3						
WRA	**Warramunga Arr**	**44.65**	**272**	P	**P**	**04 46 31.1**	**-0.7**
	0.8nm,0.5s,baz=111,slow=7.9,SNR=6.6						
FINES	**FINESS Array B**	**145.56**	**340**	PKPbc	**PKPab**	**04 57 56.2**	**-0.4**
	1.8nm,0.6s,baz=60,slow=3.4,SNR=15						
BRTR	**Keskin Array B**	**153.19**	**298**	PKPbc	**PKPbc**	**04 58 17.9**	**+1.2**
	1.1nm,1.2s,baz=64,slow=3.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**162.56**	**177**	PKPab	**PKPab**	**04 59 08.9**	**-0.2**
	0.5nm,0.9s,baz=180,slow=3.0,SNR=2.9						

GUC 22 04:40:04.4±0.6, 34°.98S×72°.41W, h40km±6km, ML3.6, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.76**	**123**	⇑iP	Pn	04 40 18.8	+0.2
TALC				i S	Sn	04 40 29.2	+0.3
NICH	**Los Niches**	**0.97**	**92**	⇑iP	Pn	04 40 21.7	+0.2
NICH				i S	Sn	04 40 35.5	+1.4
LNCH	**Linares**	**1.09**	**143**	⇓iP	Pn	04 40 24.2	+1.0
LNCH				i S	Sn	04 40 38.5	+1.5
COCH	**Cobquecura**	**1.19**	**195**	⇑iP	Pn	04 40 25.4	+0.9
COCH				i S	Sn	04 40 41.0	+1.5
ANTU	**Antumapu**	**2.04**	**47**	⇑iP	Pn	04 40 38.0	+1.7
ANTU				i S	Sn	04 41 03.8	+3.3
CLCH	**Cerro Calan**	**2.22**	**45**	eP	Pn	04 40 40.7	+1.9
CLCH				i S	Sn	04 41 08.0	+3.0
PEL	**Peldehue**	**2.33**	**38**	i P4	Pn	04 40 40.6	+0.3
PEL				i S	Sn	04 41 10.6	+2.9
PEL				IAML		04 41 17.3	
	comp=E,415nm,0.4s						

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*CSEM **22** 04:43:35.6, 37°.42N×20°.54E, h24km, MD3.0*

ATH 22 04:43:35.6, 37°.42N×20°.54E, h24km±1km, MD3.0/16, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.41**	**114**	ePB	Pb	04 43 45.0	+0.6
SFD				eSB	Sb	04 43 51.2	+0.9
SFD	**Strofades**	**0.41**	**114**	ePb	Pb	04 43 45.0	+0.6
SFD				eSb	Sb	04 43 51.2	+0.9
VLS	**Valsamata**	**0.76**	**3**	ePN	Pn	04 43 50.8	0.0
VLS				eSN	Sn	04 44 01.2	-0.4
VLS	**Valsamata**	**0.76**	**3**	ePn	Pn	04 43 50.8	0.0
VLS				eSn	Sn	04 44 01.2	-0.4
AMT	**Artemida-Makis**	**0.94**	**83**	ePN	Pn	04 43 54.0	+0.7
AMT				eSN	Sn	04 44 07.2	+1.2
AMT	**Artemida-Makis**	**0.94**	**83**	ePn	Pn	04 43 54.0	+0.7
AMT				eSn	Sn	04 44 07.2	+1.2
RLS	**Riolos of Patr**	**0.97**	**49**	ePN	Pb	04 43 54.1	+0.3
RLS				eSN	Sn	04 44 07.9	+1.1
RLS	**Riolos of Patr**	**0.97**	**49**	ePn	Pb	04 43 54.1	+0.3
RLS				eSn	Sn	04 44 07.9	+1.1
DRO	**Drossia**	**1.07**	**60**	ePN	Pb	04 43 55.9	+0.4
DRO				eSN	Sn	04 44 11.1	+1.8
DRO	**Drossia**	**1.07**	**60**	ePn	Pb	04 43 55.9	+0.4
DRO				eSn	Sn	04 44 11.1	+1.8
PYL	**PYLOS**	**1.09**	**118**	ePN	Pb	04 43 55.9	0.0
PYL				eSN	Sn	04 44 11.3	+1.5
PYL	**PYLOS**	**1.09**	**118**	ePn	Pb	04 43 55.9	0.0
PYL				eSn	Sn	04 44 11.3	+1.5
PDO	**Prodromos**	**1.28**	**23**	ePN	Pb	04 44 00.1	+1.0
PDO				eSN	Sb	04 44 18.1	+3.0
PDO	**Prodromos**	**1.28**	**23**	ePn	Pb	04 44 00.1	+1.0
PDO				eSn	Sb	04 44 18.1	+3.0
LKD2	**Lefkada island**	**1.37**	**4**	ePN	Pb	04 44 01.5	+0.9
LKD2	**Lefkada island**	**1.37**	**4**	ePn	Pb	04 44 01.5	+0.9
KLV	**Kalavryta, Ach**	**1.42**	**64**	ePN	Pb	04 44 01.4	-0.1
KLV	**Kalavryta, Ach**	**1.42**	**64**	ePn	Pb	04 44 01.4	-0.1
EFP	**Efpalio**	**1.48**	**47**	ePN	Pb	04 44 03.3	+0.9
EFP	**Efpalio**	**1.48**	**47**	ePn	Pb	04 44 03.3	+0.9
GUR	**Goura**	**1.52**	**70**	ePB	Pb	04 44 02.7	-0.6
GUR	**Goura**	**1.52**	**70**	ePb	Pb	04 44 02.7	-0.6
KALE	**Kalithea**	**1.59**	**52**	ePN	Pb	04 44 04.4	-0.1
KALE	**Kalithea**	**1.59**	**52**	ePn	Pb	04 44 04.4	-0.1
DSL	**Palaion Diasel**	**1.77**	**14**	ePN	Pb	04 44 07.3	-0.1
DSL	**Palaion Diasel**	**1.77**	**14**	ePn	Pb	04 44 07.3	-0.1
DSF	**Desfina**	**1.86**	**57**	ePN	Pb	04 44 08.3	-0.7
DSF	**Desfina**	**1.86**	**57**	ePn	Pb	04 44 08.3	-0.7
AGG	**Agios Georgios**	**2.13**	**41**	ePN	Pb	04 44 12.0	-1.6
AGG	**Agios Georgios**	**2.13**	**41**	ePn	Pb	04 44 12.0	-1.6
KYTH	**Kithira**	**2.30**	**119**	ePN	Pb	04 44 14.4	-2.1
KYTH	**Kithira**	**2.30**	**119**	ePn	Pb	04 44 14.4	-2.1

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*CSEM **22** 04:45:23.9, 42°.28N×13°.54E, h10km, MD2.9/17*

ROM 22 04:45:23.9±0.1, 42°.28N×13°.54E, h10km, Md2.9/17, Ml2.2/14, Error ellipse: s-maj=1.0km s-min=0.8km az=45.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.04**	**107**	Pg	Pg	04 45 26.0	+0.2
FAGN				Sg	Sg	04 45 27.5	+0.3
	15μm,0.7s						
FAGN	**Fagnano**	**0.04**	**107**	Pg	Pg	04 45 26.0	+0.2
FAGN				Sg	Sg	04 45 27.5	+0.3
	15μm,0.7s						
AQU	**L'Aquila**	**0.13**	**308**	Pg	Pg	04 45 27.4	+0.5
AQU				Sg	Sg	04 45 29.8	+0.7
	6μm,1.5s						
AQU	**L'Aquila**	**0.13**	**308**	Pg	Pg	04 45 27.4	+0.5
AQU				Sg	Sg	04 45 29.8	+0.7
	6μm,1.5s						
T0104	**Madonna delle**	**0.17**	**299**	Pg	Pg	04 45 28.4	+0.8
T0104				Sg	Sg	04 45 31.3	+1.1
VCEL	**Villa Celiera**	**0.25**	**62**	Pg	Pb	04 45 30.1	-0.7
VCEL				Sg	Sb	04 45 34.2	-1.2
	695nm,0.7s						
VCEL	**Villa Celiera**	**0.25**	**62**	Pg	Pb	04 45 30.1	-0.7
VCEL				Sg	Sb	04 45 34.2	-1.2
	695nm,0.7s						
PTQR	**Pietraquaria**	**0.27**	**202**	Pg	Pg	04 45 30.3	+0.7
	55nm,0.3s						
PTQR	**Pietraquaria**	**0.27**	**202**	Pg	Pg	04 45 30.3	+0.7
	55nm,0.3s						
FIAM	**Fiamignano**	**0.31**	**268**	Pg	Pg	04 45 30.8	+0.5
FIAM				Sg	Sb	04 45 36.1	-1.0
	421nm,0.7s						
FIAM	**Fiamignano**	**0.31**	**268**	Pg	Pg	04 45 30.8	+0.5
FIAM				Sg	Sb	04 45 36.1	-1.0
	421nm,0.7s						
TERO	**Teramo**	**0.35**	**8**	Pg	Pg	04 45 31.2	+0.3
TERO				Sg	Sg	04 45 36.8	+1.1
	348nm,0.6s						
TERO	**Teramo**	**0.35**	**8**	Pg	Pg	04 45 31.2	+0.3
TERO				Sg	Sg	04 45 36.8	+1.1
	348nm,0.6s						
INTR	**Introdacqua**	**0.38**	**134**	Pg	Pg	04 45 32.2	+0.7
	376nm,0.8s						
INTR	**Introdacqua**	**0.38**	**134**	Pg	Pg	04 45 32.2	+0.7

376nm,0.8s
SMA1 SAN MARTINO 0.38 337 Pg Pg 04 45 32.0 +0.3
SMA1 Sg Sb 04 45 38.9 -0.3
805nm,1.1s
VVLD Villa Vallelon 0.41 171 Pg Pg 04 45 32.6 +0.5
126nm,0.7s
VVLD Villa Vallelon 0.41 171 Pg Pg 04 45 32.6 +0.5
126nm,0.7s
CERT Cerreto 0.53 232 Pg Pg 04 45 34.4 +0.1
91nm,0.6s
CERT Cerreto 0.53 232 Pg Pg 04 45 34.4 +0.1
91nm,0.6s
POFI Posta Fibreno 0.57 167 Pg Pg 04 45 35.3 +0.1
67nm,0.7s
POFI Posta Fibreno 0.57 167 Pg Pg 04 45 35.3 +0.1
67nm,0.7s
SDI San Donato 0.60 160 Pg Pg 04 45 35.9 +0.2
35nm,0.3s
SDI San Donato 0.60 160 Pg Pg 04 45 35.9 +0.2
35nm,0.3s
NRCA Norcia 0.64 331 Pg Pg 04 45 36.2 -0.2
NRCA Sg Sg 04 45 45.2 +0.3
20nm,0.3s
NRCA Norcia 0.64 331 Pg Pg 04 45 36.2 -0.2
NRCA Sg Sg 04 45 45.2 +0.3
20nm,0.3s
MNS Montasola 0.64 280 Pg Pg 04 45 36.5 0.0
75nm,0.6s
MNS Montasola 0.64 280 Pg Pg 04 45 36.5 0.0
75nm,0.6s
OFFI Offida 0.67 9 Pg Pb 04 45 37.8 +0.1
OFFI Offida 0.67 9 Pg Pb 04 45 37.8 +0.1
GIUL Giuliano Di Ro 0.75 196 Pg Pb 04 45 39.0 -0.1
69nm,0.7s
GIUL Giuliano Di Ro 0.75 196 Pg Pb 04 45 39.0 -0.1
69nm,0.7s
CERA Filignano 0.77 152 Pg Pg 04 45 38.6 -0.2
89nm,0.6s
CERA Filignano 0.77 152 Pg Pg 04 45 38.6 -0.2
89nm,0.6s
MIDA Miranda 0.83 140 Pg Pg 04 45 39.8 -0.2
114nm,1.1s
MIDA Miranda 0.83 140 Pg Pg 04 45 39.8 -0.2
114nm,1.1s
GUMA Gualdo di Mace 0.84 20 Pg Pg 04 45 39.6 -0.6
209nm,0.5s
GUMA Gualdo di Mace 0.84 20 Pg Pg 04 45 39.6 -0.6
209nm,0.5s

GUC 22 05:12:06.2±0.6, 34°82′S×72°61′W, h31km±6km, MD3.7, ML3.5, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.98**	**126**	⇑*i*P	Pn	05 12 24.1	+0.2
TALC				*i*S	Sn	05 12 37.0	+0.2
TALC				AML	AML	05 12 41.0	
	comp=E,3μm,0.5s						
NICH	**Los Niches**	**1.15**	**99**	⇑*i*P	Pn	05 12 26.7	+0.5
NICH				*i*S	Sb	05 12 41.8	-0.3
NICH				AML	AML	05 12 48.4	
	comp=E,2μm,0.3s						
LNCH	**Linares**	**1.31**	**141**	*e*P	Pn	05 12 28.7	+0.2
LNCH				*i*S	Sb	05 12 46.4	-0.4
LNCH				AML	AML	05 12 51.2	
	comp=N,2μm,0.4s						
LNV	**Longovilo**	**1.32**	**49**	⇓*i*P	Pn	05 12 29.0	+0.5
CACH	**El Canelo**	**1.81**	**68**	⇓*i*P	Pb	05 12 37.1	-1.7
CHCH	**Chadas Angostu**	**1.85**	**62**	⇑*i*P	Pn	05 12 37.5	+1.7
CLCH	**Cerro Calan**	**2.23**	**51**	*e*P	Pn	05 12 42.4	+1.2
CLCH				AML	AML	05 13 22.5	
	comp=N,317nm,0.6s						

IDC 22 05:30:53.7±11.0, 3°60N×123°74E, h384km±138km, mb3.0/3, mb1 3.2/3, mb1mx2.7/36, mbtmp3.8/3, Error ellipse: s-maj=203.4km s-min=29.6km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.61**	**156**	P	P	05 35 49.5	-0.6
	1.2nm,0.3s,baz=334,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.85**	**160**	P	P	05 36 19.4	+0.7
	0.4nm,0.3s,baz=338,slow=6.5,SNR=8.0						
MKAR	**Makanchi Array**	**55.99**	**327**	P	P	05 39 53.9	0.0
	0.5nm,0.6s,baz=119,slow=7.8,SNR=9.4						
MKAR				PcP	PcP	05 40 46.6	-0.4
	0.2nm,0.4s,baz=134,slow=3.5,SNR=4.3						

GUC 22 05:34:45.8±0.8, 34°73S×71°90W, h33km±5km, ML3.7, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.61**	**116**	⇓*i*P	Pn	05 34 57.9	-0.3
NICH				*i*S	Sn	05 35 07.0	0.0
NICH				AML	AML	05 35 07.3	
	comp=N,22μm,0.1s						
TALC	**Talca**	**0.70**	**162**	⇓*i*P	Pn	05 34 59.0	-0.4
TALC				*i*S	Sb	05 35 08.6	-0.4
LNV	**Longovilo**	**0.88**	**28**	*e*P1	Pn	05 35 01.8	0.0
LNV				*e*S1	Sn	05 35 13.9	+0.5
LNCH	**Linares**	**1.14**	**168**	⇑*i*P	Pn	05 35 06.0	+0.6
LNCH				*i*S1	Sn	05 35 21.2	+1.3
LNCH				AML	AML	05 35 21.8	
	comp=N,2μm,0.4s						
CACH	**El Canelo**	**1.24**	**61**	⇑*i*P	Pn	05 35 07.9	+0.9
CACH				*e*S1	Sn	05 35 24.9	+2.2
CHCH	**Chadas Angostu**	**1.30**	**53**	*e*P1	Pn	05 35 08.9	+1.1
CHCH				*i*S1	Sn	05 35 25.3	+1.1
ANTU	**Antumapu**	**1.57**	**42**	⇓*i*P	Pb	05 35 12.9	-1.3
ANTU				*i*S1	Sn	05 35 32.8	+2.2
ANTU				AML	AML	05 35 38.5	
	comp=E,2μm,0.3s						
SJCH	**San Jose de Ma**	**1.68**	**50**	*e*P9	Pn	05 35 13.7	+0.6
SJCH				*i*S1	Sn	05 35 35.8	+2.2
SJCH				AML	AML	05 35 39.1	
	comp=E,1μm,0.4s						
LACH	**Col Las Americ**	**1.71**	**42**	*e*P1	Pn	05 35 14.6	+1.1
LACH				*e*S1	Sn	05 35 37.2	+3.0
LACH				AML	AML	05 35 40.8	
	comp=N,589nm,0.4s						
CLCH	**Cerro Calan**	**1.75**	**41**	⇓*i*P	Pn	05 35 15.1	+1.1
CLCH				*i*S4	Sn	05 35 38.8	+3.6
CLCH				AML	AML	05 35 42.3	
	comp=N,2μm,0.7s						

IDC 22 05:40:44.1±1.4, 28°83N×143°52E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/25, mbtmp3.5/7, ML3.5/1, Error ellipse: s-maj=44.6km s-min=22.4km az=91.0

ISC 22 05:40:53.0±2.8, 28°6N±0°1×142°6E±0°6, h35km, n10, σ0°23/6, mb3.7/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.55**	**193**	Pn	**Pn**	**05 41 18.3**	**+0.2**
	baz=336,slow=20						
JCJ				Sn	**Sn**	**05 41 37.0**	**0.0**
	baz=322,slow=22						
MJAR	**Matsushiro Arr**	**8.72**	**336**	Pn	Pn	05 42 52.2	-4.4
	0.5nm,0.3s,baz=155,slow=12,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**23.84**	**106**	T	T	06 10 56.8	
	baz=299						
H11N1	**WAKE ISLAND Hy**	**23.85**	**106**	T	T	06 10 59.0	
	baz=299						
H11N3	**WAKE ISLAND Hy**	**23.86**	**106**	T	T	06 10 58.5	
	baz=299						
ZALV	**Zalesovo Beam**	**48.59**	**318**	P	**P**	**05 49 33.1**	**+0.3**
	0.4nm,0.3s,baz=93,slow=9.2,SNR=2.5						
WRA	**Warramunga Arr**	**48.92**	**190**	P	**P**	**05 49 35.6**	**-0.1**
	1.4nm,0.7s,baz=12,slow=8.5,SNR=14						
MKAR	**Makanchi Array**	**49.79**	**309**	P	**P**	**05 49 42.1**	**-0.1**
	0.4nm,0.7s,baz=90,slow=9.1,SNR=7.0						
YKA	**Yellowknife Ar**	**70.64**	**29**	P	P	05 51 56.5	-8.1
	0.1nm,0.5s,baz=291,slow=5.2,SNR=2.4						
BRTR	**Keskin Array B**	**85.23**	**313**	P	**P**	**05 53 26.1**	**-0.1**
	0.3nm,0.6s,baz=64,slow=2.9,SNR=4.7						

CSEM 22 05:50:32.1, 37°46N×24°66W, h5km, ML2.6

PDA 22 05:50:32.1±0.8, 37°46N×24°66W, h5km, MD3.7, ML2.6, Error ellipse: s-maj=7.8km s-min=2.4km az=78.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.51**	**308**	*i*P	Pg	05 50 40.5	-1.5
BART				*e*S	Sg	05 50 47.5	-1.3
BART				A	A	05 50 48.5	
	448nm,0.1s						
BART	**Pico Bartolome**	**0.51**	**308**	*i*P	Pg	05 50 40.5	-1.5
BART				*e*S	Sg	05 50 47.5	-1.3
PSMN	**Pico do Norte,**	**0.56**	**215**	*e*P	Pg	05 50 41.6	-1.3
PSMN				A	A	05 50 53.3	
	49nm,0.3s						
PSMN	**Pico do Norte,**	**0.56**	**215**	*e*P	Pg	05 50 41.6	-1.3
PSMA	**Santa Maria**	**0.60**	**219**	*e*P	Pg	05 50 42.2	-1.4
PSMA				*e*S	Sg	05 50 49.8	-1.6
PSMA				A	A	05 50 53.0	
	74nm,0.5s						
PDA	**Ponta Delgada**	**0.84**	**290**	*e*P	Pg	05 50 45.9	-2.4
PDA				*e*S	Sg	05 50 56.0	-3.2
PDA				A	A	05 50 59.2	
	156nm,0.5s						
PDA	**Ponta Delgada**	**0.84**	**290**	*e*P	Pg	05 50 45.9	-2.4
PDA				*e*S	Sg	05 50 56.0	-3.2
PSET	**Sete Cidades**	**0.91**	**293**	*e*P	Pg	05 50 47.1	-2.6
PSET				*e*S	Sg	05 50 57.6	-4.0
PSET				A	A	05 51 02.3	
	134nm,0.4s						
PSET	**Sete Cidades**	**0.91**	**293**	*e*P	Pg	05 50 47.1	-2.6
PSET				*e*S	Sg	05 50 57.6	-4.0
ROSA	**Rosais**	**3.09**	**295**	*e*P	Pn	05 51 17.3	-4.2
ROSA	**Rosais**	**3.09**	**295**	*e*P	Pn	05 51 17.3	-4.2
PICO	**Pico**	**3.15**	**290**	*e*S	Sn	05 51 52.1	-8.3
PICO	**Pico**	**3.15**	**290**	*e*S	Sn	05 51 52.1	-8.3

ISCJB 22 05:56:28.7±0.3, 26°58S±0°03×178°39E±0°06, h612km, mb4.7/54, Error ellipse: s-maj=6.8km s-min=3.3km az=170.6

BJI 22 05:56:29.8, 26°07S×178°54E, h615km, mB5.1/19, mb4.9/28

IDC 22 05:56:30.8±1.0, 26°43S×178°31E, h621km±11km, mb4.0/22, mb1 4.1/23, mb1mx4.1/26, mbtmp4.9/23, Error ellipse: s-maj=12.5km s-min=9.4km az=48.0

MOS 22 05:56:30.1±1.0, 26°43S×178°27E, h623km, mb5.0/4, Error ellipse: s-maj=18.5km s-min=12.6km az=41.3

NEIC 22 05:56:30.2±0.5, 26°48S×178°39E, h619km±5km, mb4.7/21, Error ellipse: s-maj=7.8km s-min=7.0km az=46.0

ISC 22 05:56:29.8±0.3, 26°62S±0°05×178°41E±0°06, h612km, n259, σ1°40/317, mb4.7/53, 18C-26D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.18**	**130**	*e*P	**P**	**05 57 59.9**	**+2.7**
RAO				*e*S	**S**	**05 59 12.9**	**+4.2**
RAO	**Raoul Island**	**4.18**	**130**	P	**P**	**05 57 59.5**	**+2.3**
	411nm,0.3s,baz=95,slow=10,SNR=16						
RAO	**Raoul Island**	**4.18**	**130**	*e*P	**P**	**05 57 59.9**	**+2.7**
RAO				*e*S	**S**	**05 59 12.9**	**+4.2**
MSVF	**Nonsavu**	**8.85**	**358**	*e*P	**P**	**05 58 36.4**	**-1.4**
MSVF	**Nonsavu**	**8.85**	**358**	*e*P	**P**	**05 58 36.4**	**-1.4**
OUZ	**Omahuta**	**9.51**	**205**	*e*P	P	05 58 48.1	+4.3
NFK	**Norfolk Island**	**9.57**	**253**	⇑P	**P**	**05 58 47.0**	**+2.5**
	baz=9.9,SNR=5.4						
HAZ	**Te Kaha**	**11.12**	**183**	*e*PN	**P**	**05 58 58.8**	**-0.7**
WMGZ	**Waiomatatini S**	**11.17**	**180**	PN	**P**	**05 58 57.7**	**-2.3**
PUZ	**Puketiti**	**11.42**	**181**	PN	**P**	**05 59 00.5**	**-2.1**
PUZ				SN	**S**	**06 01 03.2**	**-5.0**
TWGZ	**Tauwhareparae**	**11.53**	**182**	PN	**P**	**05 59 02.9**	**-0.8**
TWGZ				SN	**S**	**06 01 05.7**	**-4.4**
URZ	**Urewera**	**11.66**	**185**	P	**P**	**05 59 04.1**	**-0.8**
	9.9nm,0.3s,baz=280,slow=4.5,SNR=41						
URZ				S	**S**	**06 01 08.8**	**-3.5**
	5.6nm,0.3s,baz=74,slow=22,SNR=14						
URZ				ScP	**ScP**	**06 06 31.4**	**-1.5**
	0.9nm,0.3s,baz=333,slow=4.5,SNR=4.9						
URZ	**Urewera**	**11.66**	**185**	PN	**P**	**05 59 04.1**	**-0.8**
URZ				*e*SN	**S**	**06 01 08.4**	**-3.8**
MWZ	**Matawai**	**11.71**	**183**	PN	**P**	**05 59 04.7**	**-0.7**
MWZ				SN	**S**	**06 01 08.4**	**-4.9**
DZM	**Mont Dzumac**	**11.80**	**290**	P	**P**	**05 59 07.7**	**+0.9**
	10nm,0.3s,baz=129,slow=8.6,SNR=63						
DZM	**Mont Dzumac**	**11.80**	**290**	*e*P	**P**	**05 59 07.7**	**+0.9**
	38nm,0.5s						
DZM				*e*S	**S**	**06 01 15.6**	**0.0**
NOUC	**Port Laguerre**	**11.91**	**290**	*e*P	**P**	**05 59 10.4**	**+2.7**
RIGZ	**Rimuhau**	**12.06**	**182**	PN	**P**	**05 59 07.8**	**-1.2**
RIGZ				*e*SN	**S**	**06 01 15.0**	**-4.7**
KNZ	**Kokohu**	**12.38**	**183**	*e*PN	**P**	**05 59 10.6**	**-1.4**
BKZ	**Black Stump Fm**	**12.61**	**187**	*e*P	**P**	**05 59 13.6**	**-0.8**
ARHZ	**Aropaoanui**	**12.66**	**185**	*e*PN	**P**	**05 59 14.2**	**-0.6**
BHHZ	**Black Hill Sta**	**12.98**	**188**	PN	**P**	**05 59 17.1**	**-0.9**
KRHZ	**Kereru**	**13.10**	**187**	PN	**P**	**05 59 18.1**	**-1.1**
PXZ	**Pawanui**	**13.44**	**185**	SN	**S**	**06 01 40.7**	**-3.4**
TSZ	**Takapari Road**	**13.56**	**188**	PN	**P**	**05 59 23.7**	**-0.1**
TSZ				*e*SN	**S**	**06 01 43.6**	**-2.6**
MRZ	**Mangatainoka R**	**14.20**	**189**	PN	**P**	**05 59 28.3**	**-1.6**
MRZ				*e*SN	**S**	**06 01 53.5**	**-3.6**
MTW	**Mount Morrison**	**14.70**	**189**	PN	**P**	**05 59 34.2**	**-0.2**
TCW	**Tory Channel**	**14.95**	**192**	PN	**P**	**05 59 38.0**	**+1.3**
QRZ	**Quartz Range**	**14.98**	**197**	PN	**P**	**05 59 39.9**	**+2.9**
NNZ	**Nelson**	**15.14**	**195**	*e*PN	**P**	**05 59 39.8**	**+1.3**
NNZ				*e*SN	**S**	**06 02 11.9**	**-0.5**
TUWZ	**Tuamarina**	**15.22**	**193**	*e*PN	**P**	**05 59 39.6**	**+0.4**
THZ	**Tophouse**	**15.77**	**195**	*e*PN	**P**	**05 59 45.4**	**+1.1**
THZ				SN	**S**	**06 02 21.3**	**-1.5**
DSZ	**Denniston Nort**	**16.04**	**198**	PN	**P**	**05 59 49.0**	**+2.2**
OXZ	**Oxford**	**17.45**	**196**	PN	**P**	**06 00 00.3**	**+0.7**
WVZ	**Waitaha Valley**	**17.57**	**199**	*e*PN	**P**	**06 00 01.5**	**+0.9**
LHI	**Lord Howe Isla**	**17.59**	**249**	⇓P	**P**	**06 00 02.9**	**+1.8**
	baz=18,SNR=4.6						
MQZ	**McQueen's Vall**	**17.68**	**194**	PN	**P**	**06 00 02.2**	**+0.6**
RPZ	**Rata Peaks**	**18.07**	**197**	*e*P	**P**	**06 00 06.7**	**+1.4**
	10.0nm,0.4s						
ARMA	**Armidale**	**23.81**	**255**	⇑P	**P**	**06 00 59.0**	**+2.0**
	baz=24,SNR=11						
MGCD	**Mangrove Creek**	**24.51**	**248**	⇑P	**P**	**06 01 04.6**	**+1.5**
	baz=25,SNR=19						
EIDS	**Eidsvold**	**24.58**	**267**	⇓P	**P**	**06 01 04.3**	**+0.6**
	baz=25,SNR=39						
EIDS	**Eidsvold**	**24.58**	**267**	*e*P	**P**	**06 01 04.6**	**+0.9**
	67nm,0.6s						
CNB	**Canberra Magne**	**26.29**	**244**	⇑P	**P**	**06 01 20.5**	**+1.8**
	baz=27,SNR=6.7						
RMQ	**Roma**	**26.50**	**264**	⇓P	**P**	**06 01 21.9**	**+1.3**
	baz=27,SNR=37						
MILA	**Mila**	**26.84**	**240**	⇑P	**P**	**06 01 25.2**	**+1.7**
	baz=27,SNR=16						
YNG	**Young**	**26.91**	**246**	⇑P	**P**	**06 01 26.0**	**+1.9**
	baz=27,SNR=7.5						
CMSA	**Cobar Meteorol**	**28.94**	**252**	P	**P**	**06 01 42.8**	**+1.1**
	baz=29,SNR=57						
TOO	**Toolangi**	**29.80**	**240**	⇑P	**P**	**06 01 50.7**	**+1.6**
	baz=30,SNR=4.4						
CTA	**Charters Tower**	**30.17**	**276**	P	**P**	**06 01 53.2**	**+0.8**
	49nm,0.4s,baz=97,slow=11,SNR=104						
CTAO	**Charters Tower**	**30.17**	**276**	*e*P	**P**	**06 01 53.2**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,52nm,0.5s						
CTAO	**Charters Tower**	**30.17**	**276**	*e*P	**P**	**06 01 53.2**	**+0.8**
	comp=Z,52nm,0.5s						
QLP	**Quilpie**	**30.50**	**262**	P	**P**	**06 01 55.8**	**+0.6**
	baz=31,SNR=46						
PMG	**Port Moresby**	**34.15**	**294**	*d*P	**P**	**06 02 25.4**	**-0.7**
PMG				pmax	pmax		
	comp=Z,30nm,0.9s						
PMG	**Port Moresby**	**34.15**	**294**	P	**P**	**06 02 25.3**	**-0.7**
	comp=Z,28nm,0.9s,baz=110,slow=6.9,SNR=11						
PMG	**Port Moresby**	**34.15**	**294**	*e*P	**P**	**06 02 25.6**	**-0.5**
COEN	**Coen**	**35.24**	**284**	⇓P	**P**	**06 02 34.7**	**-0.4**
	baz=35,SNR=79						
COEN	**Coen**	**35.24**	**284**	*e*P	**P**	**06 02 35.6**	**+0.4**
	comp=Z,193nm,0.6s						
QIS	**Mount Isa**	**35.97**	**271**	⇓P	**P**	**06 02 41.0**	**0.0**
	baz=36,SNR=37						
BBOO	**Buckleboo**	**37.11**	**250**	⇑P	**P**	**06 02 50.6**	**+0.4**
	baz=37,SNR=23						
BBOO	**Buckleboo**	**37.11**	**250**	*e*P	**P**	**06 02 50.2**	**0.0**
	comp=Z,370nm,0.8s						
AS31	**Alice Springs**	**40.24**	**264**	*e*P	**P**	**06 03 15.7**	**+0.1**
ASAR	**Alice Springs**	**40.24**	**264**	P	**P**	**06 03 15.7**	**+0.1**
	comp=Z,32nm,0.5s,baz=94,slow=7.2,SNR=352						
ASAR				ScP	**ScP**	**06 07 54.6**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=107,slow=4.8,SNR=4.3						
ASAR				S	S	06 08 32.6	-7.8
	comp=Z,1.8nm,0.9s,baz=106,slow=14,SNR=6.5						
WB2	**Warramunga Arr**	**40.85**	**270**	*e*P	**P**	**06 03 20.1**	**-0.3**
WRAB	**Tennant Creek**	**40.86**	**270**	*d*P	**P**	**06 03 19.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,88nm,0.8s						
WRAB	**Tennant Creek**	**40.86**	**270**	*e*P	**P**	**06 03 20.0**	**-0.5**
	comp=Z,55nm,0.9s						
WRA	**Warramunga Arr**	**40.87**	**270**	P	**P**	**06 03 20.1**	**-0.5**
	comp=Z,36nm,0.4s,baz=104,slow=7.7,SNR=275						
WRA				ScP	**ScP**	**06 07 57.4**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=100,slow=4.1,SNR=6.6						
WRA				S	**S**	**06 08 46.1**	**-3.4**
	comp=Z,2.9nm,0.8s,baz=99,slow=14,SNR=9.3						
JAY	**Jayapura**	**43.36**	**297**	P	**P**	**06 03 39.2**	**-0.9**
	comp=Z,12nm,0.5s,baz=104,slow=19,SNR=13						
GENI	**Genyem**	**43.74**	**297**	P	**P**	**06 03 42.3**	**-0.7**
	comp=Z,93nm,0.8s						
FORT	**Forrest**	**44.06**	**252**	P	**P**	**06 03 44.8**	**-0.5**
	baz=44,SNR=45						
FORT	**Forrest**	**44.06**	**252**	*e*P	**P**	**06 03 44.5**	**-0.7**
	comp=Z,94nm,0.6s						
WRKA	**Warakurna**	**44.90**	**260**	P	**P**	**06 03 51.3**	**-0.4**
	baz=45,SNR=243						
KDU	**Kakadu**	**45.18**	**279**	P	**P**	**06 03 53.0**	**-1.0**
	baz=45,SNR=108						
KNRA	**Kununurra**	**47.31**	**273**	⇓P	**P**	**06 04 09.5**	**-0.5**
	baz=48,SNR=36						
KMBL	**Kambalda**	**49.21**	**250**	P	**P**	**06 04 23.7**	**-0.2**
	baz=49,SNR=4.9						
FAKI	**Fak Fak**	**50.07**	**290**	⇓P	**P**	**06 04 28.1**	**-2.3**
	baz=50,SNR=14						
FAKI	**Fak Fak**	**50.07**	**290**	*e*P	**P**	**06 04 29.5**	**-0.9**
VNDA	**Vanda**	**51.56**	**185**	*e*P	**P**	**06 04 42.4**	**+2.2**
VNDA	**Vanda**	**51.56**	**185**	P	**P**	**06 04 42.3**	**+2.2**
	comp=Z,1.8nm,0.4s,baz=3.8,slow=8.3,SNR=22						
VNDA	**Vanda**	**51.56**	**185**	*e*P	**P**	**06 04 42.4**	**+2.2**
	comp=Z,3.2nm,0.6s						
SWI	**Sorong**	**52.02**	**292**	P	**P**	**06 04 44.1**	**-0.3**
	comp=Z,194nm,0.8s,comp=Z,2μm						
SWI	**Sorong**	**52.02**	**292**	⇑P	**P**	**06 04 43.6**	**-0.8**
	baz=52,SNR=12						
MEEK	**Meekatharra**	**52.99**	**256**	⇑P	**P**	**06 04 49.7**	**-1.5**
	baz=53,SNR=24						
MBWA	**Marble Bar**	**53.53**	**263**	*e*P	**P**	**06 04 54.2**	**-0.8**
	comp=Z,50nm,1.5s						
SOEI	**Soe**	**53.70**	**278**	*e*P	**P**	**06 04 57.1**	**+0.6**
	comp=Z,72nm,0.8s						
BATI	**Baumata**	**54.05**	**277**	P	**P**	**06 04 58.8**	**0.0**
	comp=Z,38nm,0.6s						
MORW	**Morawa**	**54.62**	**252**	P	**P**	**06 05 02.2**	**-0.4**
	baz=55,SNR=7.5						
GIRL	**Giralia**	**57.93**	**259**	⇑P	**P**	**06 05 25.2**	**-0.1**
	baz=58,SNR=14						
KAPI	**Kappang**	**59.83**	**280**	*e*P	**P**	**06 05 37.6**	**-0.4**
	comp=Z,33nm,1.5s						
JAGI	**Jajag, Banyuwa**	**63.26**	**274**	P	**P**	**06 05 59.0**	**-1.4**
	baz=63,SNR=5.5						
JAGI	**Jajag, Banyuwa**	**63.26**	**274**	*e*P	**P**	**06 05 58.8**	**-1.6**
	comp=Z,27nm,0.4s						
QSPA	**South Pole Qui**	**63.47**	**180**	P	**P**	**06 06 02.9**	**+1.9**
	comp=Z,15nm,0.5s,baz=35,slow=1.6,SNR=121						
UGM	**Wanagama**	**66.74**	**273**	⇑P	**P**	**06 06 21.3**	**-0.9**
	baz=67,SNR=3.6						
SBUM	**Sibu**	**69.99**	**283**	*e*P	**P**	**06 06 41.7**	**0.0**
	comp=Z,13nm,0.8s						
KSM	**Kuching**	**71.19**	**282**	⇓P	**P**	**06 06 47.6**	**-1.1**
	baz=71,SNR=5.7						
KSM	**Kuching**	**71.19**	**282**	*e*P	**P**	**06 06 48.5**	**-0.3**
	comp=Z,12nm,0.4s						
MJAR	**Matsushiro Arr**	**73.35**	**327**	P	**P**	**06 06 59.1**	**-1.6**
	comp=Z,7.1nm,0.6s,baz=162,slow=6.2,SNR=23						
MAJO	**Matsushiro**	**73.36**	**327**	*e*P	**P**	**06 06 58.7**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,42nm,0.8s						
MAJO	**Matsushiro**	**73.36**	**327**	*e*P	**P**	**06 06 59.1**	**-1.6**
MAJO				*e*P	**P**	**06 06 59.2**	**-1.5**
MAT	**Matsushiro**	**73.36**	**327**	P	**P**	**06 06 59.0**	**-1.7**
JNU	**Nakatsue**	**74.64**	**320**	P	**P**	**06 07 06.8**	**-1.3**
	comp=Z,12nm,0.5s,baz=108,slow=3.2,SNR=16						
JNU	**Nakatsue**	**74.64**	**320**	*e*P	**P**	**06 07 06.9**	**-1.2**
MNAI	**Manna**	**75.05**	**273**	P	**P**	**06 07 10.9**	**+0.1**
	baz=75,SNR=3.3						
PMSA	**Palmer Station**	**76.98**	**157**	P	**P**	**06 07 20.6**	**+0.2**
	comp=Z,22nm,1.0s,baz=230,slow=7.9,SNR=3.8						
ASAJ	**Asahikawa**	**77.66**	**334**	P	**P**	**06 07 23.4**	**-0.8**
	comp=Z,11nm,0.8s,baz=111,slow=18,SNR=6.3						
PDSI	**Padang**	**78.81**	**275**	P	**P**	**06 07 29.1**	**-2.1**
	comp=Z,28nm,0.6s,comp=Z,5μm						
KSRS	**Korea Array**	**79.43**	**321**	P	**P**	**06 07 33.5**	**-0.2**
	comp=Z,6.1nm,0.6s,baz=136,slow=5.6,SNR=20						
KSAR	**Wonju Array Be**	**79.44**	**321**	P	**P**	**06 07 33.6**	**-0.3**
KSAR	**Wonju Array Be**	**79.44**	**321**	P	**P**	**06 07 33.5**	**-0.3**
YSS	**Yuzh-Sakhalins**	**80.00**	**336**	*e*P	**P**	**06 07 36.6**	**+0.1**
SYO	**Syowa Base**	**80.04**	**194**	⇑*e*X	P	06 07 31.3	-5.2
QIZ	**Qiongzhong**	**80.50**	**297**	P	**P**	**06 07 39.8**	**0.0**
QIZ				pP	**pP**	**06 09 47.5**	**-0.3**
QIZ				sP	**sP**	**06 10 49.6**	**0.0**
QIZ				S	**S**	**06 16 58.0**	**+0.5**
QIZ				PMZ			
	comp=Z,9.0nm,0.7s						
QIZ				PMZ			
	comp=Z,150nm,6.0s						
IPM	**Ipoh**	**80.77**	**280**	*e*P	**P**	**06 07 40.8**	**-0.5**
	comp=Z,7.1nm,0.4s						
USHA	**Ushuaia**	**80.80**	**147**	P	**P**	**06 07 42.2**	**+1.4**
	comp=Z,5.6nm,0.9s,baz=202,slow=11,SNR=3.3						
NJ2	**Nanjing**	**81.38**	**312**	*e*P	**P**	**06 07 44.3**	**+0.3**
NJ2				PMZ			
	comp=Z,40nm,0.8s						
PETK	**Petropavlovsk-**	**81.42**	**348**	P	**P**	**06

comp=Z,29nm,1.0s,comp=Z,1μm
BJI Beijing 88.02 317 P **P** **06 08 16.3 +0.3**
BJI pP **pP** **06 10 27.6 +0.4**
BJI sP **sP** **06 11 28.9 +0.8**
BJI PP **PP** **06 11 56.3 +1.5**
BJI S **S** **06 18 09.3 +0.1**
BJI SS **SS** **06 24 19.3 +2.0**
BJI PMZ
comp=Z,22nm,0.6s
LAMP Lampang 88.59 291 P **P** **06 08 21.4 +2.2**
comp=Z,5.8nm,0.9s
CMAR Chiang Mai Arr 89.13 291 P **P** **06 08 21.9 +0.2**
comp=Z,2.2nm,0.7s,baz=140,slow=3.9,SNR=13
CMAR PP **PP** **06 12 02.8 -1.1**
comp=Z,0.8nm,0.3s,baz=131,slow=6.4,SNR=5.2
KMI Kunming 89.27 299 P **P** **06 08 24.3 +1.8**
KMI PMZ
comp=Z,14nm,0.6s
CMMT Chiang Mai 89.30 291 P **P** **06 08 24.0 +1.5**
comp=Z,9.2nm,1.2s
XAN Xi'an 89.30 309 P **P** **06 08 22.5 +0.3**
XAN PMZ
comp=Z,5.0nm,1.1s
CMAI Chiengmai2 89.74 292 P **P** **06 08 25.8 +1.1**
RC01 Rabbit Creek A 91.15 15 *e*P **P** **06 08 29.0 -1.0**
comp=Z,8.6nm,1.4s
HHC Hu-ho-hao-te 91.34 316 *e*P **P** **06 08 33.8 +2.3**
HHC pP **pP** **06 10 43.8 +0.3**
HHC sP **sP** **06 11 43.3 -0.8**
HHC SKS **SKSac** **06 18 09.1 +3.2**
HHC S **ScS** **06 18 40.6 -0.1**
HHC sS **sS** **06 22 32.6 -2.9**
HHC PMZ
comp=Z,14nm,0.6s
HHC PMZ
comp=Z,210nm,6.4s
CD2 Chengdu 91.38 304 P **P** **06 08 32.5 +0.6**
CD2 sP **sP** **06 11 42.0 -2.4**
CD2 PP **PP** **06 12 20.1 -1.2**
CD2 SKS **SKSac** **06 18 09.6 +3.1**
CD2 sS **sS** **06 22 36.8 +0.6**
CD2 PMZ
comp=Z,20nm,0.9s
CD2 PMZ
comp=Z,120nm,5.4s
SEY Seymchan 91.62 348 P **P** **06 08 31.8 -0.4**
comp=Z,4.2nm,0.6s,baz=180,slow=20
HIA Hailar 91.82 326 *e*P **P** **06 08 32.8 -0.6**
HIA pmax pmax
comp=Z,4.0nm,1.0s
WRAK Wrangell Islan 92.63 25 P **P** **06 08 38.5 +1.6**
comp=Z,8.8nm,1.2s
TXAR Lajitas Array 93.08 59 P **P** **06 08 39.5 -0.3**
comp=Z,0.4nm,0.7s,baz=218,slow=6.3,SNR=5.3
TRF Thorofare Moun 93.12 14 *e*P **P** **06 08 37.7 -1.6**
comp=Z,4.7nm,0.7s
LZH Lanzhou 93.92 308 ⇓P **P** **06 08 44.8 +1.3**
LZH pP **pP** **06 10 57.6 +1.9**
LZH sP **sP** **06 11 57.0 +0.8**
LZH PP **PP** **06 12 45.0 +4.2**
LZH PMZ
comp=Z,20nm,1.5s
LZH PMZ
comp=Z,84nm,9.2s
ILAR Eielson Array 95.01 14 P **P** **06 08 46.0 -1.5**
comp=Z,0.4nm,0.7s,baz=226,slow=4.9,SNR=9.6
SONM Songino Array 98.22 320 P Pdif 06 09 01.3 -1.3
comp=Z,0.6nm,0.6s,baz=138,slow=5.3,SNR=6.7
SONM PP **PP** **06 13 15.1 +1.9**
comp=Z,0.8nm,0.9s,baz=90,slow=5.9,SNR=4.9
GTA Gaotai 98.32 310 *e*P Pdif 06 09 03.1 -0.1
GTA PMZ
comp=Z,5.0nm,1.1s
MKAR Makanchi Array 112.91 312 Pdiff **Pdif** **06 10 09.2 +1.5**
comp=Z,0.5nm,0.6s,baz=84,slow=6.3,SNR=7.6
MKAR PKiKP **PKiKP** **06 13 56.9 -1.3**
comp=Z,0.6nm,0.4s,baz=70,slow=3.1,SNR=7.1
MKAR PKKPbc **PKKPbc** **06 24 47.5 -0.3**
comp=Z,0.3nm,0.4s,baz=280,slow=3.0,SNR=8.7
RES Resolute Bay 114.58 17 SKP **SKPdf** **06 16 37.5 -1.2**
comp=Z,0.7nm,0.7s,baz=239,slow=5.9,SNR=4.5
KSH Kashi 115.56 303 *e*PKP **PKPdf** **06 14 04.1 +0.5**
KSH PP **PP** **06 15 19.3 +1.3**
KSH PKS **PKSdf** **06 17 40.8 +0.4**
KSH SKS **SKSdf** **06 20 19.0 +0.4**
KSH SKKS **SKKSac** **06 21 14.1 -1.4**
KSH SS **SS** **06 30 36.3 +3.5**
KSH PPMZ
comp=Z,53nm,4.2s
KURBB Kurchatov Arra 116.19 316 SKP **SKPdf** **06 16 40.4 -2.1**
comp=Z,1.2nm,0.8s,baz=103,slow=2.1,SNR=7.1
KURBB PKKPbc **PKKPbc** **06 24 36.5 -0.3**
comp=Z,0.7nm,0.8s,baz=275,slow=4.0,SNR=7.0
KKAR Karatay Array 120.33 306 *e*PKiKP **PKPdf** **06 14 11.6 -0.9**
KKAR Karatay Array 120.33 306 *e*PKPdf **PKPdf** **06 14 11.6 -0.9**
BVAR Borovoye Array 121.50 318 PKP **PKPdf** **06 14 13.4 -1.0**
comp=Z,3.9nm,0.5s,baz=142,slow=2.0,SNR=31
BVAR PP **PP** **06 15 59.5 +1.9**
comp=Z,1.8nm,0.9s,baz=114,slow=6.6,SNR=6.1
ARU Arti 128.18 322 PKIKP **PKPdf** **06 14 26.6 -0.5**
GEYT Alibeck 129.04 298 PKP **PKPdf** **06 14 29.0 -0.4**
comp=Z,1.7nm,0.5s,baz=169,slow=1.5,SNR=3.8
GEYT SKPbc SKPab 06 16 54.2 +0.1
comp=Z,3.4nm,0.5s,baz=102,slow=3.6,SNR=11
AKTO Aktyubinsk 129.22 315 PKP **PKPdf** **06 14 28.1 -1.1**
comp=Z,2.3nm,0.6s,baz=71,slow=3.8,SNR=9.4
LSZ Lusaka 129.28 218 SKPbc SKPab 06 16 55.4 -0.4
comp=Z,8.1nm,0.7s,baz=142,slow=3.1,SNR=9.0
KMBO Kilima Mbogo 133.50 240 SKPbc **SKPbc** **06 17 11.4 +0.3**
comp=Z,2.4nm,0.7s,baz=62,slow=5.4,SNR=7.5
KEV Kevo 133.74 347 *e*pkp PKPpre 06 14 29.8
ARCES ARCESS Array B 134.22 347 PKhKP PKPpre 06 14 27.9
comp=Z,3.1nm,0.8s,baz=20,slow=1.1,SNR=10
ARCES PKP **PKPdf** **06 14 37.5 -0.7**
comp=Z,5.6nm,0.8s,baz=28,slow=4.1,SNR=8.4
ARCES SKPbc **SKPbc** **06 17 10.7 -0.6**
comp=Z,9.1nm,0.9s,baz=38,slow=3.2,SNR=15
KLMR Klimovskoe 135.96 332 *e*PKHKP PKPpre 06 14 28.8
KLMR pmax pmax
comp=Z,37nm,2.0s
JOF Joensuu 137.75 338 *e*pkp **PKPdf** **06 14 42.4 -2.4**
KAF Kangasniemi 139.94 340 *e*pkp PKPpre 06 14 40.6
FINES FINESS Array B 140.52 339 PKhKP PKPpre 06 14 42.5
comp=Z,3.6nm,0.4s,baz=58,slow=4.0,SNR=41
FINES SKPbc **SKPbc** **06 17 28.9 -0.6**
comp=Z,3.4nm,0.7s,baz=48,slow=2.8,SNR=7.6
SFNV Sufian 143.37 296 *i* P **PKPdf** **06 14 55.9 0.0**
MOL Molde 143.54 353 *e*P PKPab 06 14 53.8 -0.4
MOL IAmb IAmb 06 14 54.2
comp=Z,23nm,0.6s
AKN Aaknes 143.99 353 *e*P PKPbc 06 14 55.1 -0.6
KSRV Kasrt alli 144.30 295 *i* P **PKPab** **06 14 57.8 -0.2**
NB2 NORSAR Subarra 144.51 349 PKP **PKPdf** **06 14 56.0 -1.0**
comp=Z,6.8nm,0.5s,baz=15,slow=2.9
NB2 NORSAR Subarra 144.51 349 PKP **PKPdf** **06 14 56.0 -1.0**
baz=15,slow=2.9
NOA NORSAR Array B 144.51 349 PKP **PKPdf** **06 14 56.1 -0.9**
comp=Z,7.4nm,0.6s,baz=16,slow=4.7,SNR=39
NOA SKPbc **SKPbc** **06 17 37.8 -1.5**
comp=Z,0.8nm,0.6s,baz=14,slow=4.2,SNR=3.5
MALT Malatya 144.53 299 ⇓*i*P **PKPab** **06 14 58.7 -0.3**
FOO Floro 144.75 355 *e*P **PKPdf** **06 14 57.3 0.0**
FOO IAmb IAmb 06 14 58.0
comp=Z,6.2nm,0.8s
ISAL Salakas 144.78 333 *e*P **PKPdf** **06 14 56.9 -0.6**
ISAL AMB AMB 06 14 58.8
comp=Z,10nm,0.8s
IIGN Ignalina 144.89 332 *e*P **PKPdf** **06 14 57.2 -0.6**
IIGN AMB AMB 06 14 58.5
comp=Z,11nm,0.6s
HYA Hoyanger 145.06 353 *e*P **PKPdf** **06 14 58.2 +0.3**
SUE Sulen 145.30 355 *e*P **PKPbc** **06 14 59.0 -0.6**
ZALF Zalf 145.77 290 *i* P **PKPbc** **06 15 11.1 -0.8**
ASK Askoy 145.83 354 *e*P **PKPbc** **06 15 00.8 -0.3**
KONO Kongsberg 146.09 350 *e*P **PKPbc** **06 15 01.3 -0.6**
KONO Kongsberg 146.09 350 *e*PKP2 **PKPbc** **06 15 01.2 -0.6**
KONO Kongsberg 146.09 350 *e*PKPbc **PKPbc** **06 15 01.2 -0.6**
ASF Jabal al Asfar 146.14 289 PKPbc **PKPbc** **06 15 03.2 +0.2**
comp=Z,6.6nm,0.6s,baz=81,slow=3.1,SNR=11
ODD1 Odda 146.24 353 *e*P **PKPbc** **06 15 01.9 -0.4**
SALA Sala 146.28 290 *i* P **PKPbc** **06 15 03.3 -0.2**
AKASG Malin Array Be 146.39 324 PKPbc **PKPbc** **06 15 02.0 -1.0**
comp=Z,9.8nm,0.5s,baz=45,slow=3.8,SNR=31
KIEV Kiev 146.40 324 *e*PKiKP **PKPbc** **06 15 02.1 -0.9**
KIEV *e* 06 15 05.1
KIEV Kiev 146.40 324 *e*PKPbc **PKPbc** **06 15 02.1 -0.9**
KIEV *e*PKPab **PKiKP** **06 15 05.1 0.0**
WRDH Warideh 146.43 295 *i* P **PKPbc** **06 15 02.4 -1.3**
HAWK Haweek 146.50 293 *i* P **PKPdf** **06 15 02.4 +1.1**
BIDA Albida 146.54 294 *i* P **PKPdf** **06 15 02.0 +0.7**
BRBR Barbar 146.92 291 *i* P **PKPdf** **06 15 03.6 +1.4**
KMY Karmoy 147.08 354 *e*P **PKPbc** **06 15 04.1 -0.4**
SUW Suwalki 147.09 333 *e*PKP **PKPbc** **06 15 04.0 -0.7**
SUW *e* 06 15 10.0
SNART Snartemo 147.70 351 *e*P **PKPbc** **06 15 04.9 -1.3**
SNART IAmb IAmb 06 15 06.5
comp=Z,10nm,0.6s
BRTR Keskin Array B 147.95 303 PKPbc **PKPbc** **06 15 06.8 -0.8**
comp=Z,3.7nm,0.5s,baz=141,slow=2.0,SNR=27
ANTO Ankara 148.55 304 *e*PKP2 **PKPbc** **06 15 08.9 -0.2**
ANTO Ankara 148.55 304 ⇓*i*P **PKPbc** **06 15 08.8 -0.2**
ANTO Ankara 148.55 304 *e*PKPbc **PKPbc** **06 15 08.9 -0.2**
ANTO *e*PKPab **PKPab** **06 15 15.2 +0.1**
CSS Prodhromos 148.99 294 *e*PKPdf **PKPdf** **06 15 04.2 -1.1**
CSS *e*PKPbc **PKPbc** **06 15 09.3 -0.8**
CSS *e*PKPab **PKPab** **06 15 16.8 -0.2**
LVV L'vov 149.58 326 *e*PKHKP **PKPbc** **06 15 10.4 -0.7**
CFR Carcaliu 149.87 316 ⇓*i*P **PKPbc** **06 15 11.7 -0.1**
TIRR Tirgusor 150.02 314 ⇓*i*P **PKPbc** **06 15 12.1 -0.1**
BURAR Bucovina Array 150.31 322 ⇓*i*P **PKPbc** **06 15 13.8 +0.8**
KWP Kalwaria Pacla 150.35 327 *e*PKIKP **PKPdf** **06 15 05.4 -1.5**
KWP *e* 06 15 21.9
KWP Kalwaria Pacla 150.35 327 *e*PKP **PKPbc** **06 15 12.8 -0.1**
KWP 06 15 21.9
KWP Kalwaria Pacla 150.35 327 *e*PKPdf **PKPdf** **06 15 05.4 -1.5**
KWP *e*PKPbc **PKPbc** **06 15 12.8 -0.1**
KWP *e*PKPab **PKPab** **06 15 21.9 -0.3**
KOLS Kolonicke sedl 151.03 327 *e*PKP **PKPbc** **06 15 15.1 +0.6**
KOLS *e* 06 15 23.2
MLR Muntele Rosu 151.06 318 ⇓*i*P **PKPbc** **06 15 14.4 -0.4**
DOPR Dopca 151.14 319 ⇓*i*P **PKPbc** **06 15 15.1 +0.3**
STHS Stebnicka Huta 151.20 328 *e*PKP **PKPbc** **06 15 14.8 0.0**
STHS *e* 06 15 25.9
OJC Ojcow 151.28 331 *e*PKiKP **PKPbc** **06 15 14.8 -0.2**
BSEG Bad Segeberg 151.32 345 *e*PKPbc **PKPbc** **06 15 14.6 -0.3**
TRPA Tarpa 151.42 325 ⇓*i*P **PKPbc** **06 15 14.8 -0.5**
CRVS Cervenica-Dubn 151.45 327 *e*PKP **PKPbc** **06 15 15.5 +0.1**
CRVS *e* 06 15 26.8
VOIR 151.62 318 ⇓*i*P **PKPbc** **06 15 17.7 +1.7**
CJR Cluj-Napoca 151.74 322 ⇓*i*P **PKPbc** **06 15 16.0 -0.2**
DRGR 152.18 323 ⇑*i*P **PKPab** **06 15 29.4 -0.6**
KSP Ksiaz 152.22 335 *e*PKP **PKPbc** **06 15 17.3 +0.3**
KSP *e* 06 15 29.9
UPC Upice 152.60 335 *e*PKIKP **PKPbc** **06 15 17.9 0.0**
UPC *e* 06 15 31.6
UPC Upice 152.60 335 ⇑*e*PKP **PKPbc** **06 15 17.9 0.0**
UPC *e*PKPAB **PKPab** **06 15 31.6 0.0**
DPC Dobruska-Polom 152.61 335 *e*PKIKP **PKPbc** **06 15 17.4 -0.5**
DPC *e* 06 15 31.6
DPC Dobruska-Polom 152.61 335 ⇑*e*PKP **PKPbc** **06 15 17.4 -0.5**
DPC *e*PKPAB **PKPab** **06 15 31.6 -0.1**
CLL Collm 152.96 340 ⇓*i*PKIKP **PKPbc** **06 15 18.0 -0.5**
CLL *i* 06 15 32.4
CLL *i* 06 17 41.9
CLL pmax pmax
comp=Z,7.0nm,0.6s
CLL pmax pmax
comp=Z,10.0nm,0.6s
CLL Collm 152.96 340 *e*PKPbc **PKPbc** **06 15 18.1 -0.5**
CLL *e*PKPab **PKPab** **06 15 32.3 -0.8**
CLL Collm 152.96 340 ⇓*i*PKPbc **PKPbc** **06 15 18.0 -0.5**
comp=Z,7.0nm,0.6s
CLL comp=Z,10.0nm,0.6s *i* PKPab **PKPab** **06 15 32.4 -0.7**
CLL *i* SKPdf **SKPdf** **06 17 41.9 -4.8**
VYHS Vyhne 152.97 329 *e*PKP **PKPbc** **06 15 18.5 -0.2**
VYHS *e* 06 15 33.1
GZR Gura Zlata 152.97 320 ⇓*i*P **PKPbc** **06 15 18.5 -0.4**
BRG Berggiesshubel 153.03 338 *e*PKP **PKPbc** **06 15 18.7 -0.1**
comp=Z,4.6nm,0.9s
BRG *e* 06 15 33.0
comp=Z,4.1nm,0.8s
BRG Berggiesshubel 153.03 338 *e*PKIKP **PKPbc** **06 15 18.7 -0.1**
BRG *e* 06 15 33.0
BRG pmax pmax
comp=Z,5.0nm,0.7s
CLZ Clausthal 153.23 343 *e*PKPab **PKPab** **06 15 33.7 -0.6**
IBBN Ibbenburen 153.40 347 *e*PKPab **PKPab** **06 15 34.1 -0.8**
WERD Werda 153.93 340 *e*PKPab **PKPab** **06 15 36.9 -0.4**
GUNZ Gunzen 154.00 339 *e*PKPab **PKPab** **06 15 37.5 -0.1**
WERN Wernitzgruen 154.05 339 *e*PKPab **PKPab** **06 15 37.6 -0.2**
ROHR Rohrbach 154.11 339 *e*PKPab **PKPab** **06 15 37.8 -0.3**
VTS Vitosha 154.24 315 ⇓*i*P **PKPab** **06 15 39.3 +0.2**
MMB Musomiste 154.38 312 ⇓*i*P **PKPab** **06 15 39.3 -0.3**
KHC Kasperske Hory 154.63 336 *e*PKIKP **PKPdf** **06 15 12.2 -1.0**
KHC *e* 06 15 39.9
KHC Kasperske Hory 154.63 336 *e*PKPDF **PKPdf** **06 15 12.2 -1.0**
KHC *ex* x 06 15 22.0
KHC *e*PKPAB **PKPab** **06 15 39.9 -0.5**
CONA Conrad Observa 154.71 332 ⇑*i*PKPab **PKPab** **06 15 40.8 0.0**
comp=Z,7.4nm,0.9s
GEC2 GERESS Array S 154.82 336 *e*PKPab **PKPab** **06 15 40.5 -0.8**
GERES GERESS Array B 154.82 336 PKPbc **PKPbc** **06 15 21.7 -1.1**
comp=Z,0.4nm,0.4s,baz=63,slow=0.6,SNR=5.8
GERES PKPab **PKPab** **06 15 40.6 -0.7**
comp=Z,2.3nm,0.7s,baz=35,slow=4.9,SNR=12
GRF Grafenberg Arr 154.93 340 *e*PKPab **PKPab** **06 15 41.5 -0.1**
WTTA Wattenberg 156.90 337 ⇑*i*PKPab **PKPab** **06 15 50.1 -0.3**
comp=Z,5.8nm,0.8s
DBIC Dimbokro 159.92 171 PKPab **PKPab** **06 16 04.7 +0.7**
comp=Z,1.7nm,0.7s,baz=153,slow=0.8,SNR=5.2
TORD Torodi Ar. Bea 166.25 194 PKPab **PKPab** **06 16 31.7 -0.2**
comp=Z,1.0nm,0.6s,baz=163,slow=3.7,SNR=14
ESDC Sonseca Array 166.83 8 PKPab **PKPab** **06 16 33.2 -0.8**
comp=Z,0.4nm,0.5s,baz=339,slow=4.4,SNR=3.6
KEST Kesra 166.96 317 PKPab **PKPab** **06 16 34.8 -0.1**
comp=Z,1.1nm,0.7s,baz=61,slow=13,SNR=3.7

*IDC **22** 06:10:28.2±2.4, 53°.56N×87°.85E, h0km, mb1 3.2/3, mb1mx3.0/31, mbtmp3.2/3, ML3.0/3, Error ellipse: s-maj=21.6km s-min=13.5km az=65.0*
*NNC **22** 06:10:32.0±6.3, 53°.30N×87°.55E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=48.8km s-min=34.5km az=26.0*
ISC 22 06:10:32.0±3.7, 53°.6N±0°.1×87°.8E±0°.2, h35km, n8, σ0s79/12, 4C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**281**	*i*		06 23 30.0	
	baz=97,slow=330,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.80**	**281**	Pg	**Pn**	**06 11 00.0**	**-0.4**
	2.2nm,0.3s,baz=97,slow=19,SNR=34						
ZALV				Lg	Lg	06 11 26.3	
	11nm,0.3s,baz=98,slow=27,SNR=27						
KURK	**Kurchatov**	**6.36**	**246**	⇓Pn	**Pn**	**06 12 03.3**	**+0.2**
	0.7nm,0.8s						
KURK				⇑Sn	**Sn**	**06 13 14.6**	**+0.2**
	0.5nm,0.5s						
KURK				⇓Lg	Lg	06 13 46.7	
	4.0nm,0.9s						
KURBB	**Kurchatov Arra**	**6.45**	**246**	⇓Pn	**Pn**	**06 12 04.2**	**-0.2**
	2.0nm,0.3s,baz=64,slow=14						
KURBB				⇑Sn	**Sn**	**06 13 15.8**	**-1.0**
	6.1nm,0.6s						
KURBB				⇑Lg	Lg	06 13 48.5	
	25nm,1.6s,baz=41,slow=54						
KURBB	**Kurchatov Arra**	**6.45**	**246**	Pn	**Pn**	**06 12 04.6**	**+0.2**
	0.2nm,0.3s,baz=62,slow=14,SNR=14						
KURBB				Sn	**Sn**	**06 13 16.8**	**0.0**
	0.1nm,0.3s,baz=66,slow=25,SNR=5.3						
KURBB				Lg	Lg	06 13 52.4	
	0.1nm,0.3s,baz=64,slow=33,SNR=8.4						
MK31	**Makanchi Array**	**7.70**	**209**	⇓Pn	**Pn**	**06 12 21.2**	**-0.4**
	0.2nm,0.4s,baz=30,slow=14,SNR=21						
MK31				⇑Sn	**Sn**	**06 13 46.6**	**-1.0**
	3.3nm,1.2s,baz=33,slow=23,SNR=4.6						
MK31				⇓Lg	Lg	06 14 25.8	
	4.8nm,1.1s,baz=23,slow=29,SNR=3.5						
MKAR	**Makanchi Array**	**7.70**	**209**	Pn	**Pn**	**06 12 21.6**	**0.0**
	0.3nm,0.3s,baz=28,slow=13,SNR=22						
MKAR				Sn	**Sn**	**06 13 49.1**	**+1.5**
	0.2nm,0.3s,baz=30,slow=25,SNR=5.3						
MKAR				Lg	Lg	06 14 28.6	
	0.1nm,0.3s,baz=27,slow=36,SNR=4.3						
BVAR	**Borovoye Array**	**10.44**	**274**	Pn	**Pn**	**06 12 59.9**	**+1.0**
	0.1nm,0.3s,baz=80,slow=12,SNR=3.8						

*CSEM **22** 06:15:51.2, 37°.38N×36°.26E, h7km, MD2.7*
DDA 22 06:15:51.2, 37°.38N×36°.26E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.21**	**19**	*i* P	Pg	06 15 55.5	-0.1
ANDN				*i* S	Sg	06 15 59.7	+1.1
ANDN	**Andirin**	**0.21**	**19**	*i* P	Pg	06 15 55.5	-0.1
ANDN				*i* S	Sg	06 15 59.7	+1.1
KAMA	**Osmaniye**	**0.38**	**121**	*i* P	Pg	06 15 58.3	-0.5
KAMA				*i* S	Sb	06 16 06.9	+0.2
KUZU	**Kuzuini**	**0.89**	**133**	*i* P	Pb	06 16 09.2	+0.1
KUZU				*i* S	Sb	06 16 21.6	+0.3
KUZU	**Kuzuini**	**0.89**	**133**	*i* P	Pb	06 16 09.2	+0.1
KUZU				*i* S	Sb	06 16 21.6	+0.3
GZT	**Gaziantep**	**1.04**	**91**	*i* P	Pg	06 16 11.5	+0.1
GZT				*i* S	Sn	06 16 26.7	-0.7

GUC 22 06:25:27.5±0.3, 34°.53S×71°.90W, h35km±9km, ML3.7, 7C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.70**	**36**	⇓*i*P	Pn	06 25 40.8	-0.2
NICH	**Los Niches**	**0.73**	**131**	⇑*i*P	Pn	06 25 41.2	-0.1
NICH				*i* S	Sn	06 25 51.6	+0.4
TALC	**Talca**	**0.90**	**166**	⇓*i*P	Pn	06 25 43.5	-0.1
TALC				*i* S	Sn	06 25 55.6	+0.2
CACH	**El Canelo**	**1.16**	**70**	⇑*i*P	Pn	06 25 48.6	+1.3
TACH	**Talagante**	**1.19**	**43**	⇑*i*P	Pn	06 25 48.5	+0.9
CHCH	**Chadas Angostu**	**1.20**	**61**	⇓*i*P	Pn	06 25 48.7	+0.9
LNCH	**Linares**	**1.34**	**169**	⇑*i*P	Pn	06 25 50.9	+1.2
LNCH				*i* S	Sn	06 26 08.4	+2.2
ANTU	**Antumapu**	**1.43**	**48**	⇓*i*P	Pn	06 25 52.4	+1.4
ANTU				*i* S	Sn	06 26 11.0	+2.5
ANTU				IAML		06 26 19.6	
	comp=N,1μm,0.6s						
SJCH	**San Jose de Ma**	**1.56**	**56**	⇓*i*P	Pn	06 25 54.5	+1.6
SJCH				*i* S	Sn	06 26 14.8	+2.8
LACH	**Col Las Americ**	**1.57**	**47**	⇑*i*P	Pn	06 25 54.4	+1.5
LACH				*i* S	Sn	06 26 15.2	+3.2
CLCH	**Cerro Calan**	**1.60**	**46**	⇑*i*P	Pn	06 25 55.2	+1.8
CLCH				*i* S	Sn	06 26 16.2	+3.2
CLCH				IAML		06 26 23.1	
	comp=N,960nm,0.7s						
PEL	**Peldehue**	**1.71**	**37**	⇑*i*P	Pn	06 25 56.9	+1.9
PEL				*i* S	Sn	06 26 19.3	+3.7
PEL				IAML		06 26 25.1	
	comp=N,2μm,0.5s						
COCH	**Cobquecura**	**1.75**	**204**	⇓*i*P	Pn	06 25 57.4	+2.0
COCH				*i* S	Sn	06 26 19.9	+3.5

*IDC **22** 06:30:47.3±0.9, 7°.69S×125°.95E, h0km, mb4.3/10, mb1 4.4/13, mb1mx4.2/23, mbtmp4.3/13, ML4.0/3, MS3.5/5, Ms1 3.5/5, ms1mx3.0/31, Error ellipse: s-maj=27.0km s-min=22.5km az=84.0*
*ISCJB **22** 06:30:50.6±0.4, 7°.61S±0°.03×125°.85E±0°.04, h33km, mb4.2/10, MS3.2/3, Error ellipse: s-maj=5.9km s-min=3.9km az=139.0*
*NEIC **22** 06:30:52.0±0.4, 7°.79S×125°.95E, h35km, mb4.5/1, Error ellipse: s-maj=10.2km s-min=7.3km az=52.0*
*DJA **22** 06:30:57.5±0.4, 8°.S±4°.×12°.6E±°, h124km±14km, M4.3/11, mb4.4/11, mB4.9/7, MLv4.4/11, Mw(mB)4.2/7*
ISC 22 06:30:53.1±0.5, 7°.68S±0°.05×125°.82E±0°.06, h35km, n45, σ1s84/48, mb4.2/10, MS3.2/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.57**	**216**	Pn	**Pn**	**06 31 31.2**	**-1.2**
SOEI				Sn	**Sn**	**06 32 04.5**	**+1.9**
BATI	**Baumata**	**3.29**	**220**	P	Pn	06 31 46.4	+4.2
BATI				S	**Sn**	**06 32 25.3**	**+5.1**
BATI	**Baumata**	**3.29**	**220**	**Pn**	**Pn**	**06 31 42.8**	**+0.5**
	19nm,0.3s,baz=142,slow=3.2,SNR=12						
BATI				Sn	Sn	06 32 28.9	+8.6
	9.0nm,0.3s,baz=96,slow=23,SNR=6.7						
MMRI	**Maumere**	**3.67**	**255**	P	**Pn**	**06 31 48.4**	**+1.0**
MMRI				S	**Sn**	**06 32 31.3**	**+1.8**
MMRI	**Maumere**	**3.67**	**255**	*e*Pn	**Pn**	**06 31 48.0**	**+0.6**
MMRI				*e*Sg	Sn	06 32 50.6	+21
EDFI	**Ende, Flores**	**4.22**	**255**	P	**Pn**	**06 31 56.6**	**+1.5**
BKSI	**Bulukumba**	**6.12**	**292**	P	**Pn**	**06 32 21.1**	**0.0**
	47nm,0.9s,633nm0.2nm						
BKSI				S	**Sn**	**06 33 29.9**	**-0.1**
	47nm,0.9s,633nm0.2nm						
BNSI	**Bone**	**6.54**	**300**	P	**Pn**	**06 32 27.3**	**+0.4**
	43nm,0.7s,759nm0.2nm						
BNSI				S	**Sn**	**06 33 38.3**	**-2.1**
	43nm,0.7s,759nm0.2nm						
KAPI	**Kappang**	**6.58**	**293**	*e*Pn	**Pn**	**06 32 27.2**	**-0.3**
	36nm,0.6s						
KAPI				*e*Sn	**Sn**	**06 33 41.9**	**+0.5**
SPSI	**Sidrap Palu**	**7.06**	**301**	P	**Pn**	**06 32 34.2**	**+0.2**
	30nm,1.2s,0.1nm						
SPSI				S	**Sn**	**06 33 51.8**	**-1.2**
	30nm,1.2s,0.1nm						
LUWI	**Luwuk**	**7.26**	**335**	P	**Pn**	**06 32 37.0**	**+0.3**
	172nm,0.5s,4μm0.8nm						
LUWI				S	**Sn**	**06 33 55.8**	**-2.1**
	172nm,0.5s,4μm0.8nm						
LUWI	**Luwuk**	**7.26**	**335**	P	Pn	06 32 29.9	-6.8
	baz=7.2,SNR=6.0						
MTN	**Manton Dam**	**7.33**	**135**	P	**Pn**	**06 32 39.2**	**+1.5**
	baz=7.3,SNR=24						
TTSI	**Tana Toraja**	**7.54**	**307**	P	**Pn**	**06 32 41.2**	**+0.6**
	23nm,0.8s,3μm0.2nm						
KDU	**Kakadu**	**8.23**	**128**	P	**Pn**	**06 32 52.4**	**+2.3**
	baz=8.2,SNR=8.6						
KNRA	**Kununurra**	**8.46**	**160**	P	**Pn**	**06 32 54.3**	**+1.1**
	baz=8.6,SNR=9.4						
KNRA				S	**Sn**	**06 34 28.0**	**+0.5**
	baz=8.6,SNR=6.9						
SWI	**Sorong**	**8.68**	**39**	S	**Sn**	**06 34 37.4**	**+4.5**
	baz=8.4,SNR=68						
GTOI	**Gorontalo**	**8.72**	**341**	P	**Pn**	**06 32 59.7**	**+2.9**
	28nm,1.0s						
MPSI	**Mapaga**	**9.91**	**323**	P	**Pn**	**06 33 13.7**	**+0.6**
	21nm,1.1s						
WRAB	**Tennant Creek**	**14.73**	**147**	*e*Pn	Pn	06 34 14.4	-4.6
	26nm,1.1s						
WRAB				*e*Sn	Sn	06 36 53.0	-8.1
WRA	**Warramunga Arr**	**14.73**	**147**	Pn	Pn	06 34 14.2	-4.8
	0.4nm,0.3s,baz=318,slow=13,SNR=84						
WRA				Sn	Sn	06 36 50.6	-10
	0.2nm,0.3s,baz=320,slow=20,SNR=7.0						
WRA				LR	LR	06 40 29.4	
	comp=Z,188nm,21.9s,baz=310,slow=40						
WB2	**Warramunga Arr**	**14.73**	**147**	*e*Pn	Pn	06 34 14.0	-5.1
PALU	**Palau**	**17.24**	**30**	P	Pn	06 34 42.8	-8.5
	baz=17,SNR=3.2						
WRKA	**Warakurna**	**17.43**	**172**	P	**Pn**	**06 34 52.0**	**-1.6**
	baz=18,SNR=17						
ASAR	**Alice Springs**	**17.69**	**155**	P	**Pn**	**06 34 54.8**	**-2.2**
	1.0nm,0.3s,baz=337,slow=13,SNR=46						
ASAR				S	**Sn**	**06 38 06.7**	**-6.4**
	0.1nm,0.3s,baz=323,slow=22,SNR=5.5						
ASAR				LR	LR	06

PETK	Petropavlovsk-	66.33	20	P	P	06 41 37.7	-0.3
	12nm,1.0s,baz=211,slow=8.3,SNR=4.5						
MK31	Makanchi Array	66.59	329	*e*P	P	06 41 39.0	-0.9
MKAR	Makanchi Array	66.59	329	P	P	06 41 39.1	-0.8
	2.4nm,0.8s,baz=129,slow=6.9,SNR=18						
ZALV	Zalesovo Beam	70.42	336	P	P	06 42 03.9	+0.3
	3.3nm,1.0s,baz=129,slow=4.7,SNR=13						
KURBB	Kurchatov Arra	70.98	330	P	P	06 42 06.3	-0.7
	1.5nm,0.9s,baz=135,slow=5.5,SNR=11						
KURK	Kurchatov	70.99	330	P	P	06 42 06.3	-0.8
SEY	Seymchan	73.29	12	P	P	06 42 21.1	+0.5
	7.3nm,0.9s,baz=204,slow=4.1,SNR=12						
GEYT	Alibeck	77.52	311	P	P	06 42 46.1	+0.6
	0.8nm,0.5s,baz=82,slow=3.1,SNR=4.4						
TORD	Torodi Ar. Bea	124.86	281	PKP	PKPdf	06 49 49.2	-1.2
	1.0nm,1.1s,baz=98,slow=2.9,SNR=4.4						
TXAR	Lajitas Array	128.82	58	PKP	PKPdf	06 49 57.5	-0.3
	0.8nm,1.1s,baz=242,slow=3.8,SNR=3.5						

*ISCJB **22** 06:33:26.5±0.6, 36°.47N±0°.07×138°.2E±0°.1, h208km±4km, mb3.5/5, Error ellipse: s-maj=16.6km s-min=11.0km az=163.9*
*IDC **22** 06:33:27.1±0.6, 36°.49N×138°.21E, h199km±4km, mb3.3/5, mb1 3.4/6, mb1mx3.1/29, mbtmp3.9/6, Error ellipse: s-maj=32.0km s-min=1.3km az=38.0*
*JMA **22** 06:33:28.3±0.1, 36°.46N×138°.25E, h199km±1km, M2.9*

ISC 22 06:33:27.3±0.9, 36°.49N±0°.08×138°.2E±0°.1, h202km±7km, n19, σ0°79/27, mb3.4/5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	Matsushiro	0.06	25	P	Pn	06 33 54.1	+0.4
MAT				S	S	06 34 13.6	-0.9
MAT	Matsushiro	0.06	25	P	Pn	06 33 54.1	+0.4
MAT				S	S	06 34 13.9	-0.6
MJAR	Matsushiro Arr	0.06	27	P	Pn	06 33 54.2	+0.6
	7.7nm,0.3s,baz=208,slow=0.8,SNR=58						
MJAR				S	S	06 34 13.9	-0.6
	6.9nm,0.3s,baz=221,slow=23,SNR=35						
JNG	Nsakai	0.11	216	P	Pn	06 33 54.4	+0.5
JNG				S	S	06 34 14.4	-0.2
JGK	Kuni	0.38	79	P	Pn	06 33 55.1	+0.8
JRY	Ryogami san	0.75	129	P	Pn	06 33 56.4	+0.6
JRY				S	S	06 34 17.1	-0.7
JAG	Ashikaga	1.03	93	P	Pn	06 33 57.7	+0.3
JAG				S	S	06 34 19.8	-0.8
JYN	Shimob	1.04	163	P	Pn	06 33 57.9	+0.3
JYN				S	S	06 34 21.2	+0.3
JSZ	Suzu	1.16	326	P	Pn	06 33 58.9	+0.6
JOD2	Odawara 2	1.43	149	P	Pn	06 34 00.9	+0.3
JOD2				S	S	06 34 26.7	+0.6
JSD	Sado	1.54	2	P	Pn	06 34 02.3	+0.8
JNS	Sasagawa	1.61	34	P	Pn	06 34 03.0	+1.0
JFT	Otama	2.01	59	P	Pn	06 34 07.3	+1.3
ASAJ	Asahikawa	8.33	23	P	Pn	06 35 23.1	-1.6
	2.6nm,0.3s,baz=222,slow=11,SNR=9.9						
SONM	Songino Array	25.96	306	P	P	06 38 40.9	-0.3
	0.2nm,0.4s,baz=106,slow=9.2,SNR=2.8						
ZALV	Zalesovo Beam	40.37	313	P	P	06 40 45.9	+0.8
	0.6nm,0.5s,baz=111,slow=8.2,SNR=3.0						
MKAR	Makanchi Array	42.20	302	P	P	06 41 00.8	+0.6
	0.5nm,0.5s,baz=84,slow=9.3,SNR=12						
KURBB	Kurchatov Arra	44.29	308	P	P	06 41 17.3	+0.6
	1.5nm,0.6s,baz=84,slow=8.0,SNR=17						
CTA	Charters Tower	56.79	171	P	P	06 42 49.3	-1.1
	7.5nm,0.8s,baz=352,slow=7.1,SNR=6.1						

KRSC 22 06:35:57.6±0.5, 55°.59N×162°.74E, h57km±15km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	Krutoberegovo	0.67	358	P	Pn	06 36 11.7	+0.5
KBG				S	Sn	06 36 22.3	+1.2
MKZ	Mys Kozlova	1.19	210	P	Pn	06 36 18.9	+0.9
MKZ				S	Sn	06 36 35.0	+1.8
SMKR	Semkarok	1.22	325	*i* P	Pn	06 36 20.1	+1.5
SMKR				S	Sn	06 36 36.1	+1.8
BDR	Baidarnaya	1.30	319	P	Pn	06 36 21.2	+1.5
BDR				S	Sn	06 36 38.5	+2.3
KRSR	Krestovskiy	1.38	298	P	Pn	06 36 20.9	+0.2
KRSR				S	Sn	06 36 38.1	+0.1
KLY	Klyuchi	1.38	302	*i* P	Pn	06 36 20.4	-0.2
KLY				S	Sn	06 36 37.2	-0.6
SRKR	Sorokina	1.38	321	P	Pn	06 36 22.4	+1.7
SRKR				S	Sn	06 36 40.2	+2.1
KIRR	Kirishev	1.40	286	P	Pn	06 36 23.0	+1.9
KIRR				S	Sn	06 36 41.4	+2.6
KMNR	Kamenistaya	1.43	278	P	Pn	06 36 23.1	+1.7
KMNR				S	Sn	06 36 41.5	+2.3
KPT	Kopyto	1.47	286	P	Pn	06 36 23.5	+1.5
KPT				S	Sn	06 36 42.5	+2.2
TUMR	Tumrok	1.51	259	P	Pn	06 36 24.3	+1.8
TUMR				S	Sn	06 36 43.7	+2.4
KOZ	Kozyrevsk	1.69	287	P	Pn	06 36 27.1	+2.3
KOZ				S	Sn	06 36 49.2	+3.9
SRDR	Sredinnyy	1.85	294	P	Pn	06 36 29.1	+2.0
SRDR				S	Sn	06 36 52.1	+2.7
BKI	Bering	1.88	101	S	Sn	06 36 53.2	+3.2
KII	Karymskiy	2.46	232	P	Pn	06 36 37.7	+2.3
SDLR	Sedlovina	3.23	226	P	Pn	06 36 48.7	+2.7
SDLR				S	Sn	06 37 26.6	+3.2
KRER	Koryakskii	3.27	227	P	Pn	06 36 49.5	+2.9
KRER				S	Sn	06 37 27.1	+2.7
KRX	Arik	3.27	229	P	Pn	06 36 49.5	+2.9
SMAR	Somma	3.28	226	P	Pn	06 36 48.9	+2.1
AVH	Avacha	3.30	227	P	Pn	06 36 50.5	+3.6
AVH				S	Sn	06 37 28.2	+3.2
UGLR	Uglovaya	3.31	225	P	Pn	06 36 50.0	+3.0
KOK	Koryaka	3.32	228	P	Pn	06 36 50.6	+3.3
GNL	Ganaly	3.37	238	P	Pn	06 36 51.4	+3.4

*BJI **22** 06:37:29.5, 8°.60S×122°.20E, h187km, mB4.9/14, mb4.5/22*
*ISCJB **22** 06:37:32.5±0.6, 8°.60S±0°.02×122°.06E±0°.03, h207km±2km, mb4.3/21, Error ellipse: s-maj=4.8km s-min=3.2km az=137.9*
*IDC **22** 06:37:32.0±1.0, 8°.38S×122°.05E, h207km±10km, mb3.9/12, mb1 4.0/14, mb1mx3.9/23, mbtmp4.5/14, Error ellipse: s-maj=20.3km s-min=10.8km az=70.0*
*NEIC **22** 06:37:33.5±0.6, 8°.43S×122°.08E, h215km±6km, mb4.5/8, Error ellipse: s-maj=13.0km s-min=6.4km az=60.0*
*KLM **22** 06:37:33.8, 8°.59S×122°.03E, h214km, mb4.8, ML3.6, MS5.8*
*DJA **22** 06:37:34.5±0.2, 9°.S±1°.×12°.2E±°., h185km±2km, M4.7/41, mB5.2/16, mb4.7/41, MLv5.0/22, Mw(mB)4.6/16*

ISC 22 06:37:32.0±0.3, 8°.64S±0°.03×122°.14E±0°.03, h194km±2km, n124, σ1°83/150, mb4.3/21, 9C-5D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.10	88	P	Pn	06 38 00.0	+2.5
MMRI				S	Sn	06 38 20.3	+3.3
MMRI	Maumere	0.10	88	*e*Pn	Pn	06 38 00.2	+2.7
MMRI				*e*Sn	Sn	06 38 16.8	-0.3
EDFI	Ende, Flores	0.46	256	P	Pn	06 38 00.5	+2.1
EDFI				S	Sn	06 38 20.1	+1.4
WSI	Waingapu	2.09	240	P	Pn	06 38 12.1	+1.1
WSI				S	Sn	06 38 40.8	-0.5
WSI	Waingapu	2.09	240	P	Pn	06 38 20.1	+9.2
	baz=2.5,SNR=4.2						
WSI				S	Sn	06 38 40.2	-1.1
	baz=2.5,SNR=14						
BATI	Baumata	2.17	136	P	Pn	06 38 16.2	+4.3
BATI				S	Sn	06 38 46.0	+3.0
BATI	Baumata	2.17	136	P	Pn	06 38 16.2	+4.3
	1μm,0.3s,baz=284,slow=1.0,SNR=545						
BATI				S	Sn	06 38 49.2	+6.3
	950nm,0.3s,baz=235,slow=17,SNR=7.7						
BASI	Baing, Sumba	2.20	224	P	Pn	06 38 13.3	+1.1
BASI				S	Sn	06 38 44.7	+1.2
SOEI	Soe	2.38	118	*e*Pn	Pn	06 38 18.4	+4.1
SOEI				*e*Sn	Sn	06 38 46.4	-0.8
WBSI	Waikabubak, Su	2.89	250	P	Pn	06 38 19.7	-0.4
WBSI				S	Sn	06 38 58.0	+0.4
BSSI	Bau Bau, Buton	2.97	327	P	Pn	06 38 22.3	+1.3
BSSI				S	Sn	06 38 58.5	-0.9
BKSI	Bulukumba	3.86	329	P	Pn	06 38 31.0	-0.8
BKSI				S	Sn	06 39 18.3	-0.4
KAPI	Kappang	4.31	326	*e*Pn	Pn	06 38 37.9	+0.3
KAPI				*e*Sn	Sn	06 39 28.4	-0.6
BNSI	Bone	4.67	334	P	Pn	06 38 43.5	+1.4
BNSI				S	Sn	06 39 38.4	+1.1
SPSI	Sidrap Palu	5.21	333	P	Pn	06 38 50.4	+1.4
	48nm,0.8s,708nm0.2nm						
SPSI				S	Sn	06 39 51.2	+1.5
	48nm,0.8s,708nm0.2nm						
TTSI	Tana Toraja	6.02	337	P	Pn	06 39 01.8	+2.4
	47nm,0.9s,0.2nm						
DNP	Denpasar	6.85	269	P	Pn	06 39 12.2	+1.9
	700nm,0.7s,6.6nm						
DNP				S	Sn	06 40 29.3	+1.2
	700nm,0.7s,6.6nm						
SRBI	Singaraja	6.88	274	P	Pn	06 39 09.5	-1.1
	184nm,0.6s,2μm0.7nm						
SRBI				S	Sn	06 40 28.2	-0.5
	184nm,0.6s,2μm0.7nm						
IGBI	Denpasar	6.92	268	P	Pn	06 39 10.1	-1.0
	655nm,0.9s,17μm5.1nm						
IGBI				S	Sn	06 40 28.9	-0.8
	655nm,0.9s,17μm5.1nm						
LUWI	Luwuk	7.57	5	P	Pn	06 39 20.0	+0.3
	117nm,1.1s,5μm0.6nm						
LUWI				S	Sn	06 40 47.4	+2.1
	117nm,1.1s,5μm0.6nm						
LUWI	Luwuk	7.57	5	P	Pn	06 39 19.8	+0.1
	baz=7.5,SNR=3.6						
LUWI				S	Sn	06 40 27.9	-17
	baz=7.5,SNR=3.0						
LUWI	Luwuk	7.57	5	*e*Pn	Pn	06 39 20.1	+0.3
ABJI	Asem Bagus	7.87	276	P	Pn	06 39 24.8	+1.2
	174nm,0.8s,0.6nm						
JAGI	Jajag, Banyuwa	7.90	271	P	Pn	06 39 24.4	+0.4
	114nm,1.1s,5μm1.2nm						
JAGI	Jajag, Banyuwa	7.90	271	P	Pn	06 39 21.4	-2.6
	baz=8.3,SNR=20						
JAGI				S	Sn	06 40 42.4	-11
	baz=8.3,SNR=13						
KMMI	Kalianget	8.25	280	P	Pn	06 39 28.5	-0.1
	110nm,0.9s						
KMMI				S	Sn	06 41 02.4	+1.1
	110nm,0.9s						
BLJI	Banyuglugur	8.50	275	P	Pn	06 39 31.7	-0.2
	138nm,0.7s,1μm						
GMJI	Gumukmas	8.61	272	P	Pn	06 39 34.3	+1.0
	68nm,0.8s						
GMJI				S	Sn	06 41 08.5	-1.4
	68nm,0.8s						
BBKI	Banjar Baru	8.89	305	P	Pn	06 39 38.6	+1.6
	42nm,1.0s,6μm						
MRSI	Marisa	9.06	359	P	Pn	06 39 39.1	0.0
	22nm,1.2s						
MPSI	Mapaga	9.19	346	P	Pn	06 39 41.6	+0.7
	9.8nm,1.1s						
GTOI	Gorontalo	9.26	5	P	Pn	06 39 45.5	+3.8
	26nm,0.8s						
KNRA	Kunumurra	9.53	138	P	Pn	06 39 47.0	+1.8
	baz=9.4,SNR=114						
KNRA				S	Sn	06 41 28.9	-2.9
	baz=9.4,SNR=20						
MTN	Manton Dam	9.77	116	P	Pn	06 39 50.4	+2.0
	baz=9.5,SNR=52						
MTN				S	Sn	06 41 34.0	-3.7
	baz=9.5,SNR=16						
PWJI	Pagerwojo	10.24	273	P	Pn	06 39 55.5	+0.9
	57nm,0.7s						
PCJI	Pacitan	10.85	272	P	Pn	06 40 03.6	+1.2
	81nm,0.7s						
FAKI	Fak Fak	11.55	61	P	Pn	06 40 15.5	+4.1
	46nm,1.3s,776nm						
FAKI	Fak Fak	11.55	61	P	Pn	06 40 10.9	-0.5
	baz=11,SNR=18						
FAKI	Fak Fak	11.55	61	*e*Pn	Pn	06 40 10.6	-0.8
MBWA	Marble Bar	12.66	190	*e*Pn	Pn	06 40 26.7	+1.3
MBWA				*e*Sn	S	06 42 47.5	-0.4
TSM	Tawau	13.53	342	⇑P	P	06 40 40.2	+1.1
MYLDM	Lahad Datu	14.20	345	⇑P	P	06 40 47.7	+1.2
SBUM	Sibu	14.80	318	⇑P	P	06 40 54.1	+0.9
SBUM	Sibu	14.80	318	*e*Pn	P	06 40 53.1	-0.1
BTM	Bintulu	14.83	322	⇓P	P	06 40 53.4	0.0
SDKM	Sandakan	15.02	341	⇑P	P	06 40 56.5	+0.9
KSM	Kuching	15.49	310	P	P	06 41 02.6	+1.8
	baz=16,SNR=4.1						
KSM	Kuching	15.49	310	⇓P	Pn	06 41 00.5	-0.1
KSM	Kuching	15.49	310	*e*Pn	Pn	06 41 00.5	-0.1
	17nm,0.8s						
KKM	Kota Kinabalu	15.74	338	P	P	06 41 03.3	-0.3
	baz=16,SNR=8.3						
KKM	Kota Kinabalu	15.74	338	⇓P	P	06 41 02.9	-0.8
KKM	Kota Kinabalu	15.74	338	*e*Pn	P	06 41 03.3	-0.3
	59nm,0.8s						
KKM				*e*S	Sn	06 44 00.6	+0.3
GIRL	Giralia	15.86	208	P	Pn	06 41 14.7	+10
	baz=16,SNR=11						
WRA	Warramunga Arr	16.30	135	P	Pn	06 41 12.4	+2.1
	5.2nm,0.3s,baz=323,slow=13,SNR=68						
WRA				S	S	06 44 07.5	-2.9
	3.3nm,0.3s,baz=305,slow=23,SNR=17						
WRAB	Tennant Creek	16.30	135	*e*P	Pn	06 41 12.5	+2.2
	30nm,0.6s						
WB2	Warramunga Arr	16.31	135	*e*P	Pn	06 41 12.3	+1.9
KDM	Kudat	16.33	341	⇓P	P	06 41 09.8	-0.2
PMBI	Palembang	18.18	287	P	Pn	06 41 39.6	+7.0
	baz=18,SNR=4.2						
AS31	Alice Springs	18.71	144	*e*P	Pn	06 41 39.2	+0.4
ASAR	Alice Springs	18.71	144	P	Pn	06 41 39.1	+0.3
	5.3nm,0.3s,baz=315,slow=9.3,SNR=126						
ASAR				S	S	06 44 57.5	-1.4
	baz=316,slow=18,SNR=6.6						
ASAR				ScP	ScP	06 49 09.2	-3.7
	0.5nm,0.3s,baz=327,slow=2.1,SNR=6.8						
DSRI	Dabo	19.28	294	P	P	06 41 43.5	+1.3
	44nm,0.8s						
MYKOM	Kota Tinggi	20.97	299	⇑P	P	06 42 00.4	+0.2
COEN	Coen	21.29	106	P	P	06 42 04.9	+1.3
	baz=21,SNR=91						
COEN	Coen	21.29	106	*e*P	P	06 42 04.8	+1.1
	181nm,0.4s						
KGM	Kluang	21.54	299	⇑P	P	06 42 05.2	-1.1
TGY	Tagaytay City	22.62	357	P	P	06 42 12.9	-3.7
	177nm,0.3s,baz=169,slow=3.7,SNR=9.0						
FORT	Forrest	22.71	167	*e*P	P	06 42 19.2	+2.0
	113nm,0.8s						
KTGM	Kuala Trenggan	23.49	306	⇑P	P	06 42 24.8	+0.4
FRIM	Kepong	23.61	299	⇑P	P	06 42 23.3	-2.3
MNSI	Mandailing Nat	24.36	292	P	P	06 42 34.4	+2.0
	28nm,0.8s,4μm						
NWAO	Narrogin (SRO)	24.59	190	P	P	06 42 35.4	+1.1
	5.0nm,0.5s,baz=26,slow=6.6,SNR=5.6						
PMG	Port Moresby	24.72	94	P	P	06 42 35.9	+0.2
	11nm,0.7s,baz=312,slow=12,SNR=4.8						
PMG	Port Moresby	24.72	94	*e*P	P	06 42 38.9	+3.2
IPM	Ipoh	24.76	301	⇑P	P	06 42 36.3	+0.3
KULM	Kulim	25.51	302	⇓P	P	06 42 41.4	-1.4
BBOO	Buckleboo	27.29	154	*e*P	P	06 43 00.6	+2.0
QLP	Quilpie	27.52	133	P	P	06 43 03.6	+2.9
	baz=27,SNR=4.4						
QIZ	Qiongzhong	30.05	336	P	P	06 43 26.0	+2.9
QIZ				pP	pP	06 44 04.4	+1.5
QIZ				sP	sP	06 44 24.4	-0.9
QIZ				S	S	06 48 12.5	+5.4
QIZ				sS	sS	06 49 19.3	+1.5
QIZ				PMZ			
	5.0nm,1.1s						
RMQ	Roma	30.86	128	P	P	06 43 33.4	+3.2
	baz=31,SNR=6.4						
CMSA	Cobar Meteorol	31.61	139	P	P	06 43 39.6	+2.9
	baz=32,SNR=14						
YNG	Young	35.13	140	P	P	06 44 10.7	+3.5
	baz=35,SNR=7.8						
CMAR	Chiang Mai Arr	35.34	320	P	P	06 44 07.0	-2.1
	2.6nm,0.7s,baz=144,slow=6.4,SNR=13						
TOO	Toolangi	35.72	147	P	P	06 44 16.1	+4.0
	baz=36,SNR=4.1						
TOO				S	S	06 49 47.0	+13
	baz=36,SNR=5.0						
GYA	Guiyang	37.99	337	*e*P	P	06 44 36.0	+4.5
GYA				pP	pP	06 45 15.6	+3.2
GYA				sP	sP	06 45 36.3	+1.8
GYA				S	ScP	06 50 15.0	+2.6
GYA				sS	sS	06 51 24.4	+3.0
GYA				PMZ			
	10.0nm,0.8s						
GYA				PMZ			
	90nm,4.9s						
KMI	Kunming	38.52	331	P	P	06 44 40.0	+4.0
KMI				PMZ			
	9.0nm,1.2s						
NJ2	Nanjing	40.58	356	*e*P	P	06 44 54.0	+1.3
LHI	Lord Howe Isla	41.17	129	P	P	06 44 56.8	-0.8
	baz=41,SNR=3.4						
CD2	Chengdu	43.09	337	*e*P	P	06 45 10.8	-2.3
CD2				S	S	06 51 33.5	+8.9
CD2				PMZ			
	20nm,0.8s						
MJAR	Matsushiro Arr	47.41	18	P	P	06 45 43.2	-3.8
	2.2nm,0.6s,baz=192,slow=8.5,SNR=6.3						
LZH	Lanzhou	47.71	340	*e*P	P	06 45 51.9	+2.5
LZH				pP	pP	06 46 32.0	0.0
LZH				sP	sP	06 46 51.5	-2.2
LZH				PP	PP	06 47 46.0	+2.9
LZH				*e*S	S	06 52 34.1	+3.4
LZH				sS	sS	06 53 44.1	-1.3
LZH				PMZ			
	32nm,1.3s						
LZH				PMZ			
	150nm,5.4s						
BJI	Beijing	48.75	354	P	P	06 45 55.3	-1.7
BJI				pP	pP	06 46 40.6	+0.7
BJI				sP	sP	06 47 00.3	-1.2
BJI				PcP	PcP	06 47 20.9	+1.9
BJI				S	S	06 52 45.9	+1.1
BJI				sS	sS	06 53 59.4	-0.3
BJI				ScS	ScS	06 55 29.4	+0.4
BJI				PMZ			
	25nm,0.7s						
BJI				PMZ			
	180nm,4.4s						
ODAN	Odare	48.80	317	*e*P	P	06 45 55.6	-2.4
	12nm,0.5s						
TAPN	Taplejung	48.91	318	*e*P	P	06 45 56.8	-2.1
	20nm,0.7s						
RAMN	Ramite	49.39	317	*e*P	P	06 46 00.3	-2.2
	17nm,0.5s						
JIRN	Jiri	50.13	317	*e*P	P	06 46 06.0	-2.2
	8.0nm,0.3s						
HHC	Hu-ho-hao-te	50.20	350	*e*P	P	06 46 13.1	+4.9
HHC				pP	pP	06 46 51.8	+0.6
HHC				sP	sP	06 47 11.9	-0.9
HHC				PP	PP	06 48 11.3	+5.7
HHC				S	S	06 53 11.9	+6.7
HHC				sS	sS	06 54 20.5	0.0
HHC				PMZ			
	22nm,0.6s						
HHC				PMZ			
	190nm,6.2s						
GUN	Gumba	50.50	317	*e*P	P	06 46 09.1	-1.9
	32nm,0.8s						
PKI	Pulchoki	50.59	317	*e*P	P	06 46 09.1	-2.6
	10.0nm,0.3s						
PKIN	Phulchoki	50.61	317	*e*P	P	06 46 09.0	-2.7
	9.0nm,0.3s						
GKN	Gorkha	51.40	316	*e*P	P	06 46 15.7	-1.7
	11nm,0.3s						
KOLN	Koldanda	51.96	315	*e*P	P	06 46 18.2	-3.5
	8.6nm,0.6s						
GTA	Gaotai	52.10	338	*e*P	P	06 46 20.4	-2.0
GTA				pP	pP	06 47 05.8	0.0
GTA				sP	sP	06 47 28.3	+1.1
GTA				PMZ			
	5.0nm,1.1s						
DANN	Dangsing	52.21	316	*e*P	P	06 46 20.3	-3.3
CN2	Changchun	52.28	3	*e*P	P	06 46 29.5	+6.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PYUN	Piuthan	52.59	315	*e*P	P	06 46 23.3	-3.0
	comp=Z,27nm,0.5s						
USRK	Ussuriysk Ar.	53.34	9	P	P	06 46 28.7	-2.5
	comp=Z,2.7nm,0.3s,baz=197,slow=6.6,SNR=16						
SONM	Songino Array	57.93	348	P	P	06 47 01.2	-2.8
	comp=Z,2.2nm,0.6s,baz=165,slow=8.2,SNR=20						
WMQ	Urumqi	60.84	332	*e*P	P	06 47 26.3	+2.4
WMQ				pP	pP	06 48 08.8	+0.2
WMQ				PMZ			
	comp=Z,4.0nm,1.0s						
WMQ				PMZ			
	comp=Z,130nm,5.0s						
KSH	Kashi	64.20	322	P	P	06 47 43.9	-2.5
KSH				pP	pP	06 48 28.0	-3.5
KSH				PP	PP	06 50 10.1	-0.2
KSH				PMZ			
	comp=Z,6.0nm,0.8s						
KSH				PMZ			
	comp=Z,120nm,5.3s						
KSH				LN			
	comp=Z,110nm,4.4s						
KSH				LE			
	comp=Z,54nm,5.5s						
KSH				LZ			
	comp=Z,140nm,6.3s						
MK31	Makanchi Array	65.60	331	*e*P	P	06 47 52.0	-3.0
MKAR	Makanchi Array	65.60	331	P	P	06 47 52.2	-2.9
	comp=Z,2.2nm,0.5s,baz=137,slow=6.8,SNR=34						
TKM2	Tokmak 2	66.53	324	*e*P	P	06 47 58.5	-2.7
	comp=Z,2.6nm,0.6s						
EKS2	Erkin-Say	67.43	323	*e*P	P	06 48 05.1	-1.8
	comp=Z,3.0nm,0.9s						
PETK	Petropavlovsk-	68.54	22	P	P	06 48 11.5	-1.9
	comp=Z,4.8nm,0.8s,baz=185,slow=7.4,SNR=4.1						
KKAR	Karatay Array	69.64	322	*e*P	P	06 48 18.7	-1.7
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	69.85	338	P	P	06 48 17.4	-4.0
	comp=Z,3.5nm,0.5s,baz=135,slow=4.9,SNR=15						
KURBB	Kurchatov Arra	70.06	332	P	P	06 48 18.9	-3.8
	comp=Z,1.9nm,0.7s,baz=142,slow=5.6,SNR=21						
KURK	Kurchatov	70.08	332	*e*P	P	06 48 19.6	-3.3
VNDA	Vanda	71.87	172	P	P	06 48 33.6	+0.3
	comp=Z,0.6nm,0.6s,baz=316,slow=7.1,SNR=6.8						
VNDA	Vanda	71.87	172	*e*P	P	06 48 35.8	+2.5
GEYT	Alibeck	75.45	313	P	P	06 48 52.4	-2.5
	comp=Z,2.9nm,0.7s,baz=201,slow=7.9,SNR=6.5						
QSPA	South Pole Qui	81.35	180	*e*P	P	06 49 27.8	+1.1
	comp=Z,6.3nm,0.9s						
VYHS	Vyhne	105.23	318	PDIF	Pdif	06 51 15.6	-2.7
TORD	Torodi Ar. Bea	121.45	280	PKP	PKPdf	06 56 01.0	-2.3
	comp=Z,0.4nm,0.6s,baz=68,slow=1.4,SNR=4.0						

MEX 22 06:47:57.1±0.6, 16°.84N×99°.79W, h14km±9km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.50	294	*i* P	Pg	06 48 06.0	-1.0
CAIG				*e*

Moment Tensor Solution. s8,c8; s74,c98; Duration: 0
Moment tensor: Scale 10^{16}Nm; M_{rr}-0.15±.08;
$M_{\theta\theta}$0.38±.07; $M_{\phi\phi}$-0.22±.09; $M_{r\theta}$-0.40±.20; $M_{\theta\phi}$1.85±.09;
$M_{\phi r}$-0.21±.19; Best double couple: $M_0$1.92200×10^{16}
NP1:ϕ_s275.00000°,δ85.00000°,λ11.00000°. NP2:
ϕ_s184.00000°,δ80.00000°,λ174.00000°. Principal axes:
T 2.0400, Plg11.0000°, Azm140.0000°; N -0.2360,
Plg78.0000°, Azm302.0000°; P -1.8040, Plg4.0000°,
Azm49.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.
*BJI **22** 06:57:27.1,7.90N×82.20W,h10km,mB5.4/1,Ms5.1/3,*
Ms7 4.8/3

ISC 22 06:57:21.9±0.6,7.29N±0.09×82.20W±0.07,h10km,n325,
σ1§15/317,mb4.5/51,MS3.7/16,110C-126D,South of
Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**2.99**	**51**	*e*Pn	**Pn**	**06 58 10.4**	**+1.0**
BCIP				*e*Sn	**Sn**	**06 58 40.6**	**-4.8**
JTS	**JuntasAbangare**	**4.04**	**318**	Pn	**Pn**	**06 58 21.5**	**-2.3**
	55nm,0.3s,baz=124,slow=11,SNR=244						
JTS				LR	LR	06 59 04.4	
	comp=Z,401nm,21.6s,baz=86,slow=25						
JTS				Sn	**Sn**	**06 59 08.8**	**-2.4**
	1.7nm,0.3s,baz=143,slow=18,SNR=2.7						
ROSC	**El Rosal**	**8.19**	**107**	Pn	**Pn**	**06 59 20.2**	**-1.1**
	0.3nm,0.3s,baz=282,slow=18,SNR=2.3						
ROSC				LR	LR	07 02 05.3	
	comp=Z,470nm,21.9s,baz=304,slow=35						
TEIG	**Tepich**	**14.15**	**336**	LR	LR	07 06 17.5	
	comp=Z,760nm,18.8s,baz=132,slow=38						
ATAH	**Atahualpa**	**14.82**	**165**	LR	LR	07 05 35.9	
	comp=Z,762nm,20.5s,baz=348,slow=34						
CMIG	**Matias Romero**	**15.76**	**309**	Pn	**Pn**	**07 01 02.5**	**-1.6**
	0.3nm,0.3s,baz=143,slow=13,SNR=5.7						
CMIG				LR	LR	07 06 42.4	
	comp=Z,392nm,21.6s,baz=134,slow=36						
SJG	**San Juan**	**18.98**	**54**	LR	LR	07 09 25.1	
	comp=Z,251nm,20.2s,baz=270,slow=38						
PTGA	**Pitinga**	**23.57**	**109**	P	**P**	**07 02 30.4**	**-2.5**
	2.8nm,0.8s,baz=303,slow=17,SNR=4.0						
PTGA				LR	LR	07 13 00.6	
	comp=Z,159nm,18.7s,baz=279,slow=40						
PTGA	**Pitinga**	**23.57**	**109**	P	**P**	**07 02 31.9**	**-1.1**
035A	**Encino**	**24.70**	**324**	⇑P	**P**	**07 02 44.5**	**+1.1**
	baz=25						
738A	**Farr-Stevens R**	**24.91**	**331**	⇓P	**P**	**07 02 46.1**	**+0.8**
	baz=25						
034A	**Hebbronville**	**25.14**	**323**	⇓P	**P**	**07 02 48.5**	**+1.2**
	baz=25						
934A	**Benavides**	**25.44**	**325**	⇑P	**P**	**07 02 51.1**	**+1.1**
	baz=26						
835A	**Beeville**	**25.59**	**327**	⇑P	**P**	**07 02 52.1**	**+0.8**
	baz=26						
834A	**Tilden**	**25.86**	**325**	⇓P	**P**	**07 02 54.3**	**+0.4**
	baz=26						
933A	**Laredo**	**25.89**	**323**	⇑P	**P**	**07 02 54.5**	**+0.3**
	baz=26						
735A	**Kenedy**	**26.02**	**327**	⇓P	**P**	**07 02 55.7**	**+0.4**
	baz=26						
636A	**Smothers Creek**	**26.13**	**330**	⇑P	**P**	**07 02 56.6**	**+0.3**
	baz=26						
537A	**Green Hill Far**	**26.27**	**331**	⇑P	**P**	**07 02 57.6**	**+0.1**
	baz=27						
635A	**Leesville**	**26.43**	**328**	⇓P	**P**	**07 02 58.4**	**-0.5**
	baz=27						
833A	**Chaparral WMA,**	**26.49**	**324**	⇑P	**P**	**07 02 59.7**	**+0.1**
	baz=27						
536A	**Bastrop**	**26.62**	**330**	⇓P	**P**	**07 03 00.4**	**-0.3**
	baz=27						
832A	**Faith Ranch, C**	**26.80**	**323**	⇓P	**P**	**07 03 02.3**	**-0.1**
	baz=27						
535A	**Dale**	**26.84**	**329**	⇓P	**P**	**07 03 02.3**	**-0.4**
	baz=27						
338A	**Crockett**	**26.90**	**335**	⇓P	**P**	**07 03 02.9**	**-0.3**
	baz=27						
732A	**Laxson Ranch,**	**27.13**	**324**	⇓P	**P**	**07 03 05.2**	**-0.1**
	baz=27						
633A	**Saathoff Ranch**	**27.24**	**326**	⇓P	**P**	**07 03 05.8**	**-0.5**
	baz=28						
LPAZ	**La Paz**	**27.25**	**149**	P	**P**	**07 03 02.7**	**-4.5**
	1.0nm,0.7s,baz=334,slow=9.5,SNR=4.1						
LPAZ				LR	LR	07 15 11.9	
	comp=Z,326nm,18.0s,baz=311,slow=40						
534A	**Blanco**	**27.30**	**328**	⇓P	**P**	**07 03 06.3**	**-0.7**
	baz=28						
435B	**Jarrell**	**27.46**	**330**	⇑P	**P**	**07 03 07.6**	**-0.7**
	baz=28						
632A	**Uvalde**	**27.61**	**325**	⇓P	**P**	**07 03 09.1**	**-0.6**
	baz=28						
533A	**Kerrville**	**27.64**	**327**	⇓P	**P**	**07 03 09.0**	**-0.9**
	baz=28						
335A	**Moody**	**27.79**	**331**	⇑P	**P**	**07 03 10.6**	**-0.7**
	baz=28						
434A	**Burnet**	**27.82**	**329**	⇑P	**P**	**07 03 10.9**	**-0.7**
	baz=28						
631A	**Perdido Creek**	**27.99**	**324**	⇑P	**P**	**07 03 12.4**	**-0.7**
	baz=28,SNR=5.4						
532A	**Rocksprings**	**28.15**	**326**	⇓P	**P**	**07 03 14.1**	**-0.5**
	baz=28						
433A	**Art**	**28.20**	**328**	⇑P	**P**	**07 03 14.2**	**-0.7**
	baz=28,SNR=6.6						
334A	**Lometa**	**28.23**	**330**	⇓P	**P**	**07 03 13.8**	**-1.4**
	baz=28						
TKL	**Tuckaleechee C**	**28.27**	**357**	LR	LR	07 15 19.2	
	comp=Z,145nm,18.6s,baz=188,slow=38						
JCT	**Junction City**	**28.37**	**327**	⇓P	**P**	**07 03 15.1**	**-1.3**
	baz=29						
JCT	**Junction City**	**28.37**	**327**	*e*P	**P**	**07 03 16.6**	**+0.2**
	14nm,1.4s						
531A	**Rocksprings**	**28.54**	**325**	⇓P	**P**	**07 03 17.6**	**-0.4**
	baz=29						
333A	**Richland Sprin**	**28.60**	**329**	⇓P	**P**	**07 03 17.7**	**-0.7**
	baz=29						
432A	**Menard**	**28.67**	**327**	⇓P	**P**	**07 03 18.3**	**-0.9**
	baz=29						
234A	**Clairette**	**28.73**	**331**	⇑P	**P**	**07 03 18.7**	**-0.9**
	baz=29						
431A	**Sonora**	**28.97**	**326**	⇑P	**P**	**07 03 21.0**	**-0.8**
	baz=29						
530A	**J-C Ranch, Com**	**28.98**	**324**	⇓P	**P**	**07 03 22.1**	**+0.1**
	baz=29,SNR=7.5						
332A	**Millersview**	**29.04**	**328**	⇓P	**P**	**07 03 21.8**	**-0.6**
	baz=29						
233A	**Rising Star**	**29.11**	**330**	⇓P	**P**	**07 03 22.0**	**-1.0**
	baz=29						
134A	**White-Moore Ra**	**29.17**	**332**	⇑P	**P**	**07 03 22.5**	**-1.0**
	baz=30						
331A	**San Angelo**	**29.35**	**327**	⇓P	**P**	**07 03 24.5**	**-0.7**
	baz=30						
Z35A	**Perchaven, San**	**29.43**	**334**	⇓P	**P**	**07 03 25.1**	**-0.7**
	baz=30						
529A	**Stev Forest Ra**	**29.48**	**323**	⇓P	**P**	**07 03 26.4**	**0.0**
	baz=30,SNR=6.9						
133A	**Hamilton Ranch**	**29.60**	**331**	⇑P	**P**	**07 03 26.6**	**-0.7**
	baz=30						
429A	**Davenport Ranc**	**29.66**	**324**	⇑P	**P**	**07 03 28.1**	**+0.1**
	baz=30,SNR=6.3						
231A	**Bronte**	**29.77**	**328**	⇑P	**P**	**07 03 28.1**	**-0.8**
	baz=30						
TXAR	**Lajitas Array**	**29.82**	**320**	P	**P**	**07 03 29.4**	**-0.1**
	1.1nm,0.8s,baz=140,slow=9.9,SNR=11						
TXAR				PcP	**PcP**	**07 06 32.9**	**0.0**
	0.2nm,0.6s,baz=141,slow=5.8,SNR=3.0						
TXAR				LR	LR	07 15 50.4	
	comp=Z,95nm,18.8s,baz=0.0,slow=37						
330A	**Mertzon**	**29.83**	**326**	⇓P	**P**	**07 03 28.4**	**-1.0**
	baz=30						
ABTX	**Abilene, Hawle**	**29.97**	**330**	⇓P	**P**	**07 03 29.3**	**-1.4**
	baz=30						
Z33A	**Whitaker Ranch**	**30.08**	**332**	⇓P	**P**	**07 03 30.1**	**-1.5**
	baz=30						
230A	**Sterling City**	**30.16**	**327**	⇓P	**P**	**07 03 30.9**	**-1.6**
	baz=30						
H06E1	**SOCORRO T-PHAS**	**30.17**	**295**	T	T	07 35 09.8	
	SNR=4.4						
Y34A	**Reagan Ranch,**	**30.18**	**334**	⇓P	**P**	**07 03 30.5**	**-2.0**
	baz=30						
329A	**Wagon Wheel Ra**	**30.34**	**325**	⇑P	**P**	**07 03 32.3**	**-1.8**
	baz=31						
131A	**Roby**	**30.39**	**329**	⇓P	**P**	**07 03 32.8**	**-1.6**
	baz=31						
Z32A	**Haskell**	**30.44**	**331**	⇓P	**P**	**07 03 33.7**	**-1.1**
	baz=31,SNR=5.7						
229A	**Bryant Ranch,**	**30.61**	**326**	⇑P	**P**	**07 03 35.6**	**-0.8**
	baz=31						
Y33A	**Hilltop Ranch,**	**30.61**	**333**	⇓P	**P**	**07 03 34.8**	**-1.5**
	baz=31						
130A	**Snyder**	**30.63**	**328**	⇓P	**P**	**07 03 35.2**	**-1.3**
	baz=31						
X34A	**Smith Ranch, M**	**30.76**	**334**	⇓P	**P**	**07 03 36.4**	**-1.2**
	baz=31						
Z31A	**Sharp Cattle R**	**30.78**	**330**	⇓P	**P**	**07 03 36.8**	**-1.0**
	baz=31						
SIUC	**Southern Illin**	**30.95**	**349**	*e*P	**P**	**07 03 40.1**	**+0.9**
	29nm,1.4s						
Y32A	**R-V Farms, Ver**	**30.99**	**331**	⇓P	**P**	**07 03 38.9**	**-0.7**
	baz=31						
X33A	**Lawton**	**31.00**	**333**	⇑P	**P**	**07 03 39.0**	**-0.8**
	baz=31						
WCI	**Wyandotte Cave**	**31.02**	**354**	*e*P	**P**	**07 03 41.2**	**+1.4**
TUL1	**Leonard**	**31.09**	**338**	⇑P	**P**	**07 03 39.2**	**-1.2**
	baz=31						
129A	**Stewart Farms,**	**31.14**	**327**	⇑P	**P**	**07 03 40.3**	**-0.8**
	baz=31						
SIV	**San Ignacio**	**31.19**	**138**	P	P	07 03 37.8	-3.7
	1.8nm,0.8s,baz=343,slow=13,SNR=3.6						
SIV				LR	LR	07 15 55.8	
	comp=Z,199nm,19.4s,baz=52,slow=36						
Z30A	**Sanderson Ranc**	**31.26**	**328**	⇓P	**P**	**07 03 41.1**	**-1.0**
	baz=32						
X32A	**Elmer**	**31.26**	**332**	⇑P	**P**	**07 03 41.0**	**-1.0**
	baz=32						
W34A	**Bridge Creek,**	**31.28**	**335**	⇑P	**P**	**07 03 40.5**	**-1.7**
	baz=32						
V35A	**Meyer Ranch, C**	**31.36**	**337**	⇑P	**P**	**07 03 40.8**	**-2.0**
	baz=32						
W33A	**Caddo, Fort Co**	**31.50**	**334**	⇑P	**P**	**07 03 42.3**	**-1.9**
	baz=32						
Y30A	**Stafford Cattl**	**31.60**	**329**	⇓P	**P**	**07 03 44.2**	**-0.9**
	baz=32,SNR=6.5						
OLIL	**Olney**	**31.76**	**351**	*e*P	**P**	**07 03 46.8**	**+0.5**
	46nm,1.4s						
W32A	**Sentinel**	**31.83**	**333**	⇑P	**P**	**07 03 45.7**	**-1.3**
	baz=32						
Y29A	**Porterfield Fa**	**31.99**	**328**	⇑P	**P**	**07 03 47.1**	**-1.4**
	baz=32						
X30A	**Coker Ranch, T**	**32.04**	**330**	⇑P	**P**	**07 03 47.6**	**-1.4**
	baz=32						
U34A	**Anderson Ranch**	**32.22**	**336**	⇓P	**P**	**07 03 49.0**	**-1.4**
	baz=33						
V32A	**Arapaho**	**32.23**	**334**	⇓P	**P**	**07 03 49.4**	**-1.2**
	baz=33						
MNTX	**Cornudas Mount**	**32.52**	**321**	*e*P	**P**	**07 03 53.5**	**+0.3**
	12nm,1.3s						
V31A	**Spring Creek L**	**32.64**	**333**	⇑P	**P**	**07 03 52.7**	**-1.4**
	baz=33						
S36A	**Lake Cedric, C**	**32.65**	**340**	⇑P	**P**	**07 03 52.5**	**-1.6**
	baz=33						
MSTX	**Muleshoe**	**32.65**	**327**	⇑P	**P**	**07 03 53.0**	**-1.4**
	baz=33						
R33A	**Olander Ranch,**	**34.02**	**338**	⇓P	**P**	**07 04 05.1**	**-1.1**
	baz=34						
KSU1	**Kansas State U**	**34.23**	**340**	⇑P	**P**	**07 04 07.1**	**-0.8**
	baz=35						
R32A	**Long Quarter,**	**34.40**	**337**	⇑P	**P**	**07 04 08.6**	**-0.9**
	baz=35,SNR=6.3						
W25A	**X Bar L Ranch,**	**34.51**	**327**	⇓P	**P**	**07 04 09.6**	**-1.0**
	baz=35						
Q33A	**Connelly Farm,**	**34.57**	**338**	⇑P	**P**	**07 04 09.7**	**-1.2**
	baz=35						
U27A	**Thompson Grove**	**34.58**	**330**	⇑P	**P**	**07 04 10.0**	**-1.2**
	baz=35						
V26A	**Tequesquite Ra**	**34.58**	**328**	⇓P	**P**	**07 04 10.4**	**-0.8**
	baz=35						
121A	**Cookes Peak, D**	**34.59**	**320**	⇑P	**P**	**07 04 11.7**	**+0.4**
	baz=35,SNR=8.1						
121A	**Cookes Peak, D**	**34.59**	**320**	*e*P	**P**	**07 04 12.8**	**+1.5**
	53nm,1.7s						
R31A	**Burdett**	**34.62**	**336**	⇑P	**P**	**07 04 10.3**	**-1.0**
	baz=35						
319A	**Douglas**	**34.84**	**317**	⇓P	**P**	**07 04 13.6**	**+0.2**
	baz=35						
Q32A	**Meitler Ranch,**	**34.84**	**337**	⇑P	**P**	**07 04 11.9**	**-1.3**
	baz=35						
P33A	**Williams Farm,**	**34.91**	**339**	⇓P	**P**	**07 04 13.1**	**-0.7**
	baz=35						
R30A	**Dighton**	**34.92**	**335**	⇓P	**P**	**07 04 13.5**	**-0.5**
	baz=35						
U26A	**Atchley Ranch,**	**35.02**	**329**	⇑P	**P**	**07 04 14.4**	**-0.6**
	baz=35						
V25A	**Rancho No Teng**	**35.05**	**327**	⇑P	**P**	**07 04 15.2**	**-0.2**
	baz=35						
S28A	**Manter**	**35.07**	**332**	⇑P	**P**	**07 04 14.0**	**-1.3**
	baz=35						
V24A	**Rampart Ranch,**	**35.32**	**327**	⇑P	**P**	**07 04 18.0**	**+0.3**
	baz=36						
U25A	**Circle Dot Ran**	**35.37**	**328**	⇓P	**P**	**07 04 17.8**	**-0.2**
	baz=36						
P32A	**Huiting Farm,**	**35.41**	**338**	⇓P	**P**	**07 04 17.7**	**-0.4**
	baz=36						
ANMO	**Albuquerque**	**35.43**	**324**	*e*P	**P**	**07 04 19.4**	**+0.8**
LAZ	**Ladron**	**35.45**	**323**	*e*P	**P**	**07 04 20.4**	**+1.6**
	5.5nm,1.3s						
Q30A	**Quinter**	**35.48**	**335**	⇑P	**P**	**07 04 18.7**	**-0.2**
	baz=36						
T26A	**Comanche Natio**	**35.55**	**330**	⇓P	**P**	**07 04 19.1**	**-0.5**
	baz=36						
P31A	**Stockton**	**35.61**	**337**	⇑P	**P**	**07 04 19.4**	**-0.5**
	baz=36						
R28A	**Tribune**	**35.64**	**333**	⇑P	**P**	**07 04 19.4**	**-0.8**
	baz=36						
U24A	**Moreno Valley**	**35.84**	**327**	⇓P	**P**	**07 04 22.1**	**0.0**
	baz=36						
S26A	**Kim**	**35.84**	**331**	⇑P	**P**	**07 04 21.5**	**-0.5**
	baz=36						
V23A	**Ortiz Mt. (NFS**	**35.84**	**326**	⇓P	**P**	**07 04 22.5**	**+0.3**
	baz=36						
T25A	**Trinidad**	**35.93**	**329**	⇑P	**P**	**07 04 22.9**	**0.0**
	baz=36						
P30A	**Selden**	**35.98**	**336**	⇓P	**P**	**07 04 23.2**	**+0.1**
	baz=36						
R27A	**Eads**	**36.05**	**332**	⇑P	**P**	**07 04 23.7**	**0.0**
	baz=36						
Q28A	**Sharon Springs**	**36.24**	**334**	⇓P	**P**	**07 04 25.6**	**+0.2**
	baz=37						
U23A	**El Rito**	**36.27**	**326**	⇓P	**P**	**07 04 26.4**	**+0.6**
	baz=37,SNR=7.1						
R26A	**Arlington**	**36.37**	**331**	⇓P	**P**	**07 04 26.2**	**-0.3**
	baz=37						
TUC	**Tucson**	**36.42**	**317**	*e*P	**P**	**07 04 28.2**	**+1.3**
	4.3nm,1.1s						
O30A	**MW Ranch, Wils**	**36.45**	**337**	⇓P	**P**	**07 04 26.8**	**-0.3**
	baz=37						
KSCO	**Kaye Shedlock'**	**36.55**	**333**	⇑P	**P**	**07 04 27.9**	**-0.2**
	baz=37						
P28A	**Saint Francis**	**36.63**	**334**	⇑P	**P**	**07 04 28.4**	**-0.3**
	baz=37						
R25A	**Fountain Ranch**	**36.65**	**330**	⇓P	**P**	**07 04 29.0**	**+0.1**
	baz=37						
U22A	**Llaves**	**36.67**	**326**	⇑P	**P**	**07 04 29.9**	**+0.6**
	baz=37,SNR=7.9						
T23A	**Casias Ranch,**	**36.71**	**327**	⇑P	**P**	**07 04 29.0**	**-0.6**
	baz=37						
S24A	**Houchin Ranch,**	**36.73**	**329**	⇑P	**P**	**07 04 29.5**	**-0.3**
	baz=37						
BGNE	**Belgrade**	**36.82**	**340**	⇓P	**P**	**07 04 29.7**	**-0.5**
	baz=37						
Q26A	**Hugo**	**36.90**	**332**	⇓P	**P**	**07 04 30.6**	**-0.4**
	baz=37						
SDCO	**Great Sand Dun**	**36.96**	**329**	*e*P	**P**	**07 04 32.4**	**+0.7**
	2.3nm,0.8s						
P27A	**Ficken Ranch,**	**36.98**	**333**	⇑P	**P**	**07 04 31.4**	**-0.3**
	baz=37						
O28A	**Krutsinger Ran**	**37.10**	**335**	⇓P	**P**	**07 04 32.9**	**+0.2**
	baz=37						
R24A	**Sanders Place,**	**37.13**	**329**	⇓P	**P**	**07 04 33.1**	**0.0**
	baz=37						
Q25A	**Bedland, Calha**	**37.23**	**331**	⇓P	**P**	**07 04 34.4**	**+0.4**
	baz=38						
X18A	**Snowflake**	**37.26**	**321**	⇓P	**P**	**07 04 35.0**	**+0.8**
	baz=38,SNR=8.6						
P26A	**Davis Ranch, A**	**37.33**	**333**	⇓P	**P**	**07 04 35.7**	**+1.0**
	baz=38						
R23A	**Moffat**	**37.46**	**329**	⇑P	**P**	**07 04 36.0**	**0.0**
	baz=38						
N28A	**Pribbeno Ranch**	**37.47**	**336**	⇓P	**P**	**07 04 35.9**	**+0.1**
	baz=38						
W18A	**Petrified Fore**	**37.51**	**322**	⇑P	**P**	**07 04 37.1**	**+0.8**
	baz=38,SNR=8.5						
W18A	**Petrified Fore**	**37.51**	**322**	*e*P	**P**	**07 04 38.5**	**+2.1**
	55nm,1.3s						
214A	**Organ Pipe Nat**	**37.61**	**315**	⇑P	**P**	**07 04 37.5**	**+0.4**
	baz=38						
S22A	**4UR Ranch, Cre**	**37.66**	**327**	⇓P	**P**	**07 04 37.2**	**-0.5**
	baz=38						
L31A	**Butterfield Fa**	**37.74**	**340**	⇓P	**P**	**07 04 37.4**	**-0.6**
	baz=38						
M29A	**Burnside Ranch**	**37.78**	**337**	⇑P	**P**	**07 04 37.7**	**-0.7**
	baz=38						
L30A	**Spencer Herefo**	**37.85**	**339**	⇓P	**P**	**07 04 37.7**	**-1.3**
	baz=38						
OGNE	**Ogallala**	**37.89**	**335**	⇓P	**P**	**07 04 38.5**	**-0.9**
	baz=38						
N27A	**Anderson Farm,**	**37.99**	**335**	⇓P	**P**	**07 04 39.6**	**-0.7**
	baz=38						
X16A	**Lo Mia Camp, P**	**38.14**	**319**	⇑P	**P**	**07 04 41.3**	**-0.4**
	baz=38						
MVCO	**Mesa Verde**	**38.19**	**325**	⇓P	**P**	**07 04 42.7**	**+0.5**
	baz=38,SNR=9.9						
MVCO	**Mesa Verde**	**38.19**	**325**	*e*P	**P**	**07 04 43.1**	**+0.9**
	43nm,1.8s						
P23A	**Jefferson**	**38.37**	**330**	⇑P	**P**	**07 04 42.9**	**-0.8**
	baz=39						
ECSD	**EROS Data Cent**	**38.44**	**343**	⇓P	**P**	**07 04 42.4**	**-1.5**
	baz=39						
ECSD	**EROS Data Cent**	**38.44**	**343**	*e*P	**P**	**07 04 42.4**	**-1.5**
	18nm,1.7s						
K30A	**Basset**	**38.45**	**339**	⇓P	**P**	**07 04 43.6**	**-0.4**
	baz=39						
Z14A	**Wintersburg**	**38.51**	**317**	⇓P	**P**	**07 04 45.5**	**+0.9**
	baz=39						
O24A	**Longmont**	**38.58**	**331**	⇓P	**P**	**07 04 45.4**	**+0.1**
	baz=39						
ISCO	**Idaho Springs**	**38.59**	**331**	⇑P	**P**	**07 04 45.2**	**-0.3**
	baz=39						
113A	**Mohawk Valley,**	**38.74**	**315**	⇓P	**P**	**07 04 47.7**	**+1.2**
	baz=39,SNR=8.4						
WUAZ	**Wupatki**	**38.78**	**321**	⇑P	**P**	**07 04 48.4**	**+1.3**
	baz=39,SNR=8.6						
WUAZ	**Wupatki**	**38.78**	**321**	*e*P	**P**	**07 04 49.0**	**+1.9**
	22nm,1.3s						
Y14A	**Wickenburg**	**38.88**	**317**	⇓P	**P**	**07 04 48.5**	**+0.7**
	baz=39,SNR=5.3						
SPMN	**Marine on St.**	**38.90**	**348**	⇑P	**P**	**07 04 46.2**	**-1.5**
	baz=39						
SPMN	**Marine on St.**	**38.90**	**348**	*e*P	**P**	**07 04 46.1**	**-1.5**
	11nm,1.0s						
J30A	**Dallas**	**38.98**	**340**	⇑P	**P**	**07 04 46.7**	**-1.7**
	baz=39,SNR=6.5						
P22A	**Eagle**	**39.00**	**329**	⇓P	**P**	**07 04 48.8**	**-0.1**
	baz=39,SNR=6.4						
O23A	**Lake Granby, G**	**39.05**	**331**	⇑P	**P**	**07 04 49.1**	**-0.3**
	baz=39						
PV04	**Paradox Valley**	**39.26**	**326**	*e*P	**P**	**07 04 52.0**	**+1.0**
O22A	**Kremmling**	**39.32**	**330**	⇑P	**P**	**07 04 50.8**	**-0.9**
	baz=40						
J29A	**Okreek**	**39.34**	**339**	⇑P	**P**	**07 04 50.4**	**-1.1**
	baz=40,SNR=6.7						
K27A	**Flueckinger Fa**	**39.45**	**337**	⇑P	**P**	**07 04 52.2**	**-0.2**
	baz=40						
I30A	**Oacoma**	**39.48**	**340**	⇑P	**P**	**07 04 50.5**	**-2.1**
	baz=40						
M24A	**Cheyenne**	**39.53**	**333**	⇓P	**P**	**07 04 52.9**	**-0.3**
	baz=40						
N23A	**Red Feather La**	**39.59**	**331**	⇑P	**P**	**07 04 53.5**	**-0.4**
	baz=40						
J28A	**Allard Ranch,**	**39.68**	**338**	⇓P	**P**	**07 04 54.4**	**0.0**
	baz=40						
N22A	**Wattenberg Ran**	**39.77**	**331**	⇓P	**P**	**07 04 55.7**	**+0.4**
	baz=40						
J27A	**Elkhorn Farm,**	**39.83**	**337**	⇓P	**P**	**07 04 55.5**	**-0.1**
	baz=40						
PDMCI	**Parker Dam,Lak**	**39.86**	**317**	⇓P	**P**	**07 04 57.1**	**+1.2**
	baz=40						
U15A	**North Rim**	**39.94**	**321**	⇓P	**P**	**07 04 56.9**	**+0.1**
	baz=40,SNR=11						
W13A	**Hualapai Mount**	**40.15**	**318**	⇓P	**P**	**07 04 59.1**	**+0.5**
	baz=40						
I28A	**Midland**	**40.16**	**339**	⇑P	**P**	**07 04 57.3**	**-0.9**
	baz=40						
J26A	**Sides Ranch, S**	**40.30**	**336**	⇓P	**P**	**07 04 59.6**	**+0.2**
	baz=41						
M22A	**Cedar Creek Ra**	**40.30**	**331**	⇑P	**P**	**07 04 59.4**	**-0.3**
	baz=41						
BC3	**Big Chuckawall**	**40.41**	**315**	⇑P	**P**	**07 05 01.5**	**+1.0**
	baz=41						
IRM	**Iron Mountain**	**40.47**	**316**	⇑P	**P**	**07 05 01.6**	**+0.6**
	baz=41						
I27A	**Quinn**	**40.54**	**338**	⇓P	**P**	**07 05 01.6**	**+0.2**
	baz=41						
J25A	**Sunshine Ranch**	**40.65**	**336**	⇓P	**P**	**07 05 02.7**	**+0.3**
	baz=41						
SRU	**San Rafael Swe**	**40.66**	**325**	*e*P	**P**	**07 05 03.6**	**+0.9**
	11nm,1.2s						
BDFB	**Brasilia**	**40.81**	**124**	LR	LR	07 22 10.2	
	comp=Z,249nm,21.2s,baz=286,slow=37						
CFAA	**Coronel Fontan**	**40.91**	**162**	P	P	07 05 00.5	-4.1
	0.1nm,0.5s,baz=270,slow=5.1,SNR=4.0						
BELC	**Belle Mtn. Jos**	**40.97**	**315**	⇓P	**P**	**07 05 06.0**	**+0.7**
	baz=41						
H27A	**Howes**	**41.03**	**338**	⇓P	**P**	**07 05 04.6**	**-0.9**
	baz=41,SNR=9.0						
I25A	**Rochford**	**41.15**	**336**	⇑P	**P**	**07 05 06.4**	**-0.2**
	baz=42						
MVU	**Marysvale**	**41.23**	**323**	*e*P	**P**	**07 05 08.6**	**+1.2**
	14nm,1.4s						
K22A	**Casper**	**41.24**	**333**	⇓P	**P**	**07 05 06.7**	**-0.6**
	baz=42						
CCUT	**Cedar City**	**41.31**	**321**	*e*P	**P**	**07 05 10.1**	**+2.0**
	11nm,1.5s						
F29A	**Eureka**	**41.31**	**341**	⇓P	**P**	**07 05 06.8**	**-0.9**
	baz=42						
ARUT	**

baz=43
J19A Crowheart 42.90 331 ⇓P **P 07 05 21.1 +0.2**
baz=43
FURC Furnace Creek, 42.92 318 ⇓P **P 07 05 21.7 +0.8**
baz=43
LRMC Laurel Mtn Rad 42.94 316 ⇑P **P 07 05 22.0 +0.7**
baz=43
I20A Worland 42.98 332 ⇑P **P 07 05 21.8 +0.2**
baz=43
D27A Center 42.99 341 ⇑P **P 07 05 21.1 -0.4**
baz=43
MDND Maddock 43.05 343 *e*P **P 07 05 21.2 -0.6**
MPMC Manual Prospec 43.12 317 ⇓P **P 07 05 23.4 +0.6**
baz=43
R11A Troy Canyon, C 43.18 321 ⇑P **P 07 05 24.4 +1.0**
baz=44,SNR=7.2
R11A Troy Canyon, C 43.18 321 *e*P **P 07 05 25.6 +2.3**
14nm,1.6s
F23A Volborg 43.22 336 ⇑P **P 07 05 23.3 -0.1**
baz=44
B30A Myrvik Farm, E 43.24 344 ⇓P **P 07 05 22.4 -1.0**
baz=44
BGU Big Grassy Mou 43.30 326 *e*P **P 07 05 25.2 +1.0**
7.0nm,1.4s
H20A Greybull 43.34 333 ⇑P **P 07 05 24.5 +0.1**
baz=44
I19A Meeteetse 43.45 332 ⇓P **P 07 05 25.6 +0.2**
baz=44
C27A Sayler Ranch, 43.51 341 ⇑P **P 07 05 25.2 -0.5**
baz=44
B29A Wagenman Farm, 43.53 343 ⇑P **P 07 05 25.3 -0.4**
baz=44
ARVC Arvin 43.55 315 ⇑P **P 07 05 26.2 +0.1**
baz=44
GRAC Grapevine Rang 43.55 318 ⇓P **P 07 05 27.3 +1.1**
baz=44
A30A Hoffart Farm, 43.68 345 ⇓P **P 07 05 25.6 -1.3**
baz=44
HVU Hansel Valley 43.74 327 *e*P **P 07 05 29.7 +2.0**
6.8nm,1.1s
C26A Wahner Farm, P 43.80 341 ⇑P **P 07 05 27.3 -0.7**
baz=44
SBC Santa Barbara 43.84 313 ⇓P **P 07 05 29.1 +0.6**
baz=44
REDW Red Top Meadow 43.85 330 *e*P **P 07 05 29.6 +0.9**
LOHW Long Hollow 43.91 330 *e*P **P 07 05 29.1 0.0**
H19A Powell 43.93 332 ⇑P **P 07 05 29.2 0.0**
baz=44
D24A Glendive 43.97 338 ⇑P **P 07 05 29.3 -0.1**
baz=44
G20A Bridger 44.01 334 ⇓P **P 07 05 29.7 -0.1**
baz=44
TPH Tonopah 44.06 319 *e*P **P 07 05 31.7 +1.2**
9.6nm,1.4s
VES Vestal, Richgr 44.10 316 ⇓P **P 07 05 32.4 +1.9**
baz=44
ULM Lac du Bonnet 44.32 347 P **P 07 05 30.1 -2.0**
5.7nm,0.8s,baz=161,slow=7.7,SNR=13
ULM Lac du Bonnet 44.32 347 *e*P **P 07 05 30.3 -1.8**
D23A Lindsay 44.35 338 ⇑P **P 07 05 32.8 +0.4**
baz=45
F20A Billings 44.43 334 ⇑P **P 07 05 33.2 0.0**
baz=45
ELK Elko 44.45 324 *e*P **P 07 05 34.7 +1.1**
MTUM Tungsten Hills 44.54 318 *e*P **P 07 05 34.3 0.0**
B25A Knox Farm, Ray 44.55 340 ⇓P **P 07 05 34.0 +0.1**
baz=45
D22A Cohagen 44.70 337 ⇓P **P 07 05 35.6 +0.3**
baz=45
F19A Roth Farm, Mol 44.82 334 ⇑P **P 07 05 36.2 -0.1**
baz=45
C23A Lambert 44.87 338 ⇓P **P 07 05 36.6 +0.1**
baz=45
NVAR Mina Array Bea 44.97 319 P **P 07 05 37.7 0.0**
1.7nm,0.7s,baz=129,slow=7.0,SNR=12
E20A Meyer Farm, Mu 44.98 335 ⇑P **P 07 05 37.8 +0.3**
baz=45
E19A Rath Farm, Rou 45.23 334 ⇓P **P 07 05 39.8 +0.3**
baz=46
B23A Brockton 45.35 339 ⇑P **P 07 05 40.8 +0.5**
baz=46
A24A Westby 45.39 340 ⇑P **P 07 05 41.0 +0.3**
baz=46
BMN Battle Mountai 45.45 322 *e*P **P 07 05 42.9 +1.5**
50nm,1.8s
D19A Cripps Ranch, 45.82 335 ⇓P **P 07 05 44.2 +0.1**
baz=46
HLID Hailey 45.84 327 ⇓P **P 07 05 44.8 +0.3**
baz=46
HLID Hailey 45.84 327 *e*P **P 07 05 45.2 +0.7**
59nm,3.0s
C20A Veseth Ranch, 45.89 336 ⇑P **P 07 05 45.0 +0.4**
baz=46
BOZ Bozeman (W) 45.90 331 *e*P **P 07 05 45.7 +0.8**
21nm,1.8s
A22A Carney Farms, 46.13 338 ⇑P **P 07 05 46.9 +0.4**
baz=46
C19A Slack Wire Ran 46.33 335 ⇑P **P 07 05 48.8 +0.6**
baz=47
A21A Bergtoll Ranch 46.50 338 ⇑P **P 07 05 49.9 +0.5**
baz=47
MFID Camas Ranch 46.51 326 *e*P **P 07 05 50.5 +0.9**
30nm,2.0s
A20A Cobblestone Ra 46.79 337 ⇓P **P 07 05 52.1 +0.4**
baz=47
B19A Brinkman Farms 46.86 336 ⇓P **P 07 05 52.4 +0.2**
baz=47
A19A Klindworth Far 47.15 336 ⇓P **P 07 05 55.3 +0.8**
baz=48
WVOR Wild Horse Val 47.50 323 *e*P **P 07 05 58.1 +0.7**
44nm,1.5s
MSO Missoula 47.86 331 ⇓P **P 07 06 00.9 +0.7**
baz=48
MSO Missoula 47.86 331 *e*P **P 07 06 02.5 +2.3**
53nm,2.6s
BMO Blue Mountains 48.25 327 *e*P **P 07 06 02.6 -0.6**
5.7nm,1.4s
PLCA Paso Flores 48.97 168 P P 07 06 04.0 -4.7
1.4nm,0.5s,baz=335,slow=6.7,SNR=10
SCHQ Schefferville 48.99 12 P **P 07 06 07.5 -1.1**
1.4nm,0.9s,baz=245,slow=19,SNR=2.0
SCHQ LR LR 07 30 38.1
comp=Z,65nm,18.2s,baz=238,slow=41
G08A Pilot Rock 49.44 326 *e*P **P 07 06 13.0 +0.7**
M02C Callahan 49.51 320 ⇓P **P 07 06 13.5 +0.6**
baz=50
E09A Wood Farm, Sta 49.77 328 *e*P **P 07 06 14.6 -0.1**
8.8nm,1.0s
FFC Flin Flon 49.90 345 *e*P **P 07 06 16.4 +0.9**
13nm,1.5s
NEW Newport 50.41 330 ⇓P **P 07 06 19.8 +0.2**
baz=51
FCC Fort Churchill 52.16 352 *e*P **P 07 06 31.4 -1.0**
YKA Yellowknife Ar 59.97 343 P **P 07 07 27.3 -0.9**
1.5nm,0.8s,baz=138,slow=6.3,SNR=4.0
RES Resolute Bay 67.75 356 P **P 07 08 19.1 -0.2**
0.7nm,0.6s,baz=184,slow=17,SNR=3.2
ILAR Eielson Array 72.80 336 P **P 07 08 49.4 -1.1**
0.7nm,0.8s,baz=130,slow=3.4,SNR=7.9
ILAR LR LR 07 44 40.8
comp=Z,24nm,18.2s,baz=118,slow=39
ESDC Sonseca Array 76.34 51 P **P 07 09 13.8 +2.2**
0.2nm,0.3s,baz=284,slow=5.2,SNR=2.6
ESDC LR LR 07 37 25.2
comp=Z,49nm,21.9s,baz=240,slow=31
DBIC Dimbokro 76.68 85 LR LR 07 41 05.4
comp=Z,29nm,20.9s,baz=244,slow=34
DBIC Dimbokro 76.68 85 P P 07 09 18.8 +4.9
2.4nm,0.9s
TORD Torodi Ar. Bea 82.46 78 P **P 07 09 45.6 +0.3**
0.9nm,0.8s,baz=275,slow=4.5,SNR=3.2
TORD LR LR 07 44 26.6
comp=Z,56nm,21.9s,baz=305,slow=34
NOA NORSAR Array B 85.33 29 LR LR 07 46 29.4
comp=Z,22nm,19.1s,baz=270,slow=34
GERES GERESS Array B 88.44 41 LR LR 07 42 43.3
comp=Z,47nm,21.0s,baz=269,slow=31
ARCES ARCESS Array B 89.32 20 LR LR 07 47 31.4
comp=Z,49nm,18.2s,baz=324,slow=34
FINES FINESS Array B 92.23 27 LR LR 07 47 59.1
comp=Z,46nm,20.9s,baz=310,slow=33
CN2 Changchun 123.32 336 *e*PKP PKPdf 07 16 26.0 +6.5
WMQ Urumqi 128.31 9 *e*PKP **PKPdf 07 16 32.0 +2.8**
KSH Kashi 129.23 22 *e*PKP **PKPdf 07 16 34.5 +3.3**
KSH sPKP 07 16 38.8
KSH PKS **PKSdf 07 20 11.0 +3.2**
KSH SKS **SKSdf 07 23 45.3 +2.0**
KSH SS **SS 07 35 58.5 -0.1**

KSH PPMZ
73nm,5.2s
KSH LN
25nm,3.9s
KSH LE
29nm,3.6s
KSH LZ
130nm,6.4s
HHC Hu-ho-hao-te 130.45 346 *e*PKP **PKPdf 07 16 38.1 +4.7**
HHC PP PP 07 18 52.4 +6.3
HHC SKS **SKSdf 07 23 47.6 +2.2**
HHC SKKS **SKKSac 07 25 45.9 +1.3**
HHC SS **SS 07 36 14.8 +1.6**
HHC LN
150nm,19.7s
HHC LE
250nm,19.9s
HHC LZ
140nm,21.0s
LZH Lanzhou 136.48 353 *e*PKP **PKPdf 07 16 49.8 +4.8**
LZH sPKP 07 16 54.3
LZH LN
130nm,18.2s
LZH LE
130nm,18.0s
LZH LZ
170nm,20.3s
ASAR Alice Springs 141.74 241 PKhKP PKPpre 07 16 48.0
0.2nm,0.5s,baz=120,slow=3.2,SNR=4.9
ASAR PKP **PKPdf 07 16 53.2 -1.5**
0.9nm,0.8s,baz=108,slow=2.4,SNR=7.1
WRAB Tennant Creek 142.42 247 *e*PKPdf **PKPdf 07 16 58.6 +2.6**
WRA Warramunga Arr 142.43 247 PKP **PKPdf 07 16 51.2 -4.8**
0.7nm,0.7s,baz=98,slow=2.7,SNR=4.3
KMI Kunming 147.43 352 PKPbc **PKPdf 07 17 05.3 +0.5**

JSN 22 07:08:12.6±0.3, 17°.97N×76°.85W, h12km±7km, MD1.9, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJ	**Hope**	**0.10**	**71**	*i* P	Pg	07 08 17.2	+1.7
HOJ	**Hope**	**0.10**	**71**	*i* P	Pg	07 08 15.4	-0.1
STH	**Stony Hill**	**0.11**	**19**	*i* P	Pb	07 08 17.3	+0.5
STH				*i* S	Sg	07 08 17.4	-0.4
STH	**Stony Hill**	**0.11**	**19**	*i* P	Pg	07 08 15.4	-0.3
STH				*i* S	Sg	07 08 17.4	-0.4
GWJ	**Greenwich**	**0.15**	**48**	*i* P	Pg	07 08 16.3	0.0
GWJ	**Greenwich**	**0.15**	**48**	*i* P	Pg	07 08 16.0	-0.4
BBJ	**Bamboo Saint A**	**0.57**	**316**	*i* P	Pg	07 08 23.0	-0.9

MAN 22 07:09:27, 18°.26N×120°.61E, h21km, mb4.3, ML3.1, MS2.9, 3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.06**	**5**	⇓*i*P	Pb	07 09 31.6	+0.8
PIP				*e*S	Sb	07 09 35.4	+1.9
SIPP	**Brgy, Tapao**	**0.37**	**204**	⇓*e*P	Pn	07 09 36.4	-0.7
SIPP				*e*S	Sb	07 09 41.6	+1.6
ABRA	**Dolores**	**0.62**	**171**	*e*P	Pb	07 09 39.5	+0.4
ABRA				*e*S	Sn	07 09 50.0	+0.2
APYP	**Conner**	**0.72**	**123**	*e*P	Pb	07 09 40.6	-0.3
APYP				*e*S	Sb	07 09 51.3	+1.0
CVP	**Callao Caves**	**1.28**	**116**	⇓*i*P	Pn	07 09 49.1	-0.6
CVP				*i* S	Sb	07 10 06.5	+0.2
SGCP	**Mt. Cagua**	**1.36**	**91**	*e*P	Pn	07 09 50.3	-0.5

GUC 22 07:27:58.1±0.5, 34°.94S×71°.55W, h79km±11km, ML3.8, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.27**	**104**	⇓*i*P	Pn	07 28 10.1	0.0
NICH				*i* S	Sn	07 28 18.6	-0.4
TALC	**Talca**	**0.47**	**188**	⇓*i*P	Pn	07 28 10.9	-0.6
TALC				*i* S	Sn	07 28 21.2	-0.1
CLCH	**Cerro Calan**	**1.75**	**29**	⇑*i*P	Pn	07 28 22.9	-3.9
CLCH				*i* S	Sn	07 28 48.3	-0.3
PEL	**Peldehue**	**1.93**	**22**	⇓*i*P	Pn	07 28 25.0	-4.1
PEL				*i* S	Sn	07 28 52.4	-0.3
PEL				IAML		07 29 00.1	
comp=E,1μm,0.6s							

IDC 22 07:29:22.6±4.5, 16°.98S×174°.59W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.7/18, mbtmp4.0/3, MS3.4/2, Ms1 3.4/2, ms1mx2.9/29, Error ellipse: s-maj=326.8km s-min=29.9km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.58**	**251**	LR	LR	07 39 51.8	
comp=Z,87nm,20.6s,baz=216,slow=34							
PMG	**Port Moresby**	**37.94**	**276**	LR	LR	07 50 32.4	
comp=Z,62nm,19.2s,baz=142,slow=34							
WRA	**Warramunga Arr**	**48.39**	**258**	P	P	07 38 06.9	+0.1
0.6nm,0.5s,baz=96,slow=8.0,SNR=7.6							
ASAR	**Alice Springs**	**48.55**	**253**	P	P	07 38 07.7	-0.3
4.0nm,0.7s,baz=86,slow=8.6,SNR=28							
NVAR	**Mina Array Bea**	**76.26**	**42**	P	P	07 41 13.4	0.0
0.6nm,0.7s,baz=225,slow=8.3,SNR=6.3							

IGQ 22 07:33:26±0.8, 0°.43N×77°.08W, h3km±140km, Mb4.1, 1C-12D, Error ellipse: s-maj=4.4km s-min=2.4km az=7.4, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONE	**Cono NE Rev Vo**	**0.75**	**229**	⇓P	Pg	07 33 41.0	+0.2
LAV4	**Lava4-Reventad**	**0.75**	**227**	⇓P	Pb	07 33 42.0	-0.2
CHAR	**Charly**	**0.78**	**229**	⇓P	Pb	07 33 42.7	-0.1
CAYA	**Cayambe**	**0.97**	**249**	⇓P	Pb	07 33 46.7	+0.4
ANGU	**Angureal**	**1.00**	**248**	P	Pg	07 33 46.2	+0.2
CAYR	**Refugio Cayamb**	**1.01**	**246**	⇓P	Pg	07 33 46.3	0.0
LITE	**Lita**	**1.34**	**286**	S	Sn	07 34 10.1	-0.2
LITE	**Lita**	**1.34**	**286**	P	Pn	07 33 51.8	0.0
OTAV	**Otavalo**	**1.38**	**262**	⇓S	Sg	07 34 10.6	-0.9
OTAV	**Otavalo**	**1.38**	**262**	⇓P	Pn	07 33 51.3	-1.5
ANTI	**Antisana**	**1.39**	**231**	⇓P	Pg	07 33 53.6	+0.2
GGP	**Refugio Guagua**	**1.63**	**248**	P	Pg	07 33 58.7	+0.7
PINO	**Pino**	**1.63**	**249**	P	Pg	07 33 58.8	+0.7
TERV	**Terraza Guagua**	**1.64**	**249**	P	Pg	07 33 58.0	-0.1
JUA2	**San Juan 2**	**1.65**	**247**	P	Pg	07 33 58.8	+0.4
COV1	**Cotopaxi Volc**	**1.66**	**229**	P	Pg	07 34 00.8	+2.0
VC1	**Cotopaxi 1**	**1.70**	**231**	P	Pb	07 33 58.2	-0.3
BTAM	**Cotopaxi Volca**	**1.71**	**230**	P	Pb	07 33 59.1	+0.2
BVC2	**Cotopaxi Volca**	**1.71**	**231**	⇓P	Pg	07 33 59.3	-0.4
BREF	**Cotopaxi Volca**	**1.74**	**231**	P	Pg	07 34 00.9	+0.6
NAS2	**Nasa**	**1.75**	**232**	P	Pg	07 34 00.3	0.0
MOV1	**Cotopaxi Vol s**	**1.77**	**230**	P	Pb	07 34 00.1	+0.2
BMOR	**Cotopaxi Volca**	**1.79**	**230**	S	Sg	07 34 24.4	-0.6
BMOR	**Cotopaxi Volca**	**1.79**	**230**	P	Pb	07 34 00.2	-0.2
CAMI	**Rancho Maria**	**1.80**	**232**	P	Pg	07 34 01.2	+0.1
PAST	**Pastocalle**	**1.92**	**234**	P	Pg	07 34 03.4	0.0
PISA	**Pisayambo**	**1.97**	**221**	P	Pb	07 34 02.4	-0.8
BRUN	**Tungurahua Vol**	**2.27**	**216**	⇓P	Pn	07 34 06.0	+1.1
BULB	**Ulba Tungurahu**	**2.28**	**216**	⇓P	Pb	07 34 08.5	+0.2
ULBA	**Ulba**	**2.29**	**215**	P	Pb	07 34 07.2	-1.3
BPAT	**Tungurahua Vol**	**2.35**	**215**	⇑P	Pb	07 34 09.1	-0.6
PAT1	**Patacocha**	**2.35**	**215**	P	Pb	07 34 09.5	-0.2
BMAS	**Trigal station**	**2.37**	**216**	⇓P	Pb	07 34 09.0	-0.9
RIOE	**Riobamba**	**2.66**	**216**	P	Pn	07 34 12.0	+1.7
RIOE	**Riobamba**	**2.66**	**216**	S	Sn	07 34 44.4	+0.9
MACE	**Macas**	**2.89**	**203**	P	Pn	07 34 15.7	+2.4

IDC 22 07:39:38.9±1.9, 7°.88S×126°.49E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/24, mbtmp3.4/3, ML3.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/24, Error ellipse: s-maj=180.0km s-min=31.7km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.72**	**138**	S	Sn	07 42 39.9	+3.6
baz=9.0,SNR=4.2							
KNRA	**Kununurra**	**8.06**	**164**	P	Pn	07 41 42.4	+5.1
baz=12,SNR=3.2							
SWI	**Sorong**	**8.44**	**35**	P	Pn	07 41 51.8	+9.2
baz=12,SNR=10							

WRA Warramunga Arr 14.20 148 Pn Pn 07 43 00.2 -1.3
0.1nm,0.3s,baz=322,slow=13,SNR=5.9
WRA Sn Sn 07 45 30.9 -9.0
0.2nm,0.3s,baz=328,slow=22,SNR=4.9
ASAR Alice Springs 17.23 156 P Pn 07 43 42.0 +0.8
0.1nm,0.3s,baz=332,slow=11,SNR=4.8
USRK Ussuriysk Ar. 52.08 5 LR LR 08 11 33.2
comp=Z,29nm,21.8s,baz=90,slow=37
MKAR Makanchi Array 67.11 329 P P 07 50 34.4 0.0
0.5nm,0.6s,baz=129,slow=7.0,SNR=6.9

*ISCJB **22** 07:52:11.0±1.2, 21°.1S±0°.1×177°.9W±0°.2, h400km, mb3.7/4, Error ellipse: s-maj=25.0km s-min=14.9km az=4.1*
*IDC **22** 07:52:15.1±3.8, 21°.31S×177°.81W, h446km±39km, mb3.4/4, mb1 3.6/6, mb1mx3.3/23, mbtmp4.3/6, Error ellipse: s-maj=27.6km s-min=26.5km az=123.0*
ISC 22 07:52:12.2±1.1, 21°.3S±0°.1×177°.7W±0°.2, h400km, n9, σ1§96/11, mb3.7/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.72**	**264**	P	P	**07 55 24.0**	**+2.1**
0.6nm,0.3s,baz=114,slow=19,SNR=6.0							
URZ	**Urewera**	**17.49**	**194**	P	P	**07 55 51.7**	**+0.4**
1.9nm,0.3s,baz=326,slow=15,SNR=39							
URZ				S	S	**07 58 52.6**	**0.0**
0.8nm,0.3s,baz=358,slow=21,SNR=7.1							
ASAR	**Alice Springs**	**44.58**	**257**	P	P	**07 59 45.6**	**-1.3**
3.2nm,0.6s,baz=96,slow=8.0,SNR=42							
ASAR				PcP	**PcP**	**08 01 19.6**	**-2.4**
1.3nm,0.7s,baz=104,slow=4.0,SNR=12							
WRA	**Warramunga Arr**	**44.73**	**263**	P	P	**07 59 45.9**	**-2.2**
1.9nm,0.8s,baz=97,slow=7.9,SNR=20							
WRA				PcP	**PcP**	**08 01 20.7**	**-1.8**
0.3nm,0.4s,baz=99,slow=3.5,SNR=6.9							
NVAR	**Mina Array Bea**	**81.43**	**43**	P	P	**08 03 45.9**	**-0.3**
0.5nm,0.8s,baz=231,slow=8.4,SNR=3.6							
CMAR	**Chiang Mai Arr**	**90.60**	**289**	P	P	**08 04 30.5**	**-0.3**
1.0nm,0.3s,baz=142,slow=2.6,SNR=9.2							
AKASG	**Malin Array Be**	**143.81**	**331**	PKP	PKPab	08 10 55.5	-3.3
3.8nm,0.6s,baz=42,slow=4.5,SNR=9.7							
BRTR	**Keskin Array B**	**147.54**	**312**	PKPbc	**PKPdf**	**08 11 07.9**	**+0.7**
1.0nm,0.7s,baz=143,slow=5.3,SNR=5.0							
GERES	**GERESS Array B**	**151.01**	**344**	PKPbc	**PKPdf**	**08 11 15.6**	**+3.2**
0.2nm,0.5s,baz=38,slow=3.7,SNR=4.7							

*IDC **22** 07:54:05.3±1.6, 37°.27S×73°.80W, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.6/18, mbtmp3.5/6, ML3.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/23, Error ellipse: s-maj=39.0km s-min=20.1km az=69.0*
*ISCJB **22** 07:54:08.4±1.2, 37°.36S±0°.09×73°.6W±0°.2, h33km, mb3.6/4, MS3.0/1, Error ellipse: s-maj=22.2km s-min=12.0km az=15.2*
ISC 22 07:54:10.0±1.3, 37°.4S±0°.1×73°.7W±0°.2, h35km, n8, σ1§10/9, mb3.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.14**	**145**	Pn	**Pn**	**07 55 10.6**	**-0.1**
0.5nm,0.3s,baz=306,slow=12,SNR=12							
PLCA				Lg	Lg	07 56 23.3	
1.7nm,0.3s,baz=318,slow=4.1,SNR=3.0							
CFAA	**Coronel Fontan**	**7.32**	**40**	Pn	**Pn**	**07 55 52.9**	**-1.5**
0.1nm,0.3s,baz=214,slow=14,SNR=4.0							
CFAA				Sn	**Sn**	**07 57 17.6**	**+1.3**
0.1nm,0.3s,baz=260,slow=6.1,SNR=2.3							
LPAZ	**La Paz**	**21.58**	**15**	P	P	**07 58 57.8**	**+0.4**
1.9nm,0.7s,baz=168,slow=7.1,SNR=7.7							
SIV	**San Ignacio**	**24.06**	**31**	P	P	**07 59 20.8**	**-1.3**
1.5nm,0.7s,baz=221,slow=6.3,SNR=4.1							
SIV				LR	LR	08 09 35.2	
comp=Z,60nm,21.7s,baz=240,slow=39							
TXAR	**Lajitas Array**	**72.08**	**333**	P	P	**08 05 30.6**	**-0.1**
0.5nm,0.8s,baz=148,slow=7.4,SNR=5.7							
TORD	**Torodi Ar. Bea**	**86.61**	**71**	P	P	**08 06 51.0**	**+1.0**
0.5nm,0.6s,baz=217,slow=6.1,SNR=4.2							
ZALV	**Zalesovo Beam**	**157.78**	**35**	PKPab	**PKPab**	**08 14 35.3**	**+0.5**
0.5nm,0.3s,baz=284,slow=5.8,SNR=2.5							
MKAR	**Makanchi Array**	**159.91**	**55**	PKPab	**PKPab**	**08 14 45.0**	**+0.6**
0.6nm,0.9s,baz=291,slow=3.8,SNR=5.0							

*IDC **22** 08:09:49.7±1.9, 4°.95N×125°.00E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.4/4, Error ellipse: s-maj=204.0km s-min=21.9km az=65.0*
*DJA **22** 08:10:47.0±1.4, 2°.N±18°.×12°.2E±°, h113km±23km, M3.4/5, MLv3.4/5*
ISC 22 08:09:51.3±1.5, 4°.89N±0°.10×124°.8E±0°.3, h10km, n7, σ0§78/6, mb3.5/4, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**4.37**	**191**	S	**Sb**	**08 12 01.8**	**+0.9**
MRSI	**Marisa**	**5.25**	**213**	P	Pb	08 11 19.0	-4.2
LUWI	**Luwuk**	**6.24**	**199**	P	**Pb**	**08 11 39.4**	**-0.7**
WRA	**Warramunga Arr**	**26.38**	**160**	P	P	**08 15 28.5**	**+0.4**
0.4nm,0.5s,baz=338,slow=10,SNR=5.0							
ASAR	**Alice Springs**	**29.73**	**163**	P	P	**08 15 57.6**	**-0.3**
0.4nm,0.6s,baz=345,slow=7.4,SNR=11							
MKAR	**Makanchi Array**	**55.54**	**326**	P	P	**08 19 27.4**	**+0.6**
0.2nm,0.4s,baz=120,slow=7.7,SNR=4.6							
KURBB	**Kurchatov Arra**	**59.76**	**328**	P	P	**08 19 56.2**	**-0.2**
0.2nm,0.5s,baz=131,slow=6.8,SNR=4.0							

*IDC **22** 08:11:47.3±2.5, 41°.85N×126°.07W, h0km, mb3.4/2, mb1 3.7/8, mb1mx3.5/31, mbtmp3.6/8, ML3.4/5, MS2.8/4, Ms1 2.8/4, ms1mx2.6/24, Error ellipse: s-maj=34.9km s-min=15.3km az=47.0*
*NEIC **22** 08:11:48.6±1.3, 41°.85N×126°.07W, h10km, mb3.6/1, MW3.9(BRK), Error ellipse: s-maj=17.1km s-min=6.7km az=74.0*
ISC 22 08:11:48.3±3.8, 41°.89N±0°.04×126°.09W±0°.08, h5km±26km, n56, σ1§51/75, mb3.4/3, 11C-7D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.42**	**76**	*e*Pn	**Pn**	**08 12 13.0**	**-1.9**
KBO				*e*Sn	**Sn**	**08 12 32.4**	**-1.6**
KEBM	**Edson Butte**	**1.63**	**52**	*e*Pn	**Pn**	**08 12 15.7**	**-2.0**
KEBM				*e*Sn	Sn	08 12 32.6	-6.4
KSXB	**Camp Six Broad**	**1.65**	**91**	P	**Pn**	**08 12 16.2**	**-1.8**
L02D	**Cave Junction,**	**1.87**	**81**	⇓P	**Pn**	**08 12 19.3**	**-1.7**
baz=2.2							
L02D				⇓S	**Sn**	**08 12 42.7**	**-2.2**
baz=2.2							
KTRM	**Thompson Ridge**	**2.02**	**89**	P	**Pn**	**08 12 21.2**	**-2.0**
KHMM	**Horse Mountain**	**2.04**	**119**	*e*Pn	**Pn**	**08 12 21.5**	**-1.9**
KHMM				*e*Sn	**Sn**	**08 12 48.5**	**-0.9**
HUMO	**Hull Mountain**	**2.43**	**72**	*e*Pn	**Pn**	**08 12 27.3**	**-1.4**
HUMO				*e*Sn	**Sn**	**08 12 58.5**	**-0.3**
M02C	**Callahan**	**2.47**	**101**	P	**Pn**	**08 12 28.3**	**-1.0**
baz=2.8,SNR=344							
M02C				⇑S	**Sn**	**08 12 58.3**	**-1.6**
baz=2.8							
YBH	**Yreka Blue Hor**	**2.53**	**92**	Pn	**Pn**	**08 12 30.0**	**-0.1**
15nm,0.3s,baz=272,slow=13,SNR=313							
YBH				LR	LR	08 13 00.2	
comp=Z,65nm,19.2s,baz=232,slow=29							
YBH				Sn	**Sn**	**08 13 01.3**	**0.0**
15nm,0.3s,baz=197,slow=14,SNR=5.4							
YBH	**Yreka Blue Hor**	**2.53**	**92**	*e*Pn	**Pn**	**08 12 29.7**	**-0.4**
YBH				Sn	**Sn**	**08 13 01.3**	**0.0**
YBH				*e*Sn	**Sb**	**08 13 03.6**	**-2.1**
LAMM	**Antelope Mount**	**2.60**	**95**	P	**Pn**	**08 12 31.0**	**-0.2**
RNO	**Roman Nose**	**2.66**	**40**	P	**Pn**	**08 12 30.6**	**-1.2**
N02D	**Trinity Center**	**2.70**	**109**	⇑P	**Pn**	**08 12 30.9**	**-1.6**
baz=3.0,SNR=20							
N02D				⇑S	**Sn**	**08 13 03.7**	**-1.8**
baz=3.0							
I03D	**Drain, OR**	**2.71**	**47**	P	**Pn**	**08 12 30.5**	**-1.9**
baz=2.9,SNR=303							
I03D				⇑S	**Sn**	**08 13 02.4**	**-3.1**
baz=2.9							
KIPM	**Iron Peak**	**2.87**	**136**	*e*Pn	**Pn**	**08 12 32.9**	**-1.9**
KIPM				*e*Sn	**Sn**	**08 13 08.6**	**-1.2**
KCPM	**Cahto Peak**	**2.91**	**138**	*e*Pn	**Pn**	**08 12 32.9**	**-2.4**
KCPM				*e*Sn	**Sn**	**08 13 07.7**	**-3.0**
WDC	**Whiskeytown Da**	**2.98**	**115**	*e*Pn	**Pn**	**08 12 35.1**	**-1.0**
WDC				*e*Sn	**Sn**	**08 13 12.3**	**+0.1**

M04C	Macdoel	3.18	91	P	Pn	08 12 39.1	+0.1
	baz=3.5,SNR=84						
K04D	Chiloquin, OR	3.30	76	⇓P	Pn	08 12 40.0	-0.7
	baz=3.6,SNR=6.9						
I04A	Tendick Farm,	3.31	54	⇓P	Pn	08 12 40.3	-0.5
	baz=3.6,SNR=96						
I04A				⇓S	Sn	08 13 19.3	-1.0
	baz=3.6						
J05D	Fort Rock, OR	3.84	67	⇑P	Pn	08 12 47.5	-0.7
	baz=4.1,SNR=15						
G03D	McMinnville, O	3.90	31	⇓P	Pn	08 12 48.2	-0.7
	baz=4.1,SNR=54						
G03D				⇑S	Sn	08 13 32.2	-2.8
	baz=4.1						
I05D	Terrebonne, OR	4.25	53	⇑P	Pn	08 12 53.0	-0.7
	baz=4.5,SNR=14						
I05D				⇑S	Sn	08 13 43.1	-0.6
	baz=4.5						
PINOR	Pine Mountain	4.29	62	*e*Pn	Pn	08 12 53.8	-0.3
PINOR				*e*Sn	Sn	08 13 44.8	+0.3
MOD	Modoc Plateau	4.32	88	*e*Pn	Pn	08 12 53.6	-1.2
MOD				*e*Sn	Sn	08 13 48.1	+2.6
F04D	Rainier, OR	4.74	27	⇑P	Pn	08 13 00.7	+0.3
	baz=4.9,SNR=12						
F04D				⇑S	Sn	08 13 55.3	-0.4
	baz=4.9						
G05D	Wamic, OR	4.82	44	⇓P	Pn	08 13 01.5	0.0
	baz=5.0,SNR=46						
G05D				⇑S	Sn	08 13 57.1	-0.6
	baz=5.0						
F04A	Amboy	4.83	32	P	Pn	08 13 01.6	0.0
WVOR	Wild Horse Val	5.56	82	*e*Pn	Pn	08 13 10.4	-1.5
	2.6nm,0.4s						
WVOR				*e*Sn	Sn	08 14 17.2	+1.1
LON	Longmire	5.75	31	P	Pn	08 13 14.6	+0.3
CMB	Columbia Colle	5.83	129	*e*Pn	Pn	08 13 14.9	-0.5
	3.6nm,0.5s						
CMB				*e*Sn	Sn	08 14 21.0	-1.6
WAKR	Walker	6.11	121	*e*Pn	Pn	08 13 19.4	0.0
	3.1nm,0.5s						
WAKR				*e*Sn	Sn	08 14 25.9	-3.9
HAWA	Hanford	6.52	44	*e*Pn	Pn	08 13 24.6	-0.2
	12nm,0.3s						
HAWA				*e*Sn	Sn	08 14 39.0	-0.4
NVAR	Mina Array Bea	6.89	118	Pn	Pn	08 13 30.0	-0.1
	0.7nm,0.3s,baz=297,slow=14,SNR=19						
NVAR				Sn	Sn	08 14 50.0	+1.0
	0.1nm,0.3s,baz=307,slow=20,SNR=2.7						
ELK	Elko	8.25	94	Pn	Pn	08 13 49.4	+0.7
	0.2nm,0.3s,baz=264,slow=6.6,SNR=10						
ELK				LR	LR	08 17 31.4	
	comp=Z,95nm,18.3s,baz=179,slow=42						
ISA	Isabella, Lake	8.60	134	*e*Pn	Pn	08 13 52.3	-1.2
	1.9nm,0.4s						
HLID	Hailey	8.76	75	Pn	Pn	08 13 55.1	-0.6
R11A	Troy Canyon, C	8.79	110	*e*Pn	Pn	08 13 56.2	+0.1
	2.2nm,0.9s						
NEW	Newport	8.99	42	LR	LR	08 16 45.1	
	comp=Z,43nm,21.7s,baz=214,slow=33						
DUG	Dugway, Tooele	10.17	95	*e*Pn	Pn	08 14 15.1	+0.1
	6.0nm,1.1s						
DUG				*e*Sn	Sn	08 16 13.2	+3.6
BBB	Bella Bella	10.39	353	Pn	Pn	08 14 18.8	+1.0
	0.3nm,0.3s,baz=183,slow=18,SNR=2.3						
SLMT	Seeley Lake	10.45	55	*e*Pn	Pn	08 14 19.4	+0.5
SLMT				*e*Sn	Sn	08 16 15.1	-1.3
MVU	Marysvale	11.14	103	*e*Pn	Pn	08 14 30.6	+2.2
	6.9nm,0.9s						
PDAR	Pinedale Array	12.27	80	Pn	Pn	08 14 46.3	+2.4
	0.1nm,0.3s,baz=256,slow=10,SNR=3.0						
PV01	Paradox Valley	13.94	100	*e*Pn	Pn	08 15 07.6	+0.9
	168nm,0.7s						
ANMO	Albuquerque	16.86	108	Pn	Pn	08 15 44.4	-0.8
	0.1nm,0.3s,baz=284,slow=17,SNR=1.8						
ANMO				LR	LR	08 22 52.9	
	comp=Z,63nm,20.8s,baz=266,slow=40						
FFC	Flin Flon	20.41	43	*e*P	Pn	08 16 26.4	-1.7
	1.8nm,0.6s						
FFC				*e*S	S	08 20 15.2	+0.4
YKA	Yellowknife Ar	21.74	14	P	P	08 16 39.9	-0.2
	1.0nm,0.7s,baz=204,slow=11,SNR=12						
TXAR	Lajitas Array	22.04	117	P	P	08 16 47.2	+3.4
	0.7nm,0.7s,baz=306,slow=11,SNR=10						
ULM	Lac du Bonnet	22.44	58	P	P	08 16 49.2	+1.3
	1.9nm,0.8s,baz=264,slow=10,SNR=3.4						
H11N3	WAKE ISLAND Hy	60.14	270	T	T	09 27 09.2	
	baz=53						
H11N2	WAKE ISLAND Hy	60.14	270	T	T	09 26 59.7	
	baz=53						
H11N1	WAKE ISLAND Hy	60.16	270	T	T	09 27 04.4	
	baz=53						
H11S1	WAKE ISLAND Hy	61.03	269	T	T	09 28 15.7	
	baz=52,slow=74						
H11S2	WAKE ISLAND Hy	61.04	269	T	T	09 28 16.1	
	baz=52,slow=74						
H11S3	WAKE ISLAND Hy	61.05	269	T	T	09 28 16.4	
	baz=52						

IGQ 22 08:24:59±0.5, 0°.39N×77°.15W, h2km±146km, Mb4.0, 2C-14D, Error ellipse: s-maj=2.9km s-min=2.0km az=10.0, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONE	Cono NE Rev Vo	0.68	227	⇓P	Pg	08 25 11.8	-0.7
LAV4	Lava4-Reventad	0.68	225	⇓P	Pg	08 25 11.8	-0.7
CHAR	Charly	0.71	228	P	Pg	08 25 12.6	-0.7
CAYA	Cayambe	0.90	249	⇓P	Pb	08 25 18.5	+0.4
ANGU	Angureal	0.93	248	P	Pg	08 25 18.0	+0.4
CAYR	Refugio Cayamb	0.94	246	⇓P	Pg	08 25 18.1	+0.2
LITE	Lita	1.29	289	⇓S	Sb	08 25 41.0	-0.2
LITE	Lita	1.29	289	⇓P	Pg	08 25 23.6	-0.3
OTAV	Otavalo	1.31	263	⇓P	Pg	08 25 23.2	-1.7
OTAV	Otavalo	1.31	263	⇓S	Sg	08 25 41.2	-1.1
ANTI	Antisana	1.32	230	⇓P	Pg	08 25 24.4	-0.6
GGP	Refugio Guagua	1.56	249	P	Pg	08 25 30.5	+0.9
PINO	Pino	1.56	249	P	Pg	08 25 30.6	+0.8
TERV	Terraza Guagua	1.56	249	P	Pg	08 25 30.8	+1.1
JUA2	San Juan 2	1.58	248	P	Pg	08 25 30.7	+0.7
COV1	Cotopaxi Volc	1.59	229	P	Pg	08 25 31.4	+0.9
VC1	Cotopaxi 1	1.62	231	P	Pb	08 25 30.2	-0.2
BTAM	Cotopaxi Volca	1.64	230	S	Sg	08 25 53.5	+0.5
BTAM	Cotopaxi Volca	1.64	230	P	Pb	08 25 30.3	-0.4
BVC2	Cotopaxi Volca	1.64	230	⇓S	Sg	08 25 53.8	+0.7
BVC2	Cotopaxi Volca	1.64	230	⇓P	Pg	08 25 31.6	+0.3
BREF	Cotopaxi Volca	1.67	231	⇓P	Pb	08 25 31.1	-0.2
NAS2	Nasa	1.68	232	P	Pg	08 25 32.1	+0.2
MOV1	Cotopaxi Vol s	1.70	230	P	Pg	08 25 32.9	+0.5
BMOR	Cotopaxi Volca	1.72	230	P	Pg	08 25 32.5	-0.3
BMOR	Cotopaxi Volca	1.72	230	S	Sn	08 25 54.1	+0.2
CAMI	Rancho Maria	1.73	232	P	Pg	08 25 33.1	+0.4
PAST	Pastocalle	1.84	234	P	Pg	08 25 35.3	+0.3
PISA	Pisayambo	1.90	221	P	Pb	08 25 34.4	-0.7
BRUN	Tungurahua Vol	2.20	215	P	Pb	08 25 39.6	-0.5
BRUN	Tungurahua Vol	2.20	215	S	Sb	08 26 07.1	-1.0
RUN5	Runtun	2.21	215	P	Pb	08 25 39.7	-0.4
RUN5	Runtun	2.21	215	S	Sb	08 26 08.9	+0.7
BULB	Ulba Tungurahu	2.21	215	⇑S	Sb	08 26 07.1	-1.4
BULB	Ulba Tungurahu	2.21	215	⇑P	Pb	08 25 39.7	-0.6
ULBA	Ulba	2.22	215	P	Pb	08 25 39.8	-0.7
BPAT	Tungurahua Vol	2.28	214	P	Pb	08 25 40.8	-0.8
BPAT	Tungurahua Vol	2.28	214	S	Sb	08 26 11.7	+1.0
PAT1	Patacocha	2.29	214	P	Pb	08 25 40.4	-1.3
BMAS	Trigal station	2.31	215	⇓S	Sb	08 26 10.0	-1.2
BMAS	Trigal station	2.31	215	⇓P	Pb	08 25 40.3	-1.6
RIOE	Riobamba	2.60	215	P	Pn	08 25 43.3	+0.8
RIOE	Riobamba	2.60	215	S	Sn	08 26 16.3	+1.3
MACE	Macas	2.83	202	P	Pn	08 25 48.0	+2.4

BJI ***22*** *08:26:23.0, 66°.40N×157°.70W, h10km, mB5.1/8, mb4.6/9, Ms4.9/7, Ms7 4.5/7*
ISCJB ***22*** *08:26:25.0±0.2, 66°.34N±0°.03×157°.55W±0°.06, h10km, mb4.1/25, MS3.6/17, Error ellipse: s-maj=4.6km s-min=2.8km az=35.1*
NEIC ***22*** *08:26:26.0, 66°.40N×157°.64W, h21km, mb4.5/6, ML4.4(AEIC), After AEIC.*
IDC ***22*** *08:26:26.6±0.7, 66°.50N×157°.66W, h0km, mb4.0/18, mb1 4.2/21, mb1mx4.1/32, mbtmp4.0/21, ML3.9/3, MS3.6/19, Ms1 3.6/19, ms1mx3.4/46, Error ellipse: s-maj=24.6km s-min=10.1km az=21.0*
ISC 22 08:26:27.4±0.4, **66°.33N**±0°.05×**157°.60W**±0°.04, **h10**km, **n96, σ1§61**/114, **mb4.1**/25, **MS3.6**/17, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IM3	Indian Mountai	1.60	101	P	Pn	08 26 53.9	-1.9
IM3				S	Sn	08 27 15.1	-1.4
GCSA	Galena City Sc	1.62	169	P	Pn	08 26 54.3	-1.6
GCSA				S	Sn	08 27 16.3	-0.6
MLY	Manley	3.13	112	P	Pn	08 27 14.6	-2.1
MLY				S	Sn	08 27 53.7	-0.4
PS06	TAPS Pump Stn6	3.24	95	P	Pn	08 27 17.0	-1.2
PS06				S	Sn	08 27 55.2	-1.6
CHUM	Lake Minchumin	3.32	135	P	Pn	08 27 18.5	-0.8
TT01	Tatalina	3.51	168	P	Pn	08 27 20.9	-1.0
CAST	Castle Rocks	3.75	139	P	Pn	08 27 24.9	-0.4
BWN	Browne	4.05	119	P	Pn	08 27 29.1	-0.3
MDM	Murphy Dome	4.12	105	P	Pn	08 27 29.5	-0.8
PPLA	Purkeypile	4.16	143	P	Pn	08 27 30.7	-0.3
PPLA				S	Sn	08 28 19.2	-0.6
TRF	Thorofare Moun	4.25	130	P	Pn	08 27 31.5	-0.7
TRF				S	Sn	08 28 21.4	-0.6
TNA	Tin City	4.30	264	P	Pn	08 27 31.5	-1.2
COLA	College	4.30	105	P	Pn	08 27 31.6	-1.2
WRH	Wood River Hil	4.39	111	P	Pn	08 27 32.4	-1.6
CCB	Clear Creek Bu	4.42	108	P	Pn	08 27 33.0	-1.4
GLM	Gilmore Dome	4.44	103	P	Pn	08 27 33.8	-0.9
MCK	McKinley	4.50	121	P	Pn	08 27 34.5	-1.1
IL1	Eielson Array	4.72	104	P	Pn	08 27 37.4	-1.2
ILAR	Eielson Array	4.72	104	Pn	Pn	08 27 37.4	-1.2
	13nm,0.3s,baz=297,slow=14,SNR=560						
ILAR				Sn	Sn	08 28 30.8	-2.5
	10nm,0.3s,baz=294,slow=25,SNR=6.1						
ILAR				Lg	Lg	08 28 52.9	
	24nm,0.3s,baz=301,slow=29,SNR=8.3						
RND	Reindeer	4.75	124	P	Pn	08 27 38.2	-0.8
PS08	TAPS Pump Stn8	4.84	107	P	Pn	08 27 39.5	-0.8
HDA	Harding Lake	4.86	109	P	Pn	08 27 39.4	-1.0
SKT	Skwentna	5.11	146	P	Pn	08 27 44.3	+0.3
PS01	TAPS Pump Stn	5.16	36	P	Pn	08 27 43.7	-0.8
BM3	Burnt Mountain	5.24	72	P	Pn	08 27 43.2	-2.5
SVW2	Sparrevohn	5.33	169	P	Pn	08 27 46.3	-0.7
DHY	Denali Highway	5.47	122	P	Pn	08 27 48.4	-0.5
STLK	Strandline Lak	5.48	150	P	Pn	08 27 49.0	0.0
DDM	Donnelly Dome	5.58	112	P	Pn	08 27 48.8	-1.6
BGL	Barrier Glacie	5.59	153	P	Pn	08 27 51.0	+0.4
SPBG	Spurr Blockage	5.59	153	P	Pn	08 27 51.0	+0.4
CKL	Chakachamna La	5.66	153	P	Pn	08 27 51.9	+0.4
CKN	Chakachatna No	5.66	152	P	Pn	08 27 52.4	+0.9
SUA	Susitna One	5.75	145	P	Pn	08 27 52.5	-0.2
PMR	Palmer	6.04	138	P	Pn	08 27 56.5	-0.1
NCT	North Crescent	6.16	158	P	Pn	08 27 58.2	-0.2
DFR	Drift River	6.17	157	P	Pn	08 27 58.4	-0.1
PAX	Paxson	6.20	117	P	Pn	08 27 58.4	-0.6
SCRK	Sand Creek	6.20	106	P	Pn	08 27 57.6	-1.5
RDWB	Redoubt West	6.24	158	P	Pn	08 27 59.2	-0.4
RSO	Redoubt South	6.28	158	*e*Pn	Pn	08 27 59.9	-0.3
	138nm,0.6s						
RSO				*e*Sn	Sn	08 29 10.4	-1.6
RC01	Rabbit Creek A	6.31	143	*e*Pn	Pn	08 28 00.7	+0.3
	27nm,0.5s						
RC01				*e*Sn	Sn	08 29 11.6	-0.9
DOT	Dot Lake	6.34	109	P	Pn	08 28 00.9	+0.1
SCM	Sheep Creek Mo	6.37	130	P	Pn	08 28 00.8	-0.5
GAMB	Gambell	6.49	253	*e*Pn	Pn	08 28 02.4	-0.4
	16nm,0.8s						
HARP	HAARP	6.68	120	P	Pn	08 28 06.3	+0.9
PTE	Portage	6.68	141	P	Pn	08 28 05.8	+0.4
MENT	Mentasta	6.86	113	P	Pn	08 28 08.3	+0.4
EGAK	Eagle	7.00	95	P	Pn	08 28 08.7	-1.1
SEW	Seward	7.25	146	*e*Pn	Pn	08 28 11.6	-1.6
	24nm,0.8s						
SEW				*e*Sn	Sn	08 29 32.5	-3.0
DIV	Divide	7.39	129	*e*Pn	Pn	08 28 14.5	-0.8
	26nm,0.7s						
DIV				*e*Sn	Sn	08 29 36.3	-2.9
BMRM	Bremner River	7.89	127	*e*Pn	Pn	08 28 21.1	-1.0
	61nm,1.0s						
BMRM				*e*Sn	Sn	08 29 44.4	-6.9
KDAK	Kodiak Island	8.89	162	*e*Pn	Pn	08 28 34.2	-1.6
	16nm,0.8s						
KDAK				*e*Sn	Sn	08 30 12.1	-3.8
HYT	Haines Junctio	10.48	112	*e*Pn	Pn	08 29 00.8	+3.1
HYT				*e*Sn	Sn	08 30 52.5	-2.5
BILL	Bilibino	13.99	293	*e*Pn	Pn	08 29 43.6	-1.7
	76nm,1.3s						
BILL				*e*Sn	Sn	08 32 16.1	-4.3
DLBC	Dease Lake	14.91	109	Pn	Pn	08 29 59.9	+1.8
	0.3nm,0.3s,baz=311,slow=8.0,SNR=9.4						
DLBC				Lg	Lg	08 34 13.5	
	0.1nm,0.3s,baz=72,slow=20,SNR=6.0						
DLBC				LR	LR	08 35 57.7	
	comp=Z,136nm,18.9s,baz=48,slow=37						
YKA	Yellowknife Ar	18.67	82	P	P	08 30 43.7	-1.4
	0.2nm,0.3s,baz=302,slow=12,SNR=30						
FX1	Attu Island--F	19.74	241	LR	LR	08 38 35.2	
	comp=Z,136nm,18.9s,baz=48,slow=37						
SEY	Seymchan	21.22	284	P	P	08 31 13.4	+0.5
	15nm,0.9s,baz=52,slow=11,SNR=3.8						
RES	Resolute Bay	21.38	40	P	P	08 31 13.3	-1.2
	0.8nm,0.5s,baz=270,slow=17,SNR=3.0						
RES				LR	LR	08 41 30.4	
	comp=Z,121nm,20.9s,baz=262,slow=42						
PETK	Petropavlovsk-	25.46	261	LR	LR	08 41 45.3	
	comp=Z,106nm,18.9s,baz=39,slow=36						
NEW	Newport	27.64	111	LR	LR	08 44 45.1	
	comp=Z,67nm,18.1s,baz=334,slow=40						
YBH	Yreka Blue Hor	31.29	124	LR	LR	08 44 12.1	
	comp=Z,69nm,19.6s,baz=314,slow=34						
ULM	Lac du Bonnet	34.49	87	P	P	08 33 15.3	+0.3
	3.3nm,0.8s,baz=322,slow=10,SNR=6.5						
ULM				LR	LR	08 47 28.3	
	comp=Z,200nm,19.3s,baz=34,slow=37						
PDAR	Pinedale Array	35.14	108	P	P	08 33 22.5	+1.4
	0.9nm,0.9s,baz=329,slow=5.5,SNR=6.5						
PDAR				LR	LR	08 48 48.4	
	comp=Z,175nm,20.3s,baz=346,slow=38						
NVAR	Mina Array Bea	35.74	122	P	P	08 33 27.6	+1.4
	0.9nm,0.6s,baz=322,slow=7.4,SNR=11						
WUAZ	Wupatki	40.80	116	*e*P	P	08 34 05.7	-3.1
	3.7nm,0.8s						
SCHQ	Schefferville	42.00	60	P	P	08 34 17.8	-0.5
	1.4nm,0.6s,baz=304,slow=8.2,SNR=5.2						
SCHQ				LR	LR	08 53 40.0	
	comp=Z,52nm,19.3s,baz=312,slow=39						
USRK	Ussuriysk Ar.	42.86	275	LR	LR	08 54 15.0	
	comp=Z,69nm,18.6s,baz=14,slow=39						
MJAR	Matsushiro Arr	46.85	264	P	P	08 34 57.2	0.0
	1.8nm,0.9s,baz=41,slow=8.0,SNR=3.1						
TXAR	Lajitas Array	49.20	111	P	P	08 35 16.2	+0.7
	1.7nm,0.9s,baz=326,slow=5.5,SNR=14						
TXAR				LR	LR	08 57 30.2	
	comp=Z,86nm,18.1s,baz=0.0,slow=38						
SONM	Songino Array	49.64	298	P	P	08 35 19.8	+1.1
	1.4nm,0.8s,baz=27,slow=6.9,SNR=8.8						
SONM				LR	LR	08 58 10.7	
	comp=Z,113nm,19.8s,baz=13,slow=38						
KSRS	Korea Array	50.21	274	P	P	08 35 24.1	+1.1
	0.9nm,0.7s,baz=31,slow=7.4,SNR=3.4						
KSAR	Wonju Array Be	50.23	274	P	P	08 35 24.1	+0.9
ZALV	Zalesovo Beam	51.14	318	P	P	08 35 29.1	-0.7
	2.9nm,0.5s,baz=30,slow=6.8,SNR=11						
ZALV				LR	LR	09 00 09.2	
	comp=Z,49nm,18.0s,baz=50,slow=40						
FINES	FINESS Array B	52.50	358	P	P	08 35 43.2	+3.4
	0.8nm,0.6s,baz=337,slow=6.5,SNR=3.0						
NOA	NORSAR Array B	52.66	7	P	P	08 35 41.6	+0.4
	0.5nm,0.6s,baz=353,slow=7.2,SNR=2.6						
HHC	Hu-ho-hao-te	53.73	290	*e*P	P	08 35 48.3	-1.0
HHC				pP	pP	08 35 54.4	+1.9
HHC				sP	sP	08 35 57.3	+3.6
HHC				PP	PP	08 37 50.3	+0.5
HHC				S	S	08 43 18.4	-4.8
HHC				sS	sS	08 43 27.3	-1.1
HHC				ScS	ScS	08 45 33.4	-5.1
HHC				PMZ			
	31nm,0.6s						
HHC				PMZ			
	110nm,5.9s						
HHC				LN			
	280nm,16.6s						
HHC				LE			
	470nm,16.5s						
HHC				LZ			
	110nm,17.3s						
BVAR	Borovoye Array	55.53	327	LR	LR	09 02 30.3	
	comp=Z,89nm,21.9s,slow=39						
KURK	Kurchatov	55.70	320	*e*P	P	08 36 01.8	-1.5
	3.1nm,0.8s						
MKAR	Makanchi Array	58.29	316	P	P	08 36 20.8	-1.0
	2.8nm,0.8s,baz=36,slow=5.9,SNR=15						
MKAR				LR	LR	09 02 58.0	
	comp=Z,54nm,21.8s,baz=16,slow=38						
GTA	Gaotai	59.31	298	*e*P	P	08 36 29.9	+0.8
GTA				pP	pP	08 36 34.6	+2.3
GTA				sP	sP	08 36 36.9	+3.4
GTA				PMZ			
	4.0nm,0.9s						
WMQ	Urumqi	59.39	310	*e*P	P	08 36 31.0	+1.4
WMQ				pP	pP	08 36 35.0	+2.2
WMQ				PP	PP	08 38 44.0	+3.8
WMQ				S	S	08 44 37.5	-0.6
WMQ				sS	sS	08 44 45.0	+1.7
WMQ				ScS	ScS	08 46 17.0	-2.4
WMQ				PMZ			
	8.0nm,1.0s						
WMQ				PMZ			
	170nm,6.0s						
WMQ				LN			
	72nm,18.0s						
WMQ				LE			
	55nm,21.0s						
WMQ				LZ			
	88nm,17.0s						
AKTO	Aktyubinsk	60.43	335	P	P	08 36 36.5	0.0
	3.5nm,0.7s,baz=8.1,slow=6.9,SNR=16						
LZH	Lanzhou	60.80	293	*e*P	P	08 36 37.9	-1.5
LZH				pP	pP	08 36 41.3	-1.3
LZH				sP	sP	08 36 42.8	-1.0
LZH				*e*PP	PP	08 38 53.0	+0.1
LZH				PMZ			
	18nm,1.2s						
LZH				PMZ			
	52nm,7.4s						
LZH				LN			
	300nm,15.0s						
LZH				LE			
	300nm,15.4s						
LZH				LZ			
	370nm,18.7s						
CLL	Collm	62.47	7	*e*pP	P	08 36 52.0	+1.8
AKASG	Malin Array Be	63.18	355	LR	LR	09 03 35.1	
	comp=Z,31nm,21.8s,baz=25,slow=35						
TKM2	Tokmak 2	63.70	319	*e*P	P	08 36 55.5	-3.2
	3.5nm,0.8s						
AAK	Ala-Archa	64.25	320	*e*P	P	08 36 59.5	-2.9
	5.4nm,0.9s						
EKS2	Erkin-Say	64.41	320	*e*P	P	08 37 01.6	-1.8
	6.6nm,0.8s						
KKAR	Karatay Array	64.82	323	*e*P	P	08 37 05.1	-0.8
	0.9nm,0.5s						
KBZ	Khabaz	69.14	344	P	P	08 37 31.9	-1.4
	1.4nm,0.9s,baz=17,slow=19,SNR=3.2						
ESDC	Sonseca Array	72.39	21	P	P	08 37 54.3	+1.1
	0.3nm,0.4s,baz=350,slow=6.0,SNR=5.4						
GEYT	Alibeck	72.49	331	LR	LR	09 13 44.0	
	comp=Z,91nm,19.1s,baz=110,slow=39						
BRTR	Keskin Array B	73.92	351	P	P	08 38 03.1	+0.7
	0.8nm,0.7s,baz=20,slow=3.9,SNR=4.6						
BRTR				LR	LR	09 16 58.6	
	comp=Z,18nm,18.5s,baz=8.5,slow=41						
CMAR	Chiang Mai Arr	78.54	290	P	P	08 38 28.8	+0.1
	0.7nm,0.3s,baz=12,slow=6.2,SNR=5.5						
CMAR				LR	LR	09 15 26.1	
	comp=Z,77nm,18.2s,baz=3.0,slow=38						

IDC 22 08:35:43.5±2.2, 6°.62S×129°.54E, h0km, mb3.2/1, mb1 3.5/3, mb1mx3.2/35, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=102.7km s-min=33.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.04	161	Pn	Pn	08 39 02.2	-1.6
	0.1nm,0.3s,baz=340,slow=14,SNR=4.6						
ASAR	Alice Springs	17.46	167	Pn	P	08 39 50.0	0.0
	0.1nm,0.3s,baz=354,slow=14,SNR=7.7						
MKAR	Makanchi Array	67.66	327	P	P	08 46 42.5	0.0
	0.1nm,0.4s,baz=117,slow=6.1,SNR=4.2						

BJI ***22*** *08:37:05.9, 6°.92S×131°.17E, h118km, mB5.1/16, mb4.7/25*
ISCJB ***22*** *08:37:13.5±0.3, 6°.54S±0°.02×130°.41E±0°.02, h150km±3km, mb4.5/44, Error ellipse: s-maj=3.7km s-min=3.1km az=148.0*
NEIC ***22*** *08:37:13.1±0.7, 6°.53S×130°.34E, h131km±7km, mb4.7/23, Error ellipse: s-maj=8.1km s-min=6.1km az=59.0*
IDC ***22*** *08:37:14.5±1.3, 6°.40S×130°.18E, h137km±11km, mb4.2/21, mb1 4.3/25, mb1mx4.3/29, mbtmp4.7/25, MS3.5/6, Ms1 3.5/6, ms1mx3.2/33, Error ellipse: s-maj=11.1km s-min=8.9km az=71.0*
DJA ***22*** *08:37:15.6±0.1, 6°.S±2°×13°.0E±°, h135km±2km, M5.3/22, mB5.3/6, mb5.0/22, MLv5.8/1, Mw(mB)4.8/6*
ISC 22 08:37:13.1±0.3, **6°.58S**±0°.03×**130°.37E**±0°.03, **h130**km±3km, **n182, σ1§83**/214, **mb4.5**/44, **11C-7D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.67	147	P	Pn	08 37 46.8	+3.6
SAUI				S	Sn	08 38 10.9	+4.7
SAUI	Saumlaki	1.67	147	*e*Pn	Pn	08 37 46.3	+3.1
BNDI	Bandanaira	2.09	347	P	Pn	08 37 48.9	+0.7
BNDI				S	Sn	08 38 16.2	+1.0
MSAI	Masohi	3.52	336	P

255nm,1.1s,3μm
JAY Jayapura 11.06 69 P **Pn 08 39 49.4 +1.7**
JAY Jayapura 11.06 69 P Pn 08 39 51.0 +3.2
2.2nm,0.3s,baz=272,slow=9.3,SNR=5.9
JAY S **Sn 08 41 50.4 +0.7**
2.0nm,0.3s,baz=292,slow=19,SNR=3.7
JAY LR LR 08 45 12.4
comp=Z,174nm,19.0s,baz=321,slow=43
TTSI Tana Toraja 11.09 288 P **Pn 08 39 50.8 +2.8**
SGSI Sangihe 11.28 334 P **Pn 08 39 52.4 +1.8**
WBSI Waikabubak, Su 11.29 254 P **Pn 08 39 50.9 +0.1**
FITZ Fitzroy Crossi 12.35 202 *e*Pn Pn 08 40 02.0 -2.6
0.8nm,0.4s
FITZ *e*Sn Sn 08 42 10.3 -11
MPSI Mapaga 12.51 303 P **Pn 08 40 09.1 +2.4**
WRAB Tennant Creek 13.83 164 *e*Pn Pn 08 40 20.9 -2.8
165nm,0.8s
WRAB *e*Sn **Sn 08 42 52.1 -4.4**
WRA Warramunga Arr 13.83 164 P **Pn 08 40 21.8 -2.0**
7.6nm,0.3s,baz=346,slow=13,SNR=68
WRA S Sn 08 42 48.2 -8.5
11nm,0.3s,baz=326,slow=23,SNR=7.6
WB2 Warramunga Arr 13.84 164 *e*Pn Pn 08 40 21.0 -2.8
WB2 *e*Sn Sn 08 42 51.1 -5.7
COEN Coen 14.57 121 *e*Pn **Pn 08 40 32.0 -1.1**
COEN *e*Sn Sn 08 43 04.4 -10
SRBI Singaraja 15.11 263 P **Pn 08 40 40.9 +1.0**
68nm,1.0s
BBKI Banjar Baru 15.78 281 P **P 08 40 50.7 +1.3**
ABJI Asem Bagus 16.06 265 P **P 08 40 55.2 +2.7**
JAGI Jajag, Banyuwa 16.19 262 P **P 08 40 54.9 +0.9**
JAGI Jajag, Banyuwa 16.19 262 *e*Pn **Pn 08 40 50.9 -2.4**
25nm,0.5s
KMMI Kalianget 16.30 267 P **P 08 40 58.7 +3.5**
MTKI Muara Teweh, K 16.42 289 P **P 08 40 58.6 +2.0**
QIS Mount Isa 16.53 148 ⇑P **Pn 08 40 56.6 -0.8**
baz=17,SNR=75
MYLDM Lahad Datu 16.64 314 *e*Pn **P 08 41 00.8 +1.8**
53nm,0.9s
BLJI Banyuglugur 16.69 265 P **Pn 08 41 00.1 +0.7**
PMG Port Moresby 16.86 101 P **Pn 08 41 05.0 +3.6**
2.8nm,0.3s,baz=268,slow=7.8,SNR=9.6
PMG S Sn 08 43 59.4 -10
4.1nm,0.3s,baz=0.0,slow=20,SNR=9.2
PMG Port Moresby 16.86 101 P **Pn 08 41 02.1 +0.7**
48nm,0.9s
PMG *e*S Sn 08 44 00.2 -9.3
GMJI Gumukmas 16.87 263 P **Pn 08 41 05.6 +4.0**
AS31 Alice Springs 17.33 169 *e*P **Pn 08 41 07.4 +0.3**
AS31 *e*S **S 08 44 15.6 -4.9**
ASAR Alice Springs 17.33 169 P **Pn 08 41 08.7 +1.6**
6.1nm,0.3s,baz=3.7,slow=11,SNR=314
ASAR S **S 08 44 14.4 -6.1**
3.2nm,0.3s,baz=354,slow=28,SNR=5.9
ASAR LR LR 08 48 27.6
comp=Z,136nm,18.5s,baz=3.5,slow=38
MBWA Marble Bar 17.79 214 *e*P **Pn 08 41 12.8 +0.3**
48nm,0.8s
MBWA *e*S S 08 44 18.4 -11
WRKA Warakurna 18.46 186 ⇑P **Pn 08 41 20.7 0.0**
baz=19,SNR=30
PWJI Pagerwojo 18.48 264 P **Pn 08 41 22.1 +1.3**
KKM Kota Kinabalu 18.89 311 *e*P **P 08 41 23.5 -0.2**
32nm,0.8s
KKM *e*S **S 08 44 50.9 -1.0**
SBUM Sibu 20.22 296 *e*P **P 08 41 38.2 +0.2**
CTA Charters Tower 20.45 133 P Pn 08 41 43.8 0.0
24nm,0.9s,baz=308,slow=14,SNR=13
CTA S **S 08 45 28.1 +5.7**
8.4nm,0.8s,baz=40,slow=19,SNR=3.4
CTA LR LR 08 52 03.1
comp=Z,210nm,19.4s,baz=338,slow=43
CTAO Charters Tower 20.45 133 *e*P **P 08 41 40.2 -0.2**
28nm,0.9s
CTAO *e*S **S 08 45 19.0 -3.4**
KPJI Karang Pucung 21.30 267 P **P 08 41 52.1 +2.5**
GIRL Giralia 22.30 223 ⇑P **P 08 42 01.3 +1.3**
baz=22,SNR=5.8
CISI Cisompet, Garu 22.41 266 P **P 08 42 01.7 +0.5**
CISI Cisompet, Garu 22.41 266 *e*P **P 08 42 00.2 -1.0**
157nm,0.5s
LEM Lembang 22.60 268 P **P 08 42 03.9 +0.7**
154nm,0.9s
MEEK Meekatharra 22.88 208 ⇓P **P 08 42 06.4 +0.8**
baz=23,SNR=5.8
CNJI Cibinong 23.09 267 P **P 08 42 06.3 -1.3**
CBJI Citeko 23.37 269 P **P 08 42 09.7 -0.6**
QLP Quilpie 23.88 148 ⇓P **P 08 42 16.3 +1.5**
baz=24,SNR=10.0
FORT Forrest 24.18 185 ⇑P **P 08 42 18.2 +0.9**
baz=24,SNR=9.4
FORT Forrest 24.18 185 *e*P **P 08 42 18.7 +1.3**
112nm,0.8s
CGJI Cibinong 24.52 268 P **P 08 42 19.0 -1.7**
XMIS Christmas Isla 24.75 259 ⇓P **P 08 42 21.6 -1.2**
baz=25,SNR=6.2
KMBL Kambalda 25.91 197 ⇓P **P 08 42 33.7 +0.6**
baz=26,SNR=18
MORW Morawa 26.15 209 ⇑P **P 08 42 36.1 +0.8**
baz=26,SNR=5.2
MDSI Maura Dua 26.15 273 P **P 08 42 36.8 +1.3**
BBOO Buckleboo 26.63 169 ⇑P **P 08 42 40.5 +0.9**
baz=27,SNR=15
BBOO Buckleboo 26.63 169 *e*P **P 08 42 41.0 +1.4**
606nm,0.6s
LHSI Lahat 26.88 274 P **P 08 42 44.8 +2.8**
BLDU Ballidu 27.14 207 ⇓P **P 08 42 45.0 +0.8**
baz=27,SNR=6.3
EIDS Eidsvold 27.23 136 P **P 08 42 43.5 -1.5**
4.2nm,0.9s
CMSA Cobar Meteorol 28.67 152 ⇑P **P 08 42 59.7 +1.9**
baz=29,SNR=9.9
NWAO Narrogin (SRO) 28.93 203 P **P 08 43 01.4 +1.4**
14nm,0.8s,baz=32,slow=6.2,SNR=6.6
NWAO LR LR 08 54 22.9
comp=Z,92nm,21.2s,baz=6.5,slow=35
NWAO Narrogin (SRO) 28.93 203 ⇑P **P 08 43 00.2 +0.2**
baz=29,SNR=8.2
MNSI Mandailing Nat 31.59 282 P **P 08 43 26.6 +2.8**
YNG Young 32.23 151 ⇓P **P 08 43 31.7 +2.6**
baz=32,SNR=4.8
QIZ Qiongzhong 32.51 322 P **P 08 43 33.8 +2.1**
QIZ S **S 08 48 42.1 +4.7**
PSI Prapat 32.75 286 P **P 08 43 31.4 -2.6**
7.3nm,0.7s,baz=49,slow=6.2,SNR=4.7
UBPT Khong Chiam 32.87 312 P **P 08 43 34.4 -0.5**
14nm,0.9s
KHLT Khaolaem Dam 38.00 304 P **P 08 44 18.5 -0.3**
7.7nm,1.1s
UTTA Uttaradit 38.09 310 P **P 08 44 19.1 -0.4**
5.4nm,0.8s
LAMP Lampang 39.26 310 P **P 08 44 29.6 +0.3**
4.6nm,0.7s
JNU Nakatsue 39.48 1 P **P 08 44 30.0 -0.9**
8.6nm,0.9s,baz=152,slow=4.2,SNR=4.9
CMAR Chiang Mai Arr 39.75 309 P **P 08 44 31.6 -1.7**
4.7nm,0.6s,baz=138,slow=7.6,SNR=22
CMAR ScP **ScP 08 50 13.0 -1.3**
0.7nm,0.3s,baz=148,slow=3.0,SNR=7.9
CMMT Chiang Mai 39.95 310 P **P 08 44 34.5 -0.5**
19nm,0.8s
CHTO Chiang Mai 39.96 310 P **P 08 44 34.5 -0.6**
65nm,0.8s
CHTO Chiang Mai 39.96 310 *e*P **P 08 44 34.4 -0.6**
4.3nm,0.6s
GYA Guiyang 40.09 326 *e*P **P 08 44 38.6 +2.4**
GYA PMZ
10.0nm,0.9s
CMAI Chiengmai2 40.55 311 P **P 08 44 39.7 -0.4**
14nm,0.8s
KMI Kunming 41.42 321 P **P 08 44 49.3 +2.0**
KMI PMZ
6.0nm,0.7s
MAJO Matsushiro 43.52 9 *e*P **P 08 45 02.2 -1.6**
9.9nm,0.8s
MAT Matsushiro 43.52 9 P **P 08 45 00.8 -2.9**
MJAR Matsushiro Arr 43.52 9 P **P 08 45 01.9 -1.9**
6.6nm,0.8s,baz=188,slow=9.8,SNR=17
MJAR ScP **ScP 08 50 27.4 -1.5**
0.7nm,0.5s,baz=214,slow=3.8,SNR=5.1
KSAR Wonju Array Be 43.85 357 P **P 08 45 06.0 -0.4**
KSAR ScP **ScP 08 50 27.5 -2.7**
KSRS Korea Array 43.86 357 P **P 08 45 06.0 -0.5**
2.2nm,0.8s,baz=177,slow=10,SNR=7.9
KSRS ScP **ScP 08 50 27.5 -2.7**
2.1nm,0.8s,baz=174,slow=5.0,SNR=6.8
KSRS LR LR 09 01 36.9
comp=Z,21nm,21.1s,baz=30,slow=34
CD2 Chengdu 45.15 327 *e*P **P 08 45 18.4 +1.5**
CD2 sP **sP 08 46 01.4 +0.2**
CD2 PP **PP 08 47 07.6 +2.4**
CD2 S **S 08 51 46.1 -0.7**
CD2 PMZ
10.0nm,0.7s
LZH Lanzhou 49.21 331 *e*P P 08 45 52.0 +3.6
LZH pP pP 08 46 20.5 +2.0
LZH sP sP 08 46 34.1 +1.0
LZH PP PP 08 47 48.5 +4.9
LZH PMZ
21nm,1.3s
LZH PMZ
76nm,6.5s
LZH LN
350nm,14.2s
LZH LE
370nm,14.5s
LZH LZ
400nm,18.0s
HHC Hu-ho-hao-te 50.26 341 *e*P **P 08 45 58.4 +2.2**
HHC pP **pP 08 46 24.8 -1.6**
HHC sP sP 08 46 36.9 -4.0
HHC PcP **PcP 08 47 15.1 +1.8**
HHC S **S 08 53 02.4 +3.6**
HHC sS **sS 08 53 47.6 -3.4**
HHC PMZ
31nm,0.5s
HHC PMZ
100nm,6.1s
CN2 Changchun 50.34 355 *e*P **P 08 45 56.6 0.0**
CN2 PMZ
10.0nm,0.7s
USRK Ussuriysk Ar. 50.56 2 P **P 08 45 57.5 -0.7**
2.9nm,0.6s,baz=190,slow=5.7,SNR=10.0
PALK Pallekele 51.42 285 P **P 08 46 03.2 -2.1**
5.5nm,0.6s,baz=93,slow=9.3,SNR=4.6
ASAJ Asahikawa 51.65 11 P **P 08 46 06.5 0.0**
9.6nm,0.9s,baz=209,slow=13,SNR=2.6
ODAN Odare 53.26 311 *e*P **P 08 46 17.8 -1.1**
27nm,0.7s
TAPN Taplejung 53.28 311 *e*P **P 08 46 18.2 -1.0**
58nm,1.1s
GTA Gaotai 53.78 331 *e*P **P 08 46 22.9 +0.5**
GTA pP **pP 08 46 52.4 -0.6**
GTA sP **sP 08 47 06.6 -0.8**
GTA ScP **ScP 08 51 11.1 -1.5**
GTA S **S 08 53 46.4 -0.7**
GTA SS **SS 08 57 30.0 0.0**
GTA PMZ
4.0nm,0.9s
GTA PMZ
56nm,4.5s
GTA LN
170nm,15.2s
GTA LE
180nm,17.6s
GTA LZ
260nm,13.8s
RAMN Ramite 53.91 310 *e*P **P 08 46 23.0 -0.7**
69nm,0.9s
JIRN Jiri 54.59 311 *e*P **P 08 46 27.5 -1.2**
23nm,0.7s
GUN Gumba 54.96 311 *e*P **P 08 46 30.3 -1.0**
53nm,0.9s
PKI Pulchoki 55.14 310 *e*P **P 08 46 31.2 -1.4**
PKIN Phulchoki 55.15 310 *e*P **P 08 46 31.1 -1.5**
KKN Kakani 55.35 310 *e*P **P 08 46 32.8 -1.2**
DMN Daman 55.39 310 *e*P **P 08 46 33.3 -1.0**
42nm,1.0s
GKN Gorkha 55.94 310 *e*P **P 08 46 37.1 -1.1**
HYB Hyderabad 56.46 296 *i* P **P 08 46 39.5 -2.4**
HYB *e* 08 46 45.0
KOLN Koldanda 56.62 309 *e*P **P 08 46 42.0 -1.0**
24nm,0.6s
DANN Dangsing 56.79 310 *e*P **P 08 46 43.2 -1.1**
36nm,1.0s
PYUN Piuthan 57.25 309 *e*P **P 08 46 46.6 -0.9**
110nm,1.0s
ULN Ulaanbaatar 57.98 342 *e*P **P 08 46 51.7 -0.5**
7.8nm,0.6s
SONM Songino Array 58.16 341 P **P 08 46 53.2 -0.2**
2.5nm,0.6s,baz=160,slow=6.7,SNR=20
SONM ScP **ScP 08 51 29.2 -2.5**
1.1nm,1.2s,baz=132,slow=2.1,SNR=3.5
TLY Talaya 62.39 342 P **P 08 47 21.6 -0.3**
1.1nm,0.4s,baz=319,slow=2.2,SNR=4.5
WMQ Urumqi 63.24 327 *e*P P 08 47 30.5 +2.7
WMQ pP pP 08 48 00.0 +0.7
WMQ PMZ
6.0nm,1.2s
WMQ PMZ
130nm,5.2s
WMQ LZ
34nm,20.0s
PETK Petropavlovsk- 63.81 18 P **P 08 47 31.2 -0.1**
6.9nm,0.7s,baz=176,slow=2.5,SNR=15
KSH Kashi 67.96 317 P **P 08 47 59.5 +1.2**
KSH pP **pP 08 48 30.6 +0.4**
KSH PP **PP 08 50 33.6 +3.6**
KSH S **S 08 56 44.1 -3.0**
KSH PMZ
4.0nm,0.6s
KSH PMZ
170nm,5.8s
KSH LN
73nm,4.3s
KSH LE
98nm,5.0s
KSH LZ
170nm,5.7s
MKAR Makanchi Array 68.08 327 P **P 08 47 58.5 -0.3**
6.7nm,0.7s,baz=116,slow=7.9,SNR=75
KZA Kyzart 69.70 319 P **P 08 48 09.6 +0.3**
SNR=5.6
TKM2 Tokmak 2 69.90 320 *e*P **P 08 48 10.5 +0.1**
2.5nm,0.7s
UCH Uchtor 70.25 319 P **P 08 48 13.6 +0.8**
SNR=7.2
AAK Ala-Archa 70.46 320 *e*P **P 08 48 13.7 0.0**
4.8nm,1.0s
AML Almayashu 70.74 319 P **P 08 48 16.1 +0.4**
SNR=10
USP Ospenovka 70.77 320 P **P 08 48 15.4 0.0**
SNR=5.2
EKS2 Erkin-Say 70.94 319 P **P 08 48 17.3 +0.8**
SNR=6.8
EKS2 Erkin-Say 70.94 319 *e*P **P 08 48 17.1 +0.6**
8.4nm,1.2s
SEY Seymchan 71.33 10 P **P 08 48 18.6 +0.4**
8.6nm,0.8s,baz=206,slow=4.5,SNR=46
ZALV Zalesovo Beam 71.37 334 P **P 08 48 17.5 -1.2**
1.9nm,0.6s,baz=104,slow=4.7,SNR=8.3
KURK Kurchatov 72.35 328 *e*P **P 08 48 23.7 -0.9**
4.7nm,1.0s
KURK *e*PcP **PcP 08 48 40.0 -1.8**
VNDA Vanda 72.82 173 P **P 08 48 28.6 +1.6**
7.3nm,0.8s,baz=314,slow=6.3,SNR=28
KKAR Karatay Array 73.27 319 *e*P **P 08 48 30.0 -0.3**
1.8nm,0.8s
MAW Mawson 75.48 201 P **P 08 48 44.3 +1.7**
26nm,0.9s,baz=72,slow=4.5,SNR=4.7
TIXI Tiksi 78.07 360 *e*P **P 08 48 55.9 -1.0**
1.5nm,0.5s
GEYT Alibeck 80.22 310 P **P 08 49 09.3 -0.2**
1.7nm,0.6s,baz=132,slow=2.2,SNR=4.6
QSPA South Pole Qui 83.40 180 *e*P **P 08 49 26.0 +0.3**
18nm,0.9s
AKTO Aktyubinsk 83.97 322 P **P 08 49 27.0 -1.7**
1.7nm,0.7s,baz=125,slow=6.7,SNR=8.4
RAYN Ar Rayn 87.92 294 *e*P **P 08 49 48.2 -0.6**
39nm,1.2s
ILAR Eielson Array 92.81 25 P **P 08 50 07.8 -2.7**
0.4nm,0.7s,baz=272,slow=4.3,SNR=4.8
KMBO Kilima Mbogo 92.97 269 P **P 08 50 13.5 +0.7**
0.6nm,0.4s,baz=93,slow=4.9,SNR=4.2
SNAA Sanae 96.16 193 LR LR 09 32 53.8
comp=Z,77nm,19.0s,baz=241,slow=35
SNAA Sanae 96.16 193 *e*P **P 08 50 27.3 +1.4**
5.7nm,0.9s
YKA Yellowknife Ar 107.21 26 PKiKP **PKiKP 08 55 23.2 -0.4**
0.5nm,0.5s,baz=294,slow=1.6,SNR=10
STHS Stebnicka Huta 107.39 320 PDIF **Pdif 08 51 13.3 -3.1**
GERES GERESS Array B 112.33 320 PKiKP **PKiKP 08 55 32.7 -1.1**
0.9nm,0.6s,baz=79,slow=2.1,SNR=6.6
PDAR Pinedale Array 116.33 45 PKP **PKPdf 08 55 42.0 +0.1**
0.2nm,0.4s,baz=270,slow=2.6,SNR=2.9
ULM Lac du Bonnet 121.89 33 PKP **PKPdf 08 55 51.4 -0.6**
1.3nm,0.5s,baz=166,slow=3.4,SNR=3.9
TXAR Lajitas Array 124.39 59 PKP **PKPdf 08 55 58.2 +0.6**
0.5nm,0.9s,baz=146,slow=2.4,SNR=5.4
TORD Torodi Ar. Bea 129.09 282 PKP **PKPdf 08 56 06.4 -0.3**
2.0nm,0.6s,baz=80,slow=1.7,SNR=15
TORD SKPbc SKPab 08 59 13.9 -1.3
3.5nm,0.8s,baz=72,slow=3.8,SNR=16
SCHQ Schefferville 129.93 13 PKP **PKPdf 08 56 07.7 +0.4**
2.0nm,0.9s,baz=41,slow=9.3,SNR=3.8
SCHQ SKPbc SKPab 08 59 15.2 -2.4
10nm,0.8s,baz=322,slow=1.7,SNR=14
CMIG Matias Romero 134.59 73 PKP **PKPdf 08 56 18.6 +1.6**
2.1nm,0.8s,baz=176,slow=13,SNR=2.4
DBIC Dimbokro 135.54 273 PKP **PKPdf 08 56 18.4 -0.5**
1.8nm,0.7s,baz=62,slow=7.2,SNR=3.2
DBIC SKPbc **SKPbc 08 59 36.4 -2.1**
2.3nm,0.7s,baz=92,slow=6.3,SNR=4.8
JTS JuntasAbangare 144.88 82 *e*PKPbc **PKPdf 08 56 35.9 +0.1**
LVC Limon Verde 145.39 148 *e*PKPbc **PKPab 08 56 38.4 +1.2**
NNA Nana 147.25 124 PKPbc **PKPab 08 56 44.3 -0.1**
6.8nm,0.6s,baz=238,slow=12,SNR=2.8
ATAH Atahualpa 148.23 115 PKPbc **PKPab 08 56 47.8 -1.0**
7.1nm,0.9s,baz=42,slow=14,SNR=4.9
LPAZ La Paz 150.82 141 PKPbc **PKPbc 08 56 53.4 +1.4**
6.8nm,0.8s,baz=128,slow=1.8,SNR=27
LPAZ La Paz 150.82 141 *e*PKPdf **PKPdf 08 56 46.3 0.0**
LPAZ PKPbc **PKPbc 08 56 53.4 +1.4**
LPAZ *e*PKPab **PKPab 08 56 59.2 -0.2**
SIV San Ignacio 154.88 153 PKPab **PKPab 08 57 17.6 +1.8**
2.6nm,0.7s,baz=230,slow=5.4,SNR=5.0

SKHL 22 08:51:11.2±0.5, 53°.06N×128°.90E, h5km, mb3.9/5, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZEA	**Zeya**	**1.20**	**305**	*e*Pg		Pg	08 51 33.2	-1.0
ZEA					AMB	AMB	08 51 34.4	
37nm,0.2s								
ZEA				*e*Sg		Sg	08 51 48.8	-1.0
ZEA					A	A	08 51 49.2	
58nm,0.5s								
ZEA					A	A	08 51 49.2	
49nm,0.5s								
BMKR	**Bomnak**	**1.66**	**359**	*e*Pg		Pn	08 51 41.0	+0.1
BMKR					AMB	AMB	08 51 42.3	
55nm,0.4s								
BMKR				*e*Sg		Sn	08 52 02.8	+0.2
BMKR					A	A	08 52 05.0	
99nm,0.4s								
KROS	**Kirovskiy**	**1.79**	**321**	*e*Pg		Pn	08 51 43.2	+0.4
KROS					AMB	AMB	08 51 44.2	
23nm,0.5s								
KROS				*e*Sn		Sn	08 52 06.1	+0.2
KROS				*e*Sg		Sb	08 52 07.0	-0.3
KROS					A	A	08 52 07.3	
84nm,0.5s								
EKMR	**Ekimchan**	**2.44**	**88**	*e*Pn		Pn	08 51 51.4	-0.4
EKMR				*e*Pg		Pb	08 51 55.0	-0.7
EKMR					AMB	AMB	08 51 57.1	
7.0nm,0.3s								
EKMR				*e*Sg		Sb	08 52 27.2	+1.1
EKMR					A	A	08 52 30.7	
70nm,0.5s								
EKMR					A	A	08 52 30.7	
31nm,0.5s								
EKMR					A	A	08 52 30.7	
20nm,0.5s								
KLR	**Kul'dur**	**4.23**	**154**	*e*Sg		Sb	08 53 21.4	+3.9
TUP	**Tupik**	**5.48**	**288**	*e*Pn		Pn	08 52 34.0	+0.5
TUP				*e*Pg		Pb	08 52 49.9	+2.5
TUP				*e*Sn		Sn	08 53 35.7	-1.3
TUP				*e*Sg		Sg	08 54 02.0	-5.3
NKL	**Nikolayevsk**	**7.09**	**85**	*e*Sg		Sg	08 54 52.0	-6.8

*IDC **22** 08:52:18.9±0.4, 41°.23S×89°.00W, h0km, mb4.8/19, mb1 4.9/21, mb1mx4.9/24, mbtmp4.8/21, ML3.8/2, MS4.7/22, Ms1 4.7/22, ms1mx4.7/22, Error ellipse: s-maj=15.4km s-min=12.1km az=147.0*

*ISCJB **22** 08:52:19.6±0.2, 41°.15S±0°.04×88°.93W±0°.05, h10km, mb5.2/117, MS4.8/26, Error ellipse: s-maj=7.4km s-min=4.8km az=38.8*

*MOS **22** 08:52:19.5±1.2, 41°.16S×88°.94W, h10km, mb5.3/31, MS4.8/6, Error ellipse: s-maj=17.6km s-min=8.7km az=94.1*

*NEIC **22** 08:52:20.7±0.2, 41°.26S×88°.95W, h10km, mb5.3/93, Error ellipse: s-maj=7.3km s-min=5.7km az=55.0*

*GCMT **22** 08:52:20.7±0.2, 41°.29S×89°.03W, h15km, MW5.4/120, Moment Tensor Solution. s77,c106; s120,c214; Duration: 1s2 Moment tensor: Scale 10^17Nm; M_{rr}-0.56±.03; $M_{\theta\theta}$0.73±.03; $M_{\phi\phi}$-0.17±.03; $M_{r\theta}$0.38±.05; $M_{\theta\phi}$-1.31±.02; $M_{\phi r}$-0.07±.05; Best double couple: $M_0$1.43900×10^17 NP1:ϕ_s262.00000°, δ84.00000°, λ-162.00000°. NP2:ϕ_s170.00000°, δ72.00000°, λ-6.00000°. Principal axes: T 1.7200, Plg9.0000°, Azm35.0000°; N -0.5630, Plg71.0000°, Azm279.0000°; P -1.1580, Plg17.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **22** 08:52:22.2, 41°.20S×89°.10W, h10km, mB5.1/14, Ms5.3/12, Ms7 5.0/15*

ISC 22 08:52:20.7±0.3, 41°.26S±0°.06×88°.97W±0°.05, h10km, n630, σ0.99/665, mb5.3/116, MS4.9/26, 176C-184D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**13.93**	**94**	*e*P		**Pn**	**08 55 38.1**	**0.0**
PLCA							08 58 14.5	
PLCA	**Paso Flores**	**13.93**	**94**	Pn		Pn	08 55 41.6	+3.6
0.2nm,0.3s,baz=268,slow=12,SNR=14								
PLCA					Sn	**Sn**	**08 58 14.4**	**+1.7**
0.0nm,0.3s,baz=317,slow=18,SNR=1.6								
PLCA	**Paso Flores**	**13.93**	**94**	*e*Pn		**Pn**	**08 55 38.0**	**0.0**
PLCA					Sn	**Sn**	**08 58 14.4**	**+1.7**
USHA	**Ushuaia**	**19.21**	**142**	P		**Pn**	**08 56 46.4**	**+1.0**
0.5nm,0.3s,baz=269,slow=9.7,SNR=10.0								
USHA					LR	LR	09 02 46.5	
comp=Z,5μm,18.9s,baz=282,slow=33								
CFAA	**Coronel Fontan**	**19.22**	**67**	P		**Pn**	**08 56 45.7**	**-0.2**
0.1nm,0.3s,baz=235,slow=10,SNR=61								
CFAA					S	**S**	**09 00 23.4**	**+0.7**
0.0nm,0.3s,baz=75,slow=20,SNR=3.3								
CFAA					LR	LR	09 02 35.6	
comp=Z,541nm,20.9s,baz=232,slow=32								
LCO	**Las Campanas**	**19.26**	**56**	*e*Pn		**Pn**	**08 56 47.2**	**+0.7**
113nm,1.1s								
TRQA	**Tornquist**	**20.99**	**90**	*e*P		**P**	**08 57 05.3**	**+1.2**
193nm,1.1s								
RPN	**Rapa Nui**	**21.89**	**304**	LR		LR	09 03 20.8	
comp=Z,2μm,21.4s,baz=158,slow=30								
EFI	**East Falkland**	**23.53**	**127**	P		**P**	**08 57 31.2**	**+0.5**
867nm,0.9s,SNR=5.1								
EFI	**East Falkland**	**23.53**	**127**	⇑*i*P		**P**	**08 57 31.9**	**+1.2**
EFI					pmax	pmax		
comp=Z,446nm,1.1s								
EFI					MLR	MLR		
comp=Z,5μm,16.0s								
EFI	**East Falkland**	**23.53**	**127**	*e*P		**P**	**08 57 31.5**	**+0.7**
comp=Z,127nm,0.9s								
EFI				*e*S		**S**	**09 01 42.0**	**-2.5**
LVC	**Limon Verde**	**25.10**	**48**	*e*P		**P**	**08 57 46.4**	**+0.5**
comp=Z,157nm,1.4s								
PMSA	**Palmer Station**	**27.55**	**157**	LR		LR	09 06 48.2	
comp=Z,923nm,18.9s,baz=131,slow=32								
LPAZ	**La Paz**	**30.71**	**42**	P		**P**	**08 58 37.4**	**+1.0**
comp=Z,18nm,0.9s,baz=201,slow=8.4,SNR=15								
LPAZ					LR	LR	09 08 20.5	
comp=Z,3μm,19.1s,baz=204,slow=31								
NNA	**Nana**	**31.04**	**23**	P		**P**	**08 58 38.4**	**-0.4**
comp=Z,291nm,0.9s,SNR=5.2								
NNA	**Nana**	**31.04**	**23**	*e*P		**P**	**08 58 39.1**	**+0.3**
NNA					pmax	pmax		
comp=Z,42nm,0.9s								
NNA	**Nana**	**31.04**	**23**	P		**P**	**08 58 39.1**	**+0.3**
comp=Z,27nm,0.7s,baz=203,slow=9.8,SNR=11								

NNA LR LR 09 07 44.3
comp=Z,1µm,20.1s,baz=200,slow=30
NNA Nana 31.04 23 *eP* **P 08 58 39.1 +0.3**
comp=Z,42nm,0.9s
SIV San Ignacio 34.84 52 P **P 08 59 11.9 -0.1**
comp=Z,11nm,0.9s,baz=243,slow=8.2,SNR=14
SIV LR LR 09 11 55.9
comp=Z,3µm,21.5s,baz=247,slow=34
ATAH Atahualpa 35.26 18 P **P 08 59 18.3 +2.3**
comp=Z,143nm,0.8s,baz=184,slow=6.4,SNR=56
ATAH LR LR 09 10 06.9
comp=Z,4µm,20.9s,baz=190,slow=30
SAML Samuel 39.45 43 *eP* **P 08 59 50.8 -0.3**
comp=Z,19nm,1.2s
RKT Rikitea 42.39 281 *eS* **S 09 06 34.4 -2.3**
comp=Z,342nm,27.8s
RKT *e*LQ LQ 09 10 07.2
comp=Z,2µm,31.0s
RKT *e*LR LR 09 11 51.9
comp=Z,1µm,27.2s,baz=126
OTAV Otavalo 42.39 16 *eP* **P 09 00 16.8 +1.0**
comp=Z,66nm,1.1s
BDFB Brasilia 43.57 66 *eP* **P 09 00 25.5 +0.5**
BDFB 09 02 13.0
BDFB Brasilia 43.57 66 P **P 09 00 25.1 +0.1**
comp=Z,13nm,0.9s,baz=234,slow=8.0,SNR=15
BDFB PcP **PcP 09 02 13.0 +0.3**
comp=Z,8.8nm,1.0s,baz=198,slow=4.9,SNR=3.2
BDFB LR LR 09 18 06.8
comp=Z,2µm,18.8s,baz=226,slow=36
BDFB Brasilia 43.57 66 *eP* **P 09 00 25.5 +0.5**
BDFB PcP **PcP 09 02 13.0 +0.3**
ROSC El Rosal 47.81 20 P **P 09 01 00.7 +1.9**
comp=Z,36nm,1.0s,baz=157,slow=2.4,SNR=39
ROSC LR LR 09 19 24.8
comp=Z,1µm,18.3s,baz=188,slow=34
ROSC El Rosal 47.81 20 *eP* **P 09 01 01.3 +2.5**
PTGA Pitinga 48.11 41 P **P 09 01 00.0 -0.8**
comp=Z,28nm,0.8s,baz=212,slow=8.6,SNR=40
PTGA Pitinga 48.11 41 *eP* **P 09 01 00.2 -0.6**
VNA3 Neumayer Olymp 48.17 155 P **P 09 01 00.8 +0.1**
VNA1 Neumayer--Stat 48.70 154 P **P 09 01 05.6 +1.0**
VNA2 Neumayer--Watz 48.95 154 P **P 09 01 06.9 +0.3**
QSPA South Pole Qui 48.98 180 *eP* **P 09 01 07.3 +0.3**
comp=Z,34nm,1.1s
SNAA Sanae 50.26 156 P **P 09 01 16.4 -0.2**
SNAA Sanae 50.26 156*d i*P **P 09 01 16.1 -0.6**
SNAA pmax pmax
comp=Z,28nm,1.0s
SNAA MLR MLR
comp=Z,408nm,17.0s
SNAA Sanae 50.26 156 P **P 09 01 16.5 -0.2**
comp=Z,9.5nm,1.0s,baz=280,slow=7.7,SNR=15
JTS JuntasAbangare 51.42 5*c i*P **P 09 01 26.4 +0.5**
JTS pmax pmax
comp=Z,49nm,1.5s
JTS MLR MLR
comp=Z,898nm,17.0s
JTS JuntasAbangare 51.42 5 *eP* **P 09 01 26.3 +0.4**
comp=Z,24nm,1.1s
SDV Santo Domingo 52.67 23 *eP* **P 09 01 34.3 -1.1**
comp=Z,55nm,1.0s
SBA Scott Base 52.94 195 *eP* **P 09 01 38.2 +1.7**
SBA pmax pmax
comp=Z,37nm,1.0s
SBA Scott Base 52.94 195 *eP* **P 09 01 38.1 +1.7**
comp=Z,37nm,1.0s
TBI Tubuai 53.12 270 *eS* **S 09 09 04.2 -4.8**
comp=Z,397nm,28.5s
TBI *e*LQ LQ 09 14 30.2
comp=Z,797nm,30.2s
TBI *e*LR LR 09 16 45.4
comp=Z,992nm,26.0s,baz=126
VNDA Vanda 54.03 195 *eP* **P 09 01 45.7 +1.2**
VNDA Vanda 54.03 195 P **P 09 01 45.5 +1.0**
comp=Z,3.4nm,0.8s,baz=126,slow=6.7,SNR=13
VNDA LR LR 09 19 35.5
comp=Z,1µm,21.9s,baz=120,slow=30
VNDA Vanda 54.03 195 *eP* **P 09 01 45.7 +1.2**
NVL N'lazarevskaya 55.04 157⇓*i*P **P 09 01 50.2 -1.7**
NVL *e*S **S 09 09 28.4 -5.4**
NVL pmax pmax
comp=Z,29nm,1.0s
APG El Apazote 55.99 358 P P 09 01 54.4 -5.2
comp=Z,9.4nm,0.8s,baz=186,slow=15,SNR=5.2
PPT2 Papeete2 56.61 276 *eS* **S 09 09 53.5 -2.7**
comp=Z,489nm,25.2s
PPT2 *e*LR LR 09 18 22.5
comp=Z,796nm,25.8s
PPT Papeete 56.63 276 LR LR 09 18 47.1
comp=Z,244nm,19.7s,baz=163,slow=28
CMIG Matias Romero 58.31 353 P **P 09 02 14.9 -0.8**
comp=Z,3.9nm,1.0s,baz=176,slow=13,SNR=2.2
RCBR Riachuelo 58.87 68 P **P 09 02 19.1 -0.8**
comp=Z,17nm,0.9s,baz=223,slow=6.8,SNR=6.3
PAPH Port-au-Prince 61.45 18 *eP* **P 09 02 38.6 +1.3**
GTBY Guantanamo Bay 62.22 15 *eP* **P 09 02 42.6 +0.2**
comp=Z,79nm,1.1s
OBIP Obispado Ponce 62.54 24 *eP* **P 09 02 43.3 -1.3**
comp=Z,105nm,1.4s
CELP Cerrillos 62.58 24 *eP* **P 09 02 43.3 -1.6**
LRS Lares 62.70 24 *eP* **P 09 02 44.5 -1.3**
SJG San Juan 62.75 25 P **P 09 02 44.6 -1.4**
comp=Z,37nm,0.7s,baz=90,slow=2.0,SNR=6.0
CBYP Canovanas 62.99 25 *eP* **P 09 02 45.8 -1.9**
comp=Z,88nm,1.4s
SYO Syowa Base 63.67 162⇑*eX* P 09 02 45.4 -6.2
035A Encino 68.38 351 ⇓P **P 09 03 22.9 +0.7**
baz=69
034A Hebbronville 68.57 351 ⇑P **P 09 03 24.0 +0.5**
baz=69
URZ Urewera 68.62 238 LR LR 09 27 13.9
comp=Z,1µm,18.3s,baz=186,slow=30
934A Benavides 69.08 351 ⇑P **P 09 03 26.4 -0.2**
baz=69
933A Laredo 69.19 350 ⇑P **P 09 03 26.8 -0.5**
baz=70
MAW Mawson 69.39 169 LR LR 09 32 31.8
comp=Z,651nm,19.0s,baz=214,slow=35
834A Tilden 69.60 351 ⇓P **P 09 03 29.8 0.0**
baz=70
835A Beeville 69.68 352 ⇓P **P 09 03 30.6 +0.4**
baz=70
833A Chaparral WMA, 69.90 350 ⇑P **P 09 03 31.5 -0.2**
baz=70,SNR=7.6
832A Faith Ranch, C 69.94 350 ⇓P **P 09 03 31.6 -0.3**
baz=70
735A Kenedy 70.24 352 ⇑P **P 09 03 33.5 -0.3**
baz=71
733A Divot King Ran 70.28 350 ⇓P **P 09 03 33.4 -0.5**
baz=71
734A La Parita Cree 70.32 351 ⇓P **P 09 03 33.9 -0.3**
baz=71
732A Laxson Ranch, 70.38 350 ⇓P **P 09 03 33.6 -0.9**
baz=71
635A Leesville 70.76 352 ⇑P **P 09 03 36.4 -0.5**
baz=71
636A Smothers Creek 70.78 353 ⇓P **P 09 03 37.5 +0.5**
baz=71
633A Saathoff Ranch 70.99 351 ⇑P **P 09 03 38.2 -0.2**
baz=71
632A Uvalde 71.12 350 ⇑P **P 09 03 38.7 -0.4**
baz=72,SNR=8.2
631A Perdido Creek 71.13 349 ⇑P **P 09 03 38.5 -0.7**
baz=72,SNR=16
HKT Hockley 71.14 354 *eP* **P 09 03 39.1 0.0**
HKT pmax pmax
comp=Z,30nm,1.7s
HKT Hockley 71.14 354 *eP* **P 09 03 39.1 0.0**
comp=Z,30nm,1.7s
537A Green Hill Far 71.31 353 ⇑P **P 09 03 40.5 +0.3**
baz=72,SNR=8.8
536A Bastrop 71.37 353 ⇓P **P 09 03 40.4 -0.2**
baz=72
535A Dale 71.38 352 ⇑P **P 09 03 40.1 -0.5**
baz=72
534A Blanco 71.47 351 ⇓P **P 09 03 40.7 -0.5**
baz=72
TXAR Lajitas Array 71.54 346 P **P 09 03 41.6 -0.1**
comp=Z,9.2nm,0.9s,baz=169,slow=9.1,SNR=88
TXAR LR LR 09 30 21.5
comp=Z,344nm,18.1s,baz=0.0,slow=32
533A Kerrville 71.58 351 ⇓P **P 09 03 41.7 -0.2**
baz=72,SNR=12
532A Rocksprings 71.75 350 ⇓P **P 09 03 42.8 -0.1**
baz=72,SNR=14
531A Rocksprings 71.87 349 ⇑P **P 09 03 43.8 +0.1**
baz=72,SNR=30
530A J-C Ranch, Com 71.97 349 ⇓P **P 09 03 44.0 -0.2**
baz=72,SNR=28
436A Wall Ranch, Ga 72.03 353 ⇓P **P 09 03 44.1 -0.4**
baz=72
529A Stev Forest Ra 72.08 348 ⇑P **P 09 03 44.3 -0.6**
baz=72,SNR=6.9
JCT Junction City 72.08 350 *eP* **P 09 03 44.5 -0.4**
JCT pmax pmax
comp=Z,37nm,1.3s
JCT Junction City 72.08 350 ⇑P **P 09 03 44.1 -0.8**
baz=72,SNR=5.8
JCT Junction City 72.08 350 *eP* **P 09 03 44.5 -0.4**
comp=Z,37nm,1.3s
435B Jarrell 72.12 352 ⇑P **P 09 03 44.9 -0.2**
baz=72
434A Burnet 72.23 352 ⇑P **P 09 03 44.9 -0.9**
baz=73,SNR=15
433A Art 72.26 351 ⇓P **P 09 03 44.9 -1.0**
baz=73,SNR=22
431A Sonora 72.39 349 ⇓P **P 09 03 46.2 -0.6**
baz=73,SNR=15
339A Huntington 72.42 355 ⇑P **P 09 03 47.0 +0.2**
baz=73
432A Menard 72.47 350 ⇓P **P 09 03 46.3 -0.9**
baz=73,SNR=7.2
338A Crockett 72.49 354 ⇓P **P 09 03 47.1 -0.2**
baz=73
429A Davenport Ranc 72.52 348 ⇑P **P 09 03 47.3 -0.3**
baz=73,SNR=16
430A Baggett Ranch, 72.58 349 ⇑P **P 09 03 47.5 -0.4**
baz=73,SNR=11
335A Moody 72.60 352 ⇑P **P 09 03 47.5 -0.5**
baz=73
336A Riesel 72.65 353 ⇑P **P 09 03 47.8 -0.4**
baz=73
334A Lometa 72.74 352 ⇓P **P 09 03 48.0 -0.7**
baz=73,SNR=15
333A Richland Sprin 72.81 351 ⇓P **P 09 03 48.2 -1.0**
baz=73,SNR=8.3
332A Millersview 72.96 350 ⇑P **P 09 03 49.2 -0.9**
baz=73,SNR=16
331A San Angelo 72.98 350 ⇑P **P 09 03 49.6 -0.7**
baz=73,SNR=18
239A Gary 73.09 355 ⇓P **P 09 03 50.4 -0.4**
baz=74
238A Jacksonville 73.12 355 ⇓P **P 09 03 50.7 -0.3**
baz=74
330A Mertzon 73.18 349 ⇑P **P 09 03 50.7 -0.7**
baz=74,SNR=8.2
WHTX Lake Whitney, 73.31 352 ⇓P **P 09 03 51.8 -0.3**
baz=74
WHTX Lake Whitney, 73.31 352 *eP* **P 09 03 52.1 0.0**
comp=Z,17nm,0.8s
329A Wagon Wheel Ra 73.38 348 ⇓P **P 09 03 52.3 -0.4**
baz=74,SNR=6.8
234A Clairette 73.39 352 ⇓P **P 09 03 52.2 -0.5**
baz=74,SNR=8.8
232A Coleman 73.45 351 ⇓P **P 09 03 52.1 -0.9**
baz=74,SNR=13
233A Rising Star 73.49 351 ⇓P **P 09 03 52.2 -1.0**
baz=74,SNR=13
230A Sterling City 73.64 349 ⇓P **P 09 03 53.2 -0.9**
baz=74,SNR=7.2
229A Bryant Ranch, 73.82 349 ⇑P **P 09 03 54.6 -0.6**
baz=74,SNR=5.2
135A Vickery Place, 73.86 353 ⇑P **P 09 03 55.2 -0.2**
baz=74
134A White-Moore Ra 73.95 352 ⇓P **P 09 03 55.2 -0.7**
baz=74,SNR=5.8
LRAL Lakeview Retre 73.95 2 *eP* **P 09 03 55.8 -0.1**
comp=Z,30nm,1.1s
133A Hamilton Ranch 74.07 351 ⇓P **P 09 03 56.0 -0.6**
baz=74,SNR=10
228A UT Block 9, Go 74.09 348 ⇑P **P 09 03 56.1 -0.7**
baz=74
MNTX Cornudas Mount 74.16 346 *eP* **P 09 03 55.4 -1.7**
ABTX Abilene, Hawle 74.17 351 ⇓P **P 09 03 56.5 -0.7**
baz=74,SNR=14
ABTX Abilene, Hawle 74.17 351 *eP* **P 09 03 57.0 -0.3**
comp=Z,47nm,1.3s
131A Roby 74.32 350 ⇓P **P 09 03 57.3 -0.8**
baz=75,SNR=9.7
130A Snyder 74.32 350 ⇑P **P 09 03 57.3 -0.8**
baz=75
GOGA Godfrey 74.47 5 *eP* **P 09 03 58.9 0.0**
GOGA pmax pmax
comp=Z,37nm,1.3s
GOGA Godfrey 74.47 5 *eP* **P 09 03 58.9 0.0**
comp=Z,37nm,1.3s
129A Stewart Farms, 74.48 349 ⇓P **P 09 03 58.6 -0.5**
baz=75
128A Castleberry Fa 74.56 348 ⇑P **P 09 03 59.2 -0.4**
baz=75,SNR=9.0
Z35A Perchaven, San 74.61 353 ⇓P **P 09 03 59.3 -0.4**
baz=75
319A Douglas 74.67 342 ⇑P **P 09 04 00.5 +0.2**
baz=75,SNR=7.3
Z34A Collier Ranch, 74.72 352 ⇓P **P 09 03 59.8 -0.6**
baz=75
Z33A Whitaker Ranch 74.73 352 ⇑P **P 09 03 59.6 -0.8**
baz=75,SNR=12
Z32A Haskell 74.83 351 ⇓P **P 09 04 00.3 -0.7**
baz=75,SNR=8.8
Z31A Sharp Cattle R 74.92 350 ⇑P **P 09 04 01.2 -0.4**
baz=75,SNR=22
Z30A Sanderson Ranc 75.02 349 ⇑P **P 09 04 01.6 -0.5**
baz=75,SNR=6.0
Z29A Hungry Hill Ra 75.08 349 ⇑P **P 09 04 01.7 -0.8**
baz=75,SNR=6.6
Z28A Tucker Farm, M 75.20 348 ⇑P **P 09 04 03.2 -0.1**
baz=76
Y34A Reagan Ranch, 75.28 352 ⇑P **P 09 04 02.3 -1.3**
baz=76,SNR=7.2
Y33A Hilltop Ranch, 75.42 352 ⇑P **P 09 04 04.0 -0.4**
baz=76
121A Cookes Peak, D 75.45 344 ⇓P **P 09 04 04.3 -0.6**
baz=76
121A Cookes Peak, D 75.45 344 *eP* **P 09 04 04.7 -0.1**
comp=Z,13nm,1.3s
Y32A R-V Farms, Ver 75.51 351 ⇑P **P 09 04 04.4 -0.6**
baz=76,SNR=12
MIAR Mount Ida 75.55 356 *eP* **P 09 04 04.9 -0.2**
MIAR Mount Ida 75.55 356 *eP* **P 09 04 04.9 -0.2**
Y30A Stafford Cattl 75.57 350 ⇓P **P 09 04 04.9 -0.4**
baz=76,SNR=13
Y31A Rekieta Farm, 75.57 350 ⇓P **P 09 04 04.7 -0.6**
baz=76,SNR=6.9
Y29A Porterfield Fa 75.66 349 ⇑P **P 09 04 05.3 -0.6**
baz=76
Y28A McKinney Farm, 75.79 349 ⇑P **P 09 04 06.1 -0.6**
baz=76,SNR=7.6
X32A Elmer 75.91 351 ⇑P **P 09 04 06.4 -0.8**
baz=76,SNR=5.7
TUC Tucson 75.92 341 *eP* **P 09 04 07.1 -0.3**
TUC Tucson 75.92 341 *eP* **P 09 04 07.0 -0.3**
X34A Smith Ranch, M 75.93 352 ⇑P **P 09 04 06.8 -0.5**
baz=76,SNR=5.8
MSTX Muleshoe 75.93 348 ⇑P **P 09 04 06.8 -0.6**
baz=76,SNR=15
MSTX Muleshoe 75.93 348 *eP* **P 09 04 07.2 -0.2**
comp=Z,31nm,1.0s
X33A Lawton 75.94 352 ⇓P **P 09 04 06.4 -0.9**
baz=76
214A Organ Pipe Nat 76.10 339 ⇑P **P 09 04 09.2 +0.8**
baz=76,SNR=16
214A Organ Pipe Nat 76.10 339 *eP* **P 09 04 09.4 +1.0**
comp=Z,39nm,1.3s
X30A Coker Ranch, T 76.13 350 ⇓P **P 09 04 08.0 -0.5**
baz=76,SNR=15
WMOK Wichita Mounta 76.16 352 *eP* **P 09 04 07.6 -1.1**
WMOK Wichita Mounta 76.16 352 *eP* **P 09 04 07.6 -1.1**
X31A McDonald Ranch 76.19 351 ⇓P **P 09 04 08.3 -0.6**
baz=77,SNR=6.9
X29A Tulia 76.24 349 ⇓P **P 09 04 08.7 -0.4**
baz=77,SNR=5.2
KMSC Kings Mountain 76.35 6 ⇓P **P 09 04 09.3 -0.4**
baz=77
X28A Dimmitt 76.38 349 ⇓P **P 09 04 09.5 -0.5**
baz=77
W33A Caddo, Fort Co 76.54 352 ⇑P **P 09 04 10.7 0.0**
baz=77,SNR=12
W34A Bridge Creek, 76.55 353 ⇑P **P 09 04 10.4 -0.4**
baz=77,SNR=5.1
W34A Bridge Creek, 76.55 353 *eP* **P 09 04 10.8 -0.1**
comp=Z,45nm,1.1s
W32A Sentinel 76.59 351 ⇑P **P 09 04 10.5 -0.6**
baz=77,SNR=7.1
AMTX Amarillo 76.67 349 ⇑P **P 09 04 11.2 -0.4**
baz=77
AMTX Amarillo 76.67 349 *eP* **P 09 04 11.8 +0.2**
comp=Z,25nm,0.9s
W31A Holland Ranch, 76.74 351 ⇑P **P 09 04 11.3 -0.6**
baz=77
W29A Amarillo 76.90 349 ⇓P **P 09 04 12.3 -0.6**
baz=77
LPM Los Pinos Moun 76.94 345 *eP* **P 09 04 13.4 +0.1**
V35A Meyer Ranch, C 76.99 353 ⇑P **P 09 04 12.9 -0.4**
baz=77
WVT Waverly 77.02 1 *eP* **P 09 04 12.4 -1.0**
WVT pmax pmax
comp=Z,18nm,1.2s
WVT Waverly 77.02 1 *eP* **P 09 04 12.4 -1.0**
comp=Z,18nm,1.2s
TUL1 Leonard 77.05 354 ⇓P **P 09 04 12.8 -0.8**
baz=77,SNR=9.6
TUL1 Leonard 77.05 354 *eP* **P 09 04 13.2 -0.4**
comp=Z,67nm,1.2s
W28A Vega 77.11 349 ⇓P **P 09 04 14.1 0.0**
baz=78
V34A Guthrie 77.12 353 ⇑P **P 09 04 13.3 -0.7**
baz=78,SNR=7.0
V34A Guthrie 77.12 353 *eP* **P 09 04 13.7 -0.3**
comp=Z,41nm,1.2s
LAZ Ladron 77.12 345 *eP* **P 09 04 15.1 +0.8**
comp=Z,11nm,1.4s
113A Mohawk Valley, 77.13 339 ⇑P **P 09 04 14.1 0.0**
baz=78,SNR=6.7
V32A Arapaho 77.16 352 ⇓P **P 09 04 13.7 -0.5**
baz=78,SNR=6.1
V33A Lossen Ranch, 77.18 352 ⇑P **P 09 04 14.2 -0.1**
baz=78,SNR=10
W26A Owens Ranch, T 77.18 348 ⇓P **P 09 04 14.4 -0.1**
baz=78,SNR=5.6
V31A Spring Creek L 77.31 351 ⇑P **P 09 04 15.5 +0.4**
baz=78,SNR=12
W25A X Bar L Ranch, 77.42 347 ⇓P **P 09 04 15.6 -0.3**
baz=78,SNR=12
Z14A Wintersburg 77.47 340 ⇑P **P 09 04 16.0 0.0**
baz=78
ANMO Albuquerque 77.52 345 *eP* **P 09 04 16.7 +0.2**
ANMO pmax pmax
comp=Z,14nm,1.0s
ANMO Albuquerque 77.52 345 *eP* **P 09 04 16.7 +0.2**
comp=Z,14nm,1.0s
W24A Lazy 6 Ranch, 77.58 346 ⇓P **P 09 04 16.5 -0.4**
baz=78,SNR=28
V29A Stinnett 77.62 350 ⇓P **P 09 04 17.0 +0.1**
baz=78
GLA Glamis 77.69 338 *eP* **P 09 04 17.7 +0.3**
GLA pmax pmax
comp=Z,28nm,1.3s
GLA Glamis 77.69 338 ⇑P **P 09 04 17.1 -0.2**
baz=78
GLA Glamis 77.69 338 *eP* **P 09 04 17.6 +0.3**
comp=Z,28nm,1.3s
V27A Dan Oppiter Fa 77.69 348 ⇓P **P 09 04 17.4 0.0**
baz=78
U34A Anderson Ranch 77.72 353 ⇑P **P 09 04 16.9 -0.5**
baz=78,SNR=5.7
U34A Anderson Ranch 77.72 353 *eP* **P 09 04 17.2 -0.1**
comp=Z,39nm,1.2s
U33A Lingo Farm, Me 77.77 352 ⇑P **P 09 04 17.5 -0.1**
baz=78
U32A Winter Ranch, 77.81 352 ⇓P **P 09 04 18.2 +0.3**
baz=78
X18A Snowflake 77.85 342 ⇓P **P 09 04 18.2 -0.2**
baz=78,SNR=10
SWSC Sam W. Stewart 77.87 337 ⇓P **P 09 04 18.2 -0.1**
baz=78
V26A Tequesquite Ra 77.88 348 ⇑P **P 09 04 17.7 -0.7**
baz=78,SNR=7.3
MONP Monument Peak, 78.00 337 ⇓P **P 09 04 18.6 -0.7**
baz=78
Y14A Wickenburg 78.03 340 ⇑P **P 09 04 18.6 -0.6**
baz=78,SNR=16
V25A Rancho No Teng 78.06 347 ⇑P **P 09 04 19.3 -0.2**
baz=78,SNR=7.7
V24A Rampart Ranch, 78.06 346 ⇑P **P 09 04 18.9 -0.7**
baz=78
X16A Lo Mia Camp, P 78.09 341 ⇑P **P 09 04 19.5 -0.2**
baz=78,SNR=19
U30A WK&E Inc. Balk 78.15 350 ⇑P **P 09 04 19.7 -0.1**
baz=78
109C Camp Elliot, M 78.21 336 ⇓P **P 09 04 20.7 +0.5**
baz=79
V23A Ortiz Mt. (NFS 78.24 346 ⇓P **P 09 04 20.5 0.0**
baz=79
Y12C Blythe 78.26 338 ⇑P **P 09 04 20.8 +0.3**
baz=79
U27A Thompson Grove 78.34 349 ⇑P **P 09 04 21.0 0.0**
baz=79,SNR=5.9
W18A Petrified Fore 78.36 343 ⇓P **P 09 04 21.3 +0.1**
baz=79
T33A Patterson Ranc 78.43 352 ⇓P **P 09 04 21.3 0.0**
baz=79,SNR=5.0
BC3 Big Chuckawall 78.44 338 ⇓P **P 09 04 21.7 +0.2**
baz=79,SNR=9.3
U26A Atchley Ranch, 78.46 348 ⇓P **P 09 04 21.5 -0.2**
baz=79,SNR=6.3
V22A San Miguel Ran 78.54 345 ⇓P **P 09 04 22.2 -0.1**
baz=79,SNR=15
U25A Circle Dot Ran 78.57 347 ⇑P **P 09 04 22.4 0.0**
baz=79,SNR=11
T32A Huddler Ranch, 78.59 352 ⇑P **P 09 04 22.4 +0.2**
baz=79
T31A Randall Ranch, 78.59 351 ⇑P **P 09 04 22.1 -0.2**
baz=79
T30A Plains 78.65 351 ⇑P **P 09 04 23.1 +0.5**
baz=79
PDMCI Parker Dam,Lak 78.67 339 ⇑P **P 09 04 23.1 +0.4**
baz=79
PFO Pinyon Flats O 78.68 337 *eP* **P 09 04 23.7 +0.8**
PFO pmax pmax
comp=Z,12nm,1.1s
PFO Pinyon Flats O 78.68 337 ⇑P **P 09 04 23.3 +0.4**
baz=79,SNR=6.4
PFO Pinyon Flats O 78.68 337 *eP* **P 09 04 23.7 +0.8**
comp=Z,12nm,1.1s
U24A Moreno Valley 78.73 347 ⇓P **P 09 04 24.0 +0.7**
baz=79,SNR=9.8
U23A El Rito 78.81 346 ⇓P **P 09 04 24.3 +0.6**
baz=79,SNR=19
IRM Iron Mountain 78.82 338 ⇑P **P 09 04 24.1 +0.5**
baz=79,SNR=6.9
S36A Lake Cedric, C 78.84 355 ⇑P **P 09 04 22.6 -0.9**
baz=79,SNR=13
T29A Hugoton 78.85 350 ⇓P **P 09 04 23.2 -0.5**
baz=79
MURC Murrieta 78.90 336 ⇓P **P 09 04 24.1 +0.1**
baz=79,SNR=5.5
S33A Kaszmaul Farm, 78.91 353 ⇑P **P 09 04 23.9 0.0**
baz=79
BELC Belle Mtn. Jos 78.92 337 ⇑P **P 09 04 24.2 0.0**
baz=79,SNR=12
T28A Walsh 78.93 349 ⇓P **P 09 04 24.1 0.0**
baz=79,SNR=10
S34A Willow Spring 78.94 353 ⇑P **P 09 04 23.9 -0.1**
baz=79,SNR=6.6
T27A Campo 78.95 349 ⇓P **P 09 04 24.5 +0.2**
baz=79,SNR=6.8
U22A Llaves 78.98 345 ⇑P **P 09 04 25.0 +0.3**
baz=79,SNR=9.2
S31A Mullinville 79.09 352 ⇓P **P 09 04 25.0 +0.1**
baz=80
S32A Newby Ranch, P 79.11 352 ⇓P **P 09 04 25.0 0.0**
baz=80
WUAZ Wupatki 79.12 342 ⇓P **P 09 04 25.9 +0.6**
baz=80,SNR=9.3
WUAZ Wupatki 79.12 342 *eP* **P 09 04 26.3 +0.9**
comp=Z,49nm,1.4s
WCI Wyandotte Cave 79.15 2 *eP* **P 09 04 24.0 -1.2**
WCI pmax pmax
comp=Z,11nm,0.8s
WCI Wyandotte Cave 79.15 2 *eP* **P 09 04 24.0 -1.2**
comp=Z,11nm,0.8s
T26A Comanche Natio 79.20 348 ⇓P **P 09 04 25.7 -0.1**
baz=80,SNR=15
S30A Montezuma 79.22 351 ⇓P **P 09 04 25.5 -0.2**
baz=80,SNR=5.4
JSRW J. Sargeant Re 79.23 9 *eP* **P 09 04 25.1 -0.5**
S29A Ulysses 79.28 350 ⇑P **P 09 04 25.8 -0.2**
baz=80,SNR=5.1
T25A Trinidad 79.29 347 ⇑P **P 09 04 26.4 +0.1**
baz=80,SNR=14
S28A Manter 79.36 350 ⇑P **P 09 04 26.1 -0.4**

baz=80,SNR=10
W13A Hualapai Mount 79.36 339 ⇑P P 09 04 27.2 +0.5
baz=80,SNR=9.4
T24B San Luis 79.38 347 ⇑P P 09 04 27.0 +0.2
baz=80
BBRC Big Bear Solar 79.43 337 ⇑P P 09 04 27.3 +0.1
baz=80
T23A Casias Ranch, 79.47 346 ⇑P P 09 04 27.3 -0.1
baz=80,SNR=6.3
GMRC Granite Mounta 79.55 338 ⇓P P 09 04 28.1 +0.4
baz=80,SNR=19
R33A Olander Ranch, 79.62 353 ⇑P P 09 04 27.9 +0.1
baz=80,SNR=5.2
S26A Kim 79.62 348 ⇓P P 09 04 28.1 +0.1
baz=80,SNR=18
OLIL Olney 79.62 1 eP P 09 04 26.7 -1.0
comp=Z,52nm,1.3s
BFSC Mount Baldy Ra 79.63 336 ⇑P P 09 04 28.0 -0.1
baz=80
R31A Burdett 79.75 352 ⇓P P 09 04 28.4 -0.2
baz=80
HEC Hector,Ludlow 79.79 337 ⇓P P 09 04 28.7 -0.2
baz=80,SNR=5.3
R32A Long Quarter, 79.80 352 ⇓P P 09 04 28.4 -0.4
baz=80
S25A Robets Cordova 79.81 348 ⇓P P 09 04 29.1 +0.1
baz=80,SNR=13
R30A Dighton 79.84 351 ⇑P P 09 04 29.1 0.0
baz=80,SNR=6.5
S24A Houchin Ranch, 79.92 347 ⇑P P 09 04 30.6 +0.8
baz=80,SNR=13
R29A Marienthal 80.08 350 ⇓P P 09 04 30.6 +0.3
baz=80
R28A Tribune 80.09 350 ⇓P P 09 04 30.4 0.0
baz=80,SNR=16
MVCO Mesa Verde 80.11 344 ⇑P P 09 04 31.0 +0.2
baz=80,SNR=12
MVCO Mesa Verde 80.11 344 eP P 09 04 31.3 +0.5
comp=Z,40nm,1.4s
S23A Nye Farm, Mont 80.12 346 ⇑P P 09 04 31.1 +0.3
baz=80
R27A Eads 80.17 349 ⇓P P 09 04 30.8 -0.1
baz=80,SNR=13
U15A North Rim 80.22 341 ⇑P P 09 04 31.6 +0.2
baz=81,SNR=23
R25A Fountain Ranch 80.26 348 ⇑P P 09 04 31.5 +0.1
baz=81,SNR=8.9
R26A Arlington 80.28 348 ⇓P P 09 04 31.9 +0.4
baz=81,SNR=16
KSU1 Kansas State U 80.28 354 ⇓P P 09 04 30.9 -0.5
baz=81,SNR=8.0
KSU1 Kansas State U 80.28 354 eP P 09 04 31.1 -0.2
comp=Z,62nm,1.3s
Q33A Connelly Farm, 80.29 353 ⇓P P 09 04 31.9 +0.5
baz=81
S22A 4UR Ranch, Cre 80.31 346 ⇑P P 09 04 32.1 +0.3
baz=81,SNR=20
OSI Osito Audit: C 80.31 335 ⇑P P 09 04 32.0 +0.3
baz=81
EDW2 Edwards Air Fo 80.33 336 ⇓P P 09 04 31.7 0.0
baz=81
Q32A Meitler Ranch, 80.35 352 ⇑P P 09 04 31.7 0.0
baz=81,SNR=5.8
GSC Goldstone, Bar 80.36 337 ⇓P P 09 04 32.1 +0.1
baz=81
R24A Sanders Place, 80.47 347 ⇑P P 09 04 32.9 +0.3
baz=81,SNR=8.4
Q29A Oakley 80.52 351 ⇓P P 09 04 32.7 0.0
baz=81,SNR=7.6
R23A Moffat 80.56 347 ⇓P P 09 04 33.3 0.0
baz=81,SNR=8.3
P33A Williams Farm, 80.71 353 ⇑P P 09 04 33.6 0.0
baz=81
SHOC Shoshone, Teco 80.77 338 ⇓P P 09 04 34.6 +0.5
baz=81
Q28A Sharon Springs 80.80 350 ⇑P P 09 04 34.5 +0.2
baz=81
ARVC Arvin 80.81 336 ⇑P P 09 04 34.3 0.0
baz=81
KSCO Kaye Shedlock' 80.86 349 ⇑P P 09 04 34.5 -0.1
baz=81,SNR=5.2
KSCO Kaye Shedlock' 80.86 349 eP P 09 04 35.4 +0.8
comp=Z,31nm,1.1s
Q26A Hugo 80.90 349 ⇓P P 09 04 35.2 +0.4
baz=81
PKM Mcpherson Peak 80.91 335 ⇓P P 09 04 34.9 -0.2
baz=81
P31A Stockton 80.96 352 ⇓P P 09 04 35.6 +0.6
baz=81
P32A Huiting Farm, 80.98 352 ⇓P P 09 04 35.2 +0.1
baz=81,SNR=6.9
Q25A Bedland, Calha 81.00 348 ⇑P P 09 04 35.1 -0.3
baz=81,SNR=6.2
PV01 Paradox Valley 81.02 344 eP P 09 04 36.3 +0.7
comp=Z,2μm,1.2s
SHPR Sheep Range 81.03 339 eP P 09 04 36.0 +0.4
comp=Z,40nm,1.4s
P30A Selden 81.08 351 ⇑P P 09 04 36.3 +0.7
baz=82
Q24A Divide 81.20 347 ⇓P P 09 04 36.9 +0.3
baz=82
ISA Isabella, Lake 81.20 336 ⇓P P 09 04 36.9 +0.4
baz=82
P29A Atwood 81.22 351 ⇓P P 09 04 37.2 +0.8
baz=82
MPMC Manual Prospec 81.27 337 ⇑P P 09 04 37.5 +0.5
baz=82
P28A Saint Francis 81.29 350 ⇓P P 09 04 37.0 +0.1
baz=82,SNR=5.8
PV04 Paradox Valley 81.34 344 eP P 09 04 37.8 +0.5
SMMC Simmler 81.35 335 ⇓P P 09 04 37.8 +0.6
baz=82
P27A Ficken Ranch, 81.38 349 ⇓P P 09 04 38.1 +0.7
baz=82
FURC Furnace Creek, 81.47 338 ⇓P P 09 04 38.2 +0.5
baz=82
P26A Davis Ranch, A 81.50 349 ⇓P P 09 04 38.3 +0.3
baz=82
CCUT Cedar City 81.55 341 eP P 09 04 39.4 +1.0
comp=Z,42nm,1.1s
VES Vestal, Richgr 81.55 336 ⇑P P 09 04 38.7 +0.5
baz=82
P25A Willow Gulch B 81.58 348 ⇑P P 09 04 39.3 +0.8
baz=82,SNR=9.6
O31A Woolen Ranch, 81.58 352 ⇓P P 09 04 38.7 +0.5
baz=82
O32A Brockman Farm, 81.58 353 ⇑P P 09 04 39.0 +0.7
baz=82
O30A MW Ranch, Wils 81.68 351 ⇓P P 09 04 39.4 +0.6
baz=82
P23A Jefferson 81.71 347 ⇑P P 09 04 40.0 +0.6
baz=82,SNR=10
O29A 4D Ranch, Culb 81.72 351 ⇑P P 09 04 39.8 +0.8
baz=82
TPNV Topopah Spring 81.74 338 ⇑P P 09 04 40.1 +0.8
baz=82,SNR=6.3
ARUT Antelope Range 81.79 341 eP P 09 04 40.0 +0.4
ARUT Antelope Range 81.79 341 eP P 09 04 40.0 +0.4
comp=Z,278nm,1.1s
O27A Beecher Island 81.99 350 ⇓P P 09 04 41.3 +0.7
baz=82
RCTC Rector, Farmer 82.03 336 ⇑P P 09 04 41.1 +0.4
baz=82
ISCO Idaho Springs 82.09 347 eP P 09 04 40.9 -0.4
ISCO pmax pmax
comp=Z,11nm,1.3s
ISCO Idaho Springs 82.09 347 ⇓P P 09 04 41.6 +0.3
baz=82
ISCO Idaho Springs 82.09 347 eP P 09 04 40.9 -0.4
comp=Z,11nm,1.3s
P22A Eagle 82.09 346 ⇑P P 09 04 41.8 +0.6
baz=82,SNR=9.1
GRAC Grapevine Rang 82.11 337 ⇓P P 09 04 41.5 +0.4
baz=82
O25A Wiggins 82.16 348 ⇑P P 09 04 41.8 +0.4
baz=82
O26A Horse Wrangler 82.16 349 ⇓P P 09 04 42.0 +0.5
baz=82,SNR=5.7
MVU Marysvale 82.17 342 eP P 09 04 42.5 +0.8
comp=Z,38nm,1.4s
SUR Sutherland 82.29 127 P P 09 04 42.8 +0.1
comp=Z,6.4nm,0.8s,baz=258,slow=7.4,SNR=3.9
N28A Pribbeno Ranch 82.36 350 ⇓P P 09 04 43.4 +1.0
baz=83
SRU San Rafael Swe 82.37 343 eP P 09 04 43.0 +0.3
SRU pmax pmax
comp=Z,33nm,1.3s
SRU San Rafael Swe 82.37 343 eP P 09 04 43.0 +0.3
comp=Z,33nm,1.3s
N29A Votaw Ranch, W 82.38 351 ⇑P P 09 04 43.5 +1.0
baz=83
O23A Lake Granby, G 82.54 347 ⇑P P 09 04 44.1 +0.4
baz=83,SNR=11
O22A Kremmling 82.60 347 ⇓P P 09 04 44.3 +0.3
baz=83,SNR=9.7
N27A Anderson Farm, 82.61 350 ⇑P P 09 04 44.1 +0.3
baz=83
TMUT Trail Mountain 82.70 343 eP P 09 04 44.4 -0.1
comp=Z,57nm,1.2s
BGNE Belgrade 82.70 353 ⇑P P 09 04 44.9 +0.7
baz=83
BGNE Belgrade 82.70 353 eP P 09 04 44.4 +0.3
comp=Z,86nm,1.2s
M31A Lambtecht Ranc 82.72 352 ⇓P P 09 04 45.3 +1.1
baz=83
SCIA State Center 82.87 357 eP P 09 04 44.8 -0.2
comp=Z,14nm,0.7s
R11A Troy Canyon, C 82.87 339 ⇓P P 09 04 45.8 +0.5
baz=83,SNR=16
R11A Troy Canyon, C 82.87 339 eP P 09 04 45.3 0.0
comp=Z,19nm,1.2s
O20A White River Ci 82.89 345 ⇑P P 09 04 45.9 +0.5
baz=83,SNR=5.8
O20A White River Ci 82.89 345 eP P 09 04 46.0 +0.7
comp=Z,27nm,1.3s
TPH Tonopah 83.07 338 eP P 09 04 46.5 +0.2
TPH pmax pmax
comp=Z,42nm,1.2s
TPH Tonopah 83.07 338 eP P 09 04 46.5 +0.2
comp=Z,42nm,1.2s
MLAC Mammoth, Mammo 83.13 337 ⇓P P 09 04 47.1 +0.4
baz=84,SNR=7.5
N22A Wattenberg Ran 83.21 347 ⇑P P 09 04 47.8 +0.7
baz=84
N23A Red Feather La 83.21 347 ⇑P P 09 04 48.0 +0.9
baz=84,SNR=11
L30A Spencer Herefo 83.39 352 ⇑P P 09 04 48.8 +1.1
baz=84
M25A Palm-Egli Farm 83.44 349 ⇑P P 09 04 49.2 +1.1
baz=84
MPU Maple Canyon 83.48 343 eP P 09 04 48.3 -0.1
comp=Z,70nm,1.2s
NLU North Lily Min 83.52 342 eP P 09 04 49.3 +0.6
comp=Z,72nm,1.2s
L31A Butterfield Fa 83.53 353 ⇑P P 09 04 49.4 +1.0
baz=84
N20A Spence Gulch, 83.57 345 ⇓P P 09 04 49.2 +0.3
baz=84,SNR=10
M24A Cheyenne 83.59 348 ⇓P P 09 04 49.7 +0.8
baz=84,SNR=10
L29A Maesberg Ranch 83.59 351 ⇓P P 09 04 49.8 +1.0
baz=84
NVAR Mina Array Bea 83.71 337 P P 09 04 50.5 +0.8
comp=Z,6.6nm,0.8s,baz=170,slow=6.0,SNR=43
M23A Laramie 83.73 347 ⇑P P 09 04 49.8 +0.1
baz=84,SNR=7.1
DAU Daniels Canyon 83.78 343 eP P 09 04 50.7 +0.6
DAU pmax pmax
comp=Z,53nm,1.2s
DAU Daniels Canyon 83.78 343 eP P 09 04 50.6 +0.6
comp=Z,53nm,1.2s
JFWS Jewell Farm 83.80 359 eP P 09 04 47.1 -2.6
JFWS pmax pmax
comp=Z,22nm,1.1s
JFWS Jewell Farm 83.80 359 eP P 09 04 47.1 -2.6
comp=Z,22nm,1.1s
M22A Cedar Creek Ra 83.82 347 ⇓P P 09 04 50.4 +0.2
baz=84,SNR=5.5
BINY Binghamton 83.90 10 eP P 09 04 49.1 -1.2
comp=Z,25nm,1.1s
DUG Dugway, Tooele 83.92 342 eP P 09 04 51.2 +0.6
DUG pmax pmax
comp=Z,58nm,1.2s
DUG Dugway, Tooele 83.92 342 ⇑P P 09 04 50.7 +0.1
baz=84,SNR=34
DUG Dugway, Tooele 83.92 342 eP P 09 04 51.1 +0.6
comp=Z,58nm,1.2s
CMB Columbia Colle 83.97 336 eP P 09 04 50.9 +0.1
CMB pmax pmax
comp=Z,28nm,1.0s
CMB Columbia Colle 83.97 336 eP P 09 04 50.9 +0.1
comp=Z,28nm,1.0s
K30A Basset 84.10 352 ⇓P P 09 04 51.3 0.0
baz=84,SNR=7.6
WAKR Walker 84.11 336 eP P 09 04 52.2 +0.5
comp=Z,24nm,1.1s
K29A Lazy Trails An 84.26 352 ⇓P P 09 04 53.3 +1.2
baz=85
K28A Ten Mile Ranch 84.34 351 ⇓P P 09 04 53.4 +0.9
baz=85
L23A Garrett 84.36 348 ⇑P P 09 04 52.5 -0.4
baz=85,SNR=5.7
L22A Ellis Ranch, M 84.40 347 ⇓P P 09 04 53.5 +0.4
baz=85
K27A Flueckinger Fa 84.43 350 ⇑P P 09 04 53.3 +0.2
baz=85
TCUT Toone Canyon 84.48 343 eP P 09 04 53.4 -0.2
comp=Z,35nm,1.2s
K26A Motz Farm, Whi 84.56 350 ⇑P P 09 04 54.0 +0.3
baz=85
J30A Dallas 84.73 352 ⇑P P 09 04 54.2 -0.3
baz=85,SNR=10
ECSD EROS Data Cent 84.89 354 ⇑P P 09 04 54.8 -0.5
baz=85,SNR=25
ECSD EROS Data Cent 84.89 354 eP P 09 04 54.6 -0.7
comp=Z,50nm,1.3s
SPUT South Promonto 84.90 342 eP P 09 04 55.8 +0.3
comp=Z,47nm,1.2s
J29A Okreek 84.90 352 ⇓P P 09 04 55.2 -0.2
baz=85,SNR=8.2
J27A Elkhorn Farm, 84.95 350 ⇑P P 09 04 55.9 +0.2
baz=85,SNR=5.0
K23A Bowen Ranch, D 84.97 348 ⇓P P 09 04 56.0 +0.1
baz=85
K22A Casper 85.02 347 ⇓P P 09 04 56.6 +0.4
baz=85,SNR=15
K22A Casper 85.02 347 eP P 09 04 57.0 +0.9
comp=Z,62nm,1.2s
J28A Allard Ranch, 85.02 351 ⇓P P 09 04 56.1 +0.2
baz=85,SNR=7.3
K21A Alcova 85.13 347 ⇑P P 09 04 56.5 -0.2
baz=86,SNR=11
J26A Sides Ranch, S 85.14 350 ⇓P P 09 04 57.1 +0.5
baz=86
I30A Oacoma 85.31 352 ⇑P P 09 04 57.7 +0.4
baz=86
J25A Sunshine Ranch 85.32 349 ⇑P P 09 04 58.1 +0.6
baz=86
ACCN Adirondack Com 85.38 11 eP P 09 04 57.9 +0.2
comp=Z,8.1nm,0.9s
J24A Dixon Ranch, L 85.39 349 ⇓P P 09 04 58.1 +0.2
baz=86
HVU Hansel Valley 85.42 342 eP P 09 04 58.3 +0.2
HVU pmax pmax
comp=Z,46nm,1.2s
HVU Hansel Valley 85.42 342 eP P 09 04 58.3 +0.2
comp=Z,46nm,1.2s
I28A Midland 85.58 351 ⇑P P 09 04 58.6 -0.2
baz=86,SNR=9.3
BW06 Boulder Array 85.68 345 eP P 09 04 59.5 -0.1
comp=Z,35nm,1.3s
PDAR Pinedale Array 85.68 345 P P 09 04 59.6 +0.1
comp=Z,6.6nm,0.8s,baz=160,slow=4.7,SNR=27
PDAR LR LR 09 38 12.9
comp=Z,162nm,21.3s,baz=165,slow=32
J22A Midwest 85.75 347 ⇑P P 09 05 00.1 +0.3
baz=86
I27A Quinn 85.75 351 ⇓P P 09 04 59.9 +0.3
baz=86,SNR=6.6
I26A New Underwood 85.82 350 ⇑P P 09 05 00.2 +0.2
baz=86
J21A Lysite 85.85 347 ⇓P P 09 05 00.1 -0.2
baz=86,SNR=5.9
I25A Rochford 85.93 349 ⇓P P 09 05 00.7 +0.1
baz=86
J20A Shoshoni 85.97 346 ⇓P P 09 05 01.2 +0.3
baz=86,SNR=10
AHID Auburn Hatcher 86.00 344 eP P 09 05 01.6 +0.5
comp=Z,14nm,1.0s
J19A Crowheart 86.07 345 ⇑P P 09 05 01.0 -0.3
baz=86,SNR=11
RSSD Black Hills 86.07 349 eP P 09 05 01.5 +0.1
RSSD pmax pmax
comp=Z,18nm,1.3s
RSSD Black Hills 86.07 349 eP P 09 05 01.5 +0.1
comp=Z,18nm,1.3s
H29A Onida 86.09 352 ⇑P P 09 05 01.0 -0.3
baz=86
SPMN Marine on St. 86.17 357 ⇓P P 09 05 01.1 -0.4
baz=86
SPMN Marine on St. 86.17 357 eP P 09 05 00.1 -1.4
comp=Z,12nm,0.9s
I22A 9 Mile Ranch, 86.22 347 ⇓P P 09 05 02.0 0.0
baz=87
H28A Mission Ridge 86.23 351 ⇑P P 09 05 02.4 +0.4
baz=87
I21A Big Trails, Te 86.28 347 ⇑P P 09 05 02.1 -0.3
baz=87,SNR=7.2
H27A Howes 86.31 351 ⇑P P 09 05 02.0 -0.3
baz=87
H26A Fairpoint 86.39 350 ⇓P P 09 05 02.9 +0.1
baz=87
LONY Lake Ozonia 86.47 10 eP P 09 05 02.5 -0.5
comp=Z,65nm,1.8s
G30A Faulkton 86.49 353 ⇓P P 09 05 03.4 +0.2
baz=87
H25A Fruitdale 86.50 350 ⇑P P 09 05 03.4 +0.1
baz=87,SNR=8.3
I20A Worland 86.56 346 ⇓P P 09 05 03.5 -0.1
baz=87,SNR=17
G28A Parade 86.61 352 ⇑P P 09 05 03.6 -0.2
baz=87
H24A Dirks Ranch, A 86.76 349 ⇑P P 09 05 03.9 -0.7
baz=87,SNR=6.3
I19A Meeteetse 86.80 346 ⇑P P 09 05 05.3 +0.4
baz=87
BBTS Babate 86.85 68 LR LR 09 42 45.3
comp=Z,419nm,18.2s,baz=229,slow=35
I17A Pilgrim Ck. 87.00 345 ⇑P P 09 05 06.4 +0.4
baz=87
H21A Big Horn, Sher 87.03 347 ⇑P P 09 05 06.2 +0.2
baz=87
G26A Maurine 87.03 350 ⇓P P 09 05 05.4 -0.5
baz=87,SNR=7.5
G27A Dupree 87.03 351 ⇓P P 09 05 05.9 0.0
baz=87
G25A Newell 87.04 350 ⇑P P 09 05 05.8 -0.1
baz=87
H20A Greybull 87.06 346 ⇓P P 09 05 06.0 -0.1
baz=87,SNR=14
F29A Eureka 87.25 352 ⇓P P 09 05 07.1 +0.2
baz=88
G24A Alzada 87.31 349 ⇑P P 09 05 07.3 +0.1
baz=88
G23A Biddle 87.32 348 ⇓P P 09 05 07.6 +0.3
baz=88
F28A McLaughlin 87.37 352 ⇓P P 09 05 07.1 -0.3
baz=88,SNR=7.5
N02D Trinity Center 87.39 335 ⇓P P 09 05 07.6 -0.1
baz=88
H19A Powell 87.41 346 ⇓P P 09 05 08.9 +1.1
baz=88
H17A Grant Village 87.45 345 ⇓P P 09 05 09.1 +0.9
baz=88
H17A Grant Village 87.45 345 eP P 09 05 10.1 +2.0
comp=Z,12nm,1.1s
G22A Birney 87.48 348 ⇑P P 09 05 08.4 +0.3
baz=88
HLID Hailey 87.49 342 ⇓P P 09 05 08.4 +0.1
baz=88,SNR=41
HLID Hailey 87.49 342 eP P 09 05 08.9 +0.6
comp=Z,27nm,1.1s
MOD Modoc Plateau 87.50 337 eP P 09 05 08.2 -0.1
comp=Z,14nm,1.1s
WVOR Wild Horse Val 87.52 338 eP P 09 05 08.4 0.0
WVOR pmax pmax
comp=Z,5.0nm,1.0s
WVOR Wild Horse Val 87.52 338 eP P 09 05 08.4 0.0
comp=Z,5.5nm,1.0s
F27A Lemmon 87.53 351 ⇓P P 09 05 08.4 +0.1
baz=88
H18A Shoshone NF, C 87.55 345 ⇓P P 09 05 08.3 -0.3
baz=88,SNR=8.7
YFT Old Faithful 87.56 345 eP P 09 05 08.5 -0.2
comp=Z,16nm,1.0s
F26A Lodgepole 87.59 350 ⇓P P 09 05 08.9 +0.4
baz=88
BOSA Boshof 87.65 127 eP P 09 05 08.8 -0.9
BOSA Boshof 87.65 127 P P 09 05 08.6 -1.1
comp=Z,11nm,0.8s,baz=254,slow=2.7,SNR=16
BOSA LR LR 09 38 41.6
comp=Z,237nm,21.2s,baz=211,slow=32
BOSA Boshof 87.65 127 eP P 09 05 08.8 -0.9
MFID Camas Ranch 87.69 341 eP P 09 05 09.3 +0.1
comp=Z,7.3nm,1.2s
YNR Norris Junctio 87.78 345 eP P 09 05 11.1 +1.4
comp=Z,18nm,1.2s
YMR Madison River 87.79 344 eP P 09 05 11.1 +1.3
comp=Z,60nm,1.4s
G20A Bridger 87.80 347 ⇑P P 09 05 09.3 -0.4
baz=88,SNR=12
M02C Callahan 87.81 335 ⇑P P 09 05 09.9 +0.1
baz=88
F24A Ekalaka 87.82 349 ⇓P P 09 05 10.2 +0.6
baz=88
F23A Volborg 87.83 349 ⇑P P 09 05 09.6 -0.2
baz=88
RLMT Red Lodge 87.90 346 eP P 09 05 10.4 +0.1
comp=Z,30nm,1.4s
E29A Napoleon 87.96 353 ⇓P P 09 05 10.3 +0.1
baz=88
QLMT Earthquake Lak 88.04 344 eP P 09 05 12.4 +1.5
comp=Z,1.8nm,1.1s
E28A Huff 88.07 352 ⇓P P 09 05 11.0 +0.2
baz=88
E26A Carlson Angus 88.17 351 ⇓P P 09 05 11.4 +0.1
baz=88
E25A Miller Ranch, 88.32 350 ⇓P P 09 05 12.4 +0.4
baz=89
MCMT McKenzie Canyo 88.34 343 eP P 09 05 13.4 +1.0
comp=Z,9.5nm,1.5s
F20A Billings 88.36 347 ⇓P P 09 05 12.5 +0.2
baz=89
D30A Buchanan 88.41 353 ⇓P P 09 05 11.6 -0.8
baz=89,SNR=8.3
F19A Roth Farm, Mol 88.55 346 ⇓P P 09 05 12.9 -0.3
baz=89,SNR=6.9
D26A Manning 88.72 351 ⇓P P 09 05 14.5 +0.6
baz=89
BOZ Bozeman (W) 88.86 344 eP P 09 05 15.3 +0.6
BOZ pmax pmax
comp=Z,7.0nm,1.1s
BOZ Bozeman (W) 88.86 344 eP P 09 05 15.3 +0.6
comp=Z,6.9nm,1.1s
D25A Fairfield 88.95 350 ⇑P P 09 05 15.8 +0.9
baz=89
C30A Mose, Pekin 88.98 354 ⇑P P 09 05 15.5 +0.5
baz=89
E20A Meyer Farm, Mu 89.03 347 ⇑P P 09 05 15.6 +0.2
baz=89,SNR=15
J05D Fort Rock, OR 89.04 337 ⇓P P 09 05 15.8 +0.2
baz=89
D24A Glendive 89.05 350 ⇓P P 09 05 15.5 +0.1
baz=89
E19A Rath Farm, Rou 89.11 346 ⇑P P 09 05 15.8 0.0
baz=90,SNR=11
LRM Limekiln Ridge 89.20 344 eP P 09 05 18.1 +1.7
comp=Z,95nm,1.2s
MDND Maddock 89.22 353 ⇑P P 09 05 16.5 +0.3
baz=90
MDND Maddock 89.22 353 eP P 09 05 15.8 -0.3
comp=Z,8.3nm,1.1s
D23A Lindsay 89.22 349 ⇑P P 09 05 16.5 +0.2
baz=90
C27A Sayler Ranch, 89.28 352 ⇑P P 09 05 16.9 +0.4
baz=90
D22A Cohagen 89.35 348 ⇓P P 09 05 16.9 +0.1
baz=90,SNR=7.1
BMO Blue Mountains 89.41 340 eP P 09 05 18.2 +1.0
comp=Z,8.9nm,1.3s
C26A Wahner Farm, P 89.46 351 ⇑P P 09 05 18.1 +0.8
baz=90
LIC Lamto 89.52 81 eP P 09 05 20.0 +1.6
comp=Z,26nm,0.9s
D20A Manuel Ranch, 89.60 347 ⇓P P 09 05 18.0 -0.1
baz=90,SNR=21
B30A Myrvik Farm, E 89.71 354 ⇓P P 09 05 18.3 -0.1
baz=90
D19A Cripps Ranch, 89.80 347 ⇑P P 09 05 18.9 -0.1
baz=90
TIC Toumodi 89.80 81 eP P 09 05 21.4 +1.6
comp=Z,7.2nm,0.2s
B29A Wagenman Farm, 89.81 353 ⇑P P 09 05 18.0 -0.9
baz=90

KIC	**Kosan Boka**	89.83	81	*e*P		**P**	**09 05 21.6**	**+1.7**
	comp=Z,29nm,1.1s							
C23A	**Lambert**	89.84	349	⇓P		**P**	**09 05 18.7**	**-0.4**
	baz=90							
I04A	**Tendick Farm,**	89.86	336	⇓P		**P**	**09 05 18.9**	**-0.4**
	baz=90							
B28A	**Dugan Ranch, T**	89.89	352	⇓P		**P**	**09 05 19.0**	**-0.3**
	baz=90,SNR=6.9							
DBIC	**Dimbokro**	89.94	81	*e*P		**P**	**09 05 21.8**	**+1.4**
DBIC	**Dimbokro**	89.94	81	P		**P**	**09 05 19.1**	**-1.2**
	comp=Z,8.0nm,1.0s,baz=190,slow=3.7,SNR=10							
DBIC				LR		LR	09 44 43.5	
	comp=Z,193nm,18.2s,baz=218,slow=35							
DBIC	**Dimbokro**	89.94	81	*e*P		**P**	**09 05 21.8**	**+1.4**
C21A	**Desert Coulee**	90.15	348	⇓P		**P**	**09 05 20.4**	**-0.2**
	baz=90							
C20A	**Veseth Ranch,**	90.19	347	⇓P		**P**	**09 05 20.8**	**+0.1**
	baz=91							
A30A	**Hoffart Farm,**	90.19	354	⇑P		**P**	**09 05 20.3**	**-0.4**
	baz=91							
A29A	**Manning Farm,**	90.26	353	⇓P		**P**	**09 05 20.6**	**-0.4**
	baz=91							
A28A	**Rude Farm, Bot**	90.34	353	⇓P		**P**	**09 05 21.1**	**-0.3**
	baz=91							
C19A	**Slack Wire Ran**	90.38	347	⇓P		**P**	**09 05 21.8**	**+0.2**
	baz=91,SNR=9.6							
CHMT	**Chamberlain Mo**	90.41	344	*e*P		**P**	**09 05 24.0**	**+2.0**
	comp=Z,4.7nm,1.3s							
B22A	**Reddig Ranch S**	90.44	349	⇓P		**P**	**09 05 22.3**	**+0.4**
	baz=91							
LBTB	**Lobatse**	90.47	124	*e*P		**P**	**09 05 21.4**	**-1.5**
LBTB				pmax		pmax		
	comp=Z,32nm,1.3s							
LBTB	**Lobatse**	90.47	124	*e*P		**P**	**09 05 21.4**	**-1.5**
	comp=Z,32nm,1.3s							
SLMT	**Seeley Lake**	90.77	344	*e*P		**P**	**09 05 24.8**	**+1.1**
	comp=Z,6.2nm,1.0s							
EGMT	**Eagleton**	90.79	346	⇑P		**P**	**09 05 24.1**	**+0.5**
	baz=91							
EGMT	**Eagleton**	90.79	346	*e*P		**P**	**09 05 24.2**	**+0.7**
	comp=Z,16nm,1.2s							
B20A	**Solberg Farm,**	90.89	347	⇓P		**P**	**09 05 24.0**	**0.0**
	baz=91,SNR=6.7							
A22A	**Carney Farms,**	91.11	349	⇑P		**P**	**09 05 24.8**	**-0.1**
	baz=92							
SWMT	**Swartz Lake**	91.14	343	*e*P		**P**	**09 05 26.1**	**+0.8**
	comp=Z,5.0nm,1.1s							
A21A	**Bergtoll Ranch**	91.25	348	⇑P		**P**	**09 05 25.5**	**-0.1**
	baz=92							
A20A	**Cobblestone Ra**	91.30	348	⇓P		**P**	**09 05 25.9**	**0.0**
	baz=92,SNR=6.0							
ULM	**Lac du Bonnet**	91.33	356	P		**P**	**09 05 24.9**	**-1.1**
	comp=Z,2.6nm,0.8s,baz=199,slow=4.6,SNR=4.4							
ULM				LR		LR	09 43 58.2	
	comp=Z,164nm,18.5s,baz=216,slow=34							
HAWA	**Hanford**	91.42	339	*e*P		**P**	**09 05 27.1**	**+0.7**
	comp=Z,23nm,1.3s							
A19A	**Klindworth Far**	91.49	347	⇓P		**P**	**09 05 27.0**	**+0.2**
	baz=92							
BSMT	**Bassoo Peak**	91.63	343	*e*P		**P**	**09 05 28.9**	**+1.2**
	comp=Z,2.1nm,0.9s							
NEW	**Newport**	92.56	342	P		**P**	**09 05 30.0**	**-1.7**
	comp=Z,2.0nm,1.0s,baz=105,slow=4.6,SNR=2.1							
NEW	**Newport**	92.56	342	⇑P		**P**	**09 05 31.6**	**-0.2**
	baz=93							
FFC	**Flin Flon**	96.26	352	*e*P		**P**	**09 05 47.3**	**-1.2**
FFC				pmax		pmax		
	comp=Z,4.0nm,1.1s							
FFC	**Flin Flon**	96.26	352	*e*P		**P**	**09 05 47.3**	**-1.2**
	comp=Z,3.6nm,1.1s							
SCHQ	**Schefferville**	97.57	13	LR		LR	09 47 23.3	
	comp=Z,292nm,21.3s,baz=230,slow=34							
TORD	**Torodi Ar. Bea**	99.03	81	P		**Pdif**	**09 06 03.5**	**+1.5**
	comp=Z,2.6nm,1.1s,baz=236,slow=3.2,SNR=7.4							
TORD				PP		**PP**	**09 10 04.0**	**-0.3**
	comp=Z,2.1nm,1.1s,baz=239,slow=5.3,SNR=4.5							
TORD				LR		LR	09 47 23.1	
	comp=Z,150nm,21.4s,baz=250,slow=33							
ASAR	**Alice Springs**	104.14	220	Pdiff		**Pdif**	**09 06 24.8**	**0.0**
	comp=Z,0.3nm,0.9s,baz=130,slow=4.0,SNR=2.7							
ASAR				PP		PP	09 10 35.4	-6.4
	comp=Z,0.7nm,0.9s,baz=138,slow=5.7,SNR=3.6							
ASAR				PKKPbc		**PKKPbc**	**09 22 08.0**	**-3.7**
	comp=Z,0.5nm,1.0s,baz=352,slow=2.8,SNR=3.5							
YKA	**Yellowknife Ar**	105.44	348	Pdiff		**Pdif**	**09 06 31.7**	**+2.4**
	comp=Z,0.2nm,0.7s,baz=154,slow=4.9,SNR=3.4							
WRA	**Warramunga Arr**	107.06	222	Pdiff		**Pdif**	**09 06 37.4**	**-0.4**
	comp=Z,0.9nm,1.3s,baz=148,slow=4.6,SNR=2.4							
WRA				PKiKP		**PKiKP**	**09 10 45.8**	**-1.4**
	comp=Z,0.6nm,1.0s,baz=108,slow=2.2,SNR=3.2							
ILAR	**Eielson Array**	114.96	336	PKP		PKPdf	09 11 00.7	0.0
	comp=Z,0.6nm,0.9s,baz=154,slow=1.1,SNR=5.7							
ILAR				PP		**PP**	**09 11 59.1**	**-1.4**
	comp=Z,1.1nm,1.1s,baz=201,slow=4.8,SNR=4.5							
DAVA	**Damuels**	124.07	54	⇑*i*PKPdf		**PKPdf**	**09 11 18.8**	**-0.1**
	comp=Z,8.7nm,1.0s							
FETA	**Feichten**	124.47	55	⇓*i*PKPdf		**PKPdf**	**09 11 19.4**	**-0.3**
	comp=Z,9.2nm,1.3s							
MOTA	**Moosalm**	124.84	55	⇑*i*PKiKP		**PKiKP**	**09 11 21.2**	**+0.4**
	comp=Z,4.3nm,0.9s							
GERES	**GERESS Array B**	127.05	54	PKIKP		**PKPdf**	**09 11 23.0**	**-1.5**
GERES	**GERESS Array B**	127.05	54	PKP		**PKPdf**	**09 11 23.0**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=330,slow=29,SNR=9.0							
CLL	**Collm**	127.56	51	*e*PKIKP		**PKPdf**	**09 11 27.0**	**+1.8**
CLL				MLR		MLR		
	comp=Z,300nm,19.2s							
CLL	**Collm**	127.56	51	*e*PKPdf		**PKPdf**	**09 11 27.0**	**+1.8**
CLL				*e*			09 22 49.0	
CLL				*e*SKSP			09 23 18.0	
CLL				*e*PPS		PPS	09 24 59.0	
CLL				*e*SS		SS	09 30 36.0	-1.8
CLL				*e*SSS		SSS	09 35 30.0	
CLL				*e*SSSS			09 38 42.0	
CLL				Lm		MLR	10 05 00.0	
	comp=N,200nm,20.8s							
CLL				Lm		MLR	10 05 00.0	
	comp=E,200nm,19.6s							
CLL				Lm		MLR	10 05 00.0	
	comp=Z,300nm,19.2s							
TREC	**Trest**	128.30	54	AMS		AMS	10 07 00.0	
	comp=Z,200nm,12.6s							
NOA	**NORSAR Array B**	129.70	39	PKP		**PKPdf**	**09 11 30.5**	**+1.4**
	comp=Z,3.4nm,1.1s,baz=253,slow=1.5,SNR=3.6							
VYHS	**Vyhne**	130.08	56	*e*PKP		**PKPdf**	**09 11 30.9**	**+0.7**
VYHS				*e*			09 20 33.0	
BILL	**Bilibino**	132.92	330	*e*PKIKP		**PKPdf**	**09 11 34.4**	**-0.5**
BILL				pmax		pmax		
	comp=Z,5.0nm,1.6s							
BILL				MLR		MLR		
	comp=Z,135nm,16.0s							
FINES	**FINESS Array B**	136.85	40	PKP		**PKPdf**	**09 11 40.6**	**-1.8**
	comp=Z,2.9nm,0.9s,baz=269,slow=12,SNR=3.6							
BRTR	**Keskin Array B**	137.01	72	PKP		**PKPdf**	**09 11 43.8**	**+0.2**
	comp=Z,2.0nm,1.0s,baz=51,slow=5.7,SNR=6.9							
BRTR				PP		**PP**	**09 14 27.2**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=204,slow=3.2,SNR=2.5							
KIEV	**Kiev**	137.17	56	*i*PKIKP		**PKPdf**	**09 11 44.2**	**+0.9**
SEY	**Seymchan**	138.55	323	PKP		**PKPdf**	**09 11 47.0**	**+1.5**
	comp=Z,5.0nm,0.8s,baz=112,slow=3.1,SNR=20							
APA	**Apatity**	139.60	30	⇓*i*PKIKP		PKPdf	09 11 53.4	+6.1
APA				MLR		MLR		
	comp=Z,1μm,26.0s							
ANN	**Anapa**	141.25	66	*i*P		**Pdif**	**09 09 07.8**	**-1.2**
ANN				*i*			09 11 51.5	
ANN				*e*			09 14 51.0	
ANN				*e*PPP		PPP	09 17 57.0	
ANN				pmax		pmax		
	comp=Z,131nm,1.6s							
ANN				pmax		pmax		
	comp=Z,74nm,1.5s							
OBN	**Obninsk**	142.14	50	*i*PKIKP		**PKPdf**	**09 11 51.0**	**-1.2**
OBN				*i*			09 11 54.6	
OBN				pmax		pmax		
	comp=Z,9.0nm,1.4s							
OBN				MLR		MLR		
	comp=Z,203nm,19.0s							
MJAR	**Matsushiro Arr**	143.34	278	PKhKP		PKPpre	09 11 51.3	
	comp=Z,1.3nm,0.7s,baz=161,slow=4.9,SNR=4.3							
MAJO	**Matsushiro**	143.34	278	*i*PKIKP		**PKPdf**	**09 11 56.0**	**+1.0**
MAJO	**Matsushiro**	143.34	278	*e*PKPdf		**PKPdf**	**09 11 55.8**	**+0.8**
KLMR	**Klimovskoe**	143.37	40	*e*PKIKP		PKPbc	09 11 51.1	-0.4
KLMR				pmax		pmax		
	comp=Z,29nm,1.1s							
VSR	**Storozhevoye**	143.47	56	*e*PKIKP		PKPbc	09 11 53.2	+1.2
VSR				pmax		pmax		
	comp=Z,10.0nm,1.1s							
VSR				pmax		pmax		
	comp=N,5.0nm,0.8s							
VSR				pmax		pmax		
	comp=E,10.0nm,1.1s							
VORD	**Divnogorie**	143.53	57	*e*PKIKP		PKPbc	09 11 52.7	+0.5
VORD				pmax		pmax		
	comp=Z,10.0nm,0.9s							
VORD				pmax		pmax		
	comp=N,9.0nm,0.6s							
VORD				pmax		pmax		
	comp=E,20nm,0.8s							
TIXI	**Tiksi**	144.26	341	⇓*i*PKIKP		**PKPdf**	**09 11 55.0**	**-0.5**
TIXI	**Tiksi**	144.26	341	*e*PKPdf		**PKPab**	**09 11 52.3**	**-1.2**
KIV	**Kislovodsk**	144.72	69	*i*PKIKP		**PKPab**	**09 11 55.3**	**-0.8**
KIV				pmax		pmax		
	comp=Z,46nm,1.1s							
KIV	**Kislovodsk**	144.72	69	PKPbc		**PKPab**	**09 11 56.1**	**-0.1**
	SNR=12							
KIV	**Kislovodsk**	144.72	69	*e*PKPdf		PKPbc	09 11 56.2	0.0
KBZ	**Khabaz**	144.81	70	PKP		**PKPab**	**09 11 56.1**	**-0.2**
	comp=Z,15nm,1.0s,baz=233,slow=3.3,SNR=15							
PALK	**Pallekele**	144.93	162	*e*PKP2		**PKPab**	**09 11 55.9**	**-1.8**
PALK	**Pallekele**	144.93	162	PKPbc		**PKPab**	**09 11 56.8**	**-0.9**
	SNR=6.7							
PALK	**Pallekele**	144.93	162	*e*PKPdf		**PKPab**	**09 11 55.9**	**-1.8**
ONI	**Oni**	144.94	72	P		**PKPab**	**09 11 56.6**	**-0.4**
VRHR	**Novokhopersk**	145.01	57	*e*PKIKP		**PKPdf**	**09 11 57.4**	**0.0**
VRHR				pmax		pmax		
	comp=Z,90nm,1.0s							
VRHR				pmax		pmax		
	comp=N,10.0nm,0.7s							
VRHR				pmax		pmax		
	comp=E,20nm,0.7s							
GNI	**Garni**	145.21	76	⇓*i*PKIKP		**PKPdf**	**09 11 58.4**	**0.0**
GNI	**Garni**	145.21	76	PKPbc		**PKPbc**	**09 11 58.1**	**0.0**
	SNR=8.7							
GNI	**Garni**	145.21	76	*e*PKPbc		**PKPab**	**09 11 58.2**	**+0.1**
ZEI	**Tsey**	145.31	71	*i*PKP2		**PKPbc**	**09 11 56.2**	**-2.1**
ZEI				pmax		pmax		
	comp=Z,32nm,1.1s							
KZR	**Kazreti**	145.32	74	P		**PKPbc**	**09 11 57.0**	**-1.3**
TBLG	**Delisi**	145.65	74	P		**PKPdf**	**09 11 58.4**	**-0.5**
DGRG	**David-gareji**	146.03	74	P		**PKPdf**	**09 11 59.2**	**-0.4**
ARQ	**Araqi**	146.08	111	PKPdf		**PKPab**	**09 12 01.7**	**0.0**
	SNR=9.8							
PRGR	**Permogore**	146.10	38	*e*PKP2		**PKPdf**	**09 11 58.9**	**0.0**
PRGR				pmax		pmax		
	comp=Z,100nm,0.8s							
BSY	**Bisya**	146.17	113	PKPdf		**PKPdf**	**09 12 00.8**	**+0.4**
	SNR=7.9							
SMDO	**Samad**	146.97	113	PKPdf		**PKPdf**	**09 12 02.4**	**+0.6**
	SNR=5.8							
WBK	**Wadi Bani Khal**	147.31	115	PKPdf		**PKPbc**	**09 12 03.6**	**-1.0**
	SNR=6.1							
JNU	**Nakatsue**	147.46	269	PKPbc		**PKPbc**	**09 12 03.5**	**-1.3**
	comp=Z,13nm,0.9s,baz=104,slow=5.1,SNR=7.5							
YAK	**Yakutsk**	148.98	325	*e*PKP2		**PKPbc**	**09 12 07.5**	**-0.3**
YAK				pmax		pmax		
	comp=Z,25nm,0.8s							
YAK				pmax		pmax		
	comp=N,2.0nm,1.0s							
YAK				pmax		pmax		
	comp=E,4.0nm,0.9s							
USRK	**Ussuriysk Ar.**	149.99	290	PKPbc		**PKPbc**	**09 12 11.1**	**+0.2**
	comp=E,8.9nm,0.8s,baz=129,slow=2.4,SNR=22							
KLR	**Kul'dur**	150.54	300	*e*PKIKP		**PKPdf**	**09 12 04.3**	**-2.3**
KSRS	**Korea Array**	151.36	275	PKPbc		**PKPbc**	**09 12 14.9**	**+0.6**
	comp=E,9.1nm,0.8s,baz=111,slow=2.7,SNR=31							
KSAR	**Wonju Array Be**	151.39	275	PKIKP		**PKPbc**	**09 12 15.0**	**+0.6**
KSAR	**Wonju Array Be**	151.39	275	PKPbc		**PKPbc**	**09 12 14.9**	**+0.6**
MDJ	**Mudanjiang**	151.75	290	PKPbc		**PKPdf**	**09 12 08.8**	**+0.2**
MDJ				pPKP		**pPKPdf**	**09 12 11.8**	**-0.3**
MDJ				sPKP			09 12 13.1	
MDJ				SKS		**SKSdf**	**09 19 20.6**	**+4.7**
MDJ				SS		**SS**	**09 35 23.3**	**+0.9**
MDJ				PPMZ				
	comp=E,22nm,15.0s							
MDJ				LN				
	comp=E,45nm,37.5s							
MDJ				LE				
	comp=E,110nm,29.1s							
MDJ				LZ				
	comp=E,91nm,31.2s							
MDJ	**Mudanjiang**	151.75	290	*e*PKPbc		**PKPbc**	**09 12 15.4**	**+0.4**
SOKR	**Solikamsk**	151.96	38	⇑*i*PKIKP		**PKPbc**	**09 12 16.4**	**+1.5**
SOKR				pmax		pmax		
	comp=Z,20nm,1.1s							
QIZ	**Qiongzhong**	152.63	222	PKPbc		**PKPdf**	**09 12 10.3**	**-0.4**
QIZ				PP		**PP**	**09 16 01.1**	**+0.8**
QIZ				SS		SS	09 35 32.1	+1.3
QIZ				LZ				
	comp=Z,200nm,26.3s							
CLNS	**Chul'man**	153.24	317	*e*PKP2		**PKPab**	**09 12 35.0**	**+5.1**
CLNS				pmax		pmax		
	comp=Z,14nm,1.0s							
CLNS				pmax		pmax		
	comp=N,5.0nm,0.9s							
CLNS				pmax		pmax		
	comp=E,5.0nm,0.9s							
GEYT	**Alibeck**	154.51	87	PKP		**PKPdf**	**09 12 13.2**	**+0.2**
	comp=E,1.1nm,0.5s,baz=107,slow=4.8,SNR=2.3							
GEYT				PKPab		**PKPab**	**09 12 34.9**	**-1.0**
	comp=E,3.3nm,0.8s,baz=140,slow=4.8,SNR=5.6							
CN2	**Changchun**	154.62	287	*e*PKPbc		**PKPdf**	**09 12 10.3**	**-2.5**
AKTO	**Aktyubinsk**	155.42	57	PKPab		**PKPab**	**09 12 38.2**	**-1.1**
	comp=E,2.3nm,0.8s,baz=295,slow=7.5,SNR=5.6							
NJ2	**Nanjing**	155.94	256	*e*PKP		**PKPdf**	**09 12 14.8**	**-0.2**
CMAR	**Chiang Mai Arr**	156.28	199	PKP		**PKPdf**	**09 12 14.9**	**-0.9**
	comp=E,1.1nm,0.4s,baz=215,slow=1.8,SNR=15							
BOD	**Bodaibo**	157.88	326	*e*PKP2		**PKPab**	**09 12 48.2**	**-1.5**
BOD				pmax		pmax		
	comp=Z,7.0nm,0.1s							
WHN	**Wuhan**	158.36	248	PKP		**PKPdf**	**09 12 15.3**	**-2.8**
TIA	**Tai'an**	159.06	265	⇑P		**PKPab**	**09 12 54.3**	**-1.2**
GYA	**Guiyang**	160.39	226	*i*PKP		**PKPdf**	**09 12 20.0**	**-0.8**
GYA				PKPab		**PKPab**	**09 13 03.3**	**+1.7**
GYA				PKS		**PKSdf**	**09 15 52.6**	**-1.7**
GYA				PP		**PP**	**09 16 45.8**	**+2.2**
GYA				SKKS			09 23 32.4	
GYA				SS		**SS**	**09 36 54.6**	**-0.1**
GYA				PPMZ				
	comp=Z,130nm,7.9s							
GYA				LN				
	comp=Z,150nm,20.6s							
GYA				LE				
	comp=Z,130nm,21.2s							
GYA				LZ				
	comp=Z,160nm,20.7s							
BJI	**Beijing**	160.90	275	PKP		**PKPdf**	**09 12 20.6**	**-0.1**
KMI	**Kunming**	161.19	215	PKP		**PKPdf**	**09 12 21.8**	**0.0**
KMI				PP		**PP**	**09 16 50.4**	**+2.7**
KMI				PPMZ				
	comp=Z,110nm,5.6s							
KMI				LZ				
	comp=Z,170nm,22.2s							
BVAR	**Borovoye Array**	161.76	43	PKP		**PKPdf**	**09 12 21.0**	**-0.2**
	comp=Z,2.9nm,1.0s,baz=299,slow=1.5,SNR=9.7							
BVAR				PKPab		**PKPab**	**09 13 05.5**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=257,slow=2.5,SNR=2.3							
BVAR				PP		**PP**	**09 16 51.4**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=228,slow=7.6,SNR=2.1							
HHC	**Hu-ho-hao-te**	164.50	275	*e*PKP		**PKPdf**	**09 12 26.3**	**+1.9**
HHC				PP		**PP**	**09 17 10.3**	**+4.2**
HHC				SKS		**SKSdf**	**09 19 29.4**	**+0.7**
HHC				SS		**SS**	**09 37 41.0**	**+2.2**
HHC				PPMZ				
	comp=Z,170nm,6.0s							
HHC				LN				
	comp=Z,200nm,19.6s							
HHC				LE				
	comp=Z,300nm,20.3s							
HHC				LZ				
	comp=Z,190nm,19.7s							
CD2	**Chengdu**	165.44	229	*e*PKP		**PKPdf**	**09 12 24.8**	**-0.6**
CD2				PKPab		**PKPab**	**09 13 27.5**	**+4.0**
CD2				PKS		PKSdf	09 15 53.0	-5.3
CD2				PP		**PP**	**09 17 14.6**	**+4.3**
CD2				SKS		**SKSdf**	**09 19 24.6**	**-5.1**
CD2				PPMZ				
	comp=Z,60nm,9.5s							
CD2				LN				
	comp=Z,260nm,19.0s							
CD2				LE				
	comp=Z,260nm,16.6s							
CD2				LZ				
	comp=Z,300nm,21.4s							
TLY	**Talaya**	166.45	325	PKP		**PKPdf**	**09 12 26.7**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=256,slow=8.3,SNR=3.4							
TLY				PKPab		**PKPab**	**09 13 26.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=45,slow=4.6,SNR=4.6							
ZALV	**Zalesovo Beam**	166.64	16	PKP		**PKPdf**	**09 12 23.0**	**-2.5**
	comp=Z,2.0nm,0.9s,baz=318,slow=2.0,SNR=7.1							
ZALV				PKPab		**PKPab**	**09 13 27.2**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=311,slow=6.8,SNR=3.7							
KURK	**Kurchatov**	167.22	38	PKIKP		**PKPdf**	**09 12 24.9**	**-1.2**
KURK							09 13 30.1	
KURK							09 17 17.5	
KURK	**Kurchatov**	167.22	38	PKP		**PKPdf**	**09 12 24.9**	**-1.2**
KURK				PKPab		**PKPab**	**09 13 30.1**	**-0.6**
KURK				PP		**PP**	**09 17 17.5**	**-1.6**
SONM	**Songino Array**	167.23	306	PKP		**PKPdf**	**09 12 25.8**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=48,slow=2.1,SNR=2.8							
SONM				PKPab		**PKPab**	**09 13 30.8**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=130,slow=4.6,SNR=6.3							
KURBB	**Kurchatov Arra**	167.24	39	PKP		**PKPdf**	**09 12 24.9**	**-1.2**
	comp=Z,2.8nm,1.3s,baz=318,slow=1.1,SNR=6.4							
KURBB				PKPab		**PKPab**	**09 13 30.1**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=311,slow=6.0,SNR=6.5							
KURBB				PP		**PP**	**09 17 17.5**	**-1.7**
	comp=Z,0.2nm,0.2s,baz=316,slow=6.5,SNR=3.1							
ZAK	**Zakamensk**	167.51	321	*e*PKP2		**PKPab**	**09 13 31.7**	**-0.6**
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.2s							
AAK	**Ala-Archa**	167.61	78	PKIKP		**PKPdf**	**09 12 29.3**	**+2.4**
AAK	**Ala-Archa**	167.61	78	PKP		**PKPdf**	**09 12 25.5**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=195,slow=12,SNR=1.5							
AAK				PP		**PP**	**09 17 22.0**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=260,slow=6.1,SNR=2.7							
KSH	**Kashi**	168.38	94	PKP		**PKPdf**	**09 12 27.3**	**-0.2**
KSH				sPKP			09 12 32.0	
KSH				PKS		**PKSdf**	**09 15 59.8**	**-0.3**
KSH				SKS		**SKSdf**	**09 19 31.3**	**+0.1**
KSH				SKKS		**SKKSac**	**09 24 14.8**	**+1.8**
KSH				SS		**SS**	**09 38 15.6**	**-2.6**
KSH				PPMZ				
	comp=Z,200nm,5.0s							
KSH				LN				
	comp=Z,61nm,6.3s							
KSH				LE				
	comp=Z,47nm,5.7s							
KSH				LZ				
	comp=Z,170nm,4.7s							
HVS	**Khovu-Aksy**	169.95	350	PKIKP		**PKPdf**	**09 12 29.5**	**+1.5**
MKAR	**Makanchi Array**	171.62	46	PKP		**PKPdf**	**09 12 27.1**	**-1.9**
	comp=Z,0.6nm,0.9s,baz=279,slow=3.2,SNR=5.5							
MKAR				PKPab		**PKPab**	**09 13 48.7**	**-1.8**
	comp=Z,2.3nm,1.0s,baz=317,slow=5.0,SNR=6.8							
MKAR				PP		**PP**	**09 17 40.2**	**-1.5**
	comp=Z,1.2nm,1.1s,baz=316,slow=4.0,SNR=3.8							
GTA	**Gaotai**	173.04	257	*e*PKP		**PKPdf**	**09 12 31.3**	**+1.3**
GTA				sPKP			09 12 38.3	
GTA				PKPab		**PKPab**	**09 13 58.6**	**+1.4**
GTA				PP		**PP**	**09 17 52.6**	**+3.2**
GTA				SKKS			09 24 38.4	
GTA				SS		**SS**	**09 39 04.4**	**+0.3**
GTA				PPMZ				
	comp=Z,73nm,5.7s							
GTA				LN				
	comp=Z,150nm,18.3s							
GTA				LE				
	comp=Z,180nm,20.7s							
GTA				LZ				
	comp=Z,260nm,20.4s							
WMQ	**Urumqi**	176.45	43	*e*PKP		**PKPdf**	**09 12 31.5**	**+0.7**
WMQ				PKPab		**PKPab**	**09 14 14.3**	**+2.3**
WMQ				PKS		**PKSdf**	**09 16 02.3**	**-0.5**
WMQ				PP		**PP**	**09 18 08.3**	**+3.3**
WMQ				SKS		**SKSdf**	**09 19 32.0**	**-1.6**
WMQ				SKKS		**SKKSac**	**09 24 52.0**	**+0.8**
WMQ				SS		**SS**	**09 39 34.0**	**-1.3**
WMQ				PPMZ				
	comp=Z,200nm,4.0s							
WMQ				LN				
	comp=Z,220nm,22.0s							
WMQ				LE				
	comp=Z,260nm,25.0s							
WMQ				LZ				
	comp=Z,290nm,22.0s							

IDC 22 08:54:28.7±4.0, 3°.65S×151°.09E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/34, mbtmp3.7/3, MS3.2/4, Ms1 3.2/4, ms1mx2.8/24, Error ellipse: s-maj=122.9km s-min=31.7km az=105.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.92**	**214**	LR	LR	08 58 35.7	
	comp=Z,78nm,21.9s,baz=200,slow=36						
HNR	**Honiara**	**10.51**	**124**	LR	LR	09 01 19.3	
	comp=Z,119nm,18.4s,baz=296,slow=39						
WRA	**Warramunga Arr**	**23.00**	**224**	P	P	08 59 35.1	-0.3

MK31 ⇑Lg Lg 09 21 17.4
0.2nm,0.6s,baz=38,slow=30
MKAR Makanchi Array 7.98 208 Pn **Pn 09 19 09.1 +3.1**
0.1nm,0.3s,baz=29,slow=14,SNR=8.2

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*IDC **22** 09:17:41.8±1.9, 34°.00S×72°.51W, h0km, mb3.9/2, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, ML3.3/3, Error ellipse: s-maj=67.4km s-min=26.8km az=106.0*
*ISCJB **22** 09:17:44.0±1.6, 34°.05S±0°.04×72°.37W±0°.08, h21km±12km, mb4.0/2, Error ellipse: s-maj=11.4km s-min=6.8km az=19.9*
*GUC **22** 09:17:44.8±0.6, 34°.04S×72°.30W, h32km±10km, ML3.6*
ISC 22 09:17:43.2±2.7, 34°.03S±0°.05×72°.31W±0°.08, h8km±16km, n16, σ0°.82/24, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.75**	**84**	⇓*i*P	**Pb**	**09 17 58.9**	**+0.3**
IHA	**Instituto Hidr**	**1.15**	**29**	⇑*i*P	**Pb**	**09 18 05.3**	**0.0**
IHA				*i* S1	**Sn**	**09 18 20.2**	**-1.3**
NICH	**Los Niches**	**1.31**	**138**	⇑*i*P	**Pn**	**09 18 07.7**	**-0.2**
NICH				*i* S	**Sg**	**09 18 25.0**	**-0.5**
CHCH	**Chadas Angostu**	**1.38**	**86**	⇑*i*P	**Pn**	**09 18 08.6**	**-0.2**
CACH	**El Canelo**	**1.42**	**94**	⇑*i*P	**Pb**	**09 18 09.9**	**-0.2**
CACH				*e*S1	**Sn**	**09 18 29.7**	**+1.2**
ANTU	**Antumapu**	**1.47**	**72**	⇓*i*P	**Pn**	**09 18 10.1**	**0.0**
ANTU				*i* S	**Sn**	**09 18 28.9**	**-0.6**
ANTU				AML	AML	09 18 32.6	
	comp=N,1μm,0.3s						
TALC	**Talca**	**1.47**	**158**	*i* P	**Pn**	**09 18 10.2**	**+0.2**
TALC				*i* S	**Sb**	**09 18 29.3**	**-0.4**
CLCH	**Cerro Calan**	**1.61**	**67**	⇑*i*P	**Pn**	**09 18 12.2**	**+0.2**
CLCH				*i* S	**Sb**	**09 18 33.4**	**-0.3**
CLCH				AML	AML	09 18 38.8	
	comp=E,1μm,0.9s						
CLCH				AML	AML	09 18 45.5	
	comp=E,1μm,0.8s						
PEL	**Peldehue**	**1.62**	**57**	⇓*i*P	**Pn**	**09 18 12.7**	**+0.6**
PEL				*i* S	**Sb**	**09 18 34.0**	**0.0**
PEL				AML	AML	09 18 43.1	
	comp=E,2μm,0.3s						
SJCH	**San Jose de Ma**	**1.67**	**77**	*e*P9	**Pn**	**09 18 12.3**	**-0.6**
SJCH				*e*S	**Sn**	**09 18 34.4**	**-0.2**
CFAA	**Coronel Fontan**	**4.20**	**56**	Pn	**Pn**	**09 18 50.0**	**+2.4**
	comp=E,0.2nm,0.3s,baz=229,slow=14,SNR=17						
CFAA				Lg	Lg	09 19 50.4	
	comp=E,0.3nm,0.3s,baz=82,slow=9.6,SNR=7.0						
PLCA	**Paso Flores**	**6.83**	**169**	Pn	**Pn**	**09 19 24.8**	**+1.0**
	comp=E,0.2nm,0.3s,baz=345,slow=11,SNR=7.6						
PLCA				Lg	Lg	09 21 13.4	
	comp=E,0.2nm,0.3s,baz=75,slow=19,SNR=2.6						
LPAZ	**La Paz**	**18.07**	**13**	P	**P**	**09 21 56.4**	**+0.6**
	comp=E,0.1nm,0.3s,baz=184,slow=10.0,SNR=4.9						
QSPA	**South Pole Qui**	**56.20**	**180**	P	**P**	**09 27 24.2**	**+0.7**
	comp=E,1.5nm,0.9s,baz=154,slow=3.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**84.43**	**70**	P	**P**	**09 30 16.0**	**-0.7**
	comp=E,0.8nm,0.8s,baz=227,slow=3.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**154.37**	**32**	PKPbc	**PKPbc**	**09 37 43.2**	**-0.4**
	comp=E,0.6nm,0.7s,baz=328,slow=2.3,SNR=3.9						

MAN 22 09:20:27, 17°.22N×119°.98E, h12km, mb4.4, ML3.2, MS3.1, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.82**	**58**	*e*P	Pb	09 20 43.5	+0.3
BOLP	**Bolinao**	**0.84**	**184**	*e*P	Pg	09 20 43.3	+0.1
BOLP				*e*S	Sn	09 20 58.1	+1.3
BCPH	**Baguio City Da**	**1.01**	**145**	⇑*i*P	Pn	09 20 47.3	0.0
BCPH				*i* S	Sn	09 21 01.4	-0.2
APYP	**Conner**	**1.36**	**62**	*e*P	Pn	09 20 51.4	-0.5
BALP	**Baler**	**2.12**	**134**	*e*P	Pb	09 21 04.5	-0.9

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*ISCJB **22** 09:27:51.1±0.6, 34°.07S±0°.06×73°.30W±0°.09, h33km, mb4.0/6, Error ellipse: s-maj=11.3km s-min=9.0km az=18.4*
*IDC **22** 09:27:52.1±0.8, 34°.07S×73°.30W, h22km±4km, mb3.9/6, mb1 4.0/8, mb1mx3.8/18, mbtmp4.0/8, ML4.2/2, Error ellipse: s-maj=24.7km s-min=19.8km az=79.0*
*NEIC **22** 09:27:53.2±0.5, 34°.02S×73°.25W, h35km, mb4.0/2, Error ellipse: s-maj=13.9km s-min=8.5km az=88.0*
ISC 22 09:27:52.8±0.6, 34°.05S±0°.08×73°.36W±0°.09, h35km, n23, σ1°.33/28, mb4.1/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.95**	**62**	Pn	**Pn**	**09 29 04.3**	**-0.4**
	0.2nm,0.3s,baz=236,slow=12,SNR=12						
CFAA				Sn	**Sn**	**09 30 02.3**	**+1.6**
	0.4nm,0.3s,baz=174,slow=9.2,SNR=3.0						
LCO	**Las Campanas**	**5.51**	**25**	*e*Pn	Pn	09 29 09.3	-3.3
	17nm,0.6s						
PLCA	**Paso Flores**	**7.04**	**162**	Pn	**Pn**	**09 29 33.2**	**-0.2**
	2.0nm,0.3s,baz=330,slow=11,SNR=31						
PLCA	**Paso Flores**	**7.04**	**162**	*e*Pn	**Pn**	**09 29 32.9**	**-0.5**
	11nm,0.6s						
TRQA	**Tornquist**	**10.04**	**117**	*e*Pn	**Pn**	**09 30 13.9**	**-0.6**
LVC	**Limon Verde**	**12.04**	**20**	*e*Pn	**Pn**	**09 30 41.9**	**-0.4**
LPAZ	**La Paz**	**18.30**	**16**	P	**Pn**	**09 32 05.7**	**+1.1**
	0.1nm,0.3s,baz=203,slow=13,SNR=7.7						
LPAZ	**La Paz**	**18.30**	**16**	*e*P	**Pn**	**09 32 05.4**	**+0.9**
	7.2nm,1.1s						
SIV	**San Ignacio**	**21.11**	**35**	P	**P**	**09 32 34.8**	**+0.2**
	2.6nm,0.9s,baz=213,slow=12,SNR=3.3						
OTAV	**Otavalo**	**34.44**	**351**	*e*P	**P**	**09 34 37.4**	**-0.3**
SDV	**Santo Domingo**	**42.77**	**4**	P	**P**	**09 35 45.9**	**-1.4**
SNAA	**Sanae**	**51.95**	**158**	P	**P**	**09 36 59.2**	**+1.2**
	1.4nm,0.5s,baz=280,slow=7.1,SNR=21						
SNAA	**Sanae**	**51.95**	**158**	*e*P	**P**	**09 36 57.9**	**-0.1**
	2.1nm,0.6s						
TXAR	**Lajitas Array**	**69.25**	**332**	P	**P**	**09 38 57.8**	**+1.5**
	0.5nm,0.5s,baz=153,slow=8.6,SNR=9.9						
TXAR				pP	**pP**	**09 39 05.2**	**-2.0**
	1.1nm,0.6s,baz=153,slow=8.7,SNR=11						
PVMO	**Portageville**	**71.74**	**346**	*e*P	**P**	**09 39 12.2**	**+1.0**
DBIC	**Dimbokro**	**76.23**	**72**	P	**P**	**09 39 39.0**	**+1.0**
	2.4nm,0.6s,baz=218,slow=6.2,SNR=6.4						
DBIC				pP	**pP**	**09 39 46.4**	**-2.6**
	1.2nm,0.6s,baz=223,slow=6.8,SNR=2.5						
TSUM	**Tsumeb**	**80.25**	**107**	*e*P	**P**	**09 40 00.3**	**-0.2**
BOSA	**Boshof**	**81.01**	**118**	P	**P**	**09 40 05.1**	**+0.7**
	2.7nm,1.1s,baz=220,slow=7.9,SNR=2.4						
ODZ	**Otahua Downs**	**82.24**	**220**	*e*P	**P**	**09 40 10.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**85.26**	**71**	P	**P**	**09 40 27.1**	**+0.8**
	0.9nm,0.7s,baz=284,slow=4.8,SNR=7.9						
TORD				pP	**pP**	**09 40 34.8**	**-2.6**
	0.7nm,0.6s,baz=268,slow=4.4,SNR=4.1						
WRA	**Warramunga Arr**	**120.18**	**210**	PKP	**PKPdf**	**09 46 40.8**	**+0.2**
	0.3nm,0.7s,baz=164,slow=1.5,SNR=5.4						
ZALV	**Zalesovo Beam**	**154.84**	**31**	PKPbc	**PKPbc**	**09 47 50.9**	**+1.0**
	0.9nm,0.5s,baz=274,slow=3.7,SNR=4.9						
ZALV				pPKPbc	**pPKPbc**	**09 47 58.1**	**-3.2**
	0.5nm,0.4s,baz=315,slow=0.6,SNR=2.6						
MKAR	**Makanchi Array**	**157.62**	**48**	PKP	**PKPdf**	**09 47 45.8**	**+0.7**
	0.1nm,0.5s,baz=294,slow=3.3,SNR=2.4						
MKAR				PKPab	**PKPab**	**09 48 18.0**	**+0.6**
	0.4nm,0.6s,baz=272,slow=4.4,SNR=4.7						

GUC 22 10:01:46.5±0.4, 35°.15S×72°.78W, h23km±4km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.97**	**105**	*e*P	Pb	10 02 04.2	-0.5
TALC				*e*S	Sb	10 02 17.3	+0.2
COCH	**Cobquecura**	**0.98**	**180**	*e*P	Pb	10 02 04.0	-0.8
COCH				*e*S	Sb	10 02 17.2	-0.1
LNCH	**Linares**	**1.19**	**126**	*e*P	Pn	10 02 07.4	-0.3
LNCH				*e*S	Sb	10 02 23.5	+0.1
NICH	**Los Niches**	**1.28**	**84**	*e*P	Pn	10 02 08.8	-0.2
NICH				*e*S	Sb	10 02 25.8	-0.2
CLCH	**Cerro Calan**	**2.55**	**47**	*e*P	Pn	10 02 28.9	+2.3
CLCH				*e*S	Sb	10 03 00.7	-2.1
CLCH				IAML		10 03 07.8	
	comp=N,309nm,0.3s						
PEL	**Peldehue**	**2.65**	**42**	*e*P	Pn	10 02 30.0	+2.1
PEL				*e*S	Sb	10 03 02.8	-2.7
PEL				IAML		10 03 13.4	
	comp=N,248nm,0.4s						

IDC 22 10:03:19.4±3.0, 31°.92S×177°.79W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.8/17, mbtmp3.9/3, ML3.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/32, Error ellipse: s-maj=71.5km s-min=44.6km az=123.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.66**	**358**	LR	LR	10 04 47.5	
	comp=Z,294nm,21.8s,baz=125,slow=33						
WMGZ	**Waiomatatini S**	**6.66**	**207**	SN	Sb	10 06 33.0	-3.2
PUZ	**Puketiti**	**6.94**	**207**	SN	Sb	10 06 39.4	-5.0
TWGZ	**Tauwhareparae**	**7.14**	**208**	SN	Sb	10 06 45.2	-4.9
MWZ	**Matawai**	**7.46**	**210**	SN	Sb	10 06 51.1	-8.3
URZ	**Urewera**	**7.58**	**212**	Pn	Pn	10 05 09.6	-1.6
	1.1nm,0.3s,baz=353,slow=11,SNR=14						
MRZ	**Mangatainoka R**	**10.23**	**210**	SN	Sn	10 07 50.8	+7.9
TUWZ	**Tuamarina**	**11.58**	**213**	SN	Sn	10 08 20.8	+4.9
NNZ	**Nelson**	**11.68**	**215**	SN	Sn	10 08 25.0	+6.6
THZ	**Tophouse**	**12.32**	**215**	SN	Sn	10 08 40.5	+6.2
OXZ	**Oxford**	**13.94**	**212**	SN	Sn	10 09 14.7	+1.0
MQZ	**McQueen's Vall**	**13.97**	**210**	SN	Sn	10 09 15.9	+1.5
ASAR	**Alice Springs**	**43.23**	**268**	P	P	10 11 22.9	+0.3
	0.9nm,0.6s,baz=104,slow=7.7,SNR=16						
WRA	**Warramunga Arr**	**44.35**	**274**	P	P	10 11 31.4	-0.3
	1.0nm,0.6s,baz=112,slow=7.8,SNR=22						
FINES	**FINESS Array B**	**146.63**	**339**	PKPbc	PKPdf	10 23 01.4	+0.7
	0.7nm,0.4s,baz=54,slow=3.3,SNR=7.3						

WEL 22 10:04:30.0±0.5, 38°.71S×179°.66W, h33km, ML3.2/4, Error ellipse: s-maj=4.6km s-min=3.9km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**1.69**	**277**	PN	Pn	10 04 56.9	-0.2
PUZ	**Puketiti**	**1.75**	**291**	PN	Pn	10 04 57.2	-0.9
PUZ				SN	Sn	10 05 17.9	-1.5
WMGZ	**Waiomatatini S**	**1.75**	**300**	*e*PN	Pn	10 04 57.1	-1.0
TWGZ	**Tauwhareparae**	**1.93**	**285**	PN	Pn	10 04 59.7	-0.9
TWGZ				SN	Sn	10 05 22.7	-1.0
PRGZ	**Paritu Road**	**1.93**	**263**	PN	Pn	10 04 59.6	-0.9
PRGZ				SN	Sn	10 05 21.8	-1.9
MHGZ	**Mahia Peninsul**	**1.95**	**256**	*e*PN	Pn	10 04 60.0	-0.8
RIGZ	**Rimuhau**	**2.02**	**269**	*e*PN	Pn	10 05 00.9	-0.8
RIGZ				SN	Sn	10 05 24.9	-0.9
KNZ	**Kokohu**	**2.10**	**261**	PN	Pn	10 05 01.8	-1.1
HAZ	**Te Kaha**	**2.23**	**294**	*e*PN	Pn	10 05 05.3	+0.8
MWZ	**Matawai**	**2.24**	**279**	PN	Pn	10 05 03.7	-1.1
MWZ				SN	Sn	10 05 28.2	-3.1
URZ	**Urewera**	**2.57**	**279**	SN	Sn	10 05 38.0	-1.5
BKZ	**Black Stump Fm**	**3.03**	**260**	PN	Pn	10 05 15.3	-0.5
BKZ				SN	Sn	10 05 49.0	-2.1
MRZ	**Mangatainoka R**	**4.16**	**241**	*e*PN	Pn	10 05 28.7	-2.4
MRZ				SN	Sn	10 06 14.5	-4.2
MQZ	**McQueen's Vall**	**7.65**	**227**	SN	Sn	10 07 33.8	-11

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*IDC **22** 10:08:36.8±2.3, 8°.01S×106°.89E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/40, mbtmp3.6/6, Error ellipse: s-maj=107.5km s-min=20.6km az=50.0*
*DJA **22** 10:08:42.4±0.6, 8°.S±2°.×10°.7E±°, h12km±4km, M4.4/17, mb4.7/4, mB5.2/2, MLv4.3/17, Mw(mB)4.5/2*
ISC 22 10:08:40.8±2.1, 8°.21S±0°.08×106°.98E±0°.05, h15km±13km, n25, σ1°.64/28, mb3.6/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.91**	**10**	P	**Pb**	**10 08 58.2**	**-0.1**
CNJI				S	**Sb**	**10 09 09.7**	**-0.4**
CISI	**Cisompet, Garu**	**1.05**	**52**	P	**Pb**	**10 08 59.9**	**-0.9**
CISI				S	**Sb**	**10 09 11.7**	**-2.7**
SKJI	**Sukabumi**	**1.27**	**341**	P	**Pg**	**10 09 05.2**	**-0.1**
SKJI				S	**Sb**	**10 09 18.7**	**-1.8**
LEM	**Lembang**	**1.51**	**25**	P	**Pn**	**10 09 08.2**	**+0.7**
LEM				S	**Sb**	**10 09 28.3**	**+0.5**
CGJI	**Cibinong**	**2.03**	**321**	P	**Pn**	**10 09 15.6**	**+1.1**
TNG	**Tangerang**	**2.05**	**351**	S	**Sb**	**10 09 42.0**	**-1.1**
TNG				S	**Sn**	**10 09 42.2**	**+2.1**
KPJI	**Karang Pucung**	**2.12**	**66**	P	**Pn**	**10 09 16.5**	**+0.8**
KPJI				S	**Sb**	**10 09 45.0**	**-0.2**
SBJI	**Serang**	**2.24**	**338**	P	**Pn**	**10 09 18.9**	**+1.5**
SBJI				S	**Sn**	**10 09 46.1**	**+1.3**
PCJI	**Pacitan**	**4.16**	**90**	P	**Pn**	**10 09 45.7**	**+2.0**
PCJI				S	**Sn**	**10 10 32.8**	**+0.7**
MDSI	**Maura Dua**	**4.63**	**323**	P	**Pn**	**10 09 52.0**	**+1.8**
PWJI	**Pagerwojo**	**4.78**	**88**	P	**Pn**	**10 09 54.5**	**+2.2**
MNAI	**Manna**	**5.53**	**313**	P	**Pn**	**10 10 03.7**	**+1.0**
	131nm,1.2s,0.7nm						
GMJI	**Gumukmas**	**6.40**	**91**	P	**Pn**	**10 10 17.2**	**+2.6**
	31nm,2.0s,0.2nm						
BLJI	**Banyuglugur**	**6.57**	**86**	P	**Pn**	**10 10 19.4**	**+2.5**
	32nm,0.5s,2μm0.5nm						
JAGI	**Jajag, Banyuwa**	**7.10**	**93**	P	**Pn**	**10 10 27.0**	**+2.7**
WRA	**Warramunga Arr**	**28.94**	**117**	P	**P**	**10 14 39.4**	**-0.3**
	0.6nm,0.7s,baz=285,slow=12,SNR=11						
ASAR	**Alice Springs**	**30.02**	**124**	P	**P**	**10 14 49.5**	**+0.1**
	0.9nm,0.8s,baz=302,slow=8.7,SNR=8.5						
H08S2	**Diego Garcia H**	**34.15**	**268**	T	T	10 52 56.1	
	baz=92,slow=76,SNR=9.9						
H08S3	**Diego Garcia H**	**34.16**	**269**	T	T	10 52 48.7	
	baz=92,slow=76,SNR=8.7						
H08S1	**Diego Carcia H**	**34.17**	**268**	T	T	10 52 59.0	
	baz=92,slow=76,SNR=7.6						
SONM	**Songino Array**	**55.80**	**360**	P	P	10 18 13.2	-4.2
	0.4nm,0.9s,baz=185,slow=7.2,SNR=3.4						
MKAR	**Makanchi Array**	**59.01**	**340**	P	P	10 18 35.6	-4.3
	0.3nm,0.5s,baz=142,slow=9.3,SNR=4.6						
KURBB	**Kurchatov Arra**	**63.57**	**340**	P	**P**	**10 19 08.7**	**-2.0**
	0.5nm,0.5s,baz=152,slow=6.4,SNR=4.1						
BVAR	**Borovoye Array**	**68.47**	**337**	P	**P**	**10 19 40.4**	**-1.8**
	0.5nm,0.6s,baz=146,slow=11,SNR=5.3						
TXAR	**Lajitas Array**	**144.37**	**50**	PKP	**PKPab**	**10 28 15.2**	**-0.1**
	0.5nm,1.0s,baz=207,slow=1.8,SNR=4.1						

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*BJI **22** 10:38:05.0, 56°.20N×156°.30W, h33km, mB5.1/31, mb5.1/39, Ms4.9/18, Ms7 4.5/16*
*IDC **22** 10:38:11.0±4.4, 56°.55N×156°.89W, h33km±33km, mb4.5/36, mb1 4.6/38, mb1mx4.6/41, mbtmp4.7/38, ML4.6/2, MS3.7/17, Ms1 3.7/17, ms1mx3.4/41, Error ellipse: s-maj=14.7km s-min=8.5km az=4.0*
*MOS **22** 10:38:10.4±0.9, 56°.59N×156°.89W, h44km, mb5.1/55, Error ellipse: s-maj=8.1km s-min=4.5km az=87.8*
*ISCJB **22** 10:38:12.2±0.3, 56°.54N±0°.02×156°.80W±0°.02, h59km±2km, mb4.8/174, MS3.8/21, Error ellipse: s-maj=3.2km s-min=2.1km az=7.5*
*NEIC **22** 10:38:13.7±0.2, 56°.53N×156°.80W, h59km±2km, mb4.7/92, ML4.7(AEIC), Error ellipse: s-maj=3.0km s-min=2.0km az=161.0*
NEIC Felt at Chignik.
*SZGRF **22** 10:38:13.0, 56°.58N×157°.25W, h33km, mb4.8, Alaska Peninsula, United States*
ISC 22 10:38:12.2±0.6, 56°.38N±0°.05×156°.64W±0°.03, h50km±5km, n800, σ1°.53/826, mb4.8/174, MS3.7/21, 202C-164D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.99**	**266**	P	**Pn**	**10 38 30.8**	**+1.1**
CHGN				S	**Sn**	**10 38 44.3**	**+1.7**
PLK3	**Peulik 3**	**1.33**	**9**	P	**Pn**	**10 38 36.0**	**+1.6**
SII	**Sitkinak Islan**	**1.38**	**81**	P	**Pn**	**10 38 35.1**	**+0.1**
SII				S	**Sn**	**10 38 50.9**	**-1.3**
PLK1	**Peulik 1**	**1.43**	**1**	P	**Pn**	**10 38 37.3**	**+1.7**
PLWL	**Peulik Whale M**	**1.68**	**5**	P	**Pn**	**10 38 40.3**	**+1.3**
PLWL				S	**Sn**	**10 39 01.2**	**+1.8**
KABR	**Katmai Barrier**	**1.98**	**27**	P	**Pn**	**10 38 44.1**	**+0.9**
KCE	**Katmai Mt Cerb**	**2.03**	**22**	P	**Pn**	**10 38 45.3**	**+1.3**
OHAK	**Old Harbor**	**2.03**	**64**	P	**Pn**	**10 38 43.7**	**-0.2**
KABU	**Katmai Buttres**	**2.03**	**21**	P	**Pn**	**10 38 45.5**	**+1.5**
KAKN	**Katmai Knife C**	**2.10**	**23**	P	**Pn**	**10 38 46.0**	**+1.0**
KELA	**Mount Kelaz**	**2.12**	**13**	P	**Pn**	**10 38 46.2**	**+0.9**
KVTA	**Katmai Vly 10**	**2.14**	**19**	P	**Pn**	**10 38 46.5**	**+1.2**
SDPT	**Sand Point**	**2.40**	**246**	P	**Pn**	**10 38 49.8**	**+0.9**
SDPT				S	**Sn**	**10 39 17.5**	**+0.5**
KDAK	**Kodiak Island**	**2.62**	**56**	*i* P	**Pn**	**10 38 52.5**	**+0.5**
KDAK	**Kodiak Island**	**2.62**	**56**	P	**Pn**	**10 38 51.9**	**-0.1**
PVV	**Pavlof Volcano**	**3.07**	**253**	P	**Pn**	**10 38 59.4**	**+1.2**
MCNL	**McNeil River**	**3.07**	**23**	P	**Pn**	**10 38 59.2**	**+1.0**
HAG	**Hague Volcano**	**3.15**	**252**	P	**Pn**	**10 39 00.7**	**+1.4**
HAG	**Hague Volcano**	**3.15**	**252**	P	**Pn**	**10 39 00.7**	**+1.4**
DOL	**Dolgoi Island**	**3.20**	**249**	P	**Pn**	**10 39 00.7**	**+0.7**
DTNA	**Dutton South F**	**3.40**	**251**	P	**Pn**	**10 39 03.7**	**+1.0**
AUI	**Augustine Isla**	**3.42**	**29**	P	**Pn**	**10 39 04.3**	**+1.3**
DT1	**Dutton Round H**	**3.43**	**251**	P	**Pn**	**10 39 04.0**	**+0.8**
AUP	**Augustine Pinn**	**3.45**	**29**	P	**Pn**	**10 39 04.9**	**+1.5**
AUP	**Augustine Pinn**	**3.45**	**29**	P	**Pn**	**10 39 04.9**	**+1.5**
DRIA	**Deer Island**	**3.48**	**248**	P	**Pn**	**10 39 04.3**	**+0.5**
OPT	**Oil Point**	**3.75**	**28**	P	**Pn**	**10 39 09.1**	**+1.6**
ILW	**Iliamna West**	**4.13**	**25**	P	**Pn**	**10 39 13.9**	**+1.1**
FALS	**False Pass**	**4.13**	**251**	P	**Pn**	**10 39 13.7**	**+1.1**
HOM	**Homer**	**4.23**	**37**	P	**Pn**	**10 39 15.0**	**+1.1**
SSLN	**Shishaldin Nor**	**4.46**	**252**	P	**Pn**	**10 39 18.7**	**+1.5**
SSLW	**Shishaldin Wes**	**4.54**	**252**	P	**Pn**	**10 39 19.5**	**+1.2**
BRLK	**Bradley Lake**	**4.57**	**40**	P	**Pn**	**10 39 18.4**	**-0.2**
RSO	**Redoubt South**	**4.58**	**25**	*e*Pn	**Pn**	**10 39 20.2**	**+1.2**
RDWB	**Redoubt West**	**4.58**	**24**	P	**Pn**	**10 39 20.1**	**+1.2**
RDN	**Redoubt North**	**4.62**	**25**	P	**Pn**	**10 39 21.1**	**+1.7**
NCT	**North Crescent**	**4.62**	**23**	P	**Pn**	**10 39 21.0**	**+1.4**
DFR	**Drift River**	**4.71**	**25**	P	**Pn**	**10 39 22.2**	**+1.6**
SVW2	**Sparrevohn**	**4.76**	**6**	P	**Pn**	**10 39 22.5**	**+1.1**
WESE	**West Dahl East**	**4.91**	**250**	P	**Pn**	**10 39 25.4**	**+1.9**
CKL	**Chakachamna La**	**5.32**	**23**	P	**Pn**	**10 39 30.6**	**+1.5**
SEW	**Seward**	**5.33**	**43**	P	**Pn**	**10 39 28.0**	**-1.0**
SLKM	**Skilak Lake**	**5.34**	**37**	P	**Pn**	**10 39 28.9**	**-0.3**
SLKM	**Skilak Lake**	**5.34**	**37**	P	**Pn**	**10 39 28.9**	**-0.3**
BGL	**Barrier Glacie**	**5.37**	**23**	P	**Pn**	**10 39 31.5**	**+1.7**
SPBG	**Spurr Blockage**	**5.37**	**23**	P	**Pn**	**10 39 31.5**	**+1.7**
SPU	**Mount Spurr**	**5.37**	**24**	*e*Pn	**Pn**	**10 39 30.4**	**+0.6**
CKN	**Chakachatna No**	**5.38**	**24**	P	**Pn**	**10 39 31.3**	**+1.4**
AKUT	**Akutan**	**5.68**	**250**	P	**Pn**	**10 39 34.7**	**+0.7**
STLK	**Strandline Lak**	**5.71**	**24**	P	**Pn**	**10 39 35.2**	**+0.9**
AKRB	**Akutan Reef Bi**	**5.84**	**251**	P	**Pn**	**10 39 37.3**	**+1.1**
FIB	**Fire Island**	**5.86**	**32**	P	**Pn**	**10 39 37.2**	**+0.9**
FIB	**Fire Island**	**5.86**	**32**	P	**Pn**	**10 39 37.2**	**+0.9**
RC01	**Rabbit Creek A**	**5.93**	**34**	P	**Pn**	**10 39 37.3**	**-0.1**
SUA	**Susitna One**	**5.94**	**28**	P	**Pn**	**10 39 37.9**	**+0.3**
PTE	**Portage**	**6.00**	**38**	P	**Pn**	**10 39 37.5**	**-0.7**
SKT	**Skwentna**	**6.20**	**23**	P	**Pn**	**10 39 41.6**	**+0.6**
UNV	**Unalaska Valle**	**6.20**	**250**	P	**Pn**	**10 39 41.3**	**+0.3**
MID	**Middleton Isla**	**6.28**	**57**	P	**Pn**	**10 39 42.2**	**0.0**
MID	**Middleton Isla**	**6.28**	**57**	P	**Pn**	**10 39 42.1**	**0.0**
MSW	**Makushin Switc**	**6.32**	**251**	P	**Pn**	**10 39 43.1**	**+0.4**
PMR	**Palmer**	**6.51**	**33**	P	**Pn**	**10 39 44.9**	**-0.3**
PMR	**Palmer**	**6.51**	**33**	P	**Pn**	**10 39 44.9**	**-0.3**
TT01	**Tatalina**	**6.55**	**2**	P	**Pn**	**10 39 47.0**	**+1.1**
GLI	**Glacier Island**	**6.72**	**44**	P	**Pn**	**10 39 46.6**	**-1.5**
PPLA	**Purkeypile**	**6.92**	**17**	*e*Pn	**Pn**	**10 39 52.3**	**+1.4**
JPK	**Jack Peak**	**7.02**	**44**	P	**Pn**	**10 39 51.2**	**-1.1**
EYAK	**Cordova Ski Ar**	**7.08**	**49**	P	**Pn**	**10 39 51.8**	**-1.2**
VMT	**TAPS TI Valdez**	**7.13**	**44**	P	**Pn**	**10 39 53.2**	**-0.4**
OKFG	**Magazine Ridge**	**7.15**	**250**	P	**Pn**	**10 39 54.6**	**+0.6**
SCM	**Sheep Creek Mo**	**7.27**	**37**	P	**Pn**	**10 39 55.2**	**-0.5**
SCM	**Sheep Creek Mo**	**7.27**	**37**	P	**Pn**	**10 39 55.1**	**-0.5**
SGAM	**Sherman Glacie**	**7.28**	**51**	P	**Pn**	**10 39 55.3**	**-0.5**
DIV	**Divide**	**7.39**	**45**	P	**Pn**	**10 39 56.6**	**-0.7**
CAST	**Castle Rocks**	**7.42**	**16**	*e*Pn	**Pn**	**10 39 58.9**	**+1.2**
RAGM	**Ragged Mountai**	**7.46**	**52**	P	**Pn**	**10 39 57.3**	**-1.0**
KTH	**Kantishna Hill**	**7.74**	**19**	*e*Pn	**Pn**	**10 40 02.0**	**-0.2**
BMRM	**Bremner River**	**7.78**	**49**	*e*Pn	**Pn**	**10 40 01.4**	**-1.2**
TRF	**Thorofare Moun**	**7.78**	**22**	*e*Pn	**

PET MLR MLR
comp=Z,1µm,19.0s
PET MLR MLR
comp=Z,300nm,17.0s
PET Petropavlovsk 25.70 282 eP P 10 43 37.0 -0.3
comp=Z,116nm,1.2s
KTRM Thompson Ridge 25.82 110 P P 10 43 41.5 +2.9
PINOR Pine Mountain 25.84 104 eP P 10 43 35.1 -3.5
comp=Z,9.3nm,0.7s
G08A Pilot Rock 25.93 99 eP P 10 43 41.6 +2.1
comp=Z,16nm,1.0s
SEY Seymchan 25.95 306 P P 10 43 37.6 -1.8
comp=Z,13nm,0.8s,baz=96,slow=8.3,SNR=48
J05D Fort Rock, OR 26.00 105 ⇓P P 10 43 43.3 +3.1
baz=26,SNR=14
PETK Petropavlovsk- 26.18 282 P P 10 43 41.1 -0.6
comp=Z,10nm,0.4s,baz=78,slow=13,SNR=47
PETK LR LR 10 54 33.6
comp=Z,103nm,19.7s,baz=90,slow=38
YBH Yreka Blue Hor 26.29 109 P P 10 43 45.9 +3.0
comp=Z,4.6nm,0.7s,baz=335,slow=5.6,SNR=16
I07A Izee 26.40 102 eP P 10 43 48.9 +5.0
comp=Z,17nm,1.0s
F10A Beach Ranch, E 26.46 96 eP P 10 43 46.3 +2.0
comp=Z,12nm,0.9s
M02C Callahan 26.46 110 ⇓P P 10 43 46.6 +2.2
baz=26
K05A Summer Lake 26.56 106 eP P 10 43 48.5 +3.1
comp=Z,40nm,1.0s
BSMT Bassoo Peak 26.71 91 eP P 10 43 48.3 +1.6
M04C Macdoel 26.72 108 ⇓P P 10 43 49.6 +2.9
baz=27,SNR=13
N02D Trinity Center 26.84 111 ⇓P P 10 43 50.7 +2.9
baz=27
JTMT Jette 27.05 90 eP P 10 43 51.4 +1.8
BMO Blue Mountains 27.11 98 eP P 10 43 52.4 +2.3
YBMT Yellow Bay 27.13 90 eP P 10 43 52.2 +1.8
WDC Whiskeytown Da 27.21 111 eP P 10 43 54.0 +3.0
WDC Whiskeytown Da 27.21 111 eP P 10 43 54.0 +3.0
SWMT Swartz Lake 27.34 91 eP P 10 43 53.7 +1.4
MOD Modoc Plateau 27.45 106 eP P 10 43 56.0 +2.7
comp=Z,16nm,0.6s
LBCM Butte Creek Ri 27.65 109 P P 10 43 57.7 +2.6
MSO Missoula 27.77 92 ⇓P P 10 43 57.4 +1.3
baz=28,SNR=5.2
MSO Missoula 27.77 92 eP P 10 43 57.4 +1.3
SLMT Seeley Lake 27.78 91 eP P 10 43 57.3 +1.1
WVOR Wild Horse Val 27.98 104 eP P 10 44 00.8 +2.8
WVOR Wild Horse Val 27.98 104 eP P 10 44 00.8 +2.8
CHMT Chamberlain Mo 28.10 91 eP P 10 44 00.5 +1.3
MFID Camas Ranch 28.85 99 eP P 10 44 07.8 +2.1
HRY Holter Researc 29.01 90 eP P 10 44 08.7 +1.6
LRM Limekiln Ridge 29.20 92 eP P 10 44 10.7 +1.7
DLMT Dillon 29.40 93 eP P 10 44 12.5 +1.9
EGMT Eagleton 29.41 86 ⇓P P 10 44 11.4 +0.8
baz=29,SNR=6.3
EGMT Eagleton 29.41 86 eP P 10 44 11.7 +1.1
RES Resolute Bay 29.41 28 P P 10 44 10.0 -0.2
comp=Z,2.7nm,0.7s,baz=281,slow=7.4,SNR=13
A19A Klindworth Far 29.47 84 ⇓P P 10 44 12.0 +0.9
baz=29,SNR=9.6
HLID Hailey 29.53 98 ⇓P P 10 44 13.5 +1.7
baz=30,SNR=7.3
HLID Hailey 29.53 98 eP P 10 44 13.7 +1.8
B19A Brinkman Farms 29.62 85 ⇑P P 10 44 13.0 +0.6
baz=30,SNR=6.2
BOZ Bozeman (W) 29.76 92 eP P 10 44 15.8 +2.0
BOZ Bozeman (W) 29.76 92 eP P 10 44 15.8 +2.0
A20A Cobblestone Ra 29.95 84 ⇑P P 10 44 16.4 +1.1
baz=30,SNR=16
C19A Slack Wire Ran 29.96 86 ⇓P P 10 44 16.9 +1.4
baz=30,SNR=7.0
B20A Solberg Farm, 30.14 84 ⇑P P 10 44 18.6 +1.6
baz=30
CMB Columbia Colle 30.22 112 eP P 10 44 18.3 +0.5
CMB pmax pmax
comp=Z,4.0nm,1.0s
CMB Columbia Colle 30.22 112 eP P 10 44 18.3 +0.5
comp=Z,3.6nm,1.0s
WAKR Walker 30.36 110 eP P 10 44 16.3 -2.9
comp=Z,3.3nm,0.6s
QLMT Earthquake Lak 30.38 93 eP P 10 44 21.5 +2.2
D19A Cripps Ranch, 30.39 87 ⇓P P 10 44 20.7 +1.5
baz=30,SNR=9.9
A21A Bergtoll Ranch 30.44 83 ⇑P P 10 44 20.7 +1.0
baz=30,SNR=11
C20A Veseth Ranch, 30.56 86 ⇓P P 10 44 21.8 +1.1
baz=30,SNR=5.2
B21A Ellsworth Farm 30.70 84 ⇓P P 10 44 23.0 +1.0
baz=31
YMR Madison River 30.74 93 eP P 10 44 24.9 +2.4
D20A Manuel Ranch, 30.84 87 ⇑P P 10 44 24.9 +1.6
baz=31,SNR=8.2
E19A Rath Farm, Rou 30.85 88 ⇑P P 10 44 25.3 +2.0
baz=31,SNR=6.8
YNR Norris Junctio 30.86 92 eP P 10 44 26.6 +2.9
YFT Old Faithful 30.94 93 eP P 10 44 19.7 -4.6
comp=Z,17nm,0.7s
A22A Carney Farms, 31.00 82 ⇓P P 10 44 25.8 +1.2
baz=31
C21A Desert Coulee 31.00 85 ⇑P P 10 44 25.8 +1.2
baz=31
NVAR Mina Array Bea 31.01 109 P P 10 44 27.8 +2.8
comp=Z,14nm,0.6s,baz=311,slow=8.8,SNR=146
NVAR PcP **PcP 10 47 20.1 +0.3**
comp=Z,0.5nm,0.5s,baz=293,slow=2.7,SNR=4.8
H17A Grant Village 31.12 93 ⇑P P 10 44 29.1 +3.1
baz=31,SNR=13
H17A Grant Village 31.12 93 eP P 10 44 29.1 +3.1
comp=Z,14nm,0.9s
F19A Roth Farm, Mol 31.13 89 ⇑P P 10 44 27.8 +2.0
baz=31,SNR=6.9
E20A Meyer Farm, Mu 31.19 88 ⇓P P 10 44 28.2 +1.8
baz=31,SNR=7.9
B22A Reddig Ranch S 31.34 83 ⇑P P 10 44 29.3 +1.7
baz=31
I17A Pilgrim Ck. 31.43 94 ⇓P P 10 44 31.2 +2.6
baz=31,SNR=16
H18A Shoshone NF, C 31.45 92 ⇓P P 10 44 30.6 +1.7
baz=31,SNR=10
A23A Redstone 31.58 81 ⇑P P 10 44 30.7 +1.0
baz=32
F20A Billings 31.60 89 ⇓P P 10 44 30.5 +0.5
baz=32
HVU Hansel Valley 31.62 99 eP P 10 44 33.2 +2.9
HVU Hansel Valley 31.62 99 eP P 10 44 33.2 +2.9
C22A Vida 31.71 84 ⇑P P 10 44 32.0 +1.1
baz=32
B23A Brockton 31.80 82 ⇓P P 10 44 32.6 +1.0
baz=32,SNR=5.5
H19A Powell 31.84 91 ⇑P P 10 44 34.2 +2.2
baz=32,SNR=11
TPH Tonopah 31.84 108 eP P 10 44 34.3 +2.0
TPH pmax pmax
comp=Z,11nm,0.7s
TPH Tonopah 31.84 108 eP P 10 44 34.3 +2.0
comp=Z,11nm,0.7s
D22A Cohagen 31.89 85 ⇑P P 10 44 33.8 +1.4
baz=32
G20A Bridger 31.92 90 ⇑P P 10 44 34.3 +1.4
baz=32,SNR=5.5
C23A Lambert 32.07 83 ⇑P P 10 44 35.3 +1.3
baz=32,SNR=18
A24A Westby 32.09 81 ⇓P P 10 44 36.0 +1.9
baz=32,SNR=6.0
SPUT South Promonto 32.12 99 eP P 10 44 35.9 +1.2
comp=Z,6.6nm,0.9s
RCTC Rector, Farmer 32.13 113 ⇑P P 10 44 36.5 +2.0
baz=32
I19A Meeteetse 32.23 92 ⇓P P 10 44 37.4 +1.8
baz=32,SNR=6.5
D23A Lindsay 32.42 84 ⇓P P 10 44 38.8 +1.7
baz=32
E22A Miles City 32.44 86 ⇑P P 10 44 39.0 +1.7
baz=32
G21A Lodge Grass 32.48 89 ⇓P P 10 44 39.2 +1.5
baz=32
R11A Troy Canyon, C 32.51 106 ⇑P P 10 44 40.2 +2.0
baz=33,SNR=53
R11A Troy Canyon, C 32.51 106 eP P 10 44 40.2 +2.0
comp=Z,16nm,0.6s
SMMC Simmler 32.52 115 ⇓P P 10 44 40.8 +2.8
baz=33
FCC Fort Churchill 32.56 59 eP P 10 44 38.7 +0.6
FCC Fort Churchill 32.56 59 eP P 10 44 38.7 +0.6
comp=Z,0.3nm,0.8s
A25A Svangstu Ranch 32.56 80 ⇓P P 10 44 39.6 +1.3
baz=32,SNR=6.6
GRAC Grapevine Rang 32.57 110 ⇑P P 10 44 41.2 +2.7
baz=33
C24A Savage 32.64 83 ⇓P P 10 44 40.8 +1.8
baz=33,SNR=6.6
F22A Rosebud 32.67 87 ⇑P P 10 44 40.7 +1.4
baz=33
DUG Dugway, Tooele 32.69 101 eP P 10 44 41.5 +1.8
DUG pmax pmax
comp=Z,9.0nm,1.0s
DUG Dugway, Tooele 32.69 101 ⇓P P 10 44 41.6 +2.0
baz=33,SNR=5.6
DUG Dugway, Tooele 32.69 101 eP P 10 44 41.5 +1.8
comp=Z,9.1nm,1.0s
J19A Crowheart 32.69 93 ⇑P P 10 44 41.5 +1.9
baz=33,SNR=5.2
BW06 Boulder Array 32.74 94 eP P 10 44 41.3 +1.2
comp=Z,7.4nm,0.7s
PDAR Pinedale Array 32.74 94 P P 10 44 41.6 +1.5
comp=Z,7.4nm,0.7s,baz=310,slow=5.1,SNR=50
E23A Ismay 32.76 85 ⇓P P 10 44 41.9 +1.8
baz=33
I20A Worland 32.77 91 ⇑P P 10 44 42.0 +1.7
baz=33,SNR=8.1
B25A Knox Farm, Ray 32.91 81 ⇑P P 10 44 42.9 +1.5
baz=33
D24A Glendive 32.94 84 ⇑P P 10 44 43.6 +2.0
baz=33,SNR=11
H21A Big Horn, Sher 32.94 89 ⇑P P 10 44 43.6 +1.8
baz=33
G22A Birney 32.99 88 ⇓P P 10 44 44.5 +2.4
baz=33
ISA Isabella, Lake 33.02 113 eP P 10 44 44.3 +1.8
ISA pmax pmax
comp=Z,3.0nm,0.6s
ISA Isabella, Lake 33.02 113 ⇓P P 10 44 44.3 +1.8
baz=33,SNR=6.8
ISA Isabella, Lake 33.02 113 eP P 10 44 44.3 +1.8
comp=Z,2.9nm,0.6s
J20A Shoshoni 33.17 92 ⇓P P 10 44 46.1 +2.3
baz=33,SNR=18
F23A Volborg 33.18 87 ⇑P P 10 44 45.4 +1.7
baz=33
A26A Wade Farm, Ken 33.18 79 ⇓P P 10 44 44.7 +1.1
baz=33,SNR=17
C25A Freed Ranch, W 33.18 82 ⇓P P 10 44 45.1 +1.4
baz=33,SNR=7.9
TPNV Topopah Spring 33.20 109 P P 10 44 46.5 +2.4
baz=33,SNR=31
MPMC Manual Prospec 33.23 111 ⇓P P 10 44 46.7 +2.3
baz=33,SNR=12
FURC Furnace Creek, 33.24 110 ⇓P P 10 44 47.1 +2.8
baz=33,SNR=6.5
E24A Baker 33.28 85 ⇓P P 10 44 47.0 +2.4
baz=33
I21A Big Trails, Te 33.32 91 ⇓P P 10 44 46.3 +1.2
baz=33,SNR=9.2
TIXI Tiksi 33.35 326 ⇓/P P 10 44 43.4 -1.4
TIXI pmax pmax
comp=Z,13nm,0.6s
TIXI MLR MLR
comp=Z,77nm,18.0s
TIXI Tiksi 33.35 326 eP P 10 44 43.1 -1.8
comp=Z,15nm,0.8s
B26A Jensen Ranch, 33.36 80 ⇑P P 10 44 46.7 +1.4
baz=33,SNR=6.6
D25A Fairfield 33.48 83 ⇑P P 10 44 48.5 +2.2
baz=33
G23A Biddle 33.50 87 ⇑P P 10 44 48.1 +1.5
baz=34
J21A Lysite 33.53 92 ⇑P P 10 44 48.7 +1.6
baz=34,SNR=6.3
F24A Ekalaka 33.63 86 ⇑P P 10 44 49.1 +1.4
baz=34,SNR=9.6
I22A 9 Mile Ranch, 33.72 90 ⇑P P 10 44 50.1 +1.6
baz=34
C26A Wahner Farm, P 33.76 81 ⇑P P 10 44 50.1 +1.4
baz=34,SNR=10
E25A Miller Ranch, 33.82 84 ⇑P P 10 44 51.4 +2.2
baz=34
EDW2 Edwards Air Fo 33.88 113 ⇑P P 10 44 51.7 +1.8
baz=34
B27A Peters Farms, 33.88 80 ⇑P P 10 44 51.3 +1.5
baz=34
SHOC Shoshone, Teco 33.98 110 ⇓P P 10 44 53.1 +2.4
baz=34,SNR=6.7
J22A Midwest 34.03 91 ⇓P P 10 44 52.9 +1.6
baz=34,SNR=7.5
D26A Manning 34.03 82 ⇑P P 10 44 52.3 +1.2
baz=34
ARUT Antelope Range 34.08 105 eP P 10 44 53.9 +2.1
ARUT Antelope Range 34.08 105 eP P 10 44 53.9 +2.1
comp=Z,241nm,0.9s
K21A Alcova 34.11 92 ⇑P P 10 44 52.9 +0.9
baz=34,SNR=11
SHPR Sheep Range 34.11 108 eP P 10 44 53.9 +1.9
comp=Z,3.8nm,0.7s
F25A Bowman 34.13 85 ⇓P P 10 44 53.6 +1.5
baz=34
A28A Rude Farm, Bot 34.14 78 ⇑P P 10 44 53.2 +1.2
baz=34,SNR=11
C27A Sayer Ranch, 34.15 81 ⇑P P 10 44 53.5 +1.4
baz=34,SNR=11
GSC Goldstone, Bar 34.16 111 ⇓P P 10 44 54.5 +2.0
baz=34
MVU Marysvale 34.22 102 eP P 10 44 55.1 +2.0
comp=Z,11nm,1.0s
H24A Dirks Ranch, A 34.25 87 ⇑P P 10 44 53.9 +0.8
baz=34
B28A Dugan Ranch, T 34.35 79 ⇑P P 10 44 55.0 +1.2
baz=34,SNR=7.4
E26A Carlson Angus 34.35 83 ⇑P P 10 44 54.7 +0.8
baz=34
K22A Casper 34.50 92 ⇑P P 10 44 56.0 +0.7
baz=34
K22A Casper 34.50 92 eP P 10 44 56.4 +1.1
comp=Z,13nm,1.2s
TUQ Turquoise Moun 34.52 110 ⇑P P 10 44 58.0 +2.5
baz=35
BFSC Mount Baldy Ra 34.55 113 ⇑P P 10 44 58.3 +2.5
baz=35
J23A Dilts Ranch, B 34.55 90 ⇓P P 10 44 58.0 +2.2
baz=34
G25A Newell 34.60 86 ⇑P P 10 44 57.8 +1.7
baz=34
F26A Lodgepole 34.61 84 ⇓P P 10 44 57.9 +1.7
baz=35
A29A Manning Farm, 34.69 78 ⇑P P 10 44 57.3 +0.6
baz=35,SNR=9.1
SRU San Rafael Swe 34.71 100 eP P 10 44 59.4 +2.2
SRU pmax pmax
comp=Z,29nm,0.8s
SRU San Rafael Swe 34.71 100 eP P 10 44 59.4 +2.2
comp=Z,29nm,0.8s
N20A Spence Gulch, 34.75 96 ⇑P P 10 44 59.6 +2.0
baz=35,SNR=12
C28A Hausauer Farms 34.76 80 ⇓P P 10 44 59.2 +1.9
baz=35
HEC Hector,Ludlow 34.77 111 ⇓P P 10 45 00.0 +2.3
baz=35,SNR=5.2
H25A Fruitdale 34.86 87 ⇑P P 10 44 59.7 +1.4
baz=35,SNR=6.2
E27A Carson 34.87 83 ⇓P P 10 44 59.8 +1.4
baz=35
B29A Wagenman Farm, 34.89 78 ⇓P P 10 44 59.3 +0.8
baz=35,SNR=6.0
BBRC Big Bear Solar 34.91 112 ⇓P P 10 45 00.7 +1.7
baz=35
K23A Bowen Ranch, D 34.93 91 ⇓P P 10 45 00.8 +1.7
baz=35
RSSD Black Hills 34.93 88 eP P 10 45 00.1 +1.0
RSSD pmax pmax
comp=Z,8.0nm,0.6s
RSSD Black Hills 34.93 88 eP P 10 45 00.1 +1.0
comp=Z,8.3nm,0.6s
F27A Lemmon 34.96 84 ⇓P P 10 45 00.3 +1.2
baz=35
L22A Ellis Ranch, M 34.96 93 ⇓P P 10 45 01.1 +1.7
baz=35
G26A Maurine 35.00 85 ⇑P P 10 45 00.8 +1.3
baz=35,SNR=9.7
MDND Maddock 35.11 79 ⇑P P 10 45 01.9 +1.5
baz=35
MDND Maddock 35.11 79 eP P 10 45 01.6 +1.2
comp=Z,7.3nm,0.7s
GMRC Granite Mounta 35.16 110 ⇑P P 10 45 03.2 +2.1
baz=35,SNR=10
I25A Rochford 35.17 88 ⇓P P 10 45 02.3 +1.1
baz=35
A30A Hoffart Farm, 35.19 77 ⇑P P 10 45 02.0 +1.0
baz=35
LDFC Landfair 35.22 109 eP P 10 45 03.3 +1.7
comp=Z,21nm,0.6s
O20A White River Ci 35.25 97 ⇑P P 10 45 03.5 +1.6
baz=35,SNR=11
O20A White River Ci 35.25 97 eP P 10 45 03.3 +1.4
comp=Z,31nm,1.0s
M22A Cedar Creek Ra 35.29 93 ⇓P P 10 45 03.7 +1.4
baz=35
L23A Garrett 35.31 92 ⇑P P 10 45 03.9 +1.4
baz=35,SNR=6.0
G27A Dupree 35.31 84 ⇑P P 10 45 03.2 +1.0
baz=35,SNR=10
H26A Fairpoint 35.32 86 ⇑P P 10 45 03.8 +1.5
baz=35
K24A Anderson Ranch 35.40 90 ⇑P P 10 45 04.4 +1.3
baz=35
B30A Myrvik Farm, E 35.45 78 ⇓P P 10 45 04.7 +1.4
baz=35
J25A Sunshine Ranch 35.53 89 ⇑P P 10 45 05.0 +0.9
baz=36
D29A Pettibone, Tap 35.58 80 ⇓P P 10 45 05.6 +1.2
baz=36
BELC Belle Mtn. Jos 35.59 112 ⇑P P 10 45 06.5 +1.7
baz=36,SNR=6.1
I26A New Underwood 35.65 87 ⇓P P 10 45 06.6 +1.5
baz=36
F28A McLaughlin 35.65 83 ⇓P P 10 45 06.3 +1.3
baz=36,SNR=17
PFO Pinyon Flats O 35.66 113 ⇓P P 10 45 07.3 +1.9
baz=36
U15A North Rim 35.70 105 ⇓P P 10 45 08.1 +2.2
baz=36,SNR=8.5
H27A Howes 35.70 86 ⇓P P 10 45 06.9 +1.4
baz=36
NEE2 Needles Airpor 35.72 109 ⇑P P 10 45 08.1 +2.4
baz=36
M23A Laramie 35.73 93 ⇓P P 10 45 07.7 +1.6
baz=36
ULM Lac du Bonnet 35.75 73 P P 10 45 06.5 +0.7
comp=Z,2.3nm,0.5s,baz=296,slow=8.6,SNR=7.1
ULM LR LR 11 00 19.3
comp=Z,127nm,19.0s,baz=277,slow=37
N22A Wattenberg Ran 35.78 94 ⇑P P 10 45 08.0 +1.5
baz=36,SNR=7.0
C30A Mose, Pekin 35.81 79 ⇓P P 10 45 08.0 +1.6
baz=36
W13A Hualapai Mount 35.85 108 ⇑P P 10 45 09.3 +2.2
baz=36,SNR=11
E29A Napoleon 35.85 81 ⇑P P 10 45 08.1 +1.3
baz=36
IRM Iron Mountain 35.91 110 ⇓P P 10 45 09.8 +2.4
baz=36,SNR=15
J26A Sides Ranch, S 35.99 88 ⇑P P 10 45 10.4 +2.4
baz=36
N23A Red Feather La 36.00 94 ⇑P P 10 45 10.2 +1.8
baz=36
D30A Buchanan 36.01 80 ⇑P P 10 45 08.8 +0.7
baz=36,SNR=7.5
G28A Parade 36.06 84 ⇓P P 10 45 09.7 +1.1
baz=36
I27A Quinn 36.07 86 ⇓P P 10 45 09.8 +1.1
baz=36,SNR=5.6
PV04 Paradox Valley 36.10 99 eP P 10 45 10.6 +1.3
BC3 Big Chuckawall 36.14 111 ⇓P P 10 45 11.0 +1.6
baz=36
O22A Kremmling 36.16 95 ⇓P P 10 45 11.1 +1.3
baz=36
F29A Eureka 36.20 82 ⇑P P 10 45 10.3 +0.6
baz=36,SNR=6.0
YAK Yakutsk 36.24 310 eP P 10 45 06.9 -2.9
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,12nm,1.0s
YAK Yakutsk 36.24 310 eP P 10 45 08.1 -1.7
comp=E,54nm,0.6s
L25A Engebretsen Ra 36.25 90 ⇓P P 10 45 11.3 +1.0
baz=36
H28A Mission Ridge 36.26 85 ⇑P P 10 45 11.6 +1.3
baz=36
E30A Jud 36.29 81 ⇑P P 10 45 11.9 +1.3
baz=36
PDMCI Parker Dam,Lak 36.33 109 ⇓P P 10 45 12.5 +1.7
baz=36
P22A Eagle 36.44 96 ⇓P P 10 45 13.9 +1.7
baz=36
PV01 Paradox Valley 36.48 99 eP P 10 45 13.8 +1.4
comp=E,772nm,0.8s
O23A Lake Granby, G 36.48 94 ⇑P P 10 45 14.6 +2.1
baz=36,SNR=6.5
Y12C Blythe 36.55 110 ⇑P P 10 45 15.1 +2.3
baz=37
I28A Midland 36.60 86 ⇑P P 10 45 14.3 +1.1
baz=36,SNR=6.4
J27A Elkhorn Farm, 36.62 87 ⇓P P 10 45 14.5 +1.1
baz=37
M25A Palm-Egli Farm 36.68 91 ⇓P P 10 45 15.8 +1.7
baz=37
H29A Onida 36.73 84 ⇑P P 10 45 16.3 +2.0
baz=37
WUAZ Wupatki 36.87 105 ⇓P P 10 45 18.0 +2.3
baz=37,SNR=8.1
WUAZ Wupatki 36.87 105 eP P 10 45 17.7 +2.0
comp=E,7.6nm,0.7s
AGMN Agassiz Nation 36.88 76 ⇑P P 10 45 16.0 +0.5
baz=37,SNR=5.9
AGMN Agassiz Nation 36.88 76 eP P 10 45 15.9 +0.5
comp=E,26nm,0.8s
J28A Allard Ranch, 36.94 86 ⇑P P 10 45 17.5 +1.4
baz=37
G30A Faulkton 37.01 83 ⇑P P 10 45 17.8 +1.2
baz=37
O24A Longmont 37.01 94 ⇑P P 10 45 18.4 +1.5
baz=37
I29A Vivian Onida 37.07 85 ⇑P P 10 45 18.1 +0.9
baz=37,SNR=7.2
P23A Jefferson 37.10 95 ⇑P P 10 45 20.2 +2.3
baz=37,SNR=5.6
M26A McRoberts Ranc 37.17 90 ⇑P P 10 45 20.0 +1.8
baz=37
MVCO Mesa Verde 37.18 100 ⇓P P 10 45 19.9 +1.5
baz=37,SNR=11
MVCO Mesa Verde 37.18 100 eP P 10 45 19.8 +1.4
comp=E,9.5nm,0.8s
Y14A Wickenburg 37.20 108 ⇓P P 10 45 20.5 +2.1
baz=37,SNR=11
K28A Ten Mile Ranch 37.33 87 ⇓P P 10 45 21.3 +1.9
baz=37
Q23A Hartsel 37.44 96 ⇓P P 10 45 22.8 +2.1
baz=37
J29A Okreek 37.45 86 ⇑P P 10 45 21.5 +1.1
baz=37
BRSD Miller 37.55 83 ⇓P P 10 45 22.5 +1.3
baz=38
YSS Yuzh-Sakhalins 37.59 282 eP P 10 45 21.0 -0.4
I30A Oacoma 37.62 84 ⇓P P 10 45 22.6 +0.8
baz=38,SNR=8.4
X16A Lo Mia Camp, P 37.67 106 ⇑P P 10 45 25.2 +2.7
baz=38,SNR=22
Z14A Wintersburg 37.68 109 ⇓P P 10 45 24.6 +2.2
baz=38
S22A 4UR Ranch, Cre 37.71 98 ⇑P P 10 45 24.9 +1.9
baz=38
113A Mohawk Valley, 37.71 110 ⇓P P 10 45 24.8 +2.1
baz=38
K29A Lazy Trails An 37.88 87 ⇑P P 10 45 25.6 +1.5
baz=38
P25A Willow Gulch B 37.93 94 ⇓P P 10 45 26.9 +2.2
baz=38,SNR=8.1
R23A Moffat 37.95 97 ⇑P P 10 45 26.8 +1.8
baz=38
J30A Dallas 37.97 85 ⇑P P 10 45 25.7 +0.9
baz=38,SNR=6.1
W18A Petrified Fore 38.05 104 ⇓P P 10 45 27.8 +2.0
baz=38
W18A Petrified Fore 38.05 104 eP P 10 45 27.6 +1.8
comp=E,7.4nm,0.8s
S23A Nye Farm, Mont 38.20 97 ⇓P P 10 45 29.5 +2.5
baz=38
Q25A Bedland, Calha 38.31 94 ⇓P P 10 45 29.8 +1.9
baz=38
R24A Sanders Place, 38.31 96 ⇑P P 10 45 29.9 +2.0
baz=38,SNR=5.1

K30A **Basset** 38.33 86 ⇓P P 10 45 29.5 +1.7
baz=38
P26A **Davis Ranch, A** 38.36 93 ⇓P P 10 45 30.3 +2.1
baz=38
X18A **Snowflake** 38.38 105 ⇑P P 10 45 30.9 +2.4
baz=38,SNR=10
O27A **Beecher Island** 38.40 91 ⇑P P 10 45 30.3 +1.8
baz=38
N28A **Pribbeno Ranch** 38.59 90 ⇓P P 10 45 31.5 +1.4
baz=38
T23A **Casias Ranch,** 38.66 98 ⇑P P 10 45 32.6 +1.6
baz=39
S24A **Houchin Ranch,** 38.68 97 ⇑P P 10 45 33.2 +2.1
baz=39,SNR=7.7
U22A **Llaves** 38.69 100 ⇓P P 10 45 33.2 +2.1
baz=39,SNR=10
Q26A **Hugo** 38.71 94 ⇓P P 10 45 33.5 +2.3
baz=39
P27A **Ficken Ranch,** 38.79 92 ⇑P P 10 45 33.6 +1.8
baz=39
R25A **Fountain Ranch** 38.83 95 ⇑P P 10 45 34.3 +2.1
baz=39
214A **Organ Pipe Nat** 38.85 110 ⇓P P 10 45 34.4 +2.1
baz=39,SNR=9.6
214A **Organ Pipe Nat** 38.85 110 eP P 10 45 34.2 +1.9
comp=E,8.1nm,0.8s
V22A **San Miguel Ran** 39.00 100 ⇑P P 10 45 35.6 +1.9
baz=39,SNR=16
T24B **San Luis** 39.00 98 ⇓P P 10 45 35.4 +1.6
baz=39
L31A **Butterfield Fa** 39.09 86 ⇑P P 10 45 36.6 +2.4
baz=39
U23A **El Rito** 39.09 99 ⇑P P 10 45 36.7 +2.2
baz=39,SNR=40
S25A **Robets Cordova** 39.09 96 ⇓P P 10 45 36.7 +2.2
baz=39
KSCO **Kaye Shedlock'** 39.14 93 ⇑P P 10 45 36.9 +2.1
baz=39
KSCO **Kaye Shedlock'** 39.14 93 eP P 10 45 36.3 +1.5
comp=E,28nm,0.9s
R26A **Arlington** 39.19 94 ⇑P P 10 45 36.9 +1.7
baz=39,SNR=7.5
ECSD **EROS Data Cent** 39.30 83 ⇓P P 10 45 35.7 -0.1
baz=39,SNR=5.4
ECSD **EROS Data Cent** 39.30 83 eP P 10 45 35.8 -0.1
comp=E,4.9nm,0.6s
EYMN **Ely** 39.44 74 eP P 10 45 37.5 +0.6
comp=E,14nm,0.6s
ASAJ **Asahikawa** 39.45 278 P P 10 45 35.9 -1.2
comp=E,32nm,0.6s,baz=48,slow=1.6,SNR=8.2
T25A **Trinidad** 39.48 97 ⇑P P 10 45 39.7 +1.9
baz=40
V23A **Ortiz Mt. (NFS** 39.52 100 ⇑P P 10 45 40.7 +2.6
baz=40,SNR=15
U24A **Moreno Valley** 39.53 98 ⇓P P 10 45 40.7 +2.5
baz=40
R27A **Eads** 39.56 94 ⇓P P 10 45 40.6 +2.4
baz=40
TUC **Tucson** 39.64 108 eP P 10 45 41.1 +2.2
TUC pmax pmax
comp=Z,3.0nm,0.6s
TUC **Tucson** 39.64 108 eP P 10 45 41.1 +2.2
comp=Z,2.8nm,0.6s
S26A **Kim** 39.66 95 ⇑P P 10 45 40.8 +1.8
baz=40,SNR=7.2
T26A **Comanche Natio** 39.91 96 ⇑P P 10 45 43.1 +1.8
baz=40
ANMO **Albuquerque** 39.96 101⇑eP P 10 45 43.5 +1.8
ANMO pmax pmax
comp=Z,25nm,1.7s
ANMO **Albuquerque** 39.96 101 P P 10 45 43.7 +1.9
comp=Z,3.0nm,0.6s,baz=324,slow=8.3,SNR=21
ANMO PcP PcP 10 47 47.4 +1.3
comp=Z,0.8nm,0.6s,baz=330,slow=8.1,SNR=3.0
ANMO **Albuquerque** 39.96 101 eP P 10 45 43.0 +1.3
comp=Z,2.4nm,0.5s
ANMO PcP PcP 10 47 47.4 +1.3
BGNE **Belgrade** 39.98 86 ⇓P P 10 45 42.9 +1.2
baz=40
LAZ **Ladron** 40.00 102 eP P 10 45 44.0 +2.0
comp=Z,4.4nm,0.8s
LAZ epP pP 10 45 57.9 +2.6
U25A **Circle Dot Ran** 40.02 97 ⇑P P 10 45 44.0 +1.8
baz=40,SNR=14
V24A **Rampart Ranch,** 40.04 99 ⇑P P 10 45 44.5 +2.1
baz=40,SNR=7.7
R28A **Tribune** 40.06 93 ⇓P P 10 45 44.5 +2.1
baz=40
P30A **Selden** 40.09 90 ⇓P P 10 45 44.1 +1.5
baz=40
V25A **Rancho No Teng** 40.31 98 ⇑P P 10 45 46.6 +2.0
baz=40
W24A **Lazy 6 Ranch,** 40.34 99 ⇓P P 10 45 46.9 +2.0
baz=40,SNR=7.8
LPM **Los Pinos Moun** 40.34 102 eP P 10 45 46.7 +1.9
comp=Z,1.6nm,0.4s
U26A **Atchley Ranch,** 40.39 97 ⇓P P 10 45 47.2 +1.9
baz=40,SNR=13
SPMN **Marine on St.** 40.42 78 ⇑P P 10 45 45.8 +0.6
baz=40,SNR=6.4
SPMN **Marine on St.** 40.42 78 eP P 10 45 45.8 +0.6
comp=Z,12nm,0.6s
SPMN epP pP 10 46 00.2 +1.7
Q30A **Quinter** 40.50 91 ⇓P P 10 45 47.8 +1.8
baz=40
S28A **Manter** 40.55 94 ⇑P P 10 45 48.6 +2.2
baz=40
O32A **Brockman Farm,** 40.69 88 ⇑P P 10 45 48.6 +1.1
baz=41
T28A **Walsh** 40.77 94 ⇓P P 10 45 50.1 +1.8
baz=41
HABR **Khabarovsk** 40.79 289 eP P 10 45 44.5 -3.6
HABR e 10 47 18.3
HABR e 10 47 45.7
HABR eS S 10 51 55.4 +0.3
HABR eSS SS 10 54 56.8 -0.2
HABR eSSS SSS 10 55 21.3
HABR e 10 55 49.5
HABR pmax pmax
comp=Z,25nm,1.8s
HABR MLR MLR
comp=Z,61nm,16.0s
V26A **Tequesquite Ra** 40.80 97 ⇓P P 10 45 50.3 +1.7
baz=41,SNR=24
W25A **X Bar L Ranch,** 40.86 99 ⇓P P 10 45 50.9 +1.8
baz=41,SNR=8.9
U27A **Thompson Grove** 40.88 96 ⇓P P 10 45 50.6 +1.4
baz=41
CLNS **Chul'man** 40.94 305 eP P 10 45 47.3 -2.1
CLNS pmax pmax
comp=Z,11nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=N,4.0nm,0.8s
P32A **Huiting Farm,** 40.95 89 ⇑P P 10 45 50.9 +1.3
baz=41
R30A **Dighton** 40.96 92 ⇑P P 10 45 51.5 +1.7
baz=41
121A **Cookes Peak, D** 41.07 104 ⇓P P 10 45 53.0 +2.1
baz=41,SNR=9.0
121A **Cookes Peak, D** 41.07 104 eP P 10 45 52.5 +1.6
comp=N,7.2nm,0.8s
121A eP pP 10 46 06.2 +2.1
319A **Douglas** 41.16 107 ⇑P P 10 45 53.6 +2.0
baz=41
T29A **Hugoton** 41.20 94 ⇑P P 10 45 54.2 +2.5
baz=41
S30A **Montezuma** 41.31 93 ⇓P P 10 45 54.9 +2.2
baz=41
W26A **Owens Ranch, T** 41.34 98 ⇑P P 10 45 55.1 +2.1
baz=41
V27A **Dan Oppiter Fa** 41.36 97 ⇑P P 10 45 55.3 +2.2
baz=41
R31A **Burdett** 41.37 91 ⇑P P 10 45 55.0 +1.9
baz=41
Q32A **Meitler Ranch,** 41.42 89 ⇑P P 10 45 54.6 +1.1
baz=41
P33A **Williams Farm,** 41.59 88 ⇑P P 10 45 56.0 +1.1
baz=42
Q33A **Connelly Farm,** 41.81 89 ⇑P P 10 45 57.5 +0.8
baz=42
COWI **Conover** 41.85 74 eP P 10 45 56.7 -0.2
comp=N,2.7nm,0.5s
COWI epP pP 10 46 12.2 +2.0
S31A **Mullinville** 41.87 92 ⇓P P 10 45 58.5 +1.3
baz=42
V29A **Stinnett** 42.00 95 ⇑P P 10 45 59.7 +1.4
baz=42
U30A **WK&E Inc. Balk** 42.00 94 ⇑P P 10 46 00.1 +1.8
baz=42
KLR **Kul'dur** 42.05 292⇓iP P 10 45 53.8 -4.6
KLR pmax pmax
comp=N,30nm,1.2s
KLR pmax pmax
comp=E,43nm,1.2s
KLR pmax pmax
comp=Z,94nm,1.2s
T31A **Randall Ranch,** 42.14 92 ⇓P P 10 46 00.7 +1.3
baz=42
R33A **Olander Ranch,** 42.22 90 ⇓P P 10 46 01.2 +1.2
baz=42
KSU1 **Kansas State U** 42.42 88 ⇑P P 10 46 02.8 +1.2
baz=42
KSU1 **Kansas State U** 42.42 88 eP P 10 46 02.0 +0.4
comp=Z,7.5nm,0.6s
AMTX **Amarillo** 42.64 96 ⇑P P 10 46 04.8 +1.3
baz=43
AMTX **Amarillo** 42.64 96 eP P 10 46 04.5 +1.0
comp=Z,5.7nm,0.6s
MSTX **Muleshoe** 42.71 98 ⇓P P 10 46 05.3 +1.1
baz=43,SNR=6.3
MSTX **Muleshoe** 42.71 98 eP P 10 46 05.5 +1.3
comp=Z,9.0nm,0.8s
X29A **Tulia** 42.95 97 ⇑P P 10 46 07.7 +1.7
baz=43
V31A **Spring Creek L** 43.00 94 ⇓P P 10 46 08.1 +1.7
baz=43
W30A **Crocket Farms** 43.03 95 ⇑P P 10 46 08.3 +1.7
baz=43
U32A **Winter Ranch,** 43.03 93 ⇑P P 10 46 08.1 +1.5
baz=43
Y28A **McKinney Farm,** 43.05 98 ⇓P P 10 46 08.2 +1.3
baz=43
S34A **Willow Spring** 43.13 90 ⇓P P 10 46 07.8 +0.4
baz=43
W31A **Holland Ranch,** 43.38 95 ⇑P P 10 46 11.0 +1.6
baz=43
Y29A **Porterfield Fa** 43.40 97 ⇓P P 10 46 10.8 +1.0
baz=43,SNR=12
X30A **Coker Ranch, T** 43.41 96 ⇓P P 10 46 11.4 +1.7
baz=43
Z28A **Stucker Farm, M** 43.44 99 ⇑P P 10 46 11.0 +0.9
baz=43
U33A **Lingo Farm, Me** 43.48 92 ⇓P P 10 46 11.5 +1.2
baz=44
V32A **Arapaho** 43.48 93 ⇓P P 10 46 11.8 +1.5
baz=44
X31A **McDonald Ranch** 43.77 95 ⇓P P 10 46 14.8 +2.2
baz=44
U34A **Anderson Ranch** 43.80 91 ⇑P P 10 46 13.9 +1.1
baz=44
W32A **Sentinel** 43.81 94 ⇑P P 10 46 14.6 +1.7
baz=44
Y30A **Stafford Cattl** 43.82 97 ⇓P P 10 46 14.3 +1.2
baz=44
V33A **Lossen Ranch,** 43.83 92 ⇓P P 10 46 14.2 +1.1
baz=44
Z29A **Hungry Hill Ra** 43.83 98 ⇑P P 10 46 14.2 +1.0
baz=44
128A **Castleberry Fa** 43.89 99 ⇓P P 10 46 14.7 +1.1
baz=44,SNR=9.7
S36A **Lake Cedric, C** 43.96 88 ⇑P P 10 46 14.7 +0.6
baz=44
Y31A **Rekieta Farm,** 44.10 96 ⇓P P 10 46 16.3 +1.0
baz=44
Z30A **Sanderson Ranc** 44.13 97 ⇓P P 10 46 16.7 +1.1
baz=44
228A **UT Block 9, Go** 44.21 100 ⇑P P 10 46 17.7 +1.5
baz=44
129A **Stewart Farms,** 44.22 99 ⇑P P 10 46 17.4 +1.1
baz=44
W33A **Caddo, Fort Co** 44.22 93 ⇑P P 10 46 16.6 +0.4
baz=44
X32A **Elmer** 44.30 95 ⇓P P 10 46 18.3 +1.4
baz=44
WMOK **Wichita Mounta** 44.35 94 eP P 10 46 18.3 +1.0
WMOK pmax pmax
comp=Z,9.0nm,0.8s
WMOK **Wichita Mounta** 44.35 94 eP P 10 46 18.3 +1.0
comp=Z,8.7nm,0.8s
DAG **Danmarks Havn** 44.48 13⇑iP P 10 46 16.8 -0.9
DAG pmax pmax
comp=Z,5.0nm,0.7s
DAG **Danmarks Havn** 44.48 13⇑iP P 10 46 16.8 -0.9
comp=Z,7.9nm,0.7s
SUMG **Summit** 44.50 22 iP P 10 46 18.6 +0.2
SUMG pmax pmax
comp=Z,5.0nm,0.8s
SUMG **Summit** 44.50 22 iP P 10 46 18.6 +0.2
comp=Z,4.9nm,0.8s
Y32A **R-V Farms, Ver** 44.53 95 ⇑P P 10 46 19.4 +0.8
baz=44,SNR=6.0
Z31A **Sharp Cattle R** 44.65 97 ⇓P P 10 46 20.3 +0.7
baz=45
V35A **Meyer Ranch, C** 44.68 91 ⇑P P 10 46 20.6 +0.8
baz=45
130A **Snyder** 44.74 98 ⇑P P 10 46 21.5 +1.1
baz=45,SNR=8.2
229A **Bryant Ranch,** 44.75 99 ⇑P P 10 46 21.9 +1.4
baz=45
Y33A **Hilltop Ranch,** 44.98 95 ⇓P P 10 46 23.6 +1.4
baz=45
X34A **Smith Ranch, M** 44.98 93 ⇓P P 10 46 23.6 +1.4
baz=45
131A **Roby** 45.00 97 ⇑P P 10 46 23.4 +1.0
baz=45,SNR=8.6
329A **Wagon Wheel Ra** 45.03 100 ⇑P P 10 46 23.5 +0.8
baz=45,SNR=13
Z32A **Haskell** 45.03 96 ⇓P P 10 46 23.0 +0.3
baz=45,SNR=7.2
BOD **Bodaibo** 45.14 311 eP P 10 46 20.9 -2.3
BOD pmax pmax
comp=Z,12nm,1.0s
TUL1 **Leonard** 45.15 90 ⇓P P 10 46 24.4 +0.8
baz=45
USRK **Ussuriysk Ar.** 45.16 286 P P 10 46 21.5 -2.0
comp=Z,5.0nm,0.6s,baz=50,slow=9.0,SNR=15
USRK PcP PcP 10 48 03.6 +0.6
comp=Z,1.0nm,0.4s,baz=75,slow=2.2,SNR=3.8
230A **Sterling City** 45.20 99 ⇑P P 10 46 24.9 +0.8
baz=45,SNR=18
SFJD **Kangerlussuaq** 45.27 32 iP P 10 46 24.5 +0.4
SFJD pmax pmax
comp=Z,10.0nm,0.7s
SFJD **Kangerlussuaq** 45.27 32 iP P 10 46 24.5 +0.4
comp=Z,10nm,0.7s
Z33A **Whitaker Ranch** 45.44 95 ⇑P P 10 46 26.7 +0.8
baz=45
ABTX **Abilene, Hawle** 45.45 97 ⇓P P 10 46 26.7 +0.7
baz=45,SNR=9.8
ABTX **Abilene, Hawle** 45.45 97 eP P 10 46 26.9 +0.8
comp=Z,11nm,0.6s
Y34A **Reagan Ranch,** 45.50 94 ⇓P P 10 46 27.1 +0.8
baz=46
330A **Mertzon** 45.53 99 ⇑P P 10 46 27.4 +0.7
baz=46,SNR=7.9
231A **Bronte** 45.60 98 ⇑P P 10 46 27.5 +0.3
baz=46,SNR=8.2
SPITS **Spitsbergen Ar** 45.63 2 P P 10 46 25.1 -1.8
comp=Z,4.5nm,0.4s,baz=32,slow=8.5,SNR=1.3
429A **Davenport Ranc** 45.73 101 ⇓P P 10 46 28.9 +0.6
baz=46,SNR=10
TXAR **Lajitas Array** 45.77 103 P P 10 46 30.3 +1.7
comp=Z,8.8nm,0.7s,baz=311,slow=5.7,SNR=150
TXAR LR LR 11 04 41.3
comp=Z,109nm,19.0s,baz=0.0,slow=35
133A **Hamilton Ranch** 45.86 96 ⇓P P 10 46 29.8 +0.5
baz=46,SNR=7.8
529A **Stev Forest Ra** 45.94 101 ⇑P P 10 46 31.5 +1.5
baz=46
430A **Baggett Ranch,** 45.97 100 ⇓P P 10 46 30.9 +0.8
baz=46,SNR=13
232A **Coleman** 46.00 97 ⇓P P 10 46 31.9 +1.5
baz=46,SNR=8.6
331A **San Angelo** 46.02 99 ⇑P P 10 46 31.5 +1.0
baz=46
MDJ **Mudanjiang** 46.15 288 P P 10 46 29.6 -1.8
MDJ PMZ
comp=Z,32nm,0.6s
MDJ PMZ
comp=Z,81nm,4.1s
MDJ **Mudanjiang** 46.15 288 eP P 10 46 29.9 -1.5
comp=Z,25nm,0.8s
Z35A **Perchaven, San** 46.24 94 ⇓P P 10 46 33.1 +0.9
baz=46
233A **Rising Star** 46.32 97 ⇑P P 10 46 33.7 +0.8
baz=46,SNR=11
332A **Millersview** 46.34 98 ⇑P P 10 46 33.7 +0.7
baz=46
134A **White-Moore Ra** 46.35 95 ⇓P P 10 46 34.3 +1.2
baz=46
431A **Sonora** 46.40 99 ⇑P P 10 46 34.5 +1.0
baz=46,SNR=22
530A **J-C Ranch, Com** 46.41 100 ⇓P P 10 46 34.8 +1.2
baz=46,SNR=28
432A **Menard** 46.70 98 ⇑P P 10 46 36.4 +0.6
baz=47,SNR=14
234A **Clairette** 46.75 96 ⇓P P 10 46 36.9 +0.7
baz=47,SNR=6.4
SFIN **Lafayette** 46.78 79 ⇓P P 10 46 36.7 +0.4
baz=47
333A **Richland Sprin** 46.80 97 ⇑P P 10 46 37.2 +0.6
baz=47,SNR=12
531A **Rocksprings** 46.83 100 ⇓P P 10 46 37.8 +1.0
baz=47,SNR=31
JCT **Junction City** 46.99 99 eP P 10 46 39.3 +1.1
JCT pmax pmax
comp=Z,30nm,0.6s
JCT **Junction City** 46.99 99 ⇓P P 10 46 39.0 +0.8
baz=47,SNR=22
JCT **Junction City** 46.99 99 eP P 10 46 39.3 +1.1
comp=Z,30nm,0.6s
MAJO **Matsushiro** 47.09 274⇑eP P 10 46 38.1 -0.7
MAJO pmax pmax
comp=Z,300nm,2.6s
MAT **Matsushiro** 47.09 274 P P 10 46 38.1 -0.7
MJAR **Matsushiro Arr** 47.09 274 P P 10 46 38.2 -0.6
comp=Z,2.6nm,0.4s,baz=40,slow=6.4,SNR=16
MJAR LR LR 11 05 30.5
comp=Z,48nm,21.7s,baz=305,slow=35
WHTX **Lake Whitney,** 47.14 95 ⇓P P 10 46 40.1 +0.9
baz=47
433A **Art** 47.17 98 ⇑P P 10 46 40.3 +0.8
baz=47,SNR=18
334A **Lometa** 47.20 97 ⇑P P 10 46 40.5 +0.8
baz=47,SNR=8.6
532A **Rocksprings** 47.21 99 ⇑P P 10 46 40.7 +0.9
baz=47
SCHQ **Schefferville** 47.24 52 P P 10 46 39.6 -0.2
comp=Z,2.9nm,0.6s,baz=325,slow=8.1,SNR=8.6
SCHQ LR LR 11 07 37.2
comp=Z,164nm,18.4s,baz=346,slow=37
OLIL **Olney** 47.39 81 eP P 10 46 41.5 +0.3
comp=Z,21nm,0.6s
631A **Perdido Creek** 47.39 100 ⇑P P 10 46 41.8 +0.6
baz=47
434A **Burnet** 47.58 97 ⇑P P 10 46 43.8 +1.1
baz=48,SNR=11
533A **Kerrville** 47.73 98 ⇓P P 10 46 44.3 +0.4
baz=48,SNR=6.4
632A **Uvalde** 47.75 100 ⇑P P 10 46 44.5 +0.5
baz=48,SNR=7.9
336A **Riesel** 47.93 95 ⇓P P 10 46 45.8 +0.4
baz=48
435B **Jarrell** 47.98 97 ⇑P P 10 46 47.0 +1.2
baz=48
237A **Washetta, Mont** 48.04 94 ⇑P P 10 46 47.0 +0.8
baz=48
534A **Blanco** 48.07 98 ⇓P P 10 46 47.2 +0.7
baz=48,SNR=8.7
633A **Saathoff Ranch** 48.12 99 ⇑P P 10 46 47.6 +0.7
baz=48
USIN **University of** 48.18 82 eP P 10 46 47.3 +0.1
comp=Z,21nm,0.6s
732A **Laxson Ranch,** 48.26 100 ⇑P P 10 46 48.8 +0.9
baz=48
832A **Faith Ranch, C** 48.60 101 ⇑P P 10 46 51.6 +1.0
baz=49,SNR=10
733A **Divot King Ran** 48.63 100 ⇑P P 10 46 52.0 +1.2
baz=49,SNR=8.2
CN2 **Changchun** 48.89 290 eP P 10 46 51.6 -1.0
CN2 PcP PcP 10 48 18.3 +2.0
CN2 PP PP 10 48 43.8 -2.1
CN2 eS S 10 53 54.0 +1.7
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,500nm,14.0s
CN2 LE
comp=Z,800nm,14.0s
CN2 LZ
comp=Z,500nm,15.0s
635A **Leesville** 48.95 98 ⇑P P 10 46 55.6 +2.4
baz=49
537A **Green Hill Far** 49.22 96 ⇓P P 10 46 57.6 +2.2
baz=49
636A **Smothers Creek** 49.27 97 ⇑P P 10 46 57.8 +2.1
baz=49,SNR=8.2
735A **Kenedy** 49.34 98 ⇑P P 10 46 58.0 +1.8
baz=49
WVT **Waverly** 49.41 84 eP P 10 46 57.0 +0.3
WVT pmax pmax
comp=Z,10.0nm,0.6s
WVT **Waverly** 49.41 84 eP P 10 46 57.0 +0.3
comp=Z,10nm,0.6s
834A **Tilden** 49.51 100 ⇓P P 10 46 59.3 +1.8
baz=50
933A **Laredo** 49.51 101 ⇓P P 10 46 59.5 +2.0
baz=50,SNR=7.9
HKT **Hockley** 49.59 96 eP P 10 46 59.3 +1.3
HKT pmax pmax
comp=Z,15nm,1.3s
HKT **Hockley** 49.59 96 eP P 10 46 59.3 +1.3
comp=Z,15nm,1.3s
835A **Beeville** 49.77 99 ⇓P P 10 47 01.7 +2.2
baz=50
934A **Benavides** 49.93 100 ⇓P P 10 47 02.9 +2.2
baz=50
034A **Hebbronville** 50.26 101 ⇑P P 10 47 05.9 +2.6
baz=50
LONY **Lake Ozonia** 50.46 67 eP P 10 47 05.1 +0.5
035Z **Hargill** 51.08 101 ⇓P P 10 47 11.6 +2.3
baz=51
BINY **Binghamton** 51.45 70 eP P 10 47 12.5 +0.5
comp=Z,21nm,1.2s
KSRS **Korea Array** 52.08 282 P P 10 47 16.8 +0.1
comp=Z,8.7nm,0.5s,baz=41,slow=7.3,SNR=36
KSAR **Wonju Array Be** 52.11 283 P P 10 47 16.8 -0.2
KSAR **Wonju Array Be** 52.11 283 P P 10 47 16.8 -0.2
JNU **Nakatsue** 53.67 277 P P 10 47 28.4 -0.1
comp=Z,5.7nm,0.7s,baz=121,slow=4.0,SNR=9.9
TLY **Talaya** 53.71 310 eP P 10 47 28.2 -0.4
TLY pmax pmax
comp=Z,21nm,1.0s
TLY MLR MLR
comp=Z,61nm,13.0s
TLY **Talaya** 53.71 310 eP P 10 47 28.0 -0.6
comp=Z,30nm,1.1s
KEV **Kevo** 54.14 358 ep P 10 47 29.4 -2.0
comp=Z,8.4nm,0.6s
ARCES **ARCESS Array B** 54.38 359 P P 10 47 32.0 -1.2
comp=Z,8.5nm,0.7s,baz=18,slow=8.0,SNR=28
ARCES PcP PcP 10 48 36.1 -0.3
comp=Z,2.2nm,0.6s,baz=337,slow=2.8,SNR=4.2
ARCES LR LR 11 11 13.8
comp=Z,28nm,20.6s,baz=294,slow=37
ZAK **Zakamensk** 54.83 310⇑iP P 10 47 36.2 -0.6
ZAK pmax pmax
comp=Z,7.0nm,1.1s
MOY **Mondy** 54.83 312 eP P 10 47 37.1 +0.2
ULN **Ulaanbaatar** 55.02 305c iP P 10 47 37.6 -0.7
ULN pmax pmax
comp=Z,20nm,1.0s
ULN MLR MLR
comp=Z,147nm,19.0s
ULN **Ulaanbaatar** 55.02 305 eP P 10 47 37.7 -0.7
comp=Z,24nm,1.0s
SONM **Songino Array** 55.34 306 P P 10 47 40.5 -0.2
comp=Z,37nm,0.8s,baz=47,slow=7.1,SNR=250
SONM PcP PcP 10 48 41.0 +0.4
comp=Z,5.2nm,0.7s,baz=112,slow=2.0,SNR=7.5
SONM LR LR 11 12 55.0
comp=Z,111nm,18.5s,baz=32,slow=38
HHC **Hu-ho-hao-te** 58.11 297 eP P 10 48 00.1 -0.2
HHC PcP PcP 10 48 51.8 +0.3
HHC PP PP 10 50 10.4 +1.4
HHC S S 10 55 59.8 +2.2
HHC PMZ
comp=Z,30nm,0.6s
HHC PMZ
comp=Z,320nm,6.0s
HHC LN

comp=Z,300nm,18.8s
HHC LE
comp=Z,230nm,18.8s
HHC LZ
comp=Z,150nm,16.4s
HVS Khovu-Aksy 58.17 316⇓ *i*P P 10 48 00.2 -0.3
HVS pmax pmax
comp=Z,28nm,0.6s
NVS Novosibirsk 58.91 324 *e*P P 10 48 02.7 -2.8
ZALV Zalesovo Beam 59.12 323 P P 10 48 06.2 -0.8
comp=Z,2.0nm,0.3s,baz=34,slow=6.4,SNR=19
ZALV PcP **PcP 10 48 55.4 +0.2**
comp=Z,5.0nm,0.7s,baz=24,slow=5.0,SNR=5.9
ZALV LR LR 11 15 23.0
comp=Z,44nm,19.8s,baz=80,slow=38
JOW Kunigami 59.93 274 P P 10 48 13.2 +0.3
comp=Z,1.2nm,0.6s,baz=36,slow=3.1,SNR=5.3
JOF Joensuu 60.88 356 *e*p P 10 48 17.7 -1.2
comp=Z,4.2nm,0.7s
PRGR Permogore 61.03 348 P P 10 48 17.6 -2.3
SOKR Solikamsk 61.36 341⇑ *i*P P 10 48 20.7 -1.4
SOKR pmax pmax
comp=Z,20nm,0.9s
KAF Kangasniemi 61.82 358 *e*p P 10 48 23.8 -1.5
comp=Z,6.4nm,0.5s
KLMR Klimovskoe 62.41 351 *e*P P 10 48 26.5 -2.7
KLMR pmax pmax
comp=Z,40nm,1.6s
FINES FINESS Array B 62.50 359 P P 10 48 29.0 -0.8
FINES FINESS Array B 62.50 359 P P 10 48 29.0 -0.8
comp=Z,6.5nm,0.7s,baz=36,slow=4.4,SNR=18
NB2 NORSAR Subarra 62.53 7 P P 10 48 29.6 -0.5
comp=Z,0.5nm,0.7s,baz=356,slow=6.9
NOA NORSAR Array B 62.53 7 P P 10 48 29.8 -0.3
comp=Z,3.4nm,0.7s,baz=353,slow=6.7,SNR=19
SVE Sverdlovsk 63.20 338⇓ *i*P P 10 48 33.7 -0.9
SVE pmax pmax
comp=Z,30nm,1.5s
KURK Kurchatov 63.90 324 P P 10 48 37.9 -1.3
KURK pmax pmax
comp=Z,3.0nm,0.5s
KURK Kurchatov 63.90 324 *e*P P 10 48 38.2 -1.1
comp=Z,5.9nm,0.8s
ARU Arti 63.99 339*d* *i*P P 10 48 38.4 -1.4
ARU S **S 10 57 16.8 +5.1**
ARU SS **SS 11 01 20.6 +0.7**
ARU pmax pmax
comp=Z,15nm,0.8s
ARU Arti 63.99 339 *e*P P 10 48 38.1 -1.7
comp=Z,5.6nm,0.6s
BVA0 Borovoye Array 64.33 331 *i* P P 10 48 40.7 -1.3
BVA0 pmax pmax
comp=Z,10.0nm,0.6s
XAN Xi'an 64.70 294 P P 10 48 43.5 -1.3
XAN pP pP 10 48 53.1 -5.8
XAN PMZ
comp=Z,4.0nm,1.0s
GTA Gaotai 64.88 304 ⇑P P 10 48 45.5 -0.5
GTA S **S 10 57 20.1 -3.3**
GTA PMZ
comp=Z,46nm,0.9s
GTA PMZ
comp=Z,88nm,4.7s
GTA LN
comp=Z,130nm,15.9s
GTA LE
comp=Z,110nm,18.1s
GTA LZ
comp=Z,190nm,19.5s
VSU Vasula 65.47 358 P P 10 48 49.1 -0.2
VSU pmax pmax
comp=Z,116nm,2.0s
LZH Lanzhou 65.61 299 *e*P P 10 48 50.6 -0.3
LZH PP **PP 10 51 16.5 +1.3**
LZH PMZ
comp=Z,23nm,1.4s
LZH PMZ
comp=Z,78nm,7.6s
LZH LN
comp=Z,290nm,15.0s
LZH LE
comp=Z,310nm,15.2s
LZH LZ
comp=Z,370nm,19.0s
MK31 Makanchi Array 66.01 320 P P 10 48 51.4 -1.7
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 66.01 320 P P 10 48 51.8 -1.3
comp=Z,4.9nm,0.6s,baz=43,slow=6.1,SNR=49
MKAR PP **PP 10 51 16.0 -2.2**
comp=Z,1.3nm,0.8s,baz=45,slow=8.4,SNR=3.5
MKAR LR LR 11 21 19.3
comp=Z,87nm,18.4s,baz=22,slow=39
WMQ Urumqi 66.48 315 P P 10 48 56.1 -0.1
WMQ PcP **PcP 10 49 25.9 +0.5**
WMQ PMZ
comp=Z,9.0nm,1.2s
WMQ PMZ
comp=Z,58nm,5.0s
WMQ LN
comp=Z,120nm,18.0s
WMQ LE
comp=Z,39nm,17.0s
WMQ LZ
comp=Z,130nm,20.0s
OBN Obninsk 68.34 352⇓ *i*P P 10 49 06.7 -0.9
OBN *i* 10 51 39.2
OBN pmax pmax
comp=Z,9.0nm,0.4s
CD2 Chengdu 69.81 295 *e*P P 10 49 17.0 -0.2
CD2 PMZ
comp=Z,30nm,1.2s
AB31 Akbulak array 70.42 336 *i* P P 10 49 19.6 -1.0
AB31 pmax pmax
comp=Z,11nm,0.4s
CLZ Clausthal 71.61 8 *e*P P 10 49 28.5 +0.7
comp=Z,11nm,1.0s
TKM2 Tokmak 2 71.72 322 P P 10 49 29.0 +0.1
SNR=7.3
TKM2 Tokmak 2 71.72 322 P P 10 49 28.6 -0.2
TKM2 pmax pmax
comp=Z,8.0nm,0.8s
TKM2 Tokmak 2 71.72 322 *e*P P 10 49 28.4 -0.4
comp=Z,4.3nm,0.7s
BUG Bochum--Univer 71.72 11 *e*P P 10 49 28.8 +0.4
comp=Z,18nm,1.0s
USP Ospenovka 71.78 323 P P 10 49 29.1 0.0
SNR=6.3
USP Ospenovka 71.78 323 *i* P P 10 49 29.0 0.0
VRHR Novokhopersk 71.83 348 *e*P P 10 49 25.8 -3.2
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,9.0nm,1.5s
GYA Guiyang 71.93 291⇑ *i*P P 10 49 29.3 -0.9
GYA PMZ
comp=E,20nm,1.0s
CHMS Chumysh 71.94 323 P P 10 49 30.2 +0.2
SNR=5.1
CHMS Chumysh 71.94 323 *i* P P 10 49 30.1 +0.2
VSR Storozhevoye 71.97 350 *e*P P 10 49 27.6 -2.3
VSR pmax pmax
comp=N,9.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=E,7.0nm,0.9s
KBK Karagaybulak 72.17 323 P P 10 49 31.9 +0.3
SNR=12
VORD Divnogorie 72.21 349 *e*P P 10 49 28.6 -2.7
VORD pmax pmax
comp=N,9.0nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=E,9.0nm,1.0s
CLL Collm 72.34 7 *i* P P 10 49 31.9 -0.2
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 72.34 7 *i* P P 10 49 31.9 -0.2
comp=Z,7.0nm,1.0s
AAK Ala-Archa 72.35 323 P P 10 49 32.6 0.0
SNR=9.0
AAK Ala-Archa 72.35 323⇑ *i*P P 10 49 32.6 0.0
AAK pmax pmax
comp=Z,41nm,1.7s
AAK Ala-Archa 72.35 323 *e*P P 10 49 31.9 -0.7
comp=Z,9.8nm,0.8s
EKS2 Erkin-Say 72.56 323 P P 10 49 34.0 +0.3
SNR=9.6
EKS2 Erkin-Say 72.56 323 *e*P P 10 49 33.2 -0.6
EKS2 pmax pmax
comp=Z,6.0nm,0.9s
EKS2 Erkin-Say 72.56 323 *e*P P 10 49 33.2 -0.6
comp=Z,6.0nm,0.9s
BAIF Baives 72.74 13 *e*P P 10 49 35.0 +0.5
BAIF Baives 72.74 13 *e*P P 10 49 35.0 +0.5
BAIF Baives 72.74 13 *e*P P 10 49 35.0 +0.5
GIVF Givet 72.77 12 *e*P P 10 49 34.8 +0.1
GIVF Givet 72.77 12 *e*P P 10 49 34.8 +0.1
GIVF Givet 72.77 12 *e*P P 10 49 34.8 +0.1
BRG Berggiesshubel 72.83 6 *e*P P 10 49 35.3 +0.3
comp=Z,8.1nm,1.1s
BRG Berggiesshubel 72.83 6 *e*P PP 10 52 18.8 +2.0
comp=Z,10nm,1.3s
BRG Berggiesshubel 72.83 6 *e*P P 10 49 35.3 +0.3
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 72.83 6 *e*P P 10 49 35.2 +0.2
comp=Z,8.0nm,1.0s
MOX Moxa 72.90 8 *e*P P 10 49 35.7 +0.2
comp=Z,14nm,1.2s
KSP Ksiaz 72.98 5 *e*P P 10 49 36.3 +0.3
AML Almayashu 73.06 323 P P 10 49 37.7 +0.6
SNR=16
AKASG Malin Array Be 73.17 356 P P 10 49 36.0 -1.1
AKASG Malin Array Be 73.17 356 P P 10 49 36.0 -1.1
comp=Z,5.8nm,0.4s,baz=6.6,slow=5.8,SNR=19
AKASG LR LR 11 23 50.8
comp=Z,34nm,20.0s,baz=285,slow=38
KIEV Kiev 73.18 356⇑ *i*P P 10 49 36.0 -1.1
KIEV Kiev 73.18 356 *e*P P 10 49 35.4 -1.7
comp=Z,7.4nm,0.3s
KK31 Karatay Array 73.22 326 *i* P P 10 49 36.2 -1.3
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 73.22 326 *e*P P 10 49 37.0 -0.5
KKAR pmax pmax
comp=Z,10.0nm,0.8s
KKAR Karatay Array 73.22 326 *e*P P 10 49 37.0 -0.5
comp=Z,10nm,0.8s
DPC Dobruska-Polom 73.48 5 *e*P P 10 49 39.5 +0.6
DPC *e* 10 49 54.3
DPC Dobruska-Polom 73.48 5 *e*P P 10 49 39.5 +0.6
DPC *e*pP **PcP 10 49 54.3 -0.5**
PRU Pruhonice 73.75 6 *e*P P 10 49 40.6 +0.2
PRU Pruhonice 73.75 6 *e*P P 10 49 40.6 +0.2
GRF Grafenberg Arr 73.81 8 *e*P P 10 49 41.6 +0.7
comp=Z,4.0nm,0.8s
ROTZ Rotzenmuhle 73.81 8 *e*P P 10 49 41.4 +0.5
comp=Z,12nm,1.5s
OKC Ostrava-Krasne 74.06 4 *e*P P 10 49 42.8 +0.5
OKC Ostrava-Krasne 74.06 4 *e*P P 10 49 42.8 +0.5
TREC Trest 74.49 5 *e*P P 10 49 49.4 +4.6
KHC Kasperske Hory 74.54 7 *e*P P 10 49 45.6 +0.4
KHC *e* 10 49 54.5
KHC Kasperske Hory 74.54 7 *e*P P 10 49 45.6 +0.4
KHC *ex* x 10 49 54.5
KHC *e*pP **PcP 10 49 59.1 -0.3**
KHC Kasperske Hory 74.54 7 *e*P P 10 49 43.9 -1.3
comp=Z,6.2nm,0.8s
KSH Kashi 74.61 320 P **P 10 49 49.0 +3.2**
KSH PP **PP 10 52 36.3 +3.9**
KSH S **S 10 59 21.1 +3.6**
KSH ScS **ScS 10 59 54.8 +1.8**
KSH SS **SS 11 04 10.3 +6.2**
KSH PMZ
comp=Z,19nm,0.8s
KSH PMZ
comp=Z,130nm,3.5s
KSH LN
comp=Z,53nm,4.4s
KSH LE
comp=Z,31nm,4.8s
KSH LZ
comp=Z,130nm,6.4s
CDF Champ du Feu 74.72 11 *e*P P 10 49 46.4 +0.1
CDF Champ du Feu 74.72 11 *e*P P 10 49 46.4 +0.1
CDF Champ du Feu 74.72 11 *e*P P 10 49 46.4 +0.1
HNR Honiara 74.73 225 LR LR 11 17 49.8
comp=Z,47nm,21.7s,baz=50,slow=32
GEC2 GERESS Array S 74.83 7 *e*P P 10 49 47.1 +0.2
comp=Z,7.0nm,0.9s
GERES GERESS Array B 74.83 7 P P 10 49 47.2 +0.3
comp=Z,3.1nm,0.7s,baz=356,slow=4.4,SNR=20
HAU Haudompre 75.02 12 *e*P P 10 49 47.8 -0.1
HAU *e*R
comp=Z,78nm,23.0s
HAU Haudompre 75.02 12 *e*P P 10 49 47.8 -0.1
HAU Haudompre 75.02 12 *e*P P 10 49 47.8 -0.1
HINF Hinteralfeld 75.26 11 *e*P P 10 49 49.3 0.0
HINF Hinteralfeld 75.26 11 *e*P P 10 49 49.3 0.0
HINF Hinteralfeld 75.26 11 *e*P P 10 49 49.3 0.0
LOR Lormes 75.44 14 *e*P P 10 49 50.2 -0.1
comp=Z,9.4nm,0.8s
LOR *e*R
comp=Z,72nm,20.2s
LOR Lormes 75.44 14 *e*P P 10 49 50.2 -0.1
LOR pmax pmax
comp=Z,9.0nm,0.8s
LOR Lormes 75.44 14 *e*P P 10 49 50.2 -0.1
comp=Z,9.4nm,0.8s
SSF Saint Saulge 75.59 14 *e*P P 10 49 51.4 +0.2
comp=Z,11nm,0.8s
SSF Saint Saulge 75.59 14 *e*P P 10 49 51.4 +0.2
SSF pmax pmax
comp=Z,11nm,0.8s
SSF Saint Saulge 75.59 14 *e*P P 10 49 51.4 +0.2
comp=Z,11nm,0.8s
AVF Avril sur Loir 75.84 14 *e*P P 10 49 52.5 -0.1
AVF Avril sur Loir 75.84 14 *e*P P 10 49 52.5 -0.1
AVF Avril sur Loir 75.84 14 *e*P P 10 49 52.5 -0.1
TRPA Tarpa 75.86 1⇓ *i*P P 10 49 52.9 +0.3
CONA Conrad Observa 75.87 5⇑ *i*P P 10 49 53.4 +0.5
comp=Z,7.9nm,1.1s
SMF Signal de Mont 76.05 14 *e*P P 10 49 53.8 0.0
comp=Z,20nm,1.0s
SMF Signal de Mont 76.05 14 *e*P P 10 49 53.8 0.0
SMF pmax pmax
comp=Z,20nm,1.0s
SMF Signal de Mont 76.05 14 *e*P P 10 49 53.8 0.0
comp=Z,20nm,1.0s
TCF Toulx Ste Croi 76.17 15 *e*P P 10 49 54.5 -0.1
TCF Toulx Ste Croi 76.17 15 *e*P P 10 49 54.5 -0.1
TCF Toulx Ste Croi 76.17 15 *e*P P 10 49 54.5 -0.1
WTTA Wattenberg 76.26 8⇓ *i*P P 10 49 56.0 +0.7
comp=Z,9.7nm,0.9s
FETA Feichten 76.43 9⇑ *i*P P 10 49 56.8 +0.7
comp=Z,9.2nm,1.0s
KBA Koelnbreinsper 76.57 7⇑ *i*P P 10 49 57.7 +0.8
comp=Z,7.3nm,0.5s
ABTA Abfaltersbach 76.84 8⇑ *i*P P 10 49 59.6 +1.2
comp=Z,4.9nm,1.0s
LSA Lhasa 76.90 304 P P 10 49 59.8 +0.3
LSA Lhasa 76.90 304 *e*P P 10 49 59.1 -0.4
LSA pmax pmax
comp=Z,23nm,0.8s
LSA Lhasa 76.90 304 *e*P P 10 49 59.1 -0.4
comp=Z,23nm,0.8s
RJF Les Rejaudoux 77.03 16 *e*P P 10 49 59.3 -0.1
RJF *e*R
comp=Z,81nm,22.0s
RJF Les Rejaudoux 77.03 16 *e*P P 10 49 59.3 -0.1
RJF Les Rejaudoux 77.03 16 *e*P P 10 49 59.3 -0.1
SOKA Soboth 77.07 6⇑ *i*P P 10 50 00.1 +0.4
comp=Z,6.5nm,0.7s
OBKA Obir 77.21 6⇑ *i*P P 10 50 01.0 +0.5
comp=Z,11nm,0.5s
LFF La Frestale 77.27 16 *e*P P 10 50 01.1 +0.4
LFF La Frestale 77.27 16 *e*P P 10 50 01.1 +0.4
LFF La Frestale 77.27 16 *e*P P 10 50 01.1 +0.4
CAF Calviac 77.49 15 *e*P P 10 50 02.3 +0.3
comp=Z,24nm,1.1s
CAF Calviac 77.49 15 *e*P P 10 50 02.3 +0.3
CAF pmax pmax
comp=Z,24nm,1.1s
CAF Calviac 77.49 15 *e*P P 10 50 02.3 +0.3
comp=Z,24nm,1.1s
SLVN Son La 77.56 290 *e*P P 10 50 02.5 -0.3
comp=Z,4.7nm,0.6s
VIVF Saint-Julien-l 77.92 13 *e*P P 10 50 04.5 +0.1
comp=Z,12nm,0.9s
VIVF Saint-Julien-l 77.92 13 *e*P P 10 50 04.5 +0.1
VIVF pmax pmax
comp=Z,12nm,0.9s
VIVF Saint-Julien-l 77.92 13 *e*P P 10 50 04.5 +0.1
comp=Z,12nm,0.9s
VRI Vrincioaia 78.08 358⇓ *i*P P 10 50 05.4 +0.1
BZS Buzias 78.36 1⇑ *i*P P 10 50 06.6 -0.2
MLR Muntele Rosu 78.48 358⇑ *i*P P 10 50 08.4 +0.8
VOIR 78.54 359⇑ *i*P P 10 50 08.5 +0.6
GZR Gura Zlata 78.59 0⇑ *i*P P 10 50 08.3 +0.1
KIV Kislovodsk 78.71 346 *e*P P 10 50 08.9 0.0
KIV pmax pmax
comp=Z,20nm,1.1s
KIV Kislovodsk 78.71 346 *e*P P 10 50 08.3 -0.6
comp=Z,22nm,0.9s
CFR Carcaliu 78.73 357⇑ *i*P P 10 50 08.7 -0.1
KBZ Khabaz 78.91 346 P **P 10 50 09.9 +0.2**
comp=Z,11nm,0.9s,baz=260,slow=4.5,SNR=21
ETSF Etsaut 79.05 18 *e*P P 10 50 11.5 +0.8
comp=Z,16nm,0.9s
ETSF Etsaut 79.05 18 *e*P P 10 50 11.5 +0.8
ETSF pmax pmax
comp=Z,16nm,0.9s
ETSF Etsaut 79.05 18 *e*P P 10 50 11.5 +0.8
comp=Z,16nm,0.9s
MTLF Montolieu 79.06 16 *e*P P 10 50 10.9 +0.2
comp=Z,10nm,0.8s
MTLF Montolieu 79.06 16 *e*P P 10 50 10.9 +0.2
MTLF pmax pmax
comp=Z,11nm,0.8s
MTLF Montolieu 79.06 16 *e*P P 10 50 10.9 +0.2
comp=Z,10nm,0.8s
EPF Esparros 79.07 17 *e*P P 10 50 11.2 +0.4
EPF Esparros 79.07 17 *e*P P 10 50 11.2 +0.4
EPF Esparros 79.07 17 *e*P P 10 50 11.2 +0.4
TIRR Tirgusor 79.44 356 *e*P P 10 50 11.8 -0.9
TIRR pmax pmax
comp=Z,13nm,0.9s
TIRR Tirgusor 79.44 356⇑ *i*P P 10 50 12.6 -0.1
TIRR Tirgusor 79.44 356 *e*P P 10 50 11.8 -0.9
comp=Z,13nm,0.9s
ZEI Tsey 79.69 345 *e*P P 10 50 13.2 -1.1
ZEI pmax pmax
comp=Z,11nm,1.1s
PMG Port Moresby 80.19 236 P P 10 50 17.1 +0.1
comp=Z,4.8nm,0.7s,baz=166,slow=4.2,SNR=2.7
TAPN Taplejung 80.47 306 *e*P P 10 50 18.7 -0.2
comp=Z,73nm,0.8s
GUN Gumba 80.80 307 *e*P P 10 50 20.6 -0.2
comp=Z,40nm,0.7s
JIRN Jiri 80.88 307 *e*P P 10 50 21.3 +0.1
comp=Z,88nm,0.6s
ODAN Odare 81.03 306 *e*P P 10 50 21.8 -0.1
KKN Kakani 81.17 308 *e*P P 10 50 22.5 -0.1
GKN Gorkha 81.27 308 *e*P P 10 50 22.7 -0.3
comp=Z,33nm,0.8s
PKI Pulchoki 81.31 308 *e*P P 10 50 22.9 -0.5
comp=Z,32nm,0.8s
PKIN Phulchoki 81.31 308 *e*P P 10 50 22.9 -0.4
comp=Z,20nm,0.6s
RAMN Ramite 81.31 306 *e*P P 10 50 23.0 -0.3
comp=Z,84nm,0.8s
DANN Dangsing 81.35 309 *e*P P 10 50 23.7 +0.1
comp=Z,156nm,0.7s
VTS Vitosha 81.40 0⇑ *i*P P 10 50 22.7 -0.7
DMN Daman 81.41 308 *e*P P 10 50 23.8 -0.1
comp=Z,31nm,0.5s
KBL Kabul 81.47 323 *e*P P 10 50 21.8 -2.3
KBL pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 81.47 323 *e*P P 10 50 21.8 -2.3
comp=Z,9.5nm,0.8s
GEYT Alibeck 81.53 333 P **P 10 50 24.6 +0.6**
comp=Z,12nm,0.8s,baz=345,slow=4.6,SNR=22
GEYT LR LR 11 31 49.1
comp=Z,72nm,18.2s,baz=125,slow=40
ESDC Sonseca Array 81.55 21 P P 10 50 25.6 +1.4
comp=Z,0.8nm,0.5s,baz=340,slow=4.7,SNR=6.2
UBPT Khong Chiam 81.72 285 P **P 10 50 25.3 0.0**
comp=Z,21nm,1.0s
PYUN Piuthan 81.90 310 *e*P P 10 50 26.2 -0.2
KOLN Koldanda 81.92 309 *e*P P 10 50 26.2 -0.3
comp=Z,33nm,0.7s
GNI Garni 82.14 344 P **P 10 50 28.3 +0.9**
GNI pmax pmax
comp=Z,10.0nm,1.2s
UTTA Uttaradit 82.28 290 P **P 10 50 27.6 -0.6**
comp=Z,5.9nm,0.7s,comp=Z,46nm
CMAR Chiang Mai Arr 82.53 292 P **P 10 50 29.3 -0.2**
comp=Z,18nm,0.7s,baz=13,slow=5.4,SNR=91
CMAR LR LR 11 33 26.9
comp=Z,16nm,18.9s,baz=200,slow=40
PBKT Sadao Pong 83.04 289 P **P 10 50 31.6 -0.6**
comp=Z,12nm,0.8s
ANTO Ankara 83.78 353 *e*P P 10 50 35.6 -0.2
ANTO pmax pmax
comp=Z,12nm,0.8s
ANTO Ankara 83.78 353 *e*P P 10 50 35.6 -0.2
comp=Z,12nm,0.8s
BRTR Keskin Array B 83.86 352 P **P 10 50 36.5 +0.2**
comp=Z,8.4nm,0.7s,baz=31,slow=2.2,SNR=47
DZM Mont Dzumac 84.14 214 LR LR 11 23 09.0
comp=Z,87nm,18.5s,baz=204,slow=32
PHET Kaeng Krachan 86.80 288 P **P 10 50 51.7 +0.6**
comp=Z,61nm,0.9s
CSS Prodhromos 88.62 352 *e*P P 10 50 58.8 -0.8
comp=Z,5.2nm,0.8s
ATAH Atahualpa 89.43 104 LR LR 11 30 28.1
comp=Z,83nm,18.2s,baz=241,slow=35
CTA Charters Tower 89.99 232 P **P 10 51 06.6 +0.7**
comp=Z,3.0nm,0.6s,baz=48,slow=6.4,SNR=3.7
SURT Suratani 90.55 287 P **P 10 51 10.0 +1.2**
comp=Z,4.4nm,0.9s,comp=Z,151nm
WRA Warramunga Arr 95.42 242 P **P 10 51 29.9 -1.1**
comp=Z,0.8nm,0.6s,baz=34,slow=5.6,SNR=8.6
PSI Prapat 95.63 284 P **P 10 51 31.5 -0.9**
comp=Z,5.6nm,0.5s,baz=3.2,slow=5.9,SNR=6.0
RAYN Ar Rayn 98.23 340 *e*P P 10 51 43.1 -0.9
comp=Z,2.8nm,0.3s
ASAR Alice Springs 98.78 240 P **P 10 51 45.6 -0.5**
comp=Z,0.3nm,0.5s,baz=32,slow=5.2,SNR=4.7
TORD Torodi Ar. Bea 108.41 22 PKKP PKKPab 11 07 55.2 -5.6
comp=Z,0.9nm,0.9s,baz=134,slow=4.2,SNR=4.6
QSPA South Pole Qui 146.16 180 *e*PKPdf PKPdf 10 57 44.5 +0.4
BOSA Boshof 152.22 356 PKIKP **PKPbc 10 58 02.0 +0.1**
BOSA Boshof 152.22 356 PKPbc **PKPbc 10 58 01.9 +0.1**
comp=Z,1.6nm,0.4s,baz=55,slow=0.6,SNR=7.5

SKHL ***22*** *10:42:11.2±1.3, 46°.82N×152°.70E, h131km±9km, mb5.2/3, msh5.4/3*
MOS ***22*** *10:42:11.7±1.2, 47°.02N×152°.45E, h129km, mb4.2/14, Error ellipse: s-maj=12.3km s-min=8.4km az=65.4*
BJI ***22*** *10:42:12.6, 47°.00N×152°.40E, h145km, mB5.1/3, mb4.9/4*
ISCJB ***22*** *10:42:12.5±0.4, 46°.76N±0°.06×152°.36E±0°.08, h150km, mb3.9/26, Error ellipse: s-maj=11.7km s-min=3.6km az=139.3*
IDC ***22*** *10:42:14.0±2.7, 47°.09N×152°.45E, h132km±25km, mb3.7/21, mb1 3.9/25, mb1mx3.9/31, mbtmp4.2/25, Error ellipse: s-maj=15.3km s-min=12.0km az=148.0*
JMA ***22*** *10:42:15.2±0.3, 45°.84N×152°.66E, h141km, M4.1*
ISC 22 10:42:14.4±0.6, 46°.83N±0°.08×152°.38E±0°.07, h150km, n106, σ1$48/94, mb4.0/26, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.52**	**245**	*e*PN	**Pn**	**10 43 08.2**	**-0.2**
KUR				*e*S	**Sn**	**10 43 51.6**	**+1.3**
KUR				pmax	pmax		
	comp=N,77nm,0.5s						
KUR				pmax	pmax		
	comp=Z,18μm,0.1s						
KUR				pmax	pmax		
	comp=Z,99nm,0.5s						
KUR				pmax	pmax		
	comp=E,28nm,0.1s						
KUR				smax	smax		
	comp=E,210nm,0.8s						
KUR				smax	smax		
	comp=N,141nm,0.2s						
KUR	**Kuril'sk**	**3.52**	**245**	*e*P	**Pn**	**10 43 08.2**	**-0.2**
KUR				AMB	AMB	10 43 11.0	

comp=N,99nm,0.5s
KUR eS Sn 10 43 51.6 +1.3
KUR A A 10 43 58.7
comp=N,140nm,0.8s
KUR A A 10 43 58.7
comp=N,210nm,0.8s
SKR Severo-Kuril's 4.58 31 ePN Pn 10 43 15.2 -7.0
SKR pmax pmax
comp=E,30nm,0.5s
SKR pmax pmax
comp=Z,60nm,0.5s
SKR Severo-Kuril's 4.58 31 eP Pn 10 43 17.2 -5.0
SKR eS Sn 10 44 05.5 -9.5
SKR A A 10 44 06.5
comp=Z,80nm,0.5s
SKR A A 10 44 06.5
comp=Z,110nm,0.5s
SHO Shikotan 4.90 235 eP **Pn 10 43 24.9 -1.6**
SHO eS **Sn 10 44 19.8 -2.8**
YUK Yuzh-Kuril'sk 5.37 241 d PN **Pn 10 43 32.4 -0.3**
YUK i S **Sn 10 44 34.2 +0.5**
YUK pmax pmax
comp=N,95nm,0.2s
YUK pmax pmax
comp=E,45nm,0.2s
YUK pmax pmax
comp=Z,323nm,0.2s
YUK smax smax
comp=N,173nm,0.6s
YUK smax smax
comp=E,127nm,0.3s
YUK Yuzh-Kuril'sk 5.37 241 eP **Pn 10 43 32.4 -0.3**
YUK AMB AMB 10 43 33.3
comp=E,320nm,0.2s
YUK eS **Sn 10 44 34.2 +0.5**
YUK A A 10 44 37.7
comp=E,173nm,0.6s
YUK A A 10 44 37.7
comp=E,130nm,0.6s
NEM2 Nemuro 2 5.83 236 P **Pn 10 43 36.3 -2.5**
NEM2 eS Sn 10 44 39.0 -5.8
JNK Nakash 6.31 242 P **Pn 10 43 44.3 -0.8**
YSS Yuzh-Sakhalins 6.60 275 ePN **Pn 10 43 50.3 +1.3**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 6.60 275 eP **Pn 10 43 49.0 0.0**
YSS AMB AMB 10 43 51.5
comp=Z,40nm,1.0s
JTKR Abashiri--Toko 6.61 247 P **Pn 10 43 49.1 -0.1**
JAK Akkeshi 6.66 238 P **Pn 10 43 47.4 -2.5**
JAK eS **Sn 10 45 00.1 -4.6**
JMP Maruseppu 6.95 249 P **Pn 10 43 54.1 +0.4**
JAR Ashorobuto 7.04 243 P **Pn 10 43 54.5 -0.5**
JOB Onbets 7.23 240 P **Pn 10 43 56.1 -1.3**
JOB eS **Sn 10 45 13.8 -4.4**
HRK Horoka 7.35 246 eP **Pn 10 43 59.1 0.0**
ASAJ Asahikawa 7.39 252 PN **Pn 10 44 00.8 +1.2**
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ASAJ Asahikawa 7.39 252 P **Pn 10 44 00.9 +1.3**
ASAJ Asahikawa 7.39 252 P **Pn 10 44 00.8 +1.2**
comp=Z,4.0nm,0.3s,baz=67,slow=5.7,SNR=41
JKK2 Kamakawa 2 7.40 250 P **Pn 10 44 00.3 +0.6**
JCH Churui 7.68 240 P **Pn 10 44 01.6 -1.8**
JCH eS Sn 10 45 23.5 -5.6
MYR Moyori 7.92 238 eP **Pn 10 44 04.4 -2.2**
ERM Erimo 8.16 237 ⇓ ePN **Pn 10 44 09.6 -0.3**
JEM Erimo 8.16 237 eS Sn 10 45 33.7 -7.1
JBT2 Biratori 2 8.19 244 P **Pn 10 44 08.8 -1.5**
JNBK Urakawa-nobuka 8.24 240 P Pn 10 44 08.0 -2.9
JNBK eS Sn 10 45 35.0 -7.6
JNB Noboribetsu 9.18 246 eS **Sn 10 46 01.5 -3.7**
JKB Kayabe 9.51 243 P Pn 10 44 24.8 -3.0
JKB eS Sn 10 46 04.8 -8.3
JSH Shimam 9.72 249 P **Pn 10 44 30.5 -0.1**
JYM2 Yakumo 2 9.79 246 P **Pn 10 44 29.3 -2.2**
JSR Shiriuchi 10.09 243 P Pn 10 44 32.7 -2.8
JTM Tenmabayashi 10.16 238 P Pn 10 44 33.1 -3.3
JTM eS Sn 10 46 17.9 -11
JANG Nango 10.18 235 P Pn 10 44 32.6 -4.1
JANG eS Sn 10 46 18.6 -11
JTH Tanohata 10.29 232 eS Sn 10 46 22.3 -10
JOSM Okushiri--Mats 10.37 247 P **Pn 10 44 37.7 -1.5**
JRG Rokugo 11.34 233 P **Pn 10 44 49.6 -2.4**
JRG eS Sn 10 46 49.8 -7.6
JIO Ouri 11.65 228 P Pn 10 44 52.5 -3.5
JIO eS Sn 10 46 54.7 -10
KLR Kul'dur 14.01 287 eP **Pn 10 45 23.8 -2.4**
USRK Ussuriysk Ar. 14.53 267 P **Pn 10 45 33.4 +0.5**
comp=Z,0.8nm,0.3s,baz=69,slow=12,SNR=14
FX1 Attu Island--F 14.69 58 P **Pn 10 45 32.5 -2.2**
FX1 S Sn 10 48 03.3 -14
FX1 pmax pmax
comp=Z,3.0nm,0.3s
FX1 smax smax
comp=N,1.0nm,0.3s
FX1 Attu Island--F 14.69 58 P **Pn 10 45 32.5 -2.2**
comp=N,2.6nm,0.3s,baz=241,slow=19,SNR=4.4
FX1 S Sn 10 48 03.2 -14
comp=N,1.1nm,0.3s,baz=279,slow=19,SNR=2.4
MJAR Matsushiro Ar 14.73 231 P **Pn 10 45 34.8 -0.6**
comp=N,0.1nm,0.3s,baz=30,slow=14,SNR=9.1
SEY Seymchan 16.14 0 P **Pn 10 45 51.1 -1.4**
SEY pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 16.14 0 P **Pn 10 45 51.1 -1.4**
comp=Z,0.7nm,0.3s,baz=96,slow=23,SNR=4.3
KSRS Korea Array 20.34 251 P Pn 10 46 42.6 +0.1
KSRS pmax pmax
comp=Z,4.0nm,0.5s
KSRS Korea Array 20.34 251 P Pn 10 46 42.6 +0.1
comp=Z,3.6nm,0.5s,baz=58,slow=9.5,SNR=23
BILL Bilibino 22.43 14 eP **P 10 46 59.7 -0.7**
BILL pmax pmax
comp=Z,1.0nm,0.5s
BILL Bilibino 22.43 14 eP **P 10 46 59.7 -0.7**
H11N2 WAKE ISLAND Hy 29.52 151 T T 11 19 42.7
baz=340,slow=76,SNR=239
H11N1 WAKE ISLAND Hy 29.54 151 T T 11 19 52.2
baz=340,slow=76,SNR=148
H11N3 WAKE ISLAND Hy 29.54 151 T T 11 19 43.9
baz=340,slow=76,SNR=142
H11S1 WAKE ISLAND Hy 30.61 153 T T 11 21 07.1
baz=341,slow=76,SNR=141
H11S3 WAKE ISLAND Hy 30.61 153 T T 11 21 15.2
baz=341,slow=76,SNR=144
H11S2 WAKE ISLAND Hy 30.62 153 T T 11 21 08.8
baz=341,slow=76,SNR=145
WHN Wuhan 33.46 255 P **P 10 48 41.6 +2.5**
KDAK Kodiak Island 34.45 51 i P **P 10 48 48.0 +0.8**
KDAK Kodiak Island 34.45 51 eP **P 10 48 48.0 +0.8**
ILAR Eielson Array 36.80 39 eP **P 10 49 06.6 -0.7**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 36.80 39 P **P 10 49 06.5 -0.8**
comp=Z,0.4nm,0.6s,baz=261,slow=6.8,SNR=8.0
ZALV Zalesovo Beam 42.16 306 P **P 10 49 50.8 -0.9**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 42.16 306 P **P 10 49 50.8 -0.9**
comp=Z,1.6nm,0.5s,baz=57,slow=4.3,SNR=4.2
DLBC Dease Lake 45.90 46 P **P 10 50 21.0 -0.6**
comp=Z,1.1nm,0.6s,baz=180,slow=3.0,SNR=5.1
MKAR Makanchi Array 46.46 297 P **P 10 50 26.3 +0.3**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 46.46 297 P **P 10 50 26.3 +0.3**
comp=Z,4.1nm,0.7s,baz=65,slow=7.5,SNR=6.6
KURK Kurchatov 46.90 303 i P **P 10 50 29.3 -0.1**
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 46.90 303 eP **P 10 50 29.2 -0.1**
YKA Yellowknife Ar 51.16 37 P **P 10 51 01.3 -0.3**
comp=Z,0.5nm,0.8s,baz=285,slow=2.9,SNR=4.7
YKA PcP **PcP 10 52 13.5 -1.3**
comp=Z,0.3nm,0.6s,baz=303,slow=4.1,SNR=3.7
SPITS Spitsbergen Ar 52.45 350 P **P 10 51 09.4 -1.5**
SPITS pmax pmax
comp=Z,4.0nm,0.9s
SPITS Spitsbergen Ar 52.45 350 P **P 10 51 09.4 -1.5**
comp=Z,3.8nm,0.9s,baz=50,slow=9.6,SNR=5.4
ARU Arti 54.61 317 eP **P 10 51 26.7 -0.2**
ARU pmax pmax
comp=Z,12nm,1.9s
ARU Arti 54.61 317 eP **P 10 51 26.6 -0.3**

KEV Kevo 57.10 340 ep **P 10 51 42.4 -2.0**
comp=Z,0.4nm,0.3s
ARCES ARCESS Array B 57.61 341 P **P 10 51 48.0 0.0**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 57.61 341 P **P 10 51 48.0 0.0**
comp=Z,2.3nm,0.8s,baz=34,slow=8.7,SNR=6.0
ARCES ARCESS Array B 57.61 341 eP **P 10 51 47.7 -0.3**
JOF Joensuu 61.04 333 ep **P 10 52 11.1 -0.5**
comp=Z,1.5nm,0.3s
NVAR Mina Array Bea 62.84 62 P **P 10 52 25.3 +0.9**
comp=Z,0.9nm,0.5s,baz=293,slow=7.9,SNR=8.3
FINES FINESS Array B 63.75 334 P **P 10 52 29.5 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 63.75 334 P **P 10 52 29.5 -0.1**
comp=Z,2.6nm,0.5s,baz=37,slow=7.3,SNR=15
PDAR Pinedale Array 65.11 53 P **P 10 52 39.7 +0.6**
comp=Z,0.6nm,0.6s,baz=292,slow=2.1,SNR=5.5
GEYT Alibeck 66.13 300 P **P 10 52 47.2 +1.7**
comp=Z,1.0nm,0.4s,baz=72,slow=9.3,SNR=3.2
NB2 NORSAR Subarra 67.99 341 P **P 10 52 57.0 +0.2**
comp=Z,1.7nm,0.5s,baz=27,slow=6.5
NOA NORSAR Array B 67.99 341 eP **P 10 52 57.2 +0.4**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 67.99 341 P **P 10 52 57.2 +0.4**
comp=Z,2.1nm,0.5s,baz=30,slow=6.6,SNR=16
WRA Warramunga Arr 68.43 198 eP **P 10 53 01.7 +1.8**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 68.43 198 P **P 10 53 02.1 +2.2**
comp=Z,0.5nm,0.5s,baz=20,slow=6.9,SNR=6.7
WRA Warramunga Arr 68.43 198 eP **P 10 53 01.6 +1.7**
KBZ Khabaz 70.44 314 P **P 10 53 13.2 +1.1**
KBZ pmax pmax
comp=Z,2.0nm,0.6s
KBZ Khabaz 70.44 314 P **P 10 53 13.2 +1.1**
comp=Z,1.9nm,0.6s,baz=60,slow=3.0,SNR=4.1
AKASG Malin Array Be 71.20 326 eP **P 10 53 16.6 +0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 71.20 326 P **P 10 53 16.7 +0.1**
comp=Z,3.1nm,0.4s,baz=34,slow=6.2,SNR=10.0
KIEV Kiev 71.21 326 P **P 10 53 16.8 +0.2**
ASAR Alice Springs 72.13 198 P **P** 10 53 25.8 +3.4
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 72.13 198 P **P** 10 53 25.8 +3.4
comp=Z,2.0nm,0.6s,baz=12,slow=5.8,SNR=23
SCHQ Schefferville 73.43 22 P **P 10 53 29.2 -0.5**
comp=Z,0.6nm,0.4s,baz=16,slow=7.4,SNR=3.9
CLL Collm 76.18 335 i P **P 10 53 46.4 +0.8**
CLL pmax pmax
comp=Z,4.0nm,0.6s
CLL Collm 76.18 335 i P **P 10 53 46.4 +0.8**
comp=Z,4.0nm,0.6s
TXAR Lajitas Array 77.89 60 P **P 10 53 56.4 +0.7**
TXAR pmax pmax
comp=Z,3.0nm,0.6s
TXAR Lajitas Array 77.89 60 P **P 10 53 56.4 +0.7**
comp=Z,2.5nm,0.6s,baz=296,slow=4.5,SNR=43
BRTR Keskin Array B 77.98 316 eP **P 10 53 57.9 +1.8**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 77.98 316 P **P 10 53 58.0 +2.0**
comp=Z,1.4nm,0.9s,baz=60,slow=6.7,SNR=3.9
GERES GERESS Array B 78.16 334 eP **P 10 53 59.2 +2.4**
GERES GERESS Array B 78.16 334 P **P 10 53 58.4 +1.6**
comp=Z,0.6nm,0.6s,baz=39,slow=5.1,SNR=4.2
PLCA Paso Flores 148.72 95 PKP2 **PKPbc 11 01 45.1 +1.6**
PLCA pmax pmax
comp=Z,2.0nm,0.6s
PLCA Paso Flores 148.72 95 PKPbc **PKPbc 11 01 45.0 +1.6**
comp=Z,2.3nm,0.6s,baz=49,slow=15,SNR=4.5

*DDA **22** 10:49:24.9, 38°.53N×26°.48E, h7km, MD2.8*
*CSEM **22** 10:49:25.5±0.2, 38°.52N×26°.49E, h5km, MD2.9, Error ellipse: s-maj=5.6km s-min=4.6km az=75.0*
*ATH **22** 10:49:25.2, 38°.36N×26°.05E, h44km±3km, MD2.9/3*
ISC 22 10:49:25.4±1.0, 38°.52N±0°.03×26°.47E±0°.04, h11km±9km, n12, σ0°70/21, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.19**	**149**	*i* P	**Pg**	**10 49 29.0**	**-0.5**
URLA				*i* S	**Sg**	**10 49 32.9**	**+0.6**
URLA	**Izmir**	**0.19**	**149**	*i* P	**Pg**	**10 49 29.0**	**-0.5**
URLA				*i* S	**Sg**	**10 49 32.9**	**+0.6**
ZEY	**¯zmir**	**0.28**	**175**	*i* P	**Pg**	**10 49 31.1**	**0.0**
ZEY				*i* S	**Sb**	**10 49 36.3**	**-0.9**
CHOS	**Chios island**	**0.35**	**248**	*e*P	**Pg**	**10 49 32.5**	**0.0**
CHOS				*e*S	**Sg**	**10 49 37.7**	**+0.5**
CHOS	**Chios island**	**0.35**	**248**	*e*P	**Pg**	**10 49 32.5**	**0.0**
CHOS				*e*S	**Sg**	**10 49 37.7**	**+0.5**
SIGR	**SIGRI**	**0.84**	**325**	*e*P	**Pg**	**10 49 41.5**	**-0.2**
SIGR				*e*S	**Sb**	**10 49 54.4**	**+1.0**
SIGR	**SIGRI**	**0.84**	**325**	*e*P	**Pg**	**10 49 41.5**	**-0.2**
SIGR				*e*S	**Sb**	**10 49 54.4**	**+1.0**
SMG	**Samos**	**0.86**	**160**	*e*P	**Pb**	**10 49 42.4**	**0.0**
SMG	**Samos**	**0.86**	**160**	*e*P	**Pb**	**10 49 42.4**	**0.0**
BALY	**Balya**	**1.51**	**36**	*i* P	**Pb**	**10 49 53.3**	**-0.2**
BALY				*i* S	**Sn**	**10 50 12.5**	**+0.3**
BALY	**Balya**	**1.51**	**36**	*i* P	**Pb**	**10 49 53.3**	**-0.2**
BALY				*i* S	**Sn**	**10 50 12.5**	**+0.3**
MMB	**Musomiste**	**3.72**	**326**	⇑ *i* P	**Pb**	**10 50 29.3**	**-1.8**

*IDC **22** 10:55:02.4±2.5, 7°.29S×128°.16E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, ML3.8/2, Error ellipse: s-maj=285.1km s-min=32.1km az=65.0*
ISC 22 10:55:04.1±1.6, 7°.7S±0°.2×127°.7E±0°.4, h10km, n7, σ2°58/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.12**	**147**	P	Pn	10 56 41.1	+6.5
baz=5.9,SNR=39							
KDU	**Kakadu**	**6.82**	**137**	P	**Pn**	**10 56 44.1**	**-0.2**
baz=6.0,SNR=84							
KDU				S	Sn	10 57 52.0	-10
baz=6.0,SNR=5.2							
KNRA	**Kununurra**	**7.98**	**172**	P	Pb	10 57 16.9	-5.6
baz=8.9,SNR=30							
KNRA				S	Sn	10 58 49.9	+19
baz=8.9,SNR=5.1							
LUWI	**Luwuk**	**8.24**	**323**	P	Pg	10 57 34.3	-7.7
baz=9.8,SNR=5.1							
WRA	**Warramunga Arr**	**13.76**	**153**	Pn	**Pn**	**10 58 19.4**	**0.0**
0.6nm,0.3s,baz=332,slow=14,SNR=23							
WRA				Sn	Sn	11 00 41.7	-11
0.2nm,0.3s,baz=332,slow=23,SNR=3.7							
ASAR	**Alice Springs**	**16.94**	**160**	Pn	**P**	**10 59 06.0**	**+2.6**
0.3nm,0.3s,baz=338,slow=9.3,SNR=19							
ASAR				Sn	**Sn**	**11 02 07.5**	**-2.4**
0.1nm,0.3s,baz=348,slow=26,SNR=4.5							
MKAR	**Makanchi Array**	**67.59**	**328**	P	**P**	**11 06 00.2**	**-0.8**
0.2nm,0.4s,baz=121,slow=8.0,SNR=5.8							

WEL 22 10:59:52.4±0.6, 44°.30S×167°.13E, h12km, ML3.7/12, 1C, Error ellipse: s-maj=6.2km s-min=3.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.69**	**124**	⇑ P*	Pg	11 00 05.6	-0.2
MSZ				S*	Sg	11 00 13.8	-1.1
MSZ				S*	Sb	11 00 14.1	-1.7
MSZ				AML	AML	11 00 15.4	
MSZ				AML	AML	11 00 15.5	
JCZ	**Jackson Bay**	**1.20**	**80**	P*	Pn	11 00 14.1	-1.0
JCZ				AML	AML	11 00 34.7	
JCZ				AML	AML	11 00 35.8	
MLZ	**Mavora Lakes**	**1.29**	**145**	PN	Pn	11 00 15.3	-1.0
MLZ				AML	AML	11 00 34.7	
MLZ				AML	AML	11 00 35.4	
WKZ	**Wanaka**	**1.45**	**112**	PN	Pn	11 00 18.9	+0.4
WKZ				AML	AML	11 00 39.4	
WKZ				AML	AML	11 00 39.5	
WKZ				AML	AML	11 00 40.4	
WKZ				AML	AML	11 00 40.4	
WHZ	**Wether Hill Ro**	**1.70**	**160**	PN	Pn	11 00 20.9	-1.1
WHZ				AML	AML	11 00 46.6	
WHZ				AML	AML	11 00 50.5	
EAZ	**Earnscleugh**	**1.82**	**122**	PN	Pn	11 00 24.4	+0.9
EAZ				AML	AML	11 00 48.2	
EAZ				AML	AML	11 00 51.0	
EAZ				AML	AML	11 00 52.1	
EAZ				AML	AML	11 00 52.1	
FOZ	**Fox Glacier**	**1.99**	**69**	PN	Pn	11 00 25.7	-0.2
FOZ				AML	AML	11 00 59.7	
FOZ				AML	AML	11 00 59.7	
FOZ				AML	AML	11 01 02.9	
FOZ				AML	AML	11 01 03.0	
LBZ	**Lake Benmore**	**2.20**	**93**	*e*PN	Pn	11 00 29.4	+0.7
LBZ				AML	AML	11 01 07.6	
LBZ				AML	AML	11 01 14.3	
TUZ	**Tuapeka**	**2.43**	**134**	PN	Pn	11 00 31.8	-0.1
ODZ	**Otahua Downs**	**2.62**	**108**	PN	Pn	11 00 35.0	+0.4
SYZ	**Scrubby Hill**	**2.65**	**148**	PN	Pn	11 00 34.7	-0.3
SYZ				AML	AML	11 00 58.0	
WVZ	**Waitaha Valley**	**2.89**	**66**	PN	Pn	11 00 36.9	-1.3
WVZ				AML	AML	11 01 30.8	
RPZ	**Rata Peaks**	**2.89**	**80**	PN	Pn	11 00 37.7	-0.6
RPZ				AML	AML	11 01 28.8	
RPZ				AML	AML	11 01 42.1	
OXZ	**Oxford**	**3.69**	**76**	PN	Pn	11 00 47.0	-2.2
LTZ	**Lake Taylor**	**4.03**	**70**	*e*PN	Pn	11 00 52.8	-1.3
DSZ	**Denniston Nort**	**4.27**	**55**	*e*PN	Pn	11 00 55.1	-2.2
THZ	**Tophouse**	**4.93**	**61**	*e*PN	Pn	11 01 05.8	-0.7
THZ				AML	AML	11 01 15.5	
THZ				AML	AML	11 02 28.5	
NNZ	**Nelson**	**5.54**	**58**	*e*PN	Pn	11 01 16.0	+1.4

*ISCJB **22** 11:14:45.7±0.8, 3°.7S±0°.1×153°.5E±0°.1, h200km, mb3.8/7, Error ellipse: s-maj=17.0km s-min=13.7km az=152.1*
*IDC **22** 11:14:50.2±2.7, 3°.78S×153°.49E, h232km±22km, mb3.5/7, mb1 3.7/10, mb1mx3.4/23, mbtmp4.1/10, Error ellipse: s-maj=25.5km s-min=19.9km az=127.0*
ISC 22 11:14:46.5±1.0, 3°.7S±0°.1×153°.5E±0°.1, h200km, n21, σ2°29/24, mb3.9/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.41**	**251**	P	Pn	11 15 24.8	+5.4
baz=2.3,SNR=144							
PMG	**Port Moresby**	**8.45**	**228**	P	Pn	11 16 50.0	+4.3
6.5nm,0.3s,baz=47,slow=14,SNR=20							
PMG				S	**Sn**	**11 18 23.6**	**+2.8**
5.0nm,0.3s,baz=162,slow=19,SNR=6.8							
JAY	**Jayapura**	**12.84**	**275**	P	**P**	**11 17 46.3**	**+0.7**
0.9nm,0.3s,baz=107,slow=14,SNR=3.4							
COEN	**Coen**	**14.39**	**224**	P	**P**	**11 18 05.6**	**+2.8**
baz=15,SNR=23							
CTA	**Charters Tower**	**17.73**	**203**	P	**Pn**	**11 18 41.6**	**+0.2**
0.2nm,0.3s,baz=39,slow=18,SNR=2.4							
FAKI	**Fak Fak**	**21.23**	**272**	P	**P**	**11 19 18.1**	**+0.9**
baz=22,SNR=4.4							
QIS	**Mount Isa**	**21.51**	**218**	P	**P**	**11 19 20.3**	**+0.3**
baz=22,SNR=3.7							
DZM	**Mont Dzumac**	**22.13**	**147**	P	**P**	**11 19 26.2**	**0.0**
4.5nm,0.7s,baz=297,slow=16,SNR=3.8							
KDU	**Kakadu**	**22.61**	**246**	P	**P**	**11 19 30.6**	**0.0**
baz=24,SNR=42							
MTN	**Manton Dam**	**23.89**	**246**	P	**P**	**11 19 42.4**	**+0.2**
baz=25,SNR=6.1							
QLP	**Quilpie**	**24.39**	**200**	P	**P**	**11 19 47.4**	**+0.8**
baz=25,SNR=4.1							
WRA	**Warramunga Arr**	**24.67**	**228**	P	**P**	**11 19 49.6**	**+0.3**
2.2nm,0.4s,baz=49,slow=9.5,SNR=43							
WRA				PcP	**PcP**	**11 23 21.4**	**+0.2**
0.2nm,0.5s,baz=44,slow=2.0,SNR=3.1							
WRA				S	**S**	**11 23 50.3**	**-5.9**
1.2nm,1.0s,baz=48,slow=14,SNR=6.4							
WRA				ScP	**ScP**	**11 26 37.9**	**-3.3**
0.2nm,0.7s,baz=61,slow=3.4,SNR=4.0							
ARMA	**Armidale**	**26.60**	**184**	P	**P**	**11 20 08.6**	**+2.0**
baz=28,SNR=4.6							
ASAR	**Alice Springs**	**27.40**	**222**	P	**P**	**11 20 13.6**	**-0.1**
0.8nm,0.5s,baz=54,slow=9.0,SNR=32							
ASAR				PcP	**PcP**	**11 23 27.5**	**+0.1**
0.3nm,0.9s,baz=39,slow=4.7,SNR=3.3							
ASAR				S	**S**	**11 24 32.8**	**-6.4**
0.3nm,0.6s,baz=52,slow=14,SNR=6.3							
FITZ	**Fitzroy Crossi**	**30.79**	**240**	P	**P**	**11 20 42.8**	**-0.9**
baz=32,SNR=8.0							
WRKA	**Warakurna**	**32.19**	**226**	P	**P**	**11 20 55.4**	**-0.6**
baz=33,SNR=5.0							
MEEK	**Meekatharra**	**40.40**	**232**	P	**P**	**11 22 05.0**	**-0.4**
baz=41,SNR=7.4							
VNDA	**Vanda**	**73.86**	**178**	P	**P**	**11 25 59.2**	**+0.4**
1.3nm,0.8s,baz=331,slow=3.9,SNR=6.2							
ILAR	**Eielson Array**	**80.92**	**22**	P	**P**	**11 26 38.2**	**0.0**
0.5nm,1.0s,baz=246,slow=5.8,SNR=3.4							
QSPA	**South Pole Qui**	**86.22**	**180**	P	**P**	**11 27 05.0**	**-0.3**
2.6nm,0.7s,baz=336,slow=1.3,SNR=22							
PDAR	**Pinedale Array**	**97.62**	**48**	P	Pdif	11 28 00.2	+1.4
0.2nm,0.4s,baz=255,slow=2.9,SNR=3.8							

*ISCJB **22** 11:19:37.2±1.0, 21°.66S±0°.08×68°.0W±0°.1, h121km, mb3.6/5, Error ellipse: s-maj=15.3km s-min=11.0km az=14.8*
*IDC **22** 11:19:40.2±1.1, 21°.55S×68°.09W, h138km±8km, mb3.4/5, mb1 3.5/7, mb1mx3.3/18, mbtmp3.7/7, Error ellipse: s-maj=27.1km s-min=23.2km az=95.0*
ISC 22 11:19:39.1±0.9, 21°.6S±0°.1×68°.0W±0°.1, h121km, n9, σ1°93/14, mb3.8/5, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.29**	**359**	P	**Pn**	**11 20 58.0**	**+1.3**
1.2nm,0.3s,baz=189,slow=7.0,SNR=26							
LPAZ				S	**Sn**	**11 21 56.1**	**-0.8**
0.7nm,0.3s,baz=209,slow=16,SNR=3.7							
SIV	**San Ignacio**	**8.62**	**51**	P	**Pn**	**11 21 40.8**	**-0.2**
0.3nm,0.3s,baz=185,slow=7.5,SNR=8.9							
SIV				S	**Sn**	**11 23 15.9**	**-0.7**
0.1nm,0.3s,baz=269,slow=18,SNR=2.5							
TXAR	**Lajitas Array**	**61.20**	**324**	P	**P**	**11 29 38.8**	**-2.6**
0.1nm,0.6s,baz=152,slow=7.8,SNR=2.7							
DBIC	**Dimbokro**	**67.96**	**73**	P	**P**	**11 30 24.4**	**-1.1**
4.0nm,0.9s,baz=210,slow=6.1,SNR=6.0							
QSPA	**South Pole Qui**	**68.58**	**180**	P	**P**	**11 30 28.2**	**-0.5**
1.6nm,1.0s,baz=318,slow=3.2,SNR=7.8							
TORD	**Torodi Ar. Bea**	**76.60**	**70**	P	**P**	**11 31 16.4**	**-0.4**
1.7nm,0.8s,baz=254,slow=5.1,SNR=11							
TORD				pP	**pP**	**11 31 52.0**	**+4.8**
1.2nm,0.7s,baz=250,slow=5.5,SNR=5.3							
YKA	**Yellowknife Ar**	**91.57**	**340**	P	**P**	**11 32 31.7**	**0.0**
0.1nm,0.6s,baz=138,slow=6.6,SNR=2.4							
YKA				pP	**pP**	**11 33 04.7**	**+1.7**
0.2nm,0.6s,baz=134,slow=4.3,SNR=2.8							
ZALV	**Zalesovo Beam**	**141.69**	**26**	PKP	**PKPdf**	**11 38 55.1**	**-0.8**
0.5nm,0.6s,baz=249,slow=2.8,SNR=3.0							
MKAR	**Makanchi Array**	**145.22**	**37**	PKPbc	**PKPbc**	**11 39 02.2**	**-0.1**
0.3nm,0.7s,baz=324,slow=4.6,SNR=3.1							
MKAR				pPKP	**pPKPdf**	**11 39 37.0**	**+1.9**
0.5nm,0.8s,baz=298,slow=2.6,SNR=3.9							

*IDC **22** 11:21:15.3±1.0, 33°.94S×72°.23W, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.7/18, mbtmp3.6/6, ML4.0/2, Error ellipse: s-maj=38.1km s-min=19.3km az=91.0*
*ISCJB **22** 11:21:17.1±1.2, 33°.90S±0°.04×72°.28W±0°.06, h17km±8km, mb3.7/3, Error ellipse: s-maj=8.9km s-min=5.5km az=23.3*
*GUC **22** 11:21:18.8±0.6, 33°.94S×72°.12W, h8km±4km, ML4.0*
ISC 22 11:21:17.1±1.7, 33°.94S±0°.04×72°.19W±0°.07, h12km±10km, n20, σ0°69/31, mb3.8/3, 7C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.02**	**27**	*i* P	**Pn**	**11 21 37.1**	**-0.1**
IHA				*i* S1	**Sg**	**11 21 50.9**	**+0.9**
TACH	**Talagante**	**1.08**	**75**	⇑ *i* P	**Pg**	**11 21 37.3**	**-0.6**
NICH	**Los Niches**	**1.32**	**144**	⇑ *i* P	**Pn**	**11 21 41.6**	**+0.1**
NICH				*i* S	**Sn**	**11 21 59.4**	**+0.3**
ANTU	**Antumapu**	**1.35**	**75**	⇑ *i* P	**Pn**	**11 21 42.0**	**+0.2**
ANTU				*i* S	**Sb**	**11 21 59.4**	**-0.1**
ANTU				AML	AML	11 22 02.1	
comp=E,4μm,0.3s							
SAN	**Santiago**	**1.36**	**70**	⇓ *i* P	**Pb**	**11 21 42.4**	**-0.2**
SAN				*i* S1	**Sn**	**11 22 00.1**	**+0.1**
LACH	**Col Las Americ**	**1.46**	**71**	*e*P1	**Pn**	**11 21 44.0**	**+0.5**
LACH				*e*S	**Sn**	**11 22 03.1**	**+0.5**

CLCH	**Cerro Calan**	**1.48**	**69**⇑	*i*P	**Pb**	**11 21 44.2**	**-0.4**
CLCH				*i* S	**Sb**	**11 22 03.9**	**+0.5**
CLCH				AML	AML	11 22 11.4	
	comp=E,3μm,0.3s						
CLCH				AML	AML	11 22 12.2	
	comp=E,4μm,0.5s						
PEL	**Peldehue**	**1.48**	**58**⇑	*i*P	**Pb**	**11 21 44.4**	**-0.3**
PEL				*i* S	**Sb**	**11 22 04.0**	**+0.5**
PEL				AML	AML	11 22 10.5	
	comp=E,10μm,0.5s						
TALC	**Talca**	**1.53**	**163**⇑	*i*P	**Pn**	**11 21 44.5**	**+0.3**
TALC				*i* S	**Sb**	**11 22 04.9**	**+0.3**
SJCH	**San Jose de Ma**	**1.56**	**79**	*e*P9	**Pn**	**11 21 44.1**	**-0.6**
SJCH				*i* S	**Sn**	**11 22 04.0**	**-0.9**
SJCH				AML	AML	11 22 10.5	
	comp=N,4μm,0.5s						
YECH	**El Yeso**	**1.77**	**82**⇑	*i*P	**Pb**	**11 21 49.8**	**+0.1**
YECH				*i* S	**Sb**	**11 22 12.4**	**+0.3**
YECH				AML	AML	11 22 20.5	
	comp=N,2μm,0.5s						
LNCH	**Linares**	**1.96**	**166**⇓	*i*P	**Pb**	**11 21 52.5**	**-0.4**
LNCH				*i* S	**Sb**	**11 22 17.9**	**+0.6**
CFAA	**Coronel Fontan**	**4.06**	**56**	Pn	**Pn**	**11 22 21.1**	**+2.0**
	comp=N,0.4nm,0.3s,baz=228,slow=12,SNR=13						
CFAA				Lg	Lg	11 23 19.8	
	comp=N,2.6nm,0.3s,baz=324,slow=23,SNR=9.5						
PLCA	**Paso Flores**	**6.91**	**170**	Pn	**Pn**	**11 22 58.6**	**+0.4**
	comp=N,1.1nm,0.3s,baz=341,slow=13,SNR=13						
PLCA				Lg	Lg	11 24 53.7	
	comp=N,0.1nm,0.3s,baz=76,slow=17,SNR=3.1						
LPAZ	**La Paz**	**17.95**	**13**	P	**Pn**	**11 25 27.0**	**-0.3**
	comp=N,0.1nm,0.3s,baz=172,slow=9.0,SNR=5.8						
QSPA	**South Pole Qui**	**56.30**	**180**	P	**P**	**11 30 58.4**	**+0.9**
	comp=N,1.0nm,1.0s,baz=323,slow=2.5,SNR=2.1						
TXAR	**Lajitas Array**	**69.62**	**331**	P	**P**	**11 32 26.9**	**+0.5**
	comp=N,0.2nm,0.8s,baz=172,slow=7.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P	**P**	**11 33 48.6**	**-0.7**
	comp=N,1.3nm,0.8s,baz=259,slow=4.7,SNR=6.8						
WRA	**Warramunga Arr**	**120.75**	**209**	PKP	**PKPdf**	**11 40 08.2**	**-1.5**
	comp=N,0.2nm,0.7s,baz=159,slow=1.6,SNR=4.3						
MKAR	**Makanchi Array**	**156.82**	**49**	PKPab	**PKPab**	**11 41 41.6**	**-0.2**
	comp=N,0.2nm,0.7s,baz=317,slow=2.1,SNR=3.2						

GUC 22 11:25:45.4±0.7, 34°.41S×72°.04W, h15km±6km, MD3.7, ML3.6, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.69**	**50**	⇓*i*P	Pg	11 25 58.3	-0.6
LNV				*e*S1	Sg	11 26 07.6	-0.4
NICH	**Los Niches**	**0.90**	**132**	⇑*i*P	Pb	11 26 01.8	-0.9
NICH				*i* S1	Sb	11 26 13.8	-0.7
NICH				AML	AML	11 26 16.2	
	comp=E,6μm,0.3s						
TALC	**Talca**	**1.05**	**161**	⇑*i*P	Pb	11 26 03.9	-1.4
TALC				*i* S	Sb	11 26 17.6	-1.2
TALC				AML	AML	11 26 18.8	
	comp=E,7μm,0.1s						
CACH	**El Canelo**	**1.23**	**77**	⇓*i*P	Pn	11 26 06.9	-1.3
CHCH	**Chadas Angostu**	**1.24**	**68**	*e*P1	Pn	11 26 06.9	-1.4
LNCH	**Linares**	**1.48**	**166**	⇓*i*P	Pn	11 26 11.5	-0.1
LNCH				*i* S	Sn	11 26 30.9	+0.2
LNCH				AML	AML	11 26 36.1	
	comp=E,2μm,0.4s						
SJCH	**San Jose de Ma**	**1.60**	**62**	*e*P1	Pn	11 26 13.0	-0.3
SJCH				*e*S1	Sn	11 26 33.4	-0.3
SJCH				AML	AML	11 26 37.3	
	comp=N,699nm,0.4s						
CLCH	**Cerro Calan**	**1.61**	**52**	*e*P9	Pn	11 26 13.6	+0.2
CLCH				*i* S1	Sn	11 26 34.5	+0.6
CLCH				AML	AML	11 26 45.2	
	comp=E,898nm,0.5s						
COCH	**Cobquecura**	**1.83**	**199**	*e*P1	Pn	11 26 16.2	-0.1

*ISCJB **22** 11:52:13.7±0.6, 16°.19S±0°.10×176°.4E±0°.1, h600km, mb4.0/15, Error ellipse: s-maj=14.2km s-min=10.8km az=42.3*
*IDC **22** 11:52:16.2±1.5, 16°.16S×176°.39E, h612km±17km, mb3.4/15, mb1 3.7/17, mb1mx3.6/23, mbtmp4.5/17, Error ellipse: s-maj=15.3km s-min=13.4km az=89.0*
ISC 22 11:52:15.0±0.7, 16°.1S±0°.1×176°.39E±0°.10, h600km, n37, σ1§85/44, mb3.8/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.11**	**236**	P	**P**	**11 54 47.1**	**+2.3**
	0.8nm,0.3s,baz=62,slow=16,SNR=12						
DZM				S	**S**	**11 56 51.0**	**+2.9**
	baz=119,slow=19,SNR=2.0						
HNR	**Honiara**	**17.35**	**291**	P	**P**	**11 55 45.4**	**+0.6**
	5.9nm,0.3s,baz=90,slow=0.9,SNR=6.2						
URZ	**Urewera**	**22.07**	**178**	P	**P**	**11 56 25.9**	**-1.2**
	7.3nm,0.8s,baz=249,slow=2.3,SNR=5.3						
RMQ	**Roma**	**27.68**	**243**	P	**P**	**11 57 18.2**	**+1.5**
	baz=28,SNR=14						
CTA	**Charters Tower**	**28.90**	**258**	P	**P**	**11 57 28.1**	**+0.7**
	26nm,0.8s,baz=270,slow=23,SNR=5.9						
CTA				ScP	**ScP**	**12 03 00.1**	**-2.1**
	2.5nm,0.6s,baz=20,slow=4.8,SNR=3.6						
PMG	**Port Moresby**	**29.25**	**280**	P	**P**	**11 57 31.9**	**+1.4**
	30nm,0.8s,baz=103,slow=4.8,SNR=13						
QLP	**Quilpie**	**31.63**	**245**	P	**P**	**11 57 50.8**	**+0.2**
	baz=32,SNR=23						
CMSA	**Cobar Meteorol**	**31.87**	**236**	P	**P**	**11 57 53.4**	**+0.8**
	baz=32,SNR=11						
COEN	**Coen**	**32.13**	**269**	P	**P**	**11 57 56.0**	**+0.9**
	baz=32,SNR=7.3						
QIS	**Mount Isa**	**35.15**	**257**	P	**P**	**11 58 20.4**	**+0.1**
	baz=35,SNR=7.4						
QIS				S	S	12 03 22.4	+10
	baz=35,SNR=4.4						
JAY	**Jayapura**	**37.63**	**287**	P	**P**	**11 58 41.2**	**+0.5**
	baz=37,SNR=5.8						
BBOO	**Buckleboo**	**40.02**	**238**	P	**P**	**11 58 59.8**	**+0.2**
	baz=40,SNR=19						
WRA	**Warramunga Arr**	**40.09**	**258**	P	**P**	**11 58 59.6**	**-0.8**
	6.8nm,0.6s,baz=90,slow=6.4,SNR=170						
WRA				ScP	**ScP**	**12 03 40.9**	**-1.8**
	5.3nm,0.8s,baz=88,slow=3.8,SNR=22						
WRA				S	**S**	**12 04 19.6**	**-5.3**
	1.4nm,0.7s,baz=87,slow=15,SNR=7.2						
ASAR	**Alice Springs**	**40.53**	**252**	P	**P**	**11 59 03.8**	**-0.2**
	27nm,0.5s,baz=82,slow=8.9,SNR=1085						
ASAR				ScP	**ScP**	**12 03 42.7**	**-1.8**
	4.3nm,0.8s,baz=98,slow=4.3,SNR=20						
ASAR				S	**S**	**12 04 26.8**	**-4.5**
	1.5nm,0.6s,baz=83,slow=15,SNR=9.0						
KDU	**Kakadu**	**42.62**	**269**	P	**P**	**11 59 20.6**	**+0.3**
	baz=42,SNR=5.9						
FAKI	**Fak Fak**	**45.34**	**282**	P	**P**	**11 59 41.2**	**-0.1**
	baz=45,SNR=3.1						
WRKA	**Warakurna**	**45.70**	**251**	P	**P**	**11 59 43.9**	**0.0**
	baz=46,SNR=83						
WRKA				S	**S**	**12 05 40.7**	**-3.8**
	baz=46,SNR=5.3						
FITZ	**Fitzroy Crossi**	**48.42**	**260**	P	**P**	**12 00 04.6**	**+0.2**
	baz=48,SNR=7.0						
SOEI	**Soe**	**51.09**	**270**	P	**P**	**12 00 25.7**	**+1.7**
	baz=51,SNR=12						
MEEK	**Meekatharra**	**54.43**	**249**	P	**P**	**12 00 46.6**	**-0.9**
	baz=54,SNR=7.0						
MORW	**Morawa**	**56.66**	**246**	P	**P**	**12 01 02.0**	**-0.8**
	baz=57,SNR=4.2						
VNDA	**Vanda**	**61.86**	**184**	P	**P**	**12 01 37.2**	**+0.6**
	2.2nm,0.8s,baz=358,slow=6.8,SNR=17						
MJAR	**Matsushiro Arr**	**63.58**	**326**	P	**P**	**12 01 47.9**	**-0.3**
	5.6nm,0.7s,baz=157,slow=5.7,SNR=18						
MAT	**Matsushiro**	**63.58**	**326**	P	**P**	**12 01 48.3**	**+0.1**
KSRS	**Korea Array**	**70.11**	**321**	P	**P**	**12 02 29.7**	**+1.5**
	3.5nm,1.1s,baz=129,slow=6.6,SNR=6.6						
USRK	**Ussuriysk Ar.**	**72.40**	**328**	P	**P**	**12 02 42.5**	**+1.1**
	1.9nm,0.7s,baz=103,slow=6.8,SNR=6.3						
SEY	**Seymchan**	**81.00**	**349**	P	**P**	**12 03 27.9**	**+0.2**
	1.4nm,0.7s,baz=140,slow=4.5,SNR=7.5						
NVAR	**Mina Array Bea**	**81.68**	**46**	P	**P**	**12 03 32.7**	**+0.6**
	1.4nm,0.8s,baz=223,slow=7.7,SNR=9.4						
CMAR	**Chiang Mai Arr**	**83.60**	**291**	P	**P**	**12 03 43.0**	**+1.1**
	2.1nm,0.8s,baz=114,slow=3.7,SNR=16						
ILAR	**Eielson Array**	**85.35**	**15**	P	**P**	**12 03 48.6**	**-0.7**
	0.2nm,0.7s,baz=235,slow=4.4,SNR=4.8						
SONM	**Songino Array**	**88.98**	**321**	P	**P**	**12 04 06.6**	**-0.3**
	0.4nm,0.7s,baz=129,slow=3.3,SNR=4.3						
TXAR	**Lajitas Array**	**89.30**	**59**	P	**P**	**12 04 09.2**	**+0.4**
	1.4nm,0.9s,baz=220,slow=4.9,SNR=13						
BOSA	**Boshof**	**127.50**	**212**	PKP	**PKPdf**	**12 10 13.8**	**+0.3**
	3.7nm,1.0s,baz=108,slow=3.2,SNR=3.4						
FINES	**FINESS Array B**	**130.02**	**342**	SKPbc	**SKPbc**	**12 12 43.4**	**-1.3**
	6.1nm,0.8s,baz=64,slow=4.4,SNR=14						
BRTR	**Keskin Array B**	**139.97**	**313**	SKPbc	**SKPbc**	**12 13 11.2**	**-5.4**
	0.6nm,0.5s,baz=102,slow=1.8,SNR=4.4						
GERES	**GERESS Array B**	**144.41**	**340**	PKP	**PKPdf**	**12 10 44.4**	**+0.5**
	0.4nm,0.5s,baz=20,slow=4.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**174.08**	**241**	PKP	**PKPdf**	**12 11 16.3**	**-1.2**
	0.7nm,0.9s,baz=85,slow=0.8,SNR=3.8						

*BUC **22** 11:56:56.4±1.9, 43°.46N×28°.69E, h7km±6km, MD3.4/2, Error ellipse: s-maj=13.8km s-min=8.0km az=130.0*
*BEO **22** 11:56:56.5±0.6, 43°.42N×28°.50E, h0km, ML3.1/8*
*CSEM **22** 11:56:57.3±0.2, 43°.42N×28°.46E, h8km, MD3.4, Error ellipse: s-maj=4.8km s-min=3.8km az=92.0*
*ISK **22** 11:57:02.7, 42°.92N×28°.65E, h4km, MD3.2*
ISC 22 11:56:56.2±0.8, 43°.46N±0°.02×28°.68E±0°.03, h10km, n89, σ1§71/119, 27C-11D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANR	**Mangalia**	**0.36**	**350**	⇑*i*P	**Pb**	**11 57 04.7**	**0.0**
MANR	**Mangalia**	**0.36**	**350**	*i* S	**Sb**	**11 57 10.1**	**-0.4**
MANR	**Mangalia**	**0.36**	**350**	⇑*i*P	**Pb**	**11 57 04.7**	**0.0**
MANR				*i* S	**Sb**	**11 57 10.1**	**-0.4**
MANR	**Mangalia**	**0.36**	**350**	⇑*i*P	**Pb**	**11 57 04.7**	**0.0**
MANR				*i* S	**Sb**	**11 57 10.1**	**-0.4**
PSN	**Preselentsi**	**0.42**	**302**	⇑*i*P	**Pg**	**11 57 05.2**	**+0.7**
PSN	**Preselentsi**	**0.42**	**302**	S	**Sg**	**11 57 11.2**	**+1.2**
PSN	**Preselentsi**	**0.42**	**302**	⇑*i*P	**Pg**	**11 57 05.2**	**+0.7**
PSN				*i* S	**Sg**	**11 57 11.2**	**+1.2**
PSN	**Preselentsi**	**0.42**	**302**	⇑*i*P	**Pg**	**11 57 05.2**	**+0.7**
PSN				*i* S	**Sg**	**11 57 11.2**	**+1.2**
EFOR	**EFORIE**	**0.62**	**357**	⇑*i*P	**Pb**	**11 57 09.6**	**+0.5**
EFOR	**EFORIE**	**0.62**	**357**	⇑*i*P	**Pb**	**11 57 09.6**	**+0.5**
EFOR				*i* S	**Sb**	**11 57 18.2**	**+0.3**
EFOR	**EFORIE**	**0.62**	**357**	⇑*i*P	**Pb**	**11 57 09.6**	**+0.5**
EFOR				*i* S	**Sb**	**11 57 18.2**	**+0.3**
MSAB	**Monastry St. A**	**0.88**	**316**	⇑*i*P	**Pb**	**11 57 13.8**	**+0.2**
MSAB	**Monastry St. A**	**0.88**	**316**	⇑*i*P	**Pb**	**11 57 13.8**	**+0.2**
MSAB	**Monastry St. A**	**0.88**	**316**	⇑*i*P	**Pb**	**11 57 13.8**	**+0.2**
CVD	**Cernavoda**	**0.97**	**332**	S	**Sn**	**11 57 29.4**	**-0.4**
CVD	**Cernavoda**	**0.97**	**332**	*i* S	**Sn**	**11 57 29.4**	**-0.4**
CVD	**Cernavoda**	**0.97**	**332**	*i* S	**Sn**	**11 57 29.4**	**-0.4**
TIRR	**Tirgusor**	**1.02**	**349**	⇑*i*P	**Pb**	**11 57 16.2**	**+0.3**
TIRR	**Tirgusor**	**1.02**	**349**	⇑*i*P	**Pb**	**11 57 16.2**	**+0.3**
TIRR				*i* S	**Sb**	**11 57 29.5**	**+0.2**
TIRR	**Tirgusor**	**1.02**	**349**	⇑*i*P	**Pb**	**11 57 16.2**	**+0.3**
TIRR				*i* S	**Sb**	**11 57 29.5**	**+0.2**
AMRR	**Amara**	**1.50**	**320**	⇓*i*P	**Pb**	**11 57 24.8**	**+0.7**
AMRR	**Amara**	**1.50**	**320**	⇓*i*P	**Pb**	**11 57 24.8**	**+0.7**
AMRR				*i* S	**Sg**	**11 57 46.2**	**+1.7**
AMRR	**Amara**	**1.50**	**320**	⇓*i*P	**Pb**	**11 57 24.8**	**+0.7**
TLCR		**1.73**	**3**	⇓*i*P	**Pb**	**11 57 27.6**	**-0.4**
TLCR		**1.73**	**3**	⇓*i*P	**Pb**	**11 57 27.6**	**-0.4**
TLCR				*i* S	**Sb**	**11 57 50.0**	**+0.2**
TLCR		**1.73**	**3**	⇓*i*P	**Pb**	**11 57 27.6**	**-0.4**
TLCR				*i* S	**Sb**	**11 57 50.0**	**+0.2**
CFR	**Carcaliu**	**1.76**	**348**	⇓*i*P	**Pn**	**11 57 27.1**	**+0.4**
CFR	**Carcaliu**	**1.76**	**348**	⇓*i*P	**Pn**	**11 57 27.1**	**+0.4**
CFR	**Carcaliu**	**1.76**	**348**	⇓*i*P	**Pn**	**11 57 27.1**	**+0.4**
JMB	**Yambol**	**1.83**	**238**	⇑*i*P	**Pb**	**11 57 29.2**	**-0.5**
JMB	**Yambol**	**1.83**	**238**	⇑*i*P	**Pb**	**11 57 29.2**	**-0.5**
JMB				*i* S	**Sg**	**11 57 54.4**	**-0.5**
JMB	**Yambol**	**1.83**	**238**	⇑*i*P	**Pb**	**11 57 29.2**	**-0.5**
PHSR	**Pinarhisar**	**2.02**	**205**	*e*PN	**Pn**	**11 57 31.6**	**+1.3**
PHSR				*e*SN	**Sn**	**11 57 52.8**	**-2.7**
PHSR	**Pinarhisar**	**2.02**	**205**	*e*Pn	**Pn**	**11 57 31.6**	**+1.3**
PHSR				*e*Sn	**Sn**	**11 57 52.8**	**-2.7**
SULR		**2.13**	**306**	S	**Sb**	**11 58 00.2**	**-1.1**
SULR		**2.13**	**306**	*i* S	**Sb**	**11 58 00.2**	**-1.1**
EDRB	**Edirne**	**2.15**	**222**	*e*PN	**Pb**	**11 57 35.1**	**-0.1**
EDRB	**Edirne**	**2.15**	**222**	*e*PN	**Pb**	**11 57 35.1**	**-0.1**
KLYT	**Kilyos**	**2.22**	**173**	*e*PN	**Pn**	**11 57 33.9**	**+0.9**
KLYT				*e*SN	**Sn**	**11 57 56.6**	**-3.9**
KLYT	**Kilyos**	**2.22**	**173**	*e*Pn	**Pn**	**11 57 33.9**	**+0.9**
KLYT				*e*Sn	**Sn**	**11 57 56.6**	**-3.9**
ISR	**Istrita**	**2.26**	**318**	S	**Sb**	**11 58 04.8**	**-0.3**
ISR	**Istrita**	**2.26**	**318**	*i* S	**Sb**	**11 58 04.8**	**-0.3**
ISK	**Istanbul-Kandi**	**2.41**	**173**	*e*PN	**Pn**	**11 57 36.2**	**+0.6**
ISK	**Istanbul-Kandi**	**2.41**	**173**	*e*Pn	**Pn**	**11 57 36.2**	**+0.6**
SECR		**2.45**	**311**	S	**Sb**	**11 58 08.9**	**-1.6**
SECR		**2.45**	**311**	*i* S	**Sb**	**11 58 08.9**	**-1.6**
HRT	**Hereke**	**2.74**	**164**	*e*PN	**Pn**	**11 57 41.4**	**+1.2**
HRT	**Hereke**	**2.74**	**164**	*e*Pn	**Pn**	**11 57 41.4**	**+1.2**
VRI	**Vrincioaia**	**2.78**	**331**	⇑*i*P	**Pn**	**11 57 42.3**	**+1.5**
VRI	**Vrincioaia**	**2.78**	**331**	⇑*i*P	**Pn**	**11 57 42.3**	**+1.5**
VRI	**Vrincioaia**	**2.78**	**331**	⇑*i*P	**Pn**	**11 57 42.3**	**+1.5**
PLOR	**Plostina**	**2.79**	**330**	⇑*i*P	**Pn**	**11 57 43.7**	**+2.7**
PLOR	**Plostina**	**2.79**	**330**	⇑*i*P	**Pn**	**11 57 43.7**	**+2.7**
PLOR	**Plostina**	**2.79**	**330**	⇑*i*P	**Pn**	**11 57 43.7**	**+2.7**
MLR	**Muntele Rosu**	**2.82**	**317**	⇑*i*P	**Pn**	**11 57 43.3**	**+1.9**
MLR	**Muntele Rosu**	**2.82**	**317**	⇑*i*P	**Pn**	**11 57 43.3**	**+1.9**
MLR	**Muntele Rosu**	**2.82**	**317**	⇑*i*P	**Pn**	**11 57 43.3**	**+1.9**
ARMT	**Armutlu**	**2.90**	**177**	*e*PN	**Pn**	**11 57 43.2**	**+0.9**
ARMT	**Armutlu**	**2.90**	**177**	*e*Pn	**Pn**	**11 57 43.3**	**+0.9**
ALN	**Alexandroupoli**	**3.22**	**218**	*e*PN	Pn	11 57 50.3	+3.5
ALN	**Alexandroupoli**	**3.22**	**218**	*e*Pn	Pn	11 57 50.3	+3.5
PLD	**Plovdiv**	**3.22**	**247**	*e*Pn	**Pn**	**11 57 46.1**	**-0.7**
PLD				*e*Sg	**Sb**	**11 58 35.2**	**+2.5**
PLD	**Plovdiv**	**3.22**	**247**	*e*Pn	**Pn**	**11 57 46.1**	**-0.7**
GULT	**Gulveren**	**3.32**	**155**	*e*PN	**Pn**	**11 57 50.5**	**+2.2**
GULT	**Gulveren**	**3.32**	**155**	*e*Pn	**Pn**	**11 57 50.5**	**+2.2**
LOT	**Lotru**	**4.04**	**301**	S	**Sn**	**11 58 44.3**	**-1.2**
LOT	**Lotru**	**4.04**	**301**	*i* S	**Sn**	**11 58 44.3**	**-1.2**
LOT	**Lotru**	**4.04**	**301**	*i* S	**Sn**	**11 58 44.3**	**-1.2**
VTS	**Vitosha**	**4.10**	**260**	*e*Pn	**Pn**	**11 57 59.2**	**+0.2**
VTS				*e*Sn	**Sn**	**11 58 46.1**	**-1.0**
VTS				*e*Sg	**Sb**	**11 59 02.7**	**+4.5**
VTS	**Vitosha**	**4.10**	**260**	*e*Pn	**Pn**	**11 57 59.2**	**+0.2**
VTS				*e*Sn	**Sn**	**11 58 46.1**	**-1.0**
VTS				*e*Sg	**Sb**	**11 59 02.7**	**+4.5**
ZAPS	**Zavoj**	**4.41**	**270**	*e*Pn	**Pn**	**11 58 02.3**	**-0.9**
ZAPS				*e*Sn	**Sn**	**11 58 52.5**	**-2.1**
ZAPS				*e*Sg	**Sb**	**11 59 12.0**	**+5.1**
ZAPS	**Zavoj**	**4.41**	**270**	*e*Pn	**Pn**	**11 58 02.3**	**-0.9**
ZAPS				*e*Sn	**Sn**	**11 58 52.5**	**-2.1**
ZAPS				*e*Sg	**Sb**	**11 59 12.0**	**+5.1**
GZR	**Gura Zlata**	**4.65**	**297**	*e*Pn	**Pn**	**11 58 05.1**	**-1.4**
GZR				*e*Sn	**Sn**	**11 58 59.2**	**-1.3**
GZR				*e*Sg	**Sg**	**11 59 21.5**	**-3.8**
GZR	**Gura Zlata**	**4.65**	**297**	⇓*i*P	**Pn**	**11 58 08.9**	**+2.4**
GZR				S	**Sn**	**11 58 59.4**	**-1.1**
GZR	**Gura Zlata**	**4.65**	**297**	⇓*i*P	**Pn**	**11 58 08.9**	**+2.4**
GZR				*i* S	**Sn**	**11 58 59.4**	**-1.1**
GZR	**Gura Zlata**	**4.65**	**297**	*e*Pn	**Pn**	**11 58 05.1**	**-1.4**
GZR				*e*Sn	**Sn**	**11 58 59.2**	**-1.3**
GZR				*e*Sg	**Sg**	**11 59 21.5**	**-3.8**
BARS	**Barje**	**5.06**	**265**	*e*Sg	Sb	11 59 32.3	+6.6
BZS	**Buzias**	**5.49**	**296**	*e*Pn	**Pn**	**11 58 18.4**	**+0.5**
BZS				*e*Sg	Sg	11 59 46.7	-5.6
BZS	**Buzias**	**5.49**	**296**	*e*Pn	**Pn**	**11 58 18.4**	**+0.5**
SELS	**Selova**	**5.52**	**270**	*e*Pn	**Pn**	**11 58 18.3**	**-0.1**
SELS				*e*Sg	Sg	11 59 47.4	-5.8
SELS	**Selova**	**5.52**	**270**	*e*Pn	**Pn**	**11 58 18.3**	**-0.1**
SELS				*e*Sg	Sg	11 59 47.4	-5.8
GRUS	**Gruza**	**5.79**	**277**	*e*Pn	**Pn**	**11 58 20.4**	**-1.7**
GRUS				*e*Sg	Sg	11 59 56.5	-5.5
GRUS	**Gruza**	**5.79**	**277**	*e*Pn	**Pn**	**11 58 20.4**	**-1.7**
GRUS				*e*Sg	Sg	11 59 56.5	-5.5
IVAS	**Ivanjica**	**6.20**	**274**	*e*Pn	**Pn**	**11 58 26.6**	**-1.2**
IVAS	**Ivanjica**	**6.20**	**274**	*e*Pn	**Pn**	**11 58 26.6**	**-1.2**
DIVS	**Divibare**	**6.32**	**279**	*e*Pn	**Pn**	**11 58 28.0**	**-1.5**
DIVS				*e*Sg	**Sg**	**12 00 14.9**	**-4.1**
DIVS	**Divibare**	**6.32**	**279**	*e*Pn	**Pn**	**11 58 28.0**	**-1.5**
DIVS				*e*Sg	**Sg**	**12 00 14.9**	**-4.1**
BBLS	**Lazići**	**6.74**	**277**	*e*Pn	**Pn**	**11 58 34.6**	**-0.6**
BBLS	**Lazići**	**6.74**	**277**	*e*Pn	**Pn**	**11 58 34.6**	**-0.6**

*IGIL **22** 12:06:58.8, 39°.63N×7°.95W, h11km, ML3.2*
*CSEM **22** 12:06:58.0±0.1, 39°.63N×7°.90W, h18km±1km, ML3.9/29, Error ellipse: s-maj=3.1km s-min=1.9km az=94.0*
*SFS **22** 12:06:58.0, 39°.63N×7°.94W, h11km, ML3.1*
*MDD **22** 12:06:59.7±0.3, 39°.63N×7°.95W, h22km±1km, mbLg3.3/47, Error ellipse: s-maj=2.9km s-min=2.2km az=95.0, PRXIMO MDD EMS: III INTENSIDAD MAXIMA ESPAA.*

*LDG **22** 12:06:59.1±0.1, 39°.63N×7°.95W, h15km, Md3.8/1, Ml3.4/11, Error ellipse: s-maj=3.0km s-min=2.0km az=98.0*
*INMG **22** 12:07:00.1±2.7, 39°.65N×7°.93W, h29km±5km, MD3.1, ML3.5, Error ellipse: s-maj=4.0km s-min=2.8km az=87.0*
ISC 22 12:06:59.0±0.9, 39°.64N±0°.01×7°.91W±0°.02, h27km±10km, n187, σ1§45/287, 1C-5D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCBR	**Castelo Branco**	**0.39**	**58**	*e*Pg	**Pn**	**12 07 08.8**	**0.0**
PCBR				*e*Sg	**Sn**	**12 07 15.2**	**-0.2**
PCBR				A	A	12 07 15.8	
	2μm,0.2s						
PCBR	**Castelo Branco**	**0.39**	**58**	Pg	**Pn**	**12 07 08.8**	**0.0**
PCBR				Lg	Lg	12 07 15.2	
	797nm,0.2s						
PCBR	**Castelo Branco**	**0.39**	**58**	Pg	**Pn**	**12 07 08.8**	**0.0**
PCBR				Lg	Lg	12 07 15.2	
	797nm,0.2s						
PCBR	**Castelo Branco**	**0.39**	**58**	*e*Sg	**Sn**	**12 07 15.2**	**-0.2**
	2μm,0.2s						
PTOM	**Tomar**	**0.39**	**268**	*i* Pg	**Pb**	**12 07 07.7**	**+0.1**
PTOM				*e*Sg	**Sb**	**12 07 12.9**	**-0.5**
PTOM	**Tomar**	**0.39**	**268**	⇑Pg	**Pb**	**12 07 07.7**	**+0.1**
PTOM				Lg	Lg	12 07 12.9	
PTOM	**Tomar**	**0.39**	**268**	Pg	**Pb**	**12 07 07.7**	**+0.1**
PTOM				*e*Sg	**Sb**	**12 07 12.9**	**-0.5**
PMRV	**Marv??o**	**0.45**	**117**	*i* Pg	**Pn**	**12 07 09.8**	**+0.1**
PMRV				*e*Sg	**Sn**	**12 07 16.5**	**-0.3**
PMRV				A	A	12 07 16.8	
	3μm,0.1s						
PMRV	**Marv??o**	**0.45**	**117**	⇓Pg	**Pn**	**12 07 09.8**	**+0.1**
PMRV				Lg	Lg	12 07 16.5	
	3μm,0.1s						
PMRV	**Marv??o**	**0.45**	**117**	Pg	**Pn**	**12 07 09.8**	**+0.1**
PMRV				Lg	Lg	12 07 16.5	
	3μm,0.1s						
PMRV	**Marv??o**	**0.45**	**117**	*e*Sg	**Sn**	**12 07 16.5**	**-0.3**
	3μm,0.1s						
PMTG	**Montargil**	**0.62**	**204**	*i* Pg	**Pb**	**12 07 11.3**	**0.0**
PMTG				*e*Sg	**Sb**	**12 07 19.3**	**-0.3**
PMTG				A	A	12 07 19.8	
	6μm,0.2s						
PCAS	**Casmilo, Conde**	**0.62**	**313**	*e*Pg	**Pn**	**12 07 11.4**	**-0.6**
PCAS				*e*Sg	**Sb**	**12 07 20.0**	**+0.3**
PCAS				A	A	12 07 20.7	
	1μm,0.5s						
PCAS	**Casmilo, Conde**	**0.62**	**313**	*e*Pg	**Pn**	**12 07 11.4**	**-0.6**
PCAS				*e*Sg	**Sb**	**12 07 20.0**	**+0.3**
	1μm,0.5s						
PESTR	**Estremoz**	**0.80**	**162**	*e*P	**Pn**	**12 07 14.3**	**-0.3**
PESTR				*e*S	**Sn**	**12 07 25.7**	**+0.1**
PESTR				A	A

PBAR Barrancos 1.61 155 Pg **Pb 12 07 29.2 +1.2**
PBAR eSg **Sb 12 07 50.6 +2.8**
406nm,0.2s
PVRL Vila Real 1.65 5 ePg **Pb 12 07 29.1 +0.4**
PVRL eSg **Sb 12 07 50.5 +1.5**
PVRL A A 12 07 51.8
690nm,0.1s
PVRL Vila Real 1.65 5 Pg **Pb 12 07 29.1 +0.4**
PVRL Lg Lg 12 07 50.5
345nm,0.1s
PVRL Vila Real 1.65 5 Pg **Pb 12 07 29.1 +0.4**
PVRL eSg **Sb 12 07 50.5 +1.5**
690nm,0.1s
MVO Moncorvo 1.67 23 ePn **Pn 12 07 26.3 -0.2**
MVO Moncorvo 1.67 23 ePg **Pb 12 07 30.7 +1.6**
MVO eSg **Sb 12 07 52.8 +3.1**
MVO A A 12 07 58.3
529nm,0.6s
MVO Moncorvo 1.67 23 Pn **Pn 12 07 26.0 -0.5**
6.2nm,0.3s,SNR=42
MVO Sn **Sn 12 07 46.4 -0.7**
52nm,0.3s,SNR=6.9
MVO Lg Lg 12 07 51.6
139nm,0.1s,SNR=13
MVO Moncorvo 1.67 23 ePn **Pn 12 07 26.3 -0.2**
MVO Moncorvo 1.67 23 ePg **Pb 12 07 30.7 +1.6**
MVO Sn **Sn 12 07 46.4 -0.7**
52nm,0.3s,SNR=6.9
MVO Lg Lg 12 07 51.6
139nm,0.1s,SNR=13
MVO eSg **Sb 12 07 52.8 +3.1**
529nm,0.6s
POLO Lamas de Olo 1.74 3 ePn **Pn 12 07 27.6 +0.1**
POLO Lamas de Olo 1.74 3 ePg **Pb 12 07 29.0 -1.3**
POLO eSg **Sb 12 07 53.7 +1.9**
POLO A A 12 08 00.4
204nm,0.4s
POLO Lamas de Olo 1.74 3 ePn **Pn 12 07 27.6 +0.1**
POLO Lamas de Olo 1.74 3 ePg **Pb 12 07 29.0 -1.3**
POLO eSg **Sb 12 07 53.7 +1.9**
204nm,0.4s
MESJ Messejana 1.81 188 eP **Pn 12 07 28.1 -0.3**
MESJ Messejana 1.81 188 ePn **Pn 12 07 28.1 -0.3**
MESJ Messejana 1.81 188 ePg **Pb 12 07 32.6 +1.2**
MESJ eSg **Sb 12 07 53.6 -0.1**
MESJ A A 12 08 00.9
327nm,0.5s
MESJ Messejana 1.81 188 Pn **Pn 12 07 28.1 -0.3**
MESJ Pg **Pb 12 07 32.6 +1.2**
MESJ Lg Lg 12 07 53.6
327nm,0.5s
MESJ Messejana 1.81 188 Pn **Pn 12 07 28.1 -0.3**
MESJ Messejana 1.81 188 Pg **Pb 12 07 32.6 +1.2**
MESJ eSg **Sb 12 07 53.6 -0.1**
327nm,0.5s
PCAB Cabril 2.08 357 ePn **Pn 12 07 32.4 +0.3**
PCAB eSg **Sb 12 08 04.3 +2.9**
PCAB A A 12 08 09.5
500nm,0.5s
PCAB Cabril 2.08 357 Pn **Pn 12 07 32.4 +0.3**
PCAB Lg Lg 12 08 04.3
250nm,0.5s
PCAB Cabril 2.08 357 Pn **Pn 12 07 32.4 +0.3**
PCAB eSg **Sb 12 08 04.3 +2.9**
500nm,0.5s
EMIN Mina Concepcio 2.10 152 Pn **Pn 12 07 32.4 0.0**
5.5nm,0.3s,SNR=61
EMIN Pg **Pb 12 07 36.3 -0.1**
13nm,0.3s,SNR=29
EMIN Sn **Sn 12 07 57.3 -0.3**
17nm,0.2s,SNR=6.1
EMIN Lg Lg 12 08 05.8
28nm,0.1s,SNR=16
EMIN Mina Concepcio 2.10 152 Pn **Pn 12 07 32.4 0.0**
5.5nm,0.3s,SNR=61
EGRO El Granado 2.12 171 ⇓Pn **Pn 12 07 32.5 -0.2**
2.2nm,0.4s,SNR=18
EGRO Pg **Pb 12 07 36.2 -0.6**
27nm,0.3s,SNR=11
EGRO Sn **Sn 12 07 58.3 +0.2**
29nm,0.3s,SNR=6.0
EGRO Lg Lg 12 08 05.2
46nm,0.2s,SNR=16
EGRO El Granado 2.12 171 Pn **Pn 12 07 32.5 -0.2**
2.2nm,0.4s,SNR=18
PTEO Sao Teotonio 2.18 197 ePn **Pn 12 07 33.1 -0.4**
PTEO eSg **Sb 12 08 05.8 +1.4**
PTEO A A 12 08 11.8
192nm,0.4s
PTEO Sao Teotonio 2.18 197 Pn **Pn 12 07 33.1 -0.4**
PTEO Lg Lg 12 08 05.8
96nm,0.4s
PTEO Sao Teotonio 2.18 197 Pn **Pn 12 07 33.1 -0.4**
PTEO eSg **Sb 12 08 05.8 +1.4**
192nm,0.4s
PVAQ Vaqueiros 2.23 176 ePn **Pn 12 07 34.1 -0.1**
PVAQ eSg **Sb 12 08 08.4 +2.6**
PVAQ A A 12 08 13.3
311nm,0.5s
PVAQ Vaqueiros 2.23 176 Pn **Pn 12 07 34.1 -0.1**
PVAQ Lg Lg 12 08 08.4
311nm,0.5s
PVAQ Vaqueiros 2.23 176 Pn **Pn 12 07 34.1 -0.1**
PVAQ eSg **Sb 12 08 08.4 +2.6**
311nm,0.5s
ELOB Lobios 2.23 357 Pn **Pn 12 07 34.2 -0.1**
3.7nm,0.3s,SNR=8.7
ELOB Pg **Pb 12 07 39.7 +0.9**
12nm,0.2s,SNR=6.3
ELOB Sn **Sn 12 07 60.0 -1.0**
23nm,0.3s,SNR=6.6
ELOB Lg Lg 12 08 08.4
60nm,0.1s,SNR=5.0
ELOB Lobios 2.23 357 Pn **Pn 12 07 34.2 -0.1**
3.7nm,0.3s,SNR=8.7
ELOB Lobios 2.23 357 Pg **Pb 12 07 39.7 +0.9**
12nm,0.2s,SNR=6.3
ELOB Sn **Sn 12 08 00.0 -1.0**
23nm,0.3s,SNR=6.6
ELOB Lg Lg 12 08 08.4
60nm,0.1s,SNR=5.0
PBRG Braganca 2.34 22 ePn **Pn 12 07 35.7 -0.1**
PBRG eSg **Sb 12 08 12.8 +3.8**
PBRG A A 12 08 18.1
120nm,0.2s
PBRG Braganca 2.34 22 Pn **Pn 12 07 35.7 -0.1**
PBRG Lg Lg 12 08 12.8
60nm,0.2s
PBRG Braganca 2.34 22 Pn **Pn 12 07 35.7 -0.1**
PBRG eSg **Sb 12 08 12.8 +3.8**
120nm,0.2s
PGAV Gavieira, Arco 2.34 353 ePn **Pn 12 07 35.5 -0.3**
PGAV eSg **Sb 12 08 12.6 +3.4**
PGAV A A 12 08 16.9
173nm,0.4s
PGAV Gavieira, Arco 2.34 353 ePn **Pn 12 07 35.5 -0.3**
PGAV eSg **Sb 12 08 12.6 +3.4**
173nm,0.4s
PBDV Barranco-do-Ve 2.39 181 ePn **Pn 12 07 36.3 -0.1**
PBDV eSg **Sb 12 08 12.8 +2.4**
PBDV A A 12 08 21.3
178nm,0.4s
PBDV Barranco-do-Ve 2.39 181 Pn **Pn 12 07 36.3 -0.1**
PBDV Lg Lg 12 08 12.8
178nm,0.4s
PBDV Barranco-do-Ve 2.39 181 Pn **Pn 12 07 36.3 -0.1**
PBDV eSg **Sb 12 08 12.8 +2.4**
178nm,0.4s
MORF Marmelete 2.40 194 eP **Pn 12 07 36.0 -0.5**
MORF eS **Sn 12 08 03.2 -1.8**
MORF AML AML 12 08 03.8
comp=N,113nm,0.3s
MORF Marmelete 2.40 194 ePn **Pn 12 07 36.0 -0.5**
MORF eSg **Sb 12 08 12.0 +1.4**
MORF A A 12 08 19.5
comp=N,148nm,0.2s
MORF Marmelete 2.40 194 Pn **Pn 12 07 36.0 -0.5**
MORF Lg Lg 12 08 12.0
comp=N,148nm,0.2s
MORF Marmelete 2.40 194 Pn **Pn 12 07 36.0 -0.5**
MORF eSg **Sb 12 08 12.0 +1.4**
comp=N,148nm,0.2s
ECAL Calabor 2.47 21 Pn **Pn 12 07 37.7 +0.2**
comp=N,9.6nm,0.3s,SNR=32
ECAL Pg Pb 12 07 44.7 +1.9
comp=N,14nm,0.2s,SNR=7.9
ECAL Sn **Sn 12 08 07.2 +0.3**
comp=N,30nm,0.2s,SNR=5.5
ECAL Lg Lg 12 08 17.7
comp=N,33nm,0.2s,SNR=5.0
ECAL Calabor 2.47 21 Pn **Pn 12 07 37.7 +0.2**
comp=N,9.6nm,0.3s,SNR=32
ECAB El Cabril 2.49 128 Pn **Pn 12 07 37.7 -0.1**
comp=N,3.4nm,0.2s,SNR=24
ECAB Pg **Pb 12 07 43.8 +0.8**
comp=N,15nm,0.4s,SNR=25
ECAB Sn **Sn 12 08 07.3 0.0**
comp=N,16nm,0.3s,SNR=6.6
ECAB Lg Lg 12 08 16.6
comp=N,20nm,0.1s,SNR=7.2
ECAB El Cabril 2.49 128 Pn **Pn 12 07 37.7 -0.1**
comp=N,3.4nm,0.2s,SNR=24
ESDC Sonseca Array 3.04 88 Pn **Pn 12 07 46.5 +1.1**
comp=N,0.5nm,0.2s,baz=269,slow=13,SNR=3.7
ESDC Pg **Pb 12 07 52.9 +0.4**
comp=N,2.0nm,0.3s,baz=270,slow=13,SNR=7.8
ESDC Sn **Sn 12 08 21.1 +0.1**
comp=N,3.1nm,0.2s,baz=271,slow=16,SNR=10
ESDC Lg Lg 12 08 31.4
comp=N,22nm,0.3s,baz=269,slow=29,SNR=21
ESDC Sonseca Array 3.04 88 Pn **Pn 12 07 46.5 +1.1**
comp=N,0.5nm,0.2s,baz=269,slow=13,SNR=3.7
ESDC Sonseca Array 3.04 88 Pg **Pb 12 07 52.9 +0.4**
comp=N,2.0nm,0.3s,SNR=7.8
ESDC Sn **Sn 12 08 21.1 +0.1**
comp=N,3.1nm,0.2s,baz=271,SNR=10
ESDC Lg Lg 12 08 31.4
comp=N,22nm,0.3s,SNR=21
GUD Guadarrama 3.05 69 Pn **Pn 12 07 45.6 +0.1**
comp=N,1.5nm,0.3s,SNR=19
GUD Pg **Pb 12 07 52.1 -0.5**
comp=N,3.2nm,0.2s,SNR=7.9
GUD Sn **Sn 12 08 20.0 -1.1**
comp=N,15nm,0.3s,SNR=5.5
GUD Lg Lg 12 08 35.1
comp=N,27nm,0.2s,SNR=14
GUD Guadarrama 3.05 69 Pn **Pn 12 07 45.6 +0.1**
comp=N,1.5nm,0.3s,SNR=19
GUD Sn **Sn 12 08 20.0 -1.1**
comp=N,15nm,0.3s,SNR=5.5
GUD Lg Lg 12 08 35.1
comp=N,27nm,0.2s,SNR=14
ESPR Espera 3.20 149 Pn **Pn 12 07 48.1 +0.6**
comp=N,7.7nm,0.3s,SNR=16
ESPR Sn **Sn 12 08 23.8 -0.9**
comp=N,6.4nm,0.3s,SNR=4.0
ESPR Lg Lg 12 08 41.2
comp=N,21nm,0.2s,SNR=5.0
ESPR Espera 3.20 149 Pn **Pn 12 07 48.1 +0.6**
comp=N,7.7nm,0.3s,SNR=16
ESPR Sn **Sn 12 08 23.8 -0.9**
comp=N,6.4nm,0.3s,SNR=4.0
ESPR Lg Lg 12 08 41.2
comp=N,21nm,0.2s,SNR=5.0
STS Santiago 3.29 352 Pn **Pn 12 07 48.7 0.0**
comp=N,31nm,0.6s,SNR=7.9
STS Sn **Sn 12 08 24.5 -2.3**
comp=N,52nm,0.4s,SNR=7.9
STS Lg Lg 12 08 43.1
comp=N,30nm,0.2s,SNR=6.5
STS Santiago 3.29 352 Pn **Pn 12 07 48.7 0.0**
comp=N,31nm,0.6s,SNR=7.9
STS Lg Lg 12 08 43.1
comp=N,30nm,0.2s,SNR=6.5
LIJA Lijar 3.36 143 Pn **Pn 12 07 47.5 -2.3**
LIJA Lijar 3.36 143 Pn **Pn 12 07 47.5 -2.3**
EMAZ Mazaricos 3.41 347 Pn **Pn 12 07 50.2 -0.2**
comp=N,14nm,0.9s,SNR=15
EMAZ Sn **Sn 12 08 26.9 -3.0**
comp=N,56nm,0.5s,SNR=5.0
EMAZ Lg Lg 12 08 45.3
comp=N,13nm,0.1s,SNR=5.0
EMAZ Mazaricos 3.41 347 Pn **Pn 12 07 50.2 -0.2**
comp=N,14nm,0.9s,SNR=15
EMAZ Lg Lg 12 08 45.3
comp=N,13nm,0.1s,SNR=5.0
EBAN Banos Encina 3.53 113 Pn **Pn 12 07 52.2 +0.1**
comp=N,74nm,0.5s,SNR=5.9
EBAN Sn **Sn 12 08 32.0 -1.0**
comp=N,50nm,0.3s,SNR=7.3
EBAN Lg Lg 12 08 48.1
comp=N,16nm,0.1s,SNR=14
EBAN Banos Encina 3.53 113 Pn **Pn 12 07 52.2 +0.1**
comp=N,74nm,0.5s,SNR=5.9
EBAN Sn **Sn 12 08 32.0 -1.0**
comp=N,50nm,0.3s,SNR=7.3
EBAN Lg Lg 12 08 48.1
comp=N,16nm,0.1s,SNR=14
EPON Pontenova 3.73 8 Pn **Pn 12 07 54.6 -0.2**
comp=N,5.6nm,0.3s,SNR=4.5
EPON Pg **Pb 12 08 03.4 -0.9**
comp=N,1.9nm,0.1s,SNR=7.9
EPON Sn **Sn 12 08 35.9 -2.0**
comp=N,12nm,0.4s,SNR=5.3
EPON Lg Lg 12 08 55.2
comp=N,6.4nm,0.2s,SNR=4.6
EPON Pontenova 3.73 8 Pn **Pn 12 07 54.6 -0.2**
comp=N,5.6nm,0.3s,SNR=4.5
EPON Lg Lg 12 08 55.2
comp=N,6.4nm,0.2s,SNR=4.6
EMIJ Mijas 3.94 140 Pn **Pn 12 07 59.1 +1.4**
comp=N,2.9nm,0.3s,SNR=6.9
EMIJ Sn **Sn 12 08 42.7 -0.3**
comp=N,12nm,0.3s,SNR=4.0
EMIJ Lg Lg 12 09 04.5
comp=N,3.8nm,0.2s,SNR=5.0
EMIJ Mijas 3.94 140 Pn **Pn 12 07 59.1 +1.4**
comp=N,2.9nm,0.3s,SNR=6.9
EMIJ Sn **Sn 12 08 42.7 -0.3**
comp=N,12nm,0.3s,SNR=4.0
EMIJ Lg Lg 12 09 04.5
comp=N,3.8nm,0.2s,SNR=5.0
SELV Sierra Elvira 4.06 125 Lg Lg 12 09 08.2
comp=N,3.9nm,0.2s,SNR=7.9
SELV Sierra Elvira 4.06 125 Lg Lg 12 09 08.2
comp=N,3.9nm,0.2s,SNR=7.9
EARI Arriondas 4.18 28 Pn **Pn 12 08 01.6 +0.5**
comp=N,7.7nm,1.0s,SNR=11
EARI Sn **Sn 12 08 47.1 -2.0**
comp=N,16nm,0.6s,SNR=5.0
EARI Lg Lg 12 09 10.2
comp=N,2.3nm,0.2s,SNR=5.0
EARI Arriondas 4.18 28 Pn **Pn 12 08 01.6 +0.5**
comp=N,7.7nm,1.0s,SNR=11
EARI Lg Lg 12 09 10.2
comp=N,2.3nm,0.2s,SNR=5.0
EQES Quesada 4.20 114 Pn **Pn 12 08 01.6 +0.3**
comp=N,4.0nm,0.7s,SNR=11
EQES Sn **Sn 12 08 47.5 -2.0**
comp=N,64nm,0.6s,SNR=5.0
EQES Lg Lg 12 09 10.9
comp=N,11nm,0.2s,SNR=5.0
EQES Quesada 4.20 114 Pn **Pn 12 08 01.6 +0.3**
comp=N,4.0nm,0.7s,SNR=11
EQES Sn **Sn 12 08 47.5 -2.0**
comp=N,64nm,0.6s,SNR=5.0
EQES Lg Lg 12 09 10.9
comp=N,11nm,0.2s,SNR=5.0
EQUE Quentar 4.26 123 Pn **Pn 12 08 03.5 +1.3**
comp=N,9.0nm,0.3s,SNR=11
EQUE Pg **Pb 12 08 13.9 +0.6**
comp=N,5.5nm,0.3s,SNR=5.0
EQUE Sn **Sn 12 08 49.9 -1.2**
comp=N,16nm,0.4s,SNR=5.0
EQUE Lg Lg 12 09 13.6
comp=N,4.4nm,0.1s,SNR=5.0
EQUE Quentar 4.26 123 Pn **Pn 12 08 03.5 +1.3**
comp=N,9.0nm,0.3s,SNR=11
EQUE Sn **Sn 12 08 49.9 -1.2**
comp=N,16nm,0.4s,SNR=5.0
EQUE Lg Lg 12 09 13.6
comp=N,4.4nm,0.1s,SNR=5.0
EVIA Vianos 4.32 102 Pn **Pn 12 08 03.7 +0.7**
comp=N,4.1nm,0.3s,SNR=7.7
EVIA Sn **Sn 12 08 51.6 -0.8**
comp=N,24nm,0.4s,SNR=4.6
EVIA Lg Lg 12 09 15.1
comp=N,22nm,0.2s,SNR=6.7
EVIA Vianos 4.32 102 Pn **Pn 12 08 03.7 +0.7**
comp=N,4.1nm,0.3s,SNR=7.7
EVIA Sn **Sn 12 08 51.6 -0.8**
comp=N,24nm,0.4s,SNR=4.6
EVIA Lg Lg 12 09 15.1
comp=N,22nm,0.2s,SNR=6.7
GORA Gorafe 4.38 118 Lg Lg 12 09 17.5
comp=N,15nm,0.1s,SNR=7.9
GORA Gorafe 4.38 118 Lg Lg 12 09 17.5
comp=N,15nm,0.1s,SNR=7.9
SESP Santiago Espad 4.45 108 Pn **Pn 12 08 04.9 +0.1**
comp=N,1.1nm,0.2s,SNR=7.9
SESP Lg Lg 12 09 18.9
comp=N,14nm,0.1s,SNR=7.9
SESP Santiago Espad 4.45 108 Pn **Pn 12 08 04.9 +0.1**
comp=N,1.1nm,0.2s,SNR=7.9
SESP Lg Lg 12 09 18.9
comp=N,14nm,0.1s,SNR=7.9
EHUE Huescar 4.53 112 Pn **Pn 12 08 05.9 0.0**
comp=N,1.8nm,0.1s,SNR=7.9
EHUE Lg Lg 12 09 22.4
comp=N,7.7nm,0.2s,SNR=7.9
EHUE Huescar 4.53 112 Pn **Pn 12 08 05.9 0.0**
comp=N,1.8nm,0.1s,SNR=7.9
EHUE Lg Lg 12 09 22.4
comp=N,7.7nm,0.2s,SNR=7.9
ETOR Torete 4.63 73 Pn **Pn 12 08 07.9 +0.7**
comp=N,12nm,0.3s,SNR=12
ETOR Sn **Sn 12 08 58.1 -2.1**
comp=N,23nm,0.3s,SNR=5.8
ETOR Lg Lg 12 09 25.5
comp=N,26nm,0.2s,SNR=5.0
ETOR Torete 4.63 73 Pn **Pn 12 08 07.9 +0.7**
comp=N,12nm,0.3s,SNR=12
ETOR Lg Lg 12 09 25.5
comp=N,26nm,0.2s,SNR=5.0
EBER Berja 4.80 123 Pn Pn 12 08 11.7 +2.0
comp=N,2.9nm,0.3s,SNR=9.4
EBER Sn **Sn 12 09 03.3 -1.2**
comp=N,0.4nm,0.1s,SNR=7.9
EBER Lg Lg 12 09 33.1
comp=N,7.5nm,0.3s,SNR=5.0
EBER Berja 4.80 123 Pn Pn 12 08 11.7 +2.0
comp=N,2.9nm,0.3s,SNR=9.4
EBER Sn **Sn 12 09 03.3 -1.2**
comp=N,0.4nm,0.1s,SNR=7.9
EBER Lg Lg 12 09 33.1
comp=N,7.5nm,0.3s,SNR=5.0
ELAN Lanestosa 4.92 42 Pn **Pn 12 08 11.3 +0.2**
comp=N,3.9nm,0.8s,SNR=9.7
ELAN Sn **Sn 12 09 05.4 -1.7**
comp=N,2.8nm,0.1s,SNR=4.7
ELAN Lg Lg 12 09 33.7
comp=N,1.5nm,0.1s,SNR=5.0
ELAN Lanestosa 4.92 42 Pn **Pn 12 08 11.3 +0.2**
comp=N,3.9nm,0.8s,SNR=9.7
ELAN Sn **Sn 12 09 05.4 -1.7**
comp=N,2.8nm,0.1s,SNR=4.7
ELAN Lg Lg 12 09 33.7
comp=N,1.5nm,0.1s,SNR=5.0
ETOB Tobarra 5.04 99 Pn **Pn 12 08 14.4 +1.5**
comp=N,1.4nm,0.3s,SNR=5.8
ETOB Sn **Sn 12 09 08.1 -2.1**
comp=N,3.1nm,0.2s,SNR=7.9
ETOB Lg Lg 12 09 36.9
comp=N,5.8nm,0.2s,SNR=5.6
ETOB Tobarra 5.04 99 Pn **Pn 12 08 14.4 +1.5**
comp=N,1.4nm,0.3s,SNR=5.8
ETOB Sn **Sn 12 09 08.1 -2.1**
comp=N,3.1nm,0.2s,SNR=7.9
ETOB Lg Lg 12 09 36.9
comp=N,5.8nm,0.2s,SNR=5.6
ENIJ Nijar 5.21 119 Lg Lg 12 09 43.7
comp=N,18nm,0.5s,SNR=7.9
ENIJ Nijar 5.21 119 Lg Lg 12 09 43.7
comp=N,18nm,0.5s,SNR=7.9
EMUR La Murta 5.51 107 Lg Lg 12 09 52.5
comp=N,6.7nm,0.4s,SNR=7.9
EMUR La Murta 5.51 107 Lg Lg 12 09 52.5
comp=N,6.7nm,0.4s,SNR=7.9
EMOS Mosqueruela 5.75 80 Pn **Pn 12 08 23.4 +0.6**
comp=N,2.5nm,0.3s,SNR=6.3
EMOS Sn **Sn 12 09 25.1 -2.9**
comp=N,1.4nm,0.1s,SNR=7.9
EMOS Lg Lg 12 10 01.0
comp=N,20nm,0.6s,SNR=7.9
EMOS Mosqueruela 5.75 80 Pn **Pn 12 08 23.4 +0.6**
comp=N,2.5nm,0.3s,SNR=6.3
EMOS Lg Lg 12 10 01.0
comp=N,20nm,0.6s,SNR=7.9
IELO Elcoad 5.96 55 Pn **Pn 12 08 25.9 +0.4**
comp=N,2.8nm,0.1s,SNR=7.9
IELO Sn **Sn 12 09 30.6 -2.3**
comp=N,1.0nm,0.1s,SNR=7.9
IELO Lg Lg 12 10 07.0
comp=N,1.6nm,0.1s,SNR=7.9
IELO Elcoad 5.96 55 Pn **Pn 12 08 25.9 +0.4**
comp=N,2.8nm,0.1s,SNR=7.9
IELO Lg Lg 12 10 07.0
comp=N,1.6nm,0.1s,SNR=7.9
EALK Alkurruntz 6.00 51 Pn **Pn 12 08 25.8 -0.1**
comp=N,1.4nm,0.1s,SNR=7.9
EALK Sn **Sn 12 09 29.4 -4.2**
comp=N,0.1nm,0.1s,SNR=7.9
EALK Lg Lg 12 10 09.7
comp=N,5.5nm,0.3s,SNR=7.9
EALK Alkurruntz 6.00 51 Pn **Pn 12 08 25.8 -0.1**
comp=N,1.4nm,0.1s,SNR=7.9
EALK Lg Lg 12 10 09.7
comp=N,5.5nm,0.3s,SNR=7.9
EBEN Beniarda 6.04 96 Lg Lg 12 10 09.5
comp=N,0.8nm,0.2s,SNR=7.9
EBEN Beniarda 6.04 96 Lg Lg 12 10 09.5
comp=N,0.8nm,0.2s,SNR=7.9
SJPF Ste Jean 6.11 53 ePn **Pn 12 08 26.8 -0.7**
SJPF eSn **Sn 12 09 32.7 -3.8**
SJPF eSg Sb 12 10 09.4 +12
comp=N,8.5nm,0.4s
SJPF Ste Jean 6.11 53 Pn **Pn 12 08 26.8 -0.7**
SJPF Sn **Sn 12 09 32.7 -3.8**
SJPF Lg Lg 12 10 09.4
comp=N,4.2nm,0.4s
SJPF Ste Jean 6.11 53 Pn **Pn 12 08 26.8 -0.7**
SJPF Lg Lg 12 10 09.4
comp=N,4.2nm,0.4s
ATE Arette 6.42 55 Pn **Pn 12 08 32.3 +0.5**
comp=N,0.3nm,0.2s,SNR=7.9
ATE Sn **Sn 12 09 40.5 -3.7**
comp=N,0.6nm,0.1s,SNR=7.9
ATE Lg Lg 12 10 23.0
comp=N,9.8nm,0.5s,SNR=7.9
ATE Arette 6.42 55 Pn **Pn 12 08 32.3 +0.5**
comp=N,0.3nm,0.2s,SNR=7.9
ATE Lg Lg 12 10 23.0
comp=N,9.8nm,0.5s,SNR=7.9
ETSF Etsaut 6.42 57 ePn **Pn 12 08 31.0 -0.8**
ETSF eSn **Sn 12 09 40.5 -3.8**
ETSF eSg Sb 12 10 19.6 +13
comp=N,6.6nm,0.4s
ETSF Etsaut 6.42 57 Pn **Pn 12 08 31.0 -0.8**
ETSF Sn **Sn 12 09 40.5 -3.8**
ETSF Lg Lg 12 10 19.6
comp=N,3.3nm,0.4s
ETSF Etsaut 6.42 57 Pn **Pn 12 08 31.0 -0.8**
ETSF Lg Lg 12 10 19.6
comp=N,3.3nm,0.4s
ERTA Horta de San J 6.43 76 Pn **Pn 12 08 32.0 0.0**
comp=N,0.2nm,0.1s,SNR=7.9
ERTA Sn **Sn 12 09 41.7 -2.9**
comp=N,1.6nm,0.2s,SNR=7.9
ERTA Lg Lg 12 10 21.0
comp=N,1.9nm,0.2s,SNR=7.9
ERTA Horta de San J 6.43 76 Pn **Pn 12 08 32.0 0.0**
comp=N,0.2nm,0.1s,SNR=7.9
ERTA Lg Lg 12 10 21.0
comp=N,1.9nm,0.2s,SNR=7.9
EPOB Poblet 7.06 73 Pn **Pn 12 08 40.4 -0.2**
comp=N,0.4nm,0.1s,SNR=7.9
EPOB Sn **Sn 12 09 55.6 -4.4**
comp=N,0.3nm,0.1s,SNR=7.9
EPOB Lg Lg 12 10 33.6
comp=N,12nm,0.7s,SNR=7.9
EPOB Poblet 7.06 73 Pn **Pn 12 08 40.4 -0.2**
comp=N,0.4nm,0.1s,SNR=7.9
EPOB Lg Lg 12 10 33.6
comp=N,12nm,0.7s,SNR=7.9
EPF Esparros 7.07 59 ePn **Pn 12 08 39.9 -0.8**
EPF eSn **Sn 12 09 57.0 -3.2**
comp=N,7.7nm,0.4s
EPF Esparros 7.07 59 ePn **Pn 12 08 39.9 -0.8**
EMIR Miracle 7.51 69 Pn **Pn 12 08 46.9 +0.1**
comp=N,0.7nm,0.1s,SNR=7.9
EMIR Miracle 7.51 69 Pn **Pn 12 08 46.9 +0.1**

comp=N,0.7nm,0.1s,SNR=7.9
CFON Fontmartina 8.14 72 Pn **Pn 12 08 55.5 +0.1**
comp=N,0.8nm,0.1s,SNR=15
CFON Sn **Sn 12 10 21.8 -4.7**
comp=N,0.1nm,0.1s,SNR=7.9
CFON Fontmartina 8.14 72 Pn **Pn 12 08 55.5 +0.1**
comp=N,0.8nm,0.1s,SNR=15
LFF La Frestale 8.31 48 *e*Pn **Pn 12 08 56.9 -0.8**
LFF *e*Sn **Sn 12 10 25.6 -5.0**
comp=N,7.4nm,0.6s
LFF La Frestale 8.31 48 Pn **Pn 12 08 56.9 -0.8**
LFF Sn **Sn 12 10 25.6 -5.0**
comp=N,3.7nm,0.6s
LFF La Frestale 8.31 48 Pn **Pn 12 08 56.9 -0.8**
MTLF Montolieu 8.45 61 *e*Pn **Pn 12 08 58.8 -0.8**
MTLF *e*Sn **Sn 12 10 29.2 -4.9**
comp=N,2.7nm,0.5s
MTLF Montolieu 8.45 61 *e*Pn **Pn 12 08 58.8 -0.8**
RJF Les Rejaudoux 8.97 48 *e*Pn **Pn 12 09 05.6 -1.2**
RJF *e*Sn Sn 12 10 39.7 -7.2
comp=N,1.3nm,0.2s
RJF Les Rejaudoux 8.97 48 *e*Pn **Pn 12 09 05.6 -1.2**
MFF Saint Martin d 8.98 37 *e*Pg **Pn 12 09 05.8 -1.0**
MFF *e*Sn Sn 12 10 40.4 -6.6
comp=N,1.5nm,0.4s
MFF Saint Martin d 8.98 37 *e*Pg **Pn 12 09 05.8 -1.0**
CAF Calviac 9.08 51 *e*Pn **Pn 12 09 06.6 -1.7**
CAF *e*Sn **Sn 12 10 44.2 -5.4**
comp=N,1.4nm,0.3s
CAF Calviac 9.08 51 *e*Pn **Pn 12 09 06.6 -1.7**

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*ISCJB **22** 12:19:28.1±0.5, 20°.44S±0°.05×68°.49W±0°.08, h110km, mb4.0/5, Error ellipse: s-maj=10.7km s-min=6.7km az=25.8*
*NEIC **22** 12:19:29.7±0.7, 20°.49S×68°.62W, h114km±8km, mb4.3/2, Error ellipse: s-maj=12.7km s-min=8.3km az=89.0*
*IDC **22** 12:19:30.3±0.8, 20°.49S×68°.55W, h118km±6km, mb3.9/6, mb1 3.9/8, mb1mx3.7/19, mbtmp4.3/8, MS3.4/1, Ms1 3.3/1, ms1mx2.9/22, Error ellipse: s-maj=20.7km s-min=18.7km az=111.0*
ISC 22 12:19:29.9±0.6, 20°.51S±0°.07×68°.48W±0°.09, h110km, n20, σ1§18/26, mb4.2/5, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.13**	**191**	*e*Pn	**Pn**	**12 20 05.7**	**+0.9**
LVC				*e*Sn	**Sn**	**12 20 33.0**	**+1.6**
LPAZ	**La Paz**	**4.22**	**5**	P	**Pn**	**12 20 35.0**	**+2.3**
4.9nm,0.3s,baz=191,slow=5.7,SNR=66							
LPAZ	**La Paz**	**4.22**	**5**	*e*Pn	**Pn**	**12 20 34.5**	**+1.8**
ARE	**Arequipa**	**4.94**	**324**	*e*P	Pn	12 20 38.0	-4.2
SIV	**San Ignacio**	**8.35**	**59**	P	**Pn**	**12 21 28.8**	**+0.6**
4.1nm,0.3s,baz=255,slow=12,SNR=41							
SIV				S	**Sn**	**12 22 59.7**	**-1.2**
baz=338,slow=23,SNR=5.6							
LCO	**Las Campanas**	**8.70**	**193**	*e*Pn	**Pn**	**12 21 32.1**	**-0.9**
NNA	**Nana**	**11.67**	**315**	Pn	**Pn**	**12 22 12.7**	**-0.5**
TRQA	**Tornquist**	**18.37**	**164**	*e*P	**P**	**12 23 35.7**	**-0.3**
5.5nm,0.7s							
BDFB	**Brasilia**	**20.04**	**79**	P	**P**	**12 23 55.6**	**+1.1**
3.0nm,0.4s,baz=240,slow=14,SNR=5.1							
BDFB				LR	LR	12 31 42.3	
comp=Z,109nm,19.7s,baz=206,slow=36							
PLCA	**Paso Flores**	**20.23**	**185**	P	**P**	**12 23 57.0**	**+0.6**
4.8nm,0.9s,baz=7.8,slow=12,SNR=6.8							
USHA	**Ushuaia**	**34.26**	**180**	P	**P**	**12 26 05.0**	**-0.1**
14nm,1.0s,baz=337,slow=7.7,SNR=2.8							
TXAR	**Lajitas Array**	**60.06**	**325**	P	**P**	**12 29 25.5**	**-0.1**
0.1nm,0.6s,baz=133,slow=3.8,SNR=2.5							
TXAR				pP	**pP**	**12 29 52.1**	**-0.2**
0.2nm,0.5s,baz=145,slow=9.5,SNR=2.3							
DBIC	**Dimbokro**	**68.07**	**74**	P	**P**	**12 30 18.2**	**0.0**
6.8nm,0.7s,baz=218,slow=6.2,SNR=15							
DBIC	**Dimbokro**	**68.07**	**74**	*e*P	**P**	**12 30 18.2**	**0.0**
6.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**76.65**	**70**	P	**P**	**12 31 09.0**	**-0.2**
3.1nm,0.7s,baz=256,slow=5.7,SNR=28							
TORD				pP	**pP**	**12 31 38.3**	**+1.2**
1.9nm,0.9s,baz=256,slow=5.4,SNR=4.2							
YKA	**Yellowknife Ar**	**90.39**	**340**	P	**P**	**12 32 17.2**	**-1.1**
0.4nm,0.7s,baz=130,slow=4.7,SNR=7.3							
YKA				pP	**pP**	**12 32 48.1**	**+1.1**
0.7nm,0.7s,baz=133,slow=4.7,SNR=5.5							
ASAR	**Alice Springs**	**130.97**	**208**	PKP	**PKPdf**	**12 38 28.5**	**-0.8**
0.2nm,0.5s,baz=114,slow=1.8,SNR=7.2							
WRA	**Warramunga Arr**	**134.00**	**210**	PKP	**PKPdf**	**12 38 34.1**	**-1.0**
0.2nm,0.4s,baz=154,slow=1.7,SNR=6.2							
MKAR	**Makanchi Array**	**144.60**	**35**	PKP	**PKPab**	**12 38 52.3**	**-0.1**
0.3nm,0.5s,baz=317,slow=3.7,SNR=6.2							
MKAR				pPKP	**pPKPdf**	**12 39 25.4**	**+1.9**
0.6nm,0.6s,baz=304,slow=2.8,SNR=5.5							
SONM	**Songino Array**	**152.43**	**7**	PKPbc	**PKPbc**	**12 39 13.4**	**+0.1**
0.1nm,0.4s,baz=0.0,slow=3.3,SNR=3.2							
SONM				PKPab	**PKPab**	**12 39 21.1**	**-2.6**
0.1nm,0.4s,baz=321,slow=1.8,SNR=3.5							

WEL 22 12:25:36.6±0.8, 47°.64S×165°.67E, h33km, ML3.9/7, Error ellipse: s-maj=9.2km s-min=5.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.77**	**64**	PN	Pn	12 26 03.9	-1.1
APZ				SN	Sn	12 26 24.5	-2.0
APZ				AML	AML	12 26 25.2	
WHZ	**Wether Hill Ro**	**2.34**	**43**	PN	Pn	12 26 11.6	-1.2
WHZ				AML	AML	12 26 41.6	
WHZ				AML	AML	12 26 47.9	
SYZ	**Scrubby Hill**	**2.61**	**66**	PN	Pn	12 26 16.4	0.0
SYZ				AML	AML	12 26 56.0	
SYZ				AML	AML	12 26 56.0	
SYZ				AML	AML	12 26 56.3	
SYZ				AML	AML	12 26 56.4	
MLZ	**Mavora Lakes**	**2.87**	**38**	PN	Pn	12 26 18.8	-1.2
MLZ				SN	Sn	12 26 50.9	-2.5
MLZ				AML	AML	12 26 52.2	
TUZ	**Tuapeka**	**3.20**	**60**	PN	Pn	12 26 24.2	-0.3
EAZ	**Earnscleugh**	**3.48**	**48**	*e*PN	Pn	12 26 27.1	-1.2
EAZ				AML	AML	12 27 09.9	
EAZ				AML	AML	12 27 15.0	
WKZ	**Wanaka**	**3.65**	**41**	PN	Pn	12 26 30.4	-0.3
WKZ				AML	AML	12 27 17.8	
WKZ				AML	AML	12 27 23.8	
JCZ	**Jackson Bay**	**4.16**	**32**	PN	Pn	12 26 37.9	0.0
JCZ				AML	AML	12 27 41.0	
JCZ				AML	AML	12 27 43.0	
ODZ	**Otahua Downs**	**4.31**	**55**	PN	Pn	12 26 37.5	-2.3

JMA 22 12:46:59.5±0.2, 25°.98N×128°.59E, h38km±4km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.74**	**317**	P	Pn	12 47 13.3	-0.1
JNTH				S	Sn	12 47 23.5	0.0
JJT2	**Tamagusuku 2**	**0.77**	**282**	P	Pn	12 47 14.1	+0.2
JJT2				S	Sn	12 47 24.7	+0.4
JOW	**Kunigami**	**0.90**	**342**	P	Pn	12 47 16.1	+0.5
JOW				S	Sn	12 47 27.4	0.0
JIH	**Iheya**	**1.19**	**332**	P	Pn	12 47 20.5	+0.9
JIH				S	Sn	12 47 35.6	+1.1
JAGN	**Aguni-jima**	**1.35**	**297**	P	Pn	12 47 22.6	+0.8
JAGN				S	Sn	12 47 40.3	+1.8
JOKE	**Okinoerabujima**	**1.38**	**359**	P	Pn	12 47 23.1	+0.9
JOKE				S	Sn	12 47 39.5	+0.3
JKE	**Kume jima 2**	**1.66**	**282**	P	Pn	12 47 26.0	0.0
JKE				S	Sn	12 47 44.7	-1.4
JTK	**Tokunoshima**	**1.83**	**10**	P	Pn	12 47 29.3	+0.9
JTK				S	Sn	12 47 50.3	0.0
JAMN	**Amaminishikomi**	**2.31**	**13**	P	Pn	12 47 36.0	+1.0
JAMN				S	Sn	12 48 02.3	+0.1
JMZ	**Minamidaito 2**	**2.38**	**93**	P	Pn	12 47 34.7	-1.2
JMZ				S	Sn	12 47 59.6	-4.2
JAM	**Amami Oshima**	**2.58**	**20**	P	Pn	12 47 39.3	+0.5
JAM				S	Sn	12 48 08.3	-0.6
JZK	**Kikaishima**	**2.63**	**28**	P	Pn	12 47 41.4	+2.0
JZK				S	Sn	12 48 11.9	+1.8
JOGS	**Gusukube**	**3.13**	**248**	P	Pn	12 47 46.3	+0.1
JTAJ	**Takarajima**	**3.21**	**10**	P	Pn	12 47 48.3	+1.0
JTJ	**Tarama**	**3.76**	**250**	P	Pn	12 47 54.1	-0.9
JTJ				S	Sn	12 48 34.8	-3.2

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*CSEM **22** 12:47:10.3±1.2, 80°.88N×1°.69W, h10km, ML2.3, Error ellipse: s-maj=50.2km s-min=6.1km az=175.0*
*BER **22** 12:47:19.3±1.2, 80°.57N×0°.95E, h10km, MD2.0, ML2.0, ML2.7(NAO)*
ISC 22 12:47:21.1±4.3, 80°.3N±0°.4×1°.7E±0°.2, h10km, n14, σ0§39/19, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.33**	**122**	Pn	**Pn**	**12 47 58.9**	**-0.4**
KBS				Sn	**Sn**	**12 48 27.6**	**-0.3**
KBS	**Kingsbay**	**2.33**	**122**	Pn	**Pn**	**12 47 58.9**	**-0.4**
KBS				Sn	**Sn**	**12 48 27.6**	**-0.3**
KBS	**Kingsbay**	**2.33**	**122**	*i* P	**Pn**	**12 47 58.9**	**-0.4**
SNR=49							
KBS				Sn	**Sn**	**12 48 27.6**	**-0.3**
SPA0	**Spitsbergen Ar**	**3.49**	**121**	Pn	**Pn**	**12 48 14.8**	**-0.5**
baz=335,slow=10							
SPA0				Sn	**Sn**	**12 48 57.0**	**+0.5**
baz=317,slow=28							
SPA0	**Spitsbergen Ar**	**3.49**	**121**	*e*P	**Pn**	**12 48 15.5**	**+0.2**
SPA0				Sn	**Sn**	**12 48 57.0**	**+0.5**
baz=317,slow=28							
SPA0				IAML		12 49 01.6	
comp=Z,5.5nm,0.4s							
SPA0	**Spitsbergen Ar**	**3.49**	**121**	Pn	**Pn**	**12 48 14.8**	**-0.5**
SNR=612							
SPA0	**Spitsbergen Ar**	**3.49**	**121**	*e*P	**Pn**	**12 48 15.5**	**+0.2**
SNR=50							
SPA0				Sn	**Sn**	**12 48 57.0**	**+0.5**
SNR=50							
HSPB	**Hornsund (broa**	**4.30**	**134**	*e*P	**Pn**	**12 48 26.5**	**+0.1**
HSPB				*e*S	**Sn**	**12 49 16.3**	**-0.2**
HSPB				IAML		12 49 22.0	
comp=Z,7.4nm,0.7s							
HSPB	**Hornsund (broa**	**4.30**	**134**	*e*P	**Pn**	**12 48 26.5**	**+0.1**
SNR=49							
DAG	**Danmarks Havn**	**5.37**	**239**	*i* P	Pn	12 48 29.0	-12
DAG				*i* S	Sn	12 49 20.9	-22
DAG	**Danmarks Havn**	**5.37**	**239**	*i* S	Sn	12 49 20.9	-22
comp=Z,4.8nm,0.3s,SNR=49							
ARA0	**ARCESS Array S**	**12.30**	**138**	Pn	**Pn**	**12 50 16.3**	**+0.3**
baz=346,slow=12							
ARA0	**ARCESS Array S**	**12.30**	**138**	Pn	**Pn**	**12 50 16.3**	**+0.3**
baz=346,slow=12							
ARA0	**ARCESS Array S**	**12.30**	**138**	Pn	**Pn**	**12 50 16.3**	**+0.3**
SNR=50							

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*ISCJB **22** 12:49:07.8±0.5, 35°.09S±0°.04×72°.26W±0°.06, h29km, mb4.5/18, MS3.4/1, Error ellipse: s-maj=7.9km s-min=5.2km az=148.3*
*NEIC **22** 12:49:11.0, 35°.12S×72°.06W, h38km, mb4.5/4, After GUC.*
NEIC Felt [IV] at Linares, Longavi, Pelluhue, Talca and Villa Alegre; [III] at Cauquenes, Chanco, Constitucion, Parral and Rio Claro.
*IDC **22** 12:49:11.5±0.7, 35°.10S×71°.90W, h41km±5km, mb4.1/12, mb1 4.2/15, mb1mx4.1/28, mbtmp4.3/15, ML4.2/3, MS3.1/3, Ms1 3.1/3, ms1mx3.0/21, Error ellipse: s-maj=21.4km s-min=14.0km az=88.0*
*GUC **22** 12:49:11.0±0.8, 35°.12S×72°.06W, h38km±4km, ML4.8*
ISC 22 12:49:10.0±0.5, 35°.11S±0°.04×72°.10W±0°.07, h29km, n43, σ1§35/49, mb4.5/18, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.47**	**127**	*i* P	**Pb**	**12 49 21.1**	**+1.1**
TALC				*i* S	**Sn**	**12 49 28.1**	**-0.1**
TALC				AML	AML	12 49 29.2	
comp=E,102μm,0.2s							
NICH	**Los Niches**	**0.72**	**81**	‖ *i* P	**Pb**	**12 49 24.6**	**+0.6**
NICH				*i* S	**Sn**	**12 49 35.0**	**+0.7**
NICH				AML	AML	12 49 36.0	
comp=E,89μm,0.3s							
LNCH	**Linares**	**0.84**	**151**	‖ *i* P	**Pn**	**12 49 26.1**	**+0.3**
LNCH				*i* S	**Sn**	**12 49 37.7**	**+0.5**
LNV	**Longovilo**	**1.29**	**26**	‖ *i* P	**Pn**	**12 49 33.4**	**+1.5**
CACH	**El Canelo**	**1.59**	**52**	‖ *i* P	**Pn**	**12 49 37.5**	**+1.2**
CHCH	**Chadas Angostu**	**1.68**	**46**	*i* P1	**Pn**	**12 49 38.9**	**+1.5**
CLCH	**Cerro Calan**	**2.15**	**38**	‖ *i* P	**Pn**	**12 49 45.4**	**+1.5**
CLCH				AML	AML	12 50 27.7	
comp=N,8μm,0.7s							
YECH	**El Yeso**	**2.21**	**50**	*e*P9	**Pn**	**12 49 45.6**	**+0.7**
YECH				*e*S1	**Sn**	**12 50 12.8**	**+1.4**
CFAA	**Coronel Fontan**	**4.76**	**44**	P	**Pn**	**12 50 20.3**	**+0.4**
comp=N,1.2nm,0.3s,baz=219,slow=12,SNR=28							
CFAA				LR	LR	12 52 22.3	
comp=N,63nm,18.2s,baz=214,slow=41							
PLCA	**Paso Flores**	**5.74**	**168**	P	**Pn**	**12 50 35.2**	**+1.9**
comp=N,2.5nm,0.3s,baz=346,slow=12,SNR=41							
PLCA				LR	LR	12 52 45.1	
comp=N,203nm,20.7s,baz=208,slow=37							
LCO	**Las Campanas**	**6.20**	**11**	*e*Pn	**Pn**	**12 50 40.0**	**+0.2**
comp=N,49nm,0.6s							
TRQA	**Tornquist**	**8.65**	**113**	*e*Pn	**Pn**	**12 51 14.8**	**+1.6**
comp=N,9.6nm,0.6s							
LPAZ	**La Paz**	**19.08**	**12**	P	**P**	**12 53 32.0**	**+1.2**
comp=N,0.5nm,0.3s,baz=194,slow=7.3,SNR=25							
LPAZ	**La Paz**	**19.08**	**12**	*e*P	**P**	**12 53 31.6**	**+0.8**
comp=N,7.1nm,0.7s							
SIV	**San Ignacio**	**21.45**	**30**	P	**P**	**12 53 54.6**	**-1.4**
comp=N,12nm,0.7s,baz=216,slow=9.7,SNR=28							
BDFB	**Brasilia**	**29.01**	**54**	P	**P**	**12 55 06.1**	**-1.5**
comp=N,2.8nm,0.5s,baz=200,slow=8.5,SNR=4.3							
BDFB				LR	LR	13 09 07.9	
comp=N,100nm,20.9s,baz=206,slow=41							
PTGA	**Pitinga**	**36.03**	**21**	*e*P	**P**	**12 56 07.6**	**-1.1**
comp=N,4.9nm,0.7s							
VNA3	**Neumayer Olymp**	**48.35**	**157**	P	P	12 57 55.6	+7.1
VNA1	**Neumayer--Stat**	**48.67**	**157**	P	P	12 57 57.1	+6.1
VNA2	**Neumayer--Watz**	**49.01**	**157**	P	P	12 57 58.9	+5.3
baz=299,slow=11							
SNAA	**Sanae**	**50.58**	**157**	P	**P**	**12 58 05.1**	**-0.5**
SNAA	**Sanae**	**50.58**	**157**	P	**P**	**12 58 04.9**	**-0.7**
comp=N,1.9nm,0.8s,baz=279,slow=13,SNR=6.3							
QSPA	**South Pole Qui**	**55.13**	**180**	P	**P**	**12 58 39.7**	**+0.4**
comp=N,3.4nm,0.8s,baz=126,slow=6.8,SNR=16							
QSPA				pP	**pP**	**12 58 51.7**	**+3.5**
comp=N,3.1nm,0.8s,baz=90,slow=3.3,SNR=4.1							
TXAR	**Lajitas Array**	**70.68**	**331**	P	**P**	**13 00 23.6**	**+0.5**
comp=N,0.7nm,0.5s,baz=152,slow=8.5,SNR=12							
TXAR				pP	**pP**	**13 00 35.1**	**+2.9**
comp=N,1.6nm,0.7s,baz=153,slow=8.2,SNR=12							
WVT	**Waverly**	**72.38**	**347**	*e*P	**P**	**13 00 32.2**	**-0.8**
comp=N,11nm,0.7s							
LIC	**Lamto**	**75.17**	**71**	*e*P	**P**	**13 00 48.6**	**-1.4**
comp=N,16nm,0.6s							
TIC	**Toumodi**	**75.44**	**71**	*e*P	**P**	**13 00 50.4**	**-1.1**
comp=N,16nm,0.2s							
KIC	**Kosan Boka**	**75.48**	**71**	*e*P	**P**	**13 00 50.7**	**-1.1**
comp=N,24nm,0.8s							
DBIC	**Dimbokro**	**75.58**	**71**	P	**P**	**13 00 51.5**	**-0.9**
comp=N,7.9nm,0.7s,baz=209,slow=6.8,SNR=18							
BOSA	**Boshof**	**79.60**	**118**	P	**P**	**13 01 13.5**	**-1.3**
comp=N,6.0nm,0.8s,baz=232,slow=3.7,SNR=10							
ECSD	**EROS Data Cent**	**81.59**	**342**	*e*P	**P**	**13 01 24.2**	**-0.5**
comp=N,3.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**84.64**	**70**	P	**P**	**13 01 39.9**	**-1.2**
comp=N,4.8nm,0.7s,baz=278,slow=5.4,SNR=53							
TORD				pP	**pP**	**13 01 53.1**	**+2.7**
comp=N,4.4nm,0.8s,baz=286,slow=5.2,SNR=5.9							
PDAR	**Pinedale Array**	**84.73**	**333**	P	**P**	**13 01 41.1**	**-0.1**
comp=N,0.6nm,0.6s,baz=158,slow=5.2,SNR=5.6							
NVAR	**Mina Array Bea**	**84.77**	**325**	P	**P**	**13 01 42.4**	**+0.9**
comp=N,0.7nm,0.6s,baz=152,slow=5.3,SNR=7.2							
SCHQ	**Schefferville**	**89.70**	**3**	P	**P**	**13 02 04.4**	**-0.2**
comp=N,1.9nm,0.8s,baz=219,slow=7.3,SNR=4.0							
ESDC	**Sonseca Array**	**97.38**	**46**	P	**P**	**13 02 40.2**	**-0.3**
comp=N,0.2nm,0.3s,baz=243,slow=2.3,SNR=3.0							
WRA	**Warramunga Arr**	**119.77**	**209**	PKP	**PKPdf**	**13 07 56.6**	**-1.3**
comp=N,0.3nm,0.8s,baz=173,slow=1.8,SNR=6.9							
WRA				pPKP	**pPKPdf**	**13 08 10.6**	**+3.2**
comp=N,0.4nm,0.6s,baz=161,slow=1.6,SNR=3.6							
BRTR	**Keskin Array B**	**122.41**	**62**	PKP	**PKPdf**	**13 08 01.4**	**-1.0**
comp=N,0.6nm,0.6s,baz=211,slow=3.4,SNR=3.7							
HYB	**Hyderabad**	**148.50**	**116**	*i* PKP	**PKPdf**	**13 08 52.0**	**+1.2**
EKS2	**Erkin-Say**	**152.53**	**64**	*e*PKPdf	**PKPdf**	**13 08 56.1**	**-0.4**
EKS2				*e*PKPbc	**PKPbc**	**13 09 02.1**	**-1.4**
ZALV	**Zalesovo Beam**	**155.19**	**34**	PKP	**PKPdf**	**13 08 58.5**	**-1.1**
comp=N,0.4nm,0.6s,baz=347,slow=3.3,SNR=3.5							
MKAR	**Makanchi Array**	**157.52**	**51**	PKPab	**PKPab**	**13 09 33.9**	**-1.1**
comp=N,2.0nm,0.7s,baz=293,slow=3.7,SNR=15							
SONM	**Songino Array**	**167.24**	**5**	PKPab	**PKPab**	**13 10 17.6**	**+0.1**
comp=N,0.8nm,0.8s,baz=319,slow=4.4,SNR=7.0							

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*ISCJB **22** 12:49:29.2±0.3, 6°.20N±0°.03×126°.26E±0°.05, h127km, mb4.0/20, Error ellipse: s-maj=6.9km s-min=4.3km az=3.0*
*IDC **22** 12:49:32.2±2.7, 6°.08N×125°.81E, h147km±26km, mb3.7/20, mb1 3.8/21, mb1mx3.8/31, mbtmp4.2/21, MS3.1/1, Ms1 3.1/1, ms1mx2.4/37, Error ellipse: s-maj=21.3km s-min=9.8km az=85.0*
*MAN **22** 12:49:32, 6°.17N×126°.02E, h154km, mb4.9, ML3.8, MS3.8*
*DJA **22** 12:49:39.2±0.5, 6°.N±3°.×12°.6E±°., h111km±7km, M4.7/14, mB5.0/6, mb4.6/14, MLv4.9/11, Mw(mB)4.3/6*
ISC 22 12:49:30.6±0.5, 6°.15N±0°.04×126°.13E±0°.06, h127km, n59, σ2§05/67, mb4.0/20, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.80**	**9**	*e*P	Pn	12 49 56.0	+4.6
GSPH	**General Santos**	**1.18**	**267**	*e*P	**Pn**	**12 49 56.5**	**+1.3**
GSPH				*e*S	**Sn**	**12 50 15.4**	**+1.7**
BUKP	**Musuan**	**2.02**	**328**	*e*P	Pn	12 50 08.6	+3.9
BUKP				*e*S	**Sn**	**12 50 28.3**	**-2.5**
BIPH	**Bislig**	**2.03**	**6**	‖ *e*P	**Pn**	**12 50 07.4**	**+2.6**
BIPH				*i* S	**Sn**	**12 50 36.7**	**+5.7**
SGSI	**Sangihe**	**2.52**	**194**	P	**Pn**	**12 50 13.3**	**+2.3**
SGSI				S	**Sn**	**12 50 39.9**	**-2.2**
BUTP	**Butuan**	**2.84**	**350**	*e*P	Pn	12 50 18.7	+3.6
PAGZ	**Pagadian**	**3.21**	**302**	*e*P	**Pn**	**12 50 21.8**	**+1.9**
PAGZ				*e*S	**Sn**	**12 50 54.9**	**-3.0**
TNTI	**Ternate**	**5.49**	**167**	P	**Pn**	**12 50 50.9**	**+0.7**
TNTI				S	**Sn**	**12 51 48.3**	**-4.0**
KMSI	**Cibinong**	**5.94**	**201**	P	**Pn**	**12 50 58.3**	**+1.9**
160nm,1.0s,4μm0.8nm							
GTOI	**Gorontalo**	**6.30**	**210**	P	**Pn**	**12 51 03.5**	**+2.3**
177nm,0.6s,1μm0.6nm							
LBMI	**Labuha**	**6.88**	**169**	P	**Pn**	**12 51 10.0**	**+1.0**
78nm,0.7s,0.8nm							
LBMI				S	**Sn**	**12 52 21.8**	**-4.2**
78nm,0.7s,0.8nm							
MRSI	**Marisa**	**7.02**	**217**	P	**Pn**	**12 51 13.1**	**+2.2**
44nm,0.5s,0.3nm							
MRSI				S	**Sn**	**12 52 30.2**	**+0.8**
44nm,0.5s,0.3nm							
LUWI	**Luwuk**	**7.90**	**205**	P	**Pn**	**12 51 25.1**	**+2.4**
50nm,0.9s,0.4nm							
LUWI	**Luwuk**	**7.90**	**205**	P	Pn	12 51 31.1	+8.4
baz=8.0,SNR=5.7							
LUWI				S	**Sn**	**12 52 55.2**	**+4.6**
baz=8.0,SNR=3.4							
SANI	**Sanana**	**8.15**	**181**	P	**Pn**	**12 51 26.7**	**+0.6**
56nm,0.5s,3μm0.5nm							
SANI				S	**Sn**	**12 52 53.4**	**-3.3**
56nm,0.5s,3μm0.5nm							
APSI	**Ampana**	**8.32**	**213**	P	**Pn**	**12 51 31.4**	**+2.9**
34nm,0.9s,595nm0.2nm							
PALU	**Palau**	**8.37**	**81**	S	**Sn**	**12 53 04.0**	**+2.0**
baz=8.0,SNR=3.1							
MPSI	**Mapaga**	**8.49**	**227**	P	Pn	12 51 35.3	+4.6
8.7nm,0.7s							
NLAI	**Namlea**	**9.38**	**174**	P	**Pn**	**12 51 43.5**	**+0.8**
62nm,0.9s,2μm							
FAKI	**Fak Fak**	**10.89**	**146**	P	**Pn**	**12 52 04.5**	**+1.6**
24nm,1.3s							
FAKI	**Fak Fak**	**10.89**	**146**	P	**Pn**	**12 52 04.2**	**+1.3**
baz=11,SNR=9.3							
TTSI	**Tana Toraja**	**11.10**	**215**	P	**Pn**	**12 52 08.7**	**+2.9**
51nm,1.5s							
SPSI	**Sidrap Palu**	**11.89**	**212**	P	**Pn**	**12 52 17.8**	**+1.6**
9.7nm,0.9s							
BATI	**Baumata**	**16.44**	**189**	P	**P**	**12 53 18.2**	**+3.7**
BATI	**Baumata**	**16.44**	**189**	P	**Pn**	**12 53 14.7**	**+0.7**
9.9nm,0.3s,baz=1.7,slow=1.2,SNR=16							
BATI				S	**Sn**	**12 56 15.7**	**-1.3**
0.8nm,0.3s,baz=270,slow=20,SNR=2.7							
BATI				LR	LR	12 59 51.2	
comp=Z,70nm,20.0s,baz=164,slow=38							
MTN	**Manton Dam**	**19.52**	**165**	P	**P**	**12 53 48.6**	**+0.5**
baz=19,SNR=14							
KDU	**Kakadu**	**19.75**	**161**	P	**P**	**12 53 51.3**	**+0.6**
baz=20,SNR=12							
KNRA	**Kununurra**	**21.84**	**173**	P	**P**	**12 54 12.9**	**-0.2**
baz=22,SNR=49							
FITZ	**Fitzroy Crossi**	**24.11**	**181**	P	**P**	**12 54 33.7**	**-0.9**
baz=24,SNR=9.7							
MDSI	**Maura Dua**	**24.34**	**245**	P	**P**	**12 54 39.7**	**+2.9**
WRA	**Warramunga Arr**	**27.16**	**163**	P	**P**	**12 55 01.4**	**-0.9**
0.8nm,0.4s,baz=333,slow=11,SNR=27							
JNU	**Nakatsue**	**27.19**	**9**	P	**P**	**12 55 03.2**	**+0.8**
10nm,0.9s,baz=204,slow=15,SNR=5.7							
CMAR	**Chiang Mai Arr**	**29.19**	**297**	P	**P**	**12 55 18.4**	**-1.9**
0.7nm,0.4s,baz=108,slow=5.8,SNR=4.4							
CMAR				ScP	**ScP**	**13 01 52.0**	**-3.0**
1.4nm,0.9s,baz=109,slow=1.3

baz=35,SNR=4.8
BBOO Buckleboo 43.78 243 P **P 13 05 07.5 -0.2**
baz=43,SNR=7.2
WRA Warramunga Arr 45.57 261 P **P 13 05 21.6 -0.3**
0.5nm,0.3s,baz=97,slow=8.0,SNR=23
ASAR Alice Springs 45.57 256 P **P 13 05 21.9 +0.1**
7.6nm,0.6s,baz=92,slow=8.2,SNR=180
WRKA Warakurna 50.56 253 P **P 13 05 59.4 -0.2**
baz=49,SNR=39
KNRA Kununurra 51.55 265 P **P 13 06 07.4 +0.4**
baz=49,SNR=6.8
FITZ Fitzroy Crossi 53.98 261 P **P 13 06 25.1 +0.5**
baz=52,SNR=4.0
TXAR Lajitas Array 85.77 57 P **P 13 09 37.4 +1.3**
0.4nm,1.0s,baz=226,slow=3.6,SNR=3.9
ILAR Eielson Array 87.03 12 P **P 13 09 40.2 -1.0**
0.2nm,0.4s,baz=216,slow=5.3,SNR=6.9

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*ISCJB **22** 13:05:42.1±1.8,57.°98S±0.°07×25.°4W±0.°1,h62km±18km, mb4.8/17,Error ellipse: s-maj=13.5km s-min=9.0km az=40.0*
*NEIC **22** 13:05:42.6±0.2,57.°95S×25.°29W,mb4.9/3,Error ellipse: s-maj=8.8km s-min=6.7km az=19.0*
*IDC **22** 13:05:43.0±0.4,57.°96S×25.°43W,h54km±3km,mb4.4/12, mb1 4.4/13,mb1mx4.2/24,mbtmp4.6/13,MS3.8/16, Ms1 3.8/16,ms1mx3.8/24,Error ellipse: s-maj=15.8km s-min=13.8km az=81.0*
*AWI **22** 13:05:46.6,58.°67S×26.°02W*
ISC 22 13:05:42.9±0.5,57.°98S±0.°08×25.°32W±0.°08,h55km±4km, h54km:pP-P,n87,σ0§79/82,mb4.8/17,MS3.9/14,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.26**	**296**	*e*P	**Pn**	**13 07 28.3**	**+2.1**
	181nm,1.1s						
VNA1	**Neumayer--Stat**	**14.61**	**157**	P	**Pn**	**13 09 06.5**	**+0.4**
VNA3	**Neumayer Olymp**	**14.82**	**160**	P	**Pn**	**13 09 08.1**	**-0.8**
VNA2	**Neumayer--Watz**	**15.01**	**157**	P	**Pn**	**13 09 11.2**	**-0.1**
	baz=318,slow=15						
SNAA	**Sanae**	**16.55**	**155**	P	**Pn**	**13 09 31.7**	**+0.6**
SNAA	**Sanae**	**16.55**	**155**	P	**Pn**	**13 09 31.5**	**+0.5**
	4.4nm,0.3s,baz=314,slow=15,SNR=193						
SNAA				S	Sn	13 12 20.5	-13
	0.2nm,0.3s,baz=340,slow=19,SNR=3.9						
SNAA				LR	LR	13 14 29.3	
	comp=Z,157nm,19.8s,baz=339,slow=32						
SNAA	**Sanae**	**16.55**	**155**	*e*P	**Pn**	**13 09 31.0**	**0.0**
	46nm,0.6s						
SNAA				S	Sn	13 12 20.5	-13
PMSA	**Palmer Station**	**19.48**	**233**	LR	LR	13 16 40.9	
	comp=Z,523nm,18.7s,baz=73,slow=34						
PMSA	**Palmer Station**	**19.48**	**233**	P	**P**	**13 10 05.1**	**+0.2**
EFI	**East Falkland**	**19.75**	**274**	*e*P	**Pn**	**13 10 09.1**	**-0.6**
USHA	**Ushuaia**	**23.76**	**259**	P	**P**	**13 10 50.8**	**+1.0**
	8.6nm,0.9s,baz=99,slow=13,SNR=3.0						
USHA				LR	LR	13 17 56.7	
	comp=Z,455nm,20.4s,baz=62,slow=31						
TRQA	**Tornquist**	**31.03**	**294**	P	**P**	**13 11 56.4**	**+1.2**
QSPA	**South Pole Qui**	**32.26**	**180**	P	**P**	**13 12 06.9**	**+1.0**
	21nm,1.0s,baz=210,slow=2.4,SNR=45						
QSPA				LR	LR	13 25 14.8	
	comp=Z,264nm,19.0s,baz=147,slow=36						
QSPA	**South Pole Qui**	**32.26**	**180**	*e*P	**P**	**13 12 06.8**	**+0.8**
PLCA	**Paso Flores**	**33.36**	**281**	P	**P**	**13 12 15.0**	**-0.7**
	2.1nm,0.8s,baz=132,slow=3.8,SNR=3.7						
PLCA				LR	LR	13 25 49.8	
	comp=Z,221nm,18.8s,baz=188,slow=36						
PLCA	**Paso Flores**	**33.36**	**281**	*e*P	**P**	**13 12 15.4**	**-0.3**
MAW	**Mawson**	**37.99**	**142**	P	**P**	**13 12 55.2**	**+0.3**
	14nm,0.7s,baz=233,slow=5.2,SNR=2.8						
MAW				LR	LR	13 26 32.6	
	comp=Z,219nm,19.5s,baz=240,slow=33						
CFAA	**Coronel Fontan**	**39.27**	**293**	LR	LR	13 28 26.6	
	comp=Z,220nm,21.4s,baz=188,slow=35						
SUR	**Sutherland**	**40.23**	**71**	P	**P**	**13 13 15.5**	**+1.3**
	6.3nm,0.7s,baz=198,slow=5.5,SNR=5.7						
VNDA	**Vanda**	**44.68**	**182**	P	**P**	**13 13 50.9**	**+1.3**
	14nm,0.9s,baz=183,slow=6.5,SNR=46						
BOSA	**Boshof**	**45.52**	**72**	P	**P**	**13 13 57.3**	**+0.3**
	9.6nm,0.7s,baz=211,slow=7.5,SNR=15						
BOSA	**Boshof**	**45.52**	**72**	*e*P	**P**	**13 13 56.9**	**0.0**
BDFB	**Brasilia**	**45.55**	**329**	P	**P**	**13 13 57.6**	**+0.4**
	2.5nm,0.4s,baz=188,slow=11,SNR=3.6						
BDFB				LR	LR	13 31 57.7	
	comp=Z,82nm,19.7s,baz=189,slow=35						
LBTB	**Lobatse**	**48.65**	**70**	*e*P	**P**	**13 14 21.3**	**0.0**
	21nm,1.2s						
H10S2	**ASCENSION HYDR**	**49.60**	**14**	T	T	14 09 01.4	
	baz=188,slow=75,SNR=44						
H10S3	**ASCENSION HYDR**	**49.60**	**14**	T	T	14 09 02.0	
	baz=188,slow=75,SNR=32						
H10S1	**ASCENSION HYDR**	**49.62**	**14**	T	T	14 09 02.4	
	baz=188,slow=75,SNR=114						
SIV	**San Ignacio**	**49.65**	**312**	LR	LR	13 37 03.3	
	comp=Z,82nm,18.5s,baz=102,slow=38						
TSUM	**Tsumeb**	**49.80**	**57**	*e*P	**P**	**13 14 31.0**	**+0.8**
H10N1	**ASCENSION HYDR**	**50.72**	**14**	T	T	14 10 25.4	
	baz=188,slow=76,SNR=14						
H10N3	**ASCENSION HYDR**	**50.72**	**14**	T	T	14 10 25.9	
	baz=188,slow=76,SNR=38						
H10N2	**ASCENSION HYDR**	**50.73**	**14**	T	T	14 10 26.6	
	baz=188,slow=76,SNR=32						
LPAZ	**La Paz**	**52.32**	**304**	P	**P**	**13 14 48.8**	**-0.9**
	1.3nm,0.5s,baz=133,slow=5.7,SNR=5.0						
LPAZ				LR	LR	13 38 33.9	
	comp=Z,81nm,20.4s,baz=174,slow=38						
LPAZ	**La Paz**	**52.32**	**304**	*e*P	**P**	**13 14 47.4**	**-2.2**
SAML	**Samuel**	**56.89**	**314**	*e*P	**P**	**13 15 20.2**	**-1.8**
	5.8nm,0.6s						
NNA	**Nana**	**60.07**	**298**	LR	LR	13 42 14.4	
	comp=Z,73nm,19.5s,baz=156,slow=36						
LIC	**Lamto**	**66.07**	**22**	*e*P	**P**	**13 16 24.2**	**+0.3**
	56nm,1.4s						
KIC	**Kosan Boka**	**66.26**	**22**	*e*P	**P**	**13 16 25.2**	**+0.1**
	20nm,0.8s						
TIC	**Toumodi**	**66.48**	**22**	*e*P	P	13 16 20.9	-5.6
	42nm,0.2s						
DBIC	**Dimbokro**	**66.54**	**22**	P	**P**	**13 16 27.3**	**+0.4**
	3.2nm,0.4s,baz=170,slow=7.2,SNR=9.5						
DBIC				pP	**pP**	**13 16 42.4**	**+0.4**
	7.6nm,0.8s,baz=186,slow=7.5,SNR=6.6						
DBIC				LR	LR	13 38 18.7	
	comp=Z,93nm,21.7s,baz=168,slow=29						
DBIC	**Dimbokro**	**66.54**	**22**	P	**P**	**13 16 27.3**	**+0.4**
DBIC				pP	**pP**	**13 16 42.4**	**+0.4**
DBIC				*e*pP	**pP**	**13 16 42.5**	**+0.5**
ROSC	**El Rosal**	**73.92**	**308**	LR	LR	13 50 10.0	
	comp=Z,91nm,20.8s,baz=195,slow=36						
TORD	**Torodi Ar. Bea**	**74.27**	**27**	P	**P**	**13 17 14.7**	**+0.7**
	4.3nm,0.5s,baz=199,slow=6.3,SNR=78						
TORD				pP	**pP**	**13 17 29.5**	**+0.2**
	15nm,0.8s,baz=196,slow=5.9,SNR=18						
TORD				LR	LR	13 42 40.5	
	comp=Z,108nm,21.7s,baz=200,slow=30						
KMBO	**Kilima Mbogo**	**74.82**	**67**	LR	LR	13 48 55.1	
	comp=Z,120nm,18.2s,baz=92,slow=35						
ASAR	**Alice Springs**	**96.83**	**161**	P	**P**	**13 19 07.1**	**-0.7**
	2.4nm,0.9s,baz=188,slow=3.9,SNR=16						
ASAR				pP	**pP**	**13 19 22.9**	**-0.7**
	1.1nm,0.8s,baz=187,slow=3.3,SNR=4.4						
ESDC	**Sonseca Array**	**98.93**	**17**	LR	LR	13 59 07.6	
	comp=Z,23nm,19.6s,baz=120,slow=32						
WRA	**Warramunga Arr**	**100.54**	**161**	P	**Pdif**	**13 19 23.7**	**-0.7**
	0.5nm,0.8s,baz=193,slow=4.4,SNR=4.4						
SRU	**San Rafael Swe**	**119.81**	**297**	*e*PKPdf	**PKPdf**	**13 24 25.5**	**-0.8**
RSSD	**Black Hills**	**120.80**	**305**	*e*PKPdf	**PKPdf**	**13 24 26.9**	**-1.2**
TCUT	**Toone Canyon**	**121.80**	**298**	PKPdf	**PKPdf**	**13 24 29.6**	**-0.5**
TCUT				*e*		13 24 46.3	
PDAR	**Pinedale Array**	**122.22**	**300**	PKP	**PKPdf**	**13 24 29.6**	**-1.3**
	0.4nm,0.4s,baz=132,slow=3.9,SNR=4.4						
PDAR				pPKP	**pPKPdf**	**13 24 45.2**	**-2.0**
	0.6nm,0.4s,baz=127,slow=4.3,SNR=6.5						
ULM	**Lac du Bonnet**	**122.34**	**314**	pPKP	pPKPdf	13 24 45.0	-1.8
	7.0nm,0.7s,baz=155,slow=2.6,SNR=9.7						
NVAR	**Mina Array Bea**	**123.07**	**291**	PKP	**PKPdf**	**13 24 33.0**	**+0.4**
	0.7nm,0.8s,baz=144,slow=2.5,SNR=5.7						
NVAR				pPKP	**pPKPdf**	**13 24 48.8**	**-0.1**
	0.8nm,0.7s,baz=162,slow=3.8,SNR=5.5						
CMAR	**Chiang Mai Arr**	**123.44**	**110**	PKP	**PKPdf**	**13 24 33.5**	**-0.2**
	1.5nm,0.5s,baz=233,slow=3.6,SNR=14						
CMAR				pPKP	**pPKPdf**	**13 24 49.5**	**-0.4**
	1.1nm,0.6s,baz=229,slow=3.4,SNR=3.9						
RLMT	**Red Lodge**	**123.91**	**302**	*e*PKPdf	**PKPdf**	**13 24 33.6**	**-0.4**
FINES	**FINESS Array B**	**125.62**	**28**	PKP	**PKPdf**	**13 24 36.0**	**-0.5**
	1.7nm,0.5s,baz=174,slow=4.0,SNR=11						
FINES				pPKP	**pPKPdf**	**13 24 52.5**	**-0.2**
	3.0nm,0.8s,baz=153,slow=4.7,SNR=3.6						
KAF	**Kangasniemi**	**126.26**	**27**	*e*pkp	PKPdf	13 24 44.4	+6.8
WVOR	**Wild Horse Val**	**126.28**	**294**	*e*PKPdf	**PKPdf**	**13 24 39.0**	**+0.5**
BMO	**Blue Mountains**	**127.44**	**296**	*e*PKPdf	**PKPdf**	**13 24 39.4**	**-1.2**
YBH	**Yreka Blue Hor**	**127.77**	**290**	pPKP	pPKPdf	13 24 57.6	-0.1
	1.2nm,0.7s,baz=189,slow=13,SNR=2.7						
SWMT	**Swartz Lake**	**127.86**	**301**	*e*PKPdf	**PKPdf**	**13 24 40.9**	**-0.5**
SWMT				*e*		13 24 56.6	
KKAR	**Karatay Array**	**128.01**	**68**	*e*PKPdf	**PKPdf**	**13 24 40.5**	**-1.1**
JTMT	**Jette**	**128.17**	**301**	*e*PKPdf	**PKPdf**	**13 24 41.3**	**-0.7**
JOF	**Joensuu**	**128.19**	**29**	*e*pkp	**PKPdf**	**13 24 40.8**	**-0.5**
ARCES	**ARCESS Array B**	**132.37**	**22**	PKP	**PKPdf**	**13 24 48.3**	**-0.8**
	4.2nm,0.9s,baz=127,slow=0.4,SNR=6.9						
MKAR	**Makanchi Array**	**136.52**	**72**	PKP	**PKPdf**	**13 24 58.5**	**+0.8**
	0.7nm,0.8s,baz=225,slow=4.1,SNR=5.8						
MKAR				pPKP	**pPKPdf**	**13 25 14.2**	**+0.3**
	0.4nm,0.6s,baz=200,slow=0.5,SNR=4.1						
YKA	**Yellowknife Ar**	**138.28**	**316**	PKP	**PKPdf**	**13 24 59.7**	**-0.6**
	1.3nm,0.4s,baz=126,slow=2.3,SNR=26						
YKA				pPKP	**pPKPdf**	**13 25 15.7**	**-0.8**
	15nm,0.6s,baz=130,slow=1.9,SNR=41						
YKA				SKP		13 28 28.6	
	0.6nm,0.7s,baz=122,slow=2.1,SNR=5.1						
ZALV	**Zalesovo Beam**	**142.28**	**65**	PKhKP	PKPpre	13 25 02.1	
	0.9nm,0.3s,baz=236,slow=4.6,SNR=5.7						
HYT	**Haines Junctio**	**146.75**	**304**	*e*PKPbc	**PKPbc**	**13 25 17.3**	**-0.1**
DAWY	**Dawson**	**148.83**	**309**	*e*PKPbc	**PKPbc**	**13 25 21.9**	**-0.9**
EGAK	**Eagle**	**149.78**	**310**	*e*PKPbc	**PKPbc**	**13 25 24.1**	**-0.9**
SONM	**Songino Array**	**149.79**	**88**	PKPbc	**PKPbc**	**13 25 25.5**	**-0.2**
	5.6nm,0.5s,baz=221,slow=3.7,SNR=83						
SONM				pPKPbc	**pPKPbc**	**13 25 41.6**	**-0.4**
	5.0nm,0.5s,baz=227,slow=3.0,SNR=11						
BMRM	**Bremner River**	**149.98**	**302**	*e*PKPbc	**PKPbc**	**13 25 25.6**	**-0.1**
DOT	**Dot Lake**	**150.65**	**307**	*e*PKPbc	**PKPbc**	**13 25 27.4**	**+0.2**
PAX	**Paxson**	**151.05**	**305**	*e*PKPbc	**PKPbc**	**13 25 27.3**	**-0.9**
SEW	**Seward**	**151.91**	**298**	*e*PKPbc	**PKPbc**	**13 25 29.1**	**-1.0**
ILAR	**Eielson Array**	**152.15**	**309**	PKPbc	**PKPbc**	**13 25 29.9**	**-0.6**
	17nm,1.0s,baz=136,slow=1.4,SNR=77						
ILAR				pPKPbc	**pPKPbc**	**13 25 46.6**	**-0.2**
	25nm,0.8s,baz=130,slow=2.2,SNR=22						
PMR	**Palmer**	**152.25**	**301**	*e*PKPbc	**PKPbc**	**13 25 30.6**	**-0.3**
RC01	**Rabbit Creek A**	**152.37**	**300**	*e*PKPbc	**PKPbc**	**13 25 30.7**	**-0.5**
COLA	**College**	**152.57**	**309**	*e*PKPbc	**PKPbc**	**13 25 30.7**	**-0.8**
MCK	**McKinley**	**152.76**	**306**	*e*PKPbc	**PKPbc**	**13 25 31.9**	**-0.1**
KSAR	**Wonju Array Be**	**152.98**	**128**	PKPbc	**PKPbc**	**13 25 32.8**	**-0.4**
KSRS	**Korea Array**	**153.00**	**128**	PKPbc	**PKPbc**	**13 25 32.8**	**-0.5**
	2.8nm,1.0s,baz=184,slow=3.2,SNR=6.1						
TRF	**Thorofare Moun**	**153.28**	**305**	*e*PKPbc	**PKPbc**	**13 25 32.9**	**-0.4**
KTH	**Kantishna Hill**	**153.58**	**305**	*e*PKPbc	**PKPbc**	**13 25 33.4**	**-0.5**
COLD	**Coldfoot**	**153.91**	**313**	*e*PKPbc	**PKPbc**	**13 25 34.6**	**+0.3**
PPLA	**Purkeypile**	**153.99**	**303**	*e*PKPbc	**PKPbc**	**13 25 34.3**	**-0.6**

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*ISCJB **22** 13:09:11.6±1.2,23.°6S±0.°2×179.°9E±0.°2,h500km,mb4.1/5, Error ellipse: s-maj=26.9km s-min=24.7km az=3.6*
*IDC **22** 13:09:12.5±3.7,23.°89S×179.°92W,h511km±26km,mb3.7/5, mb1 3.9/5,mb1mx3.4/17,mbtmp4.5/5,Error ellipse: s-maj=129.0km s-min=24.2km az=162.0*
ISC 22 13:09:12.1±1.1,23.°6S±0.°2×180.°0W±0.°2,h500km,n9, σ1§49/10,mb4.2/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.82**	**189**	P	**P**	**13 12 20.4**	**+0.1**
	0.9nm,0.3s,baz=103,slow=10.0,SNR=11						
CTA	**Charters Tower**	**31.49**	**270**	P	**P**	**13 14 53.5**	**+1.0**
	13nm,0.3s,baz=97,slow=11,SNR=34						
ASAR	**Alice Springs**	**42.10**	**260**	P	**P**	**13 16 19.6**	**-0.3**
	2.9nm,0.3s,baz=92,slow=7.4,SNR=61						
ASAR				ScP	**ScP**	**13 21 04.5**	**-1.5**
	1.0nm,0.8s,baz=97,slow=4.2,SNR=5.7						
WRA	**Warramunga Arr**	**42.44**	**266**	P	**P**	**13 16 22.0**	**-0.6**
	6.1nm,0.3s,baz=102,slow=8.3,SNR=717						
WRA				ScP	**ScP**	**13 21 05.6**	**-1.8**
	0.8nm,0.9s,baz=92,slow=4.7,SNR=5.5						
CMAR	**Chiang Mai Arr**	**89.44**	**290**	P	**P**	**13 21 16.0**	**+0.3**
	0.8nm,0.8s,baz=134,slow=3.9,SNR=5.6						
TXAR	**Lajitas Array**	**90.26**	**58**	P	**P**	**13 21 19.8**	**+0.4**
	0.6nm,0.8s,baz=219,slow=7.1,SNR=7.9						
HFS	**Hagfors**	**142.25**	**349**	PKhKP	PKPpre	13 27 41.1	
	0.7nm,0.3s,baz=45,slow=2.2,SNR=8.0						
AKASG	**Malin Array Be**	**144.73**	**327**	PKPbc	**PKPdf**	**13 27 49.1**	**-2.2**
	0.8nm,0.5s,baz=46,slow=4.2,SNR=3.8						
BRTR	**Keskin Array B**	**147.41**	**308**	PKPbc	**PKPdf**	**13 27 58.3**	**+1.9**
	0.8nm,0.7s,baz=73,slow=4.8,SNR=2.2						

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*IDC **22** 13:18:17.6±2.0,30.°69S×177.°55W,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.7/30,mbtmp3.9/3,ML3.6/1,MS3.6/1, Ms1 3.6/1,ms1mx2.9/27,Error ellipse: s-maj=49.6km s-min=22.6km az=102.0*
*ISCJB **22** 13:18:21.6±1.6,30.°74S±0.°07×177.°7W±0.°3,h35km, mb3.9/3,Error ellipse: s-maj=33.4km s-min=9.7km az=6.3*
*NEIC **22** 13:18:25.9±1.8,30.°34S×177.°60W,h63km±12km,mb4.1/1, Error ellipse: s-maj=26.9km s-min=15.6km az=114.0*
ISC 22 13:18:23.0±1.3,30.°73S±0.°08×177.°8W±0.°3,h35km,n13, σ1§36/14,mb4.1/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.48**	**357**	Pn	**Pn**	**13 18 45.5**	**-1.6**
	457nm,0.3s,baz=85,slow=19,SNR=9.1						
RAO				Sn	**Sn**	**13 19 05.1**	**0.0**
	552nm,0.3s,baz=100,slow=22,SNR=11						
OUZ	**Omahuta**	**8.49**	**236**	*e*P	Pn	13 20 32.2	+8.8
URZ	**Urewera**	**8.60**	**208**	Pn	**Pn**	**13 20 23.7**	**-1.2**
	0.6nm,0.3s,baz=315,slow=4.3,SNR=5.7						
URZ				Sn	**Sn**	**13 21 59.8**	**-0.8**
	0.6nm,0.3s,baz=323,slow=20,SNR=6.1						
URZ	**Urewera**	**8.60**	**208**	*e*P	**Pn**	**13 20 23.9**	**-1.0**
URZ				*e*S	**Sn**	**13 21 59.5**	**-1.1**
DZM	**Mont Dzumac**	**16.51**	**298**	LR	LR	13 27 34.0	
	comp=Z,182nm,19.7s,baz=202,slow=33						
AS31	**Alice Springs**	**43.24**	**267**	*e*P	**P**	**13 26 22.9**	**+1.7**
ASAR	**Alice Springs**	**43.24**	**267**	P	**P**	**13 26 23.4**	**+2.2**
	0.4nm,0.4s,baz=105,slow=7.2,SNR=15						
WB2	**Warramunga Arr**	**44.25**	**272**	*e*P	**P**	**13 26 30.0**	**+0.7**
WRAB	**Tennant Creek**	**44.26**	**272**	*e*P	**P**	**13 26 30.5**	**+1.1**
	2.0nm,0.5s						
WRA	**Warramunga Arr**	**44.26**	**272**	P	**P**	**13 26 30.7**	**+1.2**
	1.8nm,0.6s,baz=112,slow=7.9,SNR=36						
QSPA	**South Pole Qui**	**59.38**	**180**	*e*P	**P**	**13 28 23.1**	**+1.4**
FINES	**FINESS Array B**	**145.51**	**340**	PKPbc	**PKPdf**	**13 37 56.1**	**-0.5**
	2.8nm,0.7s,baz=90,slow=2.8,SNR=12						
AKASG	**Malin Array Be**	**151.65**	**322**	PKPbc	**PKPbc**	**13 38 13.9**	**+0.6**
	0.4nm,0.3s,baz=37,slow=1.8,SNR=3.3						

IDC 22 13:24:14.4±8.7,2.°56S×137.°51E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.4/24,mbtmp3.4/3,ML3.3/1,Error ellipse: s-maj=392.0km s-min=28.9km az=83.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.27**	**266**	P	Pn	13 25 35.8	+1.3
	baz=3.9,SNR=3.1						
KDU	**Kakadu**	**11.23**	**206**	P	Pn	13 26 55.4	-1.0
	baz=9.4,SNR=7.4						
MTN	**Manton Dam**	**12.01**	**211**	P	Pn	13 27 07.0	-0.1
	baz=10,SNR=3.2						
KNRA	**Kununurra**	**15.63**	**213**	P	Pn	13 27 54.6	-1.6
	baz=14,SNR=5.1						
WRA	**Warramunga Arr**	**17.56**	**190**	P	Pn	13 28 19.1	-1.7
	0.1nm,0.3s,baz=11,slow=13,SNR=5.1						
WRA				S	Sn	13 31 25.3	-12
	0.1nm,0.3s,baz=13,slow=22,SNR=4.9						
FITZ	**Fitzroy Crossi**	**19.35**	**216**	P	Pn	13 28 44.5	+1.9
	baz=17,SNR=3.5						
ASAR	**Alice Springs**	**21.27**	**189**	P	P	13 29 03.4	+0.8
	1.6nm,0.5s,baz=16,slow=9.9,SNR=18						
MKAR	**Makanchi Array**	**68.94**	**323**	P	P	13 35 21.4	0.0
	0.3nm,1.0s,baz=136,slow=7.0,SNR=2.5						

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*ISCJB **22** 13:27:12.1±1.2,35.°53S±0.°10×72.°6W±0.°2,h20km,mb3.7/3, Error ellipse: s-maj=23.4km s-min=11.7km az=23.4*
*IDC **22** 13:27:12.3±1.8,35.°45S×72.°64W,h0km,mb3.7/3, mb1 3.8/5,mb1mx3.7/17,mbtmp3.6/5,ML3.5/2,Error ellipse: s-maj=43.8km s-min=28.8km az=100.0*
ISC 22 13:27:14.8±1.3,35.°5S±0.°1×72.°6W±0.°2,h20km,n6,σ1§82/7, mb4.0/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.33**	**44**	Pn	**Pn**	**13 28 31.5**	**-1.8**
	0.1nm,0.3s,baz=220,slow=11,SNR=2.7						
CFAA				Sn	**Sn**	**13 29 35.0**	**+0.9**
	0.1nm,0.3s,baz=203,slow=15,SNR=2.4						
PLCA	**Paso Flores**	**5.45**	**163**	Pn	**Pn**	**13 28 34.1**	**-0.8**
	0.3nm,0.3s,baz=338,slow=15,SNR=5.5						
PLCA				Lg	Lg	13 30 01.8	
	0.4nm,0.3s,baz=277,slow=16,SNR=5.0						
LPAZ	**La Paz**	**19.56**	**13**	P	**P**	**13 31 40.6**	**-1.4**
	0.1nm,0.3s,baz=166,slow=4.2,SNR=3.2						
SIV	**San Ignacio**	**22.00**	**31**	P	**P**	**13 32 08.0**	**+0.2**
	7.0nm,1.2s,baz=237,slow=12,SNR=3.8						
TXAR	**Lajitas Array**	**70.84**	**331**	P	**P**	**13 38 30.3**	**+0.2**
	0.2nm,0.6s,baz=144,slow=6.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**85.15**	**70**	P	**P**	**13 39 52.4**	**+2.6**
	1.2nm,1.1s,baz=222,slow=1.9,SNR=4.4						

IDC 22 13:29:47.9±2.1,6.°41S×129.°29E,h0km,mb3.2/1, mb1 3.2/3,mb1mx3.1/32,mbtmp3.0/3,ML2.8/2,MS3.5/1, Ms1 3.5/1,ms1mx2.5/13,Error ellipse: s-maj=119.1km s-min=31.2km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.32**	**160**	Pn	Pn	13 33 13.6	+1.5
	0.0nm,0.3s,baz=339,slow=12,SNR=3.9						
WRA				Sn	Sn	13 35 37.0	-15
	0.1nm,0.3s,baz=334,slow=23,SNR=2.9						
ASAR	**Alice Springs**	**17.73**	**166**	P	Pn	13 33 55.3	-1.0
	0.1nm,0.3s,baz=346,slow=9.7,SNR=6.6						
HNR	**Honiara**	**30.50**	**98**	LR	LR	13 47 43.9	
	comp=Z,93nm,21.4s,baz=208,slow=35						
MKAR	**Makanchi Array**	**67.35**	**327**	P	P	13 40 44.9	0.0
	0.2nm,0.9s,baz=126,slow=7.3,SNR=2.3						

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*IDC **22** 13:36:43.6±1.2,63.°87S×168.°71W,h0km,mb3.8/3, mb1 4.0/4,mb1mx4.0/10,mbtmp3.8/4,ML3.5/1,MS4.1/10, Ms1 4.1/10,ms1mx4.1/13,Error ellipse: s-maj=54.9km s-min=32.7km az=22.0*
ISC 22 13:36:45.2±1.2,64.°0S±0.°2×168.°9W±0.°2,h10km,n18, σ1§17/6,mb3.9/3,MS4.2/9,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.35**	**202**	Pn	**P**	**13 40 37.6**	**+0.3**
	0.2nm,0.3s,baz=50,slow=14,SNR=9.5						
VNDA				LR	LR	13 45 35.3	
	comp=Z,388nm,19.2s,baz=116,slow=32						
QSPA	**South Pole Qui**	**26.14**	**180**	LR	LR	13 51 26.5	
	comp=Z,302nm,18.6s,baz=102,slow=34						
URZ	**Urewera**	**27.07**	**335**	LR	LR	13 51 23.9	
	comp=Z,436nm,19.7s,baz=184,slow=33						
TBI	**Tubuai**	**42.59**	**27**	*e*LR	LR	13 56 17.3	
	159nm,27.2s,baz=184						
MAW	**Mawson**	**43.61**	**206**	LR	LR	14 02 17.8	
	comp=Z,301nm,18.0s,baz=226,slow=35						
PPT2	**Papeete2**	**48.17**	**25**	*e*LR	LR	13 58 46.1	
	194nm,29.8s						
PPT	**Papeete**	**48.19**	**25**	LR	LR	14 00 37.6	
	comp=Z,84nm,18.6s,baz=186,slow=30						
H01W1	**Cape Leeuwin H**	**53.65**	**264**	T	T	14 44 34.2	
	baz=147,slow=76,SNR=7.4						
H01W2	**Cape Leeuwin H**	**53.66**	**264**	T	T	14 44 28.3	
	baz=147,slow=76,SNR=6.3						
H01W3	**Cape Leeuwin H**	**53.67**	**264**	T	T	14 44 34.3	
	baz=147,slow=76,SNR=7.5						
ASAR	**Alice Springs**	**54.75**	**289**	P	**P**	**13 46 15.4**	**+0.6**
	1.4nm,1.0s,baz=148,slow=7.2,SNR=8.6						
ASAR				LR	LR	14 06 45.4	
	comp=Z,154nm,21.0s,baz=166,slow=33						
PLCA	**Paso

	comp=N,54nm,0.3s						
PTEO	**Sao Teotonio**	**1.96**	**42**	P	**Pn**	**13 47 07.0 +1.4**	
PTEO				S	**Sn**	**13 47 31.9 +1.6**	
	comp=N,27nm,0.3s						
PTEO	**Sao Teotonio**	**1.96**	**42**	P	**Pn**	**13 47 07.0 +1.4**	
PTEO				S	**Sn**	**13 47 31.9 +1.6**	
	comp=N,27nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.27**	**59**	*i* Pn	**Pn**	**13 47 11.5 +1.6**	
PBDV				*e*Sn	**Sn**	**13 47 38.8 +0.8**	
PBDV				A	A	13 47 50.2	
	comp=N,21nm,0.4s						
PBDV	**Barranco-do-Ve**	**2.27**	**59**	⇑P	**Pn**	**13 47 11.5 +1.6**	
PBDV				S	**Sn**	**13 47 38.8 +0.8**	
	comp=N,21nm,0.4s						
PBDV	**Barranco-do-Ve**	**2.27**	**59**	P	**Pn**	**13 47 11.5 +1.6**	
PBDV				S	**Sn**	**13 47 38.8 +0.8**	
	comp=N,21nm,0.4s						
MESJ	**Messejana**	**2.45**	**44**	*e*P	**Pn**	**13 47 13.8 +1.4**	
MESJ				*e*S	**Sn**	**13 47 43.1 +0.7**	
MESJ				AML	AML	13 47 44.9	
	comp=N,35nm,0.2s						
MESJ	**Messejana**	**2.45**	**44**	*e*Pn	**Pn**	**13 47 13.8 +1.4**	
MESJ				*e*Sn	**Sn**	**13 47 43.4 +1.0**	
MESJ				A	A	13 47 46.7	
	comp=N,26nm,0.3s						
MESJ	**Messejana**	**2.45**	**44**	P	**Pn**	**13 47 13.8 +1.4**	
MESJ				S	**Sn**	**13 47 43.1 +0.7**	
	comp=N,35nm,0.2s						
MESJ	**Messejana**	**2.45**	**44**	P	**Pn**	**13 47 13.8 +1.4**	
MESJ				S	**Sn**	**13 47 43.1 +0.7**	
	comp=N,35nm,0.2s						
MESJ				*e*Sn	**Sn**	**13 47 43.4 +1.0**	
	comp=N,26nm,0.3s						
PNCL	**Nicolau / Gran**	**2.50**	**35**	*i* Pn	**Pn**	**13 47 14.3 +1.3**	
PNCL				*e*Sn	**Sn**	**13 47 44.7 +1.2**	
PNCL				A	A	13 47 47.2	
	comp=N,33nm,0.4s						
PVAQ	**Vaqueiros**	**2.50**	**58**	*i* Pn	**Pn**	**13 47 14.5 +1.5**	
PVAQ				*e*Sn	**Sn**	**13 47 44.4 +0.8**	
PVAQ				A	A	13 47 46.3	
	comp=N,32nm,0.1s						
PVAQ	**Vaqueiros**	**2.50**	**58**	⇑P	**Pn**	**13 47 14.5 +1.5**	
PVAQ				S	**Sn**	**13 47 44.4 +0.8**	
	comp=N,32nm,0.1s						
PVAQ	**Vaqueiros**	**2.50**	**58**	P	**Pn**	**13 47 14.5 +1.5**	
PVAQ				S	**Sn**	**13 47 44.4 +0.8**	
	comp=N,32nm,0.1s						
EGRO	**El Granado**	**2.73**	**57**	⇑P	**Pn**	**13 47 17.5 +1.4**	
	comp=N,8.1nm,0.2s,SNR=18						
EGRO				S	**Sn**	**13 47 50.1 +0.9**	
	comp=N,14nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.73**	**57**	P	**Pn**	**13 47 17.5 +1.4**	
	comp=N,8.1nm,0.2s,SNR=18						
EGRO				S	**Sn**	**13 47 50.1 +0.9**	
	comp=N,14nm,0.1s,SNR=7.9						
PMST	**Lisbon--Monsan**	**2.81**	**19**	*e*Sn	**Sn**	**13 47 51.2 +0.1**	
PMST				A	A	13 47 54.3	
	comp=N,50nm,0.2s						
PMST	**Lisbon--Monsan**	**2.81**	**19**	*e*Sn	**Sn**	**13 47 51.2 +0.1**	
	comp=N,50nm,0.2s						
PACT	**Alcochete**	**2.94**	**24**	*e*Pn	**Pn**	**13 47 21.3 +2.2**	
PACT				*e*Sn	**Sn**	**13 47 56.3 +1.9**	
PACT				A	A	13 48 03.3	
	comp=N,28nm,0.1s						
PACT	**Alcochete**	**2.94**	**24**	*e*Pn	**Pn**	**13 47 21.3 +2.2**	
PACT				*e*Sn	**Sn**	**13 47 56.3 +1.9**	
	comp=N,28nm,0.1s						
PMAFR	**Mafra**	**2.99**	**16**	*e*Pn	**Pn**	**13 47 21.0 +1.2**	
PMAFR				*e*Sn	**Sn**	**13 47 56.2 +0.5**	
PMAFR				A	A	13 47 59.7	
	comp=N,86nm,0.2s						
PMAFR	**Mafra**	**2.99**	**16**	S	Sn	13 47 51.7 -4.0	
	comp=N,39nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.99**	**16**	*e*Pn	**Pn**	**13 47 21.0 +1.2**	
PMAFR				*e*Sn	**Sn**	**13 47 56.2 +0.5**	
	comp=N,86nm,0.2s						
EVOP	**Sao Brissos**	**3.02**	**36**	*e*Pn	**Pn**	**13 47 21.3 +1.1**	
EVOP				*e*Sn	**Sn**	**13 47 56.9 +0.5**	
	comp=N,36nm,0.4s						
EVO	**Evora**	**3.08**	**37**	*e*Pn	**Pn**	**13 47 21.3 +0.3**	
EVO				*e*Sn	**Sn**	**13 47 56.9 -0.9**	
	comp=N,72nm,0.4s						
EVO	**Evora**	**3.08**	**37**	*e*Pn	**Pn**	**13 47 22.2 +1.2**	
EVO				*e*Sn	**Sn**	**13 47 58.5 +0.7**	
EVO				A	A	13 47 59.4	
	comp=N,44nm,0.1s						
EVO	**Evora**	**3.08**	**37**	P	**Pn**	**13 47 22.2 +1.2**	
EVO				S	**Sn**	**13 47 58.5 +0.7**	
	comp=N,44nm,0.1s						
EVO	**Evora**	**3.08**	**37**	P	**Pn**	**13 47 22.2 +1.2**	
EVO				S	**Sn**	**13 47 58.5 +0.7**	
	comp=N,44nm,0.1s						
PBAR	**Barrancos**	**3.38**	**51**	*e*Pn	**Pn**	**13 47 26.4 +1.3**	
PBAR				*e*Sn	**Sn**	**13 48 06.3 +1.1**	
PBAR				A	A	13 48 08.4	
	comp=N,18nm,0.1s						
PBAR	**Barrancos**	**3.38**	**51**	P	**Pn**	**13 47 26.4 +1.3**	
PBAR				S	**Sn**	**13 48 06.3 +1.1**	
	comp=N,18nm,0.1s						
PBAR	**Barrancos**	**3.38**	**51**	P	**Pn**	**13 47 26.4 +1.3**	
PBAR				S	**Sn**	**13 48 06.3 +1.1**	
	comp=N,18nm,0.1s						
EMIN	**Mina Concepcio**	**3.40**	**59**	P	**Pn**	**13 47 26.4 +1.0**	
	comp=N,4.1nm,0.1s,SNR=46						
EMIN				S	**Sn**	**13 48 05.8 0.0**	
	comp=N,3.6nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.40**	**59**	P	**Pn**	**13 47 26.4 +1.0**	
	comp=N,4.1nm,0.1s,SNR=46						
EMIN				S	**Sn**	**13 48 05.8 0.0**	
	comp=N,3.6nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**3.43**	**29**	*e*Pn	**Pn**	**13 47 26.6 +0.8**	
PMTG				*e*Sn	**Sn**	**13 48 06.0 -0.4**	
PMTG				A	A	13 48 08.9	
	comp=N,22nm,0.2s						
PMTG	**Montargil**	**3.43**	**29**	*e*Pn	**Pn**	**13 47 26.6 +0.8**	
PMTG				*e*Sn	**Sn**	**13 48 06.0 -0.4**	
	comp=N,22nm,0.2s						
PESTR	**Estremoz**	**3.54**	**38**	*e*Pn	**Pn**	**13 47 28.9 +1.5**	
PESTR				*e*Sn	**Sn**	**13 48 09.3 -0.1**	
PESTR				A	A	13 48 11.0	
	comp=N,14nm,0.2s						
PESTR	**Estremoz**	**3.54**	**38**	*e*Pn	**Pn**	**13 47 28.9 +1.5**	
PESTR				*e*Sn	**Sn**	**13 48 09.3 -0.1**	
	comp=N,14nm,0.2s						
ESPR	**Espera**	**3.72**	**77**	P	**Pn**	**13 47 31.0 +1.2**	
	comp=N,9.4nm,0.2s,SNR=23						
ESPR				S	**Sn**	**13 48 13.0 -0.6**	
	comp=N,10nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.72**	**77**	P	**Pn**	**13 47 31.0 +1.2**	
	comp=N,9.4nm,0.2s,SNR=23						
ESPR				S	**Sn**	**13 48 13.0 -0.6**	
	comp=N,10nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.77**	**44**	⇑P	**Pn**	**13 47 31.3 +0.8**	
	comp=N,1.8nm,0.3s,SNR=18						
EBAD				S	**Sn**	**13 48 14.4 -0.5**	
	comp=N,11nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.77**	**44**	P	**Pn**	**13 47 31.3 +0.8**	
	comp=N,1.8nm,0.3s,SNR=18						
EBAD				S	**Sn**	**13 48 14.4 -0.5**	
	comp=N,11nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**3.85**	**23**	*e*Sn	**Sn**	**13 48 16.5 -0.3**	
PTOM				A	A	13 48 24.7	
	comp=N,17nm,0.1s						
PTOM	**Tomar**	**3.85**	**23**	S	**Sn**	**13 48 16.5 -0.3**	
	comp=N,8.7nm,0.1s						
PTOM	**Tomar**	**3.85**	**23**	S	**Sn**	**13 48 16.5 -0.3**	
	comp=N,8.7nm,0.1s						
RSA	**Sarsar**	**3.90**	**107**	*e*P	**Pn**	**13 47 33.0 +0.7**	
RSA				*i* S	**Sn**	**13 48 17.0 -1.1**	
LIJA	**Lijar**	**4.08**	**77**	P	**Pn**	**13 47 36.2 +1.4**	
LIJA				S	**Sn**	**13 48 22.8 +0.1**	
LIJA	**Lijar**	**4.08**	**77**	P	**Pn**	**13 47 36.2 +1.4**	
LIJA				S	**Sn**	**13 48 22.8 +0.1**	
PMRV	**Marv??o**	**4.08**	**34**	*e*Pn	**Pn**	**13 47 36.0 +1.2**	
PMRV				*e*Sn	**Sn**	**13 48 22.1 -0.6**	
PMRV				A	A	13 48 24.1	
	comp=N,17nm,0.2s						
PMRV	**Marv??o**	**4.08**	**34**	P	**Pn**	**13 47 36.0 +1.2**	
PMRV				S	**Sn**	**13 48 22.1 -0.6**	
	comp=N,17nm,0.2s						
PMRV	**Marv??o**	**4.08**	**34**	P	**Pn**	**13 47 36.0 +1.2**	
PMRV				S	**Sn**	**13 48 22.1 -0.6**	
	comp=N,17nm,0.2s						
PCAS	**Casmilo, Conde**	**4.22**	**20**	*e*Pn	**Pn**	**13 47 38.3 +1.6**	
PCAS				*e*Sn	**Sn**	**13 48 26.3 +0.2**	
PCAS				A	A	13 48 31.4	
	comp=N,8.2nm,0.2s						
PCAS	**Casmilo, Conde**	**4.22**	**20**	*e*Pn	**Pn**	**13 47 38.3 +1.6**	
PCAS				*e*Sn	**Sn**	**13 48 26.3 +0.2**	
	comp=N,8.2nm,0.2s						
PCBR	**Castelo Branco**	**4.39**	**30**	*e*Pn	**Pn**	**13 47 40.2 +1.2**	
PCBR				*e*Sn	**Sn**	**13 48 28.7 -1.4**	
PCBR				A	A	13 48 35.2	
	comp=N,7.6nm,0.3s						
PCBR	**Castelo Branco**	**4.39**	**30**	P	**Pn**	**13 47 40.2 +1.2**	
PCBR				S	**Sn**	**13 48 28.7 -1.4**	
	comp=N,3.8nm,0.3s						
PCBR	**Castelo Branco**	**4.39**	**30**	P	**Pn**	**13 47 40.2 +1.2**	
PCBR				S	**Sn**	**13 48 28.7 -1.4**	
	comp=N,3.8nm,0.3s						
ECAB	**El Cabril**	**4.42**	**62**	⇑P	**Pn**	**13 47 40.6 +1.1**	
	comp=N,2.6nm,0.3s,SNR=18						
ECAB				S	**Sn**	**13 48 30.3 -0.8**	
	comp=N,2.9nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.42**	**62**	P	**Pn**	**13 47 40.6 +1.1**	
	comp=N,2.6nm,0.3s,SNR=18						
ECAB				S	**Sn**	**13 48 30.3 -0.8**	
	comp=N,2.9nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**4.54**	**82**	P	**Pn**	**13 47 41.6 +0.5**	
	comp=N,2.2nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**13 48 33.3 -0.7**	
	comp=N,6.3nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.54**	**82**	P	**Pn**	**13 47 41.6 +0.5**	
	comp=N,2.2nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**13 48 33.3 -0.7**	
	comp=N,6.3nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.84**	**26**	*e*Pn	**Pn**	**13 47 46.2 +0.9**	
MTE				*e*Sn	**Sn**	**13 48 39.4 -2.1**	
MTE				A	A	13 48 46.1	
	comp=N,9.7nm,0.7s						
MTE	**Manteigas**	**4.84**	**26**	P	**Pn**	**13 47 46.2 +0.9**	
MTE				S	**Sn**	**13 48 39.4 -2.1**	
	comp=N,4.8nm,0.7s						
MTE	**Manteigas**	**4.84**	**26**	P	**Pn**	**13 47 46.2 +0.9**	
MTE				S	**Sn**	**13 48 39.4 -2.1**	
	comp=N,4.8nm,0.7s						
MIF	**Mishlifen**	**5.00**	**121**	*i* P	Pn	13 47 46.0 -1.7	
KIB	**El Ksiba**	**5.01**	**133**	*i* P	Pn	13 47 45.0 -2.6	
PVIS	**Viseu**	**5.01**	**22**	*e*Pn	**Pn**	**13 47 49.0 +1.4**	
PVIS				*e*Sn	**Sn**	**13 48 44.8 -0.8**	
PVIS				A	A	13 48 47.8	
	comp=N,16nm,0.1s						
PVIS	**Viseu**	**5.01**	**22**	P	**Pn**	**13 47 49.0 +1.4**	
PVIS				S	**Sn**	**13 48 44.8 -0.8**	
	comp=N,7.8nm,0.1s						
PVIS	**Viseu**	**5.01**	**22**	P	**Pn**	**13 47 49.0 +1.4**	
PVIS				S	**Sn**	**13 48 44.8 -0.8**	
	comp=N,7.8nm,0.1s						
EPLA	**Plasencia**	**5.21**	**39**	P	**Pn**	**13 47 51.6 +1.2**	
	comp=N,1.5nm,0.1s,SNR=6.4						
EPLA				S	**Sn**	**13 48 48.4 -2.2**	
	comp=N,7.6nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**5.21**	**39**	P	**Pn**	**13 47 51.6 +1.2**	
	comp=N,1.5nm,0.1s,SNR=6.4						
EPLA				S	**Sn**	**13 48 48.4 -2.2**	
	comp=N,7.6nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**5.58**	**21**	*e*Sn	**Sn**	**13 48 58.0 -1.6**	
PVRL				A	A	13 48 59.6	
	comp=N,12nm,0.1s						
PVRL	**Vila Real**	**5.58**	**21**	S	**Sn**	**13 48 58.0 -1.6**	
	comp=N,5.8nm,0.1s						
PVRL	**Vila Real**	**5.58**	**21**	S	**Sn**	**13 48 58.0 -1.6**	
	comp=N,5.8nm,0.1s						
POLO	**Lamas de Olo**	**5.65**	**20**	*e*Pn	**Pn**	**13 47 57.5 +1.1**	
POLO				*e*Sn	**Sn**	**13 48 58.9 -2.4**	
POLO				A	A	13 49 02.4	
	comp=N,3.0nm,0.6s						
POLO	**Lamas de Olo**	**5.65**	**20**	*e*Pn	**Pn**	**13 47 57.5 +1.1**	
POLO				*e*Sn	**Sn**	**13 48 58.9 -2.4**	
	comp=N,3.0nm,0.6s						
EBAN	**Banos Encina**	**5.65**	**67**	P	**Pn**	**13 47 57.1 +0.7**	
	comp=N,2.9nm,0.1s,SNR=7.9						
EBAN				S	Sn	13 48 57.4 -4.0	
	comp=N,8.2nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**5.65**	**67**	P	**Pn**	**13 47 57.1 +0.7**	
	comp=N,2.9nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.70**	**26**	*e*Pn	**Pn**	**13 47 57.8 +0.7**	
MVO				*e*Sn	**Sn**	**13 49 01.0 -1.6**	
MVO				A	A	13 49 02.9	
	comp=N,5.9nm,0.1s						
MVO	**Moncorvo**	**5.70**	**26**	P	**Pn**	**13 47 57.6 +0.5**	
	comp=N,2.1nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**13 49 00.9 -1.8**	
	comp=N,6.4nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.70**	**26**	*e*Pn	**Pn**	**13 47 57.8 +0.7**	
MVO				*e*Sn	**Sn**	**13 49 01.0 -1.6**	
	comp=N,5.9nm,0.1s						
PCAB	**Cabril**	**5.90**	**17**	*e*Sn	**Sn**	**13 49 05.3 -2.2**	
PCAB				A	A	13 49 15.9	
	comp=N,6.6nm,0.5s						
PCAB	**Cabril**	**5.90**	**17**	S	**Sn**	**13 49 05.3 -2.2**	
	comp=N,3.3nm,0.5s						
PCAB	**Cabril**	**5.90**	**17**	S	**Sn**	**13 49 05.3 -2.2**	
	comp=N,3.3nm,0.5s						
EBER	**Berja**	**6.08**	**80**	P	**Pn**	**13 48 03.6 +1.2**	
	comp=N,0.7nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**13 49 11.9 -0.2**	
	comp=N,1.5nm,0.2s,SNR=7.9						
EBER	**Berja**	**6.08**	**80**	P	**Pn**	**13 48 03.6 +1.2**	
	comp=N,0.7nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**13 49 11.9 -0.2**	
	comp=N,1.5nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.09**	**72**	P	**Pn**	**13 48 03.3 +0.9**	
	comp=N,0.6nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**13 49 10.2 -2.0**	
	comp=N,3.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.09**	**72**	P	**Pn**	**13 48 03.3 +0.9**	
	comp=N,0.6nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**13 49 10.2 -2.0**	
	comp=N,3.1nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**6.09**	**15**	*e*Sn	**Sn**	**13 49 08.9 -3.4**	
PGAV				A	A	13 49 10.7	
	comp=N,5.5nm,0.6s						
PGAV	**Gavieira, Arco**	**6.09**	**15**	*e*Sn	**Sn**	**13 49 08.9 -3.4**	
	comp=N,5.5nm,0.6s						
ESDC	**Sonseca Array**	**6.20**	**53**	P	**Pn**	**13 48 05.1 +1.2**	
	comp=N,2.0nm,0.3s,baz=239,slow=13,SNR=21						
ESDC				S	**Sn**	**13 49 13.1 -1.8**	
	comp=N,2.4nm,0.1s,baz=240,slow=24,SNR=18						
ESDC	**Sonseca Array**	**6.20**	**53**	P	**Pn**	**13 48 05.1 +1.2**	
	comp=N,2.0nm,0.3s,SNR=21						
ESDC				S	**Sn**	**13 49 13.1 -1.8**	
	comp=N,2.4nm,0.1s,SNR=18						
EHUE	**Huescar**	**6.46**	**72**	P	**Pn**	**13 48 08.0 +0.5**	
	comp=N,0.8nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**13 49 19.1 -2.2**	
	comp=N,2.1nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**6.46**	**72**	P	**Pn**	**13 48 08.0 +0.5**	
	comp=N,0.8nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**13 49 19.1 -2.2**	
	comp=N,2.1nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.49**	**25**	P	**Pn**	**13 48 08.6 +0.7**	
	comp=N,1.9nm,0.2s,SNR=7.9						
ECAL				S	Sn	13 49 18.1 -4.0	
	comp=N,3.4nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.49**	**25**	P	**Pn**	**13 48 08.6 +0.7**	
	comp=N,1.9nm,0.2s,SNR=7.9						
ECAL				S	Sn	13 49 18.1 -4.0	
	comp=N,3.4nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**6.57**	**70**	P	**Pn**	**13 48 10.4 +1.2**	
	comp=N,1.1nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**13 49 21.2 -3.0**	
	comp=N,7.7nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**6.57**	**70**	P	**Pn**	**13 48 10.4 +1.2**	
	comp=N,1.1nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**13 49 21.2 -3.0**	
	comp=N,7.7nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**6.67**	**45**	P	**Pn**	**13 48 11.4 +0.9**	
	comp=N,1.8nm,0.2s,SNR=11						
GUD				S	**Sn**	**13 49 24.2 -2.4**	
	comp=N,1.8nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**6.67**	**45**	P	**Pn**	**13 48 11.4 +0.9**	
	comp=N,1.8nm,0.2s,SNR=11						
GUD				S	**Sn**	**13 49 24.2 -2.4**	
	comp=N,1.8nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**6.76**	**66**	P	**Pn**	**13 48 12.4 +0.7**	
	comp=N,1.8nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**13 49 26.0 -2.7**	
	comp=N,4.0nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**6.76**	**66**	P	**Pn**	**13 48 12.4 +0.7**	
	comp=N,1.8nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**13 49 26.0 -2.7**	
	comp=N,4.0nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.94**	**8**	S	Sn	13 49 26.9 -6.0	
	comp=N,3.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**7.47**	**67**	P	**Pn**	**13 48 22.0 +0.6**	
	comp=N,0.5nm,0.1s,SNR=8.0						
ETOB				S	**Sn**	**13 49 43.5 -2.7**	
	comp=N,3.1nm,0.2s,SNR=9.9						
ETOB	**Tobarra**	**7.47**	**67**	P	**Pn**	**13 48 22.0 +0.6**	
	comp=N,0.5nm,0.1s,SNR=8.0						
ETOB				S	**Sn**	**13 49 43.5 -2.7**	
	comp=N,3.1nm,0.2s,SNR=9.9						
ETOR	**Torete**	**8.05**	**52**	P	**Pn**	**13 48 30.8 +1.4**	
	comp=N,11nm,0.4s,SNR=16						
ETOR				S	**Sn**	**13 49 57.6 -2.9**	
	comp=N,3.7nm,0.1s,SNR=7.9						
ETOR	**Torete**	**8.05**	**52**	P	**Pn**	**13 48 30.8 +1.4**	
	comp=N,11nm,0.4s,SNR=16						
ETOR				S	**Sn**	**13 49 57.6 -2.9**	
	comp=N,3.7nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**8.22**	**27**	S	**Sn**	**13 50 01.5 -3.2**	
	comp=N,0.8nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**8.22**	**27**	S	**Sn**	**13 50 01.5 -3.2**	
	comp=N,0.8nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**9.94**	**42**	*e*Pn	**Pn**	**13 48 55.9 +0.7**	
SJPF				*e*Sn	Sn	13 50 42.4 -4.5	
	comp=N,1.9nm,0.5s						
SJPF	**Ste Jean**	**9.94**	**42**	*e*Pn	**Pn**	**13 48 55.9 +0.7**	
SJPF				*e*Sn	Sn	13 50 42.4 -4.5	
	comp=N,0.9nm,0.5s						
ETSF	**Etsaut**	**10.18**	**45**	*e*Pn	**Pn**	**13 48 58.9 +0.4**	
ETSF				*e*Sn	Sn	13 50 48.2 -4.5	
	comp=N,1.8nm,0.6s						
ETSF	**Etsaut**	**10.18**	**45**	*e*Pn	**Pn**	**13 48 58.9 +0.4**	
EPF	**Esparros**	**10.78**	**47**	*e*Pn	**Pn**	**13 49 07.4 +0.7**	
EPF				*e*Sn	Sn	13 51 02.6 -4.9	
	comp=N,4.6nm,0.6s						
EPF	**Esparros**	**10.78**	**47**	*e*Pn	**Pn**	**13 49 07.4 +0.7**	
EPF				*e*Sn	Sn	13 51 02.6 -4.9	
	comp=N,2.3nm,0.6s						

IDC ***22*** *14:07:57.2±2.0, 13°.44N×90°.94W, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.6/22, mbtmp3.4/5, ML4.0/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/19, Error ellipse: s-maj=44.3km s-min=17.2km az=116.0*

ISCJB ***22*** *14:08:05.9±0.8, 13°.68N±0°.08×91°.42W±0°.05, h63km±9km, mb3.5/3, Error ellipse: s-maj=14.8km s-min=4.5km az=30.9*

MEX ***22*** *14:08:08.6±0.3, 13°.60N×91°.65W, h20km±12km, MD3.9*

CASC ***22*** *14:08:09.0±1.9, 13°.74N×91°.16W, h24km±12km, MD3.7, ML4.1*

ISC 22 14:08:06.5±1.5, 13°.7N±0°.1×91°.41W±0°.06, h52km±14km, n33, σ1°.15/38, mb3.5/3, 4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.70**	**342**	‖ *i* P		**Pn**	**14 08 21.1**	**+0.8**
PCG	**Pacaya**	**1.07**	**47**	‖ *i* P		**Pn**	**14 08 25.2**	**-0.3**
NBG	**Las Nubes**	**1.39**	**48**	*e*P		**Pn**	**14 08 30.4**	**+0.6**
NBG				*e*S		**Sn**	**14 08 48.0**	**+0.7**
THIG		**1.50**	**327**	*e*P		**Pn**	**14 08 30.5**	**-0.5**
THIG				*e*S		**Sn**	**14 08 47.5**	**-1.9**
APG	**El Apazote**	**1.63**	**34**	Pg		Pn	14 08 27.7	-5.3
	86nm,0.3s,baz=334,slow=19,SNR=395							
APG				Lg		Lg	14 08 48.1	
	122nm,0.3s,baz=98,slow=20,SNR=22							
RTR	**El Retiro**	**1.73**	**82**	*e*P		**Pn**	**14 08 34.4**	**0.0**
RBDL	**Robledal**	**1.74**	**75**	*e*P		**Pn**	**14 08 34.3**	**-0.2**
SBLS	**San Blas**	**1.75**	**84**	*e*P		**Pn**	**14 08 34.3**	**-0.4**
SNJE	**San Jose**	**1.77**	**83**	*e*P		**Pn**	**14 08 34.8**	**-0.1**
BOQS	**Boqueron**	**2.08**	**87**	‖ *e*P		**Pn**	**14 08 39.2**	**+0.1**
BOQS				*e*S		**Sn**	**14 09 01.8**	**-2.1**
SNET	**Serv Nac Est T**	**2.12**	**89**	AML		AML	14 09 10.2	
	comp=Z,2μm,0.3s							
MTO2	**Montecristo 2**	**2.12**	**69**	*e*P		**Pn**	**14 08 39.2**	**-0.6**
MRL	**Marmol**	**2.18**	**50**	‖ *i* P		**Pn**	**14 08 41.3**	**+0.7**
LFU	**La Fuente**	**2.24**	**87**	*e*P		**Pn**	**14 08 41.5**	**+0.4**
LFRS	**El Faro**	**2.29**	**90**	*e*P		**Pn**	**14 08 42.4**	**+0.5**
LBRS	**Las Brisas**	**2.31**	**88**	*e*P		**Pn**	**14 08 42.6**	**+0.4**
SNVI	**San Vicente**	**2.50**	**91**	*e*P		**Pn**	**14 08 45.5**	**+0.6**
SNVI				*e*S		**Sn**	**14 09 13.5**	**-0.8**
PCIG		**2.69**	**320**	*e*P		**Pn**	**14 08 46.9**	**-0.4**
PCIG				*e*S		**Sn**	**14 09 17.3**	**-1.3**
CCIG	**Comitan**	**2.71**	**345**	*e*P		**Pn**	**14 08 49.0**	**+1.3**
CCIG				*i* S		**Sn**	**14 09 20.2**	**+0.8**
VSM	**San Miguel**	**3.06**	**94**	*e*P		**Pn**	**14 08 54.1**	**+1.5**
**CA

JAM			S	Sn	14 32 05.1	-1.4
JZK	**Kikaishima**	**2.68 29**	P	**Pn**	**14 31 35.7**	**-0.8**
JZK			S	**Sn**	**14 32 06.9**	**-1.0**
JOGS	**Gusukube**	**3.05 247**	P	**Pn**	**14 31 41.2**	**-0.5**
JOGS			S	**Sn**	**14 32 15.2**	**-2.0**
JIKM	**Ikemajima**	**3.13 251**	S	**Sn**	**14 32 17.3**	**-1.7**
JMJ	**Miyako jima 2**	**3.13 249**	P	**Pn**	**14 31 42.2**	**-0.5**
JIRB	**Irabujima**	**3.22 250**	P	**Pn**	**14 31 42.9**	**-1.1**
JIRB			S	**Sn**	**14 32 18.8**	**-2.6**
JTAJ	**Takarajima**	**3.23 11**	P	**Pn**	**14 31 42.9**	**-1.3**
JTAJ			S	**Sn**	**14 32 19.2**	**-2.4**
JTJ	**Tarama**	**3.69 250**	P	**Pn**	**14 31 49.4**	**-1.1**
JTJ			S	**Sn**	**14 32 29.9**	**-3.0**
JISG	**Ishigakijimahi**	**4.04 251**	P	**Pn**	**14 31 53.2**	**-2.1**
JISG			S	**Sn**	**14 32 37.5**	**-4.1**
JIJ	**Ishigaki jima**	**4.27 249**	P	**Pn**	**14 31 56.2**	**-2.2**
JIJ			S	**Sn**	**14 32 41.8**	**-5.4**
JKRS	**Kuro-shima**	**4.43 248**	P	**Pn**	**14 31 58.6**	**-2.0**
JKRS			S	**Sn**	**14 32 47.3**	**-3.8**
IRIF	**Iriomote-Funau**	**4.63 250**	P	**Pn**	**14 32 02.5**	**-0.8**
YOJ	**Yonaguni jima**	**5.20 254**	P	**Pn**	**14 32 10.0**	**-1.2**
JYNG	**Yonagunijimaku**	**5.26 255**	P	**Pn**	**14 32 11.0**	**-1.1**
JYNG			S	Sn	14 33 05.9	-5.8
NACB	**Ninganchiao**	**6.52 256**	*e*Pn	Pn	14 32 26.3	-3.0
	32nm,0.4s					
YHNB	**Yeheng**	**6.58 260**	*e*Pn	**Pn**	**14 32 30.3**	**0.0**
	36nm,0.5s					
YULB	**Yu-li**	**7.04 250**	*e*Pn	Pn	14 32 30.8	-5.8
	15nm,0.4s					
SSLB	**Suanglung**	**7.20 254**	*e*Pn	Pn	14 32 35.8	-2.9
	33nm,0.4s					
JNU	**Nakatsue**	**7.42 16**	Pn	**Pn**	**14 32 42.3**	**+0.5**
	1.2nm,0.3s,baz=197,slow=10,SNR=20					
JNU			Sn	**Sn**	**14 34 00.7**	**-4.2**
	0.1nm,0.3s,baz=153,slow=16,SNR=2.2					
JNU	**Nakatsue**	**7.42 16**	*e*Pn	**Pn**	**14 32 42.8**	**+1.0**
JNU			Sn	**Sn**	**14 34 00.7**	**-4.2**
TPUB	**Ta-pu**	**7.64 251**	*e*P	**Pn**	**14 32 42.7**	**-2.2**
	28nm,0.4s					
KSAR	**Wonju Array Be**	**11.45 357**	Pn	Pn	14 33 41.4	+4.5
KSRS	**Korea Array**	**11.46 358**	Pn	Pn	14 33 41.4	+4.3
	0.1nm,0.3s,baz=174,slow=12,SNR=3.0					
KSRS			LR	LR	14 38 17.2	
	comp=Z,214nm,18.8s,baz=171,slow=39					
MJAR	**Matsushiro Arr**	**13.40 36**	Pn	**P**	**14 34 13.4**	**+0.7**
	0.1nm,0.3s,baz=212,slow=8.5,SNR=4.6					
BJI	**Beijing**	**17.41 327**	P	**P**	**14 34 57.4**	**+0.3**
BJI			pP	**pP**	**14 35 06.3**	**+1.1**
BJI			sP	**sP**	**14 35 10.1**	**+0.9**
BJI			S	**Sn**	**14 38 05.8**	**-3.0**
BJI			PMZ			
	13nm,0.6s					
BJI			LN			
	590nm,16.8s					
BJI			LE			
	620nm,15.4s					
BJI			LZ			
	100nm,23.3s					
XAN	**Xi'an**	**18.75 300**	P	**Pn**	**14 35 12.8**	**+0.1**
XAN			pP	**pP**	**14 35 23.0**	**+2.7**
XAN			PMZ			
	4.0nm,1.0s					
XAN			LN			
	160nm,11.9s					
XAN			LE			
	57nm,10.3s					
XAN			LZ			
	63nm,14.3s					
HHC	**Hu-ho-hao-te**	**20.45 321**	*e*P	Pn	14 35 32.5	-0.4
HHC			pP	pP	14 35 41.3	+2.5
HHC			sP	sP	14 35 45.8	+3.1
HHC			S	**S**	**14 39 15.1**	**-2.9**
HHC			sS	sS	14 39 29.0	-2.1
HHC			PMZ			
	16nm,0.6s					
HHC			PMZ			
	170nm,6.1s					
HHC			LN			
	520nm,14.3s					
HHC			LE			
	640nm,15.1s					
HHC			LZ			
	390nm,14.4s					
CD2	**Chengdu**	**22.30 288**	*e*P	**P**	**14 35 48.4**	**-2.1**
CD2			sP	**sP**	**14 36 00.3**	**-2.4**
CD2			PP	**PnPn**	**14 36 15.6**	**+2.0**
CD2			S	S	14 39 42.9	-11
CD2			sS	Sn	14 40 01.3	-5.6
CD2			PMZ			
	10.0nm,1.1s					
CD2			PMZ			
	80nm,4.8s					
CD2			LN			
	310nm,14.3s					
CD2			LE			
	410nm,11.8s					
CD2			LZ			
	510nm,11.6s					
SLVN	**Son La**	**22.99 264**	*e*P	**P**	**14 35 58.3**	**+0.4**
	4.9nm,0.8s					
LZH	**Lanzhou**	**23.36 302**	*e*P	**P**	**14 36 01.0**	**-0.6**
LZH			pP	**pP**	**14 36 10.8**	**+0.6**
LZH			sP	**sP**	**14 36 15.0**	**+1.0**
LZH			*e*PP	**PnPn**	**14 36 34.1**	**+5.9**
LZH			*e*S	**S**	**14 40 07.3**	**-5.4**
LZH			sS	sS	14 40 22.3	-5.1
LZH			PMZ			
	35nm,1.3s					
LZH			PMZ			
	110nm,5.4s					
LZH			LN			
	400nm,13.0s					
LZH			LE			
	250nm,12.5s					
LZH			LZ			
	460nm,16.2s					
YSS	**Yuzh-Sakhalins**	**23.80 25**	*e*P	**P**	**14 36 08.3**	**+2.8**
	22nm,0.9s					
GTA	**Gaotai**	**27.49 306**	⇓P	**P**	**14 36 38.5**	**-0.8**
GTA			pP	**pP**	**14 36 48.4**	**+0.2**
GTA			sP	**sP**	**14 36 51.8**	**-0.1**
GTA			S	**S**	**14 41 16.3**	**-1.9**
GTA			sS	**sS**	**14 41 32.4**	**-0.6**
GTA			SS	**SnSn**	**14 42 35.5**	**+6.0**
GTA			PMZ			
	29nm,0.8s					
GTA			PMZ			
	99nm,5.8s					
GTA			LN			
	240nm,12.4s					
GTA			LE			
	230nm,13.8s					
GTA			LZ			
	270nm,12.8s					
ULN	**Ulaanbaatar**	**27.61 328**	*e*P	**P**	**14 36 41.5**	**+1.2**
	6.9nm,1.0s					
SONM	**Songino Array**	**27.91 327**	P	**P**	**14 36 44.3**	**+1.4**
	4.3nm,0.8s,baz=138,slow=9.7,SNR=31					
CHTO	**Chiang Mai**	**28.20 261**	*e*P	**P**	**14 36 46.6**	**+0.9**
	5.1nm,0.8s					
CMAR	**Chiang Mai Arr**	**28.33 261**	P	**P**	**14 36 47.1**	**+0.3**
	1.2nm,0.3s,baz=59,slow=7.4,SNR=14					
PETK	**Petropavlovsk-**	**34.79 31**	P	P	14 37 46.6	+3.4
	1.8nm,0.9s,baz=227,slow=9.6,SNR=2.9					
TAPN	**Taplejung**	**36.38 281**	*e*P	**P**	**14 37 58.2**	**+0.7**
	22nm,0.9s					
ODAN	**Odare**	**36.72 281**	*e*P	**P**	**14 38 01.1**	**+0.7**
	68nm,0.8s					
RAMN	**Ramite**	**37.41 281**	*e*P	**P**	**14 38 06.7**	**+0.4**
	18nm,0.9s					
WMQ	**Urumqi**	**37.47 309**	P	**P**	**14 38 05.9**	**-0.5**
WMQ			pP	**pP**	**14 38 15.8**	**+0.3**
WMQ			PP	**PnPn**	**14 39 34.0**	**+1.0**
WMQ			S	**S**	**14 43 51.4**	**-1.8**
WMQ			sS	**sS**	**14 44 07.5**	**-0.6**
WMQ			SS	**SnSn**	**14 46 24.5**	**-7.4**
WMQ			PMZ			
	13nm,1.0s					
WMQ			PMZ			
	150nm,4.0s					
WMQ			LN			
	130nm,22.0s					
WMQ			LE			
	54nm,20.0s					
WMQ			LZ			
	52nm,21.0s					
JIRN	**Jiri**	**37.67 282**	*e*P	**P**	**14 38 09.1**	**+0.5**
	14nm,0.9s					
GUN	**Gumba**	**37.92 283**	*e*P	**P**	**14 38 11.3**	**+0.7**
	28nm,0.9s					
PKI	**Pulchoki**	**38.37 282**	*e*P	**P**	**14 38 14.6**	**+0.1**
	45nm,0.9s					
PKIN	**Phulchoki**	**38.38 282**	*e*P	**P**	**14 38 14.6**	**+0.1**
	25nm,0.8s					
KKN	**Kakani**	**38.46 283**	*e*P	**P**	**14 38 15.6**	**+0.5**
	32nm,0.8s					
DMN	**Daman**	**38.63 282**	*e*P	**P**	**14 38 16.9**	**+0.3**
	27nm,0.9s					
GKN	**Gorkha**	**38.99 283**	*e*P	**P**	**14 38 19.8**	**+0.3**
	37nm,0.8s					
DANN	**Dangsing**	**39.72 284**	*e*P	**P**	**14 38 26.5**	**+0.8**
	33nm,0.5s					
KOLN	**Koldanda**	**39.94 283**	*e*P	**P**	**14 38 27.9**	**+0.5**
	21nm,0.8s					
SEY	**Seymchan**	**40.20 17**	P	**P**	**14 38 29.1**	**+0.3**
	0.3nm,0.4s,baz=139,slow=20,SNR=3.2					
MKAR	**Makanchi Array**	**41.90 312**	P	**P**	**14 38 42.4**	**-0.7**
	1.7nm,0.7s,baz=99,slow=10,SNR=27					
ZALV	**Zalesovo Beam**	**42.61 323**	P	**P**	**14 38 47.1**	**-1.6**
	1.0nm,0.5s,baz=109,slow=8.1,SNR=3.6					
KURK	**Kurchatov**	**45.18 317**	*e*P	**P**	**14 39 09.1**	**-0.3**
WRAB	**Tennant Creek**	**45.98 172**	*e*P	**P**	**14 39 16.4**	**+0.4**
	4.0nm,0.8s					
WRA	**Warramunga Arr**	**45.99 172**	P	**P**	**14 39 16.4**	**+0.3**
	2.6nm,0.7s,baz=353,slow=8.5,SNR=25					
WB2	**Warramunga Arr**	**45.99 172**	*e*P	**P**	**14 39 16.5**	**+0.4**
TKM2	**Tokmak 2**	**46.03 305**	*e*P	**P**	**14 39 17.0**	**+0.4**
	5.0nm,0.8s					
AS31	**Alice Springs**	**49.62 174**	*e*P	**P**	**14 39 44.8**	**+0.6**
ASAR	**Alice Springs**	**49.62 174**	P	**P**	**14 39 44.9**	**+0.6**
	1.6nm,0.8s,baz=357,slow=7.4,SNR=18					
KKAR	**Karatay Array**	**49.77 306**	P	**P**	**14 39 45.2**	**-0.1**
	1.3nm,0.6s					
KBL	**Kabul**	**51.44 295**	P	**P**	**14 39 59.1**	**+0.9**
	6.9nm,0.8s					
GEYT	**Alibeck**	**59.64 300**	P	**P**	**14 40 57.7**	**+0.8**
	2.4nm,0.7s,baz=86,slow=7.6,SNR=6.3					
ILAR	**Eielson Array**	**64.55 28**	P	**P**	**14 41 29.7**	**+0.3**
	0.2nm,0.7s,baz=272,slow=6.2,SNR=3.7					
KBZ	**Khabaz**	**69.52 310**	P	**P**	**14 42 02.1**	**+0.9**
	4.2nm,0.8s,baz=111,slow=2.3,SNR=8.8					
FINES	**FINESS Array B**	**73.21 331**	P	**P**	**14 42 23.5**	**+0.2**
	1.8nm,0.8s,baz=73,slow=6.4,SNR=5.2					
AKASG	**Malin Array Be**	**75.89 320**	P	**P**	**14 42 39.3**	**+0.3**
	5.2nm,0.7s,baz=56,slow=5.9,SNR=10					
KIEV	**Kiev**	**75.90 320**	*e*P	**P**	**14 42 38.7**	**-0.3**
	2.3nm,0.6s					
BRTR	**Keskin Array B**	**77.39 308**	P	**P**	**14 42 48.9**	**+1.0**
	4.6nm,0.9s,baz=94,slow=5.0,SNR=21					
YKA	**Yellowknife Ar**	**78.66 25**	P	**P**	**14 42 55.6**	**+1.3**
	0.4nm,0.6s,baz=299,slow=5.4,SNR=5.7					
NB2	**NORSAR Subarra**	**79.66 334**	P	**P**	**14 42 59.9**	**0.0**
	comp=Z,0.1nm,0.6s,baz=59,slow=5.9					
NOA	**NORSAR Array B**	**79.66 334**	P	**P**	**14 42 59.9**	**0.0**
	comp=Z,1.7nm,0.8s,baz=52,slow=5.5,SNR=6.6					
SUMG	**Summit**	**81.31 356**	P	**P**	**14 43 10.0**	**+1.0**
	comp=Z,8.6nm,0.9s					
VYHS	**Vyhne**	**82.90 321**	*e*P	**P**	**14 43 19.4**	**+2.1**
CLL	**Collm**	**84.51 325**	*e*P	**P**	**14 43 27.0**	**+1.6**
GERES	**GERESS Array B**	**85.56 323**	P	**P**	**14 43 33.3**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=25,slow=3.7,SNR=3.8					
HLID	**Hailey**	**89.93 40**	*e*P	**P**	**14 43 51.4**	**-0.7**

IDC ***22*** *14:34:51.1±1.2, 35°.54S×72°.32W, h0km, mb4.0/6, mb1 4.0/7, mb1mx3.9/17, mbtmp3.9/7, ML3.4/1, Error ellipse: s-maj=41.9km s-min=25.8km az=87.0*

ISCJB ***22*** *14:34:52.1±0.7, 35°.49S±0°.06×72°.68W±0°.07, h20km, mb4.4/10, Error ellipse: s-maj=9.3km s-min=6.2km az=136.6*

NEIC ***22*** *14:34:56.4±0.7, 35°.45S×72°.61W, h35km, mb4.4/3, ML4.5(GUC), Error ellipse: s-maj=18.2km s-min=8.8km az=90.0*

NEIC Felt [IV] at Constitucion and Linares; [III] at Longavi, Parral, San Javier and Talca; [II] at Cauquenes, Chanco and Rancagua.

GUC ***22*** *14:34:59.2±0.6, 35°.29S×72°.37W, h10km, ML4.5*

ISC 22 14:34:54.1±0.9, 35°.42S±0°.05×72°.62W±0°.08, h20km, n28, σ1§57/33, mb4.4/10, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.81**	**89**	⇓*i*P	**Pb**	**14 35 09.4**	**0.0**
TALC				*i* S	**Sb**	**14 35 18.3**	**-1.6**
TALC				AML	AML	14 35 19.3	
	comp=E,48μm,0.3s						
LNCH	**Linares**	**0.93**	**117**	⇓*i*P	**Pn**	**14 35 15.1**	**+3.0**
NICH	**Los Niches**	**1.22**	**70**	⇓*i*P	**Pb**	**14 35 16.6**	**+0.3**
NICH				*i* S	**Sb**	**14 35 30.7**	**-0.9**
NICH				AML	AML	14 35 34.7	
	comp=E,25μm,0.6s						
LNV	**Longovilo**	**1.77**	**35**	*e*P1	**Pn**	**14 35 25.9**	**+2.3**
TACH	**Talagante**	**2.25**	**39**	*e*P4	**Pn**	**14 35 32.5**	**+2.4**
ANTU	**Antumapu**	**2.47**	**42**	⇑*i*P	**Pb**	**14 35 37.0**	**-0.8**
ANTU				*e*S	**Sb**	**14 36 06.2**	**-1.6**
PCH	**Pirque**	**2.50**	**45**	⇑*i*P	**Pb**	**14 35 37.7**	**-0.6**
SAN	**Santiago**	**2.55**	**40**	*e*P1	**Pb**	**14 35 38.7**	**-0.4**
CLCH	**Cerro Calan**	**2.66**	**41**	*e*P1	**Pb**	**14 35 39.8**	**-1.2**
CLCH				AML	AML	14 36 26.9	
	comp=E,3μm,0.6s						
YECH	**El Yeso**	**2.73**	**51**	*e*P9	**Pn**	**14 35 39.1**	**+2.1**
YECH				*e*S	**Sn**	**14 36 11.4**	**+1.7**
CFAA	**Coronel Fontan**	**5.28**	**45**	Pn	**Pn**	**14 36 13.5**	**+1.6**
	comp=E,0.3nm,0.3s,baz=226,slow=11,SNR=12						
CFAA				Sn	**Sn**	**14 37 14.0**	**+1.7**
	comp=E,0.7nm,0.3s,baz=32,slow=13,SNR=4.2						
PLCA	**Paso Flores**	**5.55**	**163**	Pn	**Pn**	**14 36 17.4**	**+1.8**
	comp=E,2.4nm,0.3s,baz=338,slow=14,SNR=18						
PLCA				Lg	Lg	14 37 38.5	
	comp=E,0.7nm,0.3s,baz=339,slow=14,SNR=1.4						
LCO	**Las Campanas**	**6.60**	**15**	*e*P	**Pn**	**14 36 32.0**	**+1.9**
TRQA	**Tornquist**	**8.94**	**110**	*e*P	**Pn**	**14 37 03.5**	**+1.4**
	comp=E,10nm,0.6s						
LPAZ	**La Paz**	**19.47**	**13**	P	**P**	**14 39 20.4**	**0.0**
	comp=E,0.1nm,0.3s,baz=243,slow=6.8,SNR=2.9						
LPAZ	**La Paz**	**19.47**	**13**	*e*P	**P**	**14 39 20.8**	**+0.5**
SIV	**San Ignacio**	**21.94**	**31**	P	**P**	**14 39 46.5**	**+0.1**
	comp=E,2.0nm,0.8s,baz=228,slow=15,SNR=3.0						
SNAA	**Sanae**	**50.46**	**157**	*e*P	**P**	**14 43 49.4**	**-0.6**
	comp=E,3.6nm,0.9s						
QSPA	**South Pole Qui**	**54.82**	**180**	P	**P**	**14 44 21.7**	**-0.7**
	comp=E,1.4nm,0.9s,baz=135,slow=4.3,SNR=4.3						
TXAR	**Lajitas Array**	**70.75**	**332**	P	**P**	**14 46 10.6**	**+1.7**
	comp=E,0.3nm,0.5s,baz=149,slow=8.8,SNR=6.0						
LIC	**Lamto**	**75.68**	**72**	*e*P	**P**	**14 46 35.3**	**-3.0**
	comp=E,36nm,1.6s						
TIC	**Toumodi**	**75.95**	**71**	*e*P	**P**	**14 46 37.2**	**-2.6**
	comp=E,11nm,0.2s						
KIC	**Kosan Boka**	**75.99**	**72**	*e*P	**P**	**14 46 39.4**	**-0.6**
	comp=E,48nm,1.6s						
DBIC	**Dimbokro**	**76.09**	**71**	P	**P**	**14 46 39.8**	**-0.8**
	comp=E,2.7nm,0.7s,baz=239,slow=7.9,SNR=6.5						
DBIC	**Dimbokro**	**76.09**	**71**	*e*P	**P**	**14 46 40.1**	**-0.5**
	comp=E,2.9nm,0.7s						
BOSA	**Boshof**	**79.83**	**118**	P	**P**	**14 47 00.5**	**-1.0**
	comp=E,2.0nm,0.5s,baz=230,slow=4.8,SNR=6.3						
BOSA	**Boshof**	**79.83**	**118**	*e*P	**P**	**14 47 01.0**	**-0.5**
	comp=E,6.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**85.14**	**70**	P	**P**	**14 47 28.2**	**-0.9**
	comp=E,0.7nm,0.7s,baz=231,slow=4.0,SNR=4.3						

NIED ***22*** *14:41:00, 45°.40N×150°.10E, h47km, Mw4.2 Best double couple: M0:2.12000×10^15 NP1:φ=216.00000°, δ=34.00000°, λ=131.00000°. NP2:φ=349.00000°, δ=65.00000°, λ=66.00000°.*

BJI ***22*** *14:41:49.3, 45°.13N×150°.77E, h65km, mB4.8/12, mb4.5/21, Ms4.3/8, Ms7 4.0/7*

JMA ***22*** *14:41:54.3±0.7, 45°.40N×150°.06E, h30km, M4.8*

MOS ***22*** *14:41:54.8±0.9, 45°.37N×149°.97E, h70km, mb4.7/11, Error ellipse: s-maj=8.8km s-min=7.4km az=97.5*

SKHL ***22*** *14:41:54.6±0.5, 45°.23N×150°.14E, h71km±9km, mb5.4/2*

IDC ***22*** *14:41:55.0±0.7, 45°.39N×149°.93E, h55km±6km, mb3.8/18, mb1 4.0/23, mb1mx4.0/28, mbtmp4.1/23, MS3.4/8, Ms1 3.4/8, ms1mx3.2/32, Error ellipse: s-maj=15.5km s-min=11.0km az=144.0*

NEIC ***22*** *14:41:54.7±0.3, 45°.33N×149°.97E, mb4.5/17, Error ellipse: s-maj=8.6km s-min=5.0km az=135.0*

ISCJB ***22*** *14:41:54.2±0.6, 45°.25N±0°.04×150°.01E±0°.05, h67km±5km, mb4.2/37, Error ellipse: s-maj=7.5km s-min=4.9km az=137.9*

ISC 22 14:41:56.1±0.5, 45°.30N±0°.05×150°.04E±0°.05, h70km±3km, h69km: pP-P, n177, σ1§0/194, mb4.2/37, 3C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.54**	**268**	*d*PN	**Pn**	**14 42 20.3**	**-1.1**
KUR				*i* S	**Sn**	**14 42 39.2**	**-1.4**
KUR				pmax	pmax		
	comp=Z,342μm,0.2s						
KUR				pmax	pmax		
	comp=E,583nm,0.2s						
KUR				pmax	pmax		
	comp=Z,3μm,0.3s						
KUR				pmax	pmax		
	comp=N,1μm,0.2s						
KUR	**Kuril'sk**	**1.54**	**268**	*e*P	**Pn**	**14 42 20.3**	**-1.1**
KUR				AMB	AMB	14 42 21.2	
	comp=N,3μm,0.3s						
KUR				*e*S	**Sn**	**14 42 39.2**	**-1.4**
KUR				A	A	14 42 42.7	
	comp=N,4μm,0.3s						
KUR				A	A	14 42 42.7	
	comp=N,1μm,0.3s						
SHO	**Shikotan**	**2.70**	**239**	*e*P	**Pn**	**14 42 35.9**	**-1.2**
SHO				*e*S	**Sn**	**14 43 07.0**	**-1.7**
YUK	**Yuzh-Kuril'sk**	**3.24**	**249**	*d*PN	**Pn**	**14 42 44.9**	**+0.5**
YUK				*i* S	**Sn**	**14 43 22.9**	**+1.1**
YUK				pmax	pmax		
	comp=N,1μm,0.4s						
YUK				pmax	pmax		
	comp=E,2μm,0.4s						
YUK				pmax	pmax		
	comp=Z,3μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.24**	**249**	*e*P	**Pn**	**14 42 44.9**	**+0.5**
YUK				AMB	AMB	14 42 48.5	
	comp=Z,254nm,0.4s						
YUK				*e*S	**Sn**	**14 43 22.9**	**+1.1**
YUK				A	A	14 43 28.5	
	comp=Z,910nm,0.5s						
YUK				A	A	14 43 28.5	
	comp=Z,570nm,0.5s						
NEM2	**Nemuro 2**	**3.64**	**239**	P	**Pn**	**14 42 48.4**	**-1.5**
NEM2				*e*S	**Sn**	**14 43 28.6**	**-3.0**
JRA	**Rausu**	**3.77**	**251**	P	**Pn**	**14 42 52.6**	**+1.0**
JNK	**Nakash**	**4.18**	**248**	P	**Pn**	**14 42 57.4**	**+0.1**
JAK	**Akkeshi**	**4.48**	**241**	P	**Pn**	**14 43 00.1**	**-1.3**
JAK				*e*S	**Sn**	**14 43 48.7**	**-3.5**
JTKR	**Abashiri--Toko**	**4.57**	**255**	P	**Pn**	**14 43 03.3**	**+0.6**
JAR	**Ashorobuto**	**4.93**	**248**	P	**Pn**	**14 43 08.4**	**+0.9**
JAR				*e*S	**Sn**	**14 44 03.9**	**+0.8**
JMP	**Maruseppu**	**4.94**	**257**	P	**Pn**	**14 43 08.7**	**+1.0**
JOB	**Onbets**	**5.07**	**244**	P	**Pn**	**14 43 09.6**	**+0.2**
JOB				*e*S	**Sn**	**14 44 05.5**	**-1.1**
HRK	**Horoka**	**5.28**	**252**	*e*P	**Pn**	**14 43 14.0**	**+1.6**
YSS	**Yuzh-Sakhalins**	**5.33**	**291**	⇓*i*PN	**Pn**	**14 43 13.2**	**+0.2**
YSS				*e*S	**Sn**	**14 44 09.0**	**-4.0**
YSS				pmax	pmax		
	comp=Z,40nm,0.6s						
YSS				smax	smax		
	comp=E,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**5.33**	**291**	*e*P	**Pn**	**14 43 13.2**	**+0.2**
YSS				*e*S	**Sn**	**14 44 09.0**	**-4.0**
YSS	**Yuzh-Sakhalins**	**5.33**	**291**	*e*P	**Pn**	**14 43 12.7**	**-0.3**
	comp=E,39nm,0.5s						
JKK2	**Kamakawa 2**	**5.40**	**257**	P	**Pn**	**14 43 15.4**	**+1.4**
ASAJ	**Asahikawa**	**5.44**	**260**	P	**Pn**	**14 43 15.9**	**+1.5**
ASAJ	**Asahikawa**	**5.44**	**260**	P	**Pn**	**14 43 15.6**	**+1.1**
	comp=E,4.1nm,0.3s,baz=73,slow=24,SNR=34						
ASAJ				S	Sn	14 44 33.1	+18
	comp=E,2.7nm,0.3s,baz=128,slow=6.0,SNR=4.5						
ASAJ				LR	LR	14 45 29.5	
	comp=E,298nm,21.2s,baz=164,slow=40						
ASAJ	**Asahikawa**	**5.44**	**260**	*e*P	**Pn**	**14 43 15.9**	**+1.5**
	comp=E,27nm,1.0s						
ASAJ				S	Sn	14 44 33.1	+18
JCH	**Churui**	**5.52**	**243**	P	**Pn**	**14 43 14.9**	**-0.7**
JCH				*e*S	**Sn**	**14 44 14.7**	**-2.9**
MYR	**Moyori**	**5.74**	**241**	*e*P	**Pn**	**14 43 18.0**	**-0.6**
JWK2	**Keihoku**	**5.75**	**273**	P	**Pn**	**14 43 21.0**	**+2.3**
JAB	**Ashibetsu**	**5.88**	**255**	P	Pn	14 43 23.2	+2.7
JEM	**Erimo**	**5.97**	**239**	*e*S	**Sn**	**14 44 26.8**	**-2.0**
ERM	**Erimo**	**5.97**	**239**	*ce*PN	**Pn**	**14 43 22.4**	**+0.6**
ERM	**Erimo**	**5.97**	**239**	*e*P	**Pn**	**14 43 22.4**	**+0.6**
ERM	**Erimo**	**5.97**	**239**	*e*P	**Pn**	**14 43 22.1**	**+0.3**
	comp=E,301nm,0.4s						
JNBK	**Urakawa-nobuka**	**6.08**	**243**	P	**Pn**	**14 43 21.8**	**-1.4**
JBT2	**Biratori 2**	**6.08**	**248**	P	**Pn**	**14 43 23.1**	**-0.2**
UGL	**Uglegorsk**	**6.62**	**308**	*e*PN	**Pn**	**14 43 30.0**	**-0.6**
UGL				*e*S	**Sn**	**14 44 45.2**	**+0.6**
JEW	**Eniwo**	**6.66**	**251**	P	**Pn**	**14 43 32.4**	**+1.2**
SKR	**Severo-Kuril's**	**6.76**	**35**	*e*PN	Pn	14 43 26.2	-6.2
SKR	**Severo-Kuril's**	**6.76**	**35**	*e*P	**Pn**	**14 43 32.0**	**-0.4**
SKR				*e*S	Sn	14 44 44.2	-3.7
JNB	**Noboribetsu**	**7.09**	**250**	P	**Pn**	**14 43 37.0**	**-0.1**
JNB				*e*S	**Sn**	**14 44 54.2**	**-2.0**
JKB	**Kayabe**	**7.37**	**246**	P	**Pn**	**14 43 40.0**	**-0.9**
JKB				*e*S	Sn	14 44 56.8	-6.2
JSH	**Shimam**	**7.68**	**253**	P	**Pn**	**14 43 46.1**	**+0.9**
JYM2	**Yakumo 2**	**7.69**	**249**	P	**Pn**	**14 43 44.8**	**-0.5**
JANG	**Nango**	**7.96**	**235**	P	Pn	14 43 45.6	-3.4
JANG				*e*S	Sn	14 45 09.1	-8.5
JTM	**Tenmabayashi**	**7.97**	**239**	P	**Pn**	**14 43 47.3**	**-1.8**
JTH	**Tanohata**	**8.06**	**231**	*e*S	Sn	14 45 09.7	-10
JOSM	**Okushiri--Mats**	**8.30**	**251**	P	**Pn**	**14 43 53.1**	**-0.5**
OFUJ	**Ofunato**	**8.78**	**228**	P	Pn	14 43 56.9	-3.3
JRG	**Rokugo**	**9.12**	**233**	P	**Pn**	**14 44 02.6**	**-2.2**
JRG				*e*S	Sn	14 45 37.1	-8.8
PETK	**Petropavlovsk-**	**9.28**	**30**	P	**Pn**	**14 44 07.6**	**+0.6**
	comp=E,0.8nm,0.3s,baz=204,slow=14,SNR=31						
JIO	**Ouri**	**9.42**	**226**	P	**Pn**	**14 44 06.5**	**-2.4**
JIO				*e*S	Sn	14 45 41.3	-12
JFK	**Kawauchi**	**10.49**	**224**	*e*S	Sn	14 46 07.9	-12
HABR	**Khabarovsk**

TIA PMZ
comp=N,20nm,0.8s
HHC Hu-ho-hao-te 28.27 275 *eP* **P 14 47 41.0 -1.7**
HHC pP **pP 14 47 58.3 -1.0**
HHC sP **sP 14 48 07.6 +0.1**
HHC S S 14 52 17.1 -6.7
HHC sS **sS 14 52 52.8 +0.5**
HHC ScS **ScS 14 58 17.8 -4.1**
HHC PMZ
comp=N,27nm,0.6s
HHC PMZ
comp=N,130nm,5.6s
HHC LN
comp=N,210nm,16.5s
HHC LE
comp=N,310nm,15.6s
HHC LZ
comp=N,180nm,16.0s
H11N2 WAKE ISLAND Hy 29.07 146 T T 15 18 37.2
baz=336,slow=76,SNR=603
H11N1 WAKE ISLAND Hy 29.08 146 T T 15 18 42.8
baz=335,slow=76,SNR=670
H11N3 WAKE ISLAND Hy 29.08 146 T T 15 18 43.1
baz=335,slow=76,SNR=665
ULN Ulaanbaatar 29.38 291 *i* P **P 14 47 53.7 +1.1**
ULN pmax pmax
comp=Z,3.0nm,1.6s
ULN Ulaanbaatar 29.38 291 *eP* **P 14 47 53.7 +1.1**
ULN Ulaanbaatar 29.38 291 *eP* **P 14 47 52.4 -0.1**
comp=Z,1.2nm,0.7s
SONM Songino Array 29.82 291 P **P 14 47 55.4 -1.0**
comp=Z,0.5nm,0.7s,baz=88,slow=7.1,SNR=4.9
SONM PcP **PcP 14 50 58.4 +0.3**
comp=Z,0.5nm,0.5s,baz=96,slow=3.1,SNR=4.0
H11S1 WAKE ISLAND Hy 30.10 147 T T 15 19 53.2
baz=336,slow=76,SNR=724
H11S3 WAKE ISLAND Hy 30.10 147 T T 15 19 52.1
baz=336,slow=76,SNR=483
H11S2 WAKE ISLAND Hy 30.11 147 T T 15 19 54.5
baz=336,slow=76,SNR=567
WHN Wuhan 31.49 255 P **P 14 48 11.3 +0.2**
LZH Lanzhou 35.79 272 *eP* **P 14 48 48.6 0.0**
LZH pP **pP 14 49 06.8 +1.3**
LZH sP **sP 14 49 16.0 +2.4**
LZH PP **PP 14 50 15.5 +4.5**
LZH PMZ
comp=Z,23nm,1.1s
LZH PMZ
comp=Z,75nm,5.6s
LZH LN
comp=Z,230nm,12.7s
LZH LE
comp=Z,250nm,13.0s
LZH LZ
comp=Z,290nm,16.7s
KDAK Kodiak Island 36.68 49 *i* P **P 14 48 56.4 +0.7**
KDAK Kodiak Island 36.68 49 *eP* **P 14 48 56.4 +0.7**
GTA Gaotai 37.09 279 *eP* **P 14 49 00.5 +0.9**
GTA pP **pP 14 49 18.8 +2.3**
GTA sP **sP 14 49 27.8 +3.2**
GTA PMZ
comp=Z,7.0nm,0.9s
KTH Kantishna Hill 37.25 39 *eP* **P 14 49 01.2 +0.6**
comp=Z,5.2nm,0.8s
COLA College 38.60 37 ⇓*i* P **P 14 49 13.0 +1.2**
COLA College 38.60 37 *eP* **P 14 49 13.0 +1.2**
COLA College 38.60 37 *eP* **P 14 49 12.0 +0.2**
comp=Z,5.4nm,0.7s
CD2 Chengdu 38.62 264 *eP* **P 14 49 12.4 -0.1**
CD2 PMZ
comp=Z,30nm,0.9s
ILAR Eielson Array 39.01 37 P **P 14 49 15.6 +0.3**
comp=Z,1.8nm,0.8s,baz=268,slow=7.4,SNR=25
BMRM Bremner River 40.36 43 *eP* **P 14 49 27.8 +1.2**
comp=Z,10nm,1.0s
EGAK Eagle 41.46 37 *eP* **P 14 49 35.5 0.0**
comp=Z,2.8nm,0.4s
ZALV Zalesovo Beam 41.73 306 P **P 14 49 36.6 -1.2**
comp=Z,0.4nm,0.3s,baz=76,slow=6.1,SNR=2.7
ZALV PcP **PcP 14 51 33.6 +0.6**
comp=Z,2.1nm,0.6s,baz=77,slow=2.5,SNR=11
WMQ Urumqi 43.46 291 *eP* **P 14 49 52.3 +0.2**
WMQ pP **pP 14 50 10.8 +1.4**
WMQ PMZ
comp=Z,93nm,4.5s
MKAR Makanchi Array 45.71 297 P **P 14 50 09.8 -0.1**
comp=Z,0.7nm,0.5s,baz=76,slow=8.6,SNR=10
MKAR PcP **PcP 14 51 47.1 +0.4**
comp=Z,1.1nm,0.6s,baz=76,slow=1.6,SNR=8.6
MKAR LR LR 15 10 34.2
comp=Z,74nm,19.1s,baz=52,slow=38
KURK Kurchatov 46.39 304 *eP* **P 14 50 14.7 -0.4**
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 46.39 304 *eP* **P 14 50 14.8 -0.4**
KURK Kurchatov 46.39 304 *eP* **P 14 50 14.7 -0.4**
comp=Z,0.7nm,0.5s
CHTO Chiang Mai 49.69 255 *eP* **P 14 50 41.6 +0.6**
CHTO pmax pmax
comp=Z,2.0nm,0.6s
CHTO Chiang Mai 49.69 255 *eP* **P 14 50 41.6 +0.6**
comp=Z,2.4nm,0.6s
CMAR Chiang Mai Arr 49.94 255 P **P 14 50 43.7 +0.8**
comp=Z,1.4nm,0.6s,baz=41,slow=7.2,SNR=14
CMAR LR LR 15 13 02.8
comp=Z,27nm,18.5s,baz=265,slow=37
TAPN Taplejung 52.03 272 *eP* **P 14 50 59.7 +0.8**
comp=Z,10nm,0.7s
AAK Ala-Archa 52.55 296⇑ *eP* **P 14 51 02.8 +0.4**
AAK pmax pmax
comp=Z,4.0nm,0.9s
ODAN Odare 52.55 272 *eP* **P 14 51 03.0 +0.3**
RES Resolute Bay 52.88 18 *eP* **P 14 51 03.1 -1.0**
RES pmax pmax
comp=Z,2.0nm,0.7s
RES Resolute Bay 52.88 18 *eP* **P 14 51 03.1 -1.0**
comp=Z,1.8nm,0.7s
JIRN Jiri 52.91 274 *eP* **P 14 51 06.2 +0.7**
comp=Z,13nm,0.5s
GUN Gumba 52.98 274 *eP* **P 14 51 06.6 +0.7**
comp=Z,17nm,0.6s
RAMN Ramite 53.06 273 *eP* **P 14 51 06.7 +0.3**
YKA Yellowknife Ar 53.36 35 P **P 14 51 08.3 +0.6**
YKA *PP **pP 14 51 22.9 -2.7**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 53.36 35 P **P 14 51 08.3 +0.6**
comp=Z,2.4nm,0.7s,baz=298,slow=7.0,SNR=27
YKA pP **pP 14 51 22.9 -2.7**
comp=Z,1.7nm,0.6s,baz=298,slow=7.0,SNR=13
KKN Kakani 53.48 274 *eP* **P 14 51 10.3 +0.9**
comp=Z,10.0nm,0.7s
PKI Pulchoki 53.52 274 *eP* **P 14 51 10.0 +0.1**
PKIN Phulchoki 53.52 274 *eP* **P 14 51 09.9 +0.1**
comp=Z,6.2nm,0.6s
DMN Daman 53.71 274 *eP* **P 14 51 11.7 +0.5**
comp=Z,6.9nm,0.4s
GKN Gorkha 53.80 275 *eP* **P 14 51 12.2 +0.5**
comp=Z,5.0nm,0.4s
DANN Dangsing 54.21 276 *eP* **P 14 51 15.8 +1.0**
ARU Arti 54.63 317 *c i* P **P 14 51 16.3 -0.8**
ARU 14 53 18.5
ARU S **S 14 58 52.5 +1.2**
ARU SS **SS 15 02 29.6 -4.7**
ARU pmax pmax
comp=Z,16nm,2.5s
ARU Arti 54.63 317 *eP* **P 14 51 16.4 -0.7**
KOLN Koldanda 54.67 275 *eP* **P 14 51 18.8 +0.7**
KKAR Karatay Array 54.81 298 *eP* **P 14 51 18.6 -0.1**
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 54.81 298 *eP* **P 14 51 18.6 -0.1**
comp=Z,0.7nm,0.4s
FFC Flin Flon 63.22 38 *eP* **P 14 52 16.5 -0.1**
FFC pmax pmax
comp=Z,5.0nm,0.8s
FFC Flin Flon 63.22 38 *eP* **P 14 52 17.9 +1.3**
FFC Flin Flon 63.22 38 *eP* **P 14 52 16.5 -0.1**
comp=Z,4.7nm,0.8s
FINES FINESS Array B 64.42 334 P **P 14 52 22.5 -1.8**
comp=Z,2.6nm,0.6s,baz=32,slow=6.8,SNR=14
NVAR Mina Array Bea 65.01 60 P **P 14 52 30.2 +1.2**
comp=Z,1.0nm,0.6s,baz=292,slow=7.4,SNR=9.0
NVAR pP **pP 14 52 44.9 -2.3**
comp=Z,0.9nm,0.7s,baz=287,slow=6.7,SNR=5.7
GEYT Alibeck 65.49 300 P **P 14 52 32.4 +0.6**
comp=Z,4.3nm,0.7s,baz=350,slow=3.5,SNR=11
WRAB Tennant Creek 66.47 196 *eP* **P 14 52 38.6 +0.5**
WRAB Tennant Creek 66.47 196 *eP* **P 14 52 38.6 +0.5**
WB2 Warramunga Arr 66.48 196 *eP* **P 14 52 38.7 +0.6**
WRA Warramunga Arr 66.48 196 P **P 14 52 38.4 +0.3**
comp=Z,1.2nm,0.7s,baz=15,slow=6.7,SNR=11
WRA pP **pP 14 52 53.5 -3.1**
comp=Z,0.9nm,0.7s,baz=15,slow=6.6,SNR=5.0
PDAR Pinedale Array 67.33 52 P **P 14 52 44.2 +0.5**
comp=Z,1.2nm,0.8s,baz=292,slow=2.0,SNR=10
NB2 NORSAR Subarra 68.89 340 P **P 14 52 51.5 -1.4**
comp=Z,3.3nm,1.1s,baz=29,slow=6.5
NOA NORSAR Array B 68.89 340 P **P 14 52 52.2 -0.7**
comp=Z,0.7nm,0.4s,baz=42,slow=6.7,SNR=7.1
ULM Lac du Bonnet 69.01 39 P **P 14 52 52.8 -1.0**
comp=Z,0.8nm,0.3s,baz=327,slow=11,SNR=3.6
AS31 Alice Springs 70.19 196 *eP* **P 14 53 02.5 +1.3**
ASAR Alice Springs 70.19 196 P **P 14 53 02.5 +1.3**
comp=Z,1.2nm,0.9s,baz=11,slow=6.6,SNR=18
KBZ Khabaz 70.30 313 P **P 14 53 02.3 +0.5**
comp=Z,8.2nm,0.8s,baz=73,slow=4.5,SNR=22
KBZ LR LR 15 27 56.5
comp=Z,54nm,19.4s,baz=54,slow=39
AKASG Malin Array Be 71.53 325 P **P 14 53 06.3 -2.9**
comp=Z,1.3nm,0.4s,baz=38,slow=6.2,SNR=4.4
KOLS Kolonicke sedl 75.67 327 *eP* **P 14 53 34.0 +0.5**
DPC Dobruska-Polom 76.62 332 *eP* **P 14 53 39.7 +0.8**
DPC Dobruska-Polom 76.62 332 *eP* **P 14 53 39.7 +0.8**
CLL Collm 76.87 334 *eP* **P 14 53 40.0 -0.2**
CLL Collm 76.87 334 *eP* **P 14 53 40.0 -0.2**
VYHS Vyhne 77.31 329 *eP* **P 14 53 43.6 +0.8**
BRTR Keskin Array B 77.94 315 P **P 14 53 46.7 0.0**
comp=Z,1.6nm,0.8s,baz=95,slow=4.0,SNR=8.3
KHC Kasperske Hory 78.58 333 *eP* **P 14 53 49.9 +0.1**
KHC *e* 14 53 55.2
KHC Kasperske Hory 78.58 333 *eP* **P 14 53 49.9 +0.1**
KHC *ex* x 14 53 55.2
GERES GERESS Array B 78.79 332 P **P 14 53 50.9 -0.2**
comp=Z,0.9nm,0.4s,baz=38,slow=6.2,SNR=8.2
TXAR Lajitas Array 80.07 58 P **P 14 53 59.4 +1.1**
comp=Z,1.5nm,0.5s,baz=302,slow=4.0,SNR=25
SADO Sadowa 80.30 33 LR LR 15 31 46.0
comp=Z,39nm,18.8s,baz=180,slow=37
LOR Lormes 83.14 338 *eP* **P 14 54 13.6 -0.5**
LOR Lormes 83.14 338 *eP* **P 14 54 13.6 -0.5**
LOR Lormes 83.14 338 *eP* **P 14 54 13.6 -0.5**
GRR Gorron 83.28 341 *eP* **P 14 54 14.6 -0.2**
comp=Z,9.5nm,0.4s
GRR Gorron 83.28 341 *eP* **P 14 54 14.6 -0.2**
GRR pmax pmax
comp=Z,10.0nm,0.4s
GRR Gorron 83.28 341 *eP* **P 14 54 14.6 -0.2**
comp=Z,9.5nm,0.4s
AVF Avril sur Loir 83.72 338 *eP* **P 14 54 16.8 -0.3**
AVF Avril sur Loir 83.72 338 *eP* **P 14 54 16.8 -0.3**
AVF Avril sur Loir 83.72 338 *eP* **P 14 54 16.8 -0.3**
SMF Signal de Mont 83.72 337 *eP* **P 14 54 16.8 -0.3**
comp=Z,16nm,0.9s
SMF Signal de Mont 83.72 337 *eP* **P 14 54 16.8 -0.3**
SMF pmax pmax
comp=Z,16nm,0.9s
SMF Signal de Mont 83.72 337 *eP* **P 14 54 16.8 -0.3**
comp=Z,16nm,0.9s
MBDF Montbardon 84.63 335 *eP* **P 14 54 21.4 -0.5**
comp=Z,4.4nm,0.6s
MBDF Montbardon 84.63 335 *eP* **P 14 54 21.4 -0.5**
MBDF pmax pmax
comp=Z,4.0nm,0.6s
MBDF Montbardon 84.63 335 *eP* **P 14 54 21.4 -0.5**
comp=Z,4.4nm,0.6s
ORIF Oris-en-Rattie 84.72 335 *eP* **P 14 54 21.9 -0.4**
comp=Z,5.6nm,0.6s
ORIF Oris-en-Rattie 84.72 335 *eP* **P 14 54 21.9 -0.4**
ORIF pmax pmax
comp=Z,6.0nm,0.6s
ORIF Oris-en-Rattie 84.72 335 *eP* **P 14 54 21.9 -0.4**
comp=Z,5.6nm,0.6s
MFF Saint Martin d 84.79 340 *eP* **P 14 54 22.7 +0.2**
MFF Saint Martin d 84.79 340 *eP* **P 14 54 22.7 +0.2**
MFF Saint Martin d 84.79 340 *eP* **P 14 54 22.7 +0.2**
CAF Calviac 85.79 338 *eP* **P 14 54 28.3 +0.8**
comp=Z,9.9nm,0.8s
CAF Calviac 85.79 338 *eP* **P 14 54 28.3 +0.8**
CAF pmax pmax
comp=Z,10.0nm,0.8s
CAF Calviac 85.79 338 *eP* **P 14 54 28.3 +0.8**
comp=Z,9.9nm,0.8s
TORD Torodi Ar. Bea 115.16 326 PKP **PKPdf 15 00 29.3 -0.3**
comp=Z,0.1nm,0.4s,baz=23,slow=2.2,SNR=2.7
VNDA Vanda 122.76 177 PKIKP **PKPdf 15 00 43.0 +0.7**
VNDA Vanda 122.76 177 PKP **PKPdf 15 00 43.0 +0.7**
comp=Z,0.7nm,1.0s,baz=321,slow=4.9,SNR=3.9
PLCA Paso Flores 150.20 96 PKPbc **PKPbc 15 01 39.9 +1.3**
comp=Z,3.7nm,0.7s,baz=250,slow=4.4,SNR=9.2

IDC 22 14:50:46.8±4.0, 18°.73S×176°.06W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/20, mbtmp3.8/2, Error ellipse: s-maj=245.7km s-min=82.2km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.69**	**260**	P	P	14 59 17.7	0.0
	0.4nm,0.3s,baz=96,slow=7.7,SNR=31						
ASAR	**Alice Springs**	**46.73**	**255**	P	P	14 59 17.9	-0.1
	0.9nm,0.5s,baz=90,slow=8.1,SNR=34						
ASAR				PcP	PcP	15 00 50.5	-1.2
	0.2nm,0.6s,baz=97,slow=4.9,SNR=4.4						
AKASG	**Malin Array Be**	**142.31**	**334**	PKP	PKPdf	15 10 22.8	+1.6
	0.5nm,0.5s,baz=43,slow=4.0,SNR=2.7						

*IDC **22** 15:07:21.9±2.4, 51°.50N×173°.38E, h0km, mb3.4/2, mb1 3.9/4, mb1mx3.4/40, mbtmp3.8/4, ML3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/26, Error ellipse: s-maj=32.0km s-min=23.4km az=54.0*
*ISCJB **22** 15:07:22.1±1.0, 51°.43N±0°.07×173°.35E±0°.07, h28km, mb3.2/2, MS3.2/2, Error ellipse: s-maj=10.9km s-min=5.5km az=21.0*
*NEIC **22** 15:07:25.4, 51°.52N×173°.51E, h14km, ML3.5(AEIC), After AEIC.*

ISC 22 15:07:23.9±1.2, 51°.55N±0°.09×173°.29E±0°.06, h28km, n15, σ1§10/22, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.28**	**23**	P	**Pb**	**15 07 47.2**	**-0.2**
SMY				S	**Sb**	**15 08 02.8**	**-0.7**
FX1	**Attu Island--F**	**1.34**	**357**	Pn	**Pb**	**15 07 47.8**	**-0.5**
	16nm,0.3s,baz=180,slow=7.1,SNR=43						
FX1				Sn	**Sb**	**15 08 04.5**	**-0.6**
	206nm,0.3s,baz=246,slow=19,SNR=61						
FX1	**Attu Island--F**	**1.34**	**357**	P	**Pb**	**15 07 48.0**	**-0.3**
FX1				S	**Sb**	**15 08 06.2**	**+1.1**
LSSA	**Little Sitkin**	**3.27**	**81**	P	**Pn**	**15 08 13.3**	**-0.1**
LSSA				S	**Sn**	**15 08 49.6**	**-1.7**
LSNW	**Little Sitkin**	**3.28**	**81**	P	**Pn**	**15 08 12.7**	**-0.7**
LSNW				S	**Sn**	**15 08 50.9**	**-0.5**
LSPA	**Little Sitkin**	**3.31**	**81**	P	**Pn**	**15 08 13.9**	**0.0**
LSPA				S	**Sn**	**15 08 51.4**	**-0.8**
AMKA	**Amchitka**	**3.77**	**90**	P	**Pn**	**15 08 19.0**	**-1.1**
CETU	**Semis' Tuman**	**3.88**	**81**	P	**Pn**	**15 08 21.5**	**-0.2**
CETU				S	**Sn**	**15 09 05.5**	**-0.8**
CESW	**Semis' Southwe**	**3.92**	**82**	P	**Pn**	**15 08 22.0**	**-0.2**
CESW				S	**Sn**	**15 09 06.7**	**-0.5**
PETK	**Petropavlovsk-**	**9.67**	**285**	**Pn**	**Pn**	**15 09 42.1**	**+0.9**
	0.7nm,0.3s,baz=94,slow=16,SNR=28						
PETK				Sn	**Sn**	**15 11 25.9**	**-2.8**
	0.7nm,0.3s,baz=96,slow=24,SNR=6.8						
SEY	**Seymchan**	**15.97**	**324**	Pn	**Pn**	**15 11 06.4**	**+0.1**
	1.8nm,0.3s,baz=180,slow=20,SNR=52						
ASAJ	**Asahikawa**	**21.78**	**262**	LR	LR	15 19 30.1	
	comp=Z,67nm,20.4s,baz=6.0,slow=33						
ILAR	**Eielson Array**	**24.32**	**42**	P	**P**	**15 12 39.6**	**+0.8**
	0.4nm,0.4s,baz=255,slow=8.2,SNR=12						
YKA	**Yellowknife Ar**	**38.66**	**45**	P	**P**	**15 14 46.7**	**+2.2**
	0.3nm,0.5s,baz=288,slow=7.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**50.22**	**310**	LR	LR	15 40 58.5	
	comp=Z,27nm,18.3s,baz=229,slow=40						

JMA 22 15:09:53.4±0.2, 35°.52N×140°.24E, h49km±2km, M1.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.11**	**197**	P	Pn	15 10 01.7	+0.6
JCN				S	Sn	15 10 07.0	+0.4
BSO4	**Boso 4**	**0.54**	**171**	P	Pn	15 10 05.0	+0.1
JYT	**Yasato**	**0.71**	**357**	P	Pn	15 10 07.6	+0.4
BSO3	**Boso 3**	**0.75**	**163**	P	Pn	15 10 07.1	-0.3
BSO3				S	Sn	15 10 18.6	+1.0
JOD2	**Odawara 2**	**0.97**	**255**	P	Pn	15 10 10.6	-0.2
JOD2				S	Sn	15 10 23.0	-0.6
JIM2	**Oshima 3**	**1.04**	**220**	P	Pn	15 10 12.2	+0.5

*NIED **22** 15:10:00, 35°.50N×140°.30E, h35km, Mw3.9 Best double couple: M0 7.46000×10^14 NP1:φs52.00000°, δ25.00000°, λ-44.00000°. NP2:φs184.00000°, δ73.00000°, λ-109.00000°.*
*ISCJB **22** 15:10:19.2±0.4, 35°.44N±0°.05×140°.18E±0°.05, h59km±3km, mb3.7/11, Error ellipse: s-maj=9.2km s-min=5.3km az=41.8*
*JMA **22** 15:10:19.4±0.1, 35°.52N×140°.24E, h51km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs50.00000°, δ51.00000°, λ-64.00000°. NP2:φs192.00000°, δ46.00000°, λ-118.00000°. Principal axes: T Plg3.0000°, Azm122.0000°; N Plg20.0000°, Azm213.0000°; P Plg70.0000°, Azm24.0000°;*
JMA Felt I J1.
*IDC **22** 15:10:20.5±2.7, 35°.42N×140°.03E, h51km±25km, mb3.5/11, mb1 3.8/12, mb1mx3.6/26, mbtmp3.9/12, ML5.1/1 Error ellipse: s-maj=25.0km s-min=15.3km az=73.0*

ISC 22 15:10:20.4±0.7, 35°.46N±0°.06×140°.20E±0°.05, h52km±6km, n34, σ1§23/38, mb3.8/11, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.04**	**183**	⇓P	**Pn**	**15 10 27.8**	**-0.5**
JCN				S	**Sn**	**15 10 33.5**	**-0.3**
I30JP	**ISUMI INFRASON**	**0.17**	**149**	P	**Pn**	**15 10 28.4**	**-0.4**
I30JP				S	**Sn**	**15 10 36.2**	**+1.5**
KTR	**Katsuura**	**0.32**	**163**	⇑P	**Pn**	**15 10 29.2**	**-0.7**
KTR				S	**Sn**	**15 10 36.8**	**+0.2**
TOK	**Tokyo**	**0.43**	**303**	S	**Sn**	**15 10 38.5**	**0.0**
BSO4	**Boso 4**	**0.48**	**167**	P	**Pn**	**15 10 31.3**	**-0.1**
BSO4				S	**Sn**	**15 10 40.2**	**+0.9**
BSO3	**Boso 3**	**0.70**	**159**	⇑P	**Pn**	**15 10 33.4**	**-0.6**
BSO3				S	**Sn**	**15 10 44.7**	**+0.9**
JOD2	**Odawara 2**	**0.93**	**258**	P	**Pn**	**15 10 36.7**	**-0.6**
JOD2				S	**Sn**	**15 10 48.7**	**-1.0**
JIM2	**Oshima 3**	**0.97**	**221**	P	**Pn**	**15 10 37.1**	**-0.7**
JIM2				S	**Sn**	**15 10 49.8**	**-0.8**
BSO1	**Boso 1**	**1.02**	**141**	P	**Pn**	**15 10 36.7**	**-1.2**
BSO1				S	**Sn**	**15 10 50.6**	**-0.4**
JAG	**Ashikaga**	**1.14**	**328**	⇑P	**Pn**	**15 10 39.0**	**-1.1**
JRY	**Ryogami san**	**1.20**	**298**	⇑P	**Pn**	**15 10 40.4**	**-0.5**
MJAR	**Matsushiro Arr**	**1.95**	**304**	P	**Pn**	**15 10 50.1**	**-1.0**
	17nm,0.3s,baz=155,slow=14,SNR=82						
MJAR				S	**Sn**	**15 11 17.9**	**+3.5**
	26nm,0.3s,baz=228,slow=38,SNR=9.0						
MAT	**Matsushiro**	**1.95**	**304**	P	**Pn**	**15 10 50.8**	**-0.3**
MAT				*e*S	**Sn**	**15 11 12.9**	**-1.5**
JNU	**Nakatsue**	**8.06**	**256**	P	**Pn**	**15 12 16.2**	**+1.3**
	0.3nm,0.3s,baz=158,slow=3.2,SNR=4.4						
JCJ	**Chichijima**	**8.50**	**168**	P	**Pn**	**15 12 19.0**	**-1.9**
	22nm,0.3s,baz=314,slow=23,SNR=7.6						
ASAJ	**Asahikawa**	**8.84**	**11**	P	**Pn**	**15 12 22.9**	**-2.6**
	0.8nm,0.3s,baz=233,slow=10,SNR=7.6						
KSRS	**Korea Array**	**10.09**	**285**	P	**Pn**	**15 12 44.9**	**+2.3**
	0.2nm,0.3s,baz=98,slow=13,SNR=6.1						
SONM	**Songino Array**	**27.90**	**307**	P	**P**	**15 16 04.4**	**-1.1**
	0.6nm,0.7s,baz=106,slow=9.1,SNR=3.7						
H11N2	**WAKE ISLAND Hy 28.25 117**			T	T	15 46 02.2	
	baz=308,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy 28.26 117**			T	T	15 45 54.1	
	baz=308,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy 28.27 117**			T	T	15 45 55.8	
	baz=308,slow=75,SNR=38						
H11S1	**WAKE ISLAND Hy 28.89 119**			T	T	15 46 13.9	
	baz=311,slow=75,SNR=32						
H11S3	**WAKE ISLAND Hy 28.89 119**			T	T	15 46 15.5	
	baz=311,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy 28.91 119**			T	T	15 46 21.3	
	baz=311,slow=75,SNR=16						
ZALV	**Zalesovo Beam**	**42.27**	**314**	P	**P**	**15 18 07.9**	**-0.7**
	1.7nm,0.5s,baz=95,slow=5.9,SNR=9.3						
MKAR	**Makanchi Array**	**44.15**	**303**	P	**P**	**15 18 23.7**	**-0.2**
	0.9nm,0.7s,baz=85,slow=2.6,SNR=6.2						
ILAR	**Eielson Array**	**51.35**	**32**	P	**P**	**15 19 20.7**	**+1.4**
	0.4nm,0.6s,baz=264,slow=6.7,SNR=5.5						
WRA	**Warramunga Arr**	**55.37**	**187**	P	**P**	**15 19 48.8**	**-0.5**
	1.4nm,0.5s,baz=2.5,slow=7.5,SNR=38						
ASAR	**Alice Springs**	**59.10**	**187**	P	**P**	**15 20 15.9**	**+0.4**
	0.4nm,0.5s,baz=10,slow=8.6,SNR=14						
YKA	**Yellowknife Ar**	**65.66**	**29**	P	**P**	**15 20 59.3**	**+0.4**
	0.3nm,0.7s,baz=303,slow=6.9,SNR=5.5						
FINES	**FINESS Array B**	**69.75**	**332**	P	**P**	**15 21 24.6**	**0.0**
	1.1nm,0.6s,baz=64,slow=3.2,SNR=3.9						
AKASG	**Malin Array Be**	**74.94**	**322**	P	**P**	**15 21 55.1**	**-0.7**
	0.6nm,0.4s,baz=51,slow=6.6,SNR=2.7						
NOA	**NORSAR Array B**	**75.26**	**337**	P	**P**	**15 21 56.4**	**-1.1**
	1.1nm,0.9s,baz=39,slow=5.8,SNR=3.2						
NVAR	**Mina Array Bea**	**76.72**	**52**	P	**P**	**15 22 08.0**	**+1.5**
	0.5nm,0.7s,baz=292,slow=6.2,SNR=4.7						

IDC 22 15:24:14.6±3.6, 2°.17S×134°.67E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, ML2.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/16, Error ellipse: s-maj=177.0km s-min=28.7km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.66**	**181**	P	Pn	15 28 22.0	-0.3
	0.0nm,0.3s,baz=360,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**21.38**	**182**	P	P	15 29 03.9	0.0
	0.6nm,0.8s,baz=8.8,slow=11,SNR=6.6						
HNR	**Honiara**	**26.14**	**107**	LR	LR	15 41 08.4	
	comp=Z,43nm,19.3s,baz=162,slow=39						
MKAR	**Makanchi Array**	**66.94**	**324**	P	P	15 35 09.1	+0.1
	0.2nm,0.4s,baz=113,slow=7.6,SNR=6.5						

IDC 22 15:39:52.5±3.1, 21°.45N×143°.03E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.3/30, mbtmp3.6/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/16, Error ellipse: s-maj=138.2km s-min=24.1km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.67**	**352**	Pn	Pn	15 41 17.9	-0.2
	baz=270,slow=20						
JCJ				Sn	Sn	15 42 16.3	-7.7
	11nm,0.3s,baz=294,slow=20,SNR=5.1						
KSRS	**Korea Array**	**20.63**	**324**	P	P	15 44 33.9	+0.4
	0.5nm,0.5s,baz=147,slow=9.1,SNR=6.4						
WRA	**Warramunga Arr**	**42.01**	**192**	P	P	15 47 46.0	+0.3
	0.2nm,0.3s,baz=13,slow=8.3,SNR=14						
ASAR	**Alice Springs**	**45.72**	**192**	P	P	15 48 14.8	-0.7
	0.3nm,0.9s,baz=10,slow=6.3,SNR=5.6						
MKAR	**Makanchi Array**	**54.76**	**313**	LR	LR	16 13 28.4	
	comp=Z,37nm,19.4s,baz=16,slow=37						

*ISCJB **22** 15:53:40.9±2.3, 33°.72S±0°.04×72°.22W±0°.06, h7km±16km, mb3.9/5, Error ellipse: s-maj=8.4km s-min=6.4km az=32.3*
*IDC **22** 15:53:41.3±0.9, 33°.70S×72°.28W, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.8/33, mbtmp3.9/8, ML3.7/3, Error ellipse: s-maj=34.0km s-min=21.2km az=110.0*
*GUC **22** 15:53:42.2±0.4, 33°.69S×72°.22W, h44km±4km, ML4.1*

ISC 22 15:53:43.0±1.8, 33°.71S±0°.05×72°.07W±0°.07, h11km±10km, n23, σ0§79/28, mb4.2/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.77**	**28**	*eP*	**Pg**	**15 53 57.5**	**-0.3**
RCDM	**Rinconada Maip**	**1.07**	**79**	*eP*	**Pb**	**15 54 03.3**	**-0.3**
RCDM				*e*S	**Sn**	**15 54 19.0**	**+0.2**
ANTU	**Antumapu**	**1.20**	**84**	*eP*	**Pn**	**15 54 05.2**	**-0.5**
ANTU				*e*S	**Sn**	**15 54 23.0**	**+0.9**
PEL	**Peldehue**	**1.28**	**64**	*eP*	**Pn**	**15 54 06.5**	**-0.4**
PEL				*e*S	**Sg**	**15 54 25.1**	**+0.7**
PEL				IAML		15 54 34.3	

comp=E,6μm,0.8s
CLCH Cerro Calan 1.31 77 *e*P **Pn 15 54 07.0 -0.3**
CLCH *e*S **Sg 15 54 26.1 +0.8**
CLCH IAML 15 54 38.9
comp=N,4μm,0.8s
NICH Los Niches 1.47 152 *e*P **Pn 15 54 08.7 -0.7**
NICH *e*S **Sb 15 54 28.8 -0.2**
YECH El Yeso 1.65 89 *e*P **Pn 15 54 12.4 +0.2**
TALC Talca 1.73 168 *e*P **Pn 15 54 11.9 -1.0**
TALC *e*S **Sn 15 54 34.1 -0.9**
CFAA Coronel Fontan 3.85 58 Pn Pn 15 54 45.5 +3.3
comp=N,0.7nm,0.3s,baz=232,slow=12,SNR=23
CFAA Sn **Sb 15 55 35.8 -1.7**
comp=N,1.0nm,0.3s,baz=7.2,slow=16,SNR=3.7
PLCA Paso Flores 7.12 171 Pn **Pn 15 55 28.5 +1.4**
comp=N,0.7nm,0.3s,baz=338,slow=9.9,SNR=3.4
PLCA Lg Lg 15 57 21.8
comp=N,0.1nm,0.3s,baz=2.9,slow=16,SNR=2.1
LPAZ La Paz 17.70 13 P **Pn 15 57 50.2 +0.1**
comp=N,0.1nm,0.3s,baz=112,slow=4.8,SNR=8.9
SIV San Ignacio 20.23 32 P **P 15 58 17.4 -0.8**
comp=N,1.3nm,0.6s,baz=252,slow=3.2,SNR=2.6
BDFB Brasilia 28.19 56 P **P 15 59 36.4 +0.6**
comp=N,2.8nm,0.5s,baz=138,slow=4.7,SNR=3.0
QSPA South Pole Qui 56.53 180 P **P 16 03 25.0 -0.1**
comp=N,1.0nm,0.7s,baz=186,slow=2.4,SNR=6.3
TXAR Lajitas Array 69.47 331 P **P 16 04 52.3 +0.8**
comp=N,0.3nm,0.6s,baz=156,slow=6.4,SNR=5.4
DBIC Dimbokro 75.11 71 P **P** 16 05 28.5 +3.1
comp=N,1.3nm,0.6s,baz=191,slow=7.6,SNR=3.9
TORD Torodi Ar. Bea 84.13 70 P **P 16 06 14.8 +0.4**
comp=N,0.9nm,0.6s,baz=264,slow=2.9,SNR=9.1
WRA Warramunga Arr 121.01 209 PKP **PKPdf 16 12 35.1 -1.1**
comp=N,0.3nm,0.8s,baz=172,slow=1.7,SNR=5.5
BVAR Borovoye Array 147.08 43 PKPbc **PKPbc 16 13 24.7 -0.7**
comp=N,0.3nm,0.6s,baz=320,slow=3.8,SNR=3.2
AAK Ala-Archa 152.38 61 PKPbc **PKPbc 16 13 38.6 -0.6**
comp=N,0.4nm,0.6s,baz=188,slow=14,SNR=2.5
KURBB Kurchatov Arra 152.67 43 PKPbc **PKPbc 16 13 39.4 +0.2**
comp=N,0.1nm,0.3s,baz=289,slow=2.9,SNR=4.4
ZALV Zalesovo Beam 153.99 32 PKPbc **PKPbc 16 13 42.3 +0.3**
comp=N,0.5nm,0.6s,baz=357,slow=7.2,SNR=2.8
MKAR Makanchi Array 156.59 48 PKPab **PKPab 16 14 07.8 +0.9**
comp=N,0.2nm,0.5s,baz=188,slow=24,SNR=5.7

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*IDC **22** 16:00:18.7±0.9, 11°.84N×86°.09W,h153km±16km, mb3.5/9, mb1 3.8/10, mb1mx3.5/25, mbtmp4.0/10, Error ellipse: s-maj=30.9km s-min=16.3km az=46.0*
*CASC **22** 16:00:20.2±2.4, 11°.68N×86°.39W, h135km±12km, MD4.0*
ISC 22 16:00:18.3±0.7, 11°.75N±0°.09×86°.4W±0°.1, h150km±6km, n36, σ1§46/45, mb3.9/9, 2C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.47**	**335**	*e*P	**Pn**	**16 00 39.5**	**0.0**
HUEN		**0.62**	**20**	*i* P	**Pn**	**16 00 40.5**	**+0.3**
CNGN	**Cerro Negro**	**0.80**	**338**	*e*P	**Pn**	**16 00 41.7**	**+0.2**
CNGN				*e*S	**Sn**	**16 01 01.8**	**+2.5**
GBS2	**Las Lilas**	**1.29**	**135**	*i* P	**Pn**	**16 00 46.1**	**+0.3**
GBS2				*i* S	**Sn**	**16 01 05.9**	**-0.9**
GBS3	**Finca Las lm^¡**	**1.33**	**136**	*i* P	**Pn**	**16 00 46.5**	**+0.3**
BUEV	**Buena Vista**	**1.35**	**134**	*i* P	**Pn**	**16 00 46.7**	**+0.3**
LAPC	**Finca la Perla**	**1.35**	**136**	⇑*i*P	**Pn**	**16 00 46.5**	**+0.1**
LAPC				*i* S	**Sn**	**16 01 06.7**	**-1.2**
NY14	**Universidad de**	**1.38**	**142**	*i* P	**Pn**	**16 00 47.7**	**+1.1**
NY14				*i* S	**Sn**	**16 01 08.3**	**0.0**
GPS2	**Hotel Rinc^‡n**	**1.42**	**134**	*i* S	**Sn**	**16 01 08.1**	**-1.0**
LIM1	**Limonal**	**1.53**	**133**	*i* P	**Pn**	**16 00 48.9**	**+0.7**
LIM1				*i* S	**Sn**	**16 01 10.4**	**-0.7**
MESS	**Mesas**	**1.54**	**130**	*i* P	**Pn**	**16 00 49.1**	**+0.8**
COLC	**Colonia**	**1.59**	**133**	*i* P	**Pn**	**16 00 50.1**	**+1.3**
CUI	**Cuipilapa**	**1.62**	**132**	*i* P	**Pn**	**16 00 49.9**	**+0.7**
JTS	**JuntasÁbangare**	**2.02**	**136**	P	**Pn**	**16 00 54.5**	**+0.8**
	19nm,0.3s,baz=317,slow=14,SNR=45						
JTS				S	**Sn**	**16 01 19.4**	**-1.5**
	68nm,0.3s,baz=295,slow=22,SNR=20						
CNCH	**Conchagua**	**2.07**	**317**	*e*P	**Pn**	**16 00 55.6**	**+1.2**
JCR	**Jicaral**	**2.27**	**146**	⇑*e*P	**Pn**	**16 00 57.7**	**+1.0**
JCR				*e*S	**Sn**	**16 01 25.7**	**-0.5**
VSM	**San Miguel**	**2.48**	**312**	*e*P	Pn	16 01 02.9	+3.5
CGA2	**Cerro Gallo 2**	**2.56**	**132**	*e*P	**Pn**	**16 01 01.2**	**+1.0**
CGA2				*e*S	**Sn**	**16 01 32.5**	**-0.1**
CAHU	**Cacacuatique**	**2.68**	**319**	*e*P	**Pn**	**16 01 04.6**	**+2.8**
URSC	**Urasca**	**3.19**	**126**	*e*P	**Pn**	**16 01 11.1**	**+2.8**
URSC				*e*S	**Sn**	**16 01 50.0**	**+3.0**
LFRS	**El Faro**	**3.20**	**306**	*e*P	**Pn**	**16 01 11.0**	**+2.6**
BUS	**Buena Vista**	**3.38**	**130**	*e*P	**Pn**	**16 01 13.3**	**+2.3**
BUS				*e*S	**Sn**	**16 01 50.6**	**-1.2**
ACR	**Cerro Adams**	**4.42**	**134**	*e*P	Pn	16 01 28.3	+4.2
APG	**El Apazote**	**5.12**	**310**	P	**Pn**	**16 01 31.4**	**-2.0**
	2.5nm,0.3s,baz=115,slow=17,SNR=7.7						
CMIG	**Matias Romero**	**9.79**	**304**	P	**Pn**	**16 02 37.0**	**+1.4**
	1.4nm,0.3s,baz=133,slow=11,SNR=12						
CMIG				S	**Sn**	**16 04 22.3**	**-1.7**
	1.0nm,0.3s,baz=358,slow=18,SNR=6.6						
TXAR	**Lajitas Array**	**23.77**	**320**	P	**P**	**16 05 18.8**	**+1.5**
	2.7nm,0.6s,baz=138,slow=9.6,SNR=23						
TKL	**Tuckaleechee C**	**23.92**	**5**	P	**P**	**16 05 19.0**	**+0.6**
	5.2nm,0.7s,baz=170,slow=11,SNR=4.9						
SADO	**Sadowa**	**33.48**	**9**	P	**P**	**16 06 42.2**	**-1.0**
	7.2nm,0.4s,baz=209,slow=8.9,SNR=9.3						
PDAR	**Pinedale Array**	**36.88**	**331**	P	**P**	**16 07 13.0**	**+0.4**
	0.4nm,0.6s,baz=126,slow=12,SNR=3.3						
SIV	**San Ignacio**	**37.25**	**137**	P	**P**	**16 07 14.7**	**-1.0**
	1.3nm,0.5s,baz=346,slow=8.3,SNR=3.7						
NVAR	**Mina Array Bea**	**38.91**	**319**	P	**P**	**16 07 32.4**	**+2.7**
	0.7nm,0.6s,baz=125,slow=8.0,SNR=6.8						
SCHQ	**Schefferville**	**45.66**	**16**	P	**P**	**16 08 22.2**	**-1.5**
	6.6nm,0.5s,baz=218,slow=6.1,SNR=38						
YKA	**Yellowknife Ar**	**54.56**	**344**	P	**P**	**16 09 29.7**	**-0.8**
	0.2nm,0.4s,baz=142,slow=7.1,SNR=7.5						
ILAR	**Eielson Array**	**67.08**	**336**	P	**P**	**16 10 54.1**	**-1.1**
	0.2nm,0.6s,baz=135,slow=4.3,SNR=3.8						
ASAR	**Alice Springs**	**139.97**	**247**	PKhKP	PKPpre	16 19 23.6	
	0.4nm,0.5s,baz=115,slow=3.5,SNR=14						
ASAR				PKP	**PKPdf**	**16 19 31.1**	**+1.4**
	1.7nm,0.6s,baz=94,slow=2.1,SNR=26						
WRA	**Warramunga Arr**	**140.07**	**253**	PKhKP	PKPpre	16 19 25.0	
	0.4nm,0.5s,baz=91,slow=3.4,SNR=15						
WRA				PKP	**PKiKP**	**16 19 31.7**	**-0.7**
	1.5nm,0.5s,baz=91,slow=2.5,SNR=36						

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*IDC **22** 16:26:32.0±0.5, 15°.31S×167°.59E, h114km±3km, mb4.5/28, mb1 4.6/29, mb1mx4.6/30, mbtmp4.8/29, MS3.7/8, Ms1 3.7/8, ms1mx3.5/26, Error ellipse: s-maj=10.3km s-min=8.5km az=79.0*
*NEIC **22** 16:26:32.1±0.2, 15°.23S×167°.55E, mb5.0/32, Error ellipse: s-maj=7.1km s-min=6.3km az=161.0*
*GCMT **22** 16:26:32.1±0.2, 15°.14S×167°.35E, h126km±1km, MW5.1/98, Moment Tensor Solution. s53,c66; s98,c140; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.16±.10; $M_{\theta\theta}$-3.80±.14; $M_{\phi\phi}$-0.35±.13; $M_{r\theta}$0.76±.12; $M_{\theta\phi}$-2.87±.14; $M_{\phi r}$-1.25±.10; Best double couple: $M_0$5.09800×10^{16} NP1:φ82.00000°, δ50.00000°, λ120.00000°. NP2: φ219.00000°, δ49.00000°, λ59.00000°. Principal axes: T 4.7710, Plg67.0000°, Azm60.0000°; N 0.6560, Plg23.0000°, Azm241.0000°; P -5.4260, Plg0.0000°, Azm151.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **22** 16:26:33.3±1.0, 15°.28S±0°.04×167°.43E±0°.03, h136km±9km, mb4.8/87 Error ellipse: s-maj=7.0km s-min=4.8km az=177.7*
*BJI **22** 16:26:33.6, 14°.61S×167°.31E, h112km, mB5.1/35, mb5.0/46*
*MOS **22** 16:26:34.2±1.4, 15°.23S×167°.45E, h141km, mb5.0/15, Error ellipse: s-maj=11.4km s-min=8.3km az=30.9*
ISC 22 16:26:32.7±0.3, 15°.28S±0°.04×167°.50E±0°.05, h121km±2km, h121km-pP-P, n339, σ1§43/391, mb5.0/86, 17C-8D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.83**	**188**	P	**Pn**	**16 28 10.9**	**+0.5**
	136nm,0.3s,baz=15,slow=16,SNR=647						
DZM				S	**Sn**	**16 29 25.2**	**-1.6**
	43nm,0.3s,baz=311,slow=20,SNR=2.4						
HNR	**Honiara**	**9.39**	**307**	P	**Pn**	**16 28 45.8**	**+0.7**
	35nm,0.3s,baz=189,slow=3.0,SNR=30						
HNR				S	**Sn**	**16 30 33.7**	**+4.7**
	67nm,0.3s,baz=181,slow=19,SNR=6.3						
HNR				LR	LR	16 32 11.1	
	comp=Z,539nm,21.8s,baz=157,slow=36						
MSVF	**Nonsavu**	**10.41**	**105**	P	**Pn**	**16 29 00.7**	**+1.9**
MSVF				pmax	pmax		
	comp=Z,117nm,1.1s						
MSVF	**Nonsavu**	**10.41**	**105**	P	**Pn**	**16 29 00.7**	**+1.9**
	comp=Z,117nm,1.1s						
NFK	**Norfolk Island**	**13.70**	**178**	P	**P**	**16 29 47.9**	**+1.3**
	baz=14,SNR=10						
EIDS	**Eidsvold**	**18.36**	**234**	P	**Pn**	**16 30 40.8**	**+1.2**
	baz=18,SNR=11						
EIDS	**Eidsvold**	**18.36**	**234**	*e*P	**Pn**	**16 30 40.6**	**+1.0**
	comp=Z,14nm,0.5s						
RABL	**Rabaul**	**18.69**	**305**	P	Pn	16 30 51.9	+8.4
	baz=19,SNR=3.2						
AFI	**Afiamalu**	**20.10**	**89**	*e*P	Pn	16 31 00.2	+0.1
AFI	**Afiamalu**	**20.10**	**89**	*e*P	Pn	16 31 00.2	+0.1
	comp=Z,607nm,1.0s						
PMG	**Port Moresby**	**20.70**	**284**	⇑*e*P	Pn	16 31 05.4	-1.7
PMG	**Port Moresby**	**20.70**	**284**	P	Pn	16 31 06.4	-0.8
	comp=Z,15nm,0.9s,baz=117,slow=6.8,SNR=4.7						
PMG	**Port Moresby**	**20.70**	**284**	*e*P	Pn	16 31 05.9	-1.2
	comp=Z,11nm,0.8s						
PMG				P	**P**	**16 31 06.4**	**+2.8**
PMG				*e*		16 31 26.6	
RMQ	**Roma**	**20.73**	**234**	P	Pn	16 31 05.9	-1.4
	baz=21,SNR=34						
CTA	**Charters Tower**	**20.80**	**254**	P	Pn	16 31 06.4	-1.8
	comp=Z,13nm,0.9s,baz=83,slow=14,SNR=11						
CTA				pP		16 31 26.0	-0.8
	comp=Z,35nm,1.1s,baz=76,slow=12,SNR=7.4						
CTAO	**Charters Tower**	**20.80**	**254**	*e*P	Pn	16 31 07.8	-0.4
CTAO				pmax	pmax		
	comp=Z,41nm,1.5s						
CTAO	**Charters Tower**	**20.80**	**254**	*e*P	Pn	16 31 07.8	-0.4
	comp=Z,41nm,1.5s						
ARMA	**Armidale**	**20.96**	**221**	P	Pn	16 31 11.0	+0.9
	baz=21,SNR=4.5						
COEN	**Coen**	**23.57**	**270**	P	**P**	**16 31 33.6**	**+0.9**
	baz=24,SNR=6.5						
COEN	**Coen**	**23.57**	**270**	*e*P	**P**	**16 31 33.2**	**+0.5**
	comp=Z,166nm,1.4s						
COEN				*e*		16 31 56.6	
URZ	**Urewera**	**24.41**	**161**	P	**P**	**16 31 40.5**	**+0.6**
	comp=Z,9.3nm,0.4s,baz=350,slow=7.1,SNR=13						
URZ				S	**S**	**16 35 50.2**	**-0.8**
	comp=Z,4.1nm,0.7s,baz=168,slow=20,SNR=5.0						
URZ	**Urewera**	**24.41**	**161**	*e*P	**P**	**16 31 38.7**	**-1.2**
	comp=Z,34nm,0.9s						
URZ				P	**P**	**16 31 40.5**	**+0.6**
URZ				S	**S**	**16 35 50.1**	**-0.8**
QLP	**Quilpie**	**24.42**	**239**	P	**P**	**16 31 41.2**	**+1.1**
	baz=24,SNR=43						
CMSA	**Cobar Meteorol**	**25.66**	**227**	P	**P**	**16 31 52.4**	**+1.1**
	baz=26,SNR=20						
CNB	**Canberra Magne**	**25.74**	**216**	P	**P**	**16 31 53.7**	**+1.6**
	baz=26,SNR=7.1						
WB2	**Warramunga Arr**	**31.90**	**257**	*e*P	**P**	**16 32 45.7**	**-1.2**
WRAB	**Tennant Creek**	**31.90**	**257**	*c i*P	**P**	**16 32 45.7**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,64nm,1.4s						
WRAB	**Tennant Creek**	**31.90**	**257**	*e*P	**P**	**16 32 44.5**	**-2.5**
	comp=Z,36nm,1.4s						
WRA	**Warramunga Arr**	**31.91**	**257**	P	**P**	**16 32 46.0**	**-1.1**
	comp=Z,9.2nm,0.8s,baz=86,slow=9.0,SNR=63						
WRA				pP	**pP**	**16 33 12.0**	**-1.5**
	comp=Z,8.5nm,0.9s,baz=88,slow=8.9,SNR=6.1						
WRA				PcP	**PcP**	**16 35 35.1**	**+0.3**
	comp=Z,5.3nm,0.9s,baz=86,slow=3.1,SNR=7.7						
WRA				S	**S**	**16 37 44.4**	**-5.1**
	comp=Z,1.2nm,0.9s,baz=86,slow=13,SNR=5.4						
WRA				ScP	**ScP**	**16 39 09.0**	**+1.7**
	comp=Z,7.5nm,1.3s,baz=81,slow=3.6,SNR=11						
WRA				PKiKP	**PKiKP**	**16 43 02.0**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=341,slow=0.3,SNR=16						
WRA				LR	LR	16 46 44.8	
	comp=Z,125nm,18.3s,baz=50,slow=38						
AS31	**Alice Springs**	**32.69**	**250**	*e*P	**P**	**16 32 53.0**	**-0.8**
ASAR	**Alice Springs**	**32.69**	**250**	P	**P**	**16 32 53.3**	**-0.6**
	comp=Z,31nm,0.7s,baz=76,slow=9.1,SNR=349						
ASAR				pP	**pP**	**16 33 19.6**	**-0.8**
	comp=Z,24nm,0.9s,baz=77,slow=9.2,SNR=7.8						
ASAR				PcP	**PcP**	**16 35 37.2**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=84,slow=3.3,SNR=5.2						
ASAR				S	**S**	**16 37 57.1**	**-4.5**
	comp=Z,1.3nm,1.0s,baz=88,slow=13,SNR=5.8						
ASAR				ScP	**ScP**	**16 39 11.2**	**+1.2**
	comp=Z,3.1nm,0.8s,baz=87,slow=3.3,SNR=11						
ASAR				PKiKP	**PKiKP**	**16 43 02.5**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=107,slow=1.7,SNR=8.1						
ASAR				LR	LR	16 45 47.6	
	comp=Z,124nm,18.5s,baz=75,slow=35						
BBOO	**Buckleboo**	**33.42**	**233**	P	**P**	**16 33 01.2**	**+1.1**
	baz=33,SNR=19						
BBOO	**Buckleboo**	**33.42**	**233**	*e*P	**P**	**16 33 01.0**	**+0.9**
	comp=Z,388nm,0.6s						
KDU	**Kakadu**	**34.07**	**270**	P	**P**	**16 33 05.5**	**-0.4**
	baz=34,SNR=4.5						
FAKI	**Fak Fak**	**36.84**	**286**	P	**P**	**16 33 30.6**	**+1.0**
	baz=37,SNR=6.1						
KNRA	**Kununurra**	**37.30**	**264**	P	**P**	**16 33 32.8**	**-0.7**
	baz=37,SNR=18						
WRKA	**Warakurna**	**37.95**	**249**	P	**P**	**16 33 38.6**	**-0.3**
	baz=38,SNR=47						
BNDI	**Bandanaira**	**38.48**	**282**	P	**P**	**16 33 44.9**	**+1.5**
	comp=Z,109nm,1.6s,comp=Z,2μm						
FORT	**Forrest**	**39.21**	**240**	P	**P**	**16 33 50.0**	**+0.7**
	baz=39,SNR=29						
FORT	**Forrest**	**39.21**	**240**	*e*P	**P**	**16 33 49.8**	**+0.5**
	comp=Z,100nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.14**	**260**	P	**P**	**16 33 57.2**	**+0.1**
	baz=40,SNR=32						
FITZ	**Fitzroy Crossi**	**40.14**	**260**	*e*P	**P**	**16 33 56.9**	**-0.2**
	comp=Z,26nm,0.9s						
FITZ				*e*pP	**pP**	**16 34 22.6**	**-1.7**
PAE	**Paea**	**41.16**	**99**	*e*P	**P**	**16 34 06.5**	**+1.0**
	comp=Z,22nm,1.2s						
PPT2	**Papeete2**	**41.17**	**99**	*e*P	**P**	**16 34 07.1**	**+1.4**
	comp=Z,84nm,1.2s						
PPT2	**Papeete2**	**41.17**	**99**	*e*LR	LR	16 45 46.6	
	comp=Z,274nm,27.0s						
PPT	**Papeete**	**41.17**	**99**	P	**P**	**16 34 05.5**	**-0.2**
	comp=Z,66nm,0.9s,baz=99,slow=2.9,SNR=5.5						
PPT				LR	LR	16 50 42.0	
	comp=Z,82nm,18.3s,baz=194,slow=35						
TBI	**Tubuai**	**41.28**	**108**	*e*LR	LR	16 45 43.1	
	comp=Z,304nm,31.8s						
TIAR	**Tiarei**	**41.39**	**99**	*e*P	**P**	**16 34 08.8**	**+1.4**
	comp=Z,23nm,0.9s						
TVO	**Taravao**	**41.47**	**100**	*e*P	**P**	**16 34 09.3**	**+1.2**
	comp=Z,23nm,1.0s						
NLAI	**Namlea**	**41.54**	**283**	P	**P**	**16 34 10.2**	**+1.5**
	comp=Z,55nm,1.2s,comp=Z,656nm						
SOEI	**Soe**	**42.51**	**272**	P	**P**	**16 34 16.0**	**-0.7**
	comp=Z,34nm,1.4s						
SOEI	**Soe**	**42.51**	**272**	P	**P**	**16 34 17.9**	**+1.2**
	baz=42,SNR=4.4						
MEH	**Mehetia**	**42.59**	**100**	*e*P	**P**	**16 34 18.5**	**+1.3**
	comp=Z,37nm,1.2s						
SANI	**Sanana**	**42.99**	**284**	P	**P**	**16 34 21.9**	**+1.5**
	comp=Z,35nm,0.9s						
PMOR	**Pomariorio Ree**	**43.00**	**96**	*e*P	**P**	**16 34 22.3**	**+1.9**
	comp=Z,260nm,1.1s						
BATI	**Baumata**	**43.00**	**271**	P	**P**	**16 34 20.2**	**-0.3**
	comp=Z,33nm,1.1s						
BATI	**Baumata**	**43.00**	**271**	P	**P**	**16 34 21.9**	**+1.4**
	comp=Z,29nm,0.6s,baz=140,slow=3.7,SNR=13						
BATI				pP	**pP**	**16 34 47.6**	**-0.4**
	comp=Z,70nm,1.2s,baz=141,slow=6.5,SNR=4.2						
VAH	**Vaihoa**	**43.23**	**96**	*e*P	**P**	**16 34 23.7**	**+1.4**
	comp=Z,213nm,1.2s						
KMBL	**Kambalda**	**44.52**	**241**	P	**P**	**16 34 32.6**	**+0.2**
	baz=44,SNR=17						
MMRI	**Maumere**	**44.71**	**273**	P	**P**	**16 34 33.4**	**-0.8**
	comp=Z,46nm,1.4s,comp=Z,866nm						
EDFI	**Ende, Flores**	**45.21**	**273**	P	**P**	**16 34 37.8**	**-0.5**
	comp=Z,37nm,1.1s						
MBWA	**Marble Bar**	**45.62**	**255**	*e*P	**P**	**16 34 41.5**	**+0.2**
	comp=Z,25nm,0.8s						
MBWA				*e*pP	**pP**	**16 35 09.1**	**0.0**
WSI	**Waingapu**	**46.36**	**271**	P	**P**	**16 34 47.0**	**-0.1**
	comp=Z,568nm,0.5s,comp=Z,15μm						
MEEK	**Meekatharra**	**46.78**	**248**	P	**P**	**16 34 50.5**	**+0.1**
	baz=47,SNR=32						
BKSI	**Bulukumba**	**47.56**	**277**	P	**P**	**16 34 57.4**	**+0.9**
	comp=Z,15nm,1.4s						
BNSI	**Bone**	**47.83**	**278**	P	**P**	**16 35 00.2**	**+1.6**
	comp=Z,36nm,1.2s						
SPSI	**Sidrap Palu**	**48.27**	**278**	P	**P**	**16 35 04.9**	**+2.9**
NWAO	**Narrogin (SRO)**	**48.66**	**239**	LR	LR	16 54 20.6	
	comp=Z,141nm,18.6s,slow=34						
NWAO	**Narrogin (SRO)**	**48.66**	**239**	P	**P**	**16 35 04.8**	**0.0**
	baz=48,SNR=18						
BLDU	**Ballidu**	**48.80**	**243**	P	**P**	**16 35 05.9**	**0.0**
	baz=49,SNR=13						
MORW	**Morawa**	**49.23**	**245**	P	**P**	**16 35 09.2**	**0.0**
	baz=49,SNR=14						
MPSI	**Mapaga**	**49.52**	**284**	P	**P**	**16 35 12.6**	**+1.1**
	comp=Z,43nm,1.1s						
BBKI	**Banjar Baru**	**53.13**	**277**	P	**P**	**16 35 38.9**	**+0.4**
	comp=Z,45nm,1.3s,comp=Z,884nm						
KKM	**Kota Kinabalu**	**55.05**	**289**	P	**P**	**16 35 53.5**	**+1.0**
	baz=55,SNR=7.5						
KKM	**Kota Kinabalu**	**55.05**	**289**	*e*P	**P**	**16 35 52.9**	**+0.3**
	comp=Z,81nm,1.4s						
KKM				*e*		16 36 21.7	
STKI	**Sintang**	**57.38**	**280**	P	**P**	**16 36 09.5**	**+0.5**
	comp=Z,26nm,1.0s						
KPJI	**Karang Pucung**	**57.83**	**271**	P	P	16 36 24.2	+12
MJAR	**Matsushiro Arr**	**58.50**	**332**	P	**P**	**16 36 15.5**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=172,slow=7.8,SNR=13						
MJAR				PcP	**PcP**	**16 37 06.7**	**+1.1**
	comp=Z,4.7nm,0.9s,baz=158,slow=4.7,SNR=6.3						
MAJO	**Matsushiro**	**58.50**	**332**	⇓*i*P	**P**	**16 36 16.2**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,41nm,0.9s						
MAJO	**Matsushiro**	**58.50**	**332**	*e*P	**P**	**16 36 15.6**	**-0.7**
	comp=Z,7.8nm,0.6s						
CISI	**Cisompet, Garu**	**58.86**	**270**	P	**P**	**16 36 19.1**	**-0.3**
	baz=59,SNR=4.3						
KSM	**Kuching**	**58.93**	**281**	P	**P**	**16 36 20.6**	**+0.8**
	baz=59,SNR=6.2						
LEM	**Lembang**	**59.22**	**271**	P	**P**	**16 36 21.5**	**-0.5**
	comp=Z,75nm,1.2s						
LEM	**Lembang**	**59.22**	**271**	P	**P**	**16 36 22.9**	**+0.9**
	baz=59,SNR=3.4						
JNU	**Nakatsue**	**59.50**	**324**	P	**P**	**16 36 23.6**	**+0.3**
	comp=Z,11nm,0.8s,baz=150,slow=0.8,SNR=14						
JNU				pP	**pP**	**16 36 52.0**	**-0.5**
	comp=Z,7.4nm,0.7s,baz=117,slow=6.8,SNR=3.2						
TPUB	**Ta-pu**	**59.76**	**309**	*e*P	**P**	**16 36 25.1**	**-0.2**
	comp=Z,17nm,0.8s						
SSLB	**Suanglung**	**59.80**	**310**	*e*P	**P**	**16 36 24.8**	**-0.8**
	comp=Z,6.4nm,0.6s						
YHNB	**Yeheng**	**60.01**	**311**	*e*P	**P**	**16 36 27.0**	**0.0**
	comp=Z,55nm,1.2s						
CGJI	**Cibinong**	**61.13**	**271**	P	**P**	**16 36 34.2**	**-0.6**
	comp=Z,113nm,0.9s,comp=Z,1μm						
QZH	**Quanzhou**	**62.23**	**309**	⇑*i*P	**P**	**16 36 43.0**	**+1.1**
VNDA	**Vanda**	**62.32**	**181**	*e*P	**P**	**16 36 41.8**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,27nm,1.3s						
VNDA	**Vanda**	**62.32**	**181**	P	**P**	**16 36 42.2**	**+0.5**
	comp=Z,6.0nm,0.6s,baz=358,slow=6.5,SNR=30						
VNDA				LR	LR	17 02 55.4	
	comp=Z,133nm,18.2s,baz=160,slow=35						
VNDA	**Vanda**	**62.32**	**181**	*e*P	**P**	**16 36 41.8**	**+0.1**
	comp=Z,27nm,1.3s						
VNDA				P	**P**	**16 36 42.2**	**+0.5**
SBA	**Scott Base**	**62.59**	**180**	*e*P	**P**	**16 36 44.9**	**+1.4**
SBA				pmax	pmax		
	comp=Z,11nm,0.8s						
SBA	**Scott Base**	**62.59**	**180**	*e*P	**P**	**16 36 44.9**	**+1.4**
	comp=Z,11nm,0.8s						
ASAJ	**Asahikawa**	**63.34**	**340**	P	**P**	**16 36 49.6**	**+0.7**
	comp=Z,5.2nm,0.5s,baz=203,slow=7.9,SNR=11						
KSRS	**Korea Array**	**64.32**	**326**	P	**P**	**16 36 56.0**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=144,slow=7.4,SNR=12						
KSRS				pP	**pP**	**16 37 23.9**	**-1.1**
	comp=Z,2.5nm,0.9s,baz=138,slow=6.6,SNR=3.7						
KSAR	**Wonju Array Be**	**64.33**	**326**	P	**P**	**16 36 56.1**	**+0.5**
KSAR				*PP	**pP**	**16 37 23.9**	**-1.1**
KSAR	**Wonju Array Be**	**64.33**	**326**	P	**P**	**16 36 56.0**	**+0.5**
KSAR				pP	**pP**	**16 37 23.9**	**-1.1**
YSS	**Yuzh-Sakhalins**	**65.82**	**342**	*e*P	**P**	**16 37 05.8**	**+0.9**
YSS				*e*		16 37 38.0	
QIZ	**Qiongzhong**	**66.20**	**299**	P	**P**	**16 37 08.0**	**0.0**
QIZ				S	**S**	**16 45 48.0**	**+0.3**
QIZ				LN			
	comp=Z,180nm,12.1s						
QIZ				LE	

KHLT **Khaolaem Dam** 74.37 290 P **P** 16 37 59.9 +2.1
comp=Z,7.4nm,1.3s
QSPA **South Pole Qui** 74.75 180 P **P** 16 37 59.8 +0.5
comp=Z,47nm,0.8s,baz=28,slow=4.9,SNR=145
KMI **Kunming** 74.79 302 P **P** 16 38 01.8 +1.5
KMI pP **pP** 16 38 31.4 +0.8
KMI S **S** 16 47 28.1 +0.4
KMI PMZ
comp=Z,29nm,0.9s
KMI PMZ
comp=Z,40nm,3.1s
KMI LZ
comp=Z,49nm,38.0s
CRAI **Chiangrai** 74.80 296 P **P** 16 37 58.4 -1.8
comp=Z,42nm,0.7s
CMAR **Chiang Mai Arr** 75.38 294 P **P** 16 38 04.9 +1.3
comp=Z,6.1nm,0.9s,baz=132,slow=4.5,SNR=40
CMAR pP **pP** 16 38 34.4 +0.5
comp=Z,3.9nm,0.9s,baz=126,slow=3.9,SNR=4.7
CMAR LR LR 17 12 26.8
comp=Z,10nm,18.8s,baz=160,slow=36
CHTO **Chiang Mai** 75.51 294 P **P** 16 38 04.2 -0.2
CHTO pmax pmax
comp=Z,29nm,1.4s
CHTO **Chiang Mai** 75.51 294 P **P** 16 38 05.4 +1.1
CHTO **Chiang Mai** 75.51 294 P **P** 16 38 04.2 -0.2
comp=Z,29nm,1.4s
HHC **Hu-ho-hao-te** 76.15 320 *e*P **P** 16 38 09.1 +1.5
HHC pP **pP** 16 38 41.8 +3.8
HHC sP **sP** 16 38 53.9 +3.0
HHC PP **PP** 16 41 05.4 +4.9
HHC S **S** 16 47 42.1 +0.2
HHC ScS **SKKSac** 16 48 09.6 +1.5
HHC PMZ
comp=Z,24nm,0.6s
HHC PMZ
comp=Z,160nm,5.7s
CD2 **Chengdu** 76.52 308 *e*P **P** 16 38 11.0 +1.1
CD2 pP **pP** 16 38 39.8 -0.5
CD2 sP **sP** 16 38 49.3 -3.9
CD2 S **S** 16 47 45.4 -0.9
CD2 PMZ
comp=Z,40nm,0.8s
CD2 PMZ
comp=Z,150nm,6.0s
SEY **Seymchan** 78.85 353 P **P** 16 38 22.8 +0.8
comp=Z,9.7nm,0.8s,baz=154,slow=6.9,SNR=14
LZH **Lanzhou** 78.86 312 ⇑P **P** 16 38 24.5 +1.6
LZH pP **pP** 16 38 54.0 +0.6
LZH sP **sP** 16 39 06.5 +0.2
LZH PP **PP** 16 41 27.3 +4.0
LZH *e*S **S** 16 48 12.1 +0.7
LZH sS **sS** 16 49 01.6 -2.4
LZH PMZ
comp=Z,37nm,1.5s
LZH PMZ
comp=Z,150nm,5.6s
CIT **Chita** 81.66 330 *e*P **P** 16 38 37.4 0.0
CIT pmax pmax
comp=Z,60nm,1.7s
YAK **Yakutsk** 82.62 343*c i*P **P** 16 38 42.1 0.0
YAK *e**PP pP 16 39 29.1 +16
YAK *e*S **S** 16 48 43.2 -5.9
YAK *e* 16 48 53.3
YAK *e*SS **SS** 16 54 09.1 -4.9
YAK *e*SSS SSS 16 57 39.9
YAK pmax pmax
comp=Z,45nm,1.0s
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK smax smax
comp=N,183nm,4.2s
YAK smax smax
comp=E,85nm,4.7s
YAK **Yakutsk** 82.62 343 *e*P **P** 16 38 41.8 -0.3
comp=E,31nm,0.7s
ULN **Ulaanbaatar** 82.71 324*c i*P **P** 16 38 43.8 +0.7
ULN pmax pmax
comp=Z,71nm,2.1s
ULN **Ulaanbaatar** 82.71 324 *e*P **P** 16 38 43.2 +0.1
comp=Z,30nm,1.0s
SONM **Songino Array** 83.07 324 P **P** 16 38 45.5 +0.6
comp=Z,12nm,0.8s,baz=143,slow=6.1,SNR=74
BILL **Bilibino** 83.09 360⇓*i*P **P** 16 38 44.5 +0.1
BILL *i* 16 39 32.4
BILL *e*S **S** 16 48 56.7 +3.0
BILL pmax pmax
comp=Z,12nm,1.0s
BILL **Bilibino** 83.09 360 *e*P **P** 16 38 44.8 +0.4
comp=Z,11nm,1.0s
GTA **Gaotai** 83.21 314 *e*P **P** 16 38 47.1 +1.2
GTA pP **pP** 16 39 17.3 +0.6
GTA sP **sP** 16 39 29.5 0.0
GTA PMZ
comp=Z,25nm,1.0s
KTH **Kantishna Hill** 84.89 17 *e*P **P** 16 38 51.3 -2.5
comp=Z,8.0nm,0.9s
TRF **Thorofare Moun** 85.00 18 *e*P **P** 16 38 53.1 -1.3
comp=Z,6.6nm,1.0s
BOD **Bodaibo** 85.07 334 *e*P **P** 16 38 53.5 -1.1
LSA **Lhasa** 86.04 302 *e*P **P** 16 39 01.3 +0.6
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA **Lhasa** 86.04 302 *e*P **P** 16 39 01.3 +0.6
comp=Z,6.4nm,0.7s
ZAK **Zakamensk** 86.13 325⇑*i*P **P** 16 39 00.1 -0.1
ZAK pmax pmax
comp=Z,16nm,1.3s
ISA **Isabella, Lake** 86.31 52 P **P** 16 39 02.0 +0.5
baz=86
EDW2 **Edwards Air Fo** 86.40 53 P **P** 16 39 02.5 +0.6
baz=86
BFSC **Mount Baldy Ra** 86.42 53 P **P** 16 39 02.3 +0.2
baz=86
TLY **Talaya** 86.57 326 *e*P **P** 16 39 02.5 +0.2
TLY *e*S SKSac 16 49 10.0 -7.6
TLY pmax pmax
comp=Z,24nm,1.6s
TLY **Talaya** 86.57 326 P **P** 16 39 01.9 -0.3
comp=Z,6.1nm,0.6s,baz=116,slow=2.9,SNR=7.1
TLY **Talaya** 86.57 326 P **P** 16 39 01.9 -0.3
TLY *e*P **P** 16 39 02.2 0.0
WAKR **Walker** 86.66 49 P **P** 16 39 03.0 -0.2
J04D **Umpqua Nationa** 86.68 44 P **P** 16 39 04.0 +0.7
baz=87
COLA **College** 86.77 17⇓*e*P **P** 16 39 01.6 -1.2
COLA pmax pmax
comp=Z,16nm,1.0s
LRMC **Laurel Mtn Rad** 86.84 52 P **P** 16 39 04.6 +0.5
baz=87
MONP **Monument Peak,** 86.92 55 P **P** 16 39 03.9 -0.8
baz=87
ILAR **Eielson Array** 86.98 18 P **P** 16 39 02.5 -1.4
comp=Z,3.0nm,0.7s,baz=238,slow=5.2,SNR=39
ILAR pP **pP** 16 39 32.5 -2.5
comp=Z,4.4nm,0.7s,baz=237,slow=5.3,SNR=6.8
MPMC **Manual Prospec** 87.20 52 P **P** 16 39 06.3 +0.4
baz=87
J05D **Fort Rock, OR** 87.28 44 P **P** 16 39 06.7 +0.7
baz=87
GSC **Goldstone, Bar** 87.45 52 P **P** 16 39 08.0 +0.9
baz=88
NVAR **Mina Array Bea** 87.46 49 P **P** 16 39 07.5 +0.4
comp=Z,2.2nm,0.8s,baz=234,slow=7.7,SNR=15
NVAR pP **pP** 16 39 36.8 -1.4
comp=Z,3.4nm,0.9s,baz=238,slow=5.2,SNR=3.5
NVAR PKKPbc **PKKPbc** 16 56 57.8 +0.4
comp=Z,0.4nm,0.6s,baz=96,slow=4.5,SNR=4.7
BELC **Belle Mtn. Jos** 87.63 54 P **P** 16 39 08.5 +0.6
baz=88
HEC **Hector,Ludlow** 87.66 53 P **P** 16 39 08.2 +0.3
baz=88
BC3 **Big Chuckawall** 87.94 54 P **P** 16 39 09.9 +0.5
baz=88
TAPN **Taplejung** 88.14 299 *e*P **P** 16 39 10.8 +0.1
comp=Z,25nm,1.0s
GMRC **Granite Mounta** 88.16 53 P **P** 16 39 11.0 +0.6
baz=88
TUQ **Turquoise Moun** 88.18 53 P **P** 16 39 11.0 +0.5
baz=88
SYO **Syowa Base** 88.24 197⇑*e*P **P** 16 39 09.9 -0.1
ODAN **Odare** 88.26 298 *e*P **P** 16 39 11.1 -0.1
comp=Z,22nm,0.8s
IRM **Iron Mountain** 88.34 54 P **P** 16 39 11.9 +0.7
baz=88
TPNV **Topopah Spring** 88.45 51 P **P** 16 39 12.4 +0.6
baz=88
RAMN **Ramite** 88.96 298 *e*P **P** 16 39 14.4 -0.1
113A **Mohawk Valley,** 88.98 56 P **P** 16 39 14.5 +0.4
baz=89
SHPR **Sheep Range** 89.12 52 *e*P **P** 16 39 15.3 +0.4
comp=Z,10nm,1.3s
PDMCI **Parker Dam,Lak** 89.18 54 P **P** 16 39 16.1 +1.1
baz=89
R11A **Troy Canyon, C** 89.43 50 P **P** 16 39 16.7 +0.3
baz=90
JIRN **Jiri** 89.52 299 *e*P **P** 16 39 17.2 -0.1
GUN **Gumba** 89.86 299 *e*P **P** 16 39 18.6 -0.2
PKI **Pulchoki** 90.16 298 *e*P **P** 16 39 19.6 -0.6
comp=Z,18nm,1.0s
PKIN **Phulchoki** 90.17 298 *e*P **P** 16 39 19.4 -0.8
comp=Z,6.0nm,0.5s
KKN **Kakani** 90.33 299 *e*P **P** 16 39 20.5 -0.4
comp=Z,15nm,0.8s
DMN **Daman** 90.42 298 *e*P **P** 16 39 21.0 -0.4
comp=Z,35nm,1.2s
ELK **Elko** 90.49 48 P **P** 16 39 20.7 -0.6
comp=Z,2.4nm,0.8s,baz=328,slow=4.0,SNR=11
ELK pP **pP** 16 39 51.3 -1.2
comp=Z,1.1nm,0.8s,baz=90,slow=2.0,SNR=2.6
TIXI **Tiksi** 90.55 349⇑*e*P **P** 16 39 19.9 -0.7
TIXI pmax pmax
comp=Z,10.0nm,1.1s
TIXI **Tiksi** 90.55 349 *e*P **P** 16 39 20.2 -0.3
comp=Z,11nm,1.1s
U15A **North Rim** 91.29 53 P **P** 16 39 25.9 +0.7
baz=91
WUAZ **Wupatki** 91.72 54 P **P** 16 39 27.6 +0.5
baz=92
DANN **Dangsing** 91.78 299 *e*P **P** 16 39 26.3 -1.4
HVS **Khovu-Aksy** 91.94 323*c i*P **P** 16 39 27.9 +0.3
NVL **N'lazarevskaya** 92.54 188 *e*P **P** 16 39 29.2 -0.8
NVL pmax pmax
comp=Z,16nm,0.7s
SNAA **Sanae** 93.01 183 P **P** 16 39 32.1 -0.2
SNAA **Sanae** 93.01 183⇓*e*P **P** 16 39 32.1 -0.2
SNAA pmax pmax
comp=Z,26nm,1.1s
SNAA **Sanae** 93.01 183 *e*P **P** 16 39 31.5 -0.8
comp=Z,22nm,0.9s
WMQ **Urumqi** 93.27 314 P **P** 16 39 34.3 +0.4
WMQ pP **pP** 16 40 03.3 -1.9
WMQ PMZ
comp=Z,11nm,1.0s
WMQ PMZ
comp=Z,87nm,4.5s
WMQ LZ
comp=Z,33nm,15.0s
VNA3 **Neumayer Olymp** 93.67 181 P **P** 16 39 34.7 -0.6
VNA2 **Neumayer--Watz** 93.94 182 P **P** 16 39 36.4 0.0
baz=186,slow=4.2
VNA1 **Neumayer--Stat** 94.24 181 P **P** 16 39 37.3 -0.5
PDAR **Pinedale Array** 95.16 47 P **P** 16 39 41.0 -1.7
comp=Z,0.3nm,0.7s,baz=207,slow=3.0,SNR=3.4
PDAR PP PP 16 43 25.1 -9.3
comp=Z,0.8nm,1.1s,baz=250,slow=3.9,SNR=3.7
PDAR PKKPbc **PKKPbc** 16 56 34.0 -4.0
comp=Z,0.2nm,0.5s,baz=108,slow=2.9,SNR=4.0
PDAR LR LR 17 16 36.7
comp=Z,39nm,19.0s,baz=260,slow=32
TXAR **Lajitas Array** 96.34 61 P **P** 16 39 49.1 +0.8
comp=Z,0.3nm,0.7s,baz=224,slow=5.2,SNR=3.8
TXAR pP **pP** 16 40 17.2 -2.4
comp=Z,0.4nm,0.6s,baz=238,slow=5.2,SNR=2.8
TXAR PP **PP** 16 43 43.5 -0.1
comp=Z,0.9nm,1.0s,baz=248,slow=6.6,SNR=8.4
J20A **Shoshoni** 96.35 47 P **P** 16 39 48.6 +0.5
baz=96
MKAR **Makanchi Array** 97.76 316 P Pdif 16 39 54.6 +0.3
comp=Z,2.8nm,0.4s,baz=99,slow=6.2,SNR=47
MKAR PKiKP **PKiKP** 16 44 27.6 0.0
comp=Z,0.2nm,0.4s,baz=121,slow=2.1,SNR=7.9
YKA **Yellowknife Ar** 97.93 27 P **P** 16 39 53.6 -0.9
comp=Z,2.2nm,0.7s,baz=254,slow=4.6,SNR=30
YKA PKKPbc **PKKPbc** 16 56 27.8 -3.0
comp=Z,0.4nm,0.6s,baz=76,slow=2.7,SNR=7.7
ZALV **Zalesovo Beam** 97.97 324 P **P** 16 39 54.2 -0.7
comp=Z,6.4nm,0.7s,baz=107,slow=5.0,SNR=27
KSH **Kashi** 100.72 308 *e*P **Pdif** 16 40 08.8 +1.1
KSH PP **PP** 16 44 18.1 +1.3
KSH SKS **SKSac** 16 50 33.5 -2.3
KSH S **Sdif** 16 51 30.5 -4.5
KSH sS sS 16 52 22.0 -7.7
KSH SS **SS** 16 58 35.5 +0.2
KSH PMZ
comp=Z,80nm,4.4s
KSH LN
comp=Z,48nm,4.9s
KSH LE
comp=Z,49nm,5.0s
KSH LZ
comp=Z,81nm,4.6s
KURK **Kurchatov** 100.97 320 P **Pdif** 16 40 08.8 +0.4
KURK **Kurchatov** 100.97 320 P **Pdif** 16 40 08.8 +0.4
KURK PKiKP **PKiKP** 16 44 33.7 +0.6
KURBB **Kurchatov Arra** 101.00 320 P **Pdif** 16 40 08.8 +0.2
comp=Z,0.8nm,0.6s,baz=97,slow=4.2,SNR=5.2
KURBB PKiKP **PKiKP** 16 44 33.7 +0.5
comp=Z,0.3nm,0.5s,baz=99,slow=2.1,SNR=4.0
BVAR **Borovoye Array** 106.32 321 Pdiff **Pdif** 16 40 31.1 -1.0
comp=Z,0.5nm,0.5s,baz=101,slow=4.6,SNR=3.8
ARCES **ARCESS Array B** 120.84 345 PKP **PKPdf** 16 45 10.2 +0.1
comp=Z,5.7nm,0.3s,baz=67,slow=1.7,SNR=98
KLMR **Klimovskoe** 121.28 333 *e*PKIKP **PKPdf** 16 45 09.4 -1.7
KLMR pmax pmax
comp=Z,16nm,1.1s
SCHQ **Schefferville** 122.63 34 PKP **PKPdf** 16 45 13.7 -0.2
comp=Z,1.5nm,0.8s,baz=232,slow=6.0,SNR=6.6
SCHQ PKKPbc **PKKPab** 16 55 08.4 +0.8
comp=Z,2.1nm,0.9s,baz=214,slow=3.6,SNR=4.6
JOF **Joensuu** 123.48 338 *e*p **PKPdf** 16 45 14.9 -0.4
comp=Z,5.1nm,0.7s
GNI **Garni** 124.65 308*c i*PKIKP **PKPdf** 16 45 19.7 +1.2
GNI pmax pmax
comp=Z,12nm,1.7s
ZEI **Tsey** 124.78 312 *i* PKIKP **PKPdf** 16 45 18.0 -0.7
ZEI pmax pmax
comp=Z,13nm,2.0s
RAYN **Ar Rayn** 124.98 288 *e*PKPdf **PKPdf** 16 45 19.6 +0.1
OBN **Obninsk** 125.29 328⇑*i*PKIKP **PKPdf** 16 45 19.1 +0.2
OBN pmax pmax
comp=Z,32nm,1.9s
KBZ **Khabaz** 125.29 313 PKP **PKPdf** 16 45 19.2 -0.1
comp=Z,1.0nm,0.6s,baz=333,slow=1.5,SNR=4.0
KAF **Kangasniemi** 125.79 339 *e*p **PKPdf** 16 45 17.9 -1.8
comp=Z,3.1nm,0.6s
FINES **FINESS Array B** 126.32 338 PKhKP PKPpre 16 45 12.2
comp=Z,1.7nm,0.9s,baz=186,slow=3.5,SNR=5.1
FINES PKP **PKPdf** 16 45 20.6 -0.1
comp=Z,4.0nm,0.7s,baz=64,slow=3.2,SNR=12
KMBO **Kilima Mbogo** 128.19 256 PKP **PKPdf** 16 45 26.6 +0.5
comp=Z,3.5nm,0.8s,baz=70,slow=3.7,SNR=12
KMBO **Kilima Mbogo** 128.19 256 PKP **PKPdf** 16 45 26.6 +0.5
KMBO *e*PKPdf **PKiKP** 16 45 27.2 +0.5
ANN **Anapa** 128.77 316 *i* PKHKP PKPpre 16 45 11.3
ANN *e* 16 47 31.8
ANN *e*SP SP 16 57 43.6 +15
ANN *e*SS **SS** 17 04 39.0 -3.3
ANN *e*SSS SSS 17 09 26.2
ANN pmax pmax
comp=Z,48nm,1.2s
NB2 **NORSAR Subarra** 131.21 345 PKPdf **PKPdf** 16 45 30.6 +0.4
comp=Z,3.3nm,0.9s,baz=31,slow=1.9
NOA **NORSAR Array B** 131.21 345 PKhKP PKPpre 16 45 18.6
comp=Z,0.7nm,0.7s,baz=56,slow=1.8,SNR=3.8
NOA PKP **PKiKP** 16 45 30.9 -0.2
comp=Z,2.6nm,0.7s,baz=37,slow=2.1,SNR=11
NOA SKPbc **SKPab** 16 48 45.5 +1.0
comp=Z,2.6nm,1.0s,baz=30,slow=2.7,SNR=4.2
NOA SKP 16 48 53.6
comp=Z,0.8nm,0.5s,baz=32,slow=3.1,SNR=5.7
AKASG **Malin Array Be** 131.32 326 PKP **PKPdf** 16 45 30.2 -0.4
comp=Z,0.3nm,0.3s,baz=54,slow=1.7,SNR=6.4
KIEV **Kiev** 131.33 326⇓*i*PKIKP **PKPdf** 16 45 30.4 -0.2
BRTR **Keskin Array B** 133.04 310 PKP **PKPdf** 16 45 35.1 +0.6
comp=Z,1.1nm,0.6s,baz=82,slow=3.1,SNR=7.9
KOLS **Kolonicke sedl** 136.03 327 *e*PKP **PKPdf** 16 45 41.0 +1.4
STHS **Stebnicka Huta** 136.26 328 *e*PKP **PKPdf** 16 45 42.5 +2.5
CRVS **Cervenica-Dubn** 136.47 328 *e*PKP **PKPdf** 16 45 41.5 +1.1
DPC **Dobruska-Polom** 137.97 333 *e*PKIKP **PKPdf** 16 45 44.0 +0.8
DPC **Dobruska-Polom** 137.97 333 *e*PKPdf **PKPdf** 16 45 44.0 +0.8
VYHS **Vyhne** 138.07 329 *e*PKP **PKPdf** 16 45 43.3 -0.1
PVCC **Panska Ves** 138.60 334 *e*PKIKP **PKPdf** 16 45 44.6 +0.4
PVCC **Panska Ves** 138.60 334 *e*PKPdf **PKPdf** 16 45 44.6 +0.4
BRG **Berggiesshubel** 138.60 335 *e*PKP **PKPdf** 16 45 39.5 -4.7
comp=Z,2.6nm,0.8s
BRG *e* 16 45 45.4
comp=Z,7.2nm,1.1s
BRG **Berggiesshubel** 138.60 335 *e*PKIKP **PKPdf** 16 45 39.5 -4.7
BRG pmax pmax
comp=Z,11nm,0.8s
CLL **Collm** 138.65 336 *e*PKIKP **PKPdf** 16 45 46.0 +1.7
CLL **Collm** 138.65 336 *e*PKPdf **PKPdf** 16 45 46.0 +1.7
PRU **Pruhonice** 139.02 333 *e*PKIKP **PKPdf** 16 45 45.2 +0.2
PRU **Pruhonice** 139.02 333 *e*PKPdf **PKPdf** 16 45 45.2 +0.2
TREC **Trest** 139.11 332 *e*PKIKP **PKPdf** 16 45 46.2 +0.9
TREC **Trest** 139.11 332 *e*PKPdf **PKPdf** 16 45 46.2 +0.9
KHC **Kasperske Hory** 140.07 333 *e*PKIKP PKPpre 16 45 43.0
KHC *e* 16 46 24.7
KHC **Kasperske Hory** 140.07 333 *e*PKPpre PKPpre 16 45 43.0
KHC *e*PKPdf **PKPdf** 16 45 47.6 +0.6
KHC *ex* x 16 46 24.7
GERES **GERESS Array B** 140.24 333 PKhKP PKPpre 16 45 39.2
comp=Z,0.8nm,0.6s,baz=66,slow=3.3,SNR=7.1
GERES PKP **PKPdf** 16 45 47.6 +0.2
comp=Z,1.5nm,0.6s,baz=46,slow=2.8,SNR=10
GRF **Grafenberg Arr** 140.62 336 *e*PKPdf **PKPdf** 16 45 44.3 -3.7
KBA **Koelnbreinsper** 141.71 331⇑*i*PKPdf **PKPdf** 16 45 45.5 -4.7
comp=Z,6.5nm,0.8s
MEM **Membach** 141.72 341 PKP **PKPdf** 16 45 49.9 +0.1
WTTA **Wattenberg** 142.34 333⇑*i*PKPdf **PKPdf** 16 45 48.0 -3.3
comp=Z,12nm,1.3s
WLF **Walferdange** 142.49 340 PKP **PKPdf** 16 45 48.7 -2.6
WLF **Walferdange** 142.49 340 *e*PKPdf **PKPdf** 16 45 48.6 -2.7
MOTA **Moosalm** 142.51 333⇑*i*PKPdf **PKPdf** 16 45 47.9 -3.8
comp=Z,10.0nm,0.8s,SNR=7.2
RETA **Reutte** 142.54 334⇓*i*PKPdf **PKPdf** 16 45 48.4 -3.2
comp=Z,4.8nm,0.7s
MCH1 **Michaelchurch** 142.59 350 *e*P **PKPdf** 16 45 47.8 -3.6
DOU **Dourbes** 142.60 342 PKP **PKPdf** 16 45 48.6 -2.9
MONM **Monmouth** 142.72 350 *e*P **PKPdf** 16 45 48.3 -3.3
BFO **Black Forest** 142.85 337 *e*PKHKP PKPpre 16 45 47.5
BFO **Black Forest** 142.85 337 *e*PKPdf PKPpre 16 45 48.7
BFO **Black Forest** 142.85 337 *e*PKPpre PKPpre 16 45 47.5
FETA **Feichten** 142.92 333⇓*i*PKPdf **PKPdf** 16 45 49.7 -2.7
comp=Z,33nm,1.1s,SNR=13
DAVA **Damuels** 143.07 334⇑*i*PKPdf PKPbc 16 45 50.3 +0.5
comp=Z,31nm,1.2s,SNR=6.4
ECH **Echery** 143.38 338 *e*PKIKP PKPbc 16 45 50.5 +0.1
ECH **Echery** 143.38 338 PKP PKPbc 16 45 50.7 +0.3
ECH **Echery** 143.38 338 *e*PKPpre PKPbc 16 45 50.5 +0.1
HEX **Exmoor** 143.62 351 *e*P PKPbc 16 45 50.9 0.0
MOF **Molkenrain** 143.69 338 PKP PKPbc 16 45 51.6 +0.2
THEF **They Montfort** 143.78 339 PKP PKPbc 16 45 52.2 +0.6
TUE **Stuetta** 143.94 334 *e*PKPpre **PKPdf** 16 45 53.2 -1.0
LOMF **Lomont** 144.22 337 PKP **PKPdf** 16 45 54.0 -0.5
DYA **Yadsworthy** 144.26 351 *e*P **PKPab** 16 45 52.7 +0.2
CCA1 **Carnmenellis** 144.69 352 *e*P **PKPab** 16 45 52.6 -1.5
TIP **Timpagrande** 145.01 319 *e*PKP **PKPbc** 16 45 55.5 -0.2
AQU **L'Aquila** 145.02 326 *e*PKIKP **PKPdf** 16 45 56.4 +0.4
AQU **L'Aquila** 145.02 326 *e*PKPdf **PKPdf** 16 45 56.4 +0.4
CUC **Castrocucco** 145.12 320 *e*PKP **PKPbc** 16 45 55.5 -0.5
OG01 **Vacheresse** 145.13 337 PKP **PKPdf** 16 45 57.1 +1.0
JSA **Saint Aubin** 145.15 348 *e*P **PKPdf** 16 45 56.2 +0.3
CEL **Celeste** 146.09 318 *e*PKPdf **PKPdf** 16 45 57.9 -0.1
BNI **Bardonecchia** 146.19 335 *e*PKP2 **PKPab** 16 45 00.0 -0.1
BNI **Bardonecchia** 146.19 335 *e*PKPbc **PKPab** 16 45 60.0 -0.1
OG22 **Abries** 146.27 335 PKP **PKPab** 16 46 00.2 -0.3
PLDF **La Plantade** 146.55 339 PKP **PKPab** 16 46 01.5 +0.1
AGO **Saint Agoulin** 146.64 340 PKP **PKPab** 16 46 01.5 -0.2
SAOF **Saorge** 146.69 333 PKP **PKPbc** 16 46 01.1 +0.5
AUTN **L'Aution** 146.73 333 PKP **PKPab** 16 46 02.5 +0.1
TOUF **Mont Tournerai** 146.80 334 PKP **PKPbc** 16 46 01.7 +0.6
SSB **Saint Sauveur** 146.82 338 *e*PKP2 **PKPbc** 16 46 01.3 +0.4
SSB **Saint Sauveur** 146.82 338 PKP **PKPab** 16 46 02.1 -0.3
SSB **Saint Sauveur** 146.82 338 *e*PKPbc **PKPbc** 16 46 01.3 +0.4
COLF **Collangettes** 146.92 339 PKP **PKPab** 16 46 02.5 -0.3
MVIF **Mont Vial** 146.93 334 PKP **PKPbc** 16 46 01.2 -0.3
PYM **Petit Puy Mans** 146.94 340 PKP **PKPab** 16 46 02.6 -0.4
REVF **Revere** 146.96 333 PKP **PKPdf** 16 46 00.3 +1.0
OG25 **Le Caire** 147.00 335 PKP **PKPbc** 16 46 02.1 +0.6
OG26 **St.-Nazaire-De** 147.13 336 PKP **PKPab** 16 46 03.2 -0.5
CALN **Calern** 147.16 334 PKP **PKPbc** 16 46 02.8 +0.7
LCHF **La Chataignera** 147.20 345 PKP **PKPab** 16 46 03.7 -0.1
LBL **Lubilhac** 147.32 339 PKP **PKPab** 16 46 04.0 -0.5
FRNF **Fournols** 147.41 340 PKP **PKPab** 16 46 04.1 -0.7
LRDF **Laroque-de-Fa** 149.57 338 PKP **PKPbc** 16 46 09.2 +1.0
VALF **Valcebollere** 150.22 338 PKP **PKPbc** 16 46 10.8 +0.8
LARF **Larrau** 150.63 343 PKP **PKPbc** 16 46 12.1 +1.3
KEST **Kesra** 151.78 320 PKPbc **PKPbc** 16 46 14.3 +0.6
comp=Z,4.5nm,0.6s,baz=128,slow=2.3,SNR=13
PBRG **Braganca** 153.11 350 PKPab **PKPab** 16 46 29.3 +1.0
POLO **Lamas de Olo** 153.68 352 PKPdf **PKPdf** 16 46 10.6 +0.7
POLO **Lamas de Olo** 153.68 352 PKPbc **PKPbc** 16 46 18.0 +0.2
POLO **Lamas de Olo** 153.68 352 *e*PKPab **PKPab** 16 46 32.2 +1.4
PVRL **Vila Real** 153.77 352 PKPab **PKPab** 16 46 32.4 +1.3
MVO **Moncorvo** 153.78 351 PKPab **PKPab** 16 46 18.5 +0.6
MVO **Moncorvo** 153.78 351 PKPab **PKPab** 16 46 32.3 +1.1
PVIS **Viseu** 154.34 352 *e*PKPab **PKPab** 16 46 34.8 +1.2
ESDC **Sonseca Array** 154.57 345 PKP **PKPdf** 16 46 11.6 +0.5
comp=Z,0.2nm,0.3s,baz=339,slow=2.8,SNR=7.9
ESDC PKPab **PKPab** 16 46 34.4 -0.2
comp=Z,1.0nm,0.4s,baz=21,slow=3.8,SNR=12
MTE **Manteigas** 154.60 351 *e*PKPdf **PKPdf** 16 46 12.1 +0.9
MTE **Manteigas** 154.60 351 *e*PKPab **PKPab** 16 46 36.0 +1.3
PCBR **Castelo Branco** 155.14 351 PKPdf **PKPdf** 16 46 12.6 +0.8
PCBR **Castelo Branco** 155.14 351 PKPab **PKPab** 16 46 38.2 +1.3
PBAR **Barrancos** 156.69 349 *e*PKPdf **PKPdf** 16 46 14.6 +0.7
PBAR **Barrancos** 156.69 349 *e*PKPab **PKPab** 16 46 44.7 +1.1
PNCL **Nicolau / Gran** 156.99 352 *e*PKPab **PKPab** 16 46 48.1 +1.9
MESJ **Messejana** 157.21 351 PKPdf **PKPdf** 16 46 14.1 -0.5
MESJ **Messejana** 157.21 351 PKPab **PKPab** 16 46 47.4 +1.6
PVAQ **Vaqueiros** 157.56 350 *e*PKPab **PKPab** 16 46 48.3 +0.9
MORF **Marmelete** 157.80 352 *e*PKPab **PKPab** 16 46 50.0 +1.5
TORD **Torodi Ar. Bea** 166.08 263 PKP **PKPdf** 16 46 23.9 -0.5
comp=Z,4.9nm,0.6s,baz=97,slow=0.8,SNR=30
TORD PKPab **PKPab** 16 47 24.4 -1.1
comp=Z,1.8nm,0.8s,baz=96,slow=2.7,SNR=4.8
KIC **Kosan Boka** 168.31 221 *e*PKIKP **PKPdf** 16 46 25.7 -0.4
comp=Z,37nm,1.2s
KIC **Kosan Boka** 168.31 221 *e*P **PKPab** 16 47 35.5 +0.3
comp=Z,10nm,1.0s
LIC **Lamto** 168.39 220 *e*PKIKP **PKPdf** 16 46 25.6 -0.5
comp=Z,38nm,1.3s
LIC **Lamto** 168.39 220 *e*P **PKPab** 16 47 34.2 -1.3
comp=Z,34nm,1.1s
DBIC **Dimbokro** 168.62 222 PKP **PKPdf** 16 46 25.7 -0.6
comp=Z,8.0nm,1.0s,baz=37,slow=2.0,SNR=8.6
TIC **Toumodi** 168.71 221 *e*PKIKP **PKPdf** 16 46 26.1 -0.3
comp=Z,54nm,0.2s
TIC **Toumodi** 168.71 221 *e*P **PKPab** 16 47 34.9 -2.1
comp=Z,56nm,0.2s

IDC ***22*** *16:26:54.2±1.1, 0°.18S×125°.60E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/31, mbtmp3.6/6, MS3.6/1, Ms1 3.6/1, ms1mx2.7/26, Error ellipse: s-maj=127.3km s-min=19.1km az=66.0*

ISCJB ***22*** *16:27:00.7±0.7, 0°.04S±0°.06×125°.91E±0°.06, h44km, mb3.5/6, MS3.6/1, Error ellipse: s-maj=8.2km s-min=7.8km az=148.9*

DJA ***22*** *16:27:02.2±1.0, 0°S±3°×12°6E±°, h57km±25km, M3.6/5, MLv3.6/5*

ISC 22 16:27:01.6±0.9, 0°.09S±0°.06×125°.98E±0°.05, h44km, n11, σ1§66/13, mb3.5/6, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	1.62	110	P	**Pn**	16 27 28.3	+0.6
LBMI				S	**Sn**	16 27 49.6	+2.3
TNTI	**Ternate**	1.63	58	P	**Pn**	16 27 28.8	+0.9
TNTI				S	**Sn**	16 27 48.7	+1.0
SANI	**Sanana**	1.95	180	P	**Pn**	16 27 32.5	+0.3
SANI				S	**Sn**	16 27 57.5	+2.1
KMSI	**Cibinong**	2.10	288	P	**Pn**	16 27 35.5	+1.2
KMSI				S	**Sn**	16 28 01.2	+1.9
WRA	**Warramunga Arr**	21.36	158	P	**P**	16 31 43.2	-2.2
	2.6nm,0.9s,baz=337,slow=11,SNR=39						
ASAR	**Alice Springs**	24.67	162	P	**P**	16 32 18.0	-0.5
	1.0nm,0.8s,baz=346,slow=9.6,SNR=28						
SONM	**Songino Array**	50.68	343	P	**P**	16 35 57.2	+0.4
	0.4nm,0.8s,baz=157,slow=7.8,SNR=3.7						

PETK	**Petropavlovsk-**	**59.23**	**22**	LR	LR	17 03 13.4	
	comp=Z,47nm,20.0s,baz=126,slow=37						
MKAR	**Makanchi Array**	**60.28**	**327**	P	**P**	**16 37 04.2**	**-1.6**
	0.4nm,0.5s,baz=121,slow=8.2,SNR=8.0						
KURBB	**Kurchatov Arra**	**64.56**	**329**	P	**P**	**16 37 32.4**	**-1.8**
	0.6nm,0.7s,baz=123,slow=5.8,SNR=3.4						
BVAR	**Borovoye Array**	**70.12**	**328**	P	P	16 38 05.8	-3.5
	0.4nm,0.8s,baz=111,slow=7.9,SNR=3.0						

MAN 22 16:30:09,16°.90N×120°.56E,h92km,mb4.4,ML3.2,MS3.1, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.52**	**177**	⇑*i*P	Pn	16 30 26.6	+2.2
BCPH				*i* S	Sn	16 30 38.6	+2.9
SIPP	**Brgy, Tapao**	**1.02**	**355**	⇓*e*P	Pn	16 30 31.3	+2.2
SIPP				*e*S	Sn	16 30 47.3	+3.2

ISCJB ***22*** *16:31:55.8±0.5, 14°.22N±0°.07×93°.09E±0°.07, h32km, mb3.9/14, Error ellipse: s-maj=10.2km s-min=10.0km az=145.3*
IDC ***22*** *16:31:57.3±0.8, 13°.98N×92°.98E, h36km±5km, mb3.6/13, mb1 3.7/14, mb1mx3.6/28, mbtmp3.8/14, ML3.1/1, Error ellipse: s-maj=33.6km s-min=14.4km az=50.0*
ISC 22 16:31:57.9±0.6, 14°.20N±0°.09×93°.03E±0°.09, h32km, n19, σ1°22/22, mb3.9/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.08**	**53**	Pn	**Pn**	**16 33 40.7**	**+1.2**
	0.1nm,0.3s,baz=237,slow=14,SNR=3.2						
CMAR				Sn	**Sn**	**16 34 57.9**	**-1.1**
	0.4nm,0.3s,baz=244,slow=26,SNR=6.2						
PSI	**Prapat**	**12.73**	**152**	Pn	**Pn**	**16 34 58.5**	**+1.5**
	0.2nm,0.3s,baz=328,slow=11,SNR=4.2						
MDSI	**Maura Dua**	**21.61**	**148**	P	**P**	**16 36 46.9**	**+1.5**
	26nm,0.8s						
H08S3	**Diego Garcia H**	**29.76**	**224**	T	T	17 08 56.7	
	baz=42,slow=76,SNR=10.0						
H08S2	**Diego Garcia H**	**29.77**	**224**	T	T	17 09 01.0	
	baz=42,slow=76,SNR=14						
H08S1	**Diego Garcia H**	**29.78**	**224**	T	T	17 09 08.0	
	baz=42,slow=76,SNR=10						
MKAR	**Makanchi Array**	**33.72**	**347**	P	**P**	**16 38 37.0**	**+0.7**
	1.0nm,0.6s,baz=164,slow=9.0,SNR=9.1						
KURBB	**Kurchatov Arra**	**38.19**	**345**	P	**P**	**16 39 15.2**	**+0.8**
	1.2nm,0.7s,baz=164,slow=7.7,SNR=12						
GEYT	**Alibeck**	**38.91**	**314**	P	**P**	**16 39 22.0**	**+1.2**
	1.8nm,0.7s,baz=133,slow=6.1,SNR=4.5						
ZALV	**Zalesovo Beam**	**40.18**	**352**	P	**P**	**16 39 31.8**	**+0.7**
	1.0nm,0.6s,baz=168,slow=7.4,SNR=6.7						
BVAR	**Borovoye Array**	**42.70**	**340**	P	**P**	**16 39 51.6**	**-0.2**
	0.3nm,0.6s,baz=132,slow=6.0,SNR=3.3						
WRA	**Warramunga Arr**	**52.94**	**129**	P	**P**	**16 41 09.7**	**-1.8**
	0.8nm,0.7s,baz=309,slow=8.1,SNR=7.7						
ASAR	**Alice Springs**	**54.90**	**133**	P	**P**	**16 41 24.2**	**-1.6**
	0.6nm,0.4s,baz=309,slow=7.3,SNR=21						
ASAR				pP	**pP**	**16 41 34.0**	**-1.6**
	0.4nm,0.6s,baz=312,slow=7.1,SNR=3.2						
BRTR	**Keskin Array B**	**57.59**	**308**	P	**P**	**16 41 44.2**	**-0.8**
	0.7nm,0.7s,baz=111,slow=7.9,SNR=6.1						
BRTR				pP	**pP**	**16 41 55.4**	**+0.5**
	0.5nm,0.7s,baz=118,slow=7.4,SNR=3.4						
FINES	**FINESS Array B**	**66.66**	**331**	P	**P**	**16 42 44.8**	**-0.4**
	1.1nm,0.6s,baz=106,slow=7.8,SNR=7.5						
FINES				pP	**pP**	**16 42 56.7**	**+1.5**
	1.7nm,0.7s,baz=98,slow=7.2,SNR=3.1						
ARCES	**ARCESS Array B**	**68.99**	**340**	P	**P**	**16 43 00.1**	**+0.3**
	5.2nm,1.1s,baz=79,slow=4.9,SNR=4.3						
GERES	**GERESS Array B**	**72.44**	**317**	P	**P**	**16 43 20.0**	**-1.4**
	0.7nm,0.6s,baz=91,slow=5.9,SNR=4.3						
GERES				pP	**pP**	**16 43 32.1**	**+0.8**
	0.4nm,0.5s,baz=99,slow=6.4,SNR=2.3						
NOA	**NORSAR Array B**	**73.73**	**330**	P	**P**	**16 43 27.3**	**-1.4**
	0.3nm,0.5s,baz=94,slow=5.8,SNR=2.5						
NOA				pP	**pP**	**16 43 39.4**	**+0.7**
	0.5nm,0.7s,baz=90,slow=5.8,SNR=2.1						
TORD	**Torodi Ar. Bea**	**88.10**	**283**	P	**P**	**16 44 45.3**	**-0.8**
	0.5nm,0.8s,baz=79,slow=4.4,SNR=3.4						

AWI ***22*** *16:41:31.3, 58°.52S×29°.22W*
IDC ***22*** *16:41:53.5±4.2, 59°.81S×23°.67W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.8/3, Error ellipse: s-maj=311.3km s-min=33.2km az=101.0*
ISC 22 16:41:54.0±1.8, 59°.7S±0°.2×24°.7W±0°.6, h10km, n8, σ0°81/5, mb3.8/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.90**	**155**	P	Pn	16 45 02.3	+5.2
VNA3	**Neumayer Olymp**	**13.09**	**158**	P	Pn	16 45 03.9	+4.2
VNA2	**Neumayer--Watz**	**13.30**	**155**	P	Pn	16 45 07.6	+5.1
	baz=314,slow=17						
SNAA	**Sanae**	**14.86**	**153**	P	**P**	**16 45 29.9**	**+0.2**
VNDA	**Vanda**	**42.97**	**182**	P	**P**	**16 49 53.0**	**+0.5**
	0.6nm,0.6s,baz=170,slow=7.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**75.67**	**27**	P	**P**	**16 53 39.5**	**+0.4**
	0.3nm,0.3s,baz=198,slow=6.2,SNR=6.6						
ASAR	**Alice Springs**	**95.09**	**160**	P	**P**	**16 55 16.2**	**-0.9**
	0.4nm,1.0s,baz=175,slow=4.1,SNR=4.7						
SONM	**Songino Array**	**149.48**	**91**	PKPbc	**PKPbc**	**17 01 42.3**	**-0.1**
	0.1nm,0.3s,baz=212,slow=1.9,SNR=3.8						

IDC ***22*** *16:44:02.0±1.5, 2°.52N×127°.80E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/31, mbtmp3.4/4, Error ellipse: s-maj=128.5km s-min=21.4km az=71.0*
DJA ***22*** *16:44:11.7±1.5, 2°N±6°×12°7E±1°0, h36km±29km, M3.4/4, MLv3.4/4*
ISC 22 16:44:11.7±4.2, 1°.7N±0°.4×127°.0E±0°.2, h35km, n10, σ0°42/6, mb3.4/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.03**	**157**	P	**Pn**	**16 44 29.4**	**-0.3**
TNTI				S	**Sn**	**16 44 43.0**	**+0.1**
LBMI	**Labuha**	**2.41**	**167**	P	**Pn**	**16 44 48.6**	**-0.1**
KMSI	**Cibinong**	**3.19**	**249**	P	**Pn**	**16 44 59.3**	**-0.2**
WRA	**Warramunga Arr**	**22.71**	**162**	P	**P**	**16 49 10.5**	**-0.2**
	1.0nm,0.6s,baz=345,slow=10,SNR=18						
ASAR	**Alice Springs**	**26.12**	**165**	P	**P**	**16 49 43.3**	**+0.6**
	0.3nm,0.7s,baz=355,slow=8.2,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**42.94**	**63**	T	T	17 35 49.0	
	baz=250						
H11N2	**WAKE ISLAND Hy**	**42.95**	**63**	T	T	17 35 48.2	
	baz=250						
H11N3	**WAKE ISLAND Hy**	**42.95**	**63**	T	T	17 35 49.7	
	baz=250						
SONM	**Songino Array**	**49.26**	**342**	P	P	16 52 50.1	-7.0
	0.2nm,0.3s,baz=131,slow=7.9,SNR=4.2						
MKAR	**Makanchi Array**	**59.33**	**326**	P	P	16 54 03.5	-6.8
	0.1nm,0.4s,baz=126,slow=6.9,SNR=4.3						

IDC 22 17:08:43.6±4.8, 6°.79S×155°.58E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/20, mbtmp3.2/3, Error ellipse: s-maj=141.8km s-min=39.0km az=111.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.41**	**236**	P	P	17 14 04.9	+0.8
	0.4nm,0.6s,baz=63,slow=9.5,SNR=9.6						
ASAR	**Alice Springs**	**26.75**	**229**	P	P	17 14 24.8	-0.4
	0.2nm,0.7s,baz=57,slow=9.9,SNR=7.7						
MKAR	**Makanchi Array**	**83.64**	**319**	P	P	17 21 13.9	-0.3
	0.2nm,0.5s,baz=108,slow=6.4,SNR=4.1						

MEX 22 17:09:17.6±0.5, 15°.80N×96°.40W, h36km±10km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.28**	**96**	*i* P	Pn	17 09 23.8	-1.9
HUIG				*e*S	Sn	17 09 29.1	-3.8
VHO	**Vista Hermosa**	**1.31**	**346**	*e*P	Pn	17 09 37.6	-2.0
VHO				*e*S	Sn	17 09 53.8	-2.3
PNIG	**Pinotepa**	**1.76**	**290**	*e*P	Pn	17 09 45.0	-0.6
PNIG				*i* S	Sn	17 10 05.8	-1.1
CMIG	**Matias Romero**	**1.94**	**48**	*e*P	Pn	17 09 47.0	-1.1
CMIG				*e*S	Sn	17 10 09.2	-2.0
TLIG	**Tlapa**	**2.72**	**311**	*i* P	Pn	17 09 57.3	-1.7
TLIG				*i* S	Sn	17 10 28.0	-2.7

NIED ***22*** *17:23:00, 46°.90N×141°.80E, h8km, Mw4.7 Best double couple: M0:1.34000×10^16 NP1:φ0=48.00000°, δ17.00000°, λ135.00000°. NP2:φ0=182.00000°, δ78.00000°, λ78.00000°.*
SKHL ***22*** *17:23:16.8±0.6, 46°.70N×141°.70E, h10km, mb4.6/13, mbv5.7/1, ms4.7/5*
JMA ***22*** *17:23:16.7±0.4, 46°.93N×141°.82E, h28km, M4.9*
JMA Felt I J1.
MOS ***22*** *17:23:17.5±0.9, 46°.77N×141°.88E, h15km, mb5.3/37, MS4.2/9, Error ellipse: s-maj=8.0km s-min=4.8km az=103.4*
MOS Felt (IV) at Nevel'sk, Gornozavodsk; (III-IV) at Pravda, Kholmsk, Yablochniy, Shebunino; (III) at Sinegorsk, Bykov, Uglezavodsk; (II-III) at Yuzhno-Sakhalinsk, Aniva, Troitskoe.
ISCJB ***22*** *17:23:18.6±0.9, 46°.79N±0°.02×141°.93E±0°.03, h22km±6km, mb4.7/128, MS4.0/28, Error ellipse: s-maj=3.5km s-min=3.2km az=167.1*
BJI ***22*** *17:23:19.3, 47°.06N×141°.64E, h15km, mB4.9/21, mb4.6/29, ML4.6/3, Ms4.7/25, Ms7 4.5/25*
NEIC ***22*** *17:23:22.0±0.2, 46°.79N×141°.85E, h35km, mb5.0/69, Error ellipse: s-maj=4.7km s-min=3.5km az=124.0*
NEIC Felt [IV] at Gornozavodsk, Kholmsk, Nevel'sk, Pravda and Shebunino; [III] at Aniva, Bykov, Sinegorsk, Troitskoye, Uglezavodsk and Yuzhno-Sakhalinsk. Recorded [1 JMA] in northern Hokkaido, Japan.
IDC ***22*** *17:23:22.2±2.4, 46°.75N×141°.87E, h38km±21km, mb4.1/23, mb1 4.3/30, mb1mx4.3/32, mbtmp4.3/30, ML3.6/6, MS3.8/26, Ms1 3.8/26, ms1mx3.7/42, Error ellipse: s-maj=13.7km s-min=11.7km az=138.0*
SZGRF ***22*** *17:23:35.7, 48°.03N×141°.48E, h33km, mb5.0, MS4.2, Sakhalin Island, Russia*
ISC 22 17:23:19.1±0.8, 46°.70N±0°.03×141°.94E±0°.03, h14km±4km, n396, σ1°27/361, mb4.9/128, MS4.0/30, 35C-15D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.62**	**65**	α *i*PN	**Pb**	**17 23 31.6**	**-0.1**
YSS				*e*		17 23 41.8	
YSS				pmax	pmax		
	comp=N,320nm,0.6s						
YSS				pmax	pmax		
	comp=Z,700nm,0.6s						
YSS				pmax	pmax		
	comp=E,630nm,0.7s						
YSS				smax	smax		
	comp=E,13μm,0.5s						
YSS	**Yuzh-Sakhalins**	**0.62**	**65**	⇑*i*Pg	**Pb**	**17 23 31.6**	**-0.1**
YSS				AMB	AMB	17 23 31.9	
	comp=E,320nm,0.6s						
YSS				AMB	AMB	17 23 31.9	
	comp=E,630nm,0.6s						
YSS				AMB	AMB	17 23 31.9	
	comp=E,700nm,0.6s						
YSS				*i* Sg	**Sn**	**17 23 41.8**	**-1.4**
YSS				A	A	17 23 42.3	
	comp=E,26μm,0.6s						
YSS				A	A	17 23 42.3	
	comp=E,13μm,0.6s						
YSS				AMS	AMS	17 23 55.0	
	comp=E,41μm,7.0s						
YSS				AMS	AMS	17 23 55.0	
	comp=E,56μm,7.0s						
YSS				AMS	AMS	17 23 58.0	
	comp=E,47μm,9.0s						
YSS				AMS	AMS	17 23 58.0	
	comp=E,39μm,9.0s						
YSS				AMS	AMS	17 23 58.0	
	comp=E,56μm,9.0s						
YSS	**Yuzh-Sakhalins**	**0.62**	**65**	*e*Pn	**Pb**	**17 23 31.1**	**-0.6**
JWK2	**Keihoku**	**1.38**	**181**	P	**Pn**	**17 23 44.0**	**0.0**
JWK2				*e*S	**Sg**	**17 24 04.1**	**+0.5**
JRR	**Rishiri**	**1.62**	**196**	P	**Pn**	**17 23 47.6**	**+0.4**
JRR				*e*S	**Sb**	**17 24 10.7**	**+1.6**
JSE	**Soyaes**	**1.80**	**165**	P	**Pn**	**17 23 49.9**	**+0.2**
JSE				*e*S	**Sb**	**17 24 14.1**	**-0.1**
JSS	**Shosan**	**2.30**	**181**	P	**Pn**	**17 23 57.5**	**+0.9**
JYG	**Yagishiri**	**2.30**	**189**	P	**Pn**	**17 23 57.2**	**+0.6**
JYG				*e*S	**Sn**	**17 24 27.4**	**+2.7**
UGL	**Uglegorsk**	**2.38**	**2**	*e*PN	**Pn**	**17 23 57.6**	**-0.1**
UGL				*e*		17 24 26.1	
UGL	**Uglegorsk**	**2.38**	**2**	*e*P	**Pn**	**17 23 56.0**	**-1.7**
UGL				AMB	AMB	17 23 58.0	
	comp=E,140nm,0.7s						
UGL				*e*Pg	**Pg**	**17 24 05.5**	**+0.8**
UGL				AMB	AMB	17 24 08.0	
	comp=E,870nm,0.6s						
UGL				*e*S	**Sn**	**17 24 27.0**	**+0.3**
UGL				A	A	17 24 31.0	
	comp=E,1μm,0.3s						
UGL				A	A	17 24 31.0	
	comp=E,3μm,0.3s						
UGL				*e*Sg	**Sg**	**17 24 38.7**	**+3.1**
UGL				A	A	17 24 40.0	
	comp=E,1μm,0.5s						
ASAJ	**Asahikawa**	**2.62**	**170**	PN	**Pn**	**17 24 02.0**	**+0.9**
ASAJ						17 24 38.8	
ASAJ				pmax	pmax		
	comp=Z,23nm,0.3s						
ASAJ				smax	smax		
	comp=N,43nm,0.3s						
ASAJ	**Asahikawa**	**2.62**	**170**	P	**Pn**	**17 24 01.9**	**+0.9**
ASAJ	**Asahikawa**	**2.62**	**170**	Pn	**Pn**	**17 24 02.0**	**+0.9**
	comp=N,23nm,0.3s,baz=7.8,slow=12,SNR=166						
ASAJ				Sn	**Sb**	**17 24 38.8**	**+0.8**
	comp=N,43nm,0.3s,baz=330,slow=20,SNR=4.8						
ASAJ				LR	LR	17 25 01.5	
	comp=N,440nm,19.5s,baz=38,slow=37						
JMP	**Maruseppu**	**2.87**	**159**	P	**Pn**	**17 24 04.5**	**0.0**
JKK2	**Kamakawa 2**	**2.88**	**168**	P	**Pn**	**17 24 05.5**	**+0.8**
JHR	**Hokuryu**	**2.96**	**183**	P	**Pn**	**17 24 06.7**	**+1.0**
JTKR	**Abashiri--Toko**	**3.06**	**152**	P	**Pn**	**17 24 07.0**	**-0.1**
JTKR				*e*S	**Sn**	**17 24 44.3**	**+0.8**
JAB	**Ashibetsu**	**3.20**	**176**	P	**Pn**	**17 24 10.7**	**+1.7**
JFR	**Furan**	**3.57**	**172**	P	**Pn**	**17 24 15.2**	**+1.2**
JAR	**Ashorobuto**	**3.64**	**158**	P	**Pn**	**17 24 15.7**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**3.84**	**133**	*c i*PN	**Pn**	**17 24 18.6**	**+0.8**
YUK				*i*		17 25 05.5	
YUK				pmax	pmax		
	comp=Z,73nm,0.8s						
YUK				pmax	pmax		
	comp=N,43nm,0.4s						
YUK				pmax	pmax		
	comp=E,49nm,0.4s						
YUK				smax	smax		
	comp=N,21μm,0.7s						
YUK				smax	smax		
	comp=E,13μm,0.7s						
YUK				MLR	MLR		
	comp=Z,26μm,10.0s						
YUK	**Yuzh-Kuril'sk**	**3.84**	**133**	⇑*i*P	**Pn**	**17 24 18.7**	**+0.9**
YUK				AMB	AMB	17 24 22.2	
	comp=Z,43nm,0.4s						
YUK				AMB	AMB	17 24 22.2	
	comp=Z,49nm,0.4s						
YUK				AMB	AMB	17 24 22.2	
	comp=Z,74nm,0.4s						
YUK				*i* S	**Sn**	**17 25 05.6**	**+2.9**
YUK				A	A	17 25 07.0	
	comp=Z,213nm,1.7s						
YUK				A	A	17 25 07.0	
	comp=Z,348nm,1.7s						
YUK				AMS	AMS	17 26 21.5	
	comp=Z,26μm,11.0s						
TEY	**Ternei**	**4.08**	**248**	*e*P	**Pn**	**17 24 19.5**	**-1.5**
TEY				AMB	AMB	17 24 20.1	
	comp=Z,42nm,0.4s						
TEY				*e*Pg	Pg	17 24 35.0	-2.2
TEY				AMB	AMB	17 24 36.5	
	comp=Z,90nm,0.6s						
TEY				*e*Sg	**Sg**	**17 25 27.0**	**-3.0**
TEY				A	A	17 25 27.5	
	comp=Z,156nm,0.8s						
TEY				AMS	AMS	17 26 15.0	
	comp=Z,5μm,11.0s						
TEY				AMS	AMS	17 26 15.0	
	comp=Z,2μm,11.0s						
TEY				AMS	AMS	17 26 15.0	
	comp=Z,5μm,11.0s						
TYV	**Tymovskoe**	**4.20**	**6**	*e*PN	**Pn**	**17 24 22.5**	**-0.1**
TYV				pmax	pmax		
	comp=Z,20nm,0.8s						
TYV	**Tymovskoe**	**4.20**	**6**	*e*P	**Pn**	**17 24 22.0**	**-0.6**
TYV				AMB	AMB	17 24 27.5	
	comp=Z,20nm,0.8s						
TYV				AMB	AMB	17 24 27.5	
	comp=Z,55nm,0.8s						
TYV				*e*Pg	**Pg**	**17 24 41.5**	**+2.1**
TYV				AMB	AMB	17 24 45.0	
	comp=Z,2μm,5.0s						
TYV				*e*S	**Sn**	**17 25 12.5**	**+1.1**
TYV				*e*Sg	Sg	17 25 39.0	+5.3
TYV				A	A	17 25 40.0	
	comp=Z,190nm,0.8s						
TYV				AMS	AMS	17 27 29.0	
	comp=Z,3μm,7.0s						
TYV				AMS	AMS	17 27 29.0	
	comp=Z,4μm,7.0s						
KUR	**Kuril'sk**	**4.39**	**107**	*e*PN	**Pn**	**17 24 24.6**	**-0.7**
KUR				pmax	pmax		
	comp=N,51nm,0.5s						
KUR				pmax	pmax		
	comp=Z,86nm,0.9s						
KUR				pmax	pmax		
	comp=E,40nm,0.5s						
KUR	**Kuril'sk**	**4.39**	**107**	*e*P	**Pn**	**17 24 26.0**	**+0.7**
KUR				AMB	AMB	17 24 43.3	
	comp=E,51nm,0.5s						
KUR				AMB	AMB	17 24 43.3	
	comp=E,40nm,0.5s						
KUR				AMB	AMB	17 24 43.3	
	comp=E,86nm,0.5s						
KUR				*e*S	**Sn**	**17 25 16.3**	**+0.1**
KUR				A	A	17 25 23.3	
	comp=E,136nm,1.2s						
KUR				A	A	17 25 23.3	
	comp=E,57nm,1.2s						
SHO	**Shikotan**	**4.46**	**128**	*e*PN	**Pn**	**17 24 28.3**	**+2.0**
ERM	**Erimo**	**4.76**	**169**	*c i*PN	Pn	17 24 35.7	+5.2
ERM				pmax	pmax		
	comp=Z,202nm,0.8s						
ERM	**Erimo**	**4.76**	**169**	*e*Pn	Pn	17 24 34.8	+4.3
HABR	**Khabarovsk**	**4.99**	**293**	*ce*PN	**Pn**	**17 24 31.4**	**-2.1**
HABR				pmax	pmax		
	comp=Z,112nm,1.6s						
HABR				MLR	MLR		
	comp=Z,1μm,12.0s						
GRNR	**Gornyy**	**5.47**	**320**	*e*P	**Pn**	**17 24 37.7**	**-2.4**
GRNR				AMB	AMB	17 24 38.8	
	comp=Z,76nm,0.4s						
GRNR				AMB	AMB	17 24 38.8	
	comp=Z,93nm,0.4s						
GRNR				AMB	AMB	17 24 38.8	
	comp=Z,120nm,0.4s						
GRNR				AMB	AMB	17 24 53.5	
	comp=Z,26nm,0.5s						
GRNR				*e*Pg	Pg	17 25 27.0	+23
GRNR				*e*Sg	**Sg**	**17 26 17.0**	**+2.5**
GRNR				A	A	17 26 23.0	
	comp=Z,152nm,0.5s						
GRNR				A	A	17 26 23.0	
	comp=Z,190nm,0.5s						
GRNR				AMS	AMS	17 28 08.0	
	comp=Z,2μm,12.0s						
GRNR				AMS	AMS	17 28 08.0	
	comp=Z,2μm,12.0s						
OKH	**Okha**	**6.89**	**5**	*e*P	Pn	17 25 02.6	+3.0
OKH				AMB	AMB	17 25 05.0	
	comp=Z,160nm,0.9s						
OKH				*e*S	**Sn**	**17 26 22.1**	**+4.4**
OKH				*e*Sg	Sg	17 27 14.7	+15
OKH				A	A	17 27 19.0	
	comp=Z,140nm,1.0s						
KLR	**Kul'dur**	**7.29**	**294**	*e*PN	Pn	17 24 59.6	-5.6
KLR				MLR	MLR		
	comp=Z,12μm,12.0s						
KLR	**Kul'dur**	**7.29**	**294**	*e*P	Pn	17 24 59.6	-5.6
KLR				AMS	AMS	17 28 34.0	
	comp=Z,12μm,12.0s						
KLR				AMS	AMS	17 28 34.0	
	comp=Z,5μm,12.0s						
USRK	**Ussuriysk Ar.**	**7.43**	**254**	Pn	**Pn**	**17 25 05.6**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=62,slow=14,SNR=9.6						
USRK				LR	LR	17 28 01.9	
	comp=Z,659nm,18.8s,baz=71,slow=38						
VLA	**Vladivostok**	**7.98**	**247**	⇓*e*PN	Pn	17 25 20.3	+5.7
VLA				*e*S	Sn	17 26 53.4	+8.8
EKMR	**Ekimchan**	**8.62**	**321**	*e*P	**Pn**	**17 25 22.8**	**-0.5**
EKMR				AMB	AMB	17 25 31.5	
	comp=Z,5.0nm,0.5s						
EKMR				AMB	AMB	17 25 31.5	
	comp=Z,11nm,0.5s						
EKMR				*e*Sg	Sg	17 28 05.0	+10
EKMR				A	A	17 28 13.6	
	comp=Z,360nm,1.3s						
EKMR				A	A	17 28 13.6	
	comp=Z,340nm,1.3s						
EKMR				A	A	17 28 13.6	
	comp=Z,430nm,1.3s						
MDJ	**Mudanjiang**	**8.89**	**261**	P	**Pn**	**17 25 25.8**	**-1.3**
MDJ				SMN			
	comp=Z,160nm,1.5s						
MDJ				SME			
	comp=Z,58nm,1.9s						
MAJO	**Matsushiro**	**10.52**	**197**	⇓*e*PN	Pn	17 25 53.0	+3.5
MAJO	**Matsushiro**	**10.52**	**197**	*e*Pn	**Pn**	**17 25 51.7**	**+2.2**
	comp=Z,19nm,0.8s						
MAT	**Matsushiro**	**10.52**	**197**	P	**Pn**	**17 25 50.0**	**+0.5**
MAT				S	**Sn**	**17 27 48.2**	**+1.0**
MJAR	**Matsushiro Arr**	**10.52**	**197**	PN	**Pn**	**17 25 52.0**	**+2.5**
MJAR	**Matsushiro Arr**	**10.52**	**197**	Pn	**Pn**	**17 25 52.0**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=11,slow=13,SNR=19						
MJAR				LR	LR	17 29 45.9	
	comp=Z,271nm,19.4s,baz=30,slow=36						
YASR	**Yasnyy**	**11.13**	**311**	*e*Sg	**Sn**	**17 28 01.5**	**-0.5**
YASR				A	A	17 29 30.5	
	comp=Z,270nm,1.4s						
YASR				A	A	17 29 30.5	
	comp=Z,100nm,1.4s						
YASR				A	A	17 29 30.5	
	comp=Z,170nm,1.4s						
BMKR	**Bomnak**	**11.53**	**319**	*e*P	**Pn**	**17 26 02.0**	**-1.1**
BMKR				AMB	AMB	17 26 02.5	
	comp=Z,4.0nm,0.8s						
BMKR				*e*Sg		17 29 40.5	
BMKR				A	A	17 29 44.0	
	comp=Z,223nm,1.4s						
ZEA	**Zeya**	**11.74**	**312**	*e*P	**Pn**	**17 26 05.0**	**-1.0**
ZEA				AMB	AMB	17 26 05.9	
	comp=Z,21nm,1.2s						
ZEA				*e*Sg		17 29 45.0	
ZEA				A	A	17 29 45.0	
	comp=Z,81nm,1.3s						
ZEA				A	A	17 29 45.0	
	comp=Z,243nm,1.3s						
ZEA				AMS	AMS	17 31 05.0	
	comp=Z,1μm,12.0s						
ZEA				AMS	AMS	17 31 05.0	
	comp=Z,3μm,12.0s						
ZEA				AMS	AMS	17 31 05.0	
	comp=Z,2μm,12.0s						
CN2	**Changchun**	**11.98**	**262**	*e*P	**Pn**	**17 26 10.6**	**+1.3**
CN2				*e*S	**Sn**	**17 28 26.5**	**+3.8**
CN2				PMZ			
	comp=Z,10.0nm,0.8s						
CN2				PMZ			
	comp=Z,200nm,5.0s						
CN2				LN			
	comp=Z,1μm,10.0s						
CN2				LE			
	comp=Z,1μm,10.0s					

comp=Z,133nm,1.3s
KSRS Korea Array 13.90 233 Pn Pn 17 26 38.0 +2.5
comp=Z,0.1nm,0.3s,baz=46,slow=12,SNR=9.1
KSRS LR LR 17 31 21.2
comp=Z,285nm,18.6s,baz=49,slow=34
KSAR Wonju Array Be 13.93 233 P Pn 17 26 38.0 +2.0
KSAR Wonju Array Be 13.93 233 Pn Pn 17 26 38.0 +2.0
HIA Hailar 15.07 288 *e*P **Pn 17 26 51.6 0.0**
HIA pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 15.07 288 *e*Pn **Pn 17 26 51.6 0.0**
comp=Z,9.5nm,0.6s
JNU Nakatsue 15.97 216 Pn Pn 17 27 05.7 +2.3
comp=Z,0.1nm,0.3s,baz=333,slow=4.5,SNR=2.4
JNU LR LR 17 32 41.9
comp=Z,324nm,18.0s,baz=50,slow=35
YAK Yakutsk 16.89 340 *e*P **P 17 27 19.3 +2.5**
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK MLR MLR
comp=Z,397nm,14.0s
YAK MLR MLR
comp=N,266nm,11.0s
YAK Yakutsk 16.89 340 *e*P **Pn 17 27 15.5 +0.7**
comp=N,33nm,0.9s
SEY Seymchan 17.30 16 P P 17 27 22.0 +0.6
SEY Seymchan 17.30 16 P P 17 27 21.9 +0.6
comp=N,0.3nm,0.3s,baz=201,slow=8.6,SNR=29
CIT Chita 19.17 297 *e*P **P 17 27 40.5 -1.6**
CIT pmax pmax
comp=Z,69nm,3.1s
BOD Bodaibo 20.24 314 *e*P **P 17 27 52.8 -0.8**
BOD *e* 17 32 01.8
BOD pmax pmax
comp=Z,16nm,0.1s
TIA Tai'an 21.26 249 ⇑P **P 17 28 08.1 +3.2**
TIA PMZ
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 23.58 286 P P 17 28 28.4 -0.9
ULN Ulaanbaatar 23.58 286 *e*P **P 17 28 26.0 -3.3**
comp=Z,12nm,1.0s
SONM Songino Array 24.02 286 P P 17 28 32.6 -0.9
comp=Z,1.6nm,0.8s,baz=81,slow=8.9,SNR=12
SONM PcP **PcP 17 32 14.1 -0.9**
comp=Z,1.6nm,1.0s,baz=94,slow=2.4,SNR=4.8
SONM LR LR 17 38 12.6
comp=Z,218nm,21.8s,baz=68,slow=37
BILL Bilibino 24.76 22⇓*e*P **P 17 28 40.1 +0.2**
BILL *i* 17 28 45.9
BILL *e* 17 29 11.9
BILL pmax pmax
comp=Z,21nm,1.2s
BILL MLR MLR
comp=Z,339nm,17.0s
BILL Bilibino 24.76 22 *e*P **P 17 28 40.2 +0.3**
comp=Z,27nm,1.0s
IRK Irkutsk 24.89 297 *e*P **P 17 28 41.3 0.0**
IRK pmax pmax
comp=Z,60nm,2.1s
TLY Talaya 25.31 296 *e*P **P 17 28 46.0 +0.9**
TLY pmax pmax
comp=Z,14nm,1.1s
TLY MLR MLR
comp=Z,694nm,13.0s
TLY Talaya 25.31 296 LR LR 17 38 52.3
comp=Z,213nm,18.7s,baz=84,slow=37
TIXI Tiksi 25.78 351⇑*e*P **P 17 28 50.3 +1.2**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI MLR MLR
comp=Z,214nm,17.0s
TIXI Tiksi 25.78 351 *e*P **P 17 28 47.3 -1.9**
comp=Z,4.6nm,0.6s
WHN Wuhan 26.73 243 P **P 17 29 01.4 +3.3**
WHN S **S 17 33 31.0 -2.3**
WHN LN
comp=Z,1μm,11.2s
WHN LE
comp=Z,950nm,10.0s
WHN LZ
comp=Z,1μm,10.4s
MOY Mondy 26.95 296 *e*P **P 17 29 04.0 +3.9**
LZH Lanzhou 30.21 263 *e*P P 17 29 24.6 -4.7
LZH pP pP 17 29 29.1 -4.3
LZH sP sP 17 29 31.5 -3.6
LZH *e*PP **PP 17 30 36.5 -0.9**
LZH *e*S S 17 34 44.3 +16
LZH sS sS 17 34 51.8 +17
LZH *e*SS SS 17 36 48.5 +12
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.2s
LZH LR LR
comp=N,550nm,12.5s
LZH LR LR
comp=E,520nm,12.1s
LZH LR LR
comp=Z,760nm,15.0s
GTA Gaotai 31.33 272 *e*P P 17 29 44.8 +5.7
GTA PcP **PcP 17 32 33.1 +0.3**
GTA PMZ
comp=Z,2.0nm,1.4s
HVS Khovu-Aksy 31.55 296⇑*e*P **P 17 29 41.2 +0.4**
HVS pmax pmax
comp=Z,61nm,1.4s
TNA Tin City 32.52 36 *e*P **P 17 29 48.6 -0.5**
comp=Z,10nm,1.0s
ZALV Zalesovo Beam 36.29 303 P P 17 30 20.9 -0.9
comp=Z,5.2nm,0.9s,baz=76,slow=6.4,SNR=5.2
ZALV PcP **PcP 17 32 45.5 -0.9**
comp=Z,1.7nm,0.6s,baz=64,slow=3.4,SNR=4.8
ZALV LR LR 17 44 34.4
comp=Z,120nm,18.2s,baz=70,slow=35
NVS Novosibirsk 37.00 305 *i*P P 17 30 31.4 +3.5
WMQ Urumqi 37.66 286 *e*P **P 17 30 35.5 +1.8**
WMQ PMZ
comp=Z,7.0nm,1.0s
WMQ PMZ
comp=Z,140nm,4.5s
WMQ LN
comp=Z,150nm,17.0s
WMQ LE
comp=Z,73nm,16.0s
WMQ LZ
comp=Z,200nm,15.0s
KMI Kunming 37.83 249 P **P 17 30 37.3 +1.8**
KMI PMZ
comp=Z,11nm,1.3s
KMI LN
comp=Z,450nm,12.6s
KMI LE
comp=Z,440nm,10.5s
KMI LZ
comp=Z,390nm,9.5s
PPLA Purkeypile 39.31 41 *e*P **P 17 30 48.1 +0.7**
comp=Z,46nm,1.3s
RSO Redoubt South 39.41 45 *e*P **P 17 30 48.5 +0.1**
comp=Z,26nm,0.9s
COLD Coldfoot 39.72 34 *e*P **P 17 30 50.0 -0.6**
comp=Z,7.5nm,0.8s
KTH Kantishna Hill 39.79 40 *e*P **P 17 30 50.9 -0.4**
comp=Z,63nm,1.2s
SLVN Son La 39.84 244 *e*P **P 17 30 52.6 +0.4**
comp=Z,33nm,1.4s
MKAR Makanchi Array 40.00 293 P P 17 30 51.7 -1.5
comp=Z,2.1nm,0.7s,baz=79,slow=7.2,SNR=14
MKAR PcP **PcP 17 32 58.0 -0.1**
comp=Z,1.2nm,1.1s,baz=64,slow=5.0,SNR=2.8
MKAR LR LR 17 47 46.3
comp=Z,145nm,21.0s,baz=68,slow=37
KDAK Kodiak Island 40.04 49 *i*P **P 17 30 52.7 -0.7**
KDAK Kodiak Island 40.04 49 *e*P **P 17 30 52.4 -1.0**
comp=Z,47nm,1.4s
MCK McKinley 40.64 40 *e*P **P 17 30 58.4 +0.1**
MCK pmax pmax
comp=Z,26nm,1.2s
MCK McKinley 40.64 40 *e*P **P 17 30 58.4 +0.1**
comp=Z,26nm,1.2s
RC01 Rabbit Creek A 40.75 44 *e*P **P 17 30 58.9 -0.4**
comp=Z,14nm,1.0s
COLA College 40.93 38*c i*P **P 17 31 00.9 +0.3**
COLA pmax pmax
comp=Z,110nm,1.4s
COLA MLR MLR
comp=Z,439nm,15.0s
COLA College 40.93 38 *e*P **P 17 31 00.7 0.0**
comp=Z,27nm,1.0s
SEW Seward 41.10 45 *e*P **P 17 31 01.4 -0.6**
comp=Z,40nm,1.1s
ILAR Eielson Array 41.36 38 P **P 17 31 03.6 -0.6**
comp=Z,6.9nm,0.6s,baz=284,slow=9.6,SNR=124
ILAR LR LR 17 51 22.0
comp=Z,106nm,19.7s,baz=248,slow=41
PAX Paxson 42.32 40 *e*P **P 17 31 11.5 -0.7**
PAX pmax pmax
comp=Z,5.0nm,0.7s
PAX Paxson 42.32 40 *e*P **P 17 31 11.5 -0.7**
comp=Z,4.5nm,0.7s
LSA Lhasa 42.59 265 *e*P **P 17 31 14.7 -0.6**
LSA pmax pmax
comp=Z,5.0nm,0.9s
LSA Lhasa 42.59 265 *e*P **P 17 31 14.7 -0.6**
comp=Z,4.9nm,0.9s
DIV Divide 42.62 43 *e*P **P 17 31 14.8 +0.1**
comp=Z,30nm,1.0s
BMRM Bremner River 43.21 43 *e*P **P 17 31 19.6 +0.2**
comp=Z,33nm,1.2s
CHTO Chiang Mai 44.81 246 *e*P **P 17 31 32.0 -0.7**
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 44.81 246 *e*P **P 17 31 31.9 -0.7**
comp=Z,3.9nm,0.9s
CMAR Chiang Mai Arr 45.08 246 P **P 17 31 34.7 -0.1**
comp=Z,1.6nm,0.8s,baz=41,slow=7.1,SNR=6.8
CMAR PcP **PcP 17 33 15.4 0.0**
comp=Z,1.1nm,0.9s,baz=28,slow=2.8,SNR=5.2
CMAR LR LR 17 51 38.5
comp=Z,73nm,18.4s,baz=72,slow=38
TKM2 Tokmak 2 45.96 291 *e*P **P 17 31 42.4 +0.6**
TKM2 pmax pmax
comp=Z,15nm,1.2s
TKM2 Tokmak 2 45.96 291 *e*P **P 17 31 42.4 +0.6**
comp=Z,15nm,1.2s
TAPN Taplejung 46.42 265 *e*P **P 17 31 46.9 +1.3**
comp=Z,12nm,0.9s
AAK Ala-Archa 46.81 291⇓*i*P **P 17 31 51.1 +2.7**
AAK pmax pmax
comp=Z,17nm,1.7s
AAK MLR MLR
comp=Z,434nm,18.0s
AAK Ala-Archa 46.81 291 *e*P **P 17 31 50.6 +2.2**
comp=Z,5.7nm,1.3s
ODAN Odare 46.95 265 *e*P **P 17 31 49.0 -0.7**
comp=Z,18nm,1.1s
EKS2 Erkin-Say 47.26 291 P **P 17 31 54.2 +2.4**
EKS2 pmax pmax
comp=Z,4.0nm,1.1s
EKS2 Erkin-Say 47.26 291 P **P 17 31 54.2 +2.4**
comp=Z,4.4nm,1.1s
JIRN Jiri 47.26 267 *e*P **P 17 31 53.6 +1.3**
comp=Z,19nm,0.8s
GUN Gumba 47.32 267 *e*P **P 17 31 53.8 +1.0**
comp=Z,19nm,1.0s
KSH Kashi 47.42 286 *e*P P 17 31 58.4 +5.3
RAMN Ramite 47.43 265 *e*P **P 17 31 53.0 -0.5**
comp=Z,22nm,0.8s
KKN Kakani 47.81 267 *e*P **P 17 31 56.6 +0.2**
comp=Z,24nm,1.2s
PKI Pulchoki 47.86 267 *e*P **P 17 31 56.4 -0.5**
PKIN Phulchoki 47.86 267 *e*P **P 17 31 56.3 -0.6**
DMN Daman 48.04 267 *e*P **P 17 31 57.2 -1.1**
comp=Z,11nm,0.9s
SVE Sverdlovsk 48.45 313 *e*P **P 17 32 01.6 +0.9**
SVE pmax pmax
comp=Z,42nm,1.3s
DANN Dangsing 48.50 269 *e*P **P 17 32 00.8 -1.1**
comp=Z,18nm,0.6s
KOLN Koldanda 48.98 269 *e*P **P 17 32 04.4 -1.0**
comp=Z,10nm,0.9s
KKAR Karatay Array 49.12 293 *e*P **P 17 32 05.4 -0.7**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 49.12 293 *e*P **P 17 32 05.4 -0.7**
comp=Z,3.4nm,0.8s
ARU Arti 49.66 314 P **P 17 32 10.1 +0.1**
comp=Z,112nm,1.1s,SNR=8.4
ARU Arti 49.66 314*d i*P **P 17 32 10.5 +0.5**
ARU 17 34 04.5
ARU S **S 17 39 19.3 +1.5**
ARU pmax pmax
comp=Z,29nm,1.2s
ARU Arti 49.66 314 *e*P **P 17 32 09.4 -0.5**
comp=Z,28nm,1.2s
DLBC Dease Lake 50.99 43 *e*P **P 17 32 19.2 -1.0**
PRGR Permogore 53.04 324 *e*P **P 17 32 34.0 -1.2**
RES Resolute Bay 53.18 16 P **P 17 32 35.4 -0.7**
baz=297,slow=8.8
KEV Kevo 54.61 337 *e*p **P 17 32 46.8 +0.2**
comp=Z,6.5nm,0.8s
ARCES ARCESS Array B 55.15 337 LR LR 18 01 14.2
comp=Z,75nm,18.6s,baz=38,slow=41
YKA Yellowknife Ar 55.38 33 P **P 17 32 51.4 -0.8**
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 55.38 33 P **P 17 32 51.4 -0.8**
comp=Z,2.9nm,0.6s,baz=304,slow=6.9,SNR=48
DAG Danmarks Havn 56.19 355 *i*P **P 17 32 57.6 -0.3**
DAG pmax pmax
comp=Z,6.0nm,0.8s
DAG Danmarks Havn 56.19 355 *i*P **P 17 32 57.6 -0.3**
comp=Z,8.2nm,0.8s
JOF Joensuu 57.72 330 *e*p **P 17 33 08.2 -0.7**
comp=Z,1.9nm,0.6s
SOEI Soe 58.38 201 P **P 17 33 14.4 +0.2**
comp=Z,16nm,1.0s
HYB Hyderabad 59.32 263 *i*P **P 17 33 23.5 +2.8**
GEYT Alibeck 59.82 295 P **P 17 33 24.1 +0.1**
comp=Z,1.1nm,0.4s,baz=57,slow=8.8,SNR=7.4
GEYT LR LR 18 00 56.2
comp=Z,110nm,18.6s,baz=30,slow=38
KAF Kangasniemi 59.98 331 *e*p **P 17 33 23.2 -1.4**
comp=Z,1.5nm,0.5s
FINES FINESS Array B 60.53 330 P **P 17 33 27.8 -0.6**
comp=Z,7.2nm,0.8s,baz=52,slow=6.7,SNR=21
FINES PcP **PcP 17 34 11.3 -1.5**
comp=Z,2.5nm,0.7s,baz=83,slow=5.7,SNR=2.1
FINES LR LR 18 01 05.7
comp=Z,93nm,21.1s,baz=56,slow=37
OBN Obninsk 60.73 321⇑*i*P P 17 33 33.4 +3.6
OBN *e* 17 35 44.0
OBN pmax pmax
comp=Z,42nm,1.5s
OBN MLR MLR
comp=Z,174nm,13.0s
VRHR Novokhopersk 60.96 315 *e*P **P 17 33 30.2 -1.3**
VRHR *e**PP **pP 17 33 33.5 -2.4**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,1.4s
SUMG Summit 61.03 0 *i*P **P 17 33 32.6 +0.5**
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 61.03 0 *i*P **P 17 33 32.6 +0.5**
comp=Z,12nm,1.0s
SUMG Summit 61.03 0 *e*P **P 17 33 31.8 -0.3**
comp=Z,18nm,0.8s
VSR Storozhevoye 62.07 316 *e*P **P 17 33 38.5 -0.5**
VSR *e**PP **pP 17 33 42.2 -1.2**
VSR pmax pmax
comp=Z,5.0nm,0.7s
VSR pmax pmax
comp=N,6.0nm,1.4s
VSR pmax pmax
comp=E,6.0nm,0.9s
VORD Divnogorie 62.18 316 *e*P **P 17 33 37.5 -2.2**
VORD *e**PP **pP 17 33 42.4 -1.7**
VORD pmax pmax
comp=Z,9.0nm,1.7s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,20nm,0.9s
VSU Vasula 62.41 328⇓*e*P P 17 33 44.5 +3.4
VSU pmax pmax
comp=Z,55nm,1.1s
J05D Fort Rock, OR 64.16 54 P **P 17 33 53.6 +0.4**
baz=64
M04C Macdoel 64.80 55 P **P 17 33 57.6 +0.2**
baz=65
NACGM Naroch 64.96 325 *e* **P 17 34 01.0 +3.0**
KIV Kislovodsk 65.05 308 *e*P **P 17 33 59.0 +0.1**
KIV pmax pmax
comp=Z,31nm,1.0s
KIV Kislovodsk 65.05 308 *e*P **P 17 33 58.4 -0.5**
comp=Z,34nm,1.0s
KBZ Khabaz 65.08 308 P **P 17 33 58.2 -0.7**
comp=Z,1.9nm,0.8s,baz=37,slow=10,SNR=2.5
KBZ LR LR 18 07 22.0
comp=Z,158nm,18.9s,baz=30,slow=41
ZEI Tsey 65.15 307 *e*P **P 17 33 58.2 -1.5**
ZEI pmax pmax
comp=Z,7.0nm,1.0s
FCC Fort Churchill 65.25 28 *e*P **P 17 33 58.6 -1.2**
FCC Fort Churchill 65.25 28 *e*P **P 17 33 58.6 -1.2**
comp=Z,0.4nm,1.1s
FFC Flin Flon 65.46 35 *e*P **P 17 34 00.4 -0.8**
FFC pmax pmax
comp=Z,9.0nm,1.2s
FFC Flin Flon 65.46 35 *e*P **P 17 34 00.4 -0.8**
comp=Z,9.3nm,1.2s
NB2 NORSAR Subarra 65.47 336 P **P 17 34 00.4 -0.9**
comp=Z,10nm,0.8s,baz=35,slow=6.5
NOA NORSAR Array B 65.47 336 P **P 17 34 00.6 -0.7**
comp=Z,8.1nm,0.9s,baz=35,slow=6.4,SNR=14
NOA LR LR 18 07 22.2
comp=Z,87nm,18.3s,baz=20,slow=40
HFS Hagfors 65.49 334 LR LR 18 05 10.5
comp=Z,122nm,18.4s,baz=40,slow=38
FITZ Fitzroy Crossi 66.15 197 *e*P **P 17 34 03.7 -2.3**
comp=Z,6.5nm,1.1s
GNI Garni 66.43 304 P **P 17 34 10.2 +2.2**
GNI pmax pmax
comp=Z,5.0nm,1.0s
GNI Garni 66.43 304 LR LR 18 06 27.6
comp=Z,83nm,18.2s,baz=67,slow=39
GNI Garni 66.43 304 *e*P **P 17 34 09.3 +1.4**
comp=Z,17nm,1.2s
WRA Warramunga Arr 66.68 188 P **P 17 34 07.9 -1.5**
comp=Z,2.1nm,1.1s,baz=6.7,slow=6.6,SNR=7.2
A19A Klindworth Far 66.73 43 P **P 17 34 09.3 -0.3**
baz=66
EGMT Eagleton 66.89 44 P **P 17 34 10.2 -0.4**
baz=67
EGMT Eagleton 66.89 44 *e*P **P 17 34 10.5 -0.2**
comp=Z,13nm,0.9s
B19A Brinkman Farms 66.97 43 P **P 17 34 10.9 -0.2**
baz=67
AKASG Malin Array Be 66.99 320 P **P 17 34 09.6 -1.5**
comp=Z,12nm,0.8s,baz=46,slow=7.9,SNR=5.1
KIEV Kiev 67.00 320⇓*e*P **P 17 34 09.9 -1.3**
KIEV Kiev 67.00 320 *e*P **P 17 34 09.4 -1.7**
comp=Z,15nm,0.9s
A20A Cobblestone Ra 67.14 42 P **P 17 34 12.4 +0.1**
baz=67
B20A Solberg Farm, 67.41 43 P **P 17 34 13.9 0.0**
baz=67
C19A Slack Wire Ran 67.43 44 P **P 17 34 14.1 0.0**
baz=67
A21A Bergtoll Ranch 67.52 42 P **P 17 34 14.3 -0.3**
baz=67
C20A Veseth Ranch, 67.94 43 P **P 17 34 17.1 -0.1**
baz=68
A22A Carney Farms, 67.98 41 P **P 17 34 16.6 -0.9**
baz=68
B23A Brockton 68.78 41 P **P 17 34 20.8 -1.7**
baz=68
NVAR Mina Array Bea 69.06 56 P **P 17 34 24.9 +0.3**
comp=Z,3.3nm,0.8s,baz=300,slow=6.0,SNR=20
LVV L'vov 69.88 322 *e*P P 17 34 32.6 +3.4
AS31 Alice Springs 70.41 188 *e*P **P 17 34 32.0 -0.7**
ASAR Alice Springs 70.41 188 P **P 17 34 32.3 -0.3**
comp=Z,4.7nm,1.0s,baz=4.0,slow=5.4,SNR=27
F23A Volborg 70.61 43 P **P 17 34 32.4 -1.5**
baz=70
J19A Crowheart 70.63 47 P **P 17 34 32.9 -1.3**
baz=70
R11A Troy Canyon, C 70.65 54 P **P 17 34 33.4 -1.0**
baz=70
BW06 Boulder Array 70.73 48 *e*P **P 17 34 34.3 -0.6**
comp=Z,3.1nm,0.9s
PDAR Pinedale Array 70.74 48 P **P 17 34 34.4 -0.6**
comp=Z,2.0nm,0.7s,baz=323,slow=1.0,SNR=16
DUG Dugway, Tooele 70.87 51 *e*P **P 17 34 35.8 +0.1**
DUG pmax pmax
comp=Z,4.0nm,1.2s
DUG Dugway, Tooele 70.87 51 P **P 17 34 34.6 -1.1**
baz=71
DUG Dugway, Tooele 70.87 51 *e*P **P 17 34 35.8 +0.1**
comp=Z,4.5nm,1.2s
BURAR Bucovina Array 71.04 320⇓P P 17 34 40.0 +3.5
BURAR Bucovina Array 71.04 320⇓*i*P P 17 34 40.0 +3.5
I21A Big Trails, Te 71.11 46 P **P 17 34 36.7 -0.4**
baz=71
TPNV Topopah Spring 71.26 56 P **P 17 34 37.9 -0.2**
baz=71
ULM Lac du Bonnet 71.29 35 P **P 17 34 36.6 -1.2**
comp=Z,2.9nm,0.5s,baz=324,slow=4.9,SNR=8.7
ULM LR LR 18 09 38.0
comp=Z,38nm,19.1s,baz=342,slow=39
OJC Ojcow 71.29 325 *e*P P 17 34 43.2 +5.4
KOLS Kolonicke sedl 71.29 323 *e*P **P 17 34 37.9 0.0**
KOLS *e* 17 34 42.3
STHS Stebnicka Huta 71.34 324 *e*P **P 17 34 39.8 +1.6**
STHS *e* 17 34 43.1
CFR Carcaliu 71.55 317⇑P P 17 34 43.4 +3.9
CFR Carcaliu 71.55 317⇑*i*P P 17 34 43.3 +3.8
CRVS Cervenica-Dubn 71.65 323 *e*P **P 17 34 42.0 +1.9**
CRVS *e* 17 34 44.4
BSEG Bad Segeberg 71.65 332 *e*P P 17 34 44.3 +4.4
comp=Z,21nm,1.2s
VRI Vrincioaia 71.69 318⇑P P 17 34 46.0 +5.7
VRI Vrincioaia 71.69 318⇑*i*P P 17 34 46.0 +5.7
NIE Niedzica 71.72 324 *e*P P 17 34 45.4 +4.9
PLOR Plostina 71.74 318⇑P P 17 34 45.5 +4.8
PLOR Plostina 71.74 318⇑*i*P P 17 34 45.5 +4.8
H24A Dirks Ranch, A 71.74 43 P **P 17 34 39.6 -1.2**
baz=71
TRPA Tarpa 71.80 322⇑*i*P P 17 34 45.8 +4.9
E27A Carson 71.85 41 P **P 17 34 40.1 -1.2**
baz=72
DZM Mont Dzumac 71.95 156 P **P 17 34 42.9 +0.8**
comp=Z,14nm,1.0s,baz=77,slow=13,SNR=4.2
SHPR Sheep Range 72.19 56 *e*P **P 17 34 43.7 0.0**
comp=Z,3.5nm,1.0s
OKC Ostrava-Krasne 72.24 326 *e*P **P 17 34 44.2 +0.7**
OKC *e* 17 34 47.8
OKC Ostrava-Krasne 72.24 326 *e*P **P 17 34 44.2 +0.7**
OKC *ex* x 17 34 47.8
MLR Muntele Rosu 72.33 318⇑P P 17 34 49.8 +5.5
MLR Muntele Rosu 72.33 318⇑*i*P P 17 34 49.8 +5.5
ISR Istrita 72.34 318⇑P P 17 34 49.3 +5.0
ISR Istrita 72.34 318⇑*i*P P 17 34 49.3 +5.0
UPC Upice 72.51 327 *e*P **P 17 34 48.2 +3.0**
UPC Upice 72.51 327 *e*P **P 17 34 48.2 +3.0**
MSAB Monastry St. A 72.52 316⇓*i*P P 17 34 50.1 +4.8
MORC Moravsky Berou 72.52 326 *e*P **P 17 34 44.5 -0.8**
MORC pmax pmax
comp=Z,16nm,1.1s
MORC Moravsky Berou 72.52 326⇑*i*P P 17 34 50.4 +5.1
MORC Moravsky Berou 72.52 326 *e*P **P 17 34 44.5 -0.8**
comp=Z,16nm,1.1s
DPC Dobruska-Polom 72.53 327 *e*P **P 17 34 45.0 -0.3**
DPC *e* 17 34 50.2
DPC Dobruska-Polom 72.53 327 *e*P **P 17 34 45.0 -0.3**
DPC *ex* x 17 34 50.2
I25A Rochford 72.68 44 P **P 17 34 45.2 -1.3**
baz=72
VOIR 72.78 319⇑P P 17 34 51.6 +4.6
VOIR 72.78 319⇑*i*P P 17 34 51.6 +4.6
BRTR Keskin Array B 72.83 310 P **P 17 34 47.0 -0.4**
comp=Z,2.6nm,0.9s,baz=54,slow=4.8,SNR=3.2
BRTR LR LR 18 12 22.4
comp=Z,67nm,18.6s,baz=61,slow=40
NRDL Niedersach Rie 72.94 332 *e*P P 17 34 51.9 +4.4
comp=Z,10.0nm,0.9s
CLL Collm 72.95 329 *e*P **P 17 34 47.0 -0.7**
CLL *i* 17 34 51.5
CLL pmax pmax
comp=Z,16nm,1.7s
CLL Collm 72.95 329 *e*P P 17 34 51.7 +4.0
comp=Z,16nm,0.9s

CLL	Collm	72.95	329	eP	P	17 34 47.0	-0.7
	comp=Z,16nm,1.7s						
CLL				i		17 34 51.5	
	comp=Z,16nm,0.9s						
CLL				e(SS)		17 48 36.0	
CLL				LmH		18 06 00.0	
	comp=N,100nm,18.0s						
CLL				LmH		18 06 00.0	
	comp=E,200nm,20.4s						
BRG	Berggiesshubel	72.97	329	eP	P	17 34 51.0	+3.1
	comp=E,7.9nm,1.3s						
BRG	Berggiesshubel	72.97	329	eP	P	17 34 51.0	+3.1
BRG				pmax	pmax		
	comp=Z,7.0nm,1.3s						
PVCC	Panska Ves	73.03	328	eP	P	17 34 49.2	+1.0
PVCC				e		17 34 53.0	
PVCC	Panska Ves	73.03	328	eP	P	17 34 49.2	+1.0
PVCC				ex	x	17 34 53.0	
VYHS	Vyhne	73.04	324	eP	P	17 34 49.5	+1.1
VYHS				e		17 34 53.1	
GMRC	Granite Mounta	73.13	57	P	P	17 34 48.9	-0.4
	baz=73						
VRAC	Vranov	73.27	326	⇑P	P	17 34 54.7	+5.0
VRAC	Vranov	73.27	326	⇑iP	P	17 34 54.7	+5.0
CLZ	Clausthal	73.40	331	eP	P	17 34 55.0	+4.5
	comp=Z,14nm,0.9s						
H28A	Mission Ridge	73.44	42	P	P	17 34 50.1	-0.7
	baz=73						
PRU	Pruhonice	73.48	328	eP	P	17 34 50.4	-0.5
PRU				e		17 34 55.5	
PRU	Pruhonice	73.48	328	eP	P	17 34 50.4	-0.5
PRU				ex	x	17 34 55.5	
BELC	Belle Mtn. Jos	73.48	58	P	P	17 34 50.7	-0.6
	baz=73						
TREC	Trest	73.70	327	eP	P	17 34 51.9	-0.3
TREC				e		17 34 57.1	
TREC				MLR	MLR		
	comp=Z,300nm,16.6s						
TREC	Trest	73.70	327	eP	P	17 34 51.9	-0.3
TREC				ex	x	17 34 57.1	
TREC				AMS	AMS	18 10 40.0	
	comp=Z,300nm,16.6s						
GZR	Gura Zlata	73.83	320	⇓P	P	17 34 56.8	+3.7
GZR	Gura Zlata	73.83	320	⇓iP	P	17 34 56.8	+3.7
IBBN	Ibbenburen	73.85	333	eP	P	17 34 57.3	+4.3
	comp=Z,29nm,1.2s						
U15A	North Rim	73.86	54	P	P	17 34 54.1	+0.4
	baz=74						
IRM	Iron Mountain	73.86	57	P	P	17 34 53.4	-0.1
	baz=74						
TANN	Tannenbergstha	73.88	329	eP	P	17 34 57.5	+4.2
	comp=Z,15nm,1.6s						
MOX	Moxa	73.98	330	eP	P	17 34 58.1	+4.2
	comp=Z,12nm,1.1s						
MOX				eL	L	18 09 45.8	
	comp=Z,95nm,21.5s						
J28A	Allard Ranch,	74.30	42	P	P	17 34 54.5	-1.4
	baz=74						
ROTZ	Rotzenmuhle	74.51	329	eP	P	17 35 01.8	+4.8
	comp=Z,7.0nm,1.0s						
KHC	Kasperske Hory	74.55	328	eP	P	17 34 56.4	-0.8
KHC				pmax	pmax		
	comp=Z,13nm,1.0s						
KHC	Kasperske Hory	74.55	328	eP	P	17 34 56.8	-0.4
KHC				ex	x	17 35 01.9	
KHC				AMS	AMS	18 10 30.0	
	comp=Z,400nm,23.2s						
KHC	Kasperske Hory	74.55	328	eP	P	17 34 56.4	-0.8
	comp=Z,13nm,1.0s						
CONA	Conrad Observa	74.67	326	⇑iP	P	17 34 54.6	-3.5
	comp=Z,11nm,1.1s						
GEC2	GERESS Array S	74.74	327	eP	P	17 35 02.5	+4.1
	comp=Z,5.0nm,1.0s						
GERES	GERESS Array B	74.74	327	P	P	17 34 57.9	-0.5
	comp=Z,2.8nm,0.8s,baz=28,slow=6.0,SNR=16						
GERES				LR	LR	18 11 11.4	
	comp=Z,207nm,18.2s,baz=26,slow=38						
BUG	Bochum--Univer	74.75	333	eP	P	17 35 02.5	+4.2
	comp=Z,20nm,1.0s						
WET	Wettzell	74.79	328	eP	P	17 35 03.5	+4.9
	comp=Z,13nm,1.0s						
GRF	Grafenberg Arr	74.92	329	eP	P	17 35 04.3	+5.0
	comp=Z,16nm,0.8s						
GRF				eL	L	18 11 37.3	
	comp=Z,138nm,18.6s						
GRFO	Grafenberg	74.92	329	eP	P	17 35 00.1	+0.8
GRFO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GRFO	Grafenberg	74.92	329	eP	P	17 35 00.1	+0.8
	comp=Z,8.8nm,0.8s						
MVCO	Mesa Verde	75.36	51	eP	P	17 35 02.1	-0.3
	comp=Z,6.4nm,1.1s						
ARSA	Arzberg	75.36	325	⇑iP	P	17 34 59.9	-2.0
	comp=Z,8.3nm,1.4s						
TNS	Taunus Mts	75.42	331	eP	P	17 35 06.7	+4.5
	comp=Z,26nm,1.8s						
S22A	4UR Ranch, Cre	75.84	50	P	P	17 35 05.1	-0.1
	baz=76						
SCHQ	Schefferville	75.96	17	P	P	17 35 03.6	-1.6
	comp=Z,1.9nm,0.5s,baz=339,slow=5.6,SNR=8.6						
SOKA	Soboth	76.02	325	⇑iP	P	17 35 05.4	-0.4
	comp=Z,14nm,1.3s						
ECSD	EROS Data Cent	76.15	40	P	P	17 35 05.0	-1.4
	baz=76						
FUR	Furstenfeldbru	76.19	328	eP	P	17 35 11.5	+4.8
	comp=Z,41nm,1.3s						
KBA	Koelnbreinsper	76.34	327	⇑iP	P	17 35 08.0	+0.2
	comp=Z,30nm,1.5s						
MMB	Musomiste	76.37	317	⇓P	P	17 35 12.8	+5.0
MMB	Musomiste	76.37	317	⇓iP	P	17 35 12.8	+5.0
STU	Stuttgart	76.41	330	eP	P	17 35 12.5	+4.7
	comp=Z,25nm,1.3s						
GIVF	Givet	76.69	333	eP	P	17 35 07.8	-1.6
	comp=Z,18nm,0.8s						
GIVF	Givet	76.69	333	eP	P	17 35 07.8	-1.6
GIVF				pmax	pmax		
	comp=Z,18nm,0.8s						
GIVF	Givet	76.69	333	eP	P	17 35 07.8	-1.6
	comp=Z,18nm,0.8s						
WTTA	Wattenberg	76.82	328	⇑iP	P	17 35 10.2	-0.3
	comp=Z,23nm,1.0s						
BAIF	Baives	76.91	334	eP	P	17 35 09.2	-1.4
BAIF	Baives	76.91	334	eP	P	17 35 09.2	-1.4
BAIF	Baives	76.91	334	eP	P	17 35 09.2	-1.4
MOTA	Moosalm	76.95	328	⇓iP	P	17 35 10.5	-0.6
	comp=Z,25nm,1.0s						
BFO	Black Forest	77.08	330	eP	P	17 35 11.6	-0.1
BFO				pmax	pmax		
	comp=Z,12nm,1.0s						
BFO	Black Forest	77.08	330	eP	P	17 35 16.1	+4.4
	comp=Z,16nm,1.1s						
BFO	Black Forest	77.08	330	eP	P	17 35 11.6	-0.1
	comp=Z,12nm,1.0s						
FETA	Feichten	77.36	328	⇑iP	P	17 35 12.8	-0.6
	comp=Z,14nm,1.0s						
CDF	Champ du Feu	77.37	331	eP	P	17 35 12.1	-1.3
	comp=Z,54nm,1.3s						
CDF	Champ du Feu	77.37	331	eP	P	17 35 12.1	-1.3
CDF				pmax	pmax		
	comp=Z,54nm,1.3s						
CDF	Champ du Feu	77.37	331	eP	P	17 35 12.1	-1.3
	comp=Z,54nm,1.3s						
RAYN	Ar Rayn	77.46	291	eP	P	17 35 11.4	-2.8
	comp=Z,35nm,1.5s						
ECH	Echery	77.58	331	eP	P	17 35 13.7	-0.8
ECH				pmax	pmax		
	comp=Z,15nm,1.0s						
ECH	Echery	77.58	331	eP	P	17 35 13.7	-0.8
	comp=Z,15nm,1.0s						
PAGF	Fort de Pagny	77.75	332	eP	P	17 35 14.4	-1.0
	comp=Z,12nm,1.1s						
PAGF	Fort de Pagny	77.75	332	eP	P	17 35 14.4	-1.0
	comp=Z,12nm,1.1s						
MEZF	Maizieres J'vi	78.02	332	eP	P	17 35 15.8	-1.1
	comp=Z,80nm,1.4s						
MEZF	Maizieres J'vi	78.02	332	eP	P	17 35 15.8	-1.1
	comp=Z,80nm,1.4s						
HAU	Haudompre	78.03	331	eP	P	17 35 15.4	-1.6
	comp=Z,20nm,1.0s						
HAU				eR			
	comp=Z,105nm,21.0s						
HAU	Haudompre	78.03	331	eP	P	17 35 15.4	-1.6
HAU				pmax	pmax		
	comp=Z,20nm,1.0s						
HAU	Haudompre	78.03	331	eP	P	17 35 15.4	-1.6
	comp=Z,20nm,1.0s						
ANMO	Albuquerque	78.14	51	⇑eP	P	17 35 18.0	-0.1
ANMO				pmax	pmax		
	comp=Z,11nm,1.7s						
ANMO	Albuquerque	78.14	51	LR	LR	18 09 26.4	
	comp=Z,41nm,20.8s,baz=272,slow=35						
SFTF	Sexfontaines	78.28	332	eP	P	17 35 16.9	-1.5
	comp=Z,47nm,1.1s						
SFTF	Sexfontaines	78.28	332	eP	P	17 35 16.9	-1.5
	comp=Z,47nm,1.1s						
TUE	Stuetta	78.32	329	eP	P	17 35 18.6	-0.3
	comp=Z,5.0nm,0.8s						
CABF	La Chapelle	79.33	331	eP	P	17 35 22.9	-1.4
	comp=Z,55nm,1.5s						
CABF	La Chapelle	79.33	331	eP	P	17 35 22.9	-1.4
CABF				pmax	pmax		
	comp=Z,55nm,1.5s						
CABF	La Chapelle	79.33	331	eP	P	17 35 22.9	-1.4
	comp=Z,55nm,1.5s						
LOR	Lormes	79.49	332	eP	P	17 35 23.4	-1.6
	comp=Z,45nm,1.1s						
LOR				eR			
	comp=Z,126nm,18.0s						
LOR	Lormes	79.49	332	eP	P	17 35 23.4	-1.6
LOR				pmax	pmax		
	comp=Z,45nm,1.1s						
LOR	Lormes	79.49	332	eP	P	17 35 23.4	-1.6
	comp=Z,45nm,1.1s						
SSF	Saint Saulge	79.78	333	eP	P	17 35 25.0	-1.6
	comp=Z,21nm,1.1s						
SSF	Saint Saulge	79.78	333	eP	P	17 35 25.0	-1.6
SSF				pmax	pmax		
	comp=Z,21nm,1.1s						
SSF	Saint Saulge	79.78	333	eP	P	17 35 25.0	-1.6
	comp=Z,21nm,1.1s						
GRR	Gorron	79.90	336	eP	P	17 35 25.9	-1.3
GRR	Gorron	79.90	336	eP	P	17 35 25.9	-1.3
GRR	Gorron	79.90	336	eP	P	17 35 25.9	-1.3
SMF	Signal de Mont	80.04	332	eP	P	17 35 26.6	-1.4
	comp=Z,63nm,1.1s						
SMF	Signal de Mont	80.04	332	eP	P	17 35 26.6	-1.4
SMF				pmax	pmax		
	comp=Z,63nm,1.1s						
SMF	Signal de Mont	80.04	332	eP	P	17 35 26.6	-1.4
	comp=Z,63nm,1.1s						
LPL	La Plagne	80.07	330	eP	P	17 35 27.5	-0.9
	comp=Z,29nm,1.0s						
LPL	La Plagne	80.07	330	eP	P	17 35 27.5	-0.9
LPL				pmax	pmax		
	comp=Z,29nm,1.0s						
LPL	La Plagne	80.07	330	eP	P	17 35 27.5	-0.9
	comp=Z,29nm,1.0s						
AVF	Avril sur Loir	80.07	333	eP	P	17 35 26.9	-1.2
	comp=Z,44nm,1.1s						
AVF	Avril sur Loir	80.07	333	eP	P	17 35 26.9	-1.2
AVF				pmax	pmax		
	comp=Z,44nm,1.1s						
AVF	Avril sur Loir	80.07	333	eP	P	17 35 26.9	-1.2
	comp=Z,44nm,1.1s						
LPG	La Plagne	80.08	330	eP	P	17 35 27.6	-1.0
	comp=Z,31nm,1.0s						
LPG	La Plagne	80.08	330	eP	P	17 35 27.6	-1.0
LPG				pmax	pmax		
	comp=Z,31nm,1.0s						
LPG	La Plagne	80.08	330	eP	P	17 35 27.6	-1.0
	comp=Z,31nm,1.0s						
BNI	Bardonecchia	80.49	330	eP	P	17 35 30.2	-0.4
BNI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BNI	Bardonecchia	80.49	330	eP	P	17 35 30.2	-0.4
	comp=Z,9.4nm,0.9s						
TCF	Toulx Ste Croi	80.88	333	eP	P	17 35 31.4	-1.1
TCF	Toulx Ste Croi	80.88	333	eP	P	17 35 31.4	-1.1
TCF	Toulx Ste Croi	80.88	333	eP	P	17 35 31.4	-1.1
ORIF	Oris-en-Rattie	80.88	330	eP	P	17 35 31.6	-1.1
	comp=Z,30nm,1.1s						
ORIF				eR			
	comp=Z,125nm,21.2s						
ORIF	Oris-en-Rattie	80.88	330	eP	P	17 35 31.6	-1.1
ORIF				pmax	pmax		
	comp=Z,30nm,1.1s						
ORIF	Oris-en-Rattie	80.88	330	eP	P	17 35 31.6	-1.1
	comp=Z,30nm,1.1s						
SSB	Saint Sauveur	81.02	331	P	P	17 35 29.2	-4.1
SSB				pmax	pmax		
	comp=Z,27nm,1.6s						
SSB	Saint Sauveur	81.02	331	P	P	17 35 29.2	-4.1
	comp=Z,27nm,1.6s						
MFF	Saint Martin d	81.31	335	eP	P	17 35 34.0	-0.8
	comp=Z,30nm,0.9s						
MFF	Saint Martin d	81.31	335	eP	P	17 35 34.0	-0.8
MFF				pmax	pmax		
	comp=Z,30nm,0.9s						
MFF	Saint Martin d	81.31	335	eP	P	17 35 34.0	-0.8
	comp=Z,30nm,0.9s						
VIVF	Saint-Julien-l	81.35	331	eP	P	17 35 34.0	-1.1
	comp=Z,34nm,1.2s						
VIVF	Saint-Julien-l	81.35	331	eP	P	17 35 34.0	-1.1
VIVF				pmax	pmax		
	comp=Z,34nm,1.2s						
VIVF	Saint-Julien-l	81.35	331	eP	P	17 35 34.0	-1.1
	comp=Z,34nm,1.2s						
PGF	Pioggiola	81.82	327	eP	P	17 35 36.5	-1.2
	comp=Z,44nm,1.2s						
PGF	Pioggiola	81.82	327	eP	P	17 35 36.5	-1.2
PGF				pmax	pmax		
	comp=Z,44nm,1.2s						
PGF	Pioggiola	81.82	327	eP	P	17 35 36.5	-1.2
	comp=Z,44nm,1.2s						
RJF	Les Rejaudoux	81.97	333	eP	P	17 35 37.3	-1.0
	comp=Z,24nm,1.1s						
RJF				eR			
	comp=Z,141nm,19.0s						
RJF	Les Rejaudoux	81.97	333	eP	P	17 35 37.3	-1.0
RJF				pmax	pmax		
	comp=Z,25nm,1.1s						
RJF	Les Rejaudoux	81.97	333	eP	P	17 35 37.3	-1.0
	comp=Z,24nm,1.1s						
LMR	La Mourre	82.05	329	eP	P	17 35 37.1	-1.6
	comp=Z,55nm,1.2s						
LMR	La Mourre	82.05	329	eP	P	17 35 37.1	-1.6
LMR				pmax	pmax		
	comp=Z,55nm,1.3s						
LMR	La Mourre	82.05	329	eP	P	17 35 37.1	-1.6
	comp=Z,55nm,1.3s						
CAF	Calviac	82.14	332	eP	P	17 35 38.7	-0.6
	comp=Z,54nm,1.3s						
CAF	Calviac	82.14	332	eP	P	17 35 38.7	-0.6
CAF				pmax	pmax		
	comp=Z,54nm,1.3s						
CAF	Calviac	82.14	332	eP	P	17 35 38.7	-0.6
	comp=Z,54nm,1.3s						
LASF	Ste Croix	82.31	331	eP	P	17 35 39.3	-0.8
	comp=Z,37nm,1.5s						
LASF	Ste Croix	82.31	331	eP	P	17 35 39.3	-0.8
	comp=Z,37nm,1.5s						
LFF	La Frestale	82.54	333	eP	P	17 35 40.7	-0.6
	comp=Z,79nm,1.2s						
LFF	La Frestale	82.54	333	eP	P	17 35 40.7	-0.6
LFF				pmax	pmax		
	comp=Z,79nm,1.2s						
LFF	La Frestale	82.54	333	eP	P	17 35 40.7	-0.6
	comp=Z,79nm,1.2s						
MTLF	Montolieu	83.51	332	eP	P	17 35 45.6	-0.7
MTLF	Montolieu	83.51	332	eP	P	17 35 45.6	-0.7
MTLF	Montolieu	83.51	332	eP	P	17 35 45.6	-0.7
TXAR	Lajitas Array	83.95	53	P	P	17 35 48.7	-0.3
	comp=Z,2.4nm,0.7s,baz=291,slow=3.1,SNR=25						
TXAR				LR	LR	18 14 18.8	
	comp=Z,58nm,18.8s,baz=0.0,slow=36						
529A	Stony Forest Ra	84.13	52	P	P	17 35 49.0	-0.9
	baz=84						
EPF	Esparros	84.39	333	eP	P	17 35 49.8	-1.1
EPF	Esparros	84.39	333	eP	P	17 35 49.8	-1.1
EPF	Esparros	84.39	333	eP	P	17 35 49.8	-1.1
332A	Millersview	84.45	49	P	P	17 35 50.4	-1.1
	baz=84						
530A	J-C Ranch, Com	84.58	51	P	P	17 35 51.4	-0.7
	baz=84						
234A	Clairette	84.79	48	P	P	17 35 52.1	-1.0
	baz=84						
532A	Rocksprings	85.36	50	P	P	17 35 55.1	-1.0
	baz=85						
631A	Perdido Creek	85.57	51	P	P	17 35 56.0	-1.0
	baz=85						
KEST	Kesra	87.55	323	P	P	17 36 05.5	-1.2
	comp=Z,1.1nm,1.0s,baz=345,slow=12,SNR=2.1						
PPT	Papeete	88.68	117	LR	LR	18 09 43.1	
	comp=Z,60nm,21.7s,baz=192,slow=31						
ESDC	Sonseca Array	88.77	334	P	P	17 36 11.6	-0.8
	comp=Z,2.1nm,0.7s,baz=15,slow=4.5,SNR=8.4						
ESDC				LR	LR	18 21 32.0	
	comp=Z,65nm,18.8s,baz=295,slow=39						
NVL	N'lazarevskaya	146.24	207	ePKP2	PKPab	17 43 01.1	+2.6
NVL				pmax	pmax		
	comp=Z,12nm,0.9s						
SNAA	Sanae	150.00	201	P	PKPab	17 43 13.4	-0.3
VNA2	Neumayer--Watz	151.61	201	P	PKPbc	17 43 10.3	-1.2
	baz=299,slow=2.3						

IDC 22 17:25:20.6±6.0, 5°.31S×152°.34E, h74km±49km, mb3.4/7, mb1 3.6/8, mb1mx3.4/28, mbtmp3.7/8, ML3.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/14, Error ellipse: s-maj=52.5km s-min=28.6km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.55	231	P	Pn	17 26 56.2	+1.7
	2.3nm,0.3s,baz=47,slow=16,SNR=7.6						
PMG				S	Sn	17 28 06.8	-1.0
	4.1nm,0.3s,baz=356,slow=16,SNR=4.4						
JAY	Jayapura	11.93	283	LR	LR	17 32 51.4	
	comp=Z,56nm,18.0s,baz=132,slow=38						
WRA	Warramunga Arr	22.77	229	P	P	17 30 16.9	-0.3
	1.9nm,0.5s,baz=53,slow=10,SNR=33						
ASAR	Alice Springs	25.47	222	P	P	17 30 42.4	+0.4
	1.5nm,0.5s,baz=58,slow=9.0,SNR=30						
CMAR	Chiang Mai Arr	57.67	296	P	P	17 35 04.6	+0.6
	0.6nm,0.9s,baz=126,slow=5.8,SNR=4.7						
SONM	Songino Array	66.51	328	P	P	17 36 03.1	+0.4
	0.4nm,0.6s,baz=138,slow=6.3,SNR=3.6						
MKAR	Makanchi Array	80.40	319	P	P	17 37 24.2	0.0
	0.2nm,0.6s,baz=100,slow=5.8,SNR=3.9						
ZALV	Zalesovo Beam	81.32	326	P	P	17 37 27.9	-1.0
	0.4nm,0.4s,baz=123,slow=7.1,SNR=2.9						
ILAR	Eielson Array	82.80	22	P	P	17 37 35.9	-0.5
	0.6nm,0.7s,baz=251,slow=5.6,SNR=6.2						
TORD	Torodi Ar. Bea	150.02	287	PKPbc	PKPbc	17 45 03.9	+0.1
	0.3nm,0.3s,baz=61,slow=3.5,SNR=3.8						

*SZGRF **22** 17:54:05.0, 43°.95N×18°.92E, h10km, mb3.4, Northwestern Balkan Peninsula*
*CSEM **22** 17:54:10.1±0.1, 44°.18N×17°.89E, h2km, ML2.9, Error ellipse: s-maj=5.2km s-min=2.9km az=36.0*
*BEO **22** 17:54:10.9±0.3, 44°.22N×17°.91E, h9km±2km, ML2.9/2*
*PDG **22** 17:54:10.8±0.5, 44°.25N×18°.11E, h7km±1km, ML3.0/11, Error ellipse: s-maj=1.0km s-min=1.3km az=0.0*
*IDC **22** 17:54:10.8±1.2, 44°.24N×17°.93E, h0km, mb3.4/3, mb1 3.4/9, mb1mx3.3/29, mbtmp3.3/9, ML3.0/5, Error ellipse: s-maj=21.1km s-min=13.2km az=37.0*
*LDG **22** 17:54:11.8±0.1, 44°.28N×17°.96E, h10km, Ml3.2/9, Error ellipse: s-maj=2.6km s-min=1.2km az=30.0*
*PRU **22** 17:54:11.5, 44°.13N×17°.93E, h5km*
*VIE **22** 17:54:12.3±0.8, 44°.24N×17°.98E, h10km, mb2.9/8, ML2.8/9, Error ellipse: s-maj=10.5km s-min=5.9km az=72.0 57 km NW of Sarajevo*

ISC 22 17:54:11.3±1.0, 44°.14N±0°.02×17°.82E±0°.02, h14km±8km, n178, σ1$62/249, mb3.4/3, 37C-32D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	Banja Luka	0.77	324	⇑iPg	Pg	17 54 25.7	-0.5
BLY	Banja Luka	0.77	324	⇑iPg	Pg	17 54 25.7	-0.5
BBLS	Lazići	1.18	103	⇓iPg	Pn	17 54 31.3	-2.0
BBLS				eSg	Sn	17 54 49.3	+0.2
BBLS	Lazići	1.18	103	⇓iPg	Pn	17 54 31.3	-2.0
UPM	Unac-Piva	1.22	139	⇑iPg	Pn	17 54 32.9	-1.2
UPM				eSg	Sg	17 54 51.9	+1.2
UPM	Unac-Piva	1.22	139	⇑iPg	Pn	17 54 32.9	-1.2
UPM				eSg	Sg	17 54 51.9	+1.2
STON	Ston	1.27	184	ePg	Pb	17 54 35.1	+0.3
STON				Sg	Sn	17 54 51.5	+0.2
STON	Ston	1.27	184	ePg	Pb	17 54 35.1	+0.3
TEKS	Tekeris	1.29	71	⇓iPg	Pn	17 54 34.1	-0.8
TEKS	Tekeris	1.29	71	⇓iPg	Pn	17 54 34.1	-0.8
PLE	Pljevlja	1.39	125	⇑iPg	Pn	17 54 34.9	-1.5
PLE				eSg	Sg	17 54 56.2	0.0
PLE	Pljevlja	1.39	125	⇑iPg	Pn	17 54 34.9	-1.5
PLE				eSg	Sg	17 54 56.2	0.0
TREB	Trebinje	1.47	165	i Pg	Pn	17 54 37.8	+0.5
TREB				eSg	Sg	17 55 00.3	+1.7
UDBI	Udbina	1.53	286	ePn	Pb	17 54 39.2	-0.2
UDBI	Udbina	1.53	286	ePn	Pb	17 54 39.2	-0.2
DIVS	Divibare	1.56	91	⇓iPg	Pn	17 54 37.5	-1.2
DIVS				eSg	Sn	17 54 59.0	+0.2
DIVS	Divibare	1.56	91	⇓iPg	Pn	17 54 37.5	-1.2
DIVS				eSg	Sn	17 54 59.0	+0.2
NKY	Niksic	1.57	147	⇓iPg	Pn	17 54 39.4	+0.6
NKY				eSg	Sg	17 55 03.3	+1.3
NKY	Niksic	1.57	147	⇓iPg	Pn	17 54 39.4	+0.6
NKY				eSg	Sg	17 55 03.3	+1.3
NKME	Niksic	1.60	149	⇓iPn	Pn	17 54 39.6	+0.5
NKME				eSn	Sg	17 55 03.9	+1.2
NKME	Niksic	1.60	149	⇓iPn	Pn	17 54 39.6	+0.5
NKME				eSn	Sg	17 55 03.9	+1.2
FGSL	Fruska Gora	1.75	54	⇓iPg	Pn	17 54 39.2	-2.0
FRGS	Fruska Gora	1.75	54	⇓iPg	Pn	17 54 39.2	-2.0
FRGS				eSg	Sn	17 55 03.7	+0.4
HCY	Herceg Novi	1.76	164	⇑iPn	Pb	17 54 43.0	-0.3
HCY				eSn	Sg	17 55 10.0	+2.2
HCY	Herceg Novi	1.76	164	⇑iPn	Pb	17 54 43.0	-0.3
HCY				eSn	Sg	17 55 10.0	+2.2
IVAS	Ivanjica	1.78	108	i Pg	Pn	17 54 41.3	-0.3
IVAS				eSg	Sb	17 55 07.4	+1.6
SJES	Sjenica	1.79	118	ePn	Pn	17 54 42.3	+0.5
SJES				eSg	Sg	17 55 08.6	-0.3
TRUS	Trudelj	1.86	86	ePn	Pn	17 54 40.6	-2.1
TRUS				eSg	Sn	17 55 06.5	+0.5
TRUS	Trudelj	1.86	86	ePn	Pn	17 54 40.6	-2.1
TRUS				eSg	Sn	17 55 06.5	+0.5
BEY	Berane	1.97	129	⇑iPn	Pn	17 54 45.4	+1.2
BEY				eSn	Sb	17 55 11.3	0.0
IVA	Berane	1.97	129	⇑iPn	Pn	17 54 45.4	+1.2
IVA				eSn	Sb	17 55 11.3	0.0
BUM	Brajici-Budva	1.99	156	⇓iPn	Pb	17 54 47.7	+0.3
BUM				eSn	Sg	17 55 14.3	-1.1
BUM	Brajici-Budva	1.99	156	⇓iPn	Pb	17 54 47.7	+0.3
BUM				eSn	Sg	17 55 14.3	-1.1
PDG	Podgorica	2.00	148	i Pg	Pn	17 54 46.2	+1.6
PDG				eSg	Sg	17 55 15.8	+0.2
PDG	Podgorica	2.00	148	⇓iPn	Pn	17 54 46.0	+1.4
PDG				eSn	Sg	17 55 14.6	-1.0
PDG				eSg	Sg	17 55 15.8	+0.2
TTG	Podgorica	2.00	148	⇓iPn

BEHE	Becsehely	2.45	343	*e*Pn	Pn	17 54 51.5	+0.7
BEHE	Becsehely	2.45	343	*e*	Pn	17 54 51.5	+0.7
PKS9	Tamasi	2.47	7⇑	*e*	Pn	17 54 50.6	-0.5
PKS2	Kecel	2.55	22⇑	*e*	Pg	17 55 04.0	+3.8
SELS	Selova	2.56	110	*e*Pn	Pn	17 54 52.0	-0.4
SELS				*e*Sg	Sg	17 55 31.8	-1.8
SELS	Selova	2.56	110	*e*Pn	Pn	17 54 52.0	-0.4
SELS				*e*Sg	Sg	17 55 31.8	-1.8
KOGS	Kog	2.56	335	*e*Pn	Pn	17 54 52.9	+0.5
KOGS	Kog	2.56	335	*e*Pn	Pn	17 54 52.9	+0.5
BANR	Banloc	2.67	61	⇓*i*P	Pg	17 55 05.4	+2.9
PKS6	Bocsa	2.75	26⇑	*e*	Pg	17 55 08.3	+4.2
MS1	Monte Sant'Ang	2.79	210	*e*Pn	Pg	17 55 03.3	-1.5
BOLS	Boljevac	3.00	94	*e*Pn	Pn	17 54 56.3	-2.0
BOLS	Boljevac	3.00	94	*e*Pn	Pn	17 54 56.3	-2.0
BZS	Buzias	3.08	60	⇑*i*P	Pn	17 54 58.0	-1.4
BARS	Barje	3.19	113	*e*Pn	Pn	17 55 01.1	+0.1
BARS	Barje	3.19	113	*e*Pn	Pn	17 55 01.1	+0.1
SOKA	Soboth	3.21	323	⇑*i*Pn	Pn	17 55 02.3	+0.9
SOKA				⇑*i*Sn	Sn	17 55 40.2	+0.8
SOKA	Soboth	3.21	323	Pn	Pn	17 55 02.3	+0.9
SOKA				Sn	Sn	17 55 40.2	+0.8
CSKK	Cs¨‡kako	3.24	5⇑	*e*Pn	Pn	17 55 01.8	+0.1
CSKK	Cs¨‡kako	3.24	5⇑	*e*	Pn	17 55 01.8	+0.1
PKSG		3.28	7⇑	*e*Pn	Pn	17 55 01.9	-0.3
PKSG		3.28	7⇑	*e*	Pn	17 55 01.9	-0.3
OBKA	Obir	3.31	317	*e*Pn	Pn	17 55 04.8	+2.1
OBKA				*e*Sn	Sb	17 55 50.2	+0.2
OBKA	Obir	3.31	317	⇓*i*Pn	Pn	17 55 04.1	+1.4
OBKA	Obir	3.31	317	*e*Pn	Pn	17 55 04.8	+2.1
ARSA	Arzberg	3.51	333	*e*Pn	Pn	17 55 06.1	+0.7
ARSA				*e*Sn	Sn	17 55 50.3	+3.7
ARSA	Arzberg	3.51	333	*e*Pn	Pn	17 55 06.1	+0.7
ARSA	Arzberg SNR=36	3.51	333	⇑*i*Pn	Pn	17 55 06.1	+0.7
ARSA				⇓*i*Sn	Sn	17 55 48.9	+2.3
ARSA	Arzberg	3.51	333	*e*Pn	Pn	17 55 06.1	+0.7
ARSA				Sn	Sn	17 55 48.9	+2.3
ZAPS	Zavoj	3.59	102	⇓*i*Pn	Pn	17 55 06.6	0.0
SOP	Sopron	3.66	347	⇓*e*Pn	Pn	17 55 07.7	+0.3
SOP	Sopron	3.66	347	⇓*e*	Pn	17 55 07.7	+0.3
OHR	Ohrid	3.74	143	*e*Pn	Pn	17 55 09.1	+0.6
OHR				*e*Sg	Sg	17 56 16.6	+5.3
OHR	Ohrid	3.74	143	*e*Pn	Pn	17 55 09.1	+0.6
OHR				*e*Sg	Sg	17 56 16.6	+5.3
GZR	Gura Zlata	3.75	69	*e*Pn	Pn	17 55 07.3	-1.4
GZR				*e*Sn	Sn	17 55 52.2	-0.4
GZR	Gura Zlata	3.75	69	⇑*i*P	Pn	17 55 07.3	-1.4
GZR	Gura Zlata	3.75	69	*e*Pn	Pn	17 55 07.3	-1.4
GZR				*e*Sn	Sn	17 55 52.2	-0.4
CONA	Conrad Observa SNR=11	4.03	341	⇑*i*Pn	Pn	17 55 13.4	+0.8
CONA				⇑*i*Sn	Sn	17 56 02.0	+2.3
CONA	Conrad Observa SNR=11	4.03	341	Pn	Pn	17 55 13.4	+0.8
CONA				Sn	Sn	17 56 02.0	+2.3
PSZ	Piszkesteto	4.05	20	⇓*i*P	Pn	17 55 12.0	-0.9
PSZ	Piszkesteto	4.05	20⇑	*e*Pn	Pn	17 55 11.6	-1.3
PSZ	Piszkesteto	4.05	20⇑	*e*	Pn	17 55 11.6	-1.3
VTS	Vitosha	4.22	110	*e*Pn	Pn	17 55 15.1	-0.2
VTS	Vitosha	4.22	110	⇑*i*P	Pn	17 55 17.6	+2.3
VTS	Vitosha	4.22	110	*e*Pn	Pn	17 55 15.1	-0.2
KBA	Koelnbreinsper	4.30	315	*e*Pn	Pn	17 55 18.7	+2.3
KBA	Koelnbreinsper	4.30	315	⇑*i*Pn	Pn	17 55 18.8	+2.3
KBA	Koelnbreinsper	4.30	315	*e*Pn	Pn	17 55 18.7	+2.3
DRGR		4.35	51	⇓*i*P	Pb	17 55 27.3	-0.1
VYHS	Vyhne	4.42	9	*e*Pn	Pn	17 55 17.4	-0.4
VYHS	Vyhne	4.42	9	*e*PN	Pn	17 55 17.4	-0.4
VYHS				*e*PG	Pg	17 55 34.7	-1.2
VYHS				*e*		17 56 09.1	
MOA	Molln	4.46	328	*e*Pn	Pn	17 55 20.6	+2.1
MOA				*e*Sn	Sn	17 56 14.9	+4.7
MOA	Molln SNR=10	4.46	328	⇑*i*Pn	Pn	17 55 19.8	+1.3
MOA				⇑*i*Sn	Sn	17 56 13.1	+2.9
MOA	Molln SNR=10	4.46	328	Pn	Pn	17 55 19.8	+1.3
MOA				Sn	Sn	17 56 13.1	+2.9
ABTA	Abfaltersbach SNR=6.2	4.56	307	⇑*i*Pn	Pn	17 55 22.6	+2.8
ABTA	Abfaltersbach SNR=6.2	4.56	307	Pn	Pn	17 55 22.6	+2.8
MMB	Musomiste	5.03	118	⇓*i*P	Pn	17 55 28.0	+1.7
VOIR		5.31	73	⇑*i*P	Pn	17 55 31.0	+0.9
WTTA	Wattenberg	5.34	308	*e*Pn	Pn	17 55 33.8	+3.1
WTTA				*e*Sn	Sn	17 56 38.6	+6.5
WTTA	Wattenberg	5.34	308	⇓*i*Pn	Pn	17 55 33.2	+2.5
WTTA				⇓*i*Sn	Sn	17 56 35.9	+3.8
WTTA	Wattenberg	5.34	308	Pn	Pn	17 55 33.2	+2.5
WTTA				Sn	Sn	17 56 35.9	+3.8
WATA	Walderalm	5.42	308	⇑*i*Pn	Pn	17 55 34.1	+2.4
WATA	Walderalm	5.42	308	Pn	Pn	17 55 34.1	+2.4
GEC2	GERESS Array S	5.50	330	*e*Pn	Pn	17 55 34.1	+1.3
GEC2	GERESS Array S	5.50	330	*e*Pn	Pn	17 55 34.1	+1.3
GERES	GERESS Array B 0.9nm,0.3s,baz=150,slow=14,SNR=39	5.50	330	Pn	Pn	17 55 34.0	+1.1
GERES				Sn	Sn	17 56 36.3	+0.4
	0.4nm,0.3s,baz=136,slow=24,SNR=2.7						
MORC	Moravsky Berou	5.65	358	⇓*i*P	Pn	17 55 25.5	-9.3
MOTA	Moosalm SNR=13	5.69	307	⇑*i*Pn	Pn	17 55 37.9	+2.4
MOTA	Moosalm SNR=13	5.69	307	Pn	Pn	17 55 37.9	+2.4
KOLS	Kolonicke sedl	5.70	31	*e*Pn	Pn	17 55 32.8	-2.6
KOLS	Kolonicke sedl	5.70	31	*e*PN	Pn	17 55 32.8	-2.6
KOLS				*e*PG	Pg	17 56 03.0	+2.7
KOLS				*e*SG	Sg	17 57 21.0	+6.9
STHS	Stebnicka Huta	5.78	23	*e*PN	Pn	17 55 39.9	+3.3
KHC	Kasperske Hory	5.79	331	*e*PN	Pn	17 55 37.9	+1.2
KHC				*e*PB	Pb	17 55 53.2	+1.2
KHC				*e*x	x	17 56 08.4	
KHC				*e*SN	Sn	17 56 42.6	-0.2
KHC				*e*x	x	17 56 56.5	
KHC				*e*SB	Sb	17 57 07.5	+6.4
KHC	Kasperske Hory	5.79	331	Pn	Pn	17 55 37.9	+1.2
KHC				Sn	Sn	17 56 42.6	-0.2
MLR	Muntele Rosu	5.94	74	⇓*i*P	Pn	17 55 39.9	+1.1
MLR	Muntele Rosu 0.1nm,0.3s,baz=264,slow=10,SNR=2.4	5.94	74	Pn	Pn	17 55 40.0	+1.2
DAVOX	Davos/Dischmat 1.1nm,0.3s,baz=135,slow=8.6,SNR=9.2	6.18	298	Pn	Pn	17 55 45.6	+3.3
PRU	Pruhonice	6.27	340	*e*PN	Pn	17 55 44.2	+1.0
PRU				*e*x	x	17 55 51.6	
PRU				*e*PB	Pb	17 55 59.5	-0.6
PRU				*e*x	x	17 57 09.1	
PRU	Pruhonice	6.27	340	Pn	Pn	17 55 44.2	+1.0
DPC	Dobruska-Polom	6.30	351	*e*PN	Pn	17 55 44.5	+0.8
DPC				*e*PB	Pb	17 56 00.2	-0.5
DPC				*e*SN	Sn	17 56 54.7	-0.8
DPC	Dobruska-Polom	6.30	351	Pn	Pn	17 55 44.5	+0.8
DPC				Sn	Sn	17 56 54.7	-0.8
PGF	Pioggiola	6.62	259	*e*Pn	Pn	17 55 48.7	+0.4
PGF	Pioggiola	6.62	259	*e*Pn	Pn	17 55 48.7	+0.4
BRG	Berggiesshubel 5.4nm,1.2s	7.23	340	SG	Sb	17 57 43.3	+0.7
SBF	Sospel	7.50	272	*e*Pn	Pn	17 56 00.1	-0.1
SBF	Sospel	7.50	272	*e*Pn	Pn	17 56 00.1	-0.1
CLL	Collm	7.88	337	*e*(Sg)	Sb	17 57 57.0	-4.0
MBDF	Montbardon	7.93	278	*e*Pn	Pn	17 56 06.0	-0.2
MBDF				*e*Sn	Sn	17 57 31.9	-3.9
	1.9nm,0.5s						
MBDF	Montbardon	7.93	278	*e*Pn	Pn	17 56 06.0	-0.2
MBDF				*e*Sn	Sn	17 57 31.9	-3.9
	0.9nm,0.5s						
LPG	La Plagne	7.99	284	*e*Pn	Pn	17 56 06.7	-0.4
LPG				*e*Sn	Sn	17 57 33.0	-4.4
	1.2nm,0.4s						
LPG	La Plagne	7.99	284	*e*Pn	Pn	17 56 06.7	-0.4
LPG				*e*Sn	Sn	17 57 33.0	-4.4
	0.6nm,0.4s						
LPL	La Plagne	8.00	284	*e*Pn	Pn	17 56 06.9	-0.4
LPL				*e*Sn	Sn	17 57 33.2	-4.4
	3.1nm,0.6s						
LPL	La Plagne	8.00	284	*e*Pn	Pn	17 56 06.9	-0.4
LPL				*e*Sn	Sn	17 57 33.2	-4.4
	1.5nm,0.6s						
FRF	La Foret Royal	8.10	270	*e*Pn	Pn	17 56 08.3	-0.1
FRF	La Foret Royal	8.10	270	*e*Pn	Pn	17 56 08.3	-0.1
LMR	La Mourre	8.23	268	*e*Pn	Pn	17 56 10.2	0.0
LMR	La Mourre	8.23	268	*e*Pn	Pn	17 56 10.2	0.0
CDF	Champ du Feu	8.46	304	*e*Pn	Pn	17 56 12.1	-1.3
CDF	Champ du Feu	8.46	304	*e*Pn	Pn	17 56 12.1	-1.3
HINF	Hinteralfeld	8.48	300	*e*Pn	Pn	17 56 12.7	-0.9
HINF	Hinteralfeld	8.48	300	*e*Pn	Pn	17 56 12.7	-0.9
ORIF	Oris-en-Rattie	8.57	279	*e*Pn	Pn	17 56 14.5	-0.4
ORIF				*e*Sn	Sn	17 57 46.7	-4.6
	0.7nm,0.4s						
ORIF	Oris-en-Rattie	8.57	279	*e*Pn	Pn	17 56 14.5	-0.4
ORIF				*e*Sn	Sn	17 57 46.7	-4.6
	0.3nm,0.4s						
CABF	La Chapelle	8.62	291	*e*Pn	Pn	17 56 14.5	-1.1
CABF	La Chapelle	8.62	291	*e*Pn	Pn	17 56 14.5	-1.1
SMRF	Simiane la Rot	8.82	273	*e*Pn	Pn	17 56 18.0	-0.3
SMRF	Simiane la Rot	8.82	273	*e*Pn	Pn	17 56 18.0	-0.3
HAU	Haudompre	8.86	300	*e*Pn	Pn	17 56 17.7	-1.2
HAU	Haudompre	8.86	300	*e*Pn	Pn	17 56 17.7	-1.2
VIVF	Saint-Julien-l	9.43	279	*e*Pn	Pn	17 56 26.1	-0.5
VIVF	Saint-Julien-l	9.43	279	*e*Pn	Pn	17 56 26.1	-0.5
SFTF	Sexfontaines	9.76	299	*e*Pn	Pn	17 56 29.9	-1.2
SFTF	Sexfontaines	9.76	299	*e*Pn	Pn	17 56 29.9	-1.2
LOR	Lormes	10.26	293	*e*Pn	Pn	17 56 36.9	-1.1
LOR				*e*Sn	Sn	17 58 26.2	-6.5
	1.3nm,0.4s						
LOR	Lormes	10.26	293	*e*Pn	Pn	17 56 36.9	-1.1
LOR				*e*Sn	Sn	17 58 26.2	-6.5
	0.6nm,0.4s						
IDI	Anoyia	10.37	146	Pn	Pn	17 56 41.8	+2.1
	0.3nm,0.3s,baz=328,slow=13,SNR=3.1						
SSF	Saint Saulge	10.45	291	*e*Pn	Pn	17 56 39.6	-1.0
SSF				*e*Sn	Sn	17 58 30.9	-6.5
	2.3nm,0.4s						
SSF	Saint Saulge	10.45	291	*e*Pn	Pn	17 56 39.6	-1.0
SSF				*e*Sn	Sn	17 58 30.9	-6.5
	1.1nm,0.4s						
TCF	Toulx Ste Croi	11.22	287	*e*Pn	Pn	17 56 50.2	-1.0
TCF				*e*Sn	Sn	17 58 49.5	-6.9
	1.3nm,0.4s						
TCF	Toulx Ste Croi	11.22	287	*e*Pn	Pn	17 56 50.2	-1.0
TCF				*e*Sn	Sn	17 58 49.5	-6.9
	0.6nm,0.4s						
ESDC	Sonseca Array	16.80	262	Pn	P	17 58 10.1	+1.8
	0.3nm,0.3s,baz=68,slow=11,SNR=4.9						
FINES	FINESS Array B	18.02	13	P	Pn	17 58 21.3	+0.4
	0.1nm,0.3s,baz=198,slow=13,SNR=2.8						
TORD	Torodi Ar. Bea	33.84	209	P	P	18 00 55.1	+2.0
	0.3nm,0.6s,baz=31,slow=8.0,SNR=3.2						
MKAR	Makanchi Array	44.16	63	P	P	18 02 19.8	+0.5
	0.3nm,0.7s,baz=286,slow=6.9,SNR=5.1						
SONM	Songino Array	58.34	52	P	P	18 04 06.3	+0.5
	0.5nm,0.8s,baz=316,slow=6.0,SNR=4.3						

IDC 22 17:59:30.2±3.8, 6°.38S×146°.47E, h239km±52km, mb2.7/3, mb1 2.9/5, mb1mx2.8/18, mbtmp3.3/5, Error ellipse: s-maj=85.2km s-min=25.9km az=127.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.08	167	P	Pn	18 00 21.4	-1.6
	1.5nm,0.3s,baz=328,slow=9.5,SNR=8.8						
PMG				S	S	18 01 05.8	+1.1
	4.4nm,0.3s,baz=172,slow=7.1,SNR=15						
WRA	Warramunga Arr	17.90	220	P	P	18 03 21.0	-1.6
	0.1nm,0.3s,baz=36,slow=12,SNR=12						
ASAR	Alice Springs	21.01	214	P	P	18 03 56.5	+0.7
	0.8nm,0.6s,baz=35,slow=10,SNR=6.9						
MKAR	Makanchi Array	77.45	321	P	P	18 11 01.2	+1.9
	0.1nm,0.5s,baz=104,slow=6.1,SNR=2.9						
ILAR	Eielson Array	86.04	23	P	P	18 11 41.9	-1.7
	0.1nm,0.4s,baz=245,slow=5.8,SNR=2.8						

JMA 22 18:12:20.7±0.3, 46°.83N×141°.74E, h15km, M3.5, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	Keihoku	1.52	176	P	Pn	18 12 47.4	+0.1
JWK2				*e*S	Sn	18 13 07.0	+0.2
JRR	Rishiri	1.72	190	P	Pb	18 12 51.1	-0.8
JRR				*e*S	Sb	18 13 13.1	-0.2
JSE	Soyaes	1.96	162	P	Pn	18 12 53.5	+0.1
JSE				*e*S	Sn	18 13 17.9	+0.2

*ISCJB **22** 18:18:00.3±0.6, 15°.83S±0°.05×167°.6E±0°.1, h50km, mb4.3/20, MS3.5/2, Error ellipse: s-maj=14.9km s-min=7.1km az=11.8*
*IDC **22** 18:18:03.8±3.0, 15°.94S×167°.63E, h68km±26km, mb4.0/14, mb1 4.1/15, mb1mx4.0/22, mbtmp4.3/15, MS3.4/3, Ms1 3.4/3, ms1mx2.9/30, Error ellipse: s-maj=27.1km s-min=17.6km az=93.0*
*NEIC **22** 18:18:04.4±1.7, 15°.85S×167°.59E, h70km±14km, mb4.3/6, Error ellipse: s-maj=17.5km s-min=11.7km az=96.0*

ISC 22 18:18:02.1±0.7, 15°.82S±0°.07×167°.7E±0°.1, h50km, n45, σ1§35/44, mb4.2/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.33	190	P	Pn	18 19 33.7	+0.7
	54nm,0.3s,baz=28,slow=14,SNR=311						
DZM				S	Sn	18 20 43.1	-0.9
	23nm,0.3s,baz=143,slow=20,SNR=7.3						
HNR	Honiara	9.86	309	P	Pn	18 20 23.8	+2.5
	12nm,0.3s,baz=219,slow=4.1,SNR=7.3						
HNR				LR	LR	18 24 05.7	
	comp=Z,75nm,18.9s,baz=89,slow=37						
EIDS	Eidsvold	18.20	236	P	Pn	18 22 13.4	+2.2
	baz=18,SNR=4.2						
EIDS	Eidsvold	18.20	236	*e*P	Pn	18 22 13.1	+1.8
	5.5nm,0.6s						
RMQ	Roma	20.57	236	P	Pn	18 22 39.0	-0.5
	baz=21,SNR=6.2						
PMG	Port Moresby	21.01	285	LR	LR	18 30 11.6	
	comp=Z,111nm,19.0s,baz=91,slow=35						
QLP	Quilpie	24.30	240	P	P	18 23 15.3	+0.3
	baz=24,SNR=7.8						
CMSA	Cobar Meteorol	25.43	228	P	P	18 23 27.1	+1.9
	baz=26,SNR=7.9						
WB2	Warramunga Arr	31.95	258	*e*P	P	18 24 21.5	-2.0
WRAB	Tennant Creek	31.95	258	*e*P	P	18 24 21.7	-1.8
	2.8nm,0.9s						
WRA	Warramunga Arr	31.97	258	P	P	18 24 21.7	-1.9
	1.4nm,0.6s,baz=88,slow=9.2,SNR=27						
AS31	Alice Springs	32.67	251	*e*P	P	18 24 28.9	-1.0
ASAR	Alice Springs	32.68	251	P	P	18 24 28.7	-1.2
	4.7nm,0.8s,baz=76,slow=9.1,SNR=57						
KNRA	Kununurra	37.42	265	P	P	18 25 09.5	-1.3
	baz=37,SNR=4.4						
WRKA	Warakurna	37.92	249	P	P	18 25 13.8	-1.2
	baz=38,SNR=6.0						
FITZ	Fitzroy Crossi	40.22	261	P	P	18 25 33.7	-0.4
	baz=40,SNR=6.6						
WSI	Waingapu	46.54	272	S	S	18 33 06.4	-4.2
	baz=46,SNR=3.1						
MEEK	Meekatharra	46.74	248	P	P	18 26 26.2	-0.5
	baz=47,SNR=3.8						
NWAO	Narrogin (SRO)	48.54	240	LR	LR	18 46 08.7	
	comp=Z,79nm,18.3s,slow=35						
MJAR	Matsushiro Arr	59.05	332	P	P	18 27 56.4	-0.7
	1.5nm,0.7s,baz=168,slow=8.4,SNR=6.2						
JNU	Nakatsue	60.03	325	P	P	18 28 03.4	-0.6
	2.7nm,0.6s,baz=188,slow=3.0,SNR=3.6						
CASY	Casey	62.68	202	*e*P	P	18 28 23.0	+1.7
	48nm,1.1s						
ASAJ	Asahikawa	63.90	340	P	P	18 28 30.8	+1.1
	7.7nm,0.8s,baz=236,slow=5.1,SNR=5.7						
KSRS	Korea Array	64.86	326	P	P	18 28 35.0	-1.1
	0.6nm,0.6s,baz=138,slow=6.3,SNR=3.3						
KSAR	Wonju Array Be	64.87	326	P	P	18 28 35.0	-1.2
USRK	Ussuriysk Ar.	68.03	333	P	P	18 28 57.8	+1.5
	1.6nm,0.6s,baz=136,slow=6.1,SNR=4.9						
PETK	Petropavlovsk-	69.18	354	P	P	18 29 03.9	+0.7
	3.9nm,0.7s,baz=160,slow=7.3,SNR=6.6						
MDJ	Mudanjiang	69.42	332	*e*P	P	18 29 05.1	+0.2
	6.3nm,0.9s						
CMAR	Chiang Mai Arr	75.75	294	P	P	18 29 43.8	+0.6
	1.3nm,0.7s,baz=132,slow=4.9,SNR=17						
CHTO	Chiang Mai	75.89	294	*e*P	P	18 29 44.2	+0.3
	1.9nm,0.7s						
SEY	Seymchan	79.40	353	P	P	18 30 03.0	+0.5
	2.6nm,0.7s,baz=152,slow=5.6,SNR=12						
YAK	Yakutsk	83.18	343	*e*P	P	18 30 22.5	0.0
	18nm,0.7s						
ULN	Ulaanbaatar	83.25	324	*e*P	P	18 30 23.6	+0.2
	3.2nm,0.7s						
SONM	Songino Array	83.60	324	P	P	18 30 25.4	+0.1
	1.2nm,0.6s,baz=134,slow=5.6,SNR=12						
ILAR	Eielson Array	87.43	18	P	P	18 30 42.1	-1.6
	0.9nm,0.6s,baz=241,slow=5.1,SNR=11						
MKAR	Makanchi Array	98.26	316	P	P	18 31 33.2	-0.9
	0.2nm,0.5s,baz=89,slow=5.9,SNR=4.8						
YKA	Yellowknife Ar	98.33	27	P	P	18 31 33.3	-0.7
	0.5nm,0.8s,baz=256,slow=4.7,SNR=7.0						
ARCES	ARCESS Array B	121.40	345	PKP	PKPdf	18 36 48.4	-0.9
	6.0nm,0.8s,baz=66,slow=2.2,SNR=11						
FINES	FINESS Array B	126.88	338	PKP	PKPdf	18 36 59.2	-0.7
	1.1nm,0.7s,baz=75,slow=1.6,SNR=6.8						
AKASG	Malin Array Be	131.85	326	PKP	PKPdf	18 37 09.8	0.0
	0.3nm,0.3s,baz=60,slow=2.6,SNR=2.5						
BRTR	Keskin Array B	133.51	310	PKP	PKPdf	18 37 14.0	+0.6
	0.8nm,0.9s,baz=59,slow=3.9,SNR=3.8						
GERES	GERESS Array B	140.79	333	PKP	PKPdf	18 37 26.5	0.0
	0.7nm,0.7s,baz=129,slow=1.4,SNR=8.3						
BNI	Bardonecchia	146.75	335	*e*PKPdf	PKPbc	18 37 39.4	+0.5
KEST	Kesra	152.30	320	PKPbc	PKPbc	18 37 53.2	+0.3
	1.8nm,0.8s,baz=63,slow=4.0,SNR=4.3						
TORD	Torodi Ar. Bea	166.17	261	PKP	PKPdf	18 38 01.5	-1.1
	0.6nm,0.7s,baz=78,slow=0.6,SNR=4.8						
TORD				PKPab	PKPab	18 39 02.2	-1.5
	0.4nm,0.7s,baz=98,slow=4.5,SNR=3.4						

*IDC **22** 18:40:44.2±2.3, 4°.53S×101°.80E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/23, mbtmp3.9/8, MS3.7/2, Ms1 3.7/2, ms1mx2.8/30, Error ellipse: s-maj=79.1km s-min=17.3km az=53.0*
*ISCJB **22** 18:40:46.3±1.6, 4°.69S±0°.07×101°.63E±0°.09, h36km±13km, mb4.0/10, MS3.7/2, Error ellipse: s-maj=15.7km s-min=8.9km az=149.0*
*DJA **22** 18:40:47.3±0.7, 4°.5±7°×10°.2E±°, h66km±19km, M4.1/8, MLv4.1/8*
*NEIC **22** 18:40:49.0±0.8, 4°.57S×101°.77E, h35km, mb4.2/2, Error ellipse: s-maj=23.2km s-min=8.1km az=48.0*

ISC 22 18:40:46.8±3.5, 4°.66S±0°.08×101°.68E±0°.10, h23km±24km, n29, σ1§45/26, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	1.31	77	P	Pn	18 41 09.6	0.0
MNAI				S	Sn	18 41 26.0	-0.3
MNAI	Manna	1.31	77	*e*P	Pn	18 41 09.8	+0.2
MASI	Maura Aman, Be	1.61	20	P	Pn	18 41 10.7	-3.2
MASI				S	Sb	18 41 35.6	-0.3
LHSI	Lahat	2.02	66	P	Pn	18 41 19.7	+0.3
LHSI				S	Sn	18 41 41.5	-2.4
LWLI	Liwa	2.40	99	P	Pn	18 41 26.4	+1.7
LWLI				S	Sn	18 41 56.6	+3.2
MDSI	Maura Dua	2.50	86	P	Pn	18 41 27.1	+1.1
MDSI				S	Sn	18 41 56.8	+1.1
KASI	Kota Agung	2.93	107	P	Pn	18 41 33.0	+1.0
KASI				S	Sn	18 42 04.9	-1.6
PDSI	Padang	3.92	342	P	Pn	18 41 40.0	-5.6
CGJI	Cibinong	4.44	116	P	Pn	18 41 52.2	-0.5
CGJI				S	Sn	18 42 39.5	-4.1
CISI	Cisompet, Garu 23nm,0.3s	6.74	116	*e*P	Pn	18 42 24.8	+0.3
BATI	Baumata	22.47	105	P	P	18 45 44.0	-0.7
	4.9nm,0.4s,baz=294,slow=12,SNR=5.8						
CMAR	Chiang Mai Arr	23.13	353	P	P	18 45 51.0	-0.5
	0.3nm,0.6s,baz=183,slow=9.3,SNR=4.7						
H08S2	Diego Garcia H	29.17	263	T	T	19 17 08.8	
	baz=86,slow=75,SNR=139						
H08S3	Diego Garcia H	29.17	263	T	T	19 17 09.4	
	baz=86,slow=75,SNR=139						
H08S1	Diego Carcia H	29.18	263	T	T	19 17 10.2	
	baz=86,slow=75,SNR=113						
H01W3	Cape Leeuwin H	32.21	161	T	T	19 21 16.8	
	baz=337,slow=76,SNR=6.7						
H01W2	Cape Leeuwin H	32.22	161	T	T	19 21 17.8	
	baz=337,slow=76,SNR=7.8						
H01W1	Cape Leeuwin H	32.22	161	T	T	19 21 18.4	
	baz=337,slow=76,SNR=7.2						
WRA	Warramunga Arr	35.23	118	P	P	18 47 40.2	+0.4
	0.5nm,0.3s,baz=300,slow=9.1,SNR=20						
WRAB	Tennant Creek	35.24	118	*e*P	P	18 47 40.5	+

HAKT	HAKKARI	1.23	119	*i* P		Pg	18 52 13.0	0.0	
HAKT				*i* S		Sn	18 52 31.3	+0.7	
TUTA	Tutak	1.30	16	*i* S		Sg	18 52 29.4	-1.9	
TUTA	Tutak	1.30	16	*i* P		Pn	18 52 10.0	-4.1	
TUTA				*i* S		Sg	18 52 29.4	-1.9	
CUKT	Cukurca	1.35	132	*e*PN		Pg	18 52 15.6	+0.5	
CUKT				*e*SN		Sn	18 52 35.3	+2.1	
CUKT	Cukurca	1.35	132	*e*Pn		Pg	18 52 15.6	+0.4	
CUKT				*e*Sn		Sn	18 52 35.3	+2.1	
MARD	Mardin	1.50	236	*i* P		Pg	18 52 19.6	+1.7	
MARD				*i* S		Sg	18 52 40.5	+3.0	
AGRB	Hanur-Agry	1.50	19	*e*PN		Pb	18 52 17.4	-0.3	
AGRB	Hanur-Agry	1.50	19	*e*PN		Pg	18 52 17.9	-0.2	
AGRB	Hanur-Agry	1.50	19	*e*Pn		Pb	18 52 17.9	+0.2	
AGRB	Hanur-Agry	1.50	19	*e*Pn		Pb	18 52 17.4	-0.3	
BNGB	Bing˜|||	1.55	303	*e*PN		Pb	18 52 18.6	+0.3	
CLDR	Caldiran	1.58	51	*e*PN		Pg	18 52 21.1	+1.5	
CLDR	Caldiran	1.58	51	*e*PN		Pb	18 52 19.0	0.0	
CLDR	Caldiran	1.58	51	*e*Pn		Pb	18 52 19.0	0.0	
CLDR	Caldiran	1.58	51	*e*Pn		Pg	18 52 21.2	+1.6	
BINT	Bingol	1.62	297	*e*Pn		Pn	18 52 18.6	+0.1	
MAZI	Mazidag	1.66	246	*e*PN		Pb	18 52 20.1	0.0	
MAZI				*e*SN		Sg	18 52 42.8	+0.2	
MAZI	Mazidag	1.66	246	*e*Pn		Pb	18 52 20.1	-0.1	
MAZI				*e*Sn		Sg	18 52 42.8	+0.3	
DIY	Diyarbakir	1.69	262	*e*Pn		Pg	18 52 21.4	-0.2	
DYBB	Diyarbakir	1.75	264	*e*PN		Pb	18 52 21.4	-0.3	
DIYA	Diyarbakir	1.77	263	*i* P		Pg	18 52 24.4	+1.3	
DIYA				*i* S		Sb	18 52 44.5	-0.2	
DIYA	Diyarbakir	1.77	263	*i* P		Pg	18 52 24.4	+1.3	
DIYA				*i* S		Sb	18 52 44.5	-0.2	
EZM	Erzurum	1.91	337	*e*PN		Pb	18 52 23.6	-1.0	
SVRC	Sivrice-ELAZID	2.40	276	*e*PN		Pn	18 52 30.7	+1.5	
SVRC	Sivrice-ELAZID	2.40	276	*e*Pn		Pn	18 52 30.7	+1.5	
PTK	Pertek	2.43	289	*e*PN		Pn	18 52 31.2	+1.5	
PTK	Pertek	2.43	289	*e*Pn		Pn	18 52 31.2	+1.6	

IDC 22 18:58:36.4±1.9, 15.65S×167.62E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML4.3/1, Error ellipse: s-maj=52.9km s-min=29.7km az=121.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.48	190	Pn	Pn	19 00 14.5	+1.3
7.0nm,0.3s,baz=17,slow=8.7,SNR=56							
DZM				Sn	Sn	19 01 23.8	-4.1
6.5nm,0.3s,baz=304,slow=13,SNR=8.5							
WRA	Warramunga Arr	31.94	257	P	P	19 05 03.2	-1.0
0.4nm,0.7s,baz=88,slow=9.5,SNR=7.7							
ASAR	Alice Springs	32.67	251	P	P	19 05 09.8	-0.8
1.3nm,0.8s,baz=78,slow=8.8,SNR=15							
CMAR	Chiang Mai Arr	75.63	294	P	P	19 10 25.3	+1.4
0.6nm,0.7s,baz=130,slow=5.5,SNR=5.8							
SONM	Songino Array	83.44	324	P	P	19 11 06.1	+0.2
0.4nm,0.6s,baz=123,slow=5.3,SNR=4.4							
ILAR	Eielson Array	87.30	18	P	P	19 11 23.2	-1.5
0.9nm,1.1s,baz=233,slow=5.2,SNR=4.1							
MKAR	Makanchi Array	98.10	316	P	Pdif	19 12 16.4	+1.2
0.1nm,0.6s,baz=98,slow=6.0,SNR=2.4							

*ISCJB **22** 19:06:40.0±0.3, 1.76S±0.04×80.66W±0.02, h11km, mb4.2/16, MS3.6/5, Error ellipse: s-maj=6.3km s-min=2.3km az=10.1*
*IGQ **22** 19:06:40±0.4, 1.73S×80.54W, h6km±149km, Mb4.6, Error ellipse: s-maj=4.9km s-min=2.7km az=20.0*
*NEIC **22** 19:06:43.6±1.1, 1.66S×80.45W, h27km±8km, mb4.8/7, MD4.6(IGQ), Error ellipse: s-maj=14.2km s-min=8.6km az=56.0*
NEIC Felt at Guayaquil, Manglaralto and Salinas.
*IDC **22** 19:06:43.2±0.8, 1.56S×80.28W, h23km±4km, mb3.8/11, mb1 4.0/14, mb1mx3.9/26, mbtmp4.0/14, ML4.0/3, MS3.7/8, Ms1 3.7/8, ms1mx3.4/30, Error ellipse: s-maj=37.0km s-min=13.6km az=49.0*

ISC 22 19:06:41.1±0.5, 1.71S±0.05×80.49W±0.04, h11km, n240, σ1916/241, mb4.4/16, MS3.5/5, 78C-119D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPT	Isla de la Pla	0.73	307	⇓P	Pg	19 06 54.0	-1.2
ISPT	Isla de la Pla	0.73	307	⇓S	Sg	19 07 04.9	+0.1
PECV	Mancha de Ca P	1.02	26	⇓P	Pb	19 06 59.0	-1.9
MAG1	Magdalena	1.78	24	P	Pn	19 07 11.4	-0.4
RIOE	Riobamba	1.86	91	⇓S	Sn	19 07 37.1	+0.2
RIOE	Riobamba	1.86	91	⇓P	Pn	19 07 13.8	+0.6
IGUA	Igualata	1.87	83	⇓P	Pn	19 07 14.3	+0.8
BIL2	Estacion Bilba	2.01	83	S	Sb	19 07 43.1	+0.2
BIL2	Estacion Bilba	2.01	83	P	Pb	19 07 17.8	0.0
BBIL	Ulba Tungurahu	2.02	83	⇓P	Pb	19 07 17.9	-0.1
BBIL	Ulba Tungurahu	2.02	83	⇓S	Sb	19 07 43.3	-0.1
BMAS	Trigal station	2.02	84	⇓P	Pb	19 07 17.6	-0.5
BMAS	Trigal station	2.02	84	⇓S	Sb	19 07 43.7	+0.3
JUI6	Juive	2.04	82	⇓P	Pn	19 07 17.2	+1.5
RETU	Refugio	2.06	83	⇓P	Pb	19 07 18.8	-0.1
RETU	Refugio	2.06	83	⇓S	Sb	19 07 46.0	+1.2
PAT1	Patacocha	2.06	85	⇓P	Pn	19 07 17.4	+1.2
BPAT	Tungurahua Vol	2.07	84	⇓P	Pn	19 07 17.4	+1.2
BPAT	Tungurahua Vol	2.07	84	⇓S	Sb	19 07 44.2	-0.7
RUN5	Runtun	2.09	82	⇓P	Pb	19 07 19.0	-0.3
BULB	Ulba Tungurahu	2.10	83	⇓P	Pn	19 07 18.1	+1.5
BRUN	Tungurahua Vol	2.10	82	⇓P	Pb	19 07 18.8	-0.6
ULBA	Ulba	2.10	83	⇓P	Pn	19 07 18.1	+1.6
PISA	Pisayambo	2.20	73	⇑P	Pb	19 07 20.8	-0.5
CAMI	Rancho Maria	2.24	63	P	Pn	19 07 20.3	+1.8
BMOR	Cotopaxi Volca	2.25	65	⇓P	Pb	19 07 21.5	-0.6
MOV1	Cotopaxi Vol s	2.28	64	P	Pb	19 07 21.8	-0.8
MOV1	Cotopaxi Vol s	2.28	64	S	Sb	19 07 52.0	+0.9
NAS2	Nasa	2.28	63	⇓P	Pb	19 07 22.8	+0.1
BREF	Cotopaxi Volca	2.30	63	⇓P	Pb	19 07 22.6	-0.4
BVC2	Cotopaxi Volca	2.33	63	⇓P	Pb	19 07 22.8	-0.6
BTAM	Cotopaxi Volca	2.33	64	⇓P	Pb	19 07 22.9	-0.7
GOLV	Golondrinas	2.34	36	⇑P	Pn	19 07 19.3	-0.2
VC1	Cotopaxi 1	2.34	63	P	Pb	19 07 22.2	-1.5
PITA	Cotopaxi Volc	2.35	61	P	Pb	19 07 22.4	-1.4
MACE	Macas	2.36	103	⇓P	Pn	19 07 21.6	+1.6
MACE	Macas	2.36	103	⇓S	Sn	19 07 48.2	-0.7
COV1	Cotopaxi Volc	2.39	64	⇓P	Pn	19 07 22.6	+1.8
JUA2	San Juan 2	2.40	52	⇑P	Pn	19 07 22.7	+1.9
TERV	Terraza Guagua	2.43	51	⇑P	Pn	19 07 22.1	+0.9
GGP	Refugio Guagua	2.43	51	⇑P	Pn	19 07 22.5	+1.2
PINO	Pino	2.43	51	⇓P	Pn	19 07 22.8	+1.5
ANTI	Antisana	2.65	62	⇑P	Pn	19 07 26.4	+2.2
OTAV	Otavalo	2.81	47	⇑S	Sn	19 08 01.7	+1.1
OTAV	Otavalo	2.81	47	⇑P	Pn	19 07 27.1	+0.7
OTAV	Otavalo	2.81	47	*e*P	Pn	19 07 26.5	+0.1
ELAGU	Cayambe Volc	3.01	56	P	Pn	19 07 32.3	+3.1
CAYR	Refugio Cayamb	3.02	56	⇓P	Pb	19 07 33.1	-2.1
CAYA	Cayambe	3.06	55	P	Pn	19 07 33.0	+3.0
CHAR	Charly	3.25	60	P	Pb	19 07 38.7	-0.4
LITE	Lita	3.28	40	⇑P	Pn	19 07 33.7	+1.1
ATAH	Atahualpa	5.78	159	Pn	Pn	19 08 09.6	+2.3
2.0nm,0.3s,baz=349,slow=4.3,SNR=7.0							
ATAH				LR	LR	19 10 51.5	
comp=Z,1μm,20.5s,baz=330,slow=42							
ROSC	El Rosal	8.97	43	Pn	Pn	19 08 54.6	+3.6
1.6nm,0.3s,baz=8.3,slow=23,SNR=16							
ROSC				LR	LR	19 12 42.0	
comp=Z,201nm,18.1s,baz=193,slow=41							
NNA	Nana	10.84	161	Pn	Pn	19 09 17.2	+0.9
6.6nm,0.3s,baz=259,slow=5.9,SNR=6.6							
NNA				Sn	Sn	19 11 13.7	-4.1
2.9nm,0.3s,baz=222,slow=20,SNR=7.0							
SDV	Santo Domingo	14.40	43	*e*P	Pn	19 10 04.4	-0.8
15nm,0.7s							
SAML	Samuel	18.67	113	*e*P	P	19 10 56.7	-2.6
103nm,1.6s							
LPAZ	La Paz	18.93	141	P	Pn	19 11 03.5	+0.1
0.1nm,0.3s,baz=314,slow=6.1,SNR=5.6							
LPAZ				LR	LR	19 19 57.5	
comp=Z,377nm,19.3s,baz=271,slow=42							
LPAZ	La Paz	18.93	141	*e*P	Pn	19 11 03.3	-0.1
APG	El Apazote	19.31	330	P	P	19 11 04.2	-2.5
0.1nm,0.3s,baz=183,slow=13,SNR=4.5							
PTGA	Pitinga	20.55	88	P	P	19 11 18.6	-1.2
7.2nm,0.8s,baz=285,slow=13,SNR=6.6							
PTGA				LR	LR	19 19 54.9	
comp=Z,141nm,20.3s,baz=92,slow=39							
TEIG	Tepich	23.09	341	LR	LR	19 19 49.3	
comp=Z,164nm,19.9s,baz=115,slow=34							
SIV	San Ignacio	23.83	128	P	P	19 11 54.1	-0.4
6.2nm,0.8s,baz=309,slow=11,SNR=12							
934A	Benavides	33.91	331	⇓P	P	19 13 25.2	+0.9
baz=34							
933A	Laredo	34.30	330	⇓P	P	19 13 29.0	+1.4
baz=34							
834A	Tilden	34.36	331	⇑P	P	19 13 29.2	+1.0
baz=34							
636A	Smothers Creek	34.83	334	⇑P	P	19 13 33.1	+0.9
baz=35							
LRAL	Lakeview Retre	35.10	350	*e*P	P	19 13 34.1	-0.4
5.6nm,0.6s							
732A	Laxson Ranch,	35.56	330	⇓P	P	19 13 40.1	+1.5
baz=36							
633A	Saathoff Ranch	35.77	331	⇑P	P	19 13 40.6	+0.2
baz=36							
534A	Blanco	35.93	333	⇓P	P	19 13 41.3	-0.4
baz=36							
632A	Uvalde	36.11	331	⇓P	P	19 13 43.8	+0.6
baz=36,SNR=7.4							
631A	Perdido Creek	36.42	330	⇑P	P	19 13 46.4	+0.5
baz=37,SNR=5.7							
434A	Burnet	36.50	334	⇓P	P	19 13 46.6	0.0
baz=37							
KMSC	Kings Mountain	36.66	359	⇓P	P	19 13 45.6	-2.3
baz=37							
532A	Rocksprings	36.68	331	⇓P	P	19 13 48.7	+0.5
baz=37,SNR=8.7							
433A	Art	36.82	333	⇑P	P	19 13 50.3	+1.0
baz=37							
JCT	Junction City	36.92	332	⇑P	P	19 13 50.8	+0.6
baz=37							
JCT	Junction City	36.92	332	*e*P	P	19 13 51.2	+1.0
5.7nm,0.8s							
334A	Lometa	36.93	334	⇓P	P	19 13 50.8	+0.5
baz=37							
531A	Rocksprings	37.02	330	⇑P	P	19 13 52.1	+1.0
baz=37,SNR=10							
WHTX	Lake Whitney,	37.17	336	⇑P	P	19 13 52.0	-0.3
baz=37							
432A	Menard	37.25	332	⇑P	P	19 13 53.1	+0.1
baz=37							
333A	Richland Sprin	37.26	333	⇓P	P	19 13 53.4	+0.3
baz=37							
530A	J-C Ranch, Com	37.41	330	⇑P	P	19 13 54.9	+0.6
baz=38,SNR=6.2							
234A	Clairette	37.47	335	⇑P	P	19 13 54.6	-0.2
baz=38							
431A	Sonora	37.48	331	⇑P	P	19 13 55.7	+0.7
baz=38,SNR=7.5							
332A	Millersview	37.65	333	⇓P	P	19 13 57.0	+0.6
baz=38							
233A	Rising Star	37.81	334	⇓P	P	19 13 57.9	+0.2
baz=38							
529A	Stev Forest Ra	37.84	328	⇓P	P	19 13 59.6	+1.6
baz=38							
430A	Baggett Ranch,	37.87	330	⇑P	P	19 13 59.0	+0.7
baz=38							
134A	White-Moore Ra	37.94	335	⇑P	P	19 13 58.6	-0.2
baz=38							
TXAR	Lajitas Array	38.01	326	P	P	19 14 00.2	+0.7
1.7nm,0.9s,baz=138,slow=9.6,SNR=11							
TXAR				PcP	PcP	19 16 13.9	-1.2
0.3nm,0.6s,baz=126,slow=4.6,SNR=3.5							
TXAR				LR	LR	19 29 40.8	
comp=Z,64nm,19.0s,baz=0.0,slow=36							
232A	Coleman	38.03	333	⇓P	P	19 13 59.7	+0.1
baz=38							
429A	Davenport Ranc	38.07	329	⇓P	P	19 14 01.2	+1.2
baz=38							
330A	Merzon	38.35	331	⇑P	P	19 14 03.3	+0.9
baz=38							
ABTX	Abilene, Hawle	38.65	334	⇓P	P	19 14 05.1	+0.3
baz=39							
329A	Wagon Wheel Ra	38.81	330	⇓P	P	19 14 07.2	+1.0
baz=39							
Y34A	Reagan Ranch,	39.02	337	⇓P	P	19 14 06.9	-0.9
baz=39							
131A	Roby	39.03	333	⇓P	P	19 14 08.3	+0.3
baz=39							
229A	Bryant Ranch,	39.12	331	⇓P	P	19 14 09.5	+0.7
baz=39							
Z32A	Haskell	39.16	334	⇑P	P	19 14 08.7	-0.4
baz=39							
130A	Snyder	39.23	332	⇓P	P	19 14 10.1	+0.4
baz=39							
Z31A	Sharp Cattle R	39.46	334	⇓P	P	19 14 12.3	+0.7
baz=40							
X34A	Smith Ranch, M	39.61	337	⇓P	P	19 14 13.2	+0.3
baz=40							
228A	UT Block 9, Go	39.63	330	⇑P	P	19 14 13.7	+0.6
baz=40							
Y32A	R-V Farms, Ver	39.74	335	⇓P	P	19 14 14.7	+0.8
baz=40							
Z30A	Sanderson Ranc	39.88	333	⇑P	P	19 14 15.6	+0.5
baz=40							
128A	Castleberry Fa	39.98	331	⇑P	P	19 14 16.9	+1.0
baz=40							
X32A	Elmer	40.04	336	⇑P	P	19 14 16.8	+0.5
baz=40							
TUL1	Leonard	40.06	341	⇑P	P	19 14 15.8	-0.7
baz=40							
Y31A	Rekieta Farm,	40.06	334	⇓P	P	19 14 17.2	+0.6
baz=40							
Z29A	Hungry Hill Ra	40.13	332	⇓P	P	19 14 17.9	+0.7
baz=40							
Y30A	Stafford Cattl	40.27	333	⇓P	P	19 14 19.1	+0.8
baz=40							
V35A	Meyer Ranch, C	40.28	339	⇓P	P	19 14 17.6	-0.7
baz=40							
X31A	McDonald Ranch	40.51	335	⇑P	P	19 14 20.3	0.0
baz=41							
V34A	Guthrie	40.59	339	⇓P	P	19 14 20.6	-0.3
baz=41							
W32A	Sentinel	40.63	336	⇑P	P	19 14 21.4	+0.1
baz=41							
X30A	Coker Ranch, T	40.74	334	⇓P	P	19 14 23.2	+1.0
baz=41							
V33A	Lossen Ranch,	40.86	338	⇑P	P	19 14 23.3	+0.2
baz=41							
V32A	Arapaho	41.07	337	⇑P	P	19 14 25.3	+0.4
baz=41							
X29A	Tulia	41.11	333	⇓P	P	19 14 24.8	-0.5
baz=41							
U34A	Anderson Ranch	41.13	339	⇑P	P	19 14 25.2	-0.2
baz=41							
MSTX	Muleshoe	41.22	331	⇑P	P	19 14 26.4	+0.2
baz=41,SNR=8.0							
X28A	Dimmitt	41.40	332	⇓P	P	19 14 27.9	+0.3
baz=42							
V31A	Spring Creek L	41.44	336	⇑P	P	19 14 27.9	0.0
baz=42							
W29A	Amarillo	41.65	334	⇓P	P	19 14 29.6	-0.1
baz=42							
W26A	Owens Ranch, T	42.60	331	⇓P	P	19 14 38.4	+0.8
baz=43							
U28A	Mallet	42.96	334	⇓P	P	19 14 40.2	-0.2
baz=43							
R33A	Olander Ranch,	42.97	340	⇓P	P	19 14 40.0	-0.4
baz=43							
W25A	X Bar L Ranch,	43.04	331	⇓P	P	19 14 42.3	+1.2
baz=43							
V26A	Tequesquite Ra	43.19	332	⇓P	P	19 14 43.3	+1.0
baz=43,SNR=9.6							
KSU1	Kansas State U	43.23	342	⇓P	P	19 14 41.6	-0.9
baz=43							
KSU1	Kansas State U	43.23	342	*e*P	P	19 14 42.9	+0.4
15nm,0.7s							
U27A	Thompson Grove	43.26	333	⇑P	P	19 14 43.6	+0.7
baz=43							
W24A	Lazy 6 Ranch,	43.50	330	⇑P	P	19 14 46.8	+1.8
baz=44							
R31A	Burdett	43.51	338	⇓P	P	19 14 44.5	-0.2
baz=44							
Q33A	Connelly Farm,	43.53	340	⇓P	P	19 14 44.5	-0.5
baz=44							
S29A	Ulysses	43.54	336	⇓P	P	19 14 45.4	+0.3
baz=44							
V25A	Rancho No Teng	43.61	331	⇓P	P	19 14 46.4	+0.6
baz=44,SNR=7.0							
U26A	Atchley Ranch,	43.65	333	⇓P	P	19 14 46.8	+0.7
baz=44							
T27A	Campo	43.75	334	⇑P	P	19 14 47.4	+0.6
baz=44							
Q32A	Meitler Ranch,	43.78	340	⇓P	P	19 14 46.5	-0.4
baz=44							
R30A	Dighton	43.78	337	⇑P	P	19 14 46.3	-0.7
baz=44							
ANMO	Albuquerque	43.83	329	P	P	19 14 48.3	+0.7
7.1nm,0.9s,baz=154,slow=10,SNR=11							
ANMO				pP	pP	19 14 55.2	+4.1
11nm,0.8s,baz=156,slow=9.5,SNR=14							
S28A	Manter	43.84	335	⇓P	P	19 14 47.7	+0.2
baz=44							
V24A	Rampart Ranch,	43.84	331	⇑P	P	19 14 49.2	+1.5
baz=44							
U25A	Circle Dot Ran	43.97	332	⇑P	P	19 14 49.8	+1.2
baz=44							
V23A	Ortiz Mt. (NFS	44.31	330	⇓P	P	19 14 53.3	+1.9
baz=44							
Q30A	Quinter	44.37	338	⇓P	P	19 14 52.3	+0.6
baz=44							
R28A	Tribune	44.44	336	⇑P	P	19 14 53.0	+0.7
baz=45							
P31A	Stockton	44.54	339	⇑P	P	19 14 52.8	-0.2
baz=45							
S26A	Kim	44.54	334	⇓P	P	19 14 54.2	+1.1
baz=45							
T25A	Trinidad	44.57	333	⇑P	P	19 14 54.7	+1.2
baz=45,SNR=5.4							
U23A	El Rito	44.77	330	⇑P	P	19 14 56.9	+1.7
baz=45							
R27A	Eads	44.81	335	⇓P	P	19 14 55.8	+0.6
baz=45							
V22A	San Miguel Ran	44.81	329	⇑P	P	19 14 56.8	+1.3
baz=45							
T24B	San Luis	44.96	332	⇓P	P	19 14 57.9	+1.2
baz=45							
S25A	Robets Cordova	45.01	333	⇓P	P	19 14 58.0	+1.0
baz=45							
R26A	Arlington	45.10	334	⇑P	P	19 14 58.3	+0.8
baz=45							
R25A	Fountain Ranch	45.34	333	⇑P	P	19 15 00.9	+1.4
baz=46							
S24A	Houchin Ranch,	45.35	332	⇓P	P	19 15 01.5	+1.7
baz=46							
O29A	4D Ranch, Culb	45.59	338	⇓P	P	19 15 01.9	+0.5
baz=46							
Q26A	Hugo	45.65	335	⇓P	P	19 15 03.1	+1.1
baz=46							
R24A	Sanders Place,	45.78	333	⇑P	P	19 15 04.4	+1.3
baz=46							
S22A	4UR Ranch, Cre	46.20	331	⇓P	P	19 15 08.6	+2.1
baz=46							
L31A	Butterfield Fa	46.73	341	⇓P	P	19 15 10.6	+0.3
baz=47							
WUAZ	Wupatki	46.94	325	⇓P	P	19 15 14.8	+2.6
baz=47							
WUAZ	Wupatki	46.94	325	*e*P	P	19 15 13.5	+1.3
9.5nm,0.8s							
P23A	Jefferson	47.04	333	⇑P	P	19 15 13.8	+0.6
baz=47							
ECSD	EROS Data Cent	47.49	344	⇑P	P	19 15 14.8	-1.4
baz=48,SNR=6.0							
ECSD	EROS Data Cent	47.49	344	*e*P	P	19 15 15.3	-0.9
7.9nm,0.9s							
J30A	Dallas	47.97	341	⇓P	P	19 15 19.2	-0.8
baz=48							
BC3	Big Chuckawall	48.17	320	⇑P	P	19 15 27.1	+5.3
baz=48							
J28A	Allard Ranch,	48.64	340	⇓P	P	19 15 24.9	-0.3
baz=49							
I28A	Midland	49.12	340	⇑P	P	19 15 29.2	+0.4
baz=49							
N20A	Spence Gulch,	49.32	332	⇑P	P	19 15 31.4	+0.8
baz=50							
I27A	Quinn	49.49	340	⇑P	P	19 15 31.9	+0.3
baz=50							
G30A	Faulkton	49.49	343	⇑P	P	19 15 31.8	+0.2
baz=50							
SCI	San Clemente I	49.79	317	⇓P	P	19 15 40.3	+6.2
baz=50							
H27A	Howes	49.99	340	⇑P	P	19 15 35.9	+0.5
baz=50							
G28A	Parade	49.99	341	⇓P	P	19 15 35.7	+0.3
baz=50							
I25A	Rochford	50.05	338	⇑P	P	19 15 37.1	+1.0
baz=50							
F30A	Leola	50.10	343	⇑P	P	19 15 37.0	+0.7
baz=50							
G27A	Dupree	50.60	341	⇓P	P	19 15 40.1	0.0
baz=51							
J22A	Midwest	50.62	336	⇓P	P	19 15 41.0	+0.7
baz=51							
F28A	McLaughlin	50.65	342	⇓P	P	19 15 40.7	+0.3
baz=51							
E30A	Jud	50.68	344	⇓P	P	19 15 40.3	-0.2
baz=51							
LRMC	Laurel Mtn Rad	50.74	320	⇑P	P	19 15 46.8	+5.4
baz=51							
E29A	Napoleon	50.95	343	⇓P	P	19 15 42.8	+0.2
baz=51							
D30A	Buchanan	51.19	344	⇓P	P	19 15 45.1	+0.7
baz=51							
E28A	Huff	51.27	342	⇓P	P	19 15 45.6	+0.6
baz=51							
R11A	Troy Canyon, C	51.33	325	⇓P	P	19 15 48.7	+2.8
baz=52							
D29A	Pettibone, Tap	51.38	343	⇓P	P	19 15 46.1	+0.2
baz=52							
G24A	Alzada	51.42	339	⇓P	P	19 15 46.9	+0.6
baz=52							
PDAR	Pinedale Array	51.44	333	P	P	19 15 46.0	-0.6
0.7nm,0.9s,baz=128,slow=7.3,SNR=3.8							
PDAR				pP	pP	19 15 54.1	+4.0
1.2nm,0.8s,baz=124,slow=8.8,SNR=5.0							
PDAR				LR	LR	19 38 08.8	
comp=Z,41nm,18.7s,baz=240,slow=37							
AGMN	Agassiz Nation	51.57	347	⇓P	P	19 15 47.3	+0.1
baz=52							
F25A	Bowman	51.59	340	⇑P	P	19 15 47.7	+0.2
baz=52							
C30A	Mose, Pekin	51.66	345	⇑P	P	19 15 48

C21A	Desert Coulee	54.52	338	⇓P	P	19 16 10.2	+1.1
	baz=55						
D19A	Cripps Ranch,	54.66	337	⇓P	P	19 16 10.8	+0.7
	baz=55						
C20A	Veseth Ranch,	54.77	338	⇑P	P	19 16 11.6	+0.7
	baz=55						
A22A	Carney Farms,	55.08	340	⇓P	P	19 16 13.8	+0.7
	baz=55						
C19A	Slack Wire Ran	55.19	337	⇓P	P	19 16 14.5	+0.5
	baz=55						
B20A	Solberg Farm,	55.38	338	⇓P	P	19 16 15.8	+0.6
	baz=56						
EGMT	Eagleton	55.70	337	⇑P	P	19 16 19.3	+1.6
	baz=56						
A19A	Klindworth Far	56.05	338	⇓P	P	19 16 20.8	+0.7
	baz=56						
MSO	Missoula	56.55	333	⇑P	P	19 16 25.5	+1.7
	baz=57						
J05D	Fort Rock, OR	57.80	326	⇑P	P	19 16 34.4	+1.6
	baz=58						
YKA	Yellowknife Ar	69.02	344	P	P	19 17 45.7	-0.7
	0.4nm,0.8s,baz=133,slow=5.9,SNR=7.0						
YKA				pP	pP	19 17 52.2	+2.2
	0.7nm,0.6s,baz=136,slow=6.3,SNR=8.3						
DBIC	Dimbokro	75.94	83	P	P	19 18 28.8	0.0
	4.1nm,1.1s,baz=259,slow=5.2,SNR=2.7						
DBIC				LR	LR	19 51 20.3	
	comp=Z,88nm,18.6s,baz=198,slow=35						
TORD	Torodi Ar. Bea	82.78	77	P	P	19 19 04.6	-1.5
	0.5nm,0.8s,baz=274,slow=5.8,SNR=4.2						
ZALV	Zalesovo Beam	126.54	11	PKP	PKPdf	19 25 43.7	-0.7
	0.6nm,0.5s,baz=277,slow=3.5,SNR=4.2						
MKAR	Makanchi Array	132.65	16	PKP	PKPdf	19 25 55.7	-0.6
	0.3nm,0.8s,baz=337,slow=1.8,SNR=4.1						
SONM	Songino Array	133.67	354	PKP	PKPdf	19 25 57.6	-0.7
	0.5nm,0.9s,baz=342,slow=2.3,SNR=3.6						
ASAR	Alice Springs	138.11	231	PKhKP	PKPpre	19 25 59.0	
	0.1nm,0.7s,baz=108,slow=3.0,SNR=2.9						
ASAR				PKP	PKPdf	19 26 05.6	-1.6
	0.5nm,0.7s,baz=109,slow=2.5,SNR=4.1						
WRA	Warramunga Arr	139.63	236	PKhKP	PKPpre	19 26 01.9	
	0.2nm,0.8s,baz=127,slow=3.1,SNR=4.0						
WRA				PKP	PKPdf	19 26 09.3	-0.7
	0.5nm,0.8s,baz=128,slow=2.5,SNR=5.1						

GUC ***22*** *19:18:02.7±0.7, 34°.08S×71°.69W, h177km±9km, ML3.9*
IDC ***22*** *19:18:04.8±2.4, 33°.87S×72°.75W, h0km, mb3.9/1, mb1 3.5/3, mb1mx3.4/15, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=64.1km s-min=35.0km az=122.0*

ISC 22 19:18:08.7±1.6, 33°.95S±0°.07×72°.1W±0°.1, h17km, n10, σ1§58/14, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTU	Antumapu	1.25	73	*i* S	Sg	19 18 51.1	+1.9
CLCH	Cerro Calan	1.39	67	⇑*i*P	Pn	19 18 31.7	-1.7
CLCH				IAML		19 19 04.7	
	comp=E,857nm,0.4s						
PEL	Peldehue	1.41	55	*e*P	Pn	19 18 31.9	-1.7
PEL				*i* S	Sg	19 18 55.3	+1.1
PEL				IAML		19 19 02.1	
	comp=N,2μm,0.5s						
SJCH	San Jose de Ma	1.46	78	*e*P	Pn	19 18 31.7	-2.6
SJCH				*i* S	Sb	19 18 54.2	+0.5
TALC	Talca	1.48	166	⇑*i*P	Pn	19 18 33.0	-1.7
TALC				*i* S	Sg	19 18 55.6	-1.0
FCH	Farellones	1.60	68	⇑*i*P	Pn	19 18 34.8	-1.8
FCH				*i* S	Sb	19 18 58.5	+0.3
CFAA	Coronel Fontan	3.98	55	Pn	Pn	19 19 13.9	+4.9
	comp=N,0.3nm,0.3s,baz=237,slow=13,SNR=10						
CFAA				Sn	Sb	19 20 06.8	+0.4
	comp=N,0.8nm,0.3s,baz=353,slow=15,SNR=8.8						
PLCA	Paso Flores	6.87	170	Pn	Pn	19 19 50.0	+1.3
	comp=N,0.2nm,0.3s,baz=342,slow=13,SNR=2.6						
PLCA				Lg	Lg	19 21 40.1	
	comp=N,0.1nm,0.3s,baz=274,slow=17,SNR=2.4						
TORD	Torodi Ar. Bea	84.21	70	P	P	19 30 40.3	+0.7
	comp=N,0.4nm,0.7s,baz=245,slow=4.8,SNR=5.0						
ZALV	Zalesovo Beam	154.20	32	PKPbc	PKPbc	19 38 07.4	+0.2
	comp=N,0.1nm,0.3s,baz=321,slow=1.9,SNR=3.7						

IDC ***22*** *19:34:48.6±1.9, 6°.99S×128°.60E, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.5/18, mbtmp3.8/4, ML4.0/2, Error ellipse: s-maj=187.8km s-min=30.2km az=67.0*
ISCJB ***22*** *19:35:02.0±0.6, 7°.43S±0°.04×128°.83E±0°.05, h131km, mb3.4/2, Error ellipse: s-maj=6.9km s-min=5.7km az=34.4*
DJA ***22*** *19:35:05.6±0.4, 7°.5±5°×12°9E±°, h167km±18km, M4.2/6, mb4.3/4, mB5.0/1, MLv4.1/6, Mw(mB)4.3/1*

ISC 22 19:35:03.2±0.9, 7°.45S±0°.06×128°.84E±0°.06, h131km, n14, σ1§88/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.49	102	P	Pn	19 35 50.8	+7.4
SAUI				S	Sn	19 36 25.5	+11
BNDI	Bandanaira	3.10	20	P	Pn	19 35 49.4	-1.8
SOEI	Soe	5.07	243	P	Pn	19 36 19.4	+2.0
SOEI				S	Sn	19 37 13.3	-1.8
SOEI	Soe	5.07	243	P	Pn	19 36 19.2	+1.8
	baz=4.8,SNR=30						
SOEI				S	Sn	19 37 15.1	-0.1
	baz=4.8,SNR=5.4						
FAKI	Fak Fak	5.64	37	P	Pn	19 36 26.4	+1.4
	18nm,0.9s,0.1nm						
FAKI	Fak Fak	5.64	37	P	Pn	19 36 27.1	+2.1
	baz=5.9,SNR=9.0						
FAKI				S	Sn	19 37 28.5	-0.3
	baz=5.9,SNR=9.5						
BATI	Baumata	5.80	241	P	Pn	19 36 27.9	+0.7
	37nm,0.6s,0.2nm						
BATI				S	Sn	19 37 32.3	-0.3
	37nm,0.6s,0.2nm						
MTN	Manton Dam	5.81	157	P	Pn	19 36 30.2	+2.9
	baz=5.9,SNR=53						
MTN				S	Sn	19 37 33.2	+0.3
	baz=5.9,SNR=15						
KDU	Kakadu	6.31	146	P	Pn	19 36 37.0	+2.9
	baz=6.5,SNR=64						
KDU				S	Sn	19 37 44.2	-0.7
	baz=6.5,SNR=10						
KNRA	Kununurra	8.18	181	P	Pn	19 36 59.8	+0.7
	baz=8.2,SNR=48						
KNRA				S	Sn	19 38 26.9	-3.0
	baz=8.2,SNR=7.8						
WRA	Warramunga Arr	13.51	157	Pn	Pn	19 38 08.1	-1.8
	0.7nm,0.3s,baz=330,slow=15,SNR=37						
WRA				Sn	Sn	19 40 30.9	-8.2
	1.3nm,0.3s,baz=336,slow=22,SNR=13						
ASAR	Alice Springs	16.84	164	Pn	Pn	19 38 53.0	+1.7
	0.5nm,0.3s,baz=339,slow=10,SNR=40						
ASAR				Sn	Sn	19 41 49.1	-10
	0.1nm,0.3s,baz=326,slow=21,SNR=4.1						
MKAR	Makanchi Array	67.98	327	P	P	19 45 46.8	-1.5
	0.3nm,0.5s,baz=123,slow=7.6,SNR=9.4						
ZALV	Zalesovo Beam	71.48	334	P	P	19 46 07.4	-2.1
	0.6nm,0.7s,baz=119,slow=5.1,SNR=3.7						

NNC ***22*** *19:37:37.9±3.5, 40°.42N×77°.39E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=31.1km s-min=18.3km az=172.0*

ISC 22 19:37:41.6±3.2, 40°.6N±0°.2×77°.38E±0°.08, h21km, n16, σ1§43/18, 11C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	1.90	334	P	Pn	19 38 14.2	+1.3
	SNR=44						
KZA	Kyzart	2.22	314	P	Pn	19 38 19.2	+1.7
	SNR=24						
KNDC	Almaty	2.69	354	⇑Pn	Pb	19 38 28.6	-0.3
	17nm,0.5s						
KNDC				⇓Lg	Lg	19 39 09.4	
	72nm,0.8s						
TKM2	Tokmak 2	2.72	331	⇓Pn	Pn	19 38 25.5	+1.2
	0.5nm,0.3s						
TKM2				⇓Pg	Pb	19 38 28.6	-1.1
	5.2nm,0.4s						
TKM2				⇓Lg	Lg	19 39 09.7	
	18nm,0.8s						
TKM2	Tokmak 2	2.72	331	P	Pb	19 38 28.6	-1.0
	SNR=14						
UCH	Uchtor	2.73	309	P	Pn	19 38 24.7	+0.1
	SNR=11						
KBK	Karagaybulak	2.79	320	P	Pb	19 38 29.7	-1.0
AAK	Ala-Archa	3.00	315	⇑Pn	Pn	19 38 27.7	-0.4
	1.3nm,1.0s						
AAK				⇑Pg	Pb	19 38 31.6	-2.8
	5.4nm,0.6s						
AAK				⇓Lg	Lg	19 39 17.1	
	37nm,1.1s						
AAK	Ala-Archa	3.00	315	P	Pb	19 38 32.0	-2.4
	SNR=8.1						
AML	Almayashu	3.19	301	P	Pn	19 38 30.7	-0.2
	SNR=14						
PDGK	Podgornoye	3.19	29	⇑Pn	Pn	19 38 30.6	+0.1
PDGK				⇓Pg	Pb	19 38 36.3	-1.2
PDGK				⇑Lg	Lg	19 39 21.3	
USP	Ospenovka	3.46	323	P	Pb	19 38 40.7	-1.5
	SNR=6.0						
KK31	Karatay Array	5.73	299	⇑Pg	Pb	19 39 22.2	+1.4
	0.3nm,0.5s,baz=131,slow=15,SNR=4.6						
KK31				⇑Lg	Lg	19 40 38.5	
	1.3nm,0.6s,baz=118,slow=28,SNR=2.6						
MK31	Makanchi Array	7.19	28	⇓Pn	Pn	19 39 25.7	+0.3
	0.7nm,0.8s,baz=203,slow=15,SNR=4.0						
MK31				⇑Sn	Sn	19 40 47.5	+1.2
	1.4nm,0.9s						
MK31				⇑Lg	Lg	19 41 28.8	
	0.8nm,0.6s						
KURBB	Kurchatov Arra	10.11	4	⇑Lg	Lg	19 43 06.4	
	1.5nm,0.3s						
KURK	Kurchatov	10.21	4	⇑Lg	Lg	19 43 07.2	
	1.1nm,0.9s						

KRNET 22 19:38:36.5±0.1, 40°.36N×77°.46E, h3km, mb3.7, 4C, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.54	315	*i* P	Pn	19 39 02.8	-2.6
	baz=314						
ULHL	Ulahol	2.10	334	⇑*i*P	Pn	19 39 13.8	+0.9
	baz=334						
ULHL				⇑*i*S	Sg	19 39 43.8	-0.8
	baz=334						
KZA	Kyzart	2.40	317	⇑*i*P	Pn	19 39 18.1	+0.9
	baz=317						
KZA				⇑*i*S	Sb	19 39 52.0	+0.8
	baz=317						
BOOM	Boomskoye usch	2.42	332	*e*P	Pb	19 39 19.9	-1.1
	baz=332						
BOOM				*e*S	Sg	19 39 53.9	-0.8
	baz=332						
KBK	Karagaybulak	2.97	321	*e*P	Pn	19 39 17.0	-7.9
	baz=18						
KBK				*e*S	Sn	19 39 49.1	-12
	baz=18						

NIED ***22*** *19:52:00, 46°.40N×153°.00E, h8km, Mw3.8 Best double couple: M0:6.05000×10^14 NP1:φs=327.00000°, δ42.00000°, λ4.00000°. NP2:φs=234.00000°, δ87.00000°, λ131.00000°.*
JMA ***22*** *19:52:38.9±0.9, 46°.39N×153°.05E, h30km, M4.3*
SKHL ***22*** *19:52:40.7±1.0, 46°.00N×153°.20E, h56km±5km, mb5.2/2*
ISCJB ***22*** *19:52:40.2±0.7, 46°.08N±0°.09×152°.9E±0°.1, h31km, mb3.5/13, Error ellipse: s-maj=16.1km s-min=5.4km az=141.9*
MOS ***22*** *19:52:41.9±1.3, 46°.25N×152°.96E, h41km, mb4.3/4, Error ellipse: s-maj=15.4km s-min=10.6km az=57.7*
IDC ***22*** *19:52:43.9±2.6, 46°.21N×152°.98E, h43km±22km, mb3.4/14, mb1 3.6/18, mb1mx3.5/30, mbtmp3.6/18, ML3.3/4, Error ellipse: s-maj=24.2km s-min=14.2km az=128.0*

ISC 22 19:52:41.9±0.8, 46°.02N±0°.09×152°.88E±0°.08, h31km, n67, σ1§88/62, mb3.5/13, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.60	259	⇑*i*PN	Pn	19 53 38.5	+3.0
KUR				*i*		19 54 22.7	
KUR				pmax	pmax		
	comp=Z,33μm,0.3s						
KUR				pmax	pmax		
	comp=N,148nm,0.3s						
KUR				pmax	pmax		
	comp=E,64nm,0.3s						
KUR				pmax	pmax		
	comp=Z,362nm,0.3s						
KUR	Kuril'sk	3.60	259	*e*P	Pn	19 53 38.5	+3.0
KUR				AMB	AMB	19 53 39.1	
	comp=Z,360nm,0.3s						
KUR				*e*S	Sb	19 54 22.6	-5.4
KUR				A	A	19 54 30.4	
	comp=Z,142nm,0.6s						
KUR				A	A	19 54 30.4	
	comp=Z,79nm,0.6s						
SHO	Shikotan	4.80	246	*e*P	Pn	19 53 53.0	+1.0
SHO				*e*S	Sn	19 54 46.5	0.0
YUK	Yuzh-Kuril'sk	5.35	251	⇑*i*PN	Pb	19 54 11.0	-3.6
YUK				pmax	pmax		
	comp=N,58nm,0.3s						
YUK				pmax	pmax		
	comp=E,44nm,0.3s						
YUK				pmax	pmax		
	comp=Z,77nm,0.3s						
YUK	Yuzh-Kuril'sk	5.35	251	*e*P	Pb	19 54 11.0	-3.6
YUK				AMB	AMB	19 54 11.3	
	comp=Z,77nm,0.3s						
YUK				*e*S	Sb	19 55 17.7	-0.7
YUK				A	A	19 55 21.3	
	comp=Z,72nm,0.6s						
NEM2	Nemuro 2	5.74	245	P	Pn	19 54 05.1	+0.3
NEM2				*e*S	Sn	19 55 08.3	-1.2
JRA	Rausu	5.88	252	P	Pn	19 54 09.3	+2.5
JNK	Nakash	6.29	250	P	Pn	19 54 14.1	+1.6
JAK	Akkeshi	6.58	246	P	Pn	19 54 16.5	0.0
JAK				*e*S	Sn	19 55 28.6	-1.8
JTKR	Abashiri--Toko	6.68	255	P	Pn	19 54 20.5	+2.7
JMP	Maruseppu	7.04	257	P	Pn	19 54 25.6	+2.8
JAR	Ashorobuto	7.04	251	P	Pn	19 54 24.8	+2.0
JAR				*e*S	Sn	19 55 44.3	+2.6
JKK2	Kamakawa 2	7.50	257	P	Pn	19 54 32.2	+3.1
ASAJ	Asahikawa	7.52	259	PN	Pn	19 54 33.4	+4.0
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	7.52	259	P	Pn	19 54 33.4	+4.0
	comp=Z,1.4nm,0.3s,baz=83,slow=8.2,SNR=7.8						
JCH	Churui	7.62	247	P	Pn	19 54 31.5	+0.7
JCH				*e*S	Sn	19 55 54.1	-1.9
PETK	Petropavlovsk-	7.76	22	P	Pn	19 54 31.3	-1.3
	comp=Z,0.5nm,0.3s,baz=174,slow=13,SNR=6.2						
PETK				S	Sn	19 55 55.2	-4.1
	comp=Z,1.2nm,0.3s,baz=283,slow=32,SNR=6.8						
MYR	Moyori	7.84	245	*e*P	Pn	19 54 34.4	+0.7
ERM	Erimo	8.07	244	PN	Pn	19 54 38.9	+2.1
ERM	Erimo	8.07	244	*e*P	Pn	19 54 38.9	+2.1
JNBK	Urakawa-nobuka	8.18	246	P	Pn	19 54 38.4	0.0
JBT2	Biratori 2	8.20	250	P	Pn	19 54 40.0	+1.4
JKB	Kayabe	9.49	248	P	Pn	19 54 56.2	-0.1
JKB				*e*S	Sn	19 56 37.9	-3.9
JANG	Nango	10.03	240	P	Pn	19 55 01.4	-2.3
JANG				*e*S	Sn	19 56 48.4	-6.7
JTH	Tanohata	10.10	237	P	Pn	19 55 02.2	-2.5
OFUJ	Ofunato	10.78	234	P	Pn	19 55 11.8	-2.3
MAJO	Matsushiro	14.51	234	P	P	19 56 11.6	+0.3
MJAR	Matsushiro Arr	14.51	234	P	Pn	19 56 08.8	+3.8
	comp=Z,0.1nm,0.3s,baz=30,slow=15,SNR=3.2						
USRK	Ussuriysk Ar.	14.86	270	P	Pn	19 56 11.2	+1.5
	comp=Z,0.3nm,0.3s,baz=72,slow=12,SNR=5.9						
KSRS	Korea Array	20.43	254	P	Pn	19 57 20.1	+1.5
	comp=Z,1.5nm,1.0s,baz=56,slow=9.3,SNR=4.2						
KSRS	Korea Array	20.43	254	*e*P	Pn	19 57 21.5	+2.8
YAK	Yakutsk	20.86	329	*e*P	P	19 57 20.2	-0.7
YAK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
YAK	Yakutsk	20.86	329	*e*P	P	19 57 20.2	-0.7
H11N2	WAKE ISLAND Hy	28.65	152	T	T	20 28 44.3	
	baz=340						
H11N1	WAKE ISLAND Hy	28.66	152	T	T	20 28 39.2	
	baz=340						
H11N3	WAKE ISLAND Hy	28.66	152	T	T	20 28 39.4	
	baz=340						
H11S1	WAKE ISLAND Hy	29.73	153	T	T	20 30 03.1	
	baz=341						
H11S3	WAKE ISLAND Hy	29.73	153	T	T	20 30 00.3	
	baz=341						
H11S2	WAKE ISLAND Hy	29.74	153	T	T	20 29 60.0	
	baz=341						
SONM	Songino Array	31.43	290	P	P	19 58 59.9	-0.4
	comp=Z,0.1nm,0.4s,baz=82,slow=10,SNR=2.6						
MKAR	Makanchi Array	47.14	298	*e*P	P	20 01 13.0	+2.0
MKAR	Makanchi Array	47.14	298	P	P	20 01 10.2	-0.8
	comp=Z,0.2nm,0.5s,baz=57,slow=6.1,SNR=7.9						
MKAR	Makanchi Array	47.14	298	*e*P	P	20 01 13.0	+2.0
YKA	Yellowknife Ar	51.61	36	P	P	20 01 44.5	-0.4
	comp=Z,0.1nm,0.5s,baz=299,slow=7.1,SNR=3.6						
CMAR	Chiang Mai Arr	52.04	257	P	P	20 01 51.0	+2.4
	comp=Z,0.3nm,0.6s,baz=39,slow=7.2,SNR=4.9						
FINES	FINESS Array B	64.63	335	*e*P	P	20 03 14.1	-1.9
FINES	FINESS Array B	64.63	335	P	P	20 03 15.4	-0.6
	comp=Z,0.4nm,0.3s,baz=37,slow=5.7,SNR=7.1						
FINES	FINESS Array B	64.63	335	*e*P	P	20 03 14.1	-1.9
WRA	Warramunga Arr	67.77	199	P	P	20 03 36.7	+0.2
	comp=Z,0.2nm,0.6s,baz=14,slow=6.7,SNR=3.5						
NOA	NORSAR Array B	68.87	341	*e*P	P	20 03 43.1	0.0
NOA	NORSAR Array B	68.87	341	P	P	20 03 42.7	-0.4
	comp=Z,0.4nm,0.3s,baz=28,slow=6.5,SNR=9.3						
NOA	NORSAR Array B	68.87	341	*e*P	P	20 03 43.0	0.0
HFS	Hagfors	69.09	339	P	P	20 03 44.1	-0.2
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	Hagfors	69.09	339	P	P	20 03 44.1	-0.2
	comp=Z,1.0nm,0.3s,baz=20,slow=4.7,SNR=13						
BORG	Borgarnes	69.48	357	*i* P	P	20 03 48.4	+1.7
KBZ	Khabaz	71.25	314	P	P	20 03 58.8	+0.9
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KBZ	Khabaz	71.25	314	P	P	20 03 58.8	+0.9
	comp=Z,1.2nm,0.8s,baz=75,slow=12,SNR=4.1						
ASAR	Alice Springs	71.46	198	P	P	20 04 01.0	+1.7
ASAR	Alice Springs	71.46	198	P	P	20 04 01.0	+1.7
	comp=Z,0.2nm,0.5s,baz=11,slow=5.8,SNR=5.7						
ASAR	Alice Springs	71.46	198	*e*P	P	20 04 00.1	+0.9
AKASG	Malin Array Be	72.07	326	P	P	20 04 02.0	-0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	72.07	326	P	P	20 04 02.0	-0.6
	comp=Z,1.0nm,0.5s,baz=32,slow=5.7,SNR=2.6						
KIEV	Kiev	72.08	326	P	P	20 04 01.2	-1.5
KIEV	Kiev	72.08	326	*e*P	P	20 04 01.2	-1.5
TXAR	Lajitas Array	78.00	60	P	P	20 04 37.4	0.0
	comp=Z,0.4nm,0.6s,baz=318,slow=3.5,SNR=5.0						
BRTR	Keskin Array B	78.81	317	*e*P	P	20 04 44.9	+3.1
BRTR	Keskin Array B	78.81	317	P	P	20 04 42.2	+0.4
	comp=Z,0.3nm,0.5s,baz=35,slow=5.3,SNR=4.0						

DJA 22 19:57:04.6±0.5, 8°S±5°×10°7E±°, h55km±5km, M3.8/13, MLv3.8/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	0.39	21	P	Pn	19 57 16.4	+1.3
CNJI				S	Sn	19 57 24.8	+2.2
SKJI	Sukabumi	0.80	327	P	Pn	19 57 21.4	+1.6
SKJI				S	Sn	19 57 34.7	+3.7
CISI	Cisompet, Garu	0.83	81	P	Pn	19 57 20.6	+0.3
CISI				S	Sn	19 57 32.0	+0.2
LEM	Lembang	1.05	36	P	Pn	19 57 23.0	-0.4
LEM				S	Sn	19 57 39.0	+1.7
CMJI	Cimerak	1.45	94	P	Pn	19 57 28.6	+0.1
CMJI				S	Sn	19 57 45.8	-0.7
CGJI	Cibinong	1.67	309	P	Pn	19 57 32.5	+1.0
CGJI				S	Sn	19 57 51.7	-0.1
SBJI	Serang	1.77	331	P	Pn	19 57 35.0	+2.1
SBJI				S	Sn	19 57 56.7	+2.4
KPJI	Karang Pucung	1.96	80	P	Pn	19 57 35.4	0.0
KPJI				S	Sn	19 57 58.1	-0.7
BLSI	Bandar Lampung	2.88	323	P	Pn	19 57 48.9	+0.8
KASI	Kota Agung	3.27	311	P	Pn	19 57 55.1	+1.6
KASI				S	Sn	19 58 29.8	-1.4
KLI	Kotabumi	3.51	323	P	Pn	19 57 57.5	+0.8
LWLI	Liwa	3.94	312	P	Pn	19 58 04.4	+1.7
LWLI				S	Sn	19 58 45.6	-2.1

SZGRF ***22*** *19:58:12.6, 18°.36N×121°.26E, h40km, mb5.8, MS5.6, Luzon, Philippine Islands*
MOS ***22*** *19:58:12.6±0.9, 18°.40N×121°.00E, h43km, mb5.9/98, MS5.4/70, Error ellipse: s-maj=8.4km s-min=5.2km az=104.7*
NEIC ***22*** *19:58:13.0±0.1, 18°.45N×120°.74E, h32km, mb5.8/165, ME5.3, MS5.4/133, MW5.8, MW5.9, Error ellipse: s-maj=3.7km s-min=3.1km az=95.0, Moment Tensor Solution. s56 Moment tensor: Scale 10^17Nm; Mrr8.55; Mθθ-0.73; Mφφ-7.82; Mrθ-0.26; Mθφ-0.71; Mφr-2.46; Best double couple: M0:8.60000×10^17 NP1:φs186.00000°, δ53.00000°, λ90.00000°. NP2:φs6.00000°, δ37.00000°, λ90.00000°. Principal axes: T 8.9100, Plg81.0000°, Azm96.0000°; N -0.6600, Plg0.0000°, Azm5.0000°; P -8.2500, Plg8.0000°, Azm275.0000°; Broadband fault plane solution: P waves. NP1:φs35.00000°, δ35.00000°, λ90.00000°. NP2:φs215.00000°, δ55.00000°, λ90.00000°. Principal axes: T Plg80.0000°, Azm125.0000°; N Plg0.0000°, Azm0.0000°; P Plg10.0000°, Azm305.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V PIVS] at Batac, Burgos, Laoag, Pasuquin and Sarrat; [IV PIVS] at Aparri, Buguey, Gonzaga, Lubuagan and Sinait; [III PIVS] at Callao, Penablanca, Santa Ana and Tuguegarao; [II PIVS] at Baguio, Santa and Vigan. Felt [IV] at Manila. Also felt at Abucay, Abulug, Banaue, Bangued, Bangui, Cabagan, Candon, Pagudpud, San Fernando, Santa Catalina, Solsona, Tabuk and Vintar.
ISCJB ***22*** *19:58:13.9±0.3, 18°.48N±0°.01×120°.80E±0°.02, h49km±3km, mb5.6/271, MS5.4/190 Error ellipse: s-maj=2.9km s-min=2.3km az=4.4*
IDC ***22*** *19:58:14.9±1.1, 18°.45N×120°.92E, h45km±10km, mb5.0/37, mb1 5.1/39, mb1mx5.1/41, mbtmp5.3/39, ML5.3/2, MS5.2/28, Ms1 5.2/28, ms1mx5.2/31, Error ellipse: s-maj=8.0km s-min=7.7km az=55.0*
GCMT ***22*** *19:58:14.9±0.1, 18°.63N×120°.59E, h50km, MW5.8/126, Moment Tensor Solution. s126, c262; s120, c351; Duration: 2≥0 Moment tensor: Scale 10^17Nm; Mrr6.11±.06; Mθθ-1.15±.05; Mφφ-4.97±.05; Mrθ-0.22±.04; Mθφ-3.37±.04; Mφr-2.78±.05; Best double couple: M0:7.11000×10^17 NP1:φs199.00000°, δ57.00000°, λ77.00000°. NP2:φs42.00000°, δ36.00000°, λ109.00000°. Principal axes: T 6.8140, Plg75.0000°, Azm72.0000°; N 0.5830, Plg11.0000°, Azm207.0000°; P -7.4060, Plg11.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MAN ***22*** *19:58:15, 18°.43N×120°.75E, h17km, mb6.0, ML5.1, MS5.7*
*MAN INTENSITY V - BURGOS PASUQUIN LAOAG SARRAT & BATAC ILOCOS NORTE; INTENSITY IV - SINAIT

ABRA			*e*S		**Sn**	**19 58 42.9 +1.3**
SZP	**Santa**	**1.01 201**	*e*Pn		**Pn**	**19 58 32.0 -0.3**
CVP	**Callao Caves**	**1.22 130**	⇑*i*P		**Pn**	**19 58 37.7 +2.4**
CVP			*i* S		**Sn**	**19 58 55.4 +4.8**
BOLP	**Bolinao**	**2.28 203**	*e*P		**Pn**	**19 58 52.5 +2.6**
BALP	**Baler**	**2.83 166**	*e*P		**Pn**	**19 59 00.4 +3.1**
TWG	**Pinlang**	**4.31 3**	*e*P		**Pn**	**19 59 16.4 -1.3**
TGY	**Tagaytay City**	**4.37 179**	P		**Pn**	**19 59 21.3 +2.7**
	280nm,0.3s,baz=329,slow=3.6,SNR=29					
TGY			S		Sn	20 00 16.4 +8.1
	501nm,0.3s,baz=126,slow=23,SNR=3.1					
TGY	**Tagaytay City**	**4.37 179**	*e*P		Pn	19 59 24.1 +5.5
TPUB	**Ta-pu**	**4.79 358**	*e*P		**Pn**	**19 59 23.3 -0.9**
YULB	**Yu-li**	**4.89 5**	*e*P		**Pn**	**19 59 24.8 -0.9**
SSLB	**Suanglung**	**5.27 1**	*e*P		**Pn**	**19 59 30.5 -0.3**
	713nm,0.6s					
AUQP	**San Andres**	**5.44 161**	*e*P		Pn	19 59 39.0 +5.8
NACB	**Ninganchiao**	**5.69 7**	*e*P		**Pn**	**19 59 37.4 +0.7**
	989nm,0.8s					
PVCP	**Virac**	**5.82 146**	*e*P		**Pn**	**19 59 41.0 +2.5**
PVCP	**Virac**	**5.82 146**⇓*e*P			**Pn**	**19 59 41.6 +3.1**
PVCP			*e*S		**Sn**	**20 00 46.0 +2.1**
YHNB	**Yeheng**	**6.16 5**	*e*P		**Pn**	**19 59 44.5 +1.3**
	763nm,0.5s					
YOJ	**Yonaguni jima**	**6.27 18**	*e*P		**Pn**	**19 59 46.0 +1.4**
YOJ			pmax		pmax	
	comp=Z,962nm,0.8s					
YOJ	**Yonaguni jima**	**6.27 18**	*e*P		**Pn**	**19 59 46.0 +1.4**
	comp=Z,962nm,0.8s					
TATO	**Taipei**	**6.48 5**	Pn		Pn	19 59 52.3 +4.9
	SNR=12					
TATO	**Taipei**	**6.48 5**	*e*P		**Pn**	**19 59 49.7 +2.3**
	comp=Z,716nm,0.7s					
QZH	**Quanzhou**	**6.75 342**⇑*i*P			**Pn**	**19 59 49.6 -1.5**
QZH			S		Sn	20 01 00.5 -6.2
QZH			SMN			
	comp=Z,1μm,0.8s					
QZH			SME			
	comp=Z,2μm,1.0s					
QZH			LN			
	comp=Z,25μm,11.8s					
QZH			LE			
	comp=Z,27μm,13.0s					
QZH			LZ			
	comp=Z,64μm,21.7s					
RCP	**Roxas**	**7.14 165**⇑*e*P			Pn	20 00 01.1 +4.6
HKC	**Hong Kong Obse**	**7.31 302**⇓*i*P			**Pn**	**19 59 58.0 -0.8**
PLP	**Palo**	**8.31 151**⇓*e*P			**Pn**	**20 00 14.7 +2.1**
PLP	**Palo**	**8.31 151**⇓*e*P			**Pn**	**20 00 14.7 +2.1**
GZH	**Guangzhou**	**8.37 304**	P		**Pn**	**20 00 11.3 -2.1**
GZH			S		**Sn**	**20 01 42.3 -4.3**
GZH			LN			
	comp=Z,31μm,16.8s					
GZH			LE			
	comp=Z,40μm,16.1s					
SNPH	**Sibulan**	**9.39 165**	*e*P		**Pn**	**20 00 29.6 +2.1**
SNPH	**Sibulan**	**9.39 165**	*e*P		**Pn**	**20 00 29.6 +2.1**
DCPH	**Dipolog City**	**10.15 166**⇑*e*P			Pn	20 00 42.4 +4.5
QIZ	**Qiongzhong**	**10.43 275**	P		**Pn**	**20 00 38.9 -2.8**
QIZ			S		**Sn**	**20 02 37.8 +0.5**
QIZ			LN			
	comp=Z,10μm,14.4s					
QIZ			LE			
	comp=Z,9μm,19.7s					
QIZ			LZ			
	comp=Z,31μm,22.2s					
QIZ	**Qiongzhong**	**10.43 275**	*e*P		Pn	20 00 38.1 -3.6
	comp=Z,460nm,0.6s					
JOW	**Kunigami**	**10.76 38**	P		**Pn**	**20 00 47.1 +0.9**
	baz=222,slow=12					
KDM	**Kudat**	**12.15 199**⇑P			P	20 01 11.6 -5.3
DAV	**Davao City (W)**	**12.26 157**⇑*i*P			Pn	20 01 12.0 +5.3
DAV	**Davao City (W)**	**12.26 157**	Pn		Pn	20 01 12.0 +5.3
	SNR=12					
DAV	**Davao City (W)**	**12.26 157**	*e*P		P	20 01 12.9 -5.1
KKM	**Kota Kinabalu**	**13.17 201**⇓P			**Pn**	**20 01 22.4 +3.1**
KKM	**Kota Kinabalu**	**13.17 201**	*e*P		**Pn**	**20 01 19.2 0.0**
	comp=Z,247nm,1.1s					
SDKM	**Sandakan**	**13.26 196**⇓P			Pn	20 01 24.4 +4.0
WHN	**Wuhan**	**13.37 335**	P		**Pn**	**20 01 20.0 -1.7**
WHN			LN			
	comp=Z,36μm,16.8s					
WHN			LE			
	comp=Z,22μm,13.6s					
WHN			LZ			
	comp=Z,53μm,19.7s					
MYLDM	**Lahad Datu**	**13.43 190**⇓P			**P**	**20 01 27.9 -3.1**
DLV	**T Lat**	**13.58 243**	*e*P		**Pn**	**20 01 24.9 0.0**
	comp=Z,125nm,1.1s					
NJ2	**Nanjing**	**13.62 353**	*e*P		**Pn**	**20 01 25.3 +0.2**
NJ2			S		**Sn**	**20 03 55.0 0.0**
NJ2			PMZ			
	comp=Z,120nm,0.8s					
NJ2			PMZ			
	comp=Z,2μm,8.5s					
NJ2			LN			
	comp=Z,22μm,17.1s					
NJ2			LE			
	comp=Z,42μm,17.8s					
NJ2			LZ			
	comp=Z,42μm,17.8s					
TSM	**Tawau**	**14.41 192**⇑P			**Pn**	**20 01 38.2 +2.2**
UBPT	**Khong Chiam**	**15.05 260**	P		**Pn**	**20 01 45.5 +1.0**
	comp=Z,236nm,1.1s,comp=Z,8μm					
GYA	**Guiyang**	**15.30 304**⇓*i*P			**Pn**	**20 01 45.9 -1.9**
GYA			pP		**pP**	**20 01 57.8 -4.7**
GYA			sS		**S**	**20 04 50.4 -0.8**
GYA			PcP		**PcP**	**20 06 52.0 +0.9**
GYA			PMZ			
	comp=Z,90nm,1.0s					
GYA			PMZ			
	comp=Z,3μm,7.8s					
GYA			LN			
	comp=Z,9μm,15.1s					
GYA			LE			
	comp=Z,12μm,16.9s					
GYA			LZ			
	comp=Z,17μm,16.9s					
ENH	**Enshi**	**15.62 321**	*e*P		**P**	**20 01 53.7 -1.6**
	comp=Z,764nm,2.1s					
KSJJU	**Jeju**	**15.73 18**	P		**P**	**20 01 59.6 +3.1**
	SNR=5.1					
KSSSP	**Seongsanpo**	**15.79 19**	P		**P**	**20 01 59.9 +2.8**
	SNR=5.4					
SLVN	**Son La**	**16.18 283**	*e*P		**Pn**	**20 01 58.2 -0.8**
KSJDO	**Jindo**	**16.64 16**	P		**P**	**20 02 09.6 +3.0**
	SNR=7.6					
KSWAN	**Wando**	**16.67 17**	P		**P**	**20 02 08.7 +1.9**
	SNR=8.7					
BTM	**Bintulu**	**16.99 207**⇑P			**Pn**	**20 02 09.2 0.0**
KSMOK	**Mokpo**	**17.03 17**	P		**P**	**20 02 13.1 +2.2**
	SNR=7.2					
JNU	**Nakatsue**	**17.12 30**	P		**P**	**20 02 12.0 0.0**
	comp=Z,9.5nm,0.3s,baz=245,slow=4.6,SNR=50					
JNU			S		**S**	**20 05 28.4 +0.3**
	comp=Z,0.2nm,0.3s,baz=30,slow=20,SNR=4.3					
JNU			LR		LR	20 09 16.7
	comp=Z,7μm,20.6s,baz=213,slow=39					
I39PW	**PALAU INFRASON17.22 127**		*i*			21 43 30.0
	baz=312,slow=317,SNR=0.8					
TOLI	**Toli-Toli**	**17.27 180**	*e*P		**P**	**20 02 14.2 +0.6**
	comp=Z,480nm,1.2s					
KSKWJ	**Gwangju**	**17.47 17**	P		**P**	**20 02 17.9 +2.1**
	SNR=5.5					
GTOI	**Gorontalo**	**17.88 173**	P		**P**	**20 02 20.3 -0.1**
	comp=Z,462nm,1.4s,comp=Z,8μm					
MRSI	**Marisa**	**17.94 176**	P		**P**	**20 02 24.8 +3.8**
	comp=Z,222nm,1.3s,comp=Z,4μm					
TIA	**Tai'an**	**17.95 350**⇓P			**P**	**20 02 23.3 +2.3**
TIA			pP		**pP**	**20 02 31.3 -0.3**
TIA			sP		**sP**	**20 02 35.9 -1.4**
TIA			ScP		**ScP**	**20 10 24.6 -2.0**
TIA			PMZ			
	comp=Z,80nm,1.4s					
TIA			PMZ			
	comp=Z,4μm,6.1s					
TIA			LN			
	comp=Z,18μm,18.3s					
TIA			LE			
	comp=Z,9μm,15.5s					
TIA			LZ			
	comp=Z,18μm,18.3s					
KMI	**Kunming**	**18.05 295**⇓P			**P**	**20 02 23.5 +1.1**
KMI			pP		**pP**	**20 02 35.1 +2.1**
KMI			sP		**sP**	**20 02 40.3 +1.7**
KMI			PMZ			
	comp=Z,130nm,1.2s					
KMI			PMZ			
	comp=Z,7μm,5.2s					
KMI			LN			
	comp=Z,22μm,13.1s					
KMI			LE			
	comp=Z,20μm,14.3s					
KMI			LZ			
	comp=Z,22μm,16.0s					
SBUM	**Sibu**	**18.05 209**⇑P			**P**	**20 02 23.0 +0.8**
MPSI	**Mapaga**	**18.07 183**	P		**Pn**	**20 02 23.9 +1.4**
	comp=Z,97nm,1.1s,comp=Z,2μm					
KMSI	**Cibinong**	**18.07 170**	P		**Pn**	**20 02 25.4 +2.8**
	comp=Z,910nm,1.3s,comp=Z,15μm					
KSBUS	**Busan**	**18.23 22**	P		**Pn**	**20 02 26.6 +2.3**
	SNR=7.2					
TNTI	**Ternate**	**18.74 159**	P		**Pn**	**20 02 31.5 +0.8**
	comp=Z,621nm,1.7s,comp=Z,9μmcomp=Z,33μm					
TNTI	**Ternate**	**18.74 159**	*e*P		**Pn**	**20 02 31.2 +0.5**
XAN	**Xi'an**	**18.79 328**	P		**Pn**	**20 02 31.3 +0.2**
XAN			S		**Sn**	**20 05 56.4 -4.1**
XAN			LN			
	comp=Z,8μm,16.0s					
XAN			LE			
	comp=Z,2μm,18.3s					
XAN			LZ			
	comp=Z,3μm,14.5s					
PBKT	**Sadao Pong**	**19.05 267**	P		**Pn**	**20 02 34.6 +0.3**
	comp=Z,244nm,0.7s,comp=Z,6μm					
SGKI	**Sangatta, Kali**	**19.17 190**	P		P	20 02 26.0 -8.6
UTTA	**Uttaradit**	**19.30 271**	P		**Pn**	**20 02 37.2 -0.1**
	comp=Z,21nm,1.1s,comp=Z,274nm					
APSI	**Ampana**	**19.30 178**	P		**Pn**	**20 02 37.1 -0.3**
	comp=Z,388nm,1.1s,comp=Z,6μm					
KSCHJ	**Chungju**	**19.35 17**	P		**Pn**	**20 02 37.8 0.0**
	SNR=6.5					
CRAI	**Chiangrai**	**19.39 278**	P		**P**	**20 02 36.0 -1.0**
	comp=Z,564nm,1.8s,comp=Z,14μm					
KSSWO	**Suwon**	**19.46 15**	P		**Pn**	**20 02 39.6 +0.5**
	SNR=22					
KSSWO	**Suwon**	**19.46 15**	P		**Pn**	**20 02 39.6 +0.5**
	SNR=22					
LUWI	**Luwuk**	**19.51 174**	P		**P**	**20 02 38.7 +0.4**
	comp=Z,946nm,1.0s,comp=Z,12μm					
LUWI	**Luwuk**	**19.51 174**	*e*P		**P**	**20 02 37.7 -0.6**
	comp=Z,995nm,1.0s					
INCN	**Inchon**	**19.59 14**	P		**Pn**	**20 02 40.3 -0.3**
	SNR=12					
INCN	**Inchon**	**19.59 14**	*e*P		**P**	**20 02 39.6 +0.6**
	comp=Z,156nm,0.8s					
KSICN	**Icheon**	**19.59 16**	P		**Pn**	**20 02 40.8 +0.1**
	SNR=10					
KSICN	**Icheon**	**19.59 16**	P		**Pn**	**20 02 40.8 +0.1**
	SNR=10					
KSBAR	**Backryungdo**	**19.70 9**	P		Pn	20 02 47.0 +5.0
	SNR=10.0					
KSBAR	**Backryungdo**	**19.70 9**	P		Pn	20 02 47.0 +5.0
	SNR=10.0					
KSGAH	**Ganghwa**	**19.76 13**	P		**Pn**	**20 02 42.4 -0.3**
	SNR=11					
KSGAH	**Ganghwa**	**19.76 13**	P		**Pn**	**20 02 42.4 -0.3**
	SNR=11					
KSYOW	**Yeongwol**	**19.77 18**	P		**Pn**	**20 02 42.6 -0.2**
	SNR=10					
CD2	**Chengdu**	**19.81 312**⇓*i*P			**Pn**	**20 02 43.0 -0.3**
CD2			pP		**pP**	**20 02 51.5 -0.7**
CD2			sP		**sP**	**20 03 00.3 +2.5**
CD2			PP		**PnPn**	**20 03 04.0 +5.8**
CD2			S		**S**	**20 06 19.4 -3.0**
CD2			PMZ			
	comp=Z,230nm,1.6s					
CD2			PMZ			
	comp=Z,7μm,5.4s					
CD2			LN			
	comp=Z,17μm,16.6s					
CD2			LE			
	comp=Z,16μm,16.7s					
CD2			LZ			
	comp=Z,23μm,16.7s					
KSM	**Kuching**	**19.82 213**⇓P			**Pn**	**20 02 42.9 -0.7**
KSM	**Kuching**	**19.82 213**	*e*P		**P**	**20 02 42.2 +0.5**
	comp=Z,261nm,1.2s					
KSAR	**Wonju Array Be**	**19.86 17**	P		**P**	**20 02 42.6 +0.6**
KSAR			S		**S**	**20 06 18.9 -4.3**
KSAR	**Wonju Array Be**	**19.86 17**	P		**P**	**20 02 42.5 +0.6**
KSAR			S		**S**	**20 06 18.9 -4.3**
KSAR			PcP		**PcP**	**20 06 58.4 +0.3**
KSAR			ScP		**ScP**	**20 10 31.2 +0.4**
KSWJU	**Wonju**	**19.87 17**	P		**Pn**	**20 02 43.5 -0.5**
	SNR=14					
KSTBA	**Taebaek**	**19.88 19**	P		**Pn**	**20 02 43.6 -0.5**
	SNR=17					
KSRS	**Korea Array**	**19.88 17**	P		**P**	**20 02 42.5 +0.4**
	comp=Z,4.9nm,0.3s,baz=197,slow=12,SNR=156					
KSRS			S		**S**	**20 06 18.9 -4.7**
	baz=202,slow=22,SNR=2.2					
KSRS			PcP		**PcP**	**20 06 58.4 +0.3**
	comp=Z,0.2nm,0.3s,baz=203,slow=2.2,SNR=5.6					
KSRS			ScP		**ScP**	**20 10 31.2 +0.4**
	baz=211,slow=0.7,SNR=6.1					
KSRS			LR		LR	20 11 24.8
	comp=Z,4μm,18.2s,baz=190,slow=40					
KSMUS	**Musan**	**20.00 14**	P		**P**	**20 02 44.4 +0.9**
	SNR=10					
KSDDC	**Dongducheon**	**20.08 14**	P		Pn	20 02 45.6 -0.9
	SNR=7.3					
LBMI	**Labuha**	**20.11 160**	P		Pn	20 02 46.6 -0.4
	comp=Z,551nm,1.5s,comp=Z,9μmcomp=Z,15μm					
LAMP	**Lampang**	**20.11 273**	P		Pn	20 02 46.8 -0.2
	comp=Z,24nm,0.7s,comp=Z,284nm					
KSCHC	**Chuncheon**	**20.16 16**	P		Pn	20 02 46.9 -0.5
	SNR=8.0					
KSCHC	**Chuncheon**	**20.16 16**	P		Pn	20 02 46.5 -0.9
	SNR=8.6					
MTKI	**Muara Teweh, K**	**20.18 197**	P		**P**	**20 02 46.5 +0.9**
	comp=Z,323nm,1.3s					
SUKH	**Sukhothai**	**20.20 270**	P		Pn	20 02 47.7 -0.3
	comp=Z,41nm,1.1s,comp=Z,446nm					
KSDGY	**Daegwallycong**	**20.32 18**	P		Pn	20 02 48.4 -0.9
	SNR=10					
DL2	**Dalian**	**20.35 2**⇑*i*P			Pn	20 02 49.5 -0.1
DL2			S		Sn	20 06 35.8 -2.1
DL2			PMZ			
	comp=Z,310nm,1.1s					
DL2			PMZ			
	comp=Z,870nm,6.9s					
DL2			LN			
	comp=Z,3μm,19.3s					
DL2			LE			
	comp=Z,4μm,14.5s					
DL2			LZ			
	comp=Z,4μm,20.9s					
KSCWO	**Cheorwon**	**20.37 15**	P		Pn	20 02 49.0 -0.9
	SNR=16					
KSIJA	**INJE**	**20.43 17**	P		**P**	**20 02 49.0 +0.9**
	SNR=22					
STKI	**Sintang**	**20.50 208**	P		**P**	**20 02 50.2 +1.2**
	comp=Z,330nm,1.2s,comp=Z,4μm					
TIY	**Taiyuan**	**20.51 341**	*e*P		Pn	20 02 52.3 +0.6
TIY			pP		pP	20 03 02.3 +2.5
TIY			sP		sP	20 03 05.6 +0.2
TIY			PP		**PnPn**	**20 03 13.6 +5.7**
TIY			PMZ			
	comp=Z,70nm,0.8s					
TIY			PMZ			
	comp=Z,2μm,4.3s					
TIY			LN			
	comp=Z,8μm,12.7s					
TIY			LE			
	comp=Z,3μm,14.0s					
TIY			LZ			
	comp=Z,8μm,15.0s					
KSJMJ	**Jumunjin**	**20.52 18**	P		Pn	20 02 50.5 -1.1
	SNR=11					
CMAI	**Chiengmai2**	**20.63 278**	P		Pn	20 02 57.2 +3.8
SEHB	**SEOHWA**	**20.74 17**	P		**P**	**20 02 52.8 +1.3**
	SNR=10					
CHTO	**Chiang Mai**	**20.75 274**	*e*P		**P**	**20 02 52.3 +0.5**
CHTO			pmax		pmax	
	comp=Z,186nm,1.3s					
CHTO			MLR		MLR	
	comp=Z,11μm,21.0s					
CHTO	**Chiang Mai**	**20.75 274**	P		**P**	**20 02 53.0 +1.2**
	SNR=92					
CHTO	**Chiang Mai**	**20.75 274**	P		**P**	**20 02 52.8 +1.0**
	comp=Z,608nm,1.2s,comp=Z,16μm					
CHTO	**Chiang Mai**	**20.75 274**	*e*P		**P**	**20 02 52.3 +0.5**
	comp=Z,186nm,1.3s					
CHTO			LR		LR	
	comp=Z,11μm,21.0s					
CMAR	**Chiang Mai Arr**	**20.77 273**	P		**P**	**20 02 53.4 +1.4**
	comp=Z,63nm,0.9s,baz=86,slow=9.0,SNR=249					
CMAR			S		Sn	20 06 46.2 -2.3
	comp=Z,0.6nm,0.8s,baz=11,slow=24,SNR=2.1					
CMAR			PcP		**PcP**	**20 07 01.1 +0.9**
	comp=Z,19nm,0.7s,baz=78,slow=0.6,SNR=37					
CMAR			LR		LR	20 10 19.4
	comp=Z,6μm,21.8s,baz=78,slow=35					
CMAR			ScP		**ScP**	**20 10 33.7 +0.3**
	comp=Z,3.3nm,0.9s,baz=57,slow=2.1,SNR=5.0					
CMAR			PKiKP		**PKiKP**	**20 14 47.3 -0.9**
	comp=Z,1.1nm,0.7s,baz=309,slow=1.8,SNR=8.1					
CMAR			P3KPbc			20 37 00.8
	comp=Z,3.6nm,1.1s,baz=272,slow=5.7,SNR=20					
KSSKC	**Sokcho**	**20.83 17**	P		Pn	20 02 53.9 -1.4
	SNR=10					
KSULL	**Ulleungdo**	**20.86 23**	P		Pn	20 02 55.0 -0.7
	SNR=17					
SANI	**Sanana**	**21.04 166**	P		**P**	**20 02 50.9 -3.9**
	comp=Z,295nm,1.2s,comp=Z,4μmcomp=Z,15μm					
SRDT	**SRDT**	**21.23 262**	P		**P**	**20 02 59.0 +2.0**
	comp=Z,182nm,1.0s,comp=Z,2μm					
TTSI	**Tana Toraja**	**21.43 183**	P		**P**	**20 03 01.6 +2.6**
	comp=Z,192nm,1.1s,comp=Z,3μm					
CBIJ	**Chichi jima**	**21.43 63**	P		**P**	**20 02 58.3 -0.7**
CBIJ			S		**S**	**20 06 53.6 -1.0**
JCJ	**Chichijima**	**21.43 63**	P		**P**	**20 02 58.3 -0.7**
	comp=Z,609nm,0.7s,baz=281,slow=3.8,SNR=21					
JCJ			S		**S**	**20 06 53.6 -1.0**
	comp=Z,84nm,1.0s,baz=294,slow=20,SNR=3.5					
JCJ			LR		LR	20 09 41.7
	comp=Z,5μm,21.6s,baz=262,slow=32					
KHLT	**Khaolaem Dam**	**21.63 264**	P		**P**	**20 03 03.2 +1.9**
	comp=Z,35nm,1.1s,comp=Z,2μm					
KTGM	**Kuala Trenggan**	**21.68 235**⇑P			**P**	**20 03 01.8 0.0**
MHMT	**Maesarieng**	**21.75 273**	P		**P**	**20 03 04.4 +1.9**
	comp=Z,56nm,1.4s,comp=Z,1μm					
BJT	**Baijiatuau**	**21.82 350**	*e*P		**P**	**20 03 04.3 +1.2**
BJT			pmax		pmax	
	comp=Z,194nm,0.7s					
BJT			MLR		MLR	
	comp=Z,11μm,20.0s					
BJT	**Baijiatuau**	**21.82 350**	*e*P		**P**	**20 03 04.2 +1.2**
	comp=Z,194nm,0.7s					
BJT			LR		LR	
	comp=Z,11μm,20.0s					
BJI	**Beijing**	**21.84 350**	P		**P**	**20 03 04.4 +1.1**
BJI			pP		**pP**	**20 03 14.5 +0.4**
BJI			S		**S**	**20 07 04.0 +1.7**
BJI			PMZ			
	comp=Z,51nm,1.2s					
BJI			LN			
	comp=Z,11μm,17.1s					
BJI			LE			
	comp=Z,2μm,11.9s					
BJI			LZ			
	comp=Z,8μm,20.8s					
SPSI	**Sidrap Palu**	**22.34 183**	P		**P**	**20 03 09.1 +0.2**
JHJ2	**Mitsune**	**22.39 46**	*e*P		**P**	**20 03 09.7 +0.4**
	comp=Z,263nm,0.8s					
NLAI	**Namlea**	**22.46 163**	P		**P**	**20 03 09.3 -0.8**
BBKI	**Banjar Baru**	**22.61 196**	P		**P**	**20 03 11.0 -0.7**
BNSI	**Bone**	**22.76 182**	P		**P**	**20 03 13.5 +0.2**
PBKI	**Pangkalan Bun**	**22.92 204**	P		**P**	**20 03 13.8 -1.2**
LZH	**Lanzhou**	**23.07 323**⇓P			**P**	**20 03 18.3 +1.7**
LZH			pP		**pP**	**20 03 29.1 +1.6**
LZH			sP		**sP**	**20 03 34.5 +1.5**
LZH			PP		PnPn	20 03 50.1 +7.2
LZH			PcP		**PcP**	**20 07 06.5 +1.9**
LZH			S		**S**	**20 07 24.3 -0.2**
LZH			sS		Sn	20 07 41.0 -2.6
LZH			ScP		**ScP**	**20 10 39.6 +0.5**
LZH			PcS		**PcS**	**20 10 45.3 +1.4**
LZH			ScS		**ScS**	**20 14 24.3 -0.9**
LZH			PMZ			
	comp=Z,790nm,1.5s					
LZH			PMZ			
	comp=Z,4μm,6.8s					
LZH			LN			
	comp=Z,12μm,15.0s					
LZH			LE			
	comp=Z,6μm,14.6s					
LZH			LZ			
	comp=Z,15μm,16.2s					
MSAI	**Masohi**	**23.12 159**	P		**P**	**20 03 17.5 +0.5**
SNY	**Shenyang**	**23.37 5**⇑P			**P**	**20 03 19.0 -0.2**
SNY			S		**S**	**20 07 27.6 -1.3**
SNY			PMZ			
	comp=Z,390nm,0.8s					
SNY			PMZ			
	comp=Z,3μm,3.5s					
SNY			LN			
	comp=Z,4μm,27.5s					
SNY			LE			
	comp=Z,8μm,20.3s					
SNY			LZ			
	comp=Z,7μm,22.5s					
KAPI	**Kappang**	**23.39 183**	P		**P**	**20 03 18.9 -0.7**
	SNR=29					
KAPI	**Kappang**	**23.39 183**	*e*P		**P**	**20 03 18.4 -1.2**
	comp=Z,264nm,1.3s					
KAPI			LR		LR	
	comp=Z,10μm,22.0s					
SURT	**Suratani**	**23.40 249**	P		**P**	**20 03 21.9 +2.2**
	comp=Z,45nm,2.1s,comp=Z,2μm					
MYKOM	**Kota Tinggi**	**23.52 227**⇓P			**P**	**20 03 20.2 -0.7**
GUMO	**Guam**	**23.59 98**	*e*P		**P**	**20 03 22.0 +0.4**
GUMO			pmax		pmax	
	comp=Z,554nm,1.2s					
GUMO			MLR		MLR	
	comp=Z,8μm,19.0s					
GUMO	**Guam**	**23.59 98**	*e*P		**P**	**20 03 21.9 +0.4**
	comp=Z,65nm,1.2s					
GUMO			LR		LR	
	comp=Z,963nm,19.0s					
MAJO	**Matsushiro**	**23.60 37***c* *i*P			**P**	**20 03 19.7 -1.8**
MAJO			pmax		pmax	
	comp=Z,2μm,2.1s					
MAJO	**Matsushiro**	**23.60 37**	*e*P		**P**	**20 03 20.2 -1.4**
	comp=Z,54nm,0.6s					
MAJO			LR		LR	
	comp=Z,3μm,20.0s					
MAT	**Matsushiro**	**23.60 37**	P		**P**	**20 03 19.8 -1.7**
MAT			S		**S**	**20 07 33.8 +0.9**
MJAR	**Matsushiro Arr**	**23.60 37**	P		**P**	**20 03 20.3 -1.2**
	comp=Z,34nm,0.8s,baz=229,slow=8.0,SNR=74					
MJAR			PcP		**PcP**	**20 07 05.9 +0.3**
	comp=Z,9.4nm,1.1s,baz=182,slow=2.8,SNR=6.5					
MJAR			S		**S**	**20 07 33.5 +0.6**
	comp=Z,2.0nm,0.7s,baz=237,slow=27,SNR=3.4					
MJAR			LR		LR	20 11 46.9
	comp=Z,2μm,21.8s,baz=210,slow=34					
HHC	**Hu-ho-hao-te**	**23.66 342**	*e*P		**P**	**20 03 23.4 +1.3**
HHC			pP		**pP**	**20 03 33.8 +0.2**
HHC			sP		**sP**	**20 03 41.3 +2.3**
HHC			S		**S**	**20 07 35.3 +1.4**
HHC			sS		**sS**	**20 07 50.4 -3.1**
HHC			PMZ			
	comp=Z,17nm,0.6s					
HHC			PMZ			
	comp=Z,1μm,5.6s					
HHC			LN			
	comp=Z,18μm,16.2s					
HHC			LE			
	comp=Z,6μm,13.2s					
HHC			LZ			
	comp=Z,15μm,15.3s					
BKSI	**Bulukumba**	**23.68 182**	P		**P**	**20 03 19.1 -3.2**
KULM	**Kulim**	**23.68 239**⇓P			**P**	**20 03 23.4 +0.9**
KULM	**Kulim**	**23.68 239**	*e*P		**P**	**20 03 22.4 0.0**
	comp=Z,163nm,1.1s					
KULM			LR		LR	
	comp=Z,11μm,20.0s					
TPRI	**Tanjung Pinang**	**23.70 224**	P		**P**	**20 03 22.8 +0.2**
KGM	**Kluang**	**23.73 228**⇓P			**P**	**20 03 23.4 +0.4**
RKPI	**Ransiki, Papua**	**23.82 145**	P		**P**	**20 03 25.3 +1.6**
IPM	**Ipoh**	**23.86 237**⇑P			**P**	**20 03 24.0 -0.1**
IPM	**Ipoh**	**23.86 237**	*e*P		**P**	**20 03 23.0 -1.0**
	comp=Z,107nm,0.9s		

comp=Z,25nm,1.7s
BTO LN
comp=Z,2μm,17.0s
BTO LE
comp=Z,2μm,18.6s
FAKI Fak Fak 24.06 151 P **P 20 03 24.7 -1.3**
FAKI Fak Fak 24.06 151 *e*P **P 20 03 24.5 -1.5**
comp=Z,424nm,1.3s
FRIM Kepong 24.16 233 ⇑P **P 20 03 26.8 -0.1**
PKDT Phuket 24.28 247 P P 20 03 33.7 +5.7
BNDI Bandanaira 24.56 158 P **P 20 03 29.8 -0.6**
CN2 Changchun 25.52 8 *e*P **P 20 03 38.9 -0.1**
CN2 *es*P **sP 20 03 56.0 -0.1**
CN2 PcP **PcP 20 07 09.9 +0.3**
CN2 *e*S **S 20 08 00.6 -2.8**
CN2 PMZ
comp=Z,30nm,0.6s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,4μm,14.0s
CN2 LE
comp=Z,6μm,14.0s
CN2 LZ
comp=Z,1μm,15.0s
JMBI JAMBI 26.20 222 P **P 20 03 44.0 -1.4**
VLA Vladivostok 26.27 18⇑ *i*P **P 20 03 47.1 +1.4**
VLA *e* 20 04 24.1
VLA *i* 20 07 10.2
VLA *e*S **S 20 08 16.1 +1.0**
VLA pmax pmax
comp=Z,218nm,1.1s
KMMI Kalianget 26.27 196 P **P 20 03 46.7 +0.7**
TSI Tuntungan 26.41 238 P **P 20 03 46.9 -0.3**
PMBI Palembang 26.52 218 P P 20 04 06.4 +18
PSI Prapat 26.54 237 P **P 20 03 48.8 +0.2**
comp=Z,23nm,0.9s,baz=53,slow=9.4,SNR=29
PSI PcP **PcP 20 07 12.7 +0.1**
comp=Z,5.9nm,0.2s,baz=88,slow=5.0,SNR=4.7
PSI S **S 20 08 18.6 -1.5**
comp=Z,2.4nm,0.4s,baz=180,slow=19,SNR=2.5
PSI ScP **ScP 20 10 49.9 +0.8**
comp=Z,3.3nm,0.4s,baz=281,slow=2.8,SNR=4.4
PSI LR LR 20 13 48.6
comp=Z,9μm,20.2s,baz=64,slow=35
BKNI Bangkinang 26.54 229 P **P 20 03 47.5 -0.9**
BKNI Bangkinang 26.54 229 *e*P **P 20 03 48.4 -0.1**
comp=Z,156nm,0.8s
GRJI Gresik 26.56 199 P **P 20 03 46.9 -1.7**
TBJI Tambak Boyo 26.67 200 P **P 20 03 48.5 -1.1**
LHMI Lhok Sumawe 26.79 243 P **P 20 03 48.9 -1.8**
LHMI Lhok Sumawe 26.79 243 *e*P **P 20 03 51.4 +0.6**
comp=Z,178nm,1.0s
SMPI Sarmi 26.90 137 P **P 20 03 50.3 -1.4**
ABJI Asem Bagus 26.93 195 P **P 20 03 53.1 +1.2**
comp=Z,194nm,1.9s,comp=Z,3μm
SRBI Singaraja 26.99 192 P **P 20 03 53.2 +0.8**
comp=Z,101nm,1.7s,comp=Z,2μm
MMRI Maumere 27.00 177 P **P 20 03 52.1 -0.4**
MMRI Maumere 27.00 177 *e*P **P 20 03 53.2 +0.7**
comp=Z,256nm,1.2s
BLJI Banyuglugur 27.04 196 P **P 20 03 51.1 -1.8**
KCSI Kotacane, Aceh 27.04 239 P **P 20 03 51.0 -2.0**
MDJ Mudanjiang 27.05 14 *e*P **P 20 03 53.4 +0.6**
comp=Z,45nm,0.6s
MDJ LR LR
comp=Z,4μm,22.0s
EDFI Ende, Flores 27.09 178 P **P 20 03 52.6 -0.8**
USRK Ussuriysk Ar. 27.28 18 P **P 20 03 55.4 +0.5**
comp=Z,64nm,0.9s,baz=206,slow=7.3,SNR=45
USRK PcP **PcP 20 07 13.6 -0.1**
comp=Z,3.7nm,0.7s,baz=259,slow=2.9,SNR=3.3
USRK LR LR 20 15 46.8
comp=Z,5μm,19.3s,baz=193,slow=38
MNSI Mandailing Nat 27.30 232 P **P 20 03 54.1 -1.1**
DNP Denpasar 27.57 192 P **P 20 03 59.1 +1.5**
comp=Z,555nm,1.7s,comp=Z,11μm
GMJI Gumukmas 27.58 196 P P 20 03 50.9 -6.9
JAGI Jajag, Banyuwa 27.60 194 P P 20 03 52.5 -5.4
JAGI Jajag, Banyuwa 27.60 194 *e*P **P 20 03 57.3 -0.6**
comp=Z,124nm,1.1s
GTA Gaotai 27.67 323 *e*P **P 20 03 59.8 +1.2**
GTA pP **pP 20 04 12.0 +1.6**
GTA sP **sP 20 04 17.6 +1.9**
GTA PcP **PcP 20 07 16.3 +1.4**
GTA S **S 20 08 39.3 +1.6**
GTA sS **sS 20 08 59.3 +1.7**
GTA ScP **ScP 20 10 52.0 -0.1**
GTA PcS **PcS 20 10 56.6 -0.3**
GTA ScS **ScS 20 14 42.5 -1.7**
GTA PMZ
comp=Z,16nm,1.2s
GTA PMZ
comp=Z,390nm,5.9s
GTA LN
comp=Z,5μm,19.9s
GTA LE
comp=Z,5μm,20.9s
GTA LZ
comp=Z,9μm,23.3s
SHL Shillong 27.71 290 *e*P **P 20 04 00.8 +1.7**
SHL *i* PCP **PcP 20 07 16.4 +1.1**
SHL *i* x x 20 08 48.0
SHL *i* SCP **ScP 20 10 52.0 -0.6**
IGBI Denpasar 27.72 192 P **P 20 03 58.3 -0.6**
PDSI Padang 27.81 228 P P 20 04 12.3 +12
WOJI Wonogiri, Jawa 27.94 201 P **P 20 03 59.7 -1.2**
LHSI Lahat 27.99 219 P **P 20 04 05.9 +4.5**
comp=Z,74nm,1.3s,comp=Z,2μm
WBSI Waikabubak, Su 28.00 183 P **P 20 03 58.6 -2.9**
KLI Kotabumi 28.05 216 P P 20 04 20.4 +18
MDSI Maura Dua 28.13 217 P **P 20 04 01.4 -1.3**
PCJI Pacitan 28.18 201 P **P 20 04 03.1 0.0**
KPJI Karang Pucung 28.23 206 P **P 20 04 04.6 +1.1**
MASI Maura Aman, Be 28.25 222 P P 20 04 19.5 +16
SAUI Saumlaki 28.26 158 P **P 20 04 01.9 -1.9**
SOEI Soe 28.27 173 P **P 20 04 01.6 -2.5**
SOEI Soe 28.27 173 *e*P **P 20 04 03.3 -0.8**
comp=Z,107nm,0.8s
GENI Genyem 28.31 136 P **P 20 04 01.2 -3.1**
LEM Lembang 28.34 209 P **P 20 04 04.7 -0.1**
SBJI Serang 28.44 212 P P 20 04 20.1 +15
GSI Gunungsitoli 28.51 236 P **P 20 04 04.1 -2.0**
GSI Gunungsitoli 28.51 236 *e*P **P 20 04 04.6 -1.6**
comp=Z,44nm,0.6s
JAY Jayapura 28.61 135 P **P 20 04 06.2 -0.7**
comp=Z,4.3nm,0.6s,baz=317,slow=8.9,SNR=2.4
JAY LR LR 20 13 37.3
comp=Z,9μm,20.6s,baz=340,slow=32
LWLI Liwa 28.63 217 P **P 20 04 07.8 +0.5**
BATI Baumata 28.66 174 P **P 20 04 05.1 -2.3**
BATI Baumata 28.66 174 P **P 20 04 05.6 -1.8**
comp=Z,134nm,0.7s,baz=321,slow=3.0,SNR=33
BATI PcP **PcP 20 07 19.5 +2.0**
comp=Z,55nm,0.7s,baz=338,slow=2.0,SNR=5.0
BATI LR LR 20 16 48.9
comp=Z,5μm,21.6s,baz=323,slow=39
KASI Kota Agung 28.80 216 P **P 20 04 11.0 +2.4**
comp=Z,111nm,1.5s,comp=Z,1μm
SNSI Sinabang, Aceh 28.85 239 P **P 20 04 10.9 +1.7**
comp=Z,206nm,1.5s,comp=Z,10μm
CISI Cisompet, Garu 28.90 208 P P 20 04 15.9 +6.3
CISI Cisompet, Garu 28.90 208 *e*P **P 20 04 09.4 -0.2**
comp=Z,206nm,1.2s
LSA Lhasa 29.23 298 *e*P **P 20 04 14.2 +1.3**
LSA pmax pmax
comp=Z,108nm,0.9s
LSA MLR MLR
comp=Z,11μm,22.0s
LSA Lhasa 29.23 298 *e*P **P 20 04 14.2 +1.3**
comp=Z,108nm,0.9s
LSA LR LR
comp=Z,11μm,22.0s
ERM Erimo 30.18 34 P **P 20 04 21.8 +1.2**
ERM Erimo 30.18 34 P **P 20 04 19.1 -1.5**
comp=Z,74nm,0.8s
ERM LR LR
comp=Z,5μm,22.0s
HIA Hailar 30.71 359 *e*P **P 20 04 25.5 +0.2**
HIA pmax pmax
comp=Z,68nm,1.0s
HIA MLR MLR
comp=Z,4μm,22.0s
HIA Hailar 30.71 359 *e*P **P 20 04 25.4 +0.2**
comp=Z,68nm,1.0s
HIA LR LR
comp=Z,4μm,22.0s
ULN Ulaanbaatar 31.38 342 *c i*P **P 20 04 33.0 +1.6**
ULN pmax pmax
comp=Z,33nm,1.2s
ULN Ulaanbaatar 31.38 342 P **P 20 04 33.4 +2.1**
SNR=35
ULN Ulaanbaatar 31.38 342 *e*P **P 20 04 32.8 +1.4**
comp=Z,104nm,1.2s
ULN *e*PcP **PcP 20 07 24.7 +0.5**
ASAJ Asahikawa 31.40 31 P **P 20 04 31.3 -0.1**
ASAJ 20 07 24.4
ASAJ pmax pmax
comp=Z,54nm,1.1s
ASAJ Asahikawa 31.40 31 P **P 20 04 31.2 -0.1**
comp=Z,54nm,1.1s,baz=235,slow=8.4,SNR=20
ASAJ PcP **PcP 20 07 24.4 +0.3**
comp=Z,19nm,1.0s,baz=260,slow=6.1,SNR=3.0
ASAJ Asahikawa 31.40 31 *e*P **P 20 04 31.7 +0.4**
comp=Z,54nm,1.1s
ASAJ PcP **PcP 20 07 24.4 +0.3**
SONM Songino Array 31.55 341 P **P 20 04 34.4 +1.6**
comp=Z,12nm,0.5s,baz=160,slow=9.1,SNR=155
SONM PcP **PcP 20 07 24.5 -0.1**
comp=Z,10.0nm,0.7s,baz=166,slow=3.4,SNR=22
SONM ScP **ScP 20 11 04.7 +0.3**
comp=Z,3.6nm,1.1s,baz=132,slow=4.1,SNR=5.4
SONM PKiKP **PKiKP 20 14 52.8 -1.0**
comp=Z,1.0nm,1.1s,baz=273,slow=0.4,SNR=3.7
SONM LR LR 20 18 15.3
comp=Z,10μm,21.3s,baz=161,slow=38
TAPN Taplejung 31.68 292 *e*P **P 20 04 35.3 +0.8**
comp=Z,372nm,1.3s
ODAN Odare 31.89 291 *e*P **P 20 04 36.7 +0.5**
comp=Z,204nm,0.8s
KLR Kul'dur 31.90 14⇓ *i*P P 20 04 32.0 -3.7
KLR *e*S **S 20 09 40.5 -3.0**
KLR pmax pmax
comp=N,150nm,1.8s
KLR pmax pmax
comp=E,180nm,1.8s
KLR pmax pmax
comp=Z,540nm,1.8s
KLR pmax pmax
comp=Z,1μm,9.5s
KLR smax smax
comp=N,2μm,10.0s
KLR smax smax
comp=E,2μm,10.0s
KLR MLR MLR
comp=N,5μm,13.0s
KLR MLR MLR
comp=Z,13μm,13.0s
HABR Khabarovsk 32.05 18 *de*P **P 20 04 35.2 -1.8**
HABR *e**SP sP 20 04 48.6 -5.6
HABR *e* 20 05 40.6
HABR *e* 20 07 24.1
HABR *e*S **S 20 09 45.4 -0.5**
HABR *e**SS **sS 20 10 01.3 -4.5**
HABR *e*SS **SnSn 20 11 36.9 -1.6**
HABR *e* 20 15 03.5
HABR pmax pmax
comp=N,23nm,1.3s
HABR pmax pmax
comp=Z,116nm,2.5s
HABR pmax pmax
comp=E,74nm,2.5s
HABR MLR MLR
comp=E,2μm,17.0s
HABR MLR MLR
comp=Z,3μm,17.0s
HABR MLR MLR
comp=N,3μm,17.0s
RAMN Ramite 32.60 291 *e*P **P 20 04 43.4 +0.9**
comp=N,259nm,0.7s
YUK Yuzh-Kuril'sk 33.00 34⇑ *i*P P 20 04 40.8 -4.6
YUK *i* 20 05 52.3
YUK *i* S **S 20 09 58.7 -2.1**
YUK MLR MLR
comp=Z,1μm,19.0s
YUK MLR MLR
comp=N,547nm,19.0s
YUK MLR MLR
comp=Z,874nm,19.0s
JIRN Jiri 33.06 292 *e*P **P 20 04 47.3 +0.7**
comp=Z,444nm,1.4s
GUN Gumba 33.37 293 *e*P **P 20 04 50.1 +0.8**
comp=Z,268nm,0.8s
YSS Yuzh-Sakhalins 33.61 28α *i*P **P 20 04 51.5 +0.8**
YSS *e* 20 07 30.8
YSS *e*S **S 20 10 09.0 -1.1**
YSS pmax pmax
comp=N,270nm,1.2s
YSS pmax pmax
comp=Z,710nm,1.2s
YSS pmax pmax
comp=E,130nm,1.0s
YSS MLR MLR
comp=N,2μm,17.0s
YSS MLR MLR
comp=E,2μm,17.0s
YSS MLR MLR
comp=Z,2μm,17.0s
YSS Yuzh-Sakhalins 33.61 28 *e*P **P 20 04 51.4 +0.7**
comp=Z,770nm,1.3s
PKI Pulchoki 33.74 292 *e*P **P 20 04 52.7 +0.2**
comp=Z,143nm,1.1s
PKIN Phulchoki 33.75 292 *e*P **P 20 04 52.6 +0.1**
comp=Z,112nm,1.1s
KKN Kakani 33.88 292 *e*P **P 20 04 53.9 +0.3**
comp=Z,176nm,0.9s
CIT Chita 33.94 352 *e*P **P 20 04 54.1 +0.5**
CIT *e* 20 05 01.1
CIT *e* 20 05 10.2
CIT *e* 20 06 26.0
CIT *e* 20 07 31.0
CIT *e* 20 12 46.6
CIT pmax pmax
comp=Z,167nm,1.5s
DMN Daman 34.01 292 *e*P **P 20 04 54.8 +0.1**
comp=Z,227nm,1.1s
GKN Gorkha 34.48 293 *e*P **P 20 04 58.5 -0.2**
comp=Z,230nm,1.0s
ZAK Zakamensk 34.77 340⇑ *i*P **P 20 05 02.4 +1.6**
ZAK *e* 20 07 34.0
ZAK pmax pmax
comp=Z,23nm,1.1s
DANN Dangsing 35.29 293 *e*P **P 20 05 06.0 +0.2**
comp=Z,194nm,0.9s
KOLN Koldanda 35.35 292 *e*P **P 20 05 06.6 +0.3**
comp=Z,132nm,0.8s
TLY Talaya 35.79 342 P **P 20 05 11.4 +1.9**
comp=Z,306nm,0.9s,SNR=15
TLY Talaya 35.79 342 *e*P **P 20 05 11.1 +1.6**
TLY *e* 20 06 28.8
TLY *e* 20 07 36.7
TLY *e*S **S 20 10 41.6 -2.1**
TLY pmax pmax
comp=Z,52nm,1.1s
TLY MLR MLR
comp=Z,7μm,20.0s
TLY Talaya 35.79 342 P **P 20 05 11.8 +2.3**
SNR=38
TLY Talaya 35.79 342 P **P 20 05 11.3 +1.8**
comp=Z,26nm,0.6s,baz=187,slow=5.2,SNR=60
TLY Talaya 35.79 342 *e*P **P 20 05 11.3 +1.8**
comp=Z,27nm,0.6s
TLY LR LR
comp=Z,8μm,21.0s
IRK Irkutsk 36.10 343 *e*P **P 20 05 13.7 +1.6**
IRK *e*S **S 20 10 52.0 +3.5**
IRK pmax pmax
comp=Z,167nm,1.7s
MOY Mondy 36.62 339 *e*P **P 20 05 18.5 +1.8**
MOY pmax pmax
comp=Z,129nm,2.7s
WMQ Urumqi 37.56 320 P **P 20 05 27.4 +2.6**
WMQ pP **pP 20 05 39.3 +2.5**
WMQ PP **PnPn 20 06 54.3 +2.1**
WMQ PcP **PcP 20 07 43.1 +1.1**
WMQ S **S 20 11 11.8 +0.8**
WMQ sS **sS 20 11 31.5 +0.3**
WMQ SS **SnSn 20 13 46.0 -6.2**
WMQ ScS **ScS 20 15 35.3 +1.0**
WMQ PMZ
comp=Z,25nm,1.1s
WMQ PMZ
comp=Z,760nm,4.6s
WMQ LN
comp=Z,5μm,14.0s
WMQ LE
comp=Z,5μm,14.0s
WMQ LZ
comp=Z,5μm,20.0s
PMG Port Moresby 37.99 135 *c i*P **P 20 05 26.7 -1.8**
PMG pmax pmax
comp=Z,44nm,1.0s
PMG Port Moresby 37.99 135 *e*P **P 20 05 27.4 -1.1**
comp=Z,24nm,1.3s
PMG LR LR
comp=Z,3μm,21.0s
LGTI Lohaghat 38.49 294 *e*P **P 20 05 34.2 +1.6**
LGTI *ex* x 20 07 44.1
COCO West Island 38.61 220 *i* P **P 20 05 35.7 +2.0**
COCO West Island 38.61 220 PFAKE 20 05 40.0 +6.3
COCO LR LR
comp=Z,2μm,20.0s
HVS Khovu-Aksy 39.02 333 *ce*P **P 20 05 38.8 +1.9**
HVS pmax pmax
comp=Z,321nm,1.8s
COEN Coen 39.05 144 *e*P **P 20 05 34.9 -2.5**
comp=Z,31nm,0.6s
NGP Nagpur 39.33 281 *e*P **P 20 05 39.3 -0.5**
NGP AMB AMB 20 05 53.7
comp=Z,161nm,2.1s
NGP *ex* x 20 11 38.3
MBWA Marble Bar 39.42 182 P **P 20 05 39.8 -0.7**
SNR=6.6
MBWA Marble Bar 39.42 182 *e*P **P 20 05 38.8 -1.7**
comp=Z,31nm,0.8s
MBWA LR LR
comp=Z,2μm,21.0s
BOD Bodaibo 39.59 354 *e*P **P 20 05 42.2 +0.7**
BOD *e* 20 07 47.9
BOD *e*S **S 20 11 35.7 -5.4**
BOD *e* 20 15 43.6
BOD pmax pmax
comp=Z,70nm,0.1s
HYB Hyderabad 40.18 275 *i* P **P 20 05 47.0 +0.1**
HYB *e* 20 05 57.0
HYB *e* 20 06 01.5
HYB *e*PP **PP 20 07 20.0 0.0**
HYB *e*S **S 20 11 50.0 -1.0**
HYB *e*SS **SS 20 14 52.0 +1.9**
WRAB Tennant Creek 40.42 160 P **P 20 05 46.0 -2.8**
WRAB pmax pmax
comp=Z,229nm,1.7s
WRAB Tennant Creek 40.42 160 *e*P **P 20 05 45.8 -3.1**
comp=Z,120nm,1.1s
WRAB LR LR
comp=Z,2μm,20.0s
WRA Warramunga Arr 40.43 160 P **P 20 05 46.9 -2.0**
comp=Z,26nm,0.5s,baz=342,slow=9.0,SNR=206
WRA PcP **PcP 20 07 51.5 +0.2**
comp=Z,27nm,0.6s,baz=344,slow=3.3,SNR=14
WRA S **S 20 11 48.9 -5.5**
comp=Z,3.7nm,0.8s,baz=347,slow=15,SNR=7.3
WRA LR LR 20 23 52.0
comp=Z,2μm,21.3s,baz=330,slow=38
WRA PKPPKP P'P'df 20 37 47.0 -18
comp=Z,1.4nm,1.2s,baz=179,slow=2.7,SNR=2.9
WB2 Warramunga Arr 40.43 160 *e*P **P 20 05 45.9 -3.0**
PALK Pallekele 40.59 259 *i* P **P 20 05 52.5 +2.1**
PALK Pallekele 40.59 259 P **P 20 05 51.6 +1.2**
comp=Z,15nm,0.5s,baz=58,slow=6.1,SNR=20
PALK PcP **PcP 20 07 53.6 +1.6**
comp=Z,31nm,0.6s,baz=48,slow=3.4,SNR=12
PALK Pallekele 40.59 259 *e*P **P 20 05 51.6 +1.2**
comp=Z,39nm,1.0s
PALK PcP **PcP 20 07 53.6 +1.6**
NDI New Delhi 41.05 293 *e*P **P 20 05 53.0 -1.0**
SMLA Simla 41.34 296 *i* P **P 20 05 57.1 +0.8**
SMLA AMB AMB 20 06 02.0
comp=Z,256nm,0.7s
SMLA *i* S **S 20 12 07.7 -0.2**
SDNR Sundarnagar 41.55 297 *e*P **P 20 06 00.0 +1.9**
LATR Latur 41.92 277 *ex* **P 20 06 03.5 +2.3**
BHK Bhakra 42.01 297 *e*P **P 20 06 04.5 +2.6**
BHK *ex* x 20 06 24.0
MK31 Makanchi Array 42.35 321 *i* P **P 20 06 06.1 +1.7**
MK31 pmax pmax
comp=Z,56nm,0.7s
MKAR Makanchi Array 42.35 321 P **P 20 06 06.1 +1.7**
comp=Z,63nm,0.9s,baz=119,slow=8.9,SNR=403
MKAR PcP **PcP 20 07 57.5 +0.3**
comp=Z,26nm,0.7s,baz=108,slow=4.7,SNR=5.8
MKAR ScP **ScP 20 11 43.1 -1.4**
comp=Z,11nm,1.3s,baz=132,slow=6.0,SNR=4.5
MKAR S **S 20 12 24.4 +1.9**
comp=Z,0.8nm,0.8s,baz=130,slow=6.3,SNR=3.0
MKAR PKPPKP P'P'df 20 37 38.3 -32
comp=Z,0.8nm,1.0s,baz=347,slow=0.8,SNR=3.3
PDGK Podgornoye 42.66 315 P **P 20 06 09.0 +2.1**
WAKE Wake Island 43.26 81 PFAKE 20 06 20.0 +8.0
WAKE LR LR
comp=Z,7μm,22.0s
H11S3 WAKE ISLAND Hy 43.38 82 T T 20 51 37.5
baz=276,slow=75,SNR=441
H11S1 WAKE ISLAND Hy 43.40 82 T T 20 51 37.9
baz=276,slow=75,SNR=279
H11S2 WAKE ISLAND Hy 43.40 82 T T 20 51 38.4
baz=276,slow=75,SNR=320
H11N1 WAKE ISLAND Hy 43.43 81 T T 20 51 36.6
baz=275,slow=74,SNR=244
H11N2 WAKE ISLAND Hy 43.43 81 T T 20 51 44.8
baz=275,slow=74,SNR=211
H11N3 WAKE ISLAND Hy 43.45 81 T T 20 51 37.9
baz=275,slow=74,SNR=235
TRD Trivandrum 43.70 263⇑ *e*P x 20 06 38.9
TRD *e*S S 20 12 56.9 +14
AS31 Alice Springs 43.80 163 *e*P **P 20 06 15.6 -0.8**
ASAR Alice Springs 43.80 163 P **P 20 06 15.1 -1.2**
comp=Z,32nm,0.6s,baz=345,slow=7.0,SNR=154
ASAR PcP **PcP 20 08 02.5 +0.1**
comp=Z,13nm,0.7s,baz=346,slow=4.5,SNR=5.3
ASAR S **S 20 12 40.3 -3.8**
comp=Z,3.9nm,0.8s,baz=350,slow=20,SNR=6.8
ASAR PKPPKP P'P'df 20 37 55.5 -5.2
comp=Z,0.4nm,0.9s,baz=151,slow=2.1,SNR=4.2
YAK Yakutsk 43.93 6 *c i*P **P 20 06 17.0 +0.2**
YAK *e**PP **pP 20 06 28.1 -1.0**
YAK *e* 20 08 01.9
YAK *e* 20 08 10.1
YAK *e*S **S 20 12 39.5 -5.6**
YAK *e**SS sS 20 12 58.8 -6.7
YAK *e*SS **SS 20 15 56.2 -6.5**
YAK *e* 20 16 07.0
YAK pmax pmax
comp=Z,222nm,1.0s
YAK pmax pmax
comp=E,36nm,1.1s
YAK pmax pmax
comp=N,161nm,1.3s
YAK pmax pmax
comp=N,106nm,1.6s
YAK pmax pmax
comp=Z,281nm,1.6s
YAK pmax pmax
comp=E,23nm,0.8s
YAK smax smax
comp=E,726nm,5.2s
YAK smax smax
comp=N,242nm,1.9s
YAK MLR MLR
comp=Z,4μm,19.0s
YAK MLR MLR
comp=N,3μm,20.0s
YAK MLR MLR
comp=E,1μm,16.0s
YAK Yakutsk 43.93 6 *e*P **P 20 06 17.1 +0.2**
comp=E,290nm,0.9s
KSH Kashi 43.94 308 P P 20 06 21.0 +3.5
KSH sP sP 20 06 38.8 +3.9
KSH PP **PcP 20 08 06.0 +3.1**
KSH PcS **PcS 20 11 58.0 +2.0**
KSH S **S 20 12 49.3 +3.1**
KSH sS sS 20 13 12.1 +5.5
KSH SS **SS 20 16 01.0 -2.8**
KSH PMZ
comp=E,21nm,1.0s
KSH LN
comp=E,4μm,15.2s

KSH LE
comp=E,5μm,14.9s
KSH LZ
comp=E,6μm,18.0s
AAA Alma-Ata 44.37 314 *e*P **P 20 06 23.8 +3.0**
AAA pmax pmax
comp=Z,2μm,7.9s
AAA MLR MLR
comp=Z,7μm,18.0s
POO Poona 44.46 278 *e*P **P 20 06 21.0 -0.8**
comp=Z,269nm,0.6s
ULHL Ulahol 44.53 312 P **P 20 06 24.7 +2.5**
SNR=11
ULHL Ulahol 44.53 312 *i* P **P 20 06 24.7 +2.5**
PETK Petropavlovsk- 44.82 31 P **P 20 06 24.1 0.0**
PETK 20 08 05.3
PETK pmax pmax
comp=Z,67nm,0.8s
PETK MLR MLR
comp=Z,944nm,21.0s
PETK Petropavlovsk- 44.82 31 P **P 20 06 24.1 0.0**
comp=Z,69nm,0.8s,baz=218,slow=5.3,SNR=58
PETK PcP **PcP 20 08 05.3 -0.1**
comp=Z,22nm,0.8s,baz=205,slow=5.5,SNR=3.6
PETK LR LR 20 24 50.7
comp=Z,944nm,21.0s,baz=224,slow=36
ZALV Zalesovo Beam 44.92 331 P **P 20 06 25.6 +0.7**
comp=Z,31nm,1.0s,baz=116,slow=6.9,SNR=107
ZALV PcP **PcP 20 08 04.9 -0.8**
comp=Z,9.1nm,0.6s,baz=137,slow=4.9,SNR=4.0
ZALV ScP **ScP 20 11 53.5 -1.1**
comp=Z,3.9nm,1.0s,baz=90,slow=4.3,SNR=4.1
ZALV S **S 20 12 57.7 -2.1**
comp=Z,0.5nm,0.6s,baz=116,slow=11,SNR=2.1
ZALV LR LR 20 25 58.8
comp=Z,5μm,21.6s,baz=118,slow=37
KZA Kyzart 45.18 311 P **P 20 06 30.2 +2.6**
SNR=49
KZA Kyzart 45.18 311 *i* P **P 20 06 30.2 +2.6**
TKM2 Tokmak 2 45.19 313 P **P 20 06 29.4 +1.9**
SNR=30
TKM2 Tokmak 2 45.19 313 P **P 20 06 27.9 +0.4**
TKM2 pmax pmax
comp=Z,56nm,1.1s
TKM2 Tokmak 2 45.19 313 *e*P **P 20 06 29.1 +1.5**
comp=Z,48nm,0.9s
TKM2 LR LR
comp=Z,6μm,20.0s
PET Petropavlovsk 45.24 31 *e*P **P 20 06 27.5 +0.1**
PET *e*S **S 20 13 07.5 +3.2**
PET *e*SS **ScS 20 16 23.9 +3.6**
PET pmax pmax
comp=Z,91nm,0.7s
PET pmax pmax
comp=Z,1μm,4.1s
PET pmax pmax
comp=Z,2μm,5.2s
PET MLR MLR
comp=Z,2μm,20.0s
PET MLR MLR
comp=Z,2μm,20.0s
PET Petropavlovsk 45.24 31 *e*P **P 20 06 27.3 -0.1**
comp=Z,155nm,1.0s
PET LR LR
comp=Z,3μm,21.0s
KBK Karagaybulak 45.56 312 P **P 20 06 32.3 +1.9**
SNR=40
CTA Charters Tower 45.73 146 P **P 20 06 31.2 -0.6**
comp=Z,37nm,0.6s,baz=317,slow=8.4,SNR=42
CTA PcP **PcP 20 08 09.8 +0.7**
comp=Z,20nm,0.8s,baz=334,slow=6.5,SNR=4.4
CTAO Charters Tower 45.73 146 *e*P **P 20 06 30.8 -1.0**
CTAO pmax pmax
comp=Z,108nm,1.1s
CTAO MLR MLR
comp=Z,5μm,22.0s
CTAO Charters Tower 45.73 146 *e*P **P 20 06 30.8 -1.0**
comp=Z,108nm,1.1s
CTAO LR LR
comp=Z,5μm,22.0s
UCH Uchtor 45.74 311 P **P 20 06 33.9 +1.7**
SNR=93
UCH Uchtor 45.74 311 *i* P **P 20 06 33.9 +1.7**
CHMS Chumysh 45.80 313 P **P 20 06 33.3 +1.2**
SNR=31
CHMS Chumysh 45.80 313 *i* P **P 20 06 33.3 +1.2**
FRU Bishkek 45.85 312‖ *e*P **P 20 06 34.0 +1.5**
FRU *e* 20 06 42.0
FRU pmax pmax
comp=Z,100nm,2.0s
AAK Ala-Archa 45.88 312 P **P 20 06 35.2 +2.3**
SNR=18
AAK Ala-Archa 45.88 312 P **P 20 06 34.9 +2.0**
AAK pmax pmax
comp=Z,63nm,1.3s
AAK Ala-Archa 45.88 312 P **P 20 06 35.5 +2.6**
SNR=23
AAK Ala-Archa 45.88 312 P **P 20 06 35.0 +2.0**
comp=Z,9.3nm,0.9s,baz=90,slow=7.1,SNR=47
AAK PcP **PcP 20 08 10.8 +1.2**
comp=Z,14nm,0.7s,baz=68,slow=5.4,SNR=5.0
AAK ScP **ScP 20 11 58.0 -1.1**
comp=Z,5.5nm,1.1s,baz=70,slow=1.8,SNR=5.8
AAK S **S 20 13 16.5 +2.2**
comp=Z,0.9nm,0.7s,baz=66,slow=19,SNR=1.8
AAK Ala-Archa 45.88 312 *e*P **P 20 06 34.4 +1.5**
comp=Z,31nm,0.9s
AAK PcP **PcP 20 08 10.8 +1.2**
AAK ScP **ScP 20 11 58.0 -1.1**
AAK S **S 20 13 16.5 +2.2**
AAK LR LR
comp=Z,7μm,21.0s
USP Ospenovka 46.06 313 P **P 20 06 35.5 +1.3**
SNR=33
USP Ospenovka 46.06 313 *i* P **P 20 06 35.4 +1.3**
NVS Novosibirsk 46.20 331⇑ *i* P **P 20 06 35.4 +0.4**
NVS *i* 20 08 09.6
NVS *i* S **S 20 13 17.4 -0.8**
NVS pmax pmax
comp=N,119nm,2.0s
NVS pmax pmax
comp=E,133nm,2.0s
NVS pmax pmax
comp=Z,221nm,2.0s
NVS smax smax
comp=N,211nm,3.3s
NVS smax smax
comp=E,80nm,2.2s
AML Almayashu 46.30 311 P **P 20 06 38.4 +1.9**
SNR=55
KURK Kurchatov 46.36 324 P **P 20 06 37.6 +1.3**
KURK pmax pmax
comp=Z,91nm,1.0s
KURK Kurchatov 46.36 324 P **P 20 06 37.5 +1.2**
SNR=67
KURK Kurchatov 46.36 324 *e*P **P 20 06 37.1 +0.8**
comp=Z,176nm,1.0s
KURK ScP **ScP 20 11 58.8 -1.9**
KURK LR LR
comp=Z,3μm,19.0s
KURBB Kurchatov Arra 46.36 324 P **P 20 06 37.6 +1.3**
comp=Z,96nm,0.8s,baz=122,slow=8.4,SNR=539
KURBB ScP **ScP 20 11 58.8 -2.0**
comp=Z,2.6nm,1.1s,baz=103,slow=4.0,SNR=4.9
EKS2 Erkin-Say 46.39 312 P **P 20 06 38.8 +1.9**
SNR=29
EKS2 Erkin-Say 46.39 312 *e*P **P 20 06 38.4 +1.5**
EKS2 pmax pmax
comp=Z,47nm,0.9s
EKS2 MLR MLR
comp=Z,8μm,22.0s
EKS2 Erkin-Say 46.39 312 *e*P **P 20 06 38.4 +1.5**
comp=Z,47nm,0.9s
EKS2 LR LR
comp=Z,8μm,22.0s
KK31 Karatay Array 48.82 311 *i* P **P 20 06 56.5 +0.9**
KK31 pmax pmax
comp=Z,91nm,1.1s
KKAR Karatay Array 48.82 311 *e*P **P 20 06 55.9 +0.3**
KKAR pmax pmax
comp=Z,77nm,1.1s
KKAR Karatay Array 48.82 311 *e*P **P 20 06 55.9 +0.3**
comp=Z,77nm,1.1s
OTUK Ortayu 49.09 319 P **P 20 06 58.8 +1.2**
SEY Seymchan 49.43 18 P **P 20 07 00.8 +1.0**
comp=Z,126nm,1.0s,baz=218,slow=7.7,SNR=168
SEY PcP **PcP 20 08 22.6 +1.0**
comp=Z,37nm,0.6s,baz=214,slow=1.1,SNR=6.4
FORT Forrest 49.48 172 *e*P **P 20 06 59.1 -1.5**
comp=Z,74nm,0.6s
NWAO Narrogin (SRO) 51.25 184 P **P 20 07 13.1 -0.9**
comp=Z,54nm,0.6s,baz=59,slow=6.5,SNR=38
BVA0 Borovoye Array 51.95 324 P **P 20 07 19.5 +0.4**
BVA0 pmax pmax
comp=Z,66nm,1.1s
BVAR Borovoye Array 51.95 324 P **P 20 07 20.0 +0.9**
comp=Z,23nm,0.8s,baz=116,slow=8.0,SNR=135
BVAR PcP **PcP 20 08 30.8 -0.3**
comp=Z,35nm,0.6s,baz=123,slow=5.3,SNR=12
BVAR ScP **ScP 20 12 22.9 -1.6**
comp=Z,11nm,1.2s,baz=126,slow=2.5,SNR=3.8
EIDS Eidsvold 52.60 145 *e*P **P 20 07 22.7 -1.5**
comp=Z,16nm,0.7s
FX1 Attu Island--F 52.96 37 P **P 20 07 27.3 +0.7**
FX1 pmax pmax
comp=Z,31nm,0.5s
FX1 Attu Island--F 52.96 37 P **P 20 07 27.2 +0.7**
comp=Z,31nm,0.5s,baz=304,slow=3.6,SNR=12
FX1 Attu Island--F 52.96 37 *e*P **P 20 07 26.8 +0.2**
BBOO Buckleboo 53.05 164 *e*P **P 20 07 25.9 -1.5**
comp=Z,52nm,0.5s
TIXI Tiksi 53.36 3*c i*P **P 20 07 28.0 -1.2**
TIXI pmax pmax
comp=Z,132nm,1.0s
TIXI MLR MLR
comp=Z,4μm,20.0s
TIXI Tiksi 53.36 3 *e*P **P 20 07 28.6 -0.6**
comp=Z,198nm,1.3s
DGAR Diego Garcia 54.23 246 PFAKE 20 07 50.0 +14
DGAR LR LR
comp=Z,3μm,21.0s
IMYA Miami 55.91 302 *e*P **P 20 07 48.7 +0.3**
IDAH Dahanechah 56.10 297 *e*P **P 20 07 50.9 +1.0**
ISRO Mashad 56.41 302 *e*P **P 20 07 52.7 +0.7**
IMOG Moghan 56.52 301 *e*P **P 20 07 53.7 +0.7**
IPAY Payeh 56.80 302 *e*P **P 20 07 55.4 +0.5**
IKOO Kooshah 56.83 297 *e*P **P 20 07 56.1 +0.9**
IAKL Akhelmad 56.99 302 *e*P **P 20 07 57.4 +1.1**
ITEG Tejag 57.03 298 *e*P **P 20 07 57.3 +0.8**
BILL Bilibino 57.13 19*c i*P **P 20 07 56.2 -0.2**
BILL *i* S **S 20 15 49.1 +0.9**
BILL pmax pmax
comp=Z,124nm,0.6s
BILL MLR MLR
comp=Z,2μm,20.0s
BILL Bilibino 57.13 19 *e*P **P 20 07 56.0 -0.5**
comp=Z,147nm,0.6s
BILL LR LR
comp=Z,2μm,21.0s
IKRD Kardeh 57.19 302 *e*P P 20 07 53.0 -4.7
AB31 Akbulak array 57.27 317 P **P 20 07 58.1 +0.4**
AB31 pmax pmax
comp=Z,40nm,0.9s
ABKT Ailbek 57.52 304 P **P 20 08 01.1 +1.3**
comp=Z,190nm,1.2s,SNR=15
GEYT Alibeck 57.53 304 P **P 20 08 01.1 +1.3**
comp=Z,16nm,0.9s,baz=90,slow=4.3,SNR=60
GEYT LR LR 20 35 27.8
comp=Z,6μm,21.9s,baz=75,slow=39
ISFR Sfrayin 57.61 303 *e*P **P 20 08 02.1 +1.4**
SVE Sverdlovsk 58.49 326*d i*P **P 20 08 07.1 +1.0**
SVE *e* 20 11 39.3
SVE *e*S **S 20 16 06.0 -0.3**
SVE pmax pmax
comp=Z,118nm,1.0s
SVE MLR MLR
comp=Z,3μm,17.0s
ARU Arti 59.51 325 P **P 20 08 13.3 +0.1**
comp=Z,440nm,0.7s,SNR=29
ARU Arti 59.51 325*d i*P **P 20 08 12.7 -0.5**
ARU 20 08 58.2
ARU 20 10 22.6
ARU *e*S **S 20 16 20.2 +0.7**
ARU 20 17 50.6
ARU SS SS 20 20 22.7 +7.8
ARU SSS SSS 20 22 53.5
ARU pmax pmax
comp=Z,143nm,1.7s
ARU MLR MLR
comp=Z,3μm,20.0s
ARU Arti 59.51 325 *e*P **P 20 08 12.6 -0.5**
comp=Z,71nm,0.9s
ARU LR LR
comp=Z,3μm,20.0s
IBAF Bafgh 59.79 296 *e*P **P 20 08 16.6 +0.8**
CAN Canberra 59.82 153 *e*P **P 20 08 15.4 -0.2**
CAN pmax pmax
comp=Z,35nm,1.2s
CAN MLR MLR
comp=Z,3μm,22.0s
CAN Canberra 59.82 153 *e*P **P 20 08 15.4 -0.2**
comp=Z,35nm,1.2s
CAN LR LR
comp=Z,3μm,22.0s
DZM Mont Dzumac 60.13 130 P **P 20 08 18.9 +0.8**
comp=Z,25nm,0.7s,baz=302,slow=8.5,SNR=19
DZM Mont Dzumac 60.13 130 *e*P **P 20 08 18.3 +0.3**
comp=Z,91nm,1.3s
IMEH Mehriz 60.62 296 *e*P **P 20 08 20.6 -0.9**
ICHK Chekchek 60.73 297 *e*P **P 20 08 22.4 +0.1**
IANJ Anjilo 60.94 301 *e*P **P 20 08 24.1 +0.4**
IGLO Ghaloghah 60.96 302 *e*P **P 20 08 24.6 +0.8**
SOKR Solikamsk 61.14 329*c i*P **P 20 08 24.6 +0.4**
SOKR S **S 20 16 37.9 -2.2**
SOKR pmax pmax
comp=Z,70nm,1.3s
SOKR MLR MLR
comp=Z,5μm,22.0s
ISAD Sadrabad 61.37 297 *e*P **P 20 08 26.9 +0.2**
ISHM Shahmirzad 61.43 301 *e*P **P 20 08 27.7 +0.6**
ILAS Lasjerd 61.72 301 *e*P **P 20 08 29.0 +0.1**
IALA Alasht 61.80 302 *e*P **P 20 08 30.8 +1.3**
IFIR Firoozkooh 61.88 301 *e*P **P 20 08 30.9 +0.9**
ISRV Sarvestan 62.11 294 *e*P **P 20 08 31.6 -0.1**
IPAR Pars 62.11 294 *e*P **P 20 08 31.2 -0.5**
IPRN Peran 62.18 302 *e*P **P 20 08 32.1 +0.2**
IZEF Zefreh 62.42 298 *e*P **P 20 08 34.9 +1.2**
IDMV Damavand 62.47 301 *e*P **P 20 08 34.3 +0.3**
IVRN Varamin 62.76 300 *e*P **P 20 08 35.7 0.0**
IKLH Kolahrood 63.02 299 *e*P **P 20 08 38.2 +0.5**
RBK Rabkut 63.04 281 P **P 20 08 37.7 0.0**
SNR=33
IKAZ Kazeroun 63.16 295 *e*P **P 20 08 38.5 -0.3**
IMHD Mahdasht 63.57 301 *e*P **P 20 08 41.6 +0.6**
GAMB Gambell 63.63 27 *e*P **P 20 08 41.5 +0.7**
comp=Z,196nm,1.1s
IPIR Pirpir 63.65 298 *e*P **P 20 08 40.8 -1.1**
IGZV Ghazvin 63.88 302 *e*P **P 20 08 43.7 +0.5**
ABTO Aybut 63.92 281 P **P 20 08 43.1 -0.5**
SNR=30
IRAZ Razeghan 64.19 301 *e*P **P 20 08 45.4 +0.1**
UNV Unalaska Valle 65.06 39 *e*P **P 20 08 50.5 +0.2**
comp=Z,60nm,0.9s
MAK Makhachkala 65.55 309 *e*P **P 20 08 53.4 -0.3**
MAK *e* 20 09 24.9
MAK *e* 20 11 19.2
MAK *e*PPP PPP 20 12 51.6
MAK *e*S **S 20 17 37.2 +1.4**
MAK *e* 20 18 43.4
MAK pmax pmax
comp=Z,81nm,1.2s
MAK MLR MLR
comp=Z,2μm,14.0s
TNA Tin City 65.56 26 *e*P **P 20 08 54.0 +0.6**
comp=Z,278nm,1.7s
TAU Tasmania Unive 65.78 159 PFAKE 20 09 00.0 +5.0
TAU LR LR
comp=Z,2μm,19.0s
ISRB Sarab 65.79 304 *e*P **P 20 08 56.4 +0.7**
IHRS Heris 66.24 304 *e*P **P 20 08 58.3 -0.3**
IFTB Fath-abad 66.77 304 *e*P **P 20 09 02.9 +0.9**
MSVF Nonsavu 66.77 119 *e*P **P 20 09 03.8 +1.8**
MSVF pmax pmax
comp=Z,318nm,1.1s
MSVF MLR MLR
comp=Z,3μm,19.0s
MSVF Nonsavu 66.77 119 *e*P **P 20 09 03.8 +1.8**
comp=Z,318nm,1.1s
MSVF LR LR
comp=Z,3μm,19.0s
PRGR Permogore 66.88 330 *e*P **P 20 09 00.1 -1.8**
PRGR *PP **pP 20 09 10.4 -4.3**
PRGR 20 09 28.0
PRGR pmax pmax
comp=Z,52nm,1.0s
ITBZ Tabriz 66.94 304 *e*P **P 20 09 03.6 +0.6**
IAZR Azarshahr 67.14 304 *e*P **P 20 09 05.0 +0.7**
DGRG David-gareji 67.23 308 P **P 20 09 06.1 +1.4**
IMRD Marand 67.24 305 *e*P **P 20 09 05.5 +0.6**
DUS Dusheti 67.68 309 P **P 20 09 09.3 +1.9**
TBLG Delisi 67.68 308 P **P 20 09 07.2 -0.2**
GNI Garni 67.84 307*c i*P **P 20 09 09.9 +1.3**
GNI pmax pmax
comp=Z,81nm,1.7s
GNI Garni 67.84 307 P **P 20 09 10.3 +1.7**
SNR=15
GNI Garni 67.84 307‖ *i*P **P 20 09 09.9 +1.3**
SNR=19
GNI Garni 67.84 307 *e*P **P 20 09 09.7 +1.1**
comp=Z,37nm,0.9s
GNI LR LR
comp=Z,2μm,20.0s
GOR Gori 68.13 309 P **P 20 09 07.5 -2.7**
ZEI Tsey 68.20 309 *e*P **P 20 09 08.6 -2.3**
ZEI *e*S **S 20 18 06.6 -1.7**
ZEI pmax pmax
comp=Z,37nm,0.9s
ZEI MLR MLR
comp=Z,2μm,16.0s
MSEY Mahe Island 68.36 257 *i* P **P 20 09 13.5 +1.4**
MSEY Mahe Island 68.36 257 PFAKE 20 09 20.0 +7.9
MSEY LR LR
comp=Z,2μm,22.0s
ONI Oni 68.55 309 P **P 20 09 14.4 +1.4**
CLDR Caldiran 68.58 306 *e*P **P 20 09 14.7 +1.4**
KBZ Khabaz 68.84 311 P **P 20 09 14.9 +0.3**
comp=Z,23nm,0.9s,baz=99,slow=7.7,SNR=60
KBZ S **S 20 18 14.6 -0.8**
comp=Z,1.1nm,0.9s,baz=210,slow=16,SNR=7.2
KBZ PKPPKP P'P'df 20 37 20.7 -10
comp=Z,2.2nm,1.0s,baz=253,slow=2.5,SNR=3.8
KBZ LR LR 20 42 43.1
comp=Z,3μm,20.3s,baz=64,slow=39
KIV Kislovodsk 68.97 311 *e*P **P 20 09 16.2 +0.6**
KIV *e* 20 09 39.8
KIV *e*S **S 20 18 18.8 +1.6**
KIV *e*SS **SS 20 22 47.7 +4.6**
KIV pmax pmax
comp=Z,68nm,0.9s
KIV pmax pmax
comp=Z,160nm,4.1s
KIV MLR MLR
comp=Z,2μm,17.0s
KIV Kislovodsk 68.97 311 P **P 20 09 16.7 +1.2**
SNR=25
KIV Kislovodsk 68.97 311⇑ *i*P **P 20 09 16.3 +0.8**
SNR=34
KIV Kislovodsk 68.97 311 *e*P **P 20 09 15.9 +0.3**
comp=Z,85nm,0.9s
KIV LR LR
comp=Z,3μm,22.0s
KARS Kars 69.05 307 *e*P **P 20 09 17.7 +1.5**
CUKT Cukurca 69.06 304 *e*P **P 20 09 16.8 +0.5**
VRHR Novokhopersk 69.10 318 *e*P **P 20 09 14.3 -1.8**
VRHR pmax pmax
comp=Z,80nm,0.8s
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,130nm,1.2s
VRHR MLR MLR
comp=Z,3μm,19.0s
VRHR MLR MLR
comp=N,410nm,16.0s
VRHR MLR MLR
comp=E,2μm,18.0s
AIS Amsterdam Isla 69.21 216 P P 20 09 09.0 -7.8
AIS S **S 20 18 19.0 -0.6**
AIS SS **SS 20 22 44.0 -3.3**
AIS R 20 30 00.0
AGRB Hanur-Agry 69.24 306 *e*P **P 20 09 17.6 +0.1**
CHVG Ch'k'valeri 69.54 310 *e*P **P 20 09 20.8 +1.8**
CHVG Ch'k'valeri 69.54 310 P **P 20 09 20.1 +1.1**
RAYN Ar Rayn 69.78 289 *e*P **P 20 09 20.6 -0.3**
comp=E,54nm,0.9s
KLMR Klimovskoe 69.81 329 *e*P **P 20 09 17.8 -2.5**
KLMR pmax pmax
comp=Z,154nm,1.3s
KLMR MLR MLR
comp=Z,5μm,18.0s
SIRT Sirnak 69.95 304 *e*P **P 20 09 22.3 +0.6**
TMCR Tamitsa 70.40 333 *e*P **P 20 09 23.4 -0.3**
TMCR *e* 20 09 45.3
TMCR *e* 20 12 00.0
TMCR *e*S **S 20 18 32.0 -0.9**
TMCR pmax pmax
comp=Z,109nm,1.1s
EZM Erzurum 70.44 307 *e*P **P 20 09 27.0 +2.1**
VORD Divnogorie 70.58 318 *e*P **P 20 09 22.5 -2.6**
VORD pmax pmax
comp=Z,30nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,40nm,0.8s
VORD MLR MLR
comp=Z,3μm,18.0s
VORD MLR MLR
comp=N,880nm,16.0s
VORD MLR MLR
comp=E,2μm,17.0s
VSR Storozhevoye 70.64 319 *e*P **P 20 09 24.0 -1.5**
VSR pmax pmax
comp=Z,70nm,1.0s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,60nm,1.0s
VSR MLR MLR
comp=Z,2μm,18.0s
VSR MLR MLR
comp=N,1μm,20.0s
VSR MLR MLR
comp=E,2μm,19.0s
BNGB Bing¶‖ 71.10 306 *e*P **P 20 09 29.8 +1.1**
MOS Moscow 71.13 324 *e*P **P 20 09 25.5 -2.9**
MOS *e* 20 09 39.3
MOS *e*S **S 20 18 37.6 -4.1**
MOS *e* 20 19 24.7
MOS pmax pmax
comp=Z,113nm,1.0s
MOS pmax pmax
comp=Z,300nm,1.8s
MOS smax smax
comp=E,1100μm,3.3s
MOS MLR MLR
comp=E,2μm,18.0s
MOS MLR MLR
comp=Z,3μm,18.0s
SOC Sochi 71.15 311*c i*P **P 20 09 28.5 -0.3**
SOC *e*PP **pP 20 09 39.1 -2.7**
SOC *i* S **S 20 18 42.6 +0.1**
SOC *e*SS **SS 20 23 12.8 -3.6**
SOC pmax pmax
comp=Z,30nm,0.7s
SOC MLR MLR
comp=Z,3μm,22.0s
KBSD Kabsdagh 71.52 304 *e*P **P 20 09 31.6 +0.4**
MAZI Mazidag 71.52 304 *e*P **P 20 09 31.8 +0.5**
LVZ Lovozero 71.59 337‖ *e*P **P 20 09 31.8 +0.8**
LVZ pmax pmax
comp=Z,146nm,2.5s
LVZ Lovozero 71.59 337 PFAKE 20 09 40.0 +8.9
LVZ LR LR
comp=Z,2μm,20.0s
MZRK Al-Mazaregh 71.63 302 *e*P **P 20 09 32.8 +1.0**
DYBB Diyarbakir 71.68 305 *e*P **P 20 09 33.1 +0.9**
OBN Obninsk 71.79 323*c i*P **P 20 09 32.1 -0.3**
OBN *i* 20 09 50.8
OBN *i* S **S 20 18 47.3 -2.1**
OBN *i* SS SS 20 23 35.9 +10
OBN pmax pmax
comp=Z,167nm,1.7s
OBN MLR MLR
comp=Z,2μm,16.0s
OBN Obninsk 71.79 323 *e*P **P 20 09 31.6 -0.8**
comp=Z,168nm,1.4s

OBN LR LR
comp=Z,2μm,20.0s
SFNV Sufian 71.96 303 *e*P **P 20 09 34.1 +0.2**
APA Apatity 72.09 336 *i* P **P 20 09 35.0 +1.0**
APA *i* 20 09 49.0
APA *i* 20 12 14.6
APA *i* S **S 20 18 52.0 -0.5**
APA *i* SS **SS 20 23 32.0 +2.3**
APA MLR MLR
comp=Z,4μm,19.0s
PTK Pertek 72.10 306 *e*P **P 20 09 36.2 +1.3**
RSO Redoubt South 72.34 31 *e*P **P 20 09 35.7 -0.1**
comp=Z,458nm,0.9s
PPLA Purkeypile 72.35 29 *e*P **P 20 09 36.1 +0.4**
comp=Z,418nm,1.5s
OHAK Old Harbor 72.44 35 *e*P **P 20 09 35.8 -0.4**
comp=Z,231nm,1.0s
ANN Anapa 72.60 312 *e*P **P 20 09 36.3 -1.1**
ANN *i* *PP **pP 20 09 48.3 -2.1**
ANN *e* 20 09 54.2
ANN *e*S **S 20 18 59.1 0.0**
ANN pmax pmax
comp=Z,126nm,1.7s
COLD Coldfoot 72.71 24 *e*P **P 20 09 38.3 +0.6**
comp=Z,120nm,1.1s
KDAK Kodiak Island 72.74 34 *i* P **P 20 09 37.8 -0.2**
KDAK Kodiak Island 72.74 34 *e*P **P 20 09 37.7 -0.3**
comp=Z,386nm,1.3s
KDAK LR LR
comp=Z,1μm,22.0s
URFA Urfa 72.80 304 *e*P **P 20 09 39.8 +0.9**
KTH Kantishna Hill 72.84 28 *e*P **P 20 09 39.1 +0.5**
comp=Z,117nm,1.0s
KSRV Kasrt alli 72.94 303 *e*P **P 20 09 40.4 +0.8**
MALT Malatya 72.95 305 *e*P **P 20 09 41.3 +1.5**
MALT Malatya 72.95 305 ||*i*P **P 20 09 40.7 +0.9**
TRF Thorofare Moun 73.14 28 *e*P **P 20 09 40.3 -0.2**
comp=Z,157nm,1.3s
OUZ Omahuta 73.19 137 *e*P **P 20 09 43.8 +2.9**
comp=Z,88nm,1.1s
JOF Joensuu 73.50 331 *e*p **P 20 09 41.5 -0.9**
comp=Z,29nm,0.7s
HOPEN Hopen 73.51 346 *e*P **P 20 09 43.6 +1.3**
HOPEN *e*S **SKiKP 20 19 09.5 +0.6**
DARE Darende-Malaty 73.63 306 *e*P **P 20 09 44.9 +1.1**
MCK McKinley 73.70 28 *e*P **P 20 09 43.6 0.0**
MCK pmax pmax
comp=Z,507nm,1.3s
MCK McKinley 73.70 28 *e*P **P 20 09 43.6 0.0**
comp=Z,507nm,1.3s
RC01 Rabbit Creek A 73.72 30 *e*P **P 20 09 43.5 -0.2**
comp=Z,54nm,0.6s
SVSK Karacayir 73.75 307 *e*P **P 20 09 43.7 -0.6**
AFI Afiamalu 73.80 111 *e*P **P 20 09 46.0 +1.0**
AFI pmax pmax
comp=Z,718nm,1.1s
AFI MLR MLR
comp=Z,5μm,21.0s
AFI Afiamalu 73.80 111 *e*P **P 20 09 46.0 +1.0**
comp=Z,118nm,1.1s
AFI LR LR
comp=Z,3μm,21.0s
COLA College 73.98 26*c i*P **P 20 09 45.0 -0.2**
COLA pmax pmax
comp=Z,504nm,1.1s
COLA College 73.98 26 *e*P **P 20 09 45.1 0.0**
comp=Z,214nm,1.3s
COLA LR LR
comp=Z,1μm,20.0s
SEW Seward 74.02 31 *e*P **P 20 09 45.0 -0.5**
comp=Z,257nm,1.3s
KEV Kevo 74.13 339 *e*p **P 20 09 44.9 -1.0**
comp=Z,12nm,0.7s
KEV Kevo 74.13 339 PFAKE 20 10 00.0 +14
KEV LR LR
comp=Z,2μm,20.0s
KVT Kavak 74.25 309 *e*P **P 20 09 48.4 +1.1**
KMRS Kahramanmaras 74.29 305 *e*P **P 20 09 48.4 +0.8**
ILAR Eielson Array 74.41 26 P **P 20 09 46.8 -0.9**
comp=Z,20nm,0.5s,baz=266,slow=4.8,SNR=8.3
ILAR PKPPKP **P'P'df 20 37 16.9 -3.8**
comp=Z,3.3nm,1.2s,baz=147,slow=1.8,SNR=6.0
ILAR LR LR 20 43 59.2
comp=Z,573nm,20.6s,baz=304,slow=37
PUL Pulkovo 74.48 328 P **P 20 09 49.0 +0.8**
PUL pmax pmax
comp=Z,61nm,0.6s
ARCES ARCESS Array B 74.68 339 P **P 20 09 49.1 -0.1**
comp=Z,33nm,1.0s,baz=73,slow=5.7,SNR=36
ARCES LR LR 20 46 25.1
comp=Z,2μm,18.0s,baz=78,slow=39
ARE0 ARCESS Array S 74.68 339 *e*P **P 20 09 49.7 +0.4**
ARE0 *e*S **S 20 19 23.2 +1.4**
ZALF Zalf 74.88 300 *e*P **P 20 09 52.0 +0.9**
SIM Simferopol' 74.90 313*c i*P **P 20 09 51.2 +0.3**
SIM *e* 20 10 07.0
SIM *i* S **S 20 19 23.4 -1.6**
SIM *i* SS SS 20 24 22.0 +8.5
SIM pmax pmax
comp=Z,54nm,0.9s
RER Riviere de l'E 74.94 241 PFAKE 20 10 00.0 +8.4
RER LR LR
comp=Z,2μm,19.0s
SPA0 Spitsbergen Ar 74.95 348 *e*P **P 20 09 51.7 +1.0**
SPA0 IAmb IAmb 20 09 52.6
comp=Z,269nm,1.2s
WRDH Warideh 75.08 303 *e*P **P 20 09 52.1 -0.1**
KOZT Kozan 75.13 305 *e*P **P 20 09 53.0 +0.6**
BIDA Albida 75.26 302 *e*P **P 20 09 52.3 -1.0**
CEYT Ceyhan 75.29 304 *e*P **P 20 09 54.1 +0.8**
PAX Paxson 75.37 28 *e*P **P 20 09 53.4 0.0**
PAX pmax pmax
comp=Z,230nm,1.5s
PAX Paxson 75.37 28 *e*P **P 20 09 53.4 0.0**
comp=Z,230nm,1.5s
SALA Sala 75.42 300 *e*P **P 20 09 54.8 +0.4**
CORM Corum 75.48 308 *e*P **P 20 09 55.1 +0.6**
KIP Kipapa 75.49 72||*e*P **P 20 09 56.0 +1.3**
KIP pmax pmax
comp=Z,142nm,1.4s
HSP Hornsund 75.49 347 *e*P **P 20 09 54.7 +1.0**
HSPB Hornsund (broa 75.50 347 *e*P **P 20 09 53.9 +0.2**
HSPB *e*S **S 20 19 30.8 +0.2**
HSPB IAMs_20 IAMs_20 20 47 33.3
comp=Z,4μm,18.6s
KBS Kingsbay 75.53 349 *e*P **P 20 09 54.8 +0.9**
KBS *e*S **S 20 19 32.6 +1.7**
KBS IAMs_20 IAMs_20 20 47 18.2
comp=Z,7μm,18.9s
KBS Kingsbay 75.53 349 *e*P **P 20 09 54.4 +0.5**
KBS pmax pmax
comp=Z,18nm,0.8s
KBS MLR MLR
comp=Z,6μm,19.0s
KBS Kingsbay 75.53 349 *e*P **P 20 09 54.4 +0.5**
comp=Z,4.5nm,0.8s
KBS LR LR
comp=Z,6μm,19.0s
DIV Divide 75.61 30 *e*P **P 20 09 55.3 +0.5**
comp=Z,282nm,1.2s
KARA Karaisali 75.78 305 *e*P **P 20 09 56.3 +0.2**
RAO Raoul Island 75.78 128 LR LR 20 39 22.1
comp=Z,1μm,19.7s,baz=352,slow=33
BRBR Barbar 75.91 301 *e*P **P 20 09 57.7 +0.5**
TOZ Tahuroa Road 75.93 138 PN **P 20 09 59.0 +2.2**
KAF Kangasniemi 75.94 331 *e*p **P 20 09 54.9 -1.6**
comp=Z,21nm,0.8s
NIG Nigde 75.94 306 *e*P **P 20 09 54.9 -2.5**
CANT Cankiri 76.14 308 *e*P **P 20 09 56.9 -1.4**
MENT Mentasta 76.16 28 *e*P **P 20 09 58.9 +1.1**
FINES FINESS Array B 76.19 330 P **P 20 09 57.7 -0.3**
comp=Z,39nm,0.9s,baz=57,slow=5.1,SNR=71
FINES PKiKP **PKiKP 20 15 42.6 -0.5**
comp=Z,0.8nm,0.5s,baz=66,slow=3.5,SNR=3.5
FINES LR LR 20 46 35.2
comp=Z,4μm,21.0s,baz=77,slow=38
BMRM Bremner River 76.20 30 *e*P **P 20 09 58.6 +0.4**
comp=Z,197nm,1.1s
MERS Mersin 76.28 305 *e*P **P 20 09 59.0 -0.1**
BRTR Keskin Array B 76.32 308 P **P 20 09 58.7 -0.7**
comp=Z,2.7nm,0.7s,baz=90,slow=4.6,SNR=25
BRTR LR LR 20 48 46.9
comp=Z,2μm,19.2s,baz=100,slow=40
VSU Vasula 76.55 327*c i*P **P 20 10 00.2 +0.1**
VSU pmax pmax
comp=Z,554nm,1.2s
SAFT Safranbolu 76.69 309 *e*P **P 20 10 00.4 -0.9**
SULT Sultanhani-AKS 76.76 306 *e*P **P 20 10 02.1 +0.3**
EGAK Eagle 76.80 26 *e*P **P 20 10 01.3 -0.1**
comp=Z,59nm,0.6s
EGAK LR LR
comp=Z,870nm,20.0s
AFSR Af'ar-Bala (A 76.81 307 *e*P **P 20 10 02.4 +0.3**
MICGM Minsk 76.85 323||*e*P **P 20 10 01.0 -0.8**
MNK Minsk 76.88 323||*e*P **P 20 10 01.0 -1.0**
MNK *e*S **S 20 19 42.0 -4.4**
MNK *e*PS **PnS 20 20 20.0 -9.4**
MNK pmax pmax
comp=Z,350nm,1.0s
MNK MLR MLR
comp=Z,5μm,16.0s
TRO Tromso 76.89 339 *e*P **P 20 10 02.8 +1.0**
TRO *e*S **S 20 19 47.4 +1.3**
OTVZ Oturere 76.90 139 PN **P 20 10 04.3 +1.8**
AKASG Malin Array Be 76.92 319 P **P 20 10 01.3 -1.0**
comp=Z,28nm,1.0s,baz=62,slow=5.5,SNR=58
AKASG PKiKP **PKiKP 20 15 43.7 -0.8**
comp=Z,0.4nm,0.4s,baz=68,slow=2.3,SNR=3.2
AKASG LR LR 20 48 16.3
comp=Z,2μm,18.0s,baz=25,slow=39
ANTO Ankara 76.92 308 *e*P **P 20 10 04.0 +1.3**
ANTO Ankara 76.92 308 *e*P **P 20 10 02.8 +0.1**
ANTO pmax pmax
comp=Z,26nm,1.0s
ANTO MLR MLR
comp=Z,1μm,21.0s
ANTO Ankara 76.92 308⇑*i*P **P 20 10 02.7 +0.1**
ANTO Ankara 76.92 308 P **P 20 10 03.3 +0.6**
SNR=15
ANTO Ankara 76.92 308 *e*P **P 20 10 02.8 +0.1**
comp=Z,26nm,1.0s
ANTO LR LR
comp=Z,1μm,21.0s
KIEV Kiev 76.93 319*c i*P **P 20 10 01.8 -0.6**
KIEV Kiev 76.93 319 *e*P **P 20 10 01.4 -0.9**
comp=Z,35nm,0.9s
KIEV LR LR
comp=Z,2μm,20.0s
LOD Lodumlu 76.94 308 *e*P **P 20 10 02.8 0.0**
RPZ Rata Peaks 77.10 145 *e*P **P 20 10 04.0 +0.7**
comp=Z,395nm,1.1s
URZ Urewera 77.27 138 *e*P **P 20 10 04.5 +0.1**
comp=Z,32nm,0.6s
IDID Didziasalis 77.30 324 *e*P **P 20 10 04.7 +0.4**
IDID AMB AMB 20 10 05.7
comp=Z,52nm,1.0s
NACGM Naroch 77.37 324 *e*P **P 20 10 02.0 -2.8**
OXZ Oxford 77.39 144 PN **P 20 10 05.3 +0.4**
LFK Lefkose 77.42 303 *e*P **P 20 10 06.0 +0.4**
ISAL Salakas 77.57 325 *e*P **P 20 10 06.1 +0.3**
ISAL AMB AMB 20 10 07.1
comp=Z,24nm,1.1s
IIGN Ignalina 77.57 324 *e*P **P 20 10 05.7 -0.2**
IIGN AMB AMB 20 10 06.6
comp=Z,33nm,1.2s
SNZO South Karori 77.63 141 PFAKE 20 10 20.0 +14
SNZO LR LR
comp=Z,2μm,21.0s
LADK Ladik-KONYA 77.64 306 *e*P **P 20 10 05.5 -1.2**
KHZ Kahutara 77.65 143 *e*P **P 20 10 06.3 -0.1**
comp=Z,234nm,1.3s
CSS Prodhromos 77.66 303 P **P 20 10 06.3 -0.5**
CSS Prodhromos 77.66 303 *e*P **P 20 10 08.1 +1.2**
CSS Prodhromos 77.66 303 *e*P **P 20 10 06.2 -0.6**
comp=Z,12nm,0.7s
CSS LR LR
comp=Z,582nm,22.0s
KONT Konya--Tatoy 77.70 306 *e*P **P 20 10 04.0 -3.1**
DAWY Dawson 77.74 26 *e*P **P 20 10 06.7 0.0**
comp=Z,179nm,1.2s
KIZT Kizilcal 77.84 307 *e*P **P 20 10 07.7 -0.3**
LEF Lefka 77.97 303 *e*P **P 20 10 08.6 +0.1**
MDUB Mudurnu 77.97 309 *e*P **P 20 10 08.6 0.0**
SVRH Sivrihisar-ESK 77.98 308 *e*P **P 20 10 08.6 0.0**
KIS Kishinev 78.06 316 *e*P **P 20 10 09.0 +0.3**
KIS *e*S **S 20 19 56.0 -3.5**
KIS *e*PS PnS 20 20 22.0 -23
KIS pmax pmax
comp=Z,200nm,2.0s
KIS MLR MLR
comp=E,3μm,22.0s
KIS MLR MLR
comp=Z,3μm,22.0s
KIS MLR MLR
comp=Z,4μm,24.0s
KIS Kishinev 78.06 316 *e*P **P 20 10 09.0 +0.3**
comp=Z,200nm,2.0s
KIS Kishinev 78.06 316 *e*PP PP 20 13 20.0 +15
KIS *e*S **S 20 19 56.0 -3.5**
POHA Pohakuloa 78.16 73 PFAKE 20 10 20.0 +10
POHA LR LR
comp=Z,4μm,20.0s
BFZ Birch Farm 78.17 140 *e*PN **P 20 10 09.5 +0.2**
GULT Gulveren 78.49 309 *e*P **P 20 10 11.3 0.0**
TLCR 78.51 314⇑*i*P **P 20 10 12.0 +0.7**
LEOM Leova 78.57 315⇑*i*P **P 20 10 11.6 0.0**
SPNC Sapanca-Adapaz 78.58 309 *e*P **P 20 10 12.2 +0.5**
STEI Steigen 78.73 338 *e*P **P 20 10 11.9 -0.1**
STEI IAmb IAmb 20 10 13.0
comp=Z,81nm,1.0s
SHUT Suhut-Afyon 78.93 307 *e*P **P 20 10 13.9 0.0**
SILT Sile 78.95 310 *e*P **P 20 10 13.6 -0.1**
TIRR Tirgusor 78.97 313 *e*P **P 20 10 13.2 -0.6**
TIRR pmax pmax
comp=Z,39nm,1.1s
TIRR Tirgusor 78.97 313⇑*i*P **P 20 10 13.9 +0.1**
TIRR Tirgusor 78.97 313 *e*P **P 20 10 13.2 -0.6**
comp=Z,39nm,1.1s
CFR Carcaliu 78.97 314⇑*i*P **P 20 10 13.9 +0.1**
HRT Hereke 79.01 309 *e*P **P 20 10 14.0 -0.2**
MANR Mangalia 79.02 313⇑*i*P **P 20 10 15.2 +1.1**
CAVI Cavuskoy 79.04 309 *e*P **P 20 10 14.8 +0.4**
ADVT Abdulvahap 79.06 309 *e*P **P 20 10 13.9 -0.5**
ALT Altintas 79.14 308 P **P 20 10 15.0 0.0**
ALT Altintas 79.14 308 *e*P **P 20 10 15.1 0.0**
ALT Altintas 79.14 308 P **P 20 10 15.0 0.0**
ISP Isparta 79.14 306 P **P 20 10 14.4 -0.7**
ISP Isparta 79.14 306 *e*P **P 20 10 15.7 +0.6**
ISP Isparta 79.14 306 *e*P **P 20 10 14.4 -0.7**
ISP pmax pmax
comp=Z,37nm,0.9s
ISP MLR MLR
comp=Z,1μm,20.0s
ISP Isparta 79.14 306||*i*P **P 20 10 14.9 -0.2**
ISP Isparta 79.14 306 *e*P **P 20 10 14.4 -0.7**
comp=Z,37nm,0.9s
ISP LR LR
comp=Z,1μm,20.0s
PSN Preselentsi 79.33 312⇑*i*P **P 20 10 16.1 +0.3**
PSN Preselentsi 79.33 312 P **P 20 10 16.5 +0.7**
KLYT Kilyos 79.36 310 *e*P **P 20 10 16.1 +0.1**
ISK Istanbul-Kandi 79.39 310 P **P 20 10 16.6 +0.4**
ISK Istanbul-Kandi 79.39 310 *e*P **P 20 10 16.1 -0.1**
ISK Istanbul-Kandi 79.39 310 P **P 20 10 16.6 +0.4**
ISK Istanbul-Kandi 79.39 310 P **P 20 10 16.6 +0.4**
PETR Petresti 79.45 315||*i*P **P 20 10 18.2 +1.8**
GEMT Gemlik 79.47 309 *e*P **P 20 10 16.5 -0.1**
MSAB Monastry St. A 79.47 313⇑*i*P **P 20 10 17.2 +0.6**
TVSB Tavsanli 79.52 308 *e*P **P 20 10 17.0 -0.1**
BGKT Bogazkoy 79.57 310 *e*P **P 20 10 17.0 -0.2**
TESR Tescani 79.62 316||*i*P **P 20 10 17.2 -0.2**
SUW Suwalki 79.64 324 *e*P **P 20 10 16.9 -0.4**
SUW pmax pmax
comp=Z,212nm,1.0s
SUW Suwalki 79.64 324 *e*P **P 20 10 17.1 -0.2**
SUW *e*PcP **PcP 20 10 25.4 +0.4**
SUW *e*pP **pP 20 10 28.7 -1.7**
SUW *e*S **S 20 20 13.3 -2.7**
SUW LMZ LR 20 47 56.0
SUW Suwalki 79.64 324 *e*P **P 20 10 16.9 -0.4**
comp=Z,212nm,1.0s
PRAR RASCA 79.67 316⇑*i*P **P 20 10 17.3 -0.3**
ARMT Armutlu 79.67 309 *e*P **P 20 10 17.3 -0.5**
VRI Vrincioaia 79.75 315⇑*i*P **P 20 10 18.9 +0.8**
CTKS Kestanelik-??a 79.75 310 *e*P **P 20 10 17.4 -0.8**
PLOR Plostina 79.80 315⇑*i*P **P 20 10 19.1 +0.7**
PGOR Pogoanele 79.83 314⇑*i*P **P 20 10 19.8 +1.3**
CTYL Yal??k??y-??at 79.85 310 *e*P **P 20 10 18.6 -0.1**
ELL Elmali 79.90 305 *e*P **P 20 10 19.1 -0.2**
SLVT Silivri 79.97 310 *e*P **P 20 10 19.4 +0.1**
PRD Provadia 80.01 312 P **P 20 10 20.3 +0.8**
ISR Istrita 80.08 314||*i*P **P 20 10 19.8 -0.1**
KCTX Karacabey (Bur 80.12 309 *e*P **P 20 10 20.0 -0.3**
BURAR Bucovina Array 80.25 317⇑*i*P **P 20 10 21.3 +0.4**
DENT Denizli 80.30 307 *e*P **P 20 10 21.4 +0.2**
LVV L'vov 80.37 319 *e*P **P 20 10 20.6 -0.7**
LVV *e* 20 10 28.4
LVV *e*S **S 20 20 18.0 -5.9**
LVV *e*PS **PnS 20 21 06.2 -7.5**
LVV *e*SSS SSS 20 29 03.8
LVV MLR MLR
comp=E,2μm,22.0s
LVV MLR MLR
comp=N,700nm,23.0s
LVV MLR MLR
comp=Z,2μm,22.0s
KULA Kula-Manisa 80.37 307 P **P 20 10 21.4 -0.3**
KULA Kula-Manisa 80.37 307 *e*P **P 20 10 21.4 -0.3**
KULA Kula-Manisa 80.37 307 P **P 20 10 21.4 -0.3**
MLR Muntele Rosu 80.38 315⇑*i*P **P 20 10 22.1 +0.5**
SULR 80.40 314⇑*i*P **P 20 10 23.0 +1.4**
SECR 80.42 314||*i*P **P 20 10 22.2 +0.5**
EDC Edincik 80.46 309 *e*P **P 20 10 22.0 -0.1**
FETY Fethiye 80.56 305 *e*P **P 20 10 22.1 -0.6**
MRMT Marmara Adasi 80.59 310 *e*P **P 20 10 22.3 -0.5**
DOPR Dopca 80.61 315⇑*i*P **P 20 10 23.2 +0.4**
BAL B Balikesir 80.65 309 *e*P **P 20 10 23.0 0.0**
JMB Yambol 80.79 312⇑*i*P **P 20 10 23.9 +0.1**
JMB Yambol 80.79 312 P **P 20 10 23.4 -0.4**
DALY Dalyan (Mu¨la 80.85 306 *e*P **P 20 10 23.4 -0.7**
EDRB Edirne 80.86 311 P **P 20 10 24.2 +0.1**
EDRB Edirne 80.86 311 *e*P **P 20 10 24.4 +0.3**
EDRB Edirne 80.86 311 P **P 20 10 24.2 +0.1**
KRBG Karabiga-Canak 80.87 309 *e*P **P 20 10 23.8 -0.4**
RKY Sarkoy-Tekirda 80.87 310 *e*P **P 20 10 24.2 -0.1**
AKS Akhisar 80.91 308 *e*P **P 20 10 24.0 -0.4**
VOIR 81.00 315||*i*P **P 20 10 25.0 +0.1**
SZH Strazhica 81.02 313 P **P 20 10 25.2 +0.2**
YER Yerkesik 81.04 306 *e*P **P 20 10 25.2 0.0**
PAF Port-aux-Franc 81.08 211 P P 20 10 11.0 -14
PAF Port-aux-Franc 81.08 211 S S 20 20 20.0 -11
PAF SS SS 20 25 33.0 -14
PAF L L 20 31 00.0
PAF R 20 36 00.0
AYDB Zeytinkoy-Aydi 81.11 307 *e*P **P 20 10 26.1 +0.4**
KWP Kalwaria Pacla 81.24 319 *e*P **P 20 10 26.1 +0.1**
KWP pmax pmax
comp=Z,137nm,1.0s
KWP MLR MLR
comp=Z,2μm,19.0s
KWP Kalwaria Pacla 81.24 319 *e*P **P 20 10 26.3 +0.3**
KWP *e*pP **pP 20 10 38.2 -1.0**
KWP *e*S **S 20 20 31.5 -1.6**
KWP LMZ LR 20 48 19.7
KWP Kalwaria Pacla 81.24 319 *e*P **P 20 10 26.1 +0.1**
comp=Z,137nm,1.0s
KWP LR LR
comp=Z,2μm,19.0s
LPK Lapseki 81.27 310 *e*P **P 20 10 26.6 +0.3**
NSS Namsos 81.28 336 *e*P **P 20 10 26.2 +0.4**
ARR Arges 81.30 315⇑*i*P **P 20 10 26.8 +0.3**
ABPO Ambohimpanom 81.31 247 *e*P **P 20 10 27.1 +0.1**
ABPO pmax pmax
comp=Z,15nm,0.6s
ABPO MLR MLR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 81.31 247 *e*P **P 20 10 27.1 +0.1**
comp=Z,16nm,0.6s
ABPO LR LR
comp=Z,2μm,20.0s
HUMR Humele 81.31 314⇑*i*P **P 20 10 26.4 -0.1**
BMR Baia Mare 81.35 317⇑*i*P **P 20 10 28.1 +1.5**
ERIK Erikli-Kesan 81.36 310 *e*P **P 20 10 27.1 +0.3**
ARG Arkhangelos 81.42 305 P **P 20 10 27.0 -0.2**
ARG Arkhangelos 81.42 305 P **P 20 10 27.0 -0.2**
ARG Arkhangelos 81.42 305 P **P 20 10 27.0 -0.2**
IZM Izmir 81.46 308 *e*P **P 20 10 27.6 +0.2**
GELI Tayfur-Gelibol 81.47 310 *e*P **P 20 10 27.2 -0.2**
CJR Cluj-Napoca 81.58 316||*i*P **P 20 10 28.9 +1.0**
BLCB Balcova 81.63 308 *e*P **P 20 10 28.2 0.0**
ALN Alexandroupoli 81.63 310 P **P 20 10 27.6 -0.6**
ALN Alexandroupoli 81.63 310 *e*P **P 20 10 29.2 +1.0**
ALN Alexandroupoli 81.63 310 P **P 20 10 27.6 -0.6**
ALN Alexandroupoli 81.63 310 P **P 20 10 27.6 -0.6**
BEL Belsk 81.69 322 *e*P **P 20 10 28.9 +0.6**
BEL *e*PcP **PcP 20 10 33.7 -0.3**
BEL *e*pP **pP 20 10 41.0 -0.5**
BEL *e*sP **sP 20 10 45.4 -1.1**
BEL *e*S **SKSac 20 20 45.6 +1.0**
BEL LMZ LR 20 47 10.2
KOLS Kolonicke sedl 81.73 319 *e*P **P 20 10 28.6 0.0**
KOLS Kolonicke sedl 81.73 319 *e*S **S 20 20 40.5 +2.3**
EZN Ezine 81.74 309 *e*P **P 20 10 28.9 +0.1**
BODT Bodrum 81.81 306 *e*P **P 20 10 28.7 -0.5**
UZH Uzhgorod 81.81 318||*i*P **P 20 10 28.9 -0.1**
UZH *e* 20 10 41.3
UZH *e* 20 10 48.7
UZH *e*S **S 20 20 35.9 -3.1**
UZH *i* 20 21 24.3
UZH *e* 20 29 24.7
TRPA Tarpa 81.82 318||*i*P **P 20 10 29.8 +0.8**
TRPA Tarpa 81.82 318||*e*P **P 20 10 29.3 +0.3**
LOT Lotru 81.85 315⇑*i*P **P 20 10 29.8 +0.3**
KDZ Kurdzhali 81.86 311⇑*i*P **P 20 10 29.8 +0.3**
DAG Danmarks Havn 81.91 351⇑*i*P **P 20 10 28.9 -0.1**
DAG *i* S **S 20 20 37.3 -1.8**
DAG pmax pmax
comp=Z,79nm,1.0s
DAG MLR MLR
comp=Z,1μm,28.0s
DAG Danmarks Havn 81.91 351⇑*i*P **P 20 10 28.9 -0.1**
comp=Z,79nm,1.0s
DAG Danmarks Havn 81.91 351 *i* S **S 20 20 37.3 -1.8**
RDO Rodhopi 81.93 311 P **P 20 10 29.2 -0.6**
RDO Rodhopi 81.93 311 P **P 20 10 29.2 -0.6**
SIT Sitka 81.94 32 *e*P **P 20 10 31.1 +1.6**
SIT pmax pmax
comp=Z,248nm,1.1s
SIT Sitka 81.94 32 *e*P **P 20 10 31.1 +1.6**
comp=Z,248nm,1.1s
PRK Paraskevi 81.95 309 P **P 20 10 29.6 -0.3**
PRK Paraskevi 81.95 309 P **P 20 10 29.6 -0.3**
PRK Paraskevi 81.95 309 P **P 20 10 29.6 -0.3**
SMG Samos 81.98 307 P **P 20 10 30.0 -0.2**
SMG Samos 81.98 307 P **P 20 10 30.0 -0.2**
DRGR 82.13 317||*i*P **P 20 10 31.5 +0.6**
SMTH Samothraki Isl 82.13 310 P **P 20 10 30.0 -0.9**
SMTH Samothraki Isl 82.13 310 P **P 20 10 30.0 -0.9**
STHS Stebnicka Huta 82.21 319 *e*P **P 20 10 31.5 +0.3**
PLD Plovdiv 82.23 312 P **P 20 10 31.3 -0.1**
PLD Plovdiv 82.23 312 P **P 20 10 31.3 -0.1**
PLD Plovdiv 82.23 312 P **P 20 10 31.3 -0.1**
PLD Plovdiv 82.23 312 P **P 20 10 31.3 -0.1**
CRVS Cervenica-Dubn 82.25 319 *e*P **P 20 10 32.1 +0.8**
CRVS Cervenica-Dubn 82.25 319 *e*S **S 20 20 44.1 +0.6**
CRVS *e*SS **SS 20 26 04.1 +0.5**
SIGR SIGRI 82.27 309 P **P 20 10 29.8 -1.8**
SIGR SIGRI 82.27 309 *e*P **P 20 10 31.1 -0.5**
SIGR SIGRI 82.27 309 P **P 20 10 29.8 -1.8**
DEV Deva 82.29 316||*i*P **P 20 10 32.8 +1.2**
RZN Rozhen 82.35 311 P **P 20 10 32.1 -0.2**
HFS Hagfors 82.36 331 P **P 20 10 31.1 -0.6**
comp=Z,31nm,0.7s,baz=76,slow=6.1,SNR=45
HFS LR LR 20 50 44.3
comp=Z,3μm,18.2s,baz=62,slow=38
KARP Karpathos 82.37 305 P **P 20 10 32.1 -0.2**
KARP Karpathos 82.37 305 P **P 20 10 32.1 -0.2**
CHOS Chios island 82.37 308 *e*P **P 20 10 32.7 +0.5**
PGB Panagyurishte 82.47 312 P **P 20 10 33.4 +0.7**
TBLU Trondheim 82.52 335 IAMs_20 IAMs_20 20 50 12.3
comp=Z,8μm,21.8s
MPEP Malo Peshtene 82.52 313 P **P 20 10 33.1 +0.2**
GZR Gura Zlata 82.53 315⇑*i*P **P 20 10 33.4 +0.4**
KAVA Kavala 82.71 311 P **P 20 10 33.5 -0.4**
KAVA Kavala 82.71 311 P **P 20 10 33.5 -0.4**
NIE Niedzica 82.79 320 *e*P **P 20 10 35.1 +0.9**
NIE *e*S **S 20 20 52.1 +3.0**
NIE L L 20 51 53.0
comp=Z,2μm,21.2s
OJC Ojcow 82.83 321 *e*P **P 20 10 34.6 +0.3**

OJC *e*pP **pP** **20 10 46.3 -1.2**
OJC *e*S **S** **20 20 51.6 +2.2**
OJC L L 20 49 39.0
comp=Z,3μm,19.9s
NVR Nevrokopi 83.07 311 P **P** **20 10 35.1 -0.7**
NVR Nevrokopi 83.07 311 P **P** **20 10 35.1 -0.7**
NC602 NORSAR Array S 83.08 332 *e*P **P** **20 10 37.1 +1.7**
NC602 *e*S **S** **20 20 51.3 -0.2**
MMB Musomiste 83.09 311⇑ *i*P **P** **20 10 35.5 -0.4**
MMB Musomiste 83.09 311 P **P** **20 10 35.1 -0.8**
NB2 NORSAR Subarra 83.09 332 P **P** **20 10 34.7 -0.8**
comp=Z,47nm,0.9s,baz=63,slow=5.1
NB2 NORSAR Subarra 83.09 332 P **P** **20 10 34.7 -0.8**
baz=63,slow=5.1
NOA NORSAR Array B 83.09 332 P **P** **20 10 34.5 -1.0**
comp=Z,27nm,0.8s,baz=64,slow=5.0,SNR=114
NOA LR LR 20 50 21.7
comp=Z,4μm,21.2s,baz=70,slow=38
VTS Vitosha 83.13 313 P **P** **20 10 36.1 -0.2**
VTS Vitosha 83.13 313 P **P** **20 10 36.1 -0.2**
VTS Vitosha 83.13 313⇑ *i*P **P** **20 10 36.6 +0.3**
VTS Vitosha 83.13 313 P **P** **20 10 36.9 +0.6**
VTS Vitosha 83.13 313 P **P** **20 10 36.1 -0.2**
APE Apeiranthos 83.17 307 P **P** **20 10 34.4 -2.0**
APE Apeiranthos 83.17 307*c* *i*P **P** **20 10 34.6 -1.8**
APE pmax pmax
comp=Z,30nm,1.6s
APE Apeiranthos 83.17 307 P **P** **20 10 34.4 -2.0**
GKP Gorka Klasztor 83.22 324 *e*P **P** **20 10 36.5 +0.3**
GKP *e*PcP **PcP** **20 10 40.9 +0.2**
GKP *e*pP **pP** **20 10 48.9 -0.6**
GKP *e*S **S** **20 20 51.7 -1.5**
GKP LMZ LR 20 50 20.4
BZS Buzias 83.23 316⇓ *i*P **P** **20 10 36.7 +0.2**
ZKR Zakros 83.23 305 P **P** **20 10 35.7 -1.0**
ZKR Zakros 83.23 305 P **P** **20 10 35.7 -1.0**
OUR Ouranopolis 83.30 310 P **P** **20 10 36.3 -0.6**
OUR Ouranopolis 83.30 310 *e*P **P** **20 10 36.9 -0.1**
OUR Ouranopolis 83.30 310 P **P** **20 10 36.3 -0.6**
OUR Ouranopolis 83.30 310 P **P** **20 10 36.3 -0.6**
SRS Serrai 83.33 311 P **P** **20 10 36.2 -0.9**
SRS Serrai 83.33 311 P **P** **20 10 36.2 -0.9**
SRS Serrai 83.33 311 P **P** **20 10 36.2 -0.9**
SANT Santorini 83.44 306 P **P** **20 10 36.1 -1.7**
SANT Santorini 83.44 306 P **P** **20 10 36.1 -1.7**
SANT LR LR
comp=Z,804nm,19.0s
THR1 Thera Island 83.44 306 P **P** **20 10 35.7 -2.1**
THR1 Thera Island 83.44 306 *e*P **P** **20 10 34.6 -3.1**
KKB Krupnik 83.45 312 P **P** **20 10 37.4 -0.3**
THR6 Thira Island, 83.49 306 P **P** **20 10 37.1 -0.9**
THR6 Thira Island, 83.49 306 P **P** **20 10 37.1 -0.9**
THR5 Thira Island, 83.51 306 *e*P P 20 10 34.5 -3.6
PSZ Piszkesteto 83.56 318 *e*P **P** **20 10 38.3 +0.1**
PSZ pmax pmax
comp=Z,53nm,1.4s
PSZ MLR MLR
comp=Z,2μm,20.0s
PSZ Piszkesteto 83.56 318⇑ *i*P **P** **20 10 38.6 +0.3**
PSZ Piszkesteto 83.56 318⇓ *e*P **P** **20 10 38.9 +0.6**
PSZ Piszkesteto 83.56 318 *e*P **P** **20 10 38.3 +0.1**
comp=Z,53nm,1.4s
PSZ LR LR
comp=Z,2μm,20.0s
SOH Sokhos 83.60 311 P **P** **20 10 37.3 -1.2**
SOH Sokhos 83.60 311 P **P** **20 10 37.3 -1.2**
SOH Sokhos 83.60 311 P **P** **20 10 37.3 -1.2**
PAIG Paliouri 83.65 310 P **P** **20 10 37.1 -1.6**
PAIG Paliouri 83.65 310 P **P** **20 10 37.1 -1.6**
PAIG Paliouri 83.65 310 P **P** **20 10 37.1 -1.6**
NPS Neapolis 83.66 305 P **P** **20 10 38.3 -0.6**
NPS Neapolis 83.66 305 P **P** **20 10 38.3 -0.6**
NPS Neapolis 83.66 305 P **P** **20 10 38.3 -0.6**
PLG Polygyros 83.68 310 P **P** **20 10 38.2 -0.7**
PLG Polygyros 83.68 310 P **P** **20 10 38.2 -0.7**
PLG Polygyros 83.68 310 P **P** **20 10 38.2 -0.7**
WRAK Wrangell Islan 83.71 32 *e*P **P** **20 10 39.8 +1.1**
comp=Z,205nm,1.5s
AOS Alonnisos 83.75 309 P **P** **20 10 38.3 -1.0**
AOS Alonnisos 83.75 309 *e*P **P** **20 10 38.1 -1.1**
AOS Alonnisos 83.75 309 P **P** **20 10 38.3 -1.0**
BSD Bornholm Skovb 83.77 326⇑ *i*P **P** **20 10 38.9 -0.1**
comp=Z,50nm,1.0s
LAST Lasithi 83.79 305 P **P** **20 10 39.6 -0.1**
LAST Lasithi 83.79 305 P **P** **20 10 39.6 -0.1**
OSL Oslo 83.79 332 *e*P **P** **20 10 39.2 +0.2**
KNT Kendrikon 83.81 311 P **P** **20 10 38.0 -1.6**
KNT Kendrikon 83.81 311 P **P** **20 10 38.0 -1.6**
KNT Kendrikon 83.81 311 P **P** **20 10 38.0 -1.6**
HORT Hortiatis 83.85 311 P **P** **20 10 38.7 -1.2**
HORT Hortiatis 83.85 311 P **P** **20 10 38.7 -1.2**
MOL Molde 83.93 335 *e*P **P** **20 10 40.4 +0.7**
PKSN Nyarlorinc 83.94 317⇑ *e*P **P** **20 10 40.7 +0.6**
OKC Ostrava-Krasne 83.96 321 *e*P **P** **20 10 40.2 +0.1**
OKC *e* 20 10 50.6
OKC *e* 20 20 58.4
OKC *e*SS SS 20 26 32.1 +3.3
OKC MLR MLR
comp=Z,2μm,17.7s
OKC Ostrava-Krasne 83.96 321 *e*P **P** **20 10 40.2 +0.1**
OKC *e*pP **pP** **20 10 50.6 -2.8**
OKC *e*SKS **S** **20 20 58.4 -2.4**
OKC *e*SS **SS** **20 26 32.1 +3.3**
OKC AMS AMS 20 51 20.0
comp=Z,2μm,17.7s
DLBC Dease Lake 84.00 30 *e*P **P** **20 10 41.1 +0.8**
comp=Z,363nm,1.6s
VAY Valandovo 84.00 311 P **P** **20 10 39.3 -1.2**
VAY Valandovo 84.00 311 P **P** **20 10 39.3 -1.2**
VAY Valandovo 84.00 311 *i*P **P** **20 10 39.8 -0.7**
VAY Valandovo 84.00 311 P **P** **20 10 39.3 -1.2**
VYHS Vyhne 84.02 319 *e*P **P** **20 10 41.1 +0.6**
VYHS Vyhne 84.02 319 *e*S **S** **20 20 58.7 -2.8**
VYHS *e*SS **SS** **20 26 36.6 +6.7**
SKIA Skiathos 84.05 309 P **P** **20 10 39.5 -1.3**
PTL Penteli 84.11 308 P **P** **20 10 39.0 -2.2**
PTL Penteli 84.11 308 P **P** **20 10 39.0 -2.2**
XOR Xorichti 84.19 309 P **P** **20 10 39.1 -2.5**
XOR Xorichti 84.19 309 P **P** **20 10 39.1 -2.5**
PKS6 Bocsa 84.24 317⇑ *e*P **P** **20 10 42.1 +0.5**
BUD Budapest 84.27 318⇑ *e*P **P** **20 10 42.4 +0.7**
KMBO Kilima Mbogo 84.27 267 *e*P **P** **20 10 43.8 +1.1**
KMBO pmax pmax
comp=Z,106nm,1.5s
KMBO MLR MLR
comp=Z,2μm,21.0s
KMBO Kilima Mbogo 84.27 267 P **P** **20 10 43.1 +0.4**
comp=Z,19nm,1.0s,baz=48,slow=6.4,SNR=24
KMBO Kilima Mbogo 84.27 267 *e*P **P** **20 10 43.8 +1.1**
comp=Z,27nm,1.5s
KMBO LR LR
comp=Z,2μm,21.0s
PKS7 Kunszentmiklos 84.34 318⇑ *e*P **P** **20 10 42.2 +0.1**
MORC Moravsky Berou 84.34 321 *e*P **P** **20 10 42.4 +0.2**
MORC pmax pmax
comp=Z,113nm,1.7s
MORC Moravsky Berou 84.34 321⇑ *i*P **P** **20 10 42.7 +0.5**
MORC Moravsky Berou 84.34 321 *e*P **P** **20 10 42.4 +0.2**
comp=Z,113nm,1.7s
AKN Aaknes 84.35 334 *e*P **P** **20 10 42.1 +0.2**
AKN IAmb IAmb 20 10 43.4
comp=Z,171nm,0.9s
KONO Kongsberg 84.43 332 *e*P **P** **20 10 42.2 -0.1**
KONO *e*SKSac **SKSac** **20 21 00.9 -1.5**
KONO IAMs_20 IAMs_20 20 51 31.9
comp=Z,3μm,19.3s
KONO Kongsberg 84.43 332 *e*P **P** **20 10 41.9 -0.4**
KONO pmax pmax
comp=Z,157nm,1.7s
KONO MLR MLR
comp=Z,3μm,20.0s
KONO Kongsberg 84.43 332 *e*P **P** **20 10 41.9 -0.4**
comp=Z,157nm,1.7s
KONO LR LR
comp=Z,3μm,20.0s
LIT Litokhoron 84.46 310 P **P** **20 10 41.6 -1.3**
LIT Litokhoron 84.46 310 P **P** **20 10 41.6 -1.3**
LIT Litokhoron 84.46 310 P **P** **20 10 41.6 -1.3**
LKR Lokris 84.56 309 P **P** **20 10 41.2 -2.2**
LKR Lokris 84.56 309 P **P** **20 10 41.2 -2.2**
SKO Skopje 84.58 312 P **P** **20 10 43.4 -0.1**
SKO Skopje 84.58 312 P **P** **20 10 43.4 -0.1**

SKO Skopje 84.58 312 *i*P **P** **20 10 43.2 -0.3**
SKO Skopje 84.58 312 P **P** **20 10 43.4 -0.1**
KSP Ksiaz 84.68 322 *e*P **P** **20 10 44.3 +0.5**
KSP *e*pP **pP** **20 10 57.1 +0.1**
KSP *e*sP **sP** **20 11 00.8 -1.2**
KSP *e*S **SKSac** **20 21 05.3 +0.9**
KSP LMZ LR 20 52 26.9
PKSG 84.70 318⇑ *e*P **P** **20 10 44.1 +0.2**
VAM Vamos 84.71 305 P **P** **20 10 42.8 -1.4**
VAM Vamos 84.71 305 P **P** **20 10 42.8 -1.4**
VAM Vamos 84.71 305 P **P** **20 10 42.8 -1.4**
LTK Loutraki 84.79 308 P **P** **20 10 41.9 -2.7**
LTK Loutraki 84.79 308 P **P** **20 10 41.9 -2.7**
CSKK Cs˙‡kako 84.79 318⇑ *e*P **P** **20 10 44.7 +0.3**
COP Copenhagen 84.83 327⇑ *i*P **P** **20 10 44.8 +0.5**
COP *i*S **S** **20 21 09.4 +0.3**
COP pmax pmax
comp=Z,24nm,0.9s
COP MLR MLR
comp=Z,1μm,19.0s
COP Copenhagen 84.83 327⇑ *i*P **P** **20 10 44.8 +0.5**
comp=Z,24nm,0.8s
COP Copenhagen 84.83 327 *i*S **S** **20 21 09.4 +0.3**
DIVS Divibare 84.84 315 P **P** **20 10 44.4 -0.4**
RGN Rugen 84.84 326 *e*P **P** **20 10 44.9 +0.4**
DPC Dobruska-Polom 84.85 321 *e*P **P** **20 10 44.9 +0.2**
DPC *e* 20 10 53.7
DPC *e* 20 21 06.4
DPC *e*SS SS 20 26 43.7 +1.6
DPC Dobruska-Polom 84.85 321 *e*P **P** **20 10 44.9 +0.2**
DPC *e*x x 20 10 53.7
DPC *e*SKS **S** **20 21 06.4 -3.4**
DPC *e*x x 20 21 55.6
DPC *e*SS **SS** **20 26 43.7 +1.6**
DPC AMS AMS 20 50 40.0
CASY Casey 84.87 184 *e*P **P** **20 10 44.3 +0.2**
comp=Z,44nm,1.1s
CASY LR LR
comp=Z,1μm,19.0s
KZN Kozani 84.91 311 P **P** **20 10 43.9 -1.3**
KZN Kozani 84.91 311 P **P** **20 10 43.9 -1.3**
KZN Kozani 84.91 311 P **P** **20 10 43.9 -1.3**
KARN Karanos 84.93 305 P **P** **20 10 44.6 -0.8**
KARN Karanos 84.93 305 P **P** **20 10 44.6 -0.8**
AGG Agios Georgios 84.93 309 P **P** **20 10 43.3 -2.0**
AGG Agios Georgios 84.93 309 P **P** **20 10 43.3 -2.0**
AGG Agios Georgios 84.93 309 P **P** **20 10 43.3 -2.0**
UPC Upice 84.97 322 *e*P **P** **20 10 45.7 +0.4**
UPC *e* 20 10 55.1
UPC Upice 84.97 322 *e*P **P** **20 10 45.7 +0.4**
UPC *e*pP **pP** **20 10 55.1 -3.4**
THL Klokotos Trika 84.98 310 P **P** **20 10 44.8 -0.7**
DSF Desfina 84.99 309 P **P** **20 10 43.1 -2.6**
DSF Desfina 84.99 309 P **P** **20 10 43.1 -2.6**
FNA Florina 85.03 311 P **P** **20 10 44.4 -1.4**
FNA Florina 85.03 311 P **P** **20 10 44.4 -1.4**
FNA Florina 85.03 311 P **P** **20 10 44.4 -1.4**
PKS9 Tamasi 85.07 317⇓ *e*P **P** **20 10 46.6 +0.8**
MAKR Makrakomi, Fth 85.08 309 P **P** **20 10 43.4 -2.7**
MAKR Makrakomi, Fth 85.08 309 P **P** **20 10 43.4 -2.7**
LLD Lille Linde 85.09 327⇑ *i*P P 20 10 55.8 +10
LLD pmax pmax
comp=Z,120nm,1.0s
LLD Lille Linde 85.09 327 *i*P **P** **20 10 45.7 0.0**
VRAC Vranov 85.09 320⇑ *i*P **P** **20 10 46.9 +1.0**
HYA Hoyanger 85.19 334 *e*P **P** **20 10 45.3 -0.8**
VLI Veliai 85.25 307 P P 20 10 43.6 -3.3
VLI Veliai 85.25 307 P P 20 10 43.6 -3.3
GUR Goura 85.29 308 P **P** **20 10 45.2 -2.0**
GUR Goura 85.29 308 P **P** **20 10 45.2 -2.0**
OHR Ohrid 85.33 312 *i*P **P** **20 10 45.0 -2.3**
IVA Berane 85.34 314⇑ *i*P **P** **20 10 47.8 +0.4**
EVR Evrytania 85.35 309 P **P** **20 10 45.6 -1.9**
EVR Evrytania 85.35 309 P **P** **20 10 45.6 -1.9**
PHP Peshkopia 85.38 312 P **P** **20 10 45.8 -1.7**
PHP Peshkopia 85.38 312 P **P** **20 10 45.8 -1.7**
PHP Peshkopia 85.38 312 P **P** **20 10 45.8 -1.7**
NEST Nestorio 85.39 311 P **P** **20 10 45.8 -1.9**
PVY Plav 85.39 313⇑ *i*P **P** **20 10 47.5 -0.2**
KLV Kalavryta, Ach 85.39 308 P **P** **20 10 44.8 -2.9**
KLV Kalavryta, Ach 85.39 308 P **P** **20 10 44.8 -2.9**
FOO Floro 85.44 334 *e*P **P** **20 10 47.6 +0.3**
FOO *e*S **S** **20 21 15.4 +0.4**
EFP Efpalio 85.45 309 P **P** **20 10 46.5 -1.3**
VLX Vlachokerasia 85.45 308 P **P** **20 10 46.4 -1.6**
VLX Vlachokerasia 85.45 308 P **P** **20 10 46.4 -1.6**
PLE Pljevlja 85.52 314 *e*P **P** **20 10 49.1 +0.8**
ODD1 Odda 85.63 333 *e*P **P** **20 10 48.8 +0.5**
SOP Sopron 85.74 319⇑ *e*P **P** **20 10 49.5 +0.4**
DRO Drossia 85.75 308 P **P** **20 10 48.7 -0.7**
TREC Trest 85.77 321 *e*P **P** **20 10 49.8 +0.5**
TREC *e* 20 10 58.7
TREC *e*SS SS 20 27 00.9 +5.4
TREC MLR MLR
comp=Z,3μm,20.6s
TREC Trest 85.77 321 *e*P **P** **20 10 49.8 +0.5**
TREC *e*x x 20 10 58.7
TREC *e*x x 20 20 58.3
TREC *e*x x 20 22 07.3
TREC *e*SS SS 20 27 00.9 +5.4
TREC AMS AMS 20 51 20.0
comp=Z,3μm,20.6s
DSL Palaion Diasel 85.80 310 P **P** **20 10 48.4 -1.2**
DSL Palaion Diasel 85.80 310 P **P** **20 10 48.4 -1.2**
PVCC Panska Ves 85.81 322 *e*P **P** **20 10 50.0 +0.6**
PVCC *e* 20 11 00.9
PVCC *e* 20 21 11.5
PVCC *e*SS SS 20 27 06.1 +10
PVCC MLR MLR
comp=Z,2μm,16.9s
PVCC Panska Ves 85.81 322 *e*P **P** **20 10 50.0 +0.6**
PVCC *e*pP **pP** **20 11 00.9 -1.8**
PVCC *e*SKS S 20 21 11.5 -7.7
PVCC *e*x x 20 22 05.7
PVCC *e*SS SS 20 27 06.1 +10
PVCC AMS AMS 20 52 00.0
comp=Z,2μm,16.9s
SUE Sulen 85.84 334 *e*P **P** **20 10 49.8 +0.5**
SUE *e*SKSac **SKSac** **20 21 10.3 -0.9**
ITM Ithomi 85.85 308 P **P** **20 10 48.6 -1.3**
ITM Ithomi 85.85 308 P **P** **20 10 48.6 -1.3**
UPM Unac-Piva 85.89 314⇑ *i*P **P** **20 10 50.0 -0.2**
AMT Artemida-Makis 85.90 308 P **P** **20 10 48.7 -1.5**
RLS Riolos of Patr 85.90 309 P **P** **20 10 48.7 -1.4**
RLS Riolos of Patr 85.90 309 P **P** **20 10 48.7 -1.4**
PDO Prodromos 85.92 309 P **P** **20 10 48.2 -2.0**
PDG Podgorica 85.94 313 P **P** **20 10 50.2 0.0**
TTG Podgorica 85.94 313⇑ *i*P **P** **20 10 50.3 0.0**
TTG Podgorica 85.94 313 P **P** **20 10 50.2 0.0**
TTG Podgorica 85.94 313 P **P** **20 10 50.2 0.0**
BER Bergen 85.95 333 *e*P **P** **20 10 52.2 +2.4**
BER IAMs_20 IAMs_20 20 52 02.2
comp=Z,5μm,19.2s
BLS5 Blasjo 85.95 332 *e*P **P** **20 10 50.3 +0.4**
BLS5 IAmb IAmb 20 10 51.2
comp=Z,76nm,0.8s
ASK Askoy 85.95 333 *e*P **P** **20 10 50.5 +0.7**
NKY Niksic 85.98 314⇑ *i*P **P** **20 10 50.5 -0.1**
NKME Niksic 86.02 314⇑ *i*P **P** **20 10 50.7 0.0**
BRG Berggiesshubel 86.03 323⇑ *i*P **P** **20 10 50.9 +0.4**
comp=Z,81nm,1.2s
BRG *i* 20 11 07.2
BRG PP **PP** **20 14 15.0 +4.4**
BRG S **SKSac** **20 21 10.0 -2.9**
BRG PS PnS 20 22 09.0 -14
BRG SS SS 20 26 46.0 -13
BRG Berggiesshubel 86.03 323⇑ *i*P **P** **20 10 50.9 +0.4**
BRG *i* 20 11 07.2
BRG 20 14 15.0
BRG S **SKSac** **20 21 10.0 -2.9**
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG MLR MLR
comp=N,81μm,17.6s
BRG MLR MLR
comp=E,2μm,16.4s
BRG MLR MLR
comp=Z,2μm,14.1s
BRG Berggiesshubel 86.03 323 *e*P **P** **20 10 50.7 +0.2**
comp=Z,81nm,1.2s
BRG *e*sP **sP** **20 11 07.2 -1.6**

PRU Pruhonice 86.05 322 *e*P **P** **20 10 50.8 +0.2**
PRU *e* 20 11 03.7
PRU *e* 20 21 08.6
PRU *e*SS SS 20 27 01.7 +2.2
PRU MLR MLR
comp=Z,1μm,16.1s
PRU Pruhonice 86.05 322 *e*P **P** **20 10 50.8 +0.2**
PRU *e*pP **pP** **20 11 03.7 -0.2**
PRU *e*SKS **SKSac** **20 21 08.6 -4.4**
PRU *e*x x 20 22 08.3
PRU *e*SS **SS** **20 27 01.7 +2.2**
PRU AMS AMS 20 52 10.0
comp=Z,1μm,16.1s
DRME Dracevica, Mon 86.07 313⇑ *i*P **P** **20 10 50.5 -0.4**
CONA Conrad Observa 86.08 319⇑ *i*PcP **P** **20 10 51.5 +0.6**
comp=Z,78nm,1.7s,SNR=34
PRA Prague 86.08 322 *e*P **P** **20 10 51.3 +0.6**
PRA *e* 20 11 01.8
PRA Prague 86.08 322 *e*P **P** **20 10 51.3 +0.6**
PRA *e*pP **pP** **20 11 01.8 -2.2**
DRV Dumont d'Urvil 86.11 172 P P 20 10 34.0 -16
DRV Dumont d'Urvil 86.11 172 S **SKSac** **20 21 08.0 -4.2**
DRV SS **SS** **20 26 56.0 -4.7**
DRV L L 20 32 00.0
DRV R 20 38 00.0
ULC Ulcinj 86.11 313⇑ *i*P **P** **20 10 50.7 -0.4**
MUD Monsted U'grnd 86.12 329⇑ *i*P **P** **20 10 51.0 +0.3**
MUD pmax pmax
comp=Z,59nm,1.0s
MUD MLR MLR
comp=Z,3μm,21.0s
MUD Monsted U'grnd 86.12 329⇑ *i*P **P** **20 10 51.0 +0.3**
comp=Z,59nm,0.9s
SNART Snartemo 86.14 331 *e*P **P** **20 10 52.9 +2.0**
IGT Igoumenitsa 86.21 310 P **P** **20 10 49.3 -2.4**
IGT Igoumenitsa 86.21 310 P **P** **20 10 49.3 -2.4**
IGT Igoumenitsa 86.21 310 P **P** **20 10 49.3 -2.4**
BUM Brajici-Budva 86.23 313 *e*P **P** **20 10 51.0 -0.8**
LKD2 Lefkada island 86.24 310 P **P** **20 10 49.9 -1.9**
LKD2 Lefkada island 86.24 310 P **P** **20 10 49.9 -1.9**
SRN Sarande 86.33 311 P **P** **20 10 49.8 -2.4**
SRN Sarande 86.33 311 P **P** **20 10 49.8 -2.4**
KFL Anninata 86.38 309 P **P** **20 10 51.6 -0.9**
CLL Collm 86.39 323⇑ *i*P **P** **20 10 52.2 0.0**
CLL *e* 20 11 10.0
CLL *e* 20 21 13.0
CLL pmax pmax
comp=Z,119nm,1.6s
CLL Collm 86.39 323 *e*P **P** **20 10 52.1 -0.1**
comp=Z,119nm,1.6s
CLL *e*sP **sP** **20 11 09.3 -1.2**
CLL *e*SKSac **SKSac** **20 21 14.3 -0.8**
CLL Collm 86.39 323⇑ *i*P **P** **20 10 52.2 0.0**
comp=Z,119nm,1.6s
CLL *e*sP **sP** **20 11 10.0 -0.5**
CLL *e*PP **PP** **20 14 15.0 +1.6**
CLL *e*sPPP 20 16 30.0
CLL *e*SKSac **SKSac** **20 21 13.0 -2.1**
CLL *e*(S) **ScS** **20 21 37.0 +3.8**
CLL *e*PS **PnS** **20 22 21.0 -6.3**
CLL *e*PPS PPS 20 22 58.0
CLL *e*SS **SS** **20 27 08.0 +3.6**
CLL *e* 20 28 06.0
CLL *e*SSS SSS 20 30 36.0
CLL *e*SSSS 20 33 36.0
KOGS Kog 86.42 318 *i*P **P** **20 10 52.5 0.0**
HCY Herceg Novi 86.45 314⇑ *i*P **P** **20 10 52.2 -0.6**
VLS Valsamata 86.50 309 P **P** **20 10 51.9 -1.2**
VLS Valsamata 86.50 309 P **P** **20 10 51.9 -1.2**
VLS Valsamata 86.50 309 P **P** **20 10 51.9 -1.2**
KEK Kerkira 86.53 311 P **P** **20 10 51.2 -2.0**
KEK Kerkira 86.53 311 P **P** **20 10 51.2 -2.0**
ARSA Arzberg 86.56 319 *e*P **P** **20 10 53.4 +0.2**
ARSA Arzberg 86.56 319 *i*PcP **P** **20 10 53.6 +0.3**
comp=Z,56nm,1.9s,SNR=25
BSEG Bad Segeberg 86.70 326 *e*P **P** **20 10 54.0 +0.3**
comp=Z,135nm,1.6s
BSEG *e*sP **sP** **20 11 10.2 -1.8**
KHC Kasperske Hory 86.97 321 *e*P **P** **20 10 55.3 +0.1**
KHC *e* 20 11 06.1
KHC *e* 20 21 15.7
KHC *e*SS SS 20 27 13.7 +0.5
KHC MLR MLR
comp=Z,3μm,20.8s
KHC Kasperske Hory 86.97 321 *e*P **P** **20 10 55.3 +0.1**
KHC *e*pP **pP** **20 11 06.1 -2.4**
KHC *e*SKS **SKSac** **20 21 15.7 -3.2**
KHC *e*x x 20 22 17.8
KHC *e*SS **SS** **20 27 13.7 +0.5**
KHC AMS AMS 20 52 00.0
comp=Z,3μm,20.8s
KHC Kasperske Hory 86.97 321 *e*P **P** **20 10 55.0 -0.2**
comp=Z,56nm,1.6s
GEC2 GERESS Array S 87.02 321 *e*P **P** **20 10 55.7 +0.2**
comp=Z,84nm,1.7s
GEC2 *e*SKSac **SKSac** **20 21 18.3 -1.0**
GERES GERESS Array B 87.02 321 P **P** **20 10 55.3 -0.2**
comp=Z,4.5nm,0.8s,baz=68,slow=3.6,SNR=48
GERES PKiKP **PKiKP** **20 16 00.3 -0.4**
comp=Z,0.8nm,0.6s,baz=80,slow=1.1,SNR=5.0
GERES LR LR 20 52 36.4
comp=Z,2μm,20.3s,baz=72,slow=37
TANN Tannenbergstha 87.08 323 *e*P **P** **20 10 55.9 +0.2**
comp=Z,186nm,2.4s
MOA Molln 87.09 320 *e*P **P** **20 10 56.4 +0.6**
MOA Molln 87.09 320 *i*PcP **P** **20 10 56.4 +0.6**
comp=Z,99nm,1.7s,SNR=39
SOKA Soboth 87.09 318⇓ *i*PcP **P** **20 10 55.7 -0.2**
comp=Z,67nm,2.1s,SNR=30
KULLO Kullorsuaq 87.13 359⇑ *i*P **P** **20 10 55.8 +0.4**
comp=Z,117nm,0.9s
KULLO Kullorsuaq 87.13 359 *i*S **S** **20 21 29.4 -1.7**
MIR Mirnyy 87.31 191⇓ *i*P **P** **20 10 53.0 -3.1**
MIR *i* 20 11 10.0
MIR pmax pmax
comp=Z,81nm,1.5s
WET Wettzell 87.39 321 *e*P **P** **20 10 57.7 +0.5**
comp=Z,124nm,2.1s
BOJS Bojanci 87.43 317 *i*P **P** **20 10 57.9 +0.4**
MOX Moxa 87.47 323 *e*P **P** **20 10 57.7 +0.2**
comp=Z,150nm,2.2s
MOX *e*L L 20 53 32.3
comp=Z,3μm,20.7s
OBKA Obir 87.47 318 *e*P **P** **20 10 57.8 +0.1**
OBKA Obir 87.47 318⇓ *i*PcP **P** **20 10 57.7 -0.1**
comp=Z,53nm,2.1s,SNR=12
NRDL Niedersach Rie 87.47 325 *e*P **P** **20 10 57.9 +0.5**
comp=Z,114nm,1.8s
NRDL *e*sP **sP** **20 11 14.1 -1.6**
ROTZ Rotzenmuhle 87.51 322 *e*P **P** **20 10 58.5 +0.7**
comp=Z,42nm,1.2s
ROTZ *e*SKSac **SKSac** **20 21 21.0 -1.1**
CLZ Clausthal 87.63 324 *e*P **P** **20 10 58.7 +0.4**
comp=Z,150nm,2.0s
CLZ *e*SKSac **SKSac** **20 21 21.0 -1.8**
CLZ *e*S **S** **20 21 36.9 +0.1**
LJU Ljubljana 87.67 318 *i*P **P** **20 10 58.8 +0.1**
LJU *e*pP **pP** **20 11 08.8 -3.1**
LJU *e* 20 21 19.4
LJU *e* 20 21 34.7
KBA Koelnbreinsper 87.98 319 *e*P **P** **20 10 59.8 -0.5**
KBA Koelnbreinsper 87.98 319 *i*PcP **P** **20 10 59.6 -0.7**
comp=Z,23nm,1.3s,SNR=9.9
MYKA Terra Mystica 87.99 319 *i*PcP **P** **20 10 59.9 -0.3**
comp=Z,28nm,1.7s,SNR=7.8
SUMG Summit 88.09 354⇑ *i*P **P** **20 11 01.2 +0.6**
SUMG pmax pmax
comp=Z,77nm,1.0s
SUMG Summit 88.09 354⇑ *i*P **P** **20 11 01.2 +0.6**
comp=Z,77nm,1.0s
SUMG Summit 88.09 354 *e*P **P** **20 11 00.9 +0.3**
comp=Z,130nm,1.0s
CADS Cadrg 88.10 318 *i*P **P** **20 11 00.1 -0.6**
GRF Grafenberg Arr 88.12 322 *e*P **P** **20 11 01.3 +0.6**
comp=Z,164nm,2.0s
GRF *e*PP **PP** **20 14 29.9 +2.5**
GRF *e*SKSac **SKSac** **20 21 23.9 -1.9**
GRF *e*S **S** **20 21 41.7 +0.2**
GRF *e*L L 20 53 39.2
comp=Z,2μm,18.7s
GRFO Grafenberg 88.12 322 *e*P **P** **20 11 00.9 +0.2**
GRFO pmax pmax
comp=Z,179nm,2.0s

GRFO **Grafenberg** 88.12 322 *e*P P 20 11 00.9 +0.2
comp=Z,179nm,2.0s
UBBA **Unterbreizbach** 88.30 324 *e*SKSac SKSac 20 21 26.0 -0.6
UBBA *e*S S 20 21 42.5 -0.4
YKA **Yellowknife Ar** 88.32 22 P P 20 11 01.7 +0.5
comp=Z,132nm,0.9s,baz=313,slow=4.5,SNR=783
YKA PKiKP PKiKP 20 16 01.8 -0.4
comp=Z,0.4nm,0.5s,baz=317,slow=1.7,SNR=4.2
YKA PKKPbc PKKPbc 20 28 43.2 -2.9
comp=Z,1.5nm,0.6s,baz=129,slow=2.6,SNR=30
YKA PKPPKP P'P'df 20 36 43.0 -12
comp=Z,0.6nm,1.0s,baz=136,slow=2.2,SNR=6.0
ABTA **Abfaltersbach** 88.64 319 *i* P P 20 11 02.3 -1.0
comp=Z,26nm,1.0s,SNR=20
FUR **Furstenfeldbru** 88.77 321 *e*P P 20 11 04.3 +0.5
comp=Z,81nm,1.2s
FUR *e*sP sP 20 11 20.5 -1.6
FUR *e*SKSac SKSac 20 21 27.6 -2.2
FUR *e*S SKKSac 20 21 43.8 +2.7
IBBN **Ibbenburen** 88.83 326 *e*P P 20 11 04.0 +0.1
comp=Z,74nm,1.2s
IBBN *e*sP sP 20 11 20.6 -1.6
IBBN *e*SKSac SKSac 20 21 30.7 +0.9
IBBN *e*S S 20 21 46.5 -1.5
TIP **Timpagrande** 88.92 311 P P 20 11 04.5 -0.2
TIP **Timpagrande** 88.92 311 P P 20 11 04.5 -0.2
TIP LR LR
comp=Z,577nm,22.0s
WTTA **Wattenberg** 88.95 320 *e*P P 20 11 04.5 -0.4
WTTA **Wattenberg** 88.95 320 *i* PcP P 20 11 04.5 -0.4
comp=Z,45nm,0.8s,SNR=23
WATA **Walderalm** 88.96 320⇓ *i*PcP P 20 11 04.5 -0.4
comp=Z,16nm,0.9s,SNR=7.5
MOTA **Moosalm** 89.24 320⇑ *i*PcP P 20 11 05.6 -0.6
comp=Z,23nm,0.9s,SNR=14
CUC **Castrocucco** 89.26 312 *e*P P 20 11 05.1 -1.2
comp=Z,32nm,1.5s
CUC LR LR
comp=Z,874nm,20.0s
TNS **Taunus Mts** 89.46 324 *e*P P 20 11 07.1 +0.1
comp=Z,38nm,1.3s
WTSB **Winterswijk** 89.51 326 *e*P P 20 11 07.1 0.0
comp=Z,34nm,1.0s
BUG **Bochum--Univer** 89.52 325 *e*P P 20 11 07.0 -0.2
comp=Z,57nm,1.2s
CRZF **Crozet Islands** 89.56 220 P P 20 11 00.0 -7.3
CRZF SS SS 20 27 33.0 -19
CRZF R 20 39 00.0
FETA **Feichten** 89.61 320⇓ *i*PcP P 20 11 07.6 -0.3
comp=Z,35nm,0.9s,SNR=24
STU **Stuttgart** 89.72 322 *e*P P 20 11 08.2 0.0
comp=Z,49nm,1.5s
CEL **Celeste** 89.90 310 *e*P P 20 11 08.9 -0.4
comp=Z,130nm,1.0s
CEL LR LR
comp=Z,816nm,20.0s
AQU **L'Aquila** 89.95 315 *e*P P 20 11 10.0 +0.5
AQU pmax pmax
comp=Z,60nm,1.0s
AQU MLR MLR
comp=Z,2μm,21.0s
AQU **L'Aquila** 89.95 315 *e*P P 20 11 10.0 +0.5
comp=Z,60nm,1.0s
AQU LR LR
comp=Z,2μm,21.0s
DAVA **Damuels** 90.01 321 *e*P P 20 11 09.7 -0.1
DAVA **Damuels** 90.01 321 *i* PcP P 20 11 09.8 0.0
comp=Z,29nm,1.1s,SNR=9.8
LANF **Langenberg** 90.43 323⇑ *e*P P 20 11 11.8 +0.3
BFO **Black Forest** 90.44 322 *e*P P 20 11 11.0 -0.6
BFO pmax pmax
comp=Z,67nm,1.9s
BFO MLR MLR
comp=Z,2μm,19.0s
BFO **Black Forest** 90.44 322 *e*P P 20 11 11.4 -0.2
BFO *e*SKSac SKSac 20 21 36.0 -3.5
BFO **Black Forest** 90.44 322 *e*P P 20 11 11.0 -0.6
comp=Z,67nm,1.9s
BFO LR LR
comp=Z,2μm,19.0s
HGN **Heimansgroeve** 90.59 325 *e*P P 20 11 12.0 -0.1
comp=Z,34nm,1.1s
HGN **Heimansgroeve** 90.59 325 *e*S SKSac 20 21 41.1 +1.0
HGN *e*SS SS 20 28 15.3 +10
MEM **Membach** 90.62 325 P P 20 11 12.3 -0.1
comp=Z,19nm,1.5s
BEBN **Eben Emael** 90.71 325 P P 20 11 12.7 0.0
TUE **Stuetta** 90.71 320 *e*P P 20 11 12.9 -0.2
comp=Z,192nm,0.4s
TUE LR LR
comp=Z,3μm,21.0s
CDF **Champ du Feu** 91.01 322⇑ *i*P P 20 11 14.0 -0.3
comp=Z,163nm,1.6s
CDF **Champ du Feu** 91.01 322⇑ *i*P P 20 11 14.0 -0.3
CDF pmax pmax
comp=Z,163nm,1.6s
CDF **Champ du Feu** 91.01 322⇑ *i*P P 20 11 14.0 -0.3
comp=Z,163nm,1.6s
WLF **Walferdange** 91.02 324 P P 20 11 14.9 +0.6
comp=Z,36nm,1.3s
WLF **Walferdange** 91.02 324 *e*P P 20 11 14.8 +0.6
WLF pmax pmax
comp=Z,26nm,0.9s
WLF MLR MLR
comp=Z,3μm,20.0s
WLF **Walferdange** 91.02 324 *e*P P 20 11 14.7 +0.5
comp=Z,63nm,1.2s
WLF **Walferdange** 91.02 324 *e*P P 20 11 14.8 +0.5
comp=Z,26nm,0.9s
WLF LR LR
comp=Z,3μm,20.0s
BCLA **Clavier** 91.11 325 P P 20 11 14.3 -0.3
comp=Z,25nm,1.9s
VLC **Villacollemand** 91.13 318 PFAKE 20 11 20.0 +5.1
VLC LR LR
comp=Z,3μm,22.0s
ECH **Echery** 91.17 322 *e*P P 20 11 14.1 -0.9
ECH pmax pmax
comp=Z,10.0nm,1.3s
ECH MLR MLR
comp=Z,2μm,19.0s
ECH **Echery** 91.17 322⇑ *e*P P 20 11 14.9 -0.1
ECH **Echery** 91.17 322 *e*P P 20 11 14.1 -0.9
comp=Z,10.0nm,1.3s
ECH LR LR
comp=Z,2μm,19.0s
MOF **Molkenrain** 91.37 322⇑ *e*P P 20 11 15.9 -0.1
UCC **Uccle** 91.42 325 P P 20 11 15.9 -0.1
comp=Z,65nm,2.0s
GIVF **Givet** 91.54 325⇑ *i*P P 20 11 16.3 -0.3
comp=Z,102nm,1.3s
GIVF **Givet** 91.54 325⇑ *i*P P 20 11 16.3 -0.3
GIVF pmax pmax
comp=Z,102nm,1.3s
GIVF **Givet** 91.54 325⇑ *i*P P 20 11 16.3 -0.3
comp=Z,102nm,1.3s
HINF **Hinteralfeld** 91.55 322⇑ *i*P P 20 11 16.2 -0.6
comp=Z,99nm,1.5s
HINF **Hinteralfeld** 91.55 322⇑ *i*P P 20 11 16.2 -0.6
HINF pmax pmax
comp=Z,99nm,1.5s
HINF **Hinteralfeld** 91.55 322⇑ *i*P P 20 11 16.2 -0.6
comp=Z,99nm,1.5s
SNF **Seneffe** 91.62 325 P P 20 11 17.0 0.0
DOU **Dourbes** 91.67 325 P P 20 11 17.3 +0.1
comp=Z,28nm,2.1s
HAU **Haudompre** 91.75 322⇑ *i*P P 20 11 17.0 -0.7
comp=Z,72nm,1.5s
HAU *e*R
comp=Z,3μm,18.8s
HAU **Haudompre** 91.75 322⇑ *i*P P 20 11 17.0 -0.7
HAU pmax pmax
comp=Z,72nm,1.5s
HAU **Haudompre** 91.75 322⇑ *i*P P 20 11 17.0 -0.7
comp=Z,72nm,1.5s
LOMF **Lomont** 91.80 322⇑ *e*P P 20 11 17.7 -0.3
PAGF **Fort de Pagny** 91.83 323⇑ *i*P P 20 11 17.9 -0.1
comp=Z,27nm,1.4s
PAGF **Fort de Pagny** 91.83 323⇑ *i*P P 20 11 17.9 -0.1
comp=Z,27nm,1.4s
THEF **They Montfort** 91.85 323⇑ *e*P P 20 11 18.2 +0.1
WDD **Wield Dalam** 91.87 309 PFAKE 20 11 30.0 +12
WDD LR LR
comp=Z,747nm,20.0s
BAIF **Baives** 91.90 325⇑ *i*P P 20 11 18.0 -0.3
comp=Z,77nm,1.3s
BAIF **Baives** 91.90 325⇑ *i*P P 20 11 18.0 -0.3
BAIF pmax pmax
comp=Z,77nm,1.3s
BAIF **Baives** 91.90 325⇑ *i*P P 20 11 18.0 -0.3
comp=Z,77nm,1.3s
PGC **Sidney** 92.12 37 *e*P P 20 11 21.0 +1.7
comp=Z,73nm,1.3s
SNB **Saturna Island** 92.21 37 P P 20 11 22.1 +2.3
MEZF **Maizieres J'vi** 92.24 323⇑ *i*P P 20 11 19.9 0.0
comp=Z,267nm,1.7s
MEZF **Maizieres J'vi** 92.24 323⇑ *i*P P 20 11 19.9 0.0
comp=Z,267nm,1.7s
ILULI **Ilulissat** 92.34 357 *i* P P 20 11 20.0 +0.1
comp=Z,35nm,1.0s
OSD **Olympics--Snow** 92.40 38 P P 20 11 23.0 +2.0
SFTF **Sexfontaines** 92.40 323⇑ *i*P P 20 11 20.2 -0.5
comp=Z,188nm,1.6s
SFTF **Sexfontaines** 92.40 323⇑ *i*P P 20 11 20.2 -0.5
comp=Z,188nm,1.6s
NLWA **Neilton Lookou** 92.53 38 *e*P P 20 11 23.4 +2.1
comp=Z,358nm,1.9s
NLWA LR LR
comp=Z,1μm,22.0s
ESK **Eskdalemuir** 92.58 332 *i* P P 20 11 22.2 +0.9
ESK **Eskdalemuir** 92.58 332 *e*P P 20 11 21.1 -0.2
comp=Z,160nm,1.5s
ESK LR LR
comp=Z,3μm,20.0s
CABF **La Chapelle** 92.61 321⇑ *i*P P 20 11 21.3 -0.5
comp=Z,165nm,1.9s
CABF **La Chapelle** 92.61 321⇑ *i*P P 20 11 21.3 -0.5
CABF pmax pmax
comp=Z,165nm,1.9s
CABF **La Chapelle** 92.61 321⇑ *i*P P 20 11 21.3 -0.5
comp=Z,165nm,1.9s
LPG **La Plagne** 92.77 320⇑ *i*P P 20 11 22.7 -0.1
comp=Z,137nm,1.1s
LPG **La Plagne** 92.77 320⇑ *i*P P 20 11 22.7 -0.1
LPG pmax pmax
comp=Z,137nm,1.1s
LPG **La Plagne** 92.77 320⇑ *i*P P 20 11 22.7 -0.1
comp=Z,137nm,1.1s
LPL **La Plagne** 92.77 320⇑ *i*P P 20 11 22.6 -0.1
comp=Z,176nm,1.2s
LPL **La Plagne** 92.77 320⇑ *i*P P 20 11 22.6 -0.1
LPL pmax pmax
comp=Z,176nm,1.2s
LPL **La Plagne** 92.77 320⇑ *i*P P 20 11 22.6 -0.1
comp=Z,176nm,1.2s
PGF **Pioggiola** 92.78 317⇑ *i*P P 20 11 22.5 -0.2
comp=Z,183nm,1.2s
PGF **Pioggiola** 92.78 317⇑ *i*P P 20 11 22.5 -0.2
PGF pmax pmax
comp=Z,183nm,1.2s
PGF **Pioggiola** 92.78 317⇑ *i*P P 20 11 22.5 -0.2
comp=Z,183nm,1.2s
CMW **Cultus Mountai** 92.99 36 P P 20 11 25.5 +2.0
SAOF **Saorge** 93.01 318⇑ *e*P P 20 11 23.8 +0.2
BNI **Bardonecchia** 93.03 320 *e*P P 20 11 23.6 -0.2
BNI pmax pmax
comp=Z,39nm,1.0s
BNI MLR MLR
comp=Z,4μm,22.0s
BNI **Bardonecchia** 93.03 320 *e*P P 20 11 23.6 -0.2
comp=Z,39nm,1.0s
BNI LR LR
comp=Z,4μm,22.0s
AUTN **L'Aution** 93.09 318⇑ *e*P P 20 11 25.4 +1.2
MBDF **Montbardon** 93.14 319⇑ *i*P P 20 11 23.3 -1.0
comp=Z,24nm,0.7s
MBDF **Montbardon** 93.14 319⇑ *i*P P 20 11 23.3 -1.0
MBDF pmax pmax
comp=Z,24nm,0.7s
MBDF **Montbardon** 93.14 319⇑ *i*P P 20 11 23.3 -1.0
comp=Z,24nm,0.7s
SBF **Sospel** 93.15 318⇑ *i*P P 20 11 23.7 -0.6
comp=Z,106nm,1.0s
SBF **Sospel** 93.15 318⇑ *i*P P 20 11 23.7 -0.6
SBF pmax pmax
comp=Z,106nm,1.0s
SBF **Sospel** 93.15 318⇑ *i*P P 20 11 23.7 -0.6
comp=Z,106nm,1.0s
TOUF **Mont Tournerai** 93.19 319⇑ *e*P P 20 11 24.7 0.0
JCW **Jim Creek** 93.22 37 P P 20 11 26.3 +1.8
MVIF **Mont Vial** 93.31 318⇑ *e*P P 20 11 25.2 0.0
BMW **Boistfort Moun** 93.38 39 P P 20 11 27.1 +1.8
BMW **Boistfort Moun** 93.38 39 P P 20 11 27.1 +1.8
CALN **Calern** 93.55 318⇑ *e*P P 20 11 25.9 -0.3
LOR **Lormes** 93.57 323⇑ *i*P P 20 11 25.4 -0.7
comp=Z,150nm,1.7s
LOR *e*R
comp=Z,3μm,20.0s
LOR **Lormes** 93.57 323⇑ *i*P P 20 11 25.4 -0.7
LOR pmax pmax
comp=Z,150nm,1.7s
LOR **Lormes** 93.57 323⇑ *i*P P 20 11 25.4 -0.7
comp=Z,150nm,1.7s
ORIF **Oris-en-Rattie** 93.59 320⇑ *i*P P 20 11 26.2 -0.1
ORIF *e*R
comp=Z,3μm,22.5s
ORIF **Oris-en-Rattie** 93.59 320⇑ *i*P P 20 11 26.2 -0.1
ORIF **Oris-en-Rattie** 93.59 320⇑ *i*P P 20 11 26.2 -0.1
F04D **Rainier, OR** 93.71 39 ⇑P P 20 11 28.1 +1.4
baz=94
FRF **La Foret Royal** 93.80 318⇑ *i*P P 20 11 26.7 -0.5
comp=Z,75nm,1.1s
FRF **La Foret Royal** 93.80 318⇑ *i*P P 20 11 26.7 -0.5
FRF pmax pmax
comp=Z,75nm,1.1s
FRF **La Foret Royal** 93.80 318⇑ *i*P P 20 11 26.7 -0.5
comp=Z,75nm,1.1s
SSF **Saint Saulge** 93.89 323⇑ *i*P P 20 11 26.9 -0.6
comp=Z,93nm,1.6s
SSF **Saint Saulge** 93.89 323⇑ *i*P P 20 11 26.9 -0.6
SSF pmax pmax
comp=Z,93nm,1.6s
SSF **Saint Saulge** 93.89 323⇑ *i*P P 20 11 26.9 -0.6
comp=Z,93nm,1.6s
SMF **Signal de Mont** 93.91 322⇑ *i*P P 20 11 27.0 -0.7
comp=Z,64nm,1.3s
SMF **Signal de Mont** 93.91 322⇑ *i*P P 20 11 27.0 -0.7
SMF pmax pmax
comp=Z,64nm,1.3s
SMF **Signal de Mont** 93.91 322⇑ *i*P P 20 11 27.0 -0.7
comp=Z,64nm,1.3s
VSL **Villasalto** 93.95 314 PFAKE 20 11 40.0 +12
VSL LR LR
comp=Z,734nm,20.0s
LMR **La Mourre** 94.00 318⇑ *i*P P 20 11 27.8 -0.3
comp=Z,321nm,1.8s
LMR **La Mourre** 94.00 318⇑ *i*P P 20 11 27.8 -0.3
LMR pmax pmax
comp=Z,321nm,1.8s
LMR **La Mourre** 94.00 318⇑ *i*P P 20 11 27.8 -0.3
comp=Z,321nm,1.8s
WRW **Wenatchee Ridg** 94.00 36 P P 20 11 29.6 +1.4
G03D **McMinnville, O** 94.01 40 ⇑P P 20 11 30.1 +2.0
baz=94
TDL **Tradedollar La** 94.04 38 P P 20 11 30.0 +1.6
LVP **Lakeview Peak** 94.07 39 P P 20 11 30.2 +1.6
STD **Studebaker Rid** 94.09 38 P P 20 11 30.5 +1.9
AVF **Avril sur Loir** 94.12 322⇑ *i*P P 20 11 27.9 -0.7
comp=Z,58nm,1.2s
AVF **Avril sur Loir** 94.12 322⇑ *i*P P 20 11 27.9 -0.7
AVF pmax pmax
comp=Z,58nm,1.2s
AVF **Avril sur Loir** 94.12 322⇑ *i*P P 20 11 27.9 -0.7
comp=Z,58nm,1.2s
MPOR **Mary's Peak** 94.20 40 P P 20 11 31.2 +2.0
SSB **Saint Sauveur** 94.22 321 *e*P P 20 11 28.8 -0.4
SSB pmax pmax
comp=Z,16nm,1.0s
SSB MLR MLR
SSB **Saint Sauveur** 94.22 321 *e*P P 20 11 28.8 -0.4
comp=Z,16nm,1.0s
SSB LR LR
comp=Z,2μm,21.0s
SMRF **Simiane la Rot** 94.26 319⇑ *i*P P 20 11 29.1 -0.3
comp=Z,46nm,1.2s
SMRF **Simiane la Rot** 94.26 319⇑ *i*P P 20 11 29.1 -0.3
comp=Z,46nm,1.2s
HYF **Humbligny** 94.27 323⇑ *i*P P 20 11 29.4 +0.1
HYF **Humbligny** 94.27 323⇑ *i*P P 20 11 29.4 +0.1
COR **Corvallis** 94.31 40 *e*P P 20 11 31.8 +2.3
COR pmax pmax
comp=Z,123nm,1.4s
COR **Corvallis** 94.31 40 *e*P P 20 11 31.8 +2.3
comp=Z,123nm,1.4s
VIVF **Saint-Julien-I** 94.36 320⇑ *i*P P 20 11 29.2 -0.6
comp=Z,54nm,1.1s
VIVF **Saint-Julien-I** 94.36 320⇑ *i*P P 20 11 29.2 -0.6
VIVF pmax pmax
comp=Z,54nm,1.1s
VIVF **Saint-Julien-I** 94.36 320⇑ *i*P P 20 11 29.2 -0.6
comp=Z,54nm,1.1s
PLDF **La Plantade** 94.40 322⇑ *e*P P 20 11 30.5 +0.5
G04A **Mulino** 94.49 39 P P 20 11 31.9 +1.5
SFJD **Kangerlussuaq** 94.53 357 *e*P P 20 11 29.8 -0.2
SFJD pmax pmax
comp=Z,118nm,1.0s
SFJD MLR MLR
comp=Z,1μm,22.0s
SFJD **Kangerlussuaq** 94.53 357⇑ *i*P P 20 11 29.9 -0.1
comp=Z,62nm,0.9s
SFJD **Kangerlussuaq** 94.53 357 *e*P P 20 11 29.8 -0.2
comp=Z,118nm,1.0s
SFJD LR LR
comp=Z,1μm,22.0s
KEBM **Edson Butte** 94.54 42 *e*P P 20 11 30.7 0.0
BGF **Bois d'Agland** 94.54 322⇑ *i*P P 20 11 30.0 -0.6
comp=Z,13nm,0.9s
BGF **Bois d'Agland** 94.54 322⇑ *i*P P 20 11 30.0 -0.6
BGF pmax pmax
comp=Z,13nm,0.9s
BGF **Bois d'Agland** 94.54 322⇑ *i*P P 20 11 30.0 -0.6
comp=Z,13nm,0.9s
AGO **Saint Agoulin** 94.65 322⇑ *e*P P 20 11 31.5 +0.4
I03D **Drain, OR** 94.74 41 ⇓P P 20 11 32.5 +1.0
baz=95,SNR=5.5
VLL **Laurance Lake** 94.83 39 P P 20 11 33.9 +1.8
PYM **Petit Puy Mans** 94.88 322 *e*P P 20 11 32.0 -0.2
LBL **Lubilhac** 95.02 321⇑ *e*P P 20 11 33.4 +0.5
VFP **Flag Point** 95.03 39 P P 20 11 34.5 +1.4
PPT **Papeete** 95.05 107 LR LR 20 46 41.3
comp=Z,840nm,21.6s,baz=307,slow=31
PPT2 **Papeete2** 95.06 107 *e*PP PP 20 15 15.9 -7.7
comp=Z,321nm,28.5s
PPT2 **Papeete2** 95.06 107 *e*PS PS 20 24 08.4 +0.5
comp=Z,2μm,38.8s
PPT2 **Papeete2** 95.06 107 *e*LR LR 20 42 15.1
comp=Z,6μm,29.2s,baz=289
TCF **Toulx Ste Croi** 95.06 322⇑ *i*P P 20 11 32.6 -0.4
comp=Z,71nm,1.3s
TCF **Toulx Ste Croi** 95.06 322⇑ *i*P P 20 11 32.6 -0.4
TCF pmax pmax
comp=Z,71nm,1.3s
TCF **Toulx Ste Croi** 95.06 322⇑ *i*P P 20 11 32.6 -0.4
comp=Z,71nm,1.3s
LDF **La Druitiere** 95.07 325 *e*P P 20 11 31.9 -1.0
comp=Z,26nm,1.1s
LDF **La Druitiere** 95.07 325 *e*P P 20 11 31.9 -1.0
LDF pmax pmax
comp=Z,26nm,1.1s
LDF **La Druitiere** 95.07 325 *e*P P 20 11 31.9 -1.0
comp=Z,26nm,1.1s
G05D **Wamic, OR** 95.16 39 ⇓P P 20 11 35.2 +1.8
baz=95
FLN **La Foliniere** 95.16 325⇑ *i*P P 20 11 32.3 -1.0
comp=Z,86nm,1.6s
FLN *e*R
comp=Z,4μm,22.8s
FLN **La Foliniere** 95.16 325⇑ *i*P P 20 11 32.3 -1.0
FLN pmax pmax
comp=Z,86nm,1.6s
FLN **La Foliniere** 95.16 325⇑ *i*P P 20 11 32.3 -1.0
comp=Z,86nm,1.6s
LASF **Ste Croix** 95.27 320⇑ *i*P P 20 11 33.7 -0.3
comp=Z,34nm,1.1s
LASF **Ste Croix** 95.27 320⇑ *i*P P 20 11 33.7 -0.3
comp=Z,34nm,1.1s
I04A **Tendick Farm,** 95.27 40 ⇓P P 20 11 34.5 +0.5
baz=95,SNR=10
L02D **Cave Junction,** 95.37 42 ⇑P P 20 11 36.1 +1.6
baz=95
HUMO **Hull Mountain** 95.55 42 *e*P P 20 11 36.5 +1.2
comp=Z,28nm,1.3s
HAWA **Hanford** 95.57 37 *e*P P 20 11 36.9 +1.6
comp=Z,138nm,1.7s
HAWA LR LR
comp=Z,744nm,20.0s
I05D **Terrebonne, OR** 95.63 40 ⇓P P 20 11 36.6 +1.0
baz=96,SNR=6.6
MAW **Mawson** 95.65 199 LR LR 20 51 13.1
comp=Z,368nm,20.1s,baz=56,slow=33
KEST **Kesra** 95.72 310 P P 20 11 36.2 -0.1
comp=Z,3.9nm,1.0s,baz=293,slow=7.7,SNR=5.1
KEST LR LR 21 02 41.2
comp=Z,504nm,19.7s,baz=356,slow=40
J04D **Umpqua Nationa** 95.75 41 ⇓P P 20 11 37.3 +0.9
baz=96,SNR=21
NEW **Newport** 95.84 35 *e*P P 20 11 37.3 +0.8
NEW MLR MLR
comp=Z,830nm,20.0s
NEW **Newport** 95.84 35 ⇑P P 20 11 37.9 +1.4
baz=96
NEW **Newport** 95.84 35 *e*P P 20 11 37.3 +0.8
NEW LR LR
comp=Z,830nm,20.0s
CAF **Calviac** 95.89 321⇑ *i*P P 20 11 36.7 -0.1
CAF **Calviac** 95.89 321⇑ *i*P P 20 11 36.7 -0.1
CAF **Calviac** 95.89 321⇑ *i*P P 20 11 36.7 -0.1
RJF **Les Rejaudoux** 96.00 322⇑ *i*P P 20 11 37.3 0.0
comp=Z,71nm,1.2s
RJF *e*R
comp=Z,2μm,20.8s
RJF **Les Rejaudoux** 96.00 322⇑ *i*P P 20 11 37.3 0.0
RJF pmax pmax
comp=Z,71nm,1.2s
RJF **Les Rejaudoux** 96.00 322⇑ *i*P P 20 11 37.3 0.0
comp=Z,71nm,1.2s
YBH **Yreka Blue Hor** 96.16 42 *e*P P 20 11 39.3 +1.1
YBH pmax pmax
comp=Z,154nm,2.1s
YBH **Yreka Blue Hor** 96.16 42 *e*P P 20 11 39.2 +1.1
comp=Z,154nm,2.1s
MFF **Saint Martin d** 96.23 324⇑ *i*P P 20 11 37.8 -0.4
comp=Z,65nm,1.2s
MFF **Saint Martin d** 96.23 324⇑ *i*P P 20 11 37.8 -0.4
MFF pmax pmax
comp=Z,65nm,1.2s
MFF **Saint Martin d** 96.23 324⇑ *i*P P 20 11 37.8 -0.4
comp=Z,65nm,1.2s
M02C **Callahan** 96.24 43 ⇑P P 20 11 40.3 +1.7
baz=96
J05D **Fort Rock, OR** 96.26 40 ⇑P P 20 11 40.0 +1.3
baz=96,SNR=24
K04D **Chiloquin, OR** 96.29 41 ⇑P P 20 11 40.1 +1.3
baz=96
N02D **Trinity Center** 96.55 43 ⇓P P 20 11 41.4 +1.5
baz=96
SGMF **Saint Gilles** 96.58 326 *e*P P 20 11 38.5 -1.3
SGMF **Saint Gilles** 96.58 326 *e*P P 20 11 38.5 -1.3
SGMF **Saint Gilles** 96.58 326 *e*P P 20 11 38.5 -1.3
MTLF **Montolieu** 96.66 320⇑ *i*P P 20 11 39.9 -0.4
comp=Z,25nm,1.0s
MTLF **Montolieu** 96.66 320⇑ *i*P P 20 11 39.9 -0.4
MTLF pmax pmax
comp=Z,25nm,1.0s
MTLF **Montolieu** 96.66 320⇑ *i*P P 20 11 39.9 -0.4
comp=Z,25nm,1.0s
M04C **Macdoel** 96.69 42 ⇓P P 20 11 41.2 +0.5
baz=97,SNR=14
TBI **Tubuai** 96.87 112 *e*PP PP 20 15 35.3 -2.2
comp=Z,361nm,28.8s
TBI *e*SKSac SKSac 20 22 15.3 0.0
comp=Z,509nm,25.0s
TBI **Tubuai** 96.87 112 *e*PS PS 20 24 28.0 +0.6
comp=Z,2μm,31.5s
TBI *e*SS SS 20 29 36.5 -1.1
comp=Z,665nm,27.8s
TBI **Tubuai** 96.87 112 *e*LR LR 20 43 05.3
comp=Z,4μm,32.8s,baz=296
ROSF **Rostrenen** 96.91 326 *e*P P 20 11 39.8 -1.5
comp=Z,35nm,1.0s
ROSF **Rostrenen** 96.91 326 *e*P P 20 11 39.8 -1.5
ROSF pmax pmax
comp=Z,35nm,1.0s
ROSF **Rostrenen** 96.91 326 *e*P P 20 11 39.8 -1.5
comp=Z,35nm,1.0s
LSZ **Lusaka** 97.18 256 PFAKE 20 11 50.0 +6.7
LSZ LR LR

comp=Z,1µm,20.0s
BSMT Bassoo Peak 97.34 34 *e*P Pdif 20 11 45.0 +1.4
MOD Modoc Plateau 97.59 41 *e*P Pdif 20 11 45.6 +0.8
comp=Z,46nm,1.2s
JTMT Jette 97.67 34 *e*P Pdif 20 11 46.0 +1.0
comp=Z,25nm,1.3s
BMO Blue Mountains 97.73 38 *e*P Pdif 20 11 46.0 +0.7
comp=Z,26nm,1.2s
BMO LR LR
comp=Z,745nm,20.0s
YBMT Yellow Bay 97.74 34 *e*P Pdif 20 11 46.4 +1.1
comp=Z,25nm,1.4s
FCC Fort Churchill 97.84 18 *e*P **P 20 11 44.3 -0.9**
FCC Fort Churchill 97.84 18 *e*P **P 20 11 44.3 -0.9**
comp=Z,38nm,1.1s
SWMT Swartz Lake 97.97 34 *e*P Pdif 20 11 47.0 +0.7
comp=Z,27nm,1.5s
SLMT Seeley Lake 98.41 34 *e*P Pdif 20 11 48.9 +0.6
comp=Z,55nm,1.5s
MSO Missoula 98.42 35 ⇓P Pdif 20 11 48.7 +0.4
baz=98
FFC Flin Flon 98.45 23 *e*P Pdif 20 11 48.2 +0.1
FFC pmax pmax
comp=Z,33nm,1.0s
FFC MLR MLR
comp=Z,988nm,19.0s
FFC Flin Flon 98.45 23 *e*P Pdif 20 11 48.2 +0.1
comp=Z,30nm,1.0s
FFC LR LR
comp=Z,909nm,19.0s
ETSF Etsaut 98.59 321⇑ *i*P Pdif 20 11 49.2 +0.1
comp=Z,21nm,1.1s
ETSF Etsaut 98.59 321⇑ *i*P Pdif 20 11 49.2 +0.1
ETSF pmax pmax
comp=Z,21nm,1.1s
ETSF Etsaut 98.59 321⇑ *i*P Pdif 20 11 49.2 +0.1
comp=Z,21nm,1.1s
CHMT Chamberlain Mo 98.74 34 *e*P Pdif 20 11 50.2 +0.4
comp=Z,18nm,1.8s
VNDA Vanda 98.74 172 P Pdif 20 11 49.1 +0.4
comp=Z,5.7nm,1.1s,baz=314,slow=4.9,SNR=10
VNDA LR LR 20 57 07.7
comp=Z,920nm,21.1s,baz=336,slow=36
MFID Camas Ranch 99.44 38 *e*P **Pdif 20 11 54.2 +1.2**
comp=Z,118nm,2.0s
CMB Columbia Colle 99.63 45 *e*P **Pdif 20 11 54.6 +0.8**
CMB pmax pmax
comp=Z,29nm,1.3s
CMB Columbia Colle 99.63 45 *e*Pdif **Pdif 20 11 54.6 +0.8**
comp=Z,29nm,1.3s
SBA Scott Base 99.69 171 PFAKE 20 12 00.0 +7.1
SBA LR LR
comp=Z,989nm,19.0s
A19A Klindworth Far 99.71 31⇑Pdiff **Pdif 20 11 54.6 +0.7**
baz=100
EGMT Eagleton 99.83 32⇓Pdiff **Pdif 20 11 54.8 +0.3**
baz=100
EGMT Eagleton 99.83 32 PFAKE 20 12 00.0 +5.5
EGMT LR LR
comp=Z,675nm,21.0s
B19A Brinkman Farms 99.94 31⇓Pdiff **Pdif 20 11 55.2 +0.3**
baz=100
A20A Cobblestone Ra 100.14 30⇑Pdiff **Pdif 20 11 56.1 +0.3**
baz=100
HLID Hailey 100.17 37⇑Pdiff **Pdif 20 11 57.5 +1.2**
baz=100
HLID Hailey 100.17 37 *e*P **Pdif 20 11 57.8 +1.5**
comp=Z,55nm,1.6s
HLID LR LR
comp=Z,815nm,20.0s
MCMT McKenzie Canyo 100.27 36 *e*P **Pdif 20 11 57.6 +0.8**
comp=Z,6.3nm,1.5s
BMN Battle Mountai 100.34 41 *e*P **Pdif 20 11 58.5 +1.4**
BMN pmax pmax
comp=Z,37nm,1.5s
BMN Battle Mountai 100.34 41 *e*P **Pdif 20 11 58.5 +1.4**
comp=Z,37nm,1.5s
C19A Slack Wire Ran 100.37 32⇑Pdiff **Pdif 20 11 57.8 +0.9**
baz=100
B20A Solberg Farm, 100.40 31⇓Pdiff **Pdif 20 11 57.5 +0.5**
baz=100
BOZ Bozeman (W) 100.42 34 PFAKE 20 12 10.0 +13
BOZ LR LR
comp=Z,678nm,19.0s
A21A Bergtoll Ranch 100.54 30⇓Pdiff **Pdif 20 11 58.1 +0.5**
baz=100
NVAR Mina Array Bea 100.78 43 P **Pdif 20 12 00.2 +1.1**
comp=Z,5.2nm,0.9s,baz=280,slow=5.1,SNR=30
D19A Cripps Ranch, 100.84 32⇓Pdiff **Pdif 20 11 59.9 +0.8**
baz=101
MLAC Mammoth, Mammo 100.88 44⇑Pdiff **Pdif 20 11 59.9 +0.3**
baz=101
B21A Ellsworth Farm 100.89 30⇓Pdiff **Pdif 20 11 59.6 +0.4**
baz=101
C20A Veseth Ranch, 100.91 31⇑Pdiff **Pdif 20 11 59.8 +0.5**
baz=101
A22A Carney Farms, 101.01 29⇓Pdiff **Pdif 20 12 00.2 +0.5**
baz=101
D20A Manuel Ranch, 101.27 32⇓Pdiff **Pdif 20 12 01.8 +0.9**
baz=101
C21A Desert Coulee 101.27 31⇑Pdiff **Pdif 20 12 01.4 +0.5**
baz=101
SMMC Simmler 101.34 47⇑Pdiff **Pdif 20 12 02.2 +0.7**
baz=101
E19A Rath Farm, Rou 101.37 32⇓Pdiff **Pdif 20 12 02.1 +0.7**
baz=101
B22A Reddig Ranch S 101.46 30⇑Pdiff **Pdif 20 12 02.0 +0.2**
baz=101
A23A Redstone 101.51 29⇓Pdiff **Pdif 20 12 02.1 +0.2**
baz=101
E20A Meyer Farm, Mu 101.67 32⇓Pdiff **Pdif 20 12 03.1 +0.3**
baz=102
TPH Tonopah 101.69 43 *e*P **Pdif 20 12 04.0 +0.9**
TPH pmax pmax
comp=Z,57nm,1.7s
TPH Tonopah 101.69 43 *e*P **Pdif 20 12 04.0 +0.9**
comp=Z,57nm,1.7s
PKM Mcpherson Peak 101.69 47⇓Pdiff **Pdif 20 12 04.5 +1.3**
baz=102
F19A Roth Farm, Mol 101.69 33⇑Pdiff **Pdif 20 12 03.0 +0.2**
baz=102
LKWY Lake 101.78 35 PFAKE 20 12 10.0 +6.5
LKWY LR LR
comp=Z,1µm,19.0s
H17A Grant Village 101.80 35⇑Pdiff **Pdif 20 12 05.6 +2.1**
baz=102
B23A Brockton 101.81 29⇓Pdiff **Pdif 20 12 04.2 +0.9**
baz=102
A24A Westby 101.93 28⇓Pdiff **Pdif 20 12 04.4 +0.6**
baz=102
SBC Santa Barbara 102.01 47⇓Pdiff **Pdif 20 12 05.6 +1.3**
baz=102
RLMT Red Lodge 102.02 34 PFAKE 20 12 10.0 +5.5
RLMT LR LR
comp=Z,691nm,20.0s
H18A Shoshone NF, C 102.10 34⇓Pdiff **Pdif 20 12 05.9 +1.0**
baz=102
I17A Pilgrim Ck. 102.11 35⇑Pdiff **Pdif 20 12 06.3 +1.3**
baz=102
F20A Billings 102.14 33⇓Pdiff **Pdif 20 12 05.5 +0.6**
baz=102
E21A Keefer Ranch, 102.17 32⇑Pdiff **Pdif 20 12 06.1 +1.2**
baz=102
D22A Cohagen 102.19 31⇓Pdiff **Pdif 20 12 05.8 +0.8**
baz=102
C23A Lambert 102.20 30⇓Pdiff **Pdif 20 12 06.1 +1.1**
baz=102
BSC Santa Cruz Isl 102.30 48⇑Pdiff **Pdif 20 12 06.7 +0.9**
baz=102
H19A Powell 102.47 34⇓Pdiff **Pdif 20 12 07.2 +0.8**
baz=102
LAO LASA Array 102.49 31 PFAKE 20 12 20.0 +14
LAO LR LR
comp=Z,961nm,22.0s
G20A Bridger 102.50 33⇑Pdiff **Pdif 20 12 06.7 +0.2**
baz=102
AHID Auburn Hatcher 102.56 36 PFAKE 20 12 20.0 +13
AHID LR LR
comp=Z,1µm,20.0s
ESDC Sonseca Array 102.56 320 PP PP 20 16 18.6 -1.1
comp=Z,1.0nm,0.7s,baz=44,slow=8.0,SNR=4.7
ESDC PKKPbc **PKKPbc 20 28 07.3 -0.2**
comp=Z,0.5nm,0.8s,baz=336,slow=2.8,SNR=4.8
MPMC Manual Prospec 102.64 45⇑Pdiff **Pdif 20 12 08.2 +0.7**
baz=103
C24A Savage 102.75 30⇓Pdiff **Pdif 20 12 08.2 +0.7**
baz=103
B25A Knox Farm, Ray 102.79 28⇑Pdiff **Pdif 20 12 08.4 +0.7**
baz=103
E22A Miles City 102.80 31⇑Pdiff **Pdif 20 12 08.5 +0.8**
baz=103
A26A Wade Farm, Ken 102.83 27⇓Pdiff **Pdif 20 12 08.2 +0.5**
baz=103
FURC Furnace Creek, 102.83 44⇑Pdiff **Pdif 20 12 08.7 +0.8**
baz=103
LRMC Laurel Mtn Rad 102.84 46⇑Pdiff **Pdif 20 12 08.8 +0.6**
baz=103
PAB San Pablo 102.88 320 PFAKE 20 12 20.0 +12
PAB LR LR
comp=Z,2µm,19.0s
I19A Meeteetse 102.89 34⇑Pdiff **Pdif 20 12 09.0 +0.6**
baz=103
EDW2 Edwards Air Fo 102.96 46⇓Pdiff **Pdif 20 12 09.4 +0.7**
baz=103
TPNV Topopah Spring 102.96 44⇓Pdiff **Pdif 20 12 09.4 +0.6**
baz=103
G21A Lodge Grass 103.02 33⇑Pdiff **Pdif 20 12 09.0 +0.2**
baz=103
E23A Ismay 103.07 31⇓Pdiff **Pdif 20 12 09.7 +0.8**
baz=103
D24A Glendive 103.10 30⇓Pdiff **Pdif 20 12 09.4 +0.3**
baz=103
H20A Greybull 103.11 34⇓Pdiff **Pdif 20 12 10.0 +0.7**
baz=103
F22A Rosebud 103.11 32⇓Pdiff **Pdif 20 12 09.7 +0.5**
baz=103
A27A Ledoux Ranch, 103.13 27⇑Pdiff **Pdif 20 12 09.7 +0.6**
baz=103
B26A Jensen Ranch, 103.13 28⇑Pdiff **Pdif 20 12 09.8 +0.7**
baz=103
DUG Dugway, Tooele 103.19 39 *e*P **Pdif 20 12 11.3 +1.6**
DUG pmax pmax
comp=Z,31nm,1.8s
DUG MLR MLR
comp=Z,587nm,20.0s
DUG Dugway, Tooele 103.19 39⇓Pdiff **Pdif 20 12 10.6 +0.9**
baz=103
DUG Dugway, Tooele 103.19 39 *e*P **Pdif 20 12 11.3 +1.6**
comp=Z,30nm,1.8s
DUG LR LR
comp=Z,587nm,20.0s
I20A Worland 103.41 34⇑Pdiff **Pdif 20 12 11.4 +0.8**
baz=103
BW06 Boulder Array 103.42 36 PFAKE 20 12 20.0 +9.2
BW06 LR LR
comp=Z,852nm,21.0s
PDAR Pinedale Array 103.42 36 Pdiff **Pdif 20 12 10.8 -0.1**
comp=Z,1.3nm,0.9s,baz=343,slow=1.2,SNR=8.3
E24A Baker 103.51 30⇓Pdiff **Pdif 20 12 11.9 +1.0**
baz=103
GSC Goldstone, Bar 103.53 45 *e*P **Pdif 20 12 12.0 +0.7**
GSC pmax pmax
comp=Z,16nm,1.2s
GSC Goldstone, Bar 103.53 45⇑Pdiff **Pdif 20 12 12.0 +0.7**
baz=103
GSC Goldstone, Bar 103.53 45 *e*P **Pdif 20 12 12.0 +0.7**
comp=Z,16nm,1.2s
BFSC Mount Baldy Ra 103.54 47⇑Pdiff **Pdif 20 12 12.3 +0.9**
baz=104
D25A Fairfield 103.54 29⇑Pdiff **Pdif 20 12 12.1 +1.0**
baz=103
SHOC Shoshone, Teco 103.54 45⇑Pdiff **Pdif 20 12 12.3 +1.1**
baz=103
F23A Volborg 103.58 31⇓Pdiff **Pdif 20 12 12.1 +0.9**
baz=103
A28A Rude Farm, Bot 103.58 27⇓Pdiff **Pdif 20 12 12.2 +1.1**
baz=103
J20A Shoshoni 103.83 34⇑Pdiff **Pdif 20 12 13.3 +0.8**
baz=104
B28A Dugan Ranch, T 103.89 27⇑Pdiff **Pdif 20 12 13.3 +0.9**
baz=104
H22A Clearmont 103.89 33⇓Pdiff **Pdif 20 12 13.5 +0.8**
baz=104
SHPR Sheep Range 103.93 43 *e*P **Pdif 20 12 14.3 +1.1**
comp=Z,28nm,1.9s
I21A Big Trails, Te 103.94 34⇑Pdiff **Pdif 20 12 13.8 +0.8**
baz=104
C27A Sayler Ranch, 103.95 28⇑Pdiff **Pdif 20 12 13.7 +1.0**
baz=104
G23A Biddle 103.95 32⇓Pdiff **Pdif 20 12 13.8 +0.9**
baz=104
F24A Ekalaka 103.96 31⇑Pdiff **Pdif 20 12 13.8 +0.9**
baz=104
E25A Miller Ranch, 103.98 30⇑Pdiff **Pdif 20 12 13.9 +0.9**
baz=104
A29A Manning Farm, 104.00 26⇑Pdiff **Pdif 20 12 13.9 +1.0**
baz=104
D26A Manning 104.04 29⇓Pdiff **Pdif 20 12 14.3 +1.1**
baz=104
TUQ Turquoise Moun 104.05 45⇑Pdiff **Pdif 20 12 14.4 +0.8**
baz=104
HEC Hector,Ludlow 104.12 45⇑Pdiff **Pdif 20 12 14.6 +0.7**
baz=104
J21A Lysite 104.18 34⇓Pdiff **Pdif 20 12 14.5 +0.3**
baz=104
MURC Murrieta 104.21 47⇑Pdiff **Pdif 20 12 14.5 +0.3**
baz=104
MTE Manteigas 104.27 322 PFAKE 20 12 20.0 +5.6
MTE LR LR
comp=Z,2µm,20.0s
ULM Lac du Bonnet 104.28 23 Pdiff **Pdif 20 12 13.7 -0.4**
comp=Z,2.1nm,0.4s,baz=329,slow=6.0,SNR=7.8
ULM PKiKP **PKiKP 20 16 30.9 +0.3**
comp=Z,8.3nm,1.1s,baz=331,slow=6.5,SNR=5.8
ULM PKKPbc **PKKPbc 20 27 59.3 -3.4**
comp=Z,2.1nm,0.6s,baz=128,slow=2.8,SNR=3.0
B29A Wagenman Farm,104.31 26⇓Pdiff **Pdif 20 12 14.9 +0.6**
baz=104
I22A 9 Mile Ranch, 104.31 33⇓Pdiff **Pdif 20 12 14.5 -0.1**
baz=104
G24A Alzada 104.34 31⇓Pdiff **Pdif 20 12 14.5 -0.2**
baz=104
A30A Hoffart Farm, 104.37 25⇑Pdiff **Pdif 20 12 15.2 +0.6**
baz=104
E26A Carlson Angus 104.44 29⇑Pdiff **Pdif 20 12 15.6 +0.5**
baz=104
GMRC Granite Mounta 104.60 45⇓Pdiff **Pdif 20 12 16.7 +0.6**
baz=104
J22A Midwest 104.65 34⇓Pdiff **Pdif 20 12 16.3 +0.1**
baz=104
TAM Tamanrasset 104.66 300 PFAKE 20 12 30.0 +13
TAM LR LR
comp=Z,746nm,21.0s
MDND Maddock 104.68 27⇓Pdiff **Pdif 20 12 16.8 +0.8**
baz=104
PFO Pinyon Flats O 104.72 47 P **Pdif 20 12 16.5 -0.2**
PFO MLR MLR
comp=Z,1µm,22.0s
PFO Pinyon Flats O 104.72 47 Pdiff **Pdif 20 12 16.5 -0.2**
comp=Z,4.1nm,0.8s,baz=304,slow=3.9,SNR=5.4
PFO Pinyon Flats O 104.72 47 Pdif **Pdif 20 12 16.5 -0.2**
PFO LR LR
comp=Z,1µm,22.0s
D28A Regan 104.76 28⇓Pdiff **Pdif 20 12 16.4 +0.1**
baz=105
F26A Lodgepole 104.80 30⇓Pdiff **Pdif 20 12 17.2 +0.5**
baz=105
BELC Belle Mtn. Jos 104.82 46⇑Pdiff **Pdif 20 12 16.9 -0.1**
baz=105
F27A Lemmon 105.09 29⇓Pdiff **Pdif 20 12 18.8 +0.9**
baz=105
E28A Huff 105.17 28⇓Pdiff **Pdif 20 12 18.8 +0.5**
baz=105
AGMN Agassiz Nation 105.86 25 PFAKE 20 16 40.0
AGMN LR LR
comp=Z,956nm,21.0s
SCHQ Schefferville 106.67 5 Pdiff **Pdif 20 12 24.5 -0.2**
comp=Z,2.1nm,0.8s,baz=333,slow=4.5,SNR=4.0
SCHQ PKKPbc **PKKPbc 20 27 51.5 -4.2**
comp=Z,2.9nm,0.8s,baz=197,slow=4.1,SNR=5.4
ISCO Idaho Springs 107.62 36 PFAKE 20 16 50.0
ISCO LR LR
comp=Z,871nm,21.0s
MVCO Mesa Verde 107.69 39 PFAKE 20 16 50.0
MVCO LR LR
comp=Z,978nm,21.0s
EYMN Ely 107.80 22 PFAKE 20 16 50.0
EYMN LR LR
comp=Z,653nm,20.0s
RTC Rabat Centre 107.86 316 PFAKE 20 16 50.0
RTC LR LR
comp=Z,861nm,22.0s
SUR Sutherland 107.93 241 PFAKE 20 16 50.0
SUR LR LR
comp=Z,1µm,19.0s
W18A Petrified Fore 108.27 42⇑PKiKP **PKiKP 20 16 39.0 +0.3**
baz=108
QSPA South Pole Qui 108.31 180 PFAKE 20 16 50.0
QSPA LR LR
comp=Z,1µm,20.0s
OGNE Ogallala 108.72 33 PFAKE 20 16 50.0
OGNE LR LR
comp=Z,769nm,19.0s
ECSD EROS Data Cent 109.20 28 PFAKE 20 16 50.0
ECSD LR LR
comp=Z,933nm,21.0s
RKT Rikitea 109.71 109 *e*PP PP 20 17 12.3 -1.2
comp=Z,278nm,28.0s
RKT *e*SKSac **SKSac 20 23 16.5 +1.3**
comp=Z,272nm,25.2s
RKT Rikitea 109.71 109 *e*PS PS 20 26 42.6 +0.2
comp=Z,1µm,33.8s
RKT *e*SS SS 20 32 36.2 +1.7
comp=Z,764nm,32.5s
RKT Rikitea 109.71 109 *e*LR LR 20 49 04.4
comp=Z,3µm,27.0s,baz=288
COWI Conover 110.21 22 PFAKE 20 16 50.0
COWI LR LR
comp=Z,1µm,22.0s
S26A Kim 110.33 36⇓PKiKP **PKiKP 20 16 41.6 -0.9**
baz=110
ANMO Albuquerque 110.42 40 *e*PKIKP **PKiKP 20 16 43.6 +0.8**
ANMO MLR MLR
comp=Z,1µm,21.0s
ANMO Albuquerque 110.42 40 *e*P **PKiKP 20 16 43.6 +0.8**
ANMO LR LR
comp=Z,1µm,21.0s
V24A Rampart Ranch, 110.61 39⇓PKiKP **PKiKP 20 16 42.8 -0.4**
baz=110
R28A Tribune 110.73 35⇑PKiKP **PKiKP 20 16 42.3 -0.8**
baz=111
Q29A Oakley 110.78 34⇓PKiKP **PKiKP 20 16 42.4 -0.8**
baz=111
W24A Lazy 6 Ranch, 110.88 39⇑PKiKP **PKiKP 20 16 43.9 +0.3**
baz=111
319A Douglas 110.92 45⇑PKiKP **PKiKP 20 16 44.0 +0.3**
baz=111
V25A Rancho No Teng 110.92 38⇑PKiKP **PKiKP 20 16 44.6 +0.9**
baz=111
P31A Stockton 111.14 32⇓PKiKP **PKiKP 20 16 42.4 -1.4**
baz=111
V26A Tequesquite Ra 111.44 38⇓PKiKP **PKiKP 20 16 43.7 -0.9**
baz=111
W25A X Bar L Ranch, 111.44 39⇓PKiKP **PKiKP 20 16 45.0 +0.3**
baz=111
P32A Huiting Farm, 111.45 32⇓PKiKP **PKiKP 20 16 43.0 -1.3**
baz=111
R31A Burdett 111.99 33⇑PKiKP **PKiKP 20 16 46.0 +0.5**
baz=112
SCIA State Center 112.15 27 PFAKE 20 17 00.0
SCIA LR LR
comp=Z,999nm,21.0s
TORD Toroot Ar. Bea 112.27 293 PKiKP **PKiKP 20 16 45.5 -1.0**
comp=Z,7.2nm,0.8s,baz=48,slow=1.3,SNR=38
TORD PKKPbc **PKKPbc 20 27 37.1 +0.6**
comp=Z,5.2nm,0.8s,baz=262,slow=2.1,SNR=28
JFWS Jewell Farm 112.53 24 PFAKE 20 17 00.0
JFWS LR LR
comp=Z,698nm,20.0s
KSU1 Kansas State U 112.84 31 PFAKE 20 17 00.0
KSU1 LR LR
comp=Z,1µm,22.0s
MSTX Muleshoe 113.31 39 *e*P **PKiKP 20 16 48.3 +0.1**
X29A Tulia 113.60 38⇓PKiKP **PKiKP 20 16 47.8 -0.9**
baz=114
W31A Holland Ranch, 114.06 36⇑PKiKP **PKiKP 20 16 48.7 -0.8**
baz=114
228A UT Block 9, Go 114.70 40⇓PKiKP PKPdf 20 16 51.2 +0.3
baz=115
Z30A Sanderson Ranc 114.76 38⇓PKiKP **PKiKP 20 16 48.7 -2.2**
baz=115
Y31A Rekieta Farm, 114.77 37⇑PKiKP **PKiKP 20 16 50.0 -0.8**
baz=115
Z31A Sharp Cattle R 115.31 37⇑PKiKP **PKPdf 20 16 52.3 +0.4**
baz=115
AAM Ann Arbor 115.42 20 PFAKE 20 17 00.0 +8.2
AAM LR LR
comp=Z,1µm,20.0s
131A Roby 115.63 38⇓PKiKP **PKPdf 20 16 53.6 +1.0**
baz=116
LONY Lake Ozonia 115.63 12 PFAKE 20 17 00.0 +7.8
LONY LR LR
comp=Z,924nm,21.0s
Y33A Hilltop Ranch, 115.66 36⇑PKiKP **PKiKP 20 16 52.4 -0.2**
baz=116
Z32A Haskell 115.69 37⇑PKiKP **PKiKP 20 16 52.4 -0.2**
baz=116
PKME Peaks-Kenny Pk 115.88 8 PFAKE 20 17 00.0 +7.4
PKME LR LR
comp=Z,877nm,21.0s
TXAR Lajitas Array 115.93 43 PKP **PKPdf 20 16 53.6 +0.3**
comp=Z,5.8nm,0.8s,baz=326,slow=0.3,SNR=24
TXAR PKKPbc **PKKPbc 20 27 27.2 +2.6**
comp=Z,0.4nm,0.5s,baz=145,slow=3.3,SNR=6.5
330A Mertzon 116.06 40⇓PKiKP **PKPdf 20 16 53.8 +0.3**
baz=116
ABTX Abilene, Hawle 116.10 38 *e*P **PKPdf 20 16 53.8 +0.3**
429A Davenport Ranc 116.17 41⇑PKiKP **PKiKP 20 16 54.0 +0.3**
baz=116
231A Bronte 116.20 39⇑PKiKP **PKiKP 20 16 54.7 +1.0**
baz=116
529A Stev Forest Ra 116.31 41⇑PKiKP **PKiKP 20 16 54.9 +1.0**
baz=116
NCB Newcomb 116.33 12 PFAKE 20 17 00.0 +6.4
NCB LR LR
comp=Z,1µm,20.0s
430A Baggett Ranch, 116.46 40⇑PKiKP **PKiKP 20 16 55.2 +1.0**
baz=116
LBNH Lisbon 116.49 10 PFAKE 20 17 00.0 +6.2
LBNH LR LR
comp=Z,1µm,21.0s
133A Hamilton Ranch 116.53 37⇓PKiKP **PKiKP 20 16 55.3 +1.1**
baz=116
331A San Angelo 116.58 39⇓PKiKP **PKiKP 20 16 55.4 +1.0**
baz=116
232A Coleman 116.63 38⇓PKiKP **PKPdf 20 16 54.2 -0.3**
baz=116
ERPA Erie 116.69 17 PFAKE 20 17 00.0 +5.7
ERPA LR LR
comp=Z,1µm,21.0s
530A J-C Ranch, Com 116.84 41⇓PKiKP **PKiKP 20 16 55.3 +0.3**
baz=117
431A Sonora 116.92 40⇑PKiKP **PKPdf 20 16 54.2 -1.0**
baz=117
332A Millersview 116.94 39⇑PKiKP **PKPdf 20 16 54.8 -0.3**
baz=117
233A Rising Star 116.97 38⇓PKiKP **PKPdf 20 16 54.9 -0.3**
baz=117
134A White-Moore Ra 117.03 37⇑PKiKP **PKiKP 20 16 55.6 +0.4**
baz=117
H06S1 SOCORRO T 117.10 57 T T 22 25 39.7
SNR=21
531A Rocksprings 117.32 40⇑PKiKP **PKiKP 20 16 56.9 +0.9**
baz=117
234A Clairette 117.42 37⇑PKiKP **PKiKP 20 16 56.4 +0.4**
baz=117
333A Richland Sprin 117.42 38⇓PKiKP **PKiKP 20 16 57.1 +1.0**
baz=117
ACSO Alum Creek Sta 117.50 20 PFAKE 20 17 10.0 +14
ACSO LR LR
comp=Z,1µm,20.0s
JCT Junction City 117.55 39 *e*PKIKP **PKPdf 20 16 56.5 +0.2**
JCT MLR MLR
comp=Z,788nm,19.0s
JCT Junction City 117.55 39⇓PKiKP **PKiKP 20 16 57.3 +1.0**
baz=117
JCT Junction City 117.55 39 *e*P **PKPdf 20 16 56.5 +0.2**
JCT LR LR
comp=Z,788nm,19.0s
BINY Binghamton 117.64 14 PFAKE 20 17 10.0 +14
BINY LR LR
comp=Z,896nm,20.0s
532A Rocksprings 117.74 40⇑PKiKP **PKiKP 20 16 57.7 +0.9**
baz=118
SNAA Sanae 117.75 197 P **PKPdf 20 16 55.0 -0.4**
433A Art 117.78 39⇑PKiKP **PKPdf 20 16 56.4 -0.3**
baz=118
WHTX Lake Whitney, 117.81 37⇑PKiKP **PKiKP 20 16 58.4 +1.7**
baz=118
WHTX Lake Whitney, 117.81 37 *e*PKPdf **PKPdf 20 16 57.1 +0.4**
334A Lometa 117.85 38⇓PKiKP **PKPdf 20 16 56.6 -0.3**
baz=118
MIAR Mount Ida 117.92 32 *e*PKIKP **PKPdf 20 16 57.1 +0.2**

MIAR MLR MLR
comp=Z,941nm,20.0s
MIAR Mount Ida 117.92 32 *eP* **PKPdf 20 16 57.1 +0.2**
MIAR LR LR
comp=Z,941nm,20.0s
434A Burnet 118.22 38 ⇓PKiKP **PKPdf 20 16 56.6 -0.9**
baz=118
632A Uvalde 118.25 40 ⇑PKiKP **PKiKP 20 16 58.6 +0.9**
baz=118
137A Heron Place, G 118.30 35 ⇑PKiKP **PKiKP 20 16 60.0 +2.3**
baz=118
533A Kerrville 118.30 39 ⇓PKiKP **PKPdf 20 16 57.5 -0.3**
baz=118
335A Moody 118.36 37 ⇓PKiKP **PKiKP 20 16 58.2 +0.4**
baz=118
138A Matatall Enter 118.61 34 ⇓PKiKP **PKiKP 20 16 58.7 +0.4**
baz=118
336A Riesel 118.61 37 ⇓PKiKP **PKPdf 20 16 58.0 -0.2**
baz=118
832A Faith Ranch, C 119.00 41 ⇓PKiKP **PKiKP 20 17 00.7 +1.6**
baz=119
833A Chaparral WMA, 119.33 41 ⇓PKiKP **PKiKP 20 17 01.4 +1.6**
baz=119
VNA2 Neumayer--Watz 119.40 197 P **PKPdf 20 16 58.8 +0.3**
slow=1.4
635A Leesville 119.55 39 ⇑PKiKP **PKPdf 20 16 59.8 -0.3**
baz=119
VNA1 Neumayer--Stat 119.79 197 P **PKPdf 20 16 59.4 +0.2**
VNA3 Neumayer Olymp 119.85 196 P **PKPdf 20 16 59.7 +0.3**
636A Smothers Creek 119.90 38 ⇑PKiKP **PKPdf 20 17 00.5 -0.3**
baz=120
933A Laredo 119.91 41 ⇑PKiKP **PKiKP 20 17 01.8 +0.9**
baz=120
735A Kenedy 119.92 39 ⇑PKiKP **PKiKP 20 17 01.2 +0.3**
baz=120
834A Tilden 119.99 40 ⇑PKiKP **PKiKP 20 17 02.6 +1.5**
baz=120
HKT Hockley 120.26 37 *e*PKIKP **PKPdf 20 17 02.3 +0.9**
HKT Hockley 120.26 37 *e*PKPdf **PKPdf 20 17 02.3 +0.9**
934A Benavides 120.39 41 ⇑PKiKP **PKiKP 20 17 03.4 +1.5**
baz=120
034A Hebbronville 120.67 41 ⇓PKiKP **PKiKP 20 17 03.3 +0.8**
baz=121
KVTX Kingsville 120.81 40 PFAKE 20 17 10.0 +7.4
KVTX LR LR
comp=Z,982nm,20.0s
DBIC Dimbokro 120.91 290 PKP **PKPdf 20 17 02.5 -0.6**
comp=Z,15nm,0.8s,baz=68,slow=3.1,SNR=26
DBIC PKKPbc **PKKPbc 20 27 04.7 -1.4**
comp=Z,2.6nm,0.6s,baz=163,slow=4.1,SNR=3.8
KIC Kosan Boka 120.94 290 *e*PKIKP **PKPdf 20 17 02.5 -0.7**
comp=Z,47nm,0.6s
KIC Kosan Boka 120.94 290 *eP* **PKKPbc 20 27 04.8 -1.2**
comp=Z,18nm,0.9s
TIC Toumodi 121.06 290 *e*PKIKP **PKPdf 20 17 03.0 -0.4**
comp=Z,25nm,0.6s
TIC Toumodi 121.06 290 *eP* **PKKPbc 20 27 01.7 -3.8**
comp=Z,7.4nm,0.2s
BLA Blacksburg 121.08 20 PFAKE 20 17 10.0 +7.1
BLA LR LR
comp=Z,1μm,20.0s
LIC Lamto 121.25 290 *i*PKIKP **PKPdf 20 17 03.0 -0.8**
comp=Z,46nm,0.7s
LIC *e*R
comp=Z,976nm,21.0s
LIC Lamto 121.25 290 *e*PKIKP **PKPdf 20 17 02.9 -0.8**
comp=Z,73nm,0.7s
LIC Lamto 121.25 290 *eP* **PKKPbc 20 27 03.6 -1.2**
comp=Z,38nm,1.9s
LIC Lamto 121.25 290 ⇑*i*PKPdf **PKPdf 20 17 03.0 -0.8**
KMSC Kings Mountain 122.65 22 ⇑PKiKP **PKiKP 20 17 06.3 +0.2**
baz=122
GOGA Godfrey 123.41 24 PFAKE 20 17 20.0 +13
GOGA LR LR
comp=Z,2μm,22.0s
CNNC Cliffs of the 123.68 18 PFAKE 20 17 20.0 +12
CNNC LR LR
comp=Z,1μm,20.0s
BRAL Brewton 123.95 29 PFAKE 20 17 20.0 +11
BRAL LR LR
comp=Z,1μm,20.0s
NHSC New Hope 124.90 22 PFAKE 20 17 20.0 +10
NHSC LR LR
comp=Z,2μm,22.0s
BBTS Babate 126.62 305 PKP **PKPdf 20 17 15.1 +1.1**
comp=Z,38nm,0.9s,baz=60,slow=0.9,SNR=5.3
BBSR BB Station 129.15 6 PFAKE 20 17 30.0 +12
BBSR LR LR
comp=Z,554nm,22.0s
CMIG Matias Romero 130.14 47 PKP **PKPdf 20 17 21.8 +1.1**
comp=Z,7.3nm,0.8s,baz=318,slow=3.0,SNR=3.7
SACV Santiago Islan 131.70 311 PFAKE 20 17 30.0 +6.3
SACV LR LR
comp=Z,800nm,20.0s
TEIG Tepich 132.08 38 PFAKE 20 17 30.0 +5.7
TEIG LR LR
comp=Z,1μm,22.0s
ASCN Ascension 135.26 277 PFAKE 20 17 40.0 +10
ASCN LR LR
comp=Z,1μm,19.0s
GRTK Grand Turk 138.55 17 PFAKE 20 17 50.0 +14
GRTK LR LR
comp=Z,750nm,20.0s
GTBY Guantanamo Bay 138.73 23 PFAKE 20 17 50.0 +13
GTBY LR LR
comp=Z,886nm,21.0s
MTDJ Mount Denham 139.28 27 PFAKE 20 17 50.0 +12
MTDJ LR LR
comp=Z,1μm,22.0s
SDDR Presa de Saban 140.90 18 PFAKE 20 17 50.0 +9.3
SDDR LR LR
comp=Z,1μm,21.0s
JTS JuntasAbangare 141.71 44 PKIKP PKPpre 20 17 38.1
JTS MLR MLR
comp=Z,825nm,22.0s
JTS JuntasAbangare 141.71 44 PKhKP PKPpre 20 17 38.1
comp=Z,4.8nm,0.3s,baz=303,slow=17,SNR=5.4
JTS JuntasAbangare 141.71 44 PKPpre PKPpre 20 17 38.1
JTS LR LR
comp=Z,825nm,22.0s
SJG San Juan 142.98 11 PKIKP **PKPdf 20 17 43.0 -1.4**
SJG San Juan 142.98 11 PKP **PKPdf 20 17 43.0 -1.4**
comp=Z,16nm,0.4s,baz=274,slow=1.3,SNR=3.5
USHA Ushuaia 143.04 171 PKP PKPbc 20 17 41.7 +1.5
comp=Z,9.8nm,0.7s,baz=150,slow=4.8,SNR=5.4
MTP Monte Pirata 143.10 10 *e*PKPpre PKPpre 20 17 40.6
ANWB Willy Bob 143.97 4 PFAKE 20 18 00.0 +14
ANWB LR LR
comp=Z,758nm,21.0s
PAYG Puerto Ayora 144.68 63 PFAKE 20 18 00.0 +12
PAYG LR LR
comp=Z,837nm,20.0s
SEG Port Louis 145.24 4 *eP* **PKPab 20 17 48.2 +0.1**
LZG Guadaloupe-1 145.49 4 *eP* **PKPbc 20 17 48.6 -0.2**
MLG Mont-d'or 145.57 4 *eP* **PKPab 20 17 49.5 +0.1**
FNG Fond-Bernard 145.57 4 *eP* **PKPab 20 17 49.5 +0.1**
LKG Breislack 145.59 4 *eP* **PKPbc 20 17 49.3 0.0**
TAG Tarade 145.59 4 *eP* **PKPab 20 17 49.8 +0.2**
SCG Saint Claude 145.60 4 *eP* **PKPab 20 17 49.6 0.0**
DOG Dongo Capester 145.60 4 *eP* **PKPdf 20 17 49.1 0.0**
HMG Houelmont 145.65 4 *eP* **PKPab 20 17 49.6 0.0**
TBG Guadaloupe-3 145.78 4 *eP* **PKPbc 20 17 49.9 +0.2**
BBL Barber's Block 146.12 4 *eP* **PKPdf 20 17 50.2 +0.3**
SVN Savane Anatole 146.81 4 *eP* **PKPbc 20 17 53.4 +0.5**
EFI East Falkland 146.88 181 *e*PKP2 **PKPbc 20 17 52.3 +0.3**
EFI East Falkland 146.88 181 *e*PKPbc **PKPbc 20 17 52.3 +0.3**
FDF Fort de France 146.92 4 *e*PKP2 **PKPdf 20 17 51.6 +0.3**
FDF MLR MLR
comp=Z,708nm,22.0s
FDF Fort de France 146.92 4 *eP* **PKPdf 20 17 51.9 +0.6**
FDF Fort de France 146.92 4 *eP* **PKPbc 20 17 52.4 -0.8**
FDF Fort de France 146.92 4 *e*PKPdf **PKPdf 20 17 51.6 +0.3**
FDF LR LR
comp=Z,708nm,22.0s
TRMF Trois Ilets 147.12 3 *eP* **PKPdf 20 17 52.1 +0.5**
GRGR Grenville 149.47 5 *e*PKPbc **PKPbc 20 17 59.0 -0.9**
GRGR LR LR
comp=Z,719nm,21.0s
SDV Santo Domingo 150.53 24 *e*PKPdf **PKPdf 20 17 57.7 +0.3**
SDV *e*PKPbc **PKPbc 20 18 03.0 +0.2**
SDV LR LR
comp=Z,713nm,21.0s
ROSC El Rosal 152.39 34 PKP **PKPdf 20 18 01.4 +0.9**
comp=Z,4.6nm,0.4s,baz=317,slow=3.9,SNR=16
OTAV Otavalo 153.43 48 *e*PKPdf **PKPdf 20 18 02.9 +0.7**
OTAV LR LR
comp=Z,772nm,22.0s
RCBR Riachuelo 154.06 296 PKPbc **PKPdf 20 18 02.9 +0.4**
comp=Z,17nm,1.0s,baz=146,slow=2.0,SNR=5.1
RCBR Riachuelo 154.06 296 PKPbc **PKPdf 20 18 02.9 +0.4**
RCBR LR LR
comp=Z,863nm,20.0s
PLCA Paso Flores 155.77 159 PKP **PKPdf 20 18 04.7 +0.6**
comp=Z,10nm,1.2s,baz=259,slow=5.2,SNR=3.2
PLCA PKPbc PKPbc 20 18 14.2
comp=Z,7.3nm,0.8s,baz=219,slow=2.3,SNR=6.3
ATAH Atahualpa 158.13 61 PKP **PKPdf 20 18 09.8 +1.6**
comp=Z,25nm,1.2s,baz=235,slow=3.1,SNR=20
ATAH PKPab **PKPab 20 18 44.1 +2.0**
comp=Z,56nm,1.1s,baz=315,slow=1.4,SNR=11
TRQA Tornquist 160.35 173 PFAKE 20 18 20.0 +10
TRQA LR LR
comp=Z,2μm,19.0s
NNA Nana 161.76 72 PKIKP **PKPdf 20 18 13.0 +1.1**
NNA MLR MLR
comp=Z,2μm,20.0s
NNA Nana 161.76 72 PKP **PKPdf 20 18 13.0 +1.1**
comp=Z,8.1nm,0.8s,baz=56,slow=3.6,SNR=3.8
NNA PKPab **PKPab 20 18 57.7 +0.3**
comp=Z,27nm,0.9s,baz=294,slow=4.7,SNR=6.3
NNA Nana 161.76 72 PKP **PKPdf 20 18 13.0 +1.1**
NNA PKPab **PKPab 20 18 57.7 +0.3**
NNA LR LR
comp=Z,2μm,20.0s
PTGA Pitinga 162.33 3 PKP **PKPdf 20 18 12.9 +0.4**
comp=Z,13nm,0.8s,baz=355,slow=3.0,SNR=15
PTGA PKPab **PKPab 20 18 59.0 -0.5**
comp=Z,63nm,1.0s,baz=353,slow=5.0,SNR=22
PTGA Pitinga 162.33 3 *e*PKPdf **PKPdf 20 18 12.8 +0.3**
PTGA PKP **PKPdf 20 18 12.9 +0.4**
PTGA PKPab **PKPab 20 18 59.0 -0.5**
PTGA LR LR
comp=Z,802nm,20.0s
CFAA Coronel Fontan 164.58 150 PKP **PKPdf 20 18 14.3 +0.2**
comp=Z,0.7nm,0.6s,baz=219,slow=2.3,SNR=7.8
CFAA PKPab **PKPab 20 19 09.6 +0.4**
comp=Z,0.4nm,0.4s,baz=205,slow=5.4,SNR=6.0
LCO Las Campanas 165.14 137 *e*PKPdf **PKPdf 20 18 15.7 +0.8**
LCO LR LR
comp=Z,1μm,20.0s
BDFB Brasilia 168.97 283 PKP **PKPdf 20 18 17.9 0.0**
comp=Z,21nm,1.0s,baz=80,slow=2.1,SNR=14
SAML Samuel 169.74 23 *e*PKPdf **PKPdf 20 18 18.0 -0.3**
SAML LR LR
comp=Z,2μm,21.0s
LVC Limon Verde 169.99 116 PFAKE 20 18 30.0 +11
LVC LR LR
comp=Z,1μm,21.0s
LPAZ La Paz 171.16 77 PKIKP **PKPdf 20 18 20.8 +1.0**
LPAZ 20 23 28.2
LPAZ pmax pmax
comp=Z,19nm,1.1s
LPAZ pmax pmax
comp=Z,7.0nm,1.1s
LPAZ La Paz 171.16 77 PKP **PKPdf 20 18 20.8 +1.0**
comp=Z,19nm,1.1s,baz=312,slow=2.2,SNR=34
LPAZ PKPab **PKPab 20 19 40.3 +0.8**
comp=Z,13nm,0.9s,baz=307,slow=5.0,SNR=6.1
LPAZ PP **PP 20 23 28.2 -2.4**
comp=Z,7.4nm,1.1s,baz=300,slow=5.7,SNR=6.7
LPAZ La Paz 171.16 77 *e*PKPdf **PKPdf 20 18 20.6 +0.8**
LPAZ PKP 20 18 20.8
LPAZ PKPab **PKPab 20 19 40.3 +0.8**
LPAZ PP **PP 20 23 28.2 -2.4**
SIV San Ignacio 176.91 37 PKP **PKPdf 20 18 21.1 +0.1**
comp=Z,19nm,0.9s,baz=132,slow=2.4,SNR=29
SIV PKPab **PKPab 20 20 03.7 -0.4**
comp=Z,3.0nm,0.5s,baz=332,slow=7.2,SNR=5.9
SIV PP **PP 20 23 54.3 -2.0**
comp=Z,3.4nm,0.8s,baz=359,slow=6.6,SNR=5.8

DJA 22 19:59:26.4±0.3, 0°N±3°×12°6E±°, h10km, M3.9/7, MLv3.9/7, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.33**	**74**	P	Pn	19 59 48.4	-2.6
TNTI				S	Sb	20 00 07.7	-0.8
LBMI	**Labuha**	**1.75**	**126**	P	Pn	19 59 55.6	-1.3
LBMI				S	Sb	20 00 21.3	+0.5
KMSI	**Cibinong**	**2.12**	**274**	P	Pn	20 00 00.4	-1.5
KMSI				S	Sb	20 00 30.0	-1.2
SANI	**Sanana**	**2.44**	**182**	P	Pn	20 00 03.3	-3.1
SANI				S	Sn	20 00 37.0	+0.6
GTOI	**Gorontalo**	**3.09**	**274**	P	Pb	20 00 18.5	-3.0
NLAI	**Namlea**	**3.76**	**164**	P	Pn	20 00 22.9	-1.6
MSAI	**Masohi**	**4.69**	**143**	P	Pn	20 00 40.7	+3.4

*ISCJB **22** 20:12:24.9±2.2, 34°.28S±0°.03×72°.10W±0°.08, h11km±16km, mb3.6/2, MS3.6/1, Error ellipse: s-maj=11.0km s-min=4.9km az=13.8*
*IDC **22** 20:12:24.6±1.3, 34°.29S×72°.22W, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.8/15, mbtmp3.7/4, ML4.0/2, MS3.8/1, Ms1 3.8/1, ms1mx2.7/27, Error ellipse: s-maj=38.0km s-min=29.7km az=103.0*
*GUC **22** 20:12:25.9±0.3, 34°.27S×72°.14W, h12km±5km, ML4.0*
ISC 22 20:12:25.2±2.6, 34°.30S±0°.05×72°.1W±0°.1, h6km±15km, n16, σ1§66/23, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.97**	**136**	*eP*	**Pg**	**20 12 43.9**	**-0.1**
NICH				*eS*	**Sg**	**20 12 57.9**	**+1.3**
NICH				IAML		20 13 04.0	
comp=E,7μm,0.2s							
TALC	**Talca**	**1.15**	**163**	*eP*	**Pb**	**20 12 46.3**	**-1.2**
TALC				*eS*	**Sb**	**20 13 02.0**	**-0.6**
RCDM	**Rinconada Maip**	**1.31**	**52**	*eP*	**Pn**	**20 12 48.7**	**-1.5**
RCDM				*eS*	**Sb**	**20 13 05.9**	**-1.6**
ANTU	**Antumapu**	**1.39**	**59**	*eP*	**Pn**	**20 12 50.2**	**-1.0**
ANTU				*eS*	**Sn**	**20 13 08.4**	**-1.5**
ANTU				IAML		20 13 13.6	
comp=E,5μm,0.6s							
CLCH	**Cerro Calan**	**1.55**	**55**	*eP*	**Pn**	**20 12 52.7**	**-0.8**
CLCH				*eS*	**Sn**	**20 13 13.1**	**-0.9**
CLCH				IAML		20 13 23.1	
comp=E,3μm,0.7s							
LNCH	**Linares**	**1.59**	**167**	*eP*	**Pn**	**20 12 53.3**	**-0.6**
LNCH				*eS*	**Sn**	**20 13 14.2**	**-0.5**
LNCH				IAML		20 13 16.8	
comp=N,3μm,0.6s							
PEL	**Peldehue**	**1.62**	**45**	*eP*	**Pn**	**20 12 53.6**	**-0.8**
PEL				*eS*	**Sn**	**20 13 14.8**	**-0.8**
PEL				IAML		20 13 19.5	
comp=N,3μm,0.5s							
YECH	**El Yeso**	**1.75**	**69**	*eP*	**Pn**	**20 12 56.8**	**+0.3**
CFAA	**Coronel Fontan**	**4.18**	**51**	Pn	**Pn**	**20 13 31.8**	**+2.1**
comp=N,0.2nm,0.3s,baz=224,slow=13,SNR=6.5							
CFAA				Sn	**Sn**	**20 14 23.8**	**+4.8**
comp=N,0.3nm,0.3s,baz=93,slow=18,SNR=2.9							
PLCA	**Paso Flores**	**6.53**	**170**	Pn	**Pn**	**20 14 04.3**	**+2.4**
comp=N,0.5nm,0.3s,baz=341,slow=13,SNR=9.4							
PLCA				Lg	Lg	20 15 44.9	
comp=N,0.1nm,0.3s,baz=253,slow=19,SNR=2.4							
LPAZ	**La Paz**	**18.28**	**12**	P	**P**	**20 16 42.2**	**+1.8**
comp=N,0.4nm,0.3s,baz=142,slow=5.1,SNR=8.0							
NNA	**Nana**	**22.64**	**348**	LR	LR	20 23 24.1	
comp=N,259nm,20.9s,baz=184,slow=29							
TXAR	**Lajitas Array**	**69.99**	**331**	P	**P**	**20 23 37.6**	**-0.1**
comp=N,0.3nm,0.7s,baz=156,slow=6.9,SNR=5.2							
TORD	**Torodi Ar. Bea**	**84.32**	**70**	P	**P**	**20 24 58.2**	**-0.3**
comp=N,0.6nm,0.8s,baz=224,slow=4.0,SNR=2.8							
BVAR	**Borovoye Array**	**147.51**	**43**	PKPbc	**PKPbc**	**20 32 10.4**	**+0.6**
comp=N,0.6nm,0.5s,baz=280,slow=1.5,SNR=7.5							
ZALV	**Zalesovo Beam**	**154.49**	**33**	PKPbc	**PKPbc**	**20 32 25.9**	**-0.3**
comp=N,0.2nm,0.5s,baz=300,slow=2.8,SNR=3.9							

IDC 22 20:12:27.4±7.3, 17°.03S×174°.90W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/35, mbtmp3.6/3, Error ellipse: s-maj=318.0km s-min=39.4km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.09**	**258**	P	P	20 21 08.7	-0.5
0.1nm,0.3s,baz=96,slow=8.0,SNR=5.1							
ASAR	**Alice Springs**	**48.25**	**253**	P	P	20 21 10.7	+0.2
1.1nm,0.4s,baz=87,slow=8.0,SNR=36							
ILAR	**Eielson Array**	**84.32**	**12**	P	P	20 25 00.8	-0.1
0.2nm,0.8s,baz=220,slow=5.4,SNR=4.0							

MEX 22 20:13:38.2±0.6, 16°.34N×98°.47W, h20km±38km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**80**	*i P*	Pb	20 13 44.3	-1.3
PNIG				*i S*	Sb	20 13 49.1	-1.4
TLIG	**Tlapa**	**1.22**	**356**	*eP*	Pn	20 13 57.2	-3.2
TLIG				*eS*	Sb	20 14 11.4	-4.9
VHO	**Vista Hermosa**	**1.82**	**66**	*eP*	Pn	20 14 05.3	-3.4
VHO				*i S*	Sn	20 14 26.4	-4.9
CAIG	**El Cayaco**	**1.86**	**293**	*i P*	Pn	20 14 06.7	-2.3
CAIG				*eS*	Sn	20 14 28.1	-3.8
HUIG	**Huatulco**	**2.34**	**104**	*i P*	Pn	20 14 13.6	-2.0
HUIG				*i S*	Sn	20 14 39.7	-4.1

MAN 22 20:23:21, 18°.50N×120°.68E, h32km, mb4.4, ML3.3, MS3.1, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.18**	**199**	⇑*i P*	Pn	20 23 28.0	+0.5
PIP				*eS*	Sn	20 23 33.5	+1.9
SIPP	**Brgy, Tapao**	**0.61**	**200**	⇓*eP*	Pn	20 23 34.9	+1.5
SIPP				*i S*	Sn	20 23 45.8	+3.6
APYP	**Conner**	**0.83**	**140**	*eP*	Pn	20 23 36.4	0.0
APYP				*eS*	Sb	20 23 47.9	+0.1
ABRA	**Dolores**	**0.84**	**178**	*eP*	Pn	20 23 36.6	-0.1
ABRA				*eS*	Sb	20 23 49.0	+0.8
SGCP	**Mt. Cagua**	**1.32**	**101**	*eP*	Pn	20 23 43.5	+0.3
SGCP				*eS*	Sn	20 24 00.6	+0.9

*IDC **22** 20:37:07.2±2.2, 1°.39S×99°.40E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.6/40, mbtmp3.8/9, ML3.7/2, Error ellipse: s-maj=71.0km s-min=19.0km az=60.0*
*ISCJB **22** 20:37:09.1±0.8, 1°.42S±0°.07×99°.17E±0°.06, h33km, mb3.8/7, Error ellipse: s-maj=11.2km s-min=7.3km az=28.8*
*DJA **22** 20:37:09.5±1.3, 1°S±5°×9°9E±°, h13km±13km, M4.0/9, mb4.1/3, mB5.3/1, MLv4.0/9, Mw(mB)4.7/1*
ISC 22 20:37:11.5±1.1, 1°.38S±0°.09×99°.23E±0°.09, h35km, n19, σ1§08/18, mb3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.32**	**69**	P	**Pn**	**20 37 31.9**	**-1.6**
PDSI				S	**Sn**	**20 37 49.2**	**-0.7**
MNSI	**Mandailing Nat**	**2.19**	**9**	P	**Pn**	**20 37 45.1**	**-0.3**
SDSI	**Sungai Dareh**	**2.25**	**79**	P	**Pn**	**20 37 46.0**	**-0.2**
SDSI				S	**Sn**	**20 38 14.4**	**+1.7**
BKNI	**Bangkinang**	**2.48**	**47**	P	**Pn**	**20 37 48.4**	**-1.0**
GSI	**Gunungsitoli**	**3.14**	**328**	P	**Pn**	**20 37 58.0**	**-0.5**
PSI	**Prapat**	**4.17**	**356**	Pn	**Pn**	**20 38 12.0**	**-0.7**
1.9nm,0.3s,baz=177,slow=10,SNR=6.5							
MDSI	**Maura Dua**	**5.83**	**122**	P	**Pn**	**20 38 34.0**	**-1.5**
11nm,0.8s,0.0nm							
LWLI	**Liwa**	**6.03**	**127**	P	**Pn**	**20 38 39.6**	**+1.3**
28nm,0.7s,2μm0.1nm							
CMAR	**Chiang Mai Arr**	**19.72**	**359**	P	**Pn**	**20 41 38.4**	**-1.4**
0.2nm,0.3s,baz=187,slow=10.0,SNR=12							
H08S2	**Diego Garcia H**	**27.35**	**256**	T	T	21 10 46.7	
baz=78,slow=75,SNR=65							
H08S3	**Diego Garcia H**	**27.36**	**256**	T	T	21 10 51.8	
baz=78,slow=75,SNR=87							
H08S1	**Diego Garcia H**	**27.37**	**256**	T	T	21 10 52.3	
baz=78,slow=75,SNR=48							
WRA	**Warramunga Arr**	**38.97**	**121**	P	**P**	**20 44 33.8**	**-0.9**
1.0nm,0.7s,baz=298,slow=9.2,SNR=8.3							
ASAR	**Alice Springs**	**40.24**	**126**	P	**P**	**20 44 45.2**	**0.0**
0.4nm,0.7s,baz=301,slow=7.4,SNR=4.3							
KSRS	**Korea Array**	**46.89**	**32**	P	**P**	**20 45 38.4**	**-0.1**
0.8nm,0.7s,baz=220,slow=7.2,SNR=3.7							
SONM	**Songino Array**	**49.41**	**6**	P	**P**	**20 45 58.8**	**+0.8**
0.4nm,0.4s,baz=193,slow=8.5,SNR=7.3							
MKAR	**Makanchi Array**	**50.23**	**345**	P	**P**	**20 46 05.5**	**+1.3**
0.7nm,0.3s,baz=160,slow=8.5,SNR=20							
USRK	**Ussuriysk Ar.**	**53.98**	**29**	P	**P**	**20 46 32.2**	**+0.2**
1.8nm,0.8s,baz=214,slow=9.8,SNR=4.2							
ZALV	**Zalesovo Beam**	**56.42**	**350**	P	**P**	**20 46 50.2**	**+0.8**
0.8nm,0.3s,baz=175,slow=5.5,SNR=8.9							

*IDC **22** 20:44:32.1±3.1, 11°.29N×125°.25E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/24, mbtmp3.5/3, Error ellipse: s-maj=236.3km s-min=28.8km az=65.0*
*MAN **22** 20:44:33, 11°.11N×124°.66E, h6km, mb4.8, ML3.8, MS3.8*
MAN INTENSITY II - ORMOC CITY; KANANGA & TONGONAN LEYTE.
*ISCJB **22** 20:44:34.2±0.8, 11°.11N±0°.06×124°.67E±0°.05, h13km±6km, mb3.5/3, Error ellipse: s-maj=10.3km s-min=7.8km az=8.2*
ISC 22 20:44:33.6±1.5, 11°.13N±0°.06×124°.68E±0°.05, h6km±10km, n17, σ0§73/21, mb3.5/3, 2C-4D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.11**	**222**	*eP*	**Pg**	**20 44 36.2**	**+0.2**
PLP	**Palo**	**0.29**	**84**	⇓*eP*	**Pb**	**20 44 40.6**	**-0.7**
PLP				*i S*	**Sb**	**20 44 46.8**	**+0.3**
MSLP	**Maasin**	**1.01**	**170**	*eP*	**Pg**	**20 44 53.0**	**0.0**
TBP	**Tagbilaran**	**1.64**	**209**	*eP*	**Pn**	**20 45 02.6**	**-0.4**
TBP				*eS*	Sg	20 45 48.1	+22
TBP	**Tagbilaran**	**1.64**	**209**	*eP*	**Pn**	**20 45 02.6**	**-0.4**
TBP				*eS*	Sg	20 45 48.1	+22
RCP	**Roxas**	**1.95**	**283**	⇑*eP*	**Pn**	**20 45 07.5**	**+0.3**
RCP				*eS*	**Sn**	**20 45 31.9**	**-0.2**
RCP	**Roxas**	**1.95**	**283**	⇑*eP*	**Pn**	**20 45 07.5**	**+0.3**
RCP				*eS*	**Sn**	**20 45 31.9**	**-0.2**
GUIM	**Jordan**	**2.12**	**256**	*eP*	**Pn**	**20 45 09.5**	**-0.1**
GUIM				*eS*	**Sn**	**20 45 36.6**	**+0.3**
SNPH	**Sibulan**	**2.28**	**219**	⇓*i P*	Pn	20 45 06.2	-5.6
SNPH				*i S*	**Sn**	**20 45 40.5**	**+0.2**
SNPH	**Sibulan**	**2.28**	**219**	⇓*i P*	Pn	20 45 06.2	-5.6
SNPH				*i S*	**Sn**	**20 45 40.5**	**+0.2**
BUTP	**Butuan**	**2.34**	**157**	*eP*	**Pn**	**20 45 12.6**	**-0.1**
DCPH	**Dipolog City**	**2.85**	**207**	⇓*eP*	**Pn**	**20 45 18.9**	**-0.8**
BUKI	**Musuan**	**3.25**	**173**	*eP*	**Pn**	**20 45 27.3**	**+2.0**
PAGZ	**Pagadian**	**3.51**	**202**	*eP*	**Pn**	**20 45 29.6**	**+0.9**
WRA	**Warramunga Arr**	**32.31**	**163**	P	**P**	**20 51 02.6**	**-1.1**
0.3nm,0.5s,baz=343,slow=9.0,SNR=4.0							
ASAR	**Alice Springs**	**35.74**	**165**	P	**P**	**20 51 33.1**	**-0.4**
0.8nm,0.6s,baz=348,slow=7.0,SNR=14							
MKAR	**Makanchi Array**	**50.40**	**323**	P	**P**	**20 53 32.9**	**+0.9**
0.3nm,0.8s,baz=131,slow=7.9,SNR=3.6							

*ISCJB **22** 20:45:07.0±0.6, 12°.69N±0°.07×142°.6E±0°.1, h150km, mb4.1/23, Error ellipse: s-maj=17.9km s-min=9.9km az=177.3*
*NEIC **22** 20:45:10.4±3.6, 12°.70N×142°.51E, h164km±34km, mb4.4/4, Error ellipse: s-maj=18.0km s-min=8.6km az=86.0*
*IDC **22** 20:45:10.1±4.7, 12°.73N×142°.55E, h159km±43km, mb3.8/17, mb1 3.9/17, mb1mx3.9/27, mbtmp4.2/17, Error ellipse: s-maj=22.6km s-min=11.7km az=88.0*
ISC 22 20:45:09.1±0.7, 12°.7N±0°.1×142°.6E±0°.1, h150km, n30, σ1§11/32, mb4.1/23, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**19.44**	**318**	P	**P**	**20 49 25.0**	**+1.0**
0.1nm,0.3s,baz=158,slow=5.4,SNR=3.6							
JNU	**Nakatsue**	**22.97**	**334**	P	**P**	**20 50 00.7**	**+0.1**
11nm,0.8s,baz=137,slow=1.0,SNR=11							
SSLB	**Suanglung**	**23.28**	**301**	*eP*	**P**	**20 50 01.1**	**-2.4**
8.9nm,0.6s							
MJAR	**Matsushiro Arr**	**24.06**	**351**	P	**P**	**20 50 09.9**	**-0.6**
1.0nm,0.4s,baz=170,slow=11,SNR=8.6							
KSRS	**Korea Array**	**27.92**	**335**	P	**P**	**20 50 44.6**	**-0.5**
0.8nm,0.6s,baz=146,slow=9.0,SNR=3.7							
KSAR	**Wonju Array Be**	**27.93**	**334**	P	**P**	**20 50 44.6**	**-0.6**
USRK	**Ussuriysk Ar.**	**32.68**	**346**	P	**P**	**20 51 27.8**	**+0.9**
5.4nm,0.6s,baz=169,slow=8.9,SNR=14							
WRAB	**Tennant Creek**	**33.43**	**194**	*eP*	**P**	**20 51 33.1**	**-0.6**
3.1nm,0.4s							
WB2	**Warramunga Arr**	**33.44**	**194**	*eP*	**P**	**20 51 33.0**	**-0.8**
WRA

0.2nm,0.4s,baz=3.7,slow=3.0,SNR=5.0
ASAR Alice Springs 37.13 193 P P 20 52 05.4 0.0
0.9nm,0.4s,baz=21,slow=12,SNR=26
CMAR Chiang Mai Arr 42.35 283 P P 20 52 49.2 +0.6
1.7nm,0.8s,baz=92,slow=6.3,SNR=12
CMAR pP **pP 20 53 25.0 +3.2**
0.6nm,0.6s,baz=96,slow=6.1,SNR=3.0
SONM Songino Array 46.20 327 P P 20 53 19.5 +0.5
1.5nm,0.4s,baz=140,slow=7.6,SNR=19
SONM PcP **PcP 20 54 51.7 -0.6**
0.4nm,0.6s,baz=148,slow=4.6,SNR=3.3
LSA Lhasa 50.43 298 *eP* **P 20 53 52.5 +0.4**
1.6nm,0.6s
SEY Seymchan 50.64 6 P P 20 53 52.4 -0.2
2.4nm,0.8s,baz=167,slow=5.8,SNR=7.6
MKAR Makanchi Array 60.59 317 P P 20 55 03.8 -0.1
1.5nm,0.8s,baz=93,slow=8.6,SNR=16
ZALV Zalesovo Beam 61.06 325 P P 20 55 06.0 -0.8
1.6nm,0.6s,baz=112,slow=7.8,SNR=9.0
TNA Tin City 62.46 21 *eP* **P 20 55 16.3 +0.3**
KURK Kurchatov 63.83 320 *eP* **P 20 55 24.8 -0.6**
5.8nm,1.0s
ILAR Eielson Array 70.32 25 P P 20 56 05.2 -0.8
1.8nm,0.6s,baz=264,slow=5.3,SNR=5.8
GEYT Alibeck 77.99 306 P P 20 56 50.8 -0.3
1.6nm,0.7s,baz=294,slow=1.5,SNR=5.7
YKA Yellowknife Ar 84.66 27 P P 20 57 25.8 +0.1
0.5nm,0.5s,baz=289,slow=4.9,SNR=6.3
KEV Kevo 86.66 342 *ep* P 20 57 31.5 -3.9
11nm,0.8s
ARCES ARCESS Array B 87.23 342 P P 20 57 37.2 -1.0
2.1nm,0.6s,baz=62,slow=5.8,SNR=11
JOF Joensuu 88.15 335 *ep* **P 20 57 40.6 -2.1**
2.7nm,0.6s
NVAR Mina Array Bea 89.20 51 P P 20 57 49.8 +1.3
1.5nm,0.6s,baz=263,slow=5.5,SNR=7.7
FINES FINESS Array B 91.01 335 P P 20 57 53.9 -2.1
2.8nm,0.6s,baz=76,slow=4.3,SNR=19
TORD Torodi Ar. Bea 133.49 302 PKP **PKPdf 21 04 08.4 -0.2**
0.6nm,1.0s,baz=51,slow=0.4,SNR=5.1
LPAZ La Paz 150.07 101 PKPbc **PKPbc 21 04 44.7 +1.0**
2.4nm,0.7s,baz=319,slow=1.1,SNR=10
LPAZ La Paz 150.07 101 *e*PKPbc **PKPbc 21 04 44.5 +0.8**

DJA 22 21:08:18.4±0.9, 8°S±5°×10°7E±°, h12km±5km, M3.5/7, MLv3.5/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.82**	**44**	P	Pg	21 08 33.5	-0.9
CISI				S	Sg	21 08 44.7	-0.5
CNJI	**Cibinong**	**0.84**	**353**	P	Pg	21 08 32.6	-2.1
CNJI				S	Sb	21 08 46.4	+0.1
CMJI	**Cimerak**	**1.25**	**73**	P	Pn	21 08 39.2	-2.5
CMJI				S	Sb	21 08 51.8	-6.2
SKJI	**Sukabumi**	**1.32**	**329**	P	Pn	21 08 41.4	-1.3
SKJI				S	Sb	21 08 59.2	-1.0
LEM	**Lembang**	**1.37**	**16**	P	Pb	21 08 44.5	+0.3
LEM				S	Sn	21 08 59.8	-1.9
KPJI	**Karang Pucung**	**1.86**	**64**	P	Pn	21 08 51.1	+1.0
KPJI				S	Sn	21 09 13.8	+0.2
CGJI	**Cibinong**	**2.16**	**315**	P	Pn	21 08 53.2	-1.1
CGJI				S	Sn	21 09 13.4	-7.7

AUST 22 21:11:50.3±0.6, 33°.47S×148°.97E, h2km±3km, 9C-8D, Error ellipse: s-maj=4.2km s-min=2.0km az=143.0, New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNG	**Young**	**0.95**	**210**	⇑P	Pg	21 12 08.4	-0.3
	baz=1.0,SNR=108						
YNG				⇑S	Sg	21 12 21.7	+0.6
	baz=1.0,SNR=28						
MGCD	**Mangrove Creek**	**1.81**	**82**	⇓P	Pn	21 12 22.6	0.0
	baz=1.8,SNR=601						
MGCD				⇑S	Sn	21 12 45.7	-0.4
	baz=1.8,SNR=8.6						
CAN	**Canberra**	**1.85**	**179**	⇑P	Pn	21 12 23.6	+0.4
	baz=1.9						
CAN				⇓S	Sb	21 12 48.7	+0.1
	baz=1.9						
RIV	**Riverview**	**1.86**	**102**	⇓P	Pn	21 12 23.7	+0.5
	baz=1.9						
RIV				⇑S	Sb	21 12 48.2	-0.6
	baz=1.9						
CNB	**Canberra Magne**	**1.87**	**170**	⇑P	Pn	21 12 23.1	-0.4
	baz=1.9,SNR=86						
CNB				⇓S	Sb	21 12 49.7	+0.4
	baz=1.9,SNR=9.3						
CMSA	**Cobar Meteorol**	**3.37**	**304**	⇓P	Pn	21 12 44.2	+0.1
	baz=3.4						
CMSA				⇓S	Sn	21 13 24.9	+0.2
	baz=3.4						
MILA	**Mila**	**3.58**	**178**	⇓P	Pn	21 12 48.0	+0.9
	baz=3.6,SNR=5.6						
MILA				⇑S	Sn	21 13 31.7	+1.7
	baz=3.6,SNR=7.8						
ARMA	**Armidale**	**3.79**	**37**	⇑P	Pn	21 12 50.2	+0.2
	baz=3.8,SNR=7.8						
TOO	**Toolangi**	**4.98**	**214**	⇑P	Pn	21 13 06.8	+0.6
	baz=5.0,SNR=8.8						
TOO				⇓S	Sn	21 14 05.6	+1.2
	baz=5.0						

IDC ***22*** *21:23:07.5±3.5, 21°.13S×10°.66W, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.8/21, mbtmp4.0/6, Error ellipse: s-maj=86.7km s-min=38.2km az=55.0*

ISC 22 21:23:12.7±3.2, 20°.7S±0°.4×10°.2W±0°.5, h10km, n10, σ0=96/7, mb3.8/6, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**12.46**	**339**	T	T	21 39 56.2	
	baz=170,slow=75,SNR=46						
H10S3	**ASCENSION HYDR**	**12.47**	**339**	T	T	21 39 58.6	
	baz=170,slow=75,SNR=43						
H10S1	**ASCENSION HYDR**	**12.48**	**339**	T	T	21 39 58.6	
	baz=170,slow=75,SNR=48						
TSUM	**Tsumeb**	**26.18**	**92**	P	**P**	**21 28 47.5**	**-0.3**
	2.7nm,0.6s,baz=249,slow=13,SNR=8.4						
DBIC	**Dimbokro**	**27.74**	**12**	P	**P**	**21 29 00.3**	**-1.4**
	1.1nm,0.6s,baz=162,slow=6.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**35.66**	**20**	P	**P**	**21 30 11.8**	**+0.6**
	3.9nm,0.5s,baz=201,slow=8.7,SNR=63						
GERES	**GERESS Array B**	**72.49**	**16**	P	**P**	**21 34 40.2**	**+0.7**
	0.4nm,0.6s,baz=194,slow=5.1,SNR=5.7						
BRTR	**Keskin Array B**	**72.77**	**34**	P	**P**	**21 34 42.0**	**+0.5**
	0.5nm,0.7s,baz=211,slow=2.5,SNR=4.2						
AKASG	**Malin Array Be**	**79.17**	**24**	P	**P**	**21 35 17.8**	**+0.3**
	0.4nm,0.3s,baz=224,slow=5.0,SNR=2.8						
MJAR	**Matsushiro Arr**	**148.32**	**53**	PKPbc	**PKPdf**	**21 42 55.6**	**-0.6**
	0.2nm,0.3s,baz=258,slow=2.7,SNR=5.3						

IDC ***22*** *21:45:20.4±0.6, 11°.97S×165°.84E, h0km, mb4.5/16, mb1 4.5/19, mb1mx4.5/24, mbtmp4.5/19, ML3.7/2, MS4.6/17, Ms1 4.6/17, ms1mx4.4/30, Error ellipse: s-maj=21.0km s-min=16.8km az=99.0*

ISCJB ***22*** *21:45:24.3±0.3, 11°.99S±0°.04×165°.80E±0°.05, h33km, mb5.0/51, MS4.6/19, Error ellipse: s-maj=6.7km s-min=5.8km az=143.9*

MOS ***22*** *21:45:24.4±1.0, 11°.98S×165°.72E, h33km, mb5.2/15, MS4.7/4, Error ellipse: s-maj=11.6km s-min=8.8km az=33.7*

BJI ***22*** *21:45:25.4, 12°.00S×165°.80E, h35km, mB5.4/38, mb4.8/46, Ms5.1/37, Ms7 4.8/34*

NEIC ***22*** *21:45:26.0±0.3, 11°.99S×165°.82E, h35km, mb5.1/29, Error ellipse: s-maj=8.2km s-min=7.1km az=80.0*

GCMT ***22*** *21:45:26.0±0.1, 12°.01S×165°.83E, h18km, MW5.3/101, Moment Tensor Solution. s91,c144; s101,c171; Duration: 1s1 Moment tensor: Scale 10^17 Nm; M_{rr}1.10±.03; $M_{\theta\theta}$-0.15±.02; $M_{\phi\phi}$-0.94±.02; $M_{r\theta}$0.48±.05; $M_{\theta\phi}$0.32±.01; $M_{\phi r}$-0.45±.04; Best double couple: $M_0$1.26500×10^17 NP1:ϕ_s147.00000°, δ61.00000°, λ77.00000°. NP2:ϕ_s352.00000°, δ32.00000°, λ111.00000°. Principal axes: T 1.3140, Plg71.0000°, Azm28.0000°; N -0.0940, Plg11.0000°, Azm154.0000°; P -1.2170, Plg15.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 22 21:45:26.0±0.4, 12°.01S±0°.05×165°.86E±0°.06, h35km±1km, h35km: pP-P, n160, σ1=71/209, mb5.0/50, MS4.7/19, 4C-3D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.35**	**293**	Pn	**Pn**	**21 46 56.5**	**-0.6**
	46nm,0.3s,baz=351,slow=2.6,SNR=11						
HNR				Sn	**Sn**	**21 48 09.1**	**+0.6**
	18nm,0.3s,baz=18,slow=20,SNR=4.0						
DZM	**Mont Dzumac**	**10.02**	**177**	Pn	**Pn**	**21 47 47.9**	**+0.3**
	2.9nm,0.3s,baz=353,slow=20,SNR=17						
DZM				Sn	**Sn**	**21 49 35.3**	**-3.6**
	0.7nm,0.3s,baz=323,slow=20,SNR=2.7						
DZM				LR	LR	21 51 11.8	
	comp=Z,2μm,20.8s,baz=17,slow=35						
MSVF	**Nonsavu**	**13.08**	**117**	*e*P	**Pn**	**21 48 31.7**	**+2.1**
MSVF	**Nonsavu**	**13.08**	**117**	*e*Pn	**Pn**	**21 48 31.7**	**+2.1**
PMG	**Port Moresby**	**18.55**	**276**	P	**Pn**	**21 49 40.5**	**+0.2**
PMG				pmax	pmax		
	comp=Z,36nm,1.2s						
PMG	**Port Moresby**	**18.55**	**276**	P	**P**	**21 49 38.7**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=104,slow=12,SNR=2.5						
PMG				LR	LR	21 56 48.8	
	comp=Z,4μm,18.5s,baz=108,slow=37						
PMG	**Port Moresby**	**18.55**	**276**	P	**P**	**21 49 38.7**	**-1.2**
PMG				*e*Pn	**Pn**	**21 49 40.5**	**+0.2**
EIDS	**Eidsvold**	**19.27**	**224**	*e*P	**P**	**21 49 48.3**	**+0.5**
	comp=Z,95nm,1.5s						
CTA	**Charters Tower**	**20.46**	**244**	P	**P**	**21 50 01.5**	**+0.7**
	comp=Z,8.6nm,0.8s,baz=90,slow=12,SNR=6.1						
CTA				LR	LR	21 57 28.0	
	comp=Z,3μm,19.1s,baz=73,slow=36						
CTAO	**Charters Tower**	**20.46**	**244**	*e*P	**P**	**21 50 00.7**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,47nm,1.1s						
CTAO	**Charters Tower**	**20.46**	**244**	*e*P	**P**	**21 50 00.7**	**-0.1**
	comp=Z,47nm,1.1s						
RMQ	**Roma**	**21.59**	**226**	P	**P**	**21 50 15.1**	**+2.2**
	baz=21,SNR=8.2						
COEN	**Coen**	**22.18**	**263**	P	**P**	**21 50 21.8**	**+2.4**
	baz=22,SNR=5.6						
COEN	**Coen**	**22.18**	**263**	*e*P	**P**	**21 50 20.7**	**+1.4**
	comp=Z,177nm,1.0s						
ARMA	**Armidale**	**22.57**	**214**	P	**P**	**21 50 24.4**	**+0.8**
	baz=22,SNR=11						
ARMA	**Armidale**	**22.57**	**214**	*e*P	**P**	**21 50 24.3**	**+0.8**
	comp=Z,58nm,1.0s						
QLP	**Quilpie**	**24.97**	**231**	P	**P**	**21 50 48.0**	**+1.6**
	baz=25,SNR=13						
CMSA	**Cobar Meteorol**	**26.89**	**221**	P	**P**	**21 51 07.1**	**+3.3**
	baz=26,SNR=17						
BKZ	**Black Stump Fm**	**28.65**	**163**	*e*P	**P**	**21 51 17.5**	**-1.9**
	comp=Z,25nm,1.1s						
KHZ	**Kahutara**	**31.02**	**169**	*e*P	**P**	**21 51 41.0**	**+0.6**
	comp=Z,240nm,1.9s						
WRAB	**Tennant Creek**	**31.25**	**251**	⇓*e*P	**P**	**21 51 41.3**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,21nm,1.1s						
WRAB	**Tennant Creek**	**31.25**	**251**	*e*P	**P**	**21 51 41.5**	**-1.3**
	comp=Z,53nm,1.8s						
WB2	**Warramunga Arr**	**31.25**	**251**	*e*P	**P**	**21 51 39.8**	**-2.9**
WRA	**Warramunga Arr**	**31.27**	**251**	P	**P**	**21 51 42.1**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=83,slow=9.4,SNR=18						
WRA				PcP	**PcP**	**21 54 37.0**	**+0.1**
	comp=Z,1.3nm,1.0s,baz=58,slow=3.1,SNR=2.8						
WRA				LR	LR	22 04 19.3	
	comp=Z,2μm,18.1s,baz=75,slow=36						
RPZ	**Rata Peaks**	**31.91**	**173**	*e*P	**P**	**21 51 48.8**	**+0.6**
	comp=Z,513nm,2.6s						
AS31	**Alice Springs**	**32.47**	**245**	*e*P	**P**	**21 51 51.8**	**-1.6**
ASAR	**Alice Springs**	**32.47**	**245**	P	**P**	**21 51 52.1**	**-1.3**
	comp=Z,4.5nm,0.8s,baz=73,slow=9.4,SNR=40						
ASAR				PcP	**PcP**	**21 54 40.7**	**+0.6**
	comp=Z,1.7nm,1.0s,baz=76,slow=3.9,SNR=3.4						
ASAR				LR	LR	22 04 53.5	
	comp=Z,2μm,18.6s,baz=78,slow=36						
BBOO	**Buckleboo**	**34.26**	**228**	P	P	21 52 13.5	+4.7
	baz=34,SNR=4.6						
BBOO	**Buckleboo**	**34.26**	**228**	*e*P	**P**	**21 52 08.8**	**-0.1**
	comp=Z,319nm,1.1s						
KNRA	**Kununurra**	**36.17**	**260**	P	**P**	**21 52 27.0**	**+1.6**
	baz=36,SNR=4.5						
WRKA	**Warakurna**	**37.76**	**245**	P	**P**	**21 52 38.0**	**-0.9**
	baz=37,SNR=19						
FITZ	**Fitzroy Crossi**	**39.24**	**256**	P	**P**	**21 52 51.3**	**-0.2**
	baz=39,SNR=4.1						
FITZ	**Fitzroy Crossi**	**39.24**	**256**	*e*P	**P**	**21 52 51.3**	**-0.2**
	comp=Z,20nm,1.3s						
FORT	**Forrest**	**39.58**	**236**	*e*P	**P**	**21 52 56.8**	**+2.7**
	comp=Z,29nm,0.8s						
PPT	**Papeete**	**43.37**	**103**	LR	LR	22 08 55.5	
	comp=Z,2μm,18.0s,baz=271,slow=33						
PPT2	**Papeete2**	**43.37**	**103**	*e*S	**S**	**21 59 52.5**	**+1.1**
	comp=Z,617nm,26.2s						
PPT2				*e*LQ	LQ	22 03 42.9	
	comp=Z,2μm,27.2s						
PPT2				*e*LR	LR	22 05 34.6	
	comp=Z,2μm,27.8s						
TBI	**Tubuai**	**43.88**	**111**	*e*S	**S**	**22 00 00.9**	**+2.4**
	comp=Z,567nm,28.2s						
TBI				*e*LQ	LQ	22 03 55.5	
	comp=Z,1μm,36.0s						
TBI				*e*LR	LR	22 05 48.1	
	comp=Z,747nm,27.8s						
KMBL	**Kambalda**	**44.81**	**237**	P	P	21 53 41.6	+4.8
	baz=44,SNR=6.2						
MBWA	**Marble Bar**	**44.99**	**252**	*e*P	**P**	**21 53 38.4**	**0.0**
	comp=Z,19nm,1.1s						
KAPI	**Kappang**	**46.07**	**275**	*e*P	**P**	**21 53 47.7**	**+0.7**
	comp=Z,37nm,1.4s						
MEEK	**Meekatharra**	**46.63**	**245**	P	**P**	**21 53 51.8**	**+0.5**
	baz=46,SNR=5.8						
MORW	**Morawa**	**49.26**	**242**	P	P	21 54 16.7	+5.1
	baz=49,SNR=8.6						
MYLDM	**Lahad Datu**	**50.09**	**287**	*e*P	**P**	**21 54 19.7**	**+1.7**
	comp=Z,44nm,1.2s						
MJAR	**Matsushiro Arr**	**54.88**	**333**	P	**P**	**21 54 51.4**	**-1.7**
	comp=Z,4.2nm,0.8s,baz=164,slow=8.6,SNR=9.1						
MAJO	**Matsushiro**	**54.88**	**333**	P	**P**	**21 54 51.7**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,46nm,1.1s						
MAJO	**Matsushiro**	**54.88**	**333**	*e*P	**P**	**21 54 51.1**	**-2.0**
MAT	**Matsushiro**	**54.88**	**333**	P	**P**	**21 54 50.9**	**-2.2**
MAT				S	**S**	**22 02 33.4**	**+1.2**
SBUM	**Sibu**	**55.19**	**282**	*e*P	**P**	**21 54 56.3**	**+0.5**
	comp=Z,90nm,2.4s						
JNU	**Nakatsue**	**55.92**	**324**	P	**P**	**21 54 59.5**	**-1.2**
	comp=Z,6.8nm,0.9s,baz=135,slow=5.7,SNR=3.7						
JNU	**Nakatsue**	**55.92**	**324**	*e*P	**P**	**21 55 00.4**	**-0.4**
	comp=Z,9.5nm,1.0s						
SSLB	**Sunglung**	**56.50**	**309**	*e*P	**P**	**21 55 04.9**	**-0.2**
	comp=Z,81nm,2.2s						
YHNB	**Yeheng**	**56.68**	**310**	*e*P	**P**	**21 55 06.2**	**-0.2**
	comp=Z,17nm,1.0s						
KSM	**Kuching**	**56.77**	**280**	P	P	21 55 14.1	+6.9
	baz=57,SNR=4.3						
RKT	**Rikitea**	**57.16**	**110**	*e*LQ	LQ	22 09 31.3	
	comp=Z,592nm,29.8s						
RKT				*e*LR	LR	22 11 57.4	
	comp=Z,590nm,29.8s						
QZH	**Quanzhou**	**58.94**	**309**	⇑*i*P	**P**	**21 55 22.5**	**+0.4**
QZH				PMZ			
	comp=Z,600nm,6.9s						
QZH				LN			
	comp=Z,490nm,11.2s						
QZH				LE			
	comp=Z,1μm,17.2s						
QZH				LZ			
	comp=Z,1μm,16.6s						
ASAJ	**Asahikawa**	**59.74**	**341**	*e*P	**P**	**21 55 26.5**	**-0.7**
	comp=Z,68nm,2.0s						
KSRS	**Korea Array**	**60.73**	**326**	P	**P**	**21 55 33.9**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=141,slow=7.0,SNR=6.4						
KSRS				PcP	**PcP**	**21 56 18.5**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=137,slow=4.7,SNR=4.1						
KSRS				LR	LR	22 21 16.5	
	comp=Z,180nm,18.8s,baz=130,slow=36						
KSAR	**Wonju Array Be**	**60.74**	**326**	P	**P**	**21 55 34.0**	**-0.3**
KSAR						21 56 18.5	
KSAR	**Wonju Array Be**	**60.74**	**326**	P	**P**	**21 55 34.0**	**-0.3**
KSAR				PcP	**PcP**	**21 56 18.5**	**+0.5**
YSS	**Yuzh-Sakhalins**	**62.24**	**342**	*e*P	**P**	**21 55 45.0**	**+0.9**
YSS				MLR	MLR		
	comp=Z,600nm,17.0s						
NJ2	**Nanjing**	**62.78**	**316**	*e*P	**P**	**21 55 50.0**	**+1.9**
NJ2				PMZ			
	comp=Z,40nm,0.7s						
QIZ	**Qiongzhong**	**63.23**	**299**	P	**P**	**21 55 50.3**	**-1.1**
QIZ				pP	**pP**	**21 56 00.5**	**-1.6**
QIZ				sP	**sP**	**21 56 04.8**	**-1.3**
QIZ				S	**S**	**22 04 22.4**	**+1.3**
QIZ				sS	**sS**	**22 04 37.4**	**-1.3**
QIZ				PMZ			
	comp=Z,15nm,1.6s						
QIZ				PMZ			
	comp=Z,170nm,7.8s						
QIZ				LN			
	comp=Z,190nm,15.4s						
QIZ				LE			
	comp=Z,100nm,21.7s						
QIZ				LZ			
	comp=Z,360nm,17.3s						
USRK	**Ussuriysk Ar.**	**63.86**	**333**	P	**P**	**21 55 54.9**	**-0.1**
	comp=Z,12nm,1.1s,baz=136,slow=5.6,SNR=9.5						
USRK				LR	LR	22 20 56.5	
	comp=Z,257nm,20.9s,baz=132,slow=34						
WHN	**Wuhan**	**65.11**	**312**	P	P	21 55 59.6	-3.9
WHN				S	**S**	**22 04 39.3**	**-4.7**
PETK	**Petropavlovsk-**	**65.24**	**355**	P	**P**	**21 56 04.7**	**+0.9**
	comp=Z,7.2nm,1.0s,baz=160,slow=9.0,SNR=4.1						
PETK				LR	LR	22 19 02.6	
	comp=Z,246nm,20.3s,baz=164,slow=31						
VNDA	**Vanda**	**65.53**	**181**	*e*P	**P**	**21 56 06.1**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,22nm,1.4s						
VNDA	**Vanda**	**65.53**	**181**	P	**P**	**21 56 05.8**	**+0.4**
	comp=Z,4.5nm,1.0s,baz=3.4,slow=7.2,SNR=12						
VNDA				LR	LR	22 22 15.7	
	comp=Z,407nm,18.6s,baz=76,slow=34						
VNDA	**Vanda**	**65.53**	**181**	*e*P	**P**	**21 56 06.0**	**+0.6**
	comp=Z,22nm,1.4s						
SBA	**Scott Base**	**65.84**	**180**	*e*P	**P**	**21 56 07.6**	**+0.1**
SBA	**Scott Base**	**65.84**	**180**	*e*P	**P**	**21 56 07.5**	**+0.1**
	comp=Z,319nm,2.8s						
HABR	**Khabarovsk**	**66.12**	**338**	*e*P	**P**	**21 56 08.4**	**-1.2**
HABR				*e**PP	**pP**	**21 56 18.5**	**-1.8**
HABR				*e**SP	**sP**	**21 56 22.7**	**-1.7**
HABR				*e*S	**S**	**22 04 54.4**	**-1.1**
HABR						22 06 02.3	
HABR				pmax	pmax		
	comp=Z,45nm,2.5s						
HABR				MLR	MLR		
	comp=Z,287nm,18.0s						
TIA	**Tai'an**	**66.41**	**318**	⇑P	**P**	**21 56 13.1**	**+1.4**
TIA				PMZ			
	comp=Z,10.0nm,1.2s						
CN2	**Changchun**	**66.62**	**329**	*e*P	**P**	**21 56 12.3**	**-0.6**
CN2				*e*sP	**sP**	**21 56 26.6**	**-1.1**
CN2				*e*S	**S**	**22 05 01.1**	**-0.8**
CN2				PMZ			
	comp=Z,10.0nm,0.7s						
CN2				PMZ			
	comp=Z,300nm,6.0s						
CN2				LN			
	comp=Z,400nm,15.0s						
CN2				LE			
	comp=Z,700nm,15.0s						
CN2				LZ			
	comp=Z,500nm,12.0s						
PSI	**Prapat**	**68.11**	**278**	LR	LR	22 27 07.4	
	comp=Z,149nm,21.8s,slow=37						
ENH	**Enshi**	**68.59**	**309**	*e*P	**P**	**21 56 24.2**	**-1.5**
	comp=Z,3.7nm,0.4s						
GYA	**Guiyang**	**69.05**	**304**	P	**P**	**21 56 30.0**	**+1.2**
GYA				pP	**pP**	**21 56 41.3**	**+1.8**
GYA				PP	**PP**	**21 59 04.6**	**+2.8**
GYA				S	**S**	**22 05 31.8**	**-0.1**
GYA				SKS	**SKSac**	**22 06 23.0**	**-3.4**
GYA				SS	**SS**	**22 10 01.4**	**+2.8**
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,120nm,5.2s						
GYA				LN			
	comp=Z,530nm,19.3s						
GYA				LE			
	comp=Z,480nm,20.5s						
GYA				LZ			
	comp=Z,510nm,19.8s						
SLVN	**Son La**	**69.26**	**298**	*e*P	**P**	**21 56 31.1**	**+1.0**
	comp=Z,24nm,1.5s						
PBKT	**Sadao Pong**	**70.15**	**293**	P	P	21 56 47.7	+12
NANT	**Nan**	**71.14**	**295**	P	P	21 56 46.7	+5.1
	comp=Z,17nm,1.2s						
KMI	**Kunming**	**71.72**	**302**	P	**P**	**21 56 46.0**	**+0.8**
KMI				pP	**pP**	**21 56 56.1**	**0.0**
KMI				sP	**sP**	**21 57 01.8**	**+1.7**
KMI				PcP	**PcP**	**21 57 06.4**	**+2.2**
KMI				S	**S**	**22 06 03.3**	**0.0**
KMI				sS	**sS**	**22 06 20.0**	**-1.2**
KMI				SS	**SS**	**22 10 38.4**	**-1.4**
KMI				PMZ			
	comp=Z,8.0nm,0.9s						
KMI				PMZ			
	comp=Z,300nm,6.4s						
KMI				LN			
	comp=Z,210nm,16.2s						
KMI				LE			
	comp=Z,260nm,17.7s						
KMI				LZ			
	comp=Z,410nm,17.2s						
CRAI	**Chiangrai**	**71.93**	**296**	P	P	21 56 49.6	+3.3
	comp=Z,5.2nm,1.4s						
UMPA	**Umpang Tak**	**71.94**	**292**	P	P	21 56 53.3	+6.8
	comp=Z,94nm,0.5s						
LAMP	**Lampang**	**72.00**	**294**	P	P	21 57 01.6	+15
CMAR	**Chiang Mai Arr**	**72.60**	**294**	P	**P**	**21 56 50.6**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=112,slow=4.4,SNR=12						
CMAR				LR	LR	22 30 21.3	
	comp=Z,175nm,18.3s,baz=114,slow=37						
HHC	**Hu-ho-hao-te**	**72.64**	**320**	*e*P	**P**	**21 56 52.4**	**+2.1**
HHC				pP	**PcP**	**21 57 04.3**	**-3.3**
HHC				sP	**sP**	**21 57 08.4**	**+3.3**
HHC				PP	**PP**	**21 59 37.3**	**+5.0**
HHC				S	**S**	**22 06 13.8**	**+0.8**
HHC				sS	**sS**	**22 06 33.0**	**+2.1**
HHC				ScS	**SKSac**	**22 06 52.8**	**-0.1**
HHC				PMZ			
	comp=Z,10.0nm,0.6s						
HHC				PMZ			
	comp=Z,460nm,6.5s						
HHC				LN			
	comp=Z,250nm,17.7s						
HHC				LE			
	comp=Z,390nm,14.3s						
HHC				LZ			
	comp=Z,440nm,15.0s						
CHTO	**Chiang Mai**	**72.71**	**294**	*e*P	**P**	**21 56 51.7**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CHTO	**Chiang Mai**	**72.71**	**294**	P	P	21 56 56.5	+5.5
	comp=Z,36nm,2.5s						
CHTO	**Chiang Mai**	**72.71**	**294**	*e*P	**P**	**21 56 51.6**	**+0.6**
	comp=Z,7.9nm,1.1s						
HIA	**Hailar**	**73.26**	**330**	*e*P	**P**	**21 56 53.3**	**-0.4**
HIA				pmax	pmax		
	comp=Z,20nm,1.1s						
HIA	**Hailar**	**73.26**	**330**	*e*P	**P**	**21 56 53.3**	**-

LZH *e*SS **SS** **22 11 39.5 +2.6**
LZH PMZ
comp=Z,29nm,1.3s
LZH PMZ
comp=Z,270nm,7.8s
LZH LN
comp=Z,410nm,16.0s
LZH LE
comp=Z,440nm,16.1s
LZH LZ
comp=Z,640nm,19.2s
QSPA South Pole Qui 78.00 180 *e*P **P** **21 57 19.4 -1.4**
YAK Yakutsk 79.05 344 *e*P **P** **21 57 25.5 -0.7**
YAK *e* 21 57 33.5
YAK *e**PP **pP** **21 57 35.9 -1.3**
YAK *e*S **S** **22 07 17.7 -4.9**
YAK *e**SS SKSac 22 07 31.5 -7.5
YAK *e* 22 07 42.6
YAK pmax pmax
comp=Z,13nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK smax smax
comp=N,255nm,4.7s
YAK smax smax
comp=E,169nm,4.4s
YAK MLR MLR
comp=Z,638nm,17.0s
YAK MLR MLR
comp=E,245nm,16.0s
YAK MLR MLR
comp=N,433nm,17.0s
ULN Ulaanbaatar 79.14 324⇓ *e*P **P** **21 57 27.1 -0.2**
ULN pmax pmax
comp=Z,15nm,1.3s
ULN Ulaanbaatar 79.14 324 *e*P **P** **21 57 27.2 -0.1**
comp=Z,20nm,1.0s
SONM Songino Array 79.51 324 P **P** **21 57 29.7 +0.5**
comp=Z,4.5nm,1.1s,baz=127,slow=3.8,SNR=18
SONM LR LR 22 32 02.5
comp=Z,218nm,20.1s,baz=121,slow=35
GTA Gaotai 79.80 314 *e*P **P** **21 57 32.3 +1.2**
GTA PcP **PcP** **21 57 40.3 +1.6**
GTA pP **pP** **21 57 43.1 +1.1**
GTA sP **sP** **21 57 47.1 +1.1**
GTA S **S** **22 07 33.6 +1.7**
GTA SKS **SKSac** **22 07 42.8 -2.9**
GTA sS **sS** **22 07 50.8 +0.8**
GTA SS **SS** **22 12 47.8 +6.0**
GTA PMZ
comp=Z,8.0nm,1.3s
GTA PMZ
comp=Z,340nm,5.1s
GTA LN
comp=Z,290nm,17.1s
GTA LE
comp=Z,280nm,20.4s
GTA LZ
comp=Z,400nm,17.6s
BILL Bilibino 79.84 0 *e*P **P** **21 57 28.7 -1.8**
BILL pmax pmax
comp=Z,4.0nm,1.0s
BOD Bodaibo 81.45 335 *e*P **P** **21 57 37.4 -1.8**
BOD pmax pmax
comp=Z,10.0nm,0.1s
ZAK Zakamensk 82.55 325 *e*P **P** **21 57 44.6 -0.8**
ZAK pmax pmax
comp=Z,9.0nm,2.0s
TLY Talaya 82.98 326 *e*P **P** **21 57 47.3 -0.2**
TLY *e*S **S** **22 07 58.8 -5.3**
TLY pmax pmax
comp=Z,21nm,1.8s
TLY MLR MLR
comp=Z,204nm,18.0s
TLY Talaya 82.98 326 P **P** **21 57 46.6 -0.9**
comp=Z,4.0nm,0.7s,baz=120,slow=2.3,SNR=7.8
TLY Talaya 82.98 326 *e*P **P** **21 57 46.5 -1.0**
comp=Z,25nm,1.5s
COLA College 84.17 18 P **P** **21 57 54.5 +1.3**
COLA pmax pmax
comp=Z,14nm,0.9s
ILAR Eielson Array 84.39 18 P **P** **21 57 54.9 +0.5**
comp=Z,1.1nm,0.7s,baz=245,slow=4.6,SNR=8.5
ILAR LR LR 22 37 08.2
comp=Z,381nm,18.6s,baz=212,slow=37
MTUM Tungsten Hills 86.03 51 *e*P P 21 58 11.5 +8.1
EGAK Eagle 86.24 20 *e*P **P** **21 58 04.8 +1.1**
comp=Z,7.1nm,1.0s
TIXI Tiksi 87.06 349 *e*P **P** **21 58 08.3 +0.8**
TIXI pmax pmax
comp=Z,22nm,1.7s
TIXI Tiksi 87.06 349 *e*P **P** **21 58 08.2 +0.8**
comp=Z,22nm,1.7s
HVS Khovu-Aksy 88.38 323⇑ *i*P **P** **21 58 14.9 +0.5**
HVS pmax pmax
comp=Z,42nm,1.1s
WMQ Urumqi 89.85 315 *e*P **P** **21 58 20.3 -1.1**
WMQ pP **pP** **21 58 31.0 -1.5**
WMQ PP **PP** **22 01 55.3 +0.9**
WMQ SKS **SKSac** **22 08 46.3 -3.4**
WMQ S **S** **22 09 07.8 -3.6**
WMQ sS **sS** **22 09 25.3 -4.5**
WMQ SS **SS** **22 15 08.5 -1.1**
WMQ PMZ
comp=Z,15nm,1.3s
WMQ PMZ
comp=Z,190nm,4.6s
WMQ LN
comp=Z,150nm,19.0s
WMQ LE
comp=Z,210nm,21.0s
WMQ LZ
comp=Z,260nm,22.0s
PDAR Pinedale Array 94.13 47 LR LR 22 36 41.1
comp=Z,413nm,19.0s,baz=254,slow=33
MKAR Makanchi Array 94.30 317 *e*P **P** **21 58 41.9 0.0**
MKAR Makanchi Array 94.30 317 P **P** **21 58 41.4 -0.5**
comp=Z,1.3nm,0.5s,baz=82,slow=6.5,SNR=15
MKAR LR LR 22 43 41.7
comp=Z,138nm,18.1s,baz=70,slow=37
MKAR Makanchi Array 94.30 317 *e*P **P** **21 58 41.9 0.0**
ZALV Zalesovo Beam 94.40 324 P **P** **21 58 40.2 -1.9**
comp=Z,8.0nm,1.0s,baz=104,slow=4.7,SNR=17
ANMO Albuquerque 94.91 55 P **P** **21 58 45.9 +0.7**
ANMO pmax pmax
comp=Z,27nm,3.2s
NVS Novosibirsk 95.51 325 *e*P **P** **21 58 45.8 -1.4**
YKA Yellowknife Ar 95.78 27 P **P** **21 58 49.9 +1.7**
comp=Z,0.3nm,0.5s,baz=259,slow=4.6,SNR=4.2
TXAR Lajitas Array 96.20 61 LR LR 22 37 04.8
comp=Z,606nm,18.5s,baz=0.0,slow=32
LAO LASA Array 97.21 44 *e*P Pdif 21 59 02.9 +7.6
comp=Z,17nm,0.5s
KSH Kashi 97.44 309 *e*P Pdif 21 58 59.1 +2.5
KSH pP pP 21 59 10.1 +2.5
KSH PP PP 22 03 00.1 +6.1
KSH SKS **SKSac** **22 09 31.9 +0.3**
KSH S **S** **22 10 17.3 -1.6**
KSH sS sS 22 10 35.4 -2.0
KSH SS **SS** **22 17 01.4 +3.0**
KSH PMZ
comp=Z,170nm,7.3s
KSH LN
comp=Z,72nm,5.0s
KSH LE
comp=Z,89nm,4.5s
KSH LZ
comp=Z,98nm,6.8s
ARCES ARCESS Array B 117.29 345 PKP **PKPdf** **22 04 05.8 -1.4**
comp=Z,2.4nm,0.5s,baz=76,slow=1.8,SNR=11
GNI Garni 121.36 310 *i*PKIKP **PKPdf** **22 04 14.3 -1.8**
KIV Kislovodsk 121.98 315 *i*PKIKP **PKPdf** **22 04 14.3 -2.8**
KIV pmax pmax
comp=Z,4.0nm,1.1s
RAYN Ar Rayn 122.40 290 *e*PKPdf **PKPdf** **22 04 18.4 0.0**
FINES FINESS Array B 122.71 338 PKP **PKPdf** **22 04 16.7 -1.1**
comp=Z,1.1nm,0.5s,baz=75,slow=1.6,SNR=8.3
VSU Vasula 124.39 335⇓ *i*PKIKP **PKPdf** **22 04 19.9 -1.2**
NOA NORSAR Array B 127.66 345 PKP **PKPdf** **22 04 26.8 -0.6**
comp=Z,0.8nm,0.8s,baz=58,slow=2.0,SNR=3.2
AKASG Malin Array Be 127.73 326 PKP **PKPdf** **22 04 26.7 -1.0**
comp=Z,0.9nm,0.5s,baz=57,slow=1.7,SNR=4.4
KIEV Kiev 127.74 326⇑ *i*PKIKP **PKPdf** **22 04 27.0 -0.7**
BRTR Keskin Array B 129.69 312 PKP **PKPdf** **22 04 31.5 -0.5**
comp=Z,1.5nm,1.0s,baz=119,slow=1.5,SNR=7.3
DPC Dobruska-Polom 134.35 333 *e*PKIKP **PKPdf** **22 04 41.0 +0.6**
DPC *e* 22 04 48.2
DPC Dobruska-Polom 134.35 333 *e*PKPdf **PKPdf** **22 04 41.0 +0.6**
DPC *ex* x 22 04 46.1
DPC *ep*PKP **pPKPdf** **22 04 48.2 -3.6**
CLL Collm 135.03 336 *e*PKIKP **PKPdf** **22 04 42.0 +0.5**
CLL Collm 135.03 336 *e*PKPdf **PKPdf** **22 04 42.0 +0.5**
CLL LmH 23 04 00.0
comp=N,200nm,21.7s
CLL LmH 23 04 00.0
comp=E,100nm,19.4s
CLL LmH 23 04 00.0
comp=Z,300nm,20.7s
KHC Kasperske Hory 136.45 334 *e*PKIKP **PKPdf** **22 04 44.1 -0.2**
KHC *e* 22 04 51.5
KHC Kasperske Hory 136.45 334 *e*PKPdf **PKPdf** **22 04 44.1 -0.2**
KHC *ex* x 22 04 49.6
KHC *ex* x 22 04 51.5
GERES GERESS Array B 136.61 333 PKhKP PKPpre 22 04 32.6
comp=Z,0.1nm,0.3s,baz=15,slow=4.3,SNR=3.0
GERES PKP **PKPdf** **22 04 44.1 -0.7**
comp=Z,0.7nm,0.7s,baz=187,slow=1.1,SNR=5.6
KEST Kesra 148.24 322 PKPbc **PKPbc** **22 05 08.5 -0.5**
comp=Z,4.4nm,0.8s,baz=210,slow=1.5,SNR=14
KEST Kesra 148.24 322 *e*PKPdf **PKPdf** **22 05 07.2 +1.5**
KEST PKPbc **PKPbc** **22 05 08.5 -0.5**
POLO Lamas de Olo 150.23 350 PKPdf **PKPbc** **22 05 13.4 -0.4**
MVO Moncorvo 150.30 349 PKPbc **PKPab** **22 05 20.4 +0.3**
PVRL Vila Real 150.31 350 PKPbc **PKPab** **22 05 20.7 +0.6**
ESDC Sonseca Array 151.01 344 PKPbc **PKPbc** **22 05 14.8 -0.9**
comp=Z,1.8nm,0.9s,baz=23,slow=2.6,SNR=11
MTE Manteigas 151.13 350 PKPdf **PKPbc** **22 05 15.6 -0.3**
MTE Manteigas 151.13 350 PKPbc **PKPab** **22 05 21.6 -2.0**
MTE Manteigas 151.13 350 *e*PKPdf **PKPdf** **22 05 11.1 +1.0**
PCBR Castelo Branco 151.66 349 PKPdf **PKPbc** **22 05 15.8 -1.3**
PCBR Castelo Branco 151.66 349 PKPbc **PKPab** **22 05 21.6 -4.1**
PTOM Tomar 152.04 351 PKPbc **PKPab** **22 05 24.5 -2.8**
PMRV Marv??o 152.05 349 PKPdf **PKPbc** **22 05 17.7 -0.3**
PMRV Marv??o 152.05 349 PKPbc **PKPbc** **22 05 21.9 +3.9**
PMTG Montargil 152.54 350 PKPdf **PKPbc** **22 05 18.1 -1.0**
TORD Torodi Ar. Bea 164.50 276 PKP **PKPdf** **22 05 26.4 -0.6**
comp=Z,3.4nm,1.0s,baz=24,slow=1.9,SNR=14
KIC Kosan Boka 169.15 240 *e*PKIKP **PKPdf** **22 05 29.4 -1.3**
comp=Z,28nm,1.2s
LIC Lamto 169.32 238 *e*PKIKP **PKPdf** **22 05 29.6 -1.2**
comp=Z,86nm,1.6s
DBIC Dimbokro 169.41 241 PKP **PKPdf** **22 05 29.3 -1.5**
comp=Z,5.6nm,1.0s,baz=56,slow=3.6,SNR=4.1
TIC Toumodi 169.54 240 *e*PKIKP **PKPdf** **22 05 29.4 -1.5**
comp=Z,3.9nm,0.2s

NIED ***22*** *21:46:00,44.°70N×147.°30E,h145km,Mw4.5 Best double couple: M0 5.53000×10^15 NP1:φ=195.00000°, δ34.00000°,λ73.00000°. NP2:φ=35.00000°,δ58.00000°, λ101.00000°.*
SZGRF ***22*** *21:46:03.5,45.°49N×147.°27E,h33km,mb5.3,Kuril Islands, Russia*
BJI ***22*** *21:46:11.2,44.°98N×147.°38E,h153km,mB4.7/18, mb4.6/27*
MOS ***22*** *21:46:12.5±0.9,44.°96N×147.°22E,h159km,mb4.9/61, Error ellipse: s-maj=7.1km s-min=4.7km az=106.0*
ISCJB ***22*** *21:46:13.0±0.2,44.°97N±0.°03×147.°18E±0.°02, h159km±2km,mb4.7/167, Error ellipse: s-maj=5.2km s-min=2.6km az=172.7*
NEIC ***22*** *21:46:13.7±0.5,44.°98N×147.°18E,h158km±4km,mb4.8/91, Error ellipse: s-maj=5.7km s-min=3.1km az=159.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
SKHL ***22*** *21:46:14.0±0.4,44.°83N×147.°21E,h139km±4km,mb5.2/4, msh5.3/1*
IDC ***22*** *21:46:14.6±0.7,45.°05N×147.°17E,h160km±5km,mb4.3/24, mb1 4.4/31,mb1mx4.4/32,mbtmp4.7/31, Error ellipse: s-maj=11.3km s-min=7.4km az=156.0*
JMA ***22*** *21:46:15.1±0.3,44.°63N×147.°28E,h162km±4km,M4.6*
JMA Felt I J1.
ISC 22 21:46:13.5±0.4,**44.°90N**±0.°04×**147.°26E**±0.°04,**h156**km±3km, **h156**km:**pP-P,n863,σ0=99/896,mb4.8/167,286C-159D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.54**	**52**	*c i*PN		**Pn**		**21 46 36.6**	**+0.9**
KUR				*i*				21 46 53.9	
KUR				pmax		pmax			
comp=Z,218μm,0.6s									
KUR				pmax		pmax			
comp=N,978nm,0.3s									
KUR				pmax		pmax			
comp=Z,2μm,0.4s									
KUR				pmax		pmax			
comp=E,949nm,0.3s									
KUR	**Kuril'sk**	**0.54**	**52**	*e*P		**Pn**		**21 46 36.6**	**+0.9**
KUR				*e*S		**Sn**		**21 46 53.8**	**+1.1**
KUR				A		A		21 46 59.0	
comp=E,730nm,0.6s									
KUR				A		A		21 46 59.0	
comp=E,2μm,0.6s									
SHO	**Shikotan**	**1.07**	**197**	*e*P		**Pn**		**21 46 39.6**	**+0.2**
SHO				AMB		AMB		21 46 39.9	
comp=E,643nm,0.5s									
SHO				*e*S		**Sn**		**21 46 58.5**	**-0.8**
SHO				A		A		21 46 58.9	
comp=E,1μm,0.5s									
YUK	**Yuzh-Kuril'sk**	**1.32**	**230**	*c i*PN		**Pn**		**21 46 42.6**	**+0.9**
YUK				*i* S		**Sn**		**21 47 04.4**	**+1.1**
YUK				pmax		pmax			
comp=N,485nm,0.5s									
YUK				pmax		pmax			
comp=E,2μm,0.5s									
YUK				pmax		pmax			
comp=Z,2μm,0.5s									
YUK				smax		smax			
comp=N,3.0nm,0.7s									
YUK				smax		smax			
comp=E,11nm,0.7s									
YUK	**Yuzh-Kuril'sk**	**1.32**	**230**	*e*P		**Pn**		**21 46 42.6**	**+0.9**
YUK				AMB		AMB		21 46 47.8	
comp=E,2μm,0.5s									
YUK				*e*S		**Sn**		**21 47 04.4**	**+1.1**
YUK				A		A		21 47 07.1	
comp=E,3μm,0.7s									
YUK				A		A		21 47 07.1	
comp=E,11μm,0.7s									
JRA	**Rausu**	**1.81**	**239**	P		**Pn**		**21 46 47.7**	**+1.0**
JRA				*e*S		**Sn**		**21 47 12.8**	**+0.5**
NEM2	**Nemuro 2**	**1.88**	**216**	P		**Pn**		**21 46 47.2**	**-0.4**
NEM2				*e*S		**Sn**		**21 47 11.4**	**-2.4**
JNK	**Nakash**	**2.25**	**235**	P		**Pn**		**21 46 52.7**	**+0.8**
JTKR	**Abashiri--Toko**	**2.58**	**250**	P		**Pn**		**21 46 56.7**	**+1.0**
JTKR				*e*S		**Sn**		**21 47 28.8**	**+0.4**
JAK	**Akkeshi**	**2.66**	**225**	P		**Pn**		**21 46 56.7**	**0.0**
JAK				*e*S		**Sn**		**21 47 28.4**	**-1.8**
JAR	**Ashorobuto**	**2.98**	**239**	P		**Pn**		**21 47 02.0**	**+1.2**
JSE	**Soyaes**	**3.32**	**273**	P		**Pn**		**21 47 06.5**	**+1.5**
JKK2	**Kamakawa 2**	**3.39**	**254**	P		**Pn**		**21 47 07.5**	**+1.5**
JKK2				*e*S		**Sn**		**21 47 48.8**	**+2.0**
ASAJ	**Asahikawa**	**3.43**	**258**	PN		**Pn**		**21 47 08.4**	**+2.0**
ASAJ				S		**Sn**		**21 47 48.6**	**+1.0**
ASAJ				pmax		pmax			
comp=Z,187nm,0.3s									
ASAJ	**Asahikawa**	**3.43**	**258**	P		**Pn**		**21 47 08.4**	**+2.0**
comp=Z,187nm,0.3s,baz=83,slow=17,SNR=1174									
ASAJ				S		**Sn**		**21 47 48.5**	**+1.0**
baz=63,slow=16,SNR=3.0									
JCH	**Churui**	**3.63**	**232**	P		**Pn**		**21 47 09.1**	**0.0**
JCH				*e*S		**Sn**		**21 47 49.5**	**-2.8**
YSS	**Yuzh-Sakhalins**	**3.75**	**305**	*c i*PN		**Pn**		**21 47 11.8**	**+1.2**
YSS				*e*S		**Sn**		**21 47 56.0**	**+0.9**
YSS				pmax		pmax			
comp=Z,390nm,1.0s									
YSS				smax		smax			
comp=E,200nm,1.0s									
YSS	**Yuzh-Sakhalins**	**3.75**	**305**	*e*P		**Pn**		**21 47 12.1**	**+1.5**
YSS				*e*S		**Sn**		**21 47 56.0**	**+0.9**
YSS	**Yuzh-Sakhalins**	**3.75**	**305**	*e*Pn		**Pn**		**21 47 10.8**	**+0.2**
JFR	**Furan**	**3.79**	**244**	P		**Pn**		**21 47 12.4**	**+1.3**
JFR				*e*S		**Sn**		**21 47 56.5**	**+0.6**
JWK2	**Keihoku**	**3.82**	**278**	P		**Pn**		**21 47 14.2**	**+2.8**
JHR	**Hokuryu**	**4.14**	**256**	P		**Pn**		**21 47 17.6**	**+2.0**
ERM	**Erimo**	**4.15**	**227**	*c i*PN		**Pn**		**21 47 16.2**	**+0.4**
ERM				pmax		pmax			
comp=Z,215nm,0.6s									
ERM	**Erimo**	**4.15**	**227**	*e*P		**Pn**		**21 47 16.2**	**+0.4**
ERM	**Erimo**	**4.15**	**227**	*e*Pn		**Pn**		**21 47 16.6**	**+0.8**
ERM				*e*Sn		**Sn**		**21 48 01.4**	**-2.9**
JYG	**Yagishiri**	**4.19**	**266**	P		**Pn**		**21 47 18.2**	**+2.0**
JNBK	**Urakawa-nobuka**	**4.19**	**233**	P		**Pn**		**21 47 15.5**	**-0.8**
JNBK				*e*S		**Sn**		**21 48 01.2**	**-4.1**
JEW	**Eniwo**	**4.68**	**246**	P		**Pn**		**21 47 23.8**	**+1.1**
JEW				*e*S		**Sn**		**21 48 16.1**	**-0.6**
JSK	**Shakotan**	**5.12**	**255**	P		**Pn**		**21 47 29.8**	**+1.3**
JKB	**Kayabe**	**5.45**	**239**	P		**Pn**		**21 47 31.9**	**-0.9**
JKB				*e*S		**Sn**		**21 48 30.8**	**-4.0**
UGL	**Uglegorsk**	**5.49**	**321**	PN		**Pn**		**21 47 31.3**	**-1.9**
UGL				*e*S		**Sn**		**21 48 32.7**	**-3.0**
UGL	**Uglegorsk**	**5.49**	**321**	*e*P		**Pn**		**21 47 34.5**	**+1.3**
UGL				AMB		AMB		21 47 37.0	
comp=Z,100nm,0.7s									
UGL				*e*S		Sn		21 48 52.0	+16
UGL				A		A		21 48 56.0	
comp=Z,800nm,4.0s									
UGL				A		A		21 48 56.0	
comp=Z,2μm,4.0s									
JOT	**Ohata**	**5.75**	**234**	P		**Pn**		**21 47 35.1**	**-1.7**
JOT				*e*S		Sn		21 48 36.1	-5.9
HABR	**Khabarovsk**	**9.12**	**297**	*e*PN		**Pn**		**21 48 19.5**	**-2.0**
HABR				*e*S		**Sn**		**21 50 00.1**	**-2.6**
HABR				pmax		pmax			
comp=N,15nm,1.3s									
HABR				pmax		pmax			
comp=E,16nm,1.3s									
HABR				pmax		pmax			
comp=Z,36nm,1.6s									
HABR				MLR		MLR			
comp=Z,76nm,15.0s									
PETK	**Petropavlovsk-**	**10.69**	**36**	P		**Pn**		**21 48 41.7**	**-0.6**
comp=Z,1.2nm,0.3s,baz=180,slow=14,SNR=12									
MAJO	**Matsushiro**	**10.80**	**223**	PN		**Pn**		**21 48 42.1**	**-1.8**
MAJO	**Matsushiro**	**10.80**	**223**	*e*P		**Pn**		**21 48 42.1**	**-1.8**
MAJO	**Matsushiro**	**10.80**	**223**	*e*P		**Pn**		**21 48 42.0**	**-1.8**
comp=Z,12nm,0.6s									
MJAR	**Matsushiro Arr**	**10.80**	**223**	P		**Pn**		**21 48 42.6**	**-1.3**
comp=Z,1.1nm,0.3s,baz=32,slow=12,SNR=13									
MAT	**Matsushiro**	**10.80**	**223**	P		**Pn**		**21 48 41.9**	**-2.0**
MAT				*e*S		**Sn**		**21 50 41.0**	**-2.5**
USRK	**Ussuriysk Ar.**	**10.93**	**272**	P		**Pn**		**21 48 45.8**	**+0.3**
comp=Z,1.8nm,0.3s,baz=87,slow=12,SNR=90									
KLR	**Kul'dur**	**11.43**	**298**	*e*PN		**Pn**		**21 48 49.3**	**-2.6**
CN2	**Changchun**	**15.64**	**274**	*e*P		**Pn**		**21 49 43.5**	**-1.8**
CN2				PMZ					
comp=Z,10.0nm,0.6s									
KSRS	**Korea Array**	**16.33**	**250**	P		**Pn**		**21 49 53.0**	**-0.7**
comp=Z,0.5nm,0.3s,baz=61,slow=12,SNR=10									
KSRS				PcP		**PcP**		**21 54 37.5**	**+0.6**
comp=Z,0.1nm,0.3s,baz=350,slow=0.2,SNR=7.9									
KSAR	**Wonju Array Be**	**16.36**	**250**	P		**Pn**		**21 49 53.1**	**-1.0**
KSAR	**Wonju Array Be**	**16.36**	**250**	P		**Pn**		**21 49 53.0**	**-1.0**
KSAR				PcP		**PcP**		**21 54 37.5**	**+0.5**
JNU	**Nakatsue**	**17.29**	**233**	P		**Pn**		**21 50 05.5**	**0.0**
comp=Z,1.1nm,0.3s,baz=56,slow=8.5,SNR=11									
SEY	**Seymchan**	**18.31**	**7**	P		**P**		**21 50 14.7**	**-0.6**
comp=Z,1.5nm,0.3s,baz=183,slow=9.3,SNR=38									
SEY	**Seymchan**	**18.31**	**7**	*e*P		**P**		**21 50 14.2**	**-1.0**
FX1	**Attu Island--F**	**18.73**	**56**	P		**P**		**21 50 21.4**	**+1.4**
comp=Z,3.3nm,0.3s,baz=236,slow=3.6,SNR=4.7									
YAK	**Yakutsk**	**19.98**	**335**	*e*P		**P**		**21 50 30.4**	**-2.9**
YAK				pmax		pmax			
comp=Z,55nm,0.4s									
YAK	**Yakutsk**	**19.98**	**335**	*e*P		**P**		**21 50 30.4**	**-2.9**
YAK	**Yakutsk**	**19.98**	**335**	*e*P		**P**		**21 50 30.4**	**-2.9**
comp=Z,55nm,0.4s									
YAK				*ep*P		pP		21 51 07.2	+6.8
BOD	**Bodaibo**	**24.17**	**314**	*e*P		**P**		**21 51 11.4**	**-3.5**
BOD				*e*				21 51 50.2	
BOD				pmax		pmax			
comp=Z,6.0nm,0.7s									
BOD				pmax		pmax			
comp=Z,7.0nm,1.0s									
TIA	**Tai'an**	**24.38**	**260**	⇑P		**P**		**21 51 19.3**	**+2.3**
BILL	**Bilibino**	**25.23**	**17**	*e*P		**P**		**21 51 22.0**	**-2.4**
BILL				*i*				21 52 12.8	
BILL				pmax		pmax			
comp=Z,3.0nm,1.1s									
BILL	**Bilibino**	**25.23**	**17**	*e*P		**P**		**21 51 22.0**	**-2.4**
ULN	**Ulaanbaatar**	**27.68**	**291**⇓	*i*P		**P**		**21 51 47.4**	**+0.6**
ULN				pmax		pmax			
comp=Z,3.0nm,0.8s									
ULN	**Ulaanbaatar**	**27.68**	**291**	*e*P		**P**		**21 51 47.4**	**+0.6**
ULN	**Ulaanbaatar**	**27.68**	**291**	*e*P		**P**		**21 51 45.1**	**-1.7**
comp=Z,5.6nm,1.1s									
SONM	**Songino Array**	**28.12**	**291**	P		**P**		**21 51 51.4**	**+0.7**
comp=Z,2.1nm,0.4s,baz=84,slow=8.6,SNR=31									
SONM				PcP		**PcP**		**21 55 00.8**	**+0.2**
comp=Z,0.9nm,0.7s,baz=134,slow=3.0,SNR=3.6									
TIXI	**Tiksi**	**28.25**	**348**⇑	*i*P		P		21 51 47.5	-3.8
TIXI				pmax		pmax			
comp=Z,4.0nm,0.5s									
TIXI				MLR		MLR			
comp=Z,68nm,15.0s									
TIXI	**Tiksi**	**28.25**	**348**	*e*P		P		21 51 47.3	-4.1
comp=Z,6.3nm,0.7s									
TLY	**Talaya**	**29.44**	**299**	*e*P		**P**		**21 52 03.3**	**+1.1**
TLY	**Talaya**	**29.44**	**299**	*e*P		**P**		**21 52 03.3**	**+1.1**
ZAK	**Zakamensk**	**29.79**	**297**	*e*P		**P**		**21 52 04.2**	**-1.2**
ZAK				*e*				21 52 42.0	
ZAK				*e*				21 55 05.4	
H11N2	**WAKE ISLAND Hy**	**29.93**	**141**	T		T		22 23 33.9	
baz=334,slow=76,SNR=192									
H11N1	**WAKE ISLAND Hy**	**29.94**	**141**	T		T		22 23 28.0	
baz=334,slow=76,SNR=138									
H11N3	**WAKE ISLAND Hy**	**29.95**	**141**	T		T		22 23 28.5	
baz=334,slow=76,SNR=166									
H11S1	**WAKE ISLAND Hy**	**30.92**	**142**	T		T		22 24 52.9	
baz=325,slow=79,SNR=195									
H11S3	**WAKE ISLAND Hy**	**30.92**	**142**	T		T		22 24 48.6	
baz=325,slow=79,SNR=126									
H11S2	**WAKE ISLAND Hy**	**30.93**	**142**	T		T		22 24 48.0	
baz=325,slow=79,SNR=112									
TNA	**Tin City**	**31.85**	**34**	*e*P		**P**		**21 52 22.5**	**-0.6**
comp=Z,18nm,0.9s									
GTA	**Gaotai**	**35.20**	**278**	*e*P		**P**		**21 52 54.1**	**+1.5**
GTA				PcP		**PcP**		**21 55 21.3**	**+1.3**
GTA				PMZ					
comp=Z,10.0nm,0.8s									
HVS	**Khovu-Aksy**	**35.68**	**300**	P		**P**		**21 52 56.4**	**-0.1**
HVS				pmax		pmax			
comp=Z,18nm,1.2s									
RSO	**Redoubt South**	**38.08**	**44**	*e*P		**P**		**21 53 16.7**	**0.0**
comp=Z,27nm,0.8s									
PPLA	**Purkeypile**	**38.24**	**40**	*e*P		**P**		**21 53 17.5**	**-0.5**
comp=Z,50nm,1.3s									
KDAK	**Kodiak Island**	**38.42**	**48**	*i* P		**P**		**21 53 19.1**	**-0.2**
KDAK	**Kodiak Island**	**38.42**	**48**	*e*P		**P**		**21 53 19.1**	**-0.2**
KTH	**Kantishna Hill**	**38.80**	**39**	*e*P		**P**		**21 53 22.7**	**+0.1**
comp=Z,35nm,0.8s									
TRF	**Thorofare Moun**	**39.09**	**39**	*e*P		**P**		**21 53 24.8**	**-0.3**
comp=Z,8.0nm,0.5s									
COLD	**Coldfoot**	**39.14**	**33**	*e*P		**P**		**21 53 23.5**	**-1.8**
comp=Z,15nm,1.0s									
RC01	**Rabbit Creek A**	**39.50**	**43**	*e*P		**P**		**21 53 27.6**	**-0.7**
comp=Z,7.5nm,0.6s									
MCK	**McKinley**	**39.68**	**39**	*e*P		**P**		**21 53 29.2**	**-0.6**
MCK				pmax		pmax			
comp=Z,17nm,0.7s									
MCK	**McKinley**	**39.68**	**39**	*e*P		**P**		**21 53 29.2**	**-0.6**
comp=Z,17nm,0.7s									
COLA	**College**	**40.10**	**37**	*c i*P		**P**		**21 53 33.7**	**+0.5**
COLA	**College**	**40.10**	**37**	*e*P		**P**		**21 53 33.7**	**+0.5**
COLA	**College**	**40.10**	**37**	*e*P		**P**		**21 53 33.2**	**0.0**
comp=Z,64nm,0.8s									
ZALV	**Zalesovo Beam**	**40.38**	**306**	P		**P**		**21 53 35.7**	**0.0**
comp=Z,1.3nm,0.3s,baz=71,slow=9.9,SNR=7.8									
ZALV				PcP		**PcP**		**21 55 35.9**	**+0.3**
comp=Z,5.8nm,0.5s,baz=77,slow=2.7,SNR=18									
ILAR	**Eielson Array**	**40.52**	**37**	P		**P**		**21 53 36.5**	**-0.2**
comp=Z,16nm,0.6s,baz=251,slow=4.7,SNR=150									
KMI	**Kunming**	**40.85**	**256**	P		**P**		**21 53 41.4**	**+1.2**
KMI				PMZ					
comp=Z,12nm,0.8s									
PAX	**Paxson**	**41.30**	**40**	*e*P		**P**		**21 53 42.6**	**-0.6**
PAX				pmax		pmax			
comp=Z,9.0nm,0.9s	

WMQ PMZ
comp=Z,6.0nm,1.0s
WMQ PMZ
comp=Z,70nm,4.0s
WMQ LN
comp=Z,77nm,27.0s
WMQ LE
comp=Z,140nm,29.0s
WMQ LZ
comp=Z,76nm,24.0s
DOT Dot Lake 41.85 39 *e*P **P 21 53 46.6 -1.0**
comp=Z,17nm,0.6s
BMRM Bremner River 41.99 43 *e*P **P 21 53 48.8 0.0**
comp=Z,19nm,0.9s
EGAK Eagle 42.96 37 *e*P **P 21 53 56.4 -0.1**
comp=Z,33nm,0.6s
MKAR Makanchi Array 44.13 297 P **P 21 54 06.2 +0.1**
comp=Z,5.1nm,0.5s,baz=80,slow=9.3,SNR=119
MKAR PcP **PcP 21 55 48.7 +0.4**
comp=Z,2.3nm,0.5s,baz=70,slow=5.8,SNR=9.5
KURK Kurchatov 44.96 303 *e*P **P 21 54 10.7 -1.9**
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 44.96 303 *e*P **P 21 54 11.3 -1.3**
KURK Kurchatov 44.96 303 *e*P **P 21 54 10.7 -1.9**
comp=Z,3.1nm,0.6s
HYT Haines Junctio 45.41 42 *e*P **P 21 54 17.4 +1.2**
LSA Lhasa 46.24 271 *e*P **P 21 54 23.8 +0.2**
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 46.24 271 *e*P **P 21 54 23.8 +0.2**
comp=Z,4.1nm,0.8s
UTTA Uttaradit 47.35 251 P **P 21 54 33.7 +2.1**
comp=Z,1.9nm,0.9s
LAMP Lampang 47.42 252 P P 21 54 36.9 +4.7
comp=Z,3.8nm,1.0s
CHTO Chiang Mai 47.69 253 *e*P **P 21 54 33.7 -0.6**
CHTO pmax pmax
comp=Z,3.0nm,0.6s
CHTO Chiang Mai 47.69 253 P **P 21 54 35.4 +1.2**
comp=Z,38nm,1.3s
CHTO Chiang Mai 47.69 253 *e*P **P 21 54 33.7 -0.6**
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 47.93 253 P **P 21 54 37.2 +1.1**
comp=Z,2.0nm,0.7s,baz=39,slow=6.9,SNR=19
CMAR pP **pP 21 55 13.5 +2.2**
comp=Z,0.6nm,0.7s,baz=44,slow=6.6,SNR=2.3
CMAR PcP **PcP 21 56 03.4 +1.3**
comp=Z,2.6nm,0.8s,baz=9.2,slow=2.0,SNR=13
TAPN Taplejung 50.07 271 *e*P **P 21 54 53.7 +1.0**
comp=Z,17nm,0.5s
TKM2 Tokmak 2 50.09 295 P **P 21 54 53.2 +0.7**
SNR=7.1
TKM2 Tokmak 2 50.09 295 *i*P **P 21 54 53.2 +0.7**
TKM2 Tokmak 2 50.09 295 *e*P **P 21 54 52.1 -0.5**
comp=Z,4.9nm,0.8s
ODAN Odare 50.59 270 *e*P **P 21 54 57.1 +0.6**
comp=Z,9.0nm,0.5s
USP Ospenovka 50.63 296 P **P 21 54 56.8 +0.4**
SNR=12
USP Ospenovka 50.63 296 *i*P **P 21 54 56.8 +0.4**
KBK Karagaybulak 50.64 295 P **P 21 54 57.1 +0.5**
SNR=9.1
KBK Karagaybulak 50.64 295 *i*P **P 21 54 57.1 +0.5**
KZA Kyzart 50.72 294 P **P 21 54 59.1 +1.5**
SNR=14
KZA Kyzart 50.72 294 *i*P **P 21 54 59.0 +1.5**
SRDT SRDT 50.73 249 P **P 21 54 59.5 +2.1**
comp=Z,16nm,0.7s
AAK Ala-Archa 50.94 295 P **P 21 54 59.3 +0.4**
SNR=5.8
AAK Ala-Archa 50.94 295 *c i*P **P 21 54 59.1 +0.2**
AAK pmax pmax
comp=Z,16nm,1.1s
AAK Ala-Archa 50.94 295 *e*P **P 21 54 59.1 +0.2**
AAK Ala-Archa 50.94 295 *e*P **P 21 54 58.7 -0.2**
comp=Z,4.8nm,1.0s
JIRN Jiri 50.97 272 *e*P **P 21 55 00.4 +0.9**
comp=Z,54nm,0.6s
GUN Gumba 51.04 272 *e*P **P 21 55 00.7 +0.7**
comp=Z,41nm,0.4s
RAMN Ramite 51.10 271 *e*P **P 21 55 01.0 +0.7**
comp=Z,95nm,0.6s
EKS2 Erkin-Say 51.39 295 P **P 21 55 02.8 +0.7**
SNR=7.2
EKS2 Erkin-Say 51.39 295 *i*P **P 21 55 02.8 +0.7**
EKS2 Erkin-Say 51.39 295 *e*P **P 21 55 01.9 -0.2**
comp=Z,5.9nm,0.8s
KSH Kashi 51.52 291 P P 21 55 07.5 +4.3
KSH pP pP 21 55 40.3 +1.6
KSH PP PP 21 57 07.3 +5.5
KSH S **S 22 02 14.8 +3.3**
KSH SS **SS 22 05 54.8 +5.7**
KSH PMZ
comp=Z,5.0nm,0.6s
KSH PMZ
comp=Z,32nm,2.8s
KSH LN
comp=Z,170nm,4.9s
KSH LE
comp=Z,92nm,4.9s
KSH LZ
comp=Z,110nm,5.1s
KKN Kakani 51.53 273 *e*P **P 21 55 04.2 +0.7**
PKI Pulchoki 51.57 272 *e*P **P 21 55 04.5 +0.5**
comp=Z,14nm,0.5s
PKIN Phulchoki 51.58 272 *e*P **P 21 55 04.4 +0.5**
comp=Z,13nm,0.5s
BNDI Bandanaira 51.60 202 P P 21 55 00.5 -3.3
comp=Z,205nm,0.5s,comp=Z,4µm
AML Almayashu 51.70 295 P **P 21 55 05.8 +1.0**
SNR=6.1
AML Almayashu 51.70 295 *i*P **P 21 55 05.8 +1.0**
DMN Daman 51.77 273 *e*P **P 21 55 06.3 +1.0**
comp=Z,27nm,0.5s
GKN Gorkha 51.86 273 *e*P **P 21 55 06.6 +0.7**
comp=Z,15nm,0.3s
DANN Dangsing 52.28 274 *e*P **P 21 55 10.3 +1.2**
comp=Z,38nm,0.6s
SVE Sverdlovsk 52.36 316 ⇑*i*P **P 21 55 07.9 -1.1**
SVE pmax pmax
comp=Z,20nm,0.7s
KOLN Koldanda 52.74 274 *e*P **P 21 55 13.4 +1.0**
comp=Z,12nm,0.4s
KKAR Karatay Array 53.25 297 *e*P **P 21 55 14.9 -0.9**
KKAR *e* 21 56 21.4
KKAR pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 53.25 297 *e*P **P 21 55 14.9 -0.9**
comp=Z,8.9nm,0.8s
KKAR *e*PcP **PcP 21 56 21.4 -0.1**
ARU Arti 53.56 316 P **P 21 55 16.2 -1.6**
ARU 21 56 21.6
ARU S **S 22 02 38.2 -0.3**
ARU pmax pmax
comp=Z,16nm,0.6s
ARU Arti 53.56 316 *e*P **P 21 55 16.1 -1.7**
ARU Arti 53.56 316 *e*P **P 21 55 15.8 -1.9**
comp=Z,14nm,0.4s
ARU *e*PcP **PcP 21 56 21.4 -0.9**
YKA Yellowknife Ar 54.80 34 P **P 21 55 27.0 +0.4**
YKA Yellowknife Ar 54.80 34 P **P 21 55 27.0 +0.4**
comp=Z,15nm,0.5s,baz=301,slow=7.0,SNR=184
PRGR Permogore 56.66 326 *e*P **P 21 55 37.5 -2.3**
PRGR pmax pmax
comp=Z,11nm,0.8s
KEV Kevo 57.67 339 *e*p **P 21 55 44.2 -2.6**
comp=Z,12nm,0.6s
ARCES ARCESS Array B 58.20 339 P **P 21 55 48.9 -1.6**
comp=Z,3.8nm,0.3s,baz=43,slow=7.2,SNR=51
ARCES PcP **PcP 21 56 40.5 +0.4**
comp=Z,2.3nm,0.5s,baz=62,slow=5.4,SNR=5.1
KLMR Klimovskoe 59.51 327 *e*P **P 21 55 56.6 -3.0**
KLMR pmax pmax
comp=Z,13nm,1.3s
I03D Drain, OR 60.67 56 ⇑P **P 21 56 09.7 +1.9**
baz=60
G05D Wamic, OR 60.96 54 ⇑P **P 21 56 11.4 +1.6**
baz=61
JOF Joensuu 61.11 332 *e*p **P 21 56 08.0 -2.5**
comp=Z,5.0nm,0.5s
I04A Tendick Farm, 61.17 56 ⇓P **P 21 56 12.9 +1.6**
baz=61
L02D Cave Junction, 61.42 58 ⇑P **P 21 56 14.1 +1.1**
baz=61
I05D Terrebonne, OR 61.48 55 ⇓P **P 21 56 14.8 +1.4**
baz=61
NEW Newport 61.52 49 *e*P **P 21 56 13.2 -0.4**
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW Newport 61.52 49 ⇑P **P 21 56 14.7 +1.2**
baz=61
NEW Newport 61.52 49 *e*P **P 21 56 13.2 -0.4**
comp=Z,3.7nm,0.8s
J04D Umpqua Nationa 61.67 56 ⇑P **P 21 56 16.5 +1.6**
baz=62,SNR=7.2
PINOR Pine Mountain 62.06 55 *e*P **P 21 56 17.2 +0.1**
comp=Z,7.7nm,0.7s
J05D Fort Rock, OR 62.16 56 ⇑P **P 21 56 19.7 +1.7**
baz=62,SNR=7.0
YBH Yreka Blue Hor 62.21 58 P **P 21 56 19.5 +1.2**
comp=Z,5.2nm,0.6s,baz=0.9,slow=7.8,SNR=14
K04D Chiloquin, OR 62.25 56 ⇑P **P 21 56 20.2 +1.6**
baz=62
M02C Callahan 62.33 58 ⇓P **P 21 56 21.1 +2.0**
baz=62
N02D Trinity Center 62.66 58 ⇑P **P 21 56 22.9 +1.6**
baz=62,SNR=6.2
M04C Macdoel 62.70 57 ⇓P **P 21 56 23.2 +1.6**
baz=62
WALA Waterton Lakes 62.73 47 *e*P **P 21 56 22.2 +0.4**
comp=Z,0.3nm,1.0s
BSMT Bassoo Peak 63.02 48 *e*P **P 21 56 23.9 +0.2**
comp=Z,5.3nm,1.0s
KAF Kangasniemi 63.32 333 *e*p **P 21 56 22.3 -2.9**
comp=Z,5.6nm,0.5s
MOD Modoc Plateau 63.54 56 *e*P **P 21 56 27.2 0.0**
comp=Z,6.3nm,0.6s
SWMT Swartz Lake 63.65 48 *e*P **P 21 56 27.9 +0.1**
comp=Z,9.6nm,1.0s
FINES FINESS Array B 63.89 333 P **P 21 56 27.1 -1.8**
comp=Z,9.6nm,0.5s,baz=43,slow=6.6,SNR=102
FINES PcP **PcP 21 57 02.8 -0.4**
comp=Z,4.8nm,0.6s,baz=90,slow=5.7,SNR=6.3
GEYT Alibeck 63.96 298 P **P 21 56 30.3 +0.4**
comp=Z,19nm,0.6s,baz=55,slow=3.1,SNR=57
SLMT Seeley Lake 64.08 48 *e*P **P 21 56 30.4 -0.3**
comp=Z,25nm,1.2s
MSO Missoula 64.10 49 ⇑P **P 21 56 31.7 +1.0**
baz=64,SNR=6.7
OBN Obninsk 64.44 323 ⇑*i*P **P 21 56 31.6 -1.0**
OBN *i* 21 58 57.9
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN MLR MLR
comp=Z,159nm,24.0s
OBN Obninsk 64.44 323 *e*P **P 21 56 31.6 -1.0**
FFC Flin Flon 64.73 37 *e*P **P 21 56 33.8 -0.7**
FFC pmax pmax
comp=Z,17nm,1.2s
FFC Flin Flon 64.73 37 *e*P **P 21 56 35.1 +0.6**
FFC Flin Flon 64.73 37 *e*P **P 21 56 33.8 -0.7**
comp=Z,17nm,1.2s
VRHR Novokhopersk 64.84 318 *e*P **P 21 56 32.7 -2.5**
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=E,40nm,0.7s
FCC Fort Churchill 64.99 30 *e*P **P 21 56 35.6 -0.5**
FCC Fort Churchill 64.99 30 *e*P **P 21 56 35.6 -0.5**
comp=E,0.6nm,0.5s
A19A Klindworth Far 65.45 45 ⇓P **P 21 56 40.5 +1.1**
baz=65
EGMT Eagleton 65.53 46 ⇓P **P 21 56 40.6 +0.6**
baz=65,SNR=7.9
LRM Limekiln Ridge 65.54 49 *e*P **P 21 56 40.3 +0.1**
comp=E,144nm,1.1s
WRAB Tennant Creek 65.59 193 ⇑*i*P **P 21 56 40.3 -0.1**
WRAB pmax pmax
comp=Z,19nm,0.9s
WRA Warramunga Arr 65.60 193 P **P 21 56 40.5 0.0**
comp=Z,5.5nm,0.8s,baz=9.1,slow=6.7,SNR=40
WRA PcP **PcP 21 57 11.8 +1.0**
comp=Z,1.6nm,0.7s,baz=9.4,slow=4.9,SNR=7.9
B19A Brinkman Farms 65.66 45 ⇑P **P 21 56 41.6 +0.9**
baz=65
VSU Vasula 65.88 330 ⇓*e*P **P 21 56 40.6 -1.2**
VSU pmax pmax
comp=Z,237nm,5.0s
A20A Cobblestone Ra 65.89 44 ⇑P **P 21 56 43.1 +0.9**
baz=66,SNR=5.2
HLID Hailey 65.90 52 ⇑P **P 21 56 43.4 +0.9**
baz=66,SNR=5.7
VSR Storozhevoye 65.91 319 *e*P **P 21 56 40.8 -1.4**
VSR pmax pmax
comp=Z,20nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.8s
VORD Divnogorie 66.02 319 *e*P **P 21 56 41.4 -1.5**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,70nm,0.7s
VORD pmax pmax
comp=E,70nm,0.7s
C19A Slack Wire Ran 66.08 46 ⇓P **P 21 56 44.4 +1.0**
baz=66,SNR=10
BOZ Bozeman (W) 66.09 49 *e*P **P 21 56 43.9 +0.3**
BOZ pmax pmax
comp=Z,8.0nm,0.6s
BOZ Bozeman (W) 66.09 49 *e*P **P 21 56 43.9 +0.3**
comp=Z,7.8nm,0.6s
B20A Solberg Farm, 66.14 45 ⇑P **P 21 56 44.9 +1.1**
baz=66
BMN Battle Mountai 66.28 56 *e*P **P 21 56 44.9 0.0**
BMN pmax pmax
comp=Z,14nm,1.0s
BMN Battle Mountai 66.28 56 *e*P **P 21 56 44.9 0.0**
comp=Z,14nm,1.0s
A21A Bergtoll Ranch 66.31 44 ⇓P **P 21 56 45.6 +0.7**
baz=66
D19A Cripps Ranch, 66.54 46 ⇑P **P 21 56 47.2 +0.8**
baz=66
C20A Veseth Ranch, 66.62 45 ⇑P **P 21 56 47.8 +1.0**
baz=66,SNR=11
B21A Ellsworth Farm 66.64 44 ⇓P **P 21 56 47.9 +1.0**
baz=66
A22A Carney Farms, 66.81 43 ⇑P **P 21 56 48.7 +0.7**
baz=66,SNR=10
NVAR Mina Array Bea 66.90 58 P **P 21 56 50.4 +1.4**
comp=Z,9.7nm,0.8s,baz=293,slow=6.8,SNR=41
NVAR pP **pP 21 57 27.1 +0.8**
comp=Z,2.6nm,0.9s,baz=311,slow=8.2,SNR=2.7
D20A Manuel Ranch, 66.97 46 ⇑P **P 21 56 50.2 +1.1**
baz=67,SNR=10
C21A Desert Coulee 67.01 45 ⇓P **P 21 56 50.1 +0.8**
baz=67
E19A Rath Farm, Rou 67.05 47 ⇓P **P 21 56 50.7 +1.1**
baz=67
E20A Meyer Farm, Mu 67.36 46 ⇓P **P 21 56 52.1 +0.6**
baz=67
F19A Roth Farm, Mol 67.38 47 ⇑P **P 21 56 53.0 +1.3**
baz=67,SNR=11
H17A Grant Village 67.47 49 ⇓P **P 21 56 54.7 +2.1**
baz=67,SNR=6.3
IGLO Ghaloghah 67.52 299 *e*P **P 21 56 52.9 0.0**
B23A Brockton 67.61 43 ⇓P **P 21 56 54.0 +0.9**
baz=67,SNR=6.3
H18A Shoshone NF, C 67.78 49 ⇑P **P 21 56 55.3 +0.9**
baz=68,SNR=7.3
A24A Westby 67.78 42 ⇑P **P 21 56 54.8 +0.7**
baz=68
D22A Cohagen 67.92 45 ⇑P **P 21 56 55.6 +0.5**
baz=68
C23A Lambert 67.97 44 ⇑P **P 21 56 56.6 +1.2**
baz=68
HVU Hansel Valley 67.98 53 *e*P **P 21 56 55.9 +0.3**
HVU pmax pmax
comp=Z,7.0nm,1.0s
HVU Hansel Valley 67.98 53 *e*P **P 21 56 55.9 +0.3**
comp=Z,7.1nm,1.0s
IANJ Anjilo 68.13 299 *e*P **P 21 56 57.5 +0.7**
G20A Bridger 68.18 47 ⇓P **P 21 56 57.4 +0.6**
baz=68
A25A Svangstu Ranch 68.19 42 ⇓P **P 21 56 57.8 +1.1**
baz=68
PKM Mcpherson Peak 68.23 62 ⇓P **P 21 56 58.9 +1.6**
baz=68
ISHM Shahmirzad 68.30 299 *e*P **P 21 56 59.1 +1.2**
E22A Miles City 68.52 45 ⇓P **P 21 56 59.0 +0.2**
baz=68
C24A Savage 68.53 44 ⇑P **P 21 56 58.9 +0.1**
baz=68
NB2 NORSAR Subarra 68.56 339 P **P 21 56 57.1 -1.6**
comp=Z,9.0nm,0.5s,baz=31,slow=6.5
NB2 NORSAR Subarra 68.56 339 P **P 21 56 57.1 -1.6**
baz=31,slow=6.5
NOA NORSAR Array B 68.56 339 P **P 21 56 57.3 -1.5**
comp=Z,13nm,0.4s,baz=32,slow=6.6,SNR=90
ISA Isabella, Lake 68.58 61 ⇑P **P 21 56 59.8 +0.5**
baz=68
R11A Troy Canyon, C 68.59 57 ⇑P **P 21 57 00.3 +0.8**
baz=68,SNR=11
R11A Troy Canyon, C 68.59 57 *e*P **P 21 56 59.9 +0.4**
comp=Z,6.5nm,1.0s
IPRN Peran 68.61 300 *e*P **P 21 56 58.8 -0.8**
B25A Knox Farm, Ray 68.63 43 ⇓P **P 21 56 59.5 +0.1**
baz=68
G21A Lodge Grass 68.70 47 ⇓P **P 21 57 00.7 +0.7**
baz=68
A26A Wade Farm, Ken 68.73 41 ⇑P **P 21 57 00.4 +0.4**
baz=68
IFIR Firoozkooh 68.74 299 *e*P **P 21 57 01.2 +0.6**
ILAS Lasjerd 68.78 299 *e*P **P 21 57 01.4 +0.6**
E23A Ismay 68.80 45 ⇑P **P 21 57 01.4 +0.9**
baz=68,SNR=5.7
D24A Glendive 68.87 44 ⇑P **P 21 57 02.0 +1.1**
baz=69,SNR=5.5
MPMC Manual Prospec 68.92 60 ⇑P **P 21 57 02.7 +1.0**
baz=69,SNR=10.0
DUG Dugway, Tooele 69.00 54 *e*P **P 21 57 02.2 +0.2**
DUG pmax pmax
comp=Z,9.0nm,0.9s
DUG Dugway, Tooele 69.00 54 ⇑P **P 21 57 03.2 +1.2**
baz=69,SNR=9.5
DUG Dugway, Tooele 69.00 54 *e*P **P 21 57 02.2 +0.2**
comp=Z,9.4nm,0.9s
FURC Furnace Creek, 69.04 59 ⇑P **P 21 57 03.6 +1.5**
baz=69,SNR=9.0
J19A Crowheart 69.05 49 ⇓P **P 21 57 03.7 +1.4**
baz=69,SNR=7.4
KIV Kislovodsk 69.06 312 *e*P **P 21 57 02.9 +0.8**
KIV pmax pmax
comp=Z,46nm,0.9s
KIV MLR MLR
comp=Z,58nm,17.0s
KIV Kislovodsk 69.06 312 *e*P **P 21 57 03.0 +0.8**
KIV Kislovodsk 69.06 312 *e*P **P 21 57 02.0 -0.2**
comp=Z,41nm,0.7s
A27A Ledoux Ranch, 69.06 41 ⇓P **P 21 57 03.1 +1.1**
baz=69
I20A Worland 69.08 48 ⇑P **P 21 57 03.6 +1.2**
baz=69
KBZ Khabaz 69.10 311 P **P 21 57 03.0 +0.7**
KBZ Khabaz 69.10 311 P **P 21 57 03.0 +0.7**
comp=Z,20nm,0.7s,baz=57,slow=3.8,SNR=71
TPNV Topopah Spring 69.10 58 ⇓P **P 21 57 03.8 +1.1**
baz=69,SNR=8.7
PDAR Pinedale Array 69.11 50 P **P 21 57 03.4 +0.6**
comp=Z,5.0nm,0.6s,baz=293,slow=1.4,SNR=55
PDAR pP **pP 21 57 41.0 +0.8**
comp=Z,1.1nm,0.7s,baz=308,slow=3.0,SNR=1.8
G22A Birney 69.18 46 ⇓P **P 21 57 03.5 +0.5**
baz=69
LRMC Laurel Mtn Rad 69.18 60 ⇓P **P 21 57 04.3 +1.1**
baz=69
ZEI Tsey 69.19 310 *e*P **P 21 57 02.0 -1.2**
ZEI pmax pmax
comp=Z,11nm,0.6s
DUS Dusheti 69.22 309 P **P 21 57 04.9 +1.7**
IDMV Damavand 69.23 300 *e*P **P 21 57 03.9 +0.3**
E24A Baker 69.26 44 ⇓P **P 21 57 04.8 +1.4**
baz=69
F23A Volborg 69.29 46 ⇓P **P 21 57 04.4 +0.8**
baz=69,SNR=6.9
ASAR Alice Springs 69.32 193 P **P 21 57 04.8 +1.1**
comp=Z,2.9nm,0.9s,baz=11,slow=6.2,SNR=14
D25A Fairfield 69.34 43 ⇑P **P 21 57 05.1 +1.3**
baz=69
EDW2 Edwards Air Fo 69.38 61 ⇓P **P 21 57 05.4 +1.1**
baz=69,SNR=5.0
TBLG Delisi 69.44 309 P **P 21 57 05.6 +1.1**
B27A Peters Farms, 69.44 41 ⇑P **P 21 57 05.4 +1.0**
baz=69
C26A Wahner Farm, P 69.46 42 ⇓P **P 21 57 05.1 +0.7**
baz=69
J20A Shoshoni 69.51 49 ⇓P **P 21 57 06.1 +1.0**
baz=69,SNR=7.9
A28A Rude Farm, Bot 69.55 41 ⇑P **P 21 57 05.9 +0.9**
baz=69
ONI Oni 69.57 310 P **P 21 57 06.2 +0.9**
H22A Clearmont 69.58 47 ⇓P **P 21 57 06.4 +1.0**
baz=69
IBAF Bafgh 69.59 294 *e*P **P 21 57 05.6 -0.1**
I21A Big Trails, Te 69.62 48 ⇑P **P 21 57 06.7 +1.0**
baz=69,SNR=16
G23A Biddle 69.65 46 ⇑P **P 21 57 06.5 +0.7**
baz=69
F24A Ekalaka 69.69 45 ⇑P **P 21 57 06.8 +0.7**
baz=69,SNR=8.1
E25A Miller Ranch, 69.75 44 ⇑P **P 21 57 07.1 +0.8**
baz=70
IVRN Varamin 69.80 299 *e*P **P 21 57 07.0 +0.2**
IGZV Ghazvin 69.81 301 *e*P **P 21 57 08.4 +1.3**
C27A Sayler Ranch, 69.82 42 ⇓P **P 21 57 07.5 +0.8**
baz=70
B28A Dugan Ranch, T 69.83 41 ⇑P **P 21 57 07.5 +0.8**
baz=70,SNR=5.7
GSC Goldstone, Bar 69.84 60 ⇓P **P 21 57 08.3 +1.1**
baz=70
D26A Manning 69.85 43 ⇑P **P 21 57 07.5 +0.5**
baz=70
KZR Kazreti 69.86 309 P **P 21 57 07.6 +0.5**
ICHK Chekchek 69.91 296 *e*P **P 21 57 08.1 +0.3**
I22A 9 Mile Ranch, 69.99 48 ⇓P **P 21 57 09.0 +1.0**
baz=70,SNR=5.3
IMHD Mahdasht 69.99 301 *e*P **P 21 57 09.0 +0.9**
BFSC Mount Baldy Ra 70.01 61 ⇓P **P 21 57 09.2 +1.0**
baz=70
A29A Manning Farm, 70.01 40 ⇑P **P 21 57 08.7 +0.9**
baz=70,SNR=8.2
SHPR Sheep Range 70.05 58 *e*P **P 21 57 09.1 +0.6**
comp=Z,14nm,1.3s
G24A Alzada 70.06 45 ⇑P **P 21 57 08.6 +0.2**
baz=70
F25A Bowman 70.13 44 ⇑P **P 21 57 09.0 +0.4**
baz=70
E26A Carlson Angus 70.23 44 ⇑P **P 21 57 09.8 +0.5**
baz=70
B29A Wagenman Farm, 70.29 40 ⇑P **P 21 57 09.9 +0.4**
baz=70
TUQ Turquoise Moun 70.30 59 ⇑P **P 21 57 11.1 +1.1**
baz=70
J22A Midwest 70.32 48 ⇑P **P 21 57 10.6 +0.6**
baz=70,SNR=5.4
IMEH Mehriz 70.33 295 *e*P **P 21 57 10.1 -0.3**
H24A Dirks Ranch, A 70.40 46 ⇑P **P 21 57 10.6 +0.2**
baz=70,SNR=8.2
A30A Hoffart Farm, 70.42 40 ⇓P **P 21 57 10.9 +0.6**
baz=70
HEC Hector,Ludlow 70.44 60 ⇓P **P 21 57 11.9 +1.1**
baz=70,SNR=6.7
K21A Alcova 70.45 49 ⇓P **P 21 57 11.2 +0.3**
baz=70
GNI Garni 70.50 307 *c i*P **P 21 57 12.5 +1.3**
GNI pmax pmax
comp=Z,19nm,1.4s
GNI Garni 70.50 307 *e*P **P 21 57 11.4 +0.2**
comp=Z,10nm,0.8s
ULM Lac du Bonnet 70.54 37 P **P 21 57 10.6 -0.4**
comp=Z,5.9nm,0.7s,baz=301,slow=7.8,SNR=8.9
F26A Lodgepole 70.57 44 ⇑P **P 21 57 12.1 +0.7**
baz=70
ISAD Sadrabad 70.58 296 *e*P **P 21 57 11.7 -0.3**
MDND Maddock 70.62 41 ⇓P **P 21 57 12.5 +1.0**
baz=70
IRAZ Razeghan 70.63 301 *e*P **P 21 57 12.2 +0.2**
AKASG Malin Array Be 70.70 324 P **P 21 57 11.0 -0.9**
comp=Z,7.7nm,0.5s,baz=38,slow=6.1,SNR=24
KIEV Kiev 70.71 324 *e*P **P 21 57 10.4 -1.6**
KIEV pmax pmax
comp=Z,18nm,0.9s
KIEV Kiev 70.71 324 *e*P **P 21 57 10.9 -1.1**
KIEV Kiev 70.71 324 *e*P **P 21 57 10.4 -1.6**
comp=Z,18nm,0.9s
B30A Myrvik Farm, E 70.77 40 ⇓P **P 21 57 13.1 +0.7**
baz=70,SNR=15

IZEF	Zefreh	70.80	297	eP	P	21 57 13.2 -0.1
J23A	Dilts Ranch, B	70.82	47	⇑P	P	21 57 13.6 +0.6
	baz=70					
K22A	Casper	70.82	49	⇑P	P	21 57 13.9 +0.8
	baz=71					
F27A	Lemmon	70.87	44	⇑P	P	21 57 14.1 +1.0
	baz=71					
SOC	Sochi	70.88	313	eP	P	21 57 12.6 -0.5
SOC				e*SP	sP	21 58 07.8 +0.2
SOC				ePPP	PPP	22 01 35.2
SOC				eS	S	22 06 17.1 +1.6
SOC				eSSS	SSS	22 13 58.6
SOC				pmax	pmax	
	comp=Z,20nm,0.7s					
GMRC	Granite Mounta	70.89	60	⇓P	P	21 57 14.7 +1.1
	baz=71,SNR=6.0					
I24A	Kuemmerle Ranc	70.98	47	⇓P	P	21 57 14.3 +0.3
	baz=71					
IKLH	Kolahrood	70.99	298	eP	P	21 57 14.8 +0.4
G26A	Maurine	71.00	44	⇑P	P	21 57 14.5 +0.6
	baz=71,SNR=8.4					
E28A	Huff	71.02	43	⇓P	P	21 57 14.5 +0.5
	baz=71					
SRU	San Rafael Swe	71.03	54	eP	P	21 57 14.3 -0.1
SRU				pmax	pmax	
	comp=Z,13nm,0.8s					
SRU	San Rafael Swe	71.03	54	eP	P	21 57 14.3 -0.1
	comp=Z,13nm,0.8s					
N20A	Spence Gulch,	71.13	51	⇓P	P	21 57 16.1 +1.0
	baz=71,SNR=6.8					
PFO	Pinyon Flats O	71.18	61	⇑P	P	21 57 16.2 +0.9
	baz=71					
D29A	Pettibone, Tap	71.19	42	⇓P	P	21 57 15.6 +0.6
	baz=71					
ANN	Anapa	71.19	315	eP	P	21 57 12.9 -2.1
ANN				e		21 57 32.9
ANN				e*PP	pP	21 57 49.9 -2.8
ANN				e		21 59 53.5
ANN				eS	S	22 06 17.0 -2.1
ANN				eSS	SS	22 10 57.7 +2.7
ANN				pmax	pmax	
	comp=Z,64nm,1.5s					
BELC	Belle Mtn. Jos	71.20	61	⇓P	P	21 57 16.1 +0.6
	baz=71					
K23A	Bowen Ranch, D	71.23	48	⇑P	P	21 57 15.9 +0.4
	baz=71					
C30A	Mose, Pekin	71.25	41	⇑P	P	21 57 16.3 +0.9
	baz=71					
G27A	Dupree	71.27	44	⇓P	P	21 57 16.0 +0.5
	baz=71					
L22A	Ellis Ranch, M	71.30	49	⇓P	P	21 57 17.0 +1.0
	baz=71					
I25A	Rochford	71.33	46	⇑P	P	21 57 16.7 +0.6
	baz=71					
IRM	Iron Mountain	71.62	60	⇓P	P	21 57 18.9 +1.1
	baz=71,SNR=7.4					
O20A	White River Ci	71.62	51	⇓P	P	21 57 18.8 +0.8
	baz=71					
L23A	Garrett	71.64	49	⇓P	P	21 57 18.6 +0.6
	baz=71					
M22A	Cedar Creek Ra	71.65	50	⇓P	P	21 57 19.0 +0.8
	baz=71,SNR=7.3					
MONP	Monument Peak,	71.68	62	⇑P	P	21 57 19.5 +1.0
	baz=72					
J25A	Sunshine Ranch	71.73	47	⇓P	P	21 57 19.4 +0.9
	baz=72					
I26A	New Underwood	71.76	46	⇑P	P	21 57 19.3 +0.7
	baz=72					
BC3	Big Chuckawall	71.77	61	⇑P	P	21 57 19.8 +1.0
	baz=72					
U15A	North Rim	71.82	57	⇑P	P	21 57 20.6 +1.3
	baz=72					
IPIR	Pirpir	71.84	298	eP	P	21 57 18.1 -1.4
E30A	Jud	71.92	42	⇓P	P	21 57 19.8 +0.4
	baz=72					
F29A	Eureka	71.97	43	⇑P	P	21 57 20.0 +0.3
	baz=72					
G28A	Parade	71.99	44	⇓P	P	21 57 20.5 +0.7
	baz=72					
AGMN	Agassiz Nation	71.99	39	⇓P	P	21 57 19.5 -0.2
	baz=72					
AGMN	Agassiz Nation	71.99	39	eP	P	21 57 18.9 -0.9
	comp=Z,6.9nm,1.0s					
SWSC	Sam W. Stewart	72.03	61	⇓P	P	21 57 21.0 +0.7
	baz=72					
M23A	Laramie	72.08	49	⇓P	P	21 57 21.0 +0.3
	baz=72					
PDMCI	Parker Dam,Lak	72.14	59	⇑P	P	21 57 22.0 +1.1
	baz=72					
N22A	Wattenberg Ran	72.14	50	⇓P	P	21 57 21.9 +0.8
	baz=72,SNR=5.4					
I27A	Quinn	72.14	45	⇓P	P	21 57 21.5 +0.7
	baz=72					
J26A	Sides Ranch, S	72.16	46	⇑P	P	21 57 21.7 +0.7
	baz=72					
H28A	Mission Ridge	72.22	44	⇑P	P	21 57 21.9 +0.7
	baz=72					
N23A	Red Feather La	72.36	50	⇓P	P	21 57 23.3 +0.9
	baz=72					
O22A	Kremmling	72.54	50	⇓P	P	21 57 24.4 +0.9
	baz=72,SNR=5.2					
M24A	Cheyenne	72.56	49	⇓P	P	21 57 24.5 +1.1
	baz=72					
GLA	Glamis	72.56	61	⇑P	P	21 57 24.5 +1.1
	baz=72					
I28A	Midland	72.64	45	⇑P	P	21 57 24.4 +0.7
	baz=72					
SIM	Simferopol'	72.72	317	eP	P	21 57 25.0 +0.8
SIM				pmax	pmax	
	comp=Z,21nm,0.8s					
G30A	Faulkton	72.81	43	⇑P	P	21 57 24.7 0.0
	baz=72					
P22A	Eagle	72.82	51	⇓P	P	21 57 25.1 0.0
	baz=73					
O23A	Lake Granby, G	72.85	50	⇓P	P	21 57 26.6 +1.2
	baz=73,SNR=6.8					
N24A	Carr	72.98	49	⇑P	P	21 57 26.7 +0.7
	baz=73					
M25A	Palm-Egli Farm	72.99	48	⇓P	P	21 57 26.7 +0.7
	baz=73					
J28A	Allard Ranch,	73.02	45	⇓P	P	21 57 26.8 +0.7
	baz=73					
K27A	Flueckinger Fa	73.03	46	⇑P	P	21 57 26.9 +0.7
	baz=73					
Y14A	Wickenburg	73.08	59	⇑P	P	21 57 27.6 +1.1
	baz=73					
BEL	Belsk	73.17	329	eP	P	21 57 27.0 +0.4
IKAZ	Kazeroun	73.19	295	eP	P	21 57 26.0 -1.6
GKP	Gorka Klasztor	73.27	331	eP	P	21 57 26.5 -0.7
ISCO	Idaho Springs	73.30	50	⇑P	P	21 57 29.0 +0.9
	baz=73					
113A	Mohawk Valley,	73.41	60	⇑P	P	21 57 29.7 +1.3
	baz=73					
M26A	McRoberts Ranc	73.45	48	⇑P	P	21 57 29.8 +1.2
	baz=73					
K28A	Ten Mile Ranch	73.47	46	⇓P	P	21 57 29.5 +0.8
	baz=73					
P23A	Jefferson	73.48	51	⇓P	P	21 57 29.9 +0.8
	baz=73					
J29A	Okreek	73.49	45	⇓P	P	21 57 29.6 +0.9
	baz=73					
MVCO	Mesa Verde	73.50	54	⇓P	P	21 57 30.0 +0.9
	baz=73					
Z14A	Wintersburg	73.51	59	⇓P	P	21 57 30.5 +1.5
	baz=73					
LVV	L'vov	73.52	326	eP	P	21 57 27.8 -0.9
KIS	Kishinev	73.67	321	⇓iP	P	21 57 29.3 -0.3
X16A	Lo Mia Camp, P	73.70	58	⇓P	P	21 57 31.6 +1.3
	baz=74,SNR=5.8					
J30A	Dallas	73.96	44	⇑P	P	21 57 32.8 +1.3
	baz=74					
K29A	Lazy Trails An	73.96	45	⇓P	P	21 57 33.0 +1.5
	baz=74					
S22A	4UR Ranch, Cre	74.07	52	⇓P	P	21 57 34.1 +1.5
	baz=74					
Q24A	Divide	74.15	51	⇓P	P	21 57 34.2 +1.1
	baz=74					
KWP	Kalwaria Pacla	74.19	326	eP	P	21 57 32.1 -0.6
KWP				pmax	pmax	
	comp=Z,73nm,1.0s					
KWP	Kalwaria Pacla	74.19	326	eP	P	21 57 33.3 +0.6
KWP	Kalwaria Pacla	74.19	326	eP	P	21 57 32.1 -0.6
	comp=Z,73nm,1.0s					
W18A	Petrified Fore	74.23	56	⇓P	P	21 57 34.9 +1.5
	baz=74					
O26A	Horse Wrangler	74.23	49	⇓P	P	21 57 34.6 +1.3
	baz=74					
N27A	Anderson Farm,	74.24	48	⇓P	P	21 57 34.6 +1.3
	baz=74					
P25A	Willow Gulch B	74.29	50	⇑P	P	21 57 34.8 +1.2
	baz=74					
R23A	Moffat	74.32	52	⇑P	P	21 57 35.2 +1.2
	baz=74					
LEOM	Leova	74.32	321	⇑iP	P	21 57 33.6 +0.2
PRAR	RASCA	74.52	323	⇑iP	P	21 57 34.1 -0.5
214A	Organ Pipe Nat	74.55	60	⇓P	P	21 57 35.9 +0.9
	baz=74					
Q25A	Bedland, Calha	74.68	50	⇑P	P	21 57 36.6 +0.6
	baz=74					
R24A	Sanders Place,	74.69	51	⇑P	P	21 57 37.2 +1.1
	baz=74,SNR=6.2					
P26A	Davis Ranch, A	74.70	49	⇑P	P	21 57 36.9 +0.9
	baz=74					
BURAR	Bucovina Array	74.76	324	⇓iP	P	21 57 36.5 +0.4
OJC	Ojcow	74.84	328	eP	P	21 57 36.2 -0.2
BSEG	Bad Segeberg	74.91	335	eP	P	21 57 36.4 -0.3
	comp=Z,17nm,1.3s					
KOLS	Kolonicke sedl	74.92	326	eP	P	21 57 37.0 +0.1
STHS	Stebnicka Huta	74.94	327	eP	P	21 57 37.9 +0.9
TESR	Tescani	75.00	322	⇑iP	P	21 57 37.4 0.0
TLCR		75.05	320	⇑iP	P	21 57 37.9 +0.3
S24A	Houchin Ranch,	75.05	52	⇑P	P	21 57 39.3 +1.0
	baz=75					
ECSD	EROS Data Cent	75.06	42	⇓P	P	21 57 37.8 0.0
	baz=75,SNR=7.8					
Q26A	Hugo	75.07	50	⇑P	P	21 57 38.9 +0.8
	baz=75					
O28A	Krutsinger Ran	75.13	48	⇓P	P	21 57 38.5 +0.2
	baz=75					
L31A	Butterfield Fa	75.14	45	⇑P	P	21 57 38.8 +0.5
	baz=75					
UZH	Uzhgorod	75.16	326	eP	P	21 57 36.7 -1.5
UZH				e		21 57 56.7
UZH				i		21 58 11.3
R25A	Fountain Ranch	75.21	51	⇑P	P	21 57 39.6 +0.7
	baz=75					
N29A	Votaw Ranch, W	75.22	47	⇑P	P	21 57 39.2 +0.3
	baz=75					
CRVS	Cervenica-Dubn	75.27	326	eP	P	21 57 39.0 +0.1
MALT	Malatya	75.29	310	⇑iP	P	21 57 41.0 +1.7
NIE	Niedzica	75.30	327	eP	P	21 57 38.1 -1.0
V22A	San Miguel Ran	75.32	54	⇓P	P	21 57 41.0 +1.3
	baz=75					
PETR	Petresti	75.35	321	⇑iP	P	21 57 40.9 +1.5
CFR	Carcaliu	75.36	320	⇓iP	P	21 57 39.8 +0.4
T24B	San Luis	75.37	52	⇓P	P	21 57 41.3 +1.3
	baz=75					
BMR	Baia Mare	75.43	325	⇓iP	P	21 57 40.5 +0.7
U23A	El Rito	75.44	53	⇑P	P	21 57 41.7 +1.4
	baz=75					
TRPA	Tarpa	75.46	325	⇑iP	P	21 57 40.6 +0.7
VRI	Vrincioaia	75.47	322	⇓iP	P	21 57 40.7 +0.6
S25A	Robets Cordova	75.47	51	⇑P	P	21 57 41.0 +0.5
	baz=75					
KSCO	Kaye Shedlock'	75.48	49	⇑P	P	21 57 41.5 +1.0
	baz=75					
PLOR	Plostina	75.51	322	⇑iP	P	21 57 40.5 +0.1
R26A	Arlington	75.55	50	⇑P	P	21 57 41.4 +0.6
	baz=75,SNR=8.2					
KSP	Ksiaz	75.60	330	eP	P	21 57 40.8 +0.1
O29A	4D Ranch, Culb	75.64	47	⇓P	P	21 57 41.8 +0.6
	baz=75					
OKC	Ostrava-Krasne	75.77	329	eP	P	21 57 41.7 0.0
OKC	Ostrava-Krasne	75.77	329	⇑eP	P	21 57 41.7 0.0
TIRR	Tirgusor	75.79	320	⇓iP	P	21 57 42.3 +0.4
V23A	Ortiz Mt. (NFS	75.85	54	⇓P	P	21 57 44.0 +1.3
	baz=76					
T25A	Trinidad	75.86	51	⇑P	P	21 57 43.7 +1.0
	baz=76					
R27A	Eads	75.92	50	⇓P	P	21 57 43.5 +0.6
	baz=76					
P29A	Atwood	75.96	48	⇑P	P	21 57 43.6 +0.5
	baz=76					
DOPR	Dopca	75.97	322	⇓iP	P	21 57 44.1 +1.2
UPC	Upice	75.98	330	eP	P	21 57 43.3 +0.4
UPC	Upice	75.98	330	⇑eP	P	21 57 43.3 +0.4
DPC	Dobruska-Polom	76.00	330	eP	P	21 57 43.4 +0.3
DPC	Dobruska-Polom	76.00	330	eP	P	21 57 43.4 +0.3
S26A	Kim	76.03	51	⇑P	P	21 57 43.9 +0.3
	baz=76					
MORC	Moravsky Berou	76.04	329	eP	P	21 57 43.2 -0.1
MORC				pmax	pmax	
	comp=Z,21nm,0.8s					
MORC	Moravsky Berou	76.04	329	⇑iP	P	21 57 43.6 +0.3
MORC	Moravsky Berou	76.04	329	eP	P	21 57 43.2 -0.1
	comp=Z,21nm,0.8s					
KRLC	Kraliky	76.07	330	⇑iP	P	21 57 43.6 +0.1
KRLC	Kraliky	76.07	330	⇑iP	P	21 57 43.6 +0.1
MLR	Muntele Rosu	76.10	322	⇓iP	P	21 57 44.3 +0.5
ISR	Istrita	76.13	321	⇓iP	P	21 57 45.0 +1.1
CJR	Cluj-Napoca	76.15	324	⇓iP	P	21 57 45.1 +1.1
NRDL	Niedersach Rie	76.23	335	eP	P	21 57 43.9 -0.2
	comp=Z,45nm,1.8s					
ANMO	Albuquerque	76.26	54	⇓iP	P	21 57 46.3 +1.3
ANMO				pmax	pmax	
	comp=Z,29nm,1.4s					
S27A	Las Animas	76.30	50	⇓P	P	21 57 45.5 +0.4
	baz=76					
CLL	Collm	76.33	332	⇑iP	P	21 57 44.3 -0.5
CLL				pmax	pmax	
	comp=Z,41nm,1.0s					
CLL	Collm	76.33	332	eP	P	21 57 44.1 -0.7
	comp=Z,42nm,1.0s					
CLL	Collm	76.33	332	⇑iP	P	21 57 44.3 -0.5
	comp=Z,41nm,1.0s					
MSAB	Monastry St. A	76.34	320	⇑iP	P	21 57 45.8 +0.8
P30A	Selden	76.36	47	⇓P	P	21 57 45.7 +0.4
	baz=76					
V24A	Rampart Ranch,	76.39	53	⇑P	P	21 57 46.7 +1.0
	baz=76					
BRG	Berggiesshubel	76.39	332	eP	P	21 57 44.8 -0.3
	comp=Z,48nm,0.9s					
BRG	Berggiesshubel	76.39	332	eP	P	21 57 44.8 -0.3
BRG				pmax	pmax	
	comp=Z,2.0nm,0.9s					
BRG				MLR	MLR	
	comp=N,48µm,16.2s					
BRG				MLR	MLR	
	comp=E,360nm,19.1s					
BRG				MLR	MLR	
	comp=Z,308nm,16.0s					
BRG	Berggiesshubel	76.39	332	eP	P	21 57 44.7 -0.5
	comp=Z,11nm,0.9s					
U25A	Circle Dot Ran	76.39	52	⇑P	P	21 57 45.7 0.0
	baz=76					
R28A	Tribune	76.41	49	⇓P	P	21 57 45.7 0.0
	baz=76					
Q29A	Oakley	76.45	48	⇓P	P	21 57 46.1 +0.3
	baz=76					
DRGR		76.46	324	⇓iP	P	21 57 46.1 +0.4
N32A	Stulken Farm,	76.46	45	⇓P	P	21 57 45.3 -0.5
	baz=76					
PVCC	Panska Ves	76.47	331	eP	P	21 57 45.6 0.0
PVCC	Panska Ves	76.47	331	⇑eP	P	21 57 45.6 0.0
PSN	Preselentsi	76.49	319	⇑iP	P	21 57 46.4 +0.5
SCHQ	Schefferville	76.51	19	P	P	21 57 45.9 +0.1
	comp=Z,9.5nm,0.6s,baz=354,slow=5.9,SNR=33					
VOIR		76.54	322	⇓iP	P	21 57 47.1 +0.9
VYHS	Vyhne	76.62	328	eP	P	21 57 46.7 +0.2
W24A	Lazy 6 Ranch,	76.68	53	⇑P	P	21 57 49.0 +1.6
	baz=76,SNR=5.7					
PSZ	Piszkesteto	76.68	327	⇑iP	P	21 57 47.7 +0.7
R29A	Marienthal	76.71	49	⇑P	P	21 57 47.7 +0.4
	baz=76					
CLZ	Clausthal	76.71	334	eP	P	21 57 47.0 0.0
	comp=Z,49nm,1.5s					
U26A	Atchley Ranch,	76.77	52	⇓P	P	21 57 47.9 +0.1
	baz=76					
ARR	Arges	76.77	322	⇓iP	P	21 57 48.9 +1.4
Q30A	Quinter	76.79	48	⇓P	P	21 57 47.8 0.0
	baz=76					
BRTR	Keskin Array B	76.81	313	ceP	P	21 57 48.5 +0.6
BRTR				pmax	pmax	
	comp=Z,3.0nm,0.8s					
BRTR	Keskin Array B	76.81	313	P	P	21 57 48.1 +0.2
	comp=Z,3.3nm,0.8s,baz=83,slow=3.1,SNR=22					
P31A	Stockton	76.83	47	⇑P	P	21 57 47.9 0.0
	baz=76					
T27A	Campo	76.85	51	⇑P	P	21 57 48.5 +0.3
	baz=77					
PRA	Prague	76.90	331	eP	P	21 57 48.3 +0.3
PRA	Prague	76.90	331	⇑eP	P	21 57 48.3 +0.3
PRU	Pruhonice	76.93	331	eP	P	21 57 48.3 +0.1
PRU	Pruhonice	76.93	331	⇑eP	P	21 57 48.3 +0.1
LOT	Lotru	77.08	323	⇑iP	P	21 57 49.6 +0.3
IBBN	Ibbenburen	77.09	336	eP	P	21 57 48.7 -0.3
	comp=Z,34nm,1.0s					
319A	Douglas	77.11	59	⇑P	P	21 57 50.9 +1.2
	baz=77,SNR=5.1					
ANTO	Ankara	77.14	314	⇓iP	P	21 57 51.0 +1.3
T28A	Walsh	77.14	50	⇑P	P	21 57 50.3 +0.5
	baz=77					
P32A	Huiting Farm,	77.15	46	⇑P	P	21 57 49.6 -0.1
	baz=77					
V26A	Tequesquite Ra	77.17	52	⇑P	P	21 57 49.8 -0.2
	baz=77					
TREC	Trest	77.19	330	eP	P	21 57 49.8 +0.1
TREC	Trest	77.19	330	⇑eP	P	21 57 49.8 +0.1
W25A	X Bar L Ranch,	77.21	53	⇑P	P	21 57 50.9 +0.7
	baz=77,SNR=5.1					
U27A	Thompson Grove	77.26	51	⇓P	P	21 57 51.0 +0.5
	baz=77					
R30A	Dighton	77.27	48	⇑P	P	21 57 50.8 +0.4
	baz=77					
TANN	Tannenbergstha	77.27	332	eP	P	21 57 49.8 -0.4
	comp=Z,7.0nm,0.8s					
MOX	Moxa	77.35	333	eP	P	21 57 50.2 -0.4
	comp=Z,24nm,1.2s					
GZR	Gura Zlata	77.55	324	⇑iP	P	21 57 51.8 0.0
U28A	Mallet	77.62	51	⇓P	P	21 57 52.5 0.0
	baz=77					
Q32A	Meitler Ranch,	77.64	47	⇑P	P	21 57 52.2 -0.2
	baz=77					
W26A	Owens Ranch, T	77.70	53	⇓P	P	21 57 54.2 +1.3
	baz=77					
UBBA	Unterbreizbach	77.72	334	eP	P	21 57 52.4 0.0
	comp=Z,10.0nm,0.7s					
BZS	Buzias	77.85	324	⇓iP	P	21 57 53.5 +0.1
ROTZ	Rotzenmuhle	77.91	332	eP	P	21 57 53.9 +0.2
	comp=Z,16nm,1.0s					
R32A	Long Quarter,	77.99	47	⇑P	P	21 57 54.3 -0.1
	baz=78					
KHC	Kasperske Hory	77.99	331	eP	P	21 57 53.7 -0.5
KHC				pmax	pmax	
	comp=Z,34nm,0.6s					
KHC	Kasperske Hory	77.99	331	⇑iP	P	21 57 54.3 0.0
KHC				ePCP	PcP	21 58 00.0 -3.3
KHC				ex	x	21 58 08.5
KHC	Kasperske Hory	77.99	331	eP	P	21 57 54.2 0.0
KHC	Kasperske Hory	77.99	331	eP	P	21 57 53.7 -0.5
	comp=Z,34nm,0.6s					
BUG	Bochum--Univer	78.00	336	eP	P	21 57 53.6 -0.5
	comp=Z,29nm,0.8s					
Q33A	Connelly Farm,	78.01	46	⇓P	P	21 57 54.2 -0.2
	baz=78,SNR=7.5					
GEC2	GERESS Array S	78.19	331	eP	P	21 57 55.0 -0.4
	comp=Z,14nm,0.5s					
GERES	GERESS Array B	78.19	331	P	P	21 57 55.1 -0.2
	comp=Z,10nm,0.5s,baz=39,slow=5.8,SNR=148					
CONA	Conrad Observa	78.20	329	⇑iP	P	21 57 55.9 +0.5
	comp=Z,21nm,0.6s,SNR=13					
WET	Wettzell	78.22	331	eP	P	21 57 55.6 +0.2
	comp=Z,33nm,1.1s					
GRF	Grafenberg Arr	78.30	333	eP	P	21 57 56.0 +0.1
	comp=Z,50nm,0.9s					
GRFO	Grafenberg	78.31	333	eP	P	21 57 55.8 -0.1
GRFO				pmax	pmax	
	comp=Z,40nm,0.8s					
GRFO	Grafenberg	78.31	333	eP	P	21 57 55.8 -0.1
	comp=Z,40nm,0.8s					
U30A	WK&E Inc. Balk	78.36	50	⇑P	P	21 57 55.8 -0.7
	baz=78					
S32A	Newby Ranch, P	78.41	48	⇓P	P	21 57 56.2 -0.5
	baz=78					
W28A	Vega	78.45	51	⇓P	P	21 57 57.7 +0.6
	baz=78					
R33A	Olander Ranch,	78.45	47	⇑P	P	21 57 56.8 -0.1
	baz=78					
T31A	Randall Ranch,	78.47	49	⇑P	P	21 57 57.1 0.0
	baz=78					
TNS	Taunus Mts	78.72	334	eP	P	21 57 57.9 -0.3
	comp=Z,21nm,0.8s					
T32A	Huddler Ranch,	78.81	48	⇓P	P	21 57 59.4 +0.5
	baz=78					
MOA	Molln	78.84	330	⇑iP	P	21 57 59.0 +0.2
	comp=Z,11nm,0.8s					
W29A	Amarillo	78.86	51	⇓P	P	21 57 59.8 +0.5
	baz=79					
ARSA	Arzberg	78.89	329	⇓iP	P	21 57 59.4 +0.2
	comp=Z,3.1nm,0.5s					
X28A	Dimmitt	78.99	52	⇑P	P	21 58 00.3 +0.3
	baz=79					
AMTX	Amarillo	79.01	51	⇓P	P	21 58 01.0 +0.9
	baz=79					
AMTX	Amarillo	79.01	51	eP	P	21 58 00.3 +0.2
	comp=Z,5.9nm,0.6s					
BEBN	Eben Emael	79.03	336	P	P	21 57 59.5 -0.3
MSTX	Muleshoe	79.07	53	⇓P	P	21 58 01.4 +0.9
	baz=79					
MEM	Membach	79.10	336	P	P	21 57 59.9 -0.3
	comp=Z,16nm,1.0s					
T33A	Patterson Ranc	79.24	48	⇓P	P	21 58 01.8 +0.6
	baz=79					
X29A	Tulia	79.33	52	⇑P	P	21 58 02.5 +0.6
	baz=79					
V31A	Spring Creek L	79.36	50	⇑P	P	21 58 03.1 +1.1
	baz=79					
BCLA	Clavier	79.47	336	P	P	21 58 01.9 -0.3
SOKA	Soboth	79.56	329	⇑iP	P	21 58 02.8 0.0
	comp=Z,17nm,0.8s,SNR=16					
PERS	Pernice	79.56	329	eP	P	21 58 02.8 -0.1
VTS	Vitosha	79.60	322	P	P	21 58 02.9 -0.3
VTS	Vitosha	79.60	322	P	P	21 58 02.9 -0.3
VTS	Vitosha	79.60	322	⇓iP	P	21 58 03.9 +0.7
VTS	Vitosha	79.60	322	P	P	21 58 02.9 -0.3
FUR	Furstenfeldbru	79.61	332	eP	P	21 58 03.0 0.0
	comp=Z,35nm,1.0s					
ALN	Alexandroupoli	79.65	319	P	P	21 58 02.9 -0.4
ALN	Alexandroupoli	79.65	319	P	P	21 58 02.9 -0.4
ALN	Alexandroupoli	79.65	319	P	P	21 58 02.9 -0.4
SNF	Seneffe	79.68	337	P	P	21 58 03.3 0.0
RDO	Rodhopi	79.69	319	P	P	21 58 04.1 +0.6
RDO	Rodhopi	79.69	319	P	P	21 58 04.1 +0.6
W31A	Holland Ranch,	79.75	50	⇓P	P	21 58 04.6 +0.6
	baz=80					
DIVS	Divibare	79.76	324	P	P	21 58 03.4 -0.6
STU	Stuttgart	79.76	333	eP	P	21 58 03.5 -0.3
	comp=Z,38nm,0.9s					
U33A	Lingo Farm, Me	79.80	48	⇑P	P	21 58 04.8 +0.6
	baz=80					
KBA	Koelnbreinsper	79.83	330	⇑iP	P	21 58 04.9 +0.5
	comp=Z,16nm,0.5s,SNR=17					
V32A	Arapaho	79.83	49	⇑P	P	21 58 05.3 +0.9
	baz=80					
OBKA	Obir	79.88	329	⇑iP	P	21 58 04.3 -0.3
	comp=Z,10nm,0.7s					
GIVF	Givet	79.90	336	⇑iP	P	21 58 04.0 -0.5
GIVF	Givet	79.90	336	⇑iP	P	21 58 04.0 -0.5
GIVF	Givet	79.90	336	⇑iP	P	21 58 04.0 -0.5
DOU	Dourbes	79.97	337	P	P	21 58 04.5 -0.4
U34A	Anderson Ranch	80.10	48	⇓P	P	21 58 06.2 +0.3
	baz=80					
MYKA	Terra Mystica	80.10	330	⇑iP	P	21 58 05.1 -0.7
	comp=Z,5.5nm,0.5s					
BAIF	Baives	80.11	337	⇑iP	P	21

WTTA	Wattenberg	80.26	331	⇑	*i*	P	P	21 58 07.0	+0.2
	comp=Z,20nm,0.5s,SNR=15								
LJU	Ljubljana	80.28	329		*eP*		P	21 58 05.7	-0.9
KAVA	Kavala	80.28	320		P		P	21 58 07.0	+0.3
KAVA	Kavala	80.28	320		P		P	21 58 07.0	+0.3
NVR	Nevrokopi	80.30	320		P		P	21 58 07.2	+0.3
NVR	Nevrokopi	80.30	320		P		P	21 58 07.2	+0.3
RETA	Reutte	80.37	332		*i*	P	P	21 58 07.3	+0.1
	comp=Z,13nm,0.9s,SNR=6.8								
MOTA	Moosalm	80.38	331	⇑	*i*	P	P	21 58 07.4	+0.1
	comp=Z,16nm,0.7s,SNR=24								
BFO	Black Forest	80.42	334		*i*	P	P	21 58 07.4	0.0
BFO	Black Forest	80.42	334		*eP*		P	21 58 07.0	-0.4
	comp=Z,17nm,0.9s								
BFO	Black Forest	80.42	334		*eP*		P	21 58 06.8	-0.6
	comp=Z,15nm,1.0s								
BOJS	Bojanci	80.47	328		*i*	P	P	21 58 07.1	-0.5
Y31A	Rekieta Farm,	80.48	51	⇑	P		P	21 58 08.7	+0.8
	baz=80								
Z30A	Sanderson Ranc	80.50	52	⇓	P		P	21 58 08.9	+0.8
	baz=80								
CSS	Prodhromos	80.53	310		P		P	21 58 08.5	+0.3
CSS	Prodhromos	80.53	310		*eP*		P	21 58 07.5	-0.7
	comp=Z,2.1nm,0.8s								
228A	UT Block 9, Go	80.53	54	⇑	P		P	21 58 09.2	+0.9
	baz=80								
V34A	Guthrie	80.56	48	⇑	P		P	21 58 09.0	+0.7
	baz=80								
SRS	Serrai	80.61	320		P		P	21 58 08.4	-0.1
SRS	Serrai	80.61	320		P		P	21 58 08.4	-0.1
SRS	Serrai	80.61	320		P		P	21 58 08.4	-0.1
X32A	Elmer	80.68	50	⇑	P		P	21 58 09.7	+0.7
	baz=80								
CDF	Champ du Feu	80.68	334	⇑	*i*	P	P	21 58 08.5	-0.3
	comp=Z,45nm,0.9s								
CDF	Champ du Feu	80.68	334	⇑	*i*	P	P	21 58 08.5	-0.3
CDF						pmax	pmax		
	comp=Z,45nm,0.9s								
CDF	Champ du Feu	80.68	334	⇑	*i*	P	P	21 58 08.5	-0.3
	comp=Z,45nm,0.9s								
WMOK	Wichita Mounta	80.71	50		*eP*		P	21 58 08.2	-1.0
WMOK						pmax	pmax		
	comp=Z,2.0nm,0.5s								
WMOK	Wichita Mounta	80.71	50		*eP*		P	21 58 08.2	-1.0
	comp=Z,1.8nm,0.5s								
FETA	Feichten	80.78	332	⇑	*i*	P	P	21 58 09.5	0.0
	comp=Z,16nm,1.2s,SNR=5.8								
DAVA	Damuels	80.84	332	⇑	*i*	P	P	21 58 09.8	0.0
	comp=Z,16nm,0.6s,SNR=7.9								
LIA	Limnos Island	80.85	319		P		P	21 58 07.6	-2.1
LIA	Limnos Island	80.85	319		P		P	21 58 07.6	-2.1
W34A	Bridge Creek,	80.88	49	⇑	P		P	21 58 10.7	+0.7
	baz=81								
KNT	Kendrikon	80.89	321		P		P	21 58 09.7	-0.3
KNT	Kendrikon	80.89	321		P		P	21 58 09.7	-0.3
KNT	Kendrikon	80.89	321		P		P	21 58 09.7	-0.3
ECH	Echery	80.89	334		*eP*		P	21 58 09.3	-0.6
ECH						pmax	pmax		
	comp=Z,15nm,0.9s								
ECH	Echery	80.89	334		*eP*		P	21 58 09.3	-0.6
	comp=Z,15nm,0.9s								
Y32A	R-V Farms, Ver	80.90	51	⇑	P		P	21 58 10.9	+0.7
	baz=81								
VAY	Valandovo	80.91	321		*eP*		P	21 58 10.3	+0.3
PAGF	Fort de Pagny	81.02	335	⇑	*i*	P	P	21 58 10.7	+0.2
	comp=Z,14nm,0.6s								
PAGF	Fort de Pagny	81.02	335	⇑	*i*	P	P	21 58 10.7	+0.2
	comp=Z,14nm,0.6s								
Z31A	Sharp Cattle R	81.03	52	⇓	P		P	21 58 11.3	+0.4
	baz=81								
130A	Snyder	81.11	53	⇓	P		P	21 58 11.6	+0.3
	baz=81								
MEZF	Maizieres J'vi	81.27	336	⇑	*i*	P	P	21 58 11.8	0.0
	comp=Z,29nm,0.8s								
MEZF	Maizieres J'vi	81.27	336	⇑	*i*	P	P	21 58 11.8	0.0
	comp=Z,29nm,0.8s								
PLG	Polygyros	81.27	320		P		P	21 58 11.6	-0.4
PLG	Polygyros	81.27	320		P		P	21 58 11.6	-0.4
PLG	Polygyros	81.27	320		P		P	21 58 11.6	-0.4
HAU	Haudompre	81.33	335	⇑	*i*	P	P	21 58 11.7	-0.5
	comp=Z,17nm,0.7s								
HAU	Haudompre	81.33	335	⇑	*i*	P	P	21 58 11.7	-0.5
HAU						pmax	pmax		
	comp=Z,17nm,0.7s								
HAU	Haudompre	81.33	335	⇑	*i*	P	P	21 58 11.7	-0.5
	comp=Z,17nm,0.7s								
X34A	Smith Ranch, M	81.33	49	⇑	P		P	21 58 12.7	+0.3
	baz=81								
HINF	Hinteralfeld	81.34	334	⇑	*i*	P	P	21 58 11.6	-0.7
	comp=Z,9.3nm,0.5s								
HINF	Hinteralfeld	81.34	334	⇑	*i*	P	P	21 58 11.6	-0.7
HINF						pmax	pmax		
	comp=Z,9.0nm,0.5s								
HINF	Hinteralfeld	81.34	334	⇑	*i*	P	P	21 58 11.6	-0.7
	comp=Z,9.3nm,0.5s								
Y33A	Hilltop Ranch,	81.35	50	⇑	P		P	21 58 12.9	+0.4
	baz=81								
329A	Wagon Wheel Ra	81.35	54	⇑	P		P	21 58 13.0	+0.4
	baz=81								
Z32A	Haskell	81.41	51	⇓	P		P	21 58 13.3	+0.5
	baz=81								
TUL1	Leonard	81.41	47	⇓	P		P	21 58 13.2	+0.4
	baz=81								
PAIG	Paliouri	81.52	320		P		P	21 58 11.4	-1.9
PAIG	Paliouri	81.52	320		P		P	21 58 11.4	-1.9
PAIG	Paliouri	81.52	320		P		P	21 58 11.4	-1.9
SFTF	Sexfontaines	81.54	336	⇑	*i*	P	P	21 58 13.0	-0.3
	comp=Z,30nm,0.5s								
SFTF	Sexfontaines	81.54	336	⇑	*i*	P	P	21 58 13.0	-0.3
	comp=Z,30nm,0.5s								
PHP	Peshkopia	81.54	323		P		P	21 58 13.0	-0.5
PHP	Peshkopia	81.54	323		P		P	21 58 13.0	-0.5
PHP	Peshkopia	81.54	323		P		P	21 58 13.0	-0.5
230A	Sterling City	81.55	53	⇓	P		P	21 58 14.2	+0.5
	baz=81,SNR=6.0								
RAYN	Ar Rayn	81.59	295		*eP*		P	21 58 13.4	-0.6
	comp=Z,13nm,0.8s								
CHOS	Chios island	81.62	317		P		P	21 58 13.7	-0.3
CHOS	Chios island	81.62	317		P		P	21 58 13.7	-0.3
TUE	Stuetta	81.73	332		*eP*		P	21 58 13.8	-0.8
	comp=Z,11nm,0.6s								
Z33A	Whitaker Ranch	81.81	51	⇑	P		P	21 58 15.3	+0.3
	baz=82								
OHR	Ohrid	81.86	322		*eP*		P	21 58 13.4	-1.7
Y34A	Reagan Ranch,	81.86	50	⇓	P		P	21 58 15.5	+0.3
	baz=82								
330A	Mertzon	81.87	53	⇓	P		P	21 58 15.9	+0.5
	baz=82								
FNA	Florina	81.87	322		P		P	21 58 13.8	-1.4
FNA	Florina	81.87	322		P		P	21 58 13.8	-1.4
FNA	Florina	81.87	322		P		P	21 58 13.8	-1.4
TXAR	Lajitas Array	81.95	56		P		P	21 58 16.7	+0.8
	comp=Z,4.6nm,0.6s,baz=296,slow=3.6,SNR=40								
TXAR					pP		pP	21 58 56.3	+1.7
	comp=Z,2.4nm,0.8s,baz=286,slow=3.5,SNR=4.6								
231A	Bronte	81.96	53	⇓	P		P	21 58 16.3	+0.5
	baz=82								
AOS	Alonnisos	82.03	319		P		P	21 58 15.5	-0.5
AOS	Alonnisos	82.03	319		P		P	21 58 15.5	-0.5
429A	Davenport Ranc	82.03	54	⇑	P		P	21 58 16.8	+0.5
	baz=82								
XOR	Xorichti	82.20	320		P		P	21 58 16.0	-0.9
XOR	Xorichti	82.20	320		P		P	21 58 16.0	-0.9
529A	Stev Forest Ra	82.22	55	⇑	P		P	21 58 18.1	+0.9
	baz=82,SNR=7.7								
Z34A	Collier Ranch,	82.22	50	⇓	P		P	21 58 17.4	+0.3
	baz=82								
NEO	Neokhori	82.23	320		P		P	21 58 16.1	-1.0
NEO	Neokhori	82.23	320		P		P	21 58 16.1	-1.0
133A	Hamilton Ranch	82.24	51	⇑	P		P	21 58 17.6	+0.3
	baz=82								
430A	Baggett Ranch,	82.29	54	⇑	P		P	21 58 18.1	+0.5
	baz=82								
ARG	Arkhangelos	82.30	315		P		P	21 58 17.6	+0.2
ARG	Arkhangelos	82.30	315		P		P	21 58 17.6	+0.2
ARG	Arkhangelos	82.30	315		P		P	21 58 17.6	+0.2
NEST	Nestorio	82.31	322		P		P	21 58 16.4	-1.2
331A	San Angelo	82.37	53	⇓	P		P	21 58 18.4	+0.5
	baz=82								
232A	Coleman	82.37	52	⇓	P		P	21 58 18.1	+0.1
	baz=82,SNR=6.6								
MRKA	Markates	82.54	319		P		P	21 58 18.9	+0.2
FLN	La Foliniere	82.54	339	⇑	*i*	P	P	21 58 18.2	-0.3
	comp=Z,36nm,0.5s								
FLN	La Foliniere	82.54	339	⇑	*i*	P	P	21 58 18.2	-0.3
FLN						pmax	pmax		
	comp=Z,36nm,0.5s								
FLN	La Foliniere	82.54	339	⇑	*i*	P	P	21 58 18.2	-0.3
	comp=Z,36nm,0.5s								
Z35A	Perchaven, San	82.61	50	⇑	P		P	21 58 19.5	+0.4
	baz=82								
LDF	La Druitiere	82.61	339	⇑	*i*	P	P	21 58 18.4	-0.4
	comp=Z,17nm,0.6s								
LDF	La Druitiere	82.61	339	⇑	*i*	P	P	21 58 18.4	-0.4
LDF						pmax	pmax		
	comp=Z,17nm,0.6s								
LDF	La Druitiere	82.61	339	⇑	*i*	P	P	21 58 18.4	-0.4
	comp=Z,17nm,0.6s								
CABF	La Chapelle	82.65	334		*eP*		P	21 58 19.1	-0.1
	comp=Z,20nm,0.9s								
CABF	La Chapelle	82.65	334		*eP*		P	21 58 19.1	-0.1
CABF						pmax	pmax		
	comp=Z,20nm,0.9s								
CABF	La Chapelle	82.65	334		*eP*		P	21 58 19.1	-0.1
	comp=Z,20nm,0.9s								
332A	Millersview	82.70	53	⇓	P		P	21 58 20.4	+0.7
	baz=82								
530A	J-C Ranch, Com	82.71	54	⇓	P		P	21 58 20.5	+0.8
	baz=82,SNR=5.8								
134A	White-Moore Ra	82.73	51	⇓	P		P	21 58 20.1	+0.3
	baz=82								
LOR	Lormes	82.73	336	⇑	*i*	P	P	21 58 19.1	-0.4
	comp=Z,14nm,0.5s								
LOR	Lormes	82.73	336	⇑	*i*	P	P	21 58 19.1	-0.4
LOR						pmax	pmax		
	comp=Z,15nm,0.5s								
LOR	Lormes	82.73	336	⇑	*i*	P	P	21 58 19.1	-0.4
	comp=Z,14nm,0.5s								
431A	Sonora	82.73	54	⇓	P		P	21 58 20.3	+0.5
	baz=82								
APE	Apeiranthos	82.92	317		P		P	21 58 14.0	-6.7
APE	Apeiranthos	82.92	317		P		P	21 58 14.0	-6.7
APE	Apeiranthos	82.92	317		P		P	21 58 14.0	-6.7
GRR	Gorron	82.98	339		*eP*		P	21 58 20.7	0.0
	comp=Z,44nm,0.5s								
GRR	Gorron	82.98	339		*eP*		P	21 58 20.7	0.0
GRR						pmax	pmax		
	comp=Z,44nm,0.5s								
GRR	Gorron	82.98	339		*eP*		P	21 58 20.7	0.0
	comp=Z,44nm,0.5s								
SSF	Saint Saulge	83.02	336	⇑	*i*	P	P	21 58 20.7	-0.3
	comp=Z,7.8nm,0.4s								
SSF	Saint Saulge	83.02	336	⇑	*i*	P	P	21 58 20.7	-0.3
SSF						pmax	pmax		
	comp=Z,8.0nm,0.4s								
SSF	Saint Saulge	83.02	336	⇑	*i*	P	P	21 58 20.7	-0.3
	comp=Z,7.8nm,0.4s								
432A	Menard	83.05	53	⇓	P		P	21 58 21.9	+0.4
	baz=83								
HYF	Humbligny	83.08	337		*eP*		P	21 58 21.4	+0.1
HYF	Humbligny	83.08	337		*eP*		P	21 58 21.4	+0.1
135A	Vickery Place,	83.11	50	⇑	P		P	21 58 22.4	+0.7
	baz=83								
234A	Clairette	83.13	51	⇑	P		P	21 58 22.5	+0.7
	baz=83								
531A	Rocksprings	83.15	54	⇓	P		P	21 58 22.6	+0.6
	baz=83,SNR=6.1								
333A	Richland Sprin	83.17	52	⇓	P		P	21 58 22.6	+0.6
	baz=83								
EVR	Evrytania	83.19	320		P		P	21 58 20.9	-1.2
EVR	Evrytania	83.19	320		P		P	21 58 20.9	-1.2
DSF	Desfina	83.27	319		P		P	21 58 21.0	-1.5
DSF	Desfina	83.27	319		P		P	21 58 21.0	-1.5
SMF	Signal de Mont	83.30	336	⇑	*i*	P	P	21 58 22.3	-0.1
	comp=Z,32nm,0.7s								
SMF	Signal de Mont	83.30	336	⇑	*i*	P	P	21 58 22.3	-0.1
SMF						pmax	pmax		
	comp=Z,32nm,0.7s								
SMF	Signal de Mont	83.30	336	⇑	*i*	P	P	21 58 22.3	-0.1
	comp=Z,32nm,0.7s								
AVF	Avril sur Loir	83.31	336	⇑	*i*	P	P	21 58 22.4	0.0
	comp=Z,19nm,0.7s								
AVF	Avril sur Loir	83.31	336	⇑	*i*	P	P	21 58 22.4	0.0
AVF						pmax	pmax		
	comp=Z,19nm,0.6s								
AVF	Avril sur Loir	83.31	336	⇑	*i*	P	P	21 58 22.4	0.0
	comp=Z,19nm,0.6s								
DSL	Palaion Diasel	83.34	321		P		P	21 58 21.2	-1.6
DSL	Palaion Diasel	83.34	321		P		P	21 58 21.2	-1.6
JCT	Junction City	83.34	53	⇑	P		P	21 58 23.7	+0.7
	baz=83								
LPL	La Plagne	83.42	333	⇑	*i*	P	P	21 58 23.6	+0.2
	comp=Z,26nm,0.9s								
LPL	La Plagne	83.42	333	⇑	*i*	P	P	21 58 23.6	+0.2
LPL						pmax	pmax		
	comp=Z,26nm,0.9s								
LPL	La Plagne	83.42	333	⇑	*i*	P	P	21 58 23.6	+0.2
	comp=Z,26nm,0.9s								
LPG	La Plagne	83.44	333	⇑	*i*	P	P	21 58 23.8	+0.3
	comp=Z,23nm,0.8s								
LPG	La Plagne	83.44	333	⇑	*i*	P	P	21 58 23.8	+0.3
LPG						pmax	pmax		
	comp=Z,23nm,0.8s								
LPG	La Plagne	83.44	333	⇑	*i*	P	P	21 58 23.8	+0.3
	comp=Z,23nm,0.8s								
KEK	Kerkira	83.44	322		P		P	21 58 22.1	-1.2
KEK	Kerkira	83.44	322		P		P	21 58 22.1	-1.2
KALE	Kalithea	83.47	320		P		P	21 58 21.7	-1.8
KALE	Kalithea	83.47	320		P		P	21 58 21.7	-1.8
WHTX	Lake Whitney,	83.51	51	⇑	P		P	21 58 24.7	+0.9
	baz=83								
SGMF	Saint Gilles	83.53	340	⇑	*i*	P	P	21 58 23.7	+0.2
	comp=Z,26nm,0.7s								
SGMF	Saint Gilles	83.53	340	⇑	*i*	P	P	21 58 23.7	+0.2
SGMF						pmax	pmax		
	comp=Z,27nm,0.6s								
SGMF	Saint Gilles	83.53	340	⇑	*i*	P	P	21 58 23.7	+0.2
	comp=Z,26nm,0.6s								
433A	Art	83.54	53	⇓	P		P	21 58 24.6	+0.7
	baz=83								
EFP	Efpalio	83.55	320		P		P	21 58 23.3	-0.5
532A	Rocksprings	83.55	53	⇓	P		P	21 58 24.6	+0.6
	baz=83,SNR=8.2								
334A	Lometa	83.58	52	⇑	P		P	21 58 24.7	+0.5
	baz=83								
ROSF	Rostrenen	83.62	341	⇑	*i*	P	P	21 58 24.3	+0.3
	comp=Z,43nm,0.8s								
ROSF	Rostrenen	83.62	341	⇑	*i*	P	P	21 58 24.3	+0.3
ROSF						pmax	pmax		
	comp=Z,43nm,0.8s								
ROSF	Rostrenen	83.62	341	⇑	*i*	P	P	21 58 24.3	+0.3
	comp=Z,43nm,0.8s								
BGF	Bois d'Agland	83.67	336	⇑	*i*	P	P	21 58 24.2	-0.1
	comp=Z,5.7nm,0.5s								
BGF	Bois d'Agland	83.67	336	⇑	*i*	P	P	21 58 24.2	-0.1
BGF						pmax	pmax		
	comp=Z,6.0nm,0.5s								
BGF	Bois d'Agland	83.67	336	⇑	*i*	P	P	21 58 24.2	-0.1
	comp=Z,5.7nm,0.5s								
631A	Perdido Creek	83.70	54	⇑	P		P	21 58 25.4	+0.6
	baz=84								
PDO	Prodromos	83.73	320		P		P	21 58 23.8	-1.0
GUR	Goura	83.74	319		P		P	21 58 23.4	-1.6
GUR	Goura	83.74	319		P		P	21 58 23.4	-1.6
KLV	Kalavryta, Ach	83.74	319		P		P	21 58 23.8	-1.1
KLV	Kalavryta, Ach	83.74	319		P		P	21 58 23.8	-1.1
BNI	Bardonecchia	83.86	333		*eP*		P	21 58 25.0	-0.5
BNI						pmax	pmax		
	comp=Z,9.0nm,0.9s								
BNI	Bardonecchia	83.86	333		*eP*		P	21 58 25.0	-0.5
	comp=Z,9.1nm,0.9s								
434A	Burnet	83.95	52	⇑	P		P	21 58 26.5	+0.4
	baz=84								
QUIF	Quistinic	83.99	340	⇑	*i*	P	P	21 58 25.9	0.0
	comp=Z,34nm,0.8s								
QUIF	Quistinic	83.99	340	⇑	*i*	P	P	21 58 25.9	0.0
QUIF						pmax	pmax		
	comp=Z,34nm,0.8s								
QUIF	Quistinic	83.99	340	⇑	*i*	P	P	21 58 25.9	0.0
	comp=Z,34nm,0.8s								
DRO	Drossia	84.02	320		P		P	21 58 26.1	-0.2
RLS	Riolos of Patr	84.05	320		P		P	21 58 25.8	-0.5
RLS	Riolos of Patr	84.05	320		P		P	21 58 25.8	-0.5
632A	Uvalde	84.08	54	⇑	P		P	21 58 27.1	+0.3
	baz=84								
533A	Kerrville	84.08	53	⇓	P		P	21 58 27.0	+0.3
	baz=84								
TCF	Toulx Ste Croi	84.09	336	⇑	*i*	P	P	21 58 26.7	+0.2
	comp=Z,11nm,0.7s								
TCF	Toulx Ste Croi	84.09	336	⇑	*i*	P	P	21 58 26.7	+0.2
TCF						pmax	pmax		
	comp=Z,11nm,0.7s								
TCF	Toulx Ste Croi	84.09	336	⇑	*i*	P	P	21 58 26.7	+0.2
	comp=Z,11nm,0.7s								
ZKR	Zakros	84.12	315		P		P	21 58 26.6	-0.2
ZKR	Zakros	84.12	315		P		P	21 58 26.6	-0.2
ORIF	Oris-en-Rattie	84.23	334	⇑	*i*	P	P	21 58 27.5	+0.2
	comp=Z,20nm,0.7s								
ORIF	Oris-en-Rattie	84.23	334	⇑	*i*	P	P	21 58 27.5	+0.2
ORIF						pmax	pmax		
	comp=Z,20nm,0.7s								
ORIF	Oris-en-Rattie	84.23	334	⇑	*i*	P	P	21 58 27.5	+0.2
	comp=Z,20nm,0.7s								
NPS	Neapolis	84.31	316		P		P	21 58 26.4	-1.4
NPS	Neapolis	84.31	316		P		P	21 58 26.4	-1.4
NPS	Neapolis	84.31	316		P		P	21 58 26.4	-1.4
VLS	Valsamata	84.35	321		P		P	21 58 27.0	-0.9
VLS	Valsamata	84.35	321		P		P	21 58 27.0	-0.9
VLS	Valsamata	84.35	321		P		P	21 58 27.0	-0.9
534A	Blanco	84.43	53	⇑	P		P	21 58 29.0	+0.5
	baz=84								
MFF	Saint Martin d	84.45	338		*eP*		P	21 58 28.6	+0.4
	comp=Z,32nm,0.6s								
MFF	Saint Martin d	84.45	338		*eP*		P	21 58 28.6	+0.4
MFF						pmax	pmax		
	comp=Z,32nm,0.6s								
MFF	Saint Martin d	84.45	338		*eP*		P	21 58 28.6	+0.4
	comp=Z,32nm,0.6s								
LAST	Lasithi	84.46	316		P		P	21 58 27.5	-1.1
LAST	Lasithi	84.46	316		P		P	21 58 27.5	-1.1
633A	Saathoff Ranch	84.47	53	⇑	P		P	21 58 29.2	+0.6
	baz=84								
VIVF	Saint-Julien-I	84.66	334	⇑	*i*	P	P	21 58 29.7	+0.3
	comp=Z,18nm,0.9s								
VIVF	Saint-Julien-I	84.66	334	⇑	*i*	P	P	21 58 29.7	+0.3
VIVF						pmax	pmax		
	comp=Z,18nm,0.9s								
VIVF	Saint-Julien-I	84.66	334	⇑	*i*	P	P	21 58 29.7	+0.3
	comp=Z,18nm,0.9s								
SBF	Sospel	84.67	332	⇑	*i*	P	P	21 58 28.6	-0.9
	comp=Z,23nm,0.7s								
SBF	Sospel	84.67	332	⇑	*i*	P	P	21 58 28.6	-0.9
SBF						pmax	pmax		
	comp=Z,23nm,0.7s								
SBF	Sospel	84.67	332	⇑	*i*	P	P	21 58 28.6	-0.9
	comp=Z,23nm,0.7s								
238A	Jacksonville	84.77	49	⇑	P		P	21 58 30.5	+0.3
	baz=84								
436A	Wall Ranch, Ga	84.81	51	⇑	P		P	21 58 30.6	+0.3
	baz=85								
832A	Faith Ranch, C	84.89	55	⇑	P		P	21 58 30.8	0.0
	baz=85								
SIVA	Sivas	84.90	316		P		P	21 58 30.1	-0.6
SIVA	Sivas	84.90	316		P		P	21 58 30.1	-0.6
KARN	Karanos	85.03	317		P		P	21 58 30.6	-0.8
KARN	Karanos	85.03	317		P		P	21 58 30.6	-0.8
338A	Crockett	85.17	50	⇓	P		P	21 58 33.1	+1.0
	baz=85								
536A	Bastrop	85.19	52	⇑	P		P	21 58 33.2	+1.0
	baz=85								
RJF	Les Rejaudoux	85.19	337		*eP*		P	21 58 32.3	+0.3
	comp=Z,22nm,1.0s								
RJF	Les Rejaudoux	85.19	337		*eP*		P	21 58 32.3	+0.3
RJF						pmax	pmax		
	comp=Z,22nm,1.0s								
RJF	Les Rejaudoux	85.19	337		*eP*		P	21 58 32.3	+0.3
	comp=Z,22nm,1.0s								
FRF	La Foret Royal	85.19	332		*eP*		P	21 58 31.2	-0.8
FRF	La Foret Royal	85.19	332		*eP*		P	21 58 31.2	-0.8
FRF	La Foret Royal	85.19	332		*eP*		P	21 58 31.2	-0.8
PGF	Pioggiola	85.29	330	⇑	*i*	P	P	21 58 32.0	-0.7
	comp=Z,9.6nm,0.7s								
PGF	Pioggiola	85.29	330	⇑	*i*	P	P	21 58 32.0	-0.7
PGF						pmax	pmax		
	comp=Z,10.0nm,0.6s								
PGF	Pioggiola	85.29	330	⇑	*i*	P	P	21 58 32.0	-0.7
	comp=Z,9.6nm,0.6s								
CAF	Calviac	85.38	336	⇑	*i*	P	P	21 58 33.8	+0.8
	comp=Z,34nm,1.0s								
CAF	Calviac	85.38	336	⇑	*i*	P	P	21 58 33.8	+0.8
CAF						pmax	pmax		
	comp=Z,34nm,1.0s								
CAF	Calviac	85.38	336	⇑	*i*	P	P	21 58 33.8	+0.8
	comp=Z,34nm,1.0s								
LMR	La Mourre	85.44	332	⇑	*i*	P	P	21 58 33.0	-0.2
LMR	La Mourre	85.44	332	⇑	*i*	P	P	21 58 33.0	-0.2
LMR	La Mourre

BMW	**Boistfort Moun**	**4.57**	**60**	P	**Pn**	**21 50 24.9**	**-1.1**
BROR	**Big Rock Looko**	**4.67**	**88**	P	**Pn**	**21 50 26.7**	**-0.6**
NLWA	**Neilton Lookou**	**4.69**	**47**	*e*Pn	**Pn**	**21 50 26.7**	**-1.0**
NLWA				*e*Sn	**Sn**	**21 51 24.5**	**+2.3**
I04A	**Tendick Farm,** baz=4.8	**4.75**	**94**	P	**Pn**	**21 50 27.5**	**-1.0**
HBO	**Huckleberry Mo**	**4.81**	**93**	P	**Pn**	**21 50 29.6**	**+0.2**
LVP	**Lakeview Peak**	**4.95**	**67**	P	**Pn**	**21 50 31.5**	**+0.3**
OBC	**Olympics--Boni**	**5.02**	**41**	P	**Pn**	**21 50 32.0**	**-0.3**
FL2	**Flat Top 2**	**5.03**	**66**	P	**Pn**	**21 50 32.3**	**-0.1**
MTMW	**Mount Mitchell**	**5.07**	**68**	P	**Pn**	**21 50 32.8**	**0.0**
J04D	**Umpqua Nationa** baz=5.1	**5.08**	**100**	P	**Pn**	**21 50 32.3**	**-0.9**
TDL	**Tradedollar La**	**5.17**	**65**	P	**Pn**	**21 50 34.2**	**-0.1**
YBH	**Yreka Blue Hor** 0.3nm,0.3s,baz=299,slow=13,SNR=8.6	**5.27**	**117**	Pn	**Pn**	**21 50 37.9**	**+2.2**
YBH	0.2nm,0.3s,baz=322,slow=12,SNR=2.4			Sn	**Sn**	**21 51 36.3**	**-0.1**
HDW	**Hoodsport**	**5.29**	**49**	P	**Pn**	**21 50 35.7**	**-0.2**
VFP	**Flag Point**	**5.42**	**77**	P	**Pn**	**21 50 38.1**	**+0.2**
G05D	**Wamic, OR** baz=5.5	**5.52**	**78**	P	**Pn**	**21 50 38.9**	**-0.1**
LON	**Longmire**	**5.58**	**62**	P	**Pn**	**21 50 40.1**	**+0.2**
J05D	**Fort Rock, OR** baz=5.7	**5.69**	**98**	P	**Pn**	**21 50 41.7**	**+0.3**
JCW	**Jim Creek**	**6.22**	**49**	P	**Pn**	**21 50 49.2**	**+0.5**
CMW	**Cultus Mountai**	**6.26**	**47**	P	**Pn**	**21 50 49.9**	**+0.7**
NEW	**Newport** 0.3nm,0.3s,baz=241,slow=13,SNR=3.2	**9.09**	**60**	Pn	**Pn**	**21 51 25.7**	**-2.3**
NVAR	**Mina Array Bea** baz=301,slow=11,SNR=2.3	**9.94**	**123**	Pn	**Pn**	**21 51 42.0**	**+2.1**
HLID	**Hailey** baz=10	**10.52**	**89**	P	**Pn**	**21 51 49.7**	**+1.9**
PDAR	**Pinedale Array** 0.0nm,0.3s,baz=286,slow=13,SNR=3.1	**14.16**	**90**	Pn	**Pn**	**21 52 38.9**	**+1.3**
YKA	**Yellowknife Ar** 0.0nm,0.3s,baz=209,slow=11,SNR=6.0	**20.02**	**20**	P	Pn	21 53 49.6	-1.6
TXAR	**Lajitas Array** 1.4nm,1.2s,baz=317,slow=6.2,SNR=4.2	**25.04**	**118**	P	**P**	**21 54 38.9**	**-2.4**
H11N3	**WAKE ISLAND Hy** baz=49	**58.09**	**267**	T	T	23 01 32.1	
H11N2	**WAKE ISLAND Hy** baz=49	**58.09**	**267**	T	T	23 01 33.6	
H11N1	**WAKE ISLAND Hy** baz=49	**58.11**	**267**	T	T	23 01 35.1	
H11S1	**WAKE ISLAND Hy** baz=22	**59.03**	**266**	T	T	23 02 46.8	
H11S2	**WAKE ISLAND Hy** baz=22	**59.03**	**266**	T	T	23 02 48.1	
H11S3	**WAKE ISLAND Hy** baz=22	**59.04**	**266**	T	T	23 02 48.2	

IDC 22 21:49:42.9±4.7, 22°.29S×68°.46W, h0km, mb3.4/1, mb1 3.4/2, mb1mx3.3/19, mbtmp3.3/2, ML3.1/1, Error ellipse: s-maj=148.9km s-min=57.5km az=72.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 0.2nm,0.3s,baz=187,slow=16,SNR=6.6	**5.98**	**3**	Pn	Pn	21 51 13.2	-0.2
TORD	**Torodi Ar. Bea** 0.4nm,1.0s,baz=255,slow=5.7,SNR=4.2	**77.23**	**70**	P	P	22 01 39.4	0.0
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=323,slow=4.3,SNR=3.4	**146.02**	**37**	PKPbc	PKPdf	22 09 23.9	0.0

*IDC **22** 22:14:37.6±1.7, 10°.12S×119°.00E, h0km, mb3.8/5, mb1 3.7/8, mb1mx3.6/20, mbtmp3.6/8, ML3.3/3, Error ellipse: s-maj=55.6km s-min=21.1km az=39.0*
*ISCJB **22** 22:14:40.5±0.5, 10°.37S±0°.05×118°.91E±0°.04, h41km, mb3.8/5, Error ellipse: s-maj=6.6km s-min=5.1km az=3.1*
*AUST **22** 22:14:42.5, 10°.49S×118°.95E, h20km*
*DJA **22** 22:14:42.5±0.7, 10°.5±8°×11°.9E±°, h59km±12km, M4.2/10, mb4.8/1, mB4.7/1, MLv4.0/10, Mw(mB)3.9/1*
ISC 22 22:14:41.5±0.7, 10°.41S±0°.06×118°.93E±0°.04, h41km, n30, σ2°.46/31, mb3.9/5, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.89**	**31**	P	**Pn**	**22 14 56.0**	**-1.6**
WSI	**Waingapu**	**1.54**	**61**	P	**Pn**	**22 15 07.7**	**+1.3**
WSI				S	**Sn**	**22 15 27.6**	**+2.4**
WSI	**Waingapu** baz=1.6,SNR=8.0	**1.54**	**61**	P	**Pn**	**22 15 09.3**	**+2.9**
WSI	baz=1.6,SNR=8.5			S	**Sn**	**22 15 30.4**	**+5.2**
BASI	**Baing, Sumba**	**1.63**	**83**	P	**Pn**	**22 15 08.1**	**+0.3**
BASI				S	**Sn**	**22 15 28.4**	**+0.8**
EDFI	**Ende, Flores**	**3.19**	**59**	P	**Pn**	**22 15 30.2**	**+1.0**
MMRI	**Maumere**	**3.71**	**62**	P	**Pn**	**22 15 36.0**	**-0.3**
MMRI				S	**Sn**	**22 16 17.8**	**-1.0**
IGBI	**Denpasar**	**4.05**	**293**	P	**Pn**	**22 15 42.9**	**+1.9**
IGBI				S	**Sn**	**22 16 28.1**	**+0.8**
BATI	**Baumata**	**4.66**	**88**	P	**Pn**	**22 15 48.6**	**-0.9**
BATI	**Baumata** 2.8nm,0.3s,baz=311,slow=11,SNR=2.7	**4.66**	**88**	Pn	**Pn**	**22 15 47.2**	**-2.3**
BATI	6.4nm,0.3s,baz=220,slow=23,SNR=10.0			Sn	**Sn**	**22 16 45.6**	**+3.2**
BKSI	**Bulukumba**	**5.19**	**13**	P	**Pn**	**22 15 57.4**	**+0.7**
BNSI	**Bone**	**6.08**	**11**	P	**Sn**	**22 17 13.3**	**-4.1**
TTSI	**Tana Toraja**	**7.37**	**7**	P	x	22 17 11.3	
TTSI				S	**Sn**	**22 17 48.4**	**-0.7**
APSI	**Ampana**	**9.82**	**16**	P	Pn	22 17 07.2	+7.0
FITZ	**Fitzroy Crossi** baz=10.0,SNR=4.0	**10.04**	**140**	S	**Sn**	**22 18 53.7**	**-0.8**
LUWI	**Luwuk**	**10.06**	**23**	P	**Pn**	**22 17 02.9**	**-0.6**
LUWI	**Luwuk** baz=10,SNR=20	**10.06**	**23**	P	Pn	22 17 08.1	+4.6
KNRA	**Kununurra** baz=11,SNR=5.2	**10.92**	**120**	P	**Pn**	**22 17 17.9**	**+2.7**
MRSI	**Marisa**	**11.22**	**16**	P	Pn	22 17 26.6	+7.1
MTN	**Manton Dam** baz=12,SNR=4.5	**12.20**	**103**	S	**Sn**	**22 19 43.0**	**-4.5**
GIRL	**Giralia** baz=13,SNR=4.6	**12.97**	**200**	P	Pn	22 17 47.4	+4.2
MEEK	**Meekatharra** baz=16,SNR=13	**16.14**	**181**	P	**P**	**22 18 27.9**	**-0.4**
MEEK	baz=16,SNR=13			S	Sn	22 21 09.1	-15
KKM	**Kota Kinabalu** baz=17,SNR=3.4	**16.57**	**350**	P	Pn	22 18 26.7	-4.4
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=299,slow=14,SNR=5.7	**17.62**	**124**	P	**P**	**22 18 44.8**	**+0.1**
WRA	0.1nm,0.3s,baz=296,slow=24,SNR=4.8			S	Sn	22 21 51.3	-8.3
MORW	**Morawa** baz=19,SNR=3.6	**18.76**	**188**	P	Pn	22 19 04.6	+6.8
MORW	baz=19,SNR=3.7			S	**Sn**	**22 22 20.1**	**-6.8**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=315,slow=11,SNR=6.5	**19.44**	**135**	P	**Pn**	**22 19 08.7**	**+2.5**
USRK	**Ussuriysk Ar.** 1.1nm,0.5s,baz=169,slow=10,SNR=3.4	**55.63**	**11**	P	**P**	**22 24 13.2**	**-0.1**
SONM	**Songino Array** 0.5nm,0.5s,baz=169,slow=8.5,SNR=4.1	**59.05**	**350**	P	**P**	**22 24 38.2**	**+0.7**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=149,slow=5.4,SNR=5.3	**65.68**	**333**	P	**P**	**22 25 22.4**	**+0.7**
KURBB	**Kurchatov Arra** 0.3nm,0.5s,baz=139,slow=5.0,SNR=4.6	**70.20**	**334**	P	**P**	**22 25 50.8**	**+0.8**
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=136,slow=5.2,SNR=7.3	**70.33**	**339**	P	**P**	**22 25 50.8**	**+0.1**

MAN 22 22:25:26, 13°.39N×121°.10E, h34km, mb3.5, ML2.2, MS1.7, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.18**	**309**	⇓*e*P	Pn	22 25 31.7	+0.8
PGP				*i* S	Sb	22 25 35.7	-1.4
LUBP	**Lubang**	**0.90**	**293**	*e*P	Pb	22 25 42.9	-0.3
LUBP				*e*S	Sb	22 25 54.6	-0.3
SJMP	**San Jose**	**0.92**	**179**	*e*P	Pb	22 25 43.4	-0.1
SJMP				*e*S	Sn	22 25 54.9	+0.4

*JMA **22** 22:26:53.9±0.1, 22°.95N×120°.60E, h10km, M3.9*
*TAP **22** 22:26:55.3, 22°.95N×120°.72E, h23km, mL4.0, B*
*ISCJB **22** 22:26:56.6±0.2, 22°.93N±0°.01×120°.74E±0°.02, h24km±2km, mb3.3/4, Error ellipse: s-maj=2.7km s-min=2.0km az=168.1*
*IDC **22** 22:26:57.6±1.7, 21°.92N×121°.06E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/24, mbtmp3.4/4, Error ellipse: s-maj=155.1km s-min=22.6km az=65.0*
ISC 22 22:26:55.9±0.9, 22°.96N±0°.01×120°.71E±0°.02, h17km±8km, n75, σ0°.83/128, mb3.3/4, 10C-18D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian** baz=317	**0.17**	**318**	⇓*i*P	**Pb**	**22 27 01.3**	**+0.7**
SGST	baz=317			*i* S	**Sb**	**22 27 05.7**	**+1.8**
STYT	**Tauyuan** baz=17	**0.21**	**12**	⇓*i*P	**Pb**	**22 27 01.6**	**+0.2**
STYT	baz=17			*i* S	**Sb**	**22 27 06.1**	**+1.0**
SSD	**Sandimen** baz=200	**0.22**	**199**	⇑*i*P	**Pb**	**22 27 01.6**	**+0.1**
SSD	baz=200			*i* S	**Sb**	**22 27 05.5**	**+0.3**
CHN1	**Nanshi** baz=331	**0.28**	**324**	⇓*i*P	**Pb**	**22 27 03.0**	**+0.4**
CHN1	baz=331			*i* S	**Sb**	**22 27 08.5**	**+1.5**
TWM1	**Shoushan** baz=249	**0.29**	**244**	P	**Pb**	**22 27 03.3**	**+0.5**
TWM1	baz=249			*e*S	**Sn**	**22 27 10.2**	**-1.3**
WTP	**Ta-pu** baz=342	**0.30**	**343**	⇓*i*P	**Pb**	**22 27 03.1**	**+0.2**
WTP	baz=342			*i* S	**Sb**	**22 27 09.0**	**+1.3**
SGLT	**Jiouru** baz=218	**0.30**	**221**	*e*P	**Pb**	**22 27 03.4**	**+0.5**
SGLT	baz=218			*e*S	**Sn**	**22 27 10.2**	**-1.5**
CHN3	**Shinhua** baz=291	**0.34**	**291**	*e*P	**Pb**	**22 27 04.9**	**+1.4**
CHN3	baz=291			*e*S	**Sn**	**22 27 12.5**	**0.0**
TWG	**Pinlang** baz=112	**0.36**	**112**	⇓*i*P	**Pg**	**22 27 03.7**	**+0.2**
TWG	baz=112			*i* S	**Sb**	**22 27 09.3**	**0.0**
ELDTW	**Lidau** baz=57	**0.37**	**51**	⇑*i*P	**Pg**	**22 27 03.9**	**+0.3**
ELDTW	baz=57			S	**Sb**	**22 27 09.5**	**-0.2**
TWK	**Hsinying** baz=327	**0.37**	**327**	⇓*i*P	**Pb**	**22 27 04.1**	**0.0**
CHN4	**Tsaushan** baz=343	**0.41**	**345**	⇓*i*P	**Pb**	**22 27 04.7**	**0.0**
CHN4	baz=343			*e*S	**Sb**	**22 27 11.3**	**+0.6**
ECL	**Taimali** baz=142	**0.42**	**147**	⇓*i*P	**Pg**	**22 27 04.5**	**-0.1**
ECL	baz=142			*i* S	**Sg**	**22 27 10.5**	**+0.2**
TAI1	**Yung-k'ang** baz=281	**0.45**	**281**	P	**Pb**	**22 27 06.3**	**+0.9**
TAI1	baz=281			*e*S	**Sn**	**22 27 14.1**	**-1.1**
TTN	**Taitung** baz=117	**0.45**	**116**	P	**Pb**	**22 27 05.4**	**0.0**
TTN	baz=117			*i* S	**Sb**	**22 27 13.1**	**+1.2**
SCLT	**Jiali** baz=295	**0.52**	**295**	P	**Pb**	**22 27 07.2**	**+0.6**
SCLT	baz=295			*e*S	**Sn**	**22 27 17.1**	**0.0**
KAU	**Kaohsiung** baz=235	**0.53**	**224**	*e*P	**Pb**	**22 27 08.0**	**+1.2**
ALS	**Alishan** baz=1.0	**0.56**	**9**	⇓*i*P	**Pg**	**22 27 07.4**	**+0.2**
ALS	baz=1.0			S	**Sb**	**22 27 16.3**	**+1.0**
YUS	**Yu-Shan** baz=22	**0.58**	**23**	⇑*i*P	**Pb**	**22 27 07.9**	**0.0**
YUS	baz=22			*i* S	**Sb**	**22 27 16.2**	**+0.2**
EAST	**Anshuo** baz=168	**0.58**	**167**	⇓*i*P	**Pg**	**22 27 07.5**	**0.0**
EAST	baz=168			*i* S	**Sg**	**22 27 15.3**	**0.0**
SCZT	**Fangliau** baz=189	**0.59**	**188**	⇓*i*P	**Pg**	**22 27 07.6**	**+0.1**
SCZT	baz=189			*e*S	**Sb**	**22 27 16.0**	**+0.3**
CHN8	**Yiju** baz=322	**0.60**	**311**	*e*P	**Pb**	**22 27 08.1**	**+0.1**
CHN8	baz=322			*e*S	**Sn**	**22 27 18.4**	**-0.6**
CHY	**Chiayi** baz=334	**0.60**	**334**	⇓*i*P	**Pb**	**22 27 08.4**	**+0.4**
CHY	baz=334			*i* S	**Sn**	**22 27 18.0**	**-1.1**
CHN2	**Minshiung** baz=338	**0.61**	**340**	P	**Pb**	**22 27 08.5**	**+0.3**
CHN2	baz=338			*i* S	**Sn**	**22 27 18.8**	**-0.6**
TAW	**Tawu** baz=164	**0.62**	**164**	⇓*i*P	**Pg**	**22 27 08.0**	**-0.2**
TAW	baz=164			*i* S	**Sg**	**22 27 16.3**	**-0.1**
CHKT	**Chengkung** baz=89	**0.62**	**77**	⇑*i*P	**Pg**	**22 27 08.2**	**0.0**
CHKT	baz=89			*i* S	**Sb**	**22 27 18.1**	**+1.3**
CHN5	**Tsauling** baz=356	**0.64**	**358**	⇓*i*P	**Pg**	**22 27 08.6**	**+0.1**
CHN5	baz=356			*e*S	**Sb**	**22 27 18.2**	**+0.8**
TWF1	**Yuli** baz=58	**0.67**	**54**	⇑*i*P	**Pg**	**22 27 08.9**	**-0.3**
TWF1	baz=58			*i* S	**Sg**	**22 27 17.8**	**-0.3**
TWP	**Hsiaoliuchiu** baz=208	**0.69**	**208**	⇑*i*P	**Pn**	**22 27 11.2**	**+0.4**
TWP	baz=208			*e*S	**Sn**	**22 27 23.4**	**+2.3**
WGK	**Gukeng** baz=349	**0.74**	**350**	P	**Pb**	**22 27 10.8**	**+0.4**
WGK	baz=349			*e*S	**Sn**	**22 27 22.1**	**-0.3**
EHY	**Hungye** baz=51	**0.79**	**46**	⇑*i*P	**Pb**	**22 27 10.8**	**-0.4**
EHY	baz=51			S	**Sb**	**22 27 21.1**	**-0.5**
WSF	**Szhu** baz=327	**0.81**	**327**	P	**Pb**	**22 27 11.4**	**-0.2**
WSF	baz=327			*e*S	**Sn**	**22 27 24.3**	**0.0**
WDT	**Danda** baz=31	**0.89**	**26**	⇑*i*P	**Pb**	**22 27 12.6**	**-0.5**
WNT	**Mingjian** baz=358	**0.92**	**359**	P	**Pb**	**22 27 13.4**	**0.0**
WNT	baz=358			*e*S	**Sn**	**22 27 27.5**	**+0.6**
SMLT	**Sun Moon Lake** baz=358	**0.94**	**11**	P	**Pg**	**22 27 14.2**	**0.0**
SMLT	baz=358			*i* S	**Sn**	**22 27 28.2**	**+0.6**
HEN	**Hengchun** baz=172	**0.94**	**178**	P	**Pb**	**22 27 13.7**	**-0.1**
HEN	baz=172			S	**Sn**	**22 27 27.6**	**+0.1**
TYC	**Yuchr** baz=8.0	**0.95**	**8**	⇓P	**Pb**	**22 27 14.0**	**0.0**
TYC	baz=8.0			S	**Sn**	**22 27 29.1**	**+1.3**
WTCT	**Ta-ch'eng** baz=336	**0.99**	**337**	*e*P	**Pb**	**22 27 13.9**	**-0.6**
WTCT	baz=336			*e*S	**Sb**	**22 27 27.8**	**+0.5**
TWK1	**Hengchun** baz=175	**1.01**	**175**	⇓P	**Pb**	**22 27 14.7**	**-0.3**
TWK1	baz=175			S	**Sg**	**22 27 29.1**	**+0.3**
WDGT	**Dungji** baz=288	**1.01**	**288**	*e*P	**Pb**	**22 27 13.6**	**-1.4**
WDGT	baz=288			*e*S	**Sb**	**22 27 26.8**	**-1.2**
TSEB	**Hengchuen, Pin** baz=174	**1.06**	**170**	*e*P	**Pb**	**22 27 15.9**	**0.0**
TSEB	baz=174			*e*S	**Sn**	**22 27 32.2**	**+1.7**
ESL	**Shilin** baz=27	**1.08**	**38**	⇑P	**Pb**	**22 27 15.7**	**-0.5**
ESL	baz=27			*e*S	**Sb**	**22 27 30.7**	**+0.5**
TCU	**Taichung** baz=343	**1.19**	**359**	*e*P	**Pn**	**22 27 17.7**	**0.0**
LAY	**Lan-yu** baz=129	**1.20**	**139**	*e*P	**Pn**	**22 27 16.5**	**-1.5**
PNG	**Penghu** baz=300	**1.22**	**300**	*e*P	**Pn**	**22 27 16.6**	**-1.7**
PNG	baz=300			*e*S	**Sb**	**22 27 32.0**	**-2.1**
WHF	**Hehuan Shan** baz=33	**1.29**	**23**	⇑*i*P	**Pn**	**22 27 19.5**	**-0.1**
WHF	baz=33			S	**Sg**	**22 27 37.9**	**+0.1**
HWA	**Hwalien** baz=26	**1.31**	**39**	*e*P	**Pn**	**22 27 19.7**	**+0.3**
HWA	baz=26			*e*S	**Sg**	**22 27 38.4**	**+0.1**
TWT	**Tachien** baz=17	**1.36**	**18**	*e*P	**Pn**	**22 27 20.6**	**+0.2**
TWT	baz=17			*e*S	**Sb**	**22 27 39.2**	**+0.9**
TWD	**Chiawan** baz=36	**1.39**	**36**	P	**Pn**	**22 27 20.6**	**+0.1**
TWD	baz=36			S	**Sg**	**22 27 39.9**	**-0.8**
TWQ1	**Liyutan** baz=3.0	**1.39**	**2**	*e*P	**Pn**	**22 27 20.6**	**0.0**
TWQ1	baz=3.0			*e*S	**Sb**	**22 27 39.7**	**+0.8**
NSY	**Sanyi** baz=345	**1.46**	**2**	*e*P	**Pn**	**22 27 21.8**	**+0.3**
NNS	**Nan Shan** baz=22	**1.60**	**22**	⇓P	**Pb**	**22 27 24.6**	**-0.5**
NSTT	**Nanjuang** baz=10.0	**1.69**	**9**	*e*P	**Pn**	**22 27 25.2**	**+0.5**
NSTT	baz=10.0			*e*S	**Sb**	**22 27 47.8**	**+0.2**
ENA	**Nanau** baz=32	**1.75**	**33**	*e*P	**Pn**	**22 27 25.2**	**-0.3**
NSK	**Sanguang** baz=18	**1.81**	**19**	*e*P	**Pn**	**22 27 27.6**	**+1.1**
ENTT	**Nioudou** baz=25	**1.85**	**25**	*e*P	**Pn**	**22 27 28.3**	**+1.4**
ENTT	baz=25			*e*S	**Sb**	**22 27 53.4**	**+1.1**
TWC	**Suao** baz=32	**1.95**	**32**	*e*P	**Pn**	**22 27 29.0**	**+0.8**
TWC	baz=32			*e*S	**Sb**	**22 27 55.4**	**+0.4**
TWA	**Mucha** baz=5.0	**2.17**	**22**	*e*P	**Pb**	**22 27 33.3**	**-1.4**
NWF	**Wu-fen Shan** baz=7.0	**2.32**	**25**	*e*P	**Pb**	**22 27 36.0**	**-1.4**
TWB1	**Santiao Chiao** baz=29	**2.36**	**30**	*e*P	**Pb**	**22 27 36.2**	**-1.7**
TWY	**Chenhua** baz=18	**2.45**	**19**	*e*P	**Pn**	**22 27 36.9**	**+1.8**
JYNG	**Yonagunijimaku**	**2.54**	**54**	P	**Pn**	**22 27 36.6**	**+0.3**
JYNG				*e*S	**Sn**	**22 28 08.3**	**+1.5**
KNM	**Kinmen** baz=303	**2.54**	**305**	*e*P	**Pn**	**22 27 35.6**	**-0.8**
YOJ	**Yonaguni jima**	**2.59**	**54**	P	**Pn**	**22 27 37.5**	**+0.5**
YOJ				*e*S	**Sn**	**22 28 09.0**	**+0.9**
YOJ	**Yonaguni jima** baz=52	**2.59**	**54**	⇓*i*P	**Pn**	**22 27 37.3**	**+0.3**
YOJ	baz=52			*e*S	**Sn**	**22 28 08.3**	**+0.2**
HATJ	**Hateruma jima**	**3.05**	**68**	P	**Pn**	**22 27 43.2**	**-0.1**
HATJ				*e*S	**Sn**	**22 28 19.1**	**-0.3**
IRIF	**Iriomote-Funau**	**3.09**	**63**	P	**Pn**	**22 27 44.5**	**+0.5**
IRIF				*e*S	**Sn**	**22 28 21.4**	**+0.8**
JKRS	**Kuro-shima**	**3.29**	**66**	P	**Pn**	**22 27 46.9**	**+0.3**
JKRS				*e*S	**Sn**	**22 28 26.8**	**+1.5**
JIJ	**Ishigaki jima**	**3.45**	**65**	P	**Pn**	**22 27 48.3**	**-0.6**
JIJ				*e*S	**Sn**	**22 28 27.6**	**-1.7**
JISG	**Ishigakijimahi**	**3.68**	**63**	P	**Pn**	**22 27 51.4**	**-0.6**
JISG				*e*S	**Sn**	**22 28 33.5**	**-1.5**
JTJ	**Tarama**	**4.03**	**65**	P	**Pn**	**22 27 56.7**	**-0.1**
JTJ				*e*S	**Sn**	**22 28 42.5**	**-1.1**
SONM	**Songino Array** 0.2nm,0.3s,baz=147,slow=7.5,SNR=4.4	**27.34**	**339**	P	P	22 32 54.6	+15
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=107,slow=10,SNR=5.3	**38.93**	**317**	P	P	22 34 32.8	+12
WRA	**Warramunga Arr** 0.8nm,0.7s,baz=344,slow=8.8,SNR=5.9	**44.66**	**162**	P	P	22 35 03.9	-4.1
ASAR	**Alice Springs** 0.2nm,0.5s,baz=355,slow=13,SNR=4.8	**48.09**	**164**	P	P	22 35 30.4	-4.5

*CASC **22** 23:00:02.8±1.5, 12°.80N×90°.29W, h1km±8km, MD3.8, ML3.8*
*IDC **22** 23:00:02.6±1.0, 13°.27N×89°.67W, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.1/24, mbtmp4.1/12, ML3.9/1, MS3.7/5, Ms1 3.7/5, ms1mx3.2/31, Error ellipse: s-maj=39.4km s-min=16.1km az=48.0*
*NEIC **22** 23:00:09.7±1.2, 13°.13N×89°.94W, h52km±10km, mb4.5/21, Error ellipse: s-maj=15.6km s-min=8.2km az=45.0*
ISC 22 23:00:07.0±0.7, 13°.05N±0°.07×90°.07W±0°.06, h29km, n66, σ1°.69/62, mb4.5/30, MS3.6/5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.90**	**29**	*e*P	**Pb**	**23 00 25.4**	**+1.2**
SNJE	**San Jose**	**0.94**	**29**	*e*P	**Pb**	**23 00 26.6**	**+1.8**
RTR	**El Retiro**	**0.94**	**26**	*e*P	**Pb**	**23 00 26.6**	**+1.7**
RTR				*e*S	Sb	23 00 44.6	+7.5
BOQS	**Boqueron**	**1.03**	**48**	*e*P	**Pb**	**23 00 28.9**	**+2.5**
SNET	**Serv Nac Est T**	**1.04**	**52**	*e*S	Sb	23 00 48.2	+8.5
SNET	comp=Z,2μm,0.6s			AML	AML	23 00 53.1	
RBDL	**Robledal**	**1.13**	**19**	*e*P	**Pb**	**23 00 29.0**	**+1.1**
LFRS	**El Faro**	**1.14**	**60**	*e*P	**Pb**	**23 00 29.6**	**+1.5**
LBRS	**Las Brisas**	**1.22**	**55**	*e*P	**Pb**	**23 00 31.3**	**+1.9**
SNVI	**San Vicente**	**1.33**	**65**	*e*P	**Pb**	**23 00 31.9**	**+0.5**
PCG	**Pacaya**	**1.44**	**339**	*e*P	**Pn**	**23 00 32.3**	**+0.9**
NBG	**Las Nubes**	**1.56**	**350**	*e*P	**Pb**	**23 00 35.5**	**+0.2**
VSM	**San Miguel**	**1.79**	**78**	*e*P	**Pb**	**23 00 39.0**	**-0.4**
JAT	**Jato**	**1.98**	**310**	*e*P	**Pn**	**23 00 38.0**	**-0.5**
APG	**El Apazote** comp=Z,96nm,0.3s,baz=150,slow=6.8,SNR=741	**1.98**	**349**	Pn	Pn	23 00 35.5	-3.3
APG	comp=Z,37nm,0.3s,baz=118,slow=20,SNR=5.8			Sn	**Sn**	**23 01 03.8**	**+0.9**
MRL	**Marmol**	**2.04**	**10**	*e*P	**Pb**	**23 00 43.8**	**+0.2**
MRL				*e*S	**Sn**	**23 00 59.1**	**-5.1**
COPN	**Copaltepe**	**3.51**	**104**	*e*P	**Pn**	**23 00 59.8**	**+0.3**
JTS	**JuntasAbangare** comp=Z,5.1nm,0.3s,baz=112,slow=23,SNR=16	**5.71**	**118**	Pn	**Pn**	**23 01 32.0**	**+2.1**
CMIG	**Matias Romero** comp=Z,2.4nm,0.3s,baz=102,slow=11,SNR=23	**6.14**	**311**	Pn	**Pn**	**23 01 35.7**	**-0.2**
CMIG	comp=Z,1.9nm,0.3s,baz=197,slow=17,SNR=2.8			Sn	**Sn**	**23 02 50.2**	**+5.0**
HUIG	**Huatulco**	**6.44**	**296**	P	**Pn**	**23 01 37.8**	**-2.2**
TEIG	**Tepich** comp=Z,2.5nm,0.3s,baz=7.1,slow=22,SNR=14	**7.34**	**13**	Pn	**Pn**	23 01 56.1	+3.8
TEIG	**Tepich** comp=Z,25nm,0.5s	**7.34**	**13**	*e*Pn	**Pn**	**23 01 53.6**	**+1.3**
TEIG				Sn	Sn	23 02 41.3	-33
VHO	**Vista Hermosa**	**7.58**	**303**	P	Pn	23 02 03.8	+8.1
JCT	**Junction City** comp=Z,21nm,1.5s	**19.54**	**334**	*e*P	**Pn**	**23 04 37.4**	**+3.5**
WHTX	**Lake Whitney,** comp=Z,71nm,2.0s	**20.04**	**341**	*e*P	**P**	**23 04 37.9**	**+0.1**
TXAR	**Lajitas Array** comp=Z,2.3nm,0.5s,baz=146,slow=12,SNR=34	**20.54**	**324**	P	Pn	23 04 45.2	-0.5
MIAR	**Mount Ida** comp=Z,16nm,1.3s	**21.64**	**352**	*e*P	**P**	**23 04 54.4**	**-0.6**
WVT	**Waverly** comp=Z,7.0nm,0.9s	**23.07**	**5**	*e*P	**P**	**23 05 10.3**	**+0.1**
W34A	**Bridge Creek,** comp=Z,66nm,1.5s	**23.16**	**344**	*e*P	**P**	**23 05 10.6**	**-0.6**
TKL	**Tuckaleechee C** comp=Z,4.4nm,0.9s,baz=176,slow=16,SNR=2.6	**23.22**	**13**	P	**P**	**23 05 12.2**	**+0.4**
TKL	comp=Z,236nm,19.4s,baz=189,slow=37			LR	LR	23 14 15.8	
MNTX	**Cornudas Mount** comp=Z,25nm,1.4s	**23.29**	**325**	*e*P	**P**	**23 05 12.9**	**+0.3**
V34A	**Guthrie** comp=Z,40nm,0.9s	**23.66**	**345**	*e*P	**P**	**23 05 14.7**	**-1.4**
USIN	**University of** comp=Z,82nm,1.5s	**24.91**	**5**	*e*P	**P**	**23 05 28.1**	**+0.6**
121A	**Cookes Peak, D** comp=Z,20nm,1.2s	**25.28**	**323**	*e*P	**P**	**23 05 32.0**	**+0.9**
WCI	**Wyandotte Cave**	**25.30**	**7**	*e*P	**P**	**23 05 31.4**	**+0.

comp=Z,3.2nm,1.0s
CCUT Cedar City 32.05 324 *eP* **P 23 06 33.8 +2.3**
comp=Z,6.8nm,1.3s
SPMN Marine on St. 32.16 356 *eP* **P 23 06 30.7 -1.4**
comp=Z,9.5nm,0.8s
PTGA Pitinga 32.84 112 LR LR 23 20 43.6
comp=Z,144nm,20.1s,baz=228,slow=38
TPNV Topopah Spring 33.40 320 *eP* P 23 06 46.8 +3.6
comp=Z,5.0nm,1.1s
PDAR Pinedale Array 34.08 334 P **P 23 06 48.8 -0.4**
comp=Z,0.5nm,0.6s,baz=134,slow=11,SNR=4.2
PDAR LR LR 23 23 06.3
comp=Z,77nm,18.3s,baz=132,slow=41
REDW Red Top Meadow 35.12 333 *eP* **P 23 06 58.6 +0.4**
comp=Z,21nm,1.5s
LOHW Long Hollow 35.21 334 *eP* **P 23 06 59.3 +0.4**
comp=Z,15nm,1.8s
TPAW Teton Pass 35.26 333 *eP* **P 23 07 01.1 +1.7**
comp=Z,13nm,1.4s
ELK Elko 35.31 326 *eP* **P 23 07 01.4 +1.5**
AGMN Agassiz Nation 35.47 353 *eP* **P 23 06 59.5 -1.4**
NVAR Mina Array Bea 35.59 320 P **P 23 07 03.7 +1.4**
comp=Z,5.0nm,0.6s,baz=134,slow=7.9,SNR=21
NVAR PcP **PcP 23 09 32.8 +1.9**
comp=Z,0.7nm,0.5s,baz=116,slow=4.1,SNR=4.1
BMN Battle Mountai 36.21 324 *eP* **P 23 07 08.4 +0.9**
WAKR Walker 36.35 320 *eP* **P 23 07 09.9 +1.1**
HLID Hailey 36.92 330 *eP* **P 23 07 15.3 +1.8**
comp=Z,8.7nm,1.8s
MCMT McKenzie Canyo 37.16 333 *eP* **P 23 07 16.4 +0.8**
comp=Z,1.8nm,0.7s
ULM Lac du Bonnet 37.40 354 P **P 23 07 15.4 -1.9**
comp=Z,7.3nm,1.0s,baz=171,slow=8.7,SNR=9.2
ULM LR LR 23 23 57.1
comp=Z,91nm,18.3s,baz=189,slow=38
F10A Beach Ranch, E 40.05 330 *eP* **P 23 07 39.5 -0.2**
comp=Z,5.4nm,0.8s
SIV San Ignacio 40.68 134 P **P 23 07 44.8 -0.3**
comp=Z,2.2nm,0.8s,baz=310,slow=10.0,SNR=4.0
H04A Detroit Lake 41.75 325 *eP* **P 23 07 54.4 +0.6**
comp=Z,14nm,0.9s
FFC Flin Flon 42.62 350 *eP* **P 23 07 59.7 -0.9**
comp=Z,19nm,1.7s
SCHQ Schefferville 45.49 19 P **P 23 08 21.8 -1.8**
comp=Z,5.9nm,0.7s,baz=223,slow=6.9,SNR=18
YKA Yellowknife Ar 52.39 346 P **P 23 09 14.6 -1.7**
comp=Z,2.3nm,0.7s,baz=144,slow=7.7,SNR=36
ILAR Eielson Array 64.45 337 P **P 23 10 39.5 -1.0**
comp=Z,1.5nm,1.0s,baz=144,slow=4.4,SNR=5.6
DBIC Dimbokro 83.88 85 P **P 23 12 33.1 -1.7**
comp=Z,3.8nm,1.0s,baz=199,slow=4.9,SNR=3.1
ARCES ARCESS Array B 86.45 19 LR LR 23 50 22.4
comp=Z,44nm,20.2s,baz=340,slow=35
TORD Torodi Ar. Bea 88.77 77 P **P 23 12 56.8 -2.0**
comp=Z,0.3nm,1.0s,baz=270,slow=3.6,SNR=3.0
SONM Songino Array 117.64 348 PKP **PKPdf 23 18 50.7 0.0**
comp=Z,0.2nm,0.6s,baz=23,slow=4.7,SNR=3.2
MKAR Makanchi Array 120.04 6 PKP **PKPdf 23 18 52.6 -2.5**
comp=Z,0.1nm,0.4s,baz=333,slow=2.4,SNR=2.8
WRA Warramunga Arr 136.97 255 PKP **PKPdf 23 19 28.6 +0.7**
comp=Z,0.3nm,0.6s,baz=86,slow=2.8,SNR=2.7
CMAR Chiang Mai Arr 147.46 344 PKPbc **PKPdf 23 19 47.4 +0.7**
comp=Z,1.4nm,0.3s,baz=336,slow=3.8,SNR=16

*IDC **22** 23:01:24.5±0.8, 18°.44N×121°.25E, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.6/25, mbtmp3.6/7, Error ellipse: s-maj=36.6km s-min=20.8km az=65.0*
*MAN **22** 23:01:31, 18°.48N×120°.77E, h20km, mb4.5, ML3.4, MS3.2*
MAN INTENSITY II - PASUQUIN ILOCOS NORTE.
ISC 22 23:01:31.5±0.9, 18°.45N±0°.07×120°.72E±0°.07, h48km±7km, n15, σ2s14/22, mb3.5/6, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasquin**	**0.16**	**218**	⇑*iP*	**Pn**	**23 01 38.4**	**-1.0**
PIP				*eS*	**Sn**	**23 01 43.7**	**-1.2**
SIPP	**Brgy, Tapao**	**0.58**	**206**	⇑*eP*	**Pn**	**23 01 43.8**	**+0.1**
SIPP				*i* S	**Sn**	**23 01 56.1**	**+3.8**
APYP	**Conner**	**0.77**	**140**	*eP*	**Pn**	**23 01 46.5**	**+0.4**
APYP				*eS*	**Sn**	**23 01 58.0**	**+1.4**
ABRA	**Dolores**	**0.80**	**181**	*eP*	**Pn**	**23 01 47.1**	**+0.6**
ABRA				*eS*	**Sn**	**23 02 00.4**	**+3.1**
CVP	**Callao Caves**	**1.28**	**125**	⇓*iP*	**Pn**	**23 01 53.6**	**+0.5**
CVP				*i* S	**Sn**	**23 02 11.4**	**+2.3**
BCPH	**Baguio City Da**	**2.06**	**184**	⇑*iP*	**Pn**	**23 02 02.9**	**-1.0**
BCPH				*i* S	**Sn**	**23 02 23.6**	**-4.9**
BOLP	**Bolinao**	**2.20**	**201**	*eP*	**Pn**	**23 02 07.9**	**+2.3**
BALP	**Baler**	**2.81**	**163**	*eP*	Pn	23 02 18.2	+4.2
CMAR	**Chiang Mai Arr**	**20.66**	**273**	P	Pn	23 06 12.4	+2.2
	1.6nm,0.3s,baz=91,slow=9.9,SNR=3.0						
WRA	**Warramunga Arr**	**40.43**	**160**	P	**P**	**23 09 02.6**	**-2.8**
	0.6nm,0.6s,baz=342,slow=8.9,SNR=5.5						
WRA				PcP	**PcP**	**23 11 07.2**	**-0.5**
	0.6nm,0.8s,baz=342,slow=3.2,SNR=5.1						
MKAR	**Makanchi Array**	**42.31**	**321**	P	**P**	**23 09 22.7**	**+2.0**
	0.8nm,0.9s,baz=119,slow=9.9,SNR=7.3						
MKAR				PcP	**PcP**	**23 11 13.8**	**+0.2**
	0.2nm,0.7s,baz=93,slow=4.6,SNR=2.3						
ASAR	**Alice Springs**	**43.79**	**162**	P	**P**	**23 09 31.3**	**-1.5**
	0.3nm,0.3s,baz=347,slow=7.1,SNR=5.3						
BVAR	**Borovoye Array**	**51.92**	**324**	P	**P**	**23 10 36.9**	**+1.4**
	0.2nm,0.5s,baz=123,slow=7.4,SNR=2.9						
BVAR				PcP	**PcP**	**23 11 47.2**	**-0.4**
	0.4nm,0.5s,baz=116,slow=3.4,SNR=3.7						
ILAR	**Eielson Array**	**74.50**	**26**	P	**P**	**23 13 03.5**	**-1.3**
	0.2nm,0.5s,baz=273,slow=4.9,SNR=5.3						
YKA	**Yellowknife Ar**	**88.40**	**22**	P	**P**	**23 14 18.0**	**-0.2**
	0.7nm,0.8s,baz=310,slow=4.4,SNR=12						

KRSC 22 23:04:27.0±3.4, 49°.17N×157°.91E, h17km±7km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.41**	**343**	P	Pn	23 05 05.2	-0.3
PAU				S	Sn	23 05 34.5	0.0
MTVR	**Mutnovka**	**3.32**	**3**	P	Pn	23 05 20.5	+2.2
MTVR				S	Sb	23 06 02.7	-3.1
AVH	**Avacha**	**4.13**	**7**	P	Pn	23 05 34.0	+4.6
SMAR	**Somma**	**4.14**	**7**	P	Pn	23 05 34.3	+4.7
KOK	**Koryaka**	**4.15**	**6**	P	Pn	23 05 34.4	+4.7
SDLR	**Sedlovina**	**4.16**	**8**	P	Pn	23 05 33.6	+3.8
KRER	**Koryakskii**	**4.17**	**7**	P	Pn	23 05 34.4	+4.3
KRX	**Arik**	**4.22**	**6**	P	Pn	23 05 35.1	+4.4
GNL	**Ganaly**	**4.53**	**0**	P	Pn	23 05 38.3	+3.4
TUMR	**Tumrok**	**6.28**	**12**	P	Pn	23 06 05.3	+6.5
KBTR	**Krutoberegovo**	**7.65**	**21**	P	Pn	23 06 22.1	+4.6

IDC 22 23:09:12.5±3.7, 33°.93S×71°.53W, h0km, mb3.8/1, mb1 3.6/3, mb1mx3.5/15, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=154.8km s-min=24.5km az=91.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.84**	**174**	Pn	Pn	23 10 54.7	+0.5
	0.1nm,0.3s,baz=355,slow=18,SNR=2.4						
PLCA				Lg	Lg	23 12 49.4	
	0.5nm,0.3s,baz=325,slow=11,SNR=4.8						
LPAZ	**La Paz**	**17.83**	**11**	P	Pn	23 13 23.1	+0.2
	0.1nm,0.3s,baz=216,slow=7.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**83.79**	**70**	P	P	23 21 44.0	0.0
	0.6nm,0.7s,baz=239,slow=5.2,SNR=6.3						
BVAR	**Borovoye Array**	**146.94**	**43**	PKPbc	PKPdf	23 28 55.4	+0.9
	0.3nm,0.7s,baz=316,slow=4.0,SNR=3.6						
MKAR	**Makanchi Array**	**156.40**	**49**	PKPab	PKPab	23 29 37.1	-0.3
	0.2nm,0.6s,baz=302,slow=3.2,SNR=3.7						

IDC 22 23:10:59.2±17.0, 13°.16S×167°.32E, h149km±152km, mb3.3/5, mb1 3.5/5, mb1mx3.3/18, mbtmp3.7/5, Error ellipse: s-maj=100.7km s-min=50.1km az=134.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.28**	**253**	P	P	23 17 14.2	0.0
	0.4nm,0.6s,baz=85,slow=9.2,SNR=3.2						
ASAR	**Alice Springs**	**33.30**	**247**	P	P	23 17 22.9	-0.1
	0.3nm,0.5s,baz=76,slow=8.4,SNR=7.3						
SONM	**Songino Array**	**81.27**	**323**	P	P	23 22 58.7	-0.3
	0.2nm,0.6s,baz=149,slow=6.2,SNR=2.6						
ILAR	**Eielson Array**	**85.03**	**18**	P	P	23 23 17.7	0.0
	0.7nm,0.6s,baz=236,slow=5.3,SNR=13						
MKAR	**Makanchi Array**	**96.11**	**316**	P	P	23 24 10.2	+0.1
	0.2nm,0.5s,baz=92,slow=5.9,SNR=6.1						
ARCES	**ARCESS Array B**	**118.75**	**346**	PKP	PKPdf	23 29 29.1	-0.2
	0.5nm,0.5s,baz=331,slow=1.2,SNR=10.0						
FINES	**FINESS Array B**	**124.29**	**339**	PKP	PKPdf	23 29 39.6	-0.4
	1.6nm,0.8s,baz=98,slow=2.7,SNR=5.8						

GUC 22 23:11:04.6±0.4, 34°.75S×71°.83W, h44km±3km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.55**	**117**	*eP*	Pn	23 11 16.2	0.0
NICH				*eS*	Sn	23 11 24.6	+0.2
TALC	**Talca**	**0.66**	**166**	*eP*	Pn	23 11 17.5	-0.1
TALC				*eS*	Sn	23 11 27.7	+0.7
LNV	**Longovilo**	**0.86**	**24**	*eP*	Pn	23 11 20.6	+0.2
LNCH	**Linares**	**1.11**	**171**	*eP*	Pn	23 11 24.3	+0.6
LNCH				*eS*	Sn	23 11 39.3	+1.5
CHCH	**Chadas Angostu**	**1.27**	**50**	*eP*	Pn	23 11 26.7	+0.7
TACH	**Talagante**	**1.32**	**34**	*eP*	Pn	23 11 27.7	+1.1
ANTU	**Antumapu**	**1.54**	**40**	*eP*	Pn	23 11 31.0	+1.3
ANTU				*eS*	Sn	23 11 51.1	+2.6
ANTU				IAML		23 11 52.9	
	comp=E,1μm,0.2s						

*IDC **22** 23:22:49.5±76.0, 24°.79N×122°.90E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/25, mbtmp3.6/3, Error ellipse: s-maj=1332.0km s-min=165.9km az=134.0*
*ISCJB **22** 23:22:50.6±0.4, 23°.94N±0°.02×122°.41E±0°.02, h18km±3km, mb3.3/3, Error ellipse: s-maj=3.5km s-min=2.2km az=155.8*
*JMA **22** 23:22:50.8±0.3, 23°.94N×122°.42E, h14km±4km, M3.3*
*TAP **22** 23:22:51.4, 24°.01N×122°.40E, h29km, ML3.6, D*
ISC 22 23:22:49.8±1.1, 23°.94N±0°.02×122°.42E±0°.02, h18km±3km, n61, σ0s73/106, mb3.5/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.70**	**44**	P	**Pg**	**23 23 04.1**	**+0.5**
JYNG				*eS*	**Sb**	**23 23 12.7**	**0.0**
YOJ	**Yonaguni jima**	**0.75**	**46**	P	**Pg**	**23 23 05.2**	**+0.7**
YOJ				*eS*	**Sb**	**23 23 14.2**	**+0.1**
TWD	**Chiawan**	**0.76**	**280**	*eP*	**Pb**	**23 23 04.4**	**-0.1**
	baz=275						
TWD				S	**Sg**	**23 23 15.7**	**+0.8**
	baz=275						
ENA	**Nanau**	**0.78**	**308**	*eP*	**Pg**	**23 23 05.7**	**+0.5**
	baz=313						
ENA				*eS*	**Sg**	**23 23 15.9**	**+0.4**
	baz=313						
TWC	**Suao**	**0.84**	**322**	*eP*	**Pb**	**23 23 05.8**	**0.0**
	baz=320						
TWC				*eS*	**Sb**	**23 23 15.7**	**-1.1**
	baz=320						
ESL	**Shilin**	**0.91**	**262**	*eP*	**Pb**	**23 23 07.1**	**+0.1**
	baz=249						
ESL				*eS*	**Sb**	**23 23 18.8**	**0.0**
	baz=249						
ILA	**Ilan**	**1.02**	**323**	*eP*	**Pg**	**23 23 10.1**	**+0.4**
	baz=321						
ENTT	**Nioudou**	**1.04**	**312**	*eP*	**Pg**	**23 23 10.2**	**+0.2**
	baz=295						
ENTT				*eS*	**Sb**	**23 23 22.3**	**-0.3**
	baz=295						
WHF	**Hehuan Shan**	**1.07**	**281**	*eP*	**Pb**	**23 23 10.6**	**+0.5**
	baz=265						
WHF				*eS*	**Sb**	**23 23 24.4**	**+0.6**
	baz=265						
NNS	**Nan Shan**	**1.07**	**298**	*eP*	**Pg**	**23 23 10.8**	**+0.1**
	baz=294						
NNS				*eS*	**Sb**	**23 23 23.9**	**+0.2**
	baz=294						
EHY	**Hungye**	**1.09**	**247**	*eP*	**Pn**	**23 23 10.5**	**+0.3**
	baz=257						
EHY				*eS*	**Sb**	**23 23 24.1**	**+0.1**
	baz=257						
TWB1	**Santiao Chiao**	**1.13**	**340**	*eP*	**Pn**	**23 23 10.6**	**-0.1**
	baz=355						
TWB1				*eS*	**Sn**	**23 23 25.6**	**-0.1**
	baz=355						
TWT	**Tachien**	**1.18**	**285**	*eP*	**Pg**	**23 23 13.3**	**+0.7**
	baz=272						
TWF1	**Yuli**	**1.18**	**240**	*eP*	**Pb**	**23 23 12.4**	**+0.7**
	baz=236						
TWF1				*eS*	**Sb**	**23 23 26.9**	**+0.3**
	baz=236						
WDT	**Danda**	**1.19**	**261**	*eP*	**Pb**	**23 23 12.3**	**+0.4**
	baz=257						
NSK	**Sanguang**	**1.21**	**307**	*eP*	**Pb**	**23 23 12.8**	**+0.6**
	baz=292						
NSK				*eS*	**Sb**	**23 23 27.1**	**-0.4**
	baz=292						
IRIF	**Iriomote-Funau**	**1.26**	**72**	P	**Pb**	**23 23 13.6**	**+0.6**
IRIF				*eS*	**Sg**	**23 23 30.8**	**+0.1**
NWF	**Wu-fen Shan**	**1.26**	**333**	*eP*	**Pn**	**23 23 13.1**	**+0.5**
	baz=331						
NWF				*eS*	**Sn**	**23 23 29.6**	**+0.5**
	baz=331						
HATJ	**Hateruma jima**	**1.27**	**85**	P	**Pg**	**23 23 14.3**	**-0.2**
HATJ				*eS*	**Sg**	**23 23 31.0**	**-0.1**
CHKT	**Chengkung**	**1.28**	**229**	*eP*	**Pn**	**23 23 12.7**	**0.0**
	baz=226						
CHKT				*eS*	**Sb**	**23 23 28.6**	**-0.9**
	baz=226						
TWA	**Mucha**	**1.28**	**324**	*eP*	**Pn**	**23 23 13.1**	**+0.3**
	baz=322						
TWA				*eS*	**Sg**	**23 23 30.7**	**-0.6**
	baz=322						
TAP1	**Taipei**	**1.36**	**323**	*eP*	**Pn**	**23 23 12.8**	**-1.1**
	baz=321						
TAP1				*eS*	**Sn**	**23 23 31.6**	**+0.2**
	baz=321						
SMLT	**Sun Moon Lake**	**1.39**	**268**	*eP*	**Pn**	**23 23 14.9**	**+0.6**
	baz=264						
SMLT				*eS*	**Sn**	**23 23 32.5**	**+0.2**
	baz=264						
YUS	**Yu-Shan**	**1.42**	**252**	*eP*	**Pn**	**23 23 15.9**	**+0.9**
	baz=248						
YUS				*eS*	**Sn**	**23 23 33.6**	**+0.1**
	baz=248						
TYC	**Yuchr**	**1.43**	**269**	*eP*	**Pg**	**23 23 18.0**	**+0.6**
	baz=266						
NSTT	**Nanjuang**	**1.46**	**298**	*eP*	**Pb**	**23 23 17.2**	**+0.7**
	baz=295						
NSTT				*eS*	**Sb**	**23 23 35.0**	**+0.3**
	baz=295						
TWS1	**Kuangyinshan**	**1.47**	**322**	*eP*	**Pn**	**23 23 16.1**	**+0.8**
	baz=336						
TWS1				*eS*	**Sb**	**23 23 35.7**	**+0.8**
	baz=336						
JKRS	**Kuro-shima**	**1.48**	**78**	P	**Pb**	**23 23 17.9**	**+1.1**
JKRS				*eS*	**Sg**	**23 23 37.1**	**-0.7**
ELDTW	**Lidau**	**1.49**	**240**	*eP*	**Pn**	**23 23 16.2**	**+0.5**
	baz=236						
ELDTW				*eS*	**Sn**	**23 23 34.1**	**-0.7**
	baz=236						
TWY	**Chenhua**	**1.52**	**331**	*eP*	**Pn**	**23 23 16.6**	**+0.6**
	baz=329						
ALS	**Alishan**	**1.54**	**254**	*eP*	**Pn**	**23 23 17.4**	**+0.8**
	baz=250						
ALS				*eS*	**Sn**	**23 23 36.4**	**+0.2**
	baz=250						
TWQ1	**Liyutan**	**1.55**	**285**	*eP*	**Pb**	**23 23 18.8**	**+0.7**
	baz=283						
NSY	**Sanyi**	**1.58**	**288**	*eP*	**Pb**	**23 23 18.5**	**0.0**
	baz=284						
NSY				*eS*	**Sb**	**23 23 38.9**	**+0.6**
	baz=284						
TCU	**Taichung**	**1.60**	**278**	*eP*	**Pb**	**23 23 19.7**	**+0.8**
	baz=274						
TCU				*eS*	**Sb**	**23 23 38.8**	**0.0**
	baz=274						
CHN5	**Tsauling**	**1.63**	**258**	*eP*	**Pb**	**23 23 18.9**	**-0.4**
	baz=245						
CHN5				*eS*	**Sb**	**23 23 39.3**	**-0.3**
	baz=245						
JIJ	**Ishigaki jima**	**1.63**	**75**	P	**Pn**	**23 23 18.6**	**+1.0**
JIJ				*eS*	**Sn**	**23 23 38.6**	**+0.5**
TTN	**Taitung**	**1.66**	**225**	*eP*	**Pn**	**23 23 17.5**	**-0.5**
	baz=222						
TTN				*eS*	**Sn**	**23 23 39.2**	**+0.3**
	baz=222						
TWG	**Pinlang**	**1.67**	**228**	*eP*	**Pn**	**23 23 18.9**	**+0.8**
	baz=237						
TWG				*eS*	**Sn**	**23 23 39.0**	**0.0**
	baz=237						
PCYT	**Pengchaiyu**	**1.71**	**349**	*eP*	**Pn**	**23 23 18.9**	**+0.2**
	baz=334						
STYT	**Tauyuan**	**1.71**	**243**	*eP*	**Pn**	**23 23 20.0**	**+1.2**
	baz=231						
STYT				*eS*	**Sn**	**23 23 41.1**	**+1.0**
	baz=231						
CHN4	**Tsaushan**	**1.77**	**251**	*eP*	**Pg**	**23 23 23.4**	**-0.6**
	baz=248						
CHN4				*eS*	**Sb**	**23 23 43.5**	**-0.1**
	baz=248						
WTP	**Ta-pu**	**1.79**	**248**	*eP*	**Pb**	**23 23 22.7**	**+0.5**
	baz=244						
WTP				*eS*	**Sb**	**23 23 44.5**	**+0.2**
	baz=244						
CHN2	**Minshiung**	**1.83**	**257**	*eP*	**Pb**	**23 23 21.8**	**-0.9**
	baz=255						
JISG	**Ishigakijimahi**	**1.84**	**69**	P	**Pn**	**23 23 21.2**	**+0.7**
JISG				*eS*	**Sn**	**23 23 43.9**	**+0.6**
CHY	**Chiayi**	**1.88**	**257**	*eP*	**Pb**	**23 23 23.3**	**-0.2**
	baz=255						
SGST	**Jiashian**	**1.89**	**243**	*eP*	**Pb**	**23 23 23.8**	**+0.1**
	baz=232						
SGST				*eS*	**Sb**	**23 23 47.6**	**+0.5**
	baz=232						
CHN1	**Nanshi**	**1.89**	**247**	*eP*	**Pb**	**23 23 24.2**	**+0.4**
	baz=244						
CHN1				*eS*	**Sb**	**23 23 47.5**	**+0.5**
	baz=244						
TWK	**Hsinying**	**1.89**	**250**	*eP*	**Pb**	**23 23 23.6**	**-0.2**
	baz=246						
TWK				*eS*	**Sb**	**23 23 48.1**	**+0.9**
	baz=246						
SSD	**Sandimen**	**2.03**	**234**	*eP*	**Pn**	**23 23 23.2**	**+0.1**
	baz=227						
SSD				*eS*	**Sn**	**23 23 48.8**	**+0.8**
	baz=227						
LAY	**Lan-yu**	**2.06**	**203**	*eP*	**Pn**	**23 23 21.8**	**-1.7**
	baz=201						
LAY				*eS*	**Sn**	**23 23 48.5**	**-0.2**
	baz=201						
EAST	**Anshuo**	**2.12**	**223**	*eP*	**Pn**	**23 23 24.5**	**+0.2**
	baz=221						
TWM1	**Shoushan**	**2.15**	**239**	*eP*	**Pb**	**23 23 28.0**	**-0.1**
	baz=237						
JTJ	**Tarama**	**2.20**	**71**	*eS*	**Sb**	**23 23 55.7**	**-0.2**
SCZT	**Fangliau**	**2.28**	**227**	*eP*	**Pn**	**23 23 26.9**	**+0.4**
	baz=225						
TSEB	**Hengchuen, Pin**	**2.47**	**215**	*eP*	**Pn**	**23 23 29.2**	**+0.1**
	baz=222						
TSEB				*eS*	**Sn**	**23 24 01.3**	**+2.5**
	baz=222						
HEN	**Hengchun**	**2.47**	**219**	*eP*	**Pn**	**23 23 31.0**	**+1.8**
	baz=217						
HEN				*eS*	**Sn**	**23 24 00.2**	**+1.3**
	baz=217						
TWK1	**Hengchun**	**2.48**	**217**	*eP*	**Pn**	**23 23 30.7**	**+1.3**
	baz=215						
TWK1				*eS*	**Sn**	**23 23 59.6**	**+0.4**
	baz=215						
PNG	**Penghu**	**2.65**	**262**	*eP*	**Pn**	**23 23 32.9**	**+1.3**
	baz=260						
PNG				*eS*	**Sn**	**23 24 04.2**	**+1.0**
	baz=260						
SONM	**Songino Array**	**27.04**	**336**	P	**P**	**23 28 28.4**	**-2.6**
	0.3nm,0.7s,baz=141,slow=9.3,SNR=3.1						
MKAR	**Makanchi Array**	**39.29**	**316**	P	**P**	**23 30 17.6**	**0.0**
	0.5nm,0.4s,baz=102,slow=8.9,SNR=19						
ZALV	**Zalesovo Beam**	**41.06**	**327**	P	**P**	**23 30 30.9**	**-1.2**
	0.6nm,0.4s,baz=103,slow=9.0,SNR=3.9						

MAN 22 23:28:05, 16°.40N×121°.97E, h54km, mb4.2, ML3.0, MS2.7, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.75**	**210**	*eP*	Pn	23 28 21.2	+1.5
BALP				*eS*	Sn	23 28 33.2	+2.9
CVP	**Callao Caves**	**1.31**	**354**	⇓*iP*	Pn	23 28 27.7	+0.7
CVP				*i* S	Sn	23 28 43.9	+0.5
APYP	**Conner**	**1.62**	**335**	*eP*	Pn	23 28 31.9	+0.8
APYP				*eS*	Sn	23 28 51.4	+0.5
ABRA	**Dolores**	**1.73**	**316**	*eP*	Pn	23 28 34.6	+1.9
SGCP	**Mt. Cagua**	**1.84**	**2**	*eP*	Pn	23 28 35.4	+1.2
GQP	**Guinayangan**	**2.52**	**169**	⇓*eP*	Pn	23 28 45.2	+1.7
GQP				*eS*	Sn	23 29 13.2	+0.1
PVCP	**Virac**	**3.49**	**143**	*eP*	Pn	23 28 57.4	+0.5
PVCP				*eS*	Sn	23 29 35.6	-1.3

GUC 22 23:38:08.0±0.5, 35°.54S×72°.70W, h13km±3km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.59**	**187**	*eP*	Pg	23 38 18.8	-0.8
COCH				*eS*	Sg	23 38 26.6	-0.9
TALC	**Talca**	**0.88**	**81**	*eP*	Pg	23 38 23.3	-1.8
TALC				*eS*	Sg	23 38 34.9	-1.7
LNCH	**Linares**	**0.94**	**109**	*eP*	Pb	23 38 24.3	-1.9
LNCH				*eS*	Sb	23 38 36.8	-1.8
NICH	**Los Niches**	**1.32**	**66**	*eS*	Sb	23 38 47.0	-2.4
LNV	**Longovilo**	**1.91**	**34**	*eP*	Pn	23 38 39.6	-0.5
CLCH	**Cerro Calan**	**2.79**	**40**	*eP*	Pn	23 38 53.0	+0.5
CLCH				*eS*	Sn	23 39 26.8	+0.7
CLCH				IAML		23 39 42.7	
	comp=N,181nm,0.8s						
PEL	**Peldehue**	**2.92**	**35**	*eP*	Pn	23 38 54.2	+0.1
PEL				*eS*	Sn	23 39 30.1	+1.0
PEL				IAML		23 39 44.5	
	comp=E,185nm,0.8s						

*IDC **22** 23:52:01.7±6.0, 17°.26S×179°.11W, h494km±68km, mb3.3/8, mb1 3.6/9, mb1mx3.3/20, mbtmp4.1/9, Error ellipse: s-maj=56.3km s-min=27.6km az=148.0*
*ISCJB **22** 23:52:04.5±1.4, 17°.3S±0°.4×179°.3W±0°.3, h539km, mb3.7/8, Error ellipse: s-maj=55.2km s-min=15.7km az=147.3*
ISC 22 23:52:05.0±1.6, 17°.4S±0°.4×179°.2W±0°.3, h539km, n14, σ0s63/14, mb3.6/8, 3C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.27**	**249**	P	**P**	**23 55 06.3**	**-0.9**
	0.3nm,0.3s,baz=72,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**43.97**	**259**	P	**P**	**23 59 25.1**	**+0.3**
	1.9nm,0.8s,baz=94,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**44.18**	**254**	P	**P**	**23 59 27.6**	**+1.1**
	14nm,0.5s,baz=88,slow=8.2,SNR=224						
MJAR	**Matsushiro Arr**	**67.06**	**324**	P	**P**	**00 02 04.5**	**-0.4**
	2.0nm,0.5s,baz=163,slow=6.2,SNR=5.0						
NVAR	**Mina Array Bea**	**79.61**	**44**	P	**P**	**00 03 16.9**	**+0.1**
	0.4nm,0.5s,baz=214,slow=7.7,SNR=3.5						
SEY	**Seymch

ABRA	**Dolores**	**0.80 177**	*e*P	Pn	23 54 26.2	+1.4
ABRA			*e*S	Sn	23 54 37.2	+1.7
APYP	**Conner**	**0.80 137**	*e*P	Pn	23 54 25.9	+1.1
APYP			*e*S	Sn	23 54 37.4	+1.9
SGCP	**Mt. Cagua**	**1.32 99**	*e*P	Pn	23 54 32.8	+0.9
SGCP			*e*S	Sn	23 54 50.4	+2.1
CVP	**Callao Caves**	**1.32 124** ⇓*i*P		Pn	23 54 33.0	+1.1
CVP		*i* S		Sn	23 54 48.7	+0.3

*IDC **22** 23:58:34.1±60.0, 22°.62N×124°.06E, h0km, mb3.4/4, mb1 3.4/4, mb1mx3.2/25, mbtmp3.4/4, Error ellipse: s-maj=1082.0km s-min=174.9km az=132.0*
*ISCJB **22** 23:58:54.9±0.4, 23°.94N±0°.02×122°.42E±0°.02, h16km±4km, mb3.2/4, Error ellipse: s-maj=3.8km s-min=2.2km az=160.3*
*JMA **22** 23:58:55.3±0.3, 23°.99N×122°.41E, h16km±5km, M3.2*
*TAP **22** 23:58:56.3, 24°.03N×122°.37E, h27km, ML3.4, C*
ISC 22 23:58:54.5±1.1, 23°.97N±0°.03×122°.40E±0°.02, h18km±3km, n53, σ1§05/92, mb3.2/4, 1C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.69**	**46**	P	**Pg**	**23 59 08.2**	**+0.1**
JYNG				*e*S	**Sg**	**23 59 16.7**	**-0.6**
YOJ	**Yonaguni jima**	**0.74**	**48**	P	**Pg**	**23 59 09.2**	**+0.2**
YOJ				*e*S	**Sg**	**23 59 17.9**	**-1.0**
TWD	**Chiawan**	**0.75**	**279**	*e*P	**Pb**	**23 59 10.2**	**+1.2**
TWD	baz=274			*e*S	**Sg**	**23 59 19.9**	**+0.8**
ENA	**Nanau**	**0.76**	**307**	P	**Pg**	**23 59 09.7**	**+0.4**
ENA	baz=313			*e*S	**Sg**	**23 59 19.7**	**+0.3**
TWC	**Suao**	**0.82**	**322**	⇑P	**Pb**	**23 59 10.4**	**+0.3**
TWC	baz=321			*e*S	**Sb**	**23 59 21.2**	**+0.3**
ESL	**Shilin**	**0.90**	**260**	*e*P	**Pb**	**23 59 12.0**	**+0.4**
ESL	baz=248			*e*S	**Sb**	**23 59 23.6**	**+0.3**
ENTT	**Nioudou**	**1.02**	**311**	*e*P	**Pb**	**23 59 14.1**	**+0.5**
ENTT	baz=309			*e*S	**Sb**	**23 59 26.9**	**+0.2**
NNS	**Nan Shan**	**1.05**	**297**	⇓*i*P	**Pb**	**23 59 14.8**	**+0.5**
NNS	baz=294			*e*S	**Sb**	**23 59 28.1**	**+0.3**
WHF	**Hehuan Shan**	**1.06**	**280**	⇓*i*P	**Pb**	**23 59 14.9**	**+0.4**
WHF	baz=264			*e*S	**Sb**	**23 59 27.8**	**-0.4**
EHY	**Hungye**	**1.09**	**245**	P	**Pb**	**23 59 15.0**	**+0.1**
EHY	baz=256			*e*S	**Sb**	**23 59 29.1**	**+0.2**
TWB1	**Santiao Chiao**	**1.10**	**340**	P	**Pb**	**23 59 15.4**	**+0.3**
TWB1	baz=355			S	**Sg**	**23 59 30.3**	**0.0**
TWT	**Tachien**	**1.16**	**284**	*e*P	**Pb**	**23 59 17.3**	**+1.2**
TWT	baz=268			*e*S	**Sb**	**23 59 31.9**	**+1.1**
WDT	**Danda**	**1.18**	**260**	P	**Pn**	**23 59 16.8**	**+0.3**
WDT	baz=256			*e*S	**Sb**	**23 59 31.7**	**0.0**
TWF1	**Yuli**	**1.19**	**239**	*e*P	**Pn**	**23 59 16.4**	**+0.2**
TWF1	baz=236			*e*S	**Sb**	**23 59 31.0**	**-0.5**
NSK	**Sanguang**	**1.19**	**307**	⇓P	**Pn**	**23 59 16.8**	**+0.5**
NSK	baz=304			*e*S	**Sn**	**23 59 33.1**	**+1.0**
NWF	**Wu-fen Shan**	**1.24**	**333**	*e*P	**Pn**	**23 59 17.0**	**0.0**
NWF	baz=331			*e*S	**Sb**	**23 59 33.4**	**+0.4**
TWA	**Mucha**	**1.26**	**324**	*e*P	**Pn**	**23 59 18.0**	**+0.8**
TWA	baz=321			*e*S	**Sg**	**23 59 35.9**	**+0.7**
IRIF	**Iriomote-Funau**	**1.27**	**73**	P	**Pn**	**23 59 18.3**	**+1.0**
IRIF				*e*S	**Sn**	**23 59 34.6**	**+0.7**
HATJ	**Hateruma jima**	**1.28**	**86**	P	**Pb**	**23 59 19.4**	**+1.3**
HATJ				*e*S	**Sn**	**23 59 35.4**	**+1.1**
CHKT	**Chengkung**	**1.29**	**228**	*e*P	**Pn**	**23 59 17.5**	**-0.1**
CHKT	baz=226			*e*S	**Sb**	**23 59 32.5**	**-1.8**
TAP1	**Taipei**	**1.33**	**323**	*e*P	Pg	23 59 22.4	+2.2
SMLT	baz=320 **Sun Moon Lake**	**1.38**	**267**	*e*P	**Pn**	**23 59 20.3**	**+1.3**
SMLT	baz=254			*e*S	**Sn**	**23 59 36.4**	**-0.5**
YUS	**Yu-Shan**	**1.41**	**251**	*e*P	**Pn**	**23 59 20.3**	**+0.5**
YUS	baz=248			*e*S	**Sn**	**23 59 38.0**	**-0.3**
TYC	**Yuchr**	**1.42**	**268**	*e*P	**Pn**	**23 59 20.7**	**+1.4**
NSTT	baz=265 **Nanjuang**	**1.44**	**298**	*e*P	**Pn**	**23 59 20.8**	**+1.1**
NSTT	baz=295			*e*S	**Sn**	**23 59 39.1**	**+0.9**
TWS1	**Kuangyinshan**	**1.44**	**322**	*e*P	**Pn**	**23 59 20.7**	**+0.9**
ELDTW	baz=336 **Lidau**	**1.49**	**239**	*e*P	**Pn**	**23 59 20.5**	**0.0**
ELDTW	baz=237			*e*S	**Sn**	**23 59 38.2**	**-1.4**
JKRS	**Kuro-shima**	**1.49**	**79**	P	**Pn**	**23 59 21.3**	**+0.9**
JKRS				*e*S	**Sb**	**23 59 41.6**	**+1.3**
TWY	**Chenhua**	**1.50**	**331**	*e*P	**Pb**	**23 59 22.1**	**+0.4**
TWQ1	baz=329 **Liyutan**	**1.54**	**285**	*e*P	**Pn**	**23 59 22.5**	**+1.5**
TWQ1	baz=281			*e*S	**Sn**	**23 59 39.5**	**-1.1**
WNT	**Mingjian**	**1.58**	**267**	*e*P	**Pb**	**23 59 23.5**	**+0.4**
TCU	baz=265 **Taichung**	**1.59**	**277**	*e*P	**Pn**	**23 59 23.4**	**+1.6**
TCU	baz=273			*e*S	**Sg**	**23 59 45.8**	**0.0**
CHN5	**Tsauling**	**1.62**	**257**	*e*P	**Pn**	**23 59 23.1**	**+0.8**
CHN5	baz=245			*e*S	**Sb**	**23 59 45.1**	**+0.9**
JIJ	**Ishigaki jima**	**1.64**	**76**	P	**Pn**	**23 59 22.7**	**+0.3**
JIJ				*e*S	**Sn**	**23 59 42.8**	**-0.3**
TWG	**Pinlang**	**1.67**	**227**	*e*P	**Pn**	**23 59 23.0**	**0.0**
TWG	baz=237			*e*S	**Sn**	**23 59 42.6**	**-1.4**
PCYT	**Pengchaiyu**	**1.68**	**350**	*e*P	**Pn**	**23 59 23.1**	**+0.1**
STYT	baz=334 **Tauyuan**	**1.71**	**242**	*e*P	**Pn**	**23 59 24.6**	**+1.1**
STYT	baz=231			*e*S	**Sn**	**23 59 46.1**	**+1.2**
CHN4	**Tsaushan**	**1.77**	**250**	*e*P	**Pn**	**23 59 25.7**	**+1.5**
CHN4	baz=248			*e*S	**Sn**	**23 59 48.4**	**+2.0**
WTP	**Ta-pu**	**1.79**	**247**	*e*P	**Pn**	**23 59 25.9**	**+1.3**
WTP	baz=244			*e*S	**Sn**	**23 59 47.7**	**+0.7**
JISG	**Ishigakijimahi**	**1.85**	**70**	P	**Pn**	**23 59 25.4**	**+0.1**
JISG				*e*S	**Sn**	**23 59 48.0**	**-0.2**
CHN1	**Nanshi**	**1.89**	**246**	*e*P	**Pn**	**23 59 27.8**	**+1.9**
CHN1	baz=244			*e*S	**Sn**	**23 59 50.3**	**+0.9**
SGST	**Jiashian**	**1.89**	**243**	*e*P	**Pn**	**23 59 27.3**	**+1.4**
SGST	baz=232			*e*S	**Sb**	**23 59 52.4**	**+0.6**
TWK	**Hsinying**	**1.89**	**249**	*e*P	**Pn**	**23 59 28.3**	**+2.3**
TWK	baz=246			*e*S	**Sb**	**23 59 52.7**	**+0.9**
LAY	**Lan-yu**	**2.07**	**202**	*e*P	**Pn**	**23 59 28.4**	**-0.1**
EAST	baz=201 **Anshuo**	**2.13**	**223**	*e*P	**Pn**	**23 59 30.0**	**+0.8**
EAST	baz=222			*e*S	**Sn**	**23 59 54.8**	**-0.5**
JTJ	**Tarama**	**2.20**	**72**	*e*S	**Sn**	**23 59 59.6**	**+2.6**
SCZT	**Fangliau**	**2.28**	**226**	*e*P	**Pn**	**23 59 33.4**	**+2.1**
SCZT	baz=220			*e*S	**Sn**	**00 00 01.0**	**+2.0**
TSEB	**Hengchuen, Pin**	**2.48**	**214**	*e*P	**Pn**	**23 59 36.9**	**+2.9**
TWK1	baz=215 **Hengchun**	**2.50**	**217**	*e*P	**Pn**	**23 59 34.7**	**+0.4**
TWK1	baz=217			*e*S	**Sn**	**00 00 05.3**	**+1.0**
SONM	**Songino Array**	**27.01**	**336**	P	**P**	**00 04 34.6**	**-1.0**
MKAR	0.3nm,0.7s,baz=148,slow=9.6,SNR=2.5 **Makanchi Array**	**39.27**	**316**	P	**P**	**00 06 21.2**	**-0.9**
ZALV	0.3nm,0.4s,baz=102,slow=9.5,SNR=9.2 **Zalesovo Beam**	**41.03**	**327**	P	**P**	**00 06 34.9**	**-1.8**
KURBB	0.5nm,0.5s,baz=111,slow=7.9,SNR=3.4 **Kurchatov Arra**	**42.99**	**320**	P	**P**	**00 06 51.0**	**-1.6**
	0.1nm,0.3s,baz=108,slow=8.1,SNR=4.4					

*IDC **23** 00:07:21.1±2.0, 1°.08S×97°.82E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/34, mbtmp3.6/7, ML3.3/1, Error ellipse: s-maj=75.5km s-min=19.9km az=58.0*
*ISCJB **23** 00:07:23.4±1.4, 0°.9S±0°.2×98°.0E±0°.3, h26km, mb3.5/6, Error ellipse: s-maj=42.5km s-min=15.7km az=155.9*
ISC 23 00:07:25.9±1.8, 0°.9S±0°.2×98°.1E±0°.4, h26km, n17, σ0§73/8, mb3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.76**	**13**	Pn	**Pn**	**00 08 22.1**	**-0.4**
	2.1nm,0.3s,baz=135,slow=13,SNR=12						
H08S2	**Diego Garcia H**	**26.39**	**255**	T	T	00 40 06.7	
	baz=76,slow=75,SNR=136						
H08S3	**Diego Garcia H**	**26.39**	**255**	T	T	00 40 09.6	
	baz=76,slow=75,SNR=133						
H08S1	**Diego Garcia H**	**26.41**	**255**	T	T	00 40 10.1	
	baz=76,slow=75,SNR=68						
H08N1	**Diego Garcia H**	**27.56**	**258**	T	T	00 42 22.8	
	baz=19						
H08N2	**Diego Garcia H**	**27.57**	**258**	T	T	00 42 25.3	
	baz=19						
H08N3	**Diego Garcia H**	**27.58**	**258**	T	T	00 42 27.0	
	baz=19						
H01W3	**Cape Leeuwin H**	**36.98**	**158**	T	T	00 53 37.0	
	baz=333,slow=76,SNR=17						
H01W2	**Cape Leeuwin H**	**36.99**	**158**	T	T	00 53 37.6	
	baz=333,slow=76,SNR=22						
H01W1	**Cape Leeuwin H**	**36.99**	**158**	T	T	00 53 35.9	
	baz=333,slow=76,SNR=16						
WRA	**Warramunga Arr**	**40.18**	**120**	P	**P**	**00 15 00.3**	**-0.1**
	0.7nm,0.8s,baz=302,slow=9.2,SNR=7.5						
ASAR	**Alice Springs**	**41.43**	**126**	P	**P**	**00 15 10.7**	**-0.1**
	0.1nm,0.4s,baz=313,slow=7.5,SNR=3.4						
SONM	**Songino Array**	**49.07**	**7**	P	**P**	**00 16 12.2**	**+1.1**
	0.5nm,0.6s,baz=192,slow=8.0,SNR=6.9						
MKAR	**Makanchi Array**	**49.48**	**346**	P	**P**	**00 16 14.4**	**+0.3**
	0.8nm,0.6s,baz=152,slow=8.1,SNR=14						
KURBB	**Kurchatov Arra**	**53.98**	**345**	P	**P**	**00 16 46.7**	**-0.9**
	0.2nm,0.6s,baz=165,slow=7.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**55.76**	**351**	P	**P**	**00 16 59.8**	**-0.6**
	1.0nm,0.6s,baz=174,slow=5.7,SNR=6.1						
TXAR	**Lajitas Array**	**144.92**	**34**	PKPbc	**PKPdf**	**00 27 01.6**	**0.0**
	0.3nm,0.6s,baz=224,slow=1.4,SNR=5.4						

WEL 23 00:18:09.5±0.6, 35°.93S×178°.36E, h203km±11km, ML3.7/3, 1C, Error ellipse: s-maj=13.7km s-min=9.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.88**	**194**	PN	Pn	00 18 46.8	-0.1
HAZ				SN	S	00 19 15.9	+0.2
WMGZ	**Waiomatatini S**	**1.89**	**179**	PN	Pn	00 18 47.2	+0.2
WMGZ				SN	S	00 19 16.3	+0.4
PUZ	**Puketiti**	**2.14**	**182**	PN	Pn	00 18 49.1	-0.5
PUZ				SN	S	00 19 19.3	-1.3
PUZ				AML	AML	00 19 21.3	
MWZ	**Matawai**	**2.49**	**195**	PN	Pn	00 18 54.1	+0.7
URZ	**Urewera**	**2.53**	**203**	PN	Pn	00 18 54.1	+0.3
TKGZ	**Te Karaka**	**2.54**	**189**	⇑PN	Pn	00 18 54.1	+0.2
KNZ	**Kokohu**	**3.13**	**190**	PN	Pn	00 19 00.4	-0.3
KRHZ	**Kereru**	**4.03**	**202**	PN	Pn	00 19 10.9	-0.8
KAHZ	**Kahuranaki**	**4.03**	**196**	PN	Pn	00 19 11.4	-0.3

*IDC **23** 00:30:44.5±2.2, 14°.75S×76°.62W, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.6/20, mbtmp3.7/6, ML3.7/3, MS3.4/1, Ms1 3.4/1, ms1mx2.9/19, Error ellipse: s-maj=54.3km s-min=26.6km az=38.0*
*ISCJB **23** 00:30:48.4±1.7, 14°.6S±0°.1×76°.6W±0°.2, h33km, mb3.6/3, MS3.2/1, Error ellipse: s-maj=29.6km s-min=10.7km az=147.5*
ISC 23 00:30:50.7±1.7, 14°.6S±0°.2×76°.5W±0°.2, h35km, n14, σ1§49/8, mb3.7/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.58**	**354**	Pn	**Pn**	**00 31 28.0**	**-2.0**
	24nm,0.3s,baz=148,slow=13,SNR=16						
NNA				Sn	**Sn**	**00 32 00.2**	**0.0**
	58nm,0.3s,baz=215,slow=11,SNR=10						
ATAH	**Atahualpa**	**7.60**	**346**	Pn	**Pn**	**00 32 40.6**	**+1.2**
	0.5nm,0.3s,baz=174,slow=6.6,SNR=2.8						
LPAZ	**La Paz**	**8.29**	**103**	Pn	**Pn**	**00 32 49.4**	**+0.3**
	0.6nm,0.3s,baz=304,slow=7.8,SNR=17						
PTGA	**Pitinga**	**21.39**	**51**	P	**P**	**00 35 37.1**	**+1.7**
	1.5nm,0.5s,baz=264,slow=19,SNR=3.0						
JTS	**JuntasAbangare**	**26.06**	**341**	LR	LR	00 46 18.8	
	comp=Z,73nm,19.4s,baz=100,slow=36						
TXAR	**Lajitas Array**	**50.90**	**329**	P	**P**	**00 39 49.4**	**+0.8**
	0.2nm,0.7s,baz=155,slow=9.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**82.20**	**74**	P	**P**	**00 43 07.5**	**-1.3**
	2.0nm,0.9s,baz=261,slow=5.5,SNR=12						
H11N3	**WAKE ISLAND Hyl**	**19.44**	**285**	T	T	03 00 23.2	
	baz=96,slow=74,SNR=46						
H11N2	**WAKE ISLAND Hyl**	**19.45**	**285**	T	T	03 00 24.2	
	baz=96,slow=74,SNR=51						
H11N1	**WAKE ISLAND Hyl**	**19.45**	**285**	T	T	03 00 24.5	
	baz=96,slow=74,SNR=24						
H11S2	**WAKE ISLAND Hyl**	**19.50**	**283**	T	T	03 00 36.7	
	baz=97,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hyl**	**19.50**	**283**	T	T	03 00 36.7	
	baz=97,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hyl**	**19.51**	**283**	T	T	03 00 38.0	
	baz=97,slow=75,SNR=17						
SONM	**Songino Array**	**146.74**	**356**	PKPbc	**PKPbc**	**00 50 28.6**	**-0.6**
	0.2nm,0.5s,baz=15,slow=2.1,SNR=3.5						

*SKO **23** 00:36:15.8, 41°.77N×22°.62E, h24km, M2.0, ML2.3*
*CSEM **23** 00:36:16.3±0.1, 41°.77N×22°.58E, h5km, ML2.4, Error ellipse: s-maj=3.2km s-min=2.1km az=73.0*
*ATH **23** 00:36:16.9, 41°.74N×22°.66E, h21km±1km, MD3.4/12*
*BEO **23** 00:36:16.8±0.3, 41°.74N×22°.53E, h11km±3km, ML2.0/9*
*THE **23** 00:36:17.5, 41°.72N×22°.66E, h2km±1km, ML2.4/8, Error ellipse: s-maj=1.4km s-min=0.7km az=171.0*
ISC 23 00:36:16.5±1.0, 41°.76N±0°.02×22°.62E±0°.02, h10km±9km, n76, σ0§60/110, 4C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.44**	**185**	P	**Pg**	**00 36 25.3**	**+0.1**
VAY				S	**Sg**	**00 36 31.0**	**+0.2**
VAY	**Valandovo**	**0.44**	**185**	⇑*i*Pg	**Pg**	**00 36 25.2**	**+0.1**
VAY				*e*Sg	**Sg**	**00 36 31.5**	**+0.7**
VAY	**Valandovo**	**0.44**	**185**	*i* Pg	**Pb**	**00 36 25.8**	**-0.5**
VAY				*i* Sg	**Sb**	**00 36 32.3**	**-0.6**
VAY				*e*Lg	Lg	00 36 32.3	
	comp=N,132nm,0.4s						
VAY				*e*Lg	Lg	00 36 32.4	
	comp=E,205nm,0.2s						
VAY	**Valandovo**	**0.44**	**185**	⇑*i*Pg	**Pg**	**00 36 25.2**	**+0.1**
VAY				S	**Sg**	**00 36 31.0**	**+0.2**
VAY				*e*Lg	Lg	00 36 32.3	
	comp=E,205nm,0.2s						
KNT	**Kendrikon**	**0.63**	**160**	P	**Pg**	**00 36 28.9**	**+0.2**
KNT				S	**Sg**	**00 36 36.8**	**-0.2**
KNT	**Kendrikon**	**0.63**	**160**	*e*PN	**Pg**	**00 36 29.0**	**+0.2**
KNT				*e*SN	**Sb**	**00 36 37.9**	**-0.6**
KNT	**Kendrikon**	**0.63**	**160**	P	**Pg**	**00 36 28.9**	**+0.2**
KNT				S	**Sg**	**00 36 36.8**	**-0.2**
KNT				*e*Sn	**Sb**	**00 36 37.9**	**-0.6**
GRG	**Griva**	**0.81**	**192**	P	**Pg**	**00 36 32.0**	**-0.3**
GRG				S	**Sb**	**00 36 43.8**	**-0.1**
GRG	**Griva**	**0.81**	**192**	*e*PN	**Pg**	**00 36 32.4**	**+0.1**
GRG	**Griva**	**0.81**	**192**	P	**Pg**	**00 36 32.0**	**-0.3**
GRG	**Griva**	**0.81**	**192**	*e*Pn	**Pg**	**00 36 32.4**	**+0.1**
GRG				S	**Sb**	**00 36 43.8**	**-0.1**
SKO	**Skopje**	**0.91**	**284**	*e*Sg	**Sg**	**00 36 44.3**	**-1.5**
SKO	**Skopje**	**0.91**	**284**	*e*Sg	**Sg**	**00 36 44.3**	**-1.5**
VTS	**Vitosha**	**0.94**	**28**	P	**Pg**	**00 36 34.7**	**0.0**
VTS				S	**Sn**	**00 36 49.6**	**0.0**
VTS	**Vitosha**	**0.94**	**28**	*e*Pg	**Pb**	**00 36 35.6**	**+0.5**
VTS				*e*Sg	**Sb**	**00 36 48.4**	**+0.7**
VTS	**Vitosha**	**0.94**	**28**	P	**Pg**	**00 36 34.7**	**0.0**
VTS	**Vitosha**	**0.94**	**28**	*e*Pg	**Pb**	**00 36 35.6**	**+0.5**
VTS				*e*Sg	**Sb**	**00 36 48.4**	**+0.7**
VTS				S	**Sn**	**00 36 49.6**	**0.0**
SRS	**Serrai**	**0.97**	**131**	P	**Pg**	**00 36 34.8**	**-0.4**
SRS				S	**Sg**	**00 36 47.9**	**0.0**
SRS	**Serrai**	**0.97**	**131**	*e*PN	**Pg**	**00 36 34.9**	**-0.3**
SRS	**Serrai**	**0.97**	**131**	P	**Pg**	**00 36 34.8**	**-0.4**
SRS				S	**Sg**	**00 36 47.9**	**0.0**
NVR	**Nevrokopi**	**1.02**	**113**	P	**Pg**	**00 36 35.8**	**-0.3**
NVR				S	**Sg**	**00 36 49.3**	**-0.1**
NVR	**Nevrokopi**	**1.02**	**113**	*e*PN	**Pg**	**00 36 35.8**	**-0.3**
NVR	**Nevrokopi**	**1.02**	**113**	P	**Pg**	**00 36 35.8**	**-0.3**
NVR				S	**Sg**	**00 36 49.3**	**-0.1**
SOH	**Sokhos**	**1.09**	**149**	P	**Pb**	**00 36 37.1**	**-0.3**
SOH				S	**Sg**	**00 36 51.7**	**+0.2**
SOH	**Sokhos**	**1.09**	**149**	*e*PN	**Pb**	**00 36 37.1**	**-0.3**
SOH	**Sokhos**	**1.09**	**149**	P	**Pb**	**00 36 37.1**	**-0.3**
SOH				S	**Sg**	**00 36 51.7**	**+0.2**
THE	**Thessaloniki**	**1.15**	**167**	*e*PN	**Pn**	**00 36 38.6**	**-0.1**
THE	**Thessaloniki**	**1.15**	**167**	*e*Pn	**Pn**	**00 36 38.6**	**-0.1**
HORT	**Hortiatis**	**1.21**	**162**	P	**Pn**	**00 36 39.5**	**-0.1**
HORT				S	**Sn**	**00 36 55.9**	**-0.3**
HORT	**Hortiatis**	**1.21**	**162**	*e*PB	**Pn**	**00 36 38.6**	**-1.0**
HORT	**Hortiatis**	**1.21**	**162**	*e*Pb	**Pn**	**00 36 38.6**	**-1.0**
HORT	**Hortiatis**	**1.21**	**162**	P	**Pn**	**00 36 39.5**	**-0.1**
HORT				S	**Sn**	**00 36 55.9**	**-0.3**
BARS	**Barje**	**1.22**	**331**	⇓*i*Pg	**Pn**	**00 36 38.7**	**-0.9**
BARS				*e*Sg	**Sb**	**00 36 56.0**	**+0.6**
BARS	**Barje**	**1.22**	**331**	⇓*i*Pg	**Pn**	**00 36 38.7**	**-0.9**
BARS				*e*Sg	**Sb**	**00 36 56.0**	**+0.6**
FNA	**Florina**	**1.35**	**224**	P	**Pb**	**00 36 42.3**	**+0.4**
FNA				S	**Sg**	**00 37 01.0**	**+1.0**
FNA	**Florina**	**1.35**	**224**	*e*PN	**Pg**	**00 36 42.6**	**+0.2**
FNA	**Florina**	**1.35**	**224**	P	**Pb**	**00 36 42.3**	**+0.4**
FNA	**Florina**	**1.35**	**224**	*e*Pn	**Pg**	**00 36 42.6**	**+0.2**
FNA				S	**Sg**	**00 37 01.0**	**+1.0**
PLG	**Polygyros**	**1.52**	**155**	*e*PN	**Pb**	**00 36 44.6**	**-0.2**
PLG	**Polygyros**	**1.52**	**155**	*e*Pn	**Pb**	**00 36 44.6**	**-0.2**
ZAPS	**Zavoj**	**1.52**	**0**	⇑*i*Pg	**Pb**	**00 36 44.8**	**0.0**
ZAPS				*e*Sg	**Sb**	**00 37 04.7**	**+0.6**
PLD	**Plovdiv**	**1.59**	**77**	P	**Pn**	**00 36 45.6**	**+0.8**
PLD				S	**Sg**	**00 37 07.4**	**-0.4**
PLD	**Plovdiv**	**1.59**	**77**	P	**Pn**	**00 36 45.6**	**+0.8**
PLD				S	**Sg**	**00 37 07.4**	**-0.4**
KAVA	**Kavala**	**1.62**	**117**	P	**Pb**	**00 36 46.1**	**-0.3**
KAVA				S	**Sb**	**00 37 06.3**	**-0.6**
KAVA	**Kavala**	**1.62**	**117**	*e*PN	**Pb**	**00 36 46.5**	**+0.1**
KAVA	**Kavala**	**1.62**	**117**	P	**Pb**	**00 36 46.1**	**-0.3**
KAVA	**Kavala**	**1.62**	**117**	*e*Pn	**Pb**	**00 36 46.5**	**+0.1**
KAVA				S	**Sb**	**00 37 06.3**	**-0.6**
LIT	**Litokhoron**	**1.66**	**183**	*e*PN	**Pb**	**00 36 47.4**	**+0.2**
LIT	**Litokhoron**	**1.66**	**183**	*e*Pn	**Pb**	**00 36 47.4**	**+0.2**
OUR	**Ouranopolis**	**1.76**	**144**	*e*PN	**Pn**	**00 36 47.5**	**+0.5**
OUR	**Ouranopolis**	**1.76**	**144**	*e*Pn	**Pn**	**00 36 47.5**	**+0.5**
SELS	**Selova**	**1.83**	**323**	⇑*i*Pn	**Pn**	**00 36 47.6**	**-0.6**
SELS				*e*Sg	**Sb**	**00 37 13.6**	**+0.4**
PAIG	**Paliouri**	**2.00**	**156**	*e*PN	**Pn**	**00 36 51.2**	**+0.9**
PAIG	**Paliouri**	**2.00**	**156**	*e*Pn	**Pn**	**00 36 51.2**	**+0.9**
BOLS	**Boljevac**	**2.13**	**347**	*e*Pn	**Pn**	**00 36 52.6**	**+0.4**
BOLS	**Boljevac**	**2.13**	**347**	*e*Pn	**Pn**	**00 36 52.6**	**+0.4**
RDO	**Rodhopi**	**2.28**	**105**	P	**Pn**	**00 36 55.6**	**+1.4**
RDO				S	**Sb**	**00 37 24.9**	**-1.0**
RDO	**Rodhopi**	**2.28**	**105**	*e*PN	**Pn**	**00 36 55.0**	**+0.8**
RDO	**Rodhopi**	**2.28**	**105**	*e*Pn	**Pn**	**00 36 55.0**	**+0.8**
RDO	**Rodhopi**	**2.28**	**105**	P	**Pn**	**00 36 55.6**	**+1.4**
RDO				S	**Sb**	**00 37 24.9**	**-1.0**
XOR	**Xorichti**	**2.43**	**169**	*e*PN	**Pn**	**00 36 57.0**	**+0.7**
XOR	**Xorichti**	**2.43**	**169**	*e*Pn	**Pn**	**00 36 57.0**	**+0.7**
GRUS	**Gruza**	**2.55**	**327**	*e*Pn	**Pn**	**00 36 57.8**	**-0.1**
GRUS	**Gruza**	**2.55**	**327**	*e*Pn	**Pn**	**00 36 57.8**	**-0.1**
IVAS	**Ivanjica**	**2.57**	**316**	*e*Pn	**Pn**	**00 36 58.4**	**+0.1**
IVAS	**Ivanjica**	**2.57**	**316**	*e*Pn	**Pn**	**00 36 58.4**	**+0.1**
ALN	**Alexandroupoli**	**2.72**	**107**	P	**Pn**	**00 37 00.8**	**+0.5**
ALN	**Alexandroupoli**	**2.72**	**107**	P	**Pn**	**00 37 00.8**	**+0.5**
AGG	**Agios Georgios**	**2.74**	**185**	*e*PN	**Pn**	**00 37 01.8**	**+1.2**
AGG	**Agios Georgios**	**2.74**	**185**	*e*Pn	**Pn**	**00 37 01.8**	**+1.2**
AOS	**Alonnisos**	**2.76**	**159**	*e*PN	**Pn**	**00 37 01.3**	**+0.5**
AOS	**Alonnisos**	**2.76**	**159**	*e*Pn	**Pn**	**00 37 01.3**	**+0.5**
DIVS	**Divibare**	**3.03**	**321**	*i* Pn	**Pn**	**00 37 04.6**	**-0.1**
DIVS	**Divibare**	**3.03**	**321**	*i* Pn	**Pn**	**00 37 04.6**	**-0.1**
TEKS	**Tekeris**	**3.59**	**322**	*e*Pn	**Pn**	**00 37 11.2**	**-1.1**
TEKS	**Tekeris**	**3.59**	**322**	*e*Pn	**Pn**	**00 37 11.2**	**-1.1**

*IDC **23** 00:38:42.5±1.9, 0°.28S×125°.98E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/27, mbtmp3.6/3, Error ellipse: s-maj=179.6km s-min=24.5km az=65.0*
*ISCJB **23** 00:38:45.4±2.4, 0°.23S±0°.05×126°.07E±0°.04, h12km±16km, mb3.5/3, Error ellipse: s-maj=8.9km s-min=6.1km az=2.4*
*DJA **23** 00:38:47.7±3.0, 0°S±3°×12°6E±°, h31km±38km, M3.6/7, MLv3.6/7*
ISC 23 00:38:43.3±1.8, 0°.23S±0°.05×126°.05E±0°.04, h1km±13km, n10, σ1§32/15, mb3.6/3, Southern Molucca Sea

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

IDC 23 00:52:48.8±1.9, 9°.30S×126°.28E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/27, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=171.0km s-min=32.5km az=59.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.14**	**145**	Pn	Pn	00 55 55.9	-1.0
	0.2nm,0.3s,baz=318,slow=14,SNR=4.0						
WRA				Sn	Sn	00 58 17.0	-6.8
	0.2nm,0.3s,baz=314,slow=24,SNR=6.4						
ASAR	**Alice Springs**	**16.04**	**154**	Pn	Pn	00 56 37.0	+1.1
	0.1nm,0.3s,baz=326,slow=12,SNR=4.1						
ASAR				Sn	Sn	00 59 32.0	-2.6
	0.1nm,0.3s,baz=318,slow=20,SNR=4.0						
MKAR	**Makanchi Array**	**68.21**	**329**	P	P	01 03 51.2	0.0
	0.2nm,0.5s,baz=123,slow=7.7,SNR=6.8						

IDC 23 00:59:59.9±0.9, 38°.03S×73°.44W, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.8/28, mbtmp3.7/8, ML3.3/2, MS3.4/2, Ms1 3.3/2, ms1mx3.1/21, Error ellipse: s-maj=27.9km s-min=16.2km az=67.0
ISCJB 23 01:00:02.1±0.7, 38°.00S±0°.08×73°.3W±0°.2, h22km, mb4.2/10, MS3.5/1, Error ellipse: s-maj=17.8km s-min=10.5km az=14.9

ISC 23 01:00:03.3±0.9, 38°.01S±0°.09×73°.4W±0°.2, h22km, n15, σ1§08/15, mb4.2/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.49**	**142**	Pn	**Pn**	**01 00 56.8**	**+0.4**
	0.9nm,0.3s,baz=308,slow=8.1,SNR=20						
PLCA				Lg	Lg	01 01 51.5	
	7.4nm,0.3s,baz=245,slow=15,SNR=9.5						
PLCA				LR	LR	01 02 22.7	
	comp=Z,290nm,21.1s,baz=290,slow=41						
CFAA	**Coronel Fontan**	**7.66**	**35**	Pn	**Pn**	**01 01 51.4**	**-2.2**
	0.2nm,0.3s,baz=218,slow=7.4,SNR=6.1						
CFAA				Sn	**Sn**	**01 03 21.0**	**+1.2**
	0.1nm,0.3s,baz=156,slow=20,SNR=3.1						
LPAZ	**La Paz**	**22.13**	**13**	P	**P**	**01 04 59.7**	**+1.6**
	1.2nm,0.6s,baz=175,slow=12,SNR=12						
SIV	**San Ignacio**	**24.47**	**30**	LR	LR	01 15 51.3	
	comp=Z,152nm,21.1s,baz=263,slow=39						
QSPA	**South Pole Qui**	**52.23**	**180**	P	**P**	**01 09 12.0**	**-0.4**
	1.7nm,1.0s,baz=138,slow=14,SNR=3.6						
TXAR	**Lajitas Array**	**72.74**	**333**	P	**P**	**01 11 29.8**	**0.0**
	0.1nm,0.4s,baz=157,slow=6.8,SNR=5.8						
LIC	**Lamto**	**77.07**	**71**	*e*P	**P**	**01 11 53.7**	**-1.4**
	14nm,1.0s						
TIC	**Toumodi**	**77.35**	**71**	*e*P	**P**	**01 11 57.5**	**+0.8**
	8.1nm,0.6s						
KIC	**Kosan Boka**	**77.38**	**72**	*e*P	**P**	**01 11 57.8**	**+1.0**
	7.4nm,0.7s						
DBIC	**Dimbokro**	**77.49**	**71**	P	**P**	**01 11 58.2**	**+0.8**
	4.2nm,0.8s,baz=211,slow=6.9,SNR=7.2						
TORD	**Torodi Ar. Bea**	**86.58**	**71**	P	**P**	**01 12 45.3**	**+0.2**
	0.4nm,0.4s,baz=223,slow=4.1,SNR=11						
NVAR	**Mina Array Bea**	**86.58**	**326**	P	**P**	**01 12 45.2**	**+0.3**
	0.3nm,0.4s,baz=176,slow=2.7,SNR=3.1						
PDAR	**Pinedale Array**	**86.87**	**334**	P	**P**	**01 12 46.2**	**0.0**
	8.9nm,0.4s,baz=150,slow=6.2,SNR=2.7						
BRTR	**Keskin Array B**	**124.66**	**64**	PKP	**PKPdf**	**01 19 00.5**	**-0.5**
	0.4nm,0.7s,baz=225,slow=1.6,SNR=3.9						
MKAR	**Makanchi Array**	**160.06**	**56**	PKPab	**PKPab**	**01 20 40.4**	**0.0**
	0.4nm,0.7s,baz=290,slow=6.0,SNR=6.1						

ISCJB 23 01:03:50.6±1.0, 6°.64S±0°.09×127°.7E±0°.1, h408km, mb2.9/2, Error ellipse: s-maj=14.6km s-min=11.4km az=144.7
IDC 23 01:03:52.3±3.1, 6°.68S×127°.62E, h398km±34km, mb2.8/2, mb1 3.2/4, mb1mx2.9/29, mbtmp3.9/4, Error ellipse: s-maj=50.1km s-min=12.9km az=64.0

ISC 23 01:03:52.7±1.2, 6°.7S±0°.1×127°.6E±0°.1, h408km, n9, σ1§02/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.44**	**227**	P	**P**	**01 05 08.2**	**-1.3**
	baz=5.0,SNR=58						
BATI	**Baumata**	**5.18**	**228**	P	**P**	**01 05 16.9**	**+0.1**
	56nm,0.3s,baz=92,slow=15,SNR=35						
BATI				S	**S**	**01 06 25.8**	**+0.1**
	8.0nm,0.3s,baz=49,slow=20,SNR=5.6						
MTN	**Manton Dam**	**7.02**	**150**	P	P	01 05 32.7	-4.5
	baz=7.3,SNR=38						
KDU	**Kakadu**	**7.64**	**141**	P	P	01 05 39.0	-5.1
	baz=7.8,SNR=14						
KNRA	**Kununurra**	**8.97**	**173**	P	**P**	**01 05 57.7**	**-1.0**
	baz=9.4,SNR=12						
WRA	**Warramunga Arr**	**14.69**	**154**	P	**P**	**01 07 01.3**	**-0.3**
	1.2nm,0.3s,baz=331,slow=12,SNR=23						
WRA				S	**S**	**01 09 37.5**	**-0.5**
	0.2nm,0.3s,baz=338,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**17.91**	**161**	P	**P**	**01 07 37.0**	**+1.0**
	0.7nm,0.3s,baz=345,slow=12,SNR=46						
ASAR				S	**S**	**01 10 42.3**	**+1.6**
	0.1nm,0.3s,baz=339,slow=17,SNR=6.9						
SONM	**Songino Array**	**57.45**	**343**	P	**P**	**01 13 00.4**	**-0.5**
	0.1nm,0.3s,baz=164,slow=8.4,SNR=3.8						
MKAR	**Makanchi Array**	**66.70**	**328**	P	**P**	**01 14 02.2**	**+0.8**
	0.4nm,0.5s,baz=118,slow=7.8,SNR=15						

ISCJB 23 01:05:57.9±0.7, 4°.01N±0°.07×125°.87E±0°.08, h116km, mb3.6/6, Error ellipse: s-maj=12.3km s-min=8.6km az=152.6
IDC 23 01:06:01.7±2.7, 3°.76N×125°.45E, h138km±22km, mb3.3/6, mb1 3.6/7, mb1mx3.4/24, mbtmp3.8/7, Error ellipse: s-maj=47.6km s-min=15.4km az=68.0
DJA 23 01:06:09.1±1.0, 3°.N±9°×12°.6E±°, h57km±15km, M4.8/12, mb4.7/7, mB5.7/4, MLv4.7/12, Mw(mB)5.2/4

ISC 23 01:05:59.4±0.7, 3°.93N±0°.07×125°.88E±0°.07, h116km, n29, σ2§05/33, mb3.7/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.42**	**235**	P	Pn	01 06 22.2	+5.8
SGSI				S	**Sn**	**01 06 32.3**	**+3.0**
TNTI	**Ternate**	**3.47**	**155**	P	**Pn**	**01 06 53.4**	**+1.5**
TNTI				S	**Sn**	**01 07 30.0**	**-2.4**
KMSI	**Cibinong**	**3.83**	**210**	P	**Pn**	**01 06 56.1**	**-0.6**
LBMI	**Labuha**	**4.82**	**160**	P	**Pn**	**01 07 10.8**	**+0.9**
MRSI	**Marisa**	**5.22**	**229**	P	**Pn**	**01 07 16.1**	**+0.8**
MRSI				S	**Sn**	**01 08 10.7**	**-3.6**
SANI	**Sanana**	**5.94**	**179**	P	**Pn**	**01 07 24.2**	**-0.8**
	58nm,0.5s,7μm0.6nm						
SANI				S	Sn	01 08 21.9	-10
	58nm,0.5s,7μm0.6nm						
MPSI	**Mapaga**	**6.96**	**239**	P	**Pn**	**01 07 41.6**	**+2.8**
	7.7nm,0.7s,0.1nm						
NLAI	**Namlea**	**7.22**	**170**	P	**Pn**	**01 07 42.5**	**+0.1**
	102nm,0.7s,8μm0.8nm						
PCI	**Palu**	**7.71**	**232**	P	**Pn**	**01 07 50.7**	**+1.6**
	16nm,0.7s,0.7nm						
MSAI	**Masohi**	**7.84**	**157**	P	**Pn**	**01 07 52.6**	**+1.8**
	9.2nm,0.4s,0.1nm						
FAKI	**Fak Fak**	**9.32**	**137**	P	Pn	01 08 14.8	+4.0
	baz=10,SNR=4.0						
WSI	**Waingapu**	**14.61**	**202**	S	**S**	**01 12 18.2**	**+5.1**
	baz=16,SNR=3.9						
JAY	**Jayapura**	**16.14**	**113**	P	P	01 09 46.0	+5.2
	1.5nm,0.3s,baz=243,slow=12,SNR=4.5						
MTN	**Manton Dam**	**17.46**	**163**	P	**Pn**	**01 09 58.6**	**+2.8**
	baz=19,SNR=3.6						
MTN				S	**Sn**	**01 13 08.0**	**-2.7**
	baz=19,SNR=4.8						
KDU	**Kakadu**	**17.76**	**158**	S	Sn	01 13 25.8	+7.8
	baz=19,SNR=3.8						
KNRA	**Kununurra**	**19.69**	**172**	P	**P**	**01 10 19.7**	**+0.1**
	baz=21,SNR=8.7						
FITZ	**Fitzroy Crossi**	**21.89**	**181**	P	**P**	**01 10 42.4**	**-0.8**
	baz=23,SNR=8.3						
WRA	**Warramunga Arr**	**25.14**	**161**	P	**P**	**01 11 13.9**	**0.0**
	2.6nm,0.7s,baz=337,slow=10,SNR=12						
WRA				PcP	**PcP**	**01 14 45.4**	**+0.2**
	0.2nm,0.5s,baz=331,slow=2.3,SNR=1.9						
WRA				ScP	**ScP**	**01 18 10.9**	**-2.9**
	0.2nm,0.3s,baz=339,slow=2.7,SNR=2.1						
QIS	**Mount Isa**	**27.82**	**152**	P	**P**	**01 11 40.2**	**+2.2**
	baz=29,SNR=3.3						
ASAR	**Alice Springs**	**28.52**	**164**	P	**P**	**01 11 44.1**	**-0.1**
	0.8nm,0.4s,baz=345,slow=7.0,SNR=13						
ASAR				PcP	**PcP**	**01 14 53.3**	**+0.1**
	0.3nm,0.4s,baz=353,slow=2.2,SNR=4.4						
WRKA	**Warakurna**	**28.89**	**175**	P	**P**	**01 11 47.6**	**+0.2**
	baz=30,SNR=11						
MEEK	**Meekatharra**	**31.19**	**193**	P	**P**	**01 12 06.3**	**-1.4**
	baz=32,SNR=10						
QLP	**Quilpie**	**35.15**	**151**	P	**P**	**01 12 43.2**	**+1.1**
	baz=36,SNR=3.1						
BBOO	**Buckleboo**	**37.79**	**166**	P	**P**	**01 13 04.7**	**+0.2**
	baz=39,SNR=12						
SONM	**Songino Array**	**46.84**	**342**	P	**P**	**01 14 18.4**	**+0.6**
	0.4nm,1.0s,baz=141,slow=9.3,SNR=2.9						
MKAR	**Makanchi Array**	**56.91**	**326**	P	**P**	**01 15 31.7**	**-0.7**
	0.3nm,0.3s,baz=122,slow=7.1,SNR=20						
MKAR				ScP	**ScP**	**01 20 12.0**	**-3.6**
	0.3nm,0.6s,baz=114,slow=5.4,SNR=5.1						
VNDA	**Vanda**	**83.73**	**173**	P	**P**	**01 18 12.9**	**-2.0**
	0.5nm,0.4s,baz=324,slow=7.2,SNR=6.1						
ILAR	**Eielson Array**	**85.29**	**25**	P	**P**	**01 18 23.5**	**+0.4**
	0.2nm,0.5s,baz=242,slow=5.1,SNR=6.4						
TORD	**Torodi Ar. Bea**	**122.05**	**288**	PKP	**PKPdf**	**01 24 39.9**	**-1.5**
	0.1nm,0.3s,baz=80,slow=1.7,SNR=8.1						

KRSC 23 01:12:03.6±1.0, 54°.16N×161°.95E, h44km±11km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.42**	**342**	P	Pn	01 12 15.5	+2.0
MKZ				S	Sn	01 12 21.5	+1.1
KII	**Karymskiy**	**1.48**	**266**	*e*P	Pn	01 12 30.2	+2.4
KII				*e*S	Sn	01 12 47.1	+1.1
TUMR	**Tumrok**	**1.54**	**318**	*e*P	Pn	01 12 31.2	+2.5
TUMR				*e*S	Sn	01 12 48.7	+1.1
KMNR	**Kamenistaya**	**1.88**	**329**	P	Pn	01 12 36.8	+3.4
KMNR				*e*S	Sn	01 12 58.6	+2.6
SDLR	**Sedlovina**	**2.03**	**245**	*i* P	Pn	01 12 38.4	+3.0
SDLR				*e*S	Sn	01 13 01.3	+1.7
SMAR	**Somma**	**2.08**	**246**	*e*P	Pn	01 12 39.2	+3.0
KRER	**Koryakskii**	**2.09**	**247**	*i* P	Pn	01 12 39.7	+3.4
KRER				*e*S	Sn	01 13 03.5	+2.2
UGLR	**Uglovaya**	**2.09**	**244**	*i* P	Pn	01 12 39.5	+3.3
UGLR				*e*S	Sn	01 13 03.3	+2.2
AVH	**Avacha**	**2.11**	**246**	*i* P	Pn	01 12 40.0	+3.5
AVH				*e*S	Sn	01 13 04.1	+2.5
KBTR	**Krutoberegovo**	**2.11**	**13**	*i* P	Pn	01 12 39.7	+3.3
KBTR				*e*S	Sn	01 13 03.8	+2.4
KRX	**Arik**	**2.12**	**249**	*i* P	Pn	01 12 39.8	+3.1
KRX				*e*S	Sn	01 13 03.9	+2.0
KOK	**Koryaka**	**2.15**	**248**	*i* P	Pn	01 12 40.4	+3.3
KOK				S	Sn	01 13 04.7	+2.0
PET	**Petropavlovsk**	**2.27**	**241**	*e*P	Pn	01 12 41.6	+3.0
PET				*e*S	Sn	01 13 06.9	+1.6
GNL	**Ganaly**	**2.42**	**260**	*e*P	Pn	01 12 44.3	+3.6
SMKR	**Semkarok**	**2.44**	**354**	*e*P	Pn	01 12 44.7	+3.7
SMKR				S	Sn	01 13 12.3	+2.6
BDR	**Baidarnaya**	**2.45**	**350**	*e*P	Pn	01 12 44.2	+3.1
BDR				S	Sn	01 13 11.4	+1.5
SRDR	**Sredinnyy**	**2.51**	**330**	P	Pn	01 12 44.6	+2.6
SRKR	**Sorokina**	**2.54**	**350**	P	Pn	01 12 44.8	+2.5
BKI	**Bering**	**2.56**	**64**	P	Pn	01 12 45.4	+2.9
BKI				*e*S	Sn	01 13 13.4	+1.1
ESO	**Esso**	**2.58**	**315**	*e*P	Pn	01 12 45.9	+3.1
RUS	**Russkaya**	**2.69**	**231**	*e*P	Pn	01 12 47.2	+2.9
RUS				S	Sn	01 13 16.6	+0.9
MTVR	**Mutnovka**	**2.82**	**235**	*e*P	Pn	01 12 49.7	+3.4
MTVR				*e*S	Sn	01 13 20.9	+1.8
APC	**Apacha**	**3.12**	**249**	*e*P	Pn	01 12 54.6	+4.5
APC				*e*S	Sn	01 13 29.1	+3.0
MIPR	**Malaya Ipel'ka**	**3.65**	**241**	P	Pn	01 13 02.1	+4.6

IDC 23 01:15:57.7±3.9, 20°.64S×175°.89W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/18, mbtmp4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/30, Error ellipse: s-maj=214.8km s-min=60.4km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**25.04**	**87**	LR	LR	01 28 49.0	
	comp=Z,110nm,18.7s,baz=324,slow=31						
ASAR	**Alice Springs**	**46.41**	**257**	P	P	01 24 26.6	0.0
	2.4nm,0.9s,baz=91,slow=8.7,SNR=20						
WRA	**Warramunga Arr**	**46.54**	**262**	P	P	01 24 27.4	-0.1
	1.7nm,0.9s,baz=98,slow=8.2,SNR=11						
WRA				PcP	PcP	01 26 00.7	-1.2
	0.4nm,0.5s,baz=97,slow=3.0,SNR=5.2						
BRTR	**Keskin Array B**	**148.38**	**314**	PKPbc	PKPbc	01 35 46.5	0.0
	0.4nm,0.7s,baz=48,slow=2.1,SNR=4.8						

WEL 23 01:25:21.5±0.5, 38°.31S×176°.07E, h139km±5km, ML3.5/11, 1C-1D, Error ellipse: s-maj=5.6km s-min=3.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.82**	**87**	PN	Pn	01 25 44.0	+0.3
URZ				SN	Sn	01 26 01.0	+0.5
BKZ	**Black Stump Fm**	**0.92**	**159**	PN	Pn	01 25 45.0	+0.4
MOVZ	**Moawhango**	**1.13**	**193**	PN	Pn	01 25 46.4	-0.1
BHHZ	**Black Hill Sta**	**1.18**	**180**	PN	Pn	01 25 46.9	-0.1
BHHZ				SN	Sn	01 26 05.4	-1.2
KRHZ	**Kereru**	**1.36**	**170**	PN	Pn	01 25 48.8	+0.1
HAZ	**Te Kaha**	**1.46**	**68**	PN	Pn	01 25 49.9	+0.2
HAZ				SN	Sn	01 26 10.1	-1.1
CKHZ	**Cape Kidnapper**	**1.56**	**150**	SN	Sn	01 26 13.2	-0.3
PNHZ	**Pukenui**	**1.61**	**177**	PN	Pn	01 25 51.1	-0.4
KAHZ	**Kahuranaki**	**1.61**	**157**	PN	Pn	01 25 51.7	+0.1
TSZ	**Takapari Road**	**1.75**	**183**	PN	Pn	01 25 52.4	-0.7
PXZ	**Pawanui**	**1.83**	**161**	PN	Pn	01 25 53.5	-0.4
PXZ				SN	Sn	01 26 17.6	-1.2
ANWZ	**Angora Road**	**2.18**	**172**	⇓PN	Pn	01 25 57.1	-0.9
ANWZ				SN	Sn	01 26 23.3	-2.9
PRWZ	**Pori Road**	**2.25**	**182**	PN	Pn	01 25 57.5	-1.5
BFZ	**Birch Farm**	**2.38**	**177**	PN	Pn	01 25 58.8	-1.7
BFZ				SN	Sn	01 26 27.4	-3.2
MRZ	**Mangatainoka R**	**2.38**	**189**	⇑PN	Pn	01 25 58.7	-1.9
MRZ				AML	AML	01 26 29.5	
OGWZ	**Otaki Gorge**	**2.60**	**195**	PN	Pn	01 26 01.3	-2.1
HOWZ	**Holdsworth Sta**	**2.63**	**189**	PN	Pn	01 26 01.3	-2.4
KIW	**Kapiti Island**	**2.71**	**199**	PN	Pn	01 26 02.2	-2.5
MTW	**Mount Morrison**	**2.88**	**189**	PN	Pn	01 26 04.0	-2.9
CAW	**Cannon Point**	**2.91**	**195**	PN	Pn	01 26 04.6	-2.7
MSWZ	**Moikau Station**	**3.17**	**191**	PN	Pn	01 26 07.6	-3.1
TCW	**Tory Channel**	**3.22**	**205**	PN	Pn	01 26 08.2	-3.0
PLWZ	**Palliser**	**3.32**	**191**	PN	Pn	01 26 09.1	-3.5
TUWZ	**Tuamarina**	**3.53**	**207**	PN	Pn	01 26 11.8	-3.4

CSEM 23 01:25:32.5, 38°.86N×21°.89E, h13km, MD2.9
ATH 23 01:25:32.5, 38°.86N×21°.89E, h13km±1km, MD2.9/8, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.09**	**312**	*e*PG	Pg	01 25 35.0	-0.5
EVR				*e*SG	Sg	01 25 37.5	-0.1
EVR	**Evrytania**	**0.09**	**312**	*e*Pg	Pg	01 25 35.0	-0.5
EVR				*e*Sg	Sg	01 25 37.5	-0.1
MAKR	**Makrakomi, Fth**	**0.24**	**51**	*e*PG	Pg	01 25 37.4	-0.4
MAKR				*e*SG	Sg	01 25 41.7	+0.4
MAKR	**Makrakomi, Fth**	**0.24**	**51**	*e*Pg	Pg	01 25 37.4	-0.4
MAKR				*e*Sg	Sg	01 25 41.7	+0.4
EFP	**Efpalio**	**0.43**	**178**	*e*PG	Pg	01 25 40.5	-0.6
EFP				*e*SB	Sb	01 25 47.8	-0.6
EFP	**Efpalio**	**0.43**	**178**	*e*Pg	Pg	01 25 40.5	-0.6
EFP				*e*Sb	Sb	01 25 47.8	-0.6
KALE	**Kalithea**	**0.51**	**157**	*e*PB	Pg	01 25 42.0	-0.6
KALE				*e*SB	Sg	01 25 49.5	+0.1
KALE	**Kalithea**	**0.51**	**157**	*e*Pb	Pg	01 25 42.0	-0.6
KALE				*e*Sb	Sg	01 25 49.5	+0.1
AXAR	**Agios Charalam**	**0.61**	**99**	*e*PB	Pg	01 25 44.6	+0.2
AXAR	**Agios Charalam**	**0.61**	**99**	*e*Pb	Pg	01 25 44.6	+0.2
PDO	**Prodromos**	**0.61**	**245**	*e*PB	Pg	01 25 44.5	0.0
PDO	**Prodromos**	**0.61**	**245**	*e*Pb	Pg	01 25 44.5	0.0
THL	**Klokotos Trika**	**0.71**	**8**	*e*PG	Pg	01 25 45.8	-0.5
THL	**Klokotos Trika**	**0.71**	**8**	*e*Pg	Pg	01 25 45.8	-0.5
KLV	**Kalavryta, Ach**	**0.84**	**166**	*e*PB	Pg	01 25 48.5	-0.4
KLV				*e*SB	Sb	01 26 00.3	0.0
KLV	**Kalavryta, Ach**	**0.84**	**166**	*e*Pb	Pg	01 25 48.5	-0.4
KLV				*e*Sb	Sb	01 26 00.3	0.0

CSEM 23 01:40:46.8, 39°.14N×24°.16E, h35km, MD2.9
ATH 23 01:40:46.8, 39°.14N×24°.16E, h35km±9km, MD2.9/5, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKIA	**Skiathos**	**0.54**	**273**	*e*PN	Pn	01 40 58.4	+0.4
SKIA				*e*SN	Sn	01 41 06.8	+0.9
SKIA	**Skiathos**	**0.54**	**273**	*e*Pn	Pn	01 40 58.4	+0.4
SKIA				*e*Sn	Sn	01 41 06.8	+0.9
NEO	**Neokhori**	**0.75**	**283**	*e*PN	Pn	01 41 01.6	+0.7
NEO	**Neokhori**	**0.75**	**283**	*e*Pn	Pn	01 41 01.6	+0.7
SMIA	**Simia**	**0.79**	**251**	*e*PN	Pn	01 41 02.7	+1.3
SMIA				*e*SN	Sn	01 41 13.9	+1.9
SMIA	**Simia**	**0.79**	**251**	*e*Pn	Pn	01 41 02.7	+1.3
SMIA				*e*Sn	Sn	01 41 13.9	+1.9
XOR	**Xorichti**	**0.79**	**287**	*e*PN	Pn	01 41 02.3	+0.9
XOR				*e*SN	Sn	01 41 13.1	+1.1
XOR	**Xorichti**	**0.79**	**287**	*e*Pn	Pn	01 41 02.3	+0.9
XOR				*e*Sn	Sn	01 41 13.1	+1.1
PAIG	**Paliouri**	**0.87**	**335**	*e*PN	Pn	01 41 03.4	+0.9
PAIG				*e*SN	Sn	01 41 16.2	+2.2
PAIG	**Paliouri**	**0.87**	**335**	*e*Pn	Pn	01 41 03.4	+0.9
PAIG				*e*Sn	Sn	01 41 16.2	+2.2

GUC 23 01:47:09.2±0.5, 35°.40S×72°.74W, h28km±5km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.73**	**183**	*i* P	Pb	01 47 22.8	-0.5
COCH				*i* S	Sb	01 47 32.6	-0.4
TALC	**Talca**	**0.91**	**90**	*i* P	Pn	01 47 25.4	-0.7
TALC				*i* S	Sb	01 47 37.6	-0.4
LNCH	**Linares**	**1.03**	**116**	*i* P	Pn	01 47 27.6	-0.3
LNCH				*i* S	Sb	01 47 41.5	-0.1
LNCH				IAML		01 47 42.5	
	comp=N,2μm,0.4s						
NICH	**Los Niches**	**1.30**	**73**	*i* P	Pn	01 47 31.7	+0.1
NICH				*i* S	Sb	01 47 49.3	-0.1
NICH				IAML		01 47 52.2	
	comp=E,2μm,0.2s						
CLCH	**Cerro Calan**	**2.71**	**43**	*i* P	Pn	01 47 53.1	+2.1
CLCH				*i* S	Sn	01 48 26.3	+3.4

IDC 23 01:53:28.0±15.0, 16°.75S×177°.30W, h287km±149km, mb3.1/5, mb1 3.4/5, mb1mx3.2/18, mbtmp3.6/5, Error ellipse: s-maj=119.4km s-min=38.0km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.89**	**258**	P	P	02 01 21.5	-1.2
	0.1nm,0.3s,baz=96,slow=7.9,SNR=4.2						
ASAR	**Alice Springs**	**46.13**	**253**	P	P	02 01 24.9	+0.4
	1.3nm,0.5s,baz=88,slow=8.1,SNR=26						
TXAR	**Lajitas Array**	**84.48**	**57**	P	P	02 05 28.8	-0.4
	0.5nm,0.9s,baz=236,slow=9.7,SNR=4.9						
YKA	**Yellowknife Ar**	**92.84**	**24**	P	P	02 06 08.4	+0.6
	0.2nm,0.7s,baz=242,slow=4.6,SNR=5.5						
SONM	**Songino Array**	**93.38**	**319**	P	P	02 06 10.7	-0.1
	0.3nm,0.9s,baz=101,slow=4.7,SNR=3.7						
BRTR	**Keskin Array B**	**144.70**	**317**	PKP	PKPbc	02 12 30.4	-0.2
	0.5nm,0.8s,baz=64,slow=3.4,SNR=4.4						
MMAI	**Mount Meron Ar**	**146.38**	**305**	PKPbc	PKPbc	02 12 35.2	-0.6
	1.0nm,0.5s,baz=98,slow=6.3,SNR=3.8						
GERES	**GERESS Array B**	**146.76**	**347**	PKPbc	PKPdf	02 12 35.0	+0.9
	0.2nm,0.6s,baz=352,slow=2.0,SNR=2.7						

IDC 23 01:54:41.5±0.9, 38°.56S×73°.18W, h0km, mb4.1/6, mb1 4.1/7, mb1mx4.0/14, mbtmp4.0/7, ML4.1/1, Error ellipse: s-maj=34.2km s-min=16.5km az=61.0
GUC 23 01:54:44.9±0.5, 38°.62S×73°.81W, h30km±7km, ML4.7
NEIC 23 01:54:46.7±0.5, 38°.53S×73°.16W, h35km, mb4.3/2, ML4.7(GUC), Error ellipse: s-maj=16.7km s-min=11.2km az=59.0
NEIC Felt [III] at Puerto Saavedra, Queule and Temuco.

ISC 23 01:54:45.3±0.7, 38°.57S±0°.05×73°.20W±0°.09, h25km, n20, σ0§83/23, mb4.2/8, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.24**	**182**	⇑*i* P	**Pn**	**01 55 07.0**	**0.0**
VLCH				*i* S1	**Sn**	**01 55 23.3**	**+0.5**
VLCH				AML	AML	01 55 27.6	
	comp=E,23μm,0.4s						
CCSP	**San Pedro de C**	**1.72**	**2**	⇓*i* P	**Pb**	**01 55 15.7**	**-0.5**
OSCH	**Osorno**	**2.01**	**178**	*e*P1	**Pn**	**01 55 18.2**	**+0.7**
OSCH				AML	AML	01 55 57.1	
	comp=N,9μm,0.6s						
PMCH	**Puerto Montt**	**2.93**	**176**	*e*P4	**Pn**	**01 55 29.8**	**-0.4**
PLCA	**Paso Flores**	**2.98**	**137**	Pn	**Pn**	**01 55 30.9**	**-0.1**
	comp=N,5.7nm,0.3s,baz=317

ISC 23 02:20:24.7±0.8, 30°.80N±0°.05×56°.70E±0°.03, h10km, n52, σ1§44/51, mb3.6/6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.81**	**177**	*e*Pg	**Pg**	**02 20 39.9**	**-0.5**
KRBR				AML	AML	02 20 53.6	
	comp=N,2μm,0.2s						
KRBR				AML	AML	02 20 54.6	
	comp=E,2μm,0.3s						
KRBR	**Kerman**	**0.81**	**177**	*e*Pg	**Pg**	**02 20 39.9**	**-0.5**
	comp=E,2μm,0.3s						
IBAF	**Bafgh**	**1.26**	**309**	*e*Pg	**Pn**	**02 20 47.2**	**-1.3**
IBAF				*e*		02 21 05.8	
	comp=Z,18μm,0.1s						
IBAF	**Bafgh**	**1.26**	**309**	*e*Pg	**Pn**	**02 20 47.2**	**-1.3**
IMEH	**Mehriz**	**1.89**	**289**	*e*Pn	**Pb**	**02 20 58.4**	**-1.1**
IMEH				*e*		02 21 00.9	
	comp=Z,15μm,0.1s						
IMEH				*e*Sg	**Sg**	**02 21 25.1**	**-0.4**
IMEH	**Mehriz**	**1.89**	**289**	*e*Pn	**Pb**	**02 20 58.4**	**-1.1**
IMEH				*e*Sg	**Sg**	**02 21 25.1**	**-0.4**
ICHK	**Chekchek**	**2.44**	**307**	*e*Sg	**Sg**	**02 21 42.4**	**-0.6**
ICHK				*e*Pn	**Pb**	**02 21 06.2**	**-2.5**
ICHK				*e*		02 21 47.3	
	comp=Z,4μm,0.2s						
IKOO	**Kooshah**	**2.55**	**50**	*e*Sg	**Sg**	**02 21 44.1**	**-2.4**
IKOO				*e*Pn	**Pn**	**02 21 06.7**	**+0.3**
IKOO				*e*		02 21 50.6	
	comp=Z,4μm,0.2s						
ITEG	**Tejag**	**2.72**	**39**	*e*Pn	**Pn**	**02 21 08.9**	**+0.2**
ITEG				*e*		02 22 01.3	
	comp=Z,2μm,0.2s						
ITEG	**Tejag**	**2.72**	**39**	*e*Pn	**Pn**	**02 21 08.9**	**+0.2**
ISAD	**Sadrabad**	**2.81**	**294**	*e*Pn	**Pn**	**02 21 11.7**	**+1.7**
ISAD				*e*		02 21 58.9	
	comp=Z,3μm,0.2s						
ISAD	**Sadrabad**	**2.81**	**294**	*e*Pn	**Pn**	**02 21 11.7**	**+1.7**
TABS	**Tabas**	**2.87**	**7**	*e*Pn	**Pn**	**02 21 11.9**	**+1.3**
TABS				*e*Sg	**Sb**	**02 21 52.8**	**+1.6**
TABS				AML	AML	02 22 07.3	
	comp=N,151nm,0.8s						
TABS				AML	AML	02 22 08.9	
	comp=E,97nm,0.9s						
TABS	**Tabas**	**2.87**	**7**	*e*Pn	**Pn**	**02 21 11.9**	**+1.3**
IPAR	**Pars**	**3.30**	**254**	*e*Pn	Pn	02 21 19.8	+3.1
IPAR				*e*Sg	**Sg**	**02 22 09.6**	**-1.2**
IPAR				*e*		02 22 26.1	
	comp=Z,1μm,0.5s						
IPAR	**Pars**	**3.30**	**254**	*e*Pn	Pn	02 21 19.8	+3.1
IPAR				*e*Sg	**Sg**	**02 22 09.6**	**-1.2**
IDAH	**Dahanechah**	**3.32**	**53**	*e*Pn	**Pn**	**02 21 18.5**	**+1.5**
IDAH				*e*		02 21 31.7	
	comp=Z,904nm,0.2s						
IDAH	**Dahanechah**	**3.32**	**53**	*e*Pn	**Pn**	**02 21 18.5**	**+1.5**
ISRV	**Sarvestan**	**3.42**	**247**	*e*Pn	**Pn**	**02 21 20.7**	**+2.4**
ISRV				*e*Sn	**Sn**	**02 22 00.5**	**+1.4**
ISRV				*e*		02 22 30.7	
	comp=Z,904nm,0.3s						
ISRV	**Sarvestan**	**3.42**	**247**	*e*Pn	**Pn**	**02 21 20.7**	**+2.4**
ISRV				*e*Sn	**Sn**	**02 22 00.5**	**+1.4**
NASN	**Na'in**	**3.87**	**302**	*e*Pn	**Pn**	**02 21 25.9**	**+1.3**
NASN				AML	AML	02 22 30.0	
	comp=N,66nm,0.5s						
NASN	**Na'in**	**3.87**	**302**	*e*Pn	**Pn**	**02 21 25.9**	**+1.3**
	comp=N,66nm,0.5s						
IZEF	**Zefreh**	**4.27**	**300**	*e*Pn	**Pn**	**02 21 31.9**	**+1.8**
IZEF				*e*		02 22 42.0	
	comp=Z,398nm,0.2s						
IZEF	**Zefreh**	**4.27**	**300**	*e*Pn	**Pn**	**02 21 31.8**	**+1.8**
IKLH	**Kolahrood**	**5.03**	**301**	*e*Pn	Pn	02 21 43.7	+3.3
IKLH				*e*		02 23 15.4	
	comp=Z,256nm,0.2s						
IKLH	**Kolahrood**	**5.03**	**301**	*e*Pn	Pn	02 21 43.7	+3.3
IANJ	**Anjilo**	**5.21**	**334**	*e*Pn	**Pn**	**02 21 44.2**	**+1.2**
IANJ				*e*		02 23 24.1	
	comp=Z,247nm,0.2s						
IANJ	**Anjilo**	**5.21**	**334**	*e*Pn	**Pn**	**02 21 44.2**	**+1.2**
IPIR	**Pirpir**	**5.30**	**292**	*e*Pn	**Pn**	**02 21 45.6**	**+1.4**
IPIR				*e*		02 23 24.2	
	comp=Z,158nm,0.3s						
IPIR	**Pirpir**	**5.30**	**292**	*e*Pn	**Pn**	**02 21 45.6**	**+1.4**
QAM	**Ghamsar**	**5.35**	**305**	*e*Pn	**Pn**	**02 21 45.4**	**+0.6**
QAM				*e*		02 22 10.4	
	comp=Z,346nm,0.2s						
ILAS	**Lasjerd**	**5.55**	**326**	*e*Pn	Pn	02 21 50.3	+2.7
ILAS				*e*		02 23 42.3	
	comp=Z,276nm,0.4s						
ILAS	**Lasjerd**	**5.55**	**326**	*e*Pn	Pn	02 21 50.3	+2.7
IMOG	**Moghan**	**5.74**	**22**	*e*Pn	**Pn**	**02 21 51.3**	**+1.1**
IMOG				*e*		02 22 21.8	
	comp=Z,115nm,0.2s						
IMOG	**Moghan**	**5.74**	**22**	*e*Pn	**Pn**	**02 21 51.3**	**+1.1**
IFIR	**Firoozkooh**	**5.86**	**327**	*e*Pn	**Pn**	**02 21 53.0**	**+1.1**
IFIR				*e*		02 23 37.8	
	comp=Z,147nm,0.2s						
IFIR	**Firoozkooh**	**5.86**	**327**	*e*Pn	**Pn**	**02 21 53.0**	**+1.1**
IPAY	**Payeh**	**5.95**	**18**	*e*Pn	**Pn**	**02 21 55.1**	**+2.0**
IPAY				*e*		02 21 58.8	
	comp=Z,112nm,0.1s						
IPAY	**Payeh**	**5.95**	**18**	*e*Pn	**Pn**	**02 21 55.1**	**+2.0**
IGLO	**Ghaloghah**	**6.17**	**338**	*e*Pn	Pn	02 21 58.6	+2.4
IGLO				*e*		02 23 58.4	
	comp=Z,279nm,0.3s						
IMYA	**Miami**	**6.21**	**26**	*e*Pn	**Pn**	**02 21 58.5**	**+1.8**
IMYA				*e*		02 23 59.0	
	comp=Z,96nm,0.3s						
IMYA	**Miami**	**6.21**	**26**	*e*Pn	**Pn**	**02 21 58.5**	**+1.8**
IPRN	**Peran**	**6.54**	**327**	*e*Pn	Pn	02 22 03.7	+2.6
IPRN				*e*		02 24 11.4	
	comp=Z,221nm,0.3s						
GEYT	**Alibeck**	**7.21**	**9**	Pn	**Pn**	**02 22 12.1**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=188,slow=15,SNR=7.8						
GEYT				Lg	Lg	02 24 16.7	
	comp=Z,0.1nm,0.3s,baz=205,slow=37,SNR=2.8						
AKTO	**Aktyubinsk**	**19.64**	**2**	LR	LR	02 33 45.5	
	comp=Z,30nm,19.9s,baz=18,slow=40						
BRTR	**Keskin Array B**	**20.79**	**302**	P	Pn	02 25 07.3	-1.3
	comp=Z,0.3nm,0.8s,baz=121,slow=10,SNR=2.7						
BVAR	**Borovoye Array**	**24.35**	**20**	P	**P**	**02 25 43.9**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=204,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**25.39**	**44**	P	**P**	**02 25 53.2**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=230,slow=9.0,SNR=6.0						
KURBB	**Kurchatov Arra**	**25.64**	**33**	P	**P**	**02 25 55.5**	**+1.2**
	comp=Z,1.2nm,0.2s,baz=234,slow=8.9,SNR=7.2						
ZALV	**Zalesovo Beam**	**30.73**	**33**	P	**P**	**02 26 39.9**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=245,slow=11,SNR=4.6						
TORD	**Torodi Ar. Bea**	**53.43**	**264**	P	**P**	**02 29 45.0**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=58,slow=7.4,SNR=19						
YKA	**Yellowknife Ar**	**86.78**	**356**	P	**P**	**02 33 07.5**	**-1.3**
	comp=Z,0.1nm,0.6s,baz=8.9,slow=4.9,SNR=2.5						

WEL 23 02:21:47.5±0.1, 40°.46S×177°.39E, h33km, ML3.7/34, 5C-29D, Error ellipse: s-maj=1.4km s-min=0.9km az=90.0, Clear reflected phases., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.59**	**317**	⇑PN	Pb	02 21 59.4	-0.1
PXZ				SN	Sb	02 22 07.9	+0.1
PXZ				AML	AML	02 22 08.2	
PXZ				AML	AML	02 22 08.2	
PXZ				AML	AML	02 22 08.3	
PRHZ	**Porangahau**	**0.61**	**288**	⇑PN	Pb	02 21 59.9	0.0
PRHZ				SN	Sb	02 22 08.1	-0.3
ANWZ	**Angora Road**	**0.70**	**270**	⇑PN	Pn	02 22 01.2	+0.1
ANWZ				SN	Sb	02 22 10.9	+0.1
KAHZ	**Kahuranaki**	**0.78**	**329**	⇓PN	Pn	02 22 01.9	-0.3
WPHZ	**Waipukurau**	**0.83**	**298**	⇓PN	Pn	02 22 02.5	-0.4
WPHZ				SN	Sn	02 22 13.5	-0.5
CKHZ	**Cape Kidnapper**	**0.84**	**343**	⇓PN	Pn	02 22 02.6	-0.4
CKHZ				SN	Sn	02 22 13.0	-1.2
BFZ	**Birch Farm**	**0.90**	**256**	PN	Pn	02 22 03.9	+0.1
BFZ				SN	Sn	02 22 15.8	+0.1
DVHZ	**Dannevirke**	**0.95**	**279**	PN	Pn	02 22 04.1	-0.5
DVHZ				SN	Sn	02 22 15.3	-1.7
PNHZ	**Pukenui**	**1.06**	**301**	⇓PN	Pn	02 22 05.5	-0.7
PNHZ				SN	Sn	02 22 17.8	-2.1
PRWZ	**Pori Road**	**1.09**	**265**	⇓PN	Pn	02 22 06.4	0.0
KRHZ	**Kereru**	**1.13**	**316**	⇓PN	Pn	02 22 06.2	-0.9
MCHZ	**McNeill Hill**	**1.15**	**332**	⇓PN	Pn	02 22 06.9	-0.4
TSZ	**Takapari Road**	**1.17**	**290**	PN	Pn	02 22 06.8	-0.8
TSZ				AML	AML	02 22 19.9	
TSZ				AML	AML	02 22 21.4	
TIWZ	**Tintock**	**1.19**	**254**	SN	Sn	02 22 21.8	-1.2
TIWZ				AML	AML	02 22 22.8	
ARHZ	**Aropaoanui**	**1.24**	**346**	PN	Pn	02 22 08.1	-0.4
POWZ	**Post Office Ro**	**1.24**	**273**	PN	Pn	02 22 08.3	-0.3
TMWZ	**Te Maipa**	**1.31**	**240**	PN	Pn	02 22 08.9	-0.6
MHGZ	**Mahia Peninsul**	**1.37**	**17**	PN	Pn	02 22 09.7	-0.6
WHHZ	**Waihua**	**1.39**	**355**	PN	Pn	02 22 10.3	-0.4
MRZ	**Mangatainoka R**	**1.40**	**261**	⇓PN	Pn	02 22 10.0	-0.6
MRZ				AML	AML	02 22 25.8	
MRZ				AML	AML	02 22 26.8	
BHHZ	**Black Hill Sta**	**1.41**	**313**	⇓PN	Pn	02 22 10.2	-0.8
BHHZ				SN	Sn	02 22 25.2	-3.3
NMHZ	**Naumai**	**1.44**	**341**	⇓PN	Pn	02 22 10.8	-0.6
NMHZ				SN	Sn	02 22 26.7	-2.4
KNZ	**Kokohu**	**1.46**	**9**	⇓PN	Pn	02 22 10.5	-0.9
BKZ	**Black Stump Fm**	**1.47**	**332**	PN	Pn	02 22 10.9	-0.9
BKZ				AML	AML	02 22 28.1	
BKZ				AML	AML	02 22 29.2	
HOWZ	**Holdsworth Sta**	**1.49**	**252**	PN	Pn	02 22 11.2	-0.8
RAHZ	**Arahi**	**1.56**	**351**	PN	Pn	02 22 12.4	-0.6
PRGZ	**Paritu Road**	**1.58**	**14**	⇑PN	Pn	02 22 12.6	-0.7
MTW	**Mount Morrison**	**1.59**	**244**	PN	Pn	02 22 12.5	-0.9
MTW				AML	AML	02 22 31.8	
MTW				AML	AML	02 22 31.8	
TRWZ	**Traveller**	**1.59**	**234**	PN	Pn	02 22 12.3	-1.1
MOVZ	**Moawhango**	**1.64**	**309**	⇓PN	Pn	02 22 13.8	-0.4
MOVZ				AML	AML	02 22 33.1	
MOVZ				AML	AML	02 22 33.8	
SNGZ	**Shannon Statio**	**1.68**	**359**	⇓PN	Pn	02 22 13.9	-0.8
OGWZ	**Otaki Gorge**	**1.73**	**257**	PN	Pn	02 22 14.5	-0.8
PAWZ	**Paruwai Farm**	**1.75**	**238**	PN	Pn	02 22 14.7	-0.9
PAWZ				AML	AML	02 22 35.7	
PAWZ				AML	AML	02 22 35.9	
RIGZ	**Rimuhau**	**1.78**	**9**	PN	Pn	02 22 15.1	-1.0
WNVZ	**Wahianoa**	**1.79**	**309**	⇓PN	Pn	02 22 16.2	0.0
WNVZ				AML	AML	02 22 36.9	
WNVZ				AML	AML	02 22 39.5	
TUVZ	**Tukino**	**1.79**	**311**	PN	Pn	02 22 16.3	0.0
TUVZ				AML	AML	02 22 38.0	
TUVZ				AML	AML	02 22 41.8	
WHVZ	**Whangaehu Hut**	**1.82**	**310**	⇓PN	Pn	02 22 16.6	-0.2
MTVZ	**Mangateitei**	**1.83**	**305**	PN	Pn	02 22 16.8	+0.1
MTVZ				AML	AML	02 22 18.5	
MTVZ				AML	AML	02 22 40.8	
TRVZ	**Turoa**	**1.83**	**309**	PN	Pn	02 22 16.8	-0.2
TRVZ				AML	AML	02 22 37.7	
OTVZ	**Oturere**	**1.86**	**314**	⇓PN	Pn	02 22 17.0	-0.3
OTVZ				AML	AML	02 22 42.0	
OTVZ				AML	AML	02 22 50.1	
FWVZ	**Far West T-bar**	**1.86**	**310**	⇓PN	Pn	02 22 17.0	-0.4
FWVZ				AML	AML	02 22 17.9	
FWVZ				AML	AML	02 22 41.3	
HATZ	**Hinemaiaia**	**1.86**	**327**	⇓PN	Pn	02 22 16.6	-0.5
HATZ				AML	AML	02 22 37.5	
HATZ				AML	AML	02 22 38.2	
CAW	**Cannon Point**	**1.88**	**249**	PN	Pn	02 22 16.3	-1.0
CAW				AML	AML	02 22 38.1	
CAW				AML	AML	02 22 43.6	
MSWZ	**Moikau Station**	**1.88**	**239**	PN	Pn	02 22 16.1	-1.3
MSWZ				AML	AML	02 22 38.2	
MSWZ				AML	AML	02 22 38.3	
NGZ	**Ngauruhoe**	**1.89**	**312**	⇓PN	Pn	02 22 17.3	-0.3
NGZ				AML	AML	02 22 41.2	
NGZ				AML	AML	02 22 42.9	
RITZ	**Rihia Road**	**1.90**	**321**	PN	Pn	02 22 17.5	-0.1
RITZ				AML	AML	02 22 43.1	
RITZ				AML	AML	02 22 55.6	
WPVZ	**Whakapapa**	**1.90**	**311**	⇓PN	Pn	02 22 17.5	-0.3
WPVZ				AML	AML	02 22 42.7	
WPVZ				AML	AML	02 22 43.3	
COVZ	**Chateau Observ**	**1.90**	**311**	⇓PN	Pn	02 22 17.4	-0.4
KRVZ	**Karewarewa**	**1.92**	**315**	⇓PN	Pn	02 22 17.7	-0.4
KRVZ				AML	AML	02 22 42.7	
KRVZ				AML	AML	02 22 43.1	
KIW	**Kapiti Island**	**1.93**	**257**	PN	Pn	02 22 17.3	-0.7
KIW				AML	AML	02 22 39.4	
KIW				AML	AML	02 22 39.7	
WTVZ	**West Tongariro**	**1.93**	**314**	⇓PN	Pn	02 22 17.8	-0.4
WTVZ				AML	AML	02 22 40.8	
WTVZ				AML	AML	02 22 41.6	
WAZ	**Wanganui**	**1.98**	**290**	⇓PN	Pn	02 22 19.2	+0.5
WAZ				AML	AML	02 22 45.7	
WAZ				AML	AML	02 22 46.1	
KATZ	**Kakaramea**	**1.98**	**318**	PN	Pn	02 22 18.4	-0.5
KATZ				AML	AML	02 22 43.9	
KATZ				AML	AML	02 22 49.5	
RATZ	**Rangitukua**	**2.03**	**321**	PN	Pn	02 22 19.3	-0.1
RATZ				AML	AML	02 22 47.3	
RATZ				AML	AML	02 22 48.7	
TWVZ	**Taurewa**	**2.05**	**312**	PN	Pn	02 22 19.0	-0.8
TKGZ	**Te Karaka**	**2.05**	**10**	SN	Sn	02 22 42.8	-1.3
ALRZ	**Allen Road**	**2.06**	**337**	PN	Pn	02 22 19.0	-0.9
PRRZ	**Plateau Road**	**2.11**	**338**	⇓PN	Pn	02 22 19.7	-0.8
MWZ	**Matawai**	**2.13**	**3**	⇓PN	Pn	02 22 19.3	-1.5
MWZ				AML	AML	02 22 46.2	
MWZ				AML	AML	02 22 46.2	
MWZ				AML	AML	02 22 46.4	
MWZ				AML	AML	02 22 46.5	
BHW	**Baring Head**	**2.13**	**243**	AML	AML	02 22 44.0	
BHW				AML	AML	02 22 44.4	
URZ	**Urewera**	**2.21**	**354**	⇓PN	Pn	02 22 20.6	-1.2
URZ				AML	AML	02 22 48.1	
URZ				AML	AML	02 22 48.3	
HRRZ	**Handcock Road**	**2.24**	**337**	PN	Pn	02 22 21.4	-0.9
TARZ	**Mount Tarawera**	**2.33**	**343**	PN	Pn	02 22 22.8	-0.8
HLRZ	**Highlands Stat**	**2.35**	**340**	PN	Pn	02 22 23.3	-0.5
VRZ	**Vera Road**	**2.43**	**303**	⇑PN	Pn	02 22 24.4	-0.5
VRZ				AML	AML	02 22 36.0	
PUZ	**Puketiti**	**2.48**	**16**	SN	Sn	02 22 52.1	-2.7
PUZ				AML	AML	02 22 52.7	
TCW	**Tory Channel**	**2.48**	**251**	PN	Pn	02 22 24.2	-1.3
TCW				AML	AML	02 22 52.7	
TCW				AML	AML	02 22 52.9	
LREZ	**Lake Rotokare**	**2.51**	**293**	PN	Pn	02 22 26.6	+0.7
DUWZ	**D'Urville Isla**	**2.66**	**262**	PN	Pn	02 22 27.2	-0.9
HAZ	**Te Kaha**	**2.72**	**7**	PN	Pn	02 22 27.6	-1.3
PREZ	**Palmer Road**	**2.73**	**293**	PN	Pn	02 22 29.7	+0.6
WMGZ	**Waiomatatini S**	**2.76**	**17**	PN	Pn	02 22 27.8	-1.6
HIZ	**Hauiti**	**2.76**	**314**	⇓PN	Pn	02 22 28.6	-0.9
TUWZ	**Tuamarina**	**2.79**	**249**	AML	AML	02 22 59.5	
TUWZ				AML	AML	02 23 05.4	
KHEZ	**Kahui Hut**	**2.85**	**293**	PN	Pn	02 22 31.8	+1.0
PKE	**Pukeiti**	**2.91**	**295**	PN	Pn	02 22 32.2	+0.6
PKE				AML	AML	02 23 04.5	
NWEZ	**Newall Road**	**2.96**	**292**	PN	Pn	02 22 33.0	+0.8
TOZ	**Tahuroa Road**	**3.10**	**331**	⇓PN	Pn	02 22 32.8	-1.2
NNZ	**Nelson**	**3.14**	**255**	PN	Pn	02 22 33.5	-1.1
QRZ	**Quartz Range**	**3.72**	**263**	PN	Pn	02 22 41.0	-1.6
DSZ	**Denniston Nort**	**4.41**	**251**	SN	Sn	02 23 37.6	-4.9
LTZ	**Lake Taylor**	**4.49**	**237**	PN	Pn	02 22 53.0	-0.2
MQZ	**McQueen's Vall**	**4.79**	**226**	PN	Pn	02 22 54.8	-2.5
CTZ	**Chatham Island**	**5.53**	**128**	PN	Pn	02 23 09.8	+2.4
LBZ	**Lake Benmore**	**6.62**	**231**	*e*Pn	Pn	02 23 21.2	-1.2
ODZ	**Otahua Downs**	**6.75**	**225**	PN	Pn	02 23 22.1	-2.2

GUC 23 02:27:54.0±0.8, 34°.78S×71°.54W, h54km±7km, MD3.6, ML3.5, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.34**	**131**	⇓*i*P	Pn	02 28 04.2	+0.4
NICH				*i* S1	Sn	02 28 11.8	+0.9
NICH				AML	AML	02 28 12.2	
	comp=E,9μm,0.3s						
TALC	**Talca**	**0.62**	**187**	⇓*i*P	Pn	02 28 07.3	+0.4
TALC				*i* S	Sn	02 28 16.6	+0.4
TALC				AML	AML	02 28 17.8	
	comp=N,13μm,0.1s						
LNV	**Longovilo**	**0.83**	**7**	*i* P1	Pn	02 28 10.2	+0.6
LNV				*i* S1	Sn	02 28 21.8	+0.7
CACH	**El Canelo**	**1.02**	**50**	⇓*i*P	Pn	02 28 12.6	+0.3
CACH				*e*S1	Sn	02 28 27.0	+1.2
LNCH	**Linares**	**1.06**	**183**	*i* S1	Sn	02 28 27.5	+0.9
CHCH	**Chadas Angostu**	**1.12**	**41**	⇑*i*P	Pn	02 28 14.0	+0.5
CHCH				*i* S1	Sn	02 28 28.8	+0.8
TACH	**Talagante**	**1.23**	**24**	⇑*i*P	Pn	02 28 15.4	+0.4
TACH				*i* S1	Sn	02 28 31.4	+0.8
ANTU	**Antumapu**	**1.43**	**32**	*e*P1	Pn	02 28 18.5	+0.8
ANTU				*e*S1	Sn	02 28 37.1	+1.7
ANTU				AML	AML	02 28 39.4	
	comp=E,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.43**	**25**	*e*P1	Pn	02 28 17.8	+0.2
RCDM				*e*S1	Sn	02 28 35.7	+0.3
RCDM				AML	AML	02 28 41.7	
	comp=E,2μm,0.1s						
SAN	**Santiago**	**1.51**	**29**	*i* P1	Pn	02 28 19.4	+0.5
SAN				*e*S1	Sn	02 28 38.2	+0.8
SAN				AML	AML	02 28 43.6	
	comp=N,430nm,0.1s						
FSR	**Penalolen**	**1.55**	**33**	*e*P9	Pn	02 28 21.0	+1.6
FSR				*e*S2	Sn	02 28 40.8	+2.4
CLCH	**Cerro Calan**	**1.61**	**31**	⇓*i*P	Pn	02 28 20.8	+0.5
CLCH				*i* S1	Sn	02 28 41.1	+1.1
CLCH				AML	AML	02 28 45.9	
	comp=E,623nm,0.3s						
YECH	**El Yeso**	**1.64**	**48**	*e*P1	Pn	02 28 22.2	+1.3
YECH				*e*S4	Sn	02 28 43.6	+2.3
YECH				AML	AML	02 28 47.3	
	comp=N,442nm,0.3s						

IDC ***23*** *02:33:59.4±0.6, 45°.61S×76°.78W, h0km, mb4.4/8, mb1 4.5/10, mb1mx4.4/16, mbtmp4.3/10, ML4.0/2, MS4.0/13, Ms1 4.0/13, ms1mx3.9/17, Error ellipse: s-maj=27.9km s-min=16.5km az=106.0*

ISCJB ***23*** *02:34:01.2±0.3, 45°.67S±0°.05×76°.56W±0°.09, h17km, mb4.8/28, MS4.1/10, Error ellipse: s-maj=9.5km s-min=7.7km az=160.4*

NEIC ***23*** *02:34:01.5±0.4, 45°.69S×76°.61W, h10km, mb5.0/21, Error ellipse: s-maj=12.5km s-min=8.6km az=90.0*

NEIC Felt at Coihaique.

GCMT ***23*** *02:34:01.5±0.3, 45°.94S×77°.04W, h14km±1km, MW4.9/82, Moment Tensor Solution. s19,c27; s82,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.51±.15; $M_{\theta\theta}$0.30±.09; $M_{\phi\phi}$2.21±.10; $M_{r\theta}$-0.30±.26; $M_{r\phi}$-0.33±.07; $M_{\theta\phi}$-0.07±.21; Best double couple: $M_0$2.40400×10^{16} NP1:ϕ_s357.00000°, δ46.00000°, λ-81.00000°. NP2: ϕ_s164.00000°, δ45.00000°, λ-99.00000°. Principal axes: T 2.2640, Plg0.0000°, Azm81.0000°; N 0.2790, Plg6.0000°, Azm171.0000°; P -2.5440, Plg84.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***23*** *02:34:02.0, 45°.70S×76°.50W, h10km, mB5.2/5, Ms5.4/6, Ms7 5.1/7*

ISC 23 02:34:02.6±0.4, 45°.63S±0°.07×76°.61W±0°.08, h17km, n143, σ1§17/150, mb4.9/28, MS4.0/10, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.60**	**44**	Pn	**Pn**	**02 35 38.2**	**-0.7**
	1.2nm,0.3s,baz=229,slow=13,SNR=36						
PLCA				LR	LR	02 38 25.0	
	comp=Z,3μm,18.3s,baz=233,slow=40						
PLCA	**Paso Flores**	**6.60**	**44**	*e*Pn	**Pn**	**02 35 39.4**	**+0.5**
USHA	**Ushuaia**	**10.59**	**153**	Pn	**Pn**	**02 36 34.2**	**+0.8**
	0.4nm,0.3s,baz=317,slow=19,SNR=3.0						
USHA				LR	LR	02 40 16.1	
	comp=Z,361nm,21.5s,baz=310,slow=35						
TRQA	**Tornquist**	**13.26**	**60**	*e*Pn	**Pn**	**02 37 11.1**	**+1.0**
CFAA	**Coronel Fontan**	**15.44**	**28**	Pn	**Pn**	**02 37 35.7**	**-3.9**
	0.1nm,0.3s,baz=210,slow=12,SNR=9.8						
CFAA				LR	LR	02 43 51.3	
	comp=Z,124nm,19.8s,baz=204,slow=38						
LCO	**Las Campanas**	**17.23**	**18**	*e*Pn	**Pn**	**02 38 02.8**	**+0.2**
PMSA	**Palmer Station**	**20.41**	**164**	LR	LR	02 44 45.9	
	comp=Z,533nm,20.9s,baz=224,slow=32						
LVC	**Limon Verde**	**23.80**	**18**	*e*P	**P**	**02 39 14.9**	**+0.2**
	39nm,1.1s						
HOPE	**Hope Point**	**26.91**	**123**	*e*P	**P**	**02 39 41.5**	**-1.0**
	6.2nm,0.7s						
LPAZ	**La Paz**	**30.10**	**16**	P	**P**	**02 40 11.7**	**-0.2**
	3.8nm,0.9s,baz=273,slow=6.8,SNR=8.8						
LPAZ	**La Paz**	**30.10**	**16**	*e*P	**P**	**02 40 12.8**	**+0.9**
	12nm,1.2s						
RPN	**Rapa Nui**	**31.87**	**294**	LR	LR	02 49 37.5	
	comp=Z,704nm,19.4s,baz=130,slow=30						
BDFB	**Brasilia**	**38.33**	**48**	P	**P**	**02 41 22.7**	**+0.1**
	20nm,1.1s,baz=207,slow=5.9,SNR=15						
BDFB				LR	LR	02 57 11.5	
	comp=Z,238nm,22.0s,baz=208,slow=36						
BDFB	**Brasilia**	**38.33**	**48**	*e*P	**P**	**02 41 23.4**	**+0.8**

baz=80
430A Baggett Ranch, 79.27 339 P **P** **02 46 06.8 0.0**
baz=80
429A Davenport Ranc 79.29 338 P **P** **02 46 07.2 +0.3**
baz=80
332A Millersview 79.47 340 P **P** **02 46 07.5 -0.4**
baz=80
WHTX Lake Whitney, 79.53 342 P **P** **02 46 08.1 0.0**
baz=80
331A San Angelo 79.57 339 P **P** **02 46 08.3 0.0**
baz=80
234A Clairette 79.69 342 P **P** **02 46 08.8 -0.2**
baz=80
330A Mertzon 79.85 339 P **P** **02 46 09.3 -0.6**
baz=80
233A Rising Star 79.88 341 P **P** **02 46 09.8 -0.3**
baz=80
329A Wagon Wheel Ra 80.13 338 P **P** **02 46 12.8 +1.3**
baz=80
133A Hamilton Ranch 80.45 341 P **P** **02 46 12.8 -0.3**
baz=81
229A Bryant Ranch, 80.54 338 P **P** **02 46 14.0 +0.4**
baz=81
ABTX Abilene, Hawle 80.64 340 P **P** **02 46 14.2 +0.1**
baz=81
129A Stewart Farms, 81.19 339 P **P** **02 46 17.3 +0.2**
baz=82
Z32A Haskell 81.25 341 P **P** **02 46 17.4 0.0**
baz=82
128A Castleberry Fa 81.34 338 P **P** **02 46 18.2 +0.3**
baz=82
Z31A Sharp Cattle R 81.42 340 P **P** **02 46 17.8 -0.5**
baz=82
Y33A Hilltop Ranch, 81.73 342 P **P** **02 46 20.0 +0.1**
baz=82
LIC Lamto 81.74 72 *eP* P 02 46 28.1 +7.7
36nm,1.0s
Z29A Hungry Hill Ra 81.74 339 P **P** **02 46 20.2 +0.1**
baz=82
Y32A R-V Farms, Ver 81.91 341 P **P** **02 46 21.2 +0.4**
baz=82
WVT Waverly 82.01 351 *eP* **P** **02 46 22.2 +1.0**
9.1nm,1.1s
KIC Kosan Boka 82.03 73 *eP* P 02 46 29.6 +7.6
16nm,0.9s
TIC Toumodi 82.05 72 *eP* P 02 46 29.6 +7.5
13nm,0.7s
X34A Smith Ranch, M 82.13 342 P **P** **02 46 22.3 +0.3**
baz=83
319A Douglas 82.17 332 P **P** **02 46 23.5 +1.1**
baz=83
DBIC Dimbokro 82.18 72 P **P** **02 46 22.9 +0.1**
3.5nm,0.8s,baz=202,slow=7.9,SNR=6.4
DBIC LR LR 03 17 53.8
comp=Z,76nm,20.6s,baz=201,slow=32
DBIC Dimbokro 82.18 72 *eP* **P** **02 46 23.5 +0.8**
12nm,0.9s
X32A Elmer 82.28 341 P **P** **02 46 22.5 -0.2**
baz=83
Y28A McKinney Farm, 82.50 339 P **P** **02 46 23.7 -0.3**
baz=83
X31A McDonald Ranch 82.64 341 P **P** **02 46 24.8 +0.2**
baz=83
X30A Coker Ranch, T 82.67 340 P **P** **02 46 25.1 +0.3**
baz=83
MSTX Muleshoe 82.69 338 P **P** **02 46 24.9 -0.2**
baz=83
MSTX Muleshoe 82.69 338 *eP* **P** **02 46 25.3 +0.3**
38nm,1.9s
X29A Tulia 82.87 339 P **P** **02 46 26.2 +0.3**
baz=83
W32A Sentinel 82.94 341 P **P** **02 46 26.7 +0.5**
baz=83
TUL1 Leonard 82.99 344 *eP* P 02 46 30.4 +4.0
20nm,1.1s
V34A Guthrie 83.26 343 P **P** **02 46 27.8 0.0**
baz=84
V34A Guthrie 83.26 343 *eP* **P** **02 46 28.1 +0.3**
18nm,0.9s
AMTX Amarillo 83.28 339 P **P** **02 46 28.6 +0.6**
baz=84
V33A Lossen Ranch, 83.40 342 P **P** **02 46 28.7 +0.2**
baz=84
V32A Arapaho 83.47 342 P **P** **02 46 29.7 +0.8**
baz=84
V31A Spring Creek L 83.70 341 P **P** **02 46 31.3 +1.2**
baz=84
U34A Anderson Ranch 83.84 343 P **P** **02 46 31.2 +0.5**
baz=84
U34A Anderson Ranch 83.84 343 *eP* **P** **02 46 30.8 +0.1**
7.7nm,0.8s
W25A X Bar L Ranch, 84.32 337 P **P** **02 46 33.5 +0.1**
baz=85
W24A Lazy 6 Ranch, 84.57 337 P **P** **02 46 36.8 +2.1**
baz=85
ANMO Albuquerque 84.62 336 *eP* **P** **02 46 35.6 +0.7**
6.4nm,1.2s
V26A Tequesquite Ra 84.68 338 P **P** **02 46 34.9 -0.3**
baz=85
U27A Thompson Grove 85.03 339 P **P** **02 46 37.1 +0.1**
baz=85
U25A Circle Dot Ran 85.42 338 P **P** **02 46 39.0 0.0**
baz=86
T28A Walsh 85.52 340 P **P** **02 46 39.3 -0.1**
baz=86
V22A San Miguel Ran 85.65 336 P **P** **02 46 41.1 +0.9**
baz=86
U23A El Rito 85.84 336 P **P** **02 46 42.4 +1.3**
baz=86
S26A Kim 86.33 339 P **P** **02 46 43.6 +0.2**
baz=87
R29A Marienthal 86.53 341 P **P** **02 46 44.3 +0.1**
baz=87
R28A Tribune 86.61 340 P **P** **02 46 44.5 -0.2**
baz=87
S25A Robets Cordova 86.61 338 P **P** **02 46 45.2 +0.3**
baz=87
R27A Eads 86.79 340 P **P** **02 46 45.5 -0.1**
baz=87
SDCO Great Sand Dun 86.97 337 *eP* **P** **02 46 47.9 +1.2**
22nm,2.0s
R24A Sanders Place, 87.33 338 P **P** **02 46 49.0 +0.6**
baz=88
S22A 4UR Ranch, Cre 87.34 336 P **P** **02 46 49.4 +0.9**
baz=88
SMCO Snowmass 88.72 337 *eP* **P** **02 46 58.0 +2.9**
9.4nm,1.4s
SHPR Sheep Range 88.84 330 *eP* **P** **02 46 57.3 +1.7**
JFWS Jewell Farm 88.99 350 *eP* **P** **02 46 57.6 +1.8**
26nm,1.4s
CCUT Cedar City 89.17 332 *eP* **P** **02 46 59.1 +2.0**
47nm,2.3s
O22A Kremmling 89.52 338 P **P** **02 46 59.1 +0.2**
baz=90
ECSD EROS Data Cent 90.73 346 *eP* **P** **02 47 03.5 -0.5**
65nm,2.2s
TORD Torodi Ar. Bea 91.29 73 P **P** **02 47 07.2 0.0**
0.6nm,0.8s,baz=238,slow=4.2,SNR=4.1
TORD LR LR 03 24 22.3
comp=Z,57nm,20.6s,baz=230,slow=33
DZM Mont Dzumac 91.65 236 LR LR 03 21 31.8
comp=Z,82nm,18.6s,baz=244,slow=31
K22A Casper 91.84 338 P **P** **02 47 09.2 -0.1**
baz=92
K22A Casper 91.84 338 *eP* **P** **02 47 09.7 +0.3**
8.6nm,1.0s
H11S2 WAKE ISLAND Hyl 21.58 264 T T 05 06 02.3
baz=135,slow=75,SNR=16
H11S1 WAKE ISLAND Hyl 21.59 264 T T 05 06 06.1
baz=135,slow=75,SNR=9.0
H11S3 WAKE ISLAND Hyl 21.59 264 T T 05 06 02.2
baz=135,slow=75,SNR=10
GERES GERESS Array B 122.51 52 PKP **PKPdf** **02 52 55.8 -0.5**
0.3nm,0.6s,baz=224,slow=2.7,SNR=5.1
ILAR Eielson Array 122.83 331 PKP **PKPdf** **02 52 55.4 -1.0**
0.6nm,0.8s,baz=172,slow=2.2,SNR=5.9
BRTR Keskin Array B 129.85 70 PKP **PKPdf** **02 53 09.9 -0.9**
0.9nm,0.9s,baz=151,slow=3.3,SNR=4.9
HYB Hyderabad 145.08 136 *i* PKP **PKPbc** **02 53 37.0 -1.7**
HYB *e* 02 53 44.5
GEYT Alibeck 145.75 87 PKPbc **PKPab** **02 53 40.5 -0.2**
4.9nm,0.7s,baz=256,slow=4.1,SNR=13
ARU Arti 150.33 52 *e*PKPbc **PKPbc** **02 53 52.2 +0.3**
ARU *e*PKPab **PKPab** **02 53 58.8 +0.5**
TIXI Tiksi 151.21 344 *e*PKPbc **PKPbc** **02 53 52.3 -1.2**
TIXI *e*PKPab **PKPab** **02 53 58.8 -2.7**
MJAR Matsushiro Arr 152.41 263 PKPbc **PKPbc** **02 53 56.0 -1.4**
0.7nm,0.4s,baz=127,slow=2.8,SNR=3.8
MJAR PKPab **PKPab** **02 54 06.2 -1.4**
1.8nm,0.8s,baz=154,slow=3.1,SNR=4.6
CMAR Chiang Mai Arr 152.66 171 PKP **PKPdf** **02 53 50.0 -1.4**
1.7nm,0.3s,baz=220,slow=4.1,SNR=2.6
CMAR PKPbc **PKPbc** **02 53 57.5 -0.9**
0.9nm,0.3s,baz=219,slow=4.1,SNR=8.6
KSH Kashi 158.97 97 PKP **PKPdf** **02 54 00.1 +0.8**
KSH sPKP 02 54 03.4
KSH PKS **PKSdf** **02 57 32.8 -0.1**
KSH PP **PP** **02 58 14.8 -2.4**
KSH SKS **SKSdf** **03 01 04.9 +0.9**
KSH SKKS **SKKSac** **03 05 05.6 +0.8**
KSH SS **SS** **03 18 18.3 -2.4**
KSH PPMZ
100nm,4.6s
KSH LZ
140nm,5.1s
KMI Kunming 159.54 178 PKP **PKPdf** **02 54 03.1 +2.6**
NJ2 Nanjing 161.91 227 *e*PKP **PKPdf** **02 54 03.6 +1.0**
MKAR Makanchi Array 165.35 78 PKP **PKPdf** **02 54 03.7 -1.7**
0.7nm,0.9s,baz=180,slow=1.4,SNR=2.9
MKAR PKPab **PKPab** **02 55 02.7 -0.7**
1.0nm,0.8s,baz=258,slow=4.3,SNR=7.2
MKAR PP PP 02 58 58.4 +7.4
0.8nm,0.9s,baz=284,slow=4.9,SNR=5.5
ZALV Zalesovo Beam 165.43 48 PKP **PKPdf** **02 54 02.8 -2.3**
2.5nm,0.9s,baz=315,slow=1.0,SNR=6.3
ZALV PKPab **PKPab** **02 55 03.5 +0.1**
0.2nm,0.3s,baz=280,slow=4.2,SNR=2.4
WMQ Urumqi 168.69 94 *e*PKP **PKPdf** **02 54 08.1 +0.1**
WMQ PKPab **PKPab** **02 55 20.0 +1.7**
WMQ PKS **PKSdf** **02 57 39.3 -1.2**
WMQ PP **PP** **02 59 10.0 +1.7**
WMQ SKS **SKSdf** **03 01 07.0 -3.7**
WMQ SKKS **SKKSac** **03 05 52.5 -1.4**
WMQ SS **SS** **03 19 58.0 -2.8**
WMQ PPMZ
170nm,5.2s
WMQ LN
53nm,23.0s
WMQ LE
43nm,23.0s
WMQ LZ
66nm,23.0s
LZH Lanzhou 170.47 182 *e*PKP **PKPdf** **02 54 11.0 +1.5**
LZH LN
230nm,18.1s
LZH LE
220nm,18.0s
LZH LZ
260nm,20.2s
HHC Hu-ho-hao-te 172.36 234 *e*PKP **PKPdf** **02 54 10.4 +0.2**
HHC pPKP **pPKPdf** **02 54 19.4 +3.4**
HHC PKS **PKSdf** **02 57 44.3 +1.8**
HHC PP **PP** **02 59 29.8 +3.6**
HHC SS SS 03 20 38.3 +2.0
HHC PPMZ
170nm,9.8s
HHC LN
210nm,21.7s
HHC LE
240nm,22.6s
HHC LZ
220nm,22.4s
GTA Gaotai 173.25 156 PKP **PKPdf** **02 54 10.6 0.0**

IDC 23 02:37:34.7±3.0, 20°.91S×175°.52W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.8/28, mbtmp4.4/3, Error ellipse: s-maj=177.2km s-min=47.8km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.76**	**264**	P	P		02 44 36.7	+1.0
	2.1nm,0.4s,baz=87,slow=11,SNR=3.6							
ASAR	**Alice Springs**	**46.69**	**257**	P	P		02 46 05.8	+0.1
	4.0nm,0.5s,baz=96,slow=7.7,SNR=63							
ASAR				PcP	PcP		02 47 37.6	-1.8
	0.5nm,0.5s,baz=99,slow=4.1,SNR=5.7							
WRA	**Warramunga Arr**	**46.85**	**262**	P	P		02 46 05.9	-1.0
	1.8nm,0.3s,baz=96,slow=7.5,SNR=104							
AKASG	**Malin Array Be**	**144.47**	**333**	PKP	PKPdf		02 57 12.4	-0.5
	0.3nm,0.3s,baz=43,slow=4.2,SNR=5.4							
BRTR	**Keskin Array B**	**148.82**	**313**	PKPbc	PKPbc		02 57 25.1	+0.4
	0.4nm,0.4s,baz=90,slow=2.0,SNR=5.2							

*NSSC **23** 02:57:25.5±1.2, 35°.82N×42°.72E, h38km±999km, MD2.1, ML3.0*
*DDA **23** 02:57:26.3, 38°.41N×39°.24E, h5km, ML3.2*
*ISK **23** 02:57:26.5, 38°.43N×39°.23E, h2km, ML3.2*
*CSEM **23** 02:57:27.5±0.2, 38°.40N×39°.21E, h2km, ML3.2, Error ellipse: s-maj=4.9km s-min=4.2km az=14.0*
ISC 23 02:57:27.2±0.9, 38°.42N±0°.02×39°.25E±0°.02, h3km±8km, n69, σ1°29/92, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.06**	**130**	PG		**Pg**	02 57 28.5	-0.1
SVRC				*e*SG		**Sg**	02 57 29.7	+0.1
SVRC	**Sivrice-ELAZID**	**0.06**	**130**	*i* Pg		**Pg**	02 57 28.5	-0.1
SVRC				*e*Sg		**Sg**	02 57 29.7	+0.1
ELZG	**Elazig**	**0.22**	**291**	*i* P		**Pg**	02 57 31.5	0.0
ELZG				*i* S		**Sg**	02 57 35.0	+0.6
ELZG	**Elazig**	**0.22**	**291**	*i* P		**Pg**	02 57 31.5	0.0
ELZG				*i* S		**Sg**	02 57 35.0	+0.6
PTK	**Pertek**	**0.49**	**14**	*e*PG		**Pg**	02 57 36.1	-0.5
PTK				*e*SG		**Sg**	02 57 44.2	+1.3
PTK	**Pertek**	**0.49**	**14**	*e*Pg		**Pg**	02 57 36.1	-0.5
PTK				*e*Sg		**Sg**	02 57 44.2	+1.3
MALT	**Malatya**	**0.65**	**261**	*e*PG		**Pg**	02 57 39.1	-0.6
MALT	**Malatya**	**0.65**	**261**	*e*Pg		**Pg**	02 57 39.1	-0.6
DYBB	**Diyarbakir**	**0.84**	**123**	*e*PG		**Pb**	02 57 44.3	-0.2
DIYA	**Diyarbakir**	**0.85**	**125**	*i* P		**Pb**	02 57 44.4	-0.2
DIYA	**Diyarbakir**	**0.85**	**125**	*i* P		**Pb**	02 57 44.4	-0.2
DIY	**Diyarbakir**	**0.93**	**124**	*e*Pg		**Pg**	02 57 44.3	-0.8
KEMA	**Kemaliye**	**1.03**	**326**	*i* P		**Pg**	02 57 45.6	-1.4
KEMA				*i* S		**Sb**	02 58 00.8	-0.9
KEMA	**Kemaliye**	**1.03**	**326**	*i* P		**Pg**	02 57 45.6	-1.4
KEMA				*i* S		**Sb**	02 58 00.8	-0.9
URFA	**Urfa**	**1.03**	**199**	*e*PG		**Pn**	02 57 47.8	-0.8
URFA	**Urfa**	**1.03**	**199**	*e*Pg		**Pn**	02 57 47.8	-0.8
AKCD	**Akcadag**	**1.05**	**264**	*i* P		**Pg**	02 57 46.2	-1.1
AKCD				*i* S		**Sn**	02 58 02.6	-1.4
AKCD	**Akcadag**	**1.05**	**264**	*i* P		**Pg**	02 57 46.2	-1.1
AKCD				*i* S		**Sn**	02 58 02.6	-1.4
BINT	**Bingol**	**1.08**	**65**	*e*Pn		Pn	02 57 51.9	+2.6
ILIC	**ilic-Erzincan**	**1.16**	**333**	*e*PN		**Pn**	02 57 49.5	-0.9
ILIC	**ilic-Erzincan**	**1.16**	**333**	*e*Pn		**Pn**	02 57 49.5	-0.9
ATAB	**Bozova**	**1.21**	**219**	*i* P		**Pn**	02 57 51.1	+0.1
ATAB				*i* S		**Sn**	02 58 08.8	+0.9
ATAB	**Bozova**	**1.21**	**219**	*i* P		**Pn**	02 57 51.1	+0.1
ATAB				*i* S		**Sn**	02 58 08.8	+0.9
BNGB	**Bing¨¶l**	**1.26**	**63**	*e*PN		**Pn**	02 57 51.9	+0.1
MAZI	**Mazidag**	**1.35**	**135**	*e*PN		**Pg**	02 57 52.6	-0.4
MAZI	**Mazidag**	**1.35**	**135**	*e*Pn		**Pg**	02 57 52.6	-0.4
DARE	**Darende-Malaty**	**1.39**	**277**	*e*PN		**Pg**	02 57 53.3	-0.6
DARE	**Darende-Malaty**	**1.39**	**277**	*e*Pn		**Pg**	02 57 53.3	-0.6
BNGL	**BINGOL**	**1.58**	**70**	*i* P		**Pg**	02 57 57.7	+0.2
BNGL				*i* S		Sg	02 58 24.6	+6.5
MARD	**Mardin**	**1.64**	**132**	*i* P		**Pb**	02 57 57.3	-0.8
MARD				*i* S		**Sg**	02 58 19.3	-0.6
BEST	**Besiri**	**1.68**	**108**	*i* P		**Pb**	02 57 57.5	-1.3
BEST				*i* S		**Sg**	02 58 22.6	+1.4
GZT	**Gaziantep**	**1.70**	**232**	*i* P		**Pb**	02 57 57.8	-1.4
GZT				*i* S		**Sg**	02 58 25.8	+3.9
KELT	**Kelkit**	**1.73**	**0**	*i* P		**Pg**	02 57 59.7	-0.6
KELT				*i* S		**Sg**	02 58 25.4	+2.6
KELT	**Kelkit**	**1.73**	**0**	*i* P		**Pg**	02 57 59.7	-0.6
KELT				*i* S		**Sg**	02 58 25.4	+2.6
KBSD	**Kabsdagh**	**1.75**	**144**	*i* P		**Pb**	02 57 58.6	-1.4
KBSD				*e*S		**Sg**	02 58 22.5	-0.9
KBSD				AML	AML		02 58 26.1	
	comp=N,476nm,0.4s							
KBSD				AML	AML		02 58 27.5	
	comp=E,247nm,0.3s							
BTMT	**Batman**	**1.78**	**97**	*e*PN		**Pb**	02 57 59.0	-1.5
BTMT	**Batman**	**1.78**	**97**	*e*Pn		**Pb**	02 57 59.0	-1.5
KOPT	**Kop Dagi**	**1.87**	**31**	*i* P		**Pg**	02 58 03.3	+0.2
KOPT	**Kop Dagi**	**1.87**	**31**	*i* P		**Pg**	02 58 03.3	+0.2
KOPT				*i* S		Sg	02 58 38.6	+11
VRTB	**Varto-Mus**	**1.88**	**66**	*e*PN		**Pb**	02 58 01.0	-1.2
VRTB	**Varto-Mus**	**1.88**	**66**	*e*Pn		**Pb**	02 58 01.0	-1.2
SUSE	**Susehri**	**1.96**	**336**	*i* P		**Pg**	02 58 03.8	-1.0
SUSE	**Susehri**	**1.96**	**336**	*i* P		**Pg**	02 58 03.8	-1.0
SUSE				*i* S		**Sg**	02 58 33.1	+2.9
KMRS	**Kahramanmaras**	**2.06**	**245**	*e*PN		**Pn**	02 58 02.8	0.0
KMRS	**Kahramanmaras**	**2.06**	**245**	*e*Pn		**Pn**	02 58 02.8	0.0
BAYT	**Ayd¨–ntepe-Bay**	**2.09**	**19**	*e*PN		**Pb**	02 58 04.0	-1.8
BAYT	**Ayd¨–ntepe-Bay**	**2.09**	**19**	*e*Pn		**Pb**	02 58 04.0	-1.8
EZM	**Erzurum**	**2.22**	**47**	*e*PN		**Pn**	02 58 05.8	+0.8
ERZM	**Erzurum**	**2.22**	**47**	*i* P		**Pb**	02 58 07.3	-0.8
ERZM	**Erzurum**	**2.22**	**47**	*i* P		**Pb**	02 58 07.3	-0.8
SVSK	**Karacayir**	**2.30**	**311**	*e*PN		**Pn**	02 58 06.5	+0.6
SVSK	**Karacayir**	**2.30**	**311**	*e*Pn		**Pn**	02 58 06.5	+0.6
KUZU	**Kuzuini**	**2.38**	**227**	*i* P		**Pn**	02 58 07.1	0.0
KUZU	**Kuzuini**	**2.38**	**227**	*i* P		**Pn**	02 58 07.1	0.0
KUZU				*i* S		**Sg**	02 58 45.7	+2.1
KAMA	**Osmaniye**	**2.38**	**240**	*i* P		**Pn**	02 58 07.3	+0.1
KAMA				*i* S		**Sg**	02 58 48.3	+4.5
ANDN	**Andirin**	**2.44**	**251**	*i* P		**Pb**	02 58 11.3	-0.4
ANDN	**Andirin**	**2.44**	**251**	*i* P		**Pb**	02 58 11.3	-0.4
ANDN				*i* S		**Sg**	02 58 48.4	+2.8
MNKR	**ALMNKUR**	**2.47**	**180**	*i* P		**Pn**	02 58 09.0	+0.7
RSDY	**Resadiye-TOKAT**	**2.47**	**324**	*e*PN		**Pn**	02 58 09.3	+1.0
RSDY	**Resadiye-TOKAT**	**2.47**	**324**	*e*Pn		**Pn**	02 58 09.3	+1.0
ESPY	**Espiye-Giresun**	**2.53**	**351**	*e*PN		**Pn**	02 58 09.8	+0.7
ESPY	**Espiye-Giresun**	**2.53**	**351**	*e*Pn		**Pn**	02 58 09.8	+0.7
KSRV	**Kasrt alli**	**2.56**	**184**	*i* P		**Pb**	02 58 11.4	-2.3
KSRV				*e*S		**Sb**	02 58 45.9	+0.4
KSRV				AML	AML		02 58 51.8	
	comp=N,67nm,0.4s							
KSRV				AML	AML		02 58 53.8	
	comp=E,73nm,0.6s							
SIRN	**S¨–rnak**	**2.67**	**109**	*i* P		**Pn**	02 58 10.9	-0.2
SIRN	**S¨–rnak**	**2.67**	**109**	*i* P		**Pn**	02 58 10.9	-0.2
SIRN				*i* S		**Sg**	02 58 55.6	+2.7
SIRT	**Sirnak**	**2.69**	**109**	*e*PN		**Pn**	02 58 12.7	+1.3
SIRT	**Sirnak**	**2.69**	**109**	*e*Pn		**Pn**	02 58 12.7	+1.3
CUKT	**Cukurca**	**3.65**	**107**	*e*PN		**Pn**	02 58 26.1	+1.5
CUKT	**Cukurca**	**3.65**	**107**	*e*Pn		**Pn**	02 58 26.1	+1.5

*ISCJB **23** 03:12:47.1±0.6, 52°.1N±0°.1×151°.7E±0°.2, h518km, mb3.2/12, Error ellipse: s-maj=17.2km s-min=11.9km az=138.0*
*IDC **23** 03:12:47.5±1.4, 52°.03N×151°.63E, h509km±17km, mb2.8/11, mb1 3.1/14, mb1mx2.9/35, mbtmp3.7/14, Error ellipse: s-maj=16.4km s-min=11.3km az=140.0*
ISC 23 03:12:47.9±0.8, 52°.0N±0°.1×151°.7E±0°.1, h518km, n15, σ0°70/15, mb3.2/12, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**3.83**	**71**	P	P		**03 14 04.6**	**-1.5**
	3.4nm,0.3s,baz=228,slow=3.4,SNR=32							
SEY	**Seymchan**	**10.96**	**2**	P	P		**03 15 15.7**	**+0.5**
	0.4nm,0.3s,baz=169,slow=8.3,SNR=16							
MJAR	**Matsushiro Arr**	**18.18**	**217**	P	P		**03 16 28.5**	**-0.5**
	0.7nm,0.3s,baz=16,slow=10,SNR=8.1							
SONM	**Songino Array**	**29.09**	**280**	P	P		**03 18 06.0**	**-0.2**
	0.2nm,0.5s,baz=79,slow=7.6,SNR=2.9							
ILAR	**Eielson Array**	**33.18**	**43**	P	P		**03 18 41.0**	**+0.2**
	1.1nm,0.7s,baz=279,slow=11,SNR=22							
MKAR	**Makanchi Array**	**43.90**	**292**	P	P		**03 20 08.2**	**+0.2**
	0.3nm,0.4s,baz=60,slow=6.6,SNR=9.4							
YKA	**Yellowknife Ar**	**47.34**	**39**	P	P		**03 20 34.0**	**0.0**
	1.5nm,0.6s,baz=304,slow=7.3,SNR=36							
FINES	**FINESS Array B**	**58.91**	**333**	P	P		**03 21 55.9**	**-0.5**
	1.2nm,0.8s,baz=28,slow=4.5,SNR=4.7							
NVAR	**Mina Array Bea**	**60.89**	**64**	P	P		**03 22 11.2**	**+0.9**
	0.5nm,0.7s,baz=315,slow=6.9,SNR=2.3							
PDAR	**Pinedale Array**	**62.45**	**55**	P	P		**03 22 20.6**	**+0.2**
	0.6nm,0.6s,baz=69,slow=2.3,SNR=4.3							
NOA	**NORSAR Array B**	**62.96**	**340**	P	P		**03 22 23.0**	**-0.1**
	0.3nm,0.5s,baz=25,slow=6.5,SNR=2.9							
SCHQ	**Schefferville**	**68.82**	**23**	P	P		**03 22 58.9**	**-0.8**
	0.6nm,0.3s,baz=348,slow=9.3,SNR=3.8							
WRA	**Warramunga Arr**	**73.23**	**197**	P	P		**03 23 26.2**	**+0.2**
	0.3nm,0.4s,baz=15,slow=5.7,SNR=4.1							
TXAR	**Lajitas Array**	**75.72**	**61**	P	P		**03 23 41.1**	**+0.9**
	0.2nm,0.5s,baz=293,slow=3.8,SNR=4.5							
ASAR	**Alice Springs**	**76.94**	**197**	P	P		**03 23 47.4**	**+0.7**
	0.9nm,0.5s,baz=9.4,slow=5.3,SNR=12							

*IDC **23** 03:16:08.0±5.3, 4°.71S×101°.43E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.5/4, MS3.7/1, Ms1 3.7/1, ms1mx2.7/25, Error ellipse: s-maj=251.9km s-min=24.1km az=52.0*
*ISCJB **23** 03:16:10.7±1.1, 4°.6S±0°.1×101°.54E±0°.07, h30km, mb3.5/4, MS3.8/1, Error ellipse: s-maj=20.4km s-min=9.3km az=178.0*
*DJA **23** 03:16:15.4±1.7, 5°.S±7°.×10°.2E±°., h37km±20km, M3.6/4, MLv3.6/4*
ISC 23 03:16:12.9±1.4, 4°.6S±0°.2×101°.6E±0°.1, h30km, n15, σ0°59/11, mb3.5/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.37**	**80**	P	**Pn**		**03 16 36.4**	**+0.4**
MNAI				S	**Sn**		**03 16 52.4**	**-0.8**
LHSI	**Lahat**	**2.07**	**68**	P	**Pn**		**03 16 46.2**	**+0.6**
LHSI				S	**Sn**		**03 17 10.1**	**-0.2**
MDSI	**Maura Dua**	**2.57**	**87**	P	**Pn**		**03 16 52.3**	**-0.2**
MDSI				S	**Sn**		**03 17 23.2**	**+0.4**
H08S2	**Diego Garcia H**	**29.10**	**263**	T	T		03 52 31.5	
	baz=86,slow=76,SNR=30							
H08S3	**Diego Garcia H**	**29.11**	**263**	T	T		03 52 30.8	
	baz=86,slow=76,SNR=35							
H08S1	**Diego Carcia H**	**29.12**	**263**	T	T		03 52 28.6	
	baz=86,slow=76,SNR=25							
H01W3	**Cape Leeuwin H**	**32.28**	**160**	T	T		03 56 43.5	
	baz=333							
H01W2	**Cape Leeuwin H**	**32.30**	**161**	T	T		03 56 42.4	
	baz=333							
H01W1	**Cape Leeuwin H**	**32.30**	**160**	T	T		03 56 45.7	
	baz=333							
WRA	**Warramunga Arr**	**35.32**	**118**	P	**P**		**03 23 05.3**	**-0.5**
	0.1nm,0.3s,baz=293,slow=8.5,SNR=4.7							
ASAR	**Alice Springs**	**36.45**	**124**	P	**P**		**03 23 15.8**	**+0.4**
	0.2nm,0.5s,baz=301,slow=8.9,SNR=3.9							
MJAR	**Matsushiro Arr**	**53.34**	**37**	LR	LR		03 48 25.7	
	comp=Z,85nm,21.8s,baz=130,slow=36							
MKAR	**Makanchi Array**	**53.96**	**344**	P	**P**		**03 25 34.0**	**0.0**
	0.5nm,0.7s,baz=151,slow=8.5,SNR=6.8							
ZALV	**Zalesovo Beam**	**60.02**	**349**	P	**P**		**03 26 15.9**	**-0.8**
	0.6nm,0.4s,baz=144,slow=5.4,SNR=3.8							
TXAR	**Lajitas Array**	**145.69**	**41**	PKPbc	**PKPab**		**03 35 50.6**	**+0.6**
	0.3nm,0.6s,baz=273,slow=1.4,SNR=5.1							

*SKHL **23** 03:24:38.8±0.2, 46°.70N×141°.75E, h14km±1km, mb3.7/1*
*JMA **23** 03:24:38.2±0.5, 46°.89N×141°.72E, h22km, M2.5*
ISC 23 03:24:39.2±3.8, 46°.8N±0°.2×141°.8E±0°.2, h14km±7km, n4, σ0°38/7, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NEVR	**Nevel'sk**	**0.08**	**156**	*e*Pg		**Pg**	**03 24 42.0**	**-0.1**
NEVR				*e*Sg		**Sg**	**03 24 44.4**	**+0.3**
NEVR				A	A		03 24 46.0	
	5μm,0.5s							
YSS	**Yuzh-Sakhalins**	**0.68**	**72**	*e*Pg		**Pg**	**03 24 52.2**	**-0.2**
YSS				*i* Sg		**Sb**	**03 25 02.1**	**+0.1**
YSS				A	A		03 25 04.1	
	80nm,0.3s							
YSS				A	A		03 25 04.1	
	90nm,0.3s							
JWK2	**Keihoku**	**1.44**	**178**	P	**Pb**		**03 25 05.4**	**-0.3**
JWK2				*e*S	**Sg**		**03 25 25.3**	**-0.2**
JSE	**Soyaes**	**1.87**	**163**	P	**Pn**		**03 25 11.1**	**+0.4**

*ISCJB **23** 03:26:13.8±0.8, 21°.30S±0°.05×68°.4W±0°.2, h118km, mb4.0/3, Error ellipse: s-maj=22.2km s-min=7.3km az=4.8*
*IDC **23** 03:26:14.9±2.1, 21°.22S×68°.42W, h102km±18km, mb3.9/4, mb1 4.0/7, mb1mx3.6/18, mbtmp4.3/7, Error ellipse: s-maj=30.6km s-min=16.1km az=93.0*
**ISC 23 03:26:15

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LPAZ                                  S          Sn      03 28 23.3 -2.4
    0.5nm,0.3s,baz=229,slow=19,SNR=2.5
SIV  San Ignacio        8.76 54  P               Pn      03 28 17.7 -1.3
    7.5nm,0.3s,baz=257,slow=11,SNR=67
CFAA Coronel Fontan    10.26 179  P               Pn      03 28 38.5 -0.6
    0.1nm,0.3s,baz=353,slow=12,SNR=5.1
CFAA                                  S          Sn      03 30 30.2 -2.0
    0.1nm,0.3s,baz=299,slow=19,SNR=5.1
PLCA Paso Flores       19.45 185  P               Pn      03 30 35.6 +0.8
    0.2nm,0.3s,baz=352,slow=9.5,SNR=6.9
BDFB Brasilia          20.18  77  P               P       03 30 41.3 +0.7
    6.1nm,0.6s,baz=243,slow=12,SNR=16
DBIC Dimbokro          68.27  73  P               P       03 37 05.0 +1.2
    4.8nm,0.7s,baz=224,slow=7.3,SNR=10
TORD Torodi Ar. Bea    76.89  70  P               P       03 37 55.8 +1.0
    3.1nm,0.6s,baz=253,slow=5.6,SNR=77
YKA  Yellowknife Ar    91.15 340  P               P       03 39 06.1  0.0
    0.1nm,0.3s,baz=135,slow=4.7,SNR=3.1
MKAR Makanchi Array   145.22  36  PKPbc           PKPab   03 45 40.1 +1.2
    0.9nm,0.5s,baz=324,slow=3.6,SNR=18
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*IDC **23** 03:44:29.0±4.9, 8°.85S×106°.48E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=198.7km s-min=27.2km az=49.0*
*DJA **23** 03:44:32.7±1.1, 9°S±12°×10°7E±°, h51km±60km, M3.8/7, MLv3.8/7*
ISC 23 03:44:31.9±1.5, 9°.0S±0°.1×106°.72E±0°.08, h28km, n12, σ19°11/15, mb3.5/4, South of Jawa

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Code Station Name      Δ°  AZ°  Phase ID                Time     Res
                                Op    ISC             h m  s   ISC
CNJI Cibinong          1.72  14  P     Pn              03 45 00.6 +0.6
CNJI                              S     Sb              03 45 24.6 +0.6
CISI Cisompet, Garu    1.79  37  P     Pn              03 45 01.3 +0.3
SKJI Sukabumi          1.98 355  P     Pb              03 45 06.0 -1.3
SKJI                              S     Sb              03 45 31.6 +0.1
CMJI Cimerak           2.09  55  P     Pn              03 45 04.5 -0.6
CMJI                              S     Sn              03 45 30.5 +0.4
LEM  Lembang           2.32  23  P     Pn              03 45 10.0 +1.5
CGJI Cibinong          2.57 337  P     Pn              03 45 13.1 +1.4
CGJI                              S     Sb              03 45 46.4 -2.1
KPJI Karang Pucung     2.74  53  P     Pn              03 45 14.6 +0.6
CMAR Chiang Mai Arr   28.33 344  P     P               03 50 24.4 +0.8
    0.6nm,0.3s,baz=173,slow=8.2,SNR=5.6
WRA  Warramunga Arr   28.83 115  P     P               03 50 31.9 +3.8
    0.3nm,0.6s,baz=297,slow=9.6,SNR=3.6
SONM Songino Array    56.57 360  P     P               03 54 13.0 +0.9
    0.2nm,0.6s,baz=179,slow=7.5,SNR=2.8
MKAR Makanchi Array   59.66 341  P     P               03 54 32.4 -1.2
    0.5nm,0.6s,baz=143,slow=6.8,SNR=7.6
TXAR Lajitas Array    145.06  50  PKPbc           PKPdf   04 04 07.5  0.0
    0.7nm,0.9s,baz=307,slow=3.2,SNR=5.5
```

*IDC **23** 03:44:53.1±0.4, 34°.81S×73°.98W, h0km, mb4.8/23, mb1 4.8/26, mb1mx4.8/29, mbtmp4.7/26, ML4.3/3, MS3.8/13, Ms1 3.8/13, ms1mx3.6/27, Error ellipse: s-maj=17.6km s-min=12.1km az=78.0*
*BJI **23** 03:44:56.9, 34°.43S×74°.64W, h35km, mB5.0/10, Ms5.3/8, Ms7 5.0/9*
*GUC **23** 03:44:56.7±0.7, 34°.91S×73°.82W, h22km±5km, ML5.0*
*ISCJB **23** 03:44:57.0±0.1, 34°.80S±0°.03×73°.84W±0°.03, h33km, mb5.0/134, MS3.9/12, Error ellipse: s-maj=4.1km s-min=2.8km az=25.3*
*MOS **23** 03:44:57.5±1.1, 34°.74S×73°.82W, h33km, mb5.2/34, Error ellipse: s-maj=21.4km s-min=7.7km az=102.9*
*NEIC **23** 03:44:58.9±0.8, 34°.81S×73°.82W, h35km±6km, mb5.1/111, Error ellipse: s-maj=7.1km s-min=4.0km az=73.0*
NEIC Felt at San Clemente.
ISC 23 03:44:58.6±0.3, 34°.80S±0°.04×73°.92W±0°.06, h35km, n692, σ0°87/728, mb5.0/134, MS4.0/12, 193C-219D, Off coast of central Chile

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Code Station Name      Δ°  AZ°  Phase ID                Time     Res
                                Op    ISC             h m  s   ISC
COCH Cobquecura        1.62 145 ⇓iP                  Pn      03 45 21.7 -2.9
COCH                              i S   Sn              03 45 40.9 -3.3
TALC Talca             1.97 108 ⇓iP                  Pn      03 45 28.1 -1.4
TALC                              i S   Sn              03 45 51.9 -1.0
LNCH Linares           2.17 119 ⇑iP                  Pn      03 45 31.1 -1.0
LNCH                              i S   Sn              03 45 57.3 -0.5
NICH Los Niches        2.22  96 ⇑iP                  Pn      03 45 31.9 -1.1
NICH                              i S   Sn              03 45 59.2  0.0
RCDM Rinconada Maip    2.90  64 ⇑iP                  Pn      03 45 40.3 -2.0
RCDM                              i S   Sn              03 46 14.5 -1.4
ANTU Antumapu          2.99  67 ⇓iP                  Pn      03 45 42.2 -1.4
ANTU                              i S   Sn              03 46 17.5 -0.7
ANTU                                AML   AML             03 46 19.0
    comp=N,6μm,0.6s
CLCH Cerro Calan       3.14  64 ⇓iP                  Pn      03 45 44.1 -1.6
CLCH                              eS    Sn              03 46 21.1 -0.8
CLCH                                AML   AML             03 46 28.3
    comp=E,2μm,0.8s
CLCH                                AML   AML             03 46 28.9
    comp=E,3μm,0.7s
PEL  Peldehue          3.16  59 ⇑iP                  Pn      03 45 44.5 -1.3
PEL                               i S   Sn              03 46 22.1 -0.2
PEL                                 AML   AML             03 46 25.2
    comp=N,5μm,0.4s
CFAA Coronel Fontan    5.73  58  Pn                    Pn      03 46 20.6 -0.6
    comp=N,1.6nm,0.3s,baz=230,slow=12,SNR=36
CFAA                                Sn    Sn              03 47 25.5 -0.3
    comp=N,1.6nm,0.3s,baz=315,slow=23,SNR=10
CFAA                                LR    LR              03 48 40.9
    comp=N,100nm,19.8s,baz=224,slow=39
LCO  Las Campanas      6.39  26 ePn                    Pn      03 46 27.0 -3.5
LCO                               eSn   Sn              03 47 38.0 -4.4
PLCA Paso Flores       6.50 157 eP                    Pn      03 46 31.0 -0.8
PLCA                              eS    Sn              03 47 38.6 -6.0
PLCA Paso Flores       6.50 157  Pn                    Pn      03 46 30.9 -0.8
    comp=N,2.8nm,0.3s,baz=326,slow=12,SNR=25
PLCA                                Sn    Sn              03 47 44.3 -0.4
    comp=N,2.8nm,0.3s,baz=282,slow=14,SNR=3.1
PLCA Paso Flores       6.50 157 ePn                    Pn      03 46 31.0 -0.8
PLCA                              eS    Sn              03 47 38.6 -6.0
PLCA                                Sn    Sn              03 47 44.3 -0.4
TRQA Tornquist        10.16 112 ePn                    Pn      03 47 22.1 +0.2
LVC  Limon Verde      12.91  21 ePn                    Pn      03 47 59.1 -0.8
LVC                               eS    Sn              03 50 12.1 -10
LPAZ La Paz           19.15  17 eP                     Pn      03 49 21.2 +0.5
LPAZ                                pmax  pmax
    comp=Z,41nm,1.2s
LPAZ La Paz           19.15  17  P                     Pn      03 49 20.9 +0.2
    comp=Z,0.5nm,0.3s,baz=185,slow=9.1,SNR=39
LPAZ La Paz           19.15  17 eP                     Pn      03 49 21.2 +0.5
    comp=Z,40nm,1.2s
EFI  East Falkland    20.37 151  P                     P       03 49 33.0 +1.1
    comp=Z,596nm,0.9s,SNR=6.2
EFI  East Falkland    20.37 151 iP                     P       03 49 30.5 -1.4
EFI                                 pmax  pmax
    comp=Z,167nm,1.1s
EFI  East Falkland    20.37 151 eP                     P       03 49 32.5 +0.5
    comp=Z,120nm,1.0s
USHA Ushuaia          20.39 171  P                     P       03 49 32.0 -0.2
    comp=Z,6.8nm,0.7s,baz=0.0,slow=6.1,SNR=2.7
SIV  San Ignacio      22.00  35  P                     P       03 49 49.3 -0.5
    comp=Z,35nm,0.9s,baz=228,slow=10.0,SNR=61
NNA  Nana             22.87 353 eP                     P       03 49 59.0 -0.1
NNA                                 pmax  pmax
    comp=Z,27nm,0.9s
NNA  Nana             22.87 353  P                     P       03 49 57.1 -1.9
    comp=Z,13nm,0.6s,baz=194,slow=8.5,SNR=8.6
NNA  Nana             22.87 353 eP                     P       03 49 59.0 -0.1
    comp=Z,27nm,0.9s
SAML Samuel           27.55  23 eP                     P       03 50 41.3 -0.9
    comp=Z,3.8nm,0.8s
ATAH Atahualpa        27.84 350  LR                    LR      03 59 28.2
    comp=Z,111nm,18.6s,baz=205,slow=31
BDFB Brasilia         30.07  57 eP                     P       03 51 04.5 -0.3
BDFB Brasilia         30.07  57  P                     P       03 51 03.7 -1.1
    comp=Z,6.6nm,1.0s,baz=229,slow=7.0,SNR=6.2
BDFB                                LR    LR              04 02 54.8
    comp=Z,184nm,19.7s,baz=224,slow=36
BDFB Brasilia         30.07  57 eP                     P       03 51 04.5 -0.3
OTAV Otavalo          35.11 352 eP                     P       03 51 50.4 +1.1
    comp=Z,34nm,1.4s
OTAV                                ePcP  PcP             03 54 21.6 +1.2
PTGA Pitinga          36.31  24 eP                     P       03 51 58.7 -0.4
    comp=Z,25nm,0.9s
ROSC El Rosal         39.45 359  P                     P       03 52 25.9 -0.1
    comp=Z,13nm,0.5s,baz=266,slow=14,SNR=12
ROSC                                LR    LR              04 07 58.4
    comp=Z,64nm,19.1s,baz=218,slow=35
ROSC El Rosal         39.45 359 eP                     P       03 52 28.9 +3.0
SDV  Santo Domingo    43.56   5 eP                     P       03 52 58.8 -0.6
    comp=Z,21nm,0.8s
RCBR Riachuelo        45.39  59  P                     P       03 53 14.4 +0.5
    comp=Z,12nm,0.9s,baz=231,slow=9.0,SNR=4.3
GRGR Grenville        48.10  16 eP                     P       03 53 35.1 +0.1
    comp=Z,157nm,1.0s
VNA3 Neumayer Olymp   49.21 157  P                     P       03 53 43.5 +0.5
VNA2 Neumayer--Watz   49.89 157  P                     P       03 53 48.6 +0.5
FDF  Fort de France   50.73  16 eP                     P       03 53 54.3 -0.8
FDF                                 pmax  pmax
    comp=Z,76nm,0.6s
FDF  Fort de France   50.73  16 eP                     P       03 53 54.3 -0.8
    comp=Z,76nm,0.6s
SNAA Sanae            51.44 157  P                     P       03 54 00.3 +0.4
SNAA Sanae            51.44 157 ⇓iP                    P       03 53 59.9  0.0
SNAA                                pmax  pmax
    comp=Z,21nm,1.2s
SNAA Sanae            51.44 157  P                     P       03 54 00.2 +0.3
    comp=Z,4.6nm,0.8s,baz=283,slow=9.1,SNR=13
SNAA Sanae            51.44 157 eP                     P       03 53 59.8 -0.1
    comp=Z,20nm,1.0s
APG  El Apazote       51.96 340  P                     P       03 53 59.9 -4.6
    comp=Z,15nm,1.0s,baz=150,slow=3.6,SNR=12
OBIP Obispado Ponce   53.01   9 eP                     P       03 54 10.8 -1.2
    comp=Z,40nm,1.0s
SJG  San Juan         53.14   9  P                     P       03 54 11.3 -1.6
    comp=Z,43nm,0.9s,baz=268,slow=3.5,SNR=7.2
CMIG Matias Romero    55.32 335  P                     P       03 54 28.0 -0.8
    comp=Z,4.7nm,0.8s,baz=110,slow=0.9,SNR=3.6
QSPA South Pole Qui   55.44 180  P                     P       03 54 29.6 +0.3
    comp=Z,17nm,1.1s,baz=193,slow=1.3,SNR=23
QSPA South Pole Qui   55.44 180 eP                     P       03 54 29.8 +0.4
    comp=Z,15nm,1.0s
NVL  N'lazarevskaya   56.20 157 eP                     P       03 54 34.8 +0.2
NVL                                 pmax  pmax
    comp=Z,11nm,0.8s
TEIG Tepich           56.40 344  P                     P       03 54 36.3 -0.2
    comp=Z,31nm,0.5s,baz=175,slow=2.8,SNR=44
TEIG Tepich           56.40 344 eP                     P       03 54 36.3 -0.2
    comp=Z,27nm,0.6s
035Z Hargill          65.08 336 ⇓P                     P       03 55 36.9 +1.4
    baz=65
035A Encino           65.53 336 ⇓P                     P       03 55 39.7 +1.3
    baz=66
TBI  Tubuai           65.62 258 eLR                    LR      04 15 13.1
    comp=Z,232nm,27.8s
034A Hebbronville     65.84 336 ⇓P                     P       03 55 41.8 +1.4
    baz=66
934A Benavides        66.28 336 ⇓P                     P       03 55 44.7 +1.4
    baz=67
TIGA Tifton           66.51 351 ⇑P                     P       03 55 44.5 -0.2
    baz=67
933A Laredo           66.55 336 ⇑P                     P       03 55 45.9 +0.9
    baz=67,SNR=5.7
835A Beeville         66.69 337 ⇑P                     P       03 55 47.7 +1.8
    baz=67
834A Tilden           66.78 336 ⇓P                     P       03 55 47.7 +1.3
    baz=67,SNR=5.5
735A Kenedy           67.22 337 ⇑P                     P       03 55 50.3 +1.1
    baz=68,SNR=5.4
833A Chaparral WMA,   67.24 336 ⇓P                     P       03 55 50.2 +0.8
    baz=68,SNR=14
832A Faith Ranch, C   67.41 335 ⇓P                     P       03 55 50.7 +0.3
    baz=68,SNR=12
734A La Parita Cree   67.45 337 ⇓P                     P       03 55 51.5 +0.8
    baz=68
636A Smothers Creek   67.56 338 ⇑P                     P       03 55 52.7 +1.4
    baz=68,SNR=5.2
733A Divot King Ran   67.57 336 ⇑P                     P       03 55 51.9 +0.4
    baz=68
HKT  Hockley          67.64 340 eP                     P       03 55 52.8 +1.0
HKT                                 pmax  pmax
    comp=Z,22nm,1.7s
HKT  Hockley          67.64 340 eP                     P       03 55 52.8 +1.0
    comp=Z,22nm,1.7s
635A Leesville        67.70 338 ⇑P                     P       03 55 52.7 +0.5
    baz=68
538A Harpers Horsep   67.80 340 ⇓P                     P       03 55 54.1 +1.3
    baz=68
732A Laxson Ranch,    67.81 335 ⇓P                     P       03 55 53.5 +0.6
    baz=68,SNR=16
537A Green Hill Far   67.90 339 ⇑P                     P       03 55 54.6 +1.1
    baz=68
LPIG La Paz           67.99 324  LR                    LR      04 18 00.2
    comp=Z,107nm,19.1s,baz=171,slow=29
536A Bastrop          68.12 338 ⇓P                     P       03 55 55.7 +0.9
    baz=68
633A Saathoff Ranch   68.22 336 ⇑P                     P       03 55 56.2 +0.7
    baz=69,SNR=9.2
535A Dale             68.23 338 ⇑P                     P       03 55 56.1 +0.5
    baz=69
438A Sam Houston St   68.29 340 ⇓P                     P       03 55 56.9 +1.0
    baz=69
632A Uvalde           68.46 336 ⇑P                     P       03 55 57.7 +0.7
    baz=69,SNR=9.4
VBMS Vicksburg        68.47 345 eP                     P       03 55 58.2 +1.3
    comp=Z,41nm,0.9s
340A Bronson          68.50 342 ⇓P                     P       03 55 58.1 +0.9
    baz=69,SNR=7.9
534A Blanco           68.52 337 ⇓P                     P       03 55 57.4 +0.1
    baz=69
437A Phantom Ranch,   68.55 340 ⇓P                     P       03 55 58.2 +0.6
    baz=69
PPT2 Papeete2         68.58 263 eS                     S       04 04 55.3 -3.4
    comp=Z,74nm,22.8s
PPT2 Papeete2         68.58 263 eLR                    LR      04 16 33.2
    comp=Z,265nm,27.0s
339A Huntington       68.59 341 ⇑P                     P       03 55 58.6 +0.8
    baz=69,SNR=6.1
PPT  Papeete          68.59 263  LR                    LR      04 19 34.8
    comp=Z,169nm,20.8s,baz=111,slow=30
631A Perdido Creek    68.65 335 ⇑P                     P       03 55 58.6 +0.4
    baz=69,SNR=5.4
436A Wall Ranch, Ga   68.69 339 ⇑P                     P       03 55 59.2 +0.8
    baz=69
533A Kerrville        68.74 337 ⇑P                     P       03 55 59.3 +0.5
    baz=69,SNR=5.5
338A Crockett         68.82 340 ⇓P                     P       03 56 00.3 +1.1
    baz=69,SNR=5.8
435B Jarrell          68.94 338 ⇑P                     P       03 56 00.7 +0.7
    baz=69
532A Rocksprings      69.07 336 ⇓P                     P       03 56 01.5 +0.6
    baz=69,SNR=26
434A Burnet           69.18 338 ⇑P                     P       03 56 01.8 +0.3
    baz=70,SNR=12
239A Gary             69.22 341 ⇑P                     P       03 56 02.3 +0.7
    baz=70
336A Riesel           69.28 339 ⇓P                     P       03 56 02.5 +0.4
    baz=70,SNR=7.9
531A Rocksprings      69.32 335 ⇓P                     P       03 56 03.0 +0.5
    baz=70,SNR=13
335A Moody            69.36 339 ⇓P                     P       03 56 03.1 +0.5
    baz=70
JCT  Junction City    69.36 336 eP                     P       03 56 03.1 +0.4
JCT                                 pmax  pmax
    comp=Z,39nm,1.4s
JCT  Junction City    69.36 336 ⇓P                     P       03 56 03.1 +0.4
    baz=70,SNR=11
JCT  Junction City    69.36 336 eP                     P       03 56 03.1 +0.4
    comp=Z,39nm,1.4s
238A Jacksonville     69.38 341 ⇓P                     P       03 56 03.7 +1.0
    baz=70
433A Art              69.39 337 ⇑P                     P       03 56 03.0 +0.2
    baz=70,SNR=15
237A Washetta, Mont   69.56 340 ⇓P                     P       03 56 04.8 +1.0
    baz=70
530A J-C Ranch, Com   69.58 335 ⇓P                     P       03 56 04.8 +0.7
    baz=70,SNR=19
334A Lometa           69.65 338 ⇓P                     P       03 56 04.7 +0.3
    baz=70,SNR=12
TXAR Lajitas Array    69.70 332  P                     P       03 56 05.3 +0.5
    comp=Z,7.5nm,0.6s,baz=156,slow=8.7,SNR=154
TXAR                                LR    LR              04 21 49.3
    comp=Z,95nm,18.5s,baz=0.0,slow=32
432A Menard           69.72 336 ⇓P                     P       03 56 04.6 -0.3
    baz=70
431A Sonora           69.82 336 ⇑P                     P       03 56 05.6 +0.1
    baz=70,SNR=6.5
529A Stev Forest Ra   69.88 334 ⇓P                     P       03 56 06.3 +0.5
    baz=70,SNR=18
333A Richland Sprin   69.88 337 ⇓P                     P       03 56 05.9 +0.1
    baz=70,SNR=8.8
KMSC Kings Mountain   69.93 354 ⇓P                     P       03 56 06.7 +0.7
    baz=70
KMSC Kings Mountain   69.93 354 eP                     P       03 56 06.0  0.0
    comp=Z,15nm,0.9s
138A Matatall Enter   69.99 341 ⇑P                     P       03 56 07.3 +0.9
    baz=70
WHTX Lake Whitney,    70.03 339 ⇑P                     P       03 56 06.8 +0.1
    baz=70,SNR=10
WHTX Lake Whitney,    70.03 339 eP                     P       03 56 07.1 +0.4
    comp=Z,31nm,1.0s
137A Heron Place, G   70.11 340 ⇑P                     P       03 56 08.2 +1.0
    baz=70,SNR=6.5
430A Baggett Ranch,   70.13 335 ⇓P                     P       03 56 07.7 +0.2
    baz=70,SNR=13
332A Millersview      70.18 337 ⇑P                     P       03 56 07.5 -0.2
    baz=70,SNR=8.6
429A Davenport Ranc   70.21 335 ⇓P                     P       03 56 08.4 +0.5
    baz=71,SNR=13
234A Clairette        70.25 338 ⇑P                     P       03 56 08.4 +0.4
    baz=71
331A San Angelo       70.33 336 ⇓P                     P       03 56 08.7  0.0
    baz=71,SNR=8.9
OXF  Oxford           70.46 346 eP                     P       03 56 09.0 -0.3
OXF                                 pmax  pmax
    comp=Z,42nm,1.1s
OXF  Oxford           70.46 346 eP                     P       03 56 09.0 -0.3
    comp=Z,42nm,1.1s
233A Rising Star      70.49 338 ⇑P                     P       03 56 09.7 +0.1
    baz=71,SNR=7.0
135A Vickery Place,   70.54 339 ⇑P                     P       03 56 10.0 +0.1
    baz=71
CPCT Cooper Cave      70.59 351 eP                     P       03 56 13.6 +3.6
232A Coleman          70.61 337 ⇓P                     P       03 56 10.4 +0.1
    baz=71
330A Mertzon          70.67 335 ⇑P                     P       03 56 10.4 -0.4
    baz=71,SNR=9.4
TKL  Tuckaleechee C   70.70 352 eP                     P       03 56 10.5 -0.2
TKL  Tuckaleechee C   70.70 352 eP                     P       03 56 10.5 -0.2
134A White-Moore Ra   70.76 339 ⇓P                     P       03 56 11.4 +0.3
    baz=71
231A Bronte           70.87 336 ⇓P                     P       03 56 11.8 -0.1
    baz=71,SNR=11
329A Wagon Wheel Ra   71.03 335 ⇓P                     P       03 56 13.1 +0.2
    baz=71,SNR=8.5
133A Hamilton Ranch   71.05 338 ⇑P                     P       03 56 13.1 +0.2
    baz=71,SNR=13
230A Sterling City    71.09 336 ⇓P                     P       03 56 13.0 -0.2
    baz=72
Z35A Perchaven, San   71.22 340 ⇓P                     P       03 56 14.1 +0.2
    baz=72,SNR=10.0
ABTX Abilene, Hawle   71.29 337 ⇓P                     P       03 56 14.6 +0.2
    baz=72,SNR=9.4
ABTX Abilene, Hawle   71.29 337 eP                     P       03 56 14.4  0.0
    comp=Z,33nm,1.1s
MIAR Mount Ida        71.40 343 eP                     P       03 56 15.2 +0.2
MIAR                                pmax  pmax
    comp=Z,12nm,1.2s
MIAR Mount Ida        71.40 343 eP                     P       03 56 15.2 +0.2
    comp=Z,12nm,1.2s
229A Bryant Ranch,    71.41 335 ⇓P                     P       03 56 15.2  0.0
    baz=72
Z34A Collier Ranch,   71.45 339 ⇑P                     P       03 56 15.5 +0.1
    baz=72
131A Roby             71.58 337 ⇓P                     P       03 56 16.1 -0.1
    baz=72,SNR=6.4
Z33A Whitaker Ranch   71.63 338 ⇑P                     P       03 56 16.5 +0.1
    baz=72,SNR=13
130A Snyder           71.69 336 ⇓P                     P       03 56 16.5 -0.3
    baz=72,SNR=5.3
WVT  Waverly          71.75 348 eP                     P       03 56 16.7 -0.3
WVT                                 pmax  pmax
    comp=Z,47nm,1.0s
WVT  Waverly          71.75 348 eP                     P       03 56 16.7 -0.3
    comp=Z,47nm,1.0s
228A UT Block 9, Go   71.81 335 ⇑P                     P       03 56 17.5 -0.2
    baz=72,SNR=7.6
Z32A Haskell          71.87 338 ⇓P                     P       03 56 18.0 +0.1
    baz=72,SNR=15
Y34A Reagan Ranch,    71.95 339 ⇓P                     P       03 56 18.2 -0.1
    baz=72,SNR=7.5
129A Stewart Farms,   72.03 335 ⇑P                     P       03 56 18.9  0.0
    baz=72
Z31A Sharp Cattle R   72.09 337 ⇓P                     P       03 56 19.3 +0.1
    baz=72,SNR=13
128A Castleberry Fa   72.23 335 ⇑P                     P       03 56 20.3 +0.1
    baz=73,SNR=14
Y33A Hilltop Ranch,   72.26 339 ⇓P                     P       03 56 20.0 -0.1
    baz=73,SNR=8.4
Z30A Sanderson Ranc   72.38 336 ⇑P                     P       03 56 20.8 -0.2
    baz=73,SNR=8.7
MNTX Cornudas Mount   72.47 332 eP                     P       03 56 20.8 -0.7
    comp=Z,5.8nm,0.9s
Y32A R-V Farms, Ver   72.50 338 ⇓P                     P       03 56 21.7 +0.1
    baz=73,SNR=5.3
Z29A Hungry Hill Ra   72.55 336 ⇓P                     P       03 56 21.8 -0.2
    baz=73
X34A Smith Ranch, M   72.58 339 ⇑P                     P       03 56 22.4 +0.4
    baz=73,SNR=10
X33A Lawton           72.72 339 ⇓P                     P       03 56 22.8 -0.1
    baz=73
Y31A Rekieta Farm,    72.72 337 ⇓P                     P       03 56 23.0 +0.1
    baz=73,SNR=7.1
Z28A Tucker Farm, M   72.81 335 ⇓P                     P       03 56 23.2 -0.4
    baz=73,SNR=7.1
X32A Elmer            72.84 338 ⇓P                     P       03 56 23.8 +0.1
    baz=73
Y30A Stafford Cattl   72.85 337 ⇑P                     P       03 56 23.7 -0.1
    baz=73
MAW  Mawson           72.85 164  LR                    LR      04 26 42.8
    comp=Z,90nm,21.7s,baz=238,slow=34
WMOK Wichita Mounta   72.98 339 eP                     P       03 56 24.6 +0.1
WMOK                                pmax  pmax
    comp=Z,9.0nm,0.9s
WMOK Wichita Mounta   72.98 339 eP                     P       03 56 24.6 +0.1
    comp=Z,9.0nm,0.9s
Y29A Porterfield Fa   73.09 336 ⇑P                     P       03 56 25.2  0.0
    baz=74,SNR=14
W34A Bridge Creek,    73.15 340 ⇑P                     P       03 56 25.4 -0.1
    baz=74,SNR=5.4
W34A Bridge Creek,    73.15 340 eP                     P       03 56 25.6 +0.1
    comp=Z,24nm,0.9s
X31A McDonald Ranch   73.25 338 ⇑P                     P       03 56 26.3 +0.2
    baz=74,SNR=12
TUL1 Leonard          73.25 342 ⇑P                     P       03 56 25.6 -0.4
    baz=74,SNR=16
TUL1 Leonard          73.25 342 eP                     P       03 56 25.7 -0.3
    comp=Z,42nm,0.8s
W33A Caddo, Fort Co   73.28 339 ⇓P                     P       03 56 27.0 +0.8
    baz=74
Y28A McKinney Farm,   73.32 336 ⇓P                     P       03 56 26.5 -0.1
    baz=74,SNR=7.8
X30A Coker Ranch, T   73.36 337 ⇓P                     P       03 56 26.7 -0.1
    baz=74
V35A Meyer Ranch, C   73.39 341 ⇑P                     P       03 56 26.5 -0.3
    baz=74,SNR=8.7
W32A Sentinel         73.48 339 ⇑P                     P       03 56 27.7 +0.3
    baz=74,SNR=28
USIN University of    73.52 349 eP                     P       03 56 26.9 -0.5
    comp=Z,32nm,0.8s
SIUC Southern Illin   73.54 347 eP                     P       03 56 27.2 -0.4
    comp=Z,23nm,0.8s
MSTX Muleshoe         73.56 335 ⇑P                     P       03 56 27.8 -0.2
    baz=74,SNR=9.8
MSTX Muleshoe         73.56 335 eP                     P       03 56 28.4 +0.4
    comp=Z,23nm,0.9s
X29A Tulia            73.63 336 ⇑P                     P       03 56 28.5 +0.1
    baz=74,SNR=8.7
V34A Guthrie          73.64 340 ⇓P                     P       03 56 27.9 -0.4
    baz=74,SNR=7.2
V34A Guthrie          73.64 340 eP                     P       03 56 27.9 -0.4
    comp=Z,23nm,0.9s
W31A Holland Ranch,   73.75 338 ⇓P                     P       03 56 28.7 -0.3
    baz=74,SNR=5.5
319A Douglas          73.76 329 ⇓P                     P       03 56 30.3 +1.1
    baz=74,SNR=7.2
V33A Lossen Ranch,    73.85 340 ⇓P                     P       03 56 29.6  0.0
    baz=74,SNR=15
X28A Dimmitt          73.86 336 ⇑P                     P       03 56 29.7  0.0
    baz=74
W30A Crocket Farms    73.94 338 ⇓P                     P       03 56 30.1 -0.1
    baz=74
V32A Arapaho          73.97 339 ⇑P                     P       03 56 30.8 +0.5
    baz=74
AMTX Amarillo         74.03 337 ⇓P                     P       03 56 30.8 +0.1
    baz=74
AMTX Amarillo         74.03 337 eP                     P       03 56 31.1 +0.4
    comp=Z,19nm,0.9s
121A Cookes Peak, D   74.15 331 ⇑P                     P       03 56 32.6 +1.0
    baz=74,SNR=12
121A Cookes Peak, D   74.15 331 eP                     P       03 56 32.5 +0.9
    comp=Z,12nm,1.1s
U34A Anderson Ranch   74.21 340 ⇓P                     P       03 56 31.7 +0.1
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baz=75
U34A **Anderson Ranch** 74.21 340 eP P 03 56 31.9 +0.2
comp=Z,36nm,1.1s
W29A **Amarillo** 74.23 337 ⇓P P 03 56 31.9 0.0
baz=75,SNR=11
V31A **Spring Creek L** 74.26 338 ⇓P P 03 56 32.8 +0.8
baz=75,SNR=5.7
OLIL **Olney** 74.34 349 eP P 03 56 32.2 -0.1
comp=Z,25nm,1.1s
U33A **Lingo Farm, Me** 74.37 340 ⇑P P 03 56 32.2 -0.3
baz=75
V30A **Spur Ranch, Mi** 74.51 338 ⇑P P 03 56 34.4 +0.9
baz=75
W28A **Vega** 74.54 336 ⇑P P 03 56 34.2 +0.5
baz=75
U32A **Winter Ranch,** 74.58 339 ⇑P P 03 56 34.0 +0.3
baz=75,SNR=11
SLM **Saint Louis** 74.62 347 eP P 03 56 33.8 -0.1
SLM pmax pmax
comp=Z,43nm,0.8s
SLM **Saint Louis** 74.62 347 eP P 03 56 33.8 -0.1
comp=Z,43nm,0.8s
U31A **Nine Bar Ranch** 74.82 339 ⇓P P 03 56 35.3 +0.1
baz=75
V29A **Stinnett** 74.88 337 ⇓P P 03 56 36.0 +0.4
baz=75
S36A **Lake Cedric, C** 74.91 342 ⇑P P 03 56 35.4 -0.3
baz=75,SNR=22
W26A **Owens Ranch, T** 74.92 335 ⇑P P 03 56 36.5 +0.6
baz=75,SNR=9.2
V28A **Channing** 75.00 336 ⇑P P 03 56 37.2 +0.9
baz=75
T33A **Patterson Ranc** 75.01 340 ⇑P P 03 56 36.9 +0.7
baz=75
ACSO **Alum Creek Sta** 75.13 353 eP P 03 56 36.5 -0.3
comp=Z,36nm,0.8s
V27A **Dan Oppiter Fa** 75.20 336 ⇑P P 03 56 38.1 +0.6
baz=76,SNR=5.9
TUC **Tucson** 75.21 328 eP P 03 56 38.2 +0.6
TUC pmax pmax
comp=Z,22nm,1.7s
TUC **Tucson** 75.21 328 eP P 03 56 38.2 +0.6
comp=Z,22nm,1.7s
U30A **WK&E Inc. Balk** 75.21 338 ⇓P P 03 56 37.8 +0.3
baz=76,SNR=5.2
LPM **Los Pinos Moun** 75.26 332 eP P 03 56 39.4 +1.4
W25A **X Bar L Ranch,** 75.28 335 ⇓P P 03 56 38.3 +0.3
baz=76,SNR=8.8
S34A **Willow Spring** 75.28 341 ⇓P P 03 56 38.4 +0.6
baz=76
T32A **Huddler Ranch,** 75.30 340 ⇑P P 03 56 38.6 +0.6
baz=76
U29A **Oasis Ranch, S** 75.33 337 ⇑P P 03 56 38.5 +0.3
baz=76
S33A **Kaszmaul Farm,** 75.42 340 ⇑P P 03 56 38.9 +0.3
baz=76
T31A **Randall Ranch,** 75.44 339 ⇓P P 03 56 39.1 +0.4
baz=76
LAZ **Ladron** 75.54 332 eP P 03 56 40.6 +1.0
comp=Z,7.3nm,1.3s
V26A **Tequesquite Ra** 75.56 335 ⇓P P 03 56 39.8 +0.2
baz=76,SNR=7.1
U28A **Mallet** 75.57 337 ⇓P P 03 56 40.1 +0.5
baz=76
W24A **Lazy 6 Ranch,** 75.61 334 ⇓P P 03 56 40.6 +0.6
baz=76,SNR=8.4
T30A **Plains** 75.65 338 ⇓P P 03 56 40.5 +0.5
baz=76
ANMO **Albuquerque** 75.76 333⇓eP P 03 56 41.7 +0.9
ANMO pmax pmax
comp=Z,55nm,1.2s
ANMO **Albuquerque** 75.76 333 eP P 03 56 41.8 +0.9
comp=Z,12nm,1.1s
S32A **Newby Ranch, P** 75.78 340 ⇑P P 03 56 40.7 0.0
baz=76,SNR=5.7
214A **Organ Pipe Nat** 75.80 327 ⇓P P 03 56 42.2 +1.3
baz=76,SNR=6.6
U27A **Thompson Grove** 75.81 336 ⇓P P 03 56 40.1 -0.9
baz=76
S31A **Mullinville** 75.87 339 ⇑P P 03 56 41.6 +0.4
baz=76,SNR=5.4
V25A **Rancho No Teng** 75.89 335 ⇓P P 03 56 41.7 +0.1
baz=76,SNR=9.8
T29A **Hugoton** 75.98 338 ⇓P P 03 56 42.2 +0.3
baz=76
V24A **Rampart Ranch,** 76.02 334 ⇓P P 03 56 42.8 +0.4
baz=76,SNR=6.5
R33A **Olander Ranch,** 76.09 341 ⇓P P 03 56 42.7 +0.3
baz=76
U26A **Atchley Ranch,** 76.09 336 ⇓P P 03 56 43.2 +0.5
baz=76
S30A **Montezuma** 76.18 339 ⇑P P 03 56 43.3 +0.3
baz=77
T28A **Walsh** 76.21 337 ⇓P P 03 56 43.6 +0.4
baz=77,SNR=13
U25A **Circle Dot Ran** 76.32 335 ⇑P P 03 56 44.6 +0.6
baz=77,SNR=8.6
T27A **Campo** 76.35 337 ⇑P P 03 56 44.4 +0.3
baz=77,SNR=10
S29A **Ulysses** 76.36 338 ⇑P P 03 56 44.4 +0.3
baz=77,SNR=7.2
V23A **Ortiz Mt. (NFS** 76.37 333 ⇓P P 03 56 45.3 +0.9
baz=77
R32A **Long Quarter,** 76.40 340 ⇓P P 03 56 44.6 +0.4
baz=77,SNR=12
KSU1 **Kansas State U** 76.47 342 ⇑P P 03 56 44.4 -0.1
baz=77
KSU1 **Kansas State U** 76.47 342 eP P 03 56 44.5 -0.1
comp=Z,21nm,0.8s
LIC **Lamto** 76.50 73 eP P 03 56 45.5 +0.2
comp=Z,26nm,1.0s
R31A **Burdett** 76.50 340 ⇑P P 03 56 45.1 +0.3
baz=77,SNR=6.9
S28A **Manter** 76.57 337 ⇓P P 03 56 45.7 +0.4
baz=77,SNR=18
U24A **Moreno Valley** 76.64 334 ⇑P P 03 56 47.5 +1.6
baz=77
BINY **Binghamton** 76.65 358 eP P 03 56 45.8 +0.3
comp=Z,9.9nm,0.8s
Q33A **Connelly Farm,** 76.69 341 ⇑P P 03 56 46.0 +0.2
baz=77,SNR=6.5
R30A **Dighton** 76.72 339 ⇓P P 03 56 47.5 +1.5
baz=77,SNR=5.3
T26A **Comanche Natio** 76.75 336 ⇓P P 03 56 47.0 +0.6
baz=77,SNR=14
TIC **Toumodi** 76.77 72 eP P 03 56 47.1 +0.3
comp=Z,8.0nm,0.7s
X18A **Snowflake** 76.77 330 ⇑P P 03 56 47.7 +1.1
baz=77
V22A **San Miguel Ran** 76.79 333 ⇑P P 03 56 48.2 +1.5
baz=77,SNR=17
KIC **Kosan Boka** 76.81 73 eP P 03 56 47.6 +0.5
comp=Z,8.1nm,0.5s
Q32A **Meitler Ranch,** 76.89 341 ⇓P P 03 56 47.6 +0.7
baz=77
U23A **El Rito** 76.89 334 ⇓P P 03 56 48.7 +1.4
baz=77,SNR=6.7
DBIC **Dimbokro** 76.91 72 eP P 03 56 48.0 +0.4
DBIC pmax pmax
comp=Z,7.0nm,0.8s
DBIC **Dimbokro** 76.91 72 P P 03 56 48.3 +0.7
comp=Z,6.0nm,0.7s,baz=220,slow=4.2,SNR=17
DBIC LR LR 04 29 08.5
comp=Z,62nm,18.7s,baz=205,slow=34
DBIC **Dimbokro** 76.91 72 eP P 03 56 48.0 +0.4
comp=Z,7.4nm,0.8s
T25A **Trinidad** 76.99 335 ⇑P P 03 56 49.0 +1.2
baz=77,SNR=21
Z14A **Wintersburg** 77.05 327 ⇓P P 03 56 49.4 +1.4
baz=77
P33A **Williams Farm,** 77.07 341 ⇓P P 03 56 48.4 +0.4
baz=78
R29A **Marienthal** 77.10 338 ⇑P P 03 56 48.9 +0.7
baz=78,SNR=12
S26A **Kim** 77.11 336 ⇓P P 03 56 49.2 +0.8
baz=78,SNR=19
Q31A **Ellis** 77.13 340 ⇑P P 03 56 48.8 +0.5
baz=78,SNR=12
TRY **Troy** 77.16 0 eP P 03 56 49.5 +1.2
comp=Z,30nm,0.9s
U22A **Llaves** 77.18 333 ⇓P P 03 56 50.4 +1.5
baz=78,SNR=6.2
W18A **Petrified Fore** 77.19 331 ⇓P P 03 56 50.1 +1.2
baz=78
R28A **Tribune** 77.23 338 ⇓P P 03 56 49.4 +0.4
baz=78,SNR=12
T24B **San Luis** 77.26 335 ⇓P P 03 56 50.8 +1.3
baz=78,SNR=9.7
X16A **Lo Mia Camp, P** 77.30 329 ⇓P P 03 56 50.4 +0.9
baz=78,SNR=12
Q30A **Quinter** 77.34 339 ⇑P P 03 56 50.1 +0.6
baz=78,SNR=6.7
T23A **Casias Ranch,** 77.47 334 ⇑P P 03 56 51.4 +0.9
baz=78,SNR=5.7
S25A **Robets Cordova** 77.47 336 ⇓P P 03 56 51.4 +1.0
baz=78,SNR=10.0
P32A **Huiting Farm,** 77.49 341 ⇑P P 03 56 50.6 +0.3
baz=78,SNR=6.6
Q29A **Oakley** 77.49 339 ⇑P P 03 56 50.7 +0.3
baz=78,SNR=9.5
R27A **Eads** 77.50 337 ⇑P P 03 56 50.9 +0.4
baz=78,SNR=12
Y14A **Wickenburg** 77.56 328 ⇓P P 03 56 52.0 +1.1
baz=78,SNR=5.1
P31A **Stockton** 77.61 340 ⇑P P 03 56 51.5 +0.5
baz=78,SNR=7.1
GLA **Glamis** 77.65 326 ⇑P P 03 56 52.8 +1.5
baz=78
S24A **Houchin Ranch,** 77.72 335 ⇑P P 03 56 53.1 +1.1
baz=78,SNR=15
R26A **Arlington** 77.72 337 ⇑P P 03 56 52.5 +0.7
baz=78,SNR=13
P30A **Selden** 77.88 339 ⇓P P 03 56 53.1 +0.6
baz=78,SNR=5.6
Q28A **Sharon Springs** 77.90 338 ⇓P P 03 56 53.4 +0.7
baz=78,SNR=9.6
SDCO **Great Sand Dun** 77.91 335 eP P 03 56 53.8 +0.8
comp=Z,5.2nm,0.9s
O32A **Brockman Farm,** 78.00 341 ⇑P P 03 56 53.7 +0.5
baz=78
S23A **Nye Farm, Mont** 78.05 334 ⇓P P 03 56 54.8 +1.0
baz=78
KSCO **Kaye Shedlock'** 78.10 338 ⇑P P 03 56 54.8 +1.0
baz=78
KSCO **Kaye Shedlock'** 78.10 338 eP P 03 56 55.3 +1.5
comp=Z,31nm,1.0s
P29A **Atwood** 78.13 339 ⇑P P 03 56 54.9 +1.0
baz=78,SNR=9.9
HNH **Hanover** 78.15 1 eP P 03 56 54.9 +1.1
comp=Z,16nm,0.8s
O31A **Woolen Ranch,** 78.18 340 ⇑P P 03 56 54.9 +0.8
baz=79
WUAZ **Wupatki** 78.21 330 ⇓P P 03 56 55.7 +1.2
baz=79
R24A **Sanders Place,** 78.21 335 ⇑P P 03 56 55.6 +1.0
baz=79,SNR=14
MONP **Monument Peak,** 78.26 325 ⇑P P 03 56 56.4 +1.4
baz=79
Q26A **Hugo** 78.31 337 ⇓P P 03 56 56.3 +1.3
baz=79
P28A **Saint Francis** 78.35 338 ⇑P P 03 56 55.8 +0.7
baz=79,SNR=8.0
S22A **4UR Ranch, Cre** 78.38 334 ⇑P P 03 56 56.9 +1.2
baz=79,SNR=10
O30A **MW Ranch, Wils** 78.41 340 ⇑P P 03 56 55.7 +0.2
baz=79,SNR=8.4
R23A **Moffat** 78.42 335 ⇓P P 03 56 56.5 +0.6
baz=79,SNR=7.1
MDV **Middlebury** 78.43 1 eP P 03 56 56.0 +0.6
BC3 **Big Chuckawall** 78.44 326 ⇓P P 03 56 57.2 +1.4
baz=79,SNR=7.1
MVCO **Mesa Verde** 78.53 332 ⇑P P 03 56 57.0 +0.6
baz=79,SNR=11
MVCO **Mesa Verde** 78.53 332 eP P 03 56 56.8 +0.4
comp=Z,8.7nm,0.8s
Q25A **Bedland, Calha** 78.54 336 ⇑P P 03 56 57.0 +0.6
baz=79,SNR=6.1
O29A **4D Ranch, Culb** 78.57 339 ⇑P P 03 56 57.3 +1.0
baz=79
P27A **Ficken Ranch,** 78.58 338 ⇑P P 03 56 57.5 +1.0
baz=79
109C **Camp Elliot, M** 78.59 324 ⇓P P 03 56 57.5 +1.0
baz=79
N31A **Bailey Ranch,** 78.70 341 ⇓P P 03 56 57.8 +0.8
baz=79
IRM **Iron Mountain** 78.72 326 ⇓P P 03 56 58.3 +1.1
baz=79,SNR=6.3
JFWS **Jewell Farm** 78.77 348 eP P 03 56 56.8 -0.5
JFWS pmax pmax
comp=Z,33nm,1.2s
JFWS **Jewell Farm** 78.77 348 eP P 03 56 56.8 -0.5
comp=Z,33nm,1.2s
P26A **Davis Ranch, A** 78.83 337 ⇓P P 03 56 58.7 +0.8
baz=79,SNR=6.1
O28A **Krutsinger Ran** 78.86 339 ⇑P P 03 56 58.9 +0.9
baz=79,SNR=8.4
PFO **Pinyon Flats O** 78.87 325 P P 03 56 59.2 +1.0
comp=Z,5.7nm,0.8s,baz=133,slow=3.8,SNR=4.8
PFO **Pinyon Flats O** 78.87 325 ⇑P P 03 56 59.8 +1.6
baz=79
Q24A **Divide** 78.88 336 ⇑P P 03 56 59.1 +0.7
baz=79,SNR=7.8
W13A **Hualapai Mount** 78.93 328 ⇑P P 03 56 59.8 +1.2
baz=79
BELC **Belle Mtn. Jos** 78.98 325 ⇓P P 03 57 00.1 +1.3
baz=79
BGNE **Belgrade** 79.04 342 ⇓P P 03 56 59.4 +0.6
baz=79
BGNE **Belgrade** 79.04 342 eP P 03 56 59.5 +0.6
comp=Z,32nm,0.7s
LONY **Lake Ozonia** 79.05 360 eP P 03 56 59.4 +0.6
comp=Z,10nm,0.8s
P25A **Willow Gulch B** 79.05 337 ⇓P P 03 57 00.0 +0.9
baz=79,SNR=12
WVL **Waterville** 79.09 3 eP P 03 57 00.4 +1.4
comp=Z,31nm,0.9s
O27A **Beecher Island** 79.13 338 ⇓P P 03 57 00.5 +1.0
baz=80,SNR=7.4
N29A **Votaw Ranch, W** 79.16 340 ⇓P P 03 57 00.1 +0.5
baz=80,SNR=6.7
M31A **Lambtecht Ranc** 79.20 341 ⇓P P 03 57 00.5 +0.8
baz=80,SNR=7.3
MURC **Murrieta** 79.22 324 ⇓P P 03 57 00.9 +0.9
baz=80
P24A **Kohler Place,** 79.30 336 ⇓P P 03 57 01.5 +1.0
baz=80
N28A **Pribbeno Ranch** 79.31 339 ⇑P P 03 57 01.1 +0.7
baz=80
PV01 **Paradox Valley** 79.37 333 eP P 03 57 01.7 +0.7
comp=Z,1μm,1.4s
U15A **North Rim** 79.37 329 ⇓P P 03 57 02.6 +1.5
baz=80,SNR=11
GMRC **Granite Mounta** 79.46 326 ⇑P P 03 57 02.3 +0.9
baz=80,SNR=5.9
P23A **Jefferson** 79.49 335 ⇓P P 03 57 02.6 +0.9
baz=80
O25A **Wiggins** 79.58 337 ⇓P P 03 57 03.2 +1.2
baz=80
M30A **Dale-Ortello V** 79.62 340 ⇑P P 03 57 02.6 +0.6
baz=80
SMCO **Snowmass** 79.71 334 eP P 03 57 04.3 +1.2
comp=Z,22nm,1.1s
N27A **Anderson Farm,** 79.72 338 ⇑P P 03 57 03.5 +0.9
baz=80,SNR=5.3
PV04 **Paradox Valley** 79.72 333 eP P 03 57 04.1 +1.2
M29A **Burnside Ranch** 79.76 340 ⇑P P 03 57 03.7 +0.8
baz=80
ISCO **Idaho Springs** 79.79 336 eP P 03 57 04.0 +0.7
ISCO pmax pmax
comp=Z,8.0nm,1.0s
ISCO **Idaho Springs** 79.79 336 ⇓P P 03 57 04.0 +0.7
baz=80,SNR=8.9
ISCO **Idaho Springs** 79.79 336 eP P 03 57 04.0 +0.7
comp=Z,8.1nm,1.0s
O24A **Longmont** 79.90 336 ⇓P P 03 57 04.3 +0.5
baz=80
M28A **Bar X Bar Ranc** 79.91 339 ⇓P P 03 57 04.8 +1.2
baz=80
L31A **Butterfield Fa** 79.94 341 ⇓P P 03 57 04.4 +0.6
baz=80,SNR=8.2
N26A **Koester Ranch,** 79.95 338 ⇓P P 03 57 05.3 +1.4
baz=80
BFSC **Mount Baldy Ra** 79.96 324 ⇓P P 03 57 04.8 +0.7
baz=80
L30A **Spencer Herefo** 79.96 341 ⇓P P 03 57 04.7 +0.9
baz=80
P22A **Eagle** 80.00 335 ⇓P P 03 57 05.3 +0.9
baz=80,SNR=7.8
TUQ **Turquoise Moun** 80.13 326 ⇓P P 03 57 06.4 +1.4
baz=80
MWC **Mount Wilson** 80.14 324 eP P 03 57 06.1 +0.9
MWC pmax pmax
comp=Z,30nm,1.4s
MWC **Mount Wilson** 80.14 324 eP P 03 57 06.1 +0.9
comp=Z,30nm,1.4s
O23A **Lake Granby, G** 80.26 336 ⇓P P 03 57 06.8 +1.0
baz=81,SNR=17
L29A **Maesberg Ranch** 80.28 340 ⇓P P 03 57 06.5 +1.0
baz=81
M27A **Reverse DX Ran** 80.33 339 ⇓P P 03 57 07.0 +1.0
baz=81
GSC **Goldstone, Bar** 80.42 326 ⇓P P 03 57 07.6 +1.0
baz=81
O22A **Kremmling** 80.44 335 ⇓P P 03 57 07.6 +0.8
baz=81,SNR=15
N24A **Carr** 80.47 337 ⇑P P 03 57 08.0 +1.1
baz=81
TSUM **Tsumeb** 80.48 107 eP P 03 57 08.4 +1.0
comp=Z,12nm,1.1s
K30A **Basset** 80.61 341 ⇓P P 03 57 07.8 +0.5
baz=81,SNR=14
EDW2 **Edwards Air Fo** 80.64 325 ⇓P P 03 57 08.1 +0.4
baz=81
SHPR **Sheep Range** 80.67 327 eP P 03 57 09.4 +1.4
SHOC **Shoshone, Teco** 80.67 326 ⇓P P 03 57 09.0 +1.2
baz=81
M25A **Palm-Egli Farm** 80.76 338 ⇑P P 03 57 09.5 +1.2
baz=81
CCUT **Cedar City** 80.78 329 eP P 03 57 09.9 +1.3
comp=Z,28nm,1.5s
ECSD **EROS Data Cent** 80.85 344 ⇑P P 03 57 08.5 -0.1
baz=81,SNR=31
ECSD **EROS Data Cent** 80.85 344 eP P 03 57 08.7 +0.1
comp=Z,38nm,0.9s
K29A **Lazy Trails An** 80.88 341 ⇑P P 03 57 09.1 +0.3
baz=81,SNR=7.2
N23A **Red Feather La** 80.89 336 ⇑P P 03 57 10.1 +1.0
baz=81,SNR=9.4
SRU **San Rafael Swe** 80.97 332 eP P 03 57 10.4 +0.9
SRU pmax pmax
comp=Z,28nm,1.6s
SRU **San Rafael Swe** 80.97 332 eP P 03 57 10.4 +0.9
comp=Z,28nm,1.6s
N22A **Wattenberg Ran** 80.97 336 ⇓P P 03 57 10.7 +1.1
baz=81,SNR=13
LRMC **Laurel Mtn Rad** 80.98 325 ⇑P P 03 57 10.4 +0.8
baz=81
O20A **White River Ci** 81.01 334 ⇓P P 03 57 10.3 +0.6
baz=81,SNR=5.7
O20A **White River Ci** 81.01 334 eP P 03 57 10.0 +0.3
comp=Z,14nm,1.0s
M24A **Cheyenne** 81.03 337 ⇑P P 03 57 10.9 +1.1
baz=81,SNR=7.1
K28A **Ten Mile Ranch** 81.13 340 ⇑P P 03 57 11.3 +1.2
baz=82,SNR=16
J30A **Dallas** 81.18 341 ⇓P P 03 57 10.5 +0.1
baz=82,SNR=12
M23A **Laramie** 81.33 336 ⇓P P 03 57 12.1 +0.7
baz=82,SNR=9.3
MPMC **Manual Prospec** 81.36 326 ⇑P P 03 57 12.4 +0.7
baz=82
K27A **Flueckinger Fa** 81.37 339 ⇓P P 03 57 12.3 +0.9
baz=82,SNR=6.2
SPMN **Marine on St.** 81.47 347 ⇑P P 03 57 11.3 -0.5
baz=82,SNR=11
SPMN **Marine on St.** 81.47 347 eP P 03 57 11.3 -0.5
comp=Z,26nm,0.9s
J29A **Okreek** 81.48 341 ⇓P P 03 57 12.4 +0.5
baz=82,SNR=32
ISA **Isabella, Lake** 81.50 325 eP P 03 57 13.4 +1.1
ISA pmax pmax
comp=Z,3.0nm,0.7s
ISA **Isabella, Lake** 81.50 325 ⇑P P 03 57 13.6 +1.3
baz=82
ISA **Isabella, Lake** 81.50 325 eP P 03 57 13.4 +1.1
comp=Z,2.9nm,0.7s
TPNV **Topopah Spring** 81.53 327 eP P 03 57 14.1 +1.6
TPNV pmax pmax
comp=Z,4.0nm,0.8s
TPNV **Topopah Spring** 81.53 327 ⇓P P 03 57 13.6 +1.1
baz=82
TPNV **Topopah Spring** 81.53 327 eP P 03 57 14.1 +1.6
comp=Z,4.1nm,0.8s
PKM **Mcpherson Peak** 81.53 323 ⇑P P 03 57 13.5 +0.9
baz=82
M22A **Cedar Creek Ra** 81.56 336 ⇑P P 03 57 13.5 +0.8
baz=82,SNR=7.2
L24A **Wheatland** 81.59 337 ⇓P P 03 57 13.5 +0.8
baz=82
DAC **Darwin (Calif)** 81.59 326 eP P 03 57 14.6 +1.7
DAC pmax pmax
comp=Z,14nm,1.4s
DAC **Darwin (Calif)** 81.59 326 eP P 03 57 14.6 +1.7
comp=Z,14nm,1.4s
N20A **Spence Gulch,** 81.63 334 ⇑P P 03 57 14.0 +0.9
baz=82,SNR=7.0
I30A **Oacoma** 81.72 342 ⇓P P 03 57 13.3 +0.2
baz=82
J28A **Allard Ranch,** 81.75 340 ⇑P P 03 57 14.1 +0.7
baz=82,SNR=13
K25A **Mack Ranch, Ha** 81.77 338 ⇑P P 03 57 14.6 +0.9
baz=82
J27A **Elkhorn Farm,** 81.80 340 ⇑P P 03 57 14.6 +0.9
baz=82,SNR=17
L23A **Garrett** 81.90 337 ⇓P P 03 57 14.5 +0.1
baz=82,SNR=6.1
VES **Vestal, Richgr** 81.94 324 ⇓P P 03 57 16.2 +1.7
baz=82
L22A **Ellis Ranch, M** 82.07 336 ⇓P P 03 57 16.1 +0.8
baz=82,SNR=5.5
GRAC **Grapevine Rang** 82.08 326 ⇑P P 03 57 16.3 +1.0
baz=82
BRSD **Miller** 82.09 342 eP P 03 57 15.3 +0.2
comp=Z,28nm,0.9s
K24A **Anderson Ranch** 82.16 338 ⇑P P 03 57 16.6 +0.9
baz=82
J26A **Sides Ranch, S** 82.17 339 ⇑P P 03 57 16.5 +0.9
baz=83,SNR=9.9
MPU **Maple Canyon** 82.18 332 eP P 03 57 17.2 +1.3
comp=Z,23nm,1.2s
I28A **Midland** 82.26 341 ⇑P P 03 57 16.3 +0.2
baz=83,SNR=16
NLU **North Lily Min** 82.30 331 eP P 03 57 18.6 +2.1
comp=Z,17nm,1.3s
DAU **Daniels Canyon** 82.37 332 eP P 03 57 17.7 +0.6
DAU **Daniels Canyon** 82.37 332 eP P 03 57 17.7 +0.6
R11A **Troy Canyon, C** 82.39 328 ⇓P P 03 57 18.3 +1.2
baz=83,SNR=8.6
R11A **Troy Canyon, C** 82.39 328 eP P 03 57 18.5 +1.4
comp=Z,17nm,1.5s
K23A **Bowen Ranch, D** 82.45 337 ⇓P P 03 57 17.7 +0.5
baz=83,SNR=7.3
J25A **Sunshine Ranch** 82.46 339 ⇓P P 03 57 18.0 +0.9
baz=83
I27A **Quinn** 82.57 340 ⇓P P 03 57 18.0 +0.3
baz=83,SNR=8.0
H29A **Onida** 82.58 341 ⇓P P 03 57 17.7 0.0
baz=83
K22A **Casper** 82.65 336 ⇓P P 03 57 19.0 +0.7
baz=83,SNR=14
K22A **Casper** 82.65 336 eP P 03 57 19.0 +0.7
comp=Z,26nm,1.0s
J24A **Dixon Ranch, L** 82.67 338 ⇑P P 03 57 19.1 +0.8
baz=83,SNR=6.6
I26A **New Underwood** 82.76 339 ⇑P P 03 57 19.2 +0.5
baz=83,SNR=5.4
G30A **Faulkton** 82.78 342 ⇓P P 03 57 19.2 +0.5
baz=83
DUG **Dugway, Tooele** 82.80 331 eP P 03 57 20.1 +1.1
DUG pmax pmax
comp=Z,23nm,1.1s
DUG **Dugway, Tooele** 82.80 331 ⇑P P 03 57 20.0 +0.9
baz=83,SNR=20
DUG **Dugway, Tooele** 82.80 331 eP P 03 57 20.1 +1.1
comp=Z,23nm,1.1s
H28A **Mission Ridge** 82.84 341 ⇓P P 03 57 18.7 -0.4
baz=83,SNR=12
K21A **Alcova** 82.88 336 ⇑P P 03 57 19.8 +0.3
baz=83,SNR=21
TPH **Tonopah** 82.89 327 eP P 03 57 20.9 +1.2
TPH pmax pmax
comp=Z,18nm,1.4s
TPH **Tonopah** 82.89 327 eP P 03 57 20.9 +1.2
comp=Z,18nm,1.4s
I25A **Rochford** 83.01 339 ⇑P P 03 57 20.8 +0.6
baz=83,SNR=16
G29A **Hoven** 83.03 342 ⇓P P 03 57 19.6 -0.4
baz=83
TCUT **Toone Canyon** 83.04 332 eP P 03 57 20.9 +0.4
comp=Z,34nm,1.3s
H27A **Howes** 83.09 340 ⇑P P 03 57 20.3 0.0
baz=84,SNR=13
I24A **Kuemmerle Ranc** 83.13 338 ⇑P P 03 57 20.8 +0.1
baz=84

G28A **Parade** 83.19 341 ⇓P P 03 57 21.3 +0.5
baz=84,SNR=8.6
RSSD **Black Hills** 83.19 339 eP P 03 57 21.4 +0.3
RSSD pmax pmax
comp=Z,11nm,0.8s
RSSD **Black Hills** 83.19 339 eP P 03 57 21.4 +0.3
comp=Z,10nm,0.8s
J22A **Midwest** 83.32 337 ⇓P P 03 57 21.4 -0.2
baz=84,SNR=9.9
LBTB **Lobatse** 83.37 116 eP P 03 57 23.2 +0.6
LBTB pmax pmax
comp=Z,16nm,0.9s
LBTB **Lobatse** 83.37 116 eP P 03 57 23.2 +0.6
comp=Z,16nm,0.9s
BGU **Big Grassy Mou** 83.50 331 eP P 03 57 24.1 +1.4
comp=Z,5.7nm,1.3s
H25A **Fruitdale** 83.52 339 ⇑P P 03 57 22.7 +0.2
baz=84,SNR=6.2
J21A **Lysite** 83.58 336 ⇑P P 03 57 22.8 -0.3
baz=84
F29A **Eureka** 83.61 342 ⇑P P 03 57 22.9 0.0
baz=84,SNR=10.0
NVAR **Mina Array Bea** 83.67 326 P P 03 57 24.4 +0.7
comp=Z,2.3nm,0.7s,baz=150,slow=5.9,SNR=12
G27A **Dupree** 83.74 341 ⇓P P 03 57 23.5 -0.2
baz=84,SNR=9.1
I22A **9 Mile Ranch,** 83.75 337 ⇓P P 03 57 24.0 +0.2
baz=84,SNR=7.9
BW06 **Boulder Array** 83.79 334 eP P 03 57 23.9 -0.3
comp=Z,12nm,1.2s
PDAR **Pinedale Array** 83.79 334 P P 03 57 24.7 +0.5
comp=Z,7.3nm,1.0s,baz=156,slow=4.9,SNR=16
PDAR LR LR 04 30 18.1
comp=Z,81nm,21.7s,baz=104,slow=32
J20A **Shoshoni** 83.80 336 ⇑P P 03 57 24.9 +0.7
baz=84,SNR=23
G26A **Maurine** 83.85 340 ⇓P P 03 57 23.9 -0.3
baz=84,SNR=18
EYMN **Ely** 83.87 348 eP P 03 57 24.1 -0.1
comp=Z,19nm,1.0s
F28A **McLaughlin** 83.87 341 ⇑P P 03 57 24.7 +0.4
baz=84,SNR=6.6
H24A **Dirks Ranch, A** 83.92 339 ⇓P P 03 57 24.3 -0.4
baz=84,SNR=8.4
I21A **Big Trails, Te** 83.94 336 ⇓P P 03 57 24.7 -0.1
baz=84,SNR=14
G25A **Newell** 83.99 340 ⇓P P 03 57 25.2 +0.3
baz=84,SNR=23
E30A **Jud** 84.01 343 ⇑P P 03 57 25.2 +0.3
baz=84
H23A **Clabaugh Cattl** 84.01 338 ⇑P P 03 57 25.6 +0.5
baz=84
J19A **Crowheart** 84.05 335 ⇑P P 03 57 25.7 +0.2
baz=84,SNR=25
HVU **Hansel Valley** 84.13 332 eP P 03 57 26.3 +0.4
HVU pmax pmax
comp=Z,27nm,0.9s
HVU **Hansel Valley** 84.13 332 eP P 03 57 26.2 +0.4
comp=Z,27nm,0.9s
F27A **Lemmon** 84.22 341 ⇑P P 03 57 26.2 +0.1
baz=85,SNR=18
E29A **Napoleon** 84.25 342 ⇑P P 03 57 26.1 -0.1
baz=85
ELK **Elko** 84.25 330 eP P 03 57 27.7 +1.1
ELK **Elko** 84.25 330 P P 03 57 27.2 +0.6
comp=Z,7.3nm,1.1s,baz=184,slow=4.2,SNR=9.8
ELK **Elko** 84.25 330 eP P 03 57 27.7 +1.1
H22A **Clearmont** 84.33 337 ⇑P P 03 57 26.7 -0.1
baz=85
I20A **Worland** 84.34 336 ⇑P P 03 57 27.1 +0.3
baz=85,SNR=15
F26A **Lodgepole** 84.38 340 ⇓P P 03 57 26.8 -0.1
baz=85,SNR=8.2
G24A **Alzada** 84.40 339 ⇓P P 03 57 27.0 -0.2
baz=85,SNR=5.7
E28A **Huff** 84.52 342 ⇑P P 03 57 27.8 +0.2
baz=85,SNR=7.1
D30A **Buchanan** 84.54 343 ⇑P P 03 57 27.4 -0.2
baz=85,SNR=14
G23A **Biddle** 84.58 338 ⇑P P 03 57 27.8 -0.1
baz=85,SNR=5.4
H21A **Big Horn, Sher** 84.58 337 ⇓P P 03 57 27.4 -0.7
baz=85
E27A **Carson** 84.61 341 ⇑P P 03 57 28.0 -0.1
baz=85,SNR=6.0
F25A **Bowman** 84.67 340 ⇑P P 03 57 28.5 +0.1
baz=85,SNR=6.8
D29A **Pettibone, Tap** 84.69 343 ⇑P P 03 57 28.3 -0.1
baz=85,SNR=9.5
I19A **Meeteetse** 84.71 335 ⇓P P 03 57 28.9 0.0
baz=85,SNR=5.1
H20A **Greybull** 84.77 336 ⇓P P 03 57 28.6 -0.5
baz=85,SNR=9.9
REDW **Red Top Meadow** 84.78 334 eP P 03 57 29.4 +0.2
comp=Z,23nm,1.4s
G22A **Birney** 84.88 338 ⇑P P 03 57 29.1 -0.4
baz=85
F24A **Ekalaka** 84.88 339 ⇑P P 03 57 29.1 -0.4
baz=85,SNR=9.4
E26A **Carlson Angus** 84.89 341 ⇑P P 03 57 29.5 0.0
baz=85,SNR=10
LOHW **Long Hollow** 84.90 334 eP P 03 57 30.5 +0.6
comp=Z,16nm,1.4s
TPAW **Teton Pass** 84.92 334 eP P 03 57 30.4 +0.4
comp=Z,13nm,0.9s
DRLN **Deer Lake** 84.95 11 eP P 03 57 30.4 +0.8
AGMN **Agassiz Nation** 85.02 345 ⇑P P 03 57 29.8 -0.2
baz=85,SNR=22
AGMN **Agassiz Nation** 85.02 345 eP P 03 57 29.8 -0.2
comp=Z,26nm,0.8s
C30A **Mose, Pekin** 85.03 344 ⇓P P 03 57 30.5 +0.4
baz=85,SNR=34
F23A **Volborg** 85.05 338 ⇓P P 03 57 30.2 -0.1
baz=85,SNR=13
D28A **Regan** 85.06 342 ⇑P P 03 57 30.1 -0.2
baz=85
FXWY **Fox Creek** 85.08 334 eP P 03 57 30.9 +0.2
comp=Z,7.6nm,1.1s
I17A **Pilgrim Ck.** 85.16 334 ⇓P P 03 57 31.7 +0.6
baz=86,SNR=17
G21A **Lodge Grass** 85.17 337 ⇑P P 03 57 31.0 0.0
baz=86,SNR=6.9
E25A **Miller Ranch,** 85.18 340 ⇑P P 03 57 31.1 +0.1
baz=86,SNR=9.2
D27A **Center** 85.23 341 ⇑P P 03 57 31.2 +0.1
baz=86
H19A **Powell** 85.27 336 ⇓P P 03 57 31.5 0.0
baz=86,SNR=10
IMW **Indian Meadow** 85.27 334 eP P 03 57 32.6 +0.8
comp=Z,18nm,1.3s
FLWY **Flagg Ranch** 85.35 334 eP P 03 57 32.8 +0.8
comp=Z,28nm,1.2s
F22A **Rosebud** 85.37 338 ⇑P P 03 57 31.8 -0.1
baz=86,SNR=13
D26A **Manning** 85.40 341 ⇑P P 03 57 32.3 +0.3
baz=86,SNR=12
MDND **Maddock** 85.43 343 ⇑P P 03 57 32.1 0.0
baz=86
E24A **Baker** 85.49 340 ⇑P P 03 57 32.5 0.0
baz=86,SNR=6.3
G20A **Bridger** 85.49 336 ⇑P P 03 57 32.3 -0.4
baz=86,SNR=18
C28A **Hausauer Farms** 85.50 342 ⇓P P 03 57 32.9 +0.5
baz=86
H18A **Shoshone NF, C** 85.50 335 ⇑P P 03 57 33.0 +0.2
baz=86,SNR=30
H17A **Grant Village** 85.57 335 ⇑P P 03 57 33.6 +0.4
baz=86
H17A **Grant Village** 85.57 335 eP P 03 57 34.5 +1.2
comp=Z,9.9nm,1.4s
F21A **Absaloka Mine,** 85.68 337 ⇓P P 03 57 33.9 +0.4
baz=86
B30A **Myrvik Farm, E** 85.70 344 ⇓P P 03 57 33.4 0.0
baz=86,SNR=24
YFT **Old Faithful** 85.72 334 eP P 03 57 36.5 +2.6
comp=Z,15nm,1.1s
E23A **Ismay** 85.73 339 ⇓P P 03 57 33.3 -0.4
baz=86,SNR=6.9
D25A **Fairfield** 85.75 340 ⇑P P 03 57 34.2 +0.4
baz=86,SNR=13
RLMT **Red Lodge** 85.76 336 eP P 03 57 34.2 +0.2
comp=Z,6.7nm,0.6s
C27A **Sayler Ranch,** 85.78 342 ⇑P P 03 57 34.3 +0.5
baz=86,SNR=5.1
TORD **Torodi Ar. Bea** 85.94 71 P P 03 57 35.5 +0.1
comp=Z,9.1nm,1.1s,baz=262,slow=3.8,SNR=30
TORD PKKPbc PKKPbc 04 15 35.1 +0.3
comp=Z,0.2nm,0.5s,baz=37,slow=2.3,SNR=6.8
TORD LR LR 04 34 32.9
comp=Z,64nm,18.2s,baz=195,slow=35
YMR **Madison River** 85.95 334 eP P 03 57 35.8 +0.7
comp=Z,29nm,1.0s
B29A **Wagenman Farm,** 85.95 343 ⇑P P 03 57 34.8 +0.1
baz=86,SNR=5.7
F20A **Billings** 85.98 337 ⇑P P 03 57 34.8 -0.2
baz=86
D24A **Glendive** 86.00 340 ⇓P P 03 57 35.4 +0.4
baz=86,SNR=6.5
C26A **Wahner Farm, P** 86.04 341 ⇑P P 03 57 35.2 +0.1
baz=86,SNR=6.4
A30A **Hoffart Farm,** 86.15 344 ⇑P P 03 57 35.4 -0.3
baz=86,SNR=16
LAO **LASA Array** 86.17 338 eP P 03 57 36.2 +0.4
comp=Z,20nm,0.8s
B28A **Dugan Ranch, T** 86.18 343 ⇓P P 03 57 36.0 +0.2
baz=87,SNR=8.6
C25A **Freed Ranch, W** 86.25 341 ⇑P P 03 57 36.6 +0.4
baz=87,SNR=6.7
QLMT **Earthquake Lak** 86.25 334 eP P 03 57 38.1 +1.6
HLID **Hailey** 86.28 332 ⇑P P 03 57 37.4 +0.7
baz=87,SNR=17
HLID **Hailey** 86.28 332 eP P 03 57 37.0 +0.3
comp=Z,9.6nm,0.9s
F19A **Roth Farm, Mol** 86.29 336 ⇑P P 03 57 36.3 -0.2
baz=87,SNR=11
E21A **Keller Ranch,** 86.30 338 ⇑P P 03 57 36.7 +0.2
baz=87,SNR=6.3
D23A **Lindsay** 86.31 339 ⇑P P 03 57 37.0 +0.5
baz=87
A29A **Manning Farm,** 86.35 344 ⇓P P 03 57 36.2 -0.4
baz=87,SNR=24
B27A **Peters Farms,** 86.36 342 ⇓P P 03 57 36.7 0.0
baz=87
C24A **Savage** 86.41 340 ⇓P P 03 57 37.4 +0.4
baz=87,SNR=8.4
GCMT **Greycliff** 86.48 336 eP P 03 57 37.6 +0.1
comp=Z,4.1nm,0.8s
D22A **Cohagen** 86.57 339 ⇑P P 03 57 38.1 +0.2
baz=87,SNR=11
A28A **Rude Farm, Bot** 86.58 343 ⇓P P 03 57 38.0 +0.2
baz=87
B26A **Jensen Ranch,** 86.58 342 ⇑P P 03 57 38.1 +0.3
baz=87
E20A **Meyer Farm, Mu** 86.60 337 ⇓P P 03 57 38.2 +0.2
baz=87,SNR=31
MFID **Camas Ranch** 86.72 331 eP P 03 57 39.8 +1.1
comp=Z,11nm,1.1s
B25A **Knox Farm, Ray** 86.73 341 ⇓P P 03 57 39.2 +0.7
baz=87,SNR=24
MCMT **McKenzie Canyo** 86.77 333 eP P 03 57 40.4 +1.3
comp=Z,12nm,0.9s
E19A **Rath Farm, Rou** 86.78 337 ⇑P P 03 57 38.8 -0.1
baz=87,SNR=23
C23A **Lambert** 86.87 339 ⇑P P 03 57 39.2 0.0
baz=87,SNR=18
ULM **Lac du Bonnet** 86.88 346 P P 03 57 38.7 -0.5
comp=Z,18nm,0.8s,baz=186,slow=2.9,SNR=37
ULM LR LR 04 35 24.9
comp=Z,29nm,18.1s,baz=48,slow=35
A26A **Wade Farm, Ken** 87.01 342 ⇓P P 03 57 40.1 +0.2
baz=87,SNR=13
BOZ **Bozeman (W)** 87.03 335 eP P 03 57 40.4 +0.2
BOZ pmax pmax
comp=Z,6.0nm,1.0s
BOZ **Bozeman (W)** 87.03 335 eP P 03 57 40.4 +0.2
comp=Z,5.5nm,1.0s
WVOR **Wild Horse Val** 87.08 329 eP P 03 57 41.8 +1.3
WVOR pmax pmax
comp=Z,13nm,1.1s
WVOR **Wild Horse Val** 87.08 329 eP P 03 57 41.8 +1.3
comp=Z,12nm,1.1s
D20A **Manuel Ranch,** 87.12 337 ⇓P P 03 57 40.3 -0.2
baz=88,SNR=15
DLMT **Dillon** 87.13 334 eP P 03 57 42.0 +1.3
comp=Z,19nm,1.2s
LCCM **Lewis and Clar** 87.28 335 P P 03 57 42.4 +0.9
A25A **Svangstu Ranch** 87.33 341 ⇑P P 03 57 41.8 +0.4
baz=88,SNR=8.1
MOD **Modoc Plateau** 87.38 327 eP P 03 57 43.0 +1.0
comp=Z,23nm,1.1s
B23A **Brockton** 87.41 340 ⇓P P 03 57 41.7 -0.1
baz=88,SNR=8.3
D19A **Cripps Ranch,** 87.43 337 ⇓P P 03 57 41.4 -0.6
baz=88,SNR=8.3
C21A **Desert Coulee** 87.46 338 ⇓P P 03 57 41.8 -0.3
baz=88,SNR=12
LRM **Limekiln Ridge** 87.47 334 eP P 03 57 43.0 +0.6
B22A **Reddig Ranch S** 87.56 339 ⇓P P 03 57 42.5 0.0
baz=88,SNR=7.4
A24A **Westby** 87.56 341 ⇓P P 03 57 42.6 +0.1
baz=88,SNR=8.7
C20A **Veseth Ranch,** 87.64 338 ⇓P P 03 57 42.3 -0.7
baz=88,SNR=7.9
B21A **Ellsworth Farm** 87.97 339 ⇓P P 03 57 44.3 -0.2
baz=88,SNR=8.7
M04C **Macdoel** 87.97 326 ⇑P P 03 57 45.4 +0.6
baz=88,SNR=6.4
C19A **Slack Wire Ran** 87.98 337 ⇓P P 03 57 44.2 -0.5
baz=88
M02C **Callahan** 88.14 325 ⇓P P 03 57 46.1 +0.5
baz=88
A22A **Carney Farms,** 88.15 340 ⇓P P 03 57 45.3 -0.1
baz=88,SNR=14
B20A **Solberg Farm,** 88.28 338 ⇓P P 03 57 45.5 -0.6
baz=89
K05A **Summer Lake** 88.30 327 eP P 03 57 48.0 +1.5
comp=Z,26nm,0.9s
YBH **Yreka Blue Hor** 88.33 326 P P 03 57 46.4 -0.1
comp=Z,4.3nm,0.9s,baz=135,slow=2.9,SNR=4.4
A21A **Bergtoll Ranch** 88.45 339 ⇓P P 03 57 46.3 -0.4
baz=89,SNR=8.3
EGMT **Eagleton** 88.47 337 ⇑P P 03 57 46.5 -0.4
baz=89
EGMT **Eagleton** 88.47 337 eP P 03 57 46.4 -0.5
comp=Z,7.3nm,1.0s
BMO **Blue Mountains** 88.51 331 eP P 03 57 47.9 +0.7
comp=Z,6.9nm,1.0s
B19A **Brinkman Farms** 88.59 338 ⇓P P 03 57 47.1 -0.3
baz=89
A20A **Cobblestone Ra** 88.65 338 ⇑P P 03 57 47.5 -0.2
baz=89,SNR=6.3
CHMT **Chamberlain Mo** 88.70 334 eP P 03 57 48.9 +0.7
I07A **Izee** 88.78 329 eP P 03 57 49.8 +1.2
comp=Z,12nm,0.9s
MSO **Missoula** 88.87 334 ⇓P P 03 57 50.4 +1.5
baz=89
MSO **Missoula** 88.87 334 eP P 03 57 50.1 +1.2
comp=Z,9.3nm,1.6s
J05D **Fort Rock, OR** 88.89 328 ⇓P P 03 57 50.2 +1.1
baz=89
A19A **Klindworth Far** 88.94 338 ⇑P P 03 57 48.5 -0.6
baz=89,SNR=5.7
SLMT **Seeley Lake** 89.06 334 eP P 03 57 50.6 +0.7
PINOR **Pine Mountain** 89.16 328 eP P 03 57 51.9 +1.8
comp=Z,14nm,1.0s
J04D **Umpqua Nationa** 89.25 327 ⇓P P 03 57 51.7 +0.8
baz=90
F10A **Beach Ranch, E** 89.40 331 eP P 03 57 52.0 +0.7
comp=Z,17nm,1.4s
SWMT **Swartz Lake** 89.47 334 eP P 03 57 52.5 +0.7
SCHQ **Schefferville** 89.48 4 P P 03 57 51.4 0.0
comp=Z,6.0nm,0.8s,baz=154,slow=3.8,SNR=13
G08A **Pilot Rock** 89.54 330 eP P 03 57 53.4 +1.3
comp=Z,7.0nm,1.0s
JTMT **Jette** 89.77 334 eP P 03 57 53.2 +0.1
I05D **Terrebonne, OR** 89.78 328 ⇓P P 03 57 54.0 +0.8
baz=90
BSMT **Bassoo Peak** 90.04 334 eP P 03 57 55.0 +0.5
E09A **Wood Farm, Sta** 90.21 331 eP P 03 57 54.7 -0.3
comp=Z,5.0nm,0.9s
G05D **Wamic, OR** 90.49 329 ⇑P P 03 57 57.1 +0.6
baz=91
HAWA **Hanford** 90.67 330 eP P 03 57 58.4 +1.2
comp=Z,7.5nm,1.0s
WALA **Waterton Lakes** 90.75 335 eP P 03 57 58.0 +0.3
comp=Z,0.2nm,0.9s
D08A **Wollman Farm,** 90.96 331 eP P 03 57 59.5 +1.0
comp=Z,37nm,2.0s
OD2 **Odessa Site #2** 91.15 331 P P 03 58 00.1 +0.6
NEW **Newport** 91.25 333 eP P 03 57 59.8 -0.1
NEW **Newport** 91.25 333 P P 03 57 59.0 -0.9
comp=Z,2.3nm,0.7s,baz=120,slow=6.6,SNR=7.5
NEW **Newport** 91.25 333 ⇑P P 03 57 59.6 -0.3
baz=92
NEW **Newport** 91.25 333 eP P 03 57 59.8 -0.1
G03D **McMinnville, O** 91.31 328 ⇓P P 03 57 59.6 -0.6
baz=92
C09A **Chrisman Ranch** 91.31 332 eP P 03 58 01.0 +0.8
comp=Z,17nm,1.4s
ASR **Mount Adams--S** 91.33 329 P P 03 58 01.9 +1.5
FFC **Flin Flon** 92.38 344 eP P 03 58 04.6 -0.3
FFC pmax pmax
comp=Z,6.0nm,1.1s
FFC **Flin Flon** 92.38 344 eP P 03 58 04.6 -0.3
comp=Z,5.9nm,1.1s
VDB **Vedder Mountai** 93.81 331 P P 03 58 11.7 0.0
TAM **Tamanrasset** 94.57 66 eP P 03 58 16.9 +0.9
TAM pmax pmax
comp=Z,6.0nm,1.1s
TAM **Tamanrasset** 94.57 66 eP P 03 58 16.9 +0.9
comp=Z,5.6nm,1.1s
FCC **Fort Churchill** 94.72 350 eP P 03 58 15.3 -0.2
FCC **Fort Churchill** 94.72 350 eP P 03 58 15.3 -0.2
comp=Z,0.2nm,0.8s
ESDC **Sonseca Array** 98.26 47 P P 03 58 32.0 -0.2
comp=Z,0.4nm,0.6s,baz=242,slow=3.2,SNR=5.1
DZM **Mont Dzumac** 99.51 235 LR LR 04 31 26.9
comp=Z,53nm,21.3s,baz=3.0,slow=28
YKA **Yellowknife Ar** 102.32 342 P Pdif 03 58 49.1 -0.5
comp=Z,0.9nm,0.8s,baz=143,slow=4.5,SNR=17
GERES **GERESS Array B** 113.83 46 PKiKP PKiKP 04 03 32.8 -0.5
comp=Z,0.7nm,0.8s,baz=265,slow=3.5,SNR=5.6
ILAR **Eielson Array** 114.20 333 PKP PKPdf 04 03 32.8 -0.6
comp=Z,0.4nm,0.7s,baz=115,slow=1.3,SNR=6.0
ASAR **Alice Springs** 116.14 208 PKP PKPdf 04 03 37.5 -1.0
comp=Z,0.5nm,0.9s,baz=135,slow=0.1,SNR=3.8
VYHS **Vyhne** 116.78 48 ePKP PKPdf 04 03 39.1 +0.3
WRA **Warramunga Arr** 119.29 211 PKP PKPdf 04 03 43.8 -0.8
comp=Z,1.1nm,0.9s,baz=155,slow=1.7,SNR=5.3
BRTR **Keskin Array B** 123.58 62c iPKIKP PKPdf 04 03 52.5 +0.2
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR **Keskin Array B** 123.58 62 PKP PKPdf 04 03 52.6 +0.2
comp=Z,2.6nm,0.7s,baz=196,slow=3.3,SNR=22
AKASG **Malin Array Be** 123.88 48 PKP PKPdf 04 03 51.5 -0.8
comp=Z,0.7nm,0.5s,baz=271,slow=2.4,SNR=4.5
OBN **Obninsk** 129.09 44 ePKIKP PKPdf 04 04 02.9 +0.8
OBN pmax pmax
comp=Z,6.0nm,0.9s
KLMR **Klimovskoe** 130.97 37 ePKIKP PKPdf 04 04 04.5 -1.0
KLMR pmax pmax
comp=Z,21nm,1.3s
KIV **Kislovodsk** 131.24 59 ePKIKP PKPdf 04 04 08.5 +1.7
KIV pmax pmax
comp=Z,6.0nm,0.9s
KBZ **Khabaz** 131.34 60 PKP PKPdf 04 04 06.1 -0.7
comp=Z,1.7nm,0.9s,baz=189,slow=5.0,SNR=3.5
BILL **Bilibino** 132.87 334 ⇓iPKIKP PKPdf 04 04 10.4 +1.4
BILL e 04 06 33.3
BILL pmax pmax
comp=Z,2.0nm,1.0s
TIXI **Tiksi** 141.19 349 ⇑iPKIKP PKPdf 04 04 23.6 -0.6
ARU **Arti** 141.37 41 i PKIKP PKPdf 04 04 26.9 +1.9
ARU 04 07 26.3
GEYT **Alibeck** 141.59 71 PKhKP PKPpre 04 04 18.8
comp=Z,0.9nm,0.4s,baz=250,slow=7.5,SNR=3.8
GEYT PKP PKPdf 04 04 25.6 -0.5
comp=Z,1.2nm,0.3s,baz=256,slow=3.3,SNR=3.9
AB31 **Akbulak array** 143.40 52 PKIKP PKPbc 04 04 25.5 -0.6
AB31 pmax pmax
comp=Z,12nm,1.0s
KSM **Kuching** 146.61 188 ePKPbc PKPbc 04 04 37.5 +0.4
SBUM **Sibu** 147.31 191 ePKPbc PKPbc 04 04 39.3 +0.3
BVA0 **Borovoye Array** 148.93 43 i PKP2 PKPbc 04 04 42.4 +0.3
BVA0 pmax pmax
comp=Z,21nm,1.2s
YAK **Yakutsk** 148.93 339 ePKP2 PKPbc 04 04 42.0 +0.2
YAK **Yakutsk** 148.93 339 ePKPbc PKPbc 04 04 42.0 +0.2
IPM **Ipoh** 149.47 170 PKPbc PKPbc 04 04 44.1 -0.6
KBL **Kabul** 149.65 80 ePKPdf PKPdf 04 04 41.0 +0.8
HYB **Hyderabad** 149.97 118 i PKP PKPbc 04 04 44.0 -1.8
YSS **Yuzh-Sakhalins** 150.00 305 ⇓ePKIKP PKPbc 04 04 44.9 0.0
YSS pmax pmax
comp=Z,30nm,1.0s
KULM **Kulim** 150.21 169 ePKPbc PKPbc 04 04 46.4 -0.1
ASAJ **Asahikawa** 150.51 299 ePKPdf PKPdf 04 04 41.8 +0.9
ASAJ ePKPbc PKPbc 04 04 46.5 +0.2
KK31 **Karatay Array** 151.30 62 i PKIKP PKPbc 04 04 47.2 -1.0
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR **Karatay Array** 151.30 62 ePKIKP PKPbc 04 04 48.5 +0.3
KKAR e 04 04 56.6
KKAR **Karatay Array** 151.30 62 ePKPbc PKPbc 04 04 48.5 +0.3
KKAR ePKPab PKPab 04 04 56.6 +0.2
MJAR **Matsushiro Arr** 153.90 283 PKPbc PKPbc 04 04 53.4 -0.8
comp=Z,2.5nm,0.8s,baz=135,slow=3.4,SNR=4.3
MJAR PKPab PKPab 04 05 07.4 -0.2
comp=Z,0.5nm,0.3s,baz=132,slow=6.9,SNR=4.2
AAK **Ala-Archa** 154.26 63d iPKIKP PKPbc 04 04 55.7 +0.7
AAK pmax pmax
comp=Z,4.0nm,1.2s
AAK **Ala-Archa** 154.26 63 ePKPdf PKPdf 04 04 47.8 +1.0
AAK PKPbc PKiKP 04 04 55.8 +0.8
AAK ePKPab PKPab 04 05 09.7 +0.7
NVS **Novosibirsk** 154.44 31 i PKIKP PKPbc 04 04 54.3 -0.4
KURK **Kurchatov** 154.53 43 ePKIKP PKPdf 04 04 46.8 +0.2
KURK e 04 04 55.6
KURK **Kurchatov** 154.53 43 ePKPdf PKPdf 04 04 46.8 +0.2
KURK ePKPbc PKiKP 04 04 55.6 +0.5
KURK ePKPab PKPab 04 05 10.7 +1.0
TKM2 **Tokmak 2** 155.02 62 ePKIKP PKPdf 04 04 48.0 +0.1
TKM2 e 04 04 56.9
TKM2 e 04 05 11.8
TKM2 **Tokmak 2** 155.02 62 ePKPdf PKPdf 04 04 48.0 +0.1
TKM2 ePKPbc PKPbc 04 04 56.9
TKM2 ePKPab PKPab 04 05 11.8 -0.6
KSH **Kashi** 155.61 70 PKP PKPdf 04 04 48.5 -0.1
KSH sPKP 04 05 02.1
KSH PKS PKSdf 04 08 22.8 +0.1
KSH PP PP 04 08 50.8 -1.5
KSH PPMZ
comp=Z,110nm,4.2s
KSH LN
comp=Z,20nm,4.4s
KSH LE
comp=Z,28nm,3.4s
KSH LZ
comp=Z,110nm,5.2s
ZALV **Zalesovo Beam** 155.73 31 PKP PKPdf 04 04 47.9 -0.2
comp=Z,3.0nm,0.8s,baz=274,slow=2.4,SNR=11
ZALV PKPbc PKPbc 04 04 57.0
comp=Z,3.4nm,0.9s,baz=272,slow=3.7,SNR=8.9
ZALV PKPab PKPab 04 05 15.2 +0.5
comp=Z,6.9nm,0.9s,baz=310,slow=5.6,SNR=11
BOD **Bodaibo** 156.37 349 ePKP2 PKPab 04 05 16.2 -1.1
BOD pmax pmax
comp=Z,15nm,1.0s
PDGK **Podgornoye** 157.74 60 PKP2 PKPab 04 05 23.9 +0.2
MK31 **Makanchi Array** 158.46 49 PKP2 PKPab 04 05 26.5 -0.3
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MKAR **Makanchi Array** 158.46 49 PKP PKPdf 04 04 51.9 0.0
comp=Z,0.9nm,0.8s,baz=285,slow=2.4,SNR=8.8
MKAR PKPab PKPab 04 05 27.2 +0.4
comp=Z,5.1nm,0.6s,baz=289,slow=3.7,SNR=32
MKAR PP PP 04 09 05.8 -1.6
comp=Z,0.4nm,0.8s,baz=323,slow=3.8,SNR=3.7
MKAR **Makanchi Array** 158.46 49 PKP PKPdf 04 04 51.9 0.0
MKAR ePKPdf PKPdf 04 04 53.4 +1.5
MKAR ePKPab PKPab 04 05 27.1 +0.2
MKAR PKPab PKPab 04 05 27.2 +0.4
MKAR PP PP 04 09 05.8 -1.6
KSRS **Korea Array** 162.16 285 PKPab PKPab 04 05 41.6 -1.6
comp=Z,1.9nm,0.8s,baz=98,slow=5.1,SNR=4.6
KSAR **Wonju Array Be** 162.19 285 PKP2 PKPab 04 05 41.6 -1.7
KSAR **Wonju Array Be** 162.19 285 PKPab PKPab 04 05 41.6 -1.7
CMAR **Chiang Mai Arr** 162.53 157 PKP PKPdf 04 04 57.4 +0.2
comp=Z,0.4nm,0.4s,baz=230,slow=2.8,SNR=4.8
CMAR PKPab PKPab 04 05 43.8 -1.3
comp=Z,0.6nm,0.3s,baz=205,slow=4.0,SNR=2.9
TLY **Talaya** 163.04 5 ePKP2 PKPab 04 05 47.7 +1.2
TLY pmax pmax
comp=Z,4.0nm,1.1s
WMQ **Urumqi** 163.19 52 ePKP PKPdf 04 04 56.8 -0.4
WMQ pPKP pPKPdf 04 05 07.5 -1.2
WMQ LZ
comp=Z,37nm,24.0s
ZAK **Zakamensk** 164.29 7 ePKP2 PKPab 04 05 52.6 +0.5
ZAK pmax pmax
comp=Z,5.0nm,1.2s
ULN **Ulaanbaatar** 166.93 357 ePKP2 PKPab 04 06 05.0 +1.1

ULN	**Ulaanbaatar**	**166.93**	**357**	*e*PKPab	**PKPab**	**04 06 05.0**	**+1.1**
SONM	**Songino Array**	**166.98**	**359**	PKP	**PKPdf**	**04 04 59.2**	**-1.1**
	comp=Z,1.2nm,1.0s,baz=48,slow=2.1,SNR=6.2						
SONM				PKPab	**PKPab**	**04 06 04.1**	**0.0**
	comp=Z,3.9nm,0.9s,baz=342,slow=4.3,SNR=22						
SONM				PP	**PP**	**04 09 50.3**	**-1.3**
	comp=Z,1.3nm,1.1s,baz=1.2,slow=4.7,SNR=6.1						
NJ2	**Nanjing**	**168.98**	**259**	*e*PKP	**PKPdf**	**04 05 02.1**	**+0.1**
KMI	**Kunming**	**169.93**	**162**	PKP	**PKPdf**	**04 05 04.8**	**+1.7**
GYA	**Guiyang**	**171.67**	**184**	PKP	**PKPdf**	**04 05 03.0**	**-0.9**
GYA				pPKP	**pPKPdf**	**04 05 15.8**	**+0.4**
GYA				PKPab	**PKPab**	**04 06 27.4**	**+2.1**
GYA				PKS	**PKSdf**	**04 08 34.6**	**-1.8**
GYA				PP	**PP**	**04 10 18.3**	**+3.1**
GYA				SKKS		04 17 00.6	
GYA				SS	**SS**	**04 31 20.4**	**+0.9**
GYA				PPMZ			
	comp=Z,120nm,8.4s						
GYA				LN			
	comp=Z,150nm,20.8s						
GYA				LE			
	comp=Z,130nm,21.6s						
GYA				LZ			
	comp=Z,160nm,20.2s						
HHC	**Hu-ho-hao-te**	**172.56**	**326**	*e*PKP	**PKPdf**	**04 05 03.6**	**-0.2**
HHC				pPKP	**pPKPdf**	**04 05 14.6**	**-0.7**
HHC				sPKP		04 05 19.4	
HHC				PKS	**PKSdf**	**04 08 36.3**	**+0.2**
HHC				PP	**PP**	**04 10 21.6**	**+1.4**
HHC				SKS	**SKSdf**	**04 11 57.8**	**-6.6**
HHC				PPMZ			
	comp=Z,150nm,10.0s						
HHC				LN			
	comp=Z,300nm,22.6s						
HHC				LE			
	comp=Z,260nm,22.0s						
HHC				LZ			
	comp=Z,170nm,22.3s						
GTA	**Gaotai**	**173.20**	**46**	*e*PKP	**PKPdf**	**04 05 05.0**	**+0.8**
GTA				pPKP	**pPKPdf**	**04 05 15.8**	**+0.1**
GTA				sPKP		04 05 19.4	
GTA				PKPab	**PKPab**	**04 06 33.3**	**+1.3**
CD2	**Chengdu**	**175.66**	**153**	*e*PKP	**PKPdf**	**04 05 06.1**	**+1.0**
XAN	**Xi'an**	**177.53**	**253**	PKP	**PKPdf**	**04 05 03.3**	**-2.1**
LZH	**Lanzhou**	**177.77**	**54**	*e*PKP	**PKPdf**	**04 05 04.6**	**-0.9**
LZH				pPKP	**pPKPdf**	**04 05 15.8**	**-1.2**
LZH				sPKP		04 05 19.8	
LZH				PP	**PP**	**04 10 47.0**	**+1.0**
LZH				SKKS		04 17 27.8	
LZH				*e*SS	**SS**	**04 32 18.0**	**-2.5**
LZH				PPMZ			
	comp=Z,150nm,9.5s						
LZH				LN			
	comp=Z,380nm,18.0s						
LZH				LE			
	comp=Z,390nm,18.2s						
LZH				LZ			
	comp=Z,410nm,20.3s						

GUC 23 03:50:56.0±0.4, 34°.38S×72°.00W, h23km±5km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.89**	**135**	*e*P	Pb	03 51 11.6	-1.2
NICH				*e*S	Sb	03 51 23.1	-1.1
TALC	**Talca**	**1.06**	**164**	*e*P	Pn	03 51 14.0	-1.5
TALC				*e*S4	Sb	03 51 27.1	-2.0
RCDM	**Rinconada Maip**	**1.33**	**48**	*e*P	Pn	03 51 18.1	-1.2
RCDM				*e*S	Sn	03 51 35.1	-1.2
LNCH	**Linares**	**1.50**	**168**	*e*P	Pn	03 51 21.2	-0.4
LNCH				*e*S	Sn	03 51 40.0	-0.5
CLCH	**Cerro Calan**	**1.56**	**52**	*e*P	Pn	03 51 22.4	-0.1
CLCH				*e*S	Sn	03 51 42.0	-0.1
CLCH				IAML		03 51 47.0	
	comp=E,914nm,0.3s						
PEL	**Peldehue**	**1.65**	**42**	*e*P	Pn	03 51 23.5	-0.2
PEL				*e*S	Sn	03 51 44.2	+0.1
PEL				IAML		03 51 53.1	
	comp=E,1μm,0.5s						

*GUC **23** 04:01:33.5±0.5, 32°.20S×70°.31W, h25km±19km, ML3.2*
*SJA **23** 04:01:34.4±0.9, 32°.18S×70°.10W, h4km, MD3.0*
ISC 23 04:01:31.8±1.2, 32°.19S±0°.03×70°.34W±0°.03, h10km±11km, n17, σ0°.84/32, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.81**	**93**	*i* P	**Pg**	**04 01 47.1**	**-0.3**
AUSP				*i* S	**Sg**	**04 01 57.3**	**-0.6**
RTLS	**Leoncito**	**0.96**	**67**	*e*P	**Pg**	**04 01 50.7**	**+0.4**
RTLS				*i* S	**Sg**	**04 02 03.3**	**+0.4**
PEL	**Peldehue**	**1.00**	**197**	⇓*i*P	**Pg**	**04 01 51.4**	**+0.3**
PEL				*i* S	**Sb**	**04 02 04.6**	**+0.1**
PEL				IAML		04 02 09.8	
	comp=N,948nm,0.5s						
CMCH	**Combarbala**	**1.16**	**331**	*i* P	**Pb**	**04 01 54.3**	**+0.4**
CMCH				*i* S	**Sg**	**04 02 10.3**	**+1.3**
CMCH				IAML		04 02 15.4	
	comp=E,1μm,0.8s						
CLCH	**Cerro Calan**	**1.22**	**188**	*i* P	**Pn**	**04 01 54.9**	**-0.1**
CLCH				*i* P	**Pn**	**04 01 54.9**	**-0.1**
CLCH				*i* S	**Sb**	**04 02 10.8**	**-0.1**
CLCH				*i* S	**Sg**	**04 02 10.9**	**-0.1**
CLCH				IAML		04 02 12.1	
	comp=E,830nm,0.3s						
CLCH				IAML		04 02 12.7	
	comp=E,984nm,0.3s						
ASAL	**Salagasta**	**1.33**	**108**	*i* P	**Pn**	**04 01 56.5**	**-0.1**
ASAL				*i* S	**Sb**	**04 02 13.5**	**-0.7**
ARCO	**CERRO ARCO**	**1.36**	**119**	*i* P	**Pb**	**04 01 57.3**	**-0.1**
ARCO				*i* S	**Sn**	**04 02 15.2**	**+0.1**
ANTU	**Antumapu**	**1.40**	**190**	*i* P	**Pn**	**04 01 58.0**	**+0.4**
ANTU				*i* S	**Sb**	**04 02 16.3**	**+0.2**
ANTU				IAML		04 02 17.4	
	comp=N,565nm,0.6s						
SJCH	**San Jose de Ma**	**1.45**	**180**	*i* P	**Pn**	**04 01 58.4**	**+0.1**
SJCH				*i* S	**Sn**	**04 02 17.3**	**-0.1**
AAGR	**Agrelo**	**1.56**	**126**	*i* P	**Pg**	**04 02 01.8**	**+0.1**
AAGR				*i* S	**Sg**	**04 02 22.6**	**+0.7**
RTLL	**Cerro Villicun**	**1.80**	**62**	*i* P	**Pb**	**04 02 05.7**	**+0.7**
CFAA	**Coronel Fontan**	**1.88**	**73**	*e*P	**Pb**	**04 02 06.8**	**+0.6**
AMOG	**MOGNA**	**2.01**	**52**	*i* P	**Pb**	**04 02 09.4**	**+0.9**
ACAN	**Cantantal**	**2.67**	**93**	*i* P4	**Pb**	**04 02 19.2**	**-0.6**
AVFE	**Valle Fertil**	**2.90**	**59**	*i* P4	**Pb**	**04 02 23.3**	**-0.3**
AVFE				*e*S4	**Sb**	**04 03 01.0**	**+1.8**
LCO	**Las Campanas**	**3.18**	**354**	*e*P4	**Pb**	**04 02 27.3**	**-1.2**
LCO				*e*S4	**Sg**	**04 03 11.6**	**-2.3**
ACHE	**Chepes**	**3.29**	**73**	*e*P4	**Pb**	**04 02 28.7**	**-1.7**
ACHE				*e*S4	**Sb**	**04 03 11.1**	**+0.4**

*IDC **23** 04:02:26.2±1.4, 35°.61S×73°.28W, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.6/16, mbtmp3.5/5, ML3.5/2, MS2.8/2, Ms1 2.8/2, ms1mx2.7/20, Error ellipse: s-maj=37.0km s-min=24.5km az=125.0*
*ISCJB **23** 04:02:28.9±1.1, 35°.74S±0°.09×73°.2W±0°.2, h33km, mb3.5/3, MS3.0/1, Error ellipse: s-maj=20.7km s-min=11.3km az=23.9*
ISC 23 04:02:29.9±1.1, 35°.7S±0°.1×73°.4W±0°.2, h35km, n11, σ2°.59/12, mb3.4/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.47**	**157**	Pn	**Pn**	**04 03 49.5**	**+0.5**
	0.8nm,0.3s,baz=329,slow=12,SNR=21						
PLCA				Lg	Lg	04 05 16.9	
	0.3nm,0.3s,baz=0.1,slow=3.4,SNR=3.3						
CFAA	**Coronel Fontan**	**5.92**	**48**	Pn	**Pn**	**04 03 53.6**	**-1.5**
	0.3nm,0.3s,baz=200,slow=14,SNR=2.8						
CFAA				Sn	**Sn**	**04 05 03.1**	**+1.4**
	0.3nm,0.3s,baz=186,slow=10,SNR=2.8						
CFAA				Lg	Lg	04 05 29.2	
	0.1nm,0.3s,baz=176,slow=18,SNR=2.5						
CFAA				LR	LR	04 06 27.9	
	comp=Z,31nm,19.5s,baz=250,slow=42						
LPAZ	**La Paz**	**19.90**	**15**	P	**Pn**	**04 07 01.9**	**+1.0**
	0.0nm,0.3s,baz=182,slow=6.0,SNR=7.1						
SIV	**San Ignacio**	**22.50**	**32**	P	**P**	**04 07 26.4**	**-0.2**
	0.8nm,0.5s,baz=222,slow=12,SNR=2.5						
SIV				LR	LR	04 16 55.3	
	comp=Z,62nm,20.9s,baz=264,slow=39						
TXAR	**Lajitas Array**	**70.72**	**332**	P	**P**	**04 13 43.1**	**+0.7**
	0.2nm,0.6s,baz=159,slow=7.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**85.81**	**71**	P	**P**	**04 15 07.0**	**+1.0**
	0.7nm,1.0s,baz=243,slow=6.3,SNR=2.8						
H11S2	**WAKE ISLAND Hyl**	**24.66**	**269**	T	T	06 38 32.5	
	baz=122						
H11S1	**WAKE ISLAND Hyl**	**24.67**	**269**	T	T	06 38 32.6	
	baz=122						
H11S3	**WAKE ISLAND Hyl**	**24.67**	**269**	T	T	06 38 35.2	
	baz=122						
ZALV	**Zalesovo Beam**	**156.25**	**33**	PKPab	**PKPab**	**04 22 50.0**	**+1.8**
	0.4nm,0.3s,baz=305,slow=5.1,SNR=2.7						
ZALV				pPKPab	**pPKPab**	**04 22 56.0**	**-3.4**
	0.7nm,0.4s,baz=329,slow=5.2,SNR=2.6						
MKAR	**Makanchi Array**	**158.69**	**51**	PKP	**PKPdf**	**04 22 25.2**	**+1.8**
	0.1nm,0.5s,baz=264,slow=2.9,SNR=2.6						
MKAR				pPKP	**pPKPdf**	**04 22 30.2**	**-4.7**
	0.2nm,0.7s,baz=278,slow=2.2,SNR=3.0						
MKAR				pPKPab	**pPKPab**	**04 23 06.6**	**-3.7**
	0.6nm,0.9s,baz=285,slow=6.1,SNR=4.2						

IGQ 23 04:12:10±0.4, 2°.80S×78°.27W, h2km±176km, Mb4.3, 1C-21D, Error ellipse: s-maj=6.3km s-min=2.1km az=12.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.55**	**8**	⇓P	Pg	04 12 21.1	+0.4
MACE	**Macas**	**0.55**	**8**	⇓S	Sg	04 12 28.3	+0.3
RIOE	**Riobamba**	**1.10**	**341**	⇓P	Pn	04 12 32.7	-0.2
PAT1	**Patacocha**	**1.29**	**353**	⇓P	Pg	04 12 34.3	-1.1
BPAT	**Tungurahua Vol**	**1.30**	**353**	⇓P	Pg	04 12 34.3	-1.2
BPAT	**Tungurahua Vol**	**1.30**	**353**	⇓S	Sg	04 12 51.1	-1.7
BMAS	**Trigal station**	**1.30**	**351**	⇓P	Pg	04 12 34.4	-1.1
ULBA	**Ulba**	**1.35**	**354**	P	Pn	04 12 35.2	-1.1
IGUA	**Igualata**	**1.35**	**344**	P	Pn	04 12 36.5	-0.2
RETU	**Refugio**	**1.35**	**353**	P	Pn	04 12 35.3	-1.2
RETU	**Refugio**	**1.35**	**353**	S	Sg	04 12 54.7	+0.1
BBIL	**Ulba Tungurahu**	**1.36**	**351**	⇓S	Sn	04 12 55.4	0.0
BBIL	**Ulba Tungurahu**	**1.36**	**351**	⇓P	Pn	04 12 35.4	-1.0
BULB	**Ulba Tungurahu**	**1.36**	**354**	⇓S	Sg	04 12 53.4	-1.3
BULB	**Ulba Tungurahu**	**1.36**	**354**	⇓P	Pn	04 12 35.2	-1.3
BRUN	**Tungurahua Vol**	**1.38**	**354**	⇓S	Sb	04 12 55.2	-0.1
BRUN	**Tungurahua Vol**	**1.38**	**354**	⇓P	Pn	04 12 36.5	-0.1
JUI6	**Juive**	**1.38**	**352**	P	Pn	04 12 36.6	-0.1
JUI6	**Juive**	**1.38**	**352**	S	Sb	04 12 55.5	+0.2
RUN5	**Runtun**	**1.38**	**354**	P	Pn	04 12 36.7	-0.1
PISA	**Pisayambo**	**1.73**	**356**	P	Pb	04 12 42.8	-0.4
BMOR	**Cotopaxi Volca**	**2.06**	**355**	⇓P	Pb	04 12 48.7	-0.2
BMOR	**Cotopaxi Volca**	**2.06**	**355**	⇓S	Sg	04 13 16.8	-0.8
MOV1	**Cotopaxi Vol s**	**2.08**	**355**	P	Pb	04 12 48.1	-1.2
MOV1	**Cotopaxi Vol s**	**2.08**	**355**	S	Sb	04 13 16.7	+0.6
BTAM	**Cotopaxi Volca**	**2.11**	**357**	⇓S	Sb	04 13 17.8	+0.8
BTAM	**Cotopaxi Volca**	**2.11**	**357**	⇓P	Pn	04 12 48.2	+1.1
BREF	**Cotopaxi Volca**	**2.12**	**355**	⇓P	Pn	04 12 46.2	-1.1
CAMI	**Rancho Maria**	**2.12**	**354**	P	Pb	04 12 50.0	+0.2
PAST	**Pastocalle**	**2.12**	**350**	P	Pg	04 12 50.8	-0.5
COV1	**Cotopaxi Volc**	**2.12**	**358**	P	Pn	04 12 46.4	-1.0
BVC2	**Cotopaxi Volca**	**2.13**	**356**	⇓P	Pb	04 12 49.7	-0.4
BVC2	**Cotopaxi Volca**	**2.13**	**356**	⇓S	Sb	04 13 17.1	-0.4
VC1	**Cotopaxi 1**	**2.15**	**357**	P	Pb	04 12 50.0	-0.4
NAS2	**Nasa**	**2.15**	**355**	P	Pb	04 12 51.0	+0.6
ANTI	**Antisana**	**2.34**	**3**	⇓P	Pn	04 12 51.8	+1.6
JUA2	**San Juan 2**	**2.59**	**353**	P	Pb	04 12 58.9	+1.1
GGP	**Refugio Guagua**	**2.63**	**353**	P	Pb	04 12 58.2	-0.4
TERV	**Terraza Guagua**	**2.63**	**353**	P	Pb	04 12 58.3	-0.3
PINO	**Pino**	**2.64**	**353**	P	Pb	04 12 59.6	+0.7
CAYR	**Refugio Cayamb**	**2.81**	**5**	P	Pb	04 12 59.9	-1.8
ANGU	**Angureal**	**2.84**	**5**	P	Pb	04 13 02.0	-0.3
CAYA	**Cayambe**	**2.87**	**6**	P	Pn	04 12 59.9	+2.5
OTAV	**Otavalo**	**3.02**	**357**	⇑P	Pb	04 13 04.1	-1.1

*DDA **23** 04:18:57.0, 39°.15N×39°.23E, h5km, MD2.8*
*ISK **23** 04:18:57.4, 39°.12N×39°.36E, h5km, MD2.8*
*CSEM **23** 04:18:58.4±0.2, 39°.12N×39°.26E, h2km, MD2.8, Error ellipse: s-maj=5.0km s-min=4.4km az=97.0*
ISC 23 04:18:57.6±1.1, 39°.13N±0°.02×39°.22E±0°.02, h0km±10km, n67, σ1°.26/93, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.28**	**150**	Pg	**Pg**	**04 19 03.1**	**+0.2**
PTK				*e*SG	**Sg**	**04 19 07.5**	**+0.9**
PTK	**Pertek**	**0.28**	**150**	*i* Pg	**Pg**	**04 19 03.1**	**+0.2**
PTK				*e*Sg	**Sg**	**04 19 07.5**	**+0.9**
KEMA	**Kemaliye**	**0.58**	**284**	*i* P	**Pg**	**04 19 09.0**	**+0.3**
KEMA				*i* S	**Sb**	**04 19 19.0**	**-0.4**
KEMA	**Kemaliye**	**0.58**	**284**	*i* P	**Pg**	**04 19 09.0**	**+0.3**
KEMA				*i* S	**Sb**	**04 19 19.0**	**-0.4**
ILIC	**ilic-Erzincan**	**0.59**	**302**	*e*PG	**Pn**	**04 19 12.3**	**-1.1**
ILIC				*e*SG	**Sn**	**04 19 22.9**	**-0.9**
ILIC	**ilic-Erzincan**	**0.59**	**302**	*e*Pg	**Pn**	**04 19 12.3**	**-1.1**
ERZN	**Erzincan**	**0.60**	**41**	*e*PG	**Pg**	**04 19 08.9**	**-0.2**
ERZN				*e*SG	**Sg**	**04 19 17.1**	**+0.2**
EZC	**Erzincan**	**0.63**	**10**	*e*Pg	**Pg**	**04 19 08.9**	**-0.8**
EZC				*e*Sg	**Sg**	**04 19 17.1**	**-0.7**
ELZG	**Elazig**	**0.66**	**196**	*i* P	**Pg**	**04 19 10.4**	**+0.1**
ELZG				*i* S	**Sb**	**04 19 21.6**	**-0.3**
ELZG	**Elazig**	**0.66**	**196**	*i* P	**Pg**	**04 19 10.4**	**+0.1**
ELZG				*i* S	**Sb**	**04 19 21.6**	**-0.3**
EUZM	**Uzumlu**	**0.68**	**33**	*i* P	**Pg**	**04 19 10.0**	**-0.7**
EUZM				*i* S	**Sg**	**04 19 20.2**	**+0.6**
EUZM	**Uzumlu**	**0.68**	**33**	*i* P	**Pg**	**04 19 10.0**	**-0.7**
EUZM				*i* S	**Sg**	**04 19 20.2**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.76**	**175**	*e*PG	**Pg**	**04 19 12.2**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.76**	**175**	*e*Pg	**Pg**	**04 19 12.2**	**0.0**
KELT	**Kelkit**	**1.01**	**2**	*i* P	**Pg**	**04 19 16.4**	**-0.7**
KELT				*i* S	**Sg**	**04 19 31.0**	**+0.8**
KELT	**Kelkit**	**1.01**	**2**	*i* P	**Pg**	**04 19 16.4**	**-0.7**
KELT				*i* S	**Sg**	**04 19 31.0**	**+0.8**
BINT	**Bingol**	**1.02**	**104**	*e*Pg	**Pn**	**04 19 18.1**	**-1.2**
MALT	**Malatya**	**1.03**	**217**	*e*PN	**Pn**	**04 19 18.4**	**-0.9**
MALT	**Malatya**	**1.03**	**217**	*e*Pn	**Pn**	**04 19 18.4**	**-0.9**
BNGB	**Bing¨¶l**	**1.15**	**97**	*e*PG	**Pg**	**04 19 18.1**	**-1.6**
AKCD	**Akcadag**	**1.31**	**231**	*i* P	**Pn**	**04 19 22.2**	**-1.1**
AKCD				*i* S	**Sn**	**04 19 42.7**	**+1.1**
AKCD	**Akcadag**	**1.31**	**231**	*i* P	**Pn**	**04 19 22.1**	**-1.1**
AKCD				*i* S	**Sn**	**04 19 42.7**	**+1.1**
KOPT	**Kop Dagi**	**1.33**	**48**	*i* P	**Pb**	**04 19 22.9**	**-0.7**
KOPT				*i* S	**Sn**	**04 19 42.6**	**+0.5**
KOPT	**Kop Dagi**	**1.33**	**48**	*i* P	**Pb**	**04 19 22.9**	**-0.7**
KOPT				*i* S	**Sn**	**04 19 42.6**	**+0.5**
SUSE	**Susehri**	**1.33**	**324**	*i* P	**Pn**	**04 19 23.2**	**-0.4**
SUSE				*i* S	**Sn**	**04 19 43.2**	**+1.2**
SUSE	**Susehri**	**1.33**	**324**	*i* P	**Pn**	**04 19 23.2**	**-0.4**
SUSE				*i* S	**Sn**	**04 19 43.2**	**+1.2**
DYBB	**Diyarbakir**	**1.38**	**148**	*e*PN	**Pg**	**04 19 23.7**	**-0.4**
DIYA	**Diyarbakir**	**1.40**	**149**	*i* P	**Pg**	**04 19 26.3**	**+1.8**
DIYA				*i* S	**Sn**	**04 19 45.7**	**+2.0**
DIYA	**Diyarbakir**	**1.40**	**149**	*i* P	**Pg**	**04 19 26.3**	**+1.8**
DIYA				*i* S	**Sn**	**04 19 45.7**	**+2.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.45**	**29**	*e*PN	**Pg**	**04 19 25.5**	**+0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.45**	**29**	*e*Pn	**Pg**	**04 19 25.5**	**+0.1**
DARE	**Darende-Malaty**	**1.47**	**248**	*e*PN	**Pg**	**04 19 27.8**	**+2.1**
DARE	**Darende-Malaty**	**1.47**	**248**	*e*Pn	**Pg**	**04 19 27.8**	**+2.1**
DIY	**Diyarbakir**	**1.47**	**147**	*e*Pn	**Pn**	**04 19 23.7**	**-1.7**
BNGL	**BINGOL**	**1.52**	**96**	*i* P	**Pg**	**04 19 28.4**	**+1.7**
BNGL				*i* S	**Sg**	**04 19 47.9**	**+1.6**
URFA	**Urfa**	**1.72**	**191**	*e*PN	**Pb**	**04 19 29.2**	**-0.9**
URFA	**Urfa**	**1.72**	**191**	*e*Pn	**Pb**	**04 19 29.2**	**-0.9**
VRTB	**Varto-Mus**	**1.74**	**88**	*e*PN	**Pb**	**04 19 29.2**	**-1.4**
VRTB	**Varto-Mus**	**1.74**	**88**	*e*Pn	**Pb**	**04 19 29.2**	**-1.4**
ESPY	**Espiye-Giresun**	**1.82**	**348**	*e*PN	**Pb**	**04 19 31.4**	**-0.4**
ESPY	**Espiye-Giresun**	**1.82**	**348**	*e*Pn	**Pb**	**04 19 31.4**	**-0.4**
EZM	**Erzurum**	**1.83**	**64**	*e*PN	**Pb**	**04 19 30.6**	**-1.5**
ERZM	**Erzurum**	**1.83**	**64**	*i* P	**Pg**	**04 19 32.6**	**-0.2**
ERZM	**Erzurum**	**1.83**	**64**	*i* P	**Pg**	**04 19 32.6**	**-0.2**
ERZM				*i* S	**Sg**	**04 20 00.3**	**+3.8**
SVSK	**Karacayir**	**1.89**	**295**	*e*PN	**Pb**	**04 19 32.7**	**-0.2**
SVSK	**Karacayir**	**1.89**	**295**	*e*Pn	**Pb**	**04 19 32.7**	**-0.2**
RSDY	**Resadiye-TOKAT**	**1.93**	**312**	*e*PN	**Pb**	**04 19 33.7**	**+0.1**
RSDY	**Resadiye-TOKAT**	**1.93**	**312**	*e*Pn	**Pb**	**04 19 33.7**	**+0.1**
GRSN	**GIRESUNGRSN**	**1.93**	**338**	*i* P	**Pb**	**04 19 33.7**	**0.0**
GRSN				*i* S	**Sg**	**04 20 00.3**	**+0.7**
GRSN	**GIRESUNGRSN**	**1.93**	**338**	*i* P	**Pb**	**04 19 33.7**	**0.0**
GRSN				*i* S	**Sg**	**04 20 00.3**	**+0.7**
MAZI	**Mazidag**	**1.93**	**150**	*e*PN	**Pb**	**04 19 32.0**	**-1.8**
MAZI	**Mazidag**	**1.93**	**150**	*e*Pn	**Pb**	**04 19 32.0**	**-1.8**
BTMT	**Batman**	**2.01**	**117**	*e*PN	**Pn**	**04 19 32.7**	**-0.2**
BTMT	**Batman**	**2.01**	**117**	*e*Pn	**Pn**	**04 19 32.7**	**-0.2**
GZT	**Gaziantep**	**2.20**	**217**	*i* P	**Pg**	**04 19 40.3**	**+0.4**
EKAR	**Karacoban**	**2.22**	**86**	*i* P	**Pg**	**04 19 40.5**	**+0.3**
EKAR				*i* S	Sg	04 20 14.0	+5.1
HOMI	**Horasan**	**2.27**	**66**	*i* P	Pg	04 19 45.9	+4.8
HOMI				*i* S	**Sg**	**04 20 14.2**	**+3.6**
KMRS	**Kahramanmaras**	**2.44**	**229**	*e*PN	**Pb**	**04 19 40.2**	**-2.2**
KMRS	**Kahramanmaras**	**2.44**	**229**	*e*Pn	**Pb**	**04 19 40.2**	**-2.2**
TUTA	**Tutak**	**2.81**	**83**	*i* P	**Pb**	**04 19 46.3**	**-2.4**
TUTA	**Tutak**	**2.81**	**83**	*i* P	**Pb**	**04 19 46.3**	**-2.4**
TUTA				*i* S	**Sg**	**04 20 26.3**	**-1.5**
BCA	**Borcka**	**2.95**	**38**	*e*PN	**Pn**	**04 19 47.0**	**+1.2**
BCA	**Borcka**	**2.95**	**38**	*e*Pn	**Pn**	**04 19 47.0**	**+1.2**
AGRB	**Hanur-Agry**	**2.96**	**80**	*e*PN	**Pn**	**04 19 46.3**	**+0.3**
AGRB	**Hanur-Agry**	**2.96**	**80**	*e*Pn	**Pn**	**04 19 46.3**	**+0.3**
YOZ	**Yozgat**	**3.06**	**281**	*e*PN	**Pb**	**04 19 50.5**	**-2.5**
YOZ	**Yozgat**	**3.06**	**281**	*e*Pn	**Pb**	**04 19 50.5**	**-2.5**

*KRNET **23** 04:25:14.8±0.1, 39°.21N×70°.71E, h3km, mb3.6*
ISC 23 04:25:12.6±1.4, 39°.18N±0°.06×70°.54E±0°.04, h8km±16km, n8, σ0°.85/17, 5C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.90**	**14**	*e*P	**Pb**	**04 25 31.4**	**+0.8**
	baz=5.0						
BTK				*e*S	**Sb**	**04 25 43.8**	**+1.0**
	baz=5.0						
DRK	**Karamyk**	**1.02**	**73**	⇓*i*P	**Pg**	**04 25 32.0**	**-0.3**
	baz=72						
DRK				⇓*e*S	**Sg**	**04 25 45.0**	**-0.6**
	baz=72						
DZET	**Dzherino**	**1.39**	**255**	⇑P	**Pn**	**04 25 38.7**	**+0.3**
DZET				⇓S	**Sg**	**04 25 57.7**	**+0.5**
DZET				⇑Rg	Rg	04 26 08.1	
OHH	**Osh**	**2.19**	**52**	*e*P	**Pg**	**04 25 55.0**	**+0.4**
	baz=50						
OHH				*e*S	**Sg**	**04 26 23.4**	**+0.5**
	baz=50						
TRKS	**Terek-Say**	**2.39**	**11**	*i* P	**Pg**	**04 25 58.5**	**+0.1**
	baz=9.0						
TRKS				*e*S	**Sg**	**04 26 29.5**	**+0.1**
	baz=9.0						
SFK	**Sufi-Kurgan**	**2.44**	**69**	*e*P	**Pg**	**04 25 59.4**	**+0.1**
	baz=68						
SFK				*e*S	**Sg**	**04 26 31.0**	**+0.1**
	baz=68						
ARSB	**Arslanbob**	**2.84**	**40**	*e*P	**Pg**	**04 26 07.6**	**+0.5**
	baz=39						
ARSB				*e*S	**Sg**	**04 26 44.6**	**+0.7**
	baz=39						
KK31	**Karatay Array**	**3.92**	**360**	⇑Pn	**Pb**	**04 26 19.6**	**-2.3**
	1.0nm,0.3s,baz=175,slow=12,SNR=27						
KK31				⇑Pg	**Pg**	**04 26 27.6**	**0.0**
	1.1nm,0.3s,baz=180,slow=14,SNR=13						
KK31				⇑Sn	**Sb**	**04 27 09.0**	**-0.4**
	1.4nm,0.3s						
KK31				⇓Lg	Lg	04 27 20.4	
	6.3nm,0.6s,baz=181,slow=30,SNR=6.5						

*IDC **23** 04:38:52.8±1.1, 34°.17S×72°.62W, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.7/23, mbtmp3.7/4, ML3.3/3, Error ellipse: s-maj=38.7km s-min=22.1km az=84.0*
*ISCJB **23** 04:38:54.9±2.4, 34°.01S±0°.05×72°.56W±0°.08, h18km±21km, mb3.8/2, Error ellipse: s-maj=10.9km s-min=7.7km az=16.1*
*GUC **23** 04:38:55.5±0.6, 33°.98S×72°.52W, h25km±999km, ML4.1*
ISC 23 04:38:56.5±2.9, 34°.1S±0°.1×72°.5W±0°.1, h24km±21km, n14, σ0°.95/20, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.91**	**181**	P	**Pn**	**04 59 45.6**	**+0.8**
MNSI				S	**Sn**	**05 00 04.4**	**-0.3**
PSI	**Prapat**	**1.28**	**328**	P	**Pn**	**04 59 48.3**	**+0.3**
	17nm,0.3s,baz=150,slow=8.7,SNR=47						
PSI				S	**Sn**	**05 00 09.9**	**-0.5**
	5.0nm,0.3s,baz=144,slow=19,SNR=13						
GSI	**Gunungsitoli**	**2.06**	**259**	P	**Pn**	**04 59 56.9**	**+1.0**
GSI				S	**Sn**	**05 00 23.8**	**-0.7**
KCSI	**Kotacane, Aceh**	**2.56**	**315**	P	**Pn**	**05 00 01.9**	**+0.1**
KCSI				S	**Sn**	**05 00 34.0**	**-1.0**
TPTI		**2.87**	**303**	P	**Pn**	**05 00 05.5**	**+0.1**
TPTI				S	**Sn**	**05 00 40.7**	**-0.8**
WRA	**Warramunga Arr**	**40.30**	**124**	P	**P**	**05 06 39.2**	**-0.9**
	2.4nm,0.4s,baz=301,slow=9.1,SNR=53						
WRA				PcP	**PcP**	**05 08 40.0**	**-0.5**
	0.4nm,0.6s,baz=317,slow=2.6,SNR=8.3						
ASAR	**Alice Springs**	**41.82**	**129**	P	**P**	**05 06 50.7**	**-1.9**
	0.4nm,0.5s,baz=306,slow=8.1,SNR=5.3						
ASAR				LR	LR	05 24 01.8	
	comp=Z,54nm,21.5s,baz=206,slow=36						
SONM	**Songino Array**	**46.32**	**6**	P	**P**	**05 07 29.6**	**+1.5**
	0.1nm,0.4s,baz=188,slow=8.2,SNR=3.0						
SONM				PcP	**PcP**	**05 09 00.5**	**0.0**
	0.1nm,0.4s,baz=177,slow=3.5,SNR=4.2						
MKAR	**Makanchi Array**	**47.38**	**344**	P	**P**	**05 07 37.0**	**+0.8**
	0.3nm,0.4s,baz=157,slow=9.2,SNR=7.2						

*ISCJB **23** 05:13:40.4±0.4, 35.°64S±0.°04×73.°46W±0.°05, h10km, mb4.6/23, MS4.2/11, Error ellipse: s-maj=6.2km s-min=4.6km az=145.0*
*IDC **23** 05:13:40.4±0.6, 35.°66S×73.°36W, h0km, mb4.3/11, mb1 4.4/15, mb1mx4.3/29, mbtmp4.3/15, ML4.0/4, MS4.2/12, Ms1 4.2/12, ms1mx4.1/19, Error ellipse: s-maj=23.8km s-min=13.6km az=86.0*
*GUC **23** 05:13:41.9±0.4, 35.°68S×73.°54W, h39km±2km, ML4.7*
*NEIC **23** 05:13:45.5±0.4, 35.°66S×73.°30W, h35km, mb4.7/12, Error ellipse: s-maj=11.3km s-min=7.7km az=81.0*
ISC 23 05:13:40.1±1.9, **35.°64S**±0.°05×**73.°40W**±0.°06, **h0**km±11km, **n61**, σ1§**10**/55, **mb4.7**/23, **MS4.2**/11, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.70**	**135**	*e*P	**Pb**	**05 13 55.5**	**+0.4**
COCH				*e*S	**Sb**	**05 14 06.2**	**+0.9**
CCSP	**San Pedro de C**	**1.23**	**169**	*e*P	**Pg**	**05 14 02.7**	**-0.9**
CCSP				*e*S	**Sg**	**05 14 18.4**	**-1.1**
CCSP				IAML		05 14 25.3	
	comp=E,35μm,0.6s						
TALC	**Talca**	**1.46**	**81**	*e*P	**Pb**	**05 14 08.0**	**-0.1**
TALC				*e*S	**Sn**	**05 14 27.5**	**0.0**
LNCH	**Linares**	**1.48**	**99**	*e*P	**Pg**	**05 14 08.2**	**-0.2**
LNCH				*e*S	**Sn**	**05 14 27.9**	**-0.1**
NICH	**Los Niches**	**1.89**	**71**	*e*P4	Pn	05 14 08.0	-5.5
NICH				*e*S4	**Sn**	**05 14 34.0**	**-4.0**
PLCA	**Paso Flores**	**5.56**	**157**	Pn	**Pn**	**05 15 05.1**	**+1.0**
	comp=E,1.3nm,0.3s,baz=331,slow=11,SNR=16						
PLCA				Lg	Lg	05 16 35.9	
	comp=E,4.3nm,0.3s,baz=258,slow=18,SNR=5.2						
CFAA	**Coronel Fontan**	**5.89**	**48**	Pn	**Pn**	**05 15 09.7**	**+1.0**
	comp=E,2.1nm,0.3s,baz=220,slow=13,SNR=30						
CFAA				Lg	Lg	05 16 40.2	
	comp=E,0.3nm,0.3s,baz=322,slow=18,SNR=5.8						
LCO	**Las Campanas**	**6.99**	**20**	*e*Pn	**Pn**	**05 15 23.9**	**-0.1**
	comp=E,56nm,0.9s						
TRQA	**Tornquist**	**9.47**	**108**	*e*Pn	**Pn**	**05 15 59.5**	**+1.8**
	comp=E,25nm,0.8s						
USHA	**Ushuaia**	**19.50**	**171**	P	**Pn**	**05 18 09.5**	**-0.2**
	comp=E,0.2nm,0.3s,baz=354,slow=4.9,SNR=3.5						
USHA				LR	LR	05 26 14.6	
	comp=E,905nm,19.7s,baz=326,slow=39						
LPAZ	**La Paz**	**19.84**	**15**	P	**Pn**	**05 18 15.2**	**+0.6**
	comp=E,0.3nm,0.3s,baz=185,slow=6.9,SNR=32						
LPAZ	**La Paz**	**19.84**	**15**	*e*P	**Pn**	**05 18 16.5**	**+1.9**
SIV	**San Ignacio**	**22.45**	**33**	P	**P**	**05 18 40.7**	**-0.1**
	comp=E,6.5nm,0.8s,baz=228,slow=12,SNR=19						
SIV				LR	LR	05 29 17.8	
	comp=E,1μm,18.8s,baz=226,slow=42						
NNA	**Nana**	**23.75**	**352**	LR	LR	05 25 55.6	
	comp=E,323nm,20.8s,baz=183,slow=31						
SAML	**Samuel**	**28.16**	**22**	*e*P	P	05 19 30.4	-3.7
	comp=E,11nm,1.4s						
ATAH	**Atahualpa**	**28.74**	**350**	LR	LR	05 28 39.3	
	comp=E,220nm,19.9s,baz=190,slow=31						
PMSA	**Palmer Station**	**29.71**	**172**	LR	LR	05 31 54.0	
	comp=E,811nm,18.2s,baz=6.5,slow=37						
BDFB	**Brasilia**	**30.18**	**55**	P	**P**	**05 19 52.1**	**-0.2**
	comp=E,3.8nm,0.9s,baz=248,slow=4.4,SNR=6.2						
BDFB				LR	LR	05 31 36.0	
	comp=E,491nm,18.1s,baz=224,slow=36						
PTGA	**Pitinga**	**36.91**	**23**	P	**P**	**05 20 50.9**	**+0.2**
	comp=E,4.3nm,0.8s,baz=190,slow=12,SNR=5.3						
PTGA				LR	LR	05 37 34.8	
	comp=E,259nm,19.9s,baz=184,slow=39						
PTGA	**Pitinga**	**36.91**	**23**	*e*P	**P**	**05 20 50.4**	**-0.2**
	comp=E,29nm,1.4s						
VNA3	**Neumayer Olymp**	**48.28**	**157**	P	**P**	**05 22 23.6**	**+1.1**
VNA2	**Neumayer--Watz**	**48.95**	**157**	P	**P**	**05 22 29.0**	**+1.4**
	baz=283,slow=9.9						
SNAA	**Sanae**	**50.50**	**157**	P	**P**	**05 22 40.0**	**+0.5**
SNAA	**Sanae**	**50.50**	**157**	P	**P**	**05 22 39.3**	**-0.2**
	comp=E,5.2nm,0.9s,baz=284,slow=7.6,SNR=9.0						
SNAA	**Sanae**	**50.50**	**157**	*e*P	**P**	**05 22 38.9**	**-0.6**
	comp=E,29nm,1.1s						
QSPA	**South Pole Qui**	**54.60**	**180**	P	**P**	**05 23 10.9**	**+0.8**
	comp=E,10.0nm,0.9s,baz=136,slow=2.5,SNR=28						
QSPA	**South Pole Qui**	**54.60**	**180**	*e*P	**P**	**05 23 10.6**	**+0.5**
	comp=E,15nm,0.9s						
VNDA	**Vanda**	**62.28**	**192**	P	P	05 23 50.6	-13
PPT	**Papeete**	**68.92**	**263**	LR	LR	05 47 57.2	
	comp=E,141nm,18.5s,baz=114,slow=30						
TXAR	**Lajitas Array**	**70.64**	**332**	P	**P**	**05 24 58.3**	**+0.9**
	comp=E,0.9nm,0.6s,baz=153,slow=8.3,SNR=17						
TXAR				LR	LR	05 51 28.4	
	comp=E,162nm,18.4s,baz=0.0,slow=32						
MAW	**Mawson**	**71.93**	**164**	LR	LR	05 57 10.4	
	comp=E,322nm,18.3s,baz=239,slow=36						
WVT	**Waverly**	**72.66**	**348**	*e*P	**P**	**05 25 09.0**	**-0.2**
	comp=E,8.2nm,0.9s						
MSTX	**Muleshoe**	**74.50**	**335**	*e*P	**P**	**05 25 20.1**	**-0.3**
	comp=E,6.7nm,0.8s						
LPM	**Los Pinos Moun**	**76.20**	**332**	*e*P	**P**	**05 25 30.9**	**+0.7**
	comp=E,3.4nm,0.9s						
LIC	**Lamto**	**76.35**	**72**	*e*P	**P**	**05 25 31.9**	**+0.5**
	comp=E,39nm,1.0s						
LAZ	**Ladron**	**76.48**	**332**	*e*P	**P**	**05 25 32.9**	**+1.0**
	comp=E,1.8nm,1.0s						
TIC	**Toumodi**	**76.62**	**72**	*e*P	**P**	**05 25 33.6**	**+0.7**
	comp=E,28nm,1.1s						
KIC	**Kosan Boka**	**76.66**	**72**	*e*P	**P**	**05 25 33.7**	**+0.6**
	comp=E,42nm,1.0s						
ANMO	**Albuquerque**	**76.70**	**333**	*e*P	**P**	**05 25 33.5**	**+0.5**
	comp=E,5.6nm,1.1s						
DBIC	**Dimbokro**	**76.76**	**72**	P	**P**	**05 25 34.6**	**+1.0**
DBIC				LR	LR	05 56 12.8	
	comp=E,103nm,20.5s,baz=215,slow=33						
DBIC	**Dimbokro**	**76.76**	**72**	*e*P	**P**	**05 25 33.8**	**+0.1**
	comp=E,10nm,1.2s						
PV01	**Paradox Valley**	**80.31**	**333**	*e*P	**P**	**05 25 54.1**	**+1.1**
	comp=E,354nm,1.1s						
ECSD	**EROS Data Cent**	**81.78**	**343**	*e*P	**P**	**05 26 00.3**	**-0.1**
	comp=E,5.6nm,0.7s						
DUG	**Dugway, Tooele**	**83.73**	**331**	*e*P	**P**	**05 26 11.8**	**+1.0**
	comp=E,6.4nm,1.1s						
NVAR	**Mina Array Bea**	**84.60**	**326**	P	**P**	**05 26 16.5**	**+1.1**
	comp=E,0.9nm,0.7s,baz=162,slow=6.3,SNR=7.1						
PDAR	**Pinedale Array**	**84.73**	**334**	P	**P**	**05 26 17.5**	**+1.6**
	comp=E,0.4nm,0.7s,baz=132,slow=4.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**85.82**	**71**	P	**P**	**05 26 21.8**	**+0.1**
	comp=E,2.9nm,1.0s,baz=253,slow=5.9,SNR=10						
TORD				LR	LR	06 02 40.9	
	comp=E,138nm,19.9s,baz=205,slow=34						
ULM	**Lac du Bonnet**	**87.80**	**346**	P	**P**	**05 26 29.8**	**-0.7**
	comp=E,3.5nm,0.8s,baz=175,slow=2.1,SNR=6.5						
WRA	**Warramunga Arr**	**118.79**	**210**	PKP	**PKPdf**	**05 32 29.5**	**-1.3**
	comp=E,0.3nm,0.7s,baz=180,slow=1.6,SNR=5.8						
BRTR	**Keskin Array B**	**123.60**	**62**	PKP	**PKPdf**	**05 32 37.2**	**-2.3**
	comp=E,0.3nm,0.5s,baz=266,slow=0.4,SNR=2.3						
H11S2	**WAKE ISLAND Hyl**	**24.62**	**269**	T	T	07 49 45.4	
	baz=120						
H11S1	**WAKE ISLAND Hyl**	**24.63**	**269**	T	T	07 49 45.4	
	baz=120						
H11S3	**WAKE ISLAND Hyl**	**24.64**	**269**	T	T	07 49 46.6	
	baz=120						
H11N3	**WAKE ISLAND Hyl**	**25.07**	**270**	T	T	07 50 12.4	
	baz=111						
H11N1	**WAKE ISLAND Hyl**	**25.09**	**270**	T	T	07 50 09.6	
	baz=111						
H11N2	**WAKE ISLAND Hyl**	**25.09**	**270**	T	T	07 50 13.2	
	baz=111						
HYB	**Hyderabad**	**149.20**	**119**	*i* PKP	**PKPbc**	**05 33 30.0**	**-1.0**
HYB				*e*		05 33 36.5	
KURK	**Kurchatov**	**154.84**	**45**	*e*PKPbc	**PKPbc**	**05 33 40.9**	**-1.9**
ZALV	**Zalesovo Beam**	**156.21**	**33**	PKP	**PKPdf**	**05 33 35.7**	**-0.2**
	comp=E,1.1nm,0.6s,baz=282,slow=1.4,SNR=5.4						
ZALV				PKPab	**PKPab**	**05 34 03.9**	**+0.2**
	comp=E,3.3nm,0.7s,baz=310,slow=5.0,SNR=6.5						
MKAR	**Makanchi Array**	**158.67**	**51**	PKP	**PKPdf**	**05 33 39.6**	**+0.3**
	comp=E,0.7nm,0.8s,baz=338,slow=1.3,SNR=6.7						
MKAR				PKPab	**PKPab**	**05 34 14.0**	**-0.7**
	comp=E,1.0nm,0.8s,baz=278,slow=3.6,SNR=5.9						
SONM	**Songino Array**	**167.81**	**1**	PKP	**PKPdf**	**05 33 46.3**	**-1.8**
	comp=E,0.2nm,0.9s,baz=11,slow=1.5,SNR=2.5						
SONM				PKPab	**PKPab**	**05 34 55.6**	**+0.9**
	comp=E,0.6nm,0.7s,baz=332,slow=4.3,SNR=5.6						

*IDC **23** 05:15:24.1±1.9, 10.°20S×121.°25E, h0km, mb4.0/1, mb1 3.7/4, mb1mx3.5/22, mbtmp3.6/4, ML3.3/3, Error ellipse: s-maj=56.1km s-min=23.4km az=31.0*
*DJA **23** 05:15:35.9±0.6, 10.°S±4.°×12.°2E±.°, h24km±7km, M3.5/8, MLv3.5/8*
*AUST **23** 05:15:36.1, 10.°50S×121.°99E, h0km*
ISC 23 05:15:36.2±1.2, **9.°52S**±0.°05×**121.°83E**±0.°04, **h44**km, **n17**, σ2§**27**/14, **Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.78**	**350**	P	**Pn**	**05 15 50.6**	**-0.3**
EDFI				S	**Sn**	**05 16 02.5**	**+1.0**
MMRI	**Maumere**	**0.97**	**25**	P	**Pn**	**05 15 53.4**	**0.0**
MMRI				S	**Sn**	**05 16 07.5**	**+1.5**
BASI	**Baing, Sumba**	**1.41**	**241**	P	**Pn**	**05 15 59.9**	**+0.5**
BATI	**Baumata**	**1.93**	**111**	P	**Pn**	**05 16 07.2**	**+0.6**
BATI				S	**Sn**	**05 16 31.3**	**+1.6**
BATI	**Baumata**	**1.93**	**111**	Pn	**Pn**	**05 16 05.4**	**-1.2**
	17nm,0.3s,baz=289,slow=6.8,SNR=8.2						
BATI				Sn	**Sn**	**05 16 33.6**	**+3.9**
	14nm,0.3s,baz=270,slow=20,SNR=4.4						
WBSI	**Waikabubak, Su**	**2.41**	**267**	P	**Pn**	**05 16 13.7**	**+0.6**
WBSI				S	**Sn**	**05 16 44.5**	**+3.1**
SOEI	**Soe**	**2.42**	**96**	P	**Pn**	**05 16 14.0**	**+0.7**
SOEI				S	**Sn**	**05 16 43.4**	**+1.6**
SOEI	**Soe**	**2.42**	**96**	P	Pn	05 16 18.4	+5.1
	baz=2.4,SNR=5.8						
JAGI	**Jajag, Banyuwa**	**7.65**	**277**	P	Pn	05 17 34.6	+9.4
	baz=8.0,SNR=3.2						
KNRA	**Kununurra**	**9.12**	**133**	P	Pn	05 17 40.4	-4.9
	baz=8.4,SNR=8.3						
KNRA				S	Sn	05 19 14.8	-12
	baz=8.4,SNR=3.5						
FITZ	**Fitzroy Crossi**	**9.30**	**157**	S	Sn	05 19 16.2	-15
	baz=8.4,SNR=4.3						
MTN	**Manton Dam**	**9.71**	**111**	P	Pn	05 17 48.3	-5.0
	baz=9.3,SNR=7.0						
KDU	**Kakadu**	**10.91**	**108**	P	Pn	05 18 04.1	-5.7
	baz=10,SNR=7.0						
WRA	**Warramunga Arr**	**15.92**	**132**	Pn	Pn	05 19 08.1	-9.2
	0.2nm,0.3s,baz=306,slow=12,SNR=8.7						
WRA				Sn	Sn	05 21 50.5	-22
	0.1nm,0.3s,baz=304,slow=24,SNR=3.6						
MEEK	**Meekatharra**	**17.29**	**190**	P	**Pn**	**05 19 30.0**	**-4.5**
	baz=16,SNR=7.2						
ASAR	**Alice Springs**	**18.19**	**142**	P	P	05 19 37.1	-8.4
	0.0nm,0.3s,baz=317,slow=12,SNR=3.2						
ASAR				S	Sn	05 22 48.4	-20
	0.1nm,0.3s,baz=310,slow=22,SNR=3.4						
MKAR	**Makanchi Array**	**66.22**	**331**	P	P	05 26 15.9	-3.7
	0.9nm,0.6s,baz=142,slow=7.4,SNR=10						

KRSC 23 05:17:02.5±1.3, **53.°82N**×**163.°75E**, **h41**km±31km, **ML3.8**, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.40**	**303**	P	Pn	05 17 28.2	+2.8
BKI	**Bering**	**1.90**	**42**	P	Pn	05 17 34.2	+1.9
BKI				S	Sn	05 17 55.3	+0.3
KBTR	**Krutoberegovo**	**2.46**	**348**	P	Pn	05 17 41.7	+1.7
KBTR				S	Sn	05 18 10.4	+1.7
KII	**Karymskiy**	**2.55**	**277**	P	Pn	05 17 44.9	+3.5
KII				S	Sn	05 18 14.3	+3.0
TUMR	**Tumrok**	**2.56**	**306**	P	Pn	05 17 45.7	+4.1
TUMR				S	Sn	05 18 15.4	+3.8
NLC	**Nalytchevo**	**2.71**	**258**	S	Sn	05 18 17.9	+3.0
KMNR	**Kamenistaya**	**2.81**	**315**	P	Pn	05 17 49.3	+4.3
KMNR				S	Sn	05 18 21.7	+3.9
SDLR	**Sedlovina**	**2.95**	**261**	P	Pn	05 17 50.9	+3.9
SDLR				S	Sn	05 18 24.5	+3.2
UGLR	**Uglovaya**	**3.00**	**260**	P	Pn	05 17 51.6	+3.9
UGLR				S	Sn	05 18 25.8	+3.3
SMAR	**Somma**	**3.00**	**261**	P	Pn	05 17 51.1	+3.3
SMAR				S	Sn	05 18 24.9	+2.1
KRER	**Koryakskii**	**3.03**	**262**	P	Pn	05 17 52.3	+4.2
KRER				S	Sn	05 18 26.1	+2.8
AVH	**Avacha**	**3.04**	**262**	P	Pn	05 17 52.4	+4.3
AVH				S	Sn	05 18 27.4	+4.0
SMKR	**Semkarok**	**3.06**	**336**	P	Pn	05 17 52.5	+4.1
SMKR				S	Sn	05 18 27.8	+3.9
KRX	**Arik**	**3.08**	**263**	P	Pn	05 17 52.5	+3.8
KRX				S	Sn	05 18 27.4	+3.1
KOK	**Koryaka**	**3.10**	**262**	P	Pn	05 17 52.8	+3.9
KOK				S	Sn	05 18 27.5	+2.8
BDR	**Baidarnaya**	**3.12**	**333**	P	Pn	05 17 53.5	+4.3
BDR				S	Sn	05 18 29.6	+4.3
PET	**Petropavlovsk**	**3.15**	**257**	P	Pn	05 17 53.0	+3.5
PET				S	Sn	05 18 28.4	+2.6
SRKR	**Sorokina**	**3.21**	**334**	P	Pn	05 17 53.8	+3.4
SRDR	**Sredinnyy**	**3.41**	**319**	P	Pn	05 17 58.6	+5.4
RUS	**Russkaya**	**3.45**	**248**	S	Sn	05 18 35.8	+2.7
GNL	**Ganaly**	**3.45**	**270**	P	Pn	05 17 58.5	+4.7
GNL				S	Sn	05 18 38.2	+4.7
ESO	**Esso**	**3.60**	**308**	P	Pn	05 18 00.0	+4.2
MTVR	**Mutnovka**	**3.61**	**251**	P	Pn	05 18 00.1	+4.1
MTVR				S	Sn	05 18 40.5	+3.0
APC	**Apacha**	**4.05**	**260**	P	Pn	05 18 07.2	+5.4
APC				S	Sn	05 18 53.3	+5.4

*ISCJB **23** 05:28:17.3±0.5, 75.°30N±0.°03×15.°7E±0.°2, h10km, mb3.3/6, MS3.0/1, Error ellipse: s-maj=9.0km s-min=4.2km az=172.4*
*IDC **23** 05:28:18.6±0.7, 75.°32N×15.°91E, h0km, mb3.4/6, mb1 3.5/11, mb1mx3.4/32, mbtmp3.4/11, ML3.1/5, MS3.1/1, Ms1 3.1/1, ms1mx2.3/33, Error ellipse: s-maj=24.9km s-min=8.6km az=82.0*
*CSEM **23** 05:28:18.2±0.5, 75.°31N×15.°48E, h10km, ML3.2, Error ellipse: s-maj=23.6km s-min=8.1km az=74.0*
*BER **23** 05:28:20.3±4.0, 75.°29N×15.°78E, h6km±20km, MD2.5, ML2.6, ML3.2(NAO)*
*NAO **23** 05:28:22.1±1.5, 75.°40N×17.°25E, h26km±11km, ML3.2*
ISC 23 05:28:18.9±0.7, **75.°33N**±0.°05×**15.°57E**±0.°08, **h10**km, **n43**, σ1§**66**/53, **mb3.5**/6, **Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO	**Bjornoya**	**1.26**	**129**	Pg	**Pn**	**05 28 41.8**	**-0.7**
BJO				Lg	Lg	05 28 55.8	
BJO	**Bjornoya**	**1.26**	**129**	*e*P	**Pn**	**05 28 41.7**	**-0.7**
BJO				Lg	Lg	05 28 55.8	
BJO				IAML		05 28 58.2	
	comp=Z,128nm,0.5s						
BJO	**Bjornoya**	**1.26**	**129**	Pg	**Pn**	**05 28 41.8**	**-0.7**
BJO				Lg	Lg	05 28 55.8	
	SNR=55						
HSPB	**Hornsund (broa**	**1.68**	**360**	*e*P	**Pn**	**05 28 48.5**	**+0.3**
HSPB	**Hornsund (broa**	**1.68**	**360**	*e*P	**Pn**	**05 28 48.5**	**+0.3**
	SNR=50						
HSP	**Hornsund**	**1.69**	**360**	Pg	**Pn**	**05 28 48.8**	**+0.5**
HSP	**Hornsund**	**1.69**	**360**	*e*P	**Pn**	**05 28 48.8**	**+0.5**
HSP				*e*S	**Sn**	**05 29 08.1**	**-1.9**
HSP	**Hornsund**	**1.69**	**360**	Pg	**Pn**	**05 28 48.8**	**+0.5**
HOPEN	**Hopen**	**2.59**	**58**	Pg	**Pn**	**05 29 01.9**	**+1.2**
HOPEN				Lg	Lg	05 29 31.7	
HOPEN	**Hopen**	**2.59**	**58**	*e*P	**Pn**	**05 29 02.0**	**+1.2**
HOPEN				*e*S	**Sn**	**05 29 31.9**	**-0.4**
HOPEN				IAML		05 29 35.5	
	comp=Z,58nm,0.2s						
HOPEN	**Hopen**	**2.59**	**58**	*e*P	**Pn**	**05 29 02.0**	**+1.2**
	SNR=50						
HOPEN				*e*S	**Sn**	**05 29 31.9**	**-0.4**
	SNR=50						
SPA0	**Spitsbergen Ar**	**2.87**	**3**	Pn	**Pn**	**05 29 05.8**	**+1.2**
	baz=174,slow=16						
SPA0				Sn	**Sn**	**05 29 37.9**	**-1.3**
	baz=176,slow=22						
SPA0	**Spitsbergen Ar**	**2.87**	**3**	Pn	**Pn**	**05 29 05.8**	**+1.2**
	baz=174,slow=16						
SPA0				Sn	**Sn**	**05 29 37.9**	**-1.3**
	baz=176,slow=22						
SPA0	**Spitsbergen Ar**	**2.87**	**3**	Pn	**Pn**	**05 29 05.8**	**+1.2**
	SNR=50						
SPA0				Sn	**Sn**	**05 29 37.9**	**-1.3**
	SNR=50						
SPITS	**Spitsbergen Ar**	**2.87**	**3**	Pn	**Pn**	**05 29 05.8**	**+1.2**
	baz=168,slow=16,SNR=647						
SPITS				Sn	**Sn**	**05 29 38.3**	**-0.8**
	baz=170,slow=26,SNR=8.0						
KBS	**Kingsbay**	**3.71**	**349**	Pn	**Pn**	**05 29 15.4**	**-0.6**
KBS				Sn	**Sn**	**05 29 56.1**	**-3.6**
KBS	**Kingsbay**	**3.71**	**349**	*e*P	**Pn**	**05 29 16.3**	**+0.3**
KBS				*e*S	**Sn**	**05 29 57.5**	**-2.2**
KBS	**Kingsbay**	**3.71**	**349**	Pn	**Pn**	**05 29 15.4**	**-0.6**
KBS	**Kingsbay**	**3.71**	**349**	*e*P	**Pn**	**05 29 16.3**	**+0.3**
	SNR=50						
KBS				Sn	**Sn**	**05 29 56.1**	**-3.6**
KBS				*e*S	Sb	05 29 57.5	-12
	SNR=50						
TRO	**Tromso**	**5.81**	**168**	*e*P	**Pn**	**05 29 44.3**	**-0.7**
TRO	**Tromso**	**5.81**	**168**	*e*P	**Pn**	**05 29 44.3**	**-0.7**
	SNR=49						
ARA0	**ARCESS Array S**	**6.54**	**148**	Pn	**Pn**	**05 29 54.8**	**-0.2**
	baz=336,slow=12						
ARA0				Sn	Sn	05 31 01.5	-8.0
	baz=338,slow=22						
ARA0	**ARCESS Array S**	**6.54**	**148**	Pn	**Pn**	**05 29 54.8**	**-0.2**
	baz=336,slow=12						
ARA0				Sn	Sn	05 31 01.5	-8.0
	baz=338,slow=22						
ARA0	**ARCESS Array S**	**6.54**	**148**	Pn	**Pn**	**05 29 54.8**	**-0.2**
	SNR=50						
ARCES	**ARCESS Array B**	**6.54**	**148**	Pn	**Pn**	**05 29 55.0**	**0.0**
	comp=Z,0.6nm,0.3s,baz=323,slow=10,SNR=25						
ARCES				Sn	Sn	05 31 02.1	-7.3
	comp=Z,5.0nm,0.3s,baz=339,slow=20,SNR=17						
KTK1	**Kautokeino**	**6.76**	**156**	*e*P	**Pn**	**05 29 59.6**	**+1.6**
KTK1				*e*S	**Sn**	**05 31 10.3**	**-4.6**
KTK1				IAML		05 31 13.2	
	comp=N,12nm,0.3s						
KTK1	**Kautokeino**	**6.76**	**156**	*e*P	**Pn**	**05 29 59.6**	**+1.6**
	SNR=47						
KTK1				*e*S	**Sn**	**05 31 10.4**	**-4.6**
	SNR=47						
APA0	**Apatity Array**	**9.48**	**136**	Pn	**Pn**	**05 30 33.5**	**-1.6**
	baz=342,slow=12						
APA0	**Apatity Array**	**9.48**	**136**	Pn	**Pn**	**05 30 33.5**	**-1.6**
	baz=342,slow=12						
APA0	**Apatity Array**	**9.48**	**136**	Pn	**Pn**	**05 30 33.5**	**-1.6**
	SNR=50						
FIA0	**FINESS Array S**	**14.43**	**159**	Pn	**Pn**	**05 31 40.6**	**-2.2**
	slow=11						
FIA0				Sn	Sn	05 34 10.2	-12
	baz=350,slow=28						
FIA0	**FINESS Array S**	**14.43**	**159**	Pn	**Pn**	**05 31 40.6**	**-2.2**
	slow=11						
FIA0				Sn	Sn	05 34 10.2	-12
	baz=350,slow=28						
FIA0	**FINESS Array S**	**14.43**	**159**	Pn	**Pn**	**05 31 40.6**	**-2.2**
	SNR=50						
FINES	**FINESS Array B**	**14.43**	**159**	Pn	Pn	05 31 39.4	-3.5
	comp=N,0.2nm,0.3s,baz=0.0,slow=13,SNR=4.5						
FINES				Sn	Sn	05 34 10.3	-12
	comp=N,0.2nm,0.3s,baz=357,slow=25,SNR=6.1						
NOA	**NORSAR Array B**	**14.44**	**189**	Pn	**Pn**	**05 31 44.0**	**+1.0**
	comp=N,0.1nm,0.3s,baz=0.3,slow=12,SNR=2.7						
HFS	**Hagfors**	**15.28**	**184**	Pn	**Pn**	**05 31 52.9**	**-1.4**
	comp=N,0.1nm,0.3s,baz=27,slow=13,SNR=2.9						
SFJD	**Kangerlussuaq**	**21.63**	**283**	LR	LR	05 40 26.0	
	comp=N,50nm,18.1s,baz=294,slow=34						
AKASG	**Malin Array Be**	**25.34**	**159**	P	**P**	**05 33 44.8**	**-0.6**
	comp=N,1.5nm,0.6s,baz=347,slow=9.3,SNR=3.1						
GERES	**GERESS Array B**	**26.59**	**183**	P	**P

PVAQ			S		Sn	05 33 05.2	-0.7
	1.3nm,0.3s						
EGRO	**El Granado**	**4.23 338**	P		**Pn**	**05 32 18.1**	**+0.3**
	2.0nm,0.1s,SNR=18						
EGRO			S		Sn	05 33 05.4	-1.5
	0.5nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.23 338**	P		**Pn**	**05 32 18.1**	**+0.3**
	2.0nm,0.1s,SNR=18						
EGRO			S		Sn	05 33 05.4	-1.5
	0.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.24 347**	P		**Pn**	**05 32 18.3**	**+0.3**
	0.5nm,0.2s,SNR=7.8						
EMIN			S		Sn	05 33 05.4	-1.9
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.24 347**	P		**Pn**	**05 32 18.3**	**+0.3**
	0.5nm,0.2s,SNR=7.8						
EMIN			S		Sn	05 33 05.4	-1.9
	0.2nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.44 1**	P		**Pn**	**05 32 20.9**	**+0.2**
	0.8nm,0.2s,SNR=5.7						
ECAB			S		Sn	05 33 11.3	-0.9
	0.6nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.44 1**	P		**Pn**	**05 32 20.9**	**+0.2**
	0.8nm,0.2s,SNR=5.7						
ECAB			S		Sn	05 33 11.3	-0.9
	0.6nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.44 323**	*e*Pn		**Pn**	**05 32 23.6**	**+2.9**
PFVI			*e*Sn		Sn	05 33 11.7	-0.5
PFVI	**Vila Bisbo**	**4.44 323**	P		**Pn**	**05 32 21.4**	**+0.7**
	1.1nm,0.1s,SNR=7.9						
PFVI			S		Sn	05 33 11.7	-0.5
	1.3nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.44 323**	P		**Pn**	**05 32 21.4**	**+0.7**
	1.1nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.44 323**	*e*Pn		**Pn**	**05 32 23.6**	**+2.9**
PFVI			S		Sn	05 33 11.7	-0.5
	1.3nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**4.49 326**	*e*Pn		**Pn**	**05 32 22.7**	**+1.2**
MORF			*e*Sn		Sn	05 33 14.1	+0.6
MORF			A		A	05 33 15.5	
	2.7nm,0.2s						
MORF	**Marmelete**	**4.49 326**	P		**Pn**	**05 32 22.7**	**+1.2**
MORF			S		Sn	05 33 14.1	+0.6
	2.7nm,0.2s						
MORF	**Marmelete**	**4.49 326**	P		**Pn**	**05 32 22.7**	**+1.2**
MORF			S		Sn	05 33 14.1	+0.6
	2.7nm,0.2s						
EQES	**Quesada**	**4.60 24**	P		Pn	05 32 26.2	+3.2
	0.2nm,0.1s,SNR=4.0						
EQES			S		Sn	05 33 16.6	+0.3
	0.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.60 24**	P		Pn	05 32 26.2	+3.2
	0.2nm,0.1s,SNR=4.0						
EQES			S		Sn	05 33 16.6	+0.3
	0.1nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**4.71 345**	*e*Pn		**Pn**	**05 32 25.5**	**+1.1**
PBAR			*e*Sn		Sn	05 33 16.6	-2.3
PBAR			A		A	05 33 19.3	
	3.2nm,0.3s						
PBAR	**Barrancos**	**4.71 345**	P		**Pn**	**05 32 25.5**	**+1.1**
PBAR			S		Sn	05 33 16.6	-2.3
	3.2nm,0.3s						
PBAR	**Barrancos**	**4.71 345**	P		**Pn**	**05 32 25.5**	**+1.1**
PBAR			S		Sn	05 33 16.6	-2.3
	3.2nm,0.3s						
PTEO	**Sao Teotonio**	**4.72 327**	*e*Pn		**Pn**	**05 32 26.3**	**+1.8**
PTEO			*e*Sn		Sn	05 33 19.1	0.0
PTEO	**Sao Teotonio**	**4.72 327**	P		**Pn**	**05 32 26.3**	**+1.8**
PTEO			S		Sn	05 33 19.1	0.0
PTEO	**Sao Teotonio**	**4.72 327**	P		**Pn**	**05 32 26.3**	**+1.8**
PTEO			S		Sn	05 33 19.1	0.0
PNCL	**Nicolau / Gran**	**5.11 332**	*e*Pn		**Pn**	**05 32 31.4**	**+1.5**
PNCL			*e*Sn		Sn	05 33 28.6	-0.2
PNCL			A		A	05 33 46.2	
	1.8nm,0.7s						
PNCL	**Nicolau / Gran**	**5.11 332**	*e*Pn		**Pn**	**05 32 31.4**	**+1.5**
PNCL			*e*Sn		Sn	05 33 28.6	-0.2
	1.8nm,0.7s						
EBAD	**Badajoz**	**5.26 347**	P		**Pn**	**05 32 32.9**	**+0.9**
	0.8nm,0.1s,SNR=8.2						
EBAD			S		Sn	05 33 30.0	-2.5
	0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.26 347**	P		**Pn**	**05 32 32.9**	**+0.9**
	0.8nm,0.1s,SNR=8.2						
EBAD			S		Sn	05 33 30.0	-2.5
	0.7nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**5.87 339**	*e*Pn		**Pn**	**05 32 41.1**	**+0.8**
PMTG			*e*Sn		Sn	05 33 46.5	-0.8
PMTG	**Montargil**	**5.87 339**	*e*Pn		**Pn**	**05 32 41.1**	**+0.8**
PMTG			*e*Sn		Sn	05 33 46.5	-0.8
PMRV	**Marv??o**	**5.99 346**	*e*Pn		**Pn**	**05 32 43.1**	**+1.1**
PMRV			*e*Sn		Sn	05 33 48.2	-2.2
PMRV	**Marv??o**	**5.99 346**	P		**Pn**	**05 32 43.1**	**+1.1**
PMRV			S		Sn	05 33 48.2	-2.2
PMRV	**Marv??o**	**5.99 346**	P		**Pn**	**05 32 43.1**	**+1.1**
EPLA	**Plasencia**	**6.44 356**	⇑P		**Pn**	**05 32 48.8**	**+0.6**
	1.3nm,0.2s,SNR=18						
EPLA			S		Sn	05 33 57.6	-3.9
	0.2nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**6.44 356**	P		**Pn**	**05 32 48.8**	**+0.6**
	1.3nm,0.2s,SNR=18						
MTE	**Manteigas**	**6.96 347**	*e*Pn		**Pn**	**05 32 56.7**	**+1.4**
MTE	**Manteigas**	**6.96 347**	P		**Pn**	**05 32 56.7**	**+1.4**
MTE	**Manteigas**	**6.96 347**	P		**Pn**	**05 32 56.7**	**+1.4**

*ISCJB **23** 05:39:51.8±2.4, 46°.80N±0°.09×141°.8E±0°.2, h9km±8km, Error ellipse: s-maj=25.2km s-min=8.5km az=34.3*
*JMA **23** 05:39:51.6±0.4, 46°.82N×141°.73E, h11km, M2.9*
*SKHL **23** 05:39:52.1±0.5, 46°.72N×141°.74E, h12km±1km, mb4.1/2*
ISC 23 05:39:53.4±1.1,**46°.67N**±0°.08×**141°.95E**±0°.09,**h8**km±12km,
n4,σ**9°48/10,Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEVR	**Nevel'sk**	**0.06**	**275**	*e*Pg	**Pg**	**05 39 55.1**	**-0.2**
NEVR				AMB	AMB	05 39 55.4	
	290nm,0.3s						
NEVR				*e*Sg	**Sg**	**05 39 56.9**	**+0.3**
NEVR				A	A	05 39 59.1	
	3μm,0.5s						
YSS	**Yuzh-Sakhalins**	**0.62**	**63**	*e*Pg	**Pg**	**05 40 05.3**	**-0.1**
YSS				AMB	AMB	05 40 07.6	
	200nm,0.4s						
YSS				pP	**Pn**	**05 40 08.9**	**+0.5**
YSS				sP	**Sg**	**05 40 13.1**	**-0.4**
YSS				*i* Sg	**Sb**	**05 40 15.0**	**-0.3**
YSS				A	A	05 40 16.3	
	3μm,0.7s						
JWK2	**Keihoku**	**1.35**	**182**	P	**Pn**	**05 40 18.4**	**-0.1**
JWK2				*e*S	**Sg**	**05 40 37.7**	**+0.8**
JRR	**Rishiri**	**1.60**	**196**	P	**Pn**	**05 40 21.9**	**+0.1**
JRR				*e*S	**Sg**	**05 40 44.2**	**-0.5**

*ATH **23** 05:46:03.9, 35°.94N×28°.98E, h13km±1km, MD3.2/4*
*ISK **23** 05:46:03.0, 35°.79N×28°.98E, h10km, MD2.9*
*CSEM **23** 05:46:04.1±0.7, 35°.80N×28°.95E, h10km, MD2.9, Error ellipse: s-maj=13.4km s-min=7.7km az=144.0*
ISC 23 05:46:04.1±1.8,**35°.81N**±0°.07×**28°.93E**±0°.05,**h7**km±13km,
n27,σ**0°69/40,Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.77**	**302**	*e*PB	**Pg**	**05 46 18.2**	**-0.7**
ARG				*e*SB	**Sg**	**05 46 28.8**	**-0.1**
ARG	**Arkhangelos**	**0.77**	**302**	*e*Pb	**Pg**	**05 46 18.2**	**-0.7**
ARG				*e*Sb	**Sg**	**05 46 28.8**	**-0.1**
FETY	**Fethiye**	**0.84**	**9**	*e*PG	**Pb**	**05 46 20.9**	**-0.2**
FETY				*e*SG	**Sb**	**05 46 32.2**	**-0.4**
FETY	**Fethiye**	**0.84**	**9**	*e*Pg	**Pb**	**05 46 20.9**	**-0.2**
FETY				*e*Sg	**Sb**	**05 46 32.2**	**-0.4**
DALY	**Dalyan (Mu¨la**	**1.03**	**348**	*e*PG	**Pg**	**05 46 23.6**	**-0.4**
DALY				*e*SG	**Sb**	**05 46 38.5**	**+0.3**
DALY	**Dalyan (Mu¨la**	**1.03**	**348**	*e*Pg	**Pg**	**05 46 23.6**	**-0.4**
DALY				*e*Sg	**Sb**	**05 46 38.5**	**+0.3**
ELL	**Elmali**	**1.23**	**40**	*e*PN	**Pn**	**05 46 26.4**	**-1.5**
ELL	**Elmali**	**1.23**	**40**	*e*Pn	**Pn**	**05 46 26.4**	**-1.5**
YER	**Yerkesik**	**1.43**	**339**	*e*PN	**Pn**	**05 46 30.4**	**-0.2**
YER	**Yerkesik**	**1.43**	**339**	*e*Pn	**Pn**	**05 46 30.4**	**-0.2**
KARP	**Karpathos**	**1.46**	**260**	*e*PB	**Pg**	**05 46 32.7**	**+0.6**
KARP	**Karpathos**	**1.46**	**260**	*e*Pb	**Pg**	**05 46 32.7**	**+0.6**
GOLH	**Golhisar**	**1.52**	**19**	*i* S	**Sg**	**05 46 54.6**	**+1.7**
GOLH	**Golhisar**	**1.52**	**19**	*i* P	**Pg**	**05 46 33.7**	**+0.4**
GOLH				*i* S	**Sg**	**05 46 54.6**	**+1.7**
NIS1	**Nisyros Isl.**	**1.62**	**300**	*e*PB	**Pb**	**05 46 34.1**	**-0.4**
NIS1	**Nisyros Isl.**	**1.62**	**300**	*e*Pb	**Pb**	**05 46 34.1**	**-0.4**
BDRM	**Kayabasi**	**1.74**	**317**	*i* P	**Pn**	**05 46 35.0**	**+0.2**
BDRM				*i* S	**Sb**	**05 46 58.6**	**+0.2**
BDRM	**Kayabasi**	**1.74**	**317**	*i* P	**Pn**	**05 46 35.0**	**+0.2**
BDRM				*i* S	**Sb**	**05 46 58.6**	**+0.2**
BODT	**Bodrum**	**1.81**	**314**	PN	**Pn**	**05 46 35.6**	**-0.2**
BODT	**Bodrum**	**1.81**	**314**	*i* Pn	**Pn**	**05 46 35.6**	**-0.2**
DNZL	**Cakiroluk**	**1.88**	**3**	*i* P	**Pn**	**05 46 37.1**	**+0.1**
DNZL				*i* S	**Sb**	**05 47 03.8**	**+1.0**
DNZL	**Cakiroluk**	**1.88**	**3**	*i* P	**Pn**	**05 46 37.1**	**+0.1**
DNZL	**Cakiroluk**	**1.88**	**3**	*i* P	**Pn**	**05 46 37.1**	**+0.1**
DNZL				*i* S	**Sb**	**05 47 03.8**	**+1.0**
AYDN	**Tasoluk**	**2.04**	**336**	*i* P	**Pn**	**05 46 39.2**	**+0.3**
AYDN				*i* S	**Sg**	**05 47 08.8**	**-0.7**
AYDN	**Tasoluk**	**2.04**	**336**	*i* P	**Pn**	**05 46 39.2**	**+0.3**
AYDN				*i* S	**Sg**	**05 47 08.8**	**-0.7**
SMG	**Samos**	**2.54**	**319**	*e*PN	**Pn**	**05 46 46.2**	**+0.4**
SMG	**Samos**	**2.54**	**319**	*e*Pn	**Pn**	**05 46 46.2**	**+0.4**

*CSEM **23** 05:46:07.3, 39°.63N×29°.49E, h7km, MD3.1*
DDA 23 05:46:07.3, 39°.63N×29°.49E, h7km**, MD3.1, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.54**	**180**	*i* P	Pg	05 46 18.2	+0.2
GDZ				*i* S	Sb	05 46 26.8	-0.7
GDZ	**Gediz**	**0.54**	**180**	*i* P	Pg	05 46 18.2	+0.2
GDZ				*i* S	Sb	05 46 26.8	-0.7
DURS	**Dursunbey**	**0.78**	**268**	*i* P	Pg	05 46 21.6	-0.9
DURS				*i* S	Sb	05 46 33.7	-0.6
DURS	**Dursunbey**	**0.78**	**268**	*i* P	Pg	05 46 21.6	-0.9
DURS				*i* S	Sb	05 46 33.7	-0.7
BORA	**Eskisehir**	**0.79**	**71**	*i* P	Pg	05 46 21.9	-0.7
BORA				*i* S	Sb	05 46 35.5	+1.1
BORA	**Eskisehir**	**0.79**	**71**	*i* P	Pg	05 46 21.9	-0.7
BORA				*i* S	Sb	05 46 35.5	+1.1
BUY	**Buyukada**	**1.25**	**347**	*i* P	Pn	05 46 30.8	-0.4
BUY				*i* S	Sn	05 46 49.1	+0.8
BUY	**Buyukada**	**1.25**	**347**	*i* P	Pn	05 46 30.8	-0.4
BUY				*i* S	Sn	05 46 49.1	+0.8
BALY	**Balya**	**1.45**	**275**	*i* P	Pn	05 46 34.2	+0.2
BALY				*i* S	Sg	05 46 55.4	+1.5
BALY	**Balya**	**1.45**	**275**	*i* P	Pn	05 46 34.2	+0.2
BALY				*i* S	Sg	05 46 55.4	+1.5

*ISCJB **23** 06:09:52.6±1.8, 34°.05±0°.1×178°.9W±0°.3, h50km, mb3.8/3, Error ellipse: s-maj=32.8km s-min=15.5km az=20.0*
*IDC **23** 06:09:52.9±1.0, 33°.82S×178°.89W, h40km±6km, mb3.7/3, mb1 4.0/4, mb1mx3.7/27, mbtmp4.0/4, ML4.1/1, Error ellipse: s-maj=25.1km s-min=17.6km az=108.0*
ISC 23 06:09:53.3±1.1,**33°.8S**±0°.1×**179°.0W**±0°.2,**h50**km,**n8,**
σ**1°28/13,mb3.9/3,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.46**	**215**	P	**Pn**	**06 11 11.2**	**-0.9**
	5.4nm,0.3s,baz=38,slow=4.0,SNR=26						
URZ				S	**Sn**	**06 12 13.8**	**+0.3**
	4.9nm,0.3s,baz=133,slow=21,SNR=10						
ASAR	**Alice Springs**	**42.24**	**271**	P	**P**	**06 17 43.3**	**+1.4**
	1.1nm,0.6s,baz=110,slow=8.0,SNR=8.6						
ASAR				pP	**pP**	**06 17 54.2**	**-1.0**
	1.0nm,0.7s,baz=125,slow=6.6,SNR=5.1						
WRA	**Warramunga Arr**	**43.54**	**276**	P	**P**	**06 17 53.4**	**+1.0**
	1.7nm,0.7s,baz=118,slow=7.3,SNR=26						
WRA				pP	**pP**	**06 18 04.6**	**-1.1**
	1.4nm,0.5s,baz=117,slow=7.3,SNR=7.2						
QSPA	**South Pole Qui**	**56.30**	**180**	P	**P**	**06 19 29.3**	**+0.7**
	1.1nm,0.9s,baz=333,slow=4.5,SNR=3.5						
QSPA				pP	**pP**	**06 19 42.3**	**-0.1**
	1.3nm,0.7s,baz=315,slow=1.4,SNR=3.0						
MKAR	**Makanchi Array**	**119.32**	**309**	PKP	**PKPdf**	**06 28 37.5**	**+0.9**
	0.1nm,0.5s,baz=132,slow=2.1,SNR=3.2						
FINES	**FINESS Array B**	**148.03**	**337**	PKPbc	**PKPbc**	**06 29 32.6**	**+0.2**
	1.4nm,0.8s,baz=62,slow=3.3,SNR=10						
FINES				pPKPbc	**pPKPbc**	**06 29 44.5**	**-3.0**
	1.2nm,0.5s,baz=76,slow=5.9,SNR=2.0						
AKASG	**Malin Array Be**	**153.41**	**318**	PKPbc	**PKPbc**	**06 29 45.3**	**-0.2**
	1.3nm,0.8s,baz=58,slow=1.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**159.41**	**182**	PKPab	**PKPab**	**06 30 24.5**	**+0.1**
	0.2nm,0.6s,baz=184,slow=5.8,SNR=2.5						

*JMA **23** 06:19:57.7±0.3, 27°.86N×127°.76E, h23km±4km, M3.1*
*IDC **23** 06:19:57.1±1.1, 27°.68N×127°.64E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/31, mbtmp3.4/5, ML2.8/1, Error ellipse: s-maj=45.1km s-min=15.3km az=60.0*
*ISCJB **23** 06:19:58.1±1.2, 27°.82N±0°.05×127°.76E±0°.06, h21km±9km, mb3.3/4, Error ellipse: s-maj=10.4km s-min=6.8km az=32.3*
ISC 23 06:19:58.0±1.8,**27°.72N**±0°.05×**127°.81E**±0°.06,**h7**km±12km,
n13,σ**1°17/20,mb3.5/4,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.70**	**169**	P	**Pb**	**06 20 13.2**	**+0.7**
JIH				*e*S	**Sn**	**06 20 24.0**	**-1.4**
JOKE	**Okinoerabujima**	**0.77**	**118**	P	**Pb**	**06 20 14.0**	**+0.4**
JOKE				*e*S	**Sb**	**06 20 25.3**	**+1.1**
JOW	**Kunigami**	**0.98**	**155**	P	**Pb**	**06 20 17.8**	**+0.6**
JOW				*e*S	**Sn**	**06 20 32.5**	**+0.2**
JOW	**Kunigami**	**0.98**	**155**	Pn	**Pb**	**06 20 17.9**	**+0.6**
	8.4nm,0.3s,baz=344,slow=16,SNR=37						
JOW				Sn	**Sn**	**06 20 32.4**	**+0.1**
	37nm,0.3s,baz=158,slow=25,SNR=37						
JTK	**Tokunoshima**	**1.01**	**86**	P	**Pg**	**06 20 16.4**	**-1.0**
JTK				*e*S	**Sg**	**06 20 30.4**	**-0.1**
JNTH	**Nagotoyohara**	**1.22**	**171**	P	**Pg**	**06 20 21.7**	**+0.4**
JNTH				*e*S	**Sn**	**06 20 39.1**	**+1.0**
JAGN	**Aguni-jima**	**1.24**	**204**	P	**Pn**	**06 20 21.2**	**-0.5**
JAGN				*e*S	**Sb**	**06 20 37.3**	**-0.6**
JAMN	**Amaminishikomi**	**1.31**	**66**	P	**Pn**	**06 20 21.1**	**-1.6**
JNU	**Nakatsue**	**6.00**	**25**	Pn	**Pn**	**06 21 29.9**	**+2.7**
	0.2nm,0.3s,baz=187,slow=21,SNR=4.1						
SONM	**Songino Array**	**26.11**	**326**	P	**P**	**06 25 32.4**	**-0.2**
	0.5nm,0.7s,baz=130,slow=10.0,SNR=3.5						
MKAR	**Makanchi Array**	**40.27**	**311**	P	**P**	**06 27 33.9**	**-1.8**
	0.1nm,0.7s,baz=120,slow=8.5,SNR=2.3						
WRA	**Warramunga Arr**	**47.80**	**172**	P	**P**	**06 28 36.4**	**+0.1**
	0.7nm,0.7s,baz=353,slow=8.3,SNR=10						
ASAR	**Alice Springs**	**51.43**	**173**	P	**P**	**06 29 05.1**	**+1.3**
	0.9nm,1.0s,baz=1.9,slow=8.5,SNR=5.6						

*NIED **23** 06:25:00, 26°.00N×128°.60E, h5km, Mw4.0 Best double couple: M0:9.49000×10^14 NP1:φs=319.00000°, δ46.00000°, λ144.00000°. NP2:φs=76.00000°, δ65.00000°, λ50.00000°.*
*ISCJB **23** 06:25:17.1±0.5, 25°.89N±0°.06×128°.58E±0°.04, h27km, mb3.7/9, Error ellipse: s-maj=8.1km s-min=4.9km az=10.7*
*JMA **23** 06:25:18.3±0.3, 25°.98N×128°.59E, h41km, M3.6*
*IDC **23** 06:25:20.2±0.9, 26°.13N×128°.79E, h34km±5km, mb3.6/9, mb1 3.8/10, mb1mx3.6/29, mbtmp3.8/10, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/35, Error ellipse: s-maj=31.8km s-min=16.2km az=68.0*
ISC 23 06:25:19.1±0.7,**25°.96N**±0°.06×**128°.56E**±0°.04,**h27**km,**n22,**
σ**1°67/29,mb3.9/9,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.73**	**319**	P	**Pb**	**06 25 32.1**	**-1.3**
JNTH				*e*S	**Sb**	**06 25 42.4**	**-0.7**
JJT2	**Tamagusuku 2**	**0.75**	**284**	P	**Pb**	**06 25 33.0**	**-0.6**
JJT2				*e*S	**Sn**	**06 25 43.4**	**-1.0**
JOW	**Kunigami**	**0.90**	**344**	P	**Pn**	**06 25 34.9**	**-1.2**
JOW	**Kunigami**	**0.90**	**344**	Pn	**Pn**	**06 25 35.0**	**-1.1**
	baz=157,slow=15						
JAGN	**Aguni-jima**	**1.34**	**298**	P	**Pn**	**06 25 41.5**	**-0.5**
JKE	**Kume jima 2**	**1.63**	**283**	P	**Pn**	**06 25 45.0**	**-1.1**
JKE				*e*S	**Sn**	**06 26 04.4**	**-1.9**
JMZ	**Minamidaito 2**	**2.40**	**93**	P	**Pn**	**06 25 55.3**	**-1.4**
JMZ				*e*S	**Sn**	**06 26 22.3**	**-2.9**
JIKM	**Ikemajima**	**3.17**	**252**	*e*S	**Sn**	**06 26 42.4**	**-1.7**
JIRB	**Irabujima**	**3.26**	**250**	P	**Pn**	**06 26 08.8**	**+0.2**
JTJ	**Tarama**	**3.73**	**250**	P	**Pn**	**06 26 13.5**	**-1.5**
JTJ				*e*S	**Sn**	**06 26 54.4**	**-3.6**
JISG	**Ishigakijimahi**	**4.08**	**251**	P	**Pn**	**06 26 18.3**	**-1.5**
JNU	**Nakatsue**	**7.42**	**15**	Pn	Pn	06 27 01.0	-4.6
	0.3nm,0.3s,baz=186,slow=5.0,SNR=5.0						
KSRS	**Korea Array**	**11.47**	**357**	LR	LR	06 32 59.2	
	comp=Z,69nm,19.9s,baz=85,slow=41						
SONM	**Songino Array**	**27.94**	**327**	P	**P**	**06 31 09.1**	**+1.8**
	1.6nm,0.8s,baz=137,slow=11,SNR=7.4						
MKAR	**Makanchi Array**	**41.93**	**312**	P	**P**	**06 33 07.3**	**-0.2**
	0.6nm,0.7s,baz=100,slow=10,SNR=8.7						
WRA	**Warramunga Arr**	**45.98**	**172**	P	**P**	**06 33 40.7**	**+0.6**
	1.1nm,0.7s,baz=353,slow=8.4,SNR=12						
ASAR	**Alice Springs**	**49.61**	**174**	P	**P**	**06 34 09.6**	**+1.3**
	0.9nm,0.8s,baz=347,slow=10,SNR=5.3						
KBZ	**Khabaz**	**69.56**	**310**	P	**P**	**06 36 25.7**	**+0.1**
	1.1nm,0.7s,baz=149,slow=5.9,SNR=2.7						
KBZ				pP	**pP**	**06 36 37.2**	**+3.1**
	1.7nm,0.8s,baz=96,slow=3.1,SNR=4.3						
FINES	**FINESS Array B**	**73.24**	**331**	P	**P**	**06 36 47.0**	**-0.6**
	1.5nm,0.8s,baz=74,slow=7.4,SNR=3.1						
FINES				pP	**pP**	**06 36 59.8**	**+3.6**
	0.9nm,0.7s,baz=69,slow=7.6,SNR=1.7						
AKASG	**Malin Array Be**	**75.93**	**320**	P	**P**	**06 37 03.3**	**0.0**
	0.6nm,0.4s,baz=57,slow=6.8,SNR=3.1						
BRTR	**Keskin Array B**	**77.43**	**308**	P	**P**	**06 37 13.5**	**+1.2**
	1.3nm,0.9s,baz=97,slow=6.3,SNR=5.8						
BRTR				pP	**PcP**	**06 37 22.5**	**-0.2**
	1.1nm,0.9s,baz=77,slow=5.5,SNR=3.9						
YKA	**Yellowknife Ar**	**78.64**	**25**	P	**P**	**06 37 17.9**	**-0.5**
	0.1nm,0.6s,baz=324,slow=3.1,SNR=3.4						
YKA				pP	**PcP**	**06 37 27.2**	**0.0**
	0.3nm,0.8s,baz=302,slow=5.5,SNR=4.7						

*BJI **23** 06:33:23.3, 33°.82S×177°.99W, h10km, mB5.8/17, mb5.4/21, Ms5.4/16, Ms7 4.9/14*
*ISCJB **23** 06:33:29.2±0.2, 34°.07S±0°.03×178°.80W±0°.05, h37km, mb5.1/32, MS4.6/20, Error ellipse: s-maj=6.6km s-min=3.3km az=29.9*
*IDC **23** 06:33:30.7±2.7, 33°.85S×178°.86W, h35km±20km, mb4.5/11, mb1 4.7/13, mb1mx4.7/17, mbtmp4.8/13, ML5.0/2, MS4.5/20, Ms1 4.6/20, ms1mx4.5/23, Error ellipse: s-maj=16.8km s-min=15.2km az=6.0*
*MOS **23** 06:33:30.2±1.2, 33°.62S×178°.98W, h33km, mb5.6/8, Error ellipse: s-maj=15.8km s-min=11.1km az=102.9*
*GCMT **23** 06:33:30.3±0.2, 33°.90S×178°.12W, h16km, MWS.2/91, Moment Tensor Solution. s61,c76; s91,c135; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.47±.02; Mθθ-0.05±.01; Mφφ-0.42±.01; Mrθ0.09±.04; Mφφ-0.20±.01; Mφr0.78±.06; Best double couple: M0:0.92600×10^17 NP1:φs9.00000°, δ75.00000°, λ81.00000°. NP2: φs219.00000°, δ18.00000°, λ118.00000°. Principal axes: T 0.9250, Plg60.0000°, Azm267.0000°; N 0.0010, Plg8.0000°, Azm11.0000°; P -0.9270, Plg29.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 06:33:30.3±0.3, 33°.89S×178°.74W, h35km, mb4.9/9 Error ellipse: s-maj=9.0km s-min=5.8km az=122.0*
ISC 23 06:33:30.6±0.3,**33°.95S**±0°.05×**178°.60W**±0°.06,**h37**km,
n301,σ**1°61/328,mb5.2/31,MS4.6/20,19C-10D,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.39**	**214**	PN	**Pn**	**06 34 32.3**	**-2.4**
MXZ				SN	**Sn**	**06 35 26.1**	**+1.5**
WMGZ	**Waiomatatini S**	**4.56**	**211**	PN	**Pn**	**06 34 37.2**	**+0.3**
WMGZ				SN	**Sn**	**06 35 33.4**	**+4.8**
RAO	**Raoul Island**	**4.72**	**7**	P	**Pn**	**06 34 37.1**	**-2.2**
RAO						06 35 25.8	
RAO				pmax	pmax		
	comp=Z,75nm,0.3s						
RAO				smax	smax		
	comp=N,76nm,0.3s						
RAO	**Raoul Island**	**4.72**	**7**	Pn	**Pn**	**06 34 37.1**	**-2.2**
	comp=N,75nm,0.3s,baz=95,slow=21,SNR=1.9						
RAO				Sn	Sn	06 35 25.8	-7.0
	comp=N,76nm,0.3s,baz=290,slow=23,SNR=4.1						
RAO				LR	LR	06 36 17.4	
	comp=N,4μm,19.0s,baz=178,slow=36						
RAO	**Raoul Island**	**4.72**	**7**	Pn	**Pn**	**06 34 36.7**	**-2.5**
RAO				Sn	Sn	06 35 25.8	-7.0
HAZ	**Te Kaha**	**4.80**	**217**	PN	**Pn**	**06 34 39.3**	**-1.0**
HAZ				SN	**Sn**	**06 35 38.7**	**+4.1**
PUZ	**Puketiti**	**4.84**	**211**	PN	**Pn**	**06 34 38.0**	**-2.8**
PUZ				SN	**Sn**	**06 35 37.0**	**+1.5**
CNGZ	**Carnagh Statio**	**5.21**	**209**	PN	**Pn**	**06 34 43.7**	**-2.2**
TKGZ	**Te Karaka**	**5.32**

TBI *e*LR LR 06 45 59.8
comp=Z,1μm,21.0s,baz=242
EIDS Eidsvold 27.62 280 ⇓P **P 06 39 15.4 +0.7**
baz=28,SNR=3.9
EIDS Eidsvold 27.62 280 *e*P **P 06 39 15.2 +0.6**
comp=Z,9.9nm,0.6s
RMQ Roma 29.08 276 P **P 06 39 29.6 +1.9**
baz=30,SNR=15
CMSA Cobar Meteorol 30.04 265 P **P 06 39 37.2 +1.1**
baz=31,SNR=15
PPT2 Papeete2 30.66 65 *e*LR LR 06 47 36.7
comp=Z,1μm,20.8s,baz=230
PPT Papeete 30.67 65 LR LR 06 50 37.2
comp=Z,2μm,18.4s,baz=251,slow=33
HNR Honiara 31.37 316 LR LR 06 50 16.0
comp=Z,412nm,20.4s,baz=158,slow=32
QLP Quilpie 32.80 273 P **P 06 40 01.1 +0.7**
baz=34,SNR=7.0
CTA Charters Tower 34.04 285 P **P 06 40 11.8 +0.5**
comp=Z,14nm,0.8s,baz=91,slow=10.0,SNR=9.8
CTA LR LR 06 52 08.3
comp=Z,691nm,20.4s,baz=56,slow=33
CTAO Charters Tower 34.04 285 *e*P **P 06 40 11.8 +0.5**
CTAO pmax pmax
comp=Z,15nm,0.8s
CTAO Charters Tower 34.04 285 *e*P **P 06 40 11.8 +0.5**
comp=Z,15nm,0.8s
BBOO Buckleboo 37.64 259 ⇓P **P 06 40 41.5 -0.6**
baz=38,SNR=15
BBOO Buckleboo 37.64 259 *e*P **P 06 40 41.2 -0.9**
comp=Z,486nm,0.9s
QIS Mount Isa 39.21 279 P **P 06 40 55.1 -0.3**
baz=40,SNR=26
RKT Rikitea 39.56 86 *e*LR LR 06 51 49.2
comp=Z,1μm,21.5s,baz=244
PMG Port Moresby 39.80 300 *e*P P 06 40 56.7 -3.5
PMG pmax pmax
comp=Z,12nm,1.0s
PMG Port Moresby 39.80 300 P **P 06 40 59.2 -1.0**
comp=Z,15nm,0.9s,baz=106,slow=7.4,SNR=4.0
PMG LR LR 06 56 55.8
comp=Z,1μm,18.2s,baz=172,slow=36
COEN Coen 39.90 291 ⇓P **P 06 41 01.3 +0.3**
baz=41,SNR=9.9
COEN Coen 39.90 291 *e*P **P 06 41 01.5 +0.4**
comp=Z,125nm,0.9s
ASAR Alice Springs 42.54 271 P **P 06 41 21.1 -1.6**
comp=Z,41nm,0.8s,baz=113,slow=7.7,SNR=151
ASAR S **S 06 47 40.1 -2.8**
comp=Z,1.8nm,0.9s,baz=116,slow=17,SNR=5.7
ASAR LR LR 06 58 21.7
comp=Z,711nm,18.2s,baz=133,slow=35
WB2 Warramunga Arr 43.84 276 *e*P **P 06 41 31.6 -1.7**
WRAB Tennant Creek 43.84 276 P **P 06 41 32.3 -1.0**
comp=Z,345nm,1.0s,SNR=31
WRAB Tennant Creek 43.84 276 *e*P **P 06 41 31.9 -1.4**
WRAB pmax pmax
comp=Z,220nm,1.3s
WRAB Tennant Creek 43.84 276 *e*P **P 06 41 31.3 -2.0**
comp=Z,50nm,0.9s
WRA Warramunga Arr 43.85 276 P **P 06 41 31.3 -2.0**
comp=Z,48nm,0.9s,baz=116,slow=8.1,SNR=175
WRA S **S 06 47 59.2 -2.8**
comp=Z,3.3nm,0.9s,baz=115,slow=15,SNR=8.4
WRA LR LR 07 00 11.7
comp=Z,642nm,18.3s,baz=115,slow=37
VNDA Vanda 44.52 186 P P 06 41 46.3 +8.3
comp=Z,0.8nm,0.8s,baz=344,slow=1.3,SNR=3.0
VNDA LR LR 06 58 04.0
comp=Z,815nm,19.2s,baz=22,slow=33
FORT Forrest 44.75 259 P **P 06 41 39.2 -1.2**
baz=46,SNR=8.0
FORT Forrest 44.75 259 *e*P **P 06 41 39.1 -1.3**
comp=Z,42nm,0.8s
WRKA Warakurna 46.63 266 P **P 06 41 53.4 -2.1**
baz=47,SNR=27
KDU Kakadu 49.13 283 P **P 06 42 13.3 -1.5**
baz=50,SNR=6.7
JAY Jayapura 49.17 301 LR LR 07 00 58.7
comp=Z,401nm,19.7s,baz=118,slow=34
JAY Jayapura 49.17 301 P **P 06 42 14.2 -0.9**
baz=50,SNR=5.7
KMBL Kambalda 49.56 256 P **P 06 42 16.8 -1.2**
baz=50,SNR=5.4
MTN Manton Dam 50.13 282 P **P 06 42 21.2 -1.2**
baz=51,SNR=5.6
KNRA Kununurra 50.56 278 P **P 06 42 24.5 -1.2**
baz=51,SNR=14
CASY Casey 51.78 209 *e*P **P 06 42 34.5 +0.4**
comp=Z,29nm,0.9s
FITZ Fitzroy Crossi 51.94 273 P **P 06 42 35.0 -1.0**
baz=53,SNR=27
NWAO Narrogin (SRO) 52.74 252 LR LR 07 02 33.0
comp=Z,329nm,20.9s,baz=142,slow=33
MEEK Meekatharra 53.97 260 P **P 06 42 48.7 -2.3**
baz=55,SNR=12
BLDU Ballidu 53.98 254 P **P 06 42 49.2 -1.7**
baz=55,SNR=6.2
MORW Morawa 55.10 256 P **P 06 42 57.7 -1.4**
baz=56,SNR=14
QSPA South Pole Qui 56.17 180 P **P 06 43 07.9 +1.5**
comp=Z,20nm,1.0s,baz=25,slow=1.1,SNR=20
QSPA South Pole Qui 56.17 180 *e*P **P 06 43 08.0 +1.6**
comp=Z,53nm,1.0s
SOEI Soe 57.44 281 ⇑P **P 06 43 16.5 +0.4**
baz=58,SNR=6.0
SOEI Soe 57.44 281 *e*P **P 06 43 16.2 +0.2**
comp=Z,47nm,0.9s
MIR Mirnyy 58.74 208⇑*i*P **P 06 43 26.5 +2.2**
MIR *i* 06 43 41.0
MIR pmax pmax
comp=Z,94nm,1.5s
MMRI Maumere 59.72 281 *e*P **P 06 43 30.5 -1.4**
comp=Z,86nm,1.1s
MAW Mawson 68.82 201 LR LR 07 13 41.9
comp=Z,1μm,19.7s,baz=114,slow=35
SYO Syowa Base 73.55 193⇓*e*P **P 06 44 58.0 -1.2**
SYO Syowa Base 73.55 193⇑*e*PcP **PcP 06 45 16.8 +1.8**
SNAA Sanae 74.63 179 P **P 06 45 06.1 +0.5**
SNAA Sanae 74.63 179 *e*P **P 06 45 04.9 -0.7**
SNAA pmax pmax
comp=Z,9.0nm,1.2s
VNA3 Neumayer Olymp 74.80 176 P **P 06 45 07.1 +0.6**
VNA2 Neumayer-Watz 75.23 177 P **P 06 45 11.1 +2.2**
NVL N'lazarevskaya 75.31 184 *e*P **P 06 45 11.5 +2.1**
NVL pmax pmax
comp=Z,5.0nm,0.7s
PLCA Paso Flores 80.47 133 P **P 06 45 39.2 +0.5**
comp=Z,4.5nm,0.9s,baz=224,slow=9.6,SNR=5.1
PLCA LR LR 07 15 55.0
comp=Z,338nm,18.4s,baz=248,slow=32
MJAR Matsushiro Arr 80.88 326 P **P 06 45 38.2 -2.4**
comp=Z,0.9nm,0.4s,baz=152,slow=6.2,SNR=5.0
MJAR LR LR 07 21 53.1
comp=Z,82nm,18.3s,baz=145,slow=36
ERM Erimo 83.35 332*ce*P **P 06 45 50.9 -2.5**
ERM pmax pmax
comp=Z,28nm,1.2s
QZH Quanzhou 83.59 306 *e*P **P 06 45 54.1 -1.0**
QZH S **S 06 56 15.6 +1.0**
QIZ Qiongzhong 86.07 296 P **P 06 46 08.3 +0.6**
QIZ S **S 06 56 41.3 +1.8**
QIZ PMZ
comp=Z,17nm,2.1s
QIZ LZ
comp=Z,200nm,19.9s
KSRS Korea Array 86.73 320 P **P 06 46 10.5 0.0**
comp=Z,1.4nm,0.8s,baz=144,slow=6.4,SNR=3.5
KSAR Wonju Array Be 86.74 320 P **P 06 46 10.5 -0.1**
KSAR Wonju Array Be 86.74 320 P **P 06 46 10.5 -0.1**
YSS Yuzh-Sakhalins 87.72 335⇑*e*P **P 06 46 15.5 +0.5**
YSS *e*S **S 06 56 56.0 +1.8**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,400nm,17.0s
NJ2 Nanjing 88.18 311 *e*P **P 06 46 16.9 -0.7**
NJ2 PMZ
comp=Z,20nm,1.0s
BFSC Mount Baldy Ra 88.68 46 P **P 06 46 20.3 +0.2**
baz=89
EDW2 Edwards Air Fo 88.92 46 P **P 06 46 21.4 +0.3**
baz=89
PETK Petropavlovsk- 89.12 346 P **P 06 46 21.6 +0.1**
comp=Z,32nm,1.0s,baz=130,slow=6.7,SNR=12
PETK LR LR 07 19 33.2
comp=Z,182nm,21.5s,baz=145,slow=31

ISA Isabella, Lake 89.17 45 P **P 06 46 23.2 +0.8**
baz=89
LRMC Laurel Mtn Rad 89.51 46 P **P 06 46 24.6 +0.6**
baz=90
BC3 Big Chuckawall 89.63 48 P **P 06 46 24.6 +0.1**
baz=90
USRK Ussuriysk Ar. 89.84 327 P **P 06 46 24.0 -1.1**
comp=Z,3.7nm,0.9s,baz=191,slow=1.9,SNR=7.5
USRK LR LR 07 24 41.1
comp=Z,208nm,18.9s,baz=127,slow=34
HEC Hector,Ludlow 89.88 47 P **P 06 46 26.2 +0.5**
baz=90
GSC Goldstone, Bar 89.91 46 P **P 06 46 27.0 +1.2**
baz=90
MPMC Manual Prospec 90.02 45 P **P 06 46 27.4 +0.9**
baz=90
113A Mohawk Valley, 90.09 50 P **P 06 46 27.7 +1.1**
baz=90
IRM Iron Mountain 90.15 48 P **P 06 46 28.2 +1.3**
baz=90
214A Organ Pipe Nat 90.17 51 P **P 06 46 28.1 +1.1**
baz=90
GMRC Granite Mounta 90.25 47 P **P 06 46 28.7 +1.2**
baz=90
N02D Trinity Center 90.59 39 P P 06 46 31.9 +3.1
baz=91
WAKR Walker 90.59 42 *e*P **P 06 46 29.8 +0.8**
comp=Z,15nm,1.4s
LDFC Landfair 90.79 47 *e*P **P 06 46 31.2 +1.2**
comp=Z,22nm,1.0s
NVAR Mina Array Bea 91.18 43 P **P 06 46 31.9 +0.1**
comp=Z,1.9nm,0.9s,baz=211,slow=9.0,SNR=5.1
W13A Hualapai Mount 91.55 48 P **P 06 46 34.6 +1.0**
baz=92
TUC Tucson 91.72 52 *e*P **P 06 46 35.2 +0.9**
TUC pmax pmax
comp=Z,3.0nm,0.9s
TUC Tucson 91.72 52 *e*P **P 06 46 35.2 +0.9**
comp=Z,2.8nm,0.9s
HABR Khabarovsk 91.90 331 *e*P **P 06 46 32.5 -2.0**
HABR *e**PP **pP 06 46 43.1 -3.1**
HABR *e*S **SKSac 06 57 02.0 -2.2**
HABR *e* 06 57 32.3
HABR *e*SS **SS 07 03 38.2 -4.5**
HABR *e*SSS SSS 07 07 16.7
HABR pmax pmax
comp=Z,23nm,1.3s
HABR MLR MLR
comp=Z,262nm,17.0s
TIA Tai'an 92.02 313 ⇓P **P 06 46 35.8 +0.3**
TIA PMZ
comp=Z,10.0nm,1.4s
X16A Lo Mia Camp, P 92.64 50 P **P 06 46 40.0 +1.4**
baz=93
CN2 Changchun 92.66 323 *e*P **P 06 46 37.8 -0.4**
CN2 *e*pP **PcP 06 46 42.5 +3.6**
CN2 PMZ
comp=Z,20nm,1.1s
GYA Guiyang 92.88 300 P **P 06 46 41.3 +1.5**
GYA PP **PP 06 50 27.6 +4.6**
GYA SKS **SKSac 06 57 14.0 +3.0**
GYA S **ScS 06 57 45.8 +0.9**
GYA SS **SS 07 04 03.4 +5.6**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,140nm,5.8s
GYA LN
comp=Z,550nm,19.8s
GYA LE
comp=Z,490nm,20.0s
GYA LZ
comp=Z,540nm,19.2s
U15A North Rim 93.40 48 P **P 06 46 43.5 +1.3**
baz=94
121A Cookes Peak, D 93.83 53 P **P 06 46 44.9 +0.7**
baz=94
KLR Kul'dur 93.84 330 *e*P P 06 46 39.2 -4.3
CMAR Chiang Mai Arr 94.09 289 PP PP 06 50 29.0 -3.4
comp=Z,0.8nm,0.3s,baz=140,slow=7.2,SNR=9.0
CMAR LR LR 07 33 26.9
comp=Z,81nm,19.0s,baz=163,slow=38
W18A Petrified Fore 94.17 50 P **P 06 46 46.1 +0.4**
comp=Z,33nm,0.8s
TXAR Lajitas Array 94.72 58 P **P 06 46 48.9 +0.7**
comp=Z,0.8nm,1.1s,baz=199,slow=7.6,SNR=5.1
TXAR LR LR 07 23 29.3
comp=Z,524nm,18.6s,baz=0.0,slow=32
KMI Kunming 94.97 297 P **P 06 46 51.8 +2.2**
KMI S **S 06 58 02.6 +1.0**
KMI PMZ
comp=Z,10.0nm,1.1s
BJI Beijing 95.09 316 P **P 06 46 48.8 -0.7**
BJI PMZ
comp=Z,11nm,0.8s
BJI LN
comp=Z,180nm,17.6s
BJI LE
comp=Z,280nm,6.2s
LPAZ La Paz 97.14 115 LR LR 07 21 52.8
comp=Z,128nm,21.9s,baz=202,slow=30
CD2 Chengdu 97.54 302 *e*P Pdif 06 47 01.1 +0.1
CD2 sP sP 06 47 07.8 -9.0
CD2 PP **PP 06 51 02.0 +2.9**
CD2 SKS **SKSac 06 57 37.3 +1.8**
CD2 S **ScS 06 58 25.3 +1.8**
CD2 sS S 06 58 30.8 +7.6
CD2 SS **SS 07 05 07.8 +3.9**
CD2 PMZ
comp=Z,10.0nm,1.1s
CD2 PMZ
comp=Z,200nm,8.3s
CD2 LN
comp=Z,180nm,15.5s
CD2 LZ
comp=Z,210nm,20.2s
HHC Hu-ho-hao-te 98.33 314 *e*P P 06 47 00.4 -3.9
HHC PP **PP 06 51 02.4 -2.6**
HHC SKS **SKSac 06 57 38.8 -0.4**
HHC S S 06 58 23.5 -6.1
HHC PMZ
comp=Z,45nm,1.2s
HHC PMZ
comp=Z,320nm,8.8s
HHC LN
comp=Z,350nm,18.5s
HHC LE
comp=Z,320nm,18.8s
HHC LZ
comp=Z,270nm,18.2s
PDAR Pinedale Array 99.04 44 LR LR 07 27 32.7
comp=Z,347nm,18.5s,baz=182,slow=33
LZH Lanzhou 100.42 306 *e*P **Pdif 06 47 12.5 -1.4**
LZH pP pP 06 47 15.8 -10
LZH *e*PP **PP 06 51 22.6 +1.5**
LZH SKS **SKSac 06 57 49.8 -0.2**
LZH *e*S **Sdif 06 58 46.0 -1.5**
LZH *e*SS **SS 07 05 46.0 +1.7**
LZH PMZ
comp=Z,32nm,1.6s
LZH PMZ
comp=Z,170nm,9.5s
LZH LN
comp=Z,360nm,17.6s
LZH LE
comp=Z,370nm,16.5s
LZH LZ
comp=Z,540nm,19.7s
SONM Songino Array 105.42 318 PP PP 06 51 52.3 -6.0
comp=Z,0.7nm,1.0s,baz=92,slow=4.8,SNR=3.1
SONM PKKPab **PKKPab 07 03 33.3 +4.0**
comp=Z,0.6nm,1.1s,baz=316,slow=4.0,SNR=3.9
YKA Yellowknife Ar 108.85 26 PKiKP **PKiKP 06 51 55.3 +0.4**
comp=Z,0.1nm,0.5s,baz=242,slow=1.3,SNR=3.4
YKA PKKPbc **PKKPbc 07 03 03.5 -1.3**
comp=Z,0.2nm,0.6s,baz=46,slow=3.4,SNR=5.2
YKA PKKPab **PKKPab 07 03 11.5 -1.8**
comp=Z,0.1nm,0.6s,baz=44,slow=3.7,SNR=4.4
YKA PKKP **PKKPdf 07 03 21.9 +1.6**
comp=Z,0.7nm,1.0s,baz=42,slow=3.9,SNR=4.2
WMQ Urumqi 114.99 307 *e*PKP **PKPdf 06 52 07.3 0.0**
WMQ PKS **PKSdf 06 55 42.5 -1.5**
WMQ SKS **SKSdf 06 59 17.0 +0.5**
WMQ SKKS **SKKSac 07 00 02.5 -2.8**
WMQ SS **SS 07 09 02.0 +0.9**
WMQ PPMZ
comp=Z,67nm,4.5s
WMQ LN
comp=Z,73nm,19.0s
WMQ LE
comp=Z,58nm,23.0s
MKAR Makanchi Array 119.63 309 PKP **PKPdf 06 52 15.1 -1.0**
comp=Z,4.9nm,0.9s,baz=86,slow=1.6,SNR=26
ZALV Zalesovo Beam 120.31 317 PKP **PKPdf 06 52 16.2 -0.9**
comp=Z,2.3nm,0.8s,baz=180,slow=2.5,SNR=10
NVS Novosibirsk 121.45 318 *i*PKIKP **PKPdf 06 52 17.9 -1.4**
KSH Kashi 121.56 299 PKP **PKPdf 06 52 20.0 -0.2**
KSH sPKP 06 52 25.8
KSH PP **PP 06 53 54.4 +1.2**
KSH PKS **PKSdf 06 55 57.8 +0.9**
KSH SKS **SKSdf 06 59 33.1 +3.7**
KSH SKKS **SKKSac 07 00 52.1 +2.9**
KSH SS **SS 07 10 33.0 +6.5**
KSH PPMZ
comp=Z,230nm,5.4s
KSH LN
comp=Z,97nm,5.5s
KSH LE
comp=Z,110nm,4.6s
KSH LZ
comp=Z,100nm,7.2s
TKM2 Tokmak 2 122.92 303 *e*PKIKP **PKPdf 06 52 21.2 -1.6**
TKM2 Tokmak 2 122.92 303 *e*PKPdf **PKPdf 06 52 21.2 -1.6**
KURK Kurchatov 123.09 312 PKIKP **PKPdf 06 52 21.5 -1.1**
KURK Kurchatov 123.09 312 PKP **PKPdf 06 52 21.5 -1.1**
KURBB Kurchatov Arra 123.13 312 PKP **PKPdf 06 52 21.5 -1.2**
comp=Z,9.9nm,1.0s,baz=106,slow=2.0,SNR=46
AAK Ala-Archa 123.61 302 PKP **PKPdf 06 52 23.8 -0.3**
comp=Z,3.4nm,0.9s,baz=188,slow=5.1,SNR=8.0
EKS2 Erkin-Say 124.12 302 *e*PKIKP **PKPdf 06 52 24.8 -0.2**
EKS2 Erkin-Say 124.12 302 *e*PKPdf **PKPdf 06 52 24.8 -0.2**
KBL Kabul 125.08 291 *e*PKIKP **PKPdf 06 52 26.7 -0.6**
KBL Kabul 125.08 291 *e*PKPdf **PKPdf 06 52 26.6 -0.6**
KKAR Karatay Array 126.55 302 *e*PKIKP **PKPdf 06 52 29.4 -0.1**
KKAR Karatay Array 126.55 302 *e*PKPdf **PKPdf 06 52 29.4 -0.1**
BVAR Borovoye Array 128.54 314 PKP **PKPdf 06 52 32.4 -0.5**
comp=Z,11nm,1.0s,baz=116,slow=3.4,SNR=31
KMBO Kilima Mbogo 131.51 231 SKPbc **SKPab 06 56 07.0 +3.8**
comp=Z,1.7nm,0.8s,baz=203,slow=1.7,SNR=4.2
GEYT Alibeck 134.51 292 SKPbc **SKPab 06 56 16.1 +0.9**
comp=Z,1.1nm,0.3s,baz=101,slow=1.5,SNR=6.4
ARU Arti 135.45 318 *i*PKIKP **PKPdf 06 52 43.8 -2.1**
ARU 06 55 20.1
ARU Arti 135.45 318 *e*PKPdf **PKPdf 06 52 45.9 0.0**
SOKR Solikamsk 135.95 323⇑*i*PKIKP **PKPdf 06 52 48.3 +1.6**
SOKR pmax pmax
comp=Z,20nm,1.1s
AKTO Aktyubinsk 136.04 310 PKP **PKPdf 06 52 46.5 -0.8**
comp=Z,15nm,1.3s,baz=96,slow=2.0,SNR=10
ARCES ARCESS Array B 141.93 347 PKnKP PKPpre 06 52 51.4
comp=Z,7.4nm,1.0s,baz=62,slow=5.6,SNR=6.2
KLMR Klimovskoe 143.60 329 *e*PKHKP PKPab 06 52 56.0 -1.2
KLMR pmax pmax
comp=Z,49nm,1.4s
DGRG David-gareji 144.72 295 P **PKPab 06 53 02.0 -0.1**
GNI Garni 145.13 293*d i*PKIKP **PKPbc 06 53 03.6 -0.1**
GNI pmax pmax
comp=Z,72nm,1.2s
GNI Garni 145.13 293 PKP **PKPbc 06 53 03.7 -0.1**
comp=Z,52nm,1.2s,baz=167,slow=3.7,SNR=15
JOF Joensuu 145.49 336 *e*PKP2 **PKPdf 06 53 01.3 -2.5**
JOF Joensuu 145.49 336 *ep* **PKPdf 06 53 01.3 -2.5**
ZEI Tsey 145.83 298 *i*PKIKP **PKPab 06 53 07.2 +0.8**
ZEI pmax pmax
comp=Z,52nm,1.4s
VRHR Novokhopersk 146.27 313 *e*PKIKP **PKPdf 06 53 04.7 -0.8**
VRHR pmax pmax
comp=Z,190nm,1.1s
VRHR pmax pmax
comp=N,110nm,1.3s
VRHR pmax pmax
comp=E,130nm,1.0s
KBZ Khabaz 146.54 299 PKPbc **PKPbc 06 53 07.2 -0.5**
comp=E,25nm,1.1s,baz=92,slow=0.6,SNR=32
KIV Kislovodsk 146.68 300 *i*PKP2 **PKPbc 06 53 07.5 -0.8**
KIV pmax pmax
comp=Z,38nm,1.1s
KIV Kislovodsk 146.68 300 *e*PKPdf **PKPdf 06 53 07.3 +0.7**
MOS Moscow 146.90 322 *e*PKIKP **PKPdf 06 53 05.2 -1.2**
MOS *e* 06 53 20.4
MOS pmax pmax
comp=Z,312nm,1.4s
MOS pmax pmax
comp=Z,500nm,1.6s
KAF Kangasniemi 147.69 338 *e*PKIKP **PKPdf 06 53 07.9 +0.4**
KAF Kangasniemi 147.69 338 *ep* **PKPdf 06 53 07.9 +0.4**
OBN Obninsk 147.72 322*d i*PKP2 **PKPbc 06 53 10.6 0.0**
OBN pmax pmax
comp=Z,126nm,1.5s
OBN Obninsk 147.72 322 PKPbc **PKPbc 06 53 09.7 -0.9**
comp=Z,24nm,0.4s,baz=103,slow=3.9,SNR=24
OBN Obninsk 147.72 322 *e*PKPdf **PKPbc 06 53 09.2 -1.4**
OBN PKPbc **PKPbc 06 53 09.7 -0.9**
VSR Storozhevoye 147.72 314 *e*PKP2 **PKPbc 06 53 09.5 -1.3**
VSR pmax pmax
comp=Z,120nm,1.1s
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,90nm,1.2s
PUL Pulkovo 147.96 333*c i*PKP2 **PKPab 06 53 13.1 -0.7**
PUL pmax pmax
comp=Z,120nm,0.7s
KBSD Kabsdagh 148.13 287 *e*P **PKPbc 06 53 11.9 -0.5**
FINES FINESS Array B 148.26 338 PKPbc **PKPbc 06 53 11.4 -0.5**
comp=Z,63nm,0.9s,baz=64,slow=4.4,SNR=49
SFNV Sufian 148.41 286 *e*P **PKPbc 06 53 13.9 +0.7**
SOC Sochi 148.85 299*c i*PKP2 **PKPbc 06 53 12.6 -1.4**
SOC *e* 06 56 44.4
SOC *e*SSS SSS 07 21 28.5
SOC pmax pmax
comp=Z,37nm,1.0s
KSRV Kasrt alli 149.22 284 *e*P **PKPbc 06 53 15.3 +0.2**
ZALF Zalf 150.09 278 *e*P **PKPbc 06 53 17.1 -0.3**
ASF Jabal al Asfar 150.28 277 PKPbc **PKPbc 06 53 18.4 +0.3**
comp=Z,15nm,1.0s,baz=173,slow=0.5,SNR=12
RABH Abou Rabah 150.47 281 *e*P **PKPbc 06 53 20.4 +2.0**
SALA Sala 150.54 278 *e*P **PKPbc 06 53 18.6 -0.1**
HAWK Haweek 151.14 281 *e*P **PKPbc 06 53 19.6 -0.3**
EIL Elat 151.25 271 PKPbc **PKPbc 06 53 20.4 +0.2**
comp=Z,34nm,1.1s,baz=36,slow=0.6,SNR=14
BIDA Albida 151.28 282 *e*P **PKPbc 06 53 19.6 -0.7**
BRBR Barbar 151.32 279 *e*P **PKPbc 06 53 18.2 -2.4**
ARNB Al Arnab 151.67 284 *e*P **PKPbc 06 53 20.6 -0.5**
MMAI Mount Meron Ar 151.70 278 PKPbc **PKPbc 06 53 21.9 +0.7**
comp=Z,25nm,0.9s,baz=69,slow=4.6,SNR=21
LIC Lamto 151.77 166 *e*PKP1 **PKPbc 06 53 22.0 +0.1**
comp=Z,65nm,1.0s
KIC Kosan Boka 151.96 167 *e*PKP1 **PKPbc 06 53 22.5 +0.2**
comp=Z,106nm,1.2s
NB2 NORSAR Subarra152.16 350 PKP **PKPbc 06 53 21.3 -0.1**
comp=Z,41nm,1.4s,baz=17,slow=2.6
NB2 NORSAR Subarra152.16 350 PKP **PKPbc 06 53 21.3 -0.1**
baz=17,slow=2.6
NOA NORSAR Array B152.16 350 PKIKP **PKPbc 06 53 21.2 -0.1**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B152.16 350 PKPbc **PKPbc 06 53 21.2 -0.1**
comp=Z,2.7nm,0.8s,baz=22,slow=4.8,SNR=14
TIC Toumodi 152.18 166 *e*PKP1 **PKPbc 06 53 22.9 +0.1**
comp=Z,6.5nm,0.2s
DBIC Dimbokro 152.24 167 *e*PKIKP **PKPdf 06 53 16.8 +0.6**
DBIC *e* 06 53 22.9
DBIC 06 53 23.2
DBIC 06 53 33.3
DBIC Dimbokro 152.24 167 PKPbc **PKPbc 06 53 23.1 +0.2**
comp=Z,9.6nm,0.8s,baz=181,slow=1.3,SNR=8.8
DBIC PKPab **PKPab 06 53 33.3 +0.7**
comp=Z,17nm,1.0s,baz=179,slow=2.3,SNR=8.5
DBIC Dimbokro 152.24 167 *e*PKPdf **PKPdf 06 53 16.8 +0.6**
DBIC *e*PKPbc **PKPbc 06 53 22.9 0.0**
DBIC PKPbc **PKPbc 06 53 23.1 +0.2**
DBIC PKPab **PKPab 06 53 33.3 +0.7**
MICGM Minsk 152.32 326⇑*e*P **PKPbc 06 53 20.0 -1.8**
IDID Didziasalis 152.32 328 *e*P **PKPbc 06 53 21.9 +0.1**
IDID AMB AMB 06 53 24.6
comp=Z,26nm,1.0s
MNK Minsk 152.34 326⇑*e*PKIKP **PKPbc 06 53 20.0 -1.9**
MNK pmax pmax
comp=Z,170nm,1.8s
ISAL Salakas 152.42 329 *e*P **PKPbc 06 53 21.9 -0.1**

ISAL				AMB	AMB	06 53 24.9	
	comp=Z,23nm,1.2s						
IIGN	**Ignalina**	**152.53**	**329**	*e*P	**PKPbc**	**06 53 21.8**	**-0.5**
IIGN				AMB	AMB	06 53 24.6	
	comp=Z,27nm,1.2s						
NACGM	**Naroch**	**152.57**	**327**	*e*	**PKPbc**	**06 53 20.0**	**-2.4**
BRTR	**Keskin Array B**	**153.65**	**292**	PKP	**PKPdf**	**06 53 17.3**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=154,slow=4.0,SNR=6.8						
BRTR				PKPbc	**PKPbc**	**06 53 24.9**	**-0.6**
	comp=Z,5.3nm,0.9s,baz=116,slow=2.9,SNR=21						
BRTR				PKPab	**PKPab**	**06 53 36.9**	**-1.5**
	comp=Z,3.6nm,0.8s,baz=135,slow=4.1,SNR=6.9						
AKASG	**Malin Array Be**	**153.70**	**318**	PKPbc	**PKPbc**	**06 53 25.1**	**+0.1**
	comp=Z,14nm,0.9s,baz=62,slow=2.3,SNR=22						
KIEV	**Kiev**	**153.72**	**318**	*e*PKIKP	**PKPdf**	**06 53 17.5**	**+0.3**
KIEV				*e*		06 53 24.2	
KIEV	**Kiev**	**153.72**	**318**	*e*PKPdf	**PKPdf**	**06 53 17.5**	**+0.3**
KIEV				*e*PKPbc	**PKPbc**	**06 53 24.2**	**-0.8**
SUW	**Suwalki**	**154.73**	**329**	*e*PKIKP	**PKPbc**	**06 53 27.2**	**+0.1**
SUW				*e*		06 53 40.5	
SUW	**Suwalki**	**154.73**	**329**	*e*PKP	**PKPbc**	**06 53 27.1**	**0.0**
SUW				*e*		06 53 40.5	
MLR	**Muntele Rosu**	**157.97**	**309**	PKPbc	PKPbc	06 53 34.7	
	comp=Z,0.7nm,1.0s,baz=11,slow=10,SNR=3.0						
MLR				PKPab	**PKPab**	**06 53 56.2**	**-0.4**
	comp=Z,1.2nm,1.1s,baz=42,slow=5.6,SNR=5.1						
KOLS	**Kolonicke sedl**	**158.45**	**320**	*e*PKP	**PKPdf**	**06 53 25.9**	**+2.4**
KOLS				*e*		06 53 57.6	
KOLS				*e*		07 33 56.5	
UZH	**Uzhgorod**	**158.62**	**320**	*e*PKP2	PKPab	06 53 47.7	-11
STHS	**Stebnicka Huta**	**158.69**	**322**	*e*PKP	**PKPab**	**06 53 59.0**	**-0.4**
CRVS	**Cervenica-Dubn**	**158.90**	**321**	*e*	PKPdf	06 53 37.1	+13
CRVS	**Cervenica-Dubn**	**158.90**	**321**	*e*PKP	**PKPab**	**06 54 00.3**	**0.0**
TORD	**Torodi Ar. Bea**	**159.29**	**181**	PKP	**PKPdf**	**06 53 25.8**	**+0.2**
	comp=Z,2.9nm,1.2s,baz=90,slow=0.4,SNR=7.0						
TORD				PKPab	**PKPab**	**06 54 02.0**	**-0.7**
	comp=Z,4.8nm,1.1s,baz=174,slow=2.9,SNR=6.1						
TORD				PP	PP	06 57 48.4	+5.9
	comp=Z,2.2nm,1.1s,baz=206,slow=6.3,SNR=4.0						
OKC	**Ostrava-Krasne**	**159.89**	**327**	*e*PKP2	**PKPab**	**06 54 03.6**	**-1.0**
OKC	**Ostrava-Krasne**	**159.89**	**327**	*e*PKPAB	**PKPab**	**06 54 03.6**	**-1.0**
KSP	**Ksiaz**	**159.92**	**332**	*e*PKP	PKPdf	06 53 31.8	+6.6
KSP				*e*		06 54 04.0	
DPC	**Dobruska-Polom**	**160.29**	**331**	*e*PKIKP	**PKPdf**	**06 53 25.8**	**+0.1**
DPC				*e*		06 53 40.7	
DPC	**Dobruska-Polom**	**160.29**	**331**	*e*PKPDF	**PKPdf**	**06 53 25.8**	**+0.1**
DPC				*ep*PKP	**pPKPdf**	**06 53 40.7**	**+3.0**
DPC				*e*PKPAB	**PKPab**	**06 54 05.5**	**-0.9**
DPC				*ex*	x	06 54 11.3	
UPC	**Upice**	**160.29**	**331**	*e*PKP2	**PKPab**	**06 54 05.5**	**-0.8**
UPC	**Upice**	**160.29**	**331**	*e*PKPAB	**PKPab**	**06 54 05.5**	**-0.8**
KRLC	**Kraliky**	**160.31**	**330**	*e*PKIKP	**PKPdf**	**06 53 25.9**	**+0.2**
KRLC				*e*		06 54 05.6	
KRLC	**Kraliky**	**160.31**	**330**	*e*PKPDF	**PKPdf**	**06 53 25.9**	**+0.2**
KRLC				*e*PKPAB	**PKPab**	**06 54 05.6**	**-0.9**
KRLC				*ex*	x	06 54 09.2	
KRLC				*ep*PKP	**pPKPab**	**06 54 17.4**	**-0.8**
VYHS	**Vyhne**	**160.50**	**323**	*e*PKP	**PKPab**	**06 54 07.0**	**-0.3**
CLL	**Collm**	**160.71**	**338**	*e*PKP2	**PKPab**	**06 54 07.0**	**-1.0**
CLL				pmax	pmax		
	comp=Z,34nm,1.2s						
CLL	**Collm**	**160.71**	**338**	*e*PKPab	**PKPab**	**06 54 06.3**	**-1.7**
CLL	**Collm**	**160.71**	**338**	*e*PKPab	**PKPab**	**06 54 07.0**	**-1.0**
	comp=Z,34nm,1.2s						
CLL				*e*		06 54 13.0	
CLL				*ep*PKPab	**pPKPab**	**06 54 19.0**	**-0.8**
BRG	**Berggiesshubel**	**160.77**	**335**	*i* PKP	**PKPab**	**06 54 07.6**	**-0.7**
	comp=Z,19nm,1.1s						
BRG	**Berggiesshubel**	**160.77**	**335**	*i* PKP2	**PKPab**	**06 54 07.6**	**-0.7**
BRG				pmax	pmax		
	comp=Z,19nm,1.1s						
BRG	**Berggiesshubel**	**160.77**	**335**	*e*PKPab	**PKPab**	**06 54 06.6**	**-1.7**
PVCC	**Panska Ves**	**160.83**	**334**	*e*PKP2	**PKPab**	**06 54 07.7**	**-0.9**
PVCC	**Panska Ves**	**160.83**	**334**	*e*PKPAB	**PKPab**	**06 54 07.7**	**-0.9**
VRAC	**Vranov**	**160.97**	**328**	PKPab	**PKPab**	**06 54 08.8**	**-0.5**
	comp=Z,4.4nm,0.6s,baz=40,slow=4.8,SNR=9.1						
CLZ	**Clausthal**	**160.98**	**343**	*e*PKPab	**PKPab**	**06 54 08.0**	**-1.3**
IBBN	**Ibbenburen**	**161.09**	**348**	*e*PKPab	**PKPab**	**06 54 08.0**	**-1.6**
PRU	**Pruhonice**	**161.28**	**333**	*e*PKP2	**PKPab**	**06 54 09.3**	**-1.3**
PRU	**Pruhonice**	**161.28**	**333**	*e*PKPAB	**PKPab**	**06 54 09.3**	**-1.3**
PRU				*ex*	x	06 54 15.2	
TREC	**Trest**	**161.45**	**330**	*e*PKP2	**PKPab**	**06 54 11.0**	**-0.4**
TREC	**Trest**	**161.45**	**330**	*e*PKPAB	**PKPab**	**06 54 11.0**	**-0.4**
TANN	**Tannenbergstha**	**161.66**	**337**	*e*PKPab	**PKPab**	**06 54 11.0**	**-1.3**
MOX	**Moxa**	**161.72**	**339**	*e*PKPab	**PKPab**	**06 54 11.0**	**-1.5**
ROTZ	**Rotzenmuhle**	**162.30**	**336**	*e*PKPab	**PKPab**	**06 54 14.1**	**-1.0**
CONA	**Conrad Observa**	**162.31**	**326**	⇑*i*PKPab	**PKPab**	**06 54 13.5**	**-1.8**
	comp=Z,22nm,1.5s						
KHC	**Kasperske Hory**	**162.34**	**333**	*e*PKIKP	**PKPdf**	**06 53 27.6**	**-0.3**
KHC				*e*		06 53 40.4	
KHC				*e*		06 54 14.3	
KHC	**Kasperske Hory**	**162.34**	**333**	*e*PKPDF	**PKPdf**	**06 53 27.6**	**-0.3**
KHC				*ep*PKP	**pPKPdf**	**06 53 40.4**	**+0.5**
KHC				*e*PKPAB	**PKPab**	**06 54 14.3**	**-1.0**
KHC				*ex*	x	06 54 25.6	
KHC				*ex*	x	06 54 32.5	
GERES	**GERESS Array B**	**162.53**	**332**	PKPab	**PKPab**	**06 54 14.9**	**-1.3**
	comp=Z,2.6nm,0.8s,baz=35,slow=4.9,SNR=14						
WET	**Wettzell**	**162.59**	**334**	*e*PKPab	**PKPab**	**06 54 15.1**	**-1.3**
GRF	**Grafenberg Arr**	**162.68**	**338**	*e*PKPab	**PKPab**	**06 54 15.9**	**-0.8**
TNS	**Taunus Mts**	**162.94**	**344**	*e*PKPab	**PKPab**	**06 54 16.3**	**-1.6**
MOA	**Molln**	**163.08**	**329**	⇑*i*PKPab	**PKPab**	**06 54 18.4**	**-0.2**
	comp=Z,12nm,1.2s						
SOKA	**Soboth**	**163.61**	**325**	⇑*i*PKPab	**PKPab**	**06 54 20.3**	**-0.8**
	comp=Z,11nm,1.3s						
RJOB	**Jochberg**	**163.78**	**331**	*e*PKPab	**PKPab**	**06 54 20.1**	**-1.6**
KBA	**Koelnbreinsper**	**164.08**	**329**	⇑*i*PKPab	**PKPab**	**06 54 22.1**	**-1.1**
	comp=Z,11nm,1.1s						
MYKA	**Terra Mystica**	**164.29**	**327**	⇑*i*PKPab	**PKPab**	**06 54 22.9**	**-1.2**
	comp=Z,6.7nm,1.0s						
ABTA	**Abfaltersbach**	**164.69**	**330**	⇑*i*PKPab	**PKPab**	**06 54 24.3**	**-1.5**
	comp=Z,7.7nm,0.9s						
BFO	**Black Forest**	**164.73**	**342**	*e*PKPab	**PKPab**	**06 54 24.3**	**-1.5**
MOTA	**Moosalm**	**164.75**	**334**	⇓*i*PKPab	**PKPab**	**06 54 25.8**	**-0.3**
	comp=Z,26nm,1.3s						
RETA	**Reutte**	**164.75**	**335**	⇓*i*PKPab	**PKPab**	**06 54 25.5**	**-0.5**
	comp=Z,27nm,1.5s						
FETA	**Feichten**	**165.16**	**334**	⇑*i*PKPab	**PKPab**	**06 54 27.5**	**-0.4**
	comp=Z,15nm,1.1s						
DAVA	**Damuels**	**165.22**	**337**	⇑*i*PKPab	**PKPab**	**06 54 27.3**	**-0.9**
	comp=Z,22nm,1.1s						
DAVOX	**Davos/Dischmat**	**165.66**	**336**	PKP2	**PKPab**	**06 54 29.9**	**-0.3**
DAVOX				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DAVOX	**Davos/Dischmat**	**165.66**	**336**	PKPab	**PKPab**	**06 54 29.9**	**-0.3**
	comp=Z,6.7nm,1.0s,baz=319,slow=4.7,SNR=6.8						
ESDC	**Sonseca Array**	**172.85**	**35**	PKP	**PKPdf**	**06 53 36.8**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=323,slow=3.7,SNR=4.6						

*ATH **23** 06:50:40.8, 38°.82N×23°.82E, h22km±2km, MD2.7/11*
*ISCJB **23** 06:50:41.6±0.7, 38°.87N±0°.03×23°.77E±0°.05, h13km±3km, Error ellipse: s-maj=7.0km s-min=3.6km az=25.5*
*CSEM **23** 06:50:41.8±0.2, 38°.86N×23°.78E, h15km, ML2.8, Error ellipse: s-maj=3.8km s-min=2.2km az=117.0*
*THE **23** 06:50:42.5, 38°.87N×23°.73E, h6km±8km, ML2.8/6, Error ellipse: s-maj=8.4km s-min=0.7km az=119.0*
ISC 23 06:50:41.6±1.0, 38°.85N±0°.03×23°.78E±0°.04, h14km±7km, n39, σ0°.34/65, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.21**	**226**	P	**Pg**	**06 50 46.4**	**+0.1**
MRKA				S	**Sg**	**06 50 49.3**	**-0.3**
MRKA	**Markates**	**0.21**	**226**	*e*PB	**Pg**	**06 50 46.5**	**+0.1**
MRKA				*e*SB	**Sg**	**06 50 49.5**	**-0.1**
MRKA	**Markates**	**0.21**	**226**	*e*Pb	**Pg**	**06 50 46.5**	**+0.1**
MRKA				*e*Sb	**Sg**	**06 50 49.5**	**-0.1**
AOS	**Alonnisos**	**0.33**	**14**	P	**Pg**	**06 50 48.9**	**+0.5**
AOS				S	**Sg**	**06 50 52.8**	**-0.2**
AOS	**Alonnisos**	**0.33**	**14**	*e*PB	**Pg**	**06 50 48.9**	**+0.5**
AOS				*e*SB	**Sb**	**06 50 53.8**	**-0.6**
AOS	**Alonnisos**	**0.33**	**14**	P	**Pg**	**06 50 48.9**	**+0.5**
AOS				S	**Sg**	**06 50 52.8**	**-0.2**
AOS				*e*Sb	**Sb**	**06 50 53.8**	**-0.6**
SKIA	**Skiathos**	**0.40**	**322**	P	**Pb**	**06 50 50.2**	**-0.3**
SKIA				S	**Sg**	**06 50 54.8**	**-0.3**
SKIA	**Skiathos**	**0.40**	**322**	*e*PB	**Pb**	**06 50 50.5**	**0.0**
SKIA	**Skiathos**	**0.40**	**322**	P	**Pb**	**06 50 50.2**	**-0.3**
SKIA	**Skiathos**	**0.40**	**322**	*e*Pb	**Pb**	**06 50 50.5**	**0.0**
SKIA				S	**Sg**	**06 50 54.8**	**-0.3**
SMIA	**Simia**	**0.45**	**274**	P	**Pg**	**06 50 50.8**	**+0.2**
SMIA				S	**Sg**	**06 50 56.5**	**-0.1**
SMIA	**Simia**	**0.45**	**274**	*e*PB	**Pg**	**06 50 51.0**	**+0.4**
SMIA				*e*SB	**Sb**	**06 50 58.5**	**+0.6**
SMIA	**Simia**	**0.45**	**274**	P	**Pg**	**06 50 50.8**	**+0.2**
SMIA				S	**Sg**	**06 50 56.5**	**-0.1**
SMIA				*e*Sb	**Sb**	**06 50 58.5**	**+0.6**
NEO	**Neokhori**	**0.63**	**316**	P	**Pb**	**06 50 54.6**	**+0.2**
NEO				S	**Sg**	**06 51 02.1**	**-0.2**
NEO	**Neokhori**	**0.63**	**316**	*e*PN	**Pb**	**06 50 54.8**	**+0.4**
NEO				*e*SN	**Sb**	**06 51 02.9**	**-0.2**
NEO	**Neokhori**	**0.63**	**316**	*e*Pn	**Pb**	**06 50 54.8**	**+0.4**
NEO				S	**Sg**	**06 51 02.1**	**-0.2**
LKR	**Lokris**	**0.64**	**252**	P	**Pg**	**06 50 53.7**	**-0.5**
LKR				S	**Sg**	**06 51 02.8**	**+0.1**
LKR	**Lokris**	**0.64**	**252**	*e*PN	**Pg**	**06 50 53.9**	**-0.3**
LKR	**Lokris**	**0.64**	**252**	P	**Pg**	**06 50 53.7**	**-0.5**
LKR				S	**Sg**	**06 51 02.8**	**+0.1**
XOR	**Xorichti**	**0.69**	**318**	P	**Pb**	**06 50 55.6**	**+0.2**
XOR				S	**Sg**	**06 51 04.5**	**+0.3**
XOR	**Xorichti**	**0.69**	**318**	*e*PN	**Pb**	**06 50 55.8**	**+0.4**
XOR				*e*SN	**Sb**	**06 51 05.0**	**+0.2**
XOR	**Xorichti**	**0.69**	**318**	P	**Pb**	**06 50 55.6**	**+0.2**
XOR				S	**Sg**	**06 51 04.5**	**+0.3**
XOR				*e*Sn	**Sb**	**06 51 05.0**	**+0.2**
AXAR	**Agios Charalam**	**0.88**	**265**	P	**Pb**	**06 50 58.6**	**-0.1**
AXAR				S	**Sb**	**06 51 10.3**	**0.0**
AXAR	**Agios Charalam**	**0.88**	**265**	*e*PN	**Pb**	**06 50 58.8**	**+0.1**
AXAR	**Agios Charalam**	**0.88**	**265**	P	**Pb**	**06 50 58.6**	**-0.1**
AXAR				S	**Sb**	**06 51 10.3**	**0.0**
LTK	**Loutraki**	**1.05**	**218**	P	**Pg**	**06 51 02.6**	**+0.8**
LTK				S	**Sn**	**06 51 16.3**	**0.0**
LTK	**Loutraki**	**1.05**	**218**	P	**Pg**	**06 51 02.6**	**+0.8**
LTK				S	**Sn**	**06 51 16.3**	**0.0**
PAIG	**Paliouri**	**1.08**	**356**	P	**Pb**	**06 51 01.6**	**-0.4**
PAIG	**Paliouri**	**1.08**	**356**	*e*PN	**Pb**	**06 51 02.0**	**0.0**
PAIG	**Paliouri**	**1.08**	**356**	P	**Pb**	**06 51 01.6**	**-0.4**
PAIG	**Paliouri**	**1.08**	**356**	*e*Pn	**Pb**	**06 51 02.0**	**0.0**
AGG	**Agios Georgios**	**1.14**	**279**	P	**Pn**	**06 51 02.7**	**-0.6**
AGG	**Agios Georgios**	**1.14**	**279**	*e*PN	**Pn**	**06 51 03.0**	**-0.3**
AGG	**Agios Georgios**	**1.14**	**279**	P	**Pn**	**06 51 02.7**	**-0.6**
AGG	**Agios Georgios**	**1.14**	**279**	*e*Pn	**Pn**	**06 51 03.0**	**-0.3**
OUR	**Ouranopolis**	**1.49**	**6**	*e*PN	**Pn**	**06 51 08.0**	**0.0**
OUR	**Ouranopolis**	**1.49**	**6**	*e*Pn	**Pn**	**06 51 08.0**	**0.0**
PLG	**Polygyros**	**1.54**	**350**	*e*PB	**Pn**	**06 51 08.7**	**-0.1**
PLG	**Polygyros**	**1.54**	**350**	*e*Pb	**Pn**	**06 51 08.7**	**-0.1**

LJU 23 06:52:26.2, 46°.39N×15°.07E, h0km Rockburst, Northwestern Balkan Peninsula

*THE **23** 06:54:51.4, 38°.84N×21°.96E, h2km, ML3.8/24, Error ellipse: s-maj=0.9km s-min=0.4km az=201.0*
*CSEM **23** 06:54:51.4±0.1, 38°.84N×21°.95E, h5km, MD3.0, Error ellipse: s-maj=1.9km s-min=1.6km az=63.0*
*ATH **23** 06:54:51.0, 38°.87N×21°.89E, h18km±1km, MD3.0/26, ML3.8*
*ISCJB **23** 06:54:51.1±0.3, 38°.855N±0°.010×21°.93E±0°.01, h10km±2km, mb3.5/10, MS2.9/2, Error ellipse: s-maj=1.9km s-min=1.6km az=158.0*
*PDG **23** 06:54:52.7±0.4, 38°.80N×22°.05E, h31km±2km, ML3.9/10, Error ellipse: s-maj=2.7km s-min=1.4km az=90.0*
*IDC **23** 06:54:56.4±1.5, 38°.83N×22°.07E, h45km±19km, mb3.4/11, mb1 3.5/16, mb1mx3.4/39, mbtmp3.6/16, ML3.4/5, MS2.8/5, Ms1 2.9/5, ms1mx2.5/33, Error ellipse: s-maj=15.3km s-min=13.0km az=67.0*
ISC 23 06:54:51.7±0.8, 38°.84N±0°.01×21°.94E±0°.01, h9km±5km, n245, σ0°.88/361, mb3.6/10, 9C-20D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.13**	**307**	P	**Pg**	**06 54 53.9**	**-0.8**
EVR				S	**Sg**	**06 54 56.2**	**-0.6**
EVR	**Evrytania**	**0.13**	**307**	*e*PB	**Pg**	**06 54 54.1**	**-0.6**
EVR				*e*SB	**Sg**	**06 54 56.7**	**-0.1**
EVR	**Evrytania**	**0.13**	**307**	*e*Pb	**Pg**	**06 54 54.1**	**-0.6**
EVR				*e*Sb	**Sg**	**06 54 56.7**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.23**	**41**	P	**Pg**	**06 54 56.5**	**+0.2**
MAKR				S	**Sg**	**06 54 59.6**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.23**	**41**	*e*PB	**Pg**	**06 54 56.6**	**+0.2**
MAKR				*e*SB	**Sg**	**06 55 01.0**	**+1.5**
MAKR	**Makrakomi, Fth**	**0.23**	**41**	P	**Pg**	**06 54 56.5**	**+0.2**
MAKR				S	**Sg**	**06 54 59.6**	**+0.1**
MAKR				*e*Sb	**Sg**	**06 55 01.0**	**+1.5**
AGG	**Agios Georgios**	**0.35**	**59**	P	**Pg**	**06 54 58.6**	**-0.1**
AGG	**Agios Georgios**	**0.35**	**59**	*e*PB	**Pg**	**06 54 59.2**	**+0.5**
AGG				*e*SB	**Sb**	**06 55 05.1**	**-0.8**
AGG	**Agios Georgios**	**0.35**	**59**	*e*Pb	**Pg**	**06 54 58.6**	**-0.1**
AGG	**Agios Georgios**	**0.35**	**59**	*e*Pb	**Pg**	**06 54 59.2**	**+0.5**
AGG				*e*Sb	**Sb**	**06 55 05.1**	**-0.8**
PVO	**Paravola**	**0.39**	**235**	P	**Pg**	**06 54 58.8**	**-0.6**
PVO				S	**Sg**	**06 55 05.3**	**+0.7**
PVO	**Paravola**	**0.39**	**235**	P	**Pg**	**06 54 58.8**	**-0.6**
PVO				S	**Sg**	**06 55 05.3**	**+0.7**
EFP	**Efpalio**	**0.41**	**184**	P	**Pg**	**06 54 59.5**	**-0.2**
EFP				S	**Sg**	**06 55 05.6**	**+0.4**
EFP	**Efpalio**	**0.41**	**184**	*e*PB	**Pg**	**06 54 59.7**	**-0.1**
EFP				*e*SB	**Sb**	**06 55 07.1**	**-0.4**
EFP	**Efpalio**	**0.41**	**184**	P	**Pg**	**06 54 59.6**	**-0.2**
EFP				S	**Sg**	**06 55 05.6**	**+0.4**
EFP				*e*Sb	**Sb**	**06 55 07.1**	**-0.4**
KALE	**Kalithea**	**0.47**	**161**	P	**Pg**	**06 55 00.4**	**-0.5**
KALE				S	**Sg**	**06 55 07.7**	**+0.5**
KALE	**Kalithea**	**0.47**	**161**	*e*PN	**Pg**	**06 55 00.6**	**-0.3**
KALE				*e*SN	**Sb**	**06 55 09.3**	**-0.1**
KALE	**Kalithea**	**0.47**	**161**	*e*Pn	**Pg**	**06 55 00.6**	**-0.3**
KALE				S	**Sg**	**06 55 07.7**	**+0.5**
KALE				*e*Sn	**Sb**	**06 55 09.3**	**-0.1**
AXAR	**Agios Charalam**	**0.57**	**97**	P	**Pg**	**06 55 01.8**	**-0.9**
AXAR				S	**Sg**	**06 55 09.6**	**-0.5**
AXAR	**Agios Charalam**	**0.57**	**97**	*e*PB	**Pg**	**06 55 02.2**	**-0.5**
AXAR				*e*SN	**Sb**	**06 55 11.4**	**-0.6**
AXAR	**Agios Charalam**	**0.57**	**97**	*e*Pb	**Pg**	**06 55 02.2**	**-0.5**
AXAR				S	**Sg**	**06 55 09.6**	**-0.5**
AXAR				*e*Sn	**Sb**	**06 55 11.4**	**-0.6**
UPR	**University Cam**	**0.57**	**192**	P	**Pg**	**06 55 02.1**	**-0.6**
UPR				S	**Sg**	**06 55 10.6**	**+0.5**
UPR	**University Cam**	**0.57**	**192**	P	**Pg**	**06 55 02.1**	**-0.6**
UPR				S	**Sg**	**06 55 10.6**	**+0.5**
DSF	**Desfina**	**0.63**	**133**	P	**Pg**	**06 55 02.6**	**-1.2**
DSF				S	**Sg**	**06 55 12.3**	**+0.2**
DSF	**Desfina**	**0.63**	**133**	*e*PB	**Pg**	**06 55 03.1**	**-0.7**
DSF				*e*SN	**Sb**	**06 55 13.6**	**-0.2**
DSF	**Desfina**	**0.63**	**133**	P	**Pg**	**06 55 02.7**	**-1.1**
DSF	**Desfina**	**0.63**	**133**	*e*Pb	**Pg**	**06 55 03.1**	**-0.7**
DSF				S	**Sg**	**06 55 12.3**	**+0.2**
DSF				*e*Sn	**Sb**	**06 55 13.6**	**-0.2**
PDO	**Prodromos**	**0.64**	**248**	P	**Pg**	**06 55 02.7**	**-1.3**
PDO				S	**Sg**	**06 55 12.3**	**-0.1**
PDO	**Prodromos**	**0.64**	**248**	*e*PN	**Pg**	**06 55 03.8**	**-0.2**
PDO				*e*SN	**Sg**	**06 55 12.3**	**-0.1**
PDO	**Prodromos**	**0.64**	**248**	P	**Pg**	**06 55 02.9**	**-1.1**
PDO	**Prodromos**	**0.64**	**248**	*e*Pn	**Pg**	**06 55 03.8**	**-0.2**
PDO				S	**Sg**	**06 55 12.3**	**-0.1**
DSL	**Palaion Diasel**	**0.72**	**294**	P	**Pg**	**06 55 04.8**	**-0.8**
DSL				S	**Sg**	**06 55 15.2**	**+0.2**
DSL	**Palaion Diasel**	**0.72**	**294**	*e*PB	**Pg**	**06 55 03.4**	**-2.2**
DSL				*e*SN	**Sg**	**06 55 13.2**	**-1.8**
DSL	**Palaion Diasel**	**0.72**	**294**	*e*Pb	**Pg**	**06 55 03.4**	**-2.2**
DSL	**Palaion Diasel**	**0.72**	**294**	P	**Pg**	**06 55 04.8**	**-0.8**
DSL				*e*Sn	**Sg**	**06 55 13.2**	**-1.8**
DSL				S	**Sg**	**06 55 15.2**	**+0.2**
THL	**Klokotos Trika**	**0.73**	**5**	P	**Pb**	**06 55 06.2**	**-0.3**
THL				S	**Sb**	**06 55 16.2**	**-0.3**
THL	**Klokotos Trika**	**0.73**	**5**	P	**Pb**	**06 55 06.2**	**-0.3**
THL				S	**Sb**	**06 55 16.2**	**-0.3**
KLV	**Kalavryta, Ach**	**0.81**	**168**	P	**Pg**	**06 55 06.0**	**-1.3**
KLV				S	**Sg**	**06 55 18.0**	**+0.1**
KLV	**Kalavryta, Ach**	**0.81**	**168**	*e*PB	**Pg**	**06 55 06.8**	**-0.5**
KLV				*e*SN	**Sb**	**06 55 19.4**	**+0.3**
KLV	**Kalavryta, Ach**	**0.81**	**168**	P	**Pg**	**06 55 06.2**	**-1.1**
KLV	**Kalavryta, Ach**	**0.81**	**168**	*e*Pb	**Pg**	**06 55 06.8**	**-0.5**
KLV				S	**Sg**	**06 55 18.0**	**+0.1**
KLV				*e*Sn	**Sb**	**06 55 19.4**	**+0.3**
LKR	**Lokris**	**0.85**	**103**	P	**Pg**	**06 55 07.0**	**-1.0**
LKR				S	**Sg**	**06 55 19.4**	**+0.3**
LKR	**Lokris**	**0.85**	**103**	*e*PN	**Pn**	**06 55 09.6**	**-0.2**
LKR				*e*SN	**Sb**	**06 55 20.0**	**-0.1**
LKR	**Lokris**	**0.85**	**103**	P	**Pg**	**06 55 07.0**	**-1.0**
LKR	**Lokris**	**0.85**	**103**	*e*Pn	**Pn**	**06 55 09.6**	**-0.2**
LKR				S	**Sg**	**06 55 18.8**	**-0.3**
LKR				*e*Sn	**Sb**	**06 55 20.0**	**-0.1**
RLS	**Riolos of Patr**	**0.86**	**206**	P	**Pg**	**06 55 07.3**	**-1.0**
RLS				S	**Sb**	**06 55 20.3**	**-0.2**
RLS	**Riolos of Patr**	**0.86**	**206**	*e*PN	**Pg**	**06 55 08.0**	**-0.3**
RLS				*e*SN	**Sb**	**06 55 20.0**	**-0.5**
RLS	**Riolos of Patr**	**0.86**	**206**	P	**Pg**	**06 55 08.0**	**-0.3**
RLS				S	**Sb**	**06 55 20.3**	**-0.2**
DRO	**Drossia**	**0.91**	**192**	P	**Pg**	**06 55 08.1**	**-1.0**
DRO				S	**Sb**	**06 55 22.0**	**+0.3**
DRO	**Drossia**	**0.91**	**192**	*e*PB	**Pg**	**06 55 08.2**	**-0.9**
DRO	**Drossia**	**0.91**	**192**	*e*Pb	**Pg**	**06 55 08.2**	**-0.9**
DRO				S	**Sb**	**06 55 22.0**	**+0.3**
GUR	**Goura**	**0.96**	**161**	P	**Pg**	**06 55 08.7**	**-1.4**
GUR				S	**Sb**	**06 55 23.6**	**+0.3**
GUR	**Goura**	**0.96**	**161**	*e*PB	**Pg**	**06 55 09.3**	**-0.8**
GUR	**Goura**	**0.96**	**161**	P	**Pg**	**06 55 08.7**	**-1.4**
GUR	**Goura**	**0.96**	**161**	*e*Pb	**Pg**	**06 55 09.3**	**-0.8**
GUR				S	**Sb**	**06 55 23.6**	**+0.3**
SMIA	**Simia**	**0.99**	**87**	P	**Pg**	**06 55 10.4**	**-0.3**
SMIA				S	**Sg**	**06 55 23.5**	**-0.2**
SMIA	**Simia**	**0.99**	**87**	*e*PN	**Pg**	**06 55 10.7**	**-0.1**
SMIA	**Simia**	**0.99**	**87**	P	**Pg**	**06 55 10.4**	**-0.3**
SMIA	**Simia**	**0.99**	**87**	*e*Pn	**Pg**	**06 55 10.7**	**-0.1**
SMIA				S	**Sg**	**06 55 23.5**	**-0.2**
LKD2	**Lefkada island**	**1.00**	**267**	P	**Pg**	**06 55 10.3**	**-0.6**
LKD2				S	**Sb**	**06 55 25.4**	**+0.9**
LKD2	**Lefkada island**	**1.00**	**267**	*e*PN	**Pg**	**06 55 10.5**	**-0.4**
LKD2	**Lefkada island**	**1.00**	**267**	P	**Pg**	**06 55 10.3**	**-0.6**
LKD2				S	**Sb**	**06 55 25.4**	**+0.9**
MEV	**Metsovon**	**1.09**	**330**	P	**Pg**	**06 55 10.8**	**-1.9**
MEV	**Metsovon**	**1.09**	**330**	P	**Pg**	**06 55 10.8**	**-1.9**
NEO	**Neokhori**	**1.10**	**65**	P	**Pg**	**06 55 12.2**	**-0.7**
NEO				S	**Sb**	**06 55 27.6**	**+0.2**
NEO	**Neokhori**	**1.10**	**65**	*e*PN	**Pg**	**06 55 12.8**	**-0.1**
NEO				*e*SN	**Sn**	**06 55 28.6**	**-0.1**
NEO	**Neokhori**	**1.10**	**65**	P	**Pg**	**06 55 12.2**	**-0.7**
NEO	**Neokhori**	**1.10**	**65**	*e*Pn	**Pg**	**06 55 12.8**	**-0.1**
NEO				S	**Sb**	**06 55 27.6**	**+0.2**
NEO				*e*Sn	**Sn**	**06 55 28.6**	**-0.1**
XOR	**Xorich

KNT	Kendrikon	2.43	17	P	Pn	06 55 31.5	-0.1
KNT	Kendrikon	2.43	17	P	Pn	06 55 31.5	-0.1
VAY	Valandovo	2.52	11	P	Pn	06 55 32.6	-0.2
VAY	Valandovo	2.52	11	ePn	Pn	06 55 33.1	+0.2
VAY				eSg	Sg	06 56 13.9	+1.1
VAY	Valandovo	2.52	11	P	Pn	06 55 32.6	-0.2
VAY	Valandovo	2.52	11	ePn	Pn	06 55 33.0	+0.2
VAY				eSg	Sg	06 56 13.9	+1.1
SRS	Serrai	2.60	29	P	Pn	06 55 33.6	-0.4
SRS	Serrai	2.60	29	P	Pn	06 55 33.6	-0.4
LIA	Limnos Island	2.73	66	P	Pn	06 55 34.9	-0.7
LIA	Limnos Island	2.73	66	P	Pn	06 55 34.9	-0.7
NVR	Nevrokopi	2.91	30	P	Pn	06 55 37.9	-0.3
NVR	Nevrokopi	2.91	30	P	Pn	06 55 37.9	-0.3
KAVA	Kavala	2.92	42	P	Pn	06 55 37.8	-0.6
KAVA	Kavala	2.92	42	P	Pn	06 55 37.8	-0.6
PHP	Peshkopia	3.06	339	*i* PN	Pg	06 55 49.3	-1.1
MMB	Musomiste	3.07	26	⇓*i*P	Pn	06 55 40.2	-0.2
MMB	Musomiste	3.07	26	S	Sn	06 56 15.6	-1.6
SIGR	SIGRI	3.07	82	P	Pn	06 55 40.2	-0.2
SIGR	SIGRI	3.07	82	P	Pn	06 55 40.2	-0.2
SKO	Skopje	3.15	353	ePn	Pn	06 55 40.5	-1.0
SKO	Skopje	3.15	353	ePn	Pn	06 55 40.5	-1.0
ANKY	Antikythira Is	3.16	159	P	Pn	06 55 42.6	+1.0
ANKY	Antikythira Is	3.16	159	P	Pn	06 55 42.6	+1.0
CHOS	Chios island	3.26	97	P	Pn	06 55 43.3	+0.3
CHOS	Chios island	3.26	97	P	Pn	06 55 43.3	+0.3
APE	Apeiranthos	3.34	121	P	Pn	06 55 43.6	-0.6
APE	Apeiranthos	3.34	121	⇓*i*P	Pn	06 55 44.5	+0.3
APE	Apeiranthos	3.34	121	S	Sn	06 56 20.5	-3.5
APE	Apeiranthos	3.34	121	P	Pn	06 55 43.6	-0.6
RDO	Rodhopi	3.60	49	P	Pn	06 55 47.1	-0.5
RDO	Rodhopi	3.60	49	P	Pn	06 55 47.1	-0.5
THR5	Thira Island,	3.63	131	P	Pn	06 55 48.6	+0.6
THR5	Thira Island,	3.63	131	P	Pn	06 55 48.6	+0.6
ULC	Ulcinj	3.74	327	ePn	Pn	06 55 50.0	+0.5
ULC				eSn	Sn	06 56 34.3	+0.6
ULC	Ulcinj	3.74	327	ePn	Pn	06 55 50.0	+0.5
ULC				eSn	Sn	06 56 34.3	+0.6
KDZ	Kurdzhali	3.87	42	⇓*i*P	Pn	06 55 49.7	-1.6
KDZ	Kurdzhali	3.87	42	S	Sn	06 56 31.3	-5.6
VTS	Vitosha	3.87	14	⇑*i*P	Pn	06 55 52.5	+1.0
VTS	Vitosha	3.87	14	S	Sn	06 56 36.8	-0.3
DRME	Dracevica, Mon	3.95	329	⇓*i*Pn	Pn	06 55 53.8	+1.4
DRME				eSn	Sn	06 56 39.5	+0.7
DRME	Dracevica, Mon	3.95	329	⇓*i*Pn	Pn	06 55 53.8	+1.4
DRME				eSn	Sn	06 56 39.5	+0.7
TAR1	Taranto	3.97	297	ePn	Pn	06 55 55.2	+2.6
BARS	Barje	3.97	359	⇑*i*Pn	Pn	06 55 53.3	+0.5
PE1	Pezze di Greco	3.99	301	ePn	Pn	06 55 51.8	-1.2
PVY	Plav	4.04	339	⇓*i*Pn	Pn	06 55 54.8	+1.0
PVY				eSn	Sn	06 56 40.4	-0.9
PVY	Plav	4.04	339	⇓*i*Pn	Pn	06 55 54.8	+1.0
PVY				eSn	Sn	06 56 40.4	-0.9
PDG	Podgorica	4.13	331	⇓*i*Pn	Pn	06 55 56.3	+1.5
PDG				eSn	Sn	06 56 43.4	+0.2
TTG	Podgorica	4.13	331	⇓*i*Pn	Pn	06 55 56.3	+1.5
TTG				eSn	Sn	06 56 43.4	+0.2
BUM	Brajici-Budva	4.16	327	⇓*i*Pn	Pn	06 55 55.7	+0.3
BUM				eSn	Sn	06 56 44.8	+0.6
BUM	Brajici-Budva	4.16	327	⇓*i*Pn	Pn	06 55 55.7	+0.3
BUM				eSn	Sn	06 56 44.8	+0.6
IDI	Anoyia	4.26	145	P	Pn	06 55 58.4	+1.7
	1.1nm,0.3s,baz=7.9,slow=13,SNR=9.5						
IDI				S	Sn	06 56 45.1	-1.5
	3.7nm,0.3s,baz=282,slow=23,SNR=3.6						
BEY	Berane	4.32	340	⇓*i*Pn	Pn	06 55 58.6	+1.0
BEY				eSn	Sn	06 56 48.2	+0.2
IVA	Berane	4.32	340	⇓*i*Pn	Pn	06 55 58.6	+1.0
IVA				eSn	Sn	06 56 48.2	+0.2
HCY	Herceg Novi	4.46	325	ePn	Pn	06 56 00.5	+1.1
HCY				eSn	Sn	06 56 51.8	+0.4
HCY	Herceg Novi	4.46	325	ePn	Pn	06 56 00.5	+1.1
HCY				eSn	Sn	06 56 51.8	+0.4
SG1	Sgolgore (BA)	4.51	298	ePn	Pn	06 56 02.7	+2.5
NKME	Niksic	4.53	331	⇓*i*Pn	Pn	06 56 02.0	+1.5
NKME				eSn	Sn	06 56 52.3	-1.0
NKME	Niksic	4.53	331	⇓*i*Pn	Pn	06 56 02.0	+1.5
NKME				eSn	Sn	06 56 52.3	-1.0
NKY	Niksic	4.55	332	⇓*i*Pn	Pn	06 56 01.3	+0.4
NKY				eSn	Sn	06 56 53.8	-0.1
NKY	Niksic	4.55	332	⇓*i*Pn	Pn	06 56 01.3	+0.4
NKY				eSn	Sn	06 56 53.8	-0.1
CDT	Castel del Mon	4.89	299	ePn	Pn	06 56 06.5	+1.0
IVAS	Ivanjica	4.92	345	ePn	Pn	06 56 06.7	+0.9
UPM	Unac-Piva	4.92	333	⇓*i*Pn	Pn	06 56 07.5	+1.5
UPM				eSn	Sn	06 57 02.9	-0.3
UPM	Unac-Piva	4.92	333	⇓*i*Pn	Pn	06 56 07.5	+1.5
UPM				eSn	Sn	06 57 02.9	-0.3
BOLS	Boljevac	4.98	0	ePn	Pn	06 56 11.0	+4.3
GRUS	Gruza	5.13	350	ePn	Pn	06 56 08.7	+0.1
STON	Ston	5.15	323	ePn	Pn	06 56 09.5	+0.5
STON				Sn	Sn	06 57 06.5	-2.0
STON	Ston	5.15	323	ePn	Pn	06 56 09.4	+0.5
STON				Sn	Sn	06 57 06.5	-2.0
BBLS	Lazići	5.37	340	ePn	Pn	06 56 14.4	+2.4
MS1	Monte Sant'Ang	5.41	304	ePn	Pn	06 56 13.1	+0.6
DIVS	Divibare	5.45	345	ePn	Pn	06 56 13.6	+0.4
TRUS	Trudelj	5.50	348	ePn	Pn	06 56 13.2	-0.5
FGSL	Fruska Gora	6.51	347	⇑*i*Pn	Pn	06 56 28.3	+0.7
ARR	Arges	6.82	16	⇑*i*P	Pn	06 56 32.3	+0.3
VOIR		6.99	18	⇑*i*P	Pn	06 56 35.8	+1.6
MLR	Muntele Rosu	7.28	23	⇑*i*P	Pn	06 56 38.9	+0.6
MLR	Muntele Rosu	7.28	23	P	Pn	06 56 40.0	+1.7
	0.3nm,0.3s,baz=298,slow=8.7,SNR=12						
MLR				LR	LR	06 59 51.9	
	comp=Z,22nm,19.6s,baz=201,slow=41						
PLOR	Plostina	7.83	25	⇑*i*P	Pn	06 56 46.8	+1.1
CFR	Carcaliu	7.83	34	⇑*i*P	Pb	06 57 11.4	+3.9
VRI	Vrincioaia	7.86	25	⇑*i*P	Pn	06 56 46.1	-0.1
BRTR	Keskin Array B	9.12	81	P	Pn	06 57 05.4	+1.9
	0.5nm,0.3s,baz=261,slow=13,SNR=11						
PSZ	Piszkesteto	9.20	351	⇓*i*P	Pn	06 57 05.7	+1.2
VYHS	Vyhne	9.91	348	ePN	Pn	06 57 17.9	+3.7
VRAC	Vranov	11.14	342	LR	LR	07 02 10.0	
	comp=Z,47nm,21.8s,baz=156,slow=39						
GERES	GERESS Array B	11.63	332	P	Pn	06 57 41.7	+3.9
	0.1nm,0.3s,baz=141,slow=13,SNR=3.1						
GERES				LR	LR	07 03 32.9	
	comp=Z,55nm,20.4s,baz=164,slow=44						
AKASG	Malin Array Be	12.93	21	P	Pn	06 57 56.0	+0.6
	0.2nm,0.3s,baz=212,slow=12,SNR=2.0						
ESDC	Sonseca Array	20.06	281	P	Pn	06 59 27.0	0.0
	0.3nm,0.3s,baz=74,slow=11,SNR=6.8						
HFS	Hagfors	21.94	349	P	P	06 59 45.9	+0.6
	0.7nm,0.5s,baz=171,slow=12,SNR=5.1						
MDT	Midelt	22.31	263	P	P	06 59 52.3	+2.7
	1.7nm,1.0s,baz=85,slow=11,SNR=2.7						
FINES	FINESS Array B	22.77	5	P	P	06 59 54.4	+0.3
	1.6nm,0.8s,baz=162,slow=14,SNR=3.2						
FINES				LR	LR	07 09 54.7	
	comp=Z,80nm,18.6s,baz=51,slow=39						
NOA	NORSAR Array B	23.21	347	P	P	06 59 58.5	-0.2
	0.3nm,0.5s,baz=147,slow=9.1,SNR=2.6						
NOA				LR	LR	07 10 54.3	
	comp=Z,28nm,20.3s,baz=10.0,slow=41						
EKA	Eskdalemuir Ar	23.55	323	P	P	07 00 02.0	-0.2
	1.0nm,0.4s,baz=128,slow=9.2,SNR=5.1						
TORD	Torodi Ar. Bea	31.25	221	P	P	07 01 12.3	+0.5
	1.0nm,0.8s,baz=31,slow=9.0,SNR=6.7						
KURBB	Kurchatov Arra	40.94	54	P	P	07 02 33.8	-0.5
	0.8nm,0.8s,baz=281,slow=8.6,SNR=9.4						
MKAR	Makanchi Array	44.01	59	P	P	07 02 58.9	-0.5
	1.5nm,0.6s,baz=279,slow=7.4,SNR=20						
ZALV	Zalesovo Beam	44.42	49	P	P	07 03 01.8	-0.7
	1.1nm,0.4s,baz=258,slow=7.0,SNR=4.9						
YKA	Yellowknife Ar	73.14	341	P	P	07 06 21.9	-0.2
	0.4nm,0.6s,baz=30,slow=5.1,SNR=7.2						

CASC 23 06:57:39.0±2.9, 8°.25N×83°.00W, h0km±13km, MD3.8, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.43	337	⇑*i*P	Pb	06 57 48.8	-0.8
ACR				eS	Sb	06 57 56.2	-0.4
BRU2	Volcan	0.62	30	*i*P	Pb	06 57 52.2	-0.6
BRU2				eS	Sb	06 58 03.2	+0.9
BUS	Buena Vista	1.50	330	eP	Pn	06 58 04.5	-3.2
BUS				eS	Sn	06 58 28.2	-0.1
QCR	Quepos	1.64	315	⇓eP	Pn	06 58 08.6	-0.5
QCR				eS	Sb	06 58 31.3	+0.1
URSC	Urasca	1.75	334	eP	Pn	06 58 11.1	+0.3
URSC				eS	Sb	06 58 34.8	-0.1
CGA2	Cerro Gallo 2	2.27	321	eP	Pb	06 58 20.0	-1.1
CGA2				eS	Sb	06 58 50.7	+0.8

MEX 23 07:02:02.7±0.5, 16°.54N×100°.35W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.52	9	*i*P	Pg	07 02 11.9	-0.8
CAIG				*i*S	Sg	07 02 20.0	+0.5
ARIG	Puente Sto Nin	1.74	0	eP	Pn	07 02 30.5	-3.1
ARIG				*i*S	Sn	07 02 51.5	-4.7
PNIG	Pinotepa	2.14	93	eP	Pn	07 02 36.4	-2.7
PNIG				*i*S	Sn	07 03 01.2	-4.9

ISCJB ***23*** *07:05:24.1±1.6, 34°.06S±0°.08×178°.1W±0°.2, h37km, mb4.2/4, Error ellipse: s-maj=27.4km s-min=9.1km az=17.2*
IDC ***23*** *07:05:24.9±1.2, 33°.62S×178°.80W, h0km, mb4.1/3, mb1 4.4/4, mb1mx4.0/22, mbtmp4.2/4, ML4.3/1, MS3.7/1, Ms1 3.7/1, ms1mx3.1/17, Error ellipse: s-maj=37.4km s-min=29.9km az=62.0*
NEIC ***23*** *07:05:29.5±0.8, 33°.98S×178°.73W, h35km, mb4.5/2, Error ellipse: s-maj=21.7km s-min=13.1km az=111.0*
ISC 23 07:05:28.5±1.2, 34°.1S±0°.1×178°.3W±0°.2, h37km, n25, σ1§34/29, mb4.2/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	4.87	220	PN	Pn	07 06 39.0	0.0
HAZ				SN	Sn	07 07 37.5	+3.4
PUZ	Puketiti	4.87	214	ePN	Pn	07 06 37.8	-1.4
PUZ				SN	Sn	07 07 36.1	+1.8
CNGZ	Carnagh Statio	5.23	212	PN	Pn	07 06 44.2	+0.2
MWZ	Matawai	5.43	218	ePN	Pn	07 06 46.8	-0.1
MWZ				SN	Sn	07 07 47.3	-0.9
URZ	Urewera	5.60	221	Pn	Pn	07 06 49.2	+0.1
	8.8nm,0.3s,baz=261,slow=1.4,SNR=49						
URZ				Sn	Sn	07 07 52.1	0.0
	7.0nm,0.3s,baz=254,slow=4.8,SNR=8.4						
URZ	Urewera	5.60	221	PN	Pn	07 06 48.4	-0.7
URZ				SN	Sn	07 07 51.7	-0.4
URZ	Urewera	5.60	221	ePn	Pn	07 06 48.5	-0.6
	51nm,0.5s						
URZ				Sn	Sn	07 07 52.1	0.0
URZ				eSn	Sn	07 07 53.1	+1.0
RIGZ	Rimuhau	5.61	214	PN	Pn	07 06 49.1	-0.2
SNGZ	Shannon Statio	5.87	216	PN	Pn	07 06 53.0	+0.1
TOZ	Tahuroa Road	6.23	233	PN	Pn	07 06 58.5	+0.7
BKZ	Black Stump Fm	6.59	218	PN	Pn	07 07 01.3	-1.6
OUZ	Omahuta	6.81	258	ePn	Pn	07 07 06.3	+0.6
KHZ	Kahutara	10.51	215	ePn	Pn	07 07 55.3	-1.2
DZM	Mont Dzumac	18.03	308	LR	LR	07 13 54.3	
	comp=Z,210nm,18.4s,baz=50,slow=29						
ASAR	Alice Springs	42.83	271	P	P	07 13 21.3	-1.8
	2.5nm,0.8s,baz=113,slow=7.0,SNR=15						
ASAR				PcP	PcP	07 15 14.1	+0.3
	0.6nm,0.9s,baz=126,slow=4.8,SNR=3.1						
WB2	Warramunga Arr	44.14	276	eP	P	07 13 31.7	-1.9
WRAB	Tennant Creek	44.15	276	eP	P	07 13 31.6	-2.1
	9.5nm,1.2s						
WRA	Warramunga Arr	44.15	276	P	P	07 13 31.5	-2.2
	2.6nm,0.6s,baz=118,slow=7.4,SNR=19						
QSPA	South Pole Qui	56.02	180	P	P	07 15 10.2	+7.0
	1.5nm,1.0s,baz=90,slow=2.0,SNR=2.9						
QSPA	South Pole Qui	56.02	180	eP	P	07 15 09.5	+6.3
	6.0nm,1.1s						
MKAR	Makanchi Array	119.94	309	PKP	PKPdf	07 24 13.7	-0.9
	0.1nm,0.4s,baz=153,slow=4.8,SNR=2.5						
KBZ	Khabaz	146.86	299	PKPbc	PKPbc	07 25 06.7	+0.2
	0.9nm,0.8s,baz=153,slow=4.5,SNR=3.7						
FINES	FINESS Array B	148.51	338	PKPbc	PKPbc	07 25 11.4	+1.0
	1.9nm,0.6s,baz=79,slow=4.1,SNR=6.0						
AKASG	Malin Array Be	154.01	318	PKPbc	PKPbc	07 25 25.0	+1.4
	0.6nm,0.4s,baz=66,slow=1.8,SNR=3.2						
TORD	Torodi Ar. Bea	159.14	180	PKPab	PKPab	07 26 02.0	+2.0
	0.4nm,0.7s,baz=220,slow=3.8,SNR=3.2						

GUC 23 07:14:01.4±0.5, 36°.68S×73°.10W, h38km±2km, ML3.9, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.17	181	*i*P	Pn	07 14 07.4	-3.7
CCSP				eS4	Pn	07 14 10.8	-0.2
CCSP				IAML		07 14 11.6	
	comp=E,25μm,0.5s						
COCH	Cobquecura	0.60	25	⇑*i*P	Pn	07 14 13.3	-0.3
COCH				*i*S	Sn	07 14 21.9	-0.1
LNCH	Linares	1.47	56	*i*P	Pn	07 14 26.6	+1.3
LNCH				*i*S	Sn	07 14 46.2	+2.8
LNCH				IAML		07 14 52.4	
	comp=N,2μm,1.0s						
TALC	Talca	1.75	43	*i*P4	Pn	07 14 30.0	+0.8
TALC				*i*S4	Sn	07 14 51.8	+1.7
TALC				IAML		07 14 56.9	
	comp=E,3μm,0.3s						
NICH	Los Niches	2.26	43	*i*P	Pn	07 14 38.3	+2.1
NICH				*i*S	Sn	07 15 05.9	+3.1
NICH				IAML		07 15 15.6	
	comp=N,870nm,0.3s						

ISCJB ***23*** *07:30:23.8±0.6, 37°.73S±0°.03×73°.15W±0°.09, h33km, mb3.8/4, Error ellipse: s-maj=10.0km s-min=4.9km az=4.3*
IDC ***23*** *07:30:25.1±4.2, 37°.74S×73°.05W, h34km±32km, mb3.6/4, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=34.1km s-min=23.9km az=79.0*
ISC 23 07:30:24.4±0.8, 37°.74S±0°.04×73°.18W±0°.08, h33km, n14, σ0§64/21, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	Angol	0.39	101	eP	Pb	07 30 33.1	-0.3
AGCH				eS	Sb	07 30 39.4	-0.2
CCSP	San Pedro de C	0.89	4	eP	Pn	07 30 40.6	0.0
CCSP				eS	Sb	07 30 53.1	+0.1
CCSP				IAML		07 30 55.6	
	comp=E,6μm,0.5s						
PSCH	Puerto Saavedr	1.07	189	eP	Pn	07 30 42.9	-0.3
PSCH				eS	Sn	07 30 56.5	-0.4
COCH	Cobquecura	1.63	11	eP	Pn	07 30 50.6	-0.1
COCH				eS	Sn	07 31 10.6	0.0
VLCH	Valdivia	2.07	181	eP	Pn	07 30 56.4	-0.4
LNCH	Linares	2.27	34	eP	Pn	07 30 59.1	-0.5
PLCA	Paso Flores	3.62	146	Pn	Pn	07 31 20.1	+1.8
	comp=E,1.8nm,0.3s,baz=320,slow=10,SNR=40						
PLCA				Pg	Pb	07 31 31.4	+3.6
	comp=E,5.0nm,0.3s,baz=319,slow=16,SNR=20						
PLCA				Lg	Lg	07 32 16.3	
	comp=E,8.0nm,0.3s,baz=40,slow=13,SNR=5.0						
CFAA	Coronel Fontan	7.35	35	Pn	Pn	07 32 08.4	-1.0
	comp=E,0.1nm,0.3s,baz=346,slow=4.4,SNR=25						
CFAA				Sn	Sn	07 33 31.6	-0.1
	comp=E,0.1nm,0.3s,baz=310,slow=22,SNR=1.7						
TXAR	Lajitas Array	72.57	332	P	P	07 41 49.1	+0.9
	comp=E,0.8nm,0.7s,baz=152,slow=8.8,SNR=11						
DBIC	Dimbokro	77.26	71	P	P	07 42 15.8	+0.1
	comp=E,1.1nm,0.7s,baz=245,slow=7.5,SNR=2.3						
TORD	Torodi Ar. Bea	86.35	70	P	P	07 43 03.1	-0.3
	comp=E,0.4nm,0.6s,baz=223,slow=4.8,SNR=3.0						
TORD				pP	pP	07 43 13.5	-0.4
	comp=E,0.4nm,0.5s,baz=207,slow=4.1,SNR=2.4						
NVAR	Mina Array Bea	86.44	326	P	P	07 43 04.3	+0.7
	comp=E,0.3nm,0.5s,baz=134,slow=3.9,SNR=2.8						
WRA	Warramunga Arr	117.05	209	PKP	PKPdf	07 49 06.0	-0.4
	comp=E,0.1nm,0.6s,baz=162,slow=1.5,SNR=5.6						
WRA				pPKP	pPKPdf	07 49 16.5	-0.7
	comp=E,0.2nm,0.5s,baz=153,slow=1.8,SNR=1.9						
MKAR	Makanchi Array	159.78	56	PKPab	PKPab	07 50 58.5	-0.1
	comp=E,0.2nm,0.6s,baz=330,slow=2.3,SNR=2.3						

ISCJB ***23*** *07:42:04.0±1.8, 27°.82N±0°.04×127°.80E±0°.05, h3km±12km, mb3.2/3, Error ellipse: s-maj=8.4km s-min=6.9km az=32.4*
IDC ***23*** *07:42:04.3±4.2, 27°.73N×127°.97E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/36, mbtmp3.3/3, Error ellipse: s-maj=243.8km s-min=27.1km az=65.0*
JMA ***23*** *07:42:04.5±0.4, 27°.83N×127°.76E, h11km, M3.0*
ISC 23 07:42:05.5±1.9, 27°.74N±0°.06×127°.91E±0°.06, h10km±14km, n10, σ0§71/16, mb3.1/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	Okinoerabujima	0.70	123	P	Pn	07 42 20.9	-0.7
JOKE				S	Sn	07 42 32.6	+0.1
JIH	Iheya	0.71	176	P	Pb	07 42 19.8	-0.2
JIH				S	Sb	07 42 30.6	+0.8
JTK	Tokunoshima	0.93	87	P	Pb	07 42 23.6	-0.1
JTK				S	Sn	07 42 37.2	-0.8
JOW	Kunigami	0.96	160	P	Pn	07 42 24.9	-0.3
JOW				S	Sn	07 42 39.2	+0.2
JNTH	Nagotoyohara	1.22	175	P	Pb	07 42 28.1	-0.7
JNTH				S	Sn	07 42 45.9	+0.5
JAMN	Amaminishikomi	1.23	66	P	Pg	07 42 29.5	+0.4
JAGN	Aguni-jima	1.29	207	P	Pn	07 42 28.4	-1.3
JAGN				eS	Sn	07 42 47.7	+0.6
SONM	Songino Array	26.14	326	P	P	07 47 41.0	+1.0
	0.1nm,0.3s,baz=134,slow=8.3,SNR=2.2						
MKAR	Makanchi Array	40.33	311	P	P	07 49 43.1	-0.1
	0.3nm,0.7s,baz=99,slow=9.3,SNR=3.9						
WRA	Warramunga Arr	47.81	172	P	P	07 50 43.4	0.0
	0.4nm,0.8s,baz=353,slow=7.7,SNR=3.4						

IDC ***23*** *07:44:26.7±0.8, 19°.04S×169°.71E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.3/26, mbtmp4.2/12, ML4.0/1, MS3.9/9, Ms1 3.9/9, ms1mx3.7/17, Error ellipse: s-maj=26.8km s-min=18.3km az=145.0*
GCMT ***23*** *07:44:28.9±0.3, 18°.83S×169°.68E, h20km±1km, MW4.9/61, Moment Tensor Solution. s22,c23; s61,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.16±.22; $M_{\theta\theta}$1.13±.15; $M_{\phi\phi}$2.03±.15; $M_{r\theta}$0.48±.29; $M_{\theta\phi}$-1.51±.08; $M_{r\phi}$0.01±.26; Best double couple: $M_0$3.19400×10^{16} NP1:ϕ_s316.00000°, δ48.00000°, λ-99.00000°. NP2: ϕ_s150.00000°, δ43.00000°, λ-80.00000°. Principal axes: T 3.1680, Plg3.0000°, Azm53.0000°; N 0.0520, Plg7.0000°, Azm323.0000°; P -3.2200, Plg83.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NOU ***23*** *07:44:28.7±1.9, 19°.21S×170°.24E, h30km±999km, MD3.7*
NEIC ***23*** *07:44:28.9±0.6, 18°.93S×169°.70E, h10km, mb4.9/14, Error ellipse: s-maj=16.0km s-min=11.8km az=135.0*
SZGRF ***23*** *07:44:29.1, 20°.20S×169°.96E, h33km, Vanuatu Islands*
BJI ***23*** *07:44:29.3, 18°.90S×169°.60E, h10km, mB5.3/12, mb4.7/27, Ms5.2/8, Ms7 4.6/5*
ISCJB ***23*** *07:44:31.2±0.5, 19°.11S±0°.06×169°.64E±0°.07, h35km, mb4.5/20, MS4.0/8, Error ellipse: s-maj=11.6km s-min=4.6km az=38.4*
ISC 23 07:44:32.6±0.5, 19°.15S±0°.07×169°.73E±0°.07, h35km, n142, σ1§85/125, mb4.7/20, MS4.0/8, 5C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	4.00	221	eS	Sn	07 46 15.6	-1.5
DZM	Mont Dzumac	4.23	226	Pn	Pn	07 45 34.0	-0.7
	8.7nm,0.3s,baz=81,slow=10,SNR=126						
DZM				Sn	Sn	07 46 22.7	-0.2
	70nm,0.3s,baz=141,slow=21,SNR=8.3						
PLUM	Mont Dore	4.24	222	eS	Sn	07 46 23.5	+0.5
LASL	Noumea	4.27	224	eS	Sn	07 46 24.4	+0.6
NOUC	Port Laguerre	4.34	227	eP	Pn	07 45 36.9	+0.7
NOUC				eS	Sn	07 46 27.1	+1.5
NOUC				AMP		07 46 45.5	
	comp=Z,115nm,6.2s						
MSVF	Nonsavu	8.03	81	ePn	Pn	07 46 29.3	+2.4
	comp=Z,204nm,1.4s						
RAO	Raoul Island	15.09	134	LR	LR	07 52 21.8	
	comp=Z,169nm,20.3s,baz=88,slow=31						
OUZ	Omahuta	16.37	169	eP	P	07 48 23.4	+1.2
	comp=Z,42nm,0.7s						
EIDS	Eidsvold	18.32	247	P	Pn	07 48 53.0	+8.9
	baz=16,SNR=5.2						
EIDS	Eidsvold	18.32	247	eP	Pn	07 48 45.6	+1.5
	comp=Z,33nm,1.2s						
ARMA	Armidale	19.86	232	P	Pn	07 49 11.0	+8.3
	baz=17,SNR=5.0						
ARMA	Armidale	19.86	232	eP	Pn	07 49 03.2	+0.5
	comp=Z,54nm,1.4s						
URZ	Urewera	20.09	163	LR	LR	07 55 01.6	
	comp=Z,344nm,21.0s,baz=351,slow=31						
CTA	Charters Tower	22.13	264	P	P	07 49 26.0	+0.6
	comp=Z,2.1nm,0.4s,baz=90,slow=12,SNR=3.5						
CTAO	Charters Tower	22.13	264	eP	P	07

comp=Z,11nm,1.4s
MDJ PMZ
comp=Z,120nm,3.8s
GYA Guiyang 76.15 305 *eP* **P 07 56 19.3 +1.8**
GYA PMZ
comp=Z,10.0nm,1.0s
XAN Xi'an 78.39 312 P P 07 56 35.9 +6.0
XAN pP pP 07 56 42.3 +1.4
XAN PMZ
comp=Z,4.0nm,1.0s
XAN LN
comp=Z,100nm,8.7s
KMI Kunming 78.62 302 P **P 07 56 33.4 +1.9**
KMI PMZ
comp=Z,10.0nm,0.9s
MAW Mawson 78.68 202 LR LR 08 26 10.9
comp=Z,106nm,21.6s,baz=190,slow=32
CMAR Chiang Mai Arr 78.89 294 P **P 07 56 33.0 +0.2**
comp=Z,0.7nm,0.3s,baz=126,slow=3.8,SNR=9.5
HHC Hu-ho-hao-te 80.46 319 *eP* P 07 56 44.0 +3.0
HHC pP **PcP 07 56 47.0 -0.9**
HHC S **S 08 06 48.6 +3.5**
HHC sS **SKSac 08 06 54.9 -1.6**
HHC SS **SS 08 12 01.5 +3.5**
HHC PMZ
comp=Z,33nm,1.2s
HHC PMZ
comp=Z,340nm,8.2s
HHC LN
comp=Z,260nm,18.0s
HHC LE
comp=Z,460nm,18.0s
HHC LZ
comp=Z,210nm,18.2s
CD2 Chengdu 80.55 307 *eP* **P 07 56 44.4 +2.7**
CD2 S **S 08 06 48.8 +2.5**
CD2 PMZ
comp=Z,10.0nm,1.2s
LZH Lanzhou 83.01 312 *eP* **P 07 56 52.3 -2.4**
LZH PP **PP 08 00 05.3 -0.8**
LZH PMZ
comp=Z,22nm,1.5s
LZH PMZ
comp=Z,76nm,8.9s
LZH LN
comp=Z,440nm,17.0s
LZH LE
comp=Z,410nm,17.5s
LZH LZ
comp=Z,540nm,19.4s
TNA Tin City 86.15 9 *eP* **P 07 57 08.9 -0.7**
comp=Z,7.7nm,1.5s
BILL Bilibino 86.98 359 *eP* **P 07 57 12.5 -1.2**
comp=Z,14nm,1.5s
ULN Ulaanbaatar 87.07 323 *eP* **P 07 57 14.0 -0.8**
comp=Z,17nm,1.2s
GTA Gaotai 87.40 313 *eP* **P 07 57 16.4 -0.2**
GTA pP **PcP 07 57 21.0 +2.4**
GTA sP sP 07 57 23.4 -8.3
GTA PMZ
comp=Z,4.0nm,0.9s
SONM Songino Array 87.43 323 P **P 07 57 15.5 -1.0**
comp=Z,3.9nm,1.0s,baz=138,slow=5.3,SNR=21
PFO Pinyon Flats O 87.70 53 LR LR 08 29 50.6
comp=Z,91nm,20.5s,baz=311,slow=31
NVAR Mina Array Bea 88.40 48 P **P 07 57 22.5 +1.0**
comp=Z,0.4nm,0.6s,baz=191,slow=7.2,SNR=3.7
ILAR Eielson Array 90.01 17 P **P 07 57 25.5 -2.6**
comp=Z,0.4nm,0.8s,baz=228,slow=5.1,SNR=3.6
ILAR LR LR 08 32 54.6
comp=Z,72nm,19.1s,baz=166,slow=32
ANMO Albuquerque 95.87 55 LR LR 08 31 45.8
comp=Z,56nm,21.4s,baz=204,slow=30
TXAR Lajitas Array 96.32 61 P **P 07 57 58.6 +0.4**
comp=Z,0.3nm,0.9s,baz=215,slow=7.7,SNR=2.6
WMQ Urumqi 97.48 314 *eP* Pdif 07 58 03.3 +0.2
WMQ pP PcP 07 58 08.0 +4.9
WMQ PP **PP 08 02 02.3 +1.5**
WMQ SKS **SKSac 08 08 38.8 +1.0**
WMQ S **S 08 09 22.8 -2.4**
WMQ SS **SS 08 16 04.3 -1.0**
WMQ PMZ
comp=Z,5.0nm,1.0s
WMQ PMZ
comp=Z,120nm,4.5s
WMQ LN
comp=Z,48nm,17.0s
WMQ LE
comp=Z,69nm,21.0s
YKA Yellowknife Ar 100.38 27 P **Pdif 07 58 14.9 -0.5**
comp=Z,0.3nm,0.9s,baz=250,slow=5.1,SNR=4.0
MKAR Makanchi Array 102.00 315 P **Pdif 07 58 22.4 -0.7**
comp=Z,0.3nm,0.7s,baz=101,slow=7.5,SNR=3.2
RDO Rodhopi 142.44 314 *eP* PKPdf 08 04 08.5 +6.6
SMTH Samothraki Isl 142.72 313 *eP* PKPdf 08 04 11.5 +9.0
SMG Samos 142.80 308 *eP* PKPdf 08 04 15.0 +12
CHOS Chios island 143.15 309 *eP* PKPdf 08 04 10.5 +7.1
LIA Limnos Island 143.20 312 *eP* **PKPdf 08 04 08.0 +4.7**
OUR Ouranopolis 143.85 313 *eP* **PKPdf 08 04 05.5 +1.1**
TANN Tannenbergstha 143.94 335 *e*PKPbc PKPab 08 04 01.1 -0.5
WERD Werda 143.98 335 *e*PKPbc PKPab 08 04 01.1 -0.6
APE Apeiranthos 144.00 307 *eP* **PKPdf 08 04 08.0 +3.2**
PLN Plauen 144.01 335 *e*PKPbc **PKPab 08 04 01.3 -0.5**
GUNZ Gunzen 144.04 335 *e*PKPbc **PKPab 08 04 01.4 -0.5**
WERN Wernitzgruen 144.08 335 *e*PKPbc **PKPab 08 04 01.7 -0.4**
ROHR Rohrbach 144.14 335 *e*PKPbc **PKPab 08 04 01.7 -0.6**
PLG Polygyros 144.21 314 *eP* **PKPab 08 04 01.5 -1.4**
KNT Kendrikon 144.22 315 *eP* **PKPab 08 04 01.5 -1.4**
PAIG Paliouri 144.24 313 *eP* **PKPdf 08 04 08.5 +3.4**
SANT Santorini 144.28 306 *eP* **PKPdf 08 04 09.5 +4.1**
CONA Conrad Observa 144.30 329 ⇓ *i* PKPdf PKPbc 08 04 03.2 -0.2
comp=Z,8.1nm,1.0s
HORT Hortiatis 144.34 314 *eP* **PKPdf 08 04 09.0 +3.6**
KHC Kasperske Hory 144.47 333 *e*PKP **PKPab 08 04 02.3 -1.3**
KHC *ep*PKP **PKiKP 08 04 09.9 +1.0**
NPS Neapolis 144.51 304 *eP* PKPdf 08 04 11.5 +5.7
ROTZ Rotzenmuhle 144.56 335 *e*PKPbc **PKPab 08 04 03.2 -0.6**
RCBR Riachuelo 144.60 132 PKPbc **PKPab 08 04 04.3 -0.8**
comp=Z,8.8nm,0.8s,baz=272,slow=4.5,SNR=4.0
GEC2 GERESS Array S 144.63 332 *e*PKPbc **PKPab 08 04 03.5 -0.8**
GERES GERESS Array B 144.63 332 PKP **PKPab 08 04 03.3 -0.9**
comp=Z,2.4nm,0.9s,baz=56,slow=3.4,SNR=14
LAST Lasithi 144.64 304 *eP* PKPbc 08 04 04.5 -0.4
GRG Griva 144.65 315 *eP* **PKPab 08 04 03.0 -1.5**
SKIA Skiathos 144.71 312 *eP* **PKPdf 08 04 07.5 +1.5**
WET Wettzell 144.76 333 *e*PKPbc **PKPab 08 04 03.9 -0.8**
MRKA Markates 144.81 311 *eP* **PKPdf 08 04 09.5 +3.3**
XOR Xorichti 144.82 312 *eP* **PKPdf 08 04 10.5 +4.3**
NEO Neokhori 144.82 312 *eP* **PKPab 08 04 00.5 -4.7**
ARSA Arzberg 144.94 329 ⇑ *i* PKPdf **PKPab 08 04 04.9 -0.5**
comp=Z,12nm,1.3s
LIT Litokhoron 144.98 314 *eP* **PKPab 08 04 04.0 -1.8**
GRF Grafenberg Arr 145.01 335 *e*PKPbc **PKPbc 08 04 05.0 -0.5**
SMIA Simia 145.01 311 *eP* PKPbc 08 04 04.0 -1.9
MOA Molln 145.11 331 ⇑ *i* PKPab **PKPbc 08 04 04.9 -1.0**
comp=Z,21nm,1.2s
KOGS Kog 145.13 327 *e*PKPbc **PKPbc 08 04 05.0 -0.9**
SIVA Sivas 145.21 304 *eP* **PKPbc 08 04 06.0 -0.6**
FNA Florina 145.41 315 *eP* **PKPbc 08 04 05.5 -1.7**
AXAR Agios Charalam 145.45 311 *eP* **PKPab 08 04 12.0 +4.5**
LTK Loutraki 145.53 310 *eP* **PKPdf 08 04 04.5 -2.9**
THL Klokotos Trika 145.55 313 *eP* PKPab 08 04 14.0 +6.2
VAM Vamos 145.56 305 *eP* PKPab 08 04 13.0 +5.0
PERS Pernice 145.57 328 *i* PKPbc **PKPdf 08 04 06.5 -0.8**
AGG Agios Georgios 145.57 312 *eP* **PKPab 08 04 12.5 +4.5**
SOKA Soboth 145.58 329 ⇑ *i* PKPdf **PKPdf 08 04 06.5 -0.9**
comp=Z,14nm,1.1s
TNS Taunus Mts 145.59 339 *e*PKPbc **PKPdf 08 04 06.7 -0.5**
DSF Desfina 145.69 311 *eP* **PKPdf 08 04 06.0 -1.8**
MAKR Makrakomi, Fth 145.72 312 *eP* **PKPdf 08 04 06.5 -1.2**
KARN Karanos 145.78 305 *eP* **PKPdf 08 04 07.5 -0.5**
NEST Nestorio 145.81 315 *eP* **PKPdf 08 04 07.0 -0.9**
CRES Cresnjev 145.96 327 *e*PKPbc **PKPbc 08 04 08.2 -0.4**
KALE Kalithea 145.98 311 *eP* **PKPdf 08 04 07.5 -0.7**
EVR Evrytania 145.98 312 *eP* **PKPab 08 04 13.0 +3.4**
GUR Goura 146.02 310 *eP* **PKPdf 08 04 07.5 -0.9**
VLI Veliai 146.06 308 *eP* **PKPdf 08 04 07.0 -1.4**
ANKY Antikythira Is 146.09 306 *eP* **PKPab 08 04 12.0 +2.0**
KLV Kalavryta, Ach 146.12 311 *eP* **PKPdf 08 04 08.0 -0.5**
EFP Efpalio 146.13 311 *eP* **PKPdf 08 04 08.5 +0.1**
KYTH Kithira 146.15 307 *eP* PKPab 08 04 16.5 +6.3
VLX Vlachokerasia 146.22 309 *eP* **PKPdf 08 04 08.5 -0.2**
DRO Drossia 146.47 311 *eP* **PKPbc 08 04 10.5 +0.1**
STU Stuttgart 146.53 336 *e*PKPbc **PKPbc 08 04 09.6 -0.6**
PDO Prodromos 146.56 312 *eP* **PKPdf 08 04 09.5 +0.4**
RLS Riolos of Patr 146.60 311 *eP* **PKPbc 08 04 10.0 -0.8**
AMT Artemida-Makis 146.65 310 *eP* **PKPab 08 04 15.0 +2.9**
ABTA Abfaltersbach 146.73 331 ⇑ *i* PKPdf **PKPdf 08 04 06.3 -3.0**
comp=Z,9.8nm,0.9s
PYL PYLOS 146.88 309 *eP* PKPdf 08 04 00.5 -9.2
KEK Kerkira 146.99 315 *eP* **PKPab 08 04 18.0 +4.6**
VLS Valsamata 147.17 312 *eP* **PKPbc 08 04 11.0 -1.4**
SFD Strofades 147.26 310 *eP* PKPdf 08 04 03.5 -6.8
FETA Feichten 147.31 333 ⇑ *i* PKPdf **PKPdf 08 04 09.0 -1.3**
comp=Z,12nm,1.4s
TORD Torodi Ar. Bea 167.05 244 PKP **PKPdf 08 04 33.6 -2.0**
comp=Z,2.6nm,1.1s,baz=282,slow=0.3,SNR=9.8
TORD PKPab **PKPab 08 05 38.9 -0.8**
comp=Z,1.1nm,1.1s,baz=112,slow=1.2,SNR=3.2

*IDC **23** 07:54:39.4±0.7,34°.96S×72°.61W,h0km,mb4.2/9,*
mb1 4.4/12,mb1mx4.2/26,mbtmp4.2/12,ML4.4/2,MS3.4/2,
Ms1 3.4/2,ms1mx3.2/25,Error ellipse: s-maj=24.7km
s-min=15.8km az=98.0
*ISCJB **23** 07:54:41.0±0.3,35°.00S±0°.03×72°.62W±0°.04,h18km,*
mb4.3/24,MS3.3/2,Error ellipse: s-maj=4.7km
s-min=4.1km az=19.1
*GUC **23** 07:54:42.1±0.6,35°.00S×72°.55W,h14km±3km,ML4.5*
*NEIC **23** 07:54:45.2±1.1,34°.96S×72°.50W,h37km±10km,mb4.4/18,*
Error ellipse: s-maj=14.1km s-min=7.4km az=84.0
ISC 23 07:54:42.1±0.5,**35°.04S**±0°.04×**72°.58W**±0°.05,**h18**km,**n63,**
σ1§**12/68,mb4.3/24,6C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.85**	**115**	⇑ *iP*	**Pb**	**07 54 57.5**	**-0.9**
TALC				*i* S	**Sb**	**07 55 08.8**	**-0.7**
COCH	**Cobquecura**	**1.10**	**189**	⇑ *iP*	**Pn**	**07 55 02.4**	**-0.3**
COCH				*e*S	**Sb**	**07 55 17.2**	**+0.4**
NICH	**Los Niches**	**1.11**	**89**	⇑ *iP*	**Pb**	**07 55 01.5**	**-1.2**
NICH				*i* S	**Sb**	**07 55 16.0**	**-0.9**
LNCH	**Linares**	**1.14**	**136**	⇑ *iP*	**Pn**	**07 55 02.5**	**-0.6**
LNCH				*i* S4	**Sn**	**07 55 18.8**	**+0.5**
LNV	**Longovilo**	**1.45**	**42**	⇓ *iP*	**Pn**	**07 55 05.9**	**-1.4**
CCSP	**San Pedro de C**	**1.85**	**193**	*e*P1	**Pn**	**07 55 14.2**	**+1.2**
CCSP				*e*S	**Sb**	**07 55 38.2**	**-0.1**
CCSP				AML	AML	07 55 42.8	
comp=N,12μm,0.5s							
CACH	**El Canelo**	**1.87**	**61**	⇓ *iP*	**Pn**	**07 55 13.3**	**-0.1**
CHCH	**Chadas Angostu**	**1.94**	**56**	*e*P1	**Pn**	**07 55 14.0**	**-0.2**
ANTU	**Antumapu**	**2.18**	**48**	*eP*	**Pn**	**07 55 18.1**	**+0.6**
ANTU				*i* S	**Sn**	**07 55 45.1**	**+1.1**
ANTU				AML	AML	07 55 55.1	
comp=E,3μm,0.9s							
SJCH	**San Jose de Ma**	**2.31**	**54**	*e*P1	**Pn**	**07 55 20.3**	**+1.0**
SJCH				*e*S	**Sn**	**07 55 49.2**	**+1.9**
LACH	**Col Las Americ**	**2.32**	**48**	*e*P1	**Pn**	**07 55 20.2**	**+0.8**
LACH				*e*S	**Sn**	**07 55 49.6**	**+2.0**
CLCH	**Cerro Calan**	**2.35**	**47**	*e*P4	**Pn**	**07 55 19.1**	**-0.8**
CLCH				*e*S4	**Sn**	**07 55 50.4**	**+2.0**
CLCH				AML	AML	07 55 58.7	
comp=N,3μm,0.6s							
CLCH				AML	AML	07 55 59.2	
comp=N,3μm,0.6s							
PEL	**Peldehue**	**2.46**	**40**	⇑ *iP*	**Pn**	**07 55 20.5**	**-0.8**
PEL				AML	AML	07 56 07.2	
comp=E,3μm,0.7s							
YECH	**El Yeso**	**2.48**	**57**	*e*P1	**Pn**	**07 55 23.2**	**+1.3**
YECH				*e*S1	**Sn**	**07 55 54.5**	**+2.7**
CFAA	**Coronel Fontan**	**4.99**	**48**	Pn	**Pn**	**07 55 56.4**	**+0.2**
comp=E,0.7nm,0.3s,baz=219,slow=12,SNR=46							
CFAA				Pg	**Pb**	**07 56 09.8**	**+0.8**
comp=E,0.8nm,0.3s,baz=237,slow=14,SNR=15							
CFAA				Lg	Lg	07 57 06.6	
comp=E,0.8nm,0.3s,baz=300,slow=22,SNR=6.2							
CFAA				LR	LR	07 58 09.0	
comp=E,34nm,20.8s,baz=211,slow=42							
PLCA	**Paso Flores**	**5.91**	**165**	Pn	**Pn**	**07 56 10.1**	**+1.3**
comp=E,3.1nm,0.3s,baz=339,slow=11,SNR=39							
PLCA				Pg	Pb	07 56 29.0	+4.4
comp=E,4.0nm,0.3s,baz=344,slow=17,SNR=10							
PLCA				Lg	Lg	07 57 42.5	
comp=E,2.3nm,0.3s,baz=250,slow=22,SNR=4.3							
LCO	**Las Campanas**	**6.22**	**15**	*e*Pn	**Pn**	**07 56 11.3**	**-1.9**
TRQA	**Tornquist**	**9.05**	**113**	*e*Pn	**Pn**	**07 56 54.4**	**+2.6**
LVC	**Limon Verde**	**12.79**	**15**	*e*Pn	**Pn**	**07 57 44.7**	**+1.4**
LPAZ	**La Paz**	**19.09**	**13**	P	**Pn**	**07 59 05.5**	**+0.1**
comp=E,0.4nm,0.3s,baz=180,slow=9.7,SNR=16							
LPAZ	**La Paz**	**19.09**	**13**	*eP*	**Pn**	**07 59 05.8**	**+0.5**
comp=E,11nm,0.9s							
USHA	**Ushuaia**	**20.00**	**173**	P	Pn	07 59 15.8	+0.5
comp=E,7.9nm,0.8s,baz=27,slow=6.8,SNR=2.1							
SIV	**San Ignacio**	**21.59**	**31**	P	**P**	**07 59 29.5**	**-1.5**
comp=E,22nm,0.7s,baz=222,slow=10,SNR=66							
SIV				LR	LR	08 09 33.2	
comp=E,196nm,19.8s,baz=263,slow=42							
NNA	**Nana**	**23.27**	**349**	LR	LR	08 06 22.9	
comp=E,65nm,21.8s,baz=146,slow=30							
BDFB	**Brasilia**	**29.29**	**55**	P	**P**	**08 00 45.4**	**+1.7**
comp=E,2.9nm,0.9s,baz=200,slow=13,SNR=3.7							
OTAV	**Otavalo**	**35.52**	**350**	*eP*	**P**	**08 01 39.4**	**+0.8**
comp=E,6.1nm,1.3s							
PTGA	**Pitinga**	**36.10**	**22**	*eP*	**P**	**08 01 42.0**	**-1.1**
comp=E,2.3nm,0.6s							
QSPA	**South Pole Qui**	**55.20**	**180**	P	**P**	**08 04 14.4**	**+0.8**
comp=E,0.9nm,0.6s,baz=149,slow=4.4,SNR=4.6							
SYO	**Syowa Base**	**65.07**	**158**	⇑ *eP*	**P**	**08 05 19.4**	**-1.5**
JCT	**Junction City**	**70.03**	**335**	*eP*	**P**	**08 05 53.0**	**+0.3**
comp=E,6.0nm,1.2s							
TXAR	**Lajitas Array**	**70.42**	**331**	P	**P**	**08 05 55.6**	**+0.3**
comp=E,1.5nm,0.6s,baz=157,slow=8.6,SNR=30							
TX31	**Lajitas Ar. Si**	**70.42**	**331**	*eP*	**P**	**08 05 55.5**	**+0.2**
WVT	**Waverly**	**72.22**	**347**	*eP*	**P**	**08 06 05.1**	**-0.7**
comp=E,13nm,1.0s							
TUL1	**Leonard**	**73.83**	**341**	*eP*	**P**	**08 06 14.7**	**-0.7**
comp=E,9.2nm,1.0s							
MSTX	**Muleshoe**	**74.24**	**334**	*eP*	**P**	**08 06 17.9**	**-0.1**
comp=E,4.0nm,0.9s							
ACSO	**Alum Creek Sta**	**75.51**	**352**	*eP*	**P**	**08 06 24.1**	**-1.0**
comp=E,6.9nm,0.6s							
DBIC	**Dimbokro**	**75.93**	**71**	P	**P**	**08 06 27.4**	**-0.7**
comp=E,4.4nm,0.7s,baz=222,slow=6.6,SNR=8.7							
LAZ	**Ladron**	**76.27**	**331**	*eP*	**P**	**08 06 30.9**	**+1.1**
ANMO	**Albuquerque**	**76.48**	**332**	*eP*	**P**	**08 06 32.0**	**+1.0**
comp=E,1.8nm,0.9s							
T25A	**Trinidad**	**77.67**	**334**	*eP*	**P**	**08 06 38.8**	**+1.2**
comp=E,6.0nm,0.9s							
SMCO	**Snowmass**	**80.40**	**334**	*eP*	**P**	**08 06 54.4**	**+1.6**
comp=E,2.7nm,0.9s							
KNB	**Kanab**	**80.87**	**328**	*eP*	**P**	**08 06 56.6**	**+1.5**
comp=E,3.7nm,0.9s							
ECSD	**EROS Data Cent**	**81.40**	**343**	*eP*	**P**	**08 06 57.0**	**-0.5**
comp=E,4.9nm,0.8s							
R11A	**Troy Canyon, C**	**83.18**	**327**	*eP*	**P**	**08 07 07.8**	**+0.6**
comp=E,1.6nm,1.0s							
DUG	**Dugway, Tooele**	**83.54**	**330**	*eP*	**P**	**08 07 09.4**	**+0.5**
comp=E,3.8nm,1.1s							
NVAR	**Mina Array Bea**	**84.48**	**326**	P	**P**	**08 07 13.8**	**-0.1**
comp=E,1.4nm,0.9s,baz=148,slow=5.9,SNR=3.7							
PDAR	**Pinedale Array**	**84.49**	**334**	P	**P**	**08 07 13.2**	**-0.7**
comp=E,0.5nm,0.8s,baz=134,slow=8.5,SNR=4.3							
TOA0	**Torodi Ar. Sit**	**84.98**	**70**	*eP*	**P**	**08 07 15.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**84.98**	**70**	P	**P**	**08 07 15.8**	**-0.9**
comp=E,1.7nm,0.8s,baz=258,slow=3.8,SNR=8.7							
HLID	**Hailey**	**87.02**	**331**	*eP*	**P**	**08 07 26.8**	**+0.5**
comp=E,1.6nm,1.0s							
MCMT	**McKenzie Canyo**	**87.48**	**333**	*eP*	**P**	**08 07 29.3**	**+0.7**
comp=E,0.7nm,0.9s							
WRA	**Warramunga Arr**	**119.64**	**209**	PKP	**PKPdf**	**08 13 31.2**	**-0.3**
comp=E,0.2nm,0.7s,baz=150,slow=1.6,SNR=4.1							
H11S2	**WAKE ISLAND Hyl**	**25.30**	**269**	T	T	10 31 36.6	
baz=111							
H11S1	**WAKE ISLAND Hyl**	**25.32**	**269**	T	T	10 31 35.8	
baz=111							
H11S3	**WAKE ISLAND Hyl**	**25.32**	**269**	T	T	10 31 36.6	
baz=111							
H11N3	**WAKE ISLAND Hyl**	**25.74**	**270**	T	T	10 32 07.5	
baz=121							
H11N1	**WAKE ISLAND Hyl**	**25.76**	**270**	T	T	10 32 07.1	
baz=121,slow=74,SNR=6.7							
H11N2	**WAKE ISLAND Hyl**	**25.76**	**270**	T	T	10 32 05.8	
baz=121,slow=74,SNR=4.8							
BVAR	**Borovoye Array**	**148.34**	**44**	PKPbc	**PKPbc**	**08 14 26.7**	**-0.1**
comp=E,0.9nm,0.6s,baz=335,slow=6.4,SNR=6.3							
AAK	**Ala-Archa**	**153.38**	**64**	*e*PKPdf	**PKPdf**	**08 14 34.0**	**+2.3**
ZALV	**Zalesovo Beam**	**155.34**	**33**	PKP	**PKPdf**	**08 14 32.5**	**-1.2**
comp=E,0.3nm,0.3s,baz=259,slow=1.5,SNR=3.6							
ZALV				PKPab	**PKPab**	**08 14 58.7**	**-0.3**
comp=E,0.5nm,0.4s,baz=316,slow=6.2,SNR=3.9							
MKAR	**Makanchi Array**	**157.77**	**50**	PKP	**PKPdf**	**08 14 36.9**	**-0.3**
comp=E,2.2nm,1.3s,baz=63,slow=0.6,SNR=3.7							
MKAR				PKPab	**PKPab**	**08 15 09.0**	**-0.9**
comp=E,0.4nm,0.6s,baz=327,slow=2.0,SNR=5.5							
SONM	**Songino Array**	**167.19**	**3**	PKPab	**PKPab**	**08 15 50.1**	**-1.0**
comp=E,0.7nm,0.9s,baz=320,slow=3.0,SNR=4.5							

*DDA **23** 07:59:28.6,40°.00N×33°.96E,h7km,MD3.3*
*ISK **23** 07:59:28.2,40°.04N×33°.95E,h2km,MD3.5*
*CSEM **23** 07:59:29.4±0.1,40°.04N×33°.95E,h2km,MD3.3,Error*
ellipse: s-maj=3.2km s-min=3.0km az=109.0
ISC 23 07:59:28.8±1.2,**40°.03N**±0°.02×**33°.95E**±0°.02,**h3**km±13km,
n54,σ0§**91/62,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDAG	**Cicekdag**	**0.52**	**141**	*i* P	**Pg**	**07 59 38.2**	**-0.5**
CDAG				*i* S	**Sg**	**07 59 45.2**	**-0.2**
CDAG	**Cicekdag**	**0.52**	**141**	*i* P	**Pg**	**07 59 38.2**	**-0.5**
CDAG				*i* S	**Sg**	**07 59 45.2**	**-0.2**
CORM	**Corum**	**0.54**	**74**	PG	**Pg**	**07 59 39.5**	**+0.3**
CORM	**Corum**	**0.54**	**74**	*i* Pg	**Pg**	**07 59 39.5**	**+0.3**
ELDT	**Eldivan**	**0.61**	**319**	*i* P	**Pg**	**07 59 41.2**	**+0.6**
ELDT				*i* S	**Sb**	**07 59 50.3**	**-1.1**
ELDT	**Eldivan**	**0.61**	**319**	*i* P	**Pg**	**07 59 41.2**	**+0.6**
ELDT				*i* S	**Sb**	**07 59 50.3**	**-1.1**
CANT	**Cankiri**	**0.63**	**336**	PG	**Pg**	**07 59 41.6**	**+0.6**
CANT				*e*SG	**Sg**	**07 59 50.1**	**+0.9**
BBAL	**Bala**	**0.80**	**233**	*i* P	**Pg**	**07 59 44.2**	**0.0**
BBAL				*i* S	**Sg**	**07 59 55.5**	**+0.9**
BBAL	**Bala**	**0.80**	**233**	*i* P	**Pg**	**07 59 44.2**	**0.0**
BBAL				*i* S	**Sg**	**07 59 55.5**	**+0.9**
CTKT	**Corum**	**0.88**	**47**	*i* P	**Pg**	**07 59 46.0**	**+0.4**
CTKT				*i* S	**Sb**	**07 59 58.9**	**0.0**
CTKT	**Corum**	**0.88**	**47**	*i* P	**Pg**	**07 59 46.0**	**+0.4**
CTKT				*i* S	**Sb**	**07 59 58.9**	**0.0**
AFSR	**Afşar-Bala (A**	**0.89**	**230**	*e*PG	**Pg**	**07 59 45.8**	**-0.2**
AFSR	**Afşar-Bala (A**	**0.89**	**230**	*e*Pg	**Pg**	**07 59 45.8**	**-0.2**
LOD	**Lodumlu**	**0.92**	**262**	*e*PG	**Pg**	**07 59 46.8**	**+0.3**
LOD	**Lodumlu**	**0.92**	**262**	*e*Pg	**Pg**	**07 59 46.8**	**+0.3**
TOS	**Tosya**	**1.01**	**3**	*e*PG	**Pg**	**07 59 48.1**	**-0.1**
TOS	**Tosya**	**1.01**	**3**	*e*Pg	**Pg**	**07 59 48.1**	**-0.1**
ILGA	**Ilgaz**	**1.04**	**350**	*i* P	**Pg**	**07 59 48.6**	**-0.2**
ILGA	**Ilgaz**	**1.04**	**350**	*i* P	**Pg**	**07 59 48.6**	**-0.2**
YOZ	**Yozgat**	**1.12**	**110**	*e*PN	**Pg**	**07 59 49.2**	**-1.2**
YOZ	**Yozgat**	**1.12**	**110**	*e*Pn	**Pg**	**07 59 49.2**	**-1.2**
SAFT	**Safranbolu**	**1.55**	**322**	*e*PN	**Pn**	**07 59 57.5**	**+0.2**
SAFT	**Safranbolu**	**1.55**	**322**	*e*Pn	**Pn**	**07 59 57.5**	**+0.2**
BYBT	**Boyabat**	**1.57**	**23**	*e*PN	**Pn**	**07 59 57.9**	**+0.4**
BYBT	**Boyabat**	**1.57**	**23**	*e*Pn	**Pn**	**07 59 57.9**	**+0.4**
SULT	**Sultanhani-AKS**	**1.86**	**191**	*e*PN	**Pb**	**08 00 03.0**	**-0.5**
SULT	**Sultanhani-AKS**	**1.86**	**191**	*e*Pn	**Pb**	**08 00 03.0**	**-0.5**
KVT	**Kavak**	**1.91**	**56**	*e*PN	**Pn**	**08 00 03.0**	**+0.7**
KVT	**Kavak**	**1.91**	**56**	*e*Pn	**Pn**	**08 00 03.1**	**+0.7**
BZK	**Bozkurt**	**1.93**	**1**	*e*PN	**Pb**	**08 00 03.8**	**-0.9**
BZK	**Bozkurt**	**1.93**	**1**	*e*Pn	**Pb**	**08 00 03.8**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.96**	**254**	*e*PN	**Pn**	**08 00 03.2**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.96**	**254**	*e*Pn	**Pn**	**08 00 03.2**	**+0.2**
KIZT	**Kizilcal**	**1.97**	**235**	*e*PN	**Pn**	**08 00 03.4**	**+0.2**
KIZT	**Kizilcal**	**1.97**	**235**	*e*Pn	**Pn**	**08 00 03.4**	**+0.2**
NIG	**Nigde**	**1.98**	**165**	*e*PN	**Pn**	**08 00 04.5**	**+1.0**
NIG	**Nigde**	**1.98**	**165**	*e*Pn	**Pn**	**08 00 04.5**	**+1.0**
MDUB	**Mudurnu**	**2.15**	**283**	*e*PN	**Pb**	**08 00 07.2**	**-1.3**
MDUB	**Mudurnu**	**2.15**	**283**	*e*Pn	**Pb**	**08 00 07.2**	**-1.3**
LADK	**Ladik-KONYA**	**2.20**	**215**	*e*PN	**Pb**	**08 00 08.2**	**-1.2**
LADK	**Ladik-KONYA**	**2.20**	**215**	*e*Pn	**Pb**	**08 00 08.2**	**-1.2**
SVSK	**Karacayir**	**2.34**	**92**	*e*PN	**Pn**	**08 00 08.9**	**+0.7**
SVSK	**Karacayir**	**2.34**	**92**	*e*Pn	**Pn**	**08 00 08.9**	**+0.7**
KONT	**Konya--Tatoy**	**2.42**	**211**	*e*PN	**Pn**	**08 00 10.7**	**+1.4**
KONT	**Konya--Tatoy**	**2.42**	**211**	*e*Pn	**Pn**	**08 00 10.7**	**+1.4**
GULT	**Gulveren**	**2.66**	**280**	*e*PN	**Pn**	**08 00 13.7**	**+1.0**
GULT	**Gulveren**	**2.66**	**280**	*e*Pn	**Pn**	**08 00 13.7**	**+1.0**
KARA	**Karaisali**	**2.89**	**162**	*e*PN	**Pn**	**08 00 17.9**	**+2.1**
KARA	**Karaisali**	**2.89**	**162**	*e*Pn	**Pn**	**08 00 17.9**	**+2.1**
DARE	**Darende-Malaty**	**3.10**	**117**	*e*PN	**Pn**	**08 00 20.4**	**+1.6**
DARE	**Darende-Malaty**	**3.10**	**117**	*e*Pn	**Pn**	**08 00 20.4**	**+1.6**
MALT	**Malatya**	**3.88**	**115**	*e*PN	**Pn**	**08 00 31.0**	**+1.6**
MALT	**Malatya**	**3.88**	**115**	*e*Pn	**Pn**	**08 00 31.0**	**+1.6**
KIS	**Kishinev**	**7.90**	**334**	*e*	Pb	08 01 42.0	-4.3

*ISCJB **23** 08:14:06.1±0.4,5°.98S±0°.03×145°.86E±0°.06,h100km,*
mb4.2/23,Error ellipse: s-maj=9.0km s-min=4.5km
az=179.5
*IDC **23** 08:14:07.1±1.7,5°.95S×145°.95E,h100km±16km,mb3.9/16,*
mb1 4.0/20,mb1mx3.9/35,mbtmp4.2/20,MS2.9/1,
Ms1 2.9/1,ms1mx2.4/24,Error ellipse: s-maj=23.0km
s-min=11.5km az=71.0
*NEIC **

KULM Kulim 46.50 283 *eP* **P 08 22 25.1 -0.1**
4.1nm,0.4s
USRK Ussuriysk Ar. 51.50 347 P **P 08 23 02.3 -0.6**
2.4nm,0.5s,baz=165,slow=8.5,SNR=8.6
CMAR Chiang Mai Arr 52.24 299 P **P 08 23 09.6 +0.7**
5.1nm,0.6s,baz=121,slow=5.7,SNR=25
PETK Petropavlovsk- 59.72 8 P **P 08 24 01.7 +0.1**
4.2nm,0.5s,baz=164,slow=8.1,SNR=8.7
ULN Ulaanbaatar 63.55 332 *eP* **P 08 24 28.1 +0.5**
3.5nm,0.6s
SONM Songino Array 63.84 332 P **P 08 24 29.1 -0.4**
0.9nm,0.3s,baz=151,slow=5.3,SNR=11
TAPN Taplejung 65.19 304 *eP* **P 08 24 39.8 +0.9**
13nm,0.4s
ODAN Odare 65.28 303 *eP* **P 08 24 39.7 +0.3**
19nm,0.5s
RAMN Ramite 65.97 303 *eP* **P 08 24 44.5 +0.6**
11nm,0.5s
JIRN Jiri 66.56 303 *eP* **P 08 24 48.5 +0.7**
10nm,0.4s
GUN Gumba 66.91 304 *eP* **P 08 24 50.7 +0.8**
24nm,0.5s
DMN Daman 67.44 303 *eP* **P 08 24 54.0 +0.8**
KOLN Koldanda 68.76 303 *eP* **P 08 25 01.8 +0.4**
19nm,0.7s
DANN Dangsing 68.81 303 *eP* **P 08 25 03.6 +1.8**
VNDA Vanda 72.00 176 P **P 08 25 19.9 0.0**
1.0nm,0.5s,baz=331,slow=6.1,SNR=9.8
MKAR Makanchi Array 76.76 321 P **P 08 25 48.0 -0.1**
1.1nm,0.3s,baz=100,slow=7.0,SNR=22
ZALV Zalesovo Beam 78.39 328 P **P 08 25 55.8 -1.2**
1.5nm,0.6s,baz=121,slow=5.6,SNR=2.4
KZA Kyzart 79.82 314 P **P 08 26 07.0 +1.5**
SNR=17
TKM2 Tokmak 2 79.83 315 P **P 08 26 06.2 +0.8**
SNR=8.5
TKM2 Tokmak 2 79.83 315 *eP* **P 08 26 05.9 +0.5**
2.8nm,0.5s
UCH Uchtor 80.39 314 P **P 08 26 09.8 +1.1**
SNR=7.1
KURK Kurchatov 80.52 324 P **P 08 26 08.2 -0.4**
AAK Ala-Archa 80.52 315 P **P 08 26 08.6 -0.4**
0.7nm,0.4s,baz=127,slow=7.5,SNR=6.9
AAK Ala-Archa 80.52 315 *eP* **P 08 26 09.1 0.0**
4.3nm,1.1s
KURBB Kurchatov Arra 80.54 323 P **P 08 26 08.2 -0.5**
0.7nm,0.5s,baz=115,slow=4.6,SNR=6.5
USP Ospenovka 80.70 315 P **P 08 26 10.3 +0.5**
SNR=5.6
AML Almayashu 80.94 314 P **P 08 26 12.6 +1.0**
SNR=14
EKS2 Erkin-Say 81.03 315 P **P 08 26 12.4 +0.6**
SNR=6.6
EKS2 Erkin-Say 81.03 315 *eP* **P 08 26 12.2 +0.5**
6.6nm,1.0s
KKAR Karatay Array 83.47 315 *eP* **P 08 26 24.4 +0.1**
1.0nm,0.4s
QSPA South Pole Qui 83.98 180 *eP* **P 08 26 26.4 -0.2**
4.9nm,1.1s
ILAR Eielson Array 85.92 23 P **P 08 26 34.1 -1.9**
2.1nm,0.7s,baz=251,slow=5.0,SNR=26
BVAR Borovoye Array 86.09 324 P **P 08 26 36.4 -0.8**
0.8nm,0.5s,baz=104,slow=7.4,SNR=4.8
GEYT Alibeck 91.85 308 P **P 08 27 04.2 -0.7**
2.5nm,0.7s,baz=85,slow=1.6,SNR=4.2
AKTO Aktyubinsk 93.19 320 P **P 08 27 10.2 -0.5**
0.4nm,0.4s,baz=108,slow=3.2,SNR=2.7
GERES GERESS Array B 121.25 325 PKP **PKPdf 08 32 48.3 -0.7**
0.5nm,0.6s,baz=42,slow=3.1,SNR=4.5
TORD Torodi Ar. Bea 143.98 284 PKP PKPbc 08 33 30.5 0.0
1.6nm,0.5s,baz=67,slow=2.9,SNR=26
SIV San Ignacio 145.54 130 PKPbc **PKPbc 08 33 34.7 -0.7**
6.4nm,0.5s,baz=246,slow=5.5,SNR=14
SAML Samuel 147.47 117 *e*PKPbc **PKPbc 08 33 40.9 -0.1**
DBIC Dimbokro 150.88 273 PKPbc **PKPbc 08 33 49.6 0.0**
6.9nm,0.5s,baz=76,slow=0.7,SNR=18
DBIC Dimbokro 150.88 273 *e*PKPbc **PKPbc 08 33 50.0 +0.4**
BDFB Brasilia 154.50 148 PKPbc **PKPbc 08 33 58.0 +0.3**
1.8nm,0.4s,baz=145,slow=2.4,SNR=4.0

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*IDC **23** 08:15:40.7±1.2,21°.13N×45°.68W,h0km,mb4.2/15,*
mb1 4.3/15,mb1mx4.0/53,mbtmp4.2/15,MS3.7/6,
Ms1 3.7/6,ms1mx3.2/36,Error ellipse: s-maj=36.9km
s-min=16.9km az=17.0
*ISCJB **23** 08:15:42.7±0.9,21°.2N±0°.2×45°.63W±0°.09,h22km,*
mb4.3/19,MS3.8/5,Error ellipse: s-maj=28.0km
s-min=11.8km az=10.2
*NEIC **23** 08:15:42.6±0.6,21°.15N×45°.64W,h10km,mb4.4/5,Error*
ellipse: s-maj=19.8km s-min=8.4km az=191.0
ISC 23 08:15:44.3±1.1,21°.1N±0°.2×45°.7W±0°.1,h22km,n31,
σ0s62/22,mb4.3/19,MS3.8/5,Northern Mid-Atlantic
Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**19.53**	**265**	LR	LR	08 26 00.7	
	comp=Z,105nm,21.6s,baz=89,slow=32						
SADO	**Sadowa**	**36.28**	**318**	LR	LR	08 34 36.9	
	comp=Z,133nm,20.4s,baz=342,slow=31						
BDFB	**Brasilia**	**36.61**	**184**	LR	LR	08 36 37.9	
	comp=Z,148nm,18.4s,baz=54,slow=34						
SCHQ	**Schefferville**	**37.26**	**340**	P	**P**	**08 22 53.8**	**-0.4**
	7.2nm,0.9s,baz=126,slow=10,SNR=8.3						
WVT	**Waverly**	**39.60**	**302**	*eP*	**P**	**08 23 14.5**	**+0.3**
	6.7nm,1.1s						
DBIC	**Dimbokro**	**41.99**	**104**	P	**P**	**08 23 34.0**	**-0.1**
	5.8nm,0.9s,baz=261,slow=9.7,SNR=9.2						
DBIC				LR	LR	08 39 05.4	
	comp=Z,136nm,19.0s,baz=291,slow=33						
DBIC	**Dimbokro**	**41.99**	**104**	*eP*	**P**	**08 23 34.6**	**+0.5**
	5.4nm,0.9s						
H10N3	**ASCENSION HYDR**	**42.01**	**130**	T	T	09 08 16.1	
	baz=314,slow=74,SNR=83						
H10N2	**ASCENSION HYDR**	**42.02**	**130**	T	T	09 08 15.3	
	baz=314,slow=74,SNR=76						
H10N1	**ASCENSION HYDR**	**42.03**	**130**	T	T	09 08 16.9	
	baz=314,slow=74,SNR=99						
H10S3	**ASCENSION HYDR**	**42.67**	**131**	T	T	09 09 05.0	
	baz=315,slow=75,SNR=45						
H10S1	**ASCENSION HYDR**	**42.67**	**131**	T	T	09 09 05.1	
	baz=315,slow=75,SNR=45						
H10S2	**ASCENSION HYDR**	**42.69**	**131**	T	T	09 09 06.2	
	baz=315,slow=75,SNR=54						
APG	**El Apazote**	**42.92**	**270**	P	**P**	**08 23 41.0**	**-1.0**
	1.9nm,0.7s,baz=153,slow=5.8,SNR=3.8						
FRB	**Frobisher Bay**	**45.30**	**346**	P	**P**	**08 23 59.8**	**-0.3**
	5.7nm,1.1s,baz=169,slow=8.1,SNR=6.1						
TORD	**Torodi Ar. Bea**	**45.81**	**92**	P	**P**	**08 24 04.6**	**-0.2**
	1.9nm,0.9s,baz=293,slow=7.1,SNR=9.2						
TORD				LR	LR	08 41 15.8	
	comp=Z,88nm,19.4s,baz=190,slow=34						
KEST	**Kesra**	**49.91**	**61**	P	**P**	**08 24 37.0**	**+0.4**
	4.3nm,1.1s,baz=263,slow=4.4,SNR=4.6						
KEST	**Kesra**	**49.91**	**61**	*eP*	**P**	**08 24 36.8**	**+0.3**
CLL	**Collm**	**54.29**	**41**	*eP*	**P**	**08 25 08.0**	**-0.7**
BW06	**Boulder Array**	**56.98**	**308**	*eP*	**P**	**08 25 29.5**	**+1.0**
	7.7nm,1.7s						
PDAR	**Pinedale Array**	**56.98**	**308**	P	**P**	**08 25 28.9**	**+0.4**
	1.0nm,0.8s,baz=110,slow=7.0,SNR=9.5						
PDAR				LR	LR	08 47 00.9	
	comp=Z,75nm,21.9s,baz=95,slow=33						
SWMT	**Swartz Lake**	**60.20**	**313**	*eP*	**P**	**08 25 51.8**	**+1.1**
	7.6nm,1.5s						
YKA	**Yellowknife Ar**	**61.77**	**331**	P	**P**	**08 26 00.5**	**-0.4**
	1.5nm,0.8s,baz=98,slow=7.4,SNR=29						
NEW	**Newport**	**62.30**	**314**	*eP*	**P**	**08 26 05.9**	**+1.1**
	31nm,2.0s						
FINES	**FINESS Array B**	**62.95**	**31**	P	**P**	**08 26 08.3**	**-0.6**
	2.2nm,0.9s,baz=283,slow=8.4,SNR=3.5						
AKASG	**Malin Array Be**	**64.45**	**43**	P	**P**	**08 26 18.6**	**-0.3**
	1.6nm,0.7s,baz=275,slow=5.5,SNR=3.4						
BRTR	**Keskin Array B**	**68.79**	**54**	P	**P**	**08 26 47.1**	**0.0**
	3.5nm,0.9s,baz=275,slow=5.4,SNR=17						
ILAR	**Eielson Array**	**75.77**	**334**	P	**P**	**08 27 28.3**	**+0.2**
	2.4nm,0.8s,baz=66,slow=4.5,SNR=20						
AKTO	**Aktyubinsk**	**82.28**	**39**	P	**P**	**08 28 04.8**	**+0.8**
	0.9nm,0.6s,baz=288,slow=5.3,SNR=4.8						
BVAR	**Borovoye Array**	**87.83**	**33**	P	**P**	**08 28 31.4**	**-0.5**
	1.8nm,0.8s,baz=306,slow=3.3,SNR=5.9						
ZALV	**Zalesovo Beam**	**93.97**	**27**	P	**P**	**08 29 00.7**	**+0.3**
	0.5nm,0.4s,baz=339,slow=3.6,SNR=3.9						

IDC 23 08:23:25.4±3.1,53°.55N×87°.79E,h0km,mb1 2.9/2,
mb1mx2.8/39,mbtmp2.9/2,ML2.7/2,Error ellipse:
s-maj=29.2km s-min=16.1km az=54.0,Southwestern
Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**284**	*i*		08 36 10.0	
	baz=100,slow=336,SNR=0.5						
ZALV	**Zalesovo Beam**	**1.81**	**284**	Pg	Pn	08 23 58.2	+0.5
	1.6nm,0.3s,baz=102,slow=14,SNR=12						
ZALV				Lg	Lg	08 24 22.3	
	3.5nm,0.3s,baz=105,slow=27,SNR=13						
KURBB	**Kurchatov Arra**	**6.42**	**247**	Pn	Pn	08 25 01.7	+0.7
	0.1nm,0.3s,baz=64,slow=14,SNR=4.2						
KURBB				Lg	Lg	08 26 48.2	
	0.0nm,0.3s,baz=63,slow=32,SNR=7.0						
MKAR	**Makanchi Array**	**7.63**	**210**	Pn	Pn	08 25 18.9	+1.2
	0.2nm,0.3s,baz=26,slow=15,SNR=8.8						
MKAR				Lg	Lg	08 27 27.5	
	0.0nm,0.3s,baz=32,slow=28,SNR=5.3						

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*IDC **23** 08:23:54.7±1.0,15°.14N×92°.49W,h84km±7km,mb3.7/8,*
mb1 4.1/10,mb1mx3.7/36,mbtmp4.1/10,Error ellipse:
s-maj=18.6km s-min=13.1km az=44.0
*ISCJB **23** 08:23:55.9±0.3,15°.19N±0°.03×92°.73W±0°.03,h94km±3km,*
mb4.2/34,Error ellipse: s-maj=6.7km s-min=3.0km
az=40.4
*MEX **23** 08:23:56.5±0.7,15°.02N×92°.88W,h80km±14km,MD4.4*
*NEIC **23** 08:23:56.5,15°.02N×92°.88W,h80km,mb4.4/44,*
MD4.4(MEX),After MEX.
*CASC **23** 08:23:57.6±2.4,15°.17N×92°.67W,h26km±444km,MD4.1,*
ML3.9
ISC 23 08:23:55.5±0.6,15°.10N±0°.04×92°.81W±0°.03,h83km±4km,
n294,σ1s25/322,mb4.3/35,86C-92D,Mexico-Guatemala
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.56**	**109**	*eP*	**Pn**	**08 24 09.6**	**-0.5**
THIG				*eS*	**Sn**	**08 24 20.6**	**-0.3**
THIG		**0.56**	**109**	*eP*	**Pn**	**08 24 09.6**	**-0.5**
THIG				*eS*	**Sn**	**08 24 20.6**	**-0.3**
CCIG	**Comitan**	**1.35**	**29**	*i* P	**Pn**	**08 24 20.1**	**+0.8**
CCIG				*eS*	**Sn**	**08 24 39.0**	**+1.9**
CCIG	**Comitan**	**1.35**	**29**	*i* P	**Pn**	**08 24 20.1**	**+0.8**
CCIG				*eS*	**Sn**	**08 24 39.0**	**+1.9**
JAT	**Jato**	**1.37**	**124**	⇑*i*P	**Pn**	**08 24 20.2**	**+0.9**
TGIG		**1.70**	**350**	*eP*	**Pn**	**08 24 23.5**	**-0.2**
TGIG				*i* S	**Sn**	**08 24 45.2**	**+0.2**
TGIG		**1.70**	**350**	*eP*	**Pn**	**08 24 23.5**	**-0.2**
TGIG				*i* S	**Sn**	**08 24 45.2**	**+0.2**
PCG	**Pacaya**	**2.24**	**108**	*eP*	**Pn**	**08 24 32.0**	**+1.0**
PCG				*eS*	**Sn**	**08 25 00.8**	**+2.7**
APG	**El Apazote**	**2.27**	**92**	P	Pn	08 24 26.0	-5.3
	75nm,0.3s,baz=351,slow=12,SNR=925						
APG				S	**Sn**	**08 24 53.8**	**-4.8**
	186nm,0.3s,baz=336,slow=20,SNR=48						
NBG	**Las Nubes**	**2.43**	**102**	*eP*	**Pn**	**08 24 35.6**	**+2.1**
CMIG	**Matias Romero**	**2.81**	**315**	*eP*	**Pn**	**08 24 38.9**	**+0.4**
CMIG				*i* S	**Sn**	**08 25 10.7**	**-0.8**
CMIG	**Matias Romero**	**2.81**	**315**	P	**Pn**	**08 24 39.1**	**+0.6**
	79nm,0.3s,baz=146,slow=13,SNR=355						
CMIG				S	**Sn**	**08 25 13.2**	**+1.7**
	172nm,0.3s,baz=258,slow=20,SNR=14						
CMIG	**Matias Romero**	**2.81**	**315**	*eP*	**Pn**	**08 24 38.9**	**+0.4**
CMIG				*i* S	**Sn**	**08 25 10.7**	**-0.8**
MRL	**Marmol**	**3.01**	**90**	*eP*	**Pn**	**08 24 41.7**	**+0.5**
RBDL	**Robledal**	**3.18**	**108**	*eP*	**Pn**	**08 24 46.0**	**+2.5**
HUIG	**Huatulco**	**3.25**	**282**	*eP*	**Pn**	**08 24 44.2**	**-0.2**
HUIG				*i* S	**Sn**	**08 25 20.8**	**-1.3**
HUIG	**Huatulco**	**3.25**	**282**	*eP*	**Pn**	**08 24 44.2**	**-0.2**
HUIG				*i* S	**Sn**	**08 25 20.8**	**-1.3**
RTR	**El Retiro**	**3.29**	**111**	*eP*	**Pn**	**08 24 47.0**	**+2.0**
RTR				*eS*	**Sn**	**08 25 25.8**	**+2.6**
TUIG	**Tuzandepetl**	**3.31**	**332**	*eP*	**Pn**	**08 24 45.0**	**-0.2**
TUIG				*eS*	**Sn**	**08 25 23.2**	**-0.2**
TUIG	**Tuzandepetl**	**3.31**	**332**	*eP*	**Pn**	**08 24 45.0**	**-0.2**
TUIG				*eS*	**Sn**	**08 25 23.2**	**-0.2**
SBLS	**San Blas**	**3.33**	**112**	*eP*	**Pn**	**08 24 47.2**	**+1.6**
SBLS				*eS*	**Sn**	**08 25 25.9**	**+1.6**
SNJE	**San Jose**	**3.33**	**111**	*eP*	**Pn**	**08 24 47.0**	**+1.3**
BOQS	**Boqueron**	**3.68**	**111**	*eP*	**Pn**	**08 24 51.8**	**+1.5**
BOQS				*eS*	**Sn**	**08 25 33.3**	**+0.6**
SNET	**Serv Nac Est T**	**3.74**	**112**	*eP*	**Pn**	**08 24 52.3**	**+1.2**
SNET				*eS*	**Sn**	**08 25 33.7**	**-0.3**
SNET				AML	AML	08 25 48.2	
	comp=Z,502nm,0.4s						
LFU	**La Fuente**	**3.82**	**110**	*eP*	**Pn**	**08 24 53.4**	**+1.3**
LBRS	**Las Brisas**	**3.89**	**110**	*eP*	**Pn**	**08 24 54.4**	**+1.3**
LFRS	**El Faro**	**3.91**	**111**	*eP*	**Pn**	**08 24 55.0**	**+1.5**
SCIG	**Sabancuy**	**4.15**	**22**	*eP*	**Pn**	**08 24 55.3**	**-1.3**
SCIG				*eS*	**Sn**	**08 25 41.8**	**-2.1**
SCIG	**Sabancuy**	**4.15**	**22**	*eP*	**Pn**	**08 24 55.3**	**-1.3**
SCIG				*eS*	**Sn**	**08 25 41.8**	**-2.1**
VHO	**Vista Hermosa**	**4.25**	**298**	*i* P	**Pn**	**08 24 57.8**	**-0.4**
VHO				*i* S	**Sn**	**08 25 45.5**	**-1.3**
VHO	**Vista Hermosa**	**4.25**	**298**	*i* P	**Pn**	**08 24 57.8**	**-0.4**
VHO				*i* S	**Sn**	**08 25 45.5**	**-1.3**
PNIG	**Pinotepa**	**5.28**	**285**	*eP*	**Pn**	**08 25 12.4**	**+0.4**
PNIG				*i* S	**Sn**	**08 26 10.6**	**-1.1**
PNIG	**Pinotepa**	**5.28**	**285**	*eP*	**Pn**	**08 25 12.4**	**+0.4**
PNIG				*i* S	**Sn**	**08 26 10.6**	**-1.1**
TPIG	**Tehuac#an**	**5.47**	**308**	*eP*	**Pn**	**08 25 16.5**	**+1.8**
TPIG	**Tehuac#an**	**5.47**	**308**	*eP*	**Pn**	**08 25 16.5**	**+1.8**
TEIG	**Tepich**	**6.69**	**40**	P	Pn	08 25 27.2	-3.9
	comp=Z,121nm,0.3s,baz=213,slow=6.3,SNR=445						
TEIG				S	**Sn**	**08 26 40.3**	**-5.5**
	comp=Z,156nm,0.3s,baz=14,slow=19,SNR=16						
TEIG	**Tepich**	**6.69**	**40**	*e*Pn	**Pn**	**08 25 29.0**	**-2.1**
YAIG	**Yautepec**	**7.06**	**303**	*eP*	Pn	08 25 39.8	+3.4
YAIG	**Yautepec**	**7.06**	**303**	*eP*	Pn	08 25 39.8	+3.4
PLIG	**Platanillo**	**7.20**	**298**	*eP*	Pn	08 25 41.7	+3.4
PLIG	**Platanillo**	**7.20**	**298**	*eP*	Pn	08 25 41.7	+3.4
ARIG	**Puente Sto Nin**	**7.89**	**295**	*eP*	Pn	08 25 50.7	+3.1
JTS	**JuntasAbangare**	**9.03**	**121**	P	**Pn**	**08 26 02.6**	**-0.6**
	comp=Z,5.3nm,0.3s,baz=323,slow=14,SNR=22						
JTS				S	**Sn**	**08 27 40.8**	**-2.5**
	comp=Z,0.6nm,0.3s,baz=253,slow=18,SNR=1.9						
JTS	**JuntasAbangare**	**9.03**	**121**	*e*Pn	**Pn**	**08 26 04.2**	**+1.0**
034A	**Hebbronville**	**13.11**	**336**	⇓P	**Pn**	**08 26 59.7**	**+1.3**
	baz=13						
934A	**Benavides**	**13.53**	**338**	⇑P	**Pn**	**08 27 03.8**	**-0.2**
	baz=14						
933A	**Laredo**	**13.83**	**335**	⇑P	**Pn**	**08 27 09.3**	**+1.4**
	baz=14,SNR=9.9						
835A	**Beeville**	**13.93**	**341**	⇓P	**Pn**	**08 27 09.1**	**-0.1**
	baz=14,SNR=6.9						
834A	**Tilden**	**14.02**	**339**	⇓P	**Pn**	**08 27 11.5**	**+1.1**
	baz=14						
735A	**Kenedy**	**14.45**	**342**	⇓P	**Pn**	**08 27 16.0**	**0.0**
	baz=15						
833A	**Chaparral WMA,**	**14.51**	**336**	⇑P	**Pn**	**08 27 17.7**	**+1.0**
	baz=15,SNR=22						
734A	**La Parita Cree**	**14.68**	**340**	⇑P	**Pn**	**08 27 19.1**	**+0.2**
	baz=15						
832A	**Faith Ranch, C**	**14.71**	**334**	P	**Pn**	**08 27 20.6**	**+1.3**
	baz=15,SNR=20						
733A	**Divot King Ran**	**14.83**	**337**	⇑P	**Pn**	**08 27 21.7**	**+0.9**
	baz=15,SNR=6.8						
636A	**Smothers Creek**	**14.85**	**345**	⇑P	**Pn**	**08 27 21.6**	**+0.5**
	baz=15						
635A	**Leesville**	**14.95**	**343**	⇑P	**Pn**	**08 27 22.8**	**+0.5**
	baz=15						
MTDJ	**Mount Denham**	**14.96**	**76**	*eP*	**P**	**08 27 26.7**	**+0.5**
HKT	**Hockley**	**15.04**	**350**	*e*Pn	**Pn**	**08 27 24.1**	**+0.6**
732A	**Laxson Ranch,**	**15.10**	**335**	⇑P	**Pn**	**08 27 25.3**	**+0.9**
	baz=15,SNR=9.2						
537A	**Green Hill Far**	**15.26**	**348**	⇓P	**Pn**	**08 27 26.6**	**+0.3**
	baz=15						
633A	**Saathoff Ranch**	**15.46**	**339**	⇓P	**Pn**	**08 27 28.7**	**-0.1**
	baz=16,SNR=13						
535A	**Dale**	**15.50**	**344**	⇑P	**Pn**	**08 27 29.3**	**-0.1**
	baz=16						
632A	**Uvalde**	**15.72**	**337**	⇓P	**Pn**	**08 27 32.4**	**+0.2**
	baz=16,SNR=15						
534A	**Blanco**	**15.75**	**342**	P	**Pn**	**08 27 31.8**	**-0.8**
	baz=16,SNR=30						
438A	**Sam Houston St**	**15.77**	**352**	⇑P	**Pn**	**08 27 31.9**	**-0.9**
	baz=16						
631A	**Perdido Creek**	**15.95**	**335**	⇓P	**Pn**	**08 27 35.5**	**+0.4**
	baz=16,SNR=8.0						
533A	**Kerrville**	**15.97**	**340**	⇑P	**Pn**	**08 27 35.7**	**+0.4**
	baz=16,SNR=6.3						
435B	**Jarrell**	**16.22**	**345**	⇑P	**Pn**	**08 27 38.5**	**+0.1**
	baz=16						
339A	**Huntington**	**16.24**	**355**	⇓P	**Pn**	**08 27 38.0**	**-0.7**
	baz=16,SNR=8.3						
340A	**Bronson**	**16.28**	**357**	⇓P	**Pn**	**08 27 38.8**	**-0.3**
	baz=16,SNR=8.8						
532A	**Rocksprings**	**16.32**	**338**	⇓P	**P**	**08 27 41.5**	**+0.2**
	baz=16,SNR=23						
338A	**Crockett**	**16.35**	**352**	⇑P	**Pn**	**08 27 40.0**	**0.0**
	baz=16						
434A	**Burnet**	**16.43**	**343**	⇑P	**P**	**08 27 42.4**	**0.0**
	baz=17,SNR=12						
531A	**Rocksprings**	**16.60**	**336**	⇓P	**P**	**08 27 45.6**	**+1.3**
	baz=17,SNR=10						
JCT	**Junction City**	**16.61**	**338**	⇓P	**P**	**08 27 45.0**	**+0.7**
	baz=17						
JCT	**Junction City**	**16.61**	**338**	*eP*	**P**	**08 27 45.8**	**+1.5**
	comp=Z,19nm,1.0s						
433A	**Art**	**16.62**	**341**	P	**P**	**08 27 44.7**	**+0.2**
	baz=17,SNR=21						
336A	**Riesel**	**16.63**	**348**	⇓P	**P**	**08 27 44.9**	**+0.3**
	baz=17,SNR=12						
335A	**Moody**	**16.66**	**346**	⇓P	**P**	**08 27 44.8**	**-0.1**
	baz=17,SNR=9.3						
BRAL	**Brewton**	**16.70**	**17**	*eP*	**P**	**08 27 47.9**	**+2.6**
	comp=Z,399nm,1.8s						
334A	**Lometa**	**16.91**	**344**	⇓P	**P**	**08 27 47.6**	**-0.1**
	baz=17,SNR=20						
530A	**J-C Ranch, Com**	**16.91**	**334**	⇑P	**P**	**08 27 48.9**	**+1.1**
	baz=17,SNR=8.3						
238A	**Jacksonville**	**16.96**	**353**	⇓P	**P**	**08 27 48.2**	**0.0**
	baz=17						
432A	**Menard**	**16.96**	**339**	⇑P	**P**	**08 27 49.3**	**+1.0**
	baz=17,SNR=6.2						
237A	**Washetta, Mont**	**17.05**	**351**	⇑P	**P**	**08 27 50.1**	**+0.9**
	baz=17						
431A	**Sonora**	**17.09**	**337**	⇑P	**P**	**08 27 51.3**	**+1.6**
	baz=17,SNR=16						
333A	**Richland Sprin**	**17.12**	**342**	⇑P	**P**	**08 27 51.9**	**+2.0**
	baz=17,SNR=8.1						
VBMS	**Vicksburg**	**17.17**	**7**	*eP*	**Pn**	**08 27 50.2**	**0.0**
	comp=Z,34nm,0.8s						
529A	**Stev Forest Ra**	**17.28**	**332**	⇓P	**P**	**08 27 53.3**	**+1.4**
	baz=17,SNR=9.8						
WHTX	**Lake Whitney,**	**17.35**	**347**	⇑P	**P**	**08 27 53.6**	**+1.1**
	baz=18						
WHTX	**Lake Whitney,**	**17.35**	**347**	*eP*	**P**	**08 27 53.0**	**+0.5**
	comp=Z,14nm,0.6s						
TXAR	**Lajitas Array**	**17.36**	**327**	P	**P**	**08 27 53.4**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=149,slow=12,SNR=70						
332A	**Millersview**	**17.41**	**340**	⇓P	**P**	**08 27 54.5**	**+1.3**
	baz=18						
430A	**Baggett Ranch,**	**17.43**	**335**	⇑P	**P**	**08 27 55.7**	**+2.3**
	baz=18,SNR=9.0						
234A	**Clairette**	**17.52**	**345**	⇓P	**P**	**08 27 56.0**	**+1.6**
	baz=18,SNR=13						
429A	**Davenport Ranc**	**17.56**	**333**	⇑P	**Pn**	**08 27 56.7**	**+1.6**
	baz=18,SNR=25						
331A	**San Angelo**	**17.58**	**338**	⇑P	**Pn**	**08 27 55.7**	**+0.5**
	baz=18,SNR=5.5						
138A	**Matatall Enter**	**17.61**	**354**	⇑P	**Pn**	**08 27 56.3**	**+0.8**
	baz=18						
137A	**Heron Place, G**	**17.63**	**352**	⇑P	**Pn**	**08 27 56.7**	**+1.0**
	baz=18						
233A	**Rising Star**	**17.74**	**343**	⇑P	**Pn**	**08 27 57.5**	**+0.4**
	baz=18,SNR=8.0						
232A	**Coleman**	**17.84**	**341**	⇓P	**Pn**	**08 27 58.8**	**+0.4**
	baz=18						
135A	**Vickery Place,**	**17.88**	**347**	⇓P	**Pn**	**08 27 59.1**	**+0.3**
	baz=18						
330A	**Mertzon**	**17.95**	**336**	⇑P	**Pn**	**08 27 59.6**	**-0.1**
	baz=18,SNR=6.6						
134A	**White-Moore Ra**	**18.05**	**346**	⇑P	**Pn**	**08 28 00.7**	**-0.1**
	baz=18						
231A	**Bronte**	**18.11**	**339**	⇑P	**Pn**	**08 28 01.9**	**+0.3**
	baz=18						
133A	**Hamilton Ranch**	**18.30**	**343**	⇓P	**P**	**08 28 02.9**	**0.0**
	baz=18						
TIGA	**Tifton**	**18.32**	**26**	⇓P	**P**	**08 28 02.7**	**-0.6**
	baz=18						
329A	**Wagon Wheel Ra**	**18.35**	**334**	⇑P	**Pn**	**08 28 04.9**	**+0.4**
	baz=18						
230A	**Sterling City**	**18.36**	**337**	⇓P	**P**	**08 28 03.8**	**+0.1**
	baz=18,SNR=5.6						
ABTX	**Abilene, Hawle**	**18.53**	**342**	⇓P	**Pn**	**08 28 06.7**	**+0.1**
	baz=19						
ABTX	**Abilene, Hawle**	**18.53**	**342**	*eP*	**Pn**	**08 28 07.4**	**+0.8**
	comp=Z,11nm,0.6s						
Z35A	**Perchaven, San**	**18.60**	**348**	⇓P	**Pn**	**08 28 06.9**	**-0.5**
	baz=19						
LRAL	**Lakeview Retre**	**18.62**	**15**	*eP*	**P**	**08 28 06.2**	**-0.3**
	comp=Z,11nm,0.6s						
229A	**Bryant Ranch,**	**18.70**	**335**	⇑P	**Pn**	**08 28 09.1**	**+0.4**
	baz=19						
131A	**Roby**	**18.81**	**340**	⇓P	**Pn**	**08 28 09.5**	**-0.5**
	baz=19						
Z33A	**Whitaker Ranch**	**18.90**	**344**	⇑P	**Pn**	**08 28 10.2**	**-0.8**
	baz=19						
Z32A	**Haskell**	**19.11**	**343**	⇑P	**P**	**08 28 12.2**	**+0.4**
	baz=19						
228A	**UT Block 9, Go**	**19.15**	**334**	⇑P	**P**	**08 28 12.6**	**+0.2**

comp=Z,18nm,1.0s
SDDR Presa de Saban 20.93 76 *e*P **P 08 28 32.0 +0.2**
comp=Z,6.3nm,0.6s
W31A Holland Ranch, 21.01 344 ⇓P **P 08 28 32.0 -0.4**
baz=21
V34A Guthrie 21.08 349 ⇑P **P 08 28 32.6 -0.5**
baz=21
V34A Guthrie 21.08 349 *e*P **P 08 28 34.6 +1.5**
comp=Z,54nm,1.4s
X28A Dimmitt 21.11 338 ⇑P **P 08 28 33.1 -0.5**
baz=21
V33A Lossen Ranch, 21.21 348 ⇓P **P 08 28 34.3 -0.3**
baz=21,SNR=6.6
AMTX Amarillo 21.26 340 ⇓P **P 08 28 34.1 -1.1**
baz=21
AMTX Amarillo 21.26 340 *e*P **P 08 28 33.9 -1.3**
comp=Z,11nm,0.6s
V32A Arapaho 21.29 346 ⇑P **P 08 28 34.6 -0.7**
baz=21
WVT Waverly 21.42 11 *e*P **P 08 28 36.6 -0.1**
comp=Z,2.6nm,0.5s
W29A Amarillo 21.47 340 ⇑P **P 08 28 36.6 -0.7**
baz=22
V31A Spring Creek L 21.54 344 ⇑P **P 08 28 36.2 -1.8**
baz=22
U33A Lingo Farm, Me 21.77 348 ⇑P **P 08 28 39.4 -1.0**
baz=22
TKL Tuckaleechee C 22.02 20 P **P 08 28 41.2 -1.9**
comp=Z,3.3nm,0.5s,baz=184,slow=12,SNR=12
TKL S **S 08 32 45.8 +4.5**
comp=Z,3.0nm,0.6s,baz=310,slow=7.9,SNR=3.8
TKL Tuckaleechee C 22.02 20 *e*P **P 08 28 42.5 -0.7**
121A Cookes Peak, D 22.07 324 ⇓P **P 08 28 45.5 +1.5**
baz=22,SNR=12
121A Cookes Peak, D 22.07 324 *e*P **P 08 28 45.8 +1.9**
comp=Z,12nm,0.9s
319A Douglas 22.13 320 ⇑P **P 08 28 46.1 +1.6**
baz=22,SNR=8.9
W26A Owens Ranch, T 22.21 336 ⇓P **P 08 28 45.3 -0.1**
baz=22
V28A Channing 22.23 339 ⇑P **P 08 28 45.7 +0.2**
baz=22
V27A Dan Oppiter Fa 22.45 338 ⇑P **P 08 28 48.6 +0.7**
baz=23
U30A WK&E Inc. Balk 22.47 343 ⇓P **P 08 28 48.7 +0.7**
baz=23
KMSC Kings Mountain 22.47 25 ⇓P **P 08 28 47.1 -0.8**
baz=23
W25A X Bar L Ranch, 22.61 335 ⇓P **P 08 28 48.8 -0.7**
baz=23,SNR=6.1
T32A Huddler Ranch, 22.66 347 ⇓P **P 08 28 48.9 -1.1**
baz=23
S36A Lake Cedric, C 22.67 354 ⇑P **P 08 28 48.0 -2.1**
baz=23
T31A Randall Ranch, 22.75 346 ⇑P **P 08 28 50.4 -0.5**
baz=23
SIUC Southern Illin 22.75 7 *e*P **P 08 28 50.2 -0.7**
comp=Z,22nm,0.8s
LPM Los Pinos Moun 22.84 329 *e*P **P 08 28 52.9 +0.8**
V26A Tequesquite Ra 22.84 336 ⇓P **P 08 28 51.5 -0.5**
baz=23
T30A Plains 22.92 344 ⇑P **P 08 28 52.0 -0.7**
baz=23
W24A Lazy 6 Ranch, 23.01 333 ⇓P **P 08 28 54.3 +0.6**
baz=23,SNR=7.6
U27A Thompson Grove 23.04 339 ⇓P **P 08 28 53.4 -0.6**
baz=23
LAZ Ladron 23.16 329 *e*P **P 08 28 56.9 +1.7**
comp=Z,2.7nm,0.8s
V25A Rancho No Teng 23.21 335 ⇑P **P 08 28 55.0 -0.6**
baz=23
T29A Hugoton 23.23 343 ⇑P **P 08 28 54.3 -1.4**
baz=23
ANMO Albuquerque 23.27 331 P **P 08 28 56.4 +0.2**
comp=Z,2.2nm,0.5s,baz=153,slow=11,SNR=14
ANMO Albuquerque 23.27 331 *e*P **P 08 28 56.5 +0.3**
comp=Z,62nm,2.9s
U26A Atchley Ranch, 23.35 337 ⇑P **P 08 28 56.5 -0.4**
baz=24
V24A Rampart Ranch, 23.38 334 ⇑P **P 08 28 57.6 +0.3**
baz=24,SNR=6.4
T28A Walsh 23.45 341 ⇑P **P 08 28 56.2 -1.5**
baz=24
S30A Montezuma 23.46 345 ⇓P **P 08 28 56.6 -1.2**
baz=24
R33A Olander Ranch, 23.57 350 ⇑P **P 08 28 57.3 -1.4**
baz=24
T27A Campo 23.59 340 ⇑P **P 08 28 58.5 -0.5**
baz=24
U25A Circle Dot Ran 23.61 336 ⇓P **P 08 28 59.5 +0.2**
baz=24,SNR=7.3
S29A Ulysses 23.61 343 ⇓P **P 08 28 58.6 -0.5**
baz=24
TUC Tucson 23.70 319 *e*P **P 08 29 01.6 +1.6**
comp=Z,3.3nm,0.8s
WCI Wyandotte Cave 23.75 13 *e*P **P 08 28 59.5 -0.8**
comp=Z,18nm,0.8s
V23A Ortiz Mt. (NFS 23.80 332 ⇓P **P 08 29 02.6 +1.6**
baz=24,SNR=11
S28A Manter 23.81 342 ⇓P **P 08 28 59.6 -1.3**
baz=24
R32A Long Quarter, 23.81 348 ⇓P **P 08 28 59.3 -1.6**
baz=24
R31A Burdett 23.85 347 ⇑P **P 08 29 00.1 -1.2**
baz=24
U24A Moreno Valley 23.97 335 ⇓P **P 08 29 02.3 -0.2**
baz=24
T26A Comanche Natio 23.99 338 ⇓P **P 08 29 02.7 0.0**
baz=24
R30A Dighton 24.02 345 ⇑P **P 08 29 01.5 -1.2**
baz=24
KSU1 Kansas State U 24.15 353 ⇓P **P 08 29 01.2 -2.6**
baz=24,SNR=5.3
KSU1 Kansas State U 24.15 353 *e*P **P 08 29 02.2 -1.7**
comp=Z,11nm,0.6s
T25A Trinidad 24.26 337 ⇓P **P 08 29 06.4 +1.3**
baz=24
T25A Trinidad 24.26 337 *e*P **P 08 29 07.0 +1.9**
comp=Z,15nm,1.2s
V22A San Miguel Ran 24.27 331 ⇑P **P 08 29 06.7 +1.4**
baz=24
U23A El Rito 24.29 333 ⇓P **P 08 29 06.4 +1.0**
baz=24
Q32A Meitler Ranch, 24.34 349 ⇓P **P 08 29 03.9 -1.6**
baz=24,SNR=7.6
S26A Kim 24.35 339 ⇓P **P 08 29 06.3 +0.5**
baz=24
R29A Marienthal 24.38 344 ⇑P **P 08 29 05.5 -0.4**
baz=24
R28A Tribune 24.48 343 ⇑P **P 08 29 06.6 -0.4**
baz=25
T24B San Luis 24.57 335 ⇑P **P 08 29 08.6 +0.5**
baz=25
BLO Bloomington 24.61 12 *e*P **P 08 29 07.5 -0.5**
comp=Z,17nm,0.8s
U22A Llaves 24.63 332 ⇑P **P 08 29 09.6 +1.1**
baz=25
Q30A Quinter 24.67 346 ⇑P **P 08 29 08.9 +0.3**
baz=25
S25A Robets Cordova 24.73 338 ⇓P **P 08 29 10.5 +1.2**
baz=25
R27A Eads 24.73 341 ⇑P **P 08 29 10.2 +1.0**
baz=25
Q29A Oakley 24.77 345 ⇓P **P 08 29 10.7 +1.1**
baz=25
T23A Casias Ranch, 24.82 334 ⇓P **P 08 29 11.6 +1.3**
baz=25
R26A Arlington 24.95 340 ⇑P **P 08 29 11.2 -0.2**
baz=25
P31A Stockton 25.01 348 ⇓P **P 08 29 11.8 +0.1**
baz=25
P29A Atwood 25.43 345 ⇓P **P 08 29 15.6 0.0**
baz=26
X16A Lo Mia Camp, P 25.54 322 ⇓P **P 08 29 17.6 +0.9**
baz=26,SNR=6.0
P28A Saint Francis 25.62 344 ⇓P **P 08 29 17.1 -0.2**
baz=26
S22A 4UR Ranch, Cre 25.76 334 ⇓P **P 08 29 20.0 +1.1**
baz=26
MVCO Mesa Verde 26.07 331 ⇑P **P 08 29 22.0 +0.4**
baz=26,SNR=11
MVCO Mesa Verde 26.07 331 *e*P **P 08 29 23.0 +1.4**
comp=Z,10nm,0.8s
O28A Krutsinger Ran 26.14 344 ⇓P **P 08 29 22.8 +0.8**
baz=26
Y14A Wickenburg 26.17 319 ⇓P **P 08 29 24.0 +1.7**
baz=26
WUAZ Wupatki 26.28 324 ⇑P **P 08 29 24.8 +1.4**
baz=26
P23A Jefferson 26.76 337 ⇑P **P 08 29 28.0 +0.1**
baz=27
PV01 Paradox Valley 26.85 332 *e*P **P 08 29 30.7 +2.1**
comp=Z,88nm,0.7s
PDMCI Parker Dam,Lak 27.12 319 ⇑P **P 08 29 31.1 +0.3**
baz=27
PV04 Paradox Valley 27.21 332 *e*P **P 08 29 33.4 +1.6**
PV10 Paradox Valley 27.26 331 *e*P **P 08 29 33.0 +0.7**
comp=Z,36nm,0.6s
U15A North Rim 27.45 324 ⇓P **P 08 29 35.6 +1.6**
baz=28
BC3 Big Chuckawall 27.59 316 ⇑P **P 08 29 37.4 +2.3**
baz=28
MONP Monument Peak, 27.81 314 ⇑P **P 08 29 38.9 +1.7**
baz=28
ECSD EROS Data Cent 28.73 354 ⇑P **P 08 29 43.5 -1.5**
baz=29
N20A Spence Gulch, 28.96 335 ⇓P **P 08 29 48.9 +1.5**
baz=29
K22A Casper 29.89 339 ⇑P **P 08 29 56.8 +1.3**
baz=30
EDW2 Edwards Air Fo 30.00 316 ⇑P **P 08 29 59.0 +2.5**
baz=30
PDAR Pinedale Array 31.11 336 P **P 08 30 06.1 -0.2**
comp=Z,0.4nm,0.7s,baz=141,slow=10,SNR=3.4
I20A Worland 31.59 339 ⇑P **P 08 30 09.9 -0.5**
baz=32
I19A Meeteetse 31.97 338 ⇑P **P 08 30 14.5 +0.6**
baz=32
F25A Bowman 32.01 346 ⇓P **P 08 30 14.8 +0.7**
baz=32
REDW Red Top Meadow 32.12 335 *e*P **P 08 30 15.6 +0.3**
comp=Z,10nm,1.1s
LOHW Long Hollow 32.23 335 *e*P **P 08 30 17.3 +1.2**
comp=Z,2.7nm,0.8s
TPAW Teton Pass 32.27 335 *e*P **P 08 30 17.3 +0.7**
comp=Z,6.1nm,1.1s
E26A Carlson Angus 32.31 347 ⇑P **P 08 30 17.1 +0.4**
baz=32
NVAR Mina Array Bea 32.33 321 P **P 08 30 19.1 +2.0**
comp=Z,4.7nm,0.6s,baz=132,slow=8.7,SNR=33
NVAR pP **pP 08 30 38.3 +1.8**
comp=Z,1.9nm,0.7s,baz=138,slow=8.6,SNR=3.1
I17A Pilgrim Ck. 32.48 336 ⇓P **P 08 30 18.8 +0.5**
baz=33
H18A Shoshone NF, C 32.77 338 ⇓P **P 08 30 21.1 +0.2**
baz=33
BMN Battle Mountai 33.01 325 *e*P **P 08 30 24.0 +1.0**
comp=Z,1.4nm,0.6s
D24A Glendive 33.34 346 ⇑P **P 08 30 25.5 0.0**
baz=34
D22A Cohagen 33.84 344 ⇑P **P 08 30 30.1 +0.1**
baz=34
HLID Hailey 33.84 331 ⇑P **P 08 30 31.3 +1.1**
baz=34
HLID Hailey 33.84 331 *e*P **P 08 30 31.0 +0.8**
comp=Z,1.8nm,0.7s
MCMT McKenzie Canyo 34.15 334 *e*P **P 08 30 34.2 +1.3**
comp=Z,2.3nm,1.2s
DLMT Dillon 34.48 335 *e*P **P 08 30 36.6 +1.0**
comp=Z,5.7nm,1.1s
D19A Cripps Ranch, 34.66 341 ⇓P **P 08 30 37.6 +0.5**
baz=35
C21A Desert Coulee 34.72 343 ⇓P **P 08 30 38.0 +0.5**
baz=35
LRM Limekiln Ridge 34.80 336 *e*P **P 08 30 39.8 +1.3**
WVOR Wild Horse Val 35.15 326 *e*P **P 08 30 42.5 +1.1**
comp=Z,5.5nm,1.1s
EGMT Eagleton 35.70 340 ⇑P **P 08 30 46.0 0.0**
baz=36
MOD Modoc Plateau 35.73 324 *e*P **P 08 30 47.0 +0.6**
comp=Z,2.4nm,0.7s
A20A Cobblestone Ra 35.91 343 ⇓P **P 08 30 47.6 -0.2**
baz=36
M04C Macdoel 36.54 322 ⇓P **P 08 30 54.1 +0.8**
baz=37
I07A Izee 36.74 327 *e*P **P 08 30 55.2 +0.2**
comp=Z,7.4nm,1.4s
F10A Beach Ranch, E 36.98 331 *e*P **P 08 30 57.3 +0.3**
comp=Z,10nm,0.6s
J04D Umpqua Nationa 37.61 324 ⇓P **P 08 31 03.3 +0.9**
baz=38
I04A Tendick Farm, 38.13 325 ⇓P **P 08 31 07.6 +1.0**
baz=38
G05D Wamic, OR 38.48 327 ⇓P **P 08 31 10.8 +1.3**
baz=39
C09A Chrisman Ranch 38.82 332 *e*P **P 08 31 13.1 +0.8**
comp=Z,32nm,2.1s
LPAZ La Paz 39.57 141 P **P 08 31 17.5 -2.1**
comp=Z,1.7nm,0.7s,baz=319,slow=9.6,SNR=5.4
LPAZ La Paz 39.57 141 *e*P **P 08 31 18.7 -0.9**
comp=Z,1.9nm,0.8s
LON Longmire 39.75 329 *e*P **P 08 31 20.0 -0.1**
comp=Z,3.2nm,0.8s
SIV San Ignacio 44.01 133 P **P 08 31 52.8 -2.3**
comp=Z,3.2nm,0.6s,baz=309,slow=7.7,SNR=8.7
YKA Yellowknife Ar 49.79 347 P **P 08 32 37.5 -2.0**
comp=Z,1.5nm,0.6s,baz=150,slow=7.4,SNR=32
YKA pP **pP 08 32 59.1 -0.9**
comp=Z,1.1nm,0.7s,baz=152,slow=7.3,SNR=6.2
YKA PcP **PcP 08 33 57.8 -1.3**
comp=Z,0.4nm,0.6s,baz=152,slow=3.6,SNR=6.6
YKA ScP **ScP 08 37 47.4 +0.1**
comp=Z,0.2nm,0.8s,baz=138,slow=4.7,SNR=4.0
DLBC Dease Lake 51.34 336 *e*P **P 08 32 52.6 +1.3**
ILAR Eielson Array 61.53 337 P **P 08 34 02.5 -1.0**
comp=Z,1.1nm,0.6s,baz=144,slow=4.7,SNR=6.0
ILAR pP **pP 08 34 24.3 -0.4**
comp=Z,1.8nm,0.8s,baz=112,slow=4.7,SNR=5.2
MKAR Makanchi Array 118.24 4 PKP **PKPdf 08 42 30.8 -2.6**
comp=Z,0.1nm,0.4s,baz=22,slow=1.6,SNR=2.6
HHC Hu-ho-hao-te 119.92 339 *e*PKP **PKPdf 08 42 36.5 -0.4**
HHC sPKP 08 43 16.0
HHC PP **PP 08 44 05.4 +4.8**
HHC SKS **SKSdf 08 49 46.5 +4.7**
HHC SKKS **SKKSac 08 50 50.3 -3.8**
HHC Hu-ho-hao-te 119.92 339 SS SS 09 00 21.3 +2.0
LZH Lanzhou 126.72 343 *e*PKP **PKPdf 08 42 47.0 -3.1**
LZH pPKP **pPKPdf 08 43 12.5 -1.0**
LZH sPKP 08 43 24.6
WRA Warramunga Arr 134.89 257 PKP **PKPdf 08 43 04.9 -0.9**
comp=Z,0.4nm,0.7s,baz=88,slow=2.7,SNR=4.6
ASAR Alice Springs 135.28 252 PKP **PKPdf 08 43 05.7 -0.8**
comp=Z,0.4nm,0.7s,baz=92,slow=1.8,SNR=4.6
CMAR Chiang Mai Arr 144.71 340 PKP **PKPab 08 43 21.4 -1.0**
comp=Z,1.4nm,0.4s,baz=340,slow=3.5,SNR=8.5

*IDC **23** 08:24:49.0±1.1,27°.35N×127°.17E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.5/26,mbtmp3.6/5,ML3.2/1,MS3.1/2, Ms1 3.1/2,ms1mx2.6/28,Error ellipse: s-maj=31.0km s-min=12.8km az=35.0*
*JMA **23** 08:24:50.8±0.2,27°.83N×127°.77E,h21km±3km,M3.2*
*ISCJB **23** 08:24:52.2±1.0,27°.79N±0°.07×127°.84E±0°.08, h50km±12km,mb3.4/4,MS3.6/1,Error ellipse: s-maj=15.1km s-min=7.8km az=40.6*
ISC 23 08:24:52.9±1.0,27°.78N±0°.08×127°.84E±0°.08,h40km±13km, n15,σ0°91/18,mb3.4/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JIH	**Iheya**	**0.75**	**171**	P		**Pn**	**08 25 05.9**	**-1.2**
JIH				S		**Sn**	**08 25 16.4**	**-0.9**
JOKE	**Okinoerabujima**	**0.77**	**123**	P		**Pn**	**08 25 06.7**	**-0.6**
JOKE				S		**Sn**	**08 25 18.0**	**+0.2**
JTK	**Tokunoshima**	**0.98**	**90**	P		**Pn**	**08 25 09.9**	**-0.3**
JTK				S		**Sn**	**08 25 22.8**	**-0.1**
JOW	**Kunigami**	**1.02**	**158**	P		**Pn**	**08 25 10.8**	**0.0**
JOW				S		**Sn**	**08 25 25.2**	**+1.3**
JOW	**Kunigami**	**1.02**	**158**	Pn		**Pn**	**08 25 11.2**	**+0.4**
	9.1nm,0.3s,baz=130,slow=35,SNR=49							
JOW				Lg		Lg	08 25 25.1	
	44nm,0.3s,baz=151,slow=19,SNR=28							
JAMN	**Amaminishikomi**	**1.27**	**68**	P		**Pn**	**08 25 14.0**	**-0.1**
JNTH	**Nagotoyohara**	**1.27**	**173**	P		**Pn**	**08 25 14.2**	**0.0**
JNTH				S		**Sn**	**08 25 31.4**	**+1.4**
JAGN	**Aguni-jima**	**1.30**	**204**	P		**Pn**	**08 25 14.0**	**-0.6**
JAGN				S		**Sn**	**08 25 31.4**	**+0.6**
JNU	**Nakatsue**	**5.93**	**25**	Pn		Pn	08 26 29.1	+11
	0.5nm,0.3s,baz=277,slow=2.2,SNR=5.4							
KSRS	**Korea Array**	**9.64**	**0**	LR		LR	08 31 43.4	
	comp=Z,35nm,20.3s,baz=10.0,slow=41							
SONM	**Songino Array**	**26.07**	**326**	P		**P**	**08 30 24.5**	**+1.8**
	1.1nm,1.0s,baz=142,slow=11,SNR=3.7							
MKAR	**Makanchi Array**	**40.25**	**311**	P		**P**	**08 32 25.2**	**-0.7**
	0.3nm,0.9s,baz=110,slow=13,SNR=2.4							
ZALV	**Zalesovo Beam**	**40.81**	**322**	LR		LR	08 49 51.8	
	comp=Z,83nm,19.2s,baz=236,slow=37							
WRA	**Warramunga Arr**	**47.86**	**172**	P		**P**	**08 33 27.1**	**+0.1**
	1.0nm,0.8s,baz=350,slow=8.1,SNR=5.9							
ASAR	**Alice Springs**	**51.48**	**173**	P		**P**	**08 33 53.7**	**-0.9**
	0.4nm,0.8s,baz=356,slow=7.8,SNR=2.9							

*IDC **23** 08:28:37.7±2.5,21°.28N×45°.53W,h0km,mb3.8/8, mb1 4.0/8,mb1mx3.6/38,mbtmp3.8/8,MS3.7/1,Ms1 3.7/1, ms1mx2.9/35,Error ellipse: s-maj=78.9km s-min=23.4km az=20.0*
*ISCJB **23** 08:28:38.4±2.2,21°.3N±0°.4×45°.5W±0°.2,h15km,mb3.8/8, MS3.7/1,Error ellipse: s-maj=65.9km s-min=20.6km az=19.7*
ISC 23 08:28:40.2±2.4,21°.3N±0°.5×45°.5W±0°.2,h15km,n14, σ0°47/8,mb3.9/8,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SCHQ	**Schefferville**	**37.15**	**340**	P		**P**	**08 35 50.9**	**+0.5**
	2.2nm,0.8s,baz=153,slow=11,SNR=3.4							
H10N3	**ASCENSION HYDR**	**42.01**	**130**	T		T	09 21 10.9	
	baz=314,slow=74,SNR=5.2							
H10N2	**ASCENSION HYDR**	**42.01**	**130**	T		T	09 21 11.1	
	baz=314,slow=74,SNR=5.3							
H10N1	**ASCENSION HYDR**	**42.03**	**130**	T		T	09 21 08.5	
	baz=314,slow=74,SNR=5.8							
H10S3	**ASCENSION HYDR**	**42.67**	**132**	T		T	09 22 03.7	
	baz=315,slow=75,SNR=4.9							
H10S1	**ASCENSION HYDR**	**42.68**	**132**	T		T	09 22 02.8	
	baz=315,slow=75,SNR=4.5							
H10S2	**ASCENSION HYDR**	**42.69**	**132**	T		T	09 22 02.2	
	baz=315,slow=75,SNR=5.8							
TORD	**Torodi Ar. Bea**	**45.68**	**92**	P		**P**	**08 37 00.9**	**+0.1**
	0.4nm,0.6s,baz=298,slow=7.5,SNR=3.8							
GERES	**GERESS Array B**	**54.11**	**44**	P		**P**	**08 38 04.3**	**-0.2**
	0.3nm,0.6s,baz=258,slow=5.3,SNR=4.3							
PDAR	**Pinedale Array**	**56.99**	**308**	P		**P**	**08 38 25.8**	**+0.2**
	0.3nm,0.8s,baz=127,slow=9.4,SNR=4.8							
PDAR				LR		LR	09 01 55.6	
	comp=Z,62nm,19.8s,baz=88,slow=35							
YKA	**Yellowknife Ar**	**61.69**	**330**	P		**P**	**08 38 56.6**	**-0.8**
	0.8nm,0.8s,baz=98,slow=7.5,SNR=13							
BRTR	**Keskin Array B**	**68.59**	**54**	P		**P**	**08 39 43.0**	**+0.1**
	1.7nm,1.0s,baz=290,slow=4.3,SNR=5.3							
ILAR	**Eielson Array**	**75.68**	**334**	P		**P**	**08 40 24.8**	**+0.1**
	1.0nm,0.8s,baz=74,slow=5.0,SNR=12							
ZALV	**Zalesovo Beam**	**93.77**	**27**	P		**P**	**08 41 56.4**	**-0.1**
	0.4nm,0.4s,baz=347,slow=5.9,SNR=2.3							

*IDC **23** 08:50:13.6±1.1,28°.03N×129°.96E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.4/34,mbtmp3.6/5,ML3.5/1,MS3.1/1, Ms1 3.1/1,ms1mx2.3/36,Error ellipse: s-maj=40.7km s-min=20.4km az=99.0*
*JMA **23** 08:50:15.8±0.1,28°.02N×130°.17E,h38km±1km,M3.4*
ISC 23 08:50:17.2±1.5,28°.06N±0°.05×130°.05E±0°.07,h26km±10km, n20,σ0°68/27,mb3.7/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JZK	**Kikaishima**	**0.26**	**345**	P		**Pb**	**08 50 24.2**	**+0.4**
JZK				*e*S		**Sn**	**08 50 30.5**	**-0.2**
JAM	**Amami Oshima**	**0.53**	**312**	P		**Pn**	**08 50 28.2**	**-0.9**
JAM				*e*S		**Sn**	**08 50 36.6**	**-0.6**
JAMN	**Amaminishikomi**	**0.79**	**284**	P		**Pn**	**08 50 32.5**	**-0.3**
JAMN				*e*S		**Sn**	**08 50 44.7**	**+0.9**
JTK	**Tokunoshima**	**1.01**	**255**	P		**Pn**	**08 50 35.5**	**-0.3**
JTK				*e*S		**Sn**	**08 50 49.4**	**+0.3**
JTAJ	**Takarajima**	**1.32**	**326**	P		**Pn**	**08 50 39.9**	**-0.1**
JTAJ				*e*S		**Sb**	**08 50 57.2**	**-0.7**
JOKE	**Okinoerabujima**	**1.48**	**242**	P		**Pn**	**08 50 42.0**	**-0.3**
JNN	**Nakanoshima**	**1.78**	**355**	P		**Pn**	**08 50 46.0**	**-0.4**
JOW	**Kunigami**	**2.00**	**233**	P		**Pn**	**08 50 48.6**	**-0.7**
JOW	**Kunigami**	**2.00**	**233**	Pn		**Pn**	**08 50 47.9**	**-1.4**
	2.7nm,0.3s,baz=102,slow=13,SNR=37							
JIH	**Iheya**	**2.11**	**242**	P		**Pn**	**08 50 50.4**	**-0.5**
JYAK	**Yakushimahirau**	**2.21**	**10**	P		**Pn**	**08 50 52.0**	**-0.2**
JYAK				*e*S		**Sn**	**08 51 18.4**	**-0.3**
JNTH	**Nagotoyohara**	**2.37**	**230**	P		**Pn**	**08 50 54.0**	**-0.4**
JKC	**Kuchinoerabu**	**2.40**	**3**	P		**Pn**	**08 50 55.0**	**+0.2**
JTN	**Tanegashima 3**	**2.71**	**17**	P		**Pn**	**08 50 58.6**	**-0.6**
JTN				*e*S		**Sn**	**08 51 29.9**	**-1.2**
JNU	**Nakatsue**	**5.10**	**8**	Pn		**Pn**	**08 51 32.6**	**+0.6**
	2.1nm,0.3s,baz=220,slow=5.8,SNR=18							
JNU				Sn		**Sn**	**08 52 29.1**	**-0.9**
	1.7nm,0.3s,baz=249,slow=19,SNR=6.7							
USRK	**Ussuriysk Ar.**	**16.18**	**5**	LR		LR	09 00 18.1	
	comp=Z,65nm,19.9s,baz=356,slow=37							
WRA	**Warramunga Arr**	**47.90**	**175**	P		**P**	**08 58 53.1**	**-0.3**
	0.6nm,0.5s,baz=354,slow=8.4,SNR=6.8							
ASAR	**Alice Springs**	**51.56**	**175**	P		**P**	**08 59 21.4**	**+0.2**
	0.5nm,0.7s,baz=7.2,slow=14,SNR=12							
FINES	**FINESS Array B**	**72.07**	**331**	P		**P**	**09 01 38.8**	**0.0**
	0.4nm,0.4s,baz=81,slow=8.6,SNR=7.2							
YKA	**Yellowknife Ar**	**76.19**	**26**	P		**P**	**09 02 03.9**	**+1.1**
	0.2nm,0.8s,baz=297,slow=5.1,SNR=4.2							

*NIED **23** 08:54:00.43°.80N×147°.80E,h50km,Mw3.9 Best double couple: M0 9.44000×10^14 NP1:φ=160.00000°,δ62.00000°, λ16.00000°. NP2:φ=62.00000°,δ76.00000°,λ151.00000°.*
*JMA **23** 08:54:11.7±0.2,43°.83N×147°.83E,h0km,M4.4*
*SKHL **23** 08:54:11.9±0.4,44°.02N×148°.22E,h63km±12km,mb5.1/2*
*MOS **23** 08:54:12.5±1.3,44°.23N×148°.10E,h63km,mb4.3/14,Error ellipse: s-maj=12.5km s-min=9.1km az=92.2*
*ISCJB **23** 08:54:12.1±0.8,44°.07N±0°.06×148°.06E±0°.08,h62km±6km, mb4.0/24,Error ellipse: s-maj=13.1km s-min=5.4km az=139.3*
*NEIC **23** 08:54:12.3±1.2,44°.16N×148°.26E,h35km,mb4.1/5,Error ellipse: s-maj=30.5km s-min=11.6km az=159.0*
*IDC **23** 08:54:16.5±3.3,44°.40N×147°.99E,h74km±25km,mb3.7/16, mb1 3.9/19,mb1mx3.7/29,mbtmp4.0/19,MS2.8/3, Ms1 2.8/3,ms1mx2.5/50,Error ellipse: s-maj=40.8km s-min=15.2km az=169.0*
ISC 23 08:54:12.4±1.2,44°.09N±0°.06×148°.10E±0°.07,h49km±10km, n95,σ1°25/100,mb4.0/24,4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SHO	**Shikotan**	**0.94**	**257**	*e*P		**Pn**	**08 54 28.7**	**-0.6**
SHO				*e*S		**Sn**	**08 54 41.5**	**-0.2**
KUR	**Kuril'sk**	**1.15**	**352**	*d i*PN		**Pn**	**08 54 32.3**	**+0.2**
KUR				*i* S		**Sn**	**08 54 47.8**	**+1.0**
KUR				pmax		pmax		
	comp=Z,321nm,0.4s							
KUR	**Kuril'sk**	**1.15**	**352**	*e*P		**Pn**	**08 54 32.3**	**+0.2**
KUR				AMB		AMB	08 54 36.5	
	comp=Z,229nm,0.4s							
KUR				AMB		AMB	08 54 36.5	
	comp=Z,320nm,0.4s							
KUR				*e*S		**Sn**	**08 54 47.7**	**+1.0**
KUR				A		A	08 54 49.3	
	comp=Z,2μm,0.4s							
KUR				A		A	08 54 49.3	
	comp=Z,1μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.61**	**269**	*d i*PN		**Pn**	**08 54 38.5**	**+0.1**
YUK				*e*S		**Sn**	**08 54 58.1**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**1.61**	**269**	*e*P		**Pn**	**08 54 38.5**	**+0.1**
YUK				AMB		AMB	08 54 40.3	
	comp=Z,843nm,0.2s							
YUK				*e*S		**Sn**	**08 54 58.1**	**+0.1**
YUK				A		A	08 55 03.2	
	comp=Z,878nm,0.2s							
YUK				A		A	08 55 03.2	
	comp=Z,2μm,0.2s							
NEM2	**Nemuro 2**	**1.86**	**248**	P		**Pn**	**08 54 41.1**	**-0.6**
NEM2				*e*S		**Sn**	**08 55 02.5**	**-1.5**
JRA	**Rausu**	**2.15**	**267**	*e*S		**Sn**	**08 55 11.8**	**+0.6**
JNK	**Nakash**	**2.50**	**259**	P		**Pn**	**08 54 51.0**	**+0.5**
JNK				*e*S		**Sn**	**08 55 19.9**	**+0.2**
JAK	**Akkeshi**	**2.71**	**247**	P		**Pn**	**08 54 53.6**	**+0.2**
JAK				*e*S		**Sn**	**08 55 24.4**	**-0.4**
JTKR	**Abashiri--Toko**	**3.02**	**269**	P		**Pn**	**08 54 59.3**	**+1.6**
JAR	**Ashorobuto**	**3.24**	**257**	P		**Pn**	**08 55 01.9**	**+1.2**
JAR				*e*S		**Sn**	**08 55 38.7**	**+0.7**
JOB	**Onbets**	**3.32**	**250**	P		**Pn**	**08 55 02.7**	**+0.9**
JOB				*e*S		**Sn**	**08 55 39.8**	**-0.2**
JMP	**Maruseppu**	**3.42**	**270**	P		**Pn**	**08 55 05.1**	**+1.9**
HRK	**Horoka**	**3.65**	**262**	*e*P		**Pn**	**08 55 08.7**	**+2.3**

JCH	Churui	3.76 248	P	Pn	08 55 08.2	+0.4
JCH			eS	Sn	08 55 49.7	-1.0
JKK2	Kamakawa 2	3.87 269	P	Pn	08 55 11.9	+2.6
ASAJ	Asahikawa	3.96 272	P	Pn	08 55 13.9	+3.3
	comp=Z,3.3nm,0.3s,baz=229,slow=28,SNR=17					
ASAJ			S	Sn	08 56 08.1	+12
	comp=Z,1.9nm,0.3s,baz=239,slow=18,SNR=2.6					
ASAJ			LR	LR	08 56 50.1	
	comp=Z,70nm,20.7s,baz=116,slow=40					
ASAJ	Asahikawa	3.96 272	ePn	Pn	08 55 13.5	+2.9
JSE	Soyaes	4.04 284	P	Pn	08 55 13.5	+1.9
ERM	Erimo	4.17 242	d/iPN	Pn	08 55 15.5	+2.0
ERM	Erimo	4.17 242	eP	Pn	08 55 15.5	+2.0
ERM	Erimo	4.17 242	ePn	Pn	08 55 15.8	+2.3
JNBK	Urakawa-nobuka	4.31 247	P	Pn	08 55 15.9	+0.6
JNBK			eS	Sn	08 56 03.6	-0.7
JWK2	Keihoku	4.58 288	P	Pn	08 55 22.8	+3.7
YSS	Yuzh-Sakhalins	4.72 309	ePN	Pn	08 55 22.8	+1.8
YSS			eS	Sn	08 56 11.6	-2.7
YSS			pmax	pmax		
	comp=Z,10.0nm,0.5s					
YSS			smax	smax		
	comp=E,30nm,0.8s					
YSS	Yuzh-Sakhalins	4.72 309	eP	Pn	08 55 22.8	+1.8
YSS			AMB	AMB	08 55 23.5	
	comp=E,10.0nm,0.5s					
YSS			eS	Sn	08 56 11.6	-2.7
YSS			A	A	08 56 14.6	
	comp=E,30nm,0.8s					
YSS	Yuzh-Sakhalins	4.72 309	ePn	Pn	08 55 23.0	+2.1
MJAR	Matsushiro Arr	10.67 228	LR	LR	09 01 27.0	
	comp=E,42nm,20.0s,baz=25,slow=40					
PETK	Petropavlovsk-	11.03 32	PN	Pn	08 56 46.9	-0.4
PETK			pmax	pmax		
	comp=Z,1.0nm,0.3s					
PETK	Petropavlovsk-	11.03 32	P	Pn	08 56 46.9	-0.4
	comp=Z,0.6nm,0.3s,baz=188,slow=12,SNR=10					
KSRS	Korea Array	16.64 253	LR	LR	09 04 11.8	
	comp=Z,57nm,18.4s,baz=309,slow=36					
SEY	Seymchan	19.04 6	P	P	08 58 29.2	-0.8
	comp=Z,0.2nm,0.3s,baz=186,slow=10,SNR=6.1					
SEY	Seymchan	19.04 6	eP	P	08 58 29.7	-0.3
H11N2	WAKE ISLAND Hy	28.93 141	T	T	09 30 56.0	
	baz=332,slow=76,SNR=204					
H11N1	WAKE ISLAND Hy	28.94 141	T	T	09 30 56.3	
	baz=332,slow=76,SNR=224					
H11N3	WAKE ISLAND Hy	28.94 141	T	T	09 30 51.4	
	baz=332,slow=76,SNR=216					
SONM	Songino Array	28.97 292	P	P	09 00 08.5	+1.3
	comp=Z,0.4nm,0.6s,baz=72,slow=9.3,SNR=3.1					
TIK	Tiksi	29.15 348	eP	P	09 00 05.9	-2.4
TIXI	Tiksi	29.17 348	eP	P	09 00 05.9	-2.5
TIXI			pmax	pmax		
	comp=Z,1.0nm,1.2s					
H11S1	WAKE ISLAND Hy	29.91 143	T	T	09 32 02.7	
	baz=332,slow=76,SNR=454					
H11S3	WAKE ISLAND Hy	29.92 143	T	T	09 32 04.6	
	baz=332,slow=76,SNR=332					
H11S2	WAKE ISLAND Hy	29.93 143	T	T	09 32 08.5	
	baz=332,slow=76,SNR=260					
HVS	Khovu-Aksy	36.60 301	eP	P	09 01 13.5	-0.1
HVS			pmax	pmax		
	comp=Z,8.0nm,1.0s					
IM04	Indian Mountai	37.96 34	eP	P	09 01 25.4	+0.5
MCK	McKinley	39.94 38	eP	P	09 01 41.9	+0.5
MCK			pmax	pmax		
	comp=Z,3.0nm,0.7s					
MCK	McKinley	39.94 38	eP	P	09 01 41.9	+0.5
	comp=Z,3.0nm,0.7s					
COLA	College	40.39 36	i/P	P	09 01 46.3	+1.2
COLA			pmax	pmax		
	comp=Z,32nm,1.0s					
COLA	College	40.39 36	eP	P	09 01 46.3	+1.2
COLA	College	40.39 36	eP	P	09 01 46.1	+1.1
	comp=Z,8.6nm,0.9s					
ILAR	Eielson Array	40.80 36	eP	P	09 01 49.0	+0.5
ILAR			pmax	pmax		
	comp=Z,3.0nm,0.8s					
ILAR	Eielson Array	40.80 36	P	P	09 01 48.7	+0.2
	comp=Z,2.9nm,0.8s,baz=257,slow=7.2,SNR=22					
ILAR	Eielson Array	40.80 36	eP	P	09 01 49.0	+0.5
MKAR	Makanchi Array	45.03 298	eP	P	09 02 23.7	+0.7
MKAR			pmax	pmax		
	comp=Z,1.0nm,0.6s					
MKAR	Makanchi Array	45.03 298	P	P	09 02 22.8	-0.2
	comp=Z,0.5nm,0.6s,baz=68,slow=6.9,SNR=7.8					
MKAR		PcP	PcP	PcP	09 04 03.3	+0.1
	comp=Z,0.3nm,0.6s,baz=51,slow=4.8,SNR=3.7					
MKAR	Makanchi Array	45.03 298	eP	P	09 02 23.7	+0.7
MKAR	Makanchi Array	45.03 298	eP	P	09 02 23.8	+0.7
HYT	Haines Junctio	45.62 41	eP	P	09 02 29.4	+1.9
KURK	Kurchatov	45.90 304	eP	P	09 02 29.8	0.0
KURK	Kurchatov	45.90 304	eP	P	09 02 29.8	0.0
	comp=Z,0.5nm,0.5s					
KKAR	Karatay Array	54.16 298	eP	P	09 03 32.7	+0.3
KKAR			pmax	pmax		
	comp=Z,1.0nm,0.6s					
KKAR	Karatay Array	54.16 298	eP	P	09 03 32.7	+0.3
	comp=Z,0.9nm,0.6s					
YKA	Yellowknife Ar	55.13 34	P	P	09 03 39.6	+0.4
YKA			pmax	pmax		
	comp=Z,1.0nm,0.5s					
YKA	Yellowknife Ar	55.13 34	P	P	09 03 39.6	+0.4
	comp=Z,1.1nm,0.5s,baz=302,slow=7.3,SNR=20					
GEYT	Alibeck	64.87 299	P	P	09 04 46.9	+0.5
	comp=Z,1.6nm,0.4s,baz=6.7,slow=4.9,SNR=3.7					
FINES	FINESS Array B	64.88 333	eP	P	09 04 43.3	-2.6
FINES			pmax	pmax		
	comp=Z,1.0nm,0.6s					
FINES	FINESS Array B	64.88 333	P	P	09 04 44.5	-1.4
	comp=Z,1.3nm,0.6s,baz=45,slow=8.1,SNR=6.8					
FINES	FINESS Array B	64.88 333	eP	P	09 04 43.3	-2.6
FFC	Flin Flon	65.01 37	eP	P	09 04 48.8	+1.8
FCC	Fort Churchill	65.38 30	eP	P	09 04 48.9	-0.3
FCC	Fort Churchill	65.38 30	eP	P	09 04 48.9	-0.3
NVAR	Mina Array Bea	66.81 59	P	P	09 05 00.1	+1.0
	comp=Z,0.6nm,0.6s,baz=290,slow=7.3,SNR=4.3					
DUG	Dugway, Tooele	68.99 54	eP	P	09 05 10.0	-2.6
DUG			pmax	pmax		
	comp=Z,1.0nm,0.6s					
DUG	Dugway, Tooele	68.99 54	eP	P	09 05 10.0	-2.6
	comp=Z,1.2nm,0.6s					
PDAR	Pinedale Array	69.16 50	P	P	09 05 14.3	+0.5
	comp=Z,0.3nm,0.4s,baz=40,slow=2.5,SNR=4.1					
NB2	NORSAR Subarra	69.53 339	P	P	09 05 15.0	-0.4
	comp=Z,0.7nm,0.5s,baz=31,slow=6.5					
NOA	NORSAR Array B	69.53 339	eP	P	09 05 15.1	-0.4
NOA			pmax	pmax		
	comp=Z,1.0nm,0.5s					
NOA	NORSAR Array B	69.53 339	P	P	09 05 14.9	-0.4
	comp=Z,0.6nm,0.5s,baz=31,slow=6.6,SNR=6.8					
NOA	NORSAR Array B	69.53 339	eP	P	09 05 15.1	-0.4
HFS	Hagfors	69.64 338	P	P	09 05 15.6	-0.5
HFS			pmax	pmax		
	comp=Z,4.0nm,1.0s					
HFS	Hagfors	69.64 338	P	P	09 05 15.6	-0.5
	comp=Z,3.5nm,1.0s,baz=25,slow=4.9,SNR=6.0					
KBZ	Khabaz	70.08 312	P	P	09 05 18.4	-0.7
KBZ			pmax	pmax		
	comp=Z,3.0nm,0.8s					
KBZ	Khabaz	70.08 312	P	P	09 05 18.4	-0.7
	comp=Z,2.9nm,0.8s,baz=66,slow=7.1,SNR=8.9					
AKASG	Malin Array Be	71.70 324	P	P	09 05 28.5	-0.3
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.3s					
AKASG	Malin Array Be	71.70 324	P	P	09 05 28.5	-0.3
	comp=Z,0.5nm,0.3s,baz=41,slow=6.9,SNR=3.9					
SCHQ	Schefferville	77.07 20	P	P	09 05 59.9	0.0
	comp=Z,1.6nm,0.8s,baz=333,slow=7.2,SNR=3.9					
CLL	Collm	77.32 333	eP	P	09 06 01.0	-0.4
CLL			pmax	pmax		
	comp=Z,5.0nm,1.1s					
BRTR	Keskin Array B	77.80 314	P	P	09 06 04.4	-0.1
BRTR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
BRTR	Keskin Array B	77.80 314	P	P	09 06 04.4	-0.1
	comp=Z,0.7nm,0.7s,baz=71,slow=4.1,SNR=3.0					
EKA	Eskdalemuir Ar	77.99 344	P	P	09 06 05.0	-0.1
EKA			pmax	pmax		
	comp=Z,1.0nm,0.4s					
EKA	Eskdalemuir Ar	77.99 344	P	P	09 06 05.0	-0.1
	comp=Z,0.5nm,0.4s,baz=26,slow=5.0,SNR=2.8					
GEC2	GERESS Array S	79.19 331	eP	P	09 06 13.5	+1.6
GEC2	GERESS Array S	79.19 331	eP	P	09 06 13.5	+1.6
TXAR	Lajitas Array	81.89 57	P	P	09 06 27.3	+0.6
TXAR			pmax	pmax		
	comp=Z,1.0nm,0.6s					
TXAR	Lajitas Array	81.89 57	P	P	09 06 27.3	+0.6
	comp=Z,0.8nm,0.6s,baz=297,slow=4.0,SNR=14					
TORD	Torodi Ar. Bea	115.33 323	PKP	PKPdf	09 12 47.9	-0.9
	comp=Z,0.1nm,0.4s,baz=21,slow=3.3,SNR=2.5					

*IDC **23** 09:15:40.4±2.6, 55°.71N×152°.62W, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.6/47, mbtmp3.9/9, ML3.5/2, MS2.9/1, Ms1 3.0/1, ms1mx2.5/43, Error ellipse: s-maj=56.1km s-min=24.3km az=165.0*

*ISCJB **23** 09:15:42.9±0.6, 56°.25N±0°.05×152°.32W±0°.06, h20km, mb4.0/6, Error ellipse: s-maj=7.0km s-min=4.2km az=154.7*

*NEIC **23** 09:15:47.0, 56°.34N×152°.57W, h15km, ML3.3(AEIC), After AEIC.*

ISC 23 09:15:46.4±1.1, 56°.32N±0°.09×152°.41W±0°.07, h20km, n78, σ1§16/74, mb4.2/6, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	Sitkinak Islan	1.01	284	P	Pb	09 16 02.9	-2.3
OHAK	Old Harbor	1.03	332	P	Pb	09 16 03.3	-2.1
KDAK	Kodiak Island	1.47	356	P	Pn	09 16 10.4	-1.2
KABR	Katmai Barrier	2.29	324	P	Pn	09 16 21.7	-1.3
KAKN	Katmai Knife C	2.45	325	P	Pn	09 16 24.6	-0.6
KCG	Knife Ck. Glac	2.48	325	P	Pn	09 16 24.9	-0.6
KABU	Katmai Buttres	2.50	323	P	Pn	09 16 24.7	-1.3
PLK3	Peulik 3	2.52	305	P	Pn	09 16 24.6	-1.5
PLK4	Peulik 4	2.53	303	P	Pn	09 16 24.9	-1.4
KVTA	Katmai Vly 10	2.59	324	P	Pn	09 16 26.3	-0.8
KELA	Mount Kelaz	2.79	321	P	Pn	09 16 29.2	-0.7
MCNL	McNeil River	3.05	341	P	Pn	09 16 33.5	0.0
AUI	Augustine Isla	3.07	350	P	Pn	09 16 34.1	+0.3
AUH	Augustine H	3.10	350	P	Pn	09 16 34.3	+0.1
CHGN	Chignik	3.35	272	P	Pn	09 16 36.0	-1.4
OPT	Oil Point	3.37	353	P	Pn	09 16 38.1	+0.2
HOM	Homer	3.37	7	P	Pn	09 16 38.0	+0.1
HOM				S	Sn	09 17 17.9	+0.7
PDB	Pedro Bay	3.60	345	P	Pn	09 16 40.7	-0.3
ILS	Iliamna Low So	3.67	355	P	Pn	09 16 41.9	-0.1
ILW	Iliamna West	3.77	354	P	Pn	09 16 43.1	-0.3
SEW	Seward	4.10	21	P	Pn	09 16 46.5	-1.3
RSO	Redoubt South	4.16	358	ePn	Pn	09 16 48.6	-0.2
RSO				eSn	Sn	09 17 37.3	+0.4
RDWB	Redoubt West	4.19	357	P	Pn	09 16 48.6	-0.5
NCT	North Crescent	4.26	357	P	Pn	09 16 49.8	-0.4
DFR	Drift River	4.29	358	P	Pn	09 16 50.0	-0.4
SLKM	Skilak Lake	4.36	14	P	Pn	09 16 50.5	-0.8
SDPT	Sand Point	4.65	261	P	Pn	09 16 53.7	-1.7
CKL	Chakachamna La	4.89	0	P	Pn	09 16 58.6	-0.2
RC01	Rabbit Creek A	4.98	15	P	Pn	09 16 58.9	-1.1
SVW2	Sparrevohn	5.07	342	P	Pn	09 17 00.5	-0.6
HIN	Hinchinbrook I	5.13	35	P	Pn	09 17 01.1	-0.9
STLK	Strandline Lak	5.20	3	P	Pn	09 17 02.8	-0.3
SUA	Susitna One	5.23	9	P	Pn	09 17 02.2	-1.2
PS4A	Pavlof South-4	5.42	264	P	Pn	09 17 04.0	-1.9
EYAK	Cordova Ski Ar	5.50	37	P	Pn	09 17 06.6	-0.4
JPK	Jack Peak	5.63	30	P	Pn	09 17 08.1	-0.8
SGAM	Sherman Glacie	5.65	39	P	Pn	09 17 09.9	+0.9
DTNA	Dutton South F	5.69	262	P	Pn	09 17 07.7	-1.9
SKT	Skwentna	5.70	4	P	Pn	09 17 09.0	-0.8
RAGM	Ragged Mountai	5.76	42	P	Pn	09 17 10.3	-0.3
DIV	Divide	5.93	33	ePn	Pn	09 17 12.4	-0.6
	8.2nm,0.5s						
DIV				eSn	Sn	09 18 18.1	-2.3
SCM	Sheep Creek Mo	6.12	23	P	Pn	09 17 15.1	-0.5
KLU	Klutina	6.18	30	P	Pn	09 17 15.6	-0.9
BMRM	Bremner River	6.19	38	P	Pn	09 17 15.5	-1.0
PPLA	Purkeypile	6.60	1	ePn	Pn	09 17 22.7	+0.5
	8.4nm,0.7s						
PPLA				eSn	Sn	09 18 40.8	+3.9
TT01	Tatalina	6.86	346	P	Pn	09 17 24.6	-1.0
CHX	Chaix Hills	7.05	53	P	Pn	09 17 27.9	-0.4
HARP	HAARP	7.14	28	P	Pn	09 17 29.3	-0.3
TRF	Thorofare Moun	7.23	8	P	Pn	09 17 30.6	-0.4
KTH	Kantishna Hill	7.29	5	P	Pn	09 17 30.8	-0.9
RND	Reindeer	7.33	13	P	Pn	09 17 31.0	-1.2
RND				S	Sn	09 18 53.4	-1.4
MCK	McKinley	7.64	12	P	Pn	09 17 35.5	-0.8
MCK				S	Sn	09 19 00.2	-1.9
DDM	Donnelly Dome	8.17	21	P	Pn	09 17 43.0	-0.7
UNV	Unalaska Valle	8.46	259	P	Pn	09 17 45.4	-2.2
BCA3	Beaver Creek A	8.63	34	P	Pn	09 17 49.0	-0.9
GCSA	Galena City Sc	8.73	347	P	Pn	09 17 49.1	-2.2
COLA	College	8.87	13	P	Pn	09 17 52.3	-0.8
COLA				S	Sn	09 19 28.8	-3.5
IL1	Eielson Array	8.90	15	P	Pn	09 17 52.7	-1.0
ILAR	Eielson Array	8.90	15	Pn	Pn	09 17 52.7	-0.9
	0.6nm,0.3s,baz=205,slow=13,SNR=28						
ILAR				Sn	Sn	09 19 24.8	-8.4
	0.2nm,0.3s,baz=206,slow=20,SNR=3.2						
ILAR				LR	LR	09 21 59.8	
	comp=Z,66nm,20.4s,baz=244,slow=40						
ILB	Eielson Array	8.90	15	P	Pn	09 17 52.5	-1.2
HYT	Haines Junctio	8.99	54	P	Pn	09 17 54.7	-0.4
SKAG	Skagway	9.62	64	P	Pn	09 18 02.9	-0.6
IM3	Indian Mountai	9.72	357	P	Pn	09 18 02.9	-2.0
DLBC	Dease Lake	12.25	71	Pn	Pn	09 18 41.3	+1.8
	0.1nm,0.3s,baz=260,slow=18,SNR=2.2						
YKA	Yellowknife Ar	19.97	56	P	P	09 20 19.0	+2.0
	1.3nm,1.1s,baz=269,slow=9.8,SNR=8.5						
H11N2	WAKE ISLAND Hy	47.42	237	T	T	10 15 13.1	
	baz=28						
H11N3	WAKE ISLAND Hy	47.43	237	T	T	10 15 14.9	
	baz=28						
H11N1	WAKE ISLAND Hy	47.44	237	T	T	10 15 17.0	
	baz=28						
H11S1	WAKE ISLAND Hy	48.57	236	T	T	10 16 39.5	
	baz=28,slow=76,SNR=6.8						
H11S2	WAKE ISLAND Hy	48.59	236	T	T	10 16 39.5	
	baz=28,slow=76,SNR=3.8						
H11S3	WAKE ISLAND Hy	48.59	236	T	T	10 16 37.7	
	baz=28,slow=76,SNR=6.5						
SONM	Songino Array	57.27	308	P	P	09 25 32.1	-0.2
	1.5nm,0.7s,baz=49,slow=6.5,SNR=14						
ZALV	Zalesovo Beam	60.56	325	P	P	09 25 55.1	+0.3
	0.7nm,0.4s,baz=28,slow=7.0,SNR=4.9						
NB2	NORSAR Subarra	62.27	9	P	P	09 26 07.0	+0.7
	comp=Z,0.7nm,0.6s,baz=350,slow=6.9						
NOA	NORSAR Array B	62.27	9	P	P	09 26 07.5	+1.1
	comp=Z,0.9nm,0.6s,baz=351,slow=6.7,SNR=5.9						
FINES	FINESS Array B	62.57	1	P	P	09 26 09.1	+0.9
	comp=Z,1.3nm,0.7s,baz=348,slow=6.0,SNR=3.9						
BVAR	Borovoye Array	65.49	333	P	P	09 26 27.9	+0.4
	comp=Z,1.5nm,0.7s,baz=30,slow=6.8,SNR=9.8						
MKAR	Makanchi Array	67.53	323	P	P	09 26 40.4	-0.4
	comp=Z,0.5nm,0.7s,baz=31,slow=7.3,SNR=5.4						

MAN 23 09:25:51, 10°.09N×126°.15E, h11km, mb4.3, ML3.2, MS3.0, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.72	244	‖eP	Pg	09 26 04.9	0.0
SCPH				eS	Sb	09 26 15.8	+0.4
MSLP	Maasin	1.27	272	eP	Pn	09 26 14.2	-0.4
MSLP				eS	Sn	09 26 31.8	+0.1
PLP	Palo	1.56	313	↑eP	Pn	09 26 18.0	-0.8
PLP				eS	Sb	09 26 40.3	+0.4
BUKP	Musuan	2.45	206	eP	Pn	09 26 31.6	+0.7
BUKP				eS	Sn	09 26 56.9	-4.0
PVCP	Virac	3.99	331	eP	Pn	09 26 53.3	+1.1

*IDC **23** 09:37:02.3±3.1, 8°.01S×117°.65E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.3/3, MS4.1/1, Ms1 4.1/1, ms1mx2.9/14, Error ellipse: s-maj=212.9km s-min=29.7km az=57.0*

ISC 23 09:37:04.3±2.0, 7°.8S±0°.4×118°.1E±0°.7, h10km, n6, σ1§06/5, mb3.5/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	2.22	145	P	Pg	09 37 46.6	-0.2
	101nm,0.6s,2μm						
WSI	Waingapu	2.85	130	P	Pn	09 37 49.4	-0.5
ASAR	Alice Springs	21.87	138	P	P	09 41 58.7	+1.3
	0.3nm,0.6s,baz=312,slow=8.8,SNR=6.4						
CTA	Charters Tower	29.87	117	LR	LR	09 58 03.0	
	comp=Z,298nm,18.4s,baz=42,slow=42						
SONM	Songino Array	56.38	351	P	P	09 46 46.1	+0.3
	0.3nm,0.6s,baz=170,slow=8.3,SNR=4.1						
MKAR	Makanchi Array	63.01	333	P	P	09 47 30.9	-0.5
	0.3nm,0.9s,baz=150,slow=6.2,SNR=4.2						

*IDC **23** 09:44:39.0±0.8, 12°.54S×166°.23E, h0km, mb4.2/14, mb1 4.3/15, mb1mx4.2/29, mbtmp4.2/15, ML3.6/1, MS3.4/7, Ms1 3.4/7, ms1mx3.1/34, Error ellipse: s-maj=26.7km s-min=17.5km az=109.0*

*ISCJB **23** 09:44:43.3±0.6, 12°.61S±0°.07×166°.1E±0°.1, h40km, mb4.4/16, MS3.4/5, Error ellipse: s-maj=14.7km s-min=10.6km az=7.8*

*NEIC **23** 09:44:44.3±0.5, 12°.56S×166°.23E, h35km, mb4.2/6, Error ellipse: s-maj=13.3km s-min=8.5km az=111.0*

ISC 23 09:44:44.9±0.7, 12°.56S±0°.09×166°.2E±0°.1, h40km, n31, σ0§73/27, mb4.6/16, MS3.5/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.89	296	LR	LR	09 49 14.6	
	comp=Z,332nm,21.8s,baz=128,slow=40						
HNR	Honiara	6.89	296	eP	Pn	09 46 23.0	-0.4
HNR				eS	Sn	09 47 29.0	-12
DZM	Mont Dzumac	9.46	179	Pn	Pn	09 46 59.0	+0.3
	0.6nm,0.3s,baz=338,slow=8.9,SNR=10						
DZM				Sn	Sn	09 49 03.7	+20
	0.4nm,0.3s,baz=150,slow=20,SNR=2.3						
PMG	Port Moresby	18.96	278	LR	LR	09 55 58.3	
	comp=Z,128nm,18.4s,baz=118,slow=36						
EIDS	Eidsvold	19.13	226	eP	Pn	09 49 06.3	+0.5
	15nm,1.0s						
CTA	Charters Tower	20.55	246	P	P	09 49 20.3	+0.1
	5.8nm,1.0s,baz=80,slow=13,SNR=2.9						
CTAO	Charters Tower	20.55	246	eP	P	09 49 21.0	+0.7
	8.5nm,1.0s						
WB2	Warramunga Arr	31.41	252	eP	P	09 51 02.0	-0.6
WRAB	Tennant Creek	31.41	252	eP	P	09 51 01.7	-0.8
	1.7nm,0.7s						
WRA	Warramunga Arr	31.42	252	P	P	09 51 01.6	-1.0
	1.4nm,0.8s,baz=81,slow=9.0,SNR=11						
WRA				LR	LR	10 02 45.2	
	comp=Z,96nm,20.9s,baz=100,slow=34						
ASAR	Alice Springs	32.55	246	P	P	09 51 11.6	-1.0
	2.7nm,0.9s,baz=73,slow=9.4,SNR=23						
ASAR				LR	LR	10 03 36.4	
	comp=Z,181nm,20.1s,baz=82,slow=35						
BATI	Baumata	41.74	269	LR	LR	10 08 32.5	
	comp=Z,71nm,20.1s,slow=34						
MJAR	Matsushiro Arr	55.52	333	P	P	09 54 16.0	-0.1
	5.9nm,0.7s,baz=166,slow=8.8,SNR=15						
MJAR				LR	LR	10 17 41.5	
	comp=Z,21nm,19.2s,baz=170,slow=36						
ASAJ	Asahikawa	60.37	341	P	P	09 54 50.8	+0.9
	5.6nm,0.7s,baz=226,slow=5.3,SNR=7.2						
KSRS	Korea Array	61.38	326	LR	LR	10 18 37.4	
	comp=Z,16nm,21.7s,baz=78,slow=33						
USRK	Ussuriysk Ar.	64.50	333	P	P	09 55 18.3	+0.8
	5.4nm,0.8s,baz=144,slow=5.9,SNR=9.3						
VNDA	Vanda	64.99	181	P	P	09 55 20.6	+0.3
	0.7nm,0.7s,baz=22,slow=5.4,SNR=2.2						
VNDA	Vanda	64.99	181	eP	P	09 55 19.7	-0.6
	1.0nm,1.0s						
CMAR	Chiang Mai Arr	73.14	294	P	P	09 56 12.8	+0.9
	1.7nm,0.3s,baz=126,slow=5.6,SNR=11						
SEY	Seymchan	76.02	354	P	P	09 56 26.9	-0.8
	14nm,0.3s,baz=187,slow=16,SNR=98						
QSPA	South Pole Qui	77.45	180	eP	P	09 56 35.5	-0.4
	7.4nm,1.0s						
ULN	Ulaanbaatar	79.79	324	eP	P	09 56 50.3	+1.2
	9.6nm,1.0s						
SONM	Songino Array	80.15	324	P	P	09 56 51.5	+0.5
	1.9nm,0.9s,baz=130,slow=5.8,SNR=14						
ILAR	Eielson Array	84.80	18	P	P	09 57 13.2	-1.6
	0.6nm,0.7s,baz=224,slow=6.2,SNR=6.1						
NVAR	Mina Array Bea	86.65	50	P	P	09 57 25.7	+0.8
	0.5nm,0.6s,baz=249,slow=7.6,SNR=2.9						
MK31	Makanchi Array	94.93	317	eP	P	09 58 03.5	+0.4
MKAR	Makanchi Array	94.93	317	P	P	09 58 03.5	+0.4
	2.8nm,1.0s,baz=101,slow=6.3,SNR=17						
ZALV	Zalesovo Beam	95.05	324	P	P	09 58 03.2	-0.2
	1.4nm,0.5s,baz=108,slow=4.8,SNR=11						
BRTR	Keskin Array B	130.31	312	PKP	PKPdf	10 03 51.3	-0.2
	0.5nm,0.7s,baz=48,slow=2.1,SNR=3.1						
KEST	Kesra	148.89	322	PKPbc	PKPbc	10 04 28.9	0.0
	3.3nm,0.8s,baz=57,slow=3.3,SNR=8.1						
TORD	Torodi Ar. Bea	164.89	274	PKPab	PKPab	10 05 41.9	-0.1
	1.8nm,1.0s,baz=98,slow=3.5,SNR=3.7						

*CRAAG **23** 09:53:46.6, 35°.69N×0°.68E, Ml3.0*

*ISCJB **23** 09:53:47.4±0.9, 35°.74N±0°.07×0°.53E±0°.05, h29km, Error ellipse: s-maj=10.8km s-min=5.7km az=17.7*

*CSEM **23** 09:53:47.0±0.4, 35°.70N×0°.52E, h15km, mb3.5, Error ellipse: s-maj=11.5km s-min=5.8km az=16.0*

*MDD **23** 09:53:47.5±1.2, 35°.69N×0°.52E, h7km±11km, mb3.5/3, Error ellipse: s-maj=14.0km s-min=7.3km az=59.0, PRXIMO*

ISC 23 09:53:47.8±1.2, 35°.70N±0°.06×0°.54E±0°.05, h29km, n24, σ1§20/30, 1C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKGL	Djebel Kef Gue	0.34	14	⇑P	Pb	09 53 54.3	-1.6
	32nm

Ms1 3.1/2, ms1mx2.5/45, Error ellipse: s-maj=26.2km s-min=15.1km az=61.0
*NDI **23** 09:59:53.9±1.3, 33°.98N×75°.38E, h10km, ML3.8*
*ISCJB **23** 09:59:54.9±0.6, 33°.84N±0°.04×75°.43E±0°.06, h39km±8km, mb3.7/10, MS3.0/2, Error ellipse: s-maj=8.5km s-min=4.9km az=150.5*
*NEIC **23** 09:59:56.6±1.2, 33°.78N×75°.15E, h40km±11km, mb4.2/1, Error ellipse: s-maj=10.7km s-min=9.7km az=184.0*
NEIC Felt at Anantnag.

ISC 23 09:59:57.1±0.9, 33°.77N±0°.05×75°.35E±0°.06, h45km±11km, n43, σ2°12/54, mb3.8/10, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**1.33**	**157**	*e*P9	**Pn**	**10 00 17.0**	**-2.5**
DLH				*e*S	**Sn**	**10 00 37.0**	**+0.9**
DHRM	**DHARAMSHALA**	**1.71**	**152**	*e*P	**Pn**	**10 00 26.2**	**+1.5**
DHRM				*e*S	**Sn**	**10 00 51.1**	**+5.6**
DHRM				AML	AML	10 00 52.5	
	comp=N,2μm,0.5s						
DHRM				AML	AML	10 00 53.4	
	comp=E,2μm,0.3s						
CHCP	**Chirah Chowk**	**1.74**	**267**	P	**Pn**	**10 00 23.9**	**-1.0**
BHK	**Bhakra**	**2.51**	**159**	*e*P3	Pn	10 00 41.4	+5.9
BHK				*e*x	**Sn**	**10 01 04.8**	**-0.1**
SDNR	**Sundarnagar**	**2.64**	**148**	*e*P	**Pn**	**10 00 40.0**	**+2.7**
SDNR				*e*S	**Sn**	**10 01 13.0**	**+4.8**
CEP	**Cherat**	**2.87**	**272**	P	**Pn**	**10 00 39.7**	**-0.7**
CEP				S	**Sn**	**10 01 18.0**	**+4.2**
SMLA	**Simla**	**3.05**	**149**	*i* P	**Pn**	**10 00 44.1**	**+1.3**
SMLA				*i* S	**Sn**	**10 01 21.5**	**+3.5**
SMLA				*i* S	**Sn**	**10 01 21.5**	**+3.5**
SMLA				AML	AML	10 01 31.0	
	comp=N,371nm,0.3s						
SMLA				AML	AML	10 01 31.4	
	comp=E,338nm,0.5s						
THW	**Thamme Wali**	**3.17**	**253**	P	**Pn**	**10 00 44.6**	**0.0**
KBL	**Kabul**	**5.29**	**280**	*e*Pn	**Pn**	**10 01 11.1**	**-2.6**
KBL				*e*Sn	**Sn**	**10 02 09.9**	**-3.5**
NDI	**New Delhi**	**5.32**	**162**	*e*P	**Pn**	**10 01 16.0**	**+2.0**
NDI				*e*x	**Sn**	**10 02 10.0**	**-4.0**
AJM	**Ajmer**	**7.29**	**185**	*e*x	Sn	10 02 55.0	-7.6
PYUN	**Piuthan**	**8.66**	**129**	*e*P	**Pn**	**10 01 59.4**	**-0.6**
	comp=E,23nm,0.3s						
PYUN				*e*S	**Sn**	**10 03 34.0**	**-2.4**
AAK	**Ala-Archa**	**8.88**	**356**	Pn	**Pn**	**10 02 03.8**	**+0.9**
	comp=E,0.3nm,0.3s,baz=145,slow=4.7,SNR=9.9						
AAK				Sn	**Sn**	**10 03 43.9**	**+2.3**
	comp=E,0.2nm,0.3s,baz=311,slow=20,SNR=2.6						
AAK	**Ala-Archa**	**8.88**	**356**	*e*Pn	**Pn**	**10 02 02.7**	**-0.1**
	comp=E,2.9nm,0.7s						
AAK				*e*Sn	**Sn**	**10 03 43.3**	**+1.7**
DANN	**Dangsing**	**9.01**	**125**	*e*P	**Pn**	**10 02 04.1**	**-0.8**
	comp=E,9.0nm,0.3s						
TKM2	**Tokmak 2**	**9.14**	**1**	*e*Pn	**Pn**	**10 02 07.7**	**+1.1**
	comp=E,2.6nm,0.6s						
KOLN	**Koldanda**	**9.28**	**128**	*e*P	**Pn**	**10 02 08.1**	**-0.4**
	comp=E,6.4nm,0.3s						
GKN	**Gorkha**	**9.83**	**123**	*e*P	**Pn**	**10 02 15.2**	**-0.8**
	comp=E,13nm,0.3s						
KKAR	**Karatay Array**	**10.06**	**339**	*e*Pn	**Pn**	**10 02 16.9**	**-2.1**
	comp=E,3.1nm,0.6s						
DMN	**Daman**	**10.40**	**124**	*e*P	**Pn**	**10 02 22.4**	**-1.5**
	comp=E,11nm,0.3s						
PKIN	**Phulchoki**	**10.62**	**123**	*e*P	**Pn**	**10 02 25.5**	**-1.5**
	comp=E,8.1nm,0.3s						
PKI	**Pulchoki**	**10.63**	**123**	*e*P	**Pn**	**10 02 25.7**	**-1.5**
	comp=E,10.0nm,0.4s						
GUN	**Gumba**	**10.77**	**120**	*e*P	**Pn**	**10 02 28.6**	**-0.4**
	comp=E,11nm,0.3s						
JIRN	**Jiri**	**11.14**	**120**	*e*P	**Pn**	**10 02 32.6**	**-1.5**
	comp=E,35nm,0.4s						
RAMN	**Ramite**	**11.85**	**122**	*e*P	**Pn**	**10 02 42.0**	**-1.8**
	comp=E,7.9nm,0.3s						
MK31	**Makanchi Array**	**14.04**	**20**	*e*Pn	**Pn**	**10 03 12.3**	**-0.9**
MK31				*e*Sn	**Sn**	**10 05 50.2**	**+2.6**
MKAR	**Makanchi Array**	**14.04**	**20**	Pn	**Pn**	**10 03 13.7**	**+0.4**
	comp=E,0.1nm,0.3s,baz=190,slow=14,SNR=6.4						
MKAR				Sn	**Sn**	**10 05 44.4**	**-3.2**
	comp=E,0.1nm,0.3s,baz=214,slow=26,SNR=4.1						
KURBB	**Kurchatov Arra**	**17.00**	**7**	P	**Pn**	**10 03 51.2**	**-0.3**
	comp=E,0.1nm,0.3s,baz=196,slow=11,SNR=12						
KURK	**Kurchatov**	**17.10**	**7**	*e*Pn	**Pn**	**10 03 51.6**	**-1.1**
BVAR	**Borovoye Array**	**19.57**	**351**	P	**P**	**10 04 20.9**	**-0.2**
	comp=E,0.2nm,0.3s,baz=169,slow=8.8,SNR=5.2						
AKTO	**Aktyubinsk**	**20.95**	**328**	P	**P**	**10 04 34.6**	**-1.5**
	comp=E,3.0nm,0.5s,baz=126,slow=11,SNR=16						
ZALV	**Zalesovo Beam**	**21.26**	**16**	P	**P**	**10 04 38.5**	**-0.8**
	comp=E,1.7nm,0.4s,baz=208,slow=10,SNR=9.0						
ZALV				LR	LR	10 14 01.5	
	comp=E,24nm,19.8s,baz=80,slow=40						
CMAR	**Chiang Mai Arr**	**26.01**	**120**	P	**P**	**10 05 27.5**	**+1.5**
	comp=E,1.2nm,0.4s,baz=308,slow=9.8,SNR=10						
PALK	**Pallekele**	**26.83**	**168**	LR	LR	10 15 08.7	
	comp=E,88nm,19.9s,baz=278,slow=34						
SONM	**Songino Array**	**27.17**	**50**	P	**P**	**10 05 38.1**	**+1.8**
	comp=E,0.3nm,0.5s,baz=243,slow=9.8,SNR=5.3						
FINES	**FINESS Array B**	**41.72**	**327**	P	**P**	**10 07 40.8**	**-0.6**
	comp=E,1.8nm,0.8s,baz=110,slow=15,SNR=3.1						
ARCES	**ARCESS Array B**	**45.02**	**338**	P	**P**	**10 08 08.5**	**+0.6**
	comp=E,3.4nm,0.9s,baz=116,slow=8.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**69.30**	**272**	P	**P**	**10 10 58.5**	**-1.7**
	comp=E,0.3nm,0.5s,baz=64,slow=6.2,SNR=4.8						
WRA	**Warramunga Arr**	**77.52**	**124**	P	**P**	**10 11 49.0**	**+0.7**
	comp=E,0.7nm,0.6s,baz=323,slow=6.0,SNR=16						
WRAB	**Tennant Creek**	**77.52**	**124**	*e*P	**P**	**10 11 49.3**	**+1.0**
	comp=E,1.4nm,0.6s						
WB2	**Warramunga Arr**	**77.53**	**124**	*e*P	**P**	**10 11 49.1**	**+0.7**
ASAR	**Alice Springs**	**79.77**	**127**	P	**P**	**10 12 01.6**	**+0.9**
	comp=E,0.6nm,0.7s,baz=308,slow=5.2,SNR=7.3						
YKA	**Yellowknife Ar**	**83.74**	**5**	P	**P**	**10 12 21.4**	**+0.4**
	comp=E,0.2nm,0.6s,baz=345,slow=5.3,SNR=3.7						

IDC 23 10:00:43.9±2.1, 3°.63S×128°.41E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.1/39, mbtmp3.1/3, ML3.1/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/13, Error ellipse: s-maj=150.6km s-min=28.0km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.21**	**161**	P	Pn	10 04 45.9	0.0
	0.1nm,0.3s,baz=340,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**20.61**	**166**	P	P	10 05 24.6	-0.4
	0.2nm,0.4s,baz=344,slow=12,SNR=5.1						
PSI	**Prapat**	**30.16**	**282**	LR	LR	10 21 09.3	
	comp=Z,130nm,18.2s,baz=156,slow=41						
MKAR	**Makanchi Array**	**64.56**	**327**	P	P	10 11 23.0	+0.1
	0.2nm,0.8s,baz=123,slow=5.3,SNR=2.4						

*IDC **23** 10:03:15.6±2.9, 33°.63S×178°.91W, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.7/35, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=69.4km s-min=44.5km az=125.0*
*ISCJB **23** 10:03:18.7±2.2, 33°.9S±0°.1×178°.9W±0°.4, h37km, mb3.6/2, Error ellipse: s-maj=43.6km s-min=11.8km az=14.7*

ISC 23 10:03:20.2±2.4, 33°.8S±0°.2×178°.8W±0°.3, h37km, n9, σ0°64/13, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**4.81**	**214**	*e*PN	**Pn**	**10 04 30.5**	**+0.5**
PUZ	**Puketiti**	**4.87**	**208**	PN	**Pn**	**10 04 31.0**	**+0.1**
PUZ				SN	**Sn**	**10 05 27.5**	**+1.4**
CNGZ	**Carnagh Statio**	**5.25**	**206**	*e*PN	**Pn**	**10 04 35.3**	**-0.8**
URZ	**Urewera**	**5.53**	**215**	Pn	**Pn**	**10 04 39.7**	**-0.3**
	4.2nm,0.3s,baz=107,slow=19,SNR=20						
URZ				Sn	**Sn**	**10 05 42.4**	**+0.2**
	3.1nm,0.3s,baz=207,slow=22,SNR=9.2						
URZ	**Urewera**	**5.53**	**215**	PN	**Pn**	**10 04 39.4**	**-0.5**
URZ				SN	**Sn**	**10 05 42.0**	**-0.2**
BKZ	**Black Stump Fm**	**6.55**	**214**	PN	**Pn**	**10 04 53.2**	**-0.8**
BKZ				SN	**Sn**	**10 06 06.9**	**-0.5**
ASAR	**Alice Springs**	**42.35**	**271**	P	**P**	**10 11 11.0**	**+0.1**
	0.8nm,0.7s,baz=113,slow=8.0,SNR=13						
WRA	**Warramunga Arr**	**43.65**	**276**	P	**P**	**10 11 21.4**	**+0.1**
	0.9nm,0.6s,baz=115,slow=8.0,SNR=16						
FINES	**FINESS Array B**	**148.06**	**338**	PKPbc	**PKPbc**	**10 23 01.1**	**+0.2**
	2.1nm,0.9s,baz=64,slow=4.8,SNR=4.6						

*IDC **23** 10:04:51.2±0.7, 18°.37N×121°.19E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.7/46, mbtmp3.9/9, ML3.8/1, MS2.9/2, Ms1 3.0/2, ms1mx2.5/41, Error ellipse: s-maj=40.4km s-min=15.4km az=77.0*
*ISCJB **23** 10:04:56.6±1.1, 18°.72N±0°.05×120°.79E±0°.06, h30km±8km, mb3.7/7, MS2.8/2, Error ellipse: s-maj=10.2km s-min=8.0km az=162.5*
*MAN **23** 10:04:58, 18°.48N×120°.87E, h7km, mb4.8, ML3.7, MS3.7*

ISC 23 10:04:57.7±1.3, 18°.65N±0°.07×120°.81E±0°.06, h30km±9km, n25, σ1°61/21, mb3.8/7, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.37**	**209**	⇑ *e*P	**Pb**	**10 05 05.6**	**-0.5**
PIP				*e*S	**Sb**	**10 05 11.6**	**-0.2**
SIPP	**Brgy, Tapao**	**0.79**	**205**	⇑ *e*P	**Pn**	**10 05 11.1**	**-1.8**
SIPP				*i* S	**Sn**	**10 05 25.7**	**+2.0**
APYP	**Conner**	**0.88**	**152**	*e*P	**Pn**	**10 05 13.6**	**-0.6**
APYP				*e*S	**Sn**	**10 05 25.2**	**-0.8**
ABRA	**Dolores**	**1.00**	**185**	*e*P	**Pn**	**10 05 14.0**	**-1.7**
SGCP	**Mt. Cagua**	**1.24**	**109**	*e*P	**Pn**	**10 05 20.4**	**+1.3**
SGCP				*e*S	**Sb**	**10 05 36.9**	**+0.7**
CVP	**Callao Caves**	**1.35**	**134**	⇓ *i* P	**Pn**	**10 05 20.8**	**+0.2**
BOLP	**Bolinao**	**2.41**	**201**	*e*P	**Pn**	**10 05 37.4**	**+2.3**
BOLP				*e*S	**Sn**	**10 06 06.5**	**+2.8**
BALP	**Baler**	**2.98**	**166**	*e*P	**Pn**	**10 05 44.2**	**+1.2**
TGY	**Tagaytay City**	**4.52**	**178**	Pn	Pn	10 05 56.8	-7.5
	baz=322,slow=19,SNR=2.2						
KSRS	**Korea Array**	**19.75**	**17**	P	**P**	**10 09 25.2**	**0.0**
	0.3nm,0.3s,baz=200,slow=10,SNR=3.8						
CMAR	**Chiang Mai Arr**	**20.73**	**273**	LR	LR	10 17 43.4	
	comp=Z,20nm,18.3s,baz=80,slow=37						
SONM	**Songino Array**	**31.40**	**341**	P	**P**	**10 11 17.5**	**+1.3**
	0.3nm,0.6s,baz=155,slow=10,SNR=3.0						
WRA	**Warramunga Arr**	**40.58**	**160**	P	P	10 12 29.4	-5.5
	0.8nm,0.4s,baz=343,slow=8.9,SNR=19						
WRA				PcP	**PcP**	**10 14 34.4**	**-2.4**
	0.8nm,0.5s,baz=344,slow=3.2,SNR=6.5						
MKAR	**Makanchi Array**	**42.21**	**320**	P	**P**	**10 12 49.4**	**+1.4**
	0.7nm,0.7s,baz=116,slow=9.6,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**43.40**	**83**	T	T	10 58 17.3	
	baz=276,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**43.41**	**83**	T	T	10 58 18.2	
	baz=276,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**43.42**	**83**	T	T	10 58 18.9	
	baz=276,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**43.44**	**81**	T	T	10 58 25.8	
	baz=269,slow=74						
H11N2	**WAKE ISLAND Hy**	**43.44**	**81**	T	T	10 58 24.0	
	baz=269						
H11N3	**WAKE ISLAND Hy**	**43.45**	**81**	T	T	10 58 18.5	
	baz=269,slow=74						
ASAR	**Alice Springs**	**43.96**	**163**	P	P	10 12 57.0	-5.3
	1.0nm,0.3s,baz=342,slow=6.9,SNR=30						
ASAR				PcP	**PP**	**10 14 45.4**	**+0.2**
	0.3nm,0.7s,baz=347,slow=3.8,SNR=2.9						
AAK	**Ala-Archa**	**45.75**	**312**	LR	LR	10 34 42.7	
	comp=Z,24nm,21.3s,baz=54,slow=39						
KURBB	**Kurchatov Arra**	**46.22**	**324**	P	**P**	**10 13 21.0**	**+1.0**
	1.8nm,0.8s,baz=120,slow=8.2,SNR=2.7						
ILAR	**Eielson Array**	**74.29**	**26**	P	**P**	**10 16 29.8**	**-2.1**
	0.3nm,0.5s,baz=264,slow=4.9,SNR=9.6						
YKA	**Yellowknife Ar**	**88.19**	**22**	P	**P**	**10 17 44.6**	**-1.0**
	0.9nm,0.7s,baz=310,slow=4.5,SNR=22						

*IDC **23** 10:05:35.1±0.9, 33°.91S×178°.76W, h0km, mb4.2/4, mb1 4.4/5, mb1mx4.0/37, mbtmp4.3/5, ML4.4/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/29, Error ellipse: s-maj=30.0km s-min=27.0km az=123.0*
*NEIC **23** 10:05:40.6±0.6, 33°.94S×178°.84W, h35km, mb4.3/2, Error ellipse: s-maj=14.7km s-min=13.6km az=129.0*

ISC 23 10:05:40.4±1.0, 34°.0S±0°.1×178°.6W±0°.2, h37km, n34, σ1°45/36, mb4.2/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.52**	**212**	PN	**Pn**	**10 06 45.0**	**-1.2**
HAZ	**Te Kaha**	**4.76**	**217**	*e*PN	**Pn**	**10 06 48.8**	**-0.8**
HAZ				SN	**Sn**	**10 07 46.2**	**+2.8**
RAO	**Raoul Island**	**4.77**	**7**	LR	LR	10 08 43.0	
	comp=Z,313nm,19.5s,baz=103,slow=40						
PUZ	**Puketiti**	**4.80**	**211**	PN	**Pn**	**10 06 48.0**	**-2.1**
PUZ				SN	**Sn**	**10 07 45.7**	**+1.3**
CNGZ	**Carnagh Statio**	**5.17**	**209**	PN	**Pn**	**10 06 53.1**	**-2.0**
TKGZ	**Te Karaka**	**5.28**	**212**	PN	**Pn**	**10 06 54.3**	**-2.4**
MWZ	**Matawai**	**5.34**	**215**	PN	**Pn**	**10 06 55.5**	**-2.1**
MWZ				SN	**Sn**	**10 07 58.7**	**+0.8**
URZ	**Urewera**	**5.49**	**218**	Pn	**Pn**	**10 06 58.8**	**-0.8**
	11nm,0.3s,baz=84,slow=17,SNR=30						
URZ				Sn	**Sn**	**10 08 01.6**	**+0.2**
	14nm,0.3s,baz=209,slow=20,SNR=8.1						
URZ	**Urewera**	**5.49**	**218**	PN	**Pn**	**10 06 57.7**	**-1.8**
URZ				SN	**Sn**	**10 08 01.4**	**0.0**
URZ	**Urewera**	**5.49**	**218**	*e*Pn	**Pn**	**10 06 58.9**	**-0.6**
URZ				*e*Sn	**Sn**	**10 08 03.1**	**+1.7**
RIGZ	**Rimuhau**	**5.54**	**211**	*e*PN	Pn	10 06 57.2	-3.1
SNGZ	**Shannon Statio**	**5.79**	**213**	*e*PN	**Pn**	**10 07 03.6**	**-0.1**
KNZ	**Kokohu**	**5.84**	**210**	PN	Pn	10 07 01.4	-2.9
MHGZ	**Mahia Peninsul**	**5.86**	**208**	*e*PN	Pn	10 07 01.4	-3.3
TOZ	**Tahuroa Road**	**6.07**	**230**	PN	**Pn**	**10 07 08.6**	**+1.1**
ARHZ	**Aropaoanui**	**6.33**	**213**	*e*PN	**Pn**	**10 07 09.7**	**-1.5**
MCHZ	**McNeill Hill**	**6.62**	**213**	PN	**Pn**	**10 07 13.2**	**-1.8**
CTA	**Charters Tower**	**34.05**	**285**	P	**P**	**10 12 21.0**	**-0.2**
	3.5nm,0.7s,baz=112,slow=13,SNR=3.8						
CTAO	**Charters Tower**	**34.05**	**285**	*e*P	**P**	**10 12 20.7**	**-0.5**
	2.9nm,0.6s						
AS31	**Alice Springs**	**42.54**	**271**	*e*P	**P**	**10 13 31.3**	**-1.3**
ASAR	**Alice Springs**	**42.54**	**271**	P	**P**	**10 13 31.2**	**-1.4**
	3.2nm,0.7s,baz=111,slow=7.4,SNR=29						
ASAR				PcP	**PcP**	**10 15 24.1**	**-0.7**
	0.3nm,0.7s,baz=116,slow=4.2,SNR=3.1						
WB2	**Warramunga Arr**	**43.84**	**276**	*e*P	**P**	**10 13 41.5**	**-1.6**
WRAB	**Tennant Creek**	**43.85**	**276**	*e*P	**P**	**10 13 41.3**	**-1.9**
	2.5nm,0.6s						
WRA	**Warramunga Arr**	**43.85**	**276**	P	**P**	**10 13 41.5**	**-1.7**
	3.9nm,0.7s,baz=118,slow=7.3,SNR=34						
QSPA	**South Pole Qui**	**56.12**	**180**	P	**P**	**10 15 16.9**	**+1.1**
	1.3nm,0.9s,baz=326,slow=3.6,SNR=2.5						
ATAH	**Atahualpa**	**94.44**	**102**	LR	LR	10 53 06.1	
	comp=Z,72nm,19.1s,baz=172,slow=30						
MKAR	**Makanchi Array**	**119.66**	**309**	**PKPdf**	**PKPdf**	**10 24 25.7**	**-0.3**
	0.4nm,0.8s,baz=126,slow=2.3,SNR=4.1						
KURK	**Kurchatov**	**123.13**	**312**	PKP	**PKPdf**	**10 24 32.1**	**-0.3**
KURBB	**Kurchatov Arra**	**123.16**	**312**	PKP	**PKPdf**	**10 24 32.1**	**-0.4**
	0.9nm,0.9s,baz=110,slow=2.0,SNR=7.1						
BVAR	**Borovoye Array**	**128.58**	**314**	PKP	**PKPdf**	**10 24 43.5**	**+0.7**
	0.5nm,0.6s,baz=146,slow=2.8,SNR=2.5						
FINES	**FINESS Array B**	**148.31**	**338**	PKPbc	**PKPdf**	**10 25 21.1**	**+2.7**
	1.8nm,0.5s,baz=52,slow=3.6,SNR=14						
NOA	**NORSAR Array B**	**152.21**	**350**	PKPbc	**PKPbc**	**10 25 32.4**	**+1.1**
	0.6nm,0.7s,baz=17,slow=3.3,SNR=2.9						
BRTR	**Keskin Array B**	**153.67**	**292**	PKPbc	**PKPbc**	**10 25 35.8**	**+0.4**
	0.4nm,0.5s,baz=126,slow=3.4,SNR=3.1						
AKASG	**Malin Array Be**	**153.74**	**318**	PKPbc	**PKPbc**	**10 25 34.9**	**0.0**
	0.3nm,0.3s,baz=42,slow=1.5,SNR=2.6						

*SJA **23** 10:11:08.3±0.9, 25°.84S×66°.97W, h30km±14km, ML4.3*
*ISCJB **23** 10:11:10.8±0.9, 25°.85S±0°.05×66°.99W±0°.09, h62km±10km, mb3.9/7, Error ellipse: s-maj=14.8km s-min=5.7km az=23.6*
*IDC **23** 10:11:11.0±2.4, 25°.80S×66°.67W, h44km±21km, mb3.7/8, mb1 3.9/11, mb1mx3.7/34, mbtmp3.9/11, ML3.4/3, MS3.7/10, Ms1 3.7/10, ms1mx3.5/29, Error ellipse: s-maj=23.9km s-min=17.5km az=103.0*

ISC 23 10:11:12.1±1.3, 25°.82S±0°.05×66°.89W±0°.09, h58km±13km, n28, σ1°54/34, mb3.8/7, MS3.8/6, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.67**	**49**	*i* P	**Pn**	**10 11 38.4**	**-0.8**
SLA				*i* S	**Sn**	**10 12 01.5**	**+1.9**
SLA				AML	AML	10 12 06.8	
	comp=Z,5μm,0.6s						
AHML	**Horco Molle**	**1.69**	**125**	*i* P4	**Pn**	**10 11 38.0**	**-1.4**
AHML				*i* S4	**Sn**	**10 12 03.4**	**+3.3**
AHML				AML	AML	10 12 07.2	
	comp=Z,1μm,0.8s						
AZAP	**Zapla**	**2.29**	**46**	*i* P	**Pn**	**10 11 48.8**	**+0.9**
AZAP				*i* S	**Sn**	**10 12 17.6**	**+2.6**
AZAP				AML	AML	10 12 23.8	
	comp=Z,3μm,0.4s						
CYA	**Choya**	**2.78**	**160**	*i* P	**Pn**	**10 11 54.2**	**-0.1**
CYA				*i* S	**Sn**	**10 12 27.0**	**+0.3**
CYA				AML	AML	10 12 37.3	
	comp=Z,850nm,0.6s						
ASTB	**Santa Barbara**	**2.87**	**50**	*i* P	**Pn**	**10 11 56.1**	**+0.4**
ASTB				*i* S	**Sn**	**10 12 32.0**	**+2.9**
ASTB				AML	AML	10 12 46.6	
ALOL	**LOMAS DE OLMED**	**3.32**	**54**	*i* P	**Pn**	**10 12 02.1**	**+0.4**
ALOL				*i* S	**Sn**	**10 12 42.3**	**+2.4**
ALOL				AML	AML	10 12 45.7	
AGUA	**GUANDACOL**	**3.92**	**201**	*i* P	**Pn**	**10 12 09.3**	**-0.6**
ACHE	**Chepes**	**5.33**	**178**	*i* P	**Pn**	**10 12 29.2**	**-0.1**
ACHE				*i* P	**Pn**	**10 12 29.2**	**-0.1**
CFAA	**Coronel Fontan**	**5.88**	**191**	P	**Pn**	**10 12 36.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=5.4,slow=13,SNR=20						
CFAA				S	Sn	10 14 09.8	+27
	comp=Z,0.5nm,0.3s,baz=100,slow=21,SNR=3.6						
CFAA				LR	LR	10 15 03.6	
	comp=Z,187nm,19.1s,baz=12,slow=39						
LPAZ	**La Paz**	**9.56**	**353**	P	**Pn**	**10 13 26.6**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=167,slow=10.0,SNR=39						
LPAZ				LR	LR	10 17 20.9	
	comp=Z,316nm,20.0s,baz=176,slow=39						
SIV	**San Ignacio**	**11.19**	**30**	P	**Pn**	**10 13 46.6**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=245,slow=12,SNR=5.4						
SIV				S	**Sn**	**10 15 49.7**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=217,slow=19,SNR=2.2						
SIV				LR	LR	10 18 45.2	
	comp=Z,298nm,19.8s,baz=216,slow=41						
PLCA	**Paso Flores**	**15.18**	**191**	P	**P**	**10 14 45.8**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=10,slow=16,SNR=2.0						
PLCA				LR	LR	10 21 07.0	
	comp=Z,947nm,20.1s,baz=22,slow=39						
BDFB	**Brasilia**	**20.33**	**64**	P	**P**	**10 15 42.6**	**-1.1**
	comp=Z,3.1nm,0.8s,baz=216,slow=8.7,SNR=3.1						
BDFB				LR	LR	10 23 47.0	
	comp=Z,365nm,21.7s,baz=236,slow=38						
ROSC	**El Rosal**	**31.34**	**346**	LR	LR	10 33 18.9	
	comp=Z,34nm,21.0s,baz=192,slow=42						
QSPA	**South Pole Qui**	**64.39**	**180**	P	**P**	**10 21 42.6**	**+0.7**
	comp=Z,4.8nm,0.9s,baz=154,slow=4.1,SNR=10.0						
QSPA				LR	LR	10 51 31.1	
	comp=Z,69nm,18.4s,baz=124,slow=38						
TXAR	**Lajitas Array**	**65.22**	**325**	P	**P**	**10 21 48.1**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=148,slow=9.8,SNR=4.8						
DBIC	**Dimbokro**	**68.29**	**71**	P	**P**	**10 22 06.8**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=254,slow=7.3,SNR=4.7						
DBIC				LR	LR	10 49 44.1	
	comp=Z,73nm,20.0s,baz=212,slow=34						
VNDA	**Vanda**	**72.93**	**190**	LR	LR	10 53 50.6	
	comp=Z,102nm,18.2s,baz=144,slow=35						
TORD	**Torodi Ar. Bea**	**77.13**	**68**	P	**P**	**10 22 58.2**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=237,slow=5.9,SNR=10.0						
TORD				LR	LR	10 56 20.6	
	comp=Z,39nm,18.1s,baz=215,slow=35						
PDAR	**Pinedale Array**	**78.76**	**329**	P	**P**	**10 23 08.8**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=120,slow=8.8,SNR=4.5						
NVAR	**Mina Array Bea**	**80.02**	**321**	P	**P**	**10 23 17.4**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=160,slow=6.4,SNR=3.0						
YKA	**Yellowknife Ar**	**95.86**	**340**	P	**P**	**10 24 32.6**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=124,slow=4.7,SNR=4.2						
ASAR	**Alice Springs**	**126.84**	**204**	PKP	**PKPdf**	**10 30 10.4**	**+0.4**
	comp=Z,0.5nm,1.0s,baz=122,slow=1.9,SNR=4.5						
WRA	**Warramunga Arr**	**130.05**	**206**	PKP	**PKPdf**	**10 30 16.5**	**+0.3**
	comp=Z,0.9nm,1.0s,baz=160,slow=1.6,SNR=4.8						
KURBB	**Kurchatov Arra**	**143.77**	**38**	PKP	**PKPdf**	**10 30 40.5**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=298,slow=2.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**144.94**	**29**	PKP	**PKPdf**	**10 30 42.2**	**-0.1**
	comp=Z,11nm,0.8s,

central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.73**	**61**	*e*P	**Pb**	**10 39 03.5**	**-0.2**
AGCH				*i* S	**Sb**	**10 39 13.3**	**+0.1**
CCSP	**San Pedro de C**	**1.35**	**13**	*e*P1	**Pn**	**10 39 14.7**	**+1.4**
CCSP				*i* S	**Sb**	**10 39 32.3**	**+1.0**
VLCH	**Valdivia**	**1.65**	**173**	⇑*i*P	**Pn**	**10 39 17.0**	**-0.4**
VLCH				*i* S	**Sn**	**10 39 37.3**	**-0.6**
VLCH				AML	AML	10 39 48.5	
	comp=N,41μm,0.4s						
OSCH	**Osorno**	**2.42**	**173**	*e*P1	**Pn**	**10 39 28.6**	**+0.5**
OSCH				AML	AML	10 40 11.2	
	comp=E,12μm,0.6s						
PLCA	**Paso Flores**	**3.43**	**139**	Pn	**Pn**	**10 39 41.4**	**-0.6**
	comp=E,3.3nm,0.3s,baz=314,slow=11,SNR=58						
PLCA				Sn	**Sn**	**10 40 24.4**	**+2.4**
	comp=E,24nm,0.3s,baz=287,slow=13,SNR=4.1						
PLCA				LR	LR	10 41 03.3	
	comp=E,790nm,18.4s,baz=312,slow=39						
PLCA	**Paso Flores**	**3.43**	**139**	*i* S4		10 40 25.6	
PLCA	**Paso Flores**	**3.43**	**139**	Pn	**Pn**	**10 39 41.4**	**-0.6**
PLCA				*e*Sn	**Sn**	**10 40 21.8**	**-0.2**
CFAA	**Coronel Fontan**	**7.84**	**35**	Pn	Pn	10 40 28.1	-14
	comp=E,0.6nm,0.3s,baz=227,slow=14,SNR=24						
CFAA				Sn	Sn	10 41 33.8	-37
	comp=E,0.6nm,0.3s,baz=313,slow=23,SNR=8.3						
TRQA	**Tornquist**	**9.08**	**93**	*e*Pn	**Pn**	**10 40 59.1**	**-0.4**
	comp=E,13nm,0.8s						
USHA	**Ushuaia**	**17.02**	**170**	P	**P**	**10 42 51.8**	**+3.9**
	comp=E,0.3nm,0.3s,baz=348,slow=11,SNR=3.4						
USHA				LR	LR	10 50 30.4	
	comp=E,465nm,19.8s,baz=184,slow=40						
LPAZ	**La Paz**	**22.30**	**14**	P	P	10 43 29.7	-17
	comp=E,0.9nm,0.7s,baz=183,slow=5.4,SNR=4.5						
SIV	**San Ignacio**	**24.66**	**30**	P	P	10 43 57.5	-11
	comp=E,2.1nm,0.6s,baz=230,slow=9.9,SNR=5.7						
SIV				LR	LR	10 54 33.7	
	comp=E,96nm,21.2s,baz=260,slow=40						
NNA	**Nana**	**26.24**	**353**	P	**P**	**10 44 23.1**	**-0.2**
	comp=E,5.1nm,0.5s						
BDFB	**Brasilia**	**31.74**	**52**	LR	LR	10 59 12.9	
	comp=E,195nm,20.5s,baz=219,slow=40						
VNA2	**Neumayer--Watz**	**46.68**	**156**	P	**P**	**10 47 15.4**	**-0.8**
SDV	**Santo Domingo**	**46.88**	**4**	*e*P	**P**	**10 47 18.5**	**-0.1**
	comp=E,3.2nm,0.4s						
SNAA	**Sanae**	**48.22**	**156**	P	**P**	**10 47 27.6**	**-0.7**
SNAA	**Sanae**	**48.22**	**156**	P	**P**	**10 47 27.5**	**-0.8**
	comp=E,2.5nm,0.9s,baz=262,slow=11,SNR=3.9						
QSPA	**South Pole Qui**	**52.08**	**180**	*e*P	**P**	**10 47 58.2**	**+0.4**
	comp=E,7.6nm,0.8s						
LPIG	**La Paz**	**70.92**	**325**	LR	LR	11 14 13.1	
	comp=E,42nm,20.9s,baz=182,slow=30						
732A	**Laxson Ranch,**	**71.01**	**336**	⇑P	P	10 50 02.4	-3.3
	baz=71						
632A	**Uvalde**	**71.67**	**336**	⇑P	**P**	**10 50 07.0**	**-2.7**
	baz=72						
340A	**Bronson**	**71.79**	**342**	⇓P	P	10 50 07.1	-3.3
	baz=72						
338A	**Crockett**	**72.10**	**340**	⇑P	**P**	**10 50 10.3**	**-1.8**
	baz=72						
532A	**Rocksprings**	**72.28**	**336**	⇑P	P	10 50 09.9	-3.5
	baz=73,SNR=6.8						
434A	**Burnet**	**72.42**	**338**	⇓P	P	10 50 10.4	-3.7
	baz=73,SNR=6.2						
531A	**Rocksprings**	**72.52**	**336**	⇑P	P	10 50 11.7	-3.1
	baz=73,SNR=5.4						
336A	**Riesel**	**72.54**	**339**	⇓P	**P**	**10 50 12.0**	**-2.8**
	baz=73						
JCT	**Junction City**	**72.58**	**336**	⇑P	P	10 50 11.8	-3.3
	baz=73,SNR=5.2						
JCT	**Junction City**	**72.58**	**336**	*e*P	**P**	**10 50 16.9**	**+1.8**
	comp=E,7.5nm,0.7s						
433A	**Art**	**72.61**	**337**	⇓P	P	10 50 11.9	-3.4
	baz=73						
530A	**J-C Ranch, Com**	**72.77**	**335**	⇑P	**P**	**10 50 14.1**	**-2.2**
	baz=73,SNR=5.7						
TXAR	**Lajitas Array**	**72.83**	**333**	P	**P**	**10 50 14.0**	**-2.7**
	comp=E,1.7nm,0.7s,baz=159,slow=8.4,SNR=27						
237A	**Washetta, Mont**	**72.84**	**340**	⇓P	P	10 50 13.2	-3.3
	baz=73						
334A	**Lometa**	**72.89**	**338**	⇑P	P	10 50 13.7	-3.3
	baz=73,SNR=7.6						
432A	**Menard**	**72.94**	**337**	⇑P	P	10 50 13.9	-3.4
	baz=73						
431A	**Sonora**	**73.02**	**336**	⇓P	**P**	**10 50 15.1**	**-2.6**
	baz=73						
529A	**Stev Forest Ra**	**73.05**	**334**	⇑P	**P**	**10 50 15.1**	**-2.8**
	baz=73						
333A	**Richland Sprin**	**73.11**	**337**	⇑P	P	10 50 15.0	-3.3
	baz=74						
WHTX	**Lake Whitney,**	**73.28**	**339**	⇓P	P	10 50 15.9	-3.3
	baz=74						
430A	**Baggett Ranch,**	**73.32**	**335**	⇓P	P	10 50 16.6	-3.0
	baz=74,SNR=6.0						
429A	**Davenport Ranc**	**73.39**	**335**	⇓P	**P**	**10 50 17.1**	**-2.9**
	baz=74						
332A	**Millersview**	**73.39**	**337**	⇓P	P	10 50 16.2	-3.7
	baz=74,SNR=5.5						
234A	**Clairette**	**73.49**	**338**	⇓P	P	10 50 17.3	-3.1
	baz=74						
331A	**San Angelo**	**73.54**	**336**	⇑P	**P**	**10 50 17.9**	**-2.9**
	baz=74						
233A	**Rising Star**	**73.73**	**338**	⇑P	P	10 50 18.4	-3.5
	baz=74						
232A	**Coleman**	**73.83**	**337**	⇓P	**P**	**10 50 19.7**	**-2.8**
	baz=74						
330A	**Mertzon**	**73.87**	**336**	⇑P	**P**	**10 50 19.9**	**-2.9**
	baz=74						
134A	**White-Moore Ra**	**74.01**	**339**	⇓P	**P**	**10 50 21.1**	**-2.4**
	baz=74						
231A	**Bronte**	**74.09**	**336**	⇓P	**P**	**10 50 21.2**	**-2.8**
	baz=74						
329A	**Wagon Wheel Ra**	**74.21**	**335**	⇑P	**P**	**10 50 22.4**	**-2.4**
	baz=75						
133A	**Hamilton Ranch**	**74.28**	**338**	⇑P	**P**	**10 50 22.3**	**-2.8**
	baz=75						
230A	**Sterling City**	**74.30**	**336**	⇓P	**P**	**10 50 22.9**	**-2.3**
	baz=75						
Z35A	**Perchaven, San**	**74.49**	**340**	⇓P	**P**	**10 50 23.2**	**-3.0**
	baz=75						
ABTX	**Abilene, Hawle**	**74.52**	**337**	⇓P	**P**	**10 50 24.1**	**-2.4**
	baz=75						
229A	**Bryant Ranch,**	**74.60**	**335**	⇓P	**P**	**10 50 24.6**	**-2.4**
	baz=75						
Z33A	**Whitaker Ranch**	**74.87**	**338**	⇓P	**P**	**10 50 25.9**	**-2.6**
	baz=75						
130A	**Snyder**	**74.90**	**336**	⇑P	**P**	**10 50 26.2**	**-2.6**
	baz=75						
228A	**UT Block 9, Go**	**75.00**	**335**	⇑P	**P**	**10 50 26.7**	**-2.7**
	baz=75						
Z32A	**Haskell**	**75.10**	**338**	⇓P	P	10 50 26.7	-3.2
	baz=76						
Y34A	**Reagan Ranch,**	**75.22**	**339**	⇓P	P	10 50 26.9	-3.5
	baz=76						
Z31A	**Sharp Cattle R**	**75.31**	**337**	⇑P	P	10 50 28.0	-3.1
	baz=76						
128A	**Castleberry Fa**	**75.42**	**335**	⇓P	**P**	**10 50 29.2**	**-2.6**
	baz=76						
Y33A	**Hilltop Ranch,**	**75.51**	**339**	⇓P	**P**	**10 50 29.2**	**-2.9**
	baz=76						
Z30A	**Sanderson Ranc**	**75.59**	**336**	⇓P	**P**	**10 50 30.3**	**-2.4**
	baz=76						
Y32A	**R-V Farms, Ver**	**75.74**	**338**	⇑P	**P**	**10 50 31.0**	**-2.5**
	baz=76						
Z29A	**Hungry Hill Ra**	**75.75**	**336**	⇓P	P	10 50 30.7	-3.0
	baz=76						
X34A	**Smith Ranch, M**	**75.84**	**339**	⇑P	**P**	**10 50 31.1**	**-2.9**
	baz=76						
Y31A	**Rekieta Farm,**	**75.95**	**337**	⇑P	**P**	**10 50 31.9**	**-2.8**
	baz=76						
Z28A	**Tucker Farm, M**	**76.00**	**335**	⇑P	**P**	**10 50 32.3**	**-2.8**
	baz=76						
X31A	**McDonald Ranch**	**76.49**	**338**	⇓P	**P**	**10 50 34.8**	**-3.0**
	baz=77						
Y28A	**McKinney Farm,**	**76.52**	**336**	⇓P	P	10 50 35.0	-3.1
	baz=77						
W33A	**Caddo, Fort Co**	**76.53**	**339**	⇑P	P	10 50 34.9	-3.1
	baz=77						
TUL1	**Leonard**	**76.54**	**342**	⇓P	P	10 50 34.8	-3.1
	baz=77						
V35A	**Meyer Ranch, C**	**76.67**	**341**	⇑P	P	10 50 35.4	-3.3
	baz=77						
W32A	**Sentinel**	**76.73**	**339**	⇑P	**P**	**10 50 36.2**	**-2.8**
	baz=77						
MSTX	**Muleshoe**	**76.75**	**335**	⇑P	**P**	**10 50 36.8**	**-2.6**
	baz=77						
MSTX	**Muleshoe**	**76.75**	**335**	*e*P	P	10 50 34.9	-4.4
	comp=E,3.4nm,0.9s						
X29A	**Tulia**	**76.84**	**336**	⇑P	**P**	**10 50 37.2**	**-2.7**
	baz=77						
V34A	**Guthrie**	**76.92**	**340**	⇑P	**P**	**10 50 37.3**	**-2.8**
	baz=77						
W31A	**Holland Ranch,**	**76.99**	**338**	⇓P	**P**	**10 50 37.8**	**-2.8**
	baz=77						
V33A	**Lossen Ranch,**	**77.11**	**340**	⇓P	**P**	**10 50 38.6**	**-2.6**
	baz=78						
AMTX	**Amarillo**	**77.24**	**337**	⇑P	**P**	**10 50 39.5**	**-2.6**
	baz=78						
AMTX	**Amarillo**	**77.24**	**337**	*e*P	**P**	**10 50 43.6**	**+1.6**
	comp=E,114nm,2.8s						
121A	**Cookes Peak, D**	**77.24**	**331**	⇑P	**P**	**10 50 40.3**	**-2.0**
	baz=78						
U34A	**Anderson Ranch**	**77.49**	**340**	⇑P	**P**	**10 50 40.6**	**-2.7**
	baz=78						
DBIC	**Dimbokro**	**77.64**	**71**	*e*P	**P**	**10 50 45.0**	**+0.3**
	comp=E,1.4nm,0.5s						
W26A	**Owens Ranch, T**	**78.10**	**335**	⇓P	**P**	**10 50 44.9**	**-2.0**
	baz=78						
S36A	**Lake Cedric, C**	**78.22**	**342**	⇓P	**P**	**10 50 44.8**	**-2.5**
	baz=79						
T33A	**Patterson Ranc**	**78.29**	**340**	⇓P	**P**	**10 50 45.6**	**-2.1**
	baz=79						
LAZ	**Ladron**	**78.67**	**332**	*e*P	**P**	**10 50 52.8**	**+2.6**
	comp=E,0.5nm,0.7s						
W24A	**Lazy 6 Ranch,**	**78.77**	**334**	⇑P	**P**	**10 50 49.8**	**-0.9**
	baz=79						
ANMO	**Albuquerque**	**78.91**	**333**	*e*P	**P**	**10 50 50.8**	**-0.6**
	comp=E,4.5nm,1.1s						
S30A	**Montezuma**	**79.43**	**339**	⇑P	**P**	**10 50 52.6**	**-1.5**
	baz=80						
T28A	**Walsh**	**79.44**	**337**	⇑P	**P**	**10 50 52.8**	**-1.4**
	baz=80						
U25A	**Circle Dot Ran**	**79.51**	**335**	⇑P	**P**	**10 50 53.1**	**-1.6**
	baz=80						
T27A	**Campo**	**79.57**	**337**	⇓P	**P**	**10 50 53.5**	**-1.5**
	baz=80						
S29A	**Ulysses**	**79.60**	**338**	⇑P	**P**	**10 50 53.2**	**-1.8**
	baz=80						
S28A	**Manter**	**79.80**	**337**	⇓P	**P**	**10 50 54.4**	**-1.7**
	baz=80						
V22A	**San Miguel Ran**	**79.94**	**333**	⇑P	**P**	**10 50 56.0**	**-1.1**
	baz=80						
T26A	**Comanche Natio**	**79.95**	**336**	⇓P	**P**	**10 50 56.3**	**-0.8**
	baz=80						
Q33A	**Connelly Farm,**	**79.98**	**341**	⇑P	**P**	**10 50 55.1**	**-1.9**
	baz=80						
U23A	**El Rito**	**80.05**	**334**	⇑P	**P**	**10 50 56.8**	**-0.9**
	baz=80						
Q32A	**Meitler Ranch,**	**80.16**	**340**	⇓P	**P**	**10 50 56.3**	**-1.7**
	baz=81						
T25A	**Trinidad**	**80.18**	**335**	⇑P	**P**	**10 50 56.8**	**-1.5**
	baz=81						
T25A	**Trinidad**	**80.18**	**335**	*e*P	**P**	**10 50 57.9**	**-0.5**
	comp=E,6.1nm,0.9s						
S26A	**Kim**	**80.32**	**336**	⇑P	**P**	**10 50 57.7**	**-1.2**
	baz=81						
U22A	**Llaves**	**80.33**	**333**	⇓P	**P**	**10 50 58.4**	**-0.8**
	baz=81						
X16A	**Lo Mia Camp, P**	**80.35**	**329**	⇑P	**P**	**10 50 59.1**	**-0.1**
	baz=81						
P33A	**Williams Farm,**	**80.36**	**341**	⇑P	**P**	**10 50 57.2**	**-1.8**
	baz=81						
Q31A	**Ellis**	**80.40**	**340**	⇑P	**P**	**10 50 57.7**	**-1.6**
	baz=81						
T24B	**San Luis**	**80.44**	**335**	⇑P	**P**	**10 50 58.8**	**-1.0**
	baz=81						
R28A	**Tribune**	**80.47**	**338**	⇑P	**P**	**10 50 58.5**	**-1.2**
	baz=81						
Q30A	**Quinter**	**80.60**	**339**	⇑P	**P**	**10 50 58.6**	**-1.8**
	baz=81						
GLA	**Glamis**	**80.61**	**326**	*e*P	**P**	**10 51 00.0**	**-0.5**
	comp=E,5.0nm,0.8s						
T23A	**Casias Ranch,**	**80.64**	**334**	⇓P	**P**	**10 50 59.9**	**-1.0**
	baz=81						
S25A	**Robets Cordova**	**80.67**	**336**	⇓P	**P**	**10 51 00.1**	**-0.8**
	baz=81						
R27A	**Eads**	**80.72**	**337**	⇑P	**P**	**10 51 00.1**	**-1.0**
	baz=81						
S24A	**Houchin Ranch,**	**80.90**	**335**	⇑P	**P**	**10 51 01.6**	**-0.7**
	baz=81						
R26A	**Arlington**	**80.94**	**337**	⇓P	**P**	**10 51 01.5**	**-0.7**
	baz=81						
P29A	**Atwood**	**81.38**	**339**	⇑P	**P**	**10 51 03.4**	**-1.2**
	baz=82						
R24A	**Sanders Place,**	**81.41**	**335**	⇑P	**P**	**10 51 04.3**	**-0.6**
	baz=82						
S22A	**4UR Ranch, Cre**	**81.55**	**334**	⇑P	**P**	**10 51 05.0**	**-0.8**
	baz=82						
MVCO	**Mesa Verde**	**81.67**	**332**	⇓P	**P**	**10 51 05.9**	**-0.4**
	baz=82						
P25A	**Willow Gulch B**	**82.27**	**337**	⇓P	**P**	**10 51 09.1**	**-0.2**
	baz=83						
N27A	**Anderson Farm,**	**82.96**	**338**	⇑P	**P**	**10 51 12.7**	**-0.2**
	baz=83						
ISCO	**Idaho Springs**	**82.99**	**336**	⇓P	**P**	**10 51 12.8**	**-0.5**
	baz=83						
MWC	**Mount Wilson**	**83.06**	**324**	*e*P	**P**	**10 51 14.9**	**+1.3**
	comp=E,14nm,0.8s						
PASC	**Pasadena Art C**	**83.07**	**324**	*e*P	**P**	**10 51 13.2**	**-0.2**
	comp=E,28nm,0.3s						
L31A	**Butterfield Fa**	**83.23**	**341**	⇓P	**P**	**10 51 13.9**	**-0.1**
	baz=84						
O23A	**Lake Granby, G**	**83.46**	**336**	⇓P	**P**	**10 51 15.5**	**-0.1**
	baz=84						
O22A	**Kremmling**	**83.62**	**335**	⇓P	**P**	**10 51 16.2**	**-0.3**
	baz=84						
K30A	**Basset**	**83.89**	**341**	⇑P	**P**	**10 51 17.0**	**-0.5**
	baz=84						
N23A	**Red Feather La**	**84.09**	**336**	⇑P	**P**	**10 51 19.0**	**+0.1**
	baz=84						
ECSD	**EROS Data Cent**	**84.17**	**343**	⇑P	**P**	**10 51 18.0**	**-0.8**
	baz=85						
O20A	**White River Ci**	**84.17**	**334**	⇑P	**P**	**10 51 19.5**	**+0.3**
	baz=85						
M24A	**Cheyenne**	**84.26**	**337**	⇓P	**P**	**10 51 19.6**	**+0.1**
	baz=85						
K28A	**Ten Mile Ranch**	**84.39**	**340**	⇓P	**P**	**10 51 19.8**	**-0.3**
	baz=85						
PKM	**Mcpherson Peak**	**84.43**	**323**	⇑P	**P**	**10 51 22.7**	**+2.1**
	baz=85						
J29A	**Okreek**	**84.76**	**341**	⇑P	**P**	**10 51 21.7**	**-0.2**
	baz=85						
J28A	**Allard Ranch,**	**85.02**	**340**	⇑P	**P**	**10 51 22.8**	**-0.4**
	baz=86						
J27A	**Elkhorn Farm,**	**85.07**	**340**	⇑P	**P**	**10 51 23.9**	**+0.4**
	baz=86						
L22A	**Ellis Ranch, M**	**85.27**	**336**	⇓P	**P**	**10 51 24.3**	**-0.4**
	baz=86						
J26A	**Sides Ranch, S**	**85.42**	**339**	⇑P	**P**	**10 51 25.3**	**+0.1**
	baz=86						
R11A	**Troy Canyon, C**	**85.43**	**328**	⇓P	**P**	**10 51 26.7**	**+1.1**
	baz=86						
I28A	**Midland**	**85.54**	**340**	⇑P	**P**	**10 51 25.7**	**0.0**
	baz=86						
K22A	**Casper**	**85.86**	**336**	⇓P	**P**	**10 51 28.0**	**+0.4**
	baz=86						
MTUM	**Tungsten Hills**	**85.88**	**326**	*e*P	P	10 51 22.0	-5.8
TPH	**Tonopah**	**85.89**	**327**	*e*P	**P**	**10 51 30.5**	**+2.7**
	comp=E,5.1nm,1.0s						
DUG	**Dugway, Tooele**	**85.90**	**331**	⇓P	**P**	**10 51 28.4**	**+0.7**
	baz=86						
DUG	**Dugway, Tooele**	**85.90**	**331**	*e*P	**P**	**10 51 28.4**	**+0.7**
	comp=E,4.0nm,1.1s						
K21A	**Alcova**	**86.08**	**336**	⇑P	**P**	**10 51 28.5**	**-0.1**
	baz=86						
H28A	**Mission Ridge**	**86.13**	**341**	⇑P	**P**	**10 51 28.5**	**-0.1**
	baz=87						
I25A	**Rochford**	**86.26**	**339**	⇑P	**P**	**10 51 29.2**	**-0.4**
	baz=87						
H27A	**Howes**	**86.37**	**340**	⇓P	**P**	**10 51 29.7**	**-0.1**
	baz=87						
J22A	**Midwest**	**86.53**	**337**	⇓P	**P**	**10 51 30.7**	**-0.2**
	baz=87						
NVAR	**Mina Array Bea**	**86.66**	**326**	P	**P**	**10 51 29.9**	**-1.7**
	comp=E,1.3nm,0.9s,baz=148,slow=6.0,SNR=7.2						
HWUT	**Hardware Ranch**	**86.66**	**332**	*e*P	P	10 51 28.4	-3.1
	comp=E,4.4nm,1.2s						
TORD	**Torodi Ar. Bea**	**86.72**	**71**	P	P	10 51 27.7	-4.6
	comp=E,0.5nm,0.8s,baz=229,slow=4.7,SNR=4.8						
H25A	**Fruitdale**	**86.78**	**339**	⇓P	**P**	**10 51 32.3**	**+0.4**
	baz=87						
PDAR	**Pinedale Array**	**86.97**	**334**	P	**P**	**10 51 31.2**	**-1.9**
	comp=E,0.8nm,0.7s,baz=157,slow=5.5,SNR=8.1						
I22A	**9 Mile Ranch,**	**86.97**	**337**	⇑P	**P**	**10 51 32.7**	**-0.2**
	baz=87						
J20A	**Shoshoni**	**87.00**	**336**	⇓P	**P**	**10 51 33.7**	**+0.7**
	baz=87						
G27A	**Dupree**	**87.02**	**340**	⇑P	**P**	**10 51 32.6**	**-0.4**
	baz=88						
G26A	**Maurine**	**87.12**	**340**	⇑P	**P**	**10 51 33.2**	**-0.3**
	baz=88						
I21A	**Big Trails, Te**	**87.15**	**336**	⇓P	**P**	**10 51 34.1**	**+0.2**
	baz=88						
F28A	**McLaughlin**	**87.16**	**341**	⇓P	**P**	**10 51 33.5**	**-0.2**
	baz=88						
J19A	**Crowheart**	**87.24**	**335**	⇓P	**P**	**10 51 34.8**	**+0.5**
	baz=88						
G25A	**Newell**	**87.25**	**339**	⇓P	**P**	**10 51 34.0**	**-0.1**
	baz=88						
F27A	**Lemmon**	**87.50**	**340**	⇑P	**P**	**10 51 35.5**	**+0.2**
	baz=88						
I20A	**Worland**	**87.54**	**336**	⇓P	**P**	**10 51 36.4**	**+0.7**
	baz=88						
F26A	**Lodgepole**	**87.65**	**340**	⇓P	**P**	**10 51 35.7**	**-0.3**
	baz=88						
G23A	**Biddle**	**87.82**	**338**	⇓P	**P**	**10 51 36.8**	**-0.2**
	baz=88						
F25A	**Bowman**	**87.94**	**340**	⇑P	**P**	**10 51 37.8**	**+0.4**
	baz=88						
H20A	**Greybull**	**87.98**	**336**	⇓P	**P**	**10 51 38.3**	**+0.5**
	baz=88						
D29A	**Pettibone, Tap**	**88.00**	**342**	⇑P	**P**	**10 51 37.8**	**+0.1**
	baz=88						
LOHW	**Long Hollow**	**88.07**	**334**	*e*P	**P**	**10 51 38.9**	**+0.5**
	comp=E,37nm,2.8s						
TPAW	**Teton Pass**	**88.08**	**334**	*e*P	**P**	**10 51 39.1**	**+0.7**
	comp=E,3.3nm,1.0s						
F24A	**Ekalaka**	**88.14**	**339**	⇓P	**P**	**10 51 38.3**	**-0.2**
	baz=89						
F23A	**Volborg**	**88.30**	**338**	⇑P	**P**	**10 51 39.3**	**+0.1**
	baz=89						
C30A	**Mose, Pekin**	**88.35**	**343**	⇑P	**P**	**10 51 39.4**	**+0.2**
	baz=89						
AGMN	**Agassiz Nation**	**88.36**	**345**	⇓P	**P**	**10 51 39.3**	**+0.1**
	baz=89						
AGMN	**Agassiz Nation**	**88.36**	**345**	*e*P	**P**	**10 51 38.6**	**-0.7**
	comp=E,5.6nm,0.6s						
D28A	**Regan**	**88.36**	**342**	⇑P	**P**	**10 51 39.6**	**+0.2**
	baz=89						
IMW	**Indian Meadow**	**88.44**	**334**	*e*P	**P**	**10 51 40.9**	**+0.8**
	comp=E,4.5nm,1.1s						
E25A	**Miller Ranch,**	**88.45**	**340**	⇓P	**P**	**10 51 39.9**	**0.0**
	baz=89						
H19A	**Powell**	**88.46**	**336**	⇑P	**P**	**10 51 40.5**	**+0.4**
	baz=89						
F22A	**Rosebud**	**88.61**	**338**	⇓P	**P**	**10 51 41.2**	**+0.6**
	baz=89						
D26A	**Manning**	**88.68**	**341**	⇑P	**P**	**10 51 40.9**	**0.0**
	baz=89						
H18A	**Shoshone NF, C**	**88.69**	**335**	⇓P	**P**	**10 51 41.8**	**+0.5**
	baz=89						
G20A	**Bridger**	**88.70**	**336**	⇓P	**P**	**10 51 41.2**	**+0.1**
	baz=89						
MDND	**Maddock**	**88.74**	**343**	⇓P	**P**	**10 51 41.1**	**-0.1**
	baz=89						
E24A	**Baker**	**88.75**	**339**	⇓P	**P**	**10 51 41.0**	**-0.2**
	baz=89						
B30A	**Myrvik Farm, E**	**89.02**	**344**	⇑P	**P**	**10 51 42.7**	**+0.3**
	baz=90						
HLID	**Hailey**	**89.40**	**332**	⇑P	**P**	**10 51 46.3**	**+1.8**
	baz=90						
HLID	**Hailey**	**89.40**	**332**	*e*P	**P**	**10 51 46.5**	**+2.0**
	comp=E,4.5nm,1.1s						
A30A	**Hoffart Farm,**	**89.48**	**344**	⇑P	**P**	**10 51 44.8**	**+0.3**
	baz=90						
D23A	**Lindsay**	**89.56**	**339**	⇓P	**P**	**10 51 45.4**	**+0.4**
	baz=90						
A29A	**Manning Farm,**	**89.67**	**343**	⇑P	**P**	**10 51 46.1**	**+0.6**
	baz=90						
E20A	**Meyer Farm, Mu**	**89.83**	**337**	⇓P	**P**	**10 51 46.9**	**+0.6**
	baz=90						
MCMT	**McKenzie Canyo**	**89.92**	**333**	*e*P	**P**	**10 51 48.7**	**+1.7**
	comp=E,3.1nm,1.1s						
E19A	**Rath Farm, Rou**	**89.99**	**336**	⇑P	**P**	**10 51 47.8**	**+0.7**
	baz=90						
C23A	**Lambert**	**90.13**	**339**	⇓P	**P**	**10 51 48.4**	**+0.7**
	baz=91						
ULM	**Lac du Bonnet**	**90.22**	**346**	P	**P**	**10 51 46.5**	**-1.5**
	comp=E,1.9nm,0.6s,baz=165,slow=3.9,SNR=5.5						
A26A	**Wade Farm, Ken**	**90.31**	**342**	⇑P	**P**	**10 51 49.1**	**+0.6**
	baz=91						
D20A	**Manuel Ranch,**	**90.35**	**337**	⇓P	**P**	**10 51 49.4**	**+0.7**
	baz=91						
MOD	**Modoc Plateau**	**90.38**	**327**	*e*P	**P**	**10 51 51.9**	**+2.7**
	comp=E,3.2nm,0.8s						
A25A	**Svangstu Ranch**	**90.62**	**341**	⇓P	**P**	**10 51 50.4**	**+0.5**
	baz=91						
B23A	**Brockton**	**90.68**	**340**	⇓P	**P**	**10 51 50.8**	**+0.6**
	baz=91						
B22A	**Reddig Ranch S**	**90.81**	**339**	⇓P	**P**	**10 51 51.5**	**+0.6**
	baz=91						
A24A	**Westby**	**90.84**	**340**	⇑P	**P**	**10 51 51.6**	**+0.6**
	baz=91						
C20A	**Vesely Ranch,**	**90.87**	**338**	⇓P	**P**	**10 51 51.6**	**+0.5**
	baz=91						
A22A	**Carney Farms,**	**91.42**	**339**	⇓P	**P**	**10 51 54.3**	**+0.6**
	baz=92						
A21A	**Bergtoll Ranch**	**91.70**	**339**	⇑P	**P**	**10 51 55.3**	**+0.3**
	baz=92						
B19A	**Brinkman Farms**	**91.82**	**337**	⇑P	**P**	**10 51 56.5**	**+1.0**
	baz=92						

ellipse: s-maj=12.6km s-min=8.0km az=69.0
*NDI **23** 10:53:27.9±3.0, 30°.47N×83°.79E, h33km, ML4.0, mb4.1(NEIC)*
ISC 23 10:53:24.5±0.7, **30°.55N**±0°.04×**83°.89E**±0°.04, **h24**km±5km, **n81**, σ2**04**/75, **mb3.9**/15, **MS3.7**/20, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**2.20**	**183**	*e*Pn	**Pb**	**10 54 03.5**	**-0.2**
DANN				*e*Sn	**Sb**	**10 54 33.7**	**+3.1**
	6μm,0.7s						
DANN	**Dangsing**	**2.20**	**183**	*e*Pn	**Pb**	**10 54 03.6**	**-0.1**
DANN				*e*Sn	**Sb**	**10 54 33.7**	**+3.1**
	6μm,0.7s						
GKN	**Gorkha**	**2.62**	**165**	*e*Pn	**Pb**	**10 54 10.6**	**-0.3**
GKN				*e*Sn	**Sb**	**10 54 44.7**	**+2.0**
	2μm,0.6s						
GKN	**Gorkha**	**2.62**	**165**	*e*Pn	**Pb**	**10 54 10.5**	**-0.4**
GKN				*e*Sn	**Sb**	**10 54 44.4**	**+1.7**
	2μm,0.6s						
KOLN	**Koldanda**	**2.78**	**185**	*e*Pn	**Pb**	**10 54 11.9**	**-1.8**
KOLN	**Koldanda**	**2.78**	**185**	*e*Pn	**Pb**	**10 54 12.0**	**-1.7**
KOLN				*e*Sn	**Sb**	**10 54 48.1**	**+0.7**
	2μm,0.7s						
KKN	**Kakani**	**3.01**	**156**	*e*Pn	**Pb**	**10 54 15.8**	**-1.7**
KKN				*e*Sn	**Sb**	**10 54 55.7**	**+1.8**
	742nm,0.8s						
KKN	**Kakani**	**3.01**	**156**	*e*Pn	**Pb**	**10 54 15.8**	**-1.7**
DMN	**Daman**	**3.12**	**160**	*e*Pn	**Pb**	**10 54 17.5**	**-1.9**
DMN				*e*Sn	**Sb**	**10 54 57.9**	**+0.8**
	1μm,0.8s						
DMN	**Daman**	**3.12**	**160**	*e*Pn	**Pb**	**10 54 17.5**	**-1.9**
GUN	**Gumba**	**3.15**	**146**	*e*Pn	**Pb**	**10 54 18.0**	**-2.0**
GUN				*e*Sn	**Sb**	**10 54 59.2**	**+1.0**
	1μm,0.8s						
GUN	**Gumba**	**3.15**	**146**	*e*Pn	**Pb**	**10 54 17.8**	**-2.2**
PKIN	**Phulchoki**	**3.24**	**156**	*e*Pn	**Pb**	**10 54 19.0**	**-2.5**
PKIN				*e*Sn	**Sb**	**10 55 01.1**	**+0.4**
	671nm,0.7s						
PKIN	**Phulchoki**	**3.24**	**156**	*e*Pn	**Pb**	**10 54 19.0**	**-2.5**
PKI	**Pulchoki**	**3.25**	**156**	*e*Pn	**Pb**	**10 54 19.2**	**-2.5**
PKI				*e*Sn	**Sb**	**10 55 01.6**	**+0.6**
	702nm,0.7s						
PKI	**Pulchoki**	**3.25**	**156**	*e*Pn	**Pb**	**10 54 19.2**	**-2.5**
LGTI	**Lohaghat**	**3.35**	**252**	*e*P	**Pb**	**10 54 20.2**	**-3.0**
LGTI				*e*x	x	10 55 12.1	
JIRN	**Jiri**	**3.51**	**145**	*e*Pn	Pb	10 54 23.0	-3.2
JIRN	**Jiri**	**3.51**	**145**	*e*Pn	Pb	10 54 23.0	-3.2
RAMN	**Ramite**	**4.30**	**146**	*e*Pn	Pn	10 54 33.5	+4.8
RAMN	**Ramite**	**4.30**	**146**	*e*Pn	Pn	10 54 33.5	+4.8
TAPN	**Taplejung**	**4.62**	**133**	*e*Pn	Pn	10 54 38.2	+5.1
ODAN	**Odare**	**4.79**	**139**	*e*Pn	Pn	10 54 39.8	+4.4
ODAN	**Odare**	**4.79**	**139**	*e*Pn	Pn	10 54 40.0	+4.6
	144nm,0.6s						
SMLA	**Simla**	**5.81**	**277**	*e*P	**Pn**	**10 54 50.6**	**+1.4**
SMLA				*e*S	**Sn**	**10 55 50.7**	**-4.4**
LSA	**Lhasa**	**6.34**	**96**	Pn	**Pn**	**10 54 59.8**	**+2.9**
LSA	**Lhasa**	**6.34**	**96**	*e*Pn	**Pn**	**10 54 58.0**	**+1.1**
	84nm,1.1s						
BHK	**Bhakra**	**6.48**	**280**	*e*x	x	10 55 30.8	
DHRM	**DHARAMSHALA**	**6.71**	**287**	*e*P	**Pn**	**10 55 02.9**	**+1.1**
DHRM				*e*x	x	10 55 46.5	
BOK	**Bokaro**	**6.96**	**165**	*e*P	**Pn**	**10 55 05.9**	**+0.9**
BOK				*e*3	**Sn**	**10 56 21.1**	**-2.3**
SHL	**Shillong**	**8.63**	**123**	*e*P	**Pn**	**10 55 28.4**	**+0.4**
SHL				*e*S	**Sn**	**10 57 00.8**	**-3.9**
SHL				AML	AML	10 58 34.8	
	comp=N,46nm,0.0s						
SHL				AML	AML	10 58 35.1	
	comp=E,49nm,0.1s						
BHPL	**Bhopal**	**9.29**	**220**	*e*P	**Pn**	**10 55 37.1**	**0.0**
NGP	**Nagpur**	**10.33**	**206**	*e*P	**Pn**	**10 55 52.9**	**+1.7**
NGP				*e*x	**Sn**	**10 57 41.6**	**-4.6**
KSH	**Kashi**	**11.05**	**326**	P	**Pn**	**10 55 59.1**	**-2.0**
KSH				pP		10 56 04.8	
KSH				S	**Sn**	**10 57 58.9**	**-5.0**
KSH				pmax	pmax		
	comp=Z,33nm,1.8s						
KSH				pmax	pmax		
	comp=Z,51nm,3.4s						
KSH				LR	LR		
	comp=N,440nm,11.3s						
KSH				LR	LR		
	comp=E,840nm,11.2s						
KSH				LR	LR		
	comp=Z,500nm,13.5s						
VIS	**Vishakhapatnam**	**12.78**	**182**	*e*S	Sn	10 58 34.0	-12
VIS				AML	AML	11 00 12.4	
	comp=N,36nm,0.2s						
VIS				AML	AML	11 00 12.8	
	comp=E,26nm,0.1s						
HYB	**Hyderabad**	**13.95**	**202**	*i* P	Pn	10 56 37.0	-3.8
HYB				*e*S	Sn	10 59 06.0	-9.0
HYB	**Hyderabad**	**13.95**	**202**	*e*P	**Pn**	**10 56 40.5**	**-0.4**
HYB	**Hyderabad**	**13.95**	**202**	*e*P	Pn	10 56 37.0	-3.8
HYB				*e*S	Sn	10 59 06.0	-9.0
AAK	**Ala-Archa**	**14.21**	**331**	Pn	**Pn**	**10 56 46.0**	**+1.6**
	comp=E,0.2nm,0.3s,baz=132,slow=12,SNR=3.3						
AAK				LR	LR	11 02 21.3	
	comp=E,76nm,19.8s,baz=119,slow=38						
AAK	**Ala-Archa**	**14.21**	**331**	*e*Pn	**Pn**	**10 56 46.9**	**+2.5**
	comp=E,18nm,1.5s						
POO	**Poona**	**15.05**	**220**	*e*PP	**P**	**10 57 05.0**	**+4.1**
GTA	**Gaotai**	**15.74**	**52**	*e*P	**P**	**10 57 10.8**	**+2.2**
GTA				pP	**pP**	**10 57 14.4**	**-0.7**
GTA				sP	**sP**	**10 57 17.8**	**-0.4**
GTA				PP	PP	10 57 23.9	
GTA				S	**S**	**11 00 10.0**	**-3.0**
GTA				sS	sS	11 00 15.9	-7.5
GTA				PcP	PcP	11 02 10.0	+5.9
GTA				PMZ			
	comp=E,5.0nm,1.0s						
GTA				PMZ			
	comp=E,110nm,4.9s						
GTA				LN			
	comp=E,580nm,14.7s						
GTA				LE			
	comp=E,320nm,11.9s						
GTA				LZ			
	comp=E,400nm,13.8s						
MK31	**Makanchi Array**	**16.27**	**356**	*e*Pn	**Pn**	**10 57 12.1**	**+0.8**
MKAR	**Makanchi Array**	**16.27**	**356**	Pn	**Pn**	**10 57 11.9**	**+0.5**
	comp=E,0.0nm,0.3s,baz=165,slow=12,SNR=7.5						
MKAR				LR	LR	11 04 33.2	
	comp=E,140nm,21.4s,baz=168,slow=41						
KKAR	**Karatay Array**	**16.46**	**323**	*e*Pn	**Pn**	**10 57 10.7**	**-3.1**
	comp=E,2.0nm,0.6s						
KKAR				*e*Sn	**Sn**	**11 00 18.1**	**+2.3**
CD2	**Chengdu**	**17.09**	**84**	P	Pn	10 57 10.6	-11
CD2				PP	**P**	**10 57 24.8**	**+1.4**
CD2				S	Sn	11 00 16.3	-15
CD2				SS	**S**	**11 00 36.8**	**-3.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2				pmax	pmax		
	comp=Z,110nm,8.4s						
CD2				LR	LR		
	comp=N,840nm,10.7s						
CD2				LR	LR		
	comp=E,400nm,5.9s						
CD2				LR	LR		
	comp=Z,270nm,9.5s						
LZH	**Lanzhou**	**17.55**	**66**	*e*P	P	10 57 34.5	+5.8
LZH				pP	pP	10 57 36.8	+1.5
LZH				sP	sP	10 57 39.3	+1.0
LZH				PP	PnPn	10 57 49.6	+11
LZH				PMZ			
	comp=Z,26nm,1.0s						
LZH				PMZ			
	comp=Z,70nm,4.5s						
LZH				LN			
	comp=Z,380nm,10.5s						
LZH				LE			
	comp=Z,390nm,11.0s						
LZH				LZ			
	comp=Z,450nm,15.2s						
CMAR	**Chiang Mai Arr**	**18.21**	**128**	P	**Pn**	**10 57 35.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=316,slow=10,SNR=2.9						
CMAR				LR	LR	11 05 31.3	
	comp=Z,214nm,20.4s,baz=330,slow=40						
KURBB	**Kurchatov Arra**	**20.45**	**350**	P	**P**	**10 58 00.5**	**+0.4**
	comp=Z,4.8nm,0.7s,baz=172,slow=10,SNR=41						
KURK	**Kurchatov**	**20.53**	**350**	*e*P	**P**	**10 58 00.9**	**0.0**
	comp=Z,7.0nm,1.0s						
GEYT	**Alibeck**	**22.50**	**296**	P	**P**	**10 58 21.9**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=100,slow=8.1,SNR=3.7						
GEYT				LR	LR	11 08 22.1	
	comp=Z,75nm,19.4s,baz=105,slow=40						
PALK	**Pallekele**	**23.35**	**188**	*e*P	**P**	**10 58 31.2**	**0.0**
	comp=Z,1.9nm,0.3s						
ZAA0	**Zalesovo Array**	**23.39**	**1**	*e*P	**P**	**10 58 31.6**	**+0.3**
ZALV	**Zalesovo Beam**	**23.39**	**1**	P	**P**	**10 58 31.4**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=185,slow=11,SNR=10						
ZALV				LR	LR	11 08 37.2	
	comp=Z,106nm,18.1s,baz=246,slow=39						
SONM	**Songino Array**	**24.39**	**39**	P	**P**	**10 58 42.7**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=226,slow=9.8,SNR=9.7						
SONM				LR	LR	11 09 23.7	
	comp=Z,92nm,19.6s,baz=217,slow=39						
TLY	**Talaya**	**25.67**	**29**	LR	LR	11 09 26.7	
	comp=Z,65nm,19.2s,baz=226,slow=37						
AKTO	**Aktyubinsk**	**27.73**	**323**	P	**P**	**10 59 12.1**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=104,slow=8.3,SNR=2.2						
AKTO				LR	LR	11 11 30.0	
	comp=Z,233nm,20.3s,baz=132,slow=39						
KBZ	**Khabaz**	**34.88**	**304**	P	**P**	**11 00 15.2**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=130,slow=7.7,SNR=2.6						
KSRS	**Korea Array**	**36.88**	**67**	LR	LR	11 17 10.4	
	comp=Z,135nm,18.7s,baz=276,slow=39						
USRK	**Ussuriysk Ar.**	**40.02**	**56**	LR	LR	11 19 03.5	
	comp=Z,122nm,21.6s,baz=244,slow=38						
BRTR	**Keskin Array B**	**41.64**	**297**	LR	LR	11 21 03.9	
	comp=Z,41nm,18.0s,baz=99,slow=40						
EIL	**Elat**	**42.08**	**282**	LR	LR	11 21 04.8	
	comp=Z,160nm,18.6s,baz=96,slow=40						
AKASG	**Malin Array Be**	**44.96**	**313**	LR	LR	11 22 06.7	
	comp=Z,67nm,20.6s,baz=230,slow=38						
MJAR	**Matsushiro Arr**	**45.16**	**67**	LR	LR	11 21 55.7	
	comp=Z,75nm,19.1s,baz=255,slow=38						
ASAJ	**Asahikawa**	**47.65**	**56**	LR	LR	11 23 16.4	
	comp=Z,146nm,18.9s,baz=338,slow=38						
FINES	**FINESS Array B**	**48.37**	**327**	P	**P**	**11 02 04.2**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=97,slow=9.9,SNR=2.7						
ARCES	**ARCESS Array B**	**50.77**	**337**	LR	LR	11 24 28.2	
	comp=Z,86nm,19.1s,baz=188,slow=37						
VRAC	**Vranov**	**53.11**	**311**	LR	LR	11 28 06.5	
	comp=Z,61nm,18.5s,baz=80,slow=39						
HFS	**Hagfors**	**54.26**	**325**	LR	LR	11 27 46.4	
	comp=Z,135nm,18.2s,baz=100,slow=38						
NB2	**NORSAR Subarra**	**55.47**	**326**	P	**P**	**11 02 58.3**	**+1.2**
	comp=Z,5.0nm,1.4s,baz=87,slow=7.4						
NOA	**NORSAR Array B**	**55.47**	**326**	P	**P**	**11 02 57.5**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=89,slow=7.5,SNR=2.3						
NOA				LR	LR	11 29 16.3	
	comp=Z,74nm,18.3s,baz=90,slow=39						
SPITS	**Spitsbergen Ar**	**55.74**	**347**	LR	LR	11 30 49.0	
	comp=Z,55nm,19.6s,baz=155,slow=40						
JMIC	**Jan Mayen**	**62.23**	**338**	LR	LR	11 32 44.0	
	comp=Z,34nm,18.4s,baz=80,slow=38						
WRA	**Warramunga Arr**	**69.80**	**129**	P	**P**	**11 04 34.2**	**+1.1**
	comp=Z,1.3nm,1.0s,baz=324,slow=6.3,SNR=9.2						
WRA				LR	LR	11 39 48.6	
	comp=Z,29nm,18.9s,baz=90,slow=40						
WRAB	**Tennant Creek**	**69.80**	**129**	*e*P	**P**	**11 04 30.3**	**-2.8**
	comp=Z,4.6nm,1.2s						
ASAR	**Alice Springs**	**72.16**	**132**	P	**P**	**11 04 46.5**	**-0.9**
	comp=Z,0.6nm,1.1s,baz=324,slow=6.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.80**	**278**	P	**P**	**11 05 14.8**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=57,slow=4.9,SNR=6.3						
ILAR	**Eielson Array**	**77.10**	**20**	P	**P**	**11 05 17.1**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=308,slow=4.8,SNR=6.3						
OHAK	**Old Harbor**	**80.21**	**28**	*e*P	**P**	**11 05 33.4**	**+0.7**
	comp=Z,7.3nm,0.9s						
TSUM	**Tsumeb**	**80.67**	**241**	LR	LR	11 41 53.5	
	comp=Z,57nm,19.8s,baz=329,slow=36						
YKA	**Yellowknife Ar**	**86.09**	**8**	P	**P**	**11 06 04.3**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=337,slow=5.0,SNR=12						

*ISK **23** 10:59:28.4, 38°.85N×40°.18E, h6km, MD3.3, ML3.2*
*DDA **23** 10:59:29.1, 38°.87N×40°.14E, h5km, MD3.1*
*CSEM **23** 10:59:29.5±0.2, 38°.83N×40°.13E, h2km, MD3.3, Error ellipse: s-maj=5.3km s-min=4.3km az=142.0*
ISC 23 10:59:29.5±1.1, **38°.84N**±0°.02×**40°.15E**±0°.02, **h7**km±9km, **n63**, σ0**80**/89, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.27**	**82**	*i* Pg	**Pb**	**10 59 37.1**	**+0.4**
BNGB	**Bing¶l**	**0.44**	**69**	PG	**Pg**	**10 59 37.1**	**-0.9**
BNGB				*e*SG	**Sg**	**10 59 43.5**	**-0.3**
PTK	**Pertek**	**0.60**	**276**	*e*PG	**Pg**	**10 59 40.6**	**-0.5**
PTK				*e*SG	**Sb**	**10 59 50.0**	**-1.2**
PTK	**Pertek**	**0.60**	**276**	*e*Pg	**Pg**	**10 59 40.6**	**-0.5**
PTK				*e*Sg	**Sb**	**10 59 50.0**	**-1.2**
BNGL	**BINGOL**	**0.79**	**81**	*i* P	**Pg**	**10 59 44.2**	**-0.5**
BNGL				*i* S	**Sn**	**10 59 58.7**	**-0.7**
SVRC	**Sivrice-ELAZID**	**0.81**	**236**	*e*PG	**Pg**	**10 59 44.7**	**-0.3**
SVRC	**Sivrice-ELAZID**	**0.81**	**236**	*e*Pg	**Pg**	**10 59 44.7**	**-0.3**
ERZN	**Erzincan**	**0.82**	**336**	*e*PG	**Pg**	**10 59 44.5**	**-0.8**
ERZN				*e*SG	**Sg**	**10 59 56.3**	**+0.3**
DYBB	**Diyarbakir**	**0.88**	**181**	*e*PG	**Pg**	**10 59 46.2**	**-0.3**
DIYA	**Diyarbakir**	**0.91**	**182**	*i* P	Pn	10 59 48.4	-0.5
DIYA				*i* S	**Sn**	**11 00 02.2**	**-0.1**
DIYA	**Diyarbakir**	**0.91**	**182**	*i* P	Pn	10 59 48.4	-0.5
DIYA				*i* S	**Sn**	**11 00 02.2**	**-0.1**
DIY	**Diyarbakir**	**0.94**	**176**	*e*Pg	**Pg**	**10 59 46.2**	**-1.4**
ELZG	**Elazig**	**0.98**	**250**	*i* P	**Pg**	**10 59 47.3**	**-0.9**
ELZG				*i* S	**Sn**	**11 00 03.9**	**-0.1**
ELZG	**Elazig**	**0.98**	**250**	*i* P	**Pg**	**10 59 47.3**	**-0.9**
ELZG				*i* S	**Sn**	**11 00 03.9**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.07**	**130**	*e*PG	**Pg**	**10 59 49.1**	**-0.9**
KOPT	**Kop Dagi**	**1.21**	**13**	*i* P	Pn	10 59 53.8	+0.6
KOPT				*i* S	**Sn**	**11 00 10.8**	**+0.8**
KOPT	**Kop Dagi**	**1.21**	**13**	*i* P	Pn	10 59 53.8	+0.6
KOPT				*i* S	**Sn**	**11 00 10.8**	**+0.8**
BEST	**Besiri**	**1.29**	**137**	*i* P	Pn	10 59 54.1	0.0
BEST				*i* S	**Sn**	**11 00 12.3**	**+0.7**
KEMA	**Kemaliye**	**1.36**	**289**	*i* P	Pn	10 59 53.6	-1.5
KEMA				*i* S	**Sn**	**11 00 13.8**	**+0.3**
KEMA	**Kemaliye**	**1.36**	**289**	*i* P	Pn	10 59 53.6	-1.5
KEMA				*i* S	**Sn**	**11 00 13.8**	**+0.3**
ILIC	**ilic-Erzincan**	**1.38**	**297**	*e*PN	Pn	10 59 55.1	-0.1
ILIC	**ilic-Erzincan**	**1.38**	**297**	*e*Pn	Pn	10 59 55.2	-0.1
MAZI	**Mazidag**	**1.40**	**170**	*e*PN	Pn	10 59 55.2	-0.3
MAZI	**Mazidag**	**1.40**	**170**	*e*Pn	Pn	10 59 55.2	-0.3
EZM	**Erzurum**	**1.42**	**41**	*e*PN	Pn	10 59 55.4	-0.7
ERZM	**Erzurum**	**1.42**	**41**	*i* P	Pn	10 59 56.2	+0.2
ERZM				*i* S	**Sg**	**11 00 17.0**	**+1.8**
ERZM	**Erzurum**	**1.42**	**41**	*i* P	Pn	10 59 56.2	+0.2
ERZM				*i* S	**Sg**	**11 00 17.0**	**+1.8**
MALT	**Malatya**	**1.45**	**249**	*e*PN	Pn	10 59 55.3	-1.0
MALT	**Malatya**	**1.45**	**249**	*e*Pn	Pn	10 59 55.3	-1.0
KELT	**Kelkit**	**1.48**	**332**	*i* P	Pb	10 59 57.3	-0.2
KELT				*i* S	**Sg**	**11 00 17.6**	**+0.4**
KELT	**Kelkit**	**1.48**	**332**	*i* P	Pb	10 59 57.3	-0.2
KELT				*i* S	**Sg**	**11 00 17.6**	**+0.4**
EKAR	**Karacoban**	**1.54**	**74**	*i* P	Pn	10 59 58.2	+0.5
EKAR	**Karacoban**	**1.54**	**74**	*i* P	Pn	10 59 58.2	+0.5
EKAR				*i* S	Sg	11 00 25.6	+6.4
BAYT	**Ayd¯–ntepe-Bay**	**1.55**	**360**	*e*PN	Pn	10 59 57.5	-0.3
BAYT	**Ayd¯–ntepe-Bay**	**1.55**	**360**	*e*Pn	Pn	10 59 57.5	-0.3
MARD	**Mardin**	**1.60**	**162**	*i* P	Pb	10 59 59.2	-0.3
MARD				*i* S	**Sg**	**11 00 21.1**	**+0.2**
GUMT	**Gumushane**	**1.70**	**342**	*e*PN	Pn	10 59 59.7	-0.1
GUMT	**Gumushane**	**1.70**	**342**	*e*Pn	Pn	10 59 59.7	-0.1
URFA	**Urfa**	**1.75**	**217**	*e*PN	Pn	11 00 00.3	0.0
URFA	**Urfa**	**1.75**	**217**	*e*Pn	Pn	11 00 00.3	0.0
AKCD	**Akcadag**	**1.83**	**254**	*i* P	Pb	11 00 03.3	-0.2
AKCD	**Akcadag**	**1.83**	**254**	*i* P	Pb	11 00 03.3	-0.2
AKCD				*i* S	**Sg**	**11 00 30.6**	**+2.3**
ATAB	**Bozova**	**2.00**	**228**	*i* P	Pn	11 00 04.2	+0.4
ATAB				*i* S	**Sb**	**11 00 31.8**	**+0.4**
ATAB	**Bozova**	**2.00**	**228**	*i* P	Pn	11 00 04.2	+0.4
ATAB				*i* S	**Sb**	**11 00 31.8**	**+0.4**
SUSE	**Susehri**	**2.04**	**313**	*i* P	Pb	11 00 07.2	+0.2
SUSE				*i* S	**Sg**	**11 00 35.0**	**0.0**
SUSE	**Susehri**	**2.04**	**313**	*i* P	Pb	11 00 07.2	+0.2
SUSE				*i* S	**Sg**	**11 00 35.0**	**0.0**
DARE	**Darende-Malaty**	**2.11**	**264**	*e*PN	Pn	11 00 05.1	-0.2
DARE	**Darende-Malaty**	**2.11**	**264**	*e*Pn	Pn	11 00 05.1	-0.2
SIRT	**Sirnak**	**2.24**	**126**	*e*PN	Pn	11 00 06.9	-0.3
SIRT	**Sirnak**	**2.24**	**126**	*e*Pn	Pn	11 00 06.9	-0.3
AGRB	**Hanur-Agry**	**2.33**	**71**	*e*PN	Pn	11 00 07.6	-0.8
AGRB	**Hanur-Agry**	**2.33**	**71**	*e*Pn	Pn	11 00 07.6	-0.8
GEVA	**Gevas**	**2.34**	**102**	*i* P	Pb	11 00 11.7	-0.4
GEVA	**Gevas**	**2.34**	**102**	*i* P	Pb	11 00 11.7	-0.4
GEVA				*i* S	**Sg**	**11 00 46.5**	**+2.0**
ESPY	**Espiye-Giresun**	**2.35**	**333**	*e*PN	**Pn**	**11 00 08.7**	**+0.1**
ESPY	**Espiye-Giresun**	**2.35**	**333**	*e*Pn	**Pn**	**11 00 08.7**	**+0.1**
GZT	**Gaziantep**	**2.52**	**235**	*i* P	**Pg**	**11 00 17.1**	**-0.8**
GZT				*i* S	**Sg**	**11 00 54.1**	**+3.6**
SVSK	**Karacayir**	**2.67**	**295**	*e*PN	**Pn**	**11 00 13.4**	**+0.4**
SVSK	**Karacayir**	**2.67**	**295**	*e*Pn	**Pn**	**11 00 13.4**	**+0.4**
BCA	**Borcka**	**2.84**	**23**	*e*PN	**Pn**	**11 00 15.6**	**+0.3**
BCA	**Borcka**	**2.84**	**23**	*e*Pn	**Pn**	**11 00 15.6**	**+0.3**
KMRS	**Kahramanmaras**	**2.89**	**244**	*e*PN	**Pn**	**11 00 16.6**	**+0.6**
KMRS	**Kahramanmaras**	**2.89**	**244**	*e*Pn	**Pn**	**11 00 16.6**	**+0.6**

IDC 23 11:03:20.1±2.4, **54°.14N**×**86°.48E**, **h0**km, **mb1 3.4**/2, **mb1mx3.1**/29, **mbtmp3.4**/2, **ML3.0**/2, **Error ellipse: s-maj=19.9km s-min=11.8km az=59.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**259**	*i*		11 10 30.0	
	baz=80,slow=331,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.00**	**259**	Pg	Pg	11 03 37.6	-1.6
	2.8nm,0.3s,baz=78,slow=17,SNR=24						
ZALV				Lg	Lg	11 03 53.3	
	4.1nm,0.3s,baz=75,slow=28,SNR=20						
ZALV				Rg	Rg	11 03 57.6	
	140nm,1.1s,baz=81,slow=31,SNR=29						
KURBB	**Kurchatov Arra**	**6.01**	**237**	Pn	Pn	11 04 51.3	+1.1
	0.2nm,0.3s,baz=55,slow=14,SNR=27						
KURBB				Lg	Lg	11 06 32.5	
	0.0nm,0.3s,baz=55,slow=32,SNR=6.5						
MKAR	**Makanchi Array**	**7.83**	**202**	Pn	Pn	11 05 16.1	+1.0
	0.4nm,0.3s,baz=24,slow=14,SNR=25						
MKAR				Sn	Sn	11 06 43.8	-0.7
	0.2nm,0.3s,baz=28,slow=26,SNR=7.8						
MKAR				Lg	Lg	11 07 28.1	
	0.0nm,0.3s,baz=29,slow=25,SNR=9.2						

*IDC **23** 11:04:47.7±0.6, 37°.41S×73°.95W, h0km, mb4.3/13, mb1 4.4/15, mb1mx4.3/33, mbtmp4.2/15, ML3.6/2, MS3.9/8, Ms1 3.9/8, ms1mx3.7/17, Error ellipse: s-maj=20.1km s-min=13.8km az=84.0*
*ISCJB **23** 11:04:51.2±0.4, 37°.42S±0°.04×73°.71W±0°.08, h33km, mb4.6/29, MS3.9/6, Error ellipse: s-maj=9.5km s-min=6.0km az=165.8*
*NEIC **23** 11:04:52.8±3.0, 37°.36S×73°.77W, h32km±20km, mb4.8/18, Error ellipse: s-maj=16.0km s-min=7.2km az=73.0*
*BJI **23** 11:04:54.6, 37°.20S×73°.60W, h35km, mB5.3/4, Ms5.0/5, Ms7 4.9/5*
ISC 23 11:04:53.3±0.4, **37°.41S**±0°.06×**73°.81W**±0°.09, **h35**km, **n73**, σ1**21**/95, **mb4.6**/29, **MS3.8**/6, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.17**	**144**	Pn	**Pn**	**11 05 53.8**	**-0.7**
	0.9nm,0.3s,baz=314,slow=10,SNR=19						
PLCA				Lg	Lg	11 07 02.4	
	9.1nm,0.3s,baz=344,slow=13,SNR=4.0						
PLCA	**Paso Flores**	**4.17**	**144**	*e*Pn	**Pn**	**11 05 54.1**	**-0.3**
PLCA				*e*Sn	**Sn**	**11 06 39.8**	**-2.3**
PLCA				Lg	Lg	11 07 02.4	
CFAA	**Coronel Fontan**	**7.39**	**40**	Pn	**Pn**	**11 06 37.5**	**-1.2**
	0.7nm,0.3s,baz=186,slow=6.4,SNR=22						
CFAA				Sn	**Sn**	**11 08 03.5**	**+2.1**
	0.2nm,0.3s,baz=245,slow=19,SNR=2.3						
CFAA				Lg	Lg	11 08 47.5	
	0.3nm,0.3s,baz=253,slow=18,SNR=6.0						
CFAA				LR	LR	11 09 38.7	
	comp=Z,101nm,20.7s,baz=220,slow=39						
LCO	**Las Campanas**	**8.77**	**18**	*e*Pn	**Pn**	**11 06 55.0**	**-2.9**
TRQA	**Tornquist**	**9.39**	**98**	*e*Pn	**Pn**	**11 07 06.7**	**+0.6**
LVC	**Limon Verde**	**15.34**	**17**	*e*Pn	**Pn**	**11 08 25.8**	**-1.6**
	15nm,0.7s						
USHA	**Ushuaia**	**17.80**	**170**	LR	LR	11 16 44.4	
	comp=Z,1μm,18.9s,baz=336,slow=40						
LPAZ	**La Paz**	**21.63**	**15**	P	**P**	**11 09 42.3**	**+1.1**
	22n

PSI	**Prapat**	**144.91**	**167**	PKP	**PKPab**	**11 24 25.7**	**-0.8**
	2.7nm,0.6s,baz=198,slow=13,SNR=3.2						
HYB	**Hyderabad**	**148.58**	**122**	*i* PKP	**PKPdf**	**11 24 35.0**	**+1.8**
BVAR	**Borovoye Array**	**150.72**	**46**	PKP	**PKPdf**	**11 24 36.2**	**+0.7**
	0.5nm,0.5s,baz=285,slow=2.9,SNR=4.1						
BVAR				PKPbc	**PKiKP**	**11 24 41.8**	**+0.1**
	3.6nm,0.7s,baz=276,slow=4.0,SNR=20						
BVAR				PKPab	**PKPab**	**11 24 48.4**	**+0.2**
	5.9nm,0.9s,baz=278,slow=4.4,SNR=11						
YAK	**Yakutsk**	**151.38**	**337**	PKPbc	**PKPbc**	**11 24 42.2**	**-0.1**
	10nm,0.5s,baz=223,slow=0.7,SNR=6.0						
YAK				PKPab	**PKPab**	**11 24 48.8**	**-1.8**
	8.9nm,0.4s,baz=155,slow=1.3,SNR=4.6						
KKAR	**Karatay Array**	**152.32**	**67**	*e*PKPdf	**PKPbc**	**11 24 45.1**	**0.0**
AAK	**Ala-Archa**	**155.26**	**68**	PKPab	**PKPab**	**11 25 08.3**	**+0.4**
	3.8nm,0.7s,baz=203,slow=3.3,SNR=7.6						
AAK	**Ala-Archa**	**155.26**	**68**	*e*PKPdf	PKPdf	11 24 51.7	+9.0
AAK				PKPab	**PKPab**	**11 25 08.3**	**+0.4**
TKM2	**Tokmak 2**	**156.06**	**67**	*e*PKPdf	**PKPdf**	**11 24 44.1**	**+0.3**
KURBB	**Kurchatov Arra**	**156.29**	**47**	PKP	**PKPdf**	**11 24 43.9**	**+0.3**
	0.5nm,0.8s,baz=289,slow=2.4,SNR=6.7						
KURBB				PKPab	**PKPab**	**11 25 10.3**	**-1.5**
	2.0nm,1.1s,baz=298,slow=4.9,SNR=8.2						
KSH	**Kashi**	**156.29**	**76**	*e*PKP	**PKPdf**	**11 24 45.3**	**+1.2**
KSH				sPKP		11 24 59.0	
KSH				PKS	**PKSdf**	**11 28 19.4**	**+1.3**
KSH				PP	**PP**	**11 28 50.0**	**-0.7**
KSH				SKS	**SKSdf**	**11 31 49.8**	**+2.1**
KSH				SKKS	**SKKSac**	**11 35 39.9**	**+2.8**
KSH				SS	**SS**	**11 48 36.8**	**-2.1**
KSH				PPMZ			
	160nm,5.6s						
KSH				LN			
	33nm,4.1s						
KSH				LE			
	35nm,4.6s						
KSH				LZ			
	110nm,6.8s						
KURK	**Kurchatov**	**156.30**	**47**	PKP	**PKPdf**	**11 24 43.9**	**+0.3**
KURK				PKPab	**PKPab**	**11 25 10.3**	**-1.6**
ZAA0	**Zalesovo Array**	**157.86**	**35**	*e*PKPdf	**PKPdf**	**11 24 44.5**	**-0.9**
ZALV	**Zalesovo Beam**	**157.86**	**35**	PKP	**PKPdf**	**11 24 46.6**	**-0.8**
	0.6nm,0.3s,baz=300,slow=2.9,SNR=6.5						
ZALV				PKPab	**PKPab**	**11 25 18.9**	**+0.4**
	3.3nm,0.7s,baz=300,slow=6.0,SNR=10.0						
MK31	**Makanchi Array**	**160.00**	**55**	*e*PKPdf	**PKPdf**	**11 24 48.0**	**-0.3**
MKAR	**Makanchi Array**	**160.00**	**55**	PKP	**PKPdf**	**11 24 48.1**	**-0.2**
	0.8nm,1.1s,baz=48,slow=1.8,SNR=6.0						
MKAR				PKPab	**PKPab**	**11 25 28.2**	**+0.1**
	1.0nm,0.8s,baz=298,slow=3.2,SNR=6.7						
WMQ	**Urumqi**	**164.58**	**60**	*e*PKP	**PKPdf**	**11 24 53.8**	**+0.8**
WMQ				pPKP	**pPKPdf**	**11 25 05.0**	**+0.5**
WMQ				PKPab	**PKPab**	**11 25 50.9**	**+2.6**
WMQ				PKS	**PKSdf**	**11 28 25.5**	**-0.4**
WMQ				PP	**PP**	**11 29 38.0**	**+3.0**
WMQ				SKS	**SKSdf**	**11 31 52.8**	**-1.8**
WMQ				SKKS	**SKKSac**	**11 36 19.8**	**+0.1**
WMQ				SS	**SS**	**11 50 04.0**	**-1.2**
WMQ				PPMZ			
	190nm,5.0s						
WMQ				LN			
	59nm,15.0s						
WMQ				LE			
	78nm,16.0s						
WMQ				LZ			
	140nm,16.0s						
KMI	**Kunming**	**167.40**	**165**	PKP	**PKPdf**	**11 24 57.3**	**+1.3**
NJ2	**Nanjing**	**168.30**	**247**	*e*PKP	**PKPdf**	**11 24 56.8**	**+0.7**
SONM	**Songino Array**	**169.58**	**359**	PKPab	**PKPab**	**11 26 09.9**	**-0.3**
	0.8nm,0.8s,baz=334,slow=4.3,SNR=6.0						
HHC	**Hu-ho-hao-te**	**174.60**	**311**	*e*PKP	**PKPdf**	**11 24 58.6**	**-0.5**
HHC				pPKP	**pPKPdf**	**11 25 10.9**	**+0.3**
HHC				PKS	**PKSdf**	**11 28 28.4**	**-2.9**
HHC				PP	**PP**	**11 30 26.8**	**+1.6**
HHC				SKS	**SKSdf**	**11 31 57.4**	**-2.1**
HHC				SS	**SS**	**11 51 42.8**	**-1.6**
HHC				PPMZ			
	86nm,10.0s						
HHC				LN			
	150nm,22.8s						
HHC				LE			
	130nm,22.3s						
HHC				LZ			
	120nm,22.4s						
GTA	**Gaotai**	**174.61**	**66**	*e*PKP	**PKPdf**	**11 25 00.0**	**+0.8**
GTA				pPKP	**pPKPdf**	**11 25 10.9**	**+0.2**
GTA				sPKP		11 25 14.4	
LZH	**Lanzhou**	**177.69**	**124**	*e*PKP	**PKPdf**	**11 25 02.0**	**+1.9**
LZH				pPKP	**pPKPdf**	**11 25 13.3**	**+1.7**
LZH				sPKP		11 25 17.5	
LZH				LN			
	230nm,18.3s						
LZH				LE			
	250nm,19.0s						
LZH				LZ			
	290nm,20.1s						

*IDC **23** 11:10:57.2±1.1, 27°.45N×67°.18E, h0km, mb3.5/8, mb1 3.6/8, mb1mx3.4/53, mbtmp3.6/8, Error ellipse: s-maj=29.9km s-min=23.9km az=110.0*
*ISCJB **23** 11:11:00.5±1.1, 27°.5N±0°.1×67°.1E±0°.2, h33km, mb3.5/8, Error ellipse: s-maj=28.7km s-min=20.9km az=13.0*
ISC 23 11:11:02.7±1.3, 27°.5N±0°.2×67°.2E±0°.2, h35km, n8, σ1°08/8, mb3.5/8, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**22.67**	**28**	P	**P**	**11 16 00.4**	**-0.5**
	1.0nm,0.8s,baz=203,slow=9.4,SNR=8.3						
KURBB	**Kurchatov Arra**	**24.68**	**17**	P	**P**	**11 16 18.9**	**-1.3**
	0.7nm,0.6s,baz=210,slow=8.7,SNR=6.5						
BVAR	**Borovoye Array**	**25.63**	**4**	P	**P**	**11 16 28.5**	**-0.3**
	0.9nm,0.7s,baz=171,slow=13,SNR=5.5						
ZALV	**Zalesovo Beam**	**29.47**	**21**	P	**P**	**11 17 01.9**	**-1.2**
	0.6nm,0.5s,baz=226,slow=12,SNR=3.8						
SONM	**Songino Array**	**36.60**	**46**	P	**P**	**11 18 06.9**	**+1.4**
	0.3nm,0.7s,baz=235,slow=5.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**62.42**	**271**	P	**P**	**11 21 22.9**	**+0.3**
	0.9nm,1.0s,baz=56,slow=6.3,SNR=2.6						
WRA	**Warramunga Arr**	**80.29**	**118**	P	**P**	**11 23 10.2**	**-0.2**
	0.4nm,0.9s,baz=304,slow=4.9,SNR=3.4						
ASAR	**Alice Springs**	**82.03**	**122**	P	**P**	**11 23 19.1**	**-0.5**
	0.5nm,0.9s,baz=305,slow=6.5,SNR=4.6						

*IDC **23** 11:14:34.0±2.2, 11°.40S×118°.16E, h0km, mb3.8/1, mb1 3.5/4, mb1mx3.3/44, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=70.7km s-min=28.5km az=39.0*
*ISCJB **23** 11:14:34.5±0.7, 11°.41S±0°.07×118°.38E±0°.06, h26km, mb3.5/1, Error ellipse: s-maj=10.8km s-min=6.8km az=27.1*
*AUST **23** 11:14:38.1, 11°.49S×118°.43E, h35km*
ISC 23 11:14:36.6±0.9, 11°.41S±0°.09×118°.47E±0°.08, h26km, n13, σ3°20/14, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**5.16**	**304**	P	**Pn**	**11 15 49.3**	**-2.9**
	baz=5.2,SNR=17						
BATI	**Baumata**	**5.24**	**77**	Pn	Pn	11 15 58.4	+5.0
	2.8nm,0.3s,baz=180,slow=7.1,SNR=3.3						
BATI				Sn	**Sn**	**11 16 55.9**	**+2.8**
	3.6nm,0.3s,baz=22,slow=19,SNR=4.4						
UGM	**Wanagama**	**8.57**	**293**	P	**Pn**	**11 16 37.9**	**-1.2**
	baz=8.6,SNR=6.7						
UGM				S	Sn	11 18 08.5	-6.5
	baz=8.6,SNR=4.5						
FITZ	**Fitzroy Crossi**	**9.61**	**135**	P	Pn	11 16 57.7	+4.4
	baz=9.6,SNR=3.5						
FITZ				S	**Sn**	**11 18 41.6**	**+1.1**
	baz=9.6,SNR=3.2						
KNRA	**Kununurra**	**10.87**	**114**	P	Pn	11 17 15.1	+4.5
	baz=11,SNR=5.9						
GIRL	**Giralia**	**11.88**	**199**	P	**Pn**	**11 17 25.7**	**+1.2**
	baz=12,SNR=5.0						
MTN	**Manton Dam**	**12.47**	**98**	S	**Sn**	**11 19 47.7**	**-2.9**
	baz=12,SNR=5.7						
MEEK	**Meekatharra**	**15.15**	**180**	P	**Pn**	**11 18 09.2**	**+0.2**
	baz=15,SNR=5.2						
MEEK				S	Sn	11 20 41.2	-15
	baz=15,SNR=15						
WRKA	**Warakurna**	**16.45**	**147**	P	**P**	**11 18 29.6**	**+1.3**
	baz=16,SNR=4.5						
WRKA				S	**Sn**	**11 21 21.3**	**-6.4**
	baz=16,SNR=6.8						
WRA	**Warramunga Arr**	**17.47**	**121**	P	**P**	**11 18 40.6**	**+1.0**
	0.1nm,0.3s,baz=290,slow=13,SNR=5.4						
WRA				S	Sn	11 21 45.6	-6.8
	0.1nm,0.3s,baz=330,slow=37,SNR=5.4						
MORW	**Morawa**	**17.72**	**187**	P	**P**	**11 18 43.5**	**+1.2**
	baz=18,SNR=4.5						
MORW				S	Sn	11 21 40.2	-18
	baz=18,SNR=6.4						
ASAR	**Alice Springs**	**19.09**	**132**	P	**Pn**	**11 19 02.0**	**+3.6**
	0.1nm,0.3s,baz=320,slow=14,SNR=10						
ASAR				S	**Sn**	**11 22 26.6**	**-5.1**
	0.1nm,0.3s,baz=306,slow=24,SNR=5.5						
MKAR	**Makanchi Array**	**66.36**	**334**	P	**P**	**11 25 23.6**	**+0.5**
	0.2nm,0.4s,baz=145,slow=5.1,SNR=4.6						

*CSEM **23** 11:17:25.4±0.1, 38°.87N×21°.96E, h10km, MD2.6, Error ellipse: s-maj=3.2km s-min=2.6km az=152.0*
*ATH **23** 11:17:26.3, 38°.84N×21°.95E, h5km±3km, MD2.6/4*
THE 23 11:17:25.6, 38°.84N×21°.96E, h10km±5km, ML2.0/5, Error ellipse: s-maj=5.3km s-min=0.9km az=336.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.14**	**303**	P	Pg	11 17 28.2	-0.7
EVR				S	Sg	11 17 30.5	-0.8
EVR	**Evrytania**	**0.14**	**303**	*e*PG	Pg	11 17 28.4	-0.5
EVR				*e*SG	Sg	11 17 31.1	-0.2
EVR	**Evrytania**	**0.14**	**303**	*e*Pg	Pg	11 17 28.4	-0.5
EVR				S	Sg	11 17 30.5	-0.8
EVR				*e*Sg	Sg	11 17 31.1	-0.2
MAKR	**Makrakomi, Fth**	**0.22**	**39**	P	Pg	11 17 30.6	+0.4
MAKR				S	Sg	11 17 34.7	+1.3
MAKR	**Makrakomi, Fth**	**0.22**	**39**	*e*PG	Pg	11 17 30.8	+0.6
MAKR				*e*SG	Sg	11 17 34.9	+1.5
MAKR	**Makrakomi, Fth**	**0.22**	**39**	P	Pg	11 17 30.6	+0.4
MAKR				S	Sg	11 17 34.7	+1.3
AGG	**Agios Georgios**	**0.34**	**58**	P	Pg	11 17 32.8	+0.3
AGG	**Agios Georgios**	**0.34**	**58**	P	Pg	11 17 32.8	+0.3
PVO	**Paravola**	**0.41**	**236**	P	Pg	11 17 33.8	+0.2
PVO				S	Sb	11 17 40.1	-1.0
PVO	**Paravola**	**0.41**	**236**	P	Pg	11 17 33.8	+0.2
PVO				S	Sb	11 17 40.1	-1.0
EFP	**Efpalio**	**0.42**	**185**	P	Pg	11 17 33.8	0.0
EFP				S	Sg	11 17 39.8	+0.4
EFP	**Efpalio**	**0.42**	**185**	*e*PG	Pg	11 17 33.8	0.0
EFP				*e*SB	Sb	11 17 41.1	-0.3
EFP	**Efpalio**	**0.42**	**185**	P	Pg	11 17 33.8	0.0
EFP				S	Sg	11 17 39.8	+0.4
EFP				*e*Sb	Sb	11 17 41.1	-0.3
KALE	**Kalithea**	**0.47**	**162**	P	Pg	11 17 34.6	-0.4
KALE				S	Sb	11 17 42.5	-0.7
KALE	**Kalithea**	**0.47**	**162**	*e*PB	Pg	11 17 34.7	-0.3
KALE				*e*SB	Sb	11 17 42.8	-0.4
KALE	**Kalithea**	**0.47**	**162**	*e*Pb	Pg	11 17 34.7	-0.3
KALE				S	Sb	11 17 42.5	-0.7
AXAR	**Agios Charalam**	**0.56**	**98**	P	Pg	11 17 35.4	-1.1
AXAR				S	Sg	11 17 43.4	-0.4
AXAR	**Agios Charalam**	**0.56**	**98**	P	Pg	11 17 35.4	-1.1
AXAR				S	Sg	11 17 43.4	-0.4
PDO	**Prodromos**	**0.65**	**248**	P	Pg	11 17 37.7	-0.6
PDO				S	Sb	11 17 47.6	-0.6
PDO	**Prodromos**	**0.65**	**248**	*e*PB	Pb	11 17 39.2	+0.1
PDO				*e*SB	Sb	11 17 48.9	+0.7
PDO	**Prodromos**	**0.65**	**248**	P	Pg	11 17 37.7	-0.6
PDO	**Prodromos**	**0.65**	**248**	*e*Pb	Pb	11 17 39.2	+0.1
PDO				S	Sb	11 17 47.6	-0.6
PDO				*e*Sb	Sg	11 17 48.9	+2.1

IDC 23 11:24:29.5±1.5, 14°.07N×92°.89E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.3/52, mbtmp3.4/5, ML3.6/1, Error ellipse: s-maj=42.8km s-min=21.9km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.27**	**52**	Pn	Pn	11 26 16.1	-0.9
	0.3nm,0.3s,baz=234,slow=15,SNR=2.7						
CMAR				Sn	Sn	11 27 43.5	+3.2
	0.6nm,0.3s,baz=237,slow=29,SNR=5.8						
VIS	**Vishakhapatnam**	**9.88**	**293**	*i* P	Pn	11 26 54.5	+1.6
VIS				*i* S	Sn	11 28 33.4	-11
VIS				*i* S	Sn	11 28 33.7	-11
VIS				*ex*	x	11 28 37.0	
	comp=N,12nm,0.2s						
VIS				*ex*	x	11 28 38.9	
	comp=E,17nm,0.2s						
H08S3	**Diego Garcia H**	**29.58**	**224**	T	T	12 01 43.0	
	baz=42,slow=76,SNR=5.7						
H08S2	**Diego Garcia H**	**29.58**	**224**	T	T	12 01 49.6	
	baz=42,slow=76,SNR=6.1						
H08S1	**Diego Carcia H**	**29.60**	**224**	T	T	12 01 43.2	
	baz=42,slow=76,SNR=4.8						
MKAR	**Makanchi Array**	**33.81**	**347**	P	P	11 31 13.2	-0.1
	comp=E,0.2nm,0.5s,baz=174,slow=9.0,SNR=4.0						
KURBB	**Kurchatov Arra**	**38.27**	**345**	P	P	11 31 51.5	+0.1
	comp=E,0.2nm,0.6s,baz=147,slow=8.7,SNR=3.4						
WRA	**Warramunga Arr**	**52.97**	**129**	P	P	11 33 47.7	-0.5
	comp=E,0.5nm,1.0s,baz=314,slow=8.3,SNR=10.0						
ASAR	**Alice Springs**	**54.91**	**133**	P	P	11 34 02.7	+0.3
	comp=E,0.4nm,0.6s,baz=309,slow=6.6,SNR=8.8						

*ISCJB **23** 11:25:57.6±1.9, 27°.85N±0°.03×127°.76E±0°.04, h10km±14km, mb3.5/5, MS3.6/2, Error ellipse: s-maj=7.3km s-min=5.0km az=35.0*
*JMA **23** 11:25:57.9±0.2, 27°.86N×127°.78E, h12km±3km, M3.4*
*IDC **23** 11:25:58.7±1.0, 27°.49N×127°.14E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/47, mbtmp3.6/6, ML3.2/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/31, Error ellipse: s-maj=40.2km s-min=20.8km az=77.0*
ISC 23 11:26:00.0±0.9, 27°.78N±0°.05×127°.87E±0°.06, h22km±6km, n20, σ0°78/23, mb3.5/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.75**	**173**	P	**Pb**	**11 26 13.7**	**-0.7**
JIH				S	**Sb**	**11 26 24.6**	**+0.4**
JOKE	**Okinoerabujima**	**0.75**	**124**	P	**Pb**	**11 26 14.1**	**-0.4**
JOKE				S	**Sn**	**11 26 25.5**	**-0.7**
JTK	**Tokunoshima**	**0.96**	**90**	P	**Pn**	**11 26 17.2**	**-1.1**
JTK				S	**Sb**	**11 26 30.6**	**+0.3**
JOW	**Kunigami**	**1.01**	**159**	P	**Pn**	**11 26 18.3**	**-0.7**
JOW				S	**Sn**	**11 26 33.7**	**+1.1**
JAMN	**Amaminishikomi**	**1.25**	**68**	P	**Pn**	**11 26 21.5**	**-0.7**
JAMN				*e*S	**Sb**	**11 26 39.8**	**+1.3**
JNTH	**Nagotoyohara**	**1.27**	**174**	P	**Pn**	**11 26 22.4**	**0.0**
JNTH				S	**Sb**	**11 26 40.0**	**+1.0**
JAGN	**Aguni-jima**	**1.31**	**205**	P	**Pn**	**11 26 22.0**	**-1.0**
JAGN				S	**Sb**	**11 26 40.8**	**+0.5**
JJT2	**Tamagusuku 2**	**1.64**	**184**	P	**Pn**	**11 26 28.2**	**+0.6**
JAM	**Amami Oshima**	**1.66**	**67**	P	**Pn**	**11 26 28.2**	**+0.3**
JAM				S	**Sb**	**11 26 49.9**	**-0.5**
JKE	**Kume jima 2**	**1.74**	**214**	P	**Pn**	**11 26 28.2**	**-0.8**
JTAJ	**Takarajima**	**1.80**	**40**	P	**Pn**	**11 26 30.0**	**+0.2**
JNU	**Nakatsue**	**5.92**	**25**	Pn	Pb	11 27 36.1	-6.5
	0.5nm,0.3s,baz=148,slow=3.8,SNR=5.0						
MJAR	**Matsushiro Arr**	**12.36**	**42**	LR	LR	11 34 20.2	
	comp=Z,42nm,20.6s,baz=110,slow=38						
SONM	**Songino Array**	**26.08**	**326**	P	**P**	**11 31 33.0**	**+0.8**
	1.4nm,1.2s,baz=134,slow=8.4,SNR=4.8						
TLY	**Talaya**	**30.01**	**329**	LR	LR	11 45 02.4	
	comp=Z,53nm,18.7s,baz=7.0,slow=38						
MKAR	**Makanchi Array**	**40.27**	**311**	P	**P**	**11 33 34.9**	**-0.5**
	0.4nm,0.6s,baz=98,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**47.85**	**172**	P	**P**	**11 34 36.6**	**+0.2**
	0.7nm,0.7s,baz=353,slow=8.3,SNR=7.3						
ASAR	**Alice Springs**	**51.48**	**173**	P	**P**	**11 35 04.7**	**+0.7**
	0.8nm,0.9s,baz=347,slow=5.1,SNR=6.4						
YKA	**Yellowknife Ar**	**77.26**	**25**	P	P	11 37 57.4	+5.1
	0.2nm,0.7s,baz=303,slow=5.6,SNR=4.0						
URZ	**Urewera**	**80.25**	**143**	LR	LR	12 05 57.0	
	comp=Z,76nm,21.8s,baz=186,slow=30						

*NAO **23** 11:26:53.9±1.1, 59°.30N×27°.01E, ML2.4*
*ISCJB **23** 11:26:53.2±0.7, 59°.33N±0°.03×27°.2E±0°.1, h0km, Error ellipse: s-maj=7.6km s-min=3.9km az=16.5*
*HEL **23** 11:26:53.3±0.3, 59°.36N×27°.32E, h0km, ML1.8, Explosion*

*CSEM **23** 11:26:54.2±0.4, 59°.33N×27°.10E, h2km, ML2.4, Error ellipse: s-maj=12.8km s-min=6.1km az=99.0, Mining explosion.*
*BER **23** 11:26:55.4±2.0, 59°.31N×27°.00E, h0km, ML2.4(NAO), Suspected explosion*
*IDC **23** 11:26:57.5±2.0, 59°.51N×27°.02E, h0km, mb1 3.4/3, mb1mx3.0/44, mbtmp3.3/3, ML3.0/3, Error ellipse: s-maj=18.2km s-min=10.1km az=118.0*
ISC 23 11:26:53.8±0.9, 59°.34N±0°.02×27°.04E±0°.04, h0km, n41, σ1°49/61, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.89**	**190**	Pg	**Pg**	**11 27 10.3**	**-0.5**
VSU				Lg	Lg	11 27 22.5	
VSU	**Vasula**	**0.89**	**190**	Pg	**Pg**	**11 27 10.3**	**-0.5**
VSU				Lg	Lg	11 27 22.5	
VSU	**Vasula**	**0.89**	**190**	*e*P	**Pg**	**11 27 10.6**	**-0.1**
VSU				*e*S	**Sg**	**11 27 22.3**	**+0.1**
VSU	**Vasula**	**0.89**	**190**	Pg	**Pg**	**11 27 10.3**	**-0.5**
VSU	**Vasula**	**0.89**	**190**	P	**Pg**	**11 27 10.6**	**-0.1**
VSU				S	**Sg**	**11 27 22.3**	**+0.1**
VJF	**Virojoki**	**1.24**	**12**	*e*P	**Pg**	**11 27 16.9**	**-0.6**
VJF				*e*S	**Sg**	**11 27 33.8**	**+0.3**
VJF				MSG		11 27 34.3	
	comp=Z,12nm,0.1s						
VJF	**Virojoki**	**1.24**	**12**	P	**Pg**	**11 27 16.8**	**-0.6**
VJF				S	**Sg**	**11 27 33.7**	**+0.3**
PVF	**Pernaja**	**1.35**	**335**	*e*P	**Pg**	**11 27 19.7**	**+0.1**
PVF				*e*SB	**Sb**	**11 27 38.1**	**+0.5**
PVF				MSG		11 27 38.1	
	comp=Z,4.3nm,0.2s						
PVF	**Pernaja**	**1.35**	**335**	P	**Pg**	**11 27 19.7**	**+0.1**
PVF				Sb	**Sb**	**11 27 38.1**	**+0.5**
MEF	**Metsahovi**	**1.60**	**305**	*e*PG	**Pg**	**11 27 24.6**	**+0.2**
MEF				MSG	**Sg**	**11 27 46.9**	**+1.8**
	comp=Z,7.6nm,0.2s						
MEF				*e*SN	**Sg**	**11 27 46.9**	**+1.8**
MEF	**Metsahovi**	**1.60**	**305**	Pg	**Pg**	**11 27 24.6**	**+0.2**
MEF				Sn	**Sg**	**11 27 46.9**	**+1.8**
MTSE	**Matsula**	**1.78**	**251**	*e*P	**Pb**	**11 27 27.1**	**0.0**
MTSE				*e*SN	**Sg**	**11 27 51.3**	**+0.4**
MTSE	**Matsula**	**1.78**	**251**	P	**Pb**	**11 27 27.1**	**0.0**
MTSE				Sn	**Sg**	**11 27 51.2**	**+0.4**
FIA0	**FINESS Array S**	**2.17**	**348**	Pn	**Pn**	**11 27 32.1**	**+1.1**
	baz=164,slow=18						
FIA0				Pg	**Pb**	**11 27 33.9**	**0.0**
	baz=165,slow=16						
FIA0				Lg	Lg	11 28 03.3	
	baz=168,slow=37						
FIA0				Rg	Rg	11 28 15.9	
	baz=167,slow=37						
FIA0	**FINESS Array S**	**2.17**	**348**	Pn	**Pn**	**11 27 32.1**	**+1.1**
	baz=164,slow=18						
FIA0				Pg	**Pb**	**11 27 33.9**	**0.0**
	baz=165,slow=16						
FIA0				Lg	Lg	11 28 03.3	
	baz=168,slow=37						
FIA0				Rg	Rg	11 28 15.9	
	baz=167,slow=37						
FIA0	**FINESS Array S**	**2.17**	**348**	*e*P	**Pn**	**11 27 32.1**	**+1.1**
FIA0				*e*PB	**Pb**	**11 27 33.3**	**-0.5**
FIA0				MSG	**Sg**	**11 28 03.3**	**0.0**
	comp=Z,6.8nm,0.3s						
FIA0				*e*SG	**Sg**	**11 28 03.3**	**0.0**
FIA0	**FINESS Array S**	**2.17**	**348**	Pn	**Pn**	**11 27 32.2**	**+1.1**
	SNR=7.8						
FIA0	**FINESS Array S**	**2.17**	**348**	Pg	**Pb**	**11 27 33.8**	**0.0**
FIA0				Sg	**Sg**	**11 28 03.3**	**0.0**
FINES	**FINESS Array B**	**2.17**	**348**	Pn	**Pn**	**11 27 32.1**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=166,slow=16,SNR=60						
FINES				Lg	Lg	11 28 00.4	
	comp=Z,4.7nm,0.3s,baz=168,slow=26,SNR=20						
KAF	**Kangasniemi**	**2.81**	**353**	*e*P	**Pn**	**11 27 41.7**	**+1.8**
KAF				*e*PB	**Pb**	**11 27 44.2**	**-0.5**
KAF				*e*SG	**Sg**	**11 28 22.3**	**-1.7**
KAF				MSG		11 28 22.4	
	comp=Z,1.5nm,0.2s						
KAF	**Kangasniemi**	**2.81**	**353**	P	**Pn**	**11 27 41.7**	**+1.8**
KEF	**Keuruu**	**3.03**	**340**	*e*P	**Pn**	**11 27 45.3**	**+2.4**
KEF				*e*PB	**Pb**	**11 27 48.4**	**-0.2**
KEF	**Keuruu**	**3.03**	**340**	P	**Pn**	**11 27 45.3**	**+2.4**
RAF	**Rauma**	**3.13**	**305**	*e*P	**Pn**	**11 27 47.3**	**+3.1**
RAF	**Rauma**	**3.13**	**305**	P	**Pn**	**11 27 47.3**	**+3.1**
SUF	**Sumiainen**	**3.42**	**353**	*e*P	**Pn**	**11 27 50.4**	**+2.1**
SUF	**Sumiainen**	**3.42**	**353**	P	**Pn**	**11 27 50.3**	**+2.1**
JOF	**Joensuu**	**4.15**	**28**	*e*P	**Pn**	**11 28 00.1**	**+1.8**
JOF				*e*S	**Sn**	**11 28 47.2**	**-0.3**
JOF	**Joensuu**	**4.15**	**28**	P	**Pn**	**11 28 00.0**	**+1.8**
JOF				S	**Sn**	**11 28 47.1**	**-0.3**
VAF	**Ylistaro**	**4.28**	**332**	*e*SG	**Sg**	**11 29 08.4**	**-2.6**
HFS	**Hagfors**	**6.79**	**282**	Sn	**Sn**	**11 29 48.0**	**-4.5**
	baz=90,slow=22						
HFS				Lg	Lg	11 30 24.1	
	baz=105,slow=37						
HFS	**Hagfors**	**6.79**	**282**	Sn	**Sn**	**11 29 48.0**	**-4.5**
	baz=90,slow=22						
HFS				Lg	Lg	11 30 24.1	
	baz=105,slow=37						
HFS	**Hagfors**	**6.79**	**282**	Pn	**Pn**	**11 28 35.7**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=96,slow=15,SNR=4.2						
HFS				Sn	**Sn**	**11 29 50.2**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=110,slow=26,SNR=5.5			

*IDC **23** 12:21:00.3±0.7, 27°62N×127°60E, h0km, mb4.0/8, mb1 4.0/10, mb1mx3.8/45, mbtmp3.9/10, ML2.9/2, MS3.7/19, Ms1 3.7/19, ms1mx3.4/43, Error ellipse: s-maj=30.5km s-min=12.4km az=60.0*
*ISCJB **23** 12:21:02.3±0.8, 27°79N±0°03×127°87E±0°03, h25km±6km, mb4.1/11, MS3.8/16, Error ellipse: s-maj=6.1km s-min=3.8km az=136.7*
*NEIC **23** 12:21:07.1±0.8, 27°61N×127°86E, h51km±8km, mb4.1/2, Error ellipse: s-maj=10.7km s-min=8.3km az=120.0*

ISC 23 12:21:03.7±1.6, 27°75N±0°05×127°97E±0°04, h25km±12km, n60, σ1§10/53, mb4.0/11, MS3.8/16, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.66**	**126**	P	**Pb**	**12 21 16.0**	**-0.6**
JOKE				S	**Sn**	**12 21 27.5**	**+0.4**
JIH	**Iheya**	**0.71**	**180**	P	**Pb**	**12 21 16.2**	**-1.3**
JIH				S	**Sb**	**12 21 27.5**	**+0.7**
JTK	**Tokunoshima**	**0.87**	**87**	P	**Pn**	**12 21 18.2**	**-2.2**
JTK				S	**Sn**	**12 21 32.6**	**+0.3**
JOW	**Kunigami**	**0.95**	**163**	P	**Pn**	**12 21 20.7**	**-0.9**
JOW				S	**Sb**	**12 21 35.6**	**+1.8**
JOW	**Kunigami**	**0.95**	**163**	Pn	**Pn**	**12 21 20.6**	**-0.9**
	baz=342,slow=16						
JOW				Sn	**Sb**	**12 21 35.5**	**+1.7**
	baz=135,slow=20						
JOW				LR	LR	12 21 58.4	
	comp=Z,174nm,20.2s,baz=318,slow=59						
JAMN	**Amaminishikomi**	**1.17**	**65**	P	**Pn**	**12 21 23.5**	**-1.1**
JAMN				*e*S	**Sn**	**12 21 40.5**	**+0.7**
JNTH	**Nagotoyohara**	**1.23**	**178**	P	**Pn**	**12 21 24.9**	**-0.4**
JNTH				S	**Sn**	**12 21 42.0**	**+0.9**
JAGN	**Aguni-jima**	**1.33**	**210**	P	**Pn**	**12 21 24.7**	**-2.0**
JAGN				S	**Sn**	**12 21 43.2**	**-0.3**
JAM	**Amami Oshima**	**1.59**	**65**	P	**Pn**	**12 21 29.8**	**-0.5**
JAM				S	**Sn**	**12 21 50.8**	**+0.8**
JJT2	**Tamagusuku 2**	**1.62**	**187**	P	**Pn**	**12 21 30.4**	**-0.3**
JJT2				S	**Sb**	**12 21 53.9**	**+1.1**
JKE	**Kume jima 2**	**1.77**	**217**	P	**Pn**	**12 21 30.7**	**-2.1**
JTAJ	**Takarajima**	**1.77**	**37**	P	Pn	12 21 31.0	-1.8
JZK	**Kikaishima**	**1.86**	**72**	P	**Pn**	**12 21 35.1**	**+1.1**
JMZ	**Minamidaito 2**	**3.48**	**123**	P	**Pn**	**12 21 56.4**	**+0.1**
JIKM	**Ikemajima**	**3.73**	**222**	P	**Pn**	**12 21 59.6**	**-0.1**
JIKM				S	**Sn**	**12 22 41.8**	**-1.0**
JOGS	**Gusukube**	**3.76**	**218**	P	**Pn**	**12 22 00.4**	**+0.2**
JMJ	**Miyako jima 2**	**3.78**	**220**	P	**Pn**	**12 22 00.4**	**-0.1**
JIRB	**Irabujima**	**3.84**	**221**	P	**Pn**	**12 22 00.9**	**-0.4**
JTJ	**Tarama**	**4.27**	**224**	P	**Pn**	**12 22 06.9**	**-0.2**
JISG	**Ishigakijimahi**	**4.55**	**227**	P	**Pn**	**12 22 10.9**	**-0.2**
JIJ	**Ishigaki jima**	**4.82**	**226**	P	**Pn**	**12 22 14.1**	**-0.6**
YOJ	**Yonaguni jima**	**5.53**	**235**	P	**Pn**	**12 22 26.9**	**+2.3**
YOJ	**Yonaguni jima**	**5.53**	**235**	*e*Pn	**Pn**	**12 22 26.8**	**+2.3**
	68nm,1.3s						
YOJ				*e*Sn	**Sn**	**12 23 27.1**	**-0.3**
JNU	**Nakatsue**	**5.91**	**24**	Pn	Pn	12 22 34.9	+5.1
	0.4nm,0.3s,baz=220,slow=12,SNR=4.0						
JNU				LR	LR	12 25 01.8	
	comp=Z,188nm,19.6s,baz=195,slow=39						
TATO	**Taipei**	**6.44**	**246**	*e*Pn	**Pn**	**12 22 37.5**	**+0.5**
	68nm,0.9s						
YHNB	**Yeheng**	**6.67**	**244**	*e*Pn	**Pn**	**12 22 39.3**	**-1.0**
	106nm,1.0s						
SSLB	**Suanglung**	**7.46**	**240**	*e*Pn	**Pn**	**12 22 51.4**	**+0.4**
	53nm,1.1s						
TPUB	**Ta-pu**	**7.97**	**238**	*e*Pn	**Pn**	**12 22 59.0**	**+0.8**
	42nm,1.1s						
KSRS	**Korea Array**	**9.68**	**360**	LR	LR	12 27 05.5	
	comp=Z,152nm,18.8s,baz=181,slow=37						
MAJO	**Matsushiro**	**12.32**	**42**	*e*Pn	Pn	12 24 03.3	+5.6
MAT	**Matsushiro**	**12.32**	**42**	P	Pn	12 24 03.0	+5.3
MAT				*e*S	Sn	12 26 24.6	+10
MJAR	**Matsushiro Arr**	**12.32**	**42**	LR	LR	12 29 21.3	
	comp=Z,189nm,19.0s,baz=185,slow=40						
USRK	**Ussuriysk Ar.**	**16.73**	**10**	Pn	**P**	**12 24 58.8**	**+0.3**
	0.1nm,0.3s,baz=188,slow=9.6,SNR=2.9						
SONM	**Songino Array**	**26.16**	**326**	P	**P**	**12 26 36.4**	**+0.2**
	2.9nm,0.8s,baz=134,slow=8.3,SNR=15						
SONM				LR	LR	12 37 48.5	
	comp=Z,144nm,18.4s,baz=141,slow=39						
CMAR	**Chiang Mai Arr**	**28.20**	**257**	LR	LR	12 38 55.5	
	comp=Z,134nm,18.6s,baz=46,slow=39						
PETK	**Petropavlovsk-**	**33.54**	**33**	LR	LR	12 41 18.9	
	comp=Z,49nm,18.3s,baz=203,slow=36						
MK31	**Makanchi Array**	**40.36**	**311**	*e*P	**P**	**12 28 40.8**	**+1.3**
MKAR	**Makanchi Array**	**40.36**	**311**	P	**P**	**12 28 38.3**	**-1.2**
	1.7nm,0.7s,baz=101,slow=10,SNR=21						
ZALV	**Zalesovo Beam**	**40.91**	**322**	P	**P**	**12 28 43.1**	**-0.7**
	2.5nm,0.7s,baz=111,slow=8.9,SNR=10						
ZALV				LR	LR	12 47 19.9	
	comp=Z,165nm,18.1s,baz=74,slow=39						
KURK	**Kurchatov**	**43.57**	**316**	*e*P	**P**	**12 29 06.2**	**+0.7**
KURBB	**Kurchatov Arra**	**43.60**	**315**	P	**P**	**12 29 03.8**	**-2.0**
	1.3nm,0.7s,baz=103,slow=8.5,SNR=4.4						
XMIS	**Christmas Isla**	**43.73**	**213**	*e*P	**P**	**12 29 06.3**	**-0.8**
	32nm,0.4s						
TKM2	**Tokmak 2**	**44.63**	**304**	*e*P	**P**	**12 29 14.6**	**+0.2**
	3.6nm,0.9s						
AAK	**Ala-Archa**	**45.43**	**304**	LR	LR	12 49 45.2	
	comp=Z,80nm,18.4s,baz=76,slow=38						
WRAB	**Tennant Creek**	**47.80**	**172**	*e*P	**P**	**12 29 38.8**	**-0.5**
	2.1nm,0.9s						
WRA	**Warramunga Arr**	**47.81**	**172**	P	**P**	**12 29 39.6**	**+0.3**
	1.6nm,1.0s,baz=351,slow=8.4,SNR=7.3						
WB2	**Warramunga Arr**	**47.81**	**172**	*e*P	**P**	**12 29 37.9**	**-1.4**
BVAR	**Borovoye Array**	**49.00**	**317**	P	**P**	**12 29 47.4**	**-0.8**
	2.0nm,0.7s,baz=92,slow=7.6,SNR=12						
BVAR				LR	LR	12 52 13.2	
	comp=Z,259nm,18.0s,slow=38						
ASAR	**Alice Springs**	**51.44**	**173**	P	**P**	**12 30 07.5**	**+0.6**
	0.9nm,0.8s,baz=356,slow=8.1,SNR=10.0						
AKTO	**Aktyubinsk**	**56.61**	**314**	LR	LR	12 56 04.3	
	comp=Z,35nm,18.5s,slow=37						
GEYT	**Alibeck**	**58.34**	**299**	LR	LR	12 59 36.8	
	comp=Z,75nm,20.2s,baz=225,slow=40						
KBZ	**Khabaz**	**68.03**	**309**	LR	LR	13 04 03.8	
	comp=Z,26nm,20.0s,baz=44,slow=38						
OBN	**Obninsk**	**68.49**	**322**	LR	LR	13 04 40.3	
	comp=Z,128nm,19.3s,baz=265,slow=38						
ARCES	**ARCESS Array B**	**68.51**	**338**	LR	LR	13 07 47.2	
	comp=Z,52nm,19.3s,baz=18,slow=41						
FINES	**FINESS Array B**	**71.43**	**330**	LR	LR	13 07 02.6	
	comp=Z,103nm,19.4s,baz=68,slow=39						
AKASG	**Malin Array Be**	**74.23**	**319**	LR	LR	13 07 26.4	
	comp=Z,159nm,19.6s,baz=55,slow=38						
YKA	**Yellowknife Ar**	**77.25**	**25**	P	**P**	**12 32 57.1**	**+1.6**
	0.4nm,0.7s,baz=303,slow=5.7,SNR=13						
NOA	**NORSAR Array B**	**77.85**	**334**	LR	LR	13 09 15.2	
	comp=Z,41nm,20.6s,baz=115,slow=37						
MLR	**Muntele Rosu**	**78.50**	**315**	LR	LR	13 10 27.6	
	comp=Z,14nm,18.8s,baz=69,slow=38						
VRAC	**Vranov**	**82.03**	**322**	LR	LR	13 12 55.9	
	comp=Z,111nm,18.6s,baz=66,slow=38						

*NEIC **23** 12:35:39.7, 15°37N×91°90W, h208km, MD4.0(MEX), After MEX.*

MEX 23 12:35:39.7±0.5, 15°37N×91°90W, h208km±7km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.94**	**346**	*i* P	Pn	12 36 08.9	-1.3
CCIG				*e*S	S	12 36 31.2	-2.7
CCIG	**Comitan**	**0.94**	**346**	*i* P	Pn	12 36 08.9	-1.3
CCIG				*e*S	S	12 36 31.2	-2.7
PCIG		**1.31**	**285**	*i* P	Pn	12 36 11.2	-1.3
PCIG				*e*S	S	12 36 35.8	-2.0
PCIG		**1.31**	**285**	*i* P	Pn	12 36 11.2	-1.3
PCIG				*e*S	S	12 36 35.8	-2.0
HUIG	**Huatulco**	**4.07**	**276**	*e*P	Pn	12 36 41.2	-1.5
HUIG				*i* S	S	12 37 30.3	-1.5
HUIG	**Huatulco**	**4.07**	**276**	*e*P	Pn	12 36 41.2	-1.5
HUIG				*i* S	S	12 37 30.3	-1.5
VHO	**Vista Hermosa**	**4.94**	**291**	*e*P	Pn	12 36 54.0	+0.1
VHO				*i* S	S	12 37 49.1	-2.9
VHO	**Vista Hermosa**	**4.94**	**291**	*e*P	Pn	12 36 54.0	+0.1
VHO				*i* S	S	12 37 49.1	-2.9
TEIG	**Tepich**	**5.94**	**35**	*e*Pn	Pn	12 37 04.2	-2.1
JTS	**JuntasAbangare**	**8.45**	**126**	*e*Pn	Pn	12 37 38.6	-0.3
JTS				*e*Sn	S	12 39 12.3	-1.8

IDC 23 12:36:55.1±6.1, 11°68N×138°69E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/38, mbtmp3.5/5, Error ellipse: s-maj=290.8km s-min=22.4km az=77.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.71**	**188**	P	P	12 43 20.1	-0.7
	0.5nm,0.9s,baz=5.1,slow=10.0,SNR=5.0						
ASAR	**Alice Springs**	**35.44**	**188**	P	P	12 43 53.7	+0.5
	0.2nm,0.7s,baz=19,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**58.76**	**318**	P	P	12 46 56.0	+0.9
	0.3nm,0.5s,baz=100,slow=9.9,SNR=5.5						
KURBB	**Kurchatov Arra**	**62.25**	**321**	P	P	12 47 18.7	-0.1
	1.0nm,0.7s,baz=105,slow=7.3,SNR=9.6						
BVAR	**Borovoye Array**	**67.72**	**323**	P	P	12 47 53.5	-0.9
	0.8nm,0.8s,baz=90,slow=10,SNR=4.0						

KRSC 23 12:39:40.6±0.9, 55°05N×162°68E, h48km±16km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.74**	**229**	*i* P	Pn	12 39 55.8	+1.1
MKZ				S	Sn	12 40 05.8	+0.9
KBTR	**Krutoberegovo**	**1.17**	**4**	*i* P	Pn	12 40 01.9	+1.4
KBTR				S	Sn	12 40 18.6	+3.3
TUMR	**Tumrok**	**1.47**	**280**	*i* P	Pn	12 40 06.8	+2.0
TUMR				S	Sn	12 40 24.8	+1.8
KMNR	**Kamenistaya**	**1.56**	**298**	P	Pn	12 40 08.0	+1.9
KMNR				S	Sn	12 40 26.9	+1.7
SMKR	**Semkarok**	**1.68**	**337**	*i* P	Pn	12 40 09.7	+2.0
SMKR				S	Sn	12 40 30.8	+2.7
KLY	**Klyuchi**	**1.71**	**319**	P	Pn	12 40 08.1	+0.2
KLY				S	Sn	12 40 28.3	-0.3
BDR	**Baidarnaya**	**1.74**	**332**	*i* P	Pn	12 40 10.6	+2.2
BDR				S	Sn	12 40 31.1	+1.7
SRKR	**Sorokina**	**1.82**	**333**	*i* P	Pn	12 40 12.0	+2.4
SRKR				S	Sn	12 40 35.4	+3.9
KOZ	**Kozyrevsk**	**1.89**	**304**	P	Pn	12 40 13.1	+2.7
BKI	**Bering**	**1.90**	**84**	S	Sn	12 40 34.7	+1.6
SRDR	**Sredinnyy**	**2.10**	**308**	P	Pn	12 40 15.6	+2.2
KII	**Karymskiy**	**2.14**	**243**	*i* P	Pn	12 40 16.3	+2.4
KII				S	Sn	12 40 42.4	+3.2
ESO	**Esso**	**2.43**	**293**	P	Pn	12 40 19.1	+1.3
ESO				S	Sn	12 40 46.4	+0.1
SDLR	**Sedlovina**	**2.85**	**233**	P	Pn	12 40 26.9	+3.2
SDLR				S	Sn	12 40 59.9	+3.0
KRER	**Koryakskii**	**2.90**	**235**	P	Pn	12 40 28.0	+3.6
KRER				S	Sn	12 41 02.1	+3.9
SMAR	**Somma**	**2.90**	**233**	P	Pn	12 40 27.5	+3.0
SMAR				S	Sn	12 41 01.7	+3.5
KRX	**Arik**	**2.91**	**236**	P	Pn	12 40 27.6	+3.1
KRX				S	Sn	12 41 02.9	+4.5
UGLR	**Uglovaya**	**2.92**	**232**	P	Pn	12 40 28.0	+3.3
UGLR				S	Sn	12 41 02.3	+3.7
AVH	**Avacha**	**2.92**	**234**	P	Pn	12 40 28.2	+3.5
AVH				S	Sn	12 41 03.1	+4.5
KOK	**Koryaka**	**2.96**	**235**	P	Pn	12 40 28.6	+3.5
KOK				S	Sn	12 41 04.0	+4.6
GNL	**Ganaly**	**3.08**	**246**	P	Pn	12 40 29.9	+3.0
PET	**Petropavlovsk**	**3.12**	**231**	P	Pn	12 40 30.2	+3.0
PET				S	Sn	12 41 07.3	+4.1
RUS	**Russkaya**	**3.60**	**225**	P	Pn	12 40 36.2	+2.4
RUS				S	Sn	12 41 17.8	+2.8
MTVR	**Mutnovka**	**3.70**	**228**	P	Pn	12 40 39.1	+3.7
MTVR				S	Sn	12 41 22.2	+4.3
APC	**Apacha**	**3.89**	**239**	P	Pn	12 40 42.0	+4.2
APC				S	Sn	12 41 27.2	+5.1

*IDC **23** 13:13:57.0±1.0, 12°31N×120°55E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.4/38, mbtmp3.5/7, MS3.2/1, Ms1 3.2/1, ms1mx2.5/26, Error ellipse: s-maj=34.8km s-min=16.8km az=74.0*
*ISCJB **23** 13:13:58.9±0.5, 12°40N±0°04×120°51E±0°04, h23km, mb3.5/7, MS3.2/1, Error ellipse: s-maj=6.7km s-min=4.9km az=35.1*
*MAN **23** 13:13:58, 12°39N×120°57E, h23km, mb4.4, ML3.3, MS3.1*

ISC 23 13:13:59.5±0.7, 12°31N±0°04×120°62E±0°04, h23km, n19, σ1§40/22, mb3.4/7, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.51**	**73**	*e*P	**Pn**	**13 14 10.8**	**-0.6**
SJMP				*e*S	**Sn**	**13 14 19.5**	**+0.1**
BUSP	**Coron**	**0.51**	**233**	*e*P	**Pb**	**13 14 08.4**	**-1.4**
BUSP				*e*S	**Sb**	**13 14 16.5**	**-0.4**
PGP	**Puerto Galera**	**1.23**	**15⇑**	*e*P	**Pn**	**13 14 19.4**	**-1.9**
PGP				*i* S	**Sn**	**13 14 34.8**	**-2.4**
LUBP	**Lubang**	**1.46**	**346**	*e*P	**Pn**	**13 14 21.6**	**-2.9**
CUYO	**Cuyo Island**	**1.50**	**165**	*e*P	**Pb**	**13 14 25.8**	**-1.0**
ENPP	**El Nido**	**1.60**	**227**	*e*P	**Pn**	**13 14 26.3**	**-0.1**
KALP	**Kalibo**	**1.79**	**110**	*e*P	Sn	13 14 44.1	-7.1
TGY	**Tagaytay City**	**1.81**	**10**	Pn	**Pn**	**13 14 29.9**	**+0.6**
	190nm,0.3s,baz=329,slow=8.5,SNR=27						
TGY				Sn	**Sb**	**13 14 53.4**	**-0.9**
	166nm,0.3s,baz=320,slow=21,SNR=10						
TGY	**Tagaytay City**	**1.81**	**10⇑**	*i* P	**Pb**	**13 14 32.5**	**+0.5**
RCP	**Roxas**	**2.21**	**110⇓**	*e*P	**Pb**	**13 14 37.9**	**-0.9**
AUQP	**San Andres**	**2.24**	**63**	*e*P	**Pn**	**13 14 34.3**	**-0.9**
GUIM	**Jordan**	**2.56**	**131**	*e*P	**Pb**	**13 14 43.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**21.76**	**289**	P	**P**	**13 18 50.4**	**+0.6**
	0.4nm,0.3s,baz=94,slow=8.3,SNR=9.9						
WRA	**Warramunga Arr**	**34.78**	**157**	P	**P**	**13 20 49.5**	**+0.9**
	0.7nm,0.6s,baz=336,slow=9.6,SNR=5.0						
SONM	**Songino Array**	**37.36**	**344**	P	**P**	**13 21 12.7**	**+2.2**
	0.5nm,0.7s,baz=165,slow=9.4,SNR=4.8						
ASAR	**Alice Springs**	**38.04**	**160**	P	**P**	**13 21 17.6**	**+1.3**
	0.4nm,0.7s,baz=340,slow=6.8,SNR=7.6						
MKAR	**Makanchi Array**	**47.10**	**324**	P	**P**	**13 22 30.1**	**+0.3**
	0.2nm,0.5s,baz=118,slow=9.8,SNR=3.8						
MKAR				LR	LR	13 42 13.2	
	comp=Z,23nm,19.4s,baz=6.5,slow=36						
ZALV	**Zalesovo Beam**	**50.25**	**333**	P	**P**	**13 22 55.0**	**+1.2**
	0.4nm,0.3s,baz=140,slow=11,SNR=3.1						
KURBB	**Kurchatov Arra**	**51.30**	**327**	P	**P**	**13 23 00.9**	**-0.8**
	0.2nm,0.5s,baz=125,slow=9.1,SNR=3.3						

*ISCJB **23** 13:17:51.0±0.9, 6°22N±0°05×126°27E±0°07, h10km, mb3.4/3, Error ellipse: s-maj=10.8km s-min=7.6km az=170.0*
*IDC **23** 13:17:50.3±2.5, 6°07N×125°42E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/31, mbtmp3.5/3, Error ellipse: s-maj=240.0km s-min=24.7km az=65.0*
*MAN **23** 13:17:56, 6°51N×126°24E, h19km, mb4.8, ML3.7, MS3.8*

ISC 23 13:17:52.1±1.3, 6°27N±0°07×126°27E±0°09, h10km, n10, σ1§24/13, mb3.5/3, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.67**	**359**	*e*P	**Pb**	**13 18 06.1**	**+0.1**
MATI				*e*S	**Sb**	**13 18 15.6**	**+0.3**
BIPH	**Bislig**	**1.90**	**3⇑**	*e*P	**Pn**	**13 18 24.5**	**-0.2**
BIPH				*e*S	**Sn**	**13 18 46.9**	**-1.9**
BUKP	**Musuan**	**1.99**	**323**	*e*P	**Pn**	**13 18 26.0**	**0.0**
CTBH	**Cotabato--PC H**	**2.22**	**295⇑**	*i* P	**Pn**	**13 18 30.2**	**+1.3**
CTBH				*i* S	**Sn**	**13 18 57.0**	**+0.5**
CGP	**Cagayan de Oro**	**2.67**	**324**	*e*P	**Pn**	**13 18 36.4**	**+1.1**
CGP				*e*S	**Sn**	**13 19 06.7**	**-1.0**
BUTP	**Butuan**	**2.75**	**347**	*e*P	**Pn**	**13 18 38.4**	**+2.0**
PAGZ	**Pagadian**	**3.26**	**299**	*e*P	**Pn**	**13 18 41.5**	**-1.9**
WRA	**Warramunga Arr**	**27.23**	**163**	P	**P**	**13 23 36.8**	**+0.2**
	0.2nm,0.4s,baz=341,slow=10.0,SNR=3.0						
ASAR	**Alice Springs**	**30.68**	**166**	P	**P**	**13 24 07.0**	**-0.2**
	0.4nm,0.5s,baz=345,slow=7.1,SNR=8.8						
MKAR	**Makanchi Array**	**55.22**	**324**	P	P	13 27 22.8	-2.7
	0.4nm,0.4s,baz=116,slow=6.9,SNR=12						

*IDC **23** 13:34:43.3±0.7, 2°06N×126°48E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.9/41, mbtmp3.9/12, MS3.4/1, Ms1 3.4/1, ms1mx2.5/26, Error ellipse: s-maj=41.3km s-min=15.0km az=71.0*
*NEIC **23** 13:34:48.6±1.3, 2°03N×126°40E, h37km±13km, mb4.2/1, Error ellipse: s-maj=14.9km s-min=7.5km az=62.0*
*ISCJB **23** 13:34:49.6±0.4, 2°21N±0°04×126°77E±0°05, h63km, mb3.9/13, Error ellipse: s-maj=7.6km s-min=5.1km az=164.6*
*DJA **23** 13:34:49.9±1.0, 2°N±3°×12°7E±°, h22km±16km, M4.3/13, mb4.5/6, mB5.0/3, MLv4.1/13, Mw(mB)4.4/3*

ISC 23 13:34:50.8±0.7, 2°23N±0°05×126°82E±0°07, h63km, n31, σ1§51/32, mb3.8/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.55**	**159**	P	**Pn**	**13 35 15.0**	**-1.3**
TNTI	**Ternate**	**1.55**	**159**	*e*Pn	**Pn**	**13 35 14.6**	**-1.7**
SGSI	**Sangihe**	**1.94**	**318**	P	**Pn**	**13 35 19.3**	**-2.2**
SGSI				S	**Sn**	**13 35 43.9**	**-0.9**
LBMI	**Labuha**	**2.93**	**166**	P	**Pn**	**13 35 36.2**	**+1.1**
KMSI	**Cibinong**	**3.28**	**240**	P	**Pn**	**13 35 40.2**	**+0.4**
KMSI				S	**Sn**	**13 36 16.5**	**-1.1**
GTOI	**Gorontalo**	**4.12**	**247**	P	**Pn**	**13 35 51.4**	**+0.1**
SANI	**Sanana**	**4.33**	**191**	P	**Pn**	**13 35 52.0**	**-2.2**
SANI				S	**Sn**	**13 36 38.6**	**-4.9**
MRSI	**Marisa**	**5.18**	**250**	P	**Pn**	**13 36 05.5**	**-0.3**
	55nm,0.5s,744nm0.2nm						
LUWI	**Luwuk**	**5.19**	**231**	P	**Pn**	**13 36 05.4**	**-0.6**
	80nm,1.0s,5μm0.8nm						
LUWI	**Luwuk**	**5.19**	**231**	*e*Pn	Pn	13 35 56.8	-9.2
NLAI	**Namlea**	**5.44**	**177**	P	**Pn**	**13 36 09.8**	**+0.4**
	28nm,1.0s,0.1nm						
NLAI				S	**Sn**	**13 37 13.6**	**+2.9**
	28nm,1.0s,0.1nm						
APSI	**Ampana**	**6.04**	**239**	P	**Pn**	**13 36 19.7**	**+2.1**
	85nm,0.7s,911nm0.3nm						
MPSI	**Mapaga**	**7.17**	**255**	P	**Pn**	**13 36 33.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.24**	**183**	*e*P	**P**	**13 39 19.6**	**-1.4**
WRAB	**Tennant Creek**	**23.23**	**162**	*e*P	**P**	**13 39 51.8**	**-1.0**
	7.6nm,0.8s						
WRA	**Warramunga Arr**	**23.24**	**162**	P	**P**	**13 39 52.0**	**-0.9**
	2.4nm,0.4s,baz=334,slow=11,SNR=25						
WB2	**Warramunga Arr**	**23.24**	**162**	*e*P	**P**	**13 39 52.1**	**-0.8**
AS31	**Alice Springs**	**26.65**	**165**	*e*P	**P**	**13 40 23.8**	**-0.1**
ASAR	**Alice Springs**	**26.65**	**165**	P	**P**	**13 40 23.7**	**-0.2**
	0.5nm,0.3s,baz=346,slow=9.4,SNR=28						
ASAR				PcP	**PcP**	**13 43 48.4**	**+1.7**
	0.6nm,0.4s,baz=351,slow=2.1,SNR=10						
CMAR	**Chiang Mai Arr**	**31.72**	**302**	P	**P**	**13 41 08.3**	**-0.7**
	0.5nm,0.5s,baz=114,slow=6.0,SNR=3.6						
KSAR	**Wonju Array Be**	**35.05**	**1**	P	P	13 41 40.5	+2.8
KSRS	**Korea Array**	**35.07**	**2**	P	P	13 41 40.5	+2.7
	0.8nm,0.7s,baz=180,slow=9.8,SNR=4.8						
USRK	**Ussuriysk Ar.**	**42.04**	**6**	P	P	13 42 39.1	+2.9
	3.5nm,0.8s,baz=186,slow=8.0,SNR=6.9						
SONM	**Songino Array**	**48.74**	**342**	P	**P**	**13 43 30.3**	**+1.0**
	0.4nm,0.4s,baz=162,slow=7.4,SNR=4.3						
SONM				LR	LR	14 04 37.4	
	comp=Z,39nm,19.9s,baz=176,slow=37						
MKAR	**Makanchi Array**	**58.83**	**326**	P	**P**	**13 44 43.2**	**+0.3**
	0.8nm,0.4s,baz=119,slow=7.4,SNR=37						
ZALV	**Zalesovo Beam**	**61.96**	**333**	P	**P**	**13 45 04.5**	**+0.4**
	0.6nm,0.4s,baz=140,slow=6.8,SNR=3.7						
KURBB	**Kurchatov Arra**	**63.04**	**328**	P	**P**	**13 45 11.4**	**+0.1**
	1.8nm,0.2s,baz=129,slow=6.3,SNR=11						
KURK	**Kurchatov**	**63.05**	**328**	P	**P**	**13 45 11.4**	**+0.1**
BVAR	**Borovoye Array**	**68.62**	**327**	P	**P**	**13 45 47.5**	**+0.3**
	0.4nm,0.4s,baz=74,slow=4.7,SNR=8.1						
VNDA	**Vanda**	**81.94**	**173**	P	**P**	**13 47 03.2**	**0.0**
	0.4nm,0.5s,baz=322,slow=7.0,SNR=5.5						
ILAR	**Eielson Array**	**86.41**	**25**	P	**P**	**13 47 27.4**	**+1.2**
	0.2nm,0.7s,baz=246,slow=4.6,SNR=5.1						

*ISCJB **23** 13:41:29.6±1.9, 34°1S±0°1×178°4W±0°3, h35km, mb3.9/2, Error ellipse: s-maj=40.0km s-min=11.9km az=21.4*
*IDC **23** 13:41:29.9±3.0, 33°85S×178°87W, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.8/27, mbtmp4.1/3, ML4.0/1, Error ellipse: s-maj=68.8km s-min=35.6km az=119.0*

ISC 23 13:41:30.9±2.6, 34°0S±0°2×178°3W±0°4, h35km, n11, σ0§69/15, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.64**	**214**	PN	**Pn**	**13 42 39.6**	**+1.1**
HAZ	**Te Kaha**	**4.91**	**219**	*e*PN	**Pn**	**13 42 42.2**	**0.0**
HAZ				*e*SN	**Sn**	**13 43 38.0**	**+0.3**
PUZ	**Puketiti**	**4.92**	**213**	PN	**Pn**	**13 42 42.0**	**-0.4**
PUZ				SN	**Sn**	**13 43 38.1**	**+0.1**
CNGZ	**Carnagh Statio**	**5.28**	**211**	PN	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODZ	Otahua Downs	3.61	71	PN	Pn	13 44 57.1	-2.4
ODZ	Otahua Downs	3.61	71	Pn	Pn	13 44 57.1	-2.4
LBZ	Lake Benmore	3.63	59	PN	Pn	13 44 57.7	-2.1
LBZ				SN	Sn	13 45 37.6	-3.9
LBZ				AML	AML	13 45 41.3	
LBZ	Lake Benmore	3.63	59	Pn	Pn	13 44 57.7	-2.1
LBZ				Sn	Sn	13 45 37.6	-3.9
FOZ	Fox Glacier	3.89	46	PN	Pn	13 45 02.4	-0.9
FOZ				AML	AML	13 46 05.8	
FOZ				AML	AML	13 46 18.3	
FOZ	Fox Glacier	3.89	46	Pn	Pn	13 45 02.4	-0.9
RPZ	Rata Peaks	4.53	57	PN	Pn	13 45 09.0	-3.2
RPZ				AML	AML	13 45 59.9	
RPZ				AML	AML	13 46 01.1	
RPZ	Rata Peaks	4.53	57	Pn	Pn	13 45 09.0	-3.2
WVZ	Waitaha Valley	4.77	49	AML	AML	13 46 11.6	
MQZ	McQueen's Vall	5.50	64	PN	Pn	13 45 22.1	-3.3
MQZ	McQueen's Vall	5.50	64	Pn	Pn	13 45 22.1	-3.3
CRLZ	Canterbury Las	5.55	63	PN	Pn	13 45 23.5	-2.7
CRLZ	Canterbury Las	5.55	63	Pn	Pn	13 45 23.5	-2.7
LTZ	Lake Taylor	5.81	55	PN	Pn	13 45 26.3	-3.5
LTZ				SN	Sn	13 46 28.6	-6.7
LTZ				AML	AML	13 46 35.7	
LTZ	Lake Taylor	5.81	55	Pn	Pn	13 45 26.3	-3.5
LTZ				Sn	Sn	13 46 28.6	-6.7
THZ	Tophouse	6.84	51	PN	Pn	13 45 39.7	-4.2
THZ	Tophouse	6.84	51	Pn	Pn	13 45 39.7	-4.2
QRZ	Quartz Range	7.34	44	PN	Pn	13 45 47.9	-2.8
QRZ	Quartz Range	7.34	44	Pn	Pn	13 45 47.9	-2.8

*JMA **23** 13:46:02.6±0.3, 43°.85N×147°.81E, $h87^{km}$, M2.7*
*SKHL **23** 13:46:02.7±0.3, 44°.09N×147°.89E, $h80^{km}$, mb4.2/2*
ISC 23 13:46:00.2±2.9, 44°.0N±0°.1×148°.0E±0°.2, $h90^{km}$±18^{km}, n12, σ1§21/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.83	259	eP	Pn	13 46 18.9	+0.9
SHO				eS	Sn	13 46 31.0	-0.3
KUR	Kuril'sk	1.20	357	eP	Pn	13 46 22.6	+0.4
KUR				AMB	AMB	13 46 23.4	
KUR	31nm,0.2s			eS	Sn	13 46 37.8	-1.0
KUR				A	A	13 46 38.7	
KUR	77nm,0.1s			A	A	13 46 38.7	
YUK	Yuzh-Kuril'sk	1.51	271	eP	Pn	13 46 26.5	+0.4
YUK				AMB	AMB	13 46 27.5	
YUK	47nm,0.1s			eS	Sn	13 46 44.2	-1.4
YUK				A	A	13 46 47.0	
NEM2	Nemuro 2	1.74	248	P	Pn	13 46 29.6	+0.6
NEM2				eS	Sn	13 46 50.0	-0.9
JRA	Rausu	2.05	268	P	Pn	13 46 34.4	+1.4
JRA				eS	Sn	13 46 58.5	+0.5
JNK	Nakash	2.39	260	P	Pn	13 46 38.3	+0.8
JNK				eS	Sn	13 47 05.2	-0.9
JAK	Akkeshi	2.59	247	P	Pn	13 46 40.9	+0.7
JAK				eS	Sn	13 47 09.8	-1.1
JTKR	Abashiri--Toko	2.92	270	P	Pn	13 46 45.8	+1.2
JAR	Ashorobuto	3.13	258	eS	Sn	13 47 24.2	+0.4
JCH	Churui	3.64	249	eS	Sn	13 47 35.3	-1.0
JNBK	Urakawa-nobuka	4.19	247	P	Pn	13 47 02.8	+1.0
JKB	Kayabe	5.52	249	eS	Sn	13 48 19.0	-2.8

MAN 23 14:08:12, 10°.61N×124°.59E, $h1^{km}$, mb4.6, ML3.5, MS3.5, 3C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.44	3	eP	Pb	14 08 21.9	-0.7
OCLP				eS	Sb	14 08 29.5	-0.3
MSLP	Maasin	0.54	150	eP	Pb	14 08 24.4	+0.1
MSLP				eS	Sb	14 08 33.2	+0.7
LLP	Lapu-Lapu	0.68	245	⇑eP	Pb	14 08 25.9	-0.7
LLP				eS	Sb	14 08 36.7	+0.2
PLP	Palo	0.68	35	⇑eP	Pg	14 08 25.3	+0.3
TBP	Tagbilaran	1.16	218	eP	Pn	14 08 35.5	+0.1
TBP				eS	Sn	14 08 52.4	+0.6
GUIM	Jordan	1.97	271	eP	Pn	14 08 47.5	+1.0
RCP	Roxas	2.04	298	⇑eP	Pb	14 08 49.4	-0.6

*IDC **23** 14:19:14.4±1.0, 15°.51N×121°.22E, $h0^{km}$, mb4.2/7, mb1 4.4/7, mb1mx3.7/38, mbtmp4.2/7, Error ellipse: s-maj=54.4km s-min=16.5km az=64.0*
*ISCJB **23** 14:19:30.8±0.6, 15°.17N±0°.07×120°.6E±0°.1, $h150^{km}$, mb3.9/7, Error ellipse: s-maj=17.4km s-min=9.1km az=173.9*
*MAN **23** 14:19:40, 15°.73N×120°.54E, $h44^{km}$, mb4.7, ML3.6, MS3.5*
ISC 23 14:19:32.0±0.9, 15°.18N±0°.09×120°.4E±0°.1, $h150^{km}$, n16, σ1§06/15, mb4.1/7, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	Palayan	0.75	60	⇑eP	Pn	14 19 54.3	-0.6
SCZP	Santa Cruz	0.77	320	eP	Pn	14 19 53.9	-1.1
SCZP				eS	Sn	14 20 05.0	-7.5
BCPH	Baguio City Da	1.20	7	⇑iP	Pn	14 19 55.0	-3.8
BCPH				i S	Sn	14 20 17.4	-2.0
BALP	Baler	1.24	63	eP	Pn	14 19 59.6	+0.6
BALP				eS	Sn	14 20 09.7	-10
BOLP	Bolinao	1.29	338	eP	Pn	14 19 59.5	0.0
ABRA	Dolores	2.47	6	eP	Pn	14 20 11.6	-1.1
APYP	Conner	2.78	16	eP	Pn	14 20 16.3	-0.3
PIP	Pasuquin	3.13	3	⇓iP	Pn	14 20 21.0	-0.1
CMAR	Chiang Mai Arr	20.81	282	P	Pn	14 24 04.6	-1.6
	0.8nm,0.6s,baz=96,slow=8.0,SNR=8.0						
BATI	Baumata	25.43	173	P	P	14 24 46.0	0.0
	7.7nm,0.4s,baz=333,slow=4.5,SNR=5.8						
WRA	Warramunga Arr	37.49	158	P	P	14 26 30.4	-1.1
	4.4nm,0.5s,baz=339,slow=9.1,SNR=24						
ASAR	Alice Springs	40.80	161	P	P	14 26 58.2	-0.6
	2.9nm,0.5s,baz=339,slow=6.9,SNR=147						
MKAR	Makanchi Array	44.69	323	P	P	14 27 31.5	+1.5
	0.3nm,0.7s,baz=126,slow=9.5,SNR=3.4						
KURBB	Kurchatov Arra	48.82	326	P	P	14 28 03.3	+1.4
	0.5nm,0.6s,baz=119,slow=8.5,SNR=5.0						
ARCES	ARCESS Array B	77.61	339	P	P	14 31 12.1	+0.8
	3.3nm,0.8s,baz=94,slow=6.6,SNR=2.5						
NOA	NORSAR Array B	85.83	333	P	P	14 31 54.6	+0.1
	1.5nm,1.0s,baz=69,slow=5.9,SNR=2.6						

*CSEM **23** 14:30:16.4, 37°.60N×26°.89E, $h5^{km}$, MD2.9*
ISK 23 14:30:16.4, 37°.60N×26°.89E, $h5^{km}$, MD2.9, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	Chios island	1.03	320	ePG	Pn	14 30 37.3	-0.3
CHOS				eSG	Sn	14 30 52.4	-0.2
CHOS	Chios island	1.03	320	ePg	Pn	14 30 37.3	-0.3
CHOS				eSg	Sn	14 30 52.4	-0.1
KULA	Kula-Manisa	1.67	56	ePN	Pg	14 30 48.2	-0.4
KULA	Kula-Manisa	1.67	56	ePn	Pg	14 30 48.2	-0.4
FETY	Fethiye	2.00	118	ePN	Pb	14 30 53.3	0.0
FETY	Fethiye	2.00	118	ePn	Pb	14 30 53.3	0.0

*ISK **23** 14:30:36.5, 37°.21N×28°.20E, $h10^{km}$, MD2.7*
*ISCJB **23** 14:30:37.2±0.5, 37°.22N±0°.04×28°.19E±0°.04, $h0^{km}$, Error ellipse: s-maj=6.2km s-min=3.7km az=30.1*
*CSEM **23** 14:30:37.2±0.2, 37°.24N×28°.22E, $h2^{km}$, MD2.7, Error ellipse: s-maj=4.6km s-min=3.2km az=27.0, Mining explosion.*
*DDA **23** 14:30:37.3, 37°.24N×28°.20E, $h8^{km}$, MD2.7*
ISC 23 14:30:37.6±1.0, 37°.24N±0°.03×28°.22E±0°.03, $h0^{km}$, n20, σ1§13/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.11	152	ePG	Pg	14 30 39.6	-0.2
YER				ePN	Pg	14 30 39.6	-0.2
YER				eSG	Sg	14 30 41.8	+0.6
YER	Yerkesik	0.11	152	ePg	Pg	14 30 39.6	-0.2
YER				eSg	Sg	14 30 41.8	+0.6
YER	Yerkesik	0.11	152	ePn	Pg	14 30 39.6	-0.2
AYDN	Tasoluk	0.50	328	i P	Pg	14 30 47.4	+0.2
AYDN				i S	Sg	14 30 54.5	+0.7
AYDN	Tasoluk	0.50	328	i P	Pg	14 30 47.4	+0.2
AYDN				i S	Sg	14 30 54.5	+0.7
DALY	Dalyan (Mu¨la	0.55	140	ePN	Pg	14 30 47.1	-0.9
DALY				ePG	Pb	14 30 47.4	-2.7
DALY				eSG	Sg	14 30 55.5	+0.4
DALY	Dalyan (Mu¨la	0.55	140	ePg	Pg	14 30 47.4	-0.6
DALY				eSg	Sg	14 30 55.5	+0.4
DALY	Dalyan (Mu¨la	0.55	140	ePn	Pg	14 30 47.2	-0.9
BDRM	Kayabasi	0.64	255	i P	Pg	14 30 49.4	-0.4
BDRM	Kayabasi	0.64	255	i P	Pg	14 30 49.4	-0.4
BODT	Bodrum	0.74	257	ePG	Pg	14 30 51.0	-0.8
BODT				eSG	Sg	14 31 01.5	0.0
BODT	Bodrum	0.74	257	ePg	Pg	14 30 51.0	-0.8
BODT				eSg	Sg	14 31 01.5	0.0
DNZL	Cakiroluk	0.80	55	i P	Pg	14 30 52.2	-0.8
DNZL	Cakiroluk	0.80	55	i P	Pg	14 30 52.2	-0.8
FETY	Fethiye	0.92	130	ePg	Pg	14 30 54.7	-0.5
FETY	Fethiye	0.92	130	ePG	Pg	14 30 54.7	-0.5
GOLH	Golhisar	1.07	89	i P	Pg	14 30 57.8	-0.4
GOLH				i S	Sn	14 31 15.4	-0.3
GOLH	Golhisar	1.07	89	i P	Pg	14 30 57.8	-0.4
GOLH				i S	Sn	14 31 15.4	-0.3
AKAS	Kas	1.50	131	i P	Pb	14 31 06.2	-0.2
AKAS				i S	Sn	14 31 29.7	+3.5
AKAS	Kas	1.50	131	i P	Pb	14 31 06.2	-0.2
AKAS				i S	Sn	14 31 29.7	+3.5

*ISCJB **23** 14:45:36.9±1.3, 36°.85S±0°.09×73°.2W±0°.2, $h23^{km}$±5^{km}, mb4.1/7, MS3.5/1, Error ellipse: s-maj=25.8km s-min=9.3km az=29.5*
*GUC **23** 14:45:37.7±0.7, 36°.93S×73°.01W, $h15^{km}$±4^{km}, ML4.9*
*IDC **23** 14:45:38.1±0.9, 37°.00S×71°.94W, $h0^{km}$, mb4.1/8, mb1 4.3/8, mb1mx4.1/23, mbtmp4.1/8, ML3.0/1, MS3.6/1, Ms1 3.5/1, ms1mx2.9/20, Error ellipse: s-maj=33.0km s-min=22.6km az=97.0*
ISC 23 14:45:38.3±0.9, 36°.86S±0°.08×73°.1W±0°.2, $h18^{km}$±8^{km}, n17, σ1§36/16, mb4.2/7, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.05	288	⇓iP	Pb	14 45 41.5	0.0
CCSP				i S	Sb	14 45 44.0	+0.3
LNCH	Linares	1.54	49	⇓iP	Pn	14 46 04.7	-0.2
LNCH				i S	Sn	14 46 24.3	-0.2
TALC	Talca	1.85	38	⇑iP	Pn	14 46 09.2	0.0
TALC				i S	Sn	14 46 33.5	+1.4
TALC				AML	AML	14 46 35.1	
	comp=E,20μm,0.3s						
NICH	Los Niches	2.37	39	eP	Pn	14 46 17.2	+1.0
NICH				i S	Sn	14 46 47.8	+2.9
NICH				AML	AML	14 46 53.8	
	comp=N,7μm,0.6s						
CACH	El Canelo	3.39	37	eP1		14 46 31.3	
PLCA	Paso Flores	4.33	154	Pn	Pn	14 46 44.5	+1.2
	comp=N,0.9nm,0.3s,baz=332,slow=9.6,SNR=6.6						
PLCA				Lg	Lg	14 47 50.1	
	comp=N,2.1nm,0.3s,baz=187,slow=4.0,SNR=2.8						
CFAA	Coronel Fontan	6.58	39	Pn	Pn	14 47 12.8	-1.5
	comp=N,0.4nm,0.3s,baz=211,slow=14,SNR=9.0						
LPAZ	La Paz	20.95	13	P	P	14 50 21.4	+0.4
	comp=N,2.8nm,0.7s,baz=196,slow=7.1,SNR=10						
SIV	San Ignacio	23.35	30	P	P	14 50 43.7	-2.1
	comp=N,5.4nm,0.7s,baz=223,slow=7.1,SNR=13						
BDFB	Brasilia	30.67	53	LR	LR	15 06 10.7	
	comp=N,106nm,18.7s,baz=204,slow=41						
QSPA	South Pole Qui	53.38	180	P	P	14 54 57.6	+1.0
	comp=N,3.6nm,0.9s,baz=142,slow=5.9,SNR=10						
TXAR	Lajitas Array	71.85	332	P	P	14 57 06.0	+5.9
	comp=N,1.2nm,0.7s,baz=153,slow=9.0,SNR=14						
DBIC	Dimbokro	76.88	71	P	P	14 57 29.2	-0.4
	comp=N,2.7nm,0.7s,baz=225,slow=6.7,SNR=4.1						
NVAR	Mina Array Bea	85.78	326	P	P	14 58 23.2	+6.7
	comp=N,1.3nm,0.8s,baz=156,slow=6.0,SNR=7.5						
TORD	Torodi Ar. Bea	85.95	70	P	P	14 58 16.6	-1.1
	comp=N,0.4nm,0.6s,baz=224,slow=4.7,SNR=2.7						
PDAR	Pinedale Array	85.95	334	P	P	14 58 23.2	+5.9
	comp=N,0.7nm,0.7s,baz=176,slow=4.8,SNR=6.1						
BVAR	Borovoye Array	149.90	46	PKPbc	PKPbc	15 05 26.8	0.0
	comp=N,0.7nm,0.6s,baz=312,slow=2.6,SNR=7.3						

*IDC **23** 14:52:02.4±1.0, 12°.33N×120°.64E, $h0^{km}$, mb3.5/7, mb1 3.6/7, mb1mx3.5/37, mbtmp3.5/7, Error ellipse: s-maj=35.2km s-min=16.6km az=74.0*
*MAN **23** 14:52:03, 12°.45N×120°.46E, $h12^{km}$, mb4.6, ML3.5, MS3.4*
*ISCJB **23** 14:52:04.4±0.7, 12°.38N±0°.04×120°.49E±0°.05, $h20^{km}$±7^{km}, mb3.5/7, Error ellipse: s-maj=8.1km s-min=5.6km az=33.3*
ISC 23 14:52:02.7±1.5, 12°.38N±0°.04×120°.58E±0°.04, $h4^{km}$±11^{km}, n18, σ1§22/23, mb3.5/7, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUSP	Coron	0.53	226	eP	Pb	14 52 13.8	-0.7
BUSP				eS	Sb	14 52 22.0	-0.5
SJMP	San Jose	0.53	81	eP	Pn	14 52 16.1	-0.9
SJMP				eS	Sn	14 52 25.0	-1.4
PGP	Puerto Galera	1.18	18	⇑eP	Pg	14 52 24.4	-0.8
PGP				i S	Sg	14 52 40.2	-0.4
OTRP	Odiongan	1.40	90	eP	Pg	14 52 31.9	+2.3
CUYO	Cuyo Island	1.57	164	eP	Pn	14 52 31.0	-0.4
ENPP	El Nido	1.62	224	eP	Pn	14 52 31.4	-0.7
TGY	Tagaytay City	1.75	11	Pn	Pb	14 52 34.7	-0.7
	157nm,0.3s,baz=164,slow=3.7,SNR=30						
TGY				Sn	Sb	14 52 58.1	+0.3
	209nm,0.3s,baz=317,slow=19,SNR=9.7						
KALP	Kalibo	1.85	112	⇓eP	Pb	14 52 36.3	-0.8
RCP	Roxas	2.27	111	⇓eP	Pb	14 52 43.2	-0.9
GQP	Guinayangan	2.37	50	eP	Pb	14 52 45.2	-0.7
GQP				eS	Sg	14 53 19.1	+0.3
GUIM	Jordan	2.62	131	eP	Pb	14 52 48.4	-1.9
CMAR	Chiang Mai Arr	21.71	289	P	P	14 56 55.9	+0.8
	1.5nm,0.9s,baz=101,slow=9.0,SNR=16						
WRA	Warramunga Arr	34.85	157	P	P	14 58 54.5	-0.7
	0.9nm,0.8s,baz=335,slow=9.8,SNR=4.6						
SONM	Songino Array	37.29	344	P	P	14 59 17.3	+1.4
	0.4nm,0.5s,baz=161,slow=9.7,SNR=5.6						
ASAR	Alice Springs	38.12	160	P	P	14 59 22.9	-0.1
	0.5nm,0.6s,baz=346,slow=6.3,SNR=5.7						
MKAR	Makanchi Array	47.03	324	P	P	15 00 34.9	-0.4
	0.3nm,0.7s,baz=123,slow=8.8,SNR=3.8						
KURBB	Kurchatov Arra	51.22	327	P	P	15 01 06.7	-0.6
	0.4nm,0.6s,baz=116,slow=9.3,SNR=5.1						
BVAR	Borovoye Array	56.80	326	P	P	15 01 50.9	+2.8
	0.2nm,0.4s,baz=106,slow=11,SNR=3.4						

MAN 23 14:59:58, 11°.16N×125°.43E, $h21^{km}$, mb4.4, ML3.3, MS3.2, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	0.44	271	⇓iP	Pn	15 00 08.7	-0.4
PLP				eS	Sn	15 00 18.6	+2.1
BESP	Borongan	0.44	1	eP	Pn	15 00 08.7	-0.4
BESP				eS	Sn	15 00 16.1	-0.4
OCLP	Ormoc	0.81	263	eP	Pb	15 00 10.1	-3.3
MSLP	Maasin	1.16	209	eP	Pb	15 00 19.5	+0.2
MSLP				eS	Sb	15 00 31.2	-2.8

*IDC **23** 15:02:01.3±0.5, 37°.47N×74°.60E, $h0^{km}$, mb4.4/27, mb1 4.6/34, mb1mx4.5/40, mbtmp4.5/34, ML4.1/7, MS4.3/19, Ms1 4.4/19, ms1mx4.2/38, Error ellipse: s-maj=11.8km s-min=9.9km az=19.0*
*MOS **23** 15:02:04.5±1.1, 37°.40N×74°.60E, $h33^{km}$, mb5.0/55, MS4.5/16, Error ellipse: s-maj=6.2km s-min=3.7km az=108.0*
*ISCJB **23** 15:02:05.7±0.4, 37°.44N±0°.02×74°.65E±0°.02, $h43^{km}$±4^{km}, mb4.6/110, MS4.5/31, Error ellipse: s-maj=3.5km s-min=3.1km az=135.5*
*BJI **23** 15:02:05.3, 37°.50N×74°.72E, $h45^{km}$, mB5.0/34, mb4.6/45, ML4.9/5, Ms4.8/46, Ms7 4.4/45*
*NEIC **23** 15:02:08.0±0.7, 37°.49N×74°.63E, $h50^{km}$±6^{km}, mb4.9/45, Error ellipse: s-maj=5.8km s-min=4.0km az=200.0*
*GCMT **23** 15:02:08.0±0.2, 37°.50N×74°.66E, $h19^{km}$, MW5.1/72, Moment Tensor Solution. s40,c57; s72,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.90±.23; $M_{\theta\theta}$-2.94±.20; $M_{\phi\phi}$5.83±.16; $M_{r\theta}$-2.87±.50; $M_{\theta\phi}$-1.91±.13; $M_{r\phi}$0.01±.28; Best double couple: $M_0$6.10900×10^{16} NP1:ϕ_s132.00000°, δ64.00000°, λ-144.00000°. NP2: ϕ_s25.00000°, δ58.00000°, λ-31.00000°. Principal axes: T 6.2700, Plg4.0000°, Azm257.0000°; N -0.3320, Plg47.0000°, Azm163.0000°; P -5.9490, Plg43.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NNC **23** 15:02:12.2±4.9, 38°.14N×73°.80E, $h0^{km}$, mb5.2, mpv4.8 Error ellipse: s-maj=61.5km s-min=14.4km az=136.0*
*SZGRF **23** 15:02:16.2, 37°.89N×73°.67E, $h33^{km}$, mb4.7, Tajikistan*
ISC 23 15:02:07.2±0.3, 37°.44N±0°.03×74°.61E±0°.03, $h41^{km}$±2^{km}, $h41^{km}$: pP-P, n374, σ1§71/407, mb4.7/110, MS4.4/31, 29C-18D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	2.33	27	P	Pn	15 02 35.1	-8.1
KSH				S	Sn	15 02 55.0	-16
KSH				SMN			
	7μm,0.7s						
KSH				SME			
	7μm,0.8s						
CHCP	Chirah Chowk	3.93	197	P	Pn	15 03 08.3	+3.2
CEP	Cherat	4.23	212	P	Pn	15 03 11.8	+2.5
CEP				S	Sn	15 04 17.0	+19
KZA	Kyzart	4.66	6	P	Pn	15 03 17.0	+1.6
	SNR=172						
KZA	Kyzart	4.66	6	i PN	Pn	15 03 17.0	+1.6
AML	Almayashu	4.74	352	P	Pn	15 03 18.4	+2.0
	SNR=80						
AML	Almayashu	4.74	352	i PN	Pn	15 03 18.4	+2.0
UCH	Uchtor	4.78	359	P	Pn	15 03 18.8	+1.6
	SNR=498						
UCH	Uchtor	4.78	359	i PN	Pn	15 03 18.7	+1.6
ULHL	Ulahol	4.96	14	P	Pn	15 03 22.2	+2.8
	SNR=26						
ULHL	Ulahol	4.96	14	i PN	Pn	15 03 22.1	+2.8
DLH	Dalhousie	5.02	167	eP	Pn	15 03 20.0	-0.2
DLH				ex	x	15 04 23.0	
AAK	Ala-Archa	5.18	359	P	Pn	15 03 24.4	+2.0
	SNR=178						
AAK	Ala-Archa	5.18	359	PN	Pn	15 03 24.0	+1.6
AAK						15 03 37.6	
AAK						15 04 44.7	
AAK				pmax	pmax		
	comp=Z,208nm,1.1s						
AAK				pmax	pmax		
	comp=Z,702nm,0.8s						
AAK				smax	smax		
	comp=N,1μm,1.1s						
AAK				smax	smax		
	comp=Z,1μm,1.5s						
AAK	Ala-Archa	5.18	359	Pn	Pn	15 03 24.3	+2.0
	comp=Z,8.2nm,0.3s,baz=175,slow=11,SNR=214						
AAK				Lg	Lg	15 04 45.1	
	comp=Z,22nm,0.3s,baz=358,slow=10,SNR=5.0						
AAK				LR	LR	15 05 36.0	
	comp=Z,5μm,19.0s,baz=176,slow=42						
THW	Thamme Wali	5.20	208	P	Pn	15 03 24.4	+1.9
KBK	Karagaybulak	5.21	3	P	Pn	15 03 24.9	+2.0
	SNR=179						
KBK	Karagaybulak	5.21	3	i PN	Pn	15 03 24.8	+2.0
EKS2	Erkin-Say	5.25	353	P	Pn	15 03 25.4	+2.1
	SNR=98						
EKS2	Erkin-Say	5.25	353	i PN	Pn	15 03 25.3	+2.1
EKS2	Erkin-Say	5.25	353	eP	Pn	15 03 25.1	+1.9
	comp=Z,168nm,0.7s						
KBL	Kabul	5.36	239	ePN	Pn	15 03 26.2	+1.3
KBL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBL	Kabul	5.36	239	eP	Pn	15 03 26.2	+1.3
	comp=Z,1.2nm,0.3s						
DHRM	DHARAMSHALA	5.36	164	eP	Pn	15 03 26.7	+1.8
DHRM				ex	x	15 04 37.1	
FRU	Bishkek	5.38	0	⇑ePN	Pn	15 03 27.5	+2.5
FRU				i		15 03 42.0	
FRU				e		15 04 45.0	
FRU				i		15 05 11.0	
FRU				pmax	pmax		
	comp=Z,320nm,1.9s						
FRU				pmax	pmax		
	comp=N,2μm,1.1s						
FRU				pmax	pmax		
	comp=Z,2μm,1.3s						
FRU				pmax	pmax		
	comp=E,3μm,2.0s						
TKM2	Tokmak 2	5.52	8	⇑Pn	Pn	15 03 29.2	+2.1
TKM2	Tokmak 2	5.52	8	P	Pn	15 03 29.1	+2.0
	SNR=646						
TKM2	Tokmak 2	5.52	8	ePN	Pn	15 03 28.9	+1.8
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.4s						
TKM2	Tokmak 2	5.52	8	eP	Pn	15 03 28.9	+1.8
	comp=Z,5.4nm,0.4s						
CHMS	Chumysh	5.55	1	P	Pn	15 03 29.1	+1.8
	SNR=162						
CHMS	Chumysh	5.55	1	i PN	Pn	15 03 29.1	+1.8
SARP	Sargodha	5.73	197	P	Pn	15 03 31.0	+1.2
USP	Ospenovka	5.82	359	P	Pn	15 03 32.2	+1.2
	SNR=25						
USP	Ospenovka	5.82	359	i PN	Pn	15 03 32.2	+1.2
KNDC	Almaty	6.04	17	⇓Pn	Pn	15 03 36.5	+2.4
	comp=Z,95nm,0.7s						
KNDC				⇑Lg	Lg	15 05 10.4	
	comp=Z,2μm,1.1s						
AAA	Alma-Ata	6.09	16	i PN	Pn	15 03 52.8	+18
AAA				i S	Sn	15 05 04.5	+21
AAA				pmax	pmax		
	comp=Z,266nm,1.0s						
AAA				smax	smax		
	comp=E,2μm,1.9s						
BHK	Bhakra	6.19	166	ex	Pn	15 03 40.2	+4.0
BHK				ex	x	15 05 30.8	
SDNR	Sundarnagar	6.24	161	eP	Pn	15 03 38.0	+1.2
SDNR				ex	x	15 04 54.0	
KK31	Karatay Array	6.46	332	⇑Pn	Pn	15 03 40.2	+0.4
	comp=E,31nm,0.3s						
KK31				⇑Lg	Lg	15 04 53.0	
	comp=E,330nm,0.5s						
KK31	Karatay Array	6.46	332	PN	Pn	15 03 40.2	+0.4
KK31				pmax	pmax		
	comp=Z,31nm,0.4s						
KKAR	Karatay Array	6.46	332	ePN	Pn	15 03 40.2	+0.4
KKAR	Karatay Array	6.46	332	eP	Pn	15 03 40.1	+0.4
	comp=Z,0.

comp=Z,3.3nm,0.3s,baz=108,slow=11,SNR=25
GEYT Sn Sn 15 07 27.9 -6.6
comp=Z,4.3nm,0.3s,baz=146,slow=17,SNR=7.0
GEYT LR LR 15 11 13.5
comp=Z,2μm,18.6s,baz=100,slow=42
KKN Kakani 13.16 134 *e*P Pn 15 05 07.7 -4.1
comp=Z,77nm,0.6s
DMN Daman 13.20 135 *e*P Pn 15 05 08.8 -3.6
comp=Z,93nm,0.6s
PKIN Phulchoki 13.39 134 *e*P Pn 15 05 11.6 -3.4
comp=Z,59nm,0.5s
PKI Pulchoki 13.40 134 *e*P Pn 15 05 11.3 -3.9
comp=Z,66nm,0.6s
GUN Gumba 13.42 132 *e*P Pn 15 05 11.2 -4.2
comp=Z,79nm,0.6s
KURBB Kurchatov Arra 13.47 11 Pn Pn 15 05 13.1 -2.5
comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=61
KURK Kurchatov 13.57 11 ⇑Pn Pn 15 05 13.7 -3.3
comp=Z,26nm,1.0s
KURK ⇑Sn **S** **15 08 04.6 -3.5**
comp=Z,40nm,1.9s
KURK ⇑Lg Lg 15 09 03.2
comp=Z,376nm,2.2s
KURK Kurchatov 13.57 11 P Pn 15 05 13.7 -3.3
KURK pmax pmax
comp=Z,25nm,1.0s
KURK Kurchatov 13.57 11 Pn Pn 15 05 13.1 -3.9
JIRN Jiri 13.79 132 *e*P Pn 15 05 16.0 -4.5
comp=Z,126nm,0.6s
BHPL Bhopal 14.36 169 *e*P **Pn** **15 05 26.1 -1.8**
BHPL AMB AMB 15 05 51.1
comp=Z,22nm,1.7s
BHPL *e*x **Sn** **15 08 00.1 -5.8**
RAMN Ramite 14.56 132 *e*P Pn 15 05 26.3 -4.5
comp=Z,71nm,0.5s
BHJ Bhuj 14.77 198 *e*P **Pn** **15 05 30.9 -2.5**
BHJ AMB AMB 15 05 40.6
comp=Z,50nm,3.1s
TAPN Taplejung 14.94 129 *e*P Pn 15 05 30.9 -5.0
comp=Z,174nm,1.0s
ODAN Odare 15.10 131 *e*P Pn 15 05 32.5 -5.5
comp=Z,85nm,0.6s
LSA Lhasa 15.79 114 P **Pn** **15 05 45.3 -1.8**
LSA Lhasa 15.79 114 *e*P **Pn** **15 05 45.1 -2.0**
LSA pmax pmax
comp=Z,16nm,0.8s
LSA Lhasa 15.79 114 *e*P **Pn** **15 05 45.1 -2.0**
comp=Z,16nm,0.8s
BVA0 Borovoye Array 15.86 351 ⇑P **Pn** **15 05 44.4 -3.0**
comp=Z,58nm,1.0s,baz=158,slow=12,SNR=190
BVA0 Borovoye Array 15.86 351 *i*P **Pn** **15 05 44.3 -3.0**
BVA0 pmax pmax
comp=Z,93nm,1.1s
BVAR Borovoye Array 15.86 351 Pn **Pn** **15 05 44.6 -2.8**
comp=Z,0.6nm,0.3s,baz=162,slow=10,SNR=19
BVAR LR LR 15 11 58.7
comp=Z,1μm,20.4s,baz=170,slow=38
AB31 Akbulak array 15.88 323 ⇑P **Pn** **15 05 43.7 -3.9**
comp=Z,31nm,0.6s,baz=132,slow=12,SNR=279
AB31 Akbulak array 15.88 323 *e*P **Pn** **15 05 43.7 -3.9**
AB31 pmax pmax
comp=Z,42nm,0.6s
NGP Nagpur 16.69 165 *e*x Pn 15 05 52.2 -5.9
NGP *e*x x 15 08 54.9
BOK Bokaro 16.69 141 *e*x **Pn** **15 05 54.7 -3.4**
BOK AMB AMB 15 06 01.2
comp=Z,38nm,0.4s
AKTO Aktyubinsk 17.59 323 ⇓P **Pn** **15 06 06.2 -2.9**
comp=Z,72nm,0.9s
AKTO Aktyubinsk 17.59 323 P **Pn** **15 06 06.2 -2.9**
AKTO pmax pmax
comp=Z,72nm,1.0s
AKTO Aktyubinsk 17.59 323 P **Pn** **15 06 06.8 -2.3**
comp=Z,1.6nm,0.3s,baz=126,slow=13,SNR=60
AKTO S Sn 15 09 16.4 -7.5
comp=Z,3.2nm,0.3s,baz=358,slow=22,SNR=10
AKTO LR LR 15 13 26.6
comp=Z,1μm,21.1s,baz=140,slow=39
ZALV Zalesovo Beam 17.95 20 *i*P **Pn** **15 06 11.1 -2.3**
ZALV pmax pmax
comp=Z,32nm,0.6s
ZALV Zalesovo Beam 17.95 20 P **Pn** **15 06 11.2 -2.3**
comp=Z,4.4nm,0.3s,baz=208,slow=12,SNR=64
NVS Novosibirsk 18.37 16 ⇑*i*P **P** **15 06 16.3 -2.0**
NVS *i*S **Sn** **15 09 37.7 -5.0**
NVS pmax pmax
comp=Z,73nm,1.2s
NVS pmax pmax
comp=N,58nm,1.4s
NVS pmax pmax
comp=E,17nm,0.8s
NVS smax smax
comp=E,156nm,2.9s
NVS smax smax
comp=N,106nm,2.4s
POO Poona 18.86 182 *e*P **P** **15 06 22.5 -1.4**
POO *e*x x 15 06 24.0
comp=N,92nm,1.0s
POO *i*S **S** **15 10 00.0 +3.8**
SHL Shillong 18.86 124 *e*P **P** **15 06 22.0 -2.1**
SHL *i*x x 15 09 02.0
HVS Khovu-Aksy 19.27 39 *d*⇓P **P** **15 06 28.3 +0.1**
BANOM Banah 19.32 239 ⇑P **Pn** **15 06 29.6 -0.7**
SNR=5.3
BANOM Banah 19.32 239 ⇓*i*P **Pn** **15 06 29.2 -1.0**
SNR=7.4
GTA Gaotai 19.83 77 ⇑P **P** **15 06 35.6 +1.0**
GTA pP **pP** **15 06 46.5 +1.8**
GTA sP **sP** **15 06 52.1 +2.2**
GTA PMZ
comp=N,15nm,1.0s
GTA PMZ
comp=N,840nm,4.3s
GTA LN
comp=N,2μm,14.2s
GTA LE
comp=N,990nm,13.3s
GTA LZ
comp=N,1μm,15.0s
WBK Wadi Bani Khal 20.00 227 ⇑P **Pn** **15 06 37.8 -0.6**
HATD Hatta, Dubai 20.16 237 ⇑P Pn 15 06 40.2 -0.1
HATD Hatta, Dubai 20.16 237 ⇑P Pn 15 06 39.4 -0.8
SMDO Samad 20.21 229 ⇓P Pn 15 06 40.0 -0.9
HYB Hyderabad 20.25 169 *i*P **P** **15 06 38.0 -1.1**
HYB *e* 15 10 14.0
HYB *e*S **S** **15 10 22.0 -2.1**
HYB Hyderabad 20.25 169 *e*P **P** **15 06 38.1 -1.1**
HOQ Hoqain 20.27 232 ⇑P Pn 15 06 41.1 -0.5
ASHO Ashiyiah 20.31 236 ⇑P **P** **15 06 40.3 +0.6**
SNR=8.6
ASHO Ashiyiah 20.31 236 ⇑*i*P **P** **15 06 40.2 +0.5**
SNR=7.8
JMDO Jabal Madar 20.70 228 ⇓P Pn 15 06 45.7 -0.9
MAK Makhachkala 21.38 293 *e*P **P** **15 06 50.7 -0.3**
MAK *e* 15 07 10.7
MAK *e*S **S** **15 10 46.9 +0.9**
MAK pmax pmax
comp=Z,194nm,1.5s
MAK MLR MLR
comp=Z,4μm,17.0s
SVE Sverdlovsk 21.52 339 *e*P **P** **15 06 52.4 0.0**
SVE *e*S **S** **15 10 43.2 -5.4**
SVE pmax pmax
comp=Z,48nm,1.1s
SVE MLR MLR
comp=Z,2μm,12.0s
ARU Arti 21.82 336 *d*⇓*i*P **P** **15 06 54.1 -1.6**
ARU PPP PPP 15 07 24.9
ARU S **S** **15 10 53.2 -1.4**
ARU pmax pmax
comp=Z,24nm,1.2s
ARU MLR MLR
comp=Z,2μm,16.0s
DGRG David-gareji 22.88 289 P **P** **15 07 10.8 +3.6**
DGRG S Sn 15 11 41.5 +10
TBLG Delisi 23.35 290 P P 15 07 17.7 +5.8
TBLG S Sn 15 11 41.1 -1.5
GNI Garni 23.38 286 *e*P **P** **15 07 15.8 +3.4**
GNI Garni 23.38 286 mb 15 07 35.3
SNR=16
GNI Garni 23.38 286 P **P** **15 07 11.7 -0.7**
comp=Z,7.9nm,0.5s,baz=324,slow=18,SNR=1.6
DUS Dusheti 23.39 291 P P 15 07 19.8 +7.5
DUS S Sn 15 11 43.1 -0.4
MOY Mondy 23.41 44 *e*P **P** **15 07 13.3 +0.9**
MOY pmax pmax
comp=Z,40nm,2.9s
LZH Lanzhou 23.42 84 *e*P **P** **15 07 13.1 +0.3**
LZH pP **pP** **15 07 25.3 +1.9**
LZH sP **sP** **15 07 31.5 +3.0**
LZH PP **PnPn** **15 07 45.3 +5.2**
LZH *e*S **S** **15 11 18.4 -4.9**
LZH sS **sS** **15 11 38.0 -3.8**
LZH SS **SnSn** **15 12 08.0 +7.0**
LZH PMZ
comp=Z,58nm,1.1s
LZH PMZ
comp=Z,280nm,5.4s
LZH LN
comp=Z,1μm,10.0s
LZH LE
comp=Z,880nm,10.2s
LZH LZ
comp=Z,1μm,14.0s
ZEI Tsey 24.00 292 *e*P **P** **15 07 19.2 +0.9**
ZEI pmax pmax
comp=Z,18nm,0.7s
ZAK Zakamensk 24.20 49 *e*P **P** **15 07 19.4 -0.4**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
NCK Nalchik 24.27 294 *e*P **P** **15 07 20.7 +0.3**
ONI Oni 24.33 292 P **P** **15 07 25.8 +4.7**
ONI S **S** **15 11 44.1 +6.6**
KBZ Khabaz 24.79 295 P **P** **15 07 24.1 -1.0**
comp=Z,3.5nm,0.8s,baz=133,slow=6.8,SNR=11
KBZ LR LR 15 18 35.0
comp=Z,808nm,19.1s,baz=89,slow=40
TLY Talaya 24.91 46 *e*P P 15 07 33.3 +7.1
TLY *e*S S 15 11 37.9 -8.6
TLY pmax pmax
comp=Z,6.0nm,0.8s
TLY MLR MLR
comp=Z,1μm,19.0s
TLY Talaya 24.91 46 LR LR 15 18 39.0
comp=Z,1μm,18.1s,baz=243,slow=40
CD2 Chengdu 24.92 96 *e*P **P** **15 07 27.8 +1.3**
CD2 pP **pP** **15 07 39.0 +1.4**
CD2 sP **sP** **15 07 45.1 +2.5**
CD2 PP **PnPn** **15 08 05.0 +4.4**
CD2 S **S** **15 11 47.4 +0.2**
CD2 sS **sS** **15 12 04.0 -1.7**
CD2 PMZ
comp=Z,10.0nm,0.9s
CD2 PMZ
comp=Z,270nm,5.4s
CD2 LN
comp=Z,920nm,11.2s
CD2 LE
comp=Z,1μm,13.1s
CD2 LZ
comp=Z,1μm,13.2s
SOKR Solikamsk 24.95 338 ⇓*i*P **P** **15 07 27.1 +0.7**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
SOKR MLR MLR
comp=Z,1μm,18.0s
KIV Kislovodsk 24.96 295 *e*P **P** **15 07 26.9 +0.1**
KIV *e*S **S** **15 11 49.9 +2.3**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,684nm,15.0s
SONM Songino Array 25.42 56 P **P** **15 07 31.5 +0.5**
comp=Z,8.5nm,0.6s,baz=253,slow=9.0,SNR=50
SONM PcP **PcP** **15 11 01.4 -0.9**
comp=Z,1.1nm,0.6s,baz=248,slow=3.9,SNR=3.1
SONM LR LR 15 18 26.7
comp=Z,1μm,19.8s,baz=256,slow=39
IRK Irkutsk 25.49 45 *e*P **P** **15 07 33.2 +1.8**
IRK *e* 15 08 14.9
IRK pmax pmax
comp=Z,32nm,1.2s
SHAO Shalim 25.53 226 P **P** **15 07 34.1 +2.0**
SNR=5.2
SHAO mb 15 07 37.2
SNR=6.7
ULN Ulaanbaatar 25.86 56 *e*P **P** **15 07 34.0 -1.0**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 25.86 56 mb 15 07 51.4
SNR=9.7
ULN Ulaanbaatar 25.86 56 *e*P **P** **15 07 33.7 -1.3**
comp=Z,12nm,0.9s
KMI Kunming 26.89 109 P **P** **15 07 45.4 +0.8**
KMI pP **pP** **15 07 57.8 +2.1**
KMI sP **sP** **15 08 03.8 +3.1**
KMI PP **PnPn** **15 08 31.5 +3.8**
KMI S **S** **15 12 16.8 -1.9**
KMI sS **sS** **15 12 35.4 -2.0**
KMI SS **SnSn** **15 13 30.1 +4.1**
KMI PMZ
comp=Z,14nm,0.5s
KMI PMZ
comp=Z,76nm,3.9s
KMI LN
comp=Z,730nm,14.5s
KMI LE
comp=Z,720nm,11.3s
KMI LZ
comp=Z,660nm,16.3s
SOC Sochi 27.09 294 *e*P **P** **15 07 45.7 -0.2**
SOC *e* 15 08 30.0
SOC *e*S **S** **15 12 22.6 +1.5**
SOC *e*SS **SnSn** **15 13 31.7 +1.6**
SOC pmax pmax
comp=Z,6.0nm,0.3s
SOC MLR MLR
comp=Z,662nm,12.0s
ABTO Aybut 27.42 229 P **P** **15 07 50.4 +1.2**
SNR=12
XAN Xi'an 27.97 87 P **P** **15 07 55.5 +1.5**
XAN pP **pP** **15 08 04.3 -0.8**
XAN S **S** **15 12 39.1 +3.8**
XAN PMZ
comp=Z,1.0nm,0.7s
XAN LN
comp=Z,640nm,19.4s
XAN LE
comp=Z,200nm,19.4s
XAN LZ
comp=Z,170nm,16.4s
MHMT Maesarieng 28.05 127 P **P** **15 07 56.1 +1.4**
comp=Z,8.2nm,0.8s,comp=Z,212nm
CRAI Chiangrai 28.21 120 P **P** **15 07 54.8 -1.4**
comp=Z,5.8nm,2.0s,comp=Z,5μm
CHTO Chiang Mai 28.24 124 *e*P **P** **15 07 58.0 +1.6**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 28.24 124 P P 15 07 59.4 +3.0
comp=Z,33nm,1.3s,comp=Z,951nm
CHTO Chiang Mai 28.24 124 *e*P **P** **15 07 58.0 +1.6**
comp=Z,5.1nm,0.8s
CMMT Chiang Mai 28.24 124 P **P** **15 07 59.3 +2.8**
comp=Z,9.6nm,1.3s,comp=Z,389nm
CMAR Chiang Mai Arr 28.49 125 *ce*P **P** **15 08 00.3 +1.6**
CMAR pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 28.49 125 P **P** **15 07 59.6 +0.9**
comp=Z,4.7nm,0.9s,baz=311,slow=10,SNR=29
CMAR PcP **PcP** **15 11 10.2 +0.4**
comp=Z,1.6nm,0.6s,baz=300,slow=3.5,SNR=5.6
CMAR ScP **ScP** **15 14 52.6 +5.0**
comp=Z,0.4nm,0.4s,baz=312,slow=4.2,SNR=4.2
HHC Hu-ho-hao-te 28.73 72 *e*P **P** **15 08 00.3 -0.4**
HHC PP **PnPn** **15 08 54.8 +2.4**
HHC S **S** **15 12 43.4 -3.8**
HHC sS **sS** **15 13 02.1 -3.8**
HHC SS **SnSn** **15 14 12.5 +2.2**
HHC PcS **PcS** **15 14 52.5 -0.3**
HHC PMZ
comp=Z,20nm,0.7s
HHC PMZ
comp=Z,150nm,4.5s
HHC LN
comp=Z,720nm,11.4s
HHC LE
comp=Z,500nm,11.9s
HHC LZ
comp=Z,560nm,11.7s
ANN Anapa 28.76 297 *e*P **P** **15 08 01.3 +0.5**
ANN *e* 15 08 53.7
ANN *e*PPP PPP 15 09 02.5
ANN *e*S **S** **15 12 48.4 +1.0**
ANN *e*SS **SnSn** **15 14 14.6 +3.8**
ANN *e*SSS SSS 15 14 30.4
ANN pmax pmax
comp=Z,19nm,0.8s
ANN MLR MLR
comp=Z,856nm,21.0s
GYA Guiyang 29.19 103 *e*P **P** **15 08 05.0 0.0**
GYA pP **pP** **15 08 18.3 +2.1**
GYA sP **sP** **15 08 25.6 +4.5**
GYA PP **PnPn** **15 09 01.4 +2.4**
GYA S **S** **15 12 52.8 -2.0**
GYA PMZ
comp=Z,10.0nm,0.8s
SLVN Son La 29.99 114 *e*P **P** **15 08 12.9 +0.8**
PRGR Permogore 30.19 333 *e*P **P** **15 08 12.3 -0.9**
PRGR pmax pmax
comp=Z,28nm,0.8s
PALK Pallekele 30.54 168 P **P** **15 08 17.8 +0.9**
comp=Z,7.9nm,0.6s,baz=352,slow=12,SNR=5.3
UTHA Uthaitani 30.96 128 P **P** **15 08 22.4 +1.9**
comp=Z,4.0nm,0.9s,comp=Z,46nm
KHLT Khaolaem Dam 31.01 130 P P 15 08 27.6 +6.6
SIM Simferopol' 31.12 297 P **P** **15 08 21.1 -0.6**
OBN Obninsk 31.17 317 *e*P **P** **15 08 22.2 +0.2**
OBN *e* 15 09 22.6
OBN pmax pmax
comp=Z,7.0nm,0.7s
OBN MLR MLR
comp=Z,621nm,16.0s
PBKT Sadao Pong 31.19 125 P **P** **15 08 23.8 +1.3**
comp=Z,11nm,0.8s
BRTR Keskin Array B 31.91 287 *ce*P **P** **15 08 29.7 +0.8**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 31.91 287 P **P** **15 08 29.8 +0.8**
comp=Z,7.0nm,0.8s,baz=103,slow=7.0,SNR=18
KLMR Klimovskoe 32.14 328 *e*P **P** **15 08 30.9 +0.4**
KLMR pmax pmax
comp=Z,27nm,1.2s
KLMR MLR MLR
comp=Z,925nm,10.0s
BJI Beijing 32.32 72 P **P** **15 08 31.8 -0.5**
BJI pP **pP** **15 08 42.8 -0.7**
BJI sP **sP** **15 08 47.8 -0.6**
BJI S S 15 13 49.4 +6.2
BJI ScS **ScS** **15 18 58.8 -0.1**
BJI PMZ
comp=Z,7.0nm,0.6s
BJI LN
comp=Z,540nm,12.7s
BJI LE
comp=Z,2μm,16.7s
BJI LZ
comp=Z,1μm,18.4s
CHAI Chaiyaphum 32.34 124 P **P** **15 08 34.1 +1.4**
comp=Z,4.6nm,1.1s
BOD Bodaibo 32.80 39 *e*P **P** **15 08 36.5 +0.2**
BOD pmax pmax
comp=Z,5.0nm,0.1s
NAYO Nakonayok 33.08 127 P **P** **15 08 41.0 +1.9**
comp=Z,10nm,1.3s,comp=Z,2μm
AKASG Malin Array Be 34.64 307 *ce*P **P** **15 08 54.4 +2.0**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 34.64 307 P **P** **15 08 51.9 -0.5**
comp=Z,1.7nm,0.4s,baz=80,slow=8.3,SNR=6.3
AKASG LR LR 15 25 19.7
comp=Z,384nm,20.6s,baz=125,slow=40
KIEV Kiev 34.65 307 *e*P **P** **15 08 52.0 -0.5**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 34.65 307 *e*P **P** **15 08 52.0 -0.5**
comp=Z,8.5nm,0.8s
QIZ Qiongzhong 35.78 111 P **P** **15 09 03.1 +0.5**
QIZ S **S** **15 14 36.8 -0.4**
QIZ LN
comp=Z,460nm,19.2s
QIZ LE
comp=Z,170nm,20.1s
QIZ LZ
comp=Z,550nm,19.6s
SURT Suratani 35.81 136 P **P** **15 09 03.8 +1.0**
comp=Z,8.3nm,1.1s
TESR Tescani 36.30 300 ⇓*i*P **P** **15 09 07.2 +0.5**
PLOR Plostina 36.34 299 ⇓*i*P **P** **15 09 08.7 +1.6**
NJ2 Nanjing 36.50 85 *e*P **P** **15 09 07.1 -1.4**
NJ2 S **S** **15 14 49.0 +1.2**
NJ2 PMZ
comp=Z,20nm,0.8s
NJ2 LN
comp=Z,1μm,16.4s
NJ2 LE
comp=Z,1μm,16.0s
NJ2 LZ
comp=Z,1μm,19.8s
JOF Joensuu 36.54 328 *e*P **P** **15 09 08.6 +0.1**
JOF pmax pmax
comp=Z,10.0nm,0.6s
JOF Joensuu 36.54 328 *ep* **P** **15 09 08.6 +0.1**
comp=Z,10nm,0.6s
JMB Yambol 36.76 293 ⇓*i*P **P** **15 09 12.7 +2.0**
VSU Vasula 37.28 320 *e*P **P** **15 09 14.9 0.0**
VSU pmax pmax
comp=Z,31nm,0.7s
VOIR 37.49 298 ⇓*i*P **P** **15 09 17.7 +0.7**
APA Apatity 37.92 336 ⇓*i*P P 15 09 28.6 +8.4
APA MLR MLR
comp=Z,3μm,14.0s
LVV L'vov 37.94 306 *e*P P 15 09 27.8 +7.2
LVV *e*S S 15 15 18.4 +9.0
LVV MLR MLR
comp=E,400nm,15.0s
LVV MLR MLR
comp=Z,400nm,15.0s
LVV MLR MLR
comp=N,400nm,14.0s
FINES FINESS Array B 38.35 325 P **P** **15 09 23.9 0.0**
comp=N,8.5nm,0.5s,baz=118,slow=10,SNR=30
FINES LR LR 15 25 55.2
comp=N,624nm,21.5s,baz=104,slow=37
LOT Lotru 38.39 298 ⇑*i*P **P** **15 09 25.7 +1.1**
KAF Kangasniemi 38.44 326 *e*P **P** **15 09 24.1 -0.5**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 38.44 326 *ep* **P** **15 09 24.1 -0.5**
comp=Z,4.4nm,0.6s
CN2 Changchun 38.60 64 *e*P P 15 09 30.1 +3.9
CN2 *e*S **S** **15 15 24.3 +4.7**
CN2 LN
comp=Z,1μm,14.0s
CN2 LE
comp=Z,740nm,14.0s
CN2 LZ
comp=Z,470nm,20.0s
DRGR 38.98 301 ⇓*i*P **P** **15 09 30.8 +1.3**
TRPA Tarpa 38.99 303 ⇓*i*P **P** **15 09 30.6 +1.2**
MMB Musomiste 39.01 292 ⇓*i*P **P** **15 09 30.0 +0.3**
GZR Gura Zlata 39.09 299 ⇓*i*P **P** **15 09 31.4 +1.0**
KOLS Kolonicke sedl 39.12 304 *e*P **P** **15 09 31.1 +0.6**
KOLS *e* 15 11 05.4
KOLS Kolonicke sedl 39.12 304 *e*P **P** **15 09 31.1 +0.6**
KOLS *e* 15 11 05.4
UZH Uzhgorod 39.12 304 *e*P **P** **15 09 31.4 +0.9**
UZH *e* 15 09 41.0
UZH *e*S **S** **15 15 27.4 +0.1**
VTS Vitosha 39.20 294 ⇓*i*P **P** **15 09 32.5 +1.1**
CRVS Cervenica-Dubn 39.66 304 *e*P **P** **15 09 37.6 +2.6**
CRVS *e* 15 11 11.4
CRVS Cervenica-Dubn 39.66 304 *e* **P** **15 09 37.5 +2.6**
CRVS *e* 15 11 11.4
IDI Anoyia 39.72 282 P **P** **15 09 36.1 +0.3**
comp=Z,2.2nm,0.4s,baz=108,slow=5.4,SNR=5.8
STHS Stebnicka Huta 39.77 305 *e*P **P** **15 09 35.9 0.0**
STHS *e* 15 11 06.3
STHS Stebnicka Huta 39.77 305 *e*P **P** **15 09 35.9 0.0**
STHS *e*PP **PP** **15 11 06.2 -1.4**
NIE Niedzica 40.37 305 *e*P **P** **15 09 42.5 +1.5**
NIE Niedzica 40.37 305 *e*P **P** **15 09 42.5 +1.5**
OJC Ojcow 40.66 306 *e*P **P** **15 09 43.9 +0.7**
OJC Ojcow 40.66 306 *e*P **P** **15 09 43.9 +0.7**
IPM Ipoh 40.74 137 *e*P **P** **15 09 42.4 -1.9**
comp=Z,4.9nm,0.6s
KEV Kevo 41.03 337 *e*P **P** **15 09 44.2 -1.8**
KEV pmax pmax

comp=Z,12nm,0.8s
KEV Kevo 41.03 337 *e*p **P 15 09 44.2 -1.8**
comp=Z,12nm,0.8s
ARCES ARCESS Array B 41.41 336 P **P 15 09 49.6 +0.4**
comp=Z,11nm,0.5s,baz=108,slow=8.4,SNR=54
ARCES LR LR 15 27 43.5
comp=Z,1μm,18.1s,baz=118,slow=37
MDJ Mudanjiang 41.42 62 P **P 15 09 48.9 -0.6**
MDJ pP **pP 15 10 00.1 -0.9**
MDJ sP **sP 15 10 05.3 -0.6**
MDJ PP **PP 15 11 24.4 -1.1**
MDJ S **S 15 16 01.0 -0.6**
MDJ sS **sS 15 16 20.0 -0.7**
MDJ ScS **ScS 15 19 49.4 -0.3**
MDJ PMZ
comp=Z,7.0nm,1.2s
MDJ PMZ
comp=Z,42nm,4.7s
MDJ LN
comp=Z,1μm,16.9s
MDJ LE
comp=Z,400nm,16.4s
MDJ LZ
comp=Z,620nm,16.9s
VYHS Vyhne 41.42 304 *e*P P 15 09 53.8 +4.2
VYHS *e* 15 11 27.2
VYHS Vyhne 41.42 304 *e* P 15 09 53.8 +4.2
VYHS *e*PP **PP 15 11 27.2 +1.6**
YAK Yakutsk 41.52 36 *e*P **P 15 09 53.1 +3.0**
YAK *e**PP **pP 15 10 03.2 +1.6**
YAK *e* 15 11 35.7
YAK *e*PPP PPP 15 12 02.3
YAK *e*S **S 15 16 08.2 +5.6**
YAK *e* 15 19 48.9
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,24nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK smax smax
comp=N,273nm,6.0s
YAK smax smax
comp=E,190nm,6.0s
YAK MLR MLR
comp=Z,1μm,13.0s
YAK MLR MLR
comp=E,483nm,12.0s
YAK MLR MLR
comp=N,250nm,16.0s
OKC Ostrava-Krasne 41.75 306 AMS AMS 15 30 40.0
comp=N,800nm,7.1s
KSAR Wonju Array Be 41.81 73 P **P 15 09 51.9 -1.0**
KSAR Wonju Array Be 41.81 73 P **P 15 09 51.9 -1.0**
KSRS Korea Array 41.84 73 P **P 15 09 51.9 -1.2**
KSRS pmax pmax
comp=Z,4.0nm,0.8s
KSRS MLR MLR
comp=Z,481nm,19.7s
KSRS Korea Array 41.84 73 P **P 15 09 51.9 -1.2**
comp=Z,4.4nm,0.8s,baz=285,slow=8.4,SNR=14
KSRS LR LR 15 29 49.9
comp=Z,481nm,19.7s,baz=45,slow=40
MORC Moravsky Berou 42.14 306 ⇑*i*P **P 15 09 56.2 +0.7**
DPC Dobruska-Polom 42.87 307 *e*P **P 15 10 02.2 +0.8**
DPC Dobruska-Polom 42.87 307 *e*P **P 15 10 02.2 +0.8**
DPC *ex* x 15 10 05.1
DPC AMS AMS 15 29 40.0
UPC Upice 43.05 307 *e*P **P 15 10 02.7 -0.1**
UPC Upice 43.05 307 *e*P **P 15 10 02.7 -0.1**
UPC *ex* x 15 10 06.5
USRK Ussuriysk Ar. 43.18 62 P **P 15 10 03.8 -0.1**
comp=Z,4.3nm,1.0s,baz=275,slow=8.8,SNR=7.5
CONA Conrad Observa 43.47 303 ⇑*i*P **P 15 10 07.3 +1.0**
comp=Z,9.1nm,1.0s
TREC Trest 43.53 305 AMS AMS 15 31 10.0
comp=Z,500nm,16.6s
TIXI Tiksi 43.82 22 *ce*P **P 15 10 08.4 -0.3**
TIXI pmax pmax
comp=Z,9.0nm,0.6s
PRU Pruhonice 44.05 306 *e*P **P 15 10 12.3 +1.5**
PRU MLR MLR
comp=Z,700nm,14.1s
PRU Pruhonice 44.05 306 *e*P **P 15 10 12.3 +1.5**
PRU AMS AMS 15 31 50.0
comp=Z,700nm,14.1s
SOKA Soboth 44.23 302 ⇑*i*P **P 15 10 13.3 +0.9**
comp=Z,9.1nm,0.7s
BRG Berggiesshubel 44.32 308 *e*P **P 15 10 13.1 +0.1**
comp=Z,6.1nm,1.1s
BRG S **S 15 16 48.0 +3.9**
BRG Berggiesshubel 44.32 308 *e*P **P 15 10 13.1 +0.1**
BRG S **S 15 16 48.0 +3.9**
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG MLR MLR
comp=N,588nm,12.8s
BRG MLR MLR
comp=E,685nm,14.4s
BRG MLR MLR
comp=Z,1μm,11.6s
GERES GERESS Array B 44.75 305 P **P 15 10 17.1 +0.6**
comp=Z,0.9nm,0.5s,baz=62,slow=6.2,SNR=8.2
GERES LR LR 15 30 10.1
comp=Z,361nm,18.7s,baz=92,slow=38
TIP Timpagrande 44.76 291 *e*P **P 15 10 16.6 -0.1**
comp=Z,6.1nm,1.0s
KHC Kasperske Hory 44.79 305 *e*P **P 15 10 17.5 +0.7**
KHC pmax pmax
comp=Z,9.0nm,1.0s
KHC Kasperske Hory 44.79 305 *e*P **P 15 10 17.3 +0.5**
KHC *ex* x 15 10 24.0
KHC AMS AMS 15 31 00.0
comp=Z,600nm,11.5s
KHC Kasperske Hory 44.79 305 *e*P **P 15 10 17.5 +0.7**
comp=Z,9.2nm,1.0s
CLL Collm 44.86 308 *e*P **P 15 10 17.0 -0.2**
CLL *i* 15 10 26.7
CLL pmax pmax
comp=Z,5.0nm,0.6s
CLL Collm 44.86 308 *e*P **P 15 10 17.0 -0.2**
comp=Z,5.0nm,0.6s
CLL *i* (pP) **pP 15 10 26.7 -2.1**
comp=Z,16nm,1.2s
CLL *e*PP **PP 15 12 04.0 +1.7**
CUC Castrocucco 45.22 292 *e*P **P 15 10 20.8 +0.4**
comp=Z,17nm,0.8s
NB2 NORSAR Subarra 45.38 322 P **P 15 10 20.9 -0.5**
comp=Z,7.6nm,0.6s,baz=92,slow=7.9
NOA NORSAR Array B 45.38 322 P **P 15 10 20.8 -0.5**
comp=Z,2.5nm,0.5s,baz=92,slow=7.7,SNR=14
NOA LR LR 15 30 25.7
comp=Z,577nm,19.0s,baz=80,slow=38
JNU Nakatsue 45.56 78 P **P 15 10 23.4 +0.3**
comp=Z,14nm,0.7s,baz=337,slow=7.0,SNR=8.8
GRF Grafenberg Arr 46.22 306 *e*P **P 15 10 30.4 +2.3**
comp=Z,10.0nm,0.9s
DAVA Damuels 47.56 303 ⇑*i*P **P 15 10 38.5 -0.3**
comp=Z,21nm,1.0s
TUE Stuetta 48.11 303 P **P 15 10 43.9 +0.8**
comp=Z,4.9nm,0.6s
CDF Champ du Feu 49.02 305 *e*P **P 15 10 50.0 +0.1**
CDF Champ du Feu 49.02 305 *e*P **P 15 10 50.0 +0.1**
CDF Champ du Feu 49.02 305 *e*P **P 15 10 50.0 +0.1**
PGF Pioggiola 49.40 298 *e*P **P 15 10 52.8 -0.1**
PGF Pioggiola 49.40 298 *e*P **P 15 10 52.8 -0.1**
PGF Pioggiola 49.40 298 *e*P **P 15 10 52.8 -0.1**
HINF Hinteralfeld 49.43 305 *e*P **P 15 10 52.9 -0.1**
comp=Z,14nm,0.8s
HINF Hinteralfeld 49.43 305 *e*P **P 15 10 52.9 -0.1**
HINF pmax pmax
comp=Z,14nm,0.8s
HINF Hinteralfeld 49.43 305 *e*P **P 15 10 52.9 -0.1**
comp=Z,14nm,0.8s
MAJO Matsushiro 49.92 71 *e*P **P 15 10 55.6 -1.2**
MAJO pmax pmax
comp=Z,18nm,0.9s
MAJO Matsushiro 49.92 71 *e*P **P 15 10 55.6 -1.2**
comp=Z,18nm,0.9s
MAT Matsushiro 49.92 71 P **P 15 10 56.0 -0.8**
MAT S **S 15 18 05.0 +0.8**
MJAR Matsushiro Arr 49.92 71 P **P 15 10 56.7 -0.1**
comp=Z,11nm,0.9s,baz=288,slow=9.3,SNR=23
PAGF Fort de Pagny 49.98 306 *e*P **P 15 10 57.1 0.0**
comp=Z,3.2nm,0.5s
PAGF Fort de Pagny 49.98 306 *e*P **P 15 10 57.1 0.0**
comp=Z,3.2nm,0.5s
SBF Sospel 50.10 300 *e*P **P 15 10 58.7 +0.5**
comp=Z,40nm,0.8s
SBF Sospel 50.10 300 *e*P **P 15 10 58.7 +0.5**
SBF pmax pmax
comp=Z,41nm,0.8s
SBF Sospel 50.10 300 *e*P **P 15 10 58.7 +0.5**
comp=Z,40nm,0.8s
LPG La Plagne 50.11 302 *e*P **P 15 10 59.1 +0.6**
comp=Z,27nm,0.8s
LPG La Plagne 50.11 302 *e*P **P 15 10 59.1 +0.6**
LPG pmax pmax
comp=Z,27nm,0.8s
LPG La Plagne 50.11 302 *e*P **P 15 10 59.1 +0.6**
comp=Z,27nm,0.8s
LPL La Plagne 50.11 302 *e*P **P 15 10 58.9 +0.5**
comp=Z,28nm,0.9s
LPL La Plagne 50.11 302 *e*P **P 15 10 58.9 +0.5**
LPL pmax pmax
comp=Z,28nm,0.9s
LPL La Plagne 50.11 302 *e*P **P 15 10 58.9 +0.5**
comp=Z,28nm,0.9s
GIVF Givet 50.19 308 *e*P **P 15 10 58.1 -0.5**
GIVF Givet 50.19 308 *e*P **P 15 10 58.1 -0.5**
GIVF Givet 50.19 308 *e*P **P 15 10 58.1 -0.5**
CABF La Chapelle 50.25 303 *e*P **P 15 10 59.4 +0.1**
comp=Z,16nm,0.8s
CABF La Chapelle 50.25 303 *e*P **P 15 10 59.4 +0.1**
CABF pmax pmax
comp=Z,16nm,0.8s
CABF La Chapelle 50.25 303 *e*P **P 15 10 59.4 +0.1**
comp=Z,16nm,0.8s
BNI Bardonecchia 50.28 301 *e*P **P 15 10 59.8 +0.2**
BNI pmax pmax
comp=Z,11nm,1.0s
BNI Bardonecchia 50.28 301 *e*P **P 15 10 59.8 +0.2**
comp=Z,11nm,1.0s
MBDF Montbardon 50.31 301 *e*P **P 15 10 59.6 -0.2**
comp=Z,16nm,0.8s
MBDF Montbardon 50.31 301 *e*P **P 15 10 59.6 -0.2**
MBDF pmax pmax
comp=Z,16nm,0.8s
MBDF Montbardon 50.31 301 *e*P **P 15 10 59.6 -0.2**
comp=Z,16nm,0.8s
SFTF Sexfontaines 50.52 306 *e*P **P 15 11 00.8 -0.4**
SFTF Sexfontaines 50.52 306 *e*P **P 15 11 00.8 -0.4**
BAIF Baives 50.58 308 *e*P **P 15 11 01.5 -0.1**
comp=Z,12nm,0.8s
BAIF Baives 50.58 308 *e*P **P 15 11 01.5 -0.1**
BAIF pmax pmax
comp=Z,12nm,0.8s
BAIF Baives 50.58 308 *e*P **P 15 11 01.5 -0.1**
comp=Z,12nm,0.8s
FRF La Foret Royal 50.74 300 *e*P **P 15 11 02.3 -0.6**
comp=Z,12nm,0.7s
FRF La Foret Royal 50.74 300 *e*P **P 15 11 02.3 -0.6**
FRF pmax pmax
comp=Z,12nm,0.7s
FRF La Foret Royal 50.74 300 *e*P **P 15 11 02.3 -0.6**
comp=Z,12nm,0.7s
ORIF Oris-en-Rattie 50.86 301 *e*P **P 15 11 03.5 -0.4**
comp=Z,15nm,0.9s
ORIF *e*R
comp=Z,652nm,22.2s
ORIF Oris-en-Rattie 50.86 301 *e*P **P 15 11 03.5 -0.4**
ORIF pmax pmax
comp=Z,15nm,0.9s
ORIF Oris-en-Rattie 50.86 301 *e*P **P 15 11 03.5 -0.4**
comp=Z,15nm,0.9s
LMR La Mourre 50.91 299 *e*P **P 15 11 04.2 +0.1**
comp=Z,10nm,0.9s
LMR La Mourre 50.91 299 *e*P **P 15 11 04.2 +0.1**
LMR pmax pmax
comp=Z,10.0nm,0.9s
LMR La Mourre 50.91 299 *e*P **P 15 11 04.2 +0.1**
comp=Z,10nm,0.9s
SMRF Simiane la Rot 51.35 300 *e*P **P 15 11 07.2 -0.4**
SMRF Simiane la Rot 51.35 300 *e*P **P 15 11 07.2 -0.4**
KEST Kesra 51.47 289 P **P 15 11 09.0 +0.4**
comp=Z,1.3nm,0.6s,baz=219,slow=1.7,SNR=6.2
KEST LR LR 15 36 30.6
comp=Z,77nm,20.9s,baz=257,slow=40
LOR Lormes 51.54 305 *e*P **P 15 11 08.3 -0.6**
comp=Z,8.2nm,0.7s
LOR *e*R
comp=Z,420nm,18.0s
LOR Lormes 51.54 305 *e*P **P 15 11 08.3 -0.6**
LOR pmax pmax
comp=Z,8.0nm,0.7s
LOR Lormes 51.54 305 *e*P **P 15 11 08.3 -0.6**
comp=Z,8.2nm,0.7s
KMBO Kilima Mbogo 51.63 231 P **P 15 11 11.1 +0.9**
comp=Z,1.4nm,0.4s,baz=37,slow=11,SNR=6.0
KMBO LR LR 15 34 46.6
comp=Z,178nm,20.8s,baz=97,slow=38
KMBO Kilima Mbogo 51.63 231 *e*P **P 15 11 10.7 +0.6**
comp=Z,1.9nm,0.6s
SMF Signal de Mont 51.73 304 *e*P **P 15 11 09.5 -0.8**
SMF Signal de Mont 51.73 304 *e*P **P 15 11 09.5 -0.8**
SMF Signal de Mont 51.73 304 *e*P **P 15 11 09.5 -0.8**
SSF Saint Saulge 51.83 305 *e*P **P 15 11 10.7 -0.3**
comp=Z,9.3nm,0.7s
SSF Saint Saulge 51.83 305 *e*P **P 15 11 10.7 -0.3**
SSF pmax pmax
comp=Z,9.0nm,0.7s
SSF Saint Saulge 51.83 305 *e*P **P 15 11 10.7 -0.3**
comp=Z,9.3nm,0.7s
AVF Avril sur Loir 52.00 304 *e*P **P 15 11 11.5 -0.8**
comp=Z,25nm,0.9s
AVF Avril sur Loir 52.00 304 *e*P **P 15 11 11.5 -0.8**
AVF pmax pmax
comp=Z,25nm,0.9s
AVF Avril sur Loir 52.00 304 *e*P **P 15 11 11.5 -0.8**
comp=Z,25nm,0.9s
LASF Ste Croix 52.50 301 *e*P **P 15 11 14.9 -1.2**
comp=Z,27nm,1.1s
LASF Ste Croix 52.50 301 *e*P **P 15 11 14.9 -1.2**
comp=Z,27nm,1.1s
TCF Toulx Ste Croi 52.91 304 *e*P **P 15 11 18.6 -0.5**
comp=Z,15nm,0.8s
TCF Toulx Ste Croi 52.91 304 *e*P **P 15 11 18.6 -0.5**
TCF pmax pmax
comp=Z,15nm,0.8s
TCF Toulx Ste Croi 52.91 304 *e*P **P 15 11 18.6 -0.5**
comp=Z,15nm,0.8s
CAF Calviac 53.44 302 *e*P **P 15 11 22.7 -0.3**
comp=Z,19nm,1.1s
CAF Calviac 53.44 302 *e*P **P 15 11 22.7 -0.3**
CAF pmax pmax
comp=Z,19nm,1.1s
CAF Calviac 53.44 302 *e*P **P 15 11 22.7 -0.3**
comp=Z,19nm,1.1s
RJF Les Rejaudoux 53.68 303 *e*P **P 15 11 24.5 -0.2**
RJF *e*R
comp=Z,342nm,23.0s
RJF Les Rejaudoux 53.68 303 *e*P **P 15 11 24.5 -0.2**
RJF Les Rejaudoux 53.68 303 *e*P **P 15 11 24.5 -0.2**
LDF La Druitiere 53.71 307 *e*P **P 15 11 24.6 -0.3**
comp=Z,18nm,0.6s
LDF La Druitiere 53.71 307 *e*P **P 15 11 24.6 -0.3**
LDF pmax pmax
comp=Z,18nm,0.6s
LDF La Druitiere 53.71 307 *e*P **P 15 11 24.6 -0.3**
comp=Z,18nm,0.6s
MTLF Montolieu 53.86 301 *e*P **P 15 11 25.7 -0.4**
comp=Z,13nm,0.9s
MTLF Montolieu 53.86 301 *e*P **P 15 11 25.7 -0.4**
MTLF pmax pmax
comp=Z,13nm,0.9s
MTLF Montolieu 53.86 301 *e*P **P 15 11 25.7 -0.4**
comp=Z,13nm,0.9s
FLN La Foliniere 53.88 308 *e*P **P 15 11 25.9 -0.2**
FLN *e*R
comp=Z,346nm,19.8s
FLN La Foliniere 53.88 308 *e*P **P 15 11 25.9 -0.2**
FLN La Foliniere 53.88 308 *e*P **P 15 11 25.9 -0.2**
GRR Gorron 54.24 307 *e*P **P 15 11 27.7 -1.0**
comp=Z,36nm,1.0s
GRR Gorron 54.24 307 *e*P **P 15 11 27.7 -1.0**
GRR pmax pmax
comp=Z,36nm,1.0s
GRR Gorron 54.24 307 *e*P **P 15 11 27.7 -1.0**
comp=Z,36nm,1.0s
DAG Danmarks Havn 54.64 344 *i* P **P 15 11 30.9 -0.3**
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 54.64 344 *i* P **P 15 11 30.9 -0.3**
comp=Z,7.0nm,0.8s
ETSF Etsaut 55.92 301 *e*P **P 15 11 41.4 +0.3**
comp=Z,11nm,0.8s
ETSF Etsaut 55.92 301 *e*P **P 15 11 41.4 +0.3**
ETSF pmax pmax
comp=Z,11nm,0.8s
ETSF Etsaut 55.92 301 *e*P **P 15 11 41.4 +0.3**
comp=Z,11nm,0.8s
BILL Bilibino 56.48 27 *e*P **P 15 11 46.5 +1.9**
BILL *e* 15 12 42.5
BILL pmax pmax
comp=Z,6.0nm,1.2s
BILL MLR MLR
comp=Z,6μm,20.0s
ESDC Sonseca Array 59.56 299 P **P 15 12 06.8 +0.1**
comp=Z,0.5nm,0.4s,baz=65,slow=6.8,SNR=7.2
ESDC LR LR 15 40 15.1
comp=Z,90nm,19.6s,baz=155,slow=38
TAM Tamanrasset 60.30 277 *e*P **P 15 12 12.1 0.0**
TAM Tamanrasset 60.30 277 *e*P **P 15 12 12.1 0.0**
SUMG Summit 61.10 342 *i* P **P 15 12 17.7 +0.7**
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG Summit 61.10 342 *i* P **P 15 12 17.7 +0.7**
comp=Z,12nm,0.9s
SUMG Summit 61.10 342 *e*P **P 15 12 16.8 -0.2**
comp=Z,14nm,0.9s
SOEI Soe 66.05 125 *e*P **P 15 12 48.3 -1.8**
comp=Z,26nm,0.8s
ILULI Ilulissat 66.44 342 *i* P **P 15 12 51.7 0.0**
ILULI pmax pmax
comp=Z,9.0nm,0.8s
ILULI Ilulissat 66.44 342 *i* P **P 15 12 51.7 0.0**
comp=Z,9.4nm,0.8s
TNA Tin City 66.56 24 *e*P **P 15 12 52.3 -0.2**
comp=Z,5.6nm,1.0s
TORD Torodi Ar. Bea 68.61 270 P **P 15 13 05.3 -1.1**
comp=Z,3.8nm,0.4s,baz=46,slow=5.7,SNR=51
TORD LR LR 15 46 51.9
comp=Z,213nm,19.0s,baz=60,slow=39
COLD Coldfoot 70.26 17 P **P 15 13 14.4 -1.3**
comp=Z,5.2nm,0.8s
MBWA Marble Bar 72.12 136 *e*P **P 15 13 27.6 +0.1**
comp=Z,9.1nm,0.8s
COLA College 72.74 18 *e*P **P 15 13 30.4 -0.2**
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA College 72.74 18 *e*P **P 15 13 30.4 -0.2**
comp=Z,5.9nm,0.8s
ILAR Eielson Array 73.05 17 P **P 15 13 31.5 -1.0**
comp=Z,2.1nm,0.8s,baz=320,slow=4.8,SNR=25
FITZ Fitzroy Crossi 73.19 129 *e*P **P 15 13 34.2 +0.3**
comp=Z,5.4nm,1.1s
MCK McKinley 73.41 19 P **P 15 13 34.3 -0.4**
MCK pmax pmax
comp=Z,2.0nm,0.6s
MCK McKinley 73.41 19 P **P 15 13 34.2 -0.4**
comp=Z,2.2nm,0.6s
PAX Paxson 74.91 18 *e*P **P 15 13 42.5 -1.0**
PAX pmax pmax
comp=Z,4.0nm,0.7s
PAX Paxson 74.91 18 *e*P **P 15 13 42.5 -1.0**
comp=Z,4.2nm,0.7s
DAWY Dawson 75.31 15 *e*P **P 15 13 45.2 -0.6**
RC01 Rabbit Creek A 75.37 21 *e*P **P 15 13 45.5 -0.6**
BMRM Bremner River 76.84 18 *e*P **P 15 13 56.9 +2.4**
LBTB Lobatse 77.34 225 *e*P **P 15 13 57.7 -0.1**
LBTB pmax pmax
comp=Z,13nm,1.0s
LBTB Lobatse 77.34 225 *e*P **P 15 13 57.6 -0.1**
comp=Z,12nm,1.0s
DBIC Dimbokro 77.62 269 P **P 15 13 59.4 -0.2**
DBIC pmax pmax
comp=Z,3.0nm,0.5s
DBIC MLR MLR
comp=Z,232nm,18.0s
DBIC Dimbokro 77.62 269 P **P 15 13 59.4 -0.2**
comp=Z,3.4nm,0.5s,baz=24,slow=6.1,SNR=8.0
DBIC LR LR 15 51 56.7
comp=Z,232nm,18.0s,baz=28,slow=39
DBIC Dimbokro 77.62 269 *e*P **P 15 13 58.6 -0.9**
comp=Z,4.9nm,0.8s
KIC Kosan Boka 77.71 269 *e*P **P 15 14 00.3 +0.2**
comp=Z,12nm,0.5s
TIC Toumodi 77.76 269 *e*P **P 15 14 00.5 +0.1**
comp=Z,12nm,0.2s
LIC Lamto 78.02 269 *e*P **P 15 14 00.6 -1.2**
comp=Z,7.6nm,0.5s
LIC *e*R
comp=Z,413nm,22.8s
LIC Lamto 78.02 269 *e*P **P 15 14 01.9 +0.1**
comp=Z,14nm,0.5s
LIC Lamto 78.02 269 *e*P **P 15 14 00.6 -1.2**
comp=Z,7.6nm,0.5s
HYT Haines Junctio 78.61 15 *e*P **P 15 14 04.5 +0.1**
WRA Warramunga Arr 80.09 124 P **P 15 14 13.2 +0.3**
comp=Z,4.9nm,0.9s,baz=325,slow=5.1,SNR=22
WB2 Warramunga Arr 80.09 124 *e*P **P 15 14 12.9 0.0**
YKA Yellowknife Ar 80.13 4 P **P 15 14 11.9 -0.6**
comp=Z,3.4nm,0.7s,baz=347,slow=5.5,SNR=53
SCHQ Schefferville 82.32 339 P **P 15 14 23.6 -0.8**
comp=Z,1.1nm,0.5s,baz=212,slow=2.6,SNR=3.6
ASAR Alice Springs 82.47 127 P **P 15 14 25.6 +0.1**
comp=Z,2.1nm,0.7s,baz=312,slow=5.2,SNR=18
ULM Lac du Bonnet 92.28 354 P **P 15 15 11.8 -1.0**
comp=Z,1.3nm,0.5s,baz=337,slow=5.3,SNR=3.7
TRQA Tornquist 145.90 255 *e*PKP **PKPab 15 21 42.4 -0.3**
LCO Las Campanas 149.92 276 *e*PKPbc **PKPbc 15 21 54.3 +0.8**

*DJA **23** 15:03:48.1±0.6, 4°S±8°×13°4E±°, h148km±14km, M3.8/4, mb3.9/3, MLv3.8/4*
ISC 23 15:03:48.6±2.6, 4°0S±0°1×134°0E±0°2, h35km, n8, σ1°31/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.04**	**302**	P	**Pn**	**15 04 19.2**	**-1.3**
FAKI				S	**Sn**	**15 04 46.0**	**+1.2**
BNDI	**Bandanaira**	**4.09**	**263**	P	**Pn**	**15 04 49.5**	**+0.8**
BNDI				S	**Sn**	**15 05 35.9**	**+0.4**
KDU	**Kakadu**	**8.74**	**190**	P	**Pn**	**15 05 53.6**	**+1.1**
	baz=6.5,SNR=21						
KDU				S	**Sn**	**15 07 29.3**	**-0.7**
	baz=6.5,SNR=3.4						
MTN	**Manton Dam**	**9.21**	**198**	P	**Pn**	**15 05 59.7**	**+0.7**
	baz=6.9,SNR=22						
MTN				S	**Sn**	**15 07 40.2**	**-1.3**
	baz=6.9,SNR=5.8						
KNRA	**Kununurra**	**12.67**	**204**	P	**Pn**	**15 06 45.3**	**-1.1**
	baz=10,SNR=13						
WSI	**Waingapu**	**14.69**	**247**	P	P	15 07 25.4	+5.7
	baz=13,SNR=4.1						
FITZ	**Fitzroy Crossi**	**16.20**	**210**	P	**Pn**	**15 07 32.8**	**-0.9**
	baz=14,SNR=6.2						
WRKA	**Warakurna**	**21.60**	**194**	P	**P**	**15 08 37.7**	**+2.0**
	baz=19,SNR=3.2						

MAN 23 15:06:57, 8°52N×125°52E, h57km, mb4.9, ML3.8, MS3.8, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.46**	**13**	*e*P	Pn	15 07 10.6	+2.2
BUTP				*e*S	Sn	15 07 22.0	+5.5
BUKP	**Musuan**	**0.78**	**216**	*e*P	Pn	15 07 13.9	+1.7
BUKP				*e*S	Sn	15 07 26.8	+3.6
BIPH	**Bislig**	**0.90**	**112**	⇓*i*P	Pn	15 07 13.6	+0.1
BIPH				*i* S	Sn	15 07 27.6	+1.8
SCPH	**Surigao**	**1.26**	**359**	‖*e*P	Pn	15 07 19.2	+0.8
MATI	**Mati**	**1.72**	**155**	*e*P	Pn	15 07 15.8	-8.9
MATI				*e*S	Sn	15 07 36.2	-9.4
CTBH	**Cotabato--PC H**	**1.80**	**224**	⇑*i*P	Pn	15 07 26.8	+1.0
CTBH				*i* S	Sn	15 07 49.4	+1.9
DCPH	**Dipolog City**	**2.14**	**272**	*e*P	Pn	15 07 32.1	+1.7
DCPH				*e*S	Sn	15 07 59.5	+3.7
PAGZ	**Pagadian**	**2.22**	**253**	*e*P	Pn	15 07 34.6	+3.2

*IDC **23** 15:15:37.6±2.0, 37°.49N×74°.42E, h0km, mb3.3/2, mb1 3.3/6, mb1mx3.2/33, mbtmp3.3/6, ML2.7/4, Error ellipse: s-maj=45.8km s-min=23.6km az=134.0*
*NNC **23** 15:15:41.9±1.8, 37°.57N×74°.33E, h0km, mb4.1, mpv3.7,*

Error ellipse: s-maj=20.4km s-min=6.9km az=32.0
ISCJB ***23*** *15:15:42.0±1.3,37.°5N±0.°1×74.°5E±0.°1, h50km, mb3.1/2, Error ellipse: s-maj=15.6km s-min=13.2km az=8.2*
ISC 23 15:15:43.5±1.6, 37.°5N±0.°1×74.°5E±0.°1, h50km, n10, σ1§74/11, 4C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**4.69**	**289**	⇑Pn	**Pn**	**15 16 51.2**	**-0.7**
DZET				⇑Lg	Lg	15 17 48.8	
DZET				⇑Rg	Rg	15 18 06.0	
AAK	**Ala-Archa**	**5.18**	**360**	Pn	**Pn**	**15 17 00.7**	**+2.1**
	0.6nm,0.3s,baz=152,slow=9.0,SNR=11						
TKM2	**Tokmak 2**	**5.53**	**8**	⇑P	**Pn**	**15 17 04.3**	**+0.9**
	7.0nm,0.3s						
KK31	**Karatay Array**	**6.43**	**333**	⇓P	**Pn**	**15 17 15.8**	**+0.2**
	1.1nm,0.3s,baz=145,slow=12,SNR=56						
KK31				⇓S	**Sn**	**15 18 28.7**	**+1.1**
	5.7nm,0.6s,baz=145,slow=21						
MKAR	**Makanchi Array**	**10.97**	**29**	Pn	**Pn**	**15 18 17.2**	**-0.6**
	0.1nm,0.3s,baz=183,slow=10,SNR=3.5						
KURBB	**Kurchatov Arra**	**13.48**	**11**	Pn	**Pn**	**15 18 49.0**	**-3.0**
	0.0nm,0.3s,baz=195,slow=10,SNR=3.5						
BVAR	**Borovoye Array**	**15.84**	**351**	Pn	**P**	**15 19 25.5**	**-0.5**
	0.4nm,0.3s,baz=160,slow=9.6,SNR=13						
ZALV	**Zalesovo Beam**	**17.97**	**20**	P	**Pn**	**15 19 47.0**	**-2.5**
	0.2nm,0.3s,baz=195,slow=11,SNR=5.1						
SONM	**Songino Array**	**25.47**	**56**	P	**P**	**15 21 08.1**	**+1.1**
	0.4nm,0.7s,baz=251,slow=9.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**68.55**	**270**	P	**P**	**15 26 41.8**	**+0.6**
	0.1nm,0.4s,baz=42,slow=5.5,SNR=2.6						

IDC ***23*** *15:19:40.5±1.1, 37.°2N×74.°55E, h0km, mb3.7/7, mb1 3.8/12, mb1mx3.6/34, mbtmp3.7/12, ML3.1/5, Error ellipse: s-maj=21.7km s-min=19.0km az=172.0*
BJI ***23*** *15:19:44.1, 37.°51N×74.°76E, h10km, mb3.8/3, ML3.4/5*
NNC ***23*** *15:19:46.5±1.9, 37.°57N×74.°40E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=18.2km s-min=8.6km az=107.0*
ISC 23 15:19:46.3±0.7, 37.°59N±0.°06×74.°52E±0.°06, h10km, n27, σ2§04/25, mb3.7/7, 4C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.24**	**30**	Pg	Pn	15 20 15.1	-8.4
KSH				Sg	Sn	15 20 36.1	-15
KSH				SMN			
	300nm,1.0s						
KSH				SME			
	200nm,0.7s						
CHCP	**Chirah Chowk**	**4.05**	**195**	P	**Pn**	**15 20 49.7**	**+1.3**
CEP	**Cherat**	**4.32**	**210**	P	**Pn**	**15 20 53.0**	**+0.9**
CEP				S	**Sb**	**15 21 55.0**	**+0.5**
DZET	**Dzherino**	**4.64**	**287**	⇑Pn	**Pn**	**15 20 56.8**	**+0.2**
DZET				⇑Pg	**Pb**	**15 21 09.7**	**+1.9**
DZET				⇓Sn	**Sn**	**15 21 53.6**	**+3.0**
DZET				⇑Lg	Lg	15 22 09.2	
AAK	**Ala-Archa**	**5.04**	**360**	Pn	**Pn**	**15 21 04.8**	**+2.8**
	0.6nm,0.3s,baz=184,slow=15,SNR=9.5						
AAK				Lg	Lg	15 22 25.7	
	0.8nm,0.3s,baz=309,slow=18,SNR=3.2						
THW	**Thamme Wali**	**5.30**	**206**	P	**Pn**	**15 21 05.9**	**+0.4**
TKM2	**Tokmak 2**	**5.39**	**8**	⇑Pn	**Pn**	**15 21 09.4**	**+2.5**
	11nm,0.5s						
TKM2				⇓Lg	Lg	15 22 11.3	
	23nm,0.8s						
KK31	**Karatay Array**	**6.30**	**332**	P	**Pn**	**15 21 20.3**	**+1.1**
	2.8nm,0.4s,baz=141,slow=13,SNR=66						
KK31				S	**Sn**	**15 22 33.8**	**+2.5**
	14nm,0.7s,baz=146,slow=22,SNR=7.3						
MKAR	**Makanchi Array**	**10.85**	**30**	Pn	**Pn**	**15 22 22.9**	**+1.4**
	0.1nm,0.3s,baz=203,slow=13,SNR=7.8						
DANN	**Dangsing**	**12.04**	**137**	*e*P	Pn	15 22 31.5	-6.7
	12nm,0.6s						
KOLN	**Koldanda**	**12.42**	**139**	*e*P	Pn	15 22 36.8	-6.5
	11nm,0.6s						
GKN	**Gorkha**	**12.79**	**135**	*e*P	Pn	15 22 41.6	-6.8
	11nm,0.5s						
GEYT	**Alibeck**	**12.99**	**277**	Pn	**Pn**	**15 22 51.0**	**+0.1**
	0.4nm,0.3s,baz=98,slow=10,SNR=4.0						
KURBB	**Kurchatov Arra**	**13.34**	**11**	Pn	**Pn**	**15 22 55.8**	**+0.2**
	0.0nm,0.3s,baz=198,slow=12,SNR=4.8						
GUN	**Gumba**	**13.57**	**132**	*e*P	Pn	15 22 52.0	-7.2
	4.5nm,0.4s						
TAPN	**Taplejung**	**15.09**	**129**	*e*P	Pn	15 23 11.4	-8.4
	7.1nm,0.7s						
BVAR	**Borovoye Array**	**15.70**	**351**	Pn	**Pn**	**15 23 28.4**	**+0.9**
	0.6nm,0.3s,baz=151,slow=8.9,SNR=20						
AKTO	**Aktyubinsk**	**17.43**	**323**	P	**Pn**	**15 23 48.1**	**-1.3**
	0.3nm,0.3s,baz=121,slow=21,SNR=6.6						
ZALV	**Zalesovo Beam**	**17.84**	**20**	P	**Pn**	**15 23 51.6**	**-2.7**
	0.5nm,0.3s,baz=200,slow=11,SNR=12						
GTA	**Gaotai**	**19.87**	**77**	*e*P	**P**	**15 24 18.3**	**+0.6**
GTA				pP	**pP**	**15 24 22.1**	**+1.6**
GTA				sP	**sP**	**15 24 25.3**	**+3.5**
GTA				PMZ			
	3.0nm,1.0s						
KBZ	**Khabaz**	**24.66**	**294**	P	**P**	**15 25 05.5**	**-1.6**
	0.7nm,0.6s,baz=135,slow=8.2,SNR=4.1						
SONM	**Songino Array**	**25.40**	**56**	P	**P**	**15 25 11.8**	**-2.1**
	1.6nm,0.8s,baz=252,slow=9.7,SNR=10						
CMAR	**Chiang Mai Arr**	**28.64**	**125**	P	P	15 25 36.5	-6.6
	0.1nm,0.3s,baz=309,slow=9.1,SNR=2.8						
BRTR	**Keskin Array B**	**31.80**	**287**	P	**P**	**15 26 08.2**	**-2.8**
	0.4nm,0.5s,baz=83,slow=9.2,SNR=3.0						
ARCES	**ARCESS Array B**	**41.25**	**336**	P	**P**	**15 27 29.1**	**-2.0**
	1.9nm,0.8s,baz=109,slow=8.1,SNR=8.5						
NOA	**NORSAR Array B**	**45.22**	**322**	P	**P**	**15 28 00.4**	**-3.0**
	0.7nm,0.7s,baz=97,slow=7.2,SNR=7.9						
TORD	**Torodi Ar. Bea**	**68.54**	**270**	P	P	15 30 45.2	-4.2
	0.4nm,0.5s,baz=47,slow=5.5,SNR=5.4						

BJI ***23*** *15:23:35.6, 53.°24N×171.°94E, h13km, mB5.3/48, mb5.0/62, Ms5.1/60, Ms7 4.7/58*
MOS ***23*** *15:23:36.4±1.0, 52.°87N×172.°00E, h14km, mb5.4/100, MS4.7/26, Error ellipse: s-maj=6.4km s-min=4.6km az=99.5*
IDC ***23*** *15:23:38.0±1.5, 52.°85N×172.°01E, h14km±10km, mb4.8/38, mb1 5.0/39, mb1mx5.0/43, mbtmp4.9/39, ML4.5/1, MS4.6/35, Ms1 4.6/35, ms1mx4.5/53, Error ellipse: s-maj=15.0km s-min=9.0km az=171.0*
GCMT ***23*** *15:23:38.1±0.1, 52.°85N×171.°94E, h19km, MW5.3/120, Moment Tensor Solution. s92,c151; s120,c226; Duration: 1§1 Moment tensor: Scale 10¹⁷Nm; M_{rr}-0.51±.02; $M_{\theta\theta}$-0.40±.02; $M_{\phi\phi}$0.91±.02; $M_{r\theta}$0.57±.04; $M_{\theta\phi}$0.49±.01; $M_{\phi r}$-0.37±.03; Best double couple: $M_0$1.15300×10¹⁷ NP1:ϕ_s342.00000°, δ66.00000°, λ-141.00000°. NP2:ϕ_s234.00000°, δ54.00000°, λ-30.00000°. Principal axes: T 1.1030, Plg7.0000°, Azm106.0000°; N 0.1010, Plg45.0000°, Azm8.0000°; P -1.2030, Plg44.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***23*** *15:23:38.1, 52.°96N×171.°96E, h15km, mb5.4/139, MS4.7/10, MW5.3, ML4.9(AEIC), Moment Tensor Solution. s11 Moment tensor: Scale 10¹⁷Nm; M_{rr}-0.11; $M_{\theta\theta}$-1.06; $M_{\phi\phi}$1.17; $M_{r\theta}$0.34; $M_{\theta\phi}$0.26; $M_{\phi r}$-0.40; Best double couple: $M_0$1.30000×10¹⁷ NP1:ϕ_s322.00000°, δ87.00000°, λ-155.00000°. NP2:ϕ_s231.00000°, δ65.00000°, λ-4.00000°. Principal axes: T 1.2900, Plg14.0000°, Azm94.0000°; N -0.0700, Plg65.0000°, Azm329.0000°; P -1.2200, Plg19.0000°, Azm189.0000°; After AEIC.*
NEIC Felt on Shemya.
ISCJB ***23*** *15:23:39.6±0.5, 52.°82N±0.°03×172.°04E±0.°02, h38km±4km, mb5.2/271, MS4.7/56 Error ellipse: s-maj=4.5km s-min=2.0km az=173.4*
SZGRF ***23*** *15:23:47.5, 53.°75N×170.°17E, h22km, mb5.1, MS4.7, Near Islands, Aleutian Islands, United States*
ISC 23 15:23:39.3±0.3, 52.°86N±0.°05×171.°94E±0.°02, h23km±1km, h22km:pP-P, n1063, σ0§98/1149, mb5.3/273, MS4.7/58, 232C-205D, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**0.74**	**87**	P	**Pb**	**15 23 52.4**	**-1.1**
FX1				S	**Sb**	**15 24 03.3**	**+0.1**
FX1	**Attu Island--F**	**0.74**	**87**	Pg	**Pb**	**15 23 52.4**	**-1.1**
	6μm,0.3s,baz=303,slow=5.8,SNR=7308						
SMY	**Shemya**	**1.31**	**95**	P	**Pn**	**15 24 01.1**	**-1.1**
SMY				S	**Sb**	**15 24 20.0**	**+0.4**
SMY	**Shemya**	**1.31**	**95**	P	**Pn**	**15 24 01.1**	**-1.1**
SMY				S	**Sb**	**15 24 20.0**	**+0.4**
LSPA	**Little Sitkin**	**4.16**	**100**	P	**Pn**	**15 24 42.9**	**+1.5**
LSSE	**Little Sitkin**	**4.16**	**100**	P	**Pn**	**15 24 42.2**	**+0.8**
CETU	**Semis' Tuman**	**4.71**	**98**	P	**Pn**	**15 24 50.2**	**+1.4**
CEAP	**Semis' Anvil P**	**4.75**	**97**	P	**Pn**	**15 24 50.3**	**+0.9**
CESW	**Semis' Southwe**	**4.76**	**99**	P	**Pn**	**15 24 50.7**	**+1.1**
AMKA	**Amchitka**	**4.77**	**105**	P	**Pn**	**15 24 50.6**	**+0.9**
AMKA				S	**Sn**	**15 25 45.5**	**+1.3**
CERAA	**Semis' Rag'd T**	**4.84**	**98**	P	**Pn**	**15 24 51.3**	**+0.7**
ADK	**Adak**	**7.03**	**93**	P	**Pn**	**15 25 21.8**	**+1.0**
ADK	**Adak**	**7.03**	**93**	P	**Pn**	**15 25 21.8**	**+1.0**
PET	**Petropavlovsk**	**8.04**	**276**	*e*P	**Pn**	**15 25 34.0**	**-0.5**
PET				*e*S	**Sn**	**15 27 02.5**	**-2.0**
PET				pmax	pmax		
	comp=Z,2μm,5.5s						
PET				pmax	pmax		
	comp=Z,205nm,0.5s						
PET				smax	smax		
	comp=E,1μm,0.6s						
PET				MLR	MLR		
	comp=Z,3μm,19.0s						
PET				MLR	MLR		
	comp=Z,3μm,17.0s						
PET	**Petropavlovsk**	**8.04**	**276**	P	**Pn**	**15 25 34.5**	**0.0**
KOKL	**Mount Kliuchef**	**8.46**	**88**	P	**Pn**	**15 25 41.6**	**+1.2**
KOFP	**Korovin Flat P**	**8.53**	**88**	P	**Pn**	**15 25 42.5**	**+1.1**
PETK	**Petropavlovsk-**	**8.60**	**277**	Pn	**Pn**	**15 25 42.6**	**+0.3**
	comp=Z,28nm,0.3s,baz=94,slow=19,SNR=270						
PETK				Sn	**Sn**	**15 27 14.4**	**-4.1**
	comp=Z,39nm,0.3s,baz=92,slow=17,SNR=6.7						
PETK				LR	LR	15 29 05.1	
	comp=Z,2μm,21.6s,baz=111,slow=38						
SKR	**Severo-Kuril's**	**10.05**	**264**	*e*P	Pn	15 25 54.6	-7.5
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=E,140nm,0.5s						
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				MLR	MLR		
	comp=N,6μm,16.0s						
SKR				MLR	MLR		
	comp=E,6μm,16.0s						
SKR				MLR	MLR		
	comp=Z,5μm,16.0s						
SPIA	**Saint Paul Isl**	**11.09**	**60**	P	**Pn**	**15 26 18.8**	**+2.4**
NIKH	**Nikolski High**	**11.60**	**82**	P	**Pn**	**15 26 25.1**	**+1.8**
OKFG	**Magazine Ridge**	**12.11**	**79**	P	**Pn**	**15 26 32.5**	**+2.3**
UNV	**Unalaska Valle**	**12.91**	**77**	*e*P	**Pn**	**15 26 42.0**	**+0.8**
	comp=Z,436nm,1.5s						
GAMB	**Gambell**	**13.86**	**31**	*e*P	**Pn**	**15 26 55.1**	**+1.0**
	comp=Z,117nm,1.3s						
SEY	**Senchan**	**14.43**	**322**	Pn	**Pn**	**15 27 03.7**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=121,slow=11,SNR=39						
BILL	**Bilibino**	**15.48**	**352**	*e*P	**P**	**15 27 18.5**	**-1.6**
BILL				pmax	pmax		
	comp=Z,56nm,1.3s						
BILL				MLR	MLR		
	comp=Z,4μm,17.0s						
TNA	**Tin City**	**16.27**	**31**	*e*P	**P**	**15 27 27.5**	**-1.4**
	comp=Z,38nm,0.8s						
SDPT	**Sand Point**	**16.32**	**70**	*e*P	**Pn**	**15 27 26.0**	**-0.7**
	comp=Z,96nm,0.8s						
OKH	**Okha**	**17.35**	**284**	*e*P	**P**	**15 27 42.6**	**+1.7**
OKH				pmax	pmax		
	comp=Z,3μm,6.0s						
KUR	**Kuril'sk**	**17.47**	**254**	P	**Pn**	**15 27 41.2**	**0.0**
KUR				*e*S	**Sn**	**15 30 55.4**	**+0.5**
KUR				pmax	pmax		
	comp=N,16nm,1.1s						
KUR				pmax	pmax		
	comp=Z,87nm,1.1s						
KUR				pmax	pmax		
	comp=E,35nm,0.5s						
KUR				pmax	pmax		
	comp=Z,10μm,1.4s						
KUR				smax	smax		
	comp=N,52nm,1.0s						
KUR				smax	smax		
	comp=E,25nm,1.0s						
UGL	**Uglegorsk**	**19.12**	**271**	*e*P	**Pn**	**15 28 03.0**	**+1.6**
UGL				*e*S	**S**	**15 31 37.0**	**+1.4**
UGL				pmax	pmax		
	comp=Z,198nm,1.2s						
UGL				pmax	pmax		
	comp=Z,2μm,6.0s						
UGL				smax	smax		
	comp=N,2μm,8.0s						
UGL				smax	smax		
	comp=E,6μm,7.0s						
UGL				MLR	MLR		
	comp=N,4μm,17.0s						
UGL				MLR	MLR		
	comp=E,4μm,17.0s						
UGL				MLR	MLR		
	comp=Z,3μm,17.0s						
YUK	**Yuzh-Kuril'sk**	**19.33**	**253***c*	*i*P	**P**	**15 28 01.2**	**-1.6**
YUK				*i*S	**Sn**	**15 31 38.2**	**-1.7**
YUK				MLR	MLR		
	comp=N,1μm,18.0s						
YUK				MLR	MLR		
	comp=E,235nm,19.0s						
YUK				MLR	MLR		
	comp=Z,1μm,19.0s						
YSS	**Yuzh-Sakhalins**	**19.62**	**264**α	*i*P	**Pn**	**15 28 08.5**	**+1.1**
YSS				*e*S	**S**	**15 31 42.0**	**-3.9**
YSS				pmax	pmax		
	comp=E,90nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax	smax		
	comp=N,700nm,9.0s						
YSS				smax	smax		
	comp=E,1μm,9.0s						
YSS				MLR	MLR		
	comp=Z,2μm,19.0s						
OHAK	**Old Harbor**	**20.25**	**64**	*e*P	**P**	**15 28 11.7**	**-1.0**
KDAK	**Kodiak Island**	**20.61**	**62**	P	**P**	**15 28 16.0**	**-0.6**
	comp=Z,952nm,0.8s,SNR=46						
KDAK	**Kodiak Island**	**20.61**	**62***ce*	P	**P**	**15 28 15.6**	**-1.0**
RSO	**Redoubt South**	**20.63**	**54**	*e*P	**P**	**15 28 17.9**	**+0.9**
	comp=Z,575nm,0.9s						
ASAJ	**Asahikawa**	**21.20**	**257**	P	**P**	**15 28 23.6**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,59nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,2μm,18.6s						
ASAJ	**Asahikawa**	**21.20**	**257**	P	**P**	**15 28 23.6**	**+0.5**
	comp=Z,59nm,0.9s,baz=65,slow=13,SNR=33						
ASAJ				LR	LR	15 37 11.4	
	comp=Z,2μm,18.6s,baz=72,slow=38						
ASAJ	**Asahikawa**	**21.20**	**257**	*e*P	**P**	**15 28 23.9**	**+0.9**
PPLA	**Purkeypile**	**21.26**	**48**	*e*P	**P**	**15 28 24.7**	**+0.9**
	comp=Z,242nm,1.2s						
KTH	**Kantishna Hill**	**21.96**	**46**	*e*P	**P**	**15 28 31.7**	**+0.6**
	comp=Z,175nm,1.1s						
ERM	**Erimo**	**22.14**	**252**	P	**P**	**15 28 35.1**	**+2.0**
	comp=Z,380nm,1.2s,SNR=22						
ERM	**Erimo**	**22.14**	**252***ce*	P	**P**	**15 28 35.7**	**+2.6**
ERM				pmax	pmax		
	comp=Z,82nm,1.2s						
RC01	**Rabbit Creek A**	**22.16**	**53**	*e*P	**P**	**15 28 33.0**	**-0.2**
	comp=Z,53nm,0.8s						
TRF	**Thorofare Moun**	**22.22**	**47**	*e*P	**P**	**15 28 32.7**	**-1.4**
	comp=Z,125nm,0.9s						
SEW	**Seward**	**22.25**	**56**	*e*P	**P**	**15 28 32.3**	**-1.8**
	comp=Z,56nm,0.8s						
PMR	**Palmer**	**22.49**	**52**	*e*P	**P**	**15 28 34.7**	**-2.0**
PMR				pmax	pmax		
	comp=Z,22nm,0.6s						
PMR	**Palmer**	**22.49**	**52**	*e*P	**P**	**15 28 34.7**	**-2.0**
	comp=Z,22nm,0.6s						
MCK	**McKinley**	**22.86**	**46**	*e*P	**P**	**15 28 39.9**	**-0.8**
MCK				pmax	pmax		
	comp=Z,118nm,0.8s						
MCK	**McKinley**	**22.86**	**46**	*e*P	**P**	**15 28 39.9**	**-0.8**
	comp=Z,118nm,0.8s						
COLD	**Coldfoot**	**23.25**	**37**	*e*P	**P**	**15 28 42.6**	**-1.9**
	comp=Z,34nm,1.0s						
COLA	**College**	**23.54**	**44**	*e*P	**P**	**15 28 46.9**	**-0.5**
COLA				pmax	pmax		
	comp=Z,162nm,0.9s						
COLA				MLR	MLR		
	comp=Z,3μm,20.0s						
COLA	**College**	**23.54**	**44**	*e*P	**P**	**15 28 46.9**	**-0.5**
	comp=Z,162nm,0.9s						
COLA				LR	LR		
	comp=Z,3μm,20.0s						
HABR	**Khabarovsk**	**23.61**	**274***ce*	P	**P**	**15 28 47.8**	**-0.5**
HABR				*e**PP	**pP**	**15 28 56.2**	**+1.3**
HABR				PPP	PPP	15 29 23.3	
HABR				*e*		15 32 31.0	
HABR				*e*S	**S**	**15 33 01.1**	**-0.2**
HABR				*e*SSS	SSS	15 33 54.4	
HABR				*e*		15 39 52.4	
HABR				pmax	pmax		
	comp=N,36nm,1.5s						
HABR				pmax	pmax		
	comp=E,92nm,1.5s						
HABR				pmax	pmax		
	comp=Z,124nm,1.5s						
HABR				MLR	MLR		
	comp=Z,1μm,19.0s						
ILAR	**Eielson Array**	**23.93**	**44**	P	**P**	**15 28 49.9**	**-1.3**
	comp=Z,65nm,0.7s,baz=251,slow=8.0,SNR=342						
ILAR				ScP	**ScP**	**15 36 07.7**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=269,slow=3.5,SNR=4.4						
ILAR				LR	LR	15 38 41.9	
	comp=Z,2μm,18.9s,baz=260,slow=38						
DIV	**Divide**	**24.08**	**53**	*e*P	**P**	**15 28 51.4**	**-1.4**
	comp=Z,38nm,0.7s						
YAK	**Yakutsk**	**24.10**	**309**	*e*P	**P**	**15 28 51.4**	**-1.4**
YAK				*e**PP	**pP**	**15 29 01.1**	**+1.5**
YAK				*e*S	**S**	**15 33 06.6**	**-2.2**
YAK				pmax	pmax		
	comp=Z,70nm,0.8s						
YAK				pmax	pmax		
	comp=E,43nm,1.2s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK				smax	smax		
	comp=N,1μm,5.4s						
YAK				smax	smax		
	comp=E,1μm,5.3s						
YAK				MLR	MLR		
	comp=Z,2μm,16.0s						
YAK				MLR	MLR		
	comp=E,2μm,16.0s						
YAK				MLR	MLR		
	comp=N,497nm,7.0s						
YAK	**Yakutsk**	**24.10**	**309**	P	**P**	**15 28 52.0**	**-0.8**
	comp=N,170nm,0.6s,baz=40,slow=0.6,SNR=82						
YAK				LR	LR	15 38 26.7	
	comp=N,1μm,18.7s,baz=100,slow=37						
YAK	**Yakutsk**	**24.10**	**309**	P	**P**	**15 28 52.0**	**-0.8**
PAX	**Paxson**	**24.32**	**49**	*e*P	**P**	**15 28 54.0**	**-0.9**
PAX				pmax	pmax		
	comp=Z,164nm,1.0s						
PAX	**Paxson**	**24.32**	**49**	*e*P	**P**	**15 28 54.0**	**-0.9**
	comp=Z,164nm,1.0s						
BMRM	**Bremner River**	**24.65**	**54**	*e*P	**P**	**15 28 57.5**	**-0.5**
	comp=Z,117nm,0.9s						
DOT	**Dot Lake**	**25.00**	**47**	*e*P	**P**	**15 28 59.3**	**-1.8**
	comp=Z,91nm,0.8s						
KLR	**Kul'dur**	**25.30**	**278**	*e*P	**P**	**15 29 00.0**	**-3.8**
KLR				*e*		15 29 00.0	
KLR				*e*		15 29 08.0	
KLR				*e*S	**S**	**15 33 25.5**	**-2.7**
KLR				MLR	MLR		
	comp=E,1μm,12.0s						
KLR				MLR	MLR		
	comp=Z,4μm,12.0s						
EGAK	**Eagle**	**26.36**	**45**	*e*P	**P**	**15 29 12.2**	**-1.1**
	comp=Z,77nm,0.8s						
TIXI	**Tiksi**	**26.55**	**331**	*e*P	**P**	**15 29 16.0**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,15nm,0.7s						
DAWY	**Dawson**	**27.09**	**46**	*e*P	**P**	**15 29 19.8**	**-0.2**
USRK	**Ussuriysk Ar.**	**27.53**	**268**	P	**P**	**15 29 23.9**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=57,slow=9.3,SNR=12						
USRK				PcP	**PcP**	**15 32 41.6**	**+0.2**
	comp=Z,6.0nm,0.7s,baz=28,slow=1.3,SNR=7.6						
USRK				LR	LR	15 39 32.0	
	comp=Z,1μm,21.9s,baz=55,slow=35						
VLA	**Vladivostok**	**28.19**	**266**⇑	*e*P	**P**	**15 29 28.3**	**-1.6**
VLA				*e*		15 30 17.1	
VLA				S	**S**	**15 34 13.6**	**-0.3**
VLA				pmax	pmax		
	comp=Z,36nm,1.9s						
MJAR	**Matsushiro Arr**	**28.66**	**249**	P	**P**	**15 29 34.5**	**+0.3**
	comp=Z,6.4nm,0.8s,baz=46,slow=7.4,SNR=16						
MJAR				LR	LR	15 39 56.1	
	comp=Z,900nm,21.8s,baz=60,slow=34						
MAJO	**Matsushiro**	**28.66**	**249***d*	*i*P	**P**	**15 29 35.0**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,224nm,1.7s						
MAJO	**Matsushiro**	**28.66**	**249**	*e*P	**P**	**15 29 34.8**	**+0.7**
	comp=Z,68nm,1.2s						
MAJO				LR	LR		
	comp=Z,2μm,20.0s						
MAT	**Matsushiro**	**28.66**	**249**	P	**P**	**15 29 35.0**	**+0.9**
MAT				*e*S	S	15 34 29.0	+7.5
MDJ	**Mudanjiang**	**28.76**	**271**	P	**P**	**15 29 34.5**	**-0.5**
MDJ				pP	**pP**	**15 29 40.6**	**-1.2**
MDJ				sP	**sP**	**15 29 43.0**	**-1.6**
MDJ				PcP	**PcP**	**15 32 44.3**	**-0.2**
MDJ				S	**S**	**15 34 21.3**	**-1.7**
MDJ				ScP	**SS**	**15 36 25.6**	**+0.9**
MDJ				PMZ			
	comp=Z,5.0nm,0.9s						
MDJ				PMZ			
	comp=Z,220nm,7.8s						
MDJ				LN			
	comp=Z,1μm,17.7s						
MDJ				LE			
	comp=Z,1μm,18.9s						
MDJ				LZ			
	comp=Z,1μm,23.8s						
CN2	**Changchun**	**31.71**	**272**	*e*P	**P**	**15 30 00.8**	**-0.3**
CN2				*e*S	**S**	**15 35 07.8**	**-1.4**
CN2				PMZ			
	comp=Z,10.0nm,0.5s						
CN2				LN			
	comp=Z,2μm,21.0s						
CN2				LE			
	comp=Z,2μm,21.0s						
CN2				LZ			
	comp=Z,610nm,22.0s						
HIA	**Hailar**	**32.41**	**285**	*e*P	**P**	**15 30 06.6**	**-0.6**
HIA				pmax	pmax		
	comp=Z,24nm,1.0s						
HIA	**Hailar**	**32.41**	**285**	*e*P	**P**	**15 30 06.6**	**-0.6**
	comp=Z,24nm,1.0s						
BOD	**Bodaibo**	**32.44**	**302**	*e*P	**P**	**15 30 06.0**	**-1.3**
BOD				pmax	pmax		
	comp=Z,22nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**33.29**	**189**	T	T	16 05 30.9	
	baz=5.9,slow=76,SNR=822						
H11N3	**WAKE ISLAND Hy**	**33.30**	**189**	T	T	16 05 31.8	
	baz=5.9,slow=76,SNR=1448						
H11N1	**WAKE ISLAND Hy**	**33.31**	**189**	T	T	16 05 32.3	
	baz=5.9,slow=76,SNR=1126						
JCJ	**Chichijima**	**33.95**	**232**	LR	LR	15 41 35.1	
	comp=Z,418nm,19.7s,baz=26,slow=

CIT				*e*			15 30 39.8
JNU	**Nakatsue**	**35.30**	**253**	LR	LR		15 44 03.1
comp=Z,1μm,21.7s,baz=64,slow=35							
DL2	**Dalian**	**36.92**	**268**	*e*P	**P**		**15 30 47.3**	**+1.1**
DL2				S	**S**		**15 36 32.4**	**+2.8**
DL2				PMZ			
comp=Z,23nm,1.1s							
DL2				PMZ			
comp=Z,170nm,6.9s							
DL2				LE			
comp=Z,570nm,17.7s							
DL2				LZ			
comp=Z,680nm,13.7s							
YKA	**Yellowknife Ar**	**38.33**	**46**	P	**P**		**15 30 57.9**	**+0.1**
YKA							15 33 10.7
YKA				pmax	pmax		
comp=Z,21nm,0.7s							
YKA	**Yellowknife Ar**	**38.33**	**46**	P	**P**		**15 30 57.9**	**+0.1**
comp=Z,21nm,0.7s,baz=290,slow=7.9,SNR=154							
YKA				PcP	**PcP**		**15 33 10.7**	**-0.4**
comp=Z,1.6nm,0.6s,baz=297,slow=3.0,SNR=3.7							
KIP	**Kipapa**	**38.94**	**132**	*c i*P	**P**		**15 31 03.5**	**+0.2**
KIP				pmax	pmax		
comp=Z,65nm,0.8s							
KIP	**Kipapa**	**38.94**	**132**	*e*P	**P**		**15 31 03.8**	**+0.5**
comp=Z,95nm,1.1s							
BJI	**Beijing**	**39.52**	**274**	P	**P**		**15 31 08.8**	**+0.8**
BJI				S	S		15 37 17.8	+8.9
BJI				PMZ			
comp=Z,9.0nm,0.5s							
BJI				LN			
comp=Z,2μm,19.4s							
BJI				LE			
comp=Z,750nm,17.4s							
BJI				LZ			
comp=Z,1μm,22.5s							
IRK	**Irkutsk**	**39.76**	**297**	*e*P	**P**		**15 31 10.4**	**+0.4**
IRK				*e*			15 32 52.2
IRK				pmax	pmax		
comp=Z,29nm,1.1s							
NLWA	**Neilton Lookou**	**40.28**	**71**	*e*P	**P**		**15 31 15.1**	**+0.7**
comp=Z,63nm,0.8s							
TLY	**Talaya**	**40.37**	**297**	*e*P	**P**		**15 31 16.7**	**+1.6**
TLY				*e*			15 32 51.3
TLY				*e*S	**S**		**15 37 18.7**	**-2.9**
TLY				*e*SS	SS		15 40 09.9	-10
TLY				pmax	pmax		
comp=Z,10.0nm,0.9s							
TLY				MLR	MLR		
comp=Z,2μm,14.0s							
TLY	**Talaya**	**40.37**	**297**	P	**P**		**15 31 15.8**	**+0.7**
comp=Z,1.5nm,0.6s,baz=47,slow=12,SNR=4.1							
TLY				LR	LR		15 48 50.5
comp=Z,3μm,20.5s,baz=48,slow=37							
ULN	**Ulaanbaatar**	**40.44**	**290**	*d i*P	**P**		**15 31 15.8**	**0.0**
ULN				pmax	pmax		
comp=Z,11nm,1.2s							
ULN	**Ulaanbaatar**	**40.44**	**290**	*e*P	**P**		**15 31 15.4**	**-0.4**
comp=Z,18nm,1.1s							
ULN				LR	LR		
comp=Z,968nm,19.0s							
HDW	**Hoodsport**	**40.61**	**70**	P	**P**		**15 31 18.0**	**+0.8**
SONM	**Songino Array**	**40.83**	**290**	P	**P**		**15 31 19.5**	**+0.5**
comp=Z,17nm,0.5s,baz=62,slow=7.9,SNR=200							
SONM				PcP	**PcP**		**15 33 19.3**	**-0.2**
comp=Z,3.2nm,0.7s,baz=49,slow=1.7,SNR=4.1							
SONM				LR	LR		15 49 50.4
comp=Z,1μm,18.1s,baz=58,slow=38							
JCW	**Jim Creek**	**40.96**	**69**	P	**P**		**15 31 20.4**	**+0.5**
ZAK	**Zakamensk**	**41.23**	**295**	*i*P	**P**		**15 31 22.0**	**-0.2**
ZAK				*e*			15 33 01.3
ZAK				pmax	pmax		
comp=Z,9.0nm,1.6s							
TIA	**Tai'an**	**41.39**	**269**	⇓P	**P**		**15 31 24.3**	**+0.7**
TIA				PMZ			
comp=Z,40nm,1.4s							
TIA				LN			
comp=Z,500nm,13.9s							
TIA				LE			
comp=Z,800nm,17.7s							
GPW	**Glacier Peak**	**41.45**	**69**	P	**P**		**15 31 24.6**	**+0.4**
F04D	**Rainier, OR**	**41.50**	**72**	⇓P	**P**		**15 31 25.2**	**+0.8**
baz=41							
WRW	**Wenatchee Ridg**	**41.74**	**69**	P	**P**		**15 31 27.0**	**+0.6**
HHC	**Hu-ho-hao-te**	**41.80**	**278**	*e*P	**P**		**15 31 25.3**	**-1.7**
HHC				sP	**sP**		**15 31 34.6**	**-2.2**
HHC				PP	**PP**		**15 33 05.6**	**+1.9**
HHC				S	**S**		**15 37 41.0**	**-2.2**
HHC				sS	**sS**		**15 37 53.5**	**-1.1**
HHC				SS	**SS**		**15 40 47.3**	**-1.9**
HHC				PMZ			
comp=Z,21nm,0.8s							
HHC				PMZ			
comp=Z,580nm,5.4s							
HHC				LN			
comp=Z,2μm,14.5s							
HHC				LE			
comp=Z,2μm,14.4s							
HHC				LZ			
comp=Z,2μm,14.2s							
TDL	**Tradedollar La**	**41.80**	**71**	P	**P**		**15 31 27.5**	**+0.5**
MOY	**Mondy**	**41.81**	**298**	*e*P	**P**		**15 31 29.4**	**+2.4**
MOY				pmax	pmax		
comp=Z,45nm,2.2s							
G03D	**McMinnville, O**	**41.84**	**73**	⇓P	**P**		**15 31 27.8**	**+0.6**
baz=42,SNR=6.0							
TWW	**Teanaway**	**42.14**	**70**	P	**P**		**15 31 30.4**	**+0.7**
COR	**Corvallis**	**42.18**	**74**	*e*P	**P**		**15 31 30.8**	**+0.9**
COR	**Corvallis**	**42.18**	**74**	*e*P	**P**		**15 31 30.8**	**+0.9**
comp=Z,137nm,0.7s							
ASR	**Mount Adams--S**	**42.27**	**71**	P	**P**		**15 31 30.9**	**+0.1**
EBG	**Ellensburg**	**42.44**	**70**	P	**P**		**15 31 32.5**	**+0.4**
SSE	**Sheshan**	**42.46**	**260**	P	**P**		**15 31 34.3**	**+2.0**
SSE				PcP	**PcP**		**15 33 21.5**	**-3.4**
SSE				S	**S**		**15 37 55.9**	**+3.1**
SSE				PMZ			
comp=Z,42nm,0.8s							
SSE				PMZ			
comp=Z,270nm,3.7s							
SSE				LN			
comp=Z,670nm,32.8s							
SSE				LE			
comp=Z,550nm,32.8s							
SSE				LZ			
comp=Z,650nm,27.1s							
KEBM	**Edson Butte**	**42.57**	**77**	*e*P	**P**		**15 31 33.6**	**+0.4**
comp=Z,64nm,0.9s							
VLL	**Laurance Lake**	**42.62**	**72**	P	**P**		**15 31 34.0**	**+0.4**
I03D	**Drain, OR**	**42.67**	**75**	⇓P	**P**		**15 31 34.4**	**+0.5**
baz=42,SNR=21							
VFP	**Flag Point**	**42.82**	**72**	P	**P**		**15 31 35.6**	**+0.3**
BTO	**Baotou**	**42.88**	**279**	*e*P	**P**		**15 31 35.5**	**-0.3**
G05D	**Wamic, OR**	**42.95**	**72**	⇓P	**P**		**15 31 36.5**	**+0.3**
baz=43,SNR=20							
I04A	**Tendick Farm,**	**43.16**	**75**	⇓P	**P**		**15 31 38.1**	**+0.2**
baz=43,SNR=24							
NJ2	**Nanjing**	**43.18**	**263**	*e*P	**P**		**15 31 36.8**	**-1.4**
NJ2				S	**S**		**15 38 07.0**	**+3.6**
NJ2				PMZ			
comp=Z,40nm,0.6s							
NJ2				LN			
comp=Z,2μm,19.0s							
NJ2				LE			
comp=Z,2μm,19.1s							
NJ2				LZ			
comp=Z,2μm,15.6s							
OD2	**Odessa Site #2**	**43.22**	**68**	P	**P**		**15 31 38.0**	**-0.4**
WRD	**Warden**	**43.30**	**69**	P	**P**		**15 31 38.3**	**-0.7**
HAWA	**Hanford**	**43.32**	**70**	*e*P	**P**		**15 31 39.2**	**+0.1**
comp=Z,89nm,0.7s							
HAWA				LR	LR		
comp=Z,1μm,21.0s							
L02D	**Cave Junction,**	**43.43**	**77**	⇑P	**P**		**15 31 40.6**	**+0.5**
baz=43,SNR=8.6							
I05D	**Terrebonne, OR**	**43.46**	**73**	⇑P	**P**		**15 31 40.4**	**0.0**
baz=43,SNR=7.0							
HUMO	**Hull Mountain**	**43.55**	**76**	*e*P	**P**		**15 31 41.5**	**+0.5**
comp=Z,24nm,0.8s							
NEW	**Newport**	**43.62**	**66**	*e*P	**P**		**15 31 41.1**	**-0.5**
NEW				pmax	pmax		
comp=Z,36nm,0.8s							
NEW	**Newport**	**43.62**	**66**	⇑P	**P**		**15 31 41.2**	**-0.5**
baz=43,SNR=27							
NEW	**Newport**	**43.62**	**66**	*e*P	**P**		**15 31 41.1**	**-0.5**
comp=Z,36nm,0.8s							
J04D	**Umpqua Nationa**	**43.66**	**75**	⇓P	**P**		**15 31 42.4**	**+0.2**
baz=44,SNR=35							
PINOR	**Pine Mountain**	**44.05**	**74**	*e*P	**P**		**15 31 45.7**	**+0.7**
comp=Z,21nm,0.7s							
KHMM	**Horse Mountain**	**44.14**	**79**	*e*P	**P**		**15 31 47.0**	**+0.9**
J05D	**Fort Rock, OR**	**44.15**	**75**	⇑P	**P**		**15 31 46.8**	**+0.8**
baz=44,SNR=74							
YBH	**Yreka Blue Hor**	**44.22**	**77**	*e*P	**P**		**15 31 47.5**	**+0.9**
YBH				pmax	pmax		
comp=Z,40nm,0.7s							
YBH	**Yreka Blue Hor**	**44.22**	**77**	*e*P	**P**		**15 31 47.5**	**+0.9**
comp=Z,40nm,0.7s							
K04D	**Chiloquin, OR**	**44.24**	**76**	⇓P	**P**		**15 31 47.2**	**+0.4**
baz=44,SNR=12							
M02C	**Callahan**	**44.35**	**78**	⇓P	**P**		**15 31 48.1**	**+0.5**
baz=44,SNR=11							
N02D	**Trinity Center**	**44.69**	**78**	⇓P	**P**		**15 31 51.0**	**+0.7**
baz=44,SNR=17							
M04C	**Macdoel**	**44.70**	**77**	⇓P	**P**		**15 31 50.8**	**+0.3**
baz=44,SNR=40							
WDC	**Whiskeytown Da**	**45.03**	**78**	*e*P	**P**		**15 31 53.3**	**+0.3**
WDC				pmax	pmax		
comp=Z,15nm,0.7s							
WDC	**Whiskeytown Da**	**45.03**	**78**	*e*P	**P**		**15 31 53.3**	**+0.3**
comp=Z,15nm,0.7s							
BMO	**Blue Mountains**	**45.48**	**70**	*e*P	**P**		**15 31 56.2**	**-0.4**
comp=Z,17nm,0.8s							
MOD	**Modoc Plateau**	**45.54**	**75**	*e*P	**P**		**15 31 57.4**	**+0.3**
comp=Z,41nm,0.6s							
HVS	**Khovu-Aksy**	**45.95**	**301**	*e*P	**P**		**15 32 01.0**	**+0.8**
HVS				pmax	pmax		
comp=Z,29nm,1.2s							
WVOR	**Wild Horse Val**	**46.18**	**74**	*e*P	**P**		**15 32 02.1**	**-0.1**
WVOR				pmax	pmax		
comp=Z,20nm,0.8s							
WVOR	**Wild Horse Val**	**46.18**	**74**	*e*P	**P**		**15 32 02.0**	**-0.1**
comp=Z,20nm,0.8s							
MSO	**Missoula**	**46.21**	**66**	⇑P	**P**		**15 32 01.7**	**-0.6**
baz=46,SNR=20							
EGMT	**Eagleton**	**47.79**	**63**	⇓P	**P**		**15 32 14.1**	**-0.5**
baz=48,SNR=36							
EGMT	**Eagleton**	**47.79**	**63**	*e*P	**P**		**15 32 13.9**	**-0.7**
comp=Z,38nm,0.7s							
A19A	**Klindworth Far**	**47.79**	**61**	⇓P	**P**		**15 32 14.2**	**-0.4**
baz=48,SNR=52							
FFC	**Flin Flon**	**47.80**	**51**	P	**P**		**15 32 14.5**	**0.0**
comp=Z,71nm,0.7s,SNR=8.3							
XAN	**Xi'an**	**47.82**	**273**	P	**P**		**15 32 15.0**	**0.0**
XAN				pP	**pP**		**15 32 21.8**	**-0.2**
XAN				PP	**PP**		**15 34 10.4**	**+3.7**
XAN				S	**S**		**15 39 09.3**	**-1.1**
XAN				SS	**SS**		**15 42 35.9**	**-2.7**
XAN				PMZ			
comp=Z,6.0nm,0.8s							
XAN				PMZ			
comp=Z,33nm,5.6s							
XAN				LN			
comp=Z,760nm,28.7s							
XAN				LE			
comp=Z,270nm,28.7s							
XAN				LZ			
comp=Z,480nm,20.5s							
HLID	**Hailey**	**47.92**	**70**	⇑P	**P**		**15 32 15.5**	**-0.4**
baz=48,SNR=63							
HLID	**Hailey**	**47.92**	**70**	*e*P	**P**		**15 32 15.4**	**-0.4**
comp=Z,19nm,0.8s							
HLID				LR	LR		
comp=Z,1μm,22.0s							
CMB	**Columbia Colle**	**47.95**	**80**	*e*P	**P**		**15 32 15.8**	**-0.1**
CMB				pmax	pmax		
comp=Z,8.0nm,0.7s							
CMB	**Columbia Colle**	**47.95**	**80**	*e*P	**P**		**15 32 15.8**	**-0.1**
comp=Z,8.2nm,0.7s							
B19A	**Brinkman Farms**	**47.96**	**62**	⇓P	**P**		**15 32 15.7**	**-0.2**
baz=48,SNR=14							
YULB	**Yu-li**	**48.15**	**253**	*e*P	**P**		**15 32 18.2**	**+0.6**
comp=Z,16nm,0.5s							
BOZ	**Bozeman (W)**	**48.20**	**66**	*e*P	**P**		**15 32 17.6**	**-0.3**
BOZ				pmax	pmax		
comp=Z,38nm,0.7s							
BOZ				MLR	MLR		
comp=Z,741nm,22.0s							
BOZ	**Bozeman (W)**	**48.20**	**66**	*e*P	**P**		**15 32 17.6**	**-0.3**
comp=Z,38nm,0.7s							
BOZ				LR	LR		
comp=Z,741nm,22.0s							
A20A	**Cobblestone Ra**	**48.25**	**61**	⇑P	**P**		**15 32 17.9**	**-0.3**
baz=48,SNR=22							
BMN	**Battle Mountai**	**48.27**	**75**	*e*P	**P**		**15 32 18.5**	**0.0**
BMN				pmax	pmax		
comp=Z,31nm,0.7s							
BMN	**Battle Mountai**	**48.27**	**75**	*e*P	**P**		**15 32 18.5**	**0.0**
comp=Z,31nm,0.7s							
C19A	**Slack Wire Ran**	**48.34**	**62**	⇑P	**P**		**15 32 19.0**	**+0.1**
baz=48,SNR=44							
SPA0	**Spitsbergen Ar**	**48.38**	**353**	*e*P	**P**		**15 32 18.7**	**0.0**
SPA0				IAmb	IAmb		15 32 26.9
comp=Z,115nm,1.2s							
B20A	**Solberg Farm,**	**48.46**	**61**	⇑P	**P**		**15 32 19.4**	**-0.4**
baz=48							
QZH	**Quanzhou**	**48.54**	**256**	*i*P	**P**		**15 32 21.8**	**+1.3**
QZH				S	**S**		**15 39 25.0**	**+4.4**
QZH				LN			
comp=Z,1μm,23.9s							
QZH				LE			
comp=Z,780nm,21.1s							
QZH				LZ			
comp=Z,1μm,18.5s							
TPUB	**Ta-pu**	**48.61**	**253**	*e*P	**P**		**15 32 21.3**	**+0.2**
comp=Z,30nm,0.6s							
KULLO	**Kullorsuaq**	**48.70**	**16**	*i* P	**P**		**15 32 20.9**	**-0.2**
KULLO				pmax	pmax		
comp=Z,9.0nm,0.8s							
KULLO	**Kullorsuaq**	**48.70**	**16**	*i* P	**P**		**15 32 20.9**	**-0.2**
comp=Z,9.3nm,0.8s							
A21A	**Bergtoll Ranch**	**48.71**	**60**	⇓P	**P**		**15 32 21.2**	**-0.5**
baz=48,SNR=19							
ZALV	**Zalesovo Beam**	**48.75**	**308**	P	**P**		**15 32 20.7**	**-1.1**
comp=Z,4.8nm,0.6s,baz=45,slow=7.2,SNR=22							
ZALV				PcP	**PcP**		**15 33 47.2**	**+0.7**
comp=Z,6.4nm,0.7s,baz=38,slow=1.8,SNR=4.1							
D19A	**Cripps Ranch,**	**48.78**	**63**	⇑P	**P**		**15 32 22.0**	**-0.3**
baz=49,SNR=28							
C20A	**Veseth Ranch,**	**48.91**	**62**	⇑P	**P**		**15 32 23.1**	**-0.1**
baz=49,SNR=26							
NVAR	**Mina Array Bea**	**48.93**	**78**	P	**P**		**15 32 23.8**	**+0.1**
comp=Z,19nm,0.7s,baz=294,slow=7.5,SNR=130							
NVAR				PcP	**PcP**		**15 33 48.2**	**+0.5**
comp=Z,6.0nm,0.7s,baz=301,slow=3.8,SNR=4.0							
FCC	**Fort Churchill**	**48.95**	**44**	*e*P	**P**		**15 32 22.8**	**-0.4**
FCC	**Fort Churchill**	**48.95**	**44**	*e*P	**P**		**15 32 22.8**	**-0.4**
comp=Z,0.6nm,0.7s							
NVS	**Novosibirsk**	**48.97**	**310**	*i*P	**P**		**15 32 22.2**	**-1.2**
NVS				*e*S	**S**		**15 39 23.3**	**-2.6**
NVS				pmax	pmax		
comp=E,10.0nm,0.7s							
NVS				pmax	pmax		
comp=Z,18nm,0.7s							
NVS				smax	smax		
comp=N,47nm,2.3s							
NVS				smax	smax		
comp=E,56nm,2.8s							
B21A	**Ellsworth Farm**	**49.00**	**61**	⇓P	**P**		**15 32 23.5**	**-0.3**
baz=49							
MLAC	**Mammoth, Mammo**	**49.14**	**79**	⇓P	**P**		**15 32 25.9**	**+0.6**
baz=49							
YMR	**Madison River**	**49.17**	**67**	*e*P	**P**		**15 32 25.3**	**-0.2**
comp=E,46nm,0.9s							
HOPEN	**Hopen**	**49.19**	**350**	*e*P	**P**		**15 32 25.6**	**+0.8**
D20A	**Manuel Ranch,**	**49.22**	**63**	⇓P	**P**		**15 32 25.5**	**-0.1**
baz=49,SNR=18							
A22A	**Carney Farms,**	**49.24**	**59**	⇑P	**P**		**15 32 25.2**	**-0.5**
baz=49,SNR=16							
E19A	**Rath Farm, Rou**	**49.26**	**64**	⇑P	**P**		**15 32 25.8**	**-0.1**
baz=49,SNR=18							
C21A	**Desert Coulee**	**49.33**	**61**	⇓P	**P**		**15 32 26.2**	**-0.2**
baz=49,SNR=23							
LZH	**Lanzhou**	**49.50**	**279**	⇑P	**P**		**15 32 29.1**	**+1.1**
LZH				pP	**pP**		**15 32 36.6**	**+1.6**
LZH				sP	**sP**		**15 32 40.0**	**+2.2**
LZH				PP	**PP**		**15 34 24.3**	**+2.3**
LZH				S	**S**		**15 39 33.3**	**-0.9**
LZH				sS	**sS**		**15 39 46.3**	**+0.5**
LZH				SS	SS		15 42 58.5	-7.3
LZH				PMZ			
comp=E,43nm,1.2s							
LZH				PMZ			
comp=E,260nm,7.3s							
LZH				LN			
comp=E,2μm,15.3s							
LZH				LE			
comp=E,2μm,16.0s							
LZH				LZ			
comp=E,3μm,19.5s							
F19A	**Roth Farm, Mol**	**49.55**	**64**	⇓P	**P**		**15 32 27.9**	**-0.3**
baz=49,SNR=14							
HSPB	**Hornsund (broa**	**49.55**	**353**	*e*P	**P**		**15 32 27.6**	**-0.1**
HSPB				IAmb	IAmb		15 32 33.9
comp=Z,138nm,2.2s							
H17A	**Grant Village**	**49.56**	**67**	⇑P	**P**		**15 32 29.4**	**+0.9**
baz=49,SNR=36							
E20A	**Meyer Farm, Mu**	**49.59**	**63**	⇑P	**P**		**15 32 28.1**	**-0.4**
baz=49,SNR=14							
B22A	**Reddig Ranch S**	**49.62**	**60**	⇓P	**P**		**15 32 28.2**	**-0.4**
baz=49,SNR=8.8							
GTA	**Gaotai**	**49.69**	**285**	⇓P	**P**		**15 32 29.8**	**+0.4**
GTA				pP	**pP**		**15 32 37.0**	**+0.6**
GTA				sP	**sP**		**15 32 40.0**	**+0.8**
GTA				S	**S**		**15 39 39.3**	**+2.5**
GTA				sS	**sS**		**15 39 51.6**	**+3.2**
GTA				PMZ			
comp=Z,24nm,0.5s							
GTA				PMZ			
comp=Z,230nm,4.5s							
GTA				LN			
comp=Z,1μm,20.4s							
GTA				LE			
comp=Z,1μm,19.0s							
GTA				LZ			
comp=Z,1μm,19.0s							
A23A	**Redstone**	**49.80**	**59**	⇑P	**P**		**15 32 29.6**	**-0.4**
baz=50,SNR=13							
TPH	**Tonopah**	**49.80**	**77**	*e*P	**P**		**15 32 30.3**	**0.0**
TPH				pmax	pmax		
comp=Z,26nm,0.7s							
TPH	**Tonopah**	**49.80**	**77**	*e*P	**P**		**15 32 30.3**	**0.0**
comp=Z,26nm,0.7s							
RLMT	**Red Lodge**	**49.83**	**65**	*e*P	**P**		**15 32 30.5**	**0.0**
comp=Z,32nm,0.8s							
D21A	**La Casta Ranch**	**49.85**	**62**	P	**P**		**15 32 30.3**	**-0.2**
baz=50							
I17A	**Pilgrim Ck.**	**49.86**	**67**	⇓P	**P**		**15 32 31.1**	**+0.3**
baz=50,SNR=30							
TIN	**Tinemaha, Big**	**49.88**	**79**	⇓P	**P**		**15 32 31.1**	**+0.3**
baz=50							
H18A	**Shoshone NF, C**	**49.89**	**66**	⇓P	**P**		**15 32 31.0**	**+0.1**
baz=50,SNR=34							
SMMC	**Simmler**	**49.99**	**82**	⇑P	**P**		**15 32 31.8**	**+0.2**
baz=50							
F20A	**Billings**	**50.02**	**64**	⇑P	**P**		**15 32 31.6**	**-0.2**
baz=50,SNR=18							
C22A	**Vida**	**50.02**	**61**	P	**P**		**15 32 31.3**	**-0.4**
baz=50							
B23A	**Brockton**	**50.05**	**60**	⇑P	**P**		**15 32 31.6**	**-0.2**
baz=50,SNR=21							
ENH	**Enshi**	**50.10**	**269**	*e*P	**P**		**15 32 32.7**	**+0.2**
comp=Z,7.3nm,0.5s							
E21A	**Keefer Ranch,**	**50.14**	**63**	⇑P	**P**		**15 32 32.7**	**+0.1**
baz=50							
VES	**Vestal, Richgr**	**50.18**	**81**	⇑P	**P**		**15 32 33.3**	**+0.4**
baz=50,SNR=15							
D22A	**Cohagen**	**50.24**	**62**	⇓P	**P**		**15 32 33.6**	**+0.3**
baz=50,SNR=25							
H19A	**Powell**	**50.27**	**66**	⇓P	**P**		**15 32 33.9**	**+0.2**
baz=50,SNR=13							
A24A	**Westby**	**50.27**	**59**	⇑P	**P**		**15 32 33.1**	**-0.5**
baz=50,SNR=27							
AHID	**Auburn Hatcher**	**50.30**	**69**	P	**P**		**15 32 33.7**	**-0.4**
comp=Z,18nm,0.8s							
G20A	**Bridger**	**50.35**	**65**	⇓P	**P**		**15 32 34.0**	**-0.3**
baz=50,SNR=58							
C23A	**Lambert**	**50.36**	**60**	⇓P	**P**		**15 32 34.2**	**0.0**
baz=50,SNR=51							
PKM	**Mcpherson Peak**	**50.38**	**82**	⇓P	**P**		**15 32 35.1**	**+0.3**
baz=50							
DAG	**Danmarks Havn**	**50.47**	**3**	*i* P	**P**		**15 32 33.4**	**-1.2**
DAG				pmax	pmax		
comp=Z,2.0nm,0.8s							
DAG	**Danmarks Havn**	**50.47**	**3**	*i* P	**P**		**15 32 33.4**	**-1.2**
comp=Z,3.1nm,0.8s							
LAO	**LASA Array**	**50.50**	**62**	*e*P	**P**		**15 32 35.7**	**+0.3**
comp=Z,34nm,0.7s							
F21A	**Absaloka Mine,**	**50.56**	**63**	⇑P	**P**		**15 32 36.3**	**+0.5**
baz=50							
R11A	**Troy Canyon, C**	**50.59**	**76**	⇓P	**P**		**15 32 35.9**	**-0.4**
baz=50,SNR=66							
R11A	**Troy Canyon, C**	**50.59**	**76**	*e*P	**P**		**15 32 35.9**	**-0.4**
comp=Z,26nm,0.7s							
ISA	**Isabella, Lake**	**50.67**	**81**	⇑P	**P**		**15 32 35.8**	**-1.0**
baz=50,SNR=13							
I19A	**Meeteetse**	**50.67**	**66**	⇓P	**P**		**15 32 36.6**	**-0.3**
baz=50,SNR=17							
A25A	**Svangstu Ranch**	**50.72**	**58**	⇑P	**P**		**15 32 36.6**	**-0.4**
baz=50,SNR=12							
D23A	**Lindsay**	**50.74**	**61**	⇑P	**P**		**15 32 36.9**	**-0.3**
baz=50,SNR=6.7							
SBC	**Santa Barbara**	**50.76**	**83**	⇓P	**P**		**15 32 37.2**	**-0.1**
baz=51							
DAC	**Darwin (Calif)**	**50.78**	**79**	*e*P	**P**		**15 32 37.4**	**-0.3**
DAC				pmax	pmax		
comp=Z,6.0nm,0.7s							
DAC	**Darwin (Calif)**	**50.78**	**79**	*e*P	**P**		**15 32 37.4**	**-0.3**
comp=Z,6.4nm,0.7s							
E22A	**Miles City**	**50.81**	**62**	⇓P	**P**		**15 32 37.7**	**0.0**
baz=51,SNR=20							
ARVC	**Arvin**	**50.82**	**81**	⇓P	**P**		**15 32 37.3**	**-0.5**
baz=51							
G21A	**Lodge Grass**	**50.90**	**64**	⇑P	**P**		**15 32 37.9**	**-0.5**
baz=51,SNR=8.2							
C24A	**Savage**	**50.93**	**60**	⇓P	**P**		**15 32 38.2**	**-0.4**
baz=51							
H20A	**Greybull**	**50.93**	**65**	⇓P	**P**		**15 32 38.0**	**-0.6**
baz=51							
DUG	**Dugway, Tooele**	**50.99**	**72**	*e*P	**P**		**15 32 39.2**	**0.0**
DUG				pmax	pmax		
comp=Z,39nm,0.8s							
DUG				MLR	MLR		
comp=Z,794nm,20.0s							
DUG	**Dugway, Tooele**	**50.99**	**72**	⇓P	**P**		**15 32 39.3**	**+0.1**
baz=51,SNR=44							
DUG	**Dugway, Tooele**	**50.99**	**72**	*e*P	**P**		**15 32 39.2**	**0.0**
comp=Z,40nm,0.8s							
DUG				LR	LR		
comp=Z,794nm,20.0s							
MPMC	**Manual Prospec**	**50.99**	**80**	⇓P	**P**		**15 32 39.2**	**-0.1**
baz=51,SNR=15							
F22A	**Rosebud**	**51.06**	**63**	⇓P	**P**		**15 32 39.4**	**-0.1**
baz=51,SNR=9.3							
FURC	**Furnace Creek,**	**51.09**	**79**	⇓P	**P**		**15 32 39.8**	**0.0**
baz=51,SNR=9.5							
BSC	**Santa Cruz Isl**	**51.11**	**83**	⇓P	**P**		**15 32 40.0**	**0.0**
baz=51				

E24A	Baker	51.60	61	⇑P		P	15 32 43.6	0.0
	baz=51,SNR=6.5							
J20A	Shoshoni	51.61	66	⇑P		P	15 32 43.9	+0.1
	baz=51,SNR=23							
DECC	Green Verdugo	51.72	82	⇑P		P	15 32 44.5	-0.1
	baz=52							
D25A	Fairfield	51.75	60	⇑P		P	15 32 44.6	-0.1
	baz=52							
I21A	Big Trails, Te	51.76	65	⇑P		P	15 32 44.6	-0.3
	baz=52,SNR=19							
H22A	Clearmont	51.77	64	⇓P		P	15 32 44.8	-0.2
	baz=52							
MPU	Maple Canyon	51.79	72	eP		P	15 32 45.0	-0.2
	comp=Z,22nm,0.9s							
SHOC	Shoshone, Teco	51.82	79	⇑P		P	15 32 45.4	+0.1
	baz=52							
G23A	Biddle	51.90	63	⇓P		P	15 32 45.5	-0.4
	baz=52,SNR=15							
MWC	Mount Wilson	51.90	82	eP		P	15 32 45.6	-0.5
MWC				pmax		pmax		
	comp=Z,42nm,0.9s							
MWC	Mount Wilson	51.90	82	eP		P	15 32 45.6	-0.5
	comp=Z,42nm,0.9s							
GSC	Goldstone, Bar	51.91	80	⇑P		P	15 32 45.7	-0.4
	baz=52,SNR=20							
C26A	Wahner Farm, P	51.95	59	⇓P		P	15 32 46.0	-0.2
	baz=52,SNR=33							
J21A	Lysite	51.97	66	⇑P		P	15 32 45.9	-0.7
	baz=52,SNR=8.0							
F24A	Ekalaka	51.99	62	⇑P		P	15 32 46.4	-0.2
	baz=52,SNR=14							
B27A	Peters Farms,	52.01	58	⇓P		P	15 32 46.5	-0.1
	baz=52							
E25A	Miller Ranch,	52.12	61	⇑P		P	15 32 47.2	-0.3
	baz=52,SNR=10							
BFSC	Mount Baldy Ra	52.13	81	⇑P		P	15 32 47.6	-0.2
	baz=52							
I22A	9 Mile Ranch,	52.15	65	⇑P		P	15 32 47.4	-0.4
	baz=52,SNR=27							
A28A	Rude Farm, Bot	52.20	57	⇓P		P	15 32 47.6	-0.4
	baz=52,SNR=6.2							
D26A	Manning	52.29	60	⇑P		P	15 32 48.3	-0.4
	baz=52,SNR=7.6							
C27A	Sayler Ranch,	52.33	58	⇓P		P	15 32 48.6	-0.3
	baz=52							
G24A	Alzada	52.34	62	⇑P		P	15 32 48.6	-0.5
	baz=52,SNR=10							
B28A	Dugan Ranch, T	52.44	57	⇓P		P	15 32 49.7	-0.1
	baz=52,SNR=8.9							
MVU	Marysvale	52.46	74	eP		P	15 32 50.5	+0.2
	comp=Z,21nm,0.7s							
F25A	Bowman	52.46	61	⇓P		P	15 32 49.9	-0.1
	baz=52,SNR=5.7							
J22A	Midwest	52.46	65	⇓P		P	15 32 50.0	-0.2
	baz=52,SNR=73							
HEC	Hector,Ludlow	52.52	80	⇑P		P	15 32 50.3	-0.3
	baz=52,SNR=16							
K21A	Alcova	52.55	67	⇑P		P	15 32 50.1	-0.7
	baz=52,SNR=18							
E26A	Carlson Angus	52.64	60	⇑P		P	15 32 51.1	-0.2
	baz=52,SNR=23							
H24A	Dirks Ranch, A	52.64	63	⇑P		P	15 32 51.0	-0.4
	baz=52,SNR=27							
I23A	Meade Ranch, G	52.66	64	⇓P		P	15 32 51.2	-0.4
	baz=52							
A29A	Manning Farm,	52.71	56	⇓P		P	15 32 51.5	-0.2
	baz=52,SNR=29							
D27A	Center	52.71	59	⇑P		P	15 32 51.7	-0.1
	baz=52							
MURC	Murrieta	52.85	82	⇓P		P	15 32 52.9	-0.1
	baz=53							
F26A	Lodgepole	52.93	61	⇑P		P	15 32 53.2	-0.2
	baz=53,SNR=13							
K22A	Casper	52.94	66	⇓P		P	15 32 53.4	-0.3
	baz=53,SNR=6.1							
B29A	Wagenman Farm,	52.94	56	⇑P		P	15 32 53.3	-0.2
	baz=53							
GMRC	Granite Mounta	52.95	79	⇑P		P	15 32 53.7	-0.2
	baz=53,SNR=17							
G25A	Newell	52.96	62	⇓P		P	15 32 53.6	-0.1
	baz=53,SNR=5.7							
J23A	Dilts Ranch, B	52.98	65	⇓P		P	15 32 53.8	-0.2
	baz=53							
SUMG	Summit	53.09	11	P		P	15 32 54.0	-0.7
SUMG				pmax		pmax		
	comp=Z,69nm,0.9s							
SUMG	Summit	53.09	11	i P		P	15 32 54.4	-0.2
	comp=Z,9.6nm,0.8s							
SUMG	Summit	53.09	11	P		P	15 32 54.0	-0.7
	comp=Z,69nm,0.9s							
CD2	Chengdu	53.12	274	eP		P	15 32 55.8	+0.7
CD2				pP		pP	15 33 02.8	+0.6
CD2				PcP		PcP	15 34 06.6	+3.5
CD2				PP		PP	15 34 53.0	-1.8
CD2				S		S	15 40 22.4	-1.7
CD2				ScS		ScS	15 42 39.5	-3.7
CD2				SS		SS	15 44 01.6	-1.7
CD2				PMZ				
	comp=Z,50nm,1.0s							
CD2				PMZ				
	comp=Z,320nm,9.5s							
CD2				LE				
	comp=Z,1μm,16.6s							
CD2				LZ				
	comp=Z,1μm,17.8s							
E27A	Carson	53.13	60	⇑P		P	15 32 55.0	0.0
	baz=53,SNR=5.1							
D28A	Regan	53.15	58	⇑P		P	15 32 55.1	0.0
	baz=53,SNR=12							
A30A	Hoffart Farm,	53.16	55	⇓P		P	15 32 54.9	-0.2
	baz=53,SNR=6.2							
N20A	Spence Gulch,	53.17	69	⇑P		P	15 32 55.9	+0.4
	baz=53,SNR=12							
I24A	Kuemmerle Ranc	53.19	64	⇑P		P	15 32 54.9	-0.5
	baz=53							
MDND	Maddock	53.22	57	⇓P		P	15 32 55.9	+0.4
	baz=53,SNR=14							
H25A	Fruitdale	53.24	63	⇓P		P	15 32 55.7	-0.1
	baz=53							
F27A	Lemmon	53.26	60	⇑P		P	15 32 55.5	-0.4
	baz=53,SNR=12							
PFO	Pinyon Flats O	53.29	81	⇓P		P	15 32 55.8	-0.5
	baz=53							
BELC	Belle Mtn. Jos	53.29	80	⇑P		P	15 32 56.1	-0.3
	baz=53							
G26A	Maurine	53.33	61	⇓P		P	15 32 56.3	-0.1
	baz=53,SNR=49							
RSSD	Black Hills	53.33	63	eP		P	15 32 55.8	-0.9
RSSD				pmax		pmax		
	comp=Z,25nm,0.6s							
RSSD	Black Hills	53.33	63	eP		P	15 32 55.8	-0.9
	comp=Z,25nm,0.6s							
K23A	Bowen Ranch, D	53.37	65	⇓P		P	15 32 56.4	-0.4
	baz=53,SNR=14							
L22A	Ellis Ranch, M	53.40	67	⇑P		P	15 32 57.3	+0.1
	baz=53,SNR=14							
B30A	Myrvik Farm, E	53.47	56	⇓P		P	15 32 57.0	-0.3
	baz=53,SNR=8.3							
E28A	Huff	53.49	59	⇑P		P	15 32 57.6	0.0
	baz=53,SNR=6.2							
ULM	Lac du Bonnet	53.50	53	P		P	15 32 57.3	-0.2
	comp=Z,18nm,0.7s,baz=307,slow=7.7,SNR=41							
J24A	Dixon Ranch, L	53.52	64	⇓P		P	15 32 57.1	-0.8
	baz=53,SNR=5.7							
I25A	Rochford	53.56	63	⇓P		P	15 32 58.0	-0.4
	baz=53							
G27A	Dupree	53.63	61	⇓P		P	15 32 58.2	-0.5
	baz=53,SNR=16							
O20A	White River Ci	53.65	70	⇑P		P	15 32 58.6	-0.4
	baz=53,SNR=26							
WMQ	Urumqi	53.66	297	P		P	15 32 59.0	+0.1
WMQ				pP		pP	15 33 05.4	-0.6
WMQ				PcP		PcP	15 34 08.1	+3.1
WMQ				PP		PP	15 35 01.6	+2.2
WMQ				S		S	15 40 29.0	-2.1
WMQ				sS		sS	15 40 40.0	-2.8
WMQ				ScS		ScS	15 42 43.0	-3.7
WMQ				SS		SS	15 44 11.1	-0.1
WMQ				PMZ				
	comp=Z,21nm,1.0s							
WMQ				PMZ				
	comp=Z,61nm,4.0s							
WMQ				LN				
	comp=Z,2μm,20.0s							
WMQ				LE				
	comp=Z,2μm,19.0s							
WMQ				LZ				
	comp=Z,990nm,25.0s							
IRM	Iron Mountain	53.68	80	⇑P		P	15 32 59.3	+0.1
	baz=54							
H26A	Fairpoint	53.69	62	⇑P		P	15 32 59.2	+0.1
	baz=54							
M22A	Cedar Creek Ra	53.73	67	⇑P		P	15 32 59.2	-0.4
	baz=54,SNR=19							
D29A	Pettibone, Tap	53.74	58	⇑P		P	15 32 59.0	-0.3
	baz=54							
KURK	Kurchatov	53.74	308	P		P	15 32 58.4	-0.9
	comp=Z,141nm,0.6s,SNR=35							
KURK	Kurchatov	53.74	308	P		P	15 32 59.5	+0.2
KURK	Kurchatov	53.74	308	P		P	15 32 59.5	+0.2
L23A	Garrett	53.75	66	P		P	15 32 59.6	-0.1
	baz=54							
W13A	Hualapai Mount	53.79	78	⇓P		P	15 32 59.7	-0.4
	baz=54							
MONP	Monument Peak,	53.81	82	⇓P		P	15 32 59.9	-0.4
	baz=54							
U15A	North Rim	53.82	76	⇓P		P	15 33 00.5	+0.1
	baz=54,SNR=42							
K24A	Anderson Ranch	53.84	65	⇑P		P	15 32 59.4	-0.9
	baz=54,SNR=5.0							
KURBB	Kurchatov Arra	53.84	308	P		P	15 32 59.5	-0.6
	comp=Z,23nm,0.7s,baz=54,slow=7.2,SNR=7.9							
BC3	Big Chuckawall	53.85	80	⇑P		P	15 32 59.9	-0.6
	baz=54							
C30A	Mose, Pekin	53.89	57	⇑P		P	15 32 59.8	-0.6
	baz=54							
F28A	McLaughlin	53.92	60	⇓P		P	15 33 00.6	-0.1
	baz=54,SNR=6.7							
J25A	Sunshine Ranch	53.95	64	⇑P		P	15 33 00.4	-0.6
	baz=54,SNR=5.6							
I26A	New Underwood	54.03	63	⇑P		P	15 33 01.6	0.0
	baz=54,SNR=12							
E29A	Napoleon	54.04	58	⇑P		P	15 33 01.3	-0.3
	baz=54							
H27A	Howes	54.05	62	⇓P		P	15 33 01.2	-0.5
	baz=54,SNR=12							
D30A	Buchanan	54.14	57	⇓P		P	15 33 01.8	-0.5
	baz=54,SNR=6.3							
SWSC	Sam W. Stewart	54.15	81	⇑P		P	15 33 02.8	+0.3
	baz=54							
M23A	Laramie	54.17	67	⇑P		P	15 33 02.4	-0.5
	baz=54,SNR=8.5							
PDMCI	Parker Dam,Lak	54.19	79	⇑P		P	15 33 02.6	-0.1
	baz=54,SNR=8.7							
G28A	Parade	54.37	61	P		P	15 33 03.5	-0.5
	baz=54							
J26A	Sides Ranch, S	54.39	63	⇑P		P	15 33 04.0	-0.2
	baz=54							
K25A	Mack Ranch, Ha	54.43	65	⇓P		P	15 33 04.2	-0.4
	baz=54,SNR=8.9							
N23A	Red Feather La	54.43	67	⇓P		P	15 33 05.0	+0.2
	baz=54,SNR=12							
F29A	Eureka	54.44	59	⇓P		P	15 33 04.0	-0.5
	baz=54							
I27A	Quinn	54.44	62	⇑P		P	15 33 04.6	0.0
	baz=54,SNR=15							
E30A	Jud	54.47	58	⇑P		P	15 33 04.1	-0.6
	baz=54							
MKAR	Makanchi Array	54.53	302	P		P	15 33 03.9	-1.2
	comp=Z,7.5nm,0.7s,baz=51,slow=6.9,SNR=84							
GYA	Guiyang	54.57	266	⇓i P		P	15 33 05.9	+0.1
GYA				pP		pP	15 33 15.4	+2.5
GYA				PP		PP	15 35 10.0	+2.0
GYA				ScP		ScP	15 38 04.3	-1.2
GYA				S		S	15 40 41.9	-2.1
GYA				sS		sS	15 40 54.3	-1.4
GYA				SS		SS	15 44 25.5	-0.9
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,140nm,5.0s							
GYA				LN				
	comp=Z,580nm,18.8s							
GYA				LE				
	comp=Z,520nm,19.0s							
GYA				LZ				
	comp=Z,560nm,18.4s							
H28A	Mission Ridge	54.58	61	⇓P		P	15 33 05.7	+0.2
	baz=54,SNR=22							
O22A	Kremmling	54.59	68	⇓P		P	15 33 05.9	-0.1
	baz=54,SNR=14							
GLA	Glamis	54.65	80	⇑P		P	15 33 06.3	+0.1
	baz=54,SNR=7.8							
M24A	Cheyenne	54.67	66	⇑P		P	15 33 06.6	+0.2
	baz=54,SNR=8.6							
L25A	Engebretsen Ra	54.68	65	⇑P		P	15 33 06.2	-0.3
	baz=54							
K26A	Motz Farm, Whi	54.74	64	⇑P		P	15 33 06.0	-0.9
	baz=54							
AGMN	Agassiz Nation	54.80	55	⇑P		P	15 33 06.6	-0.5
	baz=54,SNR=24							
AGMN	Agassiz Nation	54.80	55	eP		P	15 33 06.6	-0.5
	comp=Z,53nm,0.8s							
AGMN				e			15 33 13.9	
G29A	Hoven	54.81	60	⇓P		P	15 33 06.6	-0.6
	baz=55							
P22A	Eagle	54.85	69	⇓P		P	15 33 07.7	-0.1
	baz=55,SNR=16							
O23A	Lake Granby, G	54.91	68	⇓P		P	15 33 09.1	+0.8
	baz=55,SNR=55							
I28A	Midland	54.96	62	⇑P		P	15 33 08.3	+0.1
	baz=55,SNR=12							
WUAZ	Wupatki	54.98	76	⇓P		P	15 33 08.8	+0.1
	baz=55,SNR=10							
WUAZ	Wupatki	54.98	76	eP		P	15 33 08.7	0.0
	comp=Z,15nm,0.7s							
J27A	Elkhorn Farm,	55.01	63	⇓P		P	15 33 08.9	+0.1
	baz=55,SNR=10							
H29A	Onida	55.04	61	⇑P		P	15 33 08.9	+0.1
	baz=55							
KEV	Kevo	55.06	346	eP		P	15 33 07.5	-1.1
KEV				pmax		pmax		
	comp=Z,2.0nm,0.3s							
KEV	Kevo	55.06	346	ep		P	15 33 07.5	-1.1
	comp=Z,1.8nm,0.3s							
Y14A	Wickenburg	55.12	78	⇑P		P	15 33 09.6	0.0
	baz=55,SNR=7.1							
K27A	Flueckinger Fa	55.26	63	⇑P		P	15 33 10.7	+0.1
	baz=55							
G30A	Faulkton	55.26	59	⇑P		P	15 33 09.9	-0.6
	baz=55							
J28A	Allard Ranch,	55.31	62	⇑P		P	15 33 11.1	+0.3
	baz=55,SNR=42							
ISCO	Idaho Springs	55.36	68	eP		P	15 33 12.2	+0.6
ISCO				pmax		pmax		
	comp=Z,24nm,0.8s							
ISCO	Idaho Springs	55.36	68	⇓P		P	15 33 12.1	+0.6
	baz=55,SNR=34							
ISCO	Idaho Springs	55.36	68	eP		P	15 33 12.2	+0.6
	comp=Z,24nm,0.8s							
I29A	Vivian Onida	55.40	61	⇑P		P	15 33 11.2	-0.3
	baz=55,SNR=12							
O24A	Longmont	55.44	68	⇑P		P	15 33 12.7	+0.7
	baz=55							
113A	Mohawk Valley,	55.48	80	⇓P		P	15 33 11.8	-0.3
	baz=55							
ARCES	ARCESS Array B	55.48	346	P		P	15 33 11.4	-0.3
	comp=Z,5.0nm,0.7s,baz=28,slow=8.2,SNR=32							
ARCES				LR		LR	15 59 09.6	
	comp=Z,404nm,18.6s,baz=5.5,slow=38							
ARE0	ARCESS Array S	55.48	346	eP		P	15 33 12.9	+1.3
MVCO	Mesa Verde	55.49	72	⇓P		P	15 33 12.4	-0.1
	baz=55,SNR=14							
MVCO	Mesa Verde	55.49	72	eP		P	15 33 12.3	-0.1
	comp=Z,25nm,0.7s							
P23A	Jefferson	55.52	69	⇑P		P	15 33 13.7	+0.9
	baz=55,SNR=14							
M26A	McRoberts Ranc	55.60	65	⇑P		P	15 33 13.4	+0.4
	baz=55							
X16A	Lo Mia Camp, P	55.71	77	⇓P		P	15 33 14.6	+0.6
	baz=56,SNR=12							
K28A	Ten Mile Ranch	55.72	63	⇑P		P	15 33 14.2	+0.4
	baz=56							
J29A	Okreek	55.81	62	⇓P		P	15 33 14.4	-0.1
	baz=56,SNR=19							
BRSD	Miller	55.83	60	⇓P		P	15 33 14.5	-0.1
	baz=56							
Q23A	Hartsel	55.85	69	⇑P		P	15 33 15.3	+0.2
	baz=56							
BVAR	Borovoye Array	55.92	314	P		P	15 33 14.9	-0.1
	comp=Z,27nm,0.7s,baz=54,slow=6.9,SNR=176							
BVAR				LR		LR	15 58 52.0	
	comp=Z,1μm,20.2s,baz=52,slow=38							
I30A	Oacoma	55.94	61	⇑P		P	15 33 14.8	-0.6
	baz=56,SNR=5.9							
BRVK	Borovoye	55.95	314	P		P	15 33 15.5	+0.3
	comp=Z,314nm,0.5s,SNR=36							
P24A	Kohler Place,	55.95	68	⇓P		P	15 33 16.4	+0.7
	baz=56							
APA	Apatity	55.95	342	⇑i P		P	15 33 22.0	+7.0
APA				MLR		MLR		
	comp=Z,1μm,17.0s							
M27A	Reverse DX Ran	55.97	65	⇑P		P	15 33 16.2	+0.5
	baz=56,SNR=15							
N26A	Koester Ranch,	55.99	66	⇑P		P	15 33 16.4	+0.5
	baz=56							
S22A	4UR Ranch, Cre	56.08	71	⇓P		P	15 33 17.4	+0.6
	baz=56,SNR=47							
Q24A	Divide	56.20	69	⇑P		P	15 33 17.8	+0.2
	baz=56,SNR=7.0							
K29A	Lazy Trails An	56.25	62	⇓P		P	15 33 18.0	+0.4
	baz=56,SNR=6.8							
KTK1	Kautokeino	56.28	347	eP		P	15 33 18.2	+0.8
J30A	Dallas	56.31	61	⇑P		P	15 33 17.8	-0.2
	baz=56,SNR=6.1							
O26A	Horse Wrangler	56.34	66	⇓P		P	15 33 19.2	+0.7
	baz=56,SNR=11							
R23A	Moffat	56.34	70	⇓P		P	15 33 19.3	+0.6
	baz=56,SNR=8.8							
P25A	Willow Gulch B	56.37	67	⇑P		P	15 33 19.7	+1.1
	baz=56,SNR=12							
N27A	Anderson Farm,	56.39	65	⇑P		P	15 33 19.4	+0.8
	baz=56,SNR=16							
SOKR	Solikamsk	56.39	326	⇑i P		P	15 33 21.6	+3.4
SOKR				pmax		pmax		
	comp=Z,20nm,1.4s							
SOKR				MLR		MLR		
	comp=Z,1μm,19.0s							
X18A	Snowflake	56.51	76	P		P	15 33 20.4	+0.7
	baz=56							
OGNE	Ogallala	56.57	65	⇓P		P	15 33 20.4	+0.4
	baz=56,SNR=18							
OGNE	Ogallala	56.57	65	eP		P	15 33 20.4	+0.4
	comp=Z,129nm,0.6s							
OGNE				e			15 33 27.7	
M28A	Bar X Bar Ranc	56.62	64	⇓P		P	15 33 20.8	+0.5
	baz=56,SNR=6.8							
214A	Organ Pipe Nat	56.63	80	⇑P		P	15 33 20.8	+0.4
	baz=56							
L29A	Maesberg Ranch	56.65	63	⇓P		P	15 33 20.9	+0.4
	baz=56							
K30A	Basset	56.69	62	⇑P		P	15 33 21.0	+0.3
	baz=56							
R24A	Sanders Place,	56.73	69	⇓P		P	15 33 22.1	+0.8
	baz=56,SNR=17							
Q25A	Bedland, Calha	56.74	68	⇑P		P	15 33 22.1	+0.8
	baz=56,SNR=33							
P26A	Davis Ranch, A	56.80	67	⇓P		P	15 33 22.6	+1.0
	baz=57,SNR=13							
O27A	Beecher Island	56.84	66	⇑P		P	15 33 22.2	+0.3
	baz=57,SNR=15							
M29A	Burnside Ranch	56.96	64	⇓P		P	15 33 23.0	+0.3
	baz=57							
N28A	Pribbeno Ranch	57.02	65	⇑P		P	15 33 23.4	+0.3
	baz=57							
U22A	Llaves	57.02	72	⇓P		P	15 33 23.5	+0.1
	baz=57,SNR=11							
T23A	Casias Ranch,	57.03	71	⇓P		P	15 33 24.0	+0.5
	baz=57							
S24A	Houchin Ranch,	57.08	70	⇓P		P	15 33 24.5	+0.6
	baz=57,SNR=12							
SVE	Sverdlovsk	57.11	322	eP		P	15 33 24.8	+1.4
L30A	Spencer Herefo	57.13	63	⇑P		P	15 33 24.3	+0.4
	baz=57							
Q26A	Hugo	57.14	68	⇓P		P	15 33 24.7	+0.6
	baz=57							
EYMN	Ely	57.18	53	eP		P	15 33 23.9	-0.2
	comp=Z,60nm,0.8s							
EYMN				e			15 33 30.9	
P27A	Ficken Ranch,	57.23	66	⇑P		P	15 33 25.2	+0.5
	baz=57							
R25A	Fountain Ranch	57.25	69	⇓P		P	15 33 25.3	+0.4
	baz=57,SNR=14							
O28A	Krutsinger Ran	57.28	65	⇓P		P	15 33 25.4	+0.4
	baz=57,SNR=5.5							
V22A	San Miguel Ran	57.31	72	⇑P		P	15 33 25.6	+0.1
	baz=57,SNR=9.9							
M30A	Dale-Ortello V	57.34	63	⇓P		P	15 33 25.5	+0.2
	baz=57							
T24B	San Luis	57.38	70	⇑P		P	15 33 26.5	+0.5
	baz=57,SNR=18							
N29A	Votaw Ranch, W	57.42	64	⇑P		P	15 33 26.2	+0.2
	baz=57,SNR=6.6							
U23A	El Rito	57.43	72	⇓P		P	15 33 27.0	+0.7
	baz=57,SNR=21							
L31A	Butterfield Fa	57.45	62	⇓P		P	15 33 26.3	+0.2
	baz=57,SNR=8.1							
S25A	Robets Cordova	57.50	69	⇓P		P	15 33 26.9	+0.1
	baz=57,SNR=13							
ECSD	EROS Data Cent	57.54	59	⇓P		P	15 33 26.0	-0.7
	baz=57,SNR=14							
ECSD	EROS Data Cent	57.54	59	eP		P	15 33 25.1	-1.6
	comp=Z,24nm,0.9s							
ECSD				e			15 33 33.8	
KSCO	Kaye Shedlock'	57.58	67	⇓P		P	15 33 27.6	+0.4
	baz=57,SNR=5.3							
TUC	Tucson	57.58	78	eP		P	15 33 27.4	+0.2
TUC				pmax		pmax		
	comp=Z,15nm,0.9s							
TUC	Tucson	57.58	78	eP		P	15 33 27.4	+0.2
	comp=Z,14nm,0.9s							
R26A	Arlington	57.61	68	⇑P		P	15 33 27.9	+0.4
	baz=57,SNR=13							
P28A	Saint Francis	57.67	66	⇑P		P	15 33 28.2	+0.4
	baz=57							
N30A	Hueftle Ranch,	57.73	64	⇑P		P	15 33 28.2	+0.1
	baz=58							
O29A	4D Ranch, Culb	57.81	65	⇑P		P	15 33 29.1	+0.3
	baz=58,SNR=12							
V23A	Ortiz Mt. (NFS	57.85	72	⇓P		P	15 33 29.6	+0.4
	baz=58,SNR=14							
T25A	Trinidad	57.88	70	⇓P		P	15 33 29.8	+0.3
	baz=58,SNR=7.7							
KMI	Kunming	57.93	270	P		P	15 33 30.9	+1.0
KMI				pP		pP	15 33 37.8	+0.7
KMI				sP		sP	15 33 40.9	+1.1
KMI				PP		PP	15 35 41.3	+3.1
KMI				S		S	15 41 27.3	-1.5
KMI				sS		sS	15 41 40.3	-0.3
KMI				SS		SS	15 45 18.5	-1.1
KMI				PMZ				
	comp=Z,11nm,1.1s							
KMI				PMZ				
	comp=Z,170nm,6.0s							
KMI				LN				
	comp=Z,580nm,22.7s							
KMI				LE				
	comp=Z,1μm,12.1s							
KMI				LZ				
	comp=Z,580nm,19.6s							
TMCR	Tamitsa	57.96	338	eP		P	15 33 29.6	+0.3
TMCR				e			15 34 23.2	
TMCR				e			15 35 38.5	
TMCR				pmax		pmax		
	comp=Z,50nm,1.3s							
Q28A

QIZ	Qiongzhong	58.26	259	P	P	15 33 31.1	-0.9
QIZ				S	S	15 41 32.0	-0.7
QIZ				LN			
	comp=Z,490nm,18.2s						
QIZ				LE			
	comp=Z,200nm,16.8s						
QIZ				LZ			
	comp=Z,550nm,24.3s						
T26A	Comanche Natio	58.32	69	⇑P	P	15 33 32.4	-0.1
	baz=58,SNR=9.4						
N31A	Bailey Ranch,	58.33	63	⇓P	P	15 33 32.0	-0.3
	baz=58						
BGNE	Belgrade	58.35	62	⇓P	P	15 33 32.3	-0.1
	baz=58,SNR=5.9						
S27A	Las Animas	58.36	68	⇑P	P	15 33 32.6	-0.1
	baz=58						
V24A	Rampart Ranch,	58.38	71	⇓P	P	15 33 33.6	+0.6
	baz=58,SNR=11						
U25A	Circle Dot Ran	58.40	70	⇓P	P	15 33 33.1	0.0
	baz=58,SNR=13						
SPMN	Marine on St.	58.44	56	⇑P	P	15 33 32.9	0.0
	baz=58						
R28A	Tribune	58.50	67	⇓P	P	15 33 33.1	-0.5
	baz=58						
P30A	Selden	58.52	65	⇑P	P	15 33 33.6	-0.1
	baz=58,SNR=11						
Q29A	Oakley	58.58	66	⇑P	P	15 33 34.0	-0.1
	baz=58						
O31A	Woolen Ranch,	58.60	64	⇑P	P	15 33 34.1	-0.1
	baz=58						
W24A	Lazy 6 Ranch,	58.67	72	⇓P	P	15 33 35.5	+0.5
	baz=58,SNR=13						
V25A	Rancho No Teng	58.68	71	⇓P	P	15 33 35.5	+0.5
	baz=58,SNR=10						
N32A	Stulken Farm,	58.73	63	⇑P	P	15 33 35.3	+0.2
	baz=58						
U26A	Atchley Ranch,	58.79	70	⇓P	P	15 33 35.8	0.0
	baz=59,SNR=13						
R29A	Marienthal	58.82	66	⇑P	P	15 33 35.5	-0.3
	baz=59						
T27A	Campo	58.89	69	⇑P	P	15 33 36.5	+0.1
	baz=59						
Q30A	Quinter	58.94	65	⇑P	P	15 33 36.7	+0.1
	baz=59						
S28A	Manter	58.98	68	⇓P	P	15 33 37.0	0.0
	baz=59						
P31A	Stockton	59.02	64	⇑P	P	15 33 37.1	0.0
	baz=59						
O32A	Brockman Farm,	59.09	63	⇓P	P	15 33 37.4	-0.2
	baz=59						
319A	Douglas	59.14	78	⇓P	P	15 33 38.2	0.0
	baz=59,SNR=10						
V26A	Tequesquite Ra	59.19	70	⇑P	P	15 33 38.2	-0.3
	baz=59,SNR=9.8						
121A	Cookes Peak, D	59.19	76	⇑P	P	15 33 38.9	+0.3
	baz=59,SNR=6.5						
T28A	Walsh	59.20	68	⇓P	P	15 33 38.4	0.0
	baz=59,SNR=7.0						
W25A	X Bar L Ranch,	59.21	71	⇓P	P	15 33 38.8	+0.1
	baz=59,SNR=12						
U27A	Thompson Grove	59.29	69	⇑P	P	15 33 39.0	-0.1
	baz=59,SNR=7.3						
P32A	Huiting Farm,	59.37	64	⇑P	P	15 33 39.3	-0.2
	baz=59						
Q31A	Ellis	59.37	65	⇑P	P	15 33 39.3	-0.2
	baz=59						
R30A	Dighton	59.40	66	⇑P	P	15 33 39.4	-0.4
	baz=59,SNR=5.8						
S29A	Ulysses	59.40	67	⇑P	P	15 33 40.3	+0.5
	baz=59						
COWI	Conover	59.62	53	eP	P	15 33 40.6	-0.5
	comp=Z,36nm,0.8s						
COWI				e		15 33 48.0	
T29A	Hugoton	59.63	68	⇑P	P	15 33 41.4	0.0
	baz=59						
U28A	Mallet	59.66	69	⇑P	P	15 33 41.2	-0.5
	baz=59,SNR=5.4						
S30A	Montezuma	59.75	67	⇓P	P	15 33 42.0	-0.2
	baz=60						
V27A	Dan Oppiter Fa	59.76	70	⇓P	P	15 33 41.9	-0.5
	baz=60						
R31A	Burdett	59.81	66	⇑P	P	15 33 42.1	-0.5
	baz=60						
Q32A	Meitler Ranch,	59.84	64	⇑P	P	15 33 42.1	-0.7
	baz=60,SNR=6.0						
STOK	Stokkvaagen	60.06	350	eP	P	15 33 44.5	+0.8
SLVN	Son La	60.06	266	eP	P	15 33 45.5	+1.0
	comp=Z,22nm,0.8s						
MOR8	Moi Rana	60.07	350	eP	P	15 33 43.1	-0.8
V28A	Channing	60.11	69	⇑P	P	15 33 44.4	-0.4
	baz=60						
U29A	Oasis Ranch, S	60.15	68	⇑P	P	15 33 44.5	-0.5
	baz=60						
Q33A	Connelly Farm,	60.23	64	⇑P	P	15 33 44.6	-0.8
	baz=60,SNR=9.7						
S31A	Mullinville	60.31	66	⇓P	P	15 33 45.5	-0.6
	baz=60						
U30A	WK&E Inc. Balk	60.44	68	⇓P	P	15 33 46.4	-0.6
	baz=60						
KLMR	Klimovskoe	60.46	335	eP	P	15 33 46.3	-0.3
KLMR				pmax	pmax		
	comp=Z,107nm,1.6s						
KLMR				MLR	MLR		
	comp=Z,1μm,18.0s						
W28A	Vega	60.47	70	⇑P	P	15 33 46.8	-0.5
	baz=60						
JOF	Joensuu	60.50	341	eP	P	15 33 46.7	-0.2
JOF				pmax	pmax		
	comp=Z,20nm,0.6s						
JOF	Joensuu	60.50	341	ep	P	15 33 46.7	-0.2
	comp=Z,20nm,0.6s						
T31A	Randall Ranch,	60.58	67	⇑P	P	15 33 46.9	-0.9
	baz=60						
SCIA	State Center	60.60	59	eP	P	15 33 48.0	+0.1
	comp=Z,43nm,0.7s						
TKM2	Tokmak 2	60.64	303	P	P	15 33 48.1	-0.4
	SNR=15						
TKM2	Tokmak 2	60.64	303	eP	P	15 33 48.0	-0.4
TKM2				e		15 33 55.0	
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TKM2	Tokmak 2	60.64	303	eP	P	15 33 48.0	-0.4
	comp=Z,9.4nm,0.8s						
TKM2				e		15 33 55.0	
R33A	Olander Ranch,	60.64	65	⇓P	P	15 33 47.3	-0.9
	baz=60						
ULHL	Ulahol	60.80	302	P	P	15 33 49.8	+0.3
	SNR=7.0						
ULHL	Ulahol	60.80	302	i P	P	15 33 49.8	+0.3
KSU1	Kansas State U	60.82	63	⇑P	P	15 33 48.9	-0.6
	baz=61						
KSU1	Kansas State U	60.82	63	eP	P	15 33 48.4	-1.0
	comp=Z,30nm,0.6s						
T32A	Huddler Ranch,	60.93	66	⇑P	P	15 33 49.7	-0.5
	baz=61						
USP	Ospenovka	60.95	304	P	P	15 33 50.5	+0.2
	SNR=20						
USP	Ospenovka	60.95	304	i P	P	15 33 50.4	+0.2
X28A	Dimmitt	61.01	70	⇑P	P	15 33 50.8	-0.1
	baz=61						
AMTX	Amarillo	61.04	70	⇑P	P	15 33 51.0	-0.1
	baz=61						
AMTX	Amarillo	61.04	70	P	P	15 33 49.7	-1.4
	comp=Z,20nm,0.7s						
MSTX	Muleshoe	61.07	71	⇓P	P	15 33 51.2	-0.2
	baz=61,SNR=5.4						
S33A	Kaszmaul Farm,	61.15	65	⇑P	P	15 33 51.4	-0.3
	baz=61						
KBK	Karagaybulak	61.16	303	P	P	15 33 52.0	+0.1
	SNR=22						
KBK	Karagaybulak	61.16	303	i P	P	15 33 52.0	+0.1
FRU	Bishkek	61.20	304	eP	P	15 33 52.0	0.0
X29A	Tulia	61.34	70	⇓P	P	15 33 53.2	+0.1
	baz=61						
SMPI	Sarmi	61.35	219	P	P	15 33 54.9	+1.7
	comp=Z,49nm,1.2s,comp=Z,2μm						
GENI	Genyem	61.36	217	P	P	15 33 54.3	+1.0
	comp=Z,57nm,0.7s						
T33A	Patterson Ranc	61.38	66	⇑P	P	15 33 53.1	-0.1
	baz=61						
JFWS	Jewell Farm	61.38	56	eP	P	15 33 51.8	-1.4
JFWS				pmax	pmax		
	comp=Z,44nm,0.9s						
JFWS	Jewell Farm	61.38	56	eP	P	15 33 51.8	-1.4
	comp=Z,44nm,0.9s						
AAK	Ala-Archa	61.41	304	P	P	15 33 53.0	-0.6
	comp=Z,108nm,0.7s,SNR=24						
AAK	Ala-Archa	61.41	304	P	P	15 33 53.5	-0.1
	SNR=25						
AAK	Ala-Archa	61.41	304	d iP	P	15 33 53.3	-0.3
AAK				pmax	pmax		
	comp=Z,39nm,0.8s						
AAK	Ala-Archa	61.41	304	P	P	15 33 53.5	-0.1
	comp=Z,12nm,0.7s,baz=103,slow=3.5,SNR=54						
Y28A	McKinney Farm,	61.42	71	⇑P	P	15 33 53.7	0.0
	baz=61						
KZA	Kyzart	61.43	303	P	P	15 33 53.8	-0.3
	SNR=14						
KZA	Kyzart	61.43	303	i P	P	15 33 53.7	-0.3
V31A	Spring Creek L	61.44	68	⇓P	P	15 33 53.4	-0.3
	baz=61						
U32A	Winter Ranch,	61.47	67	⇑P	P	15 33 53.5	-0.4
	baz=61						
LSA	Lhasa	61.55	282	P	P	15 33 55.8	+0.8
LSA	Lhasa	61.55	282	eP	P	15 33 55.9	+0.8
LSA				pmax	pmax		
	comp=Z,24nm,1.1s						
LSA				MLR	MLR		
	comp=Z,1μm,22.0s						
LSA	Lhasa	61.55	282	eP	P	15 33 55.9	+0.8
	comp=Z,24nm,1.1s						
LSA				LR	LR		
	comp=Z,1μm,22.0s						
S34A	Willow Spring	61.56	64	⇓P	P	15 33 53.7	-0.8
	baz=61						
UCH	Uchtor	61.69	303	P	P	15 33 56.8	+0.9
	SNR=8.0						
UCH	Uchtor	61.69	303	i P	P	15 33 56.7	+0.9
EKS2	Erkin-Say	61.75	304	P	P	15 33 56.0	+0.1
	SNR=39						
EKS2	Erkin-Say	61.75	304	i P	P	15 33 55.9	+0.1
EKS2	Erkin-Say	61.75	304	eP	P	15 33 55.8	-0.1
	comp=Z,19nm,0.8s						
EKS2				e		15 34 02.9	
Y29A	Porterfield Fa	61.78	70	⇑P	P	15 33 56.4	+0.2
	baz=62,SNR=11						
W31A	Holland Ranch,	61.80	68	⇑P	P	15 33 55.9	-0.3
	baz=62						
X30A	Coker Ranch, T	61.81	69	⇓P	P	15 33 56.0	-0.2
	baz=62						
V32A	Arapaho	61.92	67	⇓P	P	15 33 55.8	-1.1
	baz=62						
AML	Almayashu	62.18	304	P	P	15 33 59.4	+0.4
	SNR=20						
AML	Almayashu	62.18	304	i P	P	15 33 59.4	+0.4
SCHQ	Schefferville	62.18	34	P	P	15 33 57.9	-0.5
	comp=Z,30nm,0.7s,baz=337,slow=6.9,SNR=33						
SCHQ				LR	LR	16 03 21.2	
	comp=Z,830nm,18.2s,baz=327,slow=38						
X31A	McDonald Ranch	62.19	69	⇓P	P	15 33 58.3	-0.5
	baz=62						
KAF	Kangasniemi	62.20	343	eP	P	15 33 57.3	-1.1
KAF				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KAF	Kangasniemi	62.20	343	ep	P	15 33 57.3	-1.1
	comp=Z,9.2nm,0.5s						
SRPI	Serui, Papua	62.20	221	P	P	15 34 00.0	+1.1
	comp=Z,44nm,0.5s,comp=Z,4μm						
Z29A	Hungry Hill Ra	62.20	71	⇓P	P	15 33 58.8	-0.1
	baz=62,SNR=5.4						
Y30A	Stafford Cattl	62.21	70	⇓P	P	15 33 58.8	-0.2
	baz=62						
128A	Castleberry Fa	62.22	72	⇓P	P	15 33 58.8	-0.2
	baz=62						
U34A	Anderson Ranch	62.24	66	⇑P	P	15 33 58.1	-1.0
	baz=62,SNR=5.4						
U34A	Anderson Ranch	62.24	66	eP	P	15 33 56.9	-2.2
	comp=Z,33nm,0.6s						
W32A	Sentinel	62.24	68	⇑P	P	15 33 59.3	+0.1
	baz=62						
V33A	Lossen Ranch,	62.27	67	⇑P	P	15 33 58.7	-0.6
	baz=62						
S36A	Lake Cedric, C	62.37	63	⇓P	P	15 33 58.9	-1.0
	baz=62						
Z30A	Sanderson Ranc	62.51	71	⇓P	P	15 34 00.3	-0.7
	baz=62,SNR=10						
228A	UT Block 9, Go	62.52	72	⇑P	P	15 34 01.0	-0.1
	baz=62						
W33A	Caddo, Fort Co	62.66	67	⇓P	P	15 34 01.9	0.0
	baz=62						
V34A	Guthrie	62.69	66	⇓P	P	15 34 01.8	-0.2
	baz=62						
V34A	Guthrie	62.69	66	eP	P	15 34 01.3	-0.8
	comp=Z,29nm,0.7s						
X32A	Elmer	62.73	68	⇓P	P	15 34 02.3	-0.1
	baz=62						
WMOK	Wichita Mounta	62.78	68	eP	P	15 34 02.3	-0.4
WMOK				pmax	pmax		
	comp=Z,24nm,1.0s						
WMOK	Wichita Mounta	62.78	68	eP	P	15 34 02.3	-0.4
	comp=Z,24nm,1.0s						
FINES	FINESS Array B	62.86	342	P	P	15 34 02.7	-0.1
	comp=Z,12nm,0.7s,baz=25,slow=6.8,SNR=39						
FINES				LR	LR	16 07 21.1	
	comp=Z,320nm,18.1s,baz=49,slow=42						
HNR	Honiara	62.88	193	LR	LR	15 58 26.1	
	comp=Z,238nm,20.3s,baz=354,slow=33						
KSH	Kashi	62.93	300	⇓ i P	P	15 34 07.1	+3.3
KSH				sP	sP	15 34 18.3	+4.6
KSH				PP	PP	15 36 28.1	+6.3
KSH				S	S	15 42 34.3	+2.0
KSH				sS	sS	15 42 46.3	+2.2
KSH				ScS	ScS	15 43 53.0	-2.0
KSH				SS	SS	15 46 42.3	+5.4
KSH				PMZ			
	comp=Z,8.0nm,0.6s						
KSH				LN			
	comp=Z,160nm,7.5s						
KSH				LE			
	comp=Z,140nm,6.0s						
KSH				LZ			
	comp=Z,240nm,15.7s						
Y32A	R-V Farms, Ver	62.95	69	⇑P	P	15 34 04.0	+0.2
	baz=63						
W34A	Bridge Creek,	62.98	67	⇑P	P	15 34 03.7	-0.4
	baz=63						
W34A	Bridge Creek,	62.98	67	P	P	15 34 03.7	-0.4
	comp=Z,20nm,0.6s						
AKTO	Aktyubinsk	63.00	319	P	P	15 34 04.0	+0.1
AKTO	Aktyubinsk	63.00	319	P	P	15 34 04.0	+0.1
	comp=Z,29nm,0.7s,baz=54,slow=8.0,SNR=91						
KKAR	Karatay Array	63.04	306	eP	P	15 34 03.7	-0.6
KKAR				e		15 34 11.2	
KKAR				pmax	pmax		
	comp=Z,18nm,0.6s						
KKAR	Karatay Array	63.04	306	eP	P	15 34 03.7	-0.6
	comp=Z,18nm,0.6s						
KKAR				e		15 34 11.2	
CRAI	Chiangrai	63.04	268	P	P	15 34 02.0	-2.6
	comp=Z,132nm,1.0s,comp=Z,4μm						
Z31A	Sharp Cattle R	63.05	70	⇑P	P	15 34 04.4	-0.2
	baz=63						
130A	Snyder	63.11	71	⇑P	P	15 34 04.9	-0.1
	baz=63						
V35A	Meyer Ranch, C	63.12	66	⇓P	P	15 34 04.6	-0.3
	baz=63						
329A	Wagon Wheel Ra	63.34	73	⇓P	P	15 34 06.6	+0.1
	baz=63						
131A	Roby	63.38	70	⇓P	P	15 34 06.8	+0.1
	baz=63						
Y33A	Hilltop Ranch,	63.40	68	⇑P	P	15 34 06.7	-0.2
	baz=63						
X34A	Smith Ranch, M	63.41	67	⇑P	P	15 34 07.1	+0.2
	baz=63						
230A	Sterling City	63.54	72	⇓P	P	15 34 07.8	0.0
	baz=63						
TUL1	Leonard	63.58	65	⇓P	P	15 34 07.8	-0.2
	baz=63						
TNTI	Ternate	63.73	232	P	P	15 34 08.4	-0.7
	comp=Z,80nm,1.7s,comp=Z,2μm						
TNTI	Ternate	63.73	232	eP	P	15 34 08.3	-0.9
	comp=Z,62nm,0.8s						
UBPT	Khong Chiam	63.78	261	P	P	15 34 10.5	+1.0
	comp=Z,38nm,1.7s,comp=Z,674nm						
ABTX	Abilene, Hawle	63.84	70	⇑P	P	15 34 09.8	0.0
	baz=64						
Z33A	Whitaker Ranch	63.85	69	⇓P	P	15 34 09.4	-0.4
	baz=64						
330A	Mertzon	63.86	72	⇑P	P	15 34 09.6	-0.4
	baz=64						
Y34A	Reagan Ranch,	63.93	68	⇑P	P	15 34 09.9	-0.4
	baz=64						
TXAR	Lajitas Array	63.94	75	P	P	15 34 10.6	+0.1
	comp=Z,12nm,0.6s,baz=306,slow=4.1,SNR=91						
TXAR				LR	LR	15 59 48.0	
	comp=Z,422nm,20.0s,baz=0.0,slow=34						
231A	Bronte	63.97	71	⇓P	P	15 34 10.0	-0.6
	baz=64						
429A	Davenport Ranc	64.02	73	⇓P	P	15 34 10.5	-0.5
	baz=64,SNR=5.0						
CMAI	Chiengmai2	64.07	269	P	P	15 34 13.1	+1.5
	comp=Z,46nm,1.2s,comp=Z,2μm						
529A	Stev Forest Ra	64.20	74	⇑P	P	15 34 11.9	-0.4
	baz=64,SNR=7.3						
133A	Hamilton Ranch	64.27	70	⇓P	P	15 34 12.7	+0.1
	baz=64						
Z34A	Collier Ranch,	64.27	68	⇓P	P	15 34 12.4	-0.2
	baz=64						
430A	Baggett Ranch,	64.28	73	⇑P	P	15 34 12.2	-0.5
	baz=64,SNR=7.7						
331A	San Angelo	64.36	72	⇑P	P	15 34 12.9	-0.4
	baz=64						
232A	Coleman	64.38	71	⇑P	P	15 34 13.0	-0.4
	baz=64,SNR=7.8						
Z35A	Perchaven, San	64.67	68	⇑P	P	15 34 14.8	-0.4
	baz=64						
AKN	Aaknes	64.69	352	eP	P	15 34 15.5	+0.6
530A	J-C Ranch, Com	64.69	73	⇓P	P	15 34 15.1	-0.3
	baz=64,SNR=12						
332A	Millersview	64.70	71	⇑P	P	15 34 15.1	-0.4
	baz=64,SNR=8.1						
233A	Rising Star	64.71	70	⇑P	P	15 34 15.6	+0.1
	baz=64						
431A	Sonora	64.72	72	⇓P	P	15 34 15.2	-0.4
	baz=64,SNR=7.2						
134A	White-Moore Ra	64.77	69	⇓P	P	15 34 15.7	-0.1
	baz=65,SNR=6.2						
LAMP	Lampang	64.79	268	P	P	15 34 17.3	+1.2
	comp=Z,7.0nm,0.8s,comp=Z,71nm						
FAKI	Fak Fak	64.80	225	P	P	15 34 17.0	+0.9
	comp=Z,88nm,1.4s,comp=Z,860nm						
UTTA	Uttaradit	64.83	266	P	P	15 34 16.7	+0.4
	comp=Z,12nm,0.7s,comp=Z,91nm						
SFIN	Lafayette	64.85	56	⇓P	P	15 34 15.6	-0.5
	baz=65						
LBMI	Labuha	64.91	231	P	P	15 34 17.7	+0.9
	comp=Z,62nm,1.0s,comp=Z,970nm						
CMMT	Chiang Mai	64.98	268	P	P	15 34 17.4	0.0
	comp=Z,36nm,0.8s,comp=Z,499nm						
CHTO	Chiang Mai	64.99	268	eP	P	15 34 17.2	-0.2
CHTO				pmax	pmax		
	comp=Z,14nm,0.7s						
CHTO	Chiang Mai	64.99	268	P	P	15 34 17.5	+0.1
	comp=Z,124nm,0.9s,comp=Z,2μm						
CHTO	Chiang Mai	64.99	268	eP	P	15 34 17.1	-0.2
	comp=Z,14nm,0.7s						
KKM	Kota Kinabalu	64.99	245	eP	P	15 34 18.4	+0.8
	comp=Z,30nm,1.0s						
432A	Menard	65.05	71	⇑P	P	15 34 17.2	-0.5
	baz=65,SNR=6.2						
AAM	Ann Arbor	65.08	52	P	P	15 34 16.6	-1.1
AAM				pmax	pmax		
	comp=Z,23nm,0.4s						
AAM	Ann Arbor	65.08	52	P	P	15 34 16.6	-1.1
	comp=Z,23nm,0.4s						
531A	Rockspring	65.14	72	⇑P	P	15 34 17.6	-0.7
	baz=65,SNR=6.5						
234A	Clairette	65.16	69	⇑P	P	15 34 18.1	-0.2
	baz=65						
135A	Vickery Place,	65.16	69	⇓P	P	15 34 18.0	-0.4
	baz=65						
333A	Richland Sprin	65.18	71	⇑P	P	15 34 18.1	-0.5
	baz=65,SNR=5.4						
CMAR	Chiang Mai Arr	65.26	268	P	P	15 34 19.6	+0.4
	comp=Z,16nm,0.5s,baz=28,slow=6.8,SNR=114						
CMAR				LR	LR	16 03 53.5	
	comp=Z,390nm,20.5s,baz=34,slow=37						
TAPN	Taplejung	65.32	283	eP	P	15 34 20.0	+0.2
	comp=Z,71nm,0.5s						
JCT	Junction City	65.34	72	eP	P	15 34 18.5	-1.1
JCT				pmax	pmax		
	comp=Z,23nm,0.6s						
JCT	Junction City	65.34	72	⇓P	P	15 34 18.9	-0.7
	baz=65,SNR=6.2						
JCT	Junction City	65.34	72	eP	P	15 34 18.5	-1.1
	comp=Z,23nm,0.6s						
CHAI	Chaiyaphum	65.39	264	P	P	15 34 21.1	+1.1
	comp=Z,7.1nm,1.1s						
MOS	Moscow	65.41	334	eP	P	15 34 26.7	+7.1
NB2	NORSAR Subarra	65.42	350	P	P	15 34 19.4	-0.2
	comp=Z,22nm,0.8s,baz=13,slow=6.5						
NB2	NORSAR Subarra	65.42	350	P	P	15 34 19.4	-0.2
	baz=13,slow=6.5						
NOA	NORSAR Array B	65.42	350	P	P	15 34 19.5	-0.2
	comp=Z,10nm,0.6s,baz=14,slow=6.5,SNR=46						
NOA				LR	LR	16 04 28.0	
	comp=Z,191nm,19.2s,baz=10.0,slow=37						
PBKT	Sadao Pong	65.48	265	P	P	15 34 21.2	+0.6
	comp=Z,20nm,1.4s,comp=Z,2μm						
VSU	Vasula	65.50	341	eP	P	15 34 20.7	+0.6
VSU				pmax	pmax		
	comp=Z,34nm,1.2s						
PMG	Port Moresby	65.53	207	deP	P	15 34 21.0	+0.2
PMG				pmax	pmax		
	comp=Z,17nm,1.0s						
532A	Rockspring	65.54	72	⇑P	P	15 34 20.0	-1.0
	baz=65,SNR=5.7						
433A	Art	65.54	71	⇑P	P	15 34 20.2	-0.7
	baz=65,SNR=6.9						
KMSI	Cibinong	65.55	235	P	P	15 34 21.2	+0.2
	comp=Z,152nm,1.2s						
WHTX	Lake Whitney,	65.55	69	⇑P	P	15 34 20.6	-0.3
	baz=65						
WHTX	Lake Whitney,	65.55	69	eP	P	15 34 20.5	-0.5
	comp=Z,14nm,0.7s						
334A	Lometa	65.60	70	⇑P	P	15 34 20.9	-0.3
	baz=65						
NC602	NORSAR Array S	65.68	350	eP	P	15 34 21.9	+0.6
631A	Perdido Creek	65.68	73	⇓P	P	15 34 21.3	-0.5
	baz=66,SNR=6.3						
HYA	Hoyanger	65.76	352	eP	P	15 34 22.3	+0.6
SIUC	Southern Illin	65.77	59	P	P	15 34 21.3	-0.9
	comp=Z,16nm,0.8s						
MIAR	Mount Ida	65.81	64	eP	P	15 34 21.6	-0.9
MIAR				pmax	pmax		
	comp=Z,13nm,0.8s						
MIAR	Mount Ida	65.81	64	eP	P	15 34 21.6	-0.9
	comp=Z,12nm,0.8s						
ODAN	Odare	65.87	283	eP	P	15 34 23.4	+0.1
434A	Burnet	65.97	70	⇑P	P	15 34 23.3	-0.3
	baz=66,SNR=5.7						
GTOI	Gorontalo	65.98	236	P	P	15 34 23.2	-0.6
	comp=Z,58nm,0.7s						
GUN	Gumba	65.98	285	eP	P	15 34 24.1	0.0
	comp=Z,78nm,0.4s						
JIRN	Jiri	65.98	284	eP	P	15 34 24.6	+0.4
	comp=Z,75nm,0.6s						
HFS	Hagfors	66.02	348	LR	LR	16 04 52.0	
	comp=Z,275nm,18.1s,baz=26,slow=38						
BLO	Bloomington	66.05	56	eP	P	15 34 23.1	-0.9
BLO				pmax	pmax		
	comp=Z,33nm,0.8s						
BLO	Bloomington	66.05	56	eP	P	15 34 23.1	-0.9
	comp=Z,33nm,0.8s						
137A	Heron Place, G	66.06	67	⇓P	P	15 34 23.4	-0.7
	baz=66						
632A	Uvalde	66.07	72	⇑P	P	15 34 23.8	-0.5
	baz=66						
533A	Kerrville	66.08	71	⇓P	P	15 34 23.7	-0.7
	baz=66						
MHMT	Maesarieng	66.09	269	P	P	15 34 25.3	+0.8
	comp=Z,18nm,0.6s,comp

baz=66
PKI Pulchoki 66.51 285 *e*P **P 15 34 27.4 -0.1**
comp=Z,75nm,0.5s
PKIN Phulchoki 66.51 285 *e*P **P 15 34 27.1 -0.4**
comp=Z,67nm,0.5s
732A Laxson Ranch, 66.55 73 ⇑P **P 15 34 27.3 0.0**
baz=66
GKN Gorkha 66.64 286 *e*P **P 15 34 27.8 -0.3**
comp=Z,19nm,0.4s
MRSI Marisa 66.65 237 P **P 15 34 28.1 0.0**
comp=Z,83nm,0.9s,comp=Z,1μm
DMN Daman 66.66 285 *e*P **P 15 34 28.4 0.0**
comp=Z,47nm,0.5s
436A Wall Ranch, Ga 66.84 69 ⇓P **P 15 34 29.0 -0.2**
baz=67
SANI Sanana 66.85 231 P **P 15 34 28.9 -0.5**
comp=Z,85nm,0.8s,comp=Z,971nm
238A Jacksonville 66.86 67 ⇑P **P 15 34 28.9 -0.3**
baz=67
832A Faith Ranch, C 66.88 73 ⇓P **P 15 34 29.2 -0.2**
baz=67
WCI Wyandotte Cave 66.88 57 *e*P **P 15 34 28.5 -0.9**
WCI *e* 15 34 36.0
WCI pmax pmax
comp=Z,36nm,1.3s
WCI Wyandotte Cave 66.88 57 *e*P **P 15 34 28.5 -0.9**
comp=Z,36nm,1.3s
WCI *e* 15 34 36.0
DANN Dangsing 66.89 287 *e*P **P 15 34 29.8 -0.1**
comp=Z,47nm,0.6s
733A Divot King Ran 66.94 73 ⇓P **P 15 34 29.8 -0.1**
baz=67
KONO Kongsberg 66.95 350 *e*P **P 15 34 29.7 +0.3**
ODD1 Odda 66.97 352 *e*P **P 15 34 30.4 +0.8**
NAYO Nakonayok 67.02 263 P **P 15 34 31.4 +0.9**
comp=Z,39nm,1.0s
833A Chaparral WMA, 67.18 73 ⇑P **P 15 34 30.7 -0.7**
baz=67
UTHA Uthaitani 67.19 266 P **P 15 34 32.3 +0.8**
comp=Z,7.5nm,1.1s,comp=Z,81nm
BNDI Bandanaira 67.25 226 P **P 15 34 31.5 -0.3**
comp=Z,100nm,1.6s
ALLY Alegheny Colle 67.25 51 *e*P **P 15 34 31.5 -0.2**
ALLY *e* 15 34 38.8
635A Leesville 67.32 71 ⇑P **P 15 34 32.6 +0.4**
baz=67
NLAI Namlea 67.38 230 P **P 15 34 34.1 +1.4**
comp=Z,26nm,1.2s
KOLN Koldanda 67.42 286 *e*P **P 15 34 32.8 -0.3**
comp=Z,27nm,0.5s
BLS5 Blasjo 67.46 352 *e*P **P 15 34 33.5 +0.8**
LUWI Luwuk 67.54 235 P **P 15 34 32.5 -1.3**
comp=Z,146nm,0.7s,comp=Z,1μm
LUWI Luwuk 67.54 235 *e*P **P 15 34 32.4 -1.3**
comp=Z,82nm,0.6s
438A Sam Houston St 67.60 68 ⇑P **P 15 34 34.3 +0.3**
baz=67
537A Green Hill Far 67.63 70 ⇑P **P 15 34 34.3 +0.1**
baz=67
636A Smothers Creek 67.66 70 ⇓P **P 15 34 34.5 +0.1**
baz=68
WVT Waverly 67.69 59 *e*P **P 15 34 33.8 -0.7**
WVT *e* 15 34 41.4
WVT pmax pmax
comp=Z,20nm,0.8s
WVT Waverly 67.69 59 *e*P **P 15 34 33.8 -0.7**
comp=Z,20nm,0.8s
WVT *e* 15 34 41.4
933A Laredo 67.79 73 ⇑P **P 15 34 35.9 +0.7**
baz=68
MPSI Mapaga 67.81 238 P **P 15 34 35.1 -0.4**
comp=Z,42nm,0.9s,comp=Z,578nm
834A Tilden 67.82 73 ⇑P **P 15 34 36.6 +1.2**
baz=68
APSI Ampana 67.99 236 P **P 15 34 36.3 -0.2**
comp=Z,76nm,0.8s,comp=Z,917nm
HKT Hockley 68.00 69 *e*P **P 15 34 36.7 +0.3**
HKT pmax pmax
comp=Z,35nm,1.5s
HKT Hockley 68.00 69 *e*P **P 15 34 36.7 +0.3**
comp=Z,35nm,1.5s
OXF Oxford 68.09 62 *e*P **P 15 34 35.2 -1.8**
OXF pmax pmax
comp=Z,52nm,0.8s
OXF Oxford 68.09 62 *e*P **P 15 34 35.2 -1.8**
comp=Z,52nm,0.8s
835A Beeville 68.11 72 ⇓P **P 15 34 38.4 +1.2**
baz=68
934A Benavides 68.23 73 ⇑P **P 15 34 38.9 +0.9**
baz=68
KHLT Khaolaem Dam 68.30 266 P **P 15 34 39.8 +1.3**
comp=Z,7.7nm,0.9s
VRHR Novokhopersk 68.30 329 *e*P **P 15 34 36.7 -1.4**
VRHR *e**PP **pP 15 34 45.2 -0.1**
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
034A Hebbronville 68.54 73 ⇑P **P 15 34 40.8 +0.8**
baz=68
BINY Binghamton 68.73 48 *e*P **P 15 34 39.8 -1.1**
comp=Z,33nm,0.9s
ACCN Adirondack Com 68.80 45 *e*P **P 15 34 39.7 -1.7**
comp=Z,27nm,0.9s
ACCN *e* 15 34 47.4
NACGM Naroch 68.80 339 *e* P 15 34 45.0 +3.9
PCI Palu 68.91 238 P **P 15 34 42.2 -0.1**
comp=Z,1.9nm,1.0s,comp=Z,31nm
MICGM Minsk 68.93 338 *e*P **P 15 34 42.0 +0.1**
MNK Minsk 68.94 339 *e*P **P 15 34 42.0 0.0**
VSR Storozhevoye 68.95 330 *e*P **P 15 34 41.7 -0.4**
VSR *e**PP **pP 15 34 49.4 0.0**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
035A Encino 68.98 73 ⇑P **P 15 34 43.5 +0.8**
baz=69
SSPA Standing Stone 69.10 50 *e*P **P 15 34 42.6 -0.6**
comp=E,44nm,0.8s
VORD Divnogorie 69.13 330 *e*P **P 15 34 42.6 -0.6**
VORD *e**PP **pP 15 34 50.8 +0.3**
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,1.4s
PHET Kaeng Krachan 69.14 264 P **P 15 34 45.5 +1.7**
comp=E,67nm,0.7s
SMKI Samarinda 69.88 240 P **P 15 34 48.3 0.0**
comp=E,4μm,1.2s
TKL Tuckaleechee C 70.14 57 *e*P **P 15 34 48.9 -0.9**
TKL Tuckaleechee C 70.14 57 *e*P **P 15 34 48.9 -0.9**
KBL Kabul 70.30 301 *e*P **P 15 34 49.7 -1.3**
KBL pmax pmax
comp=Z,40nm,0.7s
KBL Kabul 70.30 301 *e*P **P 15 34 49.7 -1.3**
comp=Z,40nm,0.7s
LRAL Lakeview Retre 70.50 61 *e*P **P 15 34 50.7 -1.3**
comp=Z,9.7nm,0.7s
SDMD Soldier's Deli 70.56 50 *e*P **P 15 34 51.5 -0.7**
comp=Z,99nm,0.9s
SDMD *e* 15 34 59.0
BLA Blacksburg 70.60 54 *e*P **P 15 34 51.8 -0.8**
BLA *e* 15 34 59.8
BLA pmax pmax
comp=Z,22nm,0.8s
BLA Blacksburg 70.60 54 *e*P **P 15 34 51.8 -0.8**
comp=Z,22nm,0.8s
BLA *e* 15 34 59.8
TTSI Tana Toraja 70.74 237 P **P 15 34 54.8 +1.2**
comp=Z,41nm,1.4s,comp=Z,483nm
COEN Coen 71.00 210 *e*P **P 15 34 55.1 0.0**
comp=Z,667nm,1.6s
BBSI Bau Bau 71.49 233 P **P 15 34 59.3 +1.2**
comp=Z,126nm,0.8s,comp=Z,2μm
MTKI Muara Teweh, K 71.53 242 P **P 15 34 58.8 +0.4**
comp=Z,33nm,0.9s,comp=Z,4μm
SPSI Sidrap Palu 71.56 236 P **P 15 34 58.3 -0.2**
comp=Z,18nm,1.0s
BNSI Bone 71.76 236 P **P 15 34 59.3 -0.4**
comp=Z,23nm,1.9s,comp=Z,557nm

KMSC Kings Mountain 71.78 56 ⇑P **P 15 34 59.1 -0.6**
baz=72
KMSC Kings Mountain 71.78 56 *e*P **P 15 34 58.6 -1.1**
comp=Z,30nm,0.8s
KMSC *e* 15 35 05.9
KSM Kuching 72.04 248 *e*P **P 15 35 01.9 +0.4**
comp=Z,29nm,1.1s
GOGA Godfrey 72.06 58 P **P 15 34 59.8 -1.6**
GOGA Godfrey 72.06 58 P **P 15 34 59.8 -1.6**
EKA Eskdalemuir Ar 72.10 357 P **P 15 35 01.0 -0.3**
comp=Z,5.5nm,0.6s,baz=15,slow=5.1,SNR=12
AKASG Malin Array Be 72.13 336 *ce*P **P 15 35 01.7 +0.2**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 72.13 336 P **P 15 35 01.3 -0.2**
comp=Z,4.7nm,0.5s,baz=24,slow=5.9,SNR=12
AKASG LR LR 16 10 12.0
comp=Z,442nm,18.5s,baz=355,slow=39
KIEV Kiev 72.14 336 *e*P **P 15 35 01.7 +0.1**
KIEV *e* 15 35 08.8
KIEV pmax pmax
comp=Z,22nm,0.7s
KIEV Kiev 72.14 336 *e*P **P 15 35 01.7 +0.1**
comp=Z,22nm,0.7s
KIEV *e* 15 35 08.8
BKSI Bulukumba 72.54 235 P **P 15 35 04.1 -0.3**
comp=Z,34nm,0.8s
SURT Suratani 72.74 262 P **P 15 35 06.8 +1.1**
comp=Z,9.0nm,1.5s
ABKT Ailbek 72.96 311 P **P 15 35 07.9 +1.1**
comp=Z,160nm,0.7s,SNR=6.2
GEYT Alibeck 72.96 311 P **P 15 35 07.4 +0.6**
comp=Z,16nm,0.7s,baz=27,slow=3.6,SNR=44
TIGA Tifton 73.55 60 ⇑P **P 15 35 10.3 0.0**
baz=73
LVV L'vov 74.16 339 *e*P P 15 35 20.2 +6.7
KIV Kislovodsk 74.17 324 *e*P **P 15 35 15.1 +1.3**
KIV *e* 15 35 29.9
KIV *e*S **S 15 44 45.9 +0.3**
KIV pmax pmax
comp=Z,15nm,0.9s
NCK Nalchik 74.24 324 *e*P **P 15 35 16.1 +1.9**
KBZ Khabaz 74.29 324 P **P 15 35 15.8 +1.5**
comp=Z,14nm,0.8s,baz=92,slow=2.9,SNR=48
KBZ LR LR 16 12 48.5
comp=Z,654nm,19.8s,baz=88,slow=40
IBBN Ibbenburen 74.37 350 *e*P **P 15 35 15.5 +0.8**
MMRI Maumere 74.39 232 P **P 15 35 15.1 -0.1**
comp=Z,53nm,0.8s,comp=Z,1μm
SOEI Soe 74.42 229 P **P 15 35 15.6 +0.1**
comp=Z,63nm,1.4s,comp=Z,725nm
SOEI Soe 74.42 229 P **P 15 35 14.9 -0.7**
comp=Z,51nm,1.0s
CLZ Clausthal 74.53 348 *e*P **P 15 35 16.6 +0.9**
comp=Z,20nm,1.7s
KULM Kulim 74.55 258 *e*P **P 15 35 16.0 -0.2**
comp=Z,20nm,0.8s
KWP Kalwaria Pacla 74.62 340 *e*P **P 15 35 17.3 +1.1**
KWP pmax pmax
comp=Z,75nm,0.8s
KWP Kalwaria Pacla 74.62 340 *e*P **P 15 35 17.5 +1.3**
KWP *e* 15 35 24.7
KWP Kalwaria Pacla 74.62 340 *e*P **P 15 35 17.3 +1.1**
comp=Z,74nm,0.8s
OJC Ojcow 74.64 342 *e*P **P 15 35 17.4 +1.1**
OJC Ojcow 74.64 342 *e*P **P 15 35 17.4 +1.1**
KSP Ksiaz 74.65 344 *e*P **P 15 35 16.8 +0.4**
KSP *e**PP **pP 15 35 23.4 -0.3**
KSP Ksiaz 74.65 344 *e*P **P 15 35 17.0 +0.6**
KSP *e* 15 35 23.7
CLL Collm 74.71 346 *i* P **P 15 35 16.7 0.0**
CLL *i* 15 35 22.8
CLL pmax pmax
comp=Z,16nm,1.4s
CLL MLR MLR
comp=Z,300nm,20.0s
CLL Collm 74.71 346 *e*P **P 15 35 17.0 +0.3**
comp=Z,16nm,1.4s
CLL *e*pP **pP 15 35 23.4 -0.6**
CLL Collm 74.71 346 *i* P **P 15 35 16.7 0.0**
comp=Z,16nm,1.4s
CLL *i* sP **sP 15 35 22.8 -3.9**
CLL Lm MLR 16 10 00.0
comp=N,300nm,19.1s
CLL Lm MLR 16 10 00.0
comp=E,400nm,19.6s
CLL Lm MLR 16 10 00.0
comp=Z,300nm,20.0s
ZEI Tsey 74.75 323 *e*P **P 15 35 17.6 +0.3**
ZEI pmax pmax
comp=Z,32nm,1.0s
DZM Mont Dzumac 74.76 185 LR LR 16 03 12.7
comp=Z,521nm,20.3s,baz=330,slow=32
IPM Ipoh 74.97 257 *e*P **P 15 35 17.9 -0.8**
comp=Z,18nm,0.7s
BRG Berggiesshubel 74.99 346 *e*P **P 15 35 18.9 +0.6**
comp=Z,16nm,1.4s
BRG *e* 15 35 25.4
comp=Z,14nm,1.0s
BRG Berggiesshubel 74.99 346 *e*P **P 15 35 18.9 +0.6**
BRG *e* 15 35 25.4
BRG pmax pmax
comp=Z,16nm,1.4s
BRG Berggiesshubel 74.99 346 *e*P **P 15 35 18.7 +0.3**
comp=Z,16nm,1.4s
BRG *e*pP **pP 15 35 25.1 -0.6**
UPC Upice 75.03 344 *e*P **P 15 35 19.2 +0.6**
UPC *e* 15 35 26.3
UPC Upice 75.03 344 *e*P **P 15 35 19.2 +0.6**
UPC *e*pP **pP 15 35 26.3 +0.4**
DUS Dusheti 75.06 322 P P 15 35 25.7 +6.7
ONI Oni 75.08 323 P P 15 35 23.8 +4.7
BATI Baumata 75.09 229 P **P 15 35 19.2 -0.1**
comp=Z,32nm,0.8s
BATI Baumata 75.09 229 LR LR 16 05 29.7
comp=Z,191nm,20.0s,slow=33
STHS Stebnicka Huta 75.12 341 *e*P **P 15 35 21.2 +2.0**
STHS *e* 15 35 28.2
STHS pmax pmax
comp=Z,20nm,1.2s
STHS Stebnicka Huta 75.12 341 *e*P **P 15 35 21.2 +2.0**
STHS *e*sP **sP 15 35 28.2 -1.0**
DPC Dobruska-Polom 75.13 344 *e*P **P 15 35 19.2 0.0**
DPC *e* 15 35 27.3
DPC Dobruska-Polom 75.13 344 *e*P **P 15 35 19.2 0.0**
DPC *e*pP **pP 15 35 27.3 +0.8**
DPC *e*PCP **PcP 15 35 33.2 +0.5**
DPC AMS AMS 16 14 20.0
PVCC Panska Ves 75.23 345 *e*P **P 15 35 21.3 +1.6**
PVCC *e* 15 35 29.0
PVCC MLR MLR
comp=Z,500nm,13.9s
PVCC Panska Ves 75.23 345 *e*P **P 15 35 21.3 +1.6**
PVCC *ex* x 15 35 29.0
PVCC AMS AMS 16 18 10.0
comp=Z,500nm,13.9s
BUG Bochum--Univer 75.28 350 *e*P **P 15 35 22.0 +2.0**
comp=Z,21nm,1.4s
BUG *e*pP **pP 15 35 26.8 -0.5**
NIE Niedzica 75.30 341 *e*P **P 15 35 21.5 +1.3**
NIE *e**PP **pP 15 35 29.9 +2.3**
NIE Niedzica 75.30 341 *e*P **P 15 35 21.5 +1.3**
NIE *e*pP **pP 15 35 29.9 +2.3**
OKC Ostrava-Krasne 75.31 343 *e*P **P 15 35 20.2 0.0**
OKC *e* 15 35 28.4
OKC MLR MLR
comp=Z,500nm,16.8s
OKC Ostrava-Krasne 75.31 343 *e*P **P 15 35 20.2 0.0**
OKC *e*pP **pP 15 35 28.4 +0.9**
OKC AMS AMS 16 15 20.0
comp=Z,500nm,16.8s
TBLG Delisi 75.36 322 P **P 15 35 22.0 +1.4**
DGRG David-gareji 75.36 321 P **P 15 35 19.3 -1.4**
KOLS Kolonicke sedl 75.37 340 *e*P **P 15 35 21.8 +1.2**
KOLS *e* 15 35 28.6
KOLS pmax pmax
comp=Z,20nm,1.1s
KOLS Kolonicke sedl 75.37 340 *e*P **P 15 35 21.8 +1.2**
KOLS *e*sP **sP 15 35 28.6 -2.0**
MORC Moravsky Berou 75.47 343 ⇑*i*P **P 15 35 21.7 +0.5**
SOC Sochi 75.52 326 *e*P **P 15 35 22.5 +1.0**
SOC *e**SP **sP 15 35 33.8 +2.3**
SOC *e*S **S 15 45 04.3 +3.9**
SOC pmax pmax

comp=Z,20nm,0.8s
SOC MLR MLR
comp=Z,995nm,21.0s
MOX Moxa 75.55 347 *e*P **P 15 35 22.0 +0.4**
comp=Z,30nm,1.7s
MOX *e*pP **pP 15 35 28.5 -0.4**
MOX *e*L L 16 11 41.9
comp=Z,376nm,20.4s
CRVS Cervenica-Dubn 75.57 340 *e*P **P 15 35 23.1 +1.4**
CRVS *e* 15 35 30.0
CRVS pmax pmax
comp=Z,14nm,0.8s
CRVS Cervenica-Dubn 75.57 340 *e*P **P 15 35 23.1 +1.4**
CRVS *e*sP **sP 15 35 30.0 -1.8**
UBBA Unterbreizbach 75.58 348 *e*P **P 15 35 21.9 +0.3**
comp=Z,30nm,1.9s
UZH Uzhgorod 75.65 340 *e*P **P 15 35 23.2 +1.0**
UZH *e* 15 35 26.0
UZH *e* 15 35 29.6
UZH *e* 15 35 32.8
TANN Tannenbergstha 75.65 347 *e*P **P 15 35 23.2 +1.0**
comp=Z,19nm,1.4s
TANN *e*pP **pP 15 35 29.1 -0.5**
PRA Prague 75.70 345 *e*P **P 15 35 23.5 +1.1**
PRA *e* 15 35 30.4
PRA Prague 75.70 345 *e*P **P 15 35 23.5 +1.1**
PRA *e*pP **pP 15 35 30.4 +0.6**
PRU Pruhonice 75.76 345 *e*P **P 15 35 23.0 +0.2**
PRU *e* 15 35 29.9
PRU *e* 15 35 34.0
PRU MLR MLR
comp=Z,400nm,14.1s
PRU Pruhonice 75.76 345 *e*P **P 15 35 23.0 +0.2**
PRU *e*pP **pP 15 35 29.9 -0.2**
PRU *e*PCP **PcP 15 35 34.0 -1.4**
PRU AMS AMS 16 15 30.0
comp=Z,400nm,14.1s
PMOR Pomariorio Ree 75.92 140 *e*T T 16 58 32.7
comp=Z,16nm,0.2s
BURAR Bucovina Array 75.97 338 ⇓*i*P **P 15 35 24.7 +0.6**
CTAO Charters Tower 75.99 205 *e*P **P 15 35 24.4 +0.1**
CTAO pmax pmax
comp=Z,70nm,0.9s
CTAO MLR MLR
comp=Z,300nm,21.0s
CTAO Charters Tower 75.99 205 *e*P **P 15 35 24.4 +0.1**
comp=Z,70nm,0.9s
CTAO LR LR
comp=Z,300nm,21.0s
SIM Simferopol' 76.07 331 *e*P P 15 35 33.1 +8.5
SIM pmax pmax
comp=Z,17nm,1.1s
TRPA Tarpa 76.08 339 ⇓*i*P **P 15 35 26.0 +1.4**
TRPA Tarpa 76.08 339 *e* P 15 35 32.3 +7.7
VRAC Vranov 76.09 344 ⇓*i*P **P 15 35 26.0 +1.3**
VRAC Vranov 76.09 344 P **P 15 35 26.0 +1.3**
comp=Z,7.4nm,0.7s,baz=358,slow=6.3,SNR=7.6
MEM Membach 76.23 351 P **P 15 35 26.2 +0.8**
comp=Z,20nm,1.7s
TREC Trest 76.28 344 *e*P **P 15 35 26.0 +0.2**
TREC *e* 15 35 33.0
TREC MLR MLR
comp=Z,500nm,16.8s
TREC Trest 76.28 344 *e*P **P 15 35 26.0 +0.2**
TREC *e*pP **pP 15 35 33.0 -0.2**
TREC AMS AMS 16 21 10.0
comp=Z,500nm,16.8s
ROTZ Rotzenmuhle 76.32 347 *e*P **P 15 35 27.1 +1.1**
comp=Z,27nm,1.6s
ROTZ *e*pP **pP 15 35 33.4 0.0**
VYHS Vyhne 76.47 342 *e*P **P 15 35 28.1 +1.2**
VYHS *e* 15 35 35.0
VYHS pmax pmax
comp=Z,15nm,1.3s
VYHS Vyhne 76.47 342 *e*P **P 15 35 28.1 +1.2**
VYHS *e*sP **sP 15 35 35.0 -1.9**
BCLA Clavier 76.48 351 P **P 15 35 28.5 +1.6**
GRF Grafenberg Arr 76.53 347 *e*P **P 15 35 27.9 +0.7**
comp=Z,64nm,1.8s
GRF *e*pP **pP 15 35 34.5 0.0**
GRF *e*L L 16 18 06.1
comp=Z,377nm,21.0s
TESR Tescani 76.66 336 ⇓*i*P **P 15 35 28.5 +0.5**
GNI Garni 76.72 321 ⇓*i*P **P 15 35 29.8 +1.2**
GNI pmax pmax
comp=Z,25nm,1.2s
GNI Garni 76.72 321 P **P 15 35 30.4 +1.7**
comp=Z,3.8nm,0.4s,baz=284,slow=4.2,SNR=5.2
GNI Garni 76.72 321 *e*P **P 15 35 30.7 +2.0**
KHC Kasperske Hory 76.74 346 *e*P **P 15 35 28.5 0.0**
KHC pmax pmax
comp=Z,33nm,1.2s
KHC Kasperske Hory 76.74 346 *e*P **P 15 35 28.4 0.0**
KHC *e*pP **pP 15 35 35.5 -0.3**
KHC AMS AMS 16 10 10.0
comp=Z,600nm,20.4s
KHC Kasperske Hory 76.74 346 *e*P **P 15 35 28.5 0.0**
comp=Z,33nm,1.2s
PSZ Piszkesteto 76.82 341 *e*P **P 15 35 30.2 +1.3**
PSZ *e* 15 35 37.6
PSZ pmax pmax
comp=Z,20nm,1.0s
PSZ Piszkesteto 76.82 341 ⇓*i*P **P 15 35 30.8 +1.9**
PSZ Piszkesteto 76.82 341 *e*P **P 15 35 30.9 +2.0**
PSZ Piszkesteto 76.82 341 *e*P **P 15 35 30.2 +1.3**
comp=Z,20nm,1.0s
PSZ *e* 15 35 37.6
WET Wettzell 76.83 346 *e*P **P 15 35 29.9 +1.0**
comp=Z,14nm,1.0s
WET *e*pP **pP 15 35 36.4 +0.1**
GIVF Givet 76.84 352 *e*P **P 15 35 28.6 -0.3**
GIVF Givet 76.84 352 *e*P **P 15 35 28.6 -0.3**
GIVF Givet 76.84 352 *e*P **P 15 35 28.6 -0.3**
DOU Dourbes 76.87 352 P **P 15 35 29.4 +0.3**
BAIF Baives 76.94 352 *e*P **P 15 35 28.5 -0.9**
BAIF Baives 76.94 352 *e*P **P 15 35 28.5 -0.9**
BAIF Baives 76.94 352 *e*P **P 15 35 28.5 -0.9**
GEC2 GERESS Array S 77.00 345 *e*P **P 15 35 30.6 +0.6**
comp=Z,16nm,1.1s
GEC2 *e*pP **pP 15 35 37.3 0.0**
GERES GERESS Array B 77.00 345 P **P 15 35 30.4 +0.5**
comp=Z,4.0nm,0.5s,baz=24,slow=5.5,SNR=40
GERES LR LR 16 10 53.6
comp=Z,391nm,21.8s,baz=37,slow=37
WLF Walferdange 77.15 351 *e*P **P 15 35 31.6 +1.0**
comp=Z,45nm,1.8s
VRI Vrincioaia 77.24 336 ⇑*i*P **P 15 35 31.7 +0.4**
PLOR Plostina 77.28 336 ⇑*i*P **P 15 35 32.8 +1.3**
DRGR 77.31 339 ⇓*i*P **P 15 35 32.8 +1.1**
TLCR 77.34 334 ⇓*i*P **P 15 35 33.2 +1.4**
DOPR Dopca 77.47 337 ⇑*i*P **P 15 35 33.4 +0.8**
CFR Carcaliu 77.53 335 ⇑*i*P **P 15 35 32.4 -0.4**
CONA Conrad Observa 77.55 344 *i* pP **P 15 35 34.6 +1.6**
SNR=7.3
PKSG 77.61 342 *e*P **P 15 35 35.3 +2.0**
PPT Papeete 77.62 143 LR LR 16 01 46.9
comp=Z,463nm,19.9s,baz=332,slow=30
PPT2 Papeete2 77.64 143 *e*LR LR 15 59 32.1
comp=Z,800nm,23.0s,baz=336
MLR Muntele Rosu 77.79 336 ⇓*i*P **P 15 35 35.8 +1.3**
MLR Muntele Rosu 77.79 336 P **P 15 35 35.4 +1.0**
comp=Z,0.8nm,0.5s,baz=34,slow=7.3,SNR=5.9
VOIR 78.05 337 ⇓*i*P **P 15 35 37.5 +1.6**
TIRR Tirgusor 78.12 334 ⇑*i*P **P 15 35 37.2 +1.0**
ARR Arges 78.22 337 ⇑*i*P **P 15 35 38.5 +1.7**
RJOB Jochberg 78.22 346 *e*P **P 15 35 37.6 +0.9**
comp=Z,13nm,1.2s
BFO Black Forest 78.23 349 *e*P **P 15 35 37.5 +0.7**
comp=Z,37nm,1.9s
MTUR Matau 78.25 337 ⇑*i*P P 15 35 43.9 +6.9
CDF Champ du Feu 78.27 350 *e*P **P 15 35 36.0 -1.0**
CDF Champ du Feu 78.27 350 *e*P **P 15 35 36.0 -1.0**
CDF Champ du Feu 78.27 350 *e*P **P 15 35 36.0 -1.0**
PAGF Fort de Pagny 78.29 351 *e*P **P 15 35 36.3 -0.7**
comp=Z,20nm,1.1s
PAGF Fort de Pagny 78.29 351 *e*P **P 15 35 36.3 -0.7**
comp=Z,20nm,1.1s
HYB Hyderabad 78.33 283 *i* P **P 15 35 37.0 -0.7**
FLN La Foliniere 78.55 355 *e*P **P 15 35 37.9 -0.6**
comp=Z,59nm,1.1s
FLN *e*R
comp=Z,270nm,21.8s
FLN La Foliniere 78.55 355 *e*P **P 15 35 37.9 -0.6**
FLN pmax pmax

comp=Z,59nm,1.1s
FLN La Foliniere 78.55 355 *e*P **P 15 35 37.9 -0.6**
comp=Z,59nm,1.1s
GZR Gura Zlata 78.62 338⇓ *i*P **P 15 35 39.9 +0.9**
BZS Buzias 78.66 339⇑ *i*P **P 15 35 39.1 0.0**
SFTF Sexfontaines 78.70 351 *e*P **P 15 35 39.2 -0.1**
comp=Z,44nm,0.8s
SFTF Sexfontaines 78.70 351 *e*P **P 15 35 39.2 -0.1**
comp=Z,44nm,0.8s
LDF La Druitiere 78.70 355 *e*P **P 15 35 38.5 -0.8**
comp=Z,32nm,1.0s
LDF La Druitiere 78.70 355 *e*P **P 15 35 38.5 -0.8**
LDF pmax pmax
comp=Z,32nm,1.0s
LDF La Druitiere 78.70 355 *e*P **P 15 35 38.5 -0.8**
comp=Z,32nm,1.0s
HAU Haudompre 78.77 350 *e*P **P 15 35 39.4 -0.3**
comp=Z,31nm,1.1s
HAU *e*R
comp=Z,245nm,20.5s
HAU Haudompre 78.77 350 *e*P **P 15 35 39.4 -0.3**
HAU pmax pmax
comp=Z,31nm,1.1s
HAU Haudompre 78.77 350 *e*P **P 15 35 39.4 -0.3**
comp=Z,31nm,1.1s
KBA Koelnbreinsper 78.78 345 *e*P **P 15 35 41.0 +1.0**
comp=Z,66nm,0.8s
KBA Koelnbreinsper 78.78 345 *i* pP **P 15 35 41.6 +1.6**
SNR=19
WTTA Wattenberg 78.85 346 *e*P **P 15 35 40.9 +0.5**
comp=Z,17nm,1.0s
WTTA Wattenberg 78.85 346 *i* pP **P 15 35 41.5 +1.1**
SNR=5.6
SOKA Soboth 78.90 344 *i* pP **P 15 35 41.8 +1.3**
SNR=8.9
HINF Hinteralfeld 78.90 350 *e*P **P 15 35 39.9 -0.6**
HINF Hinteralfeld 78.90 350 *e*P **P 15 35 39.9 -0.6**
HINF Hinteralfeld 78.90 350 *e*P **P 15 35 39.9 -0.6**
PERS Pernice 78.92 344 *i* P **P 15 35 41.8 +1.2**
PERS Pernice 78.92 344 *i* P **P 15 35 41.8 +1.2**
GRR Gorron 78.95 355 *e*P **P 15 35 39.5 -1.1**
comp=Z,47nm,1.0s
GRR Gorron 78.95 355 *e*P **P 15 35 39.5 -1.1**
GRR pmax pmax
comp=Z,47nm,1.0s
GRR Gorron 78.95 355 *e*P **P 15 35 39.5 -1.1**
comp=Z,47nm,1.0s
OBKA Obir 79.14 344 *e*P **P 15 35 42.7 +0.8**
comp=Z,43nm,0.9s
OBKA Obir 79.14 344 *i* pP **P 15 35 43.2 +1.3**
SNR=9.4
ABTA Abfaltersbach 79.23 346 *i* pP **P 15 35 42.8 +0.5**
SNR=8.4
GOLS Golise 79.44 343 *e*P **P 15 35 44.3 +0.8**
GOLS Golise 79.44 343 *e*P **P 15 35 44.3 +0.8**
WRAB Tennant Creek 79.48 216 P **P 15 35 43.0 -0.8**
comp=Z,296nm,0.8s,SNR=29
WRAB Tennant Creek 79.48 216 *d i*P **P 15 35 43.5 -0.3**
WB2 Warramunga Arr 79.49 216 *e*P **P 15 35 43.1 -0.7**
WRA Warramunga Arr 79.49 216 P **P 15 35 43.5 -0.4**
comp=Z,29nm,0.7s,baz=30,slow=6.1,SNR=122
WRA LR LR 16 07 39.5
comp=Z,490nm,21.6s,baz=35,slow=33
DAVOX Davos/Dischmat 79.56 348 P **P 15 35 45.0 +0.7**
DAVOX Davos/Dischmat 79.56 348 P **P 15 35 45.0 +0.7**
comp=Z,6.8nm,0.6s,baz=301,slow=6.6,SNR=11
GCIS Gornji Cirnik 79.58 343 *e*P **P 15 35 44.9 +0.7**
GCIS Gornji Cirnik 79.58 343 *e*P **P 15 35 44.9 +0.7**
LOR Lormes 79.74 352 *e*P **P 15 35 44.8 -0.2**
comp=Z,36nm,1.1s
LOR *e*R
comp=Z,362nm,23.0s
LOR Lormes 79.74 352 *e*P **P 15 35 44.8 -0.2**
LOR pmax pmax
comp=Z,36nm,1.1s
LOR Lormes 79.74 352 *e*P **P 15 35 44.8 -0.2**
comp=Z,36nm,1.1s
SSF Saint Saulge 79.97 352 *e*P **P 15 35 45.9 -0.4**
comp=Z,32nm,1.1s
SSF Saint Saulge 79.97 352 *e*P **P 15 35 45.9 -0.4**
SSF pmax pmax
comp=Z,32nm,1.1s
SSF Saint Saulge 79.97 352 *e*P **P 15 35 45.9 -0.4**
comp=Z,32nm,1.1s
BOJS Bojanci 80.00 344 *i* P **P 15 35 47.4 +1.0**
BOJS Bojanci 80.00 344 *i* P **P 15 35 47.4 +1.0**
CABF La Chapelle 80.18 350 *e*P **P 15 35 46.7 -0.8**
comp=Z,31nm,1.1s
CABF La Chapelle 80.18 350 *e*P **P 15 35 46.7 -0.8**
CABF pmax pmax
comp=Z,31nm,1.1s
CABF La Chapelle 80.18 350 *e*P **P 15 35 46.7 -0.8**
comp=Z,31nm,1.1s
POO Poona 80.20 288⇓ *i*P P 15 35 57.0 +9.0
comp=Z,4.0nm,1.0s
AVF Avril sur Loir 80.25 352 *e*P **P 15 35 46.7 -1.1**
comp=Z,38nm,1.0s
AVF Avril sur Loir 80.25 352 *e*P **P 15 35 46.7 -1.1**
AVF pmax pmax
comp=Z,38nm,1.0s
AVF Avril sur Loir 80.25 352 *e*P **P 15 35 46.7 -1.1**
comp=Z,38nm,1.0s
SMF Signal de Mont 80.36 352 *e*P **P 15 35 47.3 -1.1**
SMF Signal de Mont 80.36 352 *e*P **P 15 35 47.3 -1.1**
SMF Signal de Mont 80.36 352 *e*P **P 15 35 47.3 -1.1**
MALT Malatya 80.65 325⇑ *i*P **P 15 35 51.8 +1.6**
TCF Toulx Ste Croi 80.84 353 *e*P **P 15 35 50.0 -1.0**
comp=Z,18nm,0.8s
TCF Toulx Ste Croi 80.84 353 *e*P **P 15 35 50.0 -1.0**
TCF pmax pmax
comp=Z,18nm,0.8s
TCF Toulx Ste Croi 80.84 353 *e*P **P 15 35 50.0 -1.0**
comp=Z,18nm,0.8s
BRTR Keskin Array B 80.97 329 P **P 15 35 53.0 +1.0**
BRTR Keskin Array B 80.97 329 P **P 15 35 53.0 +1.0**
comp=Z,7.7nm,0.7s,baz=59,slow=3.0,SNR=51
BRTR LR LR 16 14 43.4
comp=Z,228nm,20.6s,baz=34,slow=38
VTS Vitosha 81.18 337⇑ *i*P **P 15 35 53.8 +0.8**
VTS Vitosha 81.18 337 *e*P **P 15 35 51.9 -1.1**
LPL La Plagne 81.19 350 *e*P **P 15 35 53.9 +0.8**
comp=Z,38nm,0.9s
LPL La Plagne 81.19 350 *e*P **P 15 35 53.9 +0.8**
LPL pmax pmax
comp=Z,38nm,0.9s
LPL La Plagne 81.19 350 *e*P **P 15 35 53.9 +0.8**
comp=Z,38nm,0.9s
LPG La Plagne 81.20 350 *e*P **P 15 35 54.2 +0.9**
comp=Z,55nm,1.0s
LPG La Plagne 81.20 350 *e*P **P 15 35 54.2 +0.9**
LPG pmax pmax
comp=Z,55nm,1.0s
LPG La Plagne 81.20 350 *e*P **P 15 35 54.2 +0.9**
comp=Z,55nm,1.0s
FITZ Fitzroy Crossi 81.21 224 *e*P **P 15 35 53.1 +0.1**
comp=Z,53nm,1.0s
SSB Saint Sauveur 81.65 351 P **P 15 35 56.0 +0.7**
SSB pmax pmax
comp=Z,17nm,1.0s
SSB Saint Sauveur 81.65 351 P **P 15 35 56.0 +0.7**
comp=Z,17nm,1.0s
RZN Rozhen 81.67 336 *e*P **P 15 35 55.7 +0.1**
ORIF Oris-en-Rattie 81.87 350 *e*P **P 15 35 57.3 +0.7**
ORIF *e*R
comp=Z,378nm,21.8s
ORIF Oris-en-Rattie 81.87 350 *e*P **P 15 35 57.3 +0.7**
ORIF Oris-en-Rattie 81.87 350 *e*P **P 15 35 57.3 +0.7**
RJF Les Rejaudoux 81.87 353 *e*P **P 15 35 55.5 -0.9**
RJF *e*R
comp=Z,250nm,22.2s
RJF Les Rejaudoux 81.87 353 *e*P **P 15 35 55.5 -0.9**
RJF Les Rejaudoux 81.87 353 *e*P **P 15 35 55.5 -0.9**
KKB Krupnik 81.89 337 *e*P **P 15 35 56.8 +0.2**
MBDF Montbardon 81.96 349 *e*P **P 15 35 57.8 +0.7**
comp=Z,40nm,0.9s
MBDF Montbardon 81.96 349 *e*P **P 15 35 57.8 +0.7**
MBDF pmax pmax
comp=Z,40nm,0.9s
MBDF Montbardon 81.96 349 *e*P **P 15 35 57.8 +0.7**
comp=Z,40nm,0.9s
MMB Musomiste 82.00 336⇑ *i*P **P 15 35 57.8 +0.6**
MMB Musomiste 82.00 336 *e*P **P 15 35 59.4 +2.2**
VIVF Saint-Julien-l 82.05 351 *e*P **P 15 35 57.1 -0.3**
comp=Z,26nm,1.0s
VIVF Saint-Julien-l 82.05 351 *e*P **P 15 35 57.1 -0.3**
VIVF pmax pmax
comp=Z,26nm,1.0s
VIVF Saint-Julien-l 82.05 351 *e*P **P 15 35 57.1 -0.3**
comp=Z,26nm,1.0s
CAF Calviac 82.21 353 *e*P **P 15 35 57.8 -0.5**
comp=Z,26nm,0.9s
CAF Calviac 82.21 353 *e*P **P 15 35 57.8 -0.5**
CAF pmax pmax
comp=Z,26nm,0.9s
CAF Calviac 82.21 353 *e*P **P 15 35 57.8 -0.5**
comp=Z,26nm,0.9s
VAY Valandovo 82.53 337 *i* P **P 15 36 00.6 +0.6**
SBF Sospel 82.74 349 *e*P **P 15 36 00.5 -0.6**
comp=Z,23nm,0.6s
SBF Sospel 82.74 349 *e*P **P 15 36 00.5 -0.6**
SBF pmax pmax
comp=Z,23nm,0.6s
SBF Sospel 82.74 349 *e*P **P 15 36 00.5 -0.6**
comp=Z,23nm,0.6s
SMRF Simiane la Rot 82.83 350 *e*P **P 15 36 02.5 +1.0**
comp=Z,43nm,1.1s
SMRF Simiane la Rot 82.83 350 *e*P **P 15 36 02.5 +1.0**
comp=Z,43nm,1.1s
LASF Ste Croix 82.90 351 *e*P **P 15 36 02.5 +0.6**
comp=Z,13nm,1.0s
LASF Ste Croix 82.90 351 *e*P **P 15 36 02.5 +0.6**
comp=Z,13nm,1.0s
TBI Tubuai 82.98 145 *e*SS SS 15 51 45.2 +1.0
comp=Z,108nm,26.5s
TBI Tubuai 82.98 145 *e*LR LR 16 02 00.9
comp=Z,538nm,25.5s,baz=334
AS31 Alice Springs 83.08 215 *e*P **P 15 36 03.1 +0.3**
ASAR Alice Springs 83.08 215 P **P 15 36 03.1 +0.3**
comp=Z,15nm,0.7s,baz=18,slow=5.0,SNR=210
ASAR PKKPbc **PKKPbc 15 54 23.9 +0.6**
comp=Z,0.2nm,0.7s,baz=206,slow=2.0,SNR=4.4
ASAR LR LR 16 10 42.5
comp=Z,244nm,21.1s,baz=15,slow=34
FRF La Foret Royal 83.13 349 *e*P **P 15 36 03.2 +0.2**
comp=Z,33nm,0.9s
FRF La Foret Royal 83.13 349 *e*P **P 15 36 03.2 +0.2**
FRF pmax pmax
comp=Z,33nm,0.9s
FRF La Foret Royal 83.13 349 *e*P **P 15 36 03.2 +0.2**
comp=Z,33nm,0.9s
OHR Ohrid 83.14 338 *i* P **P 15 36 02.9 -0.3**
LMR La Mourre 83.37 349 *e*P **P 15 36 04.6 +0.4**
comp=Z,54nm,0.9s
LMR La Mourre 83.37 349 *e*P **P 15 36 04.6 +0.4**
LMR pmax pmax
comp=Z,55nm,0.9s
LMR La Mourre 83.37 349 *e*P **P 15 36 04.6 +0.4**
comp=Z,54nm,0.9s
MTLF Montolieu 83.77 352 *e*P **P 15 36 06.0 -0.3**
comp=Z,9.9nm,0.5s
MTLF Montolieu 83.77 352 *e*P **P 15 36 06.0 -0.3**
MTLF pmax pmax
comp=Z,10.0nm,0.5s
MTLF Montolieu 83.77 352 *e*P **P 15 36 06.0 -0.3**
comp=Z,9.9nm,0.5s
PGF Pioggiola 83.84 347 *e*P **P 15 36 06.3 -0.5**
comp=Z,93nm,1.0s
PGF Pioggiola 83.84 347 *e*P **P 15 36 06.3 -0.5**
PGF pmax pmax
comp=Z,93nm,1.0s
PGF Pioggiola 83.84 347 *e*P **P 15 36 06.3 -0.5**
comp=Z,93nm,1.0s
SJPF Ste Jean 84.23 355 *e*P **P 15 36 07.8 -0.9**
comp=Z,17nm,0.8s
SJPF Ste Jean 84.23 355 *e*P **P 15 36 07.8 -0.9**
SJPF pmax pmax
comp=Z,17nm,0.8s
SJPF Ste Jean 84.23 355 *e*P **P 15 36 07.8 -0.9**
comp=Z,17nm,0.8s
ETSF Etsaut 84.41 354 *e*P **P 15 36 10.3 +0.6**
comp=Z,42nm,1.0s
ETSF Etsaut 84.41 354 *e*P **P 15 36 10.3 +0.6**
ETSF pmax pmax
comp=Z,42nm,1.0s
ETSF Etsaut 84.41 354 *e*P **P 15 36 10.3 +0.6**
comp=Z,42nm,1.0s
ARMA Armidale 84.80 198 *e*P **P 15 36 12.8 +1.3**
comp=Z,52nm,1.3s
MBWA Marble Bar 86.48 228 *e*P **P 15 36 18.8 -1.1**
comp=Z,32nm,1.6s
MBWA LR LR
comp=Z,304nm,19.0s
IDI Anoyia 87.65 334 P **P 15 36 24.8 -1.0**
comp=Z,3.6nm,0.5s,baz=6.2,slow=13,SNR=6.8
ESDC Sonseca Array 87.78 357 P **P 15 36 26.3 0.0**
comp=Z,0.9nm,0.5s,baz=1.7,slow=4.4,SNR=6.5
SDDR Presa de Saban 90.08 58 *e*P **P 15 36 37.4 0.0**
comp=Z,28nm,0.6s
SDDR *e* 15 36 44.6
KEST Kesra 90.49 346 P **P 15 36 41.0 +1.9**
comp=Z,0.5nm,0.4s,baz=90,slow=5.1,SNR=2.3
KEST LR LR 16 20 35.4
comp=Z,96nm,19.6s,baz=300,slow=38
URZ Urewera 90.85 176 LR LR 16 10 44.2
comp=Z,247nm,21.6s,baz=28,slow=31
RAYN Ar Rayn 90.86 312 P **P 15 36 41.0 -0.1**
comp=Z,43nm,1.1s,SNR=5.8
SJG San Juan 93.39 54 LR LR 16 19 45.7
comp=Z,792nm,20.8s,slow=36
NWAO Narrogin (SRO) 97.79 224 LR LR 16 20 07.4
comp=Z,231nm,19.0s,slow=35
TORD Torodi Ar. Bea 113.73 350 PKiKP **PKiKP 15 42 15.5 -0.5**
comp=Z,1.2nm,0.6s,baz=346,slow=2.1,SNR=10
TORD PKKPbc **PKKPbc 15 52 57.0 +0.4**
comp=Z,0.8nm,0.8s,baz=154,slow=1.9,SNR=4.7
TORD PKKPab **PKKPab 15 53 04.2 -4.1**
comp=Z,1.9nm,0.7s,baz=189,slow=3.5,SNR=9.7
DBIC Dimbokro 120.64 356 PKP **PKPdf 15 42 28.4 -1.0**
comp=Z,2.3nm,0.7s,baz=354,slow=4.5,SNR=5.6
LPAZ La Paz 120.81 76 PKP **PKPdf 15 42 29.1 -1.2**
comp=Z,0.6nm,0.5s,baz=338,slow=3.9,SNR=4.0
LPAZ PKKPab **PKKPab 15 52 34.5 -1.0**
comp=Z,0.8nm,0.3s,baz=184,slow=7.0,SNR=5.2
PLCA Paso Flores 136.86 100 PKP **PKPdf 15 43 00.2 +0.9**
comp=Z,6.1nm,0.9s,baz=318,slow=2.6,SNR=3.7
QSPA South Pole Qui 142.60 180 *e*PKPpre PKPpre 15 43 03.4
MAW Mawson 144.13 218 PKP PKPbc 15 43 09.8 +0.1
comp=Z,30nm,0.9s,baz=116,slow=5.7,SNR=6.6
EFI East Falkland 149.87 108 PKP2 **PKPbc 15 43 25.4 -1.0**
EFI East Falkland 149.87 108 PKPbc **PKPbc 15 43 25.4 -1.0**
SYO Syowa Base 152.74 216⇑ *e*PKPdf **PKPdf 15 43 24.0 -1.4**
SYO Syowa Base 152.74 216⇑ *e*X PKPdf 15 43 30.7 +5.3
SNAA Sanae 160.97 185 P **PKPab 15 44 18.0 -1.1**
VNA3 Neumayer Olymp 161.53 178 P **PKPab 15 44 20.1 -1.4**
VNA2 Neumayer--Watz 161.86 181 P **PKPab 15 44 21.8 -1.1**
baz=173,slow=2.0

*IDC **23** 15:35:22.4±1.8, 37°.67N×74°.26E, h0km, mb3.6/4, mb1 3.6/7, mb1mx3.3/56, mbtmp3.6/7, ML2.8/3, MS4.0/1, Ms1 4.1/1, ms1mx2.8/44, Error ellipse: s-maj=34.3km s-min=23.5km az=122.0*
*BJI **23** 15:35:22.3, 37°.62N×74°.56E, h8km, ML3.4/4, Ms7 3.2/1*
*ISCJB **23** 15:35:26.2±1.1, 37°.57N±0°.08×74°.5E±0°.1, h50km, mb3.5/4, MS4.1/1, Error ellipse: s-maj=13.9km s-min=11.2km az=155.0*

ISC 23 15:35:24.8±1.3**, 37°.4N**±0°.1×**74°.65E**±0°.10**, h50**km**, n13, σ2S41/14, mb3.5/4, 3C, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.34**	**26**	Pg	Pn	15 35 51.5	-9.4
KSH				Sg	Sn	15 36 13.1	-16
AAK	**Ala-Archa**	**5.21**	**359**	Pn	**Pn**	**15 36 41.9**	**+1.6**
	0.7nm,0.3s,baz=191,slow=8.4,SNR=5.5						
AAK				Lg	Lg	15 37 59.8	
	0.3nm,0.3s,baz=330,slow=16,SNR=2.5						
TKM2	**Tokmak 2**	**5.55**	**7**	⇑P	**Pn**	**15 36 45.9**	**+0.9**
	13nm,0.8s						
TKM2				⇑S	**Sn**	**15 37 48.5**	**+1.0**
	8.8nm,0.5s						
TKM2				⇑Rg	Rg	15 38 08.6	
	23nm,1.1s						
KK31	**Karatay Array**	**6.50**	**332**	P	**Pn**	**15 36 57.1**	**-0.8**
	1.6nm,0.3s,baz=138,slow=13,SNR=65						
KK31				S	**Sn**	**15 38 09.9**	**-0.8**
	3.9nm,0.3s,baz=142,slow=24,SNR=12						
BVAR	**Borovoye Array**	**15.89**	**351**	Pn	**P**	**15 39 07.5**	**-0.4**
	0.4nm,0.3s,baz=168,slow=12,SNR=10						
AKTO	**Aktyubinsk**	**17.64**	**323**	P	**Pn**	**15 39 22.8**	**-4.0**
	0.0nm,0.3s,baz=125,slow=18,SNR=2.0						
ZALV	**Zalesovo Beam**	**17.96**	**20**	P	**P**	**15 39 30.6**	**-0.1**
	0.2nm,0.3s,baz=220,slow=12,SNR=4.5						
GTA	**Gaotai**	**19.80**	**76**	*e*P	**Pn**	**15 39 55.5**	**+2.5**
GTA				pP	**pP**	**15 40 01.3**	**-1.3**
GTA				sP	**sP**	**15 40 04.1**	**-4.9**
SONM	**Songino Array**	**25.41**	**56**	P	P	15 40 52.9	+5.3
	0.3nm,0.5s,baz=253,slow=10,SNR=4.1						
FINES	**FINESS Array B**	**38.40**	**325**	P	**P**	**15 42 43.3**	**+2.3**
	0.4nm,0.4s,baz=124,slow=12,SNR=6.1						
HFS	**Hagfors**	**44.17**	**321**	P	**P**	**15 43 29.9**	**+1.5**
	1.5nm,0.7s,baz=78,slow=6.8,SNR=4.2						
ESDC	**Sonseca Array**	**59.60**	**299**	LR	LR	16 13 50.8	
	comp=Z,133nm,20.1s,baz=0.0,slow=39						
TORD	**Torodi Ar. Bea**	**68.65**	**270**	P	**P**	**15 46 25.0**	**+1.8**
	0.3nm,0.6s,baz=48,slow=4.3,SNR=4.1						

*SKHL **23** 15:35:20.6±1.1, 52°.20N×142°.30E, h12km±3km, mb4.6/7*
*ISCJB **23** 15:35:22.2±0.3, 52°.12N±0°.02×142°.11E±0°.05, h10km, mb3.9/19, Error ellipse: s-maj=4.2km s-min=3.3km az=176.1*
*IDC **23** 15:35:22.9±0.6, 52°.15N×142°.29E, h0km, mb3.9/17, mb1 4.1/20, mb1mx3.9/50, mbtmp3.9/20, ML2.6/3, Error ellipse: s-maj=17.4km s-min=13.9km az=153.0*
*MOS **23** 15:35:23.3±1.2, 52°.29N×142°.42E, h13km, mb4.1/12, Error ellipse: s-maj=16.8km s-min=9.6km az=84.4*

ISC 23 15:35:24.1±0.5**, 52°.14N**±0°.03×**142°.21E**±0°.04**, h10**km**, n52, σ1S00/59, mb3.9/19, 2C, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.31**	**167**	*e*Pg	**Pn**	**15 35 46.8**	**-1.6**
TYV				AMB	AMB	15 35 52.0	
	737nm,0.8s						
TYV				sP	sP	15 35 55.5	
TYV				*e*Sg	**Sg**	**15 36 05.0**	**-1.1**
TYV				A	A	15 36 07.0	
	1μm,0.6s						
TYV				A	A	15 36 20.0	
	5μm,5.0s						
NKL	**Nikolayevsk**	**1.38**	**318**	*i* Pg	**Pn**	**15 35 48.0**	**-1.4**
NKL				AMB	AMB	15 35 49.5	
	500nm,1.0s						
NKL				AMB	AMB	15 35 49.5	
	1μm,1.0s						
NKL				AMB	AMB	15 35 49.8	
	480nm,0.3s						
NKL				AMB	AMB	15 35 49.8	
	200nm,0.3s						
NKL				AMB	AMB	15 35 49.8	
	710nm,0.3s						
NKL				*e*Sg	**Sg**	**15 36 08.0**	**-0.4**
NKL				A	A	15 36 10.0	
	8μm,2.0s						
NKL				A	A	15 36 10.0	
	6μm,2.0s						
NKL				A	A	15 36 11.0	
	2μm,0.3s						
OKH	**Okha**	**1.48**	**17**	*e*Pg	**Pg**	**15 35 51.8**	**-0.8**
OKH				AMB	AMB	15 35 52.1	
	500nm,0.9s						
OKH				pP	pP	15 35 54.1	
OKH				sP	sP	15 36 00.5	
OKH				⇑*i*Sg	**Sg**	**15 36 12.9**	**+1.1**
OKH				A	A	15 36 15.9	
	1μm,0.7s						
OKH				A	A	15 36 15.9	
	4μm,0.7s						
UGL	**Uglegorsk**	**3.06**	**182**	*e*PN	**Pg**	**15 36 22.0**	**-0.8**
UGL				pmax	pmax		
	comp=Z,134nm,1.0s						
UGL	**Uglegorsk**	**3.06**	**182**	*e*Pg	**Pg**	**15 36 22.0**	**-0.8**
UGL				AMB	AMB	15 36 27.5	
	comp=Z,134nm,1.0s						
UGL				sP	sP	15 36 28.5	
UGL				*e*Sg	**Sg**	**15 37 05.0**	**+2.5**
UGL				A	A	15 37 10.5	
	comp=Z,92nm,0.5s						
UGL				A	A	15 37 10.5	
	comp=Z,370nm,0.5s						
UGL				A	A	15 37 10.5	
	comp=Z,276nm,0.5s						
GRNR	**Gornyy**	**3.87**	**252**	*e*P	**Pn**	**15 36 23.5**	**-0.2**
GRNR				*e*Pg	**Pb**	**15 36 33.5**	**+1.0**
GRNR				AMB	AMB	15 36 34.2	
	comp=Z,78nm,0.2s						
GRNR				AMB	AMB	15 36 34.2	
	comp=Z,92nm,0.2s						
GRNR				AMB	AMB	15 36 34.2	
	comp=Z,46nm,0.2s						
GRNR				*e*S	**Sn**	**15 37 06.0**	**-3.2**
GRNR				*e*Sg	**Sg**	**15 37 27.0**	**-1.3**
YSS	**Yuzh-Sakhalins**	**5.20**	**176**⇑	*e*PN	Pn	15 36 44.0	+2.1
YSS	**Yuzh-Sakhalins**	**5.20**	**176**	*e*P	**Pn**	**15 36 41.7**	**-0.2**
YSS				AMB	AMB	15 36 46.5	
	comp=Z,23nm,0.7s						
YSS				*e*Pg	**Pg**	**15 37 03.0**	**-0.7**
YSS				AMB	AMB	15 37 04.0	
	comp=Z,23nm,0.6s						
EKMR	**Ekimchan**	**5.72**	**283**	*e*P	**Pn**	**15 36 50.0**	**+0.9**
EKMR				*e*Pg	Pg	15 37 09.0	-4.6
EKMR				AMB	AMB	15 37 14.0	
	comp=Z,17nm,0.5s						
EKMR				AMB	AMB	15 37 14.0	
	comp=Z,16nm,0.5s						
EKMR				AMB	AMB	15 37 14.0	
	comp=Z,45nm,0.5s						
EKMR				*e*S	**Sn**	**15 37 54.0**	**-0.7**
EKMR				*e*Sg	**Sg**	**15 38 28.0**	**+0.4**
EKMR				A	A	15 38 31.8	
	comp=Z,180nm,0.6s						
EKMR				A	A	15 38 31.8	
	comp=Z,98nm,0.6s						
EKMR				A	A	15 38 31.8	
	comp=Z,190nm,0.6s						
KLR	**Kul'dur**	**7.25**	**250**	*e*PN	Pn	15 37 15.0	+4.9
KLR				*e*		15 38 47.0	
TEY	**Ternei**	**8.02**	**210**	*e*Sg	Sg	15 39 49.5	+8.3
TEY				A	A	15 39 50.0	
	comp=Z,52nm,0.8s						
ASAJ	**Asahikawa**	**8.03**	**178**	Pn	**Pn**	**15 37 20.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=16,slow=18,SNR=3.5						
YASR	**Yasnyy**	**8.72**	**283**	*e*P	**Pn**	**15 37 29.0**	**-1.2**
YASR				*e*Sg	Sg	15 39 44.0	-20
YASR				A	A	15 39 51.1	
	comp=Z,80nm,0.8s						
YASR				A	A	15 39 51.1	
	comp=Z,33nm,0.8s						
YASR				A	A	15 39 51.1	
	comp=Z,44nm,0.8s						
ZEA	**Zeya**	**9.18**	**286**	*e*Sg	Sn	15 40 17.8	+58
KROS	**Kirovskiy**	**9.41**	**290**	*e*P	Pn	15 37 42.5	+2.8
KROS				AMB	AMB	15 37 47.6	
	comp=Z,3.0nm,0.6s						
KROS				*e*Sg	Sn	15 40 23.0	+57
KROS				A	A	15 40 29.5	
	comp=Z,160nm,1.2s						
PETK	**Petropavlovsk-**	**9.47**	**78**	Pn	**Pn**	**15 37 39.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=283,slow=14,SNR=3.7						
KSRS	**Korea Array**	**17.79**	**220**	P	**P**	**15 39 34.3**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=29,slow=8.7,SNR=5.5						
SONM	**Songino Array**	**23.27**	**274**	P	**P**	**15 40 33.5**	**+1.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**23.27**	**274**	P	**P**	**15 40 33.5**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=61,slow=8.5,SNR=5.7						
TLY	**Talaya**	**23.61**	**284**	P	**P**	**15 40 36.5**	**+1.5**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TLY	**Talaya**	**23.61**	**284**	P	**P**	**15 40 36.5**	**+1.5**
	comp=Z,1.1nm,0.4s,baz=79,slow=8.6,SNR=4.5						
ZAK	**Zakamensk**	**24.23**	**281**	*e*P	**P**	**15 40 42.0**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ZALV	**Zalesovo Beam**	**33.74**	**296**	PcP	**PcP**	**15 44 44.3**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=25,slow=3.8,SNR=4.8						
ILAR	**Eielson Array**	**37.07**	**42**	P	**P**	**15 42 34.2**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**37.07**	**42**	P	**P**	**15 42 34.1**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=288,slow=8.3,SNR=20						
MKAR	**Makanchi Array**	**38.33**	**287**	P	**P**	**15 42 45.1**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**38.33**	**287**	P	**P**	**15 42 45.1**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=60,slow=7.2,SNR=4.7						

KURK	**Kurchatov**	**38.54 294**	P	**P**	**15 42 47.5 +1.0**
KURK					15 44 59.0
KURK			pmax	pmax	
	comp=Z,1.0nm,0.6s				
KURBB	**Kurchatov Arra**	**38.63 294**	P	**P**	**15 42 47.5 +0.2**
	comp=Z,1.0nm,0.6s,baz=68,slow=8.6,SNR=5.9				
KURBB			PcP	**PcP**	**15 44 59.0 -0.2**
	comp=Z,0.6nm,0.6s,baz=63,slow=3.0,SNR=6.1				
BVAR	**Borovoye Array**	**41.95 301**	P	**P**	**15 43 15.0 +0.2**
BVAR					15 45 10.0
BVAR	**Borovoye Array**	**41.95 301**	P	**P**	**15 43 15.0 +0.2**
	comp=Z,0.9nm,0.8s,baz=67,slow=11,SNR=4.2				
BVAR			PcP	**PcP**	**15 45 10.0 +0.1**
	comp=Z,0.5nm,0.5s,baz=90,slow=11,9,SNR=4.1				
RES	**Resolute Bay**	**47.92 17**	P	**P**	**15 44 01.4 -0.5**
RES			pmax	pmax	
	comp=Z,1.0nm,0.7s				
RES	**Resolute Bay**	**47.92 17**	P	**P**	**15 44 01.4 -0.5**
	comp=Z,1.0nm,0.7s,baz=325,slow=5.7,SNR=4.3				
YKA	**Yellowknife Ar**	**50.79 36**	P	**P**	**15 44 24.1 +0.1**
YKA			pmax	pmax	
	comp=Z,1.0nm,0.7s				
YKA	**Yellowknife Ar**	**50.79 36**	P	**P**	**15 44 24.1 +0.1**
	comp=Z,0.9nm,0.7s,baz=308,slow=7.2,SNR=15				
FINES	**FINESS Array B**	**55.93 329**	P	**P**	**15 45 02.0 +0.2**
FINES			pmax	pmax	
	comp=Z,4.0nm,0.7s				
FINES	**FINESS Array B**	**55.93 329**	P	**P**	**15 45 02.0 +0.2**
	comp=Z,4.0nm,0.7s,baz=46,slow=8.2,SNR=12				
NB2	**NORSAR Subarra**	**60.59 335**	P	**P**	**15 45 34.2 -0.2**
	comp=Z,1.1nm,0.7s,baz=20,slow=6.9				
NOA	**NORSAR Array B**	**60.59 335**	P	**P**	**15 45 34.7 +0.3**
NOA			pmax	pmax	
	comp=Z,3.0nm,0.7s				
NOA	**NORSAR Array B**	**60.59 335**	P	**P**	**15 45 34.6 +0.3**
	comp=Z,2.8nm,0.7s,baz=32,slow=6.7,SNR=6.1				
HFS	**Hagfors**	**60.68 333**	P	**P**	**15 45 35.2 +0.2**
HFS			pmax	pmax	
	comp=Z,4.0nm,0.6s				
HFS	**Hagfors**	**60.68 333**	P	**P**	**15 45 35.2 +0.2**
	comp=Z,4.2nm,0.6s,baz=69,slow=5.1,SNR=9.2				
NVAR	**Mina Array Bea**	**65.94 58**	P	**P**	**15 46 11.2 +0.7**
	comp=Z,0.4nm,0.5s,baz=15,slow=6.3,SNR=4.2				
ULM	**Lac du Bonnet**	**66.76 36**	P	**P**	**15 46 14.1 -1.1**
ULM			pmax	pmax	
	comp=Z,2.0nm,0.7s				
ULM	**Lac du Bonnet**	**66.76 36**	P	**P**	**15 46 14.1 -1.1**
	comp=Z,1.8nm,0.7s,baz=293,slow=6.1,SNR=4.6				
PDAR	**Pinedale Array**	**67.00 49**	P	**P**	**15 46 17.2 0.0**
	comp=Z,1.5nm,1.0s,baz=323,slow=2.2,SNR=6.7				
WRA	**Warramunga Arr**	**72.10 188**	P	**P**	**15 46 48.1 -0.3**
WRA			pmax	pmax	
	comp=Z,2.0nm,1.1s				
WRA	**Warramunga Arr**	**72.10 188**	P	**P**	**15 46 48.1 -0.3**
	comp=Z,2.0nm,1.1s,baz=7.1,slow=6.4,SNR=6.0				
ASAR	**Alice Springs**	**75.83 188**	P	**P**	**15 47 10.8 +0.5**
ASAR			pmax	pmax	
	comp=Z,1.0nm,0.6s				
ASAR	**Alice Springs**	**75.83 188**	P	**P**	**15 47 10.8 +0.5**
	comp=Z,1.2nm,0.6s,baz=4.7,slow=5.8,SNR=24				
TXAR	**Lajitas Array**	**80.57 54**	P	**P**	**15 47 37.8 +1.0**
TXAR			pmax	pmax	
	comp=Z,1.0nm,0.9s				
TXAR	**Lajitas Array**	**80.57 54**	P	**P**	**15 47 37.8 +1.0**
	comp=Z,1.4nm,0.9s,baz=300,slow=5.3,SNR=12				

JMA 23 15:36:15.1,39.76N×142.14E,h37km±1km,M0.1,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.28**	**310**	P	Pn	15 36 22.8	-0.5
JTH				S	Sn	15 36 28.3	-2.5
MIYJ	**Miyakonagasawa**	**0.31**	**234**	P	Pn	15 36 23.0	-0.3
MIYJ				S	Sn	15 36 28.6	-1.8
JKZ	**Kuzumaki**	**0.66**	**290**	P	Pn	15 36 27.8	-0.3
OFUJ	**Ofunato**	**0.77**	**208**	S	Sn	15 36 39.6	-0.2

NIED ***23*** *15:46:00,32.50N×131.90E,h53km,Mw4.1 Best double couple: M0=1.47000×10^15 NP1:φs=40.00000°,δ21.00000°, λ-70.00000°. NP2:φs=199.00000°,δ70.00000°, λ-97.00000°.*

ISCJB ***23*** *15:46:56.3±0.5,32.45N±0.05×131.99E±0.04,h29km, mb3.6/6,Error ellipse: s-maj=7.2km s-min=3.4km az=151.4*

JMA ***23*** *15:46:57.5,32.49N×131.92E,h36km±1km,M4.0 Broadband fault plane solution: P waves. NP1: φs=45.00000°,δ87.00000°,λ79.00000°. NP2:φs=299.00000°, δ11.00000°,λ164.00000°. Principal axes: T Plg47.0000°, Azm304.0000°; N Plg11.0000°, Azm46.0000°; P Plg41.0000°, Azm145.0000°;*

JMA Felt II J1.

IDC ***23*** *15:46:57.0±3.0,32.40N×131.77E,h34km±25km,mb3.4/6, mb1 3.8/8,mb1mx3.5/55,mbtmp3.6/8,ML3.7/2 Error ellipse: s-maj=28.3km s-min=19.5km az=92.0*

ISC 23 15:46:56.9±0.7,32.46N±0.05×131.94E±0.04,h29km,n19, σ1§04/31,mb3.6/6,2C-5D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.42**	**240**	⇓P	**Pn**	**15 47 06.8**	**-0.2**
JTSN				S	**Sn**	**15 47 13.6**	**-0.3**
JKIT	**Kitakata**	**0.44**	**292**	⇓P	**Pb**	**15 47 06.7**	**+0.3**
JKIT				S	**Sb**	**15 47 13.4**	**+0.6**
JUS	**Usuki**	**0.63**	**345**	⇓P	**Pb**	**15 47 09.4**	**0.0**
JUS				*e*S	**Sn**	**15 47 18.3**	**-0.6**
JTO	**Tosashimizu**	**0.83**	**61**	⇑P	**Pn**	**15 47 12.6**	**0.0**
JTO				*e*S	**Sb**	**15 47 23.4**	**-0.2**
JTZ	**Takazaki**	**0.91**	**233**	P	**Pb**	**15 47 14.4**	**+0.3**
JTZ				*e*S	**Sb**	**15 47 26.8**	**+0.9**
UWA2	**Uwa jima 2**	**0.95**	**37**	⇓P	**Pn**	**15 47 14.1**	**-0.2**
UWA2				*e*S	**Sn**	**15 47 26.4**	**-0.5**
JIU2	**Izumi 2**	**0.95**	**276**	⇑P	**Pn**	**15 47 14.3**	**0.0**
JIU2				*e*S	**Sb**	**15 47 27.2**	**+0.1**
JNU	**Nakatsue**	**1.11**	**307**	Pn	**Pn**	**15 47 16.8**	**+0.3**
	366nm,0.3s,baz=158,slow=5.6,SNR=3266						
JNU				Lg	Lg	15 47 30.8	
	587nm,0.3s,baz=245,slow=18,SNR=35						
JNA	**Nagahama**	**1.19**	**22**	⇓P	**Pn**	**15 47 17.6**	**+0.1**
JKU	**Kubokawa**	**1.27**	**48**	P	**Pn**	**15 47 18.7**	**0.0**
JKU				*e*S	**Sn**	**15 47 33.9**	**-0.9**
KSRS	**Korea Array**	**5.98**	**328**	Pn	**Pn**	**15 48 23.9**	**+0.6**
	2.0nm,0.3s,baz=147,slow=15,SNR=25						
KSRS				Sn	**Sn**	**15 49 29.8**	**-1.0**
	1.4nm,0.3s,baz=144,slow=24,SNR=6.8						
MAT	**Matsushiro**	**6.58**	**50**	P	**Pn**	**15 48 33.0**	**+1.2**
MAT				*e*S	**Sn**	**15 49 44.9**	**-1.0**
MJAR	**Matsushiro Arr**	**6.59**	**50**	Pn	**Pn**	**15 48 34.0**	**+2.2**
	1.6nm,0.3s,baz=248,slow=14,SNR=12						
SONM	**Songino Array**	**24.69**	**316**	P	**P**	**15 52 13.3**	**-2.1**
	1.2nm,0.9s,baz=127,slow=7.3,SNR=7.0						
SONM				pP	**pP**	**15 52 25.0**	**+1.2**
	1.3nm,0.9s,baz=123,slow=9.5,SNR=4.8						
WRA	**Warramunga Arr**	**52.15**	**177**	P	**P**	**15 56 03.1**	**-1.7**
	0.8nm,0.8s,baz=354,slow=8.2,SNR=4.1						
ASAR	**Alice Springs**	**55.84**	**178**	P	**P**	**15 56 31.0**	**-0.7**
	0.4nm,0.6s,baz=12,slow=13,SNR=15						
ILAR	**Eielson Array**	**57.44**	**30**	P	**P**	**15 56 42.0**	**-0.6**
	0.3nm,0.7s,baz=272,slow=6.0,SNR=4.7						
YKA	**Yellowknife Ar**	**71.53**	**27**	P	**P**	**15 58 14.8**	**+0.1**
	0.3nm,0.8s,baz=304,slow=6.0,SNR=5.0						
YKA				pP	**pP**	**15 58 26.7**	**+2.9**
	0.5nm,0.7s,baz=304,slow=5.9,SNR=9.9						
NVAR	**Mina Array Bea**	**83.91**	**48**	P	**P**	**15 59 24.9**	**+0.5**
	1.0nm,0.5s,baz=294,slow=5.5,SNR=10.0						

IDC ***23*** *15:51:18.8±0.4,37.44N×74.58E,h0km,mb4.4/26, mb1 4.6/33,mb1mx4.4/47,mbtmp4.5/33,ML4.2/7,MS4.3/19, Ms1 4.3/19,ms1mx4.1/40,Error ellipse: s-maj=11.6km s-min=9.4km az=35.0*

ISCJB ***23*** *15:51:18.9±0.1,37.42N±0.02×74.72E±0.03,h10km, mb4.6/99,MS4.4/25,Error ellipse: s-maj=3.2km s-min=2.7km az=44.2*

BJI ***23*** *15:51:19.8,37.53N×74.73E,h16km,mB5.1/20,mb4.8/30, ML4.6/4,Ms4.8/27,Ms7 4.6/27*

MOS ***23*** *15:51:22.3±1.2,37.41N×74.64E,h33km,mb4.9/37, MS4.4/11,Error ellipse: s-maj=6.5km s-min=3.9km az=100.8*

GCMT ***23*** *15:51:25.4±0.3,37.65N×74.70E,h24km±1km,MW5.0/70, Moment Tensor Solution. s23,c28; s70,c104; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.46±.22; Mθθ-2.17±.16; Mφφ3.63±.14; Mrθ0.83±.42; Mrφ-1.37±.11; Mθφ-1.10±.29; Best double couple: M0=3.49600×10^16 NP1:φs307.00000°,δ80.00000°,λ-151.00000°. NP2: φs212.00000°,δ61.00000°,λ-11.00000°. Principal axes: T 4.2170, Plg13.0000°, Azm76.0000°; N -1.4410, Plg59.0000°, Azm324.0000°; P -2.7760, Plg28.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***23*** *15:51:25.4±0.8,37.46N×74.62E,h49km±7km,mb4.7/24 Error ellipse: s-maj=6.6km s-min=5.1km az=193.0*

SZGRF ***23*** *15:51:31.9,37.61N×73.96E,h33km,mb4.7,Tajikistan*

NNC ***23*** *15:51:33.2±3.1,38.46N×73.72E,h0km,mb5.3,mpv5.0, Error ellipse: s-maj=42.3km s-min=11.3km az=151.0*

ISC 23 15:51:20.2±0.3,37.46N±0.03×74.73E±0.03,h10km,n323, σ1§72/297,mb4.7/99,MS4.3/25,32C-15D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.27**	**25**	Pg	Pn	15 51 52.0	-6.0
KSH				Sg	Sn	15 52 12.3	-14
KSH				SMN			
	4μm,0.9s						
KSH				SME			
	8μm,0.6s						
CHCP	**Chirah Chowk**	**3.98**	**198**	P	Pn	15 52 25.9	+4.5
CEP	**Cherat**	**4.30**	**213**	P	**Pn**	**15 52 28.8**	**+3.0**
CEP				S	**Sb**	**15 53 32.0**	**+4.1**
KZA	**Kyzart**	**4.63**	**5**	P	Pn	15 52 34.0	+3.4
	SNR=303						
KZA	**Kyzart**	**4.63**	**5**	*i* PN	Pn	15 52 33.9	+3.4
AML	**Almayashu**	**4.73**	**351**	P	Pn	15 52 35.6	+3.7
	SNR=74						
AML	**Almayashu**	**4.73**	**351**	*i* PN	Pn	15 52 35.7	+3.7
UCH	**Uchtor**	**4.76**	**358**	P	Pn	15 52 35.9	+3.4
	SNR=578						
UCH	**Uchtor**	**4.76**	**358**	*i* PN	Pn	15 52 35.8	+3.4
DZET	**Dzherino**	**4.84**	**288**	⇓Pn	**Pn**	**15 52 33.8**	**+0.6**
ULHL	**Ulahol**	**4.92**	**13**	P	Pn	15 52 38.5	+4.1
	SNR=23						
ULHL	**Ulahol**	**4.92**	**13**	*i* PN	Pn	15 52 38.5	+4.1
DLH	**Dalhousie**	**5.01**	**168**	*e*P	**Pn**	**15 52 37.0**	**+1.2**
DLH				*e*x	**Sn**	**15 53 38.0**	**+4.1**
AAK	**Ala-Archa**	**5.17**	**358**	⇑Pn	Pn	15 52 41.4	+3.6
	104nm,0.8s						
AAK				⇓Pg	**Pg**	**15 52 57.1**	**-2.1**
	224nm,0.7s						
AAK				⇑Lg	Lg	15 54 01.6	
	277nm,0.8s						
AAK	**Ala-Archa**	**5.17**	**358**	P	Pn	15 52 41.4	+3.6
	SNR=116						
AAK	**Ala-Archa**	**5.17**	**358**	Pn	Pn	15 52 40.8	+3.1
	8.9nm,0.3s,baz=177,slow=11,SNR=98						
AAK				Lg	Lg	15 54 03.5	
	12nm,0.3s,baz=292,slow=23,SNR=4.9						
AAK				LR	LR	15 54 53.5	
	comp=Z,4μm,18.8s,baz=190,slow=41						
AAK	**Ala-Archa**	**5.17**	**358**	*e*P	Pn	15 52 41.5	+3.7
AAK				Lg	Lg	15 54 03.5	
KBK	**Karagaybulak**	**5.19**	**2**	P	Pn	15 52 41.6	+3.5
	SNR=122						
KBK	**Karagaybulak**	**5.19**	**2**	*i* PN	Pn	15 52 41.6	+3.5
EKS2	**Erkin-Say**	**5.24**	**352**	P	Pn	15 52 42.9	+4.2
	SNR=18						
EKS2	**Erkin-Say**	**5.24**	**352**	*e*PN	Pn	15 52 42.1	+3.3
EKS2				pmax	pmax		
	comp=Z,234nm,0.9s						
EKS2	**Erkin-Say**	**5.24**	**352**	*e*P	Pn	15 52 42.1	+3.3
	comp=Z,234nm,0.9s						
THW	**Thamme Wali**	**5.26**	**209**	P	**Pn**	**15 52 41.4**	**+2.4**
FRU	**Bishkek**	**5.36**	**359**	⇑*e*PN	Pn	15 52 45.0	+4.6
FRU				*i*		15 53 02.0	
FRU				*e*S	Sb	15 53 51.0	-7.5
FRU				*e*		15 54 04.0	
FRU				pmax	pmax		
	comp=Z,520nm,2.1s						
FRU				pmax	pmax		
	comp=Z,910nm,1.8s						
KBL	**Kabul**	**5.45**	**239**	*e*PN	**Pn**	**15 52 43.7**	**+1.9**
KBL				pmax	pmax		
	comp=Z,241nm,0.8s						
KBL	**Kabul**	**5.45**	**239**	*e*P	**Pn**	**15 52 43.7**	**+1.9**
	comp=Z,241nm,0.8s						
TKM2	**Tokmak 2**	**5.49**	**7**	⇑Pn	Pn	15 52 46.4	+4.1
	comp=Z,262nm,0.6s						
TKM2	**Tokmak 2**	**5.49**	**7**	P	Pn	15 52 46.2	+3.9
	SNR=595						
TKM2	**Tokmak 2**	**5.49**	**7**	*e*PN	Pn	15 52 46.0	+3.7
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.3s						
TKM2	**Tokmak 2**	**5.49**	**7**	*e*P	Pn	15 52 46.0	+3.7
	comp=Z,3.5nm,0.3s						
CHMS	**Chumysh**	**5.53**	**0**	P	Pn	15 52 46.3	+3.6
	SNR=105						
CHMS	**Chumysh**	**5.53**	**0**	*i* PN	Pn	15 52 46.2	+3.6
SARP	**Sargodha**	**5.78**	**198**	P	**Pn**	**15 52 48.4**	**+2.3**
USP	**Ospenovka**	**5.80**	**358**	P	Pn	15 52 49.8	+3.5
	SNR=31						
USP	**Ospenovka**	**5.80**	**358**	*i* PN	Pn	15 52 49.8	+3.5
KNDC	**Almaty**	**6.00**	**16**	⇑Pn	Pn	15 52 54.0	+5.0
	comp=Z,95nm,0.6s						
KNDC				⇓Pg	Pg	15 53 10.0	-5.0
	comp=Z,459nm,1.4s						
KNDC				⇑Lg	Lg	15 54 28.8	
	comp=Z,2μm,1.8s						
AAA	**Alma-Ata**	**6.04**	**16**	*i* PN	Pn	15 52 54.3	+4.6
AAA				*i* S	Sg	15 54 25.1	-9.1
AAA				pmax	pmax		
	comp=Z,159nm,0.7s						
AAA				smax	smax		
	comp=E,900nm,2.0s						
BHK	**Bhakra**	**6.19**	**166**	*e*P3	Pn	15 52 57.2	+5.5
BHK				*e*x	x	15 54 19.8	
SDNR	**Sundarnagar**	**6.23**	**162**	*e*P	**Pn**	**15 52 55.0**	**+2.7**
SDNR				*e*x	x	15 54 33.0	
KK31	**Karatay Array**	**6.49**	**332**	⇑Pn	**Pn**	**15 52 57.6**	**+1.7**
	comp=E,122nm,0.8s,baz=139,slow=12,SNR=811						
KK31				⇑Sn	**Sn**	**15 54 09.3**	**-0.6**
	comp=E,224nm,0.8s,baz=140,slow=15,SNR=12						
KK31	**Karatay Array**	**6.49**	**332**	*e*PN	**Pn**	**15 52 57.5**	**+1.7**
KK31				pmax	pmax		
	comp=Z,122nm,0.8s						
KKAR	**Karatay Array**	**6.49**	**332**	*e*PN	**Pn**	**15 52 57.7**	**+1.9**
KKAR				pmax	pmax		
	comp=Z,65nm,0.4s						
KKAR	**Karatay Array**	**6.49**	**332**	*e*P	**Pn**	**15 52 57.6**	**+1.9**
	comp=Z,65nm,0.4s						
SMLA	**Simla**	**6.63**	**162**	*i* P	**Pn**	**15 53 00.4**	**+2.6**
SMLA				*i* S	**Sn**	**15 54 14.2**	**+0.7**
SMLA				AML	AML	15 54 59.6	
	comp=E,883nm,0.4s						
SMLA				AML	AML	15 55 00.3	
	comp=N,808nm,0.4s						
PDGK	**Podgornoye**	**6.89**	**30**	⇑Pn	Pn	15 53 05.1	+3.9
NDI	**New Delhi**	**9.00**	**166**	*e*P	**Pn**	**15 53 33.0**	**+2.7**
NDI				*e*x	x	15 55 11.0	
LGTI	**Lohaghat**	**9.22**	**148**	*e*x	**Pn**	**15 53 32.4**	**-0.9**
LGTI				*e*S	**Sn**	**15 55 12.3**	**-4.9**
MK31	**Makanchi Array**	**10.88**	**29**	Pn	Pn	15 53 58.5	+2.6
	comp=N,57nm,1.4s,baz=204,slow=13,SNR=158						
MK31	**Makanchi Array**	**10.88**	**29**	*i* P	Pn	15 53 58.5	+2.6
MK31				pmax	pmax		
	comp=Z,14nm,0.7s						
MKAR	**Makanchi Array**	**10.88**	**29**	Pn	Pn	15 53 58.7	+2.8
	comp=Z,2.4nm,0.3s,baz=208,slow=10.0,SNR=141						
MKAR				LR	LR	15 57 29.2	
	comp=Z,2μm,20.0s,baz=38,slow=34						
MKAR				ScP	**ScP**	**16 03 28.4**	**+0.2**
	baz=250,slow=3.7,SNR=3.6						
AJM	**Ajmer**	**10.95**	**180**	*i* P9	**Pn**	**15 53 58.0**	**+0.9**
AJM				*i* S	**Sn**	**15 55 57.0**	**-2.7**
WMQ	**Urumqi**	**11.71**	**53**	P	**Pn**	**15 54 09.3**	**+1.9**
WMQ				PP	**PnPn**	**15 54 19.9**	**+4.8**
WMQ				S	**Sn**	**15 56 20.5**	**+2.2**
WMQ				SS	**SnSn**	**15 56 35.4**	**+5.3**
WMQ				PMZ			
	comp=Z,33nm,1.0s						
WMQ				PMZ			
	comp=Z,190nm,4.5s						
WMQ				LN			
	comp=Z,2μm,20.0s						
WMQ				LE			
	comp=Z,880nm,23.0s						
WMQ				LZ			
	comp=Z,1μm,19.0s						
DANN	**Dangsing**	**11.83**	**138**	*e*P	**Pn**	**15 54 07.8**	**-1.6**
	comp=Z,142nm,0.4s						
KOLN	**Koldanda**	**12.21**	**140**	*e*P	**Pn**	**15 54 13.5**	**-1.0**
	comp=Z,143nm,0.4s						
GKN	**Gorkha**	**12.58**	**136**	*e*P	**Pn**	**15 54 18.0**	**-1.5**
	comp=Z,162nm,0.4s						
KKN	**Kakani**	**13.11**	**134**	*e*P	**Pn**	**15 54 24.0**	**-2.7**
	comp=Z,93nm,0.5s						
DMN	**Daman**	**13.15**	**135**	*e*P	**Pn**	**15 54 25.4**	**-1.9**
	comp=Z,88nm,0.4s						
GEYT	**Alibeck**	**13.17**	**277**	Pn	Pn	15 54 23.8	-3.5
	comp=Z,2.1nm,0.3s,baz=99,slow=9.7,SNR=12						
GEYT				Sn	Sn	15 56 43.9	-10
	comp=Z,2.0nm,0.3s,baz=97,slow=14,SNR=4.2						
GEYT				LR	LR	16 01 11.1	
	comp=Z,1μm,18.7s,baz=95,slow=45						
PKIN	**Phulchoki**	**13.34**	**135**	*e*P	**Pn**	**15 54 27.9**	**-2.0**
	comp=Z,88nm,0.4s						
PKI	**Pulchoki**	**13.35**	**135**	*e*P	**Pn**	**15 54 28.3**	**-1.8**
	comp=Z,112nm,0.5s						
GUN	**Gumba**	**13.37**	**132**	*e*P	**Pn**	**15 54 28.6**	**-1.8**
	comp=Z,110nm,0.5s						
KURBB	**Kurchatov Arra**	**13.43**	**10**	Pn	**Pn**	**15 54 30.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=199,slow=12,SNR=36						
KURK	**Kurchatov**	**13.54**	**11**	⇑Pn	**Pn**	**15 54 31.2**	**-1.0**
	comp=Z,52nm,1.4s						
KURK	**Kurchatov**	**13.54**	**11**	P	**Pn**	**15 54 31.2**	**-1.0**
KURK				pmax	pmax		
	comp=Z,52nm,1.4s						
KURK	**Kurchatov**	**13.54**	**11**	*e*P	**Pn**	**15 54 31.1**	**-1.1**
JIRN	**Jiri**	**13.74**	**132**	*e*P	**Pn**	**15 54 33.1**	**-2.3**
	comp=Z,126nm,0.4s						
RAMN	**Ramite**	**14.51**	**133**	*e*P	Pn	15 54 42.1	-3.8
	comp=Z,169nm,0.7s						
TAPN	**Taplejung**	**14.88**	**129**	*e*P	Pn	15 54 47.2	-3.8
	comp=Z,76nm,0.4s						
ODAN	**Odare**	**15.04**	**131**	*e*P	**Pn**	**15 54 49.2**	**-3.9**
	comp=Z,150nm,0.6s						
BVA0	**Borovoye Array**	**15.85**	**350**	⇑Pn	**Pn**	**15 55 02.7**	**-0.7**
	comp=Z,61nm,0.9s,baz=165,slow=15,SNR=225						
BVA0	**Borovoye Array**	**15.85**	**350**	*i* P	**Pn**	**15 55 02.6**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,61nm,1.0s						
BVAR	**Borovoye Array**	**15.85**	**350**	Pn	**Pn**	**15 55 02.5**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=163,slow=13,SNR=19						
AB31	**Akbulak array**	**15.92**	**322**	⇓Pn	**Pn**	**15 55 00.9**	**-3.4**
	comp=Z,14nm,0.6s						
AB31	**Akbulak array**	**15.92**	**322**	P	**Pn**	**15 55 00.8**	**-3.4**
AB31				pmax	pmax		
	comp=Z,14nm,0.6s						
NGP	**Nagpur**	**16.68**	**166**	*e*x	**Pn**	**15 55 10.6**	**-3.6**
NGP				*e*x	x	15 58 08.9	
AKTO	**Aktyubinsk**	**17.63**	**323**	⇑Pn	**Pn**	**15 55 23.5**	**-2.4**
	comp=Z,51nm,0.9s						
AKTO	**Aktyubinsk**	**17.63**	**323**	P	**Pn**	**15 55 23.5**	**-2.4**
AKTO				pmax	pmax		
	comp=Z,51nm,0.9s						
AKTO	**Aktyubinsk**	**17.63**	**323**	Pn	**Pn**	**15 55 24.1**	**-1.8**
	comp=Z,2.8nm,0.3s,baz=225,slow=3.1,SNR=40						
AKTO				Sn	Sn	15 58 33.4	-8.9
	comp=Z,0.7nm,0.3s,baz=345,slow=20,SNR=6.2						
AKTO				LR	LR	16 02 44.3	
	comp=Z,529nm,21.8s,baz=283,slow=39						
ZALV	**Zalesovo Beam**	**17.90**	**20**	P	**P**	**15 55 28.6**	**-1.2**
	comp=Z,3.5nm,0.3s,baz=204,slow=12,SNR=66						
NVS	**Novosibirsk**	**18.33**	**16**	*e*P	**Pn**	**15 55 33.1**	**-1.3**
NVS				*e*S	**Sn**	**15 58 56.1**	**-2.8**
NVS				pmax	pmax		
	comp=N,79nm,1.5s						
NVS				pmax	pmax		
	comp=Z,11nm,1.5s						
NVS				pmax	pmax		
	comp=E,18nm,1.3s						
NVS				smax	smax		
	comp=N,43nm,2.3s						
NVS				smax	smax		
	comp=E,40nm,1.9s						
POO	**Poona**	**18.88**	**183**	⇑*i*P	**Pn**	**15 55 43.0**	**+1.6**
HVS	**Khovu-Aksy**	**19.19**	**39**	*c i*P	**Pn**	**15 55 44.7**	**-0.3**
BANOM	**Banah**	**19.41**	**239**	⇑*i*P	**P**	**15 55 46.4**	**-0.2**
	SNR=15						
GTA	**Gaotai**	**19.73**	**77**	*e*P	**Pn**	**15 55 53.0**	**+1.4**
GTA				pP	**pP**	**15 55 56.3**	**+3.3**
GTA				sP	sP	15 55 58.9	+4.6
GTA				S	**Sn**	**15 59 35.8**	**+2.5**
GTA				sS	sS	15 59 43.0	+5.8
GTA				PMZ			
	comp=E,12nm,1.1s						
GTA				PMZ			
	comp=E,1μm,4.6s						
GTA				LN			
	comp=E,2μm,11.9s						
GTA				LE			
	comp=E,900nm,12.8s						
GTA				LZ			
	comp=E,1μm,14.3s						
HATD	**Hatta, Dubai**	**20.25**	**237**	⇓*i*P	**P**	**15 55 56.0**	**+0.3**
	SNR=9.1						
HYB	**Hyderabad**	**20.25**	**169**	*i* P	**P**	**15 55 55.0**	**-0.8**
	comp=E,40nm,1.0s						
HYB				*e*S	**S**	**15 59 39.0**	**-4.1**
ASHO	**Ashiyiah**	**20.40**	**237**	⇓*i*P	**P**	**15 55 57.5**	**+0.1**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**20.67**	**238**	⇑P	**P**	**15 56 00.0**	**-0.2**
MAK	**Makhachkala**	**21.45**	**293**	*e*P	**P**	**15 56 09.0**	**+0.4**
MAK				*e*		15 56 30.2	
MAK				*e*S	**S**	**16 00 06.2**	**-0.3**
MAK				pmax	pmax		
	comp=Z,232nm,1.4s						
MAK				MLR	MLR		
	comp=Z,2μm,14.0s						
SVE	**Sverdlovsk**	**21.53**	**339**	*e*P	**P**	**15 56 11.8**	**+2.5**
SVE				pmax	pmax		
	comp=Z,38nm,1.3s						
ARU	**Arti**	**21.84**	**335**	*d i*P	**P**	**15 56 15.0**	**+2.3**
ARU						15 56 35.9	
ARU				PPP	PPP	15

comp=Z,5.0nm,0.9s
TLY MLR MLR
TLY Talaya 24.82 46 LR LR 16 07 56.6
comp=Z,944nm,18.2s,baz=250,slow=40
CD2 Chengdu 24.83 97 *e*P **P** **15 56 44.0 +1.2**
CD2 PP **PnPn** **15 57 20.8 +5.8**
CD2 S **S** **16 01 00.3 -5.2**
CD2 PMZ
comp=Z,100nm,1.2s
CD2 LE
comp=Z,1μm,14.3s
CD2 LZ
comp=Z,950nm,17.8s
KBZ Khabaz 24.87 295 P **P** **15 56 42.6 -0.3**
comp=Z,2.5nm,0.8s,baz=114,slow=8.8,SNR=7.0
SOKR Solikamsk 24.97 338 ⇑*i*P P 15 56 47.5 +3.9
SOKR pmax pmax
comp=Z,30nm,1.0s
KIV Kislovodsk 25.03 295 *e*P **P** **15 56 46.1 +1.6**
KIV *e*S **S** **16 01 09.5 +0.8**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,465nm,15.0s
SONM Songino Array 25.33 56 P **P** **15 56 50.1 +2.9**
comp=Z,21nm,0.5s,baz=257,slow=8.6,SNR=32
SONM LR LR 16 07 55.1
comp=Z,828nm,21.4s,baz=245,slow=39
IRK Irkutsk 25.40 45 *e*P **P** **15 56 51.4 +3.7**
IRK *e* 15 57 08.0
IRK pmax pmax
comp=Z,30nm,1.9s
ULN Ulaanbaatar 25.77 56 *e*P **P** **15 56 52.7 +1.4**
ULN pmax pmax
comp=Z,8.0nm,1.2s
ULN Ulaanbaatar 25.77 56 P **P** **15 56 53.4 +2.1**
comp=Z,9.0nm,0.6s
VRHR Novokhopersk 27.08 311 *e*P **P** **15 57 03.3 +0.5**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,7.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,1.0s
VRHR MLR MLR
comp=E,860nm,14.0s
VRHR MLR MLR
comp=Z,1μm,14.0s
VRHR MLR MLR
comp=N,440nm,13.0s
MHMT Maesarieng 27.98 127 P **P** **15 57 12.7 +1.5**
comp=N,18nm,0.8s
CHTO Chiang Mai 28.17 125 *e*P **P** **15 57 13.2 +0.3**
CHTO pmax pmax
comp=Z,5.0nm,0.7s
CHTO Chiang Mai 28.17 125 P P 15 57 16.2 +3.3
comp=Z,33nm,1.1s
CHTO Chiang Mai 28.17 125 *e*P **P** **15 57 13.2 +0.3**
comp=Z,5.0nm,0.7s
CMMT Chiang Mai 28.17 125 P P 15 57 16.1 +3.1
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 28.43 125 *ce*P P 15 57 18.5 +3.3
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 28.43 125 P **P** **15 57 17.8 +2.5**
comp=Z,6.3nm,0.9s,baz=307,slow=11,SNR=25
CMAR PcP **PcP** **16 00 28.4 +1.0**
comp=Z,2.5nm,0.7s,baz=294,slow=4.4,SNR=7.3
VORD Divnogorie 28.46 310 *e*P **P** **15 57 16.1 +1.0**
VORD pmax pmax
comp=Z,7.0nm,1.5s
VORD pmax pmax
comp=N,9.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD MLR MLR
comp=N,830nm,14.0s
VORD MLR MLR
comp=Z,930nm,14.0s
VORD MLR MLR
comp=E,860nm,13.0s
VSR Storozhevoye 28.60 310 *e*P **P** **15 57 17.2 +0.8**
VSR pmax pmax
comp=Z,4.0nm,0.7s
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=E,5.0nm,0.8s
VSR MLR MLR
comp=E,840nm,15.0s
VSR MLR MLR
comp=Z,920nm,15.0s
VSR MLR MLR
comp=N,700nm,14.0s
RAYN Ar Rayn 28.63 249 *e*P **P** **15 57 15.1 -1.9**
comp=N,6.9nm,0.6s
HHC Hu-ho-hao-te 28.63 72 *e*P **P** **15 57 17.0 0.0**
HHC PP **PnPn** **15 58 11.3 +4.5**
HHC S **S** **16 02 01.6 -3.9**
HHC sS sS 16 02 21.6 +11
HHC SS **SnSn** **16 03 30.3 +5.2**
HHC PcS **PcS** **16 04 08.6 -1.7**
HHC PMZ
comp=N,26nm,0.7s
HHC PMZ
comp=N,450nm,4.5s
HHC LN
comp=N,620nm,11.7s
HHC LE
comp=N,320nm,11.4s
HHC LZ
comp=N,370nm,12.3s
ANN Anapa 28.84 297 *e*P P 15 57 22.3 +3.7
ANN *e*S **S** **16 02 11.2 +2.8**
ANN *e*SS **SnSn** **16 03 34.6 +4.7**
ANN *e*SSS SSS 16 03 57.0
ANN pmax pmax
comp=Z,27nm,1.0s
ANN MLR MLR
comp=Z,481nm,13.0s
GYA Guiyang 29.10 103 *e*P **P** **15 57 23.0 +1.7**
GYA PMZ
comp=Z,10.0nm,0.9s
UTTA Uttaradit 30.00 124 P P 15 57 41.1 +12
PRGR Permogore 30.21 333 *e*P **P** **15 57 28.6 -2.0**
PRGR pmax pmax
comp=Z,13nm,0.7s
PALK Pallekele 30.54 168 P **P** **15 57 35.1 +1.2**
comp=Z,11nm,0.6s,baz=340,slow=8.0,SNR=9.5
UTHA Uthaitani 30.90 128 P P 15 57 44.3 +7.2
comp=Z,4.9nm,1.0s,comp=Z,51nm
PBKT Sadao Pong 31.12 125 P P 15 57 44.5 +5.5
comp=Z,13nm,1.1s,comp=Z,433nm
SIM Simferopol' 31.20 297 P **P** **15 57 40.1 +0.6**
SIM pmax pmax
comp=Z,15nm,1.2s
OBN Obninsk 31.22 317 *d i*P **P** **15 57 41.4 +1.9**
OBN *e* 15 58 42.0
OBN *e* 16 00 33.1
OBN pmax pmax
comp=Z,15nm,0.7s
OBN MLR MLR
comp=Z,541nm,16.0s
ASF Jabal al Asfar 31.36 272 LR LR 16 12 41.4
comp=Z,600nm,21.4s,baz=60,slow=41
BRTR Keskin Array B 32.00 287 P **P** **15 57 47.0 +0.2**
comp=Z,2.5nm,0.4s,baz=103,slow=6.6,SNR=25
KLMR Klimovskoe 32.18 328 *e*P **P** **15 57 47.6 -0.3**
KLMR pmax pmax
comp=Z,37nm,1.4s
BJI Beijing 32.22 72 P **P** **15 57 49.8 +1.3**
BJI ScS ScS 16 08 13.6 -5.8
BJI PMZ
comp=Z,8.0nm,0.6s
BJI LN
comp=Z,550nm,12.6s
BJI LE
comp=Z,2μm,19.2s
BJI LZ
comp=Z,1μm,19.2s
CHAI Chaiyaphum 32.27 124 P **P** **15 57 51.8 +2.6**
comp=Z,5.3nm,0.6s
BOD Bodaibo 32.72 39 *e*P **P** **15 57 54.2 +1.4**
BOD pmax pmax
comp=Z,7.0nm,2.0s

NAYO Nakonayok 33.02 127 P **P** **15 57 57.4 +1.7**
comp=Z,35nm,1.0s
HIA Hailar 34.30 55 *e*P **P** **15 58 07.1 +0.5**
HIA pmax pmax
comp=Z,3.0nm,1.2s
AKASG Malin Array Be 34.71 307 *ce*P **P** **15 58 11.6 +1.5**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 34.71 307 P **P** **15 58 09.2 -0.8**
comp=Z,1.7nm,0.5s,baz=77,slow=7.3,SNR=6.5
KIEV Kiev 34.72 307 *e*P **P** **15 58 11.4 +1.2**
CFR Carcaliu 35.42 298 ⇓*i*P **P** **15 58 17.9 +1.6**
QIZ Qiongzhong 35.70 111 P **P** **15 58 19.4 +0.4**
QIZ S **S** **16 03 54.4 -1.4**
QIZ PMZ
comp=Z,21nm,1.8s
SURT Suratani 35.76 136 P **P** **15 58 20.7 +1.2**
comp=Z,13nm,0.9s
VRI Vrincioaia 36.36 299 ⇓*i*P **P** **15 58 25.9 +1.5**
TESR Tescani 36.37 300 ⇓*i*P **P** **15 58 25.6 +1.1**
NJ2 Nanjing 36.40 85 *e*P **P** **15 58 25.6 +0.7**
NJ2 S **S** **16 04 08.0 +1.7**
NJ2 PMZ
comp=Z,20nm,0.5s
NJ2 LN
comp=Z,770nm,22.6s
NJ2 LE
comp=Z,990nm,16.2s
NJ2 LZ
comp=Z,990nm,16.8s
PLOR Plostina 36.41 299 ⇑*i*P **P** **15 58 26.0 +1.1**
MLR Muntele Rosu 36.94 298 ⇑*i*P **P** **15 58 31.1 +1.7**
DOPR Dopca 37.28 299 ⇓*i*P **P** **15 58 33.4 +1.1**
BURAR Bucovina Array 37.29 302 ⇑*i*P **P** **15 58 32.9 +0.5**
VOIR 37.57 298 ⇑*i*P **P** **15 58 35.0 +0.2**
APA Apatity 37.94 336 ⇓*i*P P 15 58 33.8 -3.7
APA *i* 16 00 07.0
APA *i* S S 16 04 18.0 -11
APA *i* SS **SnSn** **16 07 10.0 -0.2**
APA MLR MLR
comp=Z,2μm,14.0s
FINES FINESS Array B 38.39 324 P P 15 58 44.0 +2.7
comp=Z,5.7nm,0.4s,baz=107,slow=8.9,SNR=23
FINES LR LR 16 15 48.4
comp=Z,354nm,18.3s,baz=100,slow=38
APE Apeiranthos 38.79 285 ⇑*i*P **P** **15 58 47.2 +2.1**
DRGR 39.05 301 ⇑*i*P **P** **15 58 48.5 +1.3**
TRPA Tarpa 39.06 303 ⇑*i*P **P** **15 58 48.2 +1.0**
MMB Musomiste 39.09 292 ⇓*i*P **P** **15 58 48.1 +0.5**
KOLS Kolonicke sedl 39.19 304 *e*P **P** **15 58 48.0 -0.3**
KOLS *e* 16 00 20.8
KOLS Kolonicke sedl 39.19 304 *e*P **P** **15 58 48.0 -0.3**
KOLS *e*PP **PnPn** **16 00 20.8 +0.3**
UZH Uzhgorod 39.19 304 *e*P **P** **15 58 48.8 +0.6**
VTS Vitosha 39.28 294 ⇑*i*P **P** **15 58 49.9 +0.6**
CRVS Cervenica-Dubn 39.72 304 *e*PP PP 16 00 25.9 +2.1
STHS Stebnicka Huta 39.83 305 *e*P **P** **15 58 54.5 +0.8**
STHS pmax pmax
comp=Z,2.0nm,0.8s
STHS Stebnicka Huta 39.83 305 *e*P **P** **15 58 54.5 +0.8**
BZS Buzias 39.94 299 ⇓*i*P **P** **15 58 55.5 +0.9**
NIE Niedzica 40.44 305 *e*P **P** **15 59 01.1 +2.4**
NIE Niedzica 40.44 305 *e*P **P** **15 59 01.1 +2.4**
IPM Ipoh 40.70 137 *e*P **P** **15 59 00.6 -0.5**
comp=Z,9.7nm,0.6s
MDJ Mudanjiang 41.32 62 P **P** **15 59 07.1 +1.1**
MDJ PMZ
comp=Z,4.0nm,0.5s
MDJ PMZ
comp=Z,50nm,4.0s
ARCES ARCESS Array B 41.43 336 P **P** **15 59 06.5 0.0**
comp=Z,13nm,0.8s,baz=109,slow=8.2,SNR=45
ARCES LR LR 16 17 40.0
comp=Z,260nm,19.7s,baz=118,slow=38
ARE0 ARCESS Array S 41.43 336 *e*P **P** **15 59 06.8 +0.2**
YAK Yakutsk 41.45 36 *e*P **P** **15 59 06.2 -0.5**
YAK *e* 16 00 41.5
YAK *e*PPP PPP 16 01 05.9
YAK *e*S **S** **16 05 21.4 -0.2**
YAK *e*SS **SS** **16 08 25.2 -0.2**
YAK *e* 16 09 03.8
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK pmax pmax
comp=N,1.0nm,1.4s
YAK pmax pmax
comp=Z,7.0nm,1.0s
YAK pmax pmax
comp=N,48nm,2.3s
YAK pmax pmax
comp=E,17nm,2.0s
YAK smax smax
comp=N,62nm,4.2s
YAK smax smax
comp=E,132nm,3.9s
YAK MLR MLR
comp=Z,1μm,14.0s
YAK MLR MLR
comp=E,717nm,13.0s
YAK MLR MLR
comp=N,235nm,19.0s
YAK Yakutsk 41.45 36 LR LR 16 17 30.9
comp=N,652nm,18.6s,baz=268,slow=38
YAK Yakutsk 41.45 36 *e*P **P** **15 59 04.5 -2.2**
comp=N,18nm,0.6s
VYHS Vyhne 41.49 304 *e*P P 15 59 10.9 +3.6
VYHS pmax pmax
comp=Z,4.0nm,1.4s
VYHS Vyhne 41.49 304 *e* P 15 59 10.9 +3.6
KSAR Wonju Array Be 41.72 73 P **P** **15 59 10.6 +1.3**
KSAR Wonju Array Be 41.72 73 P **P** **15 59 10.6 +1.3**
KSRS Korea Array 41.74 73 P **P** **15 59 10.6 +1.1**
KSRS pmax pmax
comp=Z,2.0nm,0.5s
KSRS MLR MLR
comp=Z,566nm,18.9s
KSRS Korea Array 41.74 73 P **P** **15 59 10.6 +1.1**
comp=Z,2.4nm,0.5s,baz=286,slow=8.2,SNR=9.1
KSRS LR LR 16 18 57.2
comp=Z,566nm,18.9s,baz=288,slow=40
KTK1 Kautokeino 41.97 335 *e*P **P** **15 59 11.3 +0.4**
KLR Kul'dur 42.16 55 *e*P P 15 59 08.8 -4.0
DPC Dobruska-Polom 42.93 307 *e*P **P** **15 59 20.5 +1.4**
DPC *e* 15 59 28.2
DPC *e* 15 59 34.1
DPC Dobruska-Polom 42.93 307 *e*P **P** **15 59 20.5 +1.4**
DPC *e*x x 15 59 28.2
DPC *e*pP pP 15 59 34.1 +12
USRK Ussuriysk Ar. 43.09 62 P **P** **15 59 20.9 +0.5**
comp=Z,2.4nm,0.5s,baz=260,slow=8.6,SNR=4.1
USRK LR LR 16 18 39.5
comp=Z,444nm,19.0s,baz=277,slow=38
UPC Upice 43.12 307 *e*P **P** **15 59 19.5 -1.0**
UPC Upice 43.12 307 *e*P **P** **15 59 19.5 -1.0**
CONA Conrad Observa 43.54 303 ⇑*i*P **P** **15 59 24.7 +0.7**
comp=Z,8.0nm,0.9s
TRO Tromso 43.62 335 *e*P **P** **15 59 24.6 +0.3**
TIXI Tiksi 43.77 22 *e*P **P** **15 59 26.0 +0.5**
TIXI pmax pmax
comp=Z,29nm,1.7s
PRU Pruhonice 44.11 306 *e*P **P** **15 59 30.6 +2.0**
PRU Pruhonice 44.11 306 *e*P **P** **15 59 30.6 +2.0**
HFS Hagfors 44.17 321 P **P** **15 59 28.4 -0.5**
comp=Z,8.3nm,0.5s,baz=99,slow=9.8,SNR=37
HFS LR LR 16 19 31.7
comp=Z,490nm,18.3s,baz=78,slow=38
SOKA Soboth 44.30 302 ⇑*i*P **P** **15 59 29.7 -0.5**
comp=Z,3.5nm,0.7s
BRG Berggiesshubel 44.38 308 *e*P **P** **15 59 32.7 +2.0**
comp=Z,5.8nm,0.8s
BRG Berggiesshubel 44.38 308 *e*P **P** **15 59 32.7 +2.0**
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG MLR MLR
comp=N,525nm,14.5s
BRG MLR MLR
comp=E,446nm,14.0s
BRG MLR MLR
comp=Z,760nm,15.0s
GERES GERESS Array B 44.82 305 P **P** **15 59 33.9 -0.5**
comp=Z,0.7nm,0.5s,baz=76,slow=5.6,SNR=5.9
TIP Timpagrande 44.84 291 *e*P **P** **15 59 34.5 0.0**
comp=Z,4.9nm,1.0s

KHC Kasperske Hory 44.85 305 *e*P **P** **15 59 34.6 0.0**
KHC pmax pmax
comp=Z,4.0nm,0.6s
KHC Kasperske Hory 44.85 305 *e*P **P** **15 59 35.9 +1.3**
KHC Kasperske Hory 44.85 305 *e*P **P** **15 59 34.6 0.0**
comp=Z,3.6nm,0.6s
CLL Collm 44.92 308 *e*P **P** **15 59 35.0 0.0**
CLL *e* 15 59 41.0
CLL Collm 44.92 308 *e*P **P** **15 59 35.0 0.0**
CLL *e* 15 59 41.0
KONS Konsvik 45.04 330 *e*P **P** **15 59 36.3 +0.6**
STOK Stokkvaagen 45.06 330 *e*P P 15 59 40.9 +5.0
NC602 NORSAR Array S 45.26 322 *e*P **P** **15 59 35.1 -2.5**
CUC Castrocucco 45.30 292 *e*P **P** **15 59 38.4 +0.2**
comp=Z,6.8nm,0.6s
KBA Koelnbreinsper 45.36 303 ⇑*i*P **P** **15 59 40.4 +1.6**
comp=Z,2.4nm,0.6s
NB2 NORSAR Subarra 45.43 322 P **P** **15 59 38.4 -0.5**
comp=Z,2.5nm,0.5s,baz=92,slow=7.9
NB2 NORSAR Subarra 45.43 322 P **P** **15 59 38.4 -0.5**
baz=92,slow=7.9
NOA NORSAR Array B 45.43 322 P **P** **15 59 38.4 -0.5**
comp=Z,2.4nm,0.5s,baz=101,slow=7.3,SNR=11
NOA LR LR 16 19 34.0
comp=Z,320nm,19.1s,baz=110,slow=37
JOW Kunigami 46.02 87 P **P** **15 59 44.9 +0.8**
comp=Z,0.7nm,0.4s
KONO Kongsberg 46.23 320 *e*P **P** **15 59 45.4 +0.2**
GRF Grafenberg Arr 46.28 306 *e*P P 15 59 48.9 +3.1
comp=Z,12nm,1.4s
HSPB Hornsund (broa 46.98 345 *e*P **P** **15 59 52.7 +1.8**
SPA0 Spitsbergen Ar 47.25 346 *e*P **P** **15 59 53.2 +0.2**
SPITS Spitsbergen Ar 47.25 346 P **P** **15 59 53.9 +0.8**
comp=Z,2.9nm,0.5s,baz=107,slow=12,SNR=20
DAVA Damuels 47.63 303 ⇑*i*P **P** **15 59 56.5 -0.1**
comp=Z,9.5nm,0.6s
TUE Stuetta 48.18 303 P **P** **16 00 01.4 +0.5**
comp=Z,3.0nm,0.6s
KBS Kingsbay 48.35 347 *e*P **P** **16 00 02.7 +1.2**
PGF Pioggiola 49.47 298 *e*P **P** **16 00 10.5 -0.3**
PGF Pioggiola 49.47 298 *e*P **P** **16 00 10.5 -0.3**
PGF Pioggiola 49.47 298 *e*P **P** **16 00 10.5 -0.3**
HINF Hinteralfeld 49.50 305 *e*P **P** **16 00 10.3 -0.5**
HINF Hinteralfeld 49.50 305 *e*P **P** **16 00 10.3 -0.5**
HINF Hinteralfeld 49.50 305 *e*P **P** **16 00 10.3 -0.5**
MAT Matsushiro 49.82 71 P **P** **16 00 13.1 -0.3**
MAT S **S** **16 07 21.0 -2.0**
MJAR Matsushiro Arr 49.82 71 P **P** **16 00 13.7 +0.3**
comp=Z,3.2nm,0.6s,baz=287,slow=9.1,SNR=14
MJAR LR LR 16 23 00.9
comp=Z,130nm,19.1s,baz=285,slow=38
LPG La Plagne 50.18 302 *e*P **P** **16 00 16.3 0.0**
comp=Z,16nm,0.8s
LPG La Plagne 50.18 302 *e*P **P** **16 00 16.3 0.0**
LPG pmax pmax
comp=Z,16nm,0.8s
LPG La Plagne 50.18 302 *e*P **P** **16 00 16.3 0.0**
comp=Z,16nm,0.8s
SBF Sospel 50.18 300 *e*P **P** **16 00 15.9 -0.2**
comp=Z,34nm,0.8s
SBF Sospel 50.18 300 *e*P **P** **16 00 15.9 -0.2**
SBF pmax pmax
comp=Z,34nm,0.8s
SBF Sospel 50.18 300 *e*P **P** **16 00 15.9 -0.2**
comp=Z,34nm,0.8s
LPL La Plagne 50.18 302 *e*P **P** **16 00 16.3 0.0**
comp=Z,13nm,0.7s
LPL La Plagne 50.18 302 *e*P **P** **16 00 16.3 0.0**
LPL pmax pmax
comp=Z,13nm,0.6s
LPL La Plagne 50.18 302 *e*P **P** **16 00 16.3 0.0**
comp=Z,13nm,0.6s
CABF La Chapelle 50.32 303 *e*P **P** **16 00 17.0 -0.1**
comp=Z,18nm,0.8s
CABF La Chapelle 50.32 303 *e*P **P** **16 00 17.0 -0.1**
CABF pmax pmax
comp=Z,18nm,0.8s
CABF La Chapelle 50.32 303 *e*P **P** **16 00 17.0 -0.1**
comp=Z,18nm,0.8s
MBDF Montbardon 50.38 301 *e*P **P** **16 00 16.9 -0.8**
comp=Z,8.2nm,0.7s
MBDF Montbardon 50.38 301 *e*P **P** **16 00 16.9 -0.8**
MBDF pmax pmax
comp=Z,8.0nm,0.7s
MBDF Montbardon 50.38 301 *e*P **P** **16 00 16.9 -0.8**
comp=Z,8.2nm,0.7s
FRF La Foret Royal 50.81 300 *e*P **P** **16 00 19.5 -1.3**
comp=Z,9.9nm,0.7s
FRF La Foret Royal 50.81 300 *e*P **P** **16 00 19.5 -1.3**
FRF pmax pmax
comp=Z,10.0nm,0.7s
FRF La Foret Royal 50.81 300 *e*P **P** **16 00 19.5 -1.3**
comp=Z,9.9nm,0.7s
ORIF Oris-en-Rattie 50.93 301 *e*P **P** **16 00 20.9 -0.9**
comp=Z,8.9nm,0.8s
ORIF *e*R
comp=Z,383nm,21.5s
ORIF Oris-en-Rattie 50.93 301 *e*P **P** **16 00 20.9 -0.9**
ORIF pmax pmax
comp=Z,9.0nm,0.8s
ORIF Oris-en-Rattie 50.93 301 *e*P **P** **16 00 20.9 -0.9**
comp=Z,8.9nm,0.8s
SMRF Simiane la Rot 51.42 300 *e*P **P** **16 00 25.4 0.0**
comp=Z,5.0nm,0.6s
SMRF Simiane la Rot 51.42 300 *e*P **P** **16 00 25.4 0.0**
comp=Z,5.0nm,0.6s
KEST Kesra 51.55 289 P **P** **16 00 26.4 -0.1**
comp=Z,1.2nm,0.7s,baz=45,slow=5.7,SNR=3.3
KMBO Kilima Mbogo 51.72 231 P **P** **16 00 27.3 -0.8**
KMBO pmax pmax
comp=Z,2.0nm,0.5s
KMBO Kilima Mbogo 51.72 231 P **P** **16 00 27.3 -0.8**
comp=Z,2.4nm,0.5s,baz=39,slow=10,SNR=6.5
KMBO Kilima Mbogo 51.72 231 *e*P **P** **16 00 27.4 -0.7**
SMF Signal de Mont 51.79 304 *e*P **P** **16 00 26.7 -1.4**
comp=Z,10.0nm,0.6s
SMF Signal de Mont 51.79 304 *e*P **P** **16 00 26.7 -1.4**
SMF pmax pmax
comp=Z,10.0nm,0.6s
SMF Signal de Mont 51.79 304 *e*P **P** **16 00 26.7 -1.4**
comp=Z,10.0nm,0.6s
SSF Saint Saulge 51.89 305 *e*P **P** **16 00 28.2 -0.6**
comp=Z,32nm,1.2s
SSF Saint Saulge 51.89 305 *e*P **P** **16 00 28.2 -0.6**
SSF pmax pmax
comp=Z,32nm,1.2s
SSF Saint Saulge 51.89 305 *e*P **P** **16 00 28.2 -0.6**
comp=Z,32nm,1.2s
AVF Avril sur Loir 52.07 304 *e*P **P** **16 00 28.9 -1.2**
comp=Z,13nm,0.6s
AVF Avril sur Loir 52.07 304 *e*P **P** **16 00 28.9 -1.2**
AVF pmax pmax
comp=Z,13nm,0.6s
AVF Avril sur Loir 52.07 304 *e*P **P** **16 00 28.9 -1.2**
comp=Z,13nm,0.6s
LASF Ste Croix 52.57 301 *e*P **P** **16 00 32.2 -1.7**
comp=Z,30nm,1.3s
LASF Ste Croix 52.57 301 *e*P **P** **16 00 32.2 -1.7**
comp=Z,30nm,1.3s
LDF La Druitiere 53.77 307 *e*P **P** **16 00 42.1 -0.6**
comp=Z,16nm,0.7s
LDF La Druitiere 53.77 307 *e*P **P** **16 00 42.1 -0.6**
LDF pmax pmax
comp=Z,17nm,0.7s
LDF La Druitiere 53.77 307 *e*P **P** **16 00 42.1 -0.6**
comp=Z,16nm,0.7s
FLN La Foliniere 53.95 308 *e*P **P** **16 00 43.5 -0.4**
FLN *e*R
comp=Z,376nm,18.2s
FLN La Foliniere 53.95 308 *e*P **P** **16 00 43.5 -0.4**
FLN La Foliniere 53.95 308 *e*P **P** **16 00 43.5 -0.4**
GRR Gorron 54.30 307 *e*P **P** **16 00 45.2 -1.3**
GRR Gorron 54.30 307 *e*P **P** **16 00 45.2 -1.3**
GRR Gorron 54.30 307 *e*P **P** **16 00 45.2 -1.3**
DAG Danmarks Havn 54.65 344 *i* P **P** **16 00 48.4 -0.2**
DAG pmax pmax
comp=Z,4.0nm,0.8s
DAG Danmarks Havn 54.65 344 *i* P **P** **16 00 48.4 -0.2**
comp=Z,5.8nm,0.8s
BILL Bilibino 56.42 27 *e*P **P** **16 01 01.9 +0.4**
BILL *e* 16 03 06.3
BILL pmax pmax
comp=Z,5.0nm,1.2s
BILL MLR MLR
comp=Z,2μm,22.0s
JCJ Chichijima 56.88 79 LR LR 16 27 32.0

comp=Z,126nm,20.1s,baz=252,slow=38
PETK Petropavlovsk- 57.19 45 LR LR 16 28 27.8
comp=Z,251nm,19.6s,baz=292,slow=39
ESDC Sonseca Array 59.63 299 P **P 16 01 24.9 +0.3**
comp=Z,0.4nm,0.3s,baz=60,slow=7.2,SNR=5.3
SUMG Summit 61.11 342 *i* P **P 16 01 35.3 +0.8**
SUMG pmax pmax
comp=Z,14nm,0.9s
SUMG Summit 61.11 342 *i* P **P 16 01 35.3 +0.8**
comp=Z,14nm,0.9s
SUMG Summit 61.11 342 *e*P **P 16 01 35.0 +0.5**
comp=Z,15nm,0.9s
SOEI Soe 65.98 125 *e*P **P 16 02 06.3 -0.8**
comp=Z,21nm,0.8s
TORD Torodi Ar. Bea 68.71 270 P **P 16 02 22.1 -2.3**
comp=Z,5.7nm,0.4s,baz=46,slow=5.6,SNR=77
COLD Coldfoot 70.21 17 *e*P **P 16 02 32.9 0.0**
comp=Z,13nm,1.2s
MBWA Marble Bar 72.07 136 *e*P **P 16 02 44.7 0.0**
comp=Z,8.4nm,0.8s
KTH Kantishna Hill 72.99 20 *e*P **P 16 02 49.6 -0.1**
comp=Z,18nm,1.2s
ILAR Eielson Array 73.00 17 P **P 16 02 48.9 -0.9**
comp=Z,4.9nm,1.0s,baz=313,slow=4.8,SNR=16
PPLA Purkeypile 73.17 20 *e*P **P 16 02 50.4 -0.5**
comp=Z,5.3nm,0.6s
MCK McKinley 73.36 19 *e*P **P 16 02 51.6 -0.3**
MCK pmax pmax
comp=Z,3.0nm,0.5s
MCK McKinley 73.36 19 *e*P **P 16 02 51.6 -0.3**
comp=Z,2.6nm,0.5s
EGAK Eagle 74.27 15 *e*P **P 16 02 59.2 +2.0**
DAWY Dawson 75.27 15 *e*P **P 16 03 02.6 -0.4**
LBTB Lobatse 77.43 225 *e*P **P 16 03 14.7 -1.1**
LBTB pmax pmax
comp=Z,10.0nm,0.6s
LBTB Lobatse 77.43 225 *e*P **P 16 03 14.7 -1.1**
comp=Z,10nm,0.6s
DBIC Dimbokro 77.71 269 P **P 16 03 16.8 -0.8**
comp=Z,2.6nm,0.5s,baz=16,slow=6.9,SNR=8.1
KIC Kosan Boka 77.81 269 *e*P **P 16 03 17.3 -0.9**
comp=Z,9.1nm,0.4s
TIC Toumodi 77.86 269 *e*P **P 16 03 17.9 -0.6**
comp=Z,29nm,0.2s
LIC Lamto 78.12 269 *e*P **P 16 03 18.4 -1.5**
comp=Z,8.0nm,0.4s
LIC Lamto 78.12 269 *e*P **P 16 03 18.9 -1.0**
comp=Z,14nm,0.4s
LIC Lamto 78.12 269 *e*P **P 16 03 18.4 -1.5**
comp=Z,8.0nm,0.4s
HYT Haines Junctio 78.57 15 *e*P **P 16 03 22.1 +0.4**
WRA Warramunga Arr 80.02 125 P **P 16 03 30.0 -0.1**
WRA Warramunga Arr 80.02 125 P **P 16 03 30.0 -0.1**
comp=Z,3.9nm,0.7s,baz=323,slow=5.1,SNR=8.0
WRAB Tennant Creek 80.02 124 *c*e**P 16 03 31.3 +1.2**
WRAB pmax pmax
comp=Z,28nm,1.7s
YKA Yellowknife Ar 80.10 4 P **P 16 03 29.3 -0.6**
comp=Z,2.3nm,0.5s,baz=347,slow=5.6,SNR=41
PMG Port Moresby 82.03 108 P **P 16 03 41.3 +0.3**
comp=Z,5.2nm,0.7s,baz=284,slow=4.2,SNR=4.3
SCHQ Schefferville 82.33 339 LR LR 16 39 35.8
comp=Z,205nm,21.4s,baz=44,slow=35
AS31 Alice Springs 82.41 127 *e*P **P 16 03 40.7 -2.1**
ASAR Alice Springs 82.41 127 P **P 16 03 42.9 +0.1**
comp=Z,2.5nm,0.6s,baz=315,slow=5.3,SNR=20
FFC Flin Flon 88.14 358 *e*P **P 16 04 10.6 -0.4**
FFC Flin Flon 88.14 358 *e*P **P 16 04 10.6 -0.4**
CTA Charters Tower 88.27 117 P **P 16 04 12.1 +0.1**
comp=Z,3.4nm,0.5s,baz=338,slow=5.3,SNR=9.7
VNDA Vanda 125.63 164 PKP **PKPdf 16 10 20.4 -0.2**
comp=Z,1.1nm,0.9s,baz=339,slow=2.8,SNR=3.6
TRQA Tornquist 146.00 255 *e*PKPbc **PKPbc 16 10 59.8 -0.3**
CFAA Coronel Fontan 149.07 270 PKPbc **PKPbc 16 11 09.0 +0.2**
comp=Z,0.3nm,0.5s,baz=52,slow=6.1,SNR=3.6

*BJI **23** 15:52:20.8, 31.′26N×103.′36E, h14km, mb4.5/12, ML4.1/21, Ms4.1/12, Ms7 3.9/8*
*IDC **23** 15:52:21.3±0.7, 31.′21N×103.′56E, h0km, mb4.4/19, mb1 4.4/21, mb1mx4.2/48, mbtmp4.4/21, ML3.8/2, Error ellipse: s-maj=24.3km s-min=14.0km az=50.0*
*ISCJB **23** 15:52:22.1±0.3, 31.′23N±0.′03×103.′50E±0.′04, h16km, mb4.4/23, Error ellipse: s-maj=5.5km s-min=4.4km az=175.8*
*MOS **23** 15:52:23.9±0.5, 31.′19N×103.′52E, h33km, mb4.8/5, Error ellipse: s-maj=12.7km s-min=8.0km az=102.2*
*NEIC **23** 15:52:25.7±1.8, 31.′22N×103.′55E, h30km±13km, mb4.7/5, Error ellipse: s-maj=7.1km s-min=5.1km az=75.0*
ISC 23 15:52:24.2±0.4,**31.′22N**±0.′03×**103.′46E**±0.′05,**h16**km,**n63,**
σ1§**39**/74,**mb4.5**/23,**2C-1D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.40**	**140⇑**	*i*Pg	**Pg**	**15 52 31.6**	**-0.7**
CD2				Sg	**Sb**	**15 52 39.3**	**+0.5**
CD2				SMN			
	22μm,0.6s						
CD2				SME			
	26μm,0.6s						
LZH	**Lanzhou**	**4.87**	**4**	*e*Pn	Pn	15 53 40.6	+3.6
LZH				Pg	**Pg**	**15 53 56.5**	**-1.0**
LZH				Sn	**Sn**	**15 54 37.4**	**+4.3**
LZH				Sg	**Sg**	**15 55 00.3**	**-0.2**
ENH	**Enshi**	**5.27**	**99**	*e*P	**Pn**	**15 53 41.7**	**-0.7**
	120nm,0.4s						
XAN	**Xi'an**	**5.40**	**57**	Pn	**Pn**	**15 53 42.5**	**-1.6**
XAN				Pg	Pb	15 54 01.9	+3.7
XAN				Sn	**Sn**	**15 54 44.9**	**-1.0**
XAN				Sg	**Sb**	**15 55 07.6**	**+4.9**
XAN				SMN			
	230nm,1.0s						
XAN				SME			
	150nm,0.8s						
XAN				LN			
	520nm,7.9s						
XAN				LE			
	290nm,8.5s						
XAN				LZ			
	240nm,11.3s						
GYA	**Guiyang**	**5.51**	**149⇓**	*i*Pn	**Pn**	**15 53 47.6**	**+1.9**
GYA				Sn	**Sn**	**15 54 48.3**	**-0.5**
GYA				Sg	**Sb**	**15 55 08.3**	**+2.2**
GYA				SMN			
	280nm,0.9s						
GYA				SME			
	270nm,0.8s						
KMI	**Kunming**	**6.10**	**186⇑**	Pn	**Pn**	**15 53 54.3**	**+0.3**
KMI				Sn	**Sn**	**15 55 05.8**	**+2.1**
KMI				SMN			
	50nm,0.9s						
KMI				SME			
	47nm,1.2s						
KMI				LN			
	680nm,8.9s						
KMI				LE			
	1μm,11.0s						
GTA	**Gaotai**	**8.70**	**341**	*e*P	**Pn**	**15 54 29.8**	**+0.2**
GTA				pP		15 54 33.0	
GTA				sP		15 54 35.8	
LSA	**Lhasa**	**10.73**	**265**	P	**Pn**	**15 54 59.0**	**+1.3**
LSA	**Lhasa**	**10.73**	**265**	*e*P	**Pn**	**15 54 59.1**	**+1.4**
	30nm,0.7s						
HHC	**Hu-ho-hao-te**	**11.63**	**32**	*e*P	**Pn**	**15 55 10.8**	**+1.2**
HHC				sP		15 55 17.9	
HHC				S	**Sn**	**15 57 22.3**	**+3.1**
HHC				sS		15 57 26.4	
HHC				PMZ			
	41nm,1.6s						
HHC				LN			
	520nm,11.4s						
HHC				LE			
	1μm,15.3s						
HHC				LZ			
	530nm,12.2s						
CHTO	**Chiang Mai**	**13.01**	**199**	P	**Pn**	**15 55 28.9**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CHTO	**Chiang Mai**	**13.01**	**199**	P	**Pn**	**15 55 28.9**	**+0.4**
	comp=Z,4.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**13.35**	**199**	Pn	**Pn**	**15 55 33.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=7.7,slow=9.1,SNR=6.8						
SONM	**Songino Array**	**16.75**	**7**	Pn	**Pn**	**15 56 18.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=185,slow=12,SNR=32						
ULN	**Ulaanbaatar**	**16.85**	**8**	*e*P	**Pn**	**15 56 18.6**	**-1.0**
ULN				pmax	pmax		
	comp=Z,25nm,1.1s						
ULN	**Ulaanbaatar**	**16.85**	**8**	*e*P	**Pn**	**15 56 18.6**	**-1.0**
	comp=Z,25nm,1.1s						
KSAR	**Wonju Array Be**	**21.07**	**66**	P	**P**	**15 57 07.8**	**0.0**
KSAR	**Wonju Array Be**	**21.07**	**66**	P	**P**	**15 57 07.8**	**0.0**
KSRS	**Korea Array**	**21.11**	**66**	P	**P**	**15 57 07.8**	**-0.3**
KSRS				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KSRS	**Korea Array**	**21.11**	**66**	P	**P**	**15 57 07.8**	**-0.3**
	comp=Z,7.6nm,0.7s,baz=262,slow=10.0,SNR=21						
CN2	**Changchun**	**21.42**	**48**	*e*P	**P**	**15 57 11.8**	**+0.4**
CN2				PMZ			
	comp=Z,20nm,0.7s						
HIA	**Hailar**	**21.81**	**30**	*e*P	**P**	**15 57 14.4**	**-1.3**
HIA	**Hailar**	**21.81**	**30**	*e*P	**P**	**15 57 14.4**	**-1.3**
MKAR	**Makanchi Array**	**22.54**	**320**	P	**P**	**15 57 24.5**	**+1.1**
	comp=Z,17nm,1.0s,baz=131,slow=10,SNR=5.6						
KSH	**Kashi**	**23.83**	**298**	*e*P	**P**	**15 57 35.3**	**-1.4**
KSH				pP	**pP**	**15 57 43.0**	**+1.5**
KSH				S	**S**	**16 01 47.8**	**-4.3**
KSH				PMZ			
	comp=Z,33nm,0.9s						
KSH				LN			
	comp=Z,210nm,4.8s						
KSH				LE			
	comp=Z,300nm,4.0s						
KSH				LZ			
	comp=Z,400nm,8.2s						
ZALV	**Zalesovo Beam**	**26.38**	**335**	P	**P**	**15 57 59.5**	**-0.1**
	comp=Z,17nm,0.8s,baz=136,slow=9.7,SNR=6.4						
KURBB	**Kurchatov Arra**	**26.82**	**323**	P	**P**	**15 58 04.0**	**+0.4**
	comp=Z,20nm,0.8s,baz=129,slow=9.5,SNR=16						
KURK	**Kurchatov**	**26.83**	**324**	P	**P**	**15 58 04.0**	**+0.3**
KURK	**Kurchatov**	**26.83**	**324**	P	**P**	**15 58 04.0**	**+0.3**
BVAR	**Borovoye Array**	**32.36**	**322**	P	**P**	**15 58 53.0**	**+0.2**
BVAR	**Borovoye Array**	**32.36**	**322**	P	**P**	**15 58 53.0**	**+0.2**
	comp=Z,4.2nm,0.7s,baz=108,slow=9.3,SNR=4.2						
GEYT	**Alibeck**	**37.64**	**293**	P	**P**	**15 59 40.2**	**+1.6**
	comp=Z,9.3nm,0.6s,baz=76,slow=6.1,SNR=3.8						
ARU	**Arti**	**40.01**	**322**	P	**P**	**15 59 57.7**	**-0.4**
KBZ	**Khabaz**	**48.66**	**303**	P	**P**	**16 01 07.8**	**+0.4**
	comp=Z,2.7nm,0.9s,baz=55,slow=15,SNR=2.5						
FITZ	**Fitzroy Crossi**	**53.46**	**153**	P	**P**	**16 01 42.5**	**-1.2**
BRTR	**Keskin Array B**	**56.21**	**299**	P	**P**	**16 02 03.2**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=98,slow=6.3,SNR=4.4						
AKASG	**Malin Array Be**	**56.91**	**313**	P	**P**	**16 02 07.3**	**-1.0**
	comp=Z,3.5nm,0.7s,baz=67,slow=7.5,SNR=5.1						
ARCES	**ARCESS Array B**	**56.93**	**336**	P	**P**	**16 02 07.8**	**-0.5**
	comp=Z,8.9nm,1.0s,baz=78,slow=8.4,SNR=3.5						
FINES	**FINESS Array B**	**57.17**	**326**	P	**P**	**16 02 09.5**	**-0.5**
	comp=Z,5.4nm,0.9s,baz=91,slow=9.5,SNR=4.5						
WRAB	**Tennant Creek**	**58.87**	**146**	*e*P	**P**	**16 02 21.6**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WRAB	**Tennant Creek**	**58.87**	**146**	*e*P	**P**	**16 02 21.6**	**-0.8**
	comp=Z,9.1nm,0.9s						
WRA	**Warramunga Arr**	**58.87**	**146**	P	**P**	**16 02 21.4**	**-1.0**
	comp=Z,5.2nm,0.8s,baz=336,slow=7.6,SNR=31						
WB2	**Warramunga Arr**	**58.88**	**146**	*e*P	**P**	**16 02 21.5**	**-1.0**
SPITS	**Spitsbergen Ar**	**59.10**	**346**	P	**P**	**16 02 22.9**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=101,slow=6.0,SNR=2.5						
ASAR	**Alice Springs**	**61.87**	**148**	P	**P**	**16 02 42.1**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=335,slow=6.3,SNR=23						
HFS	**Hagfors**	**63.37**	**326**	P	**P**	**16 02 52.8**	**+0.3**
	comp=Z,3.9nm,0.8s,baz=56,slow=8.9,SNR=2.8						
NOA	**NORSAR Array B**	**64.27**	**327**	P	**P**	**16 02 58.1**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=74,slow=6.4,SNR=3.4						
GERES	**GERESS Array B**	**67.08**	**314**	P	**P**	**16 03 16.4**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=86,slow=5.5,SNR=5.1						
ILAR	**Eielson Array**	**69.97**	**25**	P	**P**	**16 03 33.5**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=289,slow=3.6,SNR=3.1						
DAVOX	**Davos/Dischmat**	**70.25**	**313**	P	**P**	**16 03 35.9**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=356,slow=5.8,SNR=3.2						
LPG	**La Plagne**	**72.77**	**313**	*e*P	**P**	**16 03 51.5**	**-0.7**
	comp=Z,9.5nm,0.8s						
LPG	**La Plagne**	**72.77**	**313**	*e*P	**P**	**16 03 51.5**	**-0.7**
LPG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LPG	**La Plagne**	**72.77**	**313**	*e*P	**P**	**16 03 51.5**	**-0.7**
	comp=Z,9.5nm,0.8s						
LPL	**La Plagne**	**72.78**	**313**	*e*P	**P**	**16 03 51.5**	**-0.6**
LPL	**La Plagne**	**72.78**	**313**	*e*P	**P**	**16 03 51.5**	**-0.6**
LPL	**La Plagne**	**72.78**	**313**	*e*P	**P**	**16 03 51.5**	**-0.6**
MBDF	**Montbardon**	**73.11**	**312**	*e*P	**P**	**16 03 55.8**	**+1.8**
	comp=Z,3.9nm,0.7s						
MBDF	**Montbardon**	**73.11**	**312**	*e*P	**P**	**16 03 55.8**	**+1.8**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MBDF	**Montbardon**	**73.11**	**312**	*e*P	**P**	**16 03 55.8**	**+1.8**
	comp=Z,3.9nm,0.7s						
SMF	**Signal de Mont**	**74.03**	**315**	*e*P	**P**	**16 03 57.9**	**-1.3**
	comp=Z,6.5nm,0.7s						
SMF	**Signal de Mont**	**74.03**	**315**	*e*P	**P**	**16 03 57.9**	**-1.3**
SMF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SMF	**Signal de Mont**	**74.03**	**315**	*e*P	**P**	**16 03 57.9**	**-1.3**
	comp=Z,6.5nm,0.7s						
APG	**El Apazote**	**132.14**	**18**	PKP	**PKPdf**	**16 11 38.6**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=104,slow=4.2,SNR=5.0						

*ISCJB **23** 15:57:12.9±0.4, 63.′99N±0.′02×28.′09E±0.′08, h0km, Error ellipse: s-maj=5.2km s-min=2.9km az=8.4*
*IDC **23** 15:57:16.3±1.9, 63.′91N×28.′74E, h0km, mb1 3.0/4, mb1mx2.9/40, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=30.5km s-min=9.7km az=100.0*
*HEL **23** 15:57:16.3±0.1, 64.′00N×27.′95E, h0km, ML1.6, Explosion*
*CSEM **23** 15:57:16.3, 64.′00N×27.′95E, h0km, ML1.6, Mining explosion.*
ISC 23 15:57:15.6±0.8,**63.′98N**±0.′02×**28.′00E**±0.′03,**h0**km,**n34,**
σ1§**16**/56,**Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**1.44**	**322**	PN	**Pn**	**15 57 43.1**	**+0.2**
OUL				SN	**Sg**	**15 58 02.1**	**+0.3**
OUL				MSG		15 58 02.1	
	comp=Z,2.2nm,0.2s						
OUL	**Oulu**	**1.44**	**322**	Pn	**Pn**	**15 57 43.1**	**+0.2**
OUL				Sn	**Sg**	**15 58 02.1**	**+0.3**
SUF	**Sumiainen**	**1.51**	**214**	PN	**Pn**	**15 57 44.2**	**+0.3**
SUF				SN	**Sg**	**15 58 03.9**	**-0.2**
SUF				MSG		15 58 03.9	
	comp=Z,2.6nm,0.2s						
SUF	**Sumiainen**	**1.51**	**214**	Pn	**Pn**	**15 57 44.2**	**+0.3**
SUF				Sn	**Sg**	**15 58 03.9**	**-0.2**
JOF	**Joensuu**	**1.83**	**124**	PG	**Pb**	**15 57 49.9**	**0.0**
JOF				SG	**Sb**	**15 58 13.0**	**-0.2**
JOF				MSG		15 58 13.0	
	comp=Z,4.9nm,0.2s						
JOF	**Joensuu**	**1.83**	**124**	Pg	**Pb**	**15 57 49.8**	**0.0**
JOF				Sg	**Sb**	**15 58 13.0**	**-0.2**
MSF	**Maaselka**	**1.99**	**12**	PG	**Pn**	**15 57 51.6**	**+1.1**
MSF				SG	**Sn**	**15 58 17.1**	**+0.9**
MSF				MSG		15 58 17.1	
	comp=Z,1.8nm,0.2s						
MSF	**Maaselka**	**1.99**	**12**	Pg	**Pn**	**15 57 51.6**	**+1.1**
MSF				Sg	**Sn**	**15 58 17.1**	**+0.9**
KAF	**Kangasniemi**	**2.02**	**203**	PG	**Pb**	**15 57 52.9**	**-0.3**
KAF				SG	**Sb**	**15 58 19.3**	**+0.4**
KAF				MSG		15 58 19.3	
	comp=Z,5.4nm,0.2s						
KAF	**Kangasniemi**	**2.02**	**203**	Pg	**Pb**	**15 57 52.9**	**-0.3**
KAF				Sg	**Sb**	**15 58 19.3**	**+0.4**
KU6	**Riekki**	**2.21**	**20**	PG	**Pb**	**15 57 55.4**	**-1.0**
KU6				SG	**Sb**	**15 58 23.9**	**-0.3**
KU6	**Riekki**	**2.21**	**20**	Pg	**Pb**	**15 57 55.4**	**-1.0**
KU6				Sg	**Sb**	**15 58 23.9**	**-0.3**
KEF	**Keuruu**	**2.31**	**220**	PG	**Pb**	**15 57 57.5**	**-0.6**
	baz=35						
KEF				SG	**Sb**	**15 58 28.0**	**+0.9**
KEF				MSG		15 58 28.0	
	comp=Z,4.2nm,0.2s						
KEF	**Keuruu**	**2.31**	**220**	Pg	**Pb**	**15 57 57.4**	**-0.6**
KEF				Sg	**Sb**	**15 58 28.0**	**+0.9**
VAF	**Ylistaro**	**2.57**	**251**	PG	**Pb**	**15 58 01.8**	**-0.7**
VAF				SG	**Sb**	**15 58 35.1**	**+0.6**
VAF				MSG		15 58 35.1	
	comp=Z,2.3nm,0.2s						
VAF	**Ylistaro**	**2.57**	**251**	Pg	**Pb**	**15 58 01.7**	**-0.7**
VAF				Sg	**Sb**	**15 58 35.1**	**+0.6**
FIA0	**FINESS Array S**	**2.69**	**200**	PB	**Pb**	**15 58 03.0**	**-1.6**
FIA0				SG	**Sb**	**15 58 38.8**	**+0.7**
FIA0				MSG		15 58 38.8	
	comp=Z,2.8nm,0.4s						
FIA0	**FINESS Array S**	**2.69**	**200**	Pb	**Pb**	**15 58 03.0**	**-1.6**
FIA0				Sg	**Sb**	**15 58 38.8**	**+0.7**
FINES	**FINESS Array B**	**2.69**	**200**	Pn	**Pb**	**15 58 03.5**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=29,slow=15,SNR=20						
FINES				Sn	**Sb**	**15 58 38.3**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=25,slow=28,SNR=19						
RNF	**Rovaniemi**	**2.77**	**343**	PG	**Pg**	**15 58 07.8**	**-1.0**
RNF				SB	**Sb**	**15 58 39.3**	**-1.2**
RNF				MSG		15 58 39.3	
	comp=Z,4.3nm,0.3s						
RNF	**Rovaniemi**	**2.77**	**343**	Pg	**Pg**	**15 58 07.7**	**-1.0**
RNF				Sb	**Sb**	**15 58 39.3**	**-1.2**
UMAU	**Umeaa**	**3.24**	**272**	PG	**Pg**	**15 58 16.1**	**-1.5**
UMAU	**Umeaa**	**3.24**	**272**	Pg	**Pg**	**15 58 16.1**	**-1.5**
VJF	**Virojoki**	**3.46**	**184**	SB	**Sb**	**15 58 59.5**	**-0.5**
VJF				MSG		15 58 59.5	
	comp=Z,1.1nm,0.2s						
VJF	**Virojoki**	**3.46**	**184**	Sb	**Sb**	**15 58 59.5**	**-0.5**
SGF	**Sodankyl**	**3.54**	**351**	PN	**Pn**	**15 58 14.0**	**+2.3**
SGF	**Sodankyl**	**3.54**	**351**	Pn	**Pn**	**15 58 14.0**	**+2.3**
ERTU	**Ertsjaerv**	**3.56**	**319**	PN	**Pn**	**15 58 14.1**	**+2.1**
ERTU	**Ertsjaerv**	**3.56**	**319**	Pn	**Pn**	**15 58 14.1**	**+2.1**
LANU	**Lannavaara**	**4.77**	**332**	PN	**Pn**	**15 58 31.4**	**+2.7**
LANU	**Lannavaara**	**4.77**	**332**	Pn	**Pn**	**15 58 31.3**	**+2.7**
ARCES	**ARCESS Array B**	**5.67**	**351**	Pn	**Pn**	**15 58 42.5**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=165,slow=14,SNR=6.4						
ARCES				Sn	**Sn**	**15 59 45.9**	**-0.8**
	baz=175,slow=22,SNR=3.0						
HFS	**Hagfors**	**7.74**	**247**	Pn	**Pn**	**15 59 11.3**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=67,slow=11,SNR=5.1						
NOA	**NORSAR Array B**	**8.30**	**257**	Pn	**Pn**	**15 59 18.7**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=64,slow=9.0,SNR=2.4						

*IDC **23** 16:20:52.9±1.2, 31.′12N×103.′59E, h0km, mb4.1/7, mb1 4.1/8, mb1mx3.7/44, mbtmp4.1/8, ML3.4/1, Error ellipse: s-maj=35.1km s-min=20.3km az=39.0*
*ISCJB **23** 16:20:54.1±0.5, 31.′14N±0.′07×103.′34E±0.′05, h16km, mb3.8/7, Error ellipse: s-maj=10.2km s-min=5.4km az=24.3*
*BJI **23** 16:20:55.8, 31.′26N×103.′36E, h14km, ML3.5/17, Ms3.3/6, Ms7 3.3/6*
ISC 23 16:20:54.2±0.6,**31.′14N**±0.′05×**103.′44E**±0.′06,**h16**km,**n23,**
σ1§**79**/28,**mb4.0/7,1C, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.36**	**131⇑**	*i*Pg	**Pb**	**16 21 02.8**	**+0.6**
CD2				Sg	**Sn**	**16 21 10.8**	**-0.8**
CD2				SMN			
	5μm,0.7s						
CD2				SME			
	5μm,0.8s						
LZH	**Lanzhou**	**4.94**	**4**	*e*Pg	**Pg**	**16 22 27.0**	**-1.9**
LZH				Sg	**Sg**	**16 23 30.6**	**-2.3**
LZH				smax	smax		
	comp=N,79nm,1.2s						
LZH				smax	smax		
	comp=E,72nm,1.2s						
LZH				LR	LR		
	comp=N,420nm,6.4s						
LZH				LR	LR		
	comp=E,430nm,6.5s						
LZH				LR	LR		
	comp=Z,440nm,8.5s						
XAN	**Xi'an**	**5.45**	**57**	Pn	**Pn**	**16 22 14.4**	**-0.5**
XAN				Pg	Pb	16 22 32.8	+3.7
XAN				Sn	**Sn**	**16 23 16.0**	**-1.3**
XAN				Sg	**Sb**	**16 23 38.8**	**+4.5**
XAN				SMN			
	comp=Z,55nm,0.7s						
XAN				SME			
	comp=Z,36nm,0.7s						
XAN				LN			
	comp=Z,180nm,10.2s						
XAN				LE			
	comp=Z,29nm,9.2s						
XAN				LZ			
	comp=Z,49nm,10.2s						
GYA	**Guiyang**	**5.46**	**148**	Pn	Pn	16 22 19.0	+4.0
GYA				Pg	**Pg**	**16 22 36.9**	**-1.9**
GYA				Sn	**Sn**	**16 23 18.6**	**+1.0**
GYA				SMN			
	comp=Z,60nm,0.9s						
GYA				SME			
	comp=Z,80nm,0.8s						
CMAR	**Chiang Mai Arr**	**13.27**	**199**	Pn	**P**	**16 24 09.3**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=5.2,slow=11,SNR=3.5						
TAPN	**Taplejung**	**14.24**	**259**	*e*P	**Pn**	**16 24 17.3**	**+1.7**
	comp=Z,8.0nm,0.9s						
ODAN	**Odare**	**14.68**	**257**	*e*P	**Pn**	**16 24 22.6**	**+1.1**
JIRN	**Jiri**	**15.43**	**261**	*e*P	**Pn**	**16 24 32.2**	**+0.5**
GUN	**Gumba**	**15.62**	**263**	*e*P	**Pn**	**16 24 33.9**	**-0.3**
	comp=Z,13nm,0.7s						
PKI	**Pulchoki**	**16.12**	**262**	*e*P	**Pn**	**16 24 40.9**	**+0.4**
	comp=Z,12nm,0.7s						
PKIN	**Phulchoki**	**16.13**	**262**	*e*P	**Pn**	**16 24 40.9**	**+0.3**
	comp=Z,7.6nm,0.6s						
KKN	**Kakani**	**16.17**	**263**	*e*P	**Pn**	**16 24 40.9**	**-0.1**
	comp=Z,21nm,0.9s						
GKN	**Gorkha**	**16.66**	**264**	*e*P	**Pn**	**16 24 46.1**	**-1.1**
	comp=Z,20nm,0.6s						
SONM	**Songino Array**	**16.82**	**7**	Pn	**Pn**	**16 24 49.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=186,slow=9.3,SNR=15						
DANN	**Dangsing**	**17.32**	**266**	*e*P	**Pn**	**16 24 54.5**	**-1.2**
	comp=Z,18nm,0.9s						
WMQ	**Urumqi**	**17.75**	**320**	*e*P	**Pn**	**16 24 58.8**	**-1.9**
KSRS	**Korea Array**	**21.15**	**66**	P	**P**	**16 25 39.1**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=265,slow=11,SNR=7.7						
MKAR	**Makanchi Array**	**22.58**	**320**	P	**P**	**16 25 56.0**	**+2.2**
	comp=Z,2.5nm,0.8s,baz=126,slow=10,SNR=22						
AAK	**Ala-Archa**	**25.71**	**305**	P	**P**	**16 26 28.0**	**+4.0**
	comp=Z,2.3nm,0.8s,baz=97,slow=7.5,SNR=13						
ZALV	**Zalesovo Beam**	**26.44**	**335**	P	**P**	**16 26 31.1**	**+0.9**
	comp=Z,4.1nm,0.9s,baz=139,slow=9.8,SNR=15						
KURBB	**Kurchatov Arra**	**26.87**	**324**	P	**P**	**16 26 35.1**	**+1.1**
	comp=Z,4.4nm,0.8s,baz=129,slow=9.6,SNR=42						
GEYT	**Alibeck**	**37.65**	**293**	P	**P**	**16 28 10.3**	**+1.7**
	comp=Z,1.9nm,0.6s,baz=79,slow=7.7,SNR=7.3						
WRA	**Warramunga Arr**	**58.82**	**146**	P	**P**	**16 30 52.4**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=338,slow=

KOK	**Koryaka**	**4.79**	**241**	*e*P	**Pn**	**16 35 17.5 +1.8**
GNL	**Ganaly**	**4.93**	**248**	*e*P	**Pn**	**16 35 19.6 +1.9**
PET	**Petropavlovsk**	**4.94**	**239**	*e*P	**Pn**	**16 35 19.9 +2.3**
PETK	**Petropavlovsk-**	**5.36**	**243**	Pn	**Pn**	**16 35 25.4 +2.0**
	0.7nm,0.3s,baz=73,slow=18,SNR=21					
PETK				Sn	Sn	16 36 30.2 +5.6
	0.6nm,0.3s,baz=70,slow=29,SNR=3.2					
MTVR	**Mutnovka**	**5.50**	**236**	*e*P	**Pn**	**16 35 27.4 +1.9**
MTVR				*e*S	**Sn**	**16 36 29.9 +1.6**
ILAR	**Eielson Array**	**24.59**	**49**	P	P	16 39 32.4 +9.3
	0.6nm,0.8s,baz=261,slow=8.2,SNR=4.6					
SONM	**Songino Array**	**36.44**	**283**	P	P	16 41 12.0 +4.1
	0.2nm,0.5s,baz=58,slow=7.5,SNR=2.8					
KURBB	**Kurchatov Arra**	**49.12**	**303**	P	P	16 42 58.9 +8.5
	0.7nm,0.5s,baz=53,slow=7.7,SNR=7.7					
MKAR	**Makanchi Array**	**49.86**	**297**	P	P	16 43 03.7 +7.6
	0.7nm,0.8s,baz=53,slow=7.5,SNR=8.7					

*IDC **23** 16:57:18.6±1.2, 14°.88N×119°.83E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/47, mbtmp3.5/5, Error ellipse: s-maj=61.9km s-min=12.3km az=39.0*
*MAN **23** 16:57:23, 13°.85N×120°.67E, h128km, mb4.3, ML3.2, MS3.0*
ISC 23 16:57:23.9±1.0, 13°.86N±0°.06×120°.5E±0°.1, h120km, n14, σ2§33/13, mb3.5/5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.27**	**242**	*e*P	Pn	16 57 43.8	+3.0
LUBP				*i* S	**Sn**	**16 57 58.7**	**+5.2**
TGY	**Tagaytay City**	**0.49**	**61**	Pg	Pn	16 57 44.6	+2.7
	147nm,0.3s,baz=270,slow=1.2,SNR=16						
TGY				Lg	Lg	16 58 00.8	
	83nm,0.3s,baz=298,slow=22,SNR=9.5						
PGP	**Puerto Galera**	**0.57**	**129**	⇑P	**Pn**	**16 57 43.7**	**+1.3**
SJMP	**San Jose**	**1.52**	**156**	*e*P	**Pn**	**16 57 52.2**	**+0.6**
BUSP	**Coron**	**1.87**	**189**	*e*P	**Pn**	**16 57 56.7**	**+0.8**
SCZP	**Santa Cruz**	**1.98**	**344**	*e*P	**Pn**	**16 57 58.2**	**+1.0**
BOLP	**Bolinao**	**2.56**	**347**	*e*P	**Pn**	**16 58 06.8**	**+2.2**
ENPP	**El Nido**	**2.84**	**202**	*e*P	**Pn**	**16 58 09.9**	**+1.8**
CUYO	**Cuyo Island**	**3.04**	**170**	*e*P	**Pn**	**16 58 11.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**21.19**	**285**	P	**P**	**17 01 56.8**	**-3.3**
	0.3nm,0.6s,baz=99,slow=11,SNR=3.3						
SONM	**Songino Array**	**35.84**	**344**	P	**P**	**17 04 10.9**	**-1.2**
	0.2nm,0.4s,baz=161,slow=8.8,SNR=4.1						
MKAR	**Makanchi Array**	**45.78**	**324**	P	**P**	**17 05 33.2**	**-0.4**
	0.3nm,0.3s,baz=119,slow=12,SNR=4.8						
KURBB	**Kurchatov Arra**	**49.94**	**326**	P	**P**	**17 06 04.2**	**-1.3**
	1.5nm,0.5s,baz=129,slow=7.9,SNR=5.4						
BVAR	**Borovoye Array**	**55.53**	**326**	P	**P**	**17 06 45.7**	**-0.8**
	0.3nm,0.3s,baz=128,slow=9.3,SNR=2.6						

*IDC **23** 17:01:11.4±1.1, 37°.62N×74°.29E, h0km, mb3.6/6, mb1 3.7/12, mb1mx3.5/31, mbtmp3.6/12, ML3.3/6, MS2.2/1, Ms1 2.2/1, ms1mx2.0/37, Error ellipse: s-maj=20.4km s-min=19.3km az=149.0*
*ISCJB **23** 17:01:12.2±0.4, 37°.21N±0°.04×74°.40E±0°.06, h50km, mb3.5/6, Error ellipse: s-maj=8.1km s-min=4.4km az=146.3*
*BJI **23** 17:01:14.0, 37°.60N×74°.70E, h5km, mb3.7/10, ML3.6/5, Ms3.7/2, Ms7 3.7/1*
*NNC **23** 17:01:15.9±4.4, 37°.68N×74°.45E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=52.2km s-min=16.6km az=13.0*
ISC 23 17:01:14.7±0.8, 37°.29N±0°.09×74°.48E±0°.07, h50km, n36, σ1§41/34, mb3.4/6, 1C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.51**	**27**	Pg	Pn	17 01 44.4	-8.8
KSH				Sg	Sn	17 02 04.8	-18
KSH				SMN			
	670nm,0.9s						
KSH				SME			
	380nm,0.8s						
KZA	**Kyzart**	**4.82**	**7**	P	**Pn**	**17 02 25.9**	**+0.8**
	SNR=32						
AML	**Almayashu**	**4.87**	**353**	P	**Pn**	**17 02 26.4**	**+0.7**
	SNR=26						
UCH	**Uchtor**	**4.93**	**0**	P	**Pn**	**17 02 27.4**	**+0.8**
	SNR=24						
ULHL	**Ulahol**	**5.13**	**15**	P	**Pn**	**17 02 30.5**	**+1.3**
	SNR=5.6						
AAK	**Ala-Archa**	**5.33**	**0**	P	**Pn**	**17 02 33.1**	**+1.2**
	SNR=12						
AAK	**Ala-Archa**	**5.33**	**0**	Pn	**Pn**	**17 02 32.2**	**+0.3**
	1.6nm,0.3s,baz=161,slow=8.7,SNR=23						
AAK				LR	LR	17 04 22.9	
	comp=Z,25nm,20.9s,baz=124,slow=38						
KBK	**Karagaybulak**	**5.37**	**4**	P	**Pn**	**17 02 33.4**	**+1.0**
	SNR=13						
EKS2	**Erkin-Say**	**5.39**	**355**	P	**Pn**	**17 02 33.8**	**+1.2**
	SNR=11						
TKM2	**Tokmak 2**	**5.69**	**8**	⇓P	**Pn**	**17 02 37.6**	**+0.8**
	21nm,0.4s						
TKM2	**Tokmak 2**	**5.69**	**8**	P	**Pn**	**17 02 37.7**	**+1.0**
	SNR=47						
CHMS	**Chumysh**	**5.70**	**2**	P	**Pn**	**17 02 38.0**	**+1.1**
	SNR=5.8						
KK31	**Karatay Array**	**6.55**	**334**	P	**Pn**	**17 02 48.6**	**+0.2**
	3.1nm,0.3s,baz=135,slow=12,SNR=95						
KK31				⇑S	**Sn**	**17 04 01.1**	**-0.6**
	6.9nm,0.5s,baz=149,slow=23,SNR=7.1						
PDGK	**Podgornoye**	**7.14**	**31**	⇓Pn	**Pn**	**17 02 57.1**	**+0.6**
MKAR	**Makanchi Array**	**11.12**	**29**	Pn	**Pn**	**17 03 50.1**	**-0.9**
	0.1nm,0.3s,baz=211,slow=12,SNR=7.3						
DANN	**Dangsing**	**11.85**	**136**	*e*P	**Pn**	**17 04 00.5**	**-0.7**
	14nm,0.4s						
KOLN	**Koldanda**	**12.22**	**138**	*e*P	**Pn**	**17 04 07.0**	**+0.8**
	12nm,0.4s						
GKN	**Gorkha**	**12.61**	**134**	*e*P	**Pn**	**17 04 10.5**	**-1.0**
	11nm,0.4s						
GEYT	**Alibeck**	**12.99**	**278**	Pn	**Pn**	**17 04 15.7**	**-0.9**
	0.3nm,0.3s,baz=102,slow=20,SNR=3.3						
GEYT				Sn	**Sn**	**17 06 38.0**	**-1.5**
	0.3nm,0.3s,baz=78,slow=28,SNR=3.6						
KKN	**Kakani**	**13.14**	**133**	*e*P	**Pn**	**17 04 18.0**	**-0.8**
	8.6nm,0.6s						
DMN	**Daman**	**13.17**	**134**	*e*P	**Pn**	**17 04 18.4**	**-0.9**
	8.6nm,0.6s						
PKIN	**Phulchoki**	**13.37**	**133**	*e*P	**Pn**	**17 04 20.1**	**-1.9**
	7.5nm,0.6s						
PKI	**Pulchoki**	**13.38**	**133**	*e*P	**Pn**	**17 04 20.8**	**-1.4**
	7.5nm,0.6s						
KURBB	**Kurchatov Arra**	**13.64**	**11**	Pn	Pn	17 04 21.9	-3.4
	0.1nm,0.3s,baz=200,slow=12,SNR=4.7						
KURBB				Lg	Lg	17 08 11.8	
	0.0nm,0.3s,baz=180,slow=30,SNR=4.4						
JIRN	**Jiri**	**13.77**	**131**	*e*P	**Pn**	**17 04 25.9**	**-1.7**
	15nm,0.5s						
TAPN	**Taplejung**	**14.93**	**128**	*e*P	**Pn**	**17 04 40.2**	**-2.7**
	14nm,0.9s						
BVAR	**Borovoye Array**	**15.99**	**351**	Pn	**Pn**	**17 04 53.5**	**-2.6**
	0.1nm,0.3s,baz=150,slow=15,SNR=4.4						
AKTO	**Aktyubinsk**	**17.65**	**323**	P	**Pn**	**17 05 16.1**	**-0.7**
	0.3nm,0.3s,baz=123,slow=13,SNR=11						
AKTO				S	Sn	17 08 23.2	-9.2
	0.1nm,0.3s,baz=150,slow=20,SNR=3.0						
ZALV	**Zalesovo Beam**	**18.13**	**20**	P	**P**	**17 05 20.2**	**-2.2**
	0.2nm,0.3s,baz=198,slow=8.9,SNR=7.6						
GTA	**Gaotai**	**19.97**	**76**	*e*P	Pn	17 05 45.1	+0.2
GTA				pP	pP	17 05 49.1	-5.3
GTA				sP	sP	17 05 52.3	-8.4
GTA				PMZ			
	3.0nm,0.8s						
SONM	**Songino Array**	**25.59**	**56**	P	**P**	**17 06 42.1**	**+2.9**
	0.9nm,0.7s,baz=242,slow=11,SNR=10						
CMAR	**Chiang Mai Arr**	**28.50**	**125**	P	P	17 07 11.5	+6.1
	0.5nm,0.9s,baz=306,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**38.41**	**325**	P	**P**	**17 08 31.2**	**+0.2**
	0.6nm,0.7s,baz=116,slow=13,SNR=5.5						
ARCES	**ARCESS Array B**	**41.51**	**336**	P	**P**	**17 08 57.3**	**+0.8**
	4.8nm,0.9s,baz=96,slow=8.3,SNR=8.4						
TORD	**Torodi Ar. Bea**	**68.51**	**270**	P	**P**	**17 12 14.5**	**+2.4**
	0.2nm,0.5s,baz=47,slow=5.2,SNR=3.1						
YKA	**Yellowknife Ar**	**80.29**	**4**	P	**P**	**17 13 20.8**	**+0.9**
	0.1nm,0.4s,baz=347,slow=5.3,SNR=3.9						

MAN 23 17:08:09, 18°.51N×120°.68E, h43km, mb4.6, ML3.5, MS3.5, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.19**	**198**	⇑*i*P	Pn	17 08 18.1	+1.6
PIP				*e*S	Sn	17 08 23.9	+2.0
SIPP	**Brgy, Tapao**	**0.62**	**200**	⇑*e*P	Pn	17 08 23.6	+2.1
SIPP				*e*S	Sn	17 08 35.1	+4.7
APYP	**Conner**	**0.83**	**140**	*e*P	Pn	17 08 25.4	+1.1
APYP				*e*S	Sn	17 08 37.0	+1.5
ABRA	**Dolores**	**0.85**	**178**	*e*P	Pn	17 08 26.0	+1.4
ABRA				*e*S	Sn	17 08 38.6	+2.6
SGCP	**Mt. Cagua**	**1.32**	**101**	*e*P	Pn	17 08 32.2	+1.2
SGCP				*e*S	Sn	17 08 48.9	+1.5
CVP	**Callao Caves**	**1.35**	**126**	⇓*i*P	Pn	17 08 32.4	+1.1
CVP				*i* S	Sn	17 08 49.6	+1.5
BALP	**Baler**	**2.88**	**163**	*e*P	Pn	17 08 53.1	+0.7

*IDC **23** 17:10:12.1±2.9, 33°.71S×178°.89W, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.6/28, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=70.2km s-min=44.4km az=125.0*
ISC 23 17:10:13.8±2.6, 34°.1S±0°.2×178°.1W±0°.4, h48km, n10, σ1§37/14, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**4.97**	**221**	PN	**Pn**	**17 11 26.5**	**+0.7**
HAZ				SN	**Sn**	**17 12 24.0**	**+2.1**
CNGZ	**Carnagh Statio**	**5.33**	**213**	PN	**Pn**	**17 11 31.4**	**+0.7**
MWZ	**Matawai**	**5.53**	**218**	PN	**Pn**	**17 11 33.8**	**+0.2**
MWZ				*e*SN	**Sn**	**17 12 35.5**	**-0.4**
URZ	**Urewera**	**5.70**	**221**	Pn	**Pn**	**17 11 35.6**	**-0.2**
	4.0nm,0.3s,baz=257,slow=4.0,SNR=32						
URZ				Sn	**Sn**	**17 12 37.8**	**-2.1**
	3.9nm,0.3s,baz=267,slow=6.1,SNR=9.4						
URZ	**Urewera**	**5.70**	**221**	PN	**Pn**	**17 11 35.7**	**-0.1**
URZ				*e*SN	**Sn**	**17 12 38.3**	**-1.7**
SNGZ	**Shannon Statio**	**5.97**	**216**	PN	**Pn**	**17 11 40.1**	**+0.5**
GRRZ	**Galatos Road**	**6.33**	**226**	PN	**Pn**	**17 11 47.2**	**+2.6**
ASAR	**Alice Springs**	**42.93**	**271**	P	**P**	**17 18 07.7**	**-0.4**
	0.6nm,0.7s,baz=111,slow=7.4,SNR=10						
WRA	**Warrunga Arr**	**44.25**	**276**	P	**P**	**17 18 18.1**	**-0.6**
	0.4nm,0.3s,baz=116,slow=8.1,SNR=10						
FINES	**FINESS Array B**	**148.50**	**338**	PKPbc	**PKPab**	**17 29 57.9**	**+0.1**
	0.8nm,0.7s,baz=28,slow=6.3,SNR=3.2						

*IGQ **23** 17:12:16±0.5, 2°.74S×78°.13W, h3km±66km, Mb4.5, Error ellipse: s-maj=3.9km s-min=3.8km az=126.4*
*IDC **23** 17:12:17.6±2.4, 2°.36S×78°.10W, h98km±24km, mb3.6/15, mb1 3.9/19, mb1mx3.8/35, mbtmp4.1/19, Error ellipse: s-maj=20.3km s-min=13.1km az=55.0*
ISC 23 17:12:16.3±0.7, 2°.82S±0°.07×78°.3W±0°.1, h100km, n70, σ1§76/63, mb4.0/18, 1C-21D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.57**	**14**	⇓P	Pn	17 12 36.2	+3.2
MACE	**Macas**	**0.57**	**14**	⇓S	**Sn**	**17 12 48.4**	**+3.1**
RIOE	**Riobamba**	**1.10**	**344**	⇓P	Pn	17 12 41.8	+3.6
PAT1	**Patacocha**	**1.31**	**355**	⇓P	**Pn**	**17 12 42.4**	**+1.6**
BPAT	**Tungurahua Vol**	**1.31**	**356**	⇓P	**Pn**	**17 12 42.5**	**+1.7**
BPAT	**Tungurahua Vol**	**1.31**	**356**	⇓S	**Sn**	**17 13 00.1**	**+0.9**
BMAS	**Trigal station**	**1.31**	**354**	⇓P	**Pn**	**17 12 42.4**	**+1.6**
IGUA	**Igualata**	**1.35**	**347**	P	**Pn**	**17 12 43.4**	**+2.0**
ULBA	**Ulba**	**1.36**	**357**	⇓P	**Pn**	**17 12 43.9**	**+2.5**
RETU	**Refugio**	**1.36**	**355**	P	**Pn**	**17 12 44.0**	**+2.5**
BBIL	**Ulba Tungurahu**	**1.37**	**354**	⇓P	**Pn**	**17 12 44.0**	**+2.6**
BULB	**Ulba Tungurahu**	**1.37**	**357**	⇓S	**Sn**	**17 13 01.8**	**+1.4**
BULB	**Ulba Tungurahu**	**1.37**	**357**	⇓P	**Pn**	**17 12 43.9**	**+2.4**
BRUN	**Tungurahua Vol**	**1.39**	**357**	⇓P	**Pn**	**17 12 43.1**	**+1.5**
JUI6	**Juive**	**1.39**	**354**	P	**Pn**	**17 12 43.1**	**+1.5**
RUN5	**Runtun**	**1.40**	**356**	P	**Pn**	**17 12 44.0**	**+2.3**
PISA	**Pisayambo**	**1.75**	**358**	⇑P	**Pn**	**17 12 48.6**	**+2.4**
BMOR	**Cotopaxi Volca**	**2.08**	**357**	⇓P	**Pn**	**17 12 53.0**	**+2.5**
MOV1	**Cotopaxi Vol s**	**2.09**	**357**	P	**Pn**	**17 12 53.0**	**+2.2**
BTAM	**Cotopaxi Volca**	**2.13**	**358**	⇓P	**Pn**	**17 12 53.7**	**+2.5**
PAST	**Pastocalle**	**2.13**	**352**	P	**Pn**	**17 12 53.6**	**+2.5**
CAMI	**Rancho Maria**	**2.13**	**355**	P	**Pn**	**17 12 53.1**	**+2.0**
BREF	**Cotopaxi Volca**	**2.14**	**357**	⇓P	**Pn**	**17 12 53.0**	**+1.7**
COV1	**Cotopaxi Volc**	**2.14**	**360**	P	**Pn**	**17 12 53.1**	**+1.7**
BVC2	**Cotopaxi Volca**	**2.15**	**358**	⇓P	**Pn**	**17 12 53.9**	**+2.5**
NAS2	**Nasa**	**2.16**	**356**	P	**Pn**	**17 12 54.6**	**+3.0**
VC1	**Cotopaxi 1**	**2.16**	**358**	⇓P	**Pn**	**17 12 53.1**	**+1.6**
PITA	**Cotopaxi Volc**	**2.25**	**358**	P	**Pn**	**17 12 55.0**	**+2.4**
ANTI	**Antisana**	**2.36**	**4**	⇓P	**Pn**	**17 12 55.9**	**+1.7**
JUA2	**San Juan 2**	**2.60**	**354**	P	**Pn**	**17 12 58.4**	**+1.1**
GGP	**Refugio Guagua**	**2.64**	**354**	P	**Pn**	**17 12 59.8**	**+2.0**
TERV	**Terraza Guagua**	**2.64**	**354**	P	**Pn**	**17 12 59.1**	**+1.2**
PECV	**Mancha de Ca P**	**2.65**	**320**	P	Pn	17 13 02.3	+4.7
PINO	**Pino**	**2.66**	**354**	⇓P	**Pn**	**17 12 59.2**	**+1.1**
CHAR	**Charly**	**2.79**	**14**	P	**Pn**	**17 13 00.6**	**+0.8**
LAV4	**Lava4-Reventad**	**2.80**	**15**	P	**Pn**	**17 12 59.1**	**-0.5**
CONE	**Cono NE Rev Vo**	**2.81**	**14**	⇓P	**Pn**	**17 13 00.6**	**+0.6**
CAYR	**Refugio Cayamb**	**2.83**	**7**	P	**Pn**	**17 13 02.6**	**+2.1**
CAYA	**Cayambe**	**2.89**	**7**	P	**Pn**	**17 13 02.6**	**+1.5**
OTAV	**Otavalo**	**3.04**	**358**	⇓P	**Pn**	**17 13 03.4**	**+0.3**
MAG1	**Magdalena**	**3.08**	**332**	P	**Pn**	**17 13 04.1**	**+0.8**
GOLV	**Golondrinas**	**3.11**	**345**	S	**Sn**	**17 13 41.4**	**+1.3**
GOLV	**Golondrinas**	**3.11**	**345**	P	**Pn**	**17 13 05.9**	**+2.2**
LITE	**Lita**	**3.60**	**360**	P	**Pn**	**17 13 11.8**	**+1.5**
ATAH	**Atahualpa**	**4.29**	**181**	P	Pn	17 13 29.1	+9.3
	56nm,0.3s,baz=9.9,slow=9.1,SNR=165						
ATAH				S	Sn	17 14 21.2	+12
	10.0nm,0.3s,baz=169,slow=23,SNR=6.2						
NNA	**Nana**	**9.23**	**171**	P	Pn	17 14 33.4	+6.8
	11nm,0.3s,baz=358,slow=7.5,SNR=13						
NNA				S	**Sn**	**17 16 08.3**	**-0.5**
	4.9nm,0.3s,baz=259,slow=16,SNR=4.4						
LPAZ	**La Paz**	**16.73**	**144**	P	**P**	**17 16 10.2**	**+4.2**
	0.4nm,0.3s,baz=340,slow=8.4,SNR=10						
PTGA	**Pitinga**	**18.48**	**84**	P	**P**	**17 16 24.0**	**-0.6**
	0.6nm,0.3s,baz=248,slow=12,SNR=9.0						
SIV	**San Ignacio**	**21.45**	**129**	P	**P**	**17 16 58.8**	**+2.0**
	1.2nm,0.6s,baz=326,slow=11,SNR=2.9						
PLCA	**Paso Flores**	**38.39**	**170**	P	P	17 19 33.2	+5.1
	3.2nm,0.9s,baz=343,slow=7.5,SNR=3.2						
TXAR	**Lajitas Array**	**40.14**	**325**	P	**P**	**17 19 41.3**	**-1.4**
	0.1nm,0.5s,baz=116,slow=4.1,SNR=3.9						
RCBR	**Riachuelo**	**42.41**	**96**	P	**P**	**17 20 01.6**	**0.0**
	4.5nm,0.7s,baz=282,slow=9.3,SNR=2.7						
PDAR	**Pinedale Array**	**53.42**	**332**	P	**P**	**17 21 25.6**	**-0.6**
	0.3nm,0.7s,baz=127,slow=10,SNR=3.6						
ULM	**Lac du Bonnet**	**54.97**	**346**	P	**P**	**17 21 35.2**	**-1.8**
	2.8nm,0.5s,baz=159,slow=6.9,SNR=6.1						
NVAR	**Mina Array Bea**	**55.18**	**322**	P	**P**	**17 21 39.6**	**+0.6**
	0.2nm,0.3s,baz=120,slow=6.4,SNR=2.9						
SCHQ	**Schefferville**	**58.23**	**8**	P	**P**	**17 21 58.6**	**-1.5**
	1.7nm,0.5s,baz=222,slow=3.2,SNR=6.0						
YKA	**Yellowknife Ar**	**70.69**	**343**	P	**P**	**17 23 20.2**	**-0.8**
	0.6nm,0.4s,baz=141,slow=6.1,SNR=16						
LIC	**Lamto**	**73.74**	**83**	*e*P	**P**	**17 23 39.6**	**-0.7**
	12nm,0.7s						
TIC	**Toumodi**	**73.78**	**82**	*e*P	**P**	**17 23 40.0**	**-0.5**
	27nm,0.2s						
DBIC	**Dimbokro**	**73.95**	**82**	P	**P**	**17 23 40.6**	**-0.9**
	3.8nm,0.8s,baz=226,slow=7.9,SNR=5.9						
KIC	**Kosan Boka**	**74.04**	**83**	*e*P	**P**	**17 23 41.6**	**-0.4**
	13nm,0.7s						
ESDC	**Sonseca Array**	**79.83**	**49**	P	**P**	**17 24 13.8**	**-0.2**
	0.3nm,0.4s,baz=263,slow=6.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**80.94**	**76**	P	**P**	**17 24 19.4**	**-1.0**
	0.7nm,0.4s,baz=279,slow=6.5,SNR=11						
SNAA	**Sanae**	**82.79**	**162**	P	P	17 24 32.2	+3.1
	1.4nm,1.1s,baz=313,slow=8.6,SNR=5.5						
ILAR	**Eielson Array**	**83.55**	**336**	P	**P**	**17 24 32.5**	**-0.4**
	0.6nm,0.7s,baz=129,slow=3.1,SNR=5.8						
QSPA	**South Pole Qui**	**87.25**	**180**	P	P	17 24 56.0	+4.4
	5.4nm,0.9s,baz=286,slow=1.3,SNR=16						
ZALV	**Zalesovo Beam**	**127.19**	**12**	PKP	**PKPdf**	**17 31 09.4**	**+0.4**
	0.8nm,0.5s,baz=286,slow=2.6,SNR=4.7						
MKAR	**Makanchi Array**	**133.07**	**18**	PKP	**PKPdf**	**17 31 20.6**	**+0.2**
	0.2nm,0.5s,baz=317,slow=2.3,SNR=6.1						
SONM	**Songino Array**	**134.97**	**355**	PKP	**PKPdf**	**17 31 25.4**	**+1.3**
	0.1nm,0.3s,baz=295,slow=4.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**164.23**	**10**	PKPab	**PKPab**	**17 33 02.7**	**-0.3**
	0.8nm,1.0s,baz=323,slow=3.7,SNR=3.5						

*SZGRF **23** 17:21:00.3, 17°.41S×177°.98E, h33km, Fiji Islands*
*ISCJB **23** 17:21:52.7±0.3, 17°.32S±0°.06×178°.85W±0°.06, h539km, mb4.4/49, Error ellipse: s-maj=8.0km s-min=7.2km az=149.3*
*IDC **23** 17:21:53.6±1.9, 17°.36S×178°.80W, h538km±21km, mb3.5/17, mb1 3.7/18, mb1mx3.5/34, mbtmp4.4/18, Error ellipse: s-maj=13.1km s-min=12.5km az=35.0*
*BJI **23** 17:21:54.4, 17°.34S×179°.47W, h532km, mB4.6/5, mb4.2/8*
*NEIC **23** 17:21:55.0±0.8, 17°.27S×178°.81W, h559km±8km, mb4.7/23, Error ellipse: s-maj=12.9km s-min=11.5km az=157.0*
ISC 23 17:21:53.6±0.4, 17°.29S±0°.07×178°.80W±0°.07, h539km, n180, σ1§12/180, mb4.6/49, 10C-15D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.04**	**261**	*e*P	P	17 23 13.6	+5.5
AFI	**Afiamalu**	**7.55**	**65**	*e*P	**P**	**17 23 46.3**	**-0.5**
NIUE	**Niue**	**8.62**	**103**	P	P	17 24 02.1	+4.8
	baz=8.3,SNR=4.0						
DZM	**Mont Dzumac**	**14.69**	**249**	P	**P**	**17 25 00.3**	**+0.2**
	2.6nm,0.3s,baz=82,slow=17,SNR=27						
OUZ	**Omahuta**	**19.10**	**199**	*e*P	**P**	**17 25 44.4**	**+2.4**
	144nm,0.7s						
URZ	**Urewera**	**21.20**	**189**	P	**P**	**17 25 58.9**	**-2.0**
	6.0nm,0.3s,baz=270,slow=2.5,SNR=12						
SNZO	**South Karori**	**24.58**	**192**	P	**P**	**17 26 31.1**	**+0.1**
RPZ	**Rata Peaks**	**27.71**	**196**	*e*P	**P**	**17 26 57.6**	**-1.1**
	47nm,1.1s						
PPT	**Papeete**	**27.87**	**95**	P	**P**	**17 27 00.4**	**0.0**
	31nm,0.6s,baz=15,slow=20,SNR=2.8						
EIDS	**Eidsvold**	**29.14**	**249**	P	**P**	**17 27 11.0**	**-0.3**
	baz=29,SNR=7.2						
EIDS	**Eidsvold**	**29.14**	**249**	*e*P	**P**	**17 27 10.5**	**-0.8**
	17nm,0.8s						
ARMA	**Armidale**	**29.93**	**239**	P	**P**	**17 27 19.2**	**+0.9**
	baz=30,SNR=20						
ARMA	**Armidale**	**29.93**	**239**	*e*P	**P**	**17 27 18.9**	**+0.6**
	15nm,0.7s						
MGCD	**Mangrove Creek**	**31.35**	**234**	P	**P**	**17 27 31.4**	**+1.2**
	baz=31,SNR=15						
RMQ	**Roma**	**31.39**	**247**	P	**P**	**17 27 31.4**	**+0.7**
	baz=32,SNR=45						
CTA	**Charters Tower**	**33.19**	**260**	P	**P**	**17 27 46.2**	**+0.1**
	14nm,0.6s,baz=79,slow=10,SNR=28						
CTA				PcP	**PcP**	**17 30 12.8**	**-0.3**
	5.7nm,0.8s,baz=90,slow=2.0,SNR=3.3						
CTAO	**Charters Tower**	**33.19**	**260**	*e*P	**P**	**17 27 45.9**	**-0.2**
	19nm,0.7s						
CNB	**Canberra Magne**	**33.51**	**231**	P	**P**	**17 27 49.6**	**+0.9**
	baz=34,SNR=34						
PMG	**Port Moresby**	**33.99**	**279**	P	**P**	**17 27 54.5**	**+1.6**
	baz=34,SNR=8.4						
PMG	**Port Moresby**	**33.99**	**279**	*e*P	**P**	**17 27 54.3**	**+1.4**
	60nm,1.1s						
MILA	**Mila**	**34.41**	**229**	P	P	17 27 49.5	-6.6
	baz=34,SNR=9.6						
MILA				S	S	17 32 52.6	+6.6
	baz=34,SNR=5.6						
CMSA	**Cobar Meteorol**	**35.14**	**240**	P	**P**	**17 28 02.6**	**+0.3**
	baz=35,SNR=44						
QLP	**Quilpie**	**35.41**	**248**	P	**P**	**17 28 04.5**	**-0.1**
	baz=36,SNR=38						
COEN	**Coen**	**36.73**	**270**	P	**P**	**17 28 16.7**	**+1.1**
	baz=37,SNR=24						
TOO	**Toolangi**	**37.28**	**230**	P	**P**	**17 28 20.8**	**+1.0**
	baz=37,SNR=11						
MOO	**Moorlands**	**38.30**	**222**	P	**P**	**17 28 28.8**	**+0.7**
	baz=38,SNR=3.6						
TAU	**Tasmania Unive**	**38.45**	**221**	*e*P	**P**	**17 28 29.2**	**-0.1**
	98nm,1.3s						
QIS	**Mount Isa**	**39.41**	**259**	P	**P**	**17 28 36.8**	**-0.6**
	baz=40,SNR=10						
QIS				S	S	17 34 07.5	+6.8
	baz=40,SNR=6.5						
JAY	**Jayapura**	**42.38**	**286**	P	**

ASAJ Asahikawa 70.56 332 P **P** **17 32 15.8 +1.4**
2.9nm,0.6s,baz=201,slow=5.0,SNR=4.7
SBUM Sibu 70.74 279 *e*P **P** **17 32 16.1 -0.1**
3.9nm,0.8s
KPJI Karang Pucung 70.97 268 P **P** **17 32 17.5 0.0**
23nm,0.8s
CMJI Cimerak 71.31 267 P **P** **17 32 18.7 -0.8**
40nm,1.1s
CISI Cisompet, Garu 71.98 268 P **P** **17 32 22.5 -0.9**
baz=72,SNR=4.5
KSM Kuching 72.24 277 P **P** **17 32 25.8 +1.0**
baz=73,SNR=9.6
KSM Kuching 72.24 277 *e*P **P** **17 32 25.5 +0.6**
15nm,0.8s
QSPA South Pole Qui 72.76 180 P **P** **17 32 27.5 +0.4**
8.1nm,0.5s,baz=296,slow=0.5,SNR=71
PETK Petropavlovsk- 72.99 345 P **P** **17 32 28.4 +0.1**
1.6nm,0.6s,baz=132,slow=7.8,SNR=4.4
CGJI Cibinong 74.26 268 P **P** **17 32 35.4 -1.0**
NJ2 Nanjing 77.26 310 *e*P **P** **17 32 50.3 -2.3**
NJ2 PMZ
20nm,0.5s
MDJ Mudanjiang 77.47 325 P **P** **17 32 54.5 +1.0**
MDJ PMZ
68nm,5.4s
QIZ Qiongzhong 78.86 294 P **P** **17 33 01.8 +0.3**
QIZ pP **pP** **17 34 58.4 +2.0**
QIZ S **S** **17 42 15.8 -0.3**
QIZ ScS **ScS** **17 42 33.0 -1.4**
QIZ PMZ
9.0nm,1.6s
IPM Ipoh 81.97 277 *e*P **P** **17 33 17.4 -0.5**
13nm,0.7s
KULM Kulim 82.58 278 P **P** **17 33 20.1 -0.8**
5.1nm,0.8s
SEY Seymchan 83.09 347 P **P** **17 33 22.2 -0.1**
1.4nm,0.4s,baz=146,slow=7.3,SNR=12
PSI Prapat 83.46 275 P **P** **17 33 24.8 -0.7**
baz=158,slow=4.3
MAW Mawson 84.31 200 P **P** **17 33 28.3 -0.1**
9.2nm,0.6s,baz=172,slow=7.1,SNR=4.2
GYA Guiyang 84.41 300 *e*P **P** **17 33 29.8 -0.1**
GYA pP **pP** **17 35 31.4 +4.6**
GYA PP **PP** **17 36 57.0 +1.9**
GYA SKS **SKSac** **17 42 57.8 -4.9**
GYA S **S** **17 43 08.9 -2.8**
GYA PMZ
10.0nm,1.0s
ILAR Eielson Array 85.37 13 P **P** **17 33 32.9 -0.6**
0.2nm,0.5s,baz=219,slow=5.3,SNR=4.3
XAN Xi'an 85.59 308 P **P** **17 33 36.0 +0.6**
TXAR Lajitas Array 85.98 58 P **P** **17 33 39.2 +1.8**
0.3nm,0.8s,baz=215,slow=5.7,SNR=3.9
HHC Hu-ho-hao-te 86.58 315 *e*P P 17 33 35.1 -4.9
HHC pP pP 17 35 44.8 +7.1
HHC sP sP 17 36 43.0 +11
HHC PP **PP** **17 37 08.4 -3.7**
HHC SKS SKSac 17 43 05.4 -10
HHC S **SKKSac** **17 43 22.8 -2.9**
HHC Hu-ho-hao-te 86.58 315 sS sS 17 47 10.9 +9.2
PDAR Pinedale Array 87.16 44 P **P** **17 33 43.6 +0.7**
0.3nm,0.7s,baz=260,slow=2.7,SNR=2.9
KMI Kunming 87.22 297 P P 17 33 47.6 +4.1
KMI PMZ
3.0nm,0.9s
CM01 Chiang Mai Arr 88.30 290 *e*P **P** **17 33 49.0 +0.5**
CMAR Chiang Mai Arr 88.33 290 P **P** **17 33 48.1 -0.4**
1.5nm,0.9s,baz=102,slow=2.6,SNR=10
CHTO Chiang Mai 88.44 290 *e*P **P** **17 33 48.8 -0.3**
1.7nm,0.7s
LZH Lanzhou 90.22 308 *e*P **P** **17 33 58.6 +1.5**
LZH PP **PP** **17 37 45.8 +4.8**
LZH PMZ
22nm,1.4s
LZH PMZ
75nm,8.6s
SNAA Sanae 91.22 179 P **P** **17 34 00.4 -0.6**
SNAA Sanae 91.22 179 *e*P **P** **17 34 00.1 -0.9**
5.4nm,0.7s
VNA3 Neumayer Olymp 91.38 177 P **P** **17 34 01.4 -0.2**
VNA2 Neumayer--Watz 91.81 177 P **P** **17 34 03.1 -0.5**
PLCA Paso Flores 92.03 134 P **P** **17 34 06.3 +0.9**
12nm,1.2s
SONM Songino Array 92.84 319 P **P** **17 34 09.4 +0.5**
0.2nm,0.4s,baz=132,slow=4.3,SNR=2.2
MKAR Makanchi Array 108.44 314 PKiKP **PKiKP** **17 39 19.6 -1.4**
0.4nm,0.5s,baz=120,slow=0.7,SNR=8.7
KSH Kashi 112.42 306 *e*PKP **PKiKP** **17 39 30.1 +1.2**
KSH PP PP 17 40 33.0 +7.6
KSH PKS **PKSdf** **17 43 06.1 +0.5**
KSH SKS **SKSdf** **17 45 51.1 +1.0**
KSH SKKS **SKKSac** **17 46 29.9 -1.1**
KSH PPMZ
39nm,4.2s
ARCES ARCESS Array B 125.64 350 PKP **PKPdf** **17 39 52.8 -0.5**
8.0nm,1.0s,baz=6.1,slow=1.0,SNR=10.0
GEYT Alibeck 126.38 305 PKP **PKPdf** **17 39 55.5 -0.1**
1.8nm,0.7s,baz=180,slow=3.9,SNR=5.3
FINES FINESS Array B 132.49 344 PKP **PKPdf** **17 40 05.5 -0.9**
0.8nm,0.6s,baz=7.4,slow=3.2,SNR=4.3
KWP Kalwaria Pacla 143.36 336 *e*PKP PKPab 17 40 24.8 -0.1
TLCR 143.85 326 ⇓*i*P PKPab 17 40 27.2 +0.4
BUR04 Bucovina Ar. S 143.90 332 *e*PKPbc PKPbc 17 40 26.0 -1.0
BURAR Bucovina Array 143.90 332 ⇓*i*P **PKPdf** **17 40 27.7 -0.1**
TESR Tescani 144.04 330 ⇑*i*P PKPbc 17 40 27.4 0.0
STHS Stebnicka Huta 144.08 338 *e*PKP **PKPdf** **17 40 28.4 +0.4**
BRTR Keskin Array B 144.08 315 PKP PKPbc 17 40 27.4 -0.5
1.7nm,0.5s,baz=129,slow=3.8,SNR=12
KOLS Kolonicke sedl 144.09 336 *e*PKP **PKPdf** **17 40 27.9 -0.1**
KSP Ksiaz 144.41 344 *e*PKP **PKPab** **17 40 29.1 +0.3**
CRVS Cervenica-Dubn 144.42 337 *e*PKP **PKPab** **17 40 29.3 +0.4**
BR231 Keskin MP Arra 144.60 316 *e*PKPdf **PKPdf** **17 40 27.6 -1.7**
TRPA Tarpa 144.63 335 ⇓*i*P **PKPdf** **17 40 28.9 0.0**
CLZ Clausthal 144.77 350 *e*PKPbc PKPbc 17 40 29.4 -0.1
OKC Ostrava-Krasne 144.77 341 *e*PKP PKPbc 17 40 29.6 +0.1
CLL Collm 144.78 347 *e*PKPbc **PKPdf** **17 40 29.2 +0.2**
CLL Collm 144.78 347 ⇓*i*PKPbc PKPbc 17 40 29.3 -0.2
comp=Z,9.0nm,1.0s
CLL Collm 144.78 347 *e*PKPdf **PKPdf** **17 40 28.9 -0.2**
UPC Upice 144.79 344 *e*PKP PKPbc 17 40 29.6 0.0
DPC Dobruska-Polom 144.85 343 *e*PKP PKPbc 17 40 30.1 +0.3
DPC *ex* x 17 40 33.0
DPC Dobruska-Polom 144.85 343 *e*PKPdf **PKPdf** **17 40 29.1 -0.2**
BRG Berggiesshubel 144.98 346 *e*PKP PKPbc 17 40 30.2 +0.1
comp=Z,4.6nm,0.7s
BRG Berggiesshubel 144.98 346 *e*PKPbc PKPbc 17 40 29.9 -0.2
DOPR Dopca 145.04 330 ⇓*i*P **PKPab** **17 40 31.3 -0.1**
MLR Muntele Rosu 145.11 329 ⇓*i*P **PKPab** **17 40 31.7 -0.1**
NEUB Neuenburg 145.12 348 *e*PKPbc **PKPbc** **17 40 30.5 0.0**
DRGR 145.62 334 ⇓*i*P **PKPbc** **17 40 32.2 0.0**
PRU Pruhonice 145.65 345 *e*PKP **PKPbc** **17 40 31.5 -0.6**
VYHS Vyhne 145.71 339 *e*PKP **PKPbc** **17 40 32.8 +0.5**
TANN Tannenbergstha 145.74 347 *e*PKPbc **PKPbc** **17 40 32.4 0.0**
WERD Werda 145.74 347 *e*PKPbc **PKPbc** **17 40 32.4 0.0**
GUNZ Gunzen 145.81 347 *e*PKPbc **PKPbc** **17 40 32.6 0.0**
PSZ Piszkesteto 145.82 337 ⇑*i*P **PKPbc** **17 40 33.0 +0.2**
ARR Arges 145.84 330 ⇓*i*P **PKPbc** **17 40 33.7 +0.8**
CIOR Ciorogarla 145.88 328 ⇑*i*P **PKPdf** **17 40 28.7 -2.4**
ROHR Rohrbach 145.94 347 *e*PKPbc **PKPbc** **17 40 33.0 0.0**
ROTZ Rotzenmuhle 146.40 347 *e*PKPbc **PKPbc** **17 40 34.7 +0.5**
CSS Prodhromos 146.41 308 *e*PKPbc **PKPbc** **17 40 34.2 -0.5**
GRF Grafenberg Arr 146.68 348 *e*PKPbc **PKPbc** **17 40 36.2 +1.2**
GZR Gura Zlata 146.68 332 ⇓*i*P **PKPbc** **17 40 34.8 -0.4**
KHC Kasperske Hory 146.69 345 *e*PKP **PKPbc** **17 40 34.9 -0.2**
KHC *ex* x 17 40 39.2
GEC2 GERESS Array S 146.92 345 *e*PKPbc **PKPbc** **17 40 35.6 -0.2**
GEC2 GERESS Array S 146.92 345 *e*PKPdf **PKPbc** **17 40 35.2 -0.6**
GERES GERESS Array B 146.92 345 PKPbc **PKPbc** **17 40 35.6 -0.1**
comp=Z,2.4nm,0.6s,baz=11,slow=2.7,SNR=16
BZS Buzias 147.01 333 ⇑*i*P **PKPbc** **17 40 35.9 -0.1**
CONA Conrad Observa 147.16 342 ⇑*i*PKiKP **PKPbc** **17 40 36.9 +0.5**
comp=Z,6.2nm,0.6s
MOA Molln 147.69 343 ⇑*i*PKiKP **PKPbc** **17 40 37.7 0.0**
comp=Z,2.2nm,0.6s
SOKA Soboth 148.53 342 ⇑*i*PKPbc **PKPbc** **17 40 39.1 -0.9**
comp=Z,3.1nm,0.8s
KBA Koelnbreinsper 148.65 344 ⇑*i*PKiKP **PKPbc** **17 40 39.6 -0.8**
comp=Z,4.9nm,0.5s
RETA Reutte 148.87 347 ⇓*i*PKiKP **PKPbc** **17 40 40.5 -0.2**
comp=Z,3.3nm,0.5s
WTTA Wattenberg 148.89 346 ⇓*i*PKiKP **PKPbc** **17 40 40.8 -0.2**
comp=Z,10.0nm,0.5s
MOTA Moosalm 148.94 347 ⇓*i*PKiKP **PKPbc** **17 40 40.5 -0.5**
comp=Z,2.5nm,0.4s

MYKA Terra Mystica 148.98 343 ⇑*i*PKPbc **PKPbc** **17 40 40.2 -0.8**
comp=Z,5.4nm,0.5s
MMB Musomiste 149.02 326 ⇓*i*P **PKPbc** **17 40 40.7 -0.5**
VNDS Vrh nad Dolski 149.15 342 *i*PKPbc **PKPbc** **17 40 40.8 -0.6**
CRES Cresnjev 149.16 340 *i*PKPbc **PKPbc** **17 40 41.1 -0.4**
ABTA Abfaltersbach 149.17 345 ⇓*i*PKPbc **PKPbc** **17 40 40.6 -0.9**
comp=Z,7.1nm,0.6s
DAVA Damuels 149.24 348 ⇓*i*PKiKP **PKPbc** **17 40 42.2 +0.4**
comp=Z,4.2nm,0.7s
CRNS Crni Vrh 149.30 342 *i*PKPbc **PKPbc** **17 40 41.1 -0.7**
FETA Feichten 149.32 347 ⇑*i*PKiKP **PKPbc** **17 40 41.9 0.0**
comp=Z,4.0nm,0.6s
FUORN Ofenpass-Fuorn 149.80 348 *e*PKPbc **PKPbc** **17 40 42.8 -0.4**
TUE Stuetta 150.12 349 *e*PKPbc **PKPbc** **17 40 44.0 +0.1**
SANT Santorini 151.33 316 *e*PKPbc **PKPbc** **17 40 44.7 -2.1**
TORD Torodi Ar. Bea 175.85 187 PKP **PKPdf** **17 41 01.2 -1.5**
comp=Z,0.7nm,0.8s,baz=321,slow=0.5,SNR=6.3
TORD PKPab **PKPab** **17 42 44.2 -0.8**
comp=Z,0.7nm,0.7s,baz=172,slow=4.3,SNR=4.7

*KRSC **23** 17:32:46.2±2.5, 47°.92N×153°.70E, h118km±44km, ML4.4*
*ISCJB **23** 17:32:48.2±0.4, 48°.20N±0°.06×153°.19E±0°.10, h117km, mb3.9/25, Error ellipse: s-maj=12.3km s-min=2.9km az=42.7*
*MOS **23** 17:32:49.0±1.3, 48°.20N×153°.37E, h135km, mb4.2/10, Error ellipse: s-maj=13.7km s-min=6.6km az=71.5*
*SKHL **23** 17:32:49.6±0.8, 47°.99N×153°.65E, h133km±8km, mb5.1/3, msh6.0/2*
*IDC **23** 17:32:52.0±1.8, 48°.23N×153°.25E, h146km±16km, mb3.5/20, mb1 3.7/24, mb1mx3.6/34, mbtmp3.9/24, Error ellipse: s-maj=15.4km s-min=10.1km az=140.0*
ISC 23 17:32:48.7±0.6, 48°.11N±0°.08×153°.39E±0°.08, h117km, n116, σ1§69/115, mb3.9/25, 3C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.13**	**34**	*e*PN	Pn	17 33 31.5	-5.0
SKR				*e*S	**Sn**	**17 34 09.3**	**-4.2**
SKR				pmax	pmax		
comp=N,80nm,0.5s							
SKR				pmax	pmax		
comp=E,60nm,0.5s							
SKR				pmax	pmax		
comp=Z,150nm,0.5s							
SKR				smax	smax		
comp=E,200nm,0.3s							
SKR				smax	smax		
comp=N,60nm,0.5s							
SKR	**Severo-Kuril's**	**3.13**	**34**	*e*P	**Pn**	**17 33 38.8**	**+2.3**
SKR				*e*S	**Sn**	**17 34 14.7**	**+1.2**
SKR	**Severo-Kuril's**	**3.13**	**34**	*e*P	**Pn**	**17 33 38.8**	**+2.3**
SKR				AMB	AMB	17 33 41.7	
comp=N,227nm,0.5s							
SKR				*e*S	**Sn**	**17 34 15.3**	**+1.8**
SKR				A	A	17 34 16.7	
comp=N,1μm,0.5s							
PAU	**Pauzhetka**	**4.03**	**32**	PN	**Pn**	**17 33 50.0**	**+1.6**
PAU				S	**Sn**	**17 34 34.3**	**-0.5**
PAU	**Pauzhetka**	**4.03**	**32**	*e*P	**Pn**	**17 33 50.0**	**+1.6**
PAU				*e*S	**Sn**	**17 34 34.3**	**-0.5**
PAU	**Pauzhetka**	**4.03**	**32**	*e*P	**Pn**	**17 33 50.8**	**+2.4**
PAU				*e*S	**Sn**	**17 34 36.4**	**+1.6**
MIPR	**Malaya Ipel'ka**	**4.70**	**26**	P	**Pn**	**17 33 59.7**	**+2.2**
KUR	**Kuril'sk**	**4.77**	**235**	⇑*i*PN	Pn	17 34 01.8	+3.4
KUR				*i* S	Sn	17 35 00.6	+8.1
KUR				pmax	pmax		
comp=N,9.0nm,0.3s							
KUR				pmax	pmax		
comp=Z,61nm,0.5s							
KUR				pmax	pmax		
comp=E,13nm,0.6s							
KUR				pmax	pmax		
comp=Z,5μm,4.8s							
KUR				smax	smax		
comp=N,42nm,0.6s							
KUR				smax	smax		
comp=E,23nm,0.6s							
KUR	**Kuril'sk**	**4.77**	**235**	*e*P	Pn	17 34 01.8	+3.4
KUR				AMB	AMB	17 34 04.2	
comp=E,61nm,0.5s							
KUR				*e*S	**Sn**	**17 34 56.6**	**+4.1**
KUR				AMB	AMB	17 35 29.1	
comp=E,61nm,0.5s							
MTVR	**Mutnovka**	**5.35**	**33**	*e*P	**Pn**	**17 34 07.2**	**+0.9**
MTVR				*e*S	**Sn**	**17 35 04.9**	**-1.9**
RUS	**Russkaya**	**5.43**	**35**	PN	**Pn**	**17 34 06.3**	**-1.0**
RUS	**Russkaya**	**5.43**	**35**	P	**Pn**	**17 34 06.3**	**-1.0**
PETK	**Petropavlovsk-**	**5.71**	**27**	PN	**Pn**	**17 34 13.6**	**+2.5**
PETK				S	**Sn**	**17 35 18.0**	**+2.7**
PETK				pmax	pmax		
comp=Z,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**5.71**	**27**	P	**Pn**	**17 34 13.6**	**+2.5**
comp=Z,1.3nm,0.3s,baz=184,slow=14,SNR=33							
PETK				S	**Sn**	**17 35 17.9**	**+2.7**
baz=206,slow=15,SNR=2.1							
UGLR	**Uglovaya**	**6.17**	**32**	*e*P	**Pn**	**17 34 19.2**	**+1.9**
KOK	**Koryaka**	**6.17**	**31**	*e*P	**Pn**	**17 34 19.3**	**+2.0**
AVH	**Avacha**	**6.18**	**31**	*e*P	**Pn**	**17 34 19.7**	**+2.2**
SMAR	**Somma**	**6.20**	**32**	*e*P	**Pn**	**17 34 19.7**	**+1.8**
KRER	**Koryakskii**	**6.22**	**31**	*e*P	**Pn**	**17 34 19.8**	**+1.7**
KRER				S	**Sn**	**17 35 26.2**	**-1.6**
KRX	**Arik**	**6.23**	**30**	*e*P	**Pn**	**17 34 19.8**	**+1.6**
SHO	**Shikotan**	**6.23**	**230**	*e*P	**Pn**	**17 34 18.1**	**0.0**
SHO				*e*S	**Sn**	**17 35 23.4**	**-4.5**
SHO	**Shikotan**	**6.23**	**230**	*e*P	**Pn**	**17 34 18.7**	**+0.6**
SHO				*e*S	**Sn**	**17 35 25.7**	**-2.2**
SDLR	**Sedlovina**	**6.24**	**32**	*e*P	**Pn**	**17 34 19.4**	**+1.0**
GNL	**Ganaly**	**6.29**	**25**	*e*P	**Pn**	**17 34 21.0**	**+2.0**
YUK	**Yuzh-Kuril'sk**	**6.63**	**235**	*c*PN	**Pn**	**17 34 26.0**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**6.63**	**235**	*e*S	Pn	17 34 26.4	+2.8
YUK				A	A	17 34 29.1	
comp=Z,79nm,0.3s							
YUK				A	A	17 34 29.1	
comp=Z,93nm,0.3s							
NEM2	**Nemuro 2**	**7.15**	**231**	P	**Pn**	**17 34 30.1**	**-0.4**
NEM2				*e*S	**Sn**	**17 35 46.2**	**-3.9**
YSS	**Yuzh-Sakhalins**	**7.29**	**265**	⇑*e*PN	Pn	17 34 43.2	+11
JNK	**Nakash**	**7.55**	**236**	P	**Pn**	**17 34 37.3**	**+1.3**
JTKR	**Abashiri--Toko**	**7.79**	**241**	P	Pn	17 34 41.9	+2.8
JAK	**Akkeshi**	**7.96**	**233**	P	**Pn**	**17 34 41.1**	**-0.4**
JAK				*e*S	**Sn**	**17 36 05.4**	**-4.4**
JMP	**Maruseppu**	**8.09**	**243**	P	Pn	17 34 46.3	+3.0
JAR	**Ashorobuto**	**8.27**	**238**	P	**Pn**	**17 34 47.9**	**+2.1**
MKZ	**Mys Kozlova**	**8.30**	**36**	PN	**Pn**	**17 34 44.5**	**-1.5**
MKZ	**Mys Kozlova**	**8.30**	**36**	*e*P	**Pn**	**17 34 44.5**	**-1.5**
TUMR	**Tumrok**	**8.32**	**28**	*e*P	**Pn**	**17 34 49.4**	**+3.0**
JOB	**Onbets**	**8.49**	**236**	P	**Pn**	**17 34 49.2**	**+0.5**
JOB				*e*S	**Sn**	**17 36 19.8**	**-2.9**
ASAJ	**Asahikawa**	**8.49**	**246**	PN	Pn	17 34 52.9	+4.2
ASAJ				pmax	pmax		
comp=Z,3.0nm,0.3s							
ASAJ	**Asahikawa**	**8.49**	**246**	P	Pn	17 34 52.9	+4.2
ASAJ	**Asahikawa**	**8.49**	**246**	P	Pn	17 34 52.9	+4.2
comp=Z,2.9nm,0.3s,baz=68,slow=13,SNR=38							
JKK2	**Kamakawa 2**	**8.53**	**244**	P	Pn	17 34 52.6	+3.3
JFR	**Furan**	**9.03**	**241**	P	Pn	17 34 58.7	+2.6
ERM	**Erimo**	**9.46**	**234**	*e*PN	**Pn**	**17 35 02.2**	**+0.4**
ERM	**Erimo**	**9.46**	**234**	*e*P	**Pn**	**17 35 02.2**	**+0.4**
JEW	**Eniwo**	**9.90**	**242**	P	**Pn**	**17 35 09.7**	**+2.0**
KBTR	**Krutoberegovo**	**9.96**	**32**	PN	**Pn**	**17 35 06.6**	**-1.8**
KBTR	**Krutoberegovo**	**9.96**	**32**	*e*P	**Pn**	**17 35 06.6**	**-1.8**
JKB	**Kayabe**	**10.73**	**239**	P	**Pn**	**17 35 17.7**	**-1.2**
JKB				*e*S	Sn	17 37 09.3	-7.7
JSH	**Shimam**	**10.86**	**245**	P	**Pn**	**17 35 22.2**	**+1.6**
JYM2	**Yakumo 2**	**10.97**	**242**	P	**Pn**	**17 35 21.6**	**-0.6**
JANG	**Nango**	**11.49**	**232**	P	Pn	17 35 25.4	-3.8
JANG				*e*S	Sn	17 37 25.1	-10
JRG	**Rokugo**	**12.67**	**231**	P	Pn	**17 35 41.7**	**-2.9**
SEY	**Seymchan**	**14.87**	**358**	P	**Pn**	**17 36 13.7**	**+1.0**
comp=Z,0.2nm,0.3s,baz=239,slow=21,SNR=6.0							
SEY	**Seymchan**	**14.87**	**358**	*e*P	**P**	**17 36 16.0**	**+0.6**
MAJO	**Matsushiro**	**16.08**	**230**	*e*P	**Pn**	**17 36 27.4**	**-0.6**
MAJO	**Matsushiro**	**16.08**	**230**	*e*P	**Pn**	**17 36 27.4**	**-0.6**
MJAR	**Matsushiro Arr**	**16.08**	**230**	P	**P**	**17 36 29.0**	**-0.1**
MJAR	**Matsushiro Arr**	**16.08**	**230**	P	**P**	**17 36 28.9**	**-0.1**
comp=Z,0.4nm,0.3s,baz=11,slow=14,SNR=4.7							
BILL	**Bilibino**	**21.03**	**14**	*e*P	**P**	**17 37 23.7**	**+1.0**
BILL	**Bilibino**	**21.03**	**14**	*e*P	**P**	**17 37 23.7**	**+1.0**
KSRS	**Korea Array**	**21.42**	**250**	P	**P**	**17 37 28.8**	**+1.7**
comp=Z,0.8nm,0.6s,baz=48,slow=11,SNR=5.2							
TIK	**Tiksi**	**26.21**	**343**	*e*P	**P**	**17 38 11.8**	**-0.2**

TIXI Tiksi 26.23 343 *e*P **P** **17 38 11.8 -0.3**
H11N2 WAKE ISLAND Hy 30.35 154 T T 18 10 56.0
baz=341,slow=76,SNR=36
H11N1 WAKE ISLAND Hy 30.36 154 T T 18 10 57.1
baz=341,slow=76,SNR=38
H11N3 WAKE ISLAND Hy 30.36 154 T T 18 10 58.6
baz=341,slow=76,SNR=34
H11S1 WAKE ISLAND Hy 31.45 155 T T 18 12 30.1
baz=343,slow=76,SNR=62
H11S3 WAKE ISLAND Hy 31.46 155 T T 18 12 30.8
baz=343,slow=76,SNR=62
H11S2 WAKE ISLAND Hy 31.47 155 T T 18 12 24.2
baz=343,slow=76,SNR=44
ILAR Eielson Array 35.38 40 *e*P **P** **17 39 33.9 +1.3**
ILAR Eielson Array 35.38 40 P **P** **17 39 31.2 -1.3**
comp=Z,0.3nm,0.6s,baz=259,slow=5.3,SNR=4.4
ILAR Eielson Array 35.38 40 *e*P **P** **17 39 33.9 +1.3**
ZALV Zalesovo Beam 41.98 305 *e*P **P** **17 40 26.8 -1.0**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 41.98 305 P **P** **17 40 26.3 -1.6**
comp=Z,1.5nm,0.4s,baz=66,slow=6.0,SNR=7.8
MKAR Makanchi Array 46.50 296 *e*P **P** **17 41 03.8 -0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 46.50 296 P **P** **17 41 02.8 -1.1**
comp=Z,1.8nm,0.8s,baz=70,slow=7.5,SNR=16
MKAR PcP **PcP** **17 42 36.0 -0.4**
comp=Z,0.1nm,0.4s,baz=64,slow=2.9,SNR=2.5
MKAR Makanchi Array 46.50 296 *e*P **P** **17 41 03.8 -0.1**
KURK Kurchatov 46.78 303 *e*P P 17 41 03.3 -2.7
YKA Yellowknife Ar 49.73 37 P **P** **17 41 28.6 +0.2**
comp=Z,0.4nm,0.7s,baz=295,slow=7.1,SNR=4.8
YKA Yellowknife Ar 49.73 37 *e*P **P** **17 41 29.2 +0.8**
CMAR Chiang Mai Arr 52.88 256 P **P** **17 41 54.0 +1.4**
comp=Z,0.6nm,0.8s,baz=40,slow=7.3,SNR=6.6
ARU Arti 54.15 317 *d*iP **P** **17 42 00.1 -1.2**
ARU S **S** **17 49 26.4 -2.3**
ARU SS **SKiKP** **17 53 04.8 +4.9**
ARU pmax pmax
comp=Z,15nm,2.5s
ARCES ARCESS Array B 56.64 341 P **P** **17 42 18.0 -0.9**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 56.64 341 P **P** **17 42 18.0 -0.9**
comp=Z,2.8nm,0.8s,baz=26,slow=9.0,SNR=4.6
SUMG Summit 59.33 4 *i*P **P** **17 42 38.1 -0.1**
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 59.33 4 *i*P **P** **17 42 38.1 -0.1**
comp=Z,3.5nm,0.9s
NVAR Mina Array Bea 61.64 63 P **P** **17 42 55.8 +1.6**
comp=Z,0.8nm,0.7s,baz=278,slow=6.8,SNR=4.6
FINES FINESS Array B 62.90 335 P **P** **17 43 00.8 -1.0**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 62.90 335 P **P** **17 43 00.8 -1.0**
comp=Z,1.4nm,0.4s,baz=38,slow=7.0,SNR=20
PDAR Pinedale Array 63.80 55 P **P** **17 43 08.6 +0.2**
comp=Z,1.0nm,0.8s,baz=340,slow=0.4,SNR=9.2
OBN Obninsk 64.30 325 *e*P **P** **17 43 09.2 -1.9**
OBN pmax pmax
comp=Z,4.0nm,0.9s
GEYT Alibeck 66.08 301 P **P** **17 43 21.3 -1.6**
comp=Z,0.7nm,0.5s,baz=358,slow=4.5,SNR=2.8
NB2 NORSAR Subarra 67.01 341 P **P** **17 43 27.9 -0.6**
comp=Z,0.7nm,0.6s,baz=28,slow=6.9
NOA NORSAR Array B 67.01 341 P **P** **17 43 28.1 -0.4**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 67.01 341 P **P** **17 43 28.1 -0.4**
comp=Z,0.9nm,0.6s,baz=28,slow=6.5,SNR=7.3
WRA Warramunga Arr 69.86 199 P **P** **17 43 46.8 +0.2**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 69.86 199 P **P** **17 43 46.8 +0.2**
comp=Z,0.9nm,0.6s,baz=16,slow=6.3,SNR=6.6
KBZ Khabaz 70.06 314 P **P** **17 43 48.0 +0.3**
KBZ pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 70.06 314 P **P** **17 43 48.0 +0.3**
comp=Z,1.4nm,0.8s,baz=262,slow=3.7,SNR=3.9
AKASG Malin Array Be 70.53 326 P **P** **17 43 48.7 -1.7**
comp=Z,0.3nm,0.4s,baz=32,slow=6.2,SNR=2.1
SCHQ Schefferville 71.99 23 P **P** **17 43 59.5 +0.3**
comp=Z,1.7nm,0.5s,baz=347,slow=4.7,SNR=7.5
ASAR Alice Springs 73.55 199 P **P** **17 44 08.7 0.0**
comp=Z,0.2nm,0.4s,baz=14,slow=5.4,SNR=12
ASAR Alice Springs 73.55 199 *e*P **P** **17 44 09.8 +1.1**
DPC Dobruska-Polom 75.20 333 *e*P **P** **17 44 18.4 +0.3**
DPC Dobruska-Polom 75.20 333 *e*P **P** **17 44 18.4 +0.3**
CLL Collm 75.31 336 ⇓*i*P **P** **17 44 18.2 -0.4**
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 75.31 336 ⇓*i*P **P** **17 44 18.2 -0.4**
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 75.43 335 *e*PKP **P** **17 44 18.6 -0.7**
comp=Z,1.8nm,0.7s
BRG Berggiesshubel 75.43 335 *e*P **P** **17 44 18.6 -0.7**
BRG pmax pmax
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 76.66 61 P **P** **17 44 27.4 +0.6**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 76.66 61 P **P** **17 44 27.4 +0.6**
comp=Z,1.2nm,0.6s,baz=297,slow=4.6,SNR=15
KHC Kasperske Hory 77.10 334 *e*P **P** **17 44 28.6 -0.2**
KHC Kasperske Hory 77.10 334 *e*P **P** **17 44 28.6 -0.2**
GERES GERESS Array B 77.32 334 P **P** **17 44 29.7 -0.4**
comp=Z,0.7nm,0.5s,baz=35,slow=5.4,SNR=7.6
BRTR Keskin Array B 77.53 317 P **P** **17 44 31.9 +0.3**
comp=Z,0.6nm,0.6s,baz=34,slow=3.7,SNR=3.5
BFO Black Forest 79.28 337 *i*P **P** **17 44 41.8 +1.0**

IDC 23 17:33:08.2±3.0, 31°.91S×177°.87W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/22, mbtmp3.8/3, ML2.8/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/25, Error ellipse: s-maj=69.2km s-min=35.9km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.65**	**359**	LR	LR	17 34 52.6	
comp=Z,214nm,20.6s,baz=142,slow=39							
URZ	**Urewera**	**7.55**	**212**	Pn	Pn	17 34 59.5	-0.1
0.1nm,0.3s,baz=22,slow=19,SNR=2.6							
URZ				Sn	Sn	17 36 24.4	-1.5
1.1nm,0.3s,baz=96,slow=21,SNR=8.7							
ASAR Alice Springs		**43.16**	**268**	P	P	17 41 10.9	0.0
0.6nm,0.6s,baz=109,slow=7.3,SNR=20							
WRA Warramunga Arr		**44.29**	**274**	P	P	17 41 20.0	0.0
0.6nm,0.4s,baz=112,slow=7.9,SNR=22							
PFO Pinyon Flats O		**87.15**	**47**	LR	LR	18 15 09.2	
comp=Z,177nm,20.9s,baz=141,slow=29							
FINES FINESS Array B		**146.60**	**339**	PKPbc	PKPdf	17 52 50.0	+0.5
0.7nm,0.5s,baz=55,slow=5.3,SNR=4.8						

J22A	Midwest	0.95	248	P		Pg	18 07 09.3	-0.8
	baz=1.0,SNR=52							
K23A	Bowen Ranch, D	1.05	195	⇓P		Pg	18 07 11.2	-0.8
	baz=1.1,SNR=12							
K23A				⇑S		Sg	18 07 26.8	+1.2
	baz=1.1							
H24A	Dirks Ranch, A	1.10	27	P		Pg	18 07 12.0	-0.8
	baz=1.0,SNR=288							
H24A				⇑S		Sg	18 07 27.5	+0.5
	baz=1.0							
K24A	Anderson Ranch	1.10	163	⇓P		Pg	18 07 12.0	-0.9
	baz=1.1,SNR=186							
J25A	Sunshine Ranch	1.13	109	⇑P		Pg	18 07 12.7	-0.8
	baz=1.1,SNR=186							
I25A	Rochford	1.13	77	⇑P		Pg	18 07 12.7	-0.8
	baz=1.1,SNR=86							
H22A	Clearmont	1.13	317	⇑P		Pg	18 07 13.2	-0.3
	baz=1.1,SNR=44							
G23A	Biddle	1.43	356	P		Pn	18 07 18.1	-1.0
	baz=1.4,SNR=501							
K22A	Casper	1.46	220	⇑P		Pn	18 07 18.3	-1.2
	baz=1.5,SNR=47							
K22A				⇓S		Sb	18 07 39.6	+0.7
	baz=1.5							
K22A	Casper	1.46	220	*e*Pn		Pn	18 07 18.0	-1.5
H25A	Fruitdale	1.47	54	⇑P		Pn	18 07 18.8	-0.7
	baz=1.4,SNR=66							
H25A				⇓S		Sn	18 07 39.9	+0.4
	baz=1.4							
I21A	Big Trails, Te	1.47	272	P		Pn	18 07 17.9	-1.8
	baz=1.5,SNR=188							
H21A	Big Horn, Sher	1.54	304	⇓P		Pn	18 07 20.3	-0.3
	baz=1.5,SNR=20							
H21A				⇓S		Sg	18 07 42.2	+1.0
	baz=1.5							
K25A	Mack Ranch, Ha	1.55	138	⇑P		Pn	18 07 20.6	-0.1
	baz=1.6,SNR=19							
K25A				⇑S		Sg	18 07 42.6	+1.1
	baz=1.6							
G22A	Birney	1.62	333	⇑P		Pn	18 07 21.8	+0.1
	baz=1.6,SNR=38							
G22A				⇑S		Sg	18 07 44.0	+0.2
	baz=1.6							
J21A	Lysite	1.65	256	P		Pn	18 07 21.2	-1.0
	baz=1.7,SNR=141							
J21A				⇓S		Sn	18 07 44.4	+0.3
	baz=1.7							
J26A	Sides Ranch, S	1.66	105	⇑P		Pn	18 07 22.1	-0.1
	baz=1.6,SNR=33							
J26A				⇑S		Sg	18 07 45.3	+0.3
	baz=1.6							
G24A	Alzada	1.67	21	⇓P		Pn	18 07 22.3	-0.1
	baz=1.6,SNR=142							
G24A				⇑S		Sg	18 07 45.6	+0.3
	baz=1.6							
L24A	Wheatland	1.75	172	⇓S		Sg	18 07 47.8	-0.2
	baz=1.8							
I26A	New Underwood	1.75	81	⇑P		Pb	18 07 23.9	-1.0
	baz=1.7,SNR=16							
I26A				⇓Sb		Sg	18 07 49.5	+1.3
	baz=1.7							
K21A	Alcova	1.85	233	⇑P		Pn	18 07 24.9	-0.1
	baz=1.9,SNR=15							
K21A				⇓S		Sn	18 07 49.8	+0.6
	baz=1.9							
K26A	Motz Farm, Whi	1.86	124	⇓P		Pn	18 07 25.4	+0.3
	baz=1.9,SNR=27							
K26A				⇓S		Sb	18 07 50.1	-0.5
	baz=1.9							
L25A	Engebretsen Ra	1.88	149	⇑P		Pn	18 07 25.9	+0.6
	baz=1.9,SNR=12							
L25A				⇑Sb		Sg	18 07 52.9	+0.8
	baz=1.9							
G25A	Newell	1.94	42	⇓P		Pb	18 07 26.8	-1.2
	baz=1.9,SNR=39							
G25A				⇑Sb		Sg	18 07 54.9	+0.9
	baz=1.9							
L22A	Ellis Ranch, M	1.94	207	⇑P		Pn	18 07 26.6	+0.3
	baz=2.0,SNR=43							
L22A				⇑S		Sn	18 07 52.1	+0.6
	baz=2.0							
F23A	Volborg	1.95	357	P		Pn	18 07 26.3	+0.1
	baz=1.9,SNR=80							
F23A				⇓S		Sb	18 07 52.9	-0.2
	baz=1.9							
H26A	Fairpoint	1.98	64	⇑P		Pn	18 07 26.5	-0.1
	baz=1.9,SNR=26							
H26A				⇓Sb		Sg	18 07 56.4	+1.1
	baz=1.9							
G21A	Lodge Grass	2.01	317	⇑P		Pn	18 07 27.1	+0.1
	baz=2.0,SNR=99							
G21A				⇓S		Sn	18 07 54.0	+1.0
	baz=2.0							
I20A	Worland	2.08	276	⇑P		Pn	18 07 28.4	+0.3
	baz=2.1,SNR=52							
I20A				⇓S		Sn	18 07 55.8	+1.0
	baz=2.1							
J20A	Shoshoni	2.09	259	⇑Pb		Pb	18 07 30.0	-0.7
	baz=2.1,SNR=31							
J20A				⇑Sb		Sg	18 07 58.9	-0.1
	baz=2.1							
H20A	Greybull	2.10	291	⇓P		Pn	18 07 28.1	-0.2
	baz=2.1,SNR=50							
H20A				⇓S		Sn	18 07 56.5	+1.5
	baz=2.1							
F22A	Rosebud	2.12	341	⇓P		Pn	18 07 28.1	-0.5
	baz=2.1,SNR=152							
F22A				⇑S		Sn	18 07 56.2	+0.5
	baz=2.1							
F24A	Ekalaka	2.15	15	⇑P		Pn	18 07 29.1	+0.1
	baz=2.1,SNR=32							
M24A	Cheyenne	2.33	172	⇓P		Pn	18 07 32.2	+0.7
	baz=2.4,SNR=27							
M24A				⇓Sb		Sg	18 08 06.3	-0.3
	baz=2.4							
M23A	Laramie	2.33	189	⇓P		Pn	18 07 31.8	+0.2
	baz=2.4,SNR=28							
I27A	Quinn	2.34	82	⇑Pb		Pb	18 07 33.4	-1.5
	baz=2.3,SNR=16							
I27A				⇓Sb		Sg	18 08 06.5	-0.4
	baz=2.3							
L26A	Underwood Farm	2.37	137	⇑Pb		Pb	18 07 34.0	-1.3
	baz=2.4							
J27A	Elkhorn Farm,	2.42	101	⇓P		Pn	18 07 33.9	+1.1
	baz=2.4							
G26A	Maurine	2.44	51	P		Pn	18 07 33.6	+0.8
	baz=2.4,SNR=67							
F21A	Absaloka Mine,	2.44	328	⇓P		Pn	18 07 33.4	+0.4
	baz=2.4							
H27A	Howes	2.44	68	⇓P		Pn	18 07 33.7	+0.7
	baz=2.4,SNR=21							
K27A	Flueckinger Fa	2.46	115	⇑P		Pn	18 07 33.5	+0.3
	baz=2.4							
F25A	Bowman	2.50	30	P		Pn	18 07 35.0	+1.2
	baz=2.4,SNR=36							
M25A	Palm-Egli Farm	2.50	159	⇓P		Pn	18 07 34.7	+0.8
	baz=2.5,SNR=7.9							
G20A	Bridger	2.56	305	P		Pn	18 07 34.2	-0.5
	baz=2.6,SNR=174							
G20A				⇑S		Sn	18 08 07.0	+0.5
	baz=2.6							
M22A	Cedar Creek Ra	2.57	203	⇓P		Pn	18 07 36.0	+1.1
	baz=2.6,SNR=22							
E22A	Miles City	2.71	350	⇑P		Pn	18 07 36.1	-0.5
	baz=2.7,SNR=15							
I19A	Meeteetse	2.71	277	⇑P		Pn	18 07 37.4	+0.6
	baz=2.7,SNR=24							
E23A	Ismay	2.72	359	P		Pn	18 07 36.8	0.0
	baz=2.7,SNR=18							
F26A	Lodgepole	2.78	41	⇓Pb		Pb	18 07 41.6	-0.7
	baz=2.7							
J19A	Crowheart	2.80	261	⇓P		Pn	18 07 39.5	+1.4
	baz=2.9,SNR=22							
H19A	Powell	2.82	290	⇓P		Pn	18 07 38.3	0.0
	baz=2.8,SNR=11							
E24A	Baker	2.87	13	⇓P		Pn	18 07 39.2	+0.4
	baz=2.8,SNR=16							
G27A	Dupree	2.87	55	⇓P		Pn	18 07 39.3	+0.5
	baz=2.8							
F20A	Billings	2.88	316	P		Pn	18 07 38.5	-0.6
	baz=2.9,SNR=29							
N23A	Red Feather La	2.92	190	⇑P		Pn	18 07 40.6	+0.8
	baz=3.0,SNR=24							
J28A	Allard Ranch,	2.95	95	⇑P		Pn	18 07 40.9	+1.0
	baz=2.9							
N24A	Carr	2.96	174	⇑Pb		Pb	18 07 45.0	-0.5
	baz=3.0							
I28A	Midland	2.97	84	⇓Pb		Pb	18 07 45.2	-0.4
	baz=2.9							
LAO	LASA Array	2.99	347	*e*Pn		Pn	18 07 39.8	-0.7
E25A	Miller Ranch,	3.03	25	⇑Pb		Pb	18 07 46.1	-0.5
	baz=2.9							
N25A	Grover	3.09	163	⇓Pb		Pb	18 07 47.5	-0.1
	baz=3.1							
N22A	Wattenberg Ran	3.10	197	⇑Pb		Pb	18 07 46.9	-1.0
	baz=3.2							
F27A	Lemmon	3.12	47	⇑Pb		Pb	18 07 47.5	-0.6
	baz=3.0							
RLMT	Red Lodge	3.17	297	*e*Pn		Pn	18 07 43.3	+0.2
H28A	Mission Ridge	3.18	72	⇑Pb		Pb	18 07 48.8	-0.4
	baz=3.1							
L28A	Connealy Angus	3.27	121	⇑Pb		Pb	18 07 50.3	-0.4
	baz=3.2							
H18A	Shoshone NF, C	3.29	287	⇑P		Pn	18 07 44.4	-0.4
	baz=3.3,SNR=32							
PDAR	Pinedale Array	3.29	254	Pn		Pn	18 07 45.6	+0.7
	3.9nm,0.3s,baz=68,slow=16,SNR=71							
PDAR				Sn		Sn	18 08 27.1	+2.3
	0.5nm,0.3s,baz=80,slow=23,SNR=4.5							
BW06	Boulder Array	3.30	254	*e*Pn		Pn	18 07 44.9	0.0
F19A	Roth Farm, Mol	3.34	310	⇑P		Pn	18 07 45.5	+0.1
	baz=3.3,SNR=45							
E26A	Carlson Angus	3.34	35	⇑P		Pn	18 07 45.9	+0.5
	baz=3.3							
G28A	Parade	3.37	66	⇑Pb		Pb	18 07 52.2	-0.3
	baz=3.3							
D23A	Lindsay	3.40	1	⇑P		Pn	18 07 46.5	+0.3
	baz=3.3,SNR=19							
E20A	Meyer Farm, Mu	3.40	324	⇓P		Pn	18 07 45.6	-0.6
	baz=3.4							
D24A	Glendive	3.40	11	⇓P		Pn	18 07 46.8	+0.7
	baz=3.3,SNR=11							
N27A	Anderson Farm,	3.59	145	⇑P		Pn	18 07 49.0	+0.2
	baz=3.6							
D25A	Fairfield	3.64	21	⇑P		Pn	18 07 50.7	+1.3
	baz=3.6,SNR=11							
E19A	Rath Farm, Rou	3.66	318	⇑P		Pn	18 07 49.3	-0.5
	baz=3.6							
OGNE	Ogallala	3.71	139	*e*Pn		Pn	18 07 50.4	0.0
GCMT	Greycliff	3.73	304	*e*Pn		Pn	18 07 51.0	+0.3
O22A	Kremmling	3.74	195	⇑P		Pn	18 07 51.9	+0.9
	baz=3.8,SNR=10.0							
C24A	Savage	3.80	9	⇓P		Pn	18 07 52.4	+0.8
	baz=3.7,SNR=24							
D26A	Manning	3.81	30	⇑P		Pn	18 07 52.4	+0.6
	baz=3.7							
O26A	Horse Wrangler	3.82	157	⇓P		Pn	18 07 52.5	+0.6
	baz=3.9							
H17A	Grant Village	3.88	281	*e*Pn		Pn	18 07 54.6	+1.7
D20A	Manuel Ranch,	3.88	330	⇑P		Pn	18 07 52.0	-0.8
	baz=3.9,SNR=12							
ISCO	Idaho Springs	3.98	184	⇓P		Pn	18 07 54.9	+0.5
	baz=4.0,SNR=5.7							
ISCO	Idaho Springs	3.98	184	*e*Pn		Pn	18 07 55.0	+0.6
YNR	Norris Junctio	4.00	285	Pn		Pn	18 07 54.0	-0.6
C23A	Lambert	4.03	1	⇓P		Pn	18 07 55.6	+0.8
	baz=4.0,SNR=73							
YFT	Old Faithful	4.07	281	Pn		Pn	18 07 58.2	+2.7
D19A	Cripps Ranch,	4.24	324	⇑P		Pn	18 07 56.5	-1.2
	baz=4.2							
D27A	Center	4.25	37	⇑Pb		Pb	18 08 07.4	0.0
	baz=4.2							
O20A	White River Ci	4.26	212	⇓P		Pn	18 07 58.4	+0.2
	baz=4.3							
O20A	White River Ci	4.26	212	*e*Pn		Pn	18 07 58.6	+0.4
E28A	Huff	4.27	48	⇑P		Pn	18 07 58.3	+0.2
	baz=4.2							
P25A	Willow Gulch B	4.34	169	⇓P		Pn	18 07 59.1	0.0
	baz=4.4							
C20A	Veseth Ranch,	4.38	335	⇑P		Pn	18 07 59.7	+0.1
	baz=4.3							
AHID	Auburn Hatcher	4.38	259	*e*Pn		Pn	18 08 00.8	+1.1
P23A	Jefferson	4.42	186	⇑P		Pn	18 08 01.3	+0.9
	baz=4.5,SNR=5.6							
P26A	Davis Ranch, A	4.45	161	⇓P		Pn	18 08 01.0	+0.3
	baz=4.5,SNR=20							
L30A	Spencer Herefo	4.46	112	⇓P		Pn	18 08 01.0	+0.2
	baz=4.4							
O28A	Krutsinger Ran	4.48	143	⇓P		Pn	18 08 00.8	-0.2
	baz=4.5							
QLMT	Earthquake Lak	4.55	286	Pn		Pn	18 08 01.3	-0.8
C26A	Wahner Farm, P	4.62	28	⇓P		Pn	18 08 03.1	+0.2
	baz=4.5							
P27A	Ficken Ranch,	4.67	154	⇓P		Pn	18 08 03.5	-0.1
	baz=4.7							
B23A	Brockton	4.69	2	⇓P		Pn	18 08 04.5	+0.7
	baz=4.6,SNR=16							
B25A	Knox Farm, Ray	4.73	17	⇑P		Pn	18 08 05.2	+0.8
	baz=4.7,SNR=15							
C27A	Sayler Ranch,	4.74	32	⇓P		Pn	18 08 04.0	-0.4
	baz=4.7							
C19A	Slack Wire Ran	4.76	328	⇓P		Pn	18 08 04.5	-0.4
	baz=4.7,SNR=20							
BOZ	Bozeman (W)	4.91	295	*e*Pn		Pn	18 08 05.1	-1.8
Q25A	Bedland, Calha	4.92	171	⇑P		Pn	18 08 07.1	-0.1
	baz=5.0							
B20A	Solberg Farm,	5.04	339	⇓P		Pn	18 08 08.6	-0.1
	baz=5.0							
HWUT	Hardware Ranch	5.13	247	*e*Pn		Pn	18 08 10.2	+0.3
	8.8nm,0.5s							
KSCO	Kaye Shedlock'	5.16	157	*e*Pn		Pn	18 08 09.8	-0.6
	25nm,0.4s							
A23A	Redstone	5.19	3	⇓P		Pn	18 08 11.0	+0.3
	baz=5.1,SNR=6.7							
A24A	Westby	5.22	9	⇑P		Pn	18 08 11.6	+0.4
	baz=5.2,SNR=8.8							
A22A	Carney Farms,	5.24	355	⇑P		Pn	18 08 10.6	-0.8
	baz=5.2							
TCUT	Toone Canyon	5.27	242	*e*Pn		Pn	18 08 14.3	+2.3
	22nm,0.5s							
EGMT	Eagleton	5.28	325	⇑P		Pn	18 08 11.6	-0.4
	baz=5.3,SNR=7.7							
EGMT	Eagleton	5.28	325	*e*Pn		Pn	18 08 10.9	-1.1
	14nm,0.4s							
A21A	Bergtoll Ranch	5.34	348	⇑P		Pn	18 08 12.3	-0.5
	baz=5.3							
A25A	Svangstu Ranch	5.37	15	⇑P		Pn	18 08 13.7	+0.5
	baz=5.3							
HRY	Holter Researc	5.49	305	*e*Pn		Pn	18 08 15.2	+0.3
	13nm,0.4s							
LRM	Limekiln Ridge	5.51	294	*e*Pn		Pn	18 08 14.9	-0.4
	31nm,0.4s							
MCMT	McKenzie Canyo	5.55	284	*e*Pn		Pn	18 08 20.6	+4.8
	2.1nm,0.3s							
R25A	Fountain Ranch	5.67	172	⇓P		Pn	18 08 17.3	-0.1
	baz=5.7							
MDND	Maddock	5.68	42	⇓P		Pn	18 08 17.2	-0.2
	baz=5.6							
MDND	Maddock	5.68	42	*e*Pn		Pn	18 08 16.6	-0.8
	27nm,0.3s							
BGNE	Belgrade	5.76	112	*e*Pn		Pn	18 08 18.2	-0.3
	48nm,0.3s							
R27A	Eads	5.79	160	⇓P		Pn	18 08 19.1	+0.1
	baz=5.8							
HVU	Hansel Valley	5.88	253	*e*Pn		Pn	18 08 20.7	+0.4
	7.9nm,0.7s							
S25A	Robets Cordova	6.14	174	⇓P		Pn	18 08 23.4	-0.5
	baz=6.2							
ECSD	EROS Data Cent	6.26	87	⇑P		Pn	18 08 25.4	-0.1
	baz=6.2							
ECSD	EROS Data Cent	6.26	87	*e*Pn		Pn	18 08 24.8	-0.7
	6.4nm,0.4s							
S26A	Kim	6.30	167	⇑P		Pn	18 08 25.7	-0.3
	baz=6.3							
TMUT	Trail Mountain	6.32	227	*e*Pn		Pn	18 08 27.3	+0.8
	35nm,0.7s							
CHMT	Chamberlain Mo	6.45	302	*e*Pn		Pn	18 08 27.6	-0.5
	2.1nm,0.4s							
A29A	Manning Farm,	6.62	37	⇑P		Pn	18 08 30.0	-0.4
	baz=6.5							
SWMT	Swartz Lake	7.17	304	*e*Pn		Pn	18 08 37.3	-0.7
	2.3nm,0.3s							
U28A	Mallet	7.75	161	⇓P		Pn	18 08 45.2	-0.7
	baz=7.8							
BSMT	Bassoo Peak	7.80	305	*e*Pn		Pn	18 08 47.0	+0.3
AGMN	Agassiz Nation	7.95	52	*e*Pn		Pn	18 08 41.3	-7.3
	15nm,1.1s							
ELK	Elko	8.00	251	Pn		Pn	18 08 50.9	+1.5
	0.3nm,0.3s,baz=10,slow=4.2,SNR=6.7							
I10CA	LAC DU BONNET	9.00	41	*i*			19 02 30.0	
	baz=222,slow=333,SNR=1.5							
ULM	Lac du Bonnet	9.11	41	Pn		Pn	18 09 00.8	-3.6
	1.5nm,0.3s,baz=234,slow=12,SNR=9.2							
ULM				Lg		Lg	18 11 30.7	
	0.8nm,0.3s,baz=120,slow=20,SNR=2.6							
NVAR	Mina Array Bea	11.19	246	Pn		Pn	18 09 34.6	+1.4
	0.1nm,0.3s,baz=52,slow=12,SNR=3.3							
GNAR	Gosnell	14.05	119	*e*Pn		Pn	18 10 12.0	-0.1
	71μm,0.6s							

*CSEM **23** 18:12:55.2±0.2,41°.74N×15°.20E,h15km,ML3.5/15,Error ellipse: s-maj=3.6km s-min=2.2km az=16.0*
*ROM **23** 18:12:55.5±0.1,41°.76N×15°.20E,h17km±2km,Md3.0/40, Ml2.7/36,Error ellipse: s-maj=1.5km s-min=0.9km az=8.0*
ISC 23 18:12:55.5±0.8,41°.74N±0°.02×15°.20E±0°.01,h17km±4km, n92,σ0°60/136,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELA	Melanico ??? S	0.07	235	Pg	Pg	18 12 58.7	0.0
MELA				Sg	Sg	18 13 01.0	+0.2
	14μm,0.4s						
MELA	Melanico ??? S	0.07	235	Pg	Pg	18 12 58.7	0.0
MELA				Sg	Sg	18 13 01.0	+0.2
	14μm,0.4s						
CIGN	Sant'Elia a Pi	0.24	248	Pg	Pb	18 13 01.7	+0.4
CIGN				Sg	Sb	18 13 05.0	-0.2
	690nm,0.5s						
CIGN	Sant'Elia a Pi	0.24	248	Pg	Pb	18 13 01.7	+0.4
CIGN				Sg	Sb	18 13 05.0	-0.2
	690nm,0.5s						
GATE	Gambatesa	0.32	223	Pg	Pb	18 13 03.1	+0.5
GATE				Sg	Sb	18 13 07.4	-0.1
	250nm,0.6s						
GATE	Gambatesa	0.32	223	Pg	Pb	18 13 03.1	+0.5
GATE				Sg	Sb	18 13 07.4	-0.1
	250nm,0.6s						
MOCO	Biccari - m.te	0.37	185	Pg	Pg	18 13 03.2	-0.1
MOCO				Sg	Sb	18 13 09.6	+0.4
	428nm,0.8s						
SGRT	San Giovanni R	0.41	88	Pg	Pb	18 13 03.7	-0.6
SGRT				Sg	Sg	18 13 09.4	-0.2
	732nm,0.4s						
SGRT	San Giovanni R	0.41	88	Pg	Pb	18 13 03.7	-0.6
SGRT				Sg	Sg	18 13 09.4	-0.2
	732nm,0.4s						
TRIV	Trivento	0.48	273	Pg	Pb	18 13 06.1	+0.6
TRIV				Sg	Sb	18 13 13.1	+0.7
	204nm,0.5s						
TRIV	Trivento	0.48	273	Pg	Pb	18 13 06.1	+0.6
TRIV				Sg	Sb	18 13 13.1	+0.7
	204nm,0.5s						
BSSO	Busso	0.49	247	Pg	Pb	18 13 05.8	+0.1
BSSO				Sg	Sb	18 13 12.8	+0.1
BSSO	Busso	0.49	247	Pg	Pb	18 13 05.8	+0.1
BSSO				Sg	Sb	18 13 12.8	+0.1
SACR	S. Croce Del S	0.51	227	Pg	Pb	18 13 05.6	-0.3
SACR	S. Croce Del S	0.51	227	Pg	Pb	18 13 05.6	-0.3
MSAG	Monte S. Angel	0.53	93	Pg	Pb	18 13 05.9	-0.5
MSAG				Sg	Sb	18 13 13.3	-0.5
	614nm,0.4s						
MSAG	Monte S. Angel	0.53	93	Pg	Pb	18 13 05.9	-0.5
MSAG				Sg	Sb	18 13 13.3	-0.5
	614nm,0.4s						
MS1	Monte Sant'Ang	0.56	94	*e*Pg	Pg	18 13 06.1	-0.5
MS1				Sg	Sb	18 13 14.7	+0.2
IPES	Pescosannita	0.58	208	Pg	Pg	18 13 06.8	-0.1
PSB1	Pescosannita	0.59	209	Pg	Pg	18 13 06.8	-0.5
PSB1				Sg	Sb	18 13 16.5	+1.0
	140nm,0.5s						
PSB1	Pescosannita	0.59	209	Pg	Pg	18 13 06.8	-0.5
PSB1				Sg	Sb	18 13 16.5	+1.0
	140nm,0.5s						
PTRJ	Pietraroja	0.63	233	Pg	Pg	18 13 07.2	-0.7
PTRJ				Sg	Sb	18 13 16.5	-0.1
	513nm,0.3s						
PTRJ	Pietraroja	0.63	233	Pg	Pg	18 13 07.2	-0.7
PTRJ				Sg	Sb	18 13 16.5	-0.1
	513nm,0.3s						
MRB1	Monte Rocchett	0.64	195	Pg	Pg	18 13 07.5	-0.6
	316nm,0.5s						
MRB1	Monte Rocchett	0.64	195	Pg	Pg	18 13 07.5	-0.6
	316nm,0.5s						
SGG	Gregorio Mates	0.71	240	Pg	Pg	18 13 08.9	-0.5
	149nm,0.3s						
SGG	Gregorio Mates	0.71	240	Pg	Pg	18 13 08.9	-0.5
	149nm,0.3s						
MIDA	Miranda	0.71	262	Pg	Pg	18 13 09.2	-0.3
MIDA				Sg	Sb	18 13 19.6	+0.6
	254nm,0.5s						
MIDA	Miranda	0.71	262	Pg	Pg	18 13 09.2	-0.3
MIDA				Sg	Sb	18 13 19.6	+0.6
	254nm,0.5s						
CAFE	Carife	0.71	178	Pg	Pg	18 13 08.6	-0.9
	164nm,0.3s						
CAFE	Carife	0.71	178	Pg	Pg	18 13 08.6	-0.9
	164nm,0.3s						
RNI2	Rionero Sannit	0.78	267	Pg	Pb	18 13 10.5	-0.2
RNI2	Rionero Sannit	0.78	267	Pg	Pb	18 13 10.5	-0.2
VAGA	Valle Agricola	0.79	246	Pg	Pb	18 13 10.3	-0.5
	355nm,0.3s						
VAGA	Valle Agricola	0.79	246	Pg	Pb	18 13 10.3	-0.5
	355nm,0.3s						
CAFR	Castel Frentan	0.80	308	Pg	Pg	18 13 11.0	0.0
	681nm,0.3s						
CAFR	Castel Frentan	0.80	308	Pg	Pg	18 13 11.0	0.0
	681nm,0.3s						
LPEL	Lama dei Pelig	0.82	292	Pg	Pb	18 13 11.0	-0.2
	271nm,0.2s						
LPEL	Lama dei Pelig	0.82	292	Pg	Pb	18 13 11.0	-0.2
	271nm,0.2s						
SNAL	S. Angelo Dei	0.82	179	Pg	Pn	18 13 12.0	-0.2
	439nm,0.6s						
SNAL	S. Angelo Dei	0.82	179	Pg	Pn	18 13 12.0	-0.2
	439nm,0.6s						
VULT	Monte Vulture	0.85	158	Pg	Pn	18 13 12.1	-0.6
VULT				Sg	Sn	18 13 24.2	-0.6
	1μm,0.4s						
VULT	Monte Vulture	0.85	158	Pg	Pn	18 13 12.1	-0.6
VULT				Sg	Sn	18 13 24.2	-0.6
	1μm,0.4

92nm,0.6s
VVLD Villa Vallelon 1.19 277 Pg **Pn 18 13 16.5 -0.8**
VVLD Sg **Sg 18 13 34.1 +0.2**
157nm,0.5s
VVLD Villa Vallelon 1.19 277 Pg **Pn 18 13 16.5 -0.8**
VVLD Sg **Sg 18 13 34.1 +0.2**
157nm,0.5s
VCEL Villa Celiera 1.20 303 Pg **Pn 18 13 17.5 -0.1**
116nm,0.4s
VCEL Villa Celiera 1.20 303 Pg **Pn 18 13 17.5 -0.1**
116nm,0.4s
CDRU Civita di Ruta 1.25 176 Pg **Pn 18 13 17.8 -0.5**
80nm,0.3s
CDRU Civita di Ruta 1.25 176 Pg **Pn 18 13 17.8 -0.5**
80nm,0.3s
FAGN Fagnano 1.31 294 Pg **Pb 18 13 19.2 -0.4**
58nm,0.4s
FAGN Fagnano 1.31 294 Pg **Pb 18 13 19.2 -0.4**
58nm,0.4s
AMUR Altamura 1.35 128 Pg **Pn 18 13 19.7 +0.2**
105nm,0.4s
AMUR Altamura 1.35 128 Pg **Pn 18 13 19.7 +0.2**
105nm,0.4s
BAI Bari 1.42 116 *e*Pg **Pb 18 13 21.7 +0.3**
BAI Sg **Sg 18 13 42.2 +1.0**
CMPR Campora 1.43 177 Pg **Pb 18 13 21.3 -0.3**
84nm,0.7s
CMPR Campora 1.43 177 Pg **Pb 18 13 21.3 -0.3**
84nm,0.7s
SG1 Sgolgore (BA) 1.44 128 *e*Pg **Pb 18 13 22.1 +0.4**
SG1 Sg **Sg 18 13 42.0 +0.2**
MIGL Miglionico 1.48 140 Pg **Pb 18 13 21.9 -0.5**
237nm,0.4s
MIGL Miglionico 1.48 140 Pg **Pb 18 13 21.9 -0.5**
237nm,0.4s
MATE Matera 1.58 133 Pg **Pn 18 13 23.1 +0.5**
115nm,0.6s
SIRI Monte Sirino - 1.64 162 Pg **Pn 18 13 24.2 +0.6**
49nm,0.3s
LTRZ Laterza 1.67 132 Pg **Pn 18 13 24.4 +0.5**
645nm,2.3s
NOCI Noci 1.70 124 Pg **Pn 18 13 24.6 +0.3**
98nm,0.2s
PE1 Pezze di Greco 1.92 118 *e*Pg **Pb 18 13 30.4 +0.4**
PE1 Sg **Sg 18 13 58.6 +1.3**
TAR1 Taranto 1.99 127 *e*Pn **Pb 18 13 32.0 +0.8**
STON Ston 2.17 58 *e*Pn **Pb 18 13 33.7 -0.5**
STON Sn **Sn 18 13 58.4 +1.2**
STON Ston 2.17 58 *e*Pn **Pb 18 13 33.7 -0.5**
STON Sn **Sn 18 13 58.4 +1.2**
UDBI Udbina 2.81 8 Sn **Sb 18 14 17.2 -2.3**
UDBI Udbina 2.81 8 Sn **Sb 18 14 17.1 -2.3**
NVLJ Novalja 2.83 355 *i* Pn **Pn 18 13 40.7 +0.8**
NVLJ Sn **Sn 18 14 15.2 +1.7**
NVLJ Novalja 2.83 355 *i* Pn **Pn 18 13 40.6 +0.8**
NVLJ Sn **Sn 18 14 15.1 +1.7**

*ISCJB **23** 18:40:37.8±0.5,35°.96N±0°.03×10°.27W±0°.04,h10km, Error ellipse: s-maj=4.8km s-min=3.9km az=4.9*
*MDD **23** 18:40:39.7±0.9,35°.86N×10°.63W,h30km,mbLg3.0/39, Error ellipse: s-maj=10.6km s-min=6.3km az=97.0, PRXIMO*
*CSEM **23** 18:40:40.8±0.2,35°.92N×10°.40W,h30km,ML2.8, Error ellipse: s-maj=5.8km s-min=3.9km az=97.0*
*LDG **23** 18:40:41.2±0.2,35°.89N×10°.59W,h30km,Md3.5/1,Ml3.4/4, Error ellipse: s-maj=3.2km s-min=2.5km az=52.0*
*IGIL **23** 18:40:41.8,35°.90N×10°.54W,h31km,ML2.8*
*INMG **23** 18:40:41.6±1.5,35°.91N×10°.61W,h31km,MD2.6,ML2.8, Error ellipse: s-maj=4.1km s-min=2.8km az=70.0*
*CNRM **23** 18:40:42.4,35°.72N×10°.39W,h32km,MD3.3*
ISC 23 18:40:38.3±1.2,36°.00N±0°.05×10°.44W±0°.06,h10km,n145,
σ1§54/219,8C-3D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.72**	**49**	*i* Pn	**Pn**	**18 41 10.0**	**+1.7**
PFVI				*e*Sn	**Sn**	**18 41 30.5**	**+0.1**
PFVI				A	A	18 41 32.1	
49nm,0.2s							
PFVI	**Vila Bisbo**	**1.72**	**49**	⇑P	**Pn**	**18 41 10.0**	**+1.7**
192nm,0.1s,SNR=18							
PFVI				S	**Sn**	**18 41 30.8**	**+0.4**
19nm,0.3s,SNR=7.0							
PFVI	**Vila Bisbo**	**1.72**	**49**	P	**Pn**	**18 41 10.0**	**+1.7**
192nm,0.1s,SNR=18							
PFVI				*e*Sn	**Sn**	**18 41 30.5**	**+0.1**
49nm,0.2s							
PFVI				S	**Sn**	**18 41 30.8**	**+0.4**
19nm,0.3s,SNR=7.0							
MORF	**Marmelete**	**1.94**	**47**	*e*P	**Pn**	**18 41 13.1**	**+1.7**
MORF				*e*S	**Sn**	**18 41 36.2**	**+0.3**
MORF				AML	AML	18 41 37.7	
comp=N,68nm,0.1s							
MORF	**Marmelete**	**1.94**	**47**	*i* Pn	**Pn**	**18 41 13.1**	**+1.7**
MORF				*e*Sn	**Sn**	**18 41 36.2**	**+0.3**
MORF				A	A	18 41 38.9	
comp=N,56nm,0.1s							
MORF	**Marmelete**	**1.94**	**47**	⇑P	**Pn**	**18 41 13.1**	**+1.7**
MORF				S	**Sn**	**18 41 36.2**	**+0.3**
comp=N,56nm,0.1s							
MORF	**Marmelete**	**1.94**	**47**	P	**Pn**	**18 41 13.1**	**+1.7**
MORF				S	**Sn**	**18 41 36.2**	**+0.3**
comp=N,56nm,0.1s							
PTEO	**Sao Teotonio**	**2.07**	**41**	*i* Pn	**Pn**	**18 41 14.8**	**+1.7**
PTEO				*e*Sn	**Sn**	**18 41 39.3**	**+0.4**
PTEO				A	A	18 41 40.5	
comp=N,45nm,0.3s							
PTEO	**Sao Teotonio**	**2.07**	**41**	⇑P	**Pn**	**18 41 14.8**	**+1.7**
PTEO				S	**Sn**	**18 41 39.3**	**+0.4**
comp=N,23nm,0.3s							
PTEO	**Sao Teotonio**	**2.07**	**41**	P	**Pn**	**18 41 14.8**	**+1.7**
PTEO				S	**Sn**	**18 41 39.3**	**+0.4**
comp=N,23nm,0.3s							
PBDV	**Barranco-do-Ve**	**2.37**	**58**	*i* Pn	**Pn**	**18 41 19.0**	**+1.8**
PBDV				*e*Sn	**Sn**	**18 41 47.4**	**+1.0**
PBDV				A	A	18 41 58.5	
comp=N,10nm,0.4s							
PBDV	**Barranco-do-Ve**	**2.37**	**58**	⇑P	**Pn**	**18 41 19.0**	**+1.8**
PBDV				S	**Sn**	**18 41 47.4**	**+1.0**
comp=N,10nm,0.4s							
PBDV	**Barranco-do-Ve**	**2.37**	**58**	P	**Pn**	**18 41 19.0**	**+1.8**
PBDV				S	**Sn**	**18 41 47.4**	**+1.0**
comp=N,10nm,0.4s							
MESJ	**Messejana**	**2.56**	**43**	*e*P	**Pn**	**18 41 21.5**	**+1.7**
MESJ				*e*S	**Sn**	**18 41 50.6**	**-0.4**
MESJ				AML	AML	18 41 53.0	
comp=N,29nm,0.3s							
MESJ	**Messejana**	**2.56**	**43**	*e*Pn	**Pn**	**18 41 21.5**	**+1.7**
MESJ				*e*Sn	**Sn**	**18 41 51.0**	**0.0**
MESJ				A	A	18 41 58.9	
comp=N,19nm,0.2s							
MESJ	**Messejana**	**2.56**	**43**	P	**Pn**	**18 41 21.5**	**+1.7**
MESJ				S	**Sn**	**18 41 51.0**	**0.0**
comp=N,19nm,0.2s							
MESJ	**Messejana**	**2.56**	**43**	P	**Pn**	**18 41 21.5**	**+1.7**
MESJ				S	**Sn**	**18 41 51.0**	**0.0**
comp=N,19nm,0.2s							
PVAQ	**Vaqueiros**	**2.60**	**57**	*i* Pn	**Pn**	**18 41 22.1**	**+1.7**
PVAQ				*e*Sn	**Sn**	**18 41 52.4**	**+0.4**
PVAQ				A	A	18 41 58.1	
comp=N,20nm,0.1s							
PVAQ	**Vaqueiros**	**2.60**	**57**	⇑P	**Pn**	**18 41 22.1**	**+1.7**
PVAQ				S	**Sn**	**18 41 52.4**	**+0.4**
comp=N,20nm,0.1s							
PVAQ	**Vaqueiros**	**2.60**	**57**	P	**Pn**	**18 41 22.1**	**+1.7**
PVAQ				S	**Sn**	**18 41 52.4**	**+0.4**
comp=N,20nm,0.1s							
PNCL	**Nicolau / Gran**	**2.60**	**35**	*e*Pn	**Pn**	**18 41 22.0**	**+1.6**
PNCL				*e*Sn	**Sn**	**18 41 51.7**	**-0.4**
PNCL				A	A	18 41 54.7	
comp=N,41nm,0.4s							
EGRO	**El Granado**	**2.83**	**56**	⇑P	**Pn**	**18 41 25.1**	**+1.6**
comp=N,1.4nm,0.1s,SNR=18							
EGRO				S	**Sn**	**18 41 58.0**	**+0.4**
comp=N,6.7nm,0.3s,SNR=8.5							
EGRO	**El Granado**	**2.83**	**56**	P	**Pn**	**18 41 25.1**	**+1.6**
comp=N,1.4nm,0.1s,SNR=18							
EGRO				S	**Sn**	**18 41 58.0**	**+0.4**
comp=N,6.7nm,0.3s,SNR=8.5							
PMST	**Lisbon--Monsan**	**2.91**	**20**	*e*Sn	**Sn**	**18 41 59.3**	**-0.4**
PMST				A	A	18 42 01.3	
comp=N,46nm,0.5s							
PMST	**Lisbon--Monsan**	**2.91**	**20**	*e*Sn	**Sn**	**18 41 59.3**	**-0.4**
comp=N,46nm,0.5s							
PACT	**Alcochete**	**3.05**	**24**	*e*Pn	**Pn**	**18 41 29.1**	**+2.6**
PACT				*e*Sn	**Sn**	**18 42 03.7**	**+0.7**
PACT				A	A	18 42 13.4	
comp=N,35nm,0.4s							
PACT	**Alcochete**	**3.05**	**24**	*e*Pn	**Pn**	**18 41 29.1**	**+2.6**
PACT				*e*Sn	**Sn**	**18 42 03.7**	**+0.7**
comp=N,35nm,0.4s							
PMAFR	**Mafra**	**3.09**	**17**	*e*Pn	**Pn**	**18 41 28.1**	**+0.9**
PMAFR				*e*Sn	**Sn**	**18 42 03.4**	**-0.8**
PMAFR				A	A	18 42 06.6	
comp=N,52nm,0.2s							
PMAFR	**Mafra**	**3.09**	**17**	P	**Pn**	**18 41 28.0**	**+0.9**
comp=N,7.0nm,0.1s,SNR=7.9							
PMAFR				S	**Sn**	**18 42 03.3**	**-0.9**
comp=N,89nm,0.3s,SNR=7.9							
PMAFR	**Mafra**	**3.09**	**17**	P	**Pn**	**18 41 28.0**	**+0.9**
comp=N,7.0nm,0.1s,SNR=7.9							
PMAFR				S	**Sn**	**18 42 03.3**	**-0.9**
comp=N,89nm,0.3s,SNR=7.9							
EVOP	**Sao Brissos**	**3.13**	**36**	*e*Pn	**Pn**	**18 41 28.3**	**+0.7**
EVOP				*e*Sn	**Sn**	**18 42 03.1**	**-1.9**
comp=N,24nm,0.3s							
EVO	**Evora**	**3.19**	**37**	*e*Pn	**Pn**	**18 41 28.3**	**-0.1**
EVO				*e*Sn	**Sn**	**18 42 03.1**	**-3.3**
comp=N,47nm,0.3s							
EVO	**Evora**	**3.19**	**37**	*i* Pn	**Pn**	**18 41 29.8**	**+1.4**
EVO				*e*Sn	**Sn**	**18 42 05.8**	**-0.6**
EVO				A	A	18 42 08.2	
comp=N,46nm,0.1s							
EVO	**Evora**	**3.19**	**37**	⇓P	**Pn**	**18 41 29.8**	**+1.4**
EVO				S	**Sn**	**18 42 05.8**	**-0.6**
comp=N,46nm,0.1s							
EVO	**Evora**	**3.19**	**37**	P	**Pn**	**18 41 29.8**	**+1.4**
EVO				S	**Sn**	**18 42 05.8**	**-0.6**
comp=N,46nm,0.1s							
PBAR	**Barrancos**	**3.48**	**50**	*e*Pn	**Pn**	**18 41 33.8**	**+1.3**
PBAR				*e*Sn	**Sn**	**18 42 13.4**	**-0.3**
PBAR				A	A	18 42 16.2	
comp=N,16nm,0.1s							
PBAR	**Barrancos**	**3.48**	**50**	P	**Pn**	**18 41 33.8**	**+1.3**
PBAR				S	**Sn**	**18 42 13.4**	**-0.3**
comp=N,16nm,0.1s							
PBAR	**Barrancos**	**3.48**	**50**	P	**Pn**	**18 41 33.8**	**+1.3**
PBAR				S	**Sn**	**18 42 13.4**	**-0.3**
comp=N,16nm,0.1s							
EMIN	**Mina Concepcio**	**3.50**	**59**	P	**Pn**	**18 41 33.9**	**+1.2**
comp=N,3.5nm,0.3s,SNR=73							
EMIN				S	**Sn**	**18 42 14.1**	**-0.1**
comp=N,3.5nm,0.3s							
EMIN	**Mina Concepcio**	**3.50**	**59**	P	**Pn**	**18 41 33.9**	**+1.2**
comp=N,3.5nm,0.3s,SNR=73							
EMIN				S	**Sn**	**18 42 14.1**	**-0.1**
comp=N,3.5nm,0.3s							
PMTG	**Montargil**	**3.54**	**29**	*e*Pn	**Pn**	**18 41 34.4**	**+1.2**
PMTG				*e*Sn	**Sn**	**18 42 13.9**	**-1.2**
PMTG				A	A	18 42 15.7	
comp=N,18nm,0.2s							
PMTG	**Montargil**	**3.54**	**29**	*e*Pn	**Pn**	**18 41 34.4**	**+1.2**
PMTG				*e*Sn	**Sn**	**18 42 13.9**	**-1.2**
comp=N,18nm,0.2s							
ESPR	**Espera**	**3.80**	**75**	P	**Pn**	**18 41 38.1**	**+1.3**
comp=N,22nm,0.2s,SNR=28							
ESPR				S	**Sn**	**18 42 20.7**	**-0.9**
comp=N,62nm,0.3s,SNR=7.9							
ESPR	**Espera**	**3.80**	**75**	P	**Pn**	**18 41 38.1**	**+1.3**
comp=N,22nm,0.2s,SNR=28							
ESPR				S	**Sn**	**18 42 20.7**	**-0.9**
comp=N,62nm,0.3s,SNR=7.9							
EBAD	**Badajoz**	**3.88**	**44**	⇑P	**Pn**	**18 41 39.0**	**+1.1**
comp=N,3.7nm,0.3s,SNR=18							
EBAD				S	**Sn**	**18 42 22.7**	**-0.8**
comp=N,2.1nm,0.4s,SNR=5.8							
EBAD	**Badajoz**	**3.88**	**44**	P	**Pn**	**18 41 39.0**	**+1.1**
comp=N,3.7nm,0.3s,SNR=18							
EBAD				S	**Sn**	**18 42 22.7**	**-0.8**
comp=N,2.1nm,0.4s,SNR=5.8							
PTOM	**Tomar**	**3.95**	**23**	*e*Sn	**Sn**	**18 42 24.4**	**-1.0**
PTOM				A	A	18 42 28.2	
comp=N,17nm,0.3s							
PTOM	**Tomar**	**3.95**	**23**	S	**Sn**	**18 42 24.4**	**-1.0**
comp=N,8.7nm,0.3s							
PTOM	**Tomar**	**3.95**	**23**	S	**Sn**	**18 42 24.4**	**-1.0**
comp=N,8.7nm,0.3s							
PMRV	**Marv??o**	**4.19**	**34**	*e*Pn	**Pn**	**18 41 43.7**	**+1.4**
PMRV				*e*Sn	**Sn**	**18 42 29.8**	**-1.5**
PMRV				A	A	18 42 32.1	
comp=N,14nm,0.2s							
PMRV	**Marv??o**	**4.19**	**34**	P	**Pn**	**18 41 43.7**	**+1.4**
PMRV				S	**Sn**	**18 42 29.8**	**-1.5**
comp=N,14nm,0.2s							
PMRV	**Marv??o**	**4.19**	**34**	P	**Pn**	**18 41 43.7**	**+1.4**
PMRV				S	**Sn**	**18 42 29.8**	**-1.5**
comp=N,14nm,0.2s							
PCAS	**Casmilo, Conde**	**4.33**	**20**	*e*Pn	**Pn**	**18 41 45.6**	**+1.5**
PCAS				*e*Sn	**Sn**	**18 42 32.7**	**-1.9**
PCAS				A	A	18 42 40.6	
comp=N,7.4nm,0.4s							
PCAS	**Casmilo, Conde**	**4.33**	**20**	*e*Pn	**Pn**	**18 41 45.6**	**+1.5**
PCAS				*e*Sn	**Sn**	**18 42 32.7**	**-1.9**
comp=N,7.4nm,0.4s							
PCBR	**Castelo Branco**	**4.49**	**31**	*i* Pn	**Pn**	**18 41 47.9**	**+1.5**
PCBR				*e*Sn	**Sn**	**18 42 36.5**	**-2.2**
PCBR				A	A	18 42 39.6	
comp=N,5.4nm,0.3s							
PCBR	**Castelo Branco**	**4.49**	**31**	⇓P	**Pn**	**18 41 47.9**	**+1.5**
PCBR				S	**Sn**	**18 42 36.5**	**-2.2**
comp=N,2.7nm,0.3s							
PCBR	**Castelo Branco**	**4.49**	**31**	P	**Pn**	**18 41 47.9**	**+1.5**
PCBR				S	**Sn**	**18 42 36.5**	**-2.2**
comp=N,2.7nm,0.3s							
ECAB	**El Cabril**	**4.52**	**61**	⇑P	**Pn**	**18 41 48.2**	**+1.4**
comp=N,5.4nm,0.3s,SNR=18							
ECAB				S	**Sn**	**18 42 38.2**	**-1.3**
comp=N,2.9nm,0.3s,SNR=7.9							
ECAB	**El Cabril**	**4.52**	**61**	P	**Pn**	**18 41 48.2**	**+1.4**
comp=N,5.4nm,0.3s,SNR=18							
ECAB				S	**Sn**	**18 42 38.2**	**-1.3**
comp=N,2.9nm,0.3s,SNR=7.9							
EMIJ	**Mijas**	**4.62**	**81**	P	**Pn**	**18 41 48.6**	**+0.5**
comp=N,0.5nm,0.1s,SNR=7.9							
EMIJ				S	**Sn**	**18 42 39.6**	**-2.2**
comp=N,3.4nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**4.62**	**81**	P	**Pn**	**18 41 48.6**	**+0.5**
comp=N,0.5nm,0.1s,SNR=7.9							
EMIJ				S	**Sn**	**18 42 39.6**	**-2.2**
comp=N,3.4nm,0.2s,SNR=7.9							
CIA	**Chichaoua**	**4.64**	**162**	P	Pn	18 41 46.0	-2.4
CIA				S	Sn	18 42 33.0	-9.4
CIA	**Chichaoua**	**4.64**	**162**	P	Pn	18 41 46.0	-2.4
CIA				S	Sn	18 42 33.0	-9.4
MTE	**Manteigas**	**4.95**	**27**	*e*Pn	**Pn**	**18 41 53.8**	**+1.1**
MTE				*e*Sn	**Sn**	**18 42 48.4**	**-1.7**
MTE	**Manteigas**	**4.95**	**27**	P	**Pn**	**18 41 53.8**	**+1.1**
MTE				S	**Sn**	**18 42 48.4**	**-1.7**
MTE	**Manteigas**	**4.95**	**27**	P	**Pn**	**18 41 53.8**	**+1.1**
MTE				S	**Sn**	**18 42 48.4**	**-1.7**
KIB	**El Ksiba**	**4.99**	**132**	P	Pn	18 41 52.0	-1.4
KIB				S	Sn	18 42 43.0	-8.3
KIB	**El Ksiba**	**4.99**	**132**	*i* P	Pn	18 41 52.0	-1.4
KIB				S	Sn	18 42 43.0	-8.3
TZC	**Tazercounte**	**5.05**	**138**	P	Pn	18 41 52.5	-1.7
TZC				S	Sn	18 42 44.0	-8.9
TZC	**Tazercounte**	**5.05**	**138**	*i* P	Pn	18 41 52.5	-1.7
TZC				S	Sn	18 42 44.0	-8.9
PVIS	**Viseu**	**5.12**	**22**	*e*Pn	**Pn**	**18 41 56.0**	**+1.0**
PVIS				*e*Sn	**Sn**	**18 42 51.8**	**-2.3**
PVIS				A	A	18 42 54.8	
comp=N,8.5nm,0.1s							
PVIS	**Viseu**	**5.12**	**22**	P	**Pn**	**18 41 56.0**	**+1.0**
PVIS				S	**Sn**	**18 42 51.8**	**-2.3**
comp=N,4.2nm,0.1s							
PVIS	**Viseu**	**5.12**	**22**	P	**Pn**	**18 41 56.0**	**+1.0**
PVIS				S	**Sn**	**18 42 51.8**	**-2.3**
comp=N,4.2nm,0.1s							
OUK	**Oukaimeden**	**5.24**	**155**	P	Pn	18 41 54.0	-2.9
OUK				S	Sn	18 42 48.0	-10
OUK	**Oukaimeden**	**5.24**	**155**	P	Pn	18 41 54.0	-2.9
OUK				S	Sn	18 42 48.0	-10
EPLA	**Plasencia**	**5.32**	**39**	P	**Pn**	**18 41 59.1**	**+1.3**
comp=N,2.5nm,0.1s,SNR=7.9							
EPLA				S	**Sn**	**18 42 57.3**	**-1.9**
comp=N,6.7nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**5.32**	**39**	P	**Pn**	**18 41 59.1**	**+1.3**
comp=N,2.5nm,0.1s,SNR=7.9							
EPLA				S	**Sn**	**18 42 57.3**	**-1.9**
comp=N,6.7nm,0.1s,SNR=7.9							
SELV	**Sierra Elvira**	**5.54**	**75**	S	**Sn**	**18 43 02.4**	**-2.2**
comp=N,1.5nm,0.3s,SNR=7.9							
SELV	**Sierra Elvira**	**5.54**	**75**	S	**Sn**	**18 43 02.4**	**-2.2**
comp=N,1.5nm,0.3s,SNR=7.9							
ECOG	**Cogollos-Vega**	**5.67**	**75**	S	**Sn**	**18 43 05.7**	**-2.3**
comp=N,1.2nm,0.2s,SNR=4.0							
ECOG	**Cogollos-Vega**	**5.67**	**75**	S	**Sn**	**18 43 05.7**	**-2.3**
comp=N,1.2nm,0.2s,SNR=4.0							
PVRL	**Vila Real**	**5.68**	**21**	*e*Sn	Sn	18 43 04.4	-3.7
PVRL	**Vila Real**	**5.68**	**21**	S	Sn	18 43 04.4	-3.7
PVRL	**Vila Real**	**5.68**	**21**	S	Sn	18 43 04.4	-3.7
EBAN	**Banos Encina**	**5.74**	**66**	⇓P	**Pn**	**18 42 04.6**	**+1.0**
comp=N,15nm,0.2s,SNR=18							
EBAN				S	**Sn**	**18 43 07.4**	**-2.1**
comp=N,3.9nm,0.1s,SNR=7.9							
EBAN	**Banos Encina**	**5.74**	**66**	P	**Pn**	**18 42 04.6**	**+1.0**
comp=N,15nm,0.2s,SNR=18							
EBAN				S	**Sn**	**18 43 07.4**	**-2.1**
comp=N,3.9nm,0.1s,SNR=7.9							
POLO	**Lamas de Olo**	**5.75**	**20**	*e*Pn	**Pn**	**18 42 04.5**	**+0.7**
POLO				*e*Sn	**Sn**	**18 43 06.6**	**-3.3**
POLO				A	A	18 43 09.6	
comp=N,2.3nm,0.4s							
POLO	**Lamas de Olo**	**5.75**	**20**	*e*Pn	**Pn**	**18 42 04.5**	**+0.7**
POLO				*e*Sn	**Sn**	**18 43 06.6**	**-3.3**
comp=N,2.3nm,0.4s							
MVO	**Moncorvo**	**5.81**	**26**	*e*Pn	**Pn**	**18 42 05.2**	**+0.7**
MVO				*e*Sn	**Sn**	**18 43 07.9**	**-3.3**
MVO				A	A	18 43 14.5	
comp=N,6.9nm,0.2s							
MVO	**Moncorvo**	**5.81**	**26**	P	**Pn**	**18 42 05.3**	**+0.8**
comp=N,2.2nm,0.3s,SNR=9.1							
MVO				S	**Sn**	**18 43 08.5**	**-2.7**
comp=N,4.9nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.81**	**26**	P	**Pn**	**18 42 05.3**	**+0.8**
comp=N,2.2nm,0.3s,SNR=9.1							
MVO				*e*Sn	**Sn**	**18 43 07.9**	**-3.3**
comp=N,6.9nm,0.2s							
MVO				S	**Sn**	**18 43 08.5**	**-2.7**
comp=N,4.9nm,0.1s,SNR=7.9							
PCAB	**Cabril**	**6.00**	**18**	*e*Pn	**Pn**	**18 42 07.9**	**+0.7**
PCAB				A	A	18 43 19.1	
comp=N,4.0nm,0.1s							
PCAB	**Cabril**	**6.00**	**18**	P	**Pn**	**18 42 07.9**	**+0.7**
PCAB	**Cabril**	**6.00**	**18**	P	**Pn**	**18 42 07.9**	**+0.7**
ELOB	**Lobios**	**6.15**	**17**	P	**Pn**	**18 42 09.9**	**+0.7**
comp=N,0.3nm,0.1s,SNR=7.9							
ELOB				S	Sn	18 43 15.0	-4.6
comp=N,2.8nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**6.15**	**17**	P	**Pn**	**18 42 09.9**	**+0.7**
comp=N,0.3nm,0.1s,SNR=7.9							
ELOB				S	Sn	18 43 15.0	-4.6
comp=N,2.8nm,0.1s,SNR=7.9							
EBER	**Berja**	**6.15**	**79**	P	**Pn**	**18 42 10.4**	**+1.0**
comp=N,0.2nm,0.1s,SNR=7.9							
EBER				S	**Sn**	**18 43 17.5**	**-2.4**
comp=N,4.3nm,0.4s,SNR=7.9							
EBER	**Berja**	**6.15**	**79**	P	**Pn**	**18 42 10.4**	**+1.0**
comp=N,0.2nm,0.1s,SNR=7.9							
EBER				S	**Sn**	**18 43 17.5**	**-2.4**
comp=N,4.3nm,0.4s,SNR=7.9							
EQES	**Quesada**	**6.17**	**71**	P	**Pn**	**18 42 10.6**	**+1.0**
comp=N,2.6nm,0.2s,SNR=7.9							
EQES				S	**Sn**	**18 43 17.6**	**-2.7**
comp=N,1.7nm,0.2s,SNR=7.9							
EQES	**Quesada**	**6.17**	**71**	P	**Pn**	**18 42 10.6**	**+1.0**
comp=N,2.6nm,0.2s,SNR=7.9							
EQES				S	**Sn**	**18 43 17.6**	**-2.7**
comp=N,1.7nm,0.2s,SNR=7.9							
PGAV	**Gavieira, Arco**	**6.19**	**15**	*e*Pn	**Pn**	**18 42 10.5**	**+0.7**
PGAV				*e*Sn	Sn	18 43 16.7	-4.0
PGAV				A	A	18 43 22.3	
comp=N,5.0nm,0.5s							
PGAV	**Gavieira, Arco**	**6.19**	**15**	*e*Pn	**Pn**	**18 42 10.5**	**+0.7**
PGAV				*e*Sn	Sn	18 43 16.7	-4.0
comp=N,5.0nm,0.5s							
ESDC	**Sonseca Array**	**6.30**	**52**	P	**Pn**	**18 42 12.4**	**+1.1**
comp=N,17nm,0.1s,baz=238,slow=13,SNR=43							
ESDC				S	**Sn**	**18 43 20.7**	**-2.7**
comp=N,2.6nm,0.1s,baz=241,slow=23,SNR=3.5							
ESDC	**Sonseca Array**	**6.30**	**52**	P	**Pn**	**18 42 12.4**	**+1.1**
comp=N,17nm,0.1s,SNR=43							
ESDC				S	**Sn**	**18 43 20.7**	**-2.7**
comp=N,2.6nm,0.1s,SNR=3.5							
PBRG	**Braganca**	**6.47**	**25**	*e*Pn	**Pn**	**18 42 14.7**	**+1.1**
PBRG				*e*Sn	Sn	18 43 24.0	-3.6
PBRG				A	A	18 43 27.2	
comp=N,5.5nm,1.0s							
PBRG	**Braganca**	**6.47**	**25**	P	**Pn**	**18 42 14.7**	**+1.1**
PBRG				S	Sn	18 43 24.0	-3.6
comp=N,2.8nm,1.0s							
PBRG	**Braganca**	**6.47**	**25**	P	**Pn**	**18 42 14.7**	**+1.1**
PBRG				S	Sn	18 43 24.0	-3.6
comp=N,2.8nm,1.0s							
EHUE	**Huescar**	**6.54**	**72**	P	**Pn**	**18 42 15.6**	**+0.9**
comp=N,0.8nm,0.1s,SNR=7.9							
EHUE				S	**Sn**	**18 43 26.7**	**-2.7**
comp=N,1.0nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**6.54**	**72**	P	**Pn**	**18 42 15.6**	**+0.9**
comp=N,0.8nm,0.1s,SNR=7.9							
EHUE				S	**Sn**	**18 43 26.7**	**-2.7**
comp=N,1.0nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**6.60**	**25**	P	**Pn**	**18 42 16.0**	**+0.7**
comp=N,2.3nm,0.2s,SNR=7.9							
ECAL				S	Sn	18 43 26.6	-4.0
comp=N,2.1nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**6.60**	**25**	P	**Pn**	**18 42 16.0**	**+0.7**
comp

comp=N,2.4nm,0.5s,SNR=7.9
EARI Arriondas 8.33 27 P **Pn 18 42 40.4 +1.2**
comp=N,0.4nm,0.2s,SNR=7.9
EARI S Sn 18 44 08.6 -4.7
comp=N,6.4nm,0.5s,SNR=7.9
EARI Arriondas 8.33 27 P **Pn 18 42 40.4 +1.2**
comp=N,0.4nm,0.2s,SNR=7.9
EARI S Sn 18 44 08.6 -4.7
comp=N,6.4nm,0.5s,SNR=7.9
EBEN Beniarda 8.57 69 P **Pn 18 42 43.1 +0.6**
comp=N,0.1nm,0.2s,SNR=7.9
EBEN Beniarda 8.57 69 P **Pn 18 42 43.1 +0.6**
comp=N,0.1nm,0.2s,SNR=7.9
EMOS Mosqueruela 8.98 58 P **Pn 18 42 50.9 +2.8**
comp=N,0.4nm,0.2s,SNR=7.9
EMOS Mosqueruela 8.98 58 P **Pn 18 42 50.9 +2.8**
comp=N,0.4nm,0.2s,SNR=7.9
IELO Elcoad 9.87 43 P **Pn 18 43 01.9 +1.8**
comp=N,1.8nm,0.5s,SNR=7.9
IELO S Sn 18 44 44.8 -6.2
comp=N,2.6nm,0.4s,SNR=7.9
IELO Elcoad 9.87 43 P **Pn 18 43 02.0 +1.8**
comp=N,1.8nm,0.5s,SNR=7.9
IELO S Sn 18 44 44.8 -6.2
comp=N,2.6nm,0.4s,SNR=7.9
ELIZ Elizondo 9.92 41 P **Pn 18 43 02.6 +1.7**
comp=N,2.9nm,0.3s,SNR=4.0
ELIZ Elizondo 9.92 41 P **Pn 18 43 02.6 +1.7**
comp=N,2.9nm,0.3s,SNR=4.0
SJPF Ste Jean 10.05 42 *e*Pn **Pn 18 43 04.2 +1.5**
SJPF Ste Jean 10.05 42 *e*Pn **Pn 18 43 04.2 +1.5**
ETSF Etsaut 10.28 45 *e*Pn **Pn 18 43 07.3 +1.4**
ETSF *e*Sn Sn 18 44 56.0 -5.3
comp=N,0.7nm,0.3s
ETSF Etsaut 10.28 45 *e*Pn **Pn 18 43 07.3 +1.4**
ETSF *e*Sn Sn 18 44 56.0 -5.3
comp=N,0.3nm,0.3s
ATE Arette 10.32 44 P **Pn 18 43 08.5 +2.1**
comp=N,0.9nm,0.2s,SNR=7.9
ATE Arette 10.32 44 P **Pn 18 43 08.5 +2.1**
comp=N,0.9nm,0.2s,SNR=7.9
EPF Esparros 10.89 47 *e*Pn **Pn 18 43 15.2 +1.1**
EPF *e*Sn Sn 18 45 10.2 -5.8
comp=N,1.4nm,0.3s
EPF Esparros 10.89 47 *e*Pn **Pn 18 43 15.2 +1.1**
EPF *e*Sn Sn 18 45 10.2 -5.8
comp=N,0.7nm,0.3s
CSOR Sort 11.01 51 P **Pn 18 43 17.1 +1.3**
comp=N,1.1nm,0.3s,SNR=7.9
CSOR Sort 11.01 51 P **Pn 18 43 17.1 +1.3**
comp=N,1.1nm,0.3s,SNR=7.9

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*IDC **23** 18:41:31.0±1.4, 34°.68N×36°.70W, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.6/27, mbtmp3.6/7, Error ellipse: s-maj=53.8km s-min=22.1km az=11.0*
*ISCJB **23** 18:41:31.1±1.1, 34°.7N±0°.3×36°.7W±0°.2, h13km, mb3.7/7, Error ellipse: s-maj=42.3km s-min=17.6km az=11.1*
ISC 23 18:41:33.0±1.3, 34°.7N±0°.3×36°.7W±0°.2, h13km, n15, σ1§26/7, mb3.8/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**40.77**	**112**	P	**P**	**18 49 13.4**	**-0.6**
	1.1nm,0.9s,baz=302,slow=7.1,SNR=5.3						
H10N2	**ASCENSION HYDR**	**47.20**	**149**	T	T	19 40 20.3	
	baz=335,slow=75,SNR=16						
H10N3	**ASCENSION HYDR**	**47.20**	**149**	T	T	19 40 20.8	
	baz=335,slow=75,SNR=19						
H10N1	**ASCENSION HYDR**	**47.22**	**149**	T	T	19 40 21.8	
	baz=335,slow=75,SNR=28						
H10S1	**ASCENSION HYDR**	**48.14**	**150**	T	T	19 41 35.0	
	baz=336,slow=75,SNR=14						
H10S3	**ASCENSION HYDR**	**48.14**	**150**	T	T	19 41 35.0	
	baz=336,slow=75,SNR=17						
H10S2	**ASCENSION HYDR**	**48.15**	**150**	T	T	19 41 36.5	
	baz=336,slow=75,SNR=17						
AKASG	**Malin Array Be**	**49.38**	**50**	P	**P**	**18 50 21.3**	**-0.8**
	0.4nm,0.4s,baz=282,slow=6.5,SNR=3.6						
YKA	**Yellowknife Ar**	**54.43**	**326**	P	**P**	**18 50 59.0**	**-0.6**
	0.3nm,0.7s,baz=85,slow=6.7,SNR=4.1						
PDAR	**Pinedale Array**	**55.82**	**302**	P	**P**	**18 51 09.7**	**-0.5**
	0.4nm,0.8s,baz=69,slow=10,SNR=2.8						
TXAR	**Lajitas Array**	**56.12**	**285**	P	**P**	**18 51 13.6**	**+1.2**
	0.8nm,0.8s,baz=90,slow=9.0,SNR=4.9						
KBZ	**Khabaz**	**60.12**	**55**	P	**P**	**18 51 41.7**	**+1.7**
	1.1nm,0.8s,baz=313,slow=6.6,SNR=4.5						
NVAR	**Mina Array Bea**	**63.59**	**300**	P	**P**	**18 52 03.0**	**-0.8**
	0.5nm,0.6s,baz=54,slow=8.1,SNR=4.2						
H09N1	**TRISTAN DA CUN**	**74.89**	**160**	T	T	20 15 10.2	
	SNR=8.5						
H09W1	**TRISTAN DA CUN**	**74.92**	**160**	T	T	20 15 05.2	
	SNR=5.3						

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*IDC **23** 18:50:25.6±0.9, 34°.54N×36°.67W, h0km, mb4.0/16, mb1 4.2/16, mb1mx4.0/26, mbtmp4.0/16, MS3.7/8, Ms1 3.7/8, ms1mx3.2/48, Error ellipse: s-maj=30.6km s-min=13.5km az=13.0*
*BJI **23** 18:50:26.9, 34°.80N×36°.60W, h10km, mB5.5/3, mb5.0/6, Ms5.0/4, Ms7 4.6/4*
*ISCJB **23** 18:50:27.1±0.3, 34°.75N±0°.08×36°.64W±0°.05, h18km, mb4.4/47, MS3.7/8, Error ellipse: s-maj=11.3km s-min=5.4km az=178.8*
*CSEM **23** 18:50:27.8±0.2, 34°.79N×36°.60W, h10km, mb4.8/28, Ms3.6, Error ellipse: s-maj=12.6km s-min=6.4km az=178.0*
*NEIC **23** 18:50:27.9±0.3, 34°.76N×36°.61W, h10km, mb4.8/28, Error ellipse: s-maj=10.1km s-min=5.2km az=178.0*
*SZGRF **23** 18:50:33.6, 34°.59N×36°.22W, h33km, mb4.5, MS3.6, Northern Mid-Atlantic Ridge*
ISC 23 18:50:29.0±0.7, 34°.83N±0°.09×36°.53W±0°.06, h17km±3km, h16km:pP-P, n157, σ1§47/153, mb4.5/48, MS3.6/11, 2C, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRLN	**Deer Lake**	**21.12**	**319**	*e*P	**P**	**18 55 12.6**	**-0.3**
	23nm,1.0s						
DRLN	**Deer Lake**	**21.12**	**319**	*e*P	**P**	**18 55 12.6**	**-0.3**
	23nm,1.0s						
PAB	**San Pablo**	**25.99**	**70**	P	**P**	**18 56 00.1**	**-1.0**
	13nm,1.3s						
PAB	**San Pablo**	**25.99**	**70**	P	**P**	**18 56 00.1**	**-1.0**
	13nm,1.3s						
ESDC	**Sonseca Array**	**26.29**	**70**	P	**P**	**18 56 03.6**	**-0.1**
	1.2nm,0.8s,baz=280,slow=8.8,SNR=8.5						
ESDC				LR	LR	19 04 08.2	
	comp=Z,66nm,20.8s,baz=100,slow=31						
ES19	**SONSECA Array**	**26.34**	**70**	*e*P	**P**	**18 56 03.2**	**-1.0**
ES19	**SONSECA Array**	**26.34**	**70**	*e*P	**P**	**18 56 03.1**	**-1.0**
MDT	**Midelt**	**26.54**	**85**	P	**P**	**18 56 07.6**	**+1.4**
	3.5nm,1.1s,baz=269,slow=11,SNR=3.8						
MDT				LR	LR	19 04 07.3	
	comp=Z,137nm,20.0s,baz=289,slow=31						
BBTS	**Babate**	**26.98**	**133**	LR	LR	19 04 14.3	
	comp=Z,176nm,19.5s,baz=324,slow=31						
SCHQ	**Schefferville**	**29.00**	**323**	LR	LR	19 07 12.7	
	comp=Z,152nm,18.8s,baz=78,slow=34						
TCF	**Toulx Ste Croi**	**31.29**	**57**	*e*P	**P**	**18 56 48.8**	**+0.6**
	8.9nm,0.9s						
TCF	**Toulx Ste Croi**	**31.29**	**57**	*e*P	**P**	**18 56 48.8**	**+0.6**
	8.9nm,0.9s						
TCF	**Toulx Ste Croi**	**31.29**	**57**	*e*P	**P**	**18 56 48.8**	**+0.6**
	8.9nm,0.9s						
BAIF	**Baives**	**33.24**	**50**	*e*P	**P**	**18 57 05.6**	**+0.5**
	26nm,1.0s						
BAIF	**Baives**	**33.24**	**50**	*e*P	**P**	**18 57 05.6**	**+0.5**
	26nm,1.0s						
BAIF	**Baives**	**33.24**	**50**	*e*P	**P**	**18 57 05.6**	**+0.5**
	26nm,1.0s						
MEZF	**Maizieres J'vi**	**33.51**	**53**	*e*P	**P**	**18 57 08.3**	**+0.8**
MEZF	**Maizieres J'vi**	**33.51**	**53**	*e*P	**P**	**18 57 08.3**	**+0.8**
MEZF	**Maizieres J'vi**	**33.51**	**53**	*e*P	**P**	**18 57 08.3**	**+0.8**
GIVF	**Givet**	**33.63**	**50**	*e*P	**P**	**18 57 08.9**	**+0.3**
GIVF	**Givet**	**33.63**	**50**	*e*P	**P**	**18 57 08.9**	**+0.3**
GIVF	**Givet**	**33.63**	**50**	*e*P	**P**	**18 57 08.9**	**+0.3**
WLF	**Walferdange**	**34.40**	**51**	P	**P**	**18 57 16.9**	**+1.6**
	29nm,1.3s						
WLF	**Walferdange**	**34.40**	**51**	P	**P**	**18 57 16.9**	**+1.6**
	29nm,1.3s						
CDF	**Champ du Feu**	**34.97**	**54**	*e*P	**P**	**18 57 20.9**	**+0.6**
CDF	**Champ du Feu**	**34.97**	**54**	*e*P	**P**	**18 57 20.9**	**+0.6**
CDF	**Champ du Feu**	**34.97**	**54**	*e*P	**P**	**18 57 20.9**	**+0.6**
BFO	**Black Forest**	**35.66**	**54**	*e*P	**P**	**18 57 27.5**	**+1.4**
	25nm,1.6s						
BFO	**Black Forest**	**35.66**	**54**	*e*P	**P**	**18 57 27.5**	**+1.4**
	25nm,1.6s						
GRA1	**Grafenberg Arr**	**37.67**	**52**	*e*P	**P**	**18 57 44.8**	**+1.5**
	10.0nm,1.0s						
GRF	**Grafenberg Arr**	**37.67**	**52**	*e*P	**P**	**18 57 44.8**	**+1.5**
	comp=Z,10.0nm,1.0s						
GRF				*e*L	L	19 09 33.8	
	comp=Z,78nm,21.2s						
SUMG	**Summit**	**37.83**	**359**	P	P	18 57 41.6	-3.2
MOX	**Moxa**	**38.01**	**50**	*e*L	L	19 09 58.6	
	comp=Z,107nm,19.8s						
ABTA	**Abfaltersbach**	**38.41**	**57⇑**	*i*pP	**P**	**18 57 51.1**	**+1.4**
	comp=Z,5.6nm,1.1s						
TAM	**Tamanrasset**	**38.49**	**97**	P	**P**	**18 57 52.1**	**+1.4**
	comp=Z,4.6nm,1.1s						
TAM	**Tamanrasset**	**38.49**	**97**	P	**P**	**18 57 52.1**	**+1.4**
	comp=Z,4.6nm,1.1s						
CLL	**Collm**	**38.95**	**49**	*e*P	**P**	**18 57 56.0**	**+2.0**
	comp=Z,5.0nm,0.9s						
CLL				LmV		19 03 00.0	
	comp=Z,100nm,18.1s						
CLL				Lm	MLR	19 10 00.0	
	comp=Z,100nm,19.1s						
KBA	**Koelnbreinsper**	**38.98**	**56⇑**	*i*pP	**P**	**18 57 55.8**	**+1.3**
	comp=Z,7.7nm,1.2s						
KHC	**Kasperske Hory**	**39.18**	**53**	*e*P	**P**	**18 57 56.1**	**+0.1**
KHC				*ep*P	**pP**	**18 58 02.3**	**+1.1**
KHC				*ex*	x	18 58 16.7	
KHC	**Kasperske Hory**	**39.18**	**53**	*e*P	**P**	**18 57 55.7**	**-0.3**
	comp=Z,13nm,1.6s						
KHC	**Kasperske Hory**	**39.18**	**53**	*e*P	**P**	**18 57 55.7**	**-0.3**
	comp=Z,13nm,1.6s						
GERES	**GERESS Array B**	**39.25**	**53**	P	**P**	**18 57 57.7**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=269,slow=6.4,SNR=9.9						
BRG	**Berggiesshubel**	**39.51**	**50**	*e*P	P	18 57 51.4	-7.3
	comp=Z,9.8nm,1.5s						
BRG				*e*		18 58 00.0	
	comp=Z,7.9nm,1.2s						
PRA	**Prague**	**39.77**	**51**	*e*P	**P**	**18 58 02.8**	**+1.9**
PRA				*ex*	x	18 58 08.1	
PRU	**Pruhonice**	**39.84**	**52**	*e*P	**P**	**18 58 03.0**	**+1.6**
PRU				*ep*P	**pP**	**18 58 08.1**	**+1.5**
RCBR	**Riachuelo**	**40.44**	**179**	LR	LR	19 13 04.8	
	comp=Z,61nm,18.1s,baz=175,slow=34						
DBIC	**Dimbokro**	**40.45**	**126**	P	**P**	**18 58 04.2**	**-2.6**
	comp=Z,2.7nm,0.7s,baz=271,slow=9.6,SNR=3.8						
DBIC	**Dimbokro**	**40.45**	**126**	*e*P	**P**	**18 58 06.1**	**-0.7**
	comp=Z,11nm,1.1s						
DBIC	**Dimbokro**	**40.45**	**126**	*e*P	**P**	**18 58 06.1**	**-0.7**
	comp=Z,11nm,1.1s						
SDV	**Santo Domingo**	**40.50**	**239**	P	**P**	**18 58 08.9**	**+1.4**
	comp=Z,43nm,1.6s						
SDV	**Santo Domingo**	**40.50**	**239**	P	**P**	**18 58 08.9**	**+1.4**
	comp=Z,43nm,1.6s						
TOA0	**Torodi Ar. Sit**	**40.71**	**112**	*e*P	**P**	**18 58 08.6**	**-0.4**
TOA0	**Torodi Ar. Sit**	**40.71**	**112**	*e*P	**P**	**18 58 08.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**40.71**	**112**	P	**P**	**18 58 07.7**	**-1.4**
	comp=Z,7.6nm,1.2s,baz=303,slow=4.9,SNR=18						
UPC	**Upice**	**40.80**	**51**	*e*P	**P**	**18 58 11.1**	**+1.7**
UPC				*ep*P	**pP**	**18 58 16.0**	**+1.4**
DPC	**Dobruska-Polom**	**40.99**	**51**	*e*P	**P**	**18 58 11.6**	**+0.5**
DPC				*ep*P	**pP**	**18 58 17.7**	**+1.4**
DPC	**Dobruska-Polom**	**40.99**	**51**	*e*P	**P**	**18 58 12.1**	**+1.0**
	comp=Z,42nm,0.9s						
DPC	**Dobruska-Polom**	**40.99**	**51**	*e*P	**P**	**18 58 12.1**	**+1.0**
	comp=Z,42nm,0.9s						
CUC	**Castrocucco**	**41.41**	**67**	*e*P	**P**	**18 58 15.5**	**+0.9**
	comp=Z,16nm,1.6s						
CUC	**Castrocucco**	**41.41**	**67**	*e*P	**P**	**18 58 15.5**	**+0.9**
	comp=Z,16nm,1.6s						
MORC	**Moravsky Berou**	**41.77**	**52**	P	**P**	**18 58 17.2**	**-0.3**
MORC	**Moravsky Berou**	**41.77**	**52**	P	**P**	**18 58 17.2**	**-0.3**
PSZ	**Piszkesteto**	**43.39**	**55**	P	**P**	**18 58 30.3**	**-0.4**
PSZ	**Piszkesteto**	**43.39**	**55**	P	**P**	**18 58 30.3**	**-0.4**
FCC	**Fort Churchill**	**44.34**	**321**	P	**P**	**18 58 38.0**	**0.0**
	comp=Z,11nm,1.3s						
FCC	**Fort Churchill**	**44.34**	**321**	P	**P**	**18 58 38.0**	**0.0**
	comp=Z,11nm,1.3s						
KWP	**Kalwaria Pacla**	**45.13**	**52**	P	**P**	**18 58 46.6**	**+2.1**
	comp=Z,5.0nm,0.4s						
KWP	**Kalwaria Pacla**	**45.13**	**52**	P	**P**	**18 58 46.6**	**+2.1**
	comp=Z,5.0nm,0.4s						
ULM	**Lac du Bonnet**	**45.15**	**309**	P	**P**	**18 58 43.8**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=96,slow=6.9,SNR=3.9						
MIAR	**Mount Ida**	**46.34**	**287**	*e*P	**P**	**18 58 54.1**	**-0.1**
	comp=Z,26nm,1.6s						
MIAR	**Mount Ida**	**46.34**	**287**	*e*P	**P**	**18 58 54.1**	**-0.1**
	comp=Z,26nm,1.6s						
BUR04	**Bucovina Ar. S**	**46.99**	**55**	*e*P	**P**	**18 59 00.8**	**+1.5**
BUR04	**Bucovina Ar. S**	**46.99**	**55**	*e*P	**P**	**18 59 00.8**	**+1.5**
H10N2	**ASCENSION HYDR**	**47.27**	**150**	T	T	19 49 13.9	
	baz=335,slow=75,SNR=58						
H10N3	**ASCENSION HYDR**	**47.27**	**150**	T	T	19 49 14.3	
	baz=335,slow=75,SNR=57						
H10N1	**ASCENSION HYDR**	**47.29**	**150**	T	T	19 49 15.3	
	baz=335,slow=75,SNR=45						
H10S1	**ASCENSION HYDR**	**48.21**	**150**	T	T	19 50 32.3	
	baz=336,slow=75,SNR=82						
H10S3	**ASCENSION HYDR**	**48.21**	**150**	T	T	19 50 26.6	
	baz=336,slow=75,SNR=87						
H10S2	**ASCENSION HYDR**	**48.22**	**150**	T	T	19 50 27.6	
	baz=336,slow=75,SNR=68						
RES	**Resolute Bay**	**48.49**	**342**	*e*P	**P**	**18 59 12.1**	**+1.7**
RES	**Resolute Bay**	**48.49**	**342**	*e*P	**P**	**18 59 12.1**	**+1.7**
FFC	**Flin Flon**	**48.59**	**315**	*e*P	**P**	**18 59 11.8**	**+0.3**
	comp=Z,27nm,2.3s						
FFC	**Flin Flon**	**48.59**	**315**	*e*P	**P**	**18 59 11.8**	**+0.3**
	comp=Z,27nm,2.3s						
KIEV	**Kiev**	**49.18**	**50**	*e*P	**P**	**18 59 16.2**	**+0.2**
	comp=Z,11nm,1.1s						
KIEV	**Kiev**	**49.18**	**50**	*e*P	**P**	**18 59 16.2**	**+0.2**
	comp=Z,11nm,1.1s						
AKASG	**Malin Array Be**	**49.19**	**50**	P	**P**	**18 59 16.2**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=276,slow=7.2,SNR=12						
WMOK	**Wichita Mounta**	**50.36**	**289**	*e*P	**P**	**18 59 25.2**	**-0.1**
	comp=Z,6.5nm,0.8s						
WMOK	**Wichita Mounta**	**50.36**	**289**	*e*P	**P**	**18 59 25.2**	**-0.1**
	comp=Z,6.5nm,0.8s						
OTAV	**Otavalo**	**52.08**	**238**	*e*P	**P**	**18 59 40.0**	**+1.0**
	comp=Z,20nm,1.7s						
OTAV	**Otavalo**	**52.08**	**238**	*e*P	**P**	**18 59 40.0**	**+1.0**
	comp=Z,20nm,1.7s						
LAO	**LASA Array**	**52.49**	**306**	*e*P	**P**	**18 59 40.6**	**-0.5**
	comp=Z,7.8nm,0.6s						
LAO	**LASA Array**	**52.49**	**306**	*e*P	**P**	**18 59 40.6**	**-0.5**
	comp=Z,7.8nm,0.6s						
JCT	**Junction City**	**52.67**	**284**	*e*P	**P**	**18 59 41.4**	**-1.3**
	comp=Z,9.3nm,1.0s						
JCT	**Junction City**	**52.67**	**284**	*e*P	**P**	**18 59 41.4**	**-1.3**
	comp=Z,9.3nm,1.0s						
BR231	**Keskin MP Arra**	**54.09**	**63**	*e*P	P	18 59 56.6	+3.6
YKA	**Yellowknife Ar**	**54.38**	**326**	P	**P**	**18 59 55.2**	**+0.6**
	comp=Z,1.1nm,1.0s,baz=83,slow=6.8,SNR=11						
YKB5	**Yellowknife Ar**	**54.38**	**326**	*e*P	**P**	**18 59 54.5**	**-0.1**
YKB5	**Yellowknife Ar**	**54.38**	**326**	*e*P	**P**	**18 59 54.5**	**-0.1**
BRTR	**Keskin Array B**	**54.75**	**63**	P	**P**	**18 59 59.3**	**+1.4**
	comp=Z,3.3nm,1.1s,baz=284,slow=5.8,SNR=9.6						
BW06	**Boulder Array**	**55.84**	**302**	*e*P	**P**	**19 00 04.9**	**-0.9**
BW06	**Boulder Array**	**55.84**	**302**	*e*P	**P**	**19 00 04.9**	**-0.9**
PDAR	**Pinedale Array**	**55.84**	**302**	P	**P**	**19 00 05.3**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=81,slow=9.3,SNR=7.5						
TXAR	**Lajitas Array**	**56.20**	**284**	P	**P**	**19 00 08.2**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=90,slow=6.9,SNR=12						
TX31	**Lajitas Ar. Si**	**56.20**	**285**	*e*P	**P**	**19 00 07.7**	**-0.8**
TX31	**Lajitas Ar. Si**	**56.20**	**285**	*e*P	**P**	**19 00 07.7**	**-0.8**
MVCO	**Mesa Verde**	**56.93**	**295**	*e*P	**P**	**19 00 13.5**	**-0.2**
	comp=Z,12nm,1.4s						
MVCO	**Mesa Verde**	**56.93**	**295**	*e*P	**P**	**19 00 13.5**	**-0.2**
	comp=Z,12nm,1.4s						
LPAZ	**La Paz**	**59.04**	**216**	P	**P**	**19 00 30.9**	**+1.9**
	comp=Z,2.9nm,1.0s,baz=3.5,slow=8.6,SNR=4.4						
LPAZ	**La Paz**	**59.04**	**216**	*e*P	**P**	**19 00 27.8**	**-1.2**
	comp=Z,3.5nm,0.9s						
LPAZ	**La Paz**	**59.04**	**216**	*e*P	**P**	**19 00 27.8**	**-1.2**
	comp=Z,3.5nm,0.9s						
NEW	**Newport**	**59.15**	**310**	LR	LR	19 25 17.3	
	comp=Z,132nm,20.3s,baz=70,slow=35						
NEW	**Newport**	**59.15**	**310**	P	**P**	**19 00 26.8**	**-2.0**
NEW	**Newport**	**59.15**	**310**	P	**P**	**19 00 26.8**	**-2.0**
KBZ	**Khabaz**	**59.94**	**55**	P	**P**	**19 00 36.3**	**+2.1**
	comp=Z,4.8nm,0.9s,baz=297,slow=6.3,SNR=13						
ELK	**Elko**	**60.52**	**301**	LR	LR	19 27 15.0	
	comp=Z,77nm,18.6s,baz=0.0,slow=36						
PINOR	**Pine Mountain**	**63.20**	**306**	*e*P	**P**	**19 00 58.1**	**+1.9**
	comp=Z,21nm,0.5s						
PINOR	**Pine Mountain**	**63.20**	**306**	*e*P	**P**	**19 00 58.1**	**+1.9**
	comp=Z,21nm,0.5s						
NV01	**Mina Array Sit**	**63.62**	**300**	*e*P	**P**	**19 00 58.6**	**-0.9**
NV01	**Mina Array Sit**	**63.62**	**300**	*e*P	**P**	**19 00 58.6**	**-0.9**
NVAR	**Mina Array Bea**	**63.62**	**300**	P	**P**	**19 00 57.1**	**-2.3**
	comp=Z,0.8nm,0.8s,baz=81,slow=7.5,SNR=6.1						
K05A	**Summer Lake**	**63.65**	**305**	*e*P	**P**	**19 01 00.3**	**+0.8**
	comp=Z,14nm,1.3s						
K05A	**Summer Lake**	**63.65**	**305**	*e*P	**P**	**19 01 00.3**	**+0.8**
	comp=Z,14nm,1.3s						
DAC	**Darwin (Calif)**	**64.01**	**297**	*e*P	**P**	**19 00 59.7**	**-2.4**
	comp=Z,7.3nm,1.3s						
DAC	**Darwin (Calif)**	**64.01**	**297**	*e*P	**P**	**19 00 59.6**	**-2.4**
	comp=Z,7.3nm,1.3s						
LVC	**Limon Verde**	**64.87**	**213**	P	**P**	**19 01 05.9**	**-1.8**
LVC	**Limon Verde**	**64.87**	**213**	P	**P**	**19 01 06.0**	**-1.8**
YBH	**Yreka Blue Hor**	**65.29**	**305**	LR	LR	19 29 18.9	
	comp=Z,79nm,20.6s,baz=22,slow=36						
DOT	**Dot Lake**	**66.53**	**332**	P	**P**	**19 01 16.9**	**-0.8**
	comp=Z,25nm,1.4s						
DOT	**Dot Lake**	**66.53**	**332**	P	**P**	**19 01 16.9**	**-0.8**
	comp=Z,25nm,1.4s						
ILAR	**Eielson Array**	**66.98**	**334**	P	**P**	**19 01 22.6**	**+2.1**
	comp=Z,0.5nm,0.8s,baz=52,slow=5.8,SNR=6.5						
IPIR	**Pirpir**	**70.32**	**63**	*e*P	**P**	**19 01 40.3**	**-2.0**
IPIR	**Pirpir**	**70.32**	**63**	*e*P	**P**	**19 01 40.3**	**-2.0**
IZEF	**Zefreh**	**71.27**	**63**	*e*P	**P**	**19 01 45.6**	**-2.5**
IZEF	**Zefreh**	**71.27**	**63**	*e*P	**P**	**19 01 45.6**	**-2.5**
IKAZ	**Kazeroun**	**72.47**	**66**	*e*P	**P**	**19 01 53.9**	**-1.5**
IKAZ	**Kazeroun**	**72.47**	**66**	*e*P	**P**	**19 01 53.9**	**-1.5**
GEYT	**Alibeck**	**72.83**	**56**	P	**P**	**19 01 56.0**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=344,slow=4.8,SNR=2.8						
IPAR	**Pars**	**73.34**	**65**	*e*P	**P**	**19 02 00.3**	**-0.2**
IPAR	**Pars**	**73.34**	**65**	*e*P	**P**	**19 02 00.3**	**-0.2**
IMEH	**Mehriz**	**73.70**	**63**	*e*P	P	19 01 57.5	-5.1
H09W1	**TRISTAN DA CUN**	**75.02**	**160**	T	T	20 24 05.6	
	SNR=7.9						
KMBO	**Kilima Mbogo**	**77.38**	**100**	P	**P**	**19 02 25.1**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=322,slow=6.4,SNR=4.6						
KMBO	**Kilima Mbogo**	**77.38**	**100**	P	**P**	**19 02 24.8**	**+1.0**
KMBO	**Kilima Mbogo**	**77.38**	**100**	P	**P**	**19 02 24.8**	**+1.0**
KURK	**Kurchatov**	**77.49**	**36**	P	**P**	**19 02 24.3**	**+0.7**
KURK	**Kurchatov**	**77.49**	**36**	P	**P**	**19 02 24.3**	**+0.7**
MKAR	**Makanchi Array**	**81.92**	**37**	P	**P**	**19 02 48.0**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=336,slow=5.4,SNR=5.7						
MK01	**Makanchi Array**	**81.94**	**37**	*e*P	**P**	**19 02 48.0**	**+0.2**
MK01	**Makanchi Array**	**81.94**	**37**	*e*P	**P**	**19 02 48.0**	**+0.2**
KSH	**Kashi**	**83.30**	**46**	*e*P	**P**	**19 02 54.3**	**-0.9**
KSH				sP	**sP**	**19 03 00.6**	**-2.1**
KSH				PP	**PP**	**19 06 07.1**	**+0.8**
KSH				S	**S**	**19 13 10.9**	**-4.4**
KSH				SS	**SS**	**19 18 39.0**	**-0.3**
KSH				PMZ			
	comp=Z,4.0nm,1.0s						
KSH				LN			
	comp=Z,39nm,4.4s						
KSH				LE			
	comp=Z,63nm,4.0s						
KSH				LZ			
	comp=Z,140nm,5.2s						
WMQ	**Urumqi**	**86.72**	**37**	*e*P	**P**	**19 03 11.6**	**-0.6**
WMQ				pP	**pP**	**19 03 16.4**	**-1.3**
WMQ				PMZ			
	comp=Z,100nm,4.5s						
WMQ				LN			
	comp=Z,25nm,20.0s						
WMQ				LE			
	comp=Z,41nm,20.0s						
WMQ				LZ			
	comp=Z,36nm,22.0s						
LSA	**Lhasa**	**99.05**	**44**	*e*P	**Pdif**	**19 04 17.1**	**+7.1**
	comp=Z,5.3nm,1.1s						
HHC	**Hu-ho-hao-te**	**99.17**	**24**	*e*P	**Pdif**	**19 04 07.0**	**-2.9**
HHC				sP	**sP**	**19 04 16.3**	**-1.1**
HHC				PP	**PP**	**19 08 10.6**	**-0.7**
HHC				SKS	**SKSac**	**19 14 47.1**	**-0.6**
HHC				S	**S**	**19 15 35.8**	**-4.9**
HHC				PMZ			
	comp=Z,36nm,1.5s						
HHC				PMZ			
	comp=Z,100nm,9.1s						
HHC				LN			
	comp=Z,130nm,19.1s						
HHC				LE			
	comp=Z,210nm,19.0s						
HHC				LZ			
	comp=Z,130nm,19.6s						
LZH	**Lanzhou**	**100.36**	**32**	*e*P	**Pdif**	**19 04 16.5**	**+1.2**
LZH				pP	pP	19 04 19.8	-1.1
LZH				PP	**PP**	**19

comp=E,18nm,0.5s
KOLN Koldanda 12.29 138 *e*P **Pn 19 09 00.8 -0.5**
comp=E,11nm,0.5s
GKN Gorkha 12.68 134 *e*P **Pn 19 09 04.6 -2.0**
comp=E,12nm,0.5s
GEYT Alibeck 12.91 278 Pn **Pn 19 09 09.1 -0.6**
comp=E,0.8nm,0.3s,baz=104,slow=10,SNR=15
GEYT Sn **Sn 19 11 32.6 -0.8**
comp=E,0.2nm,0.3s,baz=89,slow=15,SNR=3.9
KKN Kakani 13.21 133 *e*P **Pn 19 09 11.4 -2.5**
comp=E,10nm,0.6s
DMN Daman 13.25 134 *e*P **Pn 19 09 12.7 -1.8**
comp=E,11nm,0.7s
PKIN Phulchoki 13.44 133 *e*P **Pn 19 09 16.1 -1.0**
comp=E,5.4nm,0.4s
PKI Pulchoki 13.45 133 *e*P **Pn 19 09 16.2 -1.1**
comp=E,15nm,0.8s
GUN Gumba 13.48 131 *e*P **Pn 19 09 15.5 -2.2**
comp=E,6.0nm,0.4s
KURBB Kurchatov Arra 13.62 11 Pn **Pn 19 09 17.3 -1.9**
comp=E,0.0nm,0.3s,baz=199,slow=12,SNR=4.2
KURBB Lg Lg 19 13 14.4
comp=E,0.0nm,0.3s,baz=201,slow=30,SNR=6.2
JIRN Jiri 13.85 131 *e*P **Pn 19 09 20.9 -1.9**
comp=E,12nm,0.4s
TAPN Taplejung 15.01 128 *e*P **Pn 19 09 34.6 -3.9**
BVAR Borovoye Array 15.95 351 Pn **Pn 19 09 50.0 -0.4**
comp=E,0.2nm,0.3s,baz=152,slow=11,SNR=4.7
AKTO Aktyubinsk 17.58 323 Pn **Pn 19 10 10.8 -0.2**
comp=E,0.5nm,0.3s,baz=114,slow=17,SNR=12
AKTO Sn **Sn 19 13 20.6 -6.2**
comp=E,0.1nm,0.3s,baz=223,slow=19,SNR=4.1
ZALV Zalesovo Beam 18.12 20 P **Pn 19 10 14.8 -2.9**
comp=E,0.4nm,0.3s,baz=206,slow=9.6,SNR=8.1
GTA Gaotai 20.03 76 *e*P **P 19 10 39.6 +0.4**
GTA pP **pP 19 10 43.5 +1.4**
GTA sP **sP 19 10 46.8 +3.4**
GTA PMZ
comp=E,3.0nm,1.0s
GNI Garni 23.25 286 P **P 19 11 16.9 +3.3**
comp=E,1.3nm,0.4s,baz=313,slow=18,SNR=2.5
KBZ Khabaz 24.68 295 P **P 19 11 28.1 +1.2**
comp=E,1.1nm,0.9s,baz=153,slow=6.8,SNR=2.8
SONM Songino Array 25.63 56 P **P 19 11 34.8 -1.0**
comp=E,1.0nm,0.6s,baz=260,slow=8.5,SNR=14
SONM LR LR 19 23 26.1
comp=E,41nm,18.3s,baz=132,slow=41
CMAR Chiang Mai Arr 28.57 124 P P 19 12 06.0 +3.7
comp=E,0.3nm,0.6s,baz=309,slow=10,SNR=4.1
BRTR Keskin Array B 31.78 287 P **P 19 12 32.4 +1.7**
comp=E,0.5nm,0.5s,baz=99,slow=9.7,SNR=3.8
FINES FINESS Array B 38.35 325 P **P 19 13 27.5 +0.7**
comp=E,0.8nm,0.4s,baz=120,slow=8.2,SNR=6.5
IDI Anoyia 39.58 282 P **P 19 13 38.7 +1.2**
comp=E,0.9nm,0.5s,baz=40,slow=17,SNR=2.6
ARCES ARCESS Array B 41.45 336 P **P 19 13 52.7 +0.2**
comp=E,1.5nm,0.5s,baz=110,slow=7.1,SNR=8.7
NOA NORSAR Array B 45.37 322 P **P 19 14 22.5 -1.8**
comp=E,0.5nm,0.8s,baz=94,slow=7.6,SNR=2.6
TORD Torodi Ar. Bea 68.44 270 P **P 19 17 08.2 -0.4**
comp=E,1.0nm,0.8s,baz=42,slow=6.0,SNR=6.7
WRA Warramunga Arr 80.17 124 P **P 19 18 15.4 -1.3**
comp=E,0.3nm,0.8s,baz=328,slow=5.1,SNR=4.2
ASAR Alice Springs 82.54 127 P **P 19 18 30.1 +0.9**
comp=E,0.3nm,0.8s,baz=310,slow=4.5,SNR=4.0

*IDC **23** 19:08:38.7±0.6, 34°.70N×36°.61W, h0km, mb4.3/28, mb1 4.4/28, mb1mx4.3/43, mbtmp4.3/28, MS3.8/36, Ms1 3.8/36, ms1mx3.7/50, Error ellipse: s-maj=17.1km s-min=11.7km az=178.0*
*ISCJB **23** 19:08:39.3±0.4, 34°.74N±0°.08×36°.66W±0°.05, h13km, mb4.4/71, MS3.8/36, Error ellipse: s-maj=11.2km s-min=5.3km az=173.6*
*NEIC **23** 19:08:40.5±0.3, 34°.75N×36°.62W, h10km, mb4.6/26, Error ellipse: s-maj=8.1km s-min=4.3km az=177.0*
*CSEM **23** 19:08:40.6±0.1, 34°.77N×36°.65W, h10km, mb4.5/43, Ms3.8, Mw4.8, Error ellipse: s-maj=9.0km s-min=4.4km az=174.0*
*GCMT **23** 19:08:40.5±0.3, 34°.78N×36°.67W, h12km, MW4.8/71, Moment Tensor Solution. s11,c14; s71,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.69±.07; $M_{\theta\theta}$0.47±.07; $M_{\phi\phi}$1.22±.05; $M_{r\theta}$0.35±.35; $M_{\phi\theta}$0.76±.05; $M_{\phi r}$-0.03±.21; Best double couple: $M_0$1.72900×10^{16} NP1:ϕ_s222.00000°, δ49.00000°, λ-77.00000°. NP2: ϕ_s22.00000°, δ43.00000°, λ-105.00000°. Principal axes: T 1.7050, Plg3.0000°, Azm302.0000°; N 0.0500, Plg10.0000°, Azm33.0000°; P -1.7530, Plg80.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **23** 19:08:41.5, 34°.48N×36°.73W, h37km, mb4.6/4*
*SZGRF **23** 19:08:45.9, 34°.72N×36°.30W, h33km, mb4.5, MS3.8, Northern Mid-Atlantic Ridge*
ISC 23 19:08:40.9±0.5, 34°.71N±0°.09×36°.64W±0°.07, h13km, n170, σ0°.82/148, mb4.5/71, MS3.9/38, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**26.41**	**70**	P		**P**	**19 14 17.2**	**0.0**
ESDC	0.8nm,0.8s,baz=273,slow=9.5,SNR=3.8				LR	LR	19 22 44.1	
	comp=Z,89nm,19.3s,baz=240,slow=32							
MDT	**Midelt**	**26.63**	**85**	LR		LR	19 22 44.0	
	comp=Z,234nm,19.6s,baz=288,slow=32							
BBTS	**Babate**	**26.96**	**133**	LR		LR	19 22 08.9	
	comp=Z,424nm,20.6s,baz=334,slow=30							
SCHQ	**Schefferville**	**29.04**	**323**	P		**P**	**19 14 40.2**	**-0.3**
	1.2nm,0.6s,baz=112,slow=16,SNR=3.6							
SCHQ					LR	LR	19 24 52.1	
	comp=Z,368nm,21.9s,baz=90,slow=34							
TCF	**Toulx Ste Croi**	**31.42**	**57**	*e*P		**P**	**19 15 02.1**	**+0.3**
	7.7nm,0.8s							
TCF	**Toulx Ste Croi**	**31.42**	**57**	*e*P		**P**	**19 15 02.1**	**+0.3**
	7.7nm,0.8s							
TCF	**Toulx Ste Croi**	**31.42**	**57**	*e*P		**P**	**19 15 02.1**	**+0.3**
	7.7nm,0.8s							
SFJD	**Kangerlussuaq**	**33.34**	**350**	P		**P**	**19 15 16.7**	**-1.5**
	16nm,1.1s							
SFJD	**Kangerlussuaq**	**33.34**	**350**	P		**P**	**19 15 16.7**	**-1.5**
	16nm,1.1s							
BAIF	**Baives**	**33.38**	**50**	*e*P		**P**	**19 15 18.2**	**-0.6**
	32nm,1.0s							
BAIF	**Baives**	**33.38**	**50**	*e*P		**P**	**19 15 18.2**	**-0.6**
	32nm,1.0s							
BAIF	**Baives**	**33.38**	**50**	*e*P		**P**	**19 15 18.2**	**-0.6**
	32nm,1.0s							
MEZF	**Maizieres J'vi**	**33.65**	**53**	*e*P		**P**	**19 15 21.0**	**-0.2**
	18nm,0.9s							
MEZF	**Maizieres J'vi**	**33.65**	**53**	*e*P		**P**	**19 15 21.0**	**-0.2**
	18nm,0.9s							
MEZF	**Maizieres J'vi**	**33.65**	**53**	*e*P		**P**	**19 15 21.0**	**-0.2**
	18nm,0.9s							
GIVF	**Givet**	**33.77**	**50**	*e*P		**P**	**19 15 21.6**	**-0.6**
	14nm,0.8s							
GIVF	**Givet**	**33.77**	**50**	*e*P		**P**	**19 15 21.6**	**-0.6**
	14nm,0.8s							
GIVF	**Givet**	**33.77**	**50**	*e*P		**P**	**19 15 21.6**	**-0.6**
	14nm,0.8s							
SADO	**Sadowa**	**33.85**	**300**	LR		LR	19 26 55.3	
	comp=Z,153nm,21.1s,baz=96,slow=32							
HAU	**Haudompre**	**34.44**	**54**	*e*P		**P**	**19 15 27.8**	**-0.3**
	9.3nm,0.8s							
HAU	**Haudompre**	**34.44**	**54**	*e*P		**P**	**19 15 27.8**	**-0.3**
	9.3nm,0.8s							
HAU	**Haudompre**	**34.44**	**54**	*e*P		**P**	**19 15 27.8**	**-0.3**
	9.3nm,0.8s							
WLF	**Walferdange**	**34.54**	**51**	*e*P		**P**	**19 15 29.3**	**+0.4**
	comp=Z,22nm,1.4s							
WLF	**Walferdange**	**34.54**	**51**	*e*P		**P**	**19 15 29.3**	**+0.4**
	comp=Z,22nm,1.4s							
FRB	**Frobisher Bay**	**35.04**	**336**	LR		LR	19 28 14.0	
	comp=Z,78nm,20.3s,baz=130,slow=34							
CDF	**Champ du Feu**	**35.10**	**53**	*e*P		**P**	**19 15 33.5**	**-0.4**
	comp=Z,19nm,1.1s							
CDF	**Champ du Feu**	**35.10**	**53**	*e*P		**P**	**19 15 33.5**	**-0.4**
	comp=Z,19nm,1.1s							
CDF	**Champ du Feu**	**35.10**	**53**	*e*P		**P**	**19 15 33.5**	**-0.4**
	comp=Z,19nm,1.1s							
TNS	**Taunus Mts**	**36.09**	**51**	*e*P		**P**	**19 15 43.9**	**+1.6**
	comp=Z,18nm,1.5s							
TNS	**Taunus Mts**	**36.09**	**51**	*e*P		**P**	**19 15 43.9**	**+1.6**
	comp=Z,18nm,1.5s							
STU	**Stuttgart**	**36.41**	**53**	*e*P		**P**	**19 15 45.5**	**+0.5**
	comp=Z,16nm,0.6s							
STU	**Stuttgart**	**36.41**	**53**	*e*P		**P**	**19 15 45.5**	**+0.5**
	comp=Z,16nm,0.6s							
KEST	**Kesra**	**37.31**	**75**	LR		LR	19 28 56.8	
	comp=Z,20nm,20.2s,baz=298,slow=33							
NRDL	**Niedersach Rie**	**37.47**	**47**	*e*P		**P**	**19 15 54.8**	**+1.0**
	comp=Z,18nm,1.3s							
NRDL	**Niedersach Rie**	**37.47**	**47**	*e*P		**P**	**19 15 54.8**	**+1.0**
	comp=Z,18nm,1.3s							
CLZ	**Clausthal**	**37.53**	**48**	*e*P		**P**	**19 15 54.9**	**+0.4**
	comp=Z,14nm,1.0s							
CLZ	**Clausthal**	**37.53**	**48**	*e*P		**P**	**19 15 54.9**	**+0.4**
	comp=Z,14nm,1.0s							
GRA1	**Grafenberg Arr**	**37.81**	**52**	*e*P		**P**	**19 15 56.8**	**-0.1**
	comp=Z,7.0nm,0.7s							
GRF	**Grafenberg Arr**	**37.81**	**52**	*e*P		**P**	**19 15 56.8**	**-0.1**
	comp=Z,7.0nm,0.7s							
GRF				*e*L		L	19 28 11.1	
	comp=Z,122nm,21.5s							
BSEG	**Bad Segeberg**	**37.85**	**45**	*e*P		**P**	**19 15 57.4**	**+0.3**
	comp=Z,25nm,0.8s							
BSEG	**Bad Segeberg**	**37.85**	**45**	*e*P		**P**	**19 15 57.4**	**+0.3**
	comp=Z,25nm,0.8s							
SUMG	**Summit**	**37.95**	**359**	*i* P		**P**	**19 15 58.4**	**+0.2**
	comp=Z,7.5nm,0.9s							
SUMG	**Summit**	**37.95**	**359**	*e*P		**P**	**19 15 58.2**	**0.0**
	comp=Z,19nm,1.2s							
SUMG	**Summit**	**37.95**	**359**	*e*P		**P**	**19 15 58.2**	**0.0**
	comp=Z,19nm,1.2s							
MOX	**Moxa**	**38.15**	**50**	*e*P		**P**	**19 16 00.1**	**+0.3**
	comp=Z,7.0nm,1.2s							
MOX				*e*L		L	19 28 23.7	
	comp=Z,208nm,21.3s							
MOX	**Moxa**	**38.15**	**50**	*e*P		**P**	**19 16 00.1**	**+0.3**
	comp=Z,7.0nm,1.2s							
TKL	**Tuckaleechee C**	**38.25**	**285**	P		**P**	**19 16 02.6**	**+1.8**
	comp=Z,5.8nm,0.7s,baz=99,slow=6.8,SNR=4.5							
TKL				LR		LR	19 29 09.2	
	comp=Z,190nm,18.3s,baz=56,slow=32							
TAM	**Tamanrasset**	**38.57**	**96**	*e*P		**P**	**19 16 03.8**	**+0.1**
	comp=Z,11nm,1.4s							
TAM	**Tamanrasset**	**38.57**	**96**	*e*P		**P**	**19 16 03.8**	**+0.1**
	comp=Z,11nm,1.4s							
WET	**Wettzell**	**38.85**	**53**	*e*P		**P**	**19 16 05.6**	**-0.1**
	comp=Z,5.0nm,1.1s							
WET	**Wettzell**	**38.85**	**53**	*e*P		**P**	**19 16 05.6**	**-0.1**
	comp=Z,5.0nm,1.1s							
CLL	**Collm**	**39.09**	**49**	*e*P		**P**	**19 16 07.8**	**+0.2**
	comp=Z,7.0nm,0.9s							
CLL	**Collm**	**39.09**	**49**	*i* P		**P**	**19 16 07.6**	**0.0**
	comp=Z,7.0nm,0.9s							
CLL				*e*PPP		PPP	19 17 58.0	
CLL				*e*S		**S**	**19 22 09.0**	**+2.4**
CLL				LmV			19 29 00.0	
	comp=Z,200nm,21.3s							
CLL	**Collm**	**39.09**	**49**	*e*P		**P**	**19 16 07.8**	**+0.2**
	comp=Z,7.0nm,0.9s							
KHC	**Kasperske Hory**	**39.31**	**53**	*e*P		**P**	**19 16 09.1**	**-0.5**
GEC2	**GERESS Array S**	**39.38**	**53**	*e*P		**P**	**19 16 10.5**	**+0.3**
	comp=Z,4.0nm,0.9s							
GEC2	**GERESS Array S**	**39.38**	**53**	*e*P		**P**	**19 16 10.5**	**+0.3**
	comp=Z,4.0nm,0.9s							
GERES	**GERESS Array B**	**39.38**	**53**	P		**P**	**19 16 10.2**	**0.0**
	comp=Z,1.3nm,0.7s,baz=269,slow=6.9,SNR=13							
GERES				LR		LR	19 30 18.4	
	comp=Z,82nm,19.6s,baz=262,slow=33							
BRG	**Berggiesshubel**	**39.65**	**50**	*e*P		**P**	**19 16 12.4**	**+0.2**
	comp=Z,8.9nm,1.2s							
BRG	**Berggiesshubel**	**39.65**	**50**	*e*P		**P**	**19 16 12.1**	**-0.1**
	comp=Z,9.0nm,1.2s							
BRG	**Berggiesshubel**	**39.65**	**50**	*e*P		**P**	**19 16 12.1**	**-0.1**
	comp=Z,9.0nm,1.2s							
PRA	**Prague**	**39.91**	**51**	*e*P		**P**	**19 16 14.8**	**+0.4**
PRU	**Pruhonice**	**39.98**	**52**	*e*P		**P**	**19 16 15.2**	**+0.2**
PVCC	**Panska Ves**	**40.02**	**51**	*e*P		**P**	**19 16 15.4**	**0.0**
NB2	**NORSAR Subarra**	**40.16**	**34**	P		**P**	**19 16 16.2**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=252,slow=8.6							
NOA	**NORSAR Array B**	**40.16**	**34**	P		**P**	**19 16 16.3**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=253,slow=8.6,SNR=5.3							
NOA				LR		LR	19 30 39.4	
	comp=Z,44nm,18.6s,baz=55,slow=33							
SDV	**Santo Domingo**	**40.37**	**239**	*e*P		**P**	**19 16 20.0**	**+1.2**
	comp=Z,11nm,0.9s							
SDV	**Santo Domingo**	**40.37**	**239**	*e*P		**P**	**19 16 20.0**	**+1.2**
	comp=Z,11nm,0.9s							
DBIC	**Dimbokro**	**40.45**	**126**	P		**P**	**19 16 18.4**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=301,slow=9.6,SNR=4.2							
DBIC				LR		LR	19 30 58.5	
	comp=Z,212nm,20.3s,baz=283,slow=33							
DBIC	**Dimbokro**	**40.45**	**126**	*e*P		**P**	**19 16 18.0**	**-1.2**
	comp=Z,5.7nm,1.2s							
DBIC	**Dimbokro**	**40.45**	**126**	*e*P		**P**	**19 16 18.0**	**-1.2**
	comp=Z,5.7nm,1.2s							
TORD	**Torodi Ar. Bea**	**40.75**	**112**	P		**P**	**19 16 21.1**	**-0.6**
	comp=Z,4.6nm,1.0s,baz=306,slow=7.2,SNR=20							
TORD				LR		LR	19 31 45.9	
	comp=Z,410nm,20.2s,baz=290,slow=34							
UPC	**Upice**	**40.94**	**51**	*e*P		**P**	**19 16 23.4**	**+0.4**
UPC				*ep*P		**pP**	**19 16 28.3**	**+1.3**
DPC	**Dobruska-Polom**	**41.13**	**51**	*e*P		**P**	**19 16 24.7**	**+0.1**
DPC				*ep*P		**pP**	**19 16 29.8**	**+1.1**
WVT	**Waverly**	**41.34**	**287**	*e*P		**P**	**19 16 27.3**	**+0.8**
	comp=Z,8.3nm,1.0s							
WVT	**Waverly**	**41.34**	**287**	*e*P		**P**	**19 16 27.3**	**+0.8**
	comp=Z,8.3nm,1.0s							
OKC	**Ostrava-Krasne**	**42.30**	**52**	*e*P		**P**	**19 16 34.7**	**+0.5**
EYMN	**Ely**	**42.40**	**305**	*e*P		**P**	**19 16 34.5**	**-0.5**
	comp=Z,16nm,1.4s							
EYMN	**Ely**	**42.40**	**305**	*e*P		**P**	**19 16 34.5**	**-0.5**
	comp=Z,16nm,1.4s							
VYHS	**Vyhne**	**42.79**	**54**	*e*P		**P**	**19 16 38.1**	**-0.1**
	comp=Z,6.5nm,1.8s							
VYHS	**Vyhne**	**42.79**	**54**	*e*P		**P**	**19 16 38.1**	**-0.1**
DAG	**Danmarks Havn**	**42.94**	**6**	*i* P		**P**	**19 16 39.3**	**+0.4**
	comp=Z,3.1nm,0.8s							
STHS	**Stebnicka Huta**	**44.33**	**52**	*e*P		**P**	**19 16 52.0**	**+1.4**
	comp=Z,4.3nm,1.0s							
STHS	**Stebnicka Huta**	**44.33**	**52**	*e*P		**P**	**19 16 52.0**	**+1.4**
FCC	**Fort Churchill**	**44.37**	**321**	*e*P		**P**	**19 16 50.8**	**+0.1**
	comp=Z,0.6nm,1.1s							
FCC	**Fort Churchill**	**44.37**	**321**	*e*P		**P**	**19 16 50.8**	**+0.1**
	comp=Z,0.6nm,1.1s							
CRVS	**Cervenica-Dubn**	**44.50**	**53**	*e*P		**P**	**19 16 53.1**	**+1.1**
	comp=Z,15nm,1.4s							
CRVS	**Cervenica-Dubn**	**44.50**	**53**	*e*P		**P**	**19 16 53.1**	**+1.1**
KOLS	**Kolonicke sedl**	**45.04**	**53**	*e*P		**P**	**19 16 57.1**	**+0.9**
	comp=Z,12nm,1.8s							
KOLS	**Kolonicke sedl**	**45.04**	**53**	*e*P		**P**	**19 16 57.1**	**+0.9**
ULM	**Lac du Bonnet**	**45.16**	**309**	P		**P**	**19 16 56.0**	**-1.1**
	comp=Z,5.0nm,0.7s,baz=85,slow=6.8,SNR=11							
ULM				LR		LR	19 35 38.9	
	comp=Z,122nm,18.8s,baz=64,slow=36							
AGMN	**Agassiz Nation**	**45.30**	**306**	*e*P		**P**	**19 16 58.2**	**-0.1**
	comp=Z,5.7nm,0.7s							
AGMN	**Agassiz Nation**	**45.30**	**306**	*e*P		**P**	**19 16 58.2**	**-0.1**
	comp=Z,5.7nm,0.7s							
ROSC	**El Rosal**	**45.79**	**238**	LR		LR	19 33 19.4	
	comp=Z,160nm,21.3s,baz=32,slow=32							
MIAR	**Mount Ida**	**46.29**	**287**	*e*P		**P**	**19 17 06.4**	**+0.1**
	comp=Z,14nm,1.3s							
MIAR	**Mount Ida**	**46.29**	**287**	*e*P		**P**	**19 17 06.4**	**+0.1**
	comp=Z,14nm,1.3s							
ECSD	**EROS Data Cent**	**46.42**	**300**	*e*P		**P**	**19 17 06.8**	**-0.4**
	comp=Z,7.3nm,1.1s							
ECSD	**EROS Data Cent**	**46.42**	**300**	*e*P		**P**	**19 17 06.8**	**-0.4**
	comp=Z,7.3nm,1.1s							
H10N2	**ASCENSION HYDR**	**47.21**	**149**	T		T	20 07 24.1	
	baz=335,slow=75,SNR=45							
H10N3	**ASCENSION HYDR**	**47.22**	**149**	T		T	20 07 24.6	
	baz=335,slow=75,SNR=43							
H10N1	**ASCENSION HYDR**	**47.23**	**149**	T		T	20 07 26.4	
	baz=335,slow=75,SNR=50							
FINES	**FINESS Array B**	**47.27**	**36**	P		**P**	**19 17 12.6**	**-0.9**
	comp=Z,3.8nm,0.9s,baz=290,slow=4.0,SNR=6.8							
FINES				LR		LR	19 35 19.5	
	comp=Z,56nm,19.1s,baz=304,slow=34							
TEIG	**Tepich**	**47.55**	**266**	LR		LR	19 36 39.7	
	comp=Z,141nm,18.3s,baz=114,slow=35							
MDND	**Maddock**	**47.84**	**306**	*e*P		**P**	**19 17 17.9**	**-0.3**
	comp=Z,4.7nm,0.9s							
MDND	**Maddock**	**47.84**	**306**	*e*P		**P**	**19 17 17.9**	**-0.3**
	comp=Z,4.7nm,0.9s							
H10S1	**ASCENSION HYDR**	**48.15**	**150**	T		T	20 08 39.2	
	baz=336,slow=75,SNR=54							
H10S3	**ASCENSION HYDR**	**48.15**	**150**	T		T	20 08 40.7	
	baz=336,slow=75,SNR=55							
H10S2	**ASCENSION HYDR**	**48.17**	**150**	T		T	20 08 41.6	
	baz=336,slow=75,SNR=48							
ARCES	**ARCESS Array B**	**48.24**	**25**	P		**P**	**19 17 20.8**	**-0.1**
	comp=Z,4.9nm,0.8s,baz=294,slow=8.8,SNR=4.2							
RES	**Resolute Bay**	**48.57**	**342**	P		**P**	**19 17 23.8**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=107,slow=6.8,SNR=27							
FFC	**Flin Flon**	**48.61**	**315**	*e*P		**P**	**19 17 23.9**	**-0.2**
	comp=Z,7.3nm,1.1s							
FFC	**Flin Flon**	**48.61**	**315**	*e*P		**P**	**19 17 23.9**	**-0.2**
	comp=Z,7.3nm,1.1s							
AKASG	**Malin Array Be**	**49.33**	**50**	P		**P**	**19 17 28.9**	**-0.7**
	comp=Z,8.2nm,0.8s,baz=272,slow=7.7,SNR=15							
AKASG				LR		LR	19 35 43.6	
	comp=Z,104nm,21.8s,baz=270,slow=33							
IDI	**Anoyia**	**49.66**	**71**	P		**P**	**19 17 34.5**	**+2.1**
	comp=Z,0.7nm,0.4s,baz=270,slow=12,SNR=2.9							
WMOK	**Wichita Mounta**	**50.31**	**289**	*e*P		**P**	**19 17 36.5**	**-0.9**
	comp=Z,7.0nm,0.9s							
WMOK	**Wichita Mounta**	**50.31**	**289**	*e*P		**P**	**19 17 36.5**	**-0.9**
	comp=Z,7.0nm,0.9s							
JCT	**Junction City**	**52.62**	**284**	*e*P		**P**	**19 17 54.3**	**-0.4**
	comp=Z,9.9nm,0.9s							
JCT	**Junction City**	**52.62**	**284**	*e*P		**P**	**19 17 54.4**	**-0.4**
	comp=Z,9.9nm,0.9s							
OBN	**Obninsk**	**53.08**	**43**	LR		LR	19 38 49.1	
	comp=Z,149nm,19.6s,baz=271,slow=34							
ISCO	**Idaho Springs**	**53.91**	**297**	*e*P		**P**	**19 18 04.3**	**-0.1**
	comp=Z,1.8nm,0.7s							
ISCO	**Idaho Springs**	**53.91**	**297**	*e*P		**P**	**19 18 04.3**	**-0.1**
	comp=Z,1.8nm,0.7s							
YKA	**Yellowknife Ar**	**54.42**	**326**	P		**P**	**19 18 07.6**	**+0.3**
	comp=Z,3.2nm,0.9s,baz=82,slow=7.2,SNR=29							
CMIG	**Matias Romero**	**54.53**	**267**	LR		LR	19 39 16.4	
	comp=Z,95nm,19.5s,baz=10.0,slow=34							
BRTR	**Keskin Array B**	**54.88**	**63**	P		**P**	**19 18 11.2**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=291,slow=5.2,SNR=9.4							
BRTR				LR		LR	19 40 00.7	
	comp=Z,45nm,20.4s,baz=298,slow=34							
PDAR	**Pinedale Array**	**55.83**	**302**	P		**P**	**19 18 17.6**	**-0.6**
	comp=Z,3.5nm,1.0s,baz=70,slow=8.7,SNR=10							
PDAR				LR		LR	19 41 21.9	
	comp=Z,143nm,21.8s,baz=78,slow=35							
TXAR	**Lajitas Array**	**56.15**	**285**	P		**P**	**19 18 21.0**	**+0.5**
	comp=Z,4.9nm,0.8s,baz=92,slow=7.2,SNR=23							
TXAR				LR		LR	19 41 25.1	
	comp=Z,217nm,19.1s,baz=0.0,slow=35							
ATAH	**Atahualpa**	**57.32**	**232**	LR		LR	19 41 00.2	
	comp=Z,46nm,20.2s,baz=37,slow=34							
LPAZ	**La Paz**	**58.89**	**216**	P		**P**	**19 18 41.5**	**+1.1**
	comp=Z,4.1nm,0.9s,baz=14,slow=7.5,SNR=9.8							
LPAZ				LR		LR	19 41 59.4	
	comp=Z,66nm,21.5s,baz=346,slow=34							
NEW	**Newport**	**59.15**	**310**	*e*P		**P**	**19 18 39.8**	**-1.5**
NEW	**Newport**	**59.15**	**310**	*e*P		**P**	**19 18 39.8**	**-1.5**
MSKU	**Masuku**	**59.32**	**117**	LR		LR	19 41 49.3	
	comp=Z,223nm,21.3s,baz=5.0,slow=34							
WUAZ	**Wupatki**	**59.68**	**294**	*e*P		**P**	**19 18 46.1**	**+0.8**
WUAZ	**Wupatki**	**59.68**	**294**	*e*P		**P**	**19 18 46.1**	**+0.8**
KBZ	**Khabaz**	**60.07**	**55**	P		**P**	**19 18 48.7**	**+1.1**
	comp=Z,5.2nm,0.9s,baz=311,slow=7.6,SNR=16							
NVAR	**Mina Array Bea**	**63.60**	**300**	P		**P**	**19 19 10.7**	**-1.1**
	comp=Z,3.1nm,0.8s,baz=79,slow=6.1,SNR=17							
LPIG	**La Paz**	**63.78**	**282**	LR		LR	19 45 06.0	
	comp=Z,67nm,18.7s,baz=36,slow=34							
PFO	**Pinyon Flats O**	**64.29**	**294**	*e*P		**P**	**19 19 17.6**	**+1.4**
	comp=Z,6.6nm,1.0s							
PFO	**Pinyon Flats O**	**64.29**	**294**	*e*P		**P**	**19 19 17.6**	**+1.4**
	comp=Z,6.6nm,1.0s							
AKTO	**Aktyubinsk**	**66.86**	**44**	P		**P**	**19 19 32.5**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=288,slow=5.5,SNR=16							
AKTO				LR		LR	19 48 14.5	
	comp=Z,99nm,18.5s,slow=36							
ILAR	**Eielson Array**	**67.05**	**334**	P		**P**	**19 19 34.1**	**+0.7**
	comp=Z,5.1nm,0.4s,baz=50,slow=6.4,SNR=11							
ILAR				LR		LR	19 47 36.9	
	comp=Z,93nm,20.6s,baz=128,slow=35							
BVAR	**Borovoye Array**	**72.18**	**37**	P		**P**	**19 20 05.9**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=296,slow=4.8,SNR=9.9							
BVAR				LR		LR	19 52 13.9	
	comp=Z,65nm,18.2s,baz=276,slow=36							
CFAA	**Coronel Fontan**	**72.36**	**208**	LR		LR	19 50 28.1	
	comp=Z,10nm,18.5s,baz=214,slow=35							
GEYT	**Alibeck**	**72.96**	**56**	P		**P**	**19 20 08.5**	**-1.8**

NEIC 80 km [50 miles] E of Midwest.
ISC 23 19:24:09.0±0.6, 43°35N±0'02×105°29W±0'02, h0km, n121, σ1§27/112, 47C-62D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.20**	**286**	⇓P			**Pg**	**19 24 13.6**	**+0.8**
	baz=0.2								
J23A				⇓S			**Sg**	**19 24 15.5**	**+0.2**
	baz=0.2								
J24A	**Dixon Ranch, L**	**0.46**	**92**	⇓P			**Pn**	**19 24 21.0**	**-2.0**
	baz=0.5,SNR=22								
I23A	**Meade Ranch, G**	**0.62**	**349**	⇓P			**Pg**	**19 24 19.9**	**-1.1**
	baz=0.5								
K23A	**Bowen Ranch, D**	**0.64**	**202**	⇑P			**Pn**	**19 24 24.3**	**-1.3**
	baz=0.8								
I24A	**Kuemmerle Ranc**	**0.70**	**43**	⇑P			**Pb**	**19 24 23.1**	**-1.1**
	baz=0.6,SNR=37								
K24A	**Anderson Ranch**	**0.72**	**151**	⇑P			**Pn**	**19 24 26.8**	**+0.2**
	baz=0.9								
K24A				⇑S			**Sn**	**19 24 39.0**	**+0.6**
	baz=0.9								
J22A	**Midwest**	**0.87**	**274**	⇓P			**Pg**	**19 24 25.0**	**-0.6**
	baz=0.8								
I22A	**9 Mile Ranch,**	**1.02**	**302**	⇑P			**Pg**	**19 24 27.4**	**-1.1**
	baz=0.9								
J25A	**Sunshine Ranch**	**1.09**	**87**	⇑P			**Pn**	**19 24 32.7**	**+1.1**
	baz=1.1,SNR=128								
K22A	**Casper**	**1.14**	**233**	⇓P			**Pn**	**19 24 31.9**	**-0.6**
	baz=1.2								
K22A				⇑S			**Sn**	**19 24 48.9**	**+0.1**
	baz=1.2								
K22A	**Casper**	**1.14**	**233**	*e*Pg			**Pn**	**19 24 31.4**	**-1.0**
RSSD	**Black Hills**	**1.19**	**49**	*e*Pg			**Pb**	**19 24 31.7**	**-1.0**
H23A	**Clabaugh Cattl**	**1.21**	**356**	⇑P			**Pg**	**19 24 30.3**	**-2.0**
	baz=1.1,SNR=16								
L23A	**Garrett**	**1.27**	**194**	⇓P			Pn	19 24 35.6	+1.3
	baz=1.4								
L23A				⇓S			Sn	19 24 56.2	+4.1
	baz=1.4								
K25A	**Mack Ranch, Ha**	**1.28**	**125**	⇓P			Pn	19 24 37.4	+3.2
	baz=1.4,SNR=49								
K25A				⇑S			Sn	19 24 57.0	+4.8
	baz=1.4								
I25A	**Rochford**	**1.31**	**59**	⇑P			**Pn**	**19 24 34.4**	**-0.4**
	baz=1.3,SNR=42								
L24A	**Wheatland**	**1.33**	**168**	⇑P			Pn	19 24 37.4	+2.4
	baz=1.5								
L24A				⇓S			Sn	19 24 58.1	+4.6
	baz=1.5								
H22A	**Clearmont**	**1.46**	**329**	⇑P			**Pn**	**19 24 35.3**	**-1.5**
	baz=1.3,SNR=39								
H24A	**Dirks Ranch, A**	**1.50**	**21**	P			**Pn**	**19 24 36.1**	**-1.1**
	baz=1.4,SNR=66								
I21A	**Big Trails, Te**	**1.52**	**288**	⇑P			**Pn**	**19 24 36.1**	**-1.6**
	baz=1.5								
L25A	**Engebretsen Ra**	**1.54**	**140**	⇓Pb			Pb	19 24 42.0	+3.5
	baz=1.7,SNR=45								
L25A				⇑Sb			Sn	19 25 06.3	+7.6
	baz=1.7								
L22A	**Ellis Ranch, M**	**1.56**	**213**	⇑P			**Pg**	**19 24 40.1**	**+1.1**
	baz=1.7								
L22A				⇓S			**Sn**	**19 25 03.0**	**+3.6**
	baz=1.7								
J21A	**Lysite**	**1.57**	**271**	⇓P			**Pn**	**19 24 37.7**	**-0.7**
	baz=1.6								
J21A				⇓S			**Sn**	**19 24 58.8**	**-0.7**
	baz=1.6								
K21A	**Alcova**	**1.60**	**244**	⇓P			**Pg**	**19 24 39.6**	**-0.1**
	baz=1.7								
K21A				⇑S			**Sg**	**19 25 01.5**	**+0.9**
	baz=1.7								
J26A	**Sides Ranch, S**	**1.62**	**91**	⇑Pb			Pg	19 24 41.8	+1.8
	baz=1.6,SNR=19								
J26A				⇓Sg			Sg	19 25 06.4	+5.4
	baz=1.6								
K26A	**Motz Farm, Whi**	**1.68**	**112**	⇑Pb			Pg	19 24 43.7	+2.5
	baz=1.8,SNR=25								
K26A				⇓Sg			Sg	19 25 10.0	+7.0
	baz=1.8								
H25A	**Fruitdale**	**1.76**	**43**	⇓Pb			**Pg**	**19 24 42.4**	**-0.4**
	baz=1.7,SNR=83								
H25A				⇓Sg			**Sg**	**19 25 07.5**	**+1.8**
	baz=1.7								
H21A	**Big Horn, Sher**	**1.79**	**316**	⇓Pb			**Pn**	**19 24 41.0**	**-0.4**
	baz=1.7,SNR=42								
H21A				⇓Sg			**Sn**	**19 25 04.9**	**-0.1**
	baz=1.7								
G23A	**Biddle**	**1.85**	**358**	⇑Pb			**Pn**	**19 24 42.2**	**+0.1**
	baz=1.7,SNR=106								
G23A				⇓Sg			**Sn**	**19 25 07.2**	**+0.9**
	baz=1.7								
I26A	**New Underwood**	**1.89**	**68**	⇓Pb			**Pg**	**19 24 45.7**	**+0.5**
	baz=1.9								
I26A				⇑Sb			**Sg**	**19 25 12.4**	**+2.6**
	baz=1.9								
M23A	**Laramie**	**1.91**	**190**	⇑P			Pg	19 24 46.8	+1.3
	baz=2.1								
M23A				⇓Sb			Sg	19 25 14.6	+4.3
	baz=2.1								
M24A	**Cheyenne**	**1.91**	**169**	⇑Pb			Pg	19 24 48.3	+2.6
	baz=2.1								
G22A	**Birney**	**2.00**	**339**	⇑Pb			**Pn**	**19 24 44.2**	**0.0**
	baz=1.8,SNR=33								
G22A				⇑Sg			**Sn**	**19 25 11.5**	**+1.5**
	baz=1.8								
J20A	**Shoshoni**	**2.04**	**271**	⇓Pb			**Pb**	**19 24 46.5**	**-0.4**
	baz=2.0,SNR=50								
J20A				⇓Sb			**Sb**	**19 25 13.2**	**+0.3**
	baz=2.0								
G24A	**Alzada**	**2.08**	**17**	⇓Pb			**Pb**	**19 24 46.4**	**-1.2**
	baz=1.9								
G24A				⇓Sb			**Sb**	**19 25 13.8**	**-0.1**
	baz=1.9								
L26A	**Underwood Farm**	**2.10**	**128**	⇓Pb			Pg	19 24 51.1	+1.9
	baz=2.2,SNR=25								
L26A				⇓Sb			Sg	19 25 21.6	+5.3
	baz=2.2								
M25A	**Palm-Egli Farm**	**2.12**	**154**	⇓P			Pg	19 24 50.5	+0.8
	baz=2.3,SNR=24								
I20A	**Worland**	**2.14**	**287**	⇓Pb			**Pb**	**19 24 47.4**	**-1.4**
	baz=2.1,SNR=133								
I20A				⇓S			**Sn**	**19 25 14.6**	**+1.1**
	baz=2.1								
M22A	**Cedar Creek Ra**	**2.17**	**207**	⇓Pb			**Pg**	**19 24 51.7**	**+1.0**
	baz=2.3,SNR=134								
H26A	**Fairpoint**	**2.22**	**54**	⇑Pb			**Pg**	**19 24 50.3**	**-1.2**
	baz=2.1								
H20A	**Greybull**	**2.26**	**301**	⇓P			**Pn**	**19 24 47.8**	**+0.1**
	baz=2.2,SNR=65								
H20A				⇓Sb			**Sn**	**19 25 17.3**	**+0.9**
	baz=2.2								
G25A	**Newell**	**2.28**	**36**	⇓Pb			**Pb**	**19 24 50.5**	**-0.6**
	baz=2.2								
G25A				⇓Sb			**Sb**	**19 25 20.7**	**+0.8**
	baz=2.2								
G21A	**Lodge Grass**	**2.32**	**324**	⇑P			**Pn**	**19 24 48.4**	**-0.2**
	baz=2.2,SNR=51								
G21A				⇑Sb			**Sn**	**19 25 19.5**	**+1.5**
	baz=2.2								
K27A	**Flueckinger Fa**	**2.33**	**105**	⇑P			**Pg**	**19 24 52.8**	**-1.0**
	baz=2.4,SNR=28								
F23A	**Volborg**	**2.37**	**358**	⇑P			**Pn**	**19 24 48.6**	**-0.6**
	baz=2.2,SNR=35								
F23A				⇓Sb			**Sn**	**19 25 21.0**	**+1.9**
	baz=2.2								
J27A	**Elkhorn Farm,**	**2.40**	**91**	⇓P			**Pg**	**19 24 53.6**	**-1.4**
	baz=2.4								
M26A	**McRoberts Ranc**	**2.47**	**139**	⇓P			**Pg**	**19 24 55.6**	**-0.7**
	baz=2.6								
N23A	**Red Feather La**	**2.50**	**191**	⇑P			**Pg**	**19 24 55.4**	**-1.5**
	baz=2.7,SNR=66								
F22A	**Rosebud**	**2.52**	**345**	⇓P			**Pn**	**19 24 51.4**	**+0.1**
	baz=2.4								
N24A	**Carr**	**2.54**	**173**	⇓P			**Pg**	**19 24 56.7**	**-1.0**
	baz=2.7,SNR=35								
F24A	**Ekalaka**	**2.57**	**13**	⇑P			**Pn**	**19 24 52.7**	**+0.8**
	baz=2.4								
N22A	**Wattenberg Ran**	**2.69**	**199**	⇑P			**Pg**	**19 24 58.3**	**-2.2**
	baz=2.8,SNR=40								
G26A	**Maurine**	**2.74**	**44**	⇓P			**Pn**	**19 24 55.7**	**+1.4**
	baz=2.6								
J19A	**Crowheart**	**2.75**	**269**	⇓P			**Pb**	**19 24 56.3**	**-2.8**
	baz=2.7,SNR=36								
I19A	**Meeteetse**	**2.77**	**286**	⇓P			**Pn**	**19 24 56.1**	**+1.2**
	baz=2.7,SNR=40								
G20A	**Bridger**	**2.81**	**313**	⇓P			**Pn**	**19 24 54.4**	**-0.9**
	baz=2.7,SNR=17								
F25A	**Bowman**	**2.89**	**26**	⇓P			**Pn**	**19 24 57.1**	**+0.8**
	baz=2.8								
H19A	**Powell**	**2.97**	**298**	⇑P			**Pn**	**19 24 58.0**	**+0.4**
	baz=2.9,SNR=14								
E22A	**Miles City**	**3.12**	**352**	⇑P			**Pn**	**19 24 59.4**	**-0.2**
	baz=3.0								
F26A	**Lodgepole**	**3.12**	**36**	⇑P			**Pn**	**19 25 00.8**	**+1.2**
	baz=3.0								
E23A	**Ismay**	**3.15**	**360**	⇓P			**Pn**	**19 24 59.6**	**-0.3**
	baz=3.0								
G27A	**Dupree**	**3.15**	**49**	⇓P			**Pn**	**19 25 01.6**	**+1.6**
	baz=3.1								
O23A	**Lake Granby, G**	**3.17**	**189**	⇓P			**Pb**	**19 25 05.4**	**-1.0**
	baz=3.3,SNR=30								
BW06	**Boulder Array**	**3.18**	**261**	*e*Pn			**Pn**	**19 24 59.5**	**-1.1**
PDAR	**Pinedale Array**	**3.18**	**261**	Pn			**Pn**	**19 25 01.8**	**+1.3**
	2.4nm,0.3s,baz=74,slow=16,SNR=41								
PDAR				Sn			**Sb**	**19 25 45.6**	**-0.3**
	8.7nm,0.3s,baz=75,slow=28,SNR=14								
F20A	**Billings**	**3.19**	**321**	⇑P			**Pn**	**19 24 59.7**	**-0.7**
	baz=3.0,SNR=17								
N27A	**Anderson Farm,**	**3.27**	**140**	⇓P			**Pb**	**19 25 05.9**	**-2.1**
	baz=3.4,SNR=10								
E24A	**Baker**	**3.29**	**12**	⇑P			**Pn**	**19 25 02.3**	**+0.5**
	baz=3.1								
O22A	**Kremmling**	**3.32**	**197**	⇑P			**Pb**	**19 25 06.9**	**-2.1**
	baz=3.5,SNR=32								
O25A	**Wiggins**	**3.35**	**164**	⇑P			**Pb**	**19 25 07.3**	**-2.1**
	baz=3.5,SNR=7.5								
RLMT	**Red Lodge**	**3.36**	**303**	*e*Pn			**Pn**	**19 25 02.8**	**-0.1**
LAO	**LASA Array**	**3.40**	**349**	*e*Pn			**Pn**	**19 25 03.0**	**-0.4**
OGNE	**Ogallala**	**3.41**	**134**	⇓P			**Pb**	**19 25 08.0**	**-2.4**
	baz=3.5,SNR=8.6								
OGNE	**Ogallala**	**3.41**	**134**	*e*Pn			Pb	19 25 06.4	-4.0
H18A	**Shoshone NF, C**	**3.42**	**294**	⇓P			**Pn**	**19 25 04.2**	**+0.4**
	baz=3.3,SNR=15								
F27A	**Lemmon**	**3.44**	**42**	⇓P			**Pn**	**19 25 05.0**	**+1.1**
	baz=3.3								
ISCO	**Idaho Springs**	**3.56**	**184**	⇑P			**Pb**	**19 25 10.0**	**-3.0**
	baz=3.7,SNR=19								
ISCO	**Idaho Springs**	**3.56**	**184**	*e*Pn			Pb	19 25 09.4	-3.5
F19A	**Roth Farm, Mol**	**3.61**	**315**	P			**Pn**	**19 25 06.1**	**-0.2**
	baz=3.5,SNR=24								
E26A	**Carlson Angus**	**3.71**	**32**	⇑P			**Pn**	**19 25 08.7**	**+1.0**
	baz=3.6								
O20A	**White River Ci**	**3.90**	**215**	*e*Pn			Pb	19 25 14.0	-4.8
H17A	**Grant Village**	**3.96**	**287**	*e*Pn			**Pn**	**19 25 13.4**	**+2.2**
GCMT	**Greycliff**	**3.96**	**309**	*e*Pn			**Pn**	**19 25 10.8**	**-0.4**
E19A	**Rath Farm, Rou**	**3.98**	**323**	⇓P			**Pn**	**19 25 10.5**	**-0.9**
	baz=3.8,SNR=24								
P23A	**Jefferson**	**3.99**	**186**	⇓P			Pb	19 25 16.1	-4.3
	baz=4.2,SNR=12								
P26A	**Davis Ranch, A**	**4.06**	**158**	⇑P			Pb	19 25 16.5	-4.9
	baz=4.2,SNR=54								
YNR	**Norris Junctio**	**4.12**	**291**	*e*Pn			Pn	19 25 09.6	-3.8
YFT	**Old Faithful**	**4.15**	**287**	*e*Pn			**Pn**	**19 25 15.3**	**+1.4**
D20A	**Manuel Ranch,**	**4.25**	**333**	⇓P			**Pn**	**19 25 13.6**	**-1.4**
	baz=4.1,SNR=13								
AHID	**Auburn Hatcher**	**4.29**	**264**	*e*Pn			**Pn**	**19 25 17.9**	**+2.1**
YMR	**Madison River**	**4.30**	**290**	*e*Pn			**Pn**	**19 25 14.0**	**-1.9**
L30A	**Spencer Herefo**	**4.34**	**107**	⇑P			Pn	19 25 19.2	+2.9
	baz=4.4,SNR=9.9								
Q26A	**Hugo**	**4.62**	**163**	⇓P			Pb	19 25 24.1	-6.9
	baz=4.8,SNR=25								
QLMT	**Earthquake Lak**	**4.66**	**291**	*e*Pn			**Pn**	**19 25 21.4**	**+0.6**
HWUT	**Hardware Ranch**	**4.96**	**252**	*e*Pn			**Pn**	**19 25 25.2**	**+0.4**
TCUT	**Toone Canyon**	**5.06**	**246**	*e*Pn			**Pn**	**19 25 27.4**	**+1.1**
	14nm,0.4s								
BOZ	**Bozeman (W)**	**5.08**	**299**	*e*Pn			**Pn**	**19 25 25.5**	**-1.1**
C19A	**Slack Wire Ran**	**5.12**	**330**	⇑P			**Pn**	**19 25 26.6**	**-0.4**
	baz=5.0,SNR=13								
R26A	**Arlington**	**5.24**	**164**	⇑P			Pn	19 25 32.2	+3.5
	baz=5.4,SNR=9.1								
R25A	**Fountain Ranch**	**5.25**	**171**	⇓P			Pn	19 25 31.9	+2.9
	baz=5.4,SNR=11								
DAU	**Daniels Canyon**	**5.33**	**239**	*e*Pn			Pn	19 25 32.5	+2.4
R27A	**Eads**	**5.40**	**159**	⇓P			Pn	19 25 34.9	+3.9
	baz=5.6,SNR=20								
EGMT	**Eagleton**	**5.62**	**328**	*e*Pn			**Pn**	**19 25 32.8**	**-1.1**
	16nm,0.9s								
MCMT	**McKenzie Canyo**	**5.64**	**288**	Pn			**Pn**	**19 25 33.2**	**-1.1**
	1.0nm,0.4s								
PV04	**Paradox Valley**	**5.66**	**210**	*e*Pn			**Pn**	**19 25 35.9**	**+1.4**
LRM	**Limekiln Ridge**	**5.68**	**298**	*e*Pn			**Pn**	**19 25 34.5**	**-0.3**
	12nm,0.3s								
HRY	**Holter Researc**	**5.72**	**308**	*e*Pn			**Pn**	**19 25 34.7**	**-0.6**
	8.2nm,0.7s								
S25A	**Robets Cordova**	**5.72**	**173**	⇑P			Pn	19 25 38.8	+3.4
	baz=5.9,SNR=12								
HVU	**Hansel Valley**	**5.74**	**257**	*e*Pn			**Pn**	**19 25 36.7**	**+1.1**
	14nm,1.2s								
SRU	**San Rafael Swe**	**5.79**	**225**	*e*Pn			**Pn**	**19 25 37.8**	**+1.6**
	3.9nm,0.3s								
MDND	**Maddock**	**6.01**	**40**	*e*Pn			Pn	19 25 35.4	-3.8
	92nm,1.2s								
ECSD	**EROS Data Cent**	**6.32**	**84**	⇑P			**Pn**	**19 25 45.1**	**+1.6**
	baz=6.3,SNR=7.5								
ECSD	**EROS Data Cent**	**6.32**	**84**	*e*Pn			**Pn**	**19 25 44.9**	**+1.5**
	7.5nm,0.8s								
T27A	**Campo**	**6.58**	**162**	⇓P			Pn	19 25 50.2	+3.0
	baz=6.7,SNR=6.6								
HLID	**Hailey**	**6.64**	**275**	*e*Pn			**Pn**	**19 25 49.4**	**+1.4**
	5.1nm,1.0s								
CHMT	**Chamberlain Mo**	**6.66**	**305**	*e*Pn			**Pn**	**19 25 47.8**	**-0.5**
	1.3nm,0.4s								
MVU	**Marysvale**	**7.13**	**230**	Pn			Pn	19 25 51.4	-3.4
	5.0nm,0.9s								
ELK	**Elko**	**7.85**	**254**	Pn			**Pn**	**19 26 04.9**	**+0.3**
	0.1nm,0.3s,baz=220,slow=16,SNR=2.5								
ELK				Lg			Lg	19 28 17.1	
	0.1nm,0.3s,baz=170,slow=18,SNR=4.1								
I10CA	**LAC DU BONNET**	**9.34**	**40**	*i*				20 22 40.0	
	baz=221,slow=333,SNR=1.3								
ULM	**Lac du Bonnet**	**9.45**	**40**	Pn			**Pn**	**19 26 24.1**	**-2.2**
	0.8nm,0.3s,baz=227,slow=15,SNR=5.2								
ULM				Lg			Lg	19 29 00.5	
	0.3nm,0.3s,baz=119,slow=19,SNR=3.3								
YKA	**Yellowknife Ar**	**19.94**	**347**	P			Pn	19 28 46.0	+2.2
	0.2nm,0.5s,baz=163,slow=9.0,SNR=3.3								

*IDC **23** 19:32:05.8±1.4, 34°85S×72°38W, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.7/29, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=41.2km s-min=30.4km az=78.0*
*ISCJB **23** 19:32:07.0±1.4, 34°85S±0'05×72°53W±0'08, h17km±11km, mb3.7/3, Error ellipse: s-maj=12.7km s-min=5.9km az=33.2*
*GUC **23** 19:32:09.0±0.5, 34°86S×72°46W, h13km±5km, ML3.8*
ISC 23 19:32:06.2±1.7, 34°86S±0'05×72°45W±0'07, h3km±11km, n22, σ0§75/21, mb3.8/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.02**	**98**	*e*P			**Pb**	**19 32 26.4**	**0.0**
NICH				*e*S			**Sb**	**19 32 40.0**	**-0.1**
LNCH	**Linares**	**1.21**	**145**	*e*P			**Pb**	**19 32 29.4**	**-0.3**
LNCH				*e*S			**Sb**	**19 32 44.9**	**-0.8**
LNV	**Longovilo**	**1.25**	**44**	*e*P			**Pg**	**19 32 29.9**	**-0.2**
LNV				*e*S			**Sg**	**19 32 46.1**	**-0.2**
COCH	**Cobquecura**	**1.30**	**192**	*e*P			**Pg**	**19 32 30.8**	**-0.3**
COCH				*e*S			**Sb**	**19 32 47.5**	**-0.8**
CACH	**El Canelo**	**1.70**	**65**	*e*P			**Pn**	**19 32 37.6**	**+0.8**
CACH				*e*S			**Sb**	**19 33 00.1**	**+0.1**
CHCH	**Chadas Angostu**	**1.75**	**59**	*e*P			**Pb**	**19 32 38.5**	**-0.5**
CHCH				*e*S			**Sn**	**19 33 00.5**	**+0.1**
SJCH	**San Jose de Ma**	**2.12**	**56**	IAML				19 33 13.9	
	comp=N,898nm,0.5s								
YECH	**El Yeso**	**2.30**	**59**	*e*P			**Pb**	**19 32 47.8**	**-0.7**
YECH				IAML				19 33 23.1	
	comp=N,919nm,0.5s								
CFAA	**Coronel Fontan**	**4.80**	**49**	Pn			**Pn**	**19 33 20.8**	**+1.4**
	comp=N,0.1nm,0.3s,baz=228,slow=8.9,SNR=8.9								
PLCA	**Paso Flores**	**6.05**	**166**	Pn			**Pn**	**19 33 38.1**	**+1.4**
	comp=N,0.6nm,0.3s,baz=336,slow=12,SNR=5.7								
PLCA				Lg			Lg	19 35 13.0	
	comp=N,0.2nm,0.3s,baz=252,slow=20,SNR=2.3								
LPAZ	**La Paz**	**18.90**	**13**	P			**P**	**19 36 28.6**	**+0.1**
	comp=N,0.1nm,0.3s,baz=194,slow=8.3,SNR=2.6								
TXAR	**Lajitas Array**	**70.32**	**331**	P			**P**	**19 43 21.6**	**+0.5**
	comp=N,0.5nm,0.6s,baz=150,slow=8.9,SNR=6.3								
DBIC	**Dimbokro**	**75.78**	**71**	P			**P**	**19 43 53.3**	**-0.4**
	comp=N,1.3nm,0.7s,baz=180,slow=5.1,SNR=2.1								
TORD	**Torodi Ar. Bea**	**84.82**	**70**	P			**P**	**19 44 41.1**	**-1.3**
	comp=N,0.2nm,0.5s,baz=286,slow=5.5,SNR=5.8								
H11S2	**WAKE ISLAND Hyl**	**25.41**	**269**	T			T	22 09 21.9	
	baz=121								
H11S1	**WAKE ISLAND Hyl**	**25.42**	**269**	T			T	22 09 12.6	
	baz=121								
H11S3	**WAKE ISLAND Hyl**	**25.43**	**269**	T			T	22 09 10.3	
	baz=121								
H11N3	**WAKE ISLAND Hyl**	**25.85**	**270**	T			T	22 09 48.6	
	baz=115								
H11N1	**WAKE ISLAND Hyl**	**25.86**	**270**	T			T	22 09 48.6	
	baz=115,slow=74								
H11N2	**WAKE ISLAND Hyl**	**25.86**	**270**	T			T	22 09 48.8	
	baz=115,slow=74								
AAK	**Ala-Archa**	**153.21**	**63**	PKPbc			**PKPbc**	**19 52 05.6**	**+0.2**
	comp=N,0.2nm,0.4s,baz=135,slow=5.7,SNR=3.5								
MKAR	**Makanchi Array**	**157.58**	**50**	PKPab			**PKPab**	**19 52 34.9**	**-0.7**
	comp=N,0.1nm,0.6s,baz=242,slow=3.1,SNR=2.3								

*ISCJB **23** 19:32:45.0±0.4, 72°33N±0'06×126°4E±0'2, h10km, mb3.8/17, Error ellipse: s-maj=9.8km s-min=5.3km az=33.1*
*IDC **23** 19:32:44.7±0.6, 72°19N×126°61E, h0km, mb3.8/16, mb1 4.0/17, mb1mx3.8/35, mbtmp3.9/17, ML3.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/35, Error ellipse: s-maj=17.5km s-min=13.5km az=132.0*
*YARS **23** 19:32:46.3±0.4, 70°73N±0'01×127°72E±0'07, h10km, MSV3.3*
ISC 23 19:32:46.2±0.5, 72°12N±0'08×126°57E±0'06, h10km, n26, σ1§48/25, mb3.9/17, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**0.86**	**122**	*e*P			**Pn**	**19 33 04.3**	**0.0**
TIXI				Pm				19 33 04.3	
	comp=Z,236nm,0.2s								
TIXI				*e*				19 33 07.6	
TIXI				*e*S			**Sn**	**19 33 17.1**	**+0.3**
TIXI				Sm				19 33 17.1	
	comp=N,330nm,0.3s								
DEPR	**Deputatskiy**	**5.18**	**115**	*e*P			**Pn**	**19 34 05.9**	**+2.2**
DEPR				Pm				19 34 05.9	
	comp=Z,48nm,0.5s								
DEPR				*e*S			**Sn**	**19 35 01.8**	**-1.6**
DEPR				Sm				19 35 01.8	
	comp=N,220nm,0.8s								
DEPR				*e*				19 35 24.4	
BTGS	**Batagay**	**5.28**	**144**	*e*			Pg	19 34 22.1	-5.0
BTGS				*e*S			Sn	19 34 48.1	-18
BTGS				Sm				19 34 48.1	
	comp=N,207nm,0.6s								
MOMR	**Moma**	**8.15**	**126**	*e*P			Pn	19 34 53.6	+9.2
MOMR				Pm				19 34 53.6	
	comp=Z,11nm,0.7s								
MOMR				*e*S			Sn	19 36 24.1	+7.7
MOMR				Sm				19 36 24.1	
	comp=N,79nm,0.9s								
MOMR				*e*				19 37 01.9	
YAK	**Yakutsk**	**10.21**	**172**	Pn			**Pn**	**19 35 10.7**	**-1.7**
	comp=N,0.0nm,0.3s,baz=222,slow=2.6,SNR=5.4								
YAK				Sn			Sn	19 37 00.4	-6.3
	comp=N,0.0nm,0.3s,baz=86,slow=13,SNR=2.7								
YAK				Lg			Lg	19 38 16.2	
	comp=N,0.0nm,0.3s,baz=207,slow=2.3,SNR=1.8								
YAK				LR			LR	19 39 55.3	
	comp=N,70nm,20.4s,baz=352,slow=42								
YAK	**Yakutsk**	**10.21**	**172**	*e*P			Pn	19 35 23.7	+11
YAK				Pm				19 35 23.7	
	comp=Z,7.0nm,0.3s								
YAK				*e*S			Sn	19 37 16.5	+10
YAK				Sm				19 37 16.5	
	comp=E,10.0nm,0.5s								
YAK				*e*				19 38 19.5	
SEY	**Seymchan**	**13.36**	**120**	Pn			**P**	**19 36 05.6**	**+0.5**
	comp=E,0.1nm,0.3s,baz=347,slow=19,SNR=4.5								
SEY				Sn			Sn	19 38 31.6	+7.9
	comp=E,0.1nm,0.3s,baz=30,slow=20,SNR=2.9								
SEY				Lg			Lg	19 40 04.0	
	comp=E,0.1nm,0.3s,baz=195,slow=19,SNR=2.6								
CGD	**Chagda**	**13.53**	**171**	*e*S			S	19 39 00.8

GRSN *i* S **Sg** **19 33 48.8 -0.1**
RSDY Resadiye-TOKAT 1.09 296 *e*PN **Pg** **19 33 35.6 -1.0**
RSDY Resadiye-TOKAT 1.09 296 *e*Pn **Pg** **19 33 35.6 -1.0**
SCER sogukcermik 1.14 267 *i* P **Pg** **19 33 36.3 -1.3**
SCER *i* S **Sb** **19 33 52.6 -0.1**
SCER sogukcermik 1.14 267 *i* P **Pg** **19 33 36.3 -1.3**
SCER *i* S **Sb** **19 33 52.6 -0.1**
PTK Pertek 1.19 149 *e*PN **Pg** **19 33 38.0 -0.5**
PTK Pertek 1.19 149 *e*Pn **Pg** **19 33 38.0 -0.5**
SVSK Karacayir 1.24 270 *e*PN **Pb** **19 33 38.6 -0.6**
SVSK *e*SN **Sn** **19 33 57.8 +1.7**
SVSK Karacayir 1.24 270 *e*Pn **Pb** **19 33 38.7 -0.6**
SVSK *e*Sn **Sn** **19 33 57.8 +1.7**
BAYT Ayd¨–ntepe-Bay 1.26 68 *e*PN **Pn** **19 33 38.8 -0.9**
BAYT Ayd¨–ntepe-Bay 1.26 68 *e*Pn **Pn** **19 33 38.8 -0.9**
MACK Trabzon 1.35 40 *i* P **Pn** **19 33 39.9 -0.8**
MACK *i* S **Sb** **19 33 58.3 -0.2**
MACK Trabzon 1.35 40 *i* P **Pn** **19 33 39.9 -0.8**
MACK *i* S **Sb** **19 33 58.3 -0.2**
KTUT Trabzon 1.38 39 *e*PN **Pn** **19 33 40.9 -0.2**
KTUT Trabzon 1.38 39 *e*Pn **Pn** **19 33 40.9 -0.2**
KOPT Kop Dagi 1.45 86 *i* P **Pn** **19 33 41.2 -1.1**
KOPT *i* S **Sg** **19 34 04.0 +1.7**
KOPT Kop Dagi 1.45 86 *i* P **Pn** **19 33 41.2 -1.1**
KOPT *i* S **Sg** **19 34 04.0 +1.7**
ELZG Elazig 1.45 168 *i* P **Pn** **19 33 40.4 -1.9**
ELZG *i* S **Sn** **19 33 59.6 -1.9**
ELZG Elazig 1.45 168 *i* P **Pn** **19 33 40.4 -1.9**
ELZG *i* S **Sn** **19 33 59.6 -1.9**
DARE Darende-Malaty 1.61 213 *e*PN **Pn** **19 33 44.6 +0.3**
DARE Darende-Malaty 1.61 213 *e*Pn **Pn** **19 33 44.6 +0.3**
ERBA Erbaa 1.61 299 *i* P **Pn** **19 33 44.0 -0.3**
ERBA *i* S **Sb** **19 33 05.7 -0.3**
ERBA Erbaa 1.61 299 *i* P **Pn** **19 33 44.0 -0.3**
ERBA *i* S **Sb** **19 34 05.7 -0.3**
MALT Malatya 1.61 185 *e*PN **Pn** **19 33 44.7 +0.3**
MALT Malatya 1.61 185 ||*i*P **Pn** **19 33 43.4 -1.0**
MALT S **Sn** **19 34 05.5 +0.1**
MALT Malatya 1.61 185 *e*Pn **Pn** **19 33 44.7 +0.3**
SVRC Sivrice-ELAZID 1.63 161 *e*PN **Pn** **19 33 45.4 +0.7**
SVRC Sivrice-ELAZID 1.63 161 *e*Pn **Pn** **19 33 45.4 +0.7**
TOKA Tokat 1.69 284 *i* P **Pn** **19 33 45.0 -0.4**
TOKA *i* S **Sb** **19 34 07.8 -0.4**
TOKA Tokat 1.69 284 *i* P **Pn** **19 33 45.0 -0.4**
TOKA *i* S **Sb** **19 34 07.8 -0.4**
BINT Bingol 1.79 125 *e*Pn **Pn** **19 33 47.8 +0.9**
BNGB Bing¶ll 1.85 120 *e*PN **Pn** **19 33 47.8 +0.1**
EZM Erzurum 2.11 90 *e*PN **Pn** **19 33 52.2 +0.8**
ERZM Erzurum 2.12 90 *i* P **Pb** **19 33 53.7 -0.6**
ERZM Erzurum 2.12 90 *i* P **Pb** **19 33 53.7 -0.6**
KVT Kavak 2.27 301 *e*PN **Pn** **19 33 54.5 +1.1**
KVT Kavak 2.27 301 *e*Pn **Pn** **19 33 54.5 +1.1**
DYBB Diyarbakir 2.30 148 *e*PN **Pn** **19 33 55.3 +1.5**
DIYA Diyarbakir 2.32 149 *i* P **Pn** **19 33 54.4 +0.4**
DIYA Diyarbakir 2.32 149 *i* P **Pn** **19 33 54.4 +0.4**
DIYA *i* S **Sb** **19 34 26.8 +0.4**
VRTB Varto-Mus 2.33 108 *e*PN **Pn** **19 33 55.3 +1.1**
VRTB Varto-Mus 2.33 108 *e*Pn **Pn** **19 33 55.3 +1.1**
DIY Diyarbakir 2.38 148 *e*Pn **Pn** **19 33 55.3 +0.3**
URFA Urfa 2.48 176 *e*PN **Pb** **19 33 58.5 -1.9**
URFA Urfa 2.48 176 *e*Pn **Pb** **19 33 58.5 -1.9**
HAVZ Havza 2.49 298 *i* P **Pb** **19 33 58.4 -2.1**
HAVZ Havza 2.49 298 *i* P **Pb** **19 33 58.4 -2.1**
HOMI Horasan 2.53 86 *i* P **Pb** **19 34 00.3 -1.1**
HOMI *i* S **Sg** **19 34 36.7 -0.3**
YOZ Yozgat 2.55 265 *e*PN **Pn** **19 33 59.3 +1.9**
YOZ Yozgat 2.55 265 *e*Pn **Pn** **19 33 59.3 +1.9**
DDEM Demirkent 2.58 67 *i* P **Pb** **19 34 00.3 -1.9**
DDEM *i* S **Sn** **19 34 32.0 +2.6**
DDEM Demirkent 2.58 67 *i* P **Pb** **19 34 00.3 -1.9**
DDEM *i* S **Sn** **19 34 32.0 +2.6**
DBAD Bademkaya 2.59 64 *i* P **Pn** **19 33 59.7 +1.8**
DBAD *i* S **Sb** **19 34 33.3 -1.1**
DBAD Bademkaya 2.59 64 *i* P **Pn** **19 33 59.7 +1.8**
DBAD *i* S **Sb** **19 34 33.3 -1.1**
DBOC Borcka 2.72 58 *i* P **Pn** **19 34 01.4 +1.8**
DBOC *i* S **Sb** **19 34 36.9 -1.2**
DBOC Borcka 2.72 58 *i* P **Pn** **19 34 01.4 +1.8**
DBOC *i* S **Sb** **19 34 36.9 -1.2**
EKAR Karacoban 2.75 103 *i* P **Pb** **19 34 05.2 +0.1**
EKAR *i* S **Sg** **19 34 47.0 +3.1**
KMRS Kahramanmaras 2.76 210 *e*PN **Pn** **19 34 02.1 +2.0**
KMRS Kahramanmaras 2.76 210 *e*Pn **Pn** **19 34 02.1 +2.0**
DAGI Agillar 2.77 64 *i* P **Pn** **19 34 02.8 +2.5**
DAGI *i* S **Sb** **19 34 37.6 -1.9**
ARTV Artvin 2.82 62 *i* P **Pn** **19 34 02.2 +1.0**
ARTV Artvin 2.82 62 *i* P **Pn** **19 34 02.2 +1.0**
ARTV *i* S **Sb** **19 34 40.7 -0.5**
BTMT Batman 2.83 127 *e*PN **Pn** **19 34 02.5 +1.4**
BTMT Batman 2.83 127 *e*Pn **Pn** **19 34 02.5 +1.4**
MAZI Mazidag 2.85 149 *e*PN **Pn** **19 34 03.3 +1.9**
MAZI Mazidag 2.85 149 *e*Pn **Pn** **19 34 03.3 +1.9**
BEST Besiri 2.90 134 *i* P **Pb** **19 34 06.6 -1.0**
ANDN Andirin 2.94 218 *i* P **Pb** **19 34 05.4 -2.8**
EATA Eleskirt 2.98 90 *i* P **Pb** **19 34 08.8 -0.3**
EATA *i* S **Sg** **19 34 55.7 +4.2**
CORM Corum 3.07 276 *e*PN **Pn** **19 34 06.1 +1.7**
CORM Corum 3.07 276 *e*Pn **Pn** **19 34 06.1 +1.7**
DIKM Dikmen 3.08 305 *e*PN **Pn** **19 34 05.3 +0.9**
DIKM Dikmen 3.08 305 *e*Pn **Pn** **19 34 05.3 +0.9**
KOZT Kozan 3.27 223 *e*PN **Pn** **19 34 09.7 +2.6**
KOZT Kozan 3.27 223 *e*Pn **Pn** **19 34 09.7 +2.6**
CDAG Cicekdag 3.28 266 *i* P **Pn** **19 34 07.9 +0.5**
CDAG Cicekdag 3.28 266 *i* P **Pn** **19 34 07.9 +0.5**
CDAG *i* S **Sb** **19 34 57.0 +2.7**
AGRB Hanur-Agry 3.39 94 *e*PN **Pn** **19 34 10.1 +1.1**
AGRB Hanur-Agry 3.39 94 *e*Pn **Pn** **19 34 10.1 +1.1**
KARS Kars 3.49 77 *e*PN **Pn** **19 34 11.3 +1.1**
KARS Kars 3.49 77 *e*Pn **Pn** **19 34 11.3 +1.1**
NIG Nigde 3.61 241 *e*PN **Pn** **19 34 13.7 +1.7**
NIG Nigde 3.61 241 *e*Pn **Pn** **19 34 13.7 +1.7**
CEYT Ceyhan 3.68 219 *e*PN **Pn** **19 34 15.3 +2.6**
CEYT Ceyhan 3.68 219 *e*Pn **Pn** **19 34 15.3 +2.6**
SFNV Sufian 3.69 161 *e*P **Pn** **19 34 13.2 +0.2**
SNR=45
SFNV Sufian 3.69 161 *e*P **Pn** **19 34 13.2 +0.2**
SFNV AML AML 19 35 17.0
comp=Z,56nm,0.7s
SLMH Al Salmeh 3.74 189 *e*P **Pn** **19 34 13.3 -0.3**
SNR=45
SLMH Al Salmeh 3.74 189 *e*P **Pn** **19 34 13.3 -0.3**
SLMH AML AML 19 35 29.2
comp=Z,87nm,0.6s
SOC Sochi 3.75 12 *e*P **Pn** **19 34 16.1 +2.4**
SOC *e* 19 34 59.9
SOC pmax pmax
comp=Z,23nm,0.6s
SOC smax smax
comp=N,89nm,0.6s
SOC smax smax
comp=E,55nm,0.6s
SOC MLR MLR
comp=Z,101nm,8.0s
SOC MLR MLR
comp=N,71nm,8.0s
SOC MLR MLR
comp=E,50nm,8.0s
SOC Sochi 3.75 12 *e*P **Pn** **19 34 16.1 +2.4**
comp=E,23nm,0.6s
SOC *e*S **Sn** **19 34 59.9 +1.9**
comp=E,101nm,8.0s
BRTR Keskin Array B 3.84 269 Pn **Pn** **19 34 15.6 +0.5**
comp=E,4.9nm,0.3s,baz=95,slow=13,SNR=136
BRTR Lg Lg 19 35 17.2
comp=E,4.1nm,0.3s,baz=128,slow=30,SNR=4.1
SIRT Sirnak 3.85 128 *e*PN **Pn** **19 34 16.9 +1.8**
SIRT Sirnak 3.85 128 *e*Pn **Pn** **19 34 16.9 +1.8**
KARA Karaisali 3.85 227 *e*PN **Pn** **19 34 18.1 +3.0**
KARA Karaisali 3.85 227 *e*Pn **Pn** **19 34 18.1 +3.0**
CANT Cankiri 3.88 282 *e*PN **Pn** **19 34 18.1 +2.6**
MNKR ALMNKUR 4.01 172 *e*P **Pn** **19 34 17.9 +0.6**
SNR=45
MNKR ALMNKUR 4.01 172 *e*P **Pn** **19 34 17.9 +0.6**
MNKR AML AML 19 35 38.7
comp=Z,136nm,0.6s
BTCH Batrach 4.24 204 *e*P **Pn** **19 34 20.4 0.0**
SNR=45
BTCH Batrach 4.24 204 *e*P **Pn** **19 34 20.4 0.0**
BTCH AML AML 19 35 18.8
comp=N,38nm,0.4s
BTCH AML AML 19 35 45.0
comp=E,62nm,0.5s
BBAL Bala 4.25 267 *i* P **Pn** **19 34 21.7 +1.0**
BBAL Bala 4.25 267 *i* P **Pn** **19 34 21.7 +1.0**
BBAL *i* S **Sg** **19 35 30.9 -1.1**
MZRK Al-Mazaregh 4.40 158 *e*P **Pn** **19 34 21.4 -1.2**
SNR=45
MZRK *e*S **Sn** **19 35 16.6 +2.6**
comp=E,20nm,0.7s,SNR=40
MZRK Al-Mazaregh 4.40 158 *e*P **Pn** **19 34 21.4 -1.2**
MZRK *e*S **Sn** **19 35 16.6 +2.6**
MZRK AML AML 19 35 59.6
comp=Z,20nm,0.7s
ANTO Ankara 4.48 271 ||*i*P **Pb** **19 34 35.6 +1.2**
ANTO Ankara 4.48 271 S **Sg** **19 35 38.0 -1.3**
ARNB Al Arnab 4.56 208 *e*P **Pn** **19 34 25.2 +0.3**
SNR=45
ARNB Al Arnab 4.56 208 *e*P **Pn** **19 34 25.2 +0.3**
ARNB *e*S **Sn** **19 35 23.3 +5.1**
ARNB AML AML 19 35 44.1
comp=N,14nm,0.8s
ARNB AML AML 19 35 51.7
comp=E,35nm,0.7s
GNI Garni 4.71 85 *e*P Pn 19 34 30.9 +3.9
GNI Garni 4.71 85 Pn **Pb** **19 34 41.2 +2.8**
comp=E,2.5nm,0.3s,baz=332,slow=3.5,SNR=11
GNI Garni 4.71 85 *e*P Pn 19 34 30.9 +3.9
WRDH Warideh 4.74 202 *e*P **Pn** **19 34 27.0 -0.4**
SNR=45
WRDH *e*S **Sn** **19 35 26.2 +3.7**
comp=E,31nm,0.6s,SNR=40
WRDH Warideh 4.74 202 *e*P **Pn** **19 34 26.9 -0.4**
WRDH *e*S **Sn** **19 35 26.2 +3.7**
WRDH AML AML 19 35 57.5
comp=E,27nm,0.8s
WRDH AML AML 19 36 02.4
comp=N,31nm,0.6s
ZEI Tsey 4.90 53 *e*P **Pn** **19 34 32.0 +2.3**
ZEI pmax pmax
comp=Z,13nm,1.0s
ANN Anapa 4.95 350 *e*P **Pn** **19 34 30.5 +0.3**
ANN *e*S **Sn** **19 35 27.8 +0.2**
ANN Anapa 4.95 350 *e*P **Pn** **19 34 30.5 +0.3**
ANN *e*S **Sn** **19 35 27.8 +0.2**
KBZ Khabaz 4.97 39 P **Pn** **19 34 31.8 +1.4**
KBZ **19 35 28.3**
KBZ smax smax
comp=N,1.0nm,0.3s
KBZ Khabaz 4.97 39 Pn **Pn** **19 34 31.8 +1.4**
comp=N,0.4nm,0.3s,baz=192,slow=6.5,SNR=8.9
KBZ Sn **Sn** **19 35 28.2 +0.2**
comp=N,0.5nm,0.3s,baz=153,slow=6.2,SNR=4.0
KIV Kislovodsk 5.04 36 *e*P **Pn** **19 34 34.4 +2.8**
KIV *e*S **Sn** **19 35 32.8 +2.7**
KIV pmax pmax
comp=Z,13nm,0.7s
KIV Kislovodsk 5.04 36 *e*P **Pn** **19 34 34.4 +2.8**
comp=Z,13nm,0.7s
KIV *e*S **Sn** **19 35 32.8 +2.7**
NCK Nalchik 5.16 45 *e*P **Pn** **19 34 35.7 +2.6**
NCK Nalchik 5.16 45 *e*P **Pn** **19 34 35.7 +2.6**
BIDA Albida 5.23 201 *e*P **Pn** **19 34 34.3 +0.2**
SNR=45
BIDA Albida 5.23 201 *e*P **Pn** **19 34 34.3 +0.2**
BIDA AML AML 19 36 10.3
comp=E,34nm,0.5s
BIDA AML AML 19 36 11.0
comp=N,38nm,0.7s
YAL Yalta 5.64 325 *e*P Pn 19 34 43.5 +3.9
YAL *e*S Sn 19 35 50.4 +6.0
YAL Yalta 5.64 325 *e*P Pn 19 34 43.5 +3.9
SUDU Sudak 5.64 333 *e*P **Pn** **19 34 40.9 +1.3**
SUDU *e*S **Sn** **19 35 46.6 +2.1**
SUDU Sudak 5.64 333 *e*P **Pn** **19 34 40.9 +1.3**
SUDU *e*S **Sn** **19 35 46.6 +2.1**
HAWK Haweek 5.67 199 *e*P **Pn** **19 34 39.9 -0.3**
SNR=45
HAWK Haweek 5.67 199 *e*P **Pn** **19 34 39.9 -0.3**
HAWK AML AML 19 36 22.1
comp=N,16nm,0.6s
HAWK AML AML 19 36 31.0
comp=E,10nm,0.6s
SEV Sevastopol' 5.90 323 *e*P **Pn** **19 34 44.9 +1.7**
SEV *e*S **Sn** **19 35 53.7 +2.8**
SEV Sevastopol' 5.90 323 *e*P **Pn** **19 34 44.9 +1.7**
SEV *e*S **Sn** **19 35 53.7 +2.8**
SIM Simferopol' 6.02 328 P Pn 19 34 50.5 +5.6
SIM S Sn 19 36 02.0 +8.0
SIM smax smax
comp=N,38μm,1.1s
MARH Ras Al Marh 6.13 197 *e*P **Pn** **19 34 47.7 +1.0**
SNR=45
MARH Ras Al Marh 6.13 197 *e*P **Pn** **19 34 47.7 +1.0**
MARH AML AML 19 36 42.8
comp=N,15nm,0.7s
MARH AML AML 19 36 43.4
comp=E,6.4nm,0.5s
IKRK Kirkuk 6.40 133 *e*PN Pn 19 34 41.6 -8.6
IKRK *e*SN **Sn** **19 36 04.6 +1.2**
BRBR Barbar 6.84 199 *e*P **Pn** **19 34 57.5 +1.1**
SNR=45
BRBR Barbar 6.84 199 *e*P **Pn** **19 34 57.5 +1.1**
BRBR *e*S **Sn** **19 36 18.0 +3.5**
BRBR AML AML 19 37 03.3
comp=N,8.9nm,0.9s
BRBR AML AML 19 37 10.1
comp=E,9.1nm,0.7s
RTB Rutbah 7.01 168 *e*Pn Pn 19 34 54.5 -4.1
SNR=39
RTB *e*Sn Sn 19 36 26.0 +7.5
SNR=39
ZALF Zalf 7.06 189 *e*P **Pn** **19 34 59.0 -0.2**
SNR=45
ZALF Zalf 7.06 189 *e*P **Pn** **19 34 59.0 -0.2**
ZALF AML AML 19 37 14.7
comp=N,7.9nm,0.6s
ZALF AML AML 19 37 35.6
comp=E,4.7nm,0.7s
SALA Sala 7.36 192 *e*P **Pn** **19 35 03.8 +0.4**
SNR=45
SALA Sala 7.36 192 *e*P **Pn** **19 35 03.8 +0.4**
SALA *e*S **Sn** **19 36 30.1 +2.9**
SALA AML AML 19 37 23.6
comp=E,0.8nm,0.5s
SALA AML AML 19 37 41.7
comp=N,8.2nm,0.7s
MMAI Mount Meron Ar 7.36 202 Pn Pn 19 35 08.2 +4.8
comp=N,1.3nm,0.3s,baz=63,slow=13,SNR=4.0
BHD Baghdad 8.10 143 *e*PN Pn 19 35 07.2 -6.2
BHD *e*SN **Sn** **19 36 47.4 +2.4**
BHD Baghdad 8.10 143 *e*Pn Pn 19 35 07.2 -6.2
SNR=39
BHD *e*Sn **Sn** **19 36 47.4 +2.4**
SNR=39
TIRR Tirgusor 8.82 304 *e*P **Pn** **19 35 25.0 +1.7**
TIRR Tirgusor 8.82 304 ||*i*P **Pn** **19 35 25.6 +2.3**
TIRR Tirgusor 8.82 304 *e*P **Pn** **19 35 25.0 +1.7**
CFR Carcaliu 9.34 308 ||*i*P **Pn** **19 35 32.1 +1.7**
CFR Carcaliu 9.34 308 S **Sn** **19 37 11.2 -4.4**
JMB Yambol 9.42 290 ||*i*P Pn 19 35 39.5 +8.0
PLOR Plostina 10.59 308 ||*i*P Pn 19 35 51.0 +3.5
NSR Nassriya 10.80 143 *e*PN Pn 19 35 45.1 -5.3
NSR *e*SN **Sn** **19 37 52.4 +1.0**
NSR Nassriya 10.80 143 *e*Pn Pn 19 35 45.1 -5.3
SNR=39
NSR *e*Sn **Sn** **19 37 52.4 +1.0**
SNR=39
MLR Muntele Rosu 10.85 305 ||*i*P Pn 19 35 55.6 +4.4
VORD Divnogorie 11.05 2 *e*P **Pn** **19 35 52.4 -1.4**
VORD pmax pmax
comp=E,20nm,0.7s
VORD pmax pmax
comp=Z,4.0nm,0.7s
VORD pmax pmax
comp=N,10.0nm,0.8s
VSR Storozhevoye 11.30 2 *e*P **Pn** **19 35 55.3 -1.9**
VSR pmax pmax
comp=N,8.0nm,0.7s
VSR pmax pmax
comp=Z,4.0nm,0.7s
VSR pmax pmax
comp=E,3.0nm,0.9s
VRHR Novokhopersk 11.37 10 *e*P Pn 19 36 02.2 +4.1
VRHR pmax pmax
comp=Z,5.0nm,0.6s
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR Novokhopersk 11.37 10 *e*P Pn 19 36 02.2 +4.1
comp=E,20nm,1.0s
DOPR Dopca 11.41 306 ||*i*P **Pn** **19 36 01.8 +3.0**
BURAR Bucovina Array 12.35 313 ||*i*P **Pn** **19 36 11.1 -0.6**
AKASG Malin Array Be 12.63 332 *i* P **Pn** **19 36 17.1 +1.7**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 12.63 332 Pn **Pn** **19 36 15.0 -0.4**
comp=Z,1.3nm,0.3s,baz=131,slow=14,SNR=4.2
AKASG Malin Array Be 12.63 332 *i* P **Pn** **19 36 17.1 +1.7**
comp=Z,1.0nm,0.3s
KIEV Kiev 12.63 332 *e*P **Pn** **19 36 16.1 +0.7**
KIEV Kiev 12.63 332 *e*P **Pn** **19 36 16.1 +0.7**
KOLS Kolonicke sedl 14.72 313 *e*P **P** **19 36 49.7 -0.5**
KOLS Kolonicke sedl 14.72 313 *e*P **P** **19 36 49.7 -0.5**
KOLS Kolonicke sedl 14.72 313 *e* **P** **19 36 49.7 -0.5**
OBN Obninsk 15.26 356 *e*P **Pn** **19 36 50.5 -0.6**
OBN pmax pmax
comp=Z,6.0nm,1.0s
GEYT Alibeck 15.31 91 Pn **Pn** **19 36 53.0 +1.0**
comp=Z,0.1nm,0.3s,baz=276,slow=16,SNR=2.4
STHS Stebnicka Huta 15.55 313 *e*P **P** **19 37 02.3 +2.9**
STHS Stebnicka Huta 15.55 313 *e*P **P** **19 37 02.3 +2.9**
STHS Stebnicka Huta 15.55 313 *e*P **P** **19 37 02.3 +2.9**
VYHS Vyhne 16.53 308 *e*P P 19 37 23.9 +14
VYHS Vyhne 16.53 308 *e* P 19 37 23.9 +14
AKTO Aktyubinsk 17.20 46 Pn **Pn** **19 37 12.6 -3.5**
comp=Z,0.1nm,0.3s,baz=240,slow=9.6,SNR=2.0
VRAC Vranov 18.21 308 Sn Sn 19 40 40.6 -11
comp=Z,0.3nm,0.3s,baz=330,slow=11,SNR=3.1
GERES GERESS Array B 19.84 305 P **P** **19 37 45.9 -0.9**
baz=108,slow=9.4,SNR=2.5
ARU Arti 21.08 32*d* *i*P **P** **19 37 59.7 -0.3**
ARU 19 38 18.4
ARU S **S** **19 41 54.2 -0.3**
ARU SS **SnSn** **19 42 13.5 -2.1**
ARU pmax pmax
comp=Z,4.0nm,0.6s
ARU Arti 21.08 32 *i* P **P** **19 37 59.7 -0.3**
comp=Z,4.0nm,0.6s
CLL Collm 21.11 311 *e*P **P** **19 38 01.0 +0.6**
CLL *e* 19 38 05.0
CLL Collm 21.11 311 *e*P **P** **19 38 01.0 +0.6**
CLL *e*pP **pP** **19 38 05.0 +2.2**
CLL Collm 21.11 311 *e*P **P** **19 38 01.0 +0.6**
DAVOX Davos/Dischmat 21.91 298 P **P** **19 38 11.3 +2.0**
comp=Z,2.0nm,0.8s,baz=351,slow=19,SNR=2.3
DAVOX LR LR 19 48 35.6
comp=Z,30nm,18.5s,baz=278,slow=42
FINES FINESS Array B 22.88 344 P **P** **19 38 17.4 -1.8**
comp=Z,0.6nm,0.6s,baz=140,slow=8.9,SNR=2.6
BVAR Borovoye Array 25.27 48 P **P** **19 38 43.3 +1.2**
comp=Z,2.7nm,1.2s,baz=258,slow=7.4,SNR=4.6
HFS Hagfors 25.52 331 P **P** **19 38 44.4 +0.2**
HFS pmax pmax
comp=Z,3.0nm,0.8s
HFS Hagfors 25.52 331 P **P** **19 38 44.4 +0.2**
comp=Z,3.2nm,0.8s,baz=162,slow=16,SNR=3.8
AAK Ala-Archa 26.98 72 *e*P **P** **19 38 59.4 +1.6**
MKAR Makanchi Array 32.16 63 P **P** **19 39 44.4 +0.9**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 32.16 63 P **P** **19 39 44.4 +0.9**
comp=Z,0.6nm,0.5s,baz=275,slow=8.7,SNR=7.7
TORD Torodi Ar. Bea 41.98 241 P **P** **19 41 05.9 -1.3**
comp=Z,0.7nm,0.8s,baz=32,slow=4.3,SNR=5.4
SONM Songino Array 48.06 57 P **P** **19 41 54.7 -0.8**
comp=Z,0.4nm,0.7s,baz=276,slow=7.7,SNR=4.1
SONM LR LR 20 05 11.6
comp=Z,46nm,20.7s,baz=344,slow=40
CMAR Chiang Mai Arr 55.77 94 *i* P **P** **19 42 53.4 +0.3**
CMAR Chiang Mai Arr 55.77 94 P **P** **19 42 52.1 -1.0**
comp=Z,0.3nm,0.5s,baz=316,slow=7.6,SNR=4.5
CMAR Chiang Mai Arr 55.77 94 *i* P **P** **19 42 53.4 +0.3**
KSRS Korea Array 66.77 60 P **P** **19 44 06.5 -0.9**
KSRS pmax pmax
comp=Z,1.0nm,0.6s
KSRS Korea Array 66.77 60 P **P** **19 44 06.5 -0.9**
comp=Z,1.0nm,0.6s,baz=301,slow=6.8,SNR=3.6
MJAR Matsushiro Arr 74.00 56 P **P** **19 44 51.3 -0.4**
comp=Z,0.4nm,0.5s,baz=285,slow=2.1,SNR=2.6
YKA Yellowknife Ar 75.68 348 P **P** **19 44 59.3 -1.6**
comp=Z,0.2nm,0.6s,baz=15,slow=5.8,SNR=2.8

IDC 23 19:36:52.3±1.2, 16°.67S×114°.07W, h0^{km}, mb3.9/4, mb1 4.3/4, mb1mx3.9/22, mbtmp3.9/4, MS3.5/3, Ms1 3.6/3, ms1mx3.4/14, Error ellipse: s-maj=80.0km s-min=40.5km az=92.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**33.91**	**263**	LR	LR	19 53 57.6	
	comp=Z,124nm,20.5s,baz=84,slow=30						
H06E1	**SOCORRO T-PHAS**	**35.36**	**5**	T	T	20 20 38.6	
	SNR=89						
LPAZ	**La Paz**	**43.98**	**96**	LR	LR	19 59 32.5	
	comp=Z,63nm,21.4s,baz=190,slow=31						
TXAR	**Lajitas Array**	**46.83**	**12**	LR	LR	20 02 25.5	
	comp=Z,45nm,19.3s,baz=0.0,slow=33						
NVAR	**Mina Array Bea**	**54.95**	**356**	P	P	19 46 25.8	+0.4
	2.2nm,1.0s,baz=185,slow=9.4,SNR=8.3						
PDAR	**Pinedale Array**	**59.29**	**4**	P	P	19 46 56.1	0.0
	1.1nm,0.8s,baz=162,slow=6.7,SNR=8.1						
YKA	**Yellowknife Ar**	**78.90**	**360**	P	P	19 48 57.1	+0.1
	0.8nm,0.9s,baz=173,slow=5.6,SNR=12						
ILAR	**Eielson Array**	**84.97**	**347**	P	P	19 49 27.4	-1.7
	0.5nm,0.7s,baz=169,slow=3.7,SNR=6.2						
H11S2	**WAKE ISLAND Hy**	**85.40**	**291**	T	T	21 22 07.0	
	baz=110,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**85.41**	**291**	T	T	21 22 07.0	
	baz=110,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**85.42**	**291**	T	T	21 22 07.6	
	baz=110,slow=75,SNR=10						
TORD	**Torodi Ar. Bea**	**118.06**	**84**	PKP	PKPdf	19 55 40.3	-1.8
	0.5nm,1.2s,baz=257,slow=4.2,SNR=2.8						
SONM	**Songino Array**	**134.59**	**322**	PKP	PKPdf	19 56 12.8	-0.1
	0.4nm,0.7s,baz=327,slow=1.5,SNR=4.0						
BRTR	**Keskin Array B**	**143.75**	**44**	PKP	PKPdf	19 56 30.9	+1.0
	3.0nm,0.8s,baz=277,slow=2.3,SNR=12						
KURBB	**Kurchatov Arra**	**144.65**	**346**	PKP	PKPab	19 56 29.2	-0.2
	0.3nm,0.5s,baz=15,slow=1.9,SNR=3.2						
AKTO	**Aktyubinsk**	**145.72**	**9**	PKPbc	PKPdf	19 56 32.1	-0.7
	2.3nm,0.7s,baz=353,slow=4.0,SNR=12						
KBZ	**Khabaz**	**146.71**	**31**	PKPbc	PKPbc	19 56 36.7	+0.5
	2.4nm,0.9s,baz=4.1,slow=4.1,SNR=6.7						
MKAR	**Makanchi Array**	**147.04**	**339**	PKPbc	PKPdf	19 56 36.0	+0.8
	0.4nm,0.7s,baz=42,slow=2.0,SNR=6.1						
CMAR	**Chiang Mai Arr**	**148.50**	**278**	PKPbc	PKPbc	19 56 41.8	-0.1
	3.8nm,1.1s,baz=70,slow=1.5,SNR=16						
AAK	**Ala-Archa**	**153.10**	**346**	PKPbc	PKPbc	19 56 52.5	+0.1
	0.3nm,0.4s,baz=276,slow=2.0,SNR=2.8						
GEYT	**Alibeck**	**157.73**	**16**	PKP	PKPdf	19 56 51.9	+0.7
	0.4nm,0.5s,baz=297,slow=6.3,SNR=2.6						

JMA 23 19:37:14.3±0.2, 27°.81N×140°.59E, h507^{km}, M3.5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.59**	**116**	P	P	19 38 18.5	+0.3
JHHJ	**Haha-jima-NKT**	**1.84**	**129**	P	P	19 38 19.9	+0.6
JHHJ				S	S	19 39 11.5	-0.6
JIE	**Ise**	**7.36**	**334**	P	P	19 39 05.2	+1.0
JKN2	**Miekihoku**	**7.40**	**331**	P	P	19 39 05.9	+1.3
JRY	**Ryogami san**	**8.31**	**350**	P	P	19 39 15.4	+1.5
JAG	**Ashikaga**	**8.64**	**354**	P	P	19 39 17.6	+0.2
JHO	**Hitachi**	**8.78**	**360**	P	P	19 39 20.8	+2.1

GUC 23 19:40:56.9±0.4, 34°.74S×72°.50W, h31^{km}±4^{km}, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.97**	**133**	*e*P	Pn	19 41 13.6	-0.8
TALC				*e*S	Sn	19 41 26.2	-0.8
NICH	**Los Niches**	**1.08**	**104**	*e*P	Pn	19 41 15.5	-0.4
NICH				*e*S	Sn	19 41 29.4	-0.3
LNCH	**Linares**	**1.33**	**147**	*e*P	Pn	19 41 19.0	-0.3
LNCH				*e*S	Sn	19 41 36.1	+0.1
COCH	**Cobquecura**	**1.41**	**190**	*e*P	Pn	19 41 20.2	-0.2

COCH				*e*S	Sn	19 41 38.5 +0.6
RCDM	**Rinconada Maip**	**1.88**	**49**	*e*P9	Pn	19 41 29.3 +2.4
RCDM				*e*S	Sb	19 41 52.5 -1.3
CLCH	**Cerro Calan**	**2.11**	**51**	*e*P	Pn	19 41 31.0 +0.8
CLCH				*e*S	Sn	19 41 57.1 +1.6
CLCH				IAML		19 42 06.5
	comp=N,566nm,0.7s					
PEL	**Peldehue**	**2.19**	**44**	*e*P	Pn	19 41 32.1 +0.8
PEL				*e*S	Sn	19 41 58.9 +1.4
PEL				IAML		19 42 06.3
	comp=N,895nm,0.6s					

NIED ***23*** *20:17:00,36°.30N×142°.80E,h11km,Mw3.9 Best double couple: M0 7.06000×10^14 NP1:φs=320.00000°,δ60.00000°, λ-175.00000°. NP2:φs=228.00000°,δ85.00000°, λ-30.00000°.*
ISCJB ***23*** *20:17:52.4±0.6,36°.35N±0°.04×142°.86E±0°.05,h29km, mb3.7/11,MS3.4/1,Error ellipse: s-maj=5.9km s-min=5.2km az=43.0*
JMA ***23*** *20:17:54.0±0.2,36°.34N×142°.76E,h72km,M3.9*
IDC ***23*** *20:17:56.3±0.6,36°.22N×142°.90E,h49km±6km,mb3.5/11, mb1 3.7/14,mb1mx3.5/40,mbtmp3.7/14,MS2.9/5, Ms1 2.9/5,ms1mx2.6/26,Error ellipse: s-maj=14.7km s-min=11.8km az=175.0*
ISC 23 20:17:55.2±0.7,36°.38N±0°.05×142°.82E±0°.07,h29km,n39, σ1§92/47,mb3.8/11,2C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.73**	**247**	P	**Pn**	**20 18 21.8**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.77**	**294**	P	**Pn**	**20 18 22.8**	**-1.1**
JHO	**Hitachi**	**1.82**	**278**	⇑P	**Pn**	**20 18 23.2**	**-1.4**
JFK	**Kawauchi**	**1.84**	**303**	P	**Pn**	**20 18 23.6**	**-1.2**
JFK				*e*S	**Sn**	**20 18 46.0**	**-1.2**
BSO1	**Boso 1**	**2.29**	**222**	P	**Pn**	**20 18 28.6**	**-1.8**
JFT	**Otama**	**2.29**	**300**	⇑P	**Pn**	**20 18 30.7**	**-0.2**
JFT				S	**Sn**	**20 18 57.6**	**-0.5**
JAG	**Ashikaga**	**2.71**	**272**	P	**Pn**	**20 18 36.1**	**-0.7**
JAG				*e*S	**Sn**	**20 19 06.8**	**-1.8**
JMK	**Ichinoseki**	**2.86**	**334**	P	**Pn**	**20 18 37.7**	**-1.1**
JMK				S	**Sn**	**20 19 11.3**	**-0.9**
JRY	**Ryogami san**	**3.19**	**265**	P	**Pn**	**20 18 42.1**	**-1.2**
JRY				S	**Sn**	**20 19 18.1**	**-2.3**
JYK	**Kaneyama**	**3.19**	**323**	P	**Pn**	**20 18 43.0**	**-0.4**
JYK				S	**Sn**	**20 19 19.9**	**-0.6**
JOD2	**Odawara 2**	**3.23**	**251**	P	**Pn**	**20 18 42.7**	**-1.2**
JOD2				S	**Sn**	**20 19 19.0**	**-2.4**
JOM	**Ohasama**	**3.31**	**339**	P	**Pn**	**20 18 44.1**	**-0.9**
JOM				S	**Sn**	**20 19 22.0**	**-1.4**
JYN	**Shimob**	**3.58**	**257**	P	**Pn**	**20 18 48.0**	**-0.7**
JYN				S	**Sn**	**20 19 28.8**	**-1.3**
MJAR	**Matsushiro Arr**	**3.72**	**274**	P	**Pn**	**20 18 49.9**	**-0.7**
	9.3nm,0.3s,baz=126,slow=9.4,SNR=68						
MJAR				S	**Sn**	**20 19 35.6**	**+2.1**
	baz=57,slow=24,SNR=1.1						
MJAR				LR	LR	20 20 49.8	
	comp=Z,45nm,20.7s,baz=110,slow=46						
MAT	**Matsushiro**	**3.72**	**274**	P	**Pn**	**20 18 50.7**	**+0.1**
MAT				S	**Sn**	**20 19 35.7**	**+2.2**
MAT	**Matsushiro**	**3.72**	**274**	P	**Pn**	**20 18 50.8**	**+0.1**
ASAJ	**Asahikawa**	**7.73**	**359**	P	**Pn**	**20 19 43.4**	**-2.3**
	4.3nm,0.3s,baz=209,slow=9.4,SNR=45						
ASAJ				S	**Sn**	**20 21 06.8**	**-5.3**
	1.0nm,0.3s,baz=333,slow=26,SNR=1.9						
ASAJ				LR	LR	20 22 48.6	
	comp=Z,79nm,20.1s,baz=178,slow=37						
JCJ	**Chichijima**	**9.28**	**183**	P	Pn	20 19 59.9	-7.0
	12nm,0.3s,baz=1.6,slow=21,SNR=10						
JCJ				S	Sn	20 21 36.3	-14
	5.8nm,0.3s,baz=306,slow=23,SNR=1.8						
JNU	**Nakatsue**	**10.35**	**255**	LR	LR	20 24 36.9	
	comp=Z,65nm,19.4s,baz=126,slow=39						
USRK	**Ussuriysk Ar.**	**11.36**	**317**	P	**Pn**	**20 20 38.3**	**+2.9**
	0.3nm,0.3s,baz=124,slow=14,SNR=4.1						
KSRS	**Korea Array**	**11.97**	**280**	P	**Pn**	**20 20 45.9**	**+2.1**
	0.2nm,0.3s,baz=98,slow=14,SNR=6.5						
KSRS				LR	LR	20 25 09.2	
	comp=Z,44nm,18.2s,baz=42,slow=36						
H11N2	**WAKE ISLAND Hy**	**26.85**	**122**	T	T	20 50 48.9	
	baz=313,slow=74,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**26.86**	**122**	T	T	20 50 55.4	
	baz=313,SNR=2.5						
H11N3	**WAKE ISLAND Hy**	**26.86**	**122**	T	T	20 50 55.0	
	baz=313,slow=74,SNR=3.4						
SONM	**Songino Array**	**29.08**	**305**	P	**P**	**20 23 54.6**	**+1.5**
	1.2nm,0.6s,baz=107,slow=8.6,SNR=12						
CMAR	**Chiang Mai Arr**	**42.44**	**257**	P	**P**	**20 25 47.1**	**-0.4**
	0.3nm,0.6s,baz=50,slow=9.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**43.18**	**313**	P	**P**	**20 25 53.5**	**+0.4**
	1.6nm,0.5s,baz=94,slow=6.6,SNR=7.5						
MKAR	**Makanchi Array**	**45.42**	**303**	P	**P**	**20 26 11.6**	**+0.4**
	1.3nm,0.6s,baz=94,slow=11,SNR=12						
KURBB	**Kurchatov Arra**	**47.29**	**309**	P	**P**	**20 26 25.7**	**0.0**
	1.9nm,0.6s,baz=84,slow=7.9,SNR=18						
ILAR	**Eielson Array**	**49.44**	**32**	P	**P**	**20 26 41.6**	**-0.6**
	0.3nm,0.7s,baz=255,slow=6.3,SNR=3.4						
ILAR				pP	**pP**	**20 26 55.5**	**+4.5**
	1.0nm,0.8s,baz=267,slow=6.5,SNR=6.7						
WRA	**Warramunga Arr**	**56.59**	**190**	P	**P**	**20 27 32.6**	**-2.7**
	1.0nm,0.8s,baz=8.1,slow=7.5,SNR=12						
WRA				pP	**pP**	**20 27 45.5**	**+1.3**
	0.4nm,0.3s,baz=3.0,slow=7.6,SNR=4.1						
AKTO	**Aktyubinsk**	**59.95**	**313**	LR	LR	20 54 46.9	
	comp=Z,27nm,18.7s,baz=145,slow=37						
ASAR	**Alice Springs**	**60.32**	**189**	P	**P**	**20 27 59.0**	**-2.3**
	0.7nm,0.8s,baz=12,slow=7.1,SNR=7.8						
ASAR				pP	**pP**	**20 28 13.7**	**+3.5**
	0.4nm,0.5s,baz=1.5,slow=6.7,SNR=3.7						
YKA	**Yellowknife Ar**	**63.80**	**30**	P	**P**	**20 28 21.7**	**-2.5**
	0.1nm,0.6s,baz=302,slow=7.2,SNR=3.2						
YKA				pP	**pP**	**20 28 36.7**	**+3.5**
	0.3nm,0.6s,baz=299,slow=6.4,SNR=4.6						
NVAR	**Mina Array Bea**	**74.47**	**54**	P	**P**	**20 29 31.7**	**+0.6**
	0.3nm,0.6s,baz=297,slow=4.0,SNR=2.3						
NVAR				pP	**PcP**	**20 29 45.0**	**-0.6**
	0.6nm,0.7s,baz=297,slow=6.0,SNR=3.1						
AKASG	**Malin Array Be**	**75.50**	**323**	P	**P**	**20 29 35.7**	**-0.8**
	0.3nm,0.3s,baz=45,slow=6.4,SNR=1.9						
PDAR	**Pinedale Array**	**77.31**	**46**	pP	pP	20 30 00.7	+4.2
	0.7nm,0.8s,baz=263,slow=1.4,SNR=4.6						
TXAR	**Lajitas Array**	**89.62**	**53**	pP	pP	20 31 03.5	+3.7
	0.6nm,0.7s,baz=289,slow=2.8,SNR=1.4						
LPAZ	**La Paz**	**146.03**	**62**	pPKPbc	pPKPbc	20 37 44.9	+2.0
	1.8nm,0.7s,baz=32,slow=5.9,SNR=2.9						

MOS ***23*** *20:19:21.4±1.2,15°.28S×74°.68W,h33km,mb5.3/45,Error ellipse: s-maj=12.0km s-min=6.3km az=112.3*
ISCJB ***23*** *20:19:22.2±0.9,15°.23S±0°.04×74°.60W±0°.04,h40km±8km, mb5.1/133,MS4.4/17,Error ellipse: s-maj=8.6km s-min=4.3km az=138.8*
BJI ***23*** *20:19:22.5,15°.30S×74°.60W,h31km,mB5.1/24,Ms5.4/19, Ms7 5.0/19*
IDC ***23*** *20:19:25.2±0.4,15°.35S×74°.58W,h52km±2km,mb4.5/17, mb1 4.7/19,mb1mx4.6/25,mbtmp4.7/19,MS4.2/16, Ms1 4.2/16,ms1mx4.2/19,Error ellipse: s-maj=15.5km s-min=8.9km az=53.0*
NEIC ***23*** *20:19:25.1±0.2,15°.33S×74°.56W,mb5.2/110,Error ellipse: s-maj=7.3km s-min=4.0km az=56.0*
NEIC Felt [IV] at Acari, Ica, Marcona, Nazca, Palpa and Puquio; [III] at Andahuaylas, Arequipa and Ayacucho; [II] at Huanta, Lima and Mala. Also felt at Abancay, Barranca, Chincha Alta, Coracora, Cusco, Huacho, Huanacavelica, Juliaca and Pisco.
GCMT ***23*** *20:19:25.0±0.2,15°.32S×74°.84W,h62km±2km,MW5.2/92, Moment Tensor Solution. s68,c100; s92,c150; Duration: 1§0 Moment tensor: Scale 10^16Nm; Mrr0.64±.17; Mθθ-1.33±.14; Mφφ0.69±.18; Mrθ-2.23±.09; Mθφ2.85±.14; Mφr6.93±.16; Best double couple: M0 7.88900×10^16 NP1:φs=343.00000°,δ87.00000°, λ112.00000°. NP2:φs=81.00000°,δ22.00000°,λ8.00000°. Principal axes: T 7.6220, Plg44.0000°, Azm274.0000°; N 0.5380, Plg22.0000°, Azm162.0000°; P -8.1550, Plg38.0000°, Azm54.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 23 20:19:24.8±0.3,15°.44S±0°.05×74°.68W±0°.05,h50km±2km, h49km:pP-P,n824,σ1§16/861,mb5.2/133,MS4.5/18, 205C-222D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**3.24**	**109**	⇓*i*P	**Pn**	**20 20 14.1**	**+0.7**
ARE				*e*S	**Sn**	**20 20 50.1**	**-0.8**
ARE	**Arequipa**	**3.24**	**109**	⇓*i*P	**Pn**	**20 20 14.1**	**+0.7**
ARE				*e*S	**Sn**	**20 20 50.1**	**-0.8**
NNA	**Nana**	**4.02**	**328**	Pn	**Pn**	**20 20 22.0**	**-2.0**
	35μm,0.4s,SNR=59						
NNA	**Nana**	**4.02**	**328**	*e*P	**Pn**	**20 20 22.7**	**-1.3**
NNA				*e*		20 21 11.7	
NNA	**Nana**	**4.02**	**328**	P	**Pn**	**20 20 22.7**	**-1.3**
	151nm,0.3s,baz=128,slow=8.8,SNR=123						
NNA				S	**Sn**	**20 21 12.6**	**+2.8**
	1μm,0.3s,baz=259,slow=22,SNR=5.6						
NNA				LR	LR	20 22 16.4	
	comp=Z,967nm,19.3s,baz=174,slow=43						
NNA	**Nana**	**4.02**	**328**	*e*Pn	**Pn**	**20 20 22.7**	**-1.3**
NNA				*e*Sn	**Sn**	**20 21 11.7**	**+1.9**
LPAZ	**La Paz**	**6.36**	**99**	*e*P	Pn	20 21 00.6	+4.0
LPAZ	**La Paz**	**6.36**	**99**	P	**Pn**	**20 20 59.1**	**+2.5**
	11nm,0.3s,baz=281,slow=7.4,SNR=75						
LPAZ				S	**Sn**	**20 22 12.4**	**+4.1**
	baz=294,slow=5.7,SNR=1.7						
LPAZ				LR	LR	20 23 16.7	
	comp=Z,447nm,20.7s,baz=270,slow=37						
LPAZ	**La Paz**	**6.36**	**99**	*e*Pn	**Pn**	**20 20 58.8**	**+2.1**
	8.9nm,0.4s						
LPAZ				S	**Sn**	**20 22 12.4**	**+4.1**
LVC	**Limon Verde**	**8.98**	**143**	*e*Pn	**Pn**	**20 21 32.9**	**+0.6**
ATAH	**Atahualpa**	**9.02**	**336**	P	**Pn**	**20 21 32.7**	**-0.2**
	1.9nm,0.3s,baz=157,slow=7.7,SNR=7.4						
ATAH				S	**Sn**	**20 23 14.1**	**+0.9**
	12nm,0.3s,baz=41,slow=7.2,SNR=2.0						
SAML	**Samuel**	**12.96**	**61**	⇓*e*Pn	**Pn**	**20 22 23.2**	**-3.1**
LCO	**Las Campanas**	**14.00**	**165**	*e*Pn	**Pn**	**20 22 39.3**	**-1.5**
OTAV	**Otavalo**	**16.01**	**346**	*e*Pn	**Pn**	**20 23 08.3**	**+1.0**
	113nm,1.1s						
CFAA	**Coronel Fontan**	**17.14**	**161**	P	**P**	**20 23 22.4**	**+0.4**
	0.1nm,0.3s,baz=336,slow=10,SNR=18						
CFAA				LR	LR	20 29 18.5	
	comp=Z,50nm,20.1s,baz=346,slow=34						
ROSC	**El Rosal**	**20.16**	**1**	P	Pn	20 24 00.9	+2.9
	15nm,0.5s,baz=168,slow=3.8,SNR=22						
ROSC				S	Sn	20 27 53.4	+8.7
	7.4nm,0.5s,baz=263,slow=23,SNR=1.4						
ROSC				LR	LR	20 32 34.0	
	comp=Z,831nm,18.1s,baz=194,slow=39						
PTGA	**Pitinga**	**20.61**	**46**	P	**P**	**20 23 59.2**	**-0.9**
	73nm,0.7s,baz=230,slow=12,SNR=39						
PTGA	**Pitinga**	**20.61**	**46**	⇓*i*P	**P**	**20 23 59.0**	**-1.1**
	97nm,0.6s						
SDV	**Santo Domingo**	**24.50**	**10**	⇓*e*P	**P**	**20 24 39.2**	**-0.6**
	77nm,1.0s						
BCIP	**Isla Barro Col**	**24.97**	**348**	P	**P**	**20 24 41.0**	**-3.0**
TRQA	**Tornquist**	**25.17**	**156**	*e*P	**P**	**20 24 45.1**	**-0.5**
	39nm,1.1s						
PLCA	**Paso Flores**	**25.46**	**173**	*e*P	**P**	**20 24 48.4**	**+0.1**
PLCA						20 28 19.8	
PLCA				pmax	pmax		
	comp=Z,47nm,1.0s						
PLCA	**Paso Flores**	**25.46**	**173**	P	**P**	**20 24 48.8**	**+0.5**
	comp=Z,13nm,0.7s,baz=357,slow=11,SNR=16						
PLCA				PcP	**PcP**	**20 28 19.8**	**+0.6**
	comp=Z,6.3nm,0.8s,baz=348,slow=1.8,SNR=4.2						
PLCA				LR	LR	20 33 10.8	
	comp=Z,223nm,21.6s,baz=336,slow=32						
PLCA	**Paso Flores**	**25.46**	**173**	*e*P	**P**	**20 24 48.4**	**+0.1**
	comp=Z,46nm,1.0s						
PLCA				PcP	**PcP**	**20 28 19.8**	**+0.6**
JTS	**JuntasAbangare**	**27.51**	**338**	*e*P	**P**	**20 25 07.5**	**+0.6**
JTS				pmax	pmax		
	comp=Z,19nm,1.2s						
JTS	**JuntasAbangare**	**27.51**	**338**	P	**P**	**20 25 03.8**	**-3.1**
RPN	**Rapa Nui**	**34.21**	**244**	LR	LR	20 36 24.4	
	comp=Z,874nm,18.5s,baz=34,slow=30						
SJG	**San Juan**	**34.38**	**14**	P	**P**	**20 26 06.6**	**-0.8**
SJG	**San Juan**	**34.38**	**14**	P	**P**	**20 26 06.6**	**-0.8**
TEIG	**Tepich**	**37.88**	**339**	*e*P	**P**	**20 26 35.8**	**-1.4**
	comp=Z,141nm,1.5s						
EFI	**East Falkland**	**38.52**	**163**	*e*P	**P**	**20 26 42.8**	**+0.5**
EFI	**East Falkland**	**38.52**	**163**	*e*P	**P**	**20 26 42.8**	**+0.5**
RCBR	**Riachuelo**	**39.23**	**80**	P	**P**	**20 26 48.5**	**-0.3**
	comp=Z,12nm,1.0s,baz=260,slow=7.9,SNR=5.2						
RCBR				pP	**pP**	**20 27 01.1**	**-0.9**
	comp=Z,12nm,0.7s,baz=255,slow=7.9,SNR=4.3						
RCBR				sP	**sP**	**20 27 08.3**	**+0.5**
	comp=Z,8.8nm,0.8s,baz=244,slow=5.2,SNR=3.0						
RCBR	**Riachuelo**	**39.23**	**80**	*e*P	**P**	**20 26 48.0**	**-0.8**
	comp=Z,44nm,1.5s						
RCBR				pP	**pP**	**20 27 01.1**	**-0.9**
RCBR				sP	**sP**	**20 27 08.3**	**+0.5**
USHA	**Ushuaia**	**39.61**	**174**	P	**P**	**20 26 52.1**	**+0.8**
	comp=Z,13nm,0.9s,baz=346,slow=6.0,SNR=3.6						
TIGA	**Tifton**	**47.38**	**350**	⇑P	**P**	**20 27 55.0**	**+0.8**
	baz=48						
035Z	**Hargill**	**47.45**	**331**	⇑P	**P**	**20 27 55.0**	**+0.2**
	baz=48						
035A	**Encino**	**47.87**	**331**	⇓P	**P**	**20 27 58.3**	**+0.3**
	baz=48						
034A	**Hebbronville**	**48.25**	**331**	⇓P	**P**	**20 28 01.5**	**+0.6**
	baz=48,SNR=11						
738A	**Farr-Stevens R**	**48.46**	**335**	⇑P	**P**	**20 28 03.1**	**+0.5**
	baz=49						
934A	**Benavides**	**48.63**	**331**	⇑P	**P**	**20 28 04.2**	**+0.3**
	baz=49						
835A	**Beeville**	**48.90**	**333**	⇓P	**P**	**20 28 06.5**	**+0.5**
	baz=49						
933A	**Laredo**	**48.99**	**331**	⇑P	**P**	**20 28 06.5**	**-0.2**
	baz=49,SNR=8.2						
834A	**Tilden**	**49.09**	**332**	⇓P	**P**	**20 28 07.5**	**+0.1**
	baz=49						
735A	**Kenedy**	**49.38**	**333**	⇑P	**P**	**20 28 09.6**	**0.0**
	baz=50						
HKT	**Hockley**	**49.52**	**336**	*e*P	**P**	**20 28 10.0**	**-0.5**
HKT				pmax	pmax		
	comp=Z,51nm,1.7s						
HKT	**Hockley**	**49.52**	**336**	*e*P	**P**	**20 28 10.0**	**-0.5**
	comp=Z,51nm,1.7s						
636A	**Smothers Creek**	**49.60**	**334**	⇑P	**P**	**20 28 11.6**	**+0.3**
	baz=50,SNR=8.3						
LRAL	**Lakeview Retre**	**49.62**	**346**	P	**P**	**20 28 08.6**	**-2.7**
	comp=Z,21nm,1.0s						
833A	**Chaparral WMA,**	**49.65**	**331**	⇓P	**P**	**20 28 11.4**	**-0.3**
	baz=50,SNR=12						
734A	**La Parita Cree**	**49.71**	**332**	⇑P	**P**	**20 28 12.0**	**-0.1**
	baz=50						
PMSA	**Palmer Station**	**49.82**	**174**	P	**P**	**20 28 13.8**	**+1.3**
537A	**Green Hill Far**	**49.83**	**335**	⇓P	**P**	**20 28 13.0**	**+0.1**
	baz=50,SNR=7.6						
635A	**Leesville**	**49.83**	**333**	⇑P	**P**	**20 28 12.7**	**-0.3**
	baz=50						
832A	**Faith Ranch, C**	**49.89**	**330**	⇑P	**P**	**20 28 13.0**	**-0.5**
	baz=50,SNR=7.7						
733A	**Divot King Ran**	**49.94**	**331**	⇓P	**P**	**20 28 13.6**	**-0.3**
	baz=50						
634A	**China Grove, S**	**50.08**	**333**	⇓P	**P**	**20 28 14.5**	**-0.4**
	baz=50						
438A	**Sam Houston St**	**50.09**	**337**	⇓P	**P**	**20 28 15.2**	**+0.2**
	baz=50						
340A	**Bronson**	**50.10**	**338**	⇓P	**P**	**20 28 15.3**	**+0.2**
	baz=50						
536A	**Bastrop**	**50.13**	**335**	⇑P	**P**	**20 28 15.3**	**0.0**
	baz=50						
732A	**Laxson Ranch,**	**50.26**	**331**	⇓P	**P**	**20 28 15.9**	**-0.4**
	baz=50,SNR=12						
339A	**Huntington**	**50.27**	**338**	⇓P	**P**	**20 28 15.9**	**-0.4**
	baz=50						
535A	**Dale**	**50.30**	**334**	⇓P	**P**	**20 28 16.1**	**-0.5**
	baz=50						
437A	**Phantom Ranch,**	**50.42**	**336**	⇓P	**P**	**20 28 17.4**	**0.0**
	baz=51						
633A	**Saathoff Ranch**	**50.51**	**332**	⇑P	**P**	**20 28 17.9**	**-0.3**
	baz=51,SNR=13						
338A	**Crockett**	**50.57**	**337**	⇓P	**P**	**20 28 18.7**	**+0.1**
	baz=51						
534A	**Blanco**	**50.69**	**333**	⇓P	**P**	**20 28 18.7**	**-0.9**
	baz=51						
KMSC	**Kings Mountain**	**50.69**	**353**	⇓P	**P**	**20 28 18.5**	**-1.0**
	baz=51,SNR=5.3						
KMSC	**Kings Mountain**	**50.69**	**353**	*e*P	**P**	**20 28 18.9**	**-0.6**
	comp=Z,30nm,1.0s						
239A	**Gary**	**50.85**	**338**	⇑P	**P**	**20 28 20.3**	**-0.4**
	baz=51						
435B	**Jarrell**	**50.96**	**334**	⇑P	**P**	**20 28 21.1**	**-0.4**
	baz=51						
238A	**Jacksonville**	**51.08**	**338**	⇓P	**P**	**20 28 22.3**	**-0.1**
	baz=51						
631A	**Perdido Creek**	**51.12**	**331**	⇓P	**P**	**20 28 21.9**	**-0.9**
	baz=51,SNR=21						
336A	**Riesel**	**51.19**	**336**	⇑P	**P**	**20 28 22.6**	**-0.7**
	baz=51						
434A	**Burnet**	**51.28**	**334**	⇑P	**P**	**20 28 23.2**	**-0.7**
	baz=52,SNR=5.3						
237A	**Washetta, Mont**	**51.33**	**337**	⇓P	**P**	**20 28 24.2**	**-0.1**
	baz=52						
335A	**Moody**	**51.33**	**335**	⇑P	**P**	**20 28 23.8**	**-0.6**
	baz=52						
532A	**Rocksprings**	**51.41**	**332**	⇓P	**P**	**20 28 24.6**	**-0.4**
	baz=52,SNR=14						
SWET	**Sewanee**	**51.49**	**348**	*e*P	**P**	**20 28 23.5**	**-2.0**
433A	**Art**	**51.58**	**333**	⇑P	**P**	**20 28 25.4**	**-0.9**
	baz=52,SNR=10						
138A	**Matatall Enter**	**51.66**	**338**	⇓P	**P**	**20 28 26.9**	**+0.1**
	baz=52						
JCT	**Junction City**	**51.66**	**332**	*e*P	**P**	**20 28 25.7**	**-1.2**
JCT				pmax	pmax		
	comp=Z,21nm,1.0s						
JCT	**Junction City**	**51.66**	**332**	⇓P	**P**	**20 28 26.4**	**-0.5**
	baz=52						
JCT	**Junction City**	**51.66**	**332**	*e*P	**P**	**20 28 25.7**	**-1.2**
	comp=Z,21nm,1.0s						
334A	**Lometa**	**51.71**	**334**	⇓P	**P**	**20 28 26.3**	**-1.0**
	baz=52,SNR=6.4						
531A	**Rocksprings**	**51.73**	**331**	⇓P	**P**	**20 28 27.1**	**-0.3**
	baz=52,SNR=13						
137A	**Heron Place, G**	**51.85**	**337**	⇓P	**P**	**20 28 28.5**	**+0.4**
	baz=52						
WHTX	**Lake Whitney,**	**51.97**	**335**	⇓P	**P**	**20 28 28.5**	**-0.5**
	baz=52						
WHTX	**Lake Whitney,**	**51.97**	**335**	*e*P	**P**	**20 28 26.9**	**-2.2**
	comp=Z,53nm,0.9s						
432A	**Menard**	**51.99**	**332**	⇑P	**P**	**20 28 28.5**	**-0.9**
	baz=52,SNR=7.4						
333A	**Richland Sprin**	**52.02**	**333**	⇓P	**P**	**20 28 28.6**	**-1.0**
	baz=52,SNR=7.2						
530A	**J-C Ranch, Com**	**52.09**	**330**	⇓P	**P**	**20 28 29.4**	**-0.7**
	baz=52,SNR=18						
431A	**Sonora**	**52.20**	**332**	⇑P	**P**	**20 28 30.1**	**-0.8**
	baz=52,SNR=16						
234A	**Clairette**	**52.26**	**335**	⇓P	**P**	**20 28 30.6**	**-0.7**
	baz=52,SNR=9.1						
332A	**Millersview**	**52.41**	**333**	⇓P	**P**	**20 28 31.5**	**-0.9**
	baz=53,SNR=16						
135A	**Vickery Place,**	**52.45**	**336**	⇑P	**P**	**20 28 31.7**	**-0.9**
	baz=53						
529A	**Stev Forest Ra**	**52.50**	**330**	⇑P	**P**	**20 28 32.8**	**-0.3**
	baz=53,SNR=46						
TXAR	**Lajitas Array**	**52.58**	**328**	P	**P**	**20 28 33.3**	**-0.5**
	comp=Z,17nm,0.6s,baz=151,slow=8.9,SNR=152						
TXAR				pP	**pP**	**20 28 48.3**	**+1.0**
	comp=Z,3.1nm,0.6s,baz=134,slow=8.9,SNR=5.7						
TXAR				LR	LR	20 48 54.6	
	comp=Z,188nm,18.1s,baz=0.0,slow=34						
430A	**Baggett Ranch,**	**52.58**	**331**	⇑P	**P**	**20 28 33.0**	**-0.7**
	baz=53,SNR=18						
233A	**Rising Star**	**52.59**	**334**	⇓P	**P**	**20 28 32.9**	**-0.8**
	baz=53,SNR=14						
331A	**San Angelo**	**52.65**	**332**	⇑P	**P**	**20 28 33.3**	**-0.9**
	baz=53,SNR=10						
UALR	**University of**	**52.68**	**342**	*e*P	**P**	**20 28 31.9**	**-2.4**
	comp=Z,44nm,1.4s						
134A	**White-Moore Ra**	**52.73**	**335**	⇑P	**P**	**20 28 34.2**	**-0.5**
	baz=53,SNR=10						
429A	**Davenport Ranc**	**52.75**	**330**	⇑P	**P**	**20 28 34.6**	**-0.4**
	baz=53,SNR=24						
WVT	**Waverly**	**52.77**	**347**	*e*P	**P**	**20 28 31.8**	**-3.1**
WVT				pmax	pmax		
	comp=Z,23nm,1.2s						
WVT	**Waverly**	**52.77**	**347**	*e*P	**P**	**20 28 31.8**	**-3.1**
	comp=Z,24nm,1.2s						
232A	**Coleman**	**52.80**	**333**	⇑P	**P**	**20 28 34.2**	**-1.1**
	baz=53,SNR=24						
MIAR	**Mount Ida**	**52.85**	**340**	*e*P	**P**	**20 28 34.1**	**-1.5**
MIAR				pmax	pmax		
	comp=Z,18nm,1.0s						
MIAR	**Mount Ida**	**52.85**	**340**	*e*P	**P**	**20 28 34.1**	**-1.5**
	comp=Z,18nm,1.0s						
Z35A	**Perchaven, San**	**53.07**	**336**	⇑P	**P**	**20 28 36.9**	**-0.2**
	baz=53						
330A	**Mertzon**	**53.07**	**332**	⇑P	**P**	**20 28 36.2**	**-1.1**
	baz=53,SNR=7.2						
133A	**Hamilton Ranch**	**53.10**	**334**	⇓P	**P**	**20 28 37.0**	**-0.5**
	baz=53,SNR=9.7						
231A	**Bronte**	**53.13**	**333**	⇓P	**P**	**20 28 36.5**	**-1.2**
	baz=53						
Z34A	**Collier Ranch,**	**53.36**	**336**	⇑P	**P**	**20 28 38.9**	**-0.5**
	baz=54						
ABTX	**Abilene, Hawle**	**53.42**	**334**	⇑P	**P**	**20 28 39.1**	**-0.8**
	baz=54,SNR=11						
ABTX	**Abilene, Hawle**	**53.42**	**334**	*e*P	**P**	**20 28 38.7**	**-1.1**
	comp=Z,159nm,1.5s						
230A	**Sterling City**	**53.45**	**332**	⇑P	**P**	**

baz=56
W31A Holland Ranch, 55.76 335 ⇑P P 20 28 55.5 -1.3
baz=56
V32A Arapaho 55.87 336 ⇓P P 20 28 56.5 -1.0
baz=56,SNR=6.0
X29A Tulia 55.87 333 ⇑P P 20 28 56.3 -1.4
baz=56,SNR=8.3
ACSO Alum Creek Sta 55.92 352 eP P 20 28 55.4 -2.4
U34A Anderson Ranch 55.93 338 ⇑P P 20 28 56.7 -1.2
baz=56
U34A Anderson Ranch 55.93 338 eP P 20 28 56.3 -1.6
comp=Z,109nm,1.8s
MSTX Muleshoe 55.95 332 ⇓P P 20 28 57.0 -1.3
baz=56,SNR=6.0
MSTX Muleshoe 55.95 332 eP P 20 28 56.6 -1.7
comp=Z,35nm,1.3s
U33A Lingo Farm, Me 56.14 337 ⇓P P 20 28 58.4 -1.1
baz=56
X28A Dimmitt 56.15 333 ⇓P P 20 28 58.5 -1.1
baz=56
V31A Spring Creek L 56.23 335 ⇑P P 20 28 59.4 -0.8
baz=56
AMTX Amarillo 56.23 333 ⇑P P 20 28 58.8 -1.5
baz=56
AMTX Amarillo 56.23 333 eP P 20 28 58.4 -1.9
comp=Z,76nm,1.9s
S36A Lake Cedric, C 56.41 340 ⇑P P 20 29 00.1 -1.2
baz=57,SNR=7.8
W29A Amarillo 56.42 334 ⇑P P 20 28 60.0 -1.6
baz=57,SNR=5.2
U32A Winter Ranch, 56.43 336 ⇓P P 20 29 00.4 -1.1
baz=57
V30A Spur Ranch, Mi 56.56 335 ⇑P P 20 29 01.9 -0.7
baz=57
SFIN Lafayette 56.72 349 ⇓P P 20 29 01.1 -2.3
baz=57
SFIN Lafayette 56.72 349 eP P 20 29 00.3 -3.1
comp=Z,20nm,0.8s
T33A Patterson Ranc 56.76 338 ⇑P P 20 29 02.6 -1.3
baz=57,SNR=5.7
W28A Vega 56.78 333 ⇓P P 20 29 03.0 -1.1
baz=57
S34A Willow Spring 56.91 339 ⇓P P 20 29 03.8 -1.0
baz=57
V29A Stinnett 57.01 334 ⇓P P 20 29 04.5 -1.2
baz=57
RKT Rikitea 57.09 252 eLR LR 20 45 38.2
comp=Z,1µm,29.8s
RKT Rikitea 57.09 252 eT T 21 30 03.2
comp=Z,13nm,0.3s
T32A Huddler Ranch, 57.10 337 ⇑P P 20 29 05.0 -1.3
baz=57,SNR=7.1
S33A Kaszmaul Farm, 57.13 338 ⇓P P 20 29 05.6 -0.8
baz=57,SNR=5.6
319A Douglas 57.18 325 ⇓P P 20 29 07.0 0.0
baz=57,SNR=14
V28A Channing 57.20 333 ⇑P P 20 29 06.4 -0.7
baz=57,SNR=9.1
U30A WK&E Inc. Balk 57.21 335 ⇑P P 20 29 06.2 -0.9
baz=57
121A Cookes Peak, D 57.26 327 ⇑P P 20 29 07.5 -0.2
baz=58,SNR=11
121A Cookes Peak, D 57.26 327 eP P 20 29 07.5 -0.2
comp=Z,31nm,1.0s
T31A Randall Ranch, 57.32 336 ⇓P P 20 29 06.6 -1.2
baz=58,SNR=5.6
W26A Owens Ranch, T 57.33 332 ⇑P P 20 29 07.4 -0.6
baz=58
U29A Oasis Ranch, S 57.40 335 ⇓P P 20 29 07.5 -0.9
baz=58
V27A Dan Oppiter Fa 57.47 333 ⇑P P 20 29 07.9 -1.1
baz=58
S32A Newby Ranch, P 57.56 337 ⇓P P 20 29 08.6 -0.9
baz=58
T30A Plains 57.61 336 ⇑P P 20 29 09.1 -0.9
baz=58
S31A Mullinville 57.70 337 ⇓P P 20 29 09.9 -0.6
baz=58
U28A Mallet 57.73 334 ⇓P P 20 29 09.8 -1.1
baz=58,SNR=7.0
W25A X Bar L Ranch, 57.76 331 ⇑P P 20 29 10.2 -0.9
baz=58,SNR=11
V26A Tequesquite Ra 57.93 332 ⇓P P 20 29 10.9 -1.4
baz=58,SNR=7.3
BNM Barren Site 57.94 329 eP P 20 29 11.8 -0.7
KSU1 Kansas State U 58.00 340 ⇑P P 20 29 11.0 -1.5
baz=58
T29A Hugoton 58.01 335 ⇑P P 20 29 11.8 -0.9
baz=58
Y22D IRIS PASSCAL I 58.02 329 ⇑P P 20 29 12.0 -1.0
baz=58
U27A Thompson Grove 58.03 333 ⇑P P 20 29 11.8 -1.1
baz=58,SNR=5.5
LPM Los Pinos Moun 58.07 329 eP P 20 29 13.5 +0.2
S30A Montezuma 58.10 336 ⇑P P 20 29 12.6 -0.7
baz=58
R32A Long Quarter, 58.12 338 ⇓P P 20 29 12.4 -1.0
baz=58
LENM Lemitar 58.12 329 eP P 20 29 12.1 -1.7
W24A Lazy 6 Ranch, 58.20 331 ⇓P P 20 29 13.1 -1.1
baz=58,SNR=5.1
R31A Burdett 58.30 337 ⇑P P 20 29 13.8 -0.9
baz=58,SNR=5.7
T28A Walsh 58.32 334 ⇓P P 20 29 13.6 -1.3
baz=58
Q33A Connelly Farm, 58.32 339 ⇓P P 20 29 13.7 -1.1
baz=58
S29A Ulysses 58.34 335 ⇓P P 20 29 14.1 -0.9
baz=58
V25A Rancho No Teng 58.34 332 ⇑P P 20 29 14.3 -1.0
baz=58,SNR=12
U26A Atchley Ranch, 58.41 333 ⇓P P 20 29 14.6 -1.1
baz=59,SNR=14
ANMO Albuquerque 58.49 330 eP P 20 29 15.9 -0.4
ANMO pmax pmax
comp=Z,109nm,1.7s
ANMO Albuquerque 58.49 330 eP P 20 29 15.6 -0.7
comp=Z,33nm,1.4s
T27A Campo 58.52 334 ⇓P P 20 29 15.2 -1.2
baz=59,SNR=9.3
V24A Rampart Ranch, 58.55 331 ⇓P P 20 29 15.7 -1.0
baz=59,SNR=6.7
Q32A Meitler Ranch, 58.57 338 ⇑P P 20 29 15.3 -1.3
baz=59,SNR=6.0
R30A Dighton 58.58 337 ⇓P P 20 29 15.5 -1.2
baz=59
S28A Manter 58.63 335 ⇑P P 20 29 15.7 -1.4
baz=59
P33A Williams Farm, 58.66 339 ⇓P P 20 29 15.9 -1.2
baz=59
U25A Circle Dot Ran 58.71 332 ⇓P P 20 29 17.1 -0.7
baz=59,SNR=8.9
TUC Tucson 58.73 324 eP P 20 29 16.8 -1.1
TUC pmax pmax
comp=Z,22nm,1.3s
TUC Tucson 58.73 324 eP P 20 29 16.8 -1.1
comp=Z,22nm,1.3s
Q31A Ellis 58.88 338 ⇑P P 20 29 18.1 -0.7
baz=59
T26A Comanche Natio 58.99 333 ⇑P P 20 29 19.2 -0.5
baz=59,SNR=12
V23A Ortiz Mt. (NFS 59.00 330 ⇑P P 20 29 19.7 -0.1
baz=59
R29A Marienthal 59.04 336 ⇓P P 20 29 19.1 -0.7
baz=59
U24A Moreno Valley 59.11 331 ⇑P P 20 29 20.5 -0.2
baz=59
S27A Las Animas 59.12 334 ⇓P P 20 29 19.8 -0.7
baz=59
P32A Huiting Farm, 59.14 339 ⇑P P 20 29 19.5 -1.0
baz=59
Q30A Quinter 59.17 337 ⇑P P 20 29 20.0 -0.7
baz=59
R28A Tribune 59.24 335 ⇓P P 20 29 20.3 -1.0
baz=59
S26A Kim 59.31 334 ⇓P P 20 29 21.4 -0.5
baz=60,SNR=33
T25A Trinidad 59.32 333 ⇑P P 20 29 21.6 -0.5
baz=60,SNR=9.6
T25A Trinidad 59.32 333 eP P 20 29 21.8 -0.3
comp=Z,21nm,0.9s
P31A Stockton 59.33 338 ⇓P P 20 29 20.9 -0.9
baz=60,SNR=7.1
Q29A Oakley 59.38 336 ⇓P P 20 29 21.1 -1.1
baz=60
U23A El Rito 59.48 331 ⇑P P 20 29 22.9 -0.3
baz=60,SNR=10.0
V22A San Miguel Ran 59.48 330 ⇓P P 20 29 23.2 0.0
baz=60,SNR=7.6
R27A Eads 59.59 335 ⇑P P 20 29 22.7 -1.0
baz=60
O32A Brockman Farm, 59.60 339 ⇓P P 20 29 22.3 -1.4
baz=60
214A Organ Pipe Nat 59.63 323 ⇑P P 20 29 24.4 +0.3
baz=60,SNR=12
214A Organ Pipe Nat 59.63 323 eP P 20 29 23.6 -0.5
comp=Z,46nm,1.3s
P30A Selden 59.67 337 ⇓P P 20 29 23.4 -0.8
baz=60
T24B San Luis 59.70 332 ⇓P P 20 29 24.6 -0.1
baz=60,SNR=7.0
S25A Robets Cordova 59.77 333 ⇑P P 20 29 24.1 -0.9
baz=60,SNR=12
U22A Llaves 59.83 330 ⇓P P 20 29 25.7 +0.1
baz=60,SNR=7.0
Q28A Sharon Springs 59.86 336 ⇓P P 20 29 24.7 -0.9
baz=60
R26A Arlington 59.88 334 ⇑P P 20 29 24.9 -0.8
baz=60,SNR=12
X18A Snowflake 59.95 327 P P 20 29 26.3 -0.1
baz=60
T23A Casias Ranch, 59.98 331 ⇓P P 20 29 25.8 -0.8
baz=60
P29A Atwood 59.98 337 ⇓P P 20 29 25.8 -0.6
baz=60
N32A Stulken Farm, 60.06 339 ⇑P P 20 29 25.9 -0.9
baz=60
S24A Houchin Ranch, 60.09 332 ⇑P P 20 29 27.5 +0.1
baz=60,SNR=13
R25A Fountain Ranch 60.10 333 ⇓P P 20 29 27.0 -0.3
baz=60
KSCO Kaye Shedlock' 60.14 335 ⇓P P 20 29 27.3 -0.2
baz=60
KSCO Kaye Shedlock' 60.14 335 eP P 20 29 26.6 -0.9
O30A MW Ranch, Wils 60.16 338 ⇑P P 20 29 27.2 -0.3
baz=60
W18A Petrified Fore 60.28 327 ⇓P P 20 29 28.3 -0.4
baz=60
SDCO Great Sand Dun 60.31 332 ⇑P P 20 29 28.5 -0.4
baz=60,SNR=17
O29A 4D Ranch, Culb 60.38 337 ⇓P P 20 29 28.4 -0.7
baz=61
Q26A Hugo 60.43 334 ⇓P P 20 29 28.7 -0.8
baz=61,SNR=6.7
R24A Sanders Place, 60.53 333 ⇓P P 20 29 30.2 -0.2
baz=61,SNR=9.8
BGNE Belgrade 60.59 340 ⇑P P 20 29 29.2 -1.2
baz=61,SNR=6.9
BGNE Belgrade 60.59 340 eP P 20 29 28.9 -1.5
comp=Z,131nm,0.9s
X16A Lo Mia Camp, P 60.66 325 ⇓P P 20 29 31.2 -0.1
baz=61,SNR=22
N30A Hueftle Ranch, 60.72 338 ⇑P P 20 29 30.8 -0.5
baz=61
Q25A Bedland, Calha 60.73 334 ⇓P P 20 29 31.5 -0.2
baz=61,SNR=7.5
Z14A Wintersburg 60.73 324 ⇑P P 20 29 31.5 0.0
baz=61
O28A Krutsinger Ran 60.76 336 ⇑P P 20 29 30.8 -0.8
baz=61
113A Mohawk Valley, 60.78 323 ⇑P P 20 29 31.9 +0.1
baz=61,SNR=6.4
R23A Moffat 60.82 332 ⇑P P 20 29 31.9 -0.5
baz=61,SNR=11
P26A Davis Ranch, A 60.90 335 ⇑P P 20 29 32.1 -0.6
baz=61,SNR=7.6
S22A 4UR Ranch, Cre 60.92 331 ⇓P P 20 29 32.5 -0.6
baz=61,SNR=16
S22A 4UR Ranch, Cre 60.92 331 eP P 20 29 32.8 -0.2
comp=Z,14nm,0.9s
N29A Votaw Ranch, W 60.93 338 ⇑P P 20 29 32.1 -0.7
baz=61
O27A Beecher Island 61.09 336 ⇑P P 20 29 33.4 -0.5
baz=61,SNR=5.9
N28A Pribbeno Ranch 61.15 337 ⇓P P 20 29 33.5 -0.8
baz=61
Q24A Divide 61.16 333 ⇑P P 20 29 34.2 -0.5
baz=61,SNR=9.6
Q24A Divide 61.16 333 eP P 20 29 34.6 -0.1
comp=Z,23nm,1.0s
Y14A Wickenburg 61.18 324 ⇑P P 20 29 34.7 +0.1
baz=61,SNR=15
P25A Willow Gulch B 61.20 334 ⇑P P 20 29 34.5 -0.2
baz=61,SNR=9.0
M30A Dale-Ortello V 61.29 339 ⇓P P 20 29 35.4 +0.2
baz=62
MVCO Mesa Verde 61.29 330 ⇑P P 20 29 35.0 -0.5
baz=62,SNR=8.7
MVCO Mesa Verde 61.29 330 eP P 20 29 35.2 -0.3
comp=Z,22nm,1.3s
Q23A Hartsel 61.41 333 ⇓P P 20 29 35.9 -0.5
baz=62
WUAZ Wupatki 61.45 326 ⇓P P 20 29 36.6 0.0
baz=62,SNR=12
WUAZ Wupatki 61.45 326 eP P 20 29 36.3 -0.2
comp=Z,47nm,1.3s
O26A Horse Wrangler 61.46 335 ⇑P P 20 29 36.0 -0.5
baz=62
M29A Burnside Ranch 61.50 338 ⇓P P 20 29 35.8 -0.8
baz=62
L31A Butterfield Fa 61.50 340 ⇑P P 20 29 35.9 -0.7
baz=62,SNR=6.5
P24A Kohler Place, 61.51 334 ⇑P P 20 29 36.9 0.0
baz=62
OGNE Ogallala 61.56 337 ⇓P P 20 29 36.7 -0.4
baz=62
L30A Spencer Herefo 61.60 339 ⇑P P 20 29 36.9 -0.4
baz=62,SNR=9.5
GLA Glamis 61.60 322 ⇓P P 20 29 37.4 -0.1
baz=62
N27A Anderson Farm, 61.64 336 ⇓P P 20 29 37.2 -0.5
baz=62
O25A Wiggins 61.68 335 ⇑P P 20 29 37.7 -0.3
baz=62
M28A Bar X Bar Ranc 61.70 337 ⇓P P 20 29 37.6 -0.4
baz=62
P23A Jefferson 61.80 333 ⇑P P 20 29 38.8 -0.2
baz=62,SNR=12
N26A Koester Ranch, 61.93 336 ⇓P P 20 29 38.8 -0.7
baz=62
L29A Maesberg Ranch 61.97 338 ⇓P P 20 29 39.2 -0.5
baz=62
ISCO Idaho Springs 62.05 333 eP P 20 29 39.8 -0.9
ISCO pmax pmax
comp=Z,29nm,1.5s
ISCO Idaho Springs 62.05 333 ⇓P P 20 29 40.3 -0.4
baz=62,SNR=9.6
ISCO Idaho Springs 62.05 333 eP P 20 29 39.8 -0.9
comp=Z,29nm,1.5s
PV01 Paradox Valley 62.05 330 eP P 20 29 40.1 -0.5
O24A Longmont 62.09 334 ⇓P P 20 29 40.3 -0.4
baz=62
PDMCI Parker Dam,Lak 62.09 323 ⇓P P 20 29 40.5 -0.2
baz=62
SWSC Sam W. Stewart 62.11 321 ⇓P P 20 29 41.3 +0.5
baz=62
SMCO Snowmass 62.15 332 eP P 20 29 41.4 -0.1
comp=Z,14nm,0.8s
M27A Reverse DX Ran 62.20 337 ⇑P P 20 29 40.6 -0.8
baz=62
ECSD EROS Data Cent 62.21 342 ⇓P P 20 29 39.9 -1.4
baz=62,SNR=32
ECSD EROS Data Cent 62.21 342 eP P 20 29 39.5 -1.7
comp=Z,40nm,0.8s
N25A Grover 62.26 335 ⇓P P 20 29 41.3 -0.5
baz=62
PV05 Paradox Valley 62.27 330 eP P 20 29 42.0 -0.1
L28A Connealy Angus 62.29 338 ⇑P P 20 29 41.4 -0.6
baz=62
P22A Eagle 62.39 332 ⇓P P 20 29 42.5 -0.3
baz=63,SNR=5.1
BC3 Big Chuckawall 62.40 322 ⇑P P 20 29 43.3 +0.4
baz=63,SNR=9.6
MONP Monument Peak, 62.45 321 ⇓P P 20 29 43.7 +0.3
baz=63,SNR=5.8
K29A Lazy Trails An 62.52 339 ⇓P P 20 29 42.9 -0.6
baz=63,SNR=10
O23A Lake Granby, G 62.52 333 ⇓P P 20 29 43.2 -0.6
baz=63,SNR=16
W13A Hualapai Mount 62.52 324 ⇑P P 20 29 44.2 +0.4
baz=63,SNR=9.0
SPMN Marine on St. 62.58 346 ⇑P P 20 29 42.1 -1.6
baz=63,SNR=5.5
SPMN Marine on St. 62.58 346 eP P 20 29 41.8 -1.9
comp=Z,41nm,1.1s
IRM Iron Mountain 62.58 323 ⇑P P 20 29 44.3 +0.3
baz=63,SNR=7.8
N24A Carr 62.60 335 ⇑P P 20 29 44.1 -0.1
baz=63
PV09 Paradox Valley 62.61 330 eP P 20 29 43.5 -1.0
U15A North Rim 62.63 326 ⇑P P 20 29 45.0 +0.4
baz=63,SNR=15
J30A Dallas 62.74 340 ⇓P P 20 29 43.6 -1.3
baz=63,SNR=14
O22A Kremmling 62.76 333 ⇓P P 20 29 44.6 -0.8
baz=63,SNR=14
M25A Palm-Egli Farm 62.77 335 ⇑P P 20 29 44.6 -0.7
baz=63
K28A Ten Mile Ranch 62.85 338 ⇓P P 20 29 45.3 -0.4
baz=63,SNR=9.0
BELC Belle Mtn. Jos 62.97 322 ⇓P P 20 29 46.9 +0.2
baz=63
PFO Pinyon Flats O 62.97 321 P P 20 29 47.3 +0.6
comp=Z,174nm,1.0s,SNR=9.3
PFO Pinyon Flats O 62.97 321 eP P 20 29 47.0 +0.3
PFO pmax pmax
comp=Z,33nm,1.0s
PFO Pinyon Flats O 62.97 321 ⇑P P 20 29 47.1 +0.3
baz=63,SNR=12
PFO Pinyon Flats O 62.97 321 eP P 20 29 47.0 +0.3
comp=Z,33nm,1.0s
J29A Okreek 63.10 339 ⇓P P 20 29 46.4 -0.8
baz=63,SNR=18
N23A Red Feather La 63.10 334 ⇑P P 20 29 47.3 -0.3
baz=63,SNR=6.2
N23A Red Feather La 63.10 334 eP P 20 29 47.1 -0.5
M24A Cheyenne 63.11 335 ⇓P P 20 29 47.4 -0.2
baz=63,SNR=6.9
K27A Flueckinger Fa 63.16 338 ⇓P P 20 29 47.2 -0.5
baz=63
N22A Wattenberg Ran 63.24 333 ⇓P P 20 29 48.1 -0.5
baz=63,SNR=11
I30A Oacoma 63.25 340 ⇓P P 20 29 47.7 -0.5
baz=63
GMRC Granite Mounta 63.31 323 ⇑P P 20 29 49.1 +0.1
baz=64
L25A Engebretsen Ra 63.35 336 ⇓P P 20 29 48.7 -0.4
baz=64
KNB Kanab 63.35 326 eP P 20 29 50.0 +0.8
KNB pmax pmax
comp=Z,103nm,1.7s
KNB Kanab 63.35 326 eP P 20 29 50.0 +0.8
comp=Z,103nm,1.7s
MURC Murrieta 63.41 321 ⇓P P 20 29 49.7 +0.2
baz=64
J28A Allard Ranch, 63.43 339 ⇓P P 20 29 48.8 -0.6
baz=64,SNR=9.9
M23A Laramie 63.48 334 ⇑P P 20 29 49.4 -0.6
baz=64,SNR=18
O20A White River Ci 63.49 332 ⇓P P 20 29 49.9 -0.3
baz=64,SNR=6.9
O20A White River Ci 63.49 332 eP P 20 29 49.5 -0.6
comp=Z,20nm,0.8s
K26A Motz Farm, Whi 63.51 337 ⇑P P 20 29 49.4 -0.7
baz=64
J27A Elkhorn Farm, 63.55 338 ⇑P P 20 29 49.9 -0.4
baz=64,SNR=15
I29A Vivian Onida 63.63 340 ⇑P P 20 29 49.6 -1.2
baz=64
HEC Hector,Ludlow 63.74 322 ⇓P P 20 29 52.2 +0.4
baz=64
SRU San Rafael Swe 63.77 329 eP P 20 29 51.5 -0.5
SRU pmax pmax
comp=Z,41nm,1.3s
SRU San Rafael Swe 63.77 329 eP P 20 29 51.5 -0.5
comp=Z,41nm,1.3s
M22A Cedar Creek Ra 63.80 334 ⇓P P 20 29 52.5 +0.3
baz=64
SCI San Clemente I 63.83 320 ⇑P P 20 29 53.0 +0.8
baz=64
I28A Midland 63.91 339 ⇓P P 20 29 51.4 -1.2
baz=64,SNR=5.8
TUQ Turquoise Moun 63.93 323 ⇓P P 20 29 53.2 +0.1
baz=64
J26A Sides Ranch, S 64.00 337 ⇓P P 20 29 53.0 -0.3
baz=64,SNR=16
L23A Garrett 64.01 335 ⇑P P 20 29 52.8 -0.7
baz=64,SNR=11
CCUT Cedar City 64.03 326 eP P 20 29 54.5 +0.7
comp=Z,15nm,0.9s
N20A Spence Gulch, 64.06 332 ⇓P P 20 29 54.0 +0.1
baz=64
BFSC Mount Baldy Ra 64.13 321 ⇓P P 20 29 54.8 +0.4
baz=64
H29A Onida 64.14 340 ⇓P P 20 29 52.9 -1.2
baz=64
MVU Marysvale 64.15 328 eP P 20 29 54.3 -0.2
comp=Z,42nm,1.4s
K24A Anderson Ranch 64.16 336 ⇑P P 20 29 54.2 -0.3
baz=64
G30A Faulkton 64.24 341 ⇑P P 20 29 53.6 -1.1
baz=64,SNR=24
L22A Ellis Ranch, M 64.25 334 ⇑P P 20 29 54.8 -0.2
baz=64,SNR=6.1
ARUT Antelope Range 64.25 327 eP P 20 29 55.9 +0.8
ARUT Antelope Range 64.25 327 eP P 20 29 55.9 +0.8
SHPR Sheep Range 64.25 325 eP P 20 29 55.5 +0.3
I27A Quinn 64.28 338 ⇑P P 20 29 54.4 -0.6
baz=64,SNR=14
J25A Sunshine Ranch 64.33 337 ⇑P P 20 29 55.1 -0.4
baz=64,SNR=6.7
GSC Goldstone, Bar 64.35 323 eP P 20 29 55.5 -0.2
GSC pmax pmax
comp=Z,11nm,0.9s
GSC Goldstone, Bar 64.35 323 ⇓P P 20 29 56.1 +0.4
baz=64,SNR=8.2
GSC Goldstone, Bar 64.35 323 eP P 20 29 55.5 -0.2
comp=Z,11nm,0.9s
MWC Mount Wilson 64.36 321 eP P 20 29 56.8 +0.9
MWC pmax pmax
comp=Z,27nm,1.0s
MWC Mount Wilson 64.36 321 eP P 20 29 56.8 +0.9
comp=Z,27nm,1.0s
H28A Mission Ridge 64.45 339 ⇑P P 20 29 55.1 -1.0
baz=65,SNR=10
K23A Bowen Ranch, D 64.51 335 ⇓P P 20 29 56.2 -0.5
baz=65,SNR=6.9
I26A New Underwood 64.53 338 ⇑P P 20 29 56.2 -0.5
baz=65
DECC Green Verdugo 64.54 321 ⇑P P 20 29 57.4 +0.5
baz=65
G29A Hoven 64.55 340 ⇑P P 20 29 55.8 -0.9
baz=65
J24A Dixon Ranch, L 64.61 336 ⇓P P 20 29 57.0 -0.3
baz=65
EDW2 Edwards Air Fo 64.76 321 ⇓P P 20 29 58.2 -0.2
baz=65,SNR=8.4
G28A Parade 64.77 340 ⇓P P 20 29 57.5 -0.7
baz=65
H27A Howes 64.78 339 ⇓P P 20 29 57.3 -0.9
baz=65,SNR=6.1
K22A Casper 64.80 335 ⇓P P 20 29 58.0 -0.5
baz=65,SNR=8.6
K22A Casper 64.80 335 eP P 20 29 57.9 -0.7
comp=Z,23nm,0.8s
F30A Leola 64.84 341 ⇓P P 20 29 58.0 -0.6
baz=65
I25A Rochford 64.85 337 ⇓P P 20 29 58.9 0.0
baz=65,SNR=68
EYMN Ely 64.86 348 eP P 20 29 56.6 -2.1
LRMC Laurel Mtn Rad 64.99 322 ⇑P P 20 30 00.3 +0.4
baz=65
MPU Maple Canyon 65.01 329 eP P 20 30 00.4 +0.4
comp=Z,33nm,1.4s
J23A Dilts Ranch, B 65.03 336 ⇑P P 20 29 59.7 -0.4
baz=65
RSSD Black Hills 65.05 337 eP P 20 29 59.5 -0.8
RSSD pmax pmax
comp=Z,55nm,1.4s
RSSD Black Hills 65.05 337 eP P 20 29 59.5 -0.8
comp=Z,55nm,1.4s
I24A Kuemmerle Ranc 65.05 337 ⇑P P 20 29 59.7 -0.4
baz=65,SNR=7.7
K21A Alcova 65.08 334 ⇓P P 20 29 59.9 -0.6
baz=65,SNR=15
F29A Eureka 65.09 341 ⇑P P 20 29 59.3 -0.9
baz=65,SNR=8.3
BSC Santa Cruz Isl 65.17 320 ⇓P P 20 30 01.4 +0.3
baz=65
TPNV Topopah Spring 65.18 324 eP P 20 30 02.0 +0.8
TPNV pmax pmax
comp=Z,21nm,1.0s
TPNV Topopah Spring 65.18 324 ⇑P P 20 30 01.7 +0.5
baz=65,SNR=5.5

TPNV **Topopah Spring** 65.18 324 *e*P P 20 30 02.0 +0.8
comp=Z,21nm,1.0s
FURC **Furnace Creek,** 65.19 323 ⇑P P 20 30 01.8 +0.7
baz=65
MPMC **Manual Prospec** 65.28 323 ⇑P P 20 30 01.9 0.0
baz=66,SNR=9.7
H25A **Fruitdale** 65.31 338 ⇑P P 20 30 01.2 -0.6
baz=66,SNR=8.0
G27A **Dupree** 65.38 339 ⇑P P 20 30 01.1 -1.1
baz=66,SNR=7.2
E30A **Jud** 65.40 342 ⇓P P 20 30 01.4 -0.9
baz=66,SNR=8.1
J22A **Midwest** 65.41 335 ⇓P P 20 30 01.6 -0.9
baz=66,SNR=9.4
F28A **McLaughlin** 65.41 340 ⇓P P 20 30 01.7 -0.7
baz=66
ARVC **Arvin** 65.44 321 ⇑P P 20 30 02.8 +0.1
baz=66
G26A **Maurine** 65.53 339 ⇑P P 20 30 02.2 -0.9
baz=66,SNR=24
ISA **Isabella, Lake** 65.58 322 *e*P P 20 30 04.2 +0.5
ISA **Isabella, Lake** 65.58 322 ⇑P P 20 30 04.2 +0.5
baz=66,SNR=13
ISA **Isabella, Lake** 65.58 322 *e*P P 20 30 04.2 +0.5
E29A **Napoleon** 65.69 341 ⇑P P 20 30 03.2 -0.9
baz=66,SNR=6.1
DUG **Dugway, Tooele** 65.73 329 *e*P P 20 30 04.8 +0.1
DUG pmax pmax
comp=Z,35nm,1.0s
DUG **Dugway, Tooele** 65.73 329 ⇑P P 20 30 04.8 +0.1
baz=66,SNR=28
DUG **Dugway, Tooele** 65.73 329 *e*P P 20 30 04.8 +0.1
comp=Z,35nm,1.0s
G25A **Newell** 65.74 338 ⇓P P 20 30 03.7 -0.8
baz=66
TCUT **Toone Canyon** 65.75 330 *e*P P 20 30 05.0 0.0
comp=Z,48nm,1.1s
J21A **Lysite** 65.75 334 ⇓P P 20 30 04.6 -0.2
baz=66,SNR=12
H24A **Dirks Ranch, A** 65.77 337 ⇓P P 20 30 03.9 -0.9
baz=66,SNR=9.5
I22A **9 Mile Ranch,** 65.81 335 ⇑P P 20 30 04.1 -1.0
baz=66,SNR=25
R11A **Troy Canyon, C** 65.81 326 ⇓P P 20 30 05.6 +0.3
baz=66,SNR=18
R11A **Troy Canyon, C** 65.81 326 *e*P P 20 30 05.8 +0.5
comp=Z,65nm,1.8s
F27A **Lemmon** 65.84 339 ⇑P P 20 30 04.2 -0.9
baz=66,SNR=17
PKM **Mcpherson Peak** 65.89 320 ⇓P P 20 30 06.3 +0.5
baz=66,SNR=11
D30A **Buchanan** 65.91 342 ⇑P P 20 30 04.6 -0.8
baz=66,SNR=19
H23A **Clabaugh Cattl** 65.94 336 ⇓P P 20 30 05.2 -0.7
baz=66
E28A **Huff** 66.02 341 ⇓P P 20 30 05.9 -0.4
baz=66,SNR=14
J20A **Shoshoni** 66.03 334 ⇑P P 20 30 06.4 -0.1
baz=66,SNR=8.7
F26A **Lodgepole** 66.04 339 ⇓P P 20 30 05.9 -0.6
baz=66,SNR=22
I21A **Big Trails, Te** 66.07 335 ⇑P P 20 30 05.8 -1.0
baz=66,SNR=28
VES **Vestal, Richgr** 66.07 322 ⇓P P 20 30 08.5 +1.8
baz=66
D29A **Pettibone, Tap** 66.11 342 ⇑P P 20 30 05.9 -0.9
baz=66,SNR=7.0
E27A **Carson** 66.18 340 ⇓P P 20 30 06.7 -0.5
baz=66,SNR=8.0
BW06 **Boulder Array** 66.19 333 *e*P P 20 30 06.3 -1.4
comp=Z,31nm,1.6s
PDAR **Pinedale Array** 66.19 333 P P 20 30 06.7 -1.0
comp=Z,2.8nm,0.5s,baz=118,slow=7.1,SNR=29
PDAR LR LR 21 02 16.1
comp=Z,101nm,18.6s,baz=122,slow=39
AGMN **Agassiz Nation** 66.20 345 ⇓P P 20 30 06.2 -1.1
baz=66
HWUT **Hardware Ranch** 66.20 331 *e*P P 20 30 07.0 -0.7
comp=Z,27nm,1.0s
G24A **Alzada** 66.22 338 ⇑P P 20 30 06.7 -0.9
baz=66,SNR=10
SMMC **Simmler** 66.27 321 ⇑P P 20 30 08.9 +0.8
baz=66,SNR=6.2
H22A **Clearmont** 66.34 336 ⇓P P 20 30 07.8 -0.7
baz=66
C30A **Mose, Pekin** 66.36 343 ⇑P P 20 30 07.8 -0.6
baz=67,SNR=13
J19A **Crowheart** 66.37 333 ⇑P P 20 30 08.1 -0.7
baz=67,SNR=20
F25A **Bowman** 66.38 338 ⇓P P 20 30 07.9 -0.7
baz=67,SNR=9.0
BGU **Big Grassy Mou** 66.39 329 *e*P P 20 30 08.4 -0.5
G23A **Biddle** 66.47 337 ⇓P P 20 30 08.5 -0.8
baz=67,SNR=25
E26A **Carlson Angus** 66.51 339 ⇑P P 20 30 08.7 -0.7
baz=67,SNR=12
TPH **Tonopah** 66.53 324 *e*P P 20 30 10.1 +0.2
TPH pmax pmax
comp=Z,25nm,1.1s
TPH **Tonopah** 66.53 324 *e*P P 20 30 10.1 +0.2
comp=Z,25nm,1.1s
I20A **Worland** 66.53 334 ⇑P P 20 30 08.7 -1.0
baz=67
D28A **Regan** 66.53 341 ⇑P P 20 30 08.9 -0.6
baz=67,SNR=8.7
H21A **Big Horn, Sher** 66.64 335 ⇓P P 20 30 09.2 -1.2
baz=67,SNR=5.6
F24A **Ekalaka** 66.67 338 ⇑P P 20 30 09.6 -0.9
baz=67,SNR=40
D27A **Center** 66.76 340 ⇓P P 20 30 10.5 -0.5
baz=67
MDND **Maddock** 66.82 342 ⇓P P 20 30 10.8 -0.5
baz=67
G22A **Birney** 66.84 336 ⇑P P 20 30 10.6 -1.0
baz=67,SNR=11
E25A **Miller Ranch,** 66.86 339 ⇑P P 20 30 11.0 -0.7
baz=67,SNR=6.4
AHID **Auburn Hatcher** 66.89 332 *e*P P 20 30 11.3 -0.8
comp=Z,22nm,1.0s
H20A **Greybull** 66.92 335 ⇑P P 20 30 10.9 -1.2
baz=67,SNR=5.9
HVU **Hansel Valley** 66.92 330 *e*P P 20 30 11.6 -0.6
HVU **Hansel Valley** 66.92 330 *e*P P 20 30 11.6 -0.6
F23A **Volborg** 66.92 337 ⇓P P 20 30 11.1 -1.0
baz=67,SNR=14
C28A **Hausauer Farms** 66.94 341 ⇑P P 20 30 11.6 -0.5
baz=67
I19A **Meeteetse** 66.97 334 ⇓P P 20 30 11.9 -0.7
baz=67,SNR=11
D26A **Manning** 66.99 340 ⇑P P 20 30 11.7 -0.8
baz=67,SNR=7.2
B30A **Myrvik Farm, E** 67.00 343 ⇑P P 20 30 11.7 -0.7
baz=67,SNR=14
MLAC **Mammoth, Mammo** 67.14 323 ⇑P P 20 30 14.5 +0.6
baz=67
G21A **Lodge Grass** 67.20 336 ⇓P P 20 30 13.0 -0.9
baz=67,SNR=12
E24A **Baker** 67.23 338 ⇑P P 20 30 13.8 -0.2
baz=67,SNR=10.0
REDW **Red Top Meadow** 67.24 332 *e*P P 20 30 14.0 -0.4
comp=Z,44nm,1.4s
SNOW **Snow King Moun** 67.28 332 *e*P P 20 30 14.4 -0.2
comp=Z,87nm,1.9s
C27A **Sayler Ranch,** 67.29 341 ⇑P P 20 30 13.9 -0.4
baz=68
F22A **Rosebud** 67.29 337 ⇓P P 20 30 13.3 -1.1
baz=68,SNR=14
B29A **Wagenman Farm,** 67.30 342 ⇓P P 20 30 13.8 -0.6
baz=68,SNR=23
LOHW **Long Hollow** 67.33 332 *e*P P 20 30 14.6 -0.3
comp=Z,10.0nm,0.8s
ELK **Elko** 67.37 328 *e*P P 20 30 15.4 +0.1
ELK pmax pmax
comp=Z,15nm,1.3s
ELK **Elko** 67.37 328 *e*P P 20 30 15.4 +0.1
comp=Z,14nm,1.3s
NVAR **Mina Array Bea** 67.38 324 P P 20 30 15.7 +0.3
comp=Z,5.4nm,0.8s,baz=146,slow=6.8,SNR=34
NVAR pP pP 20 30 31.1 +1.7
comp=Z,2.9nm,0.8s,baz=160,slow=8.5,SNR=5.0
TPAW **Teton Pass** 67.39 332 *e*P P 20 30 15.2 -0.1
comp=Z,54nm,1.8s
D25A **Fairfield** 67.39 339 ⇓P P 20 30 14.8 -0.2
baz=68,SNR=7.8
A30A **Hoffart Farm,** 67.44 343 ⇓P P 20 30 14.0 -1.2
baz=68,SNR=9.4
H19A **Powell** 67.47 334 ⇓P P 20 30 15.1 -0.6
baz=68

FXWY **Fox Creek** 67.54 332 *e*P P 20 30 15.9 -0.4
comp=Z,17nm,0.9s
VNA3 **Neumayer Olymp** 67.54 162 P P 20 30 16.9 +1.2
E23A **Ismay** 67.54 338 ⇓P P 20 30 15.0 -0.9
baz=68
I17A **Pilgrim Ck.** 67.56 333 ⇓P P 20 30 16.6 +0.2
baz=68
C26A **Wahner Farm, P** 67.58 340 ⇓P P 20 30 15.5 -0.6
baz=68,SNR=8.1
B28A **Dugan Ranch, T** 67.59 342 ⇑P P 20 30 15.8 -0.3
baz=68
G20A **Bridger** 67.60 335 ⇓P P 20 30 15.4 -1.1
baz=68,SNR=15
F21A **Absaloka Mine,** 67.66 336 ⇓P P 20 30 15.5 -1.3
baz=68
A29A **Manning Farm,** 67.68 343 ⇑P P 20 30 15.5 -1.2
baz=68,SNR=22
IMW **Indian Meadow** 67.70 332 *e*P P 20 30 17.2 -0.1
comp=Z,52nm,1.5s
D24A **Glendive** 67.71 339 ⇑P P 20 30 16.7 -0.3
baz=68,SNR=17
E22A **Miles City** 67.73 337 ⇑P P 20 30 16.3 -0.8
baz=68
FLWY **Flagg Ranch** 67.74 333 *e*P P 20 30 17.7 +0.2
comp=Z,48nm,0.8s
H18A **Shoshone NF, C** 67.77 334 ⇑P P 20 30 16.7 -1.0
baz=68,SNR=27
VNA1 **Neumayer--Stat** 67.79 161 P P 20 30 18.7 +1.5
B27A **Peters Farms,** 67.82 341 ⇓P P 20 30 17.4 -0.2
baz=68
C25A **Freed Ranch, W** 67.86 340 ⇓P P 20 30 17.1 -0.8
baz=68
H17A **Grant Village** 67.94 333 ⇓P P 20 30 19.1 +0.3
baz=68
H17A **Grant Village** 67.94 333 *e*P P 20 30 18.4 -0.4
comp=Z,26nm,1.5s
RLMT **Red Lodge** 67.96 334 *e*P P 20 30 18.2 -0.7
comp=Z,47nm,1.2s
A28A **Rude Farm, Bot** 67.97 342 ⇑P P 20 30 17.8 -0.8
baz=68
ULM **Lac du Bonnet** 68.01 346 P P 20 30 17.2 -1.5
comp=Z,7.2nm,0.6s,baz=157,slow=6.7,SNR=17
ULM pP pP 20 30 32.5 -0.3
comp=Z,11nm,0.8s,baz=159,slow=6.1,SNR=6.5
ULM LR LR 21 03 04.1
comp=Z,187nm,19.4s,baz=253,slow=38
LAO **LASA Array** 68.04 337 *e*P P 20 30 18.1 -1.0
comp=Z,31nm,1.0s
F20A **Billings** 68.05 335 ⇓P P 20 30 18.5 -0.8
baz=68,SNR=7.2
D23A **Lindsay** 68.08 338 ⇓P P 20 30 19.1 -0.2
baz=68,SNR=14
WAKR **Walker** 68.08 323 *e*P P 20 30 20.4 +0.7
YFT **Old Faithful** 68.09 333 *e*P P 20 30 20.9 +1.2
comp=Z,37nm,1.2s
B26A **Jensen Ranch,** 68.10 341 ⇑P P 20 30 19.0 -0.4
baz=68
C24A **Savage** 68.10 339 ⇑P P 20 30 19.4 0.0
baz=68,SNR=8.0
VNA2 **Neumayer--Watz** 68.15 161 P P 20 30 20.4 +0.9
YNR **Norris Junctio** 68.23 333 *e*P P 20 30 20.9 +0.3
comp=Z,12nm,0.7s
E21A **Keefer Ranch,** 68.24 337 ⇑P P 20 30 19.9 -0.5
baz=68
A27A **Ledoux Ranch,** 68.30 342 ⇓P P 20 30 20.8 +0.2
baz=68
CMB **Columbia Colle** 68.31 323 *e*P P 20 30 19.8 -1.2
CMB pmax pmax
comp=Z,20nm,1.3s
CMB **Columbia Colle** 68.31 323 *e*P P 20 30 19.8 -1.2
comp=Z,20nm,1.3s
B25A **Knox Farm, Ray** 68.31 340 ⇑P P 20 30 20.7 0.0
baz=68
YMR **Madison River** 68.32 333 *e*P P 20 30 20.7 -0.4
comp=Z,13nm,0.6s
D22A **Cohagen** 68.41 337 ⇓P P 20 30 21.3 -0.1
baz=69,SNR=34
F19A **Roth Farm, Mol** 68.42 335 ⇑P P 20 30 20.9 -0.7
baz=69,SNR=31
A26A **Wade Farm, Ken** 68.50 341 ⇑P P 20 30 21.3 -0.6
baz=69,SNR=8.5
C23A **Lambert** 68.60 338 ⇑P P 20 30 22.0 -0.5
baz=69,SNR=6.8
E20A **Meyer Farm, Mu** 68.62 336 ⇓P P 20 30 22.3 -0.5
baz=69,SNR=30
D21A **La Casta Ranch** 68.65 337 P P 20 30 22.9 0.0
baz=69
QLMT **Earthquake Lak** 68.65 333 *e*P P 20 30 23.5 +0.3
GCMT **Greycliff** 68.66 334 *e*P P 20 30 22.4 -0.7
C22A **Vida** 68.81 338 P P 20 30 23.5 -0.3
baz=69
E19A **Rath Farm, Rou** 68.85 335 ⇓P P 20 30 23.8 -0.4
baz=69,SNR=37
A25A **Svangstu Ranch** 68.88 340 ⇑P P 20 30 24.1 -0.1
baz=69,SNR=6.6
HLID **Hailey** 69.05 330 ⇑P P 20 30 25.9 +0.3
baz=69,SNR=23
HLID **Hailey** 69.05 330 *e*P P 20 30 25.6 -0.1
comp=Z,13nm,0.8s
B23A **Brockton** 69.10 339 ⇑P P 20 30 25.6 0.0
baz=69,SNR=19
D20A **Manuel Ranch,** 69.11 336 ⇑P P 20 30 25.5 -0.2
baz=69,SNR=6.8
A24A **Westby** 69.16 340 ⇑P P 20 30 26.2 +0.2
baz=69,SNR=12
MCMT **McKenzie Canyo** 69.29 332 *e*P P 20 30 27.3 +0.1
B22A **Reddig Ranch S** 69.32 338 ⇑P P 20 30 26.8 -0.2
baz=70,SNR=10.0
C21A **Desert Coulee** 69.32 337 ⇓P P 20 30 26.8 -0.2
baz=70,SNR=22
BOZ **Bozeman (W)** 69.38 333 *e*P P 20 30 27.3 -0.3
BOZ pmax pmax
comp=Z,31nm,1.3s
BOZ **Bozeman (W)** 69.38 333 *e*P P 20 30 27.3 -0.3
comp=Z,31nm,1.3s
D19A **Cripps Ranch,** 69.46 336 ⇑P P 20 30 27.4 -0.5
baz=70,SNR=23
A23A **Redstone** 69.48 339 ⇑P P 20 30 27.7 -0.3
baz=70
C20A **Veseth Ranch,** 69.57 337 ⇑P P 20 30 27.9 -0.7
baz=70,SNR=8.9
DLMT **Dillon** 69.59 332 *e*P P 20 30 29.3 +0.5
comp=Z,32nm,1.3s
MFID **Camas Ranch** 69.63 329 *e*P P 20 30 29.5 +0.4
comp=Z,51nm,0.9s
SNAA **Sanae** 69.76 161 P P 20 30 30.0 +0.5
SNAA **Sanae** 69.76 161 *c i*P P 20 30 29.9 +0.4
SNAA pmax pmax
comp=Z,39nm,1.7s
SNAA **Sanae** 69.76 161 *e*P P 20 30 30.0 +0.5
comp=Z,42nm,1.1s
B21A **Ellsworth Farm** 69.79 338 ⇓P P 20 30 29.9 0.0
baz=70
A22A **Carney Farms,** 69.87 339 ⇓P P 20 30 30.5 +0.1
baz=70,SNR=27
LRM **Limekiln Ridge** 69.88 333 *e*P P 20 30 30.1 -0.7
C19A **Slack Wire Ran** 69.99 336 ⇓P P 20 30 30.8 -0.4
baz=70,SNR=22
B20A **Solberg Farm,** 70.17 337 ⇑P P 20 30 31.8 -0.4
baz=70,SNR=19
A21A **Bergtoll Ranch** 70.23 338 ⇓P P 20 30 32.2 -0.4
baz=70,SNR=8.5
HRY **Holter Researc** 70.31 334 *e*P P 20 30 32.7 -0.5
SCHQ **Schefferville** 70.31 5 P P 20 30 32.1 -0.8
comp=Z,6.4nm,0.9s,baz=177,slow=5.9,SNR=7.0
SCHQ pP pP 20 30 46.8 -0.3
comp=Z,15nm,1.0s,baz=140,slow=4.7,SNR=8.8
SCHQ sP sP 20 30 53.4 +0.7
comp=Z,18nm,1.0s,baz=192,slow=4.7,SNR=7.6
SCHQ LR LR 21 01 29.1
comp=Z,83nm,21.1s,baz=224,slow=36
WVOR **Wild Horse Val** 70.36 327 *e*P P 20 30 33.9 +0.3
WVOR pmax pmax
comp=Z,21nm,1.4s
WVOR **Wild Horse Val** 70.36 327 *e*P P 20 30 33.9 +0.3
comp=Z,21nm,1.4s
EGMT **Eagleton** 70.50 336 ⇓P P 20 30 34.0 -0.4
baz=71,SNR=26
EGMT **Eagleton** 70.50 336 *e*P P 20 30 33.3 -1.0
comp=Z,33nm,1.0s
A20A **Cobblestone Ra** 70.50 337 ⇑P P 20 30 33.8 -0.5
baz=71,SNR=7.6
B19A **Brinkman Farms** 70.54 337 ⇓P P 20 30 34.1 -0.4
baz=71,SNR=23
A19A **Klindworth Far** 70.85 337 ⇓P P 20 30 36.1 -0.3
baz=71,SNR=25
MOD **Modoc Plateau** 70.88 326 *e*P P 20 30 37.1 +0.2
CHMT **Chamberlain Mo** 71.08 333 *e*P P 20 30 37.4 -0.6

TIAR **Tiarei** 71.18 256 *e*T T 21 47 35.4
comp=Z,6.0nm,0.2s
WDC **Whiskeytown Da** 71.25 323 *e*P P 20 30 37.7 -1.2
WDC pmax pmax
comp=Z,8.0nm,0.6s
WDC **Whiskeytown Da** 71.25 323 *e*P P 20 30 37.7 -1.2
comp=Z,8.1nm,0.6s
KCPM **Cahto Peak** 71.28 322 *e*P P 20 30 40.9 +1.6
MSO **Missoula** 71.31 333 ⇓P P 20 30 39.6 +0.3
baz=72,SNR=14
MSO **Missoula** 71.31 333 *e*P P 20 30 40.1 +0.8
comp=Z,30nm,1.1s
PPT2 **Papeete2** 71.39 256 *e*S S 20 39 49.0 -6.4
comp=Z,83nm,24.2s
PPT2 **Papeete2** 71.39 256 *e*LR LR 20 52 18.5
comp=Z,700nm,26.5s,baz=104
BMO **Blue Mountains** 71.41 329 *e*P P 20 30 39.4 -0.5
comp=Z,12nm,0.9s
SLMT **Seeley Lake** 71.43 333 *e*P P 20 30 39.6 -0.5
N02D **Trinity Center** 71.60 324 ⇓P P 20 30 40.3 -0.9
baz=72,SNR=6.4
M04C **Macdoel** 71.65 325 ⇓P P 20 30 41.6 +0.1
baz=72,SNR=11
KMRM **Mail Ridge** 71.70 322 *e*P P 20 30 43.1 +1.4
K05A **Summer Lake** 71.76 326 *e*P P 20 30 43.0 +0.8
comp=Z,26nm,1.0s
SWMT **Swartz Lake** 71.86 333 *e*P P 20 30 42.4 -0.2
M02C **Callahan** 71.96 324 ⇓P P 20 30 43.2 -0.1
baz=72
I07A **Izee** 71.97 328 *e*P P 20 30 44.0 +0.7
comp=Z,30nm,1.1s
YBH **Yreka Blue Hor** 72.10 324 *e*P P 20 30 42.9 -1.3
YBH pmax pmax
comp=Z,13nm,0.9s
YBH **Yreka Blue Hor** 72.10 324 P P 20 30 43.3 -0.8
comp=Z,14nm,0.8s,baz=133,slow=5.5,SNR=25
YBH **Yreka Blue Hor** 72.10 324 *e*P P 20 30 42.9 -1.3
comp=Z,13nm,0.9s
KHMM **Horse Mountain** 72.13 323 *e*P P 20 30 45.6 +1.2
YBMT **Yellow Bay** 72.14 333 *e*P P 20 30 44.3 +0.1
K04D **Chiloquin, OR** 72.16 325 ⇓P P 20 30 44.8 +0.2
baz=72
JTMT **Jette** 72.16 333 *e*P P 20 30 44.1 -0.4
F10A **Beach Ranch, E** 72.19 330 *e*P P 20 30 45.0 +0.4
comp=Z,18nm,0.8s
LIC **Lamto** 72.25 78 *e*P P 20 30 43.7 -1.8
comp=Z,32nm,1.1s,baz=259
LIC *e*R
comp=Z,546nm,21.0s
LIC **Lamto** 72.25 78 *e*P P 20 30 44.1 -1.4
comp=Z,39nm,1.1s
LIC **Lamto** 72.25 78 *e*P P 20 30 43.7 -1.8
comp=Z,32nm,1.1s
J05D **Fort Rock, OR** 72.33 326 ⇑P P 20 30 45.6 +0.1
baz=72,SNR=16
TIC **Toumodi** 72.39 78 *e*P P 20 30 45.3 -1.1
comp=Z,14nm,0.2s
BLMT **Blacktail Moun** 72.40 333 *e*P P 20 30 46.0 0.0
BSMT **Bassoo Peak** 72.46 333 *e*P P 20 30 46.1 -0.2
BSMT *e*PcP PcP 20 31 03.4 -0.5
PINOR **Pine Mountain** 72.49 327 *e*P P 20 30 46.8 +0.5
G08A **Pilot Rock** 72.54 329 *e*P P 20 30 47.0 +0.3
DBIC **Dimbokro** 72.55 78 *e*P P 20 30 45.9 -1.4
DBIC *PP pP 20 31 00.9 -0.6
DBIC pmax pmax
comp=Z,9.0nm,0.7s
DBIC **Dimbokro** 72.55 78 P P 20 30 46.2 -1.1
comp=Z,6.6nm,0.7s,baz=234,slow=7.2,SNR=13
DBIC pP pP 20 31 00.9 -0.6
comp=Z,7.9nm,0.6s,baz=227,slow=8.1,SNR=6.4
DBIC LR LR 21 00 24.5
comp=Z,564nm,21.1s,baz=234,slow=34
DBIC **Dimbokro** 72.55 78 *e*P P 20 30 45.9 -1.4
comp=Z,9.0nm,0.7s
DBIC pP pP 20 31 00.9 -0.6
KIC **Kosan Boka** 72.56 78 *e*P P 20 30 46.2 -1.2
comp=Z,38nm,1.0s
J04D **Umpqua Nationa** 72.77 326 ⇑P P 20 30 48.1 -0.1
baz=73,SNR=14
L02D **Cave Junction,** 72.88 324 ⇓P P 20 30 49.3 +0.6
baz=73,SNR=7.0
WALA **Waterton Lakes** 73.01 334 *e*P P 20 30 49.0 -0.4
comp=Z,17nm,1.0s
E09A **Wood Farm, Sta** 73.02 330 *e*P P 20 30 49.6 +0.3
comp=Z,23nm,1.0s
I05D **Terrebonne, OR** 73.10 327 ⇓P P 20 30 50.6 +0.6
baz=73,SNR=5.3
HBO **Huckleberry Mo** 73.29 326 P P 20 30 51.6 +0.4
I04A **Tendick Farm,** 73.30 326 ⇑P P 20 30 50.8 -0.4
baz=74,SNR=8.0
G06A **Carlson Farm,** 73.35 328 *e*P P 20 30 52.4 +0.9
comp=Z,16nm,1.0s
HAWA **Hanford** 73.60 329 *e*P P 20 30 53.0 +0.1
comp=Z,28nm,0.9s
FFC **Flin Flon** 73.64 344 *e*P P 20 30 51.2 -1.7
FFC pmax pmax
comp=Z,14nm,1.4s
FFC **Flin Flon** 73.64 344 *e*P P 20 30 51.2 -1.7
comp=Z,14nm,1.4s
G05D **Wamic, OR** 73.70 328 ⇓P P 20 30 54.5 +1.0
baz=74,SNR=8.0
I03D **Drain, OR** 73.75 325 ⇑P P 20 30 53.9 +0.2
baz=74,SNR=5.7
D08A **Wollman Farm,** 73.78 330 *e*P P 20 30 54.6 +0.8
comp=Z,19nm,1.3s
H04A **Detroit Lake** 73.78 327 *e*P P 20 30 54.0 0.0
comp=Z,26nm,0.9s
NEW **Newport** 73.81 332 *e*P P 20 30 52.6 -1.5
NEW pmax pmax
comp=Z,18nm,1.2s
NEW **Newport** 73.81 332 P P 20 30 53.9 -0.2
comp=Z,9.6nm,1.0s,baz=134,slow=3.4,SNR=10
NEW **Newport** 73.81 332 ⇑P P 20 30 53.7 -0.4
baz=74,SNR=5.5
NEW **Newport** 73.81 332 *e*P P 20 30 52.6 -1.5
comp=Z,18nm,1.2s
C09A **Chrisman Ranch** 74.00 331 *e*P P 20 30 56.1 +1.0
comp=Z,52nm,1.6s
TRW **Toppenish Ridg** 74.03 329 P P 20 30 56.6 +1.2
COR **Corvallis** 74.31 326 *e*P P 20 30 58.8 +1.9
COR pmax pmax
comp=Z,50nm,1.0s
COR **Corvallis** 74.31 326 *e*P P 20 30 58.8 +1.9
comp=Z,50nm,1.0s
NVL **N'lazarevskaya** 74.40 160 *e*P P 20 30 57.6 +0.5
NVL pmax pmax
comp=Z,47nm,1.1s
SAW **Saint Andrews** 74.47 330 P P 20 30 58.7 +0.8
G03D **McMinnville, O** 74.70 327 ⇓P P 20 31 00.4 +1.2
baz=75
QSPA **South Pole Qui** 74.72 180 *e*P P 20 30 60.0 +0.7
comp=Z,18nm,0.8s
F04A **Amboy** 74.74 328 *e*P P 20 30 60.0 +0.5
comp=Z,55nm,0.9s
LTY **Liberty** 74.77 329 *e*P P 20 31 00.1 +0.4
LVP **Lakeview Peak** 74.82 328 P P 20 31 00.5 +0.4
LON **Longmire** 74.98 329 *e*P P 20 31 00.9 0.0
LON pmax pmax
comp=Z,9.0nm,1.0s
LON **Longmire** 74.98 329 *e*P P 20 31 00.9 0.0
comp=Z,9.1nm,1.0s
F04D **Rainier, OR** 75.15 327 ⇑P P 20 31 02.7 +0.9
baz=75
D05A **Enumclaw** 75.37 329 *e*P P 20 31 03.6 +0.5
comp=Z,51nm,0.9s
FCC **Fort Churchill** 75.62 350 *e*P P 20 31 02.2 -2.0
FCC pmax pmax
comp=Z,17nm,1.2s
FCC **Fort Churchill** 75.62 350 *e*P P 20 31 02.2 -2.0
comp=Z,16nm,1.2s
E03A **Lebam** 75.74 328 *e*P P 20 31 06.5 +1.3
comp=Z,33nm,1.0s
B06A **Marblemount** 76.03 330 *e*P P 20 31 06.8 0.0
BLN **Blyn Mountain** 76.42 329 P P 20 31 10.0 +1.0
NLWA **Neilton Lookou** 76.46 328 *e*P P 20 31 09.7 +0.3
comp=Z,44nm,1.0s
A05A **Maple Falls** 76.65 330 *e*P P 20 31 11.0 +0.7
comp=Z,121nm,1.8s
PGC **Sidney** 77.08 329 *e*P P 20 31 13.2 +0.4
TORD **Torodi Ar. Bea** 80.71 74 P P 20 31 32.8 -0.6
comp=Z,11nm,0.6s,baz=257,slow=5.4,SNR=58
TORD pP pP 20 31 47.9 +0.1
comp=Z,18nm,1.0s,baz=258,slow=5.2,SNR=10.0
TORD sP sP 20 31 52.9 -0.4
comp=Z,19nm,0.7s,baz=257,slow=5.5,SNR=11
TORD LR LR 21 05 51.1
comp=Z,372nm,19.4s,baz=240,slow=35

SBA	**Scott Base**	**80.74**	**191**	*e*P	**P**	**20 31 34.5**	**+2.1**
SBA				pmax	pmax		
	comp=Z,32nm,1.4s						
SBA	**Scott Base**	**80.74**	**191**	*e*P	**P**	**20 31 34.5**	**+2.1**
	comp=Z,32nm,1.4s						
MORF	**Marmelete**	**81.22**	**47**	*e*pP	pP	20 31 52.4	+2.3
PTEO	**Sao Teotonio**	**81.27**	**47**	*e*pP	pP	20 31 52.0	+1.7
PNCL	**Nicolau / Gran**	**81.67**	**47**	*e*P	**P**	**20 31 39.0**	**+1.0**
	comp=Z,44nm,1.8s						
PNCL				*e*pP	**pP**	**20 31 53.9**	**+1.5**
VNDA	**Vanda**	**81.81**	**191**	*e*P	**P**	**20 31 39.1**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VNDA	**Vanda**	**81.81**	**191**	P	**P**	**20 31 39.5**	**+1.4**
	comp=Z,9.4nm,1.0s,baz=132,slow=4.8,SNR=24						
VNDA				LR	LR	21 00 03.5	
	comp=Z,246nm,20.9s,baz=136,slow=30						
VNDA	**Vanda**	**81.81**	**191**	*e*P	**P**	**20 31 39.1**	**+1.0**
	comp=Z,9.6nm,1.1s						
PVAQ	**Vaqueiros**	**81.92**	**48**	*e*LR	LR	21 02 13.0	
	comp=Z,278nm,20.0s						
EVOP	**Sao Brissos**	**82.14**	**47**	*e*P	**P**	**20 31 39.5**	**-0.9**
EVOP	**Sao Brissos**	**82.14**	**47**	*e*P	**P**	**20 31 39.5**	**-0.9**
EVO	**Evora**	**82.22**	**47**	*e*P	**P**	**20 31 39.5**	**-1.4**
EVO				*e*R			
	comp=Z,339nm,19.2s						
PTOM	**Tomar**	**82.43**	**46**	*e*pP	pP	20 31 57.3	+0.9
PMRV	**Marv??o**	**83.05**	**46**	*e*LR	LR	21 02 39.8	
	comp=Z,346nm,22.0s						
PCBR	**Castelo Branco**	**83.17**	**46**	*e*P	**P**	**20 31 47.0**	**+1.2**
	comp=Z,13nm,1.5s						
PCBR				*e*pP	**pP**	**20 32 01.2**	**+1.0**
PVIS	**Viseu**	**83.28**	**45**	*e*P	**P**	**20 31 46.3**	**-0.1**
	comp=Z,32nm,1.8s						
PVIS				*e*pP	**pP**	**20 32 00.7**	**-0.1**
MTE	**Manteigas**	**83.38**	**45**	*e*P	**P**	**20 31 48.0**	**+1.1**
	comp=Z,40nm,1.9s						
MTE	**Manteigas**	**83.38**	**45**	*e*LR	LR	21 02 01.7	
	comp=Z,452nm,22.0s						
MTE	**Manteigas**	**83.38**	**45**	*e*P	**P**	**20 31 47.3**	**+0.4**
	comp=Z,13nm,1.0s						
PGAV	**Gavieira, Arco**	**83.59**	**43**	*e*LR	LR	21 02 05.8	
	comp=Z,363nm,22.0s						
PCAB	**Cabril**	**83.64**	**44**	*e*P	**P**	**20 31 46.5**	**-1.7**
	comp=Z,39nm,1.4s						
POLO	**Lamas de Olo**	**83.64**	**44**	*e*P	**P**	**20 31 48.9**	**+0.6**
	comp=Z,20nm,1.7s						
POLO				*e*pP	**pP**	**20 32 03.8**	**+1.0**
YKA	**Yellowknife Ar**	**83.74**	**343**	P	**P**	**20 31 46.9**	**-1.2**
	comp=Z,5.4nm,0.8s,baz=139,slow=5.3,SNR=79						
YKA				pP	**pP**	**20 32 02.1**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=141,slow=5.8,SNR=7.0						
YKA				sP	**sP**	**20 32 08.9**	**+0.8**
	comp=Z,7.1nm,0.9s,baz=138,slow=5.1,SNR=8.6						
MVO	**Moncorvo**	**84.07**	**45**	*e*pP	pP	20 32 06.3	+1.4
MVO	**Moncorvo**	**84.07**	**45**	*e*LR	LR	21 02 42.6	
	comp=Z,314nm,22.0s						
PAB	**San Pablo**	**85.23**	**47**	*e*P	**P**	**20 31 57.3**	**+0.9**
PAB				pmax	pmax		
	comp=Z,12nm,1.2s						
PAB	**San Pablo**	**85.23**	**47**	*e*P	**P**	**20 31 57.3**	**+0.9**
	comp=Z,12nm,1.2s						
ESDC	**Sonseca Array**	**85.55**	**47**	P	**P**	**20 31 58.3**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=257,slow=5.0,SNR=17						
ESDC				pP	**pP**	**20 32 13.6**	**+1.2**
	comp=Z,5.2nm,0.9s,baz=255,slow=5.0,SNR=9.3						
ESDC				LR	LR	21 09 32.2	
	comp=Z,187nm,18.0s,baz=255,slow=35						
DLBC	**Dease Lake**	**86.36**	**334**	*e*P	**P**	**20 32 01.6**	**+0.1**
TSUM	**Tsumeb**	**87.11**	**109**	P	**P**	**20 32 05.6**	**-0.6**
TAM	**Tamanrasset**	**87.16**	**66**	*e*P	**P**	**20 32 07.6**	**+1.3**
TAM				pmax	pmax		
	comp=Z,27nm,1.4s						
TAM	**Tamanrasset**	**87.16**	**66**	*e*P	**P**	**20 32 07.6**	**+1.3**
	comp=Z,27nm,1.4s						
SJPF	**Ste Jean**	**88.80**	**45**	*e*P	**P**	**20 32 11.6**	**-1.9**
	comp=Z,15nm,1.1s						
SJPF	**Ste Jean**	**88.80**	**45**	*e*P	**P**	**20 32 11.6**	**-1.9**
SJPF				pmax	pmax		
	comp=Z,15nm,1.1s						
SJPF	**Ste Jean**	**88.80**	**45**	*e*P	**P**	**20 32 11.6**	**-1.9**
	comp=Z,15nm,1.1s						
ETSF	**Etsaut**	**89.17**	**45**	*e*P	**P**	**20 32 14.2**	**-1.1**
	comp=Z,14nm,1.1s						
ETSF	**Etsaut**	**89.17**	**45**	*e*P	**P**	**20 32 14.2**	**-1.1**
ETSF				pmax	pmax		
	comp=Z,14nm,1.1s						
ETSF	**Etsaut**	**89.17**	**45**	*e*P	**P**	**20 32 14.2**	**-1.1**
	comp=Z,14nm,1.1s						
EPF	**Esparros**	**89.83**	**45**	*e*P	**P**	**20 32 17.1**	**-1.3**
EPF	**Esparros**	**89.83**	**45**	*e*P	**P**	**20 32 17.1**	**-1.3**
EPF	**Esparros**	**89.83**	**45**	*e*P	**P**	**20 32 17.1**	**-1.3**
LFF	**La Frestale**	**90.79**	**43**	*e*P	**P**	**20 32 22.3**	**-0.4**
	comp=Z,56nm,1.3s						
LFF	**La Frestale**	**90.79**	**43**	*e*P	**P**	**20 32 22.3**	**-0.4**
LFF				pmax	pmax		
	comp=Z,56nm,1.3s						
LFF	**La Frestale**	**90.79**	**43**	*e*P	**P**	**20 32 22.3**	**-0.4**
	comp=Z,56nm,1.3s						
SUMG	**Summit**	**91.02**	**10**	*i* P	**P**	**20 32 24.3**	**+0.6**
SUMG	**Summit**	**91.02**	**10**	*i* P	**P**	**20 32 24.3**	**+0.6**
SUMG	**Summit**	**91.02**	**10**	*e*P	**P**	**20 32 23.6**	**-0.1**
GRR	**Gorron**	**91.04**	**40**	*e*P	**P**	**20 32 23.5**	**-0.3**
GRR	**Gorron**	**91.04**	**40**	*e*P	**P**	**20 32 23.5**	**-0.3**
GRR	**Gorron**	**91.04**	**40**	*e*P	**P**	**20 32 23.5**	**-0.3**
MTLF	**Montolieu**	**91.23**	**45**	*e*P	**P**	**20 32 22.8**	**-2.0**
	comp=Z,31nm,1.5s						
MTLF	**Montolieu**	**91.23**	**45**	*e*P	**P**	**20 32 22.8**	**-2.0**
MTLF				pmax	pmax		
	comp=Z,31nm,1.5s						
MTLF	**Montolieu**	**91.23**	**45**	*e*P	**P**	**20 32 22.8**	**-2.0**
	comp=Z,31nm,1.5s						
RJF	**Les Rejaudoux**	**91.44**	**43**	*e*P	**P**	**20 32 24.7**	**-1.1**
RJF				*e*R			
	comp=Z,269nm,18.8s						
RJF	**Les Rejaudoux**	**91.44**	**43**	*e*P	**P**	**20 32 24.7**	**-1.1**
RJF	**Les Rejaudoux**	**91.44**	**43**	*e*P	**P**	**20 32 24.7**	**-1.1**
MAW	**Mawson**	**91.63**	**165**	LR	LR	21 11 07.7	
	comp=Z,163nm,21.4s,baz=238,slow=34						
CAF	**Calviac**	**91.67**	**44**	*e*P	**P**	**20 32 26.4**	**-0.5**
CAF	**Calviac**	**91.67**	**44**	*e*P	**P**	**20 32 26.4**	**-0.5**
CAF	**Calviac**	**91.67**	**44**	*e*P	**P**	**20 32 26.4**	**-0.5**
BGF	**Bois d'Agland**	**92.74**	**42**	*e*P	**P**	**20 32 30.9**	**-0.8**
BGF	**Bois d'Agland**	**92.74**	**42**	*e*P	**P**	**20 32 30.9**	**-0.8**
BGF	**Bois d'Agland**	**92.74**	**42**	*e*P	**P**	**20 32 30.9**	**-0.8**
AVF	**Avril sur Loir**	**93.14**	**42**	*e*P	**P**	**20 32 31.2**	**-2.4**
AVF	**Avril sur Loir**	**93.14**	**42**	*e*P	**P**	**20 32 31.2**	**-2.4**
AVF	**Avril sur Loir**	**93.14**	**42**	*e*P	**P**	**20 32 31.2**	**-2.4**
VIVF	**Saint-Julien-l**	**93.40**	**44**	*e*P	**P**	**20 32 33.9**	**-1.0**
	comp=Z,9.7nm,1.1s						
VIVF	**Saint-Julien-l**	**93.40**	**44**	*e*P	**P**	**20 32 33.9**	**-1.0**
VIVF				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VIVF	**Saint-Julien-l**	**93.40**	**44**	*e*P	**P**	**20 32 33.9**	**-1.0**
	comp=Z,9.7nm,1.1s						
SMF	**Signal de Mont**	**93.41**	**43**	*e*P	**P**	**20 32 33.5**	**-1.4**
SMF	**Signal de Mont**	**93.41**	**43**	*e*P	**P**	**20 32 33.5**	**-1.4**
SMF	**Signal de Mont**	**93.41**	**43**	*e*P	**P**	**20 32 33.5**	**-1.4**
RAGM	**Ragged Mountai**	**93.77**	**332**	*e*P	**P**	**20 32 35.1**	**-1.1**
KEST	**Kesra**	**94.14**	**54**	LR	LR	21 15 55.7	
	comp=Z,124nm,19.1s,baz=226,slow=36						
ORIF	**Oris-en-Rattie**	**94.23**	**45**	*e*P	**P**	**20 32 37.9**	**-0.9**
	comp=Z,3.3nm,0.5s						
ORIF				*e*R			
	comp=Z,304nm,22.8s						
ORIF	**Oris-en-Rattie**	**94.23**	**45**	*e*P	**P**	**20 32 37.9**	**-0.9**
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ORIF	**Oris-en-Rattie**	**94.23**	**45**	*e*P	**P**	**20 32 37.9**	**-0.9**
	comp=Z,3.3nm,0.5s						
EGAK	**Eagle**	**94.25**	**337**	*e*P	**P**	**20 32 36.9**	**-1.4**
MBDF	**Montbardon**	**94.78**	**45**	*e*P	**P**	**20 32 39.9**	**-1.5**
MBDF	**Montbardon**	**94.78**	**45**	*e*P	**P**	**20 32 39.9**	**-1.5**
MBDF	**Montbardon**	**94.78**	**45**	*e*P	**P**	**20 32 39.9**	**-1.5**
LPL	**La Plagne**	**94.98**	**44**	*e*P	**P**	**20 32 41.8**	**-0.6**
LPL	**La Plagne**	**94.98**	**44**	*e*P	**P**	**20 32 41.8**	**-0.6**
LPL	**La Plagne**	**94.98**	**44**	*e*P	**P**	**20 32 41.8**	**-0.6**
LPG	**La Plagne**	**94.99**	**44**	*e*P	**P**	**20 32 41.6**	**-0.9**
	comp=Z,12nm,1.0s						
LPG	**La Plagne**	**94.99**	**44**	*e*P	**P**	**20 32 41.6**	**-0.9**
LPG				pmax	pmax		
	comp=Z,12nm,1.0s						
LPG	**La Plagne**	**94.99**	**44**	*e*P	**P**	**20 32 41.6**	**-0.9**
	comp=Z,12nm,1.0s						
ILAR	**Eielson Array**	**96.47**	**336**	P	**P**	**20 32 46.9**	**-1.5**
	comp=Z,1.2nm,0.8s,baz=155,slow=2.8,SNR=10						
ILAR				pP	**pP**	**20 33 02.5**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=169,slow=4.5,SNR=3.5						
ILAR				LR	LR	21 21 11.0	
	comp=Z,141nm,18.1s,baz=146,slow=38						
COLA	**College**	**96.89**	**336**	*e*P	**P**	**20 32 49.2**	**-1.1**
GERES	**GERESS Array B**	**100.41**	**42**	P	**Pdif**	**20 33 06.5**	**0.0**
	comp=Z,0.2nm,0.5s,baz=264,slow=1.3,SNR=4.6						
GERES				pP	pP	20 33 21.6	+0.3
	comp=Z,0.7nm,1.0s,baz=325,slow=1.6,SNR=2.4						
CLL	**Collm**	**100.46**	**40**	*e*(SKSac)		20 43 47.0	
CLL				*e*SKKSac	SKKSac	20 44 13.0	-2.7
CLL				*e*Sdif	**Sdif**	**20 44 32.0**	**-7.0**
CLL				*e*		20 45 03.0	
CLL				*e*PS	PS	20 46 00.0	-15
CLL				*e*PPS	PPS	20 46 54.0	
CLL				*e*SS	SS	20 51 54.0	+18
CLL				*e*		20 53 03.0	
CLL				*e*SSS	SSS	20 55 18.0	
CLL				*e*SSSS		20 58 48.0	
CLL				LmV		21 15 00.0	
	comp=Z,200nm,19.4s						
TREC	**Trest**	**101.64**	**42**	AMS	AMS	21 18 20.0	
	comp=Z,200nm,17.1s						
STHS	**Stebnicka Huta**	**105.39**	**42**	*e*P	**Pdif**	**20 33 29.9**	**+1.3**
STHS	**Stebnicka Huta**	**105.39**	**42**	PDIF	**Pdif**	**20 33 29.9**	**+1.3**
BRTR	**Keskin Array B**	**113.72**	**53**	PKKPbc	PKKPbc	20 48 39.1	-3.1
	comp=Z,1.2nm,0.8s,baz=48,slow=1.8,SNR=4.7						
BRTR				PKKPab	**PKKPab**	**20 48 47.9**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=98,slow=5.1,SNR=4.1						
OBN	**Obninsk**	**114.67**	**36**	*e*PKIKP	PKPdf	20 37 58.9	-0.5
OBN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,102nm,18.0s						
BILL	**Bilibino**	**114.91**	**339**	*e*PKIKP	PKPdf	20 37 55.8	-3.8
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KIV	**Kislovodsk**	**120.21**	**48**	*i* PKIKP	**PKPdf**	**20 38 07.7**	**-2.9**
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,68nm,20.0s						
KBZ	**Khabaz**	**120.39**	**48**	PKP	**PKPdf**	**20 38 11.3**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=189,slow=1.8,SNR=12						
KBZ				pPKP	**pPKPdf**	**20 38 25.7**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=13,slow=1.8,SNR=5.1						
KBZ				PKKPbc	**PKKPab**	**20 48 18.1**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=178,slow=6.5,SNR=4.0						
H11N3	**WAKE ISLAND Hyl**	**21.39**	**284**	T	T	22 51 13.7	
	baz=98,SNR=68						
H11N2	**WAKE ISLAND Hyl**	**21.41**	**284**	T	T	22 51 16.5	
	baz=98,slow=74,SNR=59						
H11N1	**WAKE ISLAND Hyl**	**21.41**	**284**	T	T	22 51 13.4	
	baz=98,slow=74,SNR=47						
H11S2	**WAKE ISLAND Hyl**	**21.44**	**282**	T	T	22 51 25.9	
	baz=98,slow=75,SNR=189						
H11S1	**WAKE ISLAND Hyl**	**21.45**	**282**	T	T	22 51 13.9	
	baz=98,slow=75,SNR=38						
H11S3	**WAKE ISLAND Hyl**	**21.46**	**282**	T	T	22 51 24.7	
	baz=98,slow=75,SNR=59						
TIXI	**Tiksi**	**122.07**	**351**	*e*PKIKP	**PKPdf**	**20 38 11.1**	**-2.1**
ARU	**Arti**	**125.94**	**30**	PKIKP	**PKPdf**	**20 38 21.1**	**0.0**
AS31	**Alice Springs**	**132.13**	**216**	*e*PKPdf	**PKPdf**	**20 38 32.5**	**-1.5**
ASAR	**Alice Springs**	**132.13**	**216**	PKhKP	PKPpre	20 38 16.4	
	comp=Z,0.4nm,0.8s,baz=151,slow=2.1,SNR=4.1						
ASAR				PKP	**PKPdf**	**20 38 33.2**	**-0.8**
	comp=Z,5.0nm,0.8s,baz=128,slow=2.2,SNR=34						
ASAR				pPKP	pPKPdf	20 38 49.0	-0.1
	comp=Z,3.1nm,0.6s,baz=122,slow=2.1,SNR=7.1						
ASAR				PP	**PP**	**20 40 56.9**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=142,slow=4.7,SNR=3.2						
ASAR				SKPbc	**SKPbc**	**20 41 55.5**	**-1.0**
	comp=Z,0.8nm,1.1s,baz=190,slow=1.6,SNR=2.7						
GEYT	**Alibeck**	**132.85**	**52**	PKP	**PKPdf**	**20 38 35.1**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=255,slow=4.0,SNR=4.0						
WRA	**Warramunga Arr**	**134.72**	**220**	PKhKP	PKPpre	20 38 24.6	
	comp=Z,0.7nm,0.8s,baz=124,slow=1.8,SNR=6.7						
WRA				PKP	**PKPdf**	**20 38 38.4**	**-0.5**
	comp=Z,10nm,0.7s,baz=142,slow=1.6,SNR=46						
WRA				pPKP	pPKPdf	20 38 54.3	+0.3
	comp=Z,3.5nm,0.6s,baz=133,slow=2.1,SNR=5.9						
WRAB	**Tennant Creek**	**134.72**	**220**	*c i* PKIKP	**PKPdf**	**20 38 39.3**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,24nm,0.7s						
WRAB	**Tennant Creek**	**134.72**	**220**	*e*PKPdf	**PKPdf**	**20 38 38.0**	**-1.0**
NVS	**Novosibirsk**	**137.11**	**19**	*e*PKIKP	**PKPdf**	**20 38 41.9**	**-0.3**
NVS				pmax	pmax		
	comp=Z,8.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.9s						
ZALV	**Zalesovo Beam**	**138.36**	**18**	PKP	**PKPdf**	**20 38 44.6**	**0.0**
	comp=E,12nm,0.9s,baz=319,slow=2.1,SNR=34						
ZALV				pPKP	**pPKPdf**	**20 39 00.3**	**+0.7**
	comp=E,10nm,0.8s,baz=327,slow=2.5,SNR=9.3						
ZALV				SKPbc	**SKPbc**	**20 42 15.8**	**+0.8**
	comp=E,1.2nm,0.7s,baz=38,slow=7.3,SNR=4.9						
KURK	**Kurchatov**	**138.76**	**26**	*e*PKIKP	**PKPdf**	**20 38 44.1**	**-1.3**
KURK	**Kurchatov**	**138.76**	**26**	*e*PKPdf	**PKPdf**	**20 38 44.1**	**-1.3**
KLR	**Kul'dur**	**139.98**	**333**	*e*PKHKP	PKPpre	20 38 40.0	
FITZ	**Fitzroy Crossi**	**141.12**	**212**	*e*PKPpre	PKPpre	20 38 42.5	
EKS2	**Erkin-Say**	**141.71**	**39**	*e*PKIKP	**PKPdf**	**20 38 51.5**	**+0.3**
EKS2	**Erkin-Say**	**141.71**	**39**	*e*PKPdf	**PKPdf**	**20 38 51.5**	**+0.3**
AAK	**Ala-Archa**	**142.16**	**38**	*c i* PKIKP	**PKPdf**	**20 38 49.1**	**-3.0**
AAK				pmax	pmax		
	comp=Z,17nm,2.5s						
AAK	**Ala-Archa**	**142.16**	**38**	*e*PKPpre	PKPpre	20 38 45.7	
MKAR	**Makanchi Array**	**143.32**	**27**	*c i* PKIKP	PKPab	20 38 50.0	+0.2
MKAR	**Makanchi Array**	**143.32**	**27**	PKP	PKPbc	20 38 50.7	-0.2
	comp=Z,1.2nm,0.7s,baz=339,slow=3.4,SNR=14						
MKAR				pPKP	pPKPdf	20 39 07.0	-1.9
	comp=Z,1.6nm,0.8s,baz=320,slow=3.3,SNR=5.9						
USRK	**Ussuriysk Ar.**	**143.47**	**327**	PKhKP	PKPpre	20 38 48.9	
	comp=Z,3.0nm,0.7s,baz=36,slow=3.5,SNR=8.8						
USRK				pPKP	pPKPdf	20 39 07.2	-2.0
	comp=Z,1.3nm,0.5s,baz=45,slow=5.7,SNR=3.0						
USRK				sPKP		20 39 14.8	
	comp=Z,3.2nm,0.8s,baz=46,slow=5.5,SNR=3.1						
MOY	**Mondy**	**143.69**	**5**	*e*PKIKP	PKPbc	20 38 52.7	+0.7
TLY	**Talaya**	**143.82**	**2**	*e*PKIKP	PKPbc	20 38 52.4	+0.2
TLY				*i*		20 39 08.1	
TLY				pmax	pmax		
	comp=Z,10.0nm,1.4s						
TLY				MLR	MLR		
	comp=Z,60nm,15.0s						
MJAR	**Matsushiro Arr**	**143.99**	**312**	PKhKP	PKPpre	20 38 51.6	
	comp=Z,7.2nm,0.7s,baz=111,slow=3.2,SNR=21						
MJAR				pPKP	pPKPdf	20 39 07.5	-2.8
	comp=Z,4.3nm,0.7s,baz=96,slow=3.4,SNR=5.9						
MAJO	**Matsushiro**	**144.00**	**312**	*e*PKPpre	PKPpre	20 38 51.4	
MAT	**Matsushiro**	**144.00**	**312**	PKP	PKPab	20 38 51.4	-1.3
MDJ	**Mudanjiang**	**144.39**	**330**	PKP	**PKPdf**	**20 38 55.0**	**-0.7**
KSH	**Kashi**	**144.88**	**41**	*i*PKP	**PKPdf**	**20 38 57.0**	**+0.1**
KSH				sPKP		20 39 12.5	
KSH				PP	**PP**	**20 42 17.6**	**+3.1**
KSH				PKS	**PKSdf**	**20 42 30.8**	**-1.7**
KSH				SKS	**SKSdf**	**20 46 01.6**	**-0.7**
KSH				SKKS	**SKKSac**	**20 49 03.4**	**+0.1**
KSH				SS	**SS**	**21 00 58.8**	**-1.1**
KSH				PPMZ			
	comp=Z,140nm,4.6s						
KSH				LN			
	comp=Z,94nm,4.9s						
KSH				LE			
	comp=Z,71nm,5.5s						
KSH				LZ			
	comp=Z,150nm,5.7s						
ZAK	**Zakamensk**	**145.11**	**2**	*i*PKIKP	**PKPbc**	**20 38 56.2**	**-0.2**
ZAK				*e*		20 39 11.6	
ZAK				*e*		20 42 14.0	
ZAK				pmax	pmax		
	comp=Z,19nm,1.0s						
CN2	**Changchun**	**146.94**	**333**	*e*PKPbc	**PKPdf**	**20 38 59.6**	**-0.5**
ULN	**Ulaanbaatar**	**147.63**	**358**	*c i* PKIKP	**PKPdf**	**20 39 00.2**	**-1.1**
ULN				pmax	pmax		
	comp=Z,23nm,1.2s						
ULN	**Ulaanbaatar**	**147.63**	**358**	*e*PKPdf	**PKPdf**	**20 39 01.2**	**-0.2**
SONM	**Songino Array**	**147.68**	**359**	PKP	**PKPdf**	**20 39 01.0**	**-0.4**
	comp=Z,12nm,0.8s,baz=349,slow=0.3,SNR=91						
SONM				PKPbc	**PKPbc**	**20 39 03.8**	**-0.3**
	comp=Z,12nm,0.8s,baz=311,slow=1.1,SNR=87						
SONM				pPKPbc	**pPKPbc**	**20 39 19.6**	**+0.5**
	comp=Z,9.5nm,0.5s,baz=332,slow=1.8,SNR=13						
FAKI	**Fak Fak**	**147.70**	**238**	*e*PKPdf	**PKPdf**	**20 39 02.7**	**+0.4**
WMQ	**Urumqi**	**147.97**	**24**	*e*PKPbc	**PKPdf**	**20 39 02.3**	**+0.4**
WMQ				PKPab	**PKPab**	**20 39 10.3**	**+2.6**
WMQ				PP	**PP**	**20 42 36.8**	**+4.7**
WMQ				SKS	**SKSdf**	**20 46 07.3**	**+0.9**
WMQ				SKKS	**SKKSac**	**20 49 23.3**	**+3.0**
WMQ				SS	**SS**	**21 01 38.3**	**+4.5**
WMQ				PPMZ			
	comp=Z,26nm,5.0s						
WMQ				LN			
	comp=Z,74nm,28.0s						
WMQ				LE			
	comp=Z,130nm,28.0s						
WMQ				LZ			
	comp=Z,120nm,27.0s						
BNDI	**Bandanaira**	**148.60**	**233**	P	**PKPdf**	**20 39 03.2**	**-0.5**
BATI	**Baumata**	**148.70**	**217**	P	**PKPdf**	**20 39 05.6**	**+1.7**
SOEI	**Soe**	**148.71**	**218**	*e*PKPdf	**PKPdf**	**20 39 04.6**	**+0.6**
SOEI				*e*PKPbc	**PKPbc**	**20 39 08.4**	**+0.5**
SOEI	**Soe**	**148.71**	**218**	P	**PKPbc**	**20 39 08.9**	**+1.1**
POO	**Poona**	**149.77**	**80**	*e*P	**PKPdf**	**20 39 03.0**	**-2.5**
KSRS	**Korea Array**	**150.31**	**322**	PKP	**PKPdf**	**20 39 06.5**	**+0.8**
	comp=Z,15nm,1.0s,baz=31,slow=1.7,SNR=15						
KSRS				PKPbc	**PKPbc**	**20 39 10.8**	**-0.1**
	comp=Z,15nm,1.0s,baz=6.2,slow=1.4,SNR=34						
KSRS				pPKPbc	**pPKPbc**	**20 39 26.9**	**+1.0**
	comp=Z,13nm,1.0s,baz=61,slow=1.1,SNR=6.6						
KSAR	**Wonju Array Be**	**150.34**	**322**	PKIKP	**PKPdf**	**20 39 06.5**	**+0.7**
KSAR						20 39 10.8	
KSAR	**Wonju Array Be**	**150.34**	**322**	PKP	**PKPdf**	**20 39 06.5**	**+0.7**
KSAR				PKPbc	**PKPbc**	**20 39 10.8**	**-0.2**
KSAR				pPKPbc	**pPKPbc**	**20 39 26.9**	**+0.9**
MMRI	**Maumere**	**150.79**	**216**	P	**PKPbc**	**20 39 12.2**	**-0.6**
MMRI	**Maumere**	**150.79**	**216**	*e*PKPbc	**PKPbc**	**20 39 11.5**	**-1.3**
EDFI	**Ende, Flores**	**151.00**	**215**	P	**PKPbc**	**20 39 12.9**	**-0.5**
NLAI	**Namlea**	**151.55**	**231**	P	**PKPbc**	**20 39 14.6**	**0.0**
LBMI	**Labuha**	**152.88**	**236**	P	**PKPab**	**20 39 31.9**	**+3.2**
	comp=Z,33nm,1.8s,comp=Z,0.2nm						
SANI	**Sanana**	**153.17**	**231**	P	**PKPbc**	**20 39 18.2**	**0.0**
HHC	**Hu-ho-hao-te**	**154.10**	**349**	*e*PKPbc	**PKPdf**	**20 39 08.3**	**-3.2**
HHC				PKS	PKSdf	20 42 39.6	-6.2
HHC				PP	**PP**	**20 43 07.4**	**+0.5**
HHC				SKS	**SKSdf**	**20 46 13.8**	**-0.6**
HHC				SS	**SS**	**21 02 44.1**	**+3.0**
HHC				PPMZ			
	comp=Z,100nm,6.5s						
HHC				LN			
	comp=Z,220nm,21.0s						
HHC				LE			
	comp=Z,190nm,21.2s						
HHC				LZ			
	comp=Z,180nm,21.4s						
BKSI	**Bulukumba**	**154.69**	**217**	P	**PKPbc**	**20 39 21.5**	**0.0**
KAPI	**Kappang**	**155.15**	**216**	*e*PKPdf	**PKPdf**	**20 39 12.7**	**-0.8**
KAPI				*e*PKPab	**PKPab**	**20 39 38.4**	**+0.2**
BNSI	**Bone**	**155.44**	**218**	P	PKPdf	20 39 23.9	+10
	comp=Z,18nm,1.6s,comp=Z,0.1nm						
GTA	**Gaotai**	**155.63**	**10**	*e*PKP	**PKPdf**	**20 39 13.8**	**+0.2**
GTA				sPKP		20 39 20.9	
GTA				PKPab	**PKPab**	**20 39 42.9**	**+3.2**
GTA				PP	**PP**	**20 43 20.3**	**+4.8**
GTA				SKS	**SKSdf**	**20 46 18.4**	**+2.2**
GTA				PPMZ			
	comp=Z,68nm,5.1s						
GTA				LN			
	comp=Z,79nm,20.9s						
GTA				LE			
	comp=Z,91nm,20.9s						
GTA				LZ			
	comp=Z,190nm,24.2s						
SPSI	**Sidrap Palu**	**155.99**	**218**	P	PKPdf	20 39 24.3	+10
	comp=Z

KARP	Karpathos	2.08	40	*e*Pb	Pn	20 35 28.3	+0.5
KARP				*e*Sn	Sb	20 35 56.4	-0.4
SANT	Santorini	2.42	359	*e*PN	Pb	20 35 34.7	-2.3
SANT	Santorini	2.42	359	*e*Pn	Pb	20 35 34.7	-2.3
KYTH	Kithira	3.10	319	*e*PN	Pn	20 35 44.7	+3.0
KYTH	Kithira	3.10	319	*e*Pn	Pn	20 35 44.7	+3.0
VLI	Veliai	3.48	323	*e*PN	Pn	20 35 50.5	+3.5
VLI	Veliai	3.48	323	*e*Pn	Pn	20 35 50.5	+3.5

ISCJB ***23*** *20:41:53.5±0.2, 38.°38N±0.°01×22.°01E±0.°02, h10km±2km, mb3.4/4, Error ellipse: s-maj=2.2km s-min=2.1km az=1.6*
IDC ***23*** *20:41:53.9±1.3, 38.°48N×22.°06E, h0km, mb3.3/5, mb1 3.4/6, mb1mx3.2/29, mbtmp3.3/6, ML2.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.1/21, Error ellipse: s-maj=37.6km s-min=21.4km az=153.0*
THE ***23*** *20:41:53.8, 38.°37N×22.°03E, h0km±2km, ML3.5/13, Error ellipse: s-maj=2.5km s-min=0.7km az=273.0*
ATH ***23*** *20:41:53.2, 38.°40N×22.°03E, h15km, MD3.7/58, ML2.9*
CSEM ***23*** *20:41:53.6±0.1, 38.°38N×22.°03E, h2km, MD3.7, Error ellipse: s-maj=2.4km s-min=2.1km az=75.0*

ISC 23 20:41:54.2±0.7,**38.°39N**±0.°01×**22.°03E**±0.°01,**h8**km±4km, **n200**,σ0.9**97**/262,**mb3.5**/4,**3C-3D**,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.09**	**90**	P	**Pg**	**20 41 56.4**	**-0.1**
KALE				S	**Sg**	**20 41 58.4**	**+0.4**
KALE	**Kalithea**	**0.09**	**90**	*e*PB	**Pg**	**20 41 56.3**	**-0.2**
KALE				*e*SB	**Sg**	**20 41 58.5**	**+0.4**
KALE	**Kalithea**	**0.09**	**90**	P	**Pg**	**20 41 56.3**	**-0.2**
KALE				S	**Sg**	**20 41 57.7**	**-0.4**
KALE				*e*Sb	**Sg**	**20 41 58.5**	**+0.4**
EFP	**Efpalio**	**0.10**	**290**	P	**Pg**	**20 41 56.0**	**-0.6**
EFP				S	**Sg**	**20 41 58.0**	**-0.3**
EFP	**Efpalio**	**0.10**	**290**	*e*PB	**Pg**	**20 41 55.9**	**-0.6**
EFP				*e*SB	**Sg**	**20 41 58.2**	**-0.1**
EFP	**Efpalio**	**0.10**	**290**	P	**Pg**	**20 41 56.0**	**-0.6**
EFP				S	**Sg**	**20 41 57.4**	**-0.9**
EFP				*e*Sb	**Sg**	**20 41 58.2**	**-0.1**
UPR	**University Cam**	**0.22**	**241**	P	**Pg**	**20 41 58.2**	**-0.4**
UPR	**University Cam**	**0.22**	**241**	P	**Pg**	**20 41 58.2**	**-0.4**
UPR				S	**Sg**	**20 42 00.9**	**-0.7**
KLV	**Kalavryta, Ach**	**0.36**	**164**	P	**Pg**	**20 42 00.5**	**-0.8**
KLV	**Kalavryta, Ach**	**0.36**	**164**	*e*PB	**Pg**	**20 42 00.4**	**-0.8**
KLV				*e*SB	**Sg**	**20 42 05.7**	**-0.3**
KLV	**Kalavryta, Ach**	**0.36**	**164**	P	**Pg**	**20 42 00.4**	**-0.8**
KLV				S	**Sg**	**20 42 05.2**	**-0.8**
DSF	**Desfina**	**0.39**	**87**	P	**Pg**	**20 42 01.2**	**-0.6**
DSF				S	**Sg**	**20 42 07.7**	**+0.6**
DSF	**Desfina**	**0.39**	**87**	*e*PB	**Pg**	**20 42 01.3**	**-0.6**
DSF	**Desfina**	**0.39**	**87**	P	**Pg**	**20 42 01.2**	**-0.6**
DSF				S	**Sg**	**20 42 07.0**	**-0.1**
PVO	**Paravola**	**0.45**	**300**	P	**Pg**	**20 42 02.3**	**-0.7**
PVO	**Paravola**	**0.45**	**300**	P	**Pg**	**20 42 02.3**	**-0.7**
PVO				S	**Sg**	**20 42 09.0**	**0.0**
DRO	**Drossia**	**0.51**	**210**	P	**Pg**	**20 42 03.1**	**-0.8**
DRO	**Drossia**	**0.51**	**210**	*e*PN	**Pg**	**20 42 03.1**	**-0.8**
DRO				*e*SN	**Sg**	**20 42 11.3**	**+0.7**
DRO	**Drossia**	**0.51**	**210**	P	**Pg**	**20 42 03.1**	**-0.8**
DRO				S	**Sg**	**20 42 10.5**	**-0.1**
DRO				*e*Sn	**Sg**	**20 42 11.3**	**+0.7**
GUR	**Goura**	**0.52**	**151**	P	**Pg**	**20 42 03.1**	**-1.1**
GUR				S	**Sg**	**20 42 11.2**	**+0.2**
GUR	**Goura**	**0.52**	**151**	*e*PN	**Pg**	**20 42 03.1**	**-1.1**
GUR				*e*SN	**Sg**	**20 42 11.6**	**+0.6**
GUR	**Goura**	**0.52**	**151**	P	**Pg**	**20 42 03.2**	**-1.0**
GUR				S	**Sg**	**20 42 10.4**	**-0.6**
GUR				*e*Sn	**Sg**	**20 42 11.6**	**+0.6**
EVR	**Evrytania**	**0.55**	**342**	P	**Pg**	**20 42 04.0**	**-0.9**
EVR				S	**Sg**	**20 42 13.2**	**+1.0**
EVR	**Evrytania**	**0.55**	**342**	P	**Pg**	**20 42 04.0**	**-0.9**
EVR				S	**Sg**	**20 42 12.1**	**-0.1**
RLS	**Riolos of Patr**	**0.55**	**233**	P	**Pg**	**20 42 04.0**	**-0.8**
RLS				S	**Sg**	**20 42 12.8**	**+0.6**
RLS	**Riolos of Patr**	**0.55**	**233**	*e*PN	**Pg**	**20 42 04.1**	**-0.8**
RLS				*e*SN	**Sg**	**20 42 12.7**	**+0.6**
RLS	**Riolos of Patr**	**0.55**	**233**	*e*Pn	**Pg**	**20 42 04.1**	**-0.8**
RLS				S	**Sg**	**20 42 12.1**	**0.0**
AXAR	**Agios Charalam**	**0.62**	**53**	P	**Pg**	**20 42 05.2**	**-1.0**
AXAR				S	**Sb**	**20 42 15.7**	**-0.4**
AXAR	**Agios Charalam**	**0.62**	**53**	*e*PN	**Pg**	**20 42 05.4**	**-0.8**
AXAR				*e*SN	**Sg**	**20 42 13.4**	**-0.9**
AXAR	**Agios Charalam**	**0.62**	**53**	*e*Pn	**Pg**	**20 42 05.4**	**-0.8**
AXAR				*e*Sn	**Sg**	**20 42 13.4**	**-0.9**
AXAR				S	**Sb**	**20 42 14.6**	**-1.5**
MAKR	**Makrakomi, Fth**	**0.63**	**7**	P	**Pg**	**20 42 05.5**	**-0.7**
MAKR				S	**Sb**	**20 42 16.5**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.63**	**7**	*e*PN	**Pg**	**20 42 05.6**	**-0.7**
MAKR				*e*SN	**Sg**	**20 42 13.9**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.63**	**7**	P	**Pg**	**20 42 05.6**	**-0.7**
MAKR				*e*Sn	**Sg**	**20 42 13.9**	**-0.6**
MAKR				S	**Sb**	**20 42 15.6**	**-0.7**
AGG	**Agios Georgios**	**0.67**	**21**	P	**Pg**	**20 42 05.8**	**-1.4**
AGG	**Agios Georgios**	**0.67**	**21**	*e*PB	**Pg**	**20 42 05.8**	**-1.4**
AGG	**Agios Georgios**	**0.67**	**21**	P	**Pg**	**20 42 05.8**	**-1.4**
PDO	**Prodromos**	**0.69**	**288**	P	**Pg**	**20 42 06.5**	**-1.1**
PDO				S	**Sb**	**20 42 18.8**	**+0.6**
PDO	**Prodromos**	**0.69**	**288**	*e*PN	**Pg**	**20 42 07.0**	**-0.6**
PDO				*e*SN	**Sg**	**20 42 16.8**	**+0.2**
PDO	**Prodromos**	**0.69**	**288**	P	**Pg**	**20 42 06.5**	**-1.1**
PDO	**Prodromos**	**0.69**	**288**	*e*Pn	**Pg**	**20 42 07.0**	**-0.6**
PDO				*e*Sn	**Sg**	**20 42 16.8**	**+0.2**
LKR	**Lokris**	**0.81**	**71**	P	**Pg**	**20 42 08.3**	**-1.4**
LKR				S	**Sb**	**20 42 21.7**	**+0.3**
LKR	**Lokris**	**0.81**	**71**	*e*PN	**Pg**	**20 42 08.3**	**-1.4**
LKR				*e*SN	**Sg**	**20 42 19.7**	**-0.4**
LKR	**Lokris**	**0.81**	**71**	P	**Pg**	**20 42 08.3**	**-1.4**
LKR				*e*Sn	**Sg**	**20 42 19.7**	**-0.4**
LKR				S	**Sb**	**20 42 21.7**	**+0.3**
LTK	**Loutraki**	**0.83**	**116**	P	**Pg**	**20 42 09.6**	**-0.5**
LTK	**Loutraki**	**0.83**	**116**	*e*PN	**Pg**	**20 42 09.9**	**-0.2**
LTK	**Loutraki**	**0.83**	**116**	P	**Pg**	**20 42 09.6**	**-0.5**
LTK	**Loutraki**	**0.83**	**116**	*e*Pn	**Pg**	**20 42 09.9**	**-0.2**
AMT	**Artemida-Makis**	**0.89**	**196**	P	**Pg**	**20 42 10.3**	**-1.0**
AMT				S	**Sb**	**20 42 24.5**	**+0.5**
AMT	**Artemida-Makis**	**0.89**	**196**	*e*PN	**Pg**	**20 42 10.1**	**-1.2**
AMT				*e*SN	**Sg**	**20 42 23.6**	**+0.6**
AMT	**Artemida-Makis**	**0.89**	**196**	P	**Pg**	**20 42 10.3**	**-1.0**
AMT				S	**Sg**	**20 42 23.4**	**+0.4**
KFL	**Anninata**	**1.02**	**254**	P	**Pg**	**20 42 12.4**	**-1.3**
KFL	**Anninata**	**1.02**	**254**	P	**Pg**	**20 42 12.4**	**-1.3**
DSL	**Palaion Diasel**	**1.04**	**316**	P	**Pg**	**20 42 13.6**	**-0.5**
DSL	**Palaion Diasel**	**1.04**	**316**	*e*PN	**Pg**	**20 42 13.3**	**-0.8**
DSL	**Palaion Diasel**	**1.04**	**316**	*e*Pn	**Pg**	**20 42 13.3**	**-0.8**
DSL	**Palaion Diasel**	**1.04**	**316**	P	**Pg**	**20 42 13.6**	**-0.5**
SMIA	**Simia**	**1.05**	**62**	P	**Pg**	**20 42 13.2**	**-1.1**
SMIA	**Simia**	**1.05**	**62**	*e*PN	**Pg**	**20 42 13.4**	**-0.9**
SMIA				*e*SN	**Sb**	**20 42 28.4**	**0.0**
SMIA	**Simia**	**1.05**	**62**	P	**Pg**	**20 42 13.2**	**-1.1**
SMIA				*e*Sn	**Sb**	**20 42 28.4**	**0.0**
VLX	**Vlachokerasia**	**1.06**	**165**	P	**Pg**	**20 42 12.6**	**-1.9**
VLX				S	**Sb**	**20 42 29.1**	**+0.4**
VLX	**Vlachokerasia**	**1.06**	**165**	*e*PB	**Pg**	**20 42 12.8**	**-1.7**
VLX				*e*SN	**Sg**	**20 42 28.3**	**+0.1**
VLX	**Vlachokerasia**	**1.06**	**165**	*e*Pb	**Pg**	**20 42 12.8**	**-1.7**
VLX				*e*Sn	**Sg**	**20 42 28.3**	**+0.1**
VLX				S	**Sb**	**20 42 29.1**	**+0.4**
LKD2	**Lefkada island**	**1.15**	**291**	P	**Pg**	**20 42 15.0**	**-1.2**
LKD2	**Lefkada island**	**1.15**	**291**	*e*PN	**Pg**	**20 42 14.9**	**-1.2**
LKD2	**Lefkada island**	**1.15**	**291**	P	**Pg**	**20 42 15.0**	**-1.2**
VLS	**Valsamata**	**1.15**	**260**	P	**Pg**	**20 42 14.1**	**-2.2**
VLS				S	**Sb**	**20 42 32.2**	**+0.8**
VLS	**Valsamata**	**1.15**	**260**	*e*PB	**Pg**	**20 42 14.1**	**-2.2**
VLS				*e*SN	**Sg**	**20 42 31.5**	**+0.3**
VLS	**Valsamata**	**1.15**	**260**	P	**Pg**	**20 42 14.1**	**-2.2**
VLS				*e*Sn	**Sg**	**20 42 31.5**	**+0.3**
VLS				S	**Sb**	**20 42 32.2**	**+0.8**
THL	**Klokotos Trika**	**1.17**	**360**	P	**Pn**	**20 42 17.1**	**+0.3**
THL				S	**Sn**	**20 42 35.1**	**+2.1**
THL	**Klokotos Trika**	**1.17**	**360**	*e*PN	**Pb**	**20 42 15.9**	**-0.7**
THL				*e*SN	**Sg**	**20 42 31.0**	**-0.9**
THL	**Klokotos Trika**	**1.17**	**360**	*e*Pn	**Pb**	**20 42 15.9**	**-0.7**
THL	**Klokotos Trika**	**1.17**	**360**	P	**Pn**	**20 42 17.1**	**+0.3**
THL				S	**Sn**	**20 42 35.1**	**+2.1**
ITM	**Ithomi**	**1.21**	**184**	P	**Pb**	**20 42 15.4**	**-1.9**
ITM				S	**Sb**	**20 42 33.4**	**+0.3**
ITM	**Ithomi**	**1.21**	**184**	P	**Pb**	**20 42 15.4**	**-1.9**
ITM				S	**Sb**	**20 42 33.4**	**+0.3**
MRKA	**Markates**	**1.26**	**75**	P	**Pn**	**20 42 17.7**	**-0.3**
MRKA	**Markates**	**1.26**	**75**	*e*PN	**Pn**	**20 42 17.8**	**-0.3**
MRKA				*e*SN	**Sn**	**20 42 35.4**	**+0.1**
MRKA	**Markates**	**1.26**	**75**	*e*Pn	**Pn**	**20 42 17.8**	**-0.3**
MRKA				*e*Sn	**Sn**	**20 42 35.4**	**+0.1**
NEO	**Neokhori**	**1.31**	**45**	*e*PN	**Pn**	**20 42 18.0**	**-0.7**
NEO	**Neokhori**	**1.31**	**45**	*e*Pn	**Pn**	**20 42 18.0**	**-0.7**
XOR	**Xorichti**	**1.33**	**43**	P	**Pn**	**20 42 18.2**	**-0.9**
XOR	**Xorichti**	**1.33**	**43**	*e*PN	**Pn**	**20 42 18.2**	**-0.9**
XOR	**Xorichti**	**1.33**	**43**	P	**Pn**	**20 42 18.2**	**-0.9**
SKIA	**Skiathos**	**1.36**	**55**	*e*PN	**Pn**	**20 42 18.9**	**-0.6**
SKIA				*e*SN	**Sg**	**20 42 38.3**	**+0.2**
SKIA	**Skiathos**	**1.36**	**55**	*e*Pn	**Pn**	**20 42 18.9**	**-0.6**
SKIA				*e*Sn	**Sg**	**20 42 38.3**	**+0.2**
SFD	**Strofades**	**1.39**	**215**	*e*PN	**Pn**	**20 42 19.5**	**-0.3**
SFD	**Strofades**	**1.39**	**215**	*e*Pn	**Pn**	**20 42 19.5**	**-0.3**
ATH	**Athens Observa**	**1.40**	**107**	P	**Pb**	**20 42 20.7**	**+0.3**
ATH				S	**Sg**	**20 42 39.4**	**+0.4**
ATH	**Athens Observa**	**1.40**	**107**	*e*PN	**Pn**	**20 42 19.4**	**-0.5**
ATH				*e*SN	**Sn**	**20 42 38.8**	**+0.3**
ATH	**Athens Observa**	**1.40**	**107**	*e*Pn	**Pn**	**20 42 19.4**	**-0.5**
ATH	**Athens Observa**	**1.40**	**107**	P	**Pb**	**20 42 20.7**	**+0.3**
ATH				*e*Sn	**Sn**	**20 42 38.8**	**+0.3**
ATH				S	**Sg**	**20 42 39.4**	**+0.4**
PTL	**Penteli**	**1.49**	**103**	P	**Pn**	**20 42 20.9**	**-0.3**
PTL	**Penteli**	**1.49**	**103**	*e*PN	**Pn**	**20 42 20.9**	**-0.3**
PTL	**Penteli**	**1.49**	**103**	P	**Pn**	**20 42 20.9**	**-0.3**
PYL	**PYLOS**	**1.51**	**189**	P	**Pn**	**20 42 20.7**	**-0.8**
PYL	**PYLOS**	**1.51**	**189**	*e*PN	**Pn**	**20 42 20.9**	**-0.6**
PYL	**PYLOS**	**1.51**	**189**	*e*Pn	**Pn**	**20 42 20.9**	**-0.6**
MEV	**Metsovon**	**1.52**	**336**	P	**Pn**	**20 42 22.2**	**+0.4**
MEV	**Metsovon**	**1.52**	**336**	P	**Pn**	**20 42 22.2**	**+0.4**
AOS	**Alonnisos**	**1.64**	**61**	*e*PN	**Pn**	**20 42 22.6**	**-0.7**
AOS	**Alonnisos**	**1.64**	**61**	*e*Pn	**Pn**	**20 42 22.6**	**-0.7**
IGT	**Igoumenitsa**	**1.75**	**311**	*e*PN	**Pn**	**20 42 25.2**	**+0.5**
IGT	**Igoumenitsa**	**1.75**	**311**	*e*Pn	**Pn**	**20 42 25.2**	**+0.5**
LIT	**Litokhoron**	**1.75**	**12**	P	**Pn**	**20 42 24.5**	**-0.2**
LIT	**Litokhoron**	**1.75**	**12**	*e*PN	**Pn**	**20 42 24.2**	**-0.5**
LIT	**Litokhoron**	**1.75**	**12**	*e*Pn	**Pn**	**20 42 24.2**	**-0.5**
LIT	**Litokhoron**	**1.75**	**12**	P	**Pn**	**20 42 24.5**	**-0.2**
VLI	**Veliai**	**1.82**	**156**	P	**Pn**	**20 42 25.4**	**-0.3**
VLI	**Veliai**	**1.82**	**156**	*e*PB	**Pn**	**20 42 25.1**	**-0.6**
VLI	**Veliai**	**1.82**	**156**	P	**Pn**	**20 42 25.4**	**-0.3**
KZN	**Kozani**	**1.92**	**354**	P	**Pn**	**20 42 27.9**	**+0.6**
KZN	**Kozani**	**1.92**	**354**	*e*PN	**Pn**	**20 42 28.2**	**+0.9**
KZN	**Kozani**	**1.92**	**354**	P	**Pn**	**20 42 27.9**	**+0.6**
KZN	**Kozani**	**1.92**	**354**	*e*Pn	**Pn**	**20 42 28.2**	**+0.9**
PAIG	**Paliouri**	**2.00**	**39**	*e*PB	**Pn**	**20 42 27.1**	**-1.1**
NEST	**Nestorio**	**2.16**	**340**	P	**Pb**	**20 42 32.7**	**-0.8**
NEST	**Nestorio**	**2.16**	**340**	*e*PN	**Pn**	**20 42 31.3**	**+0.8**
NEST	**Nestorio**	**2.16**	**340**	*e*Pn	**Pn**	**20 42 31.3**	**+0.8**
NEST	**Nestorio**	**2.16**	**340**	P	**Pb**	**20 42 32.7**	**-0.8**
KYTH	**Kithira**	**2.25**	**159**	P	**Pn**	**20 42 32.5**	**+0.8**
KYTH	**Kithira**	**2.25**	**159**	*e*PN	**Pn**	**20 42 32.6**	**+0.8**
KYTH	**Kithira**	**2.25**	**159**	P	**Pn**	**20 42 32.5**	**+0.8**
PLG	**Polygyros**	**2.26**	**29**	*e*PN	**Pn**	**20 42 33.0**	**+1.1**
PLG	**Polygyros**	**2.26**	**29**	*e*Pn	**Pn**	**20 42 33.0**	**+1.1**
THE	**Thessaloniki**	**2.35**	**18**	*e*PB	**Pn**	**20 42 32.4**	**-0.7**
HORT	**Hortiatis**	**2.35**	**20**	*e*PB	**Pn**	**20 42 32.7**	**-0.5**
FNA	**Florina**	**2.44**	**348**	P	**Pn**	**20 42 34.9**	**+0.5**
FNA	**Florina**	**2.44**	**348**	*e*PN	**Pn**	**20 42 34.9**	**+0.5**
FNA	**Florina**	**2.44**	**348**	P	**Pn**	**20 42 34.9**	**+0.5**
OUR	**Ouranopolis**	**2.46**	**37**	*e*PB	**Pn**	**20 42 33.8**	**-0.8**
GRG	**Griva**	**2.58**	**6**	P	**Pn**	**20 42 36.5**	**+0.3**
GRG	**Griva**	**2.58**	**6**	*e*PN	**Pn**	**20 42 36.5**	**+0.3**
GRG	**Griva**	**2.58**	**6**	P	**Pn**	**20 42 36.5**	**+0.3**
SOH	**Sokhos**	**2.63**	**22**	*e*PN	**Pn**	**20 42 36.8**	**-0.2**
SOH	**Sokhos**	**2.63**	**22**	*e*Pn	**Pn**	**20 42 36.8**	**-0.2**
ANKY	**Antikythira Is**	**2.72**	**158**	*e*PN	**Pn**	**20 42 37.9**	**-0.2**
ANKY	**Antikythira Is**	**2.72**	**158**	*e*Pn	**Pn**	**20 42 37.9**	**-0.2**
KNT	**Kendrikon**	**2.85**	**13**	P	**Pn**	**20 42 40.2**	**+0.3**
KNT	**Kendrikon**	**2.85**	**13**	*e*PN	**Pn**	**20 42 40.3**	**+0.3**
KNT	**Kendrikon**	**2.85**	**13**	P	**Pn**	**20 42 40.2**	**+0.3**
OHR	**Ohrid**	**2.88**	**341**	*i* Pn	**Pn**	**20 42 42.1**	**+1.8**
OHR	**Ohrid**	**2.88**	**341**	*i* Pn	**Pn**	**20 42 42.1**	**+1.8**
VAY	**Valandovo**	**2.96**	**8**	*i* Pn	**Pn**	**20 42 42.2**	**+0.9**
VAY	**Valandovo**	**2.96**	**8**	*i* Pn	**Pn**	**20 42 42.2**	**+0.9**
SRS	**Serrai**	**2.98**	**23**	*e*PN	**Pn**	**20 42 41.2**	**-0.5**
SRS	**Serrai**	**2.98**	**23**	*e*Pn	**Pn**	**20 42 41.2**	**-0.5**
CHOS	**Chios island**	**3.17**	**89**	*e*PN	**Pn**	**20 42 44.8**	**+0.5**
CHOS	**Chios island**	**3.17**	**89**	*e*Pn	**Pn**	**20 42 44.8**	**+0.5**
KAVA	**Kavala**	**3.23**	**36**	*e*PN	**Pn**	**20 42 45.7**	**+0.5**
KAVA	**Kavala**	**3.23**	**36**	*e*Pn	**Pn**	**20 42 45.7**	**+0.5**
NVR	**Nevrokopi**	**3.27**	**25**	*e*PN	**Pn**	**20 42 47.3**	**+1.5**
NVR	**Nevrokopi**	**3.27**	**25**	*e*Pn	**Pn**	**20 42 47.3**	**+1.5**
KARN	**Karanos**	**3.35**	**153**	P	**Pn**	**20 42 46.8**	**0.0**
KARN	**Karanos**	**3.35**	**153**	*e*PN	**Pn**	**20 42 46.5**	**-0.3**
KARN	**Karanos**	**3.35**	**153**	*e*Pn	**Pn**	**20 42 46.5**	**-0.3**
KARN	**Karanos**	**3.35**	**153**	P	**Pn**	**20 42 46.8**	**0.0**
SANT	**Santorini**	**3.40**	**125**	*e*PN	**Pn**	**20 42 48.0**	**+0.5**
SANT	**Santorini**	**3.40**	**125**	*e*Pn	**Pn**	**20 42 48.0**	**+0.5**
VAM	**Vamos**	**3.45**	**149**	P	**Pn**	**20 42 45.9**	**-2.3**
VAM	**Vamos**	**3.45**	**149**	*e*PN	**Pn**	**20 42 46.7**	**-1.5**
VAM	**Vamos**	**3.45**	**149**	P	**Pn**	**20 42 45.9**	**-2.3**
VAM	**Vamos**	**3.45**	**149**	*e*Pn	**Pn**	**20 42 46.7**	**-1.5**
MMB	**Musomiste**	**3.45**	**22**	⇑*i*P	**Pn**	**20 42 49.6**	**+1.4**
MMB	**Musomiste**	**3.45**	**22**	S	**Sn**	**20 43 25.9**	**-3.4**
MMB	**Musomiste**	**3.45**	**22**	*e*P	**Pn**	**20 42 48.0**	**-0.2**
KKB	**Krupnik**	**3.56**	**13**	*e*P	**Pn**	**20 42 51.1**	**+1.4**
SMG	**Samos**	**3.86**	**99**	*e*PN	**Pn**	**20 42 54.3**	**+0.5**
SMG	**Samos**	**3.86**	**99**	*e*Pn	**Pn**	**20 42 54.3**	**+0.5**
RZN	**Rozhen**	**3.89**	**31**	*e*P	**Pn**	**20 42 56.2**	**+1.9**
SIVA	**Sivas**	**4.04**	**146**	*e*PN	**Pn**	**20 42 57.5**	**+1.3**
SIVA	**Sivas**	**4.04**	**146**	*e*Pn	**Pn**	**20 42 57.6**	**+1.3**
NPS	**Neapolis**	**4.25**	**136**	*e*PN	**Pn**	**20 42 59.7**	**+0.6**
NPS	**Neapolis**	**4.25**	**136**	*e*Pn	**Pn**	**20 42 59.7**	**+0.6**
LAST	**Lasithi**	**4.25**	**138**	*e*PN	**Pn**	**20 42 59.9**	**+0.7**
LAST	**Lasithi**	**4.25**	**138**	*e*Pn	**Pn**	**20 42 59.9**	**+0.7**
VTS	**Vitosha**	**4.29**	**12**	⇑*i*P	**Pn**	**20 43 00.4**	**+0.5**
VTS	**Vitosha**	**4.29**	**12**	S	**Sn**	**20 43 50.3**	**+0.1**
VTS	**Vitosha**	**4.29**	**12**	*e*P	**Pn**	**20 43 01.2**	**+1.3**
ZKR	**Zakros**	**4.69**	**133**	*e*PN	**Pn**	**20 43 07.2**	**+2.0**
ZKR	**Zakros**	**4.69**	**133**	*e*Pn	**Pn**	**20 43 07.2**	**+2.0**
KARP	**Karpathos**	**5.00**	**123**	*e*PN	**Pn**	**20 43 11.7**	**+2.3**
KARP	**Karpathos**	**5.00**	**123**	*e*Pn	**Pn**	**20 43 11.7**	**+2.3**
MPEP	**Malo Peshtene**	**5.13**	**14**	*e*P	Pn	20 43 14.5	+3.3
IVAS	**Ivanjica**	**5.37**	**345**	*e*Pn	Pn	20 43 18.5	+3.9
GRUS	**Gruza**	**5.58**	**350**	*e*Pn	**Pn**	**20 43 19.5**	**+2.1**
BBLS	**Lazići**	**5.82**	**341**	*e*Pn	**Pn**	**20 43 21.6**	**+0.9**
DIVS	**Divibare**	**5.90**	**346**	*e*Pn	**Pn**	**20 43 23.6**	**+1.6**
TRUS	**Trudelj**	**5.95**	**349**	*e*Pn	**Pn**	**20 43 23.9**	**+1.4**
VOIR		**7.39**	**17**	⇓*i*P	**Pn**	**20 43 43.9**	**+1.5**
EFOR	**EFORIE**	**7.55**	**39**	⇑*i*P	Pn	20 43 50.7	+6.2
MLR	**Muntele Rosu**	**7.67**	**21**	⇓*i*P	**Pn**	**20 43 48.5**	**+2.3**
VRI	**Vrincioaia**	**8.24**	**24**	⇓*i*P	**Pn**	**20 43 55.4**	**+1.4**
BRTR	**Keskin Array B**	**9.13**	**78**	Pn	**Pn**	**20 44 09.3**	**+3.0**
	0.1nm,0.3s,baz=266,slow=12,SNR=2.7						
MMAI	**Mount Meron Ar**	**12.12**	**112**	LR	LR	20 50 41.0	
	comp=Z,67nm,21.9s,baz=280,slow=43						
ESDC	**Sonseca Array**	**20.21**	**282**	P	Pn	20 46 30.9	-0.5
	0.2nm,0.3s,baz=79,slow=9.4,SNR=4.5						
NB2	**NORSAR Subarra**	**23.66**	**347**	P	**P**	**20 47 04.7**	**-1.1**
	comp=Z,1.9nm,1.0s,baz=153,slow=10						
NB2	**NORSAR Subarra**	**23.66**	**347**	P	**P**	**20 47 04.7**	**-1.1**
	comp=Z,1.9nm,1.0s,SNR=3.0						
NOA	**NORSAR Array B**	**23.66**	**347**	P	**P**	**20 47 05.3**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=158,slow=8.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**30.96**	**221**	P	**P**	**20 48 13.5**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=31,slow=8.4,SNR=2.5						
MKAR	**Makanchi Array**	**44.18**	**59**	P	**P**	**20 50 02.3**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=272,slow=7.2,SNR=9.3						
ZALV	**Zalesovo Beam**	**44.66**	**48**	P	**P**	**20 50 09.1**	**+2.0**
	comp=Z,0.4nm,0.4s,baz=286,slow=7.5,SNR=2.9						

PRU 23 20:45:45.7,50.°28N×18.°88E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.07**	**81**	*e*Pg	Pg	20 45 47.1	0.0
CHZP				*e*		20 45 47.4	
CHZP				*e*Sg	Sg	20 45 48.4	+0.3
OJC	**Ojcow**	**0.59**	**96**	*e*Pg	Pg	20 45 56.8	-0.3
OJC				*e*Sg	Sg	20 46 04.6	-0.2
OKC	**Ostrava-Krasne**	**0.65**	**227**	*e*PG	Pg	20 45 57.4	-0.7
OKC				*e*SG	Sg	20 46 05.9	-0.6
	comp=Z,4.0nm,0.4s						
DPC	**Dobruska-Polom**	**1.64**	**273**	*e*PG	Pn	20 46 15.6	-0.3
DPC				*e*SG	Sn	20 46 37.9	+0.1
UPC	**Upice**	**1.85**	**278**	*e*SG	Sg	20 46 44.9	-0.3

IDC ***23*** *20:47:05.3±1.9, 33.°80N×25.°79E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.1/23, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=35.1km s-min=25.8km az=78.0*
CSEM ***23*** *20:47:06.3±0.7, 33.°87N×25.°66E, h10km, MD3.6, Error ellipse: s-maj=14.2km s-min=6.6km az=2.0*
ATH ***23*** *20:47:06.1, 33.°93N×25.°64E, h19km±1km, MD3.6/12*
THE ***23*** *20:47:06.5, 33.°88N×25.°67E, h0km±10km, Error ellipse: s-maj=23.4km s-min=2.8km az=163.0*
ISCJB ***23*** *20:47:06.3±2.0, 33.°82N±0.°06×25.°70E±0.°05, h23km±19km, mb3.1/2, Error ellipse: s-maj=10.9km s-min=6.7km az=176.6*
DDA ***23*** *20:47:23.7, 34.°18N×27.°18E, h28km, MD3.5, ML3.7*

ISC 23 20:47:08.4±2.8,**33.°86N**±0.°08×**25.°73E**±0.°04,**h23**km±20km, **n42**,σ1.9**52**/62,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.31**	**351**	P	**Pn**	**20 47 29.2**	**-2.2**
LAST				S	**Sn**	**20 47 48.0**	**-0.3**
LAST	**Lasithi**	**1.31**	**351**	*e*PN	**Pn**	**20 47 29.3**	**-2.2**
LAST	**Lasithi**	**1.31**	**351**	*e*Pn	**

MTN S Sn 21 00 16.0 -8.8
baz=10,SNR=7.8
KDU Kakadu 11.32 111 P Pn 20 58 44.0 -2.4
baz=11,SNR=4.4
KDU S Sn 21 00 41.4 -11
baz=11,SNR=3.4
WRA Warramunga Arr 16.58 134 P **P** **20 59 52.3 +1.5**
0.1nm,0.3s,baz=315,slow=12,SNR=3.3
WRA S **S** **21 02 52.2 -2.2**
0.2nm,0.3s,baz=307,slow=24,SNR=7.5
WRKA Warakurna 17.42 160 P **Pn** **21 00 04.9 +3.2**
baz=18,SNR=3.5
ASAR Alice Springs 18.93 143 P **Pn** **21 00 20.4 +0.9**
0.1nm,0.3s,baz=328,slow=11,SNR=5.0
ASAR S **Sn** **21 03 51.4 -2.2**
0.1nm,0.3s,baz=325,slow=25,SNR=2.9
SONM Songino Array 57.91 348 P P 21 05 37.3 -4.7
0.2nm,0.6s,baz=168,slow=7.4,SNR=2.6
MKAR Makanchi Array 65.44 331 P P 21 06 28.9 -3.5
0.1nm,0.5s,baz=152,slow=6.8,SNR=4.1

*ISCJB **23** 21:04:30.3±0.8, 3°.53N±0°.07×96°.52E±0°.08, h72km, mb3.5/5, Error ellipse: s-maj=13.2km s-min=7.5km az=138.5*
*IDC **23** 21:04:35.0±5.1, 3°.70N×96°.94E, h95km±35km, mb3.2/5, mb1 3.4/7, mb1mx3.2/33, mbtmp3.6/7, Error ellipse: s-maj=80.4km s-min=16.8km az=58.0*
*DJA **23** 21:04:37.5±0.5, 4°N±3°×9°7E±°, h74km±4km, M4.2/11, mb4.7/7, mB5.2/3, MLv3.9/11, Mw(mB)4.6/3*
ISC 23 21:04:32.3±1.2, 3°.5N±0°.1×96°.6E±0°.1, h72km, n21, σ1°81/20, mb3.5/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**0.65**	**116**	P	Pn	21 04 51.3	+4.5
TPTI				S	**Sn**	**21 05 02.0**	**+4.5**
SNSI	**Sinabang, Aceh**	**1.16**	**193**	P	Pn	21 05 02.4	+9.5
KCSI	**Kotacane, Aceh**	**1.18**	**91**	P	**Pn**	**21 04 53.8**	**+0.7**
KCSI				S	**Sn**	**21 05 07.6**	**-1.1**
LHMI	**Lhok Sumawe**	**1.71**	**12**	P	**Pn**	**21 05 02.4**	**+2.3**
TSI	**Tuntungan**	**1.97**	**91**	P	**Pn**	**21 05 03.6**	**+0.1**
PSI	**Prapat**	**2.44**	**108**	P	**Pn**	**21 05 11.3**	**+1.3**
	31nm,0.3s,baz=306,slow=12,SNR=83						
PSI				S	**Sn**	**21 05 37.9**	**-1.1**
	7.1nm,0.3s,baz=295,slow=12,SNR=7.9						
MNSI	**Mandailing Nat**	**4.04**	**132**	P	**Pn**	**21 05 34.1**	**+2.3**
PDSI	**Padang**	**5.88**	**139**	P	**Pn**	**21 05 59.9**	**+3.0**
	29nm,0.5s,1μm0.2nm						
LHSI	**Lahat**	**10.08**	**137**	P	**Pn**	**21 06 56.0**	**+1.7**
	81nm,0.8s,858nm						
MNAI	**Manna**	**10.10**	**141**	P	**Pn**	**21 06 54.6**	**0.0**
	137nm,1.2s						
MDSI	**Maura Dua**	**11.00**	**136**	P	**Pn**	**21 07 06.7**	**-0.2**
	32nm,0.8s						
LWLI	**Liwa**	**11.31**	**139**	P	**Pn**	**21 07 11.0**	**-0.2**
	29nm,0.6s,2μm						
CMAR	**Chiang Mai Arr**	**15.00**	**9**	P	**Pn**	**21 08 01.4**	**+1.0**
	0.1nm,0.3s,baz=196,slow=11,SNR=6.4						
H08S2	**Diego Garcia H**	**26.49**	**245**	T	T	21 36 31.0	
	baz=66,slow=76,SNR=29						
H08S3	**Diego Garcia H**	**26.49**	**245**	T	T	21 36 31.1	
	baz=66,slow=76,SNR=28						
H08S1	**Diego Carcia H**	**26.51**	**245**	T	T	21 36 32.3	
	baz=66,slow=76,SNR=26						
WRA	**Warramunga Arr**	**43.81**	**124**	P	**P**	**21 12 30.3**	**-1.1**
	5.7nm,0.6s,baz=302,slow=9.2,SNR=55						
MKAR	**Makanchi Array**	**44.84**	**346**	P	**P**	**21 12 37.9**	**-1.4**
	0.1nm,0.3s,baz=155,slow=8.5,SNR=5.4						
SONM	**Songino Array**	**44.92**	**9**	P	**P**	**21 12 38.7**	**-1.4**
	0.3nm,0.4s,baz=185,slow=9.4,SNR=6.3						
SONM				PcP	**PcP**	**21 14 20.1**	**-0.3**
	0.2nm,0.4s,baz=162,slow=4.5,SNR=3.1						
ASAR	**Alice Springs**	**45.30**	**129**	P	**P**	**21 12 42.1**	**-1.3**
	0.4nm,0.6s,baz=297,slow=7.6,SNR=6.5						
KURBB	**Kurchatov Arra**	**49.33**	**345**	P	**P**	**21 13 13.7**	**-0.4**
	0.1nm,0.4s,baz=173,slow=6.8,SNR=2.7						

GUC 23 21:11:01.9±0.4, 34°.67S×72°.02W, h84km±8km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.73**	**117**	*e*P	Pn	21 11 18.6	+0.5
NICH				*e*S	Sn	21 11 30.9	+0.6
TALC	**Talca**	**0.80**	**157**	*e*P	Pn	21 11 18.9	+0.1
TALC				*e*S	Sn	21 11 32.0	+0.5
RCDM	**Rinconada Maip**	**1.55**	**41**	*e*P	Pn	21 11 27.9	-0.1
RCDM				*e*S	Sn	21 11 48.3	+0.5
ANTU	**Antumapu**	**1.59**	**47**	*e*P	Pn	21 11 29.1	+0.5
ANTU				*e*S	Sn	21 11 49.5	+0.8
COCH	**Cobquecura**	**1.59**	**203**	*e*P	Pn	21 11 28.8	+0.3
COCH				*e*S	Sn	21 11 49.1	+0.5
SJCH	**San Jose de Ma**	**1.72**	**54**	*e*P1	Pn	21 11 30.8	+0.4
SJCH				*e*S	Sn	21 11 52.5	+0.5
SJCH				IAML		21 11 57.1	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**1.88**	**37**	*e*P	Pn	21 11 33.0	+0.6
PEL				*e*S	Sn	21 11 56.2	+0.6
PEL				IAML		21 12 07.1	
	comp=N,1μm,0.4s						
YECH	**El Yeso**	**1.89**	**59**	*e*P4	Pn	21 11 34.4	+1.5
YECH				*e*S	Sn	21 11 57.6	+1.2
YECH				IAML		21 12 04.6	
	comp=N,974nm,0.4s						

MAN 23 21:22:21, 15°.02N×120°.34E, h1km, mb4.5, ML3.4, MS3.3, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.85**	**331**	*e*P	Pg	21 22 37.4	-0.1
PCPH	**Palayan**	**0.91**	**54**	⇓*e*P	Pg	21 22 38.3	-0.1
PCPH				*e*S	Sg	21 22 50.5	+0.3
LUBP	**Lubang**	**1.28**	**184**	*e*P	Pn	21 22 47.0	+0.9
LUBP				*e*S	Sn	21 23 05.1	+1.2
BCPH	**Baguio City Da**	**1.37**	**10**	⇑*i*P	Pn	21 22 44.7	-2.9
BCPH				*i* S	Sg	21 22 59.6	-6.0
BOLP	**Bolinao**	**1.41**	**343**	*e*P	Pn	21 22 47.8	-0.1
ABRA	**Dolores**	**2.64**	**8**	*e*P	Pn	21 23 06.5	+1.8
APYP	**Conner**	**2.96**	**17**	*e*P	Pn	21 23 11.7	+2.6

IDC 23 21:33:41.9±24.0, 1°.04N×16°.00W, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.3/29, mbtmp3.7/3, ML3.1/1, MS3.1/2, Ms1 3.0/2, ms1mx2.7/25, Error ellipse: s-maj=834.2km s-min=89.6km az=169.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.94**	**170**	T	T	21 43 23.9	
	baz=347,slow=74,SNR=5.8						
H10N3	**ASCENSION HYDR**	**8.95**	**170**	T	T	21 43 23.5	
	baz=347,slow=74,SNR=10						
H10N1	**ASCENSION HYDR**	**8.96**	**170**	T	T	21 43 27.6	
	baz=347,slow=74,SNR=11						
H10S1	**ASCENSION HYDR**	**10.01**	**172**	T	T	21 44 45.4	
	baz=350,slow=74,SNR=9.6						
H10S3	**ASCENSION HYDR**	**10.01**	**172**	T	T	21 44 40.2	
	baz=350,slow=74,SNR=12						
H10S2	**ASCENSION HYDR**	**10.02**	**172**	T	T	21 44 49.3	
	baz=350,slow=74,SNR=10						
DBIC	**Dimbokro**	**12.45**	**63**	Pn	Pn	21 36 41.0	+0.5
	0.1nm,0.3s,baz=243,slow=14,SNR=3.2						
DBIC				LR	LR	21 40 58.1	
	comp=Z,29nm,20.4s,baz=179,slow=35						
TORD	**Torodi Ar. Bea**	**21.26**	**55**	P	P	21 38 29.8	-0.3
	4.1nm,0.9s,baz=236,slow=11,SNR=19						
ROSC	**El Rosal**	**58.36**	**275**	LR	LR	22 07 59.6	
	comp=Z,42nm,18.1s,baz=272,slow=35						
BRTR	**Keskin Array B**	**59.28**	**43**	P	P	21 43 45.8	0.0
	0.7nm,0.8s,baz=228,slow=8.0,SNR=2.8						

*ISCJB **23** 21:41:17.5±0.9, 0°.48S±0°.09×97°.3E±0°.1, h10km, mb3.9/7, Error ellipse: s-maj=18.8km s-min=12.1km az=11.7*
*IDC **23** 21:41:17.1±1.4, 0°.63S×97°.03E, h0km, mb3.9/7, mb1 3.9/9, mb1mx3.6/38, mbtmp3.8/9, ML3.4/2, Error ellipse: s-maj=40.1km s-min=24.9km az=56.0*
ISC 23 21:41:19.4±1.0, 0°.5S±0°.1×97°.3E±0°.2, h10km, n17, σ1°07/12, mb4.2/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.65**	**26**	**Pn**	**Pn**	**21 42 16.4**	**+0.3**
	0.7nm,0.3s,baz=254,slow=19,SNR=3.8						
PSI				Sn	**Sn**	**21 42 57.4**	**-1.8**
	1.3nm,0.3s,baz=37,slow=18,SNR=6.0						
CMAR	**Chiang Mai Arr**	**18.89**	**5**	P	**Pn**	**21 45 42.4**	**+1.6**
	0.1nm,0.3s,baz=195,slow=10,SNR=6.1						
H08S2	**Diego Garcia H**	**25.73**	**253**	T	T	22 14 27.9	
	baz=74,slow=75,SNR=4.5						
H08S3	**Diego Garcia H**	**25.73**	**253**	T	T	22 14 24.0	
	baz=74,slow=75,SNR=6.9						
H08S1	**Diego Carcia H**	**25.75**	**253**	T	T	22 14 24.6	
	baz=74,slow=75,SNR=6.7						
MTN	**Manton Dam**	**35.71**	**112**	P	**P**	**21 48 17.8**	**-0.6**
	baz=30,SNR=7.1						
H01W3	**Cape Leeuwin H**	**37.66**	**157**	T	T	22 28 42.4	
	baz=341,slow=74,SNR=3.0						
H01W2	**Cape Leeuwin H**	**37.67**	**157**	T	T	22 28 48.5	
	baz=341,slow=74,SNR=4.8						
H01W1	**Cape Leeuwin H**	**37.68**	**157**	T	T	22 28 48.4	
	baz=341,SNR=3.2						
ASAR	**Alice Springs**	**42.32**	**126**	P	**P**	**21 49 14.2**	**+0.4**
	0.2nm,0.6s,baz=294,slow=7.5,SNR=3.0						
SONM	**Songino Array**	**48.77**	**8**	P	**P**	**21 50 05.3**	**+0.7**
	0.3nm,0.7s,baz=190,slow=8.7,SNR=4.4						
MKAR	**Makanchi Array**	**48.89**	**346**	P	**P**	**21 50 05.6**	**+0.2**
	1.3nm,0.6s,baz=153,slow=8.2,SNR=22						
USRK	**Ussuriysk Ar.**	**54.16**	**30**	P	**P**	**21 50 45.9**	**+1.1**
	2.5nm,0.8s,baz=228,slow=6.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**55.23**	**351**	P	**P**	**21 50 52.2**	**-0.3**
	2.2nm,0.3s,baz=177,slow=7.2,SNR=15						
KBZ	**Khabaz**	**65.41**	**320**	P	**P**	**21 52 01.8**	**-0.6**
	1.2nm,0.8s,baz=192,slow=4.3,SNR=5.5						
FINES	**FINESS Array B**	**81.53**	**333**	P	**P**	**21 53 35.6**	**-1.3**
	1.7nm,0.8s,baz=242,slow=3.0,SNR=3.0						
TXAR	**Lajitas Array**	**145.03**	**33**	PKPbc	**PKPbc**	**22 00 57.1**	**-0.1**
	0.8nm,0.7s,baz=285,slow=1.1,SNR=9.1						

*ISCJB **23** 21:41:19.6±0.6, 15°.42S±0°.06×167°.8E±0°.1, h150km, mb4.1/19, Error ellipse: s-maj=14.6km s-min=7.9km az=6.9*
*NEIC **23** 21:41:19.6±2.0, 15°.43S×167°.77E, h139km±18km, mb4.3/6, Error ellipse: s-maj=15.4km s-min=14.5km az=68.0*
*IDC **23** 21:41:20.6±2.1, 15°.44S×167°.74E, h142km±18km, mb3.9/15, mb1 4.0/16, mb1mx3.9/31, mbtmp4.3/16, Error ellipse: s-maj=21.2km s-min=13.7km az=85.0*
ISC 23 21:41:21.1±0.8, 15°.46S±0°.07×167°.8E±0°.1, h150km, n37, σ1°13/37, mb4.2/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.70**	**191**	P	**Pn**	**21 42 58.7**	**+1.4**
	3.0nm,0.3s,baz=63,slow=13,SNR=26						
DZM				S	**Sn**	**21 44 10.3**	**-2.3**
	0.5nm,0.3s,baz=304,slow=22,SNR=2.0						
DZM	**Mont Dzumac**	**6.70**	**191**	*e*Pn	**Pn**	**21 42 56.5**	**-0.8**
	17nm,0.7s						
DZM				*e*Sn	**Sn**	**21 44 10.9**	**-1.7**
EIDS	**Eidsvold**	**18.50**	**235**	P	**Pn**	**21 45 28.0**	**+0.2**
	baz=12,SNR=6.3						
RMQ	**Roma**	**20.87**	**235**	P	Pn	21 45 53.0	-2.8
	baz=14,SNR=5.7						
ARMA	**Armidale**	**21.02**	**222**	P	**P**	**21 45 56.0**	**+2.8**
	baz=15,SNR=5.2						
URZ	**Urewera**	**24.15**	**162**	P	**P**	**21 46 24.7**	**+1.4**
	8.2nm,0.8s,baz=291,slow=8.6,SNR=3.1						
QLP	**Quilpie**	**24.59**	**239**	P	**P**	**21 46 27.8**	**+0.4**
	baz=18,SNR=12						
CMSA	**Cobar Meteorol**	**25.75**	**228**	P	**P**	**21 46 38.4**	**+0.5**
	baz=19,SNR=5.0						
WRAB	**Tennant Creek**	**32.15**	**257**	*e*P	**P**	**21 47 32.9**	**-1.9**
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**32.16**	**257**	P	**P**	**21 47 33.2**	**-1.6**
	1.2nm,0.7s,baz=84,slow=8.5,SNR=16						
WRA				ScP	**ScP**	**21 53 51.2**	**+1.0**
	0.4nm,0.8s,baz=102,slow=4.3,SNR=4.1						
ASAR	**Alice Springs**	**32.91**	**250**	P	**P**	**21 47 40.4**	**-1.0**
	1.4nm,0.5s,baz=80,slow=8.8,SNR=29						
ASAR				ScP	**ScP**	**21 53 52.1**	**-0.6**
	0.8nm,0.9s,baz=54,slow=4.7,SNR=3.6						
BBOO	**Buckleboo**	**33.55**	**233**	P	**P**	**21 47 47.5**	**+0.7**
	baz=27,SNR=8.6						
KNRA	**Kununurra**	**37.58**	**264**	P	**P**	**21 48 20.3**	**-1.0**
	baz=32,SNR=6.3						
WRKA	**Warakurna**	**38.16**	**249**	P	**P**	**21 48 26.2**	**+0.1**
	baz=32,SNR=6.4						
FITZ	**Fitzroy Crossi**	**40.40**	**260**	*e*P	**P**	**21 48 44.1**	**-0.6**
	4.6nm,0.4s						
BATI	**Baumata**	**43.30**	**271**	P	**P**	**21 49 09.1**	**+0.6**
	5.6nm,0.3s,baz=101,slow=7.9,SNR=5.6						
MEEK	**Meekatharra**	**46.99**	**248**	P	**P**	**21 49 37.1**	**-0.3**
	baz=41,SNR=6.0						
UGM	**Wanagama**	**56.46**	**271**	P	**P**	**21 50 47.4**	**-0.5**
	baz=51,SNR=3.7						
MJAR	**Matsushiro Arr**	**58.79**	**332**	P	**P**	**21 51 03.2**	**-0.4**
	4.5nm,0.9s,baz=163,slow=7.7,SNR=9.4						
VNDA	**Vanda**	**62.15**	**181**	P	**P**	**21 51 26.3**	**+0.5**
	0.8nm,0.8s,baz=16,slow=6.3,SNR=5.6						
VNDA	**Vanda**	**62.15**	**181**	*e*P	**P**	**21 51 25.6**	**-0.2**
	2.7nm,1.1s						
ASAJ	**Asahikawa**	**63.60**	**340**	P	**P**	**21 51 34.0**	**-1.9**
	12nm,0.9s,baz=214,slow=11,SNR=2.7						
KSRS	**Korea Array**	**64.63**	**326**	P	**P**	**21 51 42.9**	**+0.2**
	1.0nm,0.8s,baz=117,slow=7.2,SNR=4.4						
KSAR	**Wonju Array Be**	**64.65**	**326**	P	**P**	**21 51 42.9**	**+0.1**
USRK	**Ussuriysk Ar.**	**67.77**	**333**	P	**P**	**21 52 04.1**	**+1.5**
	4.8nm,0.8s,baz=142,slow=5.3,SNR=13						
QSPA	**South Pole Qui**	**74.57**	**180**	*e*P	**P**	**21 52 43.4**	**0.0**
	3.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**75.72**	**294**	P	**P**	**21 52 51.5**	**+0.9**
	1.6nm,0.7s,baz=132,slow=5.0,SNR=15						
ULN	**Ulaanbaatar**	**83.03**	**324**	*e*P	**P**	**21 53 29.2**	**-0.6**
	15nm,1.3s						
SONM	**Songino Array**	**83.39**	**323**	P	**P**	**21 53 32.2**	**+0.5**
	3.4nm,0.9s,baz=159,slow=11,SNR=26						
ILAR	**Eielson Array**	**87.06**	**18**	P	**P**	**21 53 47.9**	**-1.4**
	0.5nm,0.7s,baz=237,slow=6.1,SNR=4.9						
YKA	**Yellowknife Ar**	**97.95**	**27**	P	Pdif	21 54 39.5	-0.2
	0.4nm,0.8s,baz=258,slow=4.9,SNR=6.7						
MKAR	**Makanchi Array**	**98.09**	**316**	P	Pdif	21 54 40.7	0.0
	0.5nm,0.8s,baz=89,slow=5.3,SNR=5.9						
ZALV	**Zalesovo Beam**	**98.29**	**324**	P	Pdif	21 54 40.2	-1.1
	1.0nm,0.8s,baz=76,slow=6.1,SNR=5.1						
ARCES	**ARCESS Array B**	**121.09**	**345**	PKP	**PKPdf**	**21 59 55.2**	**-0.2**
	3.2nm,0.9s,baz=54,slow=1.7,SNR=8.9						
FINES	**FINESS Array B**	**126.59**	**338**	PKP	**PKPdf**	**22 00 06.0**	**-0.1**
	0.7nm,0.7s,baz=46,slow=5.5,SNR=4.1						
KEST	**Kesra**	**152.10**	**320**	PKPbc	**PKPbc**	**22 01 00.2**	**+0.9**
	0.7nm,0.7s,baz=83,slow=5.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**166.35**	**262**	PKP	**PKPdf**	**22 01 09.3**	**-0.1**
	0.3nm,0.8s,baz=187,slow=2.0,SNR=2.6						

IDC 23 22:02:24.1±14.0, 37°.18N×98°.84E, h0km, mb1 3.5/3, mb1mx3.2/33, mbtmp3.5/3, ML3.3/3, Error ellipse: s-maj=184.6km s-min=55.2km az=176.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.01**	**25**	Pn	Pn	22 05 17.4	+0.6
	0.2nm,0.3s,baz=208,slow=14,SNR=12						
MKAR	**Makanchi Array**	**15.58**	**313**	Pn	Pn	22 06 01.2	-3.9
	0.1nm,0.3s,baz=124,slow=14,SNR=7.0						
MKAR				Sn	Sn	22 08 45.6	-13
	baz=117,slow=22,SNR=2.6						
ZALV	**Zalesovo Beam**	**19.37**	**334**	P	P	22 06 50.4	-0.9
	0.4nm,0.3s,baz=142,slow=12,SNR=10						

*ISCJB **23** 22:07:19.7±0.8, 30°.96S±0°.05×178°.5W±0°.2, h87km, mb4.4/5, Error ellipse: s-maj=20.8km s-min=5.5km az=15.5*
*NEIC **23** 22:07:21.4±0.9, 30°.90S×178°.62W, h80km±9km, mb4.6/3, Error ellipse: s-maj=16.8km s-min=10.7km az=114.0*
*IDC **23** 22:07:22.6±1.3, 30°.78S×178°.70W, h85km±13km, mb4.1/4, mb1 4.2/5, mb1mx3.7/25, mbtmp4.3/5, Error ellipse: s-maj=24.2km s-min=12.3km az=114.0*
ISC 23 22:07:21.9±0.7, 30°.87S±0°.08×178°.6W±0°.2, h87km, n25, σ1°34/32, mb4.5/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.72**	**20**	P	**Pn**	**22 07 50.5**	**+0.1**
	165nm,0.3s,baz=127,slow=11,SNR=8.5						
RAO				S	**Sn**	**22 08 11.4**	**-0.5**
	295nm,0.3s,baz=66,slow=22,SNR=8.5						
RAO	**Raoul Island**	**1.72**	**20**	*e*Pn	**Pn**	**22 07 50.1**	**-0.3**
RAO				*e*Sn	**Sn**	**22 08 10.8**	**-1.2**
HAZ	**Te Kaha**	**7.49**	**203**	PN	**Pn**	**22 09 07.5**	**-0.9**
PUZ	**Puketiti**	**7.63**	**199**	PN	**Pn**	**22 09 08.0**	**-2.4**
PUZ				SN	**Sn**	**22 10 34.2**	**-1.1**
MWZ	**Matawai**	**8.10**	**202**	*e*PN	**Pn**	**22 09 13.8**	**-3.0**
MWZ				SN	**Sn**	**22 10 46.7**	**+0.1**
URZ	**Urewera**	**8.17**	**204**	P	**Pn**	**22 09 17.5**	**-0.2**
	1.1nm,0.3s,baz=281,slow=4.2,SNR=11						
URZ				S	**Sn**	**22 10 49.3**	**+0.9**
	3.2nm,0.3s,baz=93,slow=22,SNR=9.1						
URZ	**Urewera**	**8.17**	**204**	PN	**Pn**	**22 09 15.3**	**-2.4**
URZ	**Urewera**	**8.17**	**204**	*e*Pn	**Pn**	**22 09 16.5**	**-1.2**
URZ				S	**Sn**	**22 10 49.3**	**+0.9**
CTA	**Charters Tower**	**33.37**	**280**	P	**P**	**22 13 53.7**	**+1.6**
	5.9nm,0.9s,baz=215,slow=6.6,SNR=3.3						
CTAO	**Charters Tower**	**33.37**	**280**	*e*P	**P**	**22 13 51.7**	**-0.4**
	33nm,1.3s						
ASAR	**Alice Springs**	**42.57**	**268**	P	**P**	**22 15 09.7**	**+0.3**
	1.6nm,0.5s,baz=106,slow=7.4,SNR=17						
WB2	**Warramunga Arr**	**43.59**	**273**	*e*P	**P**	**22 15 17.9**	**+0.2**
WRAB	**Tennant Creek**	**43.60**	**273**	*e*P	**P**	**22 15 17.7**	**0.0**
	6.6nm,0.9s						
WRA	**Warramunga Arr**	**43.60**	**273**	P	**P**	**22 15 17.8**	**0.0**
	2.3nm,0.3s,baz=111,slow=8.1,SNR=35						
MBWA	**Marble Bar**	**55.66**	**264**	*e*P	**P**	**22 16 48.4**	**-0.9**
QSPA	**South Pole Qui**	**59.24**	**180**	P	**P**	**22 17 17.0**	**+3.1**
	3.7nm,0.8s,baz=17,slow=0.4,SNR=15						
QSPA	**South Pole Qui**	**59.24**	**180**	*e*P	**P**	**22 17 14.8**	**+0.8**
	2.8nm,0.6s						
MKAR	**Makanchi Array**	**117.68**	**310**	PKP	**PKPdf**	**22 25 57.3**	**-0.4**
	0.1nm,0.6s,baz=180,slow=1.2,SNR=2.6						
KAF	**Kangasniemi**	**144.82**	**340**	*e*p	**PKPdf**	**22 26 48.6**	**+0.7**
	1.9nm,0.5s						
KBZ	**Khabaz**	**144.94**	**303**	PKP	**PKPab**	**22 26 48.4**	**+0.2**
	0.8nm,0.8s,baz=90,slow=1.0,SNR=3.8						
FINES	**FINESS Array B**	**145.41**	**339**	PKPbc	**PKPdf**	**22 26 47.1**	**-1.9**
	1.9nm,0.4s,baz=63,slow=3.2,SNR=30						
NB2	**NORSAR Subarra**	**149.14**	**351**	PKP	**PKPbc**	**22 26 59.9**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.14**	**351**	PKPbc	**PKPbc**	**22 27 00.0**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=13,slow=4.1,SNR=4.4						
BRTR	**Keskin Array B**	**152.36**	**298**	PKPbc	**PKPbc**	**22 27 08.2**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=146,slow=6.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**162.36**	**181**	PKP	**PKPdf**	**22 27 16.5**	**+2.4**
	comp=Z,1.1nm,1.2s,baz=110,slow=1.1,SNR=2.7						
TORD				PKPab	**PKPab**	**22 28 00.9**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=172,slow=3.9,SNR=9.5						

IDC 23 22:15:03.1±11.0, 12°.82N×87°.25W, h0km, mb3.2/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.2/4, Error ellipse: s-maj=284.3km s-min=94.9km az=21.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**22.42**	**320**	P	P	22 20 03.4	-0.2
	0.7nm,0.7s,baz=137,slow=11,SNR=6.4						
PDAR	**Pinedale Array**	**35.54**	**331**	P	P	22 22 02.1	-0.2
	0.2nm,0.6s,baz=138,slow=8.3,SNR=2.2						
YKA	**Yellowknife Ar**	**53.31**	**345**	P	P	22 24 23.6	0.0
	0.2nm,0.7s,baz=136,slow=6.6,SNR=4.1						
ILAR	**Eielson Array**	**65.76**	**336**	P	P	22 25 49.8	+0.1
	0.3nm,0.7s,baz=113,slow=6.9,SNR=2.7						

*IDC **23** 22:16:26.7±2.3, 37°.27N×74°.66E, h0km, mb3.4/2, mb1 3.4/5, mb1mx3.2/27, mbtmp3.4/5, ML3.0/3, Error ellipse: s-maj=71.1km s-min=24.1km az=151.0*
ISC 23 22:16:27.4±2.5, 36°.9N±0°.2×74°.3E±0°.1, h35km, n12, σ1°81/12, 1C-2D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**5.20**	**8**	P	**Pn**	**22 17 43.9**	**+0.9**
	SNR=5.6						
AML	**Almayashu**	**5.22**	**355**	P	**Pn**	**22 17 44.6**	**+1.3**
	SNR=14						
UCH	**Uchtor**	**5.30**	**2**	P	**Pn**	**22 17 45.8**	**+1.4**
	SNR=19						
KBK	**Karagaybulak**	**5.75**	**5**	P	**Pn**	**22 17 53.4**	**+3.1**
	SNR=6.1						
TKM2	**Tokmak 2**	**6.07**	**9**	⇑Pn	**Pn**	**22 17 55.7**	**+0.9**
	6.6nm,0.4s						
TKM2	**Tokmak 2**	**6.07**	**9**	P	**Pn**	**22 17 56.0**	**+1.2**
	SNR=13						
KK31	**Karatay Array**	**6.82**	**336**	⇓P	**Pn**	**22 18 07.1**	**+2.1**
	1.1nm,0.3s,baz=134,slow=13,SNR=32						
KK31				⇓S	**Sn**	**22 19 20.1**	**-1.3**
	3.3nm,0.5s,baz=143,slow=21,SNR=13						
MKAR	**Makanchi Array**	**11.51**	**29**	Pn	**Pn**	**22 19 08.5**	**-0.6**
	0.1nm,0.3s,baz=211,slow=13,SNR=5.0						
GEYT	**Alibeck**	**12.91**	**279**	Pn	P	22 19 35.5	-3.1
	0.3nm,0.3s,baz=95,slow=26,SNR=2.6						
GEYT				Sn	**Sn**	**22 21 50.0**	**-0.8**
	0.

SIVA	Sivas	1.06	334	P		Pb	22 23 01.6	-1.5
SIVA	Sivas	1.06	334	*e*PB		Pn	22 23 02.9	-0.3
SIVA				*e*SB		Sg	22 23 18.3	+0.6
SIVA	Sivas	1.06	334	P		Pb	22 23 01.6	-1.5
SIVA	Sivas	1.06	334	*e*Pb		Pn	22 23 02.9	-0.3
SIVA				*e*Sb		Sg	22 23 18.3	+0.6
LAST	Lasithi	1.10	5	P		Pn	22 23 02.8	-1.1
LAST	Lasithi	1.10	5	*e*PN		Pn	22 23 03.0	-0.9
LAST				*e*SB		Sg	22 23 20.5	+1.5
LAST	Lasithi	1.10	5	P		Pn	22 23 02.8	-1.1
LAST				*e*Sb		Sg	22 23 20.5	+1.5
NPS	Neapolis	1.22	9	P		Pb	22 23 05.2	-0.5
NPS	Neapolis	1.22	9	*e*PN		Pb	22 23 05.2	-0.5
NPS	Neapolis	1.22	9	P		Pb	22 23 05.2	-0.5
ZKR	Zakros	1.27	33	P		Pg	22 23 07.1	-0.5
ZKR	Zakros	1.27	33	*e*PB		Pg	22 23 07.1	-0.5
ZKR	Zakros	1.27	33	P		Pg	22 23 07.1	-0.5
VAM	Vamos	1.66	325	P		Pn	22 23 10.8	-0.6
VAM	Vamos	1.66	325	*e*PB		Pn	22 23 10.9	-0.5
VAM	Vamos	1.66	325	P		Pn	22 23 10.8	-0.6
KARN	Karanos	1.80	319	P		Pb	22 23 14.1	-1.5
KARN	Karanos	1.80	319	*e*PG		Pb	22 23 14.8	-0.8
KARN	Karanos	1.80	319	P		Pb	22 23 14.1	-1.5
KARN	Karanos	1.80	319	*e*Pg		Pb	22 23 14.8	-0.8
KARP	Karpathos	2.09	44	P		Pg	22 23 21.6	-1.7
KARP	Karpathos	2.09	44	*e*PG		Pg	22 23 21.3	-2.0
KARP	Karpathos	2.09	44	*e*Pg		Pg	22 23 21.3	-2.0
SANT	Santorini	2.31	2	*e*PN		Pb	22 23 22.6	-1.7
SANT	Santorini	2.31	2	*e*Pn		Pb	22 23 22.6	-1.7
APE	Apeiranthos	3.01	2	*e*PN		Pn	22 23 32.3	+2.3
APE	Apeiranthos	3.01	2	*e*Pn		Pn	22 23 32.3	+2.3
VLI	Veliai	3.32	324	*e*PN		Pn	22 23 35.5	+1.3
VLI	Veliai	3.32	324	*e*Pn		Pn	22 23 35.5	+1.3
GERES	GERESS Array B	17.14	333	P		P	22 26 43.5	+0.1
	0.1nm,0.3s,baz=152,slow=13,SNR=5.1							
TORD	Torodi Ar. Bea	29.93	232	P		P	22 28 51.0	+0.7
	0.7nm,1.1s,baz=33,slow=10,SNR=2.8							
MKAR	Makanchi Array	44.24	56	P		P	22 30 52.8	+1.2
	0.4nm,0.6s,baz=277,slow=6.7,SNR=7.6							

CSEM ***23*** *22:28:26.1±0.1, 38°.37N×21°.87E, h19km, MD2.6, Error ellipse: s-maj=3.6km s-min=2.7km az=101.0*

ATH 23 22:28:26.3, 38°.39N×21°.84E, h13km±1km, MD2.6/7, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.06	55	*e*PG	Pg	22 28 28.9	0.0
EFP				*e*SG	Sg	22 28 30.5	-0.3
EFP	Efpalio	0.06	55	*e*Pg	Pg	22 28 28.9	0.0
EFP				*e*Sg	Sg	22 28 30.5	-0.3
KALE	Kalithea	0.24	90	*e*PG	Pg	22 28 31.8	+0.3
KALE	Kalithea	0.24	90	*e*Pg	Pg	22 28 31.8	+0.3
KLV	Kalavryta, Ach	0.42	145	*e*PB	Pg	22 28 34.5	-0.3
KLV				*e*SB	Sg	22 28 41.0	+0.4
KLV	Kalavryta, Ach	0.42	145	*e*Pb	Pg	22 28 34.5	-0.3
KLV				*e*Sb	Sg	22 28 41.0	+0.4
RLS	Riolos of Patr	0.44	222	*e*PB	Pg	22 28 35.2	+0.1
RLS	Riolos of Patr	0.44	222	*e*Pb	Pg	22 28 35.2	+0.1
DRO	Drossia	0.45	193	*e*PB	Pg	22 28 35.0	-0.2
DRO				*e*SB	Sg	22 28 41.6	+0.3
DRO	Drossia	0.45	193	*e*Pb	Pg	22 28 35.0	-0.2
DRO				*e*Sb	Sg	22 28 41.6	+0.3
EVR	Evrytania	0.53	357	*e*PB	Pb	22 28 37.3	-0.3
EVR				*e*SB	Sb	22 28 45.1	-0.1
EVR	Evrytania	0.53	357	*e*Pb	Pb	22 28 37.3	-0.3
EVR				*e*Sb	Sb	22 28 45.1	-0.1
DSF	Desfina	0.54	88	*e*PG	Pg	22 28 36.6	-0.4
DSF	Desfina	0.54	88	*e*Pg	Pg	22 28 36.6	-0.4
PDO	Prodromos	0.56	292	*e*PN	Pn	22 28 39.2	-0.7
PDO	Prodromos	0.56	292	*e*Pn	Pn	22 28 39.2	-0.7
GUR	Goura	0.60	139	*e*PG	Pg	22 28 37.6	-0.6
GUR	Goura	0.60	139	*e*Pg	Pg	22 28 37.6	-0.6
MAKR	Makrakomi, Fth	0.66	20	*e*PN	Pb	22 28 40.2	+0.4
MAKR				*e*SN	Sb	22 28 49.8	+0.8
MAKR	Makrakomi, Fth	0.66	20	*e*Pn	Pb	22 28 40.2	+0.4
MAKR				*e*Sn	Sb	22 28 49.8	+0.8
AGG	Agios Georgios	0.74	31	*e*PN	Pn	22 28 42.0	-0.5
AGG	Agios Georgios	0.74	31	*e*Pn	Pn	22 28 42.0	-0.5
AXAR	Agios Charalam	0.74	59	*e*PN	Pb	22 28 41.6	+0.4
AXAR				*e*SN	Sn	22 28 52.7	-1.1
AXAR	Agios Charalam	0.74	59	*e*Pn	Pb	22 28 41.6	+0.4
AXAR				*e*Sn	Sn	22 28 52.7	-1.1

IDC ***23*** *22:35:43.0±0.6, 11°.38N×85°.83W, h0km, mb4.1/10, mb1 4.4/12, mb1mx4.1/29, mbtmp4.1/12, ML3.7/2, MS3.6/18, Ms1 3.7/18, ms1mx3.5/33, Error ellipse: s-maj=34.2km s-min=13.6km az=50.0*

NEIC ***23*** *22:35:43.4±2.4, 11°.32N×85°.91W, h7km±15km, mb4.5/24, Error ellipse: s-maj=11.0km s-min=4.7km az=47.0*

ISCJB ***23*** *22:35:44.9±0.3, 11°.33N±0°.07×86°.08W±0°.07, h10km, mb4.3/32, MS3.6/17, Error ellipse: s-maj=13.6km s-min=3.0km az=136.1*

CASC ***23*** *22:35:44.9±2.6, 10°.64N×86°.51W, h46km±174km, MD4.3*

ISC 23 22:35:45.3±0.4, 11°.40N±0°.08×85°.98W±0°.09, h10km, n222, σ19 62/203, mb4.3/32, MS3.6/17, 60C-79D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS2	Las Lilas	0.76	137	*i* P	Pn	22 36 03.1	+1.0
GBS3	Finca Las lm˜¡	0.80	140	*i* P	Pn	22 36 02.8	+0.1
GB1A	Borinquen Arri	0.81	135	*i* P	Pb	22 36 02.1	+0.6
GB1A				*i* S	Sn	22 36 19.1	+4.1
LAPC	Finca la Perla	0.82	139	*i* P	Pn	22 36 02.9	-0.1
HUEN		0.95	349	*e*P	Pn	22 36 13.2	+8.5
COPN	Copaltepe	0.98	322	*e*P	Pn	22 36 10.7	+5.5
LIM1	Limonal	0.99	134	*i* P	Pn	22 36 05.7	+0.3
CUI	Cuipilapa	1.08	133	*i* P	Pn	22 36 07.0	+0.4
PTEN	Parque Tenorio	1.19	125	*i* P	Pn	22 36 09.8	+1.8
AMAS	Alto Masis	1.24	129	*i* P	Pg	22 36 09.4	+0.3
CNGN	Cerro Negro	1.30	327	*e*P	Pg	22 36 15.3	+4.9
JTS	JuntasAbangare	1.49	137	Pn	Pn	22 36 10.0	-2.2
	23nm,0.3s,baz=298,slow=20,SNR=112						
JTS				Sn	Sg	22 36 37.4	+4.1
	94nm,0.3s,baz=274,slow=19,SNR=4.6						
JTS				LR	LR	22 36 46.6	
	comp=Z,890nm,18.2s,baz=6.5,slow=46						
JCR	Jicaral	1.76	151	*e*P	Pn	22 36 09.8	-6.1
JCR				*e*S	Sg	22 36 43.2	+1.4
CGA2	Cerro Gallo 2	2.02	133	⇑*e*P	Pn	22 36 18.3	-1.3
SJS	Escuela Geolog	2.38	127	*e*P	Pn	22 36 21.5	-3.1
CNCH	Conchagua	2.60	316	*e*P	Pn	22 36 29.4	+1.8
QCR	Quepos	2.65	138	*e*P	Pn	22 36 28.4	+0.3
URSC	Urasca	2.66	125	*e*P	Pn	22 36 28.9	+0.5
BUS	Buena Vista	2.85	130	*e*P	Pn	22 36 30.2	-1.1
VSM	San Miguel	3.02	312	*e*P	Pn	22 36 35.3	+1.9
LFRS	El Faro	3.74	307	*e*P	Pn	22 36 42.4	-0.8
LFRS				*e*S	Sn	22 37 26.2	-1.2
ACR	Cerro Adams	3.88	134	*e*P	Pn	22 36 43.7	-1.5
APG	El Apazote	5.65	310	Pn	Pn	22 37 08.4	-1.3
	1.0nm,0.3s,baz=139,slow=13,SNR=4.6						
BCIP	Isla Barro Col	6.44	110	Pn	Pn	22 37 17.1	-3.1
CMIG	Matias Romero	10.32	304	Pn	Pn	22 38 13.6	+0.1
	1.2nm,0.3s,baz=136,slow=11,SNR=9.4						
SDV	Santo Domingo	15.31	98	*e*Pn	Pn	22 39 19.0	-2.9
	16nm,0.8s						
034A	Hebbronville	19.64	324	⇓P	P	22 40 17.1	+2.8
	baz=20,SNR=8.3						
ATAH	Atahualpa	19.90	157	LR	LR	22 46 38.6	
	comp=Z,258nm,20.9s,baz=336,slow=33						
934A	Benavides	19.96	326	⇑P	P	22 40 20.3	+2.6
	baz=20						
TIGA	Tifton	20.07	6	⇑P	Pn	22 40 29.0	+8.3
	baz=20						
TIGA	Tifton	20.07	6	*e*P	P	22 40 17.4	-1.5
	26nm,0.8s						
SJG	San Juan	20.29	68	LR	LR	22 46 36.4	
	comp=Z,102nm,19.8s,baz=270,slow=32						
834A	Tilden	20.39	327	⇓P	P	22 40 24.6	+2.1
	baz=21						
933A	Laredo	20.40	324	⇓P	P	22 40 24.4	+1.9
	baz=21						
735A	Kenedy	20.59	329	⇓P	P	22 40 26.8	+2.2
	baz=21						
HKT	Hockley	20.61	335	*e*Pn	P	22 40 24.1	-0.7
	24nm,1.3s						
636A	Smothers Creek	20.75	332	⇓P	P	22 40 29.0	+2.7
	baz=21						
537A	Green Hill Far	20.93	334	⇓P	P	22 40 30.7	+2.4
	baz=21						
833A	Chaparral WMA,	21.01	325	⇓P	P	22 40 30.3	+1.2
	baz=21						
832A	Faith Ranch, C	21.31	324	⇑P	P	22 40 33.9	+1.5
	baz=22						
339A	Huntington	21.37	339	⇓P	P	22 40 36.0	+3.0
	baz=22						
535A	Dale	21.45	332	⇓P	P	22 40 36.0	+2.2
	baz=22						
LRAL	Lakeview Retre	21.56	358	*e*P	P	22 40 35.1	+0.2
	20nm,0.9s						
436A	Wall Ranch, Ga	21.73	334	⇑P	P	22 40 39.1	+2.2
	baz=22						
633A	Saathoff Ranch	21.78	328	⇓P	P	22 40 38.4	+1.0
	baz=22						
534A	Blanco	21.88	330	⇑P	P	22 40 39.7	+1.2
	baz=22,SNR=6.9						
239A	Gary	21.97	340	⇓P	P	22 40 43.0	+3.6
	baz=22						
GOGA	Godfrey	22.03	6	*e*P	P	22 40 39.8	-0.3
	33nm,1.3s						
435B	Jarrell	22.09	333	⇑P	P	22 40 43.1	+2.3
	baz=22						
238A	Jacksonville	22.18	339	⇑P	P	22 40 44.8	+3.1
	baz=22						
336A	Riesel	22.29	335	⇓P	P	22 40 45.0	+2.1
	baz=22						
434A	Burnet	22.43	331	⇓P	P	22 40 46.3	+1.8
	baz=23						
335A	Moody	22.45	334	⇑P	P	22 40 46.8	+2.2
	baz=23						
532A	Rocksprings	22.69	327	⇑P	P	22 40 48.2	+0.9
	baz=23						
138A	Matatall Enter	22.76	340	⇓P	P	22 40 50.2	+2.4
	baz=23						
433A	Art	22.78	330	⇑P	P	22 40 48.8	+0.7
	baz=23						
334A	Lometa	22.85	332	⇑P	P	22 40 49.8	+0.9
	baz=23,SNR=5.7						
JCT	Junction City	22.92	328	⇑P	P	22 40 50.5	+0.9
	baz=23						
JCT	Junction City	22.92	328	*e*P	P	22 40 48.5	-1.1
	5.3nm,0.7s						
137A	Heron Place, G	22.94	338	⇑P	P	22 40 52.4	+2.7
	baz=23						
531A	Rocksprings	23.07	326	⇓P	P	22 40 52.5	+1.4
	baz=23						
WHTX	Lake Whitney,	23.07	334	⇑P	P	22 40 53.2	+2.1
	baz=23						
333A	Richland Sprin	23.20	331	⇑P	P	22 40 53.6	+1.2
	baz=23,SNR=8.6						
OXF	Oxford	23.22	353	*e*P	P	22 40 52.2	-0.4
	45nm,0.9s						
432A	Menard	23.23	329	⇑P	P	22 40 53.7	+0.9
	baz=23						
234A	Clairette	23.38	333	⇓P	P	22 40 55.4	+1.1
	baz=24,SNR=5.3						
530A	J-C Ranch, Com	23.50	325	⇑P	P	22 40 56.5	+1.0
	baz=24,SNR=6.4						
431A	Sonora	23.50	327	⇑P	P	22 40 56.2	+0.7
	baz=24						
332A	Millersview	23.61	329	⇓P	P	22 40 57.1	+0.5
	baz=24,SNR=13						
233A	Rising Star	23.73	332	⇑P	P	22 40 59.2	+1.4
	baz=24						
134A	White-Moore Ra	23.84	334	⇓P	P	22 41 00.1	+1.4
	baz=24						
331A	San Angelo	23.90	328	⇓P	P	22 41 00.1	+0.7
	baz=24,SNR=8.5						
430A	Baggett Ranch,	23.93	326	⇑P	P	22 41 00.2	+0.5
	baz=24						
232A	Coleman	23.98	330	⇑P	P	22 41 00.9	+0.8
	baz=24						
529A	Stev Forest Ra	23.98	323	⇓P	P	22 41 00.7	+0.5
	baz=24						
MIAR	Mount Ida	24.06	344	*e*P	P	22 41 00.4	-0.4
	6.4nm,0.7s						
Z35A	Perchaven, San	24.16	336	⇑P	P	22 41 03.5	+1.7
	baz=24						
429A	Davenport Ranc	24.17	325	⇑P	P	22 41 02.3	+0.3
	baz=24,SNR=12						
133A	Hamilton Ranch	24.23	333	⇓P	P	22 41 03.2	+0.7
	baz=24						
TKL	Tuckaleechee C	24.24	4	P	P	22 41 05.2	+2.8
	8.1nm,0.8s,baz=183,slow=9.9,SNR=6.8						
TKL				LR	LR	22 51 19.4	
	comp=Z,136nm,19.0s,baz=264,slow=39						
TKL	Tuckaleechee C	24.24	4	*e*P	P	22 41 01.6	-0.8
TXAR	Lajitas Array	24.30	320	P	P	22 41 03.5	+0.3
	5.4nm,0.7s,baz=136,slow=9.9,SNR=44						
TXAR				PcP	PcP	22 44 43.5	+0.3
	1.5nm,0.8s,baz=143,slow=4.4,SNR=10						
TXAR				ScP	ScP	22 48 25.7	+3.6
	0.8nm,1.1s,baz=116,slow=8.5,SNR=3.5						
TXAR				LR	LR	22 53 08.0	
	comp=Z,45nm,19.1s,baz=0.0,slow=43						
231A	Bronte	24.35	329	⇓P	P	22 41 04.2	+0.6
	baz=24						
330A	Mertzon	24.37	327	⇑P	P	22 41 04.2	+0.4
	baz=24						
Z34A	Collier Ranch,	24.46	335	⇓P	P	22 41 06.0	+1.5
	baz=25						
ABTX	Abilene, Hawle	24.58	331	⇓P	P	22 41 07.1	+1.4
	baz=25						
ABTX	Abilene, Hawle	24.58	331	*e*P	P	22 41 04.9	-0.8
	13nm,0.7s						
WVT	Waverly	24.68	356	*e*P	P	22 41 05.4	-1.1
	3.5nm,0.8s						
230A	Sterling City	24.72	328	⇓P	P	22 41 08.0	+1.1
	baz=25						
Z33A	Whitaker Ranch	24.74	334	⇑P	P	22 41 09.2	+2.1
	baz=25						
329A	Wagon Wheel Ra	24.87	326	⇓P	P	22 41 09.3	+1.0
	baz=25						
Y34A	Reagan Ranch,	24.91	336	⇑P	P	22 41 10.7	+2.1
	baz=25						
131A	Roby	24.98	330	⇓P	P	22 41 11.0	+1.7
	baz=25						
Z32A	Haskell	25.08	333	⇑P	P	22 41 12.3	+2.2
	baz=25,SNR=17						
229A	Bryant Ranch,	25.15	327	⇓P	P	22 41 12.0	+1.2
	baz=25						
H06E1	SOCORRO T-PHAS	25.16	290	T	T	23 06 56.9	
	SNR=22						
Y33A	Hilltop Ranch,	25.30	335	⇓P	P	22 41 13.5	+1.3
	baz=26						
Z31A	Sharp Cattle R	25.39	331	⇓P	P	22 41 14.4	+1.4
	baz=26,SNR=7.2						
X34A	Smith Ranch, M	25.50	337	⇑P	P	22 41 16.8	+2.8
	baz=26						
Y32A	R-V Farms, Ver	25.65	333	⇓P	P	22 41 17.8	+2.5
	baz=26						
228A	UT Block 9, Go	25.69	326	⇑P	P	22 41 17.6	+1.9
	baz=26						
129A	Stewart Farms,	25.69	328	⇓P	P	22 41 17.8	+2.0
	baz=26						
X33A	Lawton	25.71	336	⇓P	P	22 41 19.4	+3.6
	baz=26,SNR=5.8						
Z30A	Sanderson Ranc	25.84	330	⇓P	P	22 41 19.0	+1.9
	baz=26						
X32A	Elmer	25.94	334	⇑P	P	22 41 20.1	+2.2
	baz=26						
TUL1	Leonard	25.97	342	⇑P	P	22 41 20.0	+1.8
	baz=26						
TUL1	Leonard	25.97	342	*e*P	P	22 41 17.5	-0.7
	13nm,1.0s						
Y31A	Rekieta Farm,	25.98	332	⇓P	P	22 41 20.7	+2.4
	baz=26,SNR=5.6						
WMOK	Wichita Mounta	26.00	335	*e*P	P	22 41 18.6	+0.2
	25nm,0.9s						
128A	Castleberry Fa	26.01	327	⇓P	P	22 41 19.5	+0.8
	baz=26						
W34A	Bridge Creek,	26.04	338	⇑P	P	22 41 20.5	+1.7
	baz=26						
Z29A	Hungry Hill Ra	26.11	329	⇓P	P	22 41 20.4	+0.9
	baz=26						
V35A	Meyer Ranch, C	26.18	340	⇓P	P	22 41 21.7	+1.7
	baz=26						
Y30A	Stafford Cattl	26.21	331	⇓P	P	22 41 21.1	+0.7
	baz=26						
LPIG	La Paz	26.34	302	LR	LR	22 52 52.2	
	comp=Z,100nm,21.4s,baz=70,slow=39						
X31A	McDonald Ranch	26.41	333	⇑P	P	22 41 24.1	+1.9
	baz=27						
V34A	Guthrie	26.48	339	⇑P	P	22 41 24.7	+1.9
	baz=27						
V34A	Guthrie	26.48	339	*e*P	P	22 41 22.2	-0.6
	12nm,0.6s						
W32A	Sentinel	26.52	335	⇓P	P	22 41 25.2	+2.0
	baz=27						
Y29A	Porterfield Fa	26.57	330	⇑P	P	22 41 25.3	+1.5
	baz=27						
X30A	Coker Ranch, T	26.66	332	⇓P	P	22 41 26.5	+2.0
	baz=27,SNR=5.1						
V33A	Lossen Ranch,	26.75	337	⇓P	P	22 41 27.0	+1.8
	baz=27						
V32A	Arapaho	26.96	336	⇓P	P	22 41 30.8	+3.7
	baz=27						
V31A	Spring Creek L	27.33	335	⇓P	P	22 41 32.2	+1.7
	baz=28						
AMTX	Amarillo	27.40	331	⇑P	P	22 41 31.9	+0.7
	baz=28						
S36A	Lake Cedric, C	27.60	343	⇓P	P	22 41 34.1	+1.3
	baz=28,SNR=7.8						
S34A	Willow Spring	28.03	341	⇓P	P	22 41 39.5	+2.7
	baz=28						
T32A	Huddler Ranch,	28.19	338	⇓P	P	22 41 40.4	+2.2
	baz=28						
U30A	WK&E Inc. Balk	28.31	335	⇑P	P	22 41 40.8	+1.5
	baz=28						
PTGA	Pitinga	28.52	113	P	P	22 41 40.5	-0.8
	4.4nm,0.9s,baz=305,slow=8.1,SNR=6.5						
PTGA				LR	LR	22 54 11.3	
	comp=Z,229nm,18.7s,baz=290,slow=39						
ACSO	Alum Creek Sta	28.84	5	*e*P	P	22 41 43.6	-0.3
	14nm,0.8s						
R33A	Olander Ranch,	28.87	340	⇑P	P	22 41 46.1	+1.9
	baz=29						
V26A	Tequesquite Ra	29.16	329	⇓P	P	22 41 48.2	+1.2
	baz=29						
Q33A	Connelly Farm,	29.45	341	⇓P	P	22 41 51.8	+2.5
	baz=30						
U26A	Atchley Ranch,	29.61	330	⇓P	P	22 41 52.3	+1.2
	baz=30						
Q32A	Meitler Ranch,	29.68	340	⇓P	P	22 41 53.9	+2.6
	baz=30						
SAML	Samuel	30.37	131	*e*P	P	22 41 53.7	-4.0
	2.9nm,0.8s						
R25A	Fountain Ranch	31.27	332	⇓P	P	22 42 07.2	+1.6
	baz=32						
S24A	Houchin Ranch,	31.32	330	⇑P	P	22 42 07.5	+1.3
	baz=32						
SDCO	Great Sand Dun	31.54	330	⇓P	P	22 42 08.3	+0.1
	baz=32,SNR=5.6						
JFWS	Jewell Farm	31.62	354	*e*P	P	22 42 06.8	-1.6
	14nm,0.9s						
X18A	Snowflake	31.73	320	⇑P	P	22 42 09.9	+0.1
	baz=32						
R23A	Moffat	32.05	330	⇓P	P	22 42 14.7	+2.1
	baz=32						
S22A	4UR Ranch, Cre	32.21	328	⇑P	P	22 42 15.7	+1.6
	baz=32						
P25A	Willow Gulch B	32.33	333	⇓P	P	22 42 16.6	+1.7
	baz=32						
O26A	Horse Wrangler	32.56	335	⇓P	P	22 42 18.0	+1.1
	baz=33						
LPAZ	La Paz	32.69	147	LR	LR	22 55 31.1	
	comp=Z,139nm,18.2s,baz=352,slow=36						
MVCO	Mesa Verde	32.72	326	⇓P	P	22 42 18.5	+0.1
	baz=33						
WUAZ	Wupatki	33.26	320	⇑P	P	22 42 24.0	+0.8
	baz=33						
ECSD	EROS Data Cent	33.51	346	⇓P	P	22 42 25.5	+0.5
	baz=34,SNR=2.7						
ECSD	EROS Data Cent	33.51	346	*e*P	P	22 42 24.2	-0.8
	6.7nm,0.9s						
O22A	Kremmling	33.94	331	⇑P	P	22 42 28.9	-0.3
	baz=34						
SPMN	Marine on St.	34.21	351	*e*P	P	22 42 30.2	-0.9
	18nm,0.9s						
L22A	Ellis Ranch, M	35.37	333	⇑P	P	22 42 42.6	+1.2
	baz=36						
PFO	Pinyon Flats O	35.57	313	LR	LR	22 58 05.5	
	comp=Z,125nm,19.1s,baz=142,slow=38						
H27A	Howes	35.90	340	⇓P	P	22 42 47.5	+1.8
	baz=36						
I25A	Rochford	35.94	338	⇑P	P	22 42 47.9	+1.7
	baz=36						
J22A	Midwest	36.51	335	⇓P	P	22 42 52.6	+1.5
	baz=37						
H24A	Dirks Ranch, A	36.87	338	⇓P	P	22 42 56.7	+2.6
	baz=37						
J21A	Lysite	36.87	334	⇓P	P	22 42 56.2	+2.0
	baz=37						
J20A	Shoshoni	37.16	333	⇑P	P	22 42 57.5	+0.9
	baz=37						
TPNV	Topopah Spring	37.26	318	⇑P	P	22 42 58.7	+1.2
	baz=37						
PDAR	Pinedale Array	37.38	331	P	P	22 42 58.9	+0.3
	1.2nm,0.7s,baz=132,slow=11,SNR=12						
PDAR				PcP	PcP	22 45 16.5	-1.1
	0.8nm,0.9s,baz=141,slow=5.2,SNR=4.1						
PDAR				ScP	ScP	22 49 04.4	-0.6
	0.2nm,0.4s,baz=104,slow=6.3,SNR=3.7						
HWUT	Hardware Ranch	37.52	328	*e*P	P	22 42 58.4	-1.4
	5.2nm,0.8s						
J19A	Crowheart	37.53	332	⇓P	P	22 43 00.8	+1.0
	baz=38						
I20A	Worland	37.65	334	⇓P	P	22 43 02.3	+1.6
	baz=38						
AGMN	Agassiz Nation	37.70	349	*e*P	P	22 43 00.3	-0.6
	7.8nm,0.9s						
H21A	Big Horn, Sher	37.74	335	⇑P	P	22 43 02.8	+1.3
	baz=38						
F23A	Volborg	38.01	338	⇓P	P	22 43 05.5	+1.8
	baz=38						
B30A	Myrvik Farm, E	38.35	347	⇓P	P	22 43 08.1	+1.7
	baz=39						
B29A	Wagenman Farm,	38.61	346	⇑P	P	22 43 09.2	+0.6
	baz=39						
G20A	Bridger	38.71	335	⇑P	P	22 43 11.5	+1.8
	baz=39						
I17A	Pilgrim Ck.	38.74	331	⇓P	P	22 43 11.3	+1.2
	baz=39						
D23A	Lindsay	39.18	339	⇑P	P	22 43 14.7	+1.3
	baz=39						
NVAR

M04C	Macdoel	43.56	321	⇓P		P	22 43 50.5	+0.9
	baz=44							
YBH	Yreka Blue Hor	44.08	320	LR	LR		23 04 14.6	
	comp=Z,138nm,19.1s,baz=126,slow=39							
J04D	Umpqua Nationa	44.54	322	⇓P		P	22 43 58.2	+0.7
	baz=45							
NEW	Newport	45.02	331	⇑P		P	22 44 02.8	+1.6
	baz=45							
I04A	Tendick Farm,	45.04	323	⇓P		P	22 44 02.1	+0.8
	baz=45							
SCHQ	Schefferville	45.89	15	P		P	22 44 08.8	+0.9
	5.4nm,0.8s,baz=224,slow=4.4,SNR=8.0							
SCHQ				LR	LR		23 04 46.9	
	comp=Z,123nm,18.1s,baz=225,slow=38							
BBB	Bella Bella	52.96	329	LR	LR		23 09 16.7	
	comp=Z,64nm,19.6s,baz=346,slow=38							
FRB	Frobisher Bay	53.71	10	LR	LR		23 08 48.5	
	comp=Z,169nm,18.5s,baz=186,slow=37							
PLCA	Paso Flores	53.80	165	P		P	22 45 07.3	-0.9
	3.5nm,0.9s,baz=319,slow=6.9,SNR=3.7							
YKA	Yellowknife Ar	55.01	344	P		P	22 45 15.8	-0.9
	1.1nm,0.9s,baz=138,slow=7.0,SNR=14							
YKA				PcP		PcP	22 46 17.4	-0.9
	0.1nm,0.4s,baz=143,slow=4.0,SNR=4.1							
ILAR	Eielson Array	67.56	336	P		P	22 46 40.8	-0.9
	1.6nm,1.0s,baz=111,slow=5.0,SNR=8.6							
ILAR				LR	LR		23 21 14.5	
	comp=Z,81nm,18.6s,baz=139,slow=40							
ESDC	Sonseca Array	76.70	52	LR	LR		23 20 22.0	
	comp=Z,24nm,18.1s,baz=200,slow=35							
NOA	NORSAR Array B	83.58	29	LR	LR		23 24 18.8	
	comp=Z,16nm,20.1s,baz=290,slow=35							
TORD	Torodi Ar. Bea	85.23	78	P		P	22 48 20.3	-2.6
	0.5nm,0.8s,baz=295,slow=5.4,SNR=3.2							
ARCES	ARCESS Array B	86.70	19	LR	LR		23 28 42.7	
	comp=Z,20nm,18.4s,baz=334,slow=37							
AKASG	Malin Array Be	96.55	35	LR	LR		23 28 29.9	
	comp=Z,25nm,21.8s,baz=310,slow=33							
ZALV	Zalesovo Beam	114.44	6	PKP	PKPdf		22 54 23.4	-2.2
	0.3nm,0.4s,baz=343,slow=4.5,SNR=2.8							
SONM	Songino Array	120.01	350	PKP	PKPdf		22 54 34.7	-1.9
	0.3nm,0.7s,baz=337,slow=2.7,SNR=3.7							
GEYT	Alibeck	120.52	33	PKP	PKPdf		22 54 36.4	-1.4
	1.2nm,0.5s,baz=262,slow=4.9,SNR=5.9							
MKAR	Makanchi Array	121.13	9	PKP	PKPdf		22 54 36.3	-2.4
	0.2nm,0.6s,baz=46,slow=3.5,SNR=3.8							
KSRS	Korea Array	121.92	328	PKP	PKPdf		22 54 39.0	-1.3
	1.4nm,0.7s,baz=356,slow=3.8,SNR=5.6							
KSAR	Wonju Array Be	121.95	328	PKP	PKPdf		22 54 39.0	-1.4
AAK	Ala-Archa	123.33	17	PKP	PKPdf		22 54 42.1	-1.1
	0.6nm,0.6s,baz=45,slow=2.9,SNR=3.8							
ASAR	Alice Springs	140.20	247	PKhKP	PKPpre		22 55 07.1	
	0.4nm,0.7s,baz=105,slow=3.2,SNR=2.7							
ASAR				PKP	PKPdf		22 55 15.2	-0.1
	0.6nm,0.6s,baz=83,slow=1.7,SNR=6.7							
WRA	Warramunga Arr	140.35	253	PKhKP	PKPpre		22 55 12.2	
	1.0nm,0.6s,baz=80,slow=0.9,SNR=5.4							
WRA				PKP	PKPdf		22 55 15.8	+0.2
	0.9nm,0.7s,baz=80,slow=1.2,SNR=7.1							
CMAR	Chiang Mai Arr	149.94	351	PKP	PKPdf		22 55 32.0	-0.1
	2.5nm,0.3s,baz=318,slow=1.2,SNR=4.9							
CMAR				PKPbc	PKPbc		22 55 35.9	-1.0
	3.1nm,0.9s,baz=333,slow=2.9,SNR=17							
CMAR				PKPab	PKPab		22 55 42.8	+0.5
	1.5nm,0.3s,baz=335,slow=3.0,SNR=5.6							

IDC 23 23:04:05.6±1.1, 6°19S×147°05E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.8/25, mbtmp3.7/7, ML2.5/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/21, Error ellipse: s-maj=44.2km s-min=14.2km az=85.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.20	178	Pn	Pn	23 04 57.5	+0.3
	4.3nm,0.3s,baz=353,slow=8.1,SNR=8.6						
PMG				Pg	Pg	23 05 05.5	-1.4
	14nm,0.3s,baz=344,slow=10.0,SNR=26						
PMG				Sn	Sn	23 05 35.3	-0.7
	12nm,0.3s,baz=188,slow=22,SNR=2.6						
PMG				Lg	Lg	23 05 47.8	
	19nm,0.3s,baz=157,slow=23,SNR=2.0						
PMG				LR	LR	23 06 39.0	
	comp=Z,294nm,20.6s,baz=356,slow=48						
JAY	Jayapura	7.30	300	LR	LR	23 08 43.3	
	comp=Z,96nm,18.7s,baz=1.5,slow=38						
WRA	Warramunga Arr	18.42	221	P	Pn	23 08 18.7	-3.9
	0.1nm,0.3s,baz=45,slow=12,SNR=12						
ASAR	Alice Springs	21.49	215	P	P	23 08 55.2	-1.0
	0.7nm,0.7s,baz=35,slow=12,SNR=10						
CMAR	Chiang Mai Arr	53.38	298	P	P	23 13 26.2	-1.2
	1.3nm,0.3s,baz=124,slow=5.8,SNR=10.0						
PETK	Petropavlovs	59.76	7	LR	LR	23 35 50.9	
	comp=Z,22nm,21.6s,baz=85,slow=32						
SONM	Songino Array	64.59	331	P	P	23 14 45.1	+0.1
	0.4nm,0.7s,baz=134,slow=4.2,SNR=2.6						
MKAR	Makanchi Array	77.67	320	P	P	23 16 05.4	+1.2
	0.1nm,0.5s,baz=108,slow=7.5,SNR=3.9						
MKAR				LR	LR	23 53 38.4	
	comp=Z,20nm,18.1s,baz=348,slow=38						
ZALV	Zalesovo Beam	79.20	328	P	P	23 16 13.9	+1.5
	0.4nm,0.5s,baz=121,slow=6.9,SNR=2.4						
ILAR	Eielson Array	85.64	23	P	P	23 16 44.6	-1.2
	1.4nm,0.7s,baz=254,slow=4.8,SNR=13						
TORD	Torodi Ar. Bea	145.18	284	PKPbc	PKPbc	23 23 44.2	-1.7
	2.7nm,0.9s,baz=63,slow=3.8,SNR=13						

TIR 23 23:06:16.6, 41°72N×20°08E, h0km, ML2.6
ISCJB 23 23:06:18.3±0.5, 41°84N±0°03×20°28E±0°04, h9km±6km, Error ellipse: s-maj=6.4km s-min=3.6km az=42.4
CSEM 23 23:06:18.2±0.4, 41°81N×20°20E, h5km, ML2.6, Error ellipse: s-maj=9.6km s-min=4.9km az=47.0
BEO 23 23:06:19.5±0.6, 41°81N×20°30E, h13km±4km, ML1.8/4
SKO 23 23:06:19.9, 41°76N×20°20E, h0km, M1.4, ML1.8
ISC 23 23:06:18.7±0.9, 41°79N±0°03×20°20E±0°03, h13km±7km, n25, σ1°10/42, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.21	120	*i* PG	Pg	23 06 22.6	-0.7
PHP				*i* SG	Sg	23 06 27.8	+1.3
PHP	Peshkopia	0.21	120	*i* Pg	Pg	23 06 22.6	-0.7
	SNR=93						
PHP				*i* Sg	Sg	23 06 27.8	+1.3
	SNR=93						
PUK	Puka	0.34	318	*i* PG	Pg	23 06 24.6	-1.1
PUK				*i* SG	Sg	23 06 30.8	+0.6
PUK	Puka	0.34	318	*i* Pg	Pg	23 06 24.5	-1.1
	SNR=93						
PUK				*i* Sg	Sg	23 06 30.8	+0.6
	SNR=93						
BCI	Bajram Curri	0.58	350	*i* PG	Pg	23 06 29.9	-0.2
BCI	Bajram Curri	0.58	350	*i* Pg	Pg	23 06 29.9	-0.2
	SNR=91						
OHR	Ohrid	0.81	146	*i* Pg	Pg	23 06 33.2	-1.3
OHR				*i* Sg	Sg	23 06 45.7	+0.6
OHR				*e*Lg	Lg	23 06 48.4	
	comp=N,42nm,0.4s						
OHR				*e*Lg	Lg	23 06 48.5	
	comp=E,24nm,0.6s						
OHR	Ohrid	0.81	146	*i* Pg	Pg	23 06 33.1	-1.3
OHR				*i* Sg	Sg	23 06 45.7	+0.6
OHR				*e*Lg	Lg	23 06 48.4	
	comp=E,24nm,0.6s						
SKO	Skopje	0.94	79	*i* Pg	Pg	23 06 36.7	-0.3
SKO				*i* Sg	Sb	23 06 49.7	+0.3
SKO				*e*Lg	Lg	23 06 52.1	
	comp=N,20nm,0.5s						
SKO				*e*Lg	Lg	23 06 53.4	
	comp=E,21nm,0.7s						
SKO	Skopje	0.94	79	*i* Pg	Pg	23 06 36.6	-0.3
SKO				*i* Sg	Sb	23 06 49.6	+0.3
SKO				*e*Lg	Lg	23 06 53.4	
	comp=E,21nm,0.7s						
PDG	Podgorica	0.95	313	*e*Pg	Pg	23 06 36.2	-0.8
PDG				*e*Sg	Sn	23 06 51.9	+0.8
PDG	Podgorica	0.95	313	*e*Pg	Pg	23 06 36.2	-0.8
PDG				*e*Sg	Sn	23 06 51.9	+0.8
SJES	Sjenica	1.48	354	*e*Pg	Pn	23 06 44.0	-1.1
SJES				*e*Sg	Sg	23 07 07.0	+0.7
SJES	Sjenica	1.48	354	*e*Pg	Pn	23 06 44.0	-1.1
SJES				*e*Sg	Sg	23 07 07.0	+0.7
SELS	Selova	1.58	25	*e*Pg	Pn	23 06 46.9	+0.4
SELS				*e*Sg	Sb	23 07 08.3	+0.6
TREB	Trebinje	1.66	305	*e*Pn	Pn	23 06 47.4	0.0
TREB				*e*Sg	Sg	23 07 15.1	+3.2
TREB	Trebinje	1.66	305	*e*Pn	Pn	23 06 47.4	0.0
TREB				*e*Sg	Sg	23 07 15.1	+3.2
IVAS	Ivanjica	1.79	359	*e*Pn	Pn	23 06 50.1	+0.8
IVAS	Ivanjica	1.79	359	*e*Pn	Pn	23 06 50.1	+0.8
VAY	Valandovo	1.84	104	*e*Sg	Sb	23 07 16.3	+1.2
VAY	Valandovo	1.84	104	*e*Sg	Sb	23 07 16.3	+1.2
BBLS	Lazići	2.15	345	*e*Pn	Pb	23 06 56.5	-1.1
BBLS				*e*Sg	Sg	23 07 27.1	-0.8
BBLS	Lazići	2.15	345	*e*Pn	Pb	23 06 56.5	-1.1
BBLS				*e*Sg	Sg	23 07 27.1	-0.8
DIVS	Divibare	2.31	356	*e*Sn	Sn	23 07 24.7	-0.2
DIVS	Divibare	2.31	356	*e*Sn	Sn	23 07 24.7	-0.2

CSEM 23 23:29:48.9±0.3, 39°66N×42°65E, h2km, MD3.0, Error ellipse: s-maj=7.3km s-min=5.3km az=15.0
ISK 23 23:29:48.8, 39°69N×42°68E, h5km, MD2.9
DDA 23 23:29:47.6, 39°63N×42°58E, h7km, MD3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EATA	Eleskirt	0.24	344	*i* P	Pg	23 29 52.4	-0.5
EATA	Eleskirt	0.24	344	*i* P	Pg	23 29 52.4	-0.5
EATA				*i* S	Sg	23 29 56.4	-0.1
TUTA	Tutak	0.29	141	*i* P	Pg	23 29 52.9	-0.7
TUTA				*i* S	Sg	23 29 58.6	+0.9
TUTA	Tutak	0.29	141	*i* P	Pg	23 29 52.9	-0.8
TUTA				*i* S	Sg	23 29 58.6	+0.9
AGRB	Hanur-Agry	0.32	99	*e*PG	Pb	23 29 55.4	-0.7
AGRB				*e*SG	Sb	23 30 00.2	-1.5
AGRB	Hanur-Agry	0.32	99	*e*Pg	Pb	23 29 55.4	-0.6
AGRB				*e*Sg	Sb	23 30 00.2	-1.5
EKAR	Karacoban	0.54	227	*i* P	Pn	23 30 02.3	+0.1
EKAR	Karacoban	0.54	227	*i* P	Pn	23 30 02.3	+0.1
EKAR				*i* S	Sn	23 30 13.4	+1.6
HOMI	Horasan	0.67	309	*i* P	Pb	23 30 01.6	-0.3
DYDN	Diyadin	0.86	95	*i* P	Pg	23 30 04.3	-0.2
DYDN				*i* S	Sg	23 30 16.2	+0.3
DYDN	Diyadin	0.86	95	*i* P	Pg	23 30 04.3	-0.2
DYDN				*i* S	Sg	23 30 16.2	+0.3
EZM	Erzurum	0.98	287	*e*PG	Pn	23 30 09.7	+1.5
VRTB	Varto-Mus	0.99	242	*e*PN	Pn	23 30 10.8	+2.7
VRTB				*e*SN	Sn	23 30 26.6	+4.1
VRTB	Varto-Mus	0.99	242	*e*Pn	Pn	23 30 10.8	+2.6
VRTB				*e*Sn	Sn	23 30 26.6	+4.1
DIGO	Kars	1.00	38	*i* P	Pg	23 30 07.2	+0.1
DIGO				*i* S	Sb	23 30 21.7	+0.5
DIGO	Kars	1.00	38	*i* P	Pg	23 30 07.2	0.0
DIGO				*i* S	Sb	23 30 21.7	+0.4
CLDR	Caldiran	1.14	115	*e*PN	Pn	23 30 11.1	+0.7
CLDR	Caldiran	1.14	115	*e*Pn	Pn	23 30 11.1	+0.7
DDEM	Demirkent	1.42	334	*i* P	Pg	23 30 15.1	+0.2
DDEM	Demirkent	1.42	334	*i* P	Pg	23 30 15.1	+0.1
DAGI	Agillar	1.54	341	*i* P	Pn	23 30 16.1	+0.4
DBAD	Bademkaya	1.55	334	*i* P	Pb	23 30 16.8	0.0
DBAD				*i* S	Sg	23 30 38.0	+0.4
DBAD	Bademkaya	1.55	334	*i* P	Pb	23 30 16.8	0.0
DBAD				*i* S	Sg	23 30 38.0	+0.3
BCA	Borcka	1.96	338	*e*PN	Pb	23 30 24.2	+0.5
BCA	Borcka	1.96	338	*e*Pn	Pb	23 30 24.2	+0.5
BAYT	Ayd¨–ntepe-Bay	2.02	293	*e*PN	Pg	23 30 26.0	-0.7
BAYT	Ayd¨–ntepe-Bay	2.02	293	*e*Pn	Pg	23 30 26.0	-0.7

ISCJB 23 23:30:59.5±0.5, 35°80S±0°04×72°18W±0°08, h60km±4km, mb4.2/12, Error ellipse: s-maj=11.7km s-min=4.9km az=23.6
NEIC 23 23:30:59.0, 35°82S×72°20W, h46km, mb4.6/3, After GUC.
NEIC Felt [IV] at Longavi, Maule, Parral and Talca; [III] at Curico, Linares, Pelarco, Pelluhue, San Clemente, San Javier and Villa Alegre; [II] at Chillan.
GUC 23 23:30:59.9±0.7, 35°82S×72°20W, h46km±3km, ML4.8
IDC 23 23:31:00.4±0.6, 35°73S×71°99W, h48km±4km, mb3.9/9, mb1 4.1/11, mb1mx3.9/24, mbtmp4.2/11, MS3.3/3, Ms1 3.3/3, ms1mx3.1/18, Error ellipse: s-maj=22.4km s-min=13.8km az=83.0
ISC 23 23:30:59.8±0.5, 35°79S±0°04×72°21W±0°06, h50km±4km, h50km:pP-P, n44, σ1°15/70, mb4.3/12, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	Linares	0.50	97	⇓*i*P	Pn	23 31 10.8	-0.1
LNCH				*i* S	Sn	23 31 19.1	+0.1
TALC	Talca	0.61	50	⇓*i*P	Pn	23 31 13.1	+0.7
TALC				*i* S	Sn	23 31 22.4	+1.0
NICH	Los Niches	1.12	46	⇑*i*P	Pn	23 31 19.9	+0.8
NICH				*i* S	Sn	23 31 35.0	+1.5
NICH				AML	AML	23 31 41.2	
	comp=E,32µm,0.3s						
CCSP	San Pedro de C	1.28	214	⇑*i*P	Pn	23 31 21.6	+0.3
CCSP				*i* S	Sn	23 31 38.3	+1.0
LNV	Longovilo	1.94	20	*e*P1	Pn	23 31 31.4	+1.0
CACH	El Canelo	2.13	39	⇓*i*P	Pn	23 31 33.8	+0.7
CHCH	Chadas Angostu	2.25	35	*e*P1	Pn	23 31 35.4	+0.8
ANTU	Antumapu	2.57	31	*e*P1	Pn	23 31 40.5	+1.5
ANTU				AML	AML	23 32 26.0	
	comp=N,5µm,0.3s						
RCDM	Rinconada Maip	2.57	27	*e*P9	Pn	23 31 38.9	-0.1
RCDM				*e*S	Sn	23 32 09.6	+0.6
RCDM				AML	AML	23 32 19.5	
	comp=E,3µm,0.6s						
YECH	El Yeso	2.75	40	⇑*i*P	Pn	23 31 43.2	+1.5
YECH				*e*S	Sn	23 32 16.0	+2.2
YECH				AML	AML	23 32 29.3	
	comp=N,4µm,0.3s						
CLCH	Cerro Calan	2.76	30	⇑*i*P	Pn	23 31 42.6	+1.1
CLCH				*e*S	Sn	23 32 15.1	+1.4
CLCH				AML	AML	23 32 38.0	
	comp=N,6µm,0.7s						
IHA	Instituto Hidr	2.80	10	⇑*i*P	Pn	23 31 42.4	+0.4
FCH	Farellones	2.92	33	AML	AML	23 32 21.9	
	comp=E,4µm,0.3s						
PLCA	Paso Flores	5.10	166	P	Pn	23 32 15.5	+1.8
	comp=E,5.7nm,0.3s,baz=340,slow=11,SNR=112						
PLCA				S	Sn	23 33 18.9	+7.5
	comp=E,1.9nm,0.3s,baz=242,slow=24,SNR=1.6						
PLCA				LR	LR	23 34 27.6	
	comp=E,246nm,21.3s,baz=236,slow=40						
CFAA	Coronel Fontan	5.33	40	P	Pn	23 32 17.1	+0.3
	comp=E,1.6nm,0.3s,baz=208,slow=9.9,SNR=64						
CFAA				S	Sn	23 33 19.3	+2.4
	comp=E,0.9nm,0.3s,baz=239,slow=17,SNR=3.8						
LCO	Las Campanas	6.88	11	*e*Pn	Pn	23 32 37.7	-0.6
	comp=E,49nm,0.5s						
LCO				*e*Sn	Sn	23 33 53.3	-2.1
TRQA	Tornquist	8.50	108	*e*Pn	Pn	23 32 60.0	-0.3
	comp=E,35nm,0.6s						
LVC	Limon Verde	13.44	13	*e*Pn	Pn	23 34 06.2	-1.9
	comp=E,8.5nm,0.6s						
LVC				*e*Sn	Sn	23 36 34.5	-1.6
LPAZ	La Paz	19.76	12	P	Pn	23 35 28.3	+0.2
	comp=E,0.9nm,0.3s,baz=177,slow=6.6,SNR=40						
SIV	San Ignacio	22.08	30	P	P	23 35 50.3	-0.4
	comp=E,9.9nm,0.9s,baz=224,slow=9.1,SNR=23						
SIV				LR	LR	23 43 59.8	
	comp=E,86nm,20.1s,baz=212,slow=36						
PMSA	Palmer Station	29.43	173	LR	LR	23 48 55.4	
	comp=E,64nm,18.0s,baz=180,slow=36						
PTGA	Pitinga	36.69	21	*e*P	P	23 38 00.3	-1.7
	comp=E,8.2nm,0.9s						
VNA3	Neumayer Olymp	47.76	157	P	P	23 39 31.0	-0.5
VNA2	Neumayer--Watz	48.42	157	P	P	23 39 37.2	+0.6
	baz=286,slow=9.6						
SNAA	Sanae	49.99	157	P	P	23 39 49.0	+0.5
SNAA	Sanae	49.99	157	P	P	23 39 49.1	+0.5
	comp=E,0.7nm,0.6s,baz=246,slow=6.9,SNR=10						
SNAA				pP	pP	23 40 03.1	+1.0
	comp=E,2.3nm,0.9s,baz=292,slow=8.7,SNR=5.7						
QSPA	South Pole Qui	54.45	180	P	P	23 40 23.1	+1.3
	comp=E,5.2nm,0.8s,baz=146,slow=1.8,SNR=18						
QSPA				pP	pP	23 40 35.9	+0.4
	comp=E,5.3nm,0.9s,baz=126,slow=3.2,SNR=6.1						
TXAR	Lajitas Array	71.23	331	P	P	23 42 15.3	+1.7
	comp=E,0.8nm,0.6s,baz=149,slow=9.3,SNR=6.8						
TXAR				pP	pP	23 42 29.1	+1.2
	comp=E,0.7nm,0.4s,baz=156,slow=8.4,SNR=6.4						
WVT	Waverly	73.02	347	*e*P	P	23 42 24.0	-0.1
	comp=E,2.6nm,0.6s						
WVT				*e*		23 42 38.0	
DBIC	Dimbokro	75.89	71	P	P	23 42 41.5	+0.2
	comp=E,5.8nm,0.7s,baz=193,slow=7.5,SNR=13						
DBIC				pP	pP	23 42 55.0	-0.6
	comp=E,2.6nm,0.6s,baz=214,slow=4.7,SNR=2.9						
LBTB	Lobatse	81.68	115	*e*P	P	23 43 12.8	-0.4
	comp=E,13nm,1.2s						
TORD	Torodi Ar. Bea	84.95	70	P	P	23 43 29.8	-0.2
	comp=E,2.0nm,0.8s,baz=245,slow=5.1,SNR=12						
TORD				pP	pP	23 43 42.9	-1.5
	comp=E,2.2nm,0.7s,baz=272,slow=5.0,SNR=8.6						
NVAR	Mina Array Bea	85.27	325	P	P	23 43 32.0	+0.7
	comp=E,0.4nm,0.6s,baz=152,slow=6.0,SNR=3.6						
NVAR				pP	pP	23 43 46.7	+0.9
	comp=E,1.6nm,1.0s,baz=155,slow=6.6,SNR=3.9						
PDAR	Pinedale Array	85.30	333	P	P	23 43 33.4	+2.1
	comp=E,0.4nm,0.7s,baz=145,slow=5.4,SNR=4.2						
PDAR				pP	pP	23 43 46.0	+0.2
	comp=E,0.5nm,0.7s,baz=129,slow=7.7,SNR=3.1						
ULM	Lac du Bonnet	88.19	345	P	P	23 43 44.9	0.0
	comp=E,3.4nm,0.9s,baz=63,slow=2.5,SNR=6.2						
ULM				pP	pP	23 43 59.1	-0.3
	comp=E,2.2nm,0.8s,baz=179,slow=2.6,SNR=3.2						
BRTR	Keskin Array B	122.81	62	PKP	PKPdf	23 49 50.6	+0.4
	comp=E,0.9nm,0.9s,baz=303,slow=6.9,SNR=4.0						
HYB	Hyderabad	148.27	118	*i* PKP	PKPbc	23 50 40.0	-0.9
KKAR	Karatay Array	150.48	64	*e*PKPbc	PKPbc	23 50 44.7	-1.0
AAK	Ala-Archa	153.43	65	PKPbc	PKPbc	23 50 53.5	+1.0
	comp=E,2.6nm,0.8s,baz=221,slow=4.1,SNR=10						
AAK				PKPab	PKPab	23 51 04.0	-1.0
	comp=E,2.1nm,0.6s,baz=192,slow=3.9,SNR=4.3						
KURBB	Kurchatov Arra	154.24	46	PKP	PKPdf	23 50 46.0	+0.5
	comp=E,0.1nm,0.3s,baz=272,slow=2.5,SNR=4.5						
KURBB				PKPbc	PKPbc	23 50 52.8	-1.0
	comp=E,0.6nm,0.7s,baz=295,slow=2.5,SNR=5.2						
KURBB				PKPab	PKPab	23 51 08.5	+0.6
	comp=E,1.7nm,0.8s,baz=289,slow=4.3,SNR=14						
KURBB				pPKPab	pPKPab	23 51 20.7	-1.9
	comp=E,1.1nm,0.8s,baz=288,slow=4.0,SNR=4.6						
KURK	Kurchatov	154.25	46	PKP	PKPdf	23 50 46.0	+0.5
KURK				PKPbc	PKPbc	23 50 52.8	-1.0
KURK				PKPab	PKPab	23 51 08.5	+0.6
KURK				pPKPab	pPKPab	23 51 20.7	-2.0
ZALV	Zalesovo Beam	155.79	34	PKP	PKPdf	23 50 45.2	-2.3
	comp=E,0.2nm,0.3s,baz=344,slow=3.1,SNR=2.8						
ZALV				PKPbc	PKPbc	23 50 57.7	
	comp=E,1.0nm,0.7s,baz=291,slow=4.6,SNR=5.3						
ZALV				PKPab	PKPab	23 51 12.2	-2.2
	comp=E,1.8nm,0.5s,baz=298,slow=5.5,SNR=7.6						
MKAR	Makanchi Array	158.01	52	PKPab	PKPab	23 51 23.4	-0.9
	comp=E,0.9nm,0.8s,baz=285,slow=3.4,SNR=8.3						
MKAR				pPKPab	pPKPab	23 51 38.8	-0.2
	comp=E,0.6nm,0.8s,baz=274,slow=4.5,SNR=2.7						
SONM	Songino Array	167.92	5	PKPab	PKPab	23 52 07.6	-0.1
	comp=E,0.3nm,0.8s,baz=322,slow=4.0,SNR=5.1						
SONM				pPKPab	pPKPab	23 52 23.2	+0.9
	comp=E,0.3nm,0.7s,baz=332,slow=5.0,SNR=3.1						

ISK 23 23:31:35.5, 39°00N×29°73E, h5km, MD2.9
CSEM 23 23:31:35.8±0.1, 39°02N×29°74E, h2km, MD3.0, Error ellipse: s-maj=2.8km s-min=2.4km az=158.0
DDA 23 23:31:35.6, 39°02N×29°74E, h5km, MD3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	Gediz	0.22	289	*i* P	Pg	23 31 40.3	+0.2
GDZ				*i* S	Sg	23 31 43.5	+0.4
GDZ	Gediz	0.22	289	*i* P	Pg	23 31 40.3	+0.2
GDZ				*i* S	Sg	23 31 43.5	+0.3
TVSB	Tavsanli	0.48	333	*e*PG	Pg	23 31 44.8	-0.4
TVSB	Tavsanli	0.48	333	*e*Pg	Pg	23 31 44.8	-0.3
KHL	Karahalli	0.72	194	*e*PG	Pg	23 31 49.6	0.0
KHL	Karahalli	0.72	194	*e*Pg	Pg	23 31 49.6	0.0
SHUT	Suhut-Afyon	0.78	126	*e*PG	Pb	23 31 51.5	-0.4
SHUT				*e*SG	Sg	23 32 02.1	+0.9
SHUT	Suhut-Afyon	0.78	126	*e*Pg	Pb	23 31 51.6	-0.4
SHUT				*e*Sg	Sg	23 32 02.1	+0.9
KULA	Kula-Manisa	0.99	240	*e*PG	Pg	23 31 54.5	-0.2
KULA				*e*SG	Sg	23 32 08.0	+0.3
KULA	Kula-Manisa	0.99	240	*e*Pg	Pg	23 31 54.5	-0.2
KULA				*e*Sg	Sg	23 32 08.0	+0.4
ESKT	Eskisehir	0.99	59	*e*PG	Pg	23 31 54.7	-0.3
ESKT	Eskisehir	0.99	59	*e*Pg	Pg	23 31 54.7	-0.2
SEYT	Eskypehyr	0.99	59	*i* P	Pg	23 31 54.1	-0.8
SEYT				*i* S	Sg	23 32 07.7

ENEZ	Enez	1.48 196	*e*PN		Pn	23 32 55.7 +0.7
ENEZ	Enez	1.48 196	*e*Pn		Pn	23 32 55.7 +0.7
ERIK	Erikli-Kesan	1.50 185	*e*PN		Pn	23 32 56.0 +0.7
ERIK	Erikli-Kesan	1.50 185	*e*Pn		Pn	23 32 56.0 +0.8
RKY	Sarkoy-Tekirda	1.52 166	*e*PN		Pb	23 32 56.9 -0.6
RKY	Sarkoy-Tekirda	1.52 166	*e*Pn		Pb	23 32 56.9 -0.6
GELI	Tayfur-Gelibol	1.77 185	*e*PN		Pn	23 32 60.0 +1.0
GELI	Tayfur-Gelibol	1.77 185	*e*Pn		Pn	23 33 00.0 +1.0
ZIMR		1.78 328	⇓*i*P		Pn	23 32 58.3 -0.8
ZIMR		1.78 328	S		Sn	23 33 21.0 0.0
PSN	Preselentsi	1.88 36	S		Sb	23 33 31.1 +4.5
SMTH	Samothraki Isl	1.90 208	*e*P		Pn	23 33 02.0 +1.2
KAVA	Kavala	2.00 235	*e*P		Pn	23 33 00.0 -2.2
MSAB	Monastry St. A	2.10 23	⇑*i*P		Pb	23 33 07.8 +0.5
MSAB	Monastry St. A	2.10 23	S		Sb	23 33 36.6 +3.6
MANR	Mangalia	2.17 40	S		Sb	23 33 40.0 +5.2
NVR	Nevrokopi	2.26 250	*e*P		Pn	23 33 02.7 -3.1
MMB	Musomiste	2.28 256	⇑*i*P		Pn	23 33 03.9 -2.2
MMB	Musomiste	2.28 256	S		Sn	23 33 34.9 +1.5
LIA	Limnos Island	2.53 207	*e*P		Pn	23 33 09.6 +0.2
SULR		2.53 353	S		Sb	23 33 47.6 +2.2
SRS	Serrai	2.54 247	*e*P		Pn	23 33 06.5 -3.1
VTS	Vitosha	2.61 281	⇑*i*P		Pn	23 33 07.0 -3.8
VTS	Vitosha	2.61 281	S		Sn	23 33 35.2 -6.6
TIRR	Tirgusor	2.62 28	⇓*i*P		Pb	23 33 14.9 -1.2
TIRR	Tirgusor	2.62 28	S		Sb	23 33 51.7 +3.8
HUMR	Humele	2.67 333	⇓*i*P		Pb	23 33 14.8 -2.2
OUR	Ouranopolis	2.73 229	*e*PN		Pn	23 33 13.5 +1.3
OUR	Ouranopolis	2.73 229	*e*P		Pn	23 33 12.6 +0.4
OUR	Ouranopolis	2.73 229	*e*Pn		Pn	23 33 13.5 +1.3
SOH	Sokhos	2.83 243	*e*P		Pn	23 33 10.4 -3.3
ISR	Istrita	2.96 358	⇓*i*P		Pb	23 33 24.2 +2.2
KNT	Kendrikon	3.00 252	*e*P		Pn	23 33 13.0 -3.0
VAY	Valandovo	3.19 256	*i*Pn		Pn	23 33 15.4 -3.1
VAY			*i*Sg		Sb	23 34 01.8 -2.5
VAY			*e*Lg		Lg	23 34 10.3
	comp=N,20nm,0.9s					
VAY			*e*Lg		Lg	23 34 10.7
	comp=E,8.5nm,0.6s					
VAY	Valandovo	3.19 256	*i*Pn		Pn	23 33 15.4 -3.1
VAY			*e*Lg		Lg	23 34 10.2
	comp=E,20nm,0.9s					
CFR	Carcaliu	3.19 19	⇑*i*P		Pb	23 33 24.6 -1.3
CFR	Carcaliu	3.19 19	S		Sb	23 34 08.4 +4.0
MLR	Muntele Rosu	3.37 351	⇓*i*P		Pb	23 33 23.2 +2.0
TLCR		3.40 26	S		Sb	23 34 17.3 +7.1
VOIR		3.48 341	⇓*i*P		Pb	23 33 28.2 -2.7
VOIR		3.48 341	S		Sb	23 34 17.7 +4.9
ARR	Arges	3.53 336	⇓*i*P		Pn	23 33 24.4 +1.1
ARR	Arges	3.53 336	S		Sb	23 34 13.0 -1.3
PLOR	Plostina	3.69 360	⇓*i*P		Pn	23 33 27.8 +2.3
VRI	Vrincioaia	3.70 1	⇓*i*P		Pn	23 33 29.2 +3.6
LOT	Lotru	3.90 328	⇑*i*P		Pb	23 33 35.1 -3.1
SMG	Samos	4.45 178	*e*P		Pn	23 33 36.3 +0.4
BZS	Buzias	5.03 315	⇑*i*P		Pn	23 33 40.0 -3.8
APE	Apeiranthos	5.16 190	*e*P		Pn	23 33 49.0 +3.3

ISCJB ***23*** *23:42:08.4±1.1, 4°.6S±0°.1×153°.8E±0°.2, h100km, mb3.7/9, Error ellipse: s-maj=28.8km s-min=11.0km az=35.7*
IDC ***23*** *23:42:09.6±7.4, 4°.55S×153°.86E, h100km±57km, mb3.6/9, mb1 3.8/10, mb1mx3.6/28, mbtmp4.0/10, MS2.5/1, Ms1 2.5/1, ms1mx2.2/20, Error ellipse: s-maj=53.6km s-min=22.7km az=82.0*

ISC 23 23:42:09.7±1.3, 4°.6S±0°.2×153°.9E±0°.2, h100km, n14, σ0°65/13, mb3.6/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.21**	**234**	P	**Pn**	**23 44 07.0**	**+0.9**
	9.8nm,0.3s,baz=50,slow=10,SNR=18						
PMG				S	**Sn**	**23 45 36.0**	**-1.2**
	1.2nm,0.3s,baz=142,slow=20,SNR=2.8						
PMG				LR	LR	23 47 40.8	
	comp=Z,33nm,19.5s,baz=82,slow=40						
WRA	**Warramunga Arr**	**24.39**	**230**	P	**P**	**23 47 19.2**	**+0.3**
	6.1nm,0.5s,baz=53,slow=9.8,SNR=28						
H11S3	**WAKE ISLAND Hy**	**26.17**	**29**	T	T	00 13 50.2	
	baz=206,slow=74,SNR=10.0						
H11S2	**WAKE ISLAND Hy**	**26.17**	**29**	T	T	00 13 50.9	
	baz=206,slow=74,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**26.19**	**29**	T	T	00 13 49.6	
	baz=206						
ASAR	**Alice Springs**	**27.04**	**223**	P	**P**	**23 47 42.8**	**-0.1**
	0.7nm,0.4s,baz=56,slow=9.9,SNR=9.6						
ASAR				pP	**pP**	**23 48 05.0**	**-0.1**
	0.5nm,0.6s,baz=56,slow=8.0,SNR=2.4						
CMAR	**Chiang Mai Arr**	**58.73**	**295**	P	**P**	**23 51 58.1**	**+0.5**
	0.8nm,0.4s,baz=119,slow=5.3,SNR=4.7						
SONM	**Songino Array**	**66.69**	**327**	P	**P**	**23 52 50.1**	**+0.1**
	0.4nm,0.8s,baz=148,slow=4.6,SNR=4.7						
VNDA	**Vanda**	**73.03**	**178**	P	**P**	**23 53 28.2**	**0.0**
	0.8nm,0.6s,baz=315,slow=7.8,SNR=6.7						
MKAR	**Makanchi Array**	**80.84**	**319**	P	**P**	**23 54 12.6**	**-0.1**
	0.3nm,0.5s,baz=95,slow=7.7,SNR=5.6						
ZALV	**Zalesovo Beam**	**81.54**	**326**	P	**P**	**23 54 15.3**	**-0.9**
	0.3nm,0.3s,baz=110,slow=8.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**84.26**	**322**	P	**P**	**23 54 29.5**	**-0.8**
	0.6nm,0.8s,baz=103,slow=5.3,SNR=5.9						
AAK	**Ala-Archa**	**85.27**	**313**	P	**P**	**23 54 36.1**	**+0.4**
	0.7nm,0.6s,baz=105,slow=3.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**151.23**	**289**	PKPbc	**PKPbc**	**00 01 52.2**	**-0.4**
	2.0nm,0.8s,baz=76,slow=2.0,SNR=20						

GUC 23 23:45:23.8±0.4, 34°.52S×72°.16W, h34km±1km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.84**	**48**	*e*P	Pn	23 45 39.2	0.0
LNV				*e*S	Sb	23 45 50.9	-0.1
TALC	**Talca**	**0.98**	**154**	*e*P	Pn	23 45 41.5	+0.3
TALC				*e*S	Sb	23 45 54.9	-0.2
CACH	**El Canelo**	**1.35**	**73**	*e*P	Pb	23 45 47.9	-0.9
CHCH	**Chadas Angostu**	**1.38**	**66**	*e*P	Pb	23 45 47.9	-1.2
RCDM	**Rinconada Maip**	**1.52**	**48**	*e*P	Pn	23 45 49.4	+0.7
RCDM				*e*S4	Sn	23 46 08.7	+1.3
ANTU	**Antumapu**	**1.58**	**54**	*e*P	Pb	23 45 51.1	-1.5
ANTU				*e*S	Sb	23 46 11.6	-0.7
ANTU				IAML		23 46 15.4	
	comp=E,1μm,0.6s						
CLCH	**Cerro Calan**	**1.75**	**51**	*e*P	Pn	23 45 53.5	+1.6
CLCH				*e*S	Sb	23 46 15.8	-1.4
CLCH				IAML		23 46 27.5	
	comp=E,929nm,0.6s						
PEL	**Peldehue**	**1.84**	**42**	*e*P	Pn	23 45 54.5	+1.4
PEL				*e*S	Sb	23 46 17.8	-1.9
PEL				IAML		23 46 26.9	
	comp=N,2μm,0.6s						

WEL 23 23:58:37.2±0.7, 36°.50S×176°.73E, h33km, ML3.5/3, 1C-1D, Error ellipse: s-maj=6.2km s-min=4.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.51**	**146**	P*	Pn	23 59 03.1	+1.2
URZ	**Urewera**	**1.79**	**170**	⇑P*	Pn	23 59 05.5	-0.2
URZ				S*	Sn	23 59 27.2	0.0
WMGZ	**Waiomatatini S**	**1.89**	**135**	PN	Pn	23 59 06.6	-0.5
WMGZ				SN	Sn	23 59 29.0	-0.8
MWZ	**Matawai**	**1.94**	**161**	P*	Pn	23 59 06.7	-1.2
MWZ				S*	Sn	23 59 28.7	-2.5
TWGZ	**Tauwhareparae**	**1.95**	**150**	PN	Pn	23 59 07.3	-0.8
TWGZ				SN	Sn	23 59 30.1	-1.4
PUZ	**Puketiti**	**1.99**	**143**	PN	Pn	23 59 07.1	-1.5
PUZ				SN	Sn	23 59 28.9	-3.5
KNZ	**Kokohu**	**2.63**	**164**	⇓PN	Pn	23 59 13.1	-4.2

IDC ***24*** *00:05:10.6±0.6, 37°.15S×73°.77W, h0km, mb4.4/12, mb1 4.6/14, mb1mx4.5/22, mbtmp4.4/14, ML3.8/3, MS4.5/6, Ms1 4.5/6, ms1mx4.2/12, Error ellipse: s-maj=22.5km s-min=13.2km az=86.0*
GUC ***24*** *00:05:10.3±0.6, 37°.18S×74°.18W, h19km±4km, ML5.0*
ISCJB ***24*** *00:05:12.5±0.3, 37°.19S±0°.04×73°.56W±0°.07, h14km, mb4.8/44, MS4.6/6, Error ellipse: s-maj=8.3km s-min=5.1km az=173.9*
GCMT ***24*** *00:05:14.6±0.3, 37°.28S×74°.18W, h16km±1km, MW5.2/71, Moment Tensor Solution. s30,c42; s71,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mm3.09±.18; Mθθ-0.25±.09; Mϕϕ-2.84±.12; Mrr0.56±.28; Mθϕ-0.24±.07; Mθr-5.76±.58; Best double couple: M0 6.50500×10^16 NP1:ϕs176.00000°, δ77.00000°, λ86.00000°. NP2: ϕs12.00000°, δ14.00000°, λ106.00000°. Principal axes: T 6.6550, Plg58.0000°, Azm81.0000°; N -0.3000, Plg4.0000°, Azm177.0000°; P -6.3550, Plg31.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***24*** *00:05:14.6±4.0, 37°.15S×73°.56W, h19km±24km, mb4.9/35 Error ellipse: s-maj=15.5km s-min=7.0km az=81.0*
NEIC Felt at Chiguayante.
BJI ***24*** *00:05:16.7, 37°.10S×73°.30W, h25km, mB5.1/7, Ms5.3/6, Ms7 5.1/6*

ISC 24 00:05:13.8±0.4, 37°.11S±0°.04×73°.53W±0°.07, h14km, n112, σ1°73/109, mb4.8/45, MS4.6/6, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.43**	**51**	⇓*i*P	**Pn**	**00 05 26.9**	**+1.4**
CCSP				*i*S	Sn	00 05 39.2	+6.0
CCSP				AML	AML	00 05 45.4	
	comp=N,99μm,0.6s						
AGCH	**Angol**	**0.96**	**137**	*e*P1		00 05 33.6	
AGCH				*i*S	**Sn**	**00 05 50.7**	**+4.4**
COCH	**Cobquecura**	**1.15**	**31**	⇓*i*P	**Pg**	**00 05 36.0**	**+0.1**
LNCH	**Linares**	**2.00**	**51**	*e*P1		00 05 50.3	
TALC	**Talca**	**2.30**	**42**	*e*P	**Pb**	**00 05 54.2**	**-0.7**
TALC				*i*S	**Sg**	**00 06 27.1**	**-0.5**
VLCH	**Valdivia**	**2.70**	**175**	*e*P1		00 05 54.1	
PLCA	**Paso Flores**	**4.29**	**148**	Pn	**Pn**	**00 06 19.7**	**+0.9**
	comp=N,2.4nm,0.3s,baz=318,slow=11,SNR=52						
PLCA				Lg	Lg	00 07 27.8	
	comp=N,11nm,0.3s,baz=322,slow=21,SNR=3.1						
PLCA	**Paso Flores**	**4.29**	**148**	*e*Pn	**Pn**	**00 06 19.5**	**+0.7**
PLCA				*e*Sn	**Sn**	**00 07 08.9**	**+0.2**
PLCA				Lg	Lg	00 07 27.8	
CFAA	**Coronel Fontan**	**7.02**	**40**	Pn	**Pn**	**00 06 57.0**	**+0.8**
	comp=N,0.6nm,0.3s,baz=209,slow=13,SNR=19						
CFAA				Sn	**Sn**	**00 08 20.2**	**+4.3**
	comp=N,0.5nm,0.3s,baz=131,slow=19,SNR=2.2						
CFAA				Lg	Lg	00 08 45.0	
	comp=N,1.0nm,0.3s,baz=74,slow=17,SNR=6.0						
CFAA				LR	LR	00 09 29.3	
	comp=N,132nm,19.5s,baz=224,slow=36						
CFAA	**Coronel Fontan**	**7.02**	**40**	Pn	**Pn**	**00 06 57.0**	**+0.8**
CFAA				Sn	**Sn**	**00 08 20.2**	**+4.3**
CFAA				Lg	Lg	00 08 45.0	
LCO	**Las Campanas**	**8.42**	**17**	*e*Pn	**Pn**	**00 07 14.5**	**-1.2**
LCO				*e*Sn	**Sn**	**00 08 49.1**	**-1.6**
TRQA	**Tornquist**	**9.22**	**99**	*e*Pn	**Pn**	**00 07 27.5**	**+1.1**
LVC	**Limon Verde**	**14.99**	**17**	*e*Pn	**Pn**	**00 08 45.4**	**-0.2**
USHA	**Ushuaia**	**18.06**	**170**	P	**Pn**	**00 09 23.4**	**-0.8**
	comp=N,0.3nm,0.3s,baz=335,slow=12,SNR=4.3						
USHA	**Ushuaia**	**18.06**	**170**	P	**Pn**	**00 09 23.4**	**-0.8**
EFI	**East Falkland**	**18.22**	**148**	*e*Pn	**P**	**00 09 26.4**	**+0.1**
	comp=N,139nm,1.2s						
LPAZ	**La Paz**	**21.29**	**14**	P	**P**	**00 10 02.1**	**+1.5**
	comp=N,23nm,1.0s,baz=176,slow=7.8,SNR=34						
LPAZ	**La Paz**	**21.29**	**14**	*e*Pn	**P**	**00 10 03.0**	**+2.3**
	comp=N,33nm,0.9s						
SIV	**San Ignacio**	**23.76**	**31**	P	**P**	**00 10 24.7**	**-1.1**
	comp=N,8.5nm,0.7s,baz=226,slow=12,SNR=25						
SIV	**San Ignacio**	**23.76**	**31**	P	**P**	**00 10 24.7**	**-1.1**
SAML	**Samuel**	**29.57**	**21**	*e*P	**P**	**00 11 18.9**	**+0.6**
	comp=N,23nm,1.6s						
OTAV	**Otavalo**	**37.44**	**352**	*e*P	P	00 12 31.9	+4.6
	comp=N,16nm,1.4s						
PTGA	**Pitinga**	**38.31**	**22**	*e*P	**P**	**00 12 34.1**	**0.0**
	comp=N,48nm,1.6s						
ROSC	**El Rosal**	**41.76**	**359**	P	P	00 13 07.7	+4.6
	comp=N,4.5nm,0.5s,baz=270,slow=20,SNR=2.6						
ROSC	**El Rosal**	**41.76**	**359**	*e*P	**P**	**00 13 03.9**	**+0.7**
SDV	**Santo Domingo**	**45.84**	**4**	*e*P	**P**	**00 13 36.5**	**+0.7**
	comp=N,11nm,0.9s						
RCBR	**Riachuelo**	**46.33**	**57**	P	**P**	**00 13 41.7**	**+2.2**
	comp=N,19nm,1.1s,baz=182,slow=6.0,SNR=4.6						
RCBR	**Riachuelo**	**46.33**	**57**	*e*P	**P**	**00 13 42.2**	**+2.7**
	comp=N,26nm,1.1s						
VNA3	**Neumayer Olymp**	**46.97**	**157**	P	**P**	**00 13 43.6**	**-0.2**
VNA1	**Neumayer--Stat**	**47.32**	**156**	P	**P**	**00 13 46.1**	**-0.4**
VNA2	**Neumayer--Watz**	**47.64**	**156**	P	**P**	**00 13 49.2**	**+0.1**
SNAA	**Sanae**	**49.19**	**157**	P	**P**	**00 14 00.8**	**-0.2**
SNAA	**Sanae**	**49.19**	**157**	*e*P	**P**	**00 14 00.5**	**-0.6**
SNAA	**Sanae**	**49.19**	**157**	P	**P**	**00 14 00.4**	**-0.6**
	comp=N,11nm,1.2s,baz=290,slow=6.9,SNR=16						
SNAA	**Sanae**	**49.19**	**157**	*e*P	**P**	**00 14 00.6**	**-0.5**
	comp=N,50nm,1.4s						
QSPA	**South Pole Qui**	**53.13**	**180**	P	**P**	**00 14 29.3**	**-1.5**
	comp=N,5.0nm,0.9s,baz=184,slow=0.9,SNR=12						
QSPA	**South Pole Qui**	**53.13**	**180**	P	**P**	**00 14 29.3**	**-1.5**
RKT	**Rikitea**	**54.10**	**267**	*e*LR	LR	00 30 24.1	
	comp=N,722nm,27.2s,baz=131						
RKT	**Rikitea**	**54.10**	**267**	*e*T	T	01 12 24.8	
	comp=N,1.8nm,0.2s						
VNDA	**Vanda**	**60.81**	**192**	P	**P**	**00 15 24.2**	**-0.7**
	comp=N,0.7nm,0.8s,baz=169,slow=8.3,SNR=3.5						
VNDA	**Vanda**	**60.81**	**192**	*e*P	**P**	**00 15 25.1**	**+0.2**
	comp=N,19nm,1.7s						
TBI	**Tubuai**	**65.46**	**259**	*e*S	**S**	**00 24 46.8**	**+5.9**
	comp=N,531nm,29.0s						
TBI	**Tubuai**	**65.46**	**259**	*e*LR	LR	00 35 33.9	
	comp=N,556nm,27.0s						
MEH	**Mehetia**	**67.28**	**264**	*e*T	T	01 28 56.7	
	comp=N,17nm,0.3s						
PPT2	**Papeete2**	**68.64**	**264**	*e*S	**S**	**00 25 22.2**	**+2.6**
	comp=N,186nm,23.2s						
PPT2	**Papeete2**	**68.64**	**264**	*e*LR	LR	00 36 59.6	
	comp=N,636nm,25.0s						
PPT	**Papeete**	**68.65**	**264**	LR	LR	00 39 56.2	
	comp=N,433nm,18.6s,baz=150,slow=30						
MAW	**Mawson**	**70.54**	**164**	LR	LR	00 47 28.6	
	comp=N,458nm,18.2s,baz=232,slow=36						
TXAR	**Lajitas Array**	**71.89**	**333**	P	**P**	**00 16 34.8**	**-1.7**
	comp=N,1.3nm,0.5s,baz=148,slow=10,SNR=5.2						
TXAR				LR	LR	00 42 33.4	
	comp=N,190nm,20.9s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**71.89**	**333**	P	**P**	**00 16 34.8**	**-1.7**
WVT	**Waverly**	**74.07**	**348**	*e*P	**P**	**00 16 49.7**	**+0.6**
	comp=N,13nm,1.1s						
LIC	**Lamto**	**76.91**	**72**	*e*P	**P**	**00 17 06.7**	**+0.8**
	comp=N,74nm,1.3s						
TIC	**Toumodi**	**77.18**	**71**	*e*P	**P**	**00 17 08.2**	**+0.7**
	comp=N,28nm,1.0s						
KIC	**Kosan Boka**	**77.21**	**72**	*e*P	**P**	**00 17 08.5**	**+0.8**
	comp=N,58nm,1.1s						
DBIC	**Dimbokro**	**77.32**	**72**	*e*P	**P**	**00 17 08.6**	**+0.3**
DBIC	**Dimbokro**	**77.32**	**72**	P	**P**	**00 17 08.7**	**+0.5**
	comp=N,15nm,1.0s,baz=202,slow=5.8,SNR=13						
DBIC				LR	LR	00 49 46.5	
	comp=N,264nm,18.3s,baz=217,slow=34						
DBIC	**Dimbokro**	**77.32**	**72**	*e*P	**P**	**00 17 09.5**	**+1.3**
	comp=N,21nm,1.0s						
ACSO	**Alum Creek Sta**	**77.46**	**353**	*e*P	P	00 17 03.7	-4.6
	comp=N,18nm,0.8s						
ANMO	**Albuquerque**	**77.96**	**333**	*e*P	**P**	**00 17 12.1**	**+0.5**
	comp=N,8.9nm,1.2s						
T25A	**Trinidad**	**79.22**	**335**	*e*P	P	00 17 25.5	+7.0
	comp=N,13nm,0.9s						
S22A	**4UR Ranch, Cre**	**80.60**	**334**	*e*P	P	00 17 32.4	+6.4
	comp=N,5.4nm,1.3s						
SMCO	**Snowmass**	**81.93**	**334**	*e*P	**P**	**00 17 33.9**	**+0.7**
	comp=N,14nm,1.3s						
ISCO	**Idaho Springs**	**82.03**	**336**	*e*P	P	00 17 38.7	+5.1
	comp=N,28nm,2.3s						
LBTB	**Lobatse**	**82.09**	**115**	*e*P	**P**	**00 17 33.3**	**-1.0**
LBTB				AMB	AMB	00 17 60.0	
	comp=Z,27nm,3.0s						
LBTB	**Lobatse**	**82.09**	**115**	*e*P	**P**	**00 17 34.7**	**+0.4**
	comp=Z,21nm,1.2s						
PRYS	**Parys**	**82.19**	**118**	*e*P	**P**	**00 17 33.5**	**-1.3**
PRYS				AMB	AMB	00 17 42.0	
	comp=Z,11nm,2.9s						
PRYS	**Parys**	**82.19**	**118**	P	**P**	**00 17 33.5**	**-1.3**
	comp=Z,11nm,2.9s						
CCUT	**Cedar City**	**82.92**	**329**	*e*P	**P**	**00 17 39.4**	**+1.2**
	comp=Z,7.3nm,1.2s						
SRU	**San Rafael Swe**	**83.15**	**332**	*e*P	P	00 17 46.1	+6.8
	comp=Z,6.8nm,1.3s						
ECSD	**EROS Data Cent**	**83.16**	**343**	*e*P	**P**	**00 17 39.0**	**0.0**
	comp=Z,22nm,1.2s						
ISA	**Isabella, Lake**	**83.57**	**325**	*e*P	**P**	**00 17 42.9**	**+1.5**
	comp=Z,38nm,2.3s						
SLR	**Silverton**	**83.58**	**117**	*e*P	**P**	**00 17 41.4**	**-0.6**
SLR				AMB	AMB	00 18 06.7	
	comp=Z,36nm,5.1s						
SLR	**Silverton**	**83.58**	**117**	P	**P**	**00 17 41.4**	**-0.6**
	comp=Z,36nm,5.1s						
TPNV	**Topopah Spring**	**83.63**	**327**	*e*P	P	00 17 45.9	+4.0
	comp=Z,87nm,3.0s						
R11A	**Troy Canyon, C**	**84.52**	**328**	*e*P	**P**	**00 17 47.0**	**+0.6**
	comp=Z,6.0nm,1.3s						
RSSD	**Black Hills**	**85.46**	**338**	*e*P	P	00 17 54.4	+3.5
	comp=Z,5.7nm,1.0s						
NVAR	**Mina Array Bea**	**85.77**	**326**	P	**P**	**00 17 50.8**	**-1.9**
	comp=Z,0.8nm,0.8s,baz=146,slow=6.4,SNR=4.9						
NVAR	**Mina Array Bea**	**85.77**	**326**	P	**P**	**00 17 50.8**	**-1.9**
PDAR	**Pinedale Array**	**86.01**	**334**	P	**P**	**00 17 51.8**	**-2.0**
	comp=Z,1.9nm,1.1s,baz=141,slow=5.0,SNR=5.9						
PDAR				LR	LR	00 51 30.6	
	comp=Z,174nm,19.6s,baz=157,slow=32						
PDAR	**Pinedale Array**	**86.01**	**334**	P	**P**	**00 17 51.8**	**-2.0**
HVU	**Hansel Valley**	**86.32**	**332**	*e*P	P	00 17 59.3	+4.1
	comp=Z,6.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**86.40**	**71**	P	**P**	**00 17 54.2**	**-1.8**
	comp=Z,4.8nm,1.1s,baz=232,slow=4.0,SNR=16						
TORD				LR	LR	00 55 11.4	
	comp=Z,196nm,18.4s,baz=225,slow=35						
TORD	**Torodi Ar. Bea**	**86.40**	**71**	P	**P**	**00 17 54.2**	**-1.8**
REDW	**Red Top Meadow**	**86.99**	**334**	*e*P	**P**	**00 17 59.5**	**+1.0**
	comp=Z,5.9nm,0.5s						
LOHW	**Long Hollow**	**87.12**	**334**	*e*P	P	00 18 04.2	+5.1
	comp=Z,16nm,1.8s						
TPAW	**Teton Pass**	**87.13**	**334**	*e*P	P	00 18 02.7	+3.4
	comp=Z,5.3nm,1.0s						
FXWY	**Fox Creek**	**87.29**	**334**	*e*P	**P**	**00 18 01.6**	**+1.6**
	comp=Z,9.8nm,1.6s						
AGMN	**Agassiz Nation**	**87.33**	**345**	*e*P	**P**	**00 18 00.2**	**+0.5**
	comp=Z,17nm,1.4s						
IMW	**Indian Meadow**	**87.48**	**334**	*e*P	**P**	**00 18 01.7**	**+0.7**
	comp=Z,7.2nm,1.3s						
FLWY	**Flagg Ranch**	**87.56**	**334**	*e*P	**P**	**00 18 01.1**	**-0.2**
	comp=Z,50nm,2.0s						
HLID	**Hailey**	**88.47**	**332**	*e*P	**P**	**00 18 07.1**	**+1.6**
	comp=Z,10nm,1.6s						
ULM	**Lac du Bonnet**	**89.20**	**346**	P	**P**	**00 18 09.2**	**+0.7**
	comp=Z,6.0nm,0.9s,baz=170,slow=5.6,SNR=7.5						
ULM	**Lac du Bonnet**	**89.20**	**346**	*e*P	P	00 18 13.1	+4.5
AKASG	**Malin Array Be**	**125.16**	**49**	PP	PP	00 26 00.2	-3.2
	comp=Z,1.6nm,0.8s,baz=248,slow=8.9,SNR=4.7						
AKASG	**Malin Array Be**	**125.16**	**49**	PP	PP	00 26 00.2	-3.2
GEYT	**Alibeck**	**141.98**	**74**	PKhKP	PKPpre	00 24 36.8	
	comp=Z,1.4nm,0.8s,baz=272,slow=4.2,SNR=4.7						
SBUM	**Sibu**	**145.10**	**190**	*e*PKPab	**PKPbc**	**00 24 50.7**	**-0.1**
HYB	**Hyderabad**	**148.55**	**121**	*i*PKP	**PKPbc**	**00 24 59.0**	**-1.7**
KKAR	**Karatay Array**	**152.00**	**66**	*e*PKPdf	**PKPdf**	**00 25 01.4**	**-0.4**
EKS2	**Erkin-Say**	**154.41**	**67**	*e*PKPab	**PKPab**	**00 25 28.6**	**+0.5**
AAK	**Ala-Archa**	**154.94**	**67**	*e*PKPdf	**PKPdf**	**00 25 06.6**	**+0.5**
TKM2	**Tokmak 2**	**155.74**	**67**	*e*PKPdf	**PKPdf**	**00 25 06.8**	**-0.5**
TKM2				*e*PKPab	**PKPab**	**00 25 34.2**	**+0.3**
KSH	**Kashi**	**156.00**	**75**	*e*PKP	**PKPdf**	**00 25 08.6**	**+1.0**
KSH				sPKP		00 25 17.8	
KSH				PKS	**PKSdf**	**00 28 42.5**	**+0.8**
KSH				PP	**PP**	**00 29 11.6**	**-1.2**
KSH				SKS	**SKSdf**	**00 32 13.8**	**+0.2**
KSH				PPMZ			
	comp=Z,140nm,4.2s						
KSH				LN			
	comp=Z,27nm,4.4s						
KSH				LE			
	comp=Z,39nm,4.4s						
KSH				LZ			
	comp=Z,130nm,5.8s						
ZALV	**Zalesovo Beam**	**157.49**	**35**	PKP	**PKPdf**	**00 25 06.1**	**-2.8**
	comp=Z,0.5nm,0.6s,baz=270,slow=1.5,SNR=4.4						
ZALV				PKPab	**PKPab**	**00 25 39.8**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=316,slow=4.1,SNR=3.7						
ZALV	**Zalesovo Beam**	**157.49**	**35**	PKP	**PKPdf**	**00 25 06.1**	**-2.8**
ZALV				PKPab	**PKPab**	**00 25 39.8**	**-0.9**
MKAR	**

MKAR Makanchi Array 151.89 269 PKPbc PKPbc 01 12 53.1 -0.9
1.0nm,0.7s,baz=120,slow=4.0,SNR=12
ZALV Zalesovo Beam 154.10 284 PKPbc PKPbc 01 12 59.9 +1.3
0.3nm,0.3s,baz=92,slow=4.3,SNR=3.5

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*ISCJB **24** 01:19:06.9±1.3,36°.69N×0°.09×70°.54E±0°.10,h100km, mb3.1/1,Error ellipse: s-maj=13.1km s-min=10.5km az=145.9*
*NNC **24** 01:19:10.8±2.2,36°.82N×70°.68E,h170km±21km,mb2.8, mpv3.8,Error ellipse: s-maj=20.9km s-min=12.6km az=153.0*
*IDC **24** 01:19:12.2±7.6,37°.35N×69°.77E,h99km±49km,mb2.9/1, mb1 3.1/6,mb1mx2.9/33,mbtmp3.5/6,Error ellipse: s-maj=130.3km s-min=20.8km az=147.0*
ISC 24 01:19:07.8±1.7,36°.7N±0°.1×70°.6E±0°.1,h100km,n19, σ1§50/22,5C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.55**	**327**	⇑P	Pn	01 19 52.5	+4.8
DZET				⇓S	Sn	01 20 25.4	+7.1
AML	**Almayashu**	**5.95**	**23**	P	**Pn**	**01 20 35.0**	**+1.3**
	SNR=30						
UCH	**Uchtor**	**6.31**	**27**	P	**Pn**	**01 20 39.5**	**+0.8**
	SNR=8.8						
KK31	**Karatay Array**	**6.42**	**359**	⇑P	**Pn**	**01 20 42.4**	**+2.7**
	2.0nm,0.2s,baz=176,slow=11,SNR=198						
KK31				⇓S	**Sn**	**01 21 52.9**	**+1.4**
	1.1nm,0.4s,baz=188,slow=23,SNR=4.1						
EKS2	**Erkin-Say**	**6.46**	**21**	P	**Pn**	**01 20 42.2**	**+1.8**
	SNR=9.1						
KZA	**Kyzart**	**6.48**	**32**	P	**Pn**	**01 20 41.7**	**+0.7**
	SNR=6.4						
AAK	**Ala-Archa**	**6.66**	**26**	⇓P	**Pn**	**01 20 44.1**	**+1.0**
	4.3nm,0.4s						
AAK				⇓S	**Sn**	**01 21 58.4**	**+0.8**
	3.1nm,0.6s						
AAK	**Ala-Archa**	**6.66**	**26**	P	**Pn**	**01 20 44.7**	**+1.5**
	SNR=15						
AAK	**Ala-Archa**	**6.66**	**26**	P	**Pn**	**01 20 43.6**	**+0.4**
	2.7nm,0.3s,baz=177,slow=5.8,SNR=52						
AAK				S	**Sn**	**01 21 58.4**	**+0.8**
	0.1nm,0.3s,baz=87,slow=9.5,SNR=2.6						
CHMS	**Chumysh**	**7.07**	**26**	P	**Pn**	**01 20 49.9**	**+1.2**
	SNR=7.0						
USP	**Ospenovka**	**7.23**	**23**	P	**Pn**	**01 20 52.1**	**+1.3**
	SNR=5.3						
TKM2	**Tokmak 2**	**7.32**	**30**	⇓P	**Pn**	**01 20 52.1**	**-0.1**
	2.6nm,0.5s						
TKM2				⇑S	**Sn**	**01 22 15.0**	**+1.2**
	0.8nm,0.6s						
TKM2	**Tokmak 2**	**7.32**	**30**	P	**Pn**	**01 20 52.4**	**+0.2**
	SNR=6.4						
GEYT	**Alibeck**	**10.03**	**281**	P	Pn	01 21 22.3	-6.6
	0.5nm,0.3s,baz=140,slow=7.0,SNR=8.3						
MKAR	**Makanchi Array**	**13.34**	**37**	P	**P**	**01 22 17.3**	**-1.6**
	0.1nm,0.3s,baz=221,slow=6.4,SNR=4.3						
AB31	**Akbulak array**	**14.78**	**332**	⇑P	**Pn**	**01 22 31.5**	**0.0**
	0.2nm,0.3s,baz=138,slow=13,SNR=26						
AB31				⇑S	**Sn**	**01 25 11.1**	**-3.2**
	0.6nm,0.7s,baz=157,slow=22,SNR=3.5						
KURBB	**Kurchatov Arra**	**15.06**	**20**	P	**Pn**	**01 22 33.2**	**-1.9**
	0.1nm,0.3s,baz=206,slow=11,SNR=4.4						
ZALV	**Zalesovo Beam**	**19.89**	**25**	P	**P**	**01 23 30.2**	**-0.8**
	0.3nm,0.3s,baz=213,slow=9.2,SNR=6.5						
TORD	**Torodi Ar. Bea**	**65.41**	**268**	P	**P**	**01 29 40.9**	**+0.8**
	0.1nm,0.3s,baz=49,slow=5.7,SNR=2.4						

GUC 24 01:25:39.1±0.5,35°.79S×73°.20W,h87km±7km,ML4.2,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.47**	**136**	*i* P	Pn	01 25 53.8	+0.5
COCH				*i* S	Sn	01 26 05.0	+1.1
LNCH	**Linares**	**1.30**	**93**	*i* P	Pn	01 26 02.7	+0.6
LNCH				*i* S	Sn	01 26 21.2	+1.7
LNCH				IAML		01 26 27.9	
	comp=N,3μm,0.7s						
TALC	**Talca**	**1.33**	**73**	*i* P	Pn	01 26 03.3	+0.8
TALC				*i* S	Sn	01 26 21.8	+1.6
TALC				IAML		01 26 32.5	
	comp=N,11μm,0.5s						
NICH	**Los Niches**	**1.79**	**64**	*i* P	Pn	01 26 09.8	+1.4
NICH				*i* S	Sn	01 26 32.4	+1.6
NICH				IAML		01 26 46.9	
	comp=E,4μm,0.6s						

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*IDC **24** 01:45:59.4±1.1,43°.77N×19°.08E,h0km,mb3.3/3, mb1 3.4/8,mb1mx3.2/38,mbtmp3.3/8,ML3.4/3,Error ellipse: s-maj=20.1km s-min=11.7km az=36.0*
*CSEM **24** 01:46:01.5±0.1,43°.80N×19°.00E,h2km,ML3.4,Error ellipse: s-maj=3.1km s-min=2.5km az=48.0*
*SZGRF **24** 01:46:01.4,43°.83N×19°.62E,h10km,mb3.7,Northwestern Balkan Peninsula*
*PDG **24** 01:46:02.5±0.4,43°.77N×19°.10E,h13km,MD3.5/8, ML3.4/11,Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*LDG **24** 01:46:02.0±0.1,43°.83N×19°.13E,h10km,Ml3.3/12,Error ellipse: s-maj=2.0km s-min=1.6km az=86.0*
*BEO **24** 01:46:03.1±0.2,43°.77N×19°.11E,h12km±2km,ML3.4/2*
*PRU **24** 01:46:04.6,43°.88N×19°.17E,h15km*
*SKO **24** 01:46:04.4,43°.73N×19°.19E,h9km,M2.8,ML3.4*
ISC 24 01:46:02.4±0.9,43°.80N±0°.01×19°.05E±0°.02,h18km±4km, n300,σ1§83/390,mb3.4/3,60C-32D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBLS	**Lazići**	**0.27**	**76**	⇑*i*Pg	**Pg**	**01 46 08.4**	**0.0**
BBLS	**Lazići**	**0.27**	**76**	⇑*i*Pg	**Pg**	**01 46 08.4**	**0.0**
PLE	**Pljevlja**	**0.53**	**152**	⇑*i*Pg	**Pg**	**01 46 12.6**	**-0.5**
PLE				*e*Sg	**Sg**	**01 46 19.3**	**-0.9**
PLE	**Pljevlja**	**0.53**	**152**	⇑*i*Pg	**Pg**	**01 46 12.6**	**-0.5**
PLE				*e*Sg	**Sg**	**01 46 19.3**	**-0.9**
UPM	**Unac-Piva**	**0.61**	**190**	⇑*i*Pg	**Pg**	**01 46 13.7**	**-0.8**
UPM				*e*Sg	**Sg**	**01 46 21.9**	**-0.7**
UPM	**Unac-Piva**	**0.61**	**190**	⇑*i*Pg	**Pg**	**01 46 13.7**	**-0.8**
UPM				*e*Sg	**Sg**	**01 46 21.9**	**-0.7**
DIVS	**Divibare**	**0.74**	**66**	P	**Pb**	**01 46 16.9**	**+0.1**
DIVS				S	**Sb**	**01 46 25.9**	**-0.7**
DIVS	**Divibare**	**0.74**	**66**	⇓*i*Pg	**Pb**	**01 46 16.9**	**+0.1**
DIVS				*e*Sg	**Sb**	**01 46 26.3**	**-0.3**
DIVS	**Divibare**	**0.74**	**66**	P	**Pb**	**01 46 16.9**	**+0.1**
DIVS				S	**Sb**	**01 46 25.9**	**-0.7**
DIVS				*e*Sg	**Sb**	**01 46 26.3**	**-0.3**
TEKS	**Tekeris**	**0.82**	**25**	*i* Pg	**Pn**	**01 46 19.4**	**+0.3**
TEKS				*e*Sg	**Sn**	**01 46 30.5**	**-0.3**
TEKS	**Tekeris**	**0.82**	**25**	*i* Pg	**Pn**	**01 46 19.4**	**+0.3**
IVAS	**Ivanjica**	**0.83**	**105**	*i* Pg	**Pb**	**01 46 17.6**	**-0.7**
IVAS	**Ivanjica**	**0.83**	**105**	*i* Pg	**Pb**	**01 46 17.6**	**-0.7**
SJES	**Sjenica**	**0.86**	**128**	⇑*i*Pg	**Pb**	**01 46 18.2**	**-0.6**
SJES				*e*Sg	**Sb**	**01 46 30.0**	**-0.1**
NKY	**Niksic**	**0.99**	**182**	⇑*i*Pg	**Pb**	**01 46 20.6**	**-0.4**
NKY				*e*Sg	**Sg**	**01 46 34.7**	**+0.1**
NKME	**Niksic**	**1.04**	**184**	⇑*i*Pg	**Pb**	**01 46 21.4**	**-0.4**
NKME				*e*Sg	**Sg**	**01 46 36.1**	**0.0**
TRUS	**Trudelj**	**1.07**	**66**	⇑*i*Pg	**Pb**	**01 46 22.1**	**-0.2**
TRUS				*e*Sg	**Sb**	**01 46 35.1**	**-0.8**
TRUS	**Trudelj**	**1.07**	**66**	⇑*i*Pg	**Pb**	**01 46 22.1**	**-0.2**
TRUS				*e*Sg	**Sb**	**01 46 35.1**	**-0.8**
BEY	**Berane**	**1.11**	**146**	*e*Sg	**Sb**	**01 46 38.2**	**+0.9**
IVA	**Berane**	**1.11**	**146**	⇑*i*Pg	**Pn**	**01 46 22.7**	**-0.4**
IVA				*e*Sg	**Sb**	**01 46 38.2**	**+0.9**
TREB	**Trebinje**	**1.20**	**206**	*e*Pg	**Pn**	**01 46 23.8**	**-0.4**
TREB				*e*Sg	**Sg**	**01 46 41.5**	**+0.3**
TREB	**Trebinje**	**1.20**	**206**	*e*Pg	**Pn**	**01 46 23.8**	**-0.4**
TREB				*e*Sg	**Sg**	**01 46 41.5**	**+0.3**
GRUS	**Gruza**	**1.21**	**85**	⇑*i*Pg	**Pb**	**01 46 24.9**	**+0.2**
GRUS				*e*Sg	**Sg**	**01 46 41.7**	**+0.2**
GRUS	**Gruza**	**1.21**	**85**	⇑*i*Pg	**Pb**	**01 46 24.9**	**+0.2**
GRUS				*e*Sg	**Sg**	**01 46 41.7**	**+0.2**
STON	**Ston**	**1.35**	**227**	*e*Pg	**Pn**	**01 46 26.4**	**+0.1**
STON				Sg	**Sg**	**01 46 45.4**	**-0.8**
STON	**Ston**	**1.35**	**227**	*e*Pg	**Pn**	**01 46 26.4**	**+0.1**
STON				Sg	**Sg**	**01 46 45.3**	**-0.8**
PVY	**Plav**	**1.38**	**151**	⇑*i*Pg	**Pn**	**01 46 27.3**	**+0.5**
PVY				*e*Sg	**Sg**	**01 46 47.4**	**+0.5**
PVY	**Plav**	**1.38**	**151**	⇑*i*Pg	**Pn**	**01 46 27.3**	**+0.5**
PVY				*e*Sg	**Sg**	**01 46 47.4**	**+0.5**
PDG	**Podgorica**	**1.38**	**174**	P	**Pn**	**01 46 27.1**	**+0.4**
PDG				S	**Sb**	**01 46 45.3**	**+0.5**
PDG	**Podgorica**	**1.38**	**174**	⇑*i*Pg	**Pn**	**01 46 27.1**	**+0.4**
PDG				*e*Sg	**Sb**	**01 46 45.3**	**+0.5**
PDG	**Podgorica**	**1.38**	**174**	⇑*i*Pg	**Pn**	**01 46 27.1**	**+0.4**
PDG				S	**Sb**	**01 46 45.3**	**+0.5**
PDG				*e*Sg	**Sg**	**01 46 47.4**	**+0.5**
TTG	**Podgorica**	**1.38**	**174**	⇓*i*Pg	**Pn**	**01 46 27.3**	**+0.6**
TTG				*e*Sg	**Sg**	**01 46 47.4**	**+0.5**
HCY	**Herceg Novi**	**1.41**	**197**	⇑*i*Pg	**Pn**	**01 46 27.9**	**+0.7**
HCY				*e*Sg	**Sg**	**01 46 49.7**	**+1.7**
HCY	**Herceg Novi**	**1.41**	**197**	⇑*i*Pg	**Pn**	**01 46 27.9**	**+0.7**
HCY				*e*Sg	**Sg**	**01 46 49.7**	**+1.7**
BEO	**Beograd**	**1.43**	**45**	*e*Pg	**Pb**	**01 46 29.4**	**+0.9**
BEO				*e*Sg	**Sg**	**01 46 48.0**	**-0.7**
BEO	**Beograd**	**1.43**	**45**	*e*Pg	**Pb**	**01 46 29.4**	**+0.9**
BEO				*e*Sg	**Sg**	**01 46 48.0**	**-0.7**
FGSL	**Fruska Gora**	**1.46**	**22**	⇓*i*Pg	**Pn**	**01 46 28.6**	**+0.7**
FGSL				*e*Sg	**Sg**	**01 46 49.4**	**-0.2**
FRGS	**Fruska Gora**	**1.46**	**22**	⇓*i*Pg	**Pn**	**01 46 28.6**	**+0.7**
FRGS				*e*Sg	**Sg**	**01 46 49.4**	**-0.2**
BUM	**Brajici-Budva**	**1.50**	**184**	⇑*i*Pg	**Pn**	**01 46 29.4**	**+0.9**
BUM				*e*Sg	**Sg**	**01 46 51.9**	**+1.0**
BUM	**Brajici-Budva**	**1.50**	**184**	⇑*i*Pg	**Pn**	**01 46 29.4**	**+0.9**
BUM				*e*Sg	**Sg**	**01 46 51.9**	**+1.0**
SELS	**Selova**	**1.61**	**110**	⇑*i*Pg	**Pn**	**01 46 30.8**	**+0.9**
SELS				*e*Sg	**Sb**	**01 46 53.3**	**+1.7**
DRME	**Dracevica, Mon**	**1.62**	**176**	⇓*i*Pn	**Pb**	**01 46 32.1**	**+0.5**
DRME				*e*Sn	**Sg**	**01 46 54.5**	**0.0**
DRME	**Dracevica, Mon**	**1.62**	**176**	⇓*i*Pn	**Pb**	**01 46 32.1**	**+0.5**
DRME				*e*Sn	**Sg**	**01 46 54.5**	**0.0**
SVIS	**Svilajnac**	**1.63**	**73**	*e*Pg	**Pn**	**01 46 31.2**	**+1.1**
SVIS				*e*Sg	**Sg**	**01 46 54.6**	**-0.3**
BLY	**Banja Luka**	**1.64**	**306**	⇑*i*Pn	**Pb**	**01 46 31.9**	**-0.2**
BLY				*e*Sg	**Sg**	**01 46 58.6**	**+3.3**
BLY	**Banja Luka**	**1.64**	**306**	⇑*i*Pn	**Pb**	**01 46 31.9**	**-0.2**
ULC	**Ulcinj**	**1.84**	**175**	*e*Pn	**Pb**	**01 46 35.5**	**0.0**
ULC				*e*Sn	**Sb**	**01 46 59.9**	**+1.7**
ULC	**Ulcinj**	**1.84**	**175**	*e*Pn	**Pb**	**01 46 35.5**	**0.0**
ULC				*e*Sn	**Sb**	**01 46 59.9**	**+1.7**
BOLS	**Boljevac**	**2.10**	**88**	*e*Sg	**Sb**	**01 47 08.2**	**+2.5**
BOLS	**Boljevac**	**2.10**	**88**	*e*Sg	**Sb**	**01 47 08.2**	**+2.5**
BANR	**Banloc**	**2.17**	**43**	⇑*i*P	**Pn**	**01 46 38.5**	**+0.9**
BARS	**Barje**	**2.25**	**115**	⇑*i*Pn	**Pn**	**01 46 39.9**	**+1.3**
BARS				*e*Sg	**Sg**	**01 47 13.7**	**-0.9**
BARS	**Barje**	**2.25**	**115**	⇑*i*Pn	**Pn**	**01 46 39.9**	**+1.3**
BARS				*e*Sg	**Sg**	**01 47 13.7**	**-0.9**
PHP	**Peshkopia**	**2.35**	**154**	P	**Pn**	**01 46 42.3**	**+2.2**
PHP	**Peshkopia**	**2.35**	**154**	P	**Pn**	**01 46 42.3**	**+2.2**
UDBI	**Udbina**	**2.47**	**288**	*i* Pn	**Pn**	**01 46 43.8**	**+1.9**
UDBI				Sn	**Sn**	**01 47 13.1**	**+1.5**
UDBI	**Udbina**	**2.47**	**288**	*i* Pn	**Pn**	**01 46 43.7**	**+1.9**
UDBI				Sn	**Sn**	**01 47 13.1**	**+1.5**
TIM	**Timisoara**	**2.48**	**38**	⇓*i*P	**Pn**	**01 46 43.3**	**+1.5**
SKO	**Skopje**	**2.54**	**135**	*e*Pn	**Pn**	**01 46 43.5**	**+0.9**
SKO				*e*Sg	**Sb**	**01 47 20.9**	**+2.8**
SKO	**Skopje**	**2.54**	**135**	*i* Pn	**Pn**	**01 46 43.9**	**+1.3**
SKO				*i* Sg	**Sg**	**01 47 21.7**	**-2.1**
SKO				*e*Lg	Lg	01 47 23.7	
	comp=E,69nm,0.3s						
SKO				*e*Lg	Lg	01 47 25.3	
	comp=N,84nm,0.3s						
SKO	**Skopje**	**2.54**	**135**	*i* Pn	**Pn**	**01 46 43.9**	**+1.3**
SKO				*i* Sg	**Sg**	**01 47 21.7**	**-2.1**
SKO				*e*Lg	Lg	01 47 25.3	
	comp=N,84nm,0.3s						
BZS	**Buzias**	**2.58**	**44**	*e*Pn	**Pn**	**01 46 43.9**	**+0.7**
BZS				*e*Sg	**Sg**	**01 47 25.3**	**+0.1**
BZS	**Buzias**	**2.58**	**44**	⇓*i*P	**Pn**	**01 46 43.9**	**+0.7**
BZS	**Buzias**	**2.58**	**44**	S	**Sn**	**01 47 16.8**	**+2.8**
BZS	**Buzias**	**2.58**	**44**	*e*Pn	**Pn**	**01 46 43.9**	**+0.7**
BZS				*e*Sg	**Sg**	**01 47 25.3**	**+0.1**
DJES	**Djerdap**	**2.64**	**70**	*e*Sg	**Sg**	**01 47 24.7**	**-2.5**
DJES	**Djerdap**	**2.64**	**70**	*e*Sg	**Sg**	**01 47 24.7**	**-2.5**
ZAPS	**Zavoj**	**2.66**	**100**	⇑*i*Pn	**Pn**	**01 46 46.2**	**+1.9**
ZAPS				*e*Sg	**Sg**	**01 47 25.5**	**-2.3**
PKS2	**Kecel**	**2.69**	**2**	⇓*e*	**Pn**	**01 46 43.7**	**-1.0**
PKS2				*e*		01 47 29.7	
RMGR	**Halanga-Turnu**	**2.76**	**71**	⇑*i*P	**Pn**	**01 46 48.4**	**+2.8**
PKS6	**Bocsa**	**2.82**	**7**	⇓*e*Pn	**Pn**	**01 46 47.6**	**+1.1**
PKS6	**Bocsa**	**2.82**	**7**	⇓*e*	**Pn**	**01 46 47.6**	**+1.1**
PKS6				*e*		01 47 33.1	
PKS9	**Tamasi**	**2.84**	**349**	⇓*e*Pn	**Pn**	**01 46 48.0**	**+1.2**
PKS9	**Tamasi**	**2.84**	**349**	⇓*e*	**Pn**	**01 46 48.0**	**+1.2**
OHR	**Ohrid**	**2.98**	**154**	*i* Pn	**Pn**	**01 46 50.6**	**+1.8**
OHR				*i* Sg	**Sg**	**01 47 36.2**	**-2.0**
OHR				*e*Lg	Lg	01 47 39.5	
	comp=E,151nm,0.7s						
OHR				*e*Lg	Lg	01 47 41.1	
	comp=N,114nm,0.6s						
OHR	**Ohrid**	**2.98**	**154**	*i* Pn	**Pn**	**01 46 50.6**	**+1.8**
OHR				*i* Sg	**Sg**	**01 47 36.2**	**-2.0**
OHR				*e*Lg	Lg	01 47 41.0	
	comp=N,114nm,0.6s						
NVLJ	**Novalja**	**3.10**	**286**	*e*Pn	**Pn**	**01 46 52.6**	**+2.3**
NVLJ				Sn	**Sn**	**01 47 30.1**	**+3.2**
NVLJ	**Novalja**	**3.10**	**286**	*e*Pn	**Pn**	**01 46 52.6**	**+2.3**
NVLJ				Sn	**Sn**	**01 47 30.1**	**+3.2**
GZR	**Gura Zlata**	**3.10**	**58**	*e*Pn	**Pn**	**01 46 51.6**	**+1.2**
GZR				*e*Sg	**Sg**	**01 47 40.4**	**-1.6**
GZR	**Gura Zlata**	**3.10**	**58**	⇓*i*P	**Pn**	**01 46 51.7**	**+1.3**
GZR	**Gura Zlata**	**3.10**	**58**	S	**Sn**	**01 47 28.6**	**+1.5**
GZR	**Gura Zlata**	**3.10**	**58**	*e*Pn	**Pn**	**01 46 51.6**	**+1.2**
GZR				*e*Sg	**Sg**	**01 47 40.4**	**-1.6**
MS1	**Monte Sant'Ang**	**3.10**	**229**	*e*Pn	**Pb**	**01 46 56.8**	**-0.2**
SRE	**Strehaia**	**3.11**	**72**	⇓*i*P	**Pn**	**01 46 52.8**	**+2.3**
BEHE	**Becsehely**	**3.12**	**330**	⇓*e*Pn	**Pn**	**01 46 52.7**	**+2.1**
BEHE	**Becsehely**	**3.12**	**330**	⇓*e*	**Pn**	**01 46 52.7**	**+2.1**
BEHE				*e*		01 47 44.5	
BAI	**Bari**	**3.13**	**212**	*e*Pn	**Pn**	**01 46 51.9**	**+1.1**
PKSN	**Nyarlorinc**	**3.15**	**10**	⇓*e*	Pg	01 47 06.8	+4.1
PKSN				*e*		01 47 43.5	
GCIS	**Gornji Cirnik**	**3.19**	**312**	*i* Pn	**Pn**	**01 46 53.6**	**+2.0**
GCIS	**Gornji Cirnik**	**3.19**	**312**	*i* Pn	**Pn**	**01 46 53.6**	**+2.0**
BOJS	**Bojanci**	**3.20**	**303**	*i* Pn	**Pn**	**01 46 54.2**	**+2.5**
BOJS	**Bojanci**	**3.20**	**303**	*i* Pn	**Pn**	**01 46 54.2**	**+2.5**
PE1	**Pezze di Greco**	**3.23**	**203**	*e*Pn	**Pn**	**01 46 52.2**	**+0.1**
PKS7	**Kunszentmiklos**	**3.25**	**1**	⇓*e*Pn	**Pn**	**01 46 54.0**	**+1.6**
PKS7	**Kunszentmiklos**	**3.25**	**1**	⇓*e*	**Pn**	**01 46 54.0**	**+1.6**
PKS7				*e*		01 47 46.3	
VTS	**Vitosha**	**3.27**	**110**	P	**Pn**	**01 46 54.2**	**+1.3**
VTS	**Vitosha**	**3.27**	**110**	*e*Pn	**Pn**	**01 46 54.4**	**+1.5**
VTS				*e*Sg	**Sg**	**01 47 47.4**	**-0.1**
VTS	**Vitosha**	**3.27**	**110**	⇑*i*P	**Pn**	**01 46 54.2**	**+1.3**
VTS	**Vitosha**	**3.27**	**110**	S	**Sb**	**01 47 37.4**	**-2.1**
VTS	**Vitosha**	**3.27**	**110**	*i* P	**Pn**	**01 46 54.4**	**+1.5**
VTS	**Vitosha**	**3.27**	**110**	*e*Pn	**Pn**	**01 46 54.4**	**+1.5**
VTS				*e*Sg	**Sg**	**01 47 47.4**	**-0.1**
CDT	**Castel del Mon**	**3.41**	**218**	*e*Pn	**Pn**	**01 46 56.4**	**+1.8**
KBN	**Korca**	**3.43**	**157**	P	Pn	01 46 58.5	+3.6
KBN	**Korca**	**3.43**	**157**	P	Pn	01 46 58.5	+3.6
MPEP	**Malo Peshtene**	**3.44**	**96**	*i* P	**Sg**	**01 47 56.9**	**+4.2**
DEV	**Deva**	**3.44**	**51**	⇑*i*P	**Pn**	**01 46 56.8**	**+1.8**
FNA	**Florina**	**3.47**	**149**	P	**Pn**	**01 46 57.7**	**+2.1**
FNA	**Florina**	**3.47**	**149**	*e*P	**Pn**	**01 46 57.5**	**+1.9**
FNA	**Florina**	**3.47**	**149**	P	**Pn**	**01 46 57.7**	**+2.1**
GBRS	**Gornja Briga**	**3.48**	**301**	*i* Pn	**Pn**	**01 46 58.6**	**+2.9**
PKST	**T^'s**	**3.53**	**349**	⇓*e*Pn	**Pn**	**01 46 57.9**	**+1.6**
PKST				*e*Sn	**Sn**	**01 47 40.3**	**+2.7**
PKST	**T^'s**	**3.53**	**349**	⇓*e*	**Pn**	**01 46 57.9**	**+1.6**
PKST				*e*		01 47 40.3	
KKB	**Krupnik**	**3.54**	**122**	*i* P	**Pn**	**01 46 58.6**	**+2.2**
VAY	**Valandovo**	**3.59**	**132**	*e*Pn	**Pn**	**01 46 58.3**	**+1.2**
VAY	**Valandovo**	**3.59**	**132**	*i* Pn	**Pn**	**01 46 59.0**	**+1.8**
VAY				*i* Sg	Sg	01 48 04.4	+6.7
VAY				*e*Lg	Lg	01 48 10.6	
	comp=E,26nm,0.6s						
VAY				*e*Lg	Lg	01 48 15.3	
	comp=N,40nm,0.7s						
VAY	**Valandovo**	**3.59**	**132**	*i* Pn	**Pn**	**01 46 58.9**	**+1.8**
VAY				*e*Lg	Lg	01 48 15.3	
	comp=N,40nm,0.7s						
CSKK	**Cs^‡kako**	**3.60**	**351**	⇓*e*Pn	**Pn**	**01 46 59.0**	**+1.7**
CSKK				*e*Sn	**Sn**	**01 47 42.1**	**+2.7**
CSKK	**Cs^‡kako**	**3.60**	**351**	⇓*e*	**Pn**	**01 46 59.0**	**+1.7**
CSKK				*e*		01 47 42.1	
PKSG		**3.62**	**353**	⇓*e*Pn	**Pn**	**01 46 58.9**	**+1.4**
PKSG				*e*Sn	**Sn**	**01 47 41.1**	**+1.4**
PKSG		**3.62**	**353**	⇓*e*	**Pn**	**01 46 58.9**	**+1.4**
BUD	**Budapest**	**3.68**	**360**	*e*Pn	**Pn**	**01 46 59.7**	**+1.3**
BUD				*e*Sn	**Sb**	**01 47 48.4**	**-2.7**
BUD	**Budapest**	**3.68**	**360**	*e*	**Pn**	**01 46 59.7**	**+1.3**
BUD				*e*		01 47 48.4	
NEST	**Nestorio**	**3.70**	**156**	P	Pn	01 47 02.7	+4.1
NEST	**Nestorio**	**3.70**	**156**	*e*P	**Pn**	**01 47 00.5**	**+1.9**
NEST	**Nestorio**	**3.70**	**156**	P	Pn	01 47 02.7	+4.1
LOT	**Lotru**	**3.75**	**62**	⇓*i*P	Pn	01 47 02.6	+3.2
GRG	**Griva**	**3.77**	**138**	P	**Pn**	**01 47 01.2**	**+1.5**
GRG	**Griva**	**3.77**	**138**	*e*P	**Pn**	**01 47 01.5**	**+1.8**
GRG	**Griva**	**3.77**	**138**	P	**Pn**	**01 47 01.2**	**+1.5**
KNT	**Kendrikon**	**3.88**	**132**	*e*P	**Pn**	**01 47 02.5**	**+1.4**
DRGR		**3.95**	**40**	*e*Sg	**Sg**	**01 48 09.3**	**+0.1**
DRGR		**3.95**	**40**	⇑*i*P	**Pn**	**01 47 03.0**	**+0.9**
DRGR		**3.95**	**40**	S	**Sn**	**01 47 49.8**	**+1.8**
DRGR		**3.95**	**40**	*e*Sg	**Sg**	**01 48 09.3**	**+0.1**
KZN	**Kozani**	**4.04**	**149**	*e*P	**Pn**	**01 47 06.0**	**+2.7**
SOKA	**Soboth**	**4.04**	**317**	⇓*i*Pn	**Pn**	**01 47 04.8**	**+1.5**
	SNR=18						
SOKA				⇑*i*Sn	**Sn**	**01 47 50.0**	**-0.2**
SOKA	**Soboth**	**4.04**	**317**	Pn	**Pn**	**01 47 04.8**	**+1.5**
	SNR=18						
SOKA				Sn	**Sn**	**01 47 50.0**	**-0.2**
MMB	**Musomiste**	**4.09**	**121**	⇑*i*P	**Pn**	**01 47 06.3**	**+2.2**
MMB	**Musomiste**	**4.09**	**121**	S	**Sb**	**01 47 59.8**	**-3.3**
MMB	**Musomiste**	**4.09**	**121**	*i* P	**Pn**	**01 47 06.2**	**+2.2**
KEK	**Kerkira**	**4.12**	**172**	P	**Pn**	**01 47 05.9**	**+1.5**
KEK	**Kerkira**	**4.12**	**172**	*e*P	**Pn**	**01 47 06.0**	**+1.5**
KEK	**Kerkira**	**4.12**	**172**	P	**Pn**	**01 47 05.9**	**+1.5**
PSZ	**Piszkesteto**	**4.16**	**8**	⇑*i*P	**Pn**	**01 47 06.1**	**+1.1**
PSZ	**Piszkesteto**	**4.16**	**8**	*e*Pn	**Pn**	**01 47 06.2**	**+1.2**
PSZ				*e*Sn	**Sn**	**01 47 52.3**	**-0.9**
PSZ	**Piszkesteto**	**4.16**	**8**	*e*	**Pn**	**01 47 06.2**	**+1.2**
PSZ				*e*		01 47 52.3	
OBKA	**Obir**	**4.18**	**312**	*e*Pn	**Pn**	**01 47 07.4**	**+2.1**
OBKA	**Obir**	**4.18**	**312**	⇑*i*Pn	**Pn**	**01 47 07.2**	**+1.9**
OBKA	**Obir**	**4.18**	**312**	*e*Pn	**Pn**	**01 47 07.4**	**+2.1**
ARSA	**Arzberg**	**4.25**	**326**	*e*Pn	**Pn**	**01 47 07.9**	**+1.8**
ARSA				*e*Sn	**Sn**	**01 47 56.8**	**+1.5**
ARSA	**Arzberg**	**4.25**	**326**	⇑*i*Pn	**Pn**	**01 47 07.7**	**+1.6**
	SNR=24						
ARSA				⇑*i*Sn	**Sn**	**01 47 54.7**	**-0.5**
ARSA	**Arzberg**	**4.25**	**326**	*e*Pn	**Pn**	**01 47 07.9**	**+1.8**
ARSA				*e*Sn	**Sn**	**01 47 56.8**	**+1.5**
SOP	**Sopron**	**

KHC				*ex*	x	01 47 48.3	
KHC				*e*PB	**Pb**	**01 47 55.0**	**-0.4**
KHC				*e*SN	**Sn**	**01 48 50.2**	**-1.4**
KHC				*e*SB	**Sb**	**01 49 18.0**	**+4.9**
KHC	**Kasperske Hory**	**6.53 327**		Pn	**Pn**	**01 47 39.7**	**+2.2**
AMT	**Artemida-Makis**	**6.58 161**		*e*P	**Pn**	**01 47 41.0**	**+2.8**
MOTA	**Moosalm**	**6.61 305**	⇑	*i*Pn	**Pn**	**01 47 40.5**	**+1.8**
	SNR=39						
MOTA	**Moosalm**	**6.61 305**		Pn	**Pn**	**01 47 40.5**	**+1.8**
	SNR=39						
CFR	**Carcaliu**	**6.64 75**	⇑	*i*P	**Pn**	**01 47 41.3**	**+2.3**
FETA	**Feichten**	**6.68 302**	⇑	*i*Pn	**Pn**	**01 47 41.7**	**+2.0**
FETA	**Feichten**	**6.68 302**		Pn	**Pn**	**01 47 41.7**	**+2.0**
DPC	**Dobruska-Polom**	**6.81 345**		*e*PN	**Pn**	**01 47 42.4**	**+1.0**
DPC				*ex*	x	01 47 56.4	
DPC				*e*SN	**Sn**	**01 48 56.1**	**-2.3**
DPC	**Dobruska-Polom**	**6.81 345**		Pn	**Pn**	**01 47 42.4**	**+1.0**
RETA	**Reutte**	**6.88 305**	⇓	*i*Pn	**Pn**	**01 47 44.5**	**+2.2**
RETA	**Reutte**	**6.88 305**		Pn	**Pn**	**01 47 44.5**	**+2.2**
PRU	**Pruhonice**	**6.92 335**		*e*PN	**Pn**	**01 47 43.8**	**+1.1**
PRU				*ex*	x	01 47 52.5	
PRU				*e*PB	**Pb**	**01 48 01.8**	**-0.1**
PRU				*ex*	x	01 49 09.8	
PRU	**Pruhonice**	**6.92 335**		Pn	**Pn**	**01 47 43.8**	**+1.1**
ITM	**Ithomi**	**6.97 161**		*e*P	**Pn**	**01 47 46.5**	**+3.0**
DAVOX	**Davos/Dischmat**	**7.12 298**		Pn	**Pn**	**01 47 47.2**	**+1.5**
	baz=88,slow=18						
DAVA	**Damuels**	**7.32 302**		*e*Pn	Pn	01 47 52.9	+4.4
DAVA	**Damuels**	**7.32 302**		*e*Pn	Pn	01 47 52.9	+4.4
PVCC	**Panska Ves**	**7.39 337**		*e*SN	**Sn**	**01 49 10.3**	**-2.2**
PGF	**Pioggiola**	**7.45 264**		*e*Pn	**Pn**	**01 47 49.2**	**-1.1**
PGF				*e*Sn	**Sn**	**01 49 10.0**	**-4.4**
	comp=N,4.0nm,0.7s						
PGF	**Pioggiola**	**7.45 264**		*e*Pn	**Pn**	**01 47 49.2**	**-1.1**
PGF				*e*Sn	**Sn**	**01 49 10.0**	**-4.4**
	comp=N,2.0nm,0.7s						
BRG	**Berggiesshubel**	**7.88 336**		SG	**Sb**	**01 49 49.0**	**-2.7**
	comp=N,2.6nm,0.6s						
SBF	**Sospel**	**8.40 274**		*e*Pn	**Pn**	**01 48 01.9**	**-1.3**
SBF				*e*Sn	**Sn**	**01 49 32.3**	**-5.2**
	comp=N,12nm,0.7s						
SBF	**Sospel**	**8.40 274**		*e*Pn	**Pn**	**01 48 01.9**	**-1.3**
SBF				*e*Sn	**Sn**	**01 49 32.3**	**-5.2**
	comp=N,5.9nm,0.7s						
CLL	**Collm**	**8.55 334**		*e*	Pn	01 48 24.0	+19
CLL				*e*Sn	Sn	01 49 28.0	-13
CLL				*e*Sb		01 49 52.0	
CLL				*e*Sg		01 50 32.0	
BFO	**Black Forest**	**8.72 305**		*e*Pn	**Pn**	**01 48 09.3**	**+1.8**
BFO	**Black Forest**	**8.72 305**		*e*Pn	**Pn**	**01 48 09.3**	**+1.8**
MBDF	**Montbardon**	**8.86 280**		*e*Pn	**Pn**	**01 48 08.4**	**-1.2**
MBDF				*e*Sn	**Sn**	**01 49 43.6**	**-5.4**
	comp=N,2.7nm,0.5s						
MBDF	**Montbardon**	**8.86 280**		*e*Pn	**Pn**	**01 48 08.4**	**-1.2**
MBDF				*e*Sn	**Sn**	**01 49 43.6**	**-5.4**
	comp=N,1.4nm,0.5s						
LPG	**La Plagne**	**8.93 285**		*e*Pn	**Pn**	**01 48 09.6**	**-1.1**
LPG				*e*Sn	**Sn**	**01 49 45.3**	**-5.6**
	comp=N,11nm,0.7s						
LPG	**La Plagne**	**8.93 285**		*e*Pn	**Pn**	**01 48 09.6**	**-1.1**
LPG				*e*Sn	**Sn**	**01 49 45.3**	**-5.6**
	comp=N,5.5nm,0.7s						
LPL	**La Plagne**	**8.95 285**		*e*Pn	**Pn**	**01 48 09.5**	**-1.3**
LPL				*e*Sn	**Sn**	**01 49 45.6**	**-5.6**
	comp=N,3.2nm,0.5s						
LPL	**La Plagne**	**8.95 285**		*e*Pn	**Pn**	**01 48 09.5**	**-1.3**
LPL				*e*Sn	**Sn**	**01 49 45.6**	**-5.6**
	comp=N,1.6nm,0.5s						
FRF	**La Foret Royal**	**8.99 273**		*e*Pn	**Pn**	**01 48 10.3**	**-1.0**
FRF				*e*Sn	**Sn**	**01 49 46.5**	**-5.5**
	comp=N,2.2nm,0.7s						
FRF	**La Foret Royal**	**8.99 273**		*e*Pn	**Pn**	**01 48 10.3**	**-1.0**
FRF				*e*Sn	**Sn**	**01 49 46.5**	**-5.5**
	comp=N,1.1nm,0.7s						
LMR	**La Mourre**	**9.12 271**		*e*Pn	**Pn**	**01 48 11.7**	**-1.3**
LMR	**La Mourre**	**9.12 271**		*e*Pn	**Pn**	**01 48 11.7**	**-1.3**
CDF	**Champ du Feu**	**9.39 304**		*e*Pn	**Pn**	**01 48 15.1**	**-1.6**
CDF	**Champ du Feu**	**9.39 304**		*e*Pn	**Pn**	**01 48 15.1**	**-1.6**
HINF	**Hinteralfeld**	**9.41 299**		*e*Pn	**Pn**	**01 48 16.0**	**-1.1**
HINF	**Hinteralfeld**	**9.41 299**		*e*Pn	**Pn**	**01 48 16.0**	**-1.1**
ORIF	**Oris-en-Rattie**	**9.50 281**		*e*Pn	**Pn**	**01 48 16.9**	**-1.4**
ORIF				*e*Sn	Sn	01 49 58.7	-6.0
	comp=N,4.3nm,0.7s						
ORIF	**Oris-en-Rattie**	**9.50 281**		*e*Pn	**Pn**	**01 48 16.9**	**-1.4**
ORIF				*e*Sn	Sn	01 49 58.7	-6.0
	comp=N,2.2nm,0.7s						
CABF	**La Chapelle**	**9.57 292**		*e*Pn	**Pn**	**01 48 17.8**	**-1.5**
CABF	**La Chapelle**	**9.57 292**		*e*Pn	**Pn**	**01 48 17.8**	**-1.5**
IDI	**Anoyia**	**9.62 150**		Pn	Pn	01 48 16.7	-3.3
	comp=N,0.1nm,0.3s,baz=336,slow=18,SNR=3.7						
IDI				Sn	Sn	01 50 00.2	-7.4
	comp=N,0.3nm,0.3s,baz=300,slow=18,SNR=3.7						
SMRF	**Simiane la Rot**	**9.73 276**		*e*Pn	**Pn**	**01 48 20.5**	**-0.9**
SMRF	**Simiane la Rot**	**9.73 276**		*e*Pn	**Pn**	**01 48 20.5**	**-0.9**
HAU	**Haudompre**	**9.80 300**		*e*Pn	**Pn**	**01 48 21.0**	**-1.3**
HAU	**Haudompre**	**9.80 300**		*e*Pn	**Pn**	**01 48 21.0**	**-1.3**
VIVF	**Saint-Julien-l**	**10.36 281**		*e*Pn	**Pn**	**01 48 28.8**	**-1.2**
VIVF	**Saint-Julien-l**	**10.36 281**		*e*Pn	**Pn**	**01 48 28.8**	**-1.2**
PAGF	**Fort de Pagny**	**10.39 302**		*e*Pn	**Pn**	**01 48 28.8**	**-1.6**
PAGF	**Fort de Pagny**	**10.39 302**		*e*Pn	**Pn**	**01 48 28.8**	**-1.6**
SMF	**Signal de Mont**	**11.10 290**		*e*Pn	**Pn**	**01 48 38.4**	**-1.7**
SMF	**Signal de Mont**	**11.10 290**		*e*Pn	**Pn**	**01 48 38.4**	**-1.7**
LOR	**Lormes**	**11.21 293**		*e*Pn	**Pn**	**01 48 40.1**	**-1.4**
LOR				*e*Sn	Sn	01 50 39.1	-7.2
	comp=N,0.8nm,0.5s						
LOR	**Lormes**	**11.21 293**		*e*Pn	**Pn**	**01 48 40.1**	**-1.4**
LOR				*e*Sn	Sn	01 50 39.1	-7.2
	comp=N,0.4nm,0.5s						
SSF	**Saint Saulge**	**11.40 292**		*e*Pn	**Pn**	**01 48 42.8**	**-1.4**
SSF				*e*Sn	Sn	01 50 43.9	-7.1
	comp=N,1.4nm,0.3s						
SSF	**Saint Saulge**	**11.40 292**		*e*Pn	**Pn**	**01 48 42.8**	**-1.4**
SSF				*e*Sn	Sn	01 50 43.9	-7.1
	comp=N,0.7nm,0.3s						
AVF	**Avril sur Loir**	**11.45 291**		*e*Pn	**Pn**	**01 48 43.5**	**-1.4**
AVF	**Avril sur Loir**	**11.45 291**		*e*Pn	**Pn**	**01 48 43.5**	**-1.4**
BGF	**Bois d'Agland**	**11.76 289**		*e*Pn	**Pn**	**01 48 47.6**	**-1.6**
BGF	**Bois d'Agland**	**11.76 289**		*e*Pn	**Pn**	**01 48 47.6**	**-1.6**
TORD	**Torodi Ar. Bea**	**33.99 211**		P	**P**	**01 52 44.3**	**-0.7**
	comp=N,0.3nm,0.6s,baz=17,slow=9.3,SNR=4.5						
MKAR	**Makanchi Array**	**43.52 63**		P	**P**	**01 54 06.0**	**+1.3**
	comp=N,0.4nm,0.6s,baz=281,slow=7.2,SNR=7.4						
SONM	**Songino Array**	**57.84 53**		P	**P**	**01 55 52.0**	**-0.8**
	comp=N,0.1nm,0.4s,baz=291,slow=9.1,SNR=2.7						

LJU ***24*** *02:00:25.7, 46°.39N×15°.07E, h0km Rockburst*
VIE 24 02:00:25.1±0.2, 46°.36N×15°.09E, h0km, mb0.9/3, ML1.1/3, 3C-3D, Error ellipse: s-maj=1.7km s-min=1.5km az=177.0 20 km NW of Celje Suspected Mining induced., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKA	**Soboth**	**0.32**	**353**	⇓ *i*Pg	Pg	02 00 31.4	+0.1
SOKA				⇑ *i*Sg	Sg	02 00 35.8	+0.2
	18nm,0.6s						
OBKA	**Obir**	**0.40**	**292**	⇑ *i*Pg	Pg	02 00 33.2	+0.3
OBKA				⇓ *i*Sg	Sg	02 00 38.6	+0.4
	17nm,0.5s						
ARSA	**Arzberg**	**0.94**	**18**	⇓ *i*Pg	Pg	02 00 42.5	-0.6
ARSA				⇑ *i*Sg	Sg	02 00 55.9	+0.5
	3.0nm,0.4s						

CSEM ***24*** *02:02:36.9, 36°.30N×21°.62E, h8km, MD3.2*
ATH 24 02:02:36.9, 36°.30N×21°.62E, h8km±2km, MD3.2/9, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.60**	**9**	*e*PG	Pg	02 02 48.2	-0.4
PYL				*e*SG	Sg	02 02 55.4	-1.1
PYL	**PYLOS**	**0.60**	**9**	*e*PG	Pg	02 02 48.2	-0.4
PYL				*e*SB	Sg	02 02 56.6	+0.1
PYL	**PYLOS**	**0.60**	**9**	*e*Pg	Pg	02 02 48.2	-0.4
PYL				*e*Sb	Sg	02 02 56.6	+0.1
ITM	**Ithomi**	**0.91**	**16**	*e*PB	Pg	02 02 54.2	-0.3
ITM				*e*SG	Sg	02 03 05.4	-1.0
ITM	**Ithomi**	**0.91**	**16**	*e*PB	Pg	02 02 54.1	-0.4
ITM				*e*SB	Sg	02 03 06.8	+0.4
ITM	**Ithomi**	**0.91**	**16**	*e*Pb	Pg	02 02 54.1	-0.4
ITM				*e*Sb	Sg	02 03 06.8	+0.4
VLI	**Veliai**	**1.14**	**68**	*e*PG	Pg	02 02 58.8	0.0
VLI				*e*SG	Sg	02 03 13.2	-0.5
VLI	**Veliai**	**1.14**	**68**	*e*PB	Pg	02 02 58.8	0.0
VLI				*e*SB	Sb	02 03 14.4	+0.5
VLI	**Veliai**	**1.14**	**68**	*e*Pb	Pg	02 02 58.8	0.0
VLI				*e*Sb	Sb	02 03 14.4	+0.5
KYTH	**Kithira**	**1.14**	**91**	*e*PG	Pg	02 02 58.5	-0.4
KYTH	**Kithira**	**1.14**	**91**	*e*PG	Pg	02 02 58.2	-0.7
KYTH	**Kithira**	**1.14**	**91**	*e*Pg	Pg	02 02 58.2	-0.7
VLX	**Vlachokerasia**	**1.23**	**29**	*e*PB	Pn	02 02 59.2	-1.4
VLX				*e*SB	Sb	02 03 15.1	-1.6
VLX	**Vlachokerasia**	**1.23**	**29**	*e*PB	Pn	02 02 59.9	-0.7
VLX				*e*SB	Sb	02 03 16.5	-0.2
VLX	**Vlachokerasia**	**1.23**	**29**	*e*Pb	Pn	02 02 59.9	-0.7
VLX				*e*Sb	Sb	02 03 16.5	-0.2
AMT	**Artemida-Makis**	**1.23**	**3**	*e*PB	Pn	02 03 00.3	-0.2
AMT				*e*SB	Sb	02 03 16.2	-0.4
AMT	**Artemida-Makis**	**1.23**	**3**	*e*PB	Pn	02 03 00.5	0.0
AMT				*e*SB	Sg	02 03 16.9	+0.2
AMT	**Artemida-Makis**	**1.23**	**3**	*e*Pb	Pn	02 03 00.5	0.0
AMT				*e*Sb	Sg	02 03 16.9	+0.2
DRO	**Drossia**	**1.65**	**2**	*e*PB	Pg	02 03 08.9	+0.3
DRO				*e*SB	Sg	02 03 30.1	0.0
DRO	**Drossia**	**1.65**	**2**	*e*PB	Pg	02 03 08.3	-0.3
DRO	**Drossia**	**1.65**	**2**	*e*Pb	Pg	02 03 08.3	-0.3
GUR	**Goura**	**1.73**	**19**	*e*PB	Pb	02 03 09.2	+0.1
GUR	**Goura**	**1.73**	**19**	*e*PN	Pb	02 03 09.5	+0.4
GUR	**Goura**	**1.73**	**19**	*e*Pn	Pb	02 03 09.5	+0.4
KLV	**Kalavryta, Ach**	**1.79**	**14**	*e*PB	Pb	02 03 10.5	+0.4
KLV				*e*SB	Sg	02 03 34.4	-0.3
KLV	**Kalavryta, Ach**	**1.79**	**14**	*e*PN	Pb	02 03 09.8	-0.3
KLV	**Kalavryta, Ach**	**1.79**	**14**	*e*Pn	Pb	02 03 09.8	-0.3

BJI ***24*** *02:06:09.6, 32°.36N×93°.05E, h7km, mB5.6/53, mb5.3/65, Ms6.1/84, Ms7 5.8/76*
ISCJB ***24*** *02:06:09.5±0.1, 32°.50N±0°.01×92°.77E±0°.01, h10km, mb5.5/281, MS5.4/220, Error ellipse: s-maj=2.2km s-min=1.7km az=28.4*
IDC ***24*** *02:06:09.4±0.4, 32°.47N×92°.84E, h0km, mb5.1/31, mb1 5.1/35, mb1mx5.1/39, mbtmp5.1/35, ML4.5/4, MS5.3/37, Ms1 5.3/37, ms1mx5.2/39, Error ellipse: s-maj=11.5km s-min=9.6km az=27.0*
NEIC ***24*** *02:06:10.6±0.1, 32°.51N×92°.71E, h7km, mb5.6/155, ME5.7, MS5.5/147, MW5.5, Error ellipse: s-maj=3.9km s-min=2.6km az=36.0, Moment Tensor Solution. s42 Moment tensor: Scale 10^17^Nm; Mrr=0.81; Mθθ=0.90; Mφφ 1.71; Mrθ=0.90; Mθφ 1.85; Mφr0.59; Best double couple: M=2.60000×10^17^ NP1:φs167.00000°, δ69.00000°, λ-155.00000°. NP2:φs68.00000°, δ66.00000°, λ-23.00000°. Principal axes: T 2.6700, Plg1.0000°, Azm296.0000°; N -0.1500, Plg57.0000°, Azm203.0000°; P -2.5300, Plg31.0000°, Azm28.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
GCMT ***24*** *02:06:10.3±0.1, 32°.37N×92°.89E, h18km, MW5.7/125, Moment Tensor Solution. s94,c165; s125,c338; Duration: 1s7 Moment tensor: Scale 10^17^Nm; Mrr=1.04±.05; Mθθ=2.15±.05; Mφφ3.19±.05; Mrθ=1.07±.12; Mθφ3.41±.04; Mφr0.01±.12; Best double couple: M=4.50200×10^17^ NP1:φs70.00000°, δ81.00000°, λ-16.00000°. NP2:φs162.00000°, δ74.00000°, λ-171.00000°. Principal axes: T 4.8880, Plg5.0000°, Azm116.0000°; N -0.7710, Plg72.0000°, Azm220.0000°; P -4.1160, Plg18.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
SZGRF ***24*** *02:06:11.1, 32°.16N×93°.25E, h33km, mb5.7, MS5.6, Xizang*
LDG ***24*** *02:06:11.6±0.4, 32°.78N×92°.35E, h10km, Mb5.6/42, Ms5.3/12, Error ellipse: s-maj=19.1km s-min=6.0km az=112.0*
MOS ***24*** *02:06:13.2±1.0, 32°.37N×92°.83E, h50km, mb5.8/107, MS5.4/74, Error ellipse: s-maj=6.3km s-min=3.7km az=123.7*
ISC 24 02:06:11.3±0.3, 32°.47N±0°.03×92°.80E±0°.02, h11km±1km, h10km:pP-P, n1240, σ1947/1285, mb5.6/298, MS5.5/228, 40C-93D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.10**	**208**	Pg	**Pb**	**02 07 05.9**	**-0.8**
LSA				Sg	**Sb**	**02 07 48.4**	**+3.6**
LSA	**Lhasa**	**3.10**	**208**	*e*P	**Pb**	**02 07 05.2**	**-1.5**
LSA	**Lhasa**	**3.10**	**208**	*e*Pn	**Pb**	**02 07 05.2**	**-1.5**
TAPN	**Taplejung**	**6.75**	**222**	*e*Pn	**Pn**	**02 07 52.7**	**+2.1**
TAPN				*e*Sn	**Sn**	**02 09 08.3**	**+0.7**
	6μm,1.7s						
SHL	**Shillong**	**6.92**	**187**	⇑ *i*P	**Pn**	**02 07 52.0**	**-0.9**
SHL				*i* x	**Sn**	**02 09 14.0**	**+2.2**
ODAN	**Odare**	**7.30**	**221**	*e*Pn	**Pn**	**02 07 59.2**	**+1.0**
JIRN	**Jiri**	**7.46**	**232**	*e*Pn	**Pn**	**02 08 02.1**	**+1.6**
GUN	**Gumba**	**7.51**	**235**	*e*Pn	**Pn**	**02 08 02.9**	**+1.8**
RAMN	**Ramite**	**7.70**	**226**	*e*Pn	**Pn**	**02 08 04.4**	**+0.8**
KKN	**Kakani**	**8.01**	**236**	*e*Pn	**Pn**	**02 08 09.8**	**+2.0**
PKI	**Pulchoki**	**8.05**	**235**	*e*Pn	**Pn**	**02 08 09.5**	**+1.0**
PKIN	**Phulchoki**	**8.06**	**235**	*e*Pn	**Pn**	**02 08 09.7**	**+1.2**
PKIN				*e*Sn	**Sn**	**02 09 38.5**	**-1.3**
	661nm,1.0s						
DMN	**Daman**	**8.24**	**236**	*e*Pn	**Pn**	**02 08 12.0**	**+1.0**
GKN	**Gorkha**	**8.34**	**240**	*e*Pn	**Pn**	**02 08 13.4**	**+1.0**
DANN	**Dangsing**	**8.82**	**245**	*e*Pn	**Pn**	**02 08 20.7**	**+1.7**
GTA	**Gaotai**	**8.96**	**37**	⇓ P	**Pn**	**02 08 22.4**	**+1.6**
GTA				pP	pP	02 08 25.8	
GTA				sP		02 08 28.8	
GTA				S	**Sn**	**02 10 02.6**	**+0.9**
GTA				sS	sS	02 10 08.8	
GTA				PMZ			
	310nm,1.7s						
GTA				PMZ			
	3μm,3.3s						
GTA				LN			
	48μm,12.1s						
GTA				LE			
	56μm,12.8s						
GTA				LZ			
	48μm,11.6s						
KOLN	**Koldanda**	**9.24**	**242**	*e*Pn	**Pn**	**02 08 25.3**	**+0.6**
KOLN				*e*Sn	**Sn**	**02 10 05.9**	**-2.8**
	161nm,0.7s						
PYUN	**Piuthan**	**9.53**	**245**	*e*Pn	**Pn**	**02 08 28.7**	**0.0**
PYUN				*e*Sn	**Sn**	**02 10 14.0**	**-1.9**
	1μm,1.3s						
LZH	**Lanzhou**	**9.83**	**65**	*e*P	**Pn**	**02 08 34.6**	**+1.9**
LZH				pP		02 08 37.8	
LZH				sP		02 08 39.3	
LZH				*e*S	**Sn**	**02 10 25.0**	**+1.9**
LZH				sS		02 10 31.6	
LZH				SS	**SnSn**	**02 10 36.5**	**+1.8**
LZH				PMZ			
	110nm,1.2s						
LZH				PMZ			
	770nm,5.4s						
LZH				LN			
	25μm,11.6s						
LZH				LE			
	10μm,10.0s						
LZH				LZ			
	28μm,12.2s						
LGTI	**Lohaghat**	**11.19**	**258**	*e*P	**Pn**	**02 08 50.9**	**-0.2**
KMI	**Kunming**	**11.38**	**128**	P	**Pn**	**02 08 53.8**	**-0.2**
KMI				pP		02 09 00.1	
KMI				sP		02 09 04.4	
KMI				S	**Sn**	**02 10 59.8**	**-1.6**
KMI				sS		02 11 07.0	
KMI				PMZ			
	98nm,1.3s						
KMI				PMZ			
	440nm,5.0s						
KMI				LN			
	48μm,10.3s						
KMI				LE			
	40μm,10.3s						
KMI				LZ			
	32μm,9.5s						
WMQ	**Urumqi**	**12.02**	**342**	P	**Pn**	**02 09 02.4**	**-0.2**
WMQ				pP	pP	02 09 05.6	
WMQ				PP	**P**	**02 09 13.4**	**-2.2**
WMQ				S	**Sn**	**02 11 16.3**	**-0.3**
WMQ				SS	**SnSn**	**02 11 32.9**	**+4.0**
WMQ				PMZ			
	94nm,1.2s						
WMQ				PMZ			
	720nm,4.6s						
WMQ				LN			
	78μm,19.0s						
WMQ				LE			
	95μm,16.0s						
WMQ				LZ			
	15μm,18.0s						
KALG	**Kalgarh**	**12.41**	**260**	*ex*	P	02 09 14.5	-5.3
ASOR	**Ausora**	**13.46**	**258**	*ex*	Pn	02 09 27.3	+5.2
ASOR				AMB	AMB	02 09 33.8	
	comp=Z,51nm,1.1s						
GYA	**Guiyang**	**13.48**	**113**	⇑ *i*P	**Pn**	**02 09 21.3**	**-1.3**
GYA				PP	**P**	**02 09 34.8**	**+2.8**
GYA				S	**Sn**	**02 11 49.3**	**-3.3**
GYA				PMZ			
	comp=Z,290nm,0.9s						
GYA				PMZ			
	comp=Z,560nm,5.3s						
GYA				LN			
	comp=Z,18μm,14.1s						
GYA				LE			
	comp=Z,21μm,10.3s						
GYA				LZ			
	comp=Z,28μm,9.9s						
XAN	**Xi'an**	**13.59**	**79**	P	P	02 09 23.8	-9.3
XAN				pP	pP	02 09 27.8	
XAN				S	**Sn**	**02 11 52.0**	**-3.0**
XAN				PMZ			
	comp=Z,21nm,1.2s						
XAN				PMZ			
	comp=Z,210nm,6.2s						
XAN				LN			
	comp=Z,48μm,20.5s						
XAN				LE			
	comp=Z,6μm,19.4s						
XAN				LZ			
	comp=Z,8μm,11.3s						
CMAI	**Chiengmai2**	**13.68**	**154**	P	**Pn**	**02 09 26.4**	**+0.9**
	comp=Z,180nm,1.1s,comp=Z,3μm						
AGRA	**Agra**	**13.90**	**252**	*e*P	**Pn**	**02 09 25.8**	**-2.5**
AGRA				AMB	AMB	02 09 29.6	
	comp=Z,88nm,0.8s						
NDI	**New Delhi**	**13.94**	**258**	*e*P	Pn	02 09 25.5	-3.3
NDI				*ex*	x	02 11 48.0	
CRAI	**Chiangrai**	**13.95**	**149**	P	**Pn**	**02 09 27.5**	**-1.5**
	comp=Z,121nm,1.6s						
BHK	**Bhakra**	**13.95**	**270**	*ex*	**Pn**	**02 09 30.8**	**+1.8**
BHGR	**Bahadurgarh**	**14.17**	**259**	*e*P	**Pn**	**02 09 30.4**	**-1.6**
SONA	**Sohna**	**14.20**	**257**	*e*P	Pn	02 09 28.0	-4.4
SONA				AMB	AMB	02 09 33.3	
	comp=Z,73nm,1.3s						
PONG	**Pong**	**14.28**	**272**	*e*P	Pn	02 09 28.1	-5.2
PONG				*ex*	x	02 15 45.1	
ENH	**Enshi**	**14.43**	**94**	*e*Pn	**Pn**	**02 09 35.6**	**+0.1**
	comp=Z,911nm,1.3s						
ENH				*e*P	**P**	**02 09 43.3**	**+0.8**
ENH				*e*Sn	**Sn**	**02 12 19.8**	**+4.3**
CHTO	**Chiang Mai**	**14.68**	**156**	*e*P	**Pn**	**02 09 38.6**	**-0.4**
CHTO	**Chiang Mai**	**14.68**	**156**	Pn	**Pn**	**02 09 38.1**	**-0.9**
	SNR=67						
CHTO	**Chiang Mai**	**14.68**	**156**	P	**Pn**	**02 09 38.3**	**-0.7**
	comp=Z,329nm,1.5s,comp=Z,6μm						
CHTO	**Chiang Mai**	**14.68**	**156**	*e*Pn	**Pn**	**02 09 38.6**	**-0.4**
CMMT	**Chiang Mai**	**14.68**	**156**	P	**Pn**	**02 09 38.2**	**-0.8**
	comp=Z,94nm,1.5s,comp=Z,2μm						
KUDL	**Kundal**	**14.73**	**257**	*e*P	Pn	02 09 36.4	-3.1
KUDL				AMB	AMB	02 09 44.2	
	comp=Z,43nm,0.8s						
KUDL				*e*S	**Sn**	**02 12 18.9**	**-3.9**
KUDL				AML	AML	02 12 43.3	
	comp=N,6.8nm,1.3s						
KUDL				AML	AML	02 12 47.9	
	comp=E,6.9nm,0.0s						
SLVN	**Son La**	**14.86**	**136**	*e*Pn	**Pn**	**02 09 42.6**	**+1.1**
MHMT	**Maesarieng**	**14.97**	**161**	P	**Pn**	**02 09 43.2**	**+0.4**
	comp=E,102nm,0.9s,comp=E,960nm						
CMAR	**Chiang Mai Arr**	**15.01**	**157**	Pn	**Pn**	**02 09 41.9**	**-1.6**
	comp=E,0.5nm,0.3s,baz=333,slow=11,SNR=55						
CMAR				LR	LR	02 16 12.3	
	comp=E,14μm,19.4s,baz=340,slow=40						
PDGK	**Podgornoye**	**15.07**	**320**	P	**Pn**	**02 09 43.4**	**-0.7**
LAMP	**Lampang**	**15.19**	**154**	P	**Pn**	**02 09 46.3**	**+0.5**
	comp=E,25nm,0.8s,comp=E,284nm						
KSH	**Kashi**	**15.31**	**302**	⇑ *i*P	**Pn**	**02 09 48.9**	**+1.4**
KSH				PP	**PnPn**	**02 10 01.1**	**+5.5**
KSH				S	**Sn**	**02 12 38.9**	**+1.7**
KSH				PMZ			
	comp=E,490nm,2.6s						
KSH				LN			
	comp=E,12μm,9.9s						
KSH				LE			
	comp=E,12μm,7.7s						
KSH				LZ			
	comp=E,24μm,15.4s						
KHET	**Khetri**	**15.32**	**258**	*e*P	**Pn**	**02 09 44.2**	**-3.3**
KHET				AMB	AMB	02 09 50.5	
	comp=Z,92nm,0.4s						
BTO	**Baotou**	**16.03**	**55**	*e*P	**Pn**	**02 09 53.9**	**-2.9**
BTO				LN			
	comp=Z,22μm,16.1s						
BTO				LE			
	comp=Z,9μm,12.0s						
UTTA	**Uttaradit**	**16.25**	**153**	P	**Pn**	**02 10 00.3**	**+0.7**
	comp=Z,14nm,0.9s,comp=Z,168nm						
ULHL	**Ulahol**	**16.36**	**311**	P	**Pn**	**02 10 01.5**	**+0.3**
	SNR=163						
ULHL	**Ulahol**	**16.36**	**311**	*i* P	**Pn**	**02 10 01.4**	**+0.3**
MK31	**Makanchi Array**	**16.41**	**334**	P	**Pn**	**02 09 59.5**	**-2.

HHC PMZ
comp=Z,2μm,6.2s
HHC LN
comp=Z,41μm,11.2s
HHC LE
comp=Z,62μm,10.6s
HHC LZ
comp=Z,51μm,11.2s
KBK Karagaybulak 17.39 311 P P 02 10 18.0 +2.6
SNR=56
KBK Karagaybulak 17.39 311 *i* P **P 02 10 18.8 +3.4**
UCH Uchtor 17.47 309 P P 02 10 16.3 -0.2
SNR=109
UCH Uchtor 17.47 309 *i* P **P 02 10 16.3 -0.2**
PBKT Sadao Pong 17.48 153 P Pn 02 10 15.4 +0.3
comp=Z,386nm,1.2s,comp=Z,4μm
CEP Cherat 17.55 280 ⇑P **Pn 02 10 12.8 -3.2**
CEP S **S 02 13 36.0 -3.4**
AAK Ala-Archa 17.67 310 Pn **P 02 10 19.9 +1.4**
comp=Z,729nm,1.5s,SNR=37
AAK Ala-Archa 17.67 310 P **P 02 10 19.4 +0.9**
SNR=46
AAK Ala-Archa 17.67 310 *d* iP **P 02 10 18.7 +0.2**
AAK pmax pmax
comp=Z,358nm,1.8s
AAK MLR MLR
comp=Z,33μm,19.0s
AAK Ala-Archa 17.67 310 Pn **P 02 10 19.4 +0.9**
SNR=128
AAK Ala-Archa 17.67 310 Pn **P 02 10 19.1 +0.6**
comp=Z,2.1nm,0.3s,baz=113,slow=11,SNR=54
AAK LR LR 02 18 25.6
comp=Z,19μm,20.2s,baz=94,slow=42
AAK Ala-Archa 17.67 310 *e*Pn **P 02 10 18.5 +0.1**
comp=Z,238nm,1.3s
CHMS Chumysh 17.69 312 P **P 02 10 20.3 +1.8**
SNR=56
CHMS Chumysh 17.69 312 *i* P **P 02 10 20.3 +1.8**
FRU Bishkek 17.69 311 *i* P **P 02 10 20.0 +1.5**
FRU pmax pmax
comp=Z,750nm,2.0s
FRU MLR MLR
comp=Z,10μm,15.0s
THW Thamme Wali 17.74 277 ⇑P **Pn 02 10 15.6 -2.7**
THW S **S 02 13 43.0 -0.2**
UTHA Uthaitani 17.89 159 P **P 02 10 20.8 0.0**
comp=Z,56nm,1.0s,comp=Z,435nm
AML Almayashu 17.96 308 P **P 02 10 23.8 +1.8**
SNR=215
AML Almayashu 17.96 308 *i* P **P 02 10 25.5 +3.5**
USP Ospenovka 17.98 312 P **P 02 10 23.0 +1.2**
SNR=62
USP Ospenovka 17.98 312 *i* P **P 02 10 22.9 +1.2**
EKS2 Erkin-Say 18.15 310 P **P 02 10 25.5 +1.8**
SNR=233
EKS2 Erkin-Say 18.15 310 *e*P **P 02 10 25.2 +1.5**
EKS2 pmax pmax
comp=Z,615nm,1.4s
EKS2 Erkin-Say 18.15 310 *e*Pn **P 02 10 25.2 +1.5**
comp=Z,615nm,1.4s
KHLT Khaolaem Dam 18.37 162 P **P 02 10 26.3 +0.2**
comp=Z,86nm,1.1s,comp=Z,1μm
WHN Wuhan 18.48 90 ⇓P **P 02 10 26.6 -0.6**
WHN S **Sn 02 13 51.5 -2.3**
WHN LN
comp=Z,127μm,14.0s
WHN LE
comp=Z,92μm,13.0s
WHN LZ
comp=Z,54μm,14.2s
SONM Songino Array 18.49 30 P **P 02 10 26.7 -0.7**
comp=Z,1.1nm,0.3s,baz=217,slow=11,SNR=58
SONM PcP **PcP 02 14 56.8 -0.4**
comp=Z,0.0nm,0.3s,baz=253,slow=1.5,SNR=2.2
SONM LR LR 02 18 20.5
comp=Z,23μm,19.0s,baz=214,slow=40
SONM ScP **ScP 02 18 34.4 +1.8**
comp=Z,0.0nm,0.3s,baz=219,slow=1.9,SNR=5.6
HVS Khovu-Aksy 18.66 2 *d* iP **P 02 10 28.7 -0.5**
HVS pmax pmax
comp=Z,1μm,1.2s
HVS MLR MLR
comp=Z,55μm,11.0s
ULN Ulaanbaatar 18.80 31 *d* iP **P 02 10 30.5 -0.3**
ULN pmax pmax
comp=Z,192nm,2.5s
ULN MLR MLR
comp=Z,21μm,19.0s
ULN Ulaanbaatar 18.80 31 P **P 02 10 30.8 0.0**
SNR=46
ULN Ulaanbaatar 18.80 31 *e*P **P 02 10 30.4 -0.4**
comp=Z,81nm,1.1s
ZAK Zakamensk 19.51 20 ⇑*i*P **Pn 02 10 39.3 -0.5**
ZAK pmax pmax
comp=Z,90nm,1.6s
NAYO Nakonayok 19.68 155 P **Pn 02 10 42.0 +0.1**
comp=Z,172nm,1.0s,comp=Z,3μm
HYB Hyderabad 19.75 224 *e*P **P 02 10 39.0 -2.3**
HYB *e*S **S 02 14 23.0 -0.9**
HYB Hyderabad 19.75 224 *i* P **P 02 10 39.0 -2.3**
comp=Z,160nm,1.0s
HYB *e*S **S 02 14 23.0 -0.9**
HYB LR LR 02 19 00.0
comp=Z,35nm,12.0s
HYB Hyderabad 19.75 224 *e*P **P 02 10 39.0 -2.3**
HYB *e*S **S 02 14 23.0 -0.9**
KBL Kabul 19.91 282 *e*P **P 02 10 43.3 +0.2**
KBL pmax pmax
comp=Z,740nm,1.6s
KBL Kabul 19.91 282 *e*P **P 02 10 43.3 +0.2**
comp=Z,740nm,1.6s
MOY Mondy 20.10 15 *e*P Pn 02 10 47.2 +0.4
MOY pmax pmax
comp=Z,719nm,1.6s
BJT Baijiatuau 20.26 62 *e*P **P 02 10 47.3 +0.6**
BJT pmax pmax
comp=Z,273nm,1.1s
BJT MLR MLR
comp=Z,5μm,19.0s
BJT Baijiatuau 20.26 62 *e*P **P 02 10 47.3 +0.6**
comp=Z,273nm,1.1s
BJT LR LR
comp=Z,5μm,19.0s
BJI Beijing 20.27 62 P **P 02 10 47.8 +1.0**
BJI S Sn 02 14 36.5 -0.5
BJI PMZ
comp=Z,110nm,1.7s
BJI PMZ
comp=Z,3μm,7.6s
BJI LN
comp=Z,70μm,15.1s
BJI LE
comp=Z,26μm,14.2s
BJI LZ
comp=Z,9μm,16.7s
QIZ Qiongzhong 20.33 127 P Pn 02 10 49.4 -0.2
QIZ sP sP 02 10 53.6 +1.5
QIZ S **S 02 14 33.4 -2.0**
QIZ PMZ
comp=Z,150nm,1.4s
QIZ PMZ
comp=Z,2μm,8.4s
QIZ LN
comp=Z,17μm,14.6s
QIZ LE
comp=Z,8μm,14.6s
QIZ LZ
comp=Z,22μm,11.3s
QIZ Qiongzhong 20.33 127 *e*P **P 02 10 47.9 +0.3**
comp=Z,188nm,1.1s
QIZ LR LR
comp=Z,23μm,19.0s
GZH Guangzhou 20.41 112 P **P 02 10 47.6 -0.8**
GZH PP **PnPn 02 11 11.6 +6.1**
GZH S **S 02 14 35.3 -1.7**
GZH LN
comp=Z,22μm,14.1s
GZH LE
comp=Z,25μm,13.2s
TIA Tai'an 20.42 73 ⇓P **P 02 10 48.9 +0.5**
TIA PMZ
comp=Z,180nm,1.0s
TIA PMZ
comp=Z,2μm,8.0s
TIA LN
comp=Z,55μm,12.0s
TIA LE
comp=Z,27μm,14.0s
TIA LZ
comp=Z,25μm,15.0s
KK31 Karatay Array 20.50 308 *i* P **P 02 10 49.7 +0.4**
KK31 pmax pmax
comp=Z,452nm,1.5s
KKAR Karatay Array 20.50 308 *e*P **P 02 10 49.8 +0.4**
KKAR *e* 02 15 00.6
KKAR Karatay Array 20.50 308 *e*P **P 02 10 49.8 +0.4**
KKAR *e*PcP **PcP 02 15 00.6 -0.1**
UBPT Khong Chiam 20.64 143 P **P 02 10 50.8 -0.1**
comp=Z,308nm,1.6s,comp=Z,5μm
TLY Talaya 20.77 19 P Pn 02 10 53.5 -1.1
comp=Z,142nm,1.7s,SNR=18
TLY Talaya 20.77 19 *d* iP Pn 02 10 53.8 -0.8
TLY *e*S **S 02 14 44.4 +0.5**
TLY *e* 02 14 57.1
TLY *e*SS **SnSn 02 15 05.8 +2.0**
TLY *e*SSS SSS 02 15 23.6
TLY MLR MLR
comp=Z,12μm,12.0s
TLY Talaya 20.77 19 P **P 02 10 52.2 +0.1**
comp=Z,9.8nm,0.8s,baz=213,slow=9.8,SNR=27
TLY LR LR 02 19 25.8
comp=Z,10μm,19.1s,baz=196,slow=38
KURBB Kurchatov Arra 20.98 334 P **P 02 10 54.2 -0.1**
comp=Z,182nm,1.1s,baz=141,slow=11,SNR=416
KURBB ScP **ScP 02 18 39.2 +1.1**
comp=Z,7.2nm,1.0s,baz=170,slow=1.6,SNR=9.3
KURBB P3KPbc 02 44 56.5
comp=Z,0.5nm,0.4s,baz=325,slow=5.2,SNR=5.2
KURK Kurchatov 21.02 334 P **P 02 10 54.5 -0.3**
comp=Z,952nm,1.0s
KURK Kurchatov 21.02 334 P **P 02 10 53.3 -1.5**
KURK pmax pmax
comp=Z,243nm,1.3s
KURK Kurchatov 21.02 334 P **P 02 10 55.1 +0.3**
SNR=201
KURK Kurchatov 21.02 334 *e*P **P 02 10 54.6 -0.3**
comp=Z,883nm,1.5s
KURK ScP **ScP 02 18 39.2 +1.0**
KURK *e* 02 44 56.5
KURK LR LR
comp=Z,18μm,22.0s
IRK Irkutsk 21.45 20 ⇓*i*P **P 02 11 01.4 +1.9**
IRK *e* 02 15 05.9
IRK pmax pmax
comp=Z,596nm,1.8s
HKC Hong Kong Obse 21.48 113 ⇓P **P 02 11 04.0 +4.0**
HKC *i* S Sn 02 15 04.0 -2.2
POO Poona 21.98 235 ⇑*i*P **P 02 11 04.0 -1.4**
comp=Z,231nm,1.0s
POO *i* PCS **PcS 02 18 39.5 -3.3**
NJ2 Nanjing 22.03 84 *e*P **P 02 11 07.5 +1.7**
NJ2 PMZ
comp=Z,470nm,1.2s
NJ2 PMZ
comp=Z,2μm,5.6s
NJ2 LN
comp=Z,36μm,13.5s
NJ2 LE
comp=Z,37μm,13.6s
NJ2 LZ
comp=Z,34μm,13.0s
OTUK Ortayu 22.06 322 P **P 02 11 06.1 0.0**
ZALV Zalesovo Beam 22.21 347 P **P 02 11 07.2 -0.4**
comp=Z,82nm,1.0s,baz=160,slow=9.1,SNR=128
ZALV LR LR 02 19 01.0
comp=Z,4μm,18.4s,baz=170,slow=35
ZALV P3KPbc 02 44 53.6
comp=Z,3.9nm,0.8s,baz=328,slow=5.4,SNR=15
NVS Novosibirsk 23.36 346 ⇓*i*P **P 02 11 18.3 -1.3**
NVS *e*S **S 02 15 30.0 -2.3**
NVS pmax pmax
comp=N,358nm,1.8s
NVS pmax pmax
comp=E,250nm,1.8s
NVS pmax pmax
comp=Z,460nm,1.8s
NVS smax smax
comp=N,226nm,2.6s
NVS smax smax
comp=E,275nm,2.6s
QZH Quanzhou 23.80 102 ⇑*i*P **P 02 11 25.1 +1.0**
QZH S S 02 15 32.0 -7.7
QZH LN
comp=E,15μm,9.6s
QZH LE
comp=E,23μm,9.3s
QZH LZ
comp=E,24μm,12.4s
SURT Suratani 24.05 165 P **P 02 11 27.7 +1.2**
comp=E,100nm,1.9s,comp=E,2μm
SSE Sheshan 24.15 86 ⇑P **P 02 11 30.0 +2.6**
SSE pP **pP 02 11 33.0 +2.3**
SSE S **S 02 15 42.5 -2.7**
SSE sS **sS 02 15 50.4 -0.3**
SSE PMZ
comp=E,49nm,0.6s
SSE PMZ
comp=E,950nm,5.9s
SSE LN
comp=E,26μm,17.5s
SSE LE
comp=E,8μm,17.6s
SSE LZ
comp=E,17μm,14.9s
DL2 Dalian 24.22 67 ⇓*i*P **P 02 11 28.8 +0.8**
DL2 S **S 02 15 49.0 +2.7**
DL2 PMZ
comp=E,110nm,1.8s
DL2 PMZ
comp=E,2μm,5.1s
DL2 LN
comp=E,17μm,20.5s
DL2 LZ
comp=E,12μm,13.0s
CIT Chita 24.70 32 *e*P **P 02 11 31.8 -0.5**
CIT *e* 02 11 42.6
CIT *e* 02 12 05.0
CIT pmax pmax
comp=Z,205nm,2.3s
DLV T Lat 25.00 141 *e*P **P 02 11 36.9 +1.4**
comp=Z,149nm,1.3s
BVA0 Borovoye Array 26.12 328 P **P 02 11 42.9 -2.2**
BVA0 pmax pmax
comp=Z,356nm,1.6s
SNY Shenyang 26.14 60 ⇓P **P 02 11 45.3 -0.1**
SNY S **S 02 16 17.8 +1.0**
SNY sS sS 02 16 27.6 +5.3
SNY ScP **ScP 02 18 48.9 -3.3**
SNY PMZ
comp=Z,160nm,1.0s
SNY PMZ
comp=Z,2μm,5.0s
SNY LE
comp=Z,13μm,15.2s
SNY LZ
comp=Z,10μm,18.2s
BRVK Borovoye 26.19 328 P **P 02 11 46.7 +0.9**
comp=Z,542nm,1.2s,SNR=31
TATO Taipei 26.19 99 *e*P **P 02 11 48.8 +2.8**
comp=Z,147nm,1.0s
TATO LR LR
comp=Z,9μm,19.0s
HIA Hailar 26.19 42 *d* iP **P 02 11 46.2 +0.3**
HIA pmax pmax
comp=Z,91nm,1.2s
HIA Hailar 26.19 42 *e*P **P 02 11 46.4 +0.6**
comp=Z,135nm,1.2s
HIA LR LR
comp=Z,14μm,20.0s
YHNB Yeheng 26.22 100 *e*P **P 02 11 48.1 +1.7**
comp=Z,126nm,1.1s
YHNB LR LR
comp=Z,10μm,19.0s
SSLB Suanglung 26.24 102 *e*P **P 02 11 48.7 +2.2**
comp=Z,54nm,1.0s
NACB Ninganchiao 26.60 101 *e*P **P 02 11 52.4 +2.7**
comp=Z,190nm,1.2s
YULB Yu-li 26.69 103 *e*P **P 02 11 53.0 +2.4**
comp=Z,86nm,1.4s
IMYA Miami 27.18 287 *e*P **P 02 11 55.0 0.0**
LHMI Lhok Sumawe 27.38 171 P **P 02 11 59.6 +2.9**
LHMI Lhok Sumawe 27.38 171 *e*P **P 02 11 58.8 +2.1**
comp=Z,248nm,0.8s
PALK Pallekele 27.48 207 P **P 02 12 00.2 +2.5**
comp=Z,318nm,1.1s,SNR=7.1
PALK Pallekele 27.48 207 P **P 02 11 58.4 +0.7**
PALK pmax pmax
comp=Z,61nm,0.9s
PALK MLR MLR
comp=Z,8μm,19.1s
PALK Pallekele 27.48 207 P **P 02 11 59.9 +2.2**
SNR=10.0
PALK Pallekele 27.48 207 P **P 02 11 58.4 +0.7**
comp=Z,61nm,0.9s,baz=32,slow=8.6,SNR=16
PALK LR LR 02 25 23.0
comp=Z,8μm,19.1s,baz=38,slow=42
PALK Pallekele 27.48 207 ⇑*i*P **P 02 12 00.5 +2.8**
SNR=9.1
PALK Pallekele 27.48 207 *e*P **P 02 11 58.7 +1.0**
comp=Z,39nm,1.1s
ISRO Mashad 27.69 287 *e*P **P 02 12 00.8 +1.2**
IMOG Moghan 27.80 287 *e*P **P 02 12 01.8 +1.0**
CN2 Changchun 27.89 57 *e*P **P 02 12 01.1 0.0**
CN2 *e*sP **sP 02 12 09.9 +4.1**
CN2 *e*S **S 02 16 42.1 -2.4**
CN2 PMZ
comp=Z,50nm,0.9s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,8μm,14.0s
CN2 LE
comp=Z,12μm,14.0s
CN2 LZ
comp=Z,3μm,13.0s
TRD Trivandrum 28.00 215 *e*S **S 02 16 45.9 -0.7**
KULM Kulim 28.02 163 ⇑P **P 02 12 04.2 +1.7**
KULM Kulim 28.02 163 *e*P **P 02 12 02.7 +0.2**
comp=Z,148nm,1.2s
KULM LR LR
comp=Z,5μm,19.0s
IPAY Payeh 28.07 288 *e*P **P 02 12 04.8 +1.7**
INCN Inchon 28.08 70 P **P 02 12 06.1 +3.1**
SNR=7.0
INCN Inchon 28.08 70 *e*P **P 02 12 04.1 +1.2**
comp=Z,226nm,1.4s
INCN LR LR
comp=Z,5μm,22.0s
IAKL Akhelmad 28.25 288 *e*P **P 02 12 07.2 +2.4**
IKRD Kardeh 28.44 288 *e*P P 02 12 00.5 -5.9
KTGM Kuala Trenggan 28.68 158 ⇓P **P 02 12 10.1 +1.8**
ABKT Ailbek 28.75 291 P **P 02 12 10.5 +1.6**
comp=Z,406nm,1.0s,SNR=24
GEYT Alibeck 28.75 291 P **P 02 12 10.2 +1.3**
comp=Z,62nm,1.0s,baz=101,slow=7.7,SNR=50
GEYT PcP **PcP 02 15 19.2 +0.3**
comp=Z,10nm,0.8s,baz=122,slow=3.8,SNR=5.0
GEYT ScP **ScP 02 19 01.5 +1.2**
comp=Z,29nm,1.3s,baz=11,slow=1.5,SNR=14
GEYT LR LR 02 26 10.5
comp=Z,9μm,18.2s,baz=110,slow=42
IPM Ipoh 28.89 163 ⇓P **P 02 12 10.5 +0.2**
IPM Ipoh 28.89 163 *e*P **P 02 12 10.3 +0.1**
comp=Z,152nm,1.5s
KSAR Wonju Array Be 29.07 70 P **P 02 12 11.4 -0.3**
KSAR 02 15 20.3
KSAR Wonju Array Be 29.07 70 P **P 02 12 11.4 -0.3**
KSAR PcP **PcP 02 15 20.2 +0.6**
KSAR ScP **ScP 02 19 02.9 +1.7**
ISHV Shirvan 29.08 290 *e*P **P 02 12 13.2 +1.2**
KSRS Korea Array 29.11 70 P **P 02 12 11.4 -0.6**
comp=Z,17nm,0.7s,baz=266,slow=9.3,SNR=20
KSRS PcP **PcP 02 15 20.2 +0.5**
comp=Z,2.5nm,0.6s,baz=308,slow=2.1,SNR=4.4
KSRS ScP **ScP 02 19 02.9 +1.6**
comp=Z,0.7nm,0.4s,baz=338,slow=3.0,SNR=5.0
KSRS LR LR 02 25 44.6
comp=Z,2μm,21.0s,baz=263,slow=40
KCSI Kotacane, Aceh 29.17 170 P **P 02 12 13.9 +1.1**
BOD Bodaibo 29.18 23 *e*P **P 02 12 12.6 +0.2**
BOD pmax pmax
comp=Z,56nm,0.1s
AB31 Akbulak array 29.67 314 P **P 02 12 16.2 -0.7**
PSI Prapat 30.07 168 LR LR 02 26 09.7
comp=Z,6μm,18.4s,baz=332,slow=40
FRIM Kepong 30.24 162 ⇓P **P 02 12 23.6 +1.4**
MDJ Mudanjiang 30.97 56 P **P 02 12 27.6 -0.9**
MDJ pP **pP 02 12 30.5 -1.3**
MDJ sP **sP 02 12 32.1 -1.1**
MDJ S **S 02 17 34.6 +1.7**
MDJ sS **sS 02 17 37.1 -1.3**
MDJ ScP **ScP 02 19 06.6 -0.7**
MDJ PcS **PcS 02 19 07.8 -0.6**
MDJ PMZ
comp=Z,16nm,1.1s
MDJ PMZ
comp=Z,340nm,7.5s
MDJ LN
comp=Z,36μm,14.7s
MDJ LE
comp=Z,10μm,14.7s
MDJ LZ
comp=Z,7μm,13.2s
MDJ Mudanjiang 30.97 56 *e*P **P 02 12 27.3 -1.2**
comp=Z,23nm,0.9s
MDJ LR LR
comp=Z,3μm,21.0s
GSI Gunungsitoli 31.33 171 P **P 02 12 34.5 +2.7**
GSI Gunungsitoli 31.33 171 *e*P **P 02 12 33.2 +1.4**
comp=Z,277nm,1.1s
KGM Kluang 31.87 160 ⇑P **P 02 12 37.6 +1.0**
JNU Nakatsue 31.90 78 *e*P **P 02 12 40.0 +3.1**
comp=Z,35nm,1.4s
SMDO Samad 32.03 262 P **P 02 12 39.9 +1.9**
SNR=7.8
IGLO Ghaloghah 32.22 288 *e*P **P 02 12 40.9 +1.0**
MYKOM Kota Tinggi 32.24 159 ⇑P **P 02 12 40.7 +0.9**
MYKOM Kota Tinggi 32.24 159 *e*P **P 02 12 42.8 +3.0**
comp=Z,414nm,2.7s
IMEH Mehriz 32.31 278 *e*P **P 02 12 40.0 -0.7**
ICHK Chekchek 32.31 280 *e*P **P 02 12 41.1 +0.4**
BANOM Banah 32.41 268 ⇓P **P 02 12 43.2 +1.8**
USRK Ussuriysk Ar. 32.60 58 P **P 02 12 43.0 +0.2**
comp=Z,10.0nm,0.8s,baz=258,slow=7.6,SNR=18
USRK LR LR 02 26 29.1
comp=Z,6μm,19.6s,baz=254,slow=37
BSY Bisya 32.87 262 P **P 02 12 46.4 +1.0**
SNR=9.0
CLNS Chul'man 32.87 33 *e*P **P 02 12 46.1 +1.1**
CLNS *e* 02 13 50.4
CLNS *e* 02 15 23.0
CLNS *e*S **S 02 18 02.9 +0.6**
CLNS *e*SS **SS 02 20 21.6 -2.0**
CLNS pmax pmax
comp=Z,36nm,1.4s
CLNS pmax pmax
comp=N,22nm,1.5s
CLNS pmax pmax
comp=E,24nm,1.2s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=Z,9.0nm,1.2s
CLNS smax smax
comp=E,255nm,7.7s
CLNS smax smax
comp=N,176nm,12.1s
CLNS MLR MLR
comp=Z,9μm,9.0s
CLNS MLR MLR
comp=N,3μm,11.0s
CLNS MLR MLR
comp=E,5μm,8.0s
SVE Sverdlovsk 32.89 327 *c* iP **P 02 12 46.2 +1.0**
SVE *e*S S 02 18 08.6 +6.1
SVE pmax pmax
comp=Z,154nm,1.1s
SVE MLR MLR
comp=Z,11μm,16.0s
BKNI Bangkinang 32.91 165 P P 02 12 49.4 +3.8
BKNI Bangkinang 32.91 165 *e*P **P 02 12 47.7 +2.0**
comp=Z,348nm,1.3s
HATD Hatta, Dubai 32.94 266 ⇑P **P 02 12 47.4 +1.4**
ASHO Ashiyiah 33.06 266 P **P 02 12 48.4 +1.4**
SNR=7.4
ASHO Ashiyiah 33.06 266 ⇓*i*P **P 02 12 48.0 +1.0**

SNR=7.7
IALA Alasht 33.08 287 *e*P **P 02 12 48.7 +1.3**
ARQ Araqi 33.19 263 P **P 02 12 49.9 +1.7**
SNR=8.8
TPRI Tanjung Pinang 33.27 158 P P 02 12 53.2 +4.3
FAQ Al Faqa, Dubai 33.43 266 ⇑P **P 02 12 49.6 -0.7**
IPRN Peran 33.44 288 *e*P **P 02 12 49.1 -1.3**
KLR Kul'dur 33.45 48 *e*P P 02 12 46.2 -3.9
KLR *e*S **S 02 18 08.0 -3.4**
KLR *e* 02 23 12.0
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,130nm,1.8s
KLR pmax pmax
comp=Z,1μm,7.5s
KLR smax smax
comp=N,2μm,8.0s
KLR smax smax
comp=E,800nm,8.0s
KLR MLR MLR
comp=N,8μm,12.0s
KLR MLR MLR
comp=Z,32μm,12.0s
ARU Arti 33.64 326 P **P 02 12 52.8 +1.1**
comp=Z,310nm,1.1s,SNR=22
ARU Arti 33.64 326*d i*P **P 02 12 52.1 +0.4**
ARU 02 14 05.1
ARU PPP PPP 02 14 18.5
ARU 02 15 37.9
ARU S **S 02 18 14.7 +0.5**
ARU SS **SnSn 02 20 13.5 -4.0**
ARU SSS SSS 02 20 37.7
ARU pmax pmax
comp=Z,116nm,1.7s
ARU MLR MLR
comp=Z,7μm,18.0s
ARU Arti 33.64 326 PFAKE 02 13 00.0 +8.3
ARU LR LR
comp=Z,9μm,20.0s
KDM Kudat 33.86 133 ⇓P **P 02 12 55.1 +1.1**
IPAR Pars 33.98 276 *e*P **P 02 12 54.6 -0.7**
PDSI Padang 33.98 166 P **P 02 12 56.2 +1.1**
ISRV Sarvestan 34.05 276 *e*P **P 02 12 54.7 -1.3**
IVRN Varamin 34.08 286 *e*P **P 02 12 55.9 0.0**
KKM Kota Kinabalu 34.18 135 ⇓P **P 02 12 59.1 +2.2**
KKM Kota Kinabalu 34.18 135 *e*P **P 02 12 58.6 +1.7**
comp=Z,136nm,1.0s
KKM LR LR
comp=Z,4μm,20.0s
BTM Bintulu 34.79 143 ⇑P **P 02 13 04.4 +2.3**
KSM Kuching 34.97 148 ⇓P **P 02 13 05.3 +1.8**
KSM Kuching 34.97 148 *e*P **P 02 13 05.0 +1.4**
comp=Z,96nm,0.8s
KSM LR LR
comp=Z,7μm,19.0s
SBUM Sibu 35.00 145 ⇑P **P 02 13 05.2 +1.3**
SBUM Sibu 35.00 145 *e*P **P 02 13 04.5 +0.6**
IKAZ Kazeroun 35.01 277 *e*P **P 02 13 04.0 -0.4**
SDKM Sandakan 35.09 134 ⇑P **P 02 13 05.7 +1.0**
IGZV Ghazvin 35.13 288 *e*P **P 02 13 06.2 +1.0**
HABR Khabarovsk 35.40 51 *e*P **P 02 13 05.5 -1.5**
HABR *e**SP sP 02 13 19.5 +7.8
HABR *e* 02 14 24.2
HABR 02 15 35.6
HABR *e*S **S 02 18 38.2 -3.2**
HABR *e*SS **SnSn 02 20 58.9 -1.2**
HABR *e* 02 23 22.7
HABR pmax pmax
comp=Z,107nm,2.2s
HABR MLR MLR
comp=Z,6μm,15.0s
JMBI JAMBI 35.44 161 P **P 02 13 10.2 +2.6**
IRAZ Razeghan 35.48 287 *e*P **P 02 13 08.9 +0.7**
SOKR Solikamsk 36.12 330*d i*P **P 02 13 13.9 +0.9**
SOKR S **S 02 18 53.6 +1.5**
SOKR pmax pmax
comp=Z,130nm,1.0s
SOKR MLR MLR
comp=Z,5μm,18.0s
SHAO Shalim 36.37 256 P P 02 13 19.3 +3.6
SNR=6.5
TSM Tawau 36.56 135 ⇑P **P 02 13 18.6 +1.3**
STKI Sintang 36.74 148 P **P 02 13 21.7 +2.9**
MAK Makhachkala 36.93 300 *e*P **P 02 13 20.5 +0.3**
MAK *e* 02 14 44.4
MAK *e*PPP PPP 02 15 00.9
MAK *e*S **S 02 19 03.6 -1.4**
MAK *e*SS **SnSn 02 21 28.2 -9.2**
MAK pmax pmax
comp=Z,86nm,2.0s
MAK MLR MLR
comp=Z,7μm,13.0s
ISRB Sarab 37.01 291 *e*P **P 02 13 22.3 +1.1**
MAJO Matsushiro 37.38 71 *e*P **P 02 13 25.8 +1.7**
MAJO pmax pmax
comp=Z,14nm,0.8s
MAJO MLR MLR
comp=Z,3μm,19.0s
MAJO Matsushiro 37.38 71 *e*P **P 02 13 25.8 +1.7**
comp=Z,14nm,0.8s
MAJO LR LR
comp=Z,3μm,19.0s
MAT Matsushiro 37.38 71 P **P 02 13 22.8 -1.3**
MAT S **S 02 19 09.0 -3.1**
MJAR Matsushiro Arr 37.38 71 P **P 02 13 23.2 -0.9**
comp=Z,9.3nm,0.9s,baz=280,slow=8.9,SNR=12
MJAR LR LR 02 28 27.0
comp=Z,5μm,18.4s,baz=280,slow=36
LHSI Lahat 37.51 162 P **P 02 13 27.4 +2.1**
RBK Rabkut 37.80 256 P **P 02 13 28.0 +0.1**
SNR=14
YAK Yakutsk 37.82 27*d i*P **P 02 13 27.6 +0.1**
YAK *e* 02 14 54.9
YAK *e*PPP PPP 02 15 12.8
YAK *e* 02 15 42.2
YAK *e*S **S 02 19 21.1 +3.0**
YAK *e*SSS SSS 02 22 22.1
YAK pmax pmax
comp=Z,45nm,1.1s
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=E,30nm,1.1s
YAK pmax pmax
comp=Z,234nm,4.4s
YAK pmax pmax
comp=N,221nm,5.8s
YAK pmax pmax
comp=E,50nm,1.7s
YAK smax smax
comp=E,693nm,7.5s
YAK smax smax
comp=N,344nm,5.4s
YAK MLR MLR
comp=Z,9μm,16.0s
YAK MLR MLR
comp=N,5μm,17.0s
YAK MLR MLR
comp=E,6μm,18.0s
YAK Yakutsk 37.82 27 P **P 02 13 27.2 -0.2**
comp=E,19nm,0.4s,baz=236,slow=4.4,SNR=15
YAK Yakutsk 37.82 27 P **P 02 13 27.2 -0.2**
YAK LR LR
comp=Z,13μm,22.0s
ITBZ Tabriz 38.16 292 *e*P **P 02 13 31.8 +0.9**
MDSI Maura Dua 38.31 161 P **P 02 13 30.8 -1.3**
IAZR Azarshahr 38.35 291 *e*P **P 02 13 33.7 +1.1**
IGHG Ghaleghazi 38.38 286 *e*P **P 02 13 35.1 +2.2**
IMRD Marand 38.46 293 *e*P **P 02 13 34.7 +1.2**
IDHR Dehrash 38.47 286 *e*P **P 02 13 33.2 -0.4**
DGRG David-gareji 38.53 297 P **P 02 13 35.5 +1.7**
ABTO Aybut 38.62 257 P **P 02 13 34.3 -0.5**
SNR=8.2
LWLI Liwa 38.79 162 P **P 02 13 37.3 +1.1**
TBLG Delisi 38.99 298 P **P 02 13 38.4 +0.7**
DUS Dusheti 39.01 298 P **P 02 13 40.5 +2.6**
GNI Garni 39.08 295 *e*P **P 02 13 40.2 +1.6**
GNI pmax pmax
comp=Z,68nm,1.0s
GNI MLR MLR
comp=Z,3μm,20.0s
GNI Garni 39.08 295 P **P 02 13 40.6 +2.0**
SNR=20
GNI Garni 39.08 295 ⇓*i*P **P 02 13 40.2 +1.6**
SNR=30
GNI Garni 39.08 295 *e*P **P 02 13 40.2 +1.6**
comp=Z,68nm,1.0s
GNI LR LR
comp=Z,3μm,20.0s
KASI Kota Agung 39.39 161 P **P 02 13 43.7 +2.6**
ZEI Tsey 39.58 299 *e*P **P 02 13 41.1 -1.7**
ZEI pmax pmax
comp=Z,39nm,1.1s
DAV Davao City (W) 39.59 123 PFAKE 02 13 50.0 +7.2
DAV LR LR
comp=Z,6μm,20.0s
NCK Nalchik 39.79 301 ⇑*i*P **P 02 13 44.6 +0.3**
EAK Akyaka 39.91 296 *i*P **P 02 13 47.6 +2.1**
ONI Oni 39.92 299 P **P 02 13 47.3 +1.8**
DYDN Diyadin 39.94 294 *i*P P 02 13 50.1 +4.3
DIGO Kars 40.10 296 *i*P **P 02 13 44.8 -2.5**
HAKT HAKKARI 40.16 291 *i*P **P 02 13 47.7 0.0**
ASAJ Asahikawa 40.22 58 P **P 02 13 47.8 0.0**
ASAJ pmax pmax
comp=Z,17nm,0.7s
ASAJ MLR MLR
comp=Z,4μm,18.3s
ASAJ Asahikawa 40.22 58 P **P 02 13 47.8 0.0**
comp=Z,17nm,0.7s,baz=262,slow=14
ASAJ LR LR 02 31 02.5
comp=Z,4μm,18.3s,baz=3.0,slow=37
ASAJ Asahikawa 40.22 58 *e*P **P 02 13 48.4 +0.6**
comp=Z,46nm,1.2s
TVAN Van 40.27 293 *i*P **P 02 13 48.6 0.0**
KBZ Khabaz 40.29 301 P **P 02 13 48.2 -0.2**
comp=Z,9.1nm,0.9s,baz=90,slow=5.4,SNR=13
KBZ ScP **ScP 02 19 41.2 0.0**
comp=Z,3.8nm,1.2s,baz=99,slow=5.3,SNR=3.8
KBZ LR LR 02 35 20.1
comp=Z,2μm,18.3s,baz=85,slow=43
YSS Yuzh-Sakhalins 40.38 54*b i*P **P 02 13 49.0 -0.1**
YSS *e*S **S 02 19 54.0 -3.0**
YSS *e*SS **SS 02 22 52.0 -3.7**
YSS pmax pmax
comp=Z,900nm,4.0s
YSS pmax pmax
comp=Z,220nm,1.5s
YSS MLR MLR
comp=N,5μm,14.0s
YSS MLR MLR
comp=E,6μm,14.0s
YSS MLR MLR
comp=Z,4μm,14.0s
YSS Yuzh-Sakhalins 40.38 54 *e*P **P 02 13 49.6 +0.5**
comp=Z,166nm,1.3s
YSS LR LR
comp=Z,2μm,19.0s
KIV Kislovodsk 40.44 301 P **P 02 13 50.4 +0.7**
comp=Z,205nm,1.1s,SNR=7.8
KIV Kislovodsk 40.44 301 *e*P **P 02 13 50.5 +0.7**
KIV *e* 02 15 23.6
KIV *e* 02 15 52.4
KIV *e*S **S 02 19 57.1 -1.1**
KIV pmax pmax
comp=Z,43nm,1.1s
KIV MLR MLR
comp=Z,3μm,15.0s
KIV Kislovodsk 40.44 301 PFAKE 02 14 00.0 +10
KIV LR LR
comp=Z,3μm,19.0s
TUTA Tutak 40.63 294 *i*P **P 02 13 49.9 -1.6**
ERM Erimo 40.70 62 *e*P **P 02 13 51.0 -0.8**
ERM pmax pmax
comp=Z,96nm,1.1s
ERM MLR MLR
comp=Z,4μm,20.0s
ERM Erimo 40.70 62 *e*P **P 02 13 51.0 -0.8**
comp=Z,96nm,1.1s
ERM LR LR
comp=Z,4μm,20.0s
CGJI Cibinong 40.76 160 P **P 02 13 51.4 -1.1**
EATA Eleskirt 40.83 295 *i*P **P 02 13 54.7 +1.4**
CHVG Ch'k'valeri 40.92 299 P **P 02 13 56.0 +2.3**
MPSI Mapaga 40.92 136 P **P 02 13 55.0 +1.1**
ARTV Artvin 41.14 297 *i*P **P 02 13 56.9 +1.2**
DAGI Agillar 41.16 297 *i*P **P 02 13 56.8 +1.0**
SIRN S¨–rnak 41.19 292 *i*P **P 02 13 56.0 -0.1**
EKAR Karacoban 41.23 294 *i*P **P 02 13 58.7 +2.2**
HOMI Horasan 41.26 295 *i*P **P 02 13 57.6 +0.8**
DDEM Demirkent 41.30 297 *i*P **P 02 13 56.9 0.0**
DBOC Borcka 41.32 297 *i*P **P 02 13 57.4 +0.4**
DBAD Bademkaya 41.33 297 *i*P **P 02 13 57.3 +0.1**
BBKI Banjar Baru 41.41 145 P **P 02 13 59.8 +1.9**
VRHR Novokhopersk 41.51 312 *e*P **P 02 13 57.0 -1.3**
VRHR *e* 02 15 36.3
VRHR *e* 02 15 53.3
VRHR *e*S **S 02 20 10.3 -3.3**
VRHR pmax pmax
comp=E,90nm,1.1s
VRHR pmax pmax
comp=Z,80nm,1.1s
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,360nm,2.0s
VRHR pmax pmax
comp=Z,220nm,2.0s
VRHR pmax pmax
comp=N,50nm,1.5s
VRHR smax smax
comp=N,260nm,2.7s
VRHR smax smax
comp=Z,100nm,2.7s
VRHR smax smax
comp=E,90nm,2.5s
VRHR MLR MLR
comp=N,2μm,14.0s
VRHR MLR MLR
comp=E,3μm,14.0s
VRHR MLR MLR
comp=Z,4μm,14.0s
ERZM Erzurum 41.69 295 *i*P **P 02 14 01.9 +1.6**
CNJI Cibinong 41.85 158 P **P 02 14 01.0 -0.4**
comp=Z,74nm,0.9s
PRGR Permogore 41.94 328 *e*P **P 02 13 59.4 -2.3**
PRGR S **S 02 20 16.4 -3.4**
PRGR pmax pmax
comp=Z,111nm,1.2s
BNGL BINGOL 41.97 294 *i*P **P 02 14 04.4 +1.8**
MRSI Marisa 42.04 133 P P 02 14 08.5 +5.4
CISI Cisompet, Garu 42.30 158 P P 02 14 08.9 +3.7
comp=Z,56nm,0.9s,comp=Z,7μm
CISI Cisompet, Garu 42.30 158 *e*P **P 02 14 06.0 +0.8**
comp=Z,41nm,0.8s
KOPT Kop Dagi 42.34 296 *i*P P 02 14 09.8 +4.2
RAYN Ar Rayn 42.41 270 P **P 02 14 06.4 +0.2**
comp=Z,100nm,1.4s,SNR=9.0
RAYN Ar Rayn 42.41 270 *e*P **P 02 14 05.9 -0.3**
comp=Z,17nm,0.9s
KPJI Karang Pucung 42.46 156 P **P 02 14 08.1 +1.6**
comp=Z,89nm,1.1s,comp=Z,1μm
MARD Mardin 42.50 292 *i*P **P 02 14 07.3 +0.5**
YUK Yuzh-Kuril'sk 42.57 58*c i*P P 02 14 03.6 -3.5
YUK *i* 02 15 41.7
YUK *i*S S 02 20 21.9 -7.6
YUK *i*SS **SnSn 02 23 55.8 +2.5**
YUK pmax pmax
comp=Z,1μm,1.7s
YUK pmax pmax
comp=N,298nm,1.7s
YUK pmax pmax
comp=E,209nm,1.7s
YUK pmax pmax
comp=Z,746nm,1.7s
YUK MLR MLR
comp=N,3μm,17.0s
YUK MLR MLR
comp=E,4μm,17.0s
YUK MLR MLR
comp=Z,4μm,17.0s
GTOI Gorontalo 42.58 132 P **P 02 14 07.6 +0.1**
comp=Z,261nm,1.0s,comp=Z,2μm
SOC Sochi 42.60 301*d i*P **P 02 14 07.2 -0.2**
SOC *e**PP pP 02 14 16.1 +5.3
SOC *e*PPP PPP 02 16 21.4
SOC *i*S **S 02 20 30.7 +0.6**
SOC pmax pmax
comp=Z,66nm,0.9s
SOC MLR MLR
comp=Z,4μm,12.0s
KBSD Kabsdagh 42.74 291 *e*P **P 02 14 09.6 +0.9**
MACK Trabzon 42.78 297 *i*P **P 02 14 09.7 +0.8**
MZRK Al-Mazaregh 42.87 289 *e*P **P 02 14 10.9 +1.2**
DIYA Diyarbakir 42.92 293 *i*P **P 02 14 10.6 +0.4**
APSI Ampana 42.96 135 P P 02 14 15.5 +5.0
VORD Divnogorie 42.96 312 *e*P **P 02 14 09.7 -0.5**
VORD *e*S **S 02 20 31.8 -3.3**
VORD pmax pmax
comp=E,60nm,0.9s
VORD pmax pmax
comp=Z,60nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD smax smax
comp=N,130nm,2.0s
VORD smax smax
comp=E,80nm,2.0s
VORD smax smax
comp=Z,10.0nm,2.0s
VORD MLR MLR
comp=N,2μm,16.0s
VORD MLR MLR
comp=E,3μm,16.0s
VORD MLR MLR
comp=Z,4μm,16.0s
EUZM Uzumlu 42.99 295 *i*P **P 02 14 11.6 +0.9**
VSR Storozhevoye 43.06 312 *e*P **P 02 14 10.1 -0.9**
VSR *e* 02 15 49.5
VSR *e* 02 16 00.6
VSR *e*S **S 02 20 32.3 -4.3**
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,70nm,1.0s
VSR pmax pmax
comp=Z,70nm,1.0s
VSR pmax pmax
comp=E,130nm,1.4s
VSR pmax pmax
comp=Z,70nm,1.4s
VSR pmax pmax
comp=N,30nm,1.2s
VSR smax smax
comp=N,140nm,2.2s
VSR smax smax
comp=E,30nm,2.2s
VSR smax smax
comp=Z,60nm,2.2s
VSR MLR MLR
comp=N,2μm,16.0s
VSR MLR MLR
comp=E,3μm,16.0s
VSR MLR MLR
comp=Z,4μm,16.0s
VOR Voronezh 43.08 313 P **P 02 14 10.0 -1.1**
VOR pmax pmax
comp=Z,250nm,1.0s
SFNV Sufian 43.19 290 *e*P **P 02 14 13.0 +0.7**
KMSI Cibinong 43.24 131 P **P 02 14 15.5 +2.6**
comp=Z,967nm,0.8s,comp=Z,12μm
NGJI Ngawi 43.43 152 P P 02 14 26.0 +12
MUKL Al Mukalla 43.61 256 *e*P **P 02 14 15.8 +0.1**
TTSI Tana Toraja 43.63 139 P **P 02 14 17.4 +1.4**
comp=Z,136nm,1.1s,comp=Z,2μm
TIXI Tiksi 43.68 16*d i*P **P 02 14 15.0 -0.7**
TIXI pmax pmax
comp=Z,78nm,1.7s
TIXI MLR MLR
comp=Z,3μm,19.0s
TIXI Tiksi 43.68 16 *e*P **P 02 14 14.9 -0.7**
comp=Z,65nm,1.2s
TIXI LR LR
comp=Z,4μm,19.0s
ELZG Elazig 43.71 294 *i*P **P 02 14 18.5 +1.9**
LUWI Luwuk 43.74 134 P **P 02 14 19.9 +3.0**
LUWI Luwuk 43.74 134 *e*P **P 02 14 16.8 -0.1**
comp=Z,181nm,1.1s
GRSN GIRESUNGRSN 43.92 297 *i*P **P 02 14 17.5 -0.6**
KUR Kuril'sk 43.94 57 P **P 02 14 15.9 -2.2**
KUR *e*S **S 02 20 46.3 -3.3**
KUR *i*SS **SS 02 24 05.0 -0.9**
KUR MLR MLR
comp=N,2μm,16.0s
KUR MLR MLR
comp=E,4μm,16.0s
KUR MLR MLR
comp=Z,743nm,16.0s
KEMA Kemaliye 43.97 295 *i*P **P 02 14 18.7 +0.1**
SUSE Susehri 44.06 296 *i*P **P 02 14 19.9 +0.5**
ANN Anapa 44.17 303 *e*P **P 02 14 19.0 -1.0**
ANN *e* 02 16 01.1
ANN *e*S **S 02 20 50.9 -2.1**
ANN *e*SS **SS 02 24 10.9 +0.4**
ANN pmax pmax
comp=Z,86nm,1.2s
MALT Malatya 44.17 293 P P 02 14 26.2 +5.9
MALT Malatya 44.17 293 ⇑*i*P **P 02 14 20.6 +0.3**
KMMI Kalianget 44.17 149 P **P 02 14 22.9 +2.6**
KSRV Kasrt alli 44.17 290 *e*P **P 02 14 20.1 -0.1**
SPSI Sidrap Palu 44.37 140 P **P 02 14 22.7 +0.8**
comp=Z,172nm,1.4s,comp=Z,2μm
MOS Moscow 44.47 318 *e*P **P 02 14 21.9 -0.3**
MOS *e* 02 16 06.2
MOS *e*S **S 02 20 55.9 -1.1**
MOS *e*SS **ScS 02 24 20.2 +0.1**
MOS pmax pmax
comp=Z,600nm,2.0s
MOS pmax pmax
comp=Z,226nm,1.4s
MOS MLR MLR
comp=Z,8μm,14.0s
MOS MLR MLR
comp=E,8μm,15.0s
KLMR Klimovskoe 44.49 326*d i*P **P 02 14 22.7 +0.3**
KLMR *e* 02 16 08.3
KLMR S **S 02 20 51.6 -5.6**
KLMR SS SS 02 24 01.2 -15
KLMR pmax pmax
comp=Z,217nm,1.2s
KLMR pmax pmax
comp=Z,721nm,2.1s
KLMR MLR MLR
comp=Z,9μm,19.0s
AKCD Akcadag 44.57 293 *i*P **P 02 14 24.5 +1.0**
COCO West Island 44.58 174 PFAKE 02 14 30.0 +6.6
COCO LR LR
comp=Z,3μm,21.0s
BNSI Bone 44.91 140 P **P 02 14 27.0 +0.8**
comp=Z,66nm,2.0s,comp=Z,1μm
OBN Obninsk 44.99 318 P **P 02 14 26.4 +0.1**
comp=Z,517nm,1.3s,SNR=13
OBN Obninsk 44.99 318*d i*P **P 02 14 26.2 -0.1**
OBN *e* 02 16 07.7
OBN *e* 02 16 14.7
OBN pmax pmax
comp=Z,216nm,1.7s
OBN MLR MLR
comp=Z,9μm,19.0s
OBN Obninsk 44.99 318 PFAKE 02 14 40.0 +14
OBN LR LR
comp=Z,11μm,21.0s
GZT Gaziantep 45.02 292 *i*P **P 02 14 27.3 +0.2**
GMJI Gumukmas 45.05 150 P P 02 14 37.3 +10
KAPI Kappang 45.23 141 P **P 02 14 28.5 -0.2**
comp=Z,155nm,1.3s,SNR=7.0
KAPI Kappang 45.23 141 P **P 02 14 28.9 +0.1**
SNR=14
KAPI Kappang 45.23 141 *e*P **P 02 14 28.6 -0.2**
comp=Z,22nm,0.9s
KAPI LR LR
comp=Z,2μm,21.0s
TNTI Ternate 45.32 127 P P 02 14 34.0 +4.5
comp=Z,161nm,1.1s
TNTI Ternate 45.32 127 *e*P **P 02 14 31.2 +1.7**
comp=Z,209nm,1.2s
TOKA Tokat 45.35 297 *i*P **P 02 14 30.0 +0.4**
KUZU Kuzuini 45.51 292 *i*P **P 02 14 30.3 -0.6**
JAGI Jajag, Banyuwa 45.52 150 P **P 02 14 34.1 +3.0**
comp=Z,56nm,1.0s,comp=Z,916nm
JAGI Jajag, Banyuwa 45.52 150 *e*P **P 02 14 32.9 +1.8**
comp=Z,38nm,0.8s
SRBI Singaraja 45.64 148 P P 02 14 35.6 +3.6
comp=Z,108nm,1.6s,comp=Z,1μm

BKSI	Bulukumba	45.69	140	P	P	02 14 32.9 +0.5
	comp=Z,48nm,1.2s,comp=Z,824nm					
KAMA	Osmaniye	45.75	292	*i* P	P	02 14 32.9 +1.0
HAVZ	Havza	45.81	298	*i* P	P	02 14 31.9 -1.3
ANDN	Andirin	45.92	293	*i* P	P	02 14 33.5 -0.7
ROOS	tl_alroos	45.92	288	*e*P	P	02 14 34.7 +0.5
RABH	Abou Rabah	45.93	288	*e*P	P	02 14 37.0 +2.8
TMCR	Tamitsa	46.05	330	*e*P	P	02 14 35.1 +0.4
TMCR				*e*		02 16 23.6
TMCR				*e*S	S	02 21 22.7 +3.0
TMCR				pmax	pmax	
	comp=Z,173nm,1.2s					
KFRA	Kufra	46.07	290	*e*P	P	02 14 35.4 0.0
ZALF	Zalf	46.20	286	*e*P	P	02 14 36.0 -0.4
WRDH	Warideh	46.31	290	*e*P	P	02 14 35.5 -1.8
BOYT	Boyabat	46.37	298	*i* P	P	02 14 37.1 -0.5
YAYL	Yayladag	46.43	291	*i* P	P	02 14 36.9 -1.4
LBMI	Labuha	46.45	128	P	P	02 14 47.7 +9.3
BIDA	Albida	46.50	289	*e*P	P	02 14 39.5 +0.7
SIM	Simferopol'	46.51	303	*de*P	P	02 14 38.7 +0.1
SIM				*e*		02 16 12.0
SIM				*e*S	S	02 21 29.0 +2.2
SIM				pmax	pmax	
	comp=Z,28nm,1.0s					
SIM				pmax	pmax	
	comp=Z,200nm,9.0s					
SIM				MLR	MLR	
	comp=Z,3μm,18.0s					
SANI	Sanana	46.53	131	P	P	02 14 39.5 +0.5
	comp=Z,64nm,0.9s,comp=Z,779nm					
HAWK	Haweek	46.55	289	*e*P	P	02 14 39.5 +0.3
CTKT	Corum	46.57	297	*i* P	P	02 14 39.3 0.0
MARH	Ras Al Marh	46.61	288	*e*P	P	02 14 40.5 +0.6
SALA	Sala	46.75	286	*e*P	P	02 14 41.9 +1.0
CDAG	Cicekdag	47.06	296	*i* P	P	02 14 42.9 -0.2
BBSI	Bau Bau	47.19	138	P	P	02 14 47.8 +3.7
	comp=Z,256nm,1.0s,comp=Z,4μm					
BRBR	Barbar	47.20	287	*e*P	P	02 14 44.5 +0.1
GULE	Gulek	47.21	293	*i* P	P	02 14 43.7 -0.7
BRTR	Keskin Array B	47.60	296	P	P	02 14 47.5 +0.1
	comp=Z,21nm,0.9s,baz=98,slow=7.5,SNR=30					
BRTR				PcP	PcP	02 16 17.0 -0.1
	comp=Z,4.0nm,0.9s,baz=140,slow=3.6,SNR=4.4					
BRTR				ScP	ScP	02 20 13.1 +1.8
	comp=Z,0.8nm,0.9s,baz=312,slow=5.9,SNR=3.7					
BRTR				LR	LR	02 38 28.4
	comp=Z,2μm,19.4s,baz=108,slow=41					
SEY	Seymchan	47.87	32	P	P	02 14 49.2 +0.3
	comp=Z,23nm,1.1s,baz=260,slow=4.5,SNR=38					
KIZK	Mersin	47.88	292	*i* P	P	02 14 48.2 -1.2
NLAI	Namlea	48.15	131	P	P	02 14 53.5 +1.9
	comp=Z,75nm,0.9s,comp=Z,3μm					
ANTO	Ankara	48.21	297	*e*P	P	02 14 52.4 +0.4
ANTO				pmax	pmax	
	comp=Z,120nm,1.1s					
ANTO				MLR	MLR	
	comp=Z,2μm,22.0s					
ANTO	Ankara	48.21	297	⇓*i*P	P	02 14 52.3 +0.3
ANTO	Ankara	48.21	297	P	P	02 14 53.3 +1.3
	SNR=21					
ANTO	Ankara	48.21	297	*e*P	P	02 14 52.4 +0.4
	comp=Z,120nm,1.1s					
ANTO				LR	LR	
	comp=Z,2μm,22.0s					
LVZ	Lovozero	48.44	335	*e*P	P	02 14 54.5 +1.2
LVZ				pmax	pmax	
	comp=Z,94nm,1.7s					
LVZ	Lovozero	48.44	335	PFAKE		02 15 00.0 +6.7
LVZ				LR	LR	
	comp=Z,5μm,21.0s					
JOF	Joensuu	48.72	328	*e*P	P	02 14 55.3 -0.2
JOF				pmax	pmax	
	comp=Z,22nm,0.7s					
JOF	Joensuu	48.72	328	*e*p	P	02 14 55.3 -0.2
	comp=Z,22nm,0.7s					
APA	Apatity	48.81	334	⇑*i*P	P	02 14 57.8 +1.7
APA				*i*		02 16 26.0
APA				*i* S	S	02 22 00.0 +1.2
APA				*i*		02 24 42.0
APA				MLR	MLR	
	comp=Z,10μm,13.0s					
PUL	Pulkovo	48.82	323	*e*P	P	02 14 57.6 +1.4
PUL				pmax	pmax	
	comp=Z,228nm,1.0s					
CSS	Prodhromos	48.89	290	P	P	02 14 55.8 -1.4
CSS	Prodhromos	48.89	290	*e*P	P	02 14 56.5 -0.7
	comp=Z,8.6nm,1.5s					
CSS				LR	LR	
	comp=Z,629nm,19.0s					
AKASG	Malin Array Be	49.34	311	P	P	02 15 00.0 -0.4
AKASG	Malin Array Be	49.34	311	P	P	02 14 60.0 -0.4
	comp=Z,37nm,0.8s,baz=79,slow=6.6,SNR=52					
AKASG				ScP	ScP	02 20 19.5 +1.3
	comp=Z,0.4nm,0.4s,baz=82,slow=2.2,SNR=6.3					
AKASG				LR	LR	02 37 55.5
	comp=Z,4μm,21.1s,baz=75,slow=39					
KIEV	Kiev	49.35	311	*d i*P	P	02 14 59.6 -0.9
KIEV	Kiev	49.35	311	*e*P	P	02 14 60.0 -0.5
	comp=Z,84nm,1.1s					
KIEV				LR	LR	
	comp=Z,4μm,20.0s					
EDFI	Ende, Flores	49.40	141	P	P	02 15 03.9 +2.6
	comp=Z,31nm,0.8s					
MSAI	Masohi	49.41	129	P	P	02 15 04.6 +3.2
MMRI	Maumere	49.59	140	P	P	02 15 04.0 +1.3
	comp=Z,134nm,0.9s					
MMRI	Maumere	49.59	140	*e*P	P	02 15 01.3 -1.4
	comp=Z,95nm,0.8s					
KIS	Kishinev	49.96	307	*e*P	P	02 15 05.0 -0.2
KIS				*e*		02 15 15.0
KIS				*e*		02 15 29.0
KIS				*e*		02 17 04.0
KIS				*e*S	S	02 22 11.0 -4.5
KIS				MLR	MLR	
	comp=E,2μm,14.0s					
KIS				MLR	MLR	
	comp=Z,3μm,14.0s					
KIS				MLR	MLR	
	comp=N,3μm,16.0s					
KIS				MLR	MLR	
	comp=Z,3μm,14.0s					
KIS	Kishinev	49.96	307	*e*P	P	02 15 05.0 -0.2
KIS	Kishinev	49.96	307	*e*PP	PP	02 17 04.0 +4.1
KIS				*e*S	S	02 22 11.0 -4.5
KIS				*i* SS	SS	02 26 05.0 +17
KIS				*e*LQ	LQ	02 33 12.0
	comp=Z,3μm,13.0s					
KIS				LRM	MLR	02 39 20.0
	comp=Z,3μm,16.0s					
MICGM	Minsk	49.98	316	⇓*e*P	P	02 15 04.0 -1.3
MNK	Minsk	50.01	316	⇓*i*P	P	02 15 04.0 -1.5
MNK				*e*		02 17 00.0
MNK				*e*S	S	02 22 14.0 -2.0
MNK				*e*PS	x	02 22 30.0
MNK				*e*		02 22 40.0
MNK				*e*SS	SS	02 25 46.0 -2.6
MNK				*e*SSS	SSS	02 27 10.0
MNK				pmax	pmax	
	comp=Z,210nm,1.5s					
MNK				pmax	pmax	
	comp=E,270nm,1.8s					
MNK				MLR	MLR	
	comp=Z,13μm,14.0s					
MNK				MLR	MLR	
	comp=E,12μm,14.0s					
MNK				MLR	MLR	
	comp=N,6μm,10.0s					
PETK	Petropavlovsk-	50.03	45	P	P	02 15 04.3 -1.4
	comp=N,1.8nm,0.5s,baz=241,slow=7.7,SNR=3.1					
PETK				LR	LR	02 38 53.7
	comp=N,2μm,18.7s,baz=288,slow=39					
BASI	Baing, Sumba	50.06	143	P	P	02 15 07.2 +1.0
	comp=N,254nm,1.1s,comp=N,3μm					
ISP	Isparta	50.38	294	P	P	02 15 07.9 -0.8
ISP	Isparta	50.38	294	P	P	02 15 07.9 -0.8
ISP				MLR	MLR	
	comp=Z,2μm,20.0s					
ISP	Isparta	50.38	294	P	P	02 15 07.9 -0.8
ISP				LR	LR	
	comp=Z,2μm,20.0s					
ALT	Altintas	50.41	296	P	P	02 15 07.1 -1.8
ALT	Altintas	50.41	296	P	P	02 15 07.1 -1.8
LEOM	Leova	50.42	306	P	P	02 15 11.9 +3.3
LEOM	Leova	50.42	306	⇑*i*P	P	02 15 08.4 -0.2
VSU	Vasula	50.59	322	*d i*P	P	02 15 09.9 +0.1
PET	Petropavlovsk	50.61	46	*e*P	P	02 15 15.5 +5.5
PET				*e*		02 17 10.6
PET				*e*S	S	02 22 26.8 +2.5
PET				pmax	pmax	
	comp=Z,100nm,12.5s					
PET				pmax	pmax	
	comp=Z,200nm,11.2s					
PET				MLR	MLR	
	comp=Z,6μm,15.0s					
PET	Petropavlovsk	50.61	46	PFAKE		02 15 20.0 +10
PET				LR	LR	
	comp=Z,3μm,20.0s					
NACGM	Naroch	50.61	317	*e*P	P	02 15 08.0 -2.0
IDID	Didziasalis	50.62	317	*e*P	P	02 15 10.2 +0.1
IDID				AMB	AMB	02 15 14.2
	comp=Z,42nm,1.1s					
CFR	Carcaliu	50.69	304	P	P	02 15 15.8 +5.1
CFR	Carcaliu	50.69	304	⇓*i*P	P	02 15 10.4 -0.3
PSN	Preselentsi	50.90	302	P	P	02 15 16.5 +4.1
PSN	Preselentsi	50.90	302	⇓*i*P	P	02 15 13.4 +1.0
IIGN	Ignalina	50.91	318	*e*P	P	02 15 12.4 +0.1
IIGN				AMB	AMB	02 15 16.1
	comp=Z,68nm,1.0s					
KAF	Kangasniemi	50.94	326	*e*P	P	02 15 11.9 -0.5
KAF				pmax	pmax	
	comp=Z,13nm,0.6s					
KAF	Kangasniemi	50.94	326	*e*p	P	02 15 11.9 -0.5
	comp=Z,13nm,0.6s,baz=92,slow=7.5					
GUMO	Guam	50.95	99	PFAKE		02 15 20.0 +6.9
GUMO				LR	LR	
	comp=Z,230nm,20.0s					
ISAL	Salakas	50.96	318	*e*P	P	02 15 12.8 +0.2
ISAL				AMB	AMB	02 15 16.9
	comp=Z,61nm,1.0s					
FINES	FINESS Array B	51.02	325	P	P	02 15 12.8 -0.2
	comp=Z,17nm,0.6s,baz=101,slow=7.8,SNR=55					
FINES				LR	LR	02 37 56.6
	comp=Z,5μm,18.9s,baz=92,slow=37					
MSEY	Mahe Island	51.19	231	*e*P	P	02 15 13.1 -1.7
MSEY				pmax	pmax	
	comp=Z,37nm,1.1s					
MSEY				MLR	MLR	
	comp=Z,3μm,19.0s					
MSEY	Mahe Island	51.19	231	*e*P	P	02 15 13.1 -1.7
	comp=Z,37nm,1.1s					
MSEY				LR	LR	
	comp=Z,3μm,19.0s					
PETR	Petresti	51.23	305	⇓*i*P	P	02 15 15.3 +0.5
FAKI	Fak Fak	51.33	126	P	P	02 15 17.9 +2.0
	comp=Z,60nm,1.4s,comp=Z,854nm					
FAKI	Fak Fak	51.33	126	*e*P	P	02 15 14.8 -1.1
	comp=Z,51nm,1.0s					
TESR	Tescani	51.50	306	⇑*i*P	P	02 15 16.6 -0.3
PGOR	Pogoanele	51.53	304	⇓*i*P	P	02 15 18.7 +1.6
VRI	Vrincioaia	51.55	305	P	P	02 15 22.5 +5.2
VRI	Vrincioaia	51.55	305	⇓*i*P	P	02 15 17.9 +0.6
KEV	Kevo	51.57	336	*e*P	P	02 15 17.0 0.0
KEV				pmax	pmax	
	comp=Z,227nm,1.8s					
KEV				MLR	MLR	
	comp=Z,4μm,19.0s					
KEV	Kevo	51.57	336	*e*p	P	02 15 17.2 +0.2
	comp=Z,8.6nm,0.6s					
KEV	Kevo	51.57	336	*e*P	P	02 15 17.0 0.0
	comp=Z,227nm,1.8s					
KEV				LR	LR	
	comp=Z,4μm,19.0s					
SOEI	Soe	51.63	139	*e*P	P	02 15 16.9 -1.3
	comp=Z,810nm,0.9s					
KULA	Kula-Manisa	51.64	296	P	P	02 15 17.3 -0.8
KULA	Kula-Manisa	51.64	296	P	P	02 15 17.3 -0.8
PRAR	RASCA	51.66	307	⇓*i*P	P	02 15 17.8 -0.2
BATI	Baumata	51.67	140	P	P	02 15 18.5 +0.1
BATI	Baumata	51.67	140	S	S	02 22 36.6 -3.2
	comp=Z,4.2nm,0.3s,baz=127,slow=23,SNR=5.7					
ISR	Istrita	51.81	304	⇑*i*P	P	02 15 20.8 +1.6
ARCES	ARCESS Array B	52.05	336	P	P	02 15 20.3 -0.3
	comp=Z,9.4nm,0.7s,baz=98,slow=6.4,SNR=41					
ARCES				PcP	PcP	02 16 33.1 +0.5
	comp=Z,2.8nm,0.7s,baz=79,slow=2.6,SNR=3.6					
ARCES				LR	LR	02 37 44.6
	comp=Z,3μm,18.8s,baz=98,slow=36					
ARE0	ARCESS Array S	52.05	336	*e*P	P	02 15 21.7 +1.1
MLR	Muntele Rosu	52.16	305	P	P	02 15 27.0 +5.1
MLR	Muntele Rosu	52.16	305	⇓*i*P	P	02 15 22.6 +0.7
JMB	Yambol	52.29	301	P	P	02 15 22.3 -0.5
JMB	Yambol	52.29	301	P	P	02 15 22.3 -0.5
JMB	Yambol	52.29	301	⇑*i*P	P	02 15 23.3 +0.5
JMB	Yambol	52.29	301	*i* P	P	02 15 22.4 -0.4
JMB	Yambol	52.29	301	P	P	02 15 22.3 -0.5
BURAR	Bucovina Array	52.30	308	P	P	02 15 27.7 +4.8
BURAR	Bucovina Array	52.30	308	⇓*i*P	P	02 15 22.8 -0.1
DOPR	Dopca	52.45	306	⇑*i*P	P	02 15 24.7 +0.7
SZH	Strazhica	52.59	302	*i* P	P	02 15 24.8 -0.2
ARG	Arkhangelos	52.65	293	P	P	02 15 24.6 -0.9
ARG	Arkhangelos	52.65	293	P	P	02 15 24.6 -0.9
ARG	Arkhangelos	52.65	293	*e*P	P	02 15 25.0 -0.5
ARG	Arkhangelos	52.65	293	P	P	02 15 24.6 -0.9
LVV	L'vov	52.74	311	*i* P	P	02 15 26.0 0.0
LVV				*i*		02 17 30.2
LVV				*i* PPP	PPP	02 18 35.0
LVV				*e*S	S	02 22 48.0 -5.9
LVV				MLR	MLR	
	comp=N,1μm,15.0s					
LVV				MLR	MLR	
	comp=E,2μm,15.0s					
LVV				MLR	MLR	
	comp=Z,3μm,15.0s					
SUW	Suwalki	52.77	316	*e*P	P	02 15 26.0 -0.1
SUW				pmax	pmax	
	comp=Z,205nm,0.8s					
SUW	Suwalki	52.77	316	*e*P	P	02 15 25.9 -0.1
SUW				*e*pP	pP	02 15 28.8 -0.8
SUW	Suwalki	52.77	316	*e*P	P	02 15 26.0 -0.1
	comp=Z,206nm,0.8s					
VOIR		52.78	305	⇓*i*P	P	02 15 26.4 -0.1
KTK1	Kautokeino	52.79	335	*e*P	P	02 15 30.3 +4.3
MTUR	Matau	52.82	305	⇑*i*P	P	02 15 27.1 +0.3
ZIMR		52.91	303	P	P	02 15 33.4 +6.0
ZIMR		52.91	303	⇑*i*P	P	02 15 27.5 +0.1
HUMR	Humele	53.01	304	⇓*i*P	P	02 15 27.7 -0.4
PVL	Pavlikeni	53.03	302	*i* P	P	02 15 30.2 +2.0
ALN	Alexandroupoli	53.03	299	*e*P	P	02 15 28.0 -0.3
ARR	Arges	53.09	305	⇑*i*P	P	02 15 28.9 +0.2
SMG	Samos	53.23	295	P	P	02 15 29.6 -0.3
SMG	Samos	53.23	295	*e*P	P	02 15 29.5 -0.3
SMG	Samos	53.23	295	P	P	02 15 29.6 -0.3
NIS1	Nisyros Isl.	53.27	294	P	P	02 15 29.0 -1.2
NIS1	Nisyros Isl.	53.27	294	*e*P	P	02 15 29.5 -0.7
NIS1	Nisyros Isl.	53.27	294	P	P	02 15 29.0 -1.2
KDZ	Kurdzhali	53.32	300	P	P	02 15 35.1 +4.7
KDZ	Kurdzhali	53.32	300	⇓*i*P	P	02 15 30.6 +0.2
KDZ	Kurdzhali	53.32	300	*i* P	P	02 15 30.7 +0.3
RDO	Rodhopi	53.34	300	*e*P	P	02 15 30.5 -0.1
BMR	Baia Mare	53.44	308	P	P	02 15 35.4 +4.2
BMR	Baia Mare	53.44	308	⇓*i*P	P	02 15 32.0 +0.8
HOPEN	Hopen	53.53	344	*e*P	P	02 15 33.7 +2.2
HOPEN				IAMs_20	IAMs_20	02 40 03.2
	comp=Z,6μm,17.9s					
CJR	Cluj-Napoca	53.54	307	P	P	02 15 36.9 +4.9
CJR	Cluj-Napoca	53.54	307	⇓*i*P	P	02 15 32.8 +0.8
KARP	Karpathos	53.59	293	P	P	02 15 31.9 -0.6
KARP	Karpathos	53.59	293	*e*P	P	02 15 32.0 -0.6
KARP	Karpathos	53.59	293	P	P	02 15 31.9 -0.6
KWP	Kalwaria Pacla	53.62	311	*e*P	P	02 15 32.6 +0.1
KWP				pmax	pmax	
	comp=Z,272nm,1.1s					
KWP				MLR	MLR	
	comp=Z,5μm,19.0s					
KWP	Kalwaria Pacla	53.62	311	*e*P	P	02 15 33.1 +0.6
KWP				*e*pP	pP	02 15 36.0 0.0
KWP	Kalwaria Pacla	53.62	311	*e*P	P	02 15 32.6 +0.1
	comp=Z,272nm,1.1s					
KWP				LR	LR	
	comp=Z,5μm,19.0s					
CHOS	Chios Island	53.65	296	*e*P	P	02 15 33.0 0.0
LOT	Lotru	53.67	305	⇓*i*P	P	02 15 33.2 +0.1
PLD	Plovdiv	53.73	301	P	P	02 15 33.3 -0.1
PLD	Plovdiv	53.73	301	P	P	02 15 33.3 -0.1
PLD	Plovdiv	53.73	301	*i* P	P	02 15 33.2 -0.1
PLD	Plovdiv	53.73	301	P	P	02 15 33.3 -0.1
RZN	Rozhen	53.82	301	*i* P	P	02 15 34.2 -0.1
TRPA	Tarpa	53.99	309	⇓*i*P	P	02 15 35.5 +0.4
TRPA	Tarpa	53.99	309	*e*P	P	02 15 35.6 +0.4
PGB	Panagyurishte	54.01	302	*i* P	P	02 15 35.9 +0.3
KOLS	Kolonicke sedl	54.02	310	*e*P	P	02 15 35.3 -0.2
KOLS				pmax	pmax	
	comp=Z,24nm,1.0s					
KOLS	Kolonicke sedl	54.02	310	*e*P	P	02 15 35.3 -0.2
KOLS				*e*		02 48 13.1
UZH	Uzhgorod	54.06	309	*e*P	P	02 15 32.8 -2.9
UZH				*e*		02 15 43.6
UZH				*e*S	S	02 23 03.6 -8.2
UZH				*e*		02 23 22.6
UZH				*e*		02 25 10.8
UZH				*e*		02 26 46.8
UZH				*e*		02 28 38.4
UZH				MLR	MLR	
	comp=N,2μm,20.0s					
UZH				MLR	MLR	
	comp=E,4μm,20.0s					
UZH				MLR	MLR	
	comp=Z,2μm,20.0s					
DRGR		54.12	307	P	P	02 15 40.4 +4.1
DRGR		54.12	307	⇓*i*P	P	02 15 36.8 +0.5
KAVA	Kavala	54.13	300	*e*P	P	02 15 36.5 +0.1
MPEP	Malo Peshtene	54.13	303	*i* P	P	02 15 36.7 +0.3
BILL	Bilibino	54.16	26	*i* P	P	02 15 36.3 +0.1
BILL				*e*		02 15 46.1
BILL				*e*		02 16 37.6
BILL				pmax	pmax	
	comp=Z,46nm,1.3s					
BILL				MLR	MLR	
	comp=Z,6μm,19.0s					
BILL	Bilibino	54.16	26	*e*P	P	02 15 36.5 +0.3
	comp=Z,47nm,0.8s					
BILL				LR	LR	
	comp=Z,6μm,22.0s					
TRO	Tromso	54.36	336	*e*P	P	02 15 36.5 -1.0
TRO				*e*S	S	02 23 15.3 +0.1
GZR	Gura Zlata	54.36	305	⇑*i*P	P	02 15 38.2 +0.1
ZKR	Zakros	54.45	292	P	P	02 15 37.8 -1.0
ZKR	Zakros	54.45	292	P	P	02 15 37.8 -1.0
BEL	Belsk	54.48	314	*e*P	P	02 15 39.1 +0.4
BEL	Belsk	54.48	314	*e*P	P	02 15 39.1 +0.4
BEL				*e*pP	pP	02 15 41.9 -0.3
NVR	Nevrokopi	54.52	300	P	P	02 15 38.0 -1.3
NVR	Nevrokopi	54.52	300	P	P	02 15 38.0 -1.3
CRVS	Cervenica-Dubn	54.55	310	*e*P	P	02 15 39.6 +0.3
CRVS				pmax	pmax	
	comp=Z,18nm,1.1s					
CRVS	Cervenica-Dubn	54.55	310	*e*P	P	02 15 39.6 +0.3
MMB	Musomiste	54.56	301	P	P	02 15 43.5 +4.0
MMB	Musomiste	54.56	301	⇑*i*P	P	02 15 39.0 -0.5
MMB	Musomiste	54.56	301	*i* P	P	02 15 36.9 -2.6
STHS	Stebnicka Huta	54.60	311	*e*P	P	02 15 39.8 +0.1
STHS				pmax	pmax	
	comp=Z,34nm,0.9s					
STHS	Stebnicka Huta	54.60	311	*e*P	P	02 15 39.8 +0.1
BJO	Bjornoya	54.64	342	*e*P	P	02 15 41.1 +1.6
BJO				*e*S	S	02 23 20.6 +1.7
BJO				IAMs_20	IAMs_20	02 41 22.3
	comp=Z,5μm,21.5s					
VTS	Vitosha	54.69	302	P	P	02 15 40.6 0.0
VTS	Vitosha	54.69	302	P	P	02 15 40.6 0.0
VTS	Vitosha	54.69	302	⇑*i*P	P	02 15 40.5 0.0
VTS	Vitosha	54.69	302	*i* P	P	02 15 40.8 +0.2
VTS	Vitosha	54.69	302	P	P	02 15 40.6 0.0
THR6	Thira Island,	54.72	294	P	P	02 15 39.6 -1.2
THR6	Thira Island,	54.72	294	P	P	02 15 39.5 -1.2
THR5	Thira Island,	54.74	294	P	P	02 15 39.7 -1.2
SRS	Serrai	54.78	300	*e*P	P	02 15 40.5 -0.6
NPS	Neapolis	54.88	293	P	P	02 15 41.1 -0.8
NPS	Neapolis	54.88	293	P	P	02 15 41.1 -0.8
NPS	Neapolis	54.88	293	P	P	02 15 41.1 -0.8
KKB	Krupnik	54.96	301	*i* P	P	02 15 42.0 -0.4
LAST	Lasithi	55.01	293	P	P	02 15 42.8 -0.2
LAST	Lasithi	55.01	293	P	P	02 15 42.8 -0.2
PLG	Polygyros	55.08	299	P	P	02 15 42.5 -0.8
PLG	Polygyros	55.08	299	P	P	02 15 42.5 -0.8
PLG	Polygyros	55.08	299	P	P	02 15 42.5 -0.8
BZS	Buzias	55.11	306	P	P	02 15 48.1 +4.7
BZS	Buzias	55.11	306	⇓*i*P	P	02 15 43.4 0.0
NIE	Niedzica	55.20	311	*e*P	P	02 15 44.9 +0.9
NIE				*e*S	S	02 23 27.7 +0.5
NIE				MLR	MLR	
	comp=Z,4μm,22.0s					
NIE	Niedzica	55.20	311	*e*P	P	02 15 44.9 +0.9
NIE				*e*S	S	02 23 27.7 +0.5
NIE				L	L	02 43 47.0
	comp=Z,4μm,22.0s					
HORT	Hortiatis	55.27	300	P	P	02 15 43.6 -1.2
HORT	Hortiatis	55.27	300	*e*P	P	02 15 44.0 -0.8
HORT	Hortiatis	55.27	300	P	P	02 15 43.6 -1.2
KNT	Kendrikon	55.27	300	P	P	02 15 43.5 -1.2
KNT	Kendrikon	55.27	300	P	P	02 15 43.5 -1.2
KNT	Kendrikon	55.27	300	*e*P	P	02 15 44.0 -0.7
KNT	Kendrikon	55.27	300	P	P	02 15 43.5 -1.2
OJC	Ojcow	55.37	312	*e*P	P	02 15 45.2 0.0
OJC				*e*S	S	02 23 30.5 +1.1
OJC				MLR	MLR	
	comp=Z,5μm,16.5s					
OJC	Ojcow	55.37	312	*e*P	P	02 15 45.2 0.0
OJC				*e*sP	sP	02 15 49.5 -0.6
OJC				*e*S	S	02 23 30.5 +1.1
OJC				L	L	02 40 21.0
	comp=Z,5μm,16.5s					
SKIA	Skiathos	55.39	298	*e*P	P	02 15 46.0 +0.5
MRKA	Markates	55.42	297	*e*P	P	02 15 43.0 -2.8
VAY	Valandovo	55.47	301	*i* P	P	02 15 45.2 -0.8
SIVA	Sivas	55.58	293	P	P	02 15 46.3 -0.6
SIVA	Sivas	55.58	293	P	P	02 15 46.3 -0.6
SMIA	Simia	55.66	298	*e*P	P	02 15 47.0 -0.5
SPA0	Spitsbergen Ar	55.69	346	*e*P	P	02 15 48.3 +1.2
SPA0				*e*S	S	02 23 36.1 +3.2
SPA0				IAMs_20	IAMs_20	02 42 13.6
	comp=Z,3μm,20.7s					
GRG	Griva	55.69	300	P	P	02 15 46.6 -1.1
GRG	Griva	55.69	300	P	P	02 15 46.6 -1.1
GRG	Griva	55.69	300	*e*P	P	02 15 47.0 -0.7
GRG	Griva	55.69	300	P	P	02 15 46.6 -1.1
HSPB	Hornsund (broa	55.76	345	*e*P	P	02 15 49.2 +1.6
HSPB				*e*S	S	02 23 35.8 +1.9
HSPB				IAMs_20	IAMs_20	02 40 51.6
	comp=Z,5μm,22.4s					
PSZ	Piszkesteto	55.77	309	*e*P	P	02 15 48.9 +0.7
PSZ				pmax	pmax	
	comp=Z,51nm,1.1s					
PSZ				MLR	MLR	
	comp=Z,4μm,20.0s					
PSZ	Piszkesteto	55.77	309	⇑*i*P	P	02 15 48.1 -0.1
PSZ	Piszkesteto	55.77	309	⇓*e*P	P	02 15 48.4 +0.2
PSZ	Piszkesteto	55.77	309	*e*P	P	02 15 48.9 +0.7
	comp=Z,51nm,1.1s					
PSZ				LR	LR	
	comp=Z,4μm,20.0s					
LIT	Litokhoron	55.85	299	P	P	02 15 47.5 -1.4
LIT	Litokhoron

VYHS	**Vyhne**	**56.34 310**	*e*P	**P**	**02 15 52.4**	**+0.2**
VYHS			pmax	pmax		
	comp=Z,42nm,1.4s					
VYHS	**Vyhne**	**56.34 310**	*e*P	**P**	**02 15 52.4**	**+0.2**
THL	**Klokotos Trika**	**56.35 299**	P	**P**	**02 15 52.7**	**+0.3**
GKP	**Gorka Klasztor**	**56.37 316**	*e*P	**P**	**02 15 52.7**	**+0.4**
GKP	**Gorka Klasztor**	**56.37 316**	*e*P	**P**	**02 15 52.6**	**+0.3**
GKP			*e*pP	**pP**	**02 15 55.4**	**-0.4**
RAC	**Raciborz**	**56.41 312**	*e*P	**P**	**02 15 52.7**	**+0.1**
RAC			MLR	MLR		
	comp=Z,4μm,18.1s					
MAKR	**Makrakomi, Fth**	**56.43 298**	P	**P**	**02 15 51.4**	**-1.6**
MAKR	**Makrakomi, Fth**	**56.43 298**	*e*P	**P**	**02 15 51.5**	**-1.6**
MAKR	**Makrakomi, Fth**	**56.43 298**	P	**P**	**02 15 51.4**	**-1.6**
BUD	**Budapest**	**56.44 309**⇓	*e*P	**P**	**02 15 53.1**	**+0.2**
FNA	**Florina**	**56.48 300**	P	**P**	**02 15 51.5**	**-1.9**
FNA	**Florina**	**56.48 300**	P	**P**	**02 15 51.5**	**-1.9**
FNA	**Florina**	**56.48 300**	*e*P	**P**	**02 15 52.0**	**-1.4**
FNA	**Florina**	**56.48 300**	P	**P**	**02 15 51.5**	**-1.9**
ANKY	**Antikythira Is**	**56.48 294**	*e*P	**P**	**02 15 52.5**	**-0.9**
OKC	**Ostrava-Krasne**	**56.49 312**	*e*P	**P**	**02 15 53.6**	**+0.4**
OKC			*e*S	**S**	**02 23 47.0**	**+2.7**
OKC			*e*SS	**SS**	**02 27 34.7**	**+3.6**
OKC			MLR	MLR		
	comp=Z,3μm,16.9s					
OKC	**Ostrava-Krasne**	**56.49 312**	*e*P	**P**	**02 15 53.6**	**+0.4**
OKC			*e*pP	**pP**	**02 15 56.4**	**-0.3**
OKC			*e*x	x	02 16 01.8	
OKC			*e*x	x	02 16 13.5	
OKC			*e*S	**S**	**02 23 47.0**	**+2.7**
OKC			*e*SS	**SS**	**02 27 34.7**	**+3.6**
OKC			AMS	AMS	02 41 30.0	
	comp=Z,3μm,16.9s					
VLI	**Veliai**	**56.50 295**	P	P	02 15 50.3	-3.2
VLI	**Veliai**	**56.50 295**	P	P	02 15 50.3	-3.2
GUR	**Goura**	**56.58 297**	P	**P**	**02 15 51.4**	**-2.8**
GUR	**Goura**	**56.58 297**	*e*P	P	02 15 50.5	-3.7
GUR	**Goura**	**56.58 297**	P	**P**	**02 15 51.4**	**-2.8**
DIVS	**Divibare**	**56.59 304**	P	**P**	**02 15 53.9**	**-0.3**
KALE	**Kalithea**	**56.60 297**	*e*P	P	02 15 50.5	-3.8
KBS	**Kingsbay**	**56.62 347**	*e*P	**P**	**02 15 53.7**	**-0.1**
KBS			*e*S	**S**	**02 23 45.2**	**0.0**
KBS			IAMs_20	IAMs_20	02 41 52.0	
	comp=Z,5μm,22.5s					
KBS	**Kingsbay**	**56.62 347**	*e*P	**P**	**02 15 53.4**	**-0.3**
KBS			pmax	pmax		
	comp=Z,46nm,1.3s					
KBS			MLR	MLR		
	comp=Z,4μm,21.0s					
KBS	**Kingsbay**	**56.62 347**	*e*P	**P**	**02 15 53.4**	**-0.3**
	comp=Z,12nm,1.3s					
KBS			LR	LR		
	comp=Z,4μm,21.0s					
KONS	**Konsvik**	**56.62 332**	*e*P	**P**	**02 15 53.2**	**-0.6**
STOK	**Stokkvaagen**	**56.68 332**	*e*P	P	02 15 57.9	+3.6
EVR	**Evrytania**	**56.70 298**	P	**P**	**02 15 53.4**	**-1.6**
EVR	**Evrytania**	**56.70 298**	P	**P**	**02 15 53.4**	**-1.6**
VLX	**Vlachokerasia**	**56.73 296**	*e*P	**P**	**02 15 52.5**	**-2.7**
EFP	**Efpalio**	**56.77 297**	*e*P	**P**	**02 15 53.5**	**-1.9**
OHR	**Ohrid**	**56.81 301**	*i* P	**P**	**02 15 55.3**	**-0.4**
NEST	**Nestorio**	**56.83 300**	P	**P**	**02 15 54.5**	**-1.4**
NEST	**Nestorio**	**56.83 300**	*e*P	**P**	**02 15 55.0**	**-0.9**
PKSG		**56.88 309**⇑	*e*P	**P**	**02 15 56.2**	**+0.2**
MORC	**Moravsky Berou**	**56.89 312**	*e*P	**P**	**02 15 56.1**	**0.0**
MORC			pmax	pmax		
	comp=Z,183nm,1.5s					
MORC	**Moravsky Berou**	**56.89 312**⇓	*i*P	**P**	**02 15 56.6**	**+0.5**
MORC	**Moravsky Berou**	**56.89 312**	*e*P	**P**	**02 15 56.1**	**0.0**
	comp=Z,183nm,1.5s					
KBN	**Korca**	**56.96 300**	P	**P**	**02 15 54.9**	**-1.9**
KBN	**Korca**	**56.96 300**	P	**P**	**02 15 54.9**	**-1.9**
KBN	**Korca**	**56.96 300**	P	**P**	**02 15 54.9**	**-1.9**
CSKK	**Cs̆‡kako**	**56.97 309**⇓	*e*P	**P**	**02 15 57.1**	**+0.4**
DRO	**Drossia**	**57.05 297**	P	**P**	**02 15 55.6**	**-1.9**
DRO	**Drossia**	**57.05 297**	*e*P	**P**	**02 15 57.0**	**-0.5**
ITM	**Ithomi**	**57.13 296**	P	**P**	**02 15 55.4**	**-2.6**
ITM	**Ithomi**	**57.13 296**	P	**P**	**02 15 55.4**	**-2.6**
PKS9	**Tamasi**	**57.15 308**⇓	*e*P	**P**	**02 15 58.5**	**+0.6**
PKST	**T¨s**	**57.15 309**⇓	*e*P	**P**	**02 15 57.6**	**-0.4**
DSL	**Palaion Diasel**	**57.16 298**	P	**P**	**02 15 56.3**	**-1.9**
DSL	**Palaion Diasel**	**57.16 298**	*e*P	**P**	**02 15 57.0**	**-1.2**
DSL	**Palaion Diasel**	**57.16 298**	P	**P**	**02 15 56.3**	**-1.9**
AMT	**Artemida-Makis**	**57.19 297**	*e*P	**P**	**02 15 57.5**	**-0.9**
JAN	**Janina**	**57.19 299**	P	**P**	**02 15 56.8**	**-1.6**
JAN	**Janina**	**57.19 299**	P	**P**	**02 15 56.8**	**-1.6**
JAN	**Janina**	**57.19 299**	P	**P**	**02 15 56.8**	**-1.6**
RLS	**Riolos of Patr**	**57.21 297**	P	**P**	**02 15 56.5**	**-2.0**
RLS	**Riolos of Patr**	**57.21 297**	P	**P**	**02 15 56.5**	**-2.0**
PDO	**Prodromos**	**57.26 298**	P	**P**	**02 15 56.8**	**-2.1**
PDO	**Prodromos**	**57.26 298**	*e*P	**P**	**02 15 57.5**	**-1.4**
KRLC	**Kraliky**	**57.30 312**	*e*P	**P**	**02 15 59.3**	**+0.2**
KRLC			*e*		02 16 09.7	
KRLC			*e*		02 16 19.9	
KRLC	**Kraliky**	**57.30 312**	*e*P	**P**	**02 15 59.3**	**+0.2**
KRLC			*e*pP	**pP**	**02 16 02.1**	**-0.5**
KRLC			*e*x	x	02 16 07.6	
KRLC			*e*x	x	02 16 19.9	
NSS	**Namsos**	**57.31 330**	*e*P	**P**	**02 15 59.1**	**+0.3**
PYL	**PYLOS**	**57.36 296**	*e*P	**P**	**02 15 59.5**	**-0.1**
BSD	**Bornholm Skovb**	**57.37 318**	*i* P	**P**	**02 15 59.0**	**-0.3**
BSD			pmax	pmax		
	comp=Z,40nm,0.9s					
BSD			MLR	MLR		
	comp=Z,5μm,18.0s					
BSD	**Bornholm Skovb**	**57.37 318**	*i* P	**P**	**02 15 59.0**	**-0.3**
	comp=Z,40nm,0.8s					
KSP	**Ksiaz**	**57.43 313**⇓	*e*P	**P**	**02 16 00.3**	**+0.4**
KSP			*e*		02 18 09.5	
KSP			*e*S	**S**	**02 23 57.0**	**+0.3**
KSP			*e*SS	**SS**	**02 27 46.0**	**+0.1**
KSP			MLR	MLR		
	comp=Z,19μm,20.8s					
KSP	**Ksiaz**	**57.43 313**	*e*P	**P**	**02 16 00.3**	**+0.4**
DPC	**Dobruska-Polom**	**57.53 312**	*e*P	**P**	**02 16 01.3**	**+0.6**
DPC			*e*		02 16 11.7	
DPC			*e*S	**S**	**02 23 57.2**	**-0.9**
DPC			*e*SS	**SS**	**02 27 45.7**	**-1.8**
DPC	**Dobruska-Polom**	**57.53 312**	*e*P	**P**	**02 16 01.3**	**+0.6**
DPC			*e*pP	**pP**	**02 16 04.1**	**0.0**
DPC			*e*x	x	02 16 09.1	
DPC			*e*x	x	02 16 21.3	
DPC			*e*S	**S**	**02 23 57.2**	**-0.9**
DPC			*e*SS	**SS**	**02 27 45.7**	**-1.8**
DPC			AMS	AMS	02 43 20.0	
DPC	**Dobruska-Polom**	**57.53 312**	*e*P	**P**	**02 16 01.3**	**+0.6**
LKD2	**Lefkada island**	**57.59 298**	P	**P**	**02 15 58.6**	**-2.7**
LKD2	**Lefkada island**	**57.59 298**	*e*P	**P**	**02 15 59.0**	**-2.3**
LKD2	**Lefkada island**	**57.59 298**	P	**P**	**02 15 58.6**	**-2.7**
VRAC	**Vranov**	**57.59 311**	P	P	02 16 05.5	+4.4
VRAC	**Vranov**	**57.59 311**⇑	*i*P	**P**	**02 16 01.8**	**+0.7**
IGT	**Igoumenitsa**	**57.61 299**	P	**P**	**02 15 59.1**	**-2.2**
IGT	**Igoumenitsa**	**57.61 299**	P	**P**	**02 15 59.1**	**-2.2**
IGT	**Igoumenitsa**	**57.61 299**	*e*P	**P**	**02 15 59.5**	**-1.8**
IGT	**Igoumenitsa**	**57.61 299**	P	**P**	**02 15 59.1**	**-2.2**
UPC	**Upice**	**57.68 313**	*e*P	**P**	**02 16 02.2**	**+0.5**
UPC	**Upice**	**57.68 313**	*e*P	**P**	**02 16 02.2**	**+0.5**
UPC			*e*pP	**pP**	**02 16 05.1**	**-0.1**
UPC			*e*x	x	02 16 10.6	
SOP	**Sopron**	**58.01 309**⇓	*e*P	**P**	**02 16 04.2**	**+0.2**
NC602	**NORSAR Array S**	**58.10 325**	*e*P	**P**	**02 16 04.6**	**+0.2**
NB2	**NORSAR Subarra**	**58.20 325**	P	**P**	**02 16 04.8**	**-0.4**
	comp=Z,22nm,0.7s,baz=80,slow=7.4					
NB2	**NORSAR Subarra**	**58.20 325**	P	**P**	**02 16 04.8**	**-0.4**
	baz=80,slow=7.4					
NOA	**NORSAR Array B**	**58.20 325**	P	**P**	**02 16 04.6**	**-0.6**
	comp=Z,14nm,0.7s,baz=80,slow=7.0,SNR=27					
NOA			LR	LR	02 42 59.4	
	comp=Z,4μm,18.7s,baz=75,slow=38					
TBLU	**Trondheim**	**58.25 328**	*e*P	**P**	**02 16 05.6**	**+0.1**
TBLU			IAMs_20	IAMs_20	02 43 19.6	
	comp=Z,7μm,18.1s					
TREC	**Trest**	**58.30 311**	*e*P	**P**	**02 16 06.4**	**+0.3**
TREC			*e*		02 16 16.3	
TREC			*e*S	**S**	**02 24 08.7**	**+0.5**
TREC			MLR	MLR		
	comp=Z,4μm,13.4s					
TREC	**Trest**	**58.30 311**	*e*P	**P**	**02 16 06.4**	**+0.3**
TREC			*e*x	x	02 16 16.3	
TREC			*e*S	**S**	**02 24 08.7**	**+0.5**
TREC			*e*SS	**SS**	**02 28 05.5**	**+5.8**
TREC			AMS	AMS	02 45 10.0	
	comp=Z,4μm,13.4s					
CONA	**Conrad Observa**	**58.40 310**	*i* sP	**P**	**02 16 07.2**	**+0.3**
	comp=Z,110nm,1.0s,SNR=74					
STON	**Ston**	**58.53 304**	P	**P**	**02 16 06.6**	**-1.1**
KOGS	**Kog**	**58.53 308**	*e*P	**P**	**02 16 07.5**	**-0.2**
KOGS			*e*S	**S**	**02 24 12.0**	**+0.8**
PVCC	**Panska Ves**	**58.57 313**	*e*P	**P**	**02 16 08.4**	**+0.5**
PVCC			*e*		02 16 18.8	
PVCC			*e*S	**S**	**02 24 12.3**	**+0.6**
PVCC			*e*SS	**SS**	**02 28 08.8**	**+5.0**
PVCC			MLR	MLR		
	comp=Z,4μm,14.9s					
PVCC	**Panska Ves**	**58.57 313**	*e*P	**P**	**02 16 08.4**	**+0.5**
PVCC			*e*pP	**pP**	**02 16 11.8**	**+0.4**
PVCC			*e*x	x	02 16 16.3	
PVCC			*e*S	**S**	**02 24 12.3**	**+0.6**
PVCC			*e*SS	**SS**	**02 28 08.8**	**+5.0**
PVCC			AMS	AMS	02 43 00.0	
	comp=Z,4μm,14.9s					
RUE	**Ruedersdorf**	**58.59 315**	*e*P	**P**	**02 16 08.2**	**+0.3**
	comp=Z,60nm,1.0s					
COP	**Copenhagen**	**58.63 319**	*i* P	**P**	**02 16 09.3**	**+1.1**
COP			pmax	pmax		
	comp=Z,35nm,0.9s					
COP			MLR	MLR		
	comp=Z,3μm,15.0s					
COP	**Copenhagen**	**58.63 319**	*i* P	**P**	**02 16 09.3**	**+1.1**
	comp=Z,35nm,0.9s					
OSL	**Oslo**	**58.65 324**	*e*P	**P**	**02 16 09.3**	**+1.1**
OSL			IAmb	IAmb	02 16 12.1	
	comp=Z,345nm,2.0s					
PRU	**Pruhonice**	**58.73 312**	*e*P	**P**	**02 16 09.3**	**+0.3**
PRU			*e*		02 16 19.7	
PRU			*e*S	**S**	**02 24 14.2**	**+0.6**
PRU			*e*SS	**SS**	**02 28 11.6**	**+5.4**
PRU			MLR	MLR		
	comp=Z,4μm,13.8s					
PRU	**Pruhonice**	**58.73 312**	*e*P	**P**	**02 16 09.3**	**+0.3**
PRU			*e*pP	**pP**	**02 16 12.3**	**-0.2**
PRU			*e*x	x	02 16 19.7	
PRU			*e*S	**S**	**02 24 14.2**	**+0.6**
PRU			*e*SS	**SS**	**02 28 11.6**	**+5.4**
PRU			AMS	AMS	02 43 10.0	
	comp=Z,4μm,13.8s					
PRA	**Prague**	**58.77 312**	*e*P	**P**	**02 16 10.0**	**+0.7**
PRA			*e*		02 16 20.1	
PRA	**Prague**	**58.77 312**	*e*P	**P**	**02 16 10.0**	**+0.7**
PRA			*e*x	x	02 16 20.1	
ARSA	**Arzberg**	**58.80 309**	*i* pP	**P**	**02 16 09.7**	**+0.1**
	comp=Z,41nm,1.1s,SNR=21					
LLD	**Lille Linde**	**58.83 319**	*i* P	**P**	**02 16 10.7**	**+1.1**
LLD	**Lille Linde**	**58.83 319**	*i* P	**P**	**02 16 10.7**	**+1.1**
BRG	**Berggiesshubel**	**58.88 313**	*i* P	**P**	**02 16 10.2**	**+0.2**
	comp=Z,71nm,1.5s					
BRG			*i*		02 16 13.1	
	comp=Z,67nm,1.0s					
BRG			*e*PCP	**PcP**	**02 17 00.3**	**+1.0**
	comp=Z,44nm,1.6s					
BRG			*e*PP	**PP**	**02 18 23.7**	**+3.9**
	comp=Z,31nm,1.7s					
BRG			*e*		02 21 01.8	
	comp=Z,17nm,1.7s					
BRG			S	**S**	**02 24 18.0**	**+2.4**
BRG			SS	SS	02 28 17.0	+8.5
BRG	**Berggiesshubel**	**58.88 313**	*i* P	**P**	**02 16 10.2**	**+0.2**
BRG			*e*		02 17 00.3	
BRG			*e*		02 18 23.7	
BRG			S	**S**	**02 24 18.0**	**+2.4**
BRG			pmax	pmax		
	comp=Z,71nm,1.5s					
BRG			pmax	pmax		
	comp=Z,31nm,1.7s					
BRG			MLR	MLR		
	comp=N,3μm,13.1s					
BRG			MLR	MLR		
	comp=E,4μm,17.0s					
BRG			MLR	MLR		
	comp=Z,6μm,15.9s					
BRG	**Berggiesshubel**	**58.88 313**	*e*P	**P**	**02 16 10.1**	**+0.1**
	comp=Z,67nm,1.0s					
BRG			*e*S	**S**	**02 24 16.7**	**+1.1**
MBWA	**Marble Bar**	**59.22 151**	P	**P**	**02 16 15.1**	**+2.4**
	SNR=5.7					
MBWA	**Marble Bar**	**59.22 151**	*e*P	**P**	**02 16 12.5**	**-0.1**
	comp=Z,113nm,0.9s					
MBWA			LR	LR		
	comp=Z,2μm,21.0s					
KONO	**Kongsberg**	**59.26 324**	*e*P	**P**	**02 16 12.9**	**+0.3**
KONO			*e*S	**S**	**02 24 21.3**	**+1.0**
KONO	**Kongsberg**	**59.26 324**	*e*P	**P**	**02 16 12.8**	**+0.3**
KONO			pmax	pmax		
	comp=Z,616nm,2.8s					
KONO			MLR	MLR		
	comp=Z,5μm,21.0s					
KONO	**Kongsberg**	**59.26 324**	*e*P	**P**	**02 16 12.8**	**+0.3**
	comp=Z,616nm,2.8s					
KONO			LR	LR		
	comp=Z,5μm,21.0s					
SOKA	**Soboth**	**59.28 308**	*i* sP	**P**	**02 16 13.1**	**+0.1**
	comp=Z,101nm,1.5s,SNR=57					
FX1	**Attu Island--F**	**59.29 44**	P	**P**	**02 16 13.2**	**+0.4**
	comp=Z,16nm,0.5s,baz=187,slow=14,SNR=15					
CLL	**Collm**	**59.34 314**⇓	*i*P	**P**	**02 16 12.7**	**-0.5**
CLL			*i*		02 16 23.1	
CLL			*e*S	**S**	**02 24 19.0**	**-2.5**
CLL			pmax	pmax		
	comp=Z,74nm,1.6s					
CLL			MLR	MLR		
	comp=Z,5μm,18.5s					
CLL	**Collm**	**59.34 314**	*e*P	**P**	**02 16 13.1**	**-0.1**
	comp=Z,63nm,1.2s					
CLL			*e*S	**S**	**02 24 22.3**	**+0.8**
CLL	**Collm**	**59.34 314**⇓	*i*P	**P**	**02 16 12.7**	**-0.5**
	comp=Z,74nm,1.6s					
CLL			*i* (pP)	**pP**	**02 16 15.9**	**-0.8**
	comp=Z,63nm,1.2s					
CLL			*i*		02 16 23.1	
CLL			*e*PP	PP	02 18 30.0	+6.0
CLL			*e*PPP	PPP	02 19 49.0	
CLL			*e*S	**S**	**02 24 19.0**	**-2.5**
	comp=N,400nm,22.6s					
CLL			*e*S	**S**	**02 24 19.0**	**-2.5**
	comp=E,400nm,25.5s					
CLL			*e*ScS	**ScS**	**02 26 05.0**	**+1.8**
CLL			*e*SS	**SS**	**02 28 21.0**	**+5.2**
CLL			*e*SSS	SSS	02 30 54.0	
CLL			LmH		02 39 00.0	
	comp=N,9μm,22.0s					
CLL			LmH		02 39 00.0	
	comp=E,3μm,21.1s					
CLL			LmV		02 43 00.0	
	comp=Z,5μm,18.5s					
CLL	**Collm**	**59.34 314**	*e*P	**P**	**02 16 13.0**	**-0.2**
UDBI	**Udbina**	**59.40 306**	P	**P**	**02 16 15.8**	**+2.0**
MOA	**Molln**	**59.46 310**	*i* pP	**P**	**02 16 14.3**	**+0.1**
	comp=Z,36nm,0.9s,SNR=16					
BOJS	**Bojanci**	**59.47 307**	*e*P	**P**	**02 16 14.1**	**-0.1**
BOJS			*e*		02 19 56.9	
BOJS			*e*S	**S**	**02 24 24.8**	**+1.4**
GEC2	**GERESS Array S**	**59.55 311**	*e*P	**P**	**02 16 15.2**	**+0.3**
GEC2	**GERESS Array S**	**59.55 311**	*e*P	**P**	**02 16 15.2**	**+0.3**
	comp=Z,105nm,1.2s					
GEC2			*e*S	**S**	**02 24 26.7**	**+2.1**
GEC2	**GERESS Array S**	**59.55 311**	*e*P	**P**	**02 16 15.2**	**+0.3**
GERES	**GERESS Array B**	**59.55 311**	P	**P**	**02 16 15.2**	**+0.3**
	comp=Z,27nm,0.9s,baz=72,slow=5.7,SNR=82					
GERES			LR	LR	02 45 00.5	
	comp=Z,5μm,20.5s,baz=72,slow=39					
KHC	**Kasperske Hory**	**59.55 312**	*e*P	**P**	**02 16 14.3**	**-0.5**
KHC			pmax	pmax		
	comp=Z,30nm,1.0s					
KHC	**Kasperske Hory**	**59.55 312**	*e*P	**P**	**02 16 14.9**	**+0.1**
KHC			*e*x	x	02 16 25.1	
KHC			*e*x	x	02 16 33.9	
KHC			*e*S	**S**	**02 24 25.9**	**+1.4**
KHC			*e*SS	**SS**	**02 28 23.2**	**+3.9**
KHC			AMS	AMS	02 44 30.0	
	comp=Z,5μm,13.9s					
KHC	**Kasperske Hory**	**59.55 312**	*e*P	**P**	**02 16 14.3**	**-0.5**
	comp=Z,30nm,1.0s					
OBKA	**Obir**	**59.65 308**⇓	*i*pP	**P**	**02 16 15.4**	**-0.2**
	comp=Z,39nm,1.4s,SNR=11					
LJU	**Ljubljana**	**59.80 308**	*e*P	**P**	**02 16 16.4**	**-0.1**
TANN	**Tannenbergstha**	**59.91 313**	*e*P	**P**	**02 16 17.3**	**+0.1**
	comp=Z,57nm,1.1s					
WET	**Wettzell**	**59.99 312**	*e*P	**P**	**02 16 18.2**	**+0.4**
	comp=Z,81nm,1.2s					
WET			*e*S	**S**	**02 24 33.4**	**+3.3**
NVLJ	**Novalja**	**60.00 306**	P	P	02 16 13.4	-4.4
HOMB	**Homborsund**	**60.13 323**	*e*P	**P**	**02 16 18.8**	**+0.3**
MYKA	**Terra Mystica**	**60.21 309**⇓	*i*pP	**P**	**02 16 18.8**	**-0.7**
	comp=Z,29nm,1.2s,SNR=7.2					
MUD	**Monsted U'grnd**	**60.23 321**	*i* P	**P**	**02 16 19.0**	**-0.2**
MUD			MLR	MLR		
	comp=Z,7μm,14.0s					
MUD	**Monsted U'grnd**	**60.23 321**	*i* P	**P**	**02 16 19.0**	**-0.2**
ROTZ	**Rotzenmuhle**	**60.24 313**	*e*P	**P**	**02 16 20.2**	**+0.7**
	comp=Z,110nm,1.2s					
BSEG	**Bad Segeberg**	**60.24 318**	*e*P	**P**	**02 16 20.1**	**+0.8**
	comp=Z,111nm,1.1s					
BSEG			*e*S	**S**	**02 24 36.7**	**+3.6**
KBA	**Koelnbreinsper**	**60.28 309**	*i* pP	**P**	**02 16 19.8**	**-0.2**
	comp=Z,54nm,1.1s,SNR=26					
SKDS	**Skadanscina**	**60.28 307**	*i* P	**P**	**02 16 19.1**	**-0.7**
TIP	**Timpagrande**	**60.35 300**	P	**P**	**02 16 19.3**	**-1.2**
TIP	**Timpagrande**	**60.35 300**	*e*P	**P**	**02 16 20.0**	**-0.5**
	comp=Z,19nm,1.2s					
TIP			LR	LR		
	comp=Z,1μm,22.0s					
MOX	**Moxa**	**60.36 314**	*e*P	**P**	**02 16 20.5**	**+0.2**
	comp=Z,69nm,1.3s					
MOX			*e*S	**S**	**02 24 36.9**	**+2.1**
MOX			*e*L	L	02 44 14.4	
	comp=Z,5μm,18.4s					
TRI	**Trieste**	**60.40 308**	*e*P	**P**	**02 16 20.2**	**-0.4**
TRI			pmax	pmax		
	comp=Z,97nm,1.0s					
TRI	**Trieste**	**60.40 308**	*e*P	**P**	**02 16 20.1**	**-0.4**
	comp=Z,98nm,1.0s					
RJOB	**Jochberg**	**60.44 310**	*e*P	**P**	**02 16 21.1**	**+0.2**
	comp=Z,81nm,1.4s					
HYA	**Hoyanger**	**60.56 326**	*e*P	**P**	**02 16 22.2**	**+0.8**
ODD1	**Odda**	**60.66 325**	*e*P	**P**	**02 16 23.8**	**+1.6**
NRDL	**Niedersach Rie**	**60.75 316**	*e*P	**P**	**02 16 23.5**	**+0.7**
	comp=Z,159nm,1.2s					
NRDL			*e*S	**S**	**02 24 41.1**	**+1.6**
CUC	**Castrocucco**	**60.77 301**	*e*P	**P**	**02 16 22.6**	**-0.7**
	comp=Z,22nm,1.0s					
CUC			LR	LR		
	comp=Z,1μm,22.0s					
SNART	**Snartemo**	**60.77 323**	*e*P	**P**	**02 16 23.3**	**+0.4**
SNART			IAmb	IAmb	02 16 27.5	
	comp=Z,58nm,1.0s					
CLZ	**Clausthal**	**60.78 315**	*e*P	**P**	**02 16 23.5**	**+0.4**
	comp=Z,111nm,1.0s					
CLZ			*e*S	**S**	**02 24 41.5**	**+1.4**
BLS5	**Blasjo**	**60.87 324**	*e*P	P	02 16 20.1	-3.5
GRF	**Grafenberg Arr**	**60.87 313**	*e*P	**P**	**02 16 24.5**	**+0.7**
	comp=Z,122nm,1.1s					
GRF			*e*S	**S**	**02 24 45.0**	**+3.6**
GRF			*e*L	L	02 44 42.3	
	comp=Z,4μm,18.1s					
GRFO	**Grafenberg**	**60.88 313**	*e*P	**P**	**02 16 24.7**	**+0.9**
GRFO			pmax	pmax		
	comp=Z,76nm,1.0s					
GRFO	**Grafenberg**	**60.88 313**	*e*P	**P**	**02 16 24.7**	**+0.9**
	comp=Z,76nm,1.0s					
ABTA	**Abfaltersbach**	**60.92 309**⇓	*i*P	**P**	**02 16 23.0**	**-1.3**
	comp=Z,32nm,1.1s,SNR=21					
BER	**Bergen**	**61.16 325**	*e*P	**P**	**02 16 26.4**	**+0.9**
BER			*e*S	**S**	**02 24 48.0**	**+3.3**
SUE	**Sulen**	**61.26 326**	*e*P	P	02 16 32.7	+6.6
FUR	**Furstenfeldbru**	**61.29 311**	*e*P	**P**	**02 16 27.2**	**+0.5**
	comp=Z,216nm,1.1s					
FUR			*e*S	**S**	**02 24 48.9**	**+2.1**
UBBA	**Unterbreizbach**	**61.30 314**	*e*P	**P**	**02 16 26.7**	**+0.2**
	comp=Z,120nm,1.9s					
UBBA			*e*S	**S**	**02 24 49.8**	**+3.4**
CEL	**Celeste**	**61.30 299**	*e*P	**P**	**02 16 26.6**	**-0.3**
	comp=Z,89nm,1.1s					
CEL			LR	LR		
	comp=Z,2μm,22.0s					
WTTA	**Wattenberg**	**61.34 310**	*i* pP	**P**	**02 16 26.6**	**-0.6**
	comp=Z,82nm,1.5s,SNR=18					
MOTA	**Moosalm**	**61.66 310**⇓	*i*pP	**P**	**02 16 28.4**	**-0.9**
	comp=Z,28nm,1.0s,SNR=25					
AQU	**L'Aquila**	**61.71 304**	*e*P	**P**	**02 16 29.1**	**-0.5**
AQU			pmax	pmax		
	comp=Z,77nm,1.3s					
AQU			MLR	MLR		
	comp=Z,2μm,20.0s					
AQU	**L'Aquila**	**61.71 304**	*e*P	**P**	**02 16 29.1**	**-0.5**
	comp=Z,77nm,1.3s					
AQU			LR	LR		
	comp=Z,2μm,20.0s					
RETA	**Reutte**	**61.83 310**	*i* pP	**P**	**02 16 30.2**	**-0.2**
	comp=Z,52nm,1.0s,SNR=22					
FETA	**Feichten**	**62.00 310**	*i* pP	**P**	**02 16 31.0**	**-0.7**
	comp=Z,51nm,1.0s,SNR=21					
KMBO	**Kilima Mbogo**	**62.11 249**	P	**P**	**02 16 32.8**	**-0.1**
	SNR=27					
KMBO	**Kilima Mbogo**	**62.11 249**	P	**P**	**02 16 32.6**	**-0.3**
	comp=Z,32nm,1.0s,baz=42,slow=9.6,SNR=32					
KMBO			LR	LR	02 43 08.5	
	comp=Z,1μm,18.6s,baz=56,slow=36					
KMBO	**Kilima Mbogo**	**62.11 249**	*e*P	**P**	**02 16 32.4**	**-0.5**
	comp=Z,9.8nm,1.0s					
IBBN	**Ibbenburen**	**62.19 316**	*e*P	**P**	**02 16 32.9**	**+0.3**
	comp=Z,106nm,1.5s					
STU	**Stuttgart**	**62.42 312**	*e*P	**P**	**02 16 33.4**	**-0.8**
STU	**Stuttgart**	**62.42 312**	*e*P	**P**	**02 16 34.5**	**+0.3**
	comp=Z,120nm,1.4s					
STU			*e*S	**S**	**02 25 02.8**	**+1.8**
STU	**Stuttgart**	**62.42 312**	*e*P	**P**	**02 16 33.4**	**-0.8**
TNS	**Taunus Mts**	**62.42 314**	*e*P	**P**	**02 16 34.4**	**+0.1**
	comp=Z,66nm,1.2s					
FUORN	**Ofenpass-Fuorn**	**62.43 310**	*e*P	**P**	**02 16 34.3**	**-0.4**

comp=Z,46nm,1.2s
ECH MLR MLR
comp=Z,3µm,20.0s
ECH Echery 63.88 312‖ eP P 02 16 43.9 -0.1
ECH Echery 63.88 312 eP P 02 16 43.4 -0.6
comp=Z,46nm,1.2s
ECH LR LR
comp=Z,3µm,20.0s
BEBN Eben Emael 63.90 315 P P 02 16 44.8 +0.9
WLF Walferdange 64.01 314 P P 02 16 45.5 +0.7
comp=Z,103nm,1.8s
WLF Walferdange 64.01 314 eP P 02 16 45.4 +0.7
WLF pmax pmax
comp=Z,160nm,1.3s
WLF MLR MLR
comp=Z,4µm,20.0s
WLF Walferdange 64.01 314 eP P 02 16 45.5 +0.7
comp=Z,169nm,1.3s
WLF Walferdange 64.01 314 eP P 02 16 45.4 +0.7
comp=Z,160nm,1.3s
WLF LR LR
comp=Z,4µm,20.0s
MOF Molkenrain 64.03 312‖ eP P 02 16 44.9 -0.1
RER Riviere de l'E 64.03 219 PFAKE 02 17 00.0 +15
RER LR LR
comp=Z,2µm,21.0s
HINF Hinterlafeld 64.21 312 eP P 02 16 45.7 -0.5
comp=Z,70nm,1.0s
HINF Hinterlafeld 64.21 312 eP P 02 16 45.7 -0.5
HINF pmax pmax
comp=Z,70nm,1.0s
HINF Hinterlafeld 64.21 312 eP P 02 16 45.7 -0.5
comp=Z,70nm,1.0s
BCLA Clavier 64.26 315 P **P 02 16 46.5 +0.1**
comp=Z,39nm,2.1s
LOMF Lomont 64.39 311‖ eP P 02 16 47.1 -0.3
HAU Haudompre 64.47 312 eP P 02 16 47.3 -0.5
comp=Z,28nm,0.8s
HAU eR
comp=Z,3µm,18.5s
HAU Haudompre 64.47 312 eP P 02 16 47.3 -0.5
HAU pmax pmax
comp=Z,28nm,0.8s
HAU Haudompre 64.47 312 eP P 02 16 47.3 -0.5
comp=Z,28nm,0.8s
TNA Tin City 64.59 27 eP P 02 16 47.7 -0.5
comp=Z,55nm,1.5s
THEF They Montfort 64.61 312‖ eP P 02 16 48.6 -0.1
GIVF Givet 64.66 315 eP P 02 16 49.0 0.0
comp=Z,110nm,1.3s
GIVF Givet 64.66 315 eP P 02 16 49.0 0.0
GIVF pmax pmax
comp=Z,110nm,1.3s
GIVF Givet 64.66 315 eP P 02 16 49.0 0.0
comp=Z,110nm,1.3s
PAGF Fort de Pagny 64.66 313 eP P 02 16 49.2 +0.2
comp=Z,74nm,1.3s
PAGF Fort de Pagny 64.66 313 eP P 02 16 49.2 +0.2
comp=Z,74nm,1.3s
UCC Uccle 64.69 315 P **P 02 16 49.5 +0.4**
PGF Pioggiola 64.69 306 eP P 02 16 48.8 -0.7
comp=Z,92nm,1.2s
PGF Pioggiola 64.69 306 eP P 02 16 48.8 -0.7
PGF pmax pmax
comp=Z,93nm,1.2s
PGF Pioggiola 64.69 306 eP P 02 16 48.8 -0.7
comp=Z,92nm,1.2s
DOU Dourbes 64.80 315 P **P 02 16 50.4 +0.5**
comp=Z,31nm,2.3s
SNF Seneffe 64.84 315 P **P 02 16 49.5 -0.6**
BAIF Baives 65.04 315 eP P 02 16 51.6 +0.1
comp=Z,184nm,1.6s
BAIF Baives 65.04 315 eP P 02 16 51.6 +0.1
BAIF pmax pmax
comp=Z,184nm,1.6s
BAIF Baives 65.04 315 eP P 02 16 51.6 +0.1
comp=Z,184nm,1.6s
MEZF Maizieres J'vi 65.09 313 eP P 02 16 51.8 0.0
comp=Z,149nm,1.2s
MEZF Maizieres J'vi 65.09 313 eP P 02 16 51.8 0.0
comp=Z,149nm,1.2s
LPG La Plagne 65.11 309 eP P 02 16 52.6 +0.2
comp=Z,295nm,1.3s
LPG La Plagne 65.11 309 eP P 02 16 52.6 +0.2
LPG pmax pmax
comp=Z,295nm,1.3s
LPG La Plagne 65.11 309 eP P 02 16 52.6 +0.2
comp=Z,295nm,1.3s
LPL La Plagne 65.12 309 eP P 02 16 52.6 +0.2
comp=Z,202nm,1.0s
LPL La Plagne 65.12 309 eP P 02 16 52.6 +0.2
LPL pmax pmax
comp=Z,202nm,1.0s
LPL La Plagne 65.12 309 eP P 02 16 52.6 +0.2
comp=Z,202nm,1.0s
CABF La Chapelle 65.13 311 eP P 02 16 51.7 -0.6
CABF La Chapelle 65.13 311 eP P 02 16 51.7 -0.6
CABF La Chapelle 65.13 311 eP P 02 16 51.7 -0.6
SAOF Saorge 65.14 308‖ eP P 02 16 52.3 0.0
SFTF Sexfontaines 65.21 313 eP P 02 16 52.3 -0.3
comp=Z,256nm,1.3s
SFTF Sexfontaines 65.21 313 eP P 02 16 52.3 -0.3
comp=Z,256nm,1.3s
AUTN L'Aution 65.22 308‖ eP P 02 16 53.4 +0.3
SBF Sospel 65.27 307 eP P 02 16 52.8 -0.3
comp=Z,223nm,1.1s
SBF Sospel 65.27 307 eP P 02 16 52.8 -0.3
SBF pmax pmax
comp=Z,223nm,1.1s
SBF Sospel 65.27 307 eP P 02 16 52.8 -0.3
comp=Z,223nm,1.1s
BNI Bardonecchia 65.33 309 eP P 02 16 53.1 -0.5
BNI pmax pmax
comp=Z,109nm,1.4s
BNI MLR MLR
comp=Z,4µm,21.0s
BNI Bardonecchia 65.33 309 eP P 02 16 53.1 -0.5
comp=Z,109nm,1.4s
BNI LR LR
comp=Z,4µm,21.0s
TOUF Mont Tournerai 65.34 308‖ eP P 02 16 53.7 0.0
REVF Revere 65.36 307 eP P 02 16 53.4 -0.3
MBDF Montbardon 65.39 309 eP P 02 16 52.9 -1.1
comp=Z,60nm,0.9s
MBDF Montbardon 65.39 309 eP P 02 16 52.9 -1.1
MBDF pmax pmax
comp=Z,60nm,0.9s
MBDF Montbardon 65.39 309 eP P 02 16 52.9 -1.1
comp=Z,60nm,0.9s
MVIF Mont Vial 65.44 308‖ eP P 02 16 54.0 -0.4
SURF Saint Ours 65.45 308‖ eP P 02 16 54.2 -0.3
ADK Adak 65.51 43 PFAKE 02 17 00.0 +5.5
ADK LR LR
comp=Z,2µm,20.0s
WRAB Tennant Creek 65.54 137 P **P 02 16 55.9 +0.9**
comp=Z,519nm,0.8s,SNR=24
WRAB Tennant Creek 65.54 137 eP P 02 16 55.4 +0.4
WRAB pmax pmax
comp=Z,84nm,0.9s
WRAB MLR MLR
comp=Z,1µm,20.0s
WRAB Tennant Creek 65.54 137 eP P 02 16 55.4 +0.4
comp=Z,84nm,0.9s
WRAB LR LR
comp=Z,1µm,20.0s
WRA Warramunga Arr 65.54 137 P **P 02 16 55.2 +0.2**
comp=Z,57nm,0.9s,baz=331,slow=7.0,SNR=64
WRA S **S 02 25 39.6 -0.6**
comp=Z,0.5nm,0.3s,baz=309,slow=11,SNR=5.5
WRA PKP2bc 02 45 34.0
comp=Z,0.8nm,0.6s,baz=144,slow=2.0,SNR=4.5
WRA LR LR 02 48 16.7
comp=Z,678nm,19.1s,baz=320,slow=39
WB2 Warramunga Arr 65.55 137 eP P 02 16 54.9 -0.2
VSL Villasalto 65.58 302 eP P 02 16 53.6 -1.5
comp=Z,30nm,1.3s
VSL LR LR
comp=Z,927nm,21.0s
GDM Grand'Maison 65.64 309‖ eP P 02 16 55.6 0.0
CALN Calern 65.67 308‖ eP P 02 16 55.6 -0.3
GRN Grenoble 65.87 309‖ eP P 02 16 57.3 +0.3
ORIF Oris-en-Rattie 65.90 309 eP P 02 16 56.7 -0.6
comp=Z,50nm,0.7s
ORIF eR
comp=Z,7µm,22.5s
ORIF Oris-en-Rattie 65.90 309 eP P 02 16 56.7 -0.6
ORIF pmax pmax
comp=Z,50nm,0.6s
ORIF Oris-en-Rattie 65.90 309 eP P 02 16 56.7 -0.6
comp=Z,50nm,0.6s
FRF La Foret Royal 65.91 307 eP P 02 16 56.6 -0.6
comp=Z,48nm,0.9s
FRF La Foret Royal 65.91 307 eP P 02 16 56.6 -0.6
FRF pmax pmax
comp=Z,48nm,0.9s
FRF La Foret Royal 65.91 307 eP P 02 16 56.6 -0.6
comp=Z,48nm,0.9s
LMR La Mourre 66.09 307 eP P 02 16 57.9 -0.5
comp=Z,271nm,1.7s
LMR La Mourre 66.09 307 eP P 02 16 57.9 -0.5
LMR pmax pmax
comp=Z,271nm,1.7s
LMR La Mourre 66.09 307 eP P 02 16 57.9 -0.5
comp=Z,271nm,1.7s
LOR Lormes 66.30 312 eP P 02 16 58.8 -0.9
comp=Z,48nm,1.1s
LOR eR
comp=Z,3µm,17.8s
LOR Lormes 66.30 312 eP P 02 16 58.8 -0.9
LOR pmax pmax
comp=Z,48nm,1.0s
LOR Lormes 66.30 312 eP P 02 16 58.8 -0.9
comp=Z,48nm,1.0s
SMRF Simiane la Rot 66.47 308 eP P 02 17 00.6 -0.2
SMRF Simiane la Rot 66.47 308 eP P 02 17 00.6 -0.2
PMG Port Moresby 66.47 119 eP P 02 17 01.1 0.0
PMG pmax pmax
comp=Z,26nm,0.8s
PMG MLR MLR
comp=Z,842nm,20.0s
PMG Port Moresby 66.47 119 eP P 02 17 01.1 0.0
comp=Z,6.7nm,0.8s
PMG LR LR
comp=Z,842nm,20.0s
SMF Signal de Mont 66.55 311 eP P 02 17 00.7 -0.6
comp=Z,350nm,1.6s
SMF Signal de Mont 66.55 311 eP P 02 17 00.7 -0.6
SMF pmax pmax
comp=Z,350nm,1.6s
SMF Signal de Mont 66.55 311 eP P 02 17 00.7 -0.6
comp=Z,350nm,1.6s
SSF Saint Saulge 66.60 312 eP P 02 17 01.0 -0.6
comp=Z,116nm,1.2s
SSF Saint Saulge 66.60 312 eP P 02 17 01.0 -0.6
SSF pmax pmax
comp=Z,116nm,1.2s
SSF Saint Saulge 66.60 312 eP P 02 17 01.0 -0.6
comp=Z,116nm,1.2s
SSB Saint Sauveur 66.64 310 eP P 02 17 01.2 -0.7
SSB pmax pmax
comp=Z,214nm,1.9s
SSB MLR MLR
comp=Z,2µm,19.0s
SSB Saint Sauveur 66.64 310 eP P 02 17 01.2 -0.7
comp=Z,214nm,1.9s
SSB LR LR
comp=Z,2µm,19.0s
COEN Coen 66.72 125 eP P 02 17 02.9 +0.2
comp=Z,12nm,0.9s
VIVF Saint-Julien-l 66.72 309 eP P 02 17 02.1 -0.3
comp=Z,109nm,1.1s
VIVF Saint-Julien-l 66.72 309 eP P 02 17 02.1 -0.3
VIVF pmax pmax
comp=Z,109nm,1.1s
VIVF Saint-Julien-l 66.72 309 eP P 02 17 02.1 -0.3
comp=Z,109nm,1.1s
AVF Avril sur Loir 66.81 312 eP P 02 17 02.3 -0.6
comp=Z,315nm,1.6s
AVF Avril sur Loir 66.81 312 eP P 02 17 02.3 -0.6
AVF pmax pmax
comp=Z,315nm,1.6s
AVF Avril sur Loir 66.81 312 eP P 02 17 02.3 -0.6
comp=Z,315nm,1.6s
PLDF La Plantade 66.96 311‖ eP P 02 17 04.7 +0.7
HYF Humbligny 67.07 312 eP P 02 17 04.6 0.0
HYF Humbligny 67.07 312 eP P 02 17 04.6 0.0
KEST Kesra 67.10 299 P **P 02 17 04.8 -0.2**
comp=Z,7.6nm,0.9s,baz=321,slow=2.6,SNR=16
KEST LR LR 02 50 49.7
comp=Z,469nm,21.0s,baz=29,slow=40
KEST Kesra 67.10 299 eP P 02 17 04.5 -0.6
ESK Eskdalemuir 67.18 322 eP P 02 17 04.6 -0.5
ESK pmax pmax
comp=Z,160nm,1.0s
ESK MLR MLR
comp=Z,4µm,19.0s
ESK Eskdalemuir 67.18 322 eP P 02 17 04.6 -0.5
comp=Z,44nm,1.0s
ESK LR LR
comp=Z,4µm,19.0s
BGF Bois d'Agland 67.22 312 eP P 02 17 05.1 -0.4
comp=Z,42nm,1.0s
BGF Bois d'Agland 67.22 312 eP P 02 17 05.1 -0.4
BGF pmax pmax
comp=Z,42nm,1.0s
BGF Bois d'Agland 67.22 312 eP P 02 17 05.1 -0.4
comp=Z,42nm,1.0s
AGO Saint Agoulin 67.24 311‖ eP P 02 17 06.9 +1.2
ABPO Ambohimpanom 67.25 227 eP P 02 17 05.1 -1.0
ABPO pmax pmax
comp=Z,20nm,1.1s
ABPO MLR MLR
comp=Z,2µm,21.0s
ABPO Ambohimpanom 67.25 227 eP P 02 17 05.1 -1.0
comp=Z,20nm,1.1s
ABPO LR LR
comp=Z,2µm,21.0s
PYM Petit Puy Mans 67.44 311‖ eP P 02 17 08.0 +0.9
LBL Lubilhac 67.50 310‖ eP P 02 17 08.6 +1.2
LASF Ste Croix 67.56 309 eP P 02 17 07.7 -0.1
comp=Z,149nm,1.2s
LASF Ste Croix 67.56 309 eP P 02 17 07.7 -0.1
comp=Z,149nm,1.2s
TCF Toulx Ste Croi 67.73 311 eP P 02 17 08.8 0.0
comp=Z,254nm,1.3s
TCF Toulx Ste Croi 67.73 311 eP P 02 17 08.8 0.0
TCF pmax pmax
comp=Z,254nm,1.3s
TCF Toulx Ste Croi 67.73 311 eP P 02 17 08.8 0.0
comp=Z,254nm,1.3s
CMAH Djebel Manchou 68.15 300 P **P 02 17 11.7 0.0**
LDF La Druitiere 68.22 314 eP P 02 17 11.3 -0.5
comp=Z,86nm,1.1s
LDF La Druitiere 68.22 314 eP P 02 17 11.3 -0.5
LDF pmax pmax
comp=Z,86nm,1.1s
LDF La Druitiere 68.22 314 eP P 02 17 11.3 -0.5
comp=Z,86nm,1.1s
AS31 Alice Springs 68.24 140 eP P 02 17 12.3 +0.1
ASAR Alice Springs 68.24 140 P **P 02 17 12.5 +0.3**
comp=Z,48nm,0.8s,baz=325,slow=6.3,SNR=74
ASAR S **S 02 26 12.8 -0.1**
comp=Z,3.8nm,1.2s,baz=315,slow=10,SNR=16
ASAR PKP2bc 02 45 32.0
comp=Z,1.3nm,0.9s,baz=139,slow=2.6,SNR=5.1
ASAR LR LR 02 50 52.9
comp=Z,832nm,18.9s,baz=310,slow=39
ABSA Djebel Ababsia 68.25 300 P **P 02 17 15.3 +2.9**
FLN La Foliniere 68.37 315 eP P 02 17 12.1 -0.6
comp=Z,78nm,1.2s
FLN eR
comp=Z,5µm,19.8s
FLN La Foliniere 68.37 315 eP P 02 17 12.1 -0.6
FLN pmax pmax
comp=Z,78nm,1.2s
FLN La Foliniere 68.37 315 eP P 02 17 12.1 -0.6
comp=Z,78nm,1.2s
CAF Calviac 68.39 310 eP P 02 17 13.0 0.0
comp=Z,102nm,1.1s
CAF Calviac 68.39 310 eP P 02 17 13.0 0.0
CAF pmax pmax
comp=Z,102nm,1.1s
CAF Calviac 68.39 310 eP P 02 17 13.0 0.0
comp=Z,102nm,1.1s
RJF Les Rejaudoux 68.58 311 eP P 02 17 14.5 +0.4
comp=Z,245nm,1.4s
RJF eR
comp=Z,4µm,20.8s
RJF Les Rejaudoux 68.58 311 eP P 02 17 14.5 +0.4
RJF pmax pmax
comp=Z,245nm,1.4s
RJF Les Rejaudoux 68.58 311 eP P 02 17 14.5 +0.4
comp=Z,245nm,1.4s
GRR Gorron 68.75 314 eP P 02 17 14.6 -0.5
comp=Z,79nm,0.9s
GRR Gorron 68.75 314 eP P 02 17 14.6 -0.5
GRR pmax pmax
comp=Z,79nm,0.9s
GRR Gorron 68.75 314 eP P 02 17 14.6 -0.5
comp=Z,79nm,0.9s
CKFL Kef-Lekhel 68.76 300 P **P 02 17 14.7 -0.8**
MTLF Montolieu 68.95 309 eP P 02 17 16.4 -0.1
comp=Z,32nm,0.7s
MTLF Montolieu 68.95 309 eP P 02 17 16.4 -0.1
MTLF pmax pmax
comp=Z,32nm,0.7s
MTLF Montolieu 68.95 309 eP P 02 17 16.4 -0.1
comp=Z,32nm,0.7s
CASM Ain Smara 68.98 300 P **P 02 17 16.1 -0.8**
MFF Saint Martin d 69.08 313 eP P 02 17 16.7 -0.5
MFF Saint Martin d 69.08 313 eP P 02 17 16.7 -0.5
MFF Saint Martin d 69.08 313 eP P 02 17 16.7 -0.5
CTEI Djebel Teioual 69.13 300 P **P 02 17 20.1 +2.2**
LFF La Frestale 69.23 311 eP P 02 17 18.5 +0.3
comp=Z,59nm,0.8s
LFF La Frestale 69.23 311 eP P 02 17 18.5 +0.3
LFF pmax pmax
comp=Z,59nm,0.8s
LFF La Frestale 69.23 311 eP P 02 17 18.5 +0.3
comp=Z,59nm,0.8s
CARF Carcanieres 69.29 308‖ eP P 02 17 18.3 -0.4
VALF Valcebollere 69.48 308‖ eP P 02 17 20.0 0.0
CKHR Kef el Ahmar 69.80 300 P **P 02 17 21.8 -0.2**
SET Setif 69.80 301 P **P** 02 17 28.0 +6.0
SGMF Saint Gilles 69.83 315 eP P 02 17 21.8 0.0
SGMF Saint Gilles 69.83 315 eP P 02 17 21.8 0.0
SGMF Saint Gilles 69.83 315 eP P 02 17 21.8 0.0
COLD Coldfoot 69.96 22 eP P 02 17 22.8 +0.5
comp=Z,27nm,0.9s
SUMG Summit 70.03 346 eP P 02 17 22.6 -0.5
SUMG pmax pmax
comp=Z,63nm,1.4s
SUMG Summit 70.03 346 *i* P **P 02 17 23.2 +0.1**
SUMG Summit 70.03 346 eP P 02 17 22.6 -0.5
comp=Z,63nm,1.4s
MELF Melles 70.12 309‖ eP P 02 17 24.0 +0.2
ROSF Rostrenen 70.22 315 eP P 02 17 24.3 +0.1
comp=Z,144nm,1.2s
ROSF Rostrenen 70.22 315 eP P 02 17 24.3 +0.1
ROSF pmax pmax
comp=Z,144nm,1.2s
ROSF Rostrenen 70.22 315 eP P 02 17 24.3 +0.1
comp=Z,144nm,1.2s
EPF Esparros 70.32 309 eP P 02 17 24.0 -1.0
comp=Z,24nm,0.9s
EPF Esparros 70.32 309 eP P 02 17 24.0 -1.0
EPF pmax pmax
comp=Z,24nm,0.9s
EPF Esparros 70.32 309 eP P 02 17 24.0 -1.0
comp=Z,24nm,0.9s
QUIF Quistinic 70.35 315 eP P 02 17 24.5 -0.5
comp=Z,172nm,1.6s
QUIF Quistinic 70.35 315 eP P 02 17 24.5 -0.5
QUIF pmax pmax
comp=Z,172nm,1.5s
QUIF Quistinic 70.35 315 eP P 02 17 24.5 -0.5
comp=Z,172nm,1.5s
BORG Borgarnes 70.46 335 eP P 02 17 24.0 -1.4
BORG pmax pmax
comp=Z,275nm,1.4s
BORG Borgarnes 70.46 335 eP P 02 17 24.0 -1.4
comp=Z,274nm,1.4s
LABF Labassere 70.49 309 eP P 02 17 25.3 -0.7
VIEF Viey 70.60 309‖ eP P 02 17 27.2 +0.5
REYF Montagne du Re 70.79 309‖ eP P 02 17 28.3 +0.4
ETSF Etsaut 70.97 309 eP P 02 17 29.2 +0.2
comp=Z,85nm,0.8s
ETSF Etsaut 70.97 309 eP P 02 17 29.2 +0.2
ETSF pmax pmax
comp=Z,85nm,0.8s
ETSF Etsaut 70.97 309 eP P 02 17 29.2 +0.2
comp=Z,85nm,0.8s
ATE Arette 70.98 309‖ eP P 02 17 29.5 +0.5
FORT Forrest 71.22 148 eP P 02 17 29.3 -1.0
comp=Z,123nm,0.9s
SJPF Ste Jean 71.31 310 eP P 02 17 30.8 -0.2
comp=Z,48nm,0.7s
SJPF Ste Jean 71.31 310 eP P 02 17 30.8 -0.2
SJPF pmax pmax
comp=Z,48nm,0.7s
SJPF Ste Jean 71.31 310 eP P 02 17 30.8 -0.2
comp=Z,48nm,0.7s
KULLO Kullorsuaq 71.40 352 *i* P **P 02 17 31.4 +0.5**
KULLO pmax pmax
comp=Z,29nm,0.9s
KULLO MLR MLR
comp=Z,4µm,16.0s
KULLO Kullorsuaq 71.40 352 *i* P **P 02 17 31.4 +0.5**
comp=Z,29nm,0.9s
PPLA Purkeypile 71.87 26 eP P 02 17 34.6 +0.5
comp=Z,266nm,1.5s
KTH Kantishna Hill 71.93 25 eP P 02 17 34.5 +0.1
comp=Z,128nm,1.5s
COLA College 72.17 23 eP P 02 17 35.6 -0.1
COLA pmax pmax
comp=Z,43nm,0.8s
COLA MLR MLR
comp=Z,3µm,19.0s
COLA College 72.17 23 eP P 02 17 35.6 -0.1
comp=Z,43nm,0.8s
COLA LR LR
comp=Z,3µm,19.0s
TRF Thorofare Moun 72.22 25 eP P 02 17 37.4 +1.1
comp=Z,17nm,0.8s
VAL Valentia 72.45 321 eP P 02 17 33.1 -4.5
MCK McKinley 72.52 24 eP P 02 17 36.2 -1.7
MCK pmax pmax
comp=Z,17nm,0.9s
MCK McKinley 72.52 24 eP P 02 17 36.2 -1.7
comp=Z,17nm,0.9s
ILAR Eielson Array 72.55 23 P **P 02 17 37.2 -0.8**
comp=Z,14nm,1.1s,baz=295,slow=4.8,SNR=56
ILAR PP PP 02 20 25.2 +6.4
comp=Z,2.5nm,0.8s,baz=304,slow=6.6,SNR=5.5
ILAR LR LR 02 53 09.6
comp=Z,2µm,18.7s,baz=316,slow=39
RES Resolute Bay 73.00 2 P **P 02 17 40.0 -0.5**
RES Resolute Bay 73.00 2 P **P 02 17 40.0 -0.5**
comp=Z,6.0nm,1.0s,baz=353,slow=4.4,SNR=14
RES LR LR 02 50 12.7
comp=Z,2µm,20.2s,baz=342,slow=36
RES Resolute Bay 73.00 2 eP P 02 17 40.4 0.0
comp=Z,16nm,1.1s
RSO Redoubt South 73.10 28 eP P 02 17 41.3 -0.3
comp=Z,39nm,0.7s
CTA Charters Tower 73.10 128 P **P 02 17 41.8 -0.1**
comp=Z,32nm,1.0s,baz=315,slow=8.1,SNR=8.9
CTAO Charters Tower 73.10 128 eP P 02 17 42.3 +0.4
CTAO pmax pmax
comp=Z,34nm,1.0s
CTAO MLR MLR
comp=Z,1µm,21.0s
CTAO Charters Tower 73.10 128 eP P 02 17 42.3 +0.4
comp=Z,34nm,1.0s
CTAO LR LR
comp=Z,1µm,21.0s
RC01 Rabbit Creek A 73.89 27 eP P 02 17 45.6 -0.4
comp=Z,42nm,1.1s
PAX Paxson 74.21 24 eP P 02 17 47.2 -0.7
PAX pmax pmax
comp=Z,18nm,1.1s
PAX Paxson 74.21 24 eP P 02 17 47.2 -0.7
comp=Z,18nm,1.1s
DOT Dot Lake 74.22 23 eP P 02 17 47.2 -0.7
comp=Z,11nm,0.7s
EGAK Eagle 74.36 21 eP P 02 17 48.5 -0.1
comp=Z,26nm,0.9s
EGAK LR LR
comp=Z,2µm,21.0s
SEW Seward 74.62 27 eP P 02 17 48.0 -2.2
comp=Z,72nm,1.4s
ESDC Sonseca Array 74.75 307 P **P 02 17 51.9 +0.4**
comp=Z,16nm,0.8s,baz=52,slow=6.2,SNR=52
ESDC LR LR 02 54 41.8
comp=Z,1µm,19.1s,baz=0.0,slow=39
KDAK Kodiak Island 74.78 30 *i* P **P 02 17 51.2 0.0**
KDAK Kodiak Island 74.78 30 PFAKE 02 18 00.0 +8.8
KDAK LR LR
comp=Z,4µm,22.0s

PAB	**San Pablo**	**75.08 307**	*e*P	**P**		**02 17 52.9**	**-0.5**
PAB			pmax	pmax			
	comp=Z,60nm,1.4s						
PAB			MLR	MLR			
	comp=Z,2μm,20.0s						
PAB	**San Pablo**	**75.08 307**	*e*P	**P**		**02 17 52.9**	**-0.5**
	comp=Z,60nm,1.4s						
PAB			LR	LR			
	comp=Z,2μm,20.0s						
ILULI	**Ilulissat**	**75.21 347**	*i* P	**P**		**02 17 56.1**	**+2.6**
ILULI			pmax	pmax			
	comp=Z,16nm,0.8s						
ILULI			MLR	MLR			
	comp=Z,2μm,20.0s						
ILULI	**Ilulissat**	**75.21 347**	*i* P	**P**		**02 17 56.1**	**+2.6**
	comp=Z,16nm,0.8s						
DIV	**Divide**	**75.33 25**	*e*P	**P**		**02 17 54.5**	**0.0**
	comp=Z,29nm,0.7s						
DAWY	**Dawson**	**75.41 21**	*e*P	**P**		**02 17 54.4**	**-0.3**
	comp=Z,17nm,1.0s						
PBRG	**Braganca**	**75.52 310**	*e*P	**P**		**02 17 56.1**	**+0.3**
	comp=Z,91nm,2.1s						
PBRG			pP	**pP**		**02 17 59.2**	**-0.2**
PBRG			*e*S	**S**		**02 27 40.9**	**+4.5**
BMRM	**Bremner River**	**75.86 25**	*e*P	**P**		**02 17 57.7**	**+0.3**
	comp=Z,57nm,0.9s						
TAM	**Tamanrasset**	**75.94 288**	*e*P	**P**		**02 17 58.5**	**-0.2**
TAM			pmax	pmax			
	comp=Z,82nm,1.8s						
TAM			MLR	MLR			
	comp=Z,2μm,20.0s						
TAM	**Tamanrasset**	**75.94 288**	*e*P	**P**		**02 17 58.5**	**-0.2**
	comp=Z,82nm,1.8s						
TAM			LR	LR			
	comp=Z,2μm,20.0s						
MVO	**Moncorvo**	**76.03 310**	*e*P	**P**		**02 17 59.2**	**+0.4**
	comp=Z,112nm,0.9s						
MVO			pP	**pP**		**02 18 02.6**	**+0.2**
MVO			*e*S	**S**		**02 27 47.4**	**+5.3**
MVO	**Moncorvo**	**76.03 310**	*e*LR	LR		02 48 30.9	
	comp=Z,2μm,18.0s						
PCAB	**Cabril**	**76.39 311**	*e*P	**P**		**02 18 01.7**	**+0.9**
	comp=Z,99nm,1.7s						
PCAB			pP	**pP**		**02 18 04.8**	**+0.4**
PGAV	**Gavieira, Arco**	**76.41 311**	*e*P	**P**		**02 18 01.8**	**+0.8**
	comp=Z,120nm,1.7s						
PGAV	**Gavieira, Arco**	**76.41 311**	*e*LR	LR		02 48 40.8	
	comp=Z,1μm,20.0s						
PVRL	**Vila Real**	**76.42 310**	*e*P	**P**		**02 18 02.0**	**+1.0**
	comp=Z,37nm,2.0s						
PVRL			pP	**pP**		**02 18 04.4**	**-0.2**
BBOO	**Buckleboo**	**76.69 144**	*e*P	**P**		**02 18 01.7**	**-0.7**
MTE	**Manteigas**	**76.76 309**	*e*P	**P**		**02 18 04.0**	**+1.1**
	comp=Z,164nm,1.5s						
MTE			pP	**pP**		**02 18 06.7**	**+0.2**
MTE			*e*S	**S**		**02 27 50.5**	**+0.4**
MTE	**Manteigas**	**76.76 309**	*e*LR	LR		02 49 04.6	
	comp=Z,2μm,18.0s						
MTE	**Manteigas**	**76.76 309**	*e*P	**P**		**02 18 03.6**	**+0.7**
	comp=Z,77nm,1.0s						
MTE			LR	LR			
	comp=Z,2μm,20.0s						
PVIS	**Viseu**	**76.82 310**	*e*P	**P**		**02 18 03.6**	**+0.3**
	comp=Z,106nm,1.8s						
PVIS			pP	**pP**		**02 18 07.2**	**+0.3**
PCBR	**Castelo Branco**	**77.00 309**	*e*P	**P**		**02 18 05.0**	**+0.8**
	comp=Z,52nm,1.5s						
SFJD	**Kangerlussuaq**	**77.03 346**	*e*P	**P**		**02 18 02.0**	**-1.8**
SFJD			pmax	pmax			
	comp=Z,25nm,0.9s						
SFJD			MLR	MLR			
	comp=Z,3μm,20.0s						
SFJD	**Kangerlussuaq**	**77.03 346**	*i* P	**P**		**02 18 02.8**	**-1.0**
SFJD	**Kangerlussuaq**	**77.03 346**	*e*P	**P**		**02 18 02.0**	**-1.8**
	comp=Z,25nm,0.9s						
SFJD			LR	LR			
	comp=Z,3μm,20.0s						
PTO	**Porto**	**77.06 311**	*e*P	**P**		**02 18 06.4**	**+1.9**
	comp=Z,93nm,1.7s						
PMRV	**Marv??o**	**77.16 309**	*e*P	**P**		**02 18 05.4**	**+0.2**
	comp=Z,81nm,1.8s						
PMRV			pP	**pP**		**02 18 08.6**	**-0.2**
PMRV			*e*S	**S**		**02 27 59.7**	**+5.2**
PMRV	**Marv??o**	**77.16 309**	*e*LR	LR		02 44 43.5	
	comp=Z,931nm,20.0s						
PCAS	**Casmilo, Conde**	**77.56 310**	*e*S	S		02 28 07.1	+8.4
PBAR	**Barrancos**	**77.58 307**	*e*P	**P**		**02 18 07.9**	**+0.4**
	comp=Z,241nm,1.8s						
PBAR			pP	**pP**		**02 18 11.1**	**0.0**
PBAR			*e*S	S		02 28 05.5	+6.5
PESTR	**Estremoz**	**77.59 308**	*e*S	**S**		**02 28 01.4**	**+2.3**
PTOM	**Tomar**	**77.73 309**	*e*P	**P**		**02 18 09.2**	**+0.9**
	comp=Z,129nm,1.4s						
PTOM			pP	**pP**		**02 18 12.1**	**+0.2**
LSZ	**Lusaka**	**77.88 243**	*e*P	**P**		**02 18 08.9**	**-0.6**
LSZ			pmax	pmax			
	comp=Z,18nm,0.7s						
LSZ			MLR	MLR			
	comp=Z,2μm,20.0s						
LSZ	**Lusaka**	**77.88 243**	*e*P	**P**		**02 18 08.9**	**-0.6**
	comp=Z,18nm,0.7s						
LSZ			LR	LR			
	comp=Z,2μm,20.0s						
PMTG	**Montargil**	**77.90 309**	*e*P	**P**		**02 18 09.4**	**+0.1**
	comp=Z,76nm,1.4s						
PMTG			*e*S	**S**		**02 28 05.4**	**+3.0**
EVO	**Evora**	**78.05 308**	*e*P	**P**		**02 18 08.6**	**-1.5**
	comp=Z,83nm,0.9s						
EVO			*e*R				
	comp=Z,2μm,20.0s						
EVO	**Evora**	**78.05 308**	*e*P	**P**		**02 18 10.6**	**+0.5**
	comp=Z,85nm,2.1s						
EVO			pP	**pP**		**02 18 13.7**	**0.0**
EVOP	**Sao Brissos**	**78.12 308**	*e*P	**P**		**02 18 08.6**	**-1.9**
EVOP			pmax	pmax			
	comp=Z,83nm,0.9s						
EVOP	**Sao Brissos**	**78.12 308**	*e*P	**P**		**02 18 08.6**	**-1.9**
	comp=Z,83nm,0.9s						
HYT	**Haines Junctio**	**78.39 23**	*e*P	**P**		**02 18 12.6**	**+0.8**
	comp=Z,39nm,1.0s						
PVAQ	**Vaqueiros**	**78.44 307**	*e*P	**P**		**02 18 12.9**	**+0.6**
	comp=Z,86nm,1.8s						
PVAQ			*e*S	**S**		**02 28 10.6**	**+2.3**
PVAQ	**Vaqueiros**	**78.44 307**	*e*LR	LR		02 49 38.6	
	comp=Z,1μm,18.0s						
MESJ	**Messejana**	**78.55 308**	*e*P	**P**		**02 18 13.1**	**+0.2**
MESJ			AMb	AMB		02 18 15.6	
	comp=Z,84nm,1.9s						
MESJ	**Messejana**	**78.55 308**	*e*P	**P**		**02 18 13.1**	**+0.2**
PNCL	**Nicolau / Gran**	**78.61 308**	*e*P	**P**		**02 18 14.0**	**+0.8**
	comp=Z,90nm,1.9s						
PNCL			pP	**pP**		**02 18 16.9**	**+0.1**
PNCL			*e*S	**S**		**02 28 15.7**	**+5.6**
PMAFR	**Mafra**	**78.66 309**	*e*P	**P**		**02 18 14.1**	**+0.6**
	comp=Z,144nm,1.8s						
PMAFR	**Mafra**	**78.66 309**	*e*S	**S**		**02 28 15.7**	**+5.1**
PBDV	**Barranco-do-Ve**	**78.67 307**	*e*P	**P**		**02 18 14.3**	**+0.7**
	comp=Z,146nm,1.5s						
PBDV	**Barranco-do-Ve**	**78.67 307**	*e*S	S		02 28 18.8	+8.0
LIS	**Lisbon**	**78.70 309**	*e*P	**P**		**02 18 14.1**	**+0.4**
LIS			AMb	AMB		02 18 20.4	
	comp=Z,123nm,2.3s						
LIS	**Lisbon**	**78.70 309**	*e*P	**P**		**02 18 14.1**	**+0.4**
	comp=Z,123nm,2.3s						
LIS	**Lisbon**	**78.70 309**	*e*P	**P**		**02 18 14.0**	**+0.4**
PTEO	**Sao Teotonio**	**79.05 308**	*e*P	**P**		**02 18 16.9**	**+1.3**
	comp=Z,93nm,1.5s						
PTEO			pP	**pP**		**02 18 19.4**	**+0.2**
MORF	**Marmelete**	**79.12 307**	*e*P	**P**		**02 18 16.4**	**+0.3**
MORF			AMb	AMB		02 18 23.4	
	comp=Z,79nm,1.7s						
MORF			*e*S	**S**		**02 28 16.4**	**+0.6**
MORF	**Marmelete**	**79.12 307**	*e*P	**P**		**02 18 17.2**	**+1.1**
	comp=Z,80nm,1.6s						
MORF	**Marmelete**	**79.12 307**	*e*S	**S**		**02 28 20.5**	**+4.8**
MORF	**Marmelete**	**79.12 307**	*e*P	**P**		**02 18 16.4**	**+0.3**
MORF			*e*S	**S**		**02 28 16.3**	**+0.6**
PFVI	**Vila Bisbo**	**79.34 307**	*e*P	**P**		**02 18 17.6**	**+0.4**
	comp=Z,63nm,2.6s						
PFVI			pP	**pP**		**02 18 21.3**	**+0.5**
PFVI	**Vila Bisbo**	**79.34 307**	*e*S	S		02 28 24.3	+6.5
RTC	**Rabat Centre**	**79.66 304**	PFAKE			02 18 30.0	+11
RTC			LR	LR			
	comp=Z,1μm,20.0s						
EIDS	**Eidsvold**	**79.96 129**	*e*P	**P**		**02 18 22.3**	**+1.7**
	comp=Z,19nm,0.9s						
TARA	**Tarawa**	**80.94 94**	PFAKE			02 18 40.0	+14
TARA			LR	LR			
	comp=Z,2μm,19.0s						
MSNA	**Messina**	**81.02 236**	*e*P	**P**		**02 18 25.5**	**-0.9**
MSNA			AMB	AMB		02 18 28.8	
	comp=Z,24nm,1.1s						
MSNA			AMS	AMS		02 54 55.1	
	comp=Z,1μm,18.9s						
MSNA	**Messina**	**81.02 236**	P	**P**		**02 18 25.5**	**-0.9**
	comp=Z,24nm,1.1s						
DLBC	**Dease Lake**	**82.63 21**	LR	LR		02 59 47.8	
	comp=Z,3μm,18.3s,baz=336,slow=39						
DLBC	**Dease Lake**	**82.63 21**	*e*P	**P**		**02 18 35.2**	**+0.7**
	comp=Z,99nm,1.8s						
YKA	**Yellowknife Ar**	**82.83 12**	P	**P**		**02 18 34.9**	**-0.4**
	comp=Z,3.9nm,0.7s,baz=329,slow=4.6,SNR=24						
YKA			PP	**PP**		**02 21 42.2**	**-2.5**
	comp=Z,2.8nm,1.2s,baz=341,slow=7.3,SNR=3.8						
YKA			PKKPbc	**PKKPbc**		**02 36 59.3**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=152,slow=2.7,SNR=13						
FRB	**Frobisher Bay**	**82.97 352**	PKKPbc	PKKPbc		02 36 59.0	+0.1
	comp=Z,1.3nm,0.7s,baz=201,slow=6.1,SNR=3.7						
WRAK	**Wrangell Islan**	**83.52 23**	PFAKE			02 18 50.0	+11
WRAK			LR	LR			
	comp=Z,3μm,21.0s						
PAF	**Port-aux-Franc**	**83.91 195**	SS	SS		02 34 29.0	-3.8
PAF			R			02 46 00.0	
PAF	**Port-aux-Franc**	**83.91 195**	PFAKE			02 18 50.0	+9.3
PAF			LR	LR			
	comp=Z,2μm,19.0s						
TORD	**Torodi Ar. Bea**	**83.98 282**	P	**P**		**02 18 41.9**	**-0.2**
	comp=Z,82nm,0.9s,baz=48,slow=4.2,SNR=433						
TORD			LR	LR		03 00 15.4	
	comp=Z,2μm,18.9s,baz=70,slow=39						
SLR	**Silverton**	**84.42 235**	*e*P	**P**		**02 18 42.5**	**-1.7**
SLR			AMB	AMB		02 19 28.0	
	comp=Z,42nm,4.1s						
SLR			AMS	AMS		02 57 22.1	
	comp=Z,1μm,17.5s						
SLR	**Silverton**	**84.42 235**	P	**P**		**02 18 42.5**	**-1.7**
SLR	**Silverton**	**84.42 235**	P	**P**		**02 18 42.5**	**-1.7**
	comp=Z,42nm,4.1s						
ERPM	**east rand prop**	**84.83 234**	*e*P	**P**		**02 18 45.7**	**-0.6**
ERPM			AMB	AMB		02 18 51.6	
	comp=Z,30nm,2.5s						
ERPM	**east rand prop**	**84.83 234**	P	**P**		**02 18 45.7**	**-0.6**
	comp=Z,30nm,2.5s						
CAN	**Canberra**	**85.58 137**	PFAKE			02 19 00.0	+10
CAN			LR	LR			
	comp=Z,1μm,22.0s						
PRYS	**Parys**	**85.81 235**	*e*P	**P**		**02 18 49.9**	**-1.3**
PRYS			AMB	AMB		02 18 50.5	
	comp=Z,16nm,2.2s						
PRYS	**Parys**	**85.81 235**	P	**P**		**02 18 49.9**	**-1.3**
	comp=Z,16nm,2.2s						
LBTB	**Lobatse**	**85.84 237**	*e*P	**P**		**02 18 50.4**	**-0.9**
LBTB			AMB	AMB		02 18 54.3	
	comp=Z,50nm,0.9s						
LBTB			AMS	AMS		02 53 32.6	
	comp=Z,1μm,19.1s						
LBTB	**Lobatse**	**85.84 237**	*e*P	**P**		**02 18 50.5**	**-0.8**
LBTB			pmax	pmax			
	comp=Z,49nm,0.8s						
LBTB	**Lobatse**	**85.84 237**	*e*P	**P**		**02 18 50.5**	**-0.8**
	comp=Z,49nm,0.8s						
SEK	**Senekal**	**86.52 233**	*e*P	**P**		**02 18 53.6**	**-1.0**
SEK			AMB	AMB		02 18 57.3	
	comp=Z,50nm,1.1s						
SEK	**Senekal**	**86.52 233**	P	**P**		**02 18 53.6**	**-1.0**
	comp=Z,50nm,1.1s						
CRZF	**Crozet Islands**	**86.80 207**	S	**SKSac**		**02 29 16.0**	**-5.8**
CRZF			R			02 47 00.0	
TSUM	**Tsumeb**	**88.33 246**	*e*P	**P**		**02 19 02.8**	**-0.7**
	comp=Z,9.4nm,1.0s						
TSUM			LR	LR			
	comp=Z,2μm,19.0s						
BBB	**Bella Bella**	**88.41 24**	LR	LR		03 01 35.2	
	comp=Z,2μm,18.7s,baz=326,slow=38						
FCC	**Fort Churchill**	**88.93 4**	*e*P	**P**		**02 19 03.9**	**-1.7**
FCC	**Fort Churchill**	**88.93 4**	*e*P	**P**		**02 19 03.9**	**-1.7**
	comp=Z,11nm,0.9s						
TAU	**Tasmania Unive**	**90.12 143**	PFAKE			02 19 20.0	+8.9
TAU			LR	LR			
	comp=Z,2μm,21.0s						
SCHQ	**Schefferville**	**91.30 348**	P	**P**		**02 19 16.0**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=48,slow=12,SNR=3.2						
SCHQ			PKKPbc	**PKKPbc**		**02 36 38.8**	**0.0**
	comp=Z,2.3nm,0.7s,baz=305,slow=5.9,SNR=3.7						
SCHQ			LR	LR		03 05 30.7	
	comp=Z,1μm,18.8s,baz=19,slow=39						
FFC	**Flin Flon**	**92.23 9**	P	**P**		**02 19 20.6**	**-0.4**
	comp=Z,101nm,0.9s,SNR=5.4						
FFC	**Flin Flon**	**92.23 9**	*e*P	**P**		**02 19 20.2**	**-0.9**
FFC			pmax	pmax			
	comp=Z,16nm,0.9s						
FFC			MLR	MLR			
	comp=Z,3μm,19.0s						
FFC	**Flin Flon**	**92.23 9**	*e*P	**P**		**02 19 20.2**	**-0.9**
	comp=Z,15nm,0.9s						
FFC			LR	LR			
	comp=Z,2μm,19.0s						
DBIC	**Dimbokro**	**92.88 280**	*e*P	**P**		**02 19 24.0**	**-0.8**
DBIC	**Dimbokro**	**92.88 280**	P	**P**		**02 19 24.2**	**-0.5**
	comp=Z,12nm,0.8s,baz=45,slow=4.6,SNR=16						
DBIC			LR	LR		03 05 53.5	
	comp=Z,2μm,18.0s,baz=40,slow=39						
DBIC	**Dimbokro**	**92.88 280**	*e*P	**P**		**02 19 24.1**	**-0.6**
	comp=Z,70nm,1.4s						
KIC	**Kosan Boka**	**92.95 279**	*e*PKP2	**P**		**02 19 24.5**	**-0.6**
	comp=Z,87nm,1.2s						
PGC	**Sidney**	**92.99 23**	*e*P	**P**		**02 19 25.7**	**+1.1**
	comp=Z,118nm,2.3s						
TIC	**Toumodi**	**93.03 280**	*e*PKP2	**P**		**02 19 24.7**	**-0.8**
	comp=Z,31nm,0.9s						
LIC	**Lamto**	**93.26 279**	*e*P	**P**		**02 19 25.7**	**-0.8**
	comp=Z,27nm,0.9s						
LIC			*e*R				
	comp=Z,3μm,22.5s						
LIC	**Lamto**	**93.26 279**	*e*PKP2	**P**		**02 19 25.7**	**-0.8**
	comp=Z,63nm,1.4s						
LIC	**Lamto**	**93.26 279**	*e*P	**P**		**02 19 25.7**	**-0.8**
	comp=Z,27nm,0.9s						
SUR	**Sutherland**	**93.64 234**	*e*P	**P**		**02 19 27.8**	**-0.2**
	comp=Z,3.2nm,1.0s						
SUR			LR	LR			
	comp=Z,2μm,19.0s						
NLWA	**Neilton Lookou**	**93.94 24**	PFAKE			02 19 40.0	+11
NLWA			LR	LR			
	comp=Z,1μm,20.0s						
NEW	**Newport**	**95.28 20**	LR	LR		03 06 35.9	
	comp=Z,2μm,18.4s,baz=346,slow=38						
MSVF	**Nonsavu**	**95.46 107**	PFAKE			02 19 50.0	+13
MSVF			LR	LR			
	comp=Z,1μm,19.0s						
HAWA	**Hanford**	**96.24 22**	PFAKE			02 19 50.0	+10
HAWA			LR	LR			
	comp=Z,1μm,19.0s						
BSMT	**Bassoo Peak**	**96.30 18**	*e*P	**P**		**02 19 41.3**	**+1.2**
	comp=Z,21nm,1.9s						
JTMT	**Jette**	**96.53 18**	*e*P	**P**		**02 19 41.0**	**-0.1**
	comp=Z,2.5nm,0.8s						
ULM	**Lac du Bonnet**	**97.28 6**	PKKPbc	PKKPbc		02 36 22.7	-0.4
	comp=Z,2.2nm,0.9s,baz=200,slow=3.2,SNR=3.8						
ULM			LR	LR		03 05 59.7	
	comp=Z,649nm,18.4s,baz=2.5,slow=37						
EGMT	**Eagleton**	**97.36 15**	PFAKE			02 19 50.0	+5.2
EGMT			LR	LR			
	comp=Z,1μm,20.0s						
BMO	**Blue Mountains**	**98.31 21**	PFAKE			02 20 00.0	+11
BMO			LR	LR			
	comp=Z,2μm,19.0s						
BOZ	**Bozeman (W)**	**99.16 17**	PFAKE			02 20 00.0	+7.0
BOZ			LR	LR			
	comp=Z,1μm,19.0s						
AGMN	**Agassiz Nation**	**99.22 6**	PFAKE			02 20 00.0	+7.0
AGMN			LR	LR			
	comp=Z,2μm,19.0s						
YBH	**Yreka Blue Hor**	**99.25 26**	LR	LR		03 05 57.3	
	comp=Z,1μm,19.9s,baz=341,slow=36						
LAO	**LASA Array**	**99.36 13**	PFAKE			02 20 00.0	+6.3
LAO			LR	LR			
	comp=Z,3μm,19.0s						
CASY	**Casey**	**99.38 173**	PFAKE			02 20 00.0	+7.1
CASY			LR	LR			
	comp=Z,922nm,19.0s						
EYMN	**Ely**	**99.86 3**	PFAKE			02 20 10.0	+14
EYMN			LR	LR			
	comp=Z,3μm,20.0s						
WVOR	**Wild Horse Val**	**100.06 23**	PFAKE			02 20 10.0	+13
WVOR			LR	LR			
	comp=Z,1μm,19.0s						
RLMT	**Red Lodge**	**100.21 16**	PFAKE			02 20 10.0	+12
RLMT			LR	LR			
	comp=Z,2μm,22.0s						
HLID	**Hailey**	**100.34 20**	PFAKE			02 20 10.0	+12
HLID			LR	LR			
	comp=Z,2μm,19.0s						
LKWY	**Lake**	**100.47 17**	PFAKE			02 20 10.0	+11
LKWY			LR	LR			
	comp=Z,4μm,19.0s						
PKME	**Peaks-Kenny Pk**	**100.94 347**	PFAKE			02 20 10.0	+9.3
PKME			LR	LR			
	comp=Z,1μm,22.0s						
COWI	**Conover**	**101.78 1**	PFAKE			02 20 10.0	+5.6
COWI			LR	LR			
	comp=Z,2μm,20.0s						
AHID	**Auburn Hatcher**	**101.98 18**	PFAKE			02 20 20.0	+14
AHID			LR	LR			
	comp=Z,1μm,21.0s						
BW06	**Boulder Array**	**102.37 17**	PFAKE			02 20 20.0	+13
BW06			LR	LR			
	comp=Z,2μm,19.0s						
PDAR	**Pinedale Array**	**102.37 17**	PKKPbc	PKKPbc		02 36 06.5	-2.5
	comp=Z,1.3nm,0.9s,baz=168,slow=4.6,SNR=6.6						
LBNH	**Lisbon**	**102.39 349**	PFAKE			02 20 20.0	+13
LBNH			LR	LR			
	comp=Z,2μm,22.0s						
LONY	**Lake Ozonia**	**102.42 351**	PFAKE			02 20 20.0	+13
LONY			LR	LR			
	comp=Z,1μm,20.0s						
HWUT	**Hardware Ranch**	**102.95 19**	PFAKE			02 20 20.0	+10
HWUT			LR	LR			
	comp=Z,1μm,21.0s						
NCB	**Newcomb**	**103.01 350**	PFAKE			02 20 20.0	+10
NCB			LR	LR			
	comp=Z,2μm,19.0s						
SACV	**Santiago Islan**	**103.07 297**	PFAKE			02 20 20.0	+9.3
SACV			LR	LR			
	comp=Z,1μm,19.0s						
ECSD	**EROS Data Cent**	**103.68 7**	PFAKE			02 20 20.0	+7.1
ECSD			LR	LR			
	comp=Z,2μm,19.0s						
NVAR	**Mina Array Bea**	**103.75 25**	Pdiff	**Pdif**		**02 20 17.0**	**+3.3**
	comp=Z,0.7nm,0.8s,baz=295,slow=4.5,SNR=6.0						
DUG	**Dugway, Tooele**	**103.91 20**	PFAKE			02 20 20.0	+5.8
DUG			LR	LR			
	comp=Z,1μm,19.0s						
JFWS	**Jewell Farm**	**104.93 2**	PFAKE			02 20 30.0	+11
JFWS			LR	LR			
	comp=Z,2μm,19.0s						
BINY	**Binghamton**	**104.98 351**	PFAKE			02 20 30.0	+11
BINY			LR	LR			
	comp=Z,2μm,21.0s						
DRV	**Dumont d'Urvil**	**105.15 162**	SS	SS		02 39 35.0	+0.2
DRV			L	L		02 49 00.0	
DRV			R			02 54 00.0	
SNZO	**South Karori**	**105.17 129**	PFAKE			02 24 40.0	
SNZO			LR	LR			
	comp=Z,1μm,22.0s						
ERPA	**Erie**	**105.48 354**	PFAKE			02 24 40.0	
ERPA			LR	LR			
	comp=Z,1μm,21.0s						
AAM	**Ann Arbor**	**105.52 357**	PFAKE			02 24 40.0	
AAM			LR	LR			
	comp=Z,2μm,20.0s						
OGNE	**Ogallala**	**105.68 12**	PFAKE			02 24 40.0	
OGNE			LR	LR			
	comp=Z,1μm,21.0s						
SCIA	**State Center**	**105.78 5**	PFAKE			02 24 40.0	
SCIA			LR	LR			
	comp=Z,2μm,19.0s						
ISCO	**Idaho Springs**	**106.10 15**	PFAKE			02 24 50.0	
ISCO			LR	LR			
	comp=Z,2μm,21.0s						
ACSO	**Alum Creek Sta**	**107.56 357**	PFAKE			02 24 50.0	
ACSO			LR	LR			
	comp=Z,2μm,22.0s						
MVCO	**Mesa Verde**	**107.88 18**	PFAKE			02 24 50.0	
MVCO			LR	LR			
	comp=Z,2μm,20.0s						
KSU1	**Kansas State U**	**108.26 8**	PFAKE			02 24 50.0	
KSU1			LR	LR			
	comp=Z,1μm,20.0s						
WUAZ	**Wupatki**	**108.67 21**	PFAKE			02 24 50.0	
WUAZ			LR	LR			
	comp=Z,1μm,20.0s						
ASCN	**Ascension**	**108.68 272**	*e*PKP			02 24 40.6	
ASCN			LR	LR			
	comp=Z,2μm,20.0s						
PFO	**Pinyon Flats O**	**108.73 26**	PFAKE			02 24 50.0	
PFO			LR	LR			
	comp=Z,2μm,20.0s						
BLA	**Blacksburg**	**110.39 354**	PFAKE			02 24 50.0	
BLA			LR	LR			
	comp=Z,1μm,21.0s						
ANMO	**Albuquerque**	**110.54 17**	PFAKE			02 24 50.0	
ANMO			LR	LR			
	comp=Z,1μm,21.0s						
TUC	**Tucson**	**111.83 21**	PFAKE			02 25 00.0	
TUC			LR	LR			
	comp=Z,963nm,21.0s						
CNNC	**Cliffs of the**	**112.08 352**	PFAKE			02 25 00.0	
CNNC			LR	LR			
	comp=Z,1μm,20.0s						
BBSR	**BB Station**	**112.09 340**	PFAKE			02 25 00.0	
BBSR			LR	LR			
	comp=Z,1μm,21.0s						
WMOK	**Wichita Mounta**	**112.27 10**	PFAKE			02 25 00.0	
WMOK			LR	LR			
	comp=Z,1μm,20.0s						
MIAR	**Mount Ida**	**113.07 6**	PFAKE			02 25 00.0	
MIAR			LR	LR			
	comp=Z,3μm,22.0s						
GOGA	**Godfrey**	**114.38 357**	PFAKE			02 25 00.0	+8.6
GOGA			LR	LR			
	comp=Z,1μm,20.0s						
NHSC	**New Hope**	**114.44 354**	PFAKE			02 25 00.0	+8.5
NHSC			LR	LR			
	comp=Z,2μm,19.0s						
NATX	**Nacogdoches**	**115.73 7**	PFAKE			02 25 00.0	+5.9
NATX			LR	LR			
	comp=Z,1μm,20.0s						
JCT	**Junction City**	**116.27 12**	*e*PKIKP	**PKPdf**		**02 24 55.1**	**-0.1**
JCT			MLR	MLR			
	comp=Z,2μm,20.0s						
JCT	**Junction City**	**116.27 12**	*e*PKPdf	**PKPdf**		**02 24 55.1**	**-0.1**
JCT			LR	LR			
	comp=Z,2μm,20.0s						
TXAR	**Lajitas Array**	**116.58 16**	PKP	**PKPdf**		**02 24 54.8**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=2.8,slow=1.5,SNR=4.9						
BRAL	**Brewton**	**116.86 360**	PFAKE			02 25 10.0	+14
BRAL			LR	LR			
	comp=Z,2μm,20.0s						
VNDA	**Vanda**	**117.11 167**	PKIKP	**PKPdf**		**02 24 54.8**	**-0.4**
VNDA			pmax	pmax			

ANWB	**Willy Bob**	**124.52**	**330**	PFAKE		02 25 20.0	+8.7
ANWB				LR	LR		
	comp=Z,794nm,19.0s						
TBI	**Tubuai**	**124.90**	**97**	*e*SS	SS	02 43 56.2	0.0
	comp=Z,635nm,29.0s						
TBI	**Tubuai**	**124.90**	**97**	*e*LR	LR	03 04 05.7	
	comp=Z,790nm,24.5s						
RCBR	**Riachuelo**	**125.43**	**288**	*e*PKPdf	**PKPdf**	**02 25 13.5**	**+0.4**
RCBR				LR	LR		
	comp=Z,1μm,19.0s						
SJG	**San Juan**	**125.82**	**335**	PFAKE		02 25 20.0	+6.3
SJG				LR	LR		
	comp=Z,717nm,22.0s						
SDDR	**Presa de Saban**	**126.62**	**341**	PFAKE		02 25 30.0	+15
SDDR				LR	LR		
	comp=Z,2μm,22.0s						
GTBY	**Guantanamo Bay**	**126.63**	**346**	PFAKE		02 25 30.0	+15
GTBY				LR	LR		
	comp=Z,1μm,20.0s						
FDF	**Fort de France**	**126.85**	**328**	PFAKE		02 25 30.0	+14
FDF				LR	LR		
	comp=Z,950nm,21.0s						
TEIG	**Tepich**	**127.59**	**1**	PFAKE		02 25 30.0	+13
TEIG				LR	LR		
	comp=Z,1μm,19.0s						
GRGR	**Grenville**	**129.36**	**327**	PFAKE		02 25 30.0	+9.4
GRGR				LR	LR		
	comp=Z,765nm,22.0s						
SDV	**Santo Domingo**	**135.94**	**336**	*e*PKPpre	PKPpre	02 25 24.5	
SDV				*e*PKPdf	**PKiKP**	**02 25 34.3**	**-0.6**
SDV				LR	LR		
	comp=Z,944nm,21.0s						
RKT	**Rikitea**	**137.03**	**90**	*e*SS	SS	02 46 25.2	+0.5
	comp=Z,281nm,25.2s						
RKT	**Rikitea**	**137.03**	**90**	*e*LR	LR	03 09 46.4	
	comp=Z,2μm,32.5s						
JTS	**JuntasAbangare**	**137.43**	**357**	PFAKE		02 25 50.0	+14
JTS				LR	LR		
	comp=Z,1μm,19.0s						
BCIP	**Isla Barro Col**	**138.00**	**349**	*e*PKPdf	**PKPdf**	**02 25 36.9**	**0.0**
BCIP				LR	LR		
	comp=Z,994nm,19.0s						
HOPE	**Hope Point**	**138.30**	**223**	PFAKE		02 25 50.0	+14
HOPE				LR	LR		
	comp=Z,3μm,20.0s						
PTGA	**Pitinga**	**139.31**	**315**	PFAKE		02 25 50.0	+11
PTGA				LR	LR		
	comp=Z,1μm,22.0s						
ROSC	**El Rosal**	**140.91**	**339**	PKP	**PKPdf**	**02 25 39.8**	**-2.9**
	comp=Z,4.2nm,0.3s,baz=95,slow=9.7,SNR=6.4						
OTAV	**Otavalo**	**146.43**	**344**	*e*PKPbc	**PKPbc**	**02 25 53.6**	**-0.1**
OTAV				LR	LR		
	comp=Z,603nm,20.0s						
SAML	**Samuel**	**147.71**	**311**	*e*PKPdf	**PKPdf**	**02 25 53.5**	**-0.4**
SAML				*e*PKPbc	**PKPbc**	**02 25 56.8**	**+0.1**
SAML				LR	LR		
	comp=Z,1μm,21.0s						
SIV	**San Ignacio**	**151.19**	**298**	PKP	**PKPdf**	**02 25 59.4**	**0.0**
	comp=Z,5.5nm,0.9s,baz=103,slow=1.9,SNR=8.5						
SIV				PKPbc	**PKPbc**	**02 26 05.4**	**+0.1**
	comp=Z,44nm,0.8s,baz=81,slow=4.4,SNR=22						
EFI	**East Falkland**	**151.38**	**219**	PFAKE		02 26 10.0	-2.8
EFI				LR	LR		
	comp=Z,782nm,22.0s						
ATAH	**Atahualpa**	**153.49**	**340**	PKP	**PKPdf**	**02 26 03.3**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=146,slow=22,SNR=4.6						
ATAH				PKPbc	**PKiKP**	**02 26 11.4**	**+0.2**
	comp=Z,12nm,0.9s,baz=114,slow=2.1,SNR=4.8						
USHA	**Ushuaia**	**154.01**	**205**	PKPbc	**PKPbc**	**02 26 12.1**	**+1.8**
	comp=Z,5.8nm,0.8s,baz=144,slow=5.3,SNR=4.2						
LPAZ	**La Paz**	**156.37**	**308**	PKP	**PKPdf**	**02 26 07.3**	**-0.2**
	comp=Z,4.8nm,0.9s,baz=140,slow=2.7,SNR=6.5						
LPAZ				PKPab	**PKPab**	**02 26 35.3**	**-0.4**
	comp=Z,6.1nm,0.9s,baz=10,slow=3.3,SNR=4.2						
LPAZ	**La Paz**	**156.37**	**308**	*e*PKPdf	**PKPdf**	**02 26 08.0**	**+0.5**
LPAZ				*e*PKPab	**PKPab**	**02 26 35.2**	**-0.4**
NNA	**Nana**	**157.50**	**333**	PFAKE		02 26 20.0	+12
NNA				LR	LR		
	comp=Z,812nm,19.0s						
TRQA	**Tornquist**	**158.69**	**248**	*e*PKPdf	**PKPdf**	**02 26 09.8**	**+0.7**
TRQA				LR	LR		
	comp=Z,2μm,19.0s						
LVC	**Limon Verde**	**161.06**	**297**	*e*PKPdf	**PKPdf**	**02 26 13.1**	**+0.6**
LVC				LR	LR		
	comp=Z,1μm,19.0s						
PLCA	**Paso Flores**	**164.31**	**234**	*e*PKIKP	**PKPdf**	**02 26 15.1**	**+0.2**
PLCA	**Paso Flores**	**164.31**	**234**	*e*PKPdf	**PKPdf**	**02 26 15.1**	**+0.2**
LCO	**Las Campanas**	**165.40**	**279**	PFAKE		02 26 30.0	+14
LCO				LR	LR		
	comp=Z,1μm,21.0s						

*IDC **24** 02:09:00.6±1.2, 14°.03S×166°.80E, h0km, mb4.0/3, mb1 4.0/4, mb1mx3.8/34, mbtmp3.9/4, ML3.6/1, MS3.3/2, Ms1 3.3/2, ms1mx3.2/28, Error ellipse: s-maj=49.2km s-min=30.8km az=129.0*

ISC 24 02:09:06.1±1.1, 14°.1S±0°.1×166°.8E±0°.3, h35km, n11, σ0§85/11, mb3.9/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.96**	**182**	Pn	**Pn**	**02 10 59.3**	**-0.1**
	0.8nm,0.3s,baz=312,slow=22,SNR=9.7						
DZM				Sn	**Sn**	**02 12 28.6**	**+0.4**
	0.6nm,0.3s,baz=223,slow=19,SNR=2.1						
DZM				LR	LR	02 13 48.9	
	comp=Z,252nm,18.7s,baz=44,slow=36						
HNR	**Honiara**	**8.11**	**304**	LR	LR	02 13 59.6	
	comp=Z,212nm,21.5s,baz=162,slow=37						
WRA	**Warramunga Arr**	**31.51**	**255**	P	**P**	**02 15 25.0**	**-0.1**
	0.7nm,0.8s,baz=85,slow=9.5,SNR=3.4						
ASAR	**Alice Springs**	**32.45**	**248**	P	**P**	**02 15 32.9**	**-0.5**
	1.1nm,0.7s,baz=74,slow=9.5,SNR=15						
MKAR	**Makanchi Array**	**96.39**	**317**	P	**P**	**02 22 32.4**	**+0.9**
	0.7nm,0.8s,baz=97,slow=5.9,SNR=3.5						
ARCES	**ARCESS Array B**	**119.50**	**345**	PKP	**PKPdf**	**02 27 50.9**	**-0.6**
	1.9nm,0.6s,baz=67,slow=2.1,SNR=9.1						
FINES	**FINESS Array B**	**124.94**	**338**	PKP	**PKPdf**	**02 28 00.7**	**-1.5**
	1.2nm,0.8s,baz=325,slow=2.3,SNR=7.0						
GERES	**GERESS Array B**	**138.84**	**333**	PKP	**PKPdf**	**02 28 29.4**	**+0.5**
	0.2nm,0.6s,baz=5.0,slow=2.3,SNR=2.5						
KEST	**Kesra**	**150.40**	**321**	PKPbc	**PKPbc**	**02 28 55.5**	**+1.1**
	1.6nm,0.7s,baz=349,slow=2.2,SNR=9.0						
ESDC	**Sonseca Array**	**153.23**	**344**	PKPbc	**PKPbc**	**02 29 00.3**	**-0.5**
	0.3nm,0.6s,baz=19,slow=2.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**165.45**	**268**	PKP	**PKPdf**	**02 29 07.5**	**-0.5**
	0.4nm,0.7s,baz=221,slow=0.8,SNR=5.4						

IDC 24 02:20:47.9±4.1, 37°.22S×73°.86W, h0km, mb3.7/2, mb1 3.6/4, mb1mx3.5/28, mbtmp3.4/4, ML3.1/2, MS4.1/3, Ms1 4.1/3, ms1mx3.7/19, Error ellipse: s-maj=88.8km s-min=21.9km az=73.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.35**	**145**	Pn	Pn	02 21 56.5	+1.1
	0.4nm,0.3s,baz=331,slow=12,SNR=11						
PLCA				Lg	Lg	02 23 07.0	
	1.1nm,0.3s,baz=63,slow=18,SNR=2.1						
CFAA	**Coronel Fontan**	**7.27**	**41**	Pn	Pn	02 22 35.5	0.0
	0.1nm,0.3s,baz=201,slow=14,SNR=8.8						
CFAA				Lg	Lg	02 24 21.9	
	0.1nm,0.3s,baz=323,slow=6.2,SNR=6.5						
CFAA				LR	LR	02 24 41.2	
	comp=Z,12nm,21.3s,baz=223,slow=32						
USHA	**Ushuaia**	**18.00**	**170**	LR	LR	02 33 03.7	
	comp=Z,521nm,18.4s,baz=261,slow=41						
LPAZ	**La Paz**	**21.46**	**15**	P	P	02 25 40.0	+1.4
	3.1nm,0.9s,baz=187,slow=8.9,SNR=6.8						
SIV	**San Ignacio**	**23.99**	**32**	LR	LR	02 37 20.0	
	comp=Z,535nm,18.6s,baz=220,slow=41						
PMSA	**Palmer Station**	**28.20**	**171**	LR	LR	02 37 55.5	
	comp=Z,251nm,18.2s,baz=356,slow=36						
TORD	**Torodi Ar. Bea**	**86.68**	**71**	P	P	02 33 32.4	-1.4
	0.3nm,0.6s,baz=226,slow=4.8,SNR=4.8						

*NEIC **24** 02:22:03.8, 38°.82N×119°.37W, h9km, ML3.6(REN), After REN.*
NEIC Felt [III] at Smith and Wellington. Also felt at Reno and Yerington. Felt at Coleville, California.

ISC 24 02:22:03.2±0.7, 38°.85N±0°.02×119°.37W±0°.02, h10km, n45, σ1§90/86, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAKR	**Walker**	**0.35**	**189**	*e*Pg	**Pg**	**02 22 09.8**	**-0.5**
WAKR				*e*Sg	**Sg**	**02 22 13.8**	**-1.2**
NV11	**Mina Array Sit**	**1.04**	**113**	*e*Pg	**Pg**	**02 22 22.8**	**-0.4**
NV11				*e*Sg	**Sg**	**02 22 36.8**	**+0.1**
NV11				*e*Sn	**Sn**	**02 22 39.3**	**+0.6**
CMB	**Columbia Colle**	**1.14**	**225**	*e*Pg	**Pb**	**02 22 24.1**	**-1.0**
CMB				*e*Sg	**Sb**	**02 22 38.9**	**-1.1**
MLAC	**Mammoth, Mammo**	**1.29**	**161**	P	**Pb**	**02 22 27.9**	**+0.2**
	baz=1.3						
TPH	**Tonopah**	**1.85**	**114**	*e*Pn	**Pb**	**02 22 36.9**	**-0.5**
TPH				*e*Sg	**Sg**	**02 23 02.4**	**-0.5**
TIN	**Tinemaha, Big**	**2.01**	**153**	Pb	**Pg**	**02 22 41.2**	**-0.5**
	baz=2.0						
BMN	**Battle Mountai**	**2.29**	**46**	*e*Pn	**Pn**	**02 22 40.9**	**-0.3**
BMN				*e*Pg	**Pb**	**02 22 45.3**	**+0.6**
BMN				*e*Sg	**Sb**	**02 23 16.2**	**+3.1**
RCTC	**Rector, Farmer**	**2.54**	**178**	Pb	**Pb**	**02 22 48.9**	**0.0**
	baz=2.5						
RCTC				Sb	**Sb**	**02 23 21.8**	**+1.6**
	baz=2.5						
SAO	**San Andreas Ge**	**2.66**	**219**	*e*Pn	**Pn**	**02 22 45.5**	**-0.6**
SAO				*e*Pg	**Pb**	**02 22 51.4**	**+0.5**
SAO				*e*Sn	**Sn**	**02 23 17.6**	**-0.7**
SAC	**San Andreas**	**2.71**	**243**	*e*Pn	**Pn**	**02 22 46.5**	**-0.4**
SAC				*e*Pg	**Pb**	**02 22 51.0**	**-0.8**
SAC				*e*Sg	**Sb**	**02 23 25.6**	**+0.4**
MCCM	**Marconi Confer**	**2.84**	**257**	*e*Pn	**Pn**	**02 22 47.9**	**-0.7**
MCCM				*e*Pg	**Pb**	**02 22 53.2**	**-0.9**
MCCM				*e*Sn	**Sn**	**02 23 23.2**	**+0.2**
HOPS	**Hopland Field**	**2.89**	**274**	*e*Pn	**Pn**	**02 22 52.3**	**+3.0**
WDC	**Whiskeytown Da**	**2.99**	**306**	*e*Pn	**Pn**	**02 22 51.4**	**+0.7**
WDC				*e*Sn	**Sn**	**02 23 27.3**	**+0.6**
WDC				*e*Sg	**Sb**	**02 23 36.1**	**+2.9**
R11A	**Troy Canyon, C**	**3.01**	**98**	Sb	**Sg**	**02 23 37.9**	**-1.9**
	baz=3.0						
VES	**Vestal, Richgr**	**3.01**	**176**	Pb	**Pb**	**02 22 58.1**	**+1.1**
	baz=3.0						
VES				Sb	**Sg**	**02 23 37.5**	**-2.5**
	baz=3.0						
ISA	**Isabella, Lake**	**3.26**	**167**	Pb	**Pb**	**02 23 02.0**	**+0.7**
	baz=3.2						
ISA				Sb	**Sb**	**02 23 44.1**	**+3.0**
	baz=3.2						
KIPM	**Iron Peak**	**3.33**	**288**	*e*Pn	**Pb**	**02 23 02.5**	**0.0**
KIPM				*e*Sg	**Sb**	**02 23 47.0**	**+4.0**
KCPM	**Cahto Peak**	**3.38**	**286**	*e*Pn	**Pn**	**02 22 59.3**	**+3.2**
WVOR	**Wild Horse Val**	**3.62**	**9**	*e*Pn	**Pn**	**02 22 59.9**	**+0.4**
WVOR				*e*Pg	**Pg**	**02 23 11.6**	**-1.0**
WVOR				*e*Sn	**Sn**	**02 23 43.2**	**+0.8**
WVOR				*e*Sg	**Sb**	**02 23 55.1**	**+3.6**
ARVC	**Arvin**	**3.74**	**173**	Sb	**Sb**	**02 23 58.2**	**+3.4**
	baz=3.7						
YBH	**Yreka Blue Hor**	**3.85**	**319**	*e*Pn	**Pn**	**02 23 05.1**	**+2.5**
YBH				*e*Sg	**Sg**	**02 24 05.7**	**-1.1**
PKM	**Mcpherson Peak**	**3.96**	**185**	Sb	**Sb**	**02 24 05.0**	**+3.5**
	baz=3.9						
K05A	**Summer Lake**	**4.04**	**344**	*e*Pn	Pb	02 23 12.2	-2.3
SHPR	**Sheep Range**	**4.08**	**124**	*e*Pn	**Pn**	**02 23 06.3**	**+0.5**
SHPR				*e*Pg	**Pb**	**02 23 18.4**	**+3.1**
SHPR				*e*Sg	**Sg**	**02 24 12.3**	**-1.9**
EDW2	**Edwards Air Fo**	**4.12**	**164**	Pb	**Pb**	**02 23 15.7**	**-0.1**
	baz=4.1						
OSI	**Osito Audit: C**	**4.26**	**173**	*e*Pn	**Pn**	**02 23 08.1**	**-0.1**
OSI				*e*Pg	**Pb**	**02 23 20.3**	**+2.0**
OSI				*e*Sg	**Sb**	**02 24 12.8**	**+3.0**
HUMO	**Hull Mountain**	**4.64**	**325**	*e*Pn	**Pn**	**02 23 14.6**	**+1.3**
HUMO				*e*Sg	**Sg**	**02 24 28.6**	**-3.5**
ARUT	**Antelope Range**	**4.78**	**101**	*e*Pn	**Pn**	**02 23 15.8**	**+0.3**
ARUT				*e*Pg	Pg	02 23 32.0	-2.8
ARUT				*e*Sg	**Sg**	**02 24 34.6**	**-2.2**
CCUT	**Cedar City**	**4.91**	**103**	*e*Pn	**Pn**	**02 23 17.1**	**-0.1**
CCUT				*e*Pg	**Pg**	**02 23 34.9**	**-2.3**
CCUT				*e*Sn	**Sn**	**02 24 14.1**	**-0.1**
CCUT				*e*Sg	**Sg**	**02 24 38.1**	**-2.6**
PINOR	**Pine Mountain**	**5.08**	**348**	*e*Pn	**Pn**	**02 23 20.2**	**+0.8**
	7.2nm,0.7s						
PINOR				*e*Pg	**Pg**	**02 23 38.7**	**-1.9**
I07A	**Izee**	**5.23**	**359**	*e*Pn	Pb	02 23 30.0	-4.8
DUG	**Dugway, Tooele**	**5.24**	**73**	*e*Pn	**Pn**	**02 23 23.6**	**+1.8**
DUG				*e*Pg	**Pg**	**02 23 42.5**	**-1.2**
DUG				*e*Sg	**Sg**	**02 24 49.4**	**-2.2**
MFID	**Camas Ranch**	**5.29**	**29**	*e*Pn	**Pn**	**02 23 23.0**	**+0.6**
MFID				*e*Pg	Pb	02 23 40.9	+5.1
MFID				*e*Sg	**Sg**	**02 24 48.4**	**-4.5**
BGU	**Big Grassy Mou**	**5.30**	**65**	*e*Pn	**Pn**	**02 23 23.7**	**+1.1**
BGU				*e*Pg	Pg	02 23 41.5	-3.2
BGU				*e*Sn	**Sn**	**02 24 23.8**	**0.0**
BGU				*e*Sg	**Sg**	**02 24 51.9**	**-1.4**
MVU	**Marysvale**	**5.61**	**91**	*e*Pn	**Pn**	**02 23 27.3**	**+0.3**
MVU				*e*Sg	Sb	02 24 55.6	+6.8
PFO	**Pinyon Flats O**	**5.74**	**155**	*e*Pn	**Pn**	**02 23 28.5**	**-0.1**
	7.7nm,0.9s						
PFO				*e*Pg	Pg	02 23 48.5	-4.6
PFO				*e*Sg	**Sg**	**02 25 03.4**	**-4.0**
NLU	**North Lily Min**	**5.76**	**77**	*e*Pn	**Pn**	**02 23 29.9**	**+0.9**
NLU				*e*Pg	**Pg**	**02 23 52.2**	**-1.2**
NLU				*e*Sg	**Sg**	**02 25 03.8**	**-4.3**
HVU	**Hansel Valley**	**5.83**	**58**	*e*Pn	**Pn**	**02 23 30.3**	**+0.5**
HVU				*e*Pg	Pg	02 23 51.5	-3.3
HVU				*e*Sg	**Sg**	**02 25 06.9**	**-3.4**
HLID	**Hailey**	**6.01**	**37**	*e*Pn	**Pn**	**02 23 33.6**	**+1.3**
HLID				*e*Sg	Sb	02 25 07.8	+7.6
TMUT	**Trail Mountain**	**6.37**	**83**	*e*Pg	**Pg**	**02 24 06.0**	**+0.8**
TMUT				*e*Sg	**Sg**	**02 25 23.6**	**-4.0**
TCUT	**Toone Canyon**	**6.52**	**67**	*e*Pn	**Pn**	**02 23 39.9**	**+0.5**
	7.9nm,0.7s						
TCUT				*e*Pg	**Pg**	**02 24 06.6**	**-1.5**
HWUT	**Hardware Ranch**	**6.57**	**63**	*e*Pn	**Pn**	**02 23 39.8**	**-0.3**
	11nm,0.8s						
HWUT				*e*Pg	Pb	02 24 01.3	+3.5
HWUT				*e*Sg	Sb	02 25 26.0	+10
MCMT	**McKenzie Canyo**	**7.70**	**37**	*e*Pn	**Pn**	**02 23 56.2**	**+0.5**
	0.5nm,0.7s						
MCMT				*e*Pg	Pg	02 24 28.4	-2.3
MCMT				*e*Sg	Sg	02 26 04.8	-5.6
BW06	**Boulder Array**	**8.40**	**59**	*e*Pn	Pn	02 24 08.7	+3.4
	2.1nm,0.7s						
YMR	**Madison River**	**8.55**	**45**	*e*Pn	**Pn**	**02 24 05.6**	**-1.7**
	15nm,1.6s						

*ISCJB **24** 02:40:00.3±0.5, 23°.28S±0°.06×68°.87W±0°.06, h96km±5km, mb4.0/5, Error ellipse: s-maj=9.5km s-min=9.2km az=37.9*
*NEIC **24** 02:40:01.4±0.7, 23°.29S×68°.74W, mb4.0/3, Error ellipse: s-maj=36.6km s-min=10.2km az=92.0*
*IDC **24** 02:40:02.1±1.3, 23°.37S×68°.67W, h99km±6km, mb4.0/2, mb1 3.6/4, mb1mx3.4/21, mbtmp3.8/4, Error ellipse: s-maj=44.8km s-min=27.5km az=83.0*
*GUC **24** 02:40:02.3±0.7, 23°.15S×68°.91W, h80km±6km, ML3.9*

ISC 24 02:40:01.7±0.6, 23°.15S±0°.05×68°.85W±0°.05, h97km±4km, h97km:pP-P, n24, σ1§54/32, mb4.0/5, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.54**	**354**	*e*Pn	**Pn**	**02 40 18.0**	**+0.2**
LVC				*e*Sn	**Sn**	**02 40 30.2**	**+0.4**
SPCH	**San Pedro de A**	**0.64**	**68**	*i* P	**Pn**	**02 40 18.9**	**+0.2**
SPCH				*i* S	**Sn**	**02 40 30.8**	**-0.5**
SPCH				IAML		02 40 43.0	
	comp=N,8μm,0.9s						
PB06	**IPOC Station P**	**0.80**	**303**	*i* P	**Pn**	**02 40 19.3**	**-0.7**
PB06				*i* S	**Sn**	**02 40 32.1**	**-1.6**
PB06				IAML		02 40 34.6	
	comp=N,12μm,0.2s						
PB04	**IPOC Station P**	**1.06**	**326**	*i* P	Pn	02 40 27.2	+4.6
PB04				*i* S	Sn	02 40 46.1	+7.8
PB04				IAML		02 40 49.0	
	comp=N,2μm,0.1s						
CEN1	**Los Morros**	**1.27**	**259**	*e*P9	**Pn**	**02 40 26.6**	**+1.5**
CEN1				*e*S4	**Sn**	**02 40 45.7**	**+2.9**
CEN1				IAML		02 40 48.0	
	comp=E,2μm,1.2s						
MACH	**Maria Elena**	**1.27**	**318**	*i* P	**Pn**	**02 40 25.0**	**-0.3**
MACH				*i* S	**Sn**	**02 40 42.0**	**-1.0**
PB10	**IPOC Station P**	**1.61**	**257**	*i* P	**Pn**	**02 40 29.0**	**-0.2**
PB10				*i* S	**Sn**	**02 40 48.8**	**-1.3**
PB10				IAML		02 40 56.6	
	comp=E,2μm,0.4s						
PB07	**IPOC Station P**	**1.71**	**326**	⇑*i*P	**Pn**	**02 40 30.9**	**+0.2**
PB07				*e*S4	**Sn**	**02 40 51.3**	**-1.4**
PB07				IAML		02 40 55.7	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**2.18**	**344**	*e*P9	**Pn**	**02 40 36.3**	**-0.3**
PB01				*e*S4	**Sn**	**02 41 01.8**	**-1.5**
PB01				IAML		02 41 05.6	
	comp=E,869nm,0.1s						
PATCX	**Punta Patache**	**2.62**	**332**	*e*S4	Sn	02 41 06.7	-6.9
PATCX				IAML		02 41 20.3	
	comp=N,588nm,0.6s						
LCO	**Las Campanas**	**6.07**	**196**	*e*Pn	**Pn**	**02 41 26.1**	**-3.0**
	comp=N,18nm,0.4s						
LPAZ	**La Paz**	**6.86**	**6**	P	Pn	02 41 44.9	+4.6
	comp=N,0.3nm,0.3s,baz=210,slow=7.5,SNR=6.5						
LPAZ	**La Paz**	**6.86**	**6**	*e*Pn	**Pn**	**02 41 41.2**	**+0.9**
ARE	**Arequipa**	**7.11**	**339**	*e*P	Pn	02 41 52.0	+8.6
CFAA	**Coronel Fontan**	**8.44**	**176**	P	**Pn**	**02 41 59.1**	**-2.0**
	comp=N,0.1nm,0.3s,baz=9.1,slow=10,SNR=11						
SAML	**Samuel**	**15.13**	**22**	*e*Pn	Pn	02 43 24.8	-5.5
TRQA	**Tornquist**	**15.98**	**160**	*e*Pn	**Pn**	**02 43 36.7**	**-4.1**
GRGR	**Grenville**	**35.77**	**12**	*e*P	**P**	**02 46 52.9**	**+1.3**
WCI	**Wyandotte Cave**	**63.22**	**345**	*e*P	P	02 50 25.7	+6.0
	comp=N,1.2nm,0.4s						
QSPA	**South Pole Qui**	**67.05**	**180**	*e*P	**P**	**02 50 45.9**	**+1.5**
	comp=N,0.7nm,0.4s						
QSPA				*e*pP	**PcP**	**02 51 11.2**	**-0.7**
QSPA				*e*sP	**sP**	**02 51 21.3**	**+1.9**
VNDA	**Vanda**	**75.24**	**190**	*e*P	**P**	**02 51 33.4**	**0.0**
	comp=N,1.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.86**	**70**	P	**P**	**02 51 49.0**	**-0.1**
	comp=N,4.6nm,0.6s,baz=247,slow=4.6,SNR=102						
TORD				pP	**pP**	**02 52 13.7**	**-0.6**
	comp=N,2.1nm,0.8s,baz=245,slow=5.2,SNR=4.5						
TORD				sP	**sP**	**02 52 24.6**	**-0.1**
	comp=N,1.2nm,0.6s,baz=258,slow=4.6,SNR=2.9						
YKA	**Yellowknife Ar**	**92.76**	**341**	P	**P**	**02 53 03.0**	**+0.5**
	comp=N,0.5nm,0.9s,baz=136,slow=4.7,SNR=8.2						
YKA				pP	**pP**	**02 53 29.3**	**+1.1**
	comp=N,0.2nm,0.7s,baz=131,slow=5.0,SNR=2.8						
MKAR	**Makanchi Array**	**146.92**	**37**	PKPbc	**PKPdf**	**02 59 32.3**	**+1.4**
	comp=N,0.4nm,0.8s,baz=301,slow=2.2,SNR=3.1						
MKAR				pPKPbc	**pPKPbc**	**03 00 00.6**	**+1.2**
	comp=N,0.7nm,0.7s,baz=299,slow=3.7,SNR=5.0						

*SZGRF **24** 02:44:45.1, 31°.40N×93°.29E, h10km, mb5.8, MS5.2, Xizang*
*BJI **24** 02:44:47.7, 32°.71N×92°.75E, h10km, mB5.4/42, mb5.2/65, ML5.8/2, Ms5.7/84, Ms7 5.4/77*
*ISCJB **24** 02:44:48.5±0.7, 32°.48N±0°.02×92°.81E±0°.02, h10km±4km, mb5.4/266, MS5.1/184, Error ellipse: s-maj=2.7km s-min=2.1km az=19.4*
*IDC **24** 02:44:48.8±0.4, 32°.51N×92°.87E, h0km, mb4.9/38, mb1 4.9/42, mb1mx4.9/44, mbtmp4.9/42, ML4.4/4, MS4.9/29, Ms1 4.9/29, ms1mx4.9/30, Error ellipse: s-maj=11.7km s-min=9.4km az=8.0*
*LDG **24** 02:44:49.9±0.3, 32°.67N×92°.46E, h10km, Mb5.8/46, Ms4.9/12, Error ellipse: s-maj=15.2km s-min=5.1km az=116.0*
*GCMT **24** 02:44:50.7±0.1, 32°.37N×92°.92E, h19km, MW5.5/114, Moment Tensor Solution. s69,c97; s114,c260; Duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.15±.03; $M_{\theta\theta}$-1.24±.03; $M_{\phi\phi}$1.39±.03; $M_{r\theta}$-0.36±.05; $M_{\theta\phi}$1.22±.02; $M_{\phi r}$0.06±.05; Best double couple: $M_0$1.83500×10^{17} NP1:ϕ_s66.00000°, δ83.00000°, λ-10.00000°. NP2:ϕ_s157.00000°, δ80.00000°, λ-173.00000°. Principal axes: T 1.8720, Plg2.0000°, Azm112.0000°; N -0.0700, Plg77.0000°, Azm212.0000°; P -1.7980, Plg12.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **24** 02:44:51.9±0.8, 32°.46N×92°.86E, h37km, mb5.8/89, MS5.0/53 Error ellipse: s-maj=6.0km s-min=3.1km az=124.7*
*NEIC **24** 02:44:51.8±1.9, 32°.52N×92°.83E, h20km±11km, mb5.7/140, MS5.1/135, Error ellipse: s-maj=4.1km s-min=2.8km az=216.0*

ISC 24 02:44:50.9±0.3, 32°.51N±0°.03×92°.80E±0°.02, h14km±1km, h13km:pP-P, n1085, σ1§32/1034, mb5.6/264, MS5.1/186, 40C-67D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.13**	**207**	Pg	**Pb**	**02 45 45.0**	**-1.7**
LSA				Sg	**Sg**	**02 46 29.8**	**-1.9**
LSA	**Lhasa**	**3.13**	**207**	*e*P	**Pb**	**02 45 44.7**	**-2.0**
LSA	**Lhasa**	**3.13**	**207**	*e*Pn	**Pb**	**02 45 44.7**	**-2.0**
LSA				*e*Sn	**Sg**	**02 46 30.3**	**-1.4**
TAPN	**Taplejung**	**6.78**	**222**	*e*Pn	**Pn**	**02 46 31.6**	**+1.4**
SHL	**Shillong**	**6.96**	**187**	⇑*i*P	**Pn**	**02 46 33.0**	**+0.3**
SHL				AMB	AMB	02 47 04

comp=Z,15μm,9.1s
WMQ Urumqi 11.99 342 P Pn 02 47 41.8 +0.4
WMQ sP 02 47 47.6
WMQ PP **PnPn 02 47 51.0 +1.8**
WMQ S **Sn 02 49 53.1 -1.8**
WMQ sS 02 49 57.9
WMQ SS **SnSn 02 50 02.3 -4.9**
WMQ PMZ
comp=Z,33nm,1.2s
WMQ PMZ
comp=Z,360nm,6.4s
WMQ LN
comp=Z,30μm,19.0s
WMQ LE
comp=Z,36μm,16.0s
WMQ LZ
comp=Z,6μm,16.0s
SMLA Simla 13.37 268 *i* P **Pn 02 47 59.3 -0.9**
SMLA AMB AMB 02 48 16.4
comp=Z,170nm,1.3s
GYA Guiyang 13.49 113⇑*i* P **Pn 02 47 59.8 -2.2**
GYA PP **P 02 48 12.6 +1.3**
GYA S **Sn 02 50 31.1 -0.7**
GYA SS **SnSn 02 50 49.0 +4.9**
GYA PMZ
comp=Z,190nm,1.2s
GYA PMZ
comp=Z,440nm,4.0s
GYA LN
comp=Z,6μm,9.6s
GYA LE
comp=Z,10μm,9.9s
GYA LZ
comp=Z,12μm,9.0s
XAN Xi'an 13.58 79 P **Pn 02 48 02.3 -0.8**
XAN pP P 02 48 06.0 -6.1
XAN S **Sn 02 50 28.4 -5.4**
XAN PMZ
comp=Z,74nm,4.3s
XAN LN
comp=Z,18μm,20.5s
XAN LE
comp=Z,2μm,17.4s
XAN LZ
comp=Z,3μm,12.3s
CMAI Chiengmai2 13.71 154 P **Pn 02 48 05.1 0.0**
comp=Z,116nm,1.1s,comp=Z,2μm
DHRM DHARAMSHALA 13.95 273 *e*P **Pn 02 48 07.4 -1.1**
NDI New Delhi 13.95 258 *ex* Pn 02 48 04.5 -3.7
BHK Bhakra 13.96 270 *ex* **P 02 48 17.8 +1.5**
CRAI Chiangrai 13.97 149 P **Pn 02 48 06.2 -2.4**
comp=Z,109nm,1.1s,comp=Z,1μm
ENH Enshi 14.43 94 *e*Pn **Pn 02 48 14.5 -0.3**
comp=Z,150nm,0.8s
CHTO Chiang Mai 14.71 156 *e*P **Pn 02 48 16.9 -1.8**
CHTO Chiang Mai 14.71 156 Pn **Pn 02 48 17.3 -1.4**
SNR=52
CHTO Chiang Mai 14.71 156 P **Pn 02 48 17.1 -1.5**
comp=Z,369nm,0.9s,comp=Z,4μm
CHTO Chiang Mai 14.71 156 *e*Pn **Pn 02 48 16.9 -1.8**
CMMT Chiang Mai 14.71 156 P **Pn 02 48 17.0 -1.7**
comp=Z,95nm,1.3s,comp=Z,1μm
SLVN Son La 14.88 136 *e*Pn **Pn 02 48 20.3 -0.7**
MHMT Maesarieng 15.00 161 P **Pn 02 48 23.1 +0.6**
comp=Z,54nm,1.0s,comp=Z,581nm
CMAR Chiang Mai Arr 15.04 157 Pn **Pn 02 48 21.1 -2.0**
comp=Z,0.8nm,0.3s,baz=333,slow=9.6,SNR=72
CMAR LR LR 02 54 50.9
comp=Z,5μm,19.8s,baz=340,slow=40
PDGK Podgornoye 15.05 320 P **Pn 02 48 22.8 -0.3**
LAMP Lampang 15.22 155 P **Pn 02 48 25.1 -0.4**
comp=Z,22nm,1.0s
KSH Kashi 15.30 302 P **Pn 02 48 27.5 +0.9**
KSH sP **sP 02 48 34.5 -2.6**
KSH S **Sn 02 51 16.9 +1.0**
KSH PMZ
comp=Z,730nm,3.2s
KSH LN
comp=Z,7μm,8.1s
KSH LE
comp=Z,6μm,7.8s
KSH LZ
comp=Z,8μm,8.8s
BTO Baotou 16.01 55 *e*P **Pn 02 48 31.9 -3.8**
UTTA Uttaradit 16.28 153 P **Pn 02 48 38.4 -0.8**
comp=Z,17nm,1.2s,comp=Z,152nm
ULHL Ulahol 16.34 311 P **Pn 02 48 40.6 +0.5**
SNR=105
ULHL Ulahol 16.34 311 *i* P **Pn 02 48 40.6 +0.5**
MK31 Makanchi Array 16.38 334 P **Pn 02 48 39.8 -0.6**
MK31 pmax pmax
comp=Z,630nm,1.7s
MKAR Makanchi Array 16.38 334 Pn **Pn 02 48 39.7 -0.7**
comp=Z,1.1nm,0.3s,baz=142,slow=12,SNR=154
MKAR LR LR 02 55 02.3
comp=Z,3μm,21.1s,baz=154,slow=37
BHPL Bhopal 16.42 240 *e*P3 02 48 37.1
CHCP Chirah Chowk 16.42 279⇑P **Pn 02 48 37.9 -3.1**
AAA Alma-Ata 16.47 315 *i* P **P 02 48 45.1 +0.9**
AAA pmax pmax
comp=Z,4μm,1.1s
AAA MLR MLR
comp=Z,7μm,8.0s
NGP Nagpur 16.67 231 *ex* **Pn 02 48 40.6 -3.6**
NGP *ex* x 02 48 52.0
comp=Z,299nm,1.2s
NGP *ex* **S 02 51 59.0 -1.4**
KZA Kyzart 16.90 309 P **Pn 02 48 48.1 +0.7**
SNR=36
KZA Kyzart 16.90 309 *i* P **Pn 02 48 48.0 +0.7**
VIS Vishakhapatnam 17.02 212 *e*P **Pn 02 48 46.6 -2.0**
VIS AMB AMB 02 48 55.1
comp=Z,221nm,0.9s
TKM2 Tokmak 2 17.10 312 P **Pn 02 48 50.1 +0.5**
SNR=45
TKM2 Tokmak 2 17.10 312 P **Pn 02 48 50.6 +0.9**
TKM2 pmax pmax
comp=Z,510nm,2.1s
TKM2 Tokmak 2 17.10 312 *e*Pn **Pn 02 48 50.4 +0.7**
comp=Z,895nm,2.0s
HHC Hu-ho-hao-te 17.18 56 *e*P **Pn 02 48 49.8 -0.8**
HHC sP **sP 02 48 56.8 -1.1**
HHC S **Sn 02 51 58.8 -2.6**
HHC sS **S 02 52 04.5 -6.2**
HHC SS **SnSn 02 52 20.8 +6.1**
HHC PMZ
comp=Z,44nm,1.2s
HHC PMZ
comp=Z,2μm,4.1s
HHC LN
comp=Z,20μm,10.6s
HHC LE
comp=Z,26μm,9.3s
HHC LZ
comp=Z,19μm,10.6s
KBK Karagaybulak 17.37 311 P **P 02 48 55.0 +0.6**
SNR=48
KBK Karagaybulak 17.37 311 *i* P **P 02 48 55.0 +0.6**
UCH Uchtor 17.45 309 P **P 02 48 58.9 +3.3**
SNR=91
UCH Uchtor 17.45 309 *i* P **P 02 48 58.8 +3.3**
PBKT Sadao Pong 17.51 153 P **Pn 02 48 54.2 -0.4**
comp=Z,123nm,1.2s,comp=Z,2μm
CEP Cherat 17.55 280⇑P **Pn 02 48 51.3 -3.9**
AAK Ala-Archa 17.65 310 Pn **P 02 48 58.5 +1.1**
comp=Z,755nm,1.5s,SNR=39
AAK Ala-Archa 17.65 310 P **P 02 48 58.6 +1.1**
SNR=34
AAK Ala-Archa 17.65 310 *e*P **P 02 48 58.1 +0.6**
AAK pmax pmax
comp=Z,197nm,1.2s
AAK Ala-Archa 17.65 310 Pn **P 02 48 58.9 +1.4**
SNR=129
AAK Ala-Archa 17.65 310 P **P 02 48 57.6 +0.1**
comp=Z,0.5nm,0.3s,baz=116,slow=14,SNR=39
AAK LR LR 02 57 04.5
comp=Z,7μm,19.5s,baz=86,slow=42
AAK Ala-Archa 17.65 310 *e*Pn **P 02 48 57.8 +0.4**
comp=Z,473nm,1.6s
CHMS Chumysh 17.67 312 P **P 02 48 59.4 +1.8**
SNR=31
CHMS Chumysh 17.67 312 *i* P **P 02 48 59.3 +1.8**
FRU Bishkek 17.67 311 *i* P **P 02 49 00.0 +2.5**
FRU *i* 02 52 04.0
FRU pmax pmax
comp=Z,720nm,2.0s

THW Thamme Wali 17.74 277⇑P **Pn 02 48 54.0 -3.5**
UTHA Uthaitani 17.92 159 P **Pn 02 48 59.5 -0.3**
comp=Z,20nm,1.0s,comp=Z,162nm
AML Almayashu 17.95 308 P **P 02 49 02.9 +1.9**
SNR=84
AML Almayashu 17.95 308 *i* P **P 02 49 02.9 +1.9**
USP Ospenovka 17.96 312 P **P 02 49 01.8 +1.0**
SNR=33
USP Ospenovka 17.96 312 *i* P **P 02 49 01.8 +1.0**
EKS2 Erkin-Say 18.13 309 P **P 02 49 04.6 +1.9**
SNR=136
EKS2 Erkin-Say 18.13 309 *e*P **P 02 49 04.3 +1.6**
EKS2 pmax pmax
comp=Z,691nm,1.6s
EKS2 Erkin-Say 18.13 309 *e*Pn **P 02 49 04.2 +1.6**
comp=Z,691nm,1.6s
AKL Akola 18.34 234 *ex* Pn 02 49 00.1 -4.9
KHLT Khaolaem Dam 18.40 162 P **P 02 49 05.5 -0.1**
comp=Z,54nm,1.1s,comp=Z,634nm
SONM Songino Array 18.46 30 P **P 02 49 05.5 -0.7**
comp=Z,1.6nm,0.3s,baz=213,slow=12,SNR=69
SONM LR LR 02 56 58.5
comp=Z,9μm,19.3s,baz=210,slow=40
WHN Wuhan 18.47 90⇑P **P 02 49 02.3 -4.1**
WHN sP **sP 02 49 12.9 +0.8**
WHN S **Sn 02 52 31.5 -1.3**
WHN LN
comp=Z,37μm,12.9s
WHN LE
comp=Z,32μm,11.6s
WHN LZ
comp=Z,20μm,14.8s
HVS Khovu-Aksy 18.63 2*c i*P **Pn 02 49 08.9 +0.6**
ULN Ulaanbaatar 18.76 31*d i*P **P 02 49 08.9 -0.7**
ULN pmax pmax
comp=Z,121nm,2.5s
ULN Ulaanbaatar 18.76 31 P **P 02 49 09.7 +0.1**
SNR=44
ULN Ulaanbaatar 18.76 31 *e*P **P 02 49 09.5 -0.1**
comp=Z,42nm,1.0s
SRDT SRDT 18.97 161 P **P 02 49 11.6 -0.3**
comp=Z,284nm,1.3s,comp=Z,6μm
DGPR DIGLIPUR 19.24 180 *e*P **P 02 49 14.2 -0.6**
ZAK Zakamensk 19.48 20⇑*i*P **Pn 02 49 18.2 -0.4**
ZAK pmax pmax
comp=Z,46nm,1.4s
NAYO Nakonayok 19.70 155 P **P 02 49 20.5 +0.5**
comp=Z,122nm,1.3s,comp=Z,2μm
HYB Hyderabad 19.78 224 *e*P **P 02 49 18.5 -2.3**
HYB Hyderabad 19.78 224 *i* P **P 02 49 21.5 +0.7**
comp=Z,130nm,1.0s
HYB *e*S **S 02 52 58.0 -5.5**
HYB LR LR 02 56 00.0
comp=Z,13nm,12.0s
HYB Hyderabad 19.78 224 *e*P **P 02 49 18.3 -2.5**
HYB AMB AMB 02 49 26.2
comp=Z,71nm,5.7s
HYB Hyderabad 19.78 224 *e*P **P 02 49 18.5 -2.3**
HYB *e*S **Sn 02 53 10.0 +5.5**
KBL Kabul 19.91 282 *e*P **P 02 49 22.8 +0.5**
KBL pmax pmax
comp=Z,897nm,1.8s
KBL Kabul 19.91 282 *e*P **P 02 49 22.8 +0.5**
comp=Z,897nm,1.8s
MOY Mondy 20.07 15 *e*P Pn 02 49 25.9 +0.3
MOY pmax pmax
comp=Z,480nm,2.5s
BJT Baijiatuau 20.24 62 *e*P **P 02 49 26.2 +0.5**
BJT pmax pmax
comp=Z,327nm,1.3s
BJT MLR MLR
comp=Z,8μm,20.0s
BJT Baijiatuau 20.24 62 *e*P **P 02 49 26.2 +0.5**
comp=Z,326nm,1.3s
BJT LR LR
comp=Z,8μm,20.0s
BJI Beijing 20.25 62 P Pn 02 49 26.8 -1.0
BJI S Sn 02 53 14.3 -1.3
BJI PMZ
comp=Z,100nm,1.5s
BJI PMZ
comp=Z,1μm,8.2s
BJI LN
comp=Z,28μm,14.9s
BJI LE
comp=Z,11μm,15.7s
BJI LZ
comp=Z,4μm,17.8s
LATR Latur 20.26 230 *e*P **P 02 49 26.0 +0.1**
QIZ Qiongzhong 20.35 127 P **P 02 49 27.4 +0.4**
QIZ pP **pP 02 49 30.3 -0.6**
QIZ S **S 02 53 16.3 +1.6**
QIZ sS **sS 02 53 21.5 +0.5**
QIZ PMZ
comp=Z,97nm,1.6s
QIZ LN
comp=Z,9μm,14.1s
QIZ LE
comp=Z,4μm,13.9s
QIZ LZ
comp=Z,7μm,9.5s
QIZ Qiongzhong 20.35 127 *e*P **P 02 49 26.3 -0.7**
comp=Z,124nm,1.1s
QIZ LR LR
comp=Z,7μm,19.0s
TIA Tai'an 20.40 73⇓P **P 02 49 27.8 +0.3**
TIA S **S 02 53 15.4 -0.3**
TIA PMZ
comp=Z,120nm,1.0s
TIA PMZ
comp=Z,2μm,10.0s
TIA LN
comp=Z,23μm,11.3s
TIA LE
comp=Z,11μm,13.1s
TIA LZ
comp=Z,8μm,11.0s
GZH Guangzhou 20.42 112 P **P 02 49 27.4 -0.3**
GZH S **S 02 53 16.5 +0.4**
GZH LN
comp=Z,7μm,7.1s
GZH LE
comp=Z,8μm,7.4s
KK31 Karatay Array 20.49 307 *i* P **P 02 49 29.1 +0.7**
KK31 pmax pmax
comp=Z,509nm,1.8s
KKAR Karatay Array 20.49 307 *e*P **P 02 49 29.3 +0.9**
KKAR pmax pmax
comp=Z,121nm,1.1s
KKAR Karatay Array 20.49 307 *e*P **P 02 49 29.3 +0.9**
comp=Z,121nm,1.1s
UBPT Khong Chiam 20.66 143 P **P 02 49 29.5 -0.8**
comp=Z,334nm,1.5s,comp=Z,4μm
TLY Talaya 20.74 19 Pn Pn 02 49 32.6 -0.8
comp=Z,111nm,1.4s,SNR=11
TLY Talaya 20.74 19*d i*P Pn 02 49 32.5 -0.9
TLY *e* 02 49 51.0
TLY *e*PPP PPP 02 50 02.2
TLY *e* 02 53 35.7
TLY *e*SS SS 02 53 51.8
TLY MLR MLR
comp=Z,3μm,8.0s
TLY Talaya 20.74 19 P **P 02 49 31.6 +0.6**
comp=Z,9.7nm,1.0s,baz=210,slow=9.1,SNR=14
TLY LR LR 02 58 35.3
comp=Z,4μm,20.6s,baz=198,slow=40
TLY Talaya 20.74 19 P **P 02 49 31.6 +0.6**
TLY LR LR
comp=Z,1μm,20.0s
PBA Port Blair 20.75 180 *e*P P 02 49 29.4 -1.9
KURBB Kurchatov Arra 20.95 334 P **P 02 49 33.6 +0.3**
comp=Z,136nm,1.1s,baz=141,slow=11,SNR=227
KURK Kurchatov 20.99 334 P **P 02 49 34.9 +1.2**
comp=Z,658nm,1.5s
KURK Kurchatov 20.99 334 *e*P **P 02 49 33.9 +0.2**
KURK pmax pmax
comp=Z,261nm,1.4s
KURK MLR MLR
comp=Z,3μm,21.0s
KURK Kurchatov 20.99 334 P **P 02 49 34.5 +0.8**
SNR=177
KURK Kurchatov 20.99 334 *e*P **P 02 49 33.9 +0.2**
comp=Z,261nm,1.4s
KURK LR LR
comp=Z,3μm,21.0s
IRK Irkutsk 21.42 20⇓*i*P **P 02 49 40.1 +1.8**

IRK *e* 02 53 36.4
IRK pmax pmax
comp=Z,371nm,1.7s
POO Poona 22.00 235 *e*P **P 02 49 45.3 +0.4**
NJ2 Nanjing 22.02 84 *e*P **P 02 49 45.6 +0.7**
NJ2 pP pP 02 49 55.8 +7.0
NJ2 PMZ
comp=Z,1μm,9.0s
NJ2 LN
comp=Z,13μm,13.4s
NJ2 LE
comp=Z,15μm,14.0s
NJ2 LZ
comp=Z,15μm,15.4s
OTUK Ortayu 22.04 321 P **P 02 49 47.0 +2.0**
ZALV Zalesovo Beam 22.18 347 P **P 02 49 46.5 +0.1**
comp=Z,61nm,1.0s,baz=159,slow=9.5,SNR=108
ZALV LR LR 02 57 38.9
comp=Z,1μm,19.9s,baz=182,slow=35
BHJ Bhuj 22.40 252 *e*P **P 02 49 47.5 -1.6**
NVS Novosibirsk 23.33 346⇓*i*P **P 02 49 57.8 -0.7**
NVS *e*S **S 02 54 06.1 -4.5**
NVS pmax pmax
comp=N,221nm,2.0s
NVS pmax pmax
comp=E,111nm,2.0s
NVS pmax pmax
comp=Z,262nm,2.0s
NVS smax smax
comp=N,114nm,2.7s
NVS smax smax
comp=E,146nm,2.7s
QZH Quanzhou 23.80 102⇓*i*P **P 02 50 04.3 +1.0**
QZH S **S 02 54 17.0 -1.6**
QZH LN
comp=E,7μm,7.8s
QZH LE
comp=E,10μm,8.6s
QZH LZ
comp=E,10μm,15.1s
SURA Surathani 24.07 163 P **P 02 50 06.3 +0.4**
comp=E,167nm,1.2s,comp=E,2μm
SURT Suratani 24.08 165 P **P 02 50 06.4 +0.4**
comp=E,89nm,1.6s,comp=E,1μm
SSE Sheshan 24.14 86 *e*P **P 02 50 08.8 +2.3**
SSE pP **pP 02 50 11.9 +1.2**
SSE S **S 02 54 22.0 -2.0**
SSE sS **sS 02 54 28.8 -2.1**
SSE PMZ
comp=E,71nm,1.4s
SSE PMZ
comp=E,270nm,3.5s
SSE LN
comp=E,9μm,17.3s
SSE LE
comp=E,3μm,17.3s
SSE LZ
comp=E,6μm,14.7s
GOA Goa 24.17 230 *e*P **P 02 50 06.0 -0.9**
GOA AMB AMB 02 50 10.2
comp=Z,118nm,0.8s
DL2 Dalian 24.20 67⇓*i*P **P 02 50 07.0 0.0**
DL2 PMZ
comp=Z,120nm,1.3s
DL2 PMZ
comp=Z,590nm,3.5s
DL2 LN
comp=Z,7μm,21.1s
DL2 LZ
comp=Z,5μm,12.8s
CIT Chita 24.67 32 *e*P **P 02 50 10.9 -0.3**
CIT *e* 02 50 27.0
CIT *e* 02 50 45.9
CIT *e* 02 51 05.6
PKDT Phuket 25.02 167 P **P 02 50 16.2 +1.6**
comp=Z,204nm,0.9s,comp=Z,4μm
DLV T Lat 25.03 141 *e*P **P 02 50 14.4 -0.5**
comp=Z,316nm,1.7s
CMBY CAMPBELL BAY 25.39 177 *e*P **P 02 50 16.1 -1.8**
CMBY AMB AMB 02 50 21.1
comp=Z,269nm,1.9s
BVA0 Borovoye Array 26.10 328 *i* P **P 02 50 25.1 +1.0**
BVA0 pmax pmax
comp=Z,372nm,2.1s
SNY Shenyang 26.12 60⇓P **P 02 50 24.4 +0.1**
SNY S **S 02 54 56.5 +1.1**
SNY PMZ
comp=Z,94nm,0.8s
SNY PMZ
comp=Z,610nm,7.7s
SNY LN
comp=Z,3μm,11.6s
SNY LE
comp=Z,6μm,14.3s
SNY LZ
comp=Z,4μm,18.2s
HIA Hailar 26.16 42 *e*P **P 02 50 25.1 +0.3**
HIA pmax pmax
comp=Z,155nm,1.3s
HIA MLR MLR
comp=Z,3μm,19.0s
HIA Hailar 26.16 42 *e*P **P 02 50 25.1 +0.3**
comp=Z,155nm,1.3s
HIA LR LR
comp=Z,3μm,19.0s
BRVK Borovoye 26.17 328 P **P 02 50 25.4 +0.7**
comp=Z,310nm,1.3s,SNR=12
TATO Taipei 26.19 99 PFAKE 02 50 40.0 +15
TATO LR LR
comp=Z,3μm,19.0s
YHNB Yeheng 26.22 100 *e*P **P 02 50 27.1 +1.5**
comp=Z,81nm,1.1s
YHNB LR LR
comp=Z,3μm,20.0s
SSLB Suanglung 26.24 102 *e*P **P 02 50 27.0 +1.3**
comp=Z,60nm,1.2s
NACB Ninganchiao 26.61 101 *e*P **P 02 50 29.5 +0.6**
comp=Z,158nm,1.1s
YULB Yu-li 26.69 103 *e*P **P 02 50 28.5 -1.3**
comp=Z,83nm,1.4s
TWG Pinlang 26.76 104 *e*P **P 02 50 29.4 -1.0**
comp=Z,182nm,0.8s
IMYA Miami 27.17 287 *e*P **P 02 50 34.8 +0.7**
LHMI Lhok Sumawe 27.41 171 P **P 02 50 39.2 +3.0**
LHMI Lhok Sumawe 27.41 171 *e*P **P 02 50 37.5 +1.3**
comp=Z,297nm,1.2s
PALK Pallekele 27.51 207 P **P 02 50 40.9 +3.7**
comp=Z,164nm,2.0s,SNR=5.6
PALK Pallekele 27.51 207 P **P 02 50 38.3 +1.1**
PALK pmax pmax
comp=Z,15nm,0.8s
PALK MLR MLR
comp=Z,3μm,19.3s
PALK Pallekele 27.51 207 P **P 02 50 41.3 +4.1**
SNR=5.7
PALK Pallekele 27.51 207 P **P 02 50 38.3 +1.1**
comp=Z,15nm,0.8s,baz=23,slow=8.6,SNR=8.9
PALK LR LR 03 04 01.8
comp=Z,3μm,19.3s,baz=38,slow=42
PALK Pallekele 27.51 207⇓*i*P **P 02 50 39.9 +2.7**
SNR=7.8
PALK Pallekele 27.51 207 *e*P **P 02 50 40.8 +3.6**
comp=Z,32nm,1.0s
ISRO Mashad 27.68 287 *e*P **P 02 50 39.5 +0.8**
CN2 Changchun 27.87 57 *e*P **P 02 50 39.9 -0.2**
CN2 *es*P **sP 02 50 48.8 +2.8**
CN2 *e*S **S 02 55 20.3 -2.7**
CN2 PMZ
comp=Z,70nm,0.9s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,3μm,12.0s
CN2 LE
comp=Z,5μm,12.0s
CN2 LZ
comp=Z,2μm,12.0s
KULM Kulim 28.05 163⇓P **P 02 50 42.6 +0.7**
KULM Kulim 28.05 163 *e*P **P 02 50 40.3 -1.6**
comp=Z,118nm,1.2s
KULM LR LR
comp=Z,4μm,22.0s
IPAY Payeh 28.06 288 *e*P P 02 50 45.7 +3.5
INCN Inchon 28.06 70 P **P 02 50 41.3 -0.6**
SNR=5.4
INCN Inchon 28.06 70 *e*P **P 02 50 41.1 -0.8**

comp=Z,189nm,1.2s
INCN LR LR
comp=Z,900nm,19.0s
IAKL Akhelmad 28.25 288 *e*P **P 02 50 44.4 +0.5**
IKRD Kardeh 28.44 288 *e*P P 02 50 39.6 -6.0
IKOO Kooshah 28.45 279 *e*P **P 02 50 45.5 -0.2**
ITEG Tejag 28.59 280 *e*P **P 02 50 46.9 0.0**
KTGM Kuala Trenggan 28.71 158 ⇓P **P 02 50 49.7 +1.9**
ABKT Ailbek 28.74 291 P **P 02 50 49.1 +1.1**
comp=Z,211nm,1.4s,SNR=8.7
GEYT Alibeck 28.74 291 P **P 02 50 49.4 +1.3**
comp=Z,30nm,1.1s,baz=106,slow=8.2,SNR=32
GEYT ScP **ScP 02 57 41.8 +2.8**
comp=Z,4.9nm,1.1s,baz=358,slow=4.7,SNR=5.8
GEYT LR LR 03 03 55.1
comp=Z,4μm,22.0s,baz=105,slow=40
IPM Ipoh 28.92 163 *e*P **P 02 50 48.8 -0.9**
comp=Z,46nm,1.0s
KSAR Wonju Array Be 29.06 70 P **P 02 50 50.0 -0.8**
KSAR Wonju Array Be 29.06 70 P **P 02 50 50.0 -0.8**
KSRS Korea Array 29.09 70 P **P 02 50 50.0 -1.0**
KSRS pmax pmax
comp=Z,13nm,0.8s
KSRS MLR MLR
comp=Z,1μm,19.8s
KSRS Korea Array 29.09 70 P **P 02 50 50.0 -1.0**
comp=Z,13nm,0.8s,baz=267,slow=9.2,SNR=31
KSRS LR LR 03 04 21.9
comp=Z,1μm,19.8s,baz=268,slow=40
BOD Bodaibo 29.15 23 *e*P **P 02 50 51.8 +0.5**
BOD pmax pmax
comp=Z,38nm,0.1s
KCSI Kotacane, Aceh 29.21 170 P **P 02 50 54.9 +2.7**
AB31 Akbulak array 29.65 314 *i*P **P 02 50 56.3 +0.4**
AB31 pmax pmax
comp=Z,10.0nm,0.8s
PSI Prapat 30.10 168 P **P 02 51 01.3 +1.0**
comp=Z,39nm,0.9s,baz=303,slow=7.2,SNR=22
FRIM Kepong 30.27 162 ⇑P **P 02 51 04.3 +2.7**
MDJ Mudanjiang 30.95 56 P **P 02 51 07.1 -0.3**
MDJ pP **pP 02 51 10.3 -1.4**
MDJ PcP **PcP 02 54 00.0 -3.5**
MDJ S **S 02 56 12.3 +0.9**
MDJ sS **sS 02 56 19.0 +0.6**
MDJ PMZ
comp=Z,17nm,0.8s
MDJ PMZ
comp=Z,800nm,9.8s
MDJ LN
comp=Z,15μm,14.3s
MDJ LE
comp=Z,4μm,15.0s
MDJ LZ
comp=Z,3μm,13.2s
MDJ Mudanjiang 30.95 56 *e*P **P 02 51 06.6 -0.9**
comp=Z,31nm,1.3s
MDJ LR LR
comp=Z,1μm,20.0s
AKTO Aktyubinsk 31.25 315 P **P 02 51 10.7 +0.7**
comp=Z,6.2nm,0.8s,baz=108,slow=8.9,SNR=9.6
GSI Gunungsitoli 31.36 171 P **P 02 51 13.9 +2.7**
GSI Gunungsitoli 31.36 171 *e*P **P 02 51 13.7 +2.4**
comp=Z,202nm,1.1s
IBAF Bafgh 31.47 278 *e*P **P 02 51 14.7 +2.3**
JNU Nakatsue 31.89 78 P **P 02 51 15.4 -0.5**
comp=Z,13nm,1.0s,baz=277,slow=8.1,SNR=2.7
KGM Kluang 31.90 160 ⇑P **P 02 51 18.1 +2.1**
SMDO Samad 32.04 262 P **P 02 51 19.1 +1.8**
SNR=5.6
MNSI Mandailing Nat 32.18 167 P **P 02 51 21.1 +2.6**
IGLO Ghaloghah 32.21 288 *e*P **P 02 51 18.7 -0.2**
MYKOM Kota Tinggi 32.27 159 ⇑P **P 02 51 21.7 +2.4**
MYKOM Kota Tinggi 32.27 159 *e*P **P 02 51 22.1 +2.8**
comp=Z,42nm,1.3s
ICHK Chekchek 32.31 280 *e*P **P 02 51 21.2 +1.4**
IMEH Mehriz 32.31 278 *e*P P 02 51 16.5 -3.3
VLA Vladivostok 32.38 60 ⇑*i*P **P 02 51 19.1 -0.9**
VLA *e* 02 52 25.9
VLA *i* 02 54 06.1
VLA *e*S **S 02 56 31.4 -2.4**
VLA pmax pmax
comp=Z,60nm,1.4s
VLA smax smax
comp=N,974nm,0.6s
USRK Ussuriysk Ar. 32.58 58 P **P 02 51 21.2 -0.5**
comp=N,5.8nm,0.6s,baz=254,slow=5.6,SNR=24
USRK LR LR 03 05 06.8
comp=N,2μm,19.9s,baz=254,slow=37
CLNS Chul'man 32.84 33 *e*P **P 02 51 24.7 +0.8**
CLNS *e**PP **pP 02 51 31.6 +3.5**
CLNS *e* 02 52 29.1
CLNS *e*PPP PPP 02 52 47.7
CLNS *e* 02 54 09.1
CLNS *e*S **S 02 56 39.6 -1.1**
CLNS pmax pmax
comp=Z,29nm,1.0s
CLNS pmax pmax
comp=E,26nm,1.2s
CLNS pmax pmax
comp=N,19nm,1.0s
CLNS pmax pmax
comp=Z,7.0nm,1.1s
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS smax smax
comp=N,274nm,11.3s
CLNS smax smax
comp=E,300nm,10.3s
CLNS MLR MLR
comp=Z,5μm,10.0s
CLNS MLR MLR
comp=N,1μm,10.0s
CLNS MLR MLR
comp=E,5μm,11.0s
SVE Sverdlovsk 32.86 327 ⇓*i*P **P 02 51 26.0 +1.9**
SVE *e*S S 02 56 32.6 -8.4
SVE *e* 02 58 37.7
SVE pmax pmax
comp=Z,152nm,1.5s
SVE MLR MLR
comp=Z,4μm,17.0s
BSY Bisya 32.88 262 P **P 02 51 25.2 +0.6**
SNR=11
BKNI Bangkinang 32.94 165 P **P 02 51 27.7 +2.6**
BKNI Bangkinang 32.94 165 *e*P **P 02 51 27.2 +2.1**
comp=Z,151nm,0.8s
IALA Alasht 33.07 287 *e*P **P 02 51 27.2 +0.6**
ARQ Araqi 33.20 263 P P 02 51 31.8 +4.3
SNR=7.3
KLR Kul'dur 33.42 48 *e*P P 02 51 25.2 -3.9
KLR pmax pmax
comp=E,74nm,1.6s
KLR pmax pmax
comp=Z,90nm,1.6s
IPRN Peran 33.44 288 *e*P **P 02 51 29.7 +0.1**
ARU Arti 33.62 326 P **P 02 51 31.2 +0.5**
comp=Z,276nm,1.7s,SNR=6.2
ARU Arti 33.62 326*d i*P **P 02 51 31.4 +0.7**
ARU 02 52 44.4
ARU PPP PPP 02 52 59.2
ARU 02 54 12.5
ARU S **S 02 56 54.0 +1.3**
ARU SS **SnSn 02 58 56.6 +0.7**
ARU SSS SSS 02 59 21.9
ARU pmax pmax
comp=Z,90nm,1.2s
ARU MLR MLR
comp=Z,2μm,18.0s
ARU Arti 33.62 326 PFAKE 02 51 40.0 +9.3
ARU LR LR
comp=Z,3μm,21.0s
KDM Kudat 33.88 134 ⇑P **P 02 51 34.2 +0.9**
IZEF Zefreh 33.91 282 *e*P **P 02 51 33.6 -0.3**
IPAR Pars 33.98 276 *e*P **P 02 51 34.0 -0.5**
PDSI Padang 34.02 166 P **P 02 51 37.3 +2.8**
ISRV Sarvestan 34.05 275 *e*P **P 02 51 32.0 -3.2**
IVRN Varamin 34.08 286 *e*P **P 02 51 35.6 +0.5**
KKM Kota Kinabalu 34.20 135 ⇓P **P 02 51 37.7 +1.5**
KKM Kota Kinabalu 34.20 135 *e*P **P 02 51 37.0 +0.8**
comp=Z,176nm,1.3s
DSRI Dabo 34.64 159 P **P 02 51 42.7 +2.8**
KSM Kuching 34.99 148 ⇓P **P 02 51 44.7 +1.7**
KSM Kuching 34.99 148 *e*P **P 02 51 43.6 +0.7**
comp=Z,534nm,2.3s
KSM LR LR
comp=Z,3μm,19.0s
IKAZ Kazeroun 35.02 277 *e*P **P 02 51 42.4 -1.1**
SBUM Sibu 35.02 145 ⇓P **P 02 51 44.3 +1.1**
SBUM Sibu 35.02 145 *e*P **P 02 51 44.0 +0.7**
IGZV Ghazvin 35.12 288 *e*P **P 02 51 45.2 +1.0**
IPIR Pirpir 35.14 282 *e*P **P 02 51 43.8 -0.8**
HABR Khabarovsk 35.37 51 *e*P **P 02 51 44.5 -1.4**
HABR *e**PP **pP 02 51 54.2 +4.0**
HABR *e**SP sP 02 51 58.4 +6.5
HABR *e* 02 53 03.3
HABR *e* 02 54 14.5
HABR *e*S **S 02 57 16.9 -3.0**
HABR *e**SS sS 02 57 33.2 +6.3
HABR *e*SS **SnSn 02 59 37.6 -1.0**
HABR *e* 03 02 01.7
HABR pmax pmax
comp=Z,59nm,1.3s
HABR MLR MLR
comp=Z,3μm,16.0s
IRAZ Razeghan 35.48 287 *e*P **P 02 51 47.2 -0.1**
SOKR Solikamsk 36.09 329*c i*P **P 02 51 53.7 +1.8**
SOKR pmax pmax
comp=Z,100nm,1.4s
SOKR MLR MLR
comp=Z,2μm,17.0s
STKI Sintang 36.77 148 P **P 02 52 00.2 +2.0**
comp=Z,130nm,0.8s
MAK Makhachkala 36.92 300 *e*P **P 02 51 57.1 -2.1**
MAK S **S 02 57 43.9 +0.2**
MAK *e*SS **SnSn 03 00 15.7 -0.5**
MAK pmax pmax
comp=Z,106nm,1.4s
MAK MLR MLR
comp=Z,3μm,12.0s
MAJO Matsushiro 37.36 71 *e*P **P 02 52 04.7 +1.6**
MAJO pmax pmax
comp=Z,26nm,1.1s
MAJO MLR MLR
comp=Z,1μm,19.0s
MAJO Matsushiro 37.36 71 *e*P **P 02 52 04.7 +1.6**
comp=Z,26nm,1.1s
MAJO LR LR
comp=Z,1μm,19.0s
MAT Matsushiro 37.36 71 P **P 02 52 01.2 -1.9**
MJAR Matsushiro Arr 37.36 71 P **P 02 52 02.4 -0.8**
comp=Z,15nm,1.0s,baz=279,slow=9.5,SNR=20
MJAR LR LR 03 07 04.5
comp=Z,2μm,18.4s,baz=265,slow=36
YAK Yakutsk 37.79 28 *e*P **P 02 52 06.3 0.0**
YAK *e* 02 53 31.2
YAK *e* 02 54 24.7
YAK *e*S **S 02 58 00.2 +3.8**
YAK *e* 02 58 12.8
YAK *e*SS **SnSn 03 00 31.9 -4.7**
YAK *e* 03 02 17.6
YAK pmax pmax
comp=Z,52nm,1.1s
YAK pmax pmax
comp=N,21nm,1.5s
YAK pmax pmax
comp=E,33nm,1.3s
YAK pmax pmax
comp=Z,19nm,0.9s
YAK smax smax
comp=N,126nm,4.7s
YAK MLR MLR
comp=Z,4μm,20.0s
YAK MLR MLR
comp=N,1μm,13.0s
YAK MLR MLR
comp=E,2μm,19.0s
YAK Yakutsk 37.79 28 P **P 02 52 07.1 +0.7**
comp=E,22nm,0.5s,baz=289,slow=2.4,SNR=11
YAK Yakutsk 37.79 28 P **P 02 52 07.1 +0.7**
YAK LR LR
comp=Z,5μm,22.0s
RBK Rabkut 37.81 256 P **P 02 52 06.9 -0.3**
SNR=8.0
MDSI Maura Dua 38.34 162 P **P 02 52 09.5 -2.0**
DGRG David-gareji 38.52 297 P **P 02 52 14.6 +1.7**
ABTO Aybut 38.63 257 P P 02 52 17.6 +3.5
SNR=7.8
TBLG Delisi 38.98 298 P P 02 52 20.3 +3.5
DUS Dusheti 39.00 298 P P 02 52 21.4 +4.4
GNI Garni 39.07 295*c i*P **P 02 52 19.2 +1.5**
GNI pmax pmax
comp=Z,109nm,1.7s
GNI Garni 39.07 295 P P 02 52 22.8 +5.1
SNR=18
GNI Garni 39.07 295 P **P 02 52 19.3 +1.5**
comp=Z,18nm,0.9s,baz=310,slow=0.8,SNR=9.9
GNI Garni 39.07 295 ⇓*i*P **P 02 52 19.5 +1.7**
SNR=18
GNI Garni 39.07 295 *e*P **P 02 52 19.4 +1.7**
comp=Z,75nm,1.2s
GNI LR LR
comp=Z,1μm,21.0s
GUDG Gudauri 39.15 299 P **P 02 52 19.9 +1.5**
ZEI Tsey 39.57 299 *e*P **P 02 52 22.3 +0.4**
ZEI pmax pmax
comp=Z,32nm,1.4s
DAV Davao City (W) 39.60 123 PFAKE 02 52 30.0 +7.9
DAV LR LR
comp=Z,3μm,21.0s
NCK Nalchik 39.78 301 *e*P **P 02 52 23.7 +0.3**
EAK Akyaka 39.90 296 *i*P P 02 52 28.7 +4.1
ONI Oni 39.91 299 P **P 02 52 26.5 +2.0**
DIGO Kars 40.09 296 *i*P **P 02 52 28.7 +2.4**
HAKT HAKKARI 40.15 291 *i*P **P 02 52 27.6 +0.8**
ASAJ Asahikawa 40.19 58 P **P 02 52 27.3 +0.5**
ASAJ pmax pmax
comp=Z,66nm,1.1s
ASAJ Asahikawa 40.19 58 P **P 02 52 27.3 +0.5**
comp=Z,66nm,1.1s,baz=280,slow=17,SNR=7.6
ASAJ Asahikawa 40.19 58 *e*P **P 02 52 27.6 +0.9**
comp=Z,44nm,1.3s
KBZ Khabaz 40.28 301 P **P 02 52 27.8 +0.3**
comp=Z,3.5nm,0.9s,baz=87,slow=12,SNR=12
YSS Yuzh-Sakhalins 40.35 54 *e*P **P 02 52 27.5 -0.5**
YSS *e* 02 52 37.0
YSS pmax pmax
comp=Z,70nm,1.0s
YSS MLR MLR
comp=E,2μm,14.0s
YSS MLR MLR
comp=Z,2μm,14.0s
YSS Yuzh-Sakhalins 40.35 54 *e*P **P 02 52 27.5 -0.5**
comp=Z,239nm,1.4s
YSS LR LR
comp=Z,687nm,20.0s
KIV Kislovodsk 40.43 301 P **P 02 52 29.8 +1.0**
comp=Z,198nm,1.6s,SNR=6.0
KIV Kislovodsk 40.43 301 *e*P **P 02 52 29.4 +0.6**
KIV *e* 02 54 03.7
KIV *e* 02 54 31.9
KIV *e*S **S 02 58 36.5 -0.4**
KIV *e*SS **SS 03 01 36.3 +0.4**
KIV pmax pmax
comp=Z,37nm,1.1s
KIV MLR MLR
comp=Z,1μm,16.0s
KIV Kislovodsk 40.43 301 PFAKE 02 52 40.0 +11
KIV LR LR
comp=Z,1μm,19.0s
ERM Erimo 40.68 62*ce*P **P 02 52 31.6 +0.8**
ERM pmax pmax
comp=Z,98nm,1.2s
ERM Erimo 40.68 62 *e*P **P 02 52 30.2 -0.5**
comp=Z,93nm,1.1s
ERM LR LR
comp=Z,1μm,19.0s
CHVG Ch'k'valeri 40.91 299 P **P 02 52 34.7 +2.0**
MPSI Mapaga 40.94 136 P **P 02 52 35.8 +2.6**
ARTV Artvin 41.13 297 *i*P P 02 52 38.0 +3.2
DAGI Agillar 41.15 297 *i*P **P 02 52 36.9 +2.0**
SIRN S'–rnak 41.18 291 *i*P P 02 52 38.6 +3.4
EKAR Karacoban 41.22 294 *i*P **P 02 52 38.5 +2.9**
HOMI Horasan 41.25 295 *i*P **P 02 52 37.7 +1.9**
DDEM Demirkent 41.28 297 *i*P **P 02 52 37.7 +1.8**
DBOC Borcka 41.31 297 *i*P **P 02 52 39.1 +3.0**
DBAD Bademkaya 41.32 297 *i*P **P 02 52 37.5 +1.3**
BBKI Banjar Baru 41.43 146 P **P 02 52 39.6 +2.4**
VRHR Novokhopersk 41.49 312 *e*P **P 02 52 36.8 -0.5**
VRHR *e* 02 54 18.4
VRHR *e*S **S 02 58 55.5 +3.3**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,40nm,0.8s
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR pmax pmax
comp=N,50nm,1.1s
VRHR pmax pmax
comp=E,150nm,1.1s
VRHR pmax pmax
comp=Z,70nm,1.1s
VRHR smax smax
comp=N,90nm,1.5s
VRHR smax smax
comp=E,40nm,1.5s
VRHR smax smax
comp=Z,20nm,1.1s
VRHR MLR MLR
comp=N,740nm,14.0s
VRHR MLR MLR
comp=E,1μm,14.0s
VRHR MLR MLR
comp=Z,2μm,14.0s
ERZM Erzurum 41.68 295 *i*P **P 02 52 41.7 +2.4**
PRGR Permogore 41.91 328 *e*P **P 02 52 40.5 -0.1**
PRGR pmax pmax
comp=Z,109nm,1.4s
MRSI Marisa 42.06 133 P **P 02 52 44.9 +2.5**
RAYN Ar Rayn 42.42 270 *e*P **P 02 52 45.0 -0.4**
comp=Z,160nm,2.3s
KPJI Karang Pucung 42.49 156 P **P 02 52 46.7 +0.9**
comp=Z,60nm,1.1s,comp=Z,1μm
MARD Mardin 42.49 292 *i*P **P 02 52 48.7 +2.8**
SOC Sochi 42.59 301*d i*P **P 02 52 48.9 +2.4**
SOC *i* 02 54 25.0
SOC *e*S **S 02 59 08.9 +0.1**
SOC pmax pmax
comp=Z,42nm,1.0s
SOC MLR MLR
comp=Z,2μm,15.0s
GTOI Gorontalo 42.60 132 P **P 02 52 47.6 +0.8**
KBSD Kabsdagh 42.73 291 *e*P **P 02 52 48.4 +0.7**
MACK Trabzon 42.77 297 *i*P **P 02 52 50.2 +2.1**
MZRK Al-Mazaregh 42.86 289 *e*P **P 02 52 50.3 +1.5**
DIYA Diyarbakir 42.91 293 *i*P **P 02 52 50.6 +1.4**
VORD Divnogorie 42.94 312 *e*P **P 02 52 49.7 +0.5**
VORD *e*S **S 02 59 14.2 +0.5**
VORD pmax pmax
comp=N,40nm,1.2s
VORD pmax pmax
comp=Z,40nm,1.2s
VORD pmax pmax
comp=E,60nm,1.0s
VORD smax smax
comp=N,130nm,3.2s
VORD smax smax
comp=E,190nm,3.2s
VORD smax smax
comp=Z,120nm,2.9s
VORD MLR MLR
comp=N,970nm,17.0s
VORD MLR MLR
comp=E,1μm,17.0s
VORD MLR MLR
comp=Z,2μm,17.0s
EUZM Uzumlu 42.98 295 *i*P P 02 52 54.6 +4.8
APSI Ampana 42.98 135 P **P 02 52 52.6 +2.7**
VSR Storozhevoye 43.04 312 *e*P **P 02 52 49.8 -0.2**
VSR *e* 02 54 30.0
VSR *e*S **S 02 59 13.5 -1.6**
VSR pmax pmax
comp=N,7.0nm,1.3s
VSR pmax pmax
comp=E,70nm,1.3s
VSR pmax pmax
comp=Z,50nm,1.3s
VSR pmax pmax
comp=E,150nm,2.5s
VSR pmax pmax
comp=Z,230nm,2.5s
VSR pmax pmax
comp=N,50nm,2.0s
VSR smax smax
comp=E,260nm,3.5s
VSR smax smax
comp=Z,180nm,3.5s
VSR smax smax
comp=N,130nm,3.3s
VSR MLR MLR
comp=N,1μm,17.0s
VSR MLR MLR
comp=Z,2μm,17.0s
VSR MLR MLR
comp=E,1μm,15.0s
SFNV Sufian 43.18 290 *e*P **P 02 52 52.8 +1.4**
KMSI Cibinong 43.26 131 P P 02 52 57.5 +5.3
NGJI Ngawi 43.45 153 P P 02 52 59.5 +5.9
TIXI Tiksi 43.65 16*d i*P **P 02 52 54.1 -0.5**
TIXI pmax pmax
comp=Z,72nm,2.5s
TIXI MLR MLR
comp=Z,1μm,16.0s
TIXI Tiksi 43.65 16 *e*P **P 02 52 53.9 -0.7**
comp=Z,29nm,1.1s
TIXI LR LR
comp=Z,858nm,19.0s
TTSI Tana Toraja 43.66 139 P **P 02 52 57.5 +2.2**
ELZG Elazig 43.70 294 *i*P P 02 52 59.9 +4.2
LUWI Luwuk 43.76 134 P P 02 53 00.7 +4.5
LUWI Luwuk 43.76 134 *e*P **P 02 52 56.2 0.0**
GRSN GIRESUNGRSN 43.91 297 *i*P **P 02 52 55.1 -2.1**
KEMA Kemaliye 43.96 295 *i*P **P 02 52 59.5 +1.8**
SUSE Susehri 44.05 296 *i*P **P 02 53 01.5 +3.0**
ANN Anapa 44.16 303 *e*P **P 02 52 59.3 +0.2**
ANN *e* 02 54 43.6
ANN *e*S **S 02 59 32.0 +0.4**
ANN *e*SS **SS 03 02 46.6 -2.6**
ANN *e*SSS SSS 03 03 43.8
ANN pmax pmax
comp=Z,77nm,1.3s
ANN MLR MLR
comp=N,474nm,15.0s
ANN MLR MLR
comp=Z,1μm,15.0s
ANN MLR MLR
comp=E,1μm,15.0s
MALT Malatya 44.16 293 P P 02 53 05.7 +6.3
MALT Malatya 44.16 293 ⇓*i*P **P 02 53 00.4 +1.0**
KSRV Kasrt alli 44.17 290 *e*P **P 02 52 59.5 +0.1**
PWJI Pagerwojo 44.19 152 P **P 02 53 01.4 +1.9**
comp=E,61nm,1.4s
KMMI Kalianget 44.20 149 P P 02 53 05.8 +6.1
SPSI Sidrap Palu 44.39 140 P **P 02 53 03.6 +2.4**
MOS Moscow 44.44 318 *e*P **P 02 53 01.6 +0.4**
MOS *e* 02 54 46.4
MOS *e*S **S 02 59 38.1 +2.6**
MOS pmax pmax
comp=Z,1μm,2.2s
MOS pmax pmax
comp=Z,311nm,1.4s
MOS MLR MLR
comp=E,3μm,17.0s
MOS MLR MLR
comp=Z,3μm,17.0s
KLMR Klimovskoe 44.47 326 *e*P **P 02 53 00.8 -0.5**
KLMR *e* 02 54 44.7
KLMR pmax pmax
comp=Z,247nm,1.3s
KLMR MLR MLR
comp=Z,3μm,16.0s
AKCD Akcadag 44.56 293 *i*P **P 02 53 05.2 +2.6**
BNSI Bone 44.94 140 P **P 02 53 07.8 +2.2**
OBN Obninsk 44.96 317 P **P 02 53 05.8 +0.5**
comp=Z,500nm,1.3s,SNR=5.3
OBN Obninsk 44.96 317*d i*P **P 02 53 05.6 +0.3**
OBN *e* 02 54 50.0
OBN pmax pmax
comp=Z,207nm,1.7s
OBN MLR MLR
comp=Z,2μm,16.0s
OBN Obninsk 44.96 317 PFAKE 02 53 20.0 +15
OBN LR LR
comp=Z,4μm,22.0s
GZT Gaziantep 45.01 292 *i*P **P 02 53 06.9 +0.8**

GMJI	**Gumukmas**	**45.08 150**	P	P	02 53 13.8 +7.2
KAPI	**Kappang**	**45.26 141**	P	**P**	**02 53 08.9 +0.8**
	comp=Z,129nm,1.3s,SNR=5.1				
KAPI	**Kappang**	**45.26 141**	P	**P**	**02 53 08.2 +0.1**
	SNR=10				
KAPI	**Kappang**	**45.26 141**	*e*P	**P**	**02 53 07.7 -0.4**
	comp=Z,27nm,1.1s				
KAPI			LR	LR	
	comp=Z,1μm,22.0s				
TNTI	**Ternate**	**45.34 127**	P	**P**	**02 53 11.2 +2.4**
TNTI	**Ternate**	**45.34 127**	*e*P	**P**	**02 53 08.9 +0.1**
	comp=Z,131nm,0.9s				
KUZU	**Kuzuini**	**45.51 292**	*i* P	**P**	**02 53 12.4 +2.4**
JAGI	**Jajag, Banyuwa**	**45.55 150**	P	P	02 53 15.9 +5.5
JAGI	**Jajag, Banyuwa**	**45.55 150**	*e*P	**P**	**02 53 10.9 +0.5**
	comp=Z,71nm,1.3s				
SRBI	**Singaraja**	**45.67 148**	P	P	02 53 15.9 +4.5
BKSI	**Bulukumba**	**45.71 140**	P	**P**	**02 53 12.7 +1.0**
	comp=Z,26nm,1.2s				
HAVZ	**Havza**	**45.80 298**	*i* P	**P**	**02 53 14.2 +2.0**
ANDN	**Andirin**	**45.91 293**	*i* P	**P**	**02 53 16.2 +2.9**
ROOS	**tl_alroos**	**45.92 288**	*e*P	**P**	**02 53 13.7 +0.4**
TMCR	**Tamitsa**	**46.03 330**	*e*P	**P**	**02 53 14.8 +1.2**
TMCR			*e*		02 55 02.2
TMCR			*e*S	**S**	**03 00 01.1 +3.0**
TMCR			pmax	pmax	
	comp=Z,145nm,1.3s				
ZALF	**Zalf**	**46.20 286**	*e*P	**P**	**02 53 14.8 -0.7**
WRDH	**Warideh**	**46.30 290**	*e*P	**P**	**02 53 15.5 -0.8**
BOYT	**Boyabat**	**46.35 298**	*i* P	**P**	**02 53 16.4 -0.3**
LBMI	**Labuha**	**46.47 128**	P	P	02 53 27.1 +9.4
BIDA	**Albida**	**46.49 289**	*e*P	**P**	**02 53 16.2 -1.7**
SIM	**Simferopol'**	**46.50 303**	*e*P	**P**	**02 53 16.2 -1.4**
SIM			pmax	pmax	
	comp=Z,17nm,1.2s				
HAWK	**Haweek**	**46.54 289**	*e*P	**P**	**02 53 19.0 +0.8**
SANI	**Sanana**	**46.55 131**	P	**P**	**02 53 20.3 +2.0**
	comp=Z,61nm,1.0s,comp=Z,769nm				
CTKT	**Corum**	**46.56 297**	*i* P	**P**	**02 53 18.8 +0.4**
SALA	**Sala**	**46.74 286**	*e*P	**P**	**02 53 20.7 +0.7**
ASF	**Jabal al Asfar**	**46.76 285**	P	**P**	**02 53 20.2 +0.2**
	comp=Z,18nm,1.3s,baz=48,slow=4.2,SNR=8.4				
CDAG	**Cicekdag**	**47.05 296**	*i* P	**P**	**02 53 23.3 +1.1**
BRBR	**Barbar**	**47.19 287**	*e*P	**P**	**02 53 22.5 -1.0**
GULE	**Gulek**	**47.20 293**	*i* P	**P**	**02 53 23.3 -0.1**
BBSI	**Bau Bau**	**47.21 138**	P	P	02 53 30.1 +6.6
ILGA	**Ilgaz**	**47.30 298**	*i* P	**P**	**02 53 26.1 +1.9**
BRTR	**Keskin Array B**	**47.59 296**	*i* P	**P**	**02 53 29.3 +2.9**
BRTR			pmax	pmax	
	comp=Z,11nm,0.9s				
BRTR	**Keskin Array B**	**47.59 296**	P	**P**	**02 53 26.1 -0.4**
	comp=Z,10nm,0.9s,baz=100,slow=6.4,SNR=28				
BRTR			LR	LR	03 17 08.4
	comp=Z,842nm,19.8s,baz=103,slow=41				
MMAI	**Mount Meron Ar**	**47.74 287**	P	**P**	**02 53 28.4 +0.8**
	comp=Z,33nm,1.3s,baz=98,slow=12,SNR=14				
SEY	**Seymchan**	**47.83 32**	P	**P**	**02 53 27.3 -0.5**
	comp=Z,23nm,0.9s,baz=259,slow=7.3,SNR=58				
SEY			LR	LR	03 15 09.0
	comp=Z,3μm,18.7s,baz=310,slow=38				
NLAI	**Namlea**	**48.17 131**	P	P	02 53 36.7 +5.8
ANTO	**Ankara**	**48.20 297**	*e*P	**P**	**02 53 31.2 +0.1**
ANTO			pmax	pmax	
	comp=Z,193nm,1.4s				
ANTO			MLR	MLR	
	comp=Z,642nm,19.0s				
ANTO	**Ankara**	**48.20 297**⇑	*i* P	**P**	**02 53 31.6 +0.5**
ANTO	**Ankara**	**48.20 297**	P	**P**	**02 53 32.2 +1.1**
	SNR=23				
ANTO	**Ankara**	**48.20 297**	*e*P	**P**	**02 53 31.2 +0.1**
	comp=Z,193nm,1.4s				
ANTO			LR	LR	
	comp=Z,642nm,19.0s				
LVZ	**Lovozero**	**48.41 335**	PFAKE		02 53 40.0 +7.7
LVZ			LR	LR	
	comp=Z,2μm,19.0s				
BCAM	**Yenicaga**	**48.57 298**	*i* P	**P**	**02 53 32.3 -1.7**
JOF	**Joensuu**	**48.69 328**	*e*P	**P**	**02 53 34.7 +0.3**
JOF			pmax	pmax	
	comp=Z,47nm,1.2s				
JOF	**Joensuu**	**48.69 328**	*e*p	**P**	**02 53 34.7 +0.3**
	comp=Z,47nm,1.2s				
APA	**Apatity**	**48.78 334**⇓	*i* P	P	02 53 39.8 +4.8
APA			*i*		02 55 04.4
APA			*i* S	S	03 00 44.0 +6.7
APA			MLR	MLR	
	comp=Z,3μm,13.0s				
PUL	**Pulkovo**	**48.79 323**	*e*P	**P**	**02 53 36.3 +1.1**
PUL			pmax	pmax	
	comp=Z,353nm,1.7s				
ERMK	**Ermenek**	**48.80 292**	*i* P	**P**	**02 53 35.7 -0.2**
CSS	**Prodhromos**	**48.88 290**	*e*P	**P**	**02 53 37.7 +1.3**
	comp=Z,2.7nm,0.9s				
CSS			LR	LR	
	comp=Z,178nm,21.0s				
EIL	**Elat**	**49.10 283**	P	**P**	**02 53 38.3 +0.2**
	comp=Z,15nm,1.1s,baz=153,slow=1.5,SNR=10				
AKASG	**Malin Array Be**	**49.32 311**	*c*e**P**	**P**	**02 53 39.4 0.0**
AKASG			pmax	pmax	
	comp=Z,16nm,0.7s				
AKASG	**Malin Array Be**	**49.32 311**	P	**P**	**02 53 38.8 -0.6**
	comp=Z,12nm,0.8s,baz=76,slow=6.6,SNR=32				
AKASG			LR	LR	03 17 47.6
	comp=Z,2μm,18.7s,baz=75,slow=40				
KIEV	**Kiev**	**49.33 311**	*e*P	**P**	**02 53 38.8 -0.7**
KIEV			pmax	pmax	
	comp=Z,123nm,1.5s				
KIEV			MLR	MLR	
	comp=Z,2μm,20.0s				
KIEV	**Kiev**	**49.33 311**	*e*P	**P**	**02 53 38.8 -0.7**
	comp=Z,123nm,1.5s				
KIEV			LR	LR	
	comp=Z,2μm,20.0s				
GAZI	**Gazipasa**	**49.36 292**	*i* P	**P**	**02 53 39.8 -0.2**
BTAS	**Tasksesti**	**49.41 298**	*i* P	**P**	**02 53 43.1 +2.8**
MSAI	**Masohi**	**49.43 129**	P	P	02 53 47.0 +6.3
HENT	**Hendek**	**49.44 298**	*i* P	**P**	**02 53 40.2 -0.3**
KIS	**Kishinev**	**49.94 307**	*e*P	**P**	**02 53 45.0 +0.8**
KIS			*e*		02 55 45.0
KIS	**Kishinev**	**49.94 307**	*e*P	**P**	**02 53 45.0 +0.8**
BORA	**Eskisehir**	**49.96 297**	*i* P	**P**	**02 53 43.5 -1.1**
MICGM	**Minsk**	**49.96 316**⇑	*e*P	**P**	**02 53 44.0 -0.2**
MNK	**Minsk**	**49.99 316**⇑	*e*P	**P**	**02 53 44.0 -0.4**
MNK			pmax	pmax	
	comp=N,150nm,1.5s				
MNK			pmax	pmax	
	comp=Z,290nm,1.2s				
MNK			pmax	pmax	
	comp=E,410nm,1.5s				
MNK			MLR	MLR	
	comp=Z,5μm,14.0s				
MNK			MLR	MLR	
	comp=E,5μm,14.0s				
PETK	**Petropavlovsk-**	**50.00 45**	P	**P**	**02 53 44.2 -0.4**
	comp=E,2.9nm,0.9s,baz=41,slow=13,SNR=3.0				
PETK			LR	LR	03 16 41.6
	comp=E,888nm,18.1s,baz=281,slow=38				
BASI	**Baing, Sumba**	**50.09 143**	P	P	02 53 50.1 +4.5
ISP	**Isparta**	**50.37 294**	P	**P**	**02 53 47.7 0.0**
ISP	**Isparta**	**50.37 294**	*e*P	**P**	**02 53 47.7 0.0**
ISP			pmax	pmax	
	comp=Z,216nm,1.7s				
ISP			MLR	MLR	
	comp=Z,827nm,21.0s				
ISP	**Isparta**	**50.37 294**⇓	*i* P	**P**	**02 53 47.8 0.0**
ISP	**Isparta**	**50.37 294**	*e*P	**P**	**02 53 47.7 0.0**
	comp=Z,216nm,1.7s				
ISP			LR	LR	
	comp=Z,827nm,21.0s				
ALT	**Altintas**	**50.40 296**	P	**P**	**02 53 48.5 +0.5**
ALT	**Altintas**	**50.40 296**	P	**P**	**02 53 48.5 +0.5**
LEOM	**Leova**	**50.40 306**	P	P	02 53 52.2 +4.5
LEOM	**Leova**	**50.40 306**⇓	*i* P	**P**	**02 53 47.5 -0.2**
VSU	**Vasula**	**50.57 322**	*e*P	**P**	**02 53 49.8 +1.0**
PET	**Petropavlovsk**	**50.58 46**	PFAKE		02 54 00.0 +11
PET			LR	LR	
	comp=Z,1μm,21.0s				
NACGM	**Naroch**	**50.59 317**	*e*	**P**	**02 53 47.0 -2.0**
TIRR	**Tirgusor**	**50.59 303**	*e*P	**P**	**02 53 52.2 +3.0**
TIRR			pmax	pmax	
	comp=Z,76nm,1.6s				
TIRR	**Tirgusor**	**50.59 303**	*e*P	**P**	**02 53 52.2 +3.0**
	comp=Z,76nm,1.6s				
IDID	**Didziasalis**	**50.60 317**	*e*P	**P**	**02 53 50.2 +1.2**
IDID			AMB	AMB	02 53 53.8
	comp=Z,27nm,1.6s				
CFR	**Carcaliu**	**50.67 304**	P	P	02 53 54.5 +4.8
CFR	**Carcaliu**	**50.67 304**⇑	*i* P	**P**	**02 53 49.9 +0.2**
GDZ	**Gediz**	**50.87 296**	*i* P	**P**	**02 53 51.2 -0.3**
PSN	**Preselentsi**	**50.89 302**	P	P	02 53 56.8 +5.4
PSN	**Preselentsi**	**50.89 302**⇓	*i* P	**P**	**02 53 52.7 +1.3**
IIGN	**Ignalina**	**50.89 318**	*e*P	**P**	**02 53 52.3 +1.0**
IIGN			AMB	AMB	02 53 55.5
	comp=Z,52nm,1.7s				
KAF	**Kangasniemi**	**50.92 326**	*e*P	**P**	**02 53 51.9 +0.6**
KAF			pmax	pmax	
	comp=Z,25nm,1.2s				
KAF	**Kangasniemi**	**50.92 326**	*e*p	**P**	**02 53 51.9 +0.6**
	comp=Z,25nm,1.2s,baz=78,slow=6.1				
ISAL	**Salakas**	**50.94 318**	*e*P	**P**	**02 53 52.9 +1.3**
ISAL			AMB	AMB	02 53 56.4
	comp=Z,39nm,1.6s				
GUMO	**Guam**	**50.95 99**	PFAKE		02 54 00.0 +7.8
GUMO			LR	LR	
	comp=Z,667nm,20.0s				
FINES	**FINESS Array B**	**50.99 325**	P	**P**	**02 53 52.2 +0.4**
	comp=Z,11nm,0.8s,baz=101,slow=6.8,SNR=23				
FINES			LR	LR	03 16 44.4
	comp=Z,2μm,19.1s,baz=92,slow=38				
MSEY	**Mahe Island**	**51.21 231**	PFAKE		02 54 10.0 +16
MSEY			LR	LR	
	comp=Z,1μm,19.0s				
FAKI	**Fak Fak**	**51.35 126**	P	P	02 53 59.1 +3.9
FAKI	**Fak Fak**	**51.35 126**	*e*P	**P**	**02 53 52.1 -3.0**
	comp=Z,90nm,1.4s				
AKAS	**Kas**	**51.48 293**	*i* P	**P**	**02 53 55.1 -1.0**
TESR	**Tescani**	**51.49 306**⇑	*i* P	**P**	**02 53 55.9 0.0**
DURS	**Dursunbey**	**51.51 297**	*i* P	**P**	**02 53 56.6 +0.3**
VRI	**Vrincioaia**	**51.54 305**	P	P	02 54 02.0 +5.7
VRI	**Vrincioaia**	**51.54 305**⇓	*i* P	**P**	**02 53 57.0 +0.7**
DNZL	**Cakiroluk**	**51.54 295**	*i* P	**P**	**02 53 56.7 0.0**
PRD	**Provadia**	**51.54 302**	*i* P	P	02 54 00.1 +3.8
KEV	**Kevo**	**51.54 336**	PFAKE		02 54 10.0 +14
KEV			LR	LR	
	comp=Z,2μm,19.0s				
PRAR	**RASCA**	**51.64 307**⇓	*i* P	**P**	**02 53 57.2 +0.1**
SOEI	**Soe**	**51.65 139**	P	**P**	**02 53 59.6 +2.0**
SOEI	**Soe**	**51.65 139**	*e*P	**P**	**02 53 56.0 -1.6**
	comp=Z,186nm,0.9s				
BATI	**Baumata**	**51.69 140**	P	P	02 54 04.2 +6.5
ISR	**Istrita**	**51.79 304**	P	P	02 54 05.4 +7.1
ISR	**Istrita**	**51.79 304**⇑	*i* P	**P**	**02 53 59.9 +1.6**
ARCES	**ARCESS Array B**	**52.02 336**	P	**P**	**02 53 59.1 -0.5**
	comp=Z,2.2nm,0.6s,baz=97,slow=7.9,SNR=9.1				
ARCES			LR	LR	03 18 16.4
	comp=Z,2μm,18.6s,baz=100,slow=39				
MLR	**Muntele Rosu**	**52.14 305**	P	P	02 54 07.5 +6.5
MLR	**Muntele Rosu**	**52.14 305**⇓	*i* P	**P**	**02 54 02.2 +1.2**
JMB	**Yambol**	**52.27 301**	P	**P**	**02 54 01.9 +0.1**
JMB	**Yambol**	**52.27 301**	P	**P**	**02 54 01.9 +0.1**
JMB	**Yambol**	**52.27 301**⇑	*i* P	**P**	**02 54 01.9 +0.1**
JMB	**Yambol**	**52.27 301**	*i* P	**P**	**02 54 04.6 +2.8**
JMB	**Yambol**	**52.27 301**	P	**P**	**02 54 01.9 +0.1**
BURAR	**Bucovina Array**	**52.28 308**	P	P	02 54 06.7 +4.8
BURAR	**Bucovina Array**	**52.28 308**⇓	*i* P	**P**	**02 54 02.0 +0.1**
DOPR	**Dopca**	**52.44 306**⇑	*i* P	**P**	**02 54 03.6 +0.6**
SZH	**Strazhica**	**52.58 302**	*i* P	**P**	**02 54 06.5 +2.4**
ARG	**Arkhangelos**	**52.64 293**	*e*P	**P**	**02 54 04.0 -0.6**
LVV	**L'vov**	**52.73 311**	*i* P	**P**	**02 54 05.5 +0.4**
LVV			*e*S	**S**	**03 01 28.6 -3.9**
LVV			MLR	MLR	
	comp=N,900nm,15.0s				
LVV			MLR	MLR	
	comp=E,1μm,15.0s				
LVV			MLR	MLR	
	comp=Z,2μm,15.0s				
SUW	**Suwalki**	**52.74 316**	*e*P	**P**	**02 54 05.6 +0.5**
SUW			pmax	pmax	
	comp=Z,483nm,1.9s				
SUW	**Suwalki**	**52.74 316**	*e*P	**P**	**02 54 05.5 +0.5**
SUW			*e*pP	**pP**	**02 54 08.1 -1.4**
SUW	**Suwalki**	**52.74 316**	*e*P	**P**	**02 54 05.6 +0.5**
	comp=Z,483nm,1.9s				
VOIR		**52.77 305**	P	P	02 54 16.2 +11
VOIR		**52.77 305**⇑	*i* P	**P**	**02 54 05.5 -0.1**
MTUR	**Matau**	**52.80 305**	P	P	02 54 10.8 +5.0
MTUR	**Matau**	**52.80 305**⇓	*i* P	**P**	**02 54 07.6 +1.8**
ZIMR		**52.90 303**	P	P	02 54 18.4 +12
ZIMR		**52.90 303**⇓	*i* P	**P**	**02 54 06.9 +0.5**
GCAM	**G?zelcaml?**	**52.92 295**	*i* P	**P**	**02 54 07.0 +0.3**
BDRM	**Kayabasi**	**52.93 294**	*i* P	P	02 54 03.0 -3.8
PVL	**Pavlikeni**	**53.02 302**	*i* P	P	02 54 11.4 +4.1
ALN	**Alexandroupoli**	**53.02 299**	P	**P**	**02 54 05.6 -1.7**
ALN	**Alexandroupoli**	**53.02 299**	P	**P**	**02 54 05.6 -1.7**
ALN	**Alexandroupoli**	**53.02 299**	P	**P**	**02 54 05.6 -1.7**
ARR	**Arges**	**53.07 305**⇓	*i* P	**P**	**02 54 07.6 -0.2**
SMG	**Samos**	**53.22 295**	*e*P	**P**	**02 54 09.0 +0.1**
NIS1	**Nisyros Isl.**	**53.26 294**	*e*P	**P**	**02 54 08.0 -1.3**
KDZ	**Kurdzhali**	**53.30 300**	P	P	02 54 14.7 +5.2
KDZ	**Kurdzhali**	**53.30 300**⇑	*i* P	**P**	**02 54 09.7 +0.2**
KDZ	**Kurdzhali**	**53.30 300**	*i* P	P	02 54 12.8 +3.3
BMR	**Baia Mare**	**53.42 308**	P	P	02 54 15.7 +5.5
BMR	**Baia Mare**	**53.42 308**⇑	*i* P	**P**	**02 54 11.0 +0.8**
CJR	**Cluj-Napoca**	**53.52 307**	P	P	02 54 16.5 +5.4
CJR	**Cluj-Napoca**	**53.52 307**⇑	*i* P	**P**	**02 54 12.0 +0.9**
KARP	**Karpathos**	**53.58 293**	P	**P**	**02 54 13.1 +1.5**
KARP	**Karpathos**	**53.58 293**	*e*P	**P**	**02 54 12.0 +0.4**
KARP	**Karpathos**	**53.58 293**	P	**P**	**02 54 13.1 +1.5**
KWP	**Kalwaria Pacla**	**53.60 311**	*e*P	**P**	**02 54 12.2 +0.7**
KWP			pmax	pmax	
	comp=Z,355nm,1.5s				
KWP			MLR	MLR	
	comp=Z,2μm,19.0s				
KWP	**Kalwaria Pacla**	**53.60 311**	*e*P	**P**	**02 54 11.9 +0.4**
KWP			*e*pP	**pP**	**02 54 15.2 -0.7**
KWP	**Kalwaria Pacla**	**53.60 311**	*e*P	**P**	**02 54 12.2 +0.7**
	comp=Z,355nm,1.5s				
KWP			LR	LR	
	comp=Z,2μm,19.0s				
CHOS	**Chios island**	**53.64 296**	*e*P	**P**	**02 54 11.0 -1.1**
LOT	**Lotru**	**53.65 305**⇑	*i* P	**P**	**02 54 13.1 +1.0**
PLD	**Plovdiv**	**53.72 301**	*i* P	**P**	**02 54 15.3 +2.8**
RZN	**Rozhen**	**53.80 301**	*i* P	**P**	**02 54 16.0 +2.6**
TRPA	**Tarpa**	**53.97 309**⇑	*i* P	**P**	**02 54 15.5 +1.3**
TRPA	**Tarpa**	**53.97 309**	*e*P	**P**	**02 54 14.8 +0.6**
PGB	**Panagyurishte**	**54.00 302**	*i* P	**P**	**02 54 17.4 +2.8**
KOLS	**Kolonicke sedl**	**54.00 310**	*e*P	**P**	**02 54 14.7 +0.2**
KOLS			pmax	pmax	
	comp=Z,42nm,1.6s				
KOLS	**Kolonicke sedl**	**54.00 310**	*e*P	**P**	**02 54 14.7 +0.2**
UZH	**Uzhgorod**	**54.04 309**	*e*P	**P**	**02 54 14.0 -0.7**
UZH			*e*		02 55 14.2
UZH			*e*		02 56 15.6
UZH			*e*		03 07 19.4
UZH			MLR	MLR	
	comp=N,900nm,18.0s				
UZH			MLR	MLR	
	comp=E,2μm,18.0s				
UZH			MLR	MLR	
	comp=Z,900nm,18.0s				
DRGR		**54.11 307**	P	P	02 54 20.7 +5.3
DRGR		**54.11 307**⇓	*i* P	**P**	**02 54 16.1 +0.7**
MPEP	**Malo Peshtene**	**54.12 303**	*i* P	**P**	**02 54 16.2 +0.8**
BILL	**Bilibino**	**54.13 26**	*d i* P	**P**	**02 54 15.5 +0.5**
BILL			*e*		02 56 16.3
BILL			pmax	pmax	
	comp=Z,41nm,1.1s				
BILL			MLR	MLR	
	comp=Z,2μm,17.0s				
BILL	**Bilibino**	**54.13 26**	*e*P	**P**	**02 54 15.6 +0.5**
	comp=Z,60nm,1.0s				
BILL			LR	LR	
	comp=Z,2μm,20.0s				
GZR	**Gura Zlata**	**54.35 305**	P	P	02 54 29.3 +12
GZR	**Gura Zlata**	**54.35 305**⇓	*i* P	**P**	**02 54 18.0 +0.9**
ZKR	**Zakros**	**54.44 292**	P	**P**	**02 54 17.1 -0.8**
ZKR	**Zakros**	**54.44 292**	*e*P	**P**	**02 54 18.0 +0.1**
ZKR	**Zakros**	**54.44 292**	P	**P**	**02 54 17.1 -0.8**
BEL	**Belsk**	**54.46 314**	*e*P	**P**	**02 54 18.5 +0.8**
BEL	**Belsk**	**54.46 314**	*e*P	**P**	**02 54 18.4 +0.8**
BEL			*e*pP	**pP**	**02 54 21.2 -0.9**
NVR	**Nevrokopi**	**54.51 300**	*e*P	**P**	**02 54 19.0 +0.7**
CRVS	**Cervenica-Dubn**	**54.53 310**	*e*P	**P**	**02 54 19.0 +0.7**
CRVS			pmax	pmax	
	comp=Z,25nm,1.3s				
CRVS	**Cervenica-Dubn**	**54.53 310**	*e*P	**P**	**02 54 19.0 +0.7**
MMB	**Musomiste**	**54.55 301**	P	P	02 54 23.1 +4.5
MMB	**Musomiste**	**54.55 301**⇑	*i* P	**P**	**02 54 18.5 -0.1**
MMB	**Musomiste**	**54.55 301**	*i* P	**P**	**02 54 21.2 +2.6**
STHS	**Stebnicka Huta**	**54.58 311**	*e*P	**P**	**02 54 19.3 +0.6**
STHS			pmax	pmax	
	comp=Z,33nm,1.6s				
STHS	**Stebnicka Huta**	**54.58 311**	*e*P	**P**	**02 54 19.3 +0.6**
VTS	**Vitosha**	**54.68 302**	P	**P**	**02 54 19.7 0.0**
VTS	**Vitosha**	**54.68 302**	P	**P**	**02 54 19.7 0.0**
VTS	**Vitosha**	**54.68 302**⇑	*i* P	**P**	**02 54 19.4 -0.3**
VTS	**Vitosha**	**54.68 302**	*i* P	**P**	**02 54 20.5 +0.8**
VTS	**Vitosha**	**54.68 302**	P	**P**	**02 54 19.7 0.0**
NPS	**Neapolis**	**54.87 293**	P	**P**	**02 54 20.1 -0.9**
NPS	**Neapolis**	**54.87 293**	P	**P**	**02 54 20.1 -0.9**
NPS	**Neapolis**	**54.87 293**	*e*P	**P**	**02 54 20.5 -0.5**
NPS	**Neapolis**	**54.87 293**	P	**P**	**02 54 20.1 -0.9**
KKB	**Krupnik**	**54.95 301**	*i* P	**P**	**02 54 24.3 +2.9**
LAST	**Lasithi**	**55.01 293**	P	**P**	**02 54 22.0 -0.1**
LAST	**Lasithi**	**55.01 293**	*e*P	**P**	**02 54 22.0 -0.1**
LAST	**Lasithi**	**55.01 293**	P	**P**	**02 54 22.0 -0.1**
PLG	**Polygyros**	**55.06 299**	*e*P	**P**	**02 54 25.0 +2.6**
BZS	**Buzias**	**55.09 306**	P	P	02 54 27.6 +5.2
BZS	**Buzias**	**55.09 306**⇑	*i* P	**P**	**02 54 22.5 +0.1**
NIE	**Niedzica**	**55.18 311**	*e*P	**P**	**02 54 24.4 +1.4**
NIE	**Niedzica**	**55.18 311**	*e*P	**P**	**02 54 24.4 +1.4**
HORT	**Hortiatis**	**55.26 300**	*e*P	**P**	**02 54 24.2 +0.4**
KNT	**Kendrikon**	**55.26 300**	*e*P	**P**	**02 54 23.0 -0.7**
OJC	**Ojcow**	**55.35 312**	*e*P	**P**	**02 54 25.5 +1.3**
OJC	**Ojcow**	**55.35 312**	*e*P	**P**	**02 54 25.5 +1.3**
VAY	**Valandovo**	**55.46 301**	*i* P	**P**	**02 54 25.1 0.0**
SIVA	**Sivas**	**55.57 293**	*e*P	**P**	**02 54 25.0 -1.0**
GRG	**Griva**	**55.67 300**	*e*P	**P**	**02 54 26.5 -0.2**
PSZ	**Piszkesteto**	**55.75 309**	*e*P	**P**	**02 54 27.4 +0.2**
PSZ			pmax	pmax	
	comp=Z,86nm,1.4s				
PSZ			MLR	MLR	
	comp=Z,1μm,20.0s				
PSZ	**Piszkesteto**	**55.75 309**⇑	*i* P	**P**	**02 54 28.3 +1.1**
PSZ	**Piszkesteto**	**55.75 309**	*e*	**P**	**02 54 27.8 +0.6**
PSZ	**Piszkesteto**	**55.75 309**	*e*P	**P**	**02 54 27.4 +0.2**
	comp=Z,86nm,1.4s				
PSZ			LR	LR	
	comp=Z,1μm,20.0s				
LIT	**Litokhoron**	**55.84 299**	P	**P**	**02 54 26.7 -1.2**
LIT	**Litokhoron**	**55.84 299**	P	**P**	**02 54 26.7 -1.2**
LIT	**Litokhoron**	**55.84 299**	P	**P**	**02 54 26.7 -1.2**
VAM	**Vamos**	**55.92 293**	P	**P**	**02 54 25.9 -2.6**
VAM	**Vamos**	**55.92 293**	P	**P**	**02 54 25.9 -2.6**
VAM	**Vamos**	**55.92 293**	*e*P	**P**	**02 54 26.0 -2.6**
VAM	**Vamos**	**55.92 293**	P	**P**	**02 54 25.9 -2.6**
AXAR	**Agios Charalam**	**56.09 298**	*e*P	**P**	**02 54 28.5 -1.2**
SKO	**Skopje**	**56.10 302**	*i* P	**P**	**02 54 30.1 +0.3**
KARN	**Karanos**	**56.14 293**	P	**P**	**02 54 29.7 -0.5**
KARN	**Karanos**	**56.14 293**	*e*P	**P**	**02 54 30.0 -0.2**
KARN	**Karanos**	**56.14 293**	P	**P**	**02 54 29.7 -0.5**
AGG	**Agios Georgios**	**56.26 298**	*e*P	**P**	**02 54 29.0 -2.0**
VYHS	**Vyhne**	**56.32 310**	*e*P	**P**	**02 54 31.7 +0.5**
VYHS			pmax	pmax	
	comp=Z,64nm,1.5s				
VYHS	**Vyhne**	**56.32 310**	*e*P	**P**	**02 54 31.7 +0.5**
THL	**Klokotos Trika**	**56.34 299**	P	**P**	**02 54 31.8 +0.3**
THL	**Klokotos Trika**	**56.34 299**	*e*P	**P**	**02 54 32.0 +0.5**
GKP	**Gorka Klasztor**	**56.35 316**	*e*P	**P**	**02 54 31.9 +0.6**
GKP	**Gorka Klasztor**	**56.35 316**	*e*P	**P**	**02 54 31.8 +0.5**
GKP			*e*pP	**pP**	**02 54 34.9 -0.8**
MAKR	**Makrakomi, Fth**	**56.41 298**	*e*P	**P**	**02 54 31.0 -1.1**
FNA	**Florina**	**56.47 300**	*e*P	**P**	**02 54 32.0 -0.5**
OKC	**Ostrava-Krasne**	**56.47 311**	*e*P	**P**	**02 54 33.1 +0.9**
OKC			MLR	MLR	
	comp=Z,1μm,14.9s				
OKC	**Ostrava-Krasne**	**56.47 311**	*e*P	**P**	**02 54 33.1 +0.9**
OKC			*e*pP	**pP**	**02 54 35.8 -0.9**
OKC			AMS	AMS	03 20 10.0
	comp=Z,1μm,14.9s				
ANKY	**Antikythira Is**	**56.48 294**	*e*P	**P**	**02 54 31.0 -1.5**
VLI	**Veliai**	**56.49 295**	*e*P	**P**	**02 54 30.0 -2.6**
GUR	**Goura**	**56.57 297**	P	**P**	**02 54 31.3 -2.0**
GUR	**Goura**	**56.57 297**	*e*P	P	02 54 29.0 -4.3
GUR	**Goura**	**56.57 297**	P	**P**	**02 54 31.3 -2.0**
DIVS	**Divibare**	**56.58 304**	P	**P**	**02 54 33.1 -0.1**
KBS	**Kingsbay**	**56.59 347**	PFAKE		02 54 50.0 +17
KBS			LR	LR	
	comp=Z,2μm,20.0s				
KALE	**Kalithea**	**56.59 297**	*e*P	**P**	**02 54 33.0 -0.4**
EVR	**Evrytania**	**56.68 298**	P	**P**	**02 54 32.5 -1.6**
EVR	**Evrytania**	**56.68 298**	*e*P	**P**	**02 54 33.0 -1.1**
EVR	**Evrytania**	**56.68 298**	P	**P**	**02 54 32.5 -1.6**
KLV	**Kalavryta, Ach**	**56.69 297**	*e*P	**P**	**02 54 31.0 -3.0**
VLX	**Vlachokerasia**	**56.72 296**	*e*P	**P**	**02 54 35.0 +0.7**
EFP	**Efpalio**	**56.76 297**	*e*P	**P**	**02 54 34.5 +0.1**
OHR	**Ohrid**	**56.80 301**	*i* P	**P**	**02 54 34.6 -0.2**
NEST	**Nestorio**	**56.81 300**	*e*P	P	02 54 30.0 -5.0
PKSG		**56.86 309**⇓	*e*	**P**	**02 54 35.3 +0.3**
MORC	**Moravsky Berou**	**56.87 312**	*e*P	**P**	**02 54 35.5 +0.4**
MORC			pmax	pmax	
	comp=Z,123nm,1.5s				
MORC	**Moravsky Berou**	**56.87 312**⇓	*i* P	**P

comp=Z,2µm,14.2s
PVCC Panska Ves 58.55 313 *e*P **P 02 54 48.0 +1.1**
PVCC *ep*P **pP 02 54 50.8 -0.6**
PVCC AMS AMS 03 21 40.0
comp=Z,2µm,14.2s
RUE Ruedersdorf 58.56 315 *e*P **P 02 54 48.4 +1.4**
comp=Z,247nm,1.9s
PRU Pruhonice 58.70 312 *e*P **P 02 54 48.8 +0.8**
PRU *e* 02 55 04.2
PRU MLR MLR
comp=Z,2µm,12.7s
PRU Pruhonice 58.70 312 *e*P **P 02 54 48.8 +0.8**
PRU *ep*P **pP 02 54 51.8 -0.6**
PRU *ex* x 02 55 04.2
PRU AMS AMS 03 21 50.0
comp=Z,2µm,12.7s
PRA Prague 58.75 312 *e*P **P 02 54 49.3 +1.0**
PRA *e* 02 55 04.6
PRA Prague 58.75 312 *e*P **P 02 54 49.3 +1.0**
PRA *ep*P **pP 02 54 52.1 -0.6**
PRA *ex* x 02 55 04.6
ARSA Arzberg 58.78 309⇓*i*P **P 02 54 48.9 +0.3**
comp=Z,50nm,1.3s,SNR=12
BRG Berggiesshubel 58.85 313 *e*P **P 02 54 49.7 +0.7**
comp=Z,25nm,1.4s
BRG *i* 02 54 52.5
comp=Z,145nm,1.7s
BRG Berggiesshubel 58.85 313 *e*P **P 02 54 49.7 +0.7**
BRG *i* 02 55 45.2
BRG pmax pmax
comp=Z,25nm,1.5s
BRG MLR MLR
comp=N,847nm,15.1s
BRG MLR MLR
comp=E,2µm,16.0s
BRG MLR MLR
comp=Z,3µm,16.5s
BRG Berggiesshubel 58.85 313 *e*P **P 02 54 49.5 +0.5**
comp=Z,145nm,1.7s
KONO Kongsberg 59.24 324 *e*P **P 02 54 51.1 -0.4**
KONO pmax pmax
comp=Z,251nm,1.8s
KONO MLR MLR
comp=Z,2µm,20.0s
KONO Kongsberg 59.24 324 *e*P **P 02 54 51.1 -0.4**
comp=Z,251nm,1.8s
KONO LR LR
comp=Z,2µm,20.0s
MBWA Marble Bar 59.25 151 *e*P **P 02 54 51.8 -0.2**
comp=Z,43nm,0.8s
MBWA LR LR
comp=Z,802nm,22.0s
FX1 Attu Island--F 59.26 44 P **P 02 54 50.9 -0.9**
FX1 pmax pmax
comp=Z,16nm,0.7s
FX1 Attu Island--F 59.26 44 P **P 02 54 50.9 -0.9**
comp=Z,16nm,0.7s,baz=178,slow=4.1,SNR=5.2
FX1 Attu Island--F 59.26 44 *e*P **P 02 54 50.6 -1.2**
SOKA Soboth 59.26 308 *i*P **P 02 54 52.5 +0.5**
comp=Z,99nm,1.2s,SNR=66
CLL Collm 59.32 314 *e*P **P 02 54 52.4 +0.2**
CLL pmax pmax
comp=Z,93nm,1.4s
CLL Collm 59.32 314 *e*P **P 02 54 52.4 +0.2**
comp=Z,96nm,1.5s
CLL Collm 59.32 314 *e*P **P 02 54 52.0 -0.2**
CLL *i* Pmax 02 54 55.0
comp=Z,96nm,1.5s
CLL *i* 02 55 07.3
CLL *e*PP PP 02 56 55.0 -7.9
CLL LmV 03 22 00.0
comp=Z,2µm,18.6s
CLL Collm 59.32 314 *e*P **P 02 54 52.4 +0.2**
comp=Z,93nm,1.4s
FITZ Fitzroy Crossi 59.33 143 *e*P **P 02 54 52.0 -0.6**
comp=Z,17nm,0.9s
MOA Molln 59.44 310⇓*i*P **P 02 54 53.7 +0.5**
comp=Z,53nm,1.2s,SNR=20
BOJS Bojanci 59.45 307 *e*P **P 02 54 56.0 +2.8**
GEC2 GERESS Array S 59.53 311 *e*P **P 02 54 54.6 +0.7**
GEC2 GERESS Array S 59.53 311 *e*P **P 02 54 54.6 +0.7**
comp=Z,184nm,1.5s
GEC2 GERESS Array S 59.53 311 *e*P **P 02 54 54.6 +0.7**
GERES GERESS Array B 59.53 311 P **P 02 54 54.6 +0.7**
comp=Z,14nm,0.9s,baz=74,slow=5.7,SNR=38
GERES LR LR 03 23 39.4
comp=Z,2µm,19.6s,baz=70,slow=39
KHC Kasperske Hory 59.53 312 *e*P **P 02 54 54.3 +0.5**
KHC pmax pmax
comp=Z,203nm,2.1s
KHC Kasperske Hory 59.53 312 *e*P **P 02 54 54.1 +0.3**
KHC *ep*P **pP 02 54 57.1 -1.1**
KHC *ex* x 02 55 13.7
KHC AMS AMS 03 23 00.0
comp=Z,2µm,14.4s
KHC Kasperske Hory 59.53 312 *e*P **P 02 54 54.3 +0.5**
comp=Z,203nm,2.1s
OBKA Obir 59.63 308⇑*i*P **P 02 54 54.3 -0.3**
comp=Z,53nm,1.4s,SNR=11
LJU Ljubljana 59.78 308 *e*P **P 02 54 58.2 +2.7**
TANN Tannenbergstha 59.88 313 *e*P **P 02 54 56.7 +0.5**
comp=Z,130nm,1.7s
TANN *ep*P **pP 02 54 59.6 -1.1**
WET Wettzell 59.97 312 *e*P **P 02 54 57.6 +0.8**
comp=Z,140nm,1.7s
MYKA Terra Mystica 60.20 309⇓*i*P **P 02 54 58.4 -0.1**
comp=Z,22nm,1.2s,SNR=6.2
MUD Monsted U'grnd 60.21 321 *i*P **P 02 55 00.7 +2.5**
MUD pmax pmax
comp=Z,14nm,1.1s
MUD MLR MLR
comp=Z,3µm,14.0s
MUD Monsted U'grnd 60.21 321 *i*P **P 02 55 00.7 +2.5**
comp=Z,14nm,1.1s
ROTZ Rotzenmuhle 60.22 313 *e*P **P 02 54 59.5 +1.0**
comp=Z,176nm,1.4s
BSEG Bad Segeberg 60.22 318 *e*P **P 02 54 59.5 +1.2**
comp=Z,182nm,1.7s
KBA Koelnbreinsper 60.26 309⇓*i*P **P 02 54 58.4 -0.6**
comp=Z,31nm,1.2s,SNR=10.0
TIP Timpagrande 60.34 300 *e*P **P 02 54 59.9 +0.4**
comp=Z,37nm,1.4s
TIP LR LR
comp=Z,496nm,20.0s
MOX Moxa 60.34 314 *e*P **P 02 54 59.8 +0.5**
comp=Z,116nm,1.7s
MOX *ep*P **pP 02 55 02.8 -0.9**
MOX *e*L L 03 22 52.8
comp=Z,2µm,18.4s
TRI Trieste 60.39 308 *e*P **P 02 54 58.8 -0.9**
TRI pmax pmax
comp=Z,151nm,1.3s
TRI Trieste 60.39 308 *e*P **P 02 54 58.8 -0.9**
comp=Z,150nm,1.3s
RJOB Jochberg 60.42 310 *e*P **P 02 55 00.5 +0.5**
comp=Z,166nm,1.7s
NRDL Niedersach Rie 60.73 316 *e*P **P 02 55 02.8 +1.0**
comp=Z,242nm,1.5s
CUC Castrocucco 60.76 301 *e*P **P 02 55 01.9 -0.4**
comp=Z,36nm,1.3s
CUC LR LR
comp=Z,849nm,19.0s
CLZ Clausthal 60.76 315 *e*P **P 02 55 02.8 +0.7**
comp=Z,125nm,1.2s
GRF Grafenberg Arr 60.85 313 *e*P **P 02 55 03.8 +1.0**
comp=Z,165nm,1.4s
GRF *ep*P **pP 02 55 06.4 -0.9**
GRF *e*L L 03 23 21.2
comp=Z,2µm,18.5s
GRFO Grafenberg 60.86 313 *e*P **P 02 55 04.4 +1.6**
GRFO pmax pmax
comp=Z,122nm,1.3s
GRFO Grafenberg 60.86 313 *e*P **P 02 55 04.4 +1.6**
comp=Z,122nm,1.3s
ABTA Abfaltersbach 60.90 309 *i*P **P 02 55 02.5 -0.7**
comp=Z,23nm,1.0s,SNR=8.0
FUR Furstenfeldbru 61.27 311 *e*P **P 02 55 06.6 +0.9**
comp=Z,254nm,1.3s
FUR *ep*P **pP 02 55 09.6 -0.5**
UBBA Unterbreizbach 61.27 314 *e*P **P 02 55 06.0 +0.5**
comp=Z,126nm,1.8s
CEL Celeste 61.28 299 *e*P **P 02 55 05.7 -0.3**
comp=Z,218nm,1.5s
CEL LR LR
comp=Z,607nm,20.0s
WTTA Wattenberg 61.32 310⇓*i*P **P 02 55 04.8 -1.4**
comp=Z,91nm,1.7s,SNR=24
WATA Walderalm 61.33 310⇑*i*P **P 02 55 06.5 +0.2**
comp=Z,99nm,1.6s,SNR=5.8
MOTA Moosalm 61.64 310 *i*P **P 02 55 08.1 -0.2**
comp=Z,47nm,1.2s,SNR=22
AQU L'Aquila 61.69 304 *e*P **P 02 55 08.6 0.0**
AQU pmax pmax
comp=Z,157nm,1.5s
AQU MLR MLR
comp=Z,762nm,20.0s
AQU L'Aquila 61.69 304 *e*P **P 02 55 08.6 0.0**
comp=Z,157nm,1.5s
AQU LR LR
comp=Z,762nm,20.0s
RETA Reutte 61.81 310 *i*P **P 02 55 09.5 +0.1**
comp=Z,80nm,1.6s,SNR=34
FETA Feichten 61.98 310 *i*P **P 02 55 10.6 -0.1**
comp=Z,57nm,1.2s,SNR=31
KMBO Kilima Mbogo 62.13 249 *ce*P **P 02 55 12.1 -0.1**
KMBO pmax pmax
comp=Z,10.0nm,0.9s
KMBO Kilima Mbogo 62.13 249 P **P 02 55 12.6 +0.4**
SNR=12
KMBO Kilima Mbogo 62.13 249 P **P 02 55 12.2 +0.1**
comp=Z,10nm,0.9s,baz=46,slow=11,SNR=16
KMBO LR LR 03 21 56.8
comp=Z,544nm,18.3s,baz=59,slow=36
KMBO Kilima Mbogo 62.13 249 *e*P **P 02 55 11.2 -0.9**
comp=Z,32nm,1.3s
KMBO LR LR
comp=Z,460nm,20.0s
IBBN Ibbenburen 62.16 316 *e*P **P 02 55 12.2 +0.7**
comp=Z,222nm,1.8s
STU Stuttgart 62.40 312 *e*P **P 02 55 13.4 +0.2**
STU pmax pmax
comp=Z,203nm,1.5s
STU Stuttgart 62.40 312 *e*P **P 02 55 13.8 +0.6**
comp=Z,234nm,1.6s
STU Stuttgart 62.40 312 *e*P **P 02 55 13.4 +0.2**
comp=Z,203nm,1.5s
TNS Taunus Mts 62.40 314 *e*P **P 02 55 13.8 +0.5**
comp=Z,112nm,1.7s
TNS *ep*P **pP 02 55 16.4 -1.3**
FUORN Ofenpass-Fuorn 62.41 310 *e*P **P 02 55 13.9 +0.2**
DAVA Damuels 62.44 310⇓*i*P **P 02 55 13.6 -0.1**
comp=Z,69nm,1.4s,SNR=12
WTSB Winterswijk 62.83 316 *e*P P 02 55 19.5 +3.5
comp=Z,159nm,1.4s
TUE Stuetta 63.06 310 *e*P **P 02 55 17.6 -0.3**
comp=Z,47nm,1.0s
TUE LR LR
comp=Z,2µm,21.0s
BFO Black Forest 63.09 312 P **P 02 55 18.6 +0.7**
comp=Z,228nm,1.3s,SNR=7.3
BFO Black Forest 63.09 312 *e*P **P 02 55 18.1 +0.2**
BFO pmax pmax
comp=Z,81nm,1.3s
BFO MLR MLR
comp=Z,1µm,19.0s
BFO Black Forest 63.09 312 *e*P **P 02 55 18.0 +0.2**
comp=Z,121nm,1.5s
BFO Black Forest 63.09 312 *e*P **P 02 55 18.1 +0.2**
comp=Z,81nm,1.3s
BFO LR LR
comp=Z,1µm,19.0s
VLC Villacollemand 63.16 307 PFAKE 02 55 30.0 +12
VLC LR LR
comp=Z,1µm,22.0s
WDD Wield Dalam 63.17 297 PFAKE 02 55 30.0 +11
WDD LR LR
comp=Z,406nm,19.0s
LANF Langenberg 63.20 313⇓*e*P **P 02 55 19.0 +0.4**
DAG Danmarks Havn 63.30 346 *i*P **P 02 55 17.1 -1.7**
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG MLR MLR
comp=Z,1µm,22.0s
DAG Danmarks Havn 63.30 346 *i*P **P 02 55 17.1 -1.7**
comp=Z,4.6nm,0.9s
CLTB Caltabellotta 63.51 299 PFAKE 02 55 30.0 +9.1
CLTB LR LR
comp=Z,318nm,21.0s
GAMB Gambell 63.69 30 *e*P **P 02 55 20.1 -1.4**
comp=Z,42nm,1.2s
CDF Champ du Feu 63.72 312 *e*P **P 02 55 22.0 -0.1**
comp=Z,326nm,1.6s
CDF Champ du Feu 63.72 312 *e*P **P 02 55 22.0 -0.1**
CDF pmax pmax
comp=Z,326nm,1.6s
CDF Champ du Feu 63.72 312 *e*P **P 02 55 22.0 -0.1**
comp=Z,326nm,1.6s
MEM Membach 63.75 315 P **P 02 55 22.6 +0.4**
comp=Z,32nm,1.9s
MEM Membach 63.75 315 *e*P **P 02 55 24.4 +2.3**
MEM pmax pmax
comp=Z,59nm,1.2s
MEM Membach 63.75 315 *e*P **P 02 55 24.4 +2.3**
comp=Z,59nm,1.2s
ECH Echery 63.86 312 *e*P **P 02 55 23.1 +0.1**
ECH pmax pmax
comp=Z,41nm,1.3s
ECH MLR MLR
comp=Z,1µm,20.0s
ECH Echery 63.86 312⇓*e*P **P 02 55 23.1 +0.1**
ECH Echery 63.86 312 *e*P **P 02 55 23.1 +0.1**
comp=Z,41nm,1.3s
ECH LR LR
comp=Z,1µm,20.0s
BEBN Eben Emael 63.88 315 AP pP 02 55 27.3 -0.1
WLF Walferdange 63.98 314 P **P 02 55 25.4 +1.6**
comp=Z,120nm,1.7s
WLF AP **pP 02 55 27.5 -0.7**
WLF Walferdange 63.98 314 *e*P **P 02 55 25.0 +1.3**
WLF pmax pmax
comp=Z,155nm,1.2s
WLF MLR MLR
comp=Z,2µm,19.0s
WLF Walferdange 63.98 314 *e*P **P 02 55 24.8 +1.1**
comp=Z,218nm,1.3s
WLF Walferdange 63.98 314 *e*P **P 02 55 25.0 +1.3**
comp=Z,155nm,1.2s
WLF LR LR
comp=Z,2µm,19.0s
MOF Molkenrain 64.01 312⇓*e*P **P 02 55 22.9 -1.1**
HINF Hinteralfeld 64.19 312 *e*P **P 02 55 24.9 -0.3**
comp=Z,405nm,1.8s
HINF Hinteralfeld 64.19 312 *e*P **P 02 55 24.9 -0.3**
HINF pmax pmax
comp=Z,405nm,1.8s
HINF Hinteralfeld 64.19 312 *e*P **P 02 55 24.9 -0.3**
comp=Z,405nm,1.8s
BCLA Clavier 64.24 315 P **P 02 55 26.1 +0.7**
comp=Z,32nm,1.6s
BCLA AP **pP 02 55 28.7 -1.1**
LOMF Lomont 64.38 311⇓*e*P **P 02 55 26.4 0.0**
SENIN Lac Senin/Sane 64.42 310 *e*P **P 02 55 27.0 +0.1**
HAU Haudompre 64.45 312 *e*P **P 02 55 26.5 -0.3**
comp=Z,204nm,1.7s
HAU *e*R
comp=Z,1µm,19.0s
HAU Haudompre 64.45 312 *e*P **P 02 55 26.5 -0.3**
HAU pmax pmax
comp=Z,204nm,1.7s
HAU Haudompre 64.45 312 *e*P **P 02 55 26.5 -0.3**
comp=Z,204nm,1.7s
TNA Tin City 64.55 27 *e*P **P 02 55 26.1 -1.0**
comp=Z,44nm,1.4s
THEF They Montfort 64.59 312⇓*e*P **P 02 55 28.1 +0.3**
GIVF Givet 64.64 315 *e*P **P 02 55 28.1 +0.1**
comp=Z,88nm,1.1s
GIVF Givet 64.64 315 *e*P **P 02 55 28.1 +0.1**
GIVF pmax pmax
comp=Z,88nm,1.1s
GIVF Givet 64.64 315 *e*P **P 02 55 28.1 +0.1**
comp=Z,88nm,1.1s
PAGF Fort de Pagny 64.64 313 *e*P **P 02 55 28.4 +0.4**
comp=Z,59nm,1.2s
PAGF Fort de Pagny 64.64 313 *e*P **P 02 55 28.4 +0.4**
comp=Z,59nm,1.2s
UCC Uccle 64.67 315 P **P 02 55 28.8 +0.7**
comp=Z,54nm,2.2s
UCC AP **pP 02 55 32.1 -0.5**
PGF Pioggiola 64.68 306 *e*P **P 02 55 28.1 -0.4**
comp=Z,131nm,1.3s
PGF Pioggiola 64.68 306 *e*P **P 02 55 28.1 -0.4**
PGF pmax pmax
comp=Z,131nm,1.3s
PGF Pioggiola 64.68 306 *e*P **P 02 55 28.1 -0.4**
comp=Z,131nm,1.3s
DOU Dourbes 64.78 315 P **P 02 55 29.6 +0.7**
comp=Z,32nm,2.4s
DOU AP **pP 02 55 32.2 -1.2**
SNF Seneffe 64.81 315 AP pP 02 55 32.5 -1.1
BAIF Baives 65.02 315 *e*P **P 02 55 30.7 +0.2**
comp=Z,176nm,1.5s
BAIF Baives 65.02 315 *e*P **P 02 55 30.7 +0.2**
BAIF pmax pmax
comp=Z,176nm,1.5s
BAIF Baives 65.02 315 *e*P **P 02 55 30.7 +0.2**
comp=Z,176nm,1.5s
MEZF Maizieres J'vi 65.08 313 *e*P **P 02 55 31.1 +0.2**
comp=Z,478nm,1.8s
MEZF Maizieres J'vi 65.08 313 *e*P **P 02 55 31.1 +0.2**
comp=Z,478nm,1.8s
LPG La Plagne 65.10 309 *e*P **P 02 55 31.7 +0.3**
comp=Z,305nm,1.2s
LPG La Plagne 65.10 309 *e*P **P 02 55 31.7 +0.3**
LPG pmax pmax
comp=Z,305nm,1.2s
LPG La Plagne 65.10 309 *e*P **P 02 55 31.7 +0.3**
comp=Z,305nm,1.2s
LPL La Plagne 65.10 309 *e*P **P 02 55 31.7 +0.3**
comp=Z,362nm,1.3s
LPL La Plagne 65.10 309 *e*P **P 02 55 31.7 +0.3**
LPL pmax pmax
comp=Z,362nm,1.3s
LPL La Plagne 65.10 309 *e*P **P 02 55 31.7 +0.3**
comp=Z,362nm,1.3s
CABF La Chapelle 65.11 311 *e*P **P 02 55 30.9 -0.4**
comp=Z,152nm,1.6s
CABF La Chapelle 65.11 311 *e*P **P 02 55 30.9 -0.4**
CABF pmax pmax
comp=Z,152nm,1.6s
CABF La Chapelle 65.11 311 *e*P **P 02 55 30.9 -0.4**
comp=Z,152nm,1.6s
SAOF Saorge 65.12 308⇓*e*P **P 02 55 31.7 +0.4**
SFTF Sexfontaines 65.19 313 *e*P **P 02 55 31.4 -0.2**
comp=Z,349nm,1.4s
SFTF Sexfontaines 65.19 313 *e*P **P 02 55 31.4 -0.2**
comp=Z,349nm,1.4s
AUTN L'Aution 65.21 308 *e*P **P 02 55 31.6 -0.5**
SBF Sospel 65.25 307 *e*P **P 02 55 31.8 -0.4**
comp=Z,359nm,1.3s
SBF Sospel 65.25 307 *e*P **P 02 55 31.8 -0.4**
SBF pmax pmax
comp=Z,359nm,1.3s
SBF Sospel 65.25 307 *e*P **P 02 55 31.8 -0.4**
comp=Z,359nm,1.3s
BNI Bardonecchia 65.31 309 *e*P **P 02 55 32.6 0.0**
BNI pmax pmax
comp=Z,128nm,1.6s
BNI MLR MLR
comp=Z,1µm,20.0s
BNI Bardonecchia 65.31 309 *e*P **P 02 55 32.6 0.0**
comp=Z,128nm,1.6s
BNI LR LR
comp=Z,1µm,20.0s
TOUF Mont Tournerai 65.32 308⇓*e*P **P 02 55 33.0 +0.2**
REVF Revere 65.34 307 *e*P **P 02 55 32.6 -0.1**
MBDF Montbardon 65.37 309 *e*P **P 02 55 32.1 -0.9**
comp=Z,36nm,0.8s
MBDF Montbardon 65.37 309 *e*P **P 02 55 32.1 -0.9**
MBDF pmax pmax
comp=Z,36nm,0.8s
MBDF Montbardon 65.37 309 *e*P **P 02 55 32.1 -0.9**
comp=Z,36nm,0.8s
MVIF Mont Vial 65.43 308 *e*P **P 02 55 33.5 +0.1**
SURF Saint Ours 65.43 308⇓*e*P **P 02 55 33.6 +0.1**
ADK Adak 65.48 43 PFAKE 02 55 50.0 +17
ADK LR LR
comp=Z,1µm,20.0s
WRAB Tennant Creek 65.56 137 P **P 02 55 34.8 +0.5**
comp=Z,238nm,1.0s,SNR=15
WRAB Tennant Creek 65.56 137 *ce*P **P 02 55 34.9 +0.6**
WRAB pmax pmax
comp=Z,165nm,1.2s
WRAB Tennant Creek 65.56 137 *e*P **P 02 55 34.2 0.0**
comp=Z,146nm,1.7s
WRA Warramunga Arr 65.56 137 P **P 02 55 33.9 -0.4**
comp=Z,18nm,0.8s,baz=331,slow=6.6,SNR=36
WRA PKP2bc 03 24 20.6
comp=Z,2.3nm,0.9s,baz=152,slow=2.4,SNR=10.0
WRA LR LR 03 28 54.2
comp=Z,252nm,19.7s,baz=290,slow=40
VSL Villasalto 65.56 302 *e*P **P 02 55 33.8 -0.4**
comp=Z,74nm,1.5s
VSL LR LR
comp=Z,443nm,19.0s
WB2 Warramunga Arr 65.57 137 *e*P **P 02 55 34.0 -0.4**
GDM Grand'Maison 65.62 309⇓*e*P **P 02 55 34.9 +0.2**
CALN Calern 65.66 308 *e*P **P 02 55 35.2 +0.3**
GRN Grenoble 65.85 309⇓*e*P **P 02 55 36.7 +0.6**
ORIF Oris-en-Rattie 65.88 309 *e*P **P 02 55 35.8 -0.5**
comp=Z,139nm,1.2s
ORIF *e*R
comp=Z,2µm,21.2s
ORIF Oris-en-Rattie 65.88 309 *e*P **P 02 55 35.8 -0.5**
ORIF pmax pmax
comp=Z,139nm,1.2s
ORIF Oris-en-Rattie 65.88 309 *e*P **P 02 55 35.8 -0.5**
comp=Z,139nm,1.2s
FRF La Foret Royal 65.89 307 *e*P **P 02 55 35.8 -0.5**
comp=Z,240nm,1.6s
FRF La Foret Royal 65.89 307 *e*P **P 02 55 35.8 -0.5**
FRF pmax pmax
comp=Z,240nm,1.6s
FRF La Foret Royal 65.89 307 *e*P **P 02 55 35.8 -0.5**
comp=Z,240nm,1.6s
LMR La Mourre 66.07 307 *e*P **P 02 55 37.0 -0.4**
comp=Z,289nm,1.5s
LMR La Mourre 66.07 307 *e*P **P 02 55 37.0 -0.4**
LMR pmax pmax
comp=Z,289nm,1.5s
LMR La Mourre 66.07 307 *e*P **P 02 55 37.0 -0.4**
comp=Z,289nm,1.5s
LOR Lormes 66.28 312 *e*P **P 02 55 38.1 -0.6**
comp=Z,190nm,1.5s
LOR *e*R
comp=Z,1µm,17.0s
LOR Lormes 66.28 312 *e*P **P 02 55 38.1 -0.6**
LOR pmax pmax
comp=Z,190nm,1.5s
LOR Lormes 66.28 312 *e*P **P 02 55 38.1 -0.6**
comp=Z,190nm,1.5s
SMRF Simiane la Rot 66.45 308 *e*P **P 02 55 39.8 -0.1**
comp=Z,271nm,1.6s
SMRF Simiane la Rot 66.45 308 *e*P **P 02 55 39.8 -0.1**
comp=Z,271nm,1.6s
PMG Port Moresby 66.48 119 *e*P **P 02 55 40.4 +0.1**
PMG pmax pmax
comp=Z,24nm,0.9s
PMG MLR MLR
comp=Z,415nm,21.0s
PMG Port Moresby 66.48 119 *e*P **P 02 55 40.4 +0.1**
comp=Z,24nm,0.9s
PMG LR LR
comp=Z,415nm,21.0s
SMF Signal de Mont 66.53 311 *e*P **P 02 55 39.9 -0.4**
comp=Z,382nm,1.5s
SMF Signal de Mont 66.53 311 *e*P **P 02 55 39.9 -0.4**
SMF pmax pmax
comp=Z,382nm,1.5s
SMF Signal de Mont 66.53 311 *e*P **P 02 55 39.9 -0.4**
comp=Z,382nm,1.5s
SSF Saint Saulge 66.58 312 *e*P **P 02 55 40.2 -0.4**
comp=Z,196nm,1.3s
SSF Saint Saulge 66.58 312 *e*P **P 02 55 40.2 -0.4**
SSF pmax pmax
comp=Z,196nm,1.3s
SSF Saint Saulge 66.58 312 *e*P **P 02 55 40.2 -0.4**
comp=Z,196nm,1.3s
SSB Saint Sauveur 66.62 310 *e*P **P 02 55 40.2 -0.7**
SSB pmax pmax
comp=Z,121nm,1.6s
SSB MLR MLR
comp=Z,620nm,21.0s
SSB Saint Sauveur 66.62 310 *e*P **P 02 55 40.2 -0.7**
comp=Z,121nm,1.6s
SSB LR LR
comp=Z,620nm,21.0s
VIVF Saint-Julien-l 66.70 309 *e*P **P 02 55 41.2 -0.2**
comp=Z,336nm,1.4s
VIVF Saint-Julien-l 66.70 309 *e*P **P 02 55 41.2 -0.2**
VIVF pmax pmax

comp=Z,336nm,1.4s
VIVF Saint-Julien-l 66.70 309 *e*P **P 02 55 41.2 -0.2**
comp=Z,336nm,1.4s
COEN Coen 66.73 126 *e*P **P 02 55 42.4 +0.5**
AVF Avril sur Loir 66.79 312 *e*P **P 02 55 41.6 -0.3**
comp=Z,364nm,1.5s
AVF Avril sur Loir 66.79 312 *e*P **P 02 55 41.6 -0.3**
AVF pmax pmax
comp=Z,364nm,1.5s
AVF Avril sur Loir 66.79 312 *e*P **P 02 55 41.6 -0.3**
comp=Z,364nm,1.5s
PLDF La Plantade 66.94 311‖*e*P **P 02 55 44.1 +1.1**
HYF Humbligny 67.05 312 *e*P **P 02 55 43.7 +0.1**
HYF Humbligny 67.05 312 *e*P **P 02 55 43.7 +0.1**
KEST Kesra 67.09 299 P **P 02 55 44.3 +0.1**
comp=Z,15nm,1.2s,baz=296,slow=4.8,SNR=12
KEST LR LR 03 30 34.1
comp=Z,193nm,19.7s,baz=24,slow=41
KEST Kesra 67.09 299 *e*P **P 02 55 44.4 +0.3**
ESK Eskdalemuir 67.15 322 *e*P **P 02 55 44.3 +0.2**
ESK pmax pmax
comp=Z,218nm,1.2s
ESK Eskdalemuir 67.15 322 *e*P **P 02 55 44.3 +0.2**
comp=Z,218nm,1.2s
BGF Bois d'Agland 67.20 312 *e*P **P 02 55 44.2 -0.4**
comp=Z,98nm,1.2s
BGF Bois d'Agland 67.20 312 *e*P **P 02 55 44.2 -0.4**
BGF pmax pmax
comp=Z,98nm,1.2s
BGF Bois d'Agland 67.20 312 *e*P **P 02 55 44.2 -0.4**
comp=Z,98nm,1.2s
AGO Saint Agoulin 67.22 311‖*e*P **P 02 55 45.5 +0.8**
ABPO Ambohimpanom 67.27 227 PFAKE 02 56 00.0 +15
ABPO LR LR
comp=Z,835nm,20.0s
PYM Petit Puy Mans 67.42 311 *e*P **P 02 55 46.5 +0.4**
LBL Lubilhac 67.48 310‖*e*P **P 02 55 46.9 +0.5**
LASF Ste Croix 67.55 309 *e*P **P 02 55 46.9 +0.1**
comp=Z,279nm,1.3s
LASF Ste Croix 67.55 309 *e*P **P 02 55 46.9 +0.1**
comp=Z,279nm,1.3s
TCF Toulx Ste Croi 67.71 311 *e*P **P 02 55 47.9 +0.1**
comp=Z,481nm,1.5s
TCF Toulx Ste Croi 67.71 311 *e*P **P 02 55 47.9 +0.1**
TCF pmax pmax
comp=Z,481nm,1.5s
TCF Toulx Ste Croi 67.71 311 *e*P **P 02 55 47.9 +0.1**
comp=Z,481nm,1.5s
CMAH Djebel Manchou 68.14 300 P P 02 56 02.2 +11
LDF La Druitiere 68.20 314 *e*P **P 02 55 50.4 -0.4**
comp=Z,121nm,1.2s
LDF La Druitiere 68.20 314 *e*P **P 02 55 50.4 -0.4**
LDF pmax pmax
comp=Z,121nm,1.2s
LDF La Druitiere 68.20 314 *e*P **P 02 55 50.4 -0.4**
comp=Z,121nm,1.2s
AS31 Alice Springs 68.26 140 *e*P **P 02 55 51.3 -0.2**
ASAR Alice Springs 68.26 140 P **P 02 55 51.5 0.0**
comp=Z,17nm,0.8s,baz=326,slow=6.0,SNR=62
ASAR S **S 03 04 51.4 -0.6**
comp=Z,2.4nm,1.2s,baz=315,slow=11,SNR=8.0
ASAR PKP2bc 03 24 05.9
comp=Z,0.8nm,0.9s,baz=167,slow=6.0,SNR=4.3
ASAR LR LR 03 29 31.7
comp=Z,326nm,19.1s,baz=310,slow=39
FLN La Foliniere 68.35 315 *e*P **P 02 55 51.4 -0.3**
comp=Z,66nm,1.1s
FLN *e*R
comp=Z,2μm,18.2s
FLN La Foliniere 68.35 315 *e*P **P 02 55 51.4 -0.3**
FLN pmax pmax
comp=Z,67nm,1.1s
FLN La Foliniere 68.35 315 *e*P **P 02 55 51.4 -0.3**
comp=Z,66nm,1.1s
CAF Calviac 68.37 310 *e*P **P 02 55 52.2 +0.2**
comp=Z,209nm,1.4s
CAF Calviac 68.37 310 *e*P **P 02 55 52.2 +0.2**
CAF pmax pmax
comp=Z,209nm,1.4s
CAF Calviac 68.37 310 *e*P **P 02 55 52.2 +0.2**
comp=Z,209nm,1.4s
RJF Les Rejaudoux 68.56 311 *e*P **P 02 55 53.6 +0.4**
comp=Z,459nm,1.5s
RJF *e*R
comp=Z,1μm,20.5s
RJF Les Rejaudoux 68.56 311 *e*P **P 02 55 53.6 +0.4**
RJF pmax pmax
comp=Z,459nm,1.5s
RJF Les Rejaudoux 68.56 311 *e*P **P 02 55 53.6 +0.4**
comp=Z,459nm,1.5s
GRR Gorron 68.73 314 *e*P **P 02 55 53.8 -0.3**
comp=Z,106nm,1.0s
GRR Gorron 68.73 314 *e*P **P 02 55 53.8 -0.3**
GRR pmax pmax
comp=Z,106nm,1.0s
GRR Gorron 68.73 314 *e*P **P 02 55 53.8 -0.3**
comp=Z,106nm,1.0s
MTLF Montolieu 68.93 309 *e*P **P 02 55 55.5 0.0**
comp=Z,166nm,1.4s
MTLF Montolieu 68.93 309 *e*P **P 02 55 55.5 0.0**
MTLF pmax pmax
comp=Z,166nm,1.4s
MTLF Montolieu 68.93 309 *e*P **P 02 55 55.5 0.0**
comp=Z,166nm,1.4s
CASM Ain Smara 68.97 300 P P 02 56 01.6 +5.7
MFF Saint Martin d 69.06 312 *e*P **P 02 55 55.9 -0.3**
comp=Z,290nm,1.7s
MFF Saint Martin d 69.06 312 *e*P **P 02 55 55.9 -0.3**
MFF pmax pmax
comp=Z,290nm,1.7s
MFF Saint Martin d 69.06 312 *e*P **P 02 55 55.9 -0.3**
comp=Z,290nm,1.7s
LFF La Frestale 69.21 311 *e*P **P 02 55 57.6 +0.4**
comp=Z,168nm,1.2s
LFF La Frestale 69.21 311 *e*P **P 02 55 57.6 +0.4**
LFF pmax pmax
comp=Z,168nm,1.2s
LFF La Frestale 69.21 311 *e*P **P 02 55 57.6 +0.4**
comp=Z,168nm,1.2s
CARF Carcanieres 69.27 308‖*e*P **P 02 55 57.7 -0.1**
VALF Valcebollere 69.47 308‖*e*P **P 02 55 59.5 +0.5**
IM04 Indian Mountai 69.48 24 *e*P **P 02 55 58.3 -0.2**
SET Setif 69.79 301 P **P 02 56 00.0 -1.1**
SGMF Saint Gilles 69.81 315 *e*P **P 02 56 00.9 +0.1**
comp=Z,460nm,1.7s
SGMF Saint Gilles 69.81 315 *e*P **P 02 56 00.9 +0.1**
SGMF pmax pmax
comp=Z,460nm,1.7s
SGMF Saint Gilles 69.81 315 *e*P **P 02 56 00.9 +0.1**
comp=Z,460nm,1.7s
COLD Coldfoot 69.92 22 *e*P **P 02 56 01.8 +0.6**
comp=Z,38nm,1.2s
SUMG Summit 70.00 346 *e*P **P 02 56 01.2 -0.9**
SUMG pmax pmax
comp=Z,646nm,2.9s
SUMG Summit 70.00 346 *i* P **P 02 56 02.2 +0.2**
comp=Z,11nm,0.9s
SUMG Summit 70.00 346 *e*P **P 02 56 01.2 -0.9**
comp=Z,646nm,2.9s
ROSF Rostrenen 70.20 315 *e*P **P 02 56 03.4 +0.2**
comp=Z,132nm,1.2s
ROSF Rostrenen 70.20 315 *e*P **P 02 56 03.4 +0.2**
ROSF pmax pmax
comp=Z,132nm,1.2s
ROSF Rostrenen 70.20 315 *e*P **P 02 56 03.4 +0.2**
comp=Z,132nm,1.2s
EPF Esparros 70.31 309 *e*P **P 02 56 03.3 -0.7**
comp=Z,119nm,1.7s
EPF Esparros 70.31 309 *e*P **P 02 56 03.3 -0.7**
EPF pmax pmax
comp=Z,119nm,1.7s
EPF Esparros 70.31 309 *e*P **P 02 56 03.3 -0.7**
comp=Z,119nm,1.7s
QUIF Quistinic 70.33 315 *e*P **P 02 56 03.8 -0.2**
comp=Z,197nm,1.6s
QUIF Quistinic 70.33 315 *e*P **P 02 56 03.8 -0.2**
QUIF pmax pmax
comp=Z,197nm,1.6s
QUIF Quistinic 70.33 315 *e*P **P 02 56 03.8 -0.2**
comp=Z,197nm,1.6s
LABF Labassere 70.47 309 *e*P **P 02 56 04.7 -0.4**
VIEF Viey 70.58 309‖*e*P **P 02 56 06.5 +0.7**
REYF Montagne du Re 70.77 309‖*e*P **P 02 56 06.9 0.0**
ETSF Etsaut 70.95 309 *e*P **P 02 56 08.4 +0.4**
comp=Z,92nm,1.2s
ETSF Etsaut 70.95 309 *e*P **P 02 56 08.4 +0.4**
ETSF pmax pmax
comp=Z,92nm,1.2s
ETSF Etsaut 70.95 309 *e*P **P 02 56 08.4 +0.4**
comp=Z,92nm,1.2s
LARF Larrau 71.17 309 *e*P **P 02 56 08.8 -0.5**
FORT Forrest 71.25 148 *e*P **P 02 56 09.5 -0.1**
comp=Z,60nm,1.0s
OSSF Osses 71.25 310 *e*P **P 02 56 09.4 -0.3**
SJPF Ste Jean 71.29 310 *e*P **P 02 56 10.1 +0.1**
comp=Z,47nm,1.0s
SJPF Ste Jean 71.29 310 *e*P **P 02 56 10.1 +0.1**
SJPF pmax pmax
comp=Z,47nm,1.0s
SJPF Ste Jean 71.29 310 *e*P **P 02 56 10.1 +0.1**
comp=Z,47nm,1.0s
KULLO Kullorsuaq 71.37 352 *i* P **P 02 56 09.5 -0.4**
KULLO pmax pmax
comp=Z,14nm,1.0s
KULLO Kullorsuaq 71.37 352 *i* P **P 02 56 09.5 -0.4**
comp=Z,14nm,1.0s
CAST Castle Rocks 71.56 25 *e*P **P 02 56 12.4 +1.2**
SVW2 Sparrevohn 71.56 28 *e*P **P 02 56 11.5 +0.2**
comp=Z,53nm,1.1s
PPLA Purkeypile 71.83 26 *e*P **P 02 56 13.1 +0.1**
comp=Z,193nm,1.5s
KTH Kantishna Hill 71.90 25 *e*P **P 02 56 13.3 0.0**
comp=Z,80nm,1.4s
COLA College 72.13 23 *d i*P **P 02 56 14.5 -0.1**
COLA College 72.13 23 *e*P **P 02 56 14.4 -0.1**
comp=Z,61nm,1.2s
COLA LR LR
comp=Z,871nm,20.0s
TRF Thorofare Moun 72.19 25 *e*P **P 02 56 14.4 -0.8**
VAL Valentia 72.43 321 *e*P **P 02 56 17.4 +0.8**
MCK McKinley 72.49 24 *e*P **P 02 56 16.1 -0.7**
MCK pmax pmax
comp=Z,8.0nm,0.8s
MCK McKinley 72.49 24 *e*P **P 02 56 16.1 -0.7**
comp=Z,7.7nm,0.8s
ILAR Eielson Array 72.52 23 P **P 02 56 16.1 -0.8**
comp=Z,15nm,1.0s,baz=297,slow=5.2,SNR=75
ILAR LR LR 03 31 47.1
comp=Z,679nm,18.0s,baz=312,slow=39
RSO Redoubt South 73.06 28 *e*P **P 02 56 20.9 +0.4**
CTAO Charters Tower 73.12 128 *e*P **P 02 56 21.0 -0.1**
CTAO pmax pmax
comp=Z,40nm,1.1s
CTAO MLR MLR
comp=Z,595nm,21.0s
CTAO Charters Tower 73.12 128 *e*P **P 02 56 21.0 -0.1**
comp=Z,40nm,1.1s
CTAO LR LR
comp=Z,595nm,21.0s
PMR Palmer 73.77 26 *e*P **P 02 56 24.1 -0.2**
PMR Palmer 73.77 26 *e*P **P 02 56 24.1 -0.2**
RC01 Rabbit Creek A 73.86 27 *e*P **P 02 56 23.9 -1.0**
comp=Z,67nm,1.3s
PAX Paxson 74.17 24 *e*P **P 02 56 26.5 -0.4**
PAX pmax pmax
comp=Z,21nm,1.1s
PAX Paxson 74.17 24 *e*P **P 02 56 26.5 -0.4**
comp=Z,21nm,1.1s
DOT Dot Lake 74.19 23 *e*P **P 02 56 26.0 -0.8**
comp=Z,8.0nm,0.8s
EGAK Eagle 74.32 21 *e*P **P 02 56 27.6 0.0**
comp=Z,37nm,1.1s
EGAK LR LR
comp=Z,988nm,21.0s
ESDC Sonseca Array 74.74 307 P **P 02 56 30.4 -0.1**
comp=Z,18nm,1.0s,baz=53,slow=6.0,SNR=30
ESDC LR LR 03 33 30.0
comp=Z,583nm,18.2s,baz=345,slow=39
KDAK Kodiak Island 74.75 30 *c e*P **P 02 56 29.8 -0.3**
KDAK Kodiak Island 74.75 30 PFAKE 02 56 40.0 +10
KDAK LR LR
comp=Z,2μm,20.0s
PAB San Pablo 75.06 307 *e*P **P 02 56 33.1 +0.7**
PAB pmax pmax
comp=Z,97nm,1.5s
PAB MLR MLR
comp=Z,1μm,19.0s
PAB San Pablo 75.06 307 *e*P **P 02 56 33.0 +0.7**
comp=Z,97nm,1.5s
PAB LR LR
comp=Z,1μm,19.0s
DIV Divide 75.30 25 *e*P **P 02 56 33.0 -0.3**
comp=Z,20nm,0.7s
PBRG Braganca 75.50 310 *e*P **P 02 56 35.4 +0.6**
comp=Z,82nm,2.0s
PBRG pP **pP 02 56 39.1 -0.3**
BMRM Bremner River 75.83 25 *e*P **P 02 56 36.6 +0.3**
comp=Z,62nm,1.0s
TAM Tamanrasset 75.94 288 *e*P **P 02 56 37.9 +0.1**
TAM pmax pmax
comp=Z,18nm,1.1s
TAM MLR MLR
comp=Z,712nm,19.0s
TAM Tamanrasset 75.94 288 *e*P **P 02 56 37.9 +0.1**
comp=Z,18nm,1.1s
TAM LR LR
comp=Z,712nm,19.0s
MVO Moncorvo 76.01 310 *e*P **P 02 56 38.5 +0.7**
comp=Z,111nm,1.2s
MVO pP **pP 02 56 41.7 -0.7**
MVO Moncorvo 76.01 310 *e*LR LR 03 27 10.8
comp=Z,844nm,18.0s
PCAB Cabril 76.37 311 pP **pP 02 56 45.1 +0.7**
PCAB A A 02 56 45.9
comp=Z,122nm,1.5s
PGAV Gavieira, Arco 76.39 311 *e*P **P 02 56 40.2 +0.2**
comp=Z,85nm,2.3s
PGAV pP **pP 02 56 44.1 -0.5**
POLO Lamas de Olo 76.40 310 *e*P **P 02 56 40.6 +0.6**
comp=Z,24nm,1.5s
POLO pP **pP 02 56 44.4 -0.2**
BBOO Buckleboo 76.71 144 *e*P **P 02 56 41.1 -0.5**
MTE Manteigas 76.74 309 *e*P **P 02 56 42.9 +0.9**
comp=Z,135nm,1.5s
MTE pP **pP 02 56 46.0 -0.5**
MTE Manteigas 76.74 309 *e*LR LR 03 27 27.4
comp=Z,640nm,18.0s
MTE Manteigas 76.74 309 *e*P **P 02 56 42.4 +0.4**
comp=Z,99nm,1.2s
MTE LR LR
comp=Z,736nm,19.0s
PVIS Viseu 76.80 310 *e*P **P 02 56 43.3 +1.0**
comp=Z,113nm,1.5s
PVIS pP **pP 02 56 46.7 -0.2**
PCBR Castelo Branco 76.99 309 *e*P **P 02 56 44.9 +1.6**
comp=Z,64nm,1.4s
PCBR pP **pP 02 56 47.8 0.0**
SFJD Kangerlussuaq 76.99 346 *i* P **P 02 56 42.6 -0.2**
SFJD pmax pmax
comp=Z,13nm,1.0s
SFJD Kangerlussuaq 76.99 346 *i* P **P 02 56 42.6 -0.2**
comp=Z,13nm,0.9s
PTO Porto 77.04 311 pP pP 02 56 48.7 +0.6
PMRV Marv??o 77.15 309 pP pP 02 56 48.0 -0.8
PBAR Barrancos 77.56 307 *e*P **P 02 56 47.3 +0.8**
comp=Z,250nm,1.6s
PBAR pP **pP 02 56 50.5 -0.6**
PTOM Tomar 77.72 309 pP pP 02 56 51.7 -0.2
PMTG Montargil 77.89 309 pP pP 02 56 50.8 -2.1
LSZ Lusaka 77.90 243 *e*P **P 02 56 47.9 -0.9**
LSZ pmax pmax
comp=Z,10.0nm,0.8s
LSZ MLR MLR
comp=Z,683nm,19.0s
LSZ Lusaka 77.90 243 *e*P **P 02 56 47.9 -0.9**
comp=Z,10.0nm,0.8s
LSZ LR LR
comp=Z,683nm,19.0s
EVO Evora 78.03 308 *e*P **P 02 56 49.1 0.0**
comp=Z,167nm,1.3s
EVO *e*R
comp=Z,745nm,20.2s
EVO Evora 78.03 308 *e*P **P 02 56 49.9 +0.8**
comp=Z,100nm,1.2s
EVO pP **pP 02 56 53.0 -0.7**
EVOP Sao Brissos 78.10 308 *e*P **P 02 56 49.1 -0.4**
EVOP pmax pmax
comp=Z,167nm,1.3s
EVOP Sao Brissos 78.10 308 *e*P **P 02 56 49.1 -0.4**
comp=Z,167nm,1.3s
HYT Haines Junctio 78.36 23 *e*P **P 02 56 50.6 -0.1**
PVAQ Vaqueiros 78.43 307 *e*P **P 02 56 52.0 +0.6**
comp=Z,122nm,1.3s
PVAQ pP **pP 02 56 55.2 -0.7**
MESJ Messejana 78.53 308 *e*P **P 02 56 52.6 +0.6**
MESJ AMb AMB 02 56 58.7
comp=Z,100nm,1.7s
MESJ Messejana 78.53 308 *e*P **P 02 56 52.5 +0.6**
PNCL Nicolau / Gran 78.59 308 *e*P **P 02 56 53.1 +0.8**
comp=Z,102nm,1.6s
PNCL pP **pP 02 56 56.2 -0.6**
PMAFR Mafra 78.64 309 pP pP 02 56 57.3 +0.2
PBDV Barranco-do-Ve 78.66 307 *e*P **P 02 56 54.5 +1.8**
comp=Z,181nm,1.5s
PBDV pP **pP 02 56 56.8 -0.4**
MORF Marmelete 79.11 307 *e*P **P 02 56 55.7 +0.5**
MORF AMb AMB 02 57 01.2
comp=Z,67nm,1.4s
MORF Marmelete 79.11 307 *e*P **P 02 56 56.8 +1.6**
comp=Z,69nm,1.4s
MORF pP **pP 02 56 59.5 -0.2**
MORF Marmelete 79.11 307 *e*P **P 02 56 55.6 +0.5**
PFVI Vila Bisbo 79.32 307 pP pP 02 57 01.5 +0.7
RTC Rabat Centre 79.64 304 PFAKE 02 57 10.0 +12
RTC LR LR
comp=Z,541nm,20.0s
DLBC Dease Lake 82.59 21 P **P 02 57 13.9 +0.4**
comp=Z,9.4nm,1.1s,baz=314,slow=3.4,SNR=5.9
YKA Yellowknife Ar 82.80 12 P **P 02 57 13.6 -0.7**
comp=Z,1.5nm,0.7s,baz=330,slow=5.2,SNR=18
YKA PKKPbc **PKKPbc 03 15 38.3 -0.1**
comp=Z,0.3nm,0.8s,baz=155,slow=2.6,SNR=4.5
PAF Port-aux-Franc 83.94 195 S S 03 07 36.0 -7.2
PAF R 03 24 00.0
TORD Torodi Ar. Bea 83.97 282 P **P 02 57 21.1 -0.1**
comp=Z,49nm,0.7s,baz=50,slow=4.8,SNR=149
TORD LR LR 03 38 45.3
comp=Z,530nm,20.2s,baz=55,slow=38
CAN Canberra 85.61 137 PFAKE 02 57 40.0 +11
CAN LR LR
comp=Z,553nm,20.0s
LBTB Lobatse 85.86 237 *e*P **P 02 57 30.1 -0.4**
LBTB pmax pmax
comp=Z,39nm,0.9s
LBTB Lobatse 85.86 237 *e*P **P 02 57 30.1 -0.4**
comp=Z,39nm,0.9s
TSUM Tsumeb 88.34 246 *e*P **P 02 57 43.5 +0.8**
comp=Z,6.1nm,1.0s
TSUM LR LR
comp=Z,859nm,20.0s
FCC Fort Churchill 88.90 4 *e*P **P 02 57 43.1 -1.4**
FCC Fort Churchill 88.90 4 *e*P **P 02 57 43.1 -1.4**
SCHQ Schefferville 91.27 348 LR LR 03 42 25.4
comp=Z,471nm,19.7s,baz=26,slow=38
FFC Flin Flon 92.20 9 P **P 02 57 59.9 -0.1**
comp=Z,50nm,1.2s,SNR=5.2
FFC Flin Flon 92.20 9 *e*P **P 02 57 58.9 -1.1**
FFC pmax pmax
comp=Z,9.0nm,0.9s
FFC MLR MLR
comp=Z,1μm,19.0s
FFC Flin Flon 92.20 9 *e*P **P 02 57 58.9 -1.1**
comp=Z,8.8nm,0.9s
FFC LR LR
comp=Z,1μm,19.0s
DBIC Dimbokro 92.88 280 *e*P **P 02 58 03.5 -0.4**
DBIC pmax pmax
comp=Z,17nm,1.0s
DBIC Dimbokro 92.88 280 P **P 02 58 03.5 -0.4**
comp=Z,11nm,0.9s,baz=20,slow=5.0,SNR=5.4
DBIC LR LR 03 44 23.7
comp=Z,800nm,18.3s,baz=38,slow=38
DBIC Dimbokro 92.88 280 *e*P **P 02 58 03.5 -0.4**
comp=Z,17nm,1.0s
KIC Kosan Boka 92.95 279 *e*PKP2 P 02 58 07.7 +3.5
comp=Z,35nm,1.1s
TIC Toumodi 93.03 280 *e*PKP2 P 02 58 07.9 +3.3
comp=Z,3.5nm,0.2s
LIC Lamto 93.26 279 *e*P **P 02 58 05.6 0.0**
comp=Z,51nm,1.3s
LIC *e*R
comp=Z,1μm,22.0s
LIC Lamto 93.26 279 *e*PKP2 P 02 58 08.9 +3.3
comp=Z,34nm,1.0s
LIC Lamto 93.26 279 *e*P **P 02 58 05.6 0.0**
comp=Z,51nm,1.3s
SUR Sutherland 93.67 234 PFAKE 02 58 20.0 +13
SUR LR LR
comp=Z,1μm,20.0s
NLWA Neilton Lookou 93.90 24 PFAKE 02 58 20.0 +12
NLWA LR LR
comp=Z,808nm,21.0s
NEW Newport 95.25 20 P **P 02 58 14.3 0.0**
NEW MLR MLR
comp=Z,932nm,19.0s
NEW Newport 95.25 20 P **P 02 58 14.2 0.0**
comp=Z,0.8nm,0.7s,baz=300,slow=8.9,SNR=3.1
NEW Newport 95.25 20 P **P 02 58 14.2 0.0**
NEW LR LR
comp=Z,932nm,19.0s
MSVF Nonsavu 95.46 107 PFAKE 02 58 30.0 +14
MSVF LR LR
comp=Z,452nm,19.0s
HAWA Hanford 96.21 22 PFAKE 02 58 30.0 +11
HAWA LR LR
comp=Z,511nm,20.0s
JTMT Jette 96.49 18 *e*P **P 02 58 19.3 -0.7**
comp=Z,4.1nm,1.5s
ULM Lac du Bonnet 97.25 6 LR LR 03 45 27.6
comp=Z,245nm,19.0s,baz=7.5,slow=37
EGMT Eagleton 97.32 15 PFAKE 02 58 30.0 +6.2
EGMT LR LR
comp=Z,602nm,20.0s
BMO Blue Mountains 98.28 21 PFAKE 02 58 40.0 +12
BMO LR LR
comp=Z,906nm,19.0s
BOZ Bozeman (W) 99.12 17 PFAKE 02 58 40.0 +8.1
BOZ LR LR
comp=Z,702nm,20.0s
AGMN Agassiz Nation 99.19 6 PFAKE 02 58 40.0 +8.0
AGMN LR LR
comp=Z,610nm,19.0s
LAO LASA Array 99.32 13 PFAKE 02 58 40.0 +7.3
LAO LR LR
comp=Z,1μm,19.0s
CASY Casey 99.41 173 *e*P **Pdif 02 58 30.4 -1.8**
comp=Z,29nm,1.6s
CASY LR LR
comp=Z,657nm,21.0s
EYMN Ely 99.82 3 PFAKE 02 58 50.0 +15
EYMN LR LR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 100.03 23 PFAKE 02 58 50.0 +14
WVOR LR LR
comp=Z,632nm,21.0s
RLMT Red Lodge 100.18 16 PFAKE 02 58 50.0 +13
RLMT LR LR
comp=Z,787nm,20.0s
HLID Hailey 100.31 20 PFAKE 02 58 50.0 +13
HLID LR LR
comp=Z,845nm,21.0s
LKWY Lake 100.44 17 PFAKE 02 58 50.0 +12
LKWY LR LR
comp=Z,1μm,19.0s
PKME Peaks-Kenny Pk 100.91 347 PFAKE 02 58 50.0 +10
PKME LR LR
comp=Z,1μm,21.0s
COWI Conover 101.74 1 PFAKE 02 58 50.0 +6.6
COWI LR LR
comp=Z,907nm,22.0s
AHID Auburn Hatcher 101.95 18 PFAKE 02 59 00.0 +15
AHID LR LR
comp=Z,543nm,19.0s
BW06 Boulder Array 102.33 17 PFAKE 02 59 00.0 +14
BW06 LR LR
comp=Z,745nm,20.0s
PDAR Pinedale Array 102.33 17 PP PP 03 02 51.7 -6.0
comp=Z,0.3nm,0.4s,baz=11,slow=1.5,SNR=4.0
LBNH Lisbon 102.36 349 PFAKE 02 59 00.0 +14
LBNH LR LR
comp=Z,680nm,19.0s
LONY Lake Ozonia 102.39 351 PFAKE 02 59 00.0 +14
LONY LR LR
comp=Z,785nm,22.0s
HWUT Hardware Ranch 102.91 19 PFAKE 02 59 00.0 +11
HWUT LR LR
comp=Z,523nm,20.0s
NCB Newcomb 102.97 350 PFAKE 02 59 00.0 +11

NCB				LR	LR		
	comp=Z,1μm,20.0s						
SACV	**Santiago Islan**	**103.06**	**297**	PFAKE		02 59 00.0	+10
SACV				LR	LR		
	comp=Z,605nm,19.0s						
ECSD	**EROS Data Cent**	**103.64**	**7**	PFAKE		02 59 00.0	+8.1
ECSD				LR	LR		
	comp=Z,883nm,21.0s						
NVAR	**Mina Array Bea**	**103.72**	**25**	PP	PP	03 03 07.3	-0.9
	comp=Z,1.2nm,0.9s,baz=306,slow=5.3,SNR=5.3						
DUG	**Dugway, Tooele**	**103.88**	**20**	PFAKE		02 59 00.0	+6.8
DUG				LR	LR		
	comp=Z,592nm,20.0s						
JFWS	**Jewell Farm**	**104.89**	**2**	PFAKE		02 59 10.0	+13
JFWS				LR	LR		
	comp=Z,889nm,19.0s						
BINY	**Binghamton**	**104.95**	**351**	PFAKE		02 59 10.0	+12
BINY				LR	LR		
	comp=Z,907nm,21.0s						
SNZO	**South Karori**	**105.19**	**129**	PFAKE		03 03 20.0	
SNZO				LR	LR		
	comp=Z,516nm,19.0s						
ERPA	**Erie**	**105.45**	**354**	PFAKE		03 03 20.0	
ERPA				LR	LR		
	comp=Z,681nm,20.0s						
AAM	**Ann Arbor**	**105.49**	**357**	PFAKE		03 03 20.0	
AAM				LR	LR		
	comp=Z,913nm,19.0s						
OGNE	**Ogallala**	**105.64**	**12**	PFAKE		03 03 30.0	
OGNE				LR	LR		
	comp=Z,718nm,20.0s						
SCIA	**State Center**	**105.75**	**5**	PFAKE		03 03 30.0	
SCIA				LR	LR		
	comp=Z,1μm,19.0s						
ISCO	**Idaho Springs**	**106.06**	**15**	PFAKE		03 03 30.0	
ISCO				LR	LR		
	comp=Z,744nm,21.0s						
ACSO	**Alum Creek Sta**	**107.52**	**357**	PFAKE		03 03 30.0	
ACSO				LR	LR		
	comp=Z,757nm,22.0s						
MVCO	**Mesa Verde**	**107.85**	**18**	PFAKE		03 03 30.0	
MVCO				LR	LR		
	comp=Z,612nm,20.0s						
KSU1	**Kansas State U**	**108.22**	**8**	PFAKE		03 03 30.0	
KSU1				LR	LR		
	comp=Z,669nm,22.0s						
WUAZ	**Wupatki**	**108.64**	**21**	PFAKE		03 03 30.0	
WUAZ				LR	LR		
	comp=Z,505nm,21.0s						
PFO	**Pinyon Flats O**	**108.70**	**26**	PFAKE		03 03 30.0	
PFO				LR	LR		
	comp=Z,904nm,22.0s						
BLA	**Blacksburg**	**110.36**	**354**	PFAKE		03 03 30.0	
BLA				LR	LR		
	comp=Z,597nm,20.0s						
ANMO	**Albuquerque**	**110.51**	**17**	PFAKE		03 03 30.0	
ANMO				LR	LR		
	comp=Z,786nm,22.0s						
TUC	**Tucson**	**111.79**	**21**	PFAKE		03 03 40.0	
TUC				LR	LR		
	comp=Z,378nm,19.0s						
CNNC	**Cliffs of the**	**112.05**	**352**	PFAKE		03 03 40.0	
CNNC				LR	LR		
	comp=Z,1μm,21.0s						
WMOK	**Wichita Mounta**	**112.23**	**10**	PFAKE		03 03 40.0	
WMOK				LR	LR		
	comp=Z,683nm,20.0s						
MIAR	**Mount Ida**	**113.03**	**6**	PFAKE		03 03 40.0	
MIAR				LR	LR		
	comp=Z,919nm,21.0s						
GOGA	**Godfrey**	**114.34**	**357**	PFAKE		03 03 40.0	+10
GOGA				LR	LR		
	comp=Z,658nm,19.0s						
NHSC	**New Hope**	**114.40**	**354**	PFAKE		03 03 40.0	+9.4
NHSC				LR	LR		
	comp=Z,731nm,20.0s						
NATX	**Nacogdoches**	**115.69**	**7**	PFAKE		03 03 40.0	+6.9
NATX				LR	LR		
	comp=Z,1μm,21.0s						
JCT	**Junction City**	**116.23**	**12**	PFAKE		03 03 50.0	+16
JCT				LR	LR		
	comp=Z,928nm,19.0s						
TXAR	**Lajitas Array**	**116.54**	**16**	PKP		**PKPdf**	**03 03 36.8 +1.9**
	comp=Z,1.5nm,0.8s,baz=224,slow=3.8,SNR=3.9						
BRAL	**Brewton**	**116.83**	**360**	PFAKE		03 03 50.0	+15
BRAL				LR	LR		
	comp=Z,896nm,20.0s						
VNDA	**Vanda**	**117.15**	**167**	PKP		**PKPdf**	**03 03 35.8 +1.4**
	comp=Z,0.8nm,0.8s,baz=330,slow=4.4,SNR=3.9						
VNDA	**Vanda**	**117.15**	**167**	*e*PKPdf		**PKPdf**	**03 03 35.6 +1.2**
VNDA						**PKPdf**	**03 03 35.8 +1.4**
SNAA	**Sanae**	**122.25**	**202**	P		**PKPdf**	**03 03 45.4 +1.0**
SNAA	**Sanae**	**122.25**	**202**	*e*PKIKP		**PKPdf**	**03 03 44.3 -0.1**
SNAA	**Sanae**	**122.25**	**202**	*e*PKPdf		**PKPdf**	**03 03 44.3 -0.1**
QSPA	**South Pole Qui**	**122.29**	**180**	PFAKE		03 04 00.0	+15
QSPA				LR	LR		
	comp=Z,583nm,19.0s						
VNA2	**Neumayer--Watz**	**123.66**	**203**	P		**PKPdf**	**03 03 50.2 +3.2**
VNA1	**Neumayer--Stat**	**123.94**	**203**	P		**PKPdf**	**03 03 51.5 +4.0**
GRTK	**Grand Turk**	**124.13**	**342**	PFAKE		03 04 00.0	+10
GRTK				LR	LR		
	comp=Z,517nm,20.0s						
VNA3	**Neumayer Olymp**	**124.41**	**203**	P		**PKPdf**	**03 03 51.4 +2.8**
ANWB	**Willy Bob**	**124.50**	**330**	PFAKE		03 04 00.0	+10
ANWB				LR	LR		
	comp=Z,377nm,19.0s						
RCBR	**Riachuelo**	**125.42**	**288**	PFAKE		03 04 00.0	+7.8
RCBR				LR	LR		
	comp=Z,592nm,20.0s						
SJG	**San Juan**	**125.79**	**335**	PFAKE		03 04 00.0	+7.2
SJG				LR	LR		
	comp=Z,549nm,22.0s						
SDDR	**Presa de Saban**	**126.59**	**341**	PFAKE		03 04 10.0	+16
SDDR				LR	LR		
	comp=Z,659nm,20.0s						
GTBY	**Guantanamo Bay**	**126.60**	**346**	PFAKE		03 04 10.0	+16
GTBY				LR	LR		
	comp=Z,564nm,20.0s						
FDF	**Fort de France**	**126.82**	**328**	PFAKE		03 04 10.0	+15
FDF				LR	LR		
	comp=Z,497nm,19.0s						
TEIG	**Tepich**	**127.56**	**1**	PFAKE		03 04 10.0	+14
TEIG				LR	LR		
	comp=Z,766nm,21.0s						
SDV	**Santo Domingo**	**135.91**	**336**	PFAKE		03 04 20.0	+7.7
SDV				LR	LR		
	comp=Z,606nm,21.0s						
JTS	**JuntasAbangare**	**137.39**	**357**	*e*PKIKP		**PKPdf**	**03 04 15.8 +0.9**
JTS				MLR	MLR		
	comp=Z,816nm,19.0s						
JTS	**JuntasAbangare**	**137.39**	**357**	*e*PKPdf		**PKPdf**	**03 04 15.8 +0.9**
JTS				LR	LR		
	comp=Z,816nm,19.0s						
BCIP	**Isla Barro Col**	**137.97**	**349**	PFAKE		03 04 30.0	+14
BCIP				LR	LR		
	comp=Z,319nm,20.0s						
PTGA	**Pitinga**	**139.29**	**315**	PFAKE		03 04 30.0	+12
PTGA				LR	LR		
	comp=Z,395nm,21.0s						
ROSC	**El Rosal**	**140.88**	**339**	PKP		**PKPdf**	**03 04 24.0 +2.3**
	comp=Z,4.5nm,0.6s,baz=30,slow=4.6,SNR=6.7						
PMSA	**Palmer Station**	**144.70**	**197**	*e*PKPdf		**PKPdf**	**03 04 28.2 +1.9**
OTAV	**Otavalo**	**146.40**	**344**	*e*PKPbc		**PKPbc**	**03 04 32.7 0.0**
OTAV				LR	LR		
	comp=Z,495nm,21.0s						
SAML	**Samuel**	**147.69**	**311**	*e*PKPdf		**PKPdf**	**03 04 32.4 -0.6**
SAML				*e*PKPbc		**PKPbc**	**03 04 35.5 -0.3**
SAML				*e*PKPab		**PKPab**	**03 04 39.1 +1.1**
SAML				LR	LR		
	comp=Z,556nm,19.0s						
SIV	**San Ignacio**	**151.17**	**299**	PKPbc		**PKPbc**	**03 04 43.4 -1.0**
	comp=Z,12nm,0.9s,baz=87,slow=3.2,SNR=14						
EFI	**East Falkland**	**151.41**	**219**	PFAKE		03 04 50.0	-2.1
EFI				LR	LR		
	comp=Z,782nm,22.0s						
ATAH	**Atahualpa**	**153.46**	**340**	PKP		**PKPdf**	**03 04 44.3 +1.8**
	comp=Z,2.9nm,0.6s,baz=42,slow=2.0,SNR=4.3						
ATAH				PKPbc		**PKiKP**	**03 04 51.6 +1.4**
	comp=Z,8.4nm,0.8s,baz=27,slow=4.7,SNR=4.7						
LPAZ	**La Paz**	**156.35**	**309**	PKIKP		**PKPdf**	**03 04 47.4 +0.8**
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LPAZ	**La Paz**	**156.35**	**309**	PKP		**PKPdf**	**03 04 47.4 +0.8**
	comp=Z,4.4nm,1.0s,baz=110,slow=3.1,SNR=7.7						
LPAZ	**La Paz**	**156.35**	**309**	*e*PKPdf		**PKPdf**	**03 04 46.7 +0.1**
LPAZ				*e*PKPab		**PKPab**	**03 05 15.7 +0.9**
NNA	**Nana**	**157.47**	**333**	PFAKE		03 05 00.0	+13
NNA				LR	LR		
	comp=Z,397nm,20.0s						
TRQA	**Tornquist**	**158.71**	**248**	*e*PKPdf		**PKPdf**	**03 04 48.7 +0.5**
TRQA				LR	LR		
	comp=Z,569nm,20.0s						
LVC	**Limon Verde**	**161.05**	**297**	*e*PKPdf		**PKPdf**	**03 04 51.7 +0.1**
LVC				*e*PKPab		**PKPab**	**03 05 35.5 +0.9**
LVC				LR	LR		
	comp=Z,489nm,20.0s						
CFAA	**Coronel Fontan**	**163.90**	**268**	PKP		**PKPdf**	**03 04 54.7 +0.8**
	comp=Z,0.2nm,0.4s,baz=329,slow=7.1,SNR=5.8						
PLCA	**Paso Flores**	**164.33**	**234**	PKIKP		**PKPdf**	**03 04 54.7 +0.6**
PLCA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
PLCA	**Paso Flores**	**164.33**	**234**	PKP		**PKPdf**	**03 04 54.7 +0.6**
	comp=Z,7.1nm,1.1s,baz=170,slow=3.0,SNR=4.8						
PLCA	**Paso Flores**	**164.33**	**234**	*e*PKPdf		**PKPdf**	**03 04 54.4 +0.3**
PLCA				PKP		**PKPdf**	**03 04 54.7 +0.6**

*IDC **24** 03:06:14.3±0.5, 55°.73S×27°.18W, h0km, mb4.6/14, mb1 4.6/15, mb1mx4.4/27, mbtmp4.6/15, ML3.7/1, Error ellipse: s-maj=17.8km s-min=15.3km az=54.0*
*ISCJB **24** 03:06:16.5±0.4, 55°.71S±0°.07×27°.2W±0°.1, h25km, mb4.8/20, Error ellipse: s-maj=11.4km s-min=7.1km az=39.0*
*NEIC **24** 03:06:19.7±2.0, 55°.76S×27°.17W, h36km±17km, mb4.9/12, Error ellipse: s-maj=10.8km s-min=6.2km az=49.0*
ISC 24 03:06:18.2±0.4, 55°.74S±0°.09×27°.15W±0°.08, h25km, n60, σ0s72/55, mb4.9/19, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.57**	**281**	*e*Pn	Pn	03 07 32.0	-7.3
	80nm,0.6s						
HOPE				*e*S	**Sn**	**03 08 43.0**	**+0.7**
VNA3	**Neumayer Olymp**	**17.28**	**161**	P	**P**	**03 10 20.6**	**+1.9**
VNA2	**Neumayer--Watz**	**17.47**	**158**	P	**P**	**03 10 21.4**	**+0.6**
	baz=319,slow=14						
EFI	**East Falkland**	**18.66**	**270**	*e*Pn	**Pn**	**03 10 34.2**	**-0.1**
	18nm,0.7s						
SNAA	**Sanae**	**19.02**	**156**	P	**Pn**	**03 10 38.2**	**-0.4**
SNAA	**Sanae**	**19.02**	**156**	P	**P**	**03 10 37.8**	**-0.1**
	0.2nm,0.3s,baz=331,slow=10,SNR=17						
SNAA	**Sanae**	**19.02**	**156**	*e*P	**P**	**03 10 37.4**	**-0.5**
	12nm,0.7s						
PMSA	**Palmer Station**	**20.12**	**228**	P	Pn	03 10 51.0	-0.7
	29nm,0.7s,baz=54,slow=5.5,SNR=4.9						
PMSA	**Palmer Station**	**20.12**	**228**	*e*P	Pn	03 10 51.3	-0.4
	28nm,0.8s						
USHA	**Ushuaia**	**23.28**	**255**	P	**P**	**03 11 22.7**	**-0.9**
	13nm,0.7s,baz=60,slow=10,SNR=6.7						
TRQA	**Tornquist**	**29.22**	**293**	*e*P	**P**	**03 12 18.2**	**+0.6**
	23nm,0.9s						
QSPA	**South Pole Qui**	**34.51**	**180**	P	**P**	**03 13 04.5**	**+0.5**
	11nm,0.6s,baz=192,slow=2.9,SNR=43						
CFAA	**Coronel Fontan**	**37.46**	**293**	P	**P**	**03 13 28.6**	**-0.7**
	2.4nm,0.7s,baz=148,slow=7.7,SNR=35						
LVC	**Limon Verde**	**45.16**	**300**	*e*P	**P**	**03 14 34.0**	**+1.1**
	36nm,0.6s						
SBA	**Scott Base**	**46.39**	**184**	*e*P	**P**	**03 14 41.7**	**0.0**
	16nm,1.1s						
VNDA	**Vanda**	**46.89**	**183**	P	**P**	**03 14 45.7**	**+0.1**
	13nm,0.8s,baz=185,slow=6.5,SNR=40						
VNDA	**Vanda**	**46.89**	**183**	*e*P	**P**	**03 14 46.0**	**+0.4**
	12nm,0.8s						
SIV	**San Ignacio**	**47.38**	**313**	P	**P**	**03 14 49.2**	**-0.9**
	7.0nm,0.7s,baz=164,slow=9.1,SNR=16						
H10S2	**ASCENSION HYDR**	**47.70**	**17**	T	T	04 06 19.3	
	baz=189,slow=75,SNR=37						
H10S3	**ASCENSION HYDR**	**47.70**	**17**	T	T	04 06 19.6	
	baz=189,slow=75,SNR=40						
H10S1	**ASCENSION HYDR**	**47.71**	**17**	T	T	04 06 20.6	
	baz=189,slow=75,SNR=38						
LBTB	**Lobatse**	**48.90**	**73**	P	**P**	**03 15 01.7**	**-0.2**
	3.4nm,0.7s,baz=233,slow=9.8,SNR=6.7						
LPAZ	**La Paz**	**50.21**	**305**	P	**P**	**03 15 13.7**	**+1.1**
	16nm,0.7s,baz=143,slow=6.2,SNR=60						
LPAZ	**La Paz**	**50.21**	**305**	*e*P	**P**	**03 15 13.6**	**+1.1**
	23nm,0.7s						
CASY	**Casey**	**54.20**	**160**	*e*P	**P**	**03 15 40.6**	**-0.3**
	9.0nm,1.3s						
SAML	**Samuel**	**54.60**	**315**	*e*P	**P**	**03 15 44.2**	**-0.1**
	43nm,1.1s						
PTGA	**Pitinga**	**60.94**	**322**	P	**P**	**03 16 28.5**	**-0.5**
	6.0nm,0.6s,baz=154,slow=7.2,SNR=11						
ATAH	**Atahualpa**	**63.06**	**300**	P	**P**	**03 16 43.4**	**-0.3**
	5.3nm,0.6s,baz=155,slow=5.3,SNR=4.2						
DBIC	**Dimbokro**	**64.87**	**25**	P	**P**	**03 16 57.0**	**+2.0**
	2.0nm,0.7s,baz=181,slow=10.0,SNR=4.0						
AIS	**Amsterdam Isla**	**67.08**	**124**	R		03 17 00.0	
OTAV	**Otavalo**	**69.50**	**304**	*e*P	**P**	**03 17 25.5**	**+0.5**
	23nm,1.3s						
ROSC	**El Rosal**	**71.72**	**310**	P	**P**	**03 17 38.7**	**+0.3**
	2.4nm,0.4s,baz=286,slow=3.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**72.77**	**29**	P	**P**	**03 17 44.4**	**+0.3**
	4.1nm,0.6s,baz=200,slow=6.3,SNR=70						
SDV	**Santo Domingo**	**73.80**	**315**	*e*P	**P**	**03 17 49.5**	**-1.0**
	30nm,1.0s						
ASAR	**Alice Springs**	**99.28**	**162**	P	**Pdif**	**03 19 57.0**	**-0.9**
	1.0nm,0.6s,baz=186,slow=4.0,SNR=10						
WRA	**Warramunga Arr**	**103.00**	**162**	Pdiff	**Pdif**	**03 20 16.1**	**+1.7**
	0.4nm,0.3s,baz=204,slow=4.2,SNR=4.2						
NOA	**NORSAR Array B**	**120.31**	**20**	PKP	**PKPdf**	**03 25 05.7**	**+0.1**
	1.7nm,0.9s,baz=206,slow=1.9,SNR=4.3						
NVAR	**Mina Array Bea**	**121.29**	**293**	PKP	**PKPdf**	**03 25 08.9**	**+0.4**
	0.5nm,0.7s,baz=113,slow=3.4,SNR=4.5						
FINES	**FINESS Array B**	**124.10**	**28**	PKP	**PKPdf**	**03 25 12.7**	**-0.1**
	3.3nm,0.6s,baz=162,slow=3.0,SNR=12						
CMAR	**Chiang Mai Arr**	**125.16**	**110**	PKP	**PKPdf**	**03 25 15.8**	**-0.5**
	1.2nm,0.3s,baz=234,slow=4.0,SNR=10						
KKAR	**Karatay Array**	**128.08**	**67**	*e*PKPdf	**PKPdf**	**03 25 21.2**	**+0.1**
SUMG	**Summit**	**128.27**	**356**	*i* P	**PKPdf**	**03 25 21.4**	**+0.4**
	5.9nm,1.0s						
EKS2	**Erkin-Say**	**129.49**	**70**	*e*PKPdf	**PKPdf**	**03 25 24.1**	**+0.1**
AAK	**Ala-Archa**	**129.85**	**70**	*e*PKPdf	**PKPdf**	**03 25 24.8**	**+0.1**
ARCES	**ARCESS Array B**	**130.65**	**22**	PKP	**PKPdf**	**03 25 24.6**	**-0.5**
	6.0nm,0.8s,baz=211,slow=1.3,SNR=14						
DAG	**Danmarks Havn**	**132.36**	**3**	*i* P	**PKPdf**	**03 25 26.6**	**-1.5**
	2.8nm,0.9s						
YKA	**Yellowknife Ar**	**135.95**	**318**	PKhKP	PKPpre	03 25 22.6	
	0.2nm,0.6s,baz=122,slow=2.9,SNR=3.8						
YKA				PKP	**PKPdf**	**03 25 34.6**	**-0.6**
	1.6nm,0.7s,baz=130,slow=2.3,SNR=13						
MKAR	**Makanchi Array**	**136.77**	**71**	PKP	**PKPdf**	**03 25 36.8**	**-0.5**
	0.7nm,0.7s,baz=270,slow=1.2,SNR=7.8						
ZALV	**Zalesovo Beam**	**142.21**	**63**	PKP	**PKPdf**	**03 25 46.0**	**-0.9**
	0.6nm,0.4s,baz=289,slow=4.5,SNR=3.8						
HYT	**Haines Junctio**	**144.62**	**307**	*e*PKPdf	**PKPdf**	**03 25 51.0**	**-0.1**
EGAK	**Eagle**	**147.54**	**313**	*e*PKPbc	**PKPbc**	**03 25 57.9**	**-0.6**
ILAR	**Eielson Array**	**149.92**	**312**	PKPbc	**PKPbc**	**03 26 04.3**	**-0.3**
	10nm,0.8s,baz=127,slow=1.5,SNR=89						
RC01	**Rabbit Creek A**	**150.32**	**304**	*e*PKPbc	**PKPbc**	**03 26 06.2**	**+0.5**
MCK	**McKinley**	**150.59**	**310**	*e*PKPbc	**PKPbc**	**03 26 06.3**	**0.0**
SONM	**Songino Array**	**150.69**	**86**	PKP	**PKPdf**	**03 26 01.0**	**-0.6**
	0.3nm,0.3s,baz=209,slow=3.1,SNR=6.2						
SONM				PKPbc	**PKPbc**	**03 26 07.3**	**+0.1**
	10nm,0.7s,baz=225,slow=3.2,SNR=48						
ULN	**Ulaanbaatar**	**151.07**	**86**	*e*PKPbc	**PKPbc**	**03 26 07.8**	**-0.3**
TRF	**Thorofare Moun**	**151.12**	**309**	*e*PKPbc	**PKPbc**	**03 26 07.6**	**-0.1**
KTH	**Kantishna Hill**	**151.42**	**309**	*e*PKPbc	**PKPbc**	**03 26 08.0**	**-0.3**
RSO	**Redoubt South**	**151.58**	**302**	*e*PKPbc	**PKPbc**	**03 26 09.2**	**+0.3**
COLD	**Coldfoot**	**151.61**	**317**	*e*PKPbc	**PKPbc**	**03 26 09.1**	**+0.5**

*IDC **24** 03:12:03.4±1.1, 54°.99N×164°.99E, h0km, mb3.6/10, mb1 3.9/11, mb1mx3.7/31, mbtmp3.6/11, ML3.0/1, Error ellipse: s-maj=36.2km s-min=14.2km az=16.0*
*KRSC **24** 03:12:03.2±1.3, 55°.59N×165°.42E, h10km±5km, ML4.0*
*MOS **24** 03:12:04.3±2.2, 55°.44N×165°.32E, h8km, mb4.1/4, Error ellipse: s-maj=15.6km s-min=12.8km az=33.4*
ISC 24 03:12:03.9±1.3, 55°.14N±0°.06×165°.06E±0°.03, h3km±9km, n53, σ2s01/52, mb3.7/10, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.53**	**83**	PN	**Pg**	**03 12 14.3**	**+0.4**
BKI				S	**Sg**	**03 12 21.5**	**+0.7**
BKI	**Bering**	**0.53**	**83**	*i* P	**Pg**	**03 12 14.3**	**+0.4**
BKI				*i* S	**Sg**	**03 12 21.4**	**+0.7**
KBTR	**Krutoberegovo**	**1.66**	**311**	PN	**Pn**	**03 12 30.9**	**-3.0**
KBTR				S	**Sn**	**03 12 50.9**	**-4.8**
KBTR	**Krutoberegovo**	**1.66**	**311**	*i* P	**Pn**	**03 12 30.9**	**-3.0**
KBTR				*i* S	**Sn**	**03 12 50.9**	**-4.8**
MKZ	**Mys Kozlova**	**2.02**	**254**	PN	**Pg**	**03 12 44.3**	**+1.9**
MKZ				S	Sg	03 13 15.9	+7.4
MKZ	**Mys Kozlova**	**2.02**	**254**	*e*P	**Pg**	**03 12 44.3**	**+1.9**
MKZ				*e*S	Sg	03 13 15.9	+7.4
SMKR	**Semkarok**	**2.49**	**307**	*i* P	**Pn**	**03 12 44.1**	**-1.2**
SMKR				*i* S	**Sn**	**03 13 15.9**	**-0.3**
BDR	**Baidarnaya**	**2.60**	**305**	*i* P	**Pn**	**03 12 46.7**	**-0.2**
BDR				*i* S	**Sn**	**03 13 19.2**	**+0.2**
SRKR	**Sorokina**	**2.67**	**306**	*i* P	**Pn**	**03 12 46.9**	**-0.9**
KLY	**Klyuchi**	**2.76**	**297**	PN	**Pn**	**03 12 48.3**	**-0.7**
KLY	**Klyuchi**	**2.76**	**297**	*e*P	**Pn**	**03 12 48.2**	**-0.7**
KIRR	**Kirishev**	**2.80**	**289**	*e*P	**Pb**	**03 12 51.7**	**-2.9**
KMNR	**Kamenistaya**	**2.82**	**285**	*e*P	**Pb**	**03 12 53.1**	**-1.7**
TUMR	**Tumrok**	**2.82**	**275**	*e*P	**Pb**	**03 12 54.4**	**-0.5**
KPT	**Kopyto**	**2.87**	**289**	*e*P	**Pb**	**03 12 54.3**	**-1.5**
KOZR	**Kozyrr**	**3.07**	**290**	PN	**Pb**	**03 12 56.2**	**-3.0**
KOZ	**Kozyrevsk**	**3.08**	**289**	*e*P	Pb	03 12 56.2	-3.1
SRDR	**Sredinnyy**	**3.24**	**293**	*e*P	**Pn**	**03 12 57.7**	**+2.0**
ESO	**Esso**	**3.70**	**285**	PN	Pb	03 13 05.5	-4.3
ESO	**Esso**	**3.70**	**285**	*e*P	Pb	03 13 05.5	-4.3
SDLR	**Sedlovina**	**4.08**	**245**	*e*P	**Pb**	**03 13 14.2**	**-2.2**
SMAR	**Somma**	**4.13**	**245**	*e*P	**Pb**	**03 13 14.8**	**-2.5**
KRER	**Koryakskii**	**4.14**	**246**	*e*P	**Pb**	**03 13 15.7**	**-1.7**
UGLR	**Uglovaya**	**4.15**	**245**	*e*P	**Pb**	**03 13 15.3**	**-2.2**
AVH	**Avacha**	**4.16**	**246**	*e*P	**Pb**	**03 13 15.5**	**-2.3**
KRX	**Arik**	**4.16**	**247**	*e*P	**Pb**	**03 13 16.0**	**-1.8**
KOK	**Koryaka**	**4.20**	**246**	*e*P	**Pb**	**03 13 16.2**	**-2.3**
GNL	**Ganaly**	**4.41**	**254**	*e*P	Pb	03 13 18.2	-3.7
RUS	**Russkaya**	**4.74**	**238**	PN	**Pb**	**03 13 25.5**	**-2.0**
RUS				S	**Sb**	**03 14 23.9**	**-1.0**
RUS	**Russkaya**	**4.74**	**238**	*e*P	**Pb**	**03 13 25.5**	**-2.0**
RUS				*e*S	**Sb**	**03 14 23.9**	**-1.0**
PETK	**Petropavlovsk-**	**4.79**	**248**	PN	Pn	03 13 21.4	+4.6
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.79**	**248**	Pn	Pn	03 13 21.4	+4.6
	comp=Z,0.6nm,0.3s,baz=63,slow=7.8,SNR=2.3						
MTVR	**Mutnovka**	**4.87**	**240**	*e*P	**Pb**	**03 13 27.3**	**-2.5**
MTVR				*i* S	**Sb**	**03 14 27.2**	**-1.6**
APC	**Apacha**	**5.16**	**248**	*e*P	Pb	03 13 29.5	-5.2
FX1	**Attu Island--F**	**5.29**	**112**	PN	**Pn**	**03 13 20.7**	**-3.0**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FX1	**Attu Island--F**	**5.29**	**112**	Pn	**Pn**	**03 13 20.7**	**-3.0**
	comp=Z,1.7nm,0.3s,baz=322,slow=4.6,SNR=4.0						
ILAR	**Eielson Array**	**25.28**	**48**	P	**P**	**03 17 32.1**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=254,slow=8.8,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**35.38**	**177**	T	T	03 57 03.6	
	baz=359,slow=76,SNR=66						
H11N3	**WAKE ISLAND Hy**	**35.39**	**177**	T	T	03 56 56.1	
	baz=359,slow=76,SNR=65						
H11N1	**WAKE ISLAND Hy**	**35.40**	**177**	T	T	03 56 55.3	
	baz=359,slow=76,SNR=56						
SONM	**Songino Array**	**36.27**	**283**	P	**P**	**03 19 08.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=62,slow=7.8,SNR=2.8						
YKA	**Yellowknife Ar**	**39.65**	**46**	P	**P**	**03 19 37.1**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=297,slow=7.9,SNR=3.9						
MKAR	**Makanchi Array**	**49.87**	**297**	P	**P**	**03 20 59.6**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=46,slow=4.2,SNR=4.1						
NVAR	**Mina Array Bea**	**52.34**	**75**	P	**P**	**03 21 18.4**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=298,slow=7.5,SNR=7.0						
PDAR	**Pinedale Array**	**53.98**	**65**	P	**P**	**03 21 31.1**	**+2.0**
	comp=Z,0.7nm,0.9s,baz=308,slow=3.6,SNR=4.7						
ULM	**Lac du Bonnet**	**55.27**	**50**	P	**P**	**03 21 39.0**	**+1.0**
ULM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ULM	**Lac du Bonnet**	**55.27**	**50**	P	**P**	**03 21 39.0**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=271,slow=9.1,SNR=3.2						
TXAR	**Lajitas Array**	**67.17**	**71**	P	**P**	**03 23 01.3**	**+2.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**67.17**	**71**	P	**P**	**03 23 01.3**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=312,slow=4.4,SNR=3.8						
KBZ	**Khabaz**	**69.98**	**319**	P	**P**	**03 23 15.6**	**-0.7**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KBZ	**

```
NICH                                IAML                    03 34 01.8
     comp=N,7μm,0.2s
CCSP San Pedro de C     1.67 197 eP9        Pn              03 33 47.1 -0.8
CCSP                             eS4        Sn              03 34 06.2 -2.0
CCSP                                IAML                    03 34 15.3
     comp=N,2μm,0.5s
RCDM Rinconada Maip     2.24  39 i P        Pb              03 33 58.4 -2.4
ANTU Antumapu           2.27  43 eP9        Pn              03 34 00.0 +3.8
ANTU                             eS4        Sn              03 34 29.8 +6.6
ANTU                                IAML                    03 34 37.4
     comp=N,1μm,0.4s
```

IDC ***24*** *03:50:01.1±0.9, 35°.71S×72°.69W, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.1/20, mbtmp4.0/9, ML3.4/3, Error ellipse: s-maj=34.0km s-min=19.9km az=93.0*

ISCJB ***24*** *03:50:05.9±1.0, 35°.63S±0°.06×72°.79W±0°.10, h42km±11km, mb4.1/7, Error ellipse: s-maj=15.2km s-min=6.5km az=29.4*

GUC ***24*** *03:50:07.8±0.7, 35°.48S×72°.67W, h30km±6km, ML4.4*

ISC 24 03:50:06.7±1.2, 35°.67S±0°.06×72°.79W±0°.09, h36km±2km, n19, σ1§08/21, mb4.1/7, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.98**	**74**	⇓*i*P	**Pn**	**03 50 23.1**	**-0.8**
TALC				*i* S	**Sn**	**03 50 34.9**	**-1.6**
LNCH	**Linares**	**0.98**	**101**	⇓*i*P	**Pn**	**03 50 24.4**	**+0.5**
LNCH				*i* S	**Sn**	**03 50 37.5**	**+0.9**
CCSP	**San Pedro de C**	**1.20**	**192**	⇑*i*P	**Pn**	**03 50 24.9**	**-2.0**
CCSP				*i* S	**Sn**	**03 50 43.8**	**+2.0**
CCSP				IAML		03 50 50.2	
comp=E,11μm,0.4s							
NICH	**Los Niches**	**1.44**	**63**	⇓*i*P	**Pn**	**03 50 30.3**	**+0.2**
NICH				*i* S	**Sn**	**03 50 47.1**	**-0.7**
RCDM	**Rinconada Maip**	**2.72**	**38**	*e*P	**Pn**	**03 50 48.2**	**+0.3**
RCDM				*i* S	**Sn**	**03 51 19.1**	**-0.4**
RCDM				IAML		03 51 32.6	
comp=E,1μm,0.5s							
ANTU	**Antumapu**	**2.75**	**41**	*e*P	**Pn**	**03 50 49.4**	**+1.1**
ANTU				*i* S	**Sn**	**03 51 20.8**	**+0.5**
ANTU				IAML		03 51 35.2	
comp=E,3μm,0.5s							
PLCA	**Paso Flores**	**5.35**	**161**	Pn	Pn	03 51 19.8	-4.3
comp=E,0.6nm,0.3s,baz=293,slow=10,SNR=8.7							
CFAA	**Coronel Fontan**	**5.55**	**44**	Pn	**Pn**	**03 51 25.2**	**-1.6**
comp=E,0.1nm,0.3s,baz=230,slow=11,SNR=18							
CFAA				Lg	Lg	03 52 43.6	
comp=E,0.6nm,0.3s,baz=288,slow=14,SNR=7.3							
LPAZ	**La Paz**	**19.75**	**13**	P	**P**	**03 54 34.1**	**+0.1**
comp=E,0.1nm,0.3s,baz=218,slow=12,SNR=4.0							
SIV	**San Ignacio**	**22.22**	**31**	P	**P**	**03 54 58.7**	**-1.4**
comp=E,4.0nm,0.9s,baz=234,slow=14,SNR=9.7							
QSPA	**South Pole Qui**	**54.57**	**180**	P	**P**	**03 59 31.2**	**+0.2**
comp=E,5.0nm,0.8s,baz=321,slow=2.0,SNR=15							
TXAR	**Lajitas Array**	**70.90**	**332**	P	**P**	**04 01 20.1**	**0.0**
comp=E,1.8nm,0.8s,baz=151,slow=8.0,SNR=5.3							
NVAR	**Mina Array Bea**	**84.91**	**326**	P	**P**	**04 02 38.2**	**+0.4**
comp=E,1.0nm,0.8s,baz=168,slow=5.1,SNR=7.2							
PDAR	**Pinedale Array**	**84.98**	**334**	P	**P**	**04 02 38.9**	**+0.8**
comp=E,0.4nm,0.8s,baz=202,slow=4.6,SNR=2.2							
TORD	**Torodi Ar. Bea**	**85.36**	**70**	P	**P**	**04 02 40.1**	**-0.2**
comp=E,1.2nm,0.8s,baz=242,slow=4.0,SNR=6.6							
ULM	**Lac du Bonnet**	**87.95**	**345**	P	**P**	**04 02 52.1**	**-0.1**
comp=E,3.1nm,0.8s,baz=170,slow=3.6,SNR=5.4							
H11N3	**WAKE ISLAND Hyl**	**25.57**	**270**	T	T	06 27 09.4	
baz=122,slow=76,SNR=4.0							
H11N1	**WAKE ISLAND Hyl**	**25.58**	**270**	T	T	06 27 11.7	
baz=122,slow=76,SNR=4.6							
H11N2	**WAKE ISLAND Hyl**	**25.59**	**270**	T	T	06 27 10.7	
baz=122,slow=76,SNR=6.9							

DJA 24 04:03:53.9±0.8, 10°S±6°×11°9E±°, h54km±16km, M4.4/5, MLv4.4/5, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.10**	**76**	P	Pn	04 04 13.0	-0.1
WSI				S	Sn	04 04 28.2	+0.8
EDFI	**Ende, Flores**	**2.71**	**65**	P	Pn	04 04 34.9	-0.3
IGBI	**Denpasar**	**4.16**	**285**	P	Pn	04 04 54.6	-0.3
BKSI	**Bulukumba**	**4.67**	**11**	P	Pn	04 05 01.6	-0.3

NNC 24 04:13:03.5±3.8, 37°.69N×67°.41E, h0km, mb3.6, mpv3.3, 6C-6D, Error ellipse: s-maj=45.7km s-min=21.3km az=152.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.58**	**45**	⇓P	Pn	04 13 32.5	-0.4
DZET				⇓S	Sb	04 13 54.3	-0.1
KK31	**Karatay Array**	**5.90**	**23**	⇓Pn	Pn	04 14 33.6	+1.4
0.5nm,0.4s,baz=203,slow=12,SNR=7.5							
KK31				⇑Pg	Pg	04 14 52.2	-4.4
1.0nm,0.5s,baz=199,slow=17,SNR=6.1							
KK31				⇑Lg	Lg	04 16 14.4	
3.6nm,0.8s,baz=209,slow=28							
AAK	**Ala-Archa**	**7.33**	**45**	⇑Pn	Pn	04 14 51.4	-0.7
1.0nm,0.4s							
AAK				⇑Sn	Sn	04 16 16.9	+0.8
1.2nm,0.6s							
AAK				⇓Lg	Lg	04 16 55.8	
2.6nm,0.8s							
TKM2	**Tokmak 2**	**8.15**	**48**	⇑Pn	Pn	04 15 01.4	-1.9
2.2nm,0.5s							
TKM2				⇓Sn	Sn	04 16 33.5	-2.8
1.3nm,0.8s							
TKM2				⇓Lg	Lg	04 17 22.2	
2.4nm,0.9s							
AB31	**Akbulak array**	**12.76**	**337**	⇑Pn	Pn	04 16 07.3	+1.2
0.4nm,0.6s,baz=137,slow=14,SNR=6.8							

NIED ***24*** *04:23:00, 45°.30N×142°.00E, h290km, Mw4.4 Best double couple: M0=4.07000×10^15 NP1:φs=187.00000°, δ=49.00000°, λ=23.00000°. NP2:φs=82.00000°, δ=73.00000°, λ=137.00000°.*

SZGRF ***24*** *04:23:27.8, 45°.78N×142°.91E, h33km, mb4.8, Hokkaido, Japan, region*

MOS ***24*** *04:23:55.9±0.9, 45°.41N×141°.86E, h290km, mb4.6/39, Error ellipse: s-maj=8.2km s-min=4.8km az=99.9*

ISCJB ***24*** *04:23:56.7±0.1, 45°.33N±0°.03×141°.89E±0°.03, h301km±1km, mb4.3/160, Error ellipse: s-maj=4.2km s-min=3.1km az=9.2*

BJI ***24*** *04:23:56.6, 45°.58N×142°.00E, h301km, mB4.5/11, mb4.6/19*

JMA ***24*** *04:23:57.3±0.2, 45°.31N×142°.02E, h303km±2km, M4.4*

NEIC ***24*** *04:23:57.2±0.3, 45°.40N×141°.87E, h291km±3km, mb4.5/101, MW4.3(NIED), Error ellipse: s-maj=5.6km s-min=3.4km az=170.0*

IDC ***24*** *04:23:58.2±0.8, 45°.47N×141°.88E, h302km±7km, mb3.8/33, mb1 3.9/38, mb1mx3.8/51, mbtmp4.5/38, Error ellipse: s-maj=11.0km s-min=7.8km az=170.0*

SKHL ***24*** *04:23:58.3±1.7, 45°.34N×141°.97E, h305km±6km, mb5.4/2, mbh4.9/1, msh5.3/2*

ISC 24 04:23:57.3±0.4, 45°.30N±0°.04×141°.98E±0°.04, h302km±3km, h301km: pP-P, n744, σ1§05/801, mb4.4/161, 259C-168D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.06**	**289**	⇑P	**Pn**	**04 24 35.7**	**+0.2**
JWK2				*e*S	**S**	**04 25 05.1**	**-0.7**
JRR	**Rishiri**	**0.50**	**252**	⇑P	**Pn**	**04 24 36.7**	**+0.6**
JRR				*e*S	**S**	**04 25 07.4**	**+0.4**
JSE	**Soyaes**	**0.55**	**128**	⇑P	**Pn**	**04 24 36.3**	**0.0**
JSE				*e*S	**S**	**04 25 06.0**	**-1.3**
JSS	**Shosan**	**0.90**	**186**	⇑P	**Pn**	**04 24 38.0**	**+0.5**
JSS				*e*S	**S**	**04 25 10.2**	**+0.7**
JYG	**Yagishiri**	**0.95**	**204**	P	**Pn**	**04 24 38.1**	**+0.4**
ASAJ	**Asahikawa**	**1.26**	**159**	PN	**Pn**	**04 24 39.3**	**0.0**
ASAJ				S	**S**	**04 25 12.7**	**-0.1**
ASAJ				pmax	pmax		
comp=Z,103nm,0.3s							
ASAJ	**Asahikawa**	**1.26**	**159**	⇑P	**Pn**	**04 24 39.5**	**+0.2**
ASAJ				*e*S	**S**	**04 25 12.9**	**+0.2**
ASAJ	**Asahikawa**	**1.26**	**159**	P	**Pn**	**04 24 39.3**	**0.0**
comp=Z,103nm,0.3s,baz=349,slow=5.2,SNR=423							
ASAJ				S	**S**	**04 25 12.7**	**-0.1**
baz=96,slow=19							
ASAJ	**Asahikawa**	**1.26**	**159**	*e*Pn	**Pn**	**04 24 39.5**	**+0.2**
ASAJ				*e*S	**S**	**04 25 12.5**	**-0.2**
NEVR	**Nevel'sk**	**1.38**	**357**	*e*P	**Pn**	**04 24 39.9**	**+0.1**
NEVR				*e*S	**S**	**04 25 12.6**	**-1.0**
NEVR				A	A	04 25 14.8	
comp=Z,2μm,0.5s							
JKK2	**Kamakawa 2**	**1.53**	**159**	⇑P	**Pn**	**04 24 41.3**	**+0.4**
JKK2				*e*S	**S**	**04 25 15.5**	**-0.2**
JHR	**Hokuryu**	**1.56**	**187**	P	**Pn**	**04 24 41.6**	**+0.4**
JMP	**Maruseppu**	**1.62**	**142**	P	**Pn**	**04 24 41.7**	**+0.1**
JMP				*e*S	**S**	**04 25 17.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**1.74**	**18**	⇓*i*PN	**Pn**	**04 24 42.0**	**-0.2**
YSS				*e*S	**S**	**04 25 15.5**	**-2.5**
YSS				pmax	pmax		
comp=Z,1μm,1.0s							
YSS				smax	smax		
comp=E,1μm,0.9s							
YSS	**Yuzh-Sakhalins**	**1.74**	**18**	⇓*i*P	**Pn**	**04 24 42.0**	**-0.2**
YSS				AMB	AMB	04 24 43.0	
comp=E,510nm,1.0s							
YSS				AMB	AMB	04 24 43.0	
comp=E,1μm,1.0s							
YSS				*e*S	**S**	**04 25 15.5**	**-2.5**
YSS				A	A	04 25 16.7	
comp=E,1μm,0.9s							
YSS	**Yuzh-Sakhalins**	**1.74**	**18**	*e*Pn	**Pn**	**04 24 42.2**	**0.0**
YSS				*e*S	**S**	**04 25 13.7**	**-4.2**
JAB	**Ashibetsu**	**1.80**	**174**	P	**Pn**	**04 24 43.0**	**+0.2**
JTKR	**Abashiri--Toko**	**1.91**	**133**	⇑P	**Pn**	**04 24 43.8**	**+0.2**
JTKR				*e*S	**S**	**04 25 19.8**	**-0.7**
JFR	**Furan**	**2.18**	**168**	⇑P	**Pn**	**04 24 45.6**	**-0.2**
JSK	**Shakotan**	**2.22**	**210**	⇑P	**Pn**	**04 24 46.4**	**+0.3**
JAR	**Ashorobuto**	**2.38**	**147**	⇑P	**Pn**	**04 24 47.7**	**+0.2**
JAR				*e*S	**S**	**04 25 26.4**	**-1.1**
JEW	**Eniwo**	**2.49**	**189**	⇑P	**Pn**	**04 24 48.9**	**+0.5**
JEW				*e*S	**S**	**04 25 28.5**	**-0.7**
JRA	**Rausu**	**2.63**	**120**	P	**Pn**	**04 24 50.2**	**+0.6**
JRA				*e*S	**S**	**04 25 31.7**	**+0.3**
JCH	**Churui**	**2.86**	**159**	⇑P	**Pn**	**04 24 50.1**	**-1.8**
JCH				*e*S	**S**	**04 25 30.5**	**-5.0**
JAK	**Akkeshi**	**3.02**	**139**	*e*S	**S**	**04 25 34.0**	**-4.2**
YUK	**Yuzh-Kuril'sk**	**3.05**	**113**	⇑*i*PN	**Pn**	**04 24 53.6**	**0.0**
YUK				*i* S	**S**	**04 25 38.3**	**-0.3**
YUK				pmax	pmax		
comp=N,68nm,0.6s							
YUK				pmax	pmax		
comp=E,61nm,0.6s							
YUK				pmax	pmax		
comp=Z,255nm,0.6s							
YUK				pmax	pmax		
comp=Z,860nm,2.4s							
YUK				smax	smax		
comp=N,196nm,0.6s							
YUK				smax	smax		
comp=E,441nm,0.6s							
YUK				smax	smax		
comp=N,2μm,2.5s							
YUK				smax	smax		
comp=E,2μm,3.4s							
YUK	**Yuzh-Kuril'sk**	**3.05**	**113**	⇑*i*P	**Pn**	**04 24 53.7**	**+0.1**
YUK				AMB	AMB	04 24 54.6	
comp=E,68nm,0.6s							
YUK				AMB	AMB	04 24 54.6	
comp=E,61nm,0.6s							
YUK				AMB	AMB	04 24 54.6	
comp=E,255nm,0.6s							
YUK				AMB	AMB	04 24 54.8	
comp=E,860nm,2.0s							
YUK				*i* S	**S**	**04 25 38.4**	**-0.2**
YUK				A	A	04 25 45.6	
comp=E,507nm,1.4s							
YUK				A	A	04 25 47.7	
comp=E,196nm,0.6s							
YUK				A	A	04 25 47.7	
comp=E,441nm,0.6s							
YUK				A	A	04 25 47.8	
comp=E,2μm,3.0s							
YUK				A	A	04 25 47.8	
comp=E,2μm,3.0s							
YUK	**Yuzh-Kuril'sk**	**3.05**	**113**	*e*P	**Pn**	**04 24 53.6**	**0.0**
YUK				AMB	AMB	04 24 54.6	
comp=E,255nm,0.6s							
YUK				AMB	AMB	04 24 55.5	
comp=E,860nm,2.4s							
YUK				*e*S	**S**	**04 25 38.3**	**-0.3**
YUK				A	A	04 25 44.5	
comp=E,2μm,2.5s							
YUK				A	A	04 25 44.5	
comp=E,2μm,2.5s							
YUK				A	A	04 25 47.6	
comp=E,441nm,0.6s							
YUK				A	A	04 25 47.6	
comp=E,196nm,0.6s							
JNBK	**Urakawa-nobuka**	**3.07**	**169**	P	**Pn**	**04 24 52.6**	**-1.3**
NEM2	**Nemuro 2**	**3.32**	**124**	P	**Pn**	**04 24 54.6**	**-1.8**
NEM2				*e*S	**S**	**04 25 38.6**	**-5.1**
ERM	**Erimo**	**3.39**	**165**	*e*PN	**Pn**	**04 24 56.3**	**-0.9**
ERM				*e*S	**S**	**04 25 41.8**	**-3.3**
ERM	**Erimo**	**3.39**	**165**	*e*P	**Pn**	**04 24 56.3**	**-0.9**
ERM	**Erimo**	**3.39**	**165**	*e*Pn	**Pn**	**04 24 56.2**	**-0.9**
ERM				*e*S	**S**	**04 25 41.8**	**-3.3**
JKB	**Kayabe**	**3.48**	**192**	⇑P	**Pn**	**04 24 57.1**	**-1.0**
JKB				*e*S	**S**	**04 25 42.2**	**-4.5**
SHO	**Shikotan**	**3.75**	**111**	*e*P	**Pn**	**04 24 58.9**	**-2.0**
SHO				*e*S	**S**	**04 25 46.6**	**-5.2**
UGL	**Uglegorsk**	**3.78**	**1**	*e*PN	**Pn**	**04 25 01.5**	**+0.4**
UGL				*e*S	**S**	**04 25 52.5**	**+0.3**
UGL				pmax	pmax		
comp=Z,900nm,1.5s							
UGL				pmax	pmax		
comp=Z,280nm,0.7s							
UGL				smax	smax		
comp=N,340nm,1.0s							
UGL				smax	smax		
comp=E,190nm,0.7s							
UGL				smax	smax		
comp=Z,96nm,0.8s							
UGL				smax	smax		
comp=N,2μm,2.8s							
UGL				smax	smax		
comp=E,2μm,4.0s							
UGL	**Uglegorsk**	**3.78**	**1**	*e*P	**Pn**	**04 25 01.5**	**+0.4**
UGL				AMB	AMB	04 25 02.0	
comp=E,900nm,2.0s							
UGL				AMB	AMB	04 25 02.5	
comp=E,280nm,0.7s							
UGL				*e*S	**S**	**04 25 52.5**	**+0.3**
UGL				A	A	04 25 55.0	
comp=E,340nm,1.0s							
UGL				A	A	04 25 55.0	
comp=E,190nm,1.0s							
UGL				A	A	04 25 55.0	
comp=E,96nm,1.0s							
UGL				A	A	04 25 56.0	
comp=E,2μm,2.8s							
UGL				A	A	04 25 56.0	
comp=E,2μm,2.8s							
UGL	**Uglegorsk**	**3.78**	**1**	*e*P	**Pn**	**04 25 01.5**	**+0.4**
UGL				AMB	AMB	04 25 02.0	
comp=E,900nm,1.5s							
UGL				*e*S	**S**	**04 25 52.5**	**+0.3**
UGL				A	A	04 25 55.0	
comp=E,340nm,1.0s							
UGL				A	A	04 25 55.0	
comp=E,190nm,1.0s							
UGL				A	A	04 25 56.0	
comp=E,2μm,2.8s							
UGL				A	A	04 25 56.0	
comp=E,2μm,2.8s							
TEY	**Ternei**	**3.81**	**268**	*e*P	**Pn**	**04 25 02.0**	**+0.5**
TEY				AMB	AMB	04 25 02.4	
comp=E,26nm,0.5s							
TEY				AMB	AMB	04 25 02.4	
comp=E,31nm,0.5s							
TEY				AMB	AMB	04 25 54.2	
comp=E,800nm,4.0s							
KUR	**Kuril'sk**	**4.16**	**89**	⇓*i*PN	**Pn**	**04 25 06.1**	**+0.8**
KUR				S	**S**	**04 26 00.1**	**+0.3**
KUR				pmax	pmax		
comp=Z,62nm,0.1s							
KUR				pmax	pmax		
comp=N,196nm,0.7s							
KUR				pmax	pmax		
comp=E,56nm,0.7s							
KUR				smax	smax		
comp=N,98nm,0.1s							
KUR				smax	smax		
comp=E,88nm,0.1s							
KUR	**Kuril'sk**	**4.16**	**89**	⇓*i*P	**Pn**	**04 25 06.1**	**+0.8**
KUR				AMB	AMB	04 25 06.7	
comp=E,60nm,0.1s							
KUR				AMB	AMB	04 25 06.7	
comp=E,200nm,0.1s							
KUR				*e*S	**S**	**04 26 00.1**	**+0.3**
KUR				A	A	04 26 06.8	
comp=E,100nm,0.1s							
KUR	**Kuril'sk**	**4.16**	**89**	*e*P	**Pn**	**04 25 06.1**	**+0.8**
KUR				AMB	AMB	04 25 06.6	
comp=E,62nm,0.1s							
KUR				*e*S	**S**	**04 26 00.1**	**+0.3**
KUR				A	A	04 26 06.7	
comp=E,88nm,0.1s							
KUR				A	A	04 26 06.7	
comp=E,98nm,0.1s							
TYV	**Tymovskoe**	**5.59**	**4**	*e*P	**Pn**	**04 25 21.0**	**-0.6**
TYV				AMB	AMB	04 25 22.8	
comp=E,18nm,0.6s							
TYV				*e*S	**S**	**04 26 29.2**	**-0.3**
TYV				A	A	04 26 32.5	
comp=E,64nm,1.2s							
HABR	**Khabarovsk**	**5.71**	**306**	*ce*PN	**Pn**	**04 25 22.0**	**-1.1**
HABR				*e*S	**S**	**04 26 29.7**	**-2.5**
HABR				pmax	pmax		
comp=Z,179nm,1.2s							
HABR				pmax	pmax		
comp=N,55nm,1.2s							
HABR				pmax	pmax		
comp=E,138nm,1.2s							
GRNR	**Gornyy**	**6.62**	**328**	*e*P	**Pn**	**04 25 33.2**	**-0.8**
GRNR				AMB	AMB	04 25 34.2	
comp=E,160nm,1.0s							
GRNR				AMB	AMB	04 25 34.2	
comp=E,140nm,1.0s							
USRK	**Ussuriysk Ar.**	**7.20**	**265**	P	**Pn**	**04 25 40.7**	**-0.3**
comp=E,2.3nm,0.3s,baz=71,slow=12,SNR=39							
NKL	**Nikolayevsk**	**7.91**	**354**	*e*P	**Pn**	**04 25 48.0**	**-1.5**
NKL				AMB	AMB	04 25 49.0	
comp=E,20nm,1.0s							
NKL				*e*S	**S**	**04 27 20.8**	**+0.3**
NKL				A	A	04 27 22.0	
comp=E,90nm,1.7s							
KLR	**Kul'dur**	**7.99**	**303**	*e*PN	Pn	04 25 47.2	-3.4
KLR				pmax	pmax		
comp=E,90nm,1.4s							
KLR				pmax	pmax		
comp=Z,80nm,1.4s							
KLR	**Kul'dur**	**7.99**	**303**	A	A	04 25 48.4	
comp=Z,90nm,1.4s							
KLR				A	A	04 25 48.4	
comp=Z,80nm,1.4s							
KLR				AMB	AMB	04 26 21.0	
comp=Z,220nm,0.7s							
KLR				AMB	AMB	04 26 21.0	
comp=Z,110nm,0.7s							
MDJ	**Mudanjiang**	**8.81**	**270**	*e*Pn	**Pn**	**04 26 01.4**	**+0.6**
comp=Z,17nm,0.7s							
MAJO	**Matsushiro**	**9.20**	**199**	*e*PN	**Pn**	**04 26 04.1**	**-1.6**
MAJO				pmax	pmax		
comp=Z,15nm,0.8s							
MAJO	**Matsushiro**	**9.20**	**199**	*e*P	**Pn**	**04 26 04.6**	**-1.0**
MAJO	**Matsushiro**	**9.20**	**199**	*e*Pn	**Pn**	**04 26 04.1**	**-1.6**
comp=Z,15nm,0.8s							
MAT	**Matsushiro**	**9.20**	**199**	P	**Pn**	**04 26 04.5**	**-1.1**
MAT				S	**S**	**04 27 53.0**	**+2.8**
MJAR	**Matsushiro Arr**	**9.20**	**199**	P	**Pn**	**04 26 04.7**	**-1.0**
comp=Z,2.0nm,0.3s,baz=14,slow=11,SNR=16							
SKR	**Severo-Kuril's**	**10.90**	**55**	*e*PN	Pn	04 26 19.1	-7.0
SKR				*e*		04 28 19.5	
SKR				pmax	pmax		
comp=Z,110nm,0.7s							
SKR				pmax	pmax		
comp=N,220nm,1.0s							
CN2	**Changchun**	**11.89**	**269**	*e*P	**Pn**	**04 26 38.8**	**+0.4**
CN2				PMZ			
comp=N,10.0nm,0.7s							
ZEA	**Zeya**	**12.74**	**317**	*e*P	**Pn**	**04 26 47.8**	**-0.7**
ZEA				AMB	AMB	04 26 48.8	
comp=N,30nm,0.7s							
ZEA				AMB	AMB	04 26 48.8	
comp=N,36nm,0.7s							
ZEA				AMB	AMB	04 26 48.8	
comp=N,45nm,0.7s							
PETK	**Petropavlovsk-**	**12.89**	**47**	P	**Pn**	**04 26 49.5**	**-0.9**
comp=N,1.7nm,0.3s,baz=242,slow=3.1,SNR=9.6							
KSRS	**Korea Array**	**13.13**	**238**	P	**P**	**04 26 55.1**	**+1.5**
comp=N,0.4nm,0.3s,baz=62,slow=11,SNR=4.8							
KSAR	**Wonju Array Be**	**13.16**	**238**	PN	**P**	**04 26 55.1**	**+1.1**
KSAR	**Wonju Array Be**	**13.16**	**238**	P	**P**	**04 26 55.1**	**+1.1**
PET	**Petropavlovsk**	**13.35**	**49**	*e*PN	**P**	**04 26 57.3**	**+1.5**
SNY	**Shenyang**	**13.78**	**262**	⇑P	**Pn**	**04 27 02.3**	**+1.2**
SNY				S	**S**	**04 29 35.5**	**+2.7**
SNY				PMZ			
comp=N,40nm,0.7s							
JNU	**Nakatsue**	**14.87**	**219**	P	**P**	**04 27 13.2**	**+0.3**
comp=N,0.3nm,0.3s,baz=8.1,slow=8.3,SNR=4.3							
HIA	**Hailar**	**15.59**	**293**	*e*P	**P**	**04 27 20.7**	**+0.1**
HIA				pmax	pmax		
comp=Z,11nm,0.7s							
HIA	**Hailar**	**15.59**	**293**	*e*P	**P**	**04 27 20.3**	**-0.2**
HIA	**Hailar**	**15.59**	**293**	*e*P	**P**	**04 27 20.7**	**+0.1**
comp=Z,11nm,0.7s							
CLNS	**Chul'man**	**15.72**	**323**	*e*P	**P**	**04 27 20.5**	**-1.4**
CLNS				pmax	pmax		
comp=Z,16nm,0.9s							
CLNS				pmax	pmax		
comp=E,8.0nm,1.4s							
CLNS				pmax	pmax		
comp=N,15nm,1.3s							
YAK	**Yakutsk**	**18.22**	**341**	*e*P	**P**	**04 27 47.1**	**-1.7**
YAK				*e*S	**S**	**04 30 57.6**	**-3.4**
YAK				pmax	pmax		
comp=E,3.0nm,0.8s							
YAK				pmax	pmax		
comp=Z,28nm,0.9s							
YAK				pmax	pmax		
comp=N,10.0nm,1.1s							
YAK				smax	smax		
comp=N,125nm,1.5s							
YAK				smax	smax		
comp=E,148nm,2.4s							
YAK	**Yakutsk**	**18.22**	**341**	P	**P**	**04 27 47.0**	**-1.8**
comp=E,0.0nm,0.3s,baz=124,slow=2.7,SNR=7.4							
YAK	**Yakutsk**	**18.22**	**341**	*e*P	**P**	**04 27 47.1**	**-1.7**
SEY	**Seymchan**	**18.65**	**15**	P	**P**	**04 27 53.0**	**-0.4**
comp=E,6.5nm,0.3s,baz=202,slow=7.6,SNR=94							
SEY	**Seymchan**	**18.65**	**15**	*e*P	**P**	**04 27 52.6**	**-0.8**
BOD	**Bodaibo**	**21.25**	**316**	*e*P	**P**	**04 28 18.1**	**-1.9**
BOD				pmax	pmax		
comp=Z,3.0nm,0.1s							
FX1	**Attu Island--F**	**21.66**	**58**	P	**P**	**04 28 24.7**	**+0.9**
FX1				pmax	pmax		
comp=Z,22nm,0.6s							
FX1	**Attu Island--F**	**21.66**	**58**	P	**P**	**04 28 24.7**	**+0.9**
comp=Z,22nm,0.6s,baz=300,slow=3.2,SNR=16							
FX1	**Attu Island--F**	**21.66**	**58**	*e*P	**P**	**04 28 24.2**	**+0.5**
HHC	**Hu-ho-hao-te**	**22.58**	**269**	*e*P	**P**	**04 28 32.3**	**-0.1**
HHC				sP	**sP**	**04 30 01.4**	**+0.5**
HHC				S	**S**	**04 32 13.9**	**-3.2**
HHC				PMZ			
comp=Z,23nm,0.9s							
HHC				PMZ			
comp=Z,120nm,5.8s							
ULN	**Ulaanbaatar**	**24.02**	**289**	⇑*i*P	**P**	**04 28 46.5**	**+1.1**
ULN				pmax	pmax		
comp=Z,8.0nm,1.5s							
ULN	**Ulaanbaatar**	**24.02**	**289**	*e*P	**P**	**04 28 46.5**	**+1.1**
ULN	**Ulaanbaatar**	**24.02**	**289**	*e*P	**P**	**04 28 46.6**	**+1.1**
comp=Z,8.2nm,1.3s							

BILL e 04 29 59.5
BILL e 04 32 23.8
BILL pmax pmax
comp=Z,2.0nm,0.9s
ZAK Zakamensk 26.25 295 *eP* **P 04 29 05.1 -0.2**
ZAK e 04 29 57.2
ZAK pmax pmax
comp=Z,2.0nm,1.0s
TIXI Tiksi 27.17 351 *ceP* **P 04 29 11.0 -2.0**
TIXI pmax pmax
comp=Z,6.0nm,1.9s
ZALV Zalesovo Beam 37.09 305 PcP **PcP 04 32 53.0 +0.8**
comp=Z,0.8nm,0.4s,baz=49,slow=4.5,SNR=5.8
ZALV ScP **ScP 04 36 11.1 +1.4**
comp=Z,0.4nm,0.5s,baz=62,slow=3.5,SNR=3.9
WMQ Urumqi 38.09 288 *eP* **P 04 30 48.6 +1.0**
WMQ pP **pP 04 31 48.5 +1.0**
WMQ PMZ
comp=Z,56nm,4.0s
IM04 Indian Mountai 39.48 35 *eP* **P 04 30 57.4 -1.2**
CAST Castle Rocks 40.35 39 *eP* **P 04 31 07.7 +1.9**
comp=Z,9.7nm,0.8s
PPLA Purkeypile 40.35 40 *eP* **P 04 31 06.5 +0.5**
comp=Z,5.3nm,0.8s
PPLA *e*PcP **PcP 04 33 04.1 +1.5**
MKAR Makanchi Array 40.58 294 P **P 04 31 08.6 +0.6**
comp=Z,0.8nm,0.5s,baz=81,slow=8.8,SNR=15
MKAR pP **pP 04 32 09.9 +1.4**
comp=Z,1.0nm,0.7s,baz=86,slow=9.3,SNR=4.8
MKAR PcP **PcP 04 33 03.6 +0.1**
comp=Z,0.5nm,0.4s,baz=69,slow=3.5,SNR=6.0
MKAR ScP **ScP 04 36 23.8 +0.3**
comp=Z,0.5nm,0.8s,baz=69,slow=4.1,SNR=4.7
KTH Kantishna Hill 40.85 39 *eP* **P 04 31 09.8 -0.1**
comp=Z,18nm,1.2s
COLD Coldfoot 40.87 33 *eP* **P 04 31 08.5 -1.4**
comp=Z,5.4nm,0.8s
KURK Kurchatov 41.58 301 P **P 04 31 16.6 +0.7**
KURK *PP **pP 04 32 17.4 +0.7**
KURK 04 33 06.9
KURK pmax pmax
comp=Z,2.0nm,0.4s
KURK Kurchatov 41.58 301 *eP* **P 04 31 15.8 -0.1**
KURK Kurchatov 41.58 301 *eP* **P 04 31 15.6 -0.2**
comp=Z,4.4nm,1.5s
KURK pP **pP 04 32 17.4 +0.7**
KURK PcP **PcP 04 33 06.8 +0.2**
KURK ScP **ScP 04 36 27.6 +0.3**
KURBB Kurchatov Arra 41.66 301 P **P 04 31 16.6 0.0**
comp=Z,1.8nm,0.4s,baz=74,slow=8.6,SNR=16
KURBB pP **pP 04 32 17.4 0.0**
comp=Z,0.3nm,0.3s,baz=75,slow=8.5,SNR=1.6
KURBB PcP **PcP 04 33 06.8 0.0**
comp=Z,1.0nm,0.5s,baz=69,slow=3.7,SNR=7.9
KURBB ScP **ScP 04 36 27.6 0.0**
comp=Z,0.3nm,0.3s,baz=79,slow=3.4,SNR=4.9
COLA College 42.03 37 *c iP* **P 04 31 18.7 -0.6**
COLA pmax pmax
comp=Z,62nm,0.7s
COLA College 42.03 37 *eP* **P 04 31 18.7 -0.6**
COLA College 42.03 37 *eP* **P 04 31 18.9 -0.4**
comp=Z,16nm,0.7s
ILAR Eielson Array 42.45 37 P **P 04 31 21.5 -1.2**
comp=Z,11nm,0.7s,baz=276,slow=8.3,SNR=80
DOT Dot Lake 43.87 38 *eP* **P 04 31 32.9 -1.1**
comp=Z,4.8nm,0.5s
EGAK Eagle 44.86 36 *eP* **P 04 31 40.6 -1.1**
comp=Z,14nm,0.8s
DAWY Dawson 45.78 37 *eP* **P 04 31 48.1 -0.9**
HYT Haines Junctio 47.59 41 *eP* **P 04 32 04.6 +1.6**
KKAR Karatay Array 49.71 294 *eP* **P 04 32 19.8 +0.6**
KKAR Karatay Array 49.71 294 *eP* **P 04 32 19.8 +0.6**
comp=Z,0.9nm,0.5s
ARU Arti 50.66 314 *d iP* **P 04 32 24.5 -1.5**
ARU 04 33 36.7
ARU S **S 04 39 17.2 +0.4**
ARU SS **SS 04 42 50.9 -3.8**
ARU pmax pmax
comp=Z,11nm,2.5s
DLBC Dease Lake 52.01 42 P **P 04 32 38.0 +1.9**
comp=Z,9.3nm,0.9s,baz=310,slow=3.3,SNR=9.0
DLBC Dease Lake 52.01 42 *eP* **P 04 32 38.4 +2.3**
SPITS Spitsbergen Ar 52.52 348 P **P 04 32 38.3 -1.2**
comp=Z,2.8nm,0.8s,baz=23,slow=1.9,SNR=25
SPITS PcP **PcP 04 33 45.6 +0.4**
comp=Z,2.4nm,0.8s,baz=86,slow=4.5,SNR=6.4
AKTO Aktyubinsk 53.69 308 PcP **PcP 04 33 49.5 -0.6**
comp=Z,1.5nm,0.6s,baz=47,slow=4.6,SNR=6.9
RES Resolute Bay 54.52 16 P **P 04 32 52.9 -0.9**
RES pmax pmax
comp=Z,13nm,0.6s
RES Resolute Bay 54.52 16 P **P 04 32 52.9 -0.9**
comp=Z,13nm,0.6s,baz=293,slow=7.2,SNR=66
RES Resolute Bay 54.52 16 *eP* **P 04 32 52.7 -1.1**
comp=Z,12nm,0.6s
ARCES ARCESS Array B 56.46 338 P **P 04 33 05.6 -2.1**
comp=Z,2.6nm,0.8s,baz=49,slow=8.3,SNR=5.2
YKA Yellowknife Ar 56.54 33 P **P 04 33 08.2 -0.1**
comp=Z,3.7nm,0.6s,baz=304,slow=6.7,SNR=78
YKA PcP **PcP 04 34 01.7 +0.7**
comp=Z,0.8nm,0.6s,baz=309,slow=3.6,SNR=6.3
NLWA Neilton Lookou 60.99 51 *eP* **P 04 33 41.0 +2.0**
comp=Z,9.3nm,0.9s
MBW Mount Baker 61.22 49 P **P 04 33 41.8 +1.1**
JCW Jim Creek 61.55 49 P **P 04 33 44.0 +1.2**
FINES FINESS Array B 61.76 331 *i* P **P 04 33 42.5 -1.4**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 61.76 331 P **P 04 33 42.6 -1.2**
comp=Z,1.8nm,0.6s,baz=53,slow=8.6,SNR=8.8
FINES PcP **PcP 04 34 20.3 -1.6**
comp=Z,0.6nm,0.5s,baz=58,slow=4.7,SNR=4.2
FINES FINESS Array B 61.76 331 *eP* **P 04 33 41.9 -2.0**
OBN Obninsk 61.83 321 *eP* **P 04 33 44.8 +0.4**
OBN *e* 04 34 22.2
OBN *e* 04 36 05.1
OBN pmax pmax
comp=Z,3.0nm,0.9s
SUMG Summit 62.43 0 *eP* **P 04 33 48.0 -0.6**
SUMG Summit 62.43 0 *i P* **P 04 33 47.9 -0.6**
comp=Z,6.2nm,0.8s
SUMG Summit 62.43 0 *eP* **P 04 33 48.0 -0.6**
comp=Z,210nm,3.0s
NLW Nelson Butte 62.47 49 P **P 04 33 50.0 +1.0**
F04A Amboy 62.66 51 *eP* **P 04 33 51.9 +1.8**
comp=Z,14nm,0.6s
LTY Liberty 62.80 49 *eP* **P 04 33 51.9 +0.8**
B08A Colville Reser 62.83 48 *eP* **P 04 33 52.0 +0.9**
comp=Z,8.5nm,1.4s
WTV Waterville 62.91 49 P **P 04 33 52.5 +0.8**
TRW Toppenish Ridg 63.47 50 P **P 04 33 57.1 +1.7**
I03D Drain, OR 63.52 54 ⇓P **P 04 33 57.1 +1.4**
baz=63
H04A Detroit Lake 63.56 52 *eP* **P 04 33 57.8 +1.7**
E07A Sunnyside 63.67 50 *eP* **P 04 33 58.3 +1.6**
comp=Z,6.2nm,0.8s
G05D Wamic, OR 63.70 52 ⇑P **P 04 33 57.7 +0.8**
baz=64
C09A Chrisman Ranch 63.73 48 *eP* P 04 33 53.0 -4.1
comp=Z,6.4nm,0.8s
D08A Wollman Farm, 63.86 49 *eP* **P 04 33 57.9 0.0**
HAWA Hanford 63.95 50 *eP* **P 04 33 59.7 +1.3**
comp=Z,6.7nm,0.8s
I04A Tendick Farm, 63.99 53 ⇑P **P 04 34 00.3 +1.5**
baz=64,SNR=5.4
NEW Newport 64.03 47 *eP* **P 04 33 59.8 +0.7**
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 64.03 47 P **P 04 33 59.7 +0.7**
comp=Z,4.2nm,0.7s,baz=303,slow=4.0,SNR=14
NEW Newport 64.03 47 *eP* **P 04 34 00.0 +1.0**
NEW Newport 64.03 47 ⇑P **P 04 33 59.7 +0.7**
baz=64,SNR=5.6
NEW Newport 64.03 47 *eP* **P 04 33 59.8 +0.7**
comp=Z,5.0nm,0.8s
I05D Terrebonne, OR 64.25 52 ⇓P **P 04 34 01.8 +1.3**
baz=64
L02D Cave Junction, 64.33 55 ⇓P **P 04 34 02.6 +1.6**
baz=64
J04D Umpqua Nationa 64.51 54 ⇑P **P 04 34 04.0 +1.6**
baz=64
E09A Wood Farm, Sta 64.61 49 *eP* **P 04 34 03.8 +1.1**
comp=Z,11nm,0.9s
PINOR Pine Mountain 64.84 53 *eP* **P 04 34 06.3 +2.0**
comp=Z,10nm,0.8s
G08A Pilot Rock 64.96 50 *eP* **P 04 34 06.6 +1.5**
comp=Z,2.9nm,1.0s
J05D Fort Rock, OR 64.97 53 ⇑P **P 04 34 07.1 +1.8**
baz=65,SNR=10
YBH Yreka Blue Hor 65.11 55 P **P 04 34 07.8 +1.7**
comp=Z,5.5nm,0.7s,baz=243,slow=2.3,SNR=15
WALA Waterton Lakes 65.14 45 *eP* **P 04 34 07.0 +0.8**
M02C Callahan 65.24 56 ⇑P **P 04 34 08.5 +1.5**
baz=65
WRAB Tennant Creek 65.29 188 *eP* **P 04 34 04.9 -2.4**
WRAB pmax pmax
comp=Z,9.0nm,1.0s
WRA Warramunga Arr 65.30 188 P **P 04 34 08.7 +1.4**
comp=Z,0.5nm,0.3s,baz=6.4,slow=6.8,SNR=5.2
I07A Izee 65.43 52 *eP* **P 04 34 09.6 +1.4**
comp=Z,4.0nm,0.9s
F10A Beach Ranch, E 65.45 49 *eP* **P 04 34 09.5 +1.3**
comp=Z,56nm,2.8s
BSMT Bassoo Peak 65.50 46 *eP* **P 04 34 09.8 +1.2**
K05A Summer Lake 65.52 53 *eP* **P 04 34 10.8 +1.9**
comp=Z,18nm,0.8s
M04C Macdoel 65.58 55 ⇓P **P 04 34 10.7 +1.5**
baz=65
N02D Trinity Center 65.59 56 ⇓P **P 04 34 11.0 +1.8**
baz=65
BLMT Blacktail Moun 65.61 46 *eP* **P 04 34 10.6 +1.3**
JTMT Jette 65.82 46 *eP* **P 04 34 12.1 +1.4**
YBMT Yellow Bay 65.88 46 *eP* **P 04 34 12.2 +1.2**
KIV Kislovodsk 65.94 309 *eP* **P 04 34 12.7 +1.3**
KIV pmax pmax
comp=Z,16nm,0.9s
KIV Kislovodsk 65.94 309 *eP* **P 04 34 12.9 +1.5**
comp=Z,14nm,0.8s
KBZ Khabaz 65.97 308 P **P 04 34 12.8 +1.4**
comp=Z,4.6nm,0.8s,baz=57,slow=5.4,SNR=15
ZEI Tsey 66.02 307 *eP* **P 04 34 11.2 -0.8**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
SWMT Swartz Lake 66.12 46 *eP* **P 04 34 13.5 +1.0**
BMO Blue Mountains 66.14 50 *eP* **P 04 34 13.8 +1.2**
comp=Z,6.7nm,1.3s
MOD Modoc Plateau 66.39 54 *eP* **P 04 34 15.3 +1.0**
comp=Z,5.4nm,0.6s
FCC Fort Churchill 66.47 28 *eP* **P 04 34 14.4 +0.1**
FCC Fort Churchill 66.47 28 *eP* **P 04 34 14.4 +0.1**
comp=Z,0.4nm,0.4s
SLMT Seeley Lake 66.56 46 *eP* **P 04 34 16.1 +0.8**
FFC Flin Flon 66.59 35 *eP* **P 04 34 15.6 +0.4**
FFC pmax pmax
comp=Z,11nm,0.9s
FFC Flin Flon 66.59 35 *eP* **P 04 34 15.5 +0.4**
FFC Flin Flon 66.59 35 *eP* **P 04 34 15.6 +0.4**
comp=Z,11nm,0.9s
MSO Missoula 66.60 47 ⇑P **P 04 34 15.9 +0.3**
baz=66,SNR=5.8
MSO Missoula 66.60 47 *eP* **P 04 34 16.1 +0.6**
comp=Z,3.7nm,0.8s
NB2 NORSAR Subarra 66.76 336 P **P 04 34 15.2 -1.0**
comp=Z,0.8nm,0.5s,baz=33,slow=6.5
NOA NORSAR Array B 66.76 336 P **P 04 34 14.2 -2.0**
comp=Z,1.1nm,0.6s,baz=52,slow=7.8,SNR=12
HFS Hagfors 66.77 335 P **P 04 34 15.5 -0.7**
comp=Z,3.6nm,0.5s,baz=54,slow=7.5,SNR=31
CHMT Chamberlain Mo 66.90 46 *eP* **P 04 34 18.1 +0.5**
WVOR Wild Horse Val 66.98 53 *eP* **P 04 34 19.2 +1.2**
WVOR pmax pmax
comp=Z,9.0nm,1.2s
WVOR Wild Horse Val 66.98 53 *eP* **P 04 34 19.2 +1.2**
comp=Z,9.1nm,1.2s
A19A Klindworth Far 67.74 42 ⇓P **P 04 34 23.4 +0.9**
baz=67,SNR=18
HRY Holter Researc 67.75 46 *eP* **P 04 34 23.6 +0.9**
EGMT Eagleton 67.88 43 ⇓P **P 04 34 24.0 +0.5**
baz=68,SNR=8.0
EGMT Eagleton 67.88 43 *eP* **P 04 34 23.9 +0.5**
comp=Z,11nm,0.8s
MFID Camas Ranch 67.88 50 *eP* **P 04 34 24.5 +0.9**
comp=Z,5.1nm,0.8s
B19A Brinkman Farms 67.97 43 ⇑P **P 04 34 24.7 +0.7**
baz=68,SNR=12
LRM Limekiln Ridge 68.05 47 *eP* **P 04 34 25.6 +0.9**
AKASG Malin Array Be 68.09 321 P **P 04 34 24.1 -0.5**
comp=Z,1.6nm,0.4s,baz=41,slow=6.2,SNR=7.8
KIEV Kiev 68.10 321 *eP* **P 04 34 23.6 -1.0**
KIEV Kiev 68.10 321 *eP* **P 04 34 23.6 -1.0**
A20A Cobblestone Ra 68.16 42 ⇑P **P 04 34 25.9 +0.8**
baz=68,SNR=7.1
DLMT Dillon 68.28 47 *eP* **P 04 34 27.6 +1.5**
C19A Slack Wire Ran 68.42 43 ⇑P **P 04 34 27.9 +1.1**
baz=68,SNR=10
MCMT McKenzie Canyo 68.52 48 *eP* **P 04 34 28.2 +0.6**
comp=Z,1.1nm,0.7s
HLID Hailey 68.55 49 ⇓P **P 04 34 28.8 +1.0**
baz=68
HLID Hailey 68.55 49 *eP* **P 04 34 29.0 +1.2**
comp=Z,41nm,3.0s
A21A Bergtoll Ranch 68.55 41 ⇑P **P 04 34 28.4 +0.9**
baz=68,SNR=14
BOZ Bozeman (W) 68.58 46 *eP* **P 04 34 29.2 +1.3**
BOZ pmax pmax
comp=Z,6.0nm,0.8s
BOZ Bozeman (W) 68.58 46 *eP* **P 04 34 29.2 +1.3**
comp=Z,5.8nm,0.8s
CMB Columbia Colle 68.86 57 *eP* **P 04 34 30.6 +0.9**
CMB pmax pmax
comp=Z,6.0nm,0.8s
CMB Columbia Colle 68.86 57 *eP* **P 04 34 30.6 +0.9**
comp=Z,5.7nm,0.8s
D19A Cripps Ranch, 68.91 44 ⇓P **P 04 34 30.9 +1.1**
baz=69,SNR=7.9
B21A Ellsworth Farm 68.91 42 ⇓P **P 04 34 30.7 +1.0**
baz=69
C20A Veseth Ranch, 68.94 43 ⇑P **P 04 34 31.0 +1.1**
baz=69,SNR=9.9
A22A Carney Farms, 69.02 41 ⇓P **P 04 34 31.0 +0.6**
baz=69,SNR=17
ASAR Alice Springs 69.02 188 P **P 04 34 32.1 +1.5**
comp=Z,1.4nm,0.6s,baz=9.4,slow=5.4,SNR=18
BMN Battle Mountai 69.11 53 *eP* **P 04 34 32.7 +1.5**
BMN pmax pmax
comp=Z,8.0nm,0.6s
BMN Battle Mountai 69.11 53 *eP* **P 04 34 32.7 +1.5**
comp=Z,7.5nm,0.6s
WAKR Walker 69.11 56 *eP* **P 04 34 32.5 +1.2**
comp=Z,53nm,1.9s
C21A Desert Coulee 69.30 42 ⇑P **P 04 34 32.3 +0.2**
baz=69
D20A Manuel Ranch, 69.32 43 ⇑P **P 04 34 33.4 +1.1**
baz=69,SNR=7.5
E19A Roth Farm, Rou 69.44 44 ⇓P **P 04 34 34.3 +1.2**
baz=69,SNR=5.2
B22A Reddig Ranch S 69.48 41 ⇑P **P 04 34 33.4 +0.2**
baz=69
E20A Meyer Farm, Mu 69.74 44 ⇑P **P 04 34 35.8 +1.0**
baz=69
F19A Roth Farm, Mol 69.79 45 ⇑P **P 04 34 36.1 +0.9**
baz=70,SNR=9.9
B23A Brockton 69.83 41 ⇑P **P 04 34 35.9 +0.6**
baz=70,SNR=11
NVAR Mina Array Bea 69.83 56 P **P 04 34 37.1 +1.4**
comp=Z,9.3nm,0.7s,baz=297,slow=6.0,SNR=111
D21A La Casta Ranch 69.89 43 ⇓P **P 04 34 36.5 +0.8**
baz=70
C22A Vida 69.93 42 ⇑P **P 04 34 36.3 +0.4**
baz=70
A24A Westby 69.94 40 ⇓P **P 04 34 36.6 +0.6**
baz=70
H17A Grant Village 69.99 47 ⇑P **P 04 34 38.9 +2.3**
baz=70,SNR=7.2
H17A Grant Village 69.99 47 *eP* **P 04 34 39.2 +2.5**
comp=Z,6.8nm,0.9s
ELK Elko 70.01 52 P **P 04 34 38.4 +1.6**
ELK pmax pmax
comp=Z,3.0nm,0.6s
ELK Elko 70.01 52 P **P 04 34 38.4 +1.6**
comp=Z,2.7nm,0.6s,baz=354,slow=4.4,SNR=13
ELK Elko 70.01 52 *eP* **P 04 34 38.6 +1.8**
RLMT Red Lodge 70.15 45 *eP* **P 04 34 38.5 +1.0**
comp=Z,2.3nm,0.5s
IMW Indian Meadow 70.15 47 *eP* **P 04 34 39.5 +1.8**
comp=Z,3.8nm,0.9s
C23A Lambert 70.21 41 ⇓P **P 04 34 38.4 +0.8**
baz=70,SNR=6.6
D22A Cohagen 70.22 42 ⇑P **P 04 34 38.4 +0.7**
baz=70,SNR=5.6
F20A Billings 70.22 44 ⇑P **P 04 34 38.7 +0.8**
baz=70
H18A Shoshone NF, C 70.26 46 ⇑P **P 04 34 39.1 +0.9**
baz=70
FXWY Fox Creek 70.28 48 *eP* **P 04 34 39.9 +1.5**
comp=Z,3.3nm,0.9s
I17A Pilgrim Ck. 70.32 47 ⇓P **P 04 34 40.3 +1.7**
baz=70,SNR=5.4
A25A Svangstu Ranch 70.33 39 ⇓P **P 04 34 39.3 +1.0**
baz=70
TPAW Teton Pass 70.43 48 *eP* **P 04 34 41.3 +2.0**
comp=Z,6.0nm,0.9s
LOHW Long Hollow 70.52 47 *eP* **P 04 34 41.2 +1.4**
comp=Z,16nm,1.8s
LAO LASA Array 70.53 43 *eP* **P 04 34 40.8 +1.2**
comp=Z,7.0nm,0.8s
REDW Red Top Meadow 70.57 48 *eP* **P 04 34 41.5 +1.4**
comp=Z,4.8nm,0.9s
G20A Bridger 70.60 45 ⇓P **P 04 34 40.7 +0.6**
baz=70
H19A Powell 70.61 46 ⇓P **P 04 34 41.1 +0.8**
baz=70
HVU Hansel Valley 70.65 50 *eP* **P 04 34 42.2 +1.7**
HVU pmax pmax
comp=Z,61nm,2.4s
HVU Hansel Valley 70.65 50 *eP* **P 04 34 42.2 +1.7**
comp=Z,61nm,2.4s
D23A Lindsay 70.66 42 ⇓P **P 04 34 41.0 +0.6**
baz=70,SNR=5.5
TPH Tonopah 70.69 55 *eP* **P 04 34 42.2 +1.3**
TPH pmax pmax
comp=Z,12nm,0.7s
TPH Tonopah 70.69 55 *eP* **P 04 34 42.2 +1.3**
comp=Z,12nm,0.7s
B25A Knox Farm, Ray 70.80 40 ⇓P **P 04 34 42.2 +1.0**
baz=70
E22A Miles City 70.84 43 ⇑P **P 04 34 42.1 +0.6**
baz=70
A26A Wade Farm, Ken 70.84 39 ⇑P **P 04 34 42.2 +0.8**
baz=70
I19A Meeteetse 71.05 46 ⇓P **P 04 34 43.9 +0.9**
baz=71
G21A Lodge Grass 71.10 44 ⇓P **P 04 34 43.5 +0.4**
baz=71
E23A Ismay 71.10 42 ⇑P **P 04 34 44.0 +1.0**
baz=71
VES Vestal, Richgr 71.10 58 ⇓P **P 04 34 45.4 +2.3**
baz=71
D24A Glendive 71.11 41 ⇓P **P 04 34 44.0 +0.9**
baz=71
B26A Jensen Ranch, 71.14 39 ⇑P **P 04 34 43.9 +0.7**
baz=71
F22A Rosebud 71.17 43 ⇑P **P 04 34 44.1 +0.7**
baz=71
C25A Freed Ranch, W 71.17 40 ⇑P **P 04 34 44.4 +1.0**
baz=71
H20A Greybull 71.23 45 ⇑P **P 04 34 44.3 +0.4**
baz=71,SNR=5.0
GRAC Grapevine Rang 71.33 56 ⇑P **P 04 34 46.4 +1.8**
baz=71
HWUT Hardware Ranch 71.42 49 *eP* **P 04 34 46.4 +1.2**
comp=Z,7.8nm,0.8s
R11A Troy Canyon, C 71.45 54 ⇓P **P 04 34 46.3 +1.0**
baz=71,SNR=8.4
R11A Troy Canyon, C 71.45 54 *eP* **P 04 34 46.2 +0.8**
comp=Z,3.7nm,0.8s
E24A Baker 71.53 42 ⇑P **P 04 34 46.2 +0.7**
baz=71
G22A Birney 71.55 44 ⇑P **P 04 34 46.3 +0.5**
baz=71
I20A Worland 71.55 46 ⇓P **P 04 34 47.1 +1.2**
baz=71
D25A Fairfield 71.55 41 ⇑P **P 04 34 46.4 +0.7**
baz=71
J19A Crowheart 71.57 47 ⇓P **P 04 34 46.7 +0.7**
baz=71,SNR=8.7
ISA Isabella, Lake 71.59 58 ⇓P **P 04 34 46.8 +0.6**
baz=71
H21A Big Horn, Sher 71.61 45 ⇓P **P 04 34 46.9 +0.7**
baz=71,SNR=5.8
A28A Rude Farm, Bot 71.61 38 ⇑P **P 04 34 46.6 +0.6**
baz=71
C26A Wahner Farm, P 71.61 40 ⇑P **P 04 34 46.6 +0.6**
baz=71
F23A Volborg 71.62 43 ⇑P **P 04 34 46.7 +0.5**
baz=71,SNR=17
BW06 Boulder Array 71.66 47 *eP* **P 04 34 47.3 +0.7**
comp=Z,10.0nm,0.7s
PDAR Pinedale Array 71.66 47 P **P 04 34 47.4 +0.7**
comp=Z,9.9nm,0.7s,baz=297,slow=1.6,SNR=88
DAC Darwin (Calif) 71.69 57 *eP* **P 04 34 48.2 +1.3**
DAC pmax pmax
comp=Z,4.0nm,0.8s
DAC Darwin (Calif) 71.69 57 *eP* **P 04 34 48.2 +1.3**
comp=Z,3.9nm,0.8s
DUG Dugway, Tooele 71.73 51 *eP* **P 04 34 47.9 +0.9**
DUG pmax pmax
comp=Z,8.0nm,0.8s
DUG Dugway, Tooele 71.73 51 ⇑P **P 04 34 48.2 +1.3**
baz=72,SNR=13
DUG Dugway, Tooele 71.73 51 *eP* **P 04 34 47.9 +0.9**
comp=Z,7.8nm,0.8s
TCUT Toone Canyon 71.84 50 *eP* **P 04 34 49.1 +1.3**
comp=Z,11nm,0.8s
MPMC Manual Prospec 71.90 57 ⇓P **P 04 34 49.2 +1.1**
baz=72,SNR=5.8
B28A Dugan Ranch, T 71.92 38 ⇓P **P 04 34 48.4 +0.7**
baz=72
H22A Clearmont 71.97 44 ⇓P **P 04 34 48.9 +0.6**
baz=72
F24A Ekalaka 71.99 42 ⇑P **P 04 34 48.9 +0.6**
baz=72,SNR=12
E25A Miller Ranch, 72.00 41 ⇑P **P 04 34 49.1 +0.7**
baz=72,SNR=8.4
FURC Furnace Creek, 72.00 56 ⇓P **P 04 34 49.7 +1.4**
baz=72,SNR=10
J20A Shoshoni 72.00 46 ⇑P **P 04 34 49.4 +0.8**
baz=72
G23A Biddle 72.00 43 ⇑P **P 04 34 49.2 +0.7**
baz=72
BSC Santa Cruz Isl 72.02 60 ⇓P **P 04 34 50.9 +2.2**
baz=72
TPNV Topopah Spring 72.03 56 *eP* **P 04 34 50.2 +1.4**
TPNV pmax pmax
comp=Z,14nm,0.8s
TPNV Topopah Spring 72.03 56 ⇓P **P 04 34 50.1 +1.3**
baz=72,SNR=17
TPNV Topopah Spring 72.03 56 *eP* **P 04 34 50.1 +1.4**
comp=Z,14nm,0.8s
A29A Manning Farm, 72.05 37 ⇑P **P 04 34 49.5 +0.9**
baz=72,SNR=5.2
D26A Manning 72.05 40 ⇑P **P 04 34 49.3 +0.7**
baz=72
I21A Big Trails, Te 72.07 45 ⇑P **P 04 34 50.0 +1.0**
baz=72,SNR=14
BURAR Bucovina Array 72.14 321 ⇑P **P 04 34 49.4 +0.2**
BURAR Bucovina Array 72.14 321 ⇑/P **P 04 34 49.4 +0.2**
NLU North Lily Min 72.30 51 *eP* **P 04 34 52.1 +1.6**
comp=Z,8.2nm,0.8s
TESR Tescani 72.31 319 ⇓/P **P 04 34 50.7 +0.6**
J21A Lysite 72.33 46 ⇑P **P 04 34 51.0 +0.5**
baz=72
B29A Wagenman Farm, 72.34 38 ⇑P **P 04 34 51.0 +0.7**
baz=72
G24A Alzada 72.38 43 ⇓P **P 04 34 50.7 0.0**
baz=72
F25A Bowman 72.39 42 ⇑P **P 04 34 51.3 +0.6**
baz=72
D27A Center 72.41 40 ⇓P **P 04 34 52.0 +1.3**
baz=72
EDW2 Edwards Air Fo 72.41 58 ⇑P **P 04 34 52.4 +1.4**
baz=72
I22A 9 Mile Ranch, 72.42 45 ⇑P **P 04 34 51.7 +0.8**
baz=72
ULM Lac du Bonnet 72.42 35 P **P 04 34 50.5 -0.2**
comp=Z,7.9nm,0.5s,baz=318,slow=6.9,SNR=19
KOLS Kolonicke sedl 72.43 323 *eP* **P 04 34 49.4 -1.4**
KOLS Kolonicke sedl 72.43 323 *eP* **P 04 34 49.4 -1.4**
A30A Hoffart Farm, 72.43 37 ⇓P **P 04 34 51.1 +0.3**
baz=72
E26A Carlson Angus 72.45 41 ⇑P **P 04 34 51.5 +0.5**
baz=72
STHS Stebnicka Huta 72.49 324 *eP* **P 04 34 51.7 +0.6**
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 72.49 324 *eP* **P 04 34 51.7 +0.6**
CFR Carcaliu 72.60 317 ⇑P **P 04 34 50.7 -1.1**
CFR Carcaliu 72.60 317 ⇑/P **P 04 34 50.7 -1.1**
MDND Maddock 72.70 38 ⇑P **P 04 34 53.2 +0.8**
baz=72
MDND Maddock 72.70 38 *eP* **P 04 34 53.9 +1.4**

SHOC Shoshone, Teco 72.73 56 ⇓P P 04 34 53.9 +1.2
baz=72
H24A Dirks Ranch, A 72.74 43 ⇑P P 04 34 52.9 +0.1
baz=72,SNR=5.4
J22A Midwest 72.77 45 ⇑P P 04 34 53.3 +0.2
baz=72,SNR=6.2
D28A Regan 72.77 39 ⇓P P 04 34 53.1 +0.3
baz=72
B30A Myrvik Farm, E 72.79 37 ⇑P P 04 34 53.2 +0.2
baz=72,SNR=9.2
CRVS Cervenica-Dubn 72.79 323 eP P 04 34 53.5 +0.6
CRVS Cervenica-Dubn 72.79 323 eP P 04 34 53.5 +0.6
F26A Lodgepole 72.82 41 ⇓P P 04 34 53.6 +0.4
baz=72
GSC Goldstone, Bar 72.83 57 ⇑P P 04 34 54.8 +1.4
baz=73
E27A Carson 72.90 40 ⇓P P 04 34 54.7 +1.1
baz=73,SNR=13
TRPA Tarpa 72.93 322⇑iP P 04 34 54.3 +0.6
K21A Alcova 72.94 46 ⇑P P 04 34 54.6 +0.5
baz=73
G25A Newell 72.95 42 ⇑P P 04 34 54.3 +0.3
baz=73
SHPR Sheep Range 72.96 55 eP P 04 34 55.7 +1.4
BFSC Mount Baldy Ra 73.05 58 ⇑P P 04 34 56.5 +1.7
baz=73
CIS Catalina Islan 73.17 59 ⇓P P 04 34 57.3 +1.9
baz=73
E28A Huff 73.18 40 ⇑P P 04 34 55.7 +0.4
baz=73
TMUT Trail Mountain 73.24 51 eP P 04 34 57.2 +1.2
comp=Z,9.5nm,0.7s
TUQ Turquoise Moun 73.26 56 ⇑P P 04 34 57.5 +1.5
baz=73
G26A Maurine 73.27 42 ⇑P P 04 34 56.0 +0.2
baz=73,SNR=11
H25A Fruitdale 73.29 43 ⇓P P 04 34 56.4 +0.4
baz=73
K22A Casper 73.30 46 ⇑P P 04 34 56.7 +0.5
baz=73
DOPR Dopca 73.30 319⇑iP P 04 34 57.6 +1.7
D29A Pettibone, Tap 73.31 39 ⇑P P 04 34 56.2 +0.3
baz=73
I24A Kuemmerle Ranc 73.36 44 ⇑P P 04 34 57.1 +0.7
baz=73
MLR Muntele Rosu 73.40 319⇑iP P 04 34 54.6 -2.1
MLR Muntele Rosu 73.40 319 P P 04 34 56.8 +0.1
comp=Z,0.6nm,0.7s,baz=261,slow=2.6,SNR=5.8
HEC Hector,Ludlow 73.44 57 ⇑P P 04 34 58.4 +1.4
baz=73
RSSD Black Hills 73.45 43 eP P 04 34 57.3 +0.2
RSSD pmax pmax
comp=Z,6.0nm,0.9s
RSSD Black Hills 73.45 43 eP P 04 34 57.3 +0.2
comp=Z,5.9nm,0.9s
BBRC Big Bear Solar 73.48 58 ⇑P P 04 34 58.4 +1.0
baz=73
G27A Dupree 73.52 41 ⇓P P 04 34 57.5 +0.2
baz=73
D30A Buchanan 73.64 38 ⇓P P 04 34 57.8 0.0
baz=73,SNR=6.1
I25A Rochford 73.67 43 ⇑P P 04 34 58.7 +0.3
baz=73
K23A Bowen Ranch, D 73.68 45 ⇑P P 04 34 58.1 -0.3
baz=73
F28A McLaughlin 73.68 40 ⇑P P 04 34 58.3 +0.1
baz=73
H26A Fairpoint 73.69 42 ⇑P P 04 34 59.0 +0.8
baz=73
MORC Moravsky Berou 73.70 326 ⇑P P 04 34 58.9 +0.7
MORC Moravsky Berou 73.70 326⇑iP P 04 34 58.8 +0.6
UPC Upice 73.71 327 eP P 04 34 59.4 +1.2
UPC Upice 73.71 327 eP P 04 34 59.4 +1.2
DPC Dobruska-Polom 73.72 327 eP P 04 34 59.0 +0.7
DPC Dobruska-Polom 73.72 327 eP P 04 34 59.0 +0.7
DPC Dobruska-Polom 73.72 327 eP P 04 34 59.6 +1.3
N20A Spence Gulch, 73.72 48 ⇑P P 04 35 00.1 +1.3
baz=73,SNR=5.5
SRU San Rafael Swe 73.74 51 eP P 04 34 59.2 +0.4
SRU San Rafael Swe 73.74 51 eP P 04 34 59.2 +0.4
BRTR Keskin Array B 73.76 310ceP P 04 34 59.2 +0.4
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 73.76 310 P P 04 34 59.2 +0.4
comp=Z,0.6nm,0.7s,baz=104,slow=3.1,SNR=4.3
KRLC Kraliky 73.76 327 eP P 04 34 59.2 +0.7
KRLC Kraliky 73.76 327 eP P 04 34 59.2 +0.7
L22A Ellis Ranch, M 73.80 46 ⇑P P 04 34 59.6 +0.5
baz=74
VOIR 73.86 319 ⇓P P 04 35 00.3 +1.1
VOIR 73.86 319⇓iP P 04 35 00.3 +1.1
GMRC Granite Mounta 73.87 57 ⇓P P 04 35 00.9 +1.4
baz=74
DRGR 73.88 321 ⇓P P 04 34 59.2 -0.1
DRGR 73.88 321⇓iP P 04 34 59.2 -0.1
AGMN Agassiz Nation 73.95 36 ⇓P P 04 34 59.4 -0.2
baz=74
H27A Howes 74.01 42 ⇓P P 04 35 00.3 +0.3
baz=74,SNR=5.5
E30A Jud 74.04 39 ⇑P P 04 34 59.9 -0.2
baz=74
I26A New Underwood 74.09 43 ⇓P P 04 35 01.0 +0.4
baz=74
ARR Arges 74.10 319⇑iP P 04 35 01.7 +1.1
L23A Garrett 74.11 46 ⇓P P 04 35 01.1 +0.2
baz=74
J25A Sunshine Ranch 74.11 44 ⇓P P 04 35 00.8 +0.1
baz=74
F29A Eureka 74.14 40 ⇑P P 04 35 01.1 +0.3
baz=74
CLL Collm 74.17 330 iP P 04 35 00.6 -0.2
CLL pmax pmax
comp=Z,11nm,1.1s
CLL Collm 74.17 330 eP P 04 35 00.5 -0.2
comp=Z,11nm,1.1s
CLL Collm 74.17 330 iP P 04 35 00.6 -0.2
comp=Z,11nm,1.1s
CLL Collm 74.17 330 eP P 04 35 00.4 -0.4
comp=Z,9.5nm,0.8s
M22A Cedar Creek Ra 74.17 47 ⇓P P 04 35 02.2 +0.8
baz=74
BRG Berggiesshubel 74.18 329 eP P 04 35 01.3 +0.4
comp=Z,4.8nm,1.0s
BRG Berggiesshubel 74.18 329 eP P 04 35 01.3 +0.4
BRG pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 74.20 325 eP P 04 35 01.8 +0.7
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 74.20 325 eP P 04 35 01.8 +0.7
BELC Belle Mtn. Jos 74.21 58 ⇑P P 04 35 02.0 +0.5
baz=74
G28A Parade 74.22 41 ⇓P P 04 35 01.7 +0.4
baz=74,SNR=5.2
PSZ Piszkesteto 74.22 324 ⇓P P 04 35 02.2 +1.0
PSZ Piszkesteto 74.22 324⇓iP P 04 35 02.2 +1.0
O20A White River Ci 74.23 49 ⇑P P 04 35 02.4 +0.7
baz=74,SNR=6.5
O20A White River Ci 74.23 49 eP P 04 35 02.2 +0.6
comp=Z,3.9nm,0.4s
I27A Quinn 74.44 42 ⇓P P 04 35 03.3 +0.6
baz=74
VRAC Vranov 74.45 326 ⇑P P 04 35 03.3 +0.8
VRAC Vranov 74.45 326⇑iP P 04 35 03.3 +0.8
VRAC Vranov 74.45 326 P P 04 35 02.7 +0.3
comp=Z,1.0nm,0.3s,baz=57,slow=12,SNR=4.7
H28A Mission Ridge 74.47 41 ⇑P P 04 35 03.4 +0.7
baz=74,SNR=17
J26A Sides Ranch, S 74.52 43 ⇑P P 04 35 03.6 +0.6
baz=74
M23A Laramie 74.57 46 ⇑P P 04 35 03.8 +0.2
baz=74
G29A Hoven 74.58 40 ⇓P P 04 35 03.7 +0.3
baz=74
IRM Iron Mountain 74.60 57 ⇑P P 04 35 04.8 +1.2
baz=74
CLZ Clausthal 74.64 331 eP P 04 35 04.0 +0.4
comp=Z,8.0nm,0.9s
U15A North Rim 74.66 54 ⇓P P 04 35 06.2 +1.9
baz=74,SNR=18
N22A Wattenberg Ran 74.68 47 ⇑P P 04 35 05.4 +1.1
baz=74,SNR=5.5
PRU Pruhonice 74.69 328 eP P 04 35 04.4 +0.6
PRU Pruhonice 74.69 328 eP P 04 35 04.4 +0.6
W13A Hualapai Mount 74.69 56 ⇓P P 04 35 05.4 +1.0
baz=74

BC3 Big Chuckawall 74.77 58 ⇓P P 04 35 05.7 +1.0
baz=75
N23A Red Feather La 74.88 47 ⇓P P 04 35 06.2 +0.8
baz=75
N23A Red Feather La 74.88 47 eP P 04 35 06.8 +1.3
comp=Z,4.5nm,0.9s
H29A Onida 74.88 41 ⇑P P 04 35 05.1 +0.1
baz=75,SNR=9.1
TREC Trest 74.89 327 eP P 04 35 05.6 +0.6
TREC Trest 74.89 327 eP P 04 35 05.6 +0.6
I28A Midland 74.91 42 ⇑P P 04 35 05.9 +0.6
baz=75
K26A Motz Farm, Whi 74.93 44 ⇓P P 04 35 06.0 +0.6
baz=75
GZR Gura Zlata 74.93 320 ⇑P P 04 35 06.0 +0.7
GZR Gura Zlata 74.93 320⇑iP P 04 35 06.0 +0.7
G30A Faulkton 74.99 40 ⇓P P 04 35 05.7 +0.1
baz=75
M24A Cheyenne 75.03 46 ⇑P P 04 35 07.1 +0.9
baz=75
J27A Elkhorn Farm, 75.08 43 ⇑P P 04 35 07.2 +0.9
baz=75
PDMCI Parker Dam,Lak 75.10 56 ⇑P P 04 35 07.7 +1.2
baz=75
O22A Kremmling 75.11 48 ⇓P P 04 35 07.6 +0.8
baz=75,SNR=7.7
MOX Moxa 75.21 330 eP P 04 35 07.0 +0.2
comp=Z,3.0nm,0.8s
BZS Buzias 75.27 321 ⇑P P 04 35 07.3 +0.1
BZS Buzias 75.27 321⇑iP P 04 35 07.3 +0.1
I29A Vivian Onida 75.30 41 ⇑P P 04 35 07.7 +0.3
baz=75,SNR=5.2
J28A Allard Ranch, 75.32 42 ⇓P P 04 35 08.3 +0.7
baz=75,SNR=7.1
K27A Flueckinger Fa 75.38 43 ⇑P P 04 35 09.0 +1.0
baz=75
O23A Lake Granby, G 75.40 47 ⇑P P 04 35 10.0 +1.6
baz=75,SNR=8.4
P22A Eagle 75.41 48 ⇓P P 04 35 09.6 +1.1
baz=75,SNR=10.0
M25A Palm-Egli Farm 75.44 45 ⇓P P 04 35 09.6 +1.2
baz=75
N24A Carr 75.47 46 ⇓P P 04 35 10.0 +1.4
baz=75
EKA Eskdalemuir Ar 75.50 340 P P 04 35 08.6 +0.3
comp=Z,0.8nm,0.4s,baz=26,slow=5.1,SNR=11
PV01 Paradox Valley 75.51 50 eP P 04 35 10.1 +1.1
comp=Z,693nm,0.8s
BRSD Miller 75.60 40 ⇑P P 04 35 09.6 +0.4
baz=75
BRSD Miller 75.60 40 eP P 04 35 09.4 +0.3
comp=Z,19nm,0.7s
SMCO Snowmass 75.60 48 eP P 04 35 10.8 +1.1
comp=Z,7.6nm,0.7s
ROTZ Rotzenmuhle 75.73 329 eP P 04 35 10.7 +1.0
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 75.75 328 eP P 04 35 10.2 +0.4
KHC pmax pmax
comp=Z,6.0nm,0.7s
KHC Kasperske Hory 75.75 328 eP P 04 35 10.6 +0.7
KHC Kasperske Hory 75.75 328 eP P 04 35 10.3 +0.4
KHC Kasperske Hory 75.75 328 eP P 04 35 10.2 +0.4
comp=Z,6.1nm,0.7s
J29A Okreek 75.76 42 ⇓P P 04 35 10.6 +0.5
baz=75
I30A Oacoma 75.79 41 ⇓P P 04 35 10.3 +0.1
baz=76
K28A Ten Mile Ranch 75.80 43 ⇓P P 04 35 11.6 +1.3
baz=76
WUAZ Wupatki 75.83 54 ⇑P P 04 35 12.7 +1.9
baz=76
CONA Conrad Observa 75.85 326⇑iP P 04 35 11.6 +1.1
comp=Z,5.2nm,0.7s
ISCO Idaho Springs 75.86 47 eP P 04 35 12.2 +1.2
ISCO pmax pmax
comp=Z,3.0nm,0.9s
ISCO Idaho Springs 75.86 47 ⇑P P 04 35 12.1 +1.2
baz=76
ISCO Idaho Springs 75.86 47 eP P 04 35 12.2 +1.2
comp=Z,2.7nm,0.9s
O24A Longmont 75.90 47 ⇓P P 04 35 12.5 +1.4
baz=76
GEC2 GERESS Array S 75.94 328 eP P 04 35 11.7 +0.7
GEC2 GERESS Array S 75.94 328 eP P 04 35 11.1 +0.1
comp=Z,5.0nm,0.9s
GEC2 GERESS Array S 75.94 328 eP P 04 35 11.7 +0.7
GERES GERESS Array B 75.94 328 P P 04 35 11.5 +0.5
comp=Z,1.2nm,0.4s,baz=38,slow=5.8,SNR=18
EYMN Ely 76.00 34 eP P 04 35 10.6 -0.7
comp=Z,5.0nm,0.6s
WET Wettzell 76.00 328 eP P 04 35 12.1 +0.8
comp=Z,8.0nm,0.9s
Y14A Wickenburg 76.02 56 ⇓P P 04 35 13.3 +1.6
baz=76
P23A Jefferson 76.05 48 ⇓P P 04 35 13.4 +1.2
baz=76
GRF Grafenberg Arr 76.15 330 eP P 04 35 12.9 +0.8
comp=Z,15nm,0.9s
GRFO Grafenberg 76.15 330 eP P 04 35 13.3 +1.2
GRFO pmax pmax
comp=Z,12nm,0.9s
GRFO Grafenberg 76.15 330 eP P 04 35 13.3 +1.2
comp=Z,12nm,0.9s
M27A Reverse DX Ran 76.20 44 ⇓P P 04 35 13.4 +0.8
baz=76
J30A Dallas 76.21 41 ⇑P P 04 35 13.0 +0.4
baz=76,SNR=7.0
MVCO Mesa Verde 76.22 51 ⇓P P 04 35 14.1 +1.1
baz=76,SNR=8.1
MVCO Mesa Verde 76.22 51 eP P 04 35 13.7 +0.7
comp=Z,9.5nm,0.8s
K29A Lazy Trails An 76.26 42 ⇑P P 04 35 14.0 +1.1
baz=76
O25A Wiggins 76.39 46 ⇓P P 04 35 14.9 +1.1
baz=76
113A Mohawk Valley, 76.40 57 ⇓P P 04 35 15.2 +1.4
baz=76
P24A Kohler Place, 76.43 47 ⇓P P 04 35 15.2 +1.1
baz=76
X16A Lo Mia Camp, P 76.58 55 ⇑P P 04 35 16.6 +1.6
baz=76,SNR=7.8
K30A Basset 76.66 42 ⇑P P 04 35 15.6 +0.5
baz=76,SNR=5.6
N27A Anderson Farm, 76.67 45 ⇑P P 04 35 16.0 +0.7
baz=76,SNR=6.3
O26A Horse Wrangler 76.70 46 ⇓P P 04 35 16.4 +0.9
baz=76
L29A Maesberg Ranch 76.72 43 ⇓P P 04 35 15.9 +0.4
baz=76
Q24A Divide 76.72 48 ⇑P P 04 35 16.6 +0.8
baz=76
S22A 4UR Ranch, Cre 76.73 49 ⇑P P 04 35 17.4 +1.5
baz=76,SNR=5.6
S22A 4UR Ranch, Cre 76.73 49 eP P 04 35 17.4 +1.5
comp=Z,4.9nm,0.9s
OGNE Ogallala 76.81 44 ⇑P P 04 35 16.8 +0.7
baz=76
VTS Vitosha 76.89 318 ⇑P P 04 35 17.4 +0.9
VTS Vitosha 76.89 318⇑iP P 04 35 17.4 +0.9
R23A Moffat 76.94 48 ⇑P P 04 35 18.7 +1.6
baz=77,SNR=6.9
W18A Petrified Fore 77.05 53 eP P 04 35 18.6 +1.1
comp=Z,6.0nm,0.7s
M29A Burnside Ranch 77.09 43 ⇓P P 04 35 17.1 -0.5
baz=77
O27A Beecher Island 77.16 45 ⇑P P 04 35 18.1 +0.1
baz=77
GROS Grobnik 77.18 325 iP P 04 35 18.3 +0.3
RJOB Jochberg 77.19 328 eP P 04 35 18.9 +0.9
comp=Z,8.0nm,0.8s
SOKA Soboth 77.19 326⇑iP P 04 35 18.6 +0.5
comp=Z,3.0nm,0.6s
P26A Davis Ranch, A 77.20 46 ⇓P P 04 35 17.8 -0.5
baz=77
S23A Nye Farm, Mont 77.20 49 ⇓P P 04 35 19.8 +1.3
baz=77
ECSD EROS Data Cent 77.21 39 ⇑P P 04 35 17.9 -0.2
baz=77,SNR=9.3
ECSD EROS Data Cent 77.21 39 eP P 04 35 18.1 -0.1
comp=Z,7.8nm,0.6s
Q25A Bedland, Calha 77.22 47 ⇑P P 04 35 19.4 +0.8
baz=77
N28A Pribbeno Ranch 77.25 44 ⇓P P 04 35 18.4 0.0
baz=77
R24A Sanders Place, 77.28 48 ⇓P P 04 35 19.9 +1.0
baz=77
SCHQ Schefferville 77.29 17 P P 04 35 18.6 +0.2
comp=Z,3.6nm,0.3s,baz=358,slow=4.1,SNR=9.3

X18A Snowflake 77.35 54 ⇓P P 04 35 20.8 +1.5
baz=77
FUR Furstenfeldbru 77.40 329 eP P 04 35 20.1 +1.0
comp=Z,26nm,1.1s
L31A Butterfield Fa 77.41 42 ⇓P P 04 35 19.6 +0.3
baz=77,SNR=9.3
MMB Musomiste 77.42 317 ⇓P P 04 35 19.4 +0.1
MMB Musomiste 77.42 317⇓iP P 04 35 19.4 +0.1
SDCO Great Sand Dun 77.44 49 ⇑P P 04 35 20.7 +0.9
baz=77,SNR=6.8
SDCO Great Sand Dun 77.44 49 eP P 04 35 21.1 +1.3
comp=Z,3.5nm,0.8s
GOLS Golise 77.50 325 iP P 04 35 19.9 +0.3
OBKA Obir 77.52 326⇑iP P 04 35 20.2 +0.3
comp=Z,4.2nm,0.6s
KBA Koelnbreinsper 77.53 327⇑iP P 04 35 21.0 +1.0
comp=Z,6.9nm,0.5s,SNR=6.1
214A Organ Pipe Nat 77.54 57 ⇓P P 04 35 21.1 +1.0
baz=77
O28A Krutsinger Ran 77.56 45 ⇑P P 04 35 20.2 0.0
baz=77
N29A Votaw Ranch, W 77.60 44 ⇓P P 04 35 20.8 +0.4
baz=77
S24A Houchin Ranch, 77.67 49 ⇓P P 04 35 21.9 +0.8
baz=77
SPMN Marine on St. 77.67 36 ⇑P P 04 35 20.3 -0.3
baz=77
LEGS Legarje 77.67 325 iP P 04 35 20.8 +0.2
T23A Casias Ranch, 77.68 49 ⇓P P 04 35 22.1 +0.9
baz=77
PDKS Podkum 77.71 325 iP P 04 35 20.9 +0.1
U22A Llaves 77.72 50 ⇑P P 04 35 22.8 +1.4
baz=78,SNR=5.9
R25A Fountain Ranch 77.78 48 ⇑P P 04 35 22.1 +0.6
baz=78
WATA Walderalm 77.98 328⇑iP P 04 35 23.1 +0.6
comp=Z,6.6nm,0.5s
M31A Lambtecht Ranc 77.99 42 ⇑P P 04 35 22.3 -0.2
baz=78
VISS Visnje 77.99 325 iP P 04 35 22.2 -0.1
P28A Saint Francis 77.99 45 ⇓P P 04 35 22.7 +0.1
baz=78
T24B San Luis 78.01 49 ⇓P P 04 35 24.6 +1.6
baz=78
WTTA Wattenberg 78.02 328 iP P 04 35 23.6 +0.9
comp=Z,11nm,0.5s,SNR=5.2
V22A San Miguel Ran 78.04 51 ⇓P P 04 35 24.4 +1.3
baz=78
O29A 4D Ranch, Culb 78.05 44 ⇓P P 04 35 22.9 +0.1
baz=78
S25A Robets Cordova 78.06 48 ⇓P P 04 35 23.9 +0.8
baz=78
R26A Arlington 78.10 47 ⇑P P 04 35 24.1 +0.9
baz=78
U23A El Rito 78.12 50 ⇑P P 04 35 25.0 +1.5
baz=78,SNR=20
MOTA Moosalm 78.15 328⇑iP P 04 35 24.0 +0.6
comp=Z,6.3nm,0.4s,SNR=10
RETA Reutte 78.16 329⇑iP P 04 35 23.8 +0.4
comp=Z,6.7nm,0.9s
BFO Black Forest 78.32 330 eP P 04 35 24.1 0.0
comp=Z,6.0nm,1.0s
BGNE Belgrade 78.33 42 ⇓P P 04 35 24.8 +0.5
baz=78
Q28A Sharon Springs 78.34 46 ⇓P P 04 35 24.9 +0.4
baz=78
N31A Bailey Ranch, 78.40 43 ⇓P P 04 35 24.8 +0.1
baz=78
COWI Conover 78.44 34 eP P 04 35 24.5 -0.3
comp=Z,2.9nm,0.5s
R27A Eads 78.44 47 ⇓P P 04 35 25.5 +0.4
baz=78
T25A Trinidad 78.47 48 ⇓P P 04 35 26.0 +0.7
baz=78,SNR=6.6
T25A Trinidad 78.47 48 eP P 04 35 26.4 +1.0
U24A Moreno Valley 78.55 49 ⇓P P 04 35 27.6 +1.6
baz=78
V23A Ortiz Mt. (NFS 78.56 50 ⇑P P 04 35 27.9 +2.1
baz=78,SNR=7.1
FETA Feichten 78.56 328⇑iP P 04 35 26.3 +0.6
comp=Z,6.5nm,1.0s
S26A Kim 78.59 47 ⇓P P 04 35 26.0 0.0
baz=78
CDF Champ du Feu 78.61 331⇑iP P 04 35 25.8 0.0
comp=Z,14nm,0.9s
CDF Champ du Feu 78.61 331⇑iP P 04 35 25.8 0.0
CDF pmax pmax
comp=Z,14nm,0.9s
CDF Champ du Feu 78.61 331⇑iP P 04 35 25.8 0.0
comp=Z,14nm,0.9s
DAVA Damuels 78.65 329⇓iP P 04 35 26.6 +0.5
comp=Z,6.9nm,0.6s
N32A Stulken Farm, 78.76 42 ⇑P P 04 35 26.7 0.0
baz=78
P30A Selden 78.76 44 ⇓P P 04 35 26.8 +0.1
baz=78
T26A Comanche Natio 78.87 48 ⇓P P 04 35 27.9 +0.4
baz=79,SNR=6.6
Q29A Oakley 78.90 45 ⇓P P 04 35 27.6 +0.1
baz=79
R28A Tribune 78.90 46 ⇑P P 04 35 27.8 +0.3
baz=79
ANMO Albuquerque 79.00 51ceP P 04 35 30.1 +1.8
ANMO pmax pmax
comp=Z,20nm,1.2s
ANMO Albuquerque 79.00 51 P P 04 35 29.4 +1.1
comp=Z,2.1nm,0.8s,baz=320,slow=8.5,SNR=9.9
PAGF Fort de Pagny 79.01 332⇑iP P 04 35 28.2 +0.4
comp=Z,7.1nm,0.6s
PAGF Fort de Pagny 79.01 332⇑iP P 04 35 28.2 +0.4
comp=Z,7.1nm,0.6s
U25A Circle Dot Ran 79.02 49 ⇓P P 04 35 29.0 +0.6
baz=79
LAZ Ladron 79.03 52 eP P 04 35 30.0 +1.6
comp=Z,2.9nm,1.1s
V24A Rampart Ranch, 79.06 50 ⇑P P 04 35 30.3 +1.6
baz=79,SNR=7.4
FUORN Ofenpass-Fuorn 79.07 328 eP P 04 35 29.3 +0.8
comp=Z,10nm,0.8s
DAVOX Davos/Dischmat 79.08 329 P P 04 35 28.3 -0.2
comp=Z,2.5nm,0.5s,baz=50,slow=1.7,SNR=8.1
R29A Marienthal 79.18 45 ⇑P P 04 35 29.7 +0.6
baz=79
P31A Stockton 79.21 44 ⇑P P 04 35 29.2 +0.1
baz=79
Q30A Quinter 79.21 45 ⇓P P 04 35 28.7 -0.5
baz=79,SNR=7.3
HINF Hinteralfeld 79.27 331⇑iP P 04 35 28.9 -0.4
comp=Z,4.5nm,0.6s
HINF Hinteralfeld 79.27 331⇑iP P 04 35 28.9 -0.4
HINF pmax pmax
comp=Z,5.0nm,0.6s
HINF Hinteralfeld 79.27 331⇑iP P 04 35 28.9 -0.4
comp=Z,4.5nm,0.6s
HAU Haudompre 79.28 331⇑iP P 04 35 29.2 -0.1
comp=Z,8.0nm,0.8s
HAU Haudompre 79.28 331⇑iP P 04 35 29.2 -0.1
HAU pmax pmax
comp=Z,8.0nm,0.8s
HAU Haudompre 79.28 331⇑iP P 04 35 29.2 -0.1
comp=Z,8.0nm,0.8s
V25A Rancho No Teng 79.33 49 ⇑P P 04 35 30.9 +0.9
baz=79
W24A Lazy 6 Ranch, 79.38 50 ⇓P P 04 35 32.1 +1.7
baz=79,SNR=5.9
U26A Atchley Ranch, 79.38 48 ⇓P P 04 35 31.3 +1.0
baz=79
T27A Campo 79.41 47 ⇑P P 04 35 31.0 +0.7
baz=79
S28A Manter 79.43 47 ⇑P P 04 35 31.0 +0.5
baz=79
P32A Huiting Farm, 79.50 43 ⇓P P 04 35 30.4 -0.3
baz=79
TUE Stuetta 79.54 329 eP P 04 35 31.1 +0.2
comp=Z,5.0nm,0.7s
SFTF Sexfontaines 79.54 332⇑iP P 04 35 30.7 0.0
comp=Z,16nm,0.7s
SFTF Sexfontaines 79.54 332⇑iP P 04 35 30.7 0.0
comp=Z,16nm,0.7s
Q31A Ellis 79.60 44 ⇑P P 04 35 30.9 -0.3
baz=79
R30A Dighton 79.72 45 ⇑P P 04 35 31.8 0.0
baz=79,SNR=5.0
V26A Tequesquite Ra 79.81 49 ⇓P P 04 35 33.0 +0.5
baz=80
U27A Thompson Grove 79.84 48 ⇓P P 04 35 32.9 +0.2
baz=80
W25A X Bar L Ranch, 79.88 50 ⇓P P 04 35 34.2 +1.3

baz=80,SNR=11
Q32A Meitler Ranch, 80.02 44 ⇓P P 04 35 33.2 -0.2
baz=80
319A Douglas 80.03 55 ⇓P P 04 35 34.9 +1.2
baz=80
121A Cookes Peak, D 80.04 54 ⇑P P 04 35 35.4 +1.5
baz=80,SNR=5.5
T29A Hugoton 80.07 46 ⇑P P 04 35 34.0 +0.2
baz=80
R31A Burdett 80.09 45 ⇓P P 04 35 33.7 -0.1
baz=80
S30A Montezuma 80.12 46 ⇓P P 04 35 34.3 +0.3
baz=80
Q33A Connelly Farm, 80.36 43 ⇓P P 04 35 34.9 -0.3
baz=80,SNR=6.6
SENIN Lac Senin/Sane 80.36 330 *e*P P 04 35 35.8 +0.4
R32A Long Quarter, 80.39 44 ⇑P P 04 35 35.2 -0.2
baz=80
CABF La Chapelle 80.57 331 *e*P P 04 35 36.3 0.0
CABF La Chapelle 80.57 331 *e*P P 04 35 36.3 0.0
CABF La Chapelle 80.57 331 *e*P P 04 35 36.3 0.0
LOR Lormes 80.74 333⇑*i*P P 04 35 36.9 -0.2
comp=Z,14nm,0.8s
LOR Lormes 80.74 333⇑*i*P P 04 35 36.9 -0.2
LOR pmax pmax
comp=Z,14nm,0.8s
LOR Lormes 80.74 333⇑*i*P P 04 35 36.9 -0.2
comp=Z,14nm,0.8s
FLN La Foliniere 80.74 336⇑*i*P P 04 35 36.8 -0.2
comp=Z,5.9nm,0.5s
FLN La Foliniere 80.74 336⇑*i*P P 04 35 36.8 -0.2
FLN pmax pmax
comp=Z,6.0nm,0.5s
FLN La Foliniere 80.74 336⇑*i*P P 04 35 36.8 -0.2
comp=Z,5.9nm,0.5s
LDF La Druitiere 80.79 336⇑*i*P P 04 35 37.1 -0.2
LDF La Druitiere 80.79 336⇑*i*P P 04 35 37.1 -0.2
LDF La Druitiere 80.79 336⇑*i*P P 04 35 37.1 -0.2
R33A Olander Ranch, 80.83 44 ⇓P P 04 35 37.2 -0.6
baz=80
S32A Newby Ranch, P 80.84 45 ⇑P P 04 35 37.9 +0.1
baz=80
KSU1 Kansas State U 80.87 42 ⇑P P 04 35 37.8 -0.1
baz=81
U30A WK&E Inc. Balk 80.88 46 ⇓P P 04 35 38.7 +0.5
baz=81
SSF Saint Saulge 81.04 333⇑*i*P P 04 35 38.5 -0.1
comp=Z,10nm,0.9s
SSF Saint Saulge 81.04 333⇑*i*P P 04 35 38.5 -0.1
SSF pmax pmax
comp=Z,10.0nm,0.9s
SSF Saint Saulge 81.04 333⇑*i*P P 04 35 38.5 -0.1
comp=Z,10nm,0.9s
W28A Vega 81.05 48 ⇓P P 04 35 39.7 +0.6
baz=81
GRR Gorron 81.19 336⇑*i*P P 04 35 39.5 +0.1
comp=Z,8.2nm,0.5s
GRR Gorron 81.19 336⇑*i*P P 04 35 39.5 +0.1
GRR pmax pmax
comp=Z,8.0nm,0.5s
GRR Gorron 81.19 336⇑*i*P P 04 35 39.5 +0.1
comp=Z,8.2nm,0.5s
T32A Huddler Ranch, 81.25 45 ⇓P P 04 35 40.3 +0.4
baz=81
LPL La Plagne 81.30 330⇑*i*P P 04 35 40.7 +0.4
comp=Z,11nm,0.7s
LPL La Plagne 81.30 330⇑*i*P P 04 35 40.7 +0.4
LPL pmax pmax
comp=Z,11nm,0.7s
LPL La Plagne 81.30 330⇑*i*P P 04 35 40.7 +0.4
comp=Z,11nm,0.7s
SMF Signal de Mont 81.30 332⇑*i*P P 04 35 40.0 0.0
comp=Z,17nm,0.8s
SMF Signal de Mont 81.30 332⇑*i*P P 04 35 40.0 0.0
SMF pmax pmax
comp=Z,17nm,0.8s
SMF Signal de Mont 81.30 332⇑*i*P P 04 35 40.0 0.0
comp=Z,17nm,0.8s
LPG La Plagne 81.31 330⇑*i*P P 04 35 40.9 +0.5
comp=Z,13nm,0.7s
LPG La Plagne 81.31 330⇑*i*P P 04 35 40.9 +0.5
LPG pmax pmax
comp=Z,13nm,0.7s
LPG La Plagne 81.31 330⇑*i*P P 04 35 40.9 +0.5
comp=Z,13nm,0.7s
AVF Avril sur Loir 81.33 333⇑*i*P P 04 35 40.3 +0.2
comp=Z,19nm,0.9s
AVF Avril sur Loir 81.33 333⇑*i*P P 04 35 40.3 +0.2
AVF pmax pmax
comp=Z,19nm,0.9s
AVF Avril sur Loir 81.33 333⇑*i*P P 04 35 40.3 +0.2
comp=Z,19nm,0.9s
S33A Kaszmaul Farm, 81.38 44 ⇑P P 04 35 41.0 +0.3
baz=81
AMTX Amarillo 81.61 48 ⇑P P 04 35 43.0 +1.0
baz=81
AMTX Amarillo 81.61 48 *e*P P 04 35 42.9 +1.0
comp=Z,9.6nm,0.8s
T33A Patterson Ranc 81.66 45 ⇑P P 04 35 42.2 +0.1
baz=81
BGF Bois d'Agland 81.70 333⇑*i*P P 04 35 42.5 +0.4
BGF Bois d'Agland 81.70 333⇑*i*P P 04 35 42.5 +0.4
BGF Bois d'Agland 81.70 333⇑*i*P P 04 35 42.5 +0.4
V31A Spring Creek L 81.88 46 ⇓P P 04 35 42.0 -1.3
baz=82
ROSF Rostrenen 81.91 337 *e*P P 04 35 42.9 -0.2
ROSF Rostrenen 81.91 337 *e*P P 04 35 42.9 -0.2
ROSF Rostrenen 81.91 337 *e*P P 04 35 42.9 -0.2
X29A Tulia 81.94 48 ⇑P P 04 35 44.2 +0.5
baz=82,SNR=5.0
MBDF Montbardon 81.96 330 *e*P P 04 35 44.5 +0.8
MBDF Montbardon 81.96 330 *e*P P 04 35 44.5 +0.8
MBDF Montbardon 81.96 330 *e*P P 04 35 44.5 +0.8
MNTX Cornudas Mount 82.02 53 *e*P P 04 35 44.8 +0.7
comp=Z,6.2nm,1.3s
ORIF Oris-en-Rattie 82.11 330⇑*i*P P 04 35 44.7 +0.3
comp=Z,7.6nm,0.8s
ORIF Oris-en-Rattie 82.11 330⇑*i*P P 04 35 44.7 +0.3
ORIF pmax pmax
comp=Z,8.0nm,0.8s
ORIF Oris-en-Rattie 82.11 330⇑*i*P P 04 35 44.7 +0.3
comp=Z,7.6nm,0.8s
TCF Toulx Ste Croi 82.14 333 *e*P P 04 35 44.7 +0.3
TCF Toulx Ste Croi 82.14 333 *e*P P 04 35 44.7 +0.3
TCF Toulx Ste Croi 82.14 333 *e*P P 04 35 44.7 +0.3
GDL2 Guadalupe Moun 82.21 52 *e*P P 04 35 46.7 +1.5
U33A Lingo Farm, Me 82.24 45 ⇑P P 04 35 46.0 +0.9
baz=82
QUIF Quistinic 82.27 337 *e*P P 04 35 45.0 0.0
QUIF Quistinic 82.27 337 *e*P P 04 35 45.0 0.0
QUIF Quistinic 82.27 337 *e*P P 04 35 45.0 0.0
W31A Holland Ranch, 82.28 47 ⇓P P 04 35 46.6 +1.2
baz=82
X30A Coker Ranch, T 82.38 48 ⇑P P 04 35 46.4 +0.5
baz=82
S36A Lake Cedric, C 82.45 42 ⇓P P 04 35 46.4 +0.3
baz=82,SNR=8.7
Z28A Tucker Farm, M 82.46 50 ⇑P P 04 35 46.2 -0.2
baz=82
U34A Anderson Ranch 82.52 44 ⇓P P 04 35 47.4 +0.9
baz=82
VIVF Saint-Julien-l 82.59 331⇑*i*P P 04 35 47.1 +0.4
comp=Z,12nm,0.9s
VIVF Saint-Julien-l 82.59 331⇑*i*P P 04 35 47.1 +0.4
VIVF pmax pmax
comp=Z,12nm,0.9s
VIVF Saint-Julien-l 82.59 331⇑*i*P P 04 35 47.1 +0.4
comp=Z,12nm,0.9s
MFF Saint Martin d 82.59 335 *e*P P 04 35 47.1 +0.4
comp=Z,17nm,0.9s
MFF Saint Martin d 82.59 335 *e*P P 04 35 47.1 +0.4
MFF pmax pmax
comp=Z,17nm,0.9s
MFF Saint Martin d 82.59 335 *e*P P 04 35 47.1 +0.4
comp=Z,17nm,0.9s
V33A Lossen Ranch, 82.63 45 ⇓P P 04 35 47.7 +0.5
baz=82
W32A Sentinel 82.69 46 ⇑P P 04 35 48.3 +0.8
baz=82
X31A McDonald Ranch 82.70 47 ⇓P P 04 35 48.3 +0.8
baz=82
Z29A Hungry Hill Ra 82.85 49 ⇓P P 04 35 48.8 +0.4
baz=83
128A Castleberry Fa 82.92 50 ⇓P P 04 35 49.7 +1.0
baz=83
V34A Guthrie 83.01 45 ⇑P P 04 35 49.8 +0.8
baz=83
Z30A Sanderson Ranc 83.14 49 ⇓P P 04 35 50.5 +0.7
baz=83
X32A Elmer 83.22 47 ⇑P P 04 35 51.0 +0.9
baz=83
RJF Les Rejaudoux 83.24 333 *e*P P 04 35 50.3 +0.3
RJF Les Rejaudoux 83.24 333 *e*P P 04 35 50.3 +0.3
RJF Les Rejaudoux 83.24 333 *e*P P 04 35 50.3 +0.3
228A UT Block 9, Go 83.25 51 ⇑P P 04 35 51.4 +1.0
baz=83
LMR La Mourre 83.26 329 *e*P P 04 35 50.2 0.0
comp=Z,9.5nm,0.9s
LMR La Mourre 83.26 329 *e*P P 04 35 50.2 0.0
LMR pmax pmax
comp=Z,10.0nm,0.9s
LMR La Mourre 83.26 329 *e*P P 04 35 50.2 0.0
comp=Z,9.5nm,0.9s
W34A Bridge Creek, 83.35 45 ⇑P P 04 35 51.6 +0.8
baz=83
CAF Calviac 83.40 333⇑*i*P P 04 35 51.7 +0.8
comp=Z,7.5nm,0.9s
CAF Calviac 83.40 333⇑*i*P P 04 35 51.7 +0.8
CAF pmax pmax
comp=Z,8.0nm,0.9s
CAF Calviac 83.40 333⇑*i*P P 04 35 51.7 +0.8
comp=Z,7.5nm,0.9s
V35A Meyer Ranch, C 83.40 44 ⇑P P 04 35 51.6 +0.6
baz=83
Y32A R-V Farms, Ver 83.46 47 ⇑P P 04 35 52.3 +0.9
baz=83
X33A Lawton 83.53 46 ⇓P P 04 35 52.2 +0.5
baz=83
229A Bryant Ranch, 83.78 50 ⇑P P 04 35 54.2 +1.1
baz=84
TUL1 Leonard 83.80 44 ⇓P P 04 35 53.9 +0.9
baz=84
TUL1 Leonard 83.80 44 *e*P P 04 35 53.6 +0.6
comp=Z,7.8nm,0.6s
LFF La Frestale 83.81 333 *e*P P 04 35 53.8 +0.9
LFF La Frestale 83.81 333 *e*P P 04 35 53.8 +0.9
LFF La Frestale 83.81 333 *e*P P 04 35 53.8 +0.9
X34A Smith Ranch, M 83.82 46 ⇓P P 04 35 54.2 +1.0
baz=84
Z32A Haskell 83.99 48 ⇑P P 04 35 54.3 +0.3
baz=84
131A Roby 84.00 49 ⇓P P 04 35 55.1 +0.9
baz=84
SFIN Lafayette 84.03 35 ⇓P P 04 35 53.7 -0.4
baz=84
329A Wagon Wheel Ra 84.06 51 ⇑P P 04 35 55.2 +0.7
baz=84
230A Sterling City 84.22 50 ⇑P P 04 35 56.0 +0.7
baz=84
Y34A Reagan Ranch, 84.37 46 ⇑P P 04 35 56.7 +0.8
baz=84
Z33A Whitaker Ranch 84.38 47 ⇓P P 04 35 56.6 +0.6
baz=84
ABTX Abilene, Hawle 84.44 48 ⇑P P 04 35 57.0 +0.7
baz=84
330A Mertzon 84.56 50 ⇓P P 04 35 57.4 +0.4
baz=84
231A Bronte 84.61 49 ⇓P P 04 35 57.4 +0.2
baz=84
429A Davenport Ranc 84.77 51 ⇑P P 04 35 58.7 +0.7
baz=84
TXAR Lajitas Array 84.77 53 P P 04 35 59.3 +1.2
comp=Z,2.5nm,0.9s,baz=305,slow=4.4,SNR=8.3
232A Coleman 85.01 49 ⇑P P 04 35 59.7 +0.6
baz=85
430A Baggett Ranch, 85.01 50 ⇓P P 04 35 59.6 +0.4
baz=85
331A San Angelo 85.04 50 ⇑P P 04 35 59.5 +0.1
baz=85
Z35A Perchaven, San 85.12 46 ⇓P P 04 36 00.1 +0.5
baz=85
233A Rising Star 85.30 48 ⇓P P 04 36 01.5 +0.9
baz=85
332A Millersview 85.35 49 ⇓P P 04 36 01.8 +1.0
baz=85
431A Sonora 85.43 50 ⇓P P 04 36 01.7 +0.4
baz=85
530A J-C Ranch, Com 85.44 51 ⇓P P 04 36 02.1 +0.7
baz=85
EPF Esparros 85.65 333⇑*i*P P 04 36 03.1 +1.0
EPF Esparros 85.65 333⇑*i*P P 04 36 03.1 +1.0
EPF Esparros 85.65 333⇑*i*P P 04 36 03.1 +1.0
432A Menard 85.72 49 ⇑P P 04 36 02.8 +0.1
baz=86
333A Richland Sprin 85.80 49 ⇓P P 04 36 03.4 +0.3
baz=86
531A Rocksprings 85.86 50 ⇓P P 04 36 04.1 +0.7
baz=86
MIAR Mount Ida 85.97 43 *e*P P 04 36 04.8 +1.0
MIAR pmax pmax
comp=Z,8.0nm,0.8s
MIAR Mount Ida 85.97 43 *e*P P 04 36 04.8 +1.0
comp=Z,7.5nm,0.8s
334A Lometa 86.19 48 ⇓P P 04 36 05.6 +0.7
baz=86
532A Rocksprings 86.24 50 ⇑P P 04 36 06.1 +0.9
baz=86
631A Perdido Creek 86.43 51 ⇑P P 04 36 07.1 +1.0
baz=86
632A Uvalde 86.79 50 ⇑P P 04 36 08.3 +0.4
baz=86
337A Centerville 87.42 47 ⇓P P 04 36 11.1 +0.3
baz=87
034A Hebbronville 89.30 51 ⇓P P 04 36 21.4 +1.7
baz=89
738A Farr-Stevens R 89.52 48 ⇓P P 04 36 22.0 +1.4
baz=89
ESDC Sonseca Array 90.05 334 P P 04 36 23.0 0.0
comp=Z,0.8nm,0.6s,baz=22,slow=3.8,SNR=7.6

IDC 24 04:33:20.8±1.1, 32°.45N×92°.78E, h0km, mb3.8/4, mb1 3.7/6, mb1mx3.4/42, mbtmp3.6/6, ML3.1/1, Error ellipse: s-maj=45.3km s-min=23.5km az=55.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	16.43	334	Pn	Pn	04 37 11.9	-0.8
	0.1nm,0.3s,baz=141,slow=12,SNR=4.7						
SONM	Songino Array	18.52	30	P	P	04 37 37.7	-1.2
	baz=206,slow=13,SNR=4.1						
KURBB	Kurchatov Arra	20.99	334	P	P	04 38 06.6	+1.0
	1.0nm,0.2s,baz=143,slow=11,SNR=4.7						
WRA	Warramunga Arr	65.54	137	P	P	04 44 06.6	+0.2
	0.4nm,0.4s,baz=342,slow=6.8,SNR=4.4						
ASAR	Alice Springs	68.23	140	P	P	04 44 23.7	+0.2
	0.2nm,0.3s,baz=331,slow=6.9,SNR=4.8						
TORD	Torodi Ar. Bea	83.97	282	P	P	04 45 52.7	-0.7
	0.9nm,0.6s,baz=48,slow=4.3,SNR=26						

GUC 24 04:44:50.6±0.4, 34°.82S×72°.38W, h12km, ML3.7, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.84	134	*e*P	Pb	04 45 07.2	0.0
TALC				*e*S	Sn	04 45 19.8	-0.8
NICH	Los Niches	0.96	101	⇑*i*P	Pn	04 45 10.0	+0.1
NICH				*i* S	Sn	04 45 24.1	+0.5
NICH				IAML		04 45 28.3	
	comp=E,5μm,0.4s						
LNV	Longovilo	1.18	43	⇑*i*P	Pb	04 45 12.6	-0.2
LNCH	Linares	1.21	148	⇓*i*P	Pn	04 45 13.4	0.0
LNCH				*e*S	Sn	04 45 30.5	+0.8
LNCH				IAML		04 45 34.9	
	comp=N,4μm,0.6s						
COCH	Cobquecura	1.35	194	⇓*i*P	Pn	04 45 14.9	-0.4
COCH				*i* S	Sb	04 45 30.2	-2.9
CACH	El Canelo	1.63	65	⇑*i*P	Pb	04 45 20.9	+0.2
CHCH	Chadas Angostu	1.68	59	*e*P	Pb	04 45 21.5	0.0
FCH	Farellones	2.28	50	*e*S4	Pn	04 45 27.3	-1.3
FCH				IAML		04 45 41.8	
	comp=N,391nm,0.5s						

IDC 24 04:45:26.3±3.7, 4°.28S×130°.84E, h0km, mb3.9/1, mb1 3.9/3, mb1mx3.5/19, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=277.9km s-min=28.5km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.93	168	Pn	P	04 49 14.0	-1.9
	0.3nm,0.3s,baz=349,slow=11,SNR=7.0						
WRA				Sn	Sn	04 51 59.0	-11
	0.9nm,0.3s,baz=339,slow=22,SNR=14						
ASAR	Alice Springs	19.50	172	P	P	04 49 54.5	-0.8
	0.3nm,0.3s,baz=351,slow=11,SNR=26						
ASAR				S	Sn	04 53 24.8	-11
	0.2nm,0.3s,baz=355,slow=27,SNR=5.2						
MKAR	Makanchi Array	66.44	326	P	P	04 56 17.6	0.0
	0.6nm,0.6s,baz=126,slow=8.2,SNR=12						

GUC 24 05:03:09.8±0.5, 34°.96S×72°.78W, h42km±7km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	1.03	115	*i* P	Pn	05 03 28.5	+0.7
TALC				*i* S1	Sn	05 03 42.0	+0.9
COCH	Cobquecura	1.17	180	*i* P	Pn	05 03 30.5	+0.8
COCH				*i* S	Sn	05 03 45.8	+1.4
NICH	Los Niches	1.27	92	*i* P	Pn	05 03 32.2	+1.1
NICH				*i* S	Sn	05 03 49.0	+2.0
NICH				IAML		05 03 54.9	
	comp=N,2μm,0.5s						
LNCH	Linares	1.30	133	*i* P	Pn	05 03 32.5	+1.0
LNCH				*i* S	Sn	05 03 50.1	+2.3
LNCH				IAML		05 03 52.2	
	comp=E,3μm,0.8s						
PEL	Peldehue	2.51	44	*i* P	Pn	05 03 49.7	+1.5
PEL				*i* S	Sn	05 04 20.3	+2.6
PEL				IAML		05 04 32.0	
	comp=E,411nm,0.5s						

GUC 24 05:06:56.2±0.6, 35°.07S×72°.69W, h25km±30km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.93	111	*i* P	Pb	05 07 12.9	-0.7
TALC				*i* S	Sb	05 07 25.4	-0.2
COCH	Cobquecura	1.06	184	*i* P	Pn	05 07 14.8	-0.6
COCH				*i* S	Sb	05 07 28.9	-0.5
LNCH	Linares	1.18	131	*i* P	Pn	05 07 17.3	+0.1
LNCH				*i* S	Sb	05 07 32.7	-0.2
LNCH				IAML		05 07 35.7	
	comp=N,3μm,0.3s						
NICH	Los Niches	1.20	87	*i* P	Pn	05 07 17.2	-0.3
NICH				*i* S	Sn	05 07 33.1	+0.1
NICH				IAML		05 07 40.2	
	comp=E,2μm,0.3s						
RCDM	Rinconada Maip	2.22	45	*e*P4	Pn	05 07 31.8	+0.3
PEL	Peldehue	2.54	41	*e*P9	Pn	05 07 39.8	+3.8
PEL				*e*S4	Sn	05 08 06.8	+0.6
PEL				IAML		05 08 19.6	
	comp=N,255nm,0.8s						
FCH	Farellones	2.64	50	*e*P9	Pb	05 07 46.2	+2.9
FCH				*e*S4	Sn	05 08 10.5	+1.3
FCH				IAML		05 08 31.8	
	comp=N,164nm,0.3s						

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*IDC **24** 05:09:41.9±2.6, 8°.83S×108°.62E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.6/35, mbtmp3.8/6, MS3.1/2, Ms1 3.2/2, ms1mx2.7/30, Error ellipse: s-maj=121.9km s-min=20.6km az=50.0*

*ISCJB **24** 05:09:43.8±0.9, 9°.21S±0°.07×108°.58E±0°.06, h31km, mb3.7/6, MS3.1/2, Error ellipse: s-maj=10.8km s-min=6.7km az=36.6*

*DJA **24** 05:09:45.8±1.2, 9°S±4°×10°9E±°, h28km±15km, M3.9/10, MLv3.9/10*

ISC 24 05:09:45.2±1.3, 9°.06S±0°.09×108°.57E±0°.07, h31km, n19, σ1§35/17, mb3.9/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	1.27	355	P	Pb	05 10 07.9	-0.7
CMJI				S	Sb	05 10 25.5	+0.9
CISI	Cisompet, Garu	1.67	333	P	Pb	05 10 14.2	-1.2
CISI				S	Sb	05 10 36.4	+0.3
KPJI	Karang Pucung	1.75	12	P	Pb	05 10 14.7	-2.0
KPJI				S	Sb	05 10 37.3	-1.0
UGM	Wanagama	2.24	60	P	Pn	05 10 20.8	+0.6
CNJI	Cibinong	2.25	321	P	Pb	05 10 22.3	-2.9
LEM	Lembang	2.41	337	P	Pn	05 10 24.4	+1.7
PCJI	Pacitan	2.72	72	P	Pn	05 10 27.1	+0.4
PCJI				S	Sn	05 10 59.8	+1.3
PWJI	Pagerwojo	3.36	72	P	Pn	05 11 35.0	-0.5
WRA	Warramunga Arr	27.15	116	P	P	05 15 26.8	+0.8
	0.3nm,0.5s,baz=289,slow=11,SNR=3.0						
ASAR	Alice Springs	28.24	124	P	P	05 15 38.7	+3.0
	0.2nm,0.5s,baz=297,slow=9.1,SNR=2.9						
CMAR	Chiang Mai Arr	28.95	341	LR	LR	05 27 32.5	
	comp=Z,29nm,20.2s,baz=245,slow=37						
H08S2	Diego Garcia H	35.71	269	T	T	05 54 42.6	
	baz=97,SNR=2.3						
H08S3	Diego Garcia H	35.73	270	T	T	05 54 40.8	
	baz=97						
H08S1	Diego Carcia H	35.73	269	T	T	05 54 49.4	
	baz=97						
MJAR	Matsushiro Arr	53.23	30	LR	LR	05 41 43.2	
	comp=Z,23nm,20.4s,baz=135,slow=36						
SONM	Songino Array	56.68	358	P	P	05 19 26.5	+0.8
	0.4nm,0.5s,baz=173,slow=8.2,SNR=5.8						
MKAR	Makanchi Array	60.34	340	P	P	05 19 51.8	+0.6
	1.0nm,0.4s,baz=147,slow=8.3,SNR=23						
KURBB	Kurchatov Arra	64.91	339	P	P	05 20 21.7	+0.2
	0.9nm,0.6s,baz=151,slow=6.1,SNR=4.5						
ZALV	Zalesovo Beam	65.91	345	P	P	05 20 26.4	-1.5
	1.0nm,0.3s,baz=137,slow=4.9,SNR=4.7						

IDC 24 05:16:05.7±3.1, 55°.53N×86°.26E, h0km, mb1 2.8/2, mb1mx2.7/49, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=25.9km s-min=24.6km az=40.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.79	208	*i*		05 28 50.0	
	baz=28,slow=344,SNR=5.2						
ZALV	Zalesovo Beam	1.79	208	Pn	Pn	05 16 37.1	-0.8
	3.8nm,0.3s,baz=29,slow=16,SNR=27						
ZALV				Lg	Lg	05 17 02.6	
	4.6nm,0.3s,baz=24,slow=25,SNR=14						
KURBB	Kurchatov Arra	6.77	227	Pn	Pn	05 17 46.0	-0.2
	0.0nm,0.3s,baz=46,slow=14,SNR=7.0						
KURBB				Lg	Lg	05 19 41.7	
	0.0nm,0.3s,baz=42,slow=28,SNR=5.7						
MKAR	Makanchi Array	9.10	198	Pn	Pn	05 18 18.7	+0.6
	0.0nm,0.3s,baz=20,slow=4.6,SNR=5.6						
MKAR				Lg	Lg	05 20 52.5	
	0.0nm,0.3s,baz=26,slow=27,SNR=5.9						

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*NIED **24** 05:22:00, 47°.00N×146°.10E, h440km, Mw4.4 Best double couple: M0=5.17000×10^15 NP1:φ=337.00000°, δ40.00000°, λ23.00000°. NP2:φ=229.00000°, δ75.00000°, λ128.00000°.*

*MOS **24** 05:22:20.7±1.0, 47°.46N×145°.64E, h429km, mb4.3/48, Error ellipse: s-maj=9.9km s-min=5.7km az=111.1*

*JMA **24** 05:22:20.0±0.5, 47°.04N×146°.10E, h456km, M4.1*

*SKHL **24** 05:22:20.5±1.4, 47°.33N×145°.97E, h423km±13km, mb5.7/1, msh6.8/1*

*ISCJB **24** 05:22:20.4±0.3, 47°.37N±0°.04×145°.74E±0°.05, h428km±3km, mb4.2/73, Error ellipse: s-maj=6.0km s-min=5.5km az=7.3*

*NEIC **24** 05:22:21.7±0.6, 47°.58N×145°.56E, h419km±8km, mb4.3/24, Error ellipse: s-maj=13.7km s-min=7.5km az=170.0*

*IDC **24** 05:22:21.6±0.8, 47°.52N×145°.66E, h422km±8km, mb3.7/26, mb1 3.8/31, mb1mx3.6/54, mbtmp4.4/31, Error ellipse: s-maj=10.2km s-min=8.9km az=161.0*

*BJI **24** 05:22:21.0, 47°.86N×145°.47E, h414km, mB4.5/20, mb4.7/32*

ISC 24 05:22:20.7±0.5, 47°.38N±0°.05×145°.85E±0°.05, h420km±4km, h419km; pP-P, n270, σ1§32/302, mb4.2/74, 11C-6D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	2.16	260	⇑*i*PN	P	05 23 21.0	+1.7
YSS				*i* S	S	05 24 07.0	+0.1

YSS pmax pmax
comp=Z,530nm,0.9s
YSS smax smax
comp=N,420nm,1.0s
YSS Yuzh-Sakhalins 2.16 260 *e*P **P 05 23 21.0 +1.7**
YSS AMB AMB 05 23 21.5
comp=N,530nm,0.9s
YSS *e*S **S 05 24 07.0 +0.1**
YSS A A 05 24 09.0
comp=N,420nm,1.0s
YSS Yuzh-Sakhalins 2.16 260 *e*Pn **P 05 23 21.1 +1.8**
YSS *e*S **S 05 24 08.0 +1.1**
NEVR Nevel'sk 2.82 257 *e*P **P 05 23 26.0 +2.1**
NEVR AMB AMB 05 23 26.5
comp=N,550nm,0.5s
UGL Uglegorsk 3.05 305 *ce*PN **P 05 23 26.9 +1.4**
UGL *e*S **S 05 24 19.8 +1.4**
UGL Uglegorsk 3.05 305 *e*P **P 05 23 26.9 +1.4**
UGL AMB AMB 05 23 27.5
comp=N,2μm,1.5s
UGL AMB AMB 05 23 28.0
comp=N,1μm,0.8s
UGL *e*S **S 05 24 18.8 +0.4**
UGL A A 05 24 19.8
comp=N,130nm,0.8s
UGL A A 05 24 19.8
comp=N,84nm,0.8s
JSE Soyaes 3.32 224 P **P 05 23 29.4 +1.5**
YUK Yuzh-Kuril'sk 3.35 180⇑ *i*PN **P 05 23 28.7 +0.5**
YUK *i* S **S 05 24 22.7 -0.3**
YUK pmax pmax
comp=N,92nm,0.8s
YUK pmax pmax
comp=E,101nm,0.8s
YUK pmax pmax
comp=Z,142nm,0.8s
YUK smax smax
comp=N,199nm,0.8s
YUK smax smax
comp=E,525nm,0.7s
YUK smax smax
comp=N,38μm,2.0s
YUK smax smax
comp=E,46μm,2.0s
YUK Yuzh-Kuril'sk 3.35 180 *e*P **P 05 23 28.7 +0.5**
YUK AMB AMB 05 23 30.9
comp=E,142nm,0.8s
YUK *e*S **S 05 24 22.7 -0.3**
YUK A A 05 24 26.9
comp=E,199nm,0.8s
YUK A A 05 24 26.9
comp=E,525nm,0.8s
YUK A A 05 24 28.7
comp=E,46μm,2.0s
YUK A A 05 24 28.7
comp=E,38μm,2.0s
JWK2 Keihoku 3.43 234 P **P 05 23 30.8 +2.0**
JWK2 *e*S **S 05 24 25.9 +1.6**
JRA Rausu 3.48 189 P **P 05 23 29.8 +0.5**
JRA *e*S **S 05 24 24.9 -0.2**
SHO Shikotan 3.58 169 *e*P **P 05 23 28.4 -1.7**
SHO AMB AMB 05 23 28.7
comp=E,106nm,0.5s
SHO *e*S **S 05 24 22.1 -4.5**
SHO A A 05 24 24.1
comp=E,2μm,0.6s
JTKR Abashiri--Toko 3.67 202 P **P 05 23 31.7 +0.7**
JTKR *e*S **S 05 24 28.2 +0.1**
ASAJ Asahikawa 3.98 216 PN **P 05 23 34.2 +0.5**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ Asahikawa 3.98 216 P **P 05 23 35.0 +1.3**
ASAJ Asahikawa 3.98 216 P **P 05 23 34.2 +0.5**
comp=Z,2.4nm,0.3s,baz=297,slow=3.8,SNR=7.6
ASAJ Asahikawa 3.98 216 *e*Pn **P 05 23 34.6 +0.8**
NEM2 Nemuro 2 4.02 181 P **P 05 23 32.1 -2.0**
NEM2 *e*S **S 05 24 29.3 -4.5**
JKK2 Kamakawa 2 4.13 213 P **P 05 23 36.6 +1.5**
JAR Ashorobuto 4.34 201 P **P 05 23 37.3 +0.2**
JAR *e*S **S 05 24 38.1 -1.3**
JAK Akkeshi 4.46 191 P **P 05 23 36.7 -1.5**
JAK *e*S **S 05 24 36.5 -4.9**
JFR Furan 4.80 210 P **P 05 23 42.6 +1.0**
JCH Churui 5.08 201 P **P 05 23 42.9 -1.5**
JCH *e*S **S 05 24 46.9 -5.8**
JEW Eniwo 5.51 216 *e*S **S 05 24 57.6 -3.0**
JSK Shakotan 5.53 225 P **P 05 23 50.9 +2.0**
JNBK Urakawa-nobuka 5.56 204 P **P 05 23 47.8 -1.4**
JNBK *e*S S 05 24 54.9 -6.7
ERM Erimo 5.70 201 *c i*PN **P 05 23 50.9 +0.2**
ERM Erimo 5.70 201 *e*P **P 05 23 50.9 +0.2**
ERM Erimo 5.70 201 *e*Pn **P 05 23 50.6 0.0**
JKB Kayabe 6.48 214 P **P 05 23 57.7 -1.2**
JKB *e*S S 05 25 12.2 -7.3
JOT Ohata 6.92 212 P **P 05 24 02.6 -1.5**
JOT *e*S S 05 25 20.9 -7.3
HABR Khabarovsk 7.34 283 *e*PN **P 05 24 07.6 -1.0**
HABR *e*S **S 05 25 36.1 -0.5**
HABR pmax pmax
comp=Z,25nm,1.2s
KLR Kul'dur 9.58 286 *e*PN P 05 24 29.9 -3.3
KLR *e*S **S 05 26 19.2 -3.4**
USRK Ussuriysk Ar. 10.19 257 P **P 05 24 38.3 -1.7**
comp=Z,0.5nm,0.3s,baz=67,slow=11,SNR=10.0
MAJO Matsushiro 12.23 210 *d i*PN **P 05 25 03.0 +0.5**
MAJO Matsushiro 12.23 210 *e*P **P 05 25 03.0 +0.5**
MJAR Matsushiro Arr 12.23 210 PN **P 05 25 02.6 +0.1**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 12.23 210 P **P 05 25 02.6 +0.1**
comp=Z,0.5nm,0.3s,baz=19,slow=12,SNR=2.7
CN2 Changchun 14.72 263 *e*P **P 05 25 28.3 -1.1**
CN2 PMZ
comp=Z,40nm,0.6s
CLNS Chul'man 15.92 314 *e*P **P 05 25 42.3 +0.2**
CLNS *e*S **S 05 28 33.1 +4.3**
CLNS pmax pmax
comp=Z,7.0nm,0.9s
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS smax smax
comp=N,6.0nm,1.0s
CLNS smax smax
comp=E,5.0nm,0.9s
SEY Seymchan 16.01 11 P **P 05 25 43.1 +0.2**
comp=E,0.3nm,0.3s,baz=185,slow=8.2,SNR=15
KSRS Korea Array 16.51 240 P **P 05 25 49.4 +0.8**
comp=E,0.4nm,0.3s,baz=43,slow=10,SNR=22
KSRS ScP **ScP 05 33 09.2 +1.2**
comp=E,0.0nm,0.3s,baz=76,slow=1.5,SNR=5.1
YAK Yakutsk 17.32 334 *e*P **P 05 25 53.5 -3.4**
YAK *e*S **S 05 28 52.2 -3.4**
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=N,17nm,1.0s
YAK pmax pmax
comp=Z,56nm,0.9s
YAK smax smax
comp=E,170nm,3.3s
YAK smax smax
comp=N,63nm,1.3s
YAK Yakutsk 17.32 334 P **P 05 25 55.5 -1.3**
comp=N,0.0nm,0.3s,baz=60,slow=1.2,SNR=13
YAK Yakutsk 17.32 334 *e*Pn **P 05 25 54.1 -2.7**
comp=N,68nm,0.6s
BOD Bodaibo 21.78 310 *e*P **P 05 26 38.0 -1.7**
BOD pmax pmax
comp=Z,14nm,0.9s
BJT Baijiatuau 22.59 262 *e*P **P 05 26 47.0 -0.3**
BJT pmax pmax
comp=Z,19nm,0.4s
BJT Baijiatuau 22.59 262 *e*P **P 05 26 47.0 -0.3**
comp=Z,19nm,0.4s
HHC Hu-ho-hao-te 25.32 268 *e*P **P 05 27 12.8 +0.9**
HHC sP **sP 05 29 13.8 -0.8**
HHC S **S 05 31 11.6 +4.7**
HHC PcS **PcS 05 34 15.6 +3.4**
HHC PMZ
comp=Z,55nm,1.0s
HHC PMZ
comp=Z,160nm,5.2s
TIXI Tiksi 25.62 348 *ce*P **P 05 27 12.2 -1.7**
TIXI pmax pmax
comp=Z,1.0nm,0.6s
TIXI Tiksi 25.62 348 *e*P **P 05 27 12.3 -1.6**
comp=Z,6.3nm,1.3s
ULN Ulaanbaatar 25.98 286 *d i*P **P 05 27 16.8 -0.8**
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 25.98 286 *e*P **P 05 27 16.8 -0.8**
ULN Ulaanbaatar 25.98 286 *e*P **P 05 27 16.9 -0.7**
comp=Z,8.3nm,0.8s
SONM Songino Array 26.41 286 P **P 05 27 21.1 -0.4**
comp=Z,2.8nm,0.7s,baz=74,slow=8.4,SNR=30
SONM pP **pP 05 28 34.2 +0.3**
comp=Z,0.2nm,0.5s,baz=99,slow=8.9,SNR=0.8
TLY Talaya 27.44 295 *e*P **P 05 27 30.6 +0.2**
TLY pmax pmax
comp=Z,7.0nm,0.8s
TLY Talaya 27.44 295 P **P 05 27 30.3 0.0**
comp=Z,3.9nm,0.6s,baz=81,slow=7.5,SNR=6.5
TLY Talaya 27.44 295 *e*P **P 05 27 30.4 0.0**
comp=Z,8.9nm,1.0s
ZAK Zakamensk 27.88 292 *e*P **P 05 27 33.9 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
XAN Xi'an 30.70 258 P **P 05 27 59.4 +0.2**
XAN PMZ
comp=Z,10.0nm,4.0s
LZH Lanzhou 32.94 265 *e*P **P 05 28 19.8 +1.2**
LZH PMZ
comp=Z,36nm,1.0s
LZH PMZ
comp=Z,170nm,5.3s
HVS Khovu-Aksy 33.65 296 *d i*P **P 05 28 24.0 -0.3**
HVS pmax pmax
comp=Z,46nm,1.0s
GTA Gaotai 33.97 274 *e*P **P 05 28 27.8 +0.6**
GTA PMZ
comp=Z,9.0nm,1.0s
CD2 Chengdu 36.06 258 *e*P P 05 28 49.0 +4.2
CD2 S **S 05 33 51.4 -1.3**
CD2 PMZ
comp=Z,20nm,1.0s
KTH Kantishna Hill 37.53 41 P **P 05 28 58.0 +1.5**
ZALV Zalesovo Beam 38.16 303 P **P 05 29 00.8 -1.0**
ZALV 05 31 06.0
ZALV 05 34 12.0
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 38.16 303 P **P 05 29 00.8 -1.0**
comp=Z,3.7nm,0.5s,baz=57,slow=8.3,SNR=4.3
ZALV PcP **PcP 05 31 06.0 -0.1**
comp=Z,1.7nm,0.7s,baz=117,slow=1.7,SNR=4.2
ZALV ScP **ScP 05 34 11.9 -1.1**
comp=Z,0.5nm,0.3s,baz=46,slow=6.2,SNR=4.0
RC01 Rabbit Creek A 38.39 45 *e*P **P 05 29 05.1 +1.5**
SEW Seward 38.70 46 P **P 05 29 05.2 -0.9**
ILAR Eielson Array 39.16 39 P **P 05 29 10.1 +0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 39.16 39 P **P 05 29 10.1 +0.2**
comp=Z,1.3nm,0.8s,baz=277,slow=7.8,SNR=15
WMQ Urumqi 40.03 287 P **P 05 29 17.5 +0.2**
WMQ pP **pP 05 30 36.8 +0.3**
WMQ PMZ
comp=Z,11nm,1.0s
WMQ PMZ
comp=Z,52nm,4.0s
MKAR Makanchi Array 42.19 294 P **P 05 29 34.0 -0.5**
comp=Z,9.1nm,0.5s,baz=69,slow=7.6,SNR=122
MKAR pP **pP 05 30 54.7 0.0**
comp=Z,1.0nm,0.9s,baz=63,slow=9.9,SNR=1.6
SLVN Son La 42.56 247 *e*P **P 05 29 38.9 +1.1**
KURK Kurchatov 42.82 300 *e*P **P 05 29 38.7 -0.7**
KURK pmax pmax
comp=Z,14nm,0.8s
KURK Kurchatov 42.82 300 *e*P **P 05 29 38.5 -0.9**
KURK Kurchatov 42.82 300 *e*P **P 05 29 38.7 -0.7**
comp=Z,14nm,0.8s
KURBB Kurchatov Arra 42.91 300 P **P 05 29 39.4 -0.8**
comp=Z,19nm,0.7s,baz=70,slow=8.6,SNR=131
KURBB PcP **PcP 05 31 20.8 -1.0**
comp=Z,1.3nm,0.6s,baz=60,slow=3.7,SNR=4.5
KURBB ScP **ScP 05 34 30.8 -1.2**
comp=Z,0.2nm,0.3s,baz=68,slow=3.5,SNR=6.3
BVA0 Borovoye Array 46.55 306 *i*P **P 05 30 07.6 -0.8**
BVA0 pmax pmax
comp=Z,19nm,0.8s
CHTO Chiang Mai 47.55 250 *e*P **P 05 30 17.1 +0.7**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 47.55 250 *e*P **P 05 30 17.1 +0.7**
comp=Z,3.9nm,0.7s
CMAR Chiang Mai Arr 47.82 249 P **P 05 30 18.5 +0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 47.82 249 P **P 05 30 18.5 +0.1**
comp=Z,0.6nm,0.3s,baz=29,slow=6.9,SNR=6.3
ULHL Ulahol 48.15 291 P **P 05 30 21.2 +0.3**
SNR=26
ULHL Ulahol 48.15 291 *i*P **P 05 30 21.2 +0.3**
TKM2 Tokmak 2 48.21 292 P **P 05 30 21.6 +0.2**
SNR=7.9
TKM2 Tokmak 2 48.21 292 *e*P **P 05 30 21.5 +0.2**
TKM2 pmax pmax
comp=Z,5.0nm,0.7s
TKM2 Tokmak 2 48.21 292 *e*P **P 05 30 21.5 +0.2**
comp=Z,4.9nm,0.7s
USP Ospenovka 48.72 293 P **P 05 30 25.3 +0.3**
SNR=10.0
USP Ospenovka 48.72 293 *i*P **P 05 30 25.2 +0.3**
KBK Karagaybulak 48.76 292 P **P 05 30 25.7 +0.3**
SNR=7.0
KBK Karagaybulak 48.76 292 *i*P **P 05 30 25.7 +0.3**
KZA Kyzart 48.87 291 P **P 05 30 27.5 +0.9**
SNR=17
KZA Kyzart 48.87 291 *i*P **P 05 30 27.4 +0.9**
AAK Ala-Archa 49.05 292 P **P 05 30 27.6 0.0**
SNR=8.7
AAK Ala-Archa 49.05 292 *ce*P **P 05 30 27.4 -0.2**
AAK pmax pmax
comp=Z,14nm,0.6s
AAK Ala-Archa 49.05 292 P **P 05 30 27.5 0.0**
comp=Z,7.5nm,0.8s,baz=97,slow=4.6,SNR=20
AAK Ala-Archa 49.05 292 *e*P **P 05 30 27.4 -0.2**
AAK Ala-Archa 49.05 292 *e*P **P 05 30 27.7 0.0**
EKS2 Erkin-Say 49.49 293 P **P 05 30 31.0 +0.1**
SNR=16
EKS2 Erkin-Say 49.49 293 *e*P **P 05 30 30.9 +0.1**
EKS2 pmax pmax
comp=Z,12nm,0.9s
EKS2 Erkin-Say 49.49 293 *e*P **P 05 30 30.9 +0.1**
comp=Z,12nm,0.9s
ODAN Odare 49.67 267 *e*P **P 05 30 32.6 +0.1**
AML Almayashu 49.82 292 P **P 05 30 34.0 +0.4**
SNR=7.2
AML Almayashu 49.82 292 *i*P **P 05 30 34.0 +0.4**
JIRN Jiri 49.97 269 *e*P **P 05 30 35.3 +0.4**
comp=Z,36nm,0.7s
GUN Gumba 50.02 269 *e*P **P 05 30 35.3 +0.1**
comp=Z,12nm,0.5s
RAMN Ramite 50.15 268 *e*P **P 05 30 36.2 +0.2**
comp=Z,31nm,0.5s
KKN Kakani 50.50 270 *e*P **P 05 30 39.6 +1.0**
PKI Pulchoki 50.56 269 *e*P **P 05 30 39.2 0.0**
PKIN Phulchoki 50.56 269 *e*P **P 05 30 39.2 +0.1**
comp=Z,8.2nm,0.5s
DMN Daman 50.74 270 *e*P **P 05 30 41.1 +0.7**
comp=Z,20nm,0.6s
GKN Gorkha 50.80 270 *e*P **P 05 30 41.1 +0.3**
comp=Z,34nm,0.8s
SPITS Spitsbergen Ar 51.04 348 P **P 05 30 40.3 -1.3**
SPITS pmax pmax
comp=Z,5.0nm,1.0s
SPITS Spitsbergen Ar 51.04 348 P **P 05 30 40.3 -1.3**
comp=Z,5.4nm,1.0s,baz=32,slow=6.9,SNR=7.9
ARU Arti 51.11 315 *d i*P **P 05 30 41.3 -1.1**
ARU S **S 05 37 28.9 +1.7**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU Arti 51.11 315 *e*P **P 05 30 41.5 -0.9**
ARU Arti 51.11 315 *e*P **P 05 30 41.5 -0.9**
DANN Dangsing 51.18 271 *e*P **P 05 30 44.3 +0.6**
comp=Z,27nm,0.5s
KKAR Karatay Array 51.29 295 *e*P **P 05 30 43.6 -0.3**
KKAR Karatay Array 51.29 295 *e*P **P 05 30 43.6 -0.3**
KOLN Koldanda 51.66 271 *e*P **P 05 30 47.5 +0.4**
comp=Z,25nm,0.8s
PYUN Piuthan 51.86 272 *e*P **P 05 30 49.0 +0.4**
comp=Z,56nm,0.8s
YKA Yellowknife Ar 53.31 35 P **P 05 30 58.3 +0.1**
comp=Z,0.7nm,0.6s,baz=305,slow=6.9,SNR=17
YKA ScP **ScP 05 35 16.3 +0.5**
comp=Z,0.2nm,0.8s,baz=304,slow=3.6,SNR=3.7
PRGR Permogore 54.06 325 *e*P **P 05 31 01.8 -1.7**
PRGR pmax pmax
comp=Z,14nm,0.9s
AB31 Akbulak array 54.13 306 *i*P **P 05 31 03.6 -0.7**
AB31 pmax pmax
comp=Z,9.0nm,0.4s
AKTO Aktyubinsk 54.52 308 P **P 05 31 06.2 -0.9**
AKTO pmax pmax
comp=Z,3.0nm,0.6s
AKTO Aktyubinsk 54.52 308 P **P 05 31 06.2 -0.9**
comp=Z,3.0nm,0.6s,baz=65,slow=7.3,SNR=16
ARCES ARCESS Array B 55.53 338 P **P 05 31 12.7 -1.2**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 55.53 338 P **P 05 31 12.7 -1.2**
comp=Z,1.3nm,0.4s,baz=50,slow=7.5,SNR=9.8
KBL Kabul 57.18 287 *e*P **P 05 31 25.4 -0.7**
KBL pmax pmax
comp=Z,16nm,0.6s
KBL Kabul 57.18 287 *e*P **P 05 31 25.4 -0.7**
comp=Z,16nm,0.6s
JOF Joensuu 58.46 331 *e*P **P 05 31 31.8 -2.4**
JOF pmax pmax
comp=Z,5.0nm,0.6s
JOF Joensuu 58.46 331 *e*p **P 05 31 31.8 -2.4**
comp=Z,5.3nm,0.6s
SUMG Summit 60.30 1 *e*P **P 05 31 47.2 +0.3**
SUMG Summit 60.30 1 *e*P **P 05 31 47.2 +0.3**
comp=Z,252nm,3.0s
KAF Kangasniemi 60.67 332 *e*P **P 05 31 47.1 -1.9**
KAF pmax pmax
comp=Z,7.0nm,0.7s
KAF Kangasniemi 60.67 332 *e*p **P 05 31 47.1 -1.9**
comp=Z,6.6nm,0.7s
FINES FINESS Array B 61.23 332 *i*P **P 05 31 51.7 -1.0**
FINES pmax pmax
comp=Z,11nm,0.5s
FINES FINESS Array B 61.23 332 P **P 05 31 51.8 -1.0**
comp=Z,11nm,0.5s,baz=49,slow=6.9,SNR=69
OBN Obninsk 61.87 322 *d i*P **P 05 31 58.4 +1.4**
OBN pmax pmax
comp=Z,3.0nm,0.6s
GEYT Alibeck 61.95 296 P **P 05 31 58.0 +0.1**
comp=Z,9.7nm,0.6s,baz=27,slow=3.6,SNR=18
VSU Vasula 63.24 329 *e*P **P 05 32 05.3 -0.6**
VSU pmax pmax
comp=Z,22nm,0.6s
WVOR Wild Horse Val 63.58 55 *e*P **P 05 32 10.7 +2.1**
WVOR pmax pmax
comp=Z,5.0nm,1.0s
WVOR Wild Horse Val 63.58 55 *e*P **P 05 32 10.7 +2.1**
comp=Z,4.8nm,1.0s
HRY Holter Researc 64.37 48 *e*P **P 05 32 15.4 +1.8**
DLMT Dillon 64.89 50 *e*P **P 05 32 18.7 +1.8**
BOZ Bozeman (W) 65.19 49 *e*P **P 05 32 20.5 +1.6**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 65.19 49 *e*P **P 05 32 20.5 +1.6**
BOZ Bozeman (W) 65.19 49 *e*P **P 05 32 20.5 +1.6**
comp=Z,2.8nm,0.8s
NB2 NORSAR Subarra 65.89 338 P **P 05 32 21.9 -1.0**
comp=Z,9.0nm,0.8s,baz=32,slow=6.5
NOA NORSAR Array B 65.89 338 P **P 05 32 22.1 -0.8**
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA NORSAR Array B 65.89 338 P **P 05 32 22.1 -0.8**
comp=Z,6.4nm,0.7s,baz=32,slow=6.3,SNR=29
NVAR Mina Array Bea 66.44 58 P **P 05 32 28.7 +1.8**
comp=Z,2.7nm,0.7s,baz=291,slow=5.9,SNR=26
H17A Grant Village 66.60 49 *e*P P 05 32 31.2 +3.3
KIV Kislovodsk 66.69 310 *e*P **P 05 32 29.3 +1.0**
KIV pmax pmax
comp=Z,40nm,0.9s
KIV Kislovodsk 66.69 310 *e*P **P 05 32 28.4 +0.1**
KIV Kislovodsk 66.69 310 *e*P **P 05 32 28.4 +0.1**
comp=Z,34nm,0.8s
KBZ Khabaz 66.74 310 P **P 05 32 28.9 +0.5**
KBZ pmax pmax
comp=Z,16nm,0.8s
KBZ Khabaz 66.74 310 P **P 05 32 28.9 +0.5**
comp=Z,16nm,0.8s,baz=65,slow=3.9,SNR=51
ZEI Tsey 66.86 308 *e*P **P 05 32 28.4 -1.1**
ZEI pmax pmax
comp=Z,17nm,0.9s
TPH Tonopah 67.30 58 *e*P **P 05 32 34.0 +1.7**
TPH pmax pmax
comp=Z,3.0nm,0.7s
TPH Tonopah 67.30 58 *e*P **P 05 32 34.0 +1.7**
comp=Z,2.9nm,0.7s
WRA Warramunga Arr 67.81 192 P **P 05 32 35.9 +0.7**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 67.81 192 P **P 05 32 35.9 +0.7**
comp=Z,2.2nm,0.6s,baz=10,slow=6.6,SNR=12
AKASG Malin Array Be 68.13 322 P **P 05 32 35.9 -1.0**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 68.13 322 P **P 05 32 35.9 -1.0**
comp=Z,5.8nm,0.5s,baz=35,slow=5.9,SNR=13
KIEV Kiev 68.14 322 *e*P **P 05 32 35.8 -1.2**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 68.14 322 *e*P **P 05 32 35.8 -1.2**
comp=Z,9.8nm,0.9s
GNI Garni 68.24 306 *de*P **P 05 32 39.2 +1.2**
GNI pmax pmax
comp=Z,15nm,1.4s
PDAR Pinedale Array 68.27 50 P **P 05 32 39.2 +1.0**
comp=Z,2.1nm,0.6s,baz=315,slow=1.1,SNR=20
DUG Dugway, Tooele 68.33 54 *e*P **P 05 32 40.6 +2.1**
DUG pmax pmax
comp=Z,4.0nm,1.0s
DUG Dugway, Tooele 68.33 54 *e*P **P 05 32 40.6 +2.1**
DUG Dugway, Tooele 68.33 54 *e*P **P 05 32 40.6 +2.1**
comp=Z,3.5nm,1.0s
TPNV Topopah Spring 68.64 58 *e*P **P 05 32 42.3 +1.9**
TPNV pmax pmax
comp=Z,5.0nm,0.8s
TPNV Topopah Spring 68.64 58 *e*P **P 05 32 42.3 +1.9**
comp=Z,5.2nm,0.8s
SHPR Sheep Range 69.57 58 *e*P **P 05 32 47.9 +1.8**
comp=Z,2.4nm,1.1s
SRU San Rafael Swe 70.34 53 *e*P **P 05 32 52.7 +2.0**
SRU San Rafael Swe 70.34 53 *e*P **P 05 32 52.7 +2.0**
LVV L'vov 70.92 324 *e*P **P 05 32 53.2 -0.6**
ASAR Alice Springs 71.53 192 P **P 05 32 59.2 +1.6**
ASAR *PP **pP 05 34 31.0 +2.1**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 71.53 192 P **P 05 32 59.2 +1.6**
comp=Z,1.5nm,0.6s,baz=3.2,slow=5.2,SNR=25
ASAR pP **pP 05 34 30.9 +2.1**
comp=Z,0.3nm,0.6s,baz=8.9,slow=6.6,SNR=1.9
KWP Kalwaria Pacla 71.59 325 *e*P **P 05 32 58.0 +0.3**
KWP Kalwaria Pacla 71.59 325 *e*P **P 05 32 58.0 +0.3**
KOLS Kolonicke sedl 72.32 325 *e*P **P 05 33 02.2 +0.2**
KOLS pmax pmax
comp=Z,8.0nm,1.2s
KOLS Kolonicke sedl 72.32 325 *e*P **P 05 33 02.2 +0.2**
STHS Stebnicka Huta 72.33 326 *e*P **P 05 33 02.9 +0.8**
STHS pmax pmax
comp=Z,6.0nm,1.3s
STHS Stebnicka Huta 72.33 326 *e*P **P 05 33 02.9 +0.8**
KSP Ksiaz 72.97 329 *e*P **P 05 33 05.8 +0.1**
UPC Upice 73.35 329 *e*P **P 05 33 08.0 +0.1**
UPC Upice 73.35 329 *e*P **P 05 33 08.0 +0.1**
DPC Dobruska-Polom 73.37 329 *e*P **P 05 33 08.5 +0.4**
DPC Dobruska-Polom 73.37 329 *e*P **P 05 33 08.5 +0.4**
MORC Moravsky Berou 73.41 328 *e*P **P 05 33 08.4 0.0**
MORC pmax pmax
comp=Z,8.0nm,0.8s
MORC Moravsky Berou 73.41 328 *e*P **P 05 33 08.4 0.0**
comp=Z,7.6nm,0.8s
KRLC Kraliky 73.44 329 *e*P **P 05 33 08.6 +0.1**
KRLC Kraliky 73.44 329 *e*P **P 05 33 08.6 +0.1**
MLR Muntele Rosu 73.56 321 P **P 05 33 08.6 -0.7**
MLR pmax pmax
comp=Z,1.0nm,0.7s
MLR Muntele Rosu 73.56 321 P **P 05 33 08.6 -0.7**

comp=Z,1.0nm,0.7s,baz=162,slow=7.7,SNR=6.8
CLL Collm 73.68 331 ⇑*iP* **P 05 33 09.4 -0.4**
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 73.68 331 *eP* **P 05 33 09.4 -0.4**
comp=Z,12nm,1.0s
CLL Collm 73.68 331 ⇑*iP* **P 05 33 09.4 -0.4**
comp=Z,12nm,1.0s
PVCC Panska Ves 73.82 330 *eP* **P 05 33 10.4 -0.2**
PVCC Panska Ves 73.82 330 *eP* **P 05 33 10.4 -0.2**
VYHS Vyhne 74.00 326 *eP* **P 05 33 12.1 +0.4**
VYHS pmax pmax
comp=Z,2.0nm,1.1s
VYHS Vyhne 74.00 326 *eP* **P 05 33 12.1 +0.4**
CLZ Clausthal 74.05 333 *eP* **P 05 33 12.3 +0.3**
comp=Z,10.0nm,1.2s
VRAC Vranov 74.15 328 P **P 05 33 11.8 -0.7**
VRAC pmax pmax
comp=Z,4.0nm,0.6s
VRAC Vranov 74.15 328 P **P 05 33 11.8 -0.7**
comp=Z,3.7nm,0.6s,baz=12,slow=6.2,SNR=5.3
PRU Pruhonice 74.29 330 *eP* **P 05 33 12.7 -0.6**
PRU Pruhonice 74.29 330 *eP* **P 05 33 12.7 -0.6**
BRTR Keskin Array B 74.41 312 *iP* **P 05 33 14.6 +0.3**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 74.41 312 P **P 05 33 14.7 +0.4**
comp=Z,4.0nm,0.8s,baz=79,slow=4.4,SNR=17
TREC Trest 74.55 329 *eP* **P 05 33 15.0 +0.2**
TREC Trest 74.55 329 *eP* **P 05 33 15.0 +0.2**
MOX Moxa 74.70 332 *eP* **P 05 33 15.6 0.0**
comp=Z,11nm,1.5s
KHC Kasperske Hory 75.35 330 *eP* **P 05 33 19.4 0.0**
KHC pmax pmax
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 75.35 330 *eP* **P 05 33 19.3 -0.1**
KHC Kasperske Hory 75.35 330 *eP* **P 05 33 19.2 -0.1**
KHC Kasperske Hory 75.35 330 *eP* **P 05 33 19.4 -0.1**
comp=Z,5.6nm,1.0s
GERES GERESS Array B 75.55 330 P **P 05 33 20.5 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 75.55 330 P **P 05 33 20.4 -0.1**
comp=Z,1.2nm,0.6s,baz=33,slow=5.1,SNR=12
WET Wettzell 75.58 330 *eP* **P 05 33 20.9 +0.3**
comp=Z,6.0nm,1.1s
GRF Grafenberg Arr 75.65 332 *eP* **P 05 33 21.0 0.0**
comp=Z,9.0nm,0.8s
GROS Grobnik 76.94 327 *eP* **P 05 33 28.1 -0.2**
KBA Koelnbreinsper 77.19 329 ⇑*iP* **P 05 33 30.4 +0.6**
comp=Z,11nm,1.3s
LEGS Legarje 77.44 327 *iP* **P 05 33 30.6 -0.4**
WTTA Wattenberg 77.62 330 ⇑*iP* **P 05 33 32.5 +0.3**
comp=Z,10.0nm,0.9s
MOTA Moosalm 77.73 330 ⇑*iP* **P 05 33 31.4 -1.3**
comp=Z,7.3nm,0.7s
CDF Champ du Feu 78.02 333 *eP* **P 05 33 32.7 -1.5**
comp=Z,11nm,0.9s
CDF Champ du Feu 78.02 333 *eP* **P 05 33 32.7 -1.5**
CDF pmax pmax
comp=Z,11nm,0.9s
CDF Champ du Feu 78.02 333 *eP* **P 05 33 32.7 -1.5**
comp=Z,11nm,0.9s
FLN La Foliniere 79.88 338 *eP* **P 05 33 42.3 -1.7**
FLN La Foliniere 79.88 338 *eP* **P 05 33 42.3 -1.7**
FLN La Foliniere 79.88 338 *eP* **P 05 33 42.3 -1.7**
LDF La Druitiere 79.94 338 *eP* **P 05 33 43.7 -0.6**
LDF La Druitiere 79.94 338 *eP* **P 05 33 43.7 -0.6**
LDF La Druitiere 79.94 338 *eP* **P 05 33 43.7 -0.6**
LOR Lormes 80.06 335 *eP* **P 05 33 43.3 -1.7**
LOR Lormes 80.06 335 *eP* **P 05 33 43.3 -1.7**
LOR Lormes 80.06 335 *eP* **P 05 33 43.3 -1.7**
GRR Gorron 80.32 338 *eP* **P 05 33 44.9 -1.4**
comp=Z,22nm,1.0s
GRR Gorron 80.32 338 *eP* **P 05 33 44.9 -1.4**
GRR pmax pmax
comp=Z,22nm,1.0s
GRR Gorron 80.32 338 *eP* **P 05 33 44.9 -1.4**
comp=Z,22nm,1.0s
SMF Signal de Mont 80.63 335 *eP* **P 05 33 46.5 -1.5**
SMF Signal de Mont 80.63 335 *eP* **P 05 33 46.5 -1.5**
SMF Signal de Mont 80.63 335 *eP* **P 05 33 46.5 -1.5**
AVF Avril sur Loir 80.64 335 *eP* **P 05 33 46.6 -1.4**
comp=Z,7.9nm,0.9s
AVF Avril sur Loir 80.64 335 *eP* **P 05 33 46.6 -1.4**
AVF pmax pmax
comp=Z,8.0nm,0.9s
AVF Avril sur Loir 80.64 335 *eP* **P 05 33 46.6 -1.4**
comp=Z,7.9nm,0.9s
LPL La Plagne 80.77 332 *eP* **P 05 33 47.9 -1.1**
comp=Z,6.2nm,0.9s
LPL La Plagne 80.77 332 *eP* **P 05 33 47.9 -1.1**
LPL pmax pmax
comp=Z,6.0nm,0.9s
LPL La Plagne 80.77 332 *eP* **P 05 33 47.9 -1.1**
comp=Z,6.2nm,0.9s
LPG La Plagne 80.78 332 *eP* **P 05 33 48.2 -1.0**
comp=Z,5.4nm,0.8s
LPG La Plagne 80.78 332 *eP* **P 05 33 48.2 -1.0**
LPG pmax pmax
comp=Z,5.0nm,0.8s
LPG La Plagne 80.78 332 *eP* **P 05 33 48.2 -1.0**
comp=Z,5.4nm,0.8s
TXAR Lajitas Array 81.38 56 P **P 05 33 53.9 +1.6**
TXAR pmax pmax
comp=Z,3.0nm,0.8s
TXAR Lajitas Array 81.38 56 P **P 05 33 53.9 +1.6**
comp=Z,3.2nm,0.8s,baz=292,slow=4.0,SNR=19
TCF Toulx Ste Croi 81.43 335 *eP* **P 05 33 51.0 -1.2**
TCF Toulx Ste Croi 81.43 335 *eP* **P 05 33 51.0 -1.2**
TCF Toulx Ste Croi 81.43 335 *eP* **P 05 33 51.0 -1.2**
ORIF Oris-en-Rattie 81.57 332 *eP* **P 05 33 51.9 -1.2**
ORIF Oris-en-Rattie 81.57 332 *eP* **P 05 33 51.9 -1.2**
ORIF Oris-en-Rattie 81.57 332 *eP* **P 05 33 51.9 -1.2**
MFF Saint Martin d 81.78 337 *eP* **P 05 33 53.0 -1.0**
MFF Saint Martin d 81.78 337 *eP* **P 05 33 53.0 -1.0**
MFF Saint Martin d 81.78 337 *eP* **P 05 33 53.0 -1.0**
ETSF Etsaut 85.32 336 *eP* **P 05 34 10.8 -1.1**
comp=Z,3.7nm,0.6s
ETSF Etsaut 85.32 336 *eP* **P 05 34 10.8 -1.1**
ETSF pmax pmax
comp=Z,4.0nm,0.6s
ETSF Etsaut 85.32 336 *eP* **P 05 34 10.8 -1.1**
comp=Z,3.7nm,0.6s

DJA 24 05:22:58.5±0.4, 1°S±3°×12°3E±°, h10km, M4.2/8, mb4.6/1, mB4.9/1, MLv3.9/8, Mw(mB)4.2/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.42**	**174**	P	Pg	05 23 06.9	+0.1
LUWI				S	Sb	05 23 14.0	-0.5
APSI	**Ampana**	**1.12**	**255**	P	Pb	05 23 17.3	-2.7
APSI				S	Sn	05 23 35.5	-0.2
GTOI	**Gorontalo**	**1.28**	**13**	P	Pn	05 23 21.4	-1.0
MRSI	**Marisa**	**1.35**	**324**	P	Pn	05 23 22.7	-0.7
MRSI				S	Sg	05 23 42.5	+0.6
MPSI	**Mapaga**	**2.99**	**289**	P	Pn	05 23 46.7	+0.7
TTSI	**Tana Toraja**	**3.78**	**230**	P	Pn	05 23 56.3	-0.5
SPSI	**Sidrap Palu**	**4.45**	**222**	P	Pn	05 24 06.1	0.0
NLAI	**Namlea**	**5.08**	**121**	P	Pn	05 24 14.8	0.0

*IDC **24** 05:30:10.0±1.0, 32°.45N×92°.79E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/40, mbtmp3.5/6, ML3.1/1, Error ellipse: s-maj=63.5km s-min=20.7km az=57.0*
*ISCJB **24** 05:30:10.6±1.0, 32°.6N±0°.2×92°.9E±0°.4, h17km, mb3.6/4, Error ellipse: s-maj=61.9km s-min=16.7km az=150.4*
ISC 24 05:30:12.5±1.2, 32°.6N±0°.3×92°.8E±0°.4, h17km, n6, σ1§40/6, mb3.6/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.33**	**334**	Pn	**Pn**	**05 33 59.2**	**-1.7**
	0.1nm,0.3s,baz=140,slow=13,SNR=3.3						
KURBB	**Kurchatov Arra**	**20.90**	**334**	P	**P**	**05 34 54.6**	**+0.8**
	0.7nm,0.7s,baz=145,slow=12,SNR=4.7						
ZALV	**Zalesovo Beam**	**22.12**	**347**	P	**P**	**05 35 08.4**	**+1.4**
	0.4nm,0.3s,baz=153,slow=13,SNR=2.1						
WRA	**Warramunga Arr**	**65.61**	**137**	P	**P**	**05 40 55.3**	**-0.4**
	0.2nm,0.5s,baz=318,slow=8.2,SNR=3.3						
ASAR	**Alice Springs**	**68.31**	**140**	P	**P**	**05 41 12.8**	**-0.1**
	0.3nm,0.5s,baz=326,slow=6.3,SNR=7.2						
TORD	**Torodi Ar. Bea**	**83.96**	**282**	P	**P**	**05 42 42.6**	**+0.4**
	0.9nm,0.6s,baz=42,slow=4.3,SNR=9.7						

MEX 24 05:33:51.5±0.7, 17°.28N×101°.23W, h16km±82km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.40**	**325**	*eP*	Pg	05 33 58.7	-1.0
ZIIG				*eS*	Sg	05 34 03.6	-1.6
CAIG	**El Cayaco**	**0.94**	**104**	*eP*	Pb	05 34 05.8	-3.7
CAIG				*eS*	Sb	05 34 18.6	-3.2
ARIG	**Puente Sto Nin**	**1.30**	**40**	*eP*	Pn	05 34 11.1	-4.0
ARIG				*eS*	Sn	05 34 27.6	-4.6
MEIG	**Mezcala**	**1.66**	**67**	*eP*	Pn	05 34 17.1	-3.0
MEIG				*eS*	Sn	05 34 35.8	-5.4
PLIG	**Platanillo**	**1.98**	**56**	*eP*	Pn	05 34 21.6	-2.9
PLIG				*eS*	Sn	05 34 45.0	-4.1
TLIG	**Tlapa**	**2.56**	**83**	*eP*	Pn	05 34 30.2	-2.3
TLIG				*eS*	Sn	05 34 59.6	-3.7

*IDC **24** 05:34:36.6±0.9, 34°.96S×73°.96W, h0km, mb3.9/6, mb1 4.0/9, mb1mx3.8/23, mbtmp3.7/9, ML3.7/3, MS3.0/2, Ms1 2.9/2, ms1mx2.6/18, Error ellipse: s-maj=33.1km s-min=22.0km az=79.0*
*ISCJB **24** 05:34:40.3±0.6, 34°.85S±0°.05×73°.85W±0°.05, h33km, mb4.1/9, MS3.1/1, Error ellipse: s-maj=8.2km s-min=5.5km az=22.6*
*GUC **24** 05:34:40.4±0.5, 34°.83S×73°.85W, h54km±11km, ML4.1*
*NEIC **24** 05:34:41.7±0.5, 34°.94S×73°.80W, h35km, mb4.0/2, Error ellipse: s-maj=13.8km s-min=9.2km az=80.0*
ISC 24 05:34:41.7±0.7, 34°.85S±0°.06×73°.83W±0°.08, h35km, n30, σ1§12/34, mb3.9/9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.88**	**107**	*iP*	**Pn**	**05 35 11.4**	**+0.1**
TALC				*iS*	**Sn**	**05 35 34.7**	**+0.8**
LNCH	**Linares**	**2.08**	**119**	*iP*	**Pn**	**05 35 14.3**	**+0.3**
LNCH				*iS*	**Sn**	**05 35 39.7**	**+1.0**
LNCH				IAML		05 35 43.8	
	comp=N,2μm,0.9s						
NICH	**Los Niches**	**2.14**	**95**	*iP*	**Pn**	**05 35 15.1**	**+0.2**
NICH				*iS*	**Sn**	**05 35 41.3**	**+1.0**
NICH				IAML		05 35 45.3	
	comp=E,2μm,0.5s						
LNV	**Longovilo**	**2.19**	**67**	*iP4*	**Pn**	**05 35 14.4**	**-1.2**
LNV				*iS4*	**Sn**	**05 35 38.9**	**-2.6**
RCDM	**Rinconada Maip**	**2.85**	**62**	*iP*	**Pn**	**05 35 23.9**	**-0.8**
RCDM				*eS4*	**Sn**	**05 35 56.8**	**-1.0**
ANTU	**Antumapu**	**2.94**	**65**	*iS*	**Sn**	**05 36 00.0**	**-0.1**
CLCH	**Cerro Calan**	**3.09**	**63**	*iP*	**Pn**	**05 35 27.8**	**-0.3**
CLCH				*iS*	**Sn**	**05 36 04.2**	**+0.3**
CLCH				IAML		05 36 10.2	
	comp=E,331nm,0.4s						
CFAA	**Coronel Fontan**	**5.70**	**57**	Pn	**Pn**	**05 36 04.5**	**+0.7**
	comp=E,0.3nm,0.3s,baz=248,slow=12,SNR=24						
LCO	**Las Campanas**	**6.40**	**25**	*ePn*	**Pn**	**05 36 12.5**	**-1.3**
PLCA	**Paso Flores**	**6.42**	**157**	Pn	**Pn**	**05 36 13.2**	**-0.6**
	comp=E,1.0nm,0.3s,baz=326,slow=11,SNR=36						
PLCA				Lg	Lg	05 37 45.3	
	comp=E,0.6nm,0.3s,baz=254,slow=24,SNR=3.5						
PLCA				LR	LR	05 38 08.9	
	comp=E,78nm,21.5s,baz=328,slow=33						
PLCA	**Paso Flores**	**6.42**	**157**	*ePn*	**Pn**	**05 36 13.5**	**-0.3**
TRQA	**Tornquist**	**10.07**	**112**	*ePn*	**Pn**	**05 37 03.1**	**-0.7**
LPAZ	**La Paz**	**19.18**	**17**	P	**Pn**	**05 39 04.5**	**+0.5**
	comp=E,0.1nm,0.3s,baz=170,slow=11,SNR=2.3						
ATAH	**Atahualpa**	**27.90**	**350**	LR	LR	05 49 45.8	
	comp=E,48nm,20.5s,baz=255,slow=32						
PMSA	**Palmer Station**	**30.54**	**172**	P	**P**	**05 40 48.5**	**-2.8**
PTGA	**Pitinga**	**36.33**	**24**	*eP*	**P**	**05 41 44.0**	**+1.7**
ROSC	**El Rosal**	**39.50**	**359**	P	**P**	**05 42 10.0**	**+0.5**
SDV	**Santo Domingo**	**43.60**	**5**	*eP*	**P**	**05 42 43.0**	**+0.2**
RCBR	**Riachuelo**	**45.35**	**59**	*eP*	**P**	**05 42 56.2**	**-0.5**
SJG	**San Juan**	**53.17**	**9**	*eP*	P	05 44 00.3	+4.1
	comp=E,17nm,0.3s						
QSPA	**South Pole Qui**	**55.39**	**180**	P	**P**	**05 44 11.0**	**-1.1**
	comp=E,3.5nm,1.0s,baz=270,slow=3.0,SNR=3.3						
QSPA	**South Pole Qui**	**55.39**	**180**	P	**P**	**05 44 11.0**	**-1.1**
TXAR	**Lajitas Array**	**69.78**	**332**	P	**P**	**05 45 48.8**	**+0.3**
	comp=E,0.7nm,0.6s,baz=158,slow=7.8,SNR=9.3						
HWUT	**Hardware Ranch**	**83.60**	**332**	*eP*	**P**	**05 47 06.6**	**+0.3**
	comp=E,1.3nm,0.7s						
NVAR	**Mina Array Bea**	**83.75**	**326**	P	**P**	**05 47 08.9**	**+1.7**
	comp=E,0.4nm,0.7s,baz=172,slow=6.8,SNR=3.2						
PDAR	**Pinedale Array**	**83.87**	**334**	P	**P**	**05 47 09.3**	**+1.6**
	comp=E,0.5nm,0.7s,baz=156,slow=6.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**85.89**	**71**	P	**P**	**05 47 19.3**	**+1.0**
	comp=E,0.3nm,0.7s,baz=247,slow=3.0,SNR=3.0						
MCMT	**McKenzie Canyo**	**86.84**	**333**	*eP*	**P**	**05 47 23.4**	**+0.8**
	comp=E,0.3nm,0.5s						
ULM	**Lac du Bonnet**	**86.95**	**346**	P	**P**	**05 47 21.7**	**-0.9**
	comp=E,0.6nm,0.3s,baz=216,slow=3.9,SNR=3.9						
MKAR	**Makanchi Array**	**158.44**	**49**	PKPab	**PKPab**	**05 55 10.6**	**+0.8**
	comp=E,0.3nm,0.6s,baz=305,slow=4.3,SNR=4.0						

MEX 24 05:35:56.4±0.3, 17°.25N×101°.22W, h10km±22km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.43**	**327**	*eP*	Pg	05 36 04.4	-0.4
ZIIG				*eS*	Sg	05 36 10.7	+0.2
CAIG	**El Cayaco**	**0.93**	**102**	*eP*	Pg	05 36 11.5	-2.8
CAIG				*iS*	Sg	05 36 23.5	-3.0
ARIG	**Puente Sto Nin**	**1.32**	**39**	*eP*	Pn	05 36 17.0	-3.9
ARIG				*iS*	Sb	05 36 33.3	-5.0
MEIG	**Mezcala**	**1.67**	**66**	*iP*	Pn	05 36 22.8	-3.0
MEIG				*iS*	Sn	05 36 42.4	-4.8
PLIG	**Platanillo**	**1.99**	**55**	*eP*	Pn	05 36 27.3	-2.9
PLIG				*iS*	Sn	05 36 50.9	-4.4
TLIG	**Tlapa**	**2.55**	**83**	*eP*	Pn	05 36 35.6	-2.4
TLIG				*iS*	Sn	05 37 04.7	-4.5

GUC 24 05:44:47.6±0.5, 37°.27S×74°.04W, h16km±8km, ML3.6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.86**	**61**	*iP*	Pb	05 45 03.8	-0.3
CCSP				*iS*	Sg	05 45 15.7	+0.1
COCH	**Cobquecura**	**1.52**	**42**	*iP*	Pn	05 45 13.8	-0.2
COCH				*iS*	Sb	05 45 34.2	-0.1
COCH				IAML		05 45 45.4	
	comp=E,1μm,0.7s						
LNCH	**Linares**	**2.42**	**55**	*iP*	Pn	05 45 28.4	+1.9
LNCH				*iS*	Sb	05 45 59.2	-1.1

WEL 24 05:49:06.9±0.4, 36°.23S×177°.86E, h211km±4km, ML3.5/2, Error ellipse: s-maj=6.9km s-min=5.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.52**	**182**	PN	Pn	05 49 41.5	-0.2
HAZ				SN	S	05 50 08.7	0.0
WMGZ	**Waiomatatini S**	**1.65**	**165**	PN	Pn	05 49 42.7	-0.1
WMGZ				SN	S	05 50 10.2	-0.4
PUZ	**Puketiti**	**1.87**	**170**	SN	S	05 50 13.7	-0.7
PUZ				AML	AML	05 50 16.3	
TWGZ	**Tauwhareparae**	**1.95**	**177**	PN	Pn	05 49 46.5	+0.7
URZ	**Urewera**	**2.11**	**196**	PN	Pn	05 49 47.6	+0.3
URZ				*e*SN	S	05 50 19.2	+0.5
CNGZ	**Carnagh Statio**	**2.27**	**173**	PN	Pn	05 49 49.5	+0.6
KNZ	**Kokohu**	**2.79**	**183**	PN	Pn	05 49 54.5	-0.2
KNZ				SN	S	05 50 31.5	-0.3

*IDC **24** 06:05:18.4±2.8, 9°.07S×123°.88E, h90km±32km, mb3.3/2, mb1 3.4/4, mb1mx3.1/30, mbtmp3.6/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/11, Error ellipse: s-maj=60.3km s-min=31.7km az=58.0*
*DJA **24** 06:05:22.0±0.5, 10°S±6°×12°3E±°, h19km±18km, M3.7/5, MLv3.7/5*
*AUST **24** 06:05:24.4, 10°.00S×123°.51E, h60km*
ISC 24 06:05:18.7±0.7, 9°.54S±0°.07×123°.38E±0°.07, h100km, n20, σ2§24/23, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.72**	**157**	P	**Pn**	**06 05 37.1**	**+0.7**
BATI				S	**Sn**	**06 05 45.9**	**-3.7**
BATI	**Baumata**	**0.72**	**157**	P	Pn	06 05 40.7	+4.3
	112nm,0.3s,baz=352,slow=3.5,SNR=37						
BATI				S	Sn	06 05 55.9	+6.3
	96nm,0.3s,baz=229,slow=20,SNR=18						
SOEI	**Soe**	**0.90**	**104**	P	Pn	06 05 43.3	+5.1
SOEI	**Soe**	**0.90**	**104**	P	**Pn**	**06 05 41.3**	**+3.0**
	baz=0.8,SNR=102						
MMRI	**Maumere**	**1.44**	**308**	P	**Pn**	**06 05 44.6**	**+0.3**
MMRI				S	**Sn**	**06 06 03.0**	**-0.6**
EDFI	**Ende, Flores**	**1.84**	**295**	P	**Pn**	**06 05 49.9**	**+0.5**
WSI	**Waingapu**	**3.04**	**267**	P	**Pn**	**06 06 04.9**	**-0.1**
KNRA	**Kununurra**	**8.05**	**140**	P	**Pn**	**06 07 14.9**	**+1.9**
	baz=7.6,SNR=9.7						
KNRA				S	**Sn**	**06 08 40.8**	**-1.6**
	baz=7.6,SNR=11						
MTN	**Manton Dam**	**8.29**	**114**	P	**Pn**	**06 07 17.5**	**+1.3**
	baz=8.0,SNR=35						
MTN				S	**Sn**	**06 08 46.9**	**-1.2**
	baz=8.0,SNR=4.1						
FITZ	**Fitzroy Crossi**	**8.79**	**166**	P	**Pn**	**06 07 25.6**	**+2.6**
	baz=8.4,SNR=17						
FITZ				S	**Sn**	**06 08 58.3**	**-2.0**
	baz=8.4,SNR=11						
KDU	**Kakadu**	**9.46**	**110**	P	**Pn**	**06 07 32.5**	**+0.4**
	baz=9.2,SNR=12						
WRA	**Warramunga Arr**	**14.80**	**136**	P	**Pn**	**06 08 41.8**	**-1.2**
	0.3nm,0.3s,baz=321,slow=12,SNR=7.5						
WRA				S	Sn	06 11 16.0	-10
	0.5nm,0.3s,baz=307,slow=24,SNR=5.6						
WRKA	**Warakurna**	**16.11**	**164**	P	**P**	**06 09 03.6**	**+2.8**
	baz=16,SNR=5.0						
ASAR	**Alice Springs**	**17.28**	**146**	P	**P**	**06 09 16.1**	**+2.3**
	0.2nm,0.3s,baz=318,slow=12,SNR=15						
ASAR				S	**Sn**	**06 12 21.1**	**-5.0**
	0.2nm,0.3s,baz=322,slow=24,SNR=12						
MEEK	**Meekatharra**	**17.59**	**194**	P	**Pn**	**06 09 20.8**	**+3.2**
	baz=17,SNR=4.4						
QIS	**Mount Isa**	**19.10**	**127**	P	Pn	06 09 40.7	+5.0
	baz=19,SNR=3.5						
MJAR	**Matsushiro Arr**	**47.91**	**16**	LR	LR	06 34 04.3	
	comp=Z,12nm,19.6s,baz=175,slow=36						
SONM	**Songino Array**	**59.08**	**347**	P	**P**	**06 15 07.1**	**-1.4**
	0.5nm,0.6s,baz=169,slow=8.4,SNR=4.5						
MKAR	**Makanchi Array**	**66.97**	**331**	P	**P**	**06 16 00.0**	**-0.7**
	0.3nm,0.5s,baz=140,slow=8.6,SNR=5.5						
MKAR				pP	**pP**	**06 16 26.3**	**+0.4**
	0.5nm,0.6s,baz=132,slow=6.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**122.81**	**279**	PKP	**PKPdf**	**06 24 05.6**	**+1.5**
	0.2nm,0.5s,baz=73,slow=1.4,SNR=5.0						

*IDC **24** 06:10:43.5±1.6, 5°.10S×104°.23E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/33, mbtmp3.8/6, Error ellipse: s-maj=81.2km s-min=20.8km az=49.0*
*ISCJB **24** 06:10:57.1±0.6, 5°.45S±0°.06×104°.31E±0°.08, h124km±5km, mb3.7/6, Error ellipse: s-maj=14.9km s-min=6.6km az=147.7*
*DJA **24** 06:11:00.5±0.4, 5°S±5°×10°4E±°, h92km±4km, M3.8/14, MLv3.8/14*
ISC 24 06:10:59.0±1.1, 5°.48S±0°.06×104°.38E±0°.06, h109km±8km, n23, σ1§46/26, mb3.7/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.12**	**112**	P	**Pn**	**06 11 15.1**	**+0.9**
KASI				S	**Sn**	**06 11 24.7**	**-0.8**
LWLI	**Liwa**	**0.56**	**325**	P	**Pn**	**06 11 16.0**	**-0.4**
KLI	**Kotabumi**	**0.77**	**38**	P	**Pn**	**06 11 17.0**	**-1.0**
BLSI	**Bandar Lampung**	**0.86**	**83**	P	**Pn**	**06 11 19.0**	**+0.2**
BLSI				S	**Sn**	**06 11 34.4**	**+0.6**
MDSI	**Maura Dua**	**1.00**	**348**	P	**Pn**	**06 11 19.3**	**-0.9**
MDSI				S	**Sn**	**06 11 35.1**	**-1.1**
CGJI	**Cibinong**	**1.72**	**131**	P	**Pn**	**06 11 30.4**	**+1.9**
CGJI				S	**Sn**	**06 11 53.2**	**+2.2**
MNAI	**Manna**	**1.80**	**308**	P	**Pn**	**06 11 30.6**	**+1.1**
MNAI	**Manna**	**1.80**	**308**	P	**Pn**	**06 11 31.2**	**+1.7**
	baz=2.0,SNR=32						
MNAI				S	**Sn**	**06 11 55.9**	**+3.1**
	baz=2.0,SNR=12						
LHSI	**Lahat**	**1.85**	**332**	P	**Pn**	**06 11 29.9**	**-0.2**
SBJI	**Serang**	**1.85**	**110**	P	**Pn**	**06 11 31.0**	**+0.9**
CNJI	**Cibinong**	**3.28**	**124**	P	**Pn**	**06 11 49.6**	**+0.8**
LEM	**Lembang**	**3.48**	**113**	P	**Pn**	**06 11 52.9**	**+1.3**
JMBI	**JAMBI**	**3.89**	**349**	P	**Pn**	**06 11 56.5**	**-0.4**
CISI	**Cisompet, Garu**	**3.99**	**121**	P	**Pn**	**06 11 58.5**	**+0.2**
XMI	**Christmas Isla**	**5.11**	**165**	P	**Pn**	**06 12 13.8**	**+0.4**
	baz=5.0,SNR=5.8						
XMI				S	**Sn**	**06 13 10.4**	**-0.8**
	baz=5.0,SNR=11						
XMIS	**Christmas Isla**	**5.13**	**166**	P	**Pn**	**06 12 13.0**	**-0.6**
	baz=5.0,SNR=21						
XMIS				S	**Sn**	**06 13 08.1**	**-3.6**
	baz=5.0,SNR=14						
UGM	**Wanagama**	**6.56**	**112**	P	**Pn**	**06 12 34.5**	**+1.4**
	baz=6.4,SNR=4.2						
WRA	**Warramunga Arr**	**32.48**	**119**	P	**P**	**06 17 18.8**	**-0.7**
	0.5nm,0.3s,baz=299,slow=9.6,SNR=5.9						
ASAR	**Alice Springs**	**33.69**	**125**	P	**P**	**06 17 29.6**	**-0.4**
	0.8nm,0.3s,baz=295,slow=7.8,SNR=11						
SONM	**Songino Array**	**53.11**	**2**	P	P	06 20 00.1	-5.4
	0.4nm,0.5s,baz=184,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**55.61**	**342**	P	P	06 20 18.1	-5.3
	0.4nm,0.5s,baz=150,slow=9.7,SNR=9.5						
KURBB	**Kurchatov Arra**	**60.16**	**341**	P	P	06 20 50.2	-4.9
	0.3nm,0.8s,baz=161,slow=5.9,SNR=3.8						
BRTR	**Keskin Array B**	**78.88**	**312**	P	P	06 22 46.9	-3.8
	0.9nm,0.7s,baz=123,slow=8.9,SNR=5.1						

*IDC **24** 06:13:46.5±0.9, 7°.63N×92°.12E, h0km, mb4.0/10, mb1 4.2/12, mb1mx3.9/38, mbtmp4.1/12, ML4.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/35, Error ellipse: s-maj=32.8km s-min=17.2km az=52.0*
*ISCJB **24** 06:13:48.2±0.6, 7°.63N±0°.10×92°.14E±0°.09, h24km, mb4.0/11, Error ellipse: s-maj=15.4km s-min=10.6km az=32.9*
*NEIC **24** 06:13:51.5±0.3, 7°.65N×92°.13E, h35km, mb4.3/1, Error ellipse: s-maj=9.3km s-min=7.0km az=214.0*
ISC 24 06:13:50.1±0.7, 7°.6N±0°.1×92°.14E±0°.10, h24km, n24, σ0§65/24, mb4.1/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.77**	**105**	*ePn*	**Pn**	**06 15 56.0**	**+0.4**
PALK	**Pallekele**	**11.35**	**269**	Pn	**Pn**	**06 16 31.4**	**+0.5**
	3.5nm,0.3s,baz=81,slow=14,SNR=11						

1.8nm,0.8s,baz=301,slow=7.6,SNR=20
TIXI Tiksi 67.86 12 *e*P **P 06 24 45.5 -0.6**
1.4nm,0.5s
FINES FINESS Array B 72.00 332 P **P 06 25 10.9 -0.8**
0.7nm,0.6s,baz=151,slow=3.2,SNR=3.8
GERES GERESS Array B 76.68 318 P **P 06 25 38.8 -0.7**
0.3nm,0.2s,baz=87,slow=5.5,SNR=5.2
URZ Urewera 90.74 128 P **P 06 26 51.1 -0.3**
COLD Coldfoot 93.30 20 P **P 06 27 02.4 -0.3**
PDAR Pinedale Array 126.08 20 PKP **PKPdf 06 32 49.7 -1.4**
0.2nm,0.7s,baz=56,slow=3.7,SNR=4.1
NVAR Mina Array Bea 126.12 30 PKP **PKPdf 06 32 50.5 -0.8**
0.2nm,0.7s,baz=305,slow=2.9,SNR=4.0
TXAR Lajitas Array 140.22 22 PKP **PKPdf 06 33 18.1 +0.3**
0.2nm,0.5s,baz=336,slow=2.0,SNR=3.4
LPAZ La Paz 158.88 244 *e*PKPdf **PKPdf 06 33 47.5 -0.3**

*IDC **24** 06:16:55.4±3.0, 34°.12S×72°.61W, h0km, mb3.8/2, mb1 3.7/5, mb1mx3.5/28, mbtmp3.6/5, ML3.3/3, MS3.3/3, Ms1 3.3/3, ms1mx3.0/18, Error ellipse: s-maj=84.3km s-min=30.9km az=97.0*
*ISCJB **24** 06:17:00.9±1.7, 34°.10S±0°.07×72°.4W±0°.2, h52km±18km, mb4.0/1, MS3.6/2, Error ellipse: s-maj=24.5km s-min=8.4km az=23.4*
*GUC **24** 06:17:01.0±0.4, 34°.12S×72°.18W, h40km, ML4.1*
ISC 24 06:17:03.4±2.5, 34°.17S±0°.08×72°.2W±0°.2, h53km±23km, n14, σ1s20/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.12**	**138**	*e*P9	**Pn**	**06 17 20.7**	**-2.2**
NICH				*e*S4	**Sn**	**06 17 37.4**	**+0.1**
NICH				IAML		06 17 46.6	
	comp=E,5μm,0.5s						
TALC	**Talca**	**1.29**	**161**	*i* P	**Pn**	**06 17 25.0**	**-0.2**
TALC				*i* S	**Sn**	**06 17 43.8**	**+2.4**
RCDM	**Rinconada Maip**	**1.31**	**59**	*i* P	**Pn**	**06 17 24.6**	**-0.7**
ANTU	**Antumapu**	**1.40**	**65**	*i* P	**Pn**	**06 17 26.1**	**-0.5**
ANTU				*i* S	**Sn**	**06 17 44.9**	**+0.9**
ANTU				IAML		06 17 49.1	
	comp=E,7μm,0.5s						
FSR	**Penalolen**	**1.52**	**63**	*e*P9	Pn	06 17 28.9	+0.6
FSR				*e*S4	**Sn**	**06 17 48.6**	**+1.7**
LACH	**Col Las Americ**	**1.53**	**62**	*i* P	**Pn**	**06 17 27.7**	**-0.7**
LACH				*i* S	**Sn**	**06 17 48.2**	**+1.1**
LACH				IAML		06 17 53.4	
	comp=N,4μm,0.6s						
LACH				IAML		06 17 57.9	
	comp=E,3μm,0.5s						
CLCH	**Cerro Calan**	**1.55**	**60**	*i* P	**Pn**	**06 17 28.2**	**-0.4**
CLCH				*i* S	**Sn**	**06 17 48.6**	**+0.9**
CLCH				IAML		06 17 56.4	
	comp=E,7μm,0.4s						
CFAA	**Coronel Fontan**	**4.17**	**53**	Pn	Pn	06 18 05.5	+1.0
	comp=E,0.4nm,0.3s,baz=226,slow=12,SNR=29						
CFAA				Lg	Lg	06 19 06.0	
	comp=E,1.9nm,0.3s,baz=106,slow=21,SNR=6.8						
CFAA				LR	LR	06 19 47.7	
	comp=E,47nm,20.5s,baz=240,slow=39						
PLCA	**Paso Flores**	**6.67**	**169**	Pn	**Pn**	**06 18 38.5**	**-0.3**
	comp=E,0.1nm,0.3s,baz=356,slow=18,SNR=5.5						
LPAZ	**La Paz**	**18.17**	**12**	P	**Pn**	**06 21 12.0**	**-0.5**
	comp=E,0.1nm,0.3s,baz=177,slow=6.7,SNR=7.2						
SIV	**San Ignacio**	**20.67**	**32**	P	**P**	**06 21 38.5**	**-0.4**
	comp=E,1.7nm,0.6s,baz=215,slow=14,SNR=3.8						
SIV				LR	LR	06 31 01.3	
	comp=E,182nm,18.3s,baz=216,slow=41						
LPIG	**La Paz**	**68.36**	**323**	LR	LR	06 51 04.0	
	comp=E,52nm,19.3s,baz=272,slow=30						
TORD	**Torodi Ar. Bea**	**84.35**	**70**	P	**P**	**06 29 30.1**	**-0.1**
	comp=E,1.2nm,0.9s,baz=244,slow=4.1,SNR=5.8						
MKAR	**Makanchi Array**	**156.94**	**49**	PKPab	**PKPab**	**06 37 23.6**	**+0.7**
	comp=E,0.2nm,0.6s,baz=307,slow=5.2,SNR=3.6						

SKHL 24 06:22:42.7±0.4, 54°.95N×123°.96E, h10km, mb3.7/6, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**1.82**	**105**	*e*Pg	Pb	06 23 16.0	-0.2
KROS				AMB	AMB	06 23 17.0	
	16nm,0.4s						
KROS				*e*Sg	Sb	06 23 40.0	+0.9
KROS				A	A	06 23 42.5	
	33nm,0.3s						
KROS				A	A	06 23 42.5	
	170nm,0.3s						
KROS				A	A	06 23 42.5	
	57nm,0.3s						
CLNS	**Chul'man**	**1.96**	**15**	*e*Pg	Pb	06 23 19.3	+0.7
CLNS				AMB	AMB	06 23 23.1	
	4.0nm,0.2s						
CLNS				*e*Sg	Sg	06 23 45.2	-0.7
CLNS				A	A	06 23 46.8	
	138nm,0.5s						
CLNS				A	A	06 23 46.8	
	124nm,0.5s						
ZEA	**Zeya**	**2.28**	**121**	*e*Pg	Pb	06 23 24.4	+0.5
ZEA				AMB	AMB	06 23 25.5	
	17nm,0.3s						
ZEA				*e*Sg	Sb	06 23 53.5	+1.4
ZEA				A	A	06 23 55.0	
	44nm,0.6s						
ZEA				A	A	06 23 55.0	
	69nm,0.6s						
TUP	**Tupik**	**2.38**	**259**	*e*Pn	Pn	06 23 21.9	0.0
TUP				*e*Pg	Pb	06 23 25.6	-0.2
TUP				AMB	AMB	06 23 27.9	
	14nm,0.1s						
TUP				*e*Sn	Sn	06 23 52.2	+1.0
TUP				*e*Sg	Sb	06 23 57.2	+1.9
TUP				A	A	06 24 02.8	
	49nm,0.5s						
CRS	**Chara**	**3.75**	**304**	*e*Pg	Pg	06 23 52.2	-2.4
CRS				AMB	AMB	06 24 15.7	
	14nm,0.5s						
CRS				*e*Sg	Sg	06 24 40.7	-2.5
CRS				A	A	06 24 44.8	
	33nm,1.0s						

MEX 24 07:12:06.3±0.4, 18°.52N×101°.21W, h72km±10km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.86**	**106**	*e*P	Pn	07 12 21.7	-1.5
ARIG				*e*S	Sn	07 12 33.9	-1.8
ZIIG	**Zihuatanejo**	**0.94**	**195**	*i* P	Pn	07 12 22.6	-1.6
ZIIG				*e*S	Sn	07 12 36.1	-1.4
MOIG	**Morelia**	**1.15**	**1**	*i* P	Pn	07 12 25.7	-1.5
MOIG				*i* S	Sn	07 12 40.1	-2.6
CAIG	**El Cayaco**	**1.72**	**148**	*e*P	Pn	07 12 33.3	-1.0
CAIG				*i* S	Sn	07 12 53.0	-2.5
MMIG	**Aquila**	**2.04**	**264**	*i* P	Pn	07 12 37.5	-1.0
MMIG				*i* S	Sn	07 13 01.2	-1.9

GUC 24 07:15:03.1±0.6, 35°.96S×73°.63W, h39km±4km, ML3.5, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.70**	**105**	⇑*i*P	Pn	07 15 16.3	-0.3
COCH				*i* S	Sn	07 15 25.9	-0.3
CCSP	**San Pedro de C**	**0.98**	**155**	⇑*i*P	Pn	07 15 19.9	-0.5
CCSP				*i* S	Sn	07 15 33.5	+0.4
CCSP				IAML		07 15 36.8	
	comp=E,3μm,0.3s						
LNCH	**Linares**	**1.65**	**87**	⇑*i*P	Pn	07 15 30.4	+0.8
LNCH				*i* S	Sn	07 15 50.6	+1.0

WEL 24 07:21:29.6±0.2, 44°.41S×167°.15E, h5km, ML3.1/4, Error ellipse: s-maj=1.9km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.62**	**115**	P*	Pg	07 21 42.1	+0.6
MSZ				SG	Sg	07 21 50.4	+0.9
MSZ				AML	AML	07 21 51.4	
MLZ	**Mavora Lakes**	**1.19**	**142**	P*	Pg	07 21 51.7	-0.8
MLZ				S*	Sg	07 22 07.7	-0.2
JCZ	**Jackson Bay**	**1.21**	**74**	P*	Pg	07 21 52.4	-0.5
JCZ				S*	Sg	07 22 08.7	0.0
JCZ				AML	AML	07 22 11.4	
WKZ	**Wanaka**	**1.40**	**108**	PN	Pn	07 21 55.4	-0.4
WKZ				AML	AML	07 22 15.8	
WKZ				AML	AML	07 22 16.8	
WHZ	**Wether Hill Ro**	**1.59**	**159**	PN	Pn	07 21 57.4	-1.0
EAZ	**Earnscleugh**	**1.74**	**119**	*e*PN	Pn	07 22 00.2	-0.3
EAZ				*e*SN	Sn	07 22 22.3	-0.8
EAZ				AML	AML	07 22 24.6	
FOZ	**Fox Glacier**	**2.02**	**66**	PN	Pb	07 22 06.5	-0.3
SYZ	**Scrubby Hill**	**2.55**	**147**	*e*PN	Pn	07 22 11.2	-0.3
ODZ	**Otahua Downs**	**2.57**	**105**	*e*PN	Pn	07 22 11.6	-0.3

*IDC **24** 07:21:47.1±0.6, 44°.93S×166°.18E, h0km, mb4.3/4, mb1 4.5/5, mb1mx4.1/23, mbtmp4.4/5, ML4.0/1, MS3.8/8, Ms1 3.8/8, ms1mx3.5/22, Error ellipse: s-maj=31.1km s-min=21.1km az=49.0*
*BJI **24** 07:21:48.9, 45°.17S×165°.83E, h11km, Ms7 4.7/2*
*NEIC **24** 07:21:50.3±1.8, 44°.98S×166°.03E, h20km±13km, mb4.4/3, ML4.9(WEL), Error ellipse: s-maj=7.5km s-min=6.5km az=208.0*
*WEL **24** 07:21:52.6±0.4, 45°.16S×166°.19E, h12km, ML4.9/33, Error ellipse: s-maj=3.2km s-min=2.3km az=90.0*
ISC 24 07:21:47.2±1.4, 45°.06S±0°.05×166°.09E±0°.04, h0km±8km, n136, σ1s08/128, mb4.4/7, MS3.9/7, 3C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**1.36**	**74**	PN	**Pb**	**07 22 14.1**	**+0.6**
MSZ				AML	AML	07 22 37.2	
MSZ				AML	AML	07 22 38.8	
MSZ				AML	AML	07 22 38.9	
MSZ				AML	AML	07 22 41.4	
MSZ	**Milford Sound**	**1.36**	**74**	Pn	**Pb**	**07 22 14.0**	**+0.4**
MSZ				Sn	**Sg**	**07 22 30.4**	**-0.6**
MLZ	**Mavora Lakes**	**1.50**	**102**	PN	**Pg**	**07 22 16.5**	**+0.5**
MLZ				SN	**Sg**	**07 22 35.1**	**-0.4**
MLZ				AML	AML	07 22 38.3	
MLZ	**Mavora Lakes**	**1.50**	**102**	Pn	**Pg**	**07 22 16.5**	**+0.5**
MLZ				Sn	**Sg**	**07 22 34.6**	**-0.8**
WHZ	**Wether Hill Ro**	**1.55**	**123**	PN	**Pg**	**07 22 17.5**	**+0.5**
WHZ				SN	**Sn**	**07 22 36.8**	**-0.1**
WHZ				AML	AML	07 22 39.7	
WHZ	**Wether Hill Ro**	**1.55**	**123**	*e*Pn	**Pg**	**07 22 17.7**	**+0.7**
WHZ				*e*Sn	**Sn**	**07 22 36.9**	**-0.1**
WKZ	**Wanaka**	**2.09**	**85**	PN	**Pb**	**07 22 26.1**	**+0.1**
WKZ				AML	AML	07 22 54.4	
WKZ				AML	AML	07 22 54.5	
WKZ				AML	AML	07 22 55.9	
WKZ				AML	AML	07 22 56.0	
WKZ	**Wanaka**	**2.09**	**85**	Pn	**Pb**	**07 22 26.5**	**+0.4**
WKZ				Sn	**Sb**	**07 22 52.4**	**-0.1**
JCZ	**Jackson Bay**	**2.14**	**64**	PN	**Pn**	**07 22 25.1**	**+0.8**
JCZ				AML	AML	07 23 02.9	
JCZ				AML	AML	07 23 07.6	
JCZ	**Jackson Bay**	**2.14**	**64**	Pn	**Pn**	**07 22 25.1**	**+0.8**
APZ	**The Paps**	**2.22**	**144**	⇑PN	**Pn**	**07 22 26.7**	**+1.4**
APZ				SN	**Sn**	**07 22 51.9**	**-1.5**
APZ				AML	AML	07 23 03.0	
APZ	**The Paps**	**2.22**	**144**	⇑Pn	**Pn**	**07 22 26.7**	**+1.4**
APZ				Sn	**Sn**	**07 22 51.9**	**-1.5**
EAZ	**Earnscleugh**	**2.28**	**96**	⇓PN	**Pb**	**07 22 29.1**	**-0.1**
EAZ				SN	**Sn**	**07 22 55.4**	**+0.5**
EAZ				AML	AML	07 22 56.1	
EAZ				AML	AML	07 22 56.1	
EAZ				AML	AML	07 22 56.9	
EAZ	**Earnscleugh**	**2.28**	**96**	Pn	**Pb**	**07 22 29.1**	**-0.1**
EAZ				Sn	**Sn**	**07 22 55.5**	**+0.5**
SYZ	**Scrubby Hill**	**2.60**	**126**	PN	**Pn**	**07 22 32.3**	**+1.9**
SYZ				SN	**Sn**	**07 23 01.9**	**-0.7**
SYZ				AML	AML	07 23 02.9	
SYZ				AML	AML	07 23 02.9	
SYZ				AML	AML	07 23 12.8	
SYZ	**Scrubby Hill**	**2.60**	**126**	Pn	**Pn**	**07 22 32.3**	**+1.9**
SYZ				Sn	**Sn**	**07 23 02.5**	**-0.1**
TUZ	**Tuapeka**	**2.65**	**111**	PN	**Pn**	**07 22 33.4**	**+2.3**
TUZ				SN	**Sn**	**07 23 02.9**	**-1.0**
TUZ	**Tuapeka**	**2.65**	**111**	Pn	**Pn**	**07 22 33.4**	**+2.3**
TUZ				Sn	**Sn**	**07 23 02.9**	**-1.0**
FOZ	**Fox Glacier**	**2.98**	**61**	PN	**Pn**	**07 22 37.0**	**+1.3**
FOZ				AML	AML	07 23 40.7	
FOZ				AML	AML	07 23 46.6	
FOZ				AML	AML	07 23 46.6	
FOZ				AML	AML	07 23 49.7	
FOZ	**Fox Glacier**	**2.98**	**61**	Pn	**Pn**	**07 22 37.0**	**+1.3**
LBZ	**Lake Benmore**	**2.99**	**79**	⇑PN	**Pn**	**07 22 37.6**	**+1.7**
LBZ				SN	**Sn**	**07 23 11.9**	**-0.6**
LBZ				AML	AML	07 23 12.4	
LBZ				AML	AML	07 23 12.7	
LBZ				AML	AML	07 23 32.9	
LBZ	**Lake Benmore**	**2.99**	**79**	Pn	**Pn**	**07 22 37.6**	**+1.7**
ODZ	**Otahua Downs**	**3.23**	**91**	PN	**Pn**	**07 22 40.8**	**+1.7**
ODZ	**Otahua Downs**	**3.23**	**91**	*e*Pn	**Pn**	**07 22 40.8**	**+1.7**
ODZ				Sn	**Sn**	**07 23 15.4**	**-2.8**
ODZ				*e*Sn	Sb	07 23 16.2	-9.0
HHSZ	**Highcliff Hill**	**3.28**	**106**	PN	**Pn**	**07 22 41.8**	**+2.0**
HHSZ	**Highcliff Hill**	**3.28**	**106**	Pn	**Pn**	**07 22 41.7**	**+1.8**
RPZ	**Rata Peaks**	**3.80**	**71**	PN	**Pn**	**07 22 47.8**	**+0.8**
RPZ				AML	AML	07 23 34.3	
RPZ				AML	AML	07 23 36.9	
RPZ	**Rata Peaks**	**3.80**	**71**	*e*Pn	**Pn**	**07 22 47.8**	**+0.8**
RPZ				*e*Sn	**Sn**	**07 23 33.5**	**+1.1**
WVZ	**Waitaha Valley**	**3.89**	**61**	PN	**Pn**	**07 22 48.0**	**-0.1**
WVZ				AML	AML	07 23 50.5	
WVZ	**Waitaha Valley**	**3.89**	**61**	Pn	**Pn**	**07 22 47.9**	**-0.3**
OXZ	**Oxford**	**4.61**	**70**	PN	**Pn**	**07 22 57.4**	**-0.8**
MQZ	**McQueen's Vall**	**4.89**	**76**	PN	**Pn**	**07 23 01.8**	**-0.2**
MQZ	**McQueen's Vall**	**4.89**	**76**	Pn	**Pn**	**07 23 01.8**	**-0.2**
LTZ	**Lake Taylor**	**5.01**	**65**	PN	**Pn**	**07 23 03.1**	**-0.6**
LTZ				AML	AML	07 24 03.0	
LTZ				AML	AML	07 24 07.6	
LTZ	**Lake Taylor**	**5.01**	**65**	Pn	**Pn**	**07 23 03.0**	**-0.6**
DSZ	**Denniston Nort**	**5.31**	**54**	PN	**Pn**	**07 23 07.7**	**-0.2**
DSZ	**Denniston Nort**	**5.31**	**54**	Pn	**Pn**	**07 23 07.6**	**-0.2**
THZ	**Tophouse**	**5.95**	**59**	PN	**Pn**	**07 23 16.4**	**-0.2**
THZ				AML	AML	07 24 25.4	
THZ				AML	AML	07 24 27.6	
THZ	**Tophouse**	**5.95**	**59**	Pn	**Pn**	**07 23 16.2**	**-0.4**
KHZ	**Kahutara**	**6.00**	**67**	*e*PN	**Pn**	**07 23 16.4**	**-0.8**
KHZ	**Kahutara**	**6.00**	**67**	*e*Pn	**Pn**	**07 23 20.0**	**+2.7**
QRZ	**Quartz Range**	**6.34**	**50**	PN	**Pn**	**07 23 21.8**	**-0.1**
QRZ	**Quartz Range**	**6.34**	**50**	Pn	**Pn**	**07 23 21.8**	**-0.1**
NNZ	**Nelson**	**6.56**	**57**	PN	**Pn**	**07 23 25.3**	**+0.4**
NNZ				AML	AML	07 24 41.3	
NNZ				AML	AML	07 24 44.8	
NNZ	**Nelson**	**6.56**	**57**	Pn	**Pn**	**07 23 25.3**	**+0.4**
BSWZ	**Blackbirch Sta**	**6.58**	**62**	AML	AML	07 24 43.9	
BSWZ				AML	AML	07 24 49.9	
TUWZ	**Tuamarina**	**6.78**	**60**	PN	**Pn**	**07 23 30.2**	**+2.3**
TUWZ				AML	AML	07 24 48.0	
TUWZ				AML	AML	07 24 48.9	
TUWZ	**Tuamarina**	**6.78**	**60**	Pn	**Pn**	**07 23 30.2**	**+2.3**
TCW	**Tory Channel**	**7.11**	**60**	PN	**Pn**	**07 23 33.5**	**+1.0**
TCW				AML	AML	07 24 59.3	
TCW				AML	AML	07 25 02.0	
TCW	**Tory Channel**	**7.11**	**60**	Pn	**Pn**	**07 23 33.5**	**+1.0**
DUWZ	**D'Urville Isla**	**7.14**	**56**	PN	**Pn**	**07 23 33.5**	**+0.6**
DUWZ				AML	AML	07 24 53.3	
DUWZ				AML	AML	07 24 56.8	
DUWZ	**D'Urville Isla**	**7.14**	**56**	Pn	**Pn**	**07 23 33.3**	**+0.4**
SNZO	**South Karori**	**7.32**	**62**	*e*Pn	**Pn**	**07 23 37.3**	**+2.0**
BHW	**Baring Head**	**7.37**	**63**	PN	**Pn**	**07 23 36.8**	**+0.8**
CAW	**Cannon Point**	**7.66**	**62**	*e*PN	**Pn**	**07 23 39.5**	**-0.6**
CAW				AML	AML	07 25 14.6	
CAW				AML	AML	07 25 14.9	
CAW	**Cannon Point**	**7.66**	**62**	*e*Pn	**Pn**	**07 23 38.7**	**-1.3**
KIW	**Kapiti Island**	**7.70**	**60**	*e*PN	**Pn**	**07 23 40.1**	**-0.5**
KIW				AML	AML	07 24 12.1	
KIW				AML	AML	07 25 11.6	
OGWZ	**Otaki Gorge**	**7.89**	**61**	*e*PN	**Pn**	**07 23 42.5**	**-0.7**
MTW	**Mount Morrison**	**7.91**	**64**	AML	AML	07 23 52.2	
NMEZ	**Namu Road**	**8.07**	**48**	PN	**Pn**	**07 23 45.8**	**+0.2**
NWEZ	**Newall Road**	**8.16**	**48**	PN	**Pn**	**07 23 47.0**	**+0.1**
NWEZ	**Newall Road**	**8.16**	**48**	Pn	**Pn**	**07 23 47.0**	**+0.1**
KHEZ	**Kahui Hut**	**8.23**	**48**	PN	**Pn**	**07 23 48.2**	**+0.3**
MRZ	**Mangatainoka R**	**8.23**	**61**	*e*PN	**Pn**	**07 23 47.2**	**-0.7**
MRZ				AML	AML	07 25 16.0	
MRZ				AML	AML	07 25 16.2	
MRZ	**Mangatainoka R**	**8.23**	**61**	*e*Pn	**Pn**	**07 23 46.2**	**-1.6**
PREZ	**Palmer Road**	**8.27**	**49**	PN	**Pn**	**07 23 49.0**	**+0.5**
PKE	**Pukeiti**	**8.29**	**48**	PN	**Pn**	**07 23 49.0**	**+0.4**
PKE				AML	AML	07 23 55.1	
PKE				AML	AML	07 23 56.7	
PKE	**Pukeiti**	**8.29**	**48**	Pn	**Pn**	**07 23 48.7**	**+0.1**
WAZ	**Wanganui**	**8.44**	**54**	AML	AML	07 25 30.8	
WAZ				AML	AML	07 25 38.2	
WAZ	**Wanganui**	**8.44**	**54**	*e*Pn	**Pn**	**07 23 52.1**	**+1.4**
BFZ	**Birch Farm**	**8.64**	**63**	*e*Pn	Pn	07 24 03.0	+10
VRZ	**Vera Road**	**8.75**	**50**	PN	**Pn**	**07 23 55.3**	**+0.3**
VRZ				AML	AML	07 25 33.6	
VRZ				AML	AML	07 25 36.1	
PKVZ	**Pokaka**	**8.96**	**53**	AML	AML	07 25 39.8	
PKVZ				AML	AML	07 25 40.1	
WNVZ	**Wahianoa**	**9.08**	**54**	AML	AML	07 24 05.3	
WNVZ				AML	AML	07 24 07.5	
WTVZ	**West Tongariro**	**9.22**	**53**	AML	AML	07 24 18.9	
WTVZ				AML	AML	07 24 21.1	
HIZ	**Hauiti**	**9.24**	**48**	PN	**Pn**	**07 24 01.7**	**0.0**
HIZ				AML	AML	07 25 44.2	
HIZ				AML	AML	07 25 44.8	
KRVZ	**Karewarewa**	**9.26**	**53**	AML	AML	07 24 13.3	
KRVZ				AML	AML	07 24 14.4	
RATZ	**Rangitukua**	**9.49**	**53**	AML	AML	07 24 17.2	
RATZ				AML	AML	07 24 22.4	
BKZ	**Black Stump Fm**	**9.71**	**56**	*e*Pn	Pn	07 24 11.0	+2.9
MKAZ	**Moumakai**	**10.48**	**44**	AML	AML	07 26 09.8	
MKAZ				AML	AML	07 26 13.9	
URZ	**Urewera**	**10.67**	**54**	Pn	**Pn**	**07 24 19.3**	**-2.0**
	1.2nm,0.3s,baz=229,slow=12,SNR=6.5						
URZ				Sn	Sn	07 26 12.2	-9.2
	1.8nm,0.3s,baz=307,slow=20,SNR=4.7						
URZ				LR	LR	07 28 58.5	
	comp=Z,202nm,20.6s,baz=242,slow=41						
OUZ	**Omahuta**	**11.37**	**33**	*e*Pn	**Pn**	**07 24 32.1**	**+1.3**
TAU	**Tasmania Unive**	**13.69**	**272**	*e*Pn	**Pn**	**07 25 00.9**	**-1.6**
MOO	**Moorlands**	**13.91**	**274**	P	**Pn**	**07 25 05.4**	**-0.1**
	baz=14,SNR=32						
MOO				S	Sn	07 27 23.7	-17
	baz=14,SNR=8.4						
MILA	**Mila**	**15.05**	**296**	P	**Pn**	**07 25 20.3**	**-0.8**
	baz=15,SNR=20						
MILA				S	Sn	07 27 55.0	-14
	baz=15,SNR=8.9						
CNB	**Canberra Magne**	**16.04**	**302**	P	**Pn**	**07 25 35.7**	**+1.6**
	baz=16,SNR=8.2						
CAN	**Canberra**	**16.25**	**301**	*e*Pn	**Pn**	**07 25 36.6**	**-0.3**
	32nm,1.3s						
MGCD	**Mangrove Creek**	**16.55**	**310**	S	Sn	07 28 34.4	-11
	baz=16,SNR=6.2						
TOO	**Toolangi**	**17.16**	**289**	P	**P**	**07 25 49.9**	**-0.2**
	baz=17,SNR=38						
TOO				S	Sn	07 28 46.6	-13
	baz=17,SNR=7.6						
RAO	**Raoul Island**	**20.22**	**44**	LR	LR	07 34 24.2	
	comp=Z,179nm,20.0s,baz=238,slow=38						
CMSA	**Cobar Meteorol**	**20.86**	**303**	P	Pn	07 26 32.7	-0.4
	baz=21,SNR=8.7						
EIDS	**Eidsvold**	**23.09**	**323**	*e*P	**P**	**07 26 55.8**	**+1.3**
	31nm,1.3s						
QLP	**Quilpie**	**25.44**	**309**	P	**P**	**07 27 18.5**	**+1.9**
	baz=25,SNR=3.3						
BBOO	**Buckleboo**	**26.21**	**287**	*e*P	P	07 27 17.9	-5.8
	422nm,1.5s						
ASAR	**Alice Springs**	**33.74**	**298**	P	**P**	**07 28 30.3**	**-0.1**
	0.9nm,0.6s,baz=132,slow=7.9,SNR=15						
ASAR				PcP	**PcP**	**07 31 09.2**	**-0.9**
	1.1nm,0.8s,baz=132,slow=4.1,SNR=4.8						
ASAR				LR	LR	07 42 33.4	
	comp=Z,251nm,18.1s,baz=135,slow=37						
WRA	**Warramunga Arr**	**36.28**	**303**	P	**P**	**07 28 51.9**	**-0.5**
	1.8nm,0.6s,baz=138,slow=8.4,SNR=11						
WRA				LR	LR	07 42 56.7	
	comp=Z,168nm,19.9s,baz=110,slow=35						
WRAB	**Tennant Creek**	**36.28**	**303**	*e*P	**P**	**07 28 51.5**	**-0.9**
	2.8nm,0.6s						
WRKA	**Warakurna**	**36.39**	**290**	P	**P**	**07 28 53.5**	**+0.2**
	baz=36,SNR=5.4						
NWAO	**Narrogin (SRO)**	**39.30**	**271**	LR	LR	07 41 04.4	
	comp=Z,118nm,21.8s,baz=50,slow=29						
H01W1	**Cape Leeuwin H**	**40.45**	**266**	T	T	08 12 59.0	
	baz=120,slow=75,SNR=30						
H01W2	**Cape Leeuwin H**	**40.47**	**266**	T	T	08 13 00.1	
	baz=120,slow=75,SNR=40						
H01W3	**Cape Leeuwin H**	**40.47**	**266**	T	T	08 12 59.9	
	baz=120,slow=75,SNR=28						
MEEK	**Meekatharra**	**41.98**	**280**	P	**P**	**07 29 40.3**	**+0.3**
	baz=42,SNR=4.1						
TBI	**Tubuai**	**42.01**	**74**	*e*LR	LR	07 41 16.7	
	124nm,32.5s						
FITZ	**Fitzroy Crossi**	**43.04**	**295**	P	**P**	**07 29 48.8**	**+0.1**
	baz=43,SNR=3.9						
QSPA	**South Pole Qui**	**45.07**	**180**	P	**P**	**07 30 05.6**	**+1.0**
	4.4nm,0.9s,baz=355,slow=1.0,SNR=15						
QSPA				PcP	**PcP**	**07 31 45.0**	**-0.3**
	1.3nm,0.7s,baz=70,slow=1.7,SNR=4.1						
MANU	**Manus Island**	**45.91**	**333**	P	P	07 30 16.9	+5.3
	baz=46,SNR=4.8						
PPT2	**Papeete2**	**45.94**	**68**	*e*LR	LR	07 43 08.6	
	117nm,23.8s						
PPT	**Papeete**	**45.95**	**68**	LR	LR	07 45 22.7	
	comp=Z,151nm,20.7s,baz=248,slow=31						
MAW	**Mawson**	**53.88**	**208**	LR	LR	07 52 10.8	
	comp=Z,153nm,18.9s,baz=65,slow=34						
LUWI	**Luwuk**	**58.11**	**306**	P	P	07 31 38.1	-4.4
	baz=58,SNR=11						
SNAA	**Sanae**	**63.31**	**184**	P	**P**	**07 32

λ-42.00000°.
*ISCJB **24** 07:29:48.9±0.4, 28°.31N±0°.05×128°.75E±0°.08, h99km±4km, mb3.4/7, Error ellipse: s-maj=13.1km s-min=4.1km az=30.7*
*JMA **24** 07:29:50.1±0.2, 28°.39N×128°.58E, h74km±4km, M3.8*
*IDC **24** 07:29:51.3±2.8, 28°.32N×128°.71E, h110km±26km, mb3.1/7, mb1 3.4/9, mb1mx3.3/28, mbtmp3.6/9, MS2.6/1, Ms1 2.6/1, ms1mx2.1/15, Error ellipse: s-maj=26.1km s-min=17.3km az=80.0*

ISC 24 07:29:49.6±0.8, 28°.32N±0°.06×128°.70E±0°.08, h88km±8km, n25, σ1§13/35, mb3.5/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.43**	**100**	P	**Pn**	**07 30 03.7**	**+0.2**
JAMN				S	**Sn**	**07 30 14.0**	**+0.1**
JTK	**Tokunoshima**	**0.57**	**157**	P	**Pn**	**07 30 05.2**	**+0.5**
JTK				S	**Sn**	**07 30 16.6**	**+0.6**
JAM	**Amami Oshima**	**0.81**	**83**	P	**Pn**	**07 30 07.0**	**+0.1**
JAM				*e*S	**Sn**	**07 30 20.0**	**+0.1**
JTAJ	**Takarajima**	**0.94**	**28**	P	**Pn**	**07 30 08.2**	**-0.3**
JTAJ				S	**Sn**	**07 30 22.1**	**-0.5**
JOKE	**Okinoerabujima**	**0.96**	**187**	P	**Pn**	**07 30 09.2**	**+0.5**
JZK	**Kikaishima**	**1.12**	**90**	P	**Pn**	**07 30 13.2**	**+2.7**
JIH	**Iheya**	**1.43**	**207**	P	**Pn**	**07 30 15.0**	**+0.7**
JOW	**Kunigami**	**1.52**	**194**	P	**Pn**	**07 30 16.3**	**+0.7**
JOW				S	**Sn**	**07 30 36.3**	**+1.1**
JNN	**Nakanoshima**	**1.84**	**34**	P	**Pn**	**07 30 20.0**	**+0.5**
JNTH	**Nagotoyohara**	**1.89**	**199**	P	**Pn**	**07 30 21.0**	**+0.8**
JNTH				*e*S	**Sn**	**07 30 44.6**	**+1.0**
JAGN	**Aguni-jima**	**2.15**	**217**	P	**Pn**	**07 30 24.5**	**+0.8**
JAGN				*e*S	**Sn**	**07 30 50.8**	**+1.0**
JJT2	**Tamagusuku 2**	**2.33**	**202**	P	**Pn**	**07 30 28.1**	**+2.1**
JYAK	**Yakushimahirau**	**2.48**	**39**	P	**Pn**	**07 30 28.5**	**+0.4**
JYAK				*e*S	**Sn**	**07 30 58.3**	**+0.6**
JKC	**Kuchinoerabu**	**2.51**	**31**	P	**Pn**	**07 30 29.3**	**+0.9**
JKE	**Kume jima 2**	**2.61**	**221**	P	**Pn**	**07 30 30.3**	**+0.5**
JKE				*e*S	**Sn**	**07 31 01.6**	**+0.8**
JTN	**Tanegashima 3**	**3.06**	**40**	P	**Pn**	**07 30 36.3**	**+0.4**
JNU	**Nakatsue**	**5.14**	**21**	P	**Pn**	**07 31 06.5**	**+2.3**
	11nm,0.3s,baz=227,slow=2.1,SNR=41						
JNU				S	**Sn**	**07 32 04.6**	**+2.4**
	baz=143,slow=18,SNR=1.7						
KSRS	**Korea Array**	**9.14**	**356**	P	**Pn**	**07 31 59.3**	**+0.8**
	0.2nm,0.3s,baz=174,slow=13,SNR=7.6						
KSRS				LR	LR	07 35 22.7	
	comp=Z,35nm,20.9s,baz=152,slow=36						
SONM	**Songino Array**	**26.07**	**324**	P	**P**	**07 35 16.2**	**+1.4**
	0.2nm,0.4s,baz=134,slow=8.3,SNR=3.0						
MKAR	**Makanchi Array**	**40.49**	**310**	P	**P**	**07 37 18.7**	**-1.0**
	0.2nm,0.4s,baz=95,slow=8.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**43.66**	**315**	P	**P**	**07 37 44.0**	**-1.3**
	0.2nm,0.2s,baz=101,slow=9.3,SNR=2.8						
WRA	**Warramunga Arr**	**48.28**	**173**	P	**P**	**07 38 21.2**	**-0.7**
	0.9nm,0.6s,baz=352,slow=8.4,SNR=6.3						
ASAR	**Alice Springs**	**51.92**	**174**	P	**P**	**07 38 49.0**	**-0.5**
	0.3nm,0.5s,baz=0.9,slow=14,SNR=7.6						
ILAR	**Eielson Array**	**62.41**	**29**	P	**P**	**07 40 02.6**	**-0.2**
	0.3nm,0.6s,baz=290,slow=9.0,SNR=7.2						
YKA	**Yellowknife Ar**	**76.47**	**25**	P	**P**	**07 41 28.1**	**-1.3**
	0.3nm,0.5s,baz=302,slow=6.0,SNR=6.7						

DJA 24 07:38:41.5±1.2, 2°S±4°×101°E±°, h28km±17km, M3.9/14, MLv3.9/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.28**	**356**	P	Pn	07 39 03.2	-0.4
PDSI				S	Sn	07 39 19.9	0.0
SDSI	**Sungai Dareh**	**1.54**	**35**	P	Pn	07 39 07.2	+0.2
SDSI				S	Sn	07 39 26.8	+0.7
MASI	**Maura Aman, Be**	**1.93**	**119**	P	Pn	07 39 12.6	+0.1
RGRI	**Rengat**	**2.56**	**44**	P	Pn	07 39 21.5	+0.3
JMBI	**JAMBI**	**3.14**	**80**	P	Pn	07 39 29.1	0.0
MNAI	**Manna**	**3.22**	**132**	P	Pn	07 39 30.4	+0.1
LHSI	**Lahat**	**3.38**	**119**	P	Pn	07 39 32.5	+0.1
MDSI	**Maura Dua**	**4.28**	**122**	P	Pn	07 39 45.0	+0.2
PMBI	**Palembang**	**4.28**	**100**	P	Pn	07 39 43.8	-1.0
DSRI	**Dabo**	**4.37**	**67**	P	Pn	07 39 46.2	+0.1
LWLI	**Liwa**	**4.48**	**129**	P	Pn	07 39 47.9	+0.1
GSI	**Gunungsitoli**	**4.58**	**319**	P	Pn	07 39 49.0	+0.1
KLSI		**4.85**	**121**	P	Pn	07 39 52.8	+0.1

GUC 24 07:43:50.4±0.5, 37°.69S×73°.16W, h23km±14km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.39**	**109**	*i* P	Pb	07 43 59.1	+0.4
AGCH				*i* S	Sb	07 44 05.3	+1.0
CCSP	**San Pedro de C**	**0.84**	**3**	*i* P	Pb	07 44 06.5	+0.2
CCSP				*i* S	Sn	07 44 18.7	+0.3
CCSP				IAML		07 44 23.1	
	comp=E,7μm,0.4s						
COCH	**Cobquecura**	**1.58**	**11**	*i* P4	Pn	07 44 17.2	+0.3
COCH				*i* S	Sb	07 44 39.6	+1.2
VLCH	**Valdivia**	**2.12**	**182**	*e*P9	Pn	07 44 22.6	-1.7
VLCH				*e*S4	Sn	07 44 47.1	-2.9

*ISCJB **24** 07:52:18.6±1.4, 26°.3S±0°.2×70°.8E±0°.3, h10km, mb3.8/7, Error ellipse: s-maj=46.1km s-min=23.5km az=164.9*
*IDC **24** 07:52:18.8±1.5, 26°.22S×70°.70E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/24, mbtmp3.8/7, Error ellipse: s-maj=52.9km s-min=25.5km az=79.0*

ISC 24 07:52:20.6±1.7, 26°.2S±0°.2×70°.7E±0°.4, h10km, n13, σ0§51/7, mb3.8/7, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.55**	**5**	T	T	08 15 33.8	
	baz=186,slow=76,SNR=20						
H08S2	**Diego Garcia H**	**18.55**	**5**	T	T	08 15 34.0	
	baz=186,slow=76,SNR=29						
H08S3	**Diego Garcia H**	**18.57**	**5**	T	T	08 15 35.4	
	baz=186,slow=76,SNR=30						
H01W2	**Cape Leeuwin H**	**38.11**	**114**	T	T	08 39 51.7	
	baz=267						
H01W3	**Cape Leeuwin H**	**38.11**	**114**	T	T	08 39 53.7	
	baz=267,slow=74						
H01W1	**Cape Leeuwin H**	**38.13**	**114**	T	T	08 40 00.4	
	baz=267,slow=74						
CMAR	**Chiang Mai Arr**	**52.19**	**35**	P	**P**	**08 01 32.2**	**+0.5**
	0.7nm,0.3s,baz=214,slow=6.0,SNR=3.6						
ASAR	**Alice Springs**	**56.82**	**102**	P	**P**	**08 02 05.5**	**-0.2**
	0.3nm,0.5s,baz=247,slow=6.4,SNR=6.4						
WRA	**Warramunga Arr**	**58.35**	**98**	P	**P**	**08 02 16.2**	**-0.2**
	0.4nm,0.7s,baz=243,slow=7.4,SNR=2.8						
VNDA	**Vanda**	**64.84**	**166**	P	**P**	**08 02 59.4**	**+0.1**
	0.8nm,0.8s,baz=256,slow=9.9,SNR=3.0						
MKAR	**Makanchi Array**	**73.42**	**8**	P	**P**	**08 03 52.0**	**-0.8**
	0.6nm,0.7s,baz=194,slow=5.6,SNR=6.3						
KURBB	**Kurchatov Arra**	**76.82**	**5**	P	**P**	**08 04 12.5**	**+0.3**
	1.7nm,0.2s,baz=197,slow=5.0,SNR=3.9						
SONM	**Songino Array**	**80.39**	**23**	P	**P**	**08 04 32.2**	**0.0**
	0.3nm,0.6s,baz=180,slow=1.3,SNR=3.0						

*AWI **24** 08:13:17.9, 57°.12S×27°.81W*
*IDC **24** 08:13:51.9±0.9, 58°.69S×26°.90W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/12, mbtmp3.8/4, Error ellipse: s-maj=38.7km s-min=30.3km az=95.0*

ISC 24 08:13:52.9±1.4, 60°.0S±0°.3×27°.5W±0°.4, h10km, n11, σ0§69/8, mb3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.31**	**152**	P	**Pn**	**08 17 01.5**	**0.0**
VNA3	**Neumayer Olymp**	**13.42**	**155**	P	**Pn**	**08 17 03.4**	**+0.4**
VNA2	**Neumayer--Watz**	**13.71**	**152**	P	**Pn**	**08 17 06.7**	**-0.2**
SNAA	**Sanae**	**15.31**	**150**	P	**Pn**	**08 17 28.1**	**-0.7**
PLCA	**Paso Flores**	**32.76**	**286**	P	**P**	**08 20 25.9**	**+0.1**
	0.6nm,0.3s,baz=132,slow=14,SNR=4.7						
VNDA	**Vanda**	**42.65**	**183**	P	P	08 22 00.0	+11
	0.6nm,0.8s,baz=183,slow=7.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.54**	**29**	P	P	08 25 36.4	-6.6
	0.7nm,0.5s,baz=201,slow=6.0,SNR=13						
ASAR	**Alice Springs**	**95.29**	**163**	P	P	08 27 21.2	+4.3
	0.4nm,0.8s,baz=189,slow=5.2,SNR=3.5						
YKA	**Yellowknife Ar**	**138.91**	**315**	PKP	**PKPdf**	**08 33 17.6**	**-0.1**
	0.7nm,0.7s,baz=130,slow=2.5,SNR=13						
SONM	**Songino Array**	**150.87**	**94**	PKPbc	**PKPbc**	**08 33 45.6**	**+0.9**
	0.3nm,0.5s,baz=236,slow=0.5,SNR=2.8						
ILAR	**Eielson Array**	**152.47**	**306**	PKPbc	**PKPbc**	**08 33 46.7**	**-0.9**
	0.5nm,0.6s,baz=158,slow=2.4,SNR=10						

*ISCJB **24** 08:15:30.2±1.1, 5°.36S±0°.08×147°.2E±0°.1, h170km, mb3.7/2, Error ellipse: s-maj=18.2km s-min=10.8km az=176.2*
*IDC **24** 08:15:30.1±1.8, 5°.43S×147°.36E, h160km±14km, mb3.5/2, mb1 3.8/5, mb1mx3.4/19, mbtmp4.1/5, Error ellipse: s-maj=30.1km s-min=15.0km az=101.0*

ISC 24 08:15:30.6±1.2, 5°.41S±0°.09×147°.4E±0°.1, h170km, n15, σ1§33/19, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.98**	**183**	P	**Pn**	**08 16 31.9**	**+0.7**
	14nm,0.3s,baz=24,slow=9.0,SNR=35						
PMG				S	**Sn**	**08 17 16.3**	**-2.3**
	7.3nm,0.3s,baz=252,slow=19,SNR=9.4						
PMG	**Port Moresby**	**3.98**	**183**	P	**Pn**	**08 16 32.1**	**+0.9**
	baz=3.6,SNR=22						
PMG				S	**Sn**	**08 17 16.5**	**-2.1**
	baz=3.6,SNR=6.9						
JAY	**Jayapura**	**7.26**	**293**	P	**Pn**	**08 17 13.4**	**-0.8**
	1.9nm,0.3s,baz=165,slow=5.7,SNR=8.7						
COEN	**Coen**	**9.46**	**206**	P	**Pn**	**08 17 45.6**	**+2.4**
	baz=9.1,SNR=5.5						
COEN				S	**Sn**	**08 19 28.4**	**-0.1**
	baz=9.1,SNR=4.7						
KDU	**Kakadu**	**16.40**	**243**	P	**P**	**08 19 10.2**	**-0.8**
	baz=16,SNR=6.6						
QIS	**Mount Isa**	**16.85**	**206**	P	**Pn**	**08 19 17.3**	**+0.5**
	baz=16,SNR=9.4						
MTN	**Manton Dam**	**17.66**	**244**	P	**P**	**08 19 24.7**	**-0.1**
	baz=17,SNR=4.7						
WRA	**Warramunga Arr**	**19.23**	**220**	P	**P**	**08 19 42.0**	**0.0**
	2.8nm,0.3s,baz=40,slow=11,SNR=72						
KNRA	**Kununurra**	**20.94**	**239**	P	**P**	**08 19 59.3**	**-1.0**
	baz=20,SNR=6.8						
QLP	**Quilpie**	**21.27**	**188**	P	**P**	**08 20 05.1**	**+1.3**
	baz=21,SNR=4.4						
ASAR	**Alice Springs**	**22.32**	**214**	P	**P**	**08 20 14.8**	**+0.3**
	6.1nm,0.4s,baz=49,slow=8.2,SNR=126						
ASAR				S	**S**	**08 24 09.2**	**+1.8**
	baz=26,SNR=19						
WRKA	**Warakurna**	**26.76**	**221**	P	**P**	**08 20 54.6**	**-0.2**
	baz=34,SNR=6.6						
MEEK	**Meekatharra**	**34.63**	**229**	P	**P**	**08 22 03.5**	**-0.3**
	0.3nm,0.8s,baz=243,slow=4.0,SNR=3.2						
ILAR	**Eielson Array**	**84.79**	**23**	P	**P**	**08 27 46.6**	**+1.1**
	0.6nm,1.0s,baz=64,slow=3.4,SNR=3.1						

GUC 24 08:19:08.8±0.5, 36°.16S×73°.61W, h25km±7km, ML3.5, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.66**	**88**	⇑*i*P	Pb	08 19 20.7	-1.0
COCH				*i* S	Sb	08 19 29.4	-1.1
CCSP	**San Pedro de C**	**0.79**	**150**	⇑*i*P	Pb	08 19 22.7	-1.2
CCSP				*i* S	Sb	08 19 32.9	-1.3
CCSP				IAML		08 19 33.8	
	comp=E,4μm,0.5s						
LNCH	**Linares**	**1.66**	**80**	*e*P	Pn	08 19 35.9	-0.4
LNCH				*i* S	Sn	08 19 57.1	+0.4
NICH	**Los Niches**	**2.26**	**60**	⇑*i*P	Pn	08 19 39.0	-5.5

TAP 24 08:33:27.6, 22°.90N×120°.63E, h17km, ML3.6, 8C-5D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.15**	**180**	⇓*i*P	Pb	08 33 32.2	+0.2
	baz=177						
SSD				*e*S	Sb	08 33 34.9	-0.2
	baz=177						
SGST	**Jiashian**	**0.19**	**346**	⇓*i*P	Pb	08 33 33.2	+0.6
	baz=348						
SGST				*i* S	Sb	08 33 37.1	+1.1
	baz=348						
TWM1	**Shoushan**	**0.21**	**248**	P	Pb	08 33 33.8	+0.8
	baz=247						
SGLT	**Jiouru**	**0.22**	**217**	*e*P	Pb	08 33 34.0	+0.9
	baz=209						
STYT	**Tauyuan**	**0.28**	**24**	⇑*i*P	Pb	08 33 34.8	+0.4
	baz=30						
STYT				*i* S	Sb	08 33 39.7	+0.7
	baz=30						
CHN1	**Nanshi**	**0.30**	**341**	⇑P	Pb	08 33 35.2	+0.6
	baz=346						
CHN1				*e*S	Sb	08 33 40.9	+1.6
	baz=346						
CHN3	**Shinhua**	**0.30**	**305**	*e*P	Pb	08 33 35.5	+0.9
	baz=305						
WTP	**Ta-pu**	**0.34**	**357**	⇑*i*P	Pb	08 33 35.9	+0.5
	baz=358						
WTP				*e*S	Sb	08 33 41.9	+1.2
	baz=358						
TWK	**Hsinying**	**0.39**	**340**	⇓P	Pb	08 33 36.7	+0.6
	baz=354						
TWK				*e*S	Sb	08 33 43.3	+1.4
	baz=354						
TAI1	**Yung-k'ang**	**0.40**	**290**	*e*P	Pn	08 33 38.0	-0.6
	baz=291						
TWG	**Pinlang**	**0.41**	**101**	⇑*i*P	Pb	08 33 37.1	+0.6
	baz=105						
TWG				*e*S	Sb	08 33 42.9	+0.4
	baz=105						
ECL	**Taimali**	**0.42**	**136**	⇓*i*P	Pb	08 33 36.8	+0.2
	baz=142						
ECL				*i* S	Sb	08 33 42.5	-0.2
	baz=142						
KAU	**Kaohsiung**	**0.45**	**222**	*e*P	Pn	08 33 38.7	-0.5
	baz=237						
CHN4	**Tsaushan**	**0.45**	**355**	*e*P	Pb	08 33 37.8	+0.7
	baz=356						
CHN4				*e*S	Sb	08 33 44.7	+1.1
	baz=356						
ELDTW	**Lidau**	**0.46**	**51**	⇑*i*P	Pb	08 33 37.8	+0.5
	baz=43						
ELDTW				S	Sb	08 33 44.7	+0.7
	baz=43						
SCLT	**Jiali**	**0.49**	**304**	*e*P	Pb	08 33 38.2	+0.4
	baz=305						
SCLT				*e*S	Sn	08 33 47.2	-0.8
	baz=305						
TTN	**Taitung**	**0.50**	**107**	*e*P	Pn	08 33 39.0	-1.0
	baz=107						
TTN				*e*S	Sn	08 33 46.9	-1.2
	baz=107						
SCZT	**Fangliau**	**0.53**	**181**	*e*P	Pb	08 33 38.5	+0.1
	baz=175						
EAST	**Anshuo**	**0.55**	**159**	⇓*i*P	Pb	08 33 39.1	+0.2
	baz=155						
EAST				*e*S	Sb	08 33 46.7	+0.2
	baz=155						
CHN8	**Yiju**	**0.59**	**319**	*e*P	Pg	08 33 38.2	-1.1
	baz=320						
TAW	**Tawu**	**0.59**	**156**	P	Pb	08 33 39.8	+0.2
	baz=153						
TAW				*e*S	Sb	08 33 48.2	+0.6
	baz=153						
TWP	**Hsiaoliuchiu**	**0.61**	**204**	*e*P	Pn	08 33 41.7	+0.3
	baz=222						
CHY	**Chiayi**	**0.62**	**342**	*e*P	Pn	08 33 40.9	-0.8
	baz=343						
CHY				*e*S	Sn	08 33 50.6	-0.7
	baz=343						
ALS	**Alishan**	**0.63**	**15**	P	Pb	08 33 40.9	+0.3
	baz=15						
ALS				*e*S	Sb	08 33 50.3	+0.9
	baz=15						
YUS	**Yu-Shan**	**0.66**	**27**	⇑*i*P	Pb	08 33 41.5	+0.2
	baz=27						
YUS				*e*S	Sb	08 33 51.0	+0.5
	baz=27						
CHN5	**Tsauling**	**0.69**	**3**	*e*P	Pb	08 33 42.0	+0.6
	baz=4.0						
CHN5				*e*S	Sn	08 33 52.8	-0.4
	baz=4.0						
CHKT	**Chengkung**	**0.70**	**74**	*e*P	Pb	08 33 42.0	+0.6
	baz=89						
CHKT				*e*S	Sn	08 33 53.1	-0.2
	baz=89						
TWF1	**Yuli**	**0.76**	**54**	⇑*i*P	Pg	08 33 43.0	+0.5
	baz=62						
TWF1				S	Sg	08 33 53.5	+1.0
	baz=62						
WGK	**Gukeng**	**0.78**	**355**	*e*P	Pn	08 33 44.2	+0.3
	baz=356						
WGK				*e*S	Sn	08 33 56.0	+0.7
	baz=356						
WSF	**Szhu**	**0.82**	**333**	*e*P	Pn	08 33 44.8	+0.3
	baz=334						
WSF				*e*S	Sn	08 33 56.6	+0.3
	baz=334						
EHY	**Hungye**	**0.87**	**46**	*e*P	Pn	08 33 45.0	-0.2
	baz=54						
EHY				S	Sg	08 33 56.5	+0.3
	baz=54						
HEN	**Hengchun**	**0.90**	**174**	*e*P	Pg	08 33 45.2	+0.1
	baz=173						
WDGT	**Dungji**	**0.96**	**292**	*e*P	Pb	08 33 45.0	-0.9
	baz=292						
WDGT				*e*S	Sb	08 33 58.2	-0.2
	baz=292						
TWK1	**Hengchun**	**0.97**	**170**	*e*P	Pb	08 33 46.1	+0.2
	baz=170						
WDT	**Danda**	**0.97**	**28**	⇑*i*P	Pb	08 33 46.5	+0.2
	baz=36						
WNT	**Mingjian**	**0.97**	**3**	*e*P	Pg	08 33 46.7	+0.1
	baz=4.0						
WNT				*e*S	Sn	08 34 00.1	+0.2
	baz=4.0						
SMLT	**Sun Moon Lake**	**1.01**	**14**	*e*P	Pg	08 33 47.5	+0.2
	baz=15						
SMLT				*e*S	Sn	08 34 02.1	+1.0
	baz=15						
TYC	**Yuchr**	**1.02**	**12**	*e*P	Pg	08 33 47.8	+0.4
	baz=13						
TYC				*e*S	Sn	08 34 01.8	+0.8
	baz=13						
TSEB	**Hengchuen, Pin**	**1.03**	**166**	*e*P	Pg	08 33 47.5	0.0
	baz=168						
TSEB				*e*S	Sn	08 34 03.9	+2.7
	baz=168						
ESL	**Shilin**	**1.17**	**39**	*e*P	Pg	08 33 50.0	-0.3
	baz=31						
ESL				*e*S	Sg	08 34 05.9	+0.4
	baz=31						
PNG	**Penghu**	**1.19**	**304**	*e*P	Pn	08 33 48.1	-1.4
	baz=305						
LAY	**Lan-yu**	**1.21**	**135**	*e*P	Pn	08 33 49.2	-0.5
	baz=124						
WHF	**Hehuan Shan**	**1.37**	**25**	*e*P	Pb	08 33 53.4	0.0
	baz=34						
WHF				*e*S	Sg	08 34 13.6	+0.8
	baz=34						
TWT	**Tachien**	**1.44**	**20**	*e*P	Pb	08 33 54.4	+0.2
	baz=20						
TWQ1	**Liyutan**	**1.45**	**5**	*e*P	Pb	08 33 54.3	+0.2
	baz=6.0						
NNS	**Nan Shan**	**1.68**	**24**	*e*P	Pb	08 33 57.7	-0.5
	baz=25						
NSK	**Sanguang**	**1.89**	**20**	*e*P	Pb	08 34 00.9	-0.8
	baz=9.0						

*BYKL **24** 08:33:30.6±0.2, 53°.37N×108°.49E, h11km±3km*
*MOS **24** 08:33:31.4±1.5, 53°.40N×108°.47E, h10km, mb4.2/1, Error ellipse: s-maj=44.5km s-min=26.2km az=50.2*

ISC 24 08:33:30.6±1.1, 53°.39N±0°.02×108°.48E±0°.02, h2km±10km, n31, σ2§02/68, 6C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.20**	**128**	⇑*i*Pg	**Pg**	**08 33 34.5**	**+0.1**
MXMB				*i* Sg	**Sg**	**08 33 37.5**	**+0.5**
MXMB				Pmax			
	556nm,0.6s						
MXMB				Smax			
	10μm,0.6s						
OGRR	**Ongureny**	**0.59**	**296**	*e*PG	**Pg**	**08 33 42.1**	**+0.2**
OGRR				*e*		08 33 50.2	
OGRR				pmax	pmax		
	comp=Z,80nm,0.4s						
OGRR				smax	smax		
	comp=E,1μm,0.5s						
OGRR	**Ongureny**	**0.59**	**296**	⇑*i*Pg	**Pg**	**08 33 42.1**	**+0.2**
	comp=E,51nm,0.5s						
OGRR				⇓*i*Pg	**Pg**	**08 33 42.1**	**+0.2**
	comp=E,62nm,0.5s						
OGRR				⇑*i*Pg	**Pg**	**08 33 42.1**	**+0.2**
	comp=E,89nm,0.5s						
OGRR				*e*Sg	**Sg**	**08 33 50.1**	**+0.6**
OGRR				Pmax			
	comp=E,72nm,0.3s						
OGRR				Smax			
	comp=E,1μm,0.2s						
SYVR	**Suvo**	**0.94**	**73**	⇓*i*Pg	**Pg**	**08 33 47.8**	**-0.9**
SYVR				*i* Sg	**Sg**	**08 34 00.4**	**-0.5**
SYVR				Pmax			
	comp=E,21nm,0.4s						
SYVR				Smax			
	comp=E,72nm,0.4s						
ZRHB	**Zarechye**	**1.16**	**225**	*e*Pg	**Pb**	**08 33 51.8**	**-1.5**
ZRHB				*e*Sg	**Sb**	**08 34 07.1**	**-1.7**
ZRHB				*e*Sb	**Sn**	**08 34 10.1**	**-0.2**
ZRHB				Pmax			
	comp=E,225nm,0.4s						
ZRHB				max			
	comp=E,700nm,0.6s						
TRG	**Tyrgan**	**1.43**	**245**	*e*PG	**Pn**	**08 33 55.9**	**-1.7**
TRG				*e*		08 34 15.9	
TRG				pmax	pmax		
	comp=Z,216nm,0.4s						
TRG				smax	smax		
	comp=N,436nm,0.2s						
TRG	**Tyrgan**	**1.43**	**245**	*e*Pg	**Pn**	**08 33 55.9**	**-1.7**
TRG				*e*Pb	**Pb**	**08 33 57.2**	**-0.8**
TRG				*e*Sg	**Sn**	**08 34 15.6**	**-1.5**
TRG				*e*Sb	**Sg**	**08 34 17.8**	**+1.2**
TRG				max			
	comp=N,216nm,0.2s						
TRG				max			
	comp=N,430nm,0.2s						
UUDB	**Ulan-Yde**	**1.60**	**199**	⇑*i*Pg	**Pn**	**08 33 59.3**	**-0.6**
UUDB				*e*Sg	**Sn**	**08 34 20.4**	**-0.8**
UUDB				*e*		08 34 22.5	
UUDB				Pmax			
	comp=N,90nm,0.6s						
UUDB				max			
	comp=N,452nm,0.5s						
KAB	**Kabansk**	**1.74**	**220**	*e*PN	**Pb**	**08 34 03.5**	**+0.2**
KAB				*e*		08 34 25.9	
KAB				pmax	pmax		
	comp=Z,187nm,0.2s						
KAB				smax	smax		
	comp=N,675nm,0.4s						
KAB	**Kabansk**	**1.74**	**220**	*e*Sg	**Sb**	**08 34 24.5**	**-1.1**
KAB				Smax			
	comp=N,591nm,0.6s						
HRMR	**Khuramsha**	**1.99**	**209**	*e*Pn	**Pn**	**08 34 05.1**	**-0.2**
HRMR				*e*Pg	**Pb**	**08 34 06.5**	**-1.1**
HRMR				*e*Sg	**Sb**	**08 34 33.0**	**+0.1**
HRMR				*e*		08 34 34.8	
HRMR				Pmax			
	comp=N,6.0nm,0.6s						
HRMR				max			
	comp=N,138nm,0.8s						
YLYR	**Ulyunkhan**	**2.17**	**45**	*e*P

NIZ				*e*Sg	**Sb**	**08 34 45.7**	**-0.9**
NIZ				Pmax			
	comp=N,25nm,0.5s						
NIZ				Smax			
	comp=N,62nm,0.6s						
LSTR	**Listvyanka**	**2.70**	**237**	*e*Pn	**Pn**	**08 34 14.1**	**-0.9**
LSTR				*e*Pg	**Pb**	**08 34 18.9**	**-0.6**
LSTR				*e*Sg	**Sb**	**08 34 54.3**	**+1.3**
LSTR				Pmax			
	comp=N,15nm,0.5s						
LSTR				Smax			
	comp=N,62nm,0.4s						
IRK	**Irkutsk**	**2.80**	**248**	*e*Sg	**Sb**	**08 34 56.6**	**+0.5**
IRK				Smax			
	comp=N,140nm,0.4s						
KMO	**Kumora**	**2.96**	**31**	*e*Pg	**Pb**	**08 34 23.6**	**-0.5**
KMO				*e*PgPg	**PbPb**	**08 34 26.2**	**-1.0**
KMO				*e*Sg	**Sg**	**08 35 03.7**	**-1.9**
KMO				max			
	comp=N,36nm,0.4s						
KMO				Smax			
	comp=N,132nm,0.7s						
YOA	**Uoyan**	**3.33**	**33**	*e*Sg	**Sg**	**08 35 15.7**	**-1.8**
YOA				*e*SgSg	**SbSb**	**08 35 23.2**	**+6.8**
YOA				max			
	comp=N,343nm,1.3s						
CIT	**Chita**	**3.37**	**112**	*e*Sg	**Sb**	**08 35 14.8**	**+2.3**
CIT				Smax			
	comp=N,113nm,0.4s						
TLY	**Talaya**	**3.41**	**242⇑**	*i*Pn	**Pn**	**08 34 24.2**	**-0.6**
TLY				*e*Pg	**Pb**	**08 34 30.7**	**-1.1**
TLY				*e*PgPg	**PnPn**	**08 34 32.0**	**0.0**
TLY				*e*Sg	**Sb**	**08 35 14.9**	**+1.2**
TLY				max			
	comp=N,9.0nm,0.4s						
TLY				Smax			
	comp=N,34nm,0.4s						
UKT	**Uakit**	**3.67**	**53**	*e*Pn	**Pn**	**08 34 29.2**	**+0.8**
UKT				*e*Pg	**Pb**	**08 34 37.1**	**+1.0**
UKT				*e*Sg	**Sb**	**08 35 24.6**	**+3.5**
UKT				*e*		08 35 32.4	
UKT				Pmax			
	comp=N,5.0nm,0.8s						
UKT				max			
	comp=N,39nm,1.6s						
ZAK	**Zakamensk**	**4.41**	**229**	*e*	**Pb**	**08 34 45.9**	**-2.9**
ZAK				*e*Pg	Pg	08 34 49.1	-5.9
ZAK				*e*Sg	**Sb**	**08 35 47.1**	**+4.7**
ZAK				Pmax			
	comp=N,4.0nm,0.6s						
ZAK				Smax			
	comp=N,19nm,0.7s						
KPC	**Khapcheranga**	**4.42**	**145**	*e*Pn	**Pn**	**08 34 37.2**	**-1.5**
KPC				*e*Pg	**Pb**	**08 34 49.3**	**+0.4**
KPC				*e*Sn	**Sn**	**08 35 27.0**	**-3.7**
KPC				*e*Sg	**Sb**	**08 35 46.4**	**+3.8**
KPC				Pmax			
	comp=N,10.0nm,0.7s						
KPC				Smax			
	comp=N,46nm,1.3s						
MOY	**Mondy**	**4.89**	**252**	*e*Pn	**Pn**	**08 34 45.7**	**+0.5**
MOY				*e*Pg	**Pb**	**08 34 58.0**	**+1.1**
MOY				*e*Sn	**Sn**	**08 35 38.8**	**-3.5**
MOY				*e*		08 35 46.4	
MOY				*e*Sg	**Sb**	**08 36 01.3**	**+5.1**
MOY				*e*		08 36 12.7	
MOY				Pmax			
	comp=N,8.0nm,0.7s						
MOY				max			
	comp=N,49nm,0.9s						
NLYR	**Nelyaty**	**5.20**	**50**	*e*Pg	**Pb**	**08 35 04.8**	**+2.7**
NLYR				*e*		08 35 08.4	
NLYR				*e*		08 35 40.7	
NLYR				*e*Sg	**Sg**	**08 36 12.2**	**-5.1**
NLYR				max			
	comp=N,3.0nm,0.5s						
NLYR				Smax			
	comp=N,62nm,1.0s						
ORL	**Orlik**	**5.31**	**264**	*e*Pn	**Pn**	**08 34 51.9**	**+0.9**
ORL				*e*Pg	**Pb**	**08 35 06.3**	**+2.1**
ORL				*e*Sn	**Sn**	**08 35 52.4**	**-0.4**
ORL				*e*		08 36 07.8	
ORL				*e*Sg	Sb	08 36 14.3	+5.9
ORL				Pmax			
	comp=N,9.0nm,0.5s						
ORL				Smax			
	comp=N,30nm,1.0s						
BOD	**Bodaibo**	**5.43**	**33**	*e*	**Pb**	**08 35 08.7**	**+2.6**
BOD				*e*Sg	Sg	08 36 18.4	-6.5
BOD				max			
	comp=N,3.0nm,0.4s						
BOD				Smax			
	comp=N,19nm,1.3s						
ULN	**Ulaanbaatar**	**5.60**	**190**	*e*Pg	**Pb**	**08 35 11.4**	**+2.3**
ULN				*e*Sg	Sg	08 36 24.7	-5.8
CRS	**Chara**	**6.62**	**54**	*e*Sg	Sg	08 36 54.9	-8.1
CRS				Smax			
	comp=N,37nm,1.6s						
TUP	**Tupik**	**6.86**	**77**	*e*PN	**Pn**	**08 35 12.7**	**+0.6**
TUP				*e*		08 35 35.1	
TUP				*e*		08 37 04.2	
TUP				pmax	pmax		
	comp=Z,3.0nm,0.4s						
TUP				smax	smax		
	comp=N,33nm,1.4s						
TUP	**Tupik**	**6.86**	**77**	*e*Pn	**Pn**	**08 35 10.2**	**-1.9**
TUP				*e*Pg	Pb	08 35 33.4	+3.0
TUP				*e*		08 36 30.3	
TUP				*e*Sg	Sg	08 37 01.9	-8.7
TUP				Pmax			
	comp=N,1.0nm,0.8s						
TUP				Smax			
	comp=N,33nm,1.4s						

ISCJB ***24*** *08:38:17.8±0.5,37°.65N±0°.06×134°.98E±0°.07, h350km, mb3.2/8, Error ellipse: s-maj=8.1km s-min=7.2km az=149.9*
IDC ***24*** *08:38:17.7±0.7,37°.27N×135°.04E, h363km±8km, mb3.1/8, mb1 3.3/12, mb1mx3.1/30, mbtmp3.8/12, Error ellipse: s-maj=15.4km s-min=12.0km az=48.0*
JMA ***24*** *08:38:17.3±0.3,37°.35N×135°.19E, h381km±4km, M3.1*
ISC 24 08:38:17.5±0.7,37°.50N±0°.08×135°.13E±0°.07, h350km, n23, σ2°07/28, mb3.3/8, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**1.44**	**113**	P	**Pn**	**08 39 08.0**	**+2.7**
JWT	**Wachi**	**2.23**	**174**	P	**Pn**	**08 39 12.2**	**+1.7**
JWT				S	**S**	**08 39 54.6**	**+1.5**
JSD	**Sado**	**2.54**	**77**	P	**Pn**	**08 39 15.4**	**+2.6**
MAT	**Matsushiro**	**2.64**	**110**	P	**Pn**	**08 39 15.6**	**+1.8**
MAT				S	**S**	**08 40 02.0**	**+3.0**
MAT	**Matsushiro**	**2.64**	**110**	P	**Pn**	**08 39 15.7**	**+1.9**
MJAR	**Matsushiro Arr**	**2.64**	**110**	P	**Pn**	**08 39 16.2**	**+2.4**
	7.6nm,0.3s,baz=282,slow=9.5,SNR=96						
MJAR				S	**S**	**08 40 01.8**	**+2.8**
	baz=289,slow=11,SNR=1.9						
JHS	**Saijyo**	**2.98**	**214**	P	**Pn**	**08 39 18.1**	**+1.3**
JIE	**Ise**	**3.36**	**157**	P	**Pn**	**08 39 21.5**	**+1.3**
JOD2	**Odawara 2**	**3.90**	**124**	P	**Pn**	**08 39 26.7**	**+1.2**
JMK	**Ichinoseki**	**5.01**	**71**	P	**Pn**	**08 39 39.3**	**+2.2**
JMK				*e*S	**S**	**08 40 42.0**	**+0.5**
BSO1	**Boso 1**	**5.52**	**119**	P	**Pn**	**08 39 41.8**	**-0.5**
BSO1				*e*S	**S**	**08 40 48.9**	**-2.2**
KSRS	**Korea Array**	**5.74**	**272**	P	**Pn**	**08 39 47.6**	**+2.4**
	0.5nm,0.3s,baz=93,slow=12,SNR=18						
JOT	**Ohata**	**6.00**	**48**	P	**Pn**	**08 39 50.6**	**+2.5**
USRK	**Ussuriysk Ar.**	**7.10**	**341**	P	Pn	08 40 04.6	+3.7
	1.4nm,0.3s,baz=153,slow=10,SNR=21						
ASAJ	**Asahikawa**	**8.70**	**38**	P	**Pn**	**08 40 21.1**	**+1.4**
	2.6nm,0.3s,baz=235,slow=11,SNR=20						
ASAJ				S	**S**	**08 41 56.6**	**-3.0**
	1.0nm,0.3s,baz=299,slow=31,SNR=10.0						
SONM	**Songino Array**	**23.39**	**305**	P	**P**	**08 42 56.4**	**+0.1**
	0.9nm,0.5s,baz=110,slow=9.4,SNR=7.8						
ZALV	**Zalesovo Beam**	**37.89**	**312**	P	**P**	**08 45 01.0**	**-0.9**
	0.8nm,0.4s,baz=120,slow=8.5,SNR=3.3						
MKAR	**Makanchi Array**	**39.60**	**301**	P	**P**	**08 45 14.8**	**-1.3**
	0.8nm,0.6s,baz=90,slow=9.0,SNR=7.0						
ILAR	**Eielson Array**	**51.78**	**32**	P	**P**	**08 46 50.4**	**+0.3**
	0.2nm,0.5s,baz=274,slow=5.9,SNR=6.0						
WRA	**Warramunga Arr**	**57.14**	**181**	P	**P**	**08 47 26.0**	**-2.8**
	2.1nm,0.4s,baz=356,slow=7.5,SNR=42						
ASAR	**Alice Springs**	**60.85**	**181**	P	**P**	**08 47 51.1**	**-2.9**
	0.3nm,0.3s,baz=1.4,slow=5.9,SNR=6.8						
NVAR	**Mina Array Bea**	**78.63**	**50**	P	**P**	**08 49 42.7**	**+1.1**
	0.3nm,0.6s,baz=316,slow=3.8,SNR=3.1						
TXAR	**Lajitas Array**	**93.68**	**48**	P	**P**	**08 50 55.5**	**+0.2**
	0.2nm,0.7s,baz=309,slow=4.3,SNR=2.5						

IDC ***24*** *09:00:05.9±1.6,6°.92S×151°.12E, h0km, mb4.0/5, mb1 4.3/6, mb1mx4.0/18, mbtmp4.0/6, ML3.4/1, MS2.9/4, Ms1 2.9/4, ms1mx2.7/30, Error ellipse: s-maj=68.8km s-min=20.8km az=128.0*
ISCJB ***24*** *09:00:10.8±1.2,6°.9S±0°.3×151°.0E±0°.3, h40km, mb3.8/4, MS3.0/2, Error ellipse: s-maj=51.6km s-min=10.8km az=136.8*
ISC 24 09:00:11.1±1.8,7°.0S±0°.3×151°.2E±0°.3, h40km, n9, σ0°50/7, mb3.9/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.64**	**239**	Pn	**Pn**	**09 01 19.3**	**+0.5**
	12nm,0.3s,baz=60,slow=10,SNR=16						
PMG				Sn	**Sn**	**09 02 11.1**	**-0.3**
	13nm,0.3s,baz=319,slow=19,SNR=7.2						
PMG				LR	LR	09 03 16.9	
	comp=Z,105nm,19.1s,baz=50,slow=41						
HNR	**Honiara**	**9.00**	**106**	LR	LR	09 05 50.2	
	comp=Z,28nm,18.6s,baz=244,slow=38						
WRA	**Warramunga Arr**	**20.79**	**230**	P	**P**	**09 04 48.7**	**-0.5**
	7.0nm,0.6s,baz=56,slow=11,SNR=46						
WRA				LR	LR	09 13 53.1	
	comp=Z,52nm,21.3s,baz=220,slow=40						
ASAR	**Alice Springs**	**23.45**	**223**	P	**P**	**09 05 17.4**	**+0.2**
	10nm,0.9s,baz=56,slow=8.6,SNR=79						
KSRS	**Korea Array**	**49.28**	**336**	LR	LR	09 29 26.9	
	comp=Z,19nm,18.1s,baz=166,slow=36						
SONM	**Songino Array**	**67.35**	**329**	P	**P**	**09 11 02.4**	**+0.1**
	0.4nm,0.8s,baz=130,slow=4.5,SNR=2.4						
ILAR	**Eielson Array**	**84.80**	**22**	P	**P**	**09 12 41.1**	**+0.1**
	0.8nm,0.8s,baz=250,slow=4.8,SNR=9.4						
YKA	**Yellowknife Ar**	**98.12**	**28**	P	Pdif	09 13 45.6	+2.1
	0.1nm,0.5s,baz=270,slow=4.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**149.37**	**284**	PKPbc	**PKPbc**	**09 19 56.3**	**-0.6**
	1.3nm,0.7s,baz=58,slow=2.7,SNR=8.5						

NIED ***24*** *09:07:00,23°.30N×121°.50E, h38km, Mw3.9 Best double couple: M0 7.57000×10^14 NP1:φ=358.00000°, δ32.00000°, λ57.00000°. NP2:φ=216.00000°, δ64.00000°, λ109.00000°.*
IDC ***24*** *09:07:41.6±1.0,23°.26N×121°.34E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/27, mbtmp3.5/7, ML2.8/2, MS2.7/2, Ms1 2.8/2, ms1mx2.5/36, Error ellipse: s-maj=39.9km s-min=22.5km az=81.0*
ISCJB ***24*** *09:07:47.3±0.3,23°.29N±0°.02×121°.60E±0°.02, h29km±2km, mb3.6/5, MS2.7/1, Error ellipse: s-maj=3.1km s-min=2.1km az=150.7*
JMA ***24*** *09:07:47.0±0.1,23°.30N×121°.52E, h39km±2km, M4.0*
TAP ***24*** *09:07:48.2,23°.34N×121°.49E, h30km, ML4.1, B*
ISC 24 09:07:47.2±0.9,23°.31N±0°.02×121°.56E±0°.02, h31km±8km, n92, σ1°03/135, mb3.6/5, 23C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWF1	**Yuli**	**0.24**	**281⇑**	*i*P	**Pn**	**09 07 54.5**	**-0.1**
	baz=289						
TWF1				*e*S	**Sn**	**09 07 59.2**	**-0.2**
	baz=289						
CHKT	**Chengkung**	**0.27**	**220⇓**	*i*P	**Pn**	**09 07 55.3**	**+0.3**
	baz=201						
CHKT				S	**Sn**	**09 08 00.2**	**+0.1**
	baz=201						
EHY	**Hungye**	**0.29**	**313⇑**	*i*P	**Pn**	**09 07 55.0**	**-0.4**
	baz=305						
EHY				S	**Sn**	**09 07 59.9**	**-0.8**
	baz=305						
TEGC	**Jichi Village**	**0.40**	**358**	*e*P	**Pn**	**09 07 58.0**	**+1.2**
	baz=11						
TEGC				*e*S	**Sn**	**09 08 04.7**	**+1.4**
	baz=11						
ELDTW	**Lidau**	**0.51**	**257⇑**	*i*P	**Pb**	**09 07 57.6**	**-0.3**
	baz=245						
ELDTW				S	**Sb**	**09 08 03.7**	**-1.6**
	baz=245						
ESL	**Shilin**	**0.52**	**347**	P	**Pn**	**09 07 57.8**	**-0.6**
	baz=343						
ESL				*e*S	**Sb**	**09 08 04.6**	**-0.7**
	baz=343						
ESF	**Shoufeng Towns**	**0.56**	**355**	*e*P	**Pn**	**09 08 00.2**	**+1.1**
	baz=349						
YUS	**Yu-Shan**	**0.58**	**288⇑**	*i*P	**Pn**	**09 07 59.5**	**-0.2**
	baz=287						
YUS				S	**Sn**	**09 08 07.5**	**-1.0**
	baz=287						
WDT	**Danda**	**0.59**	**319⇑**	*i*P	**Pn**	**09 07 59.3**	**-0.5**
	baz=321						
WDT				*i* S	**Sb**	**09 08 06.8**	**-0.9**
	baz=321						
TWG	**Pinlang**	**0.66**	**223**	P	**Pb**	**09 07 59.6**	**-0.7**
	baz=226						
TWG				S	**Sb**	**09 08 08.2**	**-1.0**
	baz=226						
TTN	**Taitung**	**0.67**	**214**	*e*P	**Pb**	**09 08 00.5**	**+0.1**
	baz=209						
HWA	**Hwalien**	**0.67**	**4**	*e*P	**Pn**	**09 08 02.5**	**+2.0**
	baz=21						
ALS	**Alishan**	**0.72**	**286⇑**	*i*P	**Pb**	**09 08 01.8**	**+0.3**
	baz=285						
ALS				S	**Sn**	**09 08 11.2**	**-0.4**
	baz=285						
STYT	**Tauyuan**	**0.75**	**259⇑**	*i*P	**Pb**	**09 08 01.8**	**0.0**
	baz=253						
STYT				S	**Sn**	**09 08 11.4**	**-0.6**
	baz=253						
TWD	**Chiawan**	**0.77**	**3**	*e*P	**Pb**	**09 08 01.9**	**-0.2**
	baz=353						
TWD				*e*S	**Sn**	**09 08 13.3**	**+0.9**
	baz=353						
SMLT	**Sun Moon Lake**	**0.83**	**314⇑**	*i*P	**Pb**	**09 08 03.2**	**0.0**
	baz=318						
SMLT				*e*S	**Sb**	**09 08 15.2**	**+1.0**
	baz=318						
CHN5	**Tsauling**	**0.86**	**290**	⇑P	**Pb**	**09 08 04.2**	**+0.5**
	baz=289						
CHN5				S	**Sb**	**09 08 16.0**	**+1.2**
	baz=289						
WTP	**Ta-pu**	**0.87**	**266⇑**	*i*P	**Pb**	**09 08 04.1**	**+0.3**
	baz=264						
WTP				S	**Sb**	**09 08 15.7**	**+0.6**
	baz=264						
TYC	**Yuchr**	**0.87**	**313⇑**	*i*P	**Pb**	**09 08 03.9**	**+0.1**
	baz=319						
TYC				*e*S	**Sb**	**09 08 15.3**	**+0.1**
	baz=319						
WHF	**Hehuan Shan**	**0.88**	**342⇑**	*i*P	**Pn**	**09 08 03.5**	**-0.2**
	baz=345						
WHF				S	**Sn**	**09 08 14.6**	**-1.1**
	baz=345						
CHN4	**Tsaushan**	**0.89**	**273⇑**	*i*P	**Pb**	**09 08 04.6**	**+0.6**
	baz=271						
CHN4				S	**Sb**	**09 08 17.1**	**+1.5**
	baz=271						
ECL	**Taimali**	**0.90**	**218**	*e*P	**Pn**	**09 08 02.7**	**-1.0**
	baz=215						
SGST	**Jiashian**	**0.92**	**256**	⇑P	**Pb**	**09 08 05.2**	**+0.5**
	baz=247						
SGST				S	**Sb**	**09 08 18.0**	**+1.4**
	baz=247						
CHN1	**Nanshi**	**0.95**	**263⇑**	*i*P	**Pb**	**09 08 05.8**	**+0.6**
	baz=261						
CHN1				S	**Sb**	**09 08 18.8**	**+1.3**
	baz=261						
WNT	**Mingjian**	**0.98**	**306**	⇑P	**Pb**	**09 08 06.3**	**+0.7**
	baz=305						
WNT				*e*S	**Sb**	**09 08 18.9**	**+0.6**
	baz=305						
TWK	**Hsinying**	**0.98**	**268⇑**	*i*P	**Pb**	**09 08 06.1**	**+0.4**
	baz=266						
TWK				*i* S	**Sb**	**09 08 19.4**	**+1.1**
	baz=266						
WGK	**Gukeng**	**0.99**	**293**	*e*P	**Pb**	**09 08 06.3**	**+0.6**
	baz=292						
TWT	**Tachien**	**1.00**	**340**	⇑P	**Pb**	**09 08 06.1**	**-0.1**
	baz=340						
TWT				*e*S	**Sn**	**09 08 17.7**	**-0.8**
	baz=340						
CHN2	**Minshiung**	**1.02**	**283**	*e*P	**Pb**	**09 08 06.6**	**+0.4**
	baz=282						
SSD	**Sandimen**	**1.02**	**237**	*e*P	**Pn**	**09 08 05.5**	**+0.2**
	baz=233						
SSD				*e*S	**Sb**	**09 08 20.7**	**+1.4**
	baz=233						
CHY	**Chiayi**	**1.06**	**281**	⇑P	**Pb**	**09 08 07.2**	**+0.3**
	baz=279						
CHY				*e*S	**Sb**	**09 08 21.0**	**+0.6**
	baz=279						
CHN3	**Shinhua**	**1.12**	**258**	*e*P	**Pb**	**09 08 08.7**	**+0.7**
	baz=270						
CHN3				*e*S	**Sb**	**09 08 25.1**	**+2.9**
	baz=270						
TAW	**Tawu**	**1.12**	**213**	*e*P	**Pn**	**09 08 06.3**	**-0.4**
	baz=211						
EAST	**Anshuo**	**1.13**	**215**	*e*P	**Pn**	**09 08 06.4**	**-0.5**
	baz=214						
ENA	**Nanau**	**1.13**	**9**	*e*P	**Pn**	**09 08 07.0**	**+0.2**
	baz=357						
NNS	**Nan Shan**	**1.14**	**352**	*e*P	**Pb**	**09 08 09.1**	**+0.7**
	baz=4.0						
SGLT	**Jiouru**	**1.14**	**240**	*e*P	**Pb**	**09 08 07.5**	**-0.8**
	baz=237						
TWM1	**Shoushan**	**1.15**	**245**	P	**Pb**	**09 08 10.3**	**+1.8**
	baz=244						
TCU	**Taichung**	**1.16**	**316**	*e*P	**Pb**	**09 08 09.1**	**+0.4**
	baz=302						
TCU				*e*S	**Sb**	**09 08 23.8**	**+0.3**
	baz=302						
CHN8	**Yiju**	**1.24**	**272**	*e*P	**Pb**	**09 08 09.8**	**-0.2**
	baz=270						
CHN8				*e*S	**Sb**	**09 08 26.0**	**+0.5**
	baz=270						
TAI1	**Yung-k'ang**	**1.25**	**258**	*e*P	**Pb**	**09 08 11.9**	**+1.8**
	baz=257						
SCLT	**Jiali**	**1.26**	**264**	*e*P	**Pb**	**09 08 10.0**	**-0.3**
	baz=262						
SCLT				*e*S	**Sb**	**09 08 27.2**	**+1.1**
	baz=262						
TWQ1	**Liyutan**	**1.26**	**325⇑**	*i*P	**Pb**	**09 08 11.0**	**+0.6**
	baz=325						
TWQ1				S	**Sb**	**09 08 27.1**	**+0.9**
	baz=325						
LAY	**Lan-yu**	**1.26**	**180**	*e*P	**Pn**	**09 08 08.3**	**-0.4**
	baz=172						
WSF	**Szhu**	**1.27**	**285**	*e*P	**Pb**	**09 08 10.2**	**-0.3**
	baz=284						
SCZT	**Fangliau**	**1.27**	**223**	*e*P	**Pb**	**09 08 11.5**	**+1.0**
	baz=212						
WTCT	**Ta-ch'eng**	**1.29**	**296**	*e*P	**Pb**	**09 08 10.4**	**-0.5**
	baz=294						
WTCT				*e*S	**Sb**	**09 08 27.0**	**-0.2**
	baz=294						
NSY	**Sanyi**	**1.32**	**327**	*e*P	**Pb**	**09 08 11.8**	**+0.4**
	baz=326						
NSY				*e*S	**Sb**	**09 08 29.5**	**+1.5**
	baz=326						
TWC	**Suao**	**1.32**	**12**	*e*P	**Pb**	**09 08 11.0**	**-0.4**
	baz=22						
ENTT	**Nioudou**	**1.33**	**0**	*e*P	**Pb**	**09 08 10.8**	**-0.7**
KAU	**Kaohsiung**	**1.37**	**238**	*e*P	**Pb**	**09 08 12.0**	**-0.1**
	baz=238						
NSK	**Sanguang**	**1.37**	**352**	*e*P	**Pb**	**09 08 11.1**	**-1.2**
	baz=4.0						
NSK				*e*S	**Sb**	**09 08 28.2**	**-1.4**
	baz=4.0						
TWE	**Neicheng**	**1.41**	**4**	*e*P	**Pb**	**09 08 12.2**	**-0.7**
	baz=6.0						
NSTT	**Nanjuang**	**1.41**	**339**	⇑P	**Pb**	**09 08 12.8**	**-0.1**
	baz=339						
NSTT				*e*S	**Sn**	**09 08 28.0**	**-0.3**
	baz=339						
TWP	**Hsiaoliuchiu**	**1.46**	**229**	*e*P	**Pb**	**09 08 16.2**	**+2.5**
	baz=231						
HEN	**Hengchun**	**1.50**	**210**	*e*P	**Pb**	**09 08 15.1**	**+0.7**
	baz=200						
TWK1	**Hengchun**	**1.52**	**207**	*e*P	**Pb**	**09 08 14.3**	**-0.5**
	baz=198						
TSEB	**Hengchuen, Pin**	**1.53**	**204**	*e*P	**Pb**	**09 08 14.1**	**-0.8**
	baz=206						
TSEB				*e*S	**Sn**	**09 08 31.6**	**+0.5**
	baz=206						
EGS		**1.57**	**13**	*e*P	**Pb**	**09 08 15.7**	**+0.1**
	baz=360						
JYNG	**Yonagunijimaku**	**1.71**	**48**	P	**Pb**	**09 08 16.5**	**-1.4**
JYNG				*e*S	**Sn**	**09 08 36.4**	**+0.8**
TWB1	**Santiao Chiao**	**1.74**	**13**	*e*P	**Pn**	**09 08 16.3**	**+1.1**
	baz=359						
WDGT	**Dungji**	**1.74**	**269**	⇑P	**Pn**	**09 08 16.1**	**+0.8**
	baz=267						
WDGT				*e*S	**Sn**	**09 08 36.1**	**-0.4**
	baz=267						
YOJ	**Yonaguni jima**	**1.76**	**49**	P	**Pb**	**09 08 17.2**	**-1.6**
YOJ				*e*S	**Sn**	**09 08 38.2**	**+1.4**
YOJ	**Yonaguni jima**	**1.76**	**49**	⇓P	**Pb**	**09 08 17.2**	**-1.6**
	baz=50						
YOJ				*e*S	**Sn**	**09 08 38.3**	**+1.4**
	baz=50						
NWF	**Wu-fen Shan**	**1.77**	**7**	*e*P	**Pn**	**09 08 16.3**	**+0.6**
	baz=4.0						
TWS1	**Kuangyinshan**	**1.79**	**356**	*e*P	**Pb**	**09 08 18.8**	**-0.5**
	baz=9.0						
PNG	**Penghu**	**1.86**	**278**	⇑P	**Pn**	**09 08 17.7**	**+0.9**
	baz=276						
PNG				*e*S	**Sn**	**09 08 39.3**	**+0.1**
	baz=276						
HATJ	**Hateruma jima**	**2.19**	**70**	P	**Pn**	**09 08 22.9**	**+1.4**
HATJ				*e*S	**Sn**	**09 08 48.7**	**+1.1**
IRIF	**Iriomote-Funau**	**2.24**	**62**	P	**Pn**	**09 08 23.7**	**+1.6**
IRIF				*e*S	**Sn**	**09 08 51.1**	**+2.4**
JKRS	**Kuro-shima**	**2.43**	**67**	P	**Pn**	**09 08 26.5**	**+1.8**
JKRS				*e*S	**Sn**	**09 08 55.1**	**+1.7**
JIJ	**Ishigaki jima**	**2.59**	**66**	P	**Pn**	**09 08 28.2**	**+1.2**
JIJ				*e*S	**Sn**	**09 08 57.8**	**+0.4**
JISG	**Ishigakijimahi**	**2.82**	**63**	P	**Pn**	**09 08 31.3**	**+1.1**
JISG				*e*S	**Sn**	**09 09 03.1**	**0.0**
KNM	**Kinmen**	**3.06**	**292**	*e*P	**Pn**	**09 08 34.9**	**+1.4**
	baz=290						
JTJ	**Tarama**	**3.17**	**65**	P	**Pn**	**09 08 36.3**	**+1.4**
JTJ				*e*S	**Sn**	**09 09 12.6**	**+0.9**
JIRB	**Irabujima**	**3.64**	**65**	P	**Pn**	**09 08 42.7**	**+1.4**
JIRB				*e*S	**Sn**	**09 09 23.4**	**+0.2**
JMJ	**Miyako jima 2**	**3.73**	**66**	P	**Pn**	**09 08 44.3**	**+1.7**
JMJ				*e*S	**Sn**	**09 09 25.0**	**-0.5**
JOGS	**Gusukube**	**3.81**	**67**	P	**Pn**	**09 08 44.8**	**+1.1**
JOGS				*e*S	**Sn**	**09 09 27.3**	**-0.1**
JKE	**Kume jima 2**	**5.62**	**57**	P	**Pn**	**09 09 09.0**	**+0.4**
JOW	**Kunigami**	**7.03**	**59**	Pn	**Pn**	**09 09 27.1**	**-0.9**
	0.2nm,0.3s,baz=170,slow=13,SNR=13						
JOW				Sn	**Sn**	**09 10 43.9**	**-3.0**
	0.1nm,0.3s,baz=126,slow=19,SNR=2.4						
KSRS	**Korea Array**	**15.12**	**20**	Pn	**Pn**	**09 11 18.9**	**+0.4**
	0.2nm,0.3s,baz=189,slow=12,SNR=2.7						
KSRS				LR	LR	09 18 09.9	
	comp=Z,21nm,19.7s,baz=180,slow=41						
CMAR	**Chiang Mai Arr**	**21.66**	**261**	LR	LR	09 21 40.9	
	comp=Z,27nm,19.0s,baz=10,0,slow=39						
H11N1	**WAKE ISLAND Hy**	**42.20**	**86**	T	T	10 00 45.4	
	baz=283,slow=74,SNR=19						
H11N2	**WAKE ISLAND H

ellipse: s-maj=22.6km s-min=13.8km az=151.0
*NNC **24** 09:07:56.5±2.5, 53°.40N×90°.49E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=21.5km s-min=18.2km az=179.0*
ISC 24 09:07:50.0±1.1, 53°.7N±0°.1×91°.10E±0°.07, h10km, n10, σ1§83/14, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.73**	**276**	Pn	**Pn**	**09 08 49.2**	**+1.6**
	4.0nm,0.3s,baz=88,slow=14,SNR=21						
ZALV				Lg	Lg	09 09 45.2	
	8.1nm,0.3s,baz=91,slow=30,SNR=9.1						
TLY	**Talaya**	**7.89**	**100**	Pg	**Pb**	**09 10 05.9**	**-0.9**
	0.0nm,0.3s,baz=286,slow=15,SNR=2.4						
TLY				Lg	Lg	09 11 53.7	
	0.0nm,0.3s,baz=36,slow=19,SNR=9.3						
KURK	**Kurchatov**	**8.24**	**254**	⇓Pn	**Pn**	**09 09 50.5**	**+1.1**
	4.2nm,0.9s						
KURK				⇓Sn	**Sn**	**09 11 21.0**	**-1.5**
	10nm,0.9s						
KURK				⇑Lg	Lg	09 12 04.8	
	52nm,1.0s						
KURBB	**Kurchatov Arra**	**8.33**	**253**	⇓Pn	**Pn**	**09 09 51.5**	**+0.8**
	7.6nm,0.5s						
KURBB				⇑Sn	**Sn**	**09 11 24.2**	**-0.5**
	70nm,0.8s						
KURBB				⇑Lg	Lg	09 12 07.0	
	39nm,0.7s						
KURBB	**Kurchatov Arra**	**8.33**	**253**	Pn	**Pn**	**09 09 51.8**	**+1.1**
	0.9nm,0.3s,baz=68,slow=15,SNR=38						
KURBB				Sn	**Sn**	**09 11 23.1**	**-1.6**
	0.2nm,0.3s,baz=67,slow=22,SNR=7.8						
KURBB				Lg	Lg	09 12 12.4	
	0.3nm,0.3s,baz=68,slow=32,SNR=9.8						
MK31	**Makanchi Array**	**8.94**	**223**	Pn	**Pn**	**09 10 01.5**	**+2.3**
	0.8nm,0.5s,baz=33,slow=12,SNR=50						
MK31				⇓Sn	**Sn**	**09 11 36.2**	**-3.7**
	14nm,1.2s,baz=37,slow=19,SNR=4.3						
MK31				⇑Lg	Lg	09 12 26.0	
	28nm,0.9s,baz=33,slow=28,SNR=3.5						
MKAR	**Makanchi Array**	**8.94**	**223**	Pn	**Pn**	**09 10 01.4**	**+2.3**
	0.9nm,0.3s,baz=31,slow=13,SNR=47						
MKAR				Sn	**Sn**	**09 11 40.8**	**+0.9**
	0.8nm,0.3s,baz=39,slow=19,SNR=5.9						
MKAR				Lg	Lg	09 12 29.6	
	0.3nm,0.3s,baz=42,slow=33,SNR=5.6						
SONM	**Songino Array**	**11.33**	**115**	Lg	Lg	09 13 43.2	
	0.3nm,0.3s,baz=295,slow=28,SNR=12						
AAK	**Ala-Archa**	**15.64**	**231**	Pn	**Pn**	**09 11 30.2**	**-0.3**
	0.1nm,0.3s,baz=37,slow=20,SNR=1.8						
AAK				Lg	Lg	09 16 00.2	
	0.1nm,0.3s,baz=150,slow=20,SNR=6.4						
ILAR	**Eielson Array**	**53.72**	**27**	P	**P**	**09 17 11.8**	**+0.3**
	0.1nm,0.5s,baz=317,slow=4.8,SNR=4.3						

*BJI **24** 09:11:48.4, 15°.40S×174°.36W, h12km, mB5.3/13, mb5.2/15, Ms5.2/8, Ms7 4.8/8*
*SZGRF **24** 09:11:50.9, 15°.91S×173°.42W, h33km, Tonga Islands*
*NEIC **24** 09:11:56.1±1.3, 15°.21S×174°.12W, h59km±12km, mb5.1/28, Error ellipse: s-maj=12.5km s-min=5.9km az=133.0*
*MOS **24** 09:11:58.2±1.2, 15°.10S×174°.05W, h85km, mb5.2/6, Error ellipse: s-maj=15.0km s-min=12.1km az=52.2*
*ISCJB **24** 09:11:58.3±0.2, 15°.28S±0°.05×174°.02W±0°.04, h94km, mb4.8/44, Error ellipse: s-maj=8.4km s-min=4.5km az=143.5*
*IDC **24** 09:12:03.0±0.8, 15°.26S×173°.93W, h119km±7km, mb4.0/14, mb1 4.2/15, mb1mx4.2/20, mbtmp4.3/15, Error ellipse: s-maj=20.4km s-min=12.8km az=129.0*
ISC 24 09:11:59.7±0.3, 15°.33S±0°.06×173°.87W±0°.06, h94km, n249, σ1§20/244, mb4.7/45, 29C-11D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.47**	**56**	*e*P	**Pn**	**09 12 36.4**	**-2.0**
AFI				*e*		09 13 01.2	
AFI	**Afiamalu**	**2.47**	**56**	*e*Pn	**Pn**	**09 12 36.4**	**-2.0**
AFI				*e*Sn	Sn	09 13 01.2	-6.8
NIUE	**Niue**	**5.30**	**135**	P	**Pn**	**09 13 16.9**	**+0.3**
	baz=5.1,SNR=133						
NIUE				S	**Sn**	**09 14 11.7**	**-4.7**
	baz=5.1,SNR=17						
MSVF	**Nonsavu**	**8.11**	**252**	*e*P	Pn	09 14 03.1	+8.3
MSVF	**Nonsavu**	**8.11**	**252**	*e*Pb	Pn	09 14 03.1	+8.3
KNTN	**Kanton**	**12.65**	**10**	*e*Pn	Pn	09 14 45.5	-11
DZM	**Mont Dzumac**	**19.80**	**247**	P	**Pn**	**09 16 24.9**	**-0.5**
	0.7nm,0.3s,baz=64,slow=22,SNR=7.4						
DZM	**Mont Dzumac**	**19.80**	**247**	*e*P	**P**	**09 16 19.0**	**-4.0**
	33nm,1.0s						
OUZ	**Omahuta**	**22.78**	**207**	*e*P	**P**	**09 16 51.0**	**-3.4**
	2μm,2.9s						
PPT2	**Papeete2**	**23.41**	**99**	*e*LR	LR	09 22 32.5	
	176nm,32.2s						
URZ	**Urewera**	**24.19**	**198**	P	**P**	**09 17 07.8**	**+0.4**
	18nm,0.9s,baz=108,slow=6.4,SNR=3.8						
TBI	**Tubuai**	**24.35**	**113**	*e*LR	LR	09 23 06.0	
	124nm,35.8s						
BKZ	**Black Stump Fm**	**25.21**	**198**	*e*P	**P**	**09 17 17.0**	**+0.2**
	47nm,1.4s						
BFZ	**Birch Farm**	**26.69**	**197**	*e*P	**P**	**09 17 28.7**	**-1.3**
	85nm,1.1s						
WHZ	**Wether Hill Ro**	**34.08**	**203**	*e*P	**P**	**09 18 36.0**	**+0.9**
	471nm,2.2s						
EIDS	**Eidsvold**	**34.25**	**247**	*e*P	**P**	**09 18 34.2**	**-2.7**
	181nm,2.8s						
ARMA	**Armidale**	**34.99**	**239**	P	**P**	**09 18 43.1**	**-0.2**
	baz=35,SNR=5.6						
ARMA				S	S	09 24 35.7	+27
	baz=35,SNR=5.2						
RMQ	**Roma**	**36.51**	**246**	P	**P**	**09 18 56.0**	**-0.2**
	baz=37,SNR=8.1						
CTAO	**Charters Tower**	**38.21**	**257**	*e*P	P	09 19 06.7	-4.1
CTAO				pmax	pmax		
	comp=Z,125nm,2.1s						
CTAO	**Charters Tower**	**38.21**	**257**	*e*P	P	09 19 06.7	-4.1
	comp=Z,125nm,2.1s						
CNB	**Canberra Magne**	**38.44**	**232**	P	**P**	**09 19 12.6**	**+0.1**
	baz=39,SNR=9.5						
PMG	**Port Moresby**	**38.47**	**274**	⇑*e*P	**P**	**09 19 10.6**	**-2.4**
PMG				pmax	pmax		
	comp=Z,20nm,1.2s						
KKH	**Kailua Kona**	**38.95**	**27**	*e*P	**P**	**09 19 15.3**	**-1.4**
KKH	**Kailua Kona**	**38.95**	**27**	*e*P	**P**	**09 19 15.3**	**-1.4**
CMSA	**Cobar Meteorol**	**40.20**	**239**	P	**P**	**09 19 26.5**	**-0.6**
	baz=40,SNR=17						
QLP	**Quilpie**	**40.53**	**247**	P	**P**	**09 19 28.8**	**-1.1**
	baz=41,SNR=14						
COEN	**Coen**	**41.53**	**266**	*e*P	**P**	**09 19 38.6**	**+0.3**
	comp=Z,172nm,1.4s						
TOO	**Toolangi**	**42.16**	**230**	P	**P**	**09 19 42.8**	**-0.4**
	baz=42,SNR=8.1						
QIS	**Mount Isa**	**44.45**	**256**	P	**P**	**09 20 01.0**	**-0.8**
	baz=45,SNR=5.3						
BBOO	**Buckleboo**	**48.45**	**240**	P	**P**	**09 20 32.2**	**-0.7**
	baz=49,SNR=19						
BBOO	**Buckleboo**	**48.45**	**240**	*e*P	**P**	**09 20 32.0**	**-0.9**
	comp=Z,981nm,2.1s						
WB2	**Warramunga Arr**	**49.40**	**257**	*e*P	**P**	**09 20 38.9**	**-1.5**
WRAB	**Tennant Creek**	**49.41**	**257**	P	**P**	**09 20 39.4**	**-1.0**
	comp=Z,209nm,0.6s,SNR=14						
WRAB	**Tennant Creek**	**49.41**	**257**	⇓*e*P	**P**	**09 20 39.0**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,95nm,1.2s						
WRAB	**Tennant Creek**	**49.41**	**257**	*e*P	**P**	**09 20 39.3**	**-1.2**
	comp=Z,23nm,0.7s						
WRA	**Warramunga Arr**	**49.42**	**257**	P	**P**	**09 20 39.4**	**-1.1**
	comp=Z,17nm,0.5s,baz=90,slow=7.0,SNR=189						
WRA				PcP	**PcP**	**09 22 01.6**	**0.0**
	comp=Z,1.7nm,0.8s,baz=80,slow=3.8,SNR=3.4						
AS31	**Alice Springs**	**49.70**	**252**	*e*P	**P**	**09 20 42.1**	**-0.6**
ASAR	**Alice Springs**	**49.70**	**252**	P	**P**	**09 20 42.3**	**-0.3**
	comp=Z,114nm,0.6s,baz=86,slow=8.1,SNR=1456						
KDU	**Kakadu**	**52.02**	**266**	P	**P**	**09 20 59.5**	**-0.6**
	baz=52,SNR=7.9						
MTN	**Manton Dam**	**53.28**	**265**	P	**P**	**09 21 08.6**	**-0.8**
	baz=54,SNR=4.4						
WRKA	**Warakurna**	**54.79**	**250**	P	**P**	**09 21 19.5**	**-0.8**
	baz=55,SNR=70						
FORT	**Forrest**	**55.04**	**243**	P	**P**	**09 21 21.0**	**-1.0**
	baz=55,SNR=22						
FORT	**Forrest**	**55.04**	**243**	*e*P	**P**	**09 21 20.7**	**-1.3**
	comp=Z,47nm,0.7s						
KNRA	**Kununurra**	**55.12**	**261**	P	**P**	**09 21 21.9**	**-0.9**
	baz=55,SNR=3.2						
SOEI	**Soe**	**60.48**	**267**	*e*P	**P**	**09 21 58.6**	**-1.8**
	comp=Z,22nm,0.7s						
SBA	**Scott Base**	**63.29**	**185**	*e*P	P	09 22 21.6	+3.5
SBA				pmax	pmax		
	comp=Z,127nm,2.7s						
SBA	**Scott Base**	**63.29**	**185**	*e*P	P	09 22 21.6	+3.5
	comp=Z,127nm,2.7s						
VNDA	**Vanda**	**63.40**	**186**	*e*P	**P**	**09 22 20.9**	**+2.0**
VNDA	**Vanda**	**63.40**	**186**	P	**P**	**09 22 21.1**	**+2.3**
	comp=Z,3.3nm,0.7s,baz=9.9,slow=6.6,SNR=20						
VNDA	**Vanda**	**63.40**	**186**	*e*P	**P**	**09 22 20.9**	**+2.0**
	comp=Z,3.7nm,0.8s						
MEEK	**Meekatharra**	**63.42**	**248**	P	**P**	**09 22 18.9**	**-1.0**
	baz=64,SNR=3.8						
MJAR	**Matsushiro Arr**	**68.59**	**320**	P	**P**	**09 22 52.6**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=126,slow=6.4,SNR=3.5						
ASAJ	**Asahikawa**	**71.24**	**328**	P	**P**	**09 23 09.3**	**+0.6**
	comp=Z,10.0nm,0.9s,baz=221,slow=18,SNR=4.4						
PETK	**Petropavlovsk-**	**72.42**	**342**	P	**P**	**09 23 15.5**	**-0.1**
	comp=Z,6.3nm,0.7s,baz=140,slow=9.2,SNR=8.5						
MPMC	**Manual Prospec**	**73.81**	**45**	P	**P**	**09 23 25.1**	**+0.7**
	baz=74						
HEC	**Hector,Ludlow**	**73.94**	**46**	P	**P**	**09 23 25.7**	**+0.6**
	baz=74						
M04C	**Macdoel**	**74.36**	**38**	P	**P**	**09 23 27.7**	**+0.3**
	baz=74						
GMRC	**Granite Mounta**	**74.38**	**47**	P	**P**	**09 23 28.4**	**+0.7**
	baz=75						
FURC	**Furnace Creek,**	**74.45**	**45**	P	**P**	**09 23 28.7**	**+0.8**
	baz=75						
TUQ	**Turquoise Moun**	**74.54**	**46**	P	**P**	**09 23 29.1**	**+0.5**
	baz=75						
NVAR	**Mina Array Bea**	**74.58**	**42**	P	**P**	**09 23 29.6**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=227,slow=7.3,SNR=19						
NVAR				pP	pP	09 24 00.3	+7.2
	comp=Z,0.6nm,0.7s,baz=225,slow=10,SNR=2.8						
113A	**Mohawk Valley,**	**74.71**	**49**	P	**P**	**09 23 29.7**	**+0.2**
	baz=75						
QSPA	**South Pole Qui**	**74.72**	**180**	*e*P	**P**	**09 23 30.9**	**+1.7**
	comp=Z,16nm,1.1s						
TPNV	**Topopah Spring**	**75.13**	**44**	P	**P**	**09 23 32.0**	**0.0**
	baz=75						
KSRS	**Korea Array**	**75.79**	**316**	P	**P**	**09 23 37.6**	**+2.1**
	comp=Z,1.4nm,0.7s,baz=133,slow=5.8,SNR=5.6						
KSAR	**Wonju Array Be**	**75.81**	**316**	P	**P**	**09 23 37.6**	**+1.9**
KSAR	**Wonju Array Be**	**75.81**	**316**	P	**P**	**09 23 37.6**	**+1.9**
R11A	**Troy Canyon, C**	**76.32**	**44**	P	**P**	**09 23 38.6**	**-0.3**
	baz=76						
USRK	**Ussuriysk Ar.**	**77.05**	**323**	P	**P**	**09 23 42.9**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=132,slow=5.7,SNR=4.4						
X16A	**Lo Mia Camp, P**	**77.21**	**49**	P	**P**	**09 23 44.3**	**+0.4**
	baz=77						
CCUT	**Cedar City**	**77.40**	**45**	*e*P	**P**	**09 23 46.6**	**+1.6**
	comp=Z,2.1nm,0.8s						
U15A	**North Rim**	**77.58**	**47**	P	**P**	**09 23 46.8**	**+0.7**
	baz=78						
E07A	**Sunnyside**	**78.40**	**35**	*e*P	**P**	**09 23 50.3**	**+0.3**
	comp=Z,34nm,2.1s						
MDJ	**Mudanjiang**	**78.69**	**323**	P	**P**	**09 23 51.4**	**-0.2**
MDJ				PMZ			
	comp=Z,7.0nm,0.7s						
MDJ				PMZ			
	comp=Z,76nm,6.1s						
NJ2	**Nanjing**	**79.76**	**307**	*e*P	**P**	**09 23 56.5**	**-1.2**
NJ2				PMZ			
	comp=Z,40nm,0.5s						
HLID	**Hailey**	**79.86**	**39**	P	**P**	**09 23 58.5**	**+0.2**
	baz=80						
HLID	**Hailey**	**79.86**	**39**	*e*P	**P**	**09 23 59.2**	**+0.9**
	comp=Z,3.0nm,1.0s						
TRF	**Thorofare Moun**	**80.64**	**10**	*e*P	**P**	**09 24 01.4**	**-0.5**
	comp=Z,79nm,2.1s						
TNA	**Tin City**	**80.77**	**3**	*e*P	**P**	**09 24 03.3**	**+0.9**
	comp=Z,13nm,0.9s						
TXAR	**Lajitas Array**	**80.95**	**56**	P	**P**	**09 24 05.1**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=219,slow=7.4,SNR=3.8						
TXAR				pP	**pP**	**09 24 33.4**	**+4.5**
	comp=Z,1.2nm,1.0s,baz=262,slow=5.4,SNR=4.9						
ANMO	**Albuquerque**	**81.11**	**50**	⇑*e*P	**P**	**09 24 05.8**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,10.0nm,1.7s						
MCK	**McKinley**	**81.14**	**11**	*e*P	**P**	**09 24 04.0**	**-0.4**
MCK				pmax	pmax		
	comp=Z,12nm,0.8s						
MCK	**McKinley**	**81.14**	**11**	*e*P	**P**	**09 24 04.0**	**-0.4**
	comp=Z,12nm,0.8s						
MCMT	**McKenzie Canyo**	**81.48**	**39**	*e*P	**P**	**09 24 07.5**	**+0.5**
MSO	**Missoula**	**81.90**	**37**	P	**P**	**09 24 08.9**	**-0.1**
	baz=82						
U23A	**El Rito**	**81.90**	**49**	P	**P**	**09 24 09.3**	**0.0**
	baz=82						
FXWY	**Fox Creek**	**82.01**	**41**	*e*P	**P**	**09 24 10.4**	**+0.6**
	comp=Z,13nm,2.1s						
DOT	**Dot Lake**	**82.03**	**13**	*e*P	**P**	**09 24 09.3**	**+0.1**
	comp=Z,9.8nm,0.8s						
S22A	**4UR Ranch, Cre**	**82.06**	**47**	P	**P**	**09 24 10.1**	**-0.2**
	baz=82						
S22A	**4UR Ranch, Cre**	**82.06**	**47**	*e*P	**P**	**09 24 11.4**	**+1.2**
	comp=Z,2.6nm,0.9s						
IMW	**Indian Meadow**	**82.19**	**41**	*e*P	**P**	**09 24 11.5**	**+0.7**
	comp=Z,46nm,3.0s						
COLA	**College**	**82.38**	**11**	*e*P	**P**	**09 24 10.7**	**-0.2**
COLA				pmax	pmax		
	comp=Z,13nm,0.8s						
COLA	**College**	**82.38**	**11**	*e*P	**P**	**09 24 10.7**	**-0.2**
	comp=Z,13nm,0.8s						
QIZ	**Qiongzhong**	**82.45**	**292**	P	P	09 24 08.8	-3.5
ILAR	**Eielson Array**	**82.46**	**11**	P	**P**	**09 24 10.7**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=229,slow=6.5,SNR=41						
PDAR	**Pinedale Array**	**82.52**	**42**	P	**P**	**09 24 11.9**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=228,slow=3.2,SNR=11						
PDAR				pP	pP	09 24 44.1	+7.0
	comp=Z,0.6nm,0.7s,baz=251,slow=5.6,SNR=3.0						
SMCO	**Snowmass**	**82.59**	**46**	*e*P	**P**	**09 24 13.9**	**+0.8**
	comp=Z,14nm,1.8s						
429A	**Davenport Ranc**	**82.87**	**56**	P	**P**	**09 24 14.3**	**-0.1**
	baz=83						
R23A	**Moffat**	**82.96**	**47**	P	**P**	**09 24 14.3**	**-0.6**
	baz=83						
HRY	**Holter Researc**	**83.07**	**38**	*e*P	**P**	**09 24 15.5**	**+0.4**
J19A	**Crowheart**	**83.08**	**42**	P	**P**	**09 24 15.0**	**-0.2**
	baz=83						
S24A	**Houchin Ranch,**	**83.17**	**48**	P	**P**	**09 24 15.8**	**-0.2**
	baz=83						
O22A	**Kremmling**	**83.32**	**45**	P	**P**	**09 24 17.0**	**+0.2**
	baz=84						
DAWY	**Dawson**	**83.46**	**15**	*e*P	**P**	**09 24 16.9**	**+0.2**
MSTX	**Muleshoe**	**83.47**	**52**	P	**P**	**09 24 17.6**	**+0.2**
	baz=84						
631A	**Perdido Creek**	**83.48**	**57**	P	**P**	**09 24 17.7**	**+0.3**
	baz=84						
Z28A	**Tucker Farm, M**	**83.50**	**53**	P	**P**	**09 24 17.2**	**-0.4**
	baz=84						
EGAK	**Eagle**	**83.66**	**13**	*e*P	**P**	**09 24 17.9**	**+0.4**
	comp=Z,45nm,2.0s						
N22A	**Wattenberg Ran**	**83.67**	**45**	P	**P**	**09 24 18.8**	**+0.3**
	baz=84						
S25A	**Robets Cordova**	**83.73**	**48**	P	**P**	**09 24 19.0**	**+0.2**
	baz=84						
J20A	**Shoshoni**	**83.75**	**42**	P	**P**	**09 24 18.6**	**-0.1**
	baz=84						
O23A	**Lake Granby, G**	**83.78**	**46**	P	**P**	**09 24 19.2**	**+0.1**
	baz=84						
H19A	**Powell**	**83.79**	**41**	P	**P**	**09 24 19.0**	**+0.1**
	baz=84						
I20A	**Worland**	**83.99**	**41**	P	**P**	**09 24 19.5**	**-0.3**
	baz=84						
N23A	**Red Feather La**	**84.06**	**45**	P	**P**	**09 24 21.1**	**+0.6**
	baz=84						
COLD	**Coldfoot**	**84.14**	**9**	*e*P	**P**	**09 24 21.5**	**+1.5**
	comp=Z,7.9nm,1.0s						
J21A	**Lysite**	**84.16**	**42**	P	**P**	**09 24 21.2**	**+0.4**
	baz=84						
L22A	**Ellis Ranch, M**	**84.23**	**44**	P	**P**	**09 24 21.3**	**+0.1**
	baz=84						
Y29A	**Porterfield Fa**	**84.28**	**53**	P	**P**	**09 24 21.8**	**+0.3**
	baz=84						
O24A	**Longmont**	**84.32**	**46**	P	**P**	**09 24 22.1**	**+0.5**
	baz=84						
H20A	**Greybull**	**84.33**	**41**	P	**P**	**09 24 21.3**	**-0.3**
	baz=84						
BILL	**Bilibino**	**84.38**	**353**	⇑*i*P	**P**	**09 24 20.0**	**-1.1**
BILL				MLR	MLR		
	comp=Z,123nm,21.0s						
F19A	**Roth Farm, Mol**	**84.38**	**40**	P	**P**	**09 24 21.9**	**+0.1**
	baz=84						
K22A	**Casper**	**84.44**	**43**	P	**P**	**09 24 22.0**	**-0.2**
	baz=85						
I21A	**Big Trails, Te**	**84.47**	**42**	P	**P**	**09 24 21.6**	**-0.7**
	baz=85						
Z30A	**Sanderson Ranc**	**84.48**	**53**	P	**P**	**09 24 22.2**	**-0.3**
	baz=85						
231A	**Bronte**	**84.61**	**55**	P	**P**	**09 24 22.6**	**-0.5**
	baz=85						
I22A	**9 Mile Ranch,**	**85.03**	**42**	P	**P**	**09 24 25.3**	**+0.3**
	baz=85						
C19A	**Slack Wire Ran**	**85.22**	**38**	P	**P**	**09 24 26.6**	**+0.7**
	baz=85						
ABTX	**Abilene, Hawle**	**85.39**	**55**	P	**P**	**09 24 27.3**	**+0.3**
	baz=86						
ABTX	**Abilene, Hawle**	**85.39**	**55**	*e*P	**P**	**09 24 27.4**	**+0.3**
	comp=Z,8.2nm,1.0s						
534A	**Blanco**	**85.40**	**57**	P	**P**	**09 24 27.8**	**+0.6**
	baz=86						
B19A	**Brinkman Farms**	**85.63**	**37**	P	**P**	**09 24 28.3**	**+0.4**
	baz=86						
Z32A	**Haskell**	**85.77**	**54**	P	**P**	**09 24 29.2**	**+0.3**
	baz=86						
C20A	**Veseth Ranch,**	**85.83**	**38**	P	**P**	**09 24 29.1**	**+0.2**
	baz=86						
434A	**Burnet**	**85.84**	**57**	P	**P**	**09 24 28.2**	**-1.2**
	baz=86						
A19A	**Klindworth Far**	**85.98**	**37**	P	**P**	**09 24 29.3**	**-0.3**
	baz=86						
334A	**Lometa**	**86.05**	**56**	P	**P**	**09 24 30.2**	**-0.1**
	baz=86						
A20A	**Cobblestone Ra**	**86.43**	**37**	P	**P**	**09 24 31.8**	**-0.1**
	baz=87						
536A	**Bastrop**	**86.57**	**58**	P	**P**	**09 24 31.4**	**-1.5**
	baz=87						
HIA	**Hailar**	**86.86**	**323**	⇑*e*P	**P**	**09 24 32.8**	**-1.1**
GYA	**Guiyang**	**87.61**	**298**	P	**P**	**09 24 37.9**	**-0.2**
GYA				PP	**PP**	**09 28 03.6**	**-1.1**
GYA				SKS	**SKSac**	**09 35 03.0**	**+5.0**
GYA				S	**ScS**	**09 35 17.3**	**-1.7**
GYA				SS	**SS**	**09 41 03.4**	**+2.5**
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,120nm,5.4s						
GYA				LN			
	comp=Z,530nm,19.8s						
GYA				LE			
	comp=Z,490nm,20.2s						
GYA				LZ			
	comp=Z,560nm,19.7s						
U34A	**Anderson Ranch**	**88.37**	**52**	*e*P	**P**	**09 24 38.5**	**-2.8**
	comp=Z,47nm,0.6s						
HHC	**Hu-ho-hao-te**	**88.64**	**313**	*e*P	**P**	**09 24 42.5**	**-0.2**
HHC				sP	sP	09 24 49.1	-29
HHC				PP	**PP**	**09 28 12.3**	**-0.4**
HHC				SKS	**SKSac**	**09 35 08.4**	**+4.8**
HHC				S	**ScS**	**09 35 25.8**	**-1.2**
HHC				sS	S	09 35 33.3	+12
HHC				PMZ			
	comp=Z,43nm,0.7s						
HHC				PMZ			
	comp=Z,130nm,7.0s						
HHC				LN			
	comp=Z,270nm,14.7s						
HHC				LE			
	comp=Z,450nm,17.3s						
HHC				LZ			
	comp=Z,220nm,18.2s						
YKA	**Yellowknife Ar**	**90.21**	**24**	P	**P**	**09 24 49.3**	**0.0**
	comp=Z,1.6nm,0.9s,baz=240,slow=4.5,SNR=17						
KMI	**Kunming**	**90.58**	**296**	P	**P**	**09 24 50.6**	**-1.7**
KMI				PMZ			
	comp=Z,12nm,0.7s						
CD2	**Chengdu**	**91.38**	**302**	*e*P	**P**	**09 24 55.3**	**-0.3**
LZH	**Lanzhou**	**92.81**	**307**	*e*P	P	09 24 58.6	-3.7
LZH				pP	**PcP**	**09 25 06.5**	**+3.6**
LZH				sP	sP	09 25 10.1	-27
LZH				PMZ			
	comp=Z,25nm,1.4s						
LZH				PMZ			
	comp=Z,160nm,5.0s						
VNA3	**Neumayer Olymp**	**92.97**	**175**	P	**P**	**09 25 03.5**	**+1.3**
SNAA	**Sanae**	**93.00**	**177**	P	**P**	**09 25 04.4**	**+2.0**
VNA2	**Neumayer--Watz**	**93.46**	**176**	P	**P**	**09 25 06.2**	**+1.8**
SONM	**Songino Array**	**94.49**	**318**	P	**P**	**09 25 10.3**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=107,slow=2.0,SNR=2.5						
TIXI	**Tiksi**	**94.81**	**344**	⇑*i*P	**P**	**09 25 09.6**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MKAR	**Makanchi Array**	**110.45**	**315**	PKiKP	**PKiKP**	**09 30 19.5**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=99,slow=0.7,SNR=8.1						
KURK	**Kurchatov**	**112.78**	**319**	PKiKP	**PKiKP**	**09 30 23.9**	**-1.5**
KURBB	**Kurchatov Arra**	**112.85**	**319**	PKiKP	**PKiKP**	**09 30 23.9**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=92,slow=1.6,SNR=7.6						
KSH	**Kashi**	**115.06**	**307**	*e*PKP	**PKPdf**	**09 30 32.9**	**+2.5**
KSH				PP	PP	09 31 37.3	+6.0
KSH				PKS	**PKSdf**	**09 34 08.3**	**+1.2**
KSH				SKS	SKSdf	09 37 44.0	+10
KSH				SKKS	**SKKSac**	**09 38 30.1**	**+6.3**
KSH				SS	SS	09 47 30.1	+9.1
KSH				PPMZ			
	comp=Z,62nm,6.3s						
KSH				LN			
	comp=Z,41nm,4.6s						
KSH				LE			
	comp=Z,62nm,5.0s						
KSH				LZ			
	comp=Z,120nm,5.7s						
TKM2	**Tokmak 2**	**115.26**	**310**	*e*PKIKP	PKPpre	09 30 22.3	
TKM2	**Tokmak 2**	**115.26**	**310**	*e*PKPdf	PKPpre	09 30 22.3	
ARCES	**ARCESS Array B**	**124.47**	**352**	PKP	**PKPdf**	**09 30 46.6**	**-0.8**
	comp=Z,2.8nm,0.7s,baz=20,slow=2

PSZ	Piszkesteto	145.56	344	*e*PKIKP	PKPbc	09 31 27.8	+0.4
PSZ	Piszkesteto	145.56	344	⇑*i*P	PKPab	09 31 28.4	+0.6
PSZ	Piszkesteto	145.56	344	*e*PKPdf	PKPbc	09 31 27.8	+0.4
MLR	Muntele Rosu	145.61	335	⇑PKIKP	PKPbc	09 31 27.9	+0.1
MLR	Muntele Rosu	145.61	335	⇑*i*P	PKPbc	09 31 27.9	+0.1
ISR	Istrita	145.66	334	⇑PKIKP	PKPbc	09 31 28.1	+0.3
ISR	Istrita	145.66	334	⇑*i*P	PKPbc	09 31 28.1	+0.3
KHC	Kasperske Hory	145.74	351	*e*PKP2	PKPdf	09 31 27.2	-0.2
KHC	Kasperske Hory	145.74	351	*e*PKP	PKPdf	09 31 27.7	+0.3
KHC	Kasperske Hory	145.74	351	*e*PKPdf	PKPdf	09 31 27.2	-0.2
BRTR	Keskin Array B	145.81	321	PKPbc	PKPdf	09 31 28.2	+0.3
	comp=Z,6.0nm,0.7s,baz=103,slow=2.8,SNR=28						
GEC2	GERESS Array S	146.00	351	*e*PKP2	PKPdf	09 31 28.6	+0.7
GEC2	GERESS Array S	146.00	351	*e*PKPbc	PKPdf	09 31 28.6	+0.7
GEC2	GERESS Array S	146.00	351	*e*PKPdf	PKPdf	09 31 28.6	+0.7
GEC2				*e*PKPdf	PKPbc	09 31 28.9	+0.1
GERES	GERESS Array B	146.00	351	PKPbc	PKPdf	09 31 28.6	+0.7
	comp=Z,4.6nm,0.8s,baz=29,slow=3,0,SNR=31						
VOIR		146.01	336	⇑PKP2	PKPbc	09 31 29.5	+0.6
VOIR		146.01	336	⇑*i*P	PKPbc	09 31 29.5	+0.6
ARR	Arges	146.23	336	⇑*i*P	PKPab	09 31 30.6	+0.2
CONA	Conrad Observa	146.51	348	⇑*i*PKPab	PKPbc	09 31 30.4	0.0
	comp=Z,12nm,1.0s,SNR=6.1						
MOA	Molln	146.88	350	⇓*i*PKPab	PKPbc	09 31 31.3	0.0
	comp=Z,5.5nm,0.6s						
GZR	Gura Zlata	146.90	338	⇑PKIKP	PKPbc	09 31 30.9	-0.6
GZR	Gura Zlata	146.90	338	⇑*i*P	PKPbc	09 31 30.9	-0.6
FUR	Furstenfeldbru	146.98	354	*e*PKPbc	PKPbc	09 31 32.0	+0.4
BFO	Black Forest	147.04	357	*e*PKP2	PKPbc	09 31 31.5	-0.2
BFO	Black Forest	147.04	357	*e*PKPbc	PKPbc	09 31 31.5	-0.2
BFO	Black Forest	147.04	357	*e*PKPbc	PKPbc	09 31 31.5	-0.2
BFO				*e*PKPab	PKPab	09 31 33.4	0.0
BZS	Buzias	147.11	340	⇑PKP2	PKPbc	09 31 31.9	-0.1
BZS	Buzias	147.11	340	⇑*i*P	PKPbc	09 31 31.9	-0.1
RJOB	Jochberg	147.21	352	*e*PKPbc	PKPbc	09 31 32.6	+0.3
KBA	Koelnbreinsper	147.78	351	⇑*i*PKPbc	PKPbc	09 31 33.3	-0.7
	comp=Z,9.7nm,1.2s						
WTTA	Wattenberg	147.83	353	⇑*i*PKPbc	PKPbc	09 31 33.9	-0.2
	comp=Z,9.7nm,0.7s						
SOKA	Soboth	147.87	348	⇓*i*PKPbc	PKPbc	09 31 33.6	-0.5
	comp=Z,9.4nm,0.9s						
PERS	Pernice	147.89	348	*e*PKPbc	PKPbc	09 31 33.7	-0.4
DAVA	Damuels	147.98	355	⇓*i*PKPbc	PKPbc	09 31 34.5	0.0
	comp=Z,11nm,0.8s						
MYKA	Terra Mystica	148.16	350	⇑*i*PKPbc	PKPbc	09 31 34.2	-0.7
	comp=Z,7.3nm,0.8s						
FETA	Feichten	148.17	354	⇓*i*PKiKP	PKPbc	09 31 35.1	+0.1
	comp=Z,8.6nm,1.1s						
ABTA	Abfaltersbach	148.22	352	⇑*i*PKPbc	PKPbc	09 31 34.2	-0.9
	comp=Z,14nm,1.0s,SNR=6.5						
CRNS	Crni Vrh	148.59	349	*i* PKPbc	PKPbc	09 31 35.1	-0.9
TUE	Stuetta	148.83	356	*e*PKPbc	PKPbc	09 31 36.9	+0.1
SENIN	Lac Senin/Sane	149.04	358	*e*PKPab	PKPbc	09 31 38.1	+0.8
MMB	Musomiste	149.72	333	⇑PKP2	PKPbc	09 31 38.8	-0.2
MMB	Musomiste	149.72	333	⇑*i*P	PKPbc	09 31 38.8	-0.2
BNI	Bardonecchia	150.37	359	*e*PKIKP	PKPbc	09 31 41.5	+1.0
BNI	Bardonecchia	150.37	359	*e*PKPab	PKPbc	09 31 41.5	+1.0
ESDC	Sonseca Array	154.18	18	PKPbc	PKPbc	09 31 48.8	-0.4
	comp=Z,0.3nm,0.4s,baz=331,slow=2.7,SNR=4.9						
ESDC				PKPab	PKPab	09 32 03.4	+0.2
	comp=Z,0.3nm,0.4s,baz=340,slow=5.2,SNR=3.7						

DJA 24 09:13:55.7±1.5, 0°N±5°×12°0E±1°0, h10km, M3.6/5, MLv3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.42	64	P	Pg	09 14 03.9	-0.1
MPSI				S	Sg	09 14 10.0	+0.4
APSI	Ampana	2.38	116	P	Pn	09 14 34.6	-0.1
APSI				S	Sn	09 15 04.8	+0.9
LUWI	Luwuk	3.46	110	P	Pn	09 14 49.6	-0.1
GTOI	Gorontalo	3.52	82	P	Pn	09 14 48.5	-2.0

IDC 24 09:20:15.7±2.0, 8°.91S×108°.57E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/22, mbtmp3.9/6, Error ellipse: s-maj=101.9km s-min=20.6km az=51.0
DJA 24 09:20:16.8±0.9, 9°S±7°×10°8E±°, h15km±10km, M4.1/12, MLv4.1/12
ISC 24 09:20:18.6±2.8, 9°2S±0°.1×108°.45E±0°.06, h24km±18km, n16, σ1s22/24, mb4.0/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	1.40	360	P	Pn	09 20 41.9	-0.8
CMJI				S	Sb	09 21 03.8	+2.2
CISI	Cisompet, Garu	1.75	339	P	Pb	09 20 48.7	-1.3
CISI				S	Sb	09 21 13.0	+1.4
KPJI	Karang Pucung	1.91	14	P	Pn	09 20 50.7	+1.0
KPJI				S	Sb	09 21 16.9	+0.7
CNJI	Cibinong	2.29	325	P	Pn	09 20 55.9	+1.0
CNJI				S	Sb	09 21 25.8	-1.2
UGM	Wanagama	2.41	58	P	Pn	09 20 56.9	+0.3
UGM				S	Sb	09 21 32.2	+1.5
LEM	Lembang	2.49	341	P	Pn	09 20 58.9	+1.0
WOJI	Wonogiri, Jawa	2.79	61	P	Pn	09 21 01.9	+0.1
PCJI	Pacitan	2.87	70	P	Pn	09 21 02.8	-0.1
PCJI				S	Sn	09 21 35.3	-1.4
NGJI	Ngawi	3.49	59	P	Pn	09 21 11.5	+0.1
PWJI	Pagerwojo	3.51	71	P	Pn	09 21 10.7	-1.0
PWJI				S	Sn	09 21 52.2	-0.3
WRA	Warramunga Arr	27.19	116	P	P	09 26 00.5	-0.2
	0.6nm,0.8s,baz=288,slow=11,SNR=4.6						
ASAR	Alice Springs	28.26	124	P	P	09 26 12.4	+2.1
	0.5nm,0.8s,baz=299,slow=8.3,SNR=4.9						
ASAR				PcP	PcP	09 29 24.9	+1.4
	0.2nm,0.4s,baz=293,slow=2.4,SNR=3.5						
SONM	Songino Array	56.81	358	P	P	09 30 00.4	-0.7
	0.9nm,0.7s,baz=172,slow=8.6,SNR=7.6						
MKAR	Makanchi Array	60.43	340	P	P	09 30 26.1	-0.1
	1.3nm,0.5s,baz=148,slow=8.5,SNR=19						
KURBB	Kurchatov Arra	65.00	339	P	P	09 30 55.4	-1.1
	1.5nm,0.8s,baz=155,slow=5.1,SNR=8.6						
ZALV	Zalesovo Beam	66.01	345	P	P	09 31 01.9	-1.1
	1.0nm,0.3s,baz=159,slow=6.5,SNR=6.2						

CSEM 24 09:22:28.6±0.2, 38°.83N×21°.88E, h8km, MD2.7, Error ellipse: s-maj=4.7km s-min=3.7km az=108.0
ATH 24 09:22:28.7, 38°.82N×21°.92E, h5km±2km, MD2.7/9, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.13	318	*e*PG	Pg	09 22 30.9	-0.6
EVR				*e*SG	Sg	09 22 32.8	-0.6
EVR	Evrytania	0.13	318	*e*Pg	Pg	09 22 30.9	-0.6
EVR				*e*Sg	Sg	09 22 32.8	-0.6
MAKR	Makrakomi, Fth	0.25	40	*e*PG	Pg	09 22 33.8	+0.1
MAKR				*e*SG	Sg	09 22 38.0	+0.8
MAKR	Makrakomi, Fth	0.25	40	*e*Pg	Pg	09 22 33.8	+0.1
MAKR				*e*Sg	Sg	09 22 38.0	+0.8
AGG	Agios Georgios	0.38	58	*e*PB	Pg	09 22 36.4	+0.3
AGG	Agios Georgios	0.38	58	*e*Pb	Pg	09 22 36.4	+0.3
EFP	Efpalio	0.39	182	*e*PB	Pg	09 22 36.8	+0.5
EFP				*e*SB	Sb	09 22 43.3	-1.2
EFP	Efpalio	0.39	182	*e*Pb	Pg	09 22 36.8	+0.5
EFP				*e*Sb	Sb	09 22 43.3	-1.2
KALE	Kalithea	0.46	158	*e*PG	Pg	09 22 37.8	+0.1
KALE				*e*SB	Sb	09 22 45.3	-1.3
KALE	Kalithea	0.46	158	*e*Pg	Pg	09 22 37.8	+0.1
KALE				*e*Sb	Sb	09 22 45.3	-1.3
PDO	Prodromos	0.62	249	*e*PB	Pg	09 22 40.7	+0.1
PDO				*e*SB	Sb	09 22 50.4	-0.6
PDO	Prodromos	0.62	249	*e*Pb	Pg	09 22 40.7	+0.1
PDO				*e*Sb	Sb	09 22 50.4	-0.6
DSF	Desfina	0.63	130	*e*PG	Pg	09 22 40.7	-0.2
DSF	Desfina	0.63	130	*e*Pg	Pg	09 22 40.7	-0.2
THL	Klokotos Trika	0.75	6	*e*PB	Pb	09 22 44.2	0.0
THL	Klokotos Trika	0.75	6	*e*Pb	Pb	09 22 44.2	0.0
KLV	Kalavryta, Ach	0.80	167	*e*PG	Pg	09 22 43.9	-0.2
KLV	Kalavryta, Ach	0.80	167	*e*Pg	Pg	09 22 43.9	-0.2

IDC 24 09:29:34.5±0.7, 6°.28S×104°.76E, h0km, mb4.6/23, mb1 4.7/24, mb1mx4.6/30, mbtmp4.6/24, ML5.6/1, MS3.5/8, Ms1 3.6/8, ms1mx3.2/33, Error ellipse: s-maj=23.8km s-min=10.2km az=32.0
MOS 24 09:29:38.2±0.9, 6°.15S×104°.89E, h33km, mb5.0/32, Error ellipse: s-maj=14.8km s-min=7.3km az=107.9

ISCJB 24 09:29:40.6±0.5, 6°.65S±0°.04×104°.54E±0°.04, h71km±4km, mb4.6/43, Error ellipse: s-maj=8.0km s-min=3.5km az=44.6
BJI 24 09:29:41.2, 6°.60S×104°.60E, h76km, mB5.0/19, mb4.8/33, Ms4.7/11, Ms7 4.3/10
DJA 24 09:29:41.1±0.3, 7°S±3°×10°5E±°, h10km, M4.9/22, mb5.0/12, mB5.4/5, MLv4.8/22, Mw(mB)4.9/5
NEIC 24 09:29:43.4±0.8, 6°.52S×104°.66E, h76km±6km, mb4.8/9, Error ellipse: s-maj=11.5km s-min=6.0km az=223.0
ISC 24 09:29:42.7±0.5, 6°.60S±0°.04×104°.62E±0°.04, h69km±3km, h69km:pP-P, n314, σ1s38/322, mb4.6/43, 63C-57D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	1.07	91	P	Pn	09 29 59.0	-3.0
CGJI				S	Sn	09 30 12.9	-3.5
KASI	Kota Agung	1.07	353	P	Pn	09 29 59.1	-3.0
KASI				S	Sn	09 30 15.9	-0.6
BLSI	Bandar Lampung	1.37	27	P	Pn	09 30 02.9	-3.1
BLSI				S	Sn	09 30 25.4	+2.0
SBJI	Serang	1.57	73	P	Pn	09 30 06.1	-2.5
SBJI				S	Sn	09 30 30.4	+2.2
LWLI	Liwa	1.66	340	P	Pn	09 30 09.9	-0.1
LWLI				S	Sn	09 30 31.8	+1.3
KLI	Kotabumi	1.74	8	P	Pn	09 30 09.1	-1.7
KLI				S	Sn	09 30 34.4	+2.3
SKJI	Sukabumi	1.97	102	P	Pn	09 30 13.5	-0.4
TNG	Tangerang	2.06	78	P	Pn	09 30 13.5	-1.6
TNG	Tangerang	2.06	78	P	Pn	09 30 15.1	0.0
MDSI	Maura Dua	2.14	348	P	Pn	09 30 15.2	-1.1
CNJI	Cibinong	2.59	106	P	Pn	09 30 20.3	-2.1
MNAI	Manna	2.77	323	P	Pn	09 30 25.2	+0.4
MNAI	Manna	2.77	323	P	Pn	09 30 24.1	-0.8
	baz=2.8,SNR=18						
MNAI	Manna	2.77	323	*e*Pn	Pn	09 30 23.4	-1.4
LHSI	Lahat	2.96	338	P	Pn	09 30 27.8	+0.4
LEM	Lembang	2.99	95	P	Pn	09 30 28.6	+0.7
LEM	Lembang	2.99	95	P	Pn	09 30 28.6	+0.7
	baz=3.1,SNR=9.5						
CISI	Cisompet, Garu	3.31	107	P	Pn	09 30 31.1	-1.1
CISI	Cisompet, Garu	3.31	107	P	Pn	09 30 31.5	-0.8
	baz=3.4,SNR=17						
CISI	Cisompet, Garu	3.31	107	*e*Pn	Pn	09 30 30.8	-1.5
CISI				*e*Sn	Sn	09 31 08.0	-2.6
PMBI	Palembang	3.65	2	P	Pn	09 30 36.5	-0.3
XMI	Christmas Isla	3.97	165	P	Pn	09 30 37.0	-4.2
	baz=4.0,SNR=23						
XMI				S	Sn	09 31 20.7	-5.9
	baz=4.0,SNR=5.9						
CMJI	Cimerak	3.98	107	P	Pn	09 30 40.3	-1.0
XMIS	Christmas Isla	3.99	165	P	Pn	09 30 36.8	-4.8
	baz=4.0,SNR=88						
XMIS				S	Sn	09 31 20.0	-7.2
	baz=4.0,SNR=13						
XMIS	Christmas Isla	3.99	165	*e*Pn	Pn	09 30 37.0	-4.5
KPJI	Karang Pucung	4.34	100	P	Pn	09 30 47.3	+1.0
UGM	Wanagama	6.00	103	P	Pn	09 31 10.3	+1.3
	baz=6.1,SNR=16						
UGM	Wanagama	6.00	103	*e*Pn	Pn	09 31 10.8	+1.8
DSRI	Dabo	6.08	360	P	Pn	09 31 10.5	+0.5
	186nm,0.8s,3μm0.7nm						
NGJI	Ngawi	6.83	97	P	Pn	09 31 21.5	+1.1
	53nm,1.1s,0.3nm						
PWJI	Pagerwojo	7.27	102	P	Pn	09 31 27.9	+1.6
	62nm,0.7s,1μm0.3nm						
BKNI	Bangkinang	7.75	332	*e*Pn	Pn	09 31 35.1	+2.2
MYKOM	Kota Tinggi	8.37	355	*e*Pn	Pn	09 31 43.3	+2.0
COCO	West Island	9.48	234	*e*P	Pn	09 31 57.5	+1.0
COCO	West Island	9.48	234	*e*Pn	Pn	09 31 57.5	+1.0
STKI	Sintang	9.52	46	P	Pn	09 31 58.0	+0.9
	52nm,0.5s						
ABJI	Asem Bagus	9.61	98	P	Pn	09 31 59.8	+1.4
	361nm,0.6s,4μm						
JAGI	Jajag, Banyuwa	9.63	102	P	Pn	09 31 58.2	-0.5
	115nm,0.9s,2μm						
JAGI	Jajag, Banyuwa	9.63	102	P	Pn	09 31 59.2	+0.5
	baz=9.7,SNR=7.3						
JAGI	Jajag, Banyuwa	9.63	102	*e*Pn	Pn	09 31 57.9	-0.8
	56nm,0.6s						
JAGI				*e*Sn	Sn	09 33 45.5	+0.1
SRBI	Singaraja	10.61	99	P	Pn	09 32 13.4	+1.4
	80nm,0.7s						
SBUM	Sibu	11.76	40	*e*Pn	Pn	09 32 29.2	+1.5
SPSI	Sidrap Palu	15.31	81	P	P	09 33 17.4	-0.9
BKSI	Bulukumba	15.47	86	P	Pn	09 33 18.2	+1.2
TTSI	Tana Toraja	15.55	78	P	P	09 33 20.5	-0.4
BNSI	Bone	15.57	83	P	P	09 33 20.7	-0.4
MPSI	Mapaga	16.73	66	P	P	09 33 35.7	+1.7
EDFI	Ende, Flores	17.05	98	P	P	09 33 40.3	+2.6
GIRL	Giralia	18.45	151	P	Pn	09 33 55.7	+1.9
	baz=18,SNR=4.6						
BATI	Baumata	19.18	102	P	P	09 34 00.1	-0.9
	18nm,0.3s,baz=281,slow=16,SNR=9.4						
BATI				S	S	09 37 35.2	+0.2
	4.6nm,0.3s,baz=102,slow=19,SNR=3.7						
SOEI	Soe	19.70	100	P	P	09 34 06.4	-0.4
	baz=20,SNR=11						
SOEI				S	S	09 37 44.2	-1.4
	baz=20,SNR=3.5						
SOEI	Soe	19.70	100	*e*P	P	09 34 05.3	-1.5
	99nm,0.9s						
MBWA	Marble Bar	20.58	136	*e*P	P	09 34 17.6	+1.4
	19nm,1.3s						
KHLT	Khaolaem Dam	22.08	344	P	P	09 34 35.0	+2.8
	4.1nm,1.0s						
FITZ	Fitzroy Crossi	23.47	121	*e*P	P	09 34 42.2	-4.2
	5.1nm,0.8s						
KNRA	Kununurra	25.32	113	P	P	09 35 02.8	-0.4
	baz=25,SNR=7.6						
CMAR	Chiang Mai Arr	25.52	347	P	P	09 35 01.6	-3.3
	4.8nm,0.7s,baz=181,slow=9.1,SNR=17						
CMAR				LR	LR	09 46 21.2	
	comp=Z,84nm,18.2s,baz=158,slow=40						
CMMT	Chiang Mai	25.86	348	P	P	09 35 07.7	-0.4
CHTO	Chiang Mai	25.86	348	*e*P	P	09 35 05.4	-2.7
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CHTO	Chiang Mai	25.86	348	P	P	09 35 07.7	-0.4
	comp=Z,55nm,0.8s						
CHTO	Chiang Mai	25.86	348	*e*P	P	09 35 05.4	-2.7
	comp=Z,7.7nm,0.6s						
QIZ	Qiongzhong	25.98	11	P	P	09 35 10.4	+1.3
QIZ				sP	sP	09 35 35.5	+1.9
QIZ				S	S	09 39 37.5	+2.6
QIZ				sS	sS	09 40 06.8	+3.7
QIZ				PMZ			
	comp=Z,63nm,4.4s						
MTN	Manton Dam	26.84	105	P	P	09 35 20.0	+2.9
	baz=27,SNR=9.8						
MTN				S	S	09 39 26.3	-23
	baz=27,SNR=3.8						
SLVN	Son La	27.76	359	*e*P	P	09 35 25.4	+0.2
KDU	Kakadu	28.10	105	P	P	09 35 27.8	-0.5
	baz=28,SNR=17						
NWAO	Narrogin (SRO)	28.71	158	LR	LR	09 45 39.0	
	comp=Z,164nm,21.0s,baz=142,slow=33						
WRKA	Warakurna	29.15	132	P	P	09 35 37.8	+0.3
	baz=29,SNR=4.0						
H01W3	Cape Leeuwin H	29.49	164	T	T	10 07 03.3	
	baz=342,slow=76,SNR=91						
H01W2	Cape Leeuwin H	29.50	164	T	T	10 07 13.8	
	baz=342,slow=76,SNR=109						
H01W1	Cape Leeuwin H	29.50	164	T	T	10 07 13.4	
	baz=342,slow=76,SNR=97						
KMI	Kunming	31.58	357	P	P	09 36 00.3	+1.1
KMI				PMZ			
	comp=Z,11nm,1.0s						
KMI				LN			
	comp=Z,140nm,19.7s						
KMI				LE			
	comp=Z,140nm,17.4s						
KMI				LZ			
	comp=Z,200nm,17.4s						
WRA	Warramunga Arr	31.75	118	P	P	09 36 00.9	+0.3
WRA						09 38 51.9	
WRA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WRA	Warramunga Arr	31.75	118	P	P	09 36 00.8	+0.3
	comp=Z,5.5nm,0.7s,baz=290,slow=10,SNR=16						
WRA				PcP	PcP	09 38 51.9	+1.2
	comp=Z,1.7nm,0.6s,baz=305,slow=2.0,SNR=9.4						
WRAB	Tennant Creek	31.75	118	*c i*P	P	09 36 00.8	+0.1
WRAB				pmax	pmax		
	comp=Z,45nm,1.7s						
WRAB	Tennant Creek	31.75	118	*e*P	P	09 36 00.7	+0.1
WB2	Warramunga Arr	31.76	118	*e*P	P	09 36 01.0	+0.3
H08S2	Diego Garcia H	31.89	266	T	T	10 09 50.4	
	baz=89,slow=76,SNR=245						
H08S3	Diego Garcia H	31.90	266	T	T	10 09 47.3	
	baz=89,slow=76,SNR=174						
H08S1	Diego Carcia H	31.91	266	T	T	10 09 48.0	
	baz=89,slow=76,SNR=217						
ASAR	Alice Springs	32.86	124	P	P	09 36 11.2	+0.9
ASAR						09 38 55.4	
ASAR				S	S	09 41 24.2	+1.1
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR				smax	smax		
	comp=N,1.0nm,0.9s						
ASAR	Alice Springs	32.86	124	P	P	09 36 11.2	+0.9
	comp=N,2.7nm,0.7s,baz=300,slow=8.2,SNR=19						
ASAR				PcP	PcP	09 38 55.4	+1.6
	comp=N,2.1nm,0.7s,baz=302,slow=2.2,SNR=11						
ASAR				S	S	09 41 24.2	+1.1
	comp=N,1.2nm,0.9s,baz=296,slow=16,SNR=6.9						
ASAR				LR	LR	09 49 53.1	
	comp=N,90nm,20.1s,baz=314,slow=37						
AS31	Alice Springs	32.86	124	*e*P	P	09 36 11.4	+1.2
GYA	Guiyang	32.92	3	*e*P	P	09 36 12.4	+1.6
GYA				pP	pP	09 36 31.8	+4.4
GYA				sP	sP	09 36 41.0	+5.6
GYA				PP	PP	09 37 25.9	-0.5
GYA				S	S	09 41 25.5	+1.6
GYA				sS	sS	09 41 58.3	+5.9
GYA				ScP	ScP	09 42 31.4	-0.8
GYA				PMZ			
	comp=N,10.0nm,0.8s						
GYA				PMZ			
	comp=N,90nm,4.9s						
GYA				LN			
	comp=N,580nm,17.9s						
GYA				LE			
	comp=N,510nm,18.0s						
GYA				LZ			
	comp=N,540nm,16.7s						
JAY	Jayapura	36.19	85	LR	LR	09 54 20.0	
	comp=N,34nm,20.3s,baz=118,slow=41						
QIS	Mount Isa	36.62	116	P	P	09 36 43.3	+0.5
	baz=37,SNR=3.6						
CD2	Chengdu	37.30	359	*e*P	P	09 36 51.0	+2.7
TAPN	Taplejung	37.50	335	*e*P	P	09 36 48.9	-1.5
	comp=N,13nm,0.5s						
RAMN	Ramite	37.64	333	*e*P	P	09 36 50.6	-0.9
	comp=N,14nm,0.4s						
JIRN	Jiri	38.43	333	*e*P	P	09 36 56.9	-1.4
	comp=N,28nm,0.6s						
COEN	Coen	38.59	104	P	P	09 36 59.6	+0.1
	baz=39,SNR=6.7						
PKI	Pulchoki	38.71	332	*e*P	P	09 36 59.0	-1.6
PKIN	Phulchoki	38.73	332	*e*P	P	09 36 59.1	-1.5
	comp=N,6.4nm,0.4s						
GUN	Gumba	38.79	333	*e*P	P	09 36 59.8	-1.5
DMN	Daman	38.89	332	*e*P	P	09 37 00.8	-1.2
KKN	Kakani	38.96	332	*e*P	P	09 37 00.5	-2.1
	comp=N,22nm,0.6s						
BBOO	Buckleboo	39.16	136	P	P	09 37 03.5	-0.5
GKN	Gorkha	39.44	332	*e*P	P	09 37 05.2	-1.3
	comp=N,23nm,0.4s						
KOLN	Koldanda	39.75	330	*e*P	P	09 37 07.3	-1.8
	comp=N,33nm,0.7s						
DANN	Dangsing	40.15	331	*e*P	P	09 37 11.0	-1.5
	comp=N,51nm,0.6s						
PYUN	Piuthan	40.32	330	*e*P	P	09 37 12.7	-1.2
	comp=N,52nm,0.4s						
XAN	Xi'an	40.62	5	P	P	09 37 14.8	-1.2
XAN				pP	pP	09 37 35.0	+2.0
XAN				PMZ			
	comp=N,2.0nm,0.6s						
NJ2	Nanjing	40.76	19	*e*P	P	09 37 17.3	+0.2
NJ2				PMZ			
	comp=N,50nm,0.7s						
PMG	Port Moresby	42.20	97	*ce*P	P	09 37 28.7	-0.5
PMG				pmax	pmax		
	comp=Z,29nm,1.7s						
PMG	Port Moresby	42.20	97	P	P	09 37 29.1	-0.1
	comp=Z,20nm,0.9s,baz=315,slow=17,SNR=4.5						
PMG	Port Moresby	42.20	97	*e*P	P	09 37 29.1	-0.1
	comp=Z,21nm,0.9s						
LZH	Lanzhou	42.46	359	*e*P	P	09 37 30.5	-0.7
LZH				pP	pP	09 37 44.1	-4.2
LZH				PMZ			
	comp=Z,18nm,1.0s						
QLP	Quilpie	42.60	122	P	P	09 37 34.5	+2.2
	baz=43,SNR=5.7						
CMSA	Cobar Meteorol	45.66	128	P	P	09 37 59.0	+2.2
	baz=46,SNR=12						
GTA	Gaotai	45.99	355	*e*P	P	09 37 58.3	-1.0
GTA				pP	pP	09 38 16.8	+0.2
GTA				sP	sP	09 38 26.0	+1.5
GTA				PMZ			
	comp=Z,7.0nm,0.9s						
JNU	Nakatsue	46.72	31	P	P	09 38 03.7	-1.3
	comp=Z,12nm,0.9s,baz=177,slow=6.6,SNR=5.5						
HHC	Hu-ho-hao-te	47.64	7	*e*P	P	09 38 16.3	+4.2
HHC				sP	sP	09 38 43.3	+5.9
HHC				S	S	09 45 07.4	+4.5
HHC				sS	sS	09 45 37.3	+4.9
HHC				PMZ			
	comp=Z,34nm,1.3s						
H

SONM Songino Array 54.22 1 P **P 09 39 00.8 -0.7**
comp=Z,1.3nm,0.4s,baz=177,slow=9.1,SNR=20
SONM PcP **PcP 09 40 04.8 -0.2**
comp=Z,3.3nm,0.6s,baz=180,slow=4.3,SNR=13
KZA Kyzart 55.36 334 P **P 09 39 09.9 -0.3**
SNR=5.6
KZA Kyzart 55.36 334 *i* P **P 09 39 09.9 -0.3**
UCH Uchtor 55.81 333 P **P 09 39 13.1 -0.4**
SNR=8.4
UCH Uchtor 55.81 333 *i* P **P 09 39 13.0 -0.4**
TKM2 Tokmak 2 55.89 335 P **P 09 39 12.8 -1.0**
SNR=25
TKM2 Tokmak 2 55.89 335 *e*P **P 09 39 13.1 -0.6**
TKM2 pmax pmax
comp=Z,19nm,0.6s
TKM2 Tokmak 2 55.89 335 *e*P **P 09 39 13.1 -0.6**
comp=Z,19nm,0.6s
KBK Karagaybulak 55.96 334 P **P 09 39 14.2 +0.1**
SNR=8.4
AML Almayashu 56.10 333 P **P 09 39 14.7 -0.7**
SNR=18
AAK Ala-Archa 56.14 334⇓*i*P **P 09 39 14.9 -0.6**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 56.14 334 P **P 09 39 15.2 -0.3**
comp=Z,2.4nm,0.7s,baz=141,slow=6.6,SNR=8.4
AAK Ala-Archa 56.14 334 *e*P **P 09 39 15.1 -0.4**
USRK Ussuriysk Ar. 56.27 23 P **P 09 39 14.6 -1.5**
comp=Z,13nm,0.8s,baz=217,slow=6.7,SNR=22
EKS2 Erkin-Say 56.49 333 P **P 09 39 17.8 -0.1**
SNR=17
EKS2 Erkin-Say 56.49 333 *e*P **P 09 39 17.1 -0.8**
EKS2 pmax pmax
comp=Z,15nm,0.8s
EKS2 Erkin-Say 56.49 333 *e*P **P 09 39 17.1 -0.8**
comp=Z,15nm,0.8s
USP Ospenovka 56.65 334 P **P 09 39 18.1 -0.8**
SNR=5.4
USP Ospenovka 56.65 334 *i* P **P 09 39 18.1 -0.8**
MKAR Makanchi Array 56.74 342 P **P 09 39 18.0 -1.4**
comp=Z,9.3nm,0.5s,baz=148,slow=8.6,SNR=118
MKAR LR LR 10 05 38.7
ZAK Zakamensk 56.76 359 *e*P **P 09 39 18.6 -1.0**
ZAK *e* 09 40 15.1
ZAK pmax pmax
comp=Z,2.0nm,1.0s
HIA Hailar 57.18 12*d i*P **P 09 39 20.4 -2.1**
HIA pmax pmax
comp=Z,6.0nm,0.8s
TLY Talaya 58.05 359 *e*P **P 09 39 28.8 +0.2**
TLY pmax pmax
comp=Z,3.0nm,0.6s
TLY Talaya 58.05 359 P **P 09 39 28.2 -0.4**
comp=Z,3.2nm,0.7s,baz=205,slow=9.2,SNR=4.3
KKAR Karatay Array 58.35 331 *e*P **P 09 39 29.4 -1.4**
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 58.35 331 *e*P **P 09 39 29.4 -1.4**
comp=Z,1.1nm,0.4s
KURBB Kurchatov Arra 61.29 341 P **P 09 39 49.8 -1.0**
comp=Z,6.5nm,0.6s,baz=157,slow=6.2,SNR=34
KURBB PcP **PcP 09 40 33.2 +0.5**
comp=Z,2.2nm,0.5s,baz=144,slow=2.7,SNR=6.8
KURK Kurchatov 61.34 341 *e*P **P 09 39 50.3 -0.9**
KURK *e* 09 40 32.9
KURK pmax pmax
comp=Z,8.0nm,1.0s
KURK Kurchatov 61.34 341 *e*P **P 09 39 50.3 -0.9**
comp=Z,8.3nm,1.0s
KURK *e*PcP **PcP 09 40 32.9 0.0**
GEYT Alibeck 61.91 319 P **P 09 39 55.7 +0.3**
comp=Z,7.8nm,0.5s,baz=146,slow=6.2,SNR=13
ZALV Zalesovo Beam 62.58 347 *i* P **P 09 39 58.0 -1.4**
ZALV pmax pmax
comp=Z,8.0nm,0.4s
ZALV Zalesovo Beam 62.58 347 P **P 09 39 57.9 -1.5**
comp=Z,8.1nm,0.4s,baz=153,slow=5.0,SNR=40
ZALV LR LR 10 09 42.1
comp=Z,43nm,18.6s,baz=76,slow=39
NVS Novosibirsk 63.77 346 *e*P P 09 40 01.8 -5.4
BOD Bodaibo 64.65 6 *e*P **P 09 40 10.7 -2.2**
BOD pmax pmax
comp=Z,5.0nm,0.9s
MAW Mawson 67.08 196 LR LR 10 05 58.5
comp=Z,56nm,19.9s,baz=52,slow=32
AKTO Aktyubinsk 69.59 330 P **P 09 40 43.7 -0.7**
AKTO pmax pmax
comp=Z,3.0nm,0.6s
AKTO Aktyubinsk 69.59 330 P **P 09 40 43.7 -0.7**
comp=Z,2.9nm,0.6s,baz=127,slow=7.2,SNR=14
YAK Yakutsk 71.12 12 *e*P **P 09 40 50.7 -2.8**
YAK pmax pmax
comp=Z,19nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK Yakutsk 71.12 12 P **P 09 40 51.6 -1.8**
comp=N,22nm,0.5s,baz=241,slow=0.7,SNR=6.1
ARU Arti 73.25 335*d i*P **P 09 41 06.0 -0.4**
ARU 09 43 44.4
ARU S **S 09 50 24.9 -4.4**
ARU pmax pmax
comp=Z,16nm,1.0s
ARU Arti 73.25 335 *e*P **P 09 41 06.4 0.0**
comp=Z,13nm,0.8s
PETK Petropavlovsk- 74.41 30 P **P 09 41 11.2 -2.0**
PETK pmax pmax
comp=Z,3.0nm,0.6s
PETK Petropavlovsk- 74.41 30 P **P 09 41 11.2 -2.0**
comp=Z,2.9nm,0.6s,baz=203,slow=6.3,SNR=4.2
KBZ Khabaz 74.78 319 P **P 09 41 16.1 +0.6**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 74.78 319 P **P 09 41 16.1 +0.6**
comp=Z,6.1nm,0.8s,baz=146,slow=4.0,SNR=16
KIV Kislovodsk 75.01 319 *e*P **P 09 41 18.0 +1.0**
KIV pmax pmax
comp=Z,4.0nm,0.7s
TIXI Tiksi 79.71 8⇑*e*P **P 09 41 40.4 -2.1**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 79.80 312*ce*P **P 09 41 44.7 +0.7**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BRTR Keskin Array B 79.80 312 P **P 09 41 44.5 +0.5**
comp=Z,4.6nm,0.7s,baz=133,slow=5.7,SNR=20
OBN Obninsk 83.11 328⇑*e*P **P 09 42 01.5 +0.7**
OBN *i* *PP **pP 09 42 15.5 -4.2**
OBN pmax pmax
comp=Z,8.0nm,0.5s
KLMR Klimovskoe 83.96 333 *e*P **P 09 42 04.3 -0.8**
KLMR pmax pmax
comp=Z,20nm,1.9s
BILL Bilibino 85.89 19⇑*i*P **P 09 42 13.2 -1.4**
BILL pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 85.92 322*ce*P **P 09 42 15.6 +0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 85.92 322 P **P 09 42 15.0 -0.1**
comp=Z,0.5nm,0.4s,baz=93,slow=3.7,SNR=6.2
KIEV Kiev 85.92 322⇓*e*P **P 09 42 15.5 +0.3**
JOF Joensuu 88.33 334 *e*P **P 09 42 25.4 -1.1**
JOF pmax pmax
comp=Z,7.0nm,0.7s
JOF Joensuu 88.33 334 *e*p **P 09 42 25.4 -1.1**
comp=Z,6.6nm,0.7s
SNAA Sanae 89.20 198⇑*e*P **P 09 42 33.2 +2.5**
SNAA pmax pmax
comp=Z,7.0nm,1.7s
VSU Vasula 89.28 329⇓*e*P **P 09 42 31.7 +0.6**
VSU pmax pmax
comp=Z,16nm,1.5s
FINES FINESS Array B 90.30 332 P **P 09 42 36.2 +0.4**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 90.30 332 P **P 09 42 36.2 +0.4**
comp=Z,3.9nm,0.8s,baz=109,slow=7.5,SNR=12
KAF Kangasniemi 90.35 333 *e*P **P 09 42 36.2 +0.2**
KAF pmax pmax
comp=Z,7.0nm,0.7s
KAF Kangasniemi 90.35 333 *e*p **P 09 42 36.2 +0.2**
comp=Z,6.9nm,0.7s
STHS Stebnicka Huta 90.66 320 *e*P **P 09 42 39.3 +1.4**
STHS Stebnicka Huta 90.66 320 *e*P **P 09 42 39.2 +1.4**
ARCES ARCESS Array B 92.34 340 P **P 09 42 44.8 -0.4**
comp=Z,3.0nm,0.6s,baz=88,slow=4.0,SNR=13
ARCES LR LR 10 27 46.4
comp=Z,32nm,18.1s,baz=47,slow=38
YKA Yellowknife Ar 117.28 19 PKP **PKPdf 09 48 19.4 -0.5**
comp=Z,0.3nm,0.6s,baz=304,slow=1.5,SNR=6.8
J05D Fort Rock, OR 125.68 40⇓P **PKPdf 09 48 37.6 +0.7**
baz=126
MSO Missoula 128.05 33⇑P **PKPdf 09 48 41.8 +0.5**
baz=128
EGMT Eagleton 129.42 29⇑P **PKPdf 09 48 44.7 +0.9**
baz=129
NVAR Mina Array Bea 129.94 44 PKP **PKPdf 09 48 46.9 +1.6**
comp=Z,0.4nm,0.6s,baz=270,slow=3.2,SNR=4.8
B20A Solberg Farm, 129.96 28⇑P **PKPdf 09 48 44.6 -0.2**
baz=130
A21A Bergtoll Ranch 130.06 27⇓P **PKPdf 09 48 45.5 +0.6**
baz=130
D19A Cripps Ranch, 130.44 30⇓P **PKPdf 09 48 46.6 +0.9**
baz=130
E19A Rath Farm, Rou 130.98 30⇑P **PKPdf 09 48 46.2 -0.6**
baz=131
MPMC Manual Prospec 131.61 47⇓P **PKPdf 09 48 49.4 +1.0**
baz=132
C23A Lambert 131.72 27⇑P **PKPdf 09 48 49.5 +1.4**
baz=132
D22A Cohagen 131.75 28⇑P **PKPdf 09 48 48.9 +0.8**
baz=132
R11A Troy Canyon, C 131.84 43⇑P **PKPdf 09 48 49.2 +0.4**
baz=132
TPNV Topopah Spring 132.08 45⇓P **PKPdf 09 48 49.6 +0.4**
baz=132
G20A Bridger 132.12 31⇓P **PKPdf 09 48 49.1 +0.1**
baz=132
D23A Lindsay 132.18 27⇓P **PKPdf 09 48 49.6 +0.6**
baz=132
E22A Miles City 132.37 28⇑P **PKPdf 09 48 50.1 +0.7**
baz=132
J19A Crowheart 132.99 34⇓P **PKPdf 09 48 51.6 +0.7**
baz=133
C26A Wahner Farm, P 133.02 24⇓P **PKPdf 09 48 51.7 +1.2**
baz=133
I20A Worland 133.03 32⇓P **PKPdf 09 48 51.6 +0.8**
baz=133
PDAR Pinedale Array 133.03 34 PKP **PKPdf 09 48 52.4 +1.4**
comp=Z,0.5nm,0.6s,baz=130,slow=1.4,SNR=4.9
GMRC Granite Mounta 133.52 47⇑P **PKPdf 09 48 53.6 +1.6**
baz=133
I21A Big Trails, Te 133.57 32⇓P **PKPdf 09 48 53.7 +1.8**
baz=133
J21A Lysite 133.81 32⇓P **PKPdf 09 48 52.8 +0.4**
baz=134
SWSC Sam W. Stewart 134.25 50⇓P **PKPdf 09 48 53.5 +0.2**
baz=134
J22A Midwest 134.27 32⇓P **PKPdf 09 48 53.9 +0.7**
baz=134
H24A Dirks Ranch, A 134.28 29⇓P **PKPdf 09 48 53.3 +0.2**
baz=134
G26A Maurine 134.78 27⇓P **PKPdf 09 48 54.7 +0.8**
baz=135
G27A Dupree 135.01 26⇑P **PKPdf 09 48 55.3 +0.9**
baz=135
I25A Rochford 135.22 29⇑P **PKPdf 09 48 56.0 +1.1**
baz=135
O20A White River Ci 135.48 36⇑P **PKPdf 09 48 56.4 +0.8**
baz=135
WUAZ Wupatki 136.20 44⇑P **PKPdf 09 48 57.3 +0.2**
baz=136
I28A Midland 136.43 27⇑P **PKPdf 09 48 57.6 +0.6**
baz=136
J30A Dallas 137.71 26⇑P **PKPdf 09 49 00.6 +1.2**
baz=138
S33A Kaszmaul Farm, 142.91 30⇑P **PKPdf 09 49 06.6 -2.4**
baz=143
T33A Patterson Ranc 143.18 31⇑P PKPbc 09 49 07.3 +0.8
baz=143
Y29A Porterfield Fa 143.56 38⇓P PKPbc 09 49 08.6 +0.8
baz=143
W31A Holland Ranch, 143.66 35⇓P PKPbc 09 49 08.8 +0.8
baz=144
U33A Lingo Farm, Me 143.75 32⇑P PKPbc 09 49 08.9 +0.8
baz=144
Z29A Hungry Hill Ra 143.94 39⇓P PKPbc 09 49 09.7 +0.8
baz=144
S36A Lake Cedric, C 143.98 28⇓P PKPbc 09 49 09.3 +0.5
baz=144
Y30A Stafford Cattl 144.02 38⇑P PKPbc 09 49 10.0 +0.8
baz=144
X31A McDonald Ranch 144.04 36⇓P **PKPdf 09 49 11.0 -0.1**
baz=144
Z30A Sanderson Ranc 144.28 39⇑P PKPbc 09 49 10.7 +0.7
baz=144
Y31A Rekieta Farm, 144.34 37⇓P **PKPdf 09 49 11.5 -0.1**
baz=144
V34A Guthrie 144.51 32⇑P PKPbc 09 49 10.9 +0.4
baz=144,SNR=9.3
V34A Guthrie 144.51 32 *e*PKPdf PKPbc 09 49 10.9 +0.4
W33A Caddo, Fort Co 144.52 34⇑P **PKPdf 09 49 11.5 -0.4**
baz=144,SNR=5.8
X32A Elmer 144.59 35⇑P PKPbc 09 49 11.1 +0.3
baz=144
WMOK Wichita Mounta 144.65 34 *e*PKIKP **PKPab 09 49 10.7 -0.1**
WMOK Wichita Mounta 144.65 34 *e*PKPdf **PKPab 09 49 10.7 -0.1**
SFIN Lafayette 144.76 16⇑P **PKPdf 09 49 11.7 -0.4**
baz=144
Y32A R-V Farms, Ver 144.80 36⇓P **PKPdf 09 49 12.1 -0.3**
baz=145
W34A Bridge Creek, 144.83 33⇑P **PKPdf 09 49 12.2 -0.2**
baz=145
W34A Bridge Creek, 144.83 33 *e*PKPdf **PKPab 09 49 10.2 -1.3**
130A Snyder 144.84 39⇑P PKPbc 09 49 12.2 +0.4
baz=145
Z31A Sharp Cattle R 144.86 38⇑P **PKPdf 09 49 12.4 -0.2**
baz=145,SNR=19
329A Wagon Wheel Ra 144.91 42⇑P **PKPdf 09 49 12.8 +0.1**
baz=145,SNR=13
V35A Meyer Ranch, C 144.92 31⇓P PKPbc 09 49 12.1 +0.3
baz=145,SNR=7.8
X33A Lawton 144.95 34⇑P PKPbc 09 49 12.1 +0.1
baz=145
TXAR Lajitas Array 145.03 46 PKIKP **PKPdf 09 49 13.4 +0.4**
TXAR pmax pmax
comp=Z,9.0nm,0.8s
TXAR Lajitas Array 145.03 46 PKP **PKPdf 09 49 13.4 +0.4**
comp=Z,9.3nm,0.8s,baz=280,slow=1.1,SNR=83
131A Roby 145.15 39⇓P **PKPdf 09 49 13.4 +0.3**
baz=145,SNR=9.0
230A Sterling City 145.21 40⇑P **PKPdf 09 49 13.7 +0.4**
baz=145,SNR=15
Y33A Hilltop Ranch, 145.26 35⇑P **PKPdf 09 49 13.5 +0.3**
baz=145
Z32A Haskell 145.27 37⇓P **PKPdf 09 49 13.9 +0.6**
baz=145,SNR=35
X34A Smith Ranch, M 145.27 34⇓P **PKPdf 09 49 13.9 +0.7**
baz=145
TUL1 Leonard 145.33 30⇑P **PKPab 09 49 13.8 +0.5**
baz=145,SNR=5.6
TUL1 Leonard 145.33 30 *e*PKPbc **PKPab 09 49 13.4 +0.1**
330A Mertzon 145.49 41⇓P **PKPab 09 49 14.3 +0.2**
baz=145,SNR=14
429A Davenport Ranc 145.50 43⇓P **PKPab 09 49 14.5 +0.3**
baz=145,SNR=18
ABTX Abilene, Hawle 145.64 38⇑P **PKPab 09 49 14.9 +0.3**
baz=146,SNR=6.7
ABTX Abilene, Hawle 145.64 38 *e*PKPbc **PKPab 09 49 15.1 +0.5**
231A Bronte 145.69 39⇓P **PKPab 09 49 15.2 +0.3**
baz=146,SNR=7.1
Z33A Whitaker Ranch 145.70 36⇓P **PKPab 09 49 15.0 +0.2**
baz=146
Y34A Reagan Ranch, 145.79 34⇑P **PKPab 09 49 15.1 0.0**
baz=146,SNR=8.5
ACSO Alum Creek Sta 145.82 10 *e*PKPbc **PKPbc 09 49 14.5 0.0**
430A Baggett Ranch, 145.84 42⇑P **PKPab 09 49 15.7 +0.2**
baz=146,SNR=11
OLIL Olney 146.00 18 *e*PKPbc **PKPbc 09 49 15.3 +0.2**
331A San Angelo 146.03 40⇑P **PKPab 09 49 16.2 0.0**
baz=146,SNR=9.0
133A Hamilton Ranch 146.09 37⇑P **PKPab 09 49 16.7 +0.4**
baz=146,SNR=26
Z34A Collier Ranch, 146.13 35⇓P **PKPab 09 49 16.9 +0.5**
baz=146
232A Coleman 146.14 39⇓P **PKPab 09 49 16.7 +0.2**
baz=146,SNR=8.2
530A J-C Ranch, Com 146.17 43⇓P **PKPab 09 49 17.2 +0.5**
baz=146,SNR=46
431A Sonora 146.32 41⇓P **PKPab 09 49 17.2 0.0**
baz=146,SNR=7.6
332A Millersview 146.42 40⇓P **PKPab 09 49 17.5 -0.1**
baz=146,SNR=24
233A Rising Star 146.51 38⇑P **PKPab 09 49 17.9 -0.1**
baz=146,SNR=16
Z35A Perchaven, San 146.54 34⇓P **PKPab 09 49 18.0 0.0**
baz=146
134A White-Moore Ra 146.62 36⇓P **PKPab 09 49 18.3 0.0**
baz=146,SNR=9.0
531A Rocksprings 146.70 42⇓P **PKPab 09 49 18.3 -0.4**
baz=146,SNR=19
432A Menard 146.73 40⇑P **PKPab 09 49 18.3 -0.6**
baz=147,SNR=7.9
333A Richland Sprin 146.94 39⇑P **PKPbc 09 49 18.9 +0.8**
baz=147,SNR=15
JCT Junction City 146.98 41 PKP2 **PKPbc 09 49 17.4 -0.9**
JCT Junction City 146.98 41⇑P **PKPab 09 49 19.2 -0.7**
baz=147,SNR=36
JCT Junction City 146.98 41 PKPbc **PKPbc 09 49 17.4 -0.9**
234A Clairette 146.99 37⇓P **PKPab 09 49 19.1 -0.6**
baz=147,SNR=17
WCI Wyandotte Cave 146.99 16 *e*PKP2 **PKPbc 09 49 17.8 -0.2**
WCI Wyandotte Cave 146.99 16 *e*PKPbc **PKPbc 09 49 17.8 -0.2**
135A Vickery Place, 147.02 36⇓P **PKPab 09 49 19.3 -0.6**
baz=147
532A Rocksprings 147.14 42⇓P **PKPbc 09 49 19.6 +0.8**
baz=147,SNR=7.4
631A Perdido Creek 147.15 43⇑P **PKPbc 09 49 19.5 +0.8**
baz=147
433A Art 147.26 40⇓P **PKPbc 09 49 19.5 +0.4**
baz=147,SNR=5.6
334A Lometa 147.40 38⇑P **PKPbc 09 49 20.3 +0.9**
baz=147,SNR=7.5
WHTX Lake Whitney, 147.40 36⇑P **PKPbc 09 49 19.9 +0.6**
baz=147
MIAR Mount Ida 147.51 29 *e*PKP2 **PKPbc 09 49 19.9 +0.3**
MIAR Mount Ida 147.51 29 *e*PKPbc **PKPbc 09 49 19.9 +0.3**
MIAR *e*PKPab **PKiKP 09 49 22.1 +0.5**
632A Uvalde 147.62 42⇓P **PKPbc 09 49 20.4 +0.4**
baz=148
434A Burnet 147.73 39⇓P **PKPbc 09 49 20.7 +0.4**
baz=148
533A Kerrville 147.75 41⇑P **PKPbc 09 49 21.0 +0.6**
baz=148
335A Moody 147.92 37⇑P **PKPbc 09 49 21.3 +0.5**
baz=148
732A Laxson Ranch, 147.99 44⇑P **PKPbc 09 49 21.4 +0.4**
baz=148
633A Saathoff Ranch 148.06 42⇓P **PKPbc 09 49 21.5 +0.3**
baz=148
534A Blanco 148.14 40⇑P **PKPbc 09 49 21.9 +0.5**
baz=148
336A Riesel 148.19 36⇑P **PKPbc 09 49 22.3 +0.8**
baz=148
832A Faith Ranch, C 148.26 44⇓P **PKPbc 09 49 22.7 +0.9**
baz=148
237A Washetta, Mont 148.34 34⇑P **PKPbc 09 49 22.7 +0.9**
baz=148
733A Divot King Ran 148.46 43⇑P **PKPbc 09 49 22.8 +0.6**
baz=148
WVT Waverly 148.47 19 *e*PKP2 **PKPbc 09 49 22.3 +0.2**
WVT Waverly 148.47 19 *e*PKPbc **PKPbc 09 49 22.3 +0.2**
833A Chaparral WMA, 148.64 44⇑P **PKPbc 09 49 23.3 +0.5**
baz=148
535A Dale 148.71 39⇑P **PKPbc 09 49 23.4 +0.5**
baz=149
536A Bastrop 148.99 38⇓P **PKPbc 09 49 24.2 +0.6**
baz=149
933A Laredo 149.16 45⇑P **PKPbc 09 49 25.9 +1.8**
baz=149
834A Tilden 149.34 43⇑P **PKPbc 09 49 26.4 +1.9**
baz=149
735A Kenedy 149.35 41⇓P **PKPbc 09 49 26.9 +2.3**
baz=149
636A Smothers Creek 149.41 39⇓P **PKPab 09 49 27.2 -2.3**
baz=149

IDC 24 09:40:06.5±3.0, 54°.28N×87°.29E, h0km, mb1 3.1/2, mb1mx3.0/29, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=23.4km s-min=17.4km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**258**	*i*		09 50 50.0	
	baz=75,slow=329,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.49**	**258**	Pg	Pn	09 40 32.3	-2.2
	5.4nm,0.3s,baz=78,slow=14,SNR=24						
ZALV				Lg	Lg	09 40 53.6	
	5.4nm,0.3s,baz=80,slow=25,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.48**	**239**	Pn	Pn	09 41 44.3	+1.2
	0.3nm,0.3s,baz=55,slow=14,SNR=6.4						
KURBB				Sn	Sn	09 42 56.5	-1.2
	0.1nm,0.3s,baz=51,slow=27,SNR=3.7						
KURBB				Lg	Lg	09 43 35.1	
	0.1nm,0.3s,baz=48,slow=30,SNR=4.5						
MKAR	**Makanchi Array**	**8.14**	**205**	Pn	Pn	09 42 07.1	+1.2
	0.2nm,0.3s,baz=24,slow=14,SNR=5.2						
MKAR				Sn	Sn	09 43 37.8	-0.8
	0.1nm,0.3s,baz=20,slow=26,SNR=4.4						
MKAR				Lg	Lg	09 44 23.7	
	0.1nm,0.3s,baz=27,slow=29,SNR=3.7						

MEX 24 09:47:25.6±0.8, 16°.05N×97°.55W, h16km±20km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.65**	**302**	*e*P	Pg	09 47 36.6	-1.9
PNIG				*e*S	Sg	09 47 44.2	-3.0
VHO	**Vista Hermosa**	**1.29**	**37**	*e*P	Pn	09 47 44.8	-4.4
VHO				*e*S	Sb	09 48 01.7	-4.5
HUIG	**Huatulco**	**1.42**	**101**	*e*P	Pn	09 47 47.6	-3.1
TLIG	**Tlapa**	**1.79**	**327**	*i* P	Pn	09 47 53.4	-2.6
TLIG				*i* S	Sn	09 48 13.6	-5.0

GUC 24 10:06:04.0±0.6, 35°.75S×72°.20W, h50km, ML3.5, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.50**	**102**	*i*P	Pn	10 06 15.2	0.0
LNCH				*i* S	Sn	10 06 23.4	+0.1
TALC	**Talca**	**0.58**	**53**	⇓*i*P	Pn	10 06 15.7	-0.6
TALC				*i* S	Sn	10 06 24.4	-0.6
COCH	**Cobquecura**	**0.61**	**231**	⇑*i*P	Pn	10 06 16.4	-0.2
COCH				*i* S	Sn	10 06 25.4	-0.3
NICH	**Los Niches**	**1.09**	**47**	⇑*i*P	Pn	10 06 22.6	-0.3
NICH				*i* S	Sn	10 06 37.1	+0.2
NICH				IAML		10 06 40.6	
	comp=E,1μm,0.2s						
PEL	**Peldehue**	**2.88**	**26**	*e*P	Pn	10 06 47.8	+0.3
PEL				*i* S	Sn	10 07 21.4	+0.3
PEL				IAML		10 07 41.0	
	comp=E,221nm,0.9s						

NIED ***24*** *10:13:00, 23°.90N×121°.60E, h47km, Mw4.0 Best double couple: M0 1.07000×10^15 NP1:φ=204.00000°, δ=49.00000°, λ=162.00000°. NP2:φ=306.00000°, δ=77.00000°, λ=43.00000°.*
IDC ***24*** *10:13:12.0±1.0, 23°.73N×121°.62E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.6/27, mbtmp3.7/7, ML3.0/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/44, Error ellipse: s-maj=36.3km s-min=20.4km az=75.0*
ISCJB ***24*** *10:13:18.6±0.2, 23°.88N±0°.01×121°.69E±0°.01, h43km±3km, mb3.5/5, MS3.3/2, Error ellipse: s-maj=2.6km s-min=1.6km az=137.3*
TAP ***24*** *10:13:18.6, 23°.90N×121°.62E, h42km, ML4.3, B*
NEIC ***24*** *10:13:18.8, 23°.91N×121°.59E, h8km, ML4.6(TAP), After TAP.*
NEIC Recorded [2 TAP] in Hua-lien, I-lan and Nan-t'ou; [1 TAP] in T'ai-chung.
JMA ***24*** *10:13:18.1, 23°.86N×121°.63E, h38km±1km, M4.4*
ISC 24 10:13:19.3±0.9, 23°.86N±0°.02×121°.67E±0°.02, h37km, n115, σ19/36/175, mb3.9/5, 16C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.13**	**332**	*e*P	Pn	10 13 25.6	-5.9
	baz=353						
HWA				S	Sn	10 13 31.1	-12
	baz=353						
ESF	**Shoufeng Towns**	**0.15**	**273**	*e*P	Pn	10 13 26.2	-4.2
	baz=266						

ESF				*e*S	Sn	10 13 30.9	-10
	baz=266						
TEGC	**Jichi Village**	**0.20**	**218**	*e*P	**Pn**	**10 13 27.4**	**-1.4**
	baz=198						
ESL	**Shilin**	**0.22**	**257**	⇑*i*P	**Pn**	**10 13 25.9**	**-2.2**
	baz=248						
ESL				*e*S	**Sn**	**10 13 30.8**	**-5.8**
	baz=248						
TWD	**Chiawan**	**0.23**	**343**	⇓*i*P	**Pn**	**10 13 26.1**	**-2.0**
	baz=345						
TWD				*i*S	**Sn**	**10 13 31.1**	**-5.3**
	baz=345						
NACB	**Ninganchiao**	**0.32**	**347**	*e*Pg	**Pn**	**10 13 26.2**	**-1.4**
NACB				*e*Sg	**Sn**	**10 13 31.8**	**-2.7**
EHP	**Heping Village**	**0.45**	**8**	*e*P	**Pn**	**10 13 29.2**	**+0.1**
	baz=19						
EHP				*e*S	**Sn**	**10 13 37.6**	**+1.5**
	baz=19						
WHF	**Hehuan Shan**	**0.47**	**307**	⇑*i*P	**Pn**	**10 13 28.6**	**-1.1**
	baz=307						
WHF				S	**Sn**	**10 13 35.4**	**-1.8**
	baz=307						
EHY	**Hungye**	**0.48**	**222**	*i*P	**Pn**	**10 13 28.5**	**-1.1**
	baz=214						
EHY				*i*S	**Sn**	**10 13 35.3**	**-1.5**
	baz=214						
WDT	**Danda**	**0.50**	**258**	⇑*i*P	**Pn**	**10 13 29.4**	**-0.8**
	baz=248						
ENA	**Nanau**	**0.57**	**7**	⇓*i*P	**Pn**	**10 13 29.8**	**-1.2**
	baz=3.0						
ENA				*e*S	**Sn**	**10 13 39.3**	**+0.2**
	baz=3.0						
YULB	**Yu-li**	**0.58**	**216**	*e*Pg	**Pn**	**10 13 29.4**	**-1.7**
YULB				*e*Sg	**Sn**	**10 13 37.6**	**-1.8**
TWT	**Tachien**	**0.60**	**311**	⇓*i*P	**Pn**	**10 13 30.7**	**-0.8**
	baz=309						
TWT				*i*S	**Sn**	**10 13 38.4**	**-1.6**
	baz=309						
TWF1	**Yuli**	**0.61**	**214**	⇑*i*P	**Pn**	**10 13 30.3**	**-1.4**
	baz=218						
TWF1				S	**Sn**	**10 13 38.6**	**-1.7**
	baz=218						
NNS	**Nan Shan**	**0.64**	**335**	⇓*i*P	**Pn**	**10 13 30.7**	**-1.4**
	baz=340						
NNS				S	**Sn**	**10 13 39.0**	**-1.9**
	baz=340						
SSLB	**Suanglung**	**0.66**	**264**	*e*Pg	**Pn**	**10 13 31.0**	**-1.3**
SSLB				*e*Sg	**Sn**	**10 13 40.1**	**-1.3**
SMLT	**Sun Moon Lake**	**0.71**	**272**	⇑*i*P	**Pn**	**10 13 32.1**	**-0.8**
	baz=271						
SMLT				*e*S	**Sn**	**10 13 41.1**	**-1.5**
	baz=271						
TYC	**Yuchr**	**0.75**	**273**	⇑P	**Pn**	**10 13 32.5**	**-0.8**
	baz=270						
YUS	**Yu-Shan**	**0.76**	**241**	⇑*i*P	**Pn**	**10 13 33.6**	**-0.2**
	baz=232						
YUS				S	**Sn**	**10 13 43.5**	**-0.8**
	baz=232						
TWC	**Suao**	**0.76**	**12**	P	**Pn**	**10 13 32.8**	**-0.6**
	baz=22						
TWC				*e*S	**Sn**	**10 13 44.2**	**+0.5**
	baz=22						
ENTT	**Nioudou**	**0.78**	**353**	⇓*i*P	**Pn**	**10 13 32.6**	**-1.2**
	baz=355						
ENTT				S	**Sn**	**10 13 43.2**	**-1.0**
	baz=355						
CHKT	**Chengkung**	**0.81**	**200**	*e*P	**Pn**	**10 13 33.9**	**-0.3**
	baz=187						
CHKT				*e*S	**Sn**	**10 13 45.7**	**+0.7**
	baz=187						
YHNB	**Yeheng**	**0.85**	**342**	*e*Pg	**Pn**	**10 13 33.6**	**-1.1**
YHNB				*e*Sg	**Sn**	**10 13 44.0**	**-2.1**
TWE	**Neicheng**	**0.85**	**360**	⇓*i*P	**Pn**	**10 13 33.7**	**-1.0**
	baz=2.0						
TWE				*e*S	**Sn**	**10 13 45.2**	**-0.9**
	baz=2.0						
NSK	**Sanguang**	**0.86**	**341**	⇓*i*P	**Pn**	**10 13 34.0**	**-0.9**
	baz=348						
NSK				*i*S	**Sn**	**10 13 44.3**	**-2.1**
	baz=348						
ALS	**Alishan**	**0.87**	**246**	⇑*i*P	**Pn**	**10 13 35.1**	**-0.1**
	baz=237						
ALS				*e*S	**Sn**	**10 13 46.5**	**-0.4**
	baz=237						
ELDTW	**Lidau**	**0.90**	**222**	*e*P	**Pn**	**10 13 34.6**	**-0.9**
	baz=215						
ELDTW				*e*S	**Sn**	**10 13 46.6**	**-0.8**
	baz=215						
ILA	**Ilan**	**0.90**	**4**	*e*P	**Pn**	**10 13 35.6**	**+0.2**
	baz=356						
ILA				*e*S	**Sn**	**10 13 48.7**	**+1.4**
	baz=356						
WNT	**Mingjian**	**0.90**	**271**	*e*P	**Pn**	**10 13 35.7**	**+0.2**
	baz=269						
WNT				*e*S	**Sn**	**10 13 47.9**	**+0.6**
	baz=269						
CHN5	**Tsauling**	**0.95**	**254**	⇑P	**Pn**	**10 13 36.3**	**+0.1**
	baz=252						
CHN5				S	**Sn**	**10 13 49.0**	**+0.5**
	baz=252						
TWQ1	**Liyutan**	**0.95**	**301**	⇑*i*P	**Pn**	**10 13 36.2**	**+0.1**
	baz=300						
TWQ1				*i*S	**Sn**	**10 13 48.9**	**+0.4**
	baz=300						
TCU	**Taichung**	**0.95**	**287**	⇑P	**Pn**	**10 13 36.5**	**+0.4**
	baz=286						
TCU				S	**Sn**	**10 13 49.2**	**+0.7**
	baz=286						
NSTT	**Nanjuang**	**0.98**	**321**	⇓*i*P	**Pn**	**10 13 36.8**	**+0.3**
	baz=309						
NSTT				*i*S	**Sn**	**10 13 48.5**	**-0.6**
	baz=309						
NSY	**Sanyi**	**1.00**	**304**	*e*P	**Pn**	**10 13 36.7**	**-0.1**
	baz=303						
NSY				*e*S	**Sn**	**10 13 50.0**	**+0.4**
	baz=303						
EGS		**1.01**	**14**	*e*P	**Pn**	**10 13 36.5**	**-0.3**
	baz=22						
EGS				*e*S	**Sn**	**10 13 50.7**	**+1.0**
	baz=22						
WGK	**Gukeng**	**1.03**	**260**	*e*P	**Pn**	**10 13 37.5**	**+0.3**
	baz=258						
WGK				*e*S	**Sn**	**10 13 51.6**	**+1.2**
	baz=258						
STYT	**Tauyuan**	**1.09**	**230**	⇑*i*P	**Pn**	**10 13 38.3**	**+0.2**
	baz=229						
STYT				S	**Sn**	**10 13 52.5**	**+0.6**
	baz=229						
TPUB	**Ta-pu**	**1.11**	**240**	*e*Pg	**Pn**	**10 13 38.5**	**+0.3**
TPUB				*e*Sg	**Sn**	**10 13 52.3**	**0.0**
CHN4	**Tsaushan**	**1.11**	**243**	⇑*i*P	**Pn**	**10 13 39.1**	**+0.8**
	baz=233						
CHN4				S	**Sn**	**10 13 53.5**	**+1.1**
	baz=233						
TWA	**Mucha**	**1.11**	**356**	*e*P	**Pn**	**10 13 37.3**	**-1.0**
	baz=356						
TWA				*e*S	**Sn**	**10 13 51.9**	**-0.6**
	baz=356						
TATO	**Taipei**	**1.12**	**351**	*e*Pg	**Pn**	**10 13 37.6**	**-0.8**
TATO				*e*S	**Sn**	**10 13 52.0**	**-0.6**
HSN	**Hsinchu**	**1.13**	**326**	*e*P	**Pn**	**10 13 38.8**	**+0.2**
	baz=328						
HSN				S	**Sn**	**10 13 54.1**	**+1.2**
	baz=328						
CHN2	**Minshiung**	**1.14**	**253**	*e*P	**Pn**	**10 13 40.4**	**+1.6**
	baz=251						
WTP	**Ta-pu**	**1.15**	**238**	⇑P	**Pn**	**10 13 39.3**	**+0.5**
	baz=236						
WTP				S	**Sn**	**10 13 54.6**	**+1.3**
	baz=236						
TWG	**Pinlang**	**1.18**	**208**	*e*P	**Pn**	**10 13 37.5**	**-1.6**
	baz=196						
TWG	**Pinlang**	**1.18**	**208**	*e*P	**Pn**	**10 13 37.3**	**-1.8**
TWG				*e*S	**Sn**	**10 13 52.7**	**-1.2**
TWB1	**Santiao Chiao**	**1.18**	**14**	*e*P	**Pn**	**10 13 39.3**	**+0.1**
	baz=26						
TWB1				*e*S	**Sn**	**10 13 56.2**	**+2.2**
	baz=26						
TAP1	**Taipei**	**1.18**	**353**	*e*P	**Pn**	**10 13 37.4**	**-1.8**
	baz=354						
TAP	**Taipei**	**1.18**	**353**	*e*P	**Pn**	**10 13 39.7**	**+0.5**
	baz=353						
NCU	**National Centr**	**1.19**	**338**	*e*P	**Pn**	**10 13 39.1**	**-0.2**
	baz=337						
NCU				*e*S	**Sn**	**10 13 54.0**	**-0.2**
	baz=337						
CHY	**Chiayi**	**1.20**	**253**	*e*P	**Pn**	**10 13 40.1**	**+0.6**
	baz=251						
CHY				*e*S	**Sn**	**10 13 55.6**	**+1.1**
	baz=251						
TTN	**Taitung**	**1.21**	**204**	*e*P	**Pn**	**10 13 38.6**	**-1.0**
	baz=193						
NWF	**Wu-fen Shan**	**1.21**	**5**	*e*P	**Pn**	**10 13 39.2**	**-0.4**
	baz=353						
NWF				*e*S	**Sn**	**10 13 57.4**	**+2.5**
	baz=353						
TWK	**Hsinying**	**1.24**	**242**	⇑P	**Pn**	**10 13 40.6**	**+0.5**
	baz=240						
TWK				*e*S	**Sn**	**10 13 56.6**	**+1.1**
	baz=240						
CHN1	**Nanshi**	**1.25**	**237**	⇑P	**Pn**	**10 13 40.8**	**+0.6**
	baz=237						
CHN1				S	**Sn**	**10 13 57.5**	**+1.7**
	baz=237						
TWS1	**Kuangyinshan**	**1.25**	**349**	*e*P	**Pn**	**10 13 39.5**	**-0.7**
	baz=1.0						
TWS1				*e*S	**Sn**	**10 13 55.9**	**0.0**
	baz=1.0						
SGST	**Jiashian**	**1.27**	**232**	*e*P	**Pn**	**10 13 41.3**	**+0.9**
	baz=231						
SGST				*e*S	**Sn**	**10 13 58.0**	**+1.8**
	baz=231						
WTCT	**Ta-ch'eng**	**1.27**	**270**	*e*P	**Pn**	**10 13 40.9**	**+0.4**
	baz=269						
WTCT				*e*S	**Sn**	**10 13 58.1**	**+1.8**
	baz=269						
JYNG	**Yonagunijimaku**	**1.30**	**63**	P	**Pn**	**10 13 41.1**	**+0.2**
JYNG				*e*S	**Sn**	**10 13 57.4**	**+0.3**
WSF	**Szhu**	**1.35**	**261**	*e*P	**Pn**	**10 13 42.0**	**+0.5**
	baz=259						
WSF				*e*S	**Sn**	**10 14 00.0**	**+1.9**
	baz=259						
YOJ	**Yonaguni jima**	**1.36**	**64**	P	**Pn**	**10 13 41.9**	**+0.2**
YOJ				*e*S	**Sn**	**10 13 58.9**	**+0.4**
YOJ	**Yonaguni jima**	**1.36**	**64**	P	**Pn**	**10 13 41.8**	**+0.2**
	baz=63						
YOJ				S	**Sn**	**10 13 59.0**	**+0.4**
	baz=63						
YOJ	**Yonaguni jima**	**1.36**	**64**	*e*Pn	**Pn**	**10 13 41.9**	**+0.2**
YOJ				*e*Sn	**Sn**	**10 13 59.7**	**+1.1**
TWY	**Chenhua**	**1.41**	**357**	*e*P	**Pn**	**10 13 41.7**	**-0.7**
	baz=357						
ECL	**Taimali**	**1.42**	**208**	*e*P	**Pn**	**10 13 40.8**	**-1.8**
	baz=199						
CHN3	**Shinhua**	**1.43**	**237**	*e*P	**Pn**	**10 13 44.9**	**+2.2**
	baz=237						
CHN3				*e*S	**Sn**	**10 14 03.9**	**+3.7**
	baz=237						
CHN8	**Yiju**	**1.43**	**249**	*e*P	**Pn**	**10 13 44.8**	**+2.1**
	baz=248						
CHN8				*e*S	**Sn**	**10 14 01.9**	**+1.6**
	baz=248						
SSD	**Sandimen**	**1.47**	**221**	*e*P	**Pn**	**10 13 44.0**	**+0.8**
	baz=222						
SSD				*e*S	**Sn**	**10 14 03.7**	**+2.6**
	baz=222						
SCLT	**Jiali**	**1.52**	**243**	*e*P	**Pn**	**10 13 44.2**	**+0.3**
	baz=243						
SCLT				*e*S	**Sn**	**10 14 04.2**	**+1.8**
	baz=243						
TWM1	**Shoushan**	**1.54**	**228**	*e*P	**Pn**	**10 13 46.7**	**+2.4**
	baz=226						
SGLT	**Jiouru**	**1.57**	**224**	*e*P	Pn	10 13 48.0	+3.4
	baz=222						
EAST	**Anshuo**	**1.66**	**207**	*e*P	**Pn**	**10 13 46.8**	**+1.0**
	baz=201						
TAW	**Tawu**	**1.66**	**206**	*e*P	**Pn**	**10 13 46.9**	**+1.1**
	baz=196						
SCZT	**Fangliau**	**1.77**	**213**	*e*P	**Pn**	**10 13 48.5**	**+1.1**
	baz=228						
SCZT				*e*S	**Sn**	**10 14 11.2**	**+2.6**
	baz=228						
PCYT	**Pengchaiyu**	**1.80**	**12**	*e*P	**Pn**	**10 13 48.1**	**+0.4**
	baz=359						
KAU	**Kaohsiung**	**1.80**	**224**	*e*P	Pn	10 13 51.1	+3.4
	baz=236						
LAY	**Lan-yu**	**1.82**	**183**	*e*P	**Pn**	**10 13 46.8**	**-1.3**
	baz=179						
LAY				*e*S	**Sn**	**10 14 08.6**	**-1.3**
	baz=179						
TWP	**Hsiaoliuchiu**	**1.93**	**219**	*e*P	Pn	10 13 52.6	+3.0
	baz=218						
IRIF	**Iriomote-Funau**	**1.94**	**76**	P	**Pn**	**10 13 50.0**	**+0.3**
IRIF				*e*S	**Sn**	**10 14 13.9**	**+1.1**
WDGT	**Dungji**	**1.94**	**252**	*e*P	**Pn**	**10 13 49.1**	**-0.6**
	baz=252						
WDGT				*e*S	**Sn**	**10 14 11.3**	**-1.5**
	baz=252						
PNG	**Penghu**	**1.96**	**262**	*e*P	**Pn**	**10 13 49.4**	**-0.6**
	baz=261						
PNG				*e*S	**Sn**	**10 14 12.3**	**-1.0**
	baz=261						
HATJ	**Hateruma jima**	**1.96**	**84**	P	**Pn**	**10 13 50.6**	**+0.6**
HATJ				*e*S	**Sn**	**10 14 14.5**	**+1.2**
HEN	**Hengchun**	**2.04**	**205**	*e*P	**Pn**	**10 13 53.1**	**+2.1**
	baz=195						
TWK1	**Hengchun**	**2.07**	**203**	*e*P	**Pn**	**10 13 52.3**	**+0.8**
	baz=195						
TWK1				*e*S	**Sn**	**10 14 19.3**	**+3.2**
	baz=195						
TSEB	**Hengchuen, Pin**	**2.08**	**200**	*e*P	**Pn**	**10 13 53.7**	**+2.1**
	baz=193						
JKRS	**Kuro-shima**	**2.17**	**80**	P	**Pn**	**10 13 53.6**	**+0.8**
JKRS				*e*S	**Sn**	**10 14 19.0**	**+0.5**
JIJ	**Ishigaki jima**	**2.31**	**77**	P	**Pn**	**10 13 55.0**	**+0.2**
JIJ				*e*S	**Sn**	**10 14 21.3**	**-0.7**
JISG	**Ishigakijimahi**	**2.52**	**73**	P	**Pn**	**10 13 57.6**	**0.0**
JISG				*e*S	**Sn**	**10 14 26.3**	**-0.7**
JTJ	**Tarama**	**2.87**	**74**	P	**Pn**	**10 14 02.8**	**+0.3**
JTJ				*e*S	**Sn**	**10 14 36.0**	**+0.2**
KNM	**Kinmen**	**3.01**	**281**	*e*P	**Pn**	**10 14 04.4**	**0.0**
	baz=279						
JIRB	**Irabujima**	**3.34**	**73**	P	**Pn**	**10 14 08.9**	**0.0**
JIRB				*e*S	**Sn**	**10 14 47.2**	**0.0**
JIKM	**Ikemajima**	**3.43**	**71**	P	**Pn**	**10 14 10.5**	**+0.4**
JIKM				*e*S	**Sn**	**10 14 50.1**	**+0.6**
JMJ	**Miyako jima 2**	**3.44**	**73**	P	**Pn**	**10 14 10.6**	**+0.3**
JMJ				*e*S	**Sn**	**10 14 51.0**	**+1.2**
JOGS	**Gusukube**	**3.52**	**75**	P	**Pn**	**10 14 12.3**	**+0.8**
JOGS				*e*S	**Sn**	**10 14 53.0**	**+1.1**
JKE	**Kume jima 2**	**5.25**	**61**	P	**Pn**	**10 14 34.9**	**-0.2**
JKE				*e*S	**Sn**	**10 15 34.9**	**+0.5**
JAGN	**Aguni-jima**	**5.73**	**61**	P	**Pn**	**10 14 41.7**	**-0.1**
JNTH	**Nagotoyohara**	**6.33**	**64**	P	**Pn**	**10 14 49.8**	**-0.3**
JIH	**Iheya**	**6.51**	**60**	P	**Pn**	**10 14 51.5**	**-1.0**
JOW	**Kunigami**	**6.67**	**62**	P	**Pn**	**10 14 53.0**	**-1.7**
JOW	**Kunigami**	**6.67**	**62**	Pn	**Pn**	**10 14 53.3**	**-1.4**
	0.3nm,0.3s,baz=141,slow=13,SNR=38						
JOW				Sn	**Sn**	**10 16 08.8**	**-0.6**
	0.1nm,0.3s,baz=125,slow=18,SNR=1.8						
JOKE	**Okinoerabujima**	**7.14**	**59**	P	**Pn**	**10 14 59.1**	**-2.0**
KSRS	**Korea Array**	**14.57**	**20**	Pn	**Pn**	**10 16 43.1**	**+0.4**
	0.3nm,0.3s,baz=199,slow=12,SNR=4.8						
KSRS				LR	LR	10 23 11.6	
	comp=Z,41nm,18.8s,baz=202,slow=41						
ASAJ	**Asahikawa**	**26.49**	**35**	LR	LR	10 29 50.2	
	comp=Z,46nm,18.2s,baz=10,slow=38						
SONM	**Songino Array**	**26.84**	**337**	P	**P**	**10 18 55.5**	**-0.8**
	0.3nm,0.8s,baz=145,slow=10,SNR=2.8						
PSI	**Prapat**	**30.36**	**230**	LR	LR	10 31 16.6	
	comp=Z,100nm,18.2s,baz=58,slow=36						
MKAR	**Makanchi Array**	**38.88**	**316**	P	**P**	**10 20 39.8**	**-1.3**
	0.3nm,0.6s,baz=124,slow=7.2,SNR=3.0						
H11N1	**WAKE ISLAND Hy**	**42.06**	**87**	T	T	11 06 15.7	
	baz=283,slow=74,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**42.06**	**87**	T	T	11 06 22.0	
	baz=283,slow=74,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**42.08**	**87**	T	T	11 06 22.3	
	baz=283,slow=74,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**42.18**	**88**	T	T	11 06 26.0	
	baz=278,slow=75						
H11S1	**WAKE ISLAND Hy**	**42.19**	**88**	T	T	11 06 29.4	
	baz=278						
H11S2	**WAKE ISLAND Hy**	**42.20**	**88**	T	T	11 06 31.8	
	baz=278,slow=75						
WRA	**Warramunga Arr**	**45.26**	**163**	P	P	10 21 30.4	-2.9
	1.7nm,0.7s,baz=344,slow=8.7,SNR=8.5						
ASAR	**Alice Springs**	**48.72**	**165**	P	**P**	**10 21 57.8**	**-2.5**
	0.9nm,0.8s,baz=335,slow=7.1,SNR=9.5						
YKA	**Yellowknife Ar**	**83.09**	**23**	P	**P**	**10 25 39.2**	**-1.6**
	0.7nm,0.7s,baz=314,slow=5.1,SNR=13						

GUC 24 10:29:21.4±0.5, 35°.00S×72°.02W, h45km±3km, ML3.9,

Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.51**	**142**	*i*P	Pn	Pn	10 29 32.9	+0.4
TALC				*i*S	Sn	Sn	10 29 41.8	+1.4
TALC				IAML			10 29 42.9	
	comp=E,28μm,0.1s							
NICH	**Los Niches**	**0.65**	**90**	*i*P	Pn	Pn	10 29 35.4	+1.1
NICH				*i*S	Sn	Sn	10 29 45.4	+1.8
NICH				IAML			10 29 46.9	
	comp=E,11μm,0.2s							
LNCH	**Linares**	**0.91**	**158**	*i*P	Pn	Pn	10 29 38.8	+0.9
LNCH				*i*S	Sn	Sn	10 29 52.2	+2.3
LNCH				IAML			10 29 53.2	
	comp=N,5μm,0.1s							
COCH	**Cobquecura**	**1.29**	**209**	*e*P4	Pn	Pn	10 29 41.2	-1.8
COCH				*e*S4	Sn	Sn	10 29 56.0	-3.1
CLCH	**Cerro Calan**	**2.02**	**38**	*i*P	Pn	Pn	10 29 55.4	+2.3
CLCH				*i*S	Sn	Sn	10 30 20.7	+3.6
CLCH				IAML			10 30 31.6	
	comp=E,630nm,0.6s							

IDC 24 10:39:33.4±3.5, 32°.97N×93°.90E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/26, mbtmp3.2/4, ML2.8/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/18, Error ellipse: s-maj=509.7km s-min=27.0km az=57.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.41**	**331**	Pn	Pn	Pn	10 43 24.2	-0.9
	0.0nm,0.3s,baz=142,slow=13,SNR=4.2							
SONM	**Songino Array**	**17.60**	**29**	LR	LR	LR	10 51 30.0	
	comp=Z,29nm,21.7s,baz=48,slow=41							
KURBB	**Kurchatov Arra**	**20.96**	**332**	P	P	P	10 44 17.2	-0.6
	0.5nm,0.7s,baz=142,slow=12,SNR=4.1							
WRA	**Warramunga Arr**	**65.27**	**138**	P	P	P	10 50 17.7	+0.5
	0.5nm,0.9s,baz=332,slow=7.4,SNR=2.9							
ASAR	**Alice Springs**	**68.02**	**141**	P	P	P	10 50 34.0	-0.7
	0.4nm,0.9s,baz=329,slow=6.8,SNR=3.3							

*ISCJB **24** 11:02:04.3±0.5, 34°.36S±0°.04×72°.64W±0°.08, h10km, mb4.4/13, Error ellipse: s-maj=9.3km s-min=5.5km az=162.4*
*IDC **24** 11:02:04.8±0.8, 34°.41S×72°.45W, h0km, mb4.1/8, mb1 4.2/11, mb1mx4.0/26, mbtmp4.0/11, ML3.9/3, Error ellipse: s-maj=30.0km s-min=17.8km az=96.0*
*NEIC **24** 11:02:10.2±0.5, 34°.36S×72°.41W, h35km, mb4.1/2, Error ellipse: s-maj=14.0km s-min=8.4km az=89.0*

ISC 24 11:02:06.1±0.6, 34°.37S±0°.05×72°.53W±0°.08, h10km, n27, σ1♀30/31, mb4.5/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.24**	**121**	*i*P	**Pb**	**Pb**	**11 02 29.6**	**-0.1**
NICH				*i*S	**Sg**	**Sg**	**11 02 46.2**	**0.0**
TALC	**Talca**	**1.27**	**145**	*i*P	**Pn**	**Pn**	**11 02 29.7**	**-0.1**
TALC				*i*S	**Sb**	**Sb**	**11 02 46.3**	**-0.1**
COCH	**Cobquecura**	**1.77**	**187**	*i*P	**Pn**	**Pn**	**11 02 36.1**	**-0.8**
COCH				*i*S	**Sn**	**Sn**	**11 02 56.6**	**-2.8**
CFAA	**Coronel Fontan**	**4.54**	**54**	Pn	**Pn**	**Pn**	**11 03 16.3**	**+1.4**
	1.4nm,0.3s,baz=225,slow=11,SNR=52							
CFAA				Lg	Lg	Lg	11 04 24.0	
	2.3nm,0.3s,baz=233,slow=15,SNR=5.2							
LCO	**Las Campanas**	**5.56**	**17**	*e*Pn	**Pn**	**Pn**	**11 03 28.4**	**-0.8**
	21nm,0.4s							
LCO				*e*Sn	**Sn**	**Sn**	**11 04 29.0**	**-4.3**
PLCA	**Paso Flores**	**6.55**	**167**	Pn	**Pn**	**Pn**	**11 03 41.8**	**-0.7**
	0.9nm,0.3s,baz=331,slow=13,SNR=22							
PLCA				Lg	Lg	Lg	11 05 27.0	
	0.9nm,0.3s,baz=83,slow=20,SNR=3.2							
PLCA	**Paso Flores**	**6.55**	**167**	*e*Pn	**Pn**	**Pn**	**11 03 43.5**	**+1.0**
PLCA				Lg	Lg	Lg	11 05 27.0	
TRQA	**Tornquist**	**9.29**	**116**	*e*Pn	**Pn**	**Pn**	**11 04 20.5**	**+0.5**
	7.1nm,0.7s							
LPAZ	**La Paz**	**18.43**	**13**	P	**Pn**	**Pn**	**11 06 24.1**	**+1.6**
	0.3nm,0.3s,baz=197,slow=8.3,SNR=11							
LPAZ	**La Paz**	**18.43**	**13**	*e*P	**Pn**	**Pn**	**11 06 24.2**	**+1.8**
	4.8nm,0.7s							
SIV	**San Ignacio**	**21.00**	**32**	P	**P**	**P**	**11 06 48.4**	**-1.5**
	6.3nm,0.8s,baz=230,slow=10,SNR=14							
SNAA	**Sanae**	**51.40**	**158**	P	**P**	**P**	**11 11 11.2**	**+0.4**
	1.7nm,0.9s,baz=316,slow=5.1,SNR=5.4							
QSPA	**South Pole Qui**	**55.87**	**180**	P	**P**	**P**	**11 11 44.0**	**+0.3**
	2.8nm,0.8s,baz=159,slow=2.2,SNR=13							
NATX	**Nacogdoches**	**69.00**	**340**	*e*P	**P**	**P**	**11 13 12.2**	**+0.6**
	30nm,0.5s							
TXAR	**Lajitas Array**	**69.86**	**331**	P	**P**	**P**	**11 13 18.5**	**+1.4**
	0.3nm,0.6s,baz=148,slow=8.3,SNR=3.6							
WMOK	**Wichita Mounta**	**73.01**	**338**	*e*P	P	P	11 13 31.3	-4.7
	5.1nm,1.4s							
LIC	**Lamto**	**75.28**	**72**	*e*PKP1	**P**	**P**	**11 13 49.9**	**+0.2**
	32nm,1.8s							
TIC	**Toumodi**	**75.54**	**71**	*e*PKP1	**P**	**P**	**11 13 50.1**	**-1.1**
	9.5nm,0.2s							
KIC	**Kosan Boka**	**75.58**	**72**	*e*PKP1	**P**	**P**	**11 13 51.1**	**-0.4**
	6.0nm,0.5s							
DBIC	**Dimbokro**	**75.68**	**71**	P	**P**	**P**	**11 13 52.0**	**0.0**
	2.8nm,0.5s,baz=204,slow=7.6,SNR=6.2							
LBTB	**Lobatse**	**82.52**	**115**	P	**P**	**P**	**11 14 29.7**	**+0.2**
	1.9nm,0.4s,baz=284,slow=3.6,SNR=4.5							
PDAR	**Pinedale Array**	**83.91**	**334**	P	**P**	**P**	**11 14 37.8**	**+1.5**
	0.2nm,0.6s,baz=148,slow=5.3,SNR=2.3							
TORD	**Torodi Ar. Bea**	**84.72**	**70**	P	**P**	**P**	**11 14 40.7**	**0.0**
	1.5nm,0.7s,baz=274,slow=4.2,SNR=11							
ASAR	**Alice Springs**	**117.06**	**207**	PKP	**PKPdf**	**PKPdf**	**11 20 50.9**	**-1.0**
	0.3nm,0.8s,baz=134,slow=1.8,SNR=4.3							
WRA	**Warramunga Arr**	**120.24**	**209**	PKP	**PKPdf**	**PKPdf**	**11 20 57.4**	**-0.7**
	0.5nm,0.5s,baz=161,slow=1.7,SNR=12							
ZALV	**Zalesovo Beam**	**154.75**	**32**	PKPbc	**PKPbc**	**PKPbc**	**11 22

SORSOGON.

*IDC **24** 11:27:16.3±1.0, 12°41'N×123°46'E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/42, mbtmp3.5/6, MS3.3/4, Ms1 3.3/4, ms1mx2.8/32, Error ellipse: s-maj=71.2km s-min=18.2km az=73.0*

ISC 24 11:27:14.9±1.5, **13°03'N**±0°04'×**124°43'E**±0°06, **h4**km±11km, **n25**, σ1°**81/19**, **mb3.5/6**, **MS3.2/4**, **3C-1D**, **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.62**	**334**	⇑*iP*	**Pg**	**11 27 27.7**	**+0.8**
PVCP				*e*S	**Sg**	**11 27 32.7**	**-2.3**
MMPH	**Masbate**	**1.03**	**230**	*e*P	**Pn**	**11 27 35.6**	**-0.7**
MMPH				*e*S	**Sn**	**11 27 49.5**	**-1.7**
AUQP	**San Andres**	**1.73**	**280**	*e*P	**Pg**	**11 27 48.9**	**+0.7**
AUQP				*e*S	**Sg**	**11 28 14.2**	**+3.5**
PLP	**Palo**	**1.93**	**164**	⇑*e*P	**Pb**	**11 27 50.1**	**-0.6**
PLP				*e*S	**Sg**	**11 28 16.3**	**-0.7**
GQP	**Guinayangan**	**2.12**	**294**	⇓*e*P	**Pb**	**11 27 52.4**	**-1.5**
GQP				*e*S	**Sg**	**11 28 21.8**	**-1.2**
RCP	**Roxas**	**2.20**	**229**	⇑*e*P	**Pb**	**11 27 54.4**	**-1.0**
OTRP	**Odiongan**	**2.44**	**254**	*e*P	**Pg**	**11 28 00.3**	**-1.4**
LLP	**Lapu-Lapu**	**2.73**	**190**	*e*P	**Pn**	**11 28 00.1**	**+0.4**
LLP				*e*S	**Sg**	**11 28 45.6**	**+2.7**
SJMP	**San Jose**	**3.28**	**260**	*e*P	**Pn**	**11 28 08.7**	**+1.5**
KSRS	**Korea Array**	**24.52**	**7**	P	P	11 32 44.1	+8.6
	0.6nm,0.4s,baz=181,slow=11,SNR=3.4						
PSI	**Prapat**	**27.20**	**250**	LR	LR	11 46 00.9	
	comp=Z,145nm,18.2s,baz=59,slow=43						
WRA	**Warramunga Arr**	**34.19**	**163**	P	**P**	**11 34 00.5**	**-1.2**
	0.3nm,0.7s,baz=344,slow=9.3,SNR=4.8						
ASAR	**Alice Springs**	**37.63**	**166**	P	**P**	**11 34 30.5**	**-0.7**
	0.4nm,0.4s,baz=345,slow=7.0,SNR=17						
SONM	**Songino Array**	**37.82**	**340**	P	P	11 34 37.0	+4.3
	0.6nm,0.8s,baz=158,slow=9.6,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**40.96**	**77**	T	T	12 18 48.9	
	baz=269,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hy**	**40.97**	**77**	T	T	12 18 49.5	
	baz=269,slow=75,SNR=33						
H11S2	**WAKE ISLAND Hy**	**40.98**	**77**	T	T	12 18 50.2	
	baz=269,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy**	**41.19**	**75**	T	T	12 19 00.4	
	baz=267,slow=74,SNR=169						
H11N2	**WAKE ISLAND Hy**	**41.20**	**75**	T	T	12 19 00.3	
	baz=267,slow=74,SNR=121						
H11N3	**WAKE ISLAND Hy**	**41.21**	**75**	T	T	12 19 08.5	
	baz=267,slow=74,SNR=156						
TLY	**Talaya**	**42.05**	**341**	LR	LR	11 56 00.3	
	comp=Z,24nm,19.6s,baz=206,slow=41						
PETK	**Petropavlovsk-**	**47.93**	**26**	LR	LR	11 55 57.3	
	comp=Z,20nm,19.4s,baz=131,slow=35						
MKAR	**Makanchi Array**	**48.75**	**322**	P	**P**	**11 36 02.3**	**+1.3**
	0.6nm,0.8s,baz=124,slow=8.0,SNR=8.3						
ZALV	**Zalesovo Beam**	**51.35**	**331**	P	**P**	**11 36 22.9**	**+2.4**
	0.7nm,0.6s,baz=111,slow=7.9,SNR=2.7						
AAK	**Ala-Archa**	**52.11**	**314**	LR	LR	11 59 56.5	
	comp=Z,33nm,18.9s,baz=45,slow=38						

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*IDC **24** 11:30:06.7±0.5, 36°60'S×73°69'W, h0km, mb4.8/11, mb1 4.9/12, mb1mx4.7/22, mbtmp4.8/12, ML4.0/2, MS3.9/14, Ms1 3.8/14, ms1mx3.8/20, Error ellipse: s-maj=19.9km s-min=14.3km az=78.0*

*GUC **24** 11:30:09.5±0.9, 36°54'S×73°78'W, h28km±10km, ML5.1*

*ISCJB **24** 11:30:10.5±0.2, 36°48'S±0°04×73°56'W±0°05, h30km, mb5.0/58, MS4.0/11, Error ellipse: s-maj=6.8km s-min=4.1km az=147.2*

*MOS **24** 11:30:11.1±0.9, 36°51'S×73°45'W, h33km, mb5.3/22, Error ellipse: s-maj=28.3km s-min=8.2km az=107.1*

*NEIC **24** 11:30:12.1±0.2, 36°54'S×73°53'W, mb5.0/44, ML5.1(GUC), Error ellipse: s-maj=7.3km s-min=4.7km az=71.0*

NEIC Felt [II] at Concepcion and Santiago. Also felt at Chiguayante, Chillan, Coronel and Talcahuano.

*BJI **24** 11:30:12.9, 36°50'S×73°50'W, h35km, mB5.0/12, Ms5.3/7, Ms7 5.0/8*

ISC 24 11:30:11.9±0.5, **36°57S**±0°04×**73°61W**±0°06, **h33**km±2km, **h32**km:**pP-P**, **n544**, σ0°**81/568**, **mb5.0/59**, **MS4.0/11**, **168C-160D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.49**	**125**	⇑*iP*	**Pb**	**11 30 21.4**	**-0.9**
CCSP				*i*S	**Sn**	**11 30 30.0**	**0.0**
LNCH	**Linares**	**1.77**	**67**	*e*P1	**Pn**	**11 30 40.9**	**+0.6**
LNCH				*e*S1	**Sn**	**11 31 04.8**	**+3.1**
LNCH				AML	AML	11 31 25.6	
	comp=N,22μm,0.6s						
TALC	**Talca**	**1.98**	**54**	⇑*iP*	**Pb**	**11 30 45.3**	**-2.0**
TALC				*i*S1	**Sb**	**11 31 12.0**	**+0.5**
TALC				AML	AML	11 31 23.5	
	comp=N,15μm,0.6s						
NICH	**Los Niches**	**2.48**	**52**	*e*P1	**Pn**	**11 30 51.0**	**+0.9**
NICH				AML	AML	11 31 42.2	
	comp=E,11μm,0.7s						
PLCA	**Paso Flores**	**4.80**	**151**	*e*P	**Pn**	**11 31 22.6**	**+0.6**
PLCA	**Paso Flores**	**4.80**	**151**	Pn	**Pn**	**11 31 21.8**	**-0.2**
	comp=E,3.1nm,0.3s,baz=330,slow=12,SNR=38						
PLCA				Lg	Lg	11 32 39.5	
	comp=E,5.1nm,0.3s,baz=35,slow=17,SNR=4.7						
PLCA				LR	LR	11 32 46.2	
	comp=E,380nm,21.6s,baz=312,slow=33						
PLCA	**Paso Flores**	**4.80**	**151**	⇓*iP*	**Pn**	**11 31 22.7**	**+0.7**
PLCA	**Paso Flores**	**4.80**	**151**	*e*Pn	**Pn**	**11 31 22.6**	**+0.7**
PLCA				Lg	Lg	11 32 39.5	
CFAA	**Coronel Fontan**	**6.66**	**44**	Pn	**Pn**	**11 31 47.1**	**-0.4**
	comp=E,0.4nm,0.3s,baz=219,slow=12,SNR=26						
CFAA				Sn	**Sn**	**11 33 04.1**	**+1.8**
	comp=E,0.4nm,0.3s,baz=252,slow=20,SNR=2.7						
CFAA				LR	LR	11 34 26.5	
	comp=E,211nm,18.0s,baz=237,slow=39						
LCO	**Las Campanas**	**7.92**	**19**	*e*Pn	**Pn**	**11 32 05.0**	**-0.1**
TRQA	**Tornquist**	**9.38**	**103**	*e*Pn	**Pn**	**11 32 26.6**	**+1.7**
LVC	**Limon Verde**	**14.49**	**18**	*e*Pn	**Pn**	**11 33 35.0**	**+0.1**
USHA	**Ushuaia**	**18.61**	**171**	P	**Pn**	**11 34 29.8**	**+2.9**
	comp=E,0.4nm,0.3s,baz=329,slow=10,SNR=3.2						
USHA				LR	LR	11 41 22.4	
	comp=E,570nm,21.7s,baz=349,slow=36						
EFI	**East Falkland**	**18.72**	**149**	⇑*e*P	**Pn**	**11 34 28.4**	**+0.3**
EFI				pmax	pmax		
	comp=Z,374nm,2.5s						
EFI	**East Falkland**	**18.72**	**149**	*e*P	**Pn**	**11 34 28.9**	**+0.7**
	comp=Z,40nm,0.9s						
LPAZ	**La Paz**	**20.78**	**15**	*e*P	Pn	11 34 52.6	-1.0
LPAZ	**La Paz**	**20.78**	**15**	P	Pn	11 34 52.4	-1.2
	comp=Z,14nm,0.7s,baz=185,slow=5.8,SNR=22						
LPAZ	**La Paz**	**20.78**	**15**	P	Pn	11 34 52.4	-1.2
LPAZ				*e*Pn	**P**	**11 34 52.7**	**+1.8**
SIV	**San Ignacio**	**23.33**	**32**	P	**P**	**11 35 17.0**	**-0.3**
	comp=Z,15nm,0.9s,baz=226,slow=9.1,SNR=37						
SIV				LR	LR	11 46 13.2	
	comp=Z,440nm,18.1s,baz=219,slow=41						
PMSA	**Palmer Station**	**28.82**	**172**	LR	LR	11 45 39.5	
	comp=Z,298nm,21.0s,baz=4.5,slow=32						
SAML	**Samuel**	**29.08**	**22**	*e*P	**P**	**11 36 09.6**	**+0.1**
	comp=Z,5.9nm,1.1s						
ATAH	**Atahualpa**	**29.62**	**350**	LR	LR	11 47 02.0	
	comp=Z,125nm,19.4s,baz=193,slow=34						
OTAV	**Otavalo**	**36.90**	**352**	*e*P	**P**	**11 37 19.7**	**+1.6**
	comp=Z,21nm,1.2s						
PTGA	**Pitinga**	**37.83**	**23**	P	**P**	**11 37 24.8**	**-0.8**
	comp=Z,22nm,0.9s,baz=199,slow=8.3,SNR=24						
PTGA	**Pitinga**	**37.83**	**23**	P	**P**	**11 37 24.8**	**-0.8**
	comp=Z,8.7nm,1.3s						
ROSC	**El Rosal**	**41.21**	**359**	LR	LR	11 54 27.5	
	comp=Z,129nm,18.5s,baz=348,slow=35						
SDV	**Santo Domingo**	**45.30**	**4**	*e*P	**P**	**11 38 26.4**	**-0.6**
	comp=Z,19nm,1.0s						
VNA3	**Neumayer Olymp**	**47.49**	**157**	P	**P**	**11 38 44.3**	**+0.9**
VNA1	**Neumayer--Stat**	**47.84**	**156**	P	**P**	**11 38 47.1**	**+1.0**
VNA2	**Neumayer--Watz**	**48.17**	**156**	P	**P**	**11 38 49.8**	**+1.2**
SNAA	**Sanae**	**49.71**	**157**	P	**P**	**11 39 01.8**	**+1.3**
SNAA	**Sanae**	**49.71**	**157**	*d*iP	**P**	**11 39 01.1**	**+0.6**
SNAA				pmax	pmax		
	comp=Z,71nm,1.7s						
SNAA	**Sanae**	**49.71**	**157**	P	**P**	**11 39 01.0**	**+0.5**
	comp=Z,9.6nm,0.9s,baz=276,slow=6.4,SNR=32						
SNAA	**Sanae**	**49.71**	**157**	P	**P**	**11 39 01.0**	**+0.5**
	comp=Z,1.5nm,1.1s						
QSPA	**South Pole Qui**	**53.67**	**180**	*e*P	**P**	**11 39 30.4**	**+0.2**
	comp=Z,27nm,1.1s						
APG	**El Apazote**	**53.71**	**340**	P	P	11 39 26.4	-4.7
	comp=Z,9.5nm,0.9s,baz=130,slow=9.2,SNR=6.5						
RKT	**Rikitea**	**54.07**	**266**	*e*T	T	12 37 37.5	
	comp=Z,1.3nm,0.3s						
NVL	**N'lazarevskaya**	**54.49**	**156**	*e*P	**P**	**11 39 35.9**	**0.0**
NVL				pmax	pmax		
	comp=Z,24nm,0.9s						
OBIP	**Obispado Ponce**	**54.72**	**8**	*e*P	**P**	**11 39 38.1**	**0.0**
	comp=Z,43nm,1.0s						
CELP	**Cerrillos**	**54.75**	**8**	*e*P	**P**	**11 39 37.9**	**-0.5**
CELP				*e*PcP	**PcP**	**11 40 40.4**	**-0.2**
SJG	**San Juan**	**54.84**	**9**	P	**P**	**11 39 38.0**	**-1.0**
SJG	**San Juan**	**54.84**	**9**	P	**P**	**11 39 38.0**	**-1.0**
	comp=Z,36nm,0.7s,baz=180,slow=20,SNR=3.3						
SJG	**San Juan**	**54.84**	**9**	P	**P**	**11 39 38.0**	**-1.0**
LRS	**Lares**	**54.93**	**8**	*e*P	**P**	**11 39 37.9**	**-1.8**
VNDA	**Vanda**	**61.34**	**192**	LR	LR	12 01 15.7	
	comp=Z,58nm,21.0s,baz=162,slow=30						
SYO	**Syowa Base**	**63.95**	**158**	⇑*e*P	**P**	**11 40 40.0**	**-1.4**
TBI	**Tubuai**	**65.51**	**258**	*e*LR	LR	12 00 30.2	
	comp=Z,101nm,30.2s						
035A	**Encino**	**67.25**	**336**	⇑P	**P**	**11 41 03.7**	**+0.6**
	baz=68						
MEH	**Mehetia**	**67.27**	**264**	*e*T	T	12 54 06.8	
	comp=Z,14nm,0.2s						
934A	**Benavides**	**68.00**	**336**	⇑P	**P**	**11 41 08.5**	**+0.7**
	baz=68						
933A	**Laredo**	**68.26**	**336**	⇑P	**P**	**11 41 10.3**	**+0.8**
	baz=69						
835A	**Beeville**	**68.42**	**337**	⇓P	**P**	**11 41 10.8**	**+0.4**
	baz=69						
TIAR	**Tiarei**	**68.47**	**264**	*e*T	T	12 55 36.9	
	comp=Z,3.4nm,0.2s						
PPT2	**Papeete2**	**68.63**	**264**	*e*S	**S**	**11 50 11.6**	**-1.5**
	comp=Z,60nm,24.2s						
PPT2	**Papeete2**	**68.63**	**264**	*e*LR	LR	12 01 59.3	
	comp=Z,96nm,24.2s						
PPT	**Papeete**	**68.65**	**264**	LR	LR	12 04 59.0	
	comp=Z,141nm,20.1s,baz=108,slow=30						
833A	**Chaparral WMA,**	**68.95**	**336**	⇑P	**P**	**11 41 14.4**	**+0.6**
	baz=69,SNR=7.1						
832A	**Faith Ranch, C**	**69.11**	**335**	⇓P	**P**	**11 41 14.8**	**+0.1**
	baz=69,SNR=6.6						
733A	**Divot King Ran**	**69.29**	**336**	⇑P	**P**	**11 41 16.3**	**+0.5**
	baz=70						
636A	**Smothers Creek**	**69.30**	**338**	⇓P	**P**	**11 41 16.4**	**+0.5**
	baz=70						
635A	**Leesville**	**69.43**	**338**	⇑P	**P**	**11 41 16.9**	**+0.3**
	baz=70						
732A	**Laxson Ranch,**	**69.52**	**335**	⇑P	**P**	**11 41 17.2**	**0.0**
	baz=70,SNR=11						
LPIG	**La Paz**	**69.58**	**324**	LR	LR	12 05 13.2	
	comp=Z,117nm,18.1s,baz=170,slow=30						
536A	**Bastrop**	**69.86**	**338**	⇓P	**P**	**11 41 19.8**	**+0.5**
	baz=70						
633A	**Saathoff Ranch**	**69.93**	**336**	⇑P	**P**	**11 41 20.2**	**+0.3**
	baz=70						
632A	**Uvalde**	**70.18**	**336**	⇑P	**P**	**11 41 21.4**	**+0.1**
	baz=70,SNR=5.8						
GOGA	**Godfrey**	**70.22**	**351**	*e*P	**P**	**11 41 21.3**	**-0.2**
GOGA				pmax	pmax		
	comp=Z,60nm,1.8s						
GOGA	**Godfrey**	**70.22**	**351**	*e*P	**P**	**11 41 21.3**	**-0.2**
	comp=Z,60nm,1.8s						
534A	**Blanco**	**70.24**	**337**	⇑P	**P**	**11 41 22.1**	**+0.3**
	baz=71						
340A	**Bronson**	**70.25**	**342**	⇓P	**P**	**11 41 21.9**	**+0.2**
	baz=71						
339A	**Huntington**	**70.34**	**341**	⇑P	**P**	**11 41 22.8**	**+0.6**
	baz=71						
631A	**Perdido Creek**	**70.35**	**335**	⇑P	**P**	**11 41 22.9**	**+0.5**
	baz=71						
LRAL	**Lakeview Retre**	**70.36**	**348**	*e*P	**P**	**11 41 22.6**	**+0.3**
	comp=Z,12nm,1.3s						
533A	**Kerrville**	**70.46**	**337**	⇓P	**P**	**11 41 23.1**	**+0.1**
	baz=71,SNR=5.4						
435B	**Jarrell**	**70.67**	**338**	⇓P	**P**	**11 41 24.7**	**+0.4**
	baz=71						
532A	**Rocksprings**	**70.79**	**336**	⇓P	**P**	**11 41 25.4**	**+0.3**
	baz=71,SNR=11						
434A	**Burnet**	**70.91**	**338**	⇓P	**P**	**11 41 25.9**	**+0.1**
	baz=71,SNR=7.2						
239A	**Gary**	**70.97**	**341**	⇑P	**P**	**11 41 26.0**	**0.0**
	baz=71						
336A	**Riesel**	**71.02**	**339**	⇓P	**P**	**11 41 26.7**	**+0.3**
	baz=71,SNR=6.0						
531A	**Rocksprings**	**71.03**	**335**	⇓P	**P**	**11 41 26.9**	**+0.3**
	baz=71,SNR=8.9						
JCT	**Junction City**	**71.08**	**336**	*e*P	**P**	**11 41 27.4**	**+0.6**
JCT				pmax	pmax		
	comp=Z,23nm,1.1s						
JCT	**Junction City**	**71.08**	**336**	⇑P	**P**	**11 41 26.8**	**-0.1**
	baz=71,SNR=5.6						
JCT	**Junction City**	**71.08**	**336**	*e*P	**P**	**11 41 27.4**	**+0.6**
	comp=Z,23nm,1.1s						
MAW	**Mawson**	**71.08**	**164**	LR	LR	12 14 33.7	
	comp=Z,158nm,18.1s,baz=238,slow=38						
335A	**Moody**	**71.09**	**339**	⇓P	**P**	**11 41 26.8**	**-0.1**
	baz=71						
433A	**Art**	**71.11**	**337**	⇑P	**P**	**11 41 26.8**	**-0.1**
	baz=71,SNR=8.2						
238A	**Jacksonville**	**71.13**	**341**	⇓P	**P**	**11 41 27.1**	**+0.1**
	baz=72						
530A	**J-C Ranch, Com**	**71.29**	**335**	⇑P	**P**	**11 41 28.6**	**+0.5**
	baz=72,SNR=15						
TXAR	**Lajitas Array**	**71.38**	**333**	P	**P**	**11 41 29.1**	**+0.4**
	comp=Z,6.2nm,1.0s,baz=150,slow=8.7,SNR=38						
TXAR				LR	LR	12 07 28.8	
	comp=Z,42nm,19.8s,baz=0.0,slow=31						
334A	**Lometa**	**71.38**	**338**	⇑P	**P**	**11 41 28.5**	**-0.1**
	baz=72,SNR=7.8						
432A	**Menard**	**71.44**	**336**	⇑P	**P**	**11 41 28.4**	**-0.7**
	baz=72						
431A	**Sonora**	**71.53**	**336**	⇑P	**P**	**11 41 29.6**	**0.0**
	baz=72,SNR=5.0						
529A	**Stev Forest Ra**	**71.57**	**334**	⇓P	**P**	**11 41 29.9**	**0.0**
	baz=72,SNR=12						
333A	**Richland Sprin**	**71.60**	**337**	⇑P	**P**	**11 41 30.0**	**0.0**
	baz=72,SNR=7.3						
KMSC	**Kings Mountain**	**71.71**	**353**	⇑P	**P**	**11 41 29.9**	**-0.6**
	baz=72						
138A	**Matatall Enter**	**71.74**	**341**	⇓P	**P**	**11 41 30.7**	**0.0**
	baz=72						
WHTX	**Lake Whitney,**	**71.77**	**339**	⇑P	**P**	**11 41 30.9**	**+0.1**
	baz=72						
430A	**Baggett Ranch,**	**71.84**	**335**	⇑P	**P**	**11 41 31.7**	**+0.3**
	baz=72,SNR=11						
137A	**Heron Place, G**	**71.86**	**340**	⇓P	**P**	**11 41 31.6**	**+0.2**
	baz=72						
332A	**Millersview**	**71.90**	**337**	⇓P	**P**	**11 41 31.6**	**-0.1**
	baz=72,SNR=6.9						
429A	**Davenport Ranc**	**71.92**	**335**	⇑P	**P**	**11 41 31.8**	**-0.1**
	baz=72,SNR=11						
234A	**Clairette**	**71.98**	**338**	⇓P	**P**	**11 41 32.1**	**-0.1**
	baz=72,SNR=5.7						
331A	**San Angelo**	**72.05**	**336**	⇑P	**P**	**11 41 32.4**	**-0.3**
	baz=72,SNR=6.2						
233A	**Rising Star**	**72.22**	**338**	⇓P	**P**	**11 41 33.3**	**-0.4**
	baz=73						
OXF	**Oxford**	**72.23**	**346**	*e*P	**P**	**11 41 33.2**	**-0.4**
OXF				pmax	pmax		
	comp=Z,32nm,1.1s						
OXF	**Oxford**	**72.23**	**346**	*e*P	**P**	**11 41 33.1**	**-0.4**
	comp=Z,32nm,1.1s						
232A	**Coleman**	**72.33**	**337**	⇓P	**P**	**11 41 34.1**	**-0.3**
	baz=73						
CPCT	**Cooper Cave**	**72.37**	**351**	*e*P	P	11 41 38.0	+3.6
330A	**Mertzon**	**72.39**	**335**	⇓P	**P**	**11 41 34.4**	**-0.3**
	baz=73						
TKL	**Tuckaleechee C**	**72.48**	**351**	*e*P	**P**	**11 41 34.5**	**-0.6**
TKL	**Tuckaleechee C**	**72.48**	**351**	*e*P	**P**	**11 41 34.5**	**-0.6**
134A	**White-Moore Ra**	**72.49**	**338**	⇓P	**P**	**11 41 34.9**	**-0.3**
	baz=73						
231A	**Bronte**	**72.59**	**336**	⇑P	**P**	**11 41 35.6**	**-0.3**
	baz=73,SNR=6.9						
329A	**Wagon Wheel Ra**	**72.73**	**335**	⇓P	**P**	**11 41 36.7**	**-0.1**
	baz=73,SNR=6.5						
133A	**Hamilton Ranch**	**72.78**	**338**	⇓P	**P**	**11 41 37.0**	**0.0**
	baz=73,SNR=5.8						
Z35A	**Perchaven, San**	**72.96**	**339**	⇑P	**P**	**11 41 38.2**	**+0.2**
	baz=73						
ABTX	**Abilene, Hawle**	**73.01**	**337**	⇓P	**P**	**11 41 38.2**	**-0.1**
	baz=73,SNR=6.4						
ABTX	**Abilene, Hawle**	**73.01**	**337**	*e*P	**P**	**11 41 38.8**	**+0.4**
229A	**Brant Ranch,**	**73.11**	**335**	⇓P	**P**	**11 41 39.1**	**0.0**
	baz=73						
MIAR	**Mount Ida**	**73.16**	**343**	*e*P	**P**	**11 41 39.1**	**0.0**
MIAR	**Mount Ida**	**73.16**	**343**	*e*P	**P**	**11 41 39.1**	**0.0**
	comp=Z,138nm,3.0s						
Z34A	**Collier Ranch,**	**73.19**	**339**	⇑P	**P**	**11 41 39.7**	**+0.3**
	baz=74						
131A	**Roby**	**73.30**	**337**	⇓P	**P**	**11 41 40.3**	**+0.2**
	baz=74						
Z33A	**Whitaker Ranch**	**73.36**	**338**	⇓P	**P**	**11 41 40.2**	**-0.2**
	baz=74,SNR=5.8						
130A	**Snyder**	**73.41**	**336**	⇓P	**P**	**11 41 40.4**	**-0.3**
	baz=74						
228A	**UT Block 9, Go**	**73.52**	**335**	⇓P	**P**	**11 41 40.9**	**-0.5**
	baz=74,SNR=5.0						
WVT	**Waverly**	**73.53**	**348**	*e*P	**P**	**11 41 40.9**	**-0.4**
WVT				pmax	pmax		
	comp=Z,29nm,1.1s						
WVT	**Waverly**	**73.53**	**348**	*e*P	**P**	**11 41 40.9**	**-0.4**
	comp=Z,29nm,1.1s						
Z32A	**Haskell**	**73.60**	**338**	⇑P	**P**	**11 41 41.5**	**-0.2**
	baz=74,SNR=12						
Y34A	**Reagan Ranch,**	**73.69**	**339**	⇑P	**P**	**11 41 42.3**	**0.0**
	baz=74						
129A	**Stewart Farms,**	**73.74**	**335**	⇓P	**P**	**11 41 42.6**	**-0.1**
	baz=74,SNR=5.2						
Z31A	**Sharp Cattle R**	**73.81**	**337**	⇑P	**P**	**11 41 42.8**	**-0.2**
	baz=74,SNR=5.5						
128A	**Castleberry Fa**	**73.94**	**335**	⇑P	**P**	**11 41 43.7**	**-0.2**
	baz=74,SNR=6.7						
Y33A	**Hilltop Ranch,**	**73.99**	**339**	⇑P	**P**	**11 41 43.6**	**-0.4**
	baz=74						
JSRW	**J. Sargeant Re**	**74.00**	**356**	*e*P	**P**	**11 41 44.7**	**+0.8**
Z30A	**Sanderson Ranc**	**74.10**	**336**	⇑P	**P**	**11 41 44.2**	**-0.5**
	baz=74,SNR=7.1						
MNTX	**Cornudas Mount**	**74.14**	**332**	*e*P	**P**	**11 41 44.5**	**-0.5**
Y32A	**R-V Farms, Ver**	**74.23**	**338**	⇑P	**P**	**11 41 45.3**	**-0.2**
	baz=75						
Z29A	**Hungry Hill Ra**	**74.26**	**336**	⇑P	**P**	**11 41 45.4**	**-0.3**
	baz=75,SNR=8.1						
Y31A	**Rekieta Farm,**	**74.44**	**337**	⇑P	**P**	**11 41 46.6**	**-0.1**
	baz=75,SNR=5.3						
X33A	**Lawton**	**74.45**	**339**	⇑P	**P**	**11 41 46.4**	**-0.3**
	baz=75						
Z28A	**Tucker Farm, M**	**74.52**	**335**	⇑P	**P**	**11 41 46.5**	**-0.7**
	baz=75						
Y30A	**Stafford Cattl**	**74.57**	**337**	⇑P	**P**	**11 41 46.9**	**-0.5**
	baz=75						
X32A	**Elmer**	**74.57**	**338**	⇓P	**P**	**11 41 47.1**	**-0.3**
	baz=75						
WMOK	**Wichita Mounta**	**74.72**	**339**	*e*P	**P**	**11 41 48.1**	**-0.2**
WMOK				pmax	pmax		
	comp=Z,16nm,1.4s						
WMOK	**Wichita Mounta**	**74.72**	**339**	*e*P	**P**	**11 41 48.1**	**-0.2**
	comp=Z,16nm,1.4s						
Y29A	**Porterfield Fa**	**74.80**	**336**	⇑P	**P**	**11 41 48.4**	**-0.5**
	baz=75						
W34A	**Bridge Creek,**	**74.90**	**340**	⇑P	**P**	**11 41 48.9**	**-0.4**
	baz=75						
X31A	**McDonald Ranch**	**74.98**	**338**	⇓P	**P**	**11 41 49.7**	**-0.1**
	baz=75,SNR=6.7						
TUL1	**Leonard**	**75.00**	**341**	⇓P	**P**	**11 41 49.4**	**-0.5**
	baz=75						
TUL1	**Leonard**	**75.00**	**341**	*e*P	**P**	**11 41 49.9**	**+0.1**
	comp=Z,32nm,1.2s						
W33A	**Caddo, Fort Co**	**75.02**	**339**	⇓P	**P**	**11 41 50.3**	**+0.3**
	baz=75,SNR=9.4						
X30A	**Coker Ranch, T**	**75.08**	**337**	⇓P	**P**	**11 41 50.1**	**-0.4**
	baz=75						
V35A	**Meyer Ranch, C**	**75.14**	**341**	⇑P	**P**	**11 41 49.8**	**-0.9**
	baz=76						
W32A	**Sentinel**	**75.22**	**338**	⇑P	**P**	**11 41 51.3**	**+0.2**
	baz=76,SNR=10						
MSTX	**Muleshoe**	**75.27**	**335**	⇓P	**P**	**11 41 51.5**	**-0.1**
	baz=76						
MSTX	**Muleshoe**	**75.27**	**335**	*e*P	**P**	**11 41 51.9**	**+0.3**
X29A	**Tulia**	**75.35**	**336**	⇓P	**P**	**11 41 52.1**	**0.0**
	baz=76						
V34A	**Guthrie**	**75.39**	**340**	⇑P	**P**	**11 41 52.2**	**+0.1**
	baz=76						
319A	**Douglas**	**75.40**	**329**	⇑P	**P**	**11 41 52.7**	**+0.2**
	baz=76						
W31A	**Holland Ranch,**	**75.48**	**338**	⇑P	**P**	**11 41 52.6**	**-0.1**
	baz=76						
V33A	**Lossen Ranch,**	**75.59**	**339**	⇓P	**P**	**11 41 53.3**	**+0.1**
	baz=76,SNR=6.4						
V32A	**Arapaho**	**75.71**	**339**	⇑P	**P**	**11 41 54.3**	**+0.3**
	baz=76						
AMTX	**Amarillo**	**75.74**	**336**	⇓P	**P**	**11 41 54.3**	**+0.1**
	baz=76						
AMTX	**Amarillo**	**75.74**	**336**	*e*P	**P**	**11 41 54.8**	**+0.5**
	comp=Z,23nm,1.1s						
121A	**Cookes Peak, D**	**75.81**	**331**	⇓P	**P**	**11 41 55.6**	**+0.8**
	baz=76,SNR=5.7

S29A	Ulysses	78.09	338	⇓P	P	11 42 07.6 +0.2
	baz=78					
R32A	Long Quarter,	78.14	340	⇓P	P	11 42 07.7 +0.1
	baz=78					
R31A	Burdett	78.24	339	⇑P	P	11 42 08.4 +0.2
	baz=79					
S28A	Manter	78.30	337	⇓P	P	11 42 09.3 +0.7
	baz=79,SNR=6.8					
Q33A	Connelly Farm,	78.44	341	⇓P	P	11 42 09.6 +0.4
	baz=79					
R30A	Dighton	78.45	339	⇑P	P	11 42 10.0 +0.6
	baz=79					
T26A	Comanche Natio	78.46	336	⇑P	P	11 42 09.9 +0.3
	baz=79					
V22A	San Miguel Ran	78.47	333	⇑P	P	11 42 10.3 +0.5
	baz=79,SNR=13					
U23A	El Rito	78.59	334	⇓P	P	11 42 11.4 +1.1
	baz=79,SNR=8.6					
Q32A	Meitler Ranch,	78.63	340	⇓P	P	11 42 10.8 +0.5
	baz=79					
T25A	Trinidad	78.70	335	⇑P	P	11 42 11.7 +0.8
	baz=79,SNR=14					
T25A	Trinidad	78.70	335	eP	P	11 42 11.8 +0.8
	comp=Z,48nm,1.4s					
S26A	Kim	78.83	336	⇑P	P	11 42 12.2 +0.6
	baz=79,SNR=12					
W18A	Petrified Fore	78.85	330	⇑P	P	11 42 12.1 +0.3
	baz=79					
W18A	Petrified Fore	78.85	330	eP	P	11 42 12.9 +1.1
U22A	Llaves	78.87	333	⇑P	P	11 42 12.5 +0.6
	baz=79,SNR=6.4					
Q31A	Ellis	78.87	340	⇑P	P	11 42 11.9 +0.3
	baz=79					
X16A	Lo Mia Camp, P	78.94	329	⇑P	P	11 42 13.4 +1.1
	baz=79,SNR=6.3					
T24B	San Luis	78.96	335	⇓P	P	11 42 13.0 +0.5
	baz=79,SNR=9.6					
R28A	Tribune	78.96	338	⇑P	P	11 42 12.8 +0.6
	baz=79					
AAM	Ann Arbor	79.03	352	eP	P	11 42 12.0 -0.3
AAM	Ann Arbor	79.03	352	eP	P	11 42 12.0 -0.3
Q30A	Quinter	79.08	339	⇓P	P	11 42 13.4 +0.6
	baz=79					
T23A	Casias Ranch,	79.17	334	⇓P	P	11 42 14.4 +0.8
	baz=80,SNR=5.1					
S25A	Robets Cordova	79.18	336	⇓P	P	11 42 14.1 +0.5
	baz=80,SNR=6.5					
Y14A	Wickenburg	79.19	328	⇓P	P	11 42 13.9 +0.4
	baz=80					
R27A	Eads	79.22	337	⇑P	P	11 42 14.1 +0.4
	baz=80					
Q29A	Oakley	79.22	339	⇓P	P	11 42 14.2 +0.6
	baz=80					
P32A	Huiting Farm,	79.23	341	⇓P	P	11 42 13.9 +0.3
	baz=80					
GLA	Glamis	79.25	326	⇓P	P	11 42 13.7 -0.1
	baz=80					
S24A	Houchin Ranch,	79.42	335	⇑P	P	11 42 16.0 +1.0
	baz=80,SNR=11					
SWSC	Sam W. Stewart	79.60	325	⇑P	P	11 42 16.9 +1.2
	baz=80					
P30A	Selden	79.61	339	⇑P	P	11 42 16.0 +0.3
	baz=80					
SDCO	Great Sand Dun	79.62	335	⇓P	P	11 42 16.6 +0.5
	baz=80					
SDCO	Great Sand Dun	79.62	335	eP	P	11 42 17.6 +1.6
	comp=Z,17nm,1.0s					
TSUM	Tsumeb	79.74	106	eP	P	11 42 17.5 +0.4
	comp=Z,15nm,1.3s					
WUAZ	Wupatki	79.86	329	⇑P	P	11 42 17.8 +0.6
	baz=80,SNR=5.0					
WUAZ	Wupatki	79.86	329	eP	P	11 42 18.9 +1.7
	comp=Z,17nm,1.3s					
P29A	Atwood	79.86	339	⇑P	P	11 42 17.7 +0.6
	baz=80					
R24A	Sanders Place,	79.92	335	⇓P	P	11 42 18.3 +0.7
	baz=80,SNR=10					
O31A	Woolen Ranch,	79.93	340	⇑P	P	11 42 18.3 +0.9
	baz=80					
Q26A	Hugo	80.03	337	⇑P	P	11 42 18.8 +0.7
	baz=80					
BC3	Big Chuckawall	80.04	326	⇑P	P	11 42 18.6 +0.4
	baz=80					
S22A	4UR Ranch, Cre	80.08	334	⇓P	P	11 42 19.2 +0.6
	baz=80,SNR=7.8					
S22A	4UR Ranch, Cre	80.08	334	eP	P	11 42 19.9 +1.3
P28A	Saint Francis	80.08	338	⇓P	P	11 42 19.0 +0.7
	baz=80					
R23A	Moffat	80.13	335	⇓P	P	11 42 19.3 +0.5
	baz=80					
O30A	MW Ranch, Wils	80.15	340	⇑P	P	11 42 19.2 +0.6
	baz=80					
MVCO	Mesa Verde	80.21	332	⇓P	P	11 42 19.6 +0.4
	baz=80					
MVCO	Mesa Verde	80.21	332	eP	P	11 42 20.4 +1.1
	comp=Z,22nm,1.4s					
MVCO				epP	PcP	11 42 27.9 +1.5
Q25A	Bedland, Calha	80.25	336	⇑P	P	11 42 19.5 +0.1
	baz=81					
P27A	Ficken Ranch,	80.31	338	⇑P	P	11 42 20.1 +0.5
	baz=81					
IRM	Iron Mountain	80.32	326	⇑P	P	11 42 20.2 +0.6
	baz=81					
PFO	Pinyon Flats O	80.46	325	⇑P	P	11 42 21.0 +0.5
	baz=81					
JFWS	Jewell Farm	80.55	348	eP	P	11 42 20.6 0.0
JFWS				pmax	pmax	
	comp=Z,30nm,1.1s					
JFWS	Jewell Farm	80.55	348	eP	P	11 42 20.6 0.0
	comp=Z,30nm,1.1s					
P26A	Davis Ranch, A	80.56	337	⇑P	P	11 42 21.4 +0.5
	baz=81					
W13A	Hualapai Mount	80.56	327	⇑P	P	11 42 21.8 +0.7
	baz=81					
BELC	Belle Mtn. Jos	80.57	325	⇓P	P	11 42 21.6 +0.5
	baz=81					
O28A	Krutsinger Ran	80.60	338	⇓P	P	11 42 21.6 +0.6
	baz=81					
Q24A	Divide	80.60	336	⇓P	P	11 42 21.7 +0.4
	baz=81					
Q24A	Divide	80.60	336	eP	P	11 42 22.5 +1.2
	comp=Z,36nm,1.6s					
P25A	Willow Gulch B	80.77	337	⇑P	P	11 42 22.8 +0.7
	baz=81,SNR=6.5					
MURC	Murrieta	80.80	324	⇑P	P	11 42 22.8 +0.6
	baz=81					
O27A	Beecher Island	80.86	338	⇑P	P	11 42 22.5 0.0
	baz=81					
U15A	North Rim	81.02	329	⇓P	P	11 42 24.5 +0.9
	baz=81,SNR=6.9					
N28A	Pribbeno Ranch	81.05	339	⇑P	P	11 42 23.9 +0.5
	baz=81					
PV01	Paradox Valley	81.05	333	eP	P	11 42 24.4 +0.7
	comp=Z,1μm,1.3s					
GMRC	Granite Mounta	81.07	326	⇓P	P	11 42 24.5 +0.8
	baz=81					
P23A	Jefferson	81.20	335	⇓P	P	11 42 25.6 +1.1
	baz=82					
BBRC	Big Bear Solar	81.22	325	⇑P	P	11 42 25.4 +0.7
	baz=82					
SMCO	Snowmass	81.41	334	eP	P	11 42 26.2 +0.4
	comp=Z,17nm,1.1s					
HEC	Hector,Ludlow	81.42	326	⇑P	P	11 42 26.2 +0.7
	baz=82					
ISCO	Idaho Springs	81.50	336	eP	P	11 42 27.2 +1.0
ISCO				pmax	pmax	
	comp=Z,21nm,1.6s					
ISCO	Idaho Springs	81.50	336	⇑P	P	11 42 26.6 +0.5
	baz=82,SNR=5.6					
ISCO	Idaho Springs	81.50	336	eP	P	11 42 27.1 +1.0
	comp=Z,21nm,1.6s					
BFSC	Mount Baldy Ra	81.54	324	⇑P	P	11 42 26.7 +0.5
	baz=82					
L31A	Butterfield Fa	81.69	341	⇓P	P	11 42 27.8 +1.0
	baz=82					
P22A	Eagle	81.71	335	⇑P	P	11 42 27.8 +0.7
	baz=82					
TUQ	Turquoise Moun	81.74	326	⇓P	P	11 42 28.0 +0.7
	baz=82					
O23A	Lake Granby, G	81.98	336	⇑P	P	11 42 29.2 +0.6
	baz=82,SNR=6.0					
GSC	Goldstone, Bar	82.02	326	eP	P	11 42 30.4 +1.7
GSC	Goldstone, Bar	82.02	326	⇓P	P	11 42 29.3 +0.5
	baz=82					
GSC	Goldstone, Bar	82.02	326	eP	P	11 42 30.4 +1.7
O22A	Kremmling	82.14	335	⇑P	P	11 42 29.7 +0.2
	baz=82,SNR=9.7					
N24A	Carr	82.19	337	⇑P	P	11 42 30.4 +0.8
	baz=82					
EDW2	Edwards Air Fo	82.22	325	⇑P	P	11 42 30.3 +0.6
	baz=82					
SHPR	Sheep Range	82.30	327	eP	P	11 42 31.6 +1.4
K30A	Basset	82.36	341	⇓P	P	11 42 30.6 +0.4
	baz=83,SNR=6.1					
LBTB	Lobatse	82.38	115	eP	P	11 42 31.4 +0.3
LBTB	Lobatse	82.38	115	eP	P	11 42 31.4 +0.3
CCUT	Cedar City	82.42	329	eP	P	11 42 32.7 +1.7
	comp=Z,22nm,1.4s					
LRMC	Laurel Mtn Rad	82.57	325	⇓P	P	11 42 31.9 +0.2
	baz=83					
N23A	Red Feather La	82.60	336	⇑P	P	11 42 32.2 +0.4
	baz=83,SNR=5.5					
ECSD	EROS Data Cent	82.62	343	⇓P	P	11 42 31.1 -0.4
	baz=83,SNR=20					
ECSD	EROS Data Cent	82.62	343	eP	P	11 42 31.5 -0.1
	comp=Z,19nm,0.8s					
K29A	Lazy Trails An	82.63	340	⇓P	P	11 42 31.9 +0.3
	baz=83					
SRU	San Rafael Swe	82.64	332	eP	P	11 42 32.8 +0.8
SRU	San Rafael Swe	82.64	332	eP	P	11 42 32.8 +0.8
ARUT	Antelope Range	82.66	329	eP	P	11 42 33.3 +1.2
ARUT	Antelope Range	82.66	329	eP	P	11 42 33.3 +1.2
	comp=Z,184nm,1.2s					
N22A	Wattenberg Ran	82.69	335	⇑P	P	11 42 32.6 +0.3
	baz=83,SNR=6.5					
O20A	White River Ci	82.70	334	⇑P	P	11 42 32.5 +0.2
	baz=83					
M24A	Cheyenne	82.76	337	⇓P	P	11 42 33.0 +0.5
	baz=83					
K28A	Ten Mile Ranch	82.87	340	⇓P	P	11 42 33.5 +0.6
	baz=83,SNR=5.9					
J30A	Dallas	82.93	341	⇓P	P	11 42 33.4 +0.2
	baz=83					
MPMC	Manual Prospec	82.96	326	⇑P	P	11 42 33.9 +0.1
	baz=83					
FURC	Furnace Creek,	83.02	326	⇓P	P	11 42 34.4 +0.7
	baz=83					
M23A	Laramie	83.04	336	⇓P	P	11 42 34.6 +0.6
	baz=83					
TMUT	Trail Mountain	83.06	332	eP	P	11 42 35.5 +1.2
ISA	Isabella, Lake	83.09	325	eP	P	11 42 36.1 +1.8
ISA				pmax	pmax	
	comp=Z,9.0nm,1.1s					
ISA	Isabella, Lake	83.09	325	⇑P	P	11 42 35.1 +0.9
	baz=83					
ISA	Isabella, Lake	83.09	325	eP	P	11 42 36.1 +1.8
	comp=Z,9.4nm,1.1s					
PKM	Mcpherson Peak	83.10	323	⇑P	P	11 42 35.4 +0.9
	baz=83					
TPNV	Topopah Spring	83.14	327	eP	P	11 42 36.4 +1.8
TPNV				pmax	pmax	
	comp=Z,11nm,1.3s					
TPNV	Topopah Spring	83.14	327	⇑P	P	11 42 35.6 +1.0
	baz=84					
TPNV	Topopah Spring	83.14	327	eP	P	11 42 36.4 +1.8
	comp=Z,10nm,1.3s					
DAC	Darwin (Calif)	83.19	326	eP	P	11 42 36.5 +1.6
DAC				pmax	pmax	
	comp=Z,11nm,1.3s					
DAC	Darwin (Calif)	83.19	326	eP	P	11 42 36.5 +1.6
	comp=Z,11nm,1.3s					
J29A	Okreek	83.23	341	⇓P	P	11 42 35.6 +0.9
	baz=84					
L24A	Wheatland	83.31	337	⇑P	P	11 42 35.8 +0.5
	baz=84					
N20A	Spence Gulch,	83.33	334	⇓P	P	11 42 35.6 0.0
	baz=84					
I30A	Oacoma	83.47	342	⇓P	P	11 42 36.4 +0.4
	baz=84					
J28A	Allard Ranch,	83.49	340	⇑P	P	11 42 36.6 +0.5
	baz=84					
VES	Vestal, Richgr	83.52	324	⇑P	P	11 42 37.5 +1.1
	baz=84					
SMMC	Simmler	83.52	323	⇑P	P	11 42 37.6 +1.2
	baz=84					
J27A	Elkhorn Farm,	83.55	340	⇓P	P	11 42 36.9 +0.4
	baz=84,SNR=8.5					
L23A	Garrett	83.62	337	⇑P	P	11 42 37.2 +0.2
	baz=84					
GRAC	Grapevine Rang	83.68	326	⇑P	P	11 42 38.1 +0.8
	baz=84					
L22A	Ellis Ranch, M	83.78	336	⇑P	P	11 42 38.0 +0.2
	baz=84					
I29A	Vivian Onida	83.80	341	⇓P	P	11 42 37.6 0.0
	baz=84					
J26A	Sides Ranch, S	83.91	339	⇓P	P	11 42 38.7 +0.4
	baz=84,SNR=7.4					
NLU	North Lily Min	83.97	331	eP	P	11 42 40.2 +1.3
I28A	Midland	84.01	340	⇓P	P	11 42 38.7 0.0
	baz=84,SNR=9.5					
R11A	Troy Canyon, C	84.03	328	⇓P	P	11 42 39.8 +0.7
	baz=84					
R11A	Troy Canyon, C	84.03	328	eP	P	11 42 40.4 +1.3
DAU	Daniels Canyon	84.05	332	eP	P	11 42 40.3 +0.9
DAU	Daniels Canyon	84.05	332	eP	P	11 42 40.2 +0.9
K23A	Bowen Ranch, D	84.17	337	⇑P	P	11 42 40.5 +0.8
	baz=84					
J25A	Sunshine Ranch	84.19	338	⇑P	P	11 42 40.5 +0.8
	baz=84					
I27A	Quinn	84.31	340	⇓P	P	11 42 40.7 +0.5
	baz=85					
H29A	Onida	84.33	341	⇑P	P	11 42 41.0 +0.7
	baz=85					
K22A	Casper	84.37	336	⇑P	P	11 42 40.8 0.0
	baz=85,SNR=9.4					
K22A	Casper	84.37	336	eP	P	11 42 41.5 +0.7
J24A	Dixon Ranch, L	84.40	338	⇑P	P	11 42 41.4 +0.6
	baz=85,SNR=6.0					
DUG	Dugway, Tooele	84.46	331	eP	P	11 42 42.2 +1.0
DUG				pmax	pmax	
	comp=Z,20nm,1.3s					
DUG	Dugway, Tooele	84.46	331	⇓P	P	11 42 41.6 +0.3
	baz=85,SNR=13					
DUG	Dugway, Tooele	84.46	331	eP	P	11 42 42.2 +1.0
	comp=Z,20nm,1.3s					
I26A	New Underwood	84.50	339	⇑P	P	11 42 42.0 +0.7
	baz=85					
TPH	Tonopah	84.51	327	eP	P	11 42 42.8 +1.2
TPH				pmax	pmax	
	comp=Z,14nm,1.1s					
TPH	Tonopah	84.51	327	eP	P	11 42 42.8 +1.2
	comp=Z,14nm,1.1s					
G30A	Faulkton	84.53	342	⇑P	P	11 42 41.8 +0.4
	baz=85					
K21A	Alcova	84.59	336	⇓P	P	11 42 42.0 +0.1
	baz=85,SNR=10					
H28A	Mission Ridge	84.59	341	⇑P	P	11 42 41.9 +0.3
	baz=85					
TCUT	Toone Canyon	84.72	332	eP	P	11 42 43.3 +0.6
	comp=Z,20nm,1.2s					
I25A	Rochford	84.75	339	⇓P	P	11 42 42.4 -0.2
	baz=85,SNR=12					
G29A	Hoven	84.79	342	⇓P	P	11 42 42.6 0.0
	baz=85					
H27A	Howes	84.84	340	⇑P	P	11 42 42.6 -0.3
	baz=85,SNR=9.2					
I24A	Kuemmerle Ranc	84.86	338	⇓P	P	11 42 43.4 +0.2
	baz=85					
RSSD	Black Hills	84.93	339	eP	P	11 42 43.6 0.0
RSSD				pmax	pmax	
	comp=Z,12nm,1.0s					
RSSD	Black Hills	84.93	339	eP	P	11 42 43.6 0.0
	comp=Z,12nm,1.0s					
G28A	Parade	84.94	341	⇓P	P	11 42 43.5 +0.1
	baz=85,SNR=7.1					
H26A	Fairpoint	85.02	340	⇓P	P	11 42 43.9 +0.1
	baz=85					
J22A	Midwest	85.04	337	⇓P	P	11 42 43.9 -0.2
	baz=85					
BGU	Big Grassy Mou	85.17	331	eP	P	11 42 46.1 +1.3
H25A	Fruitdale	85.26	339	⇓P	P	11 42 45.0 -0.1
	baz=86,SNR=15					
NVAR	Mina Array Bea	85.28	326	P	P	11 42 46.5 +1.0
	comp=Z,4.0nm,0.9s,baz=151,slow=5.5,SNR=23					
J21A	Lysite	85.29	336	⇓P	P	11 42 45.4 0.0
	baz=86					
F29A	Eureka	85.36	342	⇓P	P	11 42 45.3 -0.2
	baz=86					
I22A	9 Mile Ranch,	85.47	337	⇑P	P	11 42 45.9 -0.3
	baz=86,SNR=7.4					
G27A	Dupree	85.49	340	⇓P	P	11 42 46.1 0.0
	baz=86,SNR=7.2					
PDAR	Pinedale Array	85.49	334	P	P	11 42 46.2 -0.2
	comp=Z,8.7nm,1.2s,baz=144,slow=5.3,SNR=23					
J20A	Shoshoni	85.51	336	⇑P	P	11 42 46.7 +0.3
	baz=86,SNR=11					
G26A	Maurine	85.59	340	⇑P	P	11 42 46.5 -0.2
	baz=86,SNR=16					
EYMN	Ely	85.64	348	eP	P	11 42 46.5 -0.2
H24A	Dirks Ranch, A	85.65	338	⇑P	P	11 42 46.7 -0.4
	baz=86,SNR=8.1					
I21A	Big Trails, Te	85.66	336	⇓P	P	11 42 46.9 -0.2
	baz=86,SNR=9.1					
G25A	Newell	85.73	339	⇓P	P	11 42 47.3 -0.1
	baz=86,SNR=21					
J19A	Crowheart	85.76	335	⇓P	P	11 42 47.7 0.0
	baz=86,SNR=16					
E30A	Jud	85.77	343	⇑P	P	11 42 47.2 -0.2
	baz=86					
HVU	Hansel Valley	85.81	332	eP	P	11 42 48.6 +0.6
HVU	Hansel Valley	85.81	332	eP	P	11 42 48.6 +0.6
ELK	Elko	85.90	330	eP	P	11 42 49.5 +0.9
ELK	Elko	85.90	330	eP	P	11 42 49.5 +0.9
F27A	Lemmon	85.97	341	⇓P	P	11 42 48.4 -0.2
	baz=86,SNR=19					
E29A	Napoleon	86.00	342	⇓P	P	11 42 48.8 +0.1
	baz=86					
AHID	Auburn Hatcher	86.04	333	eP	P	11 42 49.0 -0.1
	comp=Z,13nm,1.2s					
I20A	Worland	86.05	336	⇓P	P	11 42 49.1 0.0
	baz=86,SNR=7.7					
H22A	Clearmont	86.06	337	⇓P	P	11 42 49.0 0.0
	baz=86					
F26A	Lodgepole	86.12	340	⇓P	P	11 42 49.2 -0.1
	baz=86,SNR=14					
G24A	Alzada	86.14	339	⇓P	P	11 42 49.2 -0.2
	baz=86,SNR=8.2					
E28A	Huff	86.27	342	⇓P	P	11 42 50.0 0.0
	baz=87,SNR=6.5					
TORD	Torodi Ar. Bea	86.28	71	P	P	11 42 50.7 0.0
	comp=Z,5.5nm,0.8s,baz=224,slow=3.7,SNR=27					
TORD				PP	PP	11 46 08.7 -3.5
	comp=Z,1.5nm,1.2s,baz=244,slow=4.3,SNR=3.7					
TORD				LR	LR	12 20 35.3
	comp=Z,87nm,18.1s,baz=250,slow=35					
D30A	Buchanan	86.30	343	⇑P	P	11 42 50.2 +0.2
	baz=87					
H21A	Big Horn, Sher	86.31	337	⇑P	P	11 42 50.0 -0.3
	baz=87					
G23A	Biddle	86.31	338	⇓P	P	11 42 49.9 -0.4
	baz=87,SNR=6.4					
E27A	Carson	86.36	341	⇑P	P	11 42 50.3 -0.2
	baz=87					
F25A	Bowman	86.41	340	⇓P	P	11 42 50.4 -0.3
	baz=87,SNR=5.8					
I19A	Meeteetse	86.42	335	⇓P	P	11 42 50.9 -0.1
	baz=87,SNR=5.3					
REDW	Red Top Meadow	86.47	334	eP	P	11 42 51.5 +0.2
H20A	Greybull	86.49	336	⇓P	P	11 42 51.0 -0.2
	baz=87,SNR=10.0					
LOHW	Long Hollow	86.60	334	eP	P	11 42 51.9 0.0
F24A	Ekalaka	86.62	339	⇑P	P	11 42 51.5 -0.2
	baz=87,SNR=8.9					
E26A	Carlson Angus	86.64	340	⇓P	P	11 42 51.5 -0.3
	baz=87,SNR=14					
FXWY	Fox Creek	86.77	334	eP	P	11 42 53.3 +0.5
F23A	Volborg	86.79	338	⇑P	P	11 42 52.1 -0.5
	baz=87,SNR=9.5					
AGMN	Agassiz Nation	86.79	345	⇑P	P	11 42 52.1 -0.3
	baz=87,SNR=8.6					
AGMN	Agassiz Nation	86.79	345	eP	P	11 42 52.2 -0.2
C30A	Mose, Pekin	86.79	343	⇑P	P	11 42 52.6 +0.2
	baz=87,SNR=10					
D28A	Regan	86.82	342	⇑P	P	11 42 53.0 +0.4
	baz=87					
I17A	Pilgrim Ck.	86.86	334	⇓P	P	11 42 53.3 +0.1
	baz=87					
G21A	Lodge Grass	86.89	337	⇑P	P	11 42 53.5 +0.3
	baz=87					
E25A	Miller Ranch,	86.92	340	⇓P	P	11 42 53.1 -0.1
	baz=87,SNR=9.2					
H19A	Powell	86.98	336	⇓P	P	11 42 53.5 -0.1
	baz=87,SNR=5.7					
D27A	Center	86.98	341	⇑P	P	11 42 53.2 -0.3
	baz=87					
F22A	Rosebud	87.10	338	⇓P	P	11 42 53.8 -0.2
	baz=87,SNR=6.0					
D26A	Manning	87.15	341	⇓P	P	11 42 54.5 +0.2
	baz=88,SNR=17					
MDND	Maddock	87.19	343	⇓P	P	11 42 54.6 +0.1
	baz=88					
H18A	Shoshone NF, C	87.21	335	⇓P	P	11 42 54.7 -0.1
	baz=88,SNR=14					
G20A	Bridger	87.21	336	⇓P	P	11 42 54.1 -0.6
	baz=88,SNR=6.7					
E24A	Baker	87.23	339	⇑P	P	11 42 54.5 -0.2
	baz=88,SNR=5.6					
C28A	Hausauer Farms	87.26	342	⇓P	P	11 42 55.0 +0.2
	baz=88					
H17A	Grant Village	87.28	334	⇓P	P	11 42 55.2 -0.1
	baz=88					
E23A	Ismay	87.46	339	⇓P	P	11 42 55.4 -0.3
	baz=88					
B30A	Myrvik Farm, E	87.46	344	⇑P	P	11 42 55.8 +0.1
	baz=88,SNR=15					
D25A	Fairfield	87.50	340	⇑P	P	11 42 56.1 +0.2
	baz=88,SNR=9.5					
C27A	Sayler Ranch,	87.54	342	⇓P	P	11 42 56.3 +0.2
	baz=88,SNR=6.4					
E22A	Miles City	87.60	338	⇑P	P	11 42 56.0 -0.5
	baz=88					
YMR	Madison River	87.65	334	eP	P	11 42 57.2 +0.3
YMR				epP	pP	11 43 07.3 0.0
B29A	Wagenman Farm,	87.71	343	⇑P	P	11 42 56.8 -0.1
	baz=88,SNR=5.5					
D24A	Glendive	87.74	340	⇑P	P	11 42 57.1 0.0
	baz=88,SNR=6.1					
C26A	Wahner Farm, P	87.79	341	⇓P	P	11 42 57.4 +0.1
	baz=88,SNR=7.5					
A30A	Hoffart Farm,	87.92	344	⇓P	P	11 42 57.9 0.0
	baz=88,SNR=9.4					
B28A	Dugan Ranch, T	87.94	343	⇓P	P	11 42 58.2 +0.2
	baz=88,SNR=16					
QLMT	Earthquake Lak	87.95	334	eP	P	11 43 00.0 +1.6
HLID	Hailey	87.96	332	⇓P	P	11 42 59.1 +0.7
	baz=88,SNR=11					
HLID	Hailey	87.96	332	eP	P	11 42 59.3 +0.9
HLID				epP	pP	11 43 08.7 -0.1
C25A	Freed Ranch, W	87.99	340	⇓P	P	11 42 58.5 +0.2
	baz=88					
F19A	Roth Farm, Mol	88.01	336	⇓P	P	11 42 58.5 0.0
	baz=88					
E21A	Keefer Ranch,	88.03	338	⇓P	P	11 42 58.6 +0.1
	baz=88					
D23A	Lindsay	88.05	339	⇑P	P	11 42 58.9 +0.4
	baz=88,SNR=8.0					
A29A	Manning Farm,	88.11	343	⇓P	P	11 42 58.7 -0.1
	baz=88,SNR=34					
B27A	Peters Farms,	88.11	342	⇓P	P	11 42 58.9 +0.1
	baz=88					
C24A	Savage	88.15	340	⇓P	P	11 42 59.3 +0.3
	baz=88,SNR=13					
D22A	Cohagen	88.31	338	⇑P	P	11 42 59.8 0.0
	baz=89					
E20A	Meyer Farm, Mu	88.33	337	⇑P	P	11 42 59.9 -0.1
	baz=89,SNR=5.3					
B26A	Jensen Ranch,	88.34	341	⇑P	P	11 42 59.7 -0.2
	baz=89					
A28A	Rude Farm, Bot	88.34	343	⇑P	P	11 42 59.7 -0.2
	baz=89,SNR=8.4					
MFID	Camas Ranch	88.38	331	eP	P	11 43 01.5 +1.1
MCMT	McKenzie Canyo	88.46	333	eP	P	11 43 01.7 +0.9
	comp=Z,8.6nm,1.3s					
D21A	La Casta Ranch	88.48	338	⇓P	P	11 43 00.2 -0.4
	baz=89					
B25A	Knox Farm, Ray	88.48	341	⇓P	P

baz=89
D19A Cripps Ranch, 89.15 337 ⇑P P 11 43 03.6 -0.2
baz=90
B23A Brockton 89.16 340 ⇓P P 11 43 03.5 -0.2
baz=90
C21A Desert Coulee 89.19 338 ⇑P P 11 43 03.7 -0.3
baz=90
B22A Reddig Ranch S 89.29 339 ⇑P P 11 43 04.1 -0.4
baz=90,SNR=6.6
A24A Westby 89.30 341 ⇑P P 11 43 04.1 -0.3
baz=90
N02D Trinity Center 89.33 325 ⇑P P 11 43 04.1 -0.7
baz=90
C20A Veseth Ranch, 89.36 338 ⇑P P 11 43 04.4 -0.4
baz=90
A23A Redstone 89.58 340 ⇓P P 11 43 05.5 -0.2
baz=90
B21A Ellsworth Farm 89.70 338 ⇓P P 11 43 06.1 -0.2
baz=90
A22A Carney Farms, 89.89 339 ⇑P P 11 43 07.1 -0.1
baz=90
B20A Solberg Farm, 90.02 338 ⇓P P 11 43 07.7 -0.1
baz=90
A21A Bergtoll Ranch 90.18 339 ⇑P P 11 43 07.9 -0.6
baz=90,SNR=5.6
LSZ Lusaka 90.20 109 *e*P **P 11 43 09.5 -0.2**
LSZ pmax pmax
comp=Z,19nm,1.3s
LSZ Lusaka 90.20 109 *e*P **P 11 43 09.5 -0.2**
comp=Z,19nm,1.3s
A20A Cobblestone Ra 90.38 338 ⇓P P 11 43 08.6 -0.9
baz=91,SNR=5.8
JTMT Jette 91.47 334 *e*P **P 11 43 15.3 +0.6**
comp=Z,5.2nm,1.2s
JTMT *e*pP **pP 11 43 24.7 -0.4**
YBMT Yellow Bay 91.47 334 *e*P **P 11 43 15.2 +0.5**
comp=Z,4.8nm,1.1s
BSMT Bassoo Peak 91.74 334 *e*P **P 11 43 16.1 +0.1**
comp=Z,4.9nm,1.3s
BSMT *e*pP **pP 11 43 25.8 -0.6**
BSMT *e*sP **sP 11 43 30.2 0.0**
NEW Newport 92.94 333 ⇑P P 11 43 21.2 -0.1
baz=93
YKA Yellowknife Ar 104.08 342 Pdiff **Pdif 11 44 10.2 -0.9**
comp=Z,0.1nm,0.4s,baz=148,slow=4.3,SNR=4.8
ASAR Alice Springs 114.70 208 PKP PKPdf 11 48 47.7 -1.7
comp=Z,0.2nm,0.7s,baz=134,slow=2.7,SNR=3.2
GERES GERESS Array B 114.86 47 PKP PKPdf 11 48 48.2 -0.7
comp=Z,0.3nm,0.6s,baz=224,slow=4.1,SNR=3.9
VYHS Vyhne 117.76 49 *e*PKIKP **PKPdf 11 48 54.3 -0.1**
VYHS Vyhne 117.76 49 *e*PKP **PKPdf 11 48 54.2 -0.1**
WRA Warramunga Arr 117.90 210 PKP **PKPdf 11 48 54.3 -1.4**
comp=Z,0.2nm,0.6s,baz=163,slow=1.3,SNR=3.0
KOLS Kolonicke sedl 120.02 49 *e*PKIKP **PKPdf 11 48 59.2 +0.5**
KOLS Kolonicke sedl 120.02 49 *e*PKP **PKPdf 11 48 59.2 +0.5**
HWQ Hawqa 123.76 70 *e*P PKPdf 11 49 15.6 +9.1
MARH Ras Al Marh 124.06 70 *e*P **PKPdf 11 49 09.5 +2.1**
MARH Ras Al Marh 124.06 70 *e*P **PKPdf 11 49 09.4 +2.1**
FKH Fakeheh 124.09 70 *e*P PKPdf 11 49 13.6 +6.5
BRTR Keskin Array B 124.17 63 PKIKP **PKPdf 11 49 07.0 -0.2**
BRTR Keskin Array B 124.17 63 PKP **PKPdf 11 49 07.0 -0.2**
comp=Z,0.8nm,0.6s,baz=285,slow=5.3,SNR=3.5
KIEV Kiev 124.84 49‖ *e*PKIKP **PKPdf 11 49 06.6 -1.2**
LVZ Lovozero 130.13 28 *e*PKIKP **PKPdf 11 49 17.2 -0.3**
LVZ Lovozero 130.13 28 *e*PKPdf **PKPdf 11 49 17.2 -0.3**
OBN Obninsk 130.17 45 *e*PKIKP **PKPdf 11 49 19.8 +2.0**
OBN pmax pmax
comp=Z,4.0nm,0.8s
KLMR Klimovskoe 132.22 37 *e*PKIKP **PKPdf 11 49 17.2 -4.4**
KLMR pmax pmax
comp=Z,19nm,1.5s
BILL Bilibino 134.56 333⇑ *e*PKIKP **PKPdf 11 49 26.9 +1.1**
BILL *e* 11 51 58.0
BILL pmax pmax
comp=Z,2.0nm,1.1s
PRGR Permogore 135.15 36 PKIKP **PKPdf 11 49 25.9 -1.1**
PRGR pmax pmax
comp=Z,7.0nm,0.3s
SEY Seymchan 141.57 328 PKhKP PKPpre 11 49 33.0
comp=Z,1.5nm,0.8s,baz=114,slow=6.0,SNR=7.9
ARU Arti 142.51 43 *i* PKIKP **PKPdf 11 49 42.7 +2.0**
ARU 11 52 46.8
ARU SS SS 12 11 14.9 -7.7
KSM Kuching 144.89 187 *e*PKPab **PKPab 11 49 45.0 -0.3**
POO Poona 146.23 113 *ex* **PKPbc 11 49 49.0 -0.5**
IPM Ipoh 147.69 170 *e*PKPbc **PKPbc 11 49 53.0 -0.7**
HYB Hyderabad 148.88 120 *i* PKP **PKPbc 11 49 55.5 -1.3**
YAK Yakutsk 150.66 338 *e*PKIKP **PKPbc 11 49 57.8 -1.9**
YAK *e* 11 50 06.1
YAK pmax pmax
comp=Z,28nm,1.1s
YAK Yakutsk 150.66 338 PKPbc **PKPbc 11 49 59.4 -0.3**
comp=Z,18nm,0.6s,baz=47,slow=0.6,SNR=8.0
YAK PKPab **PKPab 11 50 06.6 -0.1**
comp=Z,10nm,0.4s,baz=91,slow=0.6,SNR=6.0
ASAJ Asahikawa 151.57 297 PKPbc **PKPbc 11 50 01.8 -0.6**
comp=Z,14nm,0.9s,baz=63,slow=4.5,SNR=5.1
ASAJ PKPab **PKPab 11 50 10.1 -1.0**
comp=Z,13nm,1.1s,baz=66,slow=20,SNR=3.8
KKAR Karatay Array 151.84 65 *e*PKIKP **PKPdf 11 49 56.1 -0.6**
KKAR *e* 11 50 03.0
KKAR *e* 11 50 11.9
KKAR Karatay Array 151.84 65 *e*PKPdf **PKPdf 11 49 56.1 -0.6**
KKAR *e*PKPbc **PKPbc 11 50 03.0 -0.1**
KKAR *e*PKPab **PKPab 11 50 11.9 -0.4**
MJAR Matsushiro Arr 154.50 280 PKPab **PKPab 11 50 23.8 0.0**
comp=Z,2.5nm,1.0s,baz=114,slow=3.8,SNR=4.3
TKM2 Tokmak 2 155.57 65 *e*PKIKP **PKPdf 11 50 01.9 -0.3**
TKM2 *e* 11 50 27.9
TKM2 Tokmak 2 155.57 65 *e*PKPdf **PKPdf 11 50 01.9 -0.3**
TKM2 *e*PKPab **PKPab 11 50 27.9 -0.5**
NVS Novosibirsk 155.79 34 *e*PKIKP **PKPdf 11 49 58.9 -2.9**
NVS *e* 11 50 26.9
KSH Kashi 155.91 74 PKP **PKPdf 11 50 02.9 +0.2**
KSH sPKP 11 50 16.6
KSH PKS **PKSdf 11 53 37.0 +0.2**
KSH PP **PP 11 54 06.1 -1.6**
KSH SKS **SKSdf 11 57 07.3 +0.7**
KSH SKKS **SKKSac 12 00 56.3 +1.9**
KSH SS **SS 12 13 54.1 0.0**
KSH PPMZ
comp=Z,73nm,4.9s
KSH LN
comp=Z,24nm,3.8s
KSH LE
comp=Z,33nm,4.8s
KSH LZ
comp=Z,520nm,23.1s
ZALV Zalesovo Beam 157.07 34 PKP **PKPdf 11 50 02.8 -0.8**
comp=Z,4.0nm,0.9s,baz=282,slow=2.8,SNR=13
ZALV PKPab **PKPab 11 50 34.8 +0.7**
comp=Z,6.1nm,0.7s,baz=306,slow=5.3,SNR=13
BOD Bodaibo 158.15 349 *e*PKP2 **PKPab 11 50 37.8 -0.8**
BOD pmax pmax
comp=Z,69nm,0.9s
KOLN Koldanda 158.84 108 *e*P **PKPab 11 50 42.7 -0.2**
comp=Z,41nm,0.8s
USRK Ussuriysk Ar. 159.12 299 PKPab **PKPab 11 50 43.4 0.0**
comp=Z,1.2nm,0.6s,baz=116,slow=13,SNR=4.4
DANN Dangsing 159.25 107 *e*P **PKPab 11 50 44.6 -0.2**
comp=Z,93nm,0.9s
MKAR Makanchi Array 159.38 53 PKP **PKPdf 11 50 06.4 -0.3**
comp=Z,2.2nm,1.0s,baz=243,slow=2.2,SNR=9.0
MKAR PKPab **PKPab 11 50 44.0 -0.4**
comp=Z,1.5nm,0.4s,baz=259,slow=2.9,SNR=11
MKAR PP **PP 11 54 25.3 -0.8**
comp=Z,0.7nm,0.8s,baz=323,slow=3.0,SNR=3.5
GKN Gorkha 159.75 109 *e*P **PKPab 11 50 46.6 -0.2**
comp=Z,70nm,1.1s
DMN Daman 159.91 110 *e*P **PKPab 11 50 47.3 -0.3**
PKIN Phulchoki 160.11 111 *e*P **PKPab 11 50 48.0 -0.5**
comp=Z,13nm,0.6s
PKI Pulchoki 160.11 111 *e*P **PKPab 11 50 48.1 -0.5**
comp=Z,13nm,0.6s
KKN Kakani 160.13 110 *e*P **PKPab 11 50 48.5 0.0**
GUN Gumba 160.65 111 *e*P **PKPab 11 50 50.8 -0.1**
RAMN Ramite 160.66 114 *e*P **PKPab 11 50 50.8 -0.1**
comp=Z,15nm,0.6s
MDJ Mudanjiang 160.68 302 PKP **PKPdf 11 50 08.6 +0.5**
MDJ PPMZ
comp=Z,45nm,5.1s
JIRN Jiri 160.75 112 *e*P **PKPab 11 50 51.2 -0.2**
comp=Z,38nm,1.1s
CMAR Chiang Mai Arr 160.80 158 PKPab **PKPab 11 50 50.5 -0.7**
comp=Z,0.6nm,0.3s,baz=213,slow=5.4,SNR=5.6
ODAN Odare 161.19 116 *e*P **PKPab 11 50 52.9 -0.2**
WMQ Urumqi 164.00 57 *e*PKP **PKPdf 11 50 11.8 +0.2**
WMQ pPKP **pPKPdf 11 50 22.5 +0.2**
WMQ PKPab **PKPab 11 51 05.8 +1.0**
WMQ PKS **PKSdf 11 53 43.6 -0.9**
WMQ PP **PP 11 54 53.8 +2.8**
WMQ SKS **SKSdf 11 57 11.1 -2.4**
WMQ SKKS **SKKSac 12 01 35.5 -0.6**
WMQ SS **SS 12 15 17.4 -1.1**
WMQ PPMZ
comp=Z,29nm,4.0s
WMQ LN
comp=Z,34nm,22.0s
WMQ LE
comp=Z,43nm,19.0s
WMQ LZ
comp=Z,42nm,19.0s
SONM Songino Array 168.74 360 PKP **PKPdf 11 50 14.2 -1.1**
comp=Z,1.0nm,1.0s,baz=5.7,slow=1.5,SNR=6.3
SONM PKPab **PKPab 11 51 26.0 +0.5**
comp=Z,2.7nm,1.0s,baz=335,slow=4.3,SNR=14
SONM PP **PP 11 55 13.1 -1.2**
comp=Z,0.8nm,0.9s,baz=4.4,slow=4.2,SNR=5.4
NJ2 Nanjing 168.76 250 *e*PKP **PKPdf 11 50 18.3 +2.8**
CD2 Chengdu 173.95 158 *e*PKP **PKPdf 11 50 19.5 +1.3**
GTA Gaotai 174.08 59 *e*PKP **PKPdf 11 50 18.3 +0.2**
GTA pPKP **pPKPdf 11 50 28.8 -0.1**
GTA sPKP 11 50 33.0
HHC Hu-ho-hao-te 174.12 318 *e*PKP **PKPdf 11 50 18.8 +0.7**
HHC pPKP **pPKPdf 11 50 29.8 +1.0**
HHC PP **PP 11 55 46.8 +5.1**
HHC SKS **SKSdf 11 57 17.6 -1.1**
HHC PPMZ
comp=Z,83nm,8.7s
HHC LN
comp=Z,180nm,22.9s
HHC LE
comp=Z,380nm,19.4s
HHC LZ
comp=Z,110nm,18.7s
XAN Xi'an 176.74 220 PKP **PKPdf 11 50 18.6 -0.3**
XAN pPKP **pPKPdf 11 50 28.1 -1.5**

MOS ***24*** *11:35:42.4±1.3,52°.91N×142°.00E,h10km,mb4.0/1,Error ellipse: s-maj=41.1km s-min=18.4km az=71.6*
IDC ***24*** *11:35:43.7±0.9,52°.71N×142°.50E,h0km,mb3.4/7, mb1 3.7/8,mb1mx3.5/25,mbtmp3.4/8,ML2.2/1,MS3.0/2, Ms1 3.0/2,ms1mx2.5/30,Error ellipse: s-maj=35.8km s-min=21.7km az=136.0*
ISCJB ***24*** *11:35:44.0±0.8,52°.68N±0°.08×142°.5E±0°.3,h14km, mb3.2/7,MS2.9/2,Error ellipse: s-maj=25.7km s-min=9.4km az=17.8*
ISC 24 11:35:46.0±0.8,52°.80N±0°.06×142°.6E±0°.1,h14km,n12, σ1§18/11,mb3.3/7,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
OKH	**Okha**	**0.78**	**14**	*e*PN	**Pg**	**11 36 01.0**		**-0.1**
OKH				*i* S	**Sn**	**11 36 14.0**		**0.0**
OKH				pmax	pmax			
	comp=Z,1.0nm,0.5s							
OKH				smax	smax			
	comp=E,10.0nm,0.2s							
UGL	**Uglegorsk**	**3.74**	**185**	PN	**Pg**	**11 36 58.0**		**+0.3**
UGL				pmax	pmax			
	comp=Z,47nm,0.7s							
UGL				pmax	pmax			
	comp=N,300nm,2.5s							
PETK	**Petropavlovsk-**	**9.12**	**82**	Pn	**Pn**	**11 37 55.4**		**-1.7**
	comp=N,0.1nm,0.3s,baz=272,slow=9.5,SNR=2.8							
SONM	**Songino Array**	**23.48**	**272**	LR	LR	11 49 52.0		
	comp=N,34nm,18.2s,baz=104,slow=36							
JOW	**Kunigami**	**28.07**	**208**	LR	LR	11 53 34.3		
	comp=N,34nm,20.3s,baz=276,slow=38							
ILAR	**Eielson Array**	**36.41**	**43**	P	**P**	**11 42 49.6**		**0.0**
	comp=N,0.2nm,0.6s,baz=272,slow=6.5,SNR=5.3							
MKAR	**Makanchi Array**	**38.38**	**286**	P	**P**	**11 43 05.3**		**-1.2**
	comp=N,0.4nm,0.7s,baz=72,slow=9.3,SNR=5.1							
YKA	**Yellowknife Ar**	**50.11**	**36**	P	**P**	**11 44 42.5**		**+2.4**
	comp=N,0.1nm,0.5s,baz=315,slow=8.3,SNR=3.1							
PDAR	**Pinedale Array**	**66.38**	**50**	P	**P**	**11 46 34.5**		**0.0**
	comp=N,0.2nm,0.5s,baz=325,slow=2.3,SNR=3.5							
WRA	**Warramunga Arr**	**72.79**	**188**	P	**P**	**11 47 13.5**		**-0.3**
	comp=N,0.4nm,0.9s,baz=13,slow=6.9,SNR=3.8							
ASAR	**Alice Springs**	**76.52**	**188**	P	**P**	**11 47 35.0**		**-0.4**
	comp=N,0.3nm,0.7s,baz=10,slow=5.2,SNR=5.4							
TXAR	**Lajitas Array**	**79.98**	**54**	P	**P**	**11 47 55.7**		**+0.9**
	comp=N,0.1nm,0.4s,baz=290,slow=2.7,SNR=2.7							

GUC 24 11:42:58.9±0.5,33°.98S×71°.50W,h45km±3km,ML3.6, 5C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
TACH	**Talagante**	**0.57**	**55**	⇑*i*P	Pn	11 43 11.6		+0.8
SAN	**Santiago**	**0.87**	**53**	⇑*i*P	Pn	11 43 16.0		+1.2
SAN				*i* S	Sn	11 43 28.6		+2.2
PCH	**Pirque**	**0.89**	**67**	*i* P	Pn	11 43 16.6		+1.3
IHA	**Instituto Hidr**	**0.96**	**353**	⇑*i*P	Pn	11 43 16.9		+0.9
CLCH	**Cerro Calan**	**0.99**	**54**	‖*i*P	Pn	11 43 17.8		+1.3
CLCH				⇑*i*P	Pn	11 43 18.5		+2.0
CLCH				*i* S	Sn	11 43 32.1		+2.7
CLCH				*i* S	Sn	11 43 32.7		+3.2
CLCH				IAML		11 43 33.9		
	comp=N,3μm,0.3s							
CLCH				IAML		11 43 34.5		
	comp=N,3μm,0.2s							
FCH	**Farellones**	**1.20**	**58**	⇑*i*P	Pn	11 43 29.7		+10
FCH				*i* S4	Sn	11 43 42.8		+7.7
TALC	**Talca**	**1.42**	**184**	‖*i*P	Pn	11 43 24.1		+1.9
TALC				*i* S	Sn	11 43 42.7		+2.9

IDC 24 11:50:07.3±2.2,6°.89S×128°.49E,h0km,mb3.4/1, mb1 3.3/3,mb1mx3.2/18,mbtmp3.1/3,ML2.9/2,Error ellipse: s-maj=116.3km s-min=33.1km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
KDU	**Kakadu**	**6.97**	**146**	P	Pn	11 51 54.9		+4.1
	baz=5.4,SNR=7.7							
KDU				S	Sn	11 53 04.1		-6.7
	baz=5.4,SNR=5.2							
WRA	**Warramunga Arr**	**14.16**	**157**	Pn	Pn	11 53 28.7		-0.7
	0.0nm,0.3s,baz=336,slow=14,SNR=3.6							
WRA				Sn	Sn	11 55 54.9		-13
	0.2nm,0.3s,baz=337,slow=22,SNR=7.6							
ASAR	**Alice Springs**	**17.48**	**163**	P	Pn	11 54 13.1		+0.4
	0.1nm,0.3s,baz=339,slow=9.3,SNR=11							
ASAR				S	Sn	11 57 18.2		-10
	0.1nm,0.3s,baz=348,slow=27,SNR=4.1							
MKAR	**Makanchi Array**	**67.32**	**327**	P	P	12 01 04.1		0.0
	0.2nm,0.4s,baz=115,slow=6.8,SNR=3.3							

NIED ***24*** *12:14:00,24°.10N×122°.30E,h32km,Mw3.8 Best double couple: M0:6.07000×10^14 NP1:φs=343.00000°,δ22.00000°, λ-144.00000°. NP2:φs=219.00000°,δ77.00000°, λ-72.00000°.*
IDC ***24*** *12:14:22.1±1.0,24°.28N×122°.23E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.6/31,mbtmp3.8/5,MS3.5/2,Ms1 3.5/2, ms1mx2.8/29,Error ellipse: s-maj=42.5km s-min=19.0km az=66.0*
ISCJB ***24*** *12:14:26.6±0.3,24°.16N±0°.02×122°.29E±0°.01,h19km±3km, mb3.7/5,MS3.5/2,Error ellipse: s-maj=3.2km s-min=1.9km az=159.5*
TAP ***24*** *12:14:26.8,24°.21N×122°.26E,h26km,ML4.0,D*
JMA ***24*** *12:14:26.8±0.1,24°.10N×122°.27E,h37km±3km,M3.5*
ISC 24 12:14:26.8±0.9,24°.15N±0°.02×122°.26E±0°.02,h31km±8km, n83,σ1§11/147,mb3.7/5,7C-6D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
EHP	**Heping Village**	**0.49**	**289**	*e*P	**Pb**	**12 14 37.2**		**0.0**
	baz=286							
ENA	**Nanau**	**0.54**	**301**	⇑*i*P	**Pb**	**12 14 37.4**		**-0.5**
	baz=298							
ENA				*e*S	**Sb**	**12 14 45.2**		**-0.4**
	baz=298							
TWC	**Suao**	**0.59**	**321**	⇑*i*P	**Pb**	**12 14 37.6**		**-1.1**
	baz=317							
TWC				S	**Sb**	**12 14 44.6**		**-2.3**
	baz=317							
TWD	**Chiawan**	**0.61**	**264**	*e*P	**Pb**	**12 14 39.6**		**+0.7**
	baz=243							
TWD				*e*S	**Sb**	**12 14 48.2**		**+0.9**
	baz=243							
HWA	**Hwalien**	**0.62**	**254**	*e*P	**Pb**	**12 14 39.7**		**+0.5**
	baz=249							
JYNG	**Yonagunijimaku**	**0.70**	**64**	P	**Pb**	**12 14 40.2**		**-0.3**
JYNG				*e*S	**Sb**	**12 14 49.7**		**-0.1**
EGS		**0.75**	**337**	⇑*i*P	**Pn**	**12 14 40.6**		**-0.7**
	baz=325							
EGS				*e*S	**Sb**	**12 14 50.3**		**-1.0**
	baz=325							
YOJ	**Yonaguni jima**	**0.76**	**66**	P	**Pn**	**12 14 41.3**		**-0.1**
YOJ				*e*S	**Sb**	**12 14 51.2**		**-0.3**
ILA	**Ilan**	**0.77**	**323**	P	**Pn**	**12 14 41.2**		**-0.4**
	baz=319							
ILA				S	**Sb**	**12 14 51.6**		**-0.2**
	baz=319							
ENTT	**Nioudou**	**0.80**	**308**	⇑*i*P	**Pn**	**12 14 41.9**		**-0.1**
	baz=309							
ENTT				*e*S	**Sb**	**12 14 53.0**		**+0.4**
	baz=309							
ESL	**Shilin**	**0.82**	**246**	*e*P	**Pn**	**12 14 41.7**		**-0.6**
	baz=232							
ESL				*e*S	**Sb**	**12 14 53.0**		**-0.4**
	baz=232							
NNS	**Nan Shan**	**0.85**	**290**	*e*P	**Pn**	**12 14 43.0**		**+0.1**
	baz=284							
NNS				*e*S	**Sn**	**12 14 54.9**		**+0.4**
	baz=284							
TWB1	**Santiao Chiao**	**0.89**	**344**	*i* P	**Pn**	**12 14 42.9**		**-0.3**
	baz=341							
TWB1				S	**Sn**	**12 14 54.4**		**-0.6**
	baz=341							
WHF	**Hehuan Shan**	**0.90**	**270**	⇓*i*P	**Pn**	**12 14 44.3**		**+0.5**
	baz=265							
WHF				*e*S	**Sn**	**12 14 55.7**		**-0.3**
	baz=265							
NSK	**Sanguang**	**0.97**	**303**	⇓*i*P	**Pn**	**12 14 44.9**		**+0.5**
	baz=282							
NSK				*e*S	**Sn**	**12 14 57.6**		**+0.4**
	baz=282							
TWT	**Tachien**	**0.99**	**276**	*e*P	**Pn**	**12 14 45.7**		**+0.9**
	baz=260							
TWT				*e*S	**Sn**	**12 14 58.5**		**+0.7**
	baz=260							
NWF	**Wu-fen Shan**	**1.01**	**335**	⇓*i*P	**Pn**	**12 14 45.2**		**+0.2**
	baz=331							
NWF				*i* S	**Sn**	**12 14 58.0**		**-0.3**
	baz=331							
TWA	**Mucha**	**1.03**	**324**	⇓*i*P	**Pn**	**12 14 45.9**		**+0.7**
	baz=327							
TWA				*i* S	**Sn**	**12 14 59.4**		**+0.9**
	baz=327							
EHY	**Hungye**	**1.07**	**233**	*e*P	**Pn**	**12 14 45.4**		**-0.3**
	baz=224							
EHY				*e*S	**Sn**	**12 14 59.3**		**-0.2**
	baz=224							
WDT	**Danda**	**1.10**	**249**	⇑*i*P	**Pn**	**12 14 46.8**		**+0.4**
	baz=234							
WDT				*e*S	**Sn**	**12 15 00.6**		**-0.1**
	baz=234							
TAP1	**Taipei**	**1.11**	**323**	*e*P	**Pn**	**12 14 47.3**		**+1.1**
	baz=318							
TAP1				S	**Sn**	**12 15 01.1**		**+0.7**
	baz=318							
TAP	**Taipei**	**1.12**	**323**	*e*P	**Pn**	**12 14 47.5**		**+1.1**
	baz=318							
TAP				S	**Sb**	**12 15 02.3**		**+0.5**
	baz=318							
TWF1	**Yuli**	**1.18**	**228**	⇑*i*P	**Pn**	**12 14 47.4**		**+0.2**
	baz=241							
TWF1				*e*S	**Sn**	**12 15 02.3**		**0.0**
	baz=241							
TWS1	**Kuangyinshan**	**1.22**	**321**	*e*P	**Pn**	**12 14 48.8**		**+1.1**
	baz=328							
TWS1				*e*S	**Sb**	**12 15 04.7**		**+0.2**
	baz=328							
NSTT	**Nanjuang**	**1.24**	**293**	⇓P	**Pb**	**12 14 49.6**		**0.0**
	baz=288							
NSTT				*e*S	**Sb**	**12 15 06.0**		**+0.8**
	baz=288							
SMLT	**Sun Moon Lake**	**1.27**	**258**	*e*P	**Pn**	**12 14 49.5**		**+1.0**
	baz=246							
SMLT				*e*S	**Sn**	**12 15 05.7**		**+1.2**
	baz=246							
TWY	**Chenhua**	**1.27**	**332**	*e*P	**Pn**	**12 14 49.8**		**+1.4**
	baz=339							
TWY				*e*S	**Sn**	**12 15 05.4**		**+1.0**
	baz=339							
NCU	**National Centr**	**1.27**	**310**	*e*P	**Pb**	**12 14 50.6**		**+0.5**
	baz=305							
NCU				*e*S	**Sb**	**12 15 06.7**		**+0.6**
	baz=305							
TYC	**Yuchr**	**1.30**	**259**	*e*P	**Pn**	**12 14 49.8**		**+0.9**
	baz=256							
TYC				*e*S	**Sn**	**12 15 06.2**		**+1.0**
	baz=256							
CHKT	**Chengkung**	**1.33**	**218**	*e*P	**Pn**	**12 14 48.2**		**-1.0**
	baz=207							
CHKT				*e*S	**Sn**	**12 15 04.6**		**-1.3**
	baz=207							
HSN	**Hsinchu**	**1.34**	**299**	*e*P	**Pn**	**12 14 49.6**		**+0.2**
	baz=296							
HSN				*e*S	**Sb**	**12 15 08.4**		**+0.3**
	baz=296							
IRIF	**Iriomote-Funau**	**1.36**	**82**	P	**Pn**	**12 14 50.5**		**+0.8**
IRIF				*e*S	**Sb**	**12 15 09.3**		**+0.7**
YUS	**Yu-Shan**	**1.36**	**241**	P	**Pn**	**12 14 51.2**		**+1.0**
	baz=240							
YUS				*e*S	**Sn**	**12 15 07.5**		**+0.1**
	baz=240							
TWQ1	**Liyutan**	**1.37**	**279**	⇓P	**Pb**	**12 14 51.9**		**+0.1**
	baz=274							
TWQ1				*e*S	**Sn**	**12 15 08.7**		**+1.8**
	baz=274							
NSY	**Sanyi**	**1.39**	**281**	*e*P	**Pb**	**12 14 52.1**		**0.0**
	baz=276							
NSY				*e*S	**Sb**	**12 15 10.1**		**+0.6**
	baz=276							
HATJ	**Hateruma jima**	**1.42**	**93**	P	**Pb**	**12 14 53.7**		**+1.1**
HATJ				*e*S	**Sb**	**12 15 12.8**		**+2.4**
TCU	**Taichung**	**1.44**	**270**	*e*P	**Pn**	**12 14 52.3**		**+1.5**
	baz=266							
TCU				*e*S	**Sb**	**12 15 10.9**		**-0.1**
	baz=266							
WNT	**Mingjian**	**1.46**	**260**	*e*P	**Pb**	**12 14 53.6**		**+0.2**
	baz=256							
WNT				*e*S	**Sb**	**12 15 12.1**		**+0.5**
	baz=256							
ALS	**Alishan**	**1.47**	**245**	P	**Pn**	**12 14 53.1**		**+1.6**
	baz=242							
ALS				S	**Sn**	**12 15 10.7**		**+0.8**
	baz=242							
PCYT	**Pengchaiyu**	**1.48**	**354**	P	**Pn**	**12 14 51.5**		**+0.1**
	baz=351							
PCYT				*e*S	**Sn**	**12 15 08.8**		**-0.9**
	baz=351							
ELDTW	**Lidau**	**1.48**	**230**	⇑P	**Pn**	**12 14 51.5**		**0.0**
	baz=218							
CHN5	**Tsauling**	**1.54**	**249**	*e*P	**Pb**	**12 14 54.4**		**-0.4**
	baz=235							
CHN5				*e*S	**Sb**	**12 15 13.8**		**-0.3**
	baz=235							
JKRS	**Kuro-shima**	**1.60**	**87**	P	**Pb**	**12 14 54.5**		**-1.3**
JKRS				*e*S	**Sb**	**12 15 15.0**		**-0.7**
WGK	**Gukeng**	**1.62**	**254**	*e*P	**Pb**	**12 14 55.2**		**-0.8**
	baz=251							
WGK				*e*S	**Sb**	**12 15 16.5**		**+0.5**
	baz=251							
STYT	**Tauyuan**	**1.69**	**235**	P	**Pn**	**12 14 55.7**		**+1.4**
	baz=225							
STYT				*e*S	**Sn**	**12 15 16.2**		**+1.3**
	baz=225							
TWG	**Pinlang**	**1.71**	**220**	*e*P	**Pn**	**12 14 53.9**		**-0.6**
	baz=220							
TWG				*e*S	**Sn**	**12 15 15.1**		**-0.3**
	baz=220							
CHN4	**Tsaushan**	**1.72**	**243**	*e*P	**Pn**	**12 14 56.6**		**+2.0**
	baz=232							
CHN4				*e*S	**Sb**	**12 15 19.2**		**+0.3**
	baz=232							
TTN	**Taitung**	**1.72**	**216**	*e*P	**Pb**	**12 14 57.0**		**-0.7**
	baz=206							
JIJ	**Ishigaki jima**	**1.74**	**83**	P	**Pn**	**12 14 55.8**		**+0.9**

JIJ *eS* **Sn** **12 15 17.1 +1.1**
CHN2 Minshiung 1.74 250 *eP* **Pb** **12 14 57.9 -0.3**
CHN2 baz=248
CHN2 *eS* **Sb** **12 15 20.8 +1.2**
WTP Ta-pu 1.75 239 P **Pn** **12 14 57.2 +2.0**
WTP baz=238
WTP *eS* **Sb** **12 15 20.1 +0.1**
CHY Chiayi 1.80 249 *eP* **Pn** **12 14 57.9 +2.2**
CHY baz=247
CHY *eS* **Sb** **12 15 21.2 0.0**
WTCT Ta-ch'eng 1.83 261 *eP* **Pn** **12 14 58.4 +2.3**
WTCT baz=258
WTCT *eS* **Sb** **12 15 21.3 -0.8**
TWK Hsinying 1.84 242 *eP* **Pn** **12 14 58.6 +2.2**
TWK baz=240
TWK *eS* **Sb** **12 15 21.7 -0.9**
CHN1 Nanshi 1.85 239 *eP* **Pb** **12 14 59.1 -0.9**
CHN1 baz=238
CHN1 *eS* **Sb** **12 15 22.6 -0.2**
SGST Jiashian 1.87 236 *eP* **Pn** **12 14 58.4 +1.8**
SGST baz=226
SGST S **Sb** **12 15 23.1 -0.1**
JISG Ishigakijimahi 1.93 77 P **Pn** **12 14 57.9 +0.5**
JISG *eS* **Sn** **12 15 20.7 +0.1**
WSF Szhu 1.93 255 *eP* **Pb** **12 15 00.1 -1.2**
WSF baz=240
WSF *eS* **Sb** **12 15 24.4 -0.5**
ECL Taimali 1.95 218 *eP* **Pn** **12 14 58.0 +0.1**
ECL baz=219
ECL *eS* **Sn** **12 15 19.6 -1.8**
SSD Sandimen 2.04 227 *eP* **Pn** **12 15 01.4 +2.3**
SSD baz=228
SSD S **Sb** **12 15 27.6 -0.6**
SCLT Jiali 2.12 243 *eP* **Pn** **12 15 02.0 +1.8**
SCLT baz=242
SCLT *eS* **Sn** **12 15 28.8 +3.3**
TWM1 Shoushan 2.14 232 *eP* **Pb** **12 15 03.3 -1.6**
TWM1 baz=231
TWM1 *eS* **Sb** **12 15 30.5 -0.6**
SGLT Jiouru 2.15 229 *eP* **Pb** **12 15 04.5 -0.6**
SGLT baz=218
SGLT *eS* **Sb** **12 15 30.7 -0.7**
TAW Tawu 2.18 215 *eP* **Pb** **12 15 05.5 0.0**
TAW baz=216
EAST Anshuo 2.18 217 *eP* **Pn** **12 15 02.5 +1.4**
EAST baz=218
EAST *eS* **Sb** **12 15 30.8 -1.5**
LAY Lan-yu 2.20 197 *eP* **Pn** **12 15 00.7 -0.6**
LAY baz=199
JTJ Tarama 2.28 77 P **Pn** **12 15 03.9 +1.5**
JTJ *eS* **Sn** **12 15 30.3 +0.8**
SCZT Fangliau 2.32 221 *eP* **Pn** **12 15 05.6 +2.7**
SCZT baz=217
SCZT *eS* **Sb** **12 15 34.8 -1.5**
TWP Hsiaoliuchiu 2.50 224 *eP* **Pn** **12 15 08.2 +2.8**
TWP baz=225
WDGT Dungji 2.54 250 *eP* **Pn** **12 15 06.8 +0.9**
WDGT baz=248
PNG Penghu 2.54 257 *eP* **Pn** **12 15 07.8 +1.9**
PNG baz=254
TSEB Hengchuen, Pin 2.56 209 *eP* **Pn** **12 15 05.0 -1.2**
TSEB baz=212
TWK1 Hengchun 2.57 212 *eP* **Pn** **12 15 06.0 -0.3**
TWK1 baz=214
TWK1 *eS* **Sn** **12 15 38.9 +2.3**
JIRB Irabujima 2.74 75 P **Pn** **12 15 10.2 +1.5**
JIRB *eS* **Sn** **12 15 41.1 +0.3**
JOGS Gusukube 2.94 77 P **Pn** **12 15 13.4 +2.0**
JOGS *eS* **Sn** **12 15 47.0 +1.4**
KNM Kinmen 3.50 275 *eP* **Pn** **12 15 20.5 +1.4**
KNM baz=270
JOW Kunigami 6.06 63 Pn **Pn** **12 15 52.4 -1.9**
JOW baz=292,slow=17
SONM Songino Array 26.79 336 P **P** **12 20 03.0 -1.2**
SONM 1.1nm,0.7s,baz=150,slow=9.9,SNR=10
MKAR Makanchi Array 39.05 316 P **P** **12 21 50.0 -0.8**
MKAR 0.3nm,0.6s,baz=108,slow=8.3,SNR=4.1
ZALV Zalesovo Beam 40.81 327 P **P** **12 22 03.3 -2.0**
ZALV 0.6nm,0.4s,baz=128,slow=7.7,SNR=3.8
ZALV LR LR 12 40 28.2
comp=Z,34nm,19.2s,baz=72,slow=38
WRA Warramunga Arr 45.38 164 P **P** **12 22 43.0 +0.4**
WRA 2.0nm,0.6s,baz=345,slow=8.7,SNR=23
ASAR Alice Springs 48.86 166 P **P** **12 23 10.8 +1.1**
ASAR 0.9nm,0.6s,baz=348,slow=7.6,SNR=25
FINES FINESS Array B 71.97 330 LR LR 13 01 53.7
FINES comp=Z,41nm,18.1s,baz=80,slow=40

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*IDC **24** 12:24:36.0±1.5, 34°.99S×72°.50W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/13, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=51.8km s-min=45.4km az=72.0*
*ISCJB **24** 12:24:39.4±0.9, 34°.82S±0°.05×72°.57W±0°.08, h18km, mb3.6/2, Error ellipse: s-maj=10.0km s-min=6.5km az=28.7*
*GUC **24** 12:24:41.1±0.4, 34°.91S×72°.39W, h31km±3km, ML4.0*
ISC 24 12:24:39.2±0.9, 34°.88S±0°.05×72°.47W±0°.06, h18km, n11, σ0°70/16, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.86**	**127**	↑*iP*	**Pn**	**12 24 56.3**	**-0.1**
TALC				*i* S4	**Sb**	**12 25 06.9**	**+0.2**
NICH	**Los Niches**	**1.03**	**97**	↑*iP*	**Pg**	**12 24 59.2**	**+0.1**
NICH				*i* S	**Sg**	**12 25 12.9**	**+0.3**
COCH	**Cobquecura**	**1.28**	**192**	↑*iP*	**Pg**	**12 25 04.0**	**+0.1**
COCH				*i* S	**Sg**	**12 25 21.5**	**+1.0**
CLCH	**Cerro Calan**	**2.18**	**48**	↓*iP*	**Pb**	**12 25 17.0**	**-1.2**
CLCH				*i* S	**Sb**	**12 25 44.9**	**0.0**
CLCH				IAML		12 25 49.6	
	comp=E,1μm,0.3s						
FCH	**Farellones**	**2.38**	**50**	↑*iP*	**Pg**	**12 25 25.8**	**+0.9**
FCH				*i* S	**Sb**	**12 25 51.6**	**+0.7**
FCH				IAML		12 26 03.7	
	comp=N,991nm,0.5s						
LPAZ	**La Paz**	**18.92**	**13**	P	**Pn**	**12 29 00.6**	**+0.2**
	comp=N,0.1nm,0.3s,baz=207,slow=9.8,SNR=5.4						
TXAR	**Lajitas Array**	**70.33**	**331**	P	**P**	**12 35 51.9**	**+0.1**
	comp=N,0.4nm,0.5s,baz=156,slow=8.9,SNR=6.9						
TORD	**Torodi Ar. Bea**	**84.84**	**70**	P	**P**	**12 37 13.0**	**0.0**
	comp=N,0.4nm,0.9s,baz=256,slow=5.8,SNR=2.5						
WRA	**Warramunga Arr**	**119.82**	**209**	PKP	**PKPdf**	**12 43 28.6**	**-0.4**
	comp=N,0.2nm,0.6s,baz=158,slow=1.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**155.16**	**33**	PKPab	**PKPab**	**12 44 56.4**	**+1.0**
	comp=N,0.4nm,0.4s,baz=298,slow=3.1,SNR=2.6						
MKAR	**Makanchi Array**	**157.60**	**50**	PKPab	**PKPab**	**12 45 05.2**	**-1.1**
	comp=N,0.2nm,0.5s,baz=304,slow=0.5,SNR=2.9						

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*IDC **24** 12:40:47.4±0.7, 11°.41N×85°.82W, h0km, mb3.9/9, mb1 4.2/10, mb1mx4.0/22, mbtmp3.9/10, ML3.9/1, MS3.7/16, Ms1 3.7/16, ms1mx3.5/41, Error ellipse: s-maj=38.1km s-min=11.6km az=54.0*
*CASC **24** 12:40:49.1±5.7, 10°.73N×86°.54W, h36km±999km, MD4.4*
ISC 24 12:40:53.7±0.7, 10°.9N±0°.1×86°.22W±0°.09, h66km, n55, σ1°89/46, mb3.9/9, 1C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS2	**Las Lilas**	**0.75**	**95**	*iP*	**Pn**	**12 41 07.5**	**-1.4**
GBS3	**Finca Las lm¨¡**	**0.76**	**99**	*iP*	**Pn**	**12 41 07.2**	**-1.8**
LAPC	**Finca la Perla**	**0.78**	**100**	*iP*	**Pn**	**12 41 07.5**	**-1.8**
BUEV	**Buena Vista**	**0.80**	**97**	*iP*	**Pn**	**12 41 08.1**	**-1.5**
GB1A	**Borinquen Arri**	**0.81**	**96**	*iP*	**Pn**	**12 41 08.4**	**-1.3**
GPS3	**Bodega del ICE**	**0.85**	**100**	*iP*	**Pn**	**12 41 08.5**	**-1.7**
GPS1	**Guardaparques**	**0.86**	**98**	*iP*	**Pn**	**12 41 08.9**	**-1.5**
GPS2	**Hotel Rinc¨‡n**	**0.86**	**100**	*iP*	**Pn**	**12 41 08.8**	**-1.6**
GPS2				*i* S	**Sn**	**12 41 24.7**	**+2.1**
LIM1	**Limonal**	**0.97**	**102**	*iP*	**Pn**	**12 41 10.0**	**-1.6**
GUAB	**Guayabo de Bag**	**0.99**	**101**	*iP*	**Pn**	**12 41 10.5**	**-1.4**
MESS	**Mesas**	**1.02**	**99**	*iP*	**Pn**	**12 41 11.2**	**-1.1**
HORNC	**Hornillas**	**1.04**	**100**	↑*iP*	**Pn**	**12 41 11.1**	**-1.5**
HORNC				*i* S	**Sn**	**12 41 27.3**	**+0.7**
CUI	**Cuipilapa**	**1.06**	**103**	*iP*	**Pn**	**12 41 11.5**	**-1.3**
PTEN	**Parque Tenorio**	**1.22**	**98**	*iP*	**Pn**	**12 41 14.1**	**-0.9**
COPN	**Copaltepe**	**1.33**	**344**	↓*iP*	**Pn**	**12 41 14.8**	**-1.5**
JTS	**JuntasAbangare**	**1.38**	**116**	Pg	**Pn**	**12 41 14.3**	**-2.7**
	25nm,0.3s,baz=312,slow=18,SNR=78						
JTS				Lg	Lg	12 41 32.8	
	123nm,0.3s,baz=234,slow=17,SNR=14						
JCR	**Jicaral**	**1.51**	**134**	*eP*	Pn	12 41 14.1	-4.6
JCR				*eS*	**Sn**	**12 41 32.9**	**-4.7**
CGA2	**Cerro Gallo 2**	**1.93**	**117**	*eP*	**Pn**	**12 41 22.5**	**-2.0**
SJS	**Escuela Geolog**	**2.33**	**114**	*eP*	**Pn**	**12 41 31.7**	**+1.8**
URSC	**Urasca**	**2.62**	**114**	*eP*	**Pn**	**12 41 33.3**	**-0.6**
BUS	**Buena Vista**	**2.76**	**119**	*eP*	**Pn**	**12 41 34.3**	**-1.8**
CNCH	**Conchagua**	**2.84**	**326**	*eP*	Pn	12 41 33.5	-3.4
VSM	**San Miguel**	**3.22**	**322**	*eP*	**Pn**	**12 41 40.0**	**-2.1**
ACR	**Cerro Adams**	**3.74**	**126**	*eP*	**Pn**	**12 41 47.5**	**-1.6**
RBDL	**Robledal**	**4.66**	**314**	*eP*	**Pn**	**12 41 59.9**	**-1.8**
RBDL				*eS*	Sn	12 42 44.1	-11
APG	**El Apazote**	**5.81**	**315**	Pn	Pn	12 42 10.6	-7.0
	1.2nm,0.3s,baz=128,slow=11,SNR=7.3						
TEIG	**Tepich**	**9.48**	**348**	LR	LR	12 47 04.8	
	comp=Z,370nm,21.3s,baz=132,slow=42						
CMIG	**Matias Romero**	**10.42**	**307**	Pn	**Pn**	**12 43 17.4**	**-3.0**
	1.0nm,0.3s,baz=112,slow=10,SNR=12						
ATAH	**Atahualpa**	**19.53**	**156**	LR	LR	12 51 51.8	
	comp=Z,555nm,18.1s,baz=330,slow=34						
SJG	**San Juan**	**20.70**	**67**	LR	LR	12 53 40.3	
	comp=Z,103nm,19.6s,baz=270,slow=38						
TXAR	**Lajitas Array**	**24.53**	**321**	P	**P**	**12 46 08.1**	**+0.8**
	3.3nm,0.7s,baz=136,slow=9.7,SNR=35						
TXAR				PcP	**PcP**	**12 49 47.3**	**+3.0**
	0.8nm,0.8s,baz=142,slow=3.4,SNR=5.9						
TXAR				LR	LR	12 57 03.4	
	comp=Z,148nm,18.0s,baz=0.0,slow=40						
TKL	**Tuckaleechee C**	**24.75**	**5**	P	**P**	**12 46 06.9**	**-2.2**
	2.7nm,0.6s,baz=180,slow=1.0,SNR=2.2						
TKL				LR	LR	12 56 42.6	
	comp=Z,208nm,18.3s,baz=274,slow=40						
LPIG	**La Paz**	**26.41**	**303**	LR	LR	12 55 33.9	
	comp=Z,70nm,20.4s,baz=108,slow=34						
PTGA	**Pitinga**	**28.54**	**112**	LR	LR	12 59 15.7	
	comp=Z,269nm,19.4s,baz=120,slow=39						
PDAR	**Pinedale Array**	**37.70**	**332**	P	**P**	**12 48 02.6**	**-0.6**
	0.7nm,0.7s,baz=123,slow=11,SNR=6.6						
PDAR				PcP	**PcP**	**12 50 21.0**	**+1.8**
	0.4nm,0.5s,baz=120,slow=5.3,SNR=3.3						
NVAR	**Mina Array Bea**	**39.66**	**319**	P	**P**	**12 48 21.7**	**+2.2**
	2.6nm,0.9s,baz=137,slow=7.4,SNR=18						
NVAR				PcP	**PcP**	**12 50 29.3**	**+3.9**
	2.0nm,0.6s,baz=130,slow=4.2,SNR=17						
ULM	**Lac du Bonnet**	**40.04**	**350**	P	**P**	**12 48 20.6**	**-1.7**
	2.1nm,0.6s,baz=156,slow=11,SNR=2.9						
SCHQ	**Schefferville**	**46.43**	**15**	P	**P**	**12 49 12.3**	**-1.4**
	3.4nm,0.6s,baz=211,slow=6.1,SNR=8.1						
SCHQ				LR	LR	13 08 50.8	
	comp=Z,156nm,19.4s,baz=226,slow=37						
YKA	**Yellowknife Ar**	**55.42**	**344**	P	**P**	**12 50 20.1**	**-1.0**
	0.3nm,0.6s,baz=138,slow=7.6,SNR=8.5						
ILAR	**Eielson Array**	**67.92**	**336**	P	**P**	**12 51 45.0**	**-0.2**
	0.5nm,0.6s,baz=129,slow=4.7,SNR=15						
ILAR				LR	LR	13 25 31.4	
	comp=Z,124nm,18.8s,baz=152,slow=40						
MDT	**Midelt**	**77.17**	**59**	LR	LR	13 22 17.1	
	comp=Z,77nm,20.5s,baz=334,slow=32						
EKA	**Eskdalemuir Ar**	**77.17**	**36**	LR	LR	13 23 60.0	
	comp=Z,43nm,18.5s,baz=315,slow=34						
NOA	**NORSAR Array B**	**84.13**	**29**	LR	LR	13 29 22.7	
	comp=Z,20nm,19.5s,baz=285,slow=35						
HFS	**Hagfors**	**85.53**	**30**	LR	LR	13 31 38.4	
	comp=Z,32nm,18.4s,baz=274,slow=36						
TORD	**Torodi Ar. Bea**	**85.56**	**78**	P	**P**	**12 53 24.5**	**-1.1**
	0.5nm,0.8s,baz=297,slow=6.6,SNR=3.1						
VRAC	**Vranov**	**90.03**	**40**	LR	LR	13 29 03.4	
	comp=Z,36nm,19.9s,baz=1.5,slow=32						
FINES	**FINESS Array B**	**90.82**	**26**	LR	LR	13 35 39.7	
	comp=Z,30nm,18.0s,baz=316,slow=36						
AKASG	**Malin Array Be**	**97.08**	**35**	LR	LR	13 37 05.3	
	comp=Z,39nm,18.9s,baz=300,slow=35						
SONM	**Songino Array**	**120.46**	**350**	PKP	**PKPdf**	**12 59 39.1**	**+1.0**
	0.2nm,0.5s,baz=45,slow=1.2,SNR=5.0						
GEYT	**Alibeck**	**121.06**	**33**	PKP	**PKPdf**	**12 59 40.8**	**+1.4**
	1.6nm,0.5s,baz=299,slow=5.9,SNR=2.7						
MKAR	**Makanchi Array**	**121.66**	**9**	PKP	**PKPdf**	**12 59 40.7**	**+0.4**
	0.2nm,0.5s,baz=330,slow=2.2,SNR=2.6						
KSRS	**Korea Array**	**122.22**	**328**	PKP	**PKPdf**	**12 59 43.4**	**+1.8**
	1.2nm,0.7s,baz=54,slow=2.3,SNR=5.0						
ASAR	**Alice Springs**	**139.78**	**246**	PKhKP	PKPpre	13 00 13.0	
	0.4nm,0.9s,baz=99,slow=2.3,SNR=4.8						
ASAR				PKP	**PKiKP**	**13 00 19.0**	**+1.5**
	0.5nm,0.6s,baz=96,slow=2.0,SNR=7.0						
WRA	**Warramunga Arr**	**139.97**	**252**	PKhKP	PKPpre	13 00 15.5	
	0.6nm,0.5s,baz=90,slow=2.4,SNR=5.6						
WRA				PKP	**PKiKP**	**13 00 19.3**	**+1.4**
	0.6nm,0.5s,baz=94,slow=2.7,SNR=13						
CMAR	**Chiang Mai Arr**	**150.39**	**350**	PKPbc	**PKPbc**	**13 00 40.0**	**+1.4**
	2.1nm,0.9s,baz=321,slow=2.8,SNR=16						

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*NIED **24** 12:55:00, 46°.80N×152°.90E, h35km, Mw3.9 Best double couple: M0 7.44000×10^14 NP1:φ=9.00000°, δ=39.00000°, λ=51.00000°. NP2:φ=234.00000°, δ=60.00000°, λ=117.00000°.*
*ISCJB **24** 12:55:38.0±0.7, 46°.6N±0°.1×152°.7E±0°.1, h50km, mb3.6/7, MS3.2/3, Error ellipse: s-maj=19.6km s-min=5.6km az=144.9*
*SKHL **24** 12:55:38.7±1.0, 46°.44N×152°.97E, h60km, mb4.6/2*
*MOS **24** 12:55:39.3±1.1, 46°.78N×152°.56E, h62km, mb4.1/4, Error ellipse: s-maj=26.7km s-min=14.6km az=47.8*
*IDC **24** 12:55:41.8±3.3, 46°.74N×152°.66E, h68km±30km, mb3.3/8, mb1 3.5/10, mb1mx3.3/27, mbtmp3.6/10, ML3.3/1, MS3.0/6, Ms1 3.0/6, ms1mx2.7/26, Error ellipse: s-maj=29.1km s-min=20.2km az=122.0*
ISC 24 12:55:39.3±0.9, 46°.5N±0°.1×152°.8E±0°.1, h50km, n47, σ1°73/46, mb3.4/7, MS3.3/3, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.66**	**252**	↓*iPN*	**Pn**	**12 56 34.1**	**+0.7**
KUR				*i* S	**Sn**	**12 57 16.4**	**+1.1**
KUR				pmax	pmax		
	comp=N,61nm,0.4s						
KUR				pmax	pmax		
	comp=Z,34nm,0.4s						
KUR				pmax	pmax		
	comp=E,30nm,0.2s						
KUR				smax	smax		
	comp=E,46nm,0.3s						
KUR				smax	smax		
	comp=N,117nm,0.6s						
KUR	**Kuril'sk**	**3.66**	**252**	*eP*	**Pn**	**12 56 34.1**	**+0.7**
KUR				AMB	AMB	12 56 37.1	
	comp=N,34nm,0.4s						
KUR				*eS*	**Sn**	**12 57 16.4**	**+1.1**
KUR				A	A	12 57 25.3	
	comp=N,46nm,0.3s						
KUR				A	A	12 57 25.3	
	comp=N,117nm,0.3s						
SHO	**Shikotan**	**4.96**	**240**	*eP*	**Pn**	**12 56 52.6**	**+1.4**
SHO				*eS*	**Sn**	**12 57 47.3**	**0.0**
YUK	**Yuzh-Kuril'sk**	**5.47**	**246**	*d iPN*	**Pn**	**12 57 00.0**	**+1.8**
YUK				*eS*	**Sn**	**12 58 01.3**	**+1.5**
YUK				pmax	pmax		
	comp=N,19nm,0.3s						
YUK				pmax	pmax		
	comp=E,35nm,0.3s						
YUK				pmax	pmax		
	comp=Z,65nm,0.3s						
YUK				smax	smax		
	comp=N,42nm,0.8s						
YUK				smax	smax		
	comp=E,76nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.47**	**246**	*eP*	**Pn**	**12 57 00.0**	**+1.8**
YUK				AMB	AMB	12 57 00.4	
	comp=E,65nm,0.3s						
YUK				*eS*	**Sn**	**12 58 01.3**	**+1.5**
YUK				A	A	12 58 08.0	
	comp=E,76nm,0.8s						
YUK				A	A	12 58 08.0	
	comp=E,42nm,0.8s						
NEM2	**Nemuro 2**	**5.90**	**240**	P	**Pn**	**12 57 03.4**	**-0.6**
NEM2				*eS*	**Sn**	**12 58 08.4**	**-1.9**
JRA	**Rausu**	**5.99**	**247**	P	**Pn**	**12 57 07.3**	**+2.0**
JNK	**Nakash**	**6.42**	**246**	P	**Pn**	**12 57 12.5**	**+1.4**
JNK				*eS*	**Sn**	**12 58 24.8**	**+1.8**
JAK	**Akkeshi**	**6.74**	**242**	P	**Pn**	**12 57 15.2**	**-0.4**
JAK				*eS*	**Sn**	**12 58 28.2**	**-2.8**
JTKR	**Abashiri--Toko**	**6.76**	**251**	P	**Pn**	**12 57 18.1**	**+2.3**
JAR	**Ashorobuto**	**7.16**	**247**	P	**Pn**	**12 57 22.8**	**+1.5**
JAR				*eS*	**Sn**	**12 58 42.5**	**+1.3**
JOB	**Onbets**	**7.32**	**244**	P	**Pn**	**12 57 24.2**	**+0.7**
JOB				*eS*	**Sn**	**12 58 43.7**	**-1.5**
PETK	**Petropavlovsk-**	**7.34**	**24**	P	**Pn**	**12 57 23.5**	**-0.2**
	baz=191,slow=13,SNR=2.8						
PETK				LR	LR	12 59 51.0	
	comp=E,23nm,20.4s,baz=104,slow=35						
JKK2	**Kamakawa 2**	**7.56**	**253**	P	**Pn**	**12 57 29.6**	**+2.7**
ASAJ	**Asahikawa**	**7.57**	**255**	PN	**Pn**	**12 57 28.7**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.57**	**255**	P	Pn	12 57 30.7	+3.8
ASAJ	**Asahikawa**	**7.57**	**255**	P	**Pn**	**12 57 28.7**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=71,slow=7.7,SNR=6.1						
JCH	**Churui**	**7.77**	**243**	P	**Pn**	**12 57 29.9**	**+0.2**
JCH				*eS*	**Sn**	**12 58 53.0**	**-3.2**
JEM	**Erimo**	**8.24**	**240**	*eS*	**Sn**	**12 59 05.8**	**-1.9**
JBT2	**Biratori 2**	**8.31**	**247**	P	**Pn**	**12 57 38.3**	**+1.2**
JNBK	**Urakawa-nobuka**	**8.33**	**243**	P	**Pn**	**12 57 36.5**	**-0.9**
JNB	**Noboribetsu**	**9.31**	**249**	P	**Pn**	**12 57 51.9**	**+1.1**
JKB	**Kayabe**	**9.62**	**246**	P	**Pn**	**12 57 54.7**	**-0.2**
JKB				*eS*	**Sn**	**12 59 36.4**	**-5.1**
JYM2	**Yakumo 2**	**9.92**	**248**	P	**Pn**	**12 57 59.7**	**+0.6**
MJAR	**Matsushiro Arr**	**14.75**	**233**	LR	LR	13 03 57.9	
	comp=Z,39nm,21.5s,baz=170,slow=34						
USRK	**Ussuriysk Ar.**	**14.80**	**269**	LR	LR	13 04 20.2	
	comp=Z,60nm,21.4s,baz=23,slow=35						
YAK	**Yakutsk**	**20.41**	**328**	LR	LR	13 08 33.2	
	comp=Z,33nm,19.2s,baz=301,slow=38						
KSRS	**Korea Array**	**20.51**	**253**	P	Pn	13 00 15.3	-0.3
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KSRS	**Korea Array**	**20.51**	**253**	P	Pn	13 00 15.2	-0.4
	comp=Z,1.0nm,0.6s,baz=51,slow=10,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**29.10**	**152**	T	T	13 32 53.5	
	baz=340,slow=75,SNR=130						
H11N1	**WAKE ISLAND Hy**	**29.12**	**152**	T	T	13 32 57.2	
	baz=340,slow=75,SNR=84						
H11N3	**WAKE ISLAND Hy**	**29.12**	**152**	T	T	13 32 54.2	
	baz=340,slow=75,SNR=86						
H11S1	**WAKE ISLAND Hy**	**30.18**	**153**	T	T	13 34 17.2	
	baz=340,slow=76,SNR=125						
H11S3	**WAKE ISLAND Hy**	**30.19**	**153**	T	T	13 34 14.9	
	baz=340,slow=76,SNR=106						
H11S2	**WAKE ISLAND Hy**	**30.19**	**153**	T	T	13 34 16.1	
	baz=340,slow=76,SNR=107						
MKAR	**Makanchi Array**	**46.86**	**297**	P	**P**	**13 04 02.4**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=69,slow=7.1,SNR=4.3						
MKAR				LR	LR	13 26 54.1	
	comp=Z,28nm,18.3s,baz=0.0,slow=40						
CMAR	**Chiang Mai Arr**	**52.09**	**256**	P	**P**	**13 04 45.9**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**52.09**	**256**	P	**P**	**13 04 45.9**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=36,slow=9.0,SNR=5.5						
YBH	**Yreka Blue Hor**	**58.06**	**61**	LR	LR	13 23 51.3	
	comp=Z,61nm,21.8s,baz=249,slow=29						
FINES	**FINESS Array B**	**64.17**	**335**	P	**P**	**13 06 06.8**	**-1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.17**	**335**	P	**P**	**13 06 06.8**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=21,slow=8.1,SNR=4.3						
WRA	**Warramunga Arr**	**68.20**	**199**	P	**P**	**13 06 35.0**	**+0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WRA	**Warramunga Arr**	**68.20**	**199**	P	**P**	**13 06 35.0**	**+0.6**
	comp=Z,0.5nm,1.1s,baz=3.7,slow=6.4,SNR=3.2						
AKASG	**Malin Array Be**	**71.63**	**326**	P	**P**	**13 06 53.6**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.63**	**326**	P	**P**	**13 06 53.6**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=34,slow=6.5,SNR=2.7						
ASAR	**Alice Springs**	**71.90**	**198**	P	**P**	**13 06 58.9**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=12,slow=4.7,SNR=6.8						
TXAR	**Lajitas Array**	**77.81**	**60**	P	**P**	**13 07 32.7**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=312,slow=5.7,SNR=2.4						

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*IDC **24** 13:06:48.8±1.0, 55°.67N×153°.37W, h0km, mb3.8/17, mb1 4.0/19, mb1mx3.9/33, mbtmp3.8/19, ML3.5/2, Error ellipse: s-maj=24.4km s-min=15.9km az=22.0*
*ISCJB **24** 13:06:52.0±0.6, 56°.08N±0°.05×153°.15W±0°.08, h23km, mb3.8/16, Error ellipse: s-maj=7.2km s-min=5.9km az=41.2*
*NEIC **24** 13:06:54.6, 56°.05N×153°.22W, h1km, ML3.4(AEIC), After AEIC.*
ISC 24 13:06:54.6±0.8, 56°.17N±0°.09×153°.24W±0°.06, h23km, n48, σ1°28/44, mb4.0/16, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.66**	**307**	P	**Pb**	**13 07 06.6**	**-0.8**
SII				S	**Sn**	**13 07 17.8**	**-0.3**
OHAK	**Old Harbor**	**1.06**	**359**	P	**Pn**	**13 07 13.6**	**-0.5**
OHAK				S	**Sn**	**13 07 28.2**	**+0.2**
KDAK	**Kodiak Island**	**1.66**	**12**	P	**Pn**	**13 07 22.3**	**+0.1**
KDAK				S	**Sn**	**13 07 42.7**	**-0.1**
KABR	**Katmai Barrier**	**2.18**	**335**	P	**Pn**	**13 07 28.8**	**-0.7**
KAKN	**Katmai Knife C**	**2.35**	**336**	P	**Pn**	**13 07 31.8**	**-0.1**
KVTA	**Katmai Vly 10**	**2.48**	**334**	P	**Pn**	**13 07 33.9**	**+0.3**
KELA	**Mount Kelaz**	**2.65**	**330**	P	**Pn**	**13 07 35.4**	**-0.6**
KELA				S	**Sn**	**13 08 06.5**	**-0.9**
CHGN	**Chignik**	**2.89**	**275**	P	**Pn**	**13 07 37.0**	**-2.2**
OPT	**Oil Point**	**3.50**	**0**	P	**Pn**	**13 07 48.9**	**+1.3**
RSO	**Redoubt South**	**4.32**	**3**	*e*Pn	**Pn**	**13 07 59.3**	**+0.3**
RDWB	**Redoubt West**	**4.34**	**3**	P	**Pn**	**13 07 59.7**	**+0.4**
NCT	**North Crescent**	**4.41**	**2**	P	**Pn**	**13 08 00.7**	**+0.6**
SEW	**Seward**	**4.43**	**25**	P	**Pn**	**13 07 59.9**	**-0.3**
SLKM	**Skilak Lake**	**4.63**	**19**	P	**Pn**	**13 08 02.9**	**-0.2**
SVW2	**Sparrevohn**	**5.09**	**347**	P

1.6nm,0.7s,baz=32,slow=8.7,SNR=8.8
NOA NORSAR Array B 62.49 8 P **P 13 17 16.5 +0.9**
1.0nm,0.8s,baz=349,slow=6.7,SNR=3.7
FINES FINESS Array B 62.73 0 P **P 13 17 17.2 +0.1**
0.8nm,0.7s,baz=334,slow=9.3,SNR=2.8
HFS Hagfors 63.58 7 P **P 13 17 22.9 +0.1**
0.6nm,0.5s,baz=12,slow=7.4,SNR=3.9
MKAR Makanchi Array 67.37 322 P **P 13 17 47.6 +0.1**
0.3nm,0.6s,baz=19,slow=7.7,SNR=4.6
GERES GERESS Array B 74.79 9 P **P 13 18 33.6 +1.1**
0.3nm,0.2s,baz=328,slow=4.7,SNR=3.6
KBZ Khabaz 79.55 348 P **P 13 18 59.7 +0.5**
1.9nm,0.9s,baz=351,slow=5.7,SNR=4.2
CMAR Chiang Mai Arr 84.35 295 P **P 13 19 25.1 +0.2**
0.8nm,0.8s,baz=11,slow=5.4,SNR=7.7

IDC 24 13:14:17.3±2.0, 6°.66S×129°.48E, h0km, mb3.0/1, mb1 3.4/3, mb1mx3.2/30, mbtmp3.2/3, ML3.5/2, Error ellipse: s-maj=113.3km s-min=31.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**6.01**	**239**	P	Pb	13 16 05.2	+2.0
	baz=11,SNR=4.1						
MTN	**Manton Dam**	**6.36**	**165**	P	Pn	13 15 59.0	+6.7
	baz=11,SNR=6.2						
KDU	**Kakadu**	**6.67**	**154**	P	Pn	13 15 59.5	+2.9
	baz=11,SNR=106						
WRA	**Warramunga Arr**	**14.02**	**161**	Pn	Pn	13 17 37.0	-0.5
	0.3nm,0.3s,baz=340,slow=13,SNR=14						
WRA				Sn	Sn	13 20 04.2	-10
	0.3nm,0.3s,baz=344,slow=21,SNR=7.0						
ASAR	**Alice Springs**	**17.44**	**166**	P	Pn	13 18 22.5	+0.3
	0.1nm,0.3s,baz=343,slow=8.2,SNR=14						
ASAR				S	Sn	13 21 28.5	-8.5
	0.1nm,0.3s,baz=349,slow=24,SNR=5.1						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	13 25 16.3	0.0
	0.1nm,0.4s,baz=111,slow=8.0,SNR=3.0						

MEX 24 13:24:43.2±0.5, 15°.76N×98°.70W, h16km±91km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.83**	**41**	*e*P	Pb	13 24 56.5	-2.9
PNIG				*e*S	Sb	13 25 06.6	-3.9
TLIG	**Tlapa**	**1.79**	**4**	*e*P	Pn	13 25 10.0	-3.7
TLIG				*e*S	Sn	13 25 31.5	-4.8
VHO	**Vista Hermosa**	**2.29**	**55**	*e*P	Pn	13 25 18.5	-2.2
VHO				*i* S	Sn	13 25 43.4	-5.4

GUC 24 13:29:48.5±0.4, 35°.11S×72°.83W, h33km±7km, ML3.7, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.02**	**178**	↑*i*P	Pb	13 30 07.3	-0.4
COCH				*i* S	Sb	13 30 21.9	+1.2
TALC	**Talca**	**1.02**	**106**	↑*i*P	Pn	13 30 06.9	+0.5
TALC				*i* S	Sb	13 30 21.6	+0.8
LNCH	**Linares**	**1.24**	**126**	*e*P	Pb	13 30 11.2	-0.3
LNCH				*i* S	Sb	13 30 27.9	+0.8
NICH	**Los Niches**	**1.32**	**86**	*e*P9	Pn	13 30 11.5	+0.9
NICH				*i* S	Sb	13 30 29.5	+0.1
CLCH	**Cerro Calan**	**2.56**	**49**	*e*P	Pn	13 30 30.7	+3.0
CLCH				*i* S	Sb	13 31 02.8	-2.2
CLCH				IAML		13 31 21.6	
	comp=E,367nm,0.5s						

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*ISCJB **24** 13:37:49.7±0.4, 4°.17S±0°.04×143°.20E±0°.06, h132km, mb4.0/14, Error ellipse: s-maj=8.9km s-min=5.2km az=165.1*
*IDC **24** 13:37:49.1±1.6, 4°.18S×143°.29E, h113km±13km, mb3.9/12, mb1 4.0/16, mb1mx4.0/22, mbtmp4.3/16, MS2.6/1, Ms1 2.6/1, ms1mx2.4/25, Error ellipse: s-maj=15.4km s-min=9.9km az=83.0*
*NEIC **24** 13:37:50.4±1.0, 4°.15S×143°.26E, h124km±10km, mb4.4/7, Error ellipse: s-maj=11.1km s-min=7.0km az=68.0*
ISC 24 13:37:50.7±0.6, 4°.18S±0°.06×143°.32E±0°.07, h132km, n56, σ1°20/58, mb4.0/14, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.10**	**302**	P	**Pn**	**13 38 36.5**	**-2.2**
	4.7nm,0.3s,baz=158,slow=9.4,SNR=17						
JAY				S	**Sn**	**13 39 12.2**	**-3.5**
	7.0nm,0.3s,baz=192,slow=20,SNR=7.3						
PMG	**Port Moresby**	**6.43**	**144**	P	**Pn**	**13 39 22.2**	**-0.9**
	4.2nm,0.3s,baz=350,slow=6.1,SNR=19						
PMG				S	**Sn**	**13 40 32.3**	**-3.1**
	1.5nm,0.3s,baz=306,slow=19,SNR=4.5						
PMG				LR	LR	13 42 19.6	
	comp=Z,52nm,19.7s,baz=314,slow=42						
PMG	**Port Moresby**	**6.43**	**144**	P	**Pn**	**13 39 22.8**	**-0.3**
	baz=5.7,SNR=8.7						
PMG	**Port Moresby**	**6.43**	**144**	*e*P	**Pn**	**13 39 22.8**	**-0.3**
PMG				S	**Sn**	**13 40 32.3**	**-3.1**
COEN	**Coen**	**9.71**	**181**	*e*P	**Pn**	**13 40 08.9**	**+1.8**
KDU	**Kakadu**	**13.65**	**231**	P	**Pn**	**13 40 57.1**	**-1.9**
	baz=12,SNR=6.5						
MTN	**Manton Dam**	**14.80**	**234**	P	**Pn**	**13 41 13.5**	**0.0**
	baz=14,SNR=6.8						
CTA	**Charters Tower**	**16.06**	**170**	P	**P**	**13 41 30.8**	**+0.8**
	0.6nm,0.3s,baz=357,slow=12,SNR=8.5						
CTAO	**Charters Tower**	**16.06**	**170**	*e*P	**P**	**13 41 31.9**	**+1.8**
	5.0nm,0.6s						
QIS	**Mount Isa**	**16.67**	**192**	P	**Pn**	**13 41 36.3**	**-0.4**
	baz=15,SNR=8.1						
WRAB	**Tennant Creek**	**17.93**	**208**	*e*P	**P**	**13 41 50.0**	**-0.6**
	28nm,0.7s						
WB2	**Warramunga Arr**	**17.94**	**208**	*e*P	**P**	**13 41 50.4**	**-0.3**
WRA	**Warramunga Arr**	**17.95**	**208**	P	**P**	**13 41 50.5**	**-0.2**
	2.4nm,0.3s,baz=32,slow=11,SNR=172						
KNRA	**Kununurra**	**18.32**	**230**	P	**P**	**13 41 54.2**	**-0.6**
	baz=17,SNR=13						
SOEI	**Soe**	**19.70**	**253**	P	**P**	**13 42 10.8**	**+0.8**
	baz=19,SNR=8.8						
SOEI				S	Sn	13 46 05.3	+10
	baz=19,SNR=20						
SOEI	**Soe**	**19.70**	**253**	*e*P	**P**	**13 42 10.3**	**+0.3**
	26nm,0.8s						
BATI	**Baumata**	**20.39**	**252**	P	**P**	**13 42 17.0**	**-0.4**
	16nm,0.6s,baz=100,slow=18,SNR=3.0						
LUWI	**Luwuk**	**20.77**	**278**	P	Pn	13 42 24.9	-0.3
	baz=20,SNR=4.7						
LUWI	**Luwuk**	**20.77**	**278**	*e*P	**P**	**13 42 21.6**	**+0.3**
	24nm,0.5s						
AS31	**Alice Springs**	**21.40**	**204**	*e*P	**P**	**13 42 26.9**	**-1.2**
AS31				*e*		13 42 34.0	
ASAR	**Alice Springs**	**21.40**	**204**	P	**P**	**13 42 27.4**	**-0.7**
	5.6nm,0.7s,baz=26,slow=12,SNR=64						
ASAR				S	**S**	**13 46 19.6**	**+1.7**
	1.3nm,0.8s,baz=27,slow=21,SNR=5.5						
QLP	**Quilpie**	**22.29**	**178**	P	**P**	**13 42 37.6**	**+0.3**
	baz=21,SNR=13						
EIDS	**Eidsvold**	**22.34**	**161**	P	**P**	**13 42 39.7**	**+1.8**
	baz=21,SNR=8.7						
EIDS	**Eidsvold**	**22.34**	**161**	*e*P	**P**	**13 42 39.4**	**+1.6**
	20nm,1.0s						
RMQ	**Roma**	**22.78**	**167**	P	**P**	**13 42 44.2**	**+2.1**
	baz=22,SNR=21						
WRKA	**Warakurna**	**25.27**	**213**	P	**P**	**13 43 04.5**	**-0.4**
	baz=24,SNR=35						
CMSA	**Cobar Meteorol**	**27.30**	**176**	P	P	13 43 28.0	+5.0
	baz=26,SNR=8.4						
DZM	**Mont Dzumac**	**28.61**	**130**	P	**P**	**13 43 35.4**	**+0.6**
	2.9nm,0.5s,baz=229,slow=7.5,SNR=4.9						
BBOO	**Buckleboo**	**29.28**	**193**	P	**P**	**13 43 41.1**	**+0.6**
	baz=28,SNR=5.4						
MEEK	**Meekatharra**	**32.51**	**224**	P	**P**	**13 44 10.0**	**+0.9**
	baz=31,SNR=5.1						
MORW	**Morawa**	**35.80**	**223**	P	**P**	**13 44 38.4**	**+1.0**
	baz=34,SNR=4.4						
BLDU	**Ballidu**	**36.35**	**221**	P	**P**	**13 44 43.0**	**+1.0**
	baz=35,SNR=6.7						
MJAR	**Matsushiro Arr**	**40.80**	**354**	P	**P**	**13 45 18.4**	**-0.6**
	1.6nm,0.7s,baz=176,slow=8.6,SNR=5.3						
KSRS	**Korea Array**	**43.84**	**342**	P	**P**	**13 45 44.6**	**+1.0**
	6.0nm,0.6s,baz=161,slow=8.9,SNR=31						
KSAR	**Wonju Array Be**	**43.84**	**342**	P	**P**	**13 45 44.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**49.17**	**299**	P	**P**	**13 46 26.5**	**+0.8**
	1.7nm,0.8s,baz=122,slow=5.9,SNR=12						
USRK	**Ussuriysk Ar.**	**49.23**	**349**	P	**P**	**13 46 26.4**	**+0.8**
	4.9nm,0.7s,baz=189,slow=9.1,SNR=9.4						
PETK	**Petropavlovsk-**	**58.35**	**10**	P	**P**	**13 47 31.9**	**0.0**
	2.7nm,0.7s,baz=183,slow=7.2,SNR=7.2						
ULN	**Ulaanbaatar**	**60.80**	**333**	*e*P	**P**	**13 47 50.4**	**+1.5**
	2.5nm,1.0s						
SONM	**Songino Array**	**61.08**	**332**	P	**P**	**13 47 52.2**	**+1.4**
	1.2nm,0.8s,baz=149,slow=8.2,SNR=7.8						
TAPN	**Taplejung**	**62.10**	**304**	*e*P	**P**	**13 47 58.8**	**+0.5**
	12nm,0.6s						
ODAN	**Odare**	**62.19**	**303**	*e*P	**P**	**13 47 59.2**	**+0.4**
	16nm,0.8s						
RAMN	**Ramite**	**62.88**	**303**	*e*P	**P**	**13 48 04.4**	**+1.0**
	7.1nm,0.4s						
JIRN	**Jiri**	**63.47**	**304**	*e*P	**P**	**13 48 08.1**	**+0.7**
	7.0nm,0.6s						
GUN	**Gumba**	**63.82**	**304**	*e*P	**P**	**13 48 10.1**	**+0.4**
PKI	**Pulchoki**	**64.09**	**303**	*e*P	**P**	**13 48 11.6**	**+0.1**
PKIN	**Phulchoki**	**64.11**	**303**	*e*P	**P**	**13 48 11.4**	**-0.1**
KKN	**Kakani**	**64.28**	**303**	*e*P	**P**	**13 48 12.8**	**+0.3**
	17nm,0.7s						
DMN	**Daman**	**64.36**	**303**	*e*P	**P**	**13 48 13.6**	**+0.5**
	17nm,0.7s						
GKN	**Gorkha**	**64.88**	**303**	*e*P	**P**	**13 48 16.7**	**+0.3**
	15nm,0.6s						
KOLN	**Koldanda**	**65.67**	**303**	*e*P	**P**	**13 48 22.0**	**+0.5**
	15nm,0.7s						
DANN	**Dangsing**	**65.73**	**304**	*e*P	**P**	**13 48 22.1**	**+0.1**
	22nm,0.6s						
MKAR	**Makanchi Array**	**73.79**	**321**	P	**P**	**13 49 11.2**	**+0.5**
	1.8nm,0.6s,baz=100,slow=8.3,SNR=25						
ZALV	**Zalesovo Beam**	**75.55**	**329**	P	**P**	**13 49 20.1**	**-0.5**
	1.9nm,0.6s,baz=115,slow=6.0,SNR=9.0						
KURK	**Kurchatov**	**77.58**	**324**	*e*P	**P**	**13 49 31.9**	**-0.2**
	1.4nm,1.0s						
ILAR	**Eielson Array**	**85.28**	**24**	P	**P**	**13 50 12.0**	**-0.4**
	0.9nm,0.7s,baz=254,slow=4.8,SNR=11						

JMA 24 13:59:23.3±0.4, 26°.02N×128°.58E, h21km, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.70**	**315**	P	Pb	13 59 36.6	-0.3
JNTH				*e*S	Sb	13 59 46.2	0.0
JJT2	**Tamagusuku 2**	**0.76**	**279**	P	Pb	13 59 37.7	-0.1
JJT2				*e*S	Sb	13 59 48.2	+0.6
JOW	**Kunigami**	**0.85**	**341**	P	Pb	13 59 39.4	-0.1
JIH	**Iheya**	**1.15**	**332**	P	Pb	13 59 44.4	-0.1
JAGN	**Aguni-jima**	**1.33**	**296**	P	Pn	13 59 46.2	-0.4
JKE	**Kume jima 2**	**1.64**	**281**	P	Pn	13 59 49.7	-1.2

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*NIED **24** 13:59:00, 26°.10N×129°.30E, h26km, Mw4.5 Best double couple: M0=5.85000×10^15 NP1:φs=10.00000°, δ=61.00000°, λ=-158.00000°. NP2:φs=269.00000°, δ=71.00000°, λ=-30.00000°.*
*BJI **24** 13:59:24.5, 25°.75N×129°.65E, h10km, mB4.5/19, mb4.4/24, Ms4.3/19, Ms7 3.8/16*
*IDC **24** 13:59:30.3±0.8, 25°.99N×129°.03E, h0km, mb4.0/15, mb1 4.1/18, mb1mx4.0/50, mbtmp4.0/18, ML3.6/3, MS3.5/9, Ms1 3.5/9, ms1mx3.3/31, Error ellipse: s-maj=23.1km s-min=15.1km az=75.0*
*JMA **24** 13:59:31.8±0.1, 26°.06N×129°.35E, h44km, M4.4*
*ISCJB **24** 13:59:31.1±1.0, 26°.00N±0°.03×129°.22E±0°.03, h25km±7km, mb4.1/22, MS3.4/6, Error ellipse: s-maj=5.7km s-min=3.9km az=140.4*
*NEIC **24** 13:59:35.4±0.6, 25°.98N×128°.99E, h35km, mb4.4/7, Error ellipse: s-maj=11.8km s-min=8.3km az=113.0*
NEIC Felt at Chatan, Okinawa.
ISC 24 13:59:31.7±0.8, 26°.01N±0°.04×129°.29E±0°.04, h15km±4km, n71, σ1°85/84, mb4.2/22, MS3.4/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.23**	**312**	P	**Pn**	**13 59 53.1**	**-1.2**
JOW				*e*S	**Sb**	**14 00 08.1**	**-2.2**
JOW	**Kunigami**	**1.23**	**312**	Pn	**Pn**	**13 59 53.0**	**-1.2**
	baz=140,slow=12						
JOW	**Kunigami**	**1.23**	**312**	*e*Pg	**Pn**	**13 59 53.1**	**-1.2**
JNTH	**Nagotoyohara**	**1.25**	**294**	P	**Pn**	**13 59 53.5**	**-1.1**
JNTH				S	**Sb**	**14 00 08.7**	**-2.1**
JJT2	**Tamagusuku 2**	**1.39**	**276**	P	**Pn**	**13 59 56.4**	**-0.2**
JJT2				S	**Sn**	**14 00 14.0**	**-0.7**
JOKE	**Okinoerabujima**	**1.50**	**335**	P	**Pn**	**13 59 56.9**	**-1.1**
JOKE				S	**Sn**	**14 00 14.6**	**-2.7**
JIH	**Iheya**	**1.57**	**311**	P	**Pn**	**13 59 58.0**	**-1.0**
JIH				S	**Sn**	**14 00 16.5**	**-2.5**
JMZ	**Minamidaito 2**	**1.75**	**96**	P	**Pn**	**13 59 59.7**	**-1.7**
JMZ				S	**Sn**	**14 00 19.1**	**-4.4**
JTK	**Tokunoshima**	**1.80**	**350**	P	**Pn**	**14 00 00.6**	**-1.6**
JTK				S	Sn	14 00 19.8	-4.9
JAGN	**Aguni-jima**	**1.93**	**288**	P	**Pn**	**14 00 03.5**	**-0.4**
JAGN				S	**Sn**	**14 00 25.8**	**-2.1**
JAMN	**Amaminishikomi**	**2.23**	**357**	P	**Pn**	**14 00 06.7**	**-1.4**
JAMN				S	**Sn**	**14 00 31.5**	**-3.9**
JKE	**Kume jima 2**	**2.27**	**279**	P	**Pn**	**14 00 07.6**	**-1.1**
JKE				S	**Sn**	**14 00 33.2**	**-3.3**
JZK	**Kikaishima**	**2.38**	**15**	P	**Pn**	**14 00 09.3**	**-0.8**
JZK				*e*S	**Sn**	**14 00 35.9**	**-3.1**
JAM	**Amami Oshima**	**2.41**	**7**	P	**Pn**	**14 00 09.5**	**-1.1**
JAM				*e*S	Sn	14 00 34.9	-5.0
JTAJ	**Takarajima**	**3.14**	**359**	P	**Pn**	**14 00 19.6**	**-0.9**
JTAJ				*e*S	Sn	14 00 52.5	-5.2
JOGS	**Gusukube**	**3.73**	**251**	P	**Pn**	**14 00 28.8**	**+0.1**
JOGS				*e*S	**Sn**	**14 01 10.4**	**-1.9**
JMJ	**Miyako jima 2**	**3.81**	**253**	P	**Pn**	**14 00 29.5**	**-0.3**
JMJ				*e*S	**Sn**	**14 01 12.3**	**-2.0**
JIKM	**Ikemajima**	**3.81**	**254**	P	**Pn**	**14 00 28.8**	**-1.0**
JIKM				*e*S	**Sn**	**14 01 12.0**	**-2.4**
JNN	**Nakanoshima**	**3.85**	**8**	P	**Pn**	**14 00 29.4**	**-1.1**
JNN				*e*S	Sn	14 01 10.3	-5.2
JIRB	**Irabujima**	**3.91**	**253**	P	**Pn**	**14 00 30.4**	**-0.7**
JIRB				*e*S	**Sn**	**14 01 13.6**	**-3.1**
JTJ	**Tarama**	**4.37**	**253**	P	**Pn**	**14 00 36.8**	**-0.7**
JTJ				*e*S	**Sn**	**14 01 24.0**	**-4.2**
JISG	**Ishigakijimahi**	**4.72**	**254**	P	**Pn**	**14 00 40.9**	**-1.5**
JISG				*e*S	Sn	14 01 31.7	-5.3
JIJ	**Ishigaki jima**	**4.94**	**252**	P	**Pn**	**14 00 44.3**	**-1.1**
JIJ				*e*S	Sn	14 01 37.1	-5.2
JKRS	**Kuro-shima**	**5.10**	**251**	P	**Pn**	**14 00 46.8**	**-0.8**
JKRS				*e*S	**Sn**	**14 01 42.6**	**-3.6**
IRIF	**Iriomote-Funau**	**5.31**	**253**	P	**Pn**	**14 00 49.2**	**-1.2**
IRIF				*e*S	Sn	14 01 46.2	-5.1
YOJ	**Yonaguni jima**	**5.89**	**256**	*e*Pn	Pn	14 00 55.6	-2.8
JNU	**Nakatsue**	**7.22**	**11**	Pn	**Pn**	**14 01 17.2**	**+0.4**
	4.0nm,0.3s,baz=162,slow=20,SNR=36						
JNU				Sn	Sn	14 02 30.4	-8.2
	0.8nm,0.3s,baz=115,slow=23,SNR=7.1						
JNU				LR	LR	14 04 24.4	
	comp=Z,288nm,20.6s,baz=172,slow=40						
YULB	**Yu-li**	**7.72**	**252**	*e*P	Pn	14 01 19.7	-3.9
SSLB	**Suanglung**	**7.89**	**256**	P	Pn	14 01 23.1	-2.8
	18nm,0.6s						
TPUB	**Ta-pu**	**8.33**	**253**	*e*P	**Pn**	**14 01 29.9**	**-2.0**
	19nm,0.6s						
KSAR	**Wonju Array Be**	**11.46**	**354**	Pn	**Pn**	**14 02 15.6**	**+0.7**
KSRS	**Korea Array**	**11.47**	**355**	Pn	**Pn**	**14 02 15.6**	**+0.6**
	0.2nm,0.3s,baz=172,slow=14,SNR=12						
KSRS				LR	LR	14 07 03.2	
	comp=Z,168nm,20.0s,baz=176,slow=40						
CBIJ	**Chichi jima**	**11.59**	**82**	Pn	**Pn**	**14 02 15.3**	**-1.3**
JCJ	**Chichijima**	**11.59**	**82**	Pn	**Pn**	**14 02 15.3**	**-1.4**
	2.6nm,0.3s,baz=320,slow=17,SNR=3.0						
BJT	**Baijiatuan**	**17.76**	**325**	*e*P	**Pn**	**14 03 38.8**	**+0.5**
	20nm,0.8s						
USRK	**Ussuriysk Ar.**	**18.28**	**6**	P	**P**	**14 03 46.5**	**+1.6**
	0.2nm,0.3s,baz=187,slow=8.5,SNR=6.0						
USRK				LR	LR	14 10 56.8	
	comp=Z,123nm,18.1s,baz=166,slow=38						
MDJ	**Mudanjiang**	**18.57**	**1**	*e*P	**Pn**	**14 03 49.2**	**+1.0**
XAN	**Xi'an**	**19.35**	**299**	P	**P**	**14 03 56.4**	**-0.3**
XAN				pP	**pP**	**14 04 04.8**	**+3.9**
XAN				S	Sn	14 07 27.9	-6.7
XAN				PMZ			
	4.0nm,0.8s						
XAN				LN			
	170nm,18.4s						
XAN				LZ			
	51nm,15.4s						
ASAJ	**Asahikawa**	**21.05**	**27**	LR	LR	14 13 13.1	
	comp=Z,89nm,19.4s,baz=203,slow=39						
YSS	**Yuzh-Sakhalins**	**23.48**	**24**	*e*P	**P**	**14 04 44.2**	**+3.5**
	38nm,1.3s						
HIA	**Hailar**	**24.38**	**345**	P	**P**	**14 04 50.6**	**+1.3**
ULN	**Ulaanbaatar**	**27.96**	**327**	*e*P	**P**	**14 05 24.5**	**+2.8**
	1.8nm,0.7s						
GTA	**Gaotai**	**28.04**	**306**	*e*P	**P**	**14 05 21.3**	**-1.2**
GTA				pP	**pP**	**14 05 25.4**	**-1.6**
GTA				sP	**sP**	**14 05 28.3**	**-0.6**
GTA				S	**S**	**14 10 11.3**	**+4.7**
GTA				sS	sS	14 10 19.1	+5.0
GTA				PMZ			
	6.0nm,0.9s						
GTA				PMZ			
	43nm,5.7s						
GTA				LN			
	220nm,15.0s						
GTA				LE			
	140nm,16.4s						
GTA				LZ			
	140nm,15.9s						
SONM	**Songino Array**	**28.26**	**326**	P	**P**	**14 05 24.6**	**+0.2**
	1.6nm,0.5s,baz=142,slow=11,SNR=16						
SONM				LR	LR	14 17 43.7	
	comp=Z,95nm,21.5s,baz=140,slow=39						
CMAR	**Chiang Mai Arr**	**29.03**	**261**	P	**P**	**14 05 31.2**	**-0.1**
	0.7nm,0.8s,baz=65,slow=8.3,SNR=7.6						
CMAR				LR	LR	14 18 14.7	
	comp=Z,116nm,18.2s,baz=82,slow=39						
TLY	**Talaya**	**32.18**	**330**	LR	LR	14 19 21.7	
	comp=Z,91nm,18.7s,baz=160,slow=37						
LSA	**Lhasa**	**33.82**	**285**	*e*P	**P**	**14 06 12.2**	**-1.8**
	275nm,0.6s						
PETK	**Petropavlovsk-**	**34.40**	**31**	LR	LR	14 21 17.1	
	comp=Z,47nm,18.2s,baz=235,slow=38						
YAK	**Yakutsk**	**36.02**	**0**	*e*P	**P**	**14 06 32.1**	**+0.2**
PSI	**Prapat**	**37.19**	**237**	LR	LR	14 20 45.4	
	comp=Z,77nm,19.3s,baz=33,slow=34						
MKAR	**Makanchi Array**	**42.39**	**312**	P	**P**	**14 07 24.7**	**-0.8**
	1.2nm,0.7s,baz=101,slow=11,SNR=19						
ZALV	**Zalesovo Beam**	**43.00**	**323**	P	**P**	**14 07 28.9**	**-1.4**
	3.3nm,0.6s,baz=109,slow=7.8,SNR=16						
KURK	**Kurchatov**	**45.64**	**317**	*e*P	**P**	**14 07 50.5**	**-0.9**
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**45.67**	**316**	P	**P**	**14 07 51.1**	**-0.6**
	1.7nm,0.6s,baz=103,slow=8.7,SNR=12						
TIXI	**Tiksi**	**45.68**	**360**	P	**P**	**14 07 49.9**	**-1.6**
WRAB	**Tennant Creek**	**45.93**	**173**	*e*P	**P**	**14 07 54.5**	**+0.5**
	2.8nm,0.7s						
WRA	**Warramunga Arr**	**45.94**	**173**	P	**P**	**14 07 54.6**	**+0.5**
	2.7nm,0.8s,baz=354,slow=8.3,SNR=25						
TKM2	**Tokmak 2**	**46.58**	**305**	*e*P	**P**	**14 08 01.2**	**+1.9**
	7.0nm,1.1s						
AS31	**Alice Springs**	**49.58**	**174**	*e*P	**P**	**14 08 23.2**	**+0.8**
ASAR	**Alice Springs**	**49.58**	**174**	P	**P**	**14 08 23.2**	**+0.9**
	0.9nm,0.5s,baz=1.9,slow=15,SNR=30						
KBL	**Kabul**	**52.06**	**295**	*e*P	**P**	**14 08 42.6**	**+1.2**
ARU	**Arti**	**58.16**	**322**	*e*P	**P**	**14 09 23.9**	**-0.8**
	7.9nm,1.0s						
GEYT	**Alibeck**	**60.23**	**300**	P	**P**	**14 09 39.7**	**+0.2**
	3.1nm,0.7s,baz=68,slow=5.1,SNR=7.1						
ILAR	**Eielson Array**	**64.18**	**28**	P	**P**	**14 10 08.1**	**+2.7**
	0.1nm,0.6s,baz=287,slow=7.9,SNR=3.3						
KBZ	**Khabaz**	**70.04**	**310**	P	**P**	**14 10 42.6**	**-0.4**
	2.1nm,0.8s,baz=134,slow=4.3,SNR=5.1						
FINES	**FINESS Array B**	**73.53**	**331**	P	**P**	**14 11 03.1**	**-0.4**
	1.1nm,0.5s,baz=76,slow=8.0,SNR=7.0						
AKASG	**Malin Array Be**	**76.32**	**320**	P	**P**	**14 11 19.9**	**-0.1**
	1.5nm,0.5s,baz=56,slow=5.9,SNR=5.9						
BRTR	**Keskin Array B**	**77.92**	**308**	P	**P**	**14 11 29.9**	**+0.4**
	1.4nm,0.8s,baz=110,slow=7.2,SNR=5.9						
YKA	**Yellowknife Ar**	**78.32**	**25**	P	**P**	**14 11 32.7**	**+1.7**
	0.1nm,0.6s,baz=302,slow=5.7,SNR=2.9						
NB2	**NORSAR Subarra**	**79.93**	**334**	P	**P**	**14 11 39.2**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=52,slow=5.3						
NOA	**NORSAR Array B**	**79.93**	**334**	P	**P**	**14 11 41.9**	**+2.0**
	comp=Z,1.8nm,0.8s,baz=51,slow=5.3,SNR=6.1						

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*BJI **24** 14:05:16.2, 32°.38N×92°.87E, h6km, mb3.9/6, ML3.5/3, Ms3.7/5, Ms7 3.6/4*
*IDC **24** 14:05:16.8±0.9, 32°.17N×92°.75E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.5/55, mbtmp3.6/9, ML3.1/3, Error ellipse: s-maj=36.3km s-min=18.7km az=61.0*
*ISCJB **24** 14:05:17.3±0.7, 32°.18N±0°.10×92°.85E±0°.06, h17km, mb3.6/6, Error ellipse: s-maj=14.4km s-min=6.4km az=17.8*
ISC 24 14:05:20.0±0.6, 32°.30N±0°.06×92°.80E±0°.06, h17km, n15, σ1°87/23, mb3.6/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**2.96**	**209**	Pg	**Pb**	**14 06 12.8**	**+0.2**
LSA				Sg	**Sg**	**14 06 56.6**	**+1.5**
LSA				SMN			
	100nm,1.3s						
LSA				SME			
	150nm,1.0s						
GTA	**Gaotai**	**9.09**	**37**	*e*P	**Pn**	**14 07 31.8**	**+1.2**
GTA				pP		14 07 36.0	
GTA				sP		14 07 38.9	
GTA				PMZ			
	5.0nm,1.1s						
CD2	**Chengdu**	**9.45**	**96**	*e*P	**Pn**	**14 07 34.3**	**-1.2**
CD2				PP	**

NSSC ***24*** *14:11:22.4±4.8, 39.°66N×40.°64E, h39km±999km, ML5.0*
DDA ***24*** *14:11:30.9, 38.°77N×40.°09E, h23km, ML5.0*
BJI ***24*** *14:11:30.8, 38.°80N×40.°20E, h8km, mB5.1/41, mb4.8/49, Ms4.9/43, Ms7 4.6/41*
IDC ***24*** *14:11:30.4±0.4, 38.°75N×40.°20E, h0km, mb4.5/31, mb1 4.6/42, mb1mx4.5/48, mbtmp4.5/42, ML4.1/9, MS4.3/29, Ms1 4.3/29, ms1mx4.3/36, Error ellipse: s-maj=10.0km s-min=7.3km az=176.0*
ISK ***24*** *14:11:30.4, 38.°78N×40.°11E, h5km, ML5.1*
GCMT ***24*** *14:11:31.0±0.2, 38.°69N×39.°99E, h29km±1km, MW5.1/105, Moment Tensor Solution. s30,c39; s105,c168; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.55±.15; Mθθ-4.11±.14; Mφφ3.56±.12; Mrθ2.26±.23; Mrφ1.92±.10; Mθφ-2.25±.22; Best double couple: M₀5.30000×10¹⁶ NP1:φs146.00000°, δ89.00000°, λ144.00000°. NP2: φs237.00000°, δ54.00000°, λ1.00000°. Principal axes: T 4.8150, Plg25.0000°, Azm95.0000°; N 0.9670, Plg54.0000°, Azm325.0000°; P -5.7850, Plg24.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***24*** *14:11:31.3±1.5, 38.°76N×40.°36E, h11km, mb5.3/67, MS4.2/25 Error ellipse: s-maj=4.1km s-min=3.1km az=118.9*
CSEM ***24*** *14:11:31.9±0.1, 38.°76N×40.°24E, h2km, mb5.1/87, Ms4.4, Mw5.1, Error ellipse: s-maj=3.4km s-min=2.8km az=162.0*
NEIC ***24*** *14:11:31.0, 38.°82N×40.°14E, h4km, mb5.1/67, ML5.1(ISK), After ISK.*
NEIC Felt [IV] at Diyarbakir and Elazig and [II] at Erzincan. Also felt at Bingol, Karakocan, Malatya, Midyat and Siirt.
ISCJB ***24*** *14:11:31.6±0.4, 38.°73N±0.°01×40.°27E±0.°01, h8km±2km, mb4.9/146, MS4.4/39, Error ellipse: s-maj=2.1km s-min=1.7km az=178.8*
DSN ***24*** *14:11:33.6±0.8, 38.°74N×40.°14E, h10km, mb5.2/12, ML5.5/1, Ms5.1/11, Error ellipse: s-maj=14.6km s-min=3.9km az=87.0*
SZGRF ***24*** *14:11:35.7, 38.°58N×39.°90E, h10km, mb5.2, MS4.1, Turkey*
ISN ***24*** *14:11:49.2±1.7, 38.°14N×40.°17E, h0km±4km, ML4.4*
ISC 24 14:11:33.3±0.2, 38.°754N±0.°010×40.°173E±0.°007, h11km±1km, h11km:pP-P, n1059, σ1s69/1052, mb5.0/145, MS4.4/41, 49C-28D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.28**	**64**	*i* Pg	**Pb**	**14 11 41.1**	**+0.8**
BINT				*e*Sg	**Sb**	**14 11 49.1**	**+4.0**
BNGB	**Bing¨¶l**	**0.46**	**59**	PG	**Pg**	**14 11 41.1**	**-1.2**
BNGB				*e*SG	**Sg**	**14 11 49.1**	**+0.6**
PTK	**Pertek**	**0.62**	**283**	PG	Pg	14 11 42.2	-3.3
PTK	**Pertek**	**0.62**	**283**	Pg	Pg	14 11 42.5	-3.0
PTK	**Pertek**	**0.62**	**283**	Pg	Pg	14 11 42.5	-3.0
SVRC	**Sivrice-ELAZID**	**0.78**	**241**	PG	**Pg**	**14 11 45.7**	**-2.6**
SVRC				*e*SG	**Sg**	**14 11 57.3**	**-1.1**
SVRC	**Sivrice-ELAZID**	**0.78**	**241**	*i* Pg	**Pg**	**14 11 45.7**	**-2.6**
SVRC				*e*Sg	**Sg**	**14 11 57.3**	**-1.1**
BNGL	**BINGOL**	**0.79**	**75**	*i* P	**Pg**	**14 11 47.2**	**-1.3**
BNGL				*i* S	**Sb**	**14 12 00.2**	**+0.3**
DYBB	**Diyarbakir**	**0.80**	**182**	*e*PG	**Pg**	**14 11 47.5**	**-1.2**
DIYA	**Diyarbakir**	**0.83**	**183**	*i* P	**Pb**	**14 11 49.3**	**-0.4**
DIYA				*i* S	**Sn**	**14 12 03.0**	**-0.2**
DIYA	**Diyarbakir**	**0.83**	**183**	*i* P	**Pb**	**14 11 49.3**	**-0.4**
DIYA				*i* S	**Sn**	**14 12 03.0**	**-0.2**
DIY	**Diyarbakir**	**0.86**	**177**	*e*Pg	**Pg**	**14 11 47.5**	**-2.3**
ERZN	**Erzincan**	**0.90**	**337**	*e*PG	Pg	14 11 47.5	-3.2
ELZG	**Elazig**	**0.96**	**255**	*i* P	Pg	14 11 48.2	-3.7
ELZG				*i* S	**Sg**	**14 12 03.8**	**-0.7**
ELZG	**Elazig**	**0.96**	**255**	*i* P	Pg	14 11 48.2	-3.7
ELZG				*i* S	**Sg**	**14 12 03.8**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.00**	**126**	*e*PG	**Pb**	**14 11 52.5**	**-0.2**
EUZM	**Uzumlu**	**1.02**	**339**	*i* P	Pb	14 11 49.7	-3.3
EUZM				*i* S	**Sb**	**14 12 02.8**	**-3.7**
EUZM	**Uzumlu**	**1.02**	**339**	*i* P	Pb	14 11 49.7	-3.3
EUZM				*i* S	**Sb**	**14 12 02.8**	**-3.7**
VRTB	**Varto-Mus**	**1.08**	**68**	*e*PN	**Pb**	**14 11 52.6**	**-1.5**
VRTB	**Varto-Mus**	**1.08**	**68**	*e*Pn	**Pb**	**14 11 52.6**	**-1.5**
BTMT	**Batman**	**1.18**	**118**	*e*PN	**Pn**	**14 11 55.5**	**-0.2**
BTMT	**Batman**	**1.18**	**118**	*e*Pn	**Pn**	**14 11 55.5**	**-0.2**
EZC	**Erzincan**	**1.18**	**328**	*e*Pg	Pb	14 11 47.5	-8.3
BEST	**Besiri**	**1.22**	**135**	*i* P	**Pb**	**14 11 56.4**	**0.0**
BEST				*i* S	**Sg**	**14 12 14.9**	**+2.4**
KOPT	**Kop Dagi**	**1.29**	**11**	*i* P	**Pn**	**14 11 55.4**	**-2.1**
KOPT				*i* S	**Sb**	**14 12 13.0**	**-1.4**
KOPT	**Kop Dagi**	**1.29**	**11**	*i* P	**Pn**	**14 11 55.4**	**-2.1**
KOPT				*i* S	**Sb**	**14 12 13.0**	**-1.4**
MAZI	**Mazidag**	**1.31**	**170**	*e*PN	**Pn**	**14 11 56.9**	**-0.7**
MAZI	**Mazidag**	**1.31**	**170**	*e*Pn	**Pn**	**14 11 56.9**	**-0.7**
KEMA	**Kemaliye**	**1.41**	**292**	*i* P	Pn	14 11 55.2	-3.7
KEMA				*i* S	**Sn**	**14 12 14.9**	**-2.6**
KEMA	**Kemaliye**	**1.41**	**292**	*i* P	Pn	14 11 55.2	-3.7
KEMA				*i* S	**Sn**	**14 12 14.9**	**-2.6**
MALT	**Malatya**	**1.44**	**253**	*e*PN	**Pn**	**14 11 57.6**	**-1.7**
MALT	**Malatya**	**1.44**	**253**	P	**Pn**	**14 11 58.3**	**-1.1**
MALT	**Malatya**	**1.44**	**253**	*e*Pn	**Pn**	**14 11 57.6**	**-1.7**
MALT	**Malatya**	**1.44**	**253**	P	**Pn**	**14 11 58.3**	**-1.1**
MALT	**Malatya**	**1.44**	**253**	Pn	**Pn**	**14 11 58.3**	**-1.1**
EZM	**Erzurum**	**1.48**	**38**	*e*PN	**Pn**	**14 11 59.2**	**-0.8**
EZM	**Erzurum**	**1.48**	**38**	Pn	**Pn**	**14 11 59.1**	**-1.0**
MARD	**Mardin**	**1.52**	**161**	*i* P	**Pn**	**14 11 59.6**	**-0.8**
MARD				*i* S	**Sb**	**14 12 20.6**	**-0.1**
EKAR	**Karacoban**	**1.56**	**71**	*i* P	**Pn**	**14 12 01.3**	**+0.2**
EKAR	**Karacoban**	**1.56**	**71**	*i* P	**Pn**	**14 12 01.3**	**+0.2**
EKAR				*i* S	**Sg**	**14 12 28.7**	**+5.3**
KELT	**Kelkit**	**1.56**	**333**	*i* P	**Pn**	**14 11 59.4**	**-1.8**
KELT				*i* S	**Sn**	**14 12 20.4**	**-1.2**
KELT	**Kelkit**	**1.56**	**333**	*i* P	**Pn**	**14 11 59.4**	**-1.8**
KELT				*i* S	**Sn**	**14 12 20.4**	**-1.2**
BAYT	**Ayd¨–ntepe-Bay**	**1.64**	**359**	*e*PN	**Pn**	**14 12 00.9**	**-1.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.64**	**359**	*e*Pn	**Pn**	**14 12 00.9**	**-1.3**
URFA	**Urfa**	**1.69**	**220**	*e*PN	**Pn**	**14 12 02.2**	**-0.6**
URFA	**Urfa**	**1.69**	**220**	Pn	**Pn**	**14 12 02.4**	**-0.4**
URFA	**Urfa**	**1.69**	**220**	Pn	**Pn**	**14 12 02.4**	**-0.4**
KBSD	**Kabsdagh**	**1.77**	**170**	*e*P	**Pn**	**14 12 04.0**	**+0.1**
	SNR=45						
KBSD				*e*S	**Sg**	**14 12 29.3**	**-1.0**
	22μm,0.5s,SNR=40						
KBSD	**Kabsdagh**	**1.77**	**170**	*e*P	**Pn**	**14 12 04.0**	**+0.1**
KBSD				*e*S	**Sg**	**14 12 29.3**	**-1.0**
KBSD				AML	AML	14 12 38.2	
	comp=Z,22μm,0.5s						
GUMT	**Gumushane**	**1.79**	**343**	*e*PN	**Pn**	**14 12 03.1**	**-1.1**
GUMT	**Gumushane**	**1.79**	**343**	*e*Pn	**Pn**	**14 12 03.1**	**-1.1**
GUMT	**Gumushane**	**1.79**	**343**	Pn	**Pn**	**14 12 03.1**	**-1.1**
AKCD	**Akcadag**	**1.82**	**256**	*i* P	**Pn**	**14 12 03.0**	**-1.7**
AKCD				*i* S	**Sg**	**14 12 30.2**	**-1.7**
AKCD	**Akcadag**	**1.82**	**256**	*i* P	**Pn**	**14 12 03.0**	**-1.7**
AKCD				*i* S	**Sg**	**14 12 30.2**	**-1.7**
HOMI	**Horasan**	**1.86**	**46**	*i* P	**Pn**	**14 12 04.7**	**-0.6**
HOMI				*i* S	**Sg**	**14 12 35.6**	**+2.4**
ATAB	**Bozova**	**1.96**	**230**	*i* P	**Pn**	**14 12 05.6**	**-0.9**
ATAB				*i* S	**Sn**	**14 12 31.2**	**+0.1**
ATAB	**Bozova**	**1.96**	**230**	*i* P	**Pn**	**14 12 05.6**	**-0.9**
ATAB				*i* S	**Sn**	**14 12 31.2**	**+0.1**
SUSE	**Susehri**	**2.11**	**314**	*i* P	**Pn**	**14 12 07.7**	**-0.9**
SUSE				*i* S	**Sb**	**14 12 36.8**	**-1.0**
SUSE	**Susehri**	**2.11**	**314**	*i* P	**Pn**	**14 12 07.7**	**-0.9**
SUSE				*i* S	**Sb**	**14 12 36.8**	**-1.0**
EATA	**Eleskirt**	**2.11**	**58**	*i* P	**Pn**	**14 12 08.5**	**-0.3**
EATA	**Eleskirt**	**2.11**	**58**	*i* P	**Pn**	**14 12 08.5**	**-0.3**
EATA				*i* S	**Sg**	**14 12 42.9**	**+1.7**
DARE	**Darende-Malaty**	**2.11**	**266**	*e*PN	**Pn**	**14 12 07.2**	**-1.4**
DARE	**Darende-Malaty**	**2.11**	**266**	*e*Pn	**Pn**	**14 12 07.2**	**-1.4**
TUTA	**Tutak**	**2.15**	**72**	*i* P	Pn	14 12 05.9	-3.5
TUTA				*i* S	**Sn**	**14 12 34.7**	**-1.5**
TUTA	**Tutak**	**2.15**	**72**	*i* P	Pn	14 12 05.9	-3.5
TUTA				*i* S	**Sn**	**14 12 34.7**	**-1.5**
SIRN	**S¨–rnak**	**2.17**	**125**	*i* P	**Pn**	**14 12 09.0**	**-0.4**
SIRN	**S¨–rnak**	**2.17**	**125**	*i* P	**Pn**	**14 12 09.0**	**-0.4**
SIRN				*i* S	**Sg**	**14 12 44.0**	**+1.1**
SIRT	**Sirnak**	**2.18**	**124**	*e*PN	**Pn**	**14 12 09.3**	**-0.3**
SIRT	**Sirnak**	**2.18**	**124**	*e*Pn	**Pn**	**14 12 09.3**	**-0.3**
MACK	**Trabzon**	**2.21**	**352**	*i* P	**Pn**	**14 12 09.3**	**-0.6**
MACK				*i* S	**Sb**	**14 12 41.4**	**+0.8**
MACK	**Trabzon**	**2.21**	**352**	*i* P	**Pn**	**14 12 09.3**	**-0.6**
MACK				*i* S	**Sb**	**14 12 41.4**	**+0.8**
KTUT	**Trabzon**	**2.25**	**352**	*e*PN	**Pn**	**14 12 10.1**	**-0.3**
KTUT	**Trabzon**	**2.25**	**352**	*e*Pn	**Pn**	**14 12 10.1**	**-0.3**
GEVA	**Gevas**	**2.31**	**100**	*i* P	**Pn**	**14 12 11.4**	**0.0**
GEVA	**Gevas**	**2.31**	**100**	*i* P	**Pn**	**14 12 11.4**	**0.0**
GEVA				*i* S	**Sg**	**14 12 50.4**	**+3.0**
AGRB	**Hanur-Agry**	**2.34**	**69**	*e*PN	**Pn**	**14 12 11.9**	**0.0**
AGRB	**Hanur-Agry**	**2.34**	**69**	*e*Pn	**Pn**	**14 12 11.9**	**0.0**
ESPY	**Espiye-Giresun**	**2.43**	**333**	*e*PN	**Pn**	**14 12 12.4**	**-0.5**
ESPY	**Espiye-Giresun**	**2.43**	**333**	*e*Pn	**Pn**	**14 12 12.4**	**-0.5**
DDEM	**Demirkent**	**2.46**	**29**	*i* P	**Pn**	**14 12 12.7**	**-0.7**
DDEM				*i* S	**Sb**	**14 12 47.2**	**-0.7**
DDEM	**Demirkent**	**2.46**	**29**	*i* P	**Pn**	**14 12 12.7**	**-0.7**
DDEM				*i* S	**Sb**	**14 12 47.2**	**-0.7**
VANB	**Van**	**2.52**	**93**	*e*PN	**Pn**	**14 12 15.0**	**+0.7**
VANB	**Van**	**2.52**	**93**	*e*Pn	**Pn**	**14 12 15.0**	**+0.7**
TVAN	**Van**	**2.54**	**94**	*i* P	**Pn**	**14 12 14.6**	**0.0**
TVAN	**Van**	**2.54**	**94**	*i* P	**Pn**	**14 12 14.6**	**0.0**
TVAN				*i* S	**Sg**	**14 12 58.1**	**+3.2**
DBAD	**Bademkaya**	**2.55**	**27**	*i* P	**Pn**	**14 12 14.0**	**-0.6**
DBAD	**Bademkaya**	**2.55**	**27**	*i* P	**Pn**	**14 12 14.0**	**-0.6**
SCER	**sogukcermik**	**2.61**	**296**	*i* P	**Pn**	**14 12 16.3**	**+0.8**
SCER	**sogukcermik**	**2.61**	**296**	*i* P	**Pn**	**14 12 16.3**	**+0.8**
SCER				*i* S	**Sg**	**14 12 54.5**	**-2.5**
DAGI	**Agillar**	**2.68**	**29**	*i* P	**Pn**	**14 12 15.9**	**-0.6**
DAGI				*i* S	**Sb**	**14 12 53.9**	**-0.4**
SVSK	**Karacayir**	**2.72**	**296**	*e*PN	**Pn**	**14 12 15.9**	**-1.0**
SVSK	**Karacayir**	**2.72**	**296**	*e*Pn	**Pn**	**14 12 15.9**	**-1.0**
RSDY	**Resadiye-TOKAT**	**2.74**	**308**	*e*PN	**Pn**	**14 12 17.2**	**-0.1**
RSDY	**Resadiye-TOKAT**	**2.74**	**308**	*e*Pn	**Pn**	**14 12 17.2**	**-0.1**
ARTV	**Artvin**	**2.78**	**28**	*i* P	**Pn**	**14 12 17.3**	**-0.6**
ARTV	**Artvin**	**2.78**	**28**	*i* P	**Pn**	**14 12 17.3**	**-0.6**
DBOC	**Borcka**	**2.83**	**23**	*i* P	**Pn**	**14 12 17.9**	**-0.5**
DBOC				*i* S	**Sn**	**14 12 54.7**	**+2.1**
DBOC	**Borcka**	**2.83**	**23**	*i* P	**Pn**	**14 12 17.9**	**-0.5**
DBOC				*i* S	**Sn**	**14 12 54.7**	**+2.1**
DYDN	**Diyadin**	**2.85**	**73**	*i* P	**Pn**	**14 12 18.2**	**-0.6**
DYDN	**Diyadin**	**2.85**	**73**	*i* P	**Pn**	**14 12 18.2**	**-0.6**
DYDN				*i* S	**Sg**	**14 13 02.8**	**-1.9**
KMRS	**Kahramanmaras**	**2.87**	**245**	*e*PN	**Pn**	**14 12 18.2**	**-0.7**
KMRS	**Kahramanmaras**	**2.87**	**245**	*e*Pn	**Pn**	**14 12 18.2**	**-0.7**
BCA	**Borcka**	**2.91**	**22**	*e*PN	**Pn**	**14 12 19.0**	**-0.5**
BCA	**Borcka**	**2.91**	**22**	*e*Pn	**Pn**	**14 12 19.0**	**-0.5**
KARS	**Kars**	**2.92**	**49**	*e*PN	**Pn**	**14 12 20.2**	**+0.4**
KARS	**Kars**	**2.92**	**49**	P	**Pn**	**14 12 19.9**	**+0.1**
KARS	**Kars**	**2.92**	**49**	P	**Pn**	**14 12 19.9**	**+0.1**
KARS	**Kars**	**2.92**	**49**	Pn	**Pn**	**14 12 19.9**	**+0.1**
CLDR	**Caldiran**	**2.94**	**81**	*e*PN	**Pn**	**14 12 21.3**	**+1.1**
CLDR	**Caldiran**	**2.94**	**81**	Pn	**Pn**	**14 12 20.4**	**+0.2**
CLDR	**Caldiran**	**2.94**	**81**	Pn	**Pn**	**14 12 20.4**	**+0.2**
DIGO	**Kars**	**2.98**	**55**	*i* P	**Pn**	**14 12 20.0**	**-0.7**
DIGO	**Kars**	**2.98**	**55**	*i* P	**Pn**	**14 12 20.0**	**-0.7**
DIGO				*i* S	**Sb**	**14 13 03.1**	**+0.2**
HAKT	**HAKKARI**	**3.03**	**112**	*i* P	**Pn**	**14 12 22.0**	**+0.6**
HAKT	**HAKKARI**	**3.03**	**112**	*i* P	**Pn**	**14 12 22.0**	**+0.6**
HAKT				*i* S	**Sb**	**14 13 08.2**	**+3.7**
CUKT	**Cukurca**	**3.10**	**118**	*e*PN	**Pn**	**14 12 22.1**	**-0.1**
CUKT	**Cukurca**	**3.10**	**118**	*e*Pn	**Pn**	**14 12 22.1**	**-0.1**
KUZU	**Kuzuini**	**3.15**	**232**	*i* P	**Pn**	**14 12 21.7**	**-1.2**
KUZU	**Kuzuini**	**3.15**	**232**	*i* P	**Pn**	**14 12 21.7**	**-1.2**
KUZU				*i* S	**Sg**	**14 13 10.6**	**-3.9**
KAMA	**Osmaniye**	**3.18**	**242**	*i* P	**Pn**	**14 12 21.2**	**-2.1**
KAMA				*i* S	**Sg**	**14 13 13.3**	**-2.1**
ANDN	**Andirin**	**3.24**	**250**	*i* P	**Pn**	**14 12 22.0**	**-2.1**
ANDN	**Andirin**	**3.24**	**250**	*i* P	**Pn**	**14 12 22.0**	**-2.1**
ANDN				*i* S	**Sg**	**14 13 17.6**	**+0.4**
ERBA	**Erbaa**	**3.26**	**307**	*i* P	**Pn**	**14 12 24.2**	**-0.2**
ERBA	**Erbaa**	**3.26**	**307**	*i* P	**Pn**	**14 12 24.2**	**-0.2**
ERBA				*i* S	**Sb**	**14 13 11.0**	**0.0**
EAK	**Akyaka**	**3.28**	**53**	*i* P	**Pn**	**14 12 24.8**	**+0.1**
EAK	**Akyaka**	**3.28**	**53**	*i* P	**Pn**	**14 12 24.8**	**+0.1**
EAK				*i* S	**Sg**	**14 13 19.7**	**+1.1**
JHLN	**Al Jahlan**	**3.37**	**205**	*e*P	Pb	14 12 29.3	-3.7
	SNR=45						
JHLN				*e*S	**Sb**	**14 13 16.9**	**+2.8**
	comp=Z,6μm,0.6s,SNR=40						
JHLN	**Al Jahlan**	**3.37**	**205**	*e*P	Pb	14 12 29.3	-3.7
JHLN				*e*S	**Sb**	**14 13 16.9**	**+2.8**
JHLN				AML	AML	14 13 33.4	
	comp=N,8μm,0.6s						
JHLN				AML	AML	14 13 33.6	
	comp=E,6μm,0.6s						
BNN	**Bunyan**	**3.38**	**273**	*e*PN	**Pn**	**14 12 25.9**	**-0.2**
BNN	**Bunyan**	**3.38**	**273**	*e*Pn	**Pn**	**14 12 25.9**	**-0.2**
KOZT	**Kozan**	**3.66**	**251**	*e*PN	**Pn**	**14 12 29.9**	**+0.2**
KOZT	**Kozan**	**3.66**	**251**	*e*Pn	**Pn**	**14 12 29.9**	**+0.2**
GNI	**Garni**	**3.80**	**67**	*e*P	**Pn**	**14 12 32.1**	**+0.2**
GNI	**Garni**	**3.80**	**67**	Pn	**Pn**	**14 12 32.6**	**+0.6**
	SNR=133						
GNI	**Garni**	**3.80**	**67**	Pn	**Pn**	**14 12 31.8**	**-0.1**
	comp=E,6.4nm,0.3s,baz=314,slow=1.4,SNR=21						
GNI				Lg	Lg	14 13 35.2	
	baz=198,slow=3.2,SNR=1.6						
GNI	**Garni**	**3.80**	**67**	*e*P	**Pn**	**14 12 32.1**	**+0.2**
GNI	**Garni**	**3.80**	**67**	*e*Pg	**Pb**	**14 12 43.0**	**+2.5**
GNI	**Garni**	**3.80**	**67**	*i* P	**Pn**	**14 12 32.5**	**+0.6**
	SNR=24						
GNI				*i* P	Pb	14 12 32.7	-7.7
	SNR=83						
GNI	**Garni**	**3.80**	**67**	*e*Pn	**Pn**	**14 12 32.1**	**+0.2**
GNI				*e*Pg	**Pb**	**14 12 43.0**	**+2.5**
GNI				Lg	Lg	14 13 35.2	
YOZ	**Yozgat**	**3.87**	**285**	*e*PN	**Pn**	**14 12 32.9**	**0.0**
YOZ	**Yozgat**	**3.87**	**285**	*e*Pn	**Pn**	**14 12 32.9**	**0.0**
CEYT	**Ceyhan**	**3.91**	**245**	*e*PN	**Pn**	**14 12 33.8**	**+0.6**
CEYT	**Ceyhan**	**3.91**	**245**	*e*Pn	**Pn**	**14 12 33.8**	**+0.6**
KVT	**Kavak**	**3.93**	**308**	*e*PN	**Pn**	**14 12 34.3**	**+0.7**
KVT	**Kavak**	**3.93**	**308**	*e*Pn	**Pn**	**14 12 34.3**	**+0.7**
BTCH	**Batrach**	**4.01**	**229**	*e*P	**Pn**	**14 12 34.4**	**-0.3**
	SNR=45						
BTCH				*e*S	**Sb**	**14 13 26.9**	**-5.6**
	comp=E,4μm,0.6s,SNR=40						
BTCH	**Batrach**	**4.01**	**229**	*e*P	**Pn**	**14 12 34.7**	**0.0**
BTCH				*e*S	**Sb**	**14 13 33.0**	**+0.5**
BTCH				AML	AML	14 13 44.5	
	comp=E,8μm,0.6s						
BTCH				AML	AML	14 13 50.2	
	comp=N,4μm,0.6s						
BTCH	**Batrach**	**4.01**	**229**	*e*P	**Pn**	**14 12 34.4**	**-0.3**
BTCH				*e*S	**Sb**	**14 13 31.9**	**-0.7**
BTCH	**Batrach**	**4.01**	**229**	*e*P	**Pn**	**14 12 34.4**	**-0.3**
BTCH				*e*S	**Sb**	**14 13 26.9**	**-5.6**
BTCH				AML	AML	14 13 44.5	
	comp=E,8μm,0.6s						
BTCH				AML	AML	14 13 50.2	
	comp=N,4μm,0.6s						
WRDH	**Warideh**	**4.42**	**224**	*e*P	**Pn**	**14 12 40.0**	**-0.3**
WRDH				*e*S	**Sb**	**14 13 42.5**	**-1.8**
WRDH				AML	AML	14 14 06.5	
	comp=N,5μm,0.6s						
WRDH				AML	AML	14 14 18.5	
	comp=E,3μm,0.6s						
ARNB	**Al Arnab**	**4.42**	**231**	*e*P	**Pn**	**14 12 39.1**	**-1.3**
	SNR=45						
ARNB				*e*S	**Sn**	**14 13 34.1**	**+2.2**
	comp=E,4μm,0.7s,SNR=40						
ARNB	**Al Arnab**	**4.42**	**231**	*e*P	**Pn**	**14 12 40.0**	**-0.3**
ARNB				*e*S	**Sb**	**14 13 41.8**	**-2.5**
ARNB				AML	AML	14 14 03.8	
	comp=N,2μm,0.7s						
ARNB				AML	AML	14 14 05.6	
	comp=E,4μm,0.7s						
ARNB	**Al Arnab**	**4.42**	**231**	*e*P	**Pn**	**14 12 39.7**	**-0.7**
ARNB				*e*S	**Sn**	**14 13 34.1**	**+2.2**
ARNB	**Al Arnab**	**4.42**	**231**	*e*P	**Pn**	**14 12 39.1**	**-1.3**
ARNB				*e*S	**Sn**	**14 13 34.1**	**+2.2**
ARNB				AML	AML	14 14 03.8	
	comp=N,2μm,0.7s						
ARNB				AML	AML	14 14 05.6	
	comp=E,4μm,0.7s						
ONI	**Oni**	**4.57**	**32**	P	**Pn**	**14 12 42.2**	**-0.2**
ONI				S	**Sb**	**14 13 54.5**	**+5.9**
ONI	**Oni**	**4.57**	**32**	P	**Pn**	**14 12 42.2**	**-0.2**
TBLG	**Delisi**	**4.59**	**48**	P	**Pn**	**14 12 43.2**	**+0.6**
TBLG				S	**Sg**	**14 14 03.2**	**+2.7**
TBLG	**Delisi**	**4.59**	**48**	P	**Pn**	**14 12 43.2**	**+0.6**
SEAG	**Tbilisi Sea**	**4.65**	**48**	P	**Pn**	**14 12 43.1**	**-0.3**
SEAG	**Tbilisi Sea**	**4.65**	**48**	P	**Pn**	**14 12 43.1**	**-0.3**
IKRK	**Kirkuk**	**4.72**	**134**	*e*PN	**Pb**	**14 12 57.2**	**+1.2**
IKRK				*e*SN	**Sn**	**14 13 44.6**	**+5.4**
DUS	**Dusheti**	**4.80**	**45**	P	**Pn**	**14 12 46.7**	**+1.1**
DUS	**Dusheti**	**4.80**	**45**	P	**Pn**	**14 12 46.7**	**+1.1**
DGRG	**David-gareji**	**4.81**	**54**	P	**Pn**	**14 12 46.7**	**+1.0**
DGRG				S	Sg	14 14 17.0	+9.3
DGRG	**David-gareji**	**4.81**	**54**	P	**Pn**	**14 12 46.7**	**+1.0**
SOC	**Sochi**	**4.84**	**356**	*c i* P	**Pn**	**14 12 44.6**	**-1.4**
SOC				*e*		14 13 40.6	
SOC				pmax	pmax		
	comp=Z,266nm,0.5s						
SOC				MLR	MLR		
	comp=Z,3μm,10.0s						
SOC	**Sochi**	**4.84**	**356**	*i* P	**Pn**	**14 12 44.6**	**-1.4**
	comp=Z,266nm,0.5s						
SOC				*e*S	**Sn**	**14 13 40.6**	**-1.4**
	comp=Z,3μm,10.0s						
BIDA	**Albida**	**4.84**	**221**	*e*P	**Pn**	**14 12 45.3**	**-0.9**
	SNR=45						
BIDA				*e*S	**Sn**	**14 13 45.0**	**+2.7**
	comp=Z,7μm,0.6s,SNR=40						
BIDA	**Albida**	**4.84**	**221**	*e*P	**Pn**	**14 12 45.8**	**-0.3**
BIDA				*e*S	**Sb**	**14 13 50.5**	**-6.0**
BIDA				AML	AML	14 14 22.4	
	comp=E,8μm,0.6s						
BIDA				AML	AML	14 14 22.6	
	comp=N,7μm,0.6s						
BIDA	**Albida**	**4.84**	**221**	*e*P	**Pn**	**14 12 45.3**	**-0.9**
BIDA				*e*S	**Sn**	**14 13 45.0**	**+2.7**
BIDA				AML	AML	14 14 22.4	
	comp=E,8μm,0.6s						
BIDA				AML	AML	14 14 22.7	
	comp=N,7μm,0.6s						
ZEI	**Tsey**	**4.92**	**34**	*e*P	**Pn**	**14 12 47.1**	**-0.3**
ZEI				pmax	pmax		
	comp=Z,321nm,0.9s						
GUDG	**Gudauri**	**4.95**	**40**	P	**Pn**	**14 12 47.7**	**0.0**
GUDG	**Gudauri**	**4.95**	**40**	P	**Pn**	**14 12 47.7**	**0.0**
BYBT	**Boyabat**	**4.95**	**305**	Pn	**Pn**	**14 12 48.3**	**+0.8**
BYBT	**Boyabat**	**4.95**	**305**	Pn	**Pn**	**14 12 48.3**	**+0.8**
BRTR	**Keskin Array B**	**5.17**	**283**	Pn	**Pn**	**14 12 49.5**	**-1.1**
	comp=Z,4.2nm,0.3s,baz=101,slow=15,SNR=46						
BRTR				Lg	Lg	14 14 23.0	
	comp=Z,2.4nm,0.3s,baz=118,slow=27,SNR=5.8						
BRTR				LR	LR	14 15 09.9	
	comp=Z,4μm,21.2s,baz=83,slow=42						
HAWK	**Haweek**	**5.20**	**217**	*e*P	**Pn**	**14 12 50.8**	**-0.2**
	SNR=45						
HAWK				*e*S	Sn	14 13 57.7	+6.7
	comp=Z,1μm,0.6s,SNR=40						
HAWK	**Haweek**	**5.20**	**217**	*e*P	**Pn**	**14 12 50.8**	**-0.2**
HAWK				*e*S	Sn	14 13 57.7	+6.7
HAWK				AML	AML	14 14 25.4	
	comp=N,2μm,0.7s						
HAWK				AML	AML	14 14 31.5	
	comp=E,1μm,0.6s						
HAWK				AML	AML	14 14 36.9	
	comp=Z,1μm,0.6s						
KBZ	**Khabaz**	**5.38**	**22**	Pn	**Pn**	**14 12 53.8**	**+0.4**
	comp=Z,3.2nm,0.3s,baz=203,slow=

comp=Z,3.4nm,0.3s,baz=346,slow=5.5,SNR=45
ASF Lg Lg 14 15 21.9
comp=Z,11nm,0.3s,baz=190,slow=15,SNR=4.7
ASF LR LR 14 16 20.8
comp=Z,2μm,21.3s,baz=335,slow=41
KERU Kerch 7.11 338 *e*P Pn 14 13 25.8 +8.7
SUDU Sudak 7.25 329 *e*P Pn 14 13 23.4 +4.4
SUDU *e*S Sn 14 14 48.3 +7.1
YAL Yalta 7.29 324 *e*P Pn 14 13 29.0 +9.4
YAL *e*S Sb 14 14 54.0 -13
AKMC Akamas 7.30 242 P **Pn 14 13 21.9 +2.0**
baz=54
AKMC Akamas 7.30 242 P **Pn 14 13 21.9 +2.0**
PPCY Paphos 7.37 241 P Pn 14 13 23.0 +2.2
baz=53
PPCY Paphos 7.37 241 P Pn 14 13 23.0 +2.2
SEV Sevastopol' 7.56 322 *e*P Pn 14 13 30.4 +7.1
SEV *e*S Sn 14 14 59.3 +10
ISP Isparta 7.65 266 *e*P **Pn 14 13 26.2 +1.5**
ISP pmax pmax
comp=Z,18nm,0.7s
ISP Isparta 7.65 266⇑*i*P Pn 14 13 30.5 +5.8
ISP Isparta 7.65 266 S Sg 14 15 44.4 +5.7
ISP Isparta 7.65 266 *e*P **Pn 14 13 26.2 +1.5**
comp=Z,18nm,0.7s
ISP Isparta 7.65 266 *e*Pn **Pn 14 13 26.2 +1.5**
comp=Z,18nm,0.7s
SIM Simferopol' 7.66 326 P Pn 14 13 29.4 +4.6
SIM *e*S Sn 14 15 00.2 +8.7
SIM pmax pmax
comp=Z,32nm,1.0s
BCK Bucak 7.67 263 P **Pn 14 13 26.6 +1.7**
BCK Bucak 7.67 263 P **Pn 14 13 26.6 +1.7**
BCK Bucak 7.67 263 Pn **Pn 14 13 26.6 +1.7**
ALT Altintas 7.85 275 P Pn 14 13 32.2 +4.7
ALT Altintas 7.85 275 P Pn 14 13 32.2 +4.7
ALT Altintas 7.85 275 P Pn 14 13 32.2 +4.7
ISK Istanbul-Kandi 8.85 289 P Pn 14 13 45.6 +4.6
ISK Istanbul-Kandi 8.85 289 P Pn 14 13 45.6 +4.6
ISK Istanbul-Kandi 8.85 289 P Pn 14 13 45.6 +4.6
ISK Istanbul-Kandi 8.85 289 P Pn 14 13 45.6 +4.6
EIL Elat 10.04 207 Pn **Pn 14 13 58.7 +1.3**
comp=Z,1.5nm,0.3s,baz=16,slow=7.8,SNR=11
EIL Lg Lg 14 16 58.5
comp=Z,3.9nm,0.3s,baz=1.5,slow=14,SNR=4.3
PSN Preselentsi 10.28 302⇑*i*P Pn 14 14 04.2 +3.5
TIRR Tirgusor 10.48 307 *e*P **Pn 14 14 02.3 -1.1**
TIRR pmax pmax
comp=Z,21nm,0.9s
TIRR Tirgusor 10.48 307⇑*i*P **Pn 14 14 04.3 +0.9**
TIRR Tirgusor 10.48 307 S Sn 14 16 07.3 +6.5
TIRR Tirgusor 10.48 307 *e*P **Pn 14 14 02.3 -1.1**
comp=Z,21nm,0.9s
TIRR Tirgusor 10.48 307 *e*Pn **Pn 14 14 02.3 -1.1**
comp=Z,21nm,0.9s
TLCR 10.62 311⇑*i*P Pn 14 14 07.4 +2.2
KARP Karpathos 10.87 257 P **Pn 14 14 09.0 +0.3**
KARP Karpathos 10.87 257 *e*PN **Pn 14 14 10.4 +1.7**
KARP Karpathos 10.87 257 P **Pn 14 14 09.0 +0.3**
KARP Karpathos 10.87 257 P **Pn 14 14 09.0 +0.3**
CFR Carcaliu 11.02 309⇑*i*P **Pn 14 14 12.5 +1.8**
KDZ Kurdzhali 11.65 289⇑*i*P Pn 14 14 23.1 +3.7
APE Apeiranthos 11.69 266⇑*e*P **Pn 14 14 21.2 +1.2**
APE Apeiranthos 11.69 266 *e*P **Pn 14 14 21.2 +1.2**
KIS Kishinev 11.71 318 *e*P Pn 14 14 17.0 -3.1
KIS *e*S Sn 14 16 38.0 +7.3
KIS MLR MLR
comp=Z,2μm,15.0s
KIS MLR MLR
comp=N,1μm,16.0s
KIS MLR MLR
comp=Z,2μm,16.0s
KIS Kishinev 11.71 318 *e*P Pn 14 14 17.0 -3.1
KIS Kishinev 11.71 318 *e*PP Pn 14 14 39.0 +19
KIS *e*S Sn 14 16 38.0 +7.3
KIS *e*LQ LQ 14 17 38.0
KIS LRM MLR 14 21 40.0
comp=Z,2μm,16.0s
KIS Kishinev 11.71 318 *e*P Pn 14 14 17.0 -3.1
ZKR Zakros 11.74 256 *e*PB Pn 14 14 27.0 +6.3
ISR Istrita 11.97 306‖*i*P Pn 14 14 26.0 +2.2
VRI Vrincioaia 12.22 310⇑*i*P **Pn 14 14 28.6 +1.4**
VORD Divnogorie 12.23 357 *e*P **Pn 14 14 25.4 -1.8**
VORD pmax pmax
comp=Z,20nm,0.8s
VORD pmax pmax
comp=N,80nm,0.9s
VORD pmax pmax
comp=E,40nm,0.7s
VORD MLR MLR
comp=N,650nm,12.0s
VORD MLR MLR
comp=Z,820nm,12.0s
VORD MLR MLR
comp=E,830nm,14.0s
VORD Divnogorie 12.23 357 *e*P **Pn 14 14 25.4 -1.8**
comp=E,80nm,0.9s
PLOR Plostina 12.26 310⇑*i*P **Pn 14 14 29.0 +1.2**
LAST Lasithi 12.29 258 *e*PB **P 14 14 37.5 -3.1**
VRHR Novokhopersk 12.38 4 *e*P **Pn 14 14 28.8 -0.6**
VRHR pmax pmax
comp=N,100nm,0.8s
VRHR pmax pmax
comp=E,30nm,0.8s
VRHR pmax pmax
comp=Z,50nm,0.8s
VRHR MLR MLR
comp=E,750nm,13.0s
VRHR MLR MLR
comp=Z,1μm,13.0s
VRHR MLR MLR
comp=N,1μm,12.0s
VRHR Novokhopersk 12.38 4 *e*P **Pn 14 14 28.8 -0.6**
comp=N,1μm,12.0s
VSR Storozhevoye 12.48 357 *e*P **Pn 14 14 28.3 -2.4**
VSR pmax pmax
comp=Z,20nm,1.0s
VSR pmax pmax
comp=N,60nm,0.8s
VSR pmax pmax
comp=E,9.0nm,0.7s
VSR MLR MLR
comp=N,520nm,12.0s
VSR MLR MLR
comp=Z,870nm,12.0s
VSR MLR MLR
comp=E,930nm,15.0s
VSR Storozhevoye 12.48 357 *e*P **Pn 14 14 28.3 -2.4**
comp=E,60nm,0.8s
MLR Muntele Rosu 12.52 307‖*i*P Pn 14 14 35.0 +3.6
MLR Muntele Rosu 12.52 307 Pn **Pn 14 14 32.9 +1.6**
comp=E,0.0nm,0.3s,baz=127,slow=3.7,SNR=12
MLR LR LR 14 20 26.3
comp=E,476nm,20.6s,baz=130,slow=43
TESR Tescani 12.61 312‖*i*P Pn 14 14 34.9 +2.4
IDI Anoyia 12.69 259 Pn **Pn 14 14 34.5 +0.7**
comp=E,0.5nm,0.3s,baz=64,slow=14,SNR=6.4
NVR Nevrokopi 12.77 287 *e*P Pn 14 14 38.7 +4.0
SIVA Sivas 12.85 258 *e*PN P 14 14 40.7 -6.0
MMB Musomiste 12.89 288‖*i*P Pn 14 14 40.2 +3.8
MMB Musomiste 12.89 288 P P 14 14 43.9 -3.3
SRS Serrai 12.94 286 *e*P Pn 14 14 41.8 +4.7
VOR Voronezh 13.00 357 P **Pn 14 14 38.0 +0.3**
VOR pmax pmax
comp=Z,250nm,1.0s
VOR Voronezh 13.00 357 P **Pn 14 14 38.0 +0.3**
comp=Z,250nm,1.0s
PLG Polygyros 13.01 282 *e*P Pn 14 14 43.7 +5.7
VOIR 13.06 306‖*i*P Pn 14 14 41.1 +2.4
DOPR Dopca 13.08 308‖*i*P **Pn 14 14 41.0 +2.0**
SOH Sokhos 13.10 284 *e*P Pn 14 14 43.8 +4.5
VAM Vamos 13.18 260 P Pn 14 14 43.6 +3.2
VAM Vamos 13.18 260 P Pn 14 14 43.6 +3.2
VAM Vamos 13.18 260 *e*PN Pn 14 14 43.8 +3.4
VAM Vamos 13.18 260 P Pn 14 14 43.6 +3.2
VAM Vamos 13.18 260 P Pn 14 14 43.6 +3.2
MPEP Malo Peshtene 13.22 296 P Pn 14 14 43.0 +2.1
HORT Hortiatis 13.28 283 P **Pn 14 14 43.6 +1.8**
HORT Hortiatis 13.28 283 *e*P Pn 14 14 45.5 +3.7
HORT Hortiatis 13.28 283 P **Pn 14 14 43.6 +1.8**
HORT Hortiatis 13.28 283 P **Pn 14 14 43.6 +1.8**
ARR Arges 13.29 305⇑*i*P P 14 14 46.6 -5.1
THE Thessaloniki 13.39 283 *e*P Pn 14 14 45.5 +2.4
KARN Karanos 13.40 261 P Pn 14 14 45.7 +2.3
KARN Karanos 13.40 261 *e*PN Pn 14 14 46.3 +2.9
KARN Karanos 13.40 261 P Pn 14 14 45.7 +2.3
KARN Karanos 13.40 261 P Pn 14 14 45.7 +2.3
KKB Krupnik 13.41 289 P Pn 14 14 47.6 +4.2
LKR Lokris 13.42 275 *e*PB P 14 15 03.2 +10
VTS Vitosha 13.43 292 P Pn 14 14 46.3 +2.4
VTS Vitosha 13.43 292 P Pn 14 14 46.3 +2.4
VTS Vitosha 13.43 292⇑*i*P Pn 14 14 46.5 +2.6
VTS Vitosha 13.43 292 P P 14 14 49.1 -4.3
VTS Vitosha 13.43 292 P Pn 14 14 46.3 +2.4
VTS Vitosha 13.43 292 P Pn 14 14 46.3 +2.4
KNT Kendrikon 13.47 286 P Pn 14 14 47.2 +2.9
KNT Kendrikon 13.47 286 P Pn 14 14 47.2 +2.9
KNT Kendrikon 13.47 286 *e*P Pn 14 14 48.0 +3.7
KNT Kendrikon 13.47 286 P Pn 14 14 47.2 +2.9
KNT Kendrikon 13.47 286 P Pn 14 14 47.2 +2.9
LTK Loutraki 13.52 272 *e*PN P 14 14 56.9 +2.7
VAY Valandovo 13.73 286 P Pn 14 14 50.8 +3.0
VAY Valandovo 13.73 286 P Pn 14 14 50.8 +3.0
VAY Valandovo 13.73 286 *e*P Pn 14 14 51.2 +3.4
VAY Valandovo 13.73 286 P Pn 14 14 50.8 +3.0
VAY Valandovo 13.73 286 P Pn 14 14 50.8 +3.0
LIT Litokhoron 13.74 281 *e*P P 14 14 51.8 -4.8
VLI Veliai 13.79 267 P Pn 14 14 52.3 +3.6
VLI Veliai 13.79 267 *e*PN Pn 14 14 50.7 +2.0
VLI Veliai 13.79 267 P Pn 14 14 52.3 +3.6
VLI Veliai 13.79 267 P Pn 14 14 52.3 +3.6
GRG Griva 13.83 285 P Pn 14 14 52.3 +3.1
GRG Griva 13.83 285 P Pn 14 14 52.3 +3.1
GRG Griva 13.83 285 *e*P P 14 14 53.0 -4.7
GRG Griva 13.83 285 P Pn 14 14 52.3 +3.1
GRG Griva 13.83 285 P Pn 14 14 52.3 +3.1
LOT Lotru 13.88 304⇑*i*P P 14 14 52.1 +3.8
AGG Agios Georgios 13.90 277 P P 14 14 54.9 -3.6
AGG Agios Georgios 13.90 277 P P 14 14 54.9 -3.6
AGG Agios Georgios 13.90 277 *e*PN P 14 15 01.2 +2.7
AGG Agios Georgios 13.90 277 P P 14 14 54.9 -3.6
AGG Agios Georgios 13.90 277 P P 14 14 54.9 -3.6
GUR Goura 14.02 272 P P 14 14 56.2 -3.7
GUR Goura 14.02 272 *e*PN P 14 14 56.7 -3.2
GUR Goura 14.02 272 P P 14 14 56.2 -3.7
GUR Goura 14.02 272 P P 14 14 56.2 -3.7
BURAR Bucovina Array 14.03 314‖*i*P P 14 14 55.7 -4.2
MAKR Makrakomi, Fth 14.06 277 P P 14 15 03.1 +2.9
MAKR Makrakomi, Fth 14.06 277 *e*PN P 14 15 02.7 +2.5
MAKR Makrakomi, Fth 14.06 277 P P 14 15 03.1 +2.9
MAKR Makrakomi, Fth 14.06 277 P P 14 15 03.1 +2.9
VLX Vlachokerasia 14.09 270 P P 14 14 57.4 -3.2
VLX Vlachokerasia 14.09 270 *e*PN P 14 14 56.5 -4.1
VLX Vlachokerasia 14.09 270 P P 14 14 57.4 -3.2
VLX Vlachokerasia 14.09 270 P P 14 14 57.4 -3.2
GEYT Alibeck 14.11 88 Pn **Pn 14 14 54.5 +1.4**
comp=Z,0.3nm,0.3s,baz=292,slow=14,SNR=12
GEYT LR LR 14 21 39.0
comp=Z,523nm,19.1s,baz=270,slow=43
KALE Kalithea 14.12 274 P P 14 14 56.9 -4.0
KALE Kalithea 14.12 274 P P 14 14 56.9 -4.0
KALE Kalithea 14.12 274 P P 14 14 56.9 -4.0
THL Klokotos Trika 14.12 279 *e*P **P 14 15 00.8 0.0**
KLV Kalavryta, Ach 14.16 273 P **P 14 15 00.9 -0.4**
KLV Kalavryta, Ach 14.16 273 *e*PN **P 14 15 01.8 +0.5**
KLV Kalavryta, Ach 14.16 273 P **P 14 15 00.9 -0.4**
KLV Kalavryta, Ach 14.16 273 P **P 14 15 00.9 -0.4**
AKASG Malin Array Be 14.24 331 *i*P **Pn 14 14 55.7 +1.0**
AKASG pmax pmax
comp=Z,32nm,1.1s
AKASG Malin Array Be 14.24 331 Pn **Pn 14 14 52.7 -2.0**
comp=Z,1.0nm,0.3s,baz=149,slow=11,SNR=26
AKASG Sn **Sn 14 17 36.0 +3.5**
comp=Z,0.5nm,0.3s,baz=136,slow=25,SNR=5.9
KIEV Kiev 14.24 331 *e*P Pn 14 14 51.4 -3.3
KIEV pmax pmax
comp=Z,29nm,0.8s
KIEV Kiev 14.24 331 *e*P Pn 14 14 51.4 -3.3
comp=Z,29nm,0.8s
KIEV Kiev 14.24 331 *e*P Pn 14 14 51.4 -3.3
comp=Z,29nm,0.8s
KZN Kozani 14.29 282 *e*P **P 14 15 00.0 -2.8**
EFP Efpalio 14.29 274 P **P** 14 14 59.1 -3.7
EFP Efpalio 14.29 274 *e*PN **P** 14 14 59.1 -3.7
EFP Efpalio 14.29 274 P **P** 14 14 59.1 -3.7
EVR Evrytania 14.32 276 P **Pn 14 14 57.8 +1.8**
EVR Evrytania 14.32 276 *e*PN **P 14 15 04.4 +1.2**
EVR Evrytania 14.32 276 P **Pn 14 14 57.8 +1.8**
EVR Evrytania 14.32 276 P **Pn 14 14 57.8 +1.8**
ITM Ithomi 14.48 269 P **P 14 15 01.9 -3.0**
ITM Ithomi 14.48 269 *e*PN **P 14 15 01.8 -3.1**
ITM Ithomi 14.48 269 P **P 14 15 01.9 -3.0**
ITM Ithomi 14.48 269 P **P 14 15 01.9 -3.0**
GZR Gura Zlata 14.51 303‖*i*P **P 14 15 03.6 -1.6**
DRO Drossia 14.51 273 P P 14 15 02.1 -3.1
DRO Drossia 14.51 273 *e*PN **P 14 15 05.6 +0.4**
CJR Cluj-Napoca 14.53 309‖*i*P P 14 15 10.3 +4.9
AMT Artemida-Makis 14.59 271 P **P 14 15 06.5 +0.5**
AMT Artemida-Makis 14.59 271 *e*PN **P 14 15 05.2 -0.8**
AMT Artemida-Makis 14.59 271 P **P 14 15 06.5 +0.5**
FNA Florina 14.60 284 P **P 14 15 08.1 +1.9**
FNA Florina 14.60 284 P **P 14 15 08.1 +1.9**
FNA Florina 14.60 284 *e*P **P 14 15 06.7 +0.5**
FNA Florina 14.60 284 P **P 14 15 08.1 +1.9**
FNA Florina 14.60 284 P **P 14 15 08.1 +1.9**
SKO Skopje 14.64 289 *e*P **P 14 15 05.0 -1.7**
SKO Skopje 14.64 289 *e*P **P 14 15 04.9 -1.7**
PYL PYLOS 14.69 268 P **Pn 14 15 02.5 +1.6**
PYL PYLOS 14.69 268 *e*PN P 14 15 03.5 -3.6
PYL PYLOS 14.69 268 P **Pn 14 15 02.5 +1.6**
PYL PYLOS 14.69 268 P **Pn 14 15 02.5 +1.6**
RLS Riolos of Patr 14.69 273 *e*PN **P 14 15 07.7 +0.6**
PDO Prodromos 14.84 275 P **P 14 15 07.4 -1.4**
PDO Prodromos 14.84 275 *e*PG **P 14 15 06.1 -2.7**
PDO Prodromos 14.84 275 P **P 14 15 07.4 -1.4**
NEST Nestorio 14.84 282 P **P 14 15 07.4 -1.6**
NEST Nestorio 14.84 282 *e*P **P 14 15 09.2 +0.2**
NEST Nestorio 14.84 282 P **P 14 15 07.4 -1.6**
DSL Palaion Diasel 14.85 277 P **P 14 15 08.1 -0.9**
DSL Palaion Diasel 14.85 277 *e*PG **P 14 15 08.5 -0.5**
DSL Palaion Diasel 14.85 277 P **P 14 15 08.1 -0.9**
DSL Palaion Diasel 14.85 277 P **P 14 15 08.1 -0.9**
JAN Janina 15.01 280 P **P 14 15 10.6 -0.2**
JAN Janina 15.01 280 P **P 14 15 10.6 -0.2**
JAN Janina 15.01 280 P **P 14 15 10.6 -0.2**
JAN Janina 15.01 280 P **P 14 15 10.6 -0.2**
OHR Ohrid 15.05 285 *e*P **Pn 14 15 07.9 +2.1**
SELS Selova 15.06 293 *e*P **P 14 15 09.7 -1.6**
DRGR 15.11 308⇑*i*P **Pn 14 15 08.6 +2.0**
SFD Strofades 15.18 270 *e*PN **P 14 15 09.7 -2.9**
KFL Anninata 15.21 274 P **P 14 15 10.6 -2.4**
KFL Anninata 15.21 274 P **P 14 15 10.6 -2.4**
LKD2 Lefkada island 15.23 276 P **P 14 15 11.8 -1.4**
LKD2 Lefkada island 15.23 276 *e*PG **P 14 15 12.0 -1.2**
LKD2 Lefkada island 15.23 276 P **P 14 15 11.8 -1.4**
LKD2 Lefkada island 15.23 276 P **P 14 15 11.8 -1.4**
BZS Buzias 15.35 302⇑*i*P **P 14 15 13.3 -1.2**
PHP Peshkopia 15.35 287 P **P 14 15 15.2 +0.6**
PHP Peshkopia 15.35 287 P **P 14 15 15.2 +0.6**
PHP Peshkopia 15.35 287 P **P 14 15 15.2 +0.6**
PHP Peshkopia 15.35 287 P **P 14 15 15.2 +0.6**
VLS Valsamata 15.36 274 P **P 14 15 13.7 -0.9**
VLS Valsamata 15.36 274 P **P 14 15 13.7 -0.9**
VLS Valsamata 15.36 274 *e*PN **P 14 15 12.6 -2.0**
VLS Valsamata 15.36 274 P **P 14 15 13.7 -0.9**
VLS Valsamata 15.36 274 P **P 14 15 13.7 -0.9**
IGT Igoumenitsa 15.42 279 P **P 14 15 14.7 -0.6**
IGT Igoumenitsa 15.42 279 P **P 14 15 14.7 -0.6**
IGT Igoumenitsa 15.42 279 *e*P **P 14 15 13.8 -1.5**
IGT Igoumenitsa 15.42 279 P **P 14 15 14.7 -0.6**
IGT Igoumenitsa 15.42 279 P **P 14 15 14.7 -0.6**
IVAS Ivanjica 15.82 294 *e*P **P 14 15 17.4 -2.4**
KEK Kerkira 15.82 280 P **P 14 15 19.8 +0.1**
KEK Kerkira 15.82 280 *e*P **P 14 15 18.7 -1.0**
KEK Kerkira 15.82 280 P **P 14 15 19.8 +0.1**
KEK Kerkira 15.82 280 P **P 14 15 19.8 +0.1**
TRPA Tarpa 15.84 312⇑*i*P **P 14 15 18.1 -1.7**
RAYN Ar Rayn 15.85 162 *e*Pn **Pn 14 15 14.1 -2.3**
comp=Z,34nm,0.7s
RAYN Ar Rayn 15.85 162 *e*Pn **Pn 14 15 14.1 -2.3**
comp=Z,34nm,0.7s
LVV L'vov 15.96 319 *e*P **P 14 15 24.1 +2.9**
DIVS Divibare 16.04 296 P **Pn 14 15 19.5 +0.7**
DIVS Divibare 16.04 296 P **Pn 14 15 19.5 +0.7**
UZH Uzhgorod 16.23 313⇑*i*P **P 14 15 22.4 -1.8**
UZH *e*S **S 14 18 32.2 -1.9**
UZH MLR MLR
comp=N,1μm,16.0s
UZH MLR MLR
comp=E,910nm,16.0s
UZH MLR MLR
comp=Z,560nm,16.0s
UZH Uzhgorod 16.23 313 *i*P **P 14 15 22.4 -1.8**
KOLS Kolonicke sedl 16.40 314 *e*P **P 14 15 25.5 -0.6**
KOLS pmax pmax
comp=Z,119nm,1.3s
KOLS Kolonicke sedl 16.40 314 *e*P **P 14 15 25.5 -0.6**
comp=Z,119nm,1.3s
KOLS Kolonicke sedl 16.40 314 *e*P **P 14 15 25.5 -0.6**
BBLS Lazići 16.41 295 *e*P **Pn 14 15 23.6 +0.1**
TEKS Tekeris 16.46 297 *e*P **Pn 14 15 24.4 +0.3**
KWP Kalwaria Pacla 16.54 317 P **Pn 14 15 25.3 +0.2**
KWP pmax pmax
comp=Z,241nm,1.3s
KWP Kalwaria Pacla 16.54 317 *e*P **P 14 15 27.1 -0.6**
KWP Kalwaria Pacla 16.54 317 P **Pn 14 15 25.3 +0.2**
comp=Z,241nm,1.3s
KWP Kalwaria Pacla 16.54 317 Pn **Pn 14 15 25.3 +0.2**
comp=Z,241nm,1.3s
OBN Obninsk 16.55 353 *c*eP **Pn 14 15 22.4 -2.7**
OBN *e*S **Sn 14 18 24.9 -3.7**
OBN pmax pmax
comp=Z,81nm,0.8s
OBN MLR MLR
comp=Z,984nm,22.0s
OBN Obninsk 16.55 353 Pn **Pn 14 15 23.0 -2.1**
comp=Z,4.0nm,0.3s,baz=173,slow=22,SNR=15
OBN LR LR 14 22 36.4
comp=Z,766nm,20.1s,baz=198,slow=40
OBN Obninsk 16.55 353 *e*P **Pn 14 15 22.6 -2.5**
comp=Z,64nm,0.6s
CRVS Cervenica-Dubn 16.84 313 *e*P **P 14 15 31.3 +0.3**
CRVS pmax pmax
comp=Z,80nm,1.3s
CRVS Cervenica-Dubn 16.84 313 *e*P **P 14 15 31.3 +0.3**
comp=Z,80nm,1.3s
CRVS Cervenica-Dubn 16.84 313 *e*P **P 14 15 31.3 +0.3**
PKSN Nyarlorinc 16.94 305‖*e* P 14 15 38.3 +6.2
MOS Moscow 17.08 355 *e*P **Pn 14 15 28.0 -3.8**
MOS *e*S **Sn 14 18 37.2 -4.3**
MOS pmax pmax
comp=Z,162nm,1.1s
MOS MLR MLR
comp=Z,900nm,13.0s
AKTO Aktyubinsk 17.21 41 P **Pn 14 15 30.1 -3.4**
comp=Z,0.7nm,0.3s,baz=236,slow=11,SNR=25
AKTO LR LR 14 24 01.0
comp=Z,2μm,18.5s,baz=228,slow=44
STHS Stebnicka Huta 17.23 314 *e*P **P 14 15 39.1 +3.8**
STHS pmax pmax
comp=Z,51nm,1.3s
STHS Stebnicka Huta 17.23 314 *e* **P 14 15 39.1 +3.8**
PSZ Piszkesteto 17.32 308 *e*P **P 14 15 38.6 +2.2**
PSZ pmax pmax
comp=Z,306nm,2.0s
PSZ Piszkesteto 17.32 308⇑*i*P **P 14 15 38.4 +2.0**
PSZ Piszkesteto 17.32 308 *e*P **P 14 15 38.6 +2.2**
comp=Z,306nm,2.0s
PSZ Piszkesteto 17.32 308⇑*e* **P 14 15 39.1 +2.7**
PSZ Piszkesteto 17.32 308 *e*P **P 14 15 38.6 +2.2**
comp=Z,306nm,2.0s
AB31 Akbulak array 17.62 47 *i*P **Pn 14 15 35.1 -3.6**
AB31 pmax pmax
comp=Z,53nm,1.3s
NIE Niedzica 17.76 313 *e*P **P 14 15 41.6 +0.5**
NIE Niedzica 17.76 313 *e*P **P 14 15 41.6 +0.5**
NIE Niedzica 17.76 313 *e*P **P 14 15 41.6 +0.5**
MICGM Minsk 17.83 336‖*e*P **Pn 14 15 39.0 -2.1**
MNK Minsk 17.84 336‖*e*P **Pn 14 15 39.0 -2.3**
MNK pmax pmax
comp=Z,110nm,1.4s
PKSG 18.06 306‖*e* P 14 15 48.3 +3.9
CSKK Cs˘‡kako 18.13 305‖*e* P 14 15 49.9 +4.6
TIP Timpagrande 18.21 279 P **P 14 15 46.8 +0.6**
TIP Timpagrande 18.21 279 P **P 14 15 46.8 +0.6**
TIP Timpagrande 18.21 279 P **P 14 15 46.8 +0.6**
PKST T''s 18.24 305‖*e* P 14 15 50.4 +3.9
OJC Ojcow 18.45 315 *e*P **Pn 14 15 50.5 +1.7**
OJC Ojcow 18.45 315 *e*P **Pn 14 15 50.5 +1.7**
OJC Ojcow 18.45 315 *e*P **Pn 14 15 50.5 +1.7**
NACGM Naroch 18.52 335 *e*P **P 14 15 48.0 -1.4**
NACGM Naroch 18.52 335 *e*P **P 14 15 48.0 -1.4**
BANOM Banah 18.65 129 P **Pn 14 15 51.5 +0.1**
SNR=8.8
BANOM Banah 18.65 129 P **Pn 14 15 51.6 +0.1**
SNR=38
BANOM Banah 18.65 129 *i*P **Pn 14 15 51.6 +0.1**
SNR=38
BEL Belsk 18.82 320 *e*P **Pn 14 15 54.8 +1.5**
BEL Belsk 18.82 320 *e*P **Pn 14 15 54.7 +1.5**
BEL Belsk 18.82 320 *e*P **Pn 14 15 54.8 +1.5**
CUC Castrocucco 18.86 281 *e*P **Pn 14 15 53.4 -0.6**
comp=Z,33nm,0.9s
CUC Castrocucco 18.86 281 *e*P **Pn 14 15 53.4 -0.6**
comp=Z,33nm,0.9s
IDID Didziasalis 18.87 336 *e*P **Pn 14 15 53.4 -0.4**
IDID AMB AMB 14 15 59.4
comp=Z,46nm,1.2s
IDID Didziasalis 18.87 336 *e*P **Pn 14 15 53.4 -0.4**
comp=Z,46nm,1.2s,SNR=28
NAZ Nazwa, Dubai 18.97 132 P **Pn 14 15 55.3 0.0**
SNR=38
NAZ Nazwa, Dubai 18.97 132 *i*P **Pn 14 15 55.3 0.0**
SNR=38
CEL Celeste 19.00 276 *e*P **P 14 15 54.6 -0.3**
comp=Z,167nm,1.5s
CEL Celeste 19.00 276 *e*P **P 14 15 54.6 -0.3**
comp=Z,167nm,1.5s
ASUD Al Ashush, Dub 19.06 133 P **Pn 14 15 57.1 +0.7**
SNR=5.9
ASUD Al Ashush, Dub 19.06 133 *i*P **Pn 14 15 57.1 +0.7**
SNR=5.9
IIGN Ignalina 19.07 335 *e*P **P 14 15 55.2 -0.3**
IIGN AMB AMB 14 16 01.2
comp=Z,53nm,1.3s
IIGN Ignalina 19.07 335 *e*P **P 14 15 55.2 -0.3**
comp=Z,53nm,1.3s,SNR=28
FAQ Al Faqa, Dubai 19.12 132 P **Pn 14 15 56.6 -0.4**
SNR=32
FAQ Al Faqa, Dubai 19.12 132 *i*P **Pn 14 15 56.6 -0.4**
SNR=32
SUW Suwalki 19.16 328 *e*P **P 14 15 55.0 -1.5**
SUW pmax pmax
comp=Z,280nm,1.0s
SUW Suwalki 19.16 328 *e*P **P 14 15 55.5 -1.0**
SUW Suwalki 19.16 328 *e*P **P 14 15 55.0 -1.5**
comp=Z,280nm,1.0s
SUW Suwalki 19.16 328 *e*P **P 14 15 55.0 -1.5**
comp=Z,280nm,1.0s
KOGS Kog 19.17 301 *e*P **Pn 14 15 59.6 +2.1**
KOGS *e*S **S 14 19 38.3 +4.6**
OKC Ostrava-Krasne 19.20 312 *e*P **Pn 14 16 00.1 +2.3**
OKC *e*S **S 14 19 39.9 +5.7**
OKC MLR MLR
comp=Z,1μm,15.4s
OKC Ostrava-Krasne 19.20 312 *e*P **Pn 14 16 00.1 +2.3**
OKC *ex* *x* 14 16 07.0
OKC *e*S **S 14 19 39.9 +5.7**
OKC AMS AMS 14 25 50.0
comp=Z,1μm,15.4s
ISAL Salakas 19.28 335 *e*P **P 14 15 57.1 -0.6**
ISAL AMB AMB 14 16 04.2
comp=Z,42nm,1.2s
ISAL Salakas 19.28 335 *e*P **P 14 15 57.2 -0.6**
comp=Z,42nm,1.2s,SNR=28
SOP Sopron 19.33 305⇑*e* **Pn 14 16 02.6 +3.2**
HATD Hatta, Dubai 19.37 131 P **Pn 14 15 59.6 -0.5**
SNR=67
HATD Hatta, Dubai 19.37 131 *i*P **Pn 14 15 59.6 -0.5**
SNR=67
ASHO Ashiyiah 19.44 132 P **P 14 16 00.1 +0.3**
SNR=31
ASHO Ashiyiah 19.44 132 P **P 14 16 00.1 +0.3**
SNR=31
ASHO Ashiyiah 19.44 132 *i*P **P 14 15 60.0 +0.2**
SNR=25
ASHO *i*P **Pn 14 16 00.2 -0.7**
SNR=26
BOJS Bojanci 19.63 298 *e*P **Pn 14 16 04.6 +1.5**

CONA Conrad Observa 19.85 305⇓ *i*P Pn 14 16 04.6 -1.2
comp=Z,214nm,1.4s,SNR=53
CONA Conrad Observa 19.85 305 P **Pn 14 16 04.6 -1.2**
comp=Z,214nm,1.4s,SNR=53
ARSA Arzberg 19.86 303⇑ *i*sP P 14 16 04.0 -0.3
comp=Z,41nm,1.4s,SNR=11
ARSA Arzberg 19.86 303 P **P 14 16 04.0 -0.3**
comp=Z,41nm,1.4s,SNR=11
VRAC Vranov 19.89 310 P **Pn 14 16 05.0 -1.1**
VRAC Vranov 19.89 310⇑ *i*P **Pn 14 16 08.3 +2.2**
VRAC Vranov 19.89 310 P **Pn 14 16 05.0 -1.1**
comp=Z,0.5nm,0.3s,baz=115,slow=11,SNR=18
VRAC LR LR 14 25 13.8
comp=Z,810nm,19.8s,baz=114,slow=41
VRAC Vranov 19.89 310 P **Pn 14 16 05.0 -1.1**
SOKA Soboth 20.04 301⇑ *i*sP **P 14 16 05.9 -0.4**
comp=Z,32nm,1.2s,SNR=17
SOKA Soboth 20.04 301 P **P 14 16 05.9 -0.4**
comp=Z,32nm,1.2s,SNR=17
OBKA Obir 20.32 301⇓ *i*P Pn 14 16 10.7 -0.7
comp=Z,35nm,1.1s,SNR=11
OBKA Obir 20.32 301 P Pn 14 16 10.7 -0.7
comp=Z,35nm,1.1s,SNR=11
DPC Dobruska-Polom 20.48 312 *e*P Pn 14 16 14.3 +1.2
DPC *e* 14 16 16.6
DPC *e*S Sn 14 20 02.5 -1.3
DPC Dobruska-Polom 20.48 312 *e*P Pn 14 16 14.3 +1.2
DPC *e*pP pP 14 16 16.6 +2.5
DPC *e*S Sn 14 20 02.5 -1.3
DPC AMS AMS 14 26 30.0
TREC Trest 20.55 309 *e*P Pn 14 16 14.9 +0.9
TREC *e* 14 16 18.2
TREC MLR MLR
comp=Z,900nm,16.8s
TREC Trest 20.55 309 *e*P Pn 14 16 14.9 +0.9
TREC *e*pP pP 14 16 18.2 +3.3
TREC AMS AMS 14 25 30.0
comp=Z,900nm,16.8s
KSP Ksiaz 20.71 313 *e*P Pn 14 16 16.5 +0.7
KSP *e**PP pP 14 16 19.0 +2.5
KSP *e*S Sn 14 20 09.0 -0.3
KSP MLR MLR
comp=Z,5μm,20.2s
KSP Ksiaz 20.71 313 *e*P **P 14 16 12.8 -0.6**
KSP *e* 14 16 16.9
UPC Upice 20.72 312 *e*P Pn 14 16 15.2 -0.7
UPC *e* 14 16 17.6
UPC Upice 20.72 312 *e*P Pn 14 16 15.2 -0.7
UPC *e*pP pP 14 16 17.6 +0.9
UPC Upice 20.72 312 *e*P Pn 14 16 15.2 -0.7
ARQ Araqi 20.74 133 P **P 14 16 14.2 +0.2**
SNR=39
ARQ Araqi 20.74 133 P **P 14 16 14.2 +0.2**
SNR=39
CADS Cadrg 20.81 300 *e*P Pn 14 16 17.0 -0.1
CADS *e*S Sn 14 20 13.2 +1.3
MOA Molln 20.85 304⇑ *i*Pn **P 14 16 14.7 -0.3**
comp=Z,138nm,1.7s,SNR=23
MOA Molln 20.85 304 P **P 14 16 14.7 -0.3**
comp=Z,138nm,1.7s,SNR=23
MYKA Terra Mystica 20.96 301⇑ *i*P Pn 14 16 17.8 -1.1
comp=Z,60nm,1.3s,SNR=18
MYKA Terra Mystica 20.96 301 P Pn 14 16 17.8 -1.0
comp=Z,60nm,1.3s,SNR=18
HOQ Hoqain 21.01 131 P **P 14 16 17.0 +0.1**
SNR=24
CLTB Caltabellotta 21.20 275 *e*P **P 14 16 19.1 +0.1**
comp=Z,13nm,0.8s
CLTB Caltabellotta 21.20 275 *e*P **P 14 16 19.1 +0.1**
comp=Z,13nm,0.8s
KBA Koelnbreinsper 21.26 302⇑ *i*Pn **P 14 16 19.4 -0.2**
comp=Z,92nm,1.0s,SNR=31
KBA Koelnbreinsper 21.26 302 P **P 14 16 19.4 -0.2**
comp=Z,92nm,1.0s,SNR=31
PRU Pruhonice 21.38 310 *e*P **P 14 16 24.1 +3.5**
PRU *e* 14 16 27.3
PRU *e*S Sn 14 20 24.9 -0.5
PRU MLR MLR
comp=Z,1μm,15.8s
PRU Pruhonice 21.38 310 *e*P **P 14 16 24.1 +3.5**
PRU *e*x x 14 16 27.3
PRU *e*S Sn 14 20 24.9 -0.5
PRU AMS AMS 14 27 00.0
comp=Z,1μm,15.8s
GKP Gorka Klasztor 21.42 320 *e*P **P 14 16 24.0 +3.0**
GKP Gorka Klasztor 21.42 320 *e*P **P 14 16 23.9 +3.0**
PRA Prague 21.48 310 *e*P **P 14 16 25.2 +3.6**
PRA *e* 14 16 28.7
PRA Prague 21.48 310 *e*P **P 14 16 25.2 +3.6**
PRA *e*x x 14 16 28.7
ARU Arti 21.48 29*c* *i*P **P 14 16 19.4 -2.2**
ARU PPP PPP 14 16 48.6
ARU S **S 14 20 19.9 +0.4**
ARU SS **SnSn 14 20 45.1 +2.4**
ARU SSS SSS 14 20 58.6
ARU pmax pmax
comp=Z,33nm,0.8s
ARU MLR MLR
comp=Z,724nm,15.0s
GEC2 GERESS Array S 21.50 307 *e*P **P 14 16 23.9 +1.8**
comp=Z,64nm,1.3s
GEC2 *e*S Sn 14 20 24.1 -4.6
GEC2 GERESS Array S 21.50 307 *e*P **P 14 16 23.9 +1.8**
comp=Z,64nm,1.3s
GERES GERESS Array B 21.50 307 P **P 14 16 22.2 +0.1**
comp=Z,11nm,0.8s,baz=113,slow=10,SNR=43
GERES PcP **PcP 14 20 21.9 -2.7**
comp=Z,1.5nm,0.7s,baz=100,slow=6.0,SNR=4.4
GERES LR LR 14 25 47.3
comp=Z,758nm,21.3s,baz=109,slow=40
VSU Vasula 21.55 341⇓ *e*P **P 14 16 20.8 -1.6**
VSU pmax pmax
comp=Z,85nm,1.2s
PVCC Panska Ves 21.57 311 *e*P **P 14 16 25.8 +3.1**
PVCC *e* 14 16 28.8
PVCC MLR MLR
comp=Z,1μm,13.5s
PVCC Panska Ves 21.57 311 *e*P **P 14 16 25.8 +3.1**
PVCC *e*x x 14 16 28.8
PVCC AMS AMS 14 26 50.0
comp=Z,1μm,13.5s
BSY Bisya 21.59 133 P **P 14 16 22.9 -0.3**
SNR=30
KHC Kasperske Hory 21.67 307 *e*P **P 14 16 23.4 -0.4**
KHC pmax pmax
comp=Z,70nm,1.3s
KHC Kasperske Hory 21.67 307 *e*P **P 14 16 24.3 +0.5**
KHC *e*pP **pP 14 16 26.5 -0.5**
KHC *e*x x 14 16 30.5
KHC *e*S **S 14 20 26.1 +2.5**
KHC AMS AMS 14 27 30.0
comp=Z,800nm,11.0s
KHC Kasperske Hory 21.67 307 P **P 14 16 24.3 +0.5**
KHC Kasperske Hory 21.67 307 *e*P **P 14 16 23.4 -0.4**
comp=Z,70nm,1.3s
ABTA Abfaltersbach 21.74 300⇓ *i*sP **P 14 16 26.9 +2.2**
comp=Z,105nm,1.6s,SNR=30
RJOB Jochberg 21.78 303 *e*P **P 14 16 26.1 +1.1**
comp=Z,126nm,1.1s
RJOB *e*S **S 14 20 28.4 +2.7**
RJOB Jochberg 21.78 303 *e*P **P 14 16 26.1 +1.1**
comp=Z,126nm,1.1s
SMDO Samad 21.85 131 P **P 14 16 25.8 -0.1**
SNR=73
PUL Pulkovo 21.95 347⇓ *e*P **P 14 16 26.1 -0.5**
PUL pmax pmax
comp=Z,320nm,0.7s
BRG Berggiesshubel 22.07 312 *i*P **P 14 16 31.1 +3.0**
comp=Z,40nm,1.4s
BRG S Sn 14 20 39.0 -3.0
comp=N,532nm,13.7s
comp=E,617nm,15.5s
comp=Z,937nm,16.1s
BRG Berggiesshubel 22.07 312 *i*P **P 14 16 31.1 +3.0**
BRG pmax pmax
comp=Z,40nm,1.4s
BRG MLR MLR
comp=N,532nm,13.7s
BRG MLR MLR
comp=E,617nm,15.5s
BRG MLR MLR
comp=Z,937nm,16.1s
BRG Berggiesshubel 22.07 312 *e*P **P 14 16 30.6 +2.5**
comp=Z,46nm,1.2s
BRG *e*S **S 14 20 34.3 +3.1**
BRG Berggiesshubel 22.07 312 *e*P **P 14 16 30.6 +2.5**
comp=Z,46nm,1.2s
WET Wettzell 22.11 307 *e*P **P 14 16 30.9 +2.3**
comp=Z,96nm,1.7s
WET *e*S **S 14 20 33.3 +1.2**
WET Wettzell 22.11 307 *e*P **P 14 16 30.9 +2.3**
comp=Z,96nm,1.7s
KLMR Klimovskoe 22.13 359 *e*P **P 14 16 28.5 0.0**
KLMR S S 14 20 23.6 -8.4
KLMR pmax pmax
comp=Z,265nm,1.2s
KLMR MLR MLR
comp=Z,593nm,10.0s
JMDO Jabal Madar 22.41 132 P **P 14 16 31.4 -0.5**
SNR=25
WTTA Wattenberg 22.44 302⇑ *i*sP **P 14 16 33.2 +1.0**
comp=Z,141nm,1.3s,SNR=38
WTTA Wattenberg 22.44 302 P **P 14 16 33.2 +1.0**
comp=Z,141nm,1.3s,SNR=38
WATA Walderalm 22.49 302⇓ *i*pP **P 14 16 32.9 +0.1**
comp=Z,148nm,1.2s,SNR=12
WATA Walderalm 22.49 302 P **P 14 16 32.9 +0.1**
comp=Z,148nm,1.2s,SNR=12
SVE Sverdlovsk 22.56 30 *e*P **P 14 16 32.9 -0.3**
SVE *e*S **S 14 20 40.1 -0.2**
SVE pmax pmax
comp=Z,104nm,1.3s
ROTZ Rotzenmuhle 22.72 308 *e*P **P 14 16 36.8 +1.8**
comp=Z,254nm,1.3s
ROTZ *e*S **S 14 20 45.1 +1.7**
ROTZ Rotzenmuhle 22.72 308 *e*P **P 14 16 36.8 +1.8**
comp=Z,254nm,1.3s
WBK Wadi Bani Khal 22.74 130 P **P 14 16 37.3 +1.9**
SNR=11
TANN Tannenbergstha 22.78 310 *e*P **P 14 16 37.7 +2.0**
comp=Z,39nm,1.4s
TANN *e*S **S 14 20 46.7 +2.2**
TANN Tannenbergstha 22.78 310 *e*P **P 14 16 37.7 +2.0**
comp=Z,39nm,1.4s
CLL Collm 22.79 312 *e*P **P 14 16 36.0 +0.3**
CLL *i* 14 16 39.6
CLL *i* 14 16 44.1
CLL *e*S **S 14 20 41.0 -3.5**
CLL MLR MLR
comp=Z,900nm,20.2s
CLL Collm 22.79 312 *e*P **P 14 16 37.5 +1.8**
comp=Z,107nm,1.1s
CLL *e*S **S 14 20 45.1 +0.6**
CLL Collm 22.79 312 *e*(P) **P 14 16 36.0 +0.3**
CLL *i* 14 16 39.6
CLL *i* 14 16 44.1
CLL *e*S **S 14 20 41.0 -3.5**
CLL *e*SSS SSS 14 21 36.0
CLL LmV 14 27 00.0
comp=Z,900nm,20.2s
CLL Lmax 14 27 00.0
CLL Collm 22.79 312 *e*P **P 14 16 37.5 +1.8**
comp=Z,107nm,1.1s
MOTA Moosalm 22.81 302⇓ *i*pP **P 14 16 36.0 -0.1**
comp=Z,147nm,1.1s,SNR=28
MOTA Moosalm 22.81 302 P **P 14 16 36.0 -0.1**
comp=Z,147nm,1.1s,SNR=28
FUR Furstenfeldbru 22.87 304 *e*P **P 14 16 38.3 +1.7**
comp=Z,204nm,0.9s
FUR Furstenfeldbru 22.87 304 *e*P **P 14 16 38.3 +1.7**
comp=Z,204nm,0.9s
FETA Feichten 23.00 301⇓ *i*sP sP 14 16 38.0 -4.7
comp=Z,142nm,1.2s,SNR=34
FETA Feichten 23.00 301 P sP 14 16 38.0 -4.7
comp=Z,142nm,1.2s,SNR=34
RETA Reutte 23.06 302⇑ *i*pP **P 14 16 37.4 -1.3**
comp=Z,73nm,1.4s,SNR=19
RETA Reutte 23.06 302 P **P 14 16 37.4 -1.3**
comp=Z,73nm,1.4s,SNR=19
PRGR Permogore 23.16 7 *e*P **P 14 16 35.7 -3.7**
PRGR pmax pmax
comp=Z,12nm,0.4s
KK31 Karatay Array 23.26 70 *i*P **P 14 16 40.3 -0.4**
KK31 pmax pmax
comp=Z,198nm,1.9s
KKAR Karatay Array 23.26 70 *e*P **P 14 16 39.8 -0.9**
KKAR pmax pmax
comp=Z,22nm,0.7s
KKAR Karatay Array 23.26 70 *e*P **P 14 16 39.8 -0.9**
comp=Z,22nm,0.7s
KKAR Karatay Array 23.26 70 *e*P **P 14 16 39.8 -0.9**
comp=Z,22nm,0.7s
GRA1 Grafenberg Arr 23.31 307 *e*P **P 14 16 42.7 +1.6**
comp=Z,370nm,1.3s
GRF Grafenberg Arr 23.31 307 *e*P **P 14 16 42.7 +1.6**
comp=Z,370nm,1.3s
GRF *e*S **S 14 20 55.9 +2.5**
GRF *e*L L 14 26 31.9
comp=Z,642nm,22.0s
GRFO Grafenberg 23.31 307 *e*P **P 14 16 41.5 +0.4**
GRFO pmax pmax
comp=Z,226nm,1.1s
GRFO Grafenberg 23.31 307 *e*P **P 14 16 41.5 +0.4**
comp=Z,226nm,1.1s
GRFO Grafenberg 23.31 307 *e*P **P 14 16 41.5 +0.4**
comp=Z,226nm,1.1s
MOX Moxa 23.37 310 *e*P **P 14 16 43.9 +2.2**
comp=Z,38nm,1.2s
MOX *e*S **S 14 20 57.0 +2.6**
MOX *e*L L 14 28 12.8
comp=Z,903nm,20.2s
MOX Moxa 23.37 310 *e*P **P 14 16 43.9 +2.2**
comp=Z,38nm,1.2s
SOKR Solikamsk 23.39 21*c* *i*P **P 14 16 39.3 -2.4**
SOKR pmax pmax
comp=Z,40nm,1.0s
SOKR MLR MLR
comp=Z,540nm,15.0s
KBL Kabul 23.50 91 *e*P **P 14 16 44.1 +0.8**
KBL pmax pmax
comp=Z,22nm,0.8s
KBL Kabul 23.50 91 *e*P **P 14 16 44.1 +0.8**
comp=Z,22nm,0.8s
KBL Kabul 23.50 91 *e*P **P 14 16 44.1 +0.8**
comp=Z,22nm,0.8s
DAVOX Davos/Dischmat 23.53 300 P **P 14 16 44.0 +0.5**
DAVOX Davos/Dischmat 23.53 300 P **P 14 16 44.0 +0.5**
comp=Z,40nm,1.1s,baz=78,slow=6.0,SNR=32
DAVOX Davos/Dischmat 23.53 300 P **P 14 16 44.0 +0.5**
BSD Bornholm Skovb 23.58 322 *i*P **P 14 16 44.2 +0.6**
BSD pmax pmax
comp=Z,40nm,1.0s
BSD Bornholm Skovb 23.58 322 *i*P **P 14 16 44.2 +0.6**
comp=Z,40nm,1.0s
DAVA Damuels 23.61 301⇓ *i*pP **P 14 16 42.8 -1.5**
comp=Z,150nm,1.3s,SNR=45
DAVA Damuels 23.61 301 P **P 14 16 42.8 -1.5**
comp=Z,150nm,1.3s,SNR=45
PGF Pioggiola 23.88 289 *e*P **P 14 16 48.4 +1.5**
comp=Z,158nm,1.5s
PGF Pioggiola 23.88 289 *e*P **P 14 16 48.4 +1.5**
PGF pmax pmax
comp=Z,158nm,1.5s
PGF Pioggiola 23.88 289 *e*P **P 14 16 48.4 +1.5**
comp=Z,158nm,1.5s
PGF Pioggiola 23.88 289 *e*P **P 14 16 48.4 +1.5**
comp=Z,158nm,1.5s
RGN Rugen 24.06 320 *e*P **P 14 16 46.0 -2.3**
comp=Z,246nm,1.3s
RGN Rugen 24.06 320 *e*P **P 14 16 46.0 -2.3**
comp=Z,246nm,1.3s
ABTO Aybut 24.21 148 P **P 14 16 50.0 0.0**
SNR=9.8
FINES FINESS Array B 24.34 344 P **P 14 16 49.2 -1.5**
comp=Z,5.8nm,0.5s,baz=151,slow=11,SNR=24
FINES LR LR 14 27 56.7
comp=Z,762nm,19.6s,baz=152,slow=40
STU Stuttgart 24.36 304 *e*P **P 14 16 51.3 +0.2**
STU pmax pmax
comp=Z,130nm,1.4s
STU Stuttgart 24.36 304 *e*P **P 14 16 53.1 +2.0**
comp=Z,143nm,1.4s
STU *e*S **S 14 21 11.5 +1.3**
STU Stuttgart 24.36 304 *e*P **P 14 16 53.1 +2.0**
comp=Z,143nm,1.4s
STU Stuttgart 24.36 304 *e*P **P 14 16 51.3 +0.2**
comp=Z,130nm,1.4s
UBBA Unterbreizbach 24.39 309 *e*P **P 14 16 53.4 +2.1**
comp=Z,71nm,1.5s
UBBA *e*S **S 14 21 16.4 +5.8**
UBBA Unterbreizbach 24.39 309 *e*P **P 14 16 53.4 +2.1**
comp=Z,71nm,1.5s
RBK Rabkut 24.46 146 P **P 14 16 51.9 -0.5**
SNR=14
SPAK Spaichingen-Ko 24.49 303⇑ *e*P **P 14 16 55.4 +3.0**
CLZ Clausthal 24.51 312 *e*P **P 14 16 55.2 +2.7**
comp=Z,95nm,1.2s
CLZ *e*S **S 14 21 16.4 +3.7**
CLZ Clausthal 24.51 312 *e*P **P 14 16 55.2 +2.7**
comp=Z,95nm,1.2s
KEST Kesra 24.67 273 P **P 14 16 54.2 +0.1**
comp=Z,12nm,0.9s,baz=346,slow=4.8,SNR=27
KEST LR LR 14 28 25.0
comp=Z,157nm,22.0s,baz=356,slow=41
KEST Kesra 24.67 273 *e*P **P 14 16 54.1 -0.1**
KEST Kesra 24.67 273 *e*P **P 14 16 54.1 -0.1**
JOF Joensuu 24.79 350 *e*P **P 14 16 52.6 -2.2**
JOF Joensuu 24.79 350 *e*p **P 14 16 52.6 -2.2**
JOF Joensuu 24.79 350 *e*P **P 14 16 52.6 -2.2**
TOD Tromm 24.80 306⇑ *e*P **P 14 16 58.3 +3.1**
BFO Black Forest 24.83 303 *i*P **P 14 16 57.8 +2.3**
BFO Black Forest 24.83 303 *e*P **P 14 16 56.8 +1.3**
comp=Z,34nm,1.2s
BFO *e*S **S 14 21 22.9 +4.9**
BFO Black Forest 24.83 303 *e*P **P 14 16 56.8 +1.3**
comp=Z,34nm,1.2s
BFO Black Forest 24.83 303 *e*P **P 14 16 57.0 +1.6**
comp=Z,33nm,1.1s
KAF Kangasniemi 24.89 344 *e*P **P 14 16 54.3 -1.5**
KAF Kangasniemi 24.89 344 *e*p **P 14 16 54.3 -1.5**
KAF Kangasniemi 24.89 344 *e*P **P 14 16 54.3 -1.5**
NRDL Niedersach Rie 24.90 313 *e*P **P 14 16 58.5 +2.6**
comp=Z,46nm,1.4s
NRDL Niedersach Rie 24.90 313 *e*P **P 14 16 58.5 +2.6**
comp=Z,46nm,1.4s
SAOF Saorge 24.93 293 *e*P **P 14 16 58.5 +2.1**
SAOF Saorge 24.93 293 *e*P **P 14 16 58.5 +2.1**
SBF Sospel 25.02 292 *e*P **P 14 16 53.9 -3.3**
comp=Z,99nm,0.8s
SBF Sospel 25.02 292 *e*P **P 14 16 53.9 -3.3**
SBF pmax pmax
comp=Z,99nm,0.8s
SBF Sospel 25.02 292 *e*P **P 14 16 53.9 -3.3**
comp=Z,99nm,0.8s
SBF Sospel 25.02 292 *e*P **P 14 16 53.9 -3.3**
comp=Z,99nm,0.8s
AUTN L'Aution 25.02 293 *e*P **P 14 16 59.7 +2.3**
AUTN L'Aution 25.02 293 *e*P **P 14 16 59.7 +2.3**
OTUK Ortayu 25.03 57 P **P 14 16 56.3 -0.9**
TNS Taunus Mts 25.18 307 *e*P **P 14 17 01.8 +3.2**
comp=Z,170nm,1.7s
TNS *e*S S 14 21 31.0 +7.5
TNS Taunus Mts 25.18 307 *e*P **P 14 17 01.8 +3.2**
comp=Z,170nm,1.7s
BVA0 Borovoye Array 25.18 46 *i*P **P 14 16 57.9 -0.6**
BVA0 pmax pmax
comp=Z,60nm,1.9s
MVIF Mont Vial 25.22 292 *e*P **P 14 17 02.3 +3.2**
MVIF Mont Vial 25.22 292 *e*P **P 14 17 02.3 +3.2**
BBS Basel-Blauen 25.23 301⇑ *e*P **P 14 17 01.2 +2.1**
LANF Langenberg 25.30 304 *e*P **P 14 17 02.1 +2.4**
LANF Langenberg 25.30 304 *e*P **P 14 17 02.1 +2.4**
BSEG Bad Segeberg 25.35 317 *e*P **P 14 17 03.7 +3.7**
comp=Z,195nm,2.0s
CALN Calern 25.41 292 *e*P **P 14 17 03.0 +2.1**
CALN Calern 25.41 292 *e*P **P 14 17 03.0 +2.1**
SURF Saint Ours 25.47 294 *e*P **P 14 17 04.3 +2.8**
SURF Saint Ours 25.47 294 *e*P **P 14 17 04.3 +2.8**
TMCR Tamitsa 25.48 358 *e*P **P 14 16 59.7 -1.3**
TMCR *e* 14 17 36.7
TMCR *e*S **S 14 21 27.6 -0.2**
TMCR pmax pmax
comp=Z,54nm,0.7s
MBDF Montbardon 25.51 294 *e*P **P 14 17 00.7 -1.1**
comp=Z,37nm,0.8s
MBDF Montbardon 25.51 294 *e*P **P 14 17 00.7 -1.1**
MBDF pmax pmax
comp=Z,37nm,0.8s
MBDF Montbardon 25.51 294 *e*P **P 14 17 00.7 -1.1**
comp=Z,37nm,0.8s
MBDF Montbardon 25.51 294 *e*P **P 14 17 00.7 -1.1**
comp=Z,37nm,0.8s
CDF Champ du Feu 25.54 303 *e*P **P 14 17 04.0 +2.1**
comp=Z,32nm,1.1s
CDF Champ du Feu 25.54 303 *e*P **P 14 17 04.0 +2.1**
CDF pmax pmax
comp=Z,32nm,1.1s
CDF Champ du Feu 25.54 303 *e*P **P 14 17 04.0 +2.1**
comp=Z,32nm,1.1s
CDF Champ du Feu 25.54 303 *e*P **P 14 17 04.0 +2.1**
comp=Z,32nm,1.1s
MOF Molkenrain 25.54 302⇑ *e*P **P 14 17 03.1 +1.1**
MOF Molkenrain 25.54 302⇑ *e*P **P 14 17 03.1 +1.1**
LPG La Plagne 25.56 296 *e*P **P 14 17 03.9 +1.6**
comp=Z,150nm,1.3s
LPG La Plagne 25.56 296 *e*P **P 14 17 03.9 +1.6**
LPG pmax pmax
comp=Z,150nm,1.3s
LPG La Plagne 25.56 296 *e*P **P 14 17 03.9 +1.6**
comp=Z,150nm,1.3s
LPG La Plagne 25.56 296 *e*P **P 14 17 03.9 +1.6**
comp=Z,150nm,1.3s
LPL La Plagne 25.57 296 *e*P **P 14 17 04.0 +1.6**
comp=Z,124nm,1.4s
LPL La Plagne 25.57 296 *e*P **P 14 17 04.0 +1.6**
LPL pmax pmax
comp=Z,124nm,1.4s
LPL La Plagne 25.57 296 *e*P **P 14 17 04.0 +1.6**
comp=Z,124nm,1.4s
LPL La Plagne 25.57 296 *e*P **P 14 17 04.0 +1.6**
comp=Z,124nm,1.4s
ECH Echery 25.58 302 *e*P **P 14 17 03.5 +1.3**
ECH pmax pmax
comp=Z,30nm,1.0s
ECH Echery 25.58 302⇑ *e*P **P 14 17 04.8 +2.6**
ECH Echery 25.58 302⇑ *e*P **P 14 17 04.8 +2.6**
ECH Echery 25.58 302 *e*P **P 14 17 03.5 +1.3**
comp=Z,30nm,1.0s
FRF La Foret Royal 25.59 292 *e*P **P 14 17 02.6 +0.3**
comp=Z,139nm,1.3s
FRF La Foret Royal 25.59 292 *e*P **P 14 17 02.6 +0.3**
FRF pmax pmax
comp=Z,139nm,1.3s
FRF La Foret Royal 25.59 292 *e*P **P 14 17 02.6 +0.3**
comp=Z,139nm,1.3s
FRF La Foret Royal 25.59 292 *e*P **P 14 17 02.6 +0.3**
comp=Z,139nm,1.3s
AML Almayashu 25.64 72 P **P 14 17 04.7 +1.5**
SNR=12
AML Almayashu 25.64 72 *i*P **P 14 17 04.7 +1.5**
RSL Roselend 25.66 297 *e*P **P 14 17 04.7 +1.6**
RSL Roselend 25.66 297 *e*P **P 14 17 04.7 +1.6**
EKS2 Erkin-Say 25.67 70 P **P 14 17 06.5 +3.3**
SNR=18
EKS2 Erkin-Say 25.67 70 *e*P **P 14 17 03.0 -0.2**
EKS2 pmax pmax
comp=Z,27nm,1.0s
EKS2 Erkin-Say 25.67 70 *e*P **P 14 17 03.0 -0.2**
comp=Z,27nm,1.0s
EKS2 Erkin-Say 25.67 70 *e*P **P 14 17 03.0 -0.2**
comp=Z,27nm,1.0s
LOMF Lomont 25.68 300⇑ *e*P **P 14 17 05.5 +2.3**
LOMF Lomont 25.68 300⇑ *e*P **P 14 17 05.5 +2.3**
LMR La Mourre 25.69 291 *e*P **P 14 17 03.9 +0.7**
comp=Z,92nm,1.4s
LMR La Mourre 25.69 291 *e*P **P 14 17 03.9 +0.7**
LMR pmax pmax
comp=Z,92nm,1.4s
LMR La Mourre 25.69 291 *e*P **P 14 17 03.9 +0.7**
comp=Z,92nm,1.4s
LMR La Mourre 25.69 291 *e*P **P 14 17 03.9 +0.7**
comp=Z,92nm,1.4s
HINF Hinteralfeld 25.72 301 *e*P **P 14 17 04.1 +0.5**
comp=Z,47nm,1.2s
HINF Hinteralfeld 25.72 301 *e*P **P 14 17 04.1 +0.5**
HINF pmax pmax
comp=Z,47nm,1.2s
HINF Hinteralfeld 25.72 301 *e*P **P 14 17 04.1 +0.5**
comp=Z,47nm,1.2s
HINF Hinteralfeld 25.72 301 *e*P **P 14 17 04.1 +0.5**
comp=Z,47nm,1.2s
RUP Ruppelstein 25.93 306⇑ *e*P **P 14 17 08.1 +2.7**
CMAH Djebel Manchou 25.93 276 P **P 14 17 05.6 0.0**
CMAH Djebel Manchou 25.93 276 P **P 14 17 05.6 0.0**
ABSA Djebel Ababsia 25.98 275 P **P 14 17 07.2 +1.2**
ABSA Djebel Ababsia 25.98 275 P **P 14 17 07.2 +1.2**
GDM Grand'Maison 25.99 295 *e*P **P 14 17 07.1 +1.0**

GDM Grand'Maison 25.99 295 *eP* **P 14 17 07.1 +1.0**
OG25 Le Caire 26.00 293 *eP* **P 14 17 07.6 +1.4**
OG25 Le Caire 26.00 293 *eP* **P 14 17 07.6 +1.4**
HAU Haudompre 26.09 302 *eP* **P 14 17 08.8 +2.0**
comp=Z,74nm,1.3s
HAU *eR*
comp=Z,827nm,20.2s
HAU Haudompre 26.09 302 *eP* **P 14 17 08.8 +2.0**
HAU pmax pmax
comp=Z,74nm,1.3s
HAU Haudompre 26.09 302 *eP* **P 14 17 08.8 +2.0**
comp=Z,74nm,1.3s
HAU Haudompre 26.09 302 *eP* **P 14 17 08.8 +2.0**
comp=Z,74nm,1.3s
CABF La Chapelle 26.10 299 *eP* **P 14 17 06.2 -0.8**
comp=Z,233nm,1.2s
CABF La Chapelle 26.10 299 *eP* **P 14 17 06.2 -0.8**
CABF pmax pmax
comp=Z,233nm,1.2s
CABF La Chapelle 26.10 299 *eP* **P 14 17 06.2 -0.8**
comp=Z,233nm,1.2s
CABF La Chapelle 26.10 299 *eP* **P 14 17 06.2 -0.8**
comp=Z,233nm,1.2s
ORIF Oris-en-Rattie 26.15 295 *eP* **P 14 17 07.3 -0.2**
comp=Z,113nm,1.4s
ORIF *eR*
comp=Z,843nm,20.2s
ORIF Oris-en-Rattie 26.15 295 *eP* **P 14 17 07.3 -0.2**
ORIF pmax pmax
comp=Z,113nm,1.4s
ORIF Oris-en-Rattie 26.15 295 *eP* **P 14 17 07.3 -0.2**
comp=Z,113nm,1.4s
ORIF Oris-en-Rattie 26.15 295 *eP* **P 14 17 07.3 -0.2**
comp=Z,113nm,1.4s
USP Ospenovka 26.18 69 P P 14 17 13.1 +5.3
SNR=6.2
IBBN Ibbenburen 26.19 312 *eP* **P 14 17 11.4 +3.8**
comp=Z,82nm,1.4s
AAK Ala-Archa 26.20 70 P **P 14 17 08.9 +0.8**
SNR=17
AAK Ala-Archa 26.20 70‖ *eP* **P 14 17 07.9 -0.2**
AAK pmax pmax
comp=Z,29nm,1.0s
AAK MLR MLR
comp=Z,2μm,16.0s
AAK Ala-Archa 26.20 70 P **P 14 17 09.4 +1.3**
SNR=13
AAK Ala-Archa 26.20 70 P **P 14 17 08.1 0.0**
comp=Z,12nm,1.0s,baz=216,slow=7.4,SNR=18
BUG Bochum--Univer 26.22 310 *eP* P 14 17 12.0 +4.1
comp=Z,66nm,1.1s
GRN Grenoble 26.25 295 *eP* **P 14 17 10.5 +2.1**
GRN Grenoble 26.25 295 *eP* **P 14 17 10.5 +2.1**
FRU Bishkek 26.28 70 *eP* **P 14 17 09.0 +0.3**
FRU *e* 14 17 46.0
FRU pmax pmax
comp=Z,120nm,1.4s
CAEH 'Ain El Ouahch 26.34 276 P **P 14 17 11.0 +1.8**
CAEH 'Ain El Ouahch 26.34 276 P **P 14 17 11.0 +1.8**
SMRF Simiane la Rot 26.36 293 *eP* **P 14 17 10.3 +1.0**
comp=Z,137nm,1.7s
SMRF Simiane la Rot 26.36 293 *eP* **P 14 17 10.3 +1.0**
comp=Z,137nm,1.7s
SMRF Simiane la Rot 26.36 293 *eP* **P 14 17 10.3 +1.0**
comp=Z,137nm,1.7s
CHMS Chumysh 26.37 70 P **P 14 17 12.0 +2.5**
SNR=9.2
CHMS Chumysh 26.37 70 *i* P **P 14 17 11.9 +2.5**
WLF Walferdange 26.50 305 P **P 14 17 13.6 +3.1**
comp=Z,28nm,1.5s
WLF Walferdange 26.50 305 *eP* **P 14 17 13.3 +2.8**
comp=Z,41nm,1.2s
WLF Walferdange 26.50 305 *eP* **P 14 17 13.3 +2.8**
comp=Z,41nm,1.2s
KBK Karagaybulak 26.53 70 P **P 14 17 11.8 +0.7**
SNR=12
KBK Karagaybulak 26.53 70 *i* P **P 14 17 11.8 +0.7**
CKFL Kef-Lekhel 26.54 275 P **P 14 17 11.6 +0.5**
CKFL Kef-Lekhel 26.54 275 P **P 14 17 11.6 +0.5**
OG26 St.-Nazaire-De 26.55 294 *eP* **P 14 17 13.4 +2.3**
OG26 St.-Nazaire-De 26.55 294 *eP* **P 14 17 13.4 +2.3**
PAGF Fort de Pagny 26.58 303 *eP* **P 14 17 14.4 +3.2**
PAGF Fort de Pagny 26.58 303 *eP* **P 14 17 14.4 +3.2**
PAGF Fort de Pagny 26.58 303 *eP* **P 14 17 14.4 +3.2**
SFTF Sexfontaines 26.98 302 *eP* **P 14 17 17.0 +2.1**
comp=Z,74nm,1.1s
SFTF Sexfontaines 26.98 302 *eP* **P 14 17 17.0 +2.1**
comp=Z,74nm,1.1s
SFTF Sexfontaines 26.98 302 *eP* **P 14 17 17.0 +2.1**
comp=Z,74nm,1.1s
TKM2 Tokmak 2 27.00 70 P **P 14 17 17.1 +1.8**
SNR=13
TKM2 Tokmak 2 27.00 70 *eP* **P 14 17 16.5 +1.2**
TKM2 pmax pmax
comp=Z,14nm,1.0s
TKM2 Tokmak 2 27.00 70 *eP* **P 14 17 16.5 +1.2**
comp=Z,14nm,1.0s
TKM2 Tokmak 2 27.00 70 *eP* **P 14 17 16.5 +1.2**
comp=Z,14nm,1.0s
VIVF Saint-Julien-I 27.00 295 *eP* **P 14 17 15.6 +0.4**
comp=Z,46nm,1.0s
VIVF Saint-Julien-I 27.00 295 *eP* **P 14 17 15.6 +0.4**
VIVF pmax pmax
comp=Z,46nm,1.0s
VIVF Saint-Julien-I 27.00 295 *eP* **P 14 17 15.6 +0.4**
comp=Z,46nm,1.0s
VIVF Saint-Julien-I 27.00 295 *eP* **P 14 17 15.6 +0.4**
comp=Z,46nm,1.0s
MEZF Maizieres J'vi 27.01 303 *eP* **P 14 17 17.9 +2.8**
MEZF Maizieres J'vi 27.01 303 *eP* **P 14 17 17.9 +2.8**
MEZF Maizieres J'vi 27.01 303 *eP* **P 14 17 17.9 +2.8**
SSB Saint Sauveur 27.10 295 *eP* **P 14 17 15.9 -0.2**
SSB pmax pmax
comp=Z,51nm,1.5s
SSB Saint Sauveur 27.10 295 *eP* **P 14 17 15.9 -0.2**
comp=Z,51nm,1.5s
SSB Saint Sauveur 27.10 295 *eP* **P 14 17 15.9 -0.2**
comp=Z,51nm,1.5s
HFS Hagfors 27.13 331 P **P 14 17 15.0 -1.0**
HFS Hagfors 27.13 331 P **P 14 17 15.0 -1.0**
comp=Z,4.6nm,0.8s,baz=139,slow=9.8,SNR=7.1
HFS ScP **ScP 14 24 18.0 +1.5**
comp=Z,1.9nm,0.8s,baz=337,slow=7.1,SNR=5.0
DFRA Djebel Bou Aff 27.15 276 P **P 14 17 19.9 +3.2**
DFRA Djebel Bou Aff 27.15 276 P **P 14 17 19.9 +3.2**
GIVF Givet 27.42 306 *eP* **P 14 17 22.2 +3.4**
comp=Z,69nm,1.3s
GIVF Givet 27.42 306 *eP* **P 14 17 22.2 +3.4**
GIVF pmax pmax
comp=Z,69nm,1.3s
GIVF Givet 27.42 306 *eP* **P 14 17 22.2 +3.4**
comp=Z,69nm,1.3s
GIVF Givet 27.42 306 *eP* **P 14 17 22.2 +3.4**
comp=Z,69nm,1.3s
DOU Dourbes 27.57 306 P **P 14 17 23.2 +3.2**
comp=Z,17nm,1.8s
LASF Ste Croix 27.60 293 *eP* **P 14 17 17.9 -2.6**
comp=Z,118nm,1.5s
LASF Ste Croix 27.60 293 *eP* **P 14 17 17.9 -2.6**
comp=Z,118nm,1.5s
LASF Ste Croix 27.60 293 *eP* **P 14 17 17.9 -2.6**
comp=Z,118nm,1.5s
SET Setif 27.62 276 P **P 14 17 23.0 +2.2**
SET Setif 27.62 276 P **P 14 17 23.0 +2.2**
SMF Signal de Mont 27.65 298 *eP* **P 14 17 22.2 +1.3**
comp=Z,80nm,1.4s
SMF Signal de Mont 27.65 298 *eP* **P 14 17 22.2 +1.3**
SMF pmax pmax
comp=Z,80nm,1.4s
SMF Signal de Mont 27.65 298 *eP* **P 14 17 22.2 +1.3**
comp=Z,80nm,1.4s
SMF Signal de Mont 27.65 298 *eP* **P 14 17 22.2 +1.3**
comp=Z,80nm,1.4s
KSH Kashi 27.67 77 P **P 14 17 19.1 -2.2**
KSH sP **sP 14 17 28.1 +2.1**
KSH PP **PnPn 14 18 06.8 +0.1**
KSH S S 14 21 55.4 -7.8
KSH sS **sS 14 22 04.4 -4.4**
KSH SS **SnSn 14 23 12.5 -2.1**
KSH PMZ
comp=Z,3.0nm,0.7s
KSH PMZ
comp=Z,160nm,4.3s
KSH LN
comp=Z,530nm,11.1s
KSH LE
comp=Z,350nm,11.5s
KSH LZ
comp=Z,840nm,16.1s
LOR Lormes 27.68 300 *eP* **P 14 17 22.1 +0.9**
comp=Z,84nm,1.4s
LOR *eR*
comp=Z,730nm,18.0s
LOR Lormes 27.68 300 *eP* **P 14 17 22.1 +0.9**
LOR pmax pmax
comp=Z,84nm,1.4s
LOR Lormes 27.68 300 *eP* **P 14 17 22.1 +0.9**
comp=Z,84nm,1.4s
LOR Lormes 27.68 300 *eP* **P 14 17 22.1 +0.9**
comp=Z,84nm,1.4s
PLDF La Plantade 27.77 297 *eP* **P 14 17 24.0 +2.0**
PLDF La Plantade 27.77 297 *eP* **P 14 17 24.0 +2.0**
BAIF Baives 27.80 306 *eP* **P 14 17 25.7 +3.5**
comp=Z,125nm,1.5s
BAIF Baives 27.80 306 *eP* **P 14 17 25.7 +3.5**
BAIF pmax pmax
comp=Z,125nm,1.5s
BAIF Baives 27.80 306 *eP* **P 14 17 25.7 +3.5**
comp=Z,125nm,1.5s
SSF Saint Saulge 27.90 299 *eP* **P 14 17 24.5 +1.4**
comp=Z,101nm,1.7s
SSF Saint Saulge 27.90 299 *eP* **P 14 17 24.5 +1.4**
SSF pmax pmax
comp=Z,101nm,1.7s
SSF Saint Saulge 27.90 299 *eP* **P 14 17 24.5 +1.4**
comp=Z,101nm,1.7s
SSF Saint Saulge 27.90 299 *eP* **P 14 17 24.5 +1.4**
comp=Z,101nm,1.7s
AVF Avril sur Loir 27.99 299 *eP* **P 14 17 24.5 +0.6**
comp=Z,68nm,1.3s
AVF Avril sur Loir 27.99 299 *eP* **P 14 17 24.5 +0.6**
AVF pmax pmax
comp=Z,69nm,1.3s
AVF Avril sur Loir 27.99 299 *eP* **P 14 17 24.5 +0.6**
comp=Z,68nm,1.3s
AVF Avril sur Loir 27.99 299 *eP* **P 14 17 24.5 +0.6**
comp=Z,68nm,1.3s
LBL Lubilhac 28.02 295 *eP* P 14 17 26.5 +2.2
LBL Lubilhac 28.02 295 *eP* P 14 17 26.5 +2.2
AGO Saint Agoulin 28.11 297 *eP* P 14 17 27.5 +2.4
AGO Saint Agoulin 28.11 297 *eP* P 14 17 27.5 +2.4
NB2 NORSAR Subarra 28.65 331 P **P 14 17 27.7 -2.0**
comp=Z,2.8nm,0.8s,baz=126,slow=9.3
NB2 NORSAR Subarra 28.65 331 P **P 14 17 27.7 -2.0**
comp=Z,2.8nm,0.8s,SNR=2.2
NOA NORSAR Array B 28.65 331 P **P 14 17 27.7 -2.0**
comp=Z,1.2nm,0.8s,baz=127,slow=8.9,SNR=4.7
NOA LR LR 14 29 18.8
comp=Z,262nm,21.4s,baz=135,slow=37
TCF Toulx Ste Croi 28.76 298 *eP* **P 14 17 32.5 +1.7**
comp=Z,230nm,1.9s
TCF Toulx Ste Croi 28.76 298 *eP* **P 14 17 32.5 +1.7**
TCF pmax pmax
comp=Z,230nm,1.9s
TCF Toulx Ste Croi 28.76 298 *eP* **P 14 17 32.5 +1.7**
comp=Z,230nm,1.9s
TCF Toulx Ste Croi 28.76 298 *eP* **P 14 17 32.5 +1.7**
comp=Z,230nm,1.9s
MTLF Montolieu 28.82 291 *eP* **P 14 17 33.4 +2.1**
comp=Z,32nm,1.2s
MTLF Montolieu 28.82 291 *eP* **P 14 17 33.4 +2.1**
MTLF pmax pmax
comp=Z,32nm,1.2s
MTLF Montolieu 28.82 291 *eP* **P 14 17 33.4 +2.1**
comp=Z,32nm,1.2s
MTLF Montolieu 28.82 291 *eP* **P 14 17 33.4 +2.1**
comp=Z,32nm,1.2s
CAF Calviac 28.86 295 *eP* **P 14 17 32.6 +0.9**
CAF Calviac 28.86 295 *eP* **P 14 17 32.6 +0.9**
CAF Calviac 28.86 295 *eP* **P 14 17 32.6 +0.9**
CAF Calviac 28.86 295 *eP* **P 14 17 32.6 +0.9**
APA Apatity 29.11 355‖ *i* P P 14 17 45.6 +12
APA *i* 14 18 45.2
APA MLR MLR
comp=Z,600nm,10.0s
RJF Les Rejaudoux 29.24 296 *eP* **P 14 17 37.0 +1.9**
comp=Z,61nm,1.2s
RJF *eR*
comp=Z,889nm,19.5s
RJF Les Rejaudoux 29.24 296 *eP* **P 14 17 37.0 +1.9**
RJF pmax pmax
comp=Z,61nm,1.2s
RJF Les Rejaudoux 29.24 296 *eP* **P 14 17 37.0 +1.9**
comp=Z,61nm,1.2s
RJF Les Rejaudoux 29.24 296 *eP* **P 14 17 37.0 +1.9**
comp=Z,61nm,1.2s
KURBB Kurchatov Arra 29.41 54 P **P 14 17 36.0 -0.5**
comp=Z,10nm,0.9s,baz=268,slow=9.1,SNR=24
KURBB PcP **PcP 14 20 41.3 -0.8**
comp=Z,2.1nm,0.8s,baz=261,slow=3.0,SNR=7.2
KURK Kurchatov 29.48 53 P **P 14 17 36.0 -1.1**
KURK 14 20 41.3
KURK pmax pmax
comp=Z,10.0nm,0.9s
KURK Kurchatov 29.48 53 P **P 14 17 36.9 -0.2**
SNR=9.4
KURK Kurchatov 29.48 53 *eP* **P 14 17 35.7 -1.4**
comp=Z,7.4nm,0.8s
KURK Kurchatov 29.48 53 PcP **PcP 14 20 41.3 -1.0**
KURK Kurchatov 29.48 53 *eP* **P 14 17 35.6 -1.4**
comp=Z,7.5nm,0.8s
KURK PcP **PcP 14 20 41.3 -1.0**
PDGK Podgornoye 29.81 68 P **P 14 17 39.0 -1.1**
MFF Saint Martin d 30.39 298 *eP* **P 14 17 46.6 +1.4**
comp=Z,49nm,1.3s
MFF Saint Martin d 30.39 298 *eP* **P 14 17 46.6 +1.4**
MFF pmax pmax
comp=Z,49nm,1.3s
MFF Saint Martin d 30.39 298 *eP* **P 14 17 46.6 +1.4**
comp=Z,49nm,1.3s
MFF Saint Martin d 30.39 298 *eP* **P 14 17 46.6 +1.4**
comp=Z,49nm,1.3s
ETSF Etsaut 30.88 291 *eP* **P 14 17 50.4 +0.7**
comp=Z,16nm,0.8s
ETSF Etsaut 30.88 291 *eP* **P 14 17 50.4 +0.7**
ETSF pmax pmax
comp=Z,17nm,0.8s
ETSF Etsaut 30.88 291 *eP* **P 14 17 50.4 +0.7**
comp=Z,16nm,0.8s
ETSF Etsaut 30.88 291 *eP* **P 14 17 50.4 +0.7**
comp=Z,16nm,0.8s
GRR Gorron 30.92 302 *eP* **P 14 17 49.0 -0.9**
comp=Z,74nm,1.2s
GRR Gorron 30.92 302 *eP* **P 14 17 49.0 -0.9**
GRR pmax pmax
comp=Z,74nm,1.3s
GRR Gorron 30.92 302 *eP* **P 14 17 49.0 -0.9**
comp=Z,74nm,1.3s
GRR Gorron 30.92 302 *eP* **P 14 17 49.0 -0.9**
comp=Z,74nm,1.3s
MK31 Makanchi Array 31.63 61 *i* P **P 14 17 55.4 -0.8**
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 31.63 61 *i* P **P 14 17 55.7 -0.5**
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MKAR Makanchi Array 31.63 61 P **P 14 17 55.4 -0.8**
comp=Z,7.9nm,0.8s,baz=270,slow=7.6,SNR=28
MKAR PcP **PcP 14 20 47.2 -0.9**
comp=Z,1.1nm,0.6s,baz=251,slow=3.4,SNR=4.3
MKAR LR LR 14 32 55.4
comp=Z,539nm,18.4s,baz=262,slow=41
ARCES ARCESS Array B 31.83 350 P **P 14 17 56.7 -0.9**
comp=Z,7.4nm,0.8s,baz=157,slow=6.6,SNR=11
ARCES LR LR 14 31 47.1
comp=Z,802nm,19.7s,baz=154,slow=38
KEV Kevo 31.85 351 *eP* **P 14 17 58.1 +0.3**
KEV pmax pmax
comp=Z,5.0nm,0.7s
KEV Kevo 31.85 351 *ep* **P 14 17 58.1 +0.3**
comp=Z,5.0nm,0.7s
KEV Kevo 31.85 351 *eP* **P 14 17 58.1 +0.3**
comp=Z,5.0nm,0.7s
SGMF Saint Gilles 32.05 301 *eP* **P 14 18 00.6 +0.8**
comp=Z,105nm,1.4s
SGMF Saint Gilles 32.05 301 *eP* **P 14 18 00.6 +0.8**
SGMF pmax pmax
comp=Z,105nm,1.4s
SGMF Saint Gilles 32.05 301 *eP* **P 14 18 00.6 +0.8**
comp=Z,105nm,1.4s
SGMF Saint Gilles 32.05 301 *eP* **P 14 18 00.6 +0.8**
comp=Z,105nm,1.4s
ROSF Rostrenen 32.53 301 *eP* **P 14 18 05.3 +1.3**
ROSF Rostrenen 32.53 301 *eP* **P 14 18 05.3 +1.3**
ROSF Rostrenen 32.53 301 *eP* **P 14 18 05.3 +1.3**
ROSF Rostrenen 32.53 301 *eP* **P 14 18 05.3 +1.3**
NVS Novosibirsk 32.97 47 *eP* **P 14 18 06.5 -1.3**
NVS pmax pmax
comp=Z,19nm,1.4s
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,14nm,1.8s
EKA Eskdalemuir Ar 33.22 314 P **P 14 18 09.4 -0.6**
comp=E,2.7nm,0.7s,baz=110,slow=8.4,SNR=4.2
EKA LR LR 14 35 40.1
comp=E,540nm,18.3s,baz=130,slow=44
TAM Tamanrasset 33.52 252 *eP* **P 14 18 13.0 -0.1**
TAM pmax pmax
comp=Z,39nm,1.0s
TAM Tamanrasset 33.52 252 *eP* **P 14 18 13.0 -0.1**
comp=Z,39nm,1.0s
TAM Tamanrasset 33.52 252 *eP* **P 14 18 13.0 -0.1**
comp=Z,39nm,1.0s
ZALV Zalesovo Beam 33.73 48 *i* P **P 14 18 13.3 -1.1**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 33.73 48 P **P 14 18 12.2 -2.2**
comp=Z,1.4nm,0.5s,baz=261,slow=12,SNR=8.9
ZALV LR LR 14 33 57.9
comp=Z,882nm,19.2s,baz=254,slow=40
ESDC Sonseca Array 33.95 286 P **P 14 18 14.2 -2.4**
comp=Z,2.8nm,0.6s,baz=69,slow=9.0,SNR=17
ESDC PcP **PcP 14 20 53.7 -1.0**
comp=Z,0.3nm,0.3s,baz=93,slow=3.5,SNR=5.6
ESDC LR LR 14 33 41.5
comp=Z,459nm,18.6s,baz=95,slow=39
WMQ Urumqi 35.67 66 *eP* **P 14 18 31.1 -0.4**
WMQ pP **pP 14 18 37.0 +2.1**
WMQ PP **PnPn 14 19 51.5 +0.6**
WMQ S **S 14 24 05.4 -2.5**
WMQ sS **sS 14 24 15.3 +1.8**
WMQ SS **SnSn 14 26 25.0 -4.0**
WMQ ScS **ScS 14 28 47.0 -3.4**
WMQ PMZ
comp=Z,15nm,1.2s
WMQ PMZ
comp=Z,160nm,3.5s
WMQ LN
comp=Z,1μm,16.0s
WMQ LE
comp=Z,1μm,16.0s
WMQ LZ
comp=Z,800nm,16.0s
MVO Moncorvo 35.92 289 *eLR* LR 14 32 44.3
comp=Z,313nm,20.0s
MTE Manteigas 36.47 288 *eP* **P 14 18 39.1 +0.8**
comp=Z,53nm,2.1s
MTE Manteigas 36.47 288 *eLR* LR 14 34 28.2
comp=Z,444nm,18.0s
MTE Manteigas 36.47 288 *eP* **P 14 18 39.1 +0.8**
comp=Z,53nm,2.1s
MDT Midelt 36.53 275 P **P 14 18 39.3 +0.4**
comp=Z,4.4nm,1.0s,baz=74,slow=10.0,SNR=5.7
PCBR Castelo Branco 36.55 287 *eP* **P 14 18 40.1 +1.2**
comp=Z,33nm,1.7s
PCBR Castelo Branco 36.55 287 *eP* **P 14 18 40.1 +1.2**
comp=Z,33nm,1.7s
PMRV Marv??o 36.59 286 *eP* **P 14 18 40.9 +1.7**
comp=Z,38nm,1.6s
PMRV Marv??o 36.59 286 *eLR* LR 14 34 48.3
comp=Z,386nm,20.0s
PMRV Marv??o 36.59 286 *eP* **P 14 18 40.9 +1.7**
comp=Z,38nm,1.6s
PGAV Gavieira, Arco 36.66 291 *eLR* LR 14 32 35.0
comp=Z,411nm,20.0s
PESTR Estremoz 36.88 286 *eP* **P 14 18 42.6 +0.9**
PESTR Estremoz 36.88 286 *eP* **P 14 18 42.6 +0.9**
DANN Dangsing 37.47 93 *eP* **P 14 18 47.1 -0.1**
comp=Z,40nm,0.7s
KOLN Koldanda 37.62 94 *eP* **P 14 18 47.6 -0.8**
comp=Z,20nm,0.7s
GKN Gorkha 38.32 93 *eP* **P 14 18 53.4 -0.8**
comp=Z,30nm,0.6s
DMN Daman 38.87 93 *eP* **P 14 18 58.8 -0.2**
KKN Kakani 38.92 92 *eP* **P 14 18 58.6 -0.7**
HVS Khovu-Aksy 39.02 54‖ *eP* **P 14 18 58.6 -1.2**
HVS pmax pmax
comp=Z,76nm,1.0s
HVS MLR MLR
comp=Z,6μm,18.0s
PKIN Phulchoki 39.11 93 *eP* **P 14 19 00.4 -0.6**
comp=Z,54nm,1.2s
PKI Pulchoki 39.12 93 *eP* **P 14 19 00.5 -0.7**
comp=Z,32nm,0.9s
GUN Gumba 39.33 92 *eP* **P 14 19 01.9 -1.0**
comp=Z,54nm,0.8s
HYB Hyderabad 39.59 112 *i* P **P 14 19 03.0 -1.8**
JIRN Jiri 39.69 92 *eP* **P 14 19 05.5 -0.5**
comp=Z,21nm,0.7s
KMBO Kilima Mbogo 39.78 185 *i* P **P 14 19 08.1 +1.6**
KMBO Kilima Mbogo 39.78 185 P **P 14 19 05.1 -1.4**
comp=Z,1.0nm,0.5s,baz=47,slow=22,SNR=4.7
RAMN Ramite 40.35 93 *eP* **P 14 19 10.3 -1.0**
comp=Z,35nm,0.7s
SPITS Spitsbergen Ar 40.75 353 P **P 14 19 12.7 -1.0**
comp=Z,11nm,0.8s,baz=168,slow=10.0,SNR=4.7
ODAN Odare 41.01 92 *eP* **P 14 19 16.1 -0.6**
comp=Z,51nm,0.9s
TAPN Taplejung 41.03 91 *eP* **P 14 19 16.4 -0.5**
comp=Z,22nm,0.7s
TORD Torodi Ar. Bea 42.51 244 P **P 14 19 27.1 -1.8**
comp=Z,10.0nm,1.0s,baz=40,slow=7.0,SNR=24
TORD PcP **PcP 14 21 19.9 -1.6**
comp=Z,2.0nm,0.8s,baz=21,slow=2.7,SNR=3.1
TORD LR LR 14 40 41.0
comp=Z,271nm,18.7s,baz=30,slow=41
LSA Lhasa 42.64 86 *eP* **P 14 19 29.8 -0.5**
LSA pmax pmax
comp=Z,9.0nm,0.7s
LSA Lhasa 42.64 86 *eP* **P 14 19 29.8 -0.5**
comp=Z,8.8nm,0.7s
LSA Lhasa 42.64 86 *eP* **P 14 19 29.8 -0.5**
comp=Z,8.8nm,0.7s
ZAK Zakamensk 45.14 54 *eP* **P 14 19 48.6 -1.2**
ZAK *e* 14 21 28.0
ZAK pmax pmax
comp=Z,9.0nm,1.6s
TLY Talaya 45.15 52 *eP* **P 14 19 50.5 +0.8**
TLY *e* 14 26 38.2
TLY pmax pmax
comp=Z,20nm,1.0s
TLY MLR MLR
comp=Z,622nm,15.0s
TLY Talaya 45.15 52 P **P 14 19 50.5 +0.8**
SNR=8.5
TLY Talaya 45.15 52 P **P 14 19 49.4 -0.3**
comp=Z,2.0nm,0.3s,baz=261,slow=9.4,SNR=6.2
TLY Talaya 45.15 52 P **P 14 19 49.4 -0.3**
comp=Z,23nm,1.1s
TLY Talaya 45.15 52 P **P 14 19 49.4 -0.3**
comp=Z,23nm,1.1s
IRK Irkutsk 45.44 51 *eP* **P 14 19 50.6 -1.4**
IRK pmax pmax
comp=Z,54nm,1.5s
GTA Gaotai 45.55 69 *eP* **P 14 19 52.9 -0.2**
GTA pP **pP 14 19 57.1 +0.5**
GTA sP **sP 14 20 00.3 +2.3**
GTA S **S 14 26 36.3 +1.1**
GTA sS **sS 14 26 44.8 +3.9**
GTA SS **ScS 14 29 51.0 +1.3**
GTA PMZ
comp=Z,5.0nm,1.2s
GTA LN
comp=Z,380nm,13.8s
GTA LE
comp=Z,340nm,12.3s
GTA LZ
comp=Z,350nm,13.5s
SONM Songino Array 47.70 56 P **P 14 20 07.9 -2.0**
comp=Z,1.2nm,0.6s,baz=268,slow=10,SNR=17
SONM PcP **PcP 14 21 37.9 -1.2**
comp=Z,1.7nm,0.9s,baz=254,slow=3.0,SNR=5.2
SONM LR LR 14 42 43.5
comp=Z,3μm,18.5s,baz=292,slow=39
PALK Pallekele 48.09 120 *i* P P 14 20 17.0 +3.8
PALK Pallekele 48.09 120 P **P 14 20 12.4 -0.7**
comp=Z,23nm,0.7s,baz=328,slow=10,SNR=9.7
PALK Pallekele 48.09 120 *eP* **P 14 20 12.1 -1.0**
comp=Z,22nm,0.8s

PALK	**Pallekele**	**48.09**	**120**	*e*P	**P**	**14 20 12.1**	**-1.0**
	comp=Z,22nm,0.8s						
ULN	**Ulaanbaatar**	**48.12**	**56***c*	*i*P	**P**	**14 20 12.8**	**-0.4**
ULN				pmax	pmax		
	comp=Z,18nm,1.2s						
ULN				MLR	MLR		
	comp=Z,2μm,18.0s						
ULN	**Ulaanbaatar**	**48.12**	**56**	P	**P**	**14 20 13.3**	**+0.1**
	SNR=16						
ULN	**Ulaanbaatar**	**48.12**	**56**	*e*P	**P**	**14 20 12.6**	**-0.6**
	comp=Z,19nm,1.0s						
ULN	**Ulaanbaatar**	**48.12**	**56**	*e*P	**P**	**14 20 12.6**	**-0.6**
	comp=Z,19nm,1.0s						
LZH	**Lanzhou**	**49.72**	**72**	*e*P	**P**	**14 20 27.1**	**+1.4**
LZH				pP	**pP**	**14 20 32.3**	**+3.1**
LZH				sP	**sP**	**14 20 35.3**	**+4.8**
LZH				*e*S	S	14 27 28.4	-6.3
LZH				PMZ			
	comp=Z,40nm,1.2s						
LZH				PMZ			
	comp=Z,140nm,4.4s						
LZH				LN			
	comp=Z,720nm,14.3s						
LZH				LE			
	comp=Z,300nm,15.2s						
LZH				LZ			
	comp=Z,690nm,16.3s						
BOD	**Bodaibo**	**49.97**	**42**	*e*P	**P**	**14 20 24.5**	**-2.5**
BOD				pmax	pmax		
	comp=Z,41nm,0.9s						
DBIC	**Dimbokro**	**51.62**	**244**	P	**P**	**14 20 38.3**	**-1.7**
DBIC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
DBIC				MLR	MLR		
	comp=Z,202nm,18.3s						
DBIC	**Dimbokro**	**51.62**	**244**	P	**P**	**14 20 38.2**	**-1.7**
	comp=Z,9.7nm,0.7s,baz=19,slow=8.2,SNR=17						
DBIC				LR	LR	14 46 22.8	
	comp=Z,202nm,18.2s,baz=24,slow=40						
DBIC	**Dimbokro**	**51.62**	**244**	*e*P	**P**	**14 20 37.9**	**-2.1**
	comp=Z,24nm,1.1s						
DBIC	**Dimbokro**	**51.62**	**244**	*e*P	**P**	**14 20 37.9**	**-2.1**
	comp=Z,24nm,1.1s						
TIC	**Toumodi**	**51.76**	**244**	*e*P	**P**	**14 20 39.8**	**-1.2**
	comp=Z,11nm,0.2s						
KIC	**Kosan Boka**	**51.76**	**243**	*e*P	**P**	**14 20 39.4**	**-1.6**
	comp=Z,123nm,1.3s						
CD2	**Chengdu**	**51.86**	**78**	P	**P**	**14 20 41.3**	**-0.4**
CD2				pP	**pP**	**14 20 45.8**	**+0.6**
CD2				PP	**PP**	**14 22 36.3**	**-3.1**
CD2				S	**S**	**14 28 08.3**	**+4.1**
CD2				sS	**sS**	**14 28 10.3**	**+0.4**
CD2				PMZ			
	comp=Z,10.0nm,0.7s						
CD2				PMZ			
	comp=Z,180nm,7.1s						
CD2				LN			
	comp=Z,380nm,22.6s						
CD2				LE			
	comp=Z,340nm,16.6s						
CD2				LZ			
	comp=Z,460nm,19.0s						
LIC	**Lamto**	**52.06**	**243**	*e*P	**P**	**14 20 41.3**	**-1.9**
	comp=Z,46nm,1.0s						
LIC				*e*R			
	comp=Z,364nm,19.5s						
LIC	**Lamto**	**52.06**	**243**	*e*P	**P**	**14 20 41.6**	**-1.6**
	comp=Z,61nm,1.0s						
LIC	**Lamto**	**52.06**	**243**	*e*P	**P**	**14 20 41.3**	**-1.9**
	comp=Z,46nm,1.0s						
LIC	**Lamto**	**52.06**	**243**	*e*P	**P**	**14 20 41.3**	**-1.9**
	comp=Z,46nm,1.0s						
TIXI	**Tiksi**	**53.35**	**23**⇓	*e*P	**P**	**14 20 50.8**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,480nm,17.0s						
TIXI	**Tiksi**	**53.35**	**23**	*e*P	**P**	**14 20 49.5**	**-2.5**
	comp=Z,8.5nm,1.1s						
TIXI	**Tiksi**	**53.35**	**23**	*e*P	**P**	**14 20 49.5**	**-2.5**
	comp=Z,8.5nm,1.1s						
HHC	**Hu-ho-hao-te**	**53.45**	**63**	*e*P	**P**	**14 20 53.8**	**+0.4**
HHC				sP	**sP**	**14 20 59.3**	**+1.0**
HHC				S	**S**	**14 28 25.5**	**-0.4**
HHC				sS	**sS**	**14 28 30.8**	**-0.9**
HHC				ScS	**ScS**	**14 30 42.5**	**-0.5**
HHC				PMZ			
	comp=Z,29nm,1.5s						
HHC				PMZ			
	comp=Z,260nm,5.0s						
HHC				LN			
	comp=Z,670nm,12.4s						
HHC				LE			
	comp=Z,960nm,14.9s						
HHC				LZ			
	comp=Z,1μm,14.9s						
MHMT	**Maesarieng**	**53.85**	**95**	P	**P**	**14 20 58.2**	**+1.7**
	comp=Z,10nm,1.1s						
KMI	**Kunming**	**53.86**	**85**	P	**P**	**14 20 58.3**	**+1.5**
KMI				pP	**pP**	**14 21 03.6**	**+3.3**
KMI				PMZ			
	comp=Z,7.0nm,0.8s						
CHTO	**Chiang Mai**	**54.28**	**94**	*e*P	**P**	**14 20 57.5**	**-2.1**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHTO	**Chiang Mai**	**54.28**	**94**	P	**P**	**14 20 58.7**	**-0.9**
CHTO	**Chiang Mai**	**54.28**	**94**	*e*P	**P**	**14 20 57.5**	**-2.1**
	comp=Z,4.2nm,0.6s						
CHTO	**Chiang Mai**	**54.28**	**94**	*e*P	**P**	**14 20 57.5**	**-2.1**
	comp=Z,4.2nm,0.6s						
CMMT	**Chiang Mai**	**54.28**	**94**	P	**P**	**14 20 58.0**	**-1.7**
	comp=Z,10nm,0.9s						
XAN	**Xi'an**	**54.36**	**72**	P	**P**	**14 20 59.1**	**-1.0**
XAN				pP	**pP**	**14 21 05.1**	**+1.5**
XAN				PMZ			
	comp=Z,6.0nm,0.9s						
XAN				LN			
	comp=Z,390nm,14.3s						
XAN				LZ			
	comp=Z,140nm,15.4s						
CMAR	**Chiang Mai Arr**	**54.48**	**94**	P	**P**	**14 20 59.8**	**-1.3**
	comp=Z,4.9nm,0.8s,baz=296,slow=8.6,SNR=23						
CMAR				LR	LR	14 49 18.8	
	comp=Z,239nm,19.3s,baz=288,slow=42						
LSZ	**Lusaka**	**54.91**	**194**	*e*P	**P**	**14 21 04.1**	**0.0**
LSZ				pmax	pmax		
	comp=Z,17nm,1.2s						
LSZ	**Lusaka**	**54.91**	**194**	*e*P	**P**	**14 21 04.1**	**0.0**
	comp=Z,17nm,1.2s						
LSZ	**Lusaka**	**54.91**	**194**	*e*P	**P**	**14 21 04.1**	**0.0**
	comp=Z,17nm,1.2s						
HIA	**Hailar**	**55.68**	**51**	*e*P	**P**	**14 21 07.4**	**-2.0**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HIA	**Hailar**	**55.68**	**51**	*e*P	**P**	**14 21 07.4**	**-2.0**
	comp=Z,7.4nm,0.6s						
HIA	**Hailar**	**55.68**	**51**	*e*P	**P**	**14 21 07.4**	**-2.0**
	comp=Z,7.4nm,0.6s						
GYA	**Guiyang**	**56.23**	**81**⇓	*i*P	**P**	**14 21 12.3**	**-1.5**
GYA				PP	**PP**	**14 23 20.8**	**+1.9**
GYA				ScP	**ScP**	**14 26 09.4**	**-1.1**
GYA				S	**S**	**14 29 00.3**	**-3.2**
GYA				SS	**SS**	**14 32 47.5**	**-2.4**
GYA				PMZ			
	comp=Z,20nm,0.9s						
GYA				PMZ			
	comp=Z,120nm,5.2s						
GYA				LN			
	comp=Z,480nm,18.6s						
GYA				LE			
	comp=Z,390nm,19.2s						
GYA				LZ			
	comp=Z,440nm,18.8s						
YAK	**Yakutsk**	**56.43**	**34**	*e*P	P	14 21 18.1	+3.6
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK	**Yakutsk**	**56.43**	**34**	*e*P	**P**	**14 21 14.2**	**-0.3**
	comp=Z,11nm,0.7s						
YAK	**Yakutsk**	**56.43**	**34**	*e*P	**P**	**14 21 14.2**	**-0.3**
	comp=Z,11nm,0.7s						
ENH	**Enshi**	**56.52**	**76**	P	**P**	**14 21 13.8**	**-1.9**
ENH	**Enshi**	**56.52**	**76**	P	**P**	**14 21 13.8**	**-1.9**
BJI	**Beijing**	**57.00**	**63**	P	**P**	**14 21 18.0**	**-0.8**
BJI				pP	**pP**	**14 21 21.3**	**-1.1**
BJI				PcP	**PcP**	**14 22 13.8**	**-0.1**
BJI				PP	**PP**	**14 23 25.8**	**+0.6**
BJI				S	**S**	**14 29 10.8**	**-2.2**
BJI				ScS	**ScS**	**14 31 04.8**	**-3.4**
BJI				SS	**SS**	**14 33 00.3**	**-0.8**
BJI				PMZ			
	comp=Z,8.0nm,1.0s						
BJI				PMZ			
	comp=Z,190nm,4.8s						
BJI				LN			
	comp=Z,560nm,18.9s						
BJI				LE			
	comp=Z,310nm,18.9s						
BJI				LZ			
	comp=Z,240nm,18.2s						
OPO	**Ambohidratompo**	**57.40**	**172**	P	**P**	**14 21 22.4**	**+0.4**
	comp=Z,3.5nm,0.5s,baz=319,slow=7.8,SNR=4.3						
CN2	**Changchun**	**61.53**	**55**	*e*P	**P**	**14 21 49.8**	**-0.4**
CN2				*e*sP	**sP**	**14 21 58.8**	**+3.7**
CN2				*e*S	**S**	**14 30 06.8**	**-4.9**
CN2				PMZ			
	comp=Z,10.0nm,0.7s						
CN2				PMZ			
	comp=Z,200nm,5.0s						
CN2				LN			
	comp=Z,960nm,19.0s						
CN2				LE			
	comp=Z,730nm,19.0s						
CN2				LZ			
	comp=Z,350nm,18.0s						
NJ2	**Nanjing**	**62.64**	**70**	*e*P	**P**	**14 21 59.3**	**+1.5**
NJ2				pP	**pP**	**14 22 04.3**	**+2.9**
NJ2				S	**S**	**14 30 26.5**	**+0.5**
NJ2				PMZ			
	comp=Z,20nm,0.7s						
NJ2				LN			
	comp=Z,470nm,14.5s						
NJ2				LE			
	comp=Z,680nm,14.6s						
NJ2				LZ			
	comp=Z,680nm,15.6s						
QIZ	**Qiongzhong**	**62.67**	**87**	P	**P**	**14 21 57.6**	**-0.6**
QIZ				S	S	14 30 20.0	-6.7
QIZ				LE			
	comp=Z,160nm,16.7s						
QIZ				LZ			
	comp=Z,190nm,20.7s						
KLR	**Kul'dur**	**62.83**	**47**	*e*P	**P**	**14 21 56.6**	**-2.2**
MDJ	**Mudanjiang**	**63.77**	**53**	P	**P**	**14 22 04.1**	**-1.0**
MDJ				PP	**PP**	**14 24 23.4**	**-1.6**
MDJ				S	**S**	**14 30 38.5**	**-1.2**
MDJ				sS	**sS**	**14 30 44.1**	**-1.5**
MDJ				ScS	**SKKSac**	**14 31 56.6**	**-1.9**
MDJ				PMZ			
	comp=Z,6.0nm,1.7s						
MDJ				PMZ			
	comp=Z,67nm,4.6s						
MDJ				LN			
	comp=Z,450nm,13.4s						
MDJ				LE			
	comp=Z,210nm,14.2s						
MDJ				LZ			
	comp=Z,530nm,10.9s						
PSI	**Prapat**	**64.19**	**108**	P	**P**	**14 22 06.0**	**-2.4**
PSI	**Prapat**	**64.19**	**108**	P	**P**	**14 22 06.0**	**-2.4**
	comp=Z,9.5nm,0.7s,baz=316,slow=7.1,SNR=10						
PSI				LR	LR	14 52 22.7	
	comp=Z,358nm,18.9s,baz=293,slow=38						
LBTB	**Lobatse**	**64.89**	**195**	*e*P	**P**	**14 22 12.2**	**-0.4**
LBTB				pmax	pmax		
	comp=Z,33nm,1.1s						
LBTB	**Lobatse**	**64.89**	**195**	*e*P	**P**	**14 22 12.2**	**-0.4**
	comp=Z,33nm,1.1s						
LBTB	**Lobatse**	**64.89**	**195**	*e*P	**P**	**14 22 12.2**	**-0.4**
	comp=Z,33nm,1.1s						
USRK	**Ussuriysk Ar.**	**65.46**	**52**	P	**P**	**14 22 16.1**	**0.0**
	comp=Z,3.6nm,0.9s,baz=308,slow=4.6,SNR=4.8						
USRK				LR	LR	14 53 30.5	
	comp=Z,388nm,20.0s,baz=305,slow=38						
BILL	**Biiibino**	**66.15**	**19**⇓	*e*P	**P**	**14 22 19.4**	**-0.8**
BILL				*e*		14 22 47.3	
BILL				pmax	pmax		
	comp=Z,18nm,2.5s						
BILL	**Biiibino**	**66.15**	**19**	*e*P	**P**	**14 22 19.0**	**-1.2**
	comp=Z,7.6nm,0.9s						
BILL	**Biiibino**	**66.15**	**19**	*e*P	**P**	**14 22 19.0**	**-1.2**
	comp=Z,7.6nm,0.9s						
KSAR	**Wonju Array Be**	**66.28**	**60**	P	**P**	**14 22 20.1**	**-1.5**
KSAR	**Wonju Array Be**	**66.28**	**60**	P	**P**	**14 22 20.0**	**-1.5**
KSAR	**Wonju Array Be**	**66.28**	**60**	P	**P**	**14 22 20.1**	**-1.5**
KSRS	**Korea Array**	**66.30**	**60**	P	**P**	**14 22 20.1**	**-1.6**
KSRS				pmax	pmax		
	comp=Z,11nm,0.9s						
KSRS				MLR	MLR		
	comp=Z,314nm,20.9s						
KSRS	**Korea Array**	**66.30**	**60**	P	**P**	**14 22 20.1**	**-1.6**
	comp=Z,11nm,0.9s,baz=291,slow=5.7,SNR=22						
KSRS				LR	LR	14 53 59.8	
	comp=Z,314nm,20.9s,baz=308,slow=38						
TJN	**Taejon**	**66.48**	**62**⇓	*e*P	**P**	**14 22 21.2**	**-1.6**
SCHQ	**Schefferville**	**67.90**	**323**	P	**P**	**14 30 24.4**	**-1.2**
	comp=Z,5.8nm,1.0s,baz=27,slow=3.8,SNR=5.0						
MAJO	**Matsushiro**	**73.65**	**56**⇑	*i*P	**P**	**14 23 07.2**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,152nm,2.5s						
MJAR	**Matsushiro Arr**	**73.65**	**56**	P	**P**	**14 23 06.1**	**-0.8**
	comp=Z,3.5nm,0.9s,baz=302,slow=4.9,SNR=7.2						
MJAR				LR	LR	14 58 33.5	
	comp=Z,370nm,19.3s,baz=310,slow=38						
TNA	**Tin City**	**73.74**	**12**	*e*P	**P**	**14 23 05.3**	**-1.5**
	comp=Z,9.1nm,0.9s						
TNA	**Tin City**	**73.74**	**12**	*e*P	**P**	**14 23 05.3**	**-1.5**
	comp=Z,9.1nm,0.9s						
PETK	**Petropavlovsk-**	**73.77**	**34**	LR	LR	14 59 41.5	
	comp=Z,246nm,20.1s,baz=301,slow=39						
YUK	**Yuzh-Kuril'sk**	**73.78**	**46**	P	P	14 23 03.8	-3.7
YUK				*i* S	**SKiKP**	**14 32 37.0**	**+0.3**
YUK				*i* SSS	SSS	14 40 34.4	
YUK				MLR	MLR		
	comp=N,447nm,22.0s						
YUK				MLR	MLR		
	comp=E,517nm,22.0s						
YUK				MLR	MLR		
	comp=Z,387nm,22.0s						
COLD	**Coldfoot**	**74.05**	**4**	*e*P	**P**	**14 23 08.2**	**-0.5**
	comp=Z,19nm,0.9s						
COLD	**Coldfoot**	**74.05**	**4**	*e*P	**P**	**14 23 08.2**	**-0.5**
	comp=Z,19nm,0.9s						
COLA	**College**	**76.52**	**4***c*	*i*P	**P**	**14 23 22.0**	**-0.8**
COLA				pmax	pmax		
	comp=Z,26nm,0.8s						
COLA				MLR	MLR		
	comp=Z,534nm,18.0s						
COLA	**College**	**76.52**	**4**	*e*P	**P**	**14 23 21.8**	**-1.1**
	comp=Z,16nm,0.9s						
COLA	**College**	**76.52**	**4**	*e*P	**P**	**14 23 21.8**	**-1.1**
	comp=Z,16nm,0.9s						
ILAR	**Eielson Array**	**76.66**	**3**	P	**P**	**14 23 21.8**	**-1.9**
	comp=Z,0.8nm,0.8s,baz=340,slow=4.3,SNR=8.9						
ILAR				LR	LR	15 02 29.9	
	comp=Z,58nm,18.2s,baz=354,slow=40						
EGAK	**Eagle**	**76.80**	**1**	*e*P	**P**	**14 23 24.3**	**-0.2**
	comp=Z,9.4nm,1.0s						
EGAK	**Eagle**	**76.80**	**1**	*e*P	**P**	**14 23 24.3**	**-0.2**
	comp=Z,9.4nm,1.0s						
YKA	**Yellowknife Ar**	**77.07**	**348**	P	**P**	**14 23 24.7**	**-1.3**
	comp=Z,2.4nm,0.8s,baz=21,slow=5.9,SNR=38						
KTH	**Kantishna Hill**	**77.65**	**5**	*e*P	**P**	**14 23 27.5**	**-1.9**
	comp=Z,15nm,1.0s						
KTH	**Kantishna Hill**	**77.65**	**5**	*e*P	**P**	**14 23 27.5**	**-1.9**
	comp=Z,15nm,1.0s						
HYT	**Haines Junctio**	**80.75**	**359**	*e*P	**P**	**14 23 45.8**	**-0.7**
HYT	**Haines Junctio**	**80.75**	**359**	*e*P	**P**	**14 23 45.8**	**-0.7**
KDAK	**Kodiak Island**	**83.23**	**7**	*i* P	**P**	**14 24 00.3**	**+1.0**
ULM	**Lac du Bonnet**	**83.30**	**333**	P	**P**	**14 23 58.1**	**-1.8**
	comp=Z,3.3nm,0.7s,baz=14,slow=4.2,SNR=5.8						
ULM				LR	LR	15 00 31.5	
	comp=Z,176nm,21.3s,baz=39,slow=35						
NEW	**Newport**	**91.04**	**345**	*e*P	**P**	**14 24 37.4**	**-0.2**
NEW				pmax	pmax		
	comp=Z,11nm,1.0s						
NEW	**Newport**	**91.04**	**345**	*e*P	**P**	**14 24 37.3**	**-0.3**
	comp=Z,11nm,1.0s						
NEW	**Newport**	**91.04**	**345**	*e*P	**P**	**14 24 37.4**	**-0.3**
	comp=Z,11nm,1.0s						
SWMT	**Swartz Lake**	**91.08**	**343**	P	**P**	**14 24 36.5**	**-1.4**
	comp=Z,11nm,1.5s						
SWMT	**Swartz Lake**	**91.08**	**343**	P	**P**	**14 24 36.5**	**-1.4**
	comp=Z,11nm,1.5s						
SLMT	**Seeley Lake**	**91.21**	**342**	*e*P	**P**	**14 24 37.7**	**-0.9**
	comp=Z,9.6nm,1.1s						
SLMT	**Seeley Lake**	**91.21**	**342**	*e*P	**P**	**14 24 37.7**	**-0.9**
	comp=Z,9.6nm,1.1s						
CHMT	**Chamberlain Mo**	**91.46**	**342**	*e*P	**P**	**14 24 37.8**	**-2.0**
	comp=Z,4.7nm,1.2s						
CHMT	**Chamberlain Mo**	**91.46**	**342**	*e*P	**P**	**14 24 37.9**	**-2.0**
	comp=Z,4.7nm,1.2s						
PDAR	**Pinedale Array**	**94.33**	**338**	LR	LR	15 09 43.3	
	comp=Z,101nm,18.7s,baz=34,slow=37						
ASAR	**Alice Springs**	**107.19**	**107**	PKiKP	**PKiKP**	**14 29 57.6**	**-2.2**
	comp=Z,0.2nm,0.6s,baz=308,slow=1.6,SNR=3.6						

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*NEIC **24** 14:13:01.1,32.°01N×117.°52W,h6km,ML3.5(PAS),After PAS.*
NEIC Felt at San Diego, California.
*ECX **24** 14:13:02.4±0.6,32.°04N×117.°53W,h14km±3km,MD3.6, ML3.7*

ISC 24 14:13:00.8±1.5,**32.°04N**±0.°04×**117.°54W**±0.°05,**h6**km±12km, **n27**,σ0°**96**/36,**2C-9D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBX	**Punta Banda**	**0.75**	**113**⇓	*e*P	**Pg**	**14 13 15.3**	**+0.1**
PBX				*e*S	**Sg**	**14 13 25.9**	**+1.0**
PBX				⇑*e*		14 13 34.4	
	comp=E,2μm,1.0s						
CBX	**Cerro Bola**	**0.79**	**69**⇓	*e*P	**Pg**	**14 13 16.4**	**+0.4**
CBX				*e*S	**Sg**	**14 13 26.8**	**+0.6**
ECNX	**Esteban Cantu**	**0.89**	**115**⇓	*e*P	**Pg**	**14 13 17.5**	**-0.3**
ECNX				*e*S	**Sg**	**14 13 30.3**	**+1.0**
ECNX				⇓*e*		14 13 39.9	
	comp=N,2μm,0.5s						
109C	**Camp Elliot, M**	**0.92**	**23**	P	**Pg**	**14 13 18.2**	**-0.3**
	baz=0.9						
109C				S	**Sg**	**14 13 30.4**	**-0.1**
	baz=0.9						
CPE	**Camp Elliot**	**0.92**	**23**⇓	*e*P	**Pg**	**14 13 18.3**	**-0.2**
BAR	**Barrett**	**0.97**	**49**⇓	*e*P	**Pg**	**14 13 19.2**	**-0.3**
BAR	**Barrett**	**0.97**	**49**	*e*Pg	**Pg**	**14 13 19.0**	**-0.4**
BAR				*e*Sg	Sg	14 13 23.3	-8.8
ZAX	**El Zacaton**	**1.20**	**116**⇓	*e*P	**Pb**	**14 13 22.9**	**-1.0**
ZAX				*e*S	**Sb**	**14 13 39.2**	**-0.4**
ZAX				⇓*e*		14 13 45.8	
	comp=E,4μm,0.7s						
ZAX				⇑*e*		14 13 52.1	
	comp=N,2μm,0.9s						
SCI	**San Clemente I**	**1.27**	**318**	P	**Pn**	**14 13 23.3**	**-1.7**
	baz=1.3						
SCI				S	**Sb**	**14 13 42.7**	**+1.0**
	baz=1.3						
MONP	**Monument Peak,**	**1.27**	**48**	P	**Pn**	**14 13 23.9**	**-1.3**
	baz=1.3						
MONP				S	**Sb**	**14 13 40.6**	**-1.3**
	baz=1.3						
RMX	**La Rumorosa**	**1.36**	**65**	*e*P	**Pn**	**14 13 26.0**	**-0.4**
RMX				*e*S	**Sb**	**14 13 43.4**	**-0.9**
RDX	**Rancho Dawling**	**1.36**	**94**	*e*P	**Pn**	**14 13 25.4**	**-1.0**
RDX				*e*S	**Sb**	**14 13 43.7**	**-0.7**
RDX				⇓*e*		14 13 47.6	
	comp=N,700nm,0.6s						
MURC	**Murrieta**	**1.58**	**10**	Pb	**Pn**	**14 13 29.4**	**0.0**
	baz=1.6						
SWSC	**Sam W. Stewart**	**1.73**	**58**	Pg	**Pn**	**14 13 32.4**	**+1.2**
	baz=1.7						
SWSC				Sb	**Sb**	**14 13 54.9**	**+0.1**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.81**	**30**	Pb	**Pn**	**14 13 32.5**	**-0.1**
	baz=1.8						
PFO				Sb	**Sn**	**14 13 57.1**	**+1.1**
	baz=1.8						
PFO	**Pinyon Flats O**	**1.81**	**30**	*e*P	**Pn**	**14 13 32.5**	**-0.1**
SPX	**San Pedro Mart**	**2.03**	**119**	*e*P	**Pn**	**14 13 36.5**	**+0.7**
PASC	**Pasadena Art C**	**2.20**	**346**	P	**Pn**	**14 13 38.1**	**+0.3**
MWC	**Mount Wilson**	**2.22**	**349**	*e*Pn	Pn	14 13 35.8	-2.5
BELC	**Belle Mtn. Jos**	**2.34**	**33**	Pb	**Pn**	**14 13 42.3**	**+2.3**
	baz=2.4						
BELC				Sb	**Sb**	**14 14 12.6**	**-0.2**
	baz=2.4						
GLA	**Glamis**	**2.50**	**65**	*e*Pn	**Pn**	**14 13 43.2**	**+1.1**
OSI	**Osito Audit: C**	**2.75**	**339**	P	**Pn**	**14 13 47.4**	**+1.8**
EDW2	**Edwards Air Fo**	**2.86**	**353**	P	**Pn**	**14 13 46.7**	**-0.2**
	baz=2.9						
GSC	**Goldstone, Bar**	**3.31**	**10**	*e*Pn	**Pn**	**14 13 52.2**	**-1.0**
LDFC	**Landfair**	**3.65**	**33**	Pn	Pn	14 14 01.0	+3.2
214A	**Organ Pipe Nat**	**4.01**	**90**	*e*Pn	Pn	14 13 57.6	-5.3
DAC	**Darwin (Calif)**	**4.23**	**359**	*e*Pn	**Pn**	**14 14 06.8**	**+0.9**

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*IDC **24** 14:14:55.1±0.6,35.°57S×72.°75W,h0km,mb4.3/9, mb1 4.5/10,mb1mx4.4/19,mbtmp4.4/10,ML4.9/1,MS3.8/11, Ms1 3.8/11,ms1mx3.7/19,Error ellipse: s-maj=25.5km s-min=18.0km az=88.0*
*NEIC **24** 14:14:57.0,35.°64S×72.°84W,h24km,mb4.8/12, ML4.8(GUC),After GUC.*
NEIC Felt [V] at Pelluhue; [IV] at Cauquenes, Chanco, Longavi and San Javier; [III] at Curico, Pencahue and Talca. Also felt at Chillan, Concepcion, San Fernando, Santiago, Talcahuano and Valdivia.
*GUC **24** 14:14:57.4±0.7,35.°64S×72.°84W,h24km±12km,ML4.8*
*ISCJB **24** 14:14:58.1±1.0,35.°60S±0.°04×72.°9W±0.°1,h36km±8km, mb4.7/23,MS4.0/8,Error ellipse: s-maj=14.5km s-min=7.2km az=5.3*
*BJI **24** 14:14:58.1,35.°60S×72.°90W,h26km,mB5.0/6,Ms5.3/5, Ms7 5.1/6*

ISC 24 14:14:58.9±1.1,**35.°65S**±0.°04×**72.°87W**±0.°06,**h30**km±7km, **n72**,σ1°**30**/80,**mb4.9**/23,**MS4.1**/8,**1C-6D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.04**	**77**⇓	*i*P	**Pn**	**14 15 15.2**	**-2.1**
TALC				*i* S1	**Sn**	**14 15 28.8**	**-2.0**
LNCH	**Linares**	**1.05**	**101**⇓	*i*P	**Pb**	**14 15 17.7**	**-0.8**
LNCH				*i* S1	**Sn**	**14 15 31.8**	**+0.7**
LNCH				AML	AML	14 15 34.5	
	comp=N,45μm,0.4s						
CCSP	**San Pedro de C**	**1.21**	**189**⇓	*i*P	**Pn**	**14 15 18.3**	**-1.4**
CCSP				*i* S1	**Sn**	**14 15 34.9**	**-0.2**
NICH	**Los Niches**	**1.48**	**65**⇓	*i*P	**Pn**	**14 15 23.8**	**+0.3**
NICH				*i* S1	**Sn**	**14 15 43.0**	**+1.2**
NICH				AML	AML	14 15 53.3	
	comp=N,29μm,0.6s						
LNV	**Longovilo**	**2.07**	**36**⇓	*i*P	**Pn**	**14 15 31.7**	**+0.2**
CACH	**El Canelo**	**2.41**	**51**⇓	*i*P	**Pn**	**14 15 36.4**	**+0.1**
CHCH	**Chadas Angostu**	**2.50**	**47**	*e*P1	**Pn**	**14 15 37.5**	**+0.1**
RCDM	**Rinconada Maip**	**2.74**	**39**	*e*P1	**Pn**	**14 15 41.1**	**+0.3**
RCDM				AML	AML	14 16 38.0	
	comp=E,2μm,0.7s						
CLCH	**Cerro Calan**	**2.96**	**41**⇑	*i*P	**Pn**	**14 15 44.6**	**+0.9**
CLCH				*e*S1	**Sn**	**14 16 19.5**	**+1.2**
CLCH				AML	AML	14 16 40.1	
	comp=N,7μm,0.7s						
PLCA	**Paso Flores**	**5.40**	**161**	Pn	**Pn**	**14 16 18.0**	**+0.7**
	comp=N,9.8nm,0.3s,baz=324,slow=10,SNR=22						
PLCA				Lg	Lg	14 17

LPAZ	**La Paz**	**19.74**	**14**	P	**Pn**	**14 19 28.6**	**+0.2**
	comp=N,0.7nm,0.3s,baz=184,slow=6.0,SNR=35						
LPAZ	**La Paz**	**19.74**	**14**	*e*P	**Pn**	**14 19 28.3**	**-0.1**
	comp=N,32nm,0.9s						
SIV	**San Ignacio**	**22.23**	**31**	P	**P**	**14 19 52.2**	**-0.9**
	comp=N,38nm,1.0s,baz=222,slow=9.1,SNR=49						
SIV				LR	LR	14 30 07.8	
	comp=N,638nm,18.1s,baz=218,slow=41						
SAML	**Samuel**	**28.01**	**21**	P	**P**	**14 20 45.8**	**-1.4**
	comp=N,3.7nm,0.9s						
ATAH	**Atahualpa**	**28.83**	**349**	LR	LR	14 31 21.0	
	comp=N,108nm,18.1s,baz=196,slow=34						
PMSA	**Palmer Station**	**29.64**	**172**	LR	LR	14 32 33.7	
	comp=N,436nm,18.3s,baz=321,slow=36						
PTGA	**Pitinga**	**36.75**	**22**	P	**P**	**14 22 02.7**	**-1.0**
	comp=N,22nm,1.0s						
ROSC	**El Rosal**	**40.31**	**358**	LR	LR	14 38 35.2	
	comp=N,49nm,18.4s,baz=146,slow=35						
SDV	**Santo Domingo**	**44.34**	**3**	*e*P	**P**	**14 23 05.7**	**-0.8**
	comp=N,7.4nm,0.8s						
RCBR	**Riachuelo**	**45.09**	**58**	*e*P	**P**	**14 23 13.0**	**+0.6**
	comp=N,18nm,1.1s						
VNA3	**Neumayer Olymp**	**48.10**	**157**	P	**P**	**14 23 36.6**	**+1.2**
VNA2	**Neumayer--Watz**	**48.77**	**157**	P	**P**	**14 23 41.4**	**+1.0**
	baz=289,slow=9.0						
SNAA	**Sanae**	**50.33**	**157**	P	**P**	**14 23 52.8**	**+0.4**
SNAA	**Sanae**	**50.33**	**157**	P	**P**	**14 23 52.6**	**+0.2**
	comp=N,1.6nm,0.8s,baz=275,slow=8.9,SNR=8.2						
SNAA	**Sanae**	**50.33**	**157**	*e*P	**P**	**14 23 52.8**	**+0.4**
CELP	**Cerrillos**	**53.76**	**7**	*e*P	**P**	**14 24 17.4**	**-1.0**
QSPA	**South Pole Qui**	**54.59**	**180**	*e*P	**P**	**14 24 25.0**	**+0.8**
	comp=N,24nm,1.0s						
QSPA				*e*		14 24 33.1	
VNDA	**Vanda**	**62.36**	**192**	P	**P**	**14 25 20.8**	**+2.9**
	comp=N,0.3nm,0.7s,baz=173,slow=2.5,SNR=3.0						
VNDA				LR	LR	14 49 12.4	
	comp=N,65nm,18.3s,baz=164,slow=33						
TBI	**Tubuai**	**66.28**	**258**	*e*LR	LR	14 45 35.8	
	comp=N,282nm,26.0s						
TAOE	**Nuku Hiva Isla**	**66.45**	**276**	*e*T	T	15 37 51.5	
	comp=N,379nm,0.2s						
MEH	**Mehetia**	**67.97**	**263**	*e*T	T	15 39 43.7	
	comp=N,14nm,0.2s						
TVO	**Taravao**	**68.97**	**263**	*e*T	T	15 40 59.3	
	comp=N,0.6nm,0.2s						
TIAR	**Tiarei**	**69.17**	**263**	*e*T	T	15 41 13.8	
	comp=N,3.2nm,0.3s						
PPT2	**Papeete2**	**69.34**	**263**	*e*LR	LR	14 47 03.4	
	comp=N,234nm,24.8s						
PPT	**Papeete**	**69.35**	**263**	LR	LR	14 49 53.4	
	comp=N,117nm,18.0s,baz=102,slow=30						
TXAR	**Lajitas Array**	**70.85**	**332**	P	**P**	**14 26 14.0**	**+1.2**
	comp=N,1.1nm,0.5s,baz=154,slow=8.6,SNR=16						
MAW	**Mawson**	**71.80**	**164**	LR	LR	14 56 28.7	
	comp=N,186nm,21.9s,baz=242,slow=35						
WVT	**Waverly**	**72.76**	**347**	*e*P	**P**	**14 26 23.0**	**-1.0**
	comp=N,21nm,0.9s						
MSTX	**Muleshoe**	**74.69**	**335**	*e*P	**P**	**14 26 35.6**	**+0.2**
	comp=N,5.5nm,0.7s						
LIC	**Lamto**	**75.94**	**72**	*e*P	**P**	**14 26 42.8**	**-0.2**
	comp=N,33nm,0.8s						
TIC	**Toumodi**	**76.21**	**71**	*e*P	**P**	**14 26 44.8**	**+0.2**
	comp=N,15nm,0.2s						
KIC	**Kosan Boka**	**76.25**	**72**	*e*P	**P**	**14 26 44.7**	**-0.1**
	comp=N,36nm,0.8s						
DBIC	**Dimbokro**	**76.35**	**71**	P	**P**	**14 26 45.5**	**+0.1**
	comp=N,9.8nm,0.7s,baz=202,slow=5.8,SNR=16						
DBIC	**Dimbokro**	**76.35**	**71**	*e*P	**P**	**14 26 45.1**	**-0.3**
CASY	**Casey**	**78.36**	**181**	P	**P**	**14 26 54.9**	**-0.9**
	comp=N,17nm,1.3s						
ECSD	**EROS Data Cent**	**81.91**	**343**	*e*P	**P**	**14 27 15.0**	**-0.1**
	comp=N,20nm,1.1s						
LBTB	**Lobatse**	**82.23**	**115**	*e*P	**P**	**14 27 17.4**	**-0.1**
	comp=N,8.1nm,0.7s						
NVAR	**Mina Array Bea**	**84.85**	**326**	P	**P**	**14 27 32.2**	**+1.6**
	comp=N,1.7nm,0.8s,baz=156,slow=6.7,SNR=14						
PDAR	**Pinedale Array**	**84.93**	**334**	P	**P**	**14 27 30.9**	**0.0**
	comp=N,1.4nm,1.1s,baz=147,slow=3.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**85.41**	**70**	P	**P**	**14 27 33.4**	**-0.3**
	comp=N,5.7nm,0.8s,baz=253,slow=4.0,SNR=31						
TORD				LR	LR	15 05 11.0	
	comp=N,93nm,18.5s,baz=195,slow=35						
MCMT	**McKenzie Canyo**	**87.91**	**333**	*e*P	**P**	**14 27 46.8**	**+1.2**
	comp=N,3.7nm,1.4s						
ULM	**Lac du Bonnet**	**87.91**	**345**	P	**P**	**14 27 44.7**	**-0.3**
	comp=N,3.6nm,0.6s,baz=143,slow=1.5,SNR=8.8						
WRA	**Warramunga Arr**	**119.00**	**209**	PKP	**PKPdf**	**14 33 45.6**	**+0.6**
	comp=N,0.5nm,1.1s,baz=147,slow=1.4,SNR=5.4						
HYB	**Hyderabad**	**148.81**	**118**	*i* PKP	**PKPbc**	**14 34 42.5**	**-1.4**
YAK	**Yakutsk**	**150.03**	**339**	*e*PKPbc	**PKPbc**	**14 34 45.6**	**+0.1**
YAK				*e*PKPab	**PKPab**	**14 34 52.1**	**+0.8**
KKAR	**Karatay Array**	**150.90**	**64**	PKPbc	**PKPbc**	**14 34 48.1**	**-0.1**
AAK	**Ala-Archa**	**153.85**	**65**	PKPbc	**PKPbc**	**14 34 56.1**	**+1.0**
	comp=N,1.6nm,0.8s,baz=225,slow=5.0,SNR=5.7						
AAK				PKPab	**PKPab**	**14 35 08.4**	**+0.1**
	comp=N,3.4nm,0.7s,baz=207,slow=3.5,SNR=11						
AAK	**Ala-Archa**	**153.85**	**65**	*e*PKPbc	**PKPbc**	**14 34 55.7**	**+0.6**
AAK				PKPab	**PKPab**	**14 35 08.4**	**+0.1**
KSH	**Kashi**	**155.07**	**72**	PKPbc	**PKPdf**	**14 34 48.1**	**-0.7**
KSH				sPKP		14 34 57.8	
KSH				PKS	**PKSdf**	**14 38 22.8**	**-0.2**
KSH				PP	**PP**	**14 38 48.6**	**-1.6**
KSH				SKS	**SKSdf**	**14 41 54.1**	**+0.9**
KSH				SKKS	**SKKSac**	**14 45 40.1**	**+2.7**
KSH				SS	**SS**	**14 58 33.3**	**+0.9**
KSH				PPMZ			
	comp=N,91nm,8.4s						
KSH				LN			
	comp=N,63nm,8.0s						
KSH				LE			
	comp=N,44nm,9.8s						
KSH				LZ			
	comp=N,140nm,5.4s						
ZALV	**Zalesovo Beam**	**155.97**	**33**	PKPab	**PKPab**	**14 35 17.4**	**+0.7**
	comp=N,3.5nm,0.7s,baz=308,slow=4.9,SNR=12						
MKAR	**Makanchi Array**	**158.34**	**51**	PKP	**PKPdf**	**14 34 51.5**	**-1.2**
	comp=N,0.4nm,0.9s,baz=282,slow=2.8,SNR=3.0						
MKAR				PKPab	**PKPab**	**14 35 29.9**	**+2.7**
	comp=N,0.7nm,0.7s,baz=282,slow=5.9,SNR=7.0						
MKAR				PP	**PP**	**14 39 06.4**	**-1.3**
	comp=N,0.5nm,0.9s,baz=270,slow=4.9,SNR=4.0						
WMQ	**Urumqi**	**162.99**	**55**	*e*PKP	**PKPdf**	**14 34 56.8**	**-1.1**
WMQ				pPKP	**pPKPdf**	**14 35 07.5**	**-0.5**
WMQ				LN			
	comp=N,27nm,20.0s						
WMQ				LE			
	comp=N,19nm,24.0s						
WMQ				LZ			
	comp=N,51nm,19.0s						
SONM	**Songino Array**	**167.81**	**2**	PKPab	**PKPab**	**14 36 09.7**	**+1.0**
	comp=N,1.3nm,0.8s,baz=340,slow=4.2,SNR=12						
HHC	**Hu-ho-hao-te**	**173.74**	**327**	*e*PKP	**PKPdf**	**14 35 03.5**	**-1.7**
HHC				PP	**PP**	**14 40 29.3**	**+2.4**
HHC				SKS	**SKSdf**	**14 42 01.3**	**-4.9**
HHC				SKKS	**SKKSac**	**14 47 08.5**	**-2.9**
HHC				PPMZ			
	comp=N,95nm,9.8s						
HHC				LN			
	comp=N,220nm,18.7s						
HHC				LE			
	comp=N,280nm,19.4s						
HHC				LZ			
	comp=N,170nm,18.4s						
CD2	**Chengdu**	**174.50**	**148**	*e*PKP	**PKPdf**	**14 35 05.8**	**+0.1**

*CSEM **24** 14:15:41.8, 37°.41N×28°.11E, h7km, MD2.7*

DDA 24 14:15:41.8, 37°.41N×28°.11E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.31**	**324**	*i* P	Pg	14 15 48.9	+0.9
AYDN				*i* S	Sg	14 15 53.2	+0.9
AYDN	**Tasoluk**	**0.31**	**324**	*i* P	Pg	14 15 48.9	+0.8
AYDN				*i* S	Sg	14 15 53.2	+0.9
GCAM	**G?zelcaml?**	**0.76**	**293**	*i* P	Pg	14 15 56.1	-0.2
GCAM				*i* S	Sg	14 16 04.3	-1.9
GCAM	**G?zelcaml?**	**0.76**	**293**	*i* P	Pg	14 15 56.1	-0.2
GCAM				*i* S	Sg	14 16 04.3	-1.9
DNZL	**Cakiroluk**	**0.79**	**69**	*i* P	Pb	14 15 58.1	-0.1
DNZL				*i* S	Sg	14 16 08.4	+0.5
DNZL	**Cakiroluk**	**0.79**	**69**	*i* P	Pb	14 15 58.1	-0.2
DNZL				*i* S	Sg	14 16 08.4	+0.5
MANT	**Manisa**	**1.14**	**18**	*i* P	Pg	14 16 03.2	-0.8
MANT				*i* S	Sn	14 16 20.0	-0.5
MANT	**Manisa**	**1.14**	**18**	*i* P	Pg	14 16 03.2	-0.7
MANT				*i* S	Sn	14 16 20.0	-0.6

*ISCJB **24** 14:20:30.0±0.7, 70°.67N±0°.06×15°.0W±0°.4, h10km, mb3.5/3, Error ellipse: s-maj=19.7km s-min=5.4km az=20.7*

*IDC **24** 14:20:33.0±2.6, 70°.76N×14°.43W, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.4/44, mbtmp3.8/6, ML3.2/3, Error ellipse: s-maj=72.1km s-min=24.3km az=120.0*

*REY **24** 14:20:35.5, 70°.14N×12°.94W, h10km*

ISC 24 14:20:32.7±1.0, 70°.66N±0°.08×14°.7W±0°.1, h10km, n30, σ1§55/34, mb3.5/3, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**4.31**	**198**	P	**Pn**	**14 21 38.5**	**+0.3**
	baz=210						
IGRI				S	**Sn**	**14 22 29.2**	**+0.8**
	baz=210						
ILEI	**Leirhofn**	**4.32**	**190**	P	**Pn**	**14 21 37.1**	**-1.2**
	baz=201						
ILEI				S	**Sn**	**14 22 25.4**	**-3.3**
	baz=201						
IGIL	**Gilhagi**	**4.64**	**189**	P	**Pn**	**14 21 41.2**	**-1.5**
	baz=199						
IGIL				S	**Sn**	**14 22 34.1**	**-2.5**
	baz=199						
IHED	**Heoinshofoi**	**4.70**	**193**	P	**Pn**	**14 21 42.9**	**-0.6**
	baz=204						
IBRE	**Brettingsstaoi**	**4.71**	**196**	P	**Pn**	**14 21 43.8**	**+0.2**
	baz=207						
IDIM	**Dimmadals^js**	**4.79**	**191**	P	**Pn**	**14 21 43.8**	**-1.0**
	baz=202						
IDIM				S	**Sn**	**14 22 38.4**	**-1.9**
	baz=202						
ISIG	**Siglufjorour**	**4.81**	**201**	P	**Pn**	**14 21 46.3**	**+1.3**
	baz=212						
IGRA	**Granastaoir**	**4.88**	**194**	P	**Pn**	**14 21 45.8**	**-0.2**
	baz=204						
IGRA				S	**Sn**	**14 22 41.6**	**-0.9**
	baz=204						
ISKI	**Skildingah^‡ls**	**4.89**	**192**	P	**Pn**	**14 21 45.4**	**-0.7**
	baz=202						
IGHA	**Grjothals**	**4.89**	**190**	P	**Pn**	**14 21 45.1**	**-1.1**
	baz=200						
IHLA	**Hella**	**4.93**	**198**	P	**Pn**	**14 21 47.5**	**+0.8**
	baz=208						
IHRN	**Hraun**	**4.99**	**207**	P	Pn	14 21 50.9	+3.4
	baz=217						
IKVO	**Krokottuvotn**	**5.04**	**191**	P	**Pn**	**14 21 47.1**	**-1.0**
	baz=200						
IGRS	**Grimsstaoir**	**5.07**	**187**	P	**Pn**	**14 21 47.4**	**-1.2**
	baz=196						
IREN	**Reynihlio**	**5.10**	**191**	P	**Pn**	**14 21 48.1**	**-0.9**
	baz=200						
IMEL	**Melhnausar**	**5.17**	**189**	P	**Pn**	**14 21 49.0**	**-0.9**
	baz=199						
ISVA	**Svartarkot**	**5.43**	**192**	P	**Pn**	**14 21 53.5**	**-0.1**
	baz=201						
IADA	**Aoalbol**	**5.67**	**184**	P	**Pn**	**14 21 55.6**	**-1.3**
	baz=192						
IGLU	**Glumsstadir**	**5.71**	**182**	P	**Pn**	**14 21 56.1**	**-1.1**
	baz=190						
IMKO	**Mokollar**	**5.74**	**187**	P	**Pn**	**14 21 57.5**	**-0.4**
	baz=196						
IHVA	**Hvannstoosfjol**	**5.75**	**185**	P	**Pn**	**14 21 56.8**	**-1.2**
	baz=194						
IBRU	**Bruarjokull**	**5.88**	**186**	P	**Pn**	**14 21 58.7**	**-1.1**
	baz=194						
IVSH	**V-Sauoahnukur**	**5.89**	**184**	P	**Pn**	**14 21 58.7**	**-1.2**
	baz=193						
DAG	**Danmarks Havn**	**6.25**	**352**	*i* P	**Pn**	**14 22 01.7**	**-3.0**
DAG				*i* S	Sn	14 23 06.4	-10
BORG	**Borgarnes**	**6.45**	**206**	Pn	Pn	14 22 12.6	+5.0
	2.0nm,0.3s,baz=11,slow=8.5,SNR=5.9						
BORG				Sn	**Sn**	**14 23 25.0**	**+3.9**
	baz=315,slow=2.9,SNR=2.6						
SPITS	**Spitsbergen Ar**	**11.05**	**34**	Pn	**Pn**	**14 23 10.0**	**-0.4**
	baz=227,slow=14,SNR=35						
FINES	**FINESS Array B**	**18.52**	**99**	P	**Pn**	**14 24 50.8**	**+2.0**
	0.1nm,0.3s,baz=302,slow=14,SNR=3.4						
ZALV	**Zalesovo Beam**	**43.27**	**58**	P	**P**	**14 28 34.8**	**+1.1**
	0.2nm,0.3s,baz=327,slow=10,SNR=3.1						
KURBB	**Kurchatov Arra**	**44.35**	**65**	P	**P**	**14 28 43.0**	**+0.5**
	0.4nm,0.6s,baz=330,slow=7.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**58.36**	**161**	P	**P**	**14 30 29.2**	**+1.5**
	1.2nm,0.9s,baz=347,slow=6.9,SNR=6.1						

MAN 24 14:34:27, 11°.11N×123°.43E, h21km, mb4.1, ML2.9, MS2.6, 1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**0.81**	**303**	*e*P	Pn	14 34 43.0	-0.2
GUIM	**Jordan**	**0.96**	**240**	*e*P	Pb	14 34 45.1	+0.1
GUIM				*e*S	Sn	14 34 59.4	+1.1
MSLP	**Maasin**	**1.71**	**125**	*e*P	Pb	14 34 57.5	-0.1
MSLP				*e*S	Sb	14 35 18.2	-0.5
CUYO	**Cuyo Island**	**2.39**	**264**	*e*P	Pb	14 35 07.4	-1.9

IDC 24 14:38:49.0±1.2, 2°.87N×123°.62E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/27, mbtmp3.6/4, Error ellipse: s-maj=149.4km s-min=23.6km az=65.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.00**	**156**	P	P	14 44 14.7	-0.1
	0.7nm,0.3s,baz=335,slow=10,SNR=34						
SONM	**Songino Array**	**47.20**	**344**	P	P	14 47 25.4	+1.7
	0.4nm,0.8s,baz=156,slow=6.9,SNR=3.6						
MKAR	**Makanchi Array**	**56.53**	**327**	P	P	14 48 33.5	+0.2
	0.4nm,0.3s,baz=122,slow=7.4,SNR=18						
ZALV	**Zalesovo Beam**	**59.98**	**335**	P	P	14 48 55.8	-1.5
	0.5nm,0.5s,baz=119,slow=12,SNR=2.9						

*ISCJB **24** 14:48:04.5±0.7, 35°.15S±0°.04×71°.8W±0°.1, h62km±5km, mb4.4/12, Error ellipse: s-maj=16.5km s-min=5.4km az=9.1*

*NEIC **24** 14:48:04.0, 35°.10S×71°.92W, h42km, mb4.6/6, After GUC.*

NEIC Felt [V] at San Fernando; [IV] at Curico, Linares, Pichilemu, San Javier, Santa Cruz and Talca; [III] at Rancagua.

*IDC **24** 14:48:04.9±0.6, 35°.08S×71°.80W, h46km±6km, mb4.1/9, mb1 4.3/13, mb1mx4.2/23, mbtmp4.4/13, ML4.2/4, MS3.5/7, Ms1 3.5/7, ms1mx3.3/18, Error ellipse: s-maj=24.5km s-min=13.2km az=88.0*

*GUC **24** 14:48:04.7±0.7, 35°.10S×71°.92W, h42km±5km, ML4.9*

ISC 24 14:48:04.6±0.6, 35°.13S±0°.04×71°.92W±0°.09, h48km±5km, n51, σ1§03/57, mb4.5/12, MS3.8/4, 3C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.35**	**139**	*i* P	**Pn**	**14 48 14.2**	**+0.2**
TALC				*i* S	**Sn**	**14 48 21.2**	**+0.4**
TALC				AML	AML	14 48 21.7	
	comp=E,211μm,0.5s						
NICH	**Los Niches**	**0.58**	**77**	*i* P	**Pn**	**14 48 16.6**	**-0.1**
NICH				*i* S	**Sn**	**14 48 25.7**	**+0.3**
NICH				AML	AML	14 48 25.9	
	comp=E,184μm,0.1s						
LNCH	**Linares**	**0.76**	**160**	*e*P	**Pn**	**14 48 19.5**	**+0.4**
LNCH				*i* S	**Sn**	**14 48 31.3**	**+1.8**
LNCH				AML	AML	14 48 33.2	
	comp=E,48μm,0.7s						
LNV	**Longovilo**	**1.25**	**20**	*i* P	**Pn**	**14 48 26.6**	**+1.0**
RCDM	**Rinconada Maip**	**1.88**	**30**	*e*P	**Pn**	**14 48 34.9**	**+0.7**
RCDM				*e*S	**Sn**	**14 48 57.6**	**+0.8**
FSR	**Penalolen**	**2.01**	**35**	*e*P9	**Pn**	**14 48 38.2**	**+2.1**
FSR				*e*S	**Sn**	**14 49 03.4**	**+3.3**
CLCH	**Cerro Calan**	**2.08**	**34**	*i* P	**Pn**	**14 48 37.8**	**+0.8**
CLCH				*e*S	**Sn**	**14 49 02.9**	**+1.2**
CLCH				AML	AML	14 49 07.3	
	comp=N,9μm,0.6s						
CFAA	**Coronel Fontan**	**4.67**	**42**	P	**Pn**	**14 49 13.4**	**+0.7**
	comp=N,1.7nm,0.3s,baz=215,slow=13,SNR=38						
CFAA				S	Sn	14 50 14.2	+8.6
	comp=N,4.7nm,0.3s,baz=110,slow=23,SNR=13						
CFAA				LR	LR	14 51 11.8	
	comp=N,81nm,21.7s,baz=232,slow=41						
PLCA	**Paso Flores**	**5.69**	**169**	P	**Pn**	**14 49 28.8**	**+2.2**
	comp=N,3.0nm,0.3s,baz=339,slow=14,SNR=45						
PLCA				LR	LR	14 52 01.6	
	comp=N,359nm,21.9s,baz=325,slow=41						
PLCA	**Paso Flores**	**5.69**	**169**	*e*Pn	**Pn**	**14 49 28.7**	**+2.1**
	comp=N,14nm,0.7s						
LCO	**Las Campanas**	**6.19**	**10**	*e*Pn	**Pn**	**14 49 32.2**	**-1.4**
	comp=N,80nm,0.6s						
TRQA	**Tornquist**	**8.51**	**113**	*e*Pn	**Pn**	**14 50 06.3**	**+1.1**
	comp=N,20nm,0.8s						
LVC	**Limon Verde**	**12.75**	**13**	*e*Pn	Pn	14 50 58.5	-4.9
LPAZ	**La Paz**	**19.07**	**11**	P	**Pn**	**14 52 24.5**	**-0.4**
	comp=N,0.8nm,0.3s,baz=173,slow=4.2,SNR=22						
LPAZ	**La Paz**	**19.07**	**11**	*e*P	**Pn**	**14 52 24.4**	**-0.4**
	comp=N,13nm,0.8s						
EFI	**East Falkland**	**19.30**	**153**	P	**P**	**14 52 24.1**	**-1.1**
USHA	**Ushuaia**	**19.85**	**174**	P	**Pn**	**14 52 33.2**	**+0.1**
	comp=N,0.5nm,0.3s,baz=327,slow=13,SNR=4.3						
USHA				LR	LR	15 00 12.3	
	comp=N,253nm,20.9s,baz=40,slow=37						
SIV	**San Ignacio**	**21.39**	**30**	P	**P**	**14 52 47.2**	**-1.1**
	comp=N,14nm,0.9s,baz=226,slow=9.5,SNR=29						
SIV				LR	LR	15 02 59.7	
	comp=N,102nm,19.7s,baz=218,slow=42						
SAML	**Samuel**	**27.26**	**19**	*e*P	**P**	**14 53 42.9**	**-1.4**
	comp=N,1.1nm,0.6s						
PMSA	**Palmer Station**	**30.05**	**173**	LR	LR	15 05 44.0	
	comp=N,162nm,19.1s,baz=306,slow=35						
PTGA	**Pitinga**	**36.00**	**21**	*e*P	**P**	**14 54 60.0**	**-1.0**
VNA3	**Neumayer Olymp**	**48.28**	**157**	P	**P**	**14 56 40.8**	**+0.4**
VNA2	**Neumayer--Watz**	**48.93**	**157**	P	**P**	**14 56 45.6**	**+0.2**
	baz=287,slow=9.2						
SNAA	**Sanae**	**50.50**	**157**	P	**P**	**14 56 57.6**	**+0.2**
SNAA	**Sanae**	**50.50**	**157**	P	**P**	**14 56 57.8**	**+0.4**
	comp=N,2.3nm,0.8s,baz=282,slow=5.4,SNR=9.3						
SNAA	**Sanae**	**50.50**	**157**	*e*P	**P**	**14 56 57.5**	**+0.1**
	comp=N,6.7nm,0.9s						
QSPA	**South Pole Qui**	**55.11**	**180**	P	**P**	**14 57 32.9**	**+1.4**
	comp=N,8.5nm,0.9s,baz=147,slow=1.8,SNR=23						
QSPA				pP	**pP**	**14 57 45.7**	**+0.7**
	comp=N,6.5nm,1.0s,baz=281,slow=2.4,SNR=5.8						
SYO	**Syowa Base**	**64.78**	**158**	*e*P	**P**	**14 58 37.2**	**-0.4**
H06S1	**SOCORRO T**	**65.14**	**319**	T	T	16 10 56.8	
	SNR=13						
TXAR	**Lajitas Array**	**70.77**	**331**	P	**P**	**14 59 16.9**	**+1.1**
	comp=N,1.0nm,0.5s,baz=156,slow=8.7,SNR=12						
TXAR				pP	**pP**	**14 59 29.8**	**+0.1**
	comp=N,0.7nm,0.6s,baz=152,slow=9.2,SNR=5.6						
MAW	**Mawson**	**72.07**	**163**	LR	LR	15 32 35.6	
	comp=N,78nm,18.4s,baz=242,slow=37						
WVT	**Waverly**	**72.43**	**347**	*e*P	**P**	**14 59 25.2**	**-0.4**
	comp=N,15nm,0.8s						
DBIC	**Dimbokro**	**75.45**	**71**	P	**P**	**14 59 43.4**	**-0.3**
	comp=N,10nm,0.8s,baz=197,slow=6.8,SNR=13						
DBIC	**Dimbokro**	**75.45**	**71**	*e*P	**P**	**14 59 43.3**	**-0.5**
LBTB	**Lobatse**	**81.74**	**115**	*e*P	**P**	**15 00 17.8**	**-0.7**
	comp=N,5.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**84.50**	**70**	P	**P**	**15 00 32.1**	**-0.5**
	comp=N,7.5nm,0.7s,baz=255,slow=4.2,SNR=43						
PDAR	**Pinedale Array**	**84.82**	**333**	P	**P**	**15 00 33.9**	**0.0**
	comp=N,0.6nm,0.6s,baz=141,slow=7.3,SNR=3.8						
NVAR	**Mina Array Bea**	**84.87**	**325**	P	**P**	**15 00 35.3**	**+1.1**
	comp=N,0.8nm,0.8s,baz=151,slow=5.7,SNR=5.8						
NVAR				pP	**pP**	**15 00 48.6**	**+0.3**
	comp=N,0.7nm,0.8s,baz=162,slow=6.3,SNR=3.1						
ULM	**Lac du Bonnet**	**87.61**	**345**	P	**P**	**15 00 47.0**	**-0.1**
	comp=N,3.6nm,0.8s,baz=190,slow=1.3,SNR=6.9						
SCHQ	**Schefferville**	**89.71**	**3**	LR	LR	15 45 33.1	
	comp=N,50nm,18.1s,baz=61,slow=38						
YKA	**Yellowknife Ar**	**103.16**	**341**	Pdiff	**Pdif**	**15 01 56.9**	**-0.8**
	comp=N,0.1nm,0.3s,baz=132,slow=3.7,SNR=3.7						
WRA	**Warramunga Arr**	**119.82**	**209**	PKP	**PKPdf**	**15 06 49.4**	**-0.6**
	comp=N,0.3nm,0.6s,baz=153,slow=1.9,SNR=13						
WRA				pPKP	**pPKPdf**	**15 07 02.9**	**-1.8**
	comp=N,0.6nm,0.6s,baz=162,slow=1.7,SNR=5.5						
BRTR	**Keskin Array B**	**122.29**	**62**	PKP	**PKPdf**	**15 06 54.3**	**+0.1**
	comp=N,1.3nm,0.8s,baz=228,slow=1.5,SNR=5.4						
BRTR				pPKP	**pPKPdf**	**15 07 08.0**	**-0.9**
	comp=N,0.7nm,0.7s,baz=214,slow=1.0,SNR=2.6						
HYB	**Hyderabad**	**148.35**	**116**	*i* PKP	**PKPbc**	**15 07 45.0**	**-1.1**
KKAR	**Karatay Array**	**149.98**	**63**	*e*PKPbc	**PKPbc**	**15 07 48.8**	**-0.6**
EKS2	**Erkin-Say**	**152.40**	**64**	*e*PKPbc	**PKPbc**	**15 07 55.7**	**+0.5**
AAK	**Ala-Archa**	**152.93**	**64**	*e*PKPbc	**PKPbc**	**15 07 56.9**	**+0.5**
TKM2	**Tokmak 2**	**153.71**	**63**	*e*PKPbc	**PKPbc**	**15 07 58.1**	**0.0**
ZALV	**Zalesovo Beam**	**155.12**	**34**	PKPab	**PKPab**	**15 08 16.6**	**+0.2**
	comp=N,2.1nm,0.7s,baz=296,slow=3.6,SNR=7.6						
MKAR	**Makanchi Array**	**157.41**	**51**	PKPab	**PKPab**	**15 08 26.6**	**-0.1**
	comp=N,2.0nm,0.8s,baz=305,slow=3.3,SNR=12						
SONM	**Songino Array**	**167.25**	**5**	PKPab	**PKPab**	**15 09 10.5**	**+0.8**
	comp=N,0.9nm,0.8s,baz=330,slow=4.0,SNR=6.9						

**IDC 24 15:22:20.1±2.2, 1°.81N×

Error ellipse: s-maj=62.3km s-min=25.4km az=147.0

ISC 24 16:32:31.1±3.0, 38°.0N±0°.2×72°.5E±0°.1, h119km, n10, σ0873/13, 5C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.95**	**286**	⇑P	**Pn**	**16 33 17.1**	**+0.4**
DZET				⇑S	**Sn**	**16 33 52.4**	**+0.5**
AML	**Almayashu** SNR=50	**4.20**	**13**	P	**Pn**	**16 33 34.1**	**+0.4**
UCH	**Uchtor** SNR=8.8	**4.48**	**20**	P	**Pn**	**16 33 37.6**	**+0.2**
KZA	**Kyzart** SNR=7.3	**4.58**	**27**	P	**Pn**	**16 33 38.0**	**-0.7**
EKS2	**Erkin-Say** SNR=10	**4.73**	**12**	P	**Pn**	**16 33 41.3**	**+0.8**
AAK	**Ala-Archa** 4.6nm,0.5s	**4.85**	**18**	P	**Pn**	**16 33 42.8**	**+0.7**
AAK	10nm,0.7s			⇑S	**Sn**	**16 34 38.3**	**+0.9**
AAK	**Ala-Archa** SNR=22	**4.85**	**18**	P	**Pn**	**16 33 42.7**	**+0.5**
CHMS	**Chumysh** SNR=8.4	**5.26**	**19**	P	**Pn**	**16 33 48.1**	**+0.6**
KK31	**Karatay Array** 4.7nm,0.3s,baz=150,slow=11,SNR=84	**5.27**	**344**	P	**Pn**	**16 33 48.3**	**+0.6**
KK31	4.5nm,0.4s,baz=156,slow=20,SNR=15			S	**Sn**	**16 34 46.4**	**-0.9**
AB31	**Akbulak array** 0.1nm,0.3s,baz=130,slow=14,SNR=6.3	**14.39**	**325**	⇑P	**Pn**	**16 35 48.3**	**-0.8**
AB31	0.7nm,0.6s,baz=165,slow=20,SNR=6.1			⇑S	Sn	16 38 18.3	-10

IDC 24 16:44:23.0±999.0, 51°.21N×48°.46E, h0km, Error ellipse: s-maj=1032.0km s-min=132.8km az=91.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF** baz=281,slow=312,SNR=6.6	**6.13**	**94**	*i*		17 23 40.0	
I46RU	**ZALESOVO INFRA22.11** baz=278,slow=318,SNR=2.2		**69**	*i*		18 59 20.0	
I34MN	**SONGINO INFRAS** baz=296,slow=332,SNR=1.1	**36.95**	**72**	*i*		20 30 10.0	

*NEIC **24** 17:08:28.5±0.6, 14°.00N×91°.39W, h56km±5km, mb5.0/98, MD4.9(MEX), MD5.1(SNET), Error ellipse: s-maj=6.5km s-min=4.7km az=206.0*

NEIC Felt [IV] at Mixco and Quetzaltenango and [III] at Antigua Guatemala and Guatemala. Also felt at Amatitlan, El Tejar, Magdalena Milpas Altas, Panajachel, Petapa, San Antonio Palopo, San Lucas Sacatepequez, San Lucas Toliman, San Pedro La Laguna, Santa Cruz La Laguna and Villa Nueva. Felt [II] at San Salvador, El Salvador.

*GCMT **24** 17:08:28.5±0.3, 14°.02N×91°.85W, h51km±1km, MW5.0/76, Moment Tensor Solution. s53,c58; s76,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.73±.16; $M_{\theta\theta}$-0.12±.14; $M_{\phi\phi}$3.85±.14; $M_{r\theta}$1.13±.09; $M_{\theta\phi}$-1.91±.14; $M_{\phi r}$-0.65±.10; Best double couple: M_0=4.40100×10^{16} NP1:ϕ_s325.00000°, δ54.00000°, λ-107.00000°. NP2: ϕ_s173.00000°, δ40.00000°, λ-68.00000°. Principal axes: T 4.7470, Plg7.0000°, Azm67.0000°; N -0.6880, Plg14.0000°, Azm335.0000°; P -4.0560, Plg74.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **24** 17:08:29.3, 14°.10N×91°.40W, h73km, mB5.1/13, Ms5.2/8, Ms7 4.9/8*

*IDC **24** 17:08:29.5±0.5, 14°.18N×91°.22W, h57km±3km, mb4.3/28, mb1 4.5/30, mb1mx4.4/40, mbtmp4.6/30, MS4.0/21, Ms1 4.0/21, ms1mx3.9/25, Error ellipse: s-maj=15.7km s-min=8.6km az=55.0*

*MEX **24** 17:08:29.5±0.6, 13°.72N×91°.95W, h30km±15km, MD4.9*

*CASC **24** 17:08:29.6±1.9, 13°.82N×91°.45W, h2km±18km, MD4.3*

*MOS **24** 17:08:29.5±1.0, 14°.39N×91°.11W, h63km, mb5.2/38, Error ellipse: s-maj=10.3km s-min=5.1km az=105.4*

*ISCJB **24** 17:08:30.1±0.4, 14°.08N±0°.03×91°.43W±0°.03, h82km±3km, mb4.8/119, Error ellipse: s-maj=6.2km s-min=3.0km az=38.4*

ISC 24 17:08:28.8±0.4, 13°.99N±0°.04×91°.63W±0°.04, h58km±3km, h57km: pP-P, n599, σ1$65/659, mb4.9/119, MS4.1/20, 124C-112D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.33**	**358**	⇓*i*P	**Pn**	**17 08 40.8**	**+1.8**
PCG	**Pacaya**	**1.07**	**68**	⇑*e*P	**Pn**	**17 08 49.4**	**+1.5**
THIG		**1.10**	**326**	*i* P	**Pn**	**17 08 48.0**	**-0.1**
THIG				*i* S	**Sn**	**17 09 03.1**	**+0.6**
THIG		**1.10**	**326**	*i* P	**Pn**	**17 08 48.0**	**-0.1**
THIG				*i* S	**Sn**	**17 09 03.1**	**+0.6**
NBG	**Las Nubes**	**1.38**	**64**	⇑*e*P	**Pn**	**17 08 54.8**	**+2.7**
APG	**El Apazote** 2μm,0.3s,baz=228,slow=7.3,SNR=8924	**1.51**	**48**	P	Pn	17 08 50.5	-3.3
APG	3μm,0.3s,baz=41,slow=23,SNR=20			S	**Sn**	**17 09 11.8**	**-0.9**
APG	comp=Z,2μm,19.6s,baz=198,slow=42			LR	LR	17 09 15.0	
MRL	**Marmol**	**2.16**	**60**	⇓*e*P	**Pn**	**17 09 05.3**	**+2.7**
PCIG		**2.30**	**318**	*e*P	**Pn**	**17 09 04.0**	**-0.3**
PCIG				*i* S	**Sn**	**17 09 30.4**	**-1.0**
PCIG		**2.30**	**318**	*e*P	**Pn**	**17 09 04.0**	**-0.3**
PCIG				*i* S	**Sn**	**17 09 30.4**	**-1.0**
CCIG	**Comitan**	**2.33**	**348**	*e*P	**Pn**	**17 09 07.7**	**+2.8**
CCIG				*i* S	**Sn**	**17 09 37.4**	**+4.8**
CCIG	**Comitan**	**2.33**	**348**	*e*P	**Pn**	**17 09 07.7**	**+2.8**
CCIG				*i* S	**Sn**	**17 09 37.4**	**+4.8**
CMIG	**Matias Romero**	**4.40**	**315**	*e*P	**Pn**	**17 09 33.1**	**0.0**
CMIG	**Matias Romero** 44nm,0.3s,baz=125,slow=10,SNR=303	**4.40**	**315**	P	**Pn**	**17 09 34.1**	**+1.0**
CMIG	169nm,0.3s,baz=270,slow=20,SNR=9.1			S	**Sn**	**17 10 23.3**	**+0.2**
CMIG	comp=Z,3μm,20.8s,baz=139,slow=42			LR	LR	17 11 43.2	
CMIG	**Matias Romero**	**4.40**	**315**	*e*P	**Pn**	**17 09 33.1**	**0.0**
CMIG				S	**Sn**	**17 10 23.3**	**+0.2**
HUIG	**Huatulco**	**4.68**	**293**	*e*P	**Pn**	**17 09 34.5**	**-2.5**
HUIG	**Huatulco**	**4.68**	**293**	*e*P	**Pn**	**17 09 34.5**	**-2.5**
TUIG	**Tuzandepetl**	**4.84**	**327**	*e*P	**Pn**	**17 09 40.4**	**+1.3**
TUIG				*i* S	**Sn**	**17 10 34.1**	**+0.3**
TUIG	**Tuzandepetl**	**4.84**	**327**	*e*P	**Pn**	**17 09 40.4**	**+1.3**
TUIG				*i* S	**Sn**	**17 10 34.1**	**+0.3**
SCIG	**Sabancuy**	**4.97**	**5**	*e*P	**Pn**	**17 09 40.9**	**0.0**
SCIG	**Sabancuy**	**4.97**	**5**	*e*P	**Pn**	**17 09 40.9**	**0.0**
VHO	**Vista Hermosa**	**5.80**	**303**	*e*P	**Pn**	**17 09 51.9**	**-0.6**
VHO				*i* S	**Sn**	**17 10 55.6**	**-2.2**
VHO	**Vista Hermosa**	**5.80**	**303**	*e*P	**Pn**	**17 09 51.9**	**-0.6**
VHO				*i* S	**Sn**	**17 10 55.6**	**-2.2**
PNIG	**Pinotepa**	**6.71**	**292**	*e*P	**Pn**	**17 10 04.4**	**-0.4**
PNIG				*i* S	**Sn**	**17 11 16.5**	**-3.5**
PNIG	**Pinotepa**	**6.71**	**292**	*e*P	**Pn**	**17 10 04.4**	**-0.4**
PNIG				*i* S	**Sn**	**17 11 16.5**	**-3.5**
TEIG	**Tepich** 338nm,0.3s,baz=31,slow=3.2,SNR=773	**6.98**	**27**	P	**Pn**	**17 10 09.3**	**+0.8**
TEIG	29nm,0.3s,baz=323,slow=20,SNR=3.3			S	**Sn**	**17 11 24.2**	**-2.3**
TEIG	**Tepich** 1μm,0.4s	**6.98**	**27**	*e*Pn	**Pn**	**17 10 08.7**	**+0.2**
TEIG				*e*Sn	**Sn**	**17 11 22.8**	**-3.6**
TEIG				S	**Sn**	**17 11 24.1**	**-2.3**
TPIG	**Tehuac#an**	**7.05**	**309**	*e*P	**Pn**	**17 10 10.1**	**+0.5**
TPIG	**Tehuac#an**	**7.05**	**309**	*e*P	**Pn**	**17 10 10.1**	**+0.5**
JTS	**JuntasAbangare**	**7.49**	**119**	*e*P	**Pn**	**17 10 17.0**	**+1.5**
JTS				S	**Sn**	**17 11 41.1**	**+2.0**
JTS	comp=Z,606nm,0.8s			pmax	pmax		
JTS	**JuntasAbangare**	**7.49**	**119**	*e*S	Sn	17 12 05.0	+26
JTS	**JuntasAbangare** comp=Z,14nm,0.3s,baz=269,slow=9.0,SNR=48	**7.49**	**119**	P	**Pn**	**17 10 17.5**	**+2.0**
JTS	comp=Z,13nm,0.3s,baz=280,slow=19,SNR=2.1			S	**Sn**	**17 11 41.1**	**+2.0**
JTS	**JuntasAbangare** comp=Z,606nm,0.8s	**7.49**	**119**	*e*Pn	**Pn**	**17 10 17.0**	**+1.5**
JTS				S	**Sn**	**17 11 41.1**	**+2.0**
TLIG	**Tlapa**	**7.57**	**299**	*e*P	**Pn**	**17 10 18.9**	**+2.3**
JCR	**Jicaral**	**7.59**	**122**	⇑*e*P	**Pn**	**17 10 19.1**	**+2.3**
CGA2	**Cerro Gallo 2**	**8.04**	**119**	*e*P	**Pn**	**17 10 25.7**	**+2.5**
URSC	**Urasca**	**8.72**	**117**	*e*P	**Pn**	**17 10 35.0**	**+2.5**
URSC				*e*S	**Sn**	**17 12 13.2**	**+3.7**
PLIG	**Platanillo**	**8.74**	**301**	*e*P	**Pn**	**17 10 34.7**	**+2.0**
PLIG	**Platanillo**	**8.74**	**301**	*e*P	**Pn**	**17 10 34.7**	**+2.0**
CAIG	**El Cayaco**	**8.87**	**291**	*i* P	**Pn**	**17 10 35.1**	**+0.8**
CAIG	**El Cayaco**	**8.87**	**291**	*i* P	**Pn**	**17 10 35.1**	**+0.8**
BUS	**Buena Vista**	**8.87**	**119**	⇓*e*P	Pn	17 10 38.0	+3.1
BUS				*e*S	**Sn**	**17 12 07.7**	**-5.9**
ARIG	**Puente Sto Nin**	**9.40**	**298**	*e*P	**Pn**	**17 10 44.2**	**+2.5**
DEIG	**Demacu**	**9.46**	**313**	*e*P	Pn	17 10 46.1	+3.4
DEIG	**Demacu**	**9.46**	**313**	*e*P	Pn	17 10 46.1	+3.4
ACR	**Cerro Adams**	**9.84**	**122**	*e*P	**Pn**	**17 10 50.4**	**+2.7**
ZIIG	**Zihuatanejo**	**10.13**	**292**	*i* P	**Pn**	**17 10 53.2**	**+1.7**
ZIIG	**Zihuatanejo**	**10.13**	**292**	*i* P	**Pn**	**17 10 53.2**	**+1.7**
BRU2	**Volcan**	**10.17**	**120**	*e*P	**Pn**	**17 10 54.0**	**+1.7**
BRU2				*e*P	**Pn**	**17 10 55.2**	**+2.9**
BRU2				*e*S	**Sn**	**17 12 49.8**	**+4.9**
BRU	**Baru**	**10.27**	**119**	*e*P	**Pn**	**17 10 55.1**	**+1.2**
BRU				⇓*e*P	**Pn**	**17 10 55.6**	**+1.7**
MOIG	**Morelia**	**10.76**	**303**	*e*P	Pn	17 11 05.1	+4.7
MOIG	**Morelia**	**10.76**	**303**	*e*P	Pn	17 11 05.1	+4.7
IGIG	**Irapuato, Guan**	**11.44**	**307**	*e*P	**Pn**	**17 11 12.8**	**+3.1**
MMIG	**Aquila**	**12.04**	**292**	*e*P	**Pn**	**17 11 19.9**	**+2.2**
MMIG	**Aquila**	**12.04**	**292**	*e*P	**Pn**	**17 11 19.9**	**+2.2**
MTDJ	**Mount Denham**	**14.18**	**71**	*e*Pn	**Pn**	**17 11 48.2**	**+1.4**
034A	**Hebbronville** baz=15,SNR=5.8	**14.59**	**334**	⇑P	**P**	**17 11 55.9**	**-1.2**
934A	**Benavides** baz=15	**14.99**	**336**	⇓P	**P**	**17 12 01.1**	**-0.5**
933A	**Laredo** baz=16	**15.32**	**333**	⇑P	**P**	**17 12 04.5**	**-0.7**
834A	**Tilden** baz=16	**15.47**	**336**	⇓P	**P**	**17 12 06.8**	**-0.1**
735A	**Kenedy** baz=16	**15.87**	**340**	⇓P	**P**	**17 12 11.1**	**-0.2**
833A	**Chaparral WMA,** baz=16,SNR=6.2	**15.99**	**334**	⇓P	**P**	**17 12 13.4**	**+0.8**
734A	**La Parita Cree** baz=16	**16.12**	**338**	⇑P	**P**	**17 12 14.4**	**+0.3**
832A	**Faith Ranch, C** baz=16,SNR=6.4	**16.21**	**333**	⇑P	**P**	**17 12 15.6**	**+0.5**
636A	**Smothers Creek** baz=16,SNR=5.3	**16.22**	**343**	⇓P	**P**	**17 12 15.3**	**+0.2**
733A	**Divot King Ran** baz=16	**16.30**	**335**	⇑P	**P**	**17 12 16.9**	**+0.8**
HKT	**Hockley**	**16.35**	**347**	*e*P	**Pn**	**17 12 14.4**	**-0.2**
HKT	comp=Z,73nm,1.5s			pmax	pmax		
HKT	**Hockley** comp=Z,73nm,1.5s	**16.35**	**347**	*e*Pn	**Pn**	**17 12 14.4**	**-0.2**
732A	**Laxson Ranch,** baz=17	**16.59**	**333**	⇓P	**P**	**17 12 19.8**	**+0.6**
537A	**Green Hill Far** baz=17	**16.59**	**346**	⇓P	**P**	**17 12 19.8**	**+0.5**
536A	**Bastrop** baz=17	**16.78**	**343**	⇑P	**P**	**17 12 22.0**	**+0.6**
GTBY	**Guantanamo Bay** comp=Z,212nm,1.3s	**16.86**	**67**	*e*Pn	**Pn**	**17 12 20.5**	**-0.6**
535A	**Dale** baz=17	**16.88**	**342**	⇑P	**P**	**17 12 23.0**	**+0.5**
633A	**Saathoff Ranch** baz=17,SNR=15	**16.91**	**337**	⇓P	**P**	**17 12 23.7**	**+0.9**
534A	**Blanco** baz=17,SNR=8.3	**17.17**	**339**	⇓P	**P**	**17 12 27.4**	**+1.7**
632A	**Uvalde** baz=17,SNR=7.6	**17.19**	**335**	⇓P	**P**	**17 12 27.7**	**+1.8**
533A	**Kerrville** baz=18	**17.41**	**338**	⇑P	**P**	**17 12 29.9**	**+1.5**
631A	**Perdido Creek** baz=18	**17.44**	**333**	⇓P	**P**	**17 12 30.0**	**+1.3**
339A	**Huntington** baz=18	**17.47**	**352**	⇑P	**P**	**17 12 29.4**	**+0.4**
435B	**Jarrell** baz=18	**17.59**	**343**	⇑P	**P**	**17 12 31.5**	**+1.1**
338A	**Crockett** baz=18	**17.62**	**350**	⇓P	**P**	**17 12 31.2**	**+0.7**
532A	**Rocksprings** baz=18,SNR=9.1	**17.79**	**336**	⇑P	**P**	**17 12 34.7**	**+2.2**
434A	**Burnet** baz=18	**17.83**	**341**	⇑P	**P**	**17 12 33.8**	**+0.8**
336A	**Riesel** baz=18	**17.97**	**345**	⇑P	**Pn**	**17 12 35.2**	**+0.6**
335A	**Moody** baz=18	**18.02**	**344**	⇑P	**Pn**	**17 12 35.9**	**+0.7**
433A	**Art** baz=18,SNR=16	**18.05**	**339**	⇓P	**Pn**	**17 12 37.0**	**+1.4**
JCT	**Junction City**	**18.06**	**337**	*e*P	**Pn**	**17 12 36.4**	**+0.6**
JCT	comp=Z,58nm,1.2s			pmax	pmax		
JCT	**Junction City** baz=18	**18.06**	**337**	⇑P	**Pn**	**17 12 37.6**	**+1.8**
JCT	**Junction City** comp=Z,58nm,1.2s	**18.06**	**337**	*e*P	**Pn**	**17 12 36.4**	**+0.6**
531A	**Rocksprings** baz=18	**18.08**	**334**	⇑P	**Pn**	**17 12 37.6**	**+1.6**
239A	**Gary** baz=18	**18.14**	**352**	⇓P	**Pn**	**17 12 37.4**	**+0.8**
238A	**Jacksonville** baz=18	**18.22**	**350**	⇓P	**Pn**	**17 12 38.1**	**+0.5**
334A	**Lometa** baz=18,SNR=13	**18.30**	**342**	⇑P	**Pn**	**17 12 39.9**	**+1.3**
237A	**Washetta, Mont** baz=18	**18.34**	**349**	⇑P	**Pn**	**17 12 39.8**	**+0.8**
432A	**Menard** baz=19,SNR=6.0	**18.41**	**337**	⇑P	**Pn**	**17 12 41.5**	**+1.5**
530A	**J-C Ranch, Com** baz=19,SNR=16	**18.41**	**332**	⇑P	**Pn**	**17 12 41.3**	**+1.3**
333A	**Richland Sprin** baz=19,SNR=14	**18.53**	**340**	⇑P	**Pn**	**17 12 42.0**	**+0.6**
431A	**Sonora** baz=19	**18.56**	**335**	⇓P	**Pn**	**17 12 42.7**	**+0.9**
WHTX	**Lake Whitney,** baz=19	**18.70**	**344**	⇓P	**Pn**	**17 12 44.0**	**+0.6**
WHTX	**Lake Whitney,** comp=Z,35nm,0.7s	**18.70**	**344**	*e*P	**P**	**17 12 42.8**	**+0.3**
529A	**Stev Forest Ra** baz=19,SNR=7.6	**18.80**	**330**	⇑P	**Pn**	**17 12 46.0**	**+1.3**
332A	**Millersview** baz=19,SNR=14	**18.85**	**338**	⇑P	**Pn**	**17 12 46.1**	**+0.8**
138A	**Matatall Enter** baz=19	**18.86**	**351**	⇓P	**Pn**	**17 12 45.3**	**+0.1**
TIGA	**Tifton** baz=19,SNR=7.8	**18.87**	**22**	⇑P	**Pn**	**17 12 45.6**	**+0.1**
TIGA	**Tifton** comp=Z,101nm,0.7s	**18.87**	**22**	P	**Pn**	**17 12 45.5**	**+0.1**
OTAV	**Otavalo** comp=Z,10nm,0.8s	**18.89**	**135**	*e*P	**P**	**17 12 43.4**	**-1.8**
234A	**Clairette** baz=19,SNR=6.6	**18.90**	**343**	⇑P	**Pn**	**17 12 46.6**	**+0.8**
TXAR	**Lajitas Array** comp=Z,1.0nm,0.3s,baz=153,slow=12,SNR=86	**18.91**	**326**	P	**Pn**	**17 12 47.5**	**+1.4**
TXAR	comp=Z,0.5nm,0.3s,baz=159,slow=3.4,SNR=9.3			PcP	**PcP**	**17 17 12.0**	**+2.7**
TXAR	comp=Z,0.1nm,0.3s,baz=138,slow=3.5,SNR=24			ScP	**ScP**	**17 20 44.6**	**+4.3**
TXAR	comp=Z,142nm,18.8s,baz=0.0,slow=41			LR	LR	17 21 29.4	
TXAR	comp=Z,0.1nm,0.3s,baz=197,slow=2.7,SNR=4.1			P3KP		17 47 50.0	
430A	**Baggett Ranch,** baz=19,SNR=17	**18.91**	**334**	⇑P	**Pn**	**17 12 47.0**	**+0.9**
331A	**San Angelo** baz=19,SNR=17	**19.04**	**336**	⇓P	**Pn**	**17 12 47.8**	**+0.3**
429A	**Davenport Ranc** baz=19,SNR=11	**19.07**	**332**	⇑P	**Pn**	**17 12 49.0**	**+1.1**
233A	**Rising Star** baz=19,SNR=10	**19.14**	**341**	⇓P	**Pn**	**17 12 48.5**	**-0.3**
135A	**Vickery Place,** baz=19	**19.23**	**345**	⇓P	**Pn**	**17 12 49.2**	**-0.5**
232A	**Coleman** baz=19,SNR=21	**19.27**	**339**	⇑P	**Pn**	**17 12 49.9**	**-0.4**
ROSC	**El Rosal** comp=Z,2.2nm,0.3s,baz=95,slow=8.0,SNR=14	**19.31**	**116**	P	**Pn**	**17 12 53.4**	**+2.2**
134A	**White-Moore Ra** baz=20,SNR=9.3	**19.42**	**343**	⇓P	**Pn**	**17 12 51.9**	**-0.1**
LRAL	**Lakeview Retre** comp=Z,175nm,1.0s	**19.43**	**12**	*e*P	**Pn**	**17 12 52.3**	**+0.2**
330A	**Mertzon** baz=20,SNR=17	**19.43**	**335**	⇓P	**Pn**	**17 12 52.1**	**-0.1**
231A	**Bronte** baz=20,SNR=9.2	**19.56**	**337**	⇑P	**P**	**17 12 52.8**	**+0.9**
133A	**Hamilton Ranch** baz=20,SNR=20	**19.69**	**341**	⇑P	**P**	**17 12 54.1**	**+0.7**
230A	**Sterling City** baz=20,SNR=11	**19.82**	**336**	⇑P	**P**	**17 12 55.4**	**+0.6**
329A	**Wagon Wheel Ra** baz=20,SNR=12	**19.84**	**333**	⇓P	**P**	**17 12 56.2**	**+1.1**
Z35A	**Perchaven, San** baz=20	**19.93**	**346**	⇓P	**P**	**17 12 56.2**	**+0.3**
ABTX	**Abilene, Hawle** baz=20,SNR=12	**19.94**	**340**	⇓P	**P**	**17 12 56.6**	**+0.5**
ABTX	**Abilene, Hawle** comp=Z,39nm,0.8s	**19.94**	**340**	*e*P	**P**	**17 12 56.4**	**+0.3**
SDDR	**Presa de Saban** comp=Z,69nm,1.4s	**20.12**	**73**	*e*P	**P**	**17 12 58.1**	**-0.1**
Z34A	**Collier Ranch,** baz=20	**20.13**	**345**	⇓P	**P**	**17 12 58.3**	**+0.2**
229A	**Bryant Ranch,** baz=20	**20.18**	**334**	⇓P	**P**	**17 12 59.2**	**+0.5**
131A	**Roby** baz=20,SNR=7.9	**20.25**	**338**	⇑P	**P**	**17 13 00.1**	**+0.6**
Z33A	**Whitaker Ranch** baz=20,SNR=18	**20.28**	**343**	⇓P	**P**	**17 13 00.0**	**+0.3**
130A	**Snyder** baz=20	**20.39**	**337**	⇓P	**P**	**17 13 00.9**	**-0.1**
Z32A	**Haskell** baz=21,SNR=19	**20.52**	**341**	⇓P	**P**	**17 13 02.5**	**+0.2**
OXF	**Oxford**	**20.53**	**5**	*e*P	**P**	**17 13 01.1**	**-1.4**
OXF	comp=Z,263nm,1.2s			pmax	pmax		
OXF	**Oxford** comp=Z,263nm,1.2s	**20.53**	**5**	*e*P	**P**	**17 13 01.1**	**-1.4**
MIAR	**Mount Ida**	**20.54**	**355**	*e*P	**P**	**17 13 01.7**	**-0.9**
MIAR	comp=Z,175nm,1.2s			pmax	pmax		
MIAR	**Mount Ida** comp=Z,175nm,1.2s	**20.54**	**355**	*e*P	**P**	**17 13 01.7**	**-0.9**
Y34A	**Reagan Ranch,** baz=21	**20.64**	**345**	⇑P	**P**	**17 13 03.5**	**-0.2**
228A	**UT Block 9, Go** baz=21,SNR=16	**20.65**	**333**	⇓P	**P**	**17 13 04.2**	**+0.3**
UALR	**University of** comp=Z,439nm,1.5s	**20.71**	**358**	*e*P	**P**	**17 13 05.1**	**+0.8**
GOGA	**Godfrey**	**20.71**	**20**	*e*P	**P**	**17 13 04.3**	**-0.1**
GOGA	comp=Z,58nm,0.8s			pmax	pmax		
GOGA	**Godfrey** comp=Z,58nm,0.8s	**20.71**	**20**	*e*P	**P**	**17 13 04.3**	**-0.1**
Z31A	**Sharp Cattle R** baz=21,SNR=25	**20.75**	**340**	⇑P	**P**	**17 13 04.8**	**0.0**
129A	**Stewart Farms,** baz=21	**20.78**	**335**	⇑P	**P**	**17 13 05.2**	**-0.1**
GRTK	**Grand Turk** comp=Z,646nm,1.7s	**20.89**	**66**	*e*P	P	17 12 58.8	-7.6
Y33A	**Hilltop Ranch,** baz=21	**20.92**	**344**	⇑P	**P**	**17 13 06.3**	**-0.4**
128A	**Castleberry Fa** baz=21,SNR=22	**21.03**	**334**	⇑P	**P**	**17 13 08.1**	**+0.2**
Z30A	**Sanderson Ranc** baz=21,SNR=15	**21.07**	**337**	⇑P	**P**	**17 13 07.7**	**-0.6**
Y32A	**R-V Farms, Ver** baz=21,SNR=11	**21.15**	**342**	⇓P	**P**	**17 13 08.8**	**-0.3**
SDV	**Santo Domingo** comp=Z,70nm,0.8s	**21.19**	**102**	*e*P	**P**	**17 13 07.8**	**-2.1**
Z29A	**Hungry Hill Ra** baz=21,SNR=16	**21.27**	**336**	⇓P	**P**	**17 13 10.0**	**-0.5**
X34A	**Smith Ranch, M** baz=21	**21.28**	**346**	⇓P	**P**	**17 13 10.7**	**+0.2**
Y31A	**Rekieta Farm,** baz=22,SNR=19	**21.37**	**340**	⇑P	**P**	**17 13 11.5**	**0.0**
X33A	**Lawton** baz=22	**21.39**	**344**	⇓P	**P**	**17 13 11.5**	**-0.1**
HBAR	**Harrisburg**	**21.49**	**2**	*e*P	**P**	**17 13 11.6**	**-1.1**
X32A	**Elmer** baz=22,SNR=18	**21.49**	**343**	⇑P	**P**	**17 13 12.8**	**+0.1**
Y30A	**Stafford Cattl** baz=22,SNR=14	**21.51**	**339**	⇓P	**P**	**17 13 13.1**	**0.0**
Z28A	**Tucker Farm, M** baz=22	**21.57**	**335**	⇑P	**P**	**17 13 13.7**	**0.0**
WMOK	**Wichita Mounta**	**21.65**	**344**	*e*P	**P**	**17 13 13.2**	**-1.3**
WMOK	comp=Z,35nm,0.9s			pmax	pmax		
WMOK	**Wichita Mounta** comp=Z,35nm,0.9s	**21.65**	**344**	*e*P	**P**	**17 13 13.2**	**-1.3**
Y29A	**Porterfield Fa** baz=22	**21.78**	**337**	⇑P	**P**	**17 13 16.0**	**0.0**
W34A	**Bridge Creek,** baz=22	**21.87**	**346**	⇓P	**P**	**17 13 16.5**	**-0.3**
W34A	**Bridge Creek,** comp=Z,115nm,0.7s	**21.87**	**346**	*e*P	**P**	**17 13 13.8**	**-3.0**
W34A				*e*		17 13 30.4	
X31A	**McDonald Ranch** baz=22,SNR=44	**21.90**	**341**	⇓P	**P**	**17 13 17.2**	**+0.1**
HALT	**Halls**	**21.93**	**5**	P	**P**	**17 13 12.7**	**-4.7**
W33A	**Caddo, Fort Co** baz=22,SNR=7.0	**21.96**	**345**	⇑P	**P**	**17 13 17.8**	**+0.1**
X30A	**Coker Ranch, T** baz=22,SNR=34	**22.02**	**339**	⇑P	**P**	**17 13 18.4**	**-0.1**
Y28A	**McKinney Farm,** baz=22,SNR=14	**22.05**	**336**	⇓P	**P**	**17 13 19.0**	**+0.1**
W32A	**Sentinel** baz=22,SNR=16	**22.14**	**343**	⇓P	**P**	**17 13 19.9**	**+0.2**
TUL1	**Leonard** baz=22	**22.15**	**351**	⇑P	**P**	**17 13 19.4**	**-0.4**
TUL1	**Leonard** comp=Z,48nm,0.9s	**22.15**	**351**	*e*P	**P**	**17 13 19.1**	**-0.7**
V35A	**Meyer Ranch, C** baz=22	**22.18**	**349**	⇓P	**P**	**17 13 19.7**	**-0.4**
GLAT	**Glass**	**22.29**	**5**	*e*P	**P**	**17 13 21.3**	**0.0**
WVT	**Waverly**	**22.31**	**8**	*e*P	**P**	**17 13 19.1**	**-2.4**
WVT	comp=Z,28nm,0.8s			pmax	pmax		
WVT	**Waverly** comp=Z,28nm,0.8s	**22.31**	**8**	*e*P	**P**	**17 13 19.1**	**-2.4**
WVT				*e*		17 13 35.1	
MSTX	**Muleshoe** baz=22,SNR=16	**22.32**	**335**	⇓P	**P**	**17 13 21.7**	**-0.1**
MSTX	**Muleshoe** comp=Z,38nm,0.8s	**22.32**	**335**	*e*P	**P**	**17 13 20.6**	**-1.1**
X29A	**Tulia** baz=22,SNR=15	**22.32**	**338**	⇓P	**P**	**17 13 21.2**	**-0.5**
V34A	**Guthrie** baz=22	**22.39**	**347**	⇑P	**P**	**17 13 21.6**	**-0.8**
V34A	**Guthrie** comp=Z,50nm,0.8s	**22.39**	**347**	*e*P	**P**	**17 13 20.1**	**-2.3**
W31A	**Holland Ranch,** baz=22,SNR=10	**22.40**	**342**	⇑P	**P**	**17 13 23.4**	**+0.8**
V33A	**Lossen Ranch,** baz=23	**22.55**	**346**	⇑P	**P**	**17 13 23.7**	**-0.4**
X28A	**Dimmitt** baz=23	**22.57**	**337**	⇑P	**P**	**17 13 24.5**	**+0.1**
W30A	**Crocket Farms** baz=23	**22.59**	**341**	⇓P	**P**	**17 13 24.5**	**-0.2**
PARMO	**Parma**	**22.64**	**4**	*e*P	**P**	**17 13 24.0**	**-1.0**
V32A	**Arapaho** baz=23,SNR=5.6	**22.64**	**344**	⇑P	**P**	**17 13 24.6**	**-0.5**
AMTX	**Amarillo** baz=23	**22.70**	**338**	⇓P	**P**	**17 13 25.5**	**-0.3**
AMTX	**Amarillo** comp=Z,54nm,0.7s	**22.70**	**338**	*e*P	**P**	**17 13 24.5**	**-1.3**
TKL	**Tuckaleechee C** comp=Z,22nm,0.8s,baz=190,slow=9.5,SNR=17

baz=24
319A Douglas 23.71 320 ⇓P P 17 13 37.9 +2.3
baz=24,SNR=22
T33A Patterson Ranc 23.75 347 ⇑P P 17 13 36.7 +0.9
baz=24
U30A WK&E Inc. Balk 23.86 342 ⇑P P 17 13 38.1 +1.2
baz=24
S36A Lake Cedric, C 23.90 352 ⇑P P 17 13 36.9 -0.4
baz=24
V27A Dan Oppiter Fa 23.91 337 ⇑P P 17 13 37.5 +0.1
baz=24
U29A Oasis Ranch, S 23.98 341 ⇓P P 17 13 39.0 +0.9
baz=24,SNR=8.6
T32A Huddler Ranch, 24.00 346 ⇓P P 17 13 39.2 +1.0
baz=24
W25A X Bar L Ranch, 24.10 334 ⇑P P 17 13 40.5 +1.3
baz=24,SNR=10
T31A Randall Ranch, 24.11 344 ⇑P P 17 13 39.8 +0.6
baz=24
S34A Willow Spring 24.12 349 ⇑P P 17 13 39.4 +0.2
baz=24
USIN University of 24.14 8 eP P 17 13 38.7 -0.6
comp=Z,60nm,0.7s
S33A Kaszmaul Farm, 24.18 348 ⇑P P 17 13 40.7 +0.9
baz=24
T30A Plains 24.31 342 ⇑P P 17 13 41.3 +0.3
baz=24
V26A Tequesquite Ra 24.31 335 ⇑P P 17 13 42.0 +0.9
baz=24,SNR=9.4
LPM Los Pinos Moun 24.37 329 eP P 17 13 43.4 +1.6
comp=Z,37nm,1.3s
LPM e 17 13 57.8
LENM Lemitar 24.43 328 eP P 17 13 44.6 +2.3
comp=Z,29nm,0.9s
LENM e 17 13 58.7
U27A Thompson Grove 24.49 338 ⇓P P 17 13 43.4 +0.6
baz=25,SNR=6.5
S32A Newby Ranch, P 24.50 346 ⇑P P 17 13 43.0 +0.3
baz=25
W24A Lazy 6 Ranch, 24.51 332 ⇑P P 17 13 44.7 +1.6
baz=25,SNR=11
S31A Mullinville 24.55 345 ⇓P P 17 13 43.9 +0.6
baz=25
SLM Saint Louis 24.58 3 eP P 17 13 42.1 -1.3
SLM pmax pmax
comp=Z,50nm,0.7s
SLM Saint Louis 24.58 3 eP P 17 13 42.1 -1.3
comp=Z,50nm,0.7s
WCI Wyandotte Cave 24.60 10 eP P 17 13 42.0 -1.7
WCI pmax pmax
comp=Z,58nm,0.7s
WCI Wyandotte Cave 24.60 10 eP P 17 13 42.0 -1.7
comp=Z,58nm,0.7s
T29A Hugoton 24.63 341 ⇓P P 17 13 45.0 +0.9
baz=25,SNR=9.0
V25A Rancho No Teng 24.69 334 ⇑P P 17 13 46.0 +1.3
baz=25,SNR=15
LAZ Ladron 24.70 328 eP P 17 13 46.0 +1.2
comp=Z,5.5nm,0.6s
ATAH Atahualpa 24.76 147 P P 17 13 48.5 +2.8
comp=Z,17nm,0.9s,baz=354,slow=5.2,SNR=10
ATAH LR LR 17 20 24.5
comp=Z,110nm,21.8s,baz=330,slow=29
ANMO Albuquerque 24.79 330 deP P 17 13 47.0 +1.4
ANMO pmax pmax
comp=Z,40nm,0.6s
ANMO Albuquerque 24.79 330 P P 17 13 47.3 +1.7
comp=Z,12nm,0.7s,baz=147,slow=11,SNR=30
ANMO PcP PcP 17 17 21.2 +0.2
comp=Z,1.8nm,0.7s,baz=141,slow=4.1,SNR=3.6
ANMO ScP ScP 17 20 59.1 +3.9
comp=Z,6.0nm,1.0s,baz=193,slow=3.1,SNR=5.6
ANMO Albuquerque 24.79 330 eP P 17 13 47.3 +1.7
comp=Z,9.4nm,0.6s
ANMO PcP PcP 17 17 21.2 +0.2
ANMO ScP ScP 17 20 59.1 +3.9
U26A Atchley Ranch, 24.81 336 ⇑P P 17 13 46.6 +0.8
baz=25,SNR=7.4
SJG San Juan 24.82 77 LR LR 17 23 46.1
comp=Z,617nm,21.5s,baz=270,slow=38
OLIL Olney 24.84 7 eP P 17 13 44.6 -1.2
comp=Z,39nm,0.7s
OLIL e 17 13 59.9
T28A Walsh 24.87 340 ⇓P P 17 13 46.9 +0.7
baz=25
V24A Rampart Ranch, 24.88 333 ⇑P P 17 13 47.9 +1.4
baz=25,SNR=6.8
S29A Ulysses 25.01 342 ⇑P P 17 13 48.8 +1.4
baz=25,SNR=13
T27A Campo 25.02 339 ⇑P P 17 13 48.2 +0.6
baz=25
U25A Circle Dot Ran 25.09 335 ⇑P P 17 13 49.2 +0.9
baz=25,SNR=8.2
R32A Long Quarter, 25.13 347 ⇓P P 17 13 48.3 -0.2
baz=25
BLA Blacksburg 25.20 21 eP P 17 13 43.4 -5.7
BLA pmax pmax
comp=Z,81nm,0.9s
BLA Blacksburg 25.20 21 eP P 17 13 43.4 -5.7
comp=Z,81nm,0.9s
R31A Burdett 25.20 345 ⇑P P 17 13 49.1 0.0
baz=25
S28A Manter 25.22 341 ⇓P P 17 13 49.6 +0.2
baz=25
TUC Tucson 25.28 319 eP P 17 13 51.4 +1.5
TUC pmax pmax
comp=Z,19nm,0.8s
TUC Tucson 25.28 319 eP P 17 13 51.4 +1.5
comp=Z,18nm,0.8s
V23A Ortiz Mt. (NFS 25.31 331 ⇑P P 17 13 52.4 +2.1
baz=26,SNR=7.1
R30A Dighton 25.39 344 ⇑P P 17 13 51.2 +0.4
baz=26
VWCC Virginia Weste 25.39 22 eP P 17 13 50.5 -0.3
VWCC epP pP 17 14 04.5 -0.5
KSU1 Kansas State U 25.40 351 ⇑P P 17 13 50.9 +0.1
baz=26
KSU1 Kansas State U 25.40 351 eP P 17 13 44.5 -6.4
comp=Z,25nm,0.8s
T26A Comanche Natio 25.44 337 ⇑P P 17 13 53.1 +1.6
baz=26,SNR=5.6
U24A Moreno Valley 25.46 334 ⇑P P 17 13 52.0 +0.2
baz=26
Q33A Connelly Farm, 25.51 349 ⇓P P 17 13 51.5 -0.4
baz=26
Q32A Meitler Ranch, 25.65 347 ⇑P P 17 13 52.8 -0.4
baz=26
T25A Trinidad 25.72 336 ⇑P P 17 13 56.2 +2.1
baz=26,SNR=7.3
R29A Marienthal 25.76 343 ⇓P P 17 13 55.1 +0.9
baz=26
V22A San Miguel Ran 25.79 331 ⇑P P 17 13 56.3 +1.6
baz=26,SNR=7.4
U23A El Rito 25.79 332 ⇓P P 17 13 55.9 +1.2
baz=26
Q31A Ellis 25.85 346 ⇓P P 17 13 55.6 +0.6
baz=26
R28A Tribune 25.88 341 ⇓P P 17 13 56.3 +0.9
baz=26,SNR=5.6
Q30A Quinter 26.02 345 ⇑P P 17 13 57.4 +0.8
baz=26
T24B San Luis 26.05 334 ⇑P P 17 13 58.3 +1.1
baz=26,SNR=5.4
U22A Llaves 26.14 331 ⇓P P 17 13 59.6 +1.7
baz=26,SNR=5.6
Q29A Oakley 26.15 343 ⇑P P 17 13 58.0 +0.3
baz=26
R27A Eads 26.15 340 ⇓P P 17 13 57.8 -0.1
baz=26
S25A Robets Cordova 26.19 337 ⇑P P 17 13 59.7 +1.4
baz=26,SNR=9.0
X18A Snowflake 26.32 324 ⇓P P 17 14 01.6 +2.1
baz=26,SNR=5.5
214A Organ Pipe Nat 26.38 316 ⇓P P 17 14 01.6 +1.7
baz=27,SNR=17
214A Organ Pipe Nat 26.38 316 eP P 17 14 01.5 +1.7
comp=Z,33nm,1.1s
R26A Arlington 26.39 339 ⇓P P 17 14 01.7 +1.7
baz=26,SNR=6.0
S24A Houchin Ranch, 26.48 335 ⇑P P 17 14 01.1 +0.1
baz=27
R25A Fountain Ranch 26.55 337 ⇑P P 17 14 03.0 +1.4
baz=27,SNR=14
P30A Selden 26.57 345 ⇑P P 17 14 01.9 +0.4
baz=27
SFIN Lafayette 26.59 8 ⇑P P 17 14 02.4 +0.8
baz=27,SNR=6.5
SFIN Lafayette 26.59 8 eP P 17 14 00.8 -0.8
comp=Z,7.6nm,0.6s
SFIN epP pP 17 14 14.2 -1.6
W18A Petrified Fore 26.63 325 ⇓P P 17 14 02.7 +0.5
baz=27
SDCO Great Sand Dun 26.69 335 ⇓P P 17 14 03.1 +0.2
baz=27
P29A Atwood 26.80 344 ⇓P P 17 14 04.0 +0.4
baz=27
R24A Sanders Place, 26.95 336 ⇓P P 17 14 06.2 +1.1
baz=27
Q26A Hugo 26.97 339 ⇓P P 17 14 06.1 +0.9
baz=27
P28A Saint Francis 27.00 343 ⇓P P 17 14 06.5 +1.0
baz=27
X16A Lo Mia Camp, P 27.11 322 ⇓P P 17 14 08.7 +2.1
baz=27,SNR=7.3
R23A Moffat 27.20 335 ⇑P P 17 14 09.3 +1.8
baz=27,SNR=7.4
P27A Ficken Ranch, 27.23 341 ⇓P P 17 14 08.4 +0.9
baz=27
S22A 4UR Ranch, Cre 27.25 333 ⇓P P 17 14 09.7 +1.7
baz=27,SNR=11
P26A Davis Ranch, A 27.48 340 ⇑P P 17 14 09.2 -0.6
baz=28
113A Mohawk Valley, 27.51 317 ⇑P P 17 14 11.9 +1.9
baz=28,SNR=10
MVCO Mesa Verde 27.59 330 ⇓P P 17 14 12.4 +1.5
baz=28,SNR=5.8
MVCO Mesa Verde 27.59 330 eP P 17 14 12.6 +1.6
comp=Z,44nm,1.2s
MVCO epP pP 17 14 27.9 +2.7
WUAZ Wupatki 27.84 324 ⇑P P 17 14 13.8 +0.7
baz=28
WUAZ Wupatki 27.84 324 eP P 17 14 15.4 +2.3
comp=Z,12nm,0.8s
WUAZ epP pP 17 14 30.0 +2.6
P23A Jefferson 28.22 336 ⇓P P 17 14 18.0 +1.4
baz=28,SNR=13
PV01 Paradox Valley 28.36 331 eP P 17 14 19.8 +2.0
comp=Z,1μm,1.2s
PV01 epP pP 17 14 34.2 +2.1
GLA Glamis 28.39 316 ⇑P P 17 14 18.4 +0.5
baz=29
JFWS Jewell Farm 28.85 2 eP P 17 14 22.1 +0.3
JFWS pmax pmax
comp=Z,12nm,0.6s
JFWS Jewell Farm 28.85 2 eP P 17 14 22.1 +0.3
comp=Z,12nm,0.6s
SWSC Sam W. Stewart 28.99 315 ⇓P P 17 14 24.2 +1.0
baz=29
U15A North Rim 29.01 324 ⇓P P 17 14 25.5 +1.8
baz=29,SNR=14
W13A Hualapai Mount 29.06 320 ⇑P P 17 14 26.1 +2.1
baz=29,SNR=5.8
BC3 Big Chuckawall 29.17 316 ⇑P P 17 14 27.1 +2.2
baz=29,SNR=21
IRM Iron Mountain 29.27 317 ⇓P P 17 14 27.4 +1.7
baz=30,SNR=8.7
MONP Monument Peak, 29.39 314 ⇑P P 17 14 28.3 +1.3
baz=30
BELC Belle Mtn. Jos 29.74 316 ⇑P P 17 14 31.6 +1.6
baz=30,SNR=5.4
PFO Pinyon Flats O 29.82 315 eP P 17 14 33.0 +2.3
PFO e*PP pP 17 14 47.3 +2.3
PFO pmax pmax
comp=Z,10.0nm,1.1s
PFO Pinyon Flats O 29.82 315 LR LR 17 27 08.8
comp=Z,234nm,21.7s,baz=130,slow=37
PFO Pinyon Flats O 29.82 315 ⇑P P 17 14 32.2 +1.5
baz=30
PFO Pinyon Flats O 29.82 315 eP P 17 14 33.0 +2.3
comp=Z,10nm,1.1s
PFO epP pP 17 14 47.3 +2.3
GMRC Granite Mounta 29.98 318 ⇓P P 17 14 34.2 +2.1
baz=30,SNR=12
SRU San Rafael Swe 30.07 330 eP P 17 14 34.7 +1.8
SRU e*PP pP 17 14 49.9 +2.7
SRU pmax pmax
comp=Z,15nm,1.2s
SRU San Rafael Swe 30.07 330 eP P 17 14 34.7 +1.8
comp=Z,15nm,1.2s
SRU epP pP 17 14 49.9 +2.7
CCUT Cedar City 30.41 324 eP P 17 14 38.5 +2.5
comp=Z,37nm,1.0s
CCUT epP pP 17 14 52.7 +2.4
N20A Spence Gulch, 30.44 335 ⇓P P 17 14 37.3 +1.1
baz=31,SNR=5.8
HEC Hector,Ludlow 30.45 317 ⇓P P 17 14 38.1 +1.9
baz=31,SNR=9.0
MVU Marysvale 30.47 327 eP P 17 14 38.0 +1.6
comp=Z,11nm,1.0s
MVU epP pP 17 14 53.8 +3.0
TUQ Turquoise Moun 30.56 319 ⇑P P 17 14 39.0 +1.8
baz=31,SNR=6.1
ARUT Antelope Range 30.62 325 eP P 17 14 40.1 +2.4
ARUT e*PP pP 17 14 54.6 +2.5
ARUT Antelope Range 30.62 325 eP P 17 14 40.1 +2.4
comp=Z,894nm,1.0s
ARUT epP pP 17 14 54.6 +2.5
SHPR Sheep Range 30.76 321 eP P 17 14 41.4 +2.4
comp=Z,28nm,1.0s
BFSC Mount Baldy Ra 31.00 315 ⇑P P 17 14 41.6 +0.5
baz=31
GSC Goldstone, Bar 31.05 318 ⇓P P 17 14 41.9 +0.5
baz=31
DAU Daniels Canyon 31.44 331 eP P 17 14 46.6 +1.5
DAU pmax pmax
comp=Z,18nm,1.0s
DAU Daniels Canyon 31.44 331 eP P 17 14 46.6 +1.5
comp=Z,18nm,1.0s
EDW2 Edwards Air Fo 31.59 316 ⇓P P 17 14 48.0 +1.8
baz=32,SNR=5.5
LRMC Laurel Mtn Rad 31.73 317 ⇓P P 17 14 49.5 +2.0
baz=32
MPMC Manual Prospec 31.95 318 ⇓P P 17 14 51.4 +1.9
baz=32,SNR=19
DUG Dugway, Tooele 32.04 329 eP P 17 14 51.5 +1.4
DUG pmax pmax
comp=Z,8.0nm,1.1s
DUG Dugway, Tooele 32.04 329 ⇓P P 17 14 51.8 +1.7
baz=32
DUG Dugway, Tooele 32.04 329 eP P 17 14 51.5 +1.4
comp=Z,8.3nm,1.1s
TCUT Toone Canyon 32.06 331 eP P 17 14 50.9 +0.4
comp=Z,34nm,1.1s
COWI Conover 32.08 3 eP P 17 14 48.2 -2.1
comp=Z,7.1nm,0.8s
DAC Darwin (Calif) 32.14 318 eP P 17 14 52.4 +1.2
DAC pmax pmax
comp=Z,29nm,1.0s
DAC Darwin (Calif) 32.14 318 eP P 17 14 52.4 +1.2
comp=Z,29nm,1.0s
R11A Troy Canyon, C 32.23 323 ⇓P P 17 14 54.6 +2.6
baz=32,SNR=12
R11A Troy Canyon, C 32.23 323 eP P 17 14 54.5 +2.6
comp=Z,23nm,1.1s
ISA Isabella, Lake 32.36 317 ⇓P P 17 14 54.6 +1.6
baz=32,SNR=7.0
SADO Sadowa 32.47 17 P P 17 14 52.5 -1.2
comp=Z,4.9nm,0.4s,baz=209,slow=7.8,SNR=11
SADO pP pP 17 15 06.3 -1.8
comp=Z,9.9nm,0.8s,baz=229,slow=9.1,SNR=4.7
SADO LR LR 17 29 02.8
comp=Z,305nm,20.3s,baz=213,slow=38
PDAR Pinedale Array 32.58 335 PcP PcP 17 17 40.2 -0.1
comp=Z,1.5nm,0.5s,baz=145,slow=5.3,SNR=5.5
PDAR pPcP 17 17 56.8
comp=Z,2.5nm,0.7s,baz=169,slow=3.0,SNR=6.0
PDAR ScP ScP 17 21 21.6 +2.1
comp=Z,3.7nm,1.0s,baz=149,slow=3.4,SNR=15
PDAR LR LR 17 30 31.4
comp=Z,122nm,19.9s,baz=162,slow=41
BGU Big Grassy Mou 32.69 329 eP P 17 14 57.8 +1.9
comp=Z,6.3nm,0.9s
VES Vestal, Richgr 32.87 316 ⇑P P 17 15 00.9 +3.5
baz=33,SNR=7.0
TPH Tonopah 33.02 321 eP P 17 15 01.3 +2.4
TPH e*PP pP 17 15 15.6 +2.2
TPH pmax pmax
comp=Z,28nm,1.0s
TPH Tonopah 33.02 321 eP P 17 15 01.3 +2.4
comp=Z,28nm,1.0s
TPH epP pP 17 15 15.6 +2.2
I20A Worland 33.03 338 ⇓P P 17 14 59.2 +0.4
baz=33
HVU Hansel Valley 33.22 330 eP P 17 15 01.5 +1.0
HVU pmax pmax
comp=Z,89nm,1.5s
HVU Hansel Valley 33.22 330 eP P 17 15 01.5 +1.0
comp=Z,89nm,1.5s
RCTC Rector, Farmer 33.24 317 ⇓P P 17 15 01.2 +0.7
baz=33
ELK Elko 33.70 327 P P 17 15 07.0 +2.2
comp=Z,7.3nm,0.7s,baz=183,slow=4.1,SNR=28
ELK pP pP 17 15 21.9 +2.7
comp=Z,9.8nm,0.8s,baz=183,slow=3.7,SNR=12
ELK PcP PcP 17 17 44.5 +1.0
comp=Z,6.2nm,0.9s,baz=194,slow=1.7,SNR=9.3
ELK ScP ScP 17 21 27.0 +3.6
comp=Z,6.7nm,1.0s,baz=175,slow=1.2,SNR=13
ELK LR LR 17 30 12.4
comp=Z,365nm,19.8s,baz=180,slow=39
LONY Lake Ozonia 33.81 22 eP P 17 15 04.0 -1.3
comp=Z,22nm,1.2s
LONY epP pP 17 15 19.4 -0.4
NVAR Mina Array Bea 33.91 321 P P 17 15 09.7 +3.0
comp=Z,17nm,0.7s,baz=133,slow=8.5,SNR=140
NVAR pP pP 17 15 23.6 +2.6
comp=Z,74nm,0.7s,baz=134,slow=8.7,SNR=48
NVAR PcP PcP 17 17 45.3 +1.2
comp=Z,6.3nm,0.8s,baz=134,slow=3.7,SNR=7.1
NVAR pPcP 17 18 02.5
comp=Z,7.3nm,0.7s,baz=126,slow=3.5,SNR=7.3
NVAR ScP ScP 17 21 28.6 +4.4
comp=Z,4.1nm,0.8s,baz=142,slow=4.3,SNR=18
I17A Pilgrim Ck. 33.95 335 ⇑P P 17 15 07.2 +0.3
baz=34
MDND Maddock 34.41 350 ⇓P P 17 15 09.8 -0.8
baz=34
BMN Battle Mountai 34.57 324 eP P 17 15 14.0 +1.8
BMN pmax pmax
comp=Z,21nm,1.2s
BMN Battle Mountai 34.57 324 eP P 17 15 14.0 +1.8
comp=Z,20nm,1.2s
PTGA Pitinga 34.60 112 P P 17 15 12.5 -0.1
comp=Z,20nm,0.9s,baz=295,slow=10,SNR=21
PTGA PcP PcP 17 17 46.7 +0.5
comp=Z,2.5nm,0.6s,baz=186,slow=4.2,SNR=4.1
PTGA Pitinga 34.60 112 eP P 17 15 12.4 -0.2
comp=Z,24nm,0.9s
PTGA PcP PcP 17 17 46.7 +0.5
WAKR Walker 34.66 320 eP P 17 15 15.8 +2.7
comp=Z,55nm,1.3s
WAKR epP pP 17 15 30.4 +2.9
CMB Columbia Colle 34.98 318 eP P 17 15 17.7 +2.0
CMB e*PP pP 17 15 32.4 +2.2
CMB pmax pmax
comp=Z,28nm,1.0s
CMB Columbia Colle 34.98 318 eP P 17 15 17.7 +2.0
comp=Z,28nm,1.0s
CMB epP pP 17 15 32.4 +2.2
QLMT Earthquake Lak 35.05 335 eP P 17 15 14.2 -2.2
comp=Z,0.9nm,0.6s
D22A Cohagen 35.23 343 ⇑P P 17 15 18.0 +0.3
baz=35
HLID Hailey 35.36 331 ⇑P P 17 15 19.8 +0.7
baz=36,SNR=21
HLID Hailey 35.36 331 eP P 17 15 20.0 +1.0
comp=Z,22nm,1.1s
B25A Knox Farm, Ray 35.50 347 ⇓P P 17 15 18.7 -1.2
baz=36
MCMT McKenzie Canyo 35.64 334 eP P 17 15 23.1 +1.6
comp=Z,18nm,1.0s
BOZ Bozeman (W) 35.80 336 eP P 17 15 19.9 -2.8
BOZ pmax pmax
comp=Z,9.0nm,0.9s
BOZ Bozeman (W) 35.80 336 eP P 17 15 19.9 -2.8
comp=Z,9.1nm,0.9s
A26A Wade Farm, Ken 35.85 348 ⇑P P 17 15 22.4 -0.6
baz=36
MFID Camas Ranch 35.94 329 eP P 17 15 24.9 +1.0
comp=Z,32nm,1.1s
LRM Limekiln Ridge 36.28 335 eP P 17 15 27.6 +0.6
comp=Z,190nm,1.0s
SAML Samuel 36.28 127 eP P 17 15 25.2 -1.7
comp=Z,28nm,1.3s
ULM Lac du Bonnet 36.33 355 P P 17 15 25.1 -1.8
comp=Z,1.6nm,0.4s,baz=188,slow=10,SNR=5.2
ULM PcP PcP 17 17 50.3 -0.3
comp=Z,4.8nm,0.4s,baz=171,slow=3.7,SNR=6.2
ULM ScP ScP 17 21 33.0 +0.6
comp=Z,3.9nm,0.6s,baz=173,slow=4.5,SNR=9.4
WVOR Wild Horse Val 36.70 326 eP P 17 15 32.0 +1.5
WVOR pmax pmax
comp=Z,30nm,1.0s
WVOR Wild Horse Val 36.70 326 eP P 17 15 32.0 +1.5
comp=Z,30nm,1.0s
MOD Modoc Plateau 37.29 324 eP P 17 15 35.5 0.0
comp=Z,4.0nm,0.6s
MOD epP pP 17 15 51.3 +1.2
A19A Klindworth Far 37.59 341 ⇓P P 17 15 37.8 0.0
baz=38
MSO Missoula 37.70 335 ⇑P P 17 15 39.5 +0.7
baz=38,SNR=7.3
BMO Blue Mountains 37.71 330 eP P 17 15 39.2 +0.3
comp=Z,17nm,1.1s
SLMT Seeley Lake 37.85 336 eP P 17 15 40.5 +0.4
comp=Z,5.4nm,0.5s
LPAZ La Paz 38.00 142 P P 17 15 42.2 0.0
comp=Z,4.0nm,0.8s,baz=327,slow=9.1,SNR=14
LPAZ PcP PcP 17 17 56.4 -0.7
comp=Z,7.4nm,1.1s,baz=353,slow=5.5,SNR=6.4
M04C Macdoel 38.11 322 ⇑P P 17 15 43.5 +1.2
baz=38
SWMT Swartz Lake 38.27 335 eP P 17 15 44.1 +0.5
comp=Z,5.0nm,0.9s
M02C Callahan 38.48 321 ⇑P P 17 15 46.3 +0.8
baz=39
YBMT Yellow Bay 38.56 336 eP P 17 15 46.8 +0.8
comp=Z,7.6nm,0.8s
JTMT Jette 38.57 335 eP P 17 15 46.8 +0.7
comp=Z,7.0nm,1.0s
K04D Chiloquin, OR 38.58 324 ⇓P P 17 15 47.4 +1.1
baz=39
YBH Yreka Blue Hor 38.60 322 P P 17 15 46.8 +0.3
comp=Z,1.3nm,0.5s,baz=158,slow=5.4,SNR=4.6
J05D Fort Rock, OR 38.70 325 ⇑P P 17 15 48.5 +1.1
baz=39
BSMT Bassoo Peak 38.86 335 eP P 17 15 48.7 0.0
comp=Z,4.5nm,0.7s
J04D Umpqua Nationa 39.17 324 ⇓P P 17 15 51.8 +0.5
baz=39
I04A Tendick Farm, 39.69 325 ⇓P P 17 15 55.6 +0.2
baz=40
G05D Wamic, OR 40.02 327 ⇑P P 17 15 57.8 -0.4
baz=40
VFP Flag Point 40.15 327 P P 17 16 01.4 +2.0
I03D Drain, OR 40.16 324 ⇓P P 17 15 59.6 +0.3
baz=40
NEW Newport 40.17 334 eP P 17 15 59.7 +0.3
NEW 17 18 02.6
NEW pmax pmax
comp=Z,10.0nm,0.9s
NEW Newport 40.17 334 P P 17 15 59.7 +0.3
comp=Z,4.9nm,0.5s,baz=148,slow=9.2,SNR=7.7
NEW PcP PcP 17 18 02.6 -0.1
comp=Z,3.8nm,0.6s,baz=141,slow=5.4,SNR=6.7
NEW ScP ScP 17 21 48.9 +1.8
comp=Z,1.8nm,0.5s,baz=162,slow=3.2,SNR=3.5
NEW Newport 40.17 334 ⇓P P 17 15 59.6 +0.2
baz=40,SNR=6.8
NEW Newport 40.17 334 eP P 17 15 59.7 +0.3
comp=Z,10nm,0.9s
NEW PcP PcP 17 18 02.6 -0.1
NEW ScP ScP 17 21 48.9 +1.8
OD2 Odessa Site #2 40.23 331 P P 17 16 00.8 +1.0
KEBM Edson Butte 40.24 322 eP P 17 16 02.4 +2.3
comp=Z,173nm,1.1s
KEBM epP pP 17 16 17.2 +2.4
VLL Laurance Lake 40.36 327 P P 17 16 03.5 +2.4
SAW Saint Andrews 40.78 331 P P 17 16 05.7 +1.3
WTV Waterville 41.03 331 P P 17 16 08.3 +1.8
G03D McMinnville, O 41.05 326 ⇑P P 17 16 07.1 +0.5
baz=41
F04D Rainier, OR 41.47 327 ⇑P P 17 16 10.7 +0.6
baz=42
PNT Penticton 42.05 333 P P 17 16 16.0 +1.2
PNT Penticton 42.05 333 P P 17 16 15.9 +1.2
JCW Jim Creek 42.33 330 P P 17 16 17.4 +0.3
SIV San Ignacio 42.42 134 P P 17 16 18.1 -0.1
comp=Z,16nm,0.6s,baz=308,slow=8.7,SNR=35
SIV PcP PcP 17 18 10.9 +0.4
comp=Z,8.2nm,0.8s,baz=14,slow=1.9,SNR=5.2
SIV ScP ScP 17 22 00.6 +4.1

comp=Z,3.5nm,0.8s,baz=324,slow=5.1,SNR=4.8
MBW Mount Baker 42.72 331 P **P 17 16 20.8 +0.4**
PGC Sidney 43.39 329 *e*P **P**
PGC *e* 17 16 40.6
FCC Fort Churchill 44.73 358 *e*P **P 17 16 34.2 -1.9**
FCC Fort Churchill 44.73 358 *e*P **P 17 16 34.2 -1.9**
SCHQ Schefferville 45.11 20 P **P 17 16 37.1 -2.1**
comp=Z,25nm,0.9s,baz=220,slow=7.2,SNR=29
SCHQ pP **pP 17 16 53.1 -1.1**
comp=Z,15nm,0.7s,baz=214,slow=7.3,SNR=6.1
SCHQ PcP **PcP 17 18 18.2 -0.8**
comp=Z,4.3nm,0.4s,baz=224,slow=4.8,SNR=4.1
SCHQ LR LR 17 36 13.6
comp=Z,632nm,20.8s,baz=230,slow=37
CFAA Coronel Fontan 50.58 154 P **P 17 17 22.5 +0.6**
comp=Z,2.7nm,0.8s,baz=327,slow=6.2,SNR=15
YKA Yellowknife Ar 51.12 347 P **P 17 17 24.7 -0.7**
comp=Z,4.9nm,0.7s,baz=147,slow=7.6,SNR=70
YKA pP **pP 17 17 39.4 -1.3**
comp=Z,5.6nm,0.6s,baz=150,slow=6.7,SNR=17
YKA PcP **PcP 17 18 39.8 -0.5**
comp=Z,4.8nm,0.6s,baz=152,slow=3.7,SNR=16
YKA ScP **ScP 17 22 32.0 0.0**
comp=Z,0.8nm,0.8s,baz=144,slow=4.6,SNR=5.2
FRB Frobisher Bay 52.24 13 P **P 17 17 31.6 -2.3**
comp=Z,14nm,0.9s,baz=213,slow=8.2,SNR=27
DLBC Dease Lake 52.81 336 P **P 17 17 40.5 +2.2**
comp=Z,36nm,0.9s,baz=134,slow=5.4,SNR=44
DLBC PcP **PcP 17 18 48.1 +1.2**
comp=Z,9.8nm,0.9s,baz=266,slow=2.3,SNR=3.3
DLBC ScP **ScP 17 22 41.5 +1.9**
comp=Z,2.9nm,0.9s,baz=143,slow=10,SNR=3.3
DLBC Dease Lake 52.81 336 *e*P **P 17 17 40.1 +1.8**
DLBC P **P 17 17 40.5 +2.2**
DLBC PcP **PcP 17 18 48.1 +1.2**
DLBC ScP **ScP 17 22 41.5 +1.9**
TAOE Nuku Hiva Isla 53.23 248 *e*T T 18 14 18.0
comp=Z,130nm,0.2s
RKT Rikitea 56.21 229 *e*LR LR 17 34 21.8
comp=Z,433nm,27.5s
RKT Rikitea 56.21 229 *e*T T 18 18 11.3
comp=Z,4.8nm,0.3s
PLCA Paso Flores 57.85 161 P **P 17 18 14.9 +0.3**
comp=Z,14nm,1.1s,baz=337,slow=8.1,SNR=15
PLCA LR LR 17 38 27.2
comp=Z,155nm,18.2s,baz=316,slow=31
RCBR Riachuelo 58.69 106 P **P 17 18 19.9 -1.1**
comp=Z,5.3nm,0.6s,baz=280,slow=4.1,SNR=5.6
SFJD Kangerlussuaq 59.42 17 P **P 17 18 22.6 -2.5**
comp=Z,13nm,1.0s,baz=198,slow=6.9,SNR=3.5
BMRM Bremner River 60.34 333 *e*P **P 17 18 32.5 +0.9**
comp=Z,23nm,0.7s
RES Resolute Bay 60.72 359 P **P 17 18 32.2 -1.6**
comp=Z,7.3nm,0.7s,baz=182,slow=10,SNR=55
DIV Divide 60.92 333 *e*P **P 17 18 36.2 +0.6**
DOT Dot Lake 61.38 336 *e*P **P 17 18 39.4 +0.8**
comp=Z,28nm,1.1s
PAX Paxson 61.62 335 *e*P **P 17 18 40.6 +0.3**
PAX pmax pmax
comp=Z,17nm,0.8s
PAX Paxson 61.62 335 *e*P **P 17 18 40.6 +0.3**
comp=Z,17nm,0.8s
PMOR Pomariorio Ree 62.67 245 *e*T T 18 26 06.1
comp=Z,4.1nm,0.2s
KDAK Kodiak Island 62.92 328 *i*P **P 17 18 50.7 +1.8**
ILAR Eielson Array 62.99 337 P **P 17 18 49.5 +0.2**
comp=Z,18nm,1.0s,baz=137,slow=4.2,SNR=96
ILAR pP **pP 17 19 05.5 +0.4**
comp=Z,7.3nm,0.9s,baz=133,slow=5.6,SNR=6.7
ILAR LR LR 17 48 31.0
comp=Z,170nm,21.4s,baz=133,slow=38
MCK McKinley 63.36 335 *e*P **P 17 18 52.3 +0.4**
MCK pmax pmax
comp=Z,40nm,1.2s
MCK McKinley 63.36 335 *e*P **P 17 18 52.3 +0.4**
comp=Z,40nm,1.2s
COLA College 63.41 337 *e*P **P 17 18 52.1 0.0**
COLA pmax pmax
comp=Z,29nm,1.3s
COLA College 63.41 337 *e*P **P 17 18 52.1 0.0**
comp=Z,29nm,1.3s
MEH Mehetia 64.04 242 *e*T T 18 27 50.6
comp=Z,7.5nm,0.2s
KTH Kantishna Hill 64.11 335 *e*P **P 17 18 56.5 -0.3**
comp=Z,40nm,0.9s
PPT Papeete 65.21 243 LR LR 17 39 18.7
comp=Z,261nm,19.2s,baz=72,slow=28
PPT2 Papeete2 65.22 243 *e*LR LR 17 38 27.5
comp=Z,380nm,25.0s
COLD Coldfoot 65.27 339 *e*P **P 17 19 04.6 +0.3**
comp=Z,20nm,1.1s
SUMG Summit 66.15 15 *i*P **P 17 19 08.6 -1.7**
SUMG pmax pmax
comp=Z,12nm,1.1s
SUMG Summit 66.15 15 *i*P **P 17 19 08.6 -1.7**
comp=Z,12nm,1.1s
SUMG Summit 66.15 15 *e*P **P 17 19 08.4 -1.9**
comp=Z,12nm,0.8s
TBI Tubuai 67.65 237 *e*LR LR 17 39 37.6
comp=Z,372nm,27.2s
TBI Tubuai 67.65 237 *e*T T 18 32 23.6
comp=Z,5.3nm,0.3s
TNA Tin City 71.69 335 *e*P **P 17 19 44.8 +0.5**
comp=Z,31nm,1.1s
DAG Danmarks Havn 72.59 13 *i*P **P 17 19 47.1 -2.4**
DAG pmax pmax
comp=Z,8.0nm,0.9s
DAG Danmarks Havn 72.59 13 *i*P **P 17 19 47.1 -2.4**
comp=Z,9.7nm,0.9s
GAMB Gambell 73.17 333 *e*P **P 17 19 53.9 +0.8**
comp=Z,21nm,1.0s
EVOP Sao Brissos 76.40 53 *e*P **P 17 20 09.5 -2.8**
EVOP pmax pmax
comp=Z,31nm,1.2s
EVOP Sao Brissos 76.40 53 *e*P **P 17 20 09.5 -2.8**
comp=Z,31nm,1.2s
EVO Evora 76.48 53 *e*P P 17 20 09.5 -3.3
comp=Z,31nm,1.2s
EVO *e*R
comp=Z,143nm,23.0s
ESDC Sonseca Array 79.44 52 P **P 17 20 28.7 -0.6**
comp=Z,0.5nm,0.4s,baz=286,slow=7.4,SNR=4.3
ESDC pP **pP 17 20 42.9 -2.5**
comp=Z,1.3nm,0.5s,baz=285,slow=4.8,SNR=4.2
ESDC LR LR 17 50 47.8
comp=Z,54nm,21.9s,baz=280,slow=32
GRR Gorron 80.19 43 *e*P **P 17 20 30.5 -2.6**
comp=Z,90nm,1.5s
GRR Gorron 80.19 43 *e*P **P 17 20 30.5 -2.6**
GRR pmax pmax
comp=Z,90nm,1.5s
GRR Gorron 80.19 43 *e*P **P 17 20 30.5 -2.6**
comp=Z,90nm,1.5s
FLN La Foliniere 80.37 42 *e*P **P 17 20 31.3 -2.7**
FLN *e*R
comp=Z,108nm,21.8s
FLN La Foliniere 80.37 42 *e*P **P 17 20 31.3 -2.7**
FLN La Foliniere 80.37 42 *e*P **P 17 20 31.3 -2.7**
LDF La Druitiere 80.64 42 *e*P **P 17 20 33.3 -2.2**
comp=Z,35nm,1.2s
LDF La Druitiere 80.64 42 *e*P **P 17 20 33.3 -2.2**
LDF pmax pmax
comp=Z,35nm,1.2s
LDF La Druitiere 80.64 42 *e*P **P 17 20 33.3 -2.2**
comp=Z,35nm,1.2s
SJPF Ste Jean 80.88 48 *e*P **P 17 20 35.0 -1.9**
comp=Z,21nm,1.2s
SJPF Ste Jean 80.88 48 *e*P **P 17 20 35.0 -1.9**
SJPF pmax pmax
comp=Z,21nm,1.2s
SJPF Ste Jean 80.88 48 *e*P **P 17 20 35.0 -1.9**
comp=Z,21nm,1.2s
ETSF Etsaut 81.39 48 *e*P **P 17 20 37.1 -2.6**
ETSF Etsaut 81.39 48 *e*P **P 17 20 37.1 -2.6**
ETSF Etsaut 81.39 48 *e*P **P 17 20 37.1 -2.6**
BILL Bilibino 81.61 338 *d i*P **P 17 20 40.4 +0.2**
BILL *e**PP **pP 17 20 57.2 +0.8**
BILL *e* 17 23 46.2
BILL pmax pmax
comp=Z,24nm,1.2s
BILL Bilibino 81.61 338 *e*P **P 17 20 40.2 0.0**
comp=Z,12nm,0.6s
TCF Toulx Ste Croi 82.64 44 *e*P **P 17 20 43.6 -2.6**
TCF Toulx Ste Croi 82.64 44 *e*P **P 17 20 43.6 -2.6**
TCF Toulx Ste Croi 82.64 44 *e*P **P 17 20 43.6 -2.6**
AVF Avril sur Loir 83.30 44 *e*P **P 17 20 47.4 -2.1**
comp=Z,8.7nm,0.9s
AVF Avril sur Loir 83.30 44 *e*P **P 17 20 47.4 -2.1**
AVF pmax pmax
comp=Z,9.0nm,0.9s
AVF Avril sur Loir 83.30 44 *e*P **P 17 20 47.4 -2.1**
comp=Z,8.7nm,0.9s
SSF Saint Saulge 83.34 43 *e*P P 17 20 46.3 -3.4
SSF Saint Saulge 83.34 43 *e*P P 17 20 46.3 -3.4
SSF Saint Saulge 83.34 43 *e*P P 17 20 46.3 -3.4
LOR Lormes 83.53 43 *e*P **P 17 20 47.8 -2.9**
comp=Z,7.4nm,0.7s
LOR *e*R
comp=Z,139nm,22.8s
LOR Lormes 83.53 43 *e*P **P 17 20 47.8 -2.9**
LOR pmax pmax
comp=Z,7.0nm,0.7s
LOR Lormes 83.53 43 *e*P **P 17 20 47.8 -2.9**
comp=Z,7.4nm,0.7s
SMF Signal de Mont 83.66 44 *e*P **P 17 20 49.1 -2.3**
comp=Z,7.6nm,0.8s
SMF Signal de Mont 83.66 44 *e*P **P 17 20 49.1 -2.3**
SMF pmax pmax
comp=Z,8.0nm,0.8s
SMF Signal de Mont 83.66 44 *e*P **P 17 20 49.1 -2.3**
comp=Z,7.6nm,0.8s
NB2 NORSAR Subarra 83.98 28 P **P 17 20 51.7 -1.1**
comp=Z,14nm,1.7s,baz=287,slow=5.1
NOA NORSAR Array B 83.98 28 P **P 17 20 51.7 -1.1**
comp=Z,2.1nm,0.8s,baz=290,slow=4.9,SNR=7.1
NOA LR LR 17 56 40.2
comp=Z,65nm,21.2s,baz=280,slow=35
SFTF Sexfontaines 84.08 42 *e*P **P 17 20 51.6 -1.9**
SFTF Sexfontaines 84.08 42 *e*P **P 17 20 51.6 -1.9**
PAGF Fort de Pagny 84.43 41 *e*P **P 17 20 53.1 -2.2**
PAGF Fort de Pagny 84.43 41 *e*P **P 17 20 53.1 -2.2**
HAU Haudompre 84.98 42 *e*P **P 17 20 55.8 -2.2**
HAU *e*R
comp=Z,81nm,22.2s
HAU Haudompre 84.98 42 *e*P **P 17 20 55.8 -2.2**
HAU Haudompre 84.98 42 *e*P **P 17 20 55.8 -2.2**
LIC Lamto 85.23 85 *e*P **P 17 20 58.1 -1.8**
comp=Z,8.4nm,0.6s,baz=294
LIC *e*R
comp=Z,84nm,21.9s
LIC Lamto 85.23 85 *e*P **P 17 20 58.1 -1.8**
comp=Z,8.4nm,0.6s
DBIC Dimbokro 85.29 84 P **P 17 20 58.8 -1.4**
comp=Z,4.2nm,0.5s,baz=266,slow=5.4,SNR=8.5
CDF Champ du Feu 85.47 41 *e*P P 17 20 57.1 -3.5
comp=Z,15nm,1.1s
CDF Champ du Feu 85.47 41 *e*P P 17 20 57.1 -3.5
CDF pmax pmax
comp=Z,15nm,1.1s
CDF Champ du Feu 85.47 41 *e*P P 17 20 57.1 -3.5
comp=Z,15nm,1.1s
ORIF Oris-en-Rattie 85.47 45 *e*P **P 17 20 58.6 -2.1**
ORIF *e*R
comp=Z,116nm,20.2s
ORIF Oris-en-Rattie 85.47 45 *e*P **P 17 20 58.6 -2.1**
ORIF Oris-en-Rattie 85.47 45 *e*P **P 17 20 58.6 -2.1**
LPL La Plagne 85.89 44 *e*P **P 17 21 00.9 -2.0**
LPL La Plagne 85.89 44 *e*P **P 17 21 00.9 -2.0**
LPL La Plagne 85.89 44 *e*P **P 17 21 00.9 -2.0**
LPG La Plagne 85.91 44 *e*P **P 17 21 01.3 -1.8**
comp=Z,14nm,1.2s
LPG La Plagne 85.91 44 *e*P **P 17 21 01.3 -1.8**
LPG pmax pmax
comp=Z,14nm,1.2s
LPG La Plagne 85.91 44 *e*P **P 17 21 01.3 -1.8**
comp=Z,14nm,1.2s
ARCES ARCESS Array B 86.03 18 P **P 17 21 01.1 -1.8**
comp=Z,1.5nm,0.6s,baz=291,slow=3.7,SNR=13
ARCES LR LR 17 58 45.6
comp=Z,135nm,21.5s,baz=320,slow=35
BFO Black Forest 86.17 41 *i*P **P 17 21 05.2 +1.3**
DAVA Damuels 87.47 42⇑ *i*P **P 17 21 08.9 -1.6**
comp=Z,11nm,1.0s
CLL Collm 88.10 37 *e*S S 17 31 59.0 +6.2
KHC Kasperske Hory 89.20 39 *e*P **P 17 21 19.2 +0.7**
KHC Kasperske Hory 89.20 39 *e*P **P 17 21 19.2 +0.7**
GERES GERESS Array B 89.38 40 P **P 17 21 17.2 -2.2**
comp=Z,0.5nm,0.7s,baz=298,slow=2.9,SNR=5.1
GERES LR LR 17 57 17.9
comp=Z,90nm,21.9s,baz=274,slow=33
TORD Torodi Ar. Bea 90.03 77 P **P 17 21 20.6 -2.4**
comp=Z,0.7nm,0.5s,baz=292,slow=4.8,SNR=16
TORD LR LR 17 58 39.3
comp=Z,97nm,21.1s,baz=255,slow=34
TIXI Tiksi 90.34 348⇑ *e*P **P 17 21 22.1 -1.2**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
TIXI Tiksi 90.34 348 *e*P **P 17 21 21.9 -1.4**
comp=Z,7.1nm,0.6s
FINES FINESS Array B 90.36 25 P **P 17 21 22.1 -1.5**
comp=Z,1.9nm,0.8s,baz=321,slow=2.7,SNR=7.4
DPC Dobruska-Polom 90.41 38 *e*P **P 17 21 23.1 -1.0**
PETK Petropavlovsk- 90.86 326 P **P 17 21 26.9 +0.8**
comp=Z,2.8nm,0.8s,baz=94,slow=12,SNR=4.5
PETK pP **pP 17 21 43.4 +0.9**
comp=Z,10nm,0.9s,baz=57,slow=13,SNR=7.5
PETK LR LR 18 04 23.3
comp=Z,21nm,18.0s,baz=73,slow=37
PUL Pulkovo 93.02 25⇑ *e*P **P 17 21 36.8 +0.9**
PRGR Permogore 97.43 19 P P 17 21 49.2 -6.8
PRGR pmax pmax
comp=Z,5.0nm,0.3s
KIEV Kiev 97.53 33⇑ *e*P **P 17 21 56.0 -0.7**
AKASG Malin Array Be 97.54 33 LR LR 18 08 38.3
comp=Z,29nm,18.7s,baz=285,slow=37
YAK Yakutsk 97.58 342 LR LR 18 13 10.7
comp=Z,56nm,18.5s,baz=58,slow=40
OBN Obninsk 98.53 27 *e*P P 17 21 57.4 -3.6
OBN *e* 17 25 57.6
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,77nm,23.0s
KURK Kurchatov 115.01 7 *e*PKIKP PKPdf 17 27 03.0 -0.4
KURK Kurchatov 115.01 7 *e*PKiKP **PKiKP 17 27 03.0 -0.4**
ULN Ulaanbaatar 116.21 346⇓ *i*PKIKP **PKPdf 17 27 06.4 +0.4**
ULN pmax pmax
comp=Z,4.0nm,2.5s
SONM Songino Array 116.39 347 PKP **PKPdf 17 27 06.2 -0.1**
comp=Z,1.1nm,0.8s,baz=307,slow=0.9,SNR=8.5
SONM pPKP pPKPdf 17 27 23.4 +0.1
comp=Z,0.6nm,0.5s,baz=344,slow=1.3,SNR=4.2
SONM SKP 17 30 40.3
comp=Z,0.2nm,0.5s,baz=126,slow=2.0,SNR=4.6
SONM PKKPbc **PKKPbc 17 37 34.3 -2.2**
comp=Z,1.3nm,0.6s,baz=194,slow=3.6,SNR=13
KSRS Korea Array 116.76 325 PKP **PKPdf 17 27 07.1 0.0**
comp=Z,2.7nm,0.7s,baz=358,slow=1.9,SNR=10
KSRS pPKP pPKPdf 17 27 24.2 +0.1
comp=Z,1.6nm,0.6s,baz=0.6,slow=1.9,SNR=3.8
KSAR Wonju Array Be 116.79 325 PKIKP **PKPdf 17 27 07.1 -0.1**
KSAR 17 27 24.2
KSAR Wonju Array Be 116.79 325 PKP **PKPdf 17 27 07.1 -0.1**
KSAR pPKP pPKPdf 17 27 24.2 0.0
MKAR Makanchi Array 119.25 5 PKP **PKPdf 17 27 10.8 -0.9**
comp=Z,1.7nm,0.6s,baz=304,slow=2.7,SNR=22
MKAR SKP 17 30 44.8
comp=Z,0.5nm,0.8s,baz=347,slow=3.1,SNR=4.1
LBTB Lobatse 120.26 111 PKP **PKPdf 17 27 13.9 -0.4**
comp=Z,3.3nm,0.5s,baz=255,slow=2.5,SNR=8.9
GEYT Alibeck 121.07 28 PKP **PKPdf 17 27 15.4 -0.1**
comp=Z,6.0nm,0.6s,baz=278,slow=4.2,SNR=17
HHC Hu-ho-hao-te 121.36 340 *e*PKP **PKPdf 17 27 12.8 -3.3**
HHC PP **PP 17 28 50.8 +4.4**
HHC SKS **SKSac 17 34 11.8 +1.4**
HHC SKKS SKKSac 17 35 30.0 -12
HHC SS **SS 17 45 15.8 0.0**
HHC PPMZ
comp=Z,93nm,8.7s
HHC LN
comp=Z,220nm,18.5s
HHC LE
comp=Z,200nm,19.0s
HHC LZ
comp=Z,220nm,18.8s
USP Ospenovka 121.62 12 P **PKPdf 17 27 17.2 +0.8**
SNR=10
LSZ Lusaka 121.92 99 PKP **PKPdf 17 27 17.7 -0.1**
comp=Z,3.0nm,0.7s,baz=32,slow=6.6,SNR=3.3
EKS2 Erkin-Say 122.06 13 P **PKPdf 17 27 18.1 +0.7**
SNR=8.5
EKS2 Erkin-Say 122.06 13 *e*PKIKP **PKPdf 17 27 17.9 +0.5**
EKS2 Erkin-Say 122.06 13 *e*PKPdf **PKPdf 17 27 17.9 +0.5**
TKM2 Tokmak 2 122.17 11 P **PKPdf 17 27 18.2 +0.5**
SNR=5.5
TKM2 Tokmak 2 122.17 11 *e*PKIKP **PKPdf 17 27 17.8 +0.1**
TKM2 Tokmak 2 122.17 11 *e*PKPdf **PKPdf 17 27 17.8 +0.1**
AAK Ala-Archa 122.23 12 P **PKPdf 17 27 18.4 +0.6**
SNR=5.8
AAK Ala-Archa 122.23 12 *c i*PKIKP **PKPdf 17 27 18.5 +0.7**
AAK pmax pmax
comp=Z,15nm,1.2s
AAK Ala-Archa 122.23 12 *e*PKPdf **PKPdf 17 27 17.9 +0.2**
KBK Karagaybulak 122.30 12 P **PKPdf 17 27 18.4 +0.4**
SNR=5.6
WMQ Urumqi 122.47 1 *e*PKP **PKPdf 17 27 17.8 -0.3**
WMQ PP PP 17 28 59.6 +6.0
WMQ PKS **PKSdf 17 30 53.1 -1.6**
WMQ SKS SKSdf 17 34 18.0 -7.4
WMQ SKKS SKKSac 17 35 40.8 -8.4
WMQ SS **SS 17 45 29.0 -0.4**
WMQ PPMZ
comp=Z,73nm,3.8s
WMQ LN
comp=Z,130nm,21.0s
WMQ LE
comp=Z,77nm,20.0s
WMQ LZ
comp=Z,140nm,21.0s
AML Almayashu 122.55 13 P **PKPdf 17 27 19.2 +0.5**
SNR=14
UCH Uchtor 122.63 12 P **PKPdf 17 27 20.1 +1.2**
SNR=12
UCH Uchtor 122.63 12 *i*PKIKP **PKPdf 17 27 20.1 +1.2**
KZA Kyzart 122.92 12 P **PKPdf 17 27 20.3 +0.9**
SNR=6.0
KSH Kashi 125.53 12 PKP **PKPdf 17 27 24.1 0.0**
KSH sPKP 17 27 51.4
KSH PP **PP 17 29 15.1 +0.7**
KSH PKS **PKSdf 17 31 00.4 -0.5**
KSH SKS **SKSdf 17 34 29.6 -1.9**
KSH SKKS **SKKSac 17 36 06.5 -2.6**
KSH SS **SS 17 46 09.8 +1.4**
KSH PPMZ
comp=Z,99nm,4.8s
KSH LN
comp=Z,42nm,5.6s
KSH LE
comp=Z,47nm,3.8s
KSH LZ
comp=Z,110nm,5.0s
GTA Gaotai 125.82 349 *e*PKP **PKPdf 17 27 24.8 +0.1**
KMBO Kilima Mbogo 127.87 80 PKP **PKPdf 17 27 27.9 -1.6**
comp=Z,1.0nm,0.7s,baz=282,slow=4.7,SNR=5.1
LZH Lanzhou 128.09 344 PKP **PKPdf 17 27 26.6 -2.6**
LZH LN
comp=Z,120nm,17.1s
LZH LE
comp=Z,180nm,17.3s
LZH LZ
comp=Z,140nm,19.1s
XAN Xi'an 128.39 338 PKP **PKPdf 17 27 29.5 -0.1**
CD2 Chengdu 132.97 342 *e*PKP **PKPdf 17 27 38.4 0.0**
WB2 Warramunga Arr 135.73 256 *e*PKPdf **PKPdf 17 27 44.4 +0.6**
WRAB Tennant Creek 135.73 256⇑ *i*PKIKP **PKPdf 17 27 44.1 +0.3**
WRAB pmax pmax
comp=Z,32nm,1.2s
WRAB Tennant Creek 135.73 256 *e*PKPdf **PKPdf 17 27 43.7 0.0**
WRA Warramunga Arr 135.74 256 PKhKP PKPpre 17 27 34.6
comp=Z,0.8nm,0.8s,baz=92,slow=2.6,SNR=8.3
WRA PKP **PKPdf 17 27 44.0 +0.2**
comp=Z,4.9nm,0.9s,baz=87,slow=2.4,SNR=30
WRA SKPab **SKiKP 17 31 18.9 +2.1**
comp=Z,1.8nm,0.9s,baz=85,slow=2.3,SNR=9.2
AS31 Alice Springs 136.00 250 *e*PKPpre PKPpre 17 27 35.8
ASAR Alice Springs 136.00 250 PKhKP PKPpre 17 27 29.2
comp=Z,0.9nm,0.7s,baz=97,slow=3.5,SNR=4.5
ASAR PKP **PKPdf 17 27 44.3 +0.1**
comp=Z,2.4nm,0.8s,baz=90,slow=2.2,SNR=12
ASAR SKPab **SKiKP 17 31 21.6 +4.3**
comp=Z,1.4nm,0.7s,baz=98,slow=2.5,SNR=10.0
LSA Lhasa 136.49 356 *e*PKIKP **PKPdf 17 27 45.9 +0.3**
LSA Lhasa 136.49 356 *e*PKPdf **PKPdf 17 27 45.9 +0.3**
DANN Dangsing 137.68 6 *e*P **PKPdf 17 27 43.8 -3.8**
comp=Z,58nm,0.7s
GKN Gorkha 138.10 5 *e*P **PKPdf 17 27 43.7 -4.5**
comp=Z,36nm,0.8s
KOLN Koldanda 138.23 6 *e*P **PKPdf 17 27 43.5 -5.0**
comp=Z,10nm,0.6s
GUN Gumba 138.28 3 *e*P **PKPdf 17 27 44.1 -4.7**
comp=Z,24nm,0.7s
KKN Kakani 138.36 4 *e*P **PKPdf 17 27 44.3 -4.5**
DMN Daman 138.53 4 *e*P PKPdf 17 27 43.8 -5.3
PKIN Phulchoki 138.58 4 *e*P **PKPdf 17 27 45.0 -4.2**
comp=Z,18nm,0.7s
PKI Pulchoki 138.59 4 *e*P PKPdf 17 27 43.9 -5.4
TAPN Taplejung 138.90 1 *e*P **PKPdf 17 27 45.7 -4.2**
RAMN Ramite 139.27 2 *e*P **PKPdf 17 27 45.6 -4.9**
comp=Z,34nm,0.8s
OPO Ambohidratompo 140.27 102 PKP **PKPdf 17 27 52.8 +0.5**
comp=Z,4.2nm,0.8s,baz=73,slow=4.4,SNR=4.1
OPO SKPbc **SKiKP 17 31 29.0 +2.8**
comp=Z,8.6nm,1.0s,baz=15,slow=2.0,SNR=5.3
MRSI Marisa 143.79 291 P PKPab 17 27 53.3 -2.2
comp=Z,19nm,1.1s
APSI Ampana 144.61 289 P PKPbc 17 27 59.4 +0.6
comp=Z,106nm,1.2s,comp=Z,1μm
SOEI Soe 144.65 273 *e*PKPdf **PKPdf 17 28 00.5 +0.3**
MPSI Mapaga 145.69 292 P **PKPbc 17 28 02.5 +0.2**
comp=Z,60nm,1.0s,comp=Z,653nm
CHTO Chiang Mai 145.78 342 *e*PKIKP **PKPdf 17 28 01.5 -0.4**
CHTO Chiang Mai 145.78 342 *e*PKPdf **PKPdf 17 28 01.4 -0.4**
KKM Kota Kinabalu 145.95 304 *e*PKPdf **PKPdf 17 28 02.7 +0.3**
CMAR Chiang Mai Arr 146.12 342 PKPbc **PKPbc 17 28 03.2 -0.2**
comp=Z,61nm,0.9s,baz=340,slow=3.8,SNR=303
CMAR pPKPbc pPKPbc 17 28 19.9 -0.3
comp=Z,21nm,0.6s,baz=335,slow=2.9,SNR=6.7
CMAR SKPbc **SKiKP 17 31 39.8 +1.5**
comp=Z,2.1nm,0.9s,baz=337,slow=3.1,SNR=7.5
MMRI Maumere 146.39 275 *e*PKPdf **PKPdf 17 28 03.4 +0.4**
HYB Hyderabad 147.32 18 *i*PKP **PKPdf 17 28 04.5 -0.1**
DLV T Lat 147.42 321 *e*PKPbc **PKPbc 17 28 08.2 +0.7**
KAPI Kappang 147.83 283 *e*PKPbc **PKPbc 17 28 08.9 +0.5**
MBWA Marble Bar 149.31 252 *e*PKPbc **PKPbc 17 28 11.0 -1.0**
KSM Kuching 153.38 304 *e*PKPbc **PKPbc 17 28 21.9 +0.2**

CASC 24 17:23:08.4±1.6, 10.°42N×86.°25W, h0km±40km, MD3.9, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS2	**Las Lilas**	**0.88**	**62**	*i* P	Pg	17 23 25.4	0.0
GBS2				*i* S	Sb	17 23 40.1	+1.0
GB1A	**Borinquen Arri**	**0.92**	**65**	*i* P	Pg	17 23 26.1	-0.2
LIM1	**Limonal**	**1.02**	**74**	*i* P	Pg	17 23 27.6	-0.4
JCR	**Jicaral**	**1.25**	**117**	*e*P	Pg	17 23 32.0	-0.5
JCR				*e*S	Sb	17 23 49.9	+0.1
CGA2	**Cerro Gallo 2**	**1.80**	**103**	*e*P	Pn	17 23 40.5	-0.4
URSC	**Urasca**	**2.50**	**103**	*e*P	Pn	17 23 52.0	+1.4
BUS	**Buena Vista**	**2.60**	**109**	*e*P	Pn	17 23 52.5	+0.1

*ISCJB **24** 17:30:02.0±0.6, 53.°50N±0.°08×166.°33W±0.°08, h76km±4km, mb3.7/7, Error ellipse: s-maj=13.8km s-min=5.0km az=154.4*
*NEIC **24** 17:30:01.9, 53.°39N×166.°23W, h55km, ML3.8(AEIC), After AEIC.*
*IDC **24** 17:30:01.4±2.0, 53.°64N×166.°73W, h59km±9km, mb3.6/7, mb1 3.8/8, mb1mx3.4/43, mbtmp3.8/8, Error ellipse: s-maj=48.7km s-min=23.6km az=33.0*

ISC 24 17:30:02.7±0.7, 53.°48N±0.°08×166.°32W±0.°05, h68km±6km, n42, σ1900/48, mb3.8/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.38**	**344**	P	**Pn**	**17 30 13.6**	**-0.6**
UNV				S	**Sn**	**17 30 22.4**	**-0.3**
MREP	**Makushin Rep't**	**0.41**	**323**	P	**Pn**	**17 30 14.9**	**+0.3**
MSW	**Makushin Switc**	**0.51**	**328**	P	**Pn**	**17 30 15.4**	**-0.1**
ZRO	**Akutan Zero**	**0.64**	**18**	P	**Pn**	**17 30 16.6**	**-0.3**
AKRB	**Akutan Reef Bi**	**0.67**	**13**	P	**Pn**	**17 30 17.2**	**+0.1**
AKRB				S	**Sn**	**17 30 28.7**	**+1.0**
AKUT	**Akutan**	**0.73**	**26**	*e*Pg	**Pn**	**17 30 17.1**	**-0.7**
AKGG	**Akutan Green G**	**0.74**	**15**	P	**Pn**	**17 30 18.0**	**0.0**
AKGG				S	**Sn**	**17 30 30.2**	**+1.0**
HSB	**Akutan Spr's B**	**0.75**	**19**	P	**Pn**	**17 30 17.7**	**-0.3**

AKSA	Akutan Strait	0.75	29	P	Pn	17 30 17.3	-0.8
OKFG	Magazine Ridge	0.95	266	P	Pn	17 30 20.6	+0.1
OKFG				S	Sn	17 30 34.6	+0.9
WESE	West Dahl East	1.43	45	P	Pn	17 30 26.8	+0.1
NIKH	Nikolski High	1.60	253	P	Pn	17 30 28.6	-0.4
NIKH				S	Sn	17 30 48.6	-0.2
SSLW	Shishaldin Wes	1.83	44	P	Pn	17 30 32.1	+0.1
SSLN	Shishaldin Nor	1.91	45	P	Pn	17 30 33.5	+0.4
FALS	False Pass	2.19	50	P	Pn	17 30 37.0	+0.1
FALS				S	Sn	17 31 03.5	+0.5
DT1	Dutton Round H	2.87	54	P	Pn	17 30 46.1	0.0
DTNA	Dutton South F	2.91	53	P	Pn	17 30 46.9	+0.2
DTNA				S	Sn	17 31 20.2	-0.3
HAG	Hague Volcano	3.17	53	P	Pn	17 30 50.9	+0.7
SPIA	Saint Paul Isl	4.33	330	P	Pn	17 31 07.4	+1.5
CHGN	Chignik	5.37	55	ePn	Pn	17 31 19.8	-0.3
GAMB	Gambell	10.69	347	ePn	Pn	17 32 34.7	+1.9
	9.0nm,0.3s						
RC01	Rabbit Creek A	11.74	43	eP	Pn	17 32 44.8	-2.3
TNA	Tin City	12.14	357	ePn	Pn	17 32 53.9	+1.3
	5.5nm,0.4s						
FX1	Attu Island--F	12.32	275	P	Pn	17 32 55.9	+0.9
	2.2nm,0.3s,baz=84,slow=3.9,SNR=20						
KTH	Kantishna Hill	12.87	32	ePn	Pn	17 33 03.0	+0.5
PAX	Paxson	14.45	41	eP	Pn	17 33 20.8	-2.7
ILAR	Eielson Array	15.00	33	P	Pn	17 33 29.9	-0.5
	0.1nm,0.3s,baz=222,slow=11,SNR=6.2						
EGAK	Eagle	17.02	38	eP	Pn	17 33 55.0	-0.9
HYT	Haines Junctio	17.16	53	ePn	P	17 33 59.2	+0.7
YKA	Yellowknife Ar	28.11	51	P	P	17 35 48.3	+0.6
	0.9nm,0.4s,baz=274,slow=8.6,SNR=28						
YKA				PcP	PcP	17 38 59.7	-0.3
	0.2nm,0.5s,baz=272,slow=2.0,SNR=4.1						
NVAR	Mina Array Bea	35.88	95	P	P	17 36 57.9	+1.7
	0.4nm,0.5s,baz=298,slow=8.8,SNR=4.5						
NVAR				pP	pP	17 37 12.8	+0.1
	0.4nm,0.6s,baz=320,slow=6.7,SNR=3.4						
NVAR				PcP	PcP	17 39 22.6	+0.6
	0.5nm,0.6s,baz=311,slow=2.8,SNR=3.9						
PDAR	Pinedale Array	38.40	83	P	P	17 37 18.7	+1.2
	0.6nm,0.7s,baz=289,slow=4.5,SNR=5.4						
PDAR				pP	pP	17 37 33.2	-1.0
	0.4nm,0.5s,baz=303,slow=1.8,SNR=3.4						
H11N2	WAKE ISLAND Hy	39.49	222	T	T	18 19 41.4	
	baz=25,slow=76,SNR=113						
H11N3	WAKE ISLAND Hy	39.50	222	T	T	18 19 34.5	
	baz=25,slow=76,SNR=80						
H11N1	WAKE ISLAND Hy	39.51	222	T	T	18 19 35.2	
	baz=25,slow=76,SNR=73						
H11S1	WAKE ISLAND Hy	40.68	221	T	T	18 21 06.0	
	baz=24,slow=76,SNR=100						
H11S2	WAKE ISLAND Hy	40.69	221	T	T	18 21 14.8	
	baz=24,slow=76,SNR=91						
H11S3	WAKE ISLAND Hy	40.70	221	T	T	18 21 19.4	
	baz=24,slow=76,SNR=60						
TXAR	Lajitas Array	50.91	92	P	P	17 38 57.8	+0.8
	0.8nm,0.5s,baz=305,slow=5.1,SNR=9.1						
TXAR				pP	pP	17 39 14.0	-0.3
	0.6nm,0.6s,baz=297,slow=5.5,SNR=3.6						
FINES	FINESS Array B	65.00	353	P	P	17 40 33.4	-1.5
	1.5nm,0.9s,baz=27,slow=6.7,SNR=5.4						
AKASG	Malin Array Be	75.37	350	P	P	17 41 36.0	-2.4
	0.4nm,0.4s,baz=10,slow=5.7,SNR=2.2						
BRTR	Keskin Array B	85.58	345	P	P	17 42 33.0	-0.4
	1.1nm,0.8s,baz=355,slow=1.9,SNR=5.1						

*ISCJB **24** 17:34:03.4±0.7, 7°.32S±0°.10×68°.66E±0°.05, h10km, mb4.3/15, MS3.7/12, Error ellipse: s-maj=13.9km s-min=6.9km az=175.1*

*IDC **24** 17:34:03.7±1.0, 7°.34S×68°.68E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.7/42, mbtmp3.9/8, MS3.7/12, Ms1 3.7/12, ms1mx3.4/39, Error ellipse: s-maj=31.4km s-min=19.5km az=31.0*

*NEIC **24** 17:34:05.2±0.8, 7°.38S×68°.66E, h10km, mb4.7/7, Error ellipse: s-maj=23.2km s-min=13.6km az=209.0*

ISC 24 17:34:05.7±0.8, 7°.3S±0°.1×68°.70E±0°.08, h10km, n33, σ1§03/28, mb4.2/15, MS3.8/12, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	Diego Garcia H	2.47	68	Pn	Pn	17 34 45.2	-0.5
H08N3				Sn	Sn	17 35 15.5	-0.3
H08N2	Diego Garcia H	2.48	67	Pn	Pn	17 34 45.5	-0.5
H08N2				Sn	Sn	17 35 15.8	-0.4
H08N1	Diego Garcia H	2.49	68	Pn	Pn	17 34 45.6	-0.4
H08N1				Sn	Sn	17 35 16.1	-0.2
DGAR	Diego Garcia	3.73	92	eP	Pn	17 35 03.1	-0.2
H08S1	Diego Garcia H	3.76	96	Pn	Pn	17 35 09.3	+0.3
H08S3	Diego Garcia H	3.77	95	Pn	Pn	17 35 04.3	+0.6
H08S2	Diego Garcia H	3.78	96	Pn	Pn	17 35 04.0	+0.2
OPO	Ambohidratompo	23.74	240	LR	LR	17 46 05.6	
	comp=Z,277nm,19.0s,baz=44,slow=30						
KMBO	Kilima Mbogo	31.94	280	LR	LR	17 50 24.0	
	comp=Z,240nm,21.4s,baz=103,slow=31						
CMAR	Chiang Mai Arr	39.31	49	P	P	17 41 36.2	+0.9
	2.0nm,0.9s,baz=241,slow=9.5,SNR=14						
CMAR				LR	LR	17 58 05.6	
	comp=Z,61nm,18.2s,baz=204,slow=37						
CHTO	Chiang Mai	39.53	49	eP	P	17 41 38.2	+1.1
	3.5nm,1.0s						
LSA	Lhasa	42.65	29	eP	P	17 42 04.5	+1.3
	11nm,1.3s						
AAK	Ala-Archa	49.97	6	P	P	17 42 59.0	-1.2
	1.3nm,0.8s,baz=201,slow=8.7,SNR=4.6						
SOEI	Soe	54.96	97	eP	P	17 43 38.4	+0.7
	28nm,1.0s						
MKAR	Makanchi Array	55.19	11	P	P	17 43 36.9	-1.7
	0.5nm,0.6s,baz=200,slow=7.6,SNR=6.7						
BRTR	Keskin Array B	56.91	328	P	P	17 43 51.1	-0.1
	1.3nm,0.9s,baz=132,slow=8.3,SNR=5.7						
BRTR				LR	LR	18 08 10.6	
	comp=Z,46nm,19.0s,baz=247,slow=36						
KURK	Kurchatov	58.41	7	eP	P	17 43 59.3	-2.1
	1.7nm,0.8s						
ARU	Arti	64.05	354	eP	P	17 44 41.4	+1.9
	13nm,1.4s						
SONM	Songino Array	64.18	27	P	P	17 44 40.7	0.0
	1.9nm,1.1s,baz=220,slow=6.8,SNR=11						
ASAR	Alice Springs	64.42	113	P	P	17 44 41.5	-1.2
	2.3nm,0.9s,baz=276,slow=5.9,SNR=17						
ASAR				LR	LR	18 08 30.9	
	comp=Z,88nm,21.4s,baz=343,slow=32						
WRA	Warramunga Arr	64.68	109	P	P	17 44 43.8	-0.7
	5.6nm,1.0s,baz=281,slow=6.4,SNR=22						
WRAB	Tennant Creek	64.69	109	eP	P	17 44 42.7	-1.8
	13nm,1.3s						
TLY	Talaya	65.95	23	LR	LR	18 12 55.0	
	comp=Z,46nm,21.0s,baz=15,slow=35						
TORD	Torodi Ar. Bea	69.57	287	P	P	17 45 14.9	-0.7
	0.2nm,0.5s,baz=93,slow=8.7,SNR=3.8						
TORD				LR	LR	18 15 37.8	
	comp=Z,49nm,18.3s,baz=345,slow=36						
GERES	GERESS Array B	73.67	326	LR	LR	18 19 26.6	
	comp=Z,33nm,18.1s,baz=314,slow=37						
DBIC	Dimbokro	74.57	279	LR	LR	18 17 49.3	
	comp=Z,60nm,18.7s,baz=72,slow=35						
NOA	NORSAR Array B	81.41	335	LR	LR	18 23 01.0	
	comp=Z,27nm,21.1s,baz=130,slow=36						
ARCES	ARCESS Array B	82.17	346	LR	LR	18 23 54.1	
	comp=Z,44nm,18.6s,baz=147,slow=36						
TIXI	Tiksi	87.90	16	eP	P	17 46 55.1	0.0
	7.8nm,1.4s						
HNR	Honiara	90.05	99	LR	LR	18 25 40.6	
	comp=Z,31nm,19.0s,baz=166,slow=34						
YKA	Yellowknife Ar	124.86	2	PKP	PKPdf	17 53 07.2	+1.5
	0.6nm,0.8s,baz=349,slow=2.4,SNR=8.7						
PDAR	Pinedale Array	144.64	358	PKP	PKPdf	17 53 42.5	-0.8
	0.6nm,0.9s,baz=88,slow=3.2,SNR=2.5						
TXAR	Lajitas Array	156.93	343	PKPab	PKPab	17 54 32.2	+0.1
	0.2nm,0.6s,baz=12,slow=4.6,SNR=2.6						

*ISCJB **24** 17:34:22.4±0.6, 13°.17N±0°.09×143°.9E±0°.2, h138km, mb3.7/11, Error ellipse: s-maj=27.5km s-min=12.2km az=7.3*

*IDC **24** 17:34:23.1±8.4, 13°.16N×143°.99E, h132km±78km, mb3.5/10, mb1 3.7/10, mb1mx3.5/35, mbtmp3.9/10, MS3.7/2, Ms1 3.7/2, ms1mx2.8/23, Error ellipse: s-maj=31.1km s-min=15.8km az=86.0*

ISC 24 17:34:23.7±0.8, 13°.2N±0°.1×144°.0E±0°.2, h138km, n18, σ0§92/16, mb3.9/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	19.85	217	P	Pn	17 38 48.0	+0.9
	baz=12,SNR=3.3						
MJAR	Matsushiro Arr	23.81	348	P	P	17 39 24.5	+0.6
	2.1nm,0.5s,baz=164,slow=8.7,SNR=11						
KDU	Kakadu	28.18	204	P	P	17 40 03.8	+0.4
	baz=19,SNR=18						
MTN	Manton Dam	28.88	207	P	P	17 40 03.5	-6.1
	baz=18,SNR=9.5						
WRA	Warramunga Arr	34.30	196	P	P	17 40 56.5	-0.7
	2.1nm,0.8s,baz=16,slow=9.3,SNR=31						
ASAR	Alice Springs	37.97	195	P	P	17 41 27.3	-1.0
	0.4nm,0.5s,baz=18,slow=13,SNR=15						
WRKA	Warakurna	41.01	202	P	P	17 41 52.8	-0.6
	baz=29,SNR=14						
PETK	Petropavlovsk-	41.26	12	LR	LR	17 55 27.8	
	comp=Z,36nm,21.8s,baz=72,slow=31						
SONM	Songino Array	46.58	325	P	P	17 42 38.5	+0.7
	0.4nm,0.5s,baz=145,slow=8.2,SNR=6.3						
SEY	Seymchan	50.00	5	LR	LR	18 03 12.1	
	comp=Z,213nm,20.8s,baz=337,slow=34						
MKAR	Makanchi Array	61.20	316	P	P	17 44 24.3	+0.3
	0.8nm,0.5s,baz=92,slow=8.4,SNR=9.7						
ZALV	Zalesovo Beam	61.46	325	P	P	17 44 24.6	-1.0
	1.0nm,0.6s,baz=114,slow=6.6,SNR=5.2						
ZALV				PcP	PcP	17 45 05.4	-0.8
	0.7nm,0.3s,baz=113,slow=5.6,SNR=4.1						
ILAR	Eielson Array	69.25	25	P	P	17 45 14.3	-1.1
	0.2nm,0.4s,baz=253,slow=5.7,SNR=6.1						
YKA	Yellowknife Ar	83.56	27	P	P	17 46 36.7	+0.6
	0.4nm,0.3s,baz=286,slow=5.0,SNR=7.0						
NVAR	Mina Array Bea	87.78	51	P	P	17 46 59.3	+1.5
	4.4nm,0.7s,baz=265,slow=5.9,SNR=32						
FINES	FINESS Array B	91.16	335	P	P	17 47 11.7	-1.1
	1.6nm,1.0s,baz=358,slow=11,SNR=4.7						
PDAR	Pinedale Array	92.80	45	P	P	17 47 21.4	+0.3
	0.5nm,0.7s,baz=196,slow=2.6,SNR=5.5						
TORD	Torodi Ar. Bea	134.41	304	PKP	PKPdf	17 53 27.1	+0.7
	0.3nm,0.4s,baz=24,slow=1.9,SNR=3.8						

IDC 24 17:38:16.1±2.3, 6°.15S×129°.64E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.2/27, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=144.9km s-min=31.2km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.45	162	Pn	Pn	17 41 42.3	+0.2
	0.1nm,0.3s,baz=341,slow=11,SNR=3.8						
WRA				Sn	Sn	17 44 08.1	-15
	0.4nm,0.3s,baz=232,slow=9.5,SNR=9.1						
ASAR	Alice Springs	17.89	167	P	Pn	17 42 26.5	-0.1
	0.1nm,0.3s,baz=347,slow=9.8,SNR=15						
ASAR				S	Sn	17 45 34.4	-12
	0.1nm,0.3s,baz=358,slow=28,SNR=4.2						
MKAR	Makanchi Array	67.33	327	P	P	17 49 13.1	0.0
	0.2nm,0.4s,baz=117,slow=7.4,SNR=6.1						

CASC 24 17:42:20.1±2.1, 13°.73N×91°.45W, h18km±13km, MD3.5, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.62	343	∥iP	Pb	17 42 30.5	-1.8
PCG	Pacaya	1.05	51	eP	Pb	17 42 39.4	-0.8
PCG				eS	Sg	17 42 55.3	+0.3
IXG	Ixpaco	1.06	65	eP	Pb	17 42 39.0	-1.3
NBG	Las Nubes	1.37	51	∥eP	Pn	17 42 44.8	+0.1
NBG				eS	Sg	17 43 05.0	-0.2
RBDL	Robledal	1.75	77	∥eP	Pn	17 42 50.0	+0.2
RTR	El Retiro	1.76	84	eP	Pn	17 42 50.0	+0.1
RTR				eS	Sn	17 43 12.4	+0.3
SBLS	San Blas	1.78	86	eP	Pn	17 42 50.3	+0.1
SBLS				eS	Sn	17 43 13.4	+0.8
SNJE	San Jose	1.80	85	eP	Pn	17 42 50.6	+0.1
SNJE				eS	Sn	17 43 12.8	-0.3
MRL	Marmol	2.16	52	eP	Pb	17 42 58.0	-1.0
LFRS	El Faro	2.32	92	eP	Pn	17 42 58.6	+1.0

*ISCJB **24** 17:45:30.7±1.3, 18°.7S±0°.2×177°.6W±0°.3, h550km, mb3.9/6, Error ellipse: s-maj=33.0km s-min=22.3km az=8.0*

*IDC **24** 17:45:32.2±5.1, 18°.71S×177°.55W, h556km±56km, mb3.4/7, mb1 3.6/7, mb1mx3.2/31, mbtmp4.3/7, Error ellipse: s-maj=32.7km s-min=26.6km az=57.0*

ISC 24 17:45:31.7±1.2, 18°.7S±0°.2×177°.6W±0°.2, h550km, n11, σ0§66/13, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.05	192	P	P	17 49 28.0	0.0
	7.2nm,0.5s,baz=82,slow=7.1,SNR=5.7						
JAY	Jayapura	43.91	286	P	P	17 52 50.5	+0.2
	9.6nm,0.6s,baz=79,slow=5.2,SNR=6.5						
WRA	Warramunga Arr	45.30	260	P	P	17 53 00.8	-0.2
	2.0nm,0.4s,baz=97,slow=7.5,SNR=93						
WRA				PcP	PcP	17 54 28.4	-0.7
	0.2nm,0.4s,baz=90,slow=3.5,SNR=4.6						
ASAR	Alice Springs	45.37	255	P	P	17 53 01.6	0.0
	3.0nm,0.5s,baz=90,slow=7.7,SNR=136						
ASAR				PcP	PcP	17 54 28.6	-0.8
	0.4nm,0.5s,baz=101,slow=4.3,SNR=5.0						
MJAR	Matsushiro Arr	69.02	323	P	P	17 55 42.2	-0.3
	1.3nm,0.7s,baz=161,slow=5.1,SNR=5.5						
ILAR	Eielson Array	86.47	13	P	P	17 57 15.7	-0.1
	0.5nm,0.5s,baz=227,slow=4.9,SNR=10						
CMAR	Chiang Mai Arr	89.92	289	P	P	17 57 33.5	+0.5
	0.8nm,0.9s,baz=109,slow=3.0,SNR=5.6						
ARCES	ARCESS Array B	127.22	350	PKP	PKPdf	18 03 32.2	-1.0
	1.9nm,0.8s,baz=29,slow=2.1,SNR=5.4						
FINES	FINESS Array B	134.16	344	PKP	PKPdf	18 03 46.9	+0.4
	1.0nm,0.8s,baz=336,slow=3.0,SNR=3.2						
BRTR	Keskin Array B	145.91	315	PKPbc	PKPdf	18 04 09.8	+1.3
	0.9nm,0.7s,baz=134,slow=3.6,SNR=4.6						
GERES	GERESS Array B	148.57	346	PKPbc	PKPbc	18 04 17.0	+0.1
	0.8nm,0.8s,baz=323,slow=2.0,SNR=5.5						

*TIR **24** 17:51:32.7, 40°.22N×21°.78E, h10km, ML3.6*

*SOF **24** 17:51:35.2, 40°.05N×21°.29E, h10km, MD3.3*

*ISCJB **24** 17:51:38.8±0.4, 40°.18N±0°.01×21°.72E±0°.02, h3km±3km, mb3.7/1, Error ellipse: s-maj=2.4km s-min=2.0km az=152.9*

*SKO **24** 17:51:38.2, 40°.11N×21°.62E, h0km*

*ATH **24** 17:51:38.7, 40°.20N×21°.71E, h15km±1km, MD3.3/37, ML3.3*

*CSEM **24** 17:51:39.3±0.1, 40°.18N×21°.72E, h2km, MD3.3, Error ellipse: s-maj=2.4km s-min=2.0km az=62.0*

*PDG **24** 17:51:39.6±0.5, 40°.12N×21°.72E, h16km±1km, ML3.5/10, Error ellipse: s-maj=1.5km s-min=1.1km az=90.0*

*THE **24** 17:51:39.3, 40°.19N×21°.70E, h0km±1km, ML3.3/13, Error ellipse: s-maj=1.4km s-min=0.4km az=281.0*

ISC 24 17:51:39.2±1.0, 40°.18N±0°.01×21°.70E±0°.01, h5km±8km, n203, σ1§04/273, 14C-12D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.14	21	P	Pg	17 51 42.1	0.0
KZN				S	Sg	17 51 44.2	+0.2
KZN	Kozani	0.14	21	ePB	Pg	17 51 42.1	0.0
KZN				eSB	Sg	17 51 44.9	+0.9
KZN	Kozani	0.14	21	P	Pg	17 51 42.1	0.0
KZN				S	Sg	17 51 44.2	+0.2
MEV	Metsovon	0.53	223	P	Pg	17 51 49.3	-0.1
MEV	Metsovon	0.53	223	P	Pg	17 51 49.3	-0.1
NEST	Nestorio	0.56	296	P	Pg	17 51 49.0	-0.9
NEST				S	Sg	17 51 57.6	+0.5
NEST	Nestorio	0.56	296	ePN	Pg	17 51 48.8	-1.1
NEST				eSN	Sg	17 51 57.7	+0.6
NEST	Nestorio	0.56	296	P	Pg	17 51 49.0	-0.9
NEST				eSn	Sg	17 51 57.7	+0.6
LIT	Litokhoron	0.61	97	P	Pg	17 51 50.5	-0.4
LIT				S	Sg	17 51 59.8	+1.1
LIT	Litokhoron	0.61	97	ePN	Pg	17 51 50.4	-0.4
LIT				eSN	Sb	17 52 00.5	-0.7
LIT	Litokhoron	0.61	97	P	Pg	17 51 50.5	-0.4
LIT				S	Sg	17 51 59.8	+1.1
LIT				eSn	Sb	17 52 00.5	-0.7
FNA	Florina	0.66	338	P	Pg	17 51 51.0	-0.8
FNA				S	Sg	17 52 01.7	+1.3
FNA	Florina	0.66	338	ePN	Pg	17 51 51.0	-0.8
FNA				eSN	Sg	17 51 59.7	-0.7
FNA	Florina	0.66	338	P	Pg	17 51 51.0	-0.8
FNA				eSn	Sg	17 51 59.7	-0.7
FNA				S	Sg	17 52 01.7	+1.3
KBN	Korca	0.83	303	i PG	Pg	17 51 55.3	+0.2
KBN				i SG	Sb	17 52 08.6	+0.9
KBN	Korca	0.83	303	P	Pg	17 51 54.8	-0.3
KBN	Korca	0.83	303	P	Pg	17 51 54.8	-0.3
KBN	Korca	0.83	303	i Pg	Pg	17 51 55.3	+0.2
KBN				i Sg	Sb	17 52 08.6	+0.9
JAN	Janina	0.84	232	P	Pg	17 51 55.3	+0.1
JAN				S	Sb	17 52 08.0	+0.2
JAN	Janina	0.84	232	ePN	Pg	17 51 54.6	-0.6
JAN	Janina	0.84	232	P	Pg	17 51 55.3	+0.1
JAN				S	Sb	17 52 08.0	+0.2
GRG	Griva	0.94	34	P	Pg	17 51 56.5	-0.8
GRG				S	Sb	17 52 11.0	+0.1
GRG	Griva	0.94	34	ePN	Pg	17 51 56.8	-0.5
GRG	Griva	0.94	34	P	Pg	17 51 56.5	-0.8
GRG				S	Sb	17 52 11.0	+0.1
DSL	Palaion Diasel	1.14	204	P	Pg	17 52 00.9	-0.1
DSL				S	Sn	17 52 17.9	0.0
DSL	Palaion Diasel	1.14	204	ePN	Pg	17 52 00.9	-0.1
DSL	Palaion Diasel	1.14	204	P	Pg	17 52 00.9	-0.1
DSL				S	Sn	17 52 17.9	0.0
HORT	Hortiatis	1.15	68	P	Pg	17 52 01.2	0.0
HORT	Hortiatis	1.15	68	ePN	Pg	17 52 01.2	0.0
HORT	Hortiatis	1.15	68	P	Pg	17 52 01.2	0.0
OHR	Ohrid	1.16	324	i Pn	Pg	17 51 59.4	-2.0
OHR				eSg	Sg	17 52 16.8	+0.3
OHR	Ohrid	1.16	324	i Pn	Pg	17 51 59.4	-2.0
OHR				eSg	Sg	17 52 16.8	+0.3
MAKR	Makrakomi, Fth	1.21	164	P	Pg	17 52 01.5	-0.8
MAKR				S	Sn	17 52 20.8	+1.3
MAKR	Makrakomi, Fth	1.21	164	P	Pg	17 52 01.5	-0.8
MAKR				S	Sn	17 52 20.8	+1.3
IGT	Igoumenitsa	1.23	239	P	Pg	17 52 02.5	-0.3
IGT	Igoumenitsa	1.23	239	ePN	Pg	17 52 01.7	-1.1
IGT	Igoumenitsa	1.23	239	ePn	Pg	17 52 01.7	-1.1
IGT	Igoumenitsa	1.23	239	P	Pg	17 52 02.5	-0.3
AGG	Agios Georgios	1.25	157	P	Pg	17 52 02.5	-0.6
AGG	Agios Georgios	1.25	157	ePN	Pg	17 52 02.5	-0.6
AGG	Agios Georgios	1.25	157	P	Pg	17 52 02.5	-0.6
EVR	Evrytania	1.26	176	P	Pg	17 52 02.7	-0.6
EVR				S	Sn	17 52 21.7	+0.8
EVR	Evrytania	1.26	176	ePN	Pg	17 52 02.3	-1.0
EVR	Evrytania	1.26	176	ePn	Pg	17 52 02.3	-1.0
EVR	Evrytania	1.26	176	P	Pg	17 52 02.7	-0.6
EVR				S	Sn	17 52 21.7	+0.8
VAY	Valandovo	1.32	30	P	Pn	17 52 03.2	-1.1
VAY	Valandovo	1.32	30	ePn	Pn	17 52 03.8	-0.5
VAY				eSg	Sn	17 52 23.6	+1.3
VAY	Valandovo	1.32	30	P	Pn	17 52 03.2	-1.1
VAY	Valandovo	1.32	30	ePn	Pn	17 52 03.7	-0.5
VAY				eSg	Sn	17 52 23.6	+1.3
KNT	Kendrikon	1.34	42	P	Pn	17 52 03.7	-0.9
KNT				S	Sn	17 52 24.2	+1.4
KNT	Kendrikon	1.34	42	ePN	Pn	17 52 04.0	-0.6
KNT	Kendrikon	1.34	42	P	Pn	17 52 03.7	-0.9
KNT	Kendrikon	1.34	42	ePn	Pn	17 52 04.0	-0.6
KNT				S	Sn	17 52 24.2	+1.4
SRN	Sarande	1.34	258	i SG	Pn	17 52 05.7	+1.2
SRN				i SG	Sn	17 52 25.3	+2.5
SRN	Sarande	1.34	258	P	Pn	17 52 04.6	+0.1
SRN	Sarande	1.34	258	P	Pn	17 52 04.6	+0.1
SRN				i Sg	Sn	17 52 25.3	+2.5
PLG	Polygyros	1.35	81	P	Pn	17 52 04.4	-0.3
PLG	Polygyros	1.35	81	ePN	Pn	17 52 04.5	-0.3
PLG	Polygyros	1.35	81	P	Pn	17 52 04.4	-0.3
XOR	Xorichti	1.40	125	P	Pn	17 52 05.2	-0.2
XOR				S	Sn	17 52 25.1	+0.8
XOR	Xorichti	1.40	125	P	Pn	17 52 05.2	-0.2
XOR				S	Sn	17 52 25.1	+0.8
SOH	Sokhos	1.41	62	P	Pb	17 52 06.1	0.0
SOH				S	Sg	17 52 25.9	+1.3
SOH	Sokhos	1.41	62	P	Pb	17 52 06.1	0.0
SOH				S	Sg	17 52 25.9	+1.3
NEO	Neokhori	1.46	126	P	Pn	17 52 06.1	-0.1
NEO	Neokhori	1.46	126	ePN	Pn	17 52 06.0	-0.1
NEO	Neokhori	1.46	126	P	Pn	17 52 06.1	-0.1
KEK	Kerkira	1.54	253	P	Pn	17 52 07.4	+0.2
KEK	Kerkira	1.54	253	ePN	Pb	17 52 07.9	-0.2
KEK	Kerkira	1.54	253	P	Pn	17 52 07.4	+0.2
KEK	Kerkira	1.54	253	ePn	Pb	17 52 07.9	-0.2
PAIG	Paliouri	1.54	99	P	Pn	17 52 07.0	-0.2
PAIG				S	Sg	17 52 28.4	-0.1
PAIG	Paliouri	1.54	99	ePN	Pn	17 52 07.4	+0.2
PAIG	Paliouri	1.54	99	P	Pn	17 52 07.0	-0.2
PAIG	Paliouri	1.54	99	ePn	Pn	17 52 07.4	+0.2
PAIG				S	Sg	17 52 28.4	-0.1
AXAR	Agios Charalam	1.59	152	P	Pb	17 52 08.7	-0.3
AXAR	Agios Charalam	1.59	152	ePN	Pn	17 52 07.9	-0.1
AXAR	Agios Charalam	1.59	152	ePn	Pn	17 52 07.9	-0.1
AXAR	Agios Charalam	1.59	152	P

ULC				eSn	Sb	17 52 56.3	-1.6
ULC	**Ulcinj**	**2.58**	**315**	ePn	Pn	17 52 22.1	+0.5
ULC				eSn	Sb	17 52 56.3	-1.6
AMT	**Artemida-Makis**	**2.64**	**180**	ePB	Pn	17 52 24.2	+1.8
BARS	**Barje**	**2.64**	**2**	⇑iPn	Pn	17 52 23.2	+0.7
VTS	**Vitosha**	**2.67**	**25**	P	Pg	17 52 33.9	+3.6
VTS	**Vitosha**	**2.67**	**25**	⇑iP	Pn	17 52 24.0	+1.1
VTS	**Vitosha**	**2.67**	**25**	iP	Pn	17 52 23.4	+0.5
VTS	**Vitosha**	**2.67**	**25**	iP	Pn	17 52 23.4	+0.5
ATH	**Athens Observa**	**2.70**	**144**	ePN	Pn	17 52 23.2	0.0
ATH	**Athens Observa**	**2.70**	**144**	ePn	Pn	17 52 23.2	0.0
RZN	**Rozhen**	**2.74**	**56**	iP	Pn	17 52 24.6	+0.7
RZN	**Rozhen**	**2.74**	**56**	iP	Pn	17 52 24.6	+0.7
PVY	**Plav**	**2.75**	**332**	ePn	Pn	17 52 25.3	+1.2
PVY				eSn	Sn	17 52 59.6	+1.8
PVY	**Plav**	**2.75**	**332**	ePn	Pn	17 52 25.3	+1.2
PVY				eSn	Sn	17 52 59.6	+1.8
DRME	**Dracevica, Mon**	**2.77**	**317**	ePn	Pn	17 52 25.7	+1.5
DRME				eSn	Sn	17 52 59.7	+1.7
DRME	**Dracevica, Mon**	**2.77**	**317**	ePn	Pn	17 52 25.7	+1.5
DRME				eSn	Sn	17 52 59.7	+1.7
VLX	**Vlachokerasia**	**2.85**	**169**	ePN	Pn	17 52 26.1	+0.7
VLX	**Vlachokerasia**	**2.85**	**169**	ePn	Pn	17 52 26.1	+0.7
PDG	**Podgorica**	**2.91**	**321**	⇓iPn	Pn	17 52 27.9	+1.7
PDG				eSn	Sn	17 53 03.9	+2.4
TTG	**Podgorica**	**2.91**	**321**	⇓iPn	Pn	17 52 27.9	+1.7
TTG				eSn	Sn	17 53 03.9	+2.4
ITM	**Ithomi**	**3.00**	**177**	ePB	Pn	17 52 29.0	+1.7
BUM	**Brajici-Budva**	**3.00**	**316**	ePn	Pn	17 52 28.7	+1.2
BUM				eSn	Sn	17 53 05.6	+1.8
BUM	**Brajici-Budva**	**3.00**	**316**	ePn	Pn	17 52 28.7	+1.2
BUM				eSn	Sn	17 53 05.6	+1.8
BEY	**Berane**	**3.02**	**334**	⇓iPn	Pn	17 52 29.3	+1.6
BEY				eSn	Sn	17 53 06.2	+1.9
IVA	**Berane**	**3.02**	**334**	⇓iPn	Pn	17 52 29.3	+1.6
IVA				eSn	Sn	17 53 06.2	+1.9
RDO	**Rodhopi**	**3.07**	**70**	ePN	Pn	17 52 28.1	-0.3
RDO	**Rodhopi**	**3.07**	**70**	ePn	Pn	17 52 28.1	-0.3
KDZ	**Kurdzhali**	**3.18**	**61**	iP	Pn	17 52 31.1	+1.3
KDZ	**Kurdzhali**	**3.18**	**61**	iP	Pn	17 52 31.1	+1.3
NKME	**Niksic**	**3.31**	**322**	⇓iPn	Pn	17 52 33.7	+2.0
NKME				eSn	Sn	17 53 13.9	+2.4
NKME	**Niksic**	**3.31**	**322**	⇓iPn	Pn	17 52 33.7	+2.0
NKME				eSn	Sn	17 53 13.9	+2.4
HCY	**Herceg Novi**	**3.32**	**314**	⇓iPn	Pn	17 52 33.3	+1.6
HCY				eSn	Sn	17 53 13.2	+1.6
HCY	**Herceg Novi**	**3.32**	**314**	⇓iPn	Pn	17 52 33.3	+1.6
HCY				eSn	Sn	17 53 13.2	+1.6
NKY	**Niksic**	**3.33**	**323**	⇓iPn	Pn	17 52 32.6	+0.6
NKY				eSn	Sn	17 53 13.6	+1.6
NKY	**Niksic**	**3.33**	**323**	⇓iPn	Pn	17 52 32.6	+0.6
NKY				eSn	Sn	17 53 13.6	+1.6
ALN	**Alexandroupoli**	**3.39**	**76**	ePN	Pn	17 52 33.4	+0.7
ALN	**Alexandroupoli**	**3.39**	**76**	ePn	Pn	17 52 33.4	+0.7
IVAS	**Ivanjica**	**3.59**	**342**	⇑iPn	Pn	17 52 35.7	+0.1
BOLS	**Boljevac**	**3.66**	**3**	ePn	Pn	17 52 34.2	-2.2
UPM	**Unac-Piva**	**3.68**	**326**	ePn	Pn	17 52 38.6	+1.7
UPM				eSn	Sn	17 53 22.0	+1.2
UPM	**Unac-Piva**	**3.68**	**326**	ePn	Pn	17 52 38.6	+1.7
UPM				eSn	Sn	17 53 22.0	+1.2
GRUS	**Gruza**	**3.78**	**349**	⇑iPn	Pn	17 52 38.7	+0.6
CHOS	**Chios island**	**3.82**	**116**	ePN	Pn	17 52 39.4	+0.7
CHOS	**Chios island**	**3.82**	**116**	ePn	Pn	17 52 39.4	+0.7
STON	**Ston**	**4.04**	**313**	ePn	Pn	17 52 39.9	-1.7
STON				Sn	Sn	17 53 28.9	-0.4
STON	**Ston**	**4.04**	**313**	ePn	Pn	17 52 39.9	-1.7
STON				Sn	Sn	17 53 28.8	-0.4
BBLS	**Lazići**	**4.07**	**336**	⇑iPn	Pn	17 52 44.6	+2.5
DIVS	**Divibare**	**4.12**	**343**	⇑iPn	Pn	17 52 43.6	+0.7
TRUS	**Trudelj**	**4.16**	**347**	⇑iPn	Pn	17 52 42.8	-0.5
APE	**Apeiranthos**	**4.31**	**135**	ePN	Pn	17 52 46.3	+0.8
APE	**Apeiranthos**	**4.31**	**135**	ePn	Pn	17 52 46.3	+0.8
ANKY	**Antikythira Is**	**4.48**	**163**	ePN	Pn	17 52 50.2	+2.5
ANKY	**Antikythira Is**	**4.48**	**163**	ePn	Pn	17 52 50.2	+2.5
TEKS	**Tekeris**	**4.66**	**340**	iPn	Pn	17 52 50.6	+0.4
FGSL	**Fruska Gora**	**5.17**	**345**	⇑iPn	Pn	17 52 57.7	+0.5
GZR	**Gura Zlata**	**5.28**	**8**	⇑iP	Pn	17 52 59.2	+0.5
BZS	**Buzias**	**5.44**	**359**	⇑iP	Pn	17 53 02.4	+1.5
MTUR	**Matau**	**5.62**	**25**	⇓iP	Pn	17 53 05.6	+2.1
VOIR		**5.81**	**24**	⇑iP	Pn	17 53 05.7	-0.3
MLR	**Muntele Rosu**	**6.16**	**29**	⇑iP	Pn	17 53 13.4	+2.5
UDBI	**Udbina**	**6.19**	**317**	ePn	Pn	17 53 12.0	+0.8
UDBI				Sn	Sn	17 54 21.7	-0.7
UDBI	**Udbina**	**6.19**	**317**	ePn	Pn	17 53 12.0	+0.8
UDBI				Sn	Sn	17 54 21.6	-0.7
NVLJ	**Novalja**	**6.70**	**313**	ePn	Pn	17 53 17.1	-1.1
NVLJ				Sn	Sn	17 54 31.8	-2.9
NVLJ	**Novalja**	**6.70**	**313**	ePn	Pn	17 53 17.0	-1.1
PLOR	**Plostina**	**6.73**	**311**	⇑iP	Pn	17 53 21.5	+2.8
VRI	**Vrincioaia**	**6.77**	**31**	⇓iP	Pn	17 53 17.8	-1.4
NB2	**NORSAR Subarra**	**21.87**	**346**	P	**P**	17 56 31.2	-1.4
	comp=Z,2.0nm,0.6s,baz=162,slow=11						
NB2	**NORSAR Subarra**	**21.87**	**346**	P	**P**	17 56 31.2	-1.4
	comp=Z,2.0nm,0.6s,SNR=3.7						

DDA ***24*** *17:52:36.3, 36.°58N×36.°43E, h8km, MD3.2*
NSSC ***24*** *17:52:37.5±1.4, 36.°59N×36.°51E, h12km±6km, ML2.6*
CSEM ***24*** *17:52:37.3±0.2, 36.°59N×36.°42E, h2km, MD3.2, Error ellipse: s-maj=4.5km s-min=3.9km az=104.0*
ISK ***24*** *17:52:38.6, 36.°73N×36.°37E, h8km, MD2.9*
ISC 24 17:52:36.9±1.0, 36.°58N±0.°02×36.°42E±0.°02, h6km±9km, n66, σ1°13/102, 1C-1D, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTCH	**Batrach**	**0.54**	**177**	eS	**Sg**	**17 52 55.8**	**+1.3**
	SNR=99						
BTCH	**Batrach**	**0.54**	**177**	eS	**Sg**	**17 52 55.8**	**+1.3**
BTCH				eS	**Sb**	**17 52 56.3**	**-0.7**
BTCH				AML	AML	17 52 57.1	
	comp=N,309nm,0.5s						
BTCH				AML	AML	17 52 59.5	
	comp=E,453nm,0.3s						
KUZU	**Kuzuini**	**0.56**	**70**	iP	**Pg**	**17 52 47.4**	**-0.3**
KUZU				iS	**Sg**	**17 52 55.2**	**+0.2**
KUZU	**Kuzuini**	**0.56**	**70**	iP	**Pg**	**17 52 47.4**	**-0.3**
KUZU				iS	**Sg**	**17 52 55.2**	**+0.2**
YAYL	**Yayladag**	**0.60**	**205**	iP	**Pg**	**17 52 47.5**	**-1.0**
YAYL				iS	**Sg**	**17 52 57.1**	**+0.7**
YAYL	**Yayladag**	**0.60**	**205**	iP	**Pg**	**17 52 47.5**	**-1.0**
YAYL				iS	**Sg**	**17 52 57.1**	**+0.7**
KAMA	**Osmaniye**	**0.64**	**18**	iP	**Pg**	**17 52 48.5**	**-0.7**
KAMA				iS	**Sg**	**17 52 57.2**	**-0.3**
CEYT	**Ceyhan**	**0.69**	**309**	ePG	**Pg**	**17 52 50.4**	**+0.3**
CEYT	**Ceyhan**	**0.69**	**309**	ePg	**Pg**	**17 52 50.4**	**+0.3**
ARNB	**Al Arnab**	**0.81**	**207**	eP	**Pg**	**17 52 53.3**	**+0.9**
ARNB	SNR=66						
ARNB				eS	**Sg**	**17 53 04.2**	**+1.4**
	comp=E,141nm,0.5s,SNR=62						
ARNB	**Al Arnab**	**0.81**	**207**	eP	**Pg**	**17 52 53.3**	**+0.9**
ARNB				eS	**Sg**	**17 53 04.2**	**+1.4**
ARNB				AML	AML	17 53 08.2	
	comp=E,280nm,0.3s						
ARNB				AML	AML	17 53 10.3	
	comp=N,141nm,0.5s						
ARNB	**Al Arnab**	**0.81**	**207**	eP	**Pg**	**17 52 53.1**	**+0.8**
ARNB				eS	**Sg**	**17 53 04.2**	**+1.4**
ANDN	**Andirin**	**1.00**	**357**	iP	**Pg**	**17 52 54.6**	**-1.5**
ANDN				iS	**Sg**	**17 53 08.5**	**-0.6**
ANDN	**Andirin**	**1.00**	**357**	iP	**Pg**	**17 52 54.6**	**-1.5**
ANDN				iS	**Sg**	**17 53 08.5**	**-0.6**
KMRS	**Kahramanmaras**	**1.00**	**22**	ePG	**Pg**	**17 52 55.7**	**-0.4**
KMRS				eSG	**Sg**	**17 53 09.1**	**0.0**
KMRS	**Kahramanmaras**	**1.00**	**22**	ePg	**Pg**	**17 52 55.7**	**-0.4**
KMRS				eSg	**Sg**	**17 53 09.1**	**0.0**
KOZT	**Kozan**	**1.01**	**332**	ePG	**Pg**	**17 52 55.6**	**-0.8**
KOZT				eSG	**Sg**	**17 53 07.9**	**-1.7**
KOZT	**Kozan**	**1.01**	**332**	ePg	**Pg**	**17 52 55.6**	**-0.8**
KOZT				eSg	**Sg**	**17 53 07.9**	**-1.7**
WRDH	**Warideh**	**1.07**	**180**	eP	**Pg**	**17 52 57.5**	**+0.1**
WRDH	SNR=66						
WRDH				eS	**Sg**	**17 53 12.2**	**+0.8**
	comp=N,158nm,0.3s,SNR=62						
WRDH	**Warideh**	**1.07**	**180**	eP	**Pg**	**17 52 57.5**	**+0.1**
WRDH				eS	**Sg**	**17 53 12.2**	**+0.8**
WRDH				AML	AML	17 53 15.8	
	comp=N,216nm,0.3s						
WRDH				AML	AML	17 53 16.2	
	comp=E,158nm,0.3s						
GZT	**Gaziantep**	**1.20**	**50**	iP	**Pb**	**17 52 59.6**	**-0.6**
GZT				iS	**Sb**	**17 53 16.5**	**+0.6**
SLMH	**Al Salmeh**	**1.27**	**106**	eP	**Pn**	**17 53 00.0**	**-1.3**
	SNR=66						
SLMH				eS	**Sb**	**17 53 15.6**	**-2.3**
	comp=E,898nm,0.4s,SNR=62						
SLMH	**Al Salmeh**	**1.27**	**106**	eP	**Pn**	**17 52 60.0**	**-1.3**
SLMH				eS	**Sb**	**17 53 15.6**	**-2.3**
SLMH				AML	AML	17 53 19.0	
	comp=N,196nm,0.6s						
SLMH				AML	AML	17 53 19.1	
	comp=E,898nm,0.4s						
KARA	**Karaisali**	**1.29**	**302**	ePN	**Pn**	**17 53 01.8**	**+0.3**
KARA	**Karaisali**	**1.29**	**302**	ePn	**Pn**	**17 53 01.8**	**+0.3**
KFRA	**Kufra**	**1.40**	**167**	eP	**Pn**	**17 53 02.4**	**-0.6**
	SNR=66						
KFRA				eS	**Sb**	**17 53 20.3**	**-1.3**
	comp=E,282nm,0.2s,SNR=62						
KFRA	**Kufra**	**1.40**	**167**	eP	**Pn**	**17 53 02.4**	**-0.6**
KFRA				⇑e		17 53 04.1	
KFRA				eS	**Sb**	**17 53 20.3**	**-1.3**
KFRA				AML	AML	17 53 27.8	
	comp=E,282nm,0.2s						
GULE	**Gulek**	**1.49**	**298**	iP	**Pn**	**17 53 04.6**	**+0.2**
GULE				iS	**Sg**	**17 53 26.2**	**+1.3**
GULE	**Gulek**	**1.49**	**298**	iP	**Pn**	**17 53 04.6**	**+0.2**
GULE				iS	**Sg**	**17 53 26.2**	**+1.3**
MERS	**Mersin**	**1.55**	**281**	ePN	**Pn**	**17 53 05.9**	**+0.7**
ATAB	**Bozova**	**1.74**	**59**	iP	**Pb**	**17 53 09.9**	**+0.6**
ATAB				iS	**Sb**	**17 53 32.0**	**+0.5**
ATAB	**Bozova**	**1.74**	**59**	iP	**Pb**	**17 53 09.9**	**+0.6**
ATAB				iS	**Sb**	**17 53 32.0**	**+0.5**
KIZK	**Mersin**	**1.84**	**268**	iP	**Pn**	**17 53 09.8**	**+0.8**
KIZK				iS	**Sn**	**17 53 33.4**	**+0.9**
KIZK	**Mersin**	**1.84**	**268**	iP	**Pn**	**17 53 09.8**	**+0.8**
KIZK				iS	**Sn**	**17 53 33.4**	**+0.9**
HAWK	**Haweek**	**2.06**	**180**	eP	**Pn**	**17 53 12.2**	**+0.1**
	SNR=51						
HAWK				eS	**Sn**	**17 53 37.6**	**-0.5**
	comp=E,68nm,0.4s,SNR=49						
HAWK	**Haweek**	**2.06**	**180**	eP	**Pn**	**17 53 12.2**	**+0.1**
HAWK				eS	**Sn**	**17 53 37.6**	**-0.5**
HAWK				AML	AML	17 53 43.0	
	comp=E,36nm,0.3s						
HAWK				AML	AML	17 53 43.6	
	comp=N,68nm,0.4s						
AKCD	**Akcadag**	**2.09**	**34**	iP	**Pb**	**17 53 15.7**	**+0.4**
AKCD				iS	**Sb**	**17 53 43.0**	**+1.5**
NIG	**Nigde**	**2.10**	**317**	ePN	**Pn**	**17 53 13.5**	**+0.6**
NIG	**Nigde**	**2.10**	**317**	ePn	**Pn**	**17 53 13.5**	**+0.6**
EREN	**Erenkoy**	**2.10**	**241**	ePN	**Pb**	**17 53 15.4**	**0.0**
URFA	**Urfa**	**2.10**	**65**	ePN	**Pn**	**17 53 14.3**	**+1.5**
URFA	**Urfa**	**2.10**	**65**	ePn	**Pn**	**17 53 14.3**	**+1.5**
DARE	**Darende-Malaty**	**2.16**	**23**	ePN	**Pn**	**17 53 14.2**	**+0.7**
KSRV	**Kasrt alli**	**2.21**	**108**	eP	**Pb**	**17 53 16.5**	**-0.7**
	SNR=51						
KSRV				eS	**Sb**	**17 53 44.9**	**+0.1**
	comp=N,100nm,0.6s,SNR=49						
KSRV	**Kasrt alli**	**2.21**	**108**	eP	**Pb**	**17 53 16.5**	**-0.7**
KSRV				eS	**Sb**	**17 53 44.9**	**+0.1**
KSRV				AML	AML	17 53 49.4	
	comp=N,110nm,0.3s						
KSRV				AML	AML	17 53 52.0	
	comp=E,100nm,0.6s						
BNN	**Bunyan**	**2.31**	**349**	ePN	**Pn**	**17 53 16.2**	**+0.5**
BNN	**Bunyan**	**2.31**	**349**	ePn	**Pn**	**17 53 16.2**	**+0.5**
MALT	**Malatya**	**2.35**	**42**	ePN	**Pn**	**17 53 17.4**	**+1.2**
MALT	**Malatya**	**2.35**	**42**	⇓iP	**Pn**	**17 53 16.5**	**+0.3**
MALT	**Malatya**	**2.35**	**42**	ePn	**Pn**	**17 53 17.4**	**+1.2**
AYK	**Aydincik**	**2.53**	**261**	iP	Pn	17 52 53.2	-25
AYK				iS	Sn	17 53 05.6	-44
MARH	**Ras Al Marh**	**2.55**	**179**	eP	**Pn**	**17 53 19.9**	**+0.8**
	SNR=51						
MARH				eS	**Sn**	**17 53 49.6**	**-1.0**
	comp=E,32nm,0.3s,SNR=49						
MARH	**Ras Al Marh**	**2.55**	**179**	eP	**Pn**	**17 53 19.9**	**+0.8**
MARH				eS	**Sn**	**17 53 49.6**	**-1.0**
MARH				AML	AML	17 54 09.9	
	comp=N,32nm,0.3s						
LFK	**Lefkose**	**2.68**	**242**	ePN	**Pb**	**17 53 23.8**	**-1.5**
LFK	**Lefkose**	**2.68**	**242**	ePn	**Pb**	**17 53 23.8**	**-1.5**
SVRC	**Sivrice-ELAZID**	**2.91**	**51**	ePN	**Pn**	**17 53 25.8**	**+1.8**
CSS	**Prodhromos**	**2.99**	**238**	ePN	**Pb**	**17 53 28.5**	**-2.0**
CSS	**Prodhromos**	**2.99**	**238**	ePn	**Pb**	**17 53 28.5**	**-2.0**
DYBB	**Diyarbakir**	**3.27**	**64**	ePN	**Pn**	**17 53 31.4**	**+2.6**
DIY	**Diyarbakir**	**3.31**	**66**	ePn	**Pn**	**17 53 31.4**	**+2.1**
GAZI	**Gazipasa**	**3.33**	**265**	iP	**Pn**	**17 53 31.4**	**+1.8**
GAZI				iS	**Sn**	**17 54 09.5**	**+0.1**
GAZI	**Gazipasa**	**3.33**	**265**	iP	**Pn**	**17 53 31.4**	**+1.8**
GAZI				iS	**Sn**	**17 54 09.5**	**+0.1**
ILIC	**ilic-Erzincan**	**3.33**	**30**	ePN	**Pn**	**17 53 30.6**	**+0.9**
ILIC	**ilic-Erzincan**	**3.33**	**30**	ePn	**Pn**	**17 53 30.6**	**+0.9**
MAZI	**Mazidag**	**3.34**	**74**	ePN	**Pn**	**17 53 32.6**	**+2.8**
MAZI	**Mazidag**	**3.34**	**74**	ePn	**Pn**	**17 53 32.6**	**+2.8**

IDC ***24*** *18:06:14.5±2.2, 5.°45N×126.°22E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/36, mbtmp3.6/3, Error ellipse: s-maj=180.9km s-min=24.6km az=65.0*
MAN ***24*** *18:06:18, 5.°17N×126.°38E, h97km, mb4.9, ML3.9, MS4.0*
ISC 24 18:06:25.7±3.1, 5.°7N±0.°2×126.°1E±0.°2, h66km, n10, σ3°46/6, mb3.6/3, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Matai**	**1.20**	**7**	eP	Pn	18 06 48.4	+1.7
GSPH	**General Santos**	**1.21**	**286**	⇓eP	**Pn**	**18 06 45.0**	**-1.8**
GSPH				eS	**Sn**	**18 07 05.0**	**+2.3**
BUKP	**Musuan**	**2.37**	**334**	eP	**Pn**	**18 07 04.8**	**+2.5**
BUKP				eS	**Sn**	**18 07 26.2**	**-4.1**
CTBH	**Cotabato--PC H**	**2.37**	**308**	⇑iP	**Pn**	**18 07 04.4**	**+2.1**
CGP	**Cagayan de Oro**	**3.04**	**332**	eP	Pn	18 07 14.3	+2.8
BUTP	**Butuan**	**3.24**	**351**	eP	Pn	18 07 07.3	-6.9
PAGZ	**Pagadian**	**3.42**	**308**	eP	Pn	18 07 28.3	+12
WRA	**Warramunga Arr**	**26.78**	**163**	P	P	18 11 52.9	-6.8
	1.9nm,0.9s,baz=343,slow=10,SNR=16						
ASAR	**Alice Springs**	**30.20**	**166**	P	P	18 12 24.8	-5.3
	0.2nm,0.6s,baz=343,slow=6.7,SNR=9.6						
MKAR	**Makanchi Array**	**55.56**	**325**	P	**P**	**18 15 53.9**	**-0.6**
	0.6nm,0.6s,baz=116,slow=7.4,SNR=12						

ISCJB ***24*** *18:06:37.7±0.4, 22.°80N±0.°02×121.°50E±0.°02, h21km±4km, Error ellipse: s-maj=3.8km s-min=3.0km az=177.1*
JMA ***24*** *18:06:37.6, 22.°84N×121.°47E, h23km±1km, M3.5*
TAP ***24*** *18:06:38.9, 22.°85N×121.°38E, h32km, ML3.4, B*
ISC 24 18:06:38.4±1.0, 22.°82N±0.°02×121.°44E±0.°03, h25km±8km, n62, σ0°96/99, 5C-10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.28**	**257**	⇑iP	**Pn**	**18 06 46.2**	**-0.6**
	baz=250						
TTN				iS	**Sn**	**18 06 51.8**	**-0.4**
	baz=250						
CHKT	**Chengkung**	**0.29**	**347**	⇓iP	**Pb**	**18 06 46.0**	**+0.7**
	baz=3.0						
CHKT				iS	**Sb**	**18 06 50.7**	**+0.7**
	baz=3.0						
TWG	**Pinlang**	**0.34**	**271**	⇑iP	**Pb**	**18 06 46.0**	**0.0**
	baz=263						
TWG				eS	**Sb**	**18 06 50.8**	**-0.4**
	baz=263						
ECL	**Taimali**	**0.50**	**244**	⇓iP	**Pb**	**18 06 48.0**	**-0.6**
	baz=245						
ELDTW	**Lidau**	**0.54**	**314**	⇓eP	**Pb**	**18 06 48.4**	**-0.9**
	baz=316						
ELDTW				S	**Sb**	**18 06 56.0**	**-0.7**
	baz=316						
TWF1	**Yuli**	**0.55**	**346**	⇓eP	**Pb**	**18 06 48.8**	**-0.7**
	baz=340						
TWF1				S	**Sb**	**18 06 56.8**	**-0.1**
	baz=340						
TAW	**Tawu**	**0.68**	**228**	eP	**Pb**	**18 06 50.9**	**-0.7**
	baz=228						
TAW				eS	**Sb**	**18 06 59.5**	**-1.1**
	baz=228						
EHY	**Hungye**	**0.69**	**351**	P	**Pb**	**18 06 50.8**	**-1.1**
	baz=344						
EHY				eS	**Sb**	**18 07 00.2**	**-0.8**
	baz=344						
EAST	**Anshuo**	**0.70**	**232**	⇓eP	**Pb**	**18 06 51.1**	**-0.8**
	baz=232						
STYT	**Tauyuan**	**0.71**	**299**	⇑iP	**Pb**	**18 06 51.6**	**-0.6**
	baz=294						
STYT				eS	**Sb**	**18 07 00.6**	**-1.1**
	baz=294						
SSD	**Sandimen**	**0.75**	**265**	⇑iP	**Pb**	**18 06 51.9**	**-0.9**
	baz=261						
SSD				eS	**Sb**	**18 07 00.1**	**-2.4**
	baz=261						
LAY	**Lan-yu**	**0.78**	**172**	⇓iP	**Pb**	**18 06 53.3**	**-0.1**
	baz=169						
LAY				eS	**Sb**	**18 07 02.9**	**-0.7**
	baz=169						
YUS	**Yu-Shan**	**0.80**	**326**	P	**Pb**	**18 06 53.2**	**-0.8**
	baz=332						
YUS				S	**Sb**	**18 07 04.0**	**-0.7**
	baz=332						
SGST	**Jiashian**	**0.83**	**289**	eP	**Pb**	**18 06 54.3**	**+0.1**
	baz=293						
SGST				eS	**Sb**	**18 07 05.3**	**+0.3**
	baz=293						
WTP	**Ta-pu**	**0.87**	**299**	⇑iP	**Pn**	**18 06 54.8**	**-0.2**
	baz=299						
WTP				eS	**Sb**	**18 07 06.6**	**+0.4**
	baz=299						
SCZT	**Fangliau**	**0.88**	**240**	eP	**Pn**	**18 06 54.3**	**-0.8**
	baz=236						
SCZT				eS	**Sb**	**18 07 05.1**	**-1.2**
	baz=236						
SGLT	**Jiouru**	**0.88**	**264**	eP	**Pb**	**18 06 56.0**	**+1.0**
	baz=261						
TEGC	**Jichi Village**	**0.89**	**6**	eP	**Pb**	**18 06 55.9**	**+0.6**
	baz=356						
ALS	**Alishan**	**0.90**	**320**	⇓eP	**Pn**	**18 06 55.3**	**-0.4**
	baz=328						
ALS				eS	**Sb**	**18 07 07.2**	**-0.1**
	baz=328						
CHN1	**Nanshi**	**0.91**	**294**	P	**Pb**	**18 06 55.9**	**+0.3**
	baz=300						
CHN1				eS	**Sb**	**18 07 07.5**	**+0.1**
	baz=300						
TWM1	**Shoushan**	**0.94**	**271**	eP	**Pb**	**18 06 56.8**	**+0.8**
	baz=269						
CHN4	**Tsaushan**	**0.94**	**304**	⇓P	**Pb**	**18 06 56.1**	**+0.1**
	baz=311						
CHN4				S	**Sn**	**18 07 09.0**	**+0.3**
	baz=311						
WDT	**Danda**	**0.97**	**343**	eP	**Pn**	**18 06 55.5**	**-1.3**
	baz=354						
TWK	**Hsinying**	**0.98**	**297**	P	**Pb**	**18 06 56.9**	**+0.1**
	baz=297						
TWK				eS	**Sn**	**18 07 10.0**	**+0.3**
	baz=297						
ESL	**Shilin**	**0.99**	**360**	eP	**Pn**	**18 06 55.8**	**-0.9**
	baz=2.0						
ESL				eS	**Sn**	**18 07 08.8**	**-1.1**
	baz=2.0						
CHN3	**Shinhua**	**1.02**	**285**	eP	**Pb**	**18 06 57.3**	**-0.1**
	baz=285						
HEN	**Hengchun**	**1.04**	**219**	eP	**Pn**	**18 06 57.1**	**-0.2**
	baz=205						
TSEB	**Hengchuen, Pin**	**1.04**	**209**	eP	**Pb**	**18 06 59.3**	**+1.5**
	baz=201						
CHN5	**Tsauling**	**1.04**	**318**	⇓iP	**Pb**	**18 06 57.9**	**0.0**
	baz=319						
CHN5				S	**Sb**	**18 07 12.7**	**+1.5**
	baz=319						
TWK1	**Hengchun**	**1.05**	**214**	⇓eP	**Pn**	**18 06 56.7**	**-0.7**
	baz=199						
TWK1				eS	**Sn**	**18 07 10.1**	**-1.2**
	baz=199						
TWP	**Hsiaoliuchiu**	**1.10**	**245**	eP	**Pb**	**18 07 00.6**	**+1.9**
	baz=227						
TWP				eS	**Sb**	**18 07 17.5**	**+4.8**
	baz=227						
CHY	**Chiayi**	**1.15**	**306**	eP	**Pb**	**18 07 01.2**	**+1.5**
	baz=307						
CHY				eS	**Sb**	**18 07 15.6**	**+1.4**
	baz=307						
HWA	**Hwalien**	**1.16**	**8**	eP	**Pn**	**18 06 58.1**	**-0.9**
	baz=358						
SMLT	**Sun Moon Lake**	**1.17**	**335**	eP	**Pn**	**18 06 59.4**	**+0.2**
	baz=343						
WGK	**Gukeng**	**1.18**	**317**	P	**Pb**	**18 07 00.7**	**+0.5**
	baz=318						
WGK				eS	**Sb**	**18 07 16.8**	**+1.8**
	baz=318						
TYC	**Yuchr**	**1.21**	**334**	eP	**Pb**	**18 07 00.2**	**-0.3**
	baz=347						
TYC				S	**Sb**	**18 07 16.2**	**+0.5**
	baz=347						
WNT	**Mingjian**	**1.26**	**327**	P	**Pb**	**18 07 01.3**	**-0.2**
	baz=328						
WNT				S	**Sb**	**18 07 18.5**	**+1.1**
	baz=328						
TWD	**Chiawan**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.65**	**346**	P	**Pn**	**18 10 56.6**	**-0.5**
JNN				S	**Sn**	**18 11 06.7**	**+0.2**
JTAJ	**Takarajima**	**0.75**	**266**	P	**Pn**	**18 10 58.1**	**-0.2**
JTAJ				S	**Sn**	**18 11 08.8**	**+0.2**
JAM	**Amami Oshima**	**0.88**	**207**	P	**Pn**	**18 10 59.4**	**-0.7**
JAM				S	**Sn**	**18 11 11.3**	**-0.5**
JZK	**Kikaishima**	**0.89**	**185**	P	**Pn**	**18 11 00.3**	**+0.1**
JYAK	**Yakushimahirau**	**1.10**	**21**	P	**Pn**	**18 11 02.6**	**-0.5**
JYAK				S	**Sn**	**18 11 16.0**	**-1.2**
JAMN	**Amaminishikomi**	**1.23**	**219**	P	**Pn**	**18 11 04.4**	**-0.4**
JAMN				S	**Sn**	**18 11 20.7**	**+0.4**
JKC	**Kuchinoerabu**	**1.26**	**6**	P	**Pn**	**18 11 04.9**	**-0.3**
JKC				S	**Sn**	**18 11 21.1**	**+0.1**
JTN	**Tanegashima 3**	**1.65**	**29**	P	**Pn**	**18 11 10.9**	**+0.3**
JTN				S	**Sn**	**18 11 31.6**	**+0.9**
JTK	**Tokunoshima**	**1.71**	**215**	P	**Pn**	**18 11 11.6**	**+0.1**
JTK				S	**Sn**	**18 11 32.9**	**+0.7**
JOKE	**Okinoerabujima**	**2.25**	**216**	P	**Pn**	**18 11 19.3**	**+0.4**
JOKE				S	**Sn**	**18 11 47.0**	**+1.5**
JNU	**Nakatsue**	**3.97**	**10**	Pn	**Pn**	**18 11 44.6**	**+2.2**
	5.5nm,0.3s,baz=220,slow=7.8,SNR=40						
KSRS	**Korea Array**	**8.42**	**348**	Pn		18 12 48.6	+5.2
	0.3nm,0.3s,baz=166,slow=14,SNR=5.4						
KSRS				LR		18 16 41.0	
	comp=Z,40nm,18.2s,baz=340,slow=42						
MJAR	**Matsushiro Arr**	**10.02**	**41**	Pn	**Pn**	**18 13 07.1**	**+1.7**
	0.4nm,0.3s,baz=253,slow=13,SNR=4.0						
JCJ	**Chichijima**	**10.91**	**98**	Pn	**Pn**	**18 13 16.0**	**-1.6**
	baz=282,slow=18						
ASAJ	**Asahikawa**	**17.93**	**31**	P	**P**	**18 14 53.0**	**+3.1**
	0.3nm,0.3s,baz=195,slow=11,SNR=4.3						
SONM	**Songino Array**	**26.07**	**322**	P	**P**	**18 16 13.1**	**-0.1**
	2.2nm,0.7s,baz=137,slow=9.0,SNR=20						
MKAR	**Makanchi Array**	**40.84**	**309**	P	**P**	**18 18 20.4**	**-0.8**
	0.3nm,0.6s,baz=94,slow=8.4,SNR=3.5						
MKAR				PcP	**PcP**	**18 20 21.4**	**+0.1**
	0.4nm,0.7s,baz=79,slow=3.0,SNR=5.8						
WRA	**Warramunga Arr**	**49.03**	**175**	P	**P**	**18 19 26.3**	**-0.1**
	0.6nm,0.7s,baz=353,slow=8.2,SNR=11						
ASAR	**Alice Springs**	**52.70**	**176**	P	P	18 19 50.4	-3.5
	0.5nm,0.8s,baz=8.6,slow=9.2,SNR=4.1						
FINES	**FINESS Array B**	**71.08**	**330**	P	**P**	**18 21 55.3**	**-1.7**
	1.1nm,0.8s,baz=51,slow=11,SNR=3.3						
YKA	**Yellowknife Ar**	**75.16**	**26**	P	**P**	**18 22 22.3**	**+1.3**
	0.4nm,0.8s,baz=305,slow=5.4,SNR=5.9						
BRTR	**Keskin Array B**	**76.49**	**308**	P	**P**	**18 22 28.2**	**-1.1**
	0.7nm,0.8s,baz=66,slow=7.0,SNR=4.6						

GUC 24 18:11:18.2±0.8, 34°38S×72°08W, h36km±5km, ML3.6, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.70**	**53**	↓↓*i*P	Pn	18 11 31.5	-0.1
NICH	**Los Niches**	**0.94**	**132**	↑↑*i*P	Pn	18 11 35.6	+0.8
NICH				*i* S	Sn	18 11 48.0	+0.9
NICH				AML	AML	18 11 49.6	
	comp=E,4μm,0.2s						
TALC	**Talca**	**1.08**	**160**	↓↓*i*P	Pn	18 11 37.6	+0.8
TALC				*i* S	Sn	18 11 51.7	+1.1
TALC				AML	AML	18 11 52.1	
	comp=E,7μm,0.1s						
CACH	**El Canelo**	**1.25**	**78**	↑↑*i*P	Pn	18 11 40.9	+1.5
CHCH	**Chadas Angostu**	**1.27**	**70**	↑↑*i*P	Pn	18 11 40.4	+1.0
RCDM	**Rinconada Maip**	**1.38**	**50**	*e*P9	Pn	18 11 44.0	+3.0
RCDM				*i* S	Sn	18 12 02.7	+4.6
RCDM				AML	AML	18 12 06.0	
	comp=N,1μm,0.1s						
CLCH	**Cerro Calan**	**1.61**	**53**	↓↓*i*P	Pn	18 11 46.0	+1.7
CLCH				*e*S	Sn	18 12 06.5	+2.5
CLCH				AML	AML	18 12 10.9	
	comp=E,716nm,0.2s						

*IDC **24** 18:18:47.4±2.8, 7°81S×123°12E, h257km±35km, mb2.4/1, mb1 3.4/4, mb1mx3.0/30, mbtmp3.8/4, Error ellipse: s-maj=134.9km s-min=22.0km az=53.0*
*DJA **24** 18:18:49.3±0.8, 8°S±6°×12°3E±°, h269km±8km, M3.7/9, MLv3.7/9*
*ISCJB **24** 18:18:50.6±0.8, 7°92S±0°07×123°00E±0°06, h250km, mb2.8/1, Error ellipse: s-maj=11.4km s-min=6.5km az=30.5*
ISC 24 18:18:49.2±1.2, 7°91S±0°09×123°07E±0°07, h250km, n15, σ1§86/22, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.10**	**229**	P	**Pn**	**18 19 26.9**	**+2.1**
MMRI				S	**S**	**18 19 56.4**	**+3.5**
EDFI	**Ende, Flores**	**1.60**	**238**	P	**Pn**	**18 19 31.0**	**+2.5**
SOEI	**Soe**	**2.19**	**147**	P	**Pn**	**18 19 34.1**	**+0.5**
SOEI				S	**S**	**18 20 08.7**	**+0.1**
SOEI	**Soe**	**2.19**	**147**	P	**Pn**	**18 19 33.7**	**+0.1**
	baz=1.9,SNR=70						
SOEI				S	**S**	**18 20 10.1**	**+1.6**
	baz=1.9,SNR=7.1						
BATI	**Baumata**	**2.36**	**166**	P	**Pn**	**18 19 36.4**	**+1.2**
BATI				S	**S**	**18 20 12.2**	**+0.7**
BATI	**Baumata**	**2.36**	**166**	P	**Pn**	**18 19 36.4**	**+1.2**
	40nm,0.3s,baz=335,slow=3.2,SNR=121						
BATI				S	**S**	**18 20 12.0**	**+0.6**
	53nm,0.3s,baz=209,slow=22,SNR=26						
BBSI	**Bau Bau**	**2.45**	**348**	P	Pn	18 19 29.6	-6.5
WSI	**Waingapu**	**3.25**	**237**	P	**Pn**	**18 19 45.3**	**+0.8**
WSI				S	**S**	**18 20 29.8**	**+1.5**
BASI	**Baing, Sumba**	**3.37**	**227**	P	**Pn**	**18 19 47.6**	**+1.8**
BASI				S	**S**	**18 20 30.3**	**-0.3**
BKSI	**Bulukumba**	**3.90**	**311**	P	**Pn**	**18 19 53.2**	**+1.4**
BNSI	**Bone**	**4.56**	**320**	P	**Pn**	**18 20 01.5**	**+1.7**
JAGI	**Jajag, Banyuwa**	**8.85**	**266**	P	**Pn**	**18 20 53.3**	**-0.1**
	baz=9.3,SNR=3.6						
JAGI				S	**S**	**18 22 29.8**	**-3.9**
	baz=9.3,SNR=4.4						
WRA	**Warramunga Arr**	**16.20**	**139**	P	**P**	**18 22 19.7**	**-2.6**
	1.1nm,0.3s,baz=316,slow=12,SNR=43						
WRA				S	**S**	**18 25 20.0**	**+0.7**
	0.1nm,0.3s,baz=312,slow=23,SNR=3.1						
ASAR	**Alice Springs**	**18.80**	**148**	P	**P**	**18 22 49.0**	**-1.6**
	0.8nm,0.3s,baz=336,slow=13,SNR=85						
MKAR	**Makanchi Array**	**65.41**	**330**	P	P	18 29 02.3	-3.0
	0.1nm,0.4s,baz=147,slow=5.9,SNR=2.3						

*ISCJB **24** 18:32:09.8±0.7, 5°18S±0°08×150°5E±0°1, h114km, mb3.6/7, Error ellipse: s-maj=15.4km s-min=9.2km az=27.6*
*IDC **24** 18:32:15.3±1.8, 5°42S×150°48E, h154km±15km, mb3.4/7, mb1 3.6/9, mb1mx3.4/28, mbtmp4.0/9, MS3.5/1, Ms1 3.5/1, ms1mx2.7/15, Error ellipse: s-maj=24.1km s-min=11.1km az=121.0*
ISC 24 18:32:11.2±0.9, 5°3S±0°1×150°6E±0°1, h114km, n21, σ1§84/23, mb3.6/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**219**	P	**Pn**	**18 33 30.6**	**+2.0**
	16nm,0.3s,baz=37,slow=5.7,SNR=70						
PMG				S	**Sn**	**18 34 29.2**	**+0.3**
	22nm,0.3s,baz=15,slow=20,SNR=13						
PMG	**Port Moresby**	**5.33**	**219**	P	**Pn**	**18 33 30.6**	**+2.0**
	baz=3.0,SNR=45						
PMG				S	**Sn**	**18 34 29.3**	**+0.4**
	baz=3.0,SNR=6.3						
CTA	**Charters Tower**	**15.33**	**195**	P	**P**	**18 35 43.5**	**-0.2**
	0.2nm,0.3s,baz=43,slow=13,SNR=5.0						
KDU	**Kakadu**	**19.33**	**246**	P	**Pn**	**18 36 31.5**	**+1.6**
	baz=17,SNR=3.4						
EIDS	**Eidsvold**	**20.01**	**179**	P	**P**	**18 36 36.3**	**+1.3**
	baz=18,SNR=3.4						
RMQ	**Roma**	**21.19**	**184**	P	**P**	**18 36 48.4**	**+0.8**
	baz=19,SNR=6.6						
WRA	**Warramunga Arr**	**21.51**	**226**	P	**P**	**18 36 50.6**	**-0.5**
	1.4nm,0.4s,baz=49,slow=10,SNR=28						
WRA				S	**S**	**18 40 38.2**	**-4.8**
	3.0nm,0.8s,baz=44,slow=15,SNR=12						
QLP	**Quilpie**	**22.06**	**195**	P	**P**	**18 36 57.1**	**+0.2**
	baz=20,SNR=16						
DZM	**Mont Dzumac**	**22.71**	**139**	P	**P**	**18 37 03.5**	**-0.2**
	4.7nm,0.5s,baz=304,slow=11,SNR=8.9						
KNRA	**Kununurra**	**23.78**	**243**	P	**P**	**18 37 13.7**	**+0.2**
	baz=22,SNR=13						
ASAR	**Alice Springs**	**24.35**	**220**	P	**P**	**18 37 18.8**	**+0.1**
	2.3nm,0.9s,baz=54,slow=8.4,SNR=27						
ASAR				S	**S**	**18 41 25.4**	**-4.6**
	0.7nm,0.8s,baz=52,slow=12,SNR=7.4						
FITZ	**Fitzroy Crossi**	**27.50**	**240**	P	**P**	**18 37 46.8**	**-0.3**
	baz=25,SNR=22						
WRKA	**Warakurna**	**29.04**	**225**	P	**P**	**18 38 00.2**	**-0.6**
	baz=27,SNR=12						
WSI	**Waingapu**	**30.32**	**260**	P	P	18 38 17.1	+4.9
	baz=29,SNR=3.4						
MEEK	**Meekatharra**	**37.17**	**232**	P	**P**	**18 39 11.1**	**-0.3**
	baz=35,SNR=15						
RAO	**Raoul Island**	**38.18**	**132**	LR	LR	18 51 28.1	
	comp=Z,72nm,19.3s,baz=158,slow=30						
SONM	**Songino Array**	**65.54**	**329**	P	**P**	**18 42 44.8**	**+2.2**
	0.5nm,0.5s,baz=150,slow=6.1,SNR=6.9						
MKAR	**Makanchi Array**	**79.21**	**319**	P	**P**	**18 44 02.6**	**-1.1**
	0.7nm,0.9s,baz=103,slow=4.6,SNR=5.8						
ZALV	**Zalesovo Beam**	**80.30**	**327**	P	**P**	**18 44 08.8**	**-0.7**
	0.5nm,0.8s,baz=103,slow=6.4,SNR=4.0						
ILAR	**Eielson Array**	**83.42**	**23**	P	**P**	**18 44 24.4**	**-1.2**
	0.6nm,0.9s,baz=236,slow=4.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**148.31**	**287**	PKPbc	**PKPbc**	**18 51 44.1**	**-1.1**
	0.6nm,0.7s,baz=59,slow=3.9,SNR=4.9						

*IDC **24** 18:36:54.3±1.1, 0°58S×133°43E, h0km, mb4.0/6, mb1 4.3/8, mb1mx3.9/37, mbtmp4.1/8, ML4.1/2, MS3.1/4, Ms1 3.1/4, ms1mx2.8/32, Error ellipse: s-maj=49.0km s-min=20.0km az=83.0*
*ISCJB **24** 18:36:56.7±0.6, 0°70S±0°05×133°33E±0°05, h28km, mb4.0/6, MS3.1/2, Error ellipse: s-maj=7.8km s-min=7.1km az=178.7*
*NEIC **24** 18:36:59.4±0.5, 0°65S×133°38E, h35km, mb4.0/2, Error ellipse: s-maj=18.2km s-min=7.4km az=90.0*
*DJA **24** 18:36:59.9±0.8, 1°S±6°×13°3E±°, h26km±12km, M4.5/8, mb4.7/4, mB5.0/3, MLv4.4/8, Mw(mB)4.3/3*
ISC 24 18:36:59.0±0.7, 0°75S±0°06×133°25E±0°05, h28km, n34, σ2§27/36, mb4.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.20**	**129**	P	**Pb**	**18 37 22.2**	**+1.1**
RKPI				S	**Sb**	**18 37 38.7**	**+2.4**
FAKI	**Fak Fak**	**2.38**	**205**	P	**Pn**	**18 37 38.0**	**+1.8**
FAKI	**Fak Fak**	**2.38**	**205**	*e*Pn	**Pn**	**18 37 37.7**	**+1.5**
SRPI	**Serui, Papua**	**3.19**	**111**	P	**Pn**	**18 37 48.7**	**+1.3**
BNDI	**Bandanaira**	**5.02**	**222**	P	**Pn**	**18 38 14.9**	**+2.3**
	259nm,0.7s,2μm1.3nm						
BNDI				S	**Sn**	**18 39 13.4**	**+3.7**
	259nm,0.7s,2μm1.3nm						
MSAI	**Masohi**	**5.03**	**239**	P	**Pn**	**18 38 13.9**	**+1.2**
	31nm,0.6s,1μm0.1nm						
LBMI	**Labuha**	**5.75**	**271**	P	**Pn**	**18 38 23.3**	**+0.7**
LBMI				S	**Sn**	**18 39 30.9**	**+3.2**
JAY	**Jayapura**	**7.66**	**103**	LR	LR	18 41 51.8	
	comp=Z,78nm,19.8s,baz=76,slow=40						
KDU	**Kakadu**	**11.89**	**184**	P	**Pn**	**18 39 46.6**	**-0.1**
	baz=12,SNR=29						
KDU				S	**Sn**	**18 41 54.5**	**-4.0**
	baz=12,SNR=7.0						
MTN	**Manton Dam**	**12.20**	**190**	P	**Pn**	**18 39 50.7**	**-0.4**
	baz=12,SNR=49						
MTN				S	**Sn**	**18 42 02.1**	**-4.1**
	baz=12,SNR=6.1						
BATI	**Baumata**	**13.39**	**225**	Pn	**Pn**	**18 40 09.1**	**+1.7**
	1.5nm,0.3s,baz=92,slow=0.9,SNR=15						
KNRA	**Kununurra**	**15.48**	**196**	P	**Pn**	**18 40 33.6**	**-1.9**
	baz=15,SNR=47						
KNRA				S	**Sn**	**18 43 20.5**	**-5.8**
	baz=15,SNR=5.8						
PMG	**Port Moresby**	**16.30**	**122**	LR	LR	18 47 45.6	
	comp=Z,71nm,19.8s,baz=302,slow=40						
FITZ	**Fitzroy Crossi**	**18.80**	**203**	P	**Pn**	**18 41 17.0**	**-0.1**
	baz=18,SNR=5.3						
FITZ				S	**Sn**	**18 44 40.7**	**-6.0**
	baz=18,SNR=4.5						
FITZ	**Fitzroy Crossi**	**18.80**	**203**	*e*P	**Pn**	**18 41 17.7**	**+0.7**
	6.6nm,0.8s						
WRAB	**Tennant Creek**	**19.10**	**177**	*e*P	**Pn**	**18 41 21.0**	**+0.3**
	10nm,1.0s						
WRA	**Warramunga Arr**	**19.11**	**177**	P	**Pn**	**18 41 20.6**	**-0.2**
	0.5nm,0.3s,baz=356,slow=11,SNR=14						
WRA				S	Sn	18 44 44.7	-10
	0.3nm,0.3s,baz=359,slow=23,SNR=5.7						
WB2	**Warramunga Arr**	**19.11**	**177**	*e*P	**P**	**18 41 18.8**	**-1.1**
AS31	**Alice Springs**	**22.79**	**178**	*e*P	**P**	**18 41 60.0**	**+0.3**
ASAR	**Alice Springs**	**22.79**	**178**	P	**P**	**18 42 00.7**	**+1.0**
	8.4nm,0.6s,baz=359,slow=9.9,SNR=69						
ASAR				S	**S**	**18 46 09.0**	**+1.8**
	1.3nm,0.9s,baz=360,slow=26,SNR=5.6						
WRKA	**Warakurna**	**24.62**	**191**	P	**P**	**18 42 18.6**	**+1.4**
	baz=24,SNR=9.9						
QLP	**Quilpie**	**27.78**	**159**	P	**P**	**18 42 45.9**	**+0.2**
	baz=28,SNR=3.6						
BBOO	**Buckleboo**	**32.00**	**176**	P	**P**	**18 43 23.4**	**+0.3**
	baz=32,SNR=6.7						
KSRS	**Korea Array**	**38.33**	**353**	LR	LR	19 00 27.1	
	comp=Z,23nm,18.3s,baz=174,slow=37						
H11N1	**WAKE ISLAND Hy**	**38.75**	**57**	T	T	19 25 27.9	
	baz=243,slow=75,SNR=29						
H11N2	**WAKE ISLAND Hy**	**38.76**	**56**	T	T	19 25 31.9	
	baz=243,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**38.77**	**57**	T	T	19 25 29.3	
	baz=243,slow=75,SNR=25						
SONM	**Songino Array**	**53.74**	**338**	P	**P**	**18 46 18.6**	**-0.2**
	0.2nm,0.5s,baz=146,slow=8.7,SNR=2.9						
SONM				PcP	**PcP**	**18 47 24.1**	**-0.6**
	0.4nm,0.6s,baz=140,slow=4.3,SNR=5.4						
RAO	**Raoul Island**	**54.45**	**126**	LR	LR	19 10 36.2	
	comp=Z,21nm,19.6s,baz=152,slow=37						
MKAR	**Makanchi Array**	**64.95**	**324**	P	**P**	**18 47 36.0**	**-0.4**
	2.6nm,0.6s,baz=112,slow=8.5,SNR=42						
ZALV	**Zalesovo Beam**	**67.56**	**331**	P	**P**	**18 47 51.7**	**-1.1**
	0.5nm,0.6s,baz=126,slow=4.0,SNR=3.9						
KURK	**Kurchatov**	**69.02**	**326**	*e*P	**P**	**18 48 00.9**	**-1.1**
GEYT	**Alibeck**	**78.76**	**309**	P	**P**	**18 48 59.1**	**-0.3**
	0.8nm,0.5s,baz=52,slow=2.4,SNR=2.8						
ILAR	**Eielson Array**	**86.35**	**25**	P	**P**	**18 49 36.8**	**-1.5**
	0.6nm,0.6s,baz=249,slow=5.4,SNR=9.3						

*ISCJB **24** 19:04:59.5±0.6, 29°30S±0°04×178°2W±0°1, h250km, mb4.1/17, Error ellipse: s-maj=15.0km s-min=5.4km az=7.6*
*IDC **24** 19:05:00.2±0.4, 28°84S×178°43W, h219km±4km, mb4.0/16, mb1 4.1/17, mb1mx4.0/32, mbtmp4.5/17, Error ellipse: s-maj=19.5km s-min=14.7km az=165.0*
*NEIC **24** 19:05:00.5±0.8, 28°93S×178°33W, h228km±7km, mb4.5/3, Error ellipse: s-maj=12.7km s-min=11.7km az=164.0*
ISC 24 19:05:01.0±0.6, 29°40S±0°07×178°2W±0°1, h250km, n59, σ1§67/62, mb4.3/17, 1C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.29**	**60**	P	**Pn**	**19 05 31.1**	**-2.4**
	1μm,0.3s,baz=93,slow=6.8,SNR=74						
RAO				S	**S**	**19 05 53.7**	**-5.1**
	860nm,0.3s,baz=53,slow=24,SNR=9.7						
WMGZ	**Waiomatatini S**	**8.86**	**198**	PN	**Pn**	**19 07 04.9**	**-0.3**
HAZ	**Te Kaha**	**8.98**	**201**	*e*PN	**Pn**	**19 07 05.9**	**-0.8**
PUZ	**Puketiti**	**9.14**	**198**	*e*PN	**Pn**	**19 07 07.6**	**-1.1**
PUZ				SN	**S**	**19 08 53.2**	**+1.2**
TWGZ	**Tauwhareparae**	**9.32**	**199**	SN	**S**	**19 08 57.6**	**+1.6**
CNGZ	**Carnagh Statio**	**9.54**	**197**	*e*PN	**Pn**	**19 07 13.0**	**-0.7**
MWZ	**Matawai**	**9.60**	**201**	PN	**Pn**	**19 07 13.6**	**-0.8**
MWZ				SN	**S**	**19 09 04.1**	**+1.5**
URZ	**Urewera**	**9.66**	**203**	P	**P**	**19 07 18.6**	**-2.9**
	1.6nm,0.3s,baz=260,slow=3.8,SNR=9.4						
URZ				S	**S**	**19 09 03.6**	**-0.4**
	8.7nm,0.3s,baz=147,slow=24,SNR=16						
URZ	**Urewera**	**9.66**	**203**	*e*PN	**Pn**	**19 07 14.4**	**-0.8**
KNZ	**Kokohu**	**10.19**	**198**	*e*PN	**Pn**	**19 07 21.4**	**-0.4**
BHHZ	**Black Hill Sta**	**11.12**	**204**	*e*PN	**Pn**	**19 07 32.0**	**-1.6**
MSVF	**Nonsavu**	**12.11**	**343**	*e*P	Pn	19 07 38.6	-7.5
	177nm,1.0s						
DZM	**Mont Dzumac**	**15.63**	**294**	P	**Pn**	**19 08 28.2**	**-0.8**
	0.2nm,0.3s,baz=126,slow=8.7,SNR=3.1						
CTA	**Charters Tower**	**33.48**	**278**	P	P	19 11 18.5	+1.4
	7.5nm,0.8s,baz=94,slow=11,SNR=7.1						
CTAO	**Charters Tower**	**33.48**	**278**	*e*P	**P**	**19 11 18.1**	**+1.0**
	9.7nm,0.8s						
AS31	**Alice Springs**	**43.00**	**266**	*e*P	**P**	**19 12 36.5**	**+0.3**
ASAR	**Alice Springs**	**43.00**	**266**	P	**P**	**19 12 36.5**	**+0.3**
	1.3nm,0.5s,baz=96,slow=6.6,SNR=38						
ASAR				PcP	**PcP**	**19 14 23.1**	**+1.3**
	0.7nm,0.6s,baz=105,slow=3.5,SNR=5.6						
WB2	**Warramunga Arr**	**43.88**	**271**	*e*P	**P**	**19 12 43.0**	**-0.3**
WRAB	**Tennant Creek**	**43.89**	**271**	*e*P	**P**	**19 12 43.9**	**+0.6**
	5.0nm,1.0s						
WRA	**Warramunga Arr**	**43.89**	**271**	P	**P**	**19 12 43.2**	**-0.1**
	1.8nm,0.5s,baz=109,slow=7.4,SNR=16						
WRA				PcP	**PcP**	**19 14 26.4**	**+1.6**
	2.6nm,0.7s,baz=109,slow=3.2,SNR=9.6						
BATI	**Baumata**	**57.35**	**277**	P	**P**	**19 14 23.7**	**0.0**
	6.2nm,0.5s,baz=99,slow=13,SNR=2.4						
CBIJ	**Chichi jima**	**67.79**	**322**	P	**P**	**19 15 30.2**	**-1.9**
JCJ	**Chichijima**	**67.79**	**322**	P	**P**	**19 15 30.2**	**-1.9**
	18nm,0.5s,baz=264,slow=19,SNR=3.6						
MJAR	**Matsushiro Arr**	**77.32**	**325**	P	**P**	**19 16 26.6**	**-1.4**
	8.3nm,0.9s,baz=162,slow=5.5,SNR=20						
MAT	**Matsushiro**	**77.32**	**325**	P	**P**	**19 16 26.8**	**-1.2**
JNU	**Nakatsue**	**78.69**	**318**	P	**P**	**19 16 34.8**	**-0.9**
	9.1nm,0.7s,baz=315,slow=1.3,SNR=8.1						
ASAJ	**Asahikawa**	**81.47**	**333**	P	**P**	**19 16 50.8**	**+0.7**
	6.7nm,0.8s,baz=211,slow=5.9,SNR=4.8						
PLCA	**Paso Flores**	**83.32**	**133**	P	P	19 17 06.4	+6.3
	0.9nm,0.7s,baz=277,slow=8.1,SNR=3.4						
KSRS	**Korea Array**	**83.47**	**320**	P	**P**	**19 17 00.7**	**0.0**
	5.0nm,0.9s,baz=142,slow=6.0,SNR=12						
KSAR	**Wonju Array Be**	**83.48**	**320**	P	**P**	**19 17 00.7**	**0.0**
PETK	**Petropavlovsk-**	**84.80**	**346**	P	**P**	**19 17 06.8**	**-0.2**
	3.7nm,0.6s,baz=119,slow=8.5,SNR=8.5						
USRK	**Ussuriysk Ar.**	**86.23**	**327**	P	**P**	**19 17 15.2**	**+1.0**
	6.6nm,0.8s,baz=152,slow=3.6,SNR=13						
NVAR	**Mina Array Bea**	**87.62**	**43**	P	**P**	**19 17 22.2**	**+0.9**
	0.9nm,0.8s,baz=217,slow=7.4,SNR=4.7						
CMAR	**Chiang Mai Arr**	**92.90**	**289**	P	P	19 17 48.4	+2.3
	0.7nm,0.8s,baz=148,slow=4.2,SNR=5.7						
PDAR	**Pinedale Array**	**95.53**	**44**	P	**P**	**19 17 59.5**	**+1.7**
	0.6nm,1.1s,baz=300,slow=1.8,SNR=2.6						
ILAR	**Eielson Array**	**96.99**	**13**	P	**P**	**19 18 03.2**	**-0.3**
	0.8nm,0.9s,baz=203,slow=5.9,SNR=2.6						
MKAR	**Makanchi Array**	**116.99**	**310**	PKP	**PKPdf**	**19 23 16.9**	**+1.1**
	0.5nm,0.6s,baz=206,slow=1.3,SNR=11						
ZALV	**Zalesovo Beam**	**117.17**	**319**	PKP	**PKPdf**	**19 23 16.6**	**+0.7**
	0.8nm,0.6s,baz=101,slow=1.5,SNR=5.0						
KURK	**Kurchatov**	**120.23**	**314**	*e*P	**PKPdf**	**19 23 22.8**	**+1.0**
AAK	**Ala-Archa**	**121.41**	**304**	PKP	**PKPdf**	**19 23 25.9**	**+1.3**
	0.3nm,0.3s,baz=143,slow=5.8,SNR=4.3						
KKAR	**Karatay Array**	**124.37**	**304**	*e*P	**PKPdf**	**19 23 31.4**	**+1.3**
GEYT	**Alibeck**	**132.97**	**296**	PKP	**PKPdf**	**19 23 50.0**	**+3.3**
	0.7nm,0.6s,baz=238,slow=2.7,SNR=3.4						
GEYT				SKPab	**SKiKP**	**19 26 56.0**	**-3.7**
	1.3nm,0.8s,baz=151,slow=3.4,SNR=4.6						
ARCES	**ARCESS Array B**	**137.57**	**348**	PKP	**PKPdf**	**19 23 54.6**	**+0.3**
	4.2nm,0.9s,baz=96,slow=1.8,SNR=10.0						
KAF	**Kangasniemi**	**143.55**	**341**	*e*p	PKPab	19 24 01.2	-1.1
FINES	**FINESS Array B**	**144.14**	**340**	PKP	**PKPdf**	**19 24 05.2**	**-1.0**
	6.7nm,0.6s,baz=76,slow=3.2,SNR=49						
KBZ	**Khabaz**	**144.40**	**305**	PKP	**PKPdf**	**19 24 07.7**	**+0.5**
	2.2nm,0.8s,baz=144,slow=3.5,SNR=5.0						
NB2	**NORSAR Subarra**	**147.74**	**351**	PKP	**PKPab**	**19 24 16.2**	**-2.5**
	comp=Z,6.0nm,0.6s,baz=15,slow=2.9						
NOA	**NORSAR Array B**	**147.74**	**351**	PKPbc	**PKPab**	**19 24 16.3**	**-2.3**
	comp=Z,5.9nm,0.7s,baz=15,slow=4.5,SNR=24						
NACGM	**Naroch**	**148.82**	**332**	*e*	**PKPbc**	**19 24 18.0**	**-0.5**
AKASG	**Malin Array Be**	**150.39**	**324**	PKPbc	**PKPbc**	**19 24 23.6**	**+1.2**
	comp=Z,8.7nm,0.4s,baz=46,slow=3.2,SNR=43						
KIEV	**Kiev**	**150.41**	**324**	*e*PKPbc	**PKPbc**	**19 24 23.4**	**+1.0**
BRTR	**Keskin Array B**	**151.96**	**300**	PKPbc	**PKPbc**	**19 24 28.2**	**+1.6**
	comp=Z,1.6nm,0.6s,baz=145,slow=5.8,SNR=12						
BRTR				PKPab	**PKPab**	**19 24 37.8**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=125,slow=3.7,SNR=11						
DBIC	**Dimbokro**	**156.54**	**163**	SKP	**SKPdf**	**19 27 40.6**	**+5.2**
	comp=Z,6.6nm,1.1s,baz=192,slow=6.6,SNR

0.7nm,0.3s,baz=272,slow=12,SNR=5.7
PLCA Paso Flores 22.80 186 P P 19 49 36.8 -0.1
2.3nm,0.4s,baz=333,slow=14,SNR=11
DBIC Dimbokro 66.46 74 P P 19 55 17.8 -0.7
2.3nm,0.5s,baz=216,slow=7.0,SNR=5.5
ULM Lac du Bonnet 72.44 341 P P 19 55 52.9 -1.3
1.9nm,0.5s,baz=135,slow=5.7,SNR=2.3
TORD Torodi Ar. Bea 74.91 71 P P 19 56 09.7 +0.4
3.2nm,0.4s,baz=254,slow=5.4,SNR=68
YKA Yellowknife Ar 88.37 340 P P 19 57 20.0 +1.7
1.3nm,0.6s,baz=135,slow=4.5,SNR=27

GUC 24 19:48:06.4±0.6,34°.81S×72°.20W,h32km±4km,ML3.7,6C,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.75**	**142**	⇑*i*P	Pb	19 48 21.6	+0.5
TALC				*i*S	Sb	19 48 32.0	+0.9
NICH	**Los Niches**	**0.82**	**104**	*e*P	Pb	19 48 22.5	+0.2
NICH				*i*S	Sb	19 48 34.7	+1.5
LNV	**Longovilo**	**1.07**	**38**	⇑*i*P	Pb	19 48 26.0	-0.5
LNCH	**Linares**	**1.15**	**155**	⇑*i*P	Pb	19 48 27.5	-0.3
LNCH				*i*S	Sb	19 48 43.7	+1.3
COCH	**Cobquecura**	**1.41**	**200**	⇑*i*P	Pn	19 48 30.1	+0.3
COCH				*i*S	Sb	19 48 49.0	-0.6
CHCH	**Chadas Angostu**	**1.55**	**56**	⇑*i*P	Pb	19 48 34.1	-0.5
RCDM	**Rinconada Maip**	**1.75**	**42**	*e*P	Pb	19 48 36.9	-1.1
RCDM				*i*S	Sb	19 48 59.9	+0.3
RCDM				IAML		19 49 03.8	
comp=E,713nm,0.5s
CLCH Cerro Calan 1.97 45 *e*P Pb 19 48 40.5 -1.3
CLCH *i*S Sb 19 49 06.2 +0.1
CLCH IAML 19 49 13.1
comp=N,2μm,0.4s
FCH Farellones 2.17 48 ⇑*i*P Pn 19 48 39.5 -1.2
FCH *i*S4 Sn 19 49 05.3 -1.5
FCH IAML 19 49 15.6
comp=N,644nm,0.6s

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*IDC **24** 19:50:10.5±0.5, 17°.41S×171°.96W,h0km,mb4.6/17, mb1 4.9/17,mb1mx4.7/38,mbtmp4.7/17,MS3.9/22, Ms1 3.9/22,ms1mx3.8/33,Error ellipse: s-maj=19.3km s-min=15.2km az=128.0*
*NEIC **24** 19:50:13.7±5.2, 17°.42S×172°.01W,h19km±31km,mb5.2/39, Error ellipse: s-maj=9.0km s-min=5.2km az=147.0*
*GCMT **24** 19:50:13.7±0.3,17°.30S×171°.62W,h12km,MW5.0/80, Moment Tensor Solution. s28,c32; s80,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.93±.10; $M_{\theta\theta}$-0.22±.11; $M_{\phi\phi}$3.15±.07; $M_{r\theta}$1.75±.43; $M_{\theta\phi}$0.49±.09; $M_{\phi r}$0.26±.28; Best double couple: $M_0$3.52700×10^{16} NP1:ϕ_s212.00000°,δ55.00000°,λ-58.00000°. NP2: ϕ_s345.00000°,δ46.00000°,λ-127.00000°. Principal axes: T 3.2660, Plg5.0000°, Azm281.0000°; N 0.5210, Plg26.0000°, Azm13.0000°; P -3.7890, Plg64.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **24** 19:50:14.4±0.2, 17°.47S±0°.06×172°.01W±0°.04,h33km, mb5.1/66,MS3.9/22 Error ellipse: s-maj=9.1km s-min=3.6km az=154.8*
*BJI **24** 19:50:14.6, 17°.17S×171°.66W,h33km,mB5.4/14, mb5.1/15,Ms5.0/8,Ms7 4.6/12*
*SZGRF **24** 19:50:15.4, 16°.07S×171°.37W,h32km,Samoa Islands region*
*MOS **24** 19:50:17.1±1.2, 17°.20S×171°.81W,h33km,mb5.3/13, Error ellipse: s-maj=15.1km s-min=10.8km az=69.0*
ISC 24 19:50:15.8±0.4,17°.52S±0°.07×171°.86W±0°.06,h33km±1km,
h32km:pP-P,n508,σ0°.84/531,mb5.1/66,MS3.9/22,
144C-122D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.59**	**1**	P	Pn	19 51 03.6	-5.7
AFI	**Afiamalu**	**3.59**	**1**	Pn	Pn	19 51 03.6	-5.7
MSVF	**Nonsavu**	**9.62**	**267**	Pn	**Pn**	**19 52 34.3**	**+2.2**
283nm,1.0s,SNR=7.2
MSVF Nonsavu 9.62 267 *e*P **Pn 19 52 33.2 +1.1**
MSVF pmax pmax
comp=Z,76nm,1.0s
MSVF Nonsavu 9.62 267 *e*P **Pn 19 52 33.2 +1.1**
comp=Z,76nm,1.0s
DZM Mont Dzumac 20.90 254 P **P 19 54 52.6 -3.0**
comp=Z,7.9nm,0.9s,baz=95,slow=13,SNR=3.0
DZM LR LR 20 01 35.2
comp=Z,1μm,21.8s,baz=86,slow=33
PPT2 Papeete2 21.25 94 *e*S **S 19 58 54.2 +0.2**
comp=Z,550nm,27.8s
PPT2 *e*LR LR 19 59 52.9
comp=Z,2μm,26.0s,baz=257
PPT Papeete 21.25 93 LR LR 20 00 45.6
comp=Z,467nm,20.6s,baz=224,slow=30
TBI Tubuai 21.77 109 *e*S **S 19 59 04.2 +0.3**
comp=Z,1μm,27.2s
TBI *e*LR LR 19 59 59.6
comp=Z,2μm,29.0s,baz=284
URZ Urewera 22.80 203 P **P 19 55 15.5 -0.3**
comp=Z,22nm,0.7s,baz=45,slow=11,SNR=3.9
URZ S **S 19 59 24.1 +1.4**
comp=Z,14nm,0.9s,baz=38,slow=12,SNR=4.0
URZ LR LR 20 04 14.7
comp=Z,118nm,21.1s,baz=20,slow=37
HNR Honiara 28.54 283 LR LR 20 05 48.2
comp=Z,733nm,21.2s,baz=108,slow=33
RMQ Roma 37.46 249 P **P 19 57 25.3 -1.1**
baz=38,SNR=7.3
CNB Canberra Magne 38.69 235 P **P 19 57 36.2 -0.5**
baz=39,SNR=6.1
PMG Port Moresby 40.59 276 LR LR 20 12 47.9
comp=Z,115nm,21.1s,baz=36,slow=34
CMSA Cobar Meteorol 40.80 242 P **P 19 57 53.1 -1.1**
baz=41,SNR=14
QLP Quilpie 41.51 250 P **P 19 57 58.5 -1.7**
baz=42,SNR=12
TOO Toolangi 42.32 233 P **P 19 58 06.4 -0.3**
baz=42,SNR=8.8
COEN Coen 43.35 268 P **P 19 58 15.3 +0.1**
baz=44,SNR=3.8
COEN Coen 43.35 268 *e*P **P 19 58 14.9 -0.3**
comp=Z,181nm,1.1s
JAY Jayapura 48.86 282 P **P 19 58 58.9 +0.1**
comp=Z,16nm,1.0s,baz=119,slow=1.9,SNR=5.9
JAY LR LR 20 17 16.7
comp=Z,147nm,20.1s,slow=33
BBOO Buckleboo 49.06 242 P **P 19 58 59.2 -0.8**
baz=49,SNR=18
BBOO Buckleboo 49.06 242 *e*P **P 19 58 59.2 -0.8**
comp=Z,164nm,0.7s
WB2 Warramunga Arr 50.82 258 *e*P **P 19 59 11.2 -2.3**
WRAB Tennant Creek 50.82 258 P **P 19 59 12.8 -0.7**
comp=Z,304nm,1.1s,SNR=14
WRAB Tennant Creek 50.82 258 *e*P **P 19 59 11.3 -2.2**
WRAB Tennant Creek 50.82 258 *e*P **P 19 59 11.3 -2.2**
comp=Z,67nm,1.1s
WRA Warramunga Arr 50.83 258 P **P 19 59 11.8 -1.9**
comp=Z,52nm,1.1s,baz=96,slow=7.5,SNR=135
WRA LR LR 20 18 45.4
comp=Z,434nm,21.7s,baz=275,slow=34
AS31 Alice Springs 50.89 253 *e*P **P 19 59 12.8 -1.3**
ASAR Alice Springs 50.89 253 P **P 19 59 13.2 -0.9**
comp=Z,51nm,0.9s,baz=86,slow=8.4,SNR=336
ASAR LR LR 20 19 26.2
comp=Z,205nm,20.2s,baz=92,slow=34
MTN Manton Dam 55.05 266 P **P 19 59 43.9 -0.8**
baz=55,SNR=6.3
FORT Forrest 55.80 244 *e*P **P 19 59 48.7 -1.3**
comp=Z,57nm,1.2s
WRKA Warakurna 55.89 251 P **P 19 59 49.8 -1.0**
baz=56,SNR=36
KNRA Kununurra 56.73 262 P **P 19 59 55.8 -1.0**
baz=57,SNR=9.4
RPN Rapa Nui 58.13 111 LR LR 20 19 10.2
comp=Z,83nm,21.3s,baz=310,slow=30
SBA Scott Base 61.27 185 *e*P **P 20 00 29.4 +2.1**
SBA pmax pmax
comp=Z,44nm,1.7s
SBA Scott Base 61.27 185 *e*P **P 20 00 29.4 +2.1**
comp=Z,44nm,1.7s
VNDA Vanda 61.43 186 P **P 20 00 30.0 +1.6**
VNDA Vanda 61.43 186 P **P 20 00 30.0 +1.6**
comp=Z,6.2nm,1.0s,baz=11,slow=6.6,SNR=18
SOEI Soe 62.31 268 P **P 20 00 35.0 -0.5**
comp=Z,210nm,1.0s,comp=Z,2μm
SOEI Soe 62.31 268 ⇓P **P 20 00 36.5 +1.0**
baz=62,SNR=17
TNTI Ternate 62.49 280 *e*P **P 20 00 36.4 -0.1**
comp=Z,79nm,1.1s
BATI Baumata 62.78 267 P **P 20 00 38.8 +0.3**
comp=Z,34nm,1.0s
MBWA Marble Bar 64.20 255 *e*P **P 20 00 47.3 -0.5**
comp=Z,102nm,1.4s
MEEK Meekatharra 64.39 248 P **P 20 00 48.4 -0.6**
baz=64,SNR=4.6
MMRI Maumere 64.54 269 P **P 20 00 50.3 +0.2**
comp=Z,65nm,1.2s,comp=Z,2μm
MMRI Maumere 64.54 269 *e*P **P 20 00 49.2 -0.9**
comp=Z,22nm,0.8s
NWAO Narrogin (SRO) 64.88 241 P **P 20 00 52.2 +0.1**
baz=65,SNR=4.5
EDFI Ende, Flores 65.03 268 P **P 20 00 52.2 -1.3**
comp=Z,69nm,1.0s
BLDU Ballidu 65.57 244 P **P 20 00 55.7 -0.9**
baz=66,SNR=5.1
KMSI Cibinong 65.61 279 P **P 20 00 56.3 -0.8**
comp=Z,64nm,0.8s
LUWI Luwuk 66.23 277 P **P 20 01 01.6 +0.5**
comp=Z,70nm,1.3s,comp=Z,931nm
LUWI Luwuk 66.23 277 P **P 20 01 01.8 +0.8**
baz=66,SNR=4.5
LUWI Luwuk 66.23 277 *e*P **P 20 01 01.6 +0.5**
comp=Z,118nm,1.4s
MORW Morawa 66.33 245 ⇓P **P 20 01 01.0 -0.5**
baz=66,SNR=6.4
WBSI Waikabubak, Su 66.99 267 P **P 20 01 06.6 +0.6**
comp=Z,50nm,1.3s,comp=Z,764nm
APSI Ampana 67.34 276 P **P 20 01 09.0 +0.9**
comp=Z,75nm,1.3s,comp=Z,943nm
BNSI Bone 67.74 272 P **P 20 01 11.4 +0.7**
CASY Casey 69.11 205 *e*P **P 20 01 18.4 +0.1**
comp=Z,7.1nm,0.9s
MJAR Matsushiro Arr 71.50 319 LR LR 20 26 23.2
comp=Z,28nm,21.9s,baz=300,slow=30
PKM Mcpherson Peak 71.82 43 ⇑P **P 20 01 36.3 +0.7**
baz=72
QSPA South Pole Qui 72.53 180 P **P 20 01 40.1 +0.7**
comp=Z,10nm,0.8s,baz=30,slow=1.0,SNR=43
TSM Tawau 72.60 280 ⇑P **P 20 01 40.2 -0.2**
ARVC Arvin 72.61 43 ⇑P **P 20 01 40.6 +0.5**
baz=73
MURC Murrieta 72.80 45 ⇓P **P 20 01 41.7 +0.4**
baz=73
BFSC Mount Baldy Ra 72.86 45 ⇑P **P 20 01 42.3 +0.6**
baz=73
VES Vestal, Richgr 72.87 43 ⇑P **P 20 01 42.9 +1.3**
baz=73
JOW Kunigami 72.92 306 LR LR 20 34 07.8
comp=Z,44nm,18.6s,baz=162,slow=36
MONP Monument Peak, 72.92 46 ⇑P **P 20 01 42.4 +0.1**
baz=73,SNR=6.8
EDW2 Edwards Air Fo 73.01 44 ⇓P **P 20 01 42.5 -0.1**
baz=73,SNR=13
ISA Isabella, Lake 73.16 43 *e*P **P 20 01 43.6 +0.2**
ISA pmax pmax
comp=Z,25nm,1.3s
ISA Isabella, Lake 73.16 43 ⇓P **P 20 01 43.2 -0.2**
baz=73,SNR=15
ISA Isabella, Lake 73.16 43 *e*P **P 20 01 43.6 +0.2**
comp=Z,25nm,1.3s
PFO Pinyon Flats O 73.31 46 P **P 20 01 42.0 -2.4**
comp=Z,62nm,0.4s,SNR=15
PFO Pinyon Flats O 73.31 46 LR LR 20 25 36.2
comp=Z,97nm,19.6s,baz=258,slow=29
PFO Pinyon Flats O 73.31 46 ⇓P **P 20 01 44.2 -0.2**
baz=74,SNR=6.9
SWSC Sam W. Stewart 73.39 47 ⇓P **P 20 01 45.0 +0.3**
baz=74
CMB Columbia Colle 73.40 40 *e*P **P 20 01 44.8 +0.1**
CMB pmax pmax
comp=Z,13nm,1.0s
CMB Columbia Colle 73.40 40 *e*P **P 20 01 44.8 +0.1**
comp=Z,13nm,1.0s
LRMC Laurel Mtn Rad 73.57 44 ⇑P **P 20 01 45.9 0.0**
baz=74,SNR=8.6
SDKM Sandakan 73.69 281 ⇓P **P 20 01 46.5 -0.5**
BELC Belle Mtn. Jos 73.84 46 ⇑P **P 20 01 47.7 +0.1**
baz=74,SNR=8.7
N02D Trinity Center 73.92 37 ⇑P **P 20 01 48.0 +0.3**
baz=74
BC3 Big Chuckawall 74.02 46 ⇑P **P 20 01 48.9 +0.3**
baz=74,SNR=12
MPMC Manual Prospec 74.04 43 ⇓P **P 20 01 49.0 +0.3**
baz=74,SNR=23
GSC Goldstone, Bar 74.05 44 *e*P **P 20 01 47.7 -0.9**
GSC pmax pmax
comp=Z,30nm,1.4s
GSC Goldstone, Bar 74.05 44 ⇓P **P 20 01 49.0 +0.4**
baz=74
GSC Goldstone, Bar 74.05 44 *e*P **P 20 01 47.7 -0.9**
comp=Z,30nm,1.4s
HEC Hector,Ludlow 74.09 45 ⇑P **P 20 01 48.6 -0.3**
baz=74,SNR=5.9
M02C Callahan 74.11 36 ⇑P **P 20 01 49.7 +0.8**
baz=74
GLA Glamis 74.12 47 *e*P **P 20 01 49.6 +0.5**
GLA pmax pmax
comp=Z,24nm,1.2s
GLA Glamis 74.12 47 ⇓P **P 20 01 49.7 +0.5**
baz=74
GLA Glamis 74.12 47 *e*P **P 20 01 49.6 +0.5**
comp=Z,24nm,1.2s
L02D Cave Junction, 74.20 35 ⇓P **P 20 01 50.5 +1.2**
baz=74
WAKR Walker 74.28 40 *e*P **P 20 01 50.0 -0.1**
comp=Z,33nm,1.4s
KDM Kudat 74.46 283 ⇑P **P 20 01 51.3 -0.1**
IRM Iron Mountain 74.52 46 ⇑P **P 20 01 51.5 +0.1**
baz=75,SNR=11
GMRC Granite Mounta 74.52 45 ⇓P **P 20 01 51.4 -0.1**
baz=75,SNR=12
GRAC Grapevine Rang 74.67 43 ⇓P **P 20 01 52.6 +0.4**
baz=75
FURC Furnace Creek, 74.69 43 ⇑P **P 20 01 52.8 +0.6**
baz=75
TUQ Turquoise Moun 74.71 45 ⇑P **P 20 01 52.8 +0.2**
baz=75,SNR=15
113A Mohawk Valley, 74.71 48 ⇑P **P 20 01 52.6 +0.1**
baz=75,SNR=11
KKM Kota Kinabalu 74.74 281 ⇓P **P 20 01 53.2 0.0**
SHOC Shoshone, Teco 74.74 44 ⇑P **P 20 01 53.1 +0.5**
baz=75
NVAR Mina Array Bea 74.94 41 P **P 20 01 54.0 +0.1**
comp=Z,11nm,0.8s,baz=226,slow=9.9,SNR=72
M04C Macdoel 74.94 36 ⇑P **P 20 01 55.0 +1.2**
baz=75
214A Organ Pipe Nat 74.96 49 ⇑P **P 20 01 54.2 +0.3**
baz=75,SNR=6.1
214A Organ Pipe Nat 74.96 49 *e*P **P 20 01 54.4 +0.4**
comp=Z,21nm,1.3s
PETK Petropavlovsk- 75.10 342 LR LR 20 33 12.8
comp=Z,20nm,20.4s,baz=132,slow=34
PDMCI Parker Dam,Lak 75.29 46 ⇓P **P 20 01 56.0 +0.3**
baz=76,SNR=10.0
TPNV Topopah Spring 75.37 43 ⇑P **P 20 01 56.6 +0.2**
baz=76,SNR=10.0
TPH Tonopah 75.41 42 *e*P **P 20 01 56.4 -0.2**
TPH pmax pmax
comp=Z,27nm,1.0s
TPH Tonopah 75.41 42 *e*P **P 20 01 56.4 -0.2**
comp=Z,27nm,1.0s
Z14A Wintersburg 75.61 48 ⇓P **P 20 01 58.6 +1.0**
baz=76
SHPR Sheep Range 75.83 44 *e*P **P 20 01 59.3 +0.3**
Y14A Wickenburg 75.88 47 ⇑P **P 20 01 59.5 +0.3**
baz=76,SNR=14
MOD Modoc Plateau 75.89 37 *e*P **P 20 01 59.1 -0.1**
comp=Z,14nm,1.1s
W13A Hualapai Mount 75.90 46 ⇓P **P 20 02 00.1 +0.5**
baz=76,SNR=9.8
J05D Fort Rock, OR 76.26 36 ⇓P **P 20 02 01.7 +0.4**
baz=76
R11A Troy Canyon, C 76.61 42 ⇓P **P 20 02 03.7 +0.3**
baz=77,SNR=13
TUC Tucson 76.61 50 *e*P **P 20 02 04.3 +0.9**
TUC pmax pmax
comp=Z,35nm,1.4s
TUC Tucson 76.61 50 *e*P **P 20 02 04.3 +0.9**
comp=Z,35nm,1.4s
BMN Battle Mountai 76.81 40 *e*P **P 20 02 04.5 0.0**
BMN pmax pmax
comp=Z,23nm,1.4s
BMN Battle Mountai 76.81 40 *e*P **P 20 02 04.5 0.0**
comp=Z,23nm,1.4s
I05D Terrebonne, OR 76.89 35 ⇑P **P 20 02 05.2 +0.5**
baz=77
WVOR Wild Horse Val 77.19 37 *e*P **P 20 02 06.0 -0.6**
WVOR pmax pmax
comp=Z,22nm,1.4s
WVOR Wild Horse Val 77.19 37 *e*P **P 20 02 06.0 -0.6**
comp=Z,22nm,1.4s
X16A Lo Mia Camp, P 77.23 47 ⇑P **P 20 02 07.8 +0.7**
baz=77,SNR=16
319A Douglas 77.25 51 ⇓P **P 20 02 07.4 +0.3**
baz=77,SNR=10
SBUM Sibu 77.33 277 ⇓P **P 20 02 08.4 +0.6**
ARUT Antelope Range 77.69 44 *e*P **P 20 02 10.2 +0.7**
ARUT Antelope Range 77.69 44 *e*P **P 20 02 10.2 +0.7**
comp=Z,281nm,1.3s
U15A North Rim 77.71 45 ⇑P **P 20 02 10.6 +0.8**
baz=78,SNR=20
WUAZ Wupatki 77.86 47 ⇑P **P 20 02 11.1 +0.6**
baz=78,SNR=8.4
WUAZ Wupatki 77.86 47 *e*P **P 20 02 11.1 +0.6**
comp=Z,24nm,1.3s
X18A Snowflake 78.34 48 ⇑P **P 20 02 13.5 +0.3**
baz=78
KSRS Korea Array 78.70 315 P **P 20 02 15.3 +0.5**
comp=Z,3.3nm,1.0s,baz=133,slow=7.0,SNR=6.2
KSRS LR LR 20 30 52.0
comp=Z,30nm,20.1s,baz=110,slow=31
KSAR Wonju Array Be 78.72 315 P **P 20 02 15.3 +0.4**
KSAR Wonju Array Be 78.72 315 P **P 20 02 15.3 +0.4**
W18A Petrified Fore 78.80 48 ⇓P **P 20 02 16.1 +0.4**
baz=79
KSM Kuching 78.84 275 *e*P **P 20 02 15.8 -0.4**
comp=Z,40nm,1.3s
MVU Marysvale 78.89 44 *e*P **P 20 02 17.1 +0.9**
comp=Z,28nm,1.4s
121A Cookes Peak, D 78.92 51 ⇓P **P 20 02 17.1 +0.7**
baz=79,SNR=7.2
DUG Dugway, Tooele 79.43 42 ⇓P **P 20 02 18.7 -0.3**
baz=80,SNR=7.8
LENM Lemitar 80.30 50 *e*P **P 20 02 24.7 +0.8**
comp=Z,8.1nm,0.9s
HLID Hailey 80.35 38 ⇓P **P 20 02 24.0 +0.1**
baz=80,SNR=13
HLID Hailey 80.35 38 *e*P **P 20 02 24.1 +0.1**
comp=Z,6.5nm,0.9s
TXAR Lajitas Array 80.58 55 P **P 20 02 26.2 +0.8**
comp=Z,6.2nm,0.9s,baz=218,slow=7.9,SNR=36
TXAR LR LR 20 29 30.9
comp=Z,54nm,21.9s,baz=0.0,slow=29
MVCO Mesa Verde 80.72 46 ⇓P **P 20 02 26.2 0.0**
baz=81
TCUT Toone Canyon 80.83 42 *e*P **P 20 02 27.2 +0.5**
comp=Z,51nm,1.4s
ANMO Albuquerque 81.05 49 *e*P **P 20 02 27.9 0.0**
ANMO pmax pmax
comp=Z,14nm,1.0s
ANMO Albuquerque 81.05 49 *e*P **P 20 02 27.9 0.0**
comp=Z,14nm,1.0s
PV01 Paradox Valley 81.13 45 *e*P **P 20 02 28.7 +0.3**
comp=Z,2μm,1.3s
V22A San Miguel Ran 81.19 48 ⇑P **P 20 02 29.0 +0.3**
baz=81
U22A Llaves 81.45 48 ⇑P **P 20 02 30.5 +0.4**
baz=82
MDJ Mudanjiang 81.60 322 P **P 20 02 31.6 +1.3**
MDJ pP **pP 20 02 40.3 -0.5**
MDJ sP **sP 20 02 43.6 -1.0**
MDJ PP **PP 20 05 37.3 -0.1**
MDJ sS **sS 20 12 58.8 +1.3**
MDJ PMZ
comp=Z,3.0nm,0.9s
MDJ PMZ
comp=Z,66nm,4.9s
MDJ LN
comp=Z,52nm,6.7s
MDJ LE
comp=Z,84nm,8.0s
MDJ LZ
comp=Z,90nm,4.9s
V23A Ortiz Mt. (NFS 81.63 49 ⇓P **P 20 02 31.4 +0.4**
baz=82
NEW Newport 81.64 33 ⇓P **P 20 02 31.4 +0.9**
baz=82
U23A El Rito 81.90 48 ⇑P **P 20 02 33.1 +0.7**
baz=82,SNR=6.8
W24A Lazy 6 Ranch, 81.93 49 ⇓P **P 20 02 32.8 +0.2**
baz=82,SNR=12
MCMT McKenzie Canyo 81.99 38 *e*P **P 20 02 32.7 0.0**
comp=Z,9.0nm,1.5s
529A Stev Forest Ra 82.06 55 ⇑P **P 20 02 33.6 +0.4**
baz=82,SNR=13
S22A 4UR Ranch, Cre 82.14 47 ⇑P **P 20 02 34.5 +0.8**
baz=82,SNR=28
V24A Rampart Ranch, 82.27 49 ⇑P **P 20 02 35.0 +0.6**
baz=82,SNR=7.5
T23A Casias Ranch, 82.35 47 ⇑P **P 20 02 35.5 +0.6**
baz=82
O20A White River Ci 82.36 44 ⇓P **P 20 02 35.3 +0.6**
baz=83
429A Davenport Ranc 82.53 55 ⇓P **P 20 02 35.8 +0.1**
baz=83,SNR=17
NJ2 Nanjing 82.61 307 *e*P **P 20 02 36.9 +1.0**
NJ2 PMZ
comp=Z,40nm,0.7s
W25A X Bar L Ranch, 82.62 50 ⇓P **P 20 02 35.9 -0.3**
baz=83
228A UT Block 9, Go 82.63 53 ⇑P **P 20 02 36.6 +0.4**
baz=83
BSMT Bassoo Peak 82.64 35 *e*P **P 20 02 35.3 -0.7**
comp=Z,24nm,1.5s
N20A Spence Gulch, 82.70 43 ⇑P **P 20 02 36.6 +0.1**
baz=83,SNR=12
530A J-C Ranch, Com 82.76 55 ⇑P **P 20 02 37.2 +0.4**
baz=83,SNR=7.9
LRM Limekiln Ridge 82.78 37 *e*P **P 20 02 36.5 -0.4**
comp=Z,74nm,1.3s
V25A Rancho No Teng 82.80 49 ⇓P **P 20 02 37.4 +0.3**
baz=83,SNR=17
T24B San Luis 82.82 48 ⇑P **P 20 02 38.0 +0.7**
baz=83,SNR=8.0
329A Wagon Wheel Ra 82.83 54 ⇑P **P 20 02 37.2 0.0**
baz=83
QLMT Earthquake Lak 82.83 39 *e*P **P 20 02 37.7 +0.6**
comp=Z,1.6nm,1.0s
I17A Pilgrim Ck. 82.86 40 ⇑P **P 20 02 38.6 +1.3**
baz=83
PDAR Pinedale Array 82.87 41 P **P 20 02 37.0 -0.4**
comp=Z,4.2nm,0.9s,baz=205,slow=3.1,SNR=23
128A Castleberry Fa 82.93 53 ⇓P **P 20 02 38.2 +0.4**
baz=83,SNR=6.4
CHMT Chamberlain Mo 82.95 36 *e*P **P 20 02 36.5 -1.1**
comp=Z,1.7nm,0.8s
R23A Moffat 83.05 47 ⇑P **P 20 02 38.9 +0.5**
baz=83,SNR=10
631A Perdido Creek 83.06 56 ⇑P **P 20 02 38.4 0.0**
baz=83,SNR=14
SDCO Great Sand Dun 83.06 47 ⇓P **P 20 02 38.5 0.0**
baz=83,SNR=12
W26A Owens Ranch, T 83.07 50 ⇓P **P 20 02 39.0 +0.6**
baz=83
832A Faith Ranch, C 83.08 58 ⇓P **P 20 02 39.2 +0.7**
baz=83
P22A Eagle 83.09 45 ⇓P **P 20 02 38.9 +0.4**
baz=83,SNR=7.7
430A Baggett Ranch, 83.11 55 ⇑P **P 20 02 38.3 -0.4**
baz=83
229A Bryant Ranch, 83.17 54 ⇓P **P 20 02 39.0 0.0**
baz=83
U25A Circle Dot Ran 83.20 49 ⇓P **P 20 02 39.2 0.0**
baz=83,SNR=13
S24A Houchin Ranch, 83.21 47 ⇓P **P 20 02 39.7 +0.3**
baz=83,SNR=13
732A Laxson Ranch, 83.26 57 ⇓P **P 20 02 39.3 -0.1**
baz=83
Z28A Tucker Farm, M 83.30 52 ⇑P **P 20 02 39.8 +0.2**
baz=84
MSTX Muleshoe 83.31 51 ⇓P **P 20 02 39.7 +0.1**
baz=84,SNR=5.8
933A Laredo 83.38 58 ⇓P **P 20 02 40.5 +0.5**
baz=84
V26A Tequesquite Ra 83.38 49 ⇑P **P 20 02 40.0 0.0**
baz=84,SNR=8.8
Q23A Hartsel 83.38 46 ⇓P **P 20 02 40.2 0.0**
baz=84
531A Rocksprings 83.39 56 ⇑P **P 20 02 40.2 +0.1**

baz=84,SNR=14
330A **Mertzon** 83.42 54 ⇑P P 20 02 39.5 -0.7
baz=84
J19A **Crowheart** 83.45 41 ⇓P P 20 02 40.0 -0.3
baz=84,SNR=10
O22A **Kremmling** 83.50 44 ⇓P P 20 02 40.3 -0.5
baz=84,SNR=16
T25A **Trinidad** 83.54 48 ⇑P P 20 02 40.7 -0.2
baz=84,SNR=6.6
431A **Sonora** 83.56 55 ⇑P P 20 02 40.8 -0.1
baz=84
833A **Chaparral WMA,** 83.56 58 ⇑P P 20 02 41.1 +0.1
baz=84
R24A **Sanders Place,** 83.56 47 ⇓P P 20 02 41.1 +0.1
baz=84,SNR=14
P23A **Jefferson** 83.60 45 ⇓P P 20 02 41.7 +0.3
baz=84,SNR=9.4
034A **Hebbronville** 83.64 59 ⇓P P 20 02 42.6 +1.2
baz=84,SNR=9.9
U26A **Atchley Ranch,** 83.68 49 ⇓P P 20 02 41.8 +0.1
baz=84
632A **Uvalde** 83.72 57 ⇓P P 20 02 42.3 +0.5
baz=84,SNR=8.6
S25A **Robets Cordova** 83.77 47 ⇓P P 20 02 42.0 0.0
baz=84,SNR=14
Z29A **Hungry Hill Ra** 83.80 52 ⇓P P 20 02 42.2 0.0
baz=84
733A **Divot King Ran** 83.80 57 ⇓P P 20 02 42.3 +0.1
baz=84
H18A **Shoshone NF, C** 83.81 39 ⇓P P 20 02 43.1 +0.9
baz=84
WALA **Waterton Lakes** 83.82 34 *e*P P 20 02 40.9 -1.1
comp=Z,0.1nm,0.8s
Q24A **Divide** 83.88 46 ⇓P P 20 02 42.7 0.0
baz=84,SNR=7.3
N22A **Wattenberg Ran** 83.88 44 ⇑P P 20 02 43.1 +0.5
baz=84,SNR=13
532A **Rocksprings** 83.88 56 ⇑P P 20 02 42.7 +0.1
baz=84,SNR=11
I19A **Meeteetse** 83.89 40 ⇓P P 20 02 42.6 0.0
baz=84,SNR=5.1
O23A **Lake Granby, G** 83.95 45 ⇑P P 20 02 43.1 0.0
baz=84,SNR=9.6
331A **San Angelo** 83.96 55 ⇓P P 20 02 43.4 +0.4
baz=84
ISCO **Idaho Springs** 83.96 45 ⇑P P 20 02 43.3 +0.1
baz=84,SNR=6.3
X28A **Dimmitt** 83.97 51 ⇓P P 20 02 43.4 +0.3
baz=84
V27A **Dan Oppiter Fa** 84.05 50 ⇓P P 20 02 43.5 +0.1
baz=84,SNR=5.8
M22A **Cedar Creek Ra** 84.08 43 ⇑P P 20 02 43.4 -0.2
baz=84,SNR=7.3
130A **Snyder** 84.08 53 ⇑P P 20 02 44.0 +0.4
baz=84
R25A **Fountain Ranch** 84.10 47 ⇑P P 20 02 43.2 -0.5
baz=84,SNR=8.2
J20A **Shoshoni** 84.10 41 ⇑P P 20 02 43.5 0.0
baz=84,SNR=7.1
T26A **Comanche Natio** 84.14 48 ⇑P P 20 02 43.5 -0.5
baz=84
834A **Tilden** 84.17 58 ⇓P P 20 02 44.6 +0.6
baz=84,SNR=5.3
633A **Saathoff Ranch** 84.19 57 ⇓P P 20 02 44.6 +0.5
baz=84
H19A **Powell** 84.22 40 ⇓P P 20 02 44.8 +0.6
baz=84
ILAR **Eielson Array** 84.24 10 P P 20 02 42.2 -1.3
comp=Z,5.2nm,1.1s,baz=217,slow=5.8,SNR=8.4
ILAR LR LR 20 35 28.4
comp=Z,46nm,19.0s,baz=160,slow=32
Z30A **Sanderson Ranc** 84.25 53 ⇓P P 20 02 44.2 -0.2
baz=84,SNR=6.6
N23A **Red Feather La** 84.26 44 ⇑P P 20 02 44.7 +0.1
baz=84,SNR=6.1
K21A **Alcova** 84.27 42 ⇑P P 20 02 44.6 +0.1
baz=84,SNR=11
432A **Menard** 84.28 55 ⇑P P 20 02 44.5 -0.1
baz=84
231A **Bronte** 84.30 54 ⇓P P 20 02 44.4 -0.3
baz=84,SNR=8.2
X29A **Tulia** 84.31 51 ⇓P P 20 02 44.8 +0.1
baz=84
U27A **Thompson Grove** 84.35 49 ⇑P P 20 02 44.8 -0.2
baz=84,SNR=6.0
I20A **Worland** 84.38 41 ⇑P P 20 02 45.2 +0.2
baz=85,SNR=6.0
S26A **Kim** 84.43 48 ⇑P P 20 02 45.5 +0.1
baz=85
734A **La Parita Cree** 84.44 58 ⇑P P 20 02 45.5 +0.1
baz=85
O24A **Longmont** 84.48 45 ⇑P P 20 02 46.0 +0.4
baz=85
Q25A **Bedland, Calha** 84.48 46 ⇑P P 20 02 45.9 +0.2
baz=85
V28A **Channing** 84.49 50 ⇓P P 20 02 46.3 +0.6
baz=85
L22A **Ellis Ranch, M** 84.49 43 ⇑P P 20 02 45.6 -0.1
baz=85,SNR=6.8
J21A **Lysite** 84.50 41 ⇑P P 20 02 45.6 0.0
baz=85,SNR=5.8
AMTX **Amarillo** 84.52 51 ⇑P P 20 02 46.0 +0.2
baz=85
332A **Millersview** 84.52 55 ⇓P P 20 02 45.7 -0.1
baz=85,SNR=7.3
533A **Kerrville** 84.55 56 ⇑P P 20 02 46.1 +0.1
baz=85
131A **Roby** 84.56 53 ⇑P P 20 02 46.1 +0.2
baz=85
W29A **Amarillo** 84.64 51 ⇓P P 20 02 46.4 -0.1
baz=85,SNR=6.0
Y30A **Stafford Cattl** 84.67 52 ⇓P P 20 02 46.6 +0.1
baz=85
M23A **Laramie** 84.69 44 ⇓P P 20 02 46.4 -0.2
baz=85,SNR=6.4
H20A **Greybull** 84.73 40 ⇓P P 20 02 46.6 -0.1
baz=85
K22A **Casper** 84.74 42 ⇓P P 20 02 46.7 -0.1
baz=85
K22A **Casper** 84.74 42 *e*P P 20 02 46.7 -0.1
comp=Z,14nm,1.1s
R26A **Arlington** 84.75 47 ⇓P P 20 02 46.9 -0.1
baz=85,SNR=8.5
U28A **Mallet** 84.77 49 ⇓P P 20 02 46.9 -0.2
baz=85
433A **Art** 84.78 56 ⇓P P 20 02 47.0 -0.1
baz=85
232A **Coleman** 84.80 54 ⇓P P 20 02 46.6 -0.6
baz=85,SNR=9.6
P25A **Willow Gulch B** 84.81 46 ⇓P P 20 02 47.4 +0.1
baz=85,SNR=9.4
I21A **Big Trails, Te** 84.83 41 ⇓P P 20 02 47.2 -0.1
baz=85,SNR=10.0
F19A **Roth Farm, Mol** 84.86 39 ⇑P P 20 02 47.4 +0.1
baz=85
X30A **Coker Ranch, T** 84.93 52 ⇑P P 20 02 48.3 +0.5
baz=85
N24A **Carr** 84.94 45 ⇑P P 20 02 48.8 +0.9
baz=85
SEY **Seymchan** 84.95 344 P P 20 02 46.2 -0.9
comp=Z,5.9nm,0.9s,baz=174,slow=9.9,SNR=4.4
534A **Blanco** 84.98 57 ⇓P P 20 02 48.3 +0.2
baz=85
Q26A **Hugo** 84.99 47 ⇓P P 20 02 48.6 +0.5
baz=85
Z31A **Sharp Cattle R** 85.01 53 ⇑P P 20 02 48.2 -0.1
baz=85
L23A **Garrett** 85.01 43 ⇓P P 20 02 48.1 -0.2
baz=85,SNR=8.5
QIZ **Qiongzhong** 85.06 292 P P 20 02 48.6 -0.1
QIZ S S 20 13 17.9 +1.6
QIZ LZ
comp=Z,130nm,26.6s
V29A **Stinnett** 85.06 50 ⇑P P 20 02 49.0 +0.5
baz=85
MYKOM **Kota Tinggi** 85.09 273 ⇑P P 20 02 49.8 +0.8
333A **Richland Sprin** 85.09 55 ⇑P P 20 02 48.6 -0.1
baz=85
ABTX **Abilene, Hawle** 85.11 54 ⇑P P 20 02 48.9 +0.2
baz=85,SNR=5.7
ABTX **Abilene, Hawle** 85.11 54 *e*P P 20 02 49.0 +0.2
comp=Z,33nm,1.1s
DAWY **Dawson** 85.11 14 *e*P P 20 02 46.6 -1.5
T28A **Walsh** 85.17 49 ⇑P P 20 02 49.1 0.0
baz=85
Y31A **Rekieta Farm,** 85.19 52 ⇓P P 20 02 49.5 +0.3
baz=85
R27A **Eads** 85.20 48 ⇓P P 20 02 49.2 0.0
baz=85
E19A **Rath Farm, Rou** 85.27 38 ⇓P P 20 02 49.5 +0.2
baz=86
F20A **Billings** 85.31 39 ⇓P P 20 02 49.8 +0.3
baz=86
K23A **Bowen Ranch, D** 85.37 43 ⇑P P 20 02 50.3 +0.4
baz=86
H21A **Big Horn, Sher** 85.39 40 ⇑P P 20 02 50.1 +0.1
baz=86
P26A **Davis Ranch, A** 85.39 46 ⇑P P 20 02 50.6 +0.4
baz=86
233A **Rising Star** 85.44 55 ⇑P P 20 02 50.4 0.0
baz=86
434A **Burnet** 85.45 56 ⇑P P 20 02 50.8 +0.3
baz=86
Z32A **Haskell** 85.51 53 ⇑P P 20 02 51.2 +0.4
baz=86,SNR=23
S28A **Manter** 85.53 48 ⇑P P 20 02 51.0 +0.1
baz=86
EGMT **Eagleton** 85.54 37 ⇓P P 20 02 50.7 +0.1
baz=86
EGMT **Eagleton** 85.54 37 *e*P P 20 02 50.2 -0.4
comp=Z,9.7nm,1.3s
D19A **Cripps Ranch,** 85.58 38 ⇓P P 20 02 51.2 +0.4
baz=86
V30A **Spur Ranch, Mi** 85.62 51 ⇑P P 20 02 52.0 +0.7
baz=86,SNR=5.0
KSCO **Kaye Shedlock'** 85.65 47 ⇓P P 20 02 52.2 +0.7
baz=86
133A **Hamilton Ranch** 85.66 54 ⇓P P 20 02 52.1 +0.7
baz=86
X31A **McDonald Ranch** 85.68 52 ⇑P P 20 02 52.1 +0.6
baz=86
334A **Lometa** 85.68 55 ⇑P P 20 02 51.7 +0.1
baz=86,SNR=7.7
E20A **Meyer Farm, Mu** 85.68 38 ⇑P P 20 02 51.9 +0.6
baz=86
Y32A **R-V Farms, Ver** 85.83 53 ⇑P P 20 02 52.6 +0.3
baz=86,SNR=8.1
K24A **Anderson Ranch** 85.88 43 ⇑P P 20 02 53.8 +1.3
baz=86
636A **Smothers Creek** 85.90 58 ⇓P P 20 02 53.8 +1.1
baz=86
P27A **Ficken Ranch,** 85.92 46 ⇓P P 20 02 53.4 +0.6
baz=86
R28A **Tribune** 85.92 48 ⇑P P 20 02 53.1 +0.4
baz=86,SNR=6.0
W31A **Holland Ranch,** 85.94 51 ⇓P P 20 02 53.0 +0.2
baz=86
U30A **WK&E Inc. Balk** 85.98 50 ⇑P P 20 02 53.6 +0.6
baz=86
D20A **Manuel Ranch,** 85.98 38 ⇑P P 20 02 53.3 +0.5
baz=86
234A **Clairette** 86.03 55 ⇓P P 20 02 53.8 +0.5
baz=86,SNR=6.3
Z33A **Whitaker Ranch** 86.05 53 ⇓P P 20 02 54.2 +0.8
baz=86
S29A **Ulysses** 86.10 49 ⇓P P 20 02 54.4 +0.7
baz=86
X32A **Elmer** 86.11 52 ⇑P P 20 02 53.7 0.0
baz=86,SNR=6.0
B19A **Brinkman Farms** 86.22 36 ⇑P P 20 02 54.2 +0.3
baz=86
V31A **Spring Creek L** 86.25 51 ⇓P P 20 02 55.2 +0.8
baz=86
134A **White-Moore Ra** 86.29 54 ⇓P P 20 02 55.4 +0.8
baz=86
W32A **Sentinel** 86.43 52 ⇑P P 20 02 55.5 +0.2
baz=87,SNR=9.6
Y33A **Hilltop Ranch,** 86.45 53 ⇑P P 20 02 55.8 +0.4
baz=87
WHTX **Lake Whitney,** 86.55 55 ⇑P P 20 02 56.8 +0.9
baz=87
WHTX **Lake Whitney,** 86.55 55 *e*P P 20 02 56.4 +0.5
comp=Z,42nm,1.3s
A19A **Klindworth Far** 86.59 36 ⇓P P 20 02 55.4 -0.4
baz=87
436A **Wall Ranch, Ga** 86.60 56 ⇑P P 20 02 57.1 +1.0
baz=87
BILL **Bilibino** 86.80 352 *e*P P 20 02 55.4 -0.9
BILL pmax pmax
comp=Z,15nm,1.2s
BILL **Bilibino** 86.80 352 *e*P P 20 02 55.3 -0.9
comp=Z,22nm,1.4s
135A **Vickery Place,** 86.81 55 ⇓P P 20 02 57.6 +0.5
baz=87
V32A **Arapaho** 86.83 51 ⇑P P 20 02 58.0 +0.8
baz=87
T31A **Randall Ranch,** 86.92 50 ⇓P P 20 02 58.0 +0.4
baz=87
PLCA **Paso Flores** 87.00 132 P P 20 02 58.0 -0.2
comp=Z,4.1nm,1.1s,baz=239,slow=7.1,SNR=4.5
PLCA LR LR 20 35 19.6
comp=Z,185nm,18.3s,baz=254,slow=31
A20A **Cobblestone Ra** 87.02 36 ⇓P P 20 02 58.2 +0.4
baz=87
W33A **Caddo, Fort Co** 87.02 52 ⇑P P 20 02 58.5 +0.3
baz=87
RSSD **Black Hills** 87.03 42 *e*P P 20 02 57.4 -0.9
RSSD pmax pmax
comp=Z,6.0nm,1.3s
RSSD **Black Hills** 87.03 42 *e*P P 20 02 57.4 -0.9
comp=Z,5.8nm,1.3s
P29A **Atwood** 87.09 47 ⇓P P 20 02 59.4 +1.0
baz=87
Y34A **Reagan Ranch,** 87.09 53 ⇓P P 20 02 59.0 +0.5
baz=87
U32A **Winter Ranch,** 87.12 51 ⇑P P 20 02 59.6 +1.0
baz=87
437A **Phantom Ranch,** 87.15 57 ⇓P P 20 02 59.4 +0.6
baz=87
I25A **Rochford** 87.18 42 ⇓P P 20 02 58.8 -0.1
baz=87
Z35A **Perchaven, San** 87.23 54 ⇑P P 20 02 59.6 +0.4
baz=87
J26A **Sides Ranch, S** 87.28 43 ⇑P P 20 02 59.5 +0.3
baz=88
X34A **Smith Ranch, M** 87.28 53 ⇑P P 20 02 59.6 +0.2
baz=88,SNR=6.2
Q30A **Quinter** 87.32 48 ⇓P P 20 03 00.1 +0.5
baz=88
BJI **Beijing** 87.99 313 P P 20 03 03.4 +0.8
BJI PP PP 20 06 30.8 +1.2
BJI S S 20 13 44.3 +0.4
BJI SS SS 20 19 36.4 +3.7
BJI PMZ
comp=Z,12nm,1.0s
BJI LN
comp=Z,480nm,13.1s
BJI LE
comp=Z,510nm,9.5s
BJI LZ
comp=Z,92nm,15.1s
GYA **Guiyang** 90.33 298 P P 20 03 14.0 -0.1
GYA pP pP 20 03 25.4 +0.7
GYA PP PP 20 06 51.6 +2.8
GYA SKS SKSac 20 13 41.8 -1.6
GYA S S 20 14 04.3 -2.4
GYA sS sS 20 14 22.0 -2.2
GYA SS SS 20 20 07.5 -0.1
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.3s
GYA LN
comp=Z,560nm,18.9s
GYA LE
comp=Z,490nm,19.0s
GYA LZ
comp=Z,540nm,18.7s
VNA3 **Neumayer Olymp** 90.61 174 P P 20 03 14.6 +0.1
SNAA **Sanae** 90.71 177 P P 20 03 15.2 +0.2
SNAA **Sanae** 90.71 177 P P 20 03 15.0 0.0
comp=Z,4.3nm,0.9s,baz=189,slow=1.7,SNR=11
SNAA **Sanae** 90.71 177 *e*P P 20 03 15.1 +0.1
VNA2 **Neumayer--Watz** 91.12 175 P P 20 03 18.0 +1.2
YKA **Yellowknife Ar** 91.46 23 P P 20 03 17.4 -0.9
comp=Z,0.7nm,0.7s,baz=233,slow=4.3,SNR=12
HHC **Hu-ho-hao-te** 91.54 312 *e*P P 20 03 19.4 0.0
HHC sP sP 20 03 34.8 +1.1
HHC PP PP 20 06 56.3 -1.7
HHC S S 20 14 16.4 -0.8
HHC sS sS 20 14 32.6 -2.1
HHC PMZ
comp=Z,26nm,1.5s
HHC PMZ
comp=Z,170nm,6.2s
HHC LN
comp=Z,180nm,13.7s
HHC LE
comp=Z,170nm,13.8s
HHC LZ
comp=Z,170nm,14.9s
CFAA **Coronel Fontan** 92.05 124 P P 20 03 23.1 +1.1
comp=Z,0.6nm,0.8s,baz=208,slow=3.2,SNR=6.6
KMI **Kunming** 93.27 295 P P 20 03 28.9 +1.0
KMI pP pP 20 03 40.4 +2.0
KMI sP sP 20 03 44.1 +1.9
KMI PMZ
comp=Z,14nm,1.3s
KMI LZ
comp=Z,99nm,32.3s
CD2 **Chengdu** 94.17 301 *e*P P 20 03 31.6 -0.1
CD2 sP sP 20 03 49.0 +3.0
CD2 PP PP 20 07 18.8 0.0
CD2 SKS SKSac 20 14 04.0 -0.6
CD2 S S 20 14 38.4 -2.4
CD2 sS sS 20 14 57.5 -0.8
CD2 PMZ
comp=Z,80nm,9.5s
CD2 LE
comp=Z,120nm,11.8s
CD2 LZ
comp=Z,120nm,16.6s
ULM **Lac du Bonnet** 94.66 39 LR LR 20 42 14.9
comp=Z,94nm,19.4s,baz=298,slow=33
CMAR **Chiang Mai Arr** 94.67 288 LR LR 20 42 34.6
comp=Z,49nm,21.4s,baz=134,slow=33
SONM **Songino Array** 97.40 318 LR LR 20 42 11.5
comp=Z,33nm,21.4s,baz=180,slow=32
LPAZ **La Paz** 97.71 110 LR LR 20 37 55.6
comp=Z,128nm,21.9s,baz=251,slow=29
ROSC **El Rosal** 98.62 88 LR LR 20 38 31.7
comp=Z,60nm,21.4s,baz=174,slow=29
WMQ **Urumqi** 109.37 311 *e*Pdif Pdif 20 04 39.8 +0.4
WMQ PP PP 20 09 16.4 +3.4
WMQ S Sdif 20 16 44.5 -3.9
WMQ SS SS 20 24 31.8 -0.8
WMQ PPMZ
comp=Z,110nm,5.0s
WMQ LN
comp=Z,36nm,20.0s
WMQ LE
comp=Z,36nm,20.0s
WMQ LZ
comp=Z,30nm,20.0s
ZALV **Zalesovo Beam** 111.80 322 PKiKP PKiKP 20 08 45.8 -1.2
comp=Z,0.6nm,0.7s,baz=96,slow=1.4,SNR=3.5
MKAR **Makanchi Array** 113.36 314 PKiKP PKiKP 20 08 48.9 -1.4
comp=Z,0.7nm,0.9s,baz=103,slow=3.1,SNR=2.5
KURK **Kurchatov** 115.70 318 PKIKP PKPdf 20 08 53.5 -1.1
KURK **Kurchatov** 115.70 318 PKP PKPdf 20 08 53.5 -1.1
KURBB **Kurchatov Arra** 115.76 318 PKP PKPdf 20 08 53.5 -1.2
comp=Z,0.9nm,0.7s,baz=75,slow=2.1,SNR=4.7
KSH **Kashi** 117.91 306 PKP PKPdf 20 09 00.0 +0.6
KSH sPKP 20 09 13.5
KSH PP PP 20 10 15.8 +2.0
KSH PKS PKSdf 20 12 36.8 +0.6
KSH SKS SKSdf 20 16 09.5 +0.2
KSH SKKS SKKSac 20 17 10.3 -1.7
KSH SS SS 20 26 30.3 +4.5
KSH PPMZ
comp=Z,94nm,5.0s
KSH LN
comp=Z,28nm,3.4s
KSH LE
comp=Z,47nm,3.8s
KSH LZ
comp=Z,99nm,6.9s
KBL **Kabul** 123.50 300 *e*PKIKP PKPdf 20 09 10.6 +0.2
KBL **Kabul** 123.50 300 *e*PKPdf PKPdf 20 09 10.6 +0.2
GEYT **Alibeck** 131.94 305 PKP PKPdf 20 09 25.9 -0.3
comp=Z,1.8nm,0.8s,baz=166,slow=1.2,SNR=4.2
OBN **Obninsk** 136.64 337 *e*PKHKP PKPpre 20 09 23.0
OBN *e* 20 09 34.3
OBN pmax pmax
comp=Z,4.0nm,0.9s
BSEG **Bad Segeberg** 143.62 358 *e*PKPbc PKPab 20 09 43.1 -0.5
RAYN **Ar Rayn** 144.57 286 *e*PKPdf PKPbc 20 09 48.6 +0.2
NRDL **Niedersach Rie** 145.07 358 *e*PKPbc PKPbc 20 09 47.8 -1.1
IBBN **Ibbenburen** 145.29 0 *e*PKPbc PKPbc 20 09 48.9 -0.8
LVV **L'vov** 145.33 342 *e*PKP2 PKPbc 20 09 48.7 -1.3
CLZ **Clausthal** 145.71 358 *e*PKPbc PKPdf 20 09 50.4 -0.4
KMBO **Kilima Mbogo** 145.85 240 PKPbc PKPab 20 09 53.5 +0.1
comp=Z,18nm,1.1s,baz=114,slow=2.6,SNR=29
KMBO **Kilima Mbogo** 145.85 240 PKPbc PKPab 20 09 53.5 +0.1
KMBO *e*PKPdf PKPab 20 09 53.6 +0.1
KWP **Kalwaria Pacla** 145.88 343 *e*PKIKP PKPdf 20 09 51.4 +0.3
KWP **Kalwaria Pacla** 145.88 343 *e*PKP PKPdf 20 09 51.3 +0.2
KWP **Kalwaria Pacla** 145.88 343 *e*PKPdf PKPdf 20 09 51.4 +0.3
CLL **Collm** 146.07 355 ⇓*i*PKIKP PKPdf 20 09 51.5 +0.1
CLL pmax pmax
comp=Z,41nm,1.3s
CLL **Collm** 146.07 355 *e*PKPbc PKPdf 20 09 51.0 -0.4
CLL **Collm** 146.07 355 ⇓*i*PKPbc PKPdf 20 09 51.5 +0.1
comp=Z,41nm,1.3s
CLL *e*pPKiKP pPKiKP 20 10 01.0 -5.4
CLL *e* 20 10 07.0
KSP **Ksiaz** 146.13 351 *e*PKIKP PKPbc 20 09 52.3 -0.1
KSP *e* 20 10 01.4
KSP **Ksiaz** 146.13 351 *e*PKP PKPbc 20 09 52.1 -0.3
BUG **Bochum--Univer** 146.15 1 *e*PKPbc PKPdf 20 09 51.4 -0.1
MALT **Malatya** 146.40 314 ⇑PKIKP PKPdf 20 09 53.0 +0.5
MALT **Malatya** 146.40 314 ⇑*i*P PKPdf 20 09 53.0 +0.5
BRG **Berggiesshubel** 146.41 353 *e*PKP PKPdf 20 09 52.1 +0.2
comp=Z,40nm,1.4s
BRG **Berggiesshubel** 146.41 353 *e*PKIKP PKPdf 20 09 52.1 +0.2
BRG pmax pmax
comp=Z,40nm,1.5s
BRG **Berggiesshubel** 146.41 353 *e*PKPbc PKPdf 20 09 52.4 +0.4
BRG *e*pPKPbc pPKPbc 20 10 02.2 -1.8
STHS **Stebnicka Huta** 146.47 344 *e*PKP2 PKPbc 20 09 53.7 +0.2
STHS **Stebnicka Huta** 146.47 344 *e*PKP PKPbc 20 09 53.7 +0.2
UPC **Upice** 146.50 351 *e*PKIKP PKPbc 20 09 52.9 -0.7
UPC **Upice** 146.50 351 *e*PKP PKPbc 20 09 52.9 -0.7
DPC **Dobruska-Polom** 146.60 350 *e*PKP2 PKPbc 20 09 54.0 +0.1
DPC **Dobruska-Polom** 146.60 350 *e*PKP PKPbc 20 09 54.0 +0.1
DPC *e*pPKP pPKPdf 20 10 03.6 +0.4
KOLS **Kolonicke sedl** 146.63 343 *e*PKIKP PKPbc 20 09 54.0 0.0
KOLS **Kolonicke sedl** 146.63 343 *e*PKP PKPbc 20 09 54.0 0.0
UCC **Uccle** 146.67 4 PKP PKPab 20 09 54.6 -0.5
PVCC **Panska Ves** 146.67 353 *e*PKP2 PKPbc 20 09 54.2 +0.1
PVCC **Panska Ves** 146.67 353 *e*PKP PKPbc 20 09 54.2 +0.1
PVCC *e*pPKP pPKPdf 20 10 03.5 +0.2
UBBA **Unterbreizbach** 146.75 358 *e*PKPbc PKPbc 20 09 53.5 -0.6
OKC **Ostrava-Krasne** 146.77 348 *e*PKIKP PKPbc 20 09 54.0 -0.3
OKC *e* 20 10 03.8
OKC **Ostrava-Krasne** 146.77 348 *e*PKP PKPbc 20 09 54.0 -0.3
OKC *e*pPKP pPKPdf 20 10 03.8 +0.3
KRLC **Kraliky** 146.79 350 *e*PKIKP PKPbc 20 09 53.6 -0.9
KRLC **Kraliky** 146.79 350 *e*PKP PKPbc 20 09 53.6 -0.9
MOX **Moxa** 146.84 356 *e*PKPbc PKPbc 20 09 53.9 -0.7
MOX *e*pPKPbc pPKPbc 20 10 03.4 -1.9
BURAR **Bucovina Array** 146.87 339 ⇑PKP2 PKPab 20 09 55.9 -0.3
BURAR **Bucovina Array** 146.87 339 ⇑*i*P PKPab 20 09 55.9 -0.3
CRVS **Cervenica-Dubn** 146.88 344 *e*PKIKP PKPdf 20 09 53.0 +0.1
CRVS **Cervenica-Dubn** 146.88 344 *e*PKP PKPdf 20 09 53.0 +0.1
UZH **Uzhgorod** 146.90 343 ⇓*i*PKIKP PKPbc 20 09 54.4 -0.3
UZH *i* 20 10 05.2
MORC **Moravsky Berou** 146.94 349 *e*PKIKP PKPdf 20 09 52.8 -0.2
MORC **Moravsky Berou** 146.94 349 ⇑*i*P PKPbc 20 09 54.5 -0.4
MORC **Moravsky Berou** 146.94 349 *e*PKPdf PKPdf 20 09 52.8 -0.2
MEM **Membach** 146.95 2 PKP PKPbc 20 09 54.6 -0.3
SNF **Seneffe** 146.95 5 PKP PKPbc 20 09 54.7 -0.1
TANN **Tannenbergstha** 147.00 355 *e*PKPbc PKPbc 20 09 54.6 -0.5
BCLA **Clavier** 147.10 3 PKP PKPbc 20 09 54.9 -0.4
PRA **Prague** 147.14 353 *e*PKP2 PKPbc 20 09 55.4 0.0
PRA **Prague** 147.14 353 *e*PKP PKPbc 20 09 55.4 0.0
PRU **Pruhonice** 147.21 352 *e*PKIKP PKPbc 20 09 55.5 -0.1
PRU **Pruhonice** 147.21 352 *e*PKP PKPbc 20 09 55.5 -0.1
TESR **Tescani** 147.28 336 ⇑*i*P PKPbc 20 09 55.5 -0.4
TRPA **Tarpa** 147.28 342 ⇑*i*P PKPbc 20 09 55.8 0.0
TNS **Taunus Mts** 147.38 360 *e*PKPbc PKPbc 20 09 55.1 -1.0
DOU **Dourbes** 147.38 4 PKP PKPbc 20 09 56.2 +0.1
TLCR 147.45 332 ⇑PKIKP PKPbc 20 09 56.1 -0.3
TLCR 147.45 332 ⇑*i*P PKPbc 20 09 56.1 -0.3
VRAC **Vranov** 147.56 350 ⇑PKP2 PKPbc 20 09 57.1 +0.5
VRAC **Vranov** 147.56 350 ⇑*i*P PKPbc 20 09 57.1 +0.5
ROTZ **Rotzenmuhle** 147.67 355 *e*PKPbc PKPbc 20 09 56.5 -0.4
CFR **Carcaliu** 147.75 333 ⇓PKIKP PKPdf 20 09 54.6 +0.2

CFR	Carcaliu	147.75	333	⇓*i*P	PKPdf	20 09 54.6	+0.2
TREC	Trest	147.75	351	*e*PKP2	PKPbc	20 09 57.2	0.0
TREC	Trest	147.75	351	*e*PKP	PKPbc	20 09 57.2	0.0
VRI	Vrincioaia	147.78	335	⇑PKIKP	PKPbc	20 09 57.2	-0.1
VRI	Vrincioaia	147.78	335	⇑*i*P	PKPbc	20 09 57.2	-0.1
GRF	Grafenberg Arr	147.81	356	*e*PKPbc	PKPbc	20 09 57.0	-0.3
GRFO	Grafenberg	147.82	356	*e*PKP2	PKPbc	20 09 57.6	+0.3
GRFO	Grafenberg	147.82	356	*e*PKPbc	PKPbc	20 09 57.6	+0.3
PLOR	Plostina	147.82	335	⇑PKIKP	PKPbc	20 09 57.4	-0.1
PLOR	Plostina	147.82	335	⇑*i*P	PKPbc	20 09 57.4	-0.1
WLF	Walferdange	147.90	2	*e*PKP2	PKPbc	20 09 58.2	+0.7
WLF	Walferdange	147.90	2	*e*PKPbc	PKPbc	20 09 57.5	0.0
WLF	Walferdange	147.90	2	*e*PKPbc	PKPbc	20 09 58.2	+0.7
VYHS	Vyhne	147.90	347	*e*PKP2	PKPbc	20 09 57.6	0.0
VYHS	Vyhne	147.90	347	*e*PKP	PKPbc	20 09 57.6	0.0
KHC	Kasperske Hory	148.17	353	*e*PKIKP	PKPbc	20 09 58.0	-0.3
KHC				*e*		20 10 07.4	
KHC	Kasperske Hory	148.17	353	*e*PKP	PKPbc	20 09 58.0	-0.3
KHC				*ep*PKP	pPKPdf	20 10 07.4	+1.5
KHC	Kasperske Hory	148.17	353	*e*PKPbc	PKPbc	20 09 57.8	-0.5
PSZ	Piszkesteto	148.19	345	*e*PKP2	PKPbc	20 09 58.4	-0.1
PSZ	Piszkesteto	148.19	345	⇑*i*P	PKPdf	20 09 56.6	+1.5
PSZ	Piszkesteto	148.19	345	*e*PKPbc	PKPbc	20 09 58.4	-0.1
TIRR	Tirgusor	148.19	332	⇑PKIKP	PKPbc	20 09 58.5	+0.1
TIRR	Tirgusor	148.19	332	⇑*i*P	PKPbc	20 09 58.5	+0.1
CJR	Cluj-Napoca	148.21	340	⇑PKP2	PKPbc	20 09 58.8	+0.3
CJR	Cluj-Napoca	148.21	340	⇑*i*P	PKPbc	20 09 58.8	+0.3
DOPR	Dopca	148.22	337	⇓*i*P	PKPbc	20 09 59.1	+0.6
WET	Wettzell	148.23	354	*e*PKPbc	PKPbc	20 09 58.1	-0.3
TLB	Topalu	148.26	332	⇓PKP2	PKPbc	20 09 58.7	+0.1
TLB	Topalu	148.26	332	⇓*i*P	PKPbc	20 09 58.7	+0.1
MLR	Muntele Rosu	148.40	336	⇑PKP2	PKPbc	20 09 59.3	+0.2
MLR	Muntele Rosu	148.40	336	⇑*i*P	PKPbc	20 09 59.3	+0.2
GEC2	GERESS Array S	148.43	353	*e*PKPbc	PKPbc	20 09 58.3	-0.8
GERES	GERESS Array B	148.43	353	PKPbc	PKPbc	20 09 58.8	-0.3
	comp=Z,6.2nm,0.9s,baz=29,slow=3.0,SNR=22						
ISR	Istrita	148.47	335	⇓PKP2	PKPbc	20 09 59.3	+0.1
ISR	Istrita	148.47	335	⇓*i*P	PKPbc	20 09 59.3	+0.1
LANF	Langenberg	148.62	0	PKP	PKPbc	20 09 59.9	+0.5
BRTR	Keskin Array B	148.72	320	PKPbc	PKPbc	20 09 59.8	-0.4
	comp=Z,10nm,1.1s,baz=142,slow=3.0,SNR=10						
VOIR		148.79	337	⇑PKIKP	PKPbc	20 10 00.1	0.0
VOIR		148.79	337	⇑*i*P	PKPbc	20 10 00.1	0.0
STU	Stuttgart	148.82	359	*e*PKPbc	PKPbc	20 09 59.4	-0.5
ARR	Arges	149.00	337	⇓*i*P	PKPdf	20 09 58.2	+1.7
CONA	Conrad Observa	149.02	350	*i* PKiKP	PKPbc	20 10 00.8	+0.2
	comp=Z,32nm,1.4s,SNR=13						
BFO	Black Forest	149.28	360	*e*PKIKP	PKPbc	20 10 00.8	-0.4
BFO	Black Forest	149.28	360	*e*PKPbc	PKPbc	20 10 00.4	-0.7
BFO	Black Forest	149.28	360	*e*PKPbc	PKPbc	20 10 00.8	-0.4
THEF	They Montfort	149.33	3	PKP	PKPbc	20 10 01.3	+0.1
FUR	Furstenfeldbru	149.33	356	*e*PKPbc	PKPbc	20 10 00.6	-0.7
ECH	Echery	149.38	1	*e*PKIKP	PKPbc	20 10 01.1	-0.3
ECH	Echery	149.38	1	PKP	PKPbc	20 10 00.1	-1.3
ECH	Echery	149.38	1	*e*PKPbc	PKPbc	20 10 01.1	-0.3
RJOB	Jochberg	149.63	354	*e*PKPbc	PKPbc	20 10 01.6	-0.5
GZR	Gura Zlata	149.64	339	⇑*i*P	PKPbc	20 10 01.4	-0.8
MOF	Molkenrain	149.74	1	PKP	PKPbc	20 10 02.0	-0.4
BZS	Buzias	149.82	341	⇓*i*P	PKPbc	20 10 01.1	-1.4
RETA	Reutte	150.04	356	⇑*i*PKiKP	PKPbc	20 10 02.7	-0.4
	comp=Z,20nm,1.2s,SNR=5.4						
MOTA	Moosalm	150.16	356	⇓*i*PKiKP	PKPbc	20 10 03.0	-0.5
	comp=Z,22nm,1.0s,SNR=10						
WTTA	Wattenberg	150.20	355	*i* PKiKP	PKPbc	20 10 03.5	-0.1
	comp=Z,23nm,0.9s,SNR=6.9						
DAVA	Damuels	150.28	358	⇑*i*pPKPdf	PKPbc	20 10 04.0	+0.2
	comp=Z,26nm,1.1s,SNR=6.7						
SOKA	Soboth	150.37	350	*i* PKPbc	PKPbc	20 10 03.1	-0.8
	comp=Z,18nm,1.5s,SNR=8.0						
PERS	Pernice	150.40	350	*i* PKPbc	PKPbc	20 10 03.0	-0.9
FETA	Feichten	150.51	356	*i* PKiKP	PKPbc	20 10 04.3	0.0
	comp=Z,23nm,1.1s,SNR=9.1						
ABTA	Abfaltersbach	150.63	354	⇑*i*PKPbc	PKPbc	20 10 03.5	-1.0
	comp=Z,30nm,1.0s,SNR=14						
LJU	Ljubljana	151.07	351	*e*PKPbc	PKPbc	20 10 05.0	-0.5
TUE	Stuetta	151.12	358	*e*PKPbc	PKPbc	20 10 05.9	0.0
BOJS	Bojanci	151.48	349	*e*PKPbc	PKPbc	20 10 06.4	0.0
KDZ	Kurdzhali	151.76	332	⇑PKIKP	PKPbc	20 10 05.6	-1.6
KDZ	Kurdzhali	151.76	332	⇑*i*P	PKPbc	20 10 05.6	-1.6
VTS	Vitosha	151.91	336	⇑PKIKP	PKPbc	20 10 07.4	-0.3
VTS	Vitosha	151.91	336	⇑*i*P	PKPbc	20 10 07.3	-0.4
SSB	Saint Sauveur	152.16	5	*e*PKIKP	PKPbc	20 10 08.4	+0.3
SSB	Saint Sauveur	152.16	5	*e*PKPbc	PKPbc	20 10 08.4	+0.3
BNI	Bardonecchia	152.53	2	*e*PKIKP	PKPdf	20 10 02.5	+0.4
BNI	Bardonecchia	152.53	2	*e*PKPdf	PKPdf	20 10 02.5	+0.4
MMB	Musomiste	152.54	334	⇑PKIKP	PKPbc	20 10 08.3	-0.7
MMB	Musomiste	152.54	334	⇑*i*P	PKPbc	20 10 08.3	-0.7
TORD	Torodi Ar. Bea	172.41	124	PKP	PKPdf	20 10 20.0	-2.3
	comp=Z,1.4nm,1.1s,baz=268,slow=0.9,SNR=5.1						
TORD				PKPab	PKPab	20 11 46.8	-0.1
	comp=Z,2.0nm,0.7s,baz=282,slow=3.7,SNR=17						

GUC 24 19:54:26.6±0.6, 36°.49S×73°.55W, h35km±12km, ML4.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.51	135	*i* P	Pn	19 54 37.7	+0.4
CCSP				*i* S	Sn	19 54 45.8	+1.0
CCSP				IAML		19 54 46.9	
	comp=N,17μm,0.5s						
LNCH	Linares	1.70	69	*i* P	Pn	19 54 56.0	+2.2
LNCH				*i* S	Sn	19 55 18.8	+4.4
LNCH				IAML		19 55 24.0	
	comp=N,3μm,0.7s						
TALC	Talca	1.90	56	*i* P1	Pn	19 54 58.5	+2.0
TALC				*i* S	Sn	19 55 23.7	+4.5

NIED ***24*** *19:54:00, 46°.40N×151°.50E, h101km, Mw4.9 Best double couple: M0=2.52000×1016 NP1:φs=51.00000°, δ18.00000°, λ-103.00000°. NP2:φs=245.00000°, δ73.00000°, λ-86.00000°.*

ISCJB ***24*** *19:54:33.0±0.4, 46°.50N±0°.03×151°.26E±0°.02, h115km±3km, mb5.1/245, Error ellipse: s-maj=4.6km s-min=2.3km az=168.9*

JMA ***24*** *19:54:33.2±0.6, 46°.40N×151°.46E, h30km, M5.2*

MOS ***24*** *19:54:35.4±1.2, 46°.55N×151°.13E, h136km, mb5.2/98, Error ellipse: s-maj=6.4km s-min=4.1km az=104.4*

SKHL ***24*** *19:54:35.7±0.4, 46°.37N×151°.47E, h132km±7km, mb5.8/1, msh5.3/1*

IDC ***24*** *19:54:35.7±1.4, 46°.56N×151°.17E, h126km±12km, mb4.6/35, mb1 4.7/42, mb1mx4.7/47, mbtmp5.0/42, MS3.5/13, Ms1 3.5/13, ms1mx3.3/31, Error ellipse: s-maj=9.7km s-min=8.4km az=126.0*

BJI ***24*** *19:54:36.3, 46°.73N×151°.07E, h141km, mB4.9/34, mb5.1/61*

NEIC ***24*** *19:54:36.3±0.6, 46°.49N×151°.18E, h132km±5km, mb5.1/129, Error ellipse: s-maj=4.5km s-min=3.1km az=154.0*

GCMT ***24*** *19:54:36.3±0.3, 46°.57N×151°.54E, h124km±3km, MW4.9/72, Moment Tensor Solution. s28,c33; s72,c98; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=1.55±.10; Mθθ1.58±.13; Mφφ-0.02±.12; Mrθ1.64±.08; Mrφ0.72±.10; Mθφ1.19±.07; Best double couple: M0=2.65300×1016 NP1:φs=237.00000°, δ70.00000°, λ-100.00000°. NP2: φs=84.00000°, δ22.00000°, λ-64.00000°. Principal axes: T 2.7630, Plg25.0000°, Azm335.0000°; N -0.2150, Plg9.0000°, Azm240.0000°; P -2.5440, Plg63.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 19:54:36.9±0.4, 46°.41N±0°.04×151°.24E±0°.04, h141km±2km, h140km; pP-P, n1083, σ1s 08/1144, mb5.1/251, 279C-152D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.63	245	*d* iPN	Pn	19 55 19.8	+0.6
KUR				*i* S	Sn	19 55 53.2	+1.4
KUR				pmax	pmax		
	comp=Z,2μm,0.7s						
KUR				pmax	pmax		
	comp=N,714nm,0.3s						
KUR				pmax	pmax		
	comp=E,608nm,0.2s						
KUR				smax	smax		
	comp=E,1μm,0.3s						
KUR				smax	smax		
	comp=N,3μm,0.6s						
KUR	Kuril'sk	2.63	245	*e*P	Pn	19 55 19.8	+0.6
KUR				AMB	AMB	19 55 21.4	
	comp=N,2μm,0.7s						
KUR				*e*S	Sn	19 55 53.2	+1.4
KUR				A	A	19 55 55.3	
	comp=N,1μm,0.3s						
KUR				A	A	19 55 55.3	
	comp=N,3μm,0.3s						
YUK	Yuzh-Kuril'sk	4.48	240	*d* iPN	Pn	19 55 43.0	-0.1
YUK				*i* S	Sn	19 56 33.5	-1.2
YUK				pmax	pmax		
	comp=Z,1μm,0.5s						
YUK				pmax	pmax		
	comp=E,133nm,0.2s						
YUK				pmax	pmax		
	comp=N,128nm,0.1s						
YUK				smax	smax		
	comp=N,833nm,0.6s						
YUK				smax	smax		
	comp=E,2μm,0.6s						
YUK	Yuzh-Kuril'sk	4.48	240	*e*P	Pn	19 55 43.0	-0.1
YUK				AMB	AMB	19 55 43.6	
	comp=E,1μm,0.5s						
YUK				*e*S	Sn	19 56 33.5	-1.2
YUK				A	A	19 56 40.0	
	comp=E,2μm,0.6s						
YUK				A	A	19 56 40.0	
	comp=E,833nm,0.6s						
NEM2	Nemuro 2	4.95	234	P	Pn	19 55 46.9	-2.5
NEM2				*e*S	Sn	19 56 39.8	-6.1
JRA	Rausu	4.98	242	P	Pn	19 55 49.8	0.0
SKR	Severo-Kuril's	5.37	35	*e*PN	Pn	19 55 45.0	-10
SKR				pmax	pmax		
	comp=N,170nm,0.5s						
SKR				pmax	pmax		
	comp=E,120nm,0.5s						
SKR				pmax	pmax		
	comp=Z,390nm,0.5s						
SKR	Severo-Kuril's	5.37	35	*e*P	Pn	19 55 52.3	-2.5
SKR				*e*S	Sn	19 56 49.5	-6.2
SKR				A	A	19 57 08.0	
	comp=Z,2μm,6.0s						
JNK	Nakash	5.42	241	P	Pn	19 55 54.8	-0.8
JTKR	Abashiri--Toko	5.72	247	P	Pn	19 56 00.0	+0.3
JAK	Akkeshi	5.78	236	P	Pn	19 55 58.1	-2.3
JAK				*e*S	Sn	19 57 00.4	-5.3
YSS	Yuzh-Sakhalins	5.86	278	*d i*PN	Pn	19 56 03.0	+1.5
YSS				*e*S	Sn	19 57 10.0	+2.3
YSS				pmax	pmax		
	comp=E,230nm,1.0s						
YSS				pmax	pmax		
	comp=Z,220nm,1.0s						
YSS				smax	smax		
	comp=N,340nm,1.0s						
YSS				smax	smax		
	comp=E,220nm,1.0s						
YSS	Yuzh-Sakhalins	5.86	278	*e*P	Pn	19 56 03.0	+1.5
YSS				*e*S	Sn	19 57 10.0	+2.3
YSS	Yuzh-Sakhalins	5.86	278	⇑*i*Pn	Pn	19 56 03.1	+1.5
	comp=E,177nm,0.8s						
YSS				*e*Sn	Sn	19 57 09.8	+2.2
JMP	Maruseppu	6.06	249	P	Pn	19 56 04.7	+0.4
JAR	Ashorobuto	6.15	242	P	Pn	19 56 05.0	-0.5
JAR				*e*S	Sn	19 57 12.9	-1.8
JSE	Soyaes	6.23	260	P	Pn	19 56 07.9	+1.4
JOB	Onbets	6.34	239	P	Pn	19 56 06.6	-1.3
JOB				*e*S	Sn	19 57 14.6	-4.5
ASAJ	Asahikawa	6.51	253	PN	Pn	19 56 11.8	+1.5
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ	Asahikawa	6.51	253	P	Pn	19 56 11.7	+1.5
ASAJ	Asahikawa	6.51	253	P	Pn	19 56 11.8	+1.5
	comp=Z,5.4nm,0.3s,baz=80,slow=16,SNR=70						
JKK2	Kamakawa 2	6.52	250	P	Pn	19 56 11.3	+0.9
JWK2	Keihoku	6.61	264	P	Pn	19 56 14.7	+3.1
UGL	Uglegorsk	6.74	297	*ce*PN	Pn	19 56 15.0	+1.8
UGL				*e*S	Sn	19 57 30.7	+2.1
UGL	Uglegorsk	6.74	297	*e*P	Pn	19 56 15.0	+1.8
UGL				AMB	AMB	19 56 16.0	
	comp=Z,1μm,2.0s						
UGL				AMB	AMB	19 56 16.5	
	comp=Z,310nm,1.0s						
UGL				*e*S	Sn	19 57 32.0	+3.4
UGL				A	A	19 57 39.0	
	comp=Z,900nm,4.0s						
UGL				A	A	19 57 39.0	
	comp=Z,500nm,4.0s						
UGL				A	A	19 57 39.0	
	comp=Z,360nm,1.1s						
UGL				A	A	19 57 39.0	
	comp=Z,160nm,1.1s						
JCH	Churui	6.79	239	P	Pn	19 56 12.0	-2.0
JCH				*e*S	Sn	19 57 23.5	-6.5
JFR	Furan	6.95	245	P	Pn	19 56 16.4	+0.2
JFR				*e*S	Sn	19 57 31.6	-2.4
JAB	Ashibetsu	7.02	249	P	Pn	19 56 18.4	+1.3
JEM	Erimo	7.28	236	P	Pn	19 56 19.1	-1.4
JEM				*e*S	Sn	19 57 36.9	-4.9
ERM	Erimo	7.28	236	*e*PN	Pn	19 56 19.3	-1.2
ERM				pmax	pmax		
	comp=Z,87nm,0.6s						
ERM	Erimo	7.28	236	*e*P	Pn	19 56 19.3	-1.2
	comp=Z,87nm,0.6s						
JBT2	Biratori 2	7.30	243	P	Pn	19 56 19.7	-1.1
JBT2				*e*S	Sn	19 57 37.3	-5.0
JNBK	Urakawa-nobuka	7.35	239	P	Pn	19 56 18.7	-2.8
JNBK				*e*S	Sn	19 57 35.4	-8.1
JEW	Eniwo	7.84	246	P	Pn	19 56 27.4	-0.7
JEW				*e*S	Sn	19 57 52.2	-3.1
PETK	Petropavlovsk-	7.90	30	P	Pn	19 56 26.6	-2.2
	comp=Z,6.8nm,0.3s,baz=200,slow=13,SNR=54						
PETK				LR	LR	20 00 02.3	
	comp=Z,81nm,19.7s,baz=207,slow=42						
PET	Petropavlovsk	8.18	33	*e*PN	Pn	19 56 26.0	-6.5
PET				pmax	pmax		
	comp=Z,24nm,0.5s						
PET	Petropavlovsk	8.18	33	*e*P	Pn	19 56 28.7	-3.8
JNB	Noboribetsu	8.29	245	P	Pn	19 56 32.3	-1.8
JNB				*e*S	Sn	19 58 01.4	-4.8
JKB	Kayabe	8.62	242	P	Pn	19 56 35.6	-2.8
JKB				*e*S	Sn	19 58 05.6	-8.4
JSH	Shimam	8.84	249	P	Pn	19 56 41.0	-0.4
JYM2	Yakumo 2	8.90	245	P	Pn	19 56 40.2	-2.0
JYM2				*e*S	Sn	19 58 13.8	-7.1
JSR	Shiriuchi	9.20	242	P	Pn	19 56 43.2	-3.0
JSR				*e*S	Sn	19 58 18.9	-9.2
JTM	Tenmabayashi	9.27	236	P	Pn	19 56 43.6	-3.6
JTM				*e*S	Sn	19 58 18.9	-11
JANG	Nango	9.30	233	P	Pn	19 56 42.9	-4.7
JANG				*e*S	Sn	19 58 19.6	-11
JTH	Tanohata	9.41	230	P	Pn	19 56 43.9	-5.2
JOSM	Okushiri--Mats	9.48	247	P	Pn	19 56 48.4	-1.6
OFUJ	Ofunato	10.15	227	P	Pn	19 56 54.4	-4.6
JRG	Rokugo	10.46	232	P	Pn	19 56 59.7	-3.4
JIO	Ouri	10.79	226	P	Pn	19 57 03.3	-4.1
JIO				*e*S	Sn	19 58 55.4	-11
HABR	Khabarovsk	11.16	287	*de*PN	Pn	19 57 09.7	-2.5
HABR				*e*S	Sn	19 59 13.3	-1.9
HABR				pmax	pmax		
	comp=N,17nm,1.3s						
HABR				pmax	pmax		
	comp=Z,178nm,2.0s						
HABR				pmax	pmax		
	comp=E,135nm,2.0s						
JYA	Atsumi	11.54	232	P	Pn	19 57 13.8	-3.5
JYA				*e*S	Sn	19 59 13.6	-11
JFK	Kawauchi	11.88	224	*e*S	Sn	19 59 21.6	-11
JFY	Yanaizu	12.43	228	P	Pn	19 57 26.4	-2.5
KLR	Kul'dur	13.39	289	⇓*i*PN	Pn	19 57 39.0	-2.2
KLR				*e*		20 00 05.5	
KLR				pmax	pmax		
	comp=E,200nm,1.6s						
KLR				pmax	pmax		
	comp=Z,180nm,1.6s						
USRK	Ussuriysk Ar.	13.73	268	P	Pn	19 57 45.6	+0.1
	comp=Z,5.8nm,0.3s,baz=74,slow=13,SNR=50						
MAJO	Matsushiro	13.86	229	*e*P	Pn	19 57 45.0	-2.3
MAJO				pmax	pmax		
	comp=Z,48nm,0.8s						
MAJO	Matsushiro	13.86	229	*e*P	Pn	19 57 45.0	-2.3
	comp=Z,48nm,0.8s						
MJAR	Matsushiro Arr	13.86	229	P	Pn	19 57 45.9	-1.4
	comp=Z,0.6nm,0.3s,baz=32,slow=12,SNR=52						
VLA	Vladivostok	14.13	264	⇑*e*P	Pn	19 57 50.3	-0.4
VLA				S	Sn	20 00 23.2	-3.8
VLA	Vladivostok	14.13	264	*e*P	Pn	19 57 49.8	-0.9
MDJ	Mudanjiang	15.28	271	P	Pn	19 58 04.9	-0.1
MDJ				S	Sn	20 00 52.3	-2.2
MDJ				PcP	PcP	20 03 01.0	+0.6
MDJ				ScP	ScP	20 06 21.9	+0.7
MDJ				PcS	PcS	20 06 36.9	+1.2
MDJ				ScS	ScS	20 10 00.8	+1.5
MDJ				PMZ			
	comp=Z,40nm,0.8s						
MDJ				PMZ			
	comp=Z,100nm,5.0s						
MDJ				LN			
	comp=Z,61nm,6.4s						
MDJ				LE			
	comp=Z,69nm,5.3s						
MDJ				LZ			
	comp=Z,120nm,5.6s						
MDJ	Mudanjiang	15.28	271	*e*P	Pn	19 58 04.7	-0.2
	comp=Z,34nm,0.8s						
FX1	Attu Island--F	15.57	57	P	Pn	19 58 09.1	+0.5
	comp=Z,5.7nm,0.3s,baz=326,slow=2.6,SNR=38						
SEY	Seymchan	16.57	2	P	Pn	19 58 18.9	-1.8
	comp=Z,3.3nm,0.3s,baz=180,slow=10,SNR=76						
CN2	Changchun	18.37	271	*e*P	P	19 58 38.3	-2.3
CN2				*es*P	sP	19 59 18.9	-4.1
CN2				*e*S	S	20 01 53.4	-10
CN2				PMZ			
	comp=Z,30nm,0.6s						
CN2				PMZ			
	comp=Z,200nm,4.0s						
CLNS	Chul'man	19.28	312	*e*P	P	19 58 49.5	-0.9
CLNS				pmax	pmax		
	comp=Z,31nm,0.9s						
CLNS				pmax	pmax		
	comp=E,18nm,1.2s						
CLNS				pmax	pmax		
	comp=N,31nm,0.9s						
KSRS	Korea Array	19.46	251	P	Pn	19 58 54.2	-1.0
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS	Korea Array	19.46	251	P	Pn	19 58 54.1	-1.0
	comp=Z,1.9nm,0.3s,baz=53,slow=11,SNR=32						
KSAR	Wonju Array Be	19.49	251	P	Pn	19 58 54.2	-1.4
KSAR	Wonju Array Be	19.49	251	P	Pn	19 58 54.1	-1.4
YAK	Yakutsk	19.93	329	*i* P	P	19 58 55.2	-2.1
YAK				*e*S	S	20 02 33.6	0.0
YAK				pmax	pmax		
	comp=E,183nm,1.4s						
YAK				pmax	pmax		
	comp=Z,357nm,1.1s						
YAK				pmax	pmax		
	comp=N,171nm,1.0s						
YAK				smax	smax		
	comp=E,170nm,2.2s						
YAK				smax	smax		
	comp=N,264nm,1.9s						
YAK	Yakutsk	19.93	329	P	P	19 58 55.4	-1.9
	comp=N,0.1nm,0.3s,baz=116,slow=1.2,SNR=56						
YAK	Yakutsk	19.93	329	*e*P	P	19 58 55.1	-2.2
	comp=N,264nm,0.8s						
INCN	Inchon	20.29	253	*e*P	P	19 59 02.7	+1.2
	comp=N,44nm,0.8s						
SNY	Shenyang	20.33	267	⇑P	P	19 59 02.0	+0.2
SNY				S	S	20 02 45.5	+3.7
SNY				PMZ			
	comp=N,45nm,0.5s						
SNY				PMZ			
	comp=N,66nm,2.8s						
JNU	Nakatsue	20.44	237	P	P	19 59 04.7	+1.5
	comp=N,16nm,0.8s,baz=249,slow=1.4,SNR=8.9						
TJN	Taejon	20.45	249	*i* P	P	19 59 04.1	+0.9
CBIJ	Chichi jima	20.57	204	P	P	19 59 05.3	+0.9
JCJ	Chichijima	20.57	204	P	P	19 59 05.3	+0.9
	comp=N,75nm,0.8s,baz=68,slow=11,SNR=4.3						
HIA	Hailar	21.25	289	*e*P	P	19 59 08.5	-3.2
HIA				pmax	pmax		
	comp=Z,24nm,0.9s						
HIA	Hailar	21.25	289	*e*P	P	19 59 08.4	-3.2
	comp=Z,24nm,0.9s						
BILL	Bilibino	23.03	14	⇓*e*P	P	19 59 27.9	-1.3
BILL				*e*		20 03 12.5	
BILL				*e*S	S	20 03 28.6	-0.2
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
BILL	Bilibino	23.03	14	*e*P	P	19 59 27.9	-1.3
BILL	Bilibino	23.03	14	*e*P	P	19 59 27.5	-1.8
	comp=Z,11nm,0.5s						
CIT	Chita	25.04	297	*e*P	P	19 59 45.8	-1.9
CIT				pmax	pmax		
	comp=Z,58nm,1.5s						
BOD	Bodaibo	25.22	311	*e*P	P	19 59 46.7	-2.5
BOD				pmax	pmax		
	comp=Z,24nm,0.9s						
BJT	Baijiatuau	26.19	269	*e*P	P	19 59 58.7	+0.5
BJT				pmax	pmax		
	comp=Z,68nm,0.8s						
BJT	Baijiatuau	26.19	269	*e*P	P	19 59 58.7	+0.5
	comp=Z,68nm,0.8s						
TIXI	Tiksi	27.44	345	*c i*P	P	20 00 06.6	-2.4
TIXI				pmax	pmax		
	comp=Z,115nm,1.7s						
TIXI	Tiksi	27.44	345	⇑*i*P	P	20 00 06.5	-2.5
	comp=Z,49nm,0.4s						
HHC	Hu-ho-hao-te	29.02	273	*e*P	P	20 00 24.6	+1.1
HHC				pP	pP	20 00 55.8	+2.3
HHC				sP	sP	20 01 13.8	+4.0
HHC				PP	PnPn	20 01 20.8	-2.1
HHC				S	S	20 05 04.5	+0.1
HHC				sS	sS	20 05 58.0	+0.9
HHC				SS	SnSn	20 06 42.8	-2.3
HHC				PMZ			
	comp=Z,160nm,1.1s						
HHC				PMZ			
	comp=Z,130nm,4.7s						
HHC				LN			
	comp=Z,470nm,18.7s						
HHC				LE			
	comp=Z,210nm,13.7s						
HHC				LZ			
	comp=Z,180nm,16.2s						
TNA	Tin City	29.04	34	*e*P	P	20 00 22.6	-0.6
	comp=Z,4.7nm,0.5s						
H11N2	WAK

comp=Z,22nm,0.8s
ZAK Zakamensk 31.65 295 *e*P **P 20 00 45.2 -1.3**
ZAK pmax pmax
comp=Z,23nm,1.1s
WHN Wuhan 32.59 254 P **P 20 00 56.4 +1.6**
MOY Mondy 32.81 298 *e*P **P 20 00 55.4 -1.3**
XAN Xi'an 34.20 264 P **P 20 01 09.3 +0.5**
XAN PMZ
comp=Z,8.0nm,1.3s
XAN PMZ
comp=Z,19nm,3.9s
PPLA Purkeypile 35.28 41 *e*P **P 20 01 18.0 +0.2**
KTH Kantishna Hill 35.86 40 *e*P **P 20 01 22.5 -0.2**
comp=Z,9.7nm,0.9s
COLD Coldfoot 36.34 34 *e*P **P 20 01 26.4 -0.2**
comp=Z,5.9nm,0.4s
LZH Lanzhou 36.60 271 *e*P **P 20 01 31.1 +1.6**
LZH pP **pP 20 02 01.8 +1.7**
LZH sP **sP 20 02 15.8 -0.4**
LZH PcP **PcP 20 03 50.4 +0.9**
LZH PMZ
comp=Z,160nm,1.0s
LZH PMZ
comp=Z,610nm,5.4s
COLA College 37.20 38⇓*e*P **P 20 01 34.2 +0.3**
COLA *i* *PP **pP 20 02 02.3 -2.4**
COLA pmax pmax
comp=Z,63nm,1.0s
COLA College 37.20 38 *e*P **P 20 01 34.2 +0.3**
COLA College 37.20 38 *e*P **P 20 01 34.7 +0.7**
comp=Z,13nm,0.4s
HVS Khovu-Aksy 37.38 299*d i*P **P 20 01 34.8 -0.9**
HVS pmax pmax
comp=Z,316nm,1.2s
ILAR Eielson Array 37.62 38 P **P 20 01 37.4 -0.1**
comp=Z,1.5nm,0.4s,baz=265,slow=7.5,SNR=40
GTA Gaotai 37.74 278 P **P 20 01 39.9 +0.9**
GTA PMZ
comp=Z,48nm,1.1s
CD2 Chengdu 39.56 264 *e*P **P 20 01 54.4 +0.3**
CD2 pP **pP 20 02 23.8 -1.4**
CD2 sP **sP 20 02 43.4 +2.3**
CD2 S **S 20 07 43.8 -2.4**
CD2 sS **sS 20 08 38.5 -1.8**
CD2 SS **SS 20 10 42.6 -4.0**
CD2 PMZ
comp=Z,50nm,1.0s
CD2 PMZ
comp=Z,100nm,6.0s
EGAK Eagle 40.07 38 *e*P **P 20 01 57.2 -0.6**
comp=Z,7.3nm,0.3s
GYA Guiyang 40.38 256⇓*i*P **P 20 02 01.9 +0.9**
GYA pP **pP 20 02 34.6 +2.5**
GYA sP **sP 20 02 51.0 +2.9**
GYA PP **PnPn 20 03 39.8 -2.1**
GYA PcP **PcP 20 04 03.3 +1.9**
GYA ScP **ScP 20 07 36.8 -0.5**
GYA S **S 20 07 56.4 -2.2**
GYA sS **sS 20 08 54.5 +1.7**
GYA PMZ
comp=Z,20nm,0.8s
DAWY Dawson 40.92 39 *e*P **P 20 02 04.5 -0.4**
ZALV Zalesovo Beam 41.76 306 P **P 20 02 09.8 -2.0**
comp=Z,3.7nm,0.3s,baz=66,slow=6.4,SNR=26
ZALV PcP **PcP 20 04 06.2 +0.9**
comp=Z,3.4nm,0.4s,baz=95,slow=2.0,SNR=6.5
ZALV ScP **ScP 20 07 42.9 +0.8**
comp=Z,1.4nm,0.8s,baz=58,slow=3.9,SNR=3.6
NVS Novosibirsk 42.37 307 *e*P **P 20 02 14.3 -2.4**
NVS *e* 20 04 07.0
NVS pmax pmax
comp=Z,16nm,0.9s
NVS pmax pmax
comp=E,9.0nm,0.9s
HYT Haines Junctio 42.41 43 *e*P **P 20 02 17.9 +0.8**
WMQ Urumqi 43.84 291 P **P 20 02 29.3 +0.5**
WMQ pP **pP 20 03 03.1 +2.7**
WMQ sP **sP 20 03 19.9 +3.7**
WMQ PcP **PP 20 04 15.0 +1.5**
WMQ S **S 20 08 47.4 -1.6**
WMQ sS **sS 20 09 42.8 -1.0**
WMQ SS SS 20 11 57.0 -13
WMQ ScS **ScS 20 12 11.4 -1.3**
WMQ PMZ
comp=E,27nm,1.0s
WMQ PMZ
comp=E,130nm,3.5s
WMQ LN
comp=E,91nm,24.0s
WMQ LE
comp=E,62nm,24.0s
WMQ LZ
comp=E,60nm,24.0s
KMI Kunming 43.91 258 P **P 20 02 32.5 +2.8**
KMI PMZ
comp=E,11nm,0.9s
MKAR Makanchi Array 45.95 297 P **P 20 02 44.5 -0.9**
comp=E,21nm,0.8s,baz=68,slow=7.6,SNR=196
MKAR PcP **PcP 20 04 20.5 +0.8**
comp=E,2.5nm,0.7s,baz=93,slow=1.8,SNR=2.9
MKAR ScP **ScP 20 08 00.4 +0.9**
comp=E,2.7nm,0.7s,baz=60,slow=3.9,SNR=11
MKAR LR LR 20 23 07.9
comp=E,86nm,18.8s,baz=68,slow=37
KURK Kurchatov 46.47 303 P **P 20 02 48.6 -0.7**
KURK 20 04 22.6
KURK pmax pmax
comp=Z,42nm,1.0s
KURK Kurchatov 46.47 303 P **P 20 02 48.2 -1.2**
SNR=21
KURK Kurchatov 46.47 303 *e*P **P 20 02 47.8 -1.5**
KURK Kurchatov 46.47 303⇑*e*P **P 20 02 47.6 -1.8**
comp=Z,25nm,0.9s
KURK PcP **PcP 20 04 22.6 +1.1**
KURK ScP **ScP 20 08 03.0 +1.5**
KURBB Kurchatov Arra 46.56 303 P **P 20 02 48.6 -1.5**
comp=Z,42nm,1.0s,baz=69,slow=8.5,SNR=177
KURBB PcP **PcP 20 04 22.6 +0.7**
comp=Z,4.7nm,0.9s,baz=68,slow=3.4,SNR=5.4
KURBB ScP **ScP 20 08 03.0 +1.1**
comp=Z,1.0nm,0.8s,baz=76,slow=3.0,SNR=4.4
DLBC Dease Lake 46.76 45 *e*P **P 20 02 53.5 +2.0**
CRAI Chiangrai 48.83 255 P **P 20 03 06.8 -1.2**
comp=Z,171nm,1.1s
LSA Lhasa 49.00 272 *e*P **P 20 03 11.7 +2.0**
LSA pmax pmax
comp=Z,30nm,0.6s
LSA Lhasa 49.00 272 *e*P **P 20 03 11.7 +2.0**
comp=Z,30nm,0.6s
JAY Jayapura 49.60 194 P **P 20 03 13.8 +0.1**
comp=Z,26nm,1.1s,baz=40,slow=7.0,SNR=5.5
UTTA Uttaradit 50.47 253 P **P 20 03 22.7 +2.4**
UTTA Uttaradit 50.47 253 P **P 20 03 22.7 +2.4**
comp=Z,2.9nm,0.9s
LAMP Lampang 50.53 254 P **P 20 03 23.4 +2.6**
comp=Z,5.6nm,0.7s
CMMT Chiang Mai 50.78 255 P **P 20 03 24.0 +1.3**
comp=Z,24nm,0.8s
CHTO Chiang Mai 50.78 255 P **P 20 03 24.1 +1.4**
comp=Z,83nm,0.9s
CHTO Chiang Mai 50.78 255 *e*P **P 20 03 23.9 +1.3**
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 51.03 255 P **P 20 03 26.4 +1.8**
comp=Z,5.5nm,0.7s,baz=36,slow=7.2,SNR=55
CMAR ScP **ScP 20 08 23.7 +2.3**
comp=Z,1.9nm,0.9s,baz=18,slow=4.0,SNR=9.4
PBKT Sadao Pong 51.04 252 P **P 20 03 24.9 +0.3**
comp=Z,13nm,1.3s,comp=Z,3μm
PBKT Sadao Pong 51.04 252 P **P 20 03 24.9 +0.3**
comp=Z,13nm,1.3s,comp=Z,3μm
SHL Shillong 51.07 267 *e*P **P 20 03 27.0 +2.0**
SHL *e*S **S 20 10 32.0 +0.2**
RES Resolute Bay 51.57 18 *e*P **P 20 03 27.1 -0.6**
RES pmax pmax
comp=Z,78nm,0.8s
RES Resolute Bay 51.57 18 *e*P **P 20 03 27.1 -0.6**
comp=Z,78nm,0.8s
FAKI Fak Fak 51.91 204 *e*P **P 20 03 31.3 +0.2**
comp=Z,45nm,1.2s
MHMT Maesarieng 51.91 256 P **P 20 03 33.5 +2.4**
comp=Z,7.6nm,0.8s,comp=Z,278nm
ULHL Ulahol 51.93 294 P **P 20 03 31.7 +0.5**
SNR=9.7
YKA Yellowknife Ar 51.97 36 P **P 20 03 31.6 +0.7**
comp=Z,5.1nm,0.7s,baz=299,slow=6.9,SNR=32

TKM2 Tokmak 2 51.98 295 P **P 20 03 31.8 +0.2**
SNR=20
TKM2 Tokmak 2 51.98 295 *e*P **P 20 03 31.5 -0.1**
TKM2 pmax pmax
comp=Z,18nm,0.9s
TKM2 Tokmak 2 51.98 295 *e*P **P 20 03 31.5 -0.1**
comp=Z,18nm,0.9s
CHMS Chumysh 52.47 296 P **P 20 03 34.9 0.0**
SNR=15
USP Ospenovka 52.48 296 P **P 20 03 35.2 +0.1**
SNR=6.6
KBK Karagaybulak 52.53 295 P **P 20 03 35.8 +0.2**
SNR=25
KBS Kingsbay 52.63 351 *e*P **P 20 03 34.5 -1.1**
KBS IAmb IAmb 20 03 35.9
comp=Z,14nm,0.8s
KZA Kyzart 52.65 295 P **P 20 03 37.7 +1.0**
SNR=40
SPA0 Spitsbergen Ar 52.71 349 *e*P **P 20 03 35.0 -1.2**
SPITS Spitsbergen Ar 52.71 349 P **P 20 03 34.2 -2.0**
comp=Z,4.3nm,0.5s,baz=56,slow=7.5,SNR=94
HOPEN Hopen 52.72 346 *e*P **P 20 03 34.5 -1.7**
AAK Ala-Archa 52.82 296 P **P 20 03 37.8 +0.1**
SNR=31
AAK Ala-Archa 52.82 296*c i*P **P 20 03 37.5 -0.2**
AAK pmax pmax
comp=Z,57nm,0.9s
AAK Ala-Archa 52.82 296 P **P 20 03 37.9 +0.1**
SNR=12
AAK Ala-Archa 52.82 296 P **P 20 03 37.7 0.0**
comp=Z,17nm,0.7s,baz=99,slow=5.5,SNR=74
AAK Ala-Archa 52.82 296 *e*P **P 20 03 37.5 -0.2**
TAPN Taplejung 52.82 272 *e*P **P 20 03 39.4 +1.3**
comp=Z,26nm,0.3s
TAPN Taplejung 52.82 272 *e*P **S 20 10 57.2 +1.2**
comp=Z,22nm,1.0s
SVE Sverdlovsk 53.20 317*de*P **P 20 03 39.2 -0.8**
SVE pmax pmax
comp=Z,95nm,0.8s
EKS2 Erkin-Say 53.25 296 P **P 20 03 41.1 +0.2**
SNR=45
EKS2 Erkin-Say 53.25 296 *e*P **P 20 03 40.7 -0.1**
EKS2 pmax pmax
comp=Z,35nm,1.0s
EKS2 Erkin-Say 53.25 296 *e*P **P 20 03 40.7 -0.1**
comp=Z,35nm,1.0s
ODAN Odare 53.35 272 *e*P **P 20 03 42.9 +1.0**
comp=Z,42nm,0.7s
ODAN Odare 53.35 272 *e*P **S 20 11 03.7 +0.7**
LUWI Luwuk 53.48 216 *e*P **P 20 03 41.5 -1.0**
comp=Z,63nm,1.3s
SOKR Solikamsk 53.54 321*d i*P **P 20 03 41.5 -0.9**
SOKR pmax pmax
comp=Z,60nm,1.3s
KSH Kashi 53.58 292⇑*i*P P 20 03 47.6 +4.3
KSH sP sP 20 04 36.5 +4.9
KSH PP PP 20 05 52.6 +7.5
KSH S **S 20 11 07.8 +2.2**
KSH sS sS 20 12 04.8 +2.6
KSH ScS **ScS 20 13 18.1 -0.4**
KSH SS **SS 20 14 50.8 +3.3**
KSH PMZ
comp=Z,8.0nm,0.7s
KSH LN
comp=Z,97nm,5.0s
KSH LE
comp=Z,87nm,4.7s
KSH LZ
comp=Z,110nm,4.7s
AML Almayashu 53.59 296 P **P 20 03 44.1 +0.4**
SNR=22
JIRN Jiri 53.68 274 *e*P **P 20 03 45.9 +1.5**
comp=Z,165nm,1.0s
JIRN Jiri 53.68 274 *e*P **S 20 11 05.6 -2.1**
comp=Z,44nm,1.1s
GUN Gumba 53.74 274 *e*P **P 20 03 46.0 +1.2**
comp=Z,62nm,0.5s
GUN Gumba 53.74 274 *e*P **S 20 11 07.5 -0.9**
comp=Z,26nm,0.8s
HSPB Hornsund (broa 53.76 349 *e*P **P 20 03 42.6 -1.3**
HSPB IAmb IAmb 20 03 45.5
comp=Z,20nm,1.1s
RAMN Ramite 53.84 273 *e*P **P 20 03 46.6 +1.1**
comp=Z,91nm,0.6s
RAMN Ramite 53.84 273 *e*P **S 20 11 09.4 -0.3**
comp=Z,35nm,1.1s
KKN Kakani 54.23 274 *e*P **P 20 03 49.6 +1.4**
KKN Kakani 54.23 274 *e*P **S 20 11 12.9 -1.9**
comp=Z,14nm,0.8s
PKI Pulchoki 54.27 274 *e*P **P 20 03 49.7 +1.0**
PKIN Phulchoki 54.28 274 *e*P **P 20 03 49.6 +0.9**
comp=Z,32nm,0.6s
PKIN Phulchoki 54.28 274 *e*P **S 20 11 13.8 -1.8**
comp=Z,14nm,0.8s
ARU Arti 54.38 317 P **P 20 03 47.4 -1.3**
comp=Z,808nm,0.8s,SNR=68
ARU Arti 54.38 317*c i*P **P 20 03 47.3 -1.4**
ARU 20 04 50.7
ARU 20 05 47.5
ARU S **S 20 11 15.1 -0.5**
ARU SS **SS 20 14 53.1 -6.0**
ARU pmax pmax
comp=Z,155nm,1.2s
ARU Arti 54.38 317 *e*P **P 20 03 47.2 -1.4**
comp=Z,96nm,0.8s
DMN Daman 54.46 274 *e*P **P 20 03 51.4 +1.4**
DMN Daman 54.46 274 *e*P **S 20 11 16.4 -1.6**
comp=Z,44nm,1.3s
GKN Gorkha 54.54 275 *e*P **P 20 03 51.7 +1.3**
comp=Z,273nm,0.9s
GKN Gorkha 54.54 275 *e*P **S 20 11 17.6 -1.2**
comp=Z,25nm,1.1s
DANN Dangsing 54.92 276 *e*P **P 20 03 55.1 +1.7**
comp=Z,252nm,0.7s
DANN Dangsing 54.92 276 *e*P **S 20 11 26.2 +2.0**
comp=Z,82nm,1.3s
KKAR Karatay Array 55.02 298 *e*P **P 20 03 52.7 -0.9**
KKAR pmax pmax
comp=Z,17nm,0.8s
KKAR Karatay Array 55.02 298 *e*P **P 20 03 52.7 -0.9**
comp=Z,17nm,0.8s
BJO Bjornoya 55.19 346 *e*P **P 20 03 54.0 -0.2**
KOLN Kolonda 55.40 275 *e*P **P 20 03 58.0 +1.4**
comp=Z,149nm,0.8s
HDW Hoodsport 55.46 55 P **P 20 03 57.5 +0.8**
JCW Jim Creek 55.80 54 P **P 20 03 59.5 +0.6**
HNR Honiara 56.13 170 LR LR 20 25 20.7
comp=Z,60nm,20.5s,baz=282,slow=33
G03D McMinnville, O 56.70 57⇑P **P 20 04 05.6 +0.3**
baz=56
NLW Nelson Butte 56.75 53 P **P 20 04 06.4 +0.5**
DAG Danmarks Havn 56.93 357 *i*P **P 20 04 05.1 -1.4**
DAG pmax pmax
comp=Z,4.0nm,0.7s
DAG Danmarks Havn 56.93 357 *i*P **P 20 04 05.1 -1.4**
comp=Z,5.2nm,0.7s
PRGR Permogore 56.95 327 *e*P **P 20 04 04.2 -2.6**
PRGR pmax pmax
comp=Z,87nm,1.1s
TBM Table Mountain 57.12 54 P **P 20 04 08.8 +0.4**
APA Apatity 57.13 336⇑*i*P **P 20 04 07.8 -0.3**
APA MLR MLR
comp=Z,300nm,18.0s
KEV Kevo 57.23 340 *e*P **P 20 04 06.4 -2.3**
KEV pmax pmax
comp=Z,22nm,0.8s
KEV Kevo 57.23 340 *ep* **P 20 04 06.4 -2.3**
comp=Z,22nm,0.8s
EBG Ellensburg 57.28 55 P **P 20 04 10.5 +1.0**
VLL Laurance Lake 57.47 56 P **P 20 04 12.1 +1.1**
I03D Drain, OR 57.51 59⇓P **P 20 04 11.6 +0.6**
baz=57
ABKAR Akbulak array 57.65 309 *e*P **P 20 04 11.0 -1.0**
comp=Z,16nm,0.4s
SMLA Simla 57.71 283 *i*P **P 20 04 13.3 +0.7**
ARCES ARCESS Array B 57.74 340 P **P 20 04 11.2 -1.1**
comp=Z,24nm,0.9s,baz=35,slow=5.2,SNR=51
ARCES PcP **PcP 20 05 04.3 +0.8**
comp=Z,2.1nm,0.4s,baz=61,slow=4.3,SNR=4.1
ARCES LR LR 20 33 24.7
comp=Z,32nm,18.0s,baz=6.5,slow=40
ARE0 ARCESS Array S 57.74 340 *e*P **P 20 04 11.2 -1.1**
ARE0 IAmb IAmb 20 04 12.7
comp=Z,26nm,0.8s
KULLO Kullorsuaq 57.80 9 *i*P **P 20 04 11.9 -0.7**
KULLO pmax pmax

comp=Z,46nm,0.9s
KULLO Kullorsuaq 57.80 9 *i*P **P 20 04 11.9 -0.7**
comp=Z,46nm,0.8s
G05D Wamic, OR 57.81 57⇑P **P 20 04 14.3 +1.0**
baz=58,SNR=7.3
AKTO Aktyubinsk 57.98 311 P **P 20 04 13.3 -1.0**
comp=Z,5.5nm,0.4s,baz=55,slow=8.6,SNR=31
I04A Tendick Farm, 58.01 58⇓P **P 20 04 15.5 +0.8**
baz=58,SNR=5.4
TMCR Tamitsa 58.03 332 *e*P **P 20 04 13.2 -1.1**
TMCR *e* 20 06 23.2
TMCR pmax pmax
comp=Z,61nm,0.7s
L02D Cave Junction, 58.25 61⇓P **P 20 04 17.0 +0.7**
baz=58
I05D Terrebonne, OR 58.32 57⇓P **P 20 04 18.1 +1.3**
baz=58,SNR=6.0
KAPI Kappang 58.32 218 *e*P **P 20 04 17.3 +0.2**
comp=Z,38nm,0.8s
NEW Newport 58.41 52⇑P **P 20 04 17.6 +0.3**
baz=58
J04D Umpqua Nationa 58.51 59⇑P **P 20 04 19.2 +0.9**
baz=58
KTK1 Kautokeino 58.67 341 *e*P **P 20 04 17.7 -1.0**
PINOR Pine Mountain 58.90 58 *e*P **P 20 04 22.1 +1.4**
comp=Z,43nm,1.2s
BUOR Burton Butte 59.00 60 P **P 20 04 22.9 +1.3**
J05D Fort Rock, OR 59.00 58⇓P **P 20 04 22.8 +1.2**
baz=59,SNR=12
TRO Tromso 59.12 342 *e*P **P 20 04 20.6 -1.3**
TRO IAmb IAmb 20 04 22.2
comp=Z,40nm,0.9s
M02C Callahan 59.16 61⇓P **P 20 04 23.9 +1.2**
baz=59
N02D Trinity Center 59.49 61⇑P **P 20 04 26.2 +1.2**
baz=59,SNR=5.2
M04C Macdoel 59.53 60⇑P **P 20 04 25.8 +0.5**
baz=59
WALA Waterton Lakes 59.65 49 *e*P **P 20 04 26.0 0.0**
comp=Z,0.5nm,1.0s
KLMR Klimovskoe 59.72 328 *e*P **P 20 04 23.9 -2.2**
KLMR pmax pmax
comp=Z,32nm,0.9s
WDC Whiskeytown Da 59.83 62 *e*P **P 20 04 27.9 +0.7**
WDC pmax pmax
comp=Z,12nm,1.1s
WDC Whiskeytown Da 59.83 62 *e*P **P 20 04 27.9 +0.7**
comp=Z,12nm,1.1s
BSMT Bassoo Peak 59.91 51 P **P 20 04 28.8 +0.9**
BLMT Blacktail Moun 60.04 51 *e*P **P 20 04 29.2 +0.4**
comp=Z,15nm,0.9s
JTMT Jette 60.24 51 *e*P **P 20 04 30.9 +0.9**
comp=Z,2.6nm,0.5s
MOD Modoc Plateau 60.38 59 *e*P **P 20 04 31.7 +0.6**
comp=Z,27nm,1.1s
SWMT Swartz Lake 60.54 51 *e*P **P 20 04 32.3 +0.2**
comp=Z,12nm,1.1s
SOEI Soe 60.90 211 *e*P **P 20 04 34.4 -0.4**
comp=Z,12nm,0.8s
SLMT Seeley Lake 60.98 51 *e*P **P 20 04 35.2 +0.1**
comp=Z,21nm,1.1s
KBL Kabul 60.98 291 *e*P **P 20 04 34.7 -0.7**
KBL pmax pmax
comp=Z,69nm,0.9s
KBL Kabul 60.98 291 *e*P **P 20 04 34.7 -0.7**
comp=Z,69nm,0.9s
MSO Missoula 60.99 51⇑P **P 20 04 35.6 +0.4**
baz=61,SNR=11
WVOR Wild Horse Val 61.04 58 *e*P **P 20 04 35.9 +0.4**
WVOR pmax pmax
comp=Z,21nm,1.0s
WVOR Wild Horse Val 61.04 58 *e*P **P 20 04 35.9 +0.4**
comp=Z,21nm,1.0s
JOF Joensuu 61.06 333 *e*P **P 20 04 32.7 -2.4**
JOF pmax pmax
comp=Z,33nm,0.7s
JOF Joensuu 61.06 333 *ep* **P 20 04 32.7 -2.4**
comp=Z,33nm,0.7s
SUMG Summit 61.12 3 *i*P **P 20 04 36.2 +0.2**
SUMG pmax pmax
comp=Z,94nm,1.0s
SUMG Summit 61.12 3 *i*P **P 20 04 36.2 +0.2**
comp=Z,94nm,1.0s
SUMG Summit 61.12 3 *e*P **P 20 04 36.2 +0.2**
comp=Z,128nm,0.9s
CHMT Chamberlain Mo 61.31 51 P **P 20 04 37.6 +0.2**
LOF Lofoten 61.47 343 *e*P **P 20 04 35.8 -2.0**
FFC Flin Flon 61.82 39 *e*P **P 20 04 40.5 +0.1**
FFC pmax pmax
comp=Z,7.0nm,0.8s
FFC Flin Flon 61.82 39 *e*P **P 20 04 41.0 +0.6**
FFC Flin Flon 61.82 39 *e*P **P 20 04 40.5 +0.1**
comp=Z,7.0nm,0.8s
FCC Fort Churchill 62.25 32 *e*P **P 20 04 42.9 -0.3**
FCC Fort Churchill 62.25 32 *e*P **P 20 04 43.2 +0.1**
FCC Fort Churchill 62.25 32 *e*P **P 20 04 42.9 -0.3**
comp=Z,0.2nm,0.5s
A19A Klindworth Far 62.40 47⇑P **P 20 04 45.0 +0.5**
baz=62,SNR=9.8
LRM Limekiln Ridge 62.43 52 *e*P **P 20 04 45.2 +0.3**
comp=Z,138nm,1.0s
EGMT Eagleton 62.46 48⇓P **P 20 04 45.3 +0.4**
baz=62,SNR=9.2
EGMT Eagleton 62.46 48 *e*P **P 20 04 45.1 +0.2**
comp=Z,19nm,1.0s
B19A Brinkman Farms 62.60 48⇑P **P 20 04 46.3 +0.5**
baz=62,SNR=17
HLID Hailey 62.76 55⇓P **P 20 04 47.5 +0.4**
baz=62,SNR=7.2
HLID Hailey 62.76 55 *e*P **P 20 04 47.7 +0.6**
comp=Z,9.6nm,1.2s
MCMT McKenzie Canyo 62.84 53 *e*P **P 20 04 45.5 -2.1**
comp=Z,2.0nm,1.1s
A20A Cobblestone Ra 62.84 47⇑P **P 20 04 48.0 +0.6**
baz=63,SNR=9.8
KONS Konsvik 62.95 343 *e*P **P 20 04 46.8 -0.8**
MOR8 Moi Rana 62.95 342 *e*P **P 20 04 45.3 -2.4**
MOR8 IAmb IAmb 20 04 47.9
comp=Z,97nm,1.1s
WAKR Walker 63.00 62 *e*P **P 20 04 49.6 +0.8**
comp=Z,9.0nm,0.9s
C19A Slack Wire Ran 63.01 48⇓P **P 20 04 49.3 +0.8**
baz=63
B20A Solberg Farm, 63.08 47⇑P **P 20 04 49.6 +0.6**
baz=63,SNR=7.8
KAF Kangasniemi 63.20 334 *e*P **P 20 04 47.0 -2.4**
KAF pmax pmax
comp=Z,50nm,0.8s
KAF Kangasniemi 63.20 334 *ep* **P 20 04 47.0 -2.4**
comp=Z,50nm,0.8s,baz=38,slow=6.2
A21A Bergtoll Ranch 63.27 46⇓P **P 20 04 50.8 +0.6**
baz=63,SNR=15
D19A Cripps Ranch, 63.47 49⇑P **P 20 04 51.8 +0.3**
baz=63
ILULI Ilulissat 63.52 9 *i*P **P 20 04 50.7 -0.7**
ILULI pmax pmax
comp=Z,46nm,0.9s
ILULI Ilulissat 63.52 9 *i*P **P 20 04 50.7 -0.7**
comp=Z,46nm,0.8s
C20A Veseth Ranch, 63.56 48⇓P **P 20 04 53.2 +1.0**
baz=63,SNR=6.1
QLMT Earthquake Lak 63.61 52 *e*P **P 20 04 53.5 +0.7**
comp=Z,0.6nm,0.6s
PUL Pulkovo 63.72 331*de*P **P 20 04 52.7 -0.1**
PUL Pulkovo 63.72 331 *e*P **P 20 04 52.7 -0.1**
NVAR Mina Array Bea 63.73 61 P **P 20 04 54.3 +0.7**
comp=Z,16nm,0.7s,baz=293,slow=7.2,SNR=66
A22A Carney Farms, 63.77 46⇑P **P 20 04 53.9 +0.3**
baz=64,SNR=12
FINES FINESS Array B 63.79 334 P **P 20 04 52.0 -1.3**
comp=Z,74nm,0.8s,baz=46,slow=5.9,SNR=219
D20A Manuel Ranch, 63.90 48⇑P **P 20 04 54.9 +0.5**
baz=64,SNR=8.1
GCMT Greycliff 63.94 50 *e*P **P 20 04 55.8 +1.0**
comp=Z,19nm,1.2s
C21A Desert Coulee 63.95 47⇓P **P 20 04 55.1 +0.4**
baz=64
E19A Rath Farm, Rou 63.97 49⇑P **P 20 04 55.8 +0.9**
baz=64
B22A Reddig Ranch S 64.19 46⇑P **P 20 04 56.6 +0.4**
baz=64
F19A Roth Farm, Mol 64.28 50⇓P **P 20 04 57.5 +0.5**
baz=64
H17A Grant Village 64.36 52⇑P **P 20 04 57.4 -0.2**
baz=64
D21A La Casta Ranch 64.50 48⇓P **P 20 04 58.8 +0.5**
baz=64

B23A **Brockton** 64.58 46 ⇊P P 20 04 59.4 +0.6
baz=64
TPH **Tonopah** 64.61 61 eP P 20 04 59.8 +0.5
TPH pmax pmax
comp=Z,14nm,0.8s
TPH **Tonopah** 64.61 61 eP P 20 04 59.8 +0.5
comp=Z,14nm,0.8s
A24A **Westby** 64.76 45 ⇊P P 20 05 00.0 +0.1
baz=64
OBN **Obninsk** 64.85 325d iP P 20 04 59.0 -1.3
OBN i *PP PcP 20 05 31.3 -1.1
OBN pmax pmax
comp=Z,38nm,1.0s
OBN **Obninsk** 64.85 325 P P 20 04 59.0 -1.3
comp=Z,18nm,0.4s,baz=162,slow=24,SNR=8.2
OBN **Obninsk** 64.85 325 eP P 20 04 59.0 -1.3
comp=Z,47nm,0.9s
D22A **Cohagen** 64.86 47 ⇑P P 20 05 00.8 +0.1
baz=65
PKM **Mcpherson Peak** 65.06 65 ⇊P P 20 05 02.8 +0.5
baz=65
SPUT **South Promonto** 65.33 55 eP P 20 05 04.5 +0.6
comp=Z,14nm,1.1s
ISA **Isabella, Lake** 65.40 64 eP P 20 05 04.0 -0.3
ISA **Isabella, Lake** 65.40 64 ⇊P P 20 05 04.0 -0.3
baz=65,SNR=5.1
ISA **Isabella, Lake** 65.40 64 eP P 20 05 04.0 -0.3
comp=Z,1.4nm,0.6s
R11A **Troy Canyon, C** 65.42 60 ⇊P P 20 05 04.9 +0.3
baz=65,SNR=27
R11A **Troy Canyon, C** 65.42 60 eP P 20 05 04.3 -0.2
comp=Z,12nm,0.8s
VRHR **Novokhopersk** 65.55 319 eP P 20 05 02.3 -2.6
VRHR pmax pmax
comp=E,40nm,0.7s
VRHR pmax pmax
comp=Z,70nm,0.7s
VRHR pmax pmax
comp=N,30nm,0.8s
B25A **Knox Farm, Ray** 65.61 45 ⇑P P 20 05 04.0 -1.4
baz=65
GEYT **Alibeck** 65.66 300 P P 20 05 06.4 +0.5
comp=N,59nm,0.8s,baz=29,slow=3.4,SNR=169
GEYT LR LR 20 36 09.6
comp=N,47nm,19.0s,baz=110,slow=38
SFJD **Kangerlussuaq** 65.70 9 iP P 20 05 06.4 +0.8
SFJD pmax pmax
comp=Z,23nm,0.9s
SFJD **Kangerlussuaq** 65.70 9 iP P 20 05 06.4 +0.8
comp=Z,23nm,0.9s
HYB **Hyderabad** 65.71 270 iP P 20 05 06.0 -0.4
MPMC **Manual Prospec** 65.75 63 ⇑P P 20 05 07.0 +0.3
baz=66,SNR=13
D24A **Glendive** 65.82 46 ⇊P P 20 05 06.9 +0.1
baz=66
DUG **Dugway, Tooele** 65.85 57 eP P 20 05 07.4 +0.2
DUG pmax pmax
comp=Z,29nm,1.3s
DUG **Dugway, Tooele** 65.85 57 ⇊P P 20 05 07.5 +0.2
baz=66,SNR=13
DUG **Dugway, Tooele** 65.85 57 eP P 20 05 07.4 +0.2
comp=Z,29nm,1.3s
FURC **Furnace Creek,** 65.87 62 ⇊P P 20 05 08.1 +0.9
baz=66
TPNV **Topopah Spring** 65.93 61 ⇑P P 20 05 08.3 +0.5
baz=66,SNR=9.9
PDAR **Pinedale Array** 65.99 53 P P 20 05 08.2 +0.1
comp=Z,8.7nm,0.8s,baz=321,slow=1.2,SNR=15
LRMC **Laurel Mtn Rad** 66.01 63 ⇑P P 20 05 08.3 0.0
baz=66
TCUT **Toone Canyon** 66.04 55 eP P 20 05 09.5 +0.9
comp=Z,11nm,0.8s
A27A **Ledoux Ranch,** 66.07 43 ⇑P P 20 05 08.7 +0.4
baz=66,SNR=5.5
EDW2 **Edwards Air Fo** 66.21 64 ⇑P P 20 05 10.1 +0.6
baz=66,SNR=9.6
F23A **Volborg** 66.22 48 ⇑P P 20 05 09.2 -0.2
baz=66
J20A **Shoshoni** 66.40 51 ⇑P P 20 05 11.4 +0.8
baz=66
VSR **Storozhevoye** 66.56 321 eP P 20 05 10.0 -1.3
VSR pmax pmax
comp=N,30nm,0.7s
VSR pmax pmax
comp=E,20nm,0.7s
VSR pmax pmax
comp=Z,60nm,0.7s
DAU **Daniels Canyon** 66.60 56 eP P 20 05 11.4 -0.8
DAU pmax pmax
comp=Z,14nm,1.1s
DAU **Daniels Canyon** 66.60 56 eP P 20 05 11.4 -0.8
comp=Z,14nm,1.1s
SHOC **Shoshone, Teco** 66.60 62 ⇑P P 20 05 12.5 +0.6
baz=66
GSC **Goldstone, Bar** 66.67 63 eP P 20 05 12.7 +0.2
GSC pmax pmax
comp=Z,11nm,0.9s
GSC **Goldstone, Bar** 66.67 63 ⇊P P 20 05 12.8 +0.4
baz=66
GSC **Goldstone, Bar** 66.67 63 eP P 20 05 12.7 +0.2
comp=Z,10nm,0.9s
VORD **Divnogorie** 66.69 320 eP P 20 05 10.9 -1.2
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,50nm,0.7s
E25A **Miller Ranch,** 66.71 46 ⇑P P 20 05 12.6 +0.1
baz=66
BFSC **Mount Baldy Ra** 66.84 64 ⇊P P 20 05 14.1 +0.5
baz=67
B28A **Dugan Ranch, T** 66.84 43 ⇑P P 20 05 13.6 +0.4
baz=66,SNR=5.6
SHPR **Sheep Range** 66.88 61 eP P 20 05 14.3 +0.5
comp=Z,18nm,1.3s
A29A **Manning Farm,** 67.04 42 ⇊P P 20 05 14.7 +0.2
baz=67,SNR=12
TUQ **Turquoise Moun** 67.12 62 ⇑P P 20 05 15.7 +0.3
baz=67,SNR=14
CCUT **Cedar City** 67.27 59 eP P 20 05 16.9 +0.5
comp=Z,10nm,1.2s
HEC **Hector,Ludlow** 67.27 63 ⇑P P 20 05 16.7 +0.4
baz=67,SNR=7.8
B29A **Wagenman Farm,** 67.31 43 ⇑P P 20 05 16.5 +0.3
baz=67
MVU **Marysvale** 67.31 58 eP P 20 05 16.9 +0.2
comp=Z,5.5nm,1.0s
MURC **Murrieta** 67.55 65 ⇑P P 20 05 17.9 -0.1
baz=67
ULM **Lac du Bonnet** 67.62 40 P P 20 05 17.4 -0.6
comp=Z,5.4nm,0.6s,baz=320,slow=5.8,SNR=8.9
GMRC **Granite Mounta** 67.72 63 ⇊P P 20 05 19.6 +0.5
baz=68,SNR=11
WRAB **Tennant Creek** 67.78 197ceP P 20 05 19.2 -0.1
WRAB pmax pmax
comp=Z,72nm,1.0s
WRAB **Tennant Creek** 67.78 197 eP P 20 05 18.8 -0.5
comp=Z,28nm,1.0s
WRAB ePcP PcP 20 05 45.9 +1.0
WB2 **Warramunga Arr** 67.78 197 eP P 20 05 19.3 0.0
WB2 ePcP PcP 20 05 45.9 +0.9
WRA **Warramunga Arr** 67.79 197 P P 20 05 19.4 0.0
comp=Z,20nm,0.9s,baz=14,slow=6.6,SNR=70
WRA PcP PcP 20 05 45.7 +0.7
comp=Z,4.3nm,0.7s,baz=14,slow=4.9,SNR=8.9
B30A **Myrvik Farm, E** 67.80 42 ⇑P P 20 05 19.7 +0.4
baz=68,SNR=13
SRU **San Rafael Swe** 67.89 56 eP P 20 05 20.4 +0.2
SRU pmax pmax
comp=Z,28nm,1.2s
SRU **San Rafael Swe** 67.89 56 eP P 20 05 20.4 +0.2
comp=Z,28nm,1.2s
G26A **Maurine** 67.95 47 ⇑P P 20 05 20.2 -0.1
baz=68
N20A **Spence Gulch,** 68.00 54 ⇑P P 20 05 21.2 +0.3
baz=68
PFO **Pinyon Flats O** 68.00 64 ⇊P P 20 05 21.4 +0.5
baz=68
BELC **Belle Mtn. Jos** 68.03 63 ⇑P P 20 05 20.8 -0.3
baz=68,SNR=5.8
AKN **Aaknes** 68.03 343 eP P 20 05 20.2 -0.2
NB2 **NORSAR Subarra** 68.12 340 P P 20 05 20.3 -0.8
comp=Z,30nm,0.7s,baz=28,slow=6.5
NB2 **NORSAR Subarra** 68.12 340 P P 20 05 20.3 -0.8
baz=28,slow=6.5
NOA **NORSAR Array B** 68.12 340 P P 20 05 19.5 -1.5
comp=Z,30nm,0.6s,baz=27,slow=6.4,SNR=148
NOA LR LR 20 37 13.6
comp=Z,25nm,21.8s,baz=15,slow=38
D29A **Pettibone, Tap** 68.19 44 ⇊P P 20 05 21.7 0.0
baz=68
C30A **Mose, Pekin** 68.26 43 ⇊P P 20 05 22.5 +0.3
baz=68
MSVF **Nonsavu** 68.28 152 eP P 20 05 24.0 +1.4
MSVF pmax pmax
comp=Z,37nm,1.2s
MSVF **Nonsavu** 68.28 152 eP P 20 05 24.0 +1.4
comp=Z,37nm,1.2s
HFS **Hagfors** 68.31 339 P P 20 05 21.3 -1.0
comp=Z,46nm,0.6s,baz=45,slow=3.4,SNR=282
NC602 **NORSAR Array S** 68.31 340 eP P 20 05 21.4 -0.8
IDID **Didziasalis** 68.39 330 eP P 20 05 22.1 -0.6
IDID AMB AMB 20 05 24.2
comp=Z,19nm,0.8s
ISAL **Salakas** 68.40 330 eP P 20 05 22.2 -0.5
ISAL AMB AMB 20 05 24.4
comp=Z,21nm,1.1s
IRM **Iron Mountain** 68.45 63 ⇊P P 20 05 23.4 -0.1
baz=68,SNR=9.8
O20A **White River Ci** 68.49 54 ⇊P P 20 05 24.1 +0.1
baz=68
MONP **Monument Peak,** 68.51 65 ⇑P P 20 05 24.5 +0.3
baz=68
IIGN **Ignalina** 68.54 330 eP P 20 05 22.6 -1.1
IIGN AMB AMB 20 05 24.6
comp=Z,26nm,0.8s
D30A **Buchanan** 68.56 44 ⇊P P 20 05 23.4 -0.5
baz=68
W13A **Hualapai Mount** 68.59 61 ⇊P P 20 05 24.6 0.0
baz=68,SNR=6.2
BC3 **Big Chuckawall** 68.60 63 ⇊P P 20 05 24.4 -0.2
baz=68,SNR=8.0
MICGM **Minsk** 68.62 328⇊eP P 20 05 22.0 -2.2
MNK **Minsk** 68.64 328⇊eP P 20 05 22.0 -2.3
MNK pmax pmax
comp=Z,210nm,0.8s
U15A **North Rim** 68.66 59 ⇊P P 20 05 25.8 +0.7
baz=68,SNR=13
NACGM **Naroch** 68.70 329 eP P 20 05 22.0 -2.7
E30A **Jud** 68.92 44 ⇊P P 20 05 26.1 -0.1
baz=69
F29A **Eureka** 68.95 45 ⇊P P 20 05 26.3 -0.1
baz=69
PDMCI **Parker Dam,Lak** 68.97 62 ⇊P P 20 05 27.0 +0.3
baz=69,SNR=12
AGMN **Agassiz Nation** 69.05 41 ⇑P P 20 05 26.7 -0.3
baz=69
I27A **Quinn** 69.08 48 ⇊P P 20 05 27.5 +0.1
baz=69
HYA **Hoyanger** 69.11 343 eP P 20 05 27.0 -0.1
HYA IAmb IAmb 20 05 29.5
comp=Z,40nm,0.8s
H28A **Mission Ridge** 69.18 47 ⇊P P 20 05 28.2 +0.3
baz=69
F30A **Leola** 69.34 45 ⇊P P 20 05 28.7 -0.1
baz=69
GLA **Glamis** 69.39 64 ⇊P P 20 05 29.8 +0.4
baz=69
DZM **Mont Dzumac** 69.53 165 P P 20 05 31.6 +1.4
comp=Z,7.8nm,0.7s,baz=351,slow=16,SNR=3.6
H29A **Onida** 69.62 46 ⇊P P 20 05 30.5 -0.1
baz=69
PV01 **Paradox Valley** 69.67 56 eP P 20 05 31.7 +0.4
comp=Z,552nm,0.8s
P22A **Eagle** 69.69 54 ⇑P P 20 05 31.4 +0.1
baz=69
KONO **Kongsberg** 69.73 340 eP P 20 05 30.8 -0.2
G30A **Faulkton** 69.79 45 ⇑P P 20 05 31.1 -0.5
baz=70,SNR=7.2
WUAZ **Wupatki** 69.82 60 ⇊P P 20 05 32.4 +0.2
baz=70,SNR=5.0
WUAZ **Wupatki** 69.82 60 eP P 20 05 33.0 +0.9
comp=Z,6.8nm,1.0s
M25A **Palm-Egli Farm** 69.89 51 ⇊P P 20 05 33.2 +0.7
baz=70
Y14A **Wickenburg** 69.91 62 ⇑P P 20 05 32.9 +0.3
baz=70,SNR=12
ASK **Askoy** 69.94 343 eP P 20 05 32.1 -0.1
J28A **Allard Ranch,** 69.96 48 ⇊P P 20 05 33.1 +0.4
baz=70
NCK **Nalchik** 69.97 312⇊eP P 20 05 33.4 +0.7
RUND **Rundenannen** 69.97 343 eP P 20 05 31.4 -1.0
BER **Bergen** 70.00 343 eP P 20 05 32.6 0.0
I29A **Vivian Onida** 70.01 47 ⇑P P 20 05 32.8 -0.2
baz=70
KIV **Kislovodsk** 70.10 313 eP P 20 05 34.5 +0.9
KIV e 20 08 11.7
KIV eS S 20 14 32.0 -1.1
KIV pmax pmax
comp=Z,74nm,0.7s
KIV **Kislovodsk** 70.10 313 P P 20 05 35.2 +1.6
SNR=13
KIV **Kislovodsk** 70.10 313 eP P 20 05 34.7 +1.1
KIV **Kislovodsk** 70.10 313 eP P 20 05 34.2 +0.6
comp=Z,72nm,0.8s
KBZ **Khabaz** 70.16 313 P P 20 05 34.4 +0.6
comp=Z,59nm,0.8s,baz=58,slow=5.1,SNR=116
KBZ LR LR 20 40 49.6
comp=Z,61nm,18.4s,baz=38,slow=40
ODD1 **Odda** 70.16 342 eP P 20 05 33.8 +0.1
ISCO **Idaho Springs** 70.18 53 eP P 20 05 35.4 +0.9
ISCO pmax pmax
comp=Z,12nm,0.9s
ISCO **Idaho Springs** 70.18 53 ⇑P P 20 05 34.6 +0.1
baz=70
ISCO **Idaho Springs** 70.18 53 eP P 20 05 35.4 +0.9
comp=Z,12nm,0.9s
113A **Mohawk Valley,** 70.24 63 ⇑P P 20 05 34.7 +0.2
baz=70
ZEI **Tsey** 70.31 312 eP P 20 05 33.6 -1.5
ZEI pmax pmax
comp=Z,27nm,0.8s
MVCO **Mesa Verde** 70.35 57 ⇊P P 20 05 35.5 0.0
baz=70,SNR=7.9
DUS **Dusheti** 70.39 311 P P 20 05 37.2 +1.8
K28A **Ten Mile Ranch** 70.40 48 ⇑P P 20 05 35.3 -0.1
baz=70
DGRG **David-gareji** 70.49 310 P P 20 05 36.8 +0.8
I30A **Oacoma** 70.52 46 ⇊P P 20 05 36.0 -0.1
baz=70
X16A **Lo Mia Camp, P** 70.53 60 ⇑P P 20 05 37.2 +0.7
baz=70,SNR=13
TBLG **Delisi** 70.63 310 P P 20 05 37.8 +1.0
BLS5 **Blasjo** 70.64 342 eP P 20 05 37.0 +0.4
SUW **Suwalki** 70.67 330 eP P 20 05 35.1 -1.6
SUW pmax pmax
comp=Z,49nm,0.9s
SUW **Suwalki** 70.67 330 eP P 20 05 35.4 -1.3
SUW e 20 05 36.6
SUW **Suwalki** 70.67 330 eP P 20 05 35.1 -1.6
comp=Z,49nm,0.9s
ONI **Oni** 70.69 312 P P 20 05 38.7 +1.6
O25A **Wiggins** 70.78 52 ⇊P P 20 05 38.3 +0.4
baz=70
K29A **Lazy Trails An** 70.90 48 ⇊P P 20 05 38.1 -0.4
baz=71
J30A **Dallas** 70.92 47 ⇑P P 20 05 37.4 -1.1
baz=71
S22A **4UR Ranch, Cre** 70.93 55 ⇊P P 20 05 39.8 +0.8
baz=71,SNR=12
Q24A **Divide** 71.02 53 ⇑P P 20 05 39.6 0.0
baz=71
AKASG **Malin Array Be** 71.10 325 P P 20 05 38.4 -1.0
comp=Z,22nm,0.5s,baz=34,slow=6.2,SNR=72
AKASG LR LR 20 39 06.0
comp=Z,46nm,19.0s,baz=20,slow=38
KIEV **Kiev** 71.11 325 eP P 20 05 38.3 -1.2
KIEV pmax pmax
comp=Z,45nm,0.8s
KIEV **Kiev** 71.11 325 eP P 20 05 38.3 -1.2
comp=Z,45nm,0.8s
N27A **Anderson Farm,** 71.14 50 ⇊P P 20 05 40.2 +0.1
baz=71
P25A **Willow Gulch B** 71.18 52 ⇊P P 20 05 40.4 +0.1
baz=71
R23A **Moffat** 71.19 54 ⇊P P 20 05 41.1 +0.5
baz=71,SNR=7.4
OGNE **Ogallala** 71.31 50 ⇊P P 20 05 41.3 +0.3
baz=71
K30A **Basset** 71.33 47 ⇑P P 20 05 41.1 +0.1
baz=71
X18A **Snowflake** 71.35 59 ⇊P P 20 05 42.1 +0.7
baz=71
214A **Organ Pipe Nat** 71.38 63 ⇊P P 20 05 41.7 +0.3
baz=71,SNR=6.8
214A **Organ Pipe Nat** 71.38 63 eP P 20 05 41.4 -0.1
comp=Z,4.3nm,0.8s
SNART **Snartemo** 71.46 341 eP P 20 05 41.4 0.0
AS31 **Alice Springs** 71.49 197 eP P 20 05 43.3 +1.2
ASAR **Alice Springs** 71.49 197 P P 20 05 43.2 +1.2
comp=Z,21nm,0.8s,baz=13,slow=6.0,SNR=146
Q25A **Bedland, Calha** 71.56 53 ⇑P P 20 05 43.2 +0.6
baz=71
R24A **Sanders Place,** 71.56 54 ⇑P P 20 05 43.2 +0.5
baz=71
P26A **Davis Ranch, A** 71.59 52 ⇊P P 20 05 43.3 +0.5
baz=71
SDCO **Great Sand Dun** 71.68 54 ⇑P P 20 05 43.8 +0.3
baz=71,SNR=7.1
GNI **Garni** 71.75 309c iP P 20 05 45.1 +1.3
GNI pmax pmax
comp=Z,57nm,1.7s
GNI **Garni** 71.75 309 P P 20 05 45.9 +2.2
SNR=8.4
GNI **Garni** 71.75 309 eP P 20 05 44.6 +0.9
comp=Z,29nm,0.9s
SOC **Sochi** 71.85 315 eP P 20 05 43.7 -0.3
SOC e*SP sP 20 06 29.2 -4.5
SOC e 20 08 24.1
SOC eS S 20 14 54.6 +1.6
SOC pmax pmax
comp=Z,47nm,0.7s
S24A **Houchin Ranch,** 71.92 54 ⇊P P 20 05 45.5 +0.5
baz=72
Q26A **Hugo** 71.95 52 ⇑P P 20 05 45.2 +0.3
baz=72
O28A **Krutsinger Ran** 72.03 50 ⇊P P 20 05 44.9 -0.4
baz=72
ECSD **EROS Data Cent** 72.05 45 ⇑P P 20 05 44.9 -0.4
baz=72,SNR=12
ECSD **EROS Data Cent** 72.05 45 eP P 20 05 44.5 -0.7
comp=Z,14nm,0.9s
ANN **Anapa** 72.05 317 eP P 20 05 44.4 -0.8
ANN pmax pmax
comp=Z,41nm,0.7s
R25A **Fountain Ranch** 72.08 53 ⇊P P 20 05 45.5 -0.2
baz=72
L31A **Butterfield Fa** 72.08 47 ⇊P P 20 05 45.5 0.0
baz=72
V22A **San Miguel Ran** 72.17 57 ⇑P P 20 05 46.7 +0.3
baz=72
U23A **El Rito** 72.29 56 ⇑P P 20 05 47.7 +0.6
baz=72,SNR=5.1
BSD **Bornholm Skovb** 72.34 335 iP P 20 05 46.1 -0.6
BSD pmax pmax
comp=Z,16nm,0.7s
BSD **Bornholm Skovb** 72.34 335 iP P 20 05 46.1 -0.6
comp=Z,16nm,0.7s
S25A **Robets Cordova** 72.34 54 ⇊P P 20 05 47.7 +0.4
baz=72
TUC **Tucson** 72.38 62 eP P 20 05 47.9 +0.4
TUC pmax pmax
comp=Z,7.0nm,1.0s
TUC **Tucson** 72.38 62 eP P 20 05 47.9 +0.4
comp=Z,7.0nm,1.0s
R26A **Arlington** 72.43 53 ⇑P P 20 05 48.0 +0.2
baz=72
COP **Copenhagen** 72.53 337 eP P 20 05 45.5 -2.3
COP pmax pmax
comp=Z,23nm,0.9s
COP **Copenhagen** 72.53 337 iP P 20 05 45.5 -2.3
comp=Z,23nm,0.8s
O29A **4D Ranch, Culb** 72.55 50 ⇊P P 20 05 48.5 +0.1
baz=72
M31A **Lambtecht Ranc** 72.62 48 ⇊P P 20 05 48.0 -0.7
baz=72
MUD **Monsted U'grnd** 72.69 339 iP P 20 05 49.1 +0.3
MUD pmax pmax
comp=Z,13nm,0.7s
MUD **Monsted U'grnd** 72.69 339 iP P 20 05 49.1 +0.3
comp=Z,13nm,0.7s
V23A **Ortiz Mt. (NFS** 72.70 56 ⇑P P 20 05 50.2 +0.7
baz=72
T25A **Trinidad** 72.72 54 ⇑P P 20 05 49.8 +0.1
baz=72,SNR=5.3
R27A **Eads** 72.80 52 ⇑P P 20 05 49.9 0.0
baz=72
S26A **Kim** 72.90 53 ⇊P P 20 05 50.5 -0.1
baz=73
O30A **MW Ranch, Wils** 72.91 49 ⇊P P 20 05 50.3 -0.2
baz=73
ANMO **Albuquerque** 73.11 57ceP P 20 05 52.5 +0.6
ANMO pmax pmax
comp=Z,24nm,0.8s
ANMO **Albuquerque** 73.11 57 eP P 20 05 52.0 +0.1
comp=Z,5.8nm,1.0s
T26A **Comanche Natio** 73.16 54 ⇊P P 20 05 52.0 -0.1
baz=73,SNR=6.1
GKP **Gorka Klasztor** 73.23 333 eP P 20 05 51.5 -0.5
GKP **Gorka Klasztor** 73.23 333 eP P 20 05 51.5 -0.5
V24A **Rampart Ranch,** 73.24 56 ⇊P P 20 05 53.0 +0.3
baz=73,SNR=5.1
U25A **Circle Dot Ran** 73.25 55 ⇊P P 20 05 52.9 +0.2
baz=73
Q29A **Oakley** 73.35 51 ⇊P P 20 05 53.0 -0.2
baz=73
W24A **Lazy 6 Ranch,** 73.53 56 ⇊P P 20 05 55.3 +0.9
baz=73,SNR=12
V25A **Rancho No Teng** 73.53 55 ⇊P P 20 05 54.5 +0.1
baz=73
R29A **Marienthal** 73.60 51 ⇊P P 20 05 54.7 +0.1
baz=73
Q30A **Quinter** 73.69 50 ⇊P P 20 05 54.8 -0.3
baz=73
T27A **Campo** 73.72 53 ⇊P P 20 05 55.3 0.0
baz=74
O32A **Brockman Farm,** 73.77 48 ⇑P P 20 05 54.8 -0.7
baz=74
S28A **Manter** 73.79 52 ⇊P P 20 05 55.5 -0.3
baz=74
LVV **L'vov** 73.80 328 eP P 20 05 55.5 +0.1
319A **Douglas** 73.94 61 ⇑P P 20 05 57.5 +0.7
baz=74,SNR=14
T28A **Walsh** 74.02 53 ⇊P P 20 05 56.5 -0.5
baz=74
121A **Cookes Peak, D** 74.03 60 ⇑P P 20 05 58.2 +0.8
baz=74,SNR=7.2
V26A **Tequesquite Ra** 74.03 55 ⇑P P 20 05 57.0 -0.3
baz=74
MVH1 **Achvaich** 74.05 347⇑eP P 20 05 56.4 -0.3
W25A **X Bar L Ranch,** 74.07 56 ⇑P P 20 05 57.9 +0.5
baz=74,SNR=9.9
P32A **Huiting Farm,** 74.07 49 ⇑P P 20 05 56.4 -0.9
baz=74
Q31A **Ellis** 74.11 50 ⇑P P 20 05 57.6 +0.1
baz=74
SCHQ **Schefferville** 74.11 22 P P 20 05 57.5 +0.3
comp=Z,4.2nm,0.4s,baz=20,slow=4.4,SNR=27
U27A **Thompson Grove** 74.12 54 ⇊P P 20 05 57.6 -0.2
baz=74
S29A **Ulysses** 74.20 52 ⇑P P 20 05 57.8 -0.3
baz=74
MCD **Coleburn Disti** 74.22 346 eP P 20 05 57.4 -0.4
MME1 **Meikle Cairn** 74.43 346 eP P 20 05 58.3 -0.7
KWP **Kalwaria Pacla** 74.44 328 eP P 20 05 59.0 -0.2
KWP pmax pmax
comp=Z,40nm,0.5s
KWP **Kalwaria Pacla** 74.44 328 eP P 20 05 59.4 +0.2
KWP e 20 06 00.2
KWP **Kalwaria Pacla** 74.44 328 eP P 20 05 59.0 -0.2
comp=Z,40nm,0.5s
U28A **Mallet** 74.49 53 ⇑P P 20 05 59.3 -0.5
baz=74
S30A **Montezuma** 74.54 51 ⇊P P 20 05 59.9 -0.1
baz=74
MDO **Dochfour** 74.54 347⇑eP P 20 05 58.5 -1.1
W26A **Owens Ranch, T** 74.55 55 ⇑P P 20 06 00.8 +0.5
baz=74
V27A **Dan Oppiter Fa** 74.60 54 ⇊P P 20 06 00.6 +0.1
baz=74
KAC **Achnashellach** 74.63 347 eP P 20 05 60.0 -0.1
BSEG **Bad Segeberg** 74.65 337 eP P 20 06 00.3 0.0
comp=Z,26nm,0.9s
KPL **Plockton** 74.84 347 eP P 20 06 01.2 0.0
BANOM **Banah** 74.91 292⇑iP P 20 06 02.8 +0.5
SNR=9.8
KSB **Sheil Bridge** 74.93 347⇑eP P 20 06 01.5 -0.2
Q33A **Connelly Farm,** 74.94 49 ⇑P P 20 06 01.4 -0.9
baz=75,SNR=5.7
RUE **Ruedersdorf** 74.97 335 eP P 20 06 02.0 0.0

OJC Ojcow 74.98 330⇑ iP P 20 06 02.2 -0.1
OJC Ojcow 74.98 330 i P P 20 06 02.2 -0.1
SCIA State Center 75.07 44 eP P 20 06 03.0 0.0
comp=Z,10nm,0.5s
BURAR Bucovina Array 75.15 326⇓ iP P 20 06 03.3 -0.1
STHS Stebnicka Huta 75.15 329 eP P 20 06 03.8 +0.5
STHS pmax pmax
comp=Z,27nm,0.7s
STHS Stebnicka Huta 75.15 329 eP P 20 06 03.8 +0.5
KOLS Kolonicke sedl 75.18 328 eP P 20 06 03.5 +0.1
KOLS pmax pmax
comp=Z,19nm,0.8s
KOLS Kolonicke sedl 75.18 328 eP P 20 06 03.5 +0.1
T31A Randall Ranch, 75.36 51 ⇑P P 20 06 04.1 -0.6
baz=75
R33A Olander Ranch, 75.37 49 ⇓P P 20 06 03.7 -1.0
baz=75
UZH Uzhgorod 75.42 328⇑ iP P 20 06 04.6 -0.2
UZH e 20 06 13.2
TESR Tescani 75.47 324⇓ iP P 20 06 05.0 -0.1
NIE Niedzica 75.48 329⇑ iP P 20 06 06.1 +0.9
NIE Niedzica 75.48 329 eP P 20 06 06.1 +0.9
CRVS Cervenica-Dubn 75.50 328 eP P 20 06 05.4 +0.1
CRVS pmax pmax
comp=Z,17nm,0.9s
CRVS Cervenica-Dubn 75.50 328 eP P 20 06 05.4 +0.1
KSP Ksiaz 75.62 332⇑ eP P 20 06 05.7 -0.1
KSP Ksiaz 75.62 332 eP P 20 06 05.8 -0.1
TLCR 75.64 322⇓ iP P 20 06 06.4 +0.3
ESY Stoneypath 75.70 345 eP P 20 06 05.9 -0.4
T32A Huddler Ranch, 75.71 51 ⇓P P 20 06 06.3 -0.4
baz=75
EAB Aberfoyle 75.74 346⇑ eP P 20 06 06.4 0.0
TRPA Tarpa 75.75 327⇑ iP P 20 06 07.3 +0.7
TRPA Tarpa 75.75 327⇑ e P 20 06 07.1 +0.5
BMR Baia Mare 75.77 327⇑ iP P 20 06 07.2 +0.4
HATD Hatta, Dubai 75.79 291⇑ iP P 20 06 07.8 +0.5
SNR=14
X28A Dimmitt 75.86 55 ⇑P P 20 06 07.7 0.0
baz=76
OKC Ostrava-Krasne 75.87 331 eP P 20 06 08.1 +0.8
OKC e 20 06 17.6
OKC Ostrava-Krasne 75.87 331⇑ eP P 20 06 08.1 +0.8
OKC ePCP PcP 20 06 17.6 -1.6
PETR Petresti 75.87 323⇑ iP P 20 06 08.1 +0.7
AMTX Amarillo 75.88 54 ⇑P P 20 06 08.2 +0.4
baz=76
S33A Kaszmaul Farm, 75.89 50 ⇑P P 20 06 07.4 -0.4
baz=76
HOQ Hoqain 75.89 289 P P 20 06 09.1 +1.2
SNR=6.5
MSTX Muleshoe 75.93 55 ⇓P P 20 06 08.3 +0.2
baz=76
CFR Carcaliu 75.93 322⇑ iP P 20 06 07.8 +0.1
ASHO Ashiyiah 75.94 291 P P 20 06 09.5 +1.3
SNR=5.2
ASHO Ashiyiah 75.94 291⇑ iP P 20 06 08.6 +0.4
SNR=5.5
NAZ Nazwa, Dubai 75.98 291 ⇓P P 20 06 08.6 +0.2
UPC Upice 76.00 332 eP P 20 06 08.2 +0.1
UPC Upice 76.00 332⇑ eP P 20 06 08.2 +0.1
NRDL Niedersach Rie 76.00 337 eP P 20 06 07.8 -0.1
comp=Z,28nm,1.0s
PLOR Plostina 76.01 324⇑ iP P 20 06 09.1 +0.9
DPC Dobruska-Polom 76.03 332 eP P 20 06 08.4 +0.1
DPC e 20 06 18.8
DPC Dobruska-Polom 76.03 332 eP P 20 06 08.4 +0.1
DPC ePCP PcP 20 06 18.8 -1.2
KRLC Kraliky 76.12 332 eP P 20 06 09.0 +0.2
KRLC Kraliky 76.12 332⇑ eP P 20 06 09.0 +0.2
PGBU Glenifferbraes 76.12 346⇑ eP P 20 06 09.1 +0.5
MORC Moravsky Berou 76.12 331 eP P 20 06 08.9 0.0
MORC pmax pmax
comp=Z,39nm,0.8s
MORC Moravsky Berou 76.12 331⇓ iP P 20 06 09.1 +0.3
MORC Moravsky Berou 76.12 331 eP P 20 06 08.9 0.0
comp=Z,39nm,0.8s
T33A Patterson Ranc 76.14 50 ⇑P P 20 06 08.8 -0.3
baz=76
X29A Tulia 76.19 54 ⇑P P 20 06 09.8 +0.3
baz=76
CLL Collm 76.23 335⇓ iP P 20 06 09.5 +0.2
CLL pmax pmax
comp=Z,68nm,1.1s
CLL Collm 76.23 335 eP P 20 06 08.8 -0.5
comp=Z,70nm,1.1s
CLL Collm 76.23 335 i P P 20 06 09.0 -0.3
comp=Z,68nm,1.1s
V31A Spring Creek L 76.25 52 ⇑P P 20 06 10.1 +0.3
baz=76
BRG Berggiesshubel 76.33 334 i P P 20 06 09.9 0.0
comp=Z,18nm,0.9s
BRG Berggiesshubel 76.33 334 eP PP 20 09 01.4 -1.0
comp=Z,12nm,1.5s
BRG Berggiesshubel 76.33 334 i P P 20 06 09.9 0.0
BRG pmax pmax
comp=Z,18nm,0.9s
BRG Berggiesshubel 76.33 334 eP P 20 06 09.6 -0.3
comp=Z,18nm,0.9s
ESK Eskdalemuir 76.38 345 eP P 20 06 09.8 -0.3
TIRR Tirgusor 76.39 322⇑ iP P 20 06 10.2 -0.1
DOPR Dopca 76.42 324⇑ iP P 20 06 11.4 +0.8
MALT Malatya 76.42 312⇓ iP P 20 06 12.2 +1.4
PVCC Panska Ves 76.43 333 eP P 20 06 10.7 +0.2
PVCC Panska Ves 76.43 333⇑ eP P 20 06 10.7 +0.2
TLB Topalu 76.44 322⇑ iP P 20 06 10.9 +0.3
ASUD Al Ashush, Dub 76.45 291⇑ iP P 20 06 11.5 +0.5
SNR=7.1
ECK Cauldkaine Hil 76.49 345 eP P 20 06 10.0 -0.7
CLZ Clausthal 76.51 336 eP P 20 06 11.3 +0.3
comp=Z,61nm,1.2s
CJR Cluj-Napoca 76.52 326⇓ iP P 20 06 11.9 +0.8
BSY Bisya 76.55 289 P P 20 06 13.6 +1.9
SNR=6.8
MLR Muntele Rosu 76.59 324⇑ iP P 20 06 12.3 +0.7
ISR Istrita 76.64 323⇑ iP P 20 06 12.9 +1.0
Z28A Tucker Farm, M 76.64 56 ⇓P P 20 06 12.3 +0.2
baz=76
VYHS Vyhne 76.78 330 eP P 20 06 13.0 +0.5
VYHS pmax pmax
comp=Z,17nm,0.9s
VYHS Vyhne 76.78 330 eP P 20 06 13.0 +0.5
VYHS ePP PP 20 09 06.4 +0.1
IBBN Ibbenburen 76.80 338 eP P 20 06 12.4 -0.1
comp=Z,49nm,0.8s
PRA Prague 76.88 333 eP P 20 06 13.4 +0.4
PRA Prague 76.88 333⇑ eP P 20 06 13.4 +0.4
PSZ Piszkesteto 76.89 329 eP P 20 06 13.5 +0.3
PSZ pmax pmax
comp=Z,29nm,0.9s
PSZ Piszkesteto 76.89 329⇑ iP P 20 06 13.6 +0.3
PSZ Piszkesteto 76.89 329⇑ e P 20 06 13.6 +0.3
PSZ Piszkesteto 76.89 329 eP P 20 06 13.5 +0.3
comp=Z,29nm,0.9s
PRU Pruhonice 76.92 333 eP P 20 06 13.5 +0.3
PRU Pruhonice 76.92 333⇑ eP P 20 06 13.5 +0.3
VOIR 77.00 324⇑ iP P 20 06 14.6 +0.7
U34A Anderson Ranch 77.00 50 ⇑P P 20 06 13.9 -0.1
baz=77
X31A McDonald Ranch 77.01 53 ⇑P P 20 06 14.0 -0.1
baz=77
KESW Keswick, Cumbr 77.05 345 eP P 20 06 14.1 +0.2
KESW AMB AMB 20 06 15.4
comp=Z,99nm,1.3s
Z29A Hungry Hill Ra 77.05 55 ⇓P P 20 06 14.5 +0.1
baz=77
W32A Sentinel 77.05 52 ⇑P P 20 06 14.6 +0.3
baz=77
S36A Lake Cedric, C 77.06 48 ⇓P P 20 06 13.7 -0.5
baz=77
Y30A Stafford Cattl 77.06 54 ⇑P P 20 06 14.5 +0.1
baz=77
V33A Lossen Ranch, 77.06 51 ⇑P P 20 06 14.4 +0.1
baz=77
GAL1 Galloway 77.06 346 eP P 20 06 14.1 +0.2
128A Castleberry Fa 77.07 56 ⇑P P 20 06 15.0 +0.5
baz=77,SNR=8.0
PSN Preselentsi 77.11 321⇑ iP P 20 06 15.3 +0.9
PSN Preselentsi 77.11 321 i P P 20 06 15.5 +1.1
SULR 77.12 323⇑ iP P 20 06 15.5 +1.1
TANN Tannenbergstha 77.18 334 eP P 20 06 14.7 -0.1
comp=Z,14nm,0.9s
TREC Trest 77.22 332 eP P 20 06 15.2 +0.2
TREC Trest 77.22 332⇑ eP P 20 06 15.2 +0.2

ARR Arges 77.22 325⇑ iP P 20 06 16.2 +1.1
MOX Moxa 77.22 335 eP P 20 06 14.9 -0.1
comp=Z,53nm,1.5s
Y31A Rekieta Farm, 77.35 54 ⇓P P 20 06 16.2 +0.2
baz=77
WTSB Winterswijk 77.35 338 eP P 20 06 15.7 +0.1
comp=Z,60nm,0.8s
Z30A Sanderson Ranc 77.36 55 ⇑P P 20 06 16.0 -0.1
baz=77,SNR=6.0
228A UT Block 9, Go 77.38 57 ⇑P P 20 06 16.4 +0.1
baz=77
W33A Caddo, Fort Co 77.46 52 ⇓P P 20 06 16.9 +0.3
baz=77
V34A Guthrie 77.46 51 ⇑P P 20 06 16.5 -0.1
baz=77
UBBA Unterbreizbach 77.53 336 eP P 20 06 16.6 +0.1
comp=Z,14nm,0.9s
X32A Elmer 77.55 53 ⇓P P 20 06 17.3 +0.2
baz=77
BUD Budapest 77.57 329 e P 20 06 18.4 +1.5
WMOK Wichita Mounta 77.60 52 eP P 20 06 17.1 -0.2
WMOK pmax pmax
comp=Z,8.0nm,1.0s
WMOK Wichita Mounta 77.60 52 eP P 20 06 17.1 -0.2
comp=Z,8.5nm,1.0s
BUG Bochum--Univer 77.71 338 eP P 20 06 17.5 -0.1
comp=Z,64nm,1.1s
BRTR Keskin Array B 77.74 316 P P 20 06 18.6 +0.4
comp=Z,18nm,0.8s,baz=81,slow=4.7,SNR=95
BRTR PP PP 20 09 14.9 +0.1
comp=Z,2.9nm,1.0s,baz=73,slow=4.3,SNR=5.0
BRTR LR LR 20 44 55.8
comp=Z,23nm,18.2s,baz=26,slow=39
HUMR Humele 77.77 324⇓ iP P 20 06 17.8 -0.3
Y32A R-V Farms, Ver 77.78 53 ⇓P P 20 06 18.2 -0.1
baz=78
ROTZ Rotzenmuhle 77.83 334 eP P 20 06 18.8 +0.5
comp=Z,34nm,1.0s
PKSG 77.88 329⇓ e P 20 06 19.6 +1.0
Z31A Sharp Cattle R 77.89 54 ⇑P P 20 06 18.8 -0.2
baz=78,SNR=5.2
PKS7 Kunszentmiklos 77.90 329⇓ eP P 20 06 19.7 +1.0
GZR Gura Zlata 77.93 326⇑ iP P 20 06 19.3 +0.2
229A Bryant Ranch, 77.94 56 ⇓P P 20 06 19.4 0.0
baz=78
CSKK Cs'ákako 77.95 329⇓ e P 20 06 20.0 +1.0
130A Snyder 77.96 55 ⇓P P 20 06 19.7 +0.3
baz=78
KHC Kasperske Hory 77.97 333 eP P 20 06 19.0 -0.2
KHC pmax pmax
comp=Z,48nm,0.9s
KHC Kasperske Hory 77.97 333⇑ iP P 20 06 19.3 +0.1
KHC ePCP PcP 20 06 30.5 +2.1
KHC Kasperske Hory 77.97 333 eP P 20 06 18.9 -0.2
comp=Z,48nm,0.9s
KBI1 Birley Grange 78.03 344⇑ eP P 20 06 19.4 +0.1
ANTO Ankara 78.03 316 eP P 20 06 20.6 +0.9
ANTO pmax pmax
comp=Z,41nm,0.8s
ANTO Ankara 78.03 316⇑ iP P 20 06 21.6 +1.9
ANTO Ankara 78.03 316 P P 20 06 21.4 +1.7
SNR=6.3
ANTO Ankara 78.03 316 eP P 20 06 20.6 +0.9
comp=Z,41nm,0.8s
PKST T''s 78.12 330⇑ e P 20 06 20.4 +0.4
PKS6 Bocsa 78.13 328⇑ e P 20 06 21.0 +1.0
WET Wettzell 78.17 334 eP P 20 06 20.7 +0.4
comp=Z,58nm,1.1s
GEC2 GERESS Array S 78.18 333 eP P 20 06 20.3 -0.1
comp=Z,31nm,1.2s
GERES GERESS Array B 78.18 333 P P 20 06 20.4 0.0
comp=Z,10nm,0.6s,baz=35,slow=4.9,SNR=98
GERES LR LR 20 47 28.6
comp=Z,33nm,19.4s,baz=286,slow=41
GRF Grafenberg Arr 78.19 335 eP P 20 06 20.7 +0.4
comp=Z,78nm,0.9s
GRFO Grafenberg 78.19 335 eP P 20 06 20.7 +0.4
GRFO pmax pmax
comp=Z,83nm,1.0s
GRFO Grafenberg 78.19 335 eP P 20 06 20.7 +0.4
comp=Z,83nm,1.0s
329A Wagon Wheel Ra 78.19 57 ⇓P P 20 06 20.9 +0.1
baz=78,SNR=6.1
BZS Buzias 78.19 326⇑ iP P 20 06 20.3 -0.1
X34A Smith Ranch, M 78.22 52 ⇓P P 20 06 21.1 +0.3
baz=78
Y33A Hilltop Ranch, 78.22 53 ⇓P P 20 06 20.7 -0.1
baz=78
131A Roby 78.23 55 ⇑P P 20 06 20.4 -0.5
baz=78
SOP Sopron 78.26 331⇑ e P 20 06 21.7 +1.0
Z32A Haskell 78.27 54 ⇓P P 20 06 20.7 -0.4
baz=78
CONA Conrad Observa 78.28 331 i P P 20 06 21.9 +0.9
comp=Z,40nm,0.7s,SNR=31
TUL1 Leonard 78.32 50 ⇑P P 20 06 21.0 -0.3
baz=78
230A Sterling City 78.40 56 ⇓P P 20 06 21.8 -0.1
baz=78
WME Mynydd Eilian 78.40 345 eP P 20 06 21.2 -0.2
SZH Strazhica 78.41 323 i P P 20 06 21.7 +0.1
WPM1 Penmaenmawr 78.47 345⇑ eP P 20 06 22.1 +0.3
TNS Taunus Mts 78.50 337 eP P 20 06 22.2 +0.1
comp=Z,46nm,1.0s
BANR Banloc 78.58 327⇑ iP P 20 06 23.9 +1.4
PKS9 Tamasi 78.61 329⇓ e P 20 06 22.6 0.0
HGN Heimansgroeve 78.67 338 eP P 20 06 23.1 +0.2
comp=Z,39nm,0.8s
Z33A Whitaker Ranch 78.69 53 ⇓P P 20 06 23.2 -0.1
baz=78
ABTX Abilene, Hawle 78.69 54 ⇓P P 20 06 23.4 0.0
baz=78
FOEL Foel Wylfa 78.69 345 eP P 20 06 23.7 +0.7
BEBN Eben Emael 78.71 339 P P 20 06 23.2 +0.2
comp=Z,21nm,1.2s
330A Mertzon 78.72 56 ⇑P P 20 06 23.5 -0.1
baz=78,SNR=5.3
Y34A Reagan Ranch, 78.74 52 ⇓P P 20 06 23.6 0.0
baz=78
TXAR Lajitas Array 78.78 59 P P 20 06 24.3 +0.3
comp=Z,14nm,0.5s,baz=299,slow=4.2,SNR=158
JMB Yambol 78.78 322⇑ iP P 20 06 23.2 -0.5
MEM Membach 78.80 338 P P 20 06 24.1 +0.5
comp=Z,41nm,1.1s
231A Bronte 78.82 55 ⇓P P 20 06 23.7 -0.5
baz=79
MOA Molln 78.88 332 i P P 20 06 24.7 +0.5
comp=Z,25nm,0.8s,SNR=13
429A Davenport Ranc 78.88 57 ⇑P P 20 06 24.4 -0.1
baz=79
ARSA Arzberg 78.98 331 i P P 20 06 25.2 +0.5
comp=Z,23nm,1.1s,SNR=16
HLM1 Long Mynd 78.98 344 eP P 20 06 24.6 0.0
UCC Uccle 79.03 339 P P 20 06 25.7 +0.8
comp=Z,30nm,1.2s
529A Stev Forest Ra 79.06 58 ⇓P P 20 06 25.6 +0.1
baz=79,SNR=10
133A Hamilton Ranch 79.11 54 ⇓P P 20 06 25.6 -0.1
baz=79
SFIN Lafayette 79.14 41 ⇑P P 20 06 25.3 -0.4
baz=79
430A Baggett Ranch, 79.14 57 ⇑P P 20 06 25.7 -0.2
baz=79,SNR=7.1
BCLA Clavier 79.15 339 P P 20 06 25.7 +0.1
comp=Z,28nm,1.3s
331A San Angelo 79.22 56 ⇑P P 20 06 26.2 -0.1
baz=79
232A Coleman 79.23 55 ⇑P P 20 06 26.3 -0.1
baz=79,SNR=11
MPEP Malo Peshtene 79.24 324 i P P 20 06 26.6 +0.4
SNF Seneffe 79.32 339 P P 20 06 27.0 +0.6
KOGS Kog 79.44 330 eP P 20 06 27.0 -0.2
RJOB Jochberg 79.44 333 eP P 20 06 27.8 +0.5
comp=Z,34nm,0.9s
Z35A Perchaven, San 79.49 52 ⇓P P 20 06 27.8 +0.1
baz=79
MCH1 Michaelchurch 79.50 344 eP P 20 06 27.7 +0.3
MCH1 AMB AMB 20 06 29.6
comp=Z,47nm,1.6s
FUR Furstenfeldbru 79.53 334 eP P 20 06 28.0 +0.3
comp=Z,82nm,1.0s
530A J-C Ranch, Com 79.55 57 ⇑P P 20 06 28.2 +0.1
baz=79,SNR=5.3
STRD Stroud 79.55 344 eP P 20 06 28.3 +0.6
332A Millersview 79.56 55 ⇑P P 20 06 28.0 -0.1
baz=79,SNR=5.7
233A Rising Star 79.56 54 ⇓P P 20 06 28.5 +0.4

baz=79
GIVF Givet 79.56 339⇑ iP P 20 06 27.8 0.0
comp=Z,105nm,1.3s
GIVF Givet 79.56 339⇑ iP P 20 06 27.8 0.0
GIVF pmax pmax
comp=Z,105nm,1.3s
GIVF Givet 79.56 339⇑ iP P 20 06 27.8 0.0
comp=Z,105nm,1.3s
431A Sonora 79.58 56 ⇓P P 20 06 28.1 -0.2
baz=79,SNR=5.7
STU Stuttgart 79.60 336 eP P 20 06 28.1 +0.1
STU pmax pmax
comp=Z,7.0nm,0.5s
STU Stuttgart 79.60 336 eP P 20 06 28.1 +0.1
comp=Z,44nm,0.8s
STU Stuttgart 79.60 336 eP P 20 06 28.1 +0.1
comp=Z,7.4nm,0.5s
MONM Monmouth 79.62 344 eP P 20 06 28.2 +0.2
MONM AMB AMB 20 06 30.3
comp=Z,65nm,1.4s
WLF Walferdange 79.62 338 P P 20 06 30.2 +2.1
comp=Z,44nm,1.4s
WLF Walferdange 79.62 338 eP P 20 06 29.6 +1.5
comp=Z,47nm,1.0s
DOU Dourbes 79.62 339 P P 20 06 27.8 -0.3
comp=Z,15nm,1.7s
SOKA Soboth 79.65 331 i P P 20 06 28.8 +0.4
comp=Z,61nm,1.1s,SNR=37
PERS Pernice 79.66 331 eP P 20 06 28.7 +0.3
SWN1 Swindon 79.73 343 eP P 20 06 29.6 +0.9
SWN1 AMB AMB 20 06 30.4
comp=Z,139nm,1.3s
PGB Panagyurishte 79.73 323 i P P 20 06 30.0 +1.1
BAIF Baives 79.75 339⇑ iP P 20 06 29.0 +0.2
comp=Z,33nm,0.9s
BAIF Baives 79.75 339⇑ iP P 20 06 29.0 +0.2
BAIF pmax pmax
comp=Z,33nm,0.9s
BAIF Baives 79.75 339⇑ iP P 20 06 29.0 +0.2
comp=Z,33nm,0.9s
LANF Langenberg 79.81 336⇑ eP P 20 06 29.5 +0.4
KBA Koelnbreinsper 79.85 332 i P P 20 06 30.7 +1.0
comp=Z,93nm,1.1s,SNR=51
432A Menard 79.90 56 ⇑P P 20 06 29.9 -0.1
baz=80,SNR=6.0
KDZ Kurdzhali 79.95 322⇑ iP P 20 06 30.6 +0.5
OBKA Obir 79.96 331⇑ iP P 20 06 30.2 +0.1
comp=Z,15nm,0.7s,SNR=12
234A Clairette 80.00 54 ⇓P P 20 06 30.4 -0.1
baz=80
531A Rocksprings 80.00 57 ⇓P P 20 06 30.3 -0.3
baz=80,SNR=6.0
333A Richland Sprin 80.03 55 ⇑P P 20 06 30.6 -0.1
baz=80,SNR=5.5
VTS Vitosha 80.09 324 P P 20 06 31.4 +0.4
VTS Vitosha 80.09 324 i P P 20 06 31.4 +0.4
DIVS Divibare 80.10 327 P P 20 06 30.2 -0.7
MYKA Terra Mystica 80.15 332⇑ iP P 20 06 31.0 -0.2
comp=Z,14nm,0.7s,SNR=9.6
WATA Walderalm 80.18 333 i P P 20 06 32.0 +0.6
comp=Z,86nm,1.1s,SNR=23
LEGS Legarje 80.19 330 i P P 20 06 31.1 -0.1
WTTA Wattenberg 80.23 333 i P P 20 06 32.5 +0.8
comp=Z,56nm,0.6s,SNR=35
BFO Black Forest 80.25 336 eP P 20 06 31.3 -0.2
BFO pmax pmax
comp=Z,31nm,0.9s
BFO Black Forest 80.25 336 eP P 20 06 31.6 0.0
comp=Z,43nm,1.0s
BFO Black Forest 80.25 336 eP P 20 06 31.3 -0.2
comp=Z,31nm,0.9s
ALN Alexandroupoli 80.30 321 P P 20 06 31.8 -0.1
ALN Alexandroupoli 80.30 321 eP P 20 06 31.5 -0.4
RETA Reutte 80.30 334 i P P 20 06 32.4 +0.5
comp=Z,38nm,1.1s,SNR=14
RDO Rodhopi 80.31 322 P P 20 06 32.5 +0.5
RDO Rodhopi 80.31 322 eP P 20 06 32.5 +0.5
MOTA Moosalm 80.32 334⇑ iP P 20 06 32.5 +0.4
comp=Z,72nm,1.1s,SNR=39
LJU Ljubljana 80.37 331 eP P 20 06 31.9 -0.3
WHTX Lake Whitney, 80.39 53 ⇑P P 20 06 32.7 +0.1
baz=80
WHTX Lake Whitney, 80.39 53 eP P 20 06 32.6 +0.1
comp=Z,4.6nm,0.5s
433A Art 80.40 55 ⇑P P 20 06 32.3 -0.3
baz=80
532A Rocksprings 80.40 56 ⇓P P 20 06 32.7 0.0
baz=80,SNR=10
ABTA Abfaltersbach 80.41 333⇑ iP P 20 06 32.4 -0.1
comp=Z,25nm,1.1s,SNR=11
334A Lometa 80.44 54 ⇓P P 20 06 33.0 +0.2
baz=80,SNR=7.4
CDF Champ du Feu 80.47 337⇑ iP P 20 06 32.9 +0.1
comp=Z,116nm,1.1s
CDF Champ du Feu 80.47 337⇑ iP P 20 06 32.9 +0.1
CDF pmax pmax
comp=Z,116nm,1.1s
CDF Champ du Feu 80.47 337⇑ iP P 20 06 32.9 +0.1
comp=Z,116nm,1.1s
MIAR Mount Ida 80.53 49 eP P 20 06 33.1 -0.2
MIAR pmax pmax
comp=Z,8.0nm,0.8s
MIAR Mount Ida 80.53 49 eP P 20 06 33.1 -0.2
comp=Z,8.0nm,0.8s
631A Perdido Creek 80.54 57 ⇓P P 20 06 33.7 +0.2
baz=80,SNR=16
HEX Exmoor 80.54 344 eP P 20 06 32.9 -0.1
BOJS Bojanci 80.60 330 eP P 20 06 33.3 -0.1
ECH Echery 80.68 337 eP P 20 06 33.9 0.0
ECH pmax pmax
comp=Z,33nm,0.8s
ECH Echery 80.68 337⇑ eP P 20 06 34.1 +0.3
ECH Echery 80.68 337 eP P 20 06 33.9 0.0
comp=Z,33nm,0.8s
MMB Musomiste 80.71 323⇓ iP P 20 06 35.0 +0.8
MMB Musomiste 80.71 323 i P P 20 06 35.2 +1.0
FETA Feichten 80.72 334 i P P 20 06 34.9 +0.7
comp=Z,30nm,1.1s,SNR=12
ISP Isparta 80.74 316⇑ iP P 20 06 35.0 +0.6
DAVA Damuels 80.74 334 i P P 20 06 34.8 +0.4
comp=Z,37nm,0.9s,SNR=14
PAGF Fort de Pagny 80.75 338⇑ iP P 20 06 34.9 +0.7
comp=Z,51nm,0.9s
PAGF Fort de Pagny 80.75 338⇑ iP P 20 06 34.9 +0.7
comp=Z,51nm,0.9s
434A Burnet 80.82 55 ⇓P P 20 06 34.7 -0.2
baz=81
NVR Nevrokopi 80.86 323 P P 20 06 35.0 +0.1
NVR Nevrokopi 80.86 323 eP P 20 06 35.3 +0.4
137A Heron Place, G 80.86 52 ⇑P P 20 06 34.8 -0.3
baz=81
KAVA Kavala 80.87 322 eP P 20 06 35.1 +0.1
632A Uvalde 80.93 57 ⇓P P 20 06 35.5 0.0
baz=81,SNR=5.9
533A Kerrville 80.94 56 ⇑P P 20 06 35.5 -0.1
baz=81
MEZF Maizieres J'vi 80.98 338⇑ iP P 20 06 35.9 +0.5
comp=Z,105nm,0.9s
MEZF Maizieres J'vi 80.98 338⇑ iP P 20 06 35.9 +0.5
comp=Z,105nm,0.9s
PLE Pljevlja 80.98 327⇓ iP P 20 06 35.0 -0.7
SKDS Skadanscina 80.98 331 i P P 20 06 34.7 -0.8
THEF They Montfort 80.99 337⇑ eP P 20 06 35.8 +0.3
MOF Molkenrain 81.02 336⇑ eP P 20 06 35.8 +0.1
KULA Kula-Manisa 81.06 318 P P 20 06 36.0 -0.1
HAU Haudompre 81.09 337⇑ iP P 20 06 36.1 +0.1
comp=Z,44nm,0.9s
HAU eR
comp=Z,81nm,19.8s
HAU Haudompre 81.09 337⇑ iP P 20 06 36.1 +0.1
HAU pmax pmax
comp=Z,44nm,0.9s
HAU Haudompre 81.09 337⇑ iP P 20 06 36.1 +0.1
comp=Z,44nm,0.9s
HINF Hinteralfeld 81.13 337⇑ iP P 20 06 36.1 -0.2
comp=Z,41nm,0.9s
HINF Hinteralfeld 81.13 337⇑ iP P 20 06 36.1 -0.2
HINF pmax pmax
comp=Z,41nm,0.9s
HINF Hinteralfeld 81.13 337⇑ iP P 20 06 36.1 -0.2
comp=Z,41nm,0.9s
SRS Serrai 81.16 323 P P 20 06 36.5 0.0
SRS Serrai 81.16 323 eP P 20 06 36.9 +0.4
DYA Yadsworthy 81.17 344 eP P 20 06 35.9 -0.5
DYA AMB AMB 20 06 37.0
comp=Z,58nm,2.0s

IVA	Berane	81.18 326	⇓iP	P	20 06 36.9 +0.2
SFTF	Sexfontaines	81.26 338	⇑iP	P	20 06 37.2 +0.3
	comp=Z,147nm,0.8s				
SFTF	Sexfontaines	81.26 338	⇑iP	P	20 06 37.2 +0.3
	comp=Z,147nm,0.8s				
UPM	Unac-Piva	81.27 327	⇓iP	P	20 06 36.7 -0.6
UDBI	Udbina	81.27 330	P	P	20 06 36.6 -0.5
534A	Blanco	81.29 55	⇓P	P	20 06 37.3 -0.1
	baz=81,SNR=5.9				
633A	Saathoff Ranch	81.32 56	⇑P	P	20 06 37.4 -0.2
	baz=81				
SKO	Skopje	81.33 325	iP	P	20 06 38.0 +0.6
PVY	Plav	81.39 326	⇓iP	P	20 06 37.5 -0.3
732A	Laxson Ranch,	81.40 57	⇑P	P	20 06 38.4 +0.4
	baz=81,SNR=8.3				
KNT	Kendrikon	81.41 323	P	P	20 06 38.1 +0.3
KNT	Kendrikon	81.41 323	eP	P	20 06 38.1 +0.3
VAY	Valandovo	81.42 324	P	P	20 06 37.3 -0.5
VAY	Valandovo	81.42 324	iP	P	20 06 38.4 +0.6
LIA	Limnos Island	81.49 321	P	P	20 06 38.3 +0.1
LIA	Limnos Island	81.49 321	eP	P	20 06 38.1 -0.1
NVLJ	Novalja	81.55 330	P	P	20 06 37.4 -1.0
LOMF	Lomont	81.56 336	⇑eP	P	20 06 39.0 +0.4
LOMF	Lomont	81.56 336	PKP		20 10 02.5
CSS	Prodhromos	81.61 313	P	P	20 06 39.2 +0.2
CSS	Prodhromos	81.61 313	eP	P	20 06 39.2 +0.2
	comp=Z,5.1nm,0.8s				
TUE	Stuetta	81.63 334	eP	P	20 06 39.2 0.0
	comp=Z,30nm,0.8s				
832A	Faith Ranch, C	81.73 58	⇑P	P	20 06 39.9 +0.1
	baz=82				
SIGR	SIGRI	81.76 320	eP	P	20 06 38.0 -1.7
GRG	Griva	81.79 323	P	P	20 06 39.1 -0.8
GRG	Griva	81.79 323	eP	P	20 06 40.1 +0.2
TTG	Podgorica	81.80 326	eP	P	20 06 39.6 -0.2
HORT	Horliatis	81.80 326	eP	P	20 06 39.7 -0.3
PLG	Polygyros	81.84 322	P	P	20 06 40.0 -0.1
PLG	Polygyros	81.84 322	eP	P	20 06 40.3 +0.2
PHP	Peshkopia	81.97 325	P	P	20 06 40.0 -0.8
STON	Ston	82.01 327	P	P	20 06 39.4 -1.5
JSA	Saint Aubin	82.02 343	eP	P	20 06 41.3 +0.5
JSA			AMB	AMB	20 06 42.4
	comp=Z,43nm,0.9s				
DRME	Dracevica, Mon	82.03 326	⇓iP	P	20 06 41.4 +0.3
833A	Chaparral WMA,	82.04 57	⇓P	P	20 06 42.2 +0.9
	baz=82				
536A	Bastrop	82.05 54	⇓P	P	20 06 41.7 +0.3
	baz=82				
FLN	La Foliniere	82.06 342	⇑iP	P	20 06 41.1 0.0
	comp=Z,30nm,0.6s				
FLN			eR		
	comp=Z,66nm,21.5s				
FLN	La Foliniere	82.06 342	⇑iP	P	20 06 41.1 0.0
FLN			pmax	pmax	
	comp=Z,30nm,0.6s				
FLN	La Foliniere	82.06 342	⇑iP	P	20 06 41.1 0.0
	comp=Z,30nm,0.6s				
HCY	Herceg Novi	82.08 327	eP	P	20 06 40.1 -1.2
PAIG	Paliouri	82.11 322	eP	P	20 06 41.3 -0.2
LDF	La Druitiere	82.14 341	⇑iP	P	20 06 41.4 -0.1
	comp=Z,21nm,0.6s				
LDF	La Druitiere	82.14 341	⇑iP	P	20 06 41.4 -0.1
LDF			pmax	pmax	
	comp=Z,21nm,0.6s				
LDF	La Druitiere	82.14 341	⇑iP	P	20 06 41.4 -0.1
	comp=Z,21nm,0.6s				
ULC	Ulcinj	82.20 326	⇓iP	P	20 06 40.7 -1.3
OHR	Ohrid	82.31 325	iP	P	20 06 41.5 -1.1
CHOS	Chios island	82.35 320	eP	P	20 06 43.0 +0.1
FNA	Florina	82.36 324	P	P	20 06 42.5 -0.3
FNA	Florina	82.36 324	eP	P	20 06 42.7 -0.1
LOR	Lormes	82.43 338	⇑iP	P	20 06 43.3 +0.3
	comp=Z,88nm,0.9s				
LOR			eR		
	comp=Z,71nm,21.8s				
LOR	Lormes	82.43 338	⇑iP	P	20 06 43.3 +0.3
LOR			pmax	pmax	
	comp=Z,88nm,0.9s				
LOR	Lormes	82.43 338	⇑iP	P	20 06 43.3 +0.3
	comp=Z,88nm,0.9s				
CABF	La Chapelle	82.44 337	eP	P	20 06 43.6 +0.4
	comp=Z,32nm,1.0s				
CABF	La Chapelle	82.44 337	eP	P	20 06 43.6 +0.4
CABF			pmax	pmax	
	comp=Z,32nm,1.0s				
CABF	La Chapelle	82.44 337	eP	P	20 06 43.6 +0.4
	comp=Z,32nm,1.0s				
GRR	Gorron	82.50 342	⇑iP	P	20 06 43.6 +0.3
	comp=Z,62nm,0.7s				
GRR	Gorron	82.50 342	⇑iP	P	20 06 43.6 +0.3
GRR			pmax	pmax	
	comp=Z,62nm,0.7s				
GRR	Gorron	82.50 342	⇑iP	P	20 06 43.6 +0.3
	comp=Z,62nm,0.7s				
636A	Smothers Creek	82.51 55	⇑P	P	20 06 44.3 +0.6
	baz=82				
KZN	Kozani	82.60 323	eP	P	20 06 43.8 -0.3
933A	Laredo	82.64 58	⇑P	P	20 06 46.0 +1.5
	baz=82,SNR=5.1				
AOS	Alonnisos	82.66 321	eP	P	20 06 44.0 -0.3
SSF	Saint Saulge	82.71 338	⇑iP	P	20 06 44.9 +0.4
	comp=Z,39nm,0.8s				
SSF	Saint Saulge	82.71 338	⇑iP	P	20 06 44.9 +0.4
SSF			pmax	pmax	
	comp=Z,39nm,0.8s				
SSF	Saint Saulge	82.71 338	⇑iP	P	20 06 44.9 +0.4
	comp=Z,39nm,0.8s				
HYF	Humbligny	82.73 339	eP	P	20 06 45.4 +0.8
HYF	Humbligny	82.73 339	eP	P	20 06 45.4 +0.8
XOR	Xorichti	82.79 322	P	P	20 06 44.0 -1.1
XOR	Xorichti	82.79 322	eP	P	20 06 44.8 -0.3
NEST	Nestorio	82.80 324	P	P	20 06 45.1 -0.1
NEST	Nestorio	82.80 324	eP	P	20 06 45.2 0.0
NEO	Neokhori	82.83 322	eP	P	20 06 45.2 -0.1
SGMF	Saint Gilles	82.98 343	eP	P	20 06 46.0 +0.2
	comp=Z,44nm,0.7s				
SGMF	Saint Gilles	82.98 343	eP	P	20 06 46.0 +0.2
SGMF			pmax	pmax	
	comp=Z,44nm,0.7s				
SGMF	Saint Gilles	82.98 343	eP	P	20 06 46.0 +0.2
	comp=Z,44nm,0.7s				
AVF	Avril sur Loir	83.00 338	⇑iP	P	20 06 46.3 +0.3
	comp=Z,112nm,1.1s				
AVF	Avril sur Loir	83.00 338	⇑iP	P	20 06 46.3 +0.3
AVF			pmax	pmax	
	comp=Z,112nm,1.1s				
AVF	Avril sur Loir	83.00 338	⇑iP	P	20 06 46.3 +0.3
	comp=Z,112nm,1.1s				
SMF	Signal de Mont	83.01 338	⇑iP	P	20 06 46.4 +0.3
	comp=Z,145nm,1.0s				
SMF	Signal de Mont	83.01 338	⇑iP	P	20 06 46.4 +0.3
SMF			pmax	pmax	
	comp=Z,145nm,1.0s				
SMF	Signal de Mont	83.01 338	⇑iP	P	20 06 46.4 +0.3
	comp=Z,145nm,1.0s				
PPT	Papeete	83.02 124	LR	LR	20 34 22.6
	comp=Z,45nm,22.0s,baz=44,slow=29				
ROSF	Rostrenen	83.05 343	⇑iP	P	20 06 46.5 +0.3
	comp=Z,55nm,0.9s				
ROSF	Rostrenen	83.05 343	⇑iP	P	20 06 46.5 +0.3
ROSF			pmax	pmax	
	comp=Z,55nm,0.9s				
ROSF	Rostrenen	83.05 343	⇑iP	P	20 06 46.5 +0.3
	comp=Z,55nm,0.9s				
THL	Klokotos Trika	83.12 323	eP	P	20 06 47.3 +0.6
RSL	Roselend	83.14 336	⇑eP	P	20 06 47.3 +0.4
MRKA	Markates	83.17 321	P	P	20 06 46.9 -0.1
MRKA	Markates	83.17 321	eP	P	20 06 47.0 -0.1
SMIA	Simia	83.19 322	P	P	20 06 47.0 -0.1
SMIA	Simia	83.19 322	eP	P	20 06 47.2 +0.1
LPL	La Plagne	83.26 336	⇑iP	P	20 06 48.4 +0.8
	comp=Z,26nm,0.7s				
LPL	La Plagne	83.26 336	⇑iP	P	20 06 48.4 +0.8
LPL			pmax	pmax	
	comp=Z,27nm,0.7s				
LPL	La Plagne	83.26 336	⇑iP	P	20 06 48.4 +0.8
	comp=Z,26nm,0.7s				
LPG	La Plagne	83.28 336	⇑iP	P	20 06 48.6 +0.8
	comp=Z,68nm,0.9s				
LPG	La Plagne	83.28 336	⇑iP	P	20 06 48.6 +0.8
LPG			pmax	pmax	
	comp=Z,68nm,0.9s				
LPG	La Plagne	83.28 336	⇑iP	P	20 06 48.6 +0.8
	comp=Z,68nm,0.9s				
BGF	Bois d'Agland	83.34 339	eP	P	20 06 48.3 +0.5
	comp=Z,18nm,0.6s				
BGF	Bois d'Agland	83.34 339	eP	P	20 06 48.3 +0.5
BGF			pmax	pmax	
	comp=Z,18nm,0.6s				
BGF	Bois d'Agland	83.34 339	eP	P	20 06 48.3 +0.5
	comp=Z,18nm,0.6s				
034A	Hebbronville	83.40 57	⇑P	P	20 06 49.6 +1.3
	baz=83,SNR=5.9				
QUIF	Quistinic	83.43 343	eP	P	20 06 48.3 +0.2
QUIF	Quistinic	83.43 343	eP	P	20 06 48.3 +0.2
QUIF	Quistinic	83.43 343	eP	P	20 06 48.3 +0.2
RAYN	Ar Rayn	83.44 297	eP	P	20 06 49.1 +0.4
	comp=Z,14nm,0.8s				
AGG	Agios Georgios	83.44 322	eP	P	20 06 47.4 -1.0
LKR	Lokris	83.47 322	eP	P	20 06 47.9 -0.6
MAKR	Makrakomi, Fth	83.53 323	eP	P	20 06 48.2 -0.7
PTL	Penteli	83.60 321	eP	P	20 06 48.5 -0.7
PLDF	La Plantade	83.69 338	⇑eP	P	20 06 50.3 +0.7
PLDF	La Plantade	83.69 338	PKP		20 10 07.5
BNI	Bardonecchia	83.70 336	eP	P	20 06 50.4 +0.6
BNI			pmax	pmax	
	comp=Z,14nm,0.8s				
BNI	Bardonecchia	83.70 336	eP	P	20 06 50.4 +0.6
	comp=Z,14nm,0.8s				
AGO	Saint Agoulin	83.74 338	⇑eP	P	20 06 49.9 +0.1
AGO	Saint Agoulin	83.74 338	PKP		20 10 06.9
EVR	Evrytania	83.75 323	eP	P	20 06 49.8 -0.3
TCF	Toulx Ste Croi	83.76 339	⇑iP	P	20 06 50.4 +0.5
TCF	Toulx Ste Croi	83.76 339	⇑iP	P	20 06 50.4 +0.5
TCF	Toulx Ste Croi	83.76 339	⇑iP	P	20 06 50.4 +0.5
DSL	Palaion Diasel	83.86 323	P	P	20 06 50.1 -0.5
DSL	Palaion Diasel	83.86 323	eP	P	20 06 50.6 0.0
KEK	Kerkira	83.90 324	eP	P	20 06 50.6 -0.1
MBDF	Montbardon	83.97 335	eP	P	20 06 51.4 +0.2
	comp=Z,17nm,0.7s				
MBDF	Montbardon	83.97 335	eP	P	20 06 51.4 +0.2
MBDF			pmax	pmax	
	comp=Z,17nm,0.7s				
MBDF	Montbardon	83.97 335	eP	P	20 06 51.4 +0.2
	comp=Z,17nm,0.7s				
AQU	L'Aquila	84.00 330	eP	P	20 06 52.7 +1.4
AQU			pmax	pmax	
	comp=Z,40nm,1.0s				
AQU	L'Aquila	84.00 330	eP	P	20 06 52.7 +1.4
	comp=Z,40nm,1.0s				
LTK	Loutraki	84.01 321	eP	P	20 06 50.0 -1.3
MFF	Saint Martin d	84.02 341	⇑iP	P	20 06 52.3 +1.1
	comp=Z,48nm,0.7s				
MFF	Saint Martin d	84.02 341	⇑iP	P	20 06 52.3 +1.1
MFF			pmax	pmax	
	comp=Z,48nm,0.7s				
MFF	Saint Martin d	84.02 341	⇑iP	P	20 06 52.3 +1.1
	comp=Z,48nm,0.7s				
KALE	Kalithea	84.05 322	P	P	20 06 50.9 -0.7
KALE	Kalithea	84.05 322	eP	P	20 06 51.1 -0.5
ORIF	Oris-en-Rattie	84.05 336	⇑iP	P	20 06 52.3 +0.8
	comp=Z,29nm,0.6s				
ORIF			eR		
	comp=Z,56nm,21.8s				
ORIF	Oris-en-Rattie	84.05 336	⇑iP	P	20 06 52.3 +0.8
ORIF			pmax	pmax	
	comp=Z,29nm,0.6s				
ORIF	Oris-en-Rattie	84.05 336	⇑iP	P	20 06 52.3 +0.8
	comp=Z,29nm,0.6s				
PYM	Petit Puy Mans	84.06 338	eP	P	20 06 51.6 +0.1
PYM	Petit Puy Mans	84.06 338	PKP		20 10 07.2
SSB	Saint Sauveur	84.09 337	eP	P	20 06 52.2 +0.6
SSB			pmax	pmax	
	comp=Z,30nm,0.9s				
SSB	Saint Sauveur	84.09 337	eP	P	20 06 52.2 +0.6
	comp=Z,30nm,0.9s				
LCHF	La Chataignera	84.10 341	⇑eP	P	20 06 53.7 +2.2
KARP	Karpathos	84.16 317	P	P	20 06 51.2 -1.0
KARP	Karpathos	84.16 317	eP	P	20 06 52.0 -0.2
PDO	Prodromos	84.28 323	P	P	20 06 52.3 -0.3
PDO	Prodromos	84.28 323	eP	P	20 06 52.4 -0.2
LKD2	Lefkada island	84.34 323	eP	P	20 06 52.7 -0.3
KLV	Kalavryta, Ach	84.34 322	P	P	20 06 52.0 -1.1
KLV	Kalavryta, Ach	84.34 322	eP	P	20 06 52.4 -0.7
GUR	Goura	84.35 322	P	P	20 06 52.0 -1.1
GUR	Goura	84.35 322	eP	P	20 06 52.1 -1.1
SAOF	Saorge	84.42 335	⇑eP	P	20 06 53.1 -0.2
VIVF	Saint-Julien-l	84.44 337	⇑iP	P	20 06 54.1 +0.7
	comp=Z,45nm,1.0s				
VIVF	Saint-Julien-l	84.44 337	⇑iP	P	20 06 54.1 +0.7
VIVF			pmax	pmax	
	comp=Z,45nm,1.0s				
VIVF	Saint-Julien-l	84.44 337	⇑iP	P	20 06 54.1 +0.7
	comp=Z,45nm,1.0s				
AUTN	L'Aution	84.45 335	⇑eP	P	20 06 53.6 -0.1
LBL	Lubilhac	84.48 338	⇑eP	P	20 06 54.2 +0.6
LBL	Lubilhac	84.48 338	PKP		20 10 09.4
TOUF	Mont Tournerai	84.49 336	⇑eP	P	20 06 53.8 0.0
OG25	Le Caire	84.50 336	⇑eP	P	20 06 54.4 +0.6
SBF	Sospel	84.57 335	eP	P	20 06 54.1 0.0
	comp=Z,29nm,0.5s				
SBF	Sospel	84.57 335	eP	P	20 06 54.1 0.0
SBF			pmax	pmax	
	comp=Z,29nm,0.5s				
SBF	Sospel	84.57 335	eP	P	20 06 54.1 0.0
	comp=Z,29nm,0.5s				
DRO	Drossia	84.61 322	P	P	20 06 54.4 +0.1
DRO	Drossia	84.61 322	eP	P	20 06 54.4 +0.1
RLS	Riolos of Patr	84.62 322	eP	P	20 06 54.7 +0.4
MVIF	Mont Vial	84.62 335	⇑eP	P	20 06 54.2 -0.3
REVF	Revere	84.70 335	⇑eP	P	20 06 54.8 +0.1
NWAO	Narrogin (SRO)	84.73 208	P	P	20 06 55.9 +1.2
	comp=Z,27nm,0.9s,baz=56,slow=3.8				
VLX	Vlachokerasia	84.81 321	P	P	20 06 54.3 -1.2
VLX	Vlachokerasia	84.81 321	eP	P	20 06 54.5 -1.0
CALN	Calern	84.83 335	⇑eP	P	20 06 55.5 0.0
RJF	Les Rejaudoux	84.85 339	eP	P	20 06 56.5 +1.1
	comp=Z,65nm,1.2s				
RJF			eR		
	comp=Z,72nm,17.2s				
RJF	Les Rejaudoux	84.85 339	eP	P	20 06 56.5 +1.1
RJF			pmax	pmax	
	comp=Z,65nm,1.2s				
RJF	Les Rejaudoux	84.85 339	eP	P	20 06 56.5 +1.1
	comp=Z,65nm,1.2s				
VLS	Valsamata	84.89 323	P	P	20 06 55.4 -0.3
VLS	Valsamata	84.89 323	eP	P	20 06 55.5 -0.3
ZKR	Zakros	84.96 318	P	P	20 06 56.3 +0.2
ZKR	Zakros	84.96 318	eP	P	20 06 56.5 +0.4
AMT	Artemida-Makis	84.96 322	P	P	20 06 55.8 -0.4
AMT	Artemida-Makis	84.96 322	eP	P	20 06 55.7 -0.4
SMRF	Simiane la Rot	85.00 336	eP	P	20 06 57.3 +1.1
	comp=Z,11nm,0.8s				
SMRF	Simiane la Rot	85.00 336	eP	P	20 06 57.3 +1.1
	comp=Z,11nm,0.8s				
CAF	Calviac	85.06 339	⇑iP	P	20 06 57.5 +1.0
	comp=Z,39nm,0.8s				
CAF	Calviac	85.06 339	⇑iP	P	20 06 57.5 +1.0
CAF			pmax	pmax	
	comp=Z,39nm,0.8s				
CAF	Calviac	85.06 339	⇑iP	P	20 06 57.5 +1.0
	comp=Z,39nm,0.8s				
FRF	La Foret Royal	85.08 335	eP	P	20 06 56.7 +0.1
	comp=Z,22nm,1.0s				
FRF	La Foret Royal	85.08 335	eP	P	20 06 56.7 +0.1
FRF			pmax	pmax	
	comp=Z,22nm,1.0s				
FRF	La Foret Royal	85.08 335	eP	P	20 06 56.7 +0.1
	comp=Z,22nm,1.0s				
VLI	Veliai	85.11 321	P	P	20 06 54.9 -2.0
VLI	Veliai	85.11 321	eP	P	20 06 55.2 -1.7
ITM	Ithomi	85.16 322	P	P	20 06 56.4 -0.7
ITM	Ithomi	85.16 322	eP	P	20 06 56.2 -0.9
CUC	Castrocucco	85.21 327	eP	P	20 06 55.6 -1.7
	comp=Z,13nm,1.1s				
LAST	Lasithi	85.26 318	P	P	20 06 57.7 0.0
LAST	Lasithi	85.26 318	eP	P	20 06 58.2 +0.5
PGF	Pioggiola	85.28 333	⇑iP	P	20 06 57.8 +0.1
	comp=Z,28nm,0.8s				
PGF	Pioggiola	85.28 333	⇑iP	P	20 06 57.8 +0.1
PGF			pmax	pmax	
	comp=Z,28nm,0.8s				
PGF	Pioggiola	85.28 333	⇑iP	P	20 06 57.8 +0.1
	comp=Z,28nm,0.8s				
LMR	La Mourre	85.33 335	eP	P	20 06 58.3 +0.5
	comp=Z,129nm,1.2s				
LMR	La Mourre	85.33 335	eP	P	20 06 58.3 +0.5
LMR			pmax	pmax	
	comp=Z,129nm,1.2s				
LMR	La Mourre	85.33 335	eP	P	20 06 58.3 +0.5
	comp=Z,129nm,1.2s				
LFF	La Frestale	85.38 339	⇑iP	P	20 06 59.6 +1.6
	comp=Z,65nm,0.7s				
LFF	La Frestale	85.38 339	⇑iP	P	20 06 59.6 +1.6
LFF			pmax	pmax	
	comp=Z,65nm,0.7s				
LFF	La Frestale	85.38 339	⇑iP	P	20 06 59.6 +1.6
	comp=Z,65nm,0.7s				
LASF	Ste Croix	85.39 337	eP	P	20 06 59.1 +1.0
LASF	Ste Croix	85.39 337	eP	P	20 06 59.1 +1.0
KYTH	Kithira	85.44 320	P	P	20 06 57.8 -0.7
KYTH	Kithira	85.44 320	eP	P	20 06 57.8 -0.7
PYL	PYLOS	85.48 322	P	P	20 06 57.3 -1.4
PYL	PYLOS	85.48 322	eP	P	20 06 57.4 -1.3
TIP	Timpagrande	85.56 326	P	P	20 06 59.2 +0.1
TIP	Timpagrande	85.56 326	eP	P	20 06 58.9 -0.2
	comp=Z,23nm,1.3s				
VAM	Vamos	85.64 319	P	P	20 06 58.2 -1.3
VAM	Vamos	85.64 319	eP	P	20 06 57.8 -1.7
ANKY	Antikythira Is	85.66 320	P	P	20 06 58.7 -0.8
ANKY	Antikythira Is	85.66 320	eP	P	20 06 58.8 -0.8
SIVA	Sivas	85.69 319	P	P	20 06 59.7 0.0
SIVA	Sivas	85.69 319	eP	P	20 07 00.4 +0.7
KARN	Karanos	85.78 319	P	P	20 07 00.0 -0.2
KARN	Karanos	85.78 319	eP	P	20 07 00.4 +0.2
MTLF	Montolieu	86.51 338	⇑iP	P	20 07 05.3 +1.7
	comp=Z,28nm,0.8s				
MTLF	Montolieu	86.51 338	⇑iP	P	20 07 05.3 +1.7
MTLF			pmax	pmax	
	comp=Z,28nm,0.8s				
MTLF	Montolieu	86.51 338	⇑iP	P	20 07 05.3 +1.7
	comp=Z,28nm,0.8s				
CEL	Celeste	86.69 326	eP	P	20 07 03.4 -1.2
	comp=Z,16nm,0.8s				
SJAF	Saint Jean de	87.13 337	⇑eP	P	20 07 08.3 +1.6
EPF	Esparros	87.27 339	⇑iP	P	20 07 08.5 +1.1
	comp=Z,25nm,0.9s				
EPF	Esparros	87.27 339	⇑iP	P	20 07 08.5 +1.1
EPF			pmax	pmax	
	comp=Z,25nm,0.9s				
EPF	Esparros	87.27 339	⇑iP	P	20 07 08.5 +1.1
	comp=Z,25nm,0.9s				
VALF	Valcebollere	87.44 338	⇑eP	P	20 07 10.4 +2.1
SJPF	Ste Jean	87.57 340	eP	P	20 07 10.3 +1.5
	comp=Z,12nm,0.8s				
SJPF	Ste Jean	87.57 340	eP	P	20 07 10.3 +1.5
SJPF			pmax	pmax	
	comp=Z,12nm,0.8s				
SJPF	Ste Jean	87.57 340	eP	P	20 07 10.3 +1.5
	comp=Z,12nm,0.8s				
ETSF	Etsaut	87.62 340	eP	P	20 07 09.9 +0.8
	comp=Z,28nm,0.6s				
ETSF	Etsaut	87.62 340	eP	P	20 07 09.9 +0.8
ETSF			pmax	pmax	
	comp=Z,28nm,0.6s				
ETSF	Etsaut	87.62 340	eP	P	20 07 09.9 +0.8
	comp=Z,28nm,0.6s				
KEST	Kesra	91.33 330	P	P	20 07 27.5 +0.9
	comp=Z,4.7nm,0.7s,baz=11,slow=0.7,SNR=18				
KEST			LR	LR	20 51 04.8
	comp=Z,12nm,21.6s,baz=306,slow=37				
ESDC	Sonseca Array	91.47 341	P	P	20 07 26.3 -0.8
	comp=Z,1.2nm,0.6s,baz=6.2,slow=3.9,SNR=7.5				
TORD	Torodi Ar. Bea	114.70 327	PKP	PKPdf	20 13 00.4 -0.4
	comp=Z,0.4nm,0.6s,baz=12,slow=2.2,SNR=5.7				
TORD			PP	PP	20 13 53.6 -5.7
	comp=Z,0.8nm,0.7s,baz=15,slow=9.2,SNR=3.9				
TORD			PKKPbc	PKKPbc	20 23 36.2 -0.6
	comp=Z,0.5nm,0.7s,baz=193,slow=1.8,SNR=6.5				
DBIC	Dimbokro	123.03 331	PKP	PKPdf	20 13 16.4 -0.4
	comp=Z,1.1nm,0.6s,baz=359,slow=2.9,SNR=4.3				
DBIC			PP	PP	20 14 53.6 -3.0
	comp=Z,2.3nm,0.7s,baz=37,slow=5.1,SNR=2.9				
VNDA	Vanda	123.83 177	PKP	PKPdf	20 13 16.8 +0.4
	comp=Z,4.0nm,0.8s,baz=328,slow=4.4,SNR=14				
LPAZ	La Paz	135.64 61	PKP	PKPdf	20 13 40.7 -0.6
	comp=Z,2.1nm,0.8s,baz=36,slow=7.0,SNR=6.1				
QSPA	South Pole Qui	136.15 180	ePKPdf	PKPdf	20 13 41.2 +1.1
SIV	San Ignacio	139.47 52	PKP	PKPdf	20 13 49.6 +1.9
	comp=Z,2.3nm,0.7s,baz=310,slow=0.5,SNR=4.4				
NVL	N'lazarevskaya	148.79 205	ePKP2	PKPbc	20 14 05.8 -0.4
NVL			pmax	pmax	
	comp=Z,13nm,0.6s				
PLCA	Paso Flores	149.47 95	PKPbc	PKPbc	20 14 09.5 +0.6
	comp=Z,25nm,0.7s,baz=281,slow=2.6,SNR=34				
SNAA	Sanae	151.86 197	P	PKPbc	20 14 13.8 +0.3
SNAA	Sanae	151.86 197	PKPbc	PKPbc	20 14 13.9 +0.3
	baz=202,slow=4.7				
VNA2	Neumayer--Watz	153.34 195	P	PKPbc	20 14 17.2 +0.4
VNA3	Neumayer Olymp	153.47 194	P	PKPbc	20 14 17.3 +0.2

IDC 24 20:07:48.2±3.3, 50.°82S×141.°96E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/24, mbtmp3.4/2, Error ellipse: s-maj=262.1km s-min=54.6km az=82.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	27.82	344	P	P	20 13 38.7	-0.4
	0.6nm,0.8s,baz=176,slow=9.4,SNR=9.2						
WRA	Warramunga Arr	31.40	346	P	P	20 14 11.2	+0.4
	0.5nm,0.6s,baz=188,slow=7.6,SNR=6.3						
BRTR	Keskin Array B	130.23	286	PKP	PKPdf	20 26 59.9	+0.1
	1.3nm,0.9s,baz=159,slow=1.2,SNR=5.1						
YKA	Yellowknife Ar	138.86	43	PKP	PKPdf	20 27 12.9	-2.1
	0.6nm,0.6s,baz=253,slow=3.3,SNR=14						

*ISCJB **24** 20:21:13.2±0.5, 35.°70N±0.°05×115.°54E±0.°05, h10km, mb3.4/6, Error ellipse: s-maj=7.7km s-min=5.6km az=171.1*

*IDC **24** 20:21:13.4±0.9, 35.°68N×115.°79E, h0km, mb3.4/6, mb1 3.7/7, mb1mx3.6/29, mbtmp3.5/7, ML3.3/1, Error ellipse: s-maj=29.8km s-min=19.5km az=81.0*

*BJI **24** 20:21:15.9, 35.°72N×115.°41E, h5km, mb3.9/3, ML3.9/17, Ms3.4/1, Ms7 3.3/3*

ISC 24 20:21:16.1±0.6, 35.°72N±0.°05×115.°53E±0.°06, h10km, n16, σ1§80/22, mb3.6/6, 1C, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	Tai'an	1.38	69	Pg	Pn	20 21 41.1	-0.4
TIA				Sg	Sn	20 22 01.6	+1.8
TIA				SMN			
	1μm,0.6s						
TIA				SME			
	540nm,0.6s						
BJI	Beijing	4.34	7	Pn	Pn	20 22 20.3	-1.9
BJI				Pg	Pb	20 22 33.9	+1.4
BJI				Sg	Sb	20 23 28.5	+3.5
BJI				SMN			
	290nm,0.8s						
BJI				SME			
	210nm,1.1s						
WHN	Wuhan	5.26	191	⇑Pn	Pn	20 22 33.6	-1.1
WHN				Pg	Pb	20 22 48.8	+0.7
WHN				Sg	Sb	20 23 55.3	+4.0
WHN				SMN			
	400nm,0.8s						
WHN				SME			
	370nm,0.9s						
XAN	Xi'an	5.69	255	Pn	Pn	20 22 40.6	-0.1

0.4nm,0.3s,baz=276,slow=28,SNR=5.4
GTA Gaotai 13.00 291 *e*P **Pn 20 24 20.0 -1.0**
GTA pP 20 24 27.1
GTA sP 20 24 30.3
GTA PMZ
3.0nm,1.2s
SONM Songino Array 13.88 334 Pn **Pn 20 24 35.1 +2.2**
0.1nm,0.3s,baz=150,slow=13,SNR=13
SONM Lg Lg 20 28 36.1
0.1nm,0.3s,baz=140,slow=21,SNR=11
CMAR Chiang Mai Arr 22.61 225 P **P 20 26 16.0 -1.1**
0.5nm,0.3s,baz=28,slow=10,SNR=7.5
MKAR Makanchi Array 27.14 304 P **P 20 27 00.7 +1.3**
0.1nm,0.5s,baz=98,slow=10,SNR=3.3
WRA Warramunga Arr 58.16 159 P **P 20 31 08.4 -1.8**
0.5nm,0.7s,baz=347,slow=7.7,SNR=5.6
ILAR Eielson Array 61.37 29 P **P 20 31 30.2 -1.6**
0.4nm,0.8s,baz=284,slow=4.5,SNR=4.0
ASAR Alice Springs 61.57 161 P **P 20 31 32.2 -1.4**
0.8nm,0.8s,baz=340,slow=5.9,SNR=8.1
YKA Yellowknife Ar 74.18 22 P **P 20 32 50.7 -1.8**
0.2nm,0.4s,baz=322,slow=5.4,SNR=5.5

MEX 24 20:49:36.9±1.3, 14°.93N×93°.90W, h15km±36km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.01**	**40**	*e*P	Pb	20 49 51.8	-4.3
PCIG				*e*S	Sb	20 50 04.9	-4.3
CCIG	**Comitan**	**2.16**	**51**	*e*P	Pn	20 50 10.2	-2.5
CCIG				*i* S	Sn	20 50 35.4	-4.0
HUIG	**Huatulco**	**2.29**	**292**	*i* P	Pn	20 50 12.7	-1.5
HUIG				*i* S	Sn	20 50 38.0	-4.1
CMIG	**Matias Romero**	**2.35**	**336**	*e*P	Pn	20 50 12.2	-2.8
CMIG				*i* S	Sn	20 50 39.7	-3.9

NIED ***24*** *21:00:00, 46°.70N×152°.90E, h5km, Mw4.1 Best double couple: M₀1.36000×10¹⁵ NP1:φs=34.00000°, δ=28.00000°, λ=56.00000°. NP2:φs=252.00000°, δ=67.00000°, λ=107.00000°.*
MOS ***24*** *21:00:15.6±1.8, 46°.27N×153°.09E, h35km, mb4.1/3, Error ellipse: s-maj=19.1km s-min=11.0km az=81.3*
IDC ***24*** *21:00:19.4±2.9, 46°.22N×152°.90E, h46km±26km, mb3.6/14, mb1 3.7/17, mb1mx3.5/66, mbtmp3.8/17, ML3.3/3, MS2.3/1, Ms1 2.3/1, ms1mx2.0/42, Error ellipse: s-maj=28.0km s-min=16.4km az=107.0*
ISC 24 21:00:16.7±1.0, 46°.0N±0°.1×153°.0E±0°.1, h31km, n49, σ1s63/49, mb3.8/14, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.68**	**260**	⇑*i*PN	**Pn**	**21 01 13.6**	**+2.3**
KUR				*i* S	**Sn**	**21 01 56.2**	**+2.6**
KUR				pmax	pmax		
comp=N,58nm,0.3s
KUR pmax pmax
comp=Z,18nm,0.3s
KUR smax smax
comp=N,84nm,0.5s
KUR smax smax
comp=E,56nm,0.5s
SKR Severo-Kuril's 5.13 23 *e*PN Pn 21 01 23.0 -8.2
NEM2 Nemuro 2 5.80 246 P **Pn 21 01 40.3 -0.2**
NEM2 *e*S **Sn 21 02 45.3 -0.6**
JRA Rausu 5.95 253 P **Pn 21 01 44.5 +1.9**
JNK Nakash 6.36 251 P **Pn 21 01 49.5 +1.2**
JAK Akkeshi 6.65 246 P **Pn 21 01 51.7 -0.5**
JAK *e*S **Sn 21 03 05.4 -1.4**
JTKR Abashiri--Toko 6.75 256 P **Pn 21 01 55.6 +2.0**
JAR Ashorobuto 7.11 251 P **Pn 21 02 00.0 +1.5**
JAR *e*S **Sn 21 03 18.2 0.0**
JMP Maruseppu 7.11 257 P **Pn 21 02 00.4 +1.8**
JOB Onbets 7.25 248 P **Pn 21 02 01.2 +0.8**
JOB *e*S **Sn 21 03 20.5 -1.0**
JKK2 Kamakawa 2 7.57 257 P **Pn 21 02 07.0 +2.1**
ASAJ Asahikawa 7.60 259 PN **Pn 21 02 08.0 +2.8**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 7.60 259 P **Pn 21 02 08.0 +2.8**
comp=Z,1.2nm,0.3s,baz=67,slow=13,SNR=11
JCH Churui 7.69 247 P **Pn 21 02 06.7 +0.2**
JCH *e*S **Sn 21 03 29.1 -3.4**
PETK Petropavlovsk- 7.74 22 PN **Pn 21 02 06.7 -0.5**
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK Petropavlovsk- 7.74 22 P **Pn 21 02 06.7 -0.5**
comp=Z,0.5nm,0.3s,baz=179,slow=14,SNR=6.4
JEM Erimo 8.13 244 P **Pn 21 02 13.9 +1.4**
JNBK Urakawa-nobuka 8.25 247 P **Pn 21 02 13.6 -0.5**
JNBK *e*S **Sn 21 03 43.3 -2.9**
JBT2 Biratori 2 8.27 251 P **Pn 21 02 14.9 +0.6**
JNB Noboribetsu 9.28 252 P **Pn 21 02 29.3 +1.1**
JKB Kayabe 9.55 249 P **Pn 21 02 31.6 -0.4**
JKB *e*S **Sn 21 04 13.5 -4.7**
JOSM Okushiri--Mats 10.49 253 P **Pn 21 02 44.6 -0.2**
USRK Ussuriysk Ar. 14.94 271 LR LR 21 09 32.1
comp=Z,12nm,20.9s,baz=169,slow=37
SEY Seymchan 16.97 359 P **Pn 21 04 10.2 -1.2**
comp=Z,0.1nm,0.3s,baz=221,slow=20,SNR=3.8
H11N2 WAKE ISLAND Hy 28.60 152 T T 21 37 47.8
baz=340,slow=76,SNR=13
H11N1 WAKE ISLAND Hy 28.61 152 T T 21 37 58.8
baz=340,slow=76,SNR=9.2
H11N3 WAKE ISLAND Hy 28.61 152 T T 21 38 15.9
baz=340,slow=76,SNR=9.1
H11S1 WAKE ISLAND Hy 29.68 153 T T 21 39 25.8
baz=341,slow=76,SNR=9.4
H11S3 WAKE ISLAND Hy 29.68 153 T T 21 39 11.0
baz=341,slow=76,SNR=6.6
H11S2 WAKE ISLAND Hy 29.70 153 T T 21 39 07.7
baz=341,slow=76,SNR=4.7
MKAR Makanchi Array 47.21 298 P **P 21 08 45.3 -1.1**
comp=Z,0.2nm,0.4s,baz=65,slow=6.4,SNR=9.1
KURK Kurchatov 47.71 304 P **P 21 08 49.3 -0.9**
KURBB Kurchatov Arra 47.80 304 P **P 21 08 49.3 -1.6**
comp=Z,0.4nm,0.4s,baz=72,slow=8.5,SNR=4.6
YKA Yellowknife Ar 51.58 36 P **P 21 09 19.9 +0.5**
comp=Z,0.2nm,0.6s,baz=291,slow=6.7,SNR=3.9
CMAR Chiang Mai Arr 52.11 257 P **P 21 09 25.6 +1.6**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 52.11 257 P **P 21 09 25.6 +1.6**
comp=Z,0.5nm,0.7s,baz=37,slow=7.9,SNR=6.7
SPITS Spitsbergen Ar 53.33 350 P **P 21 09 30.8 -1.5**
comp=Z,5.6nm,1.0s,baz=355,slow=3.6,SNR=6.6
ARCES ARCESS Array B 58.53 341 P **P 21 10 09.2 -0.3**
comp=Z,2.5nm,0.9s,baz=45,slow=8.2,SNR=4.2
FINES FINESS Array B 64.68 335 P **P 21 10 49.7 -1.3**
comp=Z,0.4nm,0.4s,baz=19,slow=6.5,SNR=7.8
WRA Warramunga Arr 67.78 199 P **P 21 11 12.6 +1.3**
comp=Z,0.4nm,0.7s,baz=17,slow=7.1,SNR=3.7
NB2 NORSAR Subarra 68.91 341 P **P 21 11 17.7 -0.4**
comp=Z,0.9nm,0.4s,baz=29,slow=6.5
NOA NORSAR Array B 68.91 341 P **P 21 11 17.7 -0.4**
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 68.91 341 P **P 21 11 17.7 -0.4**
comp=Z,0.6nm,0.4s,baz=29,slow=6.6,SNR=8.0
HFS Hagfors 69.13 340 P **P 21 11 18.9 -0.5**
comp=Z,2.6nm,0.6s,baz=46,slow=4.3,SNR=14
KBZ Khabaz 71.32 314 P **P 21 11 34.1 +1.1**
comp=Z,1.8nm,0.5s,baz=65,slow=4.5,SNR=9.3
ASAR Alice Springs 71.47 198 P **P 21 11 36.5 +2.4**
comp=Z,0.2nm,0.5s,baz=14,slow=5.7,SNR=3.6
AKASG Malin Array Be 72.12 326 P **P 21 11 37.7 -0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 72.12 326 P **P 21 11 37.7 -0.1**
comp=Z,0.6nm,0.3s,baz=37,slow=6.1,SNR=3.2
MMAI Mount Meron Ar 83.25 311 P **P 21 12 40.5 +0.3**
comp=Z,0.2nm,0.3s,baz=34,slow=5.4,SNR=4.0

IDC ***24*** *21:11:06.1±0.9, 9°.97N×122°.19E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/42, mbtmp3.9/8, MS3.3/4, Ms1 3.3/4, ms1mx2.8/36, Error ellipse: s-maj=59.1km s-min=15.8km az=65.0*
ISCJB ***24*** *21:11:08.0±1.3, 9°.91N±0°.04×121°.96E±0°.04, h21km±10km, mb4.0/14, MS3.2/4, Error ellipse: s-maj=7.4km s-min=5.3km az=148.5*
MAN ***24*** *21:11:08, 9°.97N×122°.13E, h1km, mb4.9, ML3.8, MS3.8*

NEIC ***24*** *21:11:11.3±0.5, 9°.87N×122°.07E, h35km, mb4.4/7, Error ellipse: s-maj=26.3km s-min=7.1km az=68.0*
ISC 24 21:11:06.2±1.8, 9°.89N±0°.04×122°.00E±0°.06, h1km±11km, n37, σ0s95/39, mb4.2/14, MS3.2/4, 2C-2D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.94**	**38**	*e*P	**Pg**	**21 11 24.2**	**-0.1**
GUIM				*e*S	**Sg**	**21 11 36.3**	**-0.1**
KALP	**Kalibo**	**1.81**	**11**	*e*P	**Pn**	**21 11 39.1**	**+0.5**
RCP	**Roxas**	**1.82**	**24**	⇑*e*P	**Pn**	**21 11 39.0**	**+0.3**
RCP	**Roxas**	**1.82**	**24**	*e*S	**Sb**	**21 12 02.8**	**-0.9**
TBP	**Tagbilaran**	**1.85**	**96**	*e*P	**Pb**	**21 11 40.4**	**-0.5**
DCPH	**Dipolog City**	**1.86**	**134**	⇑*e*P	**Pb**	**21 11 40.5**	**-0.6**
DCPH				*e*S	**Sg**	**21 12 06.3**	**+0.2**
LLP	**Lapu-Lapu**	**1.99**	**77**	⇓*e*P	**Pn**	**21 11 41.4**	**+0.4**
LLP				*e*S	**Sn**	**21 12 05.2**	**-1.3**
PAGZ	**Pagadian**	**2.44**	**146**	*e*P	**Pb**	**21 11 50.3**	**-0.7**
PAGZ				*e*S	**Sn**	**21 12 17.8**	**0.0**
OCLP	**Ormoc**	**2.82**	**66**	*e*P	**Pn**	**21 11 53.8**	**+1.4**
MSLP	**Maasin**	**2.83**	**85**	*e*P	**Pn**	**21 11 54.2**	**+1.7**
MSLP				*e*S	**Sn**	**21 12 27.9**	**+0.6**
CGP	**Cagayan de Oro**	**3.02**	**118**	*e*P	**Pn**	**21 11 56.1**	**+0.9**
CGP				*e*S	**Sn**	**21 12 31.5**	**-0.5**
CTBH	**Cotabato--PC H**	**3.46**	**140**	⇓*i*P	Pn	21 12 04.4	+3.2
BUKP	**Musuan**	**3.63**	**123**	*e*P	Pb	21 12 07.8	-3.4
BUTP	**Butuan**	**3.69**	**104**	*e*P	**Pn**	**21 12 07.3**	**+2.8**
TNTI	**Ternate**	**10.51**	**149**	Pn	**Pn**	**21 13 36.7**	**-1.5**
KAPI	**Kappang**	**14.97**	**189**	Pn	**Pn**	**21 14 39.6**	**+0.5**
BATI	**Baumata**	**20.03**	**175**	P	Pn	21 15 43.1	+0.6
24nm,0.6s,baz=122,slow=2.7,SNR=9.9
CMAR Chiang Mai Arr 23.90 293 P **P 21 16 22.8 +1.0**
1.1nm,1.0s,baz=113,slow=7.6,SNR=8.2
CMAR LR LR 21 24 44.4
comp=Z,74nm,18.6s,baz=153,slow=34
KSRS Korea Array 27.96 10 LR LR 21 29 05.7
comp=Z,30nm,18.6s,baz=199,slow=39
WRAB Tennant Creek 32.03 158 *e*P **P 21 17 33.7 -0.9**
4.7nm,0.7s
WRA Warramunga Arr 32.04 158 P **P 21 17 33.6 -1.0**
3.3nm,0.7s,baz=339,slow=9.5,SNR=21
WRA PcP **PcP 21 20 23.8 -0.8**
0.4nm,0.7s,baz=335,slow=3.3,SNR=4.5
AS31 Alice Springs 35.32 161 *e*P **P 21 18 02.5 -0.8**
ASAR Alice Springs 35.32 161 P **P 21 18 03.4 +0.2**
2.6nm,0.6s,baz=347,slow=7.2,SNR=32
ASAR PcP **PcP 21 20 33.6 -0.2**
0.6nm,0.5s,baz=338,slow=3.0,SNR=5.8
SONM Songino Array 40.05 344 P **P 21 18 43.8 +0.6**
0.8nm,1.1s,baz=169,slow=10,SNR=4.8
MK31 Makanchi Array 49.85 325 *e*P **P 21 20 00.9 -0.2**
MKAR Makanchi Array 49.85 325 P **P 21 20 01.8 +0.7**
0.4nm,0.6s,baz=125,slow=8.4,SNR=5.8
TKM2 Tokmak 2 52.05 318 *e*P **P 21 20 17.8 -0.2**
2.6nm,0.9s
AAK Ala-Archa 52.67 317 *e*P **P 21 20 24.0 +1.4**
3.0nm,0.9s
ZALV Zalesovo Beam 53.01 333 P **P 21 20 24.4 -0.2**
0.2nm,0.4s,baz=109,slow=7.8,SNR=2.6
EKS2 Erkin-Say 53.17 317 *e*P **P 21 20 27.1 +1.0**
5.8nm,1.0s
KURK Kurchatov 54.06 327 *e*P **P 21 20 33.5 +1.1**
2.0nm,0.6s
KKAR Karatay Array 55.56 316 *e*P **P 21 20 42.3 -1.1**
4.5nm,1.0s
FX1 Attu Island--F 59.33 33 LR LR 21 46 28.0
comp=Z,20nm,18.3s,baz=344,slow=36
RAYN Ar Rayn 73.80 292 *e*P **P 21 22 43.2 +0.2**
5.2nm,0.9s
OBN Obninsk 79.35 324 LR LR 21 58 35.0
comp=Z,30nm,19.9s,baz=269,slow=36
FINES FINESS Array B 84.22 331 P **P 21 23 38.8 -0.4**
0.8nm,0.7s,baz=72,slow=6.2,SNR=5.4
PLCA Paso Flores 147.33 162 PKPbc **PKPbc 21 30 52.8 +0.7**
1.9nm,0.8s,baz=240,slow=6.1,SNR=3.3

ISCJB ***24*** *21:11:18.2±1.0, 13°.27S±0°.07×166°.9E±0°.2, h250km, mb3.7/7, Error ellipse: s-maj=30.9km s-min=10.2km az=176.6*
IDC ***24*** *21:11:19.9±4.5, 13°.43S×167°.07E, h261km±47km, mb3.5/7, mb1 3.6/8, mb1mx3.4/35, mbtmp4.0/8, Error ellipse: s-maj=36.4km s-min=26.3km az=158.0*
ISC 24 21:11:18.9±1.0, 13°.35S±0°.09×167°.1E±0°.2, h250km, n12, σ0s86/13, mb3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.70**	**184**	P	**Pn**	**21 13 22.2**	**+1.1**
1.1nm,0.3s,baz=24,slow=12,SNR=5.2
DZM S **S 21 14 59.1 -0.7**
0.6nm,0.3s,baz=300,slow=20,SNR=2.6
WRA Warramunga Arr 31.98 254 P **P 21 17 21.3 -0.8**
0.5nm,0.7s,baz=84,slow=8.7,SNR=4.8
ASAR Alice Springs 32.99 247 P **P 21 17 30.0 -0.9**
0.5nm,0.5s,baz=74,slow=9.6,SNR=9.8
ASAJ Asahikawa 61.38 340 P **P 21 21 09.5 +0.9**
9.9nm,1.1s,baz=202,slow=11,SNR=4.4
CMAR Chiang Mai Arr 74.20 294 P **P 21 22 29.6 +0.6**
1.4nm,0.7s,baz=129,slow=4.6,SNR=14
SONM Songino Array 81.27 324 P **P 21 23 07.7 +0.3**
0.5nm,0.5s,baz=137,slow=5.3,SNR=12
ILAR Eielson Array 85.28 18 P **P 21 23 25.6 -1.6**
1.0nm,0.6s,baz=88,slow=6.2,SNR=16
MKAR Makanchi Array 96.06 317 P **P 21 24 18.1 0.0**
0.8nm,0.6s,baz=88,slow=6.2,SNR=16
ARCES ARCESS Array B 118.87 346 PKP **PKPdf 21 29 36.8 -0.2**
1.9nm,0.6s,baz=72,slow=1.5,SNR=26
FINES FINESS Array B 124.33 338 PKP **PKPdf 21 29 47.7 0.0**
0.3nm,0.3s,baz=48,slow=2.1,SNR=6.8
KEST Kesra 150.01 322 PKPbc **PKPbc 21 30 40.6 +0.2**
1.3nm,0.6s,baz=21,slow=3.6,SNR=5.1
ESDC Sonseca Array 152.61 345 PKPbc **PKPbc 21 30 46.5 +0.4**
0.5nm,0.6s,baz=19,slow=4.0,SNR=4.2

ISCJB ***24*** *21:18:35.6±0.8, 33°.97S±0°.05×72°.49W±0°.07, h17km, mb3.8/4, MS3.2/2, Error ellipse: s-maj=8.6km s-min=7.1km az=22.7*
GUC ***24*** *21:18:35.7±0.7, 33°.96S×72°.43W, h33km±99km, ML3.9*
IDC ***24*** *21:18:35.2±1.0, 33°.96S×72°.28W, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/30, mbtmp3.7/7, ML3.4/3, MS2.9/3, Ms1 2.9/3, ms1mx2.8/19, Error ellipse: s-maj=30.3km s-min=17.6km az=112.0*
ISC 24 21:18:37.7±0.9, 33°.99S±0°.05×72°.28W±0°.07, h17km, n16, σ0s73/20, mb3.9/4, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.33**	**68**	⇓*i*P	**Pn**	**21 19 00.5**	**-1.0**
RCDM				*i* S	**Sg**	**21 19 20.6**	**-0.1**
NICH	**Los Niches**	**1.34**	**140**	*e*P	**Pn**	**21 19 00.9**	**-0.7**
NICH				*i* S	**Sg**	**21 19 21.1**	**+0.1**
TALC	**Talca**	**1.51**	**159**	⇑*i*P	**Pn**	**21 19 03.4**	**-0.5**
TALC				*i* S4	**Sn**	**21 19 23.3**	**+0.2**
CLCH	**Cerro Calan**	**1.57**	**68**	*e*P	**Pn**	**21 19 05.4**	**+0.5**
CLCH				⇑*i*P	**Pb**	**21 19 05.6**	**-0.8**
CLCH				*e*S	**Sg**	**21 19 27.5**	**-1.0**
CLCH				*i* S	**Sb**	**21 19 27.6**	**+1.6**
CLCH				IAML		21 19 42.6	
comp=N,2μm,0.7s
FCH Farellones 1.79 69 IAML 21 19 41.6
comp=N,2μm,0.4s
CFAA Coronel Fontan 4.15 56 Pn **Pn 21 19 41.4 +1.0**
comp=N,0.3nm,0.3s,baz=219,slow=12,SNR=10
CFAA Lg Lg 21 20 45.5
comp=N,1.3nm,0.3s,baz=71,slow=13,SNR=6.0
CFAA LR LR 21 21 24.1
comp=N,36nm,21.2s,baz=234,slow=41
PLCA Paso Flores 6.87 169 Pn **Pn 21 20 18.4 +0.6**
comp=N,0.2nm,0.3s,baz=344,slow=12,SNR=4.7
LPAZ La Paz 18.02 13 P **P 21 22 48.8 +0.4**
comp=N,0.2nm,0.3s,baz=177,slow=6.4,SNR=6.7
SIV San Ignacio 20.57 32 P **P 21 23 15.4 -0.3**
comp=N,1.6nm,0.7s,baz=222,slow=12,SNR=3.1
SIV LR LR 21 31 58.8
comp=N,34nm,19.8s,baz=238,slow=39
PMSA Palmer Station 31.23 173 LR LR 21 36 24.4
comp=N,119nm,18.4s,baz=80,slow=34
SNAA Sanae 51.67 158 P **P 21 27 43.5 +0.2**
comp=N,0.8nm,0.7s,baz=280,slow=12,SNR=2.4
QSPA South Pole Qui 56.25 180 P **P 21 28 17.4 +0.5**
comp=N,1.0nm,0.8s,baz=113,slow=2.5,SNR=3.4
TXAR Lajitas Array 69.62 331 P **P 21 29 46.3 +0.2**
comp=N,0.5nm,0.6s,baz=128,slow=5.4,SNR=4.6

TORD Torodi Ar. Bea 84.40 70 P **P 21 31 09.5 0.0**
comp=N,1.0nm,0.7s,baz=288,slow=6.3,SNR=8.3
ZALV Zalesovo Beam 154.32 32 PKPbc **PKPbc 21 38 36.4 0.0**
comp=N,0.9nm,0.6s,baz=311,slow=3.2,SNR=5.0
MKAR Makanchi Array 156.91 49 PKPab **PKPab 21 39 01.1 -0.9**
comp=N,0.3nm,0.6s,baz=273,slow=1.9,SNR=5.6

CSEM ***24*** *21:23:19.9±0.3, 36°.52N×9°.81W, h10km, ML3.6/7, Error ellipse: s-maj=6.7km s-min=4.6km az=84.0*
MDD ***24*** *21:23:22.8±1.1, 36°.61N×9°.88W, h20km, mbLg3.0/41, Error ellipse: s-maj=10.1km s-min=7.5km az=44.0, PRXIMO*
LDG ***24*** *21:23:22.5±0.2, 36°.53N×10°.00W, h30km, Ml3.4/4, Error ellipse: s-maj=3.3km s-min=2.5km az=47.0*
IGIL ***24*** *21:23:23.8, 36°.54N×9°.89W, h31km, ML2.9*
INMG ***24*** *21:23:23.9±1.2, 36°.62N×9°.83W, h16km±3km, MD2.4, ML2.7, Error ellipse: s-maj=3.8km s-min=2.5km az=51.0*
CNRM ***24*** *21:23:24.9, 36°.32N×9°.60W, h30km, MD3.5*
ISC 24 21:23:19.1±2.1, 36°.58N±0°.07×9°.91W±0°.07, h10km, n145, σ1s96/243, 4C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.03**	**57**	*i* P	**Pn**	**21 23 41.0**	**+1.4**
PFVI				*e*Sg	**Sb**	**21 23 53.8**	**+1.3**
PFVI				*e*S	**Sb**	**21 23 53.8**	**+1.3**
PFVI				A	A	21 23 54.4	
189nm,0.1s
PFVI Vila Bisbo 1.03 57 ⇑P **Pn 21 23 40.9 +1.4**
29nm,0.1s,SNR=18
PFVI S **Sg 21 23 53.4 +1.2**
160nm,0.1s,SNR=33
PFVI Vila Bisbo 1.03 57 P **Pn 21 23 40.9 +1.4**
29nm,0.1s,SNR=18
PFVI *e*S **Sb 21 23 53.8 +1.3**
189nm,0.1s
MORF Marmelete 1.24 54 *e*P **Pb 21 23 44.0 +1.3**
MORF *e*S **Sb 21 23 58.5 -0.2**
MORF AML AML 21 23 59.6
comp=N,205nm,0.1s
MORF Marmelete 1.24 54 *i* P **Pb 21 23 44.0 +1.3**
MORF *e*S **Sb 21 23 59.2 +0.5**
MORF A A 21 23 59.3
comp=N,147nm,0.1s
MORF Marmelete 1.24 54 P **Pb 21 23 44.0 +1.3**
MORF S **Sb 21 23 58.5 -0.2**
comp=N,205nm,0.1s
MORF Marmelete 1.24 54 P **Pb 21 23 44.0 +1.3**
MORF *e*S **Sb 21 23 59.2 +0.5**
comp=N,147nm,0.1s
PTEO Sao Teotonio 1.35 44 *e*P **Pn 21 23 45.6 +1.6**
PTEO *e*S **Sb 21 24 02.1 +0.3**
PTEO A A 21 24 02.7
comp=N,63nm,0.1s
PTEO Sao Teotonio 1.35 44 P **Pn 21 23 45.6 +1.6**
PTEO S **Sb 21 24 02.1 +0.3**
comp=N,31nm,0.1s
PTEO Sao Teotonio 1.35 44 *e*P **Pn 21 23 45.6 +1.6**
PTEO S **Sb 21 24 02.1 +0.3**
comp=N,31nm,0.1s
PBDV Barranco-do-Ve 1.72 67 *i* P **Pn 21 23 50.5 +1.4**
PBDV *e*S **Sn 21 24 10.1 -1.0**
PBDV A A 21 24 14.1
comp=N,39nm,0.2s
PBDV Barranco-do-Ve 1.72 67 ⇑P **Pn 21 23 50.5 +1.4**
PBDV S **Sn 21 24 10.1 -1.0**
comp=N,39nm,0.2s
PBDV Barranco-do-Ve 1.72 67 P **Pn 21 23 50.5 +1.4**
PBDV S **Sn 21 24 10.1 -1.0**
comp=N,39nm,0.2s
PCVE Castro Verde 1.83 54 *i* Pn **Pn 21 23 52.3 +1.7**
PCVE *e*Sn **Sn 21 24 13.5 -0.3**
PCVE A A 21 24 15.1
comp=N,4.8nm,0.5s
PCVE Castro Verde 1.83 54 ⇑P **Pn 21 23 52.3 +1.7**
PCVE S **Sn 21 24 13.5 -0.3**
comp=N,4.8nm,0.5s
PCVE Castro Verde 1.83 54 P **Pn 21 23 52.3 +1.7**
PCVE S **Sn 21 24 13.5 -0.3**
comp=N,4.8nm,0.5s
MESJ Messejana 1.84 46 *e*P **Pn 21 23 52.2 +1.5**
MESJ *e*S **Sn 21 24 13.1 -1.1**
MESJ AML AML 21 24 15.0
comp=N,73nm,0.2s
MESJ Messejana 1.84 46 *e*Pn **Pn 21 23 52.3 +1.5**
MESJ *e*Sn **Sn 21 24 13.6 -0.6**
MESJ A A 21 24 26.3
comp=N,45nm,0.6s
MESJ Messejana 1.84 46 P **Pn 21 23 52.2 +1.5**
MESJ S **Sn 21 24 13.1 -1.1**
comp=N,73nm,0.2s
MESJ Messejana 1.84 46 P **Pn 21 23 52.2 +1.5**
MESJ S **Sn 21 24 13.1 -1.1**
comp=N,73nm,0.2s
MESJ *e*Sn **Sn 21 24 13.6 -0.6**
comp=N,45nm,0.6s
PNCL Nicolau / Gran 1.88 35 *e*Pn **Pn 21 23 52.7 +1.4**
PNCL *e*Sn **Sn 21 24 14.7 -0.4**
PNCL A A 21 24 17.4
comp=N,34nm,0.3s
PNCL Nicolau / Gran 1.88 35 *e*Pn **Pn 21 23 52.7 +1.4**
PNCL *e*Sn **Sn 21 24 14.7 -0.4**
comp=N,34nm,0.3s
PVAQ Vaqueiros 1.94 64 *i* Pn **Pn 21 23 53.5 +1.4**
PVAQ *e*Sn **Sn 21 24 15.2 -1.3**
PVAQ A A 21 24 17.5
comp=N,50nm,0.1s
PVAQ Vaqueiros 1.94 64 ⇑P **Pn 21 23 53.5 +1.4**
PVAQ S **Sn 21 24 15.2 -1.3**
comp=N,50nm,0.1s
PVAQ Vaqueiros 1.94 64 P **Pn 21 23 53.5 +1.4**
PVAQ S **Sn 21 24 15.2 -1.3**
comp=N,50nm,0.1s
EGRO El Granado 2.16 63 P **Pn 21 23 56.4 +1.2**
comp=N,0.2nm,0.1s,SNR=31
EGRO S **Sn 21 24 21.2 -0.8**
comp=N,43nm,0.1s,SNR=19
EGRO El Granado 2.16 63 P **Pn 21 23 56.4 +1.2**
comp=N,0.2nm,0.1s,SNR=31
EGRO S **Sn 21 24 21.2 -0.8**
comp=N,43nm,0.1s,SNR=19
PMST Lisbon--Monsan 2.23 15 *e*Sn **Sn 21 24 23.2 -0.5**
PMST A A 21 24 29.5
comp=N,43nm,0.7s
PMST Lisbon--Monsan 2.23 15 *e*Sn **Sn 21 24 23.2 -0.5**
comp=N,43nm,0.7s
PACT Alcochete 2.34 21 *e*Pn **Pn 21 24 00.5 +2.8**
PACT *e*Sn **Sn 21 24 27.7 +1.2**
PACT A A 21 24 28.1
comp=N,51nm,0.6s
PACT Alcochete 2.34 21 *e*Pn **Pn 21 24 00.5 +2.8**
PACT *e*Sn **Sn 21 24 27.7 +1.2**
comp=N,51nm,0.6s
EVOP Sao Brissos 2.41 36 *e*Pn **Pn 21 23 59.7 +1.2**
PMAFR Mafra 2.42 12 *e*Pn **Pn 21 24 00.2 +1.4**
PMAFR *e*Sn **Sn 21 24 27.5 -1.0**
PMAFR A A 21 24 31.4
comp=N,65nm,0.2s
PMAFR Mafra 2.42 12 P **Pn 21 23 60.0 +1.2**
comp=N,7.6nm,0.1s,SNR=7.9
PMAFR S **Sn 21 24 27.8 -0.7**
comp=N,44nm,0.1s,SNR=7.9
PMAFR Mafra 2.42 12 *e*Pn **Pn 21 24 00.2 +1.4**
PMAFR *e*Sn **Sn 21 24 27.5 -1.0**
comp=N,65nm,0.2s
PMAFR S **Sn 21 24 27.8 -0.7**
comp=N,44nm,0.1s,SNR=7.9
EVO Evora 2.46 37 *e*Pn **Pn 21 23 59.7 +0.4**
EVO *e*Sn **Sn 21 24 27.3 -2.2**
comp=N,36nm,0.2s
EVO Evora 2.46 37 *e*Pn **Pn 21 24 00.6 +1.3**
EVO *e*Sn **Sn 21 24 28.3 -1.2**
EVO A A 21 24 30.6
comp=N,36nm,0.1s
EVO Evora 2.46 37 P **Pn 21 24 00.6 +1.3**
EVO S **Sn 21 24 28.3 -1.2**
comp=N,36nm,0.1s
EVO Evora 2.46 37 P **Pn 21 24 00.6 +1.3**
EVO S **Sn 21 24 28.3 -1.2**
comp=N,36nm,0.1s
PBAR Barrancos 2.79 54 *e*Pn **Pn 21 24 05.1 +1.4**
PBAR *e*Sn **Sn 21 24 36.1 -1.3**
PBAR A A 21 24 38.0

	comp=N,34nm,0.5s							
PBAR	**Barrancos**	**2.79**	**54**	P	**Pn**	**21 24 05.1**	**+1.4**	
PBAR				S	**Sn**	**21 24 36.1**	**-1.3**	
	comp=N,34nm,0.5s							
PBAR	**Barrancos**	**2.79**	**54**	P	**Pn**	**21 24 05.1**	**+1.4**	
PBAR				*e*Sn	**Sn**	**21 24 36.1**	**-1.3**	
	comp=N,34nm,0.5s							
PMTG	**Montargil**	**2.82**	**28**	*e*Pn	**Pn**	**21 24 05.8**	**+1.6**	
PMTG				*e*Sn	**Sn**	**21 24 36.9**	**-1.4**	
PMTG				A	A	21 24 37.6		
	comp=N,30nm,0.3s							
PMTG	**Montargil**	**2.82**	**28**	*e*Pn	**Pn**	**21 24 05.8**	**+1.6**	
PMTG				*e*Sn	**Sn**	**21 24 36.9**	**-1.4**	
	comp=N,30nm,0.3s							
EMIN	**Mina Concepcio**	**2.84**	**64**	P	**Pn**	**21 24 06.2**	**+1.6**	
	comp=N,0.5nm,0.1s,SNR=9.2							
EMIN				S	**Sn**	**21 24 37.0**	**-1.9**	
	comp=N,5.2nm,0.1s,SNR=9.8							
EMIN	**Mina Concepcio**	**2.84**	**64**	P	**Pn**	**21 24 06.2**	**+1.6**	
	comp=N,0.5nm,0.1s,SNR=9.2							
EMIN				S	**Sn**	**21 24 37.0**	**-1.9**	
	comp=N,5.2nm,0.1s,SNR=9.8							
PESTR	**Estremoz**	**2.93**	**38**	*e*Pn	**Pn**	**21 24 07.0**	**+1.2**	
PESTR				*e*Sn	**Sn**	**21 24 39.6**	**-1.4**	
PESTR	**Estremoz**	**2.93**	**38**	*e*Pn	**Pn**	**21 24 07.0**	**+1.2**	
PESTR				*e*Sn	**Sn**	**21 24 39.6**	**-1.4**	
EBAD	**Badajoz**	**3.16**	**46**	P	**Pn**	**21 24 08.9**	**0.0**	
	comp=N,1.1nm,0.1s,SNR=12							
EBAD				S	**Sn**	**21 24 44.9**	**-1.8**	
	comp=N,10nm,0.1s,SNR=11							
EBAD	**Badajoz**	**3.16**	**46**	P	**Pn**	**21 24 08.9**	**0.0**	
	comp=N,1.1nm,0.1s,SNR=12							
EBAD				S	**Sn**	**21 24 44.9**	**-1.8**	
	comp=N,10nm,0.1s,SNR=11							
PTOM	**Tomar**	**3.25**	**21**	*e*Pn	**Pn**	**21 24 11.9**	**+1.7**	
PTOM				*e*Sn	**Sn**	**21 24 47.0**	**-2.0**	
PTOM				A	A	21 24 49.9		
	comp=N,23nm,0.2s							
PTOM	**Tomar**	**3.25**	**21**	P	**Pn**	**21 24 11.9**	**+1.7**	
PTOM				S	**Sn**	**21 24 47.0**	**-2.0**	
	comp=N,12nm,0.2s							
PTOM	**Tomar**	**3.25**	**21**	P	**Pn**	**21 24 11.9**	**+1.7**	
PTOM				S	**Sn**	**21 24 47.0**	**-2.0**	
	comp=N,12nm,0.2s							
ESPR	**Espera**	**3.27**	**84**	P	**Pn**	**21 24 11.4**	**+1.0**	
	comp=N,9.1nm,0.2s,SNR=17							
ESPR				S	**Sn**	**21 24 47.0**	**-2.3**	
	comp=N,206nm,0.3s,SNR=9.4							
ESPR	**Espera**	**3.27**	**84**	P	**Pn**	**21 24 11.4**	**+1.0**	
	comp=N,9.1nm,0.2s,SNR=17							
ESPR				S	**Sn**	**21 24 47.0**	**-2.3**	
	comp=N,206nm,0.3s,SNR=9.4							
PMRV	**Marv??o**	**3.47**	**34**	*e*Pn	**Pn**	**21 24 14.6**	**+1.4**	
PMRV				*e*Sn	**Sn**	**21 24 52.0**	**-2.3**	
PMRV				A	A	21 24 54.9		
	comp=N,16nm,0.5s							
PMRV	**Marv??o**	**3.47**	**34**	P	**Pn**	**21 24 14.6**	**+1.4**	
PMRV				S	**Sn**	**21 24 52.0**	**-2.3**	
	comp=N,16nm,0.5s							
PMRV	**Marv??o**	**3.47**	**34**	P	**Pn**	**21 24 14.6**	**+1.4**	
PMRV				S	**Sn**	**21 24 52.0**	**-2.3**	
	comp=N,16nm,0.5s							
PCAS	**Casmilo, Conde**	**3.64**	**17**	*e*Pn	**Pn**	**21 24 17.2**	**+1.7**	
PCAS				*e*Sn	**Sn**	**21 24 56.5**	**-2.0**	
PCAS				A	A	21 25 00.0		
	comp=N,7.2nm,0.2s							
PCAS	**Casmilo, Conde**	**3.64**	**17**	*e*Pn	**Pn**	**21 24 17.2**	**+1.7**	
PCAS				*e*Sn	**Sn**	**21 24 56.5**	**-2.0**	
	comp=N,7.2nm,0.2s							
PCBR	**Castelo Branco**	**3.78**	**30**	*e*Pn	**Pn**	**21 24 18.8**	**+1.4**	
PCBR				*e*Sn	**Sn**	**21 25 00.0**	**-1.8**	
PCBR				A	A	21 25 01.7		
	comp=N,9.3nm,0.7s							
PCBR	**Castelo Branco**	**3.78**	**30**	P	**Pn**	**21 24 18.8**	**+1.4**	
PCBR				S	**Sn**	**21 25 00.0**	**-1.8**	
	comp=N,4.7nm,0.7s							
PCBR	**Castelo Branco**	**3.78**	**30**	P	**Pn**	**21 24 18.8**	**+1.4**	
PCBR				S	**Sn**	**21 25 00.0**	**-1.8**	
	comp=N,4.7nm,0.7s							
ECAB	**El Cabril**	**3.88**	**66**	P	**Pn**	**21 24 19.8**	**+1.0**	
	comp=N,1.0nm,0.1s,SNR=5.7							
ECAB				S	**Sn**	**21 25 01.8**	**-2.6**	
	comp=N,9.1nm,0.2s,SNR=6.3							
ECAB	**El Cabril**	**3.88**	**66**	P	**Pn**	**21 24 19.8**	**+1.0**	
	comp=N,1.0nm,0.1s,SNR=5.7							
ECAB				S	**Sn**	**21 25 01.8**	**-2.6**	
	comp=N,9.1nm,0.2s,SNR=6.3							
EMIJ	**Mijas**	**4.13**	**89**	P	**Pn**	**21 24 23.3**	**+1.0**	
	comp=N,0.2nm,0.1s,SNR=7.9							
EMIJ				S	**Sn**	**21 25 08.4**	**-2.3**	
	comp=N,3.0nm,0.2s,SNR=7.8							
EMIJ	**Mijas**	**4.13**	**89**	P	**Pn**	**21 24 23.3**	**+1.0**	
	comp=N,0.2nm,0.1s,SNR=7.9							
EMIJ				S	**Sn**	**21 25 08.4**	**-2.3**	
	comp=N,3.0nm,0.2s,SNR=7.8							
MTE	**Manteigas**	**4.24**	**25**	*e*Pn	**Pn**	**21 24 25.4**	**+1.6**	
MTE				*e*Sn	**Sn**	**21 25 10.3**	**-3.1**	
MTE				A	A	21 25 14.5		
	comp=N,11nm,0.6s							
MTE	**Manteigas**	**4.24**	**25**	P	**Pn**	**21 24 25.4**	**+1.6**	
MTE				S	**Sn**	**21 25 10.3**	**-3.1**	
	comp=N,5.3nm,0.6s							
MTE	**Manteigas**	**4.24**	**25**	P	**Pn**	**21 24 25.4**	**+1.6**	
MTE				S	**Sn**	**21 25 10.3**	**-3.1**	
	comp=N,5.3nm,0.6s							
PVIS	**Viseu**	**4.42**	**20**	*e*Pn	**Pn**	**21 24 27.3**	**+1.0**	
PVIS				*e*Sn	**Sn**	**21 25 15.1**	**-2.7**	
PVIS				A	A	21 25 18.8		
	comp=N,8.0nm,0.1s							
PVIS	**Viseu**	**4.42**	**20**	P	**Pn**	**21 24 27.3**	**+1.0**	
PVIS				S	**Sn**	**21 25 15.1**	**-2.7**	
	comp=N,4.0nm,0.1s							
PVIS	**Viseu**	**4.42**	**20**	P	**Pn**	**21 24 27.3**	**+1.0**	
PVIS				S	**Sn**	**21 25 15.1**	**-2.7**	
	comp=N,4.0nm,0.1s							
EPLA	**Plasencia**	**4.60**	**40**	P	**Pn**	**21 24 30.1**	**+1.4**	
	comp=N,0.1nm,0.1s,SNR=7.9							
EPLA				S	**Sn**	**21 25 19.5**	**-2.7**	
	comp=N,9.3nm,0.2s,SNR=13							
EPLA	**Plasencia**	**4.60**	**40**	P	**Pn**	**21 24 30.1**	**+1.4**	
	comp=N,0.1nm,0.1s,SNR=7.9							
EPLA				S	**Sn**	**21 25 19.5**	**-2.7**	
	comp=N,9.3nm,0.2s,SNR=13							
PVRL	**Vila Real**	**4.99**	**19**	*e*Sn	**Sn**	**21 25 27.7**	**-4.2**	
PVRL				A	A	21 25 31.8		
	comp=N,12nm,0.3s							
PVRL	**Vila Real**	**4.99**	**19**	S	**Sn**	**21 25 27.7**	**-4.2**	
	comp=N,6.2nm,0.3s							
PVRL	**Vila Real**	**4.99**	**19**	S	**Sn**	**21 25 27.7**	**-4.2**	
	comp=N,6.2nm,0.3s							
SELV	**Sierra Elvira**	**5.00**	**81**	S	**Sn**	**21 25 31.0**	**-1.0**	
	comp=N,3.1nm,0.2s,SNR=7.9							
SELV	**Sierra Elvira**	**5.00**	**81**	S	**Sn**	**21 25 31.0**	**-1.0**	
	comp=N,3.1nm,0.2s,SNR=7.9							
POLO	**Lamas de Olo**	**5.06**	**18**	*e*Pn	**Pn**	**21 24 36.5**	**+1.4**	
POLO				*e*Sn	**Sn**	**21 25 30.0**	**-3.7**	
POLO				A	A	21 25 33.5		
	comp=N,2.2nm,0.4s							
POLO	**Lamas de Olo**	**5.06**	**18**	*e*Pn	**Pn**	**21 24 36.5**	**+1.4**	
POLO				*e*Sn	**Sn**	**21 25 30.0**	**-3.7**	
	comp=N,2.2nm,0.4s							
CIA	**Chichaoua**	**5.09**	**169**	*e*P	Pn	21 24 34.0	-1.5	
CIA				*i* S	Sn	21 25 25.0	-9.4	
MVO	**Moncorvo**	**5.10**	**25**	*e*Pn	**Pn**	**21 24 36.6**	**+1.0**	
MVO				*e*Sn	**Sn**	**21 25 31.5**	**-3.1**	
MVO				A	A	21 25 34.1		
	comp=N,5.8nm,0.2s							
MVO	**Moncorvo**	**5.10**	**25**	P	**Pn**	**21 24 36.6**	**+1.0**	
	comp=N,1.9nm,0.1s,SNR=7.8							
MVO				S	**Sn**	**21 25 30.5**	**-4.1**	
	comp=N,5.4nm,0.4s,SNR=6.4							
MVO	**Moncorvo**	**5.10**	**25**	P	**Pn**	**21 24 36.6**	**+1.0**	
	comp=N,1.9nm,0.1s,SNR=7.8							
MVO				S	**Sn**	**21 25 30.5**	**-4.1**	
	comp=N,5.4nm,0.4s,SNR=6.4							
MVO				*e*Sn	**Sn**	**21 25 31.5**	**-3.1**	
	comp=N,5.8nm,0.2s							
KIB	**El Ksiba**	**5.11**	**140**	*e*P	Pn	21 24 34.0	-1.8	
KIB				*i* S	Sn	21 25 26.0	-9.1	
EBAN	**Banos Encina**	**5.13**	**70**	P	**Pn**	**21 24 36.7**	**+0.8**	
	comp=N,2.4nm,0.1s,SNR=7.9							
EBAN				S	Sn	21 25 30.2	-5.0	
	SNR=7.9							
EBAN	**Banos Encina**	**5.13**	**70**	P	**Pn**	**21 24 36.7**	**+0.8**	
	comp=N,2.4nm,0.1s,SNR=7.9							
EBAN				S	Sn	21 25 30.2	-5.0	
	SNR=7.9							
ECOG	**Cogollos-Vega**	**5.13**	**80**	S	**Sn**	**21 25 31.6**	**-3.8**	
	comp=N,5.5nm,0.2s,SNR=7.9							
ECOG	**Cogollos-Vega**	**5.13**	**80**	S	**Sn**	**21 25 31.6**	**-3.8**	
	comp=N,5.5nm,0.2s,SNR=7.9							
TZC	**Tazercounte**	**5.25**	**146**	*e*P	Pn	21 24 35.5	-2.3	
TZC				*i* S	Sn	21 25 28.0	-11	
PCAB	**Cabril**	**5.33**	**15**	*e*Pn	**Pn**	**21 24 39.4**	**+0.7**	
PCAB				*e*Sn	**Sn**	**21 25 36.9**	**-3.2**	
PCAB				A	A	21 25 40.1		
	comp=N,6.5nm,0.4s							
PCAB	**Cabril**	**5.33**	**15**	P	**Pn**	**21 24 39.4**	**+0.7**	
PCAB				S	**Sn**	**21 25 36.9**	**-3.2**	
	comp=N,3.2nm,0.4s							
PCAB	**Cabril**	**5.33**	**15**	P	**Pn**	**21 24 39.4**	**+0.7**	
PCAB				S	**Sn**	**21 25 36.9**	**-3.2**	
	comp=N,3.2nm,0.4s							
ELOB	**Lobios**	**5.47**	**15**	P	**Pn**	**21 24 41.5**	**+0.8**	
	comp=N,0.9nm,0.1s,SNR=6.6							
ELOB				S	Sn	21 25 39.1	-4.7	
	comp=N,1.5nm,0.1s,SNR=5.0							
ELOB	**Lobios**	**5.47**	**15**	P	**Pn**	**21 24 41.5**	**+0.8**	
	comp=N,0.9nm,0.1s,SNR=6.6							
ELOB				S	Sn	21 25 39.1	-4.7	
	comp=N,1.5nm,0.1s,SNR=5.0							
PGAV	**Gavieira, Arco**	**5.53**	**13**	*e*Pn	**Pn**	**21 24 42.5**	**+1.0**	
PGAV				*e*Sn	**Sn**	**21 25 41.1**	**-4.0**	
PGAV				A	A	21 25 44.3		
	comp=N,6.7nm,0.6s							
PGAV	**Gavieira, Arco**	**5.53**	**13**	*e*Pn	**Pn**	**21 24 42.5**	**+1.0**	
PGAV				*e*Sn	**Sn**	**21 25 41.1**	**-4.0**	
	comp=N,6.7nm,0.6s							
EQES	**Quesada**	**5.59**	**75**	P	**Pn**	**21 24 43.0**	**+0.6**	
	comp=N,0.3nm,0.1s,SNR=7.9							
EQES				S	**Sn**	**21 25 43.1**	**-3.7**	
	comp=N,4.2nm,0.2s,SNR=30							
EQES	**Quesada**	**5.59**	**75**	P	**Pn**	**21 24 43.0**	**+0.6**	
	comp=N,0.3nm,0.1s,SNR=7.9							
EQES				S	**Sn**	**21 25 43.1**	**-3.7**	
	comp=N,4.2nm,0.2s,SNR=30							
ESDC	**Sonseca Array**	**5.61**	**55**	P	**Pn**	**21 24 43.8**	**+1.1**	
	comp=N,1.4nm,0.2s,baz=239,slow=13,SNR=23							
ESDC				S	**Sn**	**21 25 44.2**	**-3.0**	
	comp=N,5.5nm,0.5s,baz=240,slow=24,SNR=9.6							
ESDC	**Sonseca Array**	**5.61**	**55**	P	**Pn**	**21 24 43.8**	**+1.1**	
	comp=N,1.4nm,0.2s,SNR=23							
ESDC				S	**Sn**	**21 25 44.2**	**-3.0**	
	comp=N,5.5nm,0.5s,SNR=9.6							
OUK	**Oukaimeden**	**5.62**	**162**	*i* P	Pn	21 24 42.0	-1.0	
OUK				*i* S	Sn	21 25 39.0	-9.1	
EBER	**Berja**	**5.65**	**85**	P	**Pn**	**21 24 44.3**	**+1.0**	
	comp=N,0.0nm,0.1s,SNR=7.9							
EBER				S	**Sn**	**21 25 45.3**	**-2.9**	
	comp=N,1.0nm,0.2s,SNR=5.2							
EBER	**Berja**	**5.65**	**85**	P	**Pn**	**21 24 44.3**	**+1.0**	
	SNR=7.9							
EBER				S	**Sn**	**21 25 45.3**	**-2.9**	
	comp=N,1.0nm,0.2s,SNR=5.2							
PBRG	**Braganca**	**5.77**	**24**	*e*Pn	**Pn**	**21 24 46.0**	**+1.2**	
PBRG				*e*Sn	**Sn**	**21 25 47.2**	**-3.8**	
PBRG				A	A	21 25 51.7		
	comp=N,4.3nm,0.4s							
PBRG	**Braganca**	**5.77**	**24**	P	**Pn**	**21 24 46.0**	**+1.2**	
PBRG				S	**Sn**	**21 25 47.2**	**-3.8**	
	comp=N,2.2nm,0.4s							
PBRG	**Braganca**	**5.77**	**24**	P	**Pn**	**21 24 46.0**	**+1.2**	
PBRG				S	**Sn**	**21 25 47.2**	**-3.8**	
	comp=N,2.2nm,0.4s							
ECAL	**Calabor**	**5.89**	**24**	P	**Pn**	**21 24 47.5**	**+1.0**	
	comp=N,0.5nm,0.1s,SNR=7.9							
ECAL				S	**Sn**	**21 25 50.4**	**-3.7**	
	comp=N,2.9nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**5.89**	**24**	P	**Pn**	**21 24 47.5**	**+1.0**	
	comp=N,0.5nm,0.1s,SNR=7.9							
ECAL				S	**Sn**	**21 25 50.4**	**-3.7**	
	comp=N,2.9nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**5.97**	**76**	S	**Sn**	**21 25 52.6**	**-3.5**	
	comp=N,3.2nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**5.97**	**76**	S	**Sn**	**21 25 52.6**	**-3.5**	
	comp=N,3.2nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**6.06**	**46**	P	**Pn**	**21 24 49.4**	**+0.5**	
	comp=N,0.2nm,0.2s,SNR=6.0							
GUD				S	**Sn**	**21 25 54.6**	**-3.8**	
	comp=N,1.7nm,0.2s,SNR=11							
GUD	**Guadarrama**	**6.06**	**46**	P	**Pn**	**21 24 49.4**	**+0.5**	
	comp=N,0.2nm,0.2s,SNR=6.0							
GUD				S	**Sn**	**21 25 54.6**	**-3.8**	
	comp=N,1.7nm,0.2s,SNR=11							
SESP	**Santiago Espad**	**6.06**	**73**	P	**Pn**	**21 24 49.8**	**+0.8**	
	comp=N,0.1nm,0.1s,SNR=7.9							
SESP				S	**Sn**	**21 25 54.8**	**-3.7**	
	comp=N,3.8nm,0.1s,SNR=7.9							
SESP	**Santiago Espad**	**6.06**	**73**	P	**Pn**	**21 24 49.8**	**+0.8**	
	comp=N,0.1nm,0.1s,SNR=7.9							
SESP				S	**Sn**	**21 25 54.8**	**-3.7**	
	comp=N,3.8nm,0.1s,SNR=7.9							
EVIA	**Vianos**	**6.23**	**69**	P	**Pn**	**21 24 51.2**	**0.0**	
	comp=N,0.7nm,0.1s,SNR=7.9							
EVIA				S	Sn	21 25 56.1	-6.3	
	comp=N,2.2nm,0.2s,SNR=6.6							
EVIA	**Vianos**	**6.23**	**69**	P	**Pn**	**21 24 51.2**	**0.0**	
	comp=N,0.7nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.40**	**6**	P	**Pn**	**21 24 53.2**	**-0.3**	
	comp=N,1.8nm,0.1s,SNR=7.9							
EMAZ				S	Sn	21 26 00.0	-6.5	
	comp=N,4.3nm,0.1s,SNR=4.0							
EMAZ	**Mazaricos**	**6.40**	**6**	P	**Pn**	**21 24 53.2**	**-0.3**	
	comp=N,1.8nm,0.1s,SNR=7.9							
ZFT	**Errachidia**	**6.46**	**133**	*e*P	Pn	21 24 53.0	-1.4	
ZFT				*i* S	Sn	21 25 56.0	-12	
ETOB	**Tobarra**	**6.95**	**70**	P	**Pn**	**21 25 01.7**	**+0.7**	
	comp=N,0.3nm,0.1s,SNR=5.8							
ETOB				S	**Sn**	**21 26 16.3**	**-3.8**	
	comp=N,1.4nm,0.2s,SNR=5.6							
ETOB	**Tobarra**	**6.95**	**70**	P	**Pn**	**21 25 01.7**	**+0.7**	
	comp=N,0.3nm,0.1s,SNR=5.8							
ETOB				S	**Sn**	**21 26 16.3**	**-3.8**	
	comp=N,1.4nm,0.2s,SNR=5.6							
EPON	**Pontenova**	**7.06**	**17**	S	**Sn**	**21 26 19.0**	**-3.9**	
	comp=N,0.6nm,0.1s,SNR=4.0							
EPON	**Pontenova**	**7.06**	**17**	S	**Sn**	**21 26 19.0**	**-3.9**	
	comp=N,0.6nm,0.1s,SNR=4.0							
ETOR	**Torete**	**7.46**	**53**	P	**Pn**	**21 25 08.6**	**+0.6**	
	comp=N,0.4nm,0.1s,SNR=7.3							
ETOR				S	Sn	21 26 27.4	-5.2	
	comp=N,3.7nm,0.1s,SNR=7.9							
ETOR	**Torete**	**7.46**	**53**	P	**Pn**	**21 25 08.6**	**+0.6**	
	comp=N,0.4nm,0.1s,SNR=7.3							
ETOR				S	Sn	21 26 27.5	-5.2	
	comp=N,3.7nm,0.1s,SNR=7.9							
EARI	**Arriondas**	**7.62**	**27**	P	**Pn**	**21 25 10.4**	**+0.2**	
	comp=N,0.8nm,0.3s,SNR=7.9							
EARI				S	**Sn**	**21 26 33.0**	**-3.6**	
	comp=N,73nm,1.6s,SNR=7.9							
EARI	**Arriondas**	**7.62**	**27**	P	**Pn**	**21 25 10.4**	**+0.2**	
	comp=N,0.8nm,0.3s,SNR=7.9							
EARI				S	**Sn**	**21 26 33.0**	**-3.6**	
	comp=N,73nm,1.6s,SNR=7.9							
EBEN	**Beniarda**	**7.97**	**72**	S	Sn	21 26 37.8	-7.4	
	comp=N,10nm,0.8s,SNR=7.9							
EMOS	**Mosqueruela**	**8.31**	**60**	P	**Pn**	**21 25 21.5**	**+1.7**	
	comp=N,1.2nm,0.3s,SNR=7.9							
EMOS				S	Sn	21 26 48.1	-5.7	
	comp=N,6.2nm,0.6s,SNR=7.9							
EMOS	**Mosqueruela**	**8.31**	**60**	P	**Pn**	**21 25 21.5**	**+1.7**	
	comp=N,1.2nm,0.3s,SNR=7.9							
EMOS				S	Sn	21 26 48.1	-5.7	
	comp=N,6.2nm,0.6s,SNR=7.9							
IELO	**Elcoad**	**9.15**	**44**	P	**Pn**	**21 25 32.6**	**+1.4**	
	comp=N,39nm,1.5s,SNR=7.9							
IELO				S	Sn	21 27 08.4	-5.8	
	SNR=7.9							
IELO	**Elcoad**	**9.15**	**44**	P	**Pn**	**21 25 32.6**	**+1.4**	
	comp=N,39nm,1.5s,SNR=7.9							
IELO				S	Sn	21 27 08.4	-5.8	
	SNR=7.9							
SJPF	**Ste Jean**	**9.33**	**43**	*e*Pn	**Pn**	**21 25 33.7**	**+0.1**	
SJPF				*e*Sn	Sn	21 27 12.9	-5.7	
	comp=N,2.1nm,0.3s							
SJPF	**Ste Jean**	**9.33**	**43**	P	**Pn**	**21 25 33.7**	**+0.1**	
SJPF				S	Sn	21 27 12.9	-5.7	
	comp=N,1.1nm,0.3s							
SJPF	**Ste Jean**	**9.33**	**43**	P	**Pn**	**21 25 33.7**	**+0.1**	
SJPF				S	Sn	21 27 12.9	-5.7	
	comp=N,1.1nm,0.3s							
ETSF	**Etsaut**	**9.57**	**46**	*e*Pn	**Pn**	**21 25 37.2**	**+0.2**	
ETSF				*e*Sn	Sn	21 27 18.6	-6.0	
	comp=N,0.0nm,0.3s							
ETSF	**Etsaut**	**9.57**	**46**	P	**Pn**	**21 25 37.2**	**+0.2**	
ETSF				S	Sn	21 27 18.6	-6.0	
	comp=N,0.0nm,0.3s							
ETSF	**Etsaut**	**9.57**	**46**	P	**Pn**	**21 25 37.2**	**+0.2**	
ETSF				S	Sn	21 27 18.6	-6.0	
ATE	**Arette**	**9.61**	**45**	S	Sn	21 27 18.8	-6.6	
	SNR=7.9							
EPF	**Esparros**	**10.18**	**48**	*e*Pn	**Pn**	**21 25 45.5**	**+0.2**	
EPF				*e*Sn	Sn	21 27 33.2	-6.2	
	comp=N,1.6nm,0.3s							
EPF	**Esparros**	**10.18**	**48**	P	**Pn**	**21 25 45.5**	**+0.2**	
EPF				S	Sn	21 27 33.2	-6.2	
	comp=N,0.8nm,0.3s							
EPF	**Esparros**	**10.18**	**48**	P	**Pn**	**21 25 45.5**	**+0.2**	
EPF				S	Sn	21 27 33.2	-6.2	
	comp=N,0.8nm,0.3s							

*SKHL **24** 21:41:44.3±1.1, 44°.94N×150°.01E, h45km, mb4.7/2*
*JMA **24** 21:41:46.7±0.6, 44°.69N×149°.44E, h169km, M3.7*
ISC 24 21:41:43.0±4.0, 45°.0N±0°.2×149°.7E±0°.2, h138km±19km, n20, σ2§28/33, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.31**	**282**	*e*P	**Pn**	**21 42 08.4**	**-1.2**
KUR				AMB	AMB	21 42 10.2	
	145nm,0.2s						
KUR				*e*S	**Sn**	**21 42 27.4**	**-2.4**
KUR				A	A	21 42 28.9	
	294nm,0.1s						
SHO	**Shikotan**	**2.32**	**243**	*e*P	**Pn**	**21 42 22.7**	**+1.5**
SHO				*e*S	**Sn**	**21 42 51.0**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**2.89**	**253**	*e*P	**Pn**	**21 42 31.1**	**+2.7**
YUK				AMB	AMB	21 42 38.3	
	111nm,0.5s						
YUK				*e*S	**Sn**	**21 43 05.8**	**+2.5**
YUK				A	A	21 43 06.8	
	140nm,0.5s						
YUK				A	A	21 43 06.8	
	253nm,0.5s						
NEM2	**Nemuro 2**	**3.25**	**242**	P	**Pn**	**21 42 34.7**	**+1.6**
NEM2				*e*S	**Sn**	**21 43 11.6**	**-0.2**
JRA	**Rausu**	**3.42**	**254**	P	**Pn**	**21 42 37.3**	**+2.0**
JRA				*e*S	**Sn**	**21 43 17.6**	**+1.9**
JNK	**Nakash**	**3.82**	**251**	P	**Pn**	**21 42 42.6**	**+2.1**
JAK	**Akkeshi**	**4.10**	**243**	P	**Pn**	**21 42 45.9**	**+1.7**
JAK				*e*S	**Sn**	**21 43 31.2**	**-0.5**
JTKR	**Abashiri--Toko**	**4.25**	**258**	P	**Pn**	**21 42 47.4**	**+1.3**
JAR	**Ashorobuto**	**4.57**	**251**	P	**Pn**	**21 42 53.0**	**+2.6**
JMP	**Maruseppu**	**4.62**	**260**	P	**Pn**	**21 42 52.7**	**+1.6**
JOB	**Onbets**	**4.70**	**246**	P	**Pn**	**21 42 54.1**	**+2.0**
JOB				*e*S	**Sn**	**21 43 45.8**	**-0.1**
JCH	**Churui**	**5.14**	**245**	P	**Pn**	**21 42 59.6**	**+1.6**
JCH				*e*S	**Sn**	**21 43 54.5**	**-2.0**
JNBK	**Urakawa-nobuka**	**5.70**	**244**	P	**Pn**	**21 43 06.4**	**+0.9**
JNBK				*e*S	**Sn**	**21 44 06.4**	**-3.5**
JBT2	**Biratori 2**	**5.72**	**250**	P	**Pn**	**21 43 07.7**	**+1.9**
JBT2				*e*S	**Sn**	**21 44 10.4**	**0.0**
JNB	**Noboribetsu**	**6.74**	**251**	P	**Pn**	**21 43 20.3**	**+0.9**
JNB				*e*S	**Sn**	**21 44 32.8**	**-2.1**
JKB	**Kayabe**	**7.01**	**247**	P	**Pn**	**21 43 23.4**	**+0.4**
JKB				*e*S	**Sn**	**21 44 37.6**	**-3.7**
JYM2	**Yakumo 2**	**7.34**	**250**	P	**Pn**	**21 43 28.3**	**+0.8**
JSH	**Shimam**	**7.35**	**255**	P	**Pn**	**21 43 30.2**	**+2.6**
JANG	**Nango**	**7.56**	**236**	P	**Pn**	**21 43 31.3**	**+0.8**
JANG				*e*S	**Sn**	**21 44 50.4**	**-4.4**
JTM	**Tenmabayashi**	**7.58**	**240**	*e*S	**Sn**	**21 44 50.1**	**-5.0**

*IDC **24** 21:42:08.9±2.4, 2°.33N×96°.32E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.4/34, mbtmp3.6/5, ML2.8/1, MS3.1/1, Ms1 3.3/1, ms1mx2.5/33, Error ellipse: s-maj=66.6km s-min=25.0km az=47.0*
*ISCJB **24** 21:42:10.8±1.8, 2°.2N±0°.1×96°.3E±0°.1, h32km±7km, mb3.7/4, Error ellipse: s-maj=26.8km s-min=12.8km az=145.0*
*DJ

comp=Z,10μm,0.2s
ISRO Mashad 2.04 91 *e*Sg **Sb 21 55 38.6 +1.2**
ISRO *e*Pn **Pn 21 55 09.7 +0.4**
ISRO Mashad 2.04 91 *e*Pn **Pn 21 55 09.7 +0.4**
ISRO *e*Sg **Sb 21 55 38.7 +1.2**
IGLO Ghaloghah 2.52 274 *e*Pn **Pn 21 55 17.3 +1.3**
IGLO *e* 21 56 13.0
comp=Z,6μm,0.4s
IMYA Miami 2.55 90 *e*Pn **Pn 21 55 16.4 0.0**
IMYA *e* 21 55 22.2
comp=Z,3μm,0.1s
IMYA *e*Sg **Sb 21 55 55.0 +2.8**
IMYA Miami 2.55 90 *e*Pn **Pn 21 55 16.4 0.0**
IMYA *e*Sg **Sb 21 55 55.0 +2.8**
TABS Tabas 2.71 177 *e*Pn **Pn 21 55 19.3 +0.7**
TABS *e*Sg **Sb 21 55 57.9 +1.1**
TABS AML AML 21 56 10.5
comp=N,244nm,0.6s
TABS Tabas 2.71 177 *e*Pn **Pn 21 55 19.3 +0.7**
IFIR Firoozkooh 3.48 259 *e*Pn **Pn 21 55 29.9 +0.7**
IFIR Firoozkooh 3.48 259 *e*Pn **Pn 21 55 29.9 +0.7**
IPRN Peran 3.72 269 *e*Pn **Pn 21 55 33.2 +0.7**
IPRN *e* 21 56 49.2
comp=Z,2μm,0.3s
ITEG Tejag 3.77 156 *e*Pn **Pn 21 55 33.7 +0.6**
ITEG *e* 21 55 36.3
comp=Z,2μm,0.1s
ITEG Tejag 3.77 156 *e*Pn **Pn 21 55 33.7 +0.6**
SHRT Shahrakht 3.86 134 *e*Pn **Pn 21 55 34.9 +0.6**
SHRT Sn **Sn 21 56 19.7 -0.1**
SHRT AML AML 21 56 49.0
comp=E,64nm,0.6s
SHRT Shahrakht 3.86 134 *e*Pn **Pn 21 55 34.9 +0.6**
comp=E,64nm,0.6s
IDMV Damavand 4.06 260 *e*Pn **Pn 21 55 37.5 +0.2**
IDMV *e* 21 57 01.4
comp=Z,1μm,0.5s
IDMV Damavand 4.06 260 *e*Pn **Pn 21 55 37.5 +0.2**
DAMV Damavand 4.10 261 *e*Pn **Pn 21 55 38.4 +0.6**
DAMV Damavand 4.10 261 *e*Pn **Pn 21 55 38.4 +0.6**
IKOO Kooshah 4.28 156 *e*Pn **Pn 21 55 40.7 +0.4**
IKOO *e* 21 57 13.5
comp=Z,748nm,0.5s
IKOO Kooshah 4.28 156 *e*Pn **Pn 21 55 40.7 +0.4**
IDAH Dahanechah 4.35 145 *e*Pn **Pn 21 55 41.5 +0.3**
IDAH *e* 21 55 43.6
comp=Z,425nm,0.1s
IDAH Dahanechah 4.35 145 *e*Pn **Pn 21 55 41.5 +0.3**
IVRN Varamin 4.46 254 *e*Pn **Pn 21 55 42.7 +0.1**
IVRN *e* 21 56 02.9
comp=Z,508nm,0.3s
IVRN Varamin 4.46 254 *e*Pn **Pn 21 55 42.7 +0.1**
ICHK Chekchek 4.62 208 *e*Pn **Pn 21 55 44.5 -0.4**
ICHK *e* 21 57 14.9
comp=Z,1μm,0.2s
ICHK Chekchek 4.62 208 *e*Pn **Pn 21 55 44.5 -0.4**
IBAF Bafgh 4.90 194 *e*Pn **Pn 21 55 49.8 +1.1**
IBAF *e* 21 57 26.8
comp=Z,852nm,0.2s
IBAF Bafgh 4.90 194 *e*Pn **Pn 21 55 49.8 +1.1**
NASN Na'in 4.93 225 *e*Pn **Pn 21 55 49.2 -0.1**
NASN Na'in 4.93 225 *e*Pn **Pn 21 55 49.2 -0.1**
ISAD Sadrabad 5.20 212 *e*Pn **Pn 21 55 52.8 -0.1**
ISAD *e* 21 57 36.9
comp=Z,1μm,0.2s
ISAD Sadrabad 5.20 212 *e*Pn **Pn 21 55 52.8 -0.1**
ASAO Ashtian 5.93 254 *e*Pn **Pn 21 56 03.7 +0.7**
ASAO Ashtian 5.93 254 *e*Pn **Pn 21 56 03.7 +0.7**
GNI Garni 10.31 295 Pn **Pn 21 57 05.3 +2.4**
comp=Z,0.4nm,0.3s,baz=187,slow=8.1,SNR=2.4
AB31 Akbulak array 13.07 9 ⇑Pn Pn 21 57 35.6 -4.9
comp=Z,0.7nm,0.6s,baz=191,slow=12,SNR=11
AB31 ⇑Sn **Sn 22 00 01.4 -4.4**
comp=Z,2.8nm,0.9s,baz=196,slow=22
AB31 Akbulak array 13.07 9 Sn **Sn 22 00 01.4 -4.4**
comp=Z,2.8nm,0.9s,baz=196
AKTO Aktyubinsk 14.09 3 ⇓Pn Pn 21 57 49.5 -4.9
comp=Z,5.4nm,0.9s
AKTO ⇑Sn **Sn 22 00 26.3 -4.3**
comp=Z,3.8nm,1.4s
AKTO Aktyubinsk 14.09 3 Pn Pn 21 57 52.0 -2.4
comp=Z,0.3nm,0.3s,baz=199,slow=12,SNR=10.0
AAK Ala-Archa 14.91 60 Pn **Pn 21 58 03.9 -2.0**
comp=Z,0.3nm,0.3s,baz=249,slow=6.3,SNR=6.8
KURBB Kurchatov Arra 21.07 41 P **P 21 59 20.5 +1.5**
comp=Z,0.5nm,0.5s,baz=234,slow=10,SNR=7.0
MKAR Makanchi Array 21.55 53 P **P 21 59 24.9 +0.7**
comp=Z,2.4nm,0.8s,baz=239,slow=9.4,SNR=14
ZALV Zalesovo Beam 26.11 39 P **P 22 00 12.4 +3.7**
comp=Z,0.3nm,0.5s,baz=236,slow=12,SNR=3.3
CMAR Chiang Mai Arr 40.96 104 P **P 22 02 16.9 -1.0**
comp=Z,0.4nm,0.7s,baz=298,slow=8.6,SNR=4.4
TORD Torodi Ar. Bea 54.44 260 P **P 22 04 01.6 -1.0**
comp=Z,1.8nm,1.1s,baz=68,slow=7.6,SNR=7.1
YKA Yellowknife Ar 81.25 356 P **P 22 06 50.5 -0.2**
comp=Z,0.4nm,0.8s,baz=4.9,slow=6.3,SNR=6.3

*IDC **24** 22:21:27.4±2.9, 2°.15N×96°.13E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.4/26, mbtmp3.5/6, Error ellipse: s-maj=107.6km s-min=26.2km az=57.0*
*ISCJB **24** 22:21:30.5±1.2, 2°.19N±0°.06×96°.24E±0°.08, h32km±6km, mb3.5/5, Error ellipse: s-maj=14.5km s-min=8.3km az=144.0*
*DJA **24** 22:21:32.4±0.7, 2°.N±5°×9°6E±°, h10km, M3.1/6, MLv3.1/6*
ISC 24 22:21:31.9±1.3, 2°.25N±0°.07×96°.29E±0°.10, h28km±7km, n14, σ0s54/16, mb3.5/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.17**	**12**	P	**Pb**	**22 21 37.3**	**-0.3**
SNSI				S	**Sb**	**22 21 41.8**	**+0.4**
TPTI		**1.34**	**41**	P	**Pn**	**22 21 53.5**	**-1.3**
TPTI				S	**Sn**	**22 22 12.1**	**+0.4**
GSI	**Gunungsitoli**	**1.59**	**126**	P	**Pn**	**22 21 58.3**	**+0.1**
GSI				S	**Sn**	**22 22 17.3**	**-0.5**
KCSI	**Kotacane, Aceh**	**1.95**	**49**	P	**Pn**	**22 22 03.5**	**+0.4**
KCSI				S	**Sb**	**22 22 31.2**	**+0.6**
MNSI	**Mandailing Nat**	**3.59**	**114**	P	**Pn**	**22 22 25.4**	**-0.3**
MNSI				S	**Sn**	**22 23 06.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**16.32**	**9**	Pn	**P**	**22 25 21.8**	**-0.2**
	baz=199,slow=11,SNR=4.6						
H01W3	**Cape Leeuwin H**	**40.55**	**157**	T	T	23 12 24.0	
	baz=332,slow=76,SNR=18						
H01W2	**Cape Leeuwin H**	**40.56**	**157**	T	T	23 12 21.2	
	baz=332,slow=76,SNR=10						
H01W1	**Cape Leeuwin H**	**40.57**	**157**	T	T	23 12 26.9	
	baz=332,slow=76,SNR=17						
WRA	**Warramunga Arr**	**43.36**	**122**	P	**P**	**22 29 32.5**	**+0.4**
	0.4nm,0.9s,baz=302,slow=9.1,SNR=2.8						
MKAR	**Makanchi Array**	**46.02**	**347**	P	**P**	**22 29 53.4**	**+0.4**
	0.6nm,0.7s,baz=153,slow=8.2,SNR=8.4						
SONM	**Songino Array**	**46.25**	**9**	P	**P**	**22 29 54.7**	**-0.2**
	0.2nm,0.4s,baz=186,slow=8.7,SNR=2.9						
KURBB	**Kurchatov Arra**	**50.49**	**345**	P	**P**	**22 30 27.5**	**+0.1**
	0.2nm,0.4s,baz=168,slow=9.4,SNR=7.3						
ZALV	**Zalesovo Beam**	**52.39**	**351**	P	**P**	**22 30 41.7**	**+0.2**
	1.1nm,0.6s,baz=164,slow=5.8,SNR=5.5						

GUC 24 22:33:44.5±0.7, 34°.31S×72°.27W, h39km±7km, ML3.6, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.79**	**64**	⇓*i*P	Pn	22 34 00.2	+1.0
NICH	**Los Niches**	**1.10**	**129**	*e*P	Pn	22 34 05.1	+1.7
NICH				*i* S	Sn	22 34 19.9	+2.5
TALC	**Talca**	**1.21**	**155**	*e*P	Pn	22 34 06.6	+1.7
TALC				*i* S	Sn	22 34 23.2	+3.2
CHCH	**Chadas Angostu**	**1.39**	**75**	⇑*i*P	Pn	22 34 09.4	+1.9
CACH	**El Canelo**	**1.40**	**83**	⇓*i*P	Pn	22 34 10.4	+2.8
RCDM	**Rinconada Maip**	**1.47**	**56**	*e*P9	Pn	22 34 08.9	+0.5
RCDM				*i* S	Sn	22 34 29.2	+2.8
CLCH	**Cerro Calan**	**1.70**	**58**	⇑*i*P	Pn	22 34 14.0	+2.2
CLCH				*i* S	Sn	22 34 36.6	+4.2
CLCH				IAML4		22 34 45.0	
	comp=E,972nm,1.1s						
COCH	**Cobquecura**	**1.87**	**193**	*e*P9	Pn	22 34 15.2	+1.3
COCH				*i* S	Sn	22 34 39.8	+3.5
COCH				*i* S	Sn	22 34 39.8	+3.5

GUC 24 22:36:00.0±0.5, 34°.29S×72°.59W, h25km, ML3.8, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.36**	**145**	*e*P	Pn	22 36 23.9	+0.5
TALC				*i* S	Sb	22 36 41.5	-0.2
COCH	**Cobquecura**	**1.85**	**185**	*e*P1	Pn	22 36 31.6	+1.5
COCH				*e*S	Sb	22 36 54.7	-1.1
PEL	**Peldehue**	**1.95**	**55**	⇓*i*P	Pn	22 36 33.2	+1.6
PEL				*i* S	Sb	22 36 58.2	-0.8
PEL				IAML		22 37 05.8	
	comp=N,1μm,0.7s						

*ISCJB **24** 22:47:37.7±0.7, 34°.55S±0°.03×72°.70W±0°.07, h10km, mb4.0/6, MS3.1/1, Error ellipse: s-maj=8.5km s-min=4.7km az=5.1*
*IDC **24** 22:47:37.9±0.9, 34°.58S×72°.57W, h0km, mb4.0/6, mb1 4.1/9, mb1mx4.0/18, mbtmp4.0/9, ML4.0/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/22, Error ellipse: s-maj=35.8km s-min=16.6km az=94.0*
*GUC **24** 22:47:39.7±0.6, 34°.59S×72°.57W, h36km±6km*
*NEIC **24** 22:47:42.7±0.6, 34°.54S×72°.54W, h35km, mb4.3/4, Error ellipse: s-maj=15.0km s-min=8.1km az=93.0*
ISC 24 22:47:39.0±0.7, 34°.55S±0°.04×72°.63W±0°.07, h10km, n28, σ0s95/35, mb4.2/6, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.17**	**60**	⇑*i*P	**Pb**	**22 48 01.0**	**-0.4**
TALC	**Talca**	**1.17**	**136**	⇓*i*P	**Pb**	**22 48 01.0**	**-0.4**
TALC				*i* S	**Sb**	**22 48 15.8**	**-0.8**
LNCH	**Linares**	**1.54**	**147**	⇑*i*P	**Pn**	**22 48 06.9**	**+0.4**
LNCH				*i* S	**Sn**	**22 48 25.7**	**-0.9**
COCH	**Cobquecura**	**1.58**	**185**	⇑*i*P	**Pn**	**22 48 06.8**	**-0.3**
COCH				*i* S	**Sn**	**22 48 27.7**	**+0.2**
TACH	**Talagante**	**1.67**	**58**	⇑*i*P	**Pn**	**22 48 08.0**	**-0.3**
CACH	**El Canelo**	**1.73**	**76**	⇑*i*P	**Pn**	**22 48 09.9**	**+0.5**
CHCH	**Chadas Angostu**	**1.75**	**70**	*e*P	**Pn**	**22 48 09.4**	**0.0**
CLCH	**Cerro Calan**	**2.09**	**57**	⇑*i*P	**Pn**	**22 48 14.5**	**+0.3**
CLCH				*i* S	**Sn**	**22 48 41.4**	**+1.2**
CFAA	**Coronel Fontan**	**4.71**	**53**	Pn	**Pn**	**22 48 51.7**	**+1.5**
	1.7nm,0.3s,baz=230,slow=11,SNR=62						
CFAA				Lg	Lg	22 50 00.9	
	0.8nm,0.3s,baz=333,slow=16,SNR=5.7						
LCO	**Las Campanas**	**5.76**	**17**	*e*Pn	**Pn**	**22 49 04.1**	**-0.8**
	12nm,0.3s						
LCO				*e*Sn	**Sn**	**22 50 08.3**	**-3.0**
PLCA	**Paso Flores**	**6.38**	**166**	Pn	**Pn**	**22 49 14.4**	**+1.2**
	1.6nm,0.3s,baz=341,slow=11,SNR=17						
PLCA				Lg	Lg	22 50 58.5	
	1.3nm,0.3s,baz=72,slow=23,SNR=3.7						
PLCA	**Paso Flores**	**6.38**	**166**	*e*Pn	**Pn**	**22 49 14.2**	**+1.0**
	9.6nm,0.5s						
PLCA				*e*Sn	**Sn**	**22 50 25.1**	**-1.1**
PLCA				Lg	Lg	22 50 58.5	
TRQA	**Tornquist**	**9.28**	**115**	*e*Pn	**Pn**	**22 49 52.8**	**-0.1**
LVC	**Limon Verde**	**12.34**	**16**	Pn	Pn	22 50 31.1	-3.9
LPAZ	**La Paz**	**18.63**	**14**	P	**Pn**	**22 51 59.5**	**+1.7**
	0.2nm,0.3s,baz=190,slow=7.7,SNR=18						
LPAZ	**La Paz**	**18.63**	**14**	*e*P	**P**	**22 51 57.2**	**-0.3**
	3.2nm,0.7s						
SIV	**San Ignacio**	**21.20**	**32**	P	**P**	**22 52 24.8**	**0.0**
	5.1nm,0.9s,baz=217,slow=12,SNR=9.7						
SIV				LR	LR	23 01 55.4	
	comp=Z,78nm,19.8s,baz=202,slow=40						
SNAA	**Sanae**	**51.26**	**158**	P	**P**	**22 56 43.4**	**+0.8**
	2.8nm,1.0s,baz=297,slow=6.8,SNR=4.7						
SNAA	**Sanae**	**51.26**	**158**	*e*P	**P**	**22 56 42.2**	**-0.4**
	5.3nm,0.9s						
QSPA	**South Pole Qui**	**55.68**	**180**	P	**P**	**22 57 16.2**	**+1.0**
	2.2nm,0.9s,baz=146,slow=1.8,SNR=6.8						
QSPA	**South Pole Qui**	**55.68**	**180**	*e*P	**P**	**22 57 15.0**	**-0.2**
	2.4nm,0.9s						
TXAR	**Lajitas Array**	**69.98**	**331**	P	**P**	**22 58 52.2**	**+1.4**
	0.3nm,0.6s,baz=169,slow=9.9,SNR=3.3						
DBIC	**Dimbokro**	**75.82**	**72**	P	**P**	**22 59 25.5**	**-0.2**
	1.6nm,0.5s,baz=222,slow=6.7,SNR=5.0						
DBIC	**Dimbokro**	**75.82**	**72**	*e*P	**P**	**22 59 25.1**	**-0.5**
	1.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**84.86**	**70**	P	**P**	**23 00 14.0**	**-0.3**
	1.0nm,0.7s,baz=256,slow=5.5,SNR=11						
WRA	**Warramunga Arr**	**120.04**	**210**	PKP	**PKPdf**	**23 06 29.9**	**-0.7**
	0.5nm,0.5s,baz=158,slow=1.8,SNR=5.9						
ZALV	**Zalesovo Beam**	**154.95**	**32**	PKPbc	**PKPbc**	**23 07 39.2**	**-1.0**
	0.5nm,0.4s,baz=259,slow=3.9,SNR=3.8						
ZALV				PKPab	**PKPab**	**23 07 56.4**	**+0.7**
	0.8nm,0.5s,baz=296,slow=4.7,SNR=3.0						
MKAR	**Makanchi Array**	**157.50**	**50**	PKP	**PKPdf**	**23 07 35.4**	**+0.2**
	0.2nm,0.7s,baz=180,slow=0.6,SNR=3.1						
MKAR				PKPab	**PKPab**	**23 08 06.6**	**-0.4**
	0.3nm,0.6s,baz=289,slow=3.7,SNR=3.9						

*IDC **24** 22:50:57.8±3.0, 36°.13N×71°.67E, h95km±25km, mb3.7/15, mb1 3.9/19, mb1mx3.7/29, mbtmp4.1/19, MS3.3/2, Ms1 3.3/2, ms1mx2.6/33, Error ellipse: s-maj=22.7km s-min=14.6km az=177.0*
*MOS **24** 22:50:58.8±0.9, 36°.40N×71°.74E, h102km, mb4.5/26, Error ellipse: s-maj=8.4km s-min=5.2km az=122.5*
*ISCJB **24** 22:51:00.7±0.2, 36°.51N±0°.02×71°.66E±0°.03, h114km, mb4.2/47, Error ellipse: s-maj=3.4km s-min=2.8km az=143.5*
*NEIC **24** 22:51:01.8±0.5, 36°.46N×71°.73E, h115km±4km, mb4.5/17, Error ellipse: s-maj=6.5km s-min=5.6km az=141.0*
*BJI **24** 22:51:03.9, 36°.72N×71°.61E, h107km, mB4.0/1, mb3.8/3*
*NNC **24** 22:51:06.9±2.0, 37°.03N×71°.15E, h163km, mb3.5, mpv4.7, Error ellipse: s-maj=18.0km s-min=8.2km az=172.0*
ISC 24 22:51:01.7±0.4, 36°.48N±0°.04×71°.62E±0°.05, h114km, n248, σ1s49/255, mb4.4/47, 25C-26D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.66**	**175**	⇓P	**Pn**	**22 51 46.7**	**+3.2**
CEP				S	**Sn**	**22 52 20.0**	**+4.4**
KBL	**Kabul**	**2.86**	**228**	*e*PN	**Pn**	**22 51 47.0**	**+0.9**
KBL				*e*		22 52 20.3	
KBL	**Kabul**	**2.86**	**228**	*e*Pn	**Pn**	**22 51 47.0**	**+0.9**
KBL				*e*Sn	**Sn**	**22 52 20.3**	**0.0**
CHCP	**Chirah Chowk**	**3.12**	**154**	P	Pn	22 51 53.6	+4.1
DZET	**Dzherino**	**3.21**	**317**	⇑P	**Pn**	**22 51 49.1**	**-1.5**
DZET				⇑S	Sn	22 52 22.4	-6.1
THW	**Thamme Wali**	**3.68**	**178**	P	**Pn**	**22 51 59.1**	**+2.2**
KSH	**Kashi**	**4.58**	**47**	P	**Pn**	**22 52 06.8**	**-2.2**
KSH				S	Sn	22 52 50.9	-11
KSH				SMN			
	2μm,0.5s						
KSH				SME			
	1μm,1.0s						
DLH	**Dalhousie**	**5.32**	**136**	*e*P	**Pn**	**22 52 21.0**	**+1.9**
DLH				*ex*	x	22 53 38.0	
DHRM	**DHARAMSHALA**	**5.72**	**136**	*e*P	**Pn**	**22 52 27.0**	**+2.5**
DHRM				*ex*	**Sn**	**22 53 29.4**	**+0.3**
DHRM				AML	AML	22 53 33.0	
	comp=N,748nm,0.8s						
DHRM				AML	AML	22 53 33.0	
	comp=E,613nm,1.4s						
AML	**Almayashu**	**5.87**	**15**	P	**Pn**	**22 52 27.5**	**+1.0**
	SNR=238						
UCH	**Uchtor**	**6.16**	**20**	P	**Pn**	**22 52 31.9**	**+1.3**
	SNR=73						
KZA	**Kyzart**	**6.26**	**26**	P	**Pn**	**22 52 33.9**	**+2.0**
	SNR=20						
EKS2	**Erkin-Say**	**6.39**	**14**	P	**Pn**	**22 52 34.4**	**+1.0**
	SNR=38						
EKS2	**Erkin-Say**	**6.39**	**14**	*e*PN	**Pn**	**22 52 33.3**	**-0.1**
EKS2				pmax	pmax		
	comp=Z,27nm,0.5s						
EKS2	**Erkin-Say**	**6.39**	**14**	*e*Pn	**Pn**	**22 52 33.3**	**-0.1**
	comp=Z,27nm,0.5s						
EKS2				*e*Sn	**Sn**	**22 53 42.2**	**-2.9**
BHK	**Bhakra**	**6.43**	**140**	*ex*	**Sn**	**22 53 48.0**	**+4.2**
AAK	**Ala-Archa**	**6.53**	**19**	⇑P	**Pn**	**22 52 36.4**	**+1.0**
	comp=Z,43nm,0.6s						
AAK				⇑S	**Sn**	**22 53 45.9**	**-2.6**
	comp=Z,36nm,0.7s						
AAK	**Ala-Archa**	**6.53**	**19**	P	**Pn**	**22 52 36.9**	**+1.5**
	SNR=62						
AAK	**Ala-Archa**	**6.53**	**19**	*e*PN	**Pn**	**22 52 36.7**	**+1.3**
AAK				pmax	pmax		
	comp=Z,52nm,0.6s						
AAK	**Ala-Archa**	**6.53**	**19**	P	**Pn**	**22 52 36.9**	**+1.5**
	comp=Z,8.0nm,0.3s,baz=180,slow=6.5,SNR=272						
AAK				S	**Sn**	**22 53 47.6**	**-0.9**
	comp=Z,2.8nm,0.3s,baz=302,slow=21,SNR=9.4						
AAK	**Ala-Archa**	**6.53**	**19**	*e*Pn	**Pn**	**22 52 36.7**	**+1.3**
	comp=Z,52nm,0.6s						
AAK				*e*Sn	**Sn**	**22 53 43.9**	**-4.6**
SDNR	**Sundarnagar**	**6.66**	**137**	*e*P9	**Pn**	**22 52 40.0**	**+2.9**
SDNR				*e*S	**Sn**	**22 53 49.0**	**-2.6**
KK31	**Karatay Array**	**6.67**	**353**	⇓P	**Pn**	**22 52 36.6**	**-0.4**
	comp=Z,41nm,0.4s,baz=181,slow=12,SNR=1161						
KK31				⇓S	**Sn**	**22 53 45.9**	**-5.7**
	comp=Z,28nm,0.5s,baz=179,slow=19,SNR=7.5						
KKAR	**Karatay Array**	**6.67**	**353**	*e*PN	**Pn**	**22 52 36.5**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,78nm,0.4s						
KKAR	**Karatay Array**	**6.67**	**353**	*e*Pn	**Pn**	**22 52 36.5**	**-0.6**
	comp=Z,78nm,0.4s						
KKAR				*e*Sn	Sn	22 53 43.0	-8.6
KBK	**Karagaybulak**	**6.68**	**22**	P	**Pn**	**22 52 39.1**	**+1.8**
	SNR=20						
ULHL	**Ulahol**	**6.78**	**30**	P	**Pn**	**22 52 41.0**	**+2.3**
	SNR=6.3						
CHMS	**Chumysh**	**6.94**	**19**	P	**Pn**	**22 52 42.2**	**+1.4**
	SNR=19						
SMLA	**Simla**	**7.05**	**138**	*i* P	**Pn**	**22 52 44.1**	**+1.7**
SMLA				*i* x	**Sn**	**22 53 59.5**	**-1.5**
SMLA				AML	AML	22 54 02.9	
	comp=E,321nm,0.6s						
SMLA				AML	AML	22 54 04.8	
	comp=N,337nm,0.3s						
TKM2	**Tokmak 2**	**7.12**	**24**	⇑P	**Pn**	**22 52 44.6**	**+1.2**
	comp=N,36nm,0.8s						
TKM2				⇓S	**Sn**	**22 54 02.2**	**-0.7**
	comp=N,14nm,0.8s						
TKM2	**Tokmak 2**	**7.12**	**24**	P	**Pn**	**22 52 45.0**	**+1.6**
	SNR=13						
TKM2	**Tokmak 2**	**7.12**	**24**	*e*PN	**Pn**	**22 52 44.2**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,37nm,0.8s						
TKM2	**Tokmak 2**	**7.12**	**24**	*e*Pn	**Pn**	**22 52 44.2**	**+0.8**
	comp=Z,37nm,0.8s						
TKM2				*e*Sn	Sn	22 53 52.7	-10
USP	**Ospenovka**	**7.13**	**17**	P	**Pn**	**22 52 44.3**	**+1.0**
	SNR=27						
KNDC	**Almaty**	**7.88**	**30**	⇓P	**Pn**	**22 52 55.2**	**+1.7**
KNDC				⇑S	**Sn**	**22 54 21.3**	**+0.2**
NDI	**New Delhi**	**9.09**	**147**	*ex*	Pn	22 53 06.0	-4.0
NDI				*ex*	**Sn**	**22 54 47.0**	**-3.6**
KHET	**Khetri**	**9.10**	**156**	*e*P	**Pn**	**22 53 09.4**	**-0.7**
KHET				*e*S	Sn	22 54 40.2	-11
PDGK	**Podgornoye**	**9.12**	**39**	⇓P	**Pn**	**22 53 10.8**	**+0.6**
PDGK				⇓S	**Sn**	**22 54 50.7**	**-0.3**
KALG	**Kalgarh**	**9.18**	**137**	*e*P9	x	22 53 23.4	
KALG				*e*S	**Sn**	**22 54 56.3**	**+3.8**
AYAN	**Aya Nagar**	**9.23**	**148**	*e*P	**Pn**	**22 53 11.1**	**-0.7**
AYAN				*e*S	Sn	22 54 44.0	-10
KUDL	**Kundal**	**9.28**	**152**	*e*P	**Pn**	**22 53 11.3**	**-1.1**
KUDL				*e*S	Sn	22 54 45.8	-9.2
SONA	**Sohna**	**9.41**	**149**	*e*P	**Pn**	**22 53 14.0**	**-0.3**
SONA				*ex*	Sn	22 54 50.4	-8.0
LGTI	**Lohaghat**	**10.08**	**132**	*e*P	**Pn**	**22 53 23.2**	**-0.1**
LGTI				*ex*	**Sn**	**22 55 12.4**	**-2.0**
AJM	**Ajmer**	**10.30**	**165**	*i* x	x	22 53 57.0	
AJM				*i* x	**Sn**	**22 55 15.0**	**-4.9**
AGRA	**Agra**	**10.67**	**148**	*e*S	Sn	22 55 17.7	-11
AGRA				AML	AML	22 55 30.5	
	comp=E,181nm,0.3s						
AGRA				AML	AML	22 55 34.3	
	comp=N,187nm,0.1s						
GEYT	**Alibeck**	**10.87**	**282**	P	Pn	22 53 30.1	-3.9
	comp=N,2.4nm,0.3s,baz=105,slow=11,SNR=16						
GEYT				S	Sn	22 55 22.9	-11
	comp=N,2.9nm,0.3s,baz=111,slow=23,SNR=9.5						
OTUK	**Ortayu**	**11.77**	**2**	⇑P	**Pn**	**22 53 43.6**	**-2.2**
OTUK				⇑S	Sn	22 55 48.1	-7.1
MK31	**Makanchi Array**	**13.02**	**34**	P	**Pn**	**22 54 01.9**	**-0.3**
	comp=N,1.3nm,0.7s,baz=220,slow=14,SNR=12						
MK31	**Makanchi Array**	**13.02**	**34**	*e*P	**Pn**	**22 54 00.6**	**-1.6**
MK31	**Makanchi Array**	**13.02**	**34**	*e*Pn	**Pn**	**22 54 00.6**	**-1.6**
MKAR	**Makanchi Array**	**13.02**	**34**	P	**Pn**	**22 54 01.5**	**-0.8**
	comp=N,0.1nm,0.3s,baz=228,slow=15,SNR=17						
DANN	**Dangsing**	**13.06**	**125**	*e*P	**Pn**	**22 54 02.4**	**-0.8**
KOLN	**Koldanda**	**13.35**	**127**	*e*P	**Pn**	**22 54 06.0**	**-0.9**
	comp=N,24nm,0.5s						
GKN	**Gorkha**	**13.87**	**124**	*e*P	**Pn**	**22 54 13.2**	**-0.4**
	comp=N,71nm,0.7s						
BHPL	**Bhopal**	**14.12**	**158**	*ex*	Pn	22 54 21.8	+5.2
BHPL				*ex*	Sn	22 56 44.1	-8.3
DMN	**Daman**	**14.44**	**124**	*e*P	**Pn**	**22 54 20.7**	**-0.3**
	comp=N,42nm,0.7s						
KKN	**Kakani**	**14.44**	**123**	*e*P	**Pn**	**22 54 20.2**	**-0.7**
	comp=N,20nm,0.4s						
PKIN	**Phulchoki**	**14.66**	**123**	*e*P	**Pn**	**22 54 23.8**	**+0.1**
	comp=N,28nm,0.4s						
PKI	**Pulchoki**	**14.67**	**123**	*e*P	**Pn**	**22 54 24.1**	**+0.1**
	comp=N,31nm,0.5s						
GUN	**Gumba**	**14.78**	**121**	*e*P	**Pn**	**22 54 25.4**	**+0.1**
	comp=N,32nm,0.4s						
KURBB	**Kurchatov Arra**	**14.99**	**17**	⇑P	**Pn**	**22 54 24.4**	**-3.0**
	comp=N,3.5nm,0.6s						
KURBB	**Kurchatov Arra**	**14.99**	**17**	P	**Pn**	**22 54 24.5**	**-2.9**
	comp=N,0.1nm,0.3s,baz=209,slow=11,SNR=8.3						
KURK	**Kurchatov**	**15.09**	**17**	⇓P	**Pn**	**22 54 24.8**	**-4.0**
	comp=N,1.9nm,1.0s						
KURK	**Kurchatov**	**15.09**	**17**	P	**Pn**	**22 54 24.5**	**-4.2**
JIRN	**Jiri**	**15.15**	**121**	*e*P	**Pn**	**22 54 29.3**	**-0.7**
	comp=N,47nm,0.5s						
AB31	**Akbulak array**	**15.35**	**330**	P

SONM Songino Array 27.93 55 P **P 22 56 42.0 +0.8**
SONM Songino Array 27.93 55 P **P 22 56 42.0 +0.8**
comp=Z,0.1nm,0.4s,baz=260,slow=9.5,SNR=2.3
BRTR Keskin Array B 29.92 288 P **P 22 56 59.3 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 29.92 288 P **P 22 56 59.3 +0.4**
comp=Z,0.7nm,0.6s,baz=82,slow=9.1,SNR=5.8
AKASG Malin Array Be 33.35 309 P **P 22 57 28.8 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 33.35 309 P **P 22 57 28.8 +0.1**
comp=Z,1.7nm,0.5s,baz=82,slow=7.1,SNR=8.6
CFR Carcaliu 33.69 299 ⇓*P* **P 22 57 32.7 +1.1**
CFR Carcaliu 33.69 299 ⇓*P* **P 22 57 32.7 +1.1**
VRI Vrincioaia 34.67 300 ⇑P **P 22 57 41.7 +1.5**
VRI Vrincioaia 34.67 300 ⇑*P* **P 22 57 41.7 +1.5**
TESR Tescani 34.73 301 ⇓*P* **P 22 57 41.5 +0.9**
PLOR Plostina 34.73 300 ⇓P **P 22 57 42.7 +2.0**
PLOR Plostina 34.73 300 ⇓*P* **P 22 57 42.7 +2.0**
ISR Istrita 34.82 299 ⇑P P 22 57 53.6 +12
ISR Istrita 34.82 299 ⇑*P* P 22 57 53.6 +12
PRAR RASCA 35.03 300 ⇑*P* **P 22 57 44.6 +1.4**
MLR Muntele Rosu 35.23 299 ⇑P **P 22 57 46.8 +1.7**
MLR Muntele Rosu 35.23 299 ⇑*P* **P 22 57 46.8 +1.7**
DOPR Dopca 35.60 300 ⇓*P* **P 22 57 49.7 +1.5**
BURAR Bucovina Array 35.72 303 ⇑P **P 22 57 50.7 +1.5**
BURAR Bucovina Array 35.72 303 ⇑*P* **P 22 57 50.7 +1.5**
VOIR 35.86 299 ⇑P **P 22 57 51.9 +1.5**
VOIR 35.86 299 ⇑*P* **P 22 57 51.9 +1.5**
KDZ Kurdzhali 35.91 293 ⇑P P 22 57 45.7 -5.1
KDZ Kurdzhali 35.91 293 ⇑*P* P 22 57 45.7 -5.1
JOF Joensuu 36.14 330 *eP* **P 22 57 53.0 +0.6**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 36.14 330 *ep* **P 22 57 53.0 +0.6**
comp=Z,5.1nm,0.5s
ARR Arges 36.15 299 ⇓*P* **P 22 57 54.2 +1.3**
LVV L'vov 36.57 307 *eP* **P 22 57 57.3 +0.9**
LOT Lotru 36.76 299 ⇓*P* **P 22 57 57.8 -0.3**
KWP Kalwaria Pacla 37.42 306 *eP* **P 22 58 04.3 +0.7**
KWP pmax pmax
comp=Z,6.0nm,0.5s
KWP Kalwaria Pacla 37.42 306 *eP* **P 22 58 04.3 +0.7**
comp=Z,5.6nm,0.5s
DRGR 37.43 302 ⇓P **P 22 58 05.6 +1.8**
DRGR 37.43 302 ⇓*P* **P 22 58 05.6 +1.8**
TRPA Tarpa 37.52 304 ⇓*P* **P 22 58 05.8 +1.4**
KOLS Kolonicke sedl 37.70 305 *eP* **P 22 58 07.3 +1.4**
KOLS pmax pmax
comp=Z,4.0nm,0.9s
KOLS Kolonicke sedl 37.70 305 *eP* **P 22 58 07.3 +1.4**
FINES FINESS Array B 37.78 326 P **P 22 58 06.9 +0.6**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 37.78 326 P **P 22 58 06.9 +0.6**
comp=Z,3.4nm,0.5s,baz=123,slow=9.5,SNR=30
BZS Buzias 38.26 300 ⇑P **P 22 58 12.0 +1.4**
BZS Buzias 38.26 300 ⇑*P* **P 22 58 12.0 +1.4**
STHS Stebnicka Huta 38.38 306 *eP* **P 22 58 12.6 +1.0**
STHS pmax pmax
comp=Z,2.0nm,0.6s
STHS Stebnicka Huta 38.38 306 *eP* **P 22 58 12.6 +1.0**
MORC Moravsky Berou 40.78 307 *eP* **P 22 58 32.0 +0.5**
MORC pmax pmax
comp=Z,3.0nm,0.9s
MORC Moravsky Berou 40.78 307 ⇓*P* **P 22 58 32.4 +0.9**
MORC Moravsky Berou 40.78 307 *eP* **P 22 58 32.0 +0.5**
comp=Z,3.4nm,0.9s
KRLC Kraliky 41.26 307 *eP* **P 22 58 36.7 +1.2**
KRLC Kraliky 41.26 307 *eP* **P 22 58 36.7 +1.2**
ARCES ARCESS Array B 41.35 337 P **P 22 58 36.9 +1.0**
ARCES pmax pmax
comp=Z,4.0nm,0.6s
ARCES ARCESS Array B 41.35 337 P **P 22 58 36.9 +1.0**
comp=Z,3.8nm,0.6s,baz=110,slow=8.5,SNR=24
ARE0 ARCESS Array S 41.35 337 *eP* **P 22 58 36.5 +0.6**
DPC Dobruska-Polom 41.54 307 *eP* **P 22 58 39.2 +1.4**
DPC Dobruska-Polom 41.54 307 *eP* **P 22 58 39.2 +1.4**
CONA Conrad Observa 42.01 304 ⇓*eP* **P 22 58 42.8 +1.2**
comp=Z,6.6nm,0.9s
PVCC Panska Ves 42.65 308 *eP* **P 22 58 46.2 -0.5**
PVCC Panska Ves 42.65 308 *eP* **P 22 58 46.2 -0.5**
PRU Pruhonice 42.70 307 *eP* **P 22 58 48.5 +1.4**
PRU Pruhonice 42.70 307 *eP* **P 22 58 48.5 +1.4**
SOKA Soboth 42.70 302 ⇓*P* **P 22 58 48.5 +1.2**
comp=Z,4.3nm,0.7s
BRG Berggiesshubel 43.03 308 *i P* **P 22 58 51.0 +1.3**
comp=Z,5.5nm,0.7s
BRG Berggiesshubel 43.03 308 *i P* **P 22 58 51.0 +1.3**
BRG pmax pmax
comp=Z,6.0nm,0.7s
MOA Molln 43.08 304 ⇓*P* **P 22 58 51.0 +0.8**
comp=Z,4.6nm,0.9s
GERES GERESS Array B 43.35 305 P **P 22 58 52.9 +0.4**
comp=Z,0.6nm,0.7s,baz=74,slow=5.7,SNR=6.0
KHC Kasperske Hory 43.40 306 *eP* **P 22 58 54.2 +1.4**
KHC Kasperske Hory 43.40 306 *eP* **P 22 58 54.2 +1.4**
CLL Collm 43.59 309 *eP* **P 22 58 55.0 +0.7**
CLL *ep*P **pP 22 59 23.0 +2.6**
NB2 NORSAR Subarra 44.70 323 P **P 22 59 02.8 -0.1**
comp=Z,6.0nm,0.5s,baz=95,slow=7.9
NOA NORSAR Array B 44.70 323 P **P 22 59 02.9 -0.1**
NOA pmax pmax
comp=Z,3.0nm,0.4s
NOA NORSAR Array B 44.70 323 P **P 22 59 02.9 -0.1**
comp=Z,2.8nm,0.4s,baz=105,slow=7.1,SNR=48
NAO01 NORSAR Array S 44.84 323 *eP* **P 22 59 03.9 -0.2**
comp=Z,4.9nm,0.7s
DAVA Damuels 46.10 304 ⇓*P* **P 22 59 14.6 +0.2**
comp=Z,13nm,1.1s
CDF Champ du Feu 47.63 306 *eP* **P 22 59 26.9 +0.7**
CDF Champ du Feu 47.63 306 *eP* **P 22 59 26.9 +0.7**
CDF Champ du Feu 47.63 306 *eP* **P 22 59 26.9 +0.7**
HINF Hinteralfeld 48.02 305 *eP* **P 22 59 29.3 +0.1**
comp=Z,5.9nm,0.7s
HINF Hinteralfeld 48.02 305 *eP* **P 22 59 29.3 +0.1**
HINF pmax pmax
comp=Z,6.0nm,0.7s
HINF Hinteralfeld 48.02 305 *eP* **P 22 59 29.3 +0.1**
comp=Z,5.9nm,0.7s
HAU Haudompre 48.32 305 *eP* **P 22 59 31.7 +0.3**
comp=Z,6.2nm,0.6s
HAU Haudompre 48.32 305 *eP* **P 22 59 31.7 +0.3**
HAU pmax pmax
comp=Z,6.0nm,0.6s
HAU Haudompre 48.32 305 *eP* **P 22 59 31.7 +0.3**
comp=Z,6.2nm,0.6s
SBF Sospel 48.50 300 *eP* **P 22 59 33.3 +0.4**
SBF Sospel 48.50 300 *eP* **P 22 59 33.3 +0.4**
SBF Sospel 48.50 300 *eP* **P 22 59 33.3 +0.4**
JOW Kunigami 48.57 85 LR LR 23 20 55.9
comp=Z,172nm,18.7s,baz=286,slow=37
LPG La Plagne 48.58 302 *eP* **P 22 59 34.5 +0.7**
comp=Z,6.6nm,0.8s
LPG La Plagne 48.58 302 *eP* **P 22 59 34.5 +0.7**
LPG pmax pmax
comp=Z,7.0nm,0.8s
LPG La Plagne 48.58 302 *eP* **P 22 59 34.5 +0.7**
comp=Z,6.6nm,0.8s
LPL La Plagne 48.59 302 *eP* **P 22 59 34.4 +0.6**
comp=Z,10nm,1.0s
LPL La Plagne 48.59 302 *eP* **P 22 59 34.4 +0.6**
LPL pmax pmax
comp=Z,10.0nm,1.0s
LPL La Plagne 48.59 302 *eP* **P 22 59 34.4 +0.6**
comp=Z,10nm,1.0s
PAGF Fort de Pagny 48.62 306 *eP* **P 22 59 34.7 +1.0**
comp=Z,2.2nm,0.6s
PAGF Fort de Pagny 48.62 306 *eP* **P 22 59 34.7 +1.0**
comp=Z,2.2nm,0.6s
MBDF Montbardon 48.75 301 *eP* **P 22 59 35.6 +0.7**
comp=Z,4.2nm,0.7s
MBDF Montbardon 48.75 301 *eP* **P 22 59 35.6 +0.7**
MBDF pmax pmax
comp=Z,4.0nm,0.6s
MBDF Montbardon 48.75 301 *eP* **P 22 59 35.6 +0.7**
comp=Z,4.2nm,0.6s
CABF La Chapelle 48.78 303 *eP* **P 22 59 36.1 +1.0**
CABF La Chapelle 48.78 303 *eP* **P 22 59 36.1 +1.0**
CABF La Chapelle 48.78 303 *eP* **P 22 59 36.1 +1.0**
MEZF Maizieres J'vi 49.06 306 *eP* **P 22 59 37.9 +0.8**
comp=Z,5.2nm,0.7s
MEZF Maizieres J'vi 49.06 306 *eP* **P 22 59 37.9 +0.8**
comp=Z,5.2nm,0.7s
FRF La Foret Royal 49.13 299 *eP* **P 22 59 38.5 +0.8**
comp=Z,4.2nm,0.7s
FRF La Foret Royal 49.13 299 *eP* **P 22 59 38.5 +0.8**
FRF pmax pmax
comp=Z,4.0nm,0.7s
FRF La Foret Royal 49.13 299 *eP* **P 22 59 38.5 +0.8**
comp=Z,4.2nm,0.7s
SFTF Sexfontaines 49.13 306 *eP* **P 22 59 38.2 +0.6**
SFTF Sexfontaines 49.13 306 *eP* **P 22 59 38.2 +0.6**
BAIF Baives 49.30 308 *eP* **P 22 59 40.0 +1.2**
comp=Z,13nm,0.9s
BAIF Baives 49.30 308 *eP* **P 22 59 40.0 +1.2**
BAIF pmax pmax
comp=Z,13nm,0.9s
BAIF Baives 49.30 308 *eP* **P 22 59 40.0 +1.2**
comp=Z,13nm,0.9s
SMRF Simiane la Rot 49.77 300 *eP* **P 22 59 43.3 +0.7**
SMRF Simiane la Rot 49.77 300 *eP* **P 22 59 43.3 +0.7**
VIVF Saint-Julien-l 50.16 302 *eP* **P 22 59 46.0 +0.5**
VIVF Saint-Julien-l 50.16 302 *eP* **P 22 59 46.0 +0.5**
VIVF Saint-Julien-l 50.16 302 *eP* **P 22 59 46.0 +0.5**
SMF Signal de Mont 50.28 304 *eP* **P 22 59 46.5 +0.2**
comp=Z,14nm,0.8s
SMF Signal de Mont 50.28 304 *eP* **P 22 59 46.5 +0.2**
SMF pmax pmax
comp=Z,14nm,0.8s
SMF Signal de Mont 50.28 304 *eP* **P 22 59 46.5 +0.2**
comp=Z,14nm,0.8s
SSF Saint Saulge 50.40 305 *eP* **P 22 59 48.3 +1.1**
SSF Saint Saulge 50.40 305 *eP* **P 22 59 48.3 +1.1**
SSF Saint Saulge 50.40 305 *eP* **P 22 59 48.3 +1.1**
AVF Avril sur Loir 50.57 304 *eP* **P 22 59 48.7 +0.2**
comp=Z,8.8nm,0.7s
AVF Avril sur Loir 50.57 304 *eP* **P 22 59 48.7 +0.2**
AVF pmax pmax
comp=Z,9.0nm,0.7s
AVF Avril sur Loir 50.57 304 *eP* **P 22 59 48.7 +0.2**
comp=Z,8.8nm,0.7s
LASF Ste Croix 50.94 301 *eP* **P 22 59 52.2 +0.9**
LASF Ste Croix 50.94 301 *eP* **P 22 59 52.2 +0.9**
BGF Bois d'Agland 50.97 304 *eP* **P 22 59 52.0 +0.5**
comp=Z,8.6nm,0.8s
BGF Bois d'Agland 50.97 304 *eP* **P 22 59 52.0 +0.5**
BGF pmax pmax
comp=Z,9.0nm,0.8s
BGF Bois d'Agland 50.97 304 *eP* **P 22 59 52.0 +0.5**
comp=Z,8.6nm,0.8s
TCF Toulx Ste Croi 51.46 304 *eP* **P 22 59 55.8 +0.6**
comp=Z,4.1nm,0.6s
TCF Toulx Ste Croi 51.46 304 *eP* **P 22 59 55.8 +0.6**
TCF pmax pmax
comp=Z,4.0nm,0.6s
TCF Toulx Ste Croi 51.46 304 *eP* **P 22 59 55.8 +0.6**
comp=Z,4.1nm,0.6s
MTLF Montolieu 52.29 300 *eP* **P 23 00 01.8 +0.4**
MTLF Montolieu 52.29 300 *eP* **P 23 00 01.8 +0.4**
MTLF Montolieu 52.29 300 *eP* **P 23 00 01.8 +0.4**
LDF La Druitiere 52.39 307 *eP* **P 23 00 03.0 +1.0**
LDF La Druitiere 52.39 307 *eP* **P 23 00 03.0 +1.0**
LDF La Druitiere 52.39 307 *eP* **P 23 00 03.0 +1.0**
FLN La Foliniere 52.57 308 *eP* **P 23 00 03.8 +0.4**
comp=Z,7.9nm,0.7s
FLN La Foliniere 52.57 308 *eP* **P 23 00 03.8 +0.4**
FLN pmax pmax
comp=Z,8.0nm,0.7s
FLN La Foliniere 52.57 308 *eP* **P 23 00 03.8 +0.4**
comp=Z,7.9nm,0.7s
GRR Gorron 52.91 307 *eP* **P 23 00 07.5 +1.6**
GRR Gorron 52.91 307 *eP* **P 23 00 07.5 +1.6**
GRR Gorron 52.91 307 *eP* **P 23 00 07.5 +1.6**
ETSF Etsaut 54.36 301 *eP* **P 23 00 17.2 +0.6**
comp=Z,2.6nm,0.5s
ETSF Etsaut 54.36 301 *eP* **P 23 00 17.2 +0.6**
ETSF pmax pmax
comp=Z,3.0nm,0.5s
ETSF Etsaut 54.36 301 *eP* **P 23 00 17.2 +0.6**
comp=Z,2.6nm,0.5s
ROSF Rostrenen 54.48 308 *eP* **P 23 00 18.1 +0.9**
ROSF Rostrenen 54.48 308 *eP* **P 23 00 18.1 +0.9**
ROSF Rostrenen 54.48 308 *eP* **P 23 00 18.1 +0.9**
ESDC Sonseca Array 57.91 298 P **P 23 00 41.7 -0.2**
comp=Z,0.2nm,0.4s,baz=55,slow=7.4,SNR=4.4
SUMG Summit 61.24 341 *i P* **P 23 01 05.8 +1.2**
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 61.24 341 *i P* **P 23 01 05.8 +1.2**
comp=Z,4.0nm,0.9s
TOA0 Torodi Ar. Sit 66.22 269 *eP* **P 23 01 35.2 -2.4**
TORD Torodi Ar. Bea 66.22 269 P **P 23 01 35.3 -2.4**
comp=Z,0.9nm,0.5s,baz=51,slow=5.6,SNR=27
ILAR Eielson Array 74.66 16 P **P 23 02 27.3 -0.9**
comp=Z,0.5nm,0.8s,baz=307,slow=4.6,SNR=4.9
LBTB Lobatse 75.00 223 *eP* **P 23 02 31.0 +0.3**
LBTB pmax pmax
comp=Z,1.0nm,0.4s
LBTB Lobatse 75.00 223 *eP* **P 23 02 31.0 +0.3**
comp=Z,1.1nm,0.4s
YKA Yellowknife Ar 81.24 3 P **P 23 03 05.0 +0.4**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 81.24 3 P **P 23 03 05.0 +0.4**
comp=Z,0.9nm,0.6s,baz=349,slow=5.4,SNR=20
WRA Warramunga Arr 81.56 122 P **P 23 03 04.2 -2.6**
comp=Z,0.4nm,0.4s,baz=319,slow=5.7,SNR=7.5
WRAB Tennant Creek 81.56 122 *eP* **P 23 03 06.5 -0.4**
WRAB pmax pmax
comp=Z,4.0nm,1.2s
WRAB Tennant Creek 81.56 122 *eP* **P 23 03 06.5 -0.4**
comp=Z,4.2nm,1.2s
SCHQ Schefferville 82.31 337 P **P 23 03 10.8 +0.4**
comp=Z,3.5nm,0.9s,baz=11,slow=5.2,SNR=2.4
ASAR Alice Springs 83.83 125 P **P 23 03 16.1 -2.5**
comp=Z,0.3nm,0.8s,baz=299,slow=4.8,SNR=3.6
BBB Bella Bella 90.03 12 P **P 23 03 47.6 -0.6**
comp=Z,9.0nm,0.7s,baz=168,slow=6.1,SNR=3.7

*IDC **24** 22:55:41.0±1.3, 37°.56S×73°.94W, h0km, mb4.0/5, mb1 3.9/7, mb1mx3.8/16, mbtmp3.9/7, ML3.5/2, MS2.7/1, Ms1 2.7/1, ms1mx2.6/15, Error ellipse: s-maj=32.9km s-min=17.0km az=87.0*
*ISCJB **24** 22:55:43.9±0.9, 37°.47S±0°.04×73°.8W±0°.1, h33km, mb3.9/5, Error ellipse: s-maj=14.3km s-min=6.2km az=177.7*
*NEIC **24** 22:55:46.0±0.7, 37°.51S×73°.81W, h35km, mb4.0/2, Error ellipse: s-maj=17.0km s-min=8.5km az=86.0*
ISC 24 22:55:45.8±0.9, 37°.50S±0°.06×73°.9W±0°.1, h35km, n17, σ0§90/22, mb4.0/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.14**	**142**	Pn		**Pn**	**22 56 46.4**	**-0.3**
1.1nm,0.3s,baz=324,slow=12,SNR=45								
PLCA				Sn		**Sn**	**22 57 35.4**	**+1.5**
2.0nm,0.3s,baz=336,slow=19,SNR=3.4								
PLCA				Lg		Lg	22 57 52.9	
5.3nm,0.3s,baz=232,slow=23,SNR=4.6								
PLCA				LR		LR	22 58 02.0	
comp=Z,88nm,19.8s,baz=263,slow=34								
PLCA	**Paso Flores**	**4.14**	**142**	*e*Pn		**Pn**	**22 56 45.6**	**-1.1**
PLCA				*e*Sn		**Sn**	**22 57 34.0**	**+0.1**
PLCA				Lg		Lg	22 57 52.9	
CFAA	**Coronel Fontan**	**7.51**	**40**	Pn		**Pn**	**22 57 31.8**	**-1.1**
0.3nm,0.3s,baz=212,slow=11,SNR=13								
CFAA				Sn		**Sn**	**22 58 57.0**	**+0.2**
0.1nm,0.3s,baz=211,slow=14,SNR=2.5								
CFAA				Lg		Lg	22 59 44.0	
0.1nm,0.3s,baz=133,slow=19,SNR=4.3								
LCO	**Las Campanas**	**8.88**	**18**	*e*Pn		**Pn**	**22 57 51.5**	**-0.4**
LCO				*e*Sn		**Sn**	**22 59 31.1**	**+0.3**
TRQA	**Tornquist**	**9.45**	**97**	*e*Pn		**Pn**	**22 57 58.8**	**-0.7**
LVC	**Limon Verde**	**15.45**	**18**	*e*Pn		**Pn**	**22 59 20.8**	**-0.6**
LPAZ	**La Paz**	**21.74**	**15**	P		**P**	**23 00 36.6**	**+1.8**
2.9nm,0.7s,baz=149,slow=9.8,SNR=7.8								
LPAZ	**La Paz**	**21.74**	**15**	*e*P		**P**	**23 00 35.5**	**+0.6**
2.9nm,0.7s								
SIV	**San Ignacio**	**24.24**	**31**	P		**P**	**23 01 01.0**	**+1.4**
0.7nm,0.6s,baz=219,slow=18,SNR=3.6								
JTS	**JuntasAbangare**	**48.66**	**345**	*e*P		**P**	**23 04 25.7**	**-0.9**
SNAA	**Sanae**	**48.95**	**157**	*e*P		**P**	**23 04 28.0**	**-0.3**
QSPA	**South Pole Qui**	**52.74**	**180**	P		**P**	**23 04 57.1**	**+0.2**
3.4nm,0.9s,baz=188,slow=4.2,SNR=6.4								
QSPA	**South Pole Qui**	**52.74**	**180**	*e*P		**P**	**23 04 56.8**	**-0.2**
2.6nm,0.7s								
DBIC	**Dimbokro**	**77.72**	**72**	P		**P**	**23 07 38.5**	**-0.9**
4.2nm,0.9s,baz=204,slow=7.2,SNR=2.2								
TORD	**Torodi Ar. Bea**	**86.80**	**71**	P		**P**	**23 08 26.9**	**+0.1**
0.6nm,0.6s,baz=205,slow=5.2,SNR=7.3								
ZALV	**Zalesovo Beam**	**157.97**	**35**	PKPab		**PKPab**	**23 16 12.8**	**+1.3**
0.3nm,0.3s,baz=297,slow=6.5,SNR=3.9								
MKAR	**Makanchi Array**	**160.11**	**55**	PKP		**PKPdf**	**23 15 41.8**	**+0.8**
0.2nm,0.7s,baz=208,slow=2.3,SNR=4.0								
MKAR				PKPab		**PKPab**	**23 16 21.6**	**+0.4**
0.5nm,0.8s,baz=308,slow=4.5,SNR=4.9								

*IDC **24** 23:05:22.5±1.9, 34°.28S×72°.61W, h0km, mb4.1/4, mb1 4.0/7, mb1mx3.9/17, mbtmp4.0/7, ML3.7/3, MS3.4/2, Ms1 3.4/2, ms1mx3.0/15, Error ellipse: s-maj=63.0km s-min=24.1km az=98.0*
*NEIC **24** 23:05:27.2±0.7, 34°.25S×72°.51W, h35km, mb4.2/5, Error ellipse: s-maj=19.1km s-min=8.3km az=89.0*
*GUC **24** 23:05:28.1±1.0, 34°.33S×72°.03W, h15km±6km, ML4.0*
ISC 24 23:05:24.5±1.7, 34°.26S±0°.04×72°.42W±0°.08, h12km±10km, n23, σ1§00/32, mb4.2/6, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.31**	**150**	⇑*P*		**Pg**	**23 05 49.2**	**-0.4**
TALC				*i* S		**Sb**	**23 06 05.5**	**-0.2**
IHA	**Instituto Hidr**	**1.39**	**28**	⇑*P*		**Pb**	**23 05 50.3**	**-0.1**
IHA				*i* S		**Sg**	**23 06 10.0**	**+0.7**
RCDM	**Rinconada Maip**	**1.55**	**61**	⇑*P*		**Pn**	**23 05 52.5**	**+0.6**
RCDM				*e*S		**Sn**	**23 06 10.9**	**-1.0**
RCDM				IAML			23 06 20.2	
comp=N,3μm,0.4s								
CLCH	**Cerro Calan**	**1.79**	**62**	⇑*P*		**Pb**	**23 05 56.5**	**-0.7**
CLCH				⇑*P*		**Pn**	**23 05 57.0**	**+1.8**
CLCH				*i* S		**Sn**	**23 06 17.9**	**0.0**
CLCH				*i* S		**Sb**	**23 06 18.3**	**-1.4**
CLCH				IAML			23 06 27.7	
comp=E,4μm,1.2s								
CLCH				IAML			23 06 28.3	
comp=E,5μm,1.1s								
PEL	**Peldehue**	**1.83**	**53**	⇓*P*		**Pb**	**23 05 57.3**	**-0.5**
PEL				*i* S		**Sb**	**23 06 20.4**	**-0.3**
PEL				IAML			23 06 33.1	
comp=N,4μm,0.7s								
CFAA	**Coronel Fontan**	**4.40**	**54**	Pn		**Pn**	**23 06 33.7**	**+2.6**
comp=N,1.1nm,0.3s,baz=231,slow=13,SNR=34								
CFAA				Lg		Lg	23 07 35.8	
comp=N,1.0nm,0.3s,baz=57,slow=14,SNR=6.9								
LCO	**Las Campanas**	**5.43**	**16**	*e*Pn		**Pn**	**23 06 45.8**	**+0.3**
comp=N,20nm,0.3s								
LCO				*e*Sn		**Sn**	**23 07 46.7**	**-1.4**
PLCA	**Paso Flores**	**6.63**	**168**	Pn		**Pn**	**23 07 03.7**	**+2.0**
comp=N,0.5nm,0.3s,baz=338,slow=13,SNR=7.7								
PLCA				Lg		Lg	23 08 48.1	
comp=N,0.6nm,0.3s,baz=254,slow=16,SNR=4.2								
PLCA	**Paso Flores**	**6.63**	**168**	*e*Pn		**Pn**	**23 07 02.2**	**+0.4**
comp=N,10nm,0.9s								
PLCA				Lg		Lg	23 08 48.1	
TRQA	**Tornquist**	**9.26**	**117**	*e*Pn		**Pn**	**23 07 37.9**	**+0.2**
LVC	**Limon Verde**	**12.01**	**16**	*e*Pn		**Pn**	**23 08 14.2**	**-1.5**
LPAZ	**La Paz**	**18.31**	**13**	P		**P**	**23 09 40.4**	**+1.3**
comp=N,0.2nm,0.3s,baz=192,slow=9.4,SNR=13								
LPAZ	**La Paz**	**18.31**	**13**	*e*Pn		**Pn**	**23 09 39.0**	**+0.1**
comp=N,6.2nm,1.0s								
SIV	**San Ignacio**	**20.86**	**32**	P		**P**	**23 10 07.0**	**+0.7**
comp=N,6.7nm,0.8s,baz=224,slow=12,SNR=17								
SIV				LR		LR	23 19 55.6	
comp=N,93nm,19.1s,baz=204,slow=42								
SAML	**Samuel**	**26.58**	**21**	*e*P		**P**	**23 11 02.2**	**-0.4**
comp=N,2.5nm,0.7s								
OTAV	**Otavalo**	**34.78**	**349**	P		**P**	**23 12 14.4**	**-1.0**
PTGA	**Pitinga**	**35.33**	**22**	*e*P		**P**	**23 12 19.7**	**0.0**
comp=N,2.9nm,0.8s								
SNAA	**Sanae**	**51.47**	**158**	P		**P**	**23 14 29.1**	**-0.2**
comp=N,2.3nm,1.1s,baz=295,slow=10,SNR=2.5								
SNAA	**Sanae**	**51.47**	**158**	*e*P		**P**	**23 14 28.3**	**-0.9**
comp=N,11nm,1.3s								
QSPA	**South Pole Qui**	**55.98**	**180**	*e*P		**P**	**23 15 02.6**	**+0.1**
comp=N,2.8nm,0.8s								
DBIC	**Dimbokro**	**75.56**	**71**	P		**P**	**23 17 09.6**	**+0.3**
comp=N,1.8nm,0.8s,baz=225,slow=7.1,SNR=2.6								
DBIC				LR		LR	23 48 20.4	
comp=N,20nm,18.8s,baz=119,slow=34								
TORD	**Torodi Ar. Bea**	**84.60**	**70**	P		**P**	**23 17 58.6**	**+0.6**
comp=N,1.7nm,0.9s,baz=241,slow=3.5,SNR=8.0								
ZALV	**Zalesovo Beam**	**154.62**	**32**	PKPbc		**PKPbc**	**23 25 25.0**	**+0.4**
comp=N,1.5nm,0.7s,baz=336,slow=3.2,SNR=8.0								
ZALV				PKPab		**PKPab**	**23 25 39.8**	**+0.5**
comp=N,1.0nm,0.6s,baz=328,slow=5.1,SNR=3.9								

*IDC **24** 23:15:14.5±1.4, 2°.98N×127°.33E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/37, mbtmp3.9/5, Error ellipse: s-maj=80.8km s-min=19.5km az=66.0*
*ISCJB **24** 23:15:19.5±1.0, 3°.10N±0°.06×127°.39E±0°.10, h49km, mb3.8/5, Error ellipse: s-maj=15.3km s-min=6.6km az=152.8*
*DJA **24** 23:15:21.5±0.7, 3°.N±6°×12°.7E±°, h10km, M4.2/4, MLv4.2/4*
ISC 24 23:15:21.3±1.1, 3°.12N±0°.09×127°.4E±0°.1, h49km, n9, σ1§85/12, mb4.0/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.91**	**287**	P		**Pn**	**23 15 50.5**	**-1.0**
SGSI				S		**Sn**	**23 16 12.9**	**-1.5**
TNTI	**Ternate**	**2.33**	**180**	P		**Pn**	**23 15 57.9**	**+0.7**
TNTI				S		**Sn**	**23 16 22.7**	**-2.0**
LBMI	**Labuha**	**3.73**	**178**	P		**Pn**	**23 16 18.5**	**+2.0**
LBMI				S		**Sn**	**23 16 57.6**	**-1.7**
MRSI	**Marisa**	**6.01**	**244**	P		**Pn**	**23 16 50.5**	**+2.7**
WRA	**Warramunga Arr**	**23.92**	**164**	P		**P**	**23 20 28.6**	**-2.4**
2.0nm,0.6s,baz=342,slow=10,0,SNR=8.0								
ASAR	**Alice Springs**	**27.38**	**167**	P		**P**	**23 21 00.9**	**-1.4**
0.2nm,0.3s,baz=338,slow=6.6,SNR=3.8								
CMAR	**Chiang Mai Arr**	**31.72**	**301**	P		**P**	**23 21 41.4**	**+0.6**
1.0nm,0.3s,baz=123,slow=8.8,SNR=4.6								
SONM	**Songino Array**	**48.07**	**341**	P		**P**	**23 23 57.3**	**+1.2**
1.0nm,0.7s,baz=157,slow=8.4,SNR=11								
MKAR	**Makanchi Array**	**58.41**	**325**	P		**P**	**23 25 12.2**	**+0.2**
1.0nm,0.4s,baz=119,slow=8.0,SNR=44								

FUNV 24 23:17:49.4, 11°.84N×67°.17W, h14km, MW3.6, 3C, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ORCV	**Isla La Orchil**	**0.96**	**91**	⇑*eP*		Pb	23 18 06.1	-1.7
ORCV				*e*S		Sb	23 18 19.1	-1.3
FUNV	**FUNVISIS**	**1.40**	**165**	*e*P		Pn	23 18 13.9	-0.9
FUNV				*e*S		Sn	23 18 32.5	-0.7
TURV	**Turiamo**	**1.52**	**205**	*e*P		Pn	23 18 15.2	-1.1
TURV				*e*S		Sn	23 18 34.6	-1.3
BIRV	**Birongo**	**1.62**	**147**	⇑*eP*		Pn	23 18 17.0	-0.6
BIRV				*e*S		Sn	23 18 36.9	-1.4
JACV	**Jacura**	**1.79**	**246**	*e*P		Pn	23 18 19.9	-0.1
JACV				*e*S		Sn	23 18 41.3	-1.2
CUPV	**Cœpira**	**2.23**	**142**	*e*P		Pn	23 18 25.9	-0.2
CUPV				*e*S		Sn	23 18 51.7	-1.9
MAPV	**Macapo**	**2.36**	**212**	*e*P		Pn	23 18 28.1	+0.2
MAPV				*e*S		Sn	23 18 55.3	-1.4
MERV	**Las Mercedes**	**2.71**	**161**	*e*P		Pn	23 18 31.3	-1.3
MER

LZG	Guadaloupe-1	6.76	50	*e*P	Pn	23 19 23.7	-4.7
LUEV	Luepa	8.20	136	*e*P	Pn	23 19 46.0	-2.4

GUC 24 23:39:03.7±0.5, 34°21.S×71°.96W, h58km±63km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.99	143	*i* P	Pn	23 39 22.1	+0.5
NICH				*i* S	Sn	23 39 35.6	+0.8
NICH				IAML		23 39 39.0	
	comp=N,3μm,0.7s						
RCDM	Rinconada Maip	1.20	54	*i* P	Pn	23 39 24.3	0.0
TALC	Talca	1.22	167	*i* P	Pn	23 39 25.1	+0.6
TALC				*i* S	Sn	23 39 40.9	+0.9
CLCH	Cerro Calan	1.44	56	*i* P	Pn	23 39 28.3	+0.7
CLCH				*i* S	Sn	23 39 47.0	+1.4
SJCH	San Jose de Ma	1.45	67	*i* P	Pn	23 39 28.4	+0.5
SJCH				*e*S4	Sn	23 39 44.8	-1.2

*IDC **24** 23:58:15.9±1.4, 10°.79S×165°.89E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/19, mbtmp3.8/7, ML4.2/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/31, Error ellipse: s-maj=48.6km s-min=26.4km az=126.0*
*ISCJB **24** 23:58:21.8±0.8, 11°.13S±0°.07×166°.0E±0°.2, h61km, mb3.8/6, Error ellipse: s-maj=25.6km s-min=10.1km az=176.2*
ISC 24 23:58:23.4±1.0, 11°.05S±0°.09×166°.0E±0°.2, h61km, n21, σ0§89/8, mb3.6/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.18	285	LR	LR	00 02 16.0	
	comp=Z,747nm,21.5s,baz=108,slow=40						
DZM	Mont Dzumac	10.97	178	Pn	Pn	00 00 58.7	+1.0
	1.8nm,0.3s,baz=347,slow=18,SNR=16						
DZM				Sn	Sn	00 02 57.9	-1.0
	0.2nm,0.3s,baz=163,slow=19,SNR=2.7						
DZM				LR	LR	00 05 08.0	
	comp=Z,219nm,19.0s,baz=10,slow=37						
PMG	Port Moresby	18.62	273	LR	LR	00 09 30.8	
	comp=Z,311nm,19.5s,baz=128,slow=36						
RAO	Raoul Island	23.52	143	LR	LR	00 09 46.3	
	comp=Z,706nm,21.8s,baz=335,slow=29						
URZ	Urewera	28.86	162	LR	LR	00 14 14.3	
	comp=Z,106nm,21.9s,baz=341,slow=33						
H11S2	WAKE ISLAND Hy 29.36	1		T	T	00 34 46.3	
	baz=181,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy 29.37	1		T	T	00 34 46.3	
	baz=181,slow=76,SNR=6.9						
H11S1	WAKE ISLAND Hy 29.38	1		T	T	00 34 46.9	
	baz=181,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy 30.58	2		T	T	00 36 15.8	
	baz=182,slow=76,SNR=7.4						
H11N3	WAKE ISLAND Hy 30.59	2		T	T	00 36 16.0	
	baz=182,slow=76,SNR=6.3						
H11N2	WAKE ISLAND Hy 30.60	2		T	T	00 36 17.7	
	baz=182,slow=76,SNR=7.1						
WRA	Warramunga Arr	31.73	250	P	P	00 04 41.7	-0.1
	3.5nm,0.8s,baz=79,slow=9.0,SNR=14						
WRA				LR	LR	00 17 42.2	
	comp=Z,133nm,19.0s,baz=310,slow=37						
ASAR	Alice Springs	33.02	243	P	P	00 04 52.6	-0.5
	1.4nm,0.8s,baz=73,slow=8.9,SNR=8.3						
MJAR	Matsushiro Arr	54.09	332	LR	LR	00 28 42.4	
	comp=Z,10nm,21.7s,baz=220,slow=34						
ASAJ	Asahikawa	58.89	340	LR	LR	00 30 02.7	
	comp=Z,39nm,18.7s,baz=139,slow=32						
FX1	Attu Island--F	63.97	5	LR	LR	00 29 37.4	
	comp=Z,37nm,21.8s,baz=190,slow=30						
PETK	Petropavlovsk-	64.30	354	LR	LR	00 31 54.1	
	comp=Z,20nm,19.5s,baz=113,slow=32						
SONM	Songino Array	78.82	324	P	P	00 10 19.5	-0.5
	0.2nm,0.4s,baz=145,slow=5.3,SNR=3.0						
ILAR	Eielson Array	83.44	18	P	P	00 10 43.9	0.0
	0.3nm,0.5s,baz=229,slow=5.4,SNR=3.7						
MKAR	Makanchi Array	93.70	317	P	P	00 11 34.6	+1.0
	0.1nm,0.5s,baz=116,slow=2.8,SNR=3.7						
YKA	Yellowknife Ar	94.86	27	P	P	00 11 37.7	-0.6
	0.2nm,0.7s,baz=280,slow=4.8,SNR=4.3						

*IDC **25** 00:44:20.5±1.8, 37°.32N×74°.50E, h0km, mb3.6/3, mb1 3.5/7, mb1mx3.3/28, mbtmp3.4/7, ML2.7/3, Error ellipse: s-maj=36.0km s-min=23.2km az=121.0*
*ISCJB **25** 00:44:23.2±1.2, 37°.26N±0°.08×74°.5E±0°.1, h33km, mb3.5/3, Error ellipse: s-maj=15.2km s-min=11.4km az=174.6*
*NNC **25** 00:44:29.0±5.5, 37°.65N×74°.43E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=54.1km s-min=27.1km az=129.0*
ISC 25 00:44:27.1±1.9, 37°.4N±0°.1×74°.8E±0°.1, h35km, n13, σ1§85/14, mb3.3/3, 4C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	Kyzart	4.72	4	P	Pn	00 45 38.5	+2.2
SNR=6.5							
DZET	Dzherino	4.91	289	⇓Pn	Pn	00 45 39.8	+1.3
AAK	Ala-Archa	5.27	358	⇑Pn	Pn	00 45 47.2	+3.7
4.5nm,0.5s							
AAK				⇑Sn	Sn	00 46 46.3	+3.2
AAK	Ala-Archa	5.27	358	Pn	Pn	00 45 45.6	+2.1
0.5nm,0.3s,baz=180,slow=16,SNR=8.4							
AAK				Lg	Lg	00 47 09.0	
0.3nm,0.3s,baz=48,slow=19,SNR=2.8							
TKM2	Tokmak 2	5.59	6	⇓Pn	Pn	00 45 48.8	+0.9
6.9nm,0.6s							
TKM2				⇓Sn	Sn	00 46 52.4	+1.4
9.9nm,0.5s							
TKM2	Tokmak 2	5.59	6	P	Pn	00 45 48.5	+0.6
SNR=5.3							
KK31	Karatay Array	6.60	332	⇑Pn	Pn	00 45 59.8	-1.8
1.8nm,0.5s,baz=155,slow=15,SNR=54							
KK31				⇑Sn	Sn	00 47 14.3	-1.3
2.7nm,0.6s,baz=148,slow=21,SNR=4.8							
MKAR	Makanchi Array	10.95	28	Pn	Pn	00 47 00.6	-0.6
0.1nm,0.3s,baz=208,slow=13,SNR=5.9							
KURBB	Kurchatov Arra	13.53	10	Pn	Pn	00 47 34.6	-1.8
0.0nm,0.3s,baz=199,slow=11,SNR=4.0							
ZALV	Zalesovo Beam	17.98	20	P	Pn	00 48 32.5	-1.5
baz=208,slow=12,SNR=3.8							
SONM	Songino Array	25.35	56	P	P	00 49 51.5	+0.7
0.4nm,0.5s,baz=255,slow=11,SNR=5.8							
ARCES	ARCESS Array B	41.54	336	P	P	00 52 09.3	-1.4
3.7nm,1.0s,baz=96,slow=7.4,SNR=5.4							
TORD	Torodi Ar. Bea	68.75	271	P	P	00 55 24.8	-3.0
0.2nm,0.6s,baz=51,slow=5.4,SNR=4.2							

*IDC **25** 00:45:41.2±5.0, 35°.81N×71°.29E, h82km±32km, mb3.4/6, mb1 3.5/11, mb1mx3.3/30, mbtmp3.7/11, MS3.4/3, Ms1 3.4/3, ms1mx2.5/32, Error ellipse: s-maj=59.6km s-min=24.0km az=148.0*
*ISCJB **25** 00:45:44.3±1.1, 36°.21N±0°.09×71°.01E±0°.08, h100km, mb3.6/5, Error ellipse: s-maj=13.9km s-min=8.2km az=159.4*
*NNC **25** 00:45:49.4±4.9, 36°.82N×71°.10E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=40.1km s-min=18.7km az=175.0*
ISC 25 00:45:45.8±1.4, 36°.3N±0°.1×71°.02E±0°.08, h100km, n26, σ1§58/29, mb3.6/5, 8C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	3.06	326	⇑P	Pn	00 46 33.7	+1.3
DZET				⇑S	Sn	00 47 08.9	+0.6
AML	Almayashu	6.19	19	P	Pn	00 47 16.0	+1.0
SNR=46							
UCH	Uchtor	6.52	24	P	Pn	00 47 20.6	+1.1
SNR=8.0							
EKS2	Erkin-Say	6.71	18	P	Pn	00 47 23.3	+1.5
SNR=24							
KK31	Karatay Array	6.81	357	⇓P	Pn	00 47 24.2	+1.0
4.7nm,0.3s,baz=174,slow=12,SNR=109							
KK31				⇑S	Sn	00 48 36.4	-2.7
11nm,0.5s,baz=181,slow=22,SNR=9.0							
AAK	Ala-Archa	6.88	22	⇑P	Pn	00 47 25.4	+1.2
7.2nm,0.4s							
AAK				⇑S	Sn	00 48 41.0	0.0
7.6nm,0.6s							
AAK	Ala-Archa	6.88	22	P	Pn	00 47 25.5	+1.4
SNR=16							
AAK	Ala-Archa	6.88	22	P	Pn	00 47 25.7	+1.5
6.4nm,0.3s,baz=142,slow=4.0,SNR=24							
AAK				S	Sn	00 48 39.7	-1.2
3.4nm,0.3s,baz=95,slow=21,SNR=11							
CHMS	Chumysh	7.29	22	P	Pn	00 47 31.0	+1.4
SNR=5.1							
USP	Ospenovka	7.46	20	P	Pn	00 47 32.7	+0.8
SNR=7.2							
TKM2	Tokmak 2	7.50	27	⇑P	Pn	00 47 34.3	+1.6
4.9nm,0.5s							
TKM2				⇓S	Sn	00 48 52.3	-3.9
16nm,1.3s							
GEYT	Alibeck	10.44	283	P	Pn	00 48 11.8	-0.7
0.4nm,0.3s,baz=128,slow=9.0,SNR=6.7							
GEYT				S	Sn	00 50 04.5	-2.8
1.3nm,0.3s,baz=128,slow=16,SNR=9.5							
MKAR	Makanchi Array	13.45	35	P	Pn	00 48 51.5	-1.0
0.1nm,0.3s,baz=225,slow=12,SNR=3.5							
AB09	Akbulak array	15.29	331	⇑P	Pn	00 49 15.9	-0.1
1.5nm,0.5s							
AB09				⇑S	Sn	00 51 54.3	-10
1.4nm,0.5s							
KURBB	Kurchatov Arra	15.31	18	P	P	00 49 18.8	-0.1
0.1nm,0.3s,baz=207,slow=10.0,SNR=6.8							
AKTO	Aktyubinsk	16.97	330	P	P	00 49 39.0	+1.8
0.4nm,0.3s,baz=121,slow=10,SNR=9.2							
ZALV	Zalesovo Beam	20.10	24	P	P	00 50 10.9	-0.4
1.3nm,0.5s,baz=225,slow=10,SNR=5.5							
FINES	FINESS Array B	37.66	326	P	P	00 52 52.7	+1.8
1.0nm,0.7s,baz=126,slow=10,SNR=3.2							
ARCES	ARCESS Array B	41.34	338	P	P	00 53 23.1	+1.7
3.2nm,0.9s,baz=114,slow=11,SNR=5.9							
PSI	Prapat	42.12	136	LR	LR	01 13 44.3	
comp=Z,61nm,18.0s,slow=40							
GERES	GERESS Array B	43.06	305	LR	LR	01 13 38.5	
comp=Z,36nm,18.4s,baz=78,slow=38							
YAK	Yakutsk	44.13	35	LR	LR	01 11 51.7	
comp=Z,26nm,18.9s,baz=212,slow=35							
NB2	NORSAR Subarra	44.56	323	P	P	00 53 48.3	+0.9
comp=Z,0.2nm,0.5s,baz=102,slow=7.9							
NOA	NORSAR Array B	44.56	323	P	P	00 53 48.3	+0.9
comp=Z,0.5nm,0.5s,baz=96,slow=7.7,SNR=3.3							
TORD	Torodi Ar. Bea	65.73	269	P	P	00 56 19.1	-1.1
comp=Z,0.5nm,0.6s,baz=46,slow=5.6,SNR=8.2							
YKA	Yellowknife Ar	81.45	3	P	P	00 57 51.3	-0.1
comp=Z,0.2nm,0.5s,baz=356,slow=5.2,SNR=5.7							

*ISCJB **25** 01:09:24.6±0.3, 59°.96N±0°.03×152°.82W±0°.06, h119km±3km, mb3.7/4, Error ellipse: s-maj=5.5km s-min=4.2km az=26.1*
*NEIC **25** 01:09:26.6, 59°.96N×152°.84W, h106km, MG3.0(AEIC), After AEIC.*
*IDC **25** 01:09:28.2±5.3, 60°.29N×152°.90W, h112km±46km, mb3.4/4, mb1 3.4/7, mb1mx3.2/30, mbtmp3.7/7, Error ellipse: s-maj=42.0km s-min=30.0km az=43.0*
ISC 25 01:09:25.7±0.8, 59°.97N±0°.03×152°.86W±0°.04, h113km±6km, n64, σ1§07/77, mb3.8/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSO	Redoubt South	0.49	6	*e*Pg	Pn	01 09 42.7	-0.3
RDWB	Redoubt West	0.52	1	P	Pn	01 09 42.6	-0.5
RDWB				S	Sn	01 09 55.5	-0.8
RDN	Redoubt North	0.54	5	P	Pn	01 09 43.1	-0.2
NCT	North Crescent	0.59	357	P	Pn	01 09 43.3	-0.3
DFR	Drift River	0.63	8	P	Pn	01 09 43.4	-0.4
HOM	Homer	0.69	117	P	Pn	01 09 44.2	0.0
HOM				S	Sn	01 09 58.7	+0.6
BRLK	Bradley Lake	1.02	101	P	Pn	01 09 47.0	-0.3
BRLK				S	Sn	01 10 03.5	-0.1
CKL	Chakachamna La	1.25	12	P	Pn	01 09 49.8	-0.1
CKN	Chakachatna No	1.30	15	P	Pn	01 09 50.4	+0.1
SPBG	Spurr Blockage	1.31	10	P	Pn	01 09 50.7	+0.1
BGL	Barrier Glacie	1.31	10	P	Pn	01 09 50.7	+0.2
SLKM	Skilak Lake	1.42	67	P	Pn	01 09 51.8	+0.1
STLK	Strandline Lak	1.61	18	P	Pn	01 09 54.2	+0.2
SEW	Seward	1.72	84	P	Pn	01 09 54.7	-0.5
SVW2	Sparrevohn	1.76	311	P	Pn	01 09 55.3	-0.4
FIB	Fire Island	1.79	47	P	Pn	01 09 56.9	+0.9
SUA	Susitna One	1.82	34	P	Pn	01 09 56.8	+0.2
SUA				S	Sn	01 10 20.4	+0.2
RC01	Rabbit Creek A	1.91	53	*e*Pn	Pn	01 09 57.4	-0.2
RC01				*e*S	Sn	01 10 20.9	-1.1
KAKN	Katmai Knife C	2.03	215	P	Pn	01 09 59.3	+0.1
KVTA	Katmai Vly 10	2.03	219	P	Pn	01 09 59.4	+0.3
SKT	Skwentna	2.12	17	P	Pn	01 10 00.1	-0.1
KABR	Katmai Barrier	2.15	211	P	Pn	01 10 01.1	+0.4
KDAK	Kodiak Island	2.20	176	*e*Pn	Pn	01 10 01.1	-0.2
KDAK				*e*S	Sn	01 10 27.9	-0.7
PMR	Palmer	2.44	47	P	Pn	01 10 05.0	+0.7
PMR				S	Sn	01 10 32.4	-1.8
CUT	Chulitna	2.74	26	P	Pn	01 10 09.0	+0.7
OHAK	Old Harbor	2.77	185	P	Pn	01 10 07.5	-1.1
OHAK				S	Sn	01 10 38.9	-2.7
PPLA	Purkeypile	2.95	6	P	Pn	01 10 12.4	+1.2
HIN	Hinchinbrook I	3.20	80	P	Pn	01 10 14.6	+0.2
JPK	Jack Peak	3.28	68	P	Pn	01 10 16.1	+0.7
SCM	Sheep Creek Mo	3.28	53	P	Pn	01 10 14.6	-0.9
TT01	Tatalina	3.31	334	P	Pn	01 10 15.5	-0.3
MID	Middleton Isla	3.35	97	P	Pn	01 10 16.2	0.0
HUR	Hurricane	3.39	26	P	Pn	01 10 17.4	+0.6
VLZ	Valdez	3.43	67	P	Pn	01 10 18.2	+1.0
SII	Sitkinak Islan	3.49	192	P	Pn	01 10 16.9	-1.3
EYAK	Cordova Ski Ar	3.59	78	P	Pn	01 10 19.4	0.0
DIV	Divide	3.69	69	*e*Pn	Pn	01 10 21.2	+0.3
DIV				*e*S	Sn	01 11 01.7	-1.9
TRF	Thorofare Moun	3.70	18	P	Pn	01 10 21.0	0.0
KTH	Kantishna Hill	3.71	14	*e*Pn	Pn	01 10 21.2	+0.1
KTH				*e*S	Sn	01 11 02.0	-2.0
KLU	Klutina	3.73	63	P	Pn	01 10 20.3	-1.2
SGAM	Sherman Glacie	3.85	79	P	Pn	01 10 22.6	-0.3
RND	Reindeer	3.94	27	P	Pn	01 10 24.1	-0.1
GOAT	Goat Mountain	4.09	78	P	Pn	01 10 26.4	+0.1
RAGM	Ragged Mountai	4.11	81	P	Pn	01 10 26.1	-0.4
MCK	McKinley	4.21	25	P	Pn	01 10 27.9	+0.2
BMRM	Bremner River	4.21	73	P	Pn	01 10 27.4	-0.3
HARP	HAARP	4.46	53	P	Pn	01 10 31.0	-0.1
PAX	Paxson	4.65	46	*e*Pn	Pn	01 10 33.6	-0.1
PAX				*e*S	Sn	01 11 28.7	+2.2
VRDI	Verde Repeater	4.80	71	P	Pn	01 10 35.8	-0.1
WRH	Wood River Hil	5.03	24	P	Pn	01 10 38.2	-0.6
MLY	Manley	5.17	10	P	Pn	01 10 41.1	+0.4
HDA	Harding Lake	5.24	29	P	Pn	01 10 41.1	-0.4
CCB	Clear Creek Bu	5.25	24	P	Pn	01 10 40.9	-0.8
KIAG	Kiagna River	5.29	75	P	Pn	01 10 42.5	+0.1
COLA	College	5.44	23	*e*Pn	Pn	01 10 44.2	-0.1
COLA				*e*S	Sn	01 11 41.5	-4.0
ILAR	Eielson Array	5.56	27	P	Pn	01 10 45.1	-0.8
0.7nm,0.3s,baz=211,slow=14,SNR=20							
ILAR				S	Sn	01 11 43.9	-4.5
1.3nm,0.3s,baz=213,slow=21,SNR=8.7							
ILB	Eielson Array	5.56	27	P	Pn	01 10 45.1	-0.8
BARN	Barnard Glacie	5.64	74	P	Pn	01 10 47.7	+0.6
DLBC	Dease Lake	11.79	88	P	Pn	01 12 14.1	+4.1
0.8nm,0.3s,baz=290,slow=8.0,SNR=13							
DLBC				S	Sn	01 14 18.8	-0.7
0.2nm,0.3s,baz=0.0,slow=20,SNR=2.6							
YKA	Yellowknife Ar	18.40	66	P	Pn	01 13 32.4	-0.4
0.1nm,0.3s,baz=276,slow=9.9,SNR=20							
SPITS	Spitsbergen Ar	41.94	3	P	P	01 17 05.4	+1.0
4.4nm,0.9s,baz=32,slow=8.8,SNR=9.6							
SONM	Songino Array	54.86	306	P	P	01 18 45.6	+1.7
0.2nm,0.4s,baz=45,slow=8.1,SNR=4.0							
ZALV	Zalesovo Beam	57.44	324	P	P	01 19 02.5	+0.5
0.7nm,0.4s,baz=23,slow=7.4,SNR=3.7							
MKAR	Makanchi Array	64.50	321	P	P	01 19 49.1	-0.8
0.2nm,0.5s,baz=38,slow=5.9,SNR=3.8							

*IDC **25** 01:16:47.4±3.4, 18°.90N×108°.05W, h0km, mb3.5/4, mb1 4.0/9, mb1mx3.9/24, mbtmp3.8/9, ML3.8/5, MS3.4/13, Ms1 3.4/13, ms1mx3.2/35, Error ellipse: s-maj=68.2km s-min=27.6km az=35.0*
*NEIC **25** 01:16:49.9±0.8, 18°.97N×107°.91W, h10km, mb4.2/28, MD4.1(MEX), Error ellipse: s-maj=13.6km s-min=6.5km az=218.0*
*ISCJB **25** 01:16:52.2±0.7, 19°.09N±0°.07×107°.78W±0°.06, h33km, mb4.1/17, MS3.3/6, Error ellipse: s-maj=11.3km s-min=6.1km az=28.0*
*MEX **25** 01:16:53.0±0.5, 18°.82N×107°.68W, h20km±27km, MD4.2*
ISC 25 01:16:52.4±1.3, 19°.0N±0°.1×107°.80W±0°.10, h35km, n64, σ1§32/53, mb4.1/18, MS3.3/6, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	SOCORRO T-PHAS	2.97	267	T	T	01 20 34.2	
H06S1	SOCORRO T	3.00	266	T	T	01 20 32.9	
H06N1	SOCORRO T-PHAS	3.02	268	T	T	01 20 28.9	
ANIG	Ahuacatlan	3.71	56	*e*P	Pn	01 17 47.3	0.0
ANIG				*e*S	Sn	01 18 30.2	+0.3
ANIG	Ahuacatlan	3.71	56	*e*P	Pn	01 17 47.7	+0.4
MMIG	Aquila	4.28	99	*e*P	Pn	01 17 53.7	-1.4
MMIG				*e*S	Sn	01 18 39.2	-4.6
MMIG	Aquila	4.28	99	*e*P	Pn	01 17 54.2	-0.8
LPIG	La Paz	5.61	336	LR	LR	01 19 43.3	
	comp=Z,158nm,20.6s,baz=90,slow=32						
ARIG	Puente Sto Nin	7.10	94	*e*P	Pn	01 18 34.4	+0.5
LTX	Lajitas	10.97	19	*e*Pn	Pn	01 19 27.8	+0.7
TX31	Lajitas Ar. Si	10.97	19	*e*Pn	Pn	01 19 27.9	+0.8
TXAR	Lajitas Array	10.97	19	Pn	Pn	01 19 27.8	+0.7
0.8nm,0.3s,baz=202,slow=14,SNR=43							
TXAR				LR	LR	01 23 25.8	
	comp=Z,157nm,21.7s,baz=0.0,slow=36						
CMIG	Matias Romero	12.43	97	Pn	Pn	01 19 50.0	+3.1
1.2nm,0.3s,baz=290,slow=13,SNR=12							
CMIG				LR	LR	01 24 21.0	
	comp=Z,485nm,19.3s,baz=211,slow=36						
121A	Cookes Peak, D	13.50	0	*e*P	Pn	01 20 04.4	+2.8
TUC	Tucson	13.54	349	*e*Pn	Pn	01 20 02.6	+0.4
GLA	Glamis	15.36	337	*e*Pn	Pn	01 20 26.5	-0.2
6.4nm,0.8s							
ABTX	Abilene, Hawle	15.43	27	*e*Pn	P	01 20 29.9	-1.8
14nm,1.1s							
MSTX	Muleshoe	15.59	16	*e*Pn	Pn	01 20 29.4	-0.3
11nm,0.9s							
ANMO	Albuquerque	15.95	4	Pn	P	01 20 36.4	-1.3
0.1nm,0.3s,baz=183,slow=17,SNR=9.4							
ANMO				LR	LR	01 26 32.5	
	comp=Z,130nm,19.3s,baz=192,slow=36						
ANMO	Albuquerque	15.95	4	*e*Pn	Pn	01 20 34.9	+0.6
3.4nm,0.9s							
PFO	Pinyon Flats O	16.50	334	Pn	Pn	01 20 39.5	-1.8
0.1nm,0.3s,baz=248,slow=16,SNR=1.6							
PFO				LR	LR	01 25 55.4	
	comp=Z,164nm,18.2s,baz=158,slow=33						
PFO	Pinyon Flats O	16.50	334	*e*Pn	Pn	01 20 39.5	-1.8
6.7nm,1.2s							
WUAZ	Wupatki	16.77	350	*e*P	P	01 20 46.6	-0.2
5.9nm,1.0s							
APG	El Apazote	17.04	101	P	P	01 20 49.9	0.0
0.4nm,0.3s,baz=278,slow=14,SNR=5.0							
APG				LR	LR	01 26 32.5	
	comp=Z,152nm,21.9s,baz=290,slow=34						
LDFC	Landfair	17.30	339	*e*Pn	P	01 20 52.2	-0.3
16nm,1.1s							
WMOK	Wichita Mounta	17.62	25	*e*Pn	Pn	01 20 54.4	-0.8
79nm,2.8s							
GSC	Goldstone, Bar	18.11	336	*e*Pn	Pn	01 20 59.4	-1.9
64nm,2.8s							
TEIG	Tepich	18.43	83	LR	LR	01 28 08.4	
	comp=Z,173nm,21.7s,baz=284,slow=36						
SHPR	Sheep Range	18.62	341	*e*P	P	01 21 07.1	-0.1
V34A	Guthrie	19.09	26	*e*P	Pn	01 21 12.7	-0.4
12nm,0.8s							
TPNV	Topopah Spring	19.38	339	*e*P	P	01 21 15.9	+0.5
6.4nm,1.1s							
R11A	Troy Canyon, C	20.46	342	*e*P	Pn	01 21 28.7	-0.8
4.8nm,1.2s							
TPH	Tonopah	20.73	339	*e*P	Pn	01 21 31.7	-1.0
3.7nm,1.0s							
ISCO	Idaho Springs	20.83	5	*e*P	P	01 21 31.7	+0.3
35nm,2.4s							
O20A	White River Ci	21.09	359	*e*P	P	01 21 33.5	-0.4
147nm,3.0s							
NV01	Mina Array Sit	21.43	337	*e*P	P	01 21 37.9	+0.2
NVAR	Mina Array Bea	21.43	337	P	P	01 21 38.1	+0.4
1.6nm,0.8s,baz=150,slow=12,SNR=8.1							
DUG	Dugway, Tooele	21.58	350	*e*P	P	01 21 40.7	+1.5
11nm,1.5s							
N23A	Red Feather La	21.90	4	*e*P	P	01 21 43.8	+1.0
7.3nm,1.0s							
SPUT	South Promonto	22.61	351	*e*P	P	01 21 52.1	+1.8
9.8nm,1.4s							
ELK	Elko	22.61	345	P	P	01 21 51.8	+1.4
1.4nm,0.9s,baz=172,slow=8.1,SNR=5.5							
ELK				LR	LR	01 29 16.7	
	comp=Z,77nm,18.0s,baz=181,slow=33						
ELK	Elko	22.61	345	*e*P	P	01 21 50.8	+0.4
40nm,2.8s							
HVU	Hansel Valley	23.12	350	*e*P	P	01 21 56.7	+1.2
77nm,2.9s							
JTS	JuntasAbangare	23.71	108	LR	LR	01 30 12.9	
	comp=Z,64nm,19.3s,baz=316,slow=34						
BW06	Boulder Array	23.76	357	*e*P	P	01 22 03.3	+1.4
PD31	Pinedale Array	23.76	357	*e*P	P	01 22 02.6	+0.7
PDAR	Pinedale Array	23.76	357	P	P	01 22 02.6	+0.7
21nm,0.3s,baz=161,slow=6.7,SNR=21							
SNOW	Snow King Moun	24.54	355	*e*P	P	01 22 10.2	+1.1
12nm,1.1s							
TPAW	Teton Pass	24.58	354	*e*P	P	01 22 10.3	+0.8
3.9nm,0.9s							
LOHW	Long Hollow	24.67	355	*e*P	P	01 22 10.4	+0.2
4.9nm,1.0s							
IMW	Indian Meadow	24.98	355	*e*P	P	01 22 13.3	+0.2
56nm,2.8s							
WVOR	Wild Horse Val

AGCH AML AML 01 35 33.2
comp=E,406μm,0.4s
VLCH Valdivia 1.48 166 *e*P1 **Pn 01 35 15.8 -1.3**
VLCH *i* S4 **Sn 01 35 34.0 -2.0**
VLCH AML AML 01 35 45.1
comp=N,32μm,0.6s
CCSP San Pedro de C 1.59 17 *e*P2 **Pn 01 35 18.9 +0.3**
OSCH Osorno 2.25 169 *e*P1 **Pn 01 35 26.3 -1.4**
OSCH AML AML 01 36 07.3
comp=E,10μm,0.9s
COCH Cobquecura 2.35 18⇑*i*P **Pn 01 35 28.5 -0.5**
COCH AML AML 01 36 17.9
comp=E,1μm,0.8s
PMCH Puerto Montt 3.18 169 *e*P1 **Pn 01 35 39.1 -1.4**
PLCA Paso Flores 3.39 135 Pn **Pn 01 35 44.5 +1.0**
comp=E,2.3nm,0.3s,baz=304,slow=8.7,SNR=22
PLCA Lg Lg 01 36 37.4
comp=E,24nm,0.3s,baz=213,slow=23,SNR=4.8
CFAA Coronel Fontan 8.10 35 Pn **Pn 01 36 47.4 -0.7**
comp=E,0.2nm,0.3s,baz=168,slow=2.7,SNR=23
CFAA Sn **Sn 01 38 17.9 -1.3**
comp=E,0.1nm,0.3s,baz=202,slow=19,SNR=3.7
CFAA Lg Lg 01 39 06.4
comp=E,0.0nm,0.3s,baz=294,slow=18,SNR=3.5
CFAA LR LR 01 40 21.0
comp=E,77nm,18.1s,baz=218,slow=41
TRQA Tornquist 9.23 92 *e*Pn **Pn 01 37 01.6 -2.0**
comp=E,43nm,1.1s
TRQA *e*S Sn 01 39 08.5 +21
LCO Las Campanas 9.66 16 *e*Pn **Pn 01 37 07.6 -2.2**
comp=E,23nm,0.6s
LCO *e*S **Sn 01 38 54.6 -3.4**
USHA Ushuaia 16.85 169 LR LR 01 45 11.6
comp=E,273nm,21.4s,baz=336,slow=37
EFI East Falkland 17.25 146 *e*Pn **P 01 38 52.6 0.0**
LPAZ La Paz 22.54 14 P **P 01 39 52.4 +1.4**
comp=E,0.8nm,0.8s,baz=225,slow=2.7,SNR=2.6
LPAZ S **S 01 43 59.3 +1.4**
comp=E,0.3nm,0.5s,baz=198,slow=19,SNR=1.8
LPAZ La Paz 22.54 14 *e*P **P 01 39 51.4 +0.4**
comp=E,8.4nm,1.0s
LPAZ S **S 01 43 59.3 +1.4**
SIV San Ignacio 24.91 30 P **P 01 40 14.0 +0.5**
comp=E,1.2nm,0.7s,baz=209,slow=13,SNR=3.0
OTAV Otavalo 38.66 352 *e*P **P 01 42 16.3 +1.8**
comp=E,7.5nm,1.3s
SNAA Sanae 48.09 156 *e*P **P 01 43 29.5 -0.1**
comp=E,3.2nm,1.0s
QSPA South Pole Qui 51.88 180 P **P 01 43 58.4 -0.1**
comp=E,4.0nm,1.1s,baz=169,slow=2.8,SNR=5.4
QSPA South Pole Qui 51.88 180 *e*P **P 01 43 57.9 -0.6**
comp=E,4.2nm,1.2s
RKT Rikitea 53.90 268 *e*T T 02 41 57.9
comp=E,2.8nm,0.3s
VNDA Vanda 59.56 192 P **P 01 44 54.0 +0.8**
comp=E,1.0nm,0.8s,baz=139,slow=3.9,SNR=5.4
TBI Tubuai 65.08 259 *e*LR LR 02 04 55.0
comp=E,166nm,26.2s
TBI Tubuai 65.08 259 *e*T T 02 55 48.8
comp=E,3.2nm,0.2s
MEH Mehetia 67.03 265 *e*T T 02 58 19.3
comp=E,19nm,0.2s
TIAR Tiarei 68.21 264 *e*T T 02 59 47.0
comp=E,6.1nm,0.2s
PPT2 Papeete2 68.37 264 *e*LR LR 02 06 39.9
comp=E,77nm,24.5s
PPT Papeete 68.38 264 LR LR 02 08 19.4
comp=E,127nm,18.1s,baz=84,slow=29
TXAR Lajitas Array 72.94 333 P **P 01 46 19.8 +0.1**
comp=E,0.8nm,0.7s,baz=153,slow=8.8,SNR=8.8
TXAR LR LR 02 13 04.0
comp=E,81nm,18.3s,baz=0.0,slow=32
DBIC Dimbokro 77.85 71 P **P 01 46 48.2 +0.1**
comp=E,3.1nm,0.6s,baz=196,slow=6.0,SNR=11
DBIC LR LR 02 19 20.7
comp=E,43nm,18.0s,baz=196,slow=34
NVAR Mina Array Bea 86.73 326 P **P 01 47 35.0 +0.7**
comp=E,0.1nm,0.3s,baz=176,slow=5.2,SNR=2.2
TORD Torodi Ar. Bea 86.94 71 P **P 01 47 35.1 -0.5**
comp=E,1.1nm,0.8s,baz=225,slow=5.4,SNR=9.5
TORD LR LR 02 26 34.5
comp=E,40nm,18.0s,baz=160,slow=36
PDAR Pinedale Array 87.08 334 P **P 01 47 35.8 -0.1**
comp=E,0.6nm,0.8s,baz=116,slow=3.4,SNR=4.2
MKAR Makanchi Array 160.47 57 PKP **PKPdf 01 54 50.1 +0.5**
comp=E,0.2nm,0.8s,baz=323,slow=2.2,SNR=3.0
MKAR PKPab **PKPab 01 55 30.7 -0.2**
comp=E,0.2nm,0.7s,baz=294,slow=3.2,SNR=3.8

*ISCJB **25** 02:23:08.9±0.3, 4°.33S±0°.04×125°.64E±0°.05, h441km, mb3.8/12, Error ellipse: s-maj=6.6km s-min=5.5km az=156.8*
*IDC **25** 02:23:09.8±1.5, 4°.36S×125°.52E, h405km±18km, mb3.5/13, mb1 3.7/16, mb1mx3.5/27, mbtmp4.3/16, Error ellipse: s-maj=18.8km s-min=10.8km az=66.0*
*DJA **25** 02:23:10.6±0.2, 4°.S±2°.×12°.6E±°., h392km±4km, M4.3/28, mB4.8/19, mb4.6/28, MLv4.8/26, Mw(mB)4.1/19*
ISC 25 02:23:11.2±0.6, 4°.44S±0°.06×125°.55E±0°.07, h441km, n41, σ2°17/39, mb3.8/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.95**	**52**	P	P		P	02 24 04.6	-6.0
NLAI				S	S		S	02 24 47.1	-12
SANI	**Sanana**	**2.41**	**10**	P	P		P	02 24 07.6	-5.9
BBSI	**Bau Bau**	**3.15**	**250**	P	P		**P**	**02 24 16.3**	**-2.4**
LBMI	**Labuha**	**4.24**	**27**	P	P		P	02 24 23.2	-4.8
BNDI	**Bandanaira**	**4.34**	**91**	P	P		P	02 24 24.5	-4.4
BNDI				S	S		S	02 25 22.9	-9.2
KMSI	**Cibinong** 314nm,0.9s,5.3nm	**5.22**	**342**	P	P		**P**	**02 24 34.3**	**-3.0**
KMSI				S	S		**S**	**02 25 41.6**	**-5.9**
APSI	**Ampana** 103nm,1.1s,981nm0.4nm	**5.24**	**312**	P	P		P	02 24 34.4	-3.1
MMRI	**Maumere** 74nm,0.7s,3μm0.3nm	**5.32**	**218**	P	P		**P**	**02 24 37.8**	**-0.5**
BNSI	**Bone** 265nm,0.8s,2μm0.8nm	**5.43**	**270**	P	P		**P**	**02 24 37.7**	**-1.7**
SOEI	**Soe** 139nm,0.7s,3μm0.6nm	**5.44**	**194**	P	P		**P**	**02 24 38.0**	**-1.6**
TNTI	**Ternate** 103nm,0.6s,0.8nm	**5.48**	**19**	P	P		P	02 24 35.6	-4.3
TNTI				S	S		S	02 25 43.7	-8.6
BKSI	**Bulukumba** 71nm,0.7s,642nm0.3nm	**5.48**	**261**	P	P		**P**	**02 24 37.6**	**-2.3**
GTOI	**Gorontalo** 479nm,0.7s,5μm1.9nm	**5.64**	**333**	P	P		**P**	**02 24 40.1**	**-1.5**
EDFI	**Ende, Flores** 47nm,0.8s,0.2nm	**5.75**	**222**	P	P		**P**	**02 24 44.6**	**+1.8**
SPSI	**Sidrap Palu** 128nm,0.7s,1μm0.5nm	**5.79**	**274**	P	P		**P**	**02 24 40.7**	**-2.3**
TTSI	**Tana Toraja** 42nm,1.0s,0.1nm	**5.89**	**283**	P	P		P	02 24 46.7	+2.7
BATI	**Baumata** 104nm,0.7s,2μm0.5nm	**6.03**	**198**	P	P		**P**	**02 24 44.0**	**-1.6**
BATI				S	S		**S**	**02 25 59.2**	**-3.5**
BATI	**Baumata** 60nm,0.3s,baz=90,slow=2.2,SNR=30	**6.03**	**198**	P	P		**P**	**02 24 43.9**	**-1.7**
BATI				S	S		**S**	**02 25 59.7**	**-3.0**
MRSI	**Marisa** 224nm,0.8s,2μm0.8nm	**6.07**	**323**	P	P		P	02 24 42.6	-3.3
PCI	**Palu** 93nm,0.9s,829nm0.3nm	**6.70**	**301**	P	P		**P**	**02 24 53.9**	**+1.2**
SAUI	**Saumlaki** 646nm,0.8s,7μm2.3nm	**6.71**	**122**	P	P		**P**	**02 24 50.0**	**-2.8**
SAUI				S	S		**S**	**02 26 11.7**	**-4.0**
FAKI	**Fak Fak** 107nm,0.5s,3μm1.7nm	**6.85**	**78**	P	P		P	02 24 50.2	-4.1
MPSI	**Mapaga** 35nm,0.8s,2μm0.3nm	**7.38**	**310**	P	P		**P**	**02 24 57.8**	**-2.1**
BBKI	**Banjar Baru** 127nm,1.1s,7μm	**10.73**	**275**	P	P		**P**	**02 25 38.3**	**+1.9**
JAY	**Jayapura** 0.6nm,0.3s,baz=261,slow=12,SNR=4.4	**15.24**	**83**	P	P		**P**	**02 26 25.8**	**+0.4**
WRA	**Warramunga Arr** 1.6nm,0.3s,baz=328,slow=11,SNR=19	**17.63**	**152**	P	P		**P**	**02 26 50.1**	**-0.4**
WRA				S	S		**S**	**02 29 51.3**	**0.0**
ASAR	**Alice Springs** 9.2nm,0.4s,baz=332,slow=8.8,SNR=132	**20.75**	**158**	P	P		**P**	**02 27 22.2**	**+2.1**
ASAR				S	S		**S**	**02 30 44.5**	**+1.8**
PMG	**Port Moresby** 15nm,0.8s,baz=299,slow=13,SNR=3.5	**22.00**	**104**	P	P		**P**	**02 27 32.7**	**+1.2**
NWAO	**Narrogin (SRO)** 4.9nm,0.6s,baz=59,slow=8.8,SNR=3.4	**29.39**	**194**	P	P		**P**	**02 28 37.7**	**+0.8**
CMAR	**Chiang Mai Arr** 2.2nm,0.4s,baz=137,slow=7.3,SNR=9.7	**34.72**	**312**	P	P		**P**	**02 29 24.1**	**+1.3**
USRK	**Ussuriysk Ar.** 2.0nm,0.6s,baz=174,slow=5.6,SNR=5.5	**48.76**	**6**	P	P		**P**	**02 31 15.2**	**+1.1**
SONM	**Songino Array** 0.3nm,0.3s,baz=150,slow=8.0,SNR=4.5	**54.70**	**344**	P	P		**P**	**02 31 58.3**	**+0.8**
SONM				PcP	PcP		**PcP**	**02 32 54.3**	**+0.6**
PETK	**Petropavlovsk-** 2.6nm,0.6s,baz=192,slow=5.8,SNR=2.7	**63.41**	**21**	P	P		P	02 32 58.4	+2.4
MKAR	**Makanchi Array** 1.2nm,0.5s,baz=129,slow=8.1,SNR=21	**63.70**	**328**	P	P		**P**	**02 32 59.3**	**+1.2**
MKAR				PcP	PcP		**PcP**	**02 33 31.7**	**+2.0**
ZALV	**Zalesovo Beam** 0.9nm,0.6s,baz=116,slow=6.6,SNR=5.5	**67.38**	**335**	P	P		**P**	**02 33 21.0**	**-0.1**
KURBB	**Kurchatov Arra** 1.2nm,0.6s,baz=132,slow=5.4,SNR=17	**68.05**	**330**	P	P		**P**	**02 33 26.3**	**+1.0**
VNDA	**Vanda** 3.5nm,0.7s,baz=317,slow=7.0,SNR=15	**75.54**	**172**	P	P		P	02 34 11.3	+2.6
AKTO	**Aktyubinsk** 1.3nm,0.5s,baz=125,slow=8.0,SNR=4.5	**79.36**	**323**	P	P		**P**	**02 34 31.7**	**+1.6**
ILAR	**Eielson Array** 0.5nm,0.5s,baz=246,slow=4.8,SNR=8.7	**92.94**	**25**	P	P		**P**	**02 35 36.2**	**+0.4**
ULM	**Lac du Bonnet** 1.6nm,0.7s,baz=344,slow=4.6,SNR=3.4	**122.60**	**30**	PKP	PKP		**PKPdf**	**02 41 17.2**	**+1.5**
TORD	**Torodi Ar. Bea** 1.0nm,0.6s,baz=63,slow=1.7,SNR=13	**123.95**	**283**	PKP	PKP		**PKPdf**	**02 41 21.5**	**+2.2**

*ISCJB **25** 02:33:27.5±0.4, 32°.92N±0°.04×76°.32E±0°.06, h10km, mb3.6/10, Error ellipse: s-maj=8.3km s-min=4.0km az=150.4*
*IDC **25** 02:33:27.3±1.0, 32°.85N×76°.03E, h0km, mb3.7/10, mb1 3.9/13, mb1mx3.7/29, mbtmp3.7/13, ML3.6/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/31, Error ellipse: s-maj=25.1km s-min=19.0km az=59.0*
*NDI **25** 02:33:32.1±1.9, 32°.72N×75°.92E, h10km, ML3.5*
ISC 25 02:33:29.2±0.6, 32°.91N±0°.04×76°.19E±0°.06, h10km, n33, σ1°69/45, mb3.8/10, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.41**	**207**	*ex*			Pg	02 33 34.0	-3.4
DLH				*e*S			Sg	02 33 38.0	-4.8
BHK	**Bhakra**	**1.50**	**173**	*e*P			**Pb**	**02 33 59.2**	**+2.0**
BHK				*e*S			**Sn**	**02 34 17.0**	**+1.2**
SDNR	**Sundarnagar**	**1.55**	**155**	*e*P			**Pn**	**02 33 58.5**	**+1.6**
SDNR				*e*S			**Sb**	**02 34 19.5**	**+1.7**
SMLA	**Simla**	**1.96**	**155**	*i* P			**Pn**	**02 34 05.3**	**+2.9**
SMLA				*i* S			**Sb**	**02 34 30.3**	**+0.9**
SMLA				*i* S			**Sb**	**02 34 30.4**	**+0.9**
JOSI	**Joshimath**	**3.71**	**128**	*e*S			Sg	02 35 37.2	+8.9
JOSI						AML	AML	02 36 02.8	
	comp=N,308nm,0.6s								
JOSI						AML	AML	02 36 05.2	
	comp=E,266nm,0.6s								
NDI	**New Delhi**	**4.30**	**168**	*ex*			**Pb**	**02 34 44.0**	**-1.0**
NDI				*e*S			**Sn**	**02 35 23.0**	**-2.0**
SONA	**Sohna**	**4.71**	**170**	*e*P			**Pn**	**02 34 40.4**	**+0.1**
SONA				*e*S			**Sn**	**02 35 32.2**	**-2.7**
SONA						AML	AML	02 35 54.5	
	comp=E,73nm,0.6s								
SONA						AML	AML	02 35 55.5	
	comp=N,28nm,0.2s								
KUDL	**Kundal**	**4.75**	**177**	*e*P			**Pn**	**02 34 41.0**	**0.0**
KUDL				*e*S			Sn	02 35 31.1	-5.0
KUDL						AML	AML	02 36 10.5	
	comp=N,59nm,1.0s								
KUDL						AML	AML	02 36 14.7	
	comp=E,73nm,0.8s								
KHET	**Khetri**	**4.83**	**184**	*e*P			**Pn**	**02 34 42.5**	**+0.4**
KHET				*e*S			**Sn**	**02 35 33.7**	**-4.3**
KHET						AML	AML	02 36 00.1	
	comp=N,422nm,0.5s								
KHET						AML	AML	02 36 01.1	
	comp=E,351nm,0.3s								
AJM	**Ajmer**	**6.55**	**192**	*ex*			**Pb**	**02 35 23.0**	**-0.2**
PYUN	**Piuthan**	**7.57**	**127**	*e*Pn			**Pn**	**02 35 21.2**	**+1.3**
PYUN				*e*Sn			**Sn**	**02 36 44.4**	**-1.5**
	comp=E,241nm,0.4s								
DANN	**Dangsing**	**7.95**	**123**	*e*Pn			**Pn**	**02 35 25.6**	**+0.5**
DANN				*e*Sn			**Sn**	**02 36 53.2**	**-2.0**
	comp=E,74nm,0.5s								
KOLN	**Koldanda**	**8.20**	**127**	*e*Pn			**Pn**	**02 35 30.5**	**+2.0**
KOLN				*e*Sn			**Sn**	**02 37 00.2**	**-1.1**
GKN	**Gorkha**	**8.78**	**122**	*e*Pn			**Pn**	**02 35 37.6**	**+1.3**
GKN				*e*Sn			**Sn**	**02 37 12.0**	**-3.4**
DMN	**Daman**	**9.34**	**122**	*e*Pn			**Pn**	**02 35 45.4**	**+1.2**
DMN				*e*Sn			**Sn**	**02 37 26.8**	**-2.7**
	comp=E,42nm,0.4s								
PKIN	**Phulchoki**	**9.57**	**121**	*e*Pn			**Pn**	**02 35 47.7**	**+0.4**
PKIN				*e*Sn			**Sn**	**02 37 32.0**	**-3.1**
	comp=E,30nm,0.3s								
PKI	**Pulchoki**	**9.58**	**121**	*e*Pn			**Pn**	**02 35 48.6**	**+1.0**
PKI				*e*Sn			**Sn**	**02 37 32.1**	**-3.4**
	comp=E,45nm,0.4s								
GUN	**Gumba**	**9.73**	**118**	*e*Pn			**Pn**	**02 35 50.1**	**+0.4**
AAK	**Ala-Archa**	**9.80**	**353**	Pn			**Pn**	**02 35 51.2**	**+0.8**
	comp=E,0.3nm,0.3s,baz=164,slow=10,SNR=7.6								
AAK				Sn			**Sn**	**02 37 40.1**	**-0.5**
	comp=E,0.1nm,0.3s,baz=139,slow=20,SNR=2.2								
AAK				LR			LR	02 40 10.2	
	comp=E,53nm,19.9s,baz=90,slow=41								
JIRN	**Jiri**	**10.10**	**119**	*e*Pn			**Pn**	**02 35 54.8**	**+0.1**
JIRN				*e*Sn			Sn	02 37 43.1	-5.2
	comp=E,41nm,0.3s								
RAMN	**Ramite**	**10.80**	**121**	*e*Pn			**Pn**	**02 36 04.0**	**-0.2**
RAMN				*e*Sn			Sn	02 37 59.0	-6.4
	comp=E,30nm,0.3s								
MKAR	**Makanchi Array**	**14.63**	**17**	Pn			**Pn**	**02 36 55.7**	**-0.6**
	comp=E,1.0nm,0.3s,baz=195,slow=12,SNR=48								
MKAR				Sn			Sn	02 39 33.9	-4.6
	comp=E,0.3nm,0.3s,baz=197,slow=24,SNR=9.1								
KURBB	**Kurchatov Arra**	**17.79**	**5**	P			**Pn**	**02 37 36.2**	**-0.6**
	comp=E,0.1nm,0.3s,baz=192,slow=11,SNR=7.6								
ZALV	**Zalesovo Beam**	**21.91**	**14**	P			**P**	**02 38 22.2**	**-0.2**
	comp=E,3.3nm,0.7s,baz=217,slow=9.3,SNR=12								
AKTO	**Aktyubinsk**	**22.06**	**328**	P			**P**	**02 38 23.0**	**-1.1**
	comp=E,1.7nm,0.5s,baz=126,slow=9.9,SNR=7.6								
CMAR	**Chiang Mai Arr**	**24.98**	**120**	P			**P**	**02 38 53.8**	**+0.7**
	comp=E,0.6nm,0.3s,baz=311,slow=11,SNR=5.1								
SONM	**Songino Array**	**27.20**	**48**	P			**P**	**02 39 15.3**	**+2.1**
	comp=E,0.7nm,0.6s,baz=240,slow=10.0,SNR=7.4								
FINES	**FINESS Array B**	**42.83**	**327**	P			**P**	**02 41 26.5**	**-0.5**
	comp=E,0.5nm,0.6s,baz=108,slow=4.5,SNR=3.8								
ARCES	**ARCESS Array B**	**46.08**	**338**	P			**P**	**02 41 54.3**	**+1.3**
	comp=E,1.8nm,0.8s,baz=107,slow=6.6,SNR=6.5								
TORD	**Torodi Ar. Bea**	**70.05**	**273**	P			**P**	02 44 40.5	-1.3
	comp=E,0.3nm,0.6s,baz=47,slow=5.4,SNR=10								
WRA	**Warramunga Arr**	**76.45**	**125**	P			**P**	**02 45 18.9**	**-0.5**
	comp=E,0.3nm,0.3s,baz=328,slow=5.8,SNR=2.7								
ILAR	**Eielson Array**	**76.98**	**17**	P			**P**	**02 45 21.7**	**-0.1**
	comp=E,0.4nm,0.5s,baz=305,slow=5.2,SNR=8.0								
YKA	**Yellowknife Ar**	**84.53**	**5**	P			**P**	**02 46 01.9**	**-0.2**
	comp=E,0.4nm,0.7s,baz=346,slow=5.0,SNR=7.7								

*ISCJB **25** 02:33:56.5±0.6, 6°.90N±0°.06×73°.03W±0°.07, h171km±5km, mb3.5/5, Error ellipse: s-maj=12.9km s-min=7.2km az=40.2*
*FUNV **25** 02:33:57.8, 6°.80N×73°.10W, h167km, MW3.5*
*IDC **25** 02:33:58.7±3.0, 6°.62N×73°.09W, h186km±48km, mb3.2/5, mb1 3.4/6, mb1mx3.2/22, mbtmp3.7/6, Error ellipse: s-maj=65.4km s-min=26.8km az=33.0*
ISC 25 02:33:57.5±1.0, 6°.89N±0°.07×73°.03W±0°.08, h164km±8km, n24, σ0°82/29, mb3.6/5, 8C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.20**	**36**⇑	*i*P			**Pn**	**02 34 26.2**	**+0.6**
CAPV				*e*S			**Sn**	**02 34 47.6**	**+0.4**
ROSC	**El Rosal** 28nm,0.3s,baz=87,slow=18,SNR=116	**2.41**	**213**	P			**Pn**	**02 34 38.2**	**-0.5**
ROSC				S			**Sn**	**02 35 09.2**	**-1.3**
	123nm,0.3s,baz=61,slow=17,SNR=24								
VIGV	**El Vigia**	**2.54**	**40**⇑	*i*P			**Pn**	**02 34 40.8**	**+0.9**
VIGV				*e*S			**Sn**	**02 35 12.5**	**-0.3**
SOCV	**Socops**	**2.56**	**57**⇑	*e*P			**Pn**	**02 34 40.5**	**+0.4**
SOCV				*e*S			**Sn**	**02 35 12.3**	**-0.7**
ELOV	**Elorza**	**3.52**	**88**⇑	*e*P			**Pn**	**02 34 52.7**	**+0.7**
VIRV	**Villa del Rosa**	**3.64**	**10**⇑	*i*P			**Pn**	**02 34 53.3**	**-0.2**
VIRV				*e*S			**Sn**	**02 35 35.5**	**-1.8**
SANV	**Sanarito**	**4.32**	**53**	*e*P			**Pn**	**02 35 02.4**	**0.0**
CURV	**Curarigua**	**4.33**	**44**⇑	*e*P			**Pn**	**02 35 02.9**	**+0.3**
DABV	**Dabajuro**	**4.65**	**30**	*e*P			**Pn**	**02 35 07.5**	**+0.9**
TEPV	**Terepaima**	**4.87**	**51**⇑	*i*P			**Pn**	**02 35 10.0**	**+0.4**
SIQV	**Siquisique**	**4.90**	**40**	*e*P			**Pn**	**02 35 09.7**	**-0.3**
BAUV	**El Baul**	**5.34**	**67**	*e*P			**Pn**	**02 35 14.8**	**-0.9**
MAPV	**Macapo**	**5.38**	**57**⇑	*i*P			**Pn**	**02 35 16.4**	**+0.1**
MONV	**Montecano**	**5.86**	**31**	*e*P			**Pn**	**02 35 22.5**	**-0.1**
TURV	**Turiamo**	**6.22**	**55**	*e*P			**Pn**	**02 35 27.8**	**+0.4**
MERV	**Las Mercedes**	**7.06**	**70**	*e*P			**Pn**	**02 35 37.3**	**-1.2**
BIRV	**Birongo**	**7.57**	**61**	*e*P			**Pn**	**02 35 43.8**	**-1.4**
CUPV	**Cœpira**	**7.82**	**66**	*e*P			**Pn**	**02 35 47.6**	**-1.0**
PCRV	**Puerto La Cruz**	**8.91**	**68**	*e*P			**Pn**	**02 36 03.3**	**+0.2**
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=116,slow=8.1,SNR=2.7	**36.48**	**312**	P			**P**	**02 40 46.6**	**-0.5**
SCHQ	**Schefferville** 3.8nm,1.0s,baz=194,slow=9.7,SNR=4.1	**48.06**	**5**	P			**P**	**02 42 21.2**	**+1.0**
FRB	**Frobisher Bay** 0.7nm,0.5s,baz=173,slow=7.7,SNR=5.1	**56.84**	**2**	P			**P**	**02 43 25.1**	**+0.5**
YKA	**Yellowknife Ar** 0.4nm,0.5s,baz=132,slow=6.6,SNR=13	**63.23**	**340**	P			**P**	**02 44 08.9**	**+0.8**
TORD	**Torodi Ar. Bea** 0.7nm,1.1s,baz=282,slow=7.0,SNR=4.3	**73.63**	**78**	P			**P**	**02 45 13.1**	**-0.5**

*IDC **25** 02:46:22.3±1.6, 42°.90N×142°.76E, h0km, mb3.8/7, mb1 3.8/7, mb1mx3.6/27, mbtmp3.8/7, Error ellipse: s-maj=38.8km s-min=30.9km az=71.0*
*ISCJB **25** 02:46:25.3±0.8, 42°.18N±0°.09×142°.91E±0°.07, h68km±4km, mb3.6/7, Error ellipse: s-maj=14.6km s-min=7.4km az=164.6*
*JMA **25** 02:46:27.1±0.1, 42°.24N×142°.92E, h53km±1km, M3.2*
ISC 25 02:46:26.0±1.0, 42°.19N±0°.08×142°.90E±0°.05, h60km±7km, n18, σ0°67/22, mb3.7/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.15**	**310**	P			**Pn**	**02 46 35.3**	**0.0**
JNBK				*e*S			**Sn**	**02 46 41.8**	**-0.1**
JEM	**Erimo**	**0.25**	**132**	P			**Pn**	**02 46 36.4**	**+0.6**
JCH	**Churui**	**0.55**	**38**	P			**Pn**	**02 46 38.7**	**+0.2**
JCH				*e*S			**Sn**	**02 46 47.3**	**-0.3**
JBT2	**Biratori 2**	**0.71**	**326**	P			**Pn**	**02 46 40.6**	**+0.1**
JOB	**Onbets**	**0.99**	**43**	P			**Pn**	**02 46 45.1**	**+1.1**
JFR	**Furan**	**1.00**	**347**	P			**Pn**	**02 46 44.3**	**+0.1**
JEW	**Eniwo**	**1.26**	**302**	P			**Pn**	**02 46 48.3**	**+0.8**
JEW				*e*S			**Sn**	**02 47 03.9**	**+0.4**
JAR	**Ashorobuto**	**1.28**	**30**	P			**Pn**	**02 46 47.9**	**+0.1**
JAB	**Ashibetsu**	**1.41**	**339**	P			**Pn**	**02 46 50.8**	**+1.3**
JNB	**Noboribetsu**	**1.41**	**282**	P			**Pn**	**02 46 49.4**	**-0.1**
JNB				*e*S			**Sn**	**02 47 06.6**	**-0.6**
JKB	**Kayabe**	**1.43**	**259**	P			**Pn**	**02 46 50.1**	**+0.4**
JKB				*e*S			**Sn**	**02 47 08.4**	**+0.9**
SONM	**Songino Array** 0.5nm,0.9s,baz=91,slow=7.6,SNR=2.8	**26.25**	**295**	P			**P**	**02 51 54.7**	**-0.8**
ZALV	**Zalesovo Beam** 0.7nm,0.6s,baz=93,slow=8.3,SNR=4.0	**39.48**	**308**	P			**P**	**02 53 51.0**	**+0.8**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=86,slow=9.3,SNR=5.6	**42.55**	**298**	P			**P**	**02 54 16.0**	**+0.4**
KURBB	**Kurchatov Arra** 1.0nm,0.7s,baz=74,slow=9.0,SNR=8.5	**43.90**	**304**	P			**P**	**02 54 26.8**	**+0.3**
JAY	**Jayapura** 6.2nm,0.8s,baz=357,slow=17,SNR=3.0	**44.54**	**183**	P			P	02 54 41.4	+9.5
RES	**Resolute Bay** 0.6nm,0.6s,baz=226,slow=3.3,SNR=5.5	**57.33**	**15**	P			**P**	**02 56 07.1**	**-0.1**
FINES	**FINESS Array B** 1.2nm,0.7s,baz=63,slow=6.8,SNR=11	**64.81**	**332**	P			**P**	**02 56 57.0**	**-1.0**

*CSEM **25** 02:47:51.5, 42°.27N×13°.57E, h9km, ML1.4/4*
ROM 25 02:47:51.5±0.1, 42°.27N×13°.57E, h9km±1km, Ml1.4/4, Error ellipse: s-maj=1.7km s-min=1.4km az=28.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.01**	**110**	Pg			Pg	02 47 53.3	0.0
FAGN				Sg			Sg	02 47 54.1	-0.4
FAGN	**Fagnano**	**0.01**	**110**	Pg			Pg	02 47 53.3	0.0
FAGN				Sg			Sg	02 47 54.1	-0.4
AQU	**L'Aquila**	**0.15**	**304**	Pg			Pg	02 47 55.5	+0.6
AQU				Sg			Sg	02 47 58.2	+1.0
AQU	**L'Aquila**	**0.15**	**304**	Pg			Pg	02 47 55.5	+0.6
AQU				Sg			Sg	02 47 58.2	+1.0
T0104	**Madonna delle**	**0.19**	**298**	Pg			Pg	02 47 56.6	+1.0
T0104				Sg			Sg	02 47 59.7	+1.3
VCEL	**Villa Celiera**	**0.24**	**59**	Pg			Pg	02 47 57.5	+1.0
VCEL				Sg			Sg	02 48 01.7	+1.8
VCEL	**Villa Celiera**	**0.24**	**59**	Pg			Pg	02 47 57.5	+1.0
VCEL				Sg			Sg	02 48 01.7	+1.8
PTQR	**Pietraquaria**	**0.28**	**206**	Pg			Pg	02 47 57.3	+0.1
PTQR				Sg			Sb	02 48 02.8	-0.8
PTQR	**Pietraquaria**	**0.28**	**206**	Pg			Pg	02 47 57.3	+0.1
PTQR				Sg			Sb	02 48 02.8	-0.8
CAMP	**Campotosto** 27nm,0.8s	**0.29**	**336**	Pg			Pb	02 47 58.5	-0.6
CAMP				Sg			Sg	02 48 02.8	+1.3
CAMP	**Campotosto** 27nm,0.8s	**0.29**	**336**	Pg			Pb	02 47 58.5	-0.6
CA

BADI				Sg		Sg	02 48 02.5	+0.9
	2μm,0.2s							
ARVD	**Arcevia**	**0.33**	**64**⇑	*i* Pg		**Pg**	02 47 59.2	-0.2
ARVD				Sg		**Sg**	02 48 04.8	+1.0
	200nm,0.2s							
ARVD	**Arcevia**	**0.33**	**64**⇑	*i* Pg		**Pg**	02 47 59.2	-0.2
ARVD				Sg		**Sg**	02 48 04.8	+1.0
	200nm,0.2s							
PARC	**Parchiule**	**0.36**	**324**	Pg		**Pg**	02 48 00.0	0.0
PARC				Sg		**Sb**	02 48 05.9	-1.2
	256nm,0.2s							
PARC	**Parchiule**	**0.36**	**324**	Pg		**Pg**	02 48 00.0	0.0
PARC				Sg		**Sb**	02 48 05.9	-1.2
	256nm,0.2s							
FSSB	**Fossombrone**	**0.38**	**28**	Pg		**Pg**	02 48 00.1	-0.2
FSSB				Sg		**Sg**	02 48 06.4	+1.0
	587nm,0.2s							
FSSB	**Fossombrone**	**0.38**	**28**	Pg		**Pg**	02 48 00.1	-0.2
FSSB				Sg		**Sg**	02 48 06.4	+1.0
	587nm,0.2s							
CAFI	**Castiglion Fio**	**0.41**	**267**	Pg		**Pg**	02 48 00.9	0.0
CAFI				Sg		**Sg**	02 48 07.1	+0.8
	161nm,0.3s							
CAFI	**Castiglion Fio**	**0.41**	**267**	Pg		**Pg**	02 48 00.9	0.0
CAFI				Sg		**Sg**	02 48 07.1	+0.8
	161nm,0.3s							
CESI	**CESI - Serrava**	**0.45**	**142**	Pg		**Pg**	02 48 01.3	-0.2
CESI				Sg		**Sb**	02 48 08.7	-0.8
CESI	**CESI - Serrava**	**0.45**	**142**	Pg		**Pg**	02 48 01.3	-0.2
CESI				Sg		**Sb**	02 48 08.7	-0.8
CING	**Cingoli**	**0.49**	**87**	Pg		**Pg**	02 48 02.0	-0.3
CING				Sg		**Sb**	02 48 10.0	-0.7
CING	**Cingoli**	**0.49**	**87**	Pg		**Pg**	02 48 02.0	-0.3
CING				Sg		**Sb**	02 48 10.0	-0.7
CRE	**Caprese Michel**	**0.50**	**302**	Pg		**Pg**	02 48 02.2	-0.3
	72nm,0.3s							
CRE	**Caprese Michel**	**0.50**	**302**	Pg		**Pg**	02 48 02.2	-0.3
	72nm,0.3s							
FDMO	**Fiordimonte**	**0.52**	**128**	Pg		**Pg**	02 48 02.5	-0.3
FDMO				Sg		**Sb**	02 48 10.9	-0.7
FDMO	**Fiordimonte**	**0.52**	**128**	Pg		**Pg**	02 48 02.5	-0.3
FDMO				Sg		**Sb**	02 48 10.9	-0.7
MGAB	**Montegabbione**	**0.54**	**215**⇑	*i* Pg		**Pg**	02 48 03.2	0.0
MGAB				Sg		**Sb**	02 48 11.9	-0.2
MGAB	**Montegabbione**	**0.54**	**215**⇑	*i* Pg		**Pg**	02 48 03.2	0.0
MGAB				Sg		**Sb**	02 48 11.9	-0.2
RSM	**Repubblica di**	**0.58**	**354**	Pg		**Pb**	02 48 04.8	-0.3
RSM	**Repubblica di**	**0.58**	**354**	Pg		**Pb**	02 48 04.8	-0.3
SENI	**Senigallia**	**0.62**	**55**	Pg		**Pb**	02 48 05.3	-0.4
SENI	**Senigallia**	**0.62**	**55**	Pg		**Pb**	02 48 05.3	-0.4
PESA	**Pesaro**	**0.63**	**21**	Pg		**Pg**	02 48 04.9	0.0
PESA				Sg		**Sb**	02 48 14.7	0.0
	311nm,0.2s							
PESA	**Pesaro**	**0.63**	**21**	Pg		**Pg**	02 48 04.9	0.0
PESA				Sg		**Sb**	02 48 14.7	0.0
	311nm,0.2s							
NRCA	**Norcia**	**0.68**	**140**	Pg		**Pg**	02 48 05.4	-0.4
NRCA				Sg		**Sb**	02 48 15.9	-0.2
NRCA	**Norcia**	**0.68**	**140**	Pg		**Pg**	02 48 05.4	-0.4
NRCA				Sg		**Sb**	02 48 15.9	-0.2
SACS	**San Casciano d**	**0.68**	**222**	Pg		**Pg**	02 48 05.7	-0.2
SACS				Sg		**Sb**	02 48 16.3	0.0
ASQU	**Asqua**	**0.70**	**310**	Pg		**Pg**	02 48 06.1	-0.1
	90nm,0.6s							
ASQU	**Asqua**	**0.70**	**310**	Pg		**Pg**	02 48 06.1	-0.1
	90nm,0.6s							
SFI	**Santa Sofia**	**0.74**	**318**	Pg		**Pg**	02 48 06.9	-0.2
	44nm,0.6s							
SFI	**Santa Sofia**	**0.74**	**318**	Pg		**Pg**	02 48 06.9	-0.2
	44nm,0.6s							
AOI	**Ancona**	**0.81**	**76**	Pg		**Pg**	02 48 08.0	-0.3
AOI	**Ancona**	**0.81**	**76**	Pg		**Pg**	02 48 08.0	-0.3
CSNT	**Castellina Chi**	**0.91**	**278**	Pg		**Pg**	02 48 10.1	-0.2
CSNT	**Castellina Chi**	**0.91**	**278**	Pg		**Pg**	02 48 10.1	-0.2
LATE	**Laterza**	**0.91**	**216**	Pg		**Pg**	02 48 10.1	-0.2
LATE	**Laterza**	**0.91**	**216**	Pg		**Pg**	02 48 10.1	-0.2
ARCI	**Arcidosso**	**0.92**	**237**	Pg		**Pg**	02 48 09.8	-0.7
ARCI	**Arcidosso**	**0.92**	**237**	Pg		**Pg**	02 48 09.8	-0.7
OFFI	**Offida**	**0.94**	**116**	Pg		**Pb**	02 48 11.6	+0.3
OFFI	**Offida**	**0.94**	**116**	Pg		**Pb**	02 48 11.6	+0.3
MNS	**Montasola**	**0.98**	**173**	Pg		**Pb**	02 48 11.6	-0.2
MNS	**Montasola**	**0.98**	**173**	Pg		**Pb**	02 48 11.6	-0.2
GUMA	**Gualdo di Mace**	**1.07**	**105**	Pg		Pg	02 48 05.4	-7.9
GUMA				Sg		Sg	02 48 15.5	-12
NVLJ	**Novalja**	**2.08**	**54**	*e*Pn		**Pn**	02 48 28.0	+0.3
NVLJ				Sn		**Sb**	02 48 55.3	-1.1
NVLJ	**Novalja**	**2.08**	**54**	*e*Pn		**Pn**	02 48 28.0	+0.3
NVLJ				Sn		**Sb**	02 48 55.3	-1.1
OBKA	**Obir**	**3.46**	**24**⇑	*i* Pn		**Pn**	02 48 46.6	-0.3
OBKA	**Obir**	**3.46**	**24**	Pn		**Pn**	02 48 46.6	-0.3
STON	**Ston**	**3.82**	**96**	*i* Pn		**Pn**	02 48 51.9	+0.2
STON				Sn		**Sn**	02 49 37.1	+0.6
STON	**Ston**	**3.82**	**96**	*i* Pn		**Pn**	02 48 51.8	+0.2
STON				Sn		**Sn**	02 49 37.1	+0.6

IDC 25 02:49:06.2±1.8, 1°17N×126°56E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/40, mbtmp3.6/4, Error ellipse: s-maj=173.8km s-min=21.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.32**	**160**	P	P	02 54 04.9	-0.8
	2.2nm,0.5s,baz=339,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.70**	**164**	P	P	02 54 38.8	+0.5
	0.8nm,0.5s,baz=343,slow=9.1,SNR=11						
MKAR	**Makanchi Array**	**59.56**	**326**	P	P	02 59 11.8	+0.1
	0.1nm,0.5s,baz=122,slow=8.0,SNR=4.2						
KURBB	**Kurchatov Arra**	**63.80**	**328**	P	P	02 59 40.0	-0.1
	0.3nm,0.4s,baz=127,slow=6.9,SNR=5.2						

*BJI **25** 02:58:14.9, 35.°10S×71.°90W, h35km, mB5.1/5, Ms5.2/4, Ms7 4.9/5*
*GUC **25** 02:58:15.2±0.3, 35.°05S×71.°97W, h38km±9km, ML4.5*
*IDC **25** 02:58:16.9±0.7, 35.°10S×71.°86W, h46km±6km, mb4.2/10, mb1 4.3/14, mb1mx4.2/20, mbtmp4.4/14, ML4.3/4, MS3.5/9, Ms1 3.5/9, ms1mx3.4/19, Error ellipse: s-maj=22.7km s-min=12.7km az=91.0*
*ISCJB **25** 02:58:17.2±0.3, 35.°23S±0.°03×71.°77W±0.°05, h63km±3km, mb4.6/19, Error ellipse: s-maj=7.4km s-min=3.8km az=21.1*
*NEIC **25** 02:58:17.0, 35.°11S×71.°95W, h38km, mb4.7/8, After GUC.*
NEIC Felt [VI] at Talca; [V] at Curico, Rio Claro and Yerbas Buenas; [IV] at Longavi, Rancagua and San Fernando; [III] at Cauquenes, Linares, Parral, Pichilemu and Retiro; [II] at San Antonio and Santiago.

ISC 25 02:58:16.5±0.5, 35.°15S±0.°03×71.°91W±0.°05, h45km±4km, h44km:pP-P,n129,σ1s38/163, mb4.7/19, MS3.8/6, 2C-7D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.33**	**138**	⇓*i* P		**Pn**	02 58 26.2	+0.7
TALC				*i* S		**Sn**	02 58 33.2	+1.4
TALC				AML	AML	02 58 35.5	
	comp=E,213μm,0.9s						
NICH	**Los Niches**	**0.58**	**75**	⇓*i* P		**Pn**	02 58 29.1	+0.6
NICH				*i* S		**Sn**	02 58 38.1	+1.1
NICH				AML	AML	02 58 38.6	
	comp=N,207μm,0.2s						
LNCH	**Linares**	**0.74**	**160**	⇓*i* P		**Pn**	02 58 32.3	+1.6
LNCH				*i* S		**Sn**	02 58 43.3	+2.5
COCH	**Cobquecura**	**1.21**	**216**	*e*P		**Pn**	02 58 37.9	+0.9
COCH				*e*S		**Sn**	02 58 55.3	+3.1
LNV	**Longovilo**	**1.26**	**19**⇑	*i* P		**Pn**	02 58 39.0	+1.3
TACH	**Talagante**	**1.70**	**28**	⇓*i* P		**Pn**	02 58 44.9	+1.2
RCDM	**Rinconada Maip**	**1.89**	**29**	⇓*i* P		**Pn**	02 58 47.4	+1.0
RCDM				*i* S		**Sn**	02 59 11.1	+2.0
RCDM				AML	AML	02 59 17.9	
	comp=E,15μm,0.1s						
CCSP	**San Pedro de C**	**1.95**	**210**	*e*P1		**Pn**	02 58 49.0	+1.8
SJCH	**San Jose de Ma**	**1.98**	**41**	*e*P		**Pn**	02 58 48.3	+0.6
SJCH				*e*S		**Sn**	02 59 13.5	+2.2
SJCH				AML	AML	02 59 19.5	
	comp=N,9μm,0.5s						
SAN	**Santiago**	**1.98**	**32**	⇓*i* P		**Pn**	02 58 49.1	+1.4
SAN				*i* S		**Sn**	02 59 13.8	+2.5
SAN				AML	AML	02 59 21.4	
	comp=N,12μm,0.6s						
STL	**Santa Lucia**	**2.01**	**32**	*e*P		**Pn**	02 58 48.6	+0.6
STL				*e*S		**Sn**	02 59 14.1	+2.2
STL				AML	AML	02 59 19.8	
	comp=E,3μm,0.4s						
FSR	**Penalolen**	**2.02**	**35**⇑	*i* P		**Pn**	02 58 50.6	+2.4
FSR				*i* S		**Sn**	02 59 15.8	+3.5
LACH	**Col Las Americ**	**2.04**	**34**	*e*P		**Pn**	02 58 49.1	+0.6
LACH				*e*S		**Sn**	02 59 14.8	+1.9
LACH				AML	AML	02 59 21.5	
	comp=N,9μm,0.8s						
CLCH	**Cerro Calan**	**2.09**	**33**	⇓*i* P		**Pn**	02 58 50.5	+1.3
CLCH				*i* S		**Sn**	02 59 16.4	+2.5
CLCH				AML	AML	02 59 25.3	
	comp=N,23μm,0.5s						
YECH	**El Yeso**	**2.12**	**46**	*e*P		**Pn**	02 58 51.1	+1.3
YECH				*e*S		**Sn**	02 59 18.2	+3.2
FCH	**Farellones**	**2.26**	**37**	AML	AML	02 59 36.4	
	comp=N,18μm,0.2s						
CFAA	**Coronel Fontan**	**4.69**	**42**	P		**Pn**	02 59 25.9	+1.1
	comp=N,3.4nm,0.3s,baz=211,slow=13,SNR=289						
CFAA				S		**Sn**	03 00 23.1	+5.2
	comp=N,2.7nm,0.3s,baz=326,slow=18,SNR=3.2						
CFAA				LR	LR	03 01 36.2	
	comp=N,87nm,20.7s,baz=230,slow=43						
PLCA	**Paso Flores**	**5.67**	**170**	P		**Pn**	02 59 40.6	+2.3
	comp=N,3.7nm,0.3s,baz=345,slow=12,SNR=18						
PLCA				S		Sn	03 00 53.5	+11
	comp=N,1.5nm,0.3s,baz=353,slow=16,SNR=1.7						
PLCA				LR	LR	03 01 49.4	
	comp=N,334nm,18.6s,baz=288,slow=37						
LCO	**Las Campanas**	**6.21**	**10**	*e*Pn		**Pn**	02 59 45.2	-0.7
	comp=N,70nm,0.4s						
LCO				*e*S		**Sn**	03 00 53.7	-2.0
TRQA	**Tornquist**	**8.49**	**113**	*e*Pn		**Pn**	03 00 17.4	+0.5
	comp=N,76nm,1.3s						
TRQA				*e*S		**Sn**	03 01 50.3	-1.2
LVC	**Limon Verde**	**12.77**	**13**	*e*Pn		**Pn**	03 01 14.2	-1.4
	comp=N,8.4nm,0.6s						
LPAZ	**La Paz**	**19.09**	**11**	P		**P**	03 02 35.9	-0.3
	comp=N,0.5nm,0.3s,baz=181,slow=7.2,SNR=26						
LPAZ	**La Paz**	**19.09**	**11**	*e*P		**Pn**	03 02 37.9	+0.6
USHA	**Ushuaia**	**19.83**	**174**	P		**P**	03 02 43.8	+0.6
	comp=N,0.5nm,0.3s,baz=345,slow=9.9,SNR=4.3						
USHA				LR	LR	03 10 23.1	
	comp=N,263nm,20.7s,baz=32,slow=36						
SIV	**San Ignacio**	**21.41**	**30**	P		**P**	03 03 00.1	-0.6
	comp=N,12nm,0.7s,baz=217,slow=9.3,SNR=30						
SIV				pP		**pP**	03 03 10.9	-0.6
	comp=N,8.6nm,0.7s,baz=232,slow=13,SNR=6.8						
SIV				LR	LR	03 13 06.0	
	comp=N,120nm,19.4s,baz=217,slow=42						
SAML	**Samuel**	**27.28**	**19**	*e*P		**P**	03 03 56.2	-0.7
	comp=N,5.4nm,1.2s						
ATAH	**Atahualpa**	**28.52**	**346**	LR	LR	03 13 49.3	
	comp=N,58nm,19.4s,baz=244,slow=33						
PMSA	**Palmer Station**	**30.03**	**173**	LR	LR	03 15 42.6	
	comp=N,241nm,19.4s,baz=86,slow=35						
HOPE	**Hope Point**	**31.15**	**139**	P		**P**	03 04 31.6	+0.8
	comp=N,32nm,1.1s						
PTGA	**Pitinga**	**36.01**	**21**	*e*P		**P**	03 05 12.9	-0.6
	comp=N,8.5nm,1.1s						
SDV	**Santo Domingo**	**43.82**	**2**	*e*P		**P**	03 06 17.1	-1.4
	comp=N,9.2nm,0.9s						
RCBR	**Riachuelo**	**44.17**	**57**	P		**P**	03 06 21.3	+0.1
	comp=N,21nm,1.2s,baz=236,slow=12,SNR=5.0						
VNA3	**Neumayer Olymp**	**48.26**	**157**	P		**P**	03 06 50.9	-1.7
VNA2	**Neumayer--Watz**	**48.91**	**157**	P		**P**	03 06 57.2	-0.4
SNAA	**Sanae**	**50.48**	**157**	P		**P**	03 07 09.8	+0.3
SNAA	**Sanae**	**50.48**	**157**	P		**P**	03 07 09.9	+0.3
	comp=N,0.8nm,0.4s,baz=280,slow=9.0,SNR=9.0						
SNAA				pP		**pP**	03 07 22.8	+0.7
	comp=N,1.3nm,0.6s,baz=302,slow=5.1,SNR=2.5						
SNAA	**Sanae**	**50.48**	**157**	*e*P		**P**	03 07 09.6	0.0
	comp=N,11nm,1.1s						
SNAA				pP		**pP**	03 07 22.8	+0.7
QSPA	**South Pole Qui**	**55.09**	**180**	P		**P**	03 07 44.7	+0.9
	comp=N,10nm,1.0s,baz=146,slow=0.4,SNR=33						
QSPA				pP		**pP**	03 07 56.6	+0.3
	comp=N,4.0nm,0.7s,baz=219,slow=3.0,SNR=3.8						
531A	**Rocksprings**	**70.35**	**334**	P		**P**	03 09 26.9	+1.3
	baz=71						
JCT	**Junction City**	**70.37**	**335**	P		**P**	03 09 25.8	+0.1
	baz=71						
433A	**Art**	**70.37**	**335**	P		**P**	03 09 26.3	+0.5
	baz=71						
334A	**Lometa**	**70.62**	**336**	P		**P**	03 09 27.9	+0.7
	baz=71						
TXAR	**Lajitas Array**	**70.79**	**331**	P		**P**	03 09 29.3	+0.9
	comp=N,0.5nm,0.6s,baz=152,slow=9.5,SNR=5.8						
TXAR				pP		**pP**	03 09 41.5	+0.1
	comp=N,0.5nm,0.6s,baz=151,slow=8.3,SNR=6.1						
233A	**Rising Star**	**71.47**	**336**	P		**P**	03 09 33.1	+0.8
	baz=72						
134A	**White-Moore Ra**	**71.71**	**337**	P		**P**	03 09 33.7	-0.1
	baz=72						
MAW	**Mawson**	**72.05**	**163**	LR	LR	03 40 48.7	
	comp=N,70nm,20.1s,baz=238,slow=35						
329A	**Wagon Wheel Ra**	**72.07**	**333**	P		**P**	03 09 36.1	+0.1
	baz=72						
WVT	**Waverly**	**72.45**	**347**	*e*P		**P**	03 09 38.2	+0.1
	comp=N,13nm,0.6s						
Z33A	**Whitaker Ranch**	**72.59**	**337**	P		**P**	03 09 39.8	+0.8
	baz=73						
Z32A	**Haskell**	**72.84**	**336**	P		**P**	03 09 41.6	+1.1
	baz=73						
Y33A	**Hilltop Ranch,**	**73.21**	**337**	P		**P**	03 09 43.2	+0.5
	baz=74						
128A	**Castleberry Fa**	**73.27**	**333**	P		**P**	03 09 43.8	+0.7
	baz=74						
X34A	**Smith Ranch, M**	**73.50**	**338**	P		**P**	03 09 45.7	+1.3
	baz=74						
W32A	**Sentinel**	**74.43**	**337**	P		**P**	03 09 51.0	+1.2
	baz=75						
MSTX	**Muleshoe**	**74.59**	**334**	P		**P**	03 09 51.7	+0.8
	baz=75						
LIC	**Lamto**	**75.04**	**71**	*e*P		**P**	03 09 53.1	-0.7
	comp=N,23nm,0.4s						
TIC	**Toumodi**	**75.31**	**71**	*e*P		**P**	03 09 55.1	-0.3
	comp=N,6.0nm,0.2s						
KIC	**Kosan Boka**	**75.35**	**71**	*e*P		**P**	03 09 55.0	-0.6
	comp=N,32nm,0.5s						
DBIC	**Dimbokro**	**75.45**	**71**	P		**P**	03 09 55.9	-0.3
	comp=N,9.9nm,0.5s,baz=202,slow=5.1,SNR=24						
DBIC				LR	LR	03 40 26.8	
	comp=N,48nm,19.3s,baz=218,slow=34						
DBIC	**Dimbokro**	**75.45**	**71**	*e*P		**P**	03 09 55.9	-0.3
	comp=N,11nm,0.7s						
U32A	**Winter Ranch,**	**75.51**	**338**	P		**P**	03 09 57.0	+1.0
	baz=76						
V25A	**Rancho No Teng**	**76.93**	**333**	P		**P**	03 10 05.4	+1.1
	baz=77						
R26A	**Arlington**	**78.71**	**335**	P		**P**	03 10 15.6	+1.6
	baz=79						
S24A	**Houchin Ranch,**	**78.75**	**334**	P		**P**	03 10 15.8	+1.3
	baz=79						
L31A	**Butterfield Fa**	**80.81**	**340**	P		**P**	03 10 26.7	+1.4
	baz=81						
ECSD	**EROS Data Cent**	**81.68**	**342**	P		**P**	03 10 30.2	+0.4
	baz=82						
J29A	**Okreek**	**82.37**	**340**	P		**P**	03 10 34.2	+0.8
	baz=83						
I30A	**Oacoma**	**82.58**	**340**	P		**P**	03 10 35.0	+0.5
	baz=83						
I28A	**Midland**	**83.16**	**339**	P		**P**	03 10 38.6	+1.1
	baz=83						
H28A	**Mission Ridge**	**83.73**	**340**	P		**P**	03 10 41.6	+1.2
	baz=84						
DUG	**Dugway, Tooele**	**83.92**	**330**	P		**P**	03 10 42.7	+1.0
	baz=84						
H27A	**Howes**	**84.00**	**339**	P		**P**	03 10 42.7	+0.9
	baz=84						
H25A	**Fruitdale**	**84.45**	**338**	P		**P**	03 10 46.0	+1.8
	baz=85						
TORD	**Torodi Ar. Bea**	**84.50**	**70**	P		**P**	03 10 44.6	-0.4
	comp=N,10nm,0.7s,baz=275,slow=5.4,SNR=101						
TORD				LR	LR	03 48 28.4	
	comp=N,29nm,18.1s,baz=205,slow=36						
J21A	**Lysite**	**84.58**	**335**	P		**P**	03 10 46.7	+1.7
	baz=85						
I22A	**9 Mile Ranch,**	**84.73**	**336**	P		**P**	03 10 47.0	+1.3
	baz=85						
PDAR	**Pinedale Array**	**84.84**	**333**	P		**P**	03 10 46.1	-0.3
	comp=N,0.8nm,1.0s,baz=133,slow=5.0,SNR=3.5						
PDAR				pP		**pP**	03 11 00.2	+0.5
	comp=N,0.6nm,0.6s,baz=146,slow=11,SNR=2.9						
H24A	**Dirks Ranch, A**	**84.86**	**337**	P		**P**	03 10 47.3	+1.0
	baz=85						
NVAR	**Mina Array Bea**	**84.89**	**325**	P		**P**	03 10 47.5	+0.7
	comp=N,0.6nm,0.7s,baz=154,slow=5.7,SNR=4.0						
I21A	**Big Trails, Te**	**84.94**	**335**	P		**P**	03 10 47.5	+0.7
	baz=85						
J19A	**Crowheart**	**85.08**	**334**	P		**P**	03 10 48.2	+0.7
	baz=85						
I20A	**Worland**	**85.35**	**335**	P		**P**	03 10 49.0	+0.3
	baz=86						
I19A	**Meeteetse**	**85.73**	**334**	P		**P**	03 10 51.2	+0.4
	baz=86						
H20A	**Greybull**	**85.77**	**335**	P		**P**	03 10 51.3	+0.4
	baz=86						
F24A	**Ekalaka**	**85.81**	**338**	P		**P**	03 10 51.2	+0.3
	baz=86						
C30A	**Mose, Pekin**	**85.85**	**342**	P		**P**	03 10 51.8	+0.8
	baz=86						
F23A	**Volborg**	**86.00**	**337**	P		**P**	03 10 52.7	+0.8
	baz=86						
I17A	**Pilgrim Ck.**	**86.21**	**333**	P		**P**	03 10 53.7	+0.6
	baz=86						
H19A	**Powell**	**86.28**	**334**	P		**P**	03 10 53.8	+0.4
	baz=86						
E24A	**Baker**	**86.41**	**338**	P		**P**	03 10 54.8	+0.9
	baz=87						
G20A	**Bridger**	**86.49**	**335**	P		**P**	03 10 54.2	-0.2
	baz=87						
B30A	**Myrvik Farm, E**	**86.51**	**343**	P		**P**	03 10 55.1	+0.9
	baz=87						
H18A	**Shoshone NF, C**	**86.53**	**334**	P		**P**	03 10 54.9	+0.2
	baz=87						
D25A	**Fairfield**	**86.65**	**339**	P		**P**	03 10 55.9	+0.9
	baz=87						
E23A	**Ismay**	**86.67**	**338**	P		**P**	03 10 55.7	+0.6
	baz=87						
A29A	**Manning Farm,**	**87.17**	**342**	P		**P**	03 10 57.5	+0.1
	baz=87						
D23A	**Lindsay**	**87.24**	**338**	P		**P**	03 10 58.9	+1.1
	baz=88						
HLID	**Hailey**	**87.39**	**331**	P		**P**	03 10 59.7	+0.8
	baz=88						
E20A	**Meyer Farm, Mu**	**87.58**	**336**	P		**P**	03 11 00.0	+0.5
	baz=88						
B25A	**Knox Farm, Ray**	**87.62**	**340**	P		**P**	03 11 00.9	+1.2
	baz=88						
ULM	**Lac du Bonnet**	**87.64**	**345**	P		**P**	03 10 58.9	-0.7
	comp=N,3.9nm,0.9s,baz=155,slow=5.3,SNR=5.2						
E19A	**Rath Farm, Rou**	**87.77**	**335**	P		**P**	03 11 01.1	+0.6
	baz=88						
C23A	**Lambert**	**87.79**	**338**	P		**P**	03 11 00.3	-0.2
	baz=88						
D20A	**Manuel Ranch,**	**88.10**	**336**	P		**P**	03 11 02.6	+0.6
	baz=88						
C19A	**Slack Wire Ran**	**88.96**	**336**	P		**P**	03 11 07.1	+1.0
	baz=89						
TAM	**Tamanrasset**	**93.22**	**64**	*e*P		**P**	03 11 26.7	+0.1
	comp=N,2.7nm,1.2s						
VYHS	**Vyhne**	**115.79**	**48**	*e*PKP		**PKPdf**	03 16 56.2	+2.6
WRA	**Warramunga Arr**	**119.81**	**209**	PKP		**PKPdf**	03 17 01.9	-0.4
	comp=N,0.4nm,0.7s,baz=156,slow=1.7,SNR=3.0						
BRTR	**Keskin Array B**	**122.29**	**62**	PKP		**PKPdf**	03 17 06.5	-0.2
	comp=N,1.2nm,0.7s,baz=176,slow=4.2,SNR=9.2						
AKASG	**Malin Array Be**	**122.89**	**48**	PKP		**PKPdf**	03 17 06.6	-0.6
	comp=N,1.5nm,0.7s,baz=273,slow=1.6,SNR=3.3						
BVAR	**Borovoye Array**	**148.04**	**44**	PKPbc		**PKPbc**	03 17 56.2	-0.4
	comp=N,3.5nm,0.7s,baz=294,slow=2.5,SNR=21						
HYB	**Hyderabad**	**148.34**	**116**	*i* PKP		**PKPbc**	03 17 57.5	-1.0
KKAR	**Karatay Array**	**149.98**	**63**	*e*PKPbc		**PKPbc**	03 18 01.6	-0.3
AML	**Almayashu**	**152.38**	**65**	P		**PKPbc**	03 18 08.6	+0.6
	SNR=7.4							
EKS2	**Erkin-Say**	**152.41**	**64**	P		**PKPbc**	03 18 08.2	+0.6
	SNR=7.0							
EKS2	**Erkin-Say**	**152.41**	**64**	*e*PKPbc		**PKPbc**	03 18 08.0	+0.4
AAK	**Ala-Archa**	**152.94**	**64**	P		**PKPbc**	03 18 09.7	+0.8
	SNR=10.0							
AAK	**Ala-Archa**	**152.94**	**64**	*e*PKPbc		**PKPbc**	03 18 09.5	+0.7
UCH	**Uchtor**	**152.98**	**65**	P		**PKPbc**	03 18 10.0	+0.7
	SNR=10							
KURK	**Kurchatov**	**153.63**	**45**	*e*PKPbc		**PKPbc**	03 18 09.9	+0.1
KURK				*e*PKPab		**PKPab**	03 18 22.8	+0.1
TKM2	**Tokmak 2**	**153.72**	**63**	P		**PKPbc**	03 18 10.6	0.0
	SNR=5.8							
TKM2	**Tokmak 2**	**153.72**	**63**	*e*PKPbc		**PKPbc**	03 18 10.9	+0.3
KSH	**Kashi**	**154.17**	**71**	*e*PKPbc		**PKPdf**	03 18 03.4	0.0
KSH				sPKP			03 18 17.3	
KSH				PKS		**PKSdf**	03 21 38.3	+0.6
KSH				PP		**PP**

MRL	Marmol	1.84 321	⇑	*i*P	Pn	03 36 35.5	+1.5
APG	El Apazote	2.35 305	P		Pn	03 36 35.8	-3.8
5.6nm,0.3s,baz=122,slow=6.7,SNR=71							
APG			S		Sn	03 37 07.2	-4.7
2.2nm,0.3s,baz=127,slow=20,SNR=9.5							
JTS	JuntasAbangare	4.80 134	P		Pn	03 37 10.5	+0.9
4.8nm,0.3s,baz=112,slow=23,SNR=12							
JTS			S		Sn	03 38 01.7	-4.1
4.5nm,0.3s,baz=311,slow=22,SNR=9.0							
JCR	Jicaral	5.01 138	*e*P		Pn	03 37 13.4	+1.0
JCR			*e*S		Sn	03 38 01.4	-9.4
CGA2	Cerro Gallo 2	5.33 132	*e*P		Pn	03 37 18.6	+1.9
CGA2			*e*S		Sn	03 38 18.2	-0.3
URSC	Urasca	5.96 129	*e*P		Pn	03 37 27.9	+3.0
BUS	Buena Vista	6.16 131	*e*P		Pn	03 37 29.8	+2.1
BUS			*e*S		Sn	03 38 37.2	-1.0
TEIG	Tepich	6.55 2	P		Pn	03 37 31.6	-0.7
0.2nm,0.3s,baz=108,slow=16,SNR=1.8							
CMIG	Matias Romero	7.06 300	P		Pn	03 37 39.7	+0.6
0.4nm,0.3s,baz=147,slow=7.7,SNR=6.5							
CMIG			S		Sn	03 38 51.8	-7.1
0.9nm,0.3s,baz=260,slow=20,SNR=7.0							
TXAR	Lajitas Array	21.02 320	P		P	03 40 29.1	+1.6
0.7nm,0.6s,baz=131,slow=9.7,SNR=6.1							
TKL	Tuckaleechee C	22.33 10	P		P	03 40 41.8	+1.2
5.2nm,0.7s,baz=186,slow=11,SNR=8.2							
ULM	Lac du Bonnet	37.00 352	P		P	03 42 48.4	-1.3
1.6nm,0.4s,baz=165,slow=9.0,SNR=4.2							
SCHQ	Schefferville	44.45 18	P		P	03 43 50.2	-0.3
3.6nm,1.0s,baz=247,slow=7.7,SNR=1.6							
YKA	Yellowknife Ar	52.20 345	P		P	03 44 49.8	+0.2
0.4nm,0.5s,baz=137,slow=8.2,SNR=14							

IDC ***25*** *03:51:11.8±0.8,0°.55S×133°.39E,h0km,mb4.2/7, mb1 4.4/9,mb1mx4.2/30,mbtmp4.3/9,ML4.3/2,MS3.3/4, Ms1 3.3/4,ms1mx2.9/31,Error ellipse: s-maj=43.8km s-min=16.8km az=77.0*

ISCJB ***25*** *03:51:16.2±0.8,0°.88S±0°.06×133°.33E±0°.05,h29km, mb4.1/7,MS3.5/1,Error ellipse: s-maj=8.0km s-min=6.9km az=11.9*

DJA ***25*** *03:51:19.7±0.4,1°.S±4°×13°.3E±°,h10km,M4.7/7,mb4.9/6, mB5.1/3,MLv4.7/7,Mw(mB)4.5/3*

ISC 25 03:51:16.7±0.7,0.75S±0.06×133.25E±0.06,h29km,n36,
σ2º18/34,mb4.2/7,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	Ransiki, Papua	1.20	129	P	Pb	03 51 39.5	+0.7
RKPI				S	Sb	03 51 57.5	+3.6
FAKI	Fak Fak	2.38	205	P	Pn	03 51 55.2	+1.5
FAKI				S	Sn	03 52 20.1	-1.8
FAKI	Fak Fak	2.38	205	P	Pn	03 51 55.2	+1.5
baz=2.3,SNR=137							
BNDI	Bandanaira	5.02	222	P	Pn	03 52 32.0	+1.9
BNDI				S	Sn	03 53 28.9	+1.7
MSAI	Masohi	5.03	239	P	Pn	03 52 32.8	+2.6
MSAI				S	Sn	03 53 29.6	+2.2
SMPI	Sarmi	5.60	103	P	Pn	03 52 43.5	+5.5
17nm,1.3s,0.9nm							
NLAI	Namlea	6.62	248	P	Pn	03 52 54.8	+2.7
73nm,0.5s,904nm0.3nm							
NLAI				S	Sn	03 54 09.3	+2.6
73nm,0.5s,904nm0.3nm							
JAY	Jayapura	7.66	103	LR	LR	03 56 19.3	
comp=Z,108nm,18.4s,baz=340,slow=41							
GTOI	Gorontalo	10.33	278	P	Pn	03 53 48.5	+5.5
30nm,0.8s							
APSI	Ampana	11.60	269	P	Pn	03 54 04.0	+3.6
45nm,0.7s							
KDU	Kakadu	11.89	184	P	Pn	03 54 03.9	-0.4
baz=12,SNR=17							
KDU				S	Sn	03 56 15.4	-0.6
baz=12,SNR=4.3							
MTN	Manton Dam	12.20	190	P	Pn	03 54 08.5	-0.1
baz=12,SNR=21							
MTN				S	Sn	03 56 21.1	-2.6
baz=12,SNR=12							
SOEI	Soe	12.64	225	P	P	03 54 27.6	+1.7
baz=13,SNR=4.6							
BATI	Baumata	13.38	225	Pn	Pn	03 54 27.2	+2.4
2.5nm,0.3s,baz=239,slow=1.6,SNR=16							
BATI				LR	LR	03 59 29.0	
comp=Z,148nm,18.8s,baz=20,slow=36							
KNRA	Kununurra	15.48	196	P	Pn	03 54 51.5	-1.6
baz=15,SNR=16							
KNRA				S	Sn	03 57 32.1	-12
baz=15,SNR=6.2							
WSI	Waingapu	15.64	235	S	S	03 57 57.1	-5.1
baz=16,SNR=7.1							
PMG	Port Moresby	16.30	122	LR	LR	04 02 25.1	
comp=Z,78nm,18.0s,baz=266,slow=41							
FITZ	Fitzroy Crossi	18.80	203	P	P	03 55 32.8	-1.1
baz=19,SNR=8.4							
WRA	Warramunga Arr	19.11	177	P	P	03 55 37.9	+0.6
0.8nm,0.3s,baz=354,slow=11,SNR=19							
WRA				S	Sn	03 59 05.8	-5.9
0.3nm,0.3s,baz=357,slow=23,SNR=5.4							
QIS	Mount Isa	20.65	163	P	Pn	03 55 55.4	-1.2
baz=20,SNR=3.9							
ASAR	Alice Springs	22.79	178	P	P	03 56 18.2	+1.0
12nm,0.7s,baz=0.4,slow=9.4,SNR=102							
KSM	Kuching	23.04	275	S	Sn	04 00 45.1	-1.4
baz=23,SNR=14							
CTA	Charters Tower	23.05	147	P	P	03 56 21.5	+1.6
8.5nm,1.1s,baz=343,slow=12,SNR=3.9							
WRKA	Warakurna	24.62	191	P	P	03 56 35.9	+1.1
baz=25,SNR=17							
QLP	Quilpie	27.78	159	P	P	03 57 03.3	+0.2
baz=28,SNR=5.0							
BBOO	Buckleboo	32.00	176	P	P	03 57 41.1	+0.6
baz=32,SNR=7.7							
H11N1	WAKE ISLAND Hy	38.75	57	T	T	04 39 43.8	
baz=242,slow=75,SNR=29							
H11N2	WAKE ISLAND Hy	38.76	56	T	T	04 39 42.4	
baz=242,slow=75,SNR=27							
H11N3	WAKE ISLAND Hy	38.77	57	T	T	04 39 46.0	
baz=242,slow=75,SNR=22							
SONM	Songino Array	53.74	338	P	P	04 00 35.8	-0.6
0.4nm,0.6s,baz=162,slow=8.2,SNR=3.6							
SONM				PcP	PcP	04 01 41.9	-0.3
0.8nm,0.6s,baz=150,slow=3.5,SNR=6.7							
MKAR	Makanchi Array	64.96	324	P	P	04 01 53.4	-0.4
3.7nm,0.6s,baz=115,slow=8.0,SNR=47							
ZALV	Zalesovo Beam	67.56	331	P	P	04 02 08.9	-1.4
1.9nm,0.8s,baz=101,slow=5.3,SNR=6.1							
VNDA	Vanda	78.25	174	P	P	04 03 13.7	+0.4
1.4nm,0.9s,baz=307,slow=6.8,SNR=5.4							
ILAR	Eielson Array	86.35	25	P	P	04 03 54.0	-1.8
1.1nm,0.7s,baz=252,slow=5.0,SNR=19							
ARCES	ARCESS Array B	96.85	340	LR	LR	04 55 21.9	
comp=Z,14nm,18.1s,baz=348,slow=40							
TORD	Torodi Ar. Bea	130.47	287	PKP	PKPdf	04 10 24.3	-1.4
0.3nm,0.6s,baz=95,slow=2.4,SNR=3.0							

NIED ***25*** *04:11:00,44°.60N×148°.80E,h35km,Mw4.1 Best double couple: M0:1.57000×10^15 NP1:φ0=167.00000°,δ25.00000°, λ42.00000°. NP2:φ0=38.00000°,δ74.00000°,λ109.00000°.*

JMA ***25*** *04:11:56.9±0.5,44°.56N×148°.81E,h30km,M4.4*

MOS ***25*** *04:11:59.2±0.9,44°.49N×148°.66E,h52km,mb4.8/23,Error ellipse: s-maj=11.2km s-min=7.0km az=103.0*

ISCJB ***25*** *04:11:59.2±0.4,44°.37N±0°.05×148°.61E±0°.05,h55km, mb4.3/48,MS3.2/5,Error ellipse: s-maj=7.9km s-min=3.0km az=145.5*

NEIC ***25*** *04:12:00.7±1.6,44°.39N×148°.76E,h57km±14km,mb4.5/8, Error ellipse: s-maj=35.0km s-min=15.7km az=155.0*

SKHL ***25*** *04:12:00.0±1.2,44°.42N×148°.68E,h69km±9km,mb5.2/2*

BJI ***25*** *04:12:01.2,44°.34N×148°.32E,h53km,mB4.6/1,mb4.3/5, Ms3.7/2,Ms7 3.4/2*

IDC ***25*** *04:12:02.3±3.1,44°.58N×148°.61E,h66km±26km,mb3.7/21, mb1 3.9/24,mb1mx3.8/44,mbtmp4.0/24,ML3.5/2,MS3.2/8, Ms1 3.3/8,ms1mx3.0/38,Error ellipse: s-maj=25.0km s-min=13.6km az=162.0*

ISC 25 04:12:00.2±0.5,44°.35N±0°.05×148°.65E±0°.06,h55km,n190,
σ1º04/198,mb4.3/48,MS3.3/5,3C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.04	328	*d i*PN	Pn	04 12 17.5	-1.1
KUR				*i* S	Sn	04 12 31.6	-0.7
KUR				pmax	pmax		
comp=Z,1μm,0.6s							
KUR				pmax	pmax		
comp=N,283nm,0.3s							
KUR				pmax	pmax		
comp=E,434nm,0.3s							
KUR				smax	smax		
comp=N,5μm,0.4s							
KUR				smax	smax		
comp=E,2μm,0.4s							
KUR	Kuril'sk	1.04	328	*e*P	Pn	04 12 17.5	-1.1
KUR				AMB	AMB	04 12 19.0	
comp=E,1μm,0.6s							
KUR				*e*S	Sn	04 12 31.6	-0.7
KUR				A	A	04 12 34.6	
comp=E,5μm,0.4s							
KUR				A	A	04 12 34.6	
comp=E,2μm,0.4s							
SHO	Shikotan	1.39	251	*e*P	Pn	04 12 23.1	-0.2
SHO				*e*S	Sn	04 12 40.0	-0.6
YUK	Yuzh-Kuril'sk	2.03	262	*c i*PN	Pn	04 12 32.4	+0.5
YUK				*i* S	Sn	04 12 56.1	0.0
YUK				pmax	pmax		
comp=N,90nm,0.2s							
YUK				pmax	pmax		
comp=E,132nm,0.2s							
YUK				pmax	pmax		
comp=Z,414nm,0.2s							
YUK				smax	smax		
comp=E,845nm,0.5s							
YUK				smax	smax		
comp=N,432nm,0.2s							
YUK	Yuzh-Kuril'sk	2.03	262	*e*P	Pn	04 12 32.4	+0.5
YUK				AMB	AMB	04 12 35.0	
comp=N,414nm,0.2s							
YUK				*e*S	Sn	04 12 56.1	0.0
YUK				A	A	04 13 02.9	
comp=N,845nm,0.5s							
YUK				A	A	04 13 02.9	
comp=N,432nm,0.5s							
NEM2	Nemuro 2	2.32	246	P	Pn	04 12 34.3	-1.6
NEM2				*e*S	Sn	04 13 02.4	-0.8
JRA	Rausu	2.57	262	P	Pn	04 12 39.7	+0.4
JNK	Nakash	2.94	256	P	Pn	04 12 44.0	-0.4
JAK	Akkeshi	3.17	246	P	Pn	04 12 46.6	-0.9
JAK				*e*S	Sn	04 13 22.6	-1.5
JTKR	Abashiri--Toko	3.43	265	P	Pn	04 12 51.8	+0.7
JAR	Ashorobuto	3.68	255	P	Pn	04 12 55.1	+0.5
JOB	Onbets	3.78	249	P	Pn	04 12 56.0	+0.1
JMP	Maruseppu	3.82	267	P	Pn	04 12 57.6	+1.1
HRK	Horoka	4.08	259	*e*P	Pn	04 13 01.7	+1.6
JCH	Churui	4.22	248	P	Pn	04 13 01.9	0.0
JCH				*e*S	Sn	04 13 50.0	+0.1
JKK2	Kamakawa 2	4.28	266	P	Pn	04 13 04.7	+2.0
ASAJ	Asahikawa	4.36	269	P	Pn	04 13 06.5	+2.7
ASAJ	Asahikawa	4.36	269	P	Pn	04 13 05.9	+2.1
comp=N,1.5nm,0.3s,baz=73,slow=17,SNR=6.4							
ASAJ				LR	LR	04 14 53.1	
comp=N,252nm,18.6s,baz=180,slow=39							
ASAJ	Asahikawa	4.36	269	*e*Pn	Pn	04 13 05.5	+1.7
MYR	Moyori	4.42	244	*e*P	Pn	04 13 04.9	+0.2
JFR	Furan	4.54	257	P	Pn	04 13 08.2	+1.8
JEM	Erimo	4.64	242	P	Pn	04 13 08.2	+0.5
JEM				*e*S	Sn	04 14 01.5	+1.2
ERM	Erimo	4.64	242	*c i*PN	Pn	04 13 08.9	+1.2
ERM	Erimo	4.64	242	*e*P	Pn	04 13 08.9	+1.2
ERM	Erimo	4.64	242	*e*Pn	Pn	04 13 09.3	+1.6
ERM				*e*S	Sn	04 14 04.4	+4.1
JNBK	Urakawa-nobuka	4.77	246	P	Pn	04 13 09.4	-0.1
JNBK				*e*S	Sn	04 14 03.0	-0.5
JBT2	Biratori 2	4.83	253	P	Pn	04 13 11.4	+1.1
YSS	Yuzh-Sakhalins	4.88	304	*e*PN	Pn	04 13 11.0	0.0
YSS				*e*S	Sn	04 14 04.5	-1.7
YSS				smax	smax		
comp=E,60nm,1.0s							
YSS				smax	smax		
comp=N,40nm,0.9s							
YSS	Yuzh-Sakhalins	4.88	304	*e*P	Pn	04 13 11.0	0.0
YSS				*e*S	Sn	04 14 04.5	-1.7
JNB	Noboribetsu	5.85	254	P	Pn	04 13 25.1	+0.8
JNB				*e*S	Sn	04 14 30.0	0.0
JKB	Kayabe	6.09	249	P	Pn	04 13 27.2	-0.3
JKB				*e*S	Sn	04 14 33.2	-2.6
JANG	Nango	6.61	236	P	Pn	04 13 32.7	-2.0
JANG				*e*S	Sn	04 14 42.4	-6.2
JTM	Tenmabayashi	6.63	240	*e*S	Sn	04 14 43.8	-5.3
JTH	Tanohata	6.69	231	*e*S	Sn	04 14 38.7	-12
JRG	Rokugo	7.76	233	*e*S	Sn	04 15 11.5	-5.3
JIO	Ouri	8.04	225	*e*S	Sn	04 15 14.1	-10
PETK	Petropavlovsk-	10.60	31	P	Pn	04 14 28.2	-1.0
baz=207,slow=16,SNR=1.6							
PET	Petropavlovsk	10.90	34	⇑ *e*PN	Pn	04 14 35.6	+2.3
PET	Petropavlovsk	10.90	34	*e*P	Pn	04 14 35.6	+2.3
USRK	Ussuriysk Ar.	11.95	275	LR	LR	04 19 37.0	
comp=N,106nm,19.4s,baz=57,slow=38							
KSRS	Korea Array	17.09	253	LR	LR	04 21 58.0	
comp=N,50nm,18.4s,baz=75,slow=35							
SEY	Seymchan	18.75	5	P	P	04 16 12.4	-1.8
comp=N,0.4nm,0.3s,baz=184,slow=8.0,SNR=19							
YAK	Yakutsk	20.90	335	LR	LR	04 24 47.7	
comp=N,54nm,18.1s,baz=150,slow=37							
H11N2	WAKE ISLAND Hy	28.88	142	T	T	04 48 53.1	
baz=334,slow=76,SNR=180							
H11N1	WAKE ISLAND Hy	28.89	142	T	T	04 48 48.6	
baz=334,slow=76,SNR=152							
H11N3	WAKE ISLAND Hy	28.90	142	T	T	04 48 53.6	
baz=334,slow=76,SNR=183							
SONM	Songino Array	29.24	292	*e*P	P	04 17 57.6	+0.8
SONM	Songino Array	29.24	292	P	P	04 17 56.6	-0.2
comp=N,0.3nm,0.4s,baz=90,slow=8.2,SNR=4.8							
SONM				LR	LR	04 30 52.5	
comp=N,63nm,18.5s,baz=48,slow=39							
H11S1	WAKE ISLAND Hy	29.88	144	T	T	04 50 13.0	
baz=335,slow=76,SNR=177							
H11S3	WAKE ISLAND Hy	29.89	144	T	T	04 49 57.1	
baz=335,slow=76,SNR=133							
H11S2	WAKE ISLAND Hy	29.90	144	T	T	04 50 14.9	
baz=335,slow=76,SNR=137							
ILAR	Eielson Array	40.37	37	P	P	04 19 31.8	-0.3
comp=N,0.7nm,0.4s,baz=268,slow=7.3,SNR=12							
ILAR				LR	LR	04 39 15.5	
comp=N,50nm,18.3s,baz=140,slow=41							
ILAR	Eielson Array	40.37	37	*e*P	P	04 19 34.4	+2.3
ZALV	Zalesovo Beam	41.50	307	P	P	04 19 42.2	+0.6
comp=N,0.5nm,0.5s,baz=81,slow=9.3,SNR=2.0							
ZALV				PcP	PcP	04 21 38.5	+0.3
comp=N,1.2nm,0.6s,baz=60,slow=5.6,SNR=5.8							
ZALV				LR	LR	04 38 00.7	
comp=N,37nm,18.6s,baz=111,slow=38							
EGAK	Eagle	42.81	36	*e*P	P	04 19 52.1	0.0
comp=N,1.9nm,0.5s							
MK31	Makanchi Array	45.26	298	*i* P	P	04 20 12.0	-0.1
MK31				pmax	pmax		
comp=Z,1.0nm,0.4s							
MKAR	Makanchi Array	45.26	298	*e*P	P	04 20 12.2	+0.2
MKAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
MKAR	Makanchi Array	45.26	298	P	P	04 20 12.3	+0.2
comp=Z,1.3nm,0.7s,baz=75,slow=8.3,SNR=19							
MKAR				PcP	PcP	04 21 51.1	+0.1
comp=Z,0.2nm,0.3s,baz=68,slow=4.4,SNR=7.0							
KURK	Kurchatov	46.09	304	P	P	04 20 19.2	+0.8
KURK						04 21 54.4	
KURK				pmax	pmax		
comp=Z,1.0nm,0.6s							
KURBB	Kurchatov Arra	46.18	304	P	P	04 20 19.2	+0.1
comp=Z,0.9nm,0.6s,baz=72,slow=8.7,SNR=4.7							
KURBB				PcP	PcP	04 21 54.4	+0.3
comp=Z,0.3nm,0.3s,baz=79,slow=3.3,SNR=6.8							
CMAR	Chiang Mai Arr	48.73	254	LR	LR	04 43 36.9	
comp=Z,27nm,18.0s,baz=255,slow=39							
DLBC	Dease Lake	49.51	43	P	P	04 20 45.2	+0.3
comp=Z,0.7nm,0.7s,baz=324,slow=19,SNR=1.6							
AAK	Ala-Archa	52.07	296	P	P	04 21 04.8	+0.3
AAK				pmax	pmax		
comp=Z,1.0nm,0.5s							
AAK	Ala-Archa	52.07	296	P	P	04 21 04.8	+0.3
comp=Z,1.1nm,0.5s,baz=212,slow=8.8,SNR=4.4							
RES	Resolute Bay	54.08	17	*e*P	P	04 21 17.7	-0.9
RES				pmax	pmax		
comp=Z,5.0nm,0.8s							
RES	Resolute Bay	54.08	17	P	P	04 21 18.3	-0.3
comp=Z,3.1nm,0.4s,baz=354,slow=5.8,SNR=27							
RES	Resolute Bay	54.08	17	*e*P	P	04 21 17.7	-0.9
comp=Z,4.8nm,0.8s							
KK31	Karatay Array	54.39	298	*e*P	P	04 21 21.2	-0.1
KK31				pmax	pmax		
comp=Z,2.0nm,0.7s							
YKA	Yellowknife Ar	54.70	34	P	P	04 21 23.6	+0.3
YKA				pmax	pmax		
comp=Z,1.0nm,0.7s							
YKA	Yellowknife Ar	54.70	34	P	P	04 21 23.6	+0.3
comp=Z,1.1nm,0.7s,baz=299,slow=7.0,SNR=15							
ARCES	ARCESS Array B	59.06	340	*e*P	P	04 21 54.5	+0.5
JOF	Joensuu	62.06	333	*e*P	P	04 22 13.8	-0.7
JOF				pmax	pmax		
comp=Z,3.0nm,0.4s							
JOF	Joensuu	62.06	333	*e*p	P	04 22 13.8	-0.7
comp=Z,2.7nm,0.4s							
FINES	FINESS Array B	64.83	333	*e*P	P	04 22 31.5	-1.3
FINES				pmax	pmax		
comp=Z,4.0nm,0.6s							
FINES	FINESS Array B	64.83	333	P	P	04 22 31.0	-1.8
comp=Z,4.1nm,0.6s,baz=46,slow=6.1,SNR=21							
FINES	FINESS Array B	64.83	333	*e*P	P	04 22 31.5	-1.3
GEYT	Alibeck	65.09	299	P	P	04 22 35.2	+0.3
comp=Z,2.4nm,0.6s,baz=349,slow=3.0,SNR=6.3							
NVAR	Mina Array Bea	66.34	59	P	P	04 22 44.6	+1.3
comp=Z,0.7nm,0.7s,baz=289,slow=9.4,SNR=2.4							
ASAR	Alice Springs	69.02	194	P	P	04 23 01.7	+1.9
comp=Z,0.5nm,1.1s,baz=9.1,slow=7.0,SNR=4.3							
NB2	NORSAR Subarra	69.43	339	P	P	04 23 01.3	-0.7
comp=Z,1.8nm,0.5s,baz=29,slow=6.5							
NOA	NORSAR Array B	69.43	339	*e*P	P	04 23 01.5	-0.5
NOA				pmax	pmax		
comp=Z,3.0nm,0.7s							
NOA	NORSAR Array B	69.43	339	P	P	04 23 00.8	-1.2
comp=Z,3.2nm,0.7s,baz=31,slow=6.6,SNR=20							
NOA	NORSAR Array B	69.43	339	*e*P	P	04 23 01.5	-0.5
KBZ	Khabaz	70.20	312	P	P	04 23 07.0	0.0
KBZ				pmax	pmax		
comp=Z,2.0nm,0.6s							
KBZ	Khabaz	70.20	312	P	P	04 23 07.0	0.0
comp=Z,1.6nm,0.6s,baz=84,slow=5.6,SNR=7.0							
ULM	Lac du Bonnet	70.37	38	P	P	04 23 06.6	-1.3
ULM				pmax	pmax		
comp=Z,1.0nm,0.4s							
ULM	Lac du Bonnet	70.37	38	P	P	04 23 06.6	-1.3
comp=Z,0.8nm,0.4s,baz=345,slow=6.5,SNR=3.0							
AKASG	Malin Array Be	71.73	324	*i* P	P	04 23 15.8	-0.3
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	Malin Array Be	71.73	324	P	P	04 23 15.8	-0.3
comp=Z,1.4nm,0.5s,baz=37,slow=6.1,SNR=5.5							
KOLS	Kolonicke sedl	75.93	327	*e*P	P	04 23 40.9	+0.1
KOLS				pmax	pmax		
comp=Z,7.0nm,1.7s							
KOLS	Kolonicke sedl	75.93	327	*e*P	P	04 23 40.9	+0.1
STHS	Stebnicka Huta	75.94	328	*e*P	P	04 23 41.4	+0.6
STHS				pmax	pmax		
comp=Z,4.0nm,0.9s							
STHS	Stebnicka Huta	75.94	328	*e*P	P	04 23 41.4	+0.6
SCHQ	Schefferville	76.69	20	P	P	04 23 44.9	-0.1
comp=Z,3.5nm,0.9s,baz=352,slow=7.1,SNR=2.1							
DPC	Dobruska-Polom	76.97	331	*e*P	P	04 23 47.2	+0.5
DPC	Dobruska-Polom	76.97	331	*e*P	P	04 23 47.2	+0.5
MORC	Moravsky Berou	77.02	330	*e*P	P	04 23 47.1	+0.1
MORC				pmax	pmax		
comp=Z,3.0nm,0.6s							
MORC	Moravsky Berou	77.02	330	*e*P	P	04 23 47.1	+0.1
comp=Z,2.8nm,0.6s							
KRLC	Kraliky	77.04	331	*e*P	P	04 23 47.8	+0.7
KRLC	Kraliky	77.04	331	*e*P	P	04 23 47.8	+0.7
CLL	Collm	77.28	333	⇓ *i*P	P	04 23 48.3	0.0
CLL				*e**PP	pP	04 24 03.0	-0.8
CLL				pmax	pmax		
comp=Z,12nm,0.6s							
CLL	Collm	77.28	333	⇓ *i*P	P	04 23 48.3	0.0
comp=Z,12nm,0.6s							
CLL				*e*pP	pP	04 24 03.0	-0.8
PVCC	Panska Ves	77.42	332	*e*P	P	04 23 50.1	+0.9
PVCC	Panska Ves	77.42	332	*e*P	P	04 23 50.1	+0.9
VYHS	Vyhne	77.61	328	*e*P	P	04 23 50.6	+0.3
VYHS				pmax	pmax		
comp=Z,2.0nm,1.0s							
VYHS	Vyhne	77.61	328	*e*P	P	04 23 50.6	+0.3
PRU	Pruhonice	77.89	332	*e*P	P	04 23 51.9	+0.1
PRU	Pruhonice	77.89	332	*e*P	P	04 23 51.9	+0.1
BRTR	Keskin Array B	77.91	314	P	P	04 23 52.8	+0.6
BRTR				pmax	pmax		
comp=Z,1.0nm,0.7s							
BRTR	Keskin Array B	77.91	314	P	P	04 23 52.8	+0.6
comp=Z,1.0nm,0.7s,baz=82,slow=3.9,SNR=6.6							
KHC	Kasperske Hory	78.95	332	*e*P	P	04 23 57.8	+0.2
KHC				pmax	pmax		
comp=Z,5.0nm,0.6s							
KHC	Kasperske Hory	78.95	332	*e*P	P	04 23 57.9	+0.2
KHC				*ex*	x	04 24 00.5	
KHC	Kasperske Hory	78.95	332	*e*P	P	04 23 57.8	+0.2
comp=Z,5.3nm,0.6s							
GERES	GERESS Array B	79.16	332	*e*P	P	04 23 58.9	0.0
GERES				pmax	pmax		
comp=Z,1.0nm,0.4s							
GERES	GERESS Array B	79.16	332	P	P	04 23 59.0	0.0
comp=Z,1.0nm,0.4s,baz=28,slow=6.0,SNR=14							
TXAR	Lajitas Array	81.42	57	P	P	04 24 11.1	-0.3
comp=Z,0.4nm,0.5s,baz=324,slow=4.5,SNR=3.0							
PAGF	Fort de Pagny	81.93	336	*e*P	P	04 24 13.7	+0.1
comp=Z,2.4nm,0.5s							
PAGF	Fort de Pagny	81.93	336	*e*P	P	04 24 13.7	+0.1
comp=Z,2.4nm,0.5s							
FLN	La Foliniere	83.41	340	*e*P	P	04 24 21.3	0.0
comp=Z,3.6nm,0.4s							
FLN	La Foliniere	83.41	340	*e*P	P	04 24 21.3	0.0
FLN				pmax	pmax		
comp=Z,4.0nm,0.4s							
FLN	La Foliniere	83

SGMF	Saint Gilles	84.38 341	eP	P	04 24 26.7	+0.5
SGMF	Saint Gilles	84.38 341	eP	P	04 24 26.7	+0.5
SGMF	Saint Gilles	84.38 341	eP	P	04 24 26.7	+0.5
ROSF	Rostrenen	84.46 342	eP	P	04 24 27.5	+0.8
ROSF	Rostrenen	84.46 342	eP	P	04 24 27.5	+0.8
ROSF	Rostrenen	84.46 342	eP	P	04 24 27.5	+0.8
BGF	Bois d'Agland	84.57 337	eP	P	04 24 27.9	+0.7
	comp=Z,6.2nm,0.6s					
BGF	Bois d'Agland	84.57 337	eP	P	04 24 27.9	+0.7
BGF			pmax	pmax		
	comp=Z,6.0nm,0.6s					
BGF	Bois d'Agland	84.57 337	eP	P	04 24 27.9	+0.7
	comp=Z,6.2nm,0.6s					
QUIF	Quistinic	84.83 341	eP	P	04 24 29.1	+0.6
	comp=Z,9.4nm,0.6s					
QUIF	Quistinic	84.83 341	eP	P	04 24 29.1	+0.6
QUIF			pmax	pmax		
	comp=Z,9.0nm,0.6s					
QUIF	Quistinic	84.83 341	eP	P	04 24 29.1	+0.6
	comp=Z,9.4nm,0.6s					
TCF	Toulx Ste Croi	84.99 337	eP	P	04 24 29.7	+0.3
TCF	Toulx Ste Croi	84.99 337	eP	P	04 24 29.7	+0.3
TCF	Toulx Ste Croi	84.99 337	eP	P	04 24 29.7	+0.3
MBDF	Montbardon	85.05 334	eP	P	04 24 29.8	-0.1
	comp=Z,3.6nm,0.5s					
MBDF	Montbardon	85.05 334	eP	P	04 24 29.8	-0.1
MBDF			pmax	pmax		
	comp=Z,4.0nm,0.5s					
MBDF	Montbardon	85.05 334	eP	P	04 24 29.8	-0.1
	comp=Z,3.6nm,0.5s					
ORIF	Oris-en-Rattie	85.16 334	eP	P	04 24 30.9	+0.5
ORIF	Oris-en-Rattie	85.16 334	eP	P	04 24 30.9	+0.5
ORIF	Oris-en-Rattie	85.16 334	eP	P	04 24 30.9	+0.5
MFF	Saint Martin d	85.33 339	eP	P	04 24 31.4	+0.4
	comp=Z,9.1nm,0.8s					
MFF	Saint Martin d	85.33 339	eP	P	04 24 31.4	+0.4
MFF			pmax	pmax		
	comp=Z,9.0nm,0.8s					
MFF	Saint Martin d	85.33 339	eP	P	04 24 31.4	+0.4
	comp=Z,9.1nm,0.8s					
VIVF	Saint-Julien-l	85.58 335	eP	P	04 24 33.4	+1.0
	comp=Z,9.2nm,0.8s					
VIVF	Saint-Julien-l	85.58 335	eP	P	04 24 33.4	+1.0
VIVF			pmax	pmax		
	comp=Z,9.0nm,0.8s					
VIVF	Saint-Julien-l	85.58 335	eP	P	04 24 33.4	+1.0
	comp=Z,9.2nm,0.8s					
FRF	La Foret Royal	86.14 333	eP	P	04 24 34.5	-0.6
FRF	La Foret Royal	86.14 333	eP	P	04 24 34.5	-0.6
FRF	La Foret Royal	86.14 333	eP	P	04 24 34.5	-0.6
PGF	Pioggiola	86.26 331	eP	P	04 24 35.0	-0.9
PGF	Pioggiola	86.26 331	eP	P	04 24 35.0	-0.9
PGF	Pioggiola	86.26 331	eP	P	04 24 35.0	-0.9
LMR	La Mourre	86.39 333	eP	P	04 24 35.5	-0.8
	comp=Z,11nm,0.9s					
LMR	La Mourre	86.39 333	eP	P	04 24 35.5	-0.8
LMR			pmax	pmax		
	comp=Z,11nm,0.9s					
LMR	La Mourre	86.39 333	eP	P	04 24 35.5	-0.8
	comp=Z,11nm,0.9s					
LASF	Ste Croix	86.54 335	eP	P	04 24 37.5	+0.4
LASF	Ste Croix	86.54 335	eP	P	04 24 37.5	+0.4
LFF	La Frestale	86.63 338	eP	P	04 24 38.5	+1.0
	comp=Z,13nm,0.8s					
LFF	La Frestale	86.63 338	eP	P	04 24 38.5	+1.0
LFF			pmax	pmax		
	comp=Z,13nm,0.8s					
LFF	La Frestale	86.63 338	eP	P	04 24 38.5	+1.0
	comp=Z,13nm,0.8s					
TORD	Torodi Ar. Bea	115.36 324	PKP	PKPdf	04 30 35.4	-0.5
	comp=Z,0.3nm,0.6s,baz=343,slow=0.7,SNR=1.5					

MEX 25 04:13:28.1±0.3, 15°.49N×95°.84W, h36km±5km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.39	317	eP	Pn	04 13 35.7	-1.2
HUIG				eS	Sn	04 13 41.5	-2.2
VHO	Vista Hermosa	1.80	331	i P	Pn	04 13 55.6	-1.3
VHO				i S	Sn	04 14 16.4	-2.2
CMIG	Matias Romero	1.84	30	eP	Pn	04 13 55.9	-1.3
CMIG				eS	Sn	04 14 17.0	-2.2
PNIG	Pinotepa	2.38	293	i P	Pn	04 14 02.6	-2.0
PNIG				i S	Sn	04 14 30.8	-1.9
TLIG	Tlapa	3.34	309	eP	Pn	04 14 19.1	+1.2
TLIG				i S	Sn	04 14 54.7	-1.7

GUC 25 04:17:50.2±0.8, 35°.59S×72°.26W, h35km±4km, ML3.9, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.55	69	⇓iP	Pn	04 18 01.6	+0.1
TALC				i S	Sn	04 18 09.6	+0.2
TALC				AML	AML	04 18 10.2	
	comp=N,23μm,0.1s						
LNCH	Linares	0.59	116	⇓iP	Pn	04 18 02.0	-0.1
LNCH				i S	Sn	04 18 10.3	-0.2
LNCH				AML	AML	04 18 11.6	
	comp=N,10μm,0.6s						
NICH	Los Niches	1.03	55	⇑iP	Pn	04 18 08.7	+0.5
NICH				i S	Sn	04 18 22.8	+1.5
NICH				AML	AML	04 18 26.6	
	comp=E,5μm,0.6s						
CCSP	San Pedro de C	1.43	209	⇓iP	Pn	04 18 14.5	+1.0
RCDM	Rinconada Maip	2.42	30	⇓iP	Pn	04 18 28.3	+1.0
RCDM				i S	Sn	04 18 58.0	+2.3
RCDM				AML	AML	04 19 05.5	
	comp=E,464nm,0.1s						
CLCH	Cerro Calan	2.61	33	⇑iP	Pn	04 18 31.2	+1.1
CLCH				i S	Sn	04 19 03.1	+2.5
CLCH				AML	AML	04 19 21.2	
	comp=E,668nm,0.6s						
FCH	Farellones	2.78	36	ePg	Pn	04 18 28.8	-3.9
FCH				eS	Sn	04 19 02.8	-2.6
FCH				AML	AML	04 19 10.8	
	comp=N,491nm,0.2s						

DJA 25 04:53:25.2±0.3, 8°.S±2°.×12°.1E±°, h10km, M3.7/14, MLv3.7/14, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	Ende, Flores	0.97	138	P	Pg	04 53 41.4	-2.6
EDFI				S	Sg	04 53 54.7	-2.1
MMRI	Maumere	1.34	117	P	Pn	04 53 47.3	-2.7
MMRI				S	Sg	04 54 08.9	+0.5
WSI	Waingapu	1.78	204	P	Pn	04 53 56.7	+0.6
BSSI	Bau Bau, Buton	1.95	344	P	Pn	04 53 58.4	0.0
BASI	Baing, Sumba	2.22	192	P	Pn	04 54 00.6	-1.5
WBSI	Waikabubak, Su	2.28	225	P	Pn	04 54 03.1	+0.1
WBSI				S	Sn	04 54 32.1	+0.9
BKSI	Bulukumba	2.84	341	P	Pn	04 54 09.0	-1.6
BBSI	Bau Bau	2.95	31	P	Pn	04 54 11.7	-0.5
BATI	Baumata	3.38	130	P	Pn	04 54 19.5	+1.3
SOEI	Soe	3.63	118	P	Pn	04 54 21.8	+0.1
BNSI	Bone	3.72	346	P	Pn	04 54 22.8	0.0
SPSI	Sidrap Palu	4.23	343	P	Pn	04 54 29.6	-0.2

*ISCJB **25** 05:08:55.3±0.6, 26°.52N±0°.09×96°.03E±0°.04, h83km, mb3.9/18, Error ellipse: s-maj=12.4km s-min=4.8km az=178.5*
*IDC **25** 05:09:00.4±3.1, 26°.32N×96°.40E, h135km±29km, mb3.6/18, mb1 3.7/19, mb1mx3.5/56, mbtmp4.0/19, Error ellipse: s-maj=25.9km s-min=12.4km az=56.0*
ISC 25 05:08:55.5±0.6, 26°.37N±0°.09×96°.12E±0°.07, h83km, n36, σ1§72/50, mb4.0/18, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	3.89	259	i PN	Pn	05 09 54.0	+0.8
SHL				eSN	Sn	05 10 32.0	-5.8
TAPN	Taplejung	7.57	279	ePn	Pn	05 10 45.0	+1.5
TAPN				eSn	Sn	05 12 09.5	+1.6
	117nm,0.5s						
ODAN	Odare	7.83	276	ePn	Pn	05 10 48.9	+2.0
ODAN				eSn	Sn	05 12 15.2	+1.2
	115nm,0.4s						
CMAR	Chiang Mai Arr	8.29	161	P	Pn	05 10 56.0	+2.9
	1.0nm,0.3s,baz=346,slow=11,SNR=14						
RAMN	Ramite	8.53	276	ePn	Pn	05 10 58.1	+1.6
RAMN				eSn	Sn	05 12 31.3	0.0
	71nm,0.4s						
JIRN	Jiri	8.95	281	ePn	Pn	05 11 04.0	+1.7
JIRN				eSn	Sn	05 12 40.9	-0.7
	48nm,0.3s						
GUN	Gumba	9.25	282	ePn	Pn	05 11 07.5	+1.1
GUN				eSn	Sn	05 12 47.6	-1.3
	92nm,0.4s						
PKI	Pulchoki	9.63	280	ePn	Pn	05 11 12.4	+0.9
PKI				eSn	Sn	05 12 56.1	-2.0
PKIN	Phulchoki	9.64	280	ePn	Pn	05 11 12.3	+0.7
PKIN				eSn	Sn	05 12 55.9	-2.4
	33nm,0.5s						
KKN	Kakani	9.76	281	ePn	Pn	05 11 14.4	+1.1
KKN				eSn	Sn	05 13 00.6	-0.7
DMN	Daman	9.90	280	ePn	Pn	05 11 15.7	+0.5
DMN				eSn	Sn	05 13 04.3	-0.4
	64nm,0.7s						
GKN	Gorkha	10.35	282	ePn	Pn	05 11 21.8	+0.6
GKN				eSn	Sn	05 13 12.6	-2.9
	39nm,0.3s						
DANN	Dangsing	11.16	283	ePn	Pn	05 11 31.6	-0.8
DANN				eSn	Sn	05 13 31.8	-3.7
	37nm,0.4s						
KOLN	Koldanda	11.24	280	ePn	Pn	05 11 33.6	+0.2
KOLN				eSn	Sn	05 13 35.4	-1.9
	36nm,0.5s						
PYUN	Piuthan	11.81	281	ePn	Pn	05 11 40.9	-0.2
SONM	Songino Array	22.90	18	P	P	05 13 52.0	-0.4
	0.5nm,0.5s,baz=198,slow=11,SNR=9.1						
MKAR	Makanchi Array	23.15	335	P	P	05 13 56.7	+2.0
	4.1nm,0.4s,baz=140,slow=9.8,SNR=80						
KURBB	Kurchatov Arra	27.71	336	P	P	05 14 37.4	+1.5
	1.1nm,0.3s,baz=152,slow=8.0,SNR=14						
KURBB				PcP	PcP	05 17 49.6	-1.1
	0.2nm,0.3s,baz=174,slow=1.4,SNR=4.8						
ZALV	Zalesovo Beam	28.80	346	P	P	05 14 46.7	+1.3
	1.3nm,0.3s,baz=164,slow=9.1,SNR=4.3						
GEYT	Alibeck	33.96	299	P	P	05 15 33.9	+2.8
	1.9nm,0.4s,baz=134,slow=4.3,SNR=4.2						
BRTR	Keskin Array B	53.06	301	P	P	05 18 05.0	+0.5
	0.5nm,0.5s,baz=124,slow=6.8,SNR=4.5						
AKASG	Malin Array Be	55.61	315	P	P	05 18 22.5	-0.1
	1.2nm,0.4s,baz=76,slow=6.2,SNR=4.3						
FINES	FINESS Array B	57.69	328	P	P	05 18 37.7	+0.6
	0.9nm,0.3s,baz=100,slow=8.8,SNR=10						
KEV	Kevo	58.30	338	ep	P	05 18 42.1	+0.8
ARCES	ARCESS Array B	58.78	337	P	P	05 18 45.5	+0.8
	2.8nm,0.8s,baz=95,slow=5.9,SNR=7.9						
WRA	Warramunga Arr	59.12	137	P	P	05 18 45.6	-2.0
	1.5nm,0.5s,baz=326,slow=7.4,SNR=12						
ASAR	Alice Springs	61.72	140	P	P	05 19 03.5	-1.8
	1.2nm,0.7s,baz=326,slow=6.9,SNR=5.5						
HFS	Hagfors	63.79	326	P	P	05 19 18.8	+0.3
	2.7nm,0.6s,baz=90,slow=7.4,SNR=14						
NB2	NORSAR Subarra	64.87	328	P	P	05 19 25.6	-0.1
	comp=Z,2.5nm,0.8s,baz=79,slow=6.5						
NOA	NORSAR Array B	64.87	328	P	P	05 19 25.8	+0.1
	comp=Z,1.7nm,0.7s,baz=81,slow=6.5,SNR=6.4						
GERES	GERESS Array B	65.80	314	P	P	05 19 32.4	+0.3
	comp=Z,0.2nm,0.4s,baz=51,slow=5.3,SNR=7.6						
EKA	Eskdalemuir Ar	73.75	324	P	P	05 20 20.6	+0.2
	comp=Z,0.9nm,0.4s,baz=69,slow=5.7,SNR=12						
ILAR	Eielson Array	77.02	23	P	P	05 20 36.9	-2.3
	comp=Z,0.4nm,0.7s,baz=306,slow=5.3,SNR=5.2						
YKA	Yellowknife Ar	88.10	14	P	P	05 21 34.7	-1.9
	comp=Z,0.3nm,0.8s,baz=323,slow=4.4,SNR=5.3						
TORD	Torodi Ar. Bea	88.14	284	P	P	05 21 37.0	-0.7
	comp=Z,0.4nm,0.6s,baz=48,slow=4.2,SNR=6.6						
ROSC	El Rosal	147.61	342	PKPbc	PKPbc	05 28 31.3	-0.4
	comp=Z,4.6nm,0.5s,baz=74,slow=13,SNR=6.4						

*IDC **25** 05:09:04.4±1.4, 36°.52S×73°.38W, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.8/24, mbtmp3.8/7, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/21, Error ellipse: s-maj=37.6km s-min=19.3km az=74.0*
*ISCJB **25** 05:09:06.4±0.9, 36°.55S±0°.05×73°.54W±0°.08, h27km, mb4.0/4, MS3.1/1, Error ellipse: s-maj=9.7km s-min=6.2km az=14.4.*
*GUC **25** 05:09:08.5±0.4, 36°.67S×73°.39W, h37km±7km, ML3.9*
ISC 25 05:09:08.1±1.1, 36°.63S±0°.05×73°.3W±0°.1, h27km, n15, σ1§54/21, mb4.1/4, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.26	144	⇓eP	Pn	05 09 15.8	-0.3
CCSP				eS	Sn	05 09 21.3	0.0
CCSP				AML	AML	05 09 23.2	
	comp=N,20μm,0.3s						
LNCH	Linares	1.58	61	eP	Pb	05 09 35.8	-0.9
LNCH				eS	Sb	05 09 56.7	+0.4
TALC	Talca	1.83	48	eP	Pn	05 09 39.3	+1.5
TALC				eS	Sb	05 10 02.2	-1.1
NICH	Los Niches	2.34	47	eP	Pn	05 09 46.4	+1.5
NICH				eS	Sb	05 10 15.3	-2.8
CLCH	Cerro Calan	3.95	36	ePg	Pn	05 10 07.2	+0.3
CLCH				eS	Sn	05 10 53.0	+0.5
FCH	Farellones	4.12	38	ePg	Pn	05 10 09.2	-0.4
FCH				eS	Sn	05 10 57.3	+0.2
PLCA	Paso Flores	4.62	153	Pn	Pn	05 10 19.4	+3.1
	comp=N,1.1nm,0.3s,baz=326,slow=12,SNR=42						
PLCA				Lg	Lg	05 11 35.6	
	comp=N,2.5nm,0.3s,baz=242,slow=20,SNR=5.2						
CFAA	Coronel Fontan	6.54	41	Pn	Pn	05 10 42.3	-0.3
	comp=N,0.4nm,0.3s,baz=209,slow=12,SNR=44						
CFAA				Sn	Sn	05 12 00.1	+3.7
	comp=N,0.3nm,0.3s,baz=202,slow=16,SNR=2.3						
LPAZ	La Paz	20.78	14	P	P	05 13 48.1	+0.4
	comp=N,1.2nm,0.7s,baz=214,slow=5.5,SNR=6.8						
SIV	San Ignacio	23.26	31	LR	LR	05 24 55.3	
	comp=N,73nm,19.9s,baz=54,slow=41						
PTGA	Pitinga	37.80	22	P	P	05 16 20.7	-1.5
	comp=N,2.2nm,0.6s,baz=248,slow=16,SNR=3.6						
TXAR	Lajitas Array	71.55	332	P	P	05 20 27.0	+0.3
	comp=N,0.7nm,0.6s,baz=156,slow=9.8,SNR=2.9						
DBIC	Dimbokro	77.00	71	P	P	05 20 59.3	+0.5
	comp=N,1.9nm,0.6s,baz=186,slow=6.0,SNR=6.2						
TORD	Torodi Ar. Bea	86.07	71	P	P	05 21 46.9	+0.2
	comp=N,0.6nm,0.6s,baz=218,slow=5.0,SNR=4.2						
MKAR	Makanchi Array	159.22	53	PKPab	PKPab	05 29 40.4	-0.4
	comp=N,0.8nm,0.7s,baz=270,slow=1.2,SNR=6.2						

*ISCJB **25** 05:18:04.9±0.5, 32°.38N±0°.04×105°.35E±0°.06, h15km, mb3.5/6, Error ellipse: s-maj=7.2km s-min=4.6km az=22.1*
*IDC **25** 05:18:04.3±1.1, 32°.44N×105°.19E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/42, mbtmp3.4/7, ML2.7/1, Error ellipse: s-maj=68.2km s-min=21.1km az=59.0*
*BJI **25** 05:18:06.7, 32°.51N×105°.18E, h23km, ML3.5/16, Ms3.3/4, Ms7 3.0/4*
ISC 25 05:18:06.7±0.6, 32°.48N±0°.03×105°.20E±0°.05, h15km, n12, σ2§11/24, mb3.7/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	1.99	219	ePn	Pn	05 18 40.8	+0.9
CD2				Pg	Pg	05 18 43.8	-1.1
CD2				Sn	Sb	05 19 06.5	-0.8
CD2				Sg	Sg	05 19 10.4	-0.3
CD2				SMN			
	1μm,0.7s						
CD2				SME			
	2μm,0.7s						
XAN	Xi'an	3.48	62	Pn	Pn	05 19 00.6	+0.2
XAN				Pg	Pb	05 19 09.8	+1.7
XAN				Sn	Sn	05 19 39.1	-2.3
XAN				Sg	Sb	05 19 50.8	+0.6
XAN				SMN			
	150nm,0.4s						
XAN				SME			
	91nm,0.6s						
LZH	Lanzhou	3.77	343	ePn	Pn	05 19 07.3	+2.8
LZH				Pg	Pg	05 19 16.5	-2.5
LZH				Sn	Sn	05 19 52.9	+4.2
LZH				Sg	Sg	05 20 04.6	-3.3
LZH				smax	smax		
	comp=N,160nm,0.5s						
LZH				smax	smax		
	comp=E,390nm,0.7s						
LZH				LR	LR		
	comp=N,400nm,5.0s						
LZH				LR	LR		
	comp=E,490nm,5.8s						
LZH				LR	LR		
	comp=Z,250nm,6.6s						
LZH	Lanzhou	3.77	343	Pg	Pg	05 19 16.5	-2.5
LZH				Sn	Sn	05 19 52.9	+4.2
LZH				Sg	Sg	05 20 04.6	-3.3
LZH				SMN			
	comp=Z,160nm,0.5s						
LZH				SME			
	comp=Z,390nm,0.7s						
LZH				LN			
	comp=Z,400nm,5.0s						
LZH				LE			
	comp=Z,490nm,5.8s						
LZH				LZ			
	comp=Z,250nm,6.6s						
GYA	Guiyang	6.13	168	Pn	Pn	05 19 44.9	+8.0
GYA				Pg	Pg	05 20 05.1	+1.0
GYA				Sn	Sn	05 20 44.8	-2.0
GYA				Sg	Sg	05 21 15.3	-8.2
GYA				smax	smax		
	comp=N,40nm,0.6s						
GYA				smax	smax		
	comp=E,80nm,0.8s						
SONM	Songino Array	15.37	3	Pn	Pn	05 21 43.5	+0.4
	comp=E,0.0nm,0.3s,baz=181,slow=16,SNR=1.9						
MKAR	Makanchi Array	22.60	316	P	P	05 23 06.9	+0.2
	comp=E,1.0nm,0.7s,baz=110,slow=10,SNR=15						
ZALV	Zalesovo Beam	25.93	332	P	P	05 23 38.2	+0.1
	comp=E,0.7nm,0.4s,baz=205,slow=27,SNR=2.1						
FINES	FINESS Array B	56.96	326	P	P	05 27 50.9	-0.2
	comp=E,0.4nm,0.4s,baz=90,slow=4.2,SNR=1.6						
WRA	Warramunga Arr	59.11	148	P	P	05 28 06.4	-0.3
	comp=E,0.9nm,0.7s,baz=340,slow=7.6,SNR=4.6						
ASAR	Alice Springs	62.20	150	P	P	05 28 27.7	0.0
	comp=E,0.3nm,0.5s,baz=335,slow=6.4,SNR=3.2						
YKA	Yellowknife Ar	80.11	18	P	P	05 30 15.9	+0.3
	comp=E,0.1nm,0.5s,baz=327,slow=5.7,SNR=2.4						

*BJI **25** 05:29:21.7, 13°.64N×120°.19E, h16km, mB5.9/60, mb5.7/76, Ms6.0/93, Ms7 5.8/86*
*NEIC **25** 05:29:24.7±0.1, 13°.83N×120°.07E, h16km, mb5.9/125, ME5.9, MS5.6/151, MW6.0, MW5.8, Error ellipse: s-maj=3.5km s-min=2.8km az=76.0, Moment Tensor Solution. s58 Moment tensor: Scale 10^17Nm; M_{rr}2.78; $M_{\theta\theta}$1.87; $M_{\phi\phi}$-4.65; $M_{r\theta}$-0.83; $M_{\phi\phi}$-0.52; $M_{\phi r}$-3.65; Best double couple: $M_0$5.50000×10^17 NP1:φs194.00000°, δ68.00000°, λ101.00000°. NP2:φs347.00000°, δ24.00000°, λ65.00000°. Principal axes: T 4.4000, Plg65.0000°, Azm122.0000°; N 1.8200, Plg9.0000°, Azm10.0000°; P -6.2200, Plg22.0000°, Azm276.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [V PIVS] at Looc, Lubang Island. Also felt [V PIVS] at Manila; [IV PIVS] at Makati, Mandaluyong City, Pasay, Pasig, Quezon City, Taguig and Talisay; [III PIVS] at Bagac, Canlubang, Clark Field, Marikina City, Rosario, Tagaytay and Trece Martires; [II PIVS] at Calamba, Luzon. Felt throughout central Luzon. Felt [II PIVS] at Puerto Galera, Mindoro. Also felt at Calapan and Bansud.
*MAN **25** 05:29:24, 13°.74N×119°.73E, h11km, mb6.3, ML5.4, MS6.0*
MAN INTENSITY V - LOOC LUBANG ISLAND; MANILA CITY; INTENSIT IV - QUEZON CITY; MANDALUYONG CITY; MAKATI CITY; PASAY CITY; TALISAY BATANGAS; TAGUIG CITY; PASIG CITY.
*GCMT **25** 05:29:24.7±0.1, 13°.85N×119°.80E, h20km, MW6.0/129, Moment Tensor Solution. s127, c277; s129, c369; Duration: 2≥3 Moment tensor: Scale 10^18Nm; M_{rr}0.60±.01; $M_{\theta\theta}$0.13±.01; $M_{\phi\phi}$-0.72±.01; $M_{r\theta}$-0.16±.01; $M_{\theta\phi}$0.13±.00; $M_{\phi r}$-0.82±.02; Best double couple: $M_0$1.07800×10^18 NP1:φs188.00000°, δ71.00000°, λ103.00000°. NP2:φs332.00000°, δ22.00000°, λ57.00000°. Principal axes: T 1.0340, Plg62.0000°, Azm117.0000°; N 0.0880, Plg12.0000°, Azm4.0000°; P -1.1220, Plg25.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **25** 05:29:26.7±0.9, 13°.82N×120°.23E, h42km, mb6.2/109, MS5.6/90 Error ellipse: s-maj=8.8km s-min=5.1km az=111.5*
*ISCJB **25** 05:29:26.3±0.1, 13°.82N±0°.01×120°.04E±0°.02, h33km, mb5.8/269, MS5.6/221, Error ellipse: s-maj=2.5km s-min=1.7km az=168.8*
*IDC **25** 05:29:26.0±1.9, 13°.85N×120°.18E, h22km±11km, mb5.5/41, mb1 5.5/41, mb1mx5.4/50, mbtmp5.6/41, MS5.4/34, Ms1 5.4/34, ms1mx5.4/38, Error ellipse: s-maj=12.8km s-min=8.8km az=60.0*
*KLM **25** 05:29:27.7, 13°.60N×120°.08E, h16km, mb6.0, MS6.5*
*SZGRF **25** 05:29:29.2, 14°.90N×119°.21E, h33km, mb5.8, MS6.0, Luzon, Philippine Islands*
*DJA **25** 05:29:30.0±0.4, 14°.N±2°.×12°.0E±°, h41km±4km, M6.0/133, mb5.9/133, mB6.3/121, Mw(mB)6.1/121, Mwp6.0/22*
*NEIC **25** 05:29:31.0±0.0, 13°.54N×120°.07E, h15km Best double couple: NP1:φs189.00000°, δ76.00000°, λ104.00000°. NP2:φs320.00000°, δ19.00000°, λ42.00000°. Principal axes: T 1.1900, Plg55.0000°, Azm117.0000°; N 0.0700, Plg14.0000°, Azm5.0000°; P -1.2600, Plg30.0000°, Azm267.0000°;*
*BKK **25** 05:29:35.3±0.5, 14°.N±3°.×12°.0E±°, h57km±6km, M5.9/48, mb5.8/48, mB6.2/44, MLv6.0/2, Mw(mB)5.9/44*
ISC 25 05:29:26.3±0.3, 13°.83N±0°.02×120°.01E±0°.03, h25km±1km, h24km:pP-P, n1505, σ1§52/1536, mb5.8/282, MS5.7/233, 164C-143D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.24	113	eP	Pn	05 29 34.4	-0.1
TGY	Tagaytay City	0.94	73	⇑iP	Pn	05 29 47.4	+3.3
TGY				i S	Sn	05 30 00.3	+3.6
PGP	Puerto Galera	0.97	110	⇓eP	Pb	05 29 46.2	+1.7
PGP				i S	Sn	05 30 02.8	+5.3
SJMP	San Jose	1.73	142	eP	Pb	05 29 56.2	-1.3
SJMP				eS	Sb	05 30 20.8	+1.9
BUSP	Coron	1.82	174	eP	Pn	05 29 55.5	-0.7
BUSP				eS	Sn	05 30 16.9	-1.6
SCZP	Santa Cruz	1.94	357	eP	Pn	05 29 57.9	+0.1
SCZP				eS	Sb	05 30 26.5	+1.8
PCPH	Palayan	2.02	31	⇓eP	Pb	05 30 01.4	-0.9
PCPH				i S	Sb	05 30 29.2	+2.2
GQP	Guinayangan	2.36	88	⇓eP	Pb	05 30 07.9	-0.3
GQP				eS	Sb	05 30 40.8	+3.8
BALP	Baler	2.43	38	eP	Pb	05 30 08.6	-0.7
OTRP	Odiongan	2.44	126	eP	Pn	05 30 06.5	+1.9
BOLP	Bolinao	2.54	358	eP	Pb	05 30 06.8	+0.8
BCPH	Baguio City Da	2.59	12	⇑iP	Pb	05 30 11.1	-1.2
BCPH				i S	Sn	05 30 41.0	+3.1
AUQP	San Andres	2.64	101	eP	Pb	05 30 12.6	-0.3
ENPP	El Nido	2.67	192	eP	Pn	05 30 06.4	-1.4
CUYO	Cuyo Island	3.12	162	eP	Pn	05 30 13.8	-0.3
RCP	Roxas	3.49	130	eP	Pn	05 30 21.1	+2.0
SZP	Santa	3.73	7	ePn	Pn	05 30 26.2	+3.8
SZP				eSn	Sb	05 31 17.0	+0.8
MMPH

KDM **Kudat** 7.55 205 ⇑P Pn 05 31 15.0 +0.1
BUKP **Musuan** 7.72 140 *e*P Pn 05 31 20.9 +3.6
CTBH **Cotabato--PC H** 7.77 147⇑*e*P Pn 05 31 20.1 +2.1
BIPH **Bislig** 8.38 131⇑*e*P Pn 05 31 32.4 +6.0
KKM **Kota Kinabalu** 8.59 206 ⇑P Pn 05 31 30.7 +1.4
KKM **Kota Kinabalu** 8.59 206 *e*Pn Pn 05 31 26.2 -3.1
KKM *e*Sn Sn 05 32 56.8 -8.8
SDKM **Sandakan** 8.60 199 ⇑P Pn 05 31 29.0 -0.4
DAV **Davao City (W)** 8.66 140⇑*e*P Pn 05 31 32.1 +1.8
DAV **Davao City (W)** 8.66 140 P Pn 05 31 36.1 +5.8
SNR=18
DAV **Davao City (W)** 8.66 140 *e*Pn Pn 05 31 34.0 +3.8
1μm,1.1s
TWG **Pinlang** 9.00 6 *e*Pn Pn 05 31 39.0 +4.2
1μm,0.9s
TPUB **Ta-pu** 9.44 3 *e*Pn Pn 05 31 45.0 +4.2
467nm,0.9s
TPUB *e*Sn Sn 05 33 44.3 +18
YULB **Yu-li** 9.59 7 *e*Pn Pn 05 31 47.6 +4.7
476nm,1.1s
TSM **Tawau** 9.71 193 ⇑P Pn 05 31 44.7 +0.2
SSLB **Suanglung** 9.95 5 *e*Pn Pn 05 31 53.1 +5.3
SSLB *e*Sn Sn 05 33 50.6 +12
HKC **Hong Kong Obse** 10.09 327⇓*i*P Pn 05 31 52.0 +2.3
NACB **Ninganchiao** 10.40 8 *e*Pn Pn 05 31 58.5 +4.5
646nm,1.3s
YHNB **Yeheng** 10.86 7 *e*Pn Pn 05 32 05.0 +4.6
768nm,1.3s
YHNB *e*Sn Sn 05 34 22.6 +21
YOJ **Yonaguni jima** 10.95 15 *e*P Pn 05 32 07.3 +5.8
YOJ **Yonaguni jima** 10.95 15 *e*Pn Pn 05 32 07.3 +5.8
QIZ **Qiongzhong** 11.04 299 P Pn 05 32 01.6 -1.2
QIZ PMZ
140nm,1.1s
QIZ LN
25μm,16.2s
QIZ LZ
47μm,18.5s
QIZ **Qiongzhong** 11.04 299 *e*Pn Pn 05 32 00.2 -2.6
2μm,1.3s
QIZ Sn Sn 05 34 11.7 +6.1
QZH **Quanzhou** 11.14 353 P Pn 05 32 05.5 +1.4
QZH S Sn 05 34 10.9 +3.0
QZH LN
52μm,13.8s
QZH LE
22μm,14.6s
QZH LZ
68μm,14.5s
GZH **Guangzhou** 11.17 326 P Pn 05 32 07.6 +3.1
GZH S Sn 05 34 17.1 +8.4
GZH LN
50μm,14.4s
GZH LE
59μm,15.8s
TATO **Taipei** 11.18 7 *e*Pn Pn 05 32 07.5 +2.9
DLV **T Lat** 11.39 262 *e*Pn Pn 05 32 06.3 -1.5
BTM **Bintulu** 12.59 214 ⇑P Pn 05 32 22.6 -1.4
TOLI **Toli-Toli** 12.65 176 Pn Pn 05 32 26.1 +1.3
MRSI **Marisa** 13.40 172 P Pn 05 32 37.5 +2.4
MPSI **Mapaga** 13.41 180 P Pn 05 32 36.3 +1.1
GTOI **Gorontalo** 13.44 167 P Pn 05 32 34.6 -1.0
SBUM **Sibu** 13.68 215 ⇑P Pn 05 32 38.8 -0.1
SBUM **Sibu** 13.68 215 *e*Pn Pn 05 32 37.8 -1.2
KMSI **Cibinong** 13.74 163 P Pn 05 32 43.1 +3.3
UBPT **Khong Chiam** 14.15 278 P Pn 05 32 47.1 +1.7
630nm,1.9s,15μm
SGKI **Sangatta, Kali** 14.46 190 P Pn 05 32 49.0 -0.7
274nm,1.3s,7μm
PCI **Palu** 14.64 181 P P 05 32 59.5 +1.4
APSI **Ampana** 14.73 174 P P 05 32 57.5 -1.7
802nm,2.4s,13μm
TNTI **Ternate** 14.88 150 P Pn 05 32 55.7 +0.5
1μm,1.5s,15μm28μm
TNTI **Ternate** 14.88 150 *e*Pn Pn 05 32 55.1 -0.1
LUWI **Luwuk** 15.03 169 P P 05 33 05.1 +2.7
LUWI **Luwuk** 15.03 169 *e*Pn Pn 05 32 58.6 +1.3
2μm,1.1s
JOW **Kunigami** 15.07 30 Pn Pn 05 33 00.2 +2.5
0.3nm,0.3s,baz=204,slow=11,SNR=13
JOW **Kunigami** 15.07 30 *e*Pn Pn 05 32 59.2 +1.5
KSM **Kuching** 15.59 219 ⇑P Pn 05 33 04.9 +0.3
KSM **Kuching** 15.59 219 *e*Pn Pn 05 33 04.5 -0.1
331nm,0.7s
KSM *e*Sn S 05 36 05.5 -6.2
STKI **Sintang** 16.08 212 P P 05 33 17.2 +3.1
222nm,1.5s
LBMI **Labuha** 16.18 152 P P 05 33 15.6 +0.4
885nm,1.6s,14μm
TTSI **Tana Toraja** 16.77 181 P P 05 33 21.7 0.0
294nm,1.2s,6μm19μm
SANI **Sanana** 16.85 159 P Pn 05 33 18.6 -2.2
434nm,1.4s,9μm28μm
SLVN **Son La** 17.07 298 *e*Pn P 05 33 24.7 -0.4
764nm,1.4s
SSE **Sheshan** 17.22 3 ⇑P P 05 33 28.0 +1.4
SSE S Sn 05 36 37.8 +1.7
SSE PMZ
110nm,1.5s
SSE PMZ
2μm,8.2s
SSE LN
17μm,20.4s
SSE LE
3μm,20.4s
SSE LZ
23μm,20.3s
WHN **Wuhan** 17.43 343 P P 05 33 29.4 +0.4
WHN LN
45μm,14.6s
WHN LE
46μm,12.6s
WHN LZ
70μm,15.2s
SPSI **Sidrap Palu** 17.68 181 P P 05 33 33.2 +1.4
229nm,1.9s,7μm
GYA **Guiyang** 17.73 317⇑*i*P P 05 33 33.1 +0.7
GYA PP PnPn 05 33 48.0 +5.4
GYA S Sn 05 36 45.8 -2.9
GYA SS SnSn 05 37 11.4 +8.9
GYA PMZ
220nm,1.0s
GYA PMZ
3μm,7.4s
GYA LN
15μm,17.7s
GYA LE
33μm,16.1s
GYA LZ
36μm,17.1s
BBKI **Banjar Baru** 17.93 197 P P 05 33 36.3 +1.7
646nm,2.3s,16μm
BNSI **Bone** 18.11 180 P P 05 33 40.8 +4.2
360nm,1.7s,9μm30μm
NJ2 **Nanjing** 18.17 357 *e*P P 05 33 39.4 +2.3
NJ2 S S 05 37 05.5 +1.5
NJ2 PMZ
570nm,0.8s
NJ2 PMZ
12μm,7.0s
NJ2 LN
22μm,14.1s
NJ2 LE
43μm,14.7s
NJ2 LZ
92μm,14.5s
NLAI **Namlea** 18.36 157 P Pn 05 33 39.7 +0.3
418nm,1.4s,8μm21μm
PBKI **Pangkalan Bun** 18.39 207 P Pn 05 33 43.2 +3.3
792nm,2.7s,24μm
PBKT **Sadao Pong** 18.58 281 P Pn 05 33 43.2 +1.1
599nm,1.3s,18μm
KTGM **Kuala Trenggan** 18.65 245 ⇑P Pn 05 33 44.9 +1.9
KAPI **Kappang** 18.72 181 Pn Pn 05 33 45.9 +2.1
1μm,0.8s
KAPI **Kappang** 18.72 181 P Pn 05 33 45.3 +1.5
SNR=93
KAPI **Kappang** 18.72 181 *e*Pn Pn 05 33 45.1 +1.3
3μm,2.5s
BKSI **Bulukumba** 19.03 180 P Pn 05 33 48.5 +1.0
384nm,1.4s,5μm
ENH **Enshi** 19.03 331 *e*P Pn 05 33 47.3 -0.2
263nm,1.4s
ENH *e*S S 05 37 23.4 +2.2
UTTA **Uttaradit** 19.12 284 P Pn 05 33 49.0 +0.3
80nm,1.3s,818nm

MSAI **Masohi** 19.22 152 P Pn 05 33 51.6 +1.7
318nm,2.4s,8μm
BBSI **Bau Bau** 19.36 172 P Pn 05 33 57.2 +5.7
KMI **Kunming** 19.76 307 P Pn 05 33 58.1 +1.6
KMI pP pP 05 34 06.4 +4.7
KMI sP sP 05 34 11.3 +6.5
KMI S Sn 05 37 42.3 +4.3
KMI PMZ
250nm,1.5s
KMI PMZ
5μm,6.3s
KMI LN
5μm,13.9s
KMI LE
25μm,15.2s
KMI LZ
27μm,16.1s
CRAI **Chiangrai** 19.82 291 P P 05 33 54.6 -0.8
364nm,1.5s,6μm
BSSI **Bau Bau, Buton** 19.85 179 P Pn 05 33 58.9 +1.6
513nm,1.1s,16μm
MYKOM **Kota Tinggi** 19.96 235 ⇑P Pn 05 33 59.6 +0.9
TPRI **Tanjung Pinang** 19.99 231 P Pn 05 33 59.6 +0.6
357nm,1.4s,30μm
LAMP **Lampang** 20.12 286 P Pn 05 34 00.5 -0.1
103nm,1.2s,960nm
KGM **Kluang** 20.25 236 ⇑P Pn 05 34 02.4 +0.2
SRDT **SRDT** 20.27 274 P Pn 05 34 01.9 -0.5
2μm,1.5s,30μm
TPI **Tanjungpandan** 20.54 218 P Pn 05 34 05.0 -0.5
371nm,1.5s,6μm
FAKI **Fak Fak** 20.60 143 P P 05 34 04.8 +1.0
1μm,1.3s,14μm45μm
FAKI **Fak Fak** 20.60 143 *e*Pn Pn 05 34 04.9 -1.3
1μm,1.2s
BNDI **Bandanaira** 20.71 151 P Pn 05 34 06.5 -0.9
6μm,1.5s,333μm46μm
RKPI **Ransiki, Papua** 20.72 136 P Pn 05 34 07.7 +0.1
909nm,1.6s
CMAR **Chiang Mai Arr** 20.75 286 P Pn 05 34 07.3 -0.6
573nm,1.1s,baz=97,slow=7.6,SNR=880
CMAR PcP PcP 05 38 16.5 +1.8
18nm,0.8s,baz=108,slow=0.5,SNR=9.2
CMAR ScP ScP 05 41 50.6 +0.7
9.0nm,1.0s,baz=54,slow=1.1,SNR=10.0
CMAR LR LR 05 42 33.2
comp=Z,10μm,18.1s,baz=114,slow=38
KHLT **Khaolaem Dam** 20.78 275 P Pn 05 34 07.6 -0.8
286nm,1.6s,4μm
CMMT **Chiang Mai** 20.81 287 P Pn 05 34 07.3 -1.4
538nm,1.6s,8μm
CHTO **Chiang Mai** 20.81 287 *e*P Pn 05 34 07.8 -0.9
CHTO *e*S Sn 05 38 01.4 -1.8
CHTO pmax pmax
comp=Z,411nm,1.2s
CHTO MLR MLR
comp=Z,7μm,21.0s
CHTO **Chiang Mai** 20.81 287 P Pn 05 34 08.1 -0.6
SNR=136
CHTO **Chiang Mai** 20.81 287 P Pn 05 34 07.4 -1.3
comp=Z,1μm,1.6s,comp=Z,29μm
CHTO **Chiang Mai** 20.81 287 *e*P Pn 05 34 07.8 -0.9
comp=Z,412nm,1.2s
CHTO *e*S Sn 05 38 01.4 -1.8
CHTO LR LR
comp=Z,7μm,21.0s
BWJI **Bawean** 20.87 201 P Pn 05 34 21.5 +12
KULM **Kulim** 20.88 248 ⇑P Pn 05 34 09.6 +0.1
KULM **Kulim** 20.88 248 *e*P Pn 05 34 08.8 -0.7
comp=Z,719nm,1.3s
KULM *e*S S 05 37 59.8 +1.0
KULM *e*ScP ScP 05 41 50.7 +0.4
KULM LR LR
comp=Z,13μm,20.0s
IPM **Ipoh** 20.90 245 ⇑P Pn 05 34 08.9 -0.9
IPM **Ipoh** 20.90 245 *e*P Pn 05 34 08.2 -1.6
comp=Z,402nm,1.2s
CMAI **Chiengmai2** 20.95 290 P Pn 05 34 09.7 -0.8
comp=Z,817nm,1.4s,comp=Z,12μm
FRIM **Kepong** 20.99 242 ⇓P Pn 05 34 10.1 -0.7
KSHUK **Heuksando** 21.34 12 P P 05 34 16.3 +4.7
SNR=6.7
SURT **Suratani** 21.35 259 P P 05 34 13.5 +1.5
comp=Z,217nm,1.4s,comp=Z,4μm
KMMI **Kalianget** 21.59 197 P P 05 34 17.7 +3.2
comp=Z,667nm,2.1s,comp=Z,12μm
JNU **Nakatsue** 21.61 25 P P 05 34 15.9 +1.3
comp=Z,65nm,0.8s,baz=148,slow=3.6,SNR=17
JNU **Nakatsue** 21.61 25 *e*P P 05 34 14.2 -0.4
comp=Z,104nm,1.1s
MHMT **Maesarieng** 21.66 284 P P 05 34 16.8 +1.6
comp=Z,235nm,1.1s,comp=Z,4μm
GRJI **Gresik** 21.92 200 P P 05 34 24.3 +6.2
comp=Z,464nm,1.1s,comp=Z,5μm
TBJI **Tambak Boyo** 22.06 202 P P 05 34 24.8 +5.3
comp=Z,648nm,1.4s,comp=Z,10μm
PKDT **Phuket** 22.08 257 P P 05 34 21.1 +1.2
comp=Z,650nm,1.2s,comp=Z,8μm
ABJI **Aceh Bagus** 22.24 195 P P 05 34 24.7 +3.3
comp=Z,536nm,1.4s,comp=Z,11μm
SRBI **Singaraja** 22.29 193 P P 05 34 23.4 +1.4
JMBI **JAMBI** 22.35 228 P P 05 34 25.7 +3.0
BLJI **Banyuglugur** 22.36 197 P P 05 34 25.6 +2.8
SRPI **Serui, Papua** 22.41 133 P P 05 34 30.5 +7.2
MMRI **Maumere** 22.43 174 P P 05 34 24.0 +0.5
MMRI **Maumere** 22.43 174 *e*P P 05 34 23.7 +0.2
comp=Z,1μm,1.3s
MMRI *e*S Sn 05 38 38.3 -3.6
TIA **Tai'an** 22.44 354 ⇑P P 05 34 27.0 +3.5
TIA S S 05 38 30.8 +2.2
TIA PMZ
comp=Z,170nm,0.9s
TIA PMZ
comp=Z,5μm,5.3s
TIA LN
comp=Z,12μm,21.0s
TIA LE
comp=Z,8μm,15.0s
TIA LZ
comp=Z,22μm,20.0s
KSJEU **Jeongeup** 22.45 15 P P 05 34 24.1 +0.5
SNR=10
PMBI **Palembang** 22.49 223 P P 05 34 27.5 +3.3
comp=Z,713nm,1.2s,comp=Z,27μm
EDFI **Ende, Flores** 22.49 176 P P 05 34 24.6 +0.3
XAN **Xi'an** 22.50 335 P P 05 34 24.8 +0.6
XAN pP pP 05 34 30.3 -0.7
XAN S S 05 38 29.5 -0.3
XAN PMZ
comp=Z,960nm,4.2s
XAN LN
comp=Z,21μm,18.3s
XAN LE
comp=Z,4μm,13.2s
XAN LZ
comp=Z,8μm,17.3s
CD2 **Chengdu** 22.64 321⇓*i*P P 05 34 26.8 +1.0
CD2 PP PnPn 05 34 56.8 +7.0
CD2 S S 05 38 29.5 -3.0
CD2 SS SnSn 05 39 17.8 +15
CD2 ScS ScS 05 45 37.9 -2.1
CD2 PMZ
comp=Z,2μm,1.3s
CD2 PMZ
comp=Z,8μm,4.2s
CD2 LN
comp=Z,30μm,15.5s
CD2 LE
comp=Z,28μm,15.5s
CD2 LZ
comp=Z,27μm,15.5s
NGJI **Ngawi** 22.71 202 P P 05 34 28.9 +2.4
SMRI **Semarang** 22.82 205 P P 05 34 30.6 +3.0
DNP **Denpasar** 22.86 192 P P 05 34 32.3 +4.2
comp=Z,3μm,0.7s,comp=Z,49μm
JAGI **Jajag, Banyuwa** 22.91 195 P P 05 34 30.3 +1.7
comp=Z,723nm,1.7s,comp=Z,20μm
GMJI **Gumukmas** 22.91 197 P P 05 34 30.7 +2.1
comp=Z,622nm,1.5s,comp=Z,14μm
KSGUS **GUNSAN** 22.93 14 P P 05 34 28.9 +0.2
SNR=13
IGBI **Denpasar** 23.01 192 P P 05 34 31.3 +1.7
comp=Z,4μm,1.1s,comp=Z,43μmcomp=Z,20μm
BKNI **Bangkinang** 23.08 236 P P 05 34 31.2 +0.8
comp=Z,932nm,1.4s,comp=Z,14μm
BKNI **Bangkinang** 23.08 236 *e*P P 05 34 30.4 -0.1
comp=Z,1μm,1.2s
BKNI *e*S Sn 05 38 48.3 -9.4
WBSI **Waikabubak, Su** 23.33 182 P P 05 34 31.6 -1.3
comp=Z,782nm,1.2s,comp=Z,9μm
WOJI **Wonogiri, Jawa** 23.34 203 P P 05 34 34.9 +1.9
comp=Z,730nm,1.2s,comp=Z,8μm
TJN **Taejon** 23.40 15 *i*P P 05 34 32.0 -1.4
KSCPR **CHUPUNGNYEONG** 23.41 16 P P 05 34 33.5 -0.1
SNR=15
TSI **Tuntungan** 23.53 246 P P 05 34 36.8 +1.9
comp=Z,1μm,1.5s,comp=Z,17μm
PSI **Prapat** 23.54 244 P P 05 34 35.5 +0.3
comp=Z,367nm,1.2s,baz=48,slow=8.6,SNR=165
PSI PcP PcP 05 38 21.3 +0.8
comp=Z,58nm,0.9s,baz=257,slow=2.4,SNR=8.8
PSI ScP ScP 05 41 57.1 -0.2
comp=Z,12nm,1.0s,baz=344,slow=2.0,SNR=8.9
PSI LR LR 05 43 12.3
comp=Z,11μm,21.0s,baz=82,slow=35
SDSI **Sungai Dareh** 23.54 233 P P 05 34 36.2 +1.2
comp=Z,256nm,1.3s,comp=Z,13μm
UGM **Wanagama** 23.57 204 P P 05 34 38.4 +3.2
comp=Z,720nm,1.8s,comp=Z,11μm
UGM **Wanagama** 23.57 204 *e*P P 05 34 37.1 +1.9
PCJI **Pacitan** 23.57 202 P P 05 34 37.1 +1.9
comp=Z,426nm,1.6s,comp=Z,9μm
KPJI **Karang Pucung** 23.73 208 P P 05 34 37.7 +1.0
comp=Z,555nm,1.4s,comp=Z,8μm
KSCEA **Cheonan** 23.80 15 P P 05 34 37.6 +0.3
SNR=8.1
SOEI **Soe** 23.81 170 P P 05 34 37.3 -0.3
comp=Z,1μm,1.2s,comp=Z,19μmcomp=Z,24μm
SOEI **Soe** 23.81 170 *e*P P 05 34 37.5 -0.2
comp=Z,1μm,0.9s
BASI **Baing, Sumba** 23.90 179 P P 05 34 38.6 +0.3
comp=Z,967nm,1.8s,comp=Z,15μmcomp=Z,49μm
KLI **Kotabumi** 23.90 220 P P 05 34 40.0 +1.6
comp=Z,408nm,1.4s,comp=Z,8μm
LEM **Lembang** 23.93 212 P P 05 34 43.3 +4.5
comp=Z,248nm,1.5s,comp=Z,7μm
LHSI **Lahat** 23.99 224 P P 05 34 40.4 +1.2
comp=Z,433nm,1.2s,comp=Z,6μm
MNSI **Mandailing Nat** 24.01 239 P P 05 34 39.9 +0.4
comp=Z,332nm,1.7s
MDSI **Maura Dua** 24.04 222 P P 05 34 40.1 +0.4
comp=Z,162nm,1.5s,comp=Z,4μm
BLSI **Bandar Lampung** 24.05 219 P P 05 34 44.2 +4.3
comp=Z,476nm,0.9s
SBJI **Serang** 24.14 216 P P 05 34 44.0 +3.4
comp=Z,821nm,1.5s,comp=Z,14μm
GUMO **Guam** 24.15 88 *e*P P 05 34 41.5 +0.8
GUMO pmax pmax
comp=Z,1μm,1.3s
GUMO MLR MLR
comp=Z,14μm,19.0s
GUMO **Guam** 24.15 88 *e*P P 05 34 41.5 +0.8
comp=Z,1μm,1.3s
GUMO LR LR
comp=Z,14μm,19.0s
KSSWO **Suwon** 24.15 14 P P 05 34 40.9 +0.4
SNR=23
BATI **Baumata** 24.15 171 P P 05 34 40.4 -0.4
comp=Z,1μm,0.8s,comp=Z,11μm
BATI **Baumata** 24.15 171 P P 05 34 40.7 -0.1
comp=Z,1μm,0.6s,baz=318,slow=1.3,SNR=153
KCSI **Kotacane, Aceh** 24.23 247 P P 05 34 40.5 -1.0
comp=Z,407nm,1.2s,comp=Z,5μm
LHMI **Lhok Sumawe** 24.28 252 P P 05 34 43.8 +1.8
comp=Z,620nm,1.0s,comp=Z,10μm
LHMI **Lhok Sumawe** 24.28 252 *e*P P 05 34 43.3 +1.4
comp=Z,1μm,1.7s
KSICN **Icheon** 24.28 14 P P 05 34 42.0 +0.3
SNR=7.0
INCN **Inchon** 24.29 13 P P 05 34 42.3 +0.5
SNR=15
INCN **Inchon** 24.29 13 *e*P P 05 34 41.4 -0.4
INCN LR LR
comp=Z,13μm,20.0s
PDSI **Padang** 24.29 234 P P 05 34 42.9 +0.9
comp=Z,261nm,1.6s,comp=Z,4μm
SMPI **Sarmi** 24.30 129 P P 05 34 42.5 +0.4
comp=Z,502nm,1.4s,comp=Z,10μm
CMJI **Cimerak** 24.35 209 P P 05 34 44.3 +1.8
comp=Z,235nm,1.9s,comp=Z,5μm
KSSEO **Seoul** 24.35 13 P P 05 34 42.9 +0.6
SNR=5.8
SAUI **Saumlaki** 24.39 152 P P 05 34 43.3 +0.3
comp=Z,988nm,1.2s,comp=Z,76μm
SAUI **Saumlaki** 24.39 152 *e*P P 05 34 41.9 -1.1
comp=Z,1μm,0.6s
MASI **Maura Aman, Be** 24.40 228 P P 05 34 45.5 +2.5
comp=Z,2μm,1.4s,comp=Z,25μmcomp=Z,296μm
KSBAR **Backryungdo** 24.41 9 P P 05 34 44.5 +1.6
SNR=12
CISI **Cisompet, Garu** 24.45 210 P P 05 34 45.9 +2.3
comp=Z,660nm,1.4s,comp=Z,8μm
CISI **Cisompet, Garu** 24.45 210 *e*P P 05 34 43.2 -0.4
comp=Z,2μm,1.7s
CISI *e*PcP PcP 05 38 22.0 -0.3
LWLI **Liwa** 24.52 221 P P 05 34 45.6 +1.3
comp=Z,482nm,1.1s,comp=Z,10μm
KSTBA **Taebaek** 24.53 17 P P 05 34 45.2 +1.0
SNR=6.4
KSAR **Wonju Array Be** 24.54 15 P P 05 34 43.9 -0.2
KSAR **Wonju Array Be** 24.54 15 P P 05 34 43.9 -0.2
KSAR ScP ScP 05 41 60.0 +0.6
CBIJ **Chichi jima** 24.56 54 *e*P P 05 34 43.3 -1.0
JCJ **Chichijima** 24.56 54 P P 05 34 42.9 -1.5
comp=Z,227nm,0.7s,baz=228,slow=3.7
JCJ LR LR 05 42 44.1
comp=Z,8μm,21.9s,baz=254,slow=33
KSRS **Korea Array** 24.56 15 P P 05 34 43.9 -0.4
comp=Z,52nm,0.8s,baz=200,slow=10,SNR=82
KSRS ScP ScP 05 41 60.0 +0.5
comp=Z,5.9nm,1.0s,baz=208,slow=2.0,SNR=7.3
KSRS LR LR 05 46 36.1
comp=Z,18μm,18.3s,baz=196,slow=42
CNJI **Cibinong** 24.59 212 P P 05 34 47.8 +3.1
comp=Z,441nm,1.6s,comp=Z,8μm
KASI **Kota Agung** 24.64 220 P P 05 34 46.4 +1.2
comp=Z,407nm,1.2s,comp=Z,6μmcomp=Z,9μm
SKJI **Sukabumi** 24.64 214 P P 05 34 58.9 +14
TIY **Taiyuan** 24.73 346 *e*P P 05 34 47.8 +1.9
TIY pP pP 05 34 52.4 -0.8
TIY sP sP 05 34 57.5 +1.3
TIY PP PnPn 05 35 18.4 +0.1
TIY S S 05 39 03.3 -3.3
TIY PMZ
comp=Z,100nm,0.9s
TIY PMZ
comp=Z,3μm,10.9s
TIY LN
comp=Z,13μm,14.8s
TIY LE
comp=Z,6μm,12.0s
TIY LZ
comp=Z,15μm,17.4s
MNAI **Manna** 24.76 224 P P 05 34 49.9 +3.6
comp=Z,1μm,1.4s,comp=Z,15μm
KSDDC **Dongducheon** 24.78 13 P P 05 34 47.7 +1.5
SNR=7.6
CGJI **Cibinong** 24.79 216 P P 05 34 47.0 +0.4
comp=Z,463nm,1.5s,comp=Z,6μm
TPTI **24.87 247** P P 05 34 50.3 +3.0
comp=Z,416nm,0.9s,comp=Z,24μm
DL2 **Dalian** 25.02 3⇑*i*P P 05 34 48.3 -0.1
DL2 PMZ
comp=Z,390nm,1.1s
DL2 PMZ
comp=Z,2μm,7.4s
DL2 LE
comp=Z,8μm,21.6s
DL2 LZ
comp=Z,10μm,18.6s
KSCWO **Cheorwon** 25.06 14 P P 05 34 51.4 +2.6
SNR=16
GSI **Gunungsitoli** 25.45 243 P P 05 34 52.4 -0.2
comp=Z,200nm,1.5s,comp=Z,6μm
GSI **Gunungsitoli** 25.45 243 *e*P P 05 34 51.5 -1.0
GENI **Genyem** 25.80 128 P P 05 34 56.3 +0.5
comp=Z,569nm,1.4s,comp=Z,12μm
JAY **Jayapura** 26.17 127 P P 05 34 58.2 -0.9
comp=Z,24nm,1.1s,baz=302,slow=8.2,SNR=7.6
JAY LR LR 05 45 27.6
comp=Z,17μm,19.4s,baz=332,slow=37
BJT **Baijiatuau** 26.31 353 *e*P P 05 35 00.7 +0.6
BJT pmax pmax

	comp=Z,319nm,1.3s					
BJT				MLR	MLR	
	comp=Z,14μm,19.0s					
BJT	**Baijiatuau**	**26.31 353**	*e*P		**P**	**05 35 00.7 +0.6**
	comp=Z,320nm,1.3s					
BJT				LR	LR	
	comp=Z,14μm,19.0s					
BJI	**Beijing**	**26.33 353**		P	**P**	**05 35 00.8 +0.6**
BJI				S	**S**	**05 39 31.8 0.0**
BJI				sS	**sS**	**05 39 43.1 -0.7**
BJI				PMZ		
	comp=Z,85nm,1.3s					
BJI				PMZ		
	comp=Z,3μm,8.8s					
BJI				LN		
	comp=Z,14μm,16.5s					
BJI				LE		
	comp=Z,7μm,13.9s					
BJI				LZ		
	comp=Z,10μm,22.6s					
DGPR	**DIGLIPUR**	**26.34 272**	*e*P		**P**	**05 34 58.9 -1.7**
LZH	**Lanzhou**	**26.49 330**	*e*P		**P**	**05 35 03.5 +1.5**
LZH				pP	**pP**	**05 35 07.1 -2.2**
LZH				sP	**sP**	**05 35 10.1 -2.3**
LZH				PP	**PnPn**	**05 35 44.0 +1.5**
LZH				PcP	**PcP**	**05 38 28.9 +2.2**
LZH				*e*S	**S**	**05 39 36.6 +1.7**
LZH				ScP	**ScP**	**05 42 06.8 +1.5**
LZH				PcS	**PcS**	**05 42 10.1 +2.1**
LZH				ScS	**ScS**	**05 45 57.3 +1.6**
LZH				PMZ		
	comp=Z,130nm,1.0s					
LZH				PMZ		
	comp=Z,520nm,4.6s					
LZH				LN		
	comp=Z,24μm,17.3s					
LZH				LE		
	comp=Z,25μm,16.4s					
LZH				LZ		
	comp=Z,37μm,19.5s					
CMBY	**CAMPBELL BAY**	**26.52 258**	*e*P		**P**	**05 35 00.7 -1.6**
CMBY				AMB	AMB	05 35 13.1
	comp=Z,216nm,0.8s					
PBA	**Port Blair**	**26.68 268**	*e*P		P	05 35 02.9 -0.8
PBA				AMB	AMB	05 35 05.5
	comp=Z,265nm,1.2s					
MAJO	**Matsushiro**	**27.87 33⇑**	*e*P		**P**	**05 35 11.6 -2.7**
MAJO				pmax	pmax	
	comp=Z,187nm,1.2s					
MAJO				MLR	MLR	
	comp=Z,29μm,17.0s					
MAJO	**Matsushiro**	**27.87 33**	*e*P		**P**	**05 35 13.3 -0.9**
	comp=Z,418nm,2.1s					
MAJO				LR	LR	
	comp=Z,5μm,20.0s					
MAT	**Matsushiro**	**27.87 33**		P	**P**	**05 35 11.0 -3.3**
MAT				S	**S**	**05 39 54.4 -1.9**
MJAR	**Matsushiro Arr**	**27.87 33**		P	**P**	**05 35 11.8 -2.4**
	comp=Z,16nm,1.0s,baz=212,slow=8.4,SNR=20					
HHC	**Hu-ho-hao-te**	**27.91 346**	*e*P		**P**	**05 35 15.8 +1.1**
HHC				sP	**sP**	**05 35 26.8 +1.8**
HHC				PP	**PnPn**	**05 36 06.6 +4.8**
HHC				S	**S**	**05 39 57.9 +0.8**
HHC				SS	**SnSn**	**05 41 17.3 +5.5**
HHC				PMZ		
	comp=Z,73nm,1.3s					
HHC				PMZ		
	comp=Z,3μm,5.8s					
HHC				LN		
	comp=Z,29μm,16.7s					
HHC				LE		
	comp=Z,15μm,14.7s					
HHC				LZ		
	comp=Z,32μm,16.3s					
SNY	**Shenyang**	**28.07 6**	⇑P		**P**	**05 35 15.8 -0.1**
SNY				S	**S**	**05 39 58.3 -0.9**
SNY				PMZ		
	comp=Z,2μm,1.4s					
SNY				LN		
	comp=Z,6μm,21.0s					
SNY				LE		
	comp=Z,17μm,19.8s					
SNY				LZ		
	comp=Z,13μm,19.1s					
BTO	**Baotou**	**28.07 344**	*e*P		**P**	**05 35 16.6 +0.5**
SHL	**Shillong**	**28.88 298⇓**	*i*P		**P**	**05 35 22.0 -1.5**
SHL				AMB	AMB	05 35 32.4
	comp=Z,149nm,1.1s					
SHL			*ex*		x	05 38 33.0
SHL			*ex*		x	05 40 12.0
CN2	**Changchun**	**30.23 8**	*e*P		**P**	**05 35 34.5 -0.6**
CN2			*e*S		**S**	**05 40 33.1 -0.1**
CN2				PMZ		
	comp=Z,100nm,1.0s					
CN2				LN		
	comp=Z,15μm,19.0s					
CN2				LE		
	comp=Z,3μm,19.0s					
CN2				LZ		
	comp=Z,4μm,18.0s					
VLA	**Vladivostok**	**30.93 17⇑**	*i*P		**P**	**05 35 42.1 +0.9**
VLA						05 36 43.4
VLA			*e*			05 38 37.1
VLA				S	**S**	**05 40 39.3 -4.8**
VLA				pmax	pmax	
	comp=Z,287nm,1.7s					
LSA	**Lhasa**	**30.99 305**		P	**P**	**05 35 43.0 +0.5**
LSA				S	**S**	**05 40 45.5 -0.9**
LSA				LN		
	comp=Z,4μm,18.2s					
LSA				LE		
	comp=Z,5μm,16.9s					
LSA				LZ		
	comp=Z,13μm,19.5s					
LSA	**Lhasa**	**30.99 305**	*e*P		**P**	**05 35 43.5 +1.0**
LSA				pmax	pmax	
	comp=Z,68nm,1.0s					
LSA				MLR	MLR	
	comp=Z,13μm,19.0s					
LSA	**Lhasa**	**30.99 305**	*e*P		**P**	**05 35 43.5 +1.0**
	comp=Z,68nm,1.0s					
LSA				LR	LR	
	comp=Z,13μm,19.0s					
GTA	**Gaotai**	**31.08 329**	*e*P		**P**	**05 35 43.9 +1.1**
GTA				pP	**pP**	**05 35 48.1 -2.0**
GTA				sP	**sP**	**05 35 51.3 -1.9**
GTA				PcP	**PcP**	**05 38 38.9 +0.8**
GTA				S	**S**	**05 40 47.8 +0.9**
GTA				ScP	**ScP**	**05 42 20.3 +0.7**
GTA				SS	**SnSn**	**05 42 31.8 +2.8**
GTA				ScS	**ScS**	**05 46 15.8 -0.9**
GTA				PMZ		
	comp=Z,47nm,1.5s					
GTA				PMZ		
	comp=Z,1μm,5.0s					
GTA				LN		
	comp=Z,17μm,18.8s					
GTA				LE		
	comp=Z,29μm,16.9s					
GTA				LZ		
	comp=Z,38μm,17.6s					
MDJ	**Mudanjiang**	**31.75 13**		P	**P**	**05 35 49.9 +1.4**
MDJ				pP	**pP**	**05 35 53.3 -2.5**
MDJ				S	**S**	**05 40 59.6 +2.6**
MDJ				sS	**sS**	**05 41 12.8 +3.7**
MDJ				PMZ		
	comp=Z,200nm,1.0s					
MDJ				PMZ		
	comp=Z,1μm,5.9s					
MDJ				LN		
	comp=Z,3μm,24.2s					
MDJ				LE		
	comp=Z,16μm,25.6s					
MDJ				LZ		
	comp=Z,16μm,17.5s					
MDJ	**Mudanjiang**	**31.75 13**	*e*P		**P**	**05 35 48.5 0.0**
	comp=Z,298nm,1.2s					
MDJ				LR	LR	
	comp=Z,13μm,19.0s					
USRK	**Ussuriysk Ar.**	**31.95 16**		P	**P**	**05 35 50.4 +0.2**
	comp=Z,61nm,1.0s,baz=207,slow=8.9,SNR=71					
USRK				LR	LR	05 48 42.8
	comp=Z,7μm,21.0s,baz=187,slow=36					
TAPN	**Taplejung**	**32.98 299**	*e*P		**P**	**05 36 00.1 +0.2**
	comp=Z,242nm,1.1s					
ODAN	**Odare**	**33.11 298**	*e*P		**P**	**05 36 01.2 +0.3**
	comp=Z,275nm,0.9s					
BOK	**Bokaro**	**33.71 292**	*e*P		**P**	**05 36 05.0 -0.9**
BOK				AMB	AMB	05 36 15.1
	comp=Z,178nm,1.4s					
RAMN	**Ramite**	**33.81 298**	*e*P		**P**	**05 36 07.6 +0.5**
	comp=Z,698nm,1.3s					
JIRN	**Jiri**	**34.36 299**	*e*P		**P**	**05 36 12.4 +0.4**
	comp=Z,468nm,1.2s					
ERM	**Erimo**	**34.51 31⇑**	*e*P		**P**	**05 36 13.1 +0.5**
ERM				pmax	pmax	
	comp=Z,55nm,1.2s					
ERM				MLR	MLR	
	comp=Z,7μm,23.0s					
ERM	**Erimo**	**34.51 31**	PFAKE			05 36 20.0 +7.4
ERM				LR	LR	
	comp=Z,6μm,21.0s					
COCO	**West Island**	**34.59 223**	P		P	05 36 16.8 +3.3
	comp=Z,2μm,1.2s,SNR=5.2					
COCO	**West Island**	**34.59 223**	*i* P		P	05 36 16.5 +3.0
COCO	**West Island**	**34.59 223**	PFAKE			05 36 30.0 +17
COCO				LR	LR	
	comp=Z,6μm,22.0s					
GUN	**Gumba**	**34.70 299**	*e*P		**P**	**05 36 15.2 +0.3**
	comp=Z,433nm,0.9s					
MBWA	**Marble Bar**	**34.77 180**	P		**P**	**05 36 14.8 -0.2**
	SNR=8.2					
MBWA	**Marble Bar**	**34.77 180**	*e*P		**P**	**05 36 14.2 -0.8**
	comp=Z,62nm,0.6s					
MBWA				*e*PP	**PP**	**05 37 40.5 +6.3**
MBWA				*e*PcP	**PcP**	**05 38 48.6 +0.2**
MBWA				LR	LR	
	comp=Z,3μm,19.0s					
PKI	**Pulchoki**	**35.00 298**	*e*P		**P**	**05 36 17.3 -0.2**
	comp=Z,207nm,0.9s					
PKIN	**Phulchoki**	**35.02 299**	*e*P		**P**	**05 36 17.2 -0.3**
	comp=Z,553nm,1.4s					
KKN	**Kakani**	**35.17 299**	*e*P		**P**	**05 36 18.8 0.0**
	comp=Z,185nm,0.8s					
DMN	**Daman**	**35.27 298**	*e*P		**P**	**05 36 19.6 -0.1**
	comp=Z,371nm,1.0s					
HIA	**Hailar**	**35.34 360**	*e*P		**P**	**05 36 19.7 0.0**
HIA				pmax	pmax	
	comp=Z,131nm,0.9s					
HIA				MLR	MLR	
	comp=Z,14μm,21.0s					
HIA	**Hailar**	**35.34 360**	*e*P		**P**	**05 36 19.7 0.0**
	comp=Z,131nm,0.9s					
HIA				LR	LR	
	comp=Z,14μm,21.0s					
PMG	**Port Moresby**	**35.48 129**	*c i*P		**P**	**05 36 19.3 -1.9**
PMG				pmax	pmax	
	comp=Z,66nm,1.0s					
PMG				MLR	MLR	
	comp=Z,7μm,21.0s					
PMG	**Port Moresby**	**35.48 129**	LR		LR	05 52 00.7
	comp=Z,5μm,19.9s,baz=287,slow=38					
PMG	**Port Moresby**	**35.48 129**	*e*P		**P**	**05 36 18.4 -2.8**
	comp=Z,66nm,1.0s					
VIS	**Vishakhapatnam**	**35.48 281**	*e*P		**P**	**05 36 22.4 +1.2**
VIS				AMB	AMB	05 36 24.1
	comp=Z,321nm,1.3s					
ULN	**Ulaanbaatar**	**35.61 345**	*c i*P		**P**	**05 36 22.9 +0.7**
ULN				pmax	pmax	
	comp=Z,143nm,1.7s					
ULN				MLR	MLR	
	comp=Z,12μm,20.0s					
ULN	**Ulaanbaatar**	**35.61 345**	P		**P**	**05 36 23.4 +1.3**
	SNR=65					
ULN	**Ulaanbaatar**	**35.61 345**	*e*P		**P**	**05 36 22.7 +0.5**
	comp=Z,188nm,1.4s					
ULN				*e*PcP	**PcP**	**05 38 51.4 +0.7**
ULN				LR	LR	
	comp=Z,11μm,19.0s					
SONM	**Songino Array**	**35.75 344**	P		**P**	**05 36 24.1 +0.7**
	comp=Z,50nm,0.9s,baz=164,slow=9.5,SNR=116					
SONM				PcP	**PcP**	**05 38 51.6 +0.5**
	comp=Z,52nm,0.9s,baz=165,slow=3.0,SNR=12					
SONM				ScP	**ScP**	**05 42 34.8 -0.9**
	comp=Z,14nm,1.1s,baz=163,slow=5.7,SNR=7.6					
SONM				LR	LR	05 53 26.9
	comp=Z,13μm,18.0s,baz=156,slow=40					
GKN	**Gorkha**	**35.78 299**	*e*P		**P**	**05 36 23.6 -0.3**
	comp=Z,216nm,0.9s					
ASAJ	**Asahikawa**	**35.83 28**	*e*P		**P**	**05 36 23.7 -0.2**
	comp=Z,33nm,1.0s					
COEN	**Coen**	**35.89 139**	*e*P		**P**	**05 36 21.9 -2.9**
	comp=Z,180nm,0.7s					
WRAB	**Tennant Creek**	**36.40 157**	P		**P**	**05 36 28.3 -0.7**
	comp=Z,5μm,1.5s					
WRAB	**Tennant Creek**	**36.40 157**	*c i*P		**P**	**05 36 28.1 -0.9**
WRAB				MLR	MLR	
	comp=Z,17μm,25.0s					
WRAB	**Tennant Creek**	**36.40 157**	PFAKE			05 36 40.0 +11
WRAB				LR	LR	
	comp=Z,3μm,20.0s					
WRA	**Warramunga Arr**	**36.40 157**	P		**P**	**05 36 27.8 -1.3**
	comp=Z,334nm,0.8s,baz=336,slow=9.3,SNR=244					
WRA				LR	LR	05 54 28.5
	comp=Z,2μm,20.7s,baz=340,slow=41					
WB2	**Warramunga Arr**	**36.41 157**	*e*P		**P**	**05 36 28.1 -1.0**
KLR	**Kul'dur**	**36.60 13⇓**	*i*P		P	05 36 26.4 -4.0
KLR			*e*S		**S**	**05 42 07.5 -4.2**
KLR			*e*			05 45 00.0
KLR				pmax	pmax	
	comp=N,150nm,2.0s					
KLR				pmax	pmax	
	comp=E,140nm,2.0s					
KLR				pmax	pmax	
	comp=Z,460nm,2.0s					
KLR				pmax	pmax	
	comp=Z,2μm,8.5s					
KLR				smax	smax	
	comp=N,2μm,13.0s					
KLR				smax	smax	
	comp=E,2μm,13.0s					
KOLN	**Koldanda**	**36.60 298**	*e*P		**P**	**05 36 31.0 0.0**
	comp=E,182nm,0.8s					
DANN	**Dangsing**	**36.62 299**	*e*P		**P**	**05 36 31.0 -0.3**
	comp=E,269nm,0.9s					
HABR	**Khabarovsk**	**36.72 17**	*c e*P		**P**	**05 36 29.9 -1.5**
HABR				*e**PP	pP	05 36 48.3 +9.5
HABR				*e*		05 37 54.3
HABR				*e*		05 38 50.8
HABR				*e*S	S	05 42 07.5 -6.1
HABR				*e*SSS	SSS	05 45 04.2
HABR				*e*		05 46 36.7
HABR				pmax	pmax	
	comp=N,41nm,1.6s					
HABR				pmax	pmax	
	comp=Z,101nm,1.6s					
HABR				pmax	pmax	
	comp=E,128nm,3.2s					
HABR				MLR	MLR	
	comp=Z,6μm,19.0s					
PYUN	**Piuthan**	**37.21 298**	*e*P		**P**	**05 36 36.3 +0.1**
	comp=Z,448nm,1.0s					
YUK	**Yuzh-Kuril'sk**	**37.34 31**	*c i*P		P	05 36 29.1 -7.7
YUK			*i*			05 37 59.2
YUK			*i*			05 39 02.1
YUK			*i* S		S	05 42 14.8 -8.3
YUK				pmax	pmax	
	comp=Z,1μm,1.7s					
YUK				pmax	pmax	
	comp=Z,568nm,1.6s					
YUK				pmax	pmax	
	comp=N,120nm,0.8s					
YUK				pmax	pmax	
	comp=E,199nm,0.8s					
YUK				MLR	MLR	
	comp=N,2μm,23.0s					
YUK				MLR	MLR	
	comp=E,3μm,23.0s					
YUK				MLR	MLR	
	comp=Z,4μm,23.0s					
YSS	**Yuzh-Sakhalins**	**38.12 25⇑**	*e*P		**P**	**05 36 42.6 -0.7**
YSS			*e*			05 38 10.0
YSS			*e*PPP		PPP	05 38 39.0
YSS			*e*S		**S**	**05 42 30.0 -4.9**
YSS			*e*			05 42 46.0
YSS				pmax	pmax	
	comp=Z,60nm,1.0s					
YSS				MLR	MLR	
	comp=Z,5μm,17.0s					
YSS				MLR	MLR	
	comp=N,7μm,18.0s					
YSS				MLR	MLR	
	comp=E,4μm,18.0s					
YSS	**Yuzh-Sakhalins**	**38.12 25**	*e*P		**P**	**05 36 43.2 -0.1**
	comp=E,93nm,1.0s					
YSS				LR	LR	
	comp=Z,2μm,21.0s					
CIT	**Chita**	**38.45 354**	*e*P		**P**	**05 36 47.2 +1.1**
CIT			*e*			05 37 01.4
CIT			*e*			05 39 00.4
CIT			*e*S		**S**	**05 42 41.0 +1.1**
CIT			*e*			05 46 55.9
CIT				pmax	pmax	
	comp=Z,897nm,1.7s					
MDRS	**Chennai**	**38.65 274**	*e*P		**P**	**05 36 48.0 -0.2**
ZAK	**Zakamensk**	**38.92 343**	*e*P		**P**	**05 36 50.1 -0.1**
ZAK			*e*			05 39 00.9
ZAK			*e*			05 42 46.0
ZAK				pmax	pmax	
	comp=Z,87nm,1.3s					
PALK	**Pallekele**	**39.15 265**		P	**P**	**05 36 53.6 +1.1**
	comp=Z,380nm,1.4s,SNR=24					
PALK	**Pallekele**	**39.15 265**	*e*P		**P**	**05 36 53.2 +0.7**
PALK			*e*			05 38 25.2
PALK						05 39 04.1
PALK				pmax	pmax	
	comp=Z,267nm,1.3s					
PALK	**Pallekele**	**39.15 265**	*i* P		**P**	**05 36 53.4 +0.8**
PALK	**Pallekele**	**39.15 265**	P		**P**	**05 36 53.8 +1.3**
	SNR=28					
PALK	**Pallekele**	**39.15 265**	PcP		**PcP**	**05 39 04.1 +2.1**
	comp=Z,46nm,0.9s,baz=68,slow=3.9,SNR=5.1					
PALK	**Pallekele**	**39.15 265⇑**	*i*P		**P**	**05 36 53.3 +0.8**
	SNR=32					
PALK	**Pallekele**	**39.15 265**	*e*P		**P**	**05 36 53.2 +0.7**
	comp=Z,267nm,1.3s					
PALK			*e*PP		**PnPn**	**05 38 25.2 0.0**
PALK			PcP		**PcP**	**05 39 04.1 +2.1**
PALK			*e*PcP		**PcP**	**05 39 05.2 +3.3**
KUR	**Kuril'sk**	**39.20 31**	P		P	05 36 42.6 -10
KUR				pmax	pmax	
	comp=Z,315nm,1.3s					
KUR				pmax	pmax	
	comp=N,79nm,1.2s					
KUR				pmax	pmax	
	comp=E,95nm,1.2s					
NGP	**Nagpur**	**39.66 286**	*e*P		**P**	**05 36 57.4 +0.8**
NGP				AMP		05 37 00.5
	comp=Z,815nm,1.6s					
NGP			*e*S		**S**	**05 42 58.4 -0.3**
ASAR	**Alice Springs**	**39.66 160**	P		**P**	**05 36 56.4 -0.2**
	comp=Z,136nm,0.7s,baz=341,slow=7.3,SNR=1192					
ASAR				LR	LR	05 55 49.0
	comp=Z,2μm,20.5s,baz=336,slow=40					
LGTI	**Lohaghat**	**39.88 300**	*ex*		**P**	**05 36 56.6 -1.7**
TLY	**Talaya**	**39.99 344**	P		**P**	**05 37 00.7 +1.7**
	comp=Z,671nm,1.2s,SNR=46					
TLY	**Talaya**	**39.99 344**	*c i*P		**P**	**05 37 00.1 +1.1**
TLY			*e*S		S	05 42 57.1 -6.0
TLY				pmax	pmax	
	comp=Z,323nm,1.7s					
TLY				MLR	MLR	
	comp=Z,10μm,20.0s					
TLY	**Talaya**	**39.99 344**	P		**P**	**05 37 00.5 +1.5**
	SNR=123					
TLY	**Talaya**	**39.99 344**	LR		LR	05 56 13.8
	comp=Z,10μm,18.2s,baz=142,slow=40					
HYB	**Hyderabad**	**40.03 281**	*i* P		**P**	**05 36 59.5 -0.3**
HYB			*e*PP		**PnPn**	**05 38 38.0 +2.4**
HYB			*e*PcP		**PcP**	**05 39 03.5 -1.2**
HYB			*e*ScP		**ScP**	**05 42 52.5 +0.1**
HYB			*e*S		**S**	**05 43 04.0 -0.6**
HYB			*e*ScS		**ScS**	**05 47 03.5 -2.5**
HYB				LR	LR	05 55 30.0
	comp=Z,6.7nm,16.0s					
HYB	**Hyderabad**	**40.03 281**	*e*P		**P**	**05 36 59.0 -0.9**
HYB				AMB	AMB	05 37 00.5
	comp=Z,272nm,5.1s					
IRK	**Irkutsk**	**40.34 345**	*e*P		**P**	**05 37 02.5 +0.6**
IRK			*e*S		**S**	**05 43 09.5 +1.3**
IRK				pmax	pmax	
	comp=Z,616nm,1.6s					
WMQ	**Urumqi**	**40.70 324**		P	**P**	**05 37 06.6 +1.5**
WMQ				pP	**pP**	**05 37 11.8 -0.8**
WMQ				PP	**PnPn**	**05 38 43.1 -0.1**
WMQ				PcP	**PcP**	**05 39 07.4 +1.0**
WMQ				S	**S**	**05 43 16.4 +2.4**
WMQ				sS	**sS**	**05 43 28.0 +1.7**
WMQ				SS	**SS**	**05 46 12.8 -2.2**
WMQ				ScS	**ScS**	**05 47 09.3 +0.1**
WMQ				PMZ		
	comp=Z,66nm,2.0s					
WMQ				PMZ		
	comp=Z,3μm,3.8s					
WMQ				LN		
	comp=Z,23μm,17.0s					
WMQ				LE		
	comp=Z,18μm,17.0s					
WMQ				LZ		
	comp=Z,16μm,19.0s					
MOY	**Mondy**	**40.73 342**	*e*P		**P**	**05 37 06.4 +1.2**
MOY				pmax	pmax	
	comp=Z,523nm,3.4s					
BHPL	**Bhopal**	**41.32 289**	*e*P		**P**	**05 37 10.5 +0.1**
BHPL				AMB	AMB	05 37 12.8
	comp=Z,279nm,2.4s					
AKL	**Akola**	**41.53 286**	*e*P		**P**	**05 37 12.6 +0.5**
AKL				AMB	AMB	05 37 13.6
	comp=Z,330nm,3.1s					
LATR	**Latur**	**41.92 282**	*e*P		**P**	**05 37 15.5 +0.2**
NDI	**New Delhi**	**42.30 297**	*e*P		**P**	**05 37 18.0 -0.3**
NDI			*e*S		**S**	**05 43 40.0 +2.1**
CTA	**Charters Tower**	**42.45 142**	P		**P**	**05 37 19.5 -0.1**
	comp=Z,175nm,1.1s,baz=325,slow=11,SNR=43					
CTA				LR	LR	05 57 28.6
	comp=Z,3μm,19.4s,baz=314,slow=40					
CTAO	**Charters Tower**	**42.45 142**	*e*P		**P**	**05 37 19.3 -0.3**
CTAO				pmax	pmax	
	comp=Z,320nm,1.2s					
CTAO				MLR	MLR	
	comp=Z,3μm,19.0s					
CTAO	**Charters Tower**	**42.45 142**	*e*P		**P**	**05 37 19.3 -0.3**
	comp=Z,320nm,1.2s					
CTAO				LR	LR	
	comp=Z,3μm,19.0s					
TRD	**Trivandrum**	**42.52 268**	*e*P		**P**	**05 37 19.4 -0.9**
TRD				AMB	AMB	05 37 22.4
	comp=Z,115nm,1.0s					
HVS	**Khovu-Aksy**	**42.86 336**	*d i*P		**P**	**05 37 24.0 +1.4**
HVS				pmax	pmax	
	comp=Z,654nm,1.2s					
HVS				MLR	MLR	
	comp=Z,13μm,14.0s					
SMLA	**Simla**	**42.87 301**	*i* P		**P**	**05 37 23.6 +0.7**
SMLA				AMB	AMB	05 37 31.8
	comp=Z,876nm,0.7s					
SMLA			*i* x		x	05 43 35.8
CLNS	**Chul'man**	**43.08 4**	*c i*P		**P**	**05 37 24.6 +0.3**
CLNS			*e**PP		pP	05 37 37.7 +5.9
CLNS			*e*			05 39 08.4
CLNS			*e*			05 39 19.7
CLNS			*e*PPP		PPP	05 39 40.4
CLNS			*e*S		**S**	**05 43 46.4 -2.4**
CLNS				pmax	pmax	
	comp=Z,263nm,1.1s					
CLNS				pmax	pmax	
	comp=E,84nm,1.0s					
CLNS				pmax	pmax	
	comp=N,159nm,1.1s					
CLNS				pmax	pmax	
	comp=Z,61nm,0.9s					
CLNS				pmax	pmax	
	comp=N,45nm,1.1s					
CLNS				pmax	pmax	
	comp=E,45nm,1.1s					
CLNS				smax	smax	
	comp=E,2μm,12.8s					
CLNS				smax	smax	
	comp=N,2μm,12.2s					
CLNS				MLR	MLR	
	comp=E,4μm,19.0s					
CLNS				MLR	MLR	
	comp=Z,10μm,22.0s					
CLNS				MLR	MLR	
	comp=N,6μm,19.0s					
SDNR	**Sundarnagar**	**43.12 301**	*e*P		**P**	**05 37 26.0 +1.0**
BHK	**Bhakra**	**43.56 301**	*e*P		**P**	**05 37 29.8 +1.3**
BHK			*ex*		x	05 37 52.4

DHRM	**DHARAMSHALA**	**43.86 302**	*e*P	**P**	**05 37 29.1**	**-2.0**
DHRM			AMB	AMB	05 37 39.2	
comp=Z,472nm,0.0s						
MNGI	**Mangalore**	**43.92 274**	*e*x	P	05 37 23.1	-8.5
MNGI			*e*x	x	05 43 53.4	
BOD	**Bodaibo**	**44.14 355**	*j i*P	**P**	**05 37 32.7**	**0.0**
BOD			*e*		05 39 16.4	
BOD			*e*S	**SS**	**05 47 27.4**	**+5.3**
AJM	**Ajmer**	**44.20 294**	*i* x	**P**	**05 37 34.0**	**+0.3**
DLH	**Dalhousie**	**44.20 303**	*e*P	**P**	**05 37 34.0**	**+0.1**
POO	**Poona**	**44.49 282**	*e*P	**P**	**05 37 35.5**	**-0.6**
POO			*i* PP	**PP**	**05 39 20.0**	**-0.2**
POO			*i* SCS		05 47 35.0	
GOA	**Goa**	**44.65 278**	*e*P	**P**	**05 37 37.9**	**+0.5**
WAKE	**Wake Island**	**44.93 77**	PFAKE		05 37 50.0	+10
WAKE			LR	LR		
comp=Z,6μm,20.0s						
H11S3	**WAKE ISLAND Hy**	**44.98 78**	T	T	06 24 11.1	
baz=273,slow=74,SNR=8.4						
H11S1	**WAKE ISLAND Hy**	**44.99 78**	T	T	06 24 13.8	
baz=273,slow=74,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**44.99 78**	T	T	06 24 08.5	
baz=273,slow=74,SNR=12						
FORT	**Forrest**	**45.02 170**	*e*P	**P**	**05 37 39.9**	**-0.2**
comp=Z,427nm,0.7s						
FORT			*e*S	**S**	**05 44 12.9**	**-4.5**
PDGK	**Podgornoye**	**45.48 318**	P	**P**	**05 37 44.5**	**+0.9**
MK31	**Makanchi Array**	**45.53 324**	*i* P	**P**	**05 37 45.2**	**+1.1**
MK31			pmax	pmax		
comp=Z,210nm,1.0s						
MKAR	**Makanchi Array**	**45.53 324**	P	**P**	**05 37 45.3**	**+1.2**
comp=Z,118nm,1.0s,baz=114,slow=5.4,SNR=211						
MKAR			PcP	**PcP**	**05 39 24.1**	**+1.6**
comp=Z,56nm,1.0s,baz=155,slow=4.0,SNR=5.7						
MKAR			ScP	**ScP**	**05 43 13.7**	**-0.3**
comp=Z,18nm,1.1s,baz=122,slow=5.9,SNR=5.9						
MKAR			LR	LR	05 58 02.1	
comp=Z,15μm,18.1s,baz=120,slow=38						
HNR	**Honiara**	**45.87 118**	LR	LR	05 55 17.6	
comp=Z,5μm,21.5s,baz=290,slow=34						
KSH	**Kashi**	**46.32 312**	*j i*P	**P**	**05 37 53.1**	**+2.6**
KSH			sP	**sP**	**05 38 01.9**	**+0.9**
KSH			PP	**PP**	**05 39 42.0**	**+2.6**
KSH			S	**S**	**05 44 39.3**	**+2.9**
KSH			ScS	**ScS**	**05 47 43.3**	**-1.3**
KSH			SS	**SS**	**05 47 57.8**	**-4.3**
KSH			PMZ			
comp=Z,160nm,1.3s						
KSH			PMZ			
comp=Z,2μm,4.0s						
KSH			LN			
comp=Z,7μm,15.1s						
KSH			LE			
comp=Z,9μm,16.1s						
KSH			LZ			
comp=Z,13μm,18.6s						
NWAO	**Narrogin (SRO)**	**46.57 183**	P	**P**	**05 37 52.0**	**-0.3**
comp=Z,91nm,0.7s,baz=60,slow=4.6,SNR=58						
NWAO			PcP	**PcP**	**05 39 26.7**	**+0.5**
comp=Z,72nm,1.0s,baz=58,slow=2.6,SNR=4.0						
NWAO			LR	LR	05 58 17.9	
comp=Z,2μm,21.9s,baz=328,slow=37						
SKR	**Severo-Kuril's**	**46.96 31**	*e*		05 39 43.0	
SKR			*e*PPP	PPP	05 40 34.0	
SKR			*e*S	**S**	**05 44 44.0**	**-0.9**
SKR			pmax	pmax		
comp=N,2μm,14.0s						
SKR			pmax	pmax		
comp=E,3μm,14.0s						
SKR			pmax	pmax		
comp=Z,3μm,14.0s						
SKR			smax	smax		
comp=N,3μm,20.0s						
SKR			smax	smax		
comp=E,3μm,20.0s						
SKR			MLR	MLR		
comp=N,3μm,20.0s						
SKR			MLR	MLR		
comp=E,3μm,20.0s						
SKR			MLR	MLR		
comp=Z,4μm,20.0s						
AAA	**Alma-Ata**	**47.11 317**	*e*P	**P**	**05 37 59.4**	**+2.8**
AAA			*e*S	**S**	**05 44 47.1**	**-0.4**
AAA			pmax	pmax		
comp=Z,3μm,4.5s						
AAA			smax	smax		
comp=E,4μm,9.4s						
AAA			MLR	MLR		
comp=Z,6μm,19.0s						
ULHL	**Ulahol**	**47.16 316**	P	**P**	**05 37 59.4**	**+2.2**
SNR=41						
ULHL	**Ulahol**	**47.16 316**	*i* P	**P**	**05 37 59.4**	**+2.2**
KZA	**Kyzart**	**47.77 315**	P	**P**	**05 38 04.3**	**+2.1**
SNR=143						
KZA	**Kyzart**	**47.77 315**	*i* P	**P**	**05 38 04.3**	**+2.1**
TKM2	**Tokmak 2**	**47.87 316**	P	**P**	**05 38 04.3**	**+1.6**
SNR=90						
TKM2	**Tokmak 2**	**47.87 316**	*e*P	**P**	**05 38 04.0**	**+1.4**
TKM2			*e*		05 39 55.0	
TKM2			*e*S	**S**	**05 44 57.3**	**-1.3**
TKM2			pmax	pmax		
comp=Z,162nm,1.1s						
TKM2			MLR	MLR		
comp=Z,15μm,21.0s						
TKM2	**Tokmak 2**	**47.87 316**	*e*P	**P**	**05 38 04.0**	**+1.4**
comp=Z,162nm,1.1s						
TKM2			*e*PP	**PP**	**05 39 55.0**	**+0.4**
TKM2			*e*S	**S**	**05 44 57.3**	**-1.3**
TKM2			LR	LR		
comp=Z,15μm,21.0s						
KBK	**Karagaybulak**	**48.20 316**	P	**P**	**05 38 07.2**	**+2.0**
SNR=73						
KBK	**Karagaybulak**	**48.20 316**	*i* P	**P**	**05 38 07.2**	**+2.0**
UCH	**Uchtor**	**48.34 315**	P	**P**	**05 38 08.7**	**+2.1**
SNR=339						
UCH	**Uchtor**	**48.34 315**	*i* P	**P**	**05 38 08.7**	**+2.1**
BHJ	**Bhuj**	**48.45 289**	*e*P	**P**	**05 38 06.0**	**-1.2**
BHJ			AMB	AMB	05 38 13.9	
comp=Z,260nm,5.7s						
CHMS	**Chumysh**	**48.47 316**	P	**P**	**05 38 08.4**	**+1.3**
SNR=93						
CHMS	**Chumysh**	**48.47 316**	*i* P	**P**	**05 38 08.3**	**+1.3**
FRU	**Bishkek**	**48.50 316**	*e*P	**P**	**05 38 09.0**	**+1.7**
FRU			*e*S	S	05 44 58.5	-8.7
FRU			pmax	pmax		
comp=Z,2μm,3.8s						
FRU			pmax	pmax		
comp=Z,760nm,2.5s						
FRU			smax	smax		
comp=N,500nm,3.0s						
FRU			smax	smax		
comp=N,2μm,5.5s						
FRU			MLR	MLR		
comp=E,18μm,20.0s						
FRU			MLR	MLR		
comp=Z,20μm,20.0s						
AAK	**Ala-Archa**	**48.51 315**	P	**P**	**05 38 09.2**	**+1.7**
comp=Z,703nm,0.9s,SNR=63						
AAK	**Ala-Archa**	**48.51 315**	P	**P**	**05 38 09.3**	**+1.7**
SNR=100						
AAK	**Ala-Archa**	**48.51 315**	*i* P	**P**	**05 38 09.2**	**+1.7**
AAK			*i* *PP	pP	05 38 27.8	+13
AAK			MLR	MLR		
comp=Z,43μm,24.0s						
AAK	**Ala-Archa**	**48.51 315**	P	**P**	**05 38 09.7**	**+2.2**
SNR=67						
AAK	**Ala-Archa**	**48.51 315**	P	**P**	**05 38 08.8**	**+1.3**
comp=Z,113nm,1.1s,baz=108,slow=7.5						
AAK			LR	LR	06 01 38.2	
comp=Z,4μm,21.4s,baz=80,slow=40						
YAK	**Yakutsk**	**48.63 6**	*e*P	**P**	**05 38 06.8**	**-1.1**
YAK			*e**PP	pP	05 38 23.4	+7.9
YAK			*e*		05 39 32.0	
YAK			*e*		05 39 59.4	
YAK			*e*S	**S**	**05 45 05.1**	**-3.2**
YAK			*e*		05 47 53.8	
YAK			*e*SSS	SSS	05 49 55.9	
YAK			pmax	pmax		
comp=Z,458nm,1.1s						
YAK			pmax	pmax		
comp=E,75nm,1.2s						
YAK			pmax	pmax		
comp=N,241nm,1.2s						
YAK			pmax	pmax		
comp=Z,94nm,1.2s						
YAK			smax	smax		
comp=E,225nm,1.9s						
YAK			smax	smax		
comp=N,416nm,1.6s						
YAK			MLR	MLR		
comp=N,3μm,16.0s						
YAK			MLR	MLR		
comp=Z,5μm,18.0s						
YAK			MLR	MLR		
comp=E,3μm,16.0s						
YAK	**Yakutsk**	**48.63 6**	*e*P	**P**	**05 38 07.4**	**-0.5**
comp=E,590nm,1.0s						
YAK			*e*PcP	**PcP**	**05 39 31.9**	**-1.2**
YAK			*e*ScP	**ScP**	**05 43 26.8**	**+0.3**
YAK			LR	LR		
comp=Z,4μm,19.0s						
ZALV	**Zalesovo Beam**	**48.64 333**	P	**P**	**05 38 08.5**	**+0.4**
comp=Z,132nm,1.0s,baz=116,slow=6.8,SNR=117						
ZALV			ScP	**ScP**	**05 43 26.1**	**-0.7**
comp=Z,9.4nm,1.1s,baz=179,slow=5.9,SNR=4.2						
ZALV			LR	LR	05 59 38.0	
comp=Z,13μm,18.2s,baz=128,slow=37						
USP	**Ospenovka**	**48.74 316**	P	**P**	**05 38 10.5**	**+1.3**
SNR=82						
USP	**Ospenovka**	**48.74 316**	*i* P	**P**	**05 38 10.4**	**+1.3**
AML	**Almayashu**	**48.87 314**	P	**P**	**05 38 12.2**	**+1.5**
SNR=191						
AML	**Almayashu**	**48.87 314**	*i* P	**P**	**05 38 12.1**	**+1.5**
EKS2	**Erkin-Say**	**49.01 315**	P	**P**	**05 38 13.2**	**+1.9**
SNR=118						
EKS2	**Erkin-Say**	**49.01 315**	*e*P	**P**	**05 38 13.1**	**+1.8**
EKS2			*e*S	**S**	**05 45 19.1**	**+4.6**
EKS2			pmax	pmax		
comp=Z,247nm,1.2s						
EKS2			MLR	MLR		
comp=Z,7μm,19.0s						
EKS2	**Erkin-Say**	**49.01 315**	*e*P	**P**	**05 38 13.1**	**+1.8**
comp=Z,247nm,1.2s						
EKS2			*e*S	**S**	**05 45 19.1**	**+4.6**
EKS2			LR	LR		
comp=Z,7μm,19.0s						
PETK	**Petropavlovsk-**	**49.23 29**	P	**P**	**05 38 12.3**	**-0.4**
comp=Z,31nm,0.9s,baz=212,slow=4.5,SNR=24						
PETK			LR	LR	06 01 43.2	
comp=Z,3μm,18.7s,baz=221,slow=39						
EIDS	**Eidsvold**	**49.34 142**	*e*P	**P**	**05 38 12.6**	**-1.3**
comp=Z,163nm,1.4s						
EIDS			*e*PP	**PP**	**05 40 09.2**	**+1.0**
PET	**Petropavlovsk**	**49.64 30**	*c i*P	**P**	**05 38 15.1**	**-0.6**
PET			*e*		05 40 11.2	
PET			*e*S	**S**	**05 45 21.0**	**-1.7**
PET			pmax	pmax		
comp=Z,1μm,10.2s						
PET			pmax	pmax		
comp=Z,1μm,13.3s						
PET			pmax	pmax		
comp=Z,900nm,9.4s						
PET			MLR	MLR		
comp=Z,2μm,19.0s						
PET			MLR	MLR		
comp=Z,2μm,20.0s						
PET	**Petropavlovsk**	**49.64 30**	PFAKE		05 38 30.0	+14
PET			LR	LR		
comp=Z,3μm,22.0s						
KURBB	**Kurchatov Arra**	**49.71 326**	P	**P**	**05 38 18.0**	**+1.6**
comp=Z,281nm,1.0s,baz=123,slow=8.0,SNR=232						
KURK	**Kurchatov**	**49.71 327**	P	**P**	**05 38 18.0**	**+1.6**
KURK			MLR	MLR		
comp=Z,4μm,19.0s						
KURK	**Kurchatov**	**49.71 327**	P	**P**	**05 38 18.4**	**+2.0**
SNR=296						
KURK	**Kurchatov**	**49.71 327**	P	**P**	**05 38 18.0**	**+1.6**
KURK			LR	LR		
comp=Z,4μm,19.0s						
NVS	**Novosibirsk**	**49.92 333**	*e*P	**P**	**05 38 17.7**	**-0.2**
NVS			*e**PP	pP	05 38 38.3	+13
NVS			*e*S	**S**	**05 45 21.3**	**-5.4**
NVS			*e*		05 48 03.4	
NVS			pmax	pmax		
comp=Z,328nm,1.4s						
NVS			pmax	pmax		
comp=N,217nm,1.9s						
NVS			pmax	pmax		
comp=E,301nm,2.1s						
NVS			smax	smax		
comp=N,314nm,2.2s						
NVS			smax	smax		
comp=E,180nm,2.0s						
KBL	**Kabul**	**50.28 304**	*e*P	**P**	**05 38 21.9**	**+0.7**
KBL			pmax	pmax		
comp=Z,374nm,1.3s						
KBL	**Kabul**	**50.28 304**	*e*P	**P**	**05 38 21.9**	**+0.7**
comp=Z,374nm,1.3s						
KK31	**Karatay Array**	**51.41 315**	*i* P	**P**	**05 38 29.7**	**+0.3**
KK31			pmax	pmax		
comp=Z,329nm,1.3s						
KKAR	**Karatay Array**	**51.41 315**	*e*P	**P**	**05 38 30.6**	**+1.2**
KKAR			pmax	pmax		
comp=Z,225nm,1.1s						
KKAR	**Karatay Array**	**51.41 315**	*e*P	**P**	**05 38 30.6**	**+1.2**
comp=Z,225nm,1.1s						
DGAR	**Diego Garcia**	**51.71 249**	PFAKE		05 38 40.0	+8.0
DGAR			LR	LR		
comp=Z,4μm,19.0s						
OTUK	**Ortayu**	**52.13 321**	P	**P**	**05 38 36.7**	**+2.0**
ARMA	**Armidale**	**53.49 146**	*e*P	**P**	**05 38 44.2**	**-0.9**
comp=Z,316nm,1.6s						
TARA	**Tarawa**	**53.76 99**	PFAKE		05 39 00.0	+13
TARA			LR	LR		
comp=Z,2μm,19.0s						
BVA0	**Borovoye Array**	**55.29 326**	*i* P	**P**	**05 38 59.0**	**+1.3**
BVA0			pmax	pmax		
comp=Z,304nm,1.4s						
CAN	**Canberra**	**56.07 151**	*e*P	**P**	**05 39 02.8**	**-0.7**
CAN			*e*		05 41 10.6	
CAN			pmax	pmax		
comp=Z,416nm,1.4s						
CAN			MLR	MLR		
comp=Z,3μm,21.0s						
CAN	**Canberra**	**56.07 151**	*e*P	**P**	**05 39 02.8**	**-0.7**
comp=Z,416nm,1.4s						
CAN			*e*PP	**PP**	**05 41 10.6**	**+1.7**
CAN			LR	LR		
comp=Z,3μm,21.0s						
FX1	**Attu Island--F**	**57.18 35**	*e*P	**P**	**05 39 11.4**	**+0.2**
FX1	**Attu Island--F**	**57.18 35**	*e*P	**P**	**05 39 11.4**	**+0.2**
IDAH	**Dahanechah**	**57.63 300**	*e*P	**P**	**05 39 15.9**	**+0.9**
IMYA	**Miami**	**57.77 304**	*e*P	**P**	**05 39 17.3**	**+1.4**
DZM	**Mont Dzumac**	**57.84 127**	P	**P**	**05 39 15.2**	**-1.1**
comp=Z,10nm,0.4s,baz=257,slow=10,SNR=15						
DZM			LR	LR	06 04 34.1	
comp=Z,690nm,19.3s,baz=308,slow=36						
DZM	**Mont Dzumac**	**57.84 127**	*e*P	**P**	**05 39 15.3**	**-1.1**
comp=Z,78nm,1.3s						
TIXI	**Tiksi**	**58.04 3**	*c e*P	**P**	**05 39 16.0**	**-0.9**
TIXI			pmax	pmax		
comp=Z,347nm,1.0s						
TIXI			MLR	MLR		
comp=Z,7μm,17.0s						
TIXI	**Tiksi**	**58.04 3**	*e*P	**P**	**05 39 16.2**	**-0.7**
comp=Z,314nm,1.0s						
TIXI			*e*PP	**PP**	**05 41 23.1**	**-2.4**
TIXI			LR	LR		
comp=Z,8μm,20.0s						
ISRO	**Mashad**	**58.27 304**	*e*P	**P**	**05 39 20.5**	**+1.1**
WBK	**Wadi Bani Khal**	**58.31 288**	P	**P**	**05 39 20.1**	**+0.4**
SNR=15						
IKOO	**Kooshah**	**58.34 300**	*e*P	**P**	**05 39 21.8**	**+1.8**
IMOG	**Moghan**	**58.36 304**	*e*P	**P**	**05 39 21.9**	**+1.8**
ITEG	**Tejag**	**58.58 300**	*e*P	**P**	**05 39 22.8**	**+1.2**
IPAY	**Payeh**	**58.67 304**	*e*P	**P**	**05 39 23.5**	**+1.2**
IAKL	**Akhelmad**	**58.88 304**	*e*P	**P**	**05 39 25.2**	**+1.5**
IKRD	**Kardeh**	**59.09 305**	*e*P	P	05 39 21.8	-3.4
JMDO	**Jabal Madar**	**59.12 288**	P	**P**	**05 39 24.7**	**-0.6**
SNR=17						
SMDO	**Samad**	**59.13 289**	P	**P**	**05 39 25.5**	**0.0**
SNR=16						
ABKT	**Ailbek**	**59.52 306**	P	**P**	**05 39 30.2**	**+2.3**
comp=Z,1μm,1.1s,SNR=54						
GEYT	**Alibeck**	**59.52 306**	P	**P**	**05 39 29.0**	**+1.1**
comp=Z,194nm,1.1s,baz=108,slow=4.8,SNR=94						
GEYT			LR	LR	06 08 33.3	
comp=Z,5μm,20.0s,baz=130,slow=39						
ISFR	**Sfrayin**	**59.52 305**	*e*P	**P**	**05 39 30.0**	**+1.8**
HOQ	**Hoqain**	**59.79 289**	P	**P**	**05 39 30.1**	**+0.1**
SNR=30						
BSY	**Bisya**	**59.93 288**	P	**P**	**05 39 31.1**	**+0.1**
SNR=16						
ARQ	**Araqi**	**60.52 289**	P	**P**	**05 39 34.8**	**-0.2**
SNR=26						
BANOM	**Banah**	**60.62 292**	*j i*P	**P**	**05 39 33.7**	**-1.9**
SNR=8.1						
HATD	**Hatta, Dubai**	**60.81 291**	P	**P**	**05 39 37.7**	**+0.8**
SNR=11						
HATD	**Hatta, Dubai**	**60.81 291**	*j i*P	**P**	**05 39 34.9**	**-2.0**
SNR=16						
ASHO	**Ashiyiah**	**60.88 291**	P	**P**	**05 39 38.0**	**+0.6**
SNR=11						
ASHO	**Ashiyiah**	**60.88 291**	⇑ *i*P	**P**	**05 39 37.0**	**-0.4**
SNR=11						
IBAF	**Bafgh**	**61.22 299**	*e*P	**P**	**05 39 41.2**	**+1.4**
FAQ	**Al Faqa, Dubai**	**61.30 291**	*j*P	**P**	**05 39 41.1**	**+0.9**
ASUD	**Al Ashush, Dub**	**61.55 291**	⇑P	**P**	**05 39 41.8**	**-0.1**
AKTO	**Aktyubinsk**	**61.69 320**	P	**P**	**05 39 43.2**	**+0.8**
comp=Z,130nm,1.0s,baz=94,slow=6.9,SNR=85						
TAU	**Tasmania Unive**	**61.77 158**	P	**P**	**05 39 43.2**	**+0.3**
comp=Z,1μm,1.3s,SNR=14						
TAU	**Tasmania Unive**	**61.77 158**	*e*P	**P**	**05 39 42.8**	**-0.1**
TAU			pmax	pmax		
comp=Z,713nm,1.5s						
TAU			MLR	MLR		
comp=Z,3μm,21.0s						
TAU	**Tasmania Unive**	**61.77 158**	*e*P	**P**	**05 39 42.8**	**-0.1**
comp=Z,713nm,1.5s						
TAU			LR	LR		
comp=Z,3μm,21.0s						
BILL	**Bilibino**	**61.79 18**	*c i*P	**P**	**05 39 41.9**	**-0.8**
BILL			*e*		05 40 22.5	
BILL			*e*		05 41 58.4	
BILL			*e*S	**S**	**05 48 02.1**	**-2.2**
BILL			pmax	pmax		
comp=Z,119nm,1.2s						
BILL			MLR	MLR		
comp=Z,3μm,17.0s						
BILL	**Bilibino**	**61.79 18**	*e*P	**P**	**05 39 42.2**	**-0.5**
comp=Z,134nm,1.3s						
BILL			LR	LR		
comp=Z,3μm,19.0s						
SHAO	**Shalim**	**61.80 283**	P	**P**	**05 39 44.6**	**+0.9**
SNR=16						
SVE	**Sverdlovsk**	**61.94 328**	*d i*P	**P**	**05 39 44.9**	**+1.0**
SVE			*e*		05 40 26.5	
SVE			*e*		05 42 04.4	
SVE			*i* S	**S**	**05 48 07.6**	**+1.1**
SVE			*e*SS	**SS**	**05 52 05.5**	**-3.3**
SVE			pmax	pmax		
comp=Z,502nm,1.2s						
SVE			pmax	pmax		
comp=Z,747nm,9.1s						
SVE			MLR	MLR		
comp=Z,6μm,18.0s						
IMEH	**Mehriz**	**62.04 298**	*e*P	**P**	**05 39 45.9**	**+0.5**
ICHK	**Chekchek**	**62.22 299**	*e*P	**P**	**05 39 47.6**	**+1.0**
IANJ	**Anjilo**	**62.71 303**	*e*P	**P**	**05 39 51.2**	**+1.3**
ADK	**Adak**	**62.81 39**	PFAKE		05 40 00.0	+10
ADK			LR	LR		
comp=Z,2μm,20.0s						
IGLO	**Ghaloghah**	**62.82 304**	*e*P	**P**	**05 39 52.0**	**+1.4**
ISAD	**Sadrabad**	**62.83 299**	*e*P	**P**	**05 39 51.9**	**+1.1**
ARU	**Arti**	**62.91 327**	P	**P**	**05 39 50.6**	**+0.2**
comp=Z,1μm,1.2s,SNR=19						
ARU	**Arti**	**62.91 327**	*c i*P	**P**	**05 39 50.5**	**+0.2**
ARU			*PP	pP	05 40 11.2	+13
ARU					05 42 06.7	
ARU			PPP	PPP	05 43 42.1	
ARU			S	**S**	**05 48 16.9**	**-1.8**
ARU					05 49 37.1	
ARU			pmax	pmax		
comp=Z,191nm,1.0s						
ARU			MLR	MLR		
comp=Z,6μm,18.0s						
ARU	**Arti**	**62.91 327**	*e*P	**P**	**05 39 50.7**	**+0.2**
comp=Z,443nm,1.4s						
ARU			*e*S	**S**	**05 48 19.5**	**+0.8**
ARU			LR	LR		
comp=Z,3μm,22.0s						
RBK	**Rabkut**	**63.20 283**	P	**P**	**05 39 53.7**	**+0.5**
SNR=50						
ISHM	**Shahmirzad**	**63.23 303**	*e*P	**P**	**05 39 55.0**	**+1.6**
ISRV	**Sarvestan**	**63.35 296**	*e*P	**P**	**05 39 55.6**	**+1.3**
IPAR	**Pars**	**63.40 297**	*e*P	**P**	**05 39 55.9**	**+1.3**
ILAS	**Lasjerd**	**63.49 303**	*e*P	**P**	**05 39 55.9**	**+0.9**
IFIR	**Firoozkooh**	**63.66 303**	*e*P	P	05 39 59.1	+2.9
IZEF	**Zefreh**	**63.98 300**	*e*P	**P**	**05 39 60.0**	**+1.7**
IPRN	**Peran**	**64.02 304**	*e*P	**P**	**05 39 59.4**	**+1.1**
ABTO	**Aybut**	**64.08 283**	P	**P**	**05 39 59.4**	**+0.5**
SNR=35						
IDMV	**Damavand**	**64.25 303**	*e*P	**P**	**05 40 01.0**	**+0.9**
IKAZ	**Kazeroun**	**64.45 297**	*e*P	**P**	**05 40 01.1**	**-0.4**
IVRN	**Varamin**	**64.49 302**	*e*P	**P**	**05 40 02.3**	**+0.9**
IKLH	**Kolahrood**	**64.61 300**	*e*P	**P**	**05 40 04.0**	**+1.6**
AIS	**Amsterdam Isla**	**64.98 216**	P	P	05 39 45.0	-19
AIS			S	S	05 48 35.0	-10
AIS			L	L	05 55 00.0	
AIS			R		06 00 00.0	
IR3	**Iran Long-Peri**	**65.07 303**	*e*P	**P**	**05 40 06.5**	**+1.4**
IPIR	**Pirpir**	**65.19 300**	*e*P	**P**	**05 40 06.0**	**-0.3**
MSVF	**Nonsavu**	**65.28 117**	P	**P**	**05 40 07.9**	**+1.2**
comp=Z,519nm,1.4s,SNR=11						
MSVF	**Nonsavu**	**65.28 117**	*e*P	**P**	**05 40 06.7**	**0.0**
MSVF			pmax	pmax		
comp=Z,196nm,1.4s						
MSVF			MLR	MLR		
comp=Z,3μm,19.0s						
MSVF	**Nonsavu**	**65.28 117**	*e*P	**P**	**05 40 06.7**	**0.0**
comp=Z,196nm,1.4s						
MSVF			LR	LR		
comp=Z,3μm,19.0s						
IMHD	**Mahdasht**	**65.36 303**	*e*P	**P**	**05 40 08.3**	**+1.2**
IGZV	**Ghazvin**	**65.73 304**	*e*P	**P**	**05 40 11.0**	**+1.4**
IRAZ	**Razeghan**	**65.97 303**	*e*P	**P**	**05 40 12.3**	**+1.2**
MSEY	**Mahe Island**	**66.61 259**	PFAKE		05 40 30.0	+15
MSEY			LR	LR		
comp=Z,4μm,20.0s						
IBZA	**Bozab**	**67.68 302**	*e*P	**P**	**05 40 22.6**	**+0.4**
ISRB	**Sarab**	**67.77 305**	*e*P	**P**	**05 40 25.2**	**+2.6**
MAK	**Makhachkala**	**67.94 311**	*e*P	P	05 40 28.2	+5.0
MAK			*e*PPP	PPP	05 44 33.3	
MAK			*e*S	**S**	**05 49 22.1**	**+1.4**
MAK			*e*		05 50 20.7	
MAK			pmax	pmax		
comp=Z,118nm,0.9s						
IKOM	**Komasi**	**67.98 301**	*e*P	**P**	**05 40 24.0**	**+0.1**
GAMB	**Gambell**	**68.13 26**	*e*P	**P**	**05 40 24.0**	**0.0**
comp=Z,102nm,1.0s						
IHRS	**Heris**	**68.26 306**	*e*P	**P**	**05 40 28.1**	**+2.5**
IBST	**Bostanabad**	**68.39 305**	*e*P	**P**	**05 40 27.7**	**+1.3**
ILIN	**Lien**	**68.41 302**	*e*P	**P**	**05 40 27.3**	**+0.6**
IGHG	**Ghaleghazi**	**68.75 302**	*e*P	**P**	**05 40 30.1**	**+1.2**
IDHR	**Dehrash**	**68.89 302**	*e*P	**P**	**05 40 29.3**	**-0.3**
IAZR	**Azarshahr**	**69.11 305**	*e*P	**P**	**05 40 33.7**	**+2.7**
IMRD	**Marand**	**69.30 306**	*e*P	**P**	**05 40 33.7**	**+1.6**
DGRG	**David-gareji**	**69.51 309**	P	**P**	**05 40 35.4**	**+2.2**
DGRG			S	**S**	**05 49 44.9**	**+5.3**
TBLG	**Delisi**	**69.98 310**	*e*P	**P**	**05 40 38.9**	**+2.9**
TBLG	**Delisi**	**69.98 310**	P	**P**	**05 40 37.1**	**+1.0**
TBLG			S	**S**	**05 49 47.8**	**+2.7**
DUS	**Dusheti**	**70.00 310**	P	P	05 40 40.2	+3.9
GNI	**Garni**	**70.01 308**	*d i*P	**P**	**05 40 39.0**	**+2.6**
GNI			pmax	pmax		
comp=Z,447nm,1.7s						
GNI			MLR	MLR		
comp=Z,4μm,21.0s						
GNI	**Garni**	**70.01 308**	P	**P**	**05 40 39.0**	**+2.6**
SNR=52						
GNI	**Garni**	**70.01 308**	P	**P**	**05 40 38.3**	**+1.9**
comp=Z,11nm,0.2s,baz=161,slow=7.0,SNR=44						
GNI	**Garni**	**70.01 308**	*j i*P	**P**	**05 40 38.1**	**+1.7**
SNR=32						
GNI	**Garni**	**70.01 308**	*e*P	**P**	**05 40 37.9**	**+1.5**
comp=Z,469nm,1.3s						
GNI			*e*S	**S**	**05 49 44.8**	**-1.0**
GNI			LR	LR		
comp=Z,3μm,19.0s						
TNA	**Tin City**	**70.09 25**	*e*P	**P**	**05 40 35.4**	**

ZEI	**Tsey**	**70.59 311**	*e*P	**P**	**05 40 40.5 +0.6**
ZEI			pmax	pmax	
comp=Z,164nm,1.3s					
RAYN	**Ar Rayn**	**70.59 290**	P	**P**	**05 40 41.6 +1.5**
comp=Z,1μm,1.1s,SNR=90					
RAYN	**Ar Rayn**	**70.59 290**	*e*P	**P**	**05 40 40.7 +0.6**
comp=Z,554nm,1.3s					
RAYN			*e*PP	**PP**	**05 43 18.1 +1.5**
CLDR	**Caldiran**	**70.68 307**	*e*P	P	05 40 44.0 +3.4
NCK	**Nalchik**	**70.80 311** ⇑	*i*P	**P**	**05 40 42.1 +1.1**
HAKT	**HAKKARI**	**70.92 305**	*i*P	**P**	**05 40 43.2 +1.1**
ONI	**Oni**	**70.92 311**	P	**P**	**05 40 43.2 +1.4**
ONI			S	**S**	**05 50 00.2 +4.1**
CUKT	**Cukurca**	**71.01 305**	*e*P	**P**	**05 40 41.7 -0.8**
DIGO	**Kars**	**71.05 308**	*i*P	**P**	**05 40 43.4 +0.6**
VANB	**Van**	**71.12 306**	*e*P	**P**	**05 40 45.1 +2.0**
GOF	**Gofitskoye**	**71.17 313**	*e*P	**P**	**05 40 44.8 +1.6**
GOF			pmax	pmax	
comp=Z,60nm,1.0s					
KARS	**Kars**	**71.27 308**	*e*P	**P**	**05 40 45.9 +1.9**
KBZ	**Khabaz**	**71.30 312**	P	**P**	**05 40 44.6 +0.7**
comp=Z,96nm,1.1s,baz=103,slow=2.5,SNR=53					
KBZ			LR	LR	06 16 43.4
comp=Z,4μm,18.0s,baz=60,slow=40					
AGRB	**Hanur-Agry**	**71.38 307**	*e*P	**P**	**05 40 46.8 +2.0**
GEVA	**Gevas**	**71.39 306**	*i*P	**P**	**05 40 46.4 +1.5**
KIV	**Kislovodsk**	**71.45 312**	P	**P**	**05 40 46.9 +1.9**
comp=Z,1μm,1.2s,SNR=24					
KIV	**Kislovodsk**	**71.45 312**	*e*P	**P**	**05 40 45.6 +0.6**
KIV			*e*S	**S**	**05 49 59.3 -2.9**
KIV			pmax	pmax	
comp=Z,178nm,0.9s					
KIV			pmax	pmax	
comp=Z,724nm,6.8s					
KIV	**Kislovodsk**	**71.45 312**	P	**P**	**05 40 46.2 +1.2**
SNR=42					
KIV	**Kislovodsk**	**71.45 312** ⇓	*i*P	**P**	**05 40 45.7 +0.7**
SNR=27					
KIV	**Kislovodsk**	**71.45 312**	*e*P	**P**	**05 40 45.3 +0.3**
comp=Z,268nm,1.1s					
KIV			LR	LR	
comp=Z,511nm,19.0s					
TUTA	**Tutak**	**71.52 307**	*i*P	**P**	**05 40 43.7 -2.0**
EATA	**Eleskirt**	**71.75 308**	*i*P	**P**	**05 40 48.2 +1.0**
SIRT	**Sirnak**	**71.93 305**	*e*P	**P**	**05 40 50.8 +2.8**
RER	**Riviere de l'E**	**72.04 242**	PFAKE		05 41 00.0 +11
RER			LR	LR	
comp=Z,3μm,19.0s					
VRHR	**Novokhopersk**	**72.08 320**	*e*P	**P**	**05 40 47.4 -1.1**
VRHR			*e*S	S	05 50 02.9 -6.1
VRHR			pmax	pmax	
comp=Z,110nm,1.0s					
VRHR			pmax	pmax	
comp=N,40nm,0.8s					
VRHR			pmax	pmax	
comp=E,50nm,0.9s					
VRHR			smax	smax	
comp=E,940nm,3.5s					
VRHR			smax	smax	
comp=Z,1μm,8.7s					
VRHR			smax	smax	
comp=N,880nm,4.2s					
VRHR			MLR	MLR	
comp=Z,3μm,16.0s					
VRHR			MLR	MLR	
comp=N,710nm,12.0s					
VRHR			MLR	MLR	
comp=E,4μm,18.0s					
ARTV	**Artvin**	**72.11 309**	*i*P	**P**	**05 40 49.1 -0.1**
EKAR	**Karacoban**	**72.11 307**	*i*P	**P**	**05 40 51.1 +1.9**
DAGI	**Agillar**	**72.13 309**	*i*P	**P**	**05 40 50.3 +1.2**
HOMI	**Horasan**	**72.19 308**	*i*P	**P**	**05 40 50.1 +0.4**
BCA	**Borcka**	**72.33 309**	*e*P	**P**	**05 40 50.2 -0.1**
VRTB	**Varto-Mus**	**72.59 307**	*e*P	**P**	**05 40 52.3 +0.3**
ERZM	**Erzurum**	**72.61 308**	*i*P	**P**	**05 40 53.5 +1.3**
EZM	**Erzurum**	**72.61 308**	*e*P	**P**	**05 40 53.1 +0.8**
BNGL	**BINGOL**	**72.84 307**	*i*P	**P**	**05 40 55.0 +1.4**
SVAN	**Silvan-Diyarba**	**72.86 306**	*e*P	P	05 40 56.5 +3.0
AFI	**Afiamalu**	**72.94 109**	*e*P	**P**	**05 40 54.8 +0.5**
AFI			pmax	pmax	
comp=Z,1μm,1.5s					
AFI			MLR	MLR	
comp=Z,5μm,22.0s					
AFI	**Afiamalu**	**72.94 109**	*e*P	**P**	**05 40 54.8 +0.5**
comp=Z,1μm,1.5s					
AFI			LR	LR	
comp=Z,5μm,22.0s					
BNGB	**Bing¨||**	**73.20 307**	*e*P	P	05 40 59.7 +4.1
MARD	**Mardin**	**73.26 305**	*i*P	**P**	**05 40 56.5 +0.4**
KOPT	**Kop Dagi**	**73.27 308**	*i*P	**P**	**05 40 58.3 +2.1**
KLMR	**Klimovskoe**	**73.40 330***c*	*i*P	**P**	**05 40 55.8 -0.4**
KLMR			*e*S	**S**	**05 50 20.3 -3.4**
KLMR			pmax	pmax	
comp=Z,2μm,2.8s					
KLMR			pmax	pmax	
comp=Z,372nm,1.9s					
KLMR			MLR	MLR	
comp=Z,7μm,16.0s					
MAZI	**Mazidag**	**73.51 305**	*e*P	**P**	**05 41 00.2 +2.7**
BAYT	**Ayd¨–ntepe-Bay**	**73.51 308**	*e*P	**P**	**05 40 59.0 +1.5**
VORD	**Divnogorie**	**73.56 319**	*e*P	**P**	**05 40 56.1 -1.2**
VORD			*e*S	**S**	**05 50 20.1 -5.7**
VORD			pmax	pmax	
comp=E,50nm,1.0s					
VORD			pmax	pmax	
comp=Z,50nm,1.0s					
VORD			pmax	pmax	
comp=N,8.0nm,0.6s					
VORD			smax	smax	
comp=N,1μm,6.3s					
VORD			smax	smax	
comp=Z,550nm,5.8s					
VORD			smax	smax	
comp=E,930nm,5.5s					
VORD			MLR	MLR	
comp=Z,3μm,17.0s					
VORD			MLR	MLR	
comp=N,880nm,13.0s					
VORD			MLR	MLR	
comp=E,3μm,18.0s					
VOR	**Voronezh**	**73.59 320**	*e*P	**P**	**05 40 58.0 +0.5**
VOR			pmax	pmax	
comp=Z,480nm,1.6s					
RAO	**Raoul Island**	**73.61 126**	PFAKE		05 41 10.0 +12
RAO			LR	LR	
comp=Z,2μm,20.0s					
SOC	**Sochi**	**73.61 312***c*	*i*P	**P**	**05 40 57.4 -0.4**
SOC			*e*		05 41 11.6
SOC			*e**PP	**PcP**	**05 41 17.9 +4.3**
SOC			*e*		05 43 45.5
SOC			*e*PPP	PPP	05 45 28.7
SOC			*e*S	**S**	**05 50 22.3 -4.5**
SOC			*e**SS	SKSac	05 50 55.8 -7.3
SOC			pmax	pmax	
comp=Z,64nm,0.9s					
VSR	**Storozhevoye**	**73.63 320**	*e*P	**P**	**05 40 56.7 -1.0**
VSR			*e*S	**SKiKP**	**05 50 21.0 -5.4**
VSR			pmax	pmax	
comp=Z,70nm,1.1s					
VSR			pmax	pmax	
comp=N,7.0nm,0.9s					
VSR			pmax	pmax	
comp=E,70nm,1.0s					
VSR			smax	smax	
comp=N,1μm,5.6s					
VSR			smax	smax	
comp=Z,350nm,4.3s					
VSR			smax	smax	
comp=E,920nm,4.2s					
VSR			MLR	MLR	
comp=Z,3μm,18.0s					
VSR			MLR	MLR	
comp=N,1μm,17.0s					
VSR			MLR	MLR	
comp=E,3μm,16.0s					
DYBB	**Diyarbakir**	**73.71 306**	*e*P	P	05 41 02.0 +3.4
TMCR	**Tamitsa**	**74.16 333**	*e*P	**P**	**05 41 00.6 +0.1**
TMCR			*e*S	**S**	**05 50 33.2 +1.1**
TMCR			pmax	pmax	
comp=Z,115nm,1.1s					
PTK	**Pertek**	**74.21 307**	*e*P	**P**	**05 41 03.4 +1.8**
SVRC	**Sivrice-ELAZID**	**74.33 306**	*e*P	P	05 41 05.5 +3.2
URZ	**Urewera**	**74.40 137**	LR	LR	06 10 48.9
comp=Z,431nm,21.5s,baz=346,slow=33					
MOS	**Moscow**	**74.42 324**	*e*P	**P**	**05 41 01.9 -0.3**
MOS			*e*S	**S**	**05 50 31.5 -3.8**
MOS			*e*		05 51 05.3
MOS			*i*PS	**PnS**	**05 51 09.2 -1.8**
MOS			*e**SS	**ScS**	**05 51 13.2 +1.6**
MOS			pmax	pmax	
comp=E,2μm,2.8s					
MOS			pmax	pmax	
comp=Z,303nm,1.6s					
MOS			MLR	MLR	
comp=Z,10μm,20.0s					
MOS			MLR	MLR	
comp=E,8μm,19.0s					
SNZO	**South Karori**	**74.53 140**	PFAKE		05 41 10.0 +7.0
SNZO			LR	LR	
comp=Z,3μm,22.0s					
ELZG	**Elazig**	**74.57 306**	*i*P	**P**	**05 41 05.2 +1.5**
URFA	**Urfa**	**74.80 305**	*e*P	P	05 41 08.7 +3.7
SUSE	**Susehri**	**75.01 308**	*i*P	**P**	**05 41 05.7 -0.5**
MALT	**Malatya**	**75.02 306**	*e*P	**P**	**05 41 08.1 +1.8**
MALT	**Malatya**	**75.02 306** ⇑	P	**P**	**05 41 08.0 +1.8**
MALT	**Malatya**	**75.02 306** ⇓	*i*P	**P**	**05 41 08.1 +1.8**
OBN	**Obninsk**	**75.04 324**	P	**P**	**05 41 06.9 +1.1**
comp=Z,523nm,1.2s,SNR=6.9					
OBN	**Obninsk**	**75.04 324***c*	*i*P	**P**	**05 41 05.4 -0.4**
OBN			*e*		05 41 18.8
OBN			*e*		05 43 53.9
OBN			*i*S	**SKiKP**	**05 50 34.8 +6.4**
OBN			pmax	pmax	
comp=Z,154nm,1.7s					
OBN			MLR	MLR	
comp=Z,10μm,18.0s					
OBN	**Obninsk**	**75.04 324**	P	**P**	**05 41 05.6 -0.2**
comp=Z,21nm,0.3s,baz=252,slow=4.7,SNR=17					
OBN	**Obninsk**	**75.04 324**	*e*P	**P**	**05 41 05.7 -0.1**
comp=Z,264nm,1.4s					
OBN			LR	LR	
comp=Z,11μm,20.0s					
ANN	**Anapa**	**75.16 313**	*e*P	**P**	**05 41 06.6 -0.1**
ANN			*e**PP	PcP	05 41 27.9 +7.7
ANN			*e*		05 43 53.2
ANN			*e*S	**S**	**05 50 41.9 -2.1**
ANN			pmax	pmax	
comp=Z,146nm,1.2s					
ANN			MLR	MLR	
comp=N,5μm,20.0s					
ANN			MLR	MLR	
comp=Z,3μm,20.0s					
ANN			MLR	MLR	
comp=E,4μm,20.0s					
AKCD	**Akcadag**	**75.42 306**	*i*P	**P**	**05 41 08.3 -0.3**
LVZ	**Lovozero**	**75.55 337***d*	*i*P	**P**	**05 41 09.2 +0.6**
LVZ			pmax	pmax	
comp=Z,141nm,1.7s					
LVZ			MLR	MLR	
comp=Z,18μm,18.0s					
LVZ	**Lovozero**	**75.55 337**	*e*P	**P**	**05 41 09.1 +0.6**
comp=Z,104nm,1.1s					
LVZ			LR	LR	
comp=Z,18μm,19.0s					
RSDY	**Resadiye-TOKAT**	**75.65 309**	*e*P	**P**	**05 41 10.4 +0.7**
DARE	**Darende-Malaty**	**75.73 307**	*e*P	**P**	**05 41 10.4 +0.1**
GZT	**Gaziantep**	**75.81 305**	*i*P	**P**	**05 41 12.1 +1.3**
SVSK	**Karacayir**	**75.96 308**	*e*P	P	05 41 15.4 +4.0
APA	**Apatity**	**76.03 337** ⇓	*i*P	**P**	**05 41 11.4 +0.1**
APA			*i*		05 41 25.0
APA			*i*		05 44 06.0
APA			*i*S	**S**	**05 50 50.0 -2.9**
APA			*i*PS	**PnS**	**05 51 34.0 +2.5**
APA			pmax	pmax	
comp=Z,126nm,1.2s					
APA			MLR	MLR	
comp=Z,21μm,17.0s					
KMRS	**Kahramanmaras**	**76.31 306**	*e*P	**P**	**05 41 11.7 -1.9**
KAMA	**Osmaniye**	**76.54 305**	*i*P	**P**	**05 41 15.6 +0.7**
KVT	**Kavak**	**76.55 309**	*e*P	**P**	**05 41 16.3 +1.5**
PAF	**Port-aux-Franc**	**76.68 211**	P	P	05 41 05.0 -10
PAF			S	S	05 50 53.0 -7.4
PAF			SS	SS	05 55 47.0 -10
PAF			L	L	06 01 00.0
PAF			R		06 08 00.0
RSO	**Redoubt South**	**76.73 31**	*e*P	**P**	**05 41 15.2 -0.4**
comp=Z,192nm,1.0s					
ANDN	**Andirin**	**76.74 306**	*i*P	**P**	**05 41 16.3 +0.2**
HAVZ	**Havza**	**76.79 309**	*i*P	**P**	**05 41 16.6 +0.4**
PPLA	**Purkeypile**	**76.81 28**	*e*P	**P**	**05 41 15.5 -0.5**
comp=Z,233nm,1.6s					
PPLA			*e*PcP	**pP**	**05 41 24.2 +0.3**
BNN	**Bunyan**	**76.97 307**	*e*P	**P**	**05 41 17.6 +0.2**
ASF	**Jabal al Asfar**	**77.02 300**	P	**P**	**05 41 18.9 +1.2**
comp=Z,71nm,1.1s,baz=51,slow=0.5,SNR=76					
KDAK	**Kodiak Island**	**77.05 33**	P	**P**	**05 41 16.6 -0.6**
comp=Z,334nm,1.0s,SNR=14					
KDAK	**Kodiak Island**	**77.05 33**	*e*P	**P**	**05 41 16.5 -0.6**
KDAK			pmax	pmax	
comp=Z,82nm,1.2s					
KDAK			MLR	MLR	
comp=Z,2μm,22.0s					
KDAK	**Kodiak Island**	**77.05 33**	*e*P	**P**	**05 41 16.5 -0.7**
comp=Z,82nm,1.2s					
KDAK			LR	LR	
comp=Z,2μm,22.0s					
DIKM	**Dikmen**	**77.07 310**	*e*P	**P**	**05 41 18.0 +0.3**
FKH	**Fakeheh**	**77.13 302**	*e*P	**P**	**05 41 19.8 +1.4**
YAYL	**Yayladag**	**77.13 304**	*i*P	**P**	**05 41 17.7 -0.6**
KOZT	**Kozan**	**77.16 306**	*e*P	**P**	**05 41 19.6 +1.2**
JOF	**Joensuu**	**77.22 332**	*e*P	**P**	**05 41 18.6 +0.5**
JOF	**Joensuu**	**77.22 332**	*e*p	**P**	**05 41 18.6 +0.5**
COLD	**Coldfoot**	**77.28 24**	*e*P	**P**	**05 41 18.5 +0.1**
comp=Z,110nm,1.6s					
COLD			*e*PcP	**pP**	**05 41 26.5 +0.2**
CEYT	**Ceyhan**	**77.29 305**	*e*P	P	05 41 22.7 +3.7
KTH	**Kantishna Hill**	**77.32 27**	*e*P	**P**	**05 41 17.8 -1.0**
comp=Z,108nm,1.5s					
KTH			*e*PcP	**pP**	**05 41 27.0 +0.3**
BOYT	**Boyabat**	**77.36 310**	*i*P	**P**	**05 41 17.9 -1.5**
SIM	**Simferopol'**	**77.49 313***c*	*e*P	**P**	**05 41 20.4 +0.4**
SIM			S	**S**	**05 51 08.2 -1.5**
SIM			SS	**SS**	**05 56 07.4 -1.2**
SIM			pmax	pmax	
comp=Z,123nm,0.9s					
SIM			MLR	MLR	
comp=Z,2μm,21.0s					
HWQ	**Hawqa**	**77.51 302**	*e*P	**P**	**05 41 21.4 +1.0**
TRF	**Thorofare Moun**	**77.61 27**	*e*P	**P**	**05 41 19.9 -0.7**
comp=Z,249nm,1.6s					
TRF			*e*PcP	**pP**	**05 41 28.7 +0.2**
RCY	**Rachaya**	**77.71 302**	*e*P	**P**	**05 41 23.5 +1.9**
CORM	**Corum**	**77.73 309**	*e*P	P	05 41 26.0 +4.4
BHL	**Bhannes**	**77.80 302**	*e*P	**P**	**05 41 23.0 +0.9**
KARA	**Karaisali**	**77.80 306**	*e*P	**P**	**05 41 24.8 +2.9**
HOPEN	**Hopen**	**77.82 346**	*e*P	**P**	**05 41 22.6 +1.4**
HOPEN			*e*S	**S**	**05 51 14.0 +1.9**
HOPEN			IVMs_BB	IVMs_BB	06 24 04.5
comp=Z,4μm,15.9s					
CDAG	**Cicekdag**	**78.00 308**	*i*P	**P**	**05 41 23.5 +0.4**
GULE	**Gulek**	**78.02 306**	*i*P	**P**	**05 41 23.3 -0.1**
PUL	**Pulkovo**	**78.03 329** ⇑	*i*P	**P**	**05 41 22.7 +0.1**
PUL			pmax	pmax	
comp=Z,120nm,0.5s					
PUL			MLR	MLR	
comp=Z,9μm,20.0s					
NIG	**Nigde**	**78.03 307**	*e*P	**P**	**05 41 25.2 +1.7**
RC01	**Rabbit Creek A**	**78.14 30**	*e*P	**P**	**05 41 21.9 -1.4**
comp=Z,63nm,1.0s					
MMAI	**Mount Meron Ar**	**78.14 301**	P	**P**	**05 41 25.8 +1.9**
comp=Z,56nm,0.9s,baz=75,slow=6.1,SNR=39					
KEV	**Kevo**	**78.17 339**	*e*P	**P**	**05 41 23.6 +0.3**
KEV			pmax	pmax	
comp=Z,387nm,1.8s					
KEV			MLR	MLR	
comp=Z,4μm,19.0s					
KEV	**Kevo**	**78.17 339**	*e*p	**P**	**05 41 23.5 +0.3**
KEV	**Kevo**	**78.17 339**	*e*P	**P**	**05 41 23.6 +0.3**
comp=Z,387nm,1.8s					
KEV			LR	LR	
comp=Z,4μm,19.0s					
MCK	**McKinley**	**78.18 27**	*e*P	**P**	**05 41 22.6 -0.9**
MCK			*e*		05 41 31.4
MCK			pmax	pmax	
comp=Z,88nm,0.9s					
MCK	**McKinley**	**78.18 27**	*e*P	**P**	**05 41 22.6 -0.9**
comp=Z,88nm,0.9s					
MCK			*e*PcP	**pP**	**05 41 31.4 -0.1**
MERS	**Mersin**	**78.28 305**	*e*P	**P**	**05 41 24.8 +0.1**
SEW	**Seward**	**78.40 31**	*e*P	**P**	**05 41 23.4 -1.3**
comp=Z,87nm,0.9s					
CANT	**Cankiri**	**78.43 309**	*e*P	**P**	**05 41 27.7 +2.3**
COLA	**College**	**78.50 26***c*	*i*P	**P**	**05 41 24.1 -1.1**
COLA			pmax	pmax	
comp=Z,186nm,1.2s					
COLA			MLR	MLR	
comp=Z,6μm,18.0s					
COLA	**College**	**78.50 26**	*e*P	**P**	**05 41 23.8 -1.4**
comp=Z,60nm,1.2s					
COLA			LR	LR	
comp=Z,1μm,19.0s					
BRTR	**Keskin Array B**	**78.55 308**	P	**P**	**05 41 26.1 0.0**
comp=Z,21nm,1.0s,baz=116,slow=5.6,SNR=53					
BRTR			LR	LR	06 20 31.5
comp=Z,1μm,20.6s,baz=70,slow=39					
KIZK	**Mersin**	**78.64 305**	*i*P	**P**	**05 41 27.0 +0.4**
ARCES	**ARCESS Array B**	**78.73 339**	P	**P**	**05 41 26.7 +0.3**
comp=Z,13nm,0.5s,baz=83,slow=7.1,SNR=78					
ARCES			LR	LR	06 18 47.2
comp=Z,3μm,18.7s,baz=84,slow=38					
ARE0	**ARCESS Array S**	**78.73 339**	*e*P	**P**	**05 41 26.7 +0.3**
ARE0			IAmb	IAmb	05 41 29.4
comp=Z,458nm,1.9s					
ARE0			*e*S	**S**	**05 51 21.7 -0.4**
ABPO	**Ambohimpanom**	**78.75 247**	P	**P**	**05 41 27.3 -0.3**
ABPO			pmax	pmax	
comp=Z,40nm,1.0s					
ABPO			MLR	MLR	
comp=Z,2μm,19.0s					
ABPO	**Ambohimpanom**	**78.75 247**	P	**P**	**05 41 27.3 -0.3**
comp=Z,40nm,1.0s					
ABPO			LR	LR	
comp=Z,2μm,19.0s					
EREN	**Erenkoy**	**78.77 304**	*e*P	**P**	**05 41 26.5 -0.8**
SULT	**Sultanhani-AKS**	**78.87 307**	*e*P	**P**	**05 41 28.1 +0.2**
ILAR	**Eielson Array**	**78.92 26**	P	**P**	**05 41 25.7 -1.9**
comp=Z,9.4nm,0.9s,baz=269,slow=4.2,SNR=47					
ILAR			PKP2ab		06 08 12.5
comp=Z,1.0nm,1.0s,baz=173,slow=1.8,SNR=5.9					
ILAR			LR	LR	06 20 33.0
comp=Z,1μm,18.2s,baz=352,slow=39					
BBAL	**Bala**	**78.97 308**	*i*P	**P**	**05 41 28.6 +0.1**
SAFT	**Safranbolu**	**79.04 310**	*e*P	**P**	**05 41 28.1 -0.5**
EIL	**Elat**	**79.06 298**	P	**P**	**05 41 29.6 +0.7**
comp=Z,158nm,1.1s,baz=88,slow=3.1,SNR=61					
ANTO	**Ankara**	**79.17 308**	*e*P	**P**	**05 41 27.6 -1.9**
ANTO	**Ankara**	**79.17 308**	*e*P	**P**	**05 41 29.0 -0.5**
ANTO			pmax	pmax	
comp=Z,71nm,1.1s					
ANTO			MLR	MLR	
comp=Z,2μm,21.0s					
ANTO	**Ankara**	**79.17 308** ⇑	*i*P	**P**	**05 41 30.5 +1.0**
ANTO	**Ankara**	**79.17 308**	P	**P**	**05 41 30.1 +0.6**
SNR=24					
ANTO	**Ankara**	**79.17 308**	*e*P	**P**	**05 41 29.0 -0.5**
comp=Z,71nm,1.1s					
ANTO			LR	LR	
comp=Z,2μm,21.0s					
LFK	**Lefkose**	**79.32 304**	*e*P	**P**	**05 41 29.4 -1.0**
SPA0	**Spitsbergen Ar**	**79.33 348**	*e*P	**P**	**05 41 29.5 -0.1**
SPA0			IVmB_BB		05 41 31.6
comp=Z,6μm,1.4s					
SPA0			*e*S	**S**	**05 51 28.0 -0.3**
SPA0			IAMs_20	IAMs_20	06 19 41.0
comp=Z,8μm,19.4s					
SPITS	**Spitsbergen Ar**	**79.33 348**	P	**P**	**05 41 30.2 +0.7**
comp=Z,231nm,1.0s,baz=91,slow=8.3,SNR=125					
CSS	**Prodhromos**	**79.53 304**	P	**P**	**05 41 32.3 +0.8**
CSS	**Prodhromos**	**79.53 304**	*e*P	**P**	**05 41 33.0 +1.5**
CSS	**Prodhromos**	**79.53 304**	*e*P	**P**	**05 41 32.1 +0.6**
comp=Z,69nm,1.1s					
CSS			LR	LR	
comp=Z,530nm,21.0s					
BCAM	**Yenicaga**	**79.57 310**	*i*P	**P**	**05 41 31.8 +0.1**
ERMK	**Ermenek**	**79.59 305**	*i*P	**P**	**05 41 31.8 -0.3**
KAF	**Kangasniemi**	**79.62 332**	*e*P	**P**	**05 41 31.1 -0.3**
KAF			pmax	pmax	
comp=Z,49nm,1.0s					
KAF	**Kangasniemi**	**79.62 332**	*e*p	**P**	**05 41 31.1 -0.3**
comp=Z,49nm,1.0s					
BJO	**Bjornoya**	**79.65 344**	*e*P	P	05 41 35.0 +3.8
BJO			*e*S	**S**	**05 51 31.7 +0.1**
LADK	**Ladik-KONYA**	**79.77 307**	*e*P	**P**	**05 41 34.5 +1.7**
KONT	**Konya--Tatoy**	**79.81 307**	*e*P	**P**	**05 41 33.2 +0.2**
HSP	**Hornsund**	**79.84 347**	*e*P	**P**	**05 41 33.0 +0.7**
HSPB	**Hornsund (broa**	**79.84 347**	*e*P	**P**	**05 41 31.6 -0.7**
HSPB			IVmB_BB		05 41 33.5
comp=Z,3μm,2.3s					
HSPB			*e*S	**S**	**05 51 34.0 +0.4**
HSPB			IVMs_BB	IVMs_BB	06 23 50.7
comp=Z,3μm,14.9s					
HSPB			IAMs_20	IAMs_20	06 23 55.1
comp=Z,6μm,18.6s					
PAX	**Paxson**	**79.84 28**	*e*P	**P**	**05 41 32.2 -0.5**
PAX			*e*		05 41 41.2
PAX			pmax	pmax	
comp=Z,57nm,1.1s					
PAX	**Paxson**	**79.84 28**	*e*P	**P**	**05 41 32.2 -0.5**
comp=Z,57nm,1.1s					
PAX			*e*PcP	**PcP**	**05 41 41.2 +0.9**
FINES	**FINESS Array B**	**79.85 331**	P	**P**	**05 41 32.3 -0.3**
comp=Z,27nm,0.9s,baz=91,slow=7.6,SNR=39					
FINES			PKiKP	**PKiKP**	**05 47 03.8 +0.6**
comp=Z,4.1nm,0.9s,baz=149,slow=6.5,SNR=3.9					
FINES			LR	LR	06 17 29.9
comp=Z,3μm,20.1s,baz=79,slow=36					
LEF	**Lefka**	**79.86 304**	*e*P	P	05 41 37.0 +3.8
AKASG	**Malin Array Be**	**79.93 320**	P	**P**	**05 41 32.5 -0.7**
comp=Z,42nm,1.1s,baz=67,slow=5.4,SNR=36					
AKASG			LR	LR	06 21 25.4
comp=Z,4μm,18.7s,baz=35,slow=39					
KBS	**Kingsbay**	**79.93 349**	*e*P	**P**	**05 41 32.1 -0.7**
KBS			IVmB_BB		05 41 46.5
comp=Z,1μm,3.5s					
KBS			*e*S	**S**	**05 51 35.0 +0.4**
KBS			IVMs_BB	IVMs_BB	06 19 46.0
comp=Z,3μm,20.3s					
KBS			IAMs_20	IAMs_20	06 19 52.2
comp=Z,10μm,20.8s					
KBS	**Kingsbay**	**79.93 349**	*e*P	**P**	**05 41 33.1 +0.3**
KBS			pmax	pmax	
comp=Z,89nm,1.1s					
KBS			MLR	MLR	
comp=Z,9μm,20.0s					
KBS	**Kingsbay**	**79.93 349**	*e*P	**P**	**05 41 33.1 +0.3**
comp=Z,89nm,1.1s					
KBS			LR	LR	
comp=Z,9μm,20.0s					
KIEV	**Kiev**	**79.94 320**	*e*P	**P**	**05 41 32.4 -1.0**
KIEV			pmax	pmax	
comp=Z,71nm,1.1s					
KIEV			MLR	MLR	
comp=Z,5μm,20.0s					
KIEV	**Kiev**	**79.94 320**	*e*P	**P**	**05 41 32.4 -1.0**
comp=Z,71nm,1.1s					
KIEV			LR	LR	
comp=Z,5μm,20.0s					
KIZT	**Kizilcal**	**80.03 308**	*e*P	**P**	**05 41 34.7 +0.4**
DIV	**Divide**	**80.04 29**	*e*P	**P**	**05 41 33.3 -0.5**
comp=Z,36nm,0.9s					
VSU	**Vasula**	**80.05 328***c*	*i*P	**P**	**05 41 33.5 -0.2**
VSU			pmax	pmax	
comp=Z,368nm,1.0s					
VSU			MLR	MLR	
comp=Z,20μm,21.0s					
MICGM	**Minsk**	**80.11 324** ⇓	*e*P	**P**	**05 41 33.0 -1.1**
MNK	**Minsk**	**80.13 324** ⇓	*e*P	**P**	**05 41 33.0 -1.3**
MNK			*e**PP	pP	05 41 55.0 +13
MNK			*e*		05 44 33.0
MNK			*e*PPP	PPP	05 46 29.0
MNK			*e*S	**S**	**05 51 32.0 -5.5**
MNK			*e*PS	**PnS**	**05 52 16.0 -8.0**
MNK			pmax	pmax	
comp=Z,250nm,0.8s					
GAZI	**Gazipasa**	**80.14 305**	*i*P	**P**	**05 41 33.9 -0.9**
CASY	**Casey**	**80.19 184**	*e*P	**P**	**05 41 33.7 -0.5**
comp=Z,311nm,1.4s					
CASY			LR	LR	
comp=Z,2μm,20.0s					
SVRH	**Sivrihisar-ESK**	**80.20 308**	*e*P	**P**	**05 41 35.3 +0.2**
MDUB	**Mudurnu**	**80.28 309**	*e*P	**P**	**05 41 35.8 +0.3**
POHA	**Pohakuloa**	**80.31 72**	PFAKE		05 41 50.0 +14
POHA			LR	LR	
comp=Z,4μm,20.0s					
BTAS	**Taskesti**	**80.41 309**	*

IDID	**Didziasalis**	**80.61 325**	*e*P	**P**	**05 41 37.5**	**+0.6**
IDID			AMB	AMB	05 41 41.9	
	comp=Z,38nm,1.1s					
BMRM	**Bremner River**	**80.62 29**	*e*P	**P**	**05 41 36.2**	**-0.7**
	comp=Z,55nm,1.1s					
NACGM	**Naroch**	**80.66 324**	*e*P	**P**	**05 41 35.0**	**-2.1**
GULT	**Gulveren**	**80.80 309**	*e*P	**P**	**05 41 36.6**	**-1.7**
KIS	**Kishinev**	**80.83 316**	*e*P	**P**	**05 41 38.0**	**-0.2**
KIS			*i*		05 41 56.0	
KIS			*e*		05 44 50.0	
KIS			*e*PPP	PPP	05 46 42.0	
KIS			*e*S	**S**	**05 51 42.0**	**-3.1**
KIS			*e*PS	**PnS**	**05 52 32.0**	**-1.0**
KIS			*e*SS	**SS**	**05 57 04.0**	**+5.4**
KIS			*e*SSS	SSS	06 00 21.0	
KIS			pmax	pmax		
	comp=Z,712nm,3.0s					
KIS			pmax	pmax		
	comp=Z,1μm,8.0s					
KIS			pmax	pmax		
	comp=Z,1μm,8.0s					
KIS			smax	smax		
	comp=E,1μm,15.0s					
KIS			smax	smax		
	comp=N,900nm,13.0s					
KIS	**Kishinev**	**80.83 316**	*e*P	**P**	**05 41 38.0**	**-0.2**
	comp=N,700nm,3.0s					
KIS	**Kishinev**	**80.83 316**	*e*PP	PP	05 44 50.0	+7.6
KIS	**Kishinev**	**80.83 316**	*e*PS		05 52 32.0	
KIS			*e*SS	SS	05 57 04.0	+5.4
KIS			*e*SSS	SSS	16 00 21.0	
KIS			*e*LQ	LQ	16 10 22.0	
KIS			*e*LR	LR	16 12 12.0	
	comp=N,2μm,18.0s					
IIGN	**Ignalina**	**80.89 325**	*e*P	**P**	**05 41 38.8**	**+0.5**
IIGN			AMB	AMB	05 41 45.8	
	comp=Z,41nm,1.3s					
ISAL	**Salakas**	**80.90 325**	*e*P	**P**	**05 41 39.3**	**+0.9**
ISAL			AMB	AMB	05 41 46.3	
	comp=Z,40nm,1.4s					
SPNC	**Sapanca-Adapaz**	**80.91 310**	*e*P	**P**	**05 41 37.4**	**-1.3**
BORA	**Eskisehir**	**80.94 309**	*i* P	**P**	**05 41 39.2**	**+0.1**
TRO	**Tromso**	**80.96 340**	*e*P	**P**	**05 41 40.2**	**+1.8**
TRO			*e*S	**S**	**05 51 46.6**	**+1.0**
SHUT	**Suhut-Afyon**	**81.11 307**	*e*P	**P**	**05 41 40.7**	**+0.7**
TLCR		**81.17 314**	⇓*i*P	**P**	**05 41 40.5**	**+0.5**
ISP	**Isparta**	**81.27 307**	P	**P**	**05 41 40.4**	**-0.5**
ISP	**Isparta**	**81.27 307**	*e*P	**P**	**05 41 41.5**	**+0.6**
ISP	**Isparta**	**81.27 307**	*e*P	**P**	**05 41 40.4**	**-0.5**
ISP			pmax	pmax		
	comp=Z,165nm,1.1s					
ISP			MLR	MLR		
	comp=Z,2μm,21.0s					
ISP	**Isparta**	**81.27 307**	⇓*i*P	**P**	**05 41 41.7**	**+0.8**
ISP	**Isparta**	**81.27 307**	*e*P	**P**	**05 41 40.4**	**-0.5**
	comp=Z,165nm,1.1s					
ISP			LR	LR		
	comp=Z,2μm,21.0s					
LEOM	**Leova**	**81.32 316**	⇓*i*P	**P**	**05 41 42.3**	**+1.5**
EGAK	**Eagle**	**81.33 25**	*e*P	**P**	**05 41 40.1**	**-0.4**
	comp=Z,45nm,1.0s					
EGAK			LR	LR		
	comp=Z,2μm,19.0s					
ANTB	**Antalya**	**81.33 306**	*e*P	P	05 41 46.3	+5.2
CAVI	**Cavuskoy**	**81.34 309**	*e*P	**P**	**05 41 40.4**	**-0.7**
ALT	**Altintas**	**81.35 308**	P	**P**	**05 41 41.7**	**+0.4**
ALT	**Altintas**	**81.35 308**	*e*P	**P**	**05 41 41.7**	**+0.4**
ALT	**Altintas**	**81.35 308**	P	**P**	**05 41 41.7**	**+0.4**
HRT	**Hereke**	**81.36 310**	*e*P	**P**	**05 41 42.5**	**+1.3**
ADVT	**Abdulvahap**	**81.38 309**	*e*P	**P**	**05 41 40.0**	**-1.3**
TIRR	**Tirgusor**	**81.58 314**	*e*P	**P**	**05 41 42.0**	**-0.3**
TIRR			pmax	pmax		
	comp=Z,81nm,1.1s					
TIRR	**Tirgusor**	**81.58 314**	⇑*i*P	**P**	**05 41 41.8**	**-0.4**
TIRR	**Tirgusor**	**81.58 314**	*e*P	**P**	**05 41 42.0**	**-0.3**
	comp=Z,81nm,1.1s					
DRV	**Dumont d'Urvil**	**81.62 172**	P	P	05 41 22.0	-20
DRV			PP	PP	05 44 37.0	-12
DRV			S	S	05 51 25.0	-27
DRV			SS	SS	05 56 57.0	-13
DRV			L	L	06 03 00.0	
DRV			R		06 09 00.0	
CFR	**Carcaliu**	**81.64 314**	⇑P	**P**	**05 41 42.5**	**0.0**
CFR	**Carcaliu**	**81.64 314**	⇓*i*P	**P**	**05 41 42.8**	**+0.3**
ISK	**Istanbul-Kandi**	**81.77 310**	*e*P	**P**	**05 41 40.4**	**-2.9**
TVSB	**Tavsanli**	**81.78 309**	*e*P	**P**	**05 41 44.0**	**+0.5**
TLB	**Topalu**	**81.82 314**	⇑P	**P**	**05 41 43.5**	**0.0**
TLB	**Topalu**	**81.82 314**	⇓*i*P	**P**	**05 41 43.8**	**+0.3**
PSN	**Preselentsi**	**81.90 313**	⇑P	**P**	**05 41 44.5**	**+0.6**
PSN	**Preselentsi**	**81.90 313**	⇑*i*P	**P**	**05 41 44.5**	**+0.6**
PSN	**Preselentsi**	**81.90 313**	*i* P	**P**	**05 41 45.7**	**+1.8**
ELL	**Elmali**	**81.95 306**	*e*P	P	05 41 41.2	-3.4
BGKT	**Bogazkoy**	**81.96 310**	*e*P	**P**	**05 41 47.1**	**+2.9**
ARMT	**Armutlu**	**82.01 310**	*e*P	**P**	**05 41 42.1**	**-2.6**
MSAB	**Monastry St. A**	**82.07 313**	⇑*i*P	**P**	**05 41 46.0**	**+1.2**
PETR	**Petresti**	**82.16 315**	⇑*i*P	**P**	**05 41 45.2**	**0.0**
XMAS	**Kiritimati**	**82.27 90**	PFAKE		05 42 00.0	+14
XMAS			LR	LR		
	comp=Z,5μm,19.0s					
AKAS	**Kas**	**82.29 305**	*i* P	**P**	**05 41 44.6**	**-1.8**
TESR	**Tescani**	**82.39 316**	⇓*i*P	**P**	**05 41 46.9**	**+0.4**
VRI	**Vrincioaia**	**82.47 315**	⇓*i*P	**P**	**05 41 48.1**	**+1.2**
DURS	**Dursunbey**	**82.49 309**	*i* P	**P**	**05 41 46.4**	**-0.9**
PRAR	**RASCA**	**82.50 317**	⇑*i*P	**P**	**05 41 48.5**	**+1.5**
PLOR	**Plostina**	**82.53 315**	⇑P	**P**	**05 41 47.8**	**+0.5**
PLOR	**Plostina**	**82.53 315**	⇓*i*P	**P**	**05 41 48.3**	**+1.0**
PRD	**Provadia**	**82.55 313**	*i* P	**P**	**05 41 47.8**	**+0.4**
KULA	**Kula-Manisa**	**82.57 308**	P	**P**	**05 41 47.8**	**+0.1**
KULA	**Kula-Manisa**	**82.57 308**	*e*P	**P**	**05 41 48.2**	**+0.5**
KULA	**Kula-Manisa**	**82.57 308**	P	**P**	**05 41 47.8**	**+0.1**
MIR	**Mirnyy**	**82.61 191**	⇑*i*P	**P**	**05 41 47.5**	**+0.6**
MIR			*e*		05 45 04.0	
MIR			*e*S	**S**	**05 52 00.0**	**-2.3**
MIR			*e*SS	**SS**	**05 57 30.0**	**+5.3**
MIR			pmax	pmax		
	comp=Z,455nm,2.0s					
MIR			pmax	pmax		
	comp=Z,1μm,4.0s					
MIR			MLR	MLR		
	comp=N,2μm,20.0s					
MIR			MLR	MLR		
	comp=E,1μm,20.0s					
MIR			MLR	MLR		
	comp=Z,2μm,20.0s					
FETY	**Fethiye**	**82.62 306**	*e*P	**P**	**05 41 45.5**	**-2.5**
CRLT	**Corlu**	**82.73 310**	*e*P	**P**	**05 41 48.8**	**+0.5**
STEI	**Steigen**	**82.74 338**	*e*P	**P**	**05 41 47.4**	**-0.4**
ISR	**Istrita**	**82.76 315**	⇓*i*P	**P**	**05 41 45.7**	**-2.8**
ISR	**Istrita**	**82.76 315**	⇑*i*P	**P**	**05 41 46.0**	**-2.5**
SUW	**Suwalki**	**82.90 324**	*e*P	**P**	**05 41 48.5**	**-0.4**
SUW			pmax	pmax		
	comp=Z,258nm,1.0s					
SUW	**Suwalki**	**82.90 324**	*e*P	**P**	**05 41 48.6**	**-0.4**
SUW			*e*pP	**PcP**	**05 41 53.8**	**+0.1**
SUW			*e*sP	**sP**	**05 41 55.8**	**-4.0**
SUW			*e*S	**SKSac**	**05 52 08.1**	**-1.0**
SUW			LMZ	LR	06 19 52.7	
SUW	**Suwalki**	**82.90 324**	*e*P	**P**	**05 41 48.5**	**-0.4**
	comp=Z,258nm,1.0s					
DALY	**Dalyan (Mu´la**	**82.92 306**	*e*P	P	05 41 45.5	-3.9
MLR	**Muntele Rosu**	**83.09 315**	⇑P	**P**	**05 41 50.6**	**+0.3**
MLR	**Muntele Rosu**	**83.09 315**	⇓*i*P	**P**	**05 41 50.9**	**+0.6**
SECR		**83.10 315**	⇓*i*P	**P**	**05 41 52.2**	**+2.0**
BURAR	**Bucovina Array**	**83.11 317**	⇑P	**P**	**05 41 50.8**	**+0.5**
BURAR	**Bucovina Array**	**83.11 317**	⇓*i*P	**P**	**05 41 51.0**	**+0.7**
AKS	**Akhisar**	**83.14 308**	*e*P	P	05 41 43.8	-6.8
YER	**Yerkesik**	**83.15 306**	*e*P	**P**	**05 41 51.0**	**+0.3**
KMBO	**Kilima Mbogo**	**83.24 267**	P	**P**	**05 41 53.6**	**+1.9**
	SNR=66					
KMBO	**Kilima Mbogo**	**83.24 267**	P	**P**	**05 41 52.8**	**+1.0**
	comp=Z,42nm,1.1s,baz=59,slow=6.2,SNR=52					
KMBO			LR	LR	06 18 27.0	
	comp=Z,4μm,18.2s,baz=65,slow=35					
LOF	**Lofoten**	**83.28 339**	*e*P	**P**	**05 41 52.1**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**83.28 307**	*e*P	**P**	**05 41 52.3**	**+0.8**
JMB	**Yambol**	**83.29 312**	⇑P	P	05 41 48.0	-3.2
JMB	**Yambol**	**83.29 312**	⇑*i*P	**P**	**05 41 49.9**	**-1.3**
JMB	**Yambol**	**83.29 312**	*i* P	**P**	**05 41 49.1**	**-2.1**
EDRB	**Edirne**	**83.31 311**	P	**P**	**05 41 51.7**	**+0.4**
EDRB	**Edirne**	**83.31 311**	*e*P	**P**	**05 41 51.4**	**0.0**
EDRB	**Edirne**	**83.31 311**	P	**P**	**05 41 51.7**	**+0.4**
LVV	**L'vov**	**83.37 320**	*e*P	**P**	**05 41 51.5**	**0.0**
LVV			*e*		05 42 01.3	
LVV			*e*PPP	PPP	05 47 06.1	
LVV			*e*S	S	05 52 05.3	-5.9
LVV			*e*PS	**PnS**	**05 52 59.3**	**-5.0**
ARG	**Arkhangelos**	**83.46 306**	*e*P	**P**	**05 41 52.6**	**+0.4**
SZH	**Strazhica**	**83.58 313**	*i* P	**P**	**05 41 52.5**	**-0.2**
MOR8	**Moi Rana**	**83.62 337**	*e*P	**P**	**05 41 50.9**	**-1.6**
MOR8			IAmb	IAmb	05 41 53.8	
	comp=Z,289nm,1.0s					
IZM	**Izmir**	**83.67 308**	*e*P	**P**	**05 41 53.5**	**+0.2**
VOIR		**83.71 315**	⇑P	**P**	**05 41 53.2**	**-0.2**
VOIR		**83.71 315**	⇓*i*P	**P**	**05 41 53.3**	**-0.2**
ERIK	**Erikli-Kesan**	**83.74 310**	*e*P	P	05 41 48.8	-4.7
BLCB	**Balcova**	**83.84 308**	*e*P	P	05 41 50.1	-4.0
BODT	**Bodrum**	**83.92 307**	*e*P	**P**	**05 41 52.6**	**-2.0**
HUMR	**Humele**	**83.97 314**	⇑*i*P	**P**	**05 41 55.3**	**+0.6**
FLOS	**Flostrand**	**83.97 337**	*e*P	**P**	**05 41 53.9**	**-0.3**
ARR	**Arges**	**84.02 315**	⇑*i*P	**P**	**05 41 55.4**	**+0.4**
HYT	**Haines Junctio**	**84.02 29**	*e*P	**P**	**05 41 55.0**	**+0.3**
ALN	**Alexandroupoli**	**84.03 311**	*e*P	**P**	**05 41 54.2**	**-0.9**
NIS1	**Nisyros Isl.**	**84.13 306**	*e*P	**P**	**05 41 56.7**	**+1.0**
SMG	**Samos**	**84.15 307**	*e*P	**P**	**05 41 55.8**	**+0.1**
BMR	**Baia Mare**	**84.23 318**	⇑P	**P**	**05 41 57.8**	**+1.9**
BMR	**Baia Mare**	**84.23 318**	⇑*i*P	**P**	**05 41 57.5**	**+1.6**
PRK	**Paraskevi**	**84.24 309**	*e*P	**P**	**05 41 55.8**	**-0.3**
KWP	**Kalwaria Pacla**	**84.25 320**	*e*P	**P**	**05 41 56.1**	**+0.1**
KWP			pmax	pmax		
	comp=Z,263nm,1.3s					
KWP			MLR	MLR		
	comp=Z,3μm,19.0s					
KWP	**Kalwaria Pacla**	**84.25 320**	*e*P	**P**	**05 41 56.2**	**+0.2**
KWP			*e*PcP	**PcP**	**05 41 58.9**	**-0.9**
KWP			*e*pP	**pP**	**05 42 01.3**	**-2.7**
KWP			*e*sP	**sP**	**05 42 02.6**	**-4.3**
KWP			*e*S	**SKSac**	**05 52 18.3**	**+0.1**
KWP			LMZ	LR	06 20 28.4	
KWP	**Kalwaria Pacla**	**84.25 320**	*e*P	**P**	**05 41 56.1**	**+0.1**
	comp=Z,263nm,1.3s					
KWP			LR	LR		
	comp=Z,3μm,19.0s					
ZEY	**´zmir**	**84.29 308**	*i* P	**P**	**05 41 56.2**	**-0.2**
KDZ	**Kurdzhali**	**84.32 311**	⇑P	**P**	**05 41 56.7**	**+0.1**
KDZ	**Kurdzhali**	**84.32 311**	⇓*i*P	**P**	**05 41 56.9**	**+0.3**
KDZ	**Kurdzhali**	**84.32 311**	*i* P	**P**	**05 41 56.2**	**-0.4**
RDO	**Rodhopi**	**84.35 311**	P	**P**	**05 41 56.1**	**-0.6**
RDO	**Rodhopi**	**84.35 311**	*e*P	**P**	**05 41 56.4**	**-0.3**
RDO	**Rodhopi**	**84.35 311**	P	**P**	**05 41 56.1**	**-0.6**
KARP	**Karpathos**	**84.37 305**	P	**P**	**05 41 57.1**	**+0.1**
KARP	**Karpathos**	**84.37 305**	*e*P	**P**	**05 41 57.4**	**+0.4**
KARP	**Karpathos**	**84.37 305**	P	**P**	**05 41 57.1**	**+0.1**
CJR	**Cluj-Napoca**	**84.39 317**	⇑P	**P**	**05 41 58.7**	**+1.8**
CJR	**Cluj-Napoca**	**84.39 317**	⇓*i*P	**P**	**05 41 59.3**	**+2.4**
SMTH	**Samothraki Isl**	**84.51 310**	*e*P	**P**	**05 41 56.4**	**-1.1**
SIGR	**SIGRI**	**84.56 309**	*e*P	**P**	**05 41 58.7**	**+0.9**
LOT	**Lotru**	**84.59 315**	⇑*i*P	**P**	**05 41 59.1**	**+1.1**
CHOS	**Chios island**	**84.60 308**	*e*P	**P**	**05 41 58.4**	**+0.3**
KOLS	**Kolonicke sedl**	**84.70 319**	*e*P	**P**	**05 41 58.6**	**+0.3**
KOLS			pmax	pmax		
	comp=Z,95nm,1.8s					
KOLS	**Kolonicke sedl**	**84.70 319**	*e*P	**P**	**05 41 58.6**	**+0.3**
KOLS	**Kolonicke sedl**	**84.70 319**	*e*S	**S**	**05 52 20.9**	**-3.7**
TRPA	**Tarpa**	**84.74 318**	⇓*i*P	**P**	**05 41 59.2**	**+0.7**
TRPA	**Tarpa**	**84.74 318**	⇓*e*P	**P**	**05 41 59.0**	**+0.5**
UZH	**Uzhgorod**	**84.77 319**	*e*P	**P**	**05 41 58.0**	**-0.6**
UZH			*i*		05 42 15.2	
UZH			*e*S	S	05 52 19.0	-6.2
UZH			*e*		05 53 11.2	
UZH			*e*		05 57 55.6	
RZN	**Rozhen**	**84.83 312**	*i* P	**P**	**05 41 58.9**	**-0.4**
BEL	**Belsk**	**84.85 322**	*e*P	**P**	**05 41 59.5**	**+0.5**
BEL			*e*S	**S**	**05 52 25.1**	**-0.8**
BEL			MLR	MLR		
	comp=Z,8μm,19.8s					
BEL	**Belsk**	**84.85 322**	*e*P	**P**	**05 41 59.4**	**+0.5**
BEL			*e*PcP	**PcP**	**05 42 01.4**	**-0.9**
BEL			*e*sP	**sP**	**05 42 05.3**	**-4.6**
BEL			*e*S	**S**	**05 52 25.1**	**-0.8**
BEL			LMZ	LR	06 21 16.7	
DRGR		**84.97 317**	⇑P	**P**	**05 42 00.3**	**+0.5**
DRGR		**84.97 317**	⇓*i*P	**P**	**05 42 00.4**	**+0.6**
PGB	**Panagyurishte**	**85.01 312**	*i* P	**P**	**05 42 00.3**	**+0.2**
DEV	**Deva**	**85.07 316**	⇓*i*P	**P**	**05 42 00.5**	**+0.3**
MPEP	**Malo Peshtene**	**85.12 313**	*i* P	**P**	**05 42 00.8**	**+0.3**
KAVA	**Kavala**	**85.14 311**	P	**P**	**05 42 00.2**	**-0.4**
KAVA	**Kavala**	**85.14 311**	*e*P	**P**	**05 42 00.1**	**-0.5**
KAVA	**Kavala**	**85.14 311**	P	**P**	**05 42 00.2**	**-0.4**
NSS	**Namsos**	**85.18 336**	*e*P	**P**	**05 41 59.8**	**-0.6**
NSS			*e*SKSac	**SKSac**	**05 52 22.5**	**-0.9**
STHS	**Stebnicka Huta**	**85.23 320**	*e*P	**P**	**05 42 01.4**	**+0.4**
STHS			pmax	pmax		
	comp=Z,34nm,1.0s					
STHS	**Stebnicka Huta**	**85.23 320**	*e*P	**P**	**05 42 01.4**	**+0.4**
STHS			*e*PP	**PP**	**05 45 19.2**	**+0.8**
GZR	**Gura Zlata**	**85.28 315**	⇑P	**P**	**05 42 01.8**	**+0.4**
GZR	**Gura Zlata**	**85.28 315**	⇑*i*P	**P**	**05 42 02.4**	**+1.0**
APE	**Apeiranthos**	**85.31 307**	⇑*i*P	**P**	**05 42 00.5**	**-1.1**
APE			pmax	pmax		
	comp=Z,171nm,2.5s					
APE	**Apeiranthos**	**85.31 307**	*e*P	**P**	**05 42 00.3**	**-1.3**
CRZF	**Crozet Islands**	**85.50 220**	P	P	05 41 45.0	-17
CRZF	**Crozet Islands**	**85.50 220**	S	S	05 51 56.0	-36
CRZF			SS	SS	05 57 58.0	-10
CRZF			R		06 09 00.0	
SANT	**Santorini**	**85.53 306**	*e*P	**P**	**05 42 01.6**	**-1.1**
	comp=Z,381nm,1.3s					
SANT			LR	LR		
	comp=Z,1μm,20.0s					
NVR	**Nevrokopi**	**85.53 311**	P	**P**	**05 42 01.8**	**-0.9**
NVR	**Nevrokopi**	**85.53 311**	*e*P	**P**	**05 42 01.6**	**-1.1**
NVR	**Nevrokopi**	**85.53 311**	P	**P**	**05 42 01.8**	**-0.9**
MMB	**Musomiste**	**85.57 312**	⇓P	**P**	**05 42 02.2**	**-0.6**
MMB	**Musomiste**	**85.57 312**	⇓*i*P	**P**	**05 42 02.4**	**-0.4**
MMB	**Musomiste**	**85.57 312**	*i* P	**P**	**05 42 02.1**	**-0.7**
NPS	**Neapolis**	**85.67 305**	P	**P**	**05 42 03.8**	**+0.3**
NPS	**Neapolis**	**85.67 305**	P	**P**	**05 42 03.8**	**+0.3**
NPS	**Neapolis**	**85.67 305**	*e*P	**P**	**05 42 03.6**	**+0.1**
NPS	**Neapolis**	**85.67 305**	P	**P**	**05 42 03.8**	**+0.3**
VTS	**Vitosha**	**85.69 313**	P	**P**	**05 42 03.5**	**-0.1**
VTS	**Vitosha**	**85.69 313**	P	**P**	**05 42 03.5**	**-0.1**
VTS	**Vitosha**	**85.69 313**	⇑*i*P	**P**	**05 42 03.6**	**-0.1**
VTS	**Vitosha**	**85.69 313**	*i* P	**P**	**05 42 03.5**	**-0.1**
VTS	**Vitosha**	**85.69 313**	P	**P**	**05 42 03.5**	**-0.1**
OUR	**Ouranopolis**	**85.69 310**	*e*P	**P**	**05 42 02.8**	**-0.6**
SRS	**Serrai**	**85.78 311**	P	**P**	**05 42 02.1**	**-1.8**
SRS	**Serrai**	**85.78 311**	P	**P**	**05 42 02.1**	**-1.8**
SRS	**Serrai**	**85.78 311**	*e*P	**P**	**05 42 02.0**	**-1.8**
SRS	**Serrai**	**85.78 311**	P	**P**	**05 42 02.1**	**-1.8**
LAST	**Lasithi**	**85.80 305**	P	**P**	**05 42 04.6**	**+0.4**
LAST	**Lasithi**	**85.80 305**	P	**P**	**05 42 04.6**	**+0.4**
NIE	**Niedzica**	**85.81 320**	*e*P	**P**	**05 42 04.1**	**+0.2**
NIE			*e**PP	pP	05 42 22.8	+11
NIE			*e*S	**S**	**05 52 32.0**	**-3.6**
NIE	**Niedzica**	**85.81 320**	*e*P	**P**	**05 42 04.1**	**+0.2**
NIE			*e*PcP	**PcP**	**05 42 06.4**	**-0.3**
NIE			*e*pP	pP	05 42 22.8	+11
NIE			*e*S	**S**	**05 52 32.0**	**-3.6**
NIE			L	L	06 25 56.0	
	comp=Z,4μm,16.8s					
OJC	**Ojcow**	**85.91 321**	*e*P	**P**	**05 42 04.5**	**+0.2**
OJC			*e**PP	pP	05 42 23.2	+11
OJC			*e*S	**S**	**05 52 34.1**	**-2.3**
OJC	**Ojcow**	**85.91 321**	*e*P	**P**	**05 42 04.5**	**+0.2**
OJC			*e*pP	pP	05 42 23.2	+11
OJC			*e*S	**S**	**05 52 34.1**	**-2.3**
OJC			L	L	06 25 30.0	
	comp=Z,5μm,16.6s					
DODT	**Dodoma, Tanzan**	**85.92 263**	*i* P	**P**	**05 42 06.6**	**+1.4**
DODT			PKP		05 52 41.3	
KKB	**Krupnik**	**85.96 312**	*i* P	**P**	**05 42 04.0**	**-0.8**
BZS	**Buzias**	**86.01 316**	⇑P	**P**	**05 42 04.4**	**-0.5**
BZS	**Buzias**	**86.01 316**	⇑*i*P	**P**	**05 42 05.2**	**+0.3**
PAIG	**Paliouri**	**86.02 310**	P	**P**	**05 42 04.4**	**-0.6**
PAIG	**Paliouri**	**86.02 310**	P	**P**	**05 42 04.4**	**-0.6**
PAIG	**Paliouri**	**86.02 310**	*e*P	**P**	**05 42 03.9**	**-1.1**
PAIG	**Paliouri**	**86.02 310**	P	**P**	**05 42 04.4**	**-0.6**
SOH	**Sokhos**	**86.03 311**	*e*P	**P**	**05 42 03.9**	**-1.3**
HFS	**Hagfors**	**86.04 331**	P	**P**	**05 42 03.9**	**-0.8**
	comp=Z,64nm,1.2s,baz=132,slow=2.2,SNR=36					
AOS	**Alonnisos**	**86.06 309**	*e*P	**P**	**05 42 04.5**	**-0.8**
PLG	**Polygyros**	**86.08 310**	P	**P**	**05 42 04.2**	**-1.2**
PLG	**Polygyros**	**86.08 310**	P	**P**	**05 42 04.2**	**-1.2**
PLG	**Polygyros**	**86.08 310**	P	**P**	**05 42 04.2**	**-1.2**
PLG	**Polygyros**	**86.08 310**	*e*P	**P**	**05 42 04.2**	**-1.2**
PLG	**Polygyros**	**86.08 310**	P	**P**	**05 42 04.2**	**-1.2**
IDI	**Anoyia**	**86.24 305**	P	**P**	**05 42 06.4**	**+0.1**
	comp=Z,33nm,1.0s,baz=76,slow=5.0,SNR=8.9					
HORT	**Hortiatis**	**86.28 311**	*e*P	**P**	**05 42 04.9**	**-1.5**
KNT	**Kendrikon**	**86.28 311**	P	**P**	**05 42 05.4**	**-0.9**
KNT	**Kendrikon**	**86.28 311**	P	**P**	**05 42 05.4**	**-0.9**
KNT	**Kendrikon**	**86.28 311**	*e*P	**P**	**05 42 05.2**	**-1.1**
KNT	**Kendrikon**	**86.28 311**	P	**P**	**05 42 05.4**	**-0.9**
THE	**Thessaloniki**	**86.37 311**	*e*P	**P**	**05 42 05.2**	**-1.5**
SKIA	**Skiathos**	**86.37 309**	*e*P	**P**	**05 42 07.7**	**+0.9**
TBLU	**Trondheim**	**86.37 335**	*e*SKSac	**SKSac**	**05 52 32.8**	**+1.9**
DAG	**Danmarks Havn**	**86.38 351**	⇑*i*P	**P**	**05 42 05.1**	**-1.0**
DAG			*i* S	S	05 52 32.2	-7.8
DAG			pmax	pmax		
	comp=Z,37nm,0.9s					
DAG			MLR	MLR		
	comp=Z,3μm,18.0s					
DAG	**Danmarks Havn**	**86.38 351**	⇑*i*P	**P**	**05 42 05.1**	**-1.0**
	comp=Z,45nm,0.9s					
DAG	**Danmarks Havn**	**86.38 351**	*i* S	S	05 52 32.2	-7.8
VAY	**Valandovo**	**86.48 312**	*e*P	**P**	**05 42 06.4**	**-0.8**
ATH	**Athens Observa**	**86.48 308**	*e*P	**P**	**05 42 06.2**	**-1.2**
PSZ	**Piszkesteto**	**86.51 318**	*e*P	**P**	**05 42 06.3**	**-1.1**
PSZ			pmax	pmax		
	comp=Z,76nm,1.4s					
PSZ			MLR	MLR		
	comp=Z,3μm,20.0s					
PSZ	**Piszkesteto**	**86.51 318**	⇓*i*P	**P**	**05 42 07.7**	**+0.3**
PSZ	**Piszkesteto**	**86.51 318**	⇓*e*P	**P**	**05 42 07.5**	**+0.1**
PSZ	**Piszkesteto**	**86.51 318**	*e*P	**P**	**05 42 06.3**	**-1.1**
	comp=Z,76nm,1.4s					
PSZ			LR	LR		
	comp=Z,3μm,20.0s					
GKP	**Gorka Klasztor**	**86.51 324**	*e*P	**P**	**05 42 06.8**	**-0.4**
GKP			*e*S	**SKSac**	**05 52 34.5**	**+2.3**
GKP			MLR	MLR		
	comp=Z,11μm,22.2s					
GKP	**Gorka Klasztor**	**86.51 324**	*e*P	**P**	**05 42 06.8**	**-0.4**
GKP			*e*PcP	**PcP**	**05 42 09.3**	**-0.3**
GKP			*e*pP	**pP**	**05 42 12.0**	**-3.2**
GKP			*e*sP	**sP**	**05 42 13.2**	**-4.9**
GKP			*e*S	**SKSac**	**05 52 34.5**	**+2.3**
GKP			LMZ	LR	06 22 09.9	
SMIA	**Simia**	**86.64 309**	*e*P	**P**	**05 42 09.0**	**+0.8**
VAM	**Vamos**	**86.75 306**	P	**P**	**05 42 07.1**	**-1.7**
VAM	**Vamos**	**86.75 306**	P	**P**	**05 42 07.1**	**-1.7**
VAM	**Vamos**	**86.75 306**	*e*P	**P**	**05 42 08.0**	**-0.8**
VAM	**Vamos**	**86.75 306**	P	**P**	**05 42 07.1**	**-1.7**
NC602	**NORSAR Array S**	**86.81 332**	*e*P	**P**	**05 42 08.0**	**-0.5**
NC602			*e*SKSac	**SKSac**	**05 52 33.2**	**-0.6**
NB2	**NORSAR Subarra**	**86.84 333**	P	**P**	**05 42 07.8**	**-0.9**
	comp=Z,85nm,1.0s,baz=67,slow=5.1					
NB2	**NORSAR Subarra**	**86.84 333**	P	**P**	**05 42 07.8**	**-0.9**
	baz=67,slow=5.1					
NOA	**NORSAR Array B**	**86.84 333**	P	**P**	**05 42 07.6**	**-1.1**
	comp=Z,51nm,1.0s,baz=67,slow=4.7,SNR=43					
NOA			LR	LR	06 23 58.2	
	comp=Z,5μm,18.5s,baz=65,slow=38					
LKR	**Lokris**	**86.86 309**	*e*P	**P**	**05 42 07.7**	**-1.5**
LIT	**Litokhoron**	**86.86 310**	P	**P**	**05 42 10.8**	**+1.6**
LIT	**Litokhoron**	**86.86 310**	P	**P**	**05 42 10.8**	**+1.6**
LIT	**Litokhoron**	**86.86 310**	*e*P	**P**	**05 42 07.5**	**-1.7**
LIT	**Litokhoron**	**86.86 310**	P	**P**	**05 42 10.8**	**+1.6**
RAC	**Raciborz**	**86.93 321**	*e*P	**P**	**05 42 10.3**	**+1.0**
RAC			MLR	MLR		
	comp=Z,4μm,17.8s					
KARN	**Karanos**	**86.98 306**	P	**P**	**05 42 09.6**	**-0.3**
KARN	**Karanos**	**86.98 306

comp=Z,2μm,19.0s
ITM Ithomi 88.06 308 *e*P **P 05 42 14.3 -0.8**
UPC Upice 88.12 322 *e*P **P 05 42 15.3 +0.2**
UPC Upice 88.12 322 *e*P **P 05 42 15.3 +0.2**
AMT Artemida-Makis 88.14 308 *e*P **P 05 42 14.6 -0.8**
KONO Kongsberg 88.14 332 *e*P P 05 42 18.5 +3.6
KONO *e*SKSac **SKSac 05 52 39.8 -2.1**
KONO IAMs_20 IAMs_20 06 28 22.7
comp=Z,6μm,18.4s
KONO Kongsberg 88.14 332 PFAKE 05 42 30.0 +15
KONO LR LR
comp=Z,4μm,19.0s
DSL Palaion Diasel 88.16 310 *e*P **P 05 42 13.9 -1.6**
VRAC Vranov 88.17 320⇓ *i*P **P 05 42 16.3 +1.0**
VRAC Vranov 88.17 320 P **P 05 42 15.3 0.0**
comp=Z,31nm,1.0s,baz=71,slow=6.5,SNR=20
RLS Riolos of Patr 88.17 309 P **P 05 42 15.0 -0.6**
RLS Riolos of Patr 88.17 309 *e*P **P 05 42 14.9 -0.6**
RLS Riolos of Patr 88.17 309 P **P 05 42 15.0 -0.6**
AKN Aaknes 88.19 334 *e*P **P 05 42 14.0 -1.1**
AKN *e*SKSac **SKSac 05 52 42.6 +0.4**
JAN Janina 88.19 310 *e*P **P 05 42 15.1 -0.6**
PDO Prodromos 88.24 309 P **P 05 42 14.5 -1.3**
PDO Prodromos 88.24 309 *e*P **P 05 42 14.6 -1.3**
PYL PYLOS 88.28 307 *e*P **P 05 42 14.5 -1.6**
COP Copenhagen 88.30 327 *e*P P 05 42 19.5 +3.8
COP *i* S **SKSac 05 52 44.7 +1.7**
COP MLR MLR
comp=Z,2μm,18.0s
COP Copenhagen 88.30 327 *i* P P 05 42 19.5 +3.8
COP Copenhagen 88.30 327 *i* S **SKSac 05 52 44.7 +1.7**
DLBC Dease Lake 88.42 30 *e*P **P 05 42 16.4 0.0**
JMIC Jan Mayen 88.50 345 *e*P **P 05 42 16.3 -0.1**
JMIC *e*SKSac **SKSac 05 52 40.3 -3.4**
LLD Lille Linde 88.55 327 *e*P P 05 42 20.7 +3.8
LLD Lille Linde 88.55 327 *i* P P 05 42 20.7 +3.8
LKD2 Lefkada island 88.58 310 *e*P **P 05 42 15.6 -1.9**
IGT Igoumenitsa 88.61 310 *e*P **P 05 42 15.9 -1.7**
RUE Ruedersdorf 88.75 324 *e*P **P 05 42 18.2 +0.3**
comp=Z,78nm,0.9s
VLS Valsamata 88.81 309 *e*P **P 05 42 19.1 +0.5**
TREC Trest 88.85 321 *e*P **P 05 42 18.4 -0.2**
TREC *e* 05 42 28.9
TREC *e* 05 45 54.3
TREC *e* 05 52 46.7
TREC *e* 05 54 01.0
TREC MLR MLR
comp=Z,4μm,16.9s
TREC Trest 88.85 321 *e*P **P 05 42 18.4 -0.2**
TREC *e*x x 05 42 28.9
TREC *e*x x 05 42 43.0
TREC *e*PP PP 05 45 54.3 +6.7
TREC *e*SKS **SKSac 05 52 46.7 0.0**
TREC *e*SP **SPn 05 54 01.0 -5.9**
TREC AMS AMS 06 27 50.0
comp=Z,4μm,16.9s
KEK Kerkira 88.95 311 *e*P **P 05 42 18.8 -0.4**
PVCC Panska Ves 88.98 322 *e*P **P 05 42 19.4 +0.3**
PVCC *e* 05 45 54.9
PVCC *e* 05 52 47.6
PVCC *e* 05 54 04.9
PVCC MLR MLR
comp=Z,7μm,19.3s
PVCC Panska Ves 88.98 322 *e*P **P 05 42 19.4 +0.3**
PVCC *e*x x 05 42 44.2
PVCC *e*PP PP 05 45 54.9 +6.4
PVCC *e*SKS **SKSac 05 52 47.6 +0.3**
PVCC *e*SP **SPn 05 54 04.9 -3.4**
PVCC AMS AMS 06 24 00.0
comp=Z,7μm,19.3s
PRU Pruhonice 89.19 322 *e*P **P 05 42 20.3 +0.2**
PRU *e* 05 45 56.8
PRU *e* 05 52 47.2
PRU *e* 05 54 04.2
PRU *e*SS SS 05 59 07.0 +5.7
PRU MLR MLR
comp=Z,7μm,18.4s
PRU Pruhonice 89.19 322 *e*P **P 05 42 20.3 +0.2**
PRU *e*x x 05 42 45.1
PRU *e*PP PP 05 45 56.8 +6.6
PRU *e*SKS **SKSac 05 52 47.2 -1.4**
PRU *e*x x 05 53 40.7
PRU *e*SP **SPn 05 54 04.2 -6.6**
PRU *e*SS **SS 05 59 07.0 +5.7**
PRU AMS AMS 06 24 10.0
comp=Z,7μm,18.4s
PRA Prague 89.23 322 *e*P **P 05 42 20.6 +0.4**
PRA Prague 89.23 322 *e*P **P 05 42 20.6 +0.4**
HOMB Homborsund 89.23 331 *e*P **P 05 42 19.4 -0.7**
BRG Berggiesshubel 89.23 322 *e*P **P 05 42 20.3 +0.1**
comp=Z,33nm,1.3s
BRG PP **PP 05 45 53.4 +2.9**
comp=Z,24nm,1.2s
BRG S **S 05 53 14.0 +5.8**
BRG SS SS 05 59 12.0 +10
BRG Berggiesshubel 89.23 322 *e*P **P 05 42 20.3 +0.1**
BRG 05 45 53.4
BRG S **S 05 53 14.0 +5.8**
BRG pmax pmax
comp=Z,33nm,1.3s
BRG pmax pmax
comp=Z,24nm,1.3s
BRG MLR MLR
comp=N,3μm,18.1s
BRG MLR MLR
comp=E,7μm,19.4s
BRG MLR MLR
comp=Z,7μm,19.4s
BRG Berggiesshubel 89.23 322 *e*P **P 05 42 20.4 +0.1**
comp=Z,71nm,1.5s
BRG *e*L L 06 24 30.8
comp=Z,7μm,19.9s
FOO Floro 89.28 334 *e*P **P 05 42 20.2 0.0**
FOO *e*SKSac **SKSac 05 52 46.6 -1.9**
KOGS Kog 89.32 318 *e*P **P 05 42 20.6 -0.2**
KOGS *e*PP PP 05 45 57.2 +5.8
KOGS *e*SKSac **SKSac 05 52 46.0 -3.5**
MBAR Mbarara 89.44 269 P **P 05 42 23.0 +0.8**
comp=Z,54nm,1.2s,SNR=5.9
ARSA Arzberg 89.53 319⇓ *i*PcP **P 05 42 22.0 +0.2**
comp=Z,19nm,1.1s,SNR=8.2
CLL Collm 89.63 323⇑ *i*P **P 05 42 21.6 -0.5**
CLL *i* 05 42 36.3
CLL *i* 05 42 41.7
CLL *e* 05 45 53.0
CLL *e* 05 52 43.0
CLL *e*S **ScS 05 53 16.0 -0.3**
CLL pmax pmax
comp=Z,273nm,2.6s
CLL MLR MLR
comp=Z,5μm,18.6s
CLL Collm 89.63 323 *e*P **P 05 42 21.8 -0.3**
comp=Z,45nm,1.5s
CLL *e*L L 06 24 42.4
comp=Z,5μm,18.6s
CLL Collm 89.63 323⇑ *i*P **P 05 42 21.6 -0.5**
comp=Z,273nm,2.6s
CLL *i* 05 42 25.4
comp=Z,273nm,2.6s
CLL *e*pP **pP 05 42 27.0 -3.1**
CLL *i* 05 42 36.3
CLL *e*PP **PP 05 45 53.0 -0.6**
CLL *i* sPP 05 46 00.5
comp=Z,35nm,1.3s
CLL *e*SKSac **SKSac 05 52 51.0 -0.1**
CLL *e*S **ScS 05 53 16.0 -0.3**
comp=N,900nm,24.1s
CLL *e*S **ScS 05 53 16.0 -0.3**
comp=E,1μm,21.6s
CLL *e*SP **SP 05 54 18.0 +1.6**
CLL *e*SS **SS 05 59 08.0 +0.4**
CLL *e*SSS SSS 06 02 42.0
CLL *e*SSSS 06 06 06.0
CLL LmV 06 24 00.0
comp=Z,5μm,18.6s
CLL LmH 06 27 00.0
comp=N,2μm,18.7s
CLL LmH 06 27 00.0
comp=E,4μm,20.1s
SUE Sulen 89.66 334 *e*P P 05 42 25.7 +3.7
SUE *e*SKSac **SKSac 05 52 50.6 -0.2**
MUD Monsted U'grnd 89.67 329 *e*P **P 05 42 23.1 +0.9**
MUD *i* S **SKSac 05 52 51.0 -0.1**
MUD pmax pmax
comp=Z,23nm,1.0s
MUD MLR MLR
comp=Z,6μm,18.0s
MUD Monsted U'grnd 89.67 329 *i* P **P 05 42 23.1 +0.9**
comp=Z,23nm,1.0s
MUD Monsted U'grnd 89.67 329 *i* S **SKSac 05 52 51.0 -0.1**
BLS5 Blasjo 89.68 332 *e*P **P 05 42 21.6 -0.6**
BER Bergen 89.73 333 *e*P P 05 42 26.6 +4.3
BER *e*SKSac **SKSac 05 52 51.9 +0.6**
SOKA Soboth 90.04 318⇑ *i*PcP **P 05 42 24.1 -0.1**
comp=Z,17nm,1.3s,SNR=8.3
KHC Kasperske Hory 90.08 321 *e*P **P 05 42 23.8 -0.5**
KHC *e* 05 46 03.2
KHC *e* 05 52 51.9
KHC *e*SS SS 05 59 13.0 -1.4
KHC MLR MLR
comp=Z,4μm,17.4s
KHC Kasperske Hory 90.08 321 *e*P **P 05 42 23.8 -0.5**
KHC *e*pP **pP 05 42 30.0 -2.4**
KHC *e*x x 05 42 48.8
KHC *e*PP PP 05 46 03.2 +5.8
KHC *e*SKS **SKSac 05 52 51.9 -2.0**
KHC *e*x x 05 54 13.6
KHC *e*SS **SS 05 59 13.0 -1.4**
KHC AMS AMS 06 24 40.0
comp=Z,4μm,17.4s
KHC Kasperske Hory 90.08 321 *e*P **P 05 42 23.3 -1.1**
comp=Z,19nm,1.2s
GEC2 GERESS Array S 90.11 321 *e*P **P 05 42 24.7 +0.1**
comp=Z,65nm,1.5s
GEC2 *e*L L 06 28 46.3
comp=Z,4μm,18.3s
GERES GERESS Array B 90.11 321 P **P 05 42 24.6 0.0**
comp=Z,14nm,0.9s,baz=58,slow=5.0,SNR=36
GERES LR LR 06 25 04.2
comp=Z,3μm,20.4s,baz=67,slow=37
MOA Molln 90.11 320 *i* PcP **P 05 42 24.7 +0.2**
comp=Z,55nm,1.0s,SNR=24
BSEG Bad Segeberg 90.12 326 *e*P **P 05 42 24.6 +0.3**
comp=Z,46nm,0.2s
TANN Tannenbergstha 90.28 322 *e*P **P 05 42 25.3 0.0**
comp=Z,182nm,2.6s
BOJS Bojanci 90.30 317 *e*P **P 05 42 25.4 0.0**
BOJS *e*PP PP 05 46 06.2 +7.0
BOJS *e*SKSac **SKSac 05 52 53.4 -1.9**
WET Wettzell 90.50 321 *e*P **P 05 42 26.7 +0.4**
comp=Z,92nm,1.9s
WET *e*L L 06 25 22.3
comp=Z,5μm,18.2s
LJU Ljubljana 90.59 318 *e*P **P 05 42 26.6 -0.1**
LJU *e*PP PP 05 46 07.3 +5.9
LJU *e*SKSac **SKSac 05 52 53.1 -3.8**
LJU *e*SP **SP 05 54 21.9 -5.4**
ROTZ Rotzenmuhle 90.68 322 *e*P **P 05 42 27.7 +0.6**
comp=Z,87nm,1.7s
MOX Moxa 90.69 323 *e*P **P 05 42 27.2 +0.1**
comp=Z,59nm,1.6s
MOX *e*L L 06 25 05.3
comp=Z,4μm,20.2s
NRDL Niedersach Rie 90.82 325 *e*P **P 05 42 28.0 +0.5**
comp=Z,78nm,1.6s
KBA Koelnbreinsper 90.98 319 *i* PcP **P 05 42 28.1 -0.6**
comp=Z,25nm,1.1s,SNR=8.7
MAW Mawson 91.00 199 LR LR 06 19 20.3
comp=Z,852nm,21.3s,baz=53,slow=33
VOJS Vojsko 91.01 318 *i* P **P 05 42 27.9 -0.8**
RJOB Jochberg 91.08 320 *e*P **P 05 42 28.9 -0.1**
comp=Z,59nm,1.3s
GRF Grafenberg Arr 91.30 322 *e*P **P 05 42 29.6 -0.3**
comp=Z,120nm,2.2s
GRF *e*L L 06 25 44.5
comp=Z,6μm,19.2s
GRFO Grafenberg 91.30 322 *e*P **P 05 42 30.5 +0.6**
GRFO pmax pmax
comp=Z,103nm,1.6s
GRFO Grafenberg 91.30 322 *e*P **P 05 42 30.5 +0.6**
comp=Z,103nm,1.6s
TIP Timpagrande 91.36 311 *e*P **P 05 42 30.2 -0.3**
comp=Z,43nm,1.3s
TIP LR LR
comp=Z,2μm,21.0s
UBBA Unterbreizbach 91.56 323 *e*P **P 05 42 31.2 +0.2**
comp=Z,100nm,2.0s
ABTA Abfaltersbach 91.63 319⇑ *i*P **P 05 42 30.6 -1.0**
comp=Z,44nm,1.0s,SNR=17
KULLO Kullorsuaq 91.76 359⇑ *i*P **P 05 42 31.3 -0.2**
KULLO pmax pmax
comp=Z,31nm,1.1s
KULLO MLR MLR
comp=Z,2μm,19.0s
KULLO Kullorsuaq 91.76 359⇑ *i*P **P 05 42 31.3 -0.2**
comp=Z,31nm,1.1s
CUC Castrocucco 91.78 312 *e*P **P 05 42 30.5 -1.9**
comp=Z,30nm,1.3s
CUC LR LR
comp=Z,2μm,19.0s
FUR Furstenfeldbru 91.86 321 *e*P **P 05 42 32.9 +0.3**
comp=Z,190nm,1.8s
FUR *e*L L 06 25 57.3
comp=Z,3μm,20.7s
WTTA Wattenberg 91.99 320 *i* PcP **P 05 42 33.1 -0.4**
comp=Z,87nm,1.0s,SNR=27
WATA Walderalm 92.00 320⇑ *i*PcP **P 05 42 32.8 -0.6**
comp=Z,39nm,1.0s,SNR=7.6
MOTA Moosalm 92.29 320⇓ *i*PcP **P 05 42 33.9 -0.8**
comp=Z,53nm,0.9s,SNR=28
CEL Celeste 92.30 310 *e*P **P 05 42 35.0 +0.1**
comp=Z,187nm,1.2s
CEL *e*PP **PP 05 46 18.8 +3.5**
CEL LR LR
comp=Z,1μm,21.0s
RETA Reute 92.45 320⇓ *i*PcP **P 05 42 35.0 -0.4**
comp=Z,20nm,1.1s,SNR=9.9
SUMG Summit 92.62 354⇑ *i*P **P 05 42 36.4 +0.3**
SUMG pmax pmax
comp=Z,61nm,1.1s
SUMG MLR MLR
comp=Z,2μm,18.0s
SUMG Summit 92.62 354⇑ *i*P **P 05 42 36.4 +0.3**
comp=Z,61nm,1.1s
FETA Feichten 92.65 320 *i* PcP **P 05 42 36.3 -0.1**
comp=Z,60nm,1.0s,SNR=38
AQU L'Aquila 92.66 315 *e*P **P 05 42 35.8 -0.7**
AQU *e* 05 46 16.4
AQU pmax pmax
comp=Z,85nm,1.1s
AQU MLR MLR
comp=Z,2μm,22.0s
AQU L'Aquila 92.66 315 *e*P **P 05 42 35.8 -0.7**
comp=Z,84nm,1.1s
AQU *e*PP **PP 05 46 16.4 -1.6**
AQU LR LR
comp=Z,2μm,22.0s
TNS Taunus Mts 92.71 323 *e*P **P 05 42 36.8 +0.3**
comp=Z,144nm,2.1s
TNS *e*L L 06 26 27.4
comp=Z,5μm,20.2s
BUG Bochum--Univer 92.86 325 *e*P **P 05 42 37.2 +0.2**
comp=Z,52nm,1.4s
STU Stuttgart 92.88 322 *e*P **P 05 42 37.5 +0.2**
comp=Z,62nm,1.3s
STU *e*L L 06 26 51.6
comp=Z,5μm,19.1s
YKA Yellowknife Ar 92.91 22 P **P 05 42 36.7 -0.4**
comp=Z,9.5nm,0.8s,baz=310,slow=4.4,SNR=118
YKA PKKP **PKKPdf 05 59 46.0 -0.5**
comp=Z,2.5nm,0.7s,baz=132,slow=2.8,SNR=34
DAVA Damuels 93.08 320⇑ *i*PcP **P 05 42 37.7 -0.7**
comp=Z,31nm,1.1s,SNR=10
DAVOX Davos/Dischmat 93.28 320 P **P 05 42 38.9 -0.5**
comp=Z,37nm,0.9s,baz=134,slow=0.8,SNR=30
BFO Black Forest 93.59 322 P **P 05 42 40.6 0.0**
comp=Z,78nm,1.3s,SNR=5.1
BFO Black Forest 93.59 322 *e*P **P 05 42 40.0 -0.6**
BFO *e* 05 46 31.2
BFO pmax pmax
comp=Z,37nm,1.4s
BFO MLR MLR
comp=Z,4μm,19.0s
BFO Black Forest 93.59 322 *e*P **P 05 42 40.3 -0.3**
comp=Z,189nm,2.4s
BFO *e*L L 06 27 22.6
comp=Z,5μm,18.1s
BFO Black Forest 93.59 322 *e*P **P 05 42 40.0 -0.6**
comp=Z,36nm,1.4s
BFO *e*PP PP 05 46 31.2 +6.2
BFO LR LR
comp=Z,4μm,19.0s
LANF Langenberg 93.62 322⇓ *e*P **P 05 42 41.5 +0.8**
TUE Stuetta 93.74 320 *e*P **P 05 42 41.1 -0.4**
comp=Z,34nm,1.2s
TUE LR LR
comp=Z,4μm,21.0s
MEM Membach 93.94 324 P **P 05 42 40.9 -1.2**
comp=Z,17nm,1.7s
VLC Villacollemand 94.01 317 *e*P **P 05 42 42.6 0.0**
comp=Z,20nm,0.9s
VLC *e*PP **PP 05 46 24.4 -4.0**
VLC LR LR
comp=Z,4μm,22.0s
BEBN Eben Emael 94.04 325 P **P 05 42 42.3 -0.2**
WDD Wield Dalam 94.14 308 PFAKE 05 42 50.0 +6.7
WDD LR LR
comp=Z,1μm,20.0s
CDF Champ du Feu 94.19 322 *e*P **P 05 42 42.9 -0.5**
comp=Z,74nm,1.1s
CDF Champ du Feu 94.19 322 *e*P **P 05 42 42.9 -0.5**
CDF pmax pmax
comp=Z,74nm,1.1s
CDF Champ du Feu 94.19 322 *e*P **P 05 42 42.9 -0.5**
comp=Z,74nm,1.1s
VNDA Vanda 94.27 172 P **P 05 42 42.0 -0.9**
VNDA 05 46 27.1
VNDA pmax pmax
comp=Z,31nm,1.0s
VNDA pmax pmax
comp=Z,8.0nm,1.1s
VNDA MLR MLR
comp=Z,717nm,18.8s
VNDA Vanda 94.27 172 P **P 05 42 42.0 -0.9**
comp=Z,31nm,1.0s,baz=319,slow=6.3,SNR=24
VNDA PP **PP 05 46 27.1 -3.0**
comp=Z,8.4nm,1.1s,baz=305,slow=8.0,SNR=3.7
VNDA PKKP **PKKPdf 05 59 44.8 -1.5**
comp=Z,6.1nm,0.9s,baz=190,slow=1.4,SNR=22
VNDA LR LR 06 26 55.3
comp=Z,717nm,18.8s,baz=332,slow=37
VNDA Vanda 94.27 172 *e*P **P 05 42 42.5 -0.4**
comp=Z,71nm,1.2s
VNDA PP **PP 05 46 27.1 -3.0**
VNDA PKKP **PKKPdf 05 59 44.8 -1.5**
WLF Walferdange 94.29 323 P **P 05 42 44.8 +1.1**
comp=Z,24nm,1.3s
WLF Walferdange 94.29 323 *e*P **P 05 42 44.3 +0.6**
WLF *e* 05 46 35.0
WLF pmax pmax
comp=Z,48nm,1.3s
WLF MLR MLR
comp=Z,5μm,20.0s
WLF Walferdange 94.29 323 *e*P **P 05 42 44.4 +0.6**
comp=Z,156nm,2.1s
WLF Walferdange 94.29 323 *e*P **P 05 42 44.3 +0.6**
comp=Z,48nm,1.3s
WLF *e*PP **PP 05 46 35.0 +4.6**
WLF LR LR
comp=Z,5μm,20.0s
ECH Echery 94.34 322 P **P 05 42 43.9 -0.2**
ECH pmax pmax
comp=Z,16nm,1.1s
ECH MLR MLR
comp=Z,4μm,20.0s
ECH Echery 94.34 322⇓ *e*P **P 05 42 44.3 +0.2**
ECH Echery 94.34 322 P **P 05 42 43.9 -0.2**
comp=Z,16nm,1.1s
ECH LR LR
comp=Z,4μm,20.0s
BCLA Clavier 94.43 324 P **P 05 42 44.4 0.0**
comp=Z,19nm,2.6s
PPT Papeete 94.47 107 LR LR 06 17 22.1
comp=Z,2μm,21.9s,baz=264,slow=30
PPT2 Papeete2 94.47 107 *e*PP PP 05 46 35.9 +2.7
comp=Z,407nm,25.5s
PPT2 *e*S **S 05 53 53.5 -3.2**
comp=Z,897nm,24.2s
PPT2 Papeete2 94.47 107 *e*PS PS 05 55 13.5 -1.7
comp=Z,2μm,24.8s
PPT2 Papeete2 94.47 107 *e*LQ LQ 06 09 17.4
comp=Z,3μm,32.8s
PPT2 *e*LR LR 06 13 13.7
comp=Z,5μm,23.5s
CLTB Caltabellotta 94.52 310 PFAKE 05 43 00.0 +15
CLTB LR LR
comp=Z,1μm,21.0s
MOF Molkenrain 94.52 322 *e*P P 05 42 41.3 -3.7
HINF Hinteralfeld 94.70 322 *e*P **P 05 42 44.9 -0.8**
HINF Hinteralfeld 94.70 322 *e*P **P 05 42 44.9 -0.8**
HINF Hinteralfeld 94.70 322 *e*P **P 05 42 44.9 -0.8**
GIVF Givet 94.85 324 *e*P **P 05 42 46.1 -0.2**
comp=Z,50nm,1.1s
GIVF Givet 94.85 324 *e*P **P 05 42 46.1 -0.2**
GIVF pmax pmax
comp=Z,50nm,1.1s
GIVF Givet 94.85 324 *e*P **P 05 42 46.1 -0.2**
comp=Z,50nm,1.1s
HAU Haudompre 94.92 322 *e*P **P 05 42 45.9 -0.8**
HAU *e*R
comp=Z,6μm,19.2s
HAU Haudompre 94.92 322 *e*P **P 05 42 45.9 -0.8**
HAU Haudompre 94.92 322 *e*P **P 05 42 45.9 -0.8**
LOMF Lomont 94.93 321 *e*P **P 05 42 44.3 -2.5**
SNF Seneffe 94.96 325 P **P 05 42 46.6 -0.2**
DOU Dourbes 94.98 324 P **P 05 42 45.8 -1.1**
comp=Z,21nm,2.3s
THEF They Montfort 95.04 322⇓ *e*P **P 05 42 44.1 -3.1**
PAGF Fort de Pagny 95.05 323 *e*P **P 05 42 46.9 -0.3**
PAGF Fort de Pagny 95.05 323 *e*P **P 05 42 46.9 -0.3**
BAIF Baives 95.22 324 *e*P **P 05 42 47.8 -0.2**
BAIF Baives 95.22 324 *e*P **P 05 42 47.8 -0.2**
BAIF Baives 95.22 324 *e*P **P 05 42 47.8 -0.2**
SBA Scott Base 95.23 171 *e*P **P 05 42 46.4 -0.9**
SBA pmax pmax
comp=Z,177nm,1.9s
SBA MLR MLR
comp=Z,1μm,19.0s
SBA Scott Base 95.23 171 *e*P **P 05 42 46.4 -0.9**
comp=Z,177nm,1.9s
SBA LR LR
comp=Z,1μm,19.0s
LSZ Lusaka 95.28 256 *e*P **P 05 42 47.1 -2.0**
LSZ pmax pmax
comp=Z,59nm,1.4s
LSZ MLR MLR
comp=Z,2μm,19.0s
LSZ Lusaka 95.28 256 P P 05 42 52.1 +3.0
SNR=12
LSZ Lusaka 95.28 256 *e*P **P 05 42 47.1 -2.0**
comp=Z,59nm,1.4s
LSZ LR LR
comp=Z,2μm,19.0s
PGF Pioggiola 95.59 316 *e*P **P 05 42 49.4 -0.6**
comp=Z,90nm,1.0s
PGF Pioggiola 95.59 316 *e*P **P 05 42 49.4 -0.6**
PGF pmax pmax
comp=Z,90nm,1.0s
PGF Pioggiola 95.59 316 *e*P **P 05 42 49.4 -0.6**
comp=Z,90nm,1.0s
SFTF Sexfontaines 95.61 322 *e*P **P 05 42 49.2 -0.6**
comp=Z,90nm,1.4s
SFTF Sexfontaines 95.61 322 *e*P **P 05 42 49.2 -0.6**
comp=Z,90nm,1.4s
CABF La Chapelle 95.71 321 *e*P **P 05 42 49.9 -0.5**
CABF La Chapelle 95.71 321 *e*P **P 05 42 49.9 -0.5**
CABF La Chapelle 95.71 321 *e*P **P 05 42 49.9 -0.5**
LPG La Plagne 95.80 319 *e*P **P 05 42 50.8 -0.3**
comp=Z,57nm,1.0s
LPG La Plagne 95.80 319 *e*P **P 05 42 50.8 -0.3**
LPG pmax pmax
comp=Z,57nm,1.0s
LPG La Plagne 95.80 319 *e*P **P 05 42 50.8 -0.3**
comp=Z,57nm,1.0s
LPL La Plagne 95.80 320 *e*P **P 05 42 50.7 -0.3**
comp=Z,76nm,1.0s
LPL La Plagne 95.80 320 *e*P **P 05 42 50.7 -0.3**
LPL pmax pmax
comp=Z,76nm,1.0s
LPL La Plagne 95.80 320 *e*P **P 05 42 50.7 -0.3**
comp=Z,76nm,1.0s
TBI Tubuai 95.84 113 *e*PP PP 05 46 38.4 -5.3
comp=Z,479nm,26.5s
TBI *e*SKSac **SKSac 05 53 22.5 -4.0**
comp=Z,1μm,29.5s
TBI Tubuai 95.84 113 *e*PS PS 05 55 30.4 +0.5

comp=Z,3μm,28.5s
TBI Tubuai 95.84 113 *e*LQ LQ 06 09 46.6
comp=Z,1μm,37.2s
TBI *e*LR LR 06 13 54.8
comp=Z,5μm,24.2s
BNI Bardonecchia 96.04 319 *e*P **P 05 42 51.0 -1.0**
BNI pmax pmax
comp=Z,24nm,1.0s
BNI MLR MLR
comp=Z,5μm,20.0s
BNI Bardonecchia 96.04 319 *e*P **P 05 42 51.0 -1.0**
comp=Z,24nm,1.0s
BNI LR LR
comp=Z,5μm,20.0s
ESK Eskdalemuir 96.28 331 PFAKE 05 43 00.0 +7.3
ESK LR LR
comp=Z,4μm,19.0s
BORG Borgarnes 96.36 344 PFAKE 05 43 00.0 +7.2
BORG LR LR
comp=Z,5μm,20.0s
VSL Villasalto 96.57 313 PFAKE 05 43 10.0 +16
VSL LR LR
comp=Z,2μm,19.0s
ORIF Oris-en-Rattie 96.61 319 *e*P **P 05 42 54.0 -0.5**
comp=Z,50nm,1.0s
ORIF *e*R
comp=Z,8μm,22.5s
ORIF Oris-en-Rattie 96.61 319 *e*P **P 05 42 54.0 -0.5**
ORIF pmax pmax
comp=Z,50nm,1.0s
ORIF Oris-en-Rattie 96.61 319 *e*P **P 05 42 54.0 -0.5**
comp=Z,50nm,1.0s
NLWA Neilton Lookou 96.68 38 PFAKE 05 43 10.0 +15
NLWA LR LR
comp=Z,2μm,21.0s
FRF La Foret Royal 96.72 318 *e*P **P 05 42 54.2 -0.7**
comp=Z,45nm,1.1s
FRF La Foret Royal 96.72 318 *e*P **P 05 42 54.2 -0.7**
FRF pmax pmax
comp=Z,45nm,1.1s
FRF La Foret Royal 96.72 318 *e*P **P 05 42 54.2 -0.7**
comp=Z,45nm,1.1s
LOR Lormes 96.76 322 *e*P **P 05 42 54.5 -0.6**
comp=Z,71nm,1.6s
LOR *e*R
comp=Z,4μm,19.8s
LOR Lormes 96.76 322 *e*P **P 05 42 54.5 -0.6**
LOR pmax pmax
comp=Z,71nm,1.6s
LOR Lormes 96.76 322 *e*P **P 05 42 54.5 -0.6**
comp=Z,71nm,1.6s
LMR La Mourre 96.91 318 *e*P **P 05 42 55.1 -0.7**
comp=Z,31nm,1.0s
LMR La Mourre 96.91 318 *e*P **P 05 42 55.1 -0.7**
LMR pmax pmax
comp=Z,31nm,1.0s
LMR La Mourre 96.91 318 *e*P **P 05 42 55.1 -0.7**
comp=Z,31nm,1.0s
ILULI Ilulissat 96.94 357 *i* P **P 05 42 54.4 -0.9**
ILULI pmax pmax
comp=Z,24nm,0.9s
ILULI MLR MLR
comp=Z,1μm,17.0s
ILULI Ilulissat 96.94 357 *i* P **P 05 42 54.4 -0.9**
comp=Z,24nm,0.9s
SMF Signal de Mont 97.07 321 *e*P **P 05 42 55.8 -0.7**
comp=Z,57nm,1.4s
SMF Signal de Mont 97.07 321 *e*P **P 05 42 55.8 -0.7**
SMF pmax pmax
comp=Z,57nm,1.4s
SMF Signal de Mont 97.07 321 *e*P **P 05 42 55.8 -0.7**
comp=Z,57nm,1.4s
SSF Saint Saulge 97.07 322 *e*P **P 05 42 55.8 -0.7**
comp=Z,26nm,1.3s
SSF Saint Saulge 97.07 322 *e*P **P 05 42 55.8 -0.7**
SSF pmax pmax
comp=Z,26nm,1.3s
SSF Saint Saulge 97.07 322 *e*P **P 05 42 55.8 -0.7**
comp=Z,26nm,1.3s
CMW Cultus Mountai 97.20 36 P Pdif 05 42 57.8 +0.5
SMRF Simiane la Rot 97.23 319 *e*P **P 05 42 56.9 -0.4**
comp=Z,74nm,1.7s
SMRF Simiane la Rot 97.23 319 *e*P **P 05 42 56.9 -0.4**
comp=Z,74nm,1.7s
SSB Saint Sauveur 97.28 320 *e*P **P 05 42 57.2 -0.3**
SSB pmax pmax
comp=Z,20nm,1.2s
SSB MLR MLR
comp=Z,3μm,20.0s
SSB Saint Sauveur 97.28 320 *e*P **P 05 42 57.2 -0.3**
comp=Z,20nm,1.2s
SSB LR LR
comp=Z,3μm,20.0s
AVF Avril sur Loir 97.29 322 *e*P **P 05 42 56.7 -0.8**
comp=Z,27nm,1.2s
AVF Avril sur Loir 97.29 322 *e*P **P 05 42 56.7 -0.8**
AVF pmax pmax
comp=Z,27nm,1.3s
AVF Avril sur Loir 97.29 322 *e*P **P 05 42 56.7 -0.8**
comp=Z,27nm,1.3s
VIVF Saint-Julien-I 97.40 320 *e*P **P 05 42 57.3 -0.7**
comp=Z,33nm,1.1s
VIVF Saint-Julien-I 97.40 320 *e*P **P 05 42 57.3 -0.7**
VIVF pmax pmax
comp=Z,33nm,1.1s
VIVF Saint-Julien-I 97.40 320 *e*P **P 05 42 57.3 -0.7**
comp=Z,33nm,1.1s
JCW Jim Creek 97.42 37 P Pdif 05 42 58.5 +0.4
PLDF La Plantade 97.52 321 *e*P **P 05 42 57.5 -1.1**
BGF Bois d'Agland 97.71 322 *e*P **P 05 42 58.5 -0.9**
BGF Bois d'Agland 97.71 322 *e*P **P 05 42 58.5 -0.9**
BGF Bois d'Agland 97.71 322 *e*P **P 05 42 58.5 -0.9**
KEST Kesra 98.10 310 LR LR 06 32 27.1
comp=Z,611nm,21.7s,baz=348,slow=38
LBL Lubilhac 98.11 320 *e*P **P 05 43 00.9 -0.4**
TDL Tradedollar La 98.17 38 P Pdif 05 43 01.9 +0.2
TCF Toulx Ste Croi 98.22 322 *e*P **P 05 43 01.3 -0.4**
comp=Z,37nm,1.3s
TCF Toulx Ste Croi 98.22 322 *e*P **P 05 43 01.3 -0.4**
TCF pmax pmax
comp=Z,37nm,1.3s
TCF Toulx Ste Croi 98.22 322 *e*P **P 05 43 01.3 -0.4**
comp=Z,37nm,1.3s
LASF Ste Croix 98.28 319 *e*P **P 05 43 01.5 -0.5**
comp=Z,92nm,1.5s
LASF Ste Croix 98.28 319 *e*P **P 05 43 01.5 -0.5**
comp=Z,92nm,1.5s
LDF La Druitiere 98.40 325 *e*P **P 05 43 01.7 -0.7**
comp=Z,80nm,1.4s
LDF La Druitiere 98.40 325 *e*P **P 05 43 01.7 -0.7**
LDF pmax pmax
comp=Z,80nm,1.4s
LDF La Druitiere 98.40 325 *e*P **P 05 43 01.7 -0.7**
comp=Z,80nm,1.4s
CAF Calviac 98.99 321 *e*P **P 05 43 04.1 -1.1**
comp=Z,22nm,1.1s
CAF Calviac 98.99 321 *e*P **P 05 43 04.1 -1.1**
CAF pmax pmax
comp=Z,22nm,1.1s
CAF Calviac 98.99 321 *e*P **P 05 43 04.1 -1.1**
comp=Z,22nm,1.1s
SFJD Kangerlussuaq 99.11 356 *e*P **Pdif 05 43 04.6 -0.5**
SFJD *e* 05 47 06.9
SFJD pmax pmax
comp=Z,67nm,1.1s
SFJD MLR MLR
comp=Z,2μm,20.0s
SFJD Kangerlussuaq 99.11 356 *i* P **Pdif 05 43 05.4 +0.3**
comp=Z,32nm,0.9s
SFJD Kangerlussuaq 99.11 356 *e*P **Pdif 05 43 04.6 -0.5**
comp=Z,67nm,1.1s
SFJD *e*PP **PP 05 47 06.9 +0.1**
SFJD LR LR
comp=Z,2μm,20.0s
SAW Saint Andrews 99.13 36 P **Pdif 05 43 05.7 -0.1**
RJF Les Rejaudoux 99.14 321 *e*P **Pdif 05 43 04.9 -0.9**
comp=Z,51nm,1.3s
RJF *e*R
comp=Z,3μm,19.2s
RJF Les Rejaudoux 99.14 321 *e*P **Pdif 05 43 04.9 -0.9**
RJF pmax pmax
comp=Z,51nm,1.3s
RJF Les Rejaudoux 99.14 321 *e*P **Pdif 05 43 04.9 -0.9**
comp=Z,51nm,1.3s
MTLF Montolieu 99.67 319 *e*P **Pdif 05 43 07.7 -0.5**
MTLF Montolieu 99.67 319 *e*P **Pdif 05 43 07.7 -0.5**
MTLF Montolieu 99.67 319 *e*P **Pdif 05 43 07.7 -0.5**

HAWA Hanford 99.75 37 PFAKE 05 43 20.0 +11
HAWA LR LR
comp=Z,1μm,19.0s
LFF La Frestale 99.80 321 *e*P **Pdif 05 43 08.0 -0.7**
LFF La Frestale 99.80 321 *e*P **Pdif 05 43 08.0 -0.7**
LFF La Frestale 99.80 321 *e*P **Pdif 05 43 08.0 -0.7**
NEW Newport 100.11 35 *e*P **Pdif 05 43 09.7 -0.4**
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW MLR MLR
comp=Z,1μm,21.0s
NEW Newport 100.11 35 ⇑P **Pdif 05 43 09.8 -0.4**
baz=100
NEW Newport 100.11 35 *e*Pdif **Pdif 05 43 09.7 -0.4**
comp=Z,8.6nm,1.0s
NEW LR LR
comp=Z,1μm,21.0s
BSMT Bassoo Peak 101.63 34 *e*Pdif **Pdif 05 43 17.3 +0.2**
comp=Z,8.2nm,1.5s
BMO Blue Mountains 101.89 38 PFAKE 05 43 30.0 +12
BMO LR LR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 102.38 40 *e*P **Pdif 05 43 20.3 -0.2**
WVOR pmax pmax
comp=Z,10.0nm,1.4s
WVOR MLR MLR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 102.38 40 *e*Pdif **Pdif 05 43 20.3 -0.2**
comp=Z,10nm,1.4s
WVOR LR LR
comp=Z,1μm,20.0s
MSO Missoula 102.70 35 ⇓P **Pdif 05 43 21.1 -0.6**
baz=102
SLMT Seeley Lake 102.70 34 *e*Pdif **Pdif 05 43 21.4 -0.5**
comp=Z,5.8nm,1.1s
FFC Flin Flon 103.02 23 PFAKE 05 43 30.0 +7.1
FFC LR LR
comp=Z,2μm,21.0s
QSPA South Pole Qui 103.67 180 PFAKE 05 43 40.0 +14
QSPA LR LR
comp=Z,2μm,19.0s
EGMT Eagleton 104.19 32 PFAKE 05 43 40.0 +12
EGMT LR LR
comp=Z,1μm,20.0s
HLID Hailey 104.34 38 ⇑P **Pdif 05 43 29.3 +0.1**
baz=104
HLID Hailey 104.34 38 *e*Pdif **Pdif 05 43 29.7 +0.4**
HLID LR LR
comp=Z,1μm,20.0s
BOZ Bozeman (W) 104.69 35 PFAKE 05 43 40.0 +9.3
BOZ LR LR
comp=Z,2μm,21.0s
NVAR Mina Array Bea 104.69 44 PKKPbc PKKPbc 05 59 16.8 +0.8
comp=Z,1.3nm,0.7s,baz=130,slow=4.6,SNR=5.6
C19A Slack Wire Ran 104.74 32 ⇑P **Pdif 05 43 30.3 -0.5**
baz=104
SUR Sutherland 104.95 240 PFAKE 05 48 00.0
SUR LR LR
comp=Z,3μm,20.0s
ESDC Sonseca Array 105.54 318 PP PP 05 47 44.0 -12
comp=Z,0.4nm,0.3s,baz=56,slow=8.7,SNR=5.5
SBC Santa Barbara 105.72 48 ⇓P **PKiKP 05 47 47.7 -0.5**
baz=106
PAB San Pablo 105.86 318 PFAKE 05 48 00.0
PAB LR LR
comp=Z,2μm,21.0s
TSUM Tsumeb 105.98 254 PFAKE 05 48 00.0
TSUM LR LR
comp=Z,2μm,20.0s
TAM Tamanrasset 106.27 299 *e*PKPdf 05 47 52.1
TAM LR LR
comp=Z,2μm,20.0s
RLMT Red Lodge 106.31 34 PFAKE 05 48 00.0
RLMT LR LR
comp=Z,2μm,20.0s
MPMC Manual Prospec 106.48 45 ⇑P **PKiKP 05 47 50.6 +0.7**
baz=106
MVO Moncorvo 106.62 321 *e*PP PP 05 48 06.6 +2.6
MVO Moncorvo 106.62 321 *e*LQ LQ 06 23 54.6
MVO *e*LR LR 06 28 40.9
comp=Z,3μm,18.0s
AHID Auburn Hatcher 106.76 37 PFAKE 05 48 00.0
AHID LR LR
comp=Z,1μm,20.0s
LAO LASA Array 106.87 31 PFAKE 05 48 00.0
LAO LR LR
comp=Z,2μm,20.0s
POLO Lamas de Olo 106.96 322 *e*PP PP 05 48 15.9 +9.4
DUG Dugway, Tooele 107.27 40 PFAKE 05 48 00.0
DUG LR LR
comp=Z,2μm,22.0s
MTE Manteigas 107.39 321 *e*PP PP 05 48 16.4 +6.8
MTE Manteigas 107.39 321 *e*SKS **SS 06 03 17.6 +0.5**
MTE Manteigas 107.39 321 *e*LQ LQ 06 24 01.3
MTE *e*LR LR 06 30 42.8
comp=Z,4μm,20.0s
MTE Manteigas 107.39 321 PFAKE 05 48 00.0
MTE LR LR
comp=Z,4μm,20.0s
BW06 Boulder Array 107.65 36 PFAKE 05 48 00.0
BW06 LR LR
comp=Z,2μm,20.0s
PDAR Pinedale Array 107.65 36 PKiKP **PKiKP 05 47 50.5 -1.4**
comp=Z,0.9nm,0.8s,baz=25,slow=3.0,SNR=3.9
PDAR PKKPbc **PKKPbc 05 59 05.3 -1.8**
comp=Z,2.9nm,1.0s,baz=134,slow=4.4,SNR=8.4
PMRV Marv??o 107.86 320 *e*LQ LQ 06 27 40.4
PMRV *e*LR LR 06 31 43.2
comp=Z,2μm,20.0s
PCAS Casmilo, Conde 108.18 321 *e*PP PP 05 48 19.9 +4.5
PBAR Barrancos 108.37 318 *e*PP PP 05 48 22.3 +5.5
PFO Pinyon Flats O 108.48 47 PFAKE 05 48 00.0
PFO LR LR
comp=Z,2μm,22.0s
PMTG Montargil 108.60 320 *e*PP PP 05 48 24.8 +6.4
RKT Rikitea 108.93 110 *e*PP PP 05 48 19.4 -2.6
comp=Z,276nm,31.8s
RKT *e*SKSac **SKSac 05 54 24.9 -3.6**
comp=Z,804nm,28.0s
RKT Rikitea 108.93 110 *e*PS PS 05 57 47.3 -1.2
comp=Z,2μm,27.8s
RKT *e*SS SS 06 03 37.8 -2.2
comp=Z,1μm,29.8s
RKT Rikitea 108.93 110 *e*LQ LQ 06 15 18.9
comp=Z,1μm,30.0s
RKT *e*LR LR 06 19 58.7
comp=Z,4μm,26.0s
PACT Alcochete 109.16 320 *e*PP PP 05 48 32.8 +10
PVAQ Vaqueiros 109.25 318 *e*PP PP 05 48 28.5 +5.3
PVAQ Vaqueiros 109.25 318 *e*LQ LQ 06 21 24.6
PVAQ *e*LR LR 06 30 48.6
comp=Z,2μm,22.0s
MESJ Messejana 109.32 319 *e*PP PP 05 48 24.5 +0.8
MESJ *e*SS SS 06 03 42.0 -1.1
MESJ AMS AMS 06 38 18.6
comp=Z,2μm,17.3s
PCVE Castro Verde 109.33 319 *e*PP PP 05 48 29.6 +5.8
PMAFR Mafra 109.33 320 *e*PP PP 05 48 33.6 +10
PNCL Nicolau / Gran 109.36 319 *e*PP PP 05 48 30.2 +6.3
LIS Lisbon 109.39 320 *e*SS SS 06 03 43.1 -0.8
LIS AMS AMS 06 39 20.4
comp=E,3μm,20.5s
LIS Lisbon 109.39 320 *e*SS SS 06 03 43.1 -0.8
PMST Lisbon--Monsan 109.40 320 *e*PP PP 05 48 34.4 +10
W13A Hualapai Mount 109.47 45 ⇑P **PKiKP 05 47 55.4 -0.1**
baz=109
PBDV Barranco-do-Ve 109.48 318 *e*PP PP 05 48 22.8 -2.2
N20A Spence Gulch, 109.62 37 ⇓P **PKiKP 05 47 56.1 +0.4**
baz=109
G26A Maurine 109.66 30 ⇓P **PKiKP 05 47 55.9 +0.5**
baz=109
RSSD Black Hills 109.76 32 *e*PKPdf **PKiKP 05 47 56.4 +0.5**
RSSD *e*PP **PP 05 48 27.7 +0.9**
MORF Marmelete 109.91 319 *e*PP PP 05 48 28.6 +0.5
MORF *e*SS SS 06 03 50.4 -0.8
MORF AMS AMS 06 38 13.8
comp=Z,2μm,20.0s
MORF Marmelete 109.91 319 *e*PP PP 05 48 34.2 +6.1
I25A Rochford 109.98 32 ⇓P **PKiKP 05 47 56.2 0.0**
baz=110
PFVI Vila Bisbo 110.13 318 *e*PP PP 05 48 36.0 +6.4
H27A Howes 110.39 31 ⇑P **PKiKP 05 47 56.8 0.0**
baz=110
AGMN Agassiz Nation 110.41 25 PFAKE 05 48 10.0
AGMN LR LR

comp=Z,2μm,20.0s
RTC Rabat Centre 110.62 315 PFAKE 05 48 10.0
RTC LR LR
comp=Z,2μm,21.0s
WUAZ Wupatki 110.92 43 PFAKE 05 48 10.0
WUAZ LR LR
comp=Z,1μm,21.0s
I28A Midland 111.30 31 ⇑P **PKiKP 05 47 58.1 -0.4**
baz=111
G30A Faulkton 111.43 29 ⇓P **PKiKP 05 47 58.3 -0.4**
baz=111
J28A Allard Ranch, 111.68 31 ⇑P **PKiKP 05 47 58.8 -0.5**
baz=111
MVCO Mesa Verde 111.76 40 PFAKE 05 48 10.0
MVCO LR LR
comp=Z,2μm,20.0s
ISCO Idaho Springs 111.83 36 PFAKE 05 48 10.0
ISCO LR LR
comp=Z,2μm,22.0s
J29A Okreek 112.15 31 ⇓P **PKiKP 05 48 00.1 0.0**
baz=112
EYMN Ely 112.39 22 PFAKE 05 48 10.0
EYMN LR LR
comp=Z,2μm,20.0s
O25A Wiggins 112.47 35 ⇓P **PKiKP 05 48 00.5 -0.5**
baz=112
J30A Dallas 112.62 30 ⇑P **PKiKP 05 48 01.1 +0.1**
baz=112
P25A Willow Gulch B 112.85 36 ⇑P **PKiKP 05 48 02.1 +0.3**
baz=113
K30A Basset 113.04 31 ⇑P **PKiKP 05 48 02.1 +0.3**
baz=113
OGNE Ogallala 113.04 33 PFAKE 05 48 10.0
OGNE LR LR
comp=Z,1μm,20.0s
SNAA Sanae 113.08 197 P **PKiKP 05 48 00.7 -0.3**
TUC Tucson 113.18 46 *e*PKIKP **PKiKP 05 48 02.6 +0.1**
TUC MLR MLR
comp=Z,2μm,22.0s
TUC Tucson 113.18 46 *e*PKPdf **PKiKP 05 48 02.6 +0.1**
TUC LR LR
comp=Z,2μm,22.0s
TORD Torodi Ar. Bea 113.28 291 PKiKP **PKiKP 05 48 02.6 -0.3**
comp=Z,8.0nm,0.8s,baz=54,slow=2.3,SNR=23
TORD PKKPbc **PKKPbc 05 58 48.0 +0.2**
comp=Z,2.6nm,1.0s,baz=216,slow=2.0,SNR=5.2
P26A Davis Ranch, A 113.28 35 ⇓P **PKiKP 05 48 02.4 -0.2**
baz=113
O27A Beecher Island 113.33 34 ⇓P **PKiKP 05 48 02.7 +0.1**
baz=113
PTCN Pitcairn Islan 113.57 112 PFAKE 05 48 10.0
PTCN LR LR
comp=Z,3μm,22.0s
ECSD EROS Data Cent 113.67 28 ⇑P **PKiKP 05 48 03.0 0.0**
baz=113
ECSD EROS Data Cent 113.67 28 *e*PKPdf **PKiKP 05 48 01.7 -1.3**
ECSD LR LR
comp=Z,2μm,19.0s
U23A El Rito 113.75 40 ⇑P **PKiKP 05 48 06.5 +2.8**
baz=114
S25A Robets Cordova 113.94 37 ⇓P **PKiKP 05 48 04.6 +0.7**
baz=114
P28A Saint Francis 114.16 34 ⇓P PKPdf 05 48 03.7 -0.5
baz=114
T25A Trinidad 114.31 38 ⇓P PKPdf 05 48 03.4 -1.3
baz=114
ANMO Albuquerque 114.47 41 *e*PKIKP PKPdf 05 48 04.9 -0.1
ANMO MLR MLR
comp=Z,2μm,20.0s
ANMO Albuquerque 114.47 41 *e*PKPdf PKPdf 05 48 04.8 -0.2
ANMO LR LR
comp=Z,2μm,20.0s
R27A Eads 114.47 36 ⇑P PKPdf 05 48 04.7 -0.2
baz=114
S26A Kim 114.53 37 ⇓P PKPdf 05 48 04.7 -0.3
baz=114
O30A MW Ranch, Wils 114.64 33 ⇑P PKPdf 05 48 05.2 +0.2
baz=114
BGNE Belgrade 114.71 31 ⇓P PKPdf 05 48 05.0 -0.1
baz=114
BGNE Belgrade 114.71 31 *e*PKPdf PKPdf 05 48 04.2 -0.9
V24A Rampart Ranch, 114.71 40 ⇓P PKPdf 05 48 04.9 -0.6
baz=114
VNA2 Neumayer--Watz 114.73 197 P PKPdf 05 48 04.6 +0.4
baz=90,slow=1.6
T26A Comanche Natio 114.77 37 ⇑P PKPdf 05 48 05.0 -0.6
baz=114
U25A Circle Dot Ran 114.80 38 ⇑P PKPdf 05 48 04.9 -0.7
baz=115
COWI Conover 114.82 22 PFAKE 05 48 20.0 +15
COWI LR LR
comp=Z,2μm,20.0s
W24A Lazy 6 Ranch, 114.96 40 ⇑P **PKPdf 05 48 05.5 -0.5**
baz=115
R28A Tribune 114.99 35 ⇑P **PKPdf 05 48 05.4 -0.4**
baz=115
V25A Rancho No Teng 115.04 39 ⇓P **PKPdf 05 48 05.0 -1.1**
baz=115
Q29A Oakley 115.07 34 ⇓P **PKPdf 05 48 04.8 -1.1**
baz=115,SNR=7.8
121A Cookes Peak, D 115.09 44 ⇓P **PKPdf 05 48 05.1 -1.1**
baz=115
VNA1 Neumayer--Stat 115.12 197 P **PKPdf 05 48 06.2 +1.4**
VNA3 Neumayer Olymp 115.18 196 P **PKPdf 05 48 01.9 -3.1**
U26A Atchley Ranch, 115.20 38 ⇓P **PKPdf 05 48 05.3 -1.1**
baz=115
Q30A Quinter 115.42 34 ⇓P **PKPdf 05 48 05.6 -1.0**
baz=115
P31A Stockton 115.47 33 ⇓P **PKPdf 05 48 06.3 -0.3**
baz=115
W25A X Bar L Ranch, 115.54 39 ⇑P **PKPdf 05 48 06.2 -0.8**
baz=115
V26A Tequesquite Ra 115.57 39 ⇑P **PKPdf 05 48 06.2 -0.9**
baz=115
U27A Thompson Grove 115.73 38 ⇓P **PKPdf 05 48 06.4 -0.9**
baz=116
P32A Huiting Farm, 115.81 32 ⇓P **PKPdf 05 48 07.1 -0.2**
baz=116
R30A Dighton 115.88 34 ⇓P **PKPdf 05 48 07.1 -0.4**
baz=116
W26A Owens Ranch, T 116.06 39 ⇑P **PKPdf 05 48 07.8 -0.2**
baz=116
R31A Burdett 116.29 34 ⇓P **PKPdf 05 48 07.6 -0.6**
baz=116
Q32A Meitler Ranch, 116.30 33 ⇓P **PKPdf 05 48 07.8 -0.4**
baz=116
R32A Long Quarter, 116.63 33 ⇑P **PKPdf 05 48 08.2 -0.7**
baz=116
SCIA State Center 116.65 27 PFAKE 05 48 20.0 +11
SCIA LR LR
comp=Z,2μm,21.0s
Q33A Connelly Farm, 116.67 32 ⇑P **PKPdf 05 48 08.7 -0.2**
baz=116
JFWS Jewell Farm 117.08 25 *e*PKIKP **PKPdf 05 48 08.3 -1.2**
JFWS MLR MLR
comp=Z,2μm,20.0s
JFWS Jewell Farm 117.08 25 *e*PKPdf **PKPdf 05 48 08.3 -1.2**
JFWS LR LR
comp=Z,2μm,20.0s
R33A Olander Ranch, 117.10 33 ⇓P **PKPdf 05 48 09.2 -0.6**
baz=117
X28A Dimmitt 117.39 39 ⇑P **PKPdf 05 48 09.8 -0.8**
baz=117
MSTX Muleshoe 117.41 39 ⇓P **PKPdf 05 48 09.9 -0.7**
baz=117
T32A Huddler Ranch, 117.42 34 ⇓P **PKPdf 05 48 09.4 -1.0**
baz=117
KUK Kukurantumi 117.58 285 *i* P PP 05 49 28.8 +5.2
KUK PKP **PKKPdf 05 59 04.4 +3.5**
KUK PKP 06 27 02.5
S33A Kaszmaul Farm, 117.62 34 ⇑P **PKPdf 05 48 09.6 -1.2**
baz=117
X29A Tulia 117.74 38 ⇑P **PKPdf 05 48 10.2 -1.0**
baz=118
T33A Patterson Ranc 117.86 34 ⇑P **PKPdf 05 48 10.8 -0.5**
baz=118
V31A Spring Creek L 117.91 36 ⇑P **PKPdf 05 48 10.8 -0.7**
baz=118
U32A Winter Ranch, 117.96 35 ⇓P **PKPdf 05 48 11.1 -0.4**
baz=118
Z28A Tucker Farm, M 118.10 40 ⇓P **PKPdf 05 48 11.0 -0.9**
baz=118
X30A Coker Ranch, T 118.24 38 ⇑P **PKPdf 05 48 11.3 -0.8**
baz=118
W31A Holland Ranch, 118.27 37 ⇓P **PKPdf 05 48 11.4 -0.7**
baz=118
V32A Arapaho 118.41 36 ⇓P **PKPdf 05 48 11.8 -0.5**

baz=118
U33A Lingo Farm, Me 118.41 34 ⇓P PKPdf 05 48 11.6 -0.8
baz=118
128A Castleberry Fa 118.49 40 ⇑P PKPdf 05 48 12.0 -0.7
baz=118
Z29A Hungry Hill Ra 118.55 39 ⇓P PKPdf 05 48 11.9 -0.9
baz=118
X31A McDonald Ranch 118.64 37 ⇑P PKPdf 05 48 12.0 -0.8
baz=118,SNR=9.9
W32A Sentinel 118.72 36 ⇓P PKPdf 05 48 12.2 -0.8
baz=118
228A UT Block 9, Go 118.75 41 ⇓P PKPdf 05 48 12.4 -0.8
baz=118
V33A Lossen Ranch, 118.76 35 ⇑P PKPdf 05 48 12.2 -0.8
baz=118
S36A Lake Cedric, C 118.79 32 ⇑P PKPdf 05 48 12.4 -0.6
baz=118
129A Stewart Farms, 118.87 40 ⇑P PKPdf 05 48 12.6 -0.8
baz=119
Z30A Sanderson Ranc 118.88 39 ⇑P PKPdf 05 48 12.7 -0.6
baz=119
Y31A Rekieta Farm, 118.94 38 ⇑P PKPdf 05 48 12.7 -0.7
baz=119
W33A Caddo, Fort Co 119.14 36 ⇓P PKPdf 05 48 13.0 -0.8
baz=119
X32A Elmer 119.19 37 ⇓P PKPdf 05 48 13.2 -0.7
baz=119
WMOK Wichita Mounta 119.26 36 *e*PKIKP **PKPdf 05 48 13.0 -1.0**
WMOK MLR MLR
comp=Z,2μm,21.0s
WMOK Wichita Mounta 119.26 36 *e*PKPdf **PKPdf 05 48 13.0 -1.0**
WMOK LR LR
comp=Z,2μm,21.0s
229A Bryant Ranch, 119.35 41 ⇓P PKPdf 05 48 13.0 -1.3
baz=119
Y32A R-V Farms, Ver 119.40 37 ⇓P PKPdf 05 48 13.5 -0.8
baz=119
Z31A Sharp Cattle R 119.46 38 ⇓P PKPdf 05 48 13.2 -1.2
baz=119
329A Wagon Wheel Ra 119.56 41 ⇓P PKPdf 05 48 14.0 -0.7
baz=119
X33A Lawton 119.56 36 ⇓P PKPdf 05 48 13.7 -0.9
baz=119
V35A Meyer Ranch, C 119.60 34 ⇓P PKPdf 05 48 13.5 -1.1
baz=119
131A Roby 119.75 39 ⇑P PKPdf 05 48 13.8 -1.3
baz=120
230A Sterling City 119.84 40 ⇑P PKPdf 05 48 14.1 -1.2
baz=120
TXAR Lajitas Array 119.84 44 PKP **PKPdf 05 48 15.1 -0.3**
comp=Z,1.8nm,0.6s,baz=253,slow=1.3,SNR=14
TXAR PKKPbc **PKKPab 05 58 29.8 +1.8**
comp=Z,2.8nm,1.1s,baz=133,slow=5.3,SNR=6.8
Z32A Haskell 119.86 38 ⇑P PKPdf 05 48 14.2 -1.0
baz=120,SNR=9.3
Y33A Hilltop Ranch, 119.87 37 ⇑P PKPdf 05 48 14.3 -0.9
baz=120
X34A Smith Ranch, M 119.90 36 ⇑P PKPdf 05 48 14.3 -0.9
baz=120
AAM Ann Arbor 120.05 20 PFAKE 05 48 30.0 +15
AAM LR LR
comp=Z,2μm,20.0s
TUL1 Leonard 120.06 33 ⇓P PKPdf 05 48 14.7 -0.8
baz=120
TUL1 Leonard 120.06 33 *e*PKPdf **PKPdf 05 48 15.4 -0.1**
330A Mertzon 120.12 41 ⇓P PKPdf 05 48 14.8 -1.1
baz=120
429A Davenport Ranc 120.18 42 ⇓P PKPdf 05 48 15.1 -0.8
baz=120
ABTX Abilene, Hawle 120.24 39 ⇓P PKPdf 05 48 15.0 -1.0
baz=120
529A Stev Forest Ra 120.30 42 ⇑P PKPdf 05 48 15.1 -1.1
baz=120
Z33A Whitaker Ranch 120.30 37 ⇓P PKPdf 05 48 15.1 -1.0
baz=120
231A Bronte 120.30 40 ⇑P PKPdf 05 48 15.1 -1.0
baz=120
LONY Lake Ozonia 120.33 12 PFAKE 05 48 30.0 +14
LONY LR LR
comp=Z,2μm,20.0s
Y34A Reagan Ranch, 120.41 36 ⇑P PKPdf 05 48 15.5 -0.7
baz=120
SFIN Lafayette 120.48 24 ⇑P PKPdf 05 48 15.6 -0.5
baz=120
430A Baggett Ranch, 120.50 41 ⇑P PKPdf 05 48 15.7 -0.8
baz=120
PKME Peaks-Kenny Pk 120.58 8 PFAKE 05 48 30.0 +14
PKME LR LR
comp=Z,2μm,21.0s
331A San Angelo 120.66 40 ⇑P PKPdf 05 48 15.8 -1.1
baz=120
133A Hamilton Ranch 120.69 38 ⇓P PKPdf 05 48 15.7 -1.1
baz=120
232A Coleman 120.75 39 ⇓P PKPdf 05 48 15.8 -1.2
baz=120
530A J-C Ranch, Com 120.86 42 ⇑P PKPdf 05 48 16.3 -1.0
baz=121
431A Sonora 120.97 41 ⇓P PKPdf 05 48 16.4 -1.1
baz=121
NCB Newcomb 121.03 12 PFAKE 05 48 30.0 +13
NCB LR LR
comp=Z,2μm,21.0s
233A Rising Star 121.11 39 ⇓P PKPdf 05 48 16.8 -0.9
baz=121
Z35A Perchaven, San 121.15 36 ⇑P PKPdf 05 48 16.7 -1.0
baz=121
LBNH Lisbon 121.19 10 PFAKE 05 48 30.0 +13
LBNH LR LR
comp=Z,2μm,20.0s
134A White-Moore Ra 121.21 38 ⇓P PKPdf 05 48 17.4 -0.4
baz=121,SNR=6.6
432A Menard 121.35 40 ⇑P PKPdf 05 48 17.2 -1.0
baz=121
531A Rocksprings 121.36 41 ⇓P PKPdf 05 48 17.2 -1.0
baz=121
ERPA Erie 121.36 17 PFAKE 05 48 30.0 +12
ERPA LR LR
comp=Z,2μm,20.0s
333A Richland Sprin 121.55 39 ⇑P PKPdf 05 48 17.3 -1.2
baz=121,SNR=7.6
234A Clairette 121.58 38 ⇓P PKPdf 05 48 17.8 -0.8
baz=121,SNR=5.3
DBIC Dimbokro 121.62 287 PKIKP **PKPdf 05 48 19.0 0.0**
DBIC pmax pmax
comp=Z,14nm,0.7s
DBIC Dimbokro 121.62 287 PKP **PKPdf 05 48 19.0 0.0**
comp=Z,14nm,0.7s,baz=45,slow=2.2,SNR=19
DBIC Dimbokro 121.62 287 *e*PKPdf **PKPdf 05 48 18.8 -0.2**
DBIC PKP **PKPdf 05 48 19.0 0.0**
135A Vickery Place, 121.62 37 ⇓P PKPdf 05 48 17.8 -0.7
baz=121
JCT Junction City 121.62 40 *e*PKIKP **PKPdf 05 48 17.9 -0.8**
JCT MLR MLR
comp=Z,1μm,20.0s
JCT Junction City 121.62 40 ⇑P PKPdf 05 48 17.7 -1.0
baz=121,SNR=8.9
JCT Junction City 121.62 40 *e*PKPdf **PKPdf 05 48 17.9 -0.8**
JCT LR LR
comp=Z,1μm,20.0s
KIC Kosan Boka 121.62 286 *e*PKIKP **PKPdf 05 48 19.0 0.0**
comp=Z,234nm,1.3s
TIC Toumodi 121.78 287 *e*PKIKP **PKPdf 05 48 19.1 -0.3**
comp=Z,30nm,0.7s
532A Rocksprings 121.79 41 ⇑P PKPdf 05 48 17.8 -1.2
baz=122
631A Perdido Creek 121.84 42 ⇑P PKPdf 05 48 17.7 -1.4
baz=122
433A Art 121.87 40 ⇓P PKPdf 05 48 18.0 -1.2
baz=122
LIC Lamto 121.93 286 ⇑*i*PKIKP **PKPdf 05 48 19.5 -0.2**
LIC *e*R
comp=Z,2μm,21.0s
LIC Lamto 121.93 286 *e*PKIKP **PKPdf 05 48 19.4 -0.2**
comp=Z,163nm,1.2s
LIC Lamto 121.93 286 ⇑*i*PKPdf **PKPdf 05 48 19.5 -0.2**
334A Lometa 122.00 39 ⇓P PKPdf 05 48 18.2 -1.2
baz=122
WHTX Lake Whitney, 122.00 38 ⇓P PKPdf 05 48 18.2 -1.1
baz=122
ACSO Alum Creek Sta 122.12 21 *e*PKPdf **PKPdf 05 48 17.8 -1.6**
ACSO LR LR
comp=Z,3μm,20.0s
MIAR Mount Ida 122.27 33 *e*PKIKP **PKPdf 05 48 19.3 -0.4**
MIAR MLR MLR
comp=Z,2μm,21.0s
MIAR Mount Ida 122.27 33 *e*PKPdf **PKPdf 05 48 19.3 -0.4**
MIAR LR LR
comp=Z,2μm,21.0s
632A Uvalde 122.29 41 ⇑P PKPdf 05 48 19.4 -0.6
baz=122,SNR=14
BINY Binghamton 122.33 14 PFAKE 05 48 30.0 +10
BINY LR LR
comp=Z,2μm,19.0s
434A Burnet 122.34 39 ⇑P PKPdf 05 48 19.0 -1.1
baz=122
533A Kerrville 122.38 40 ⇓P PKPdf 05 48 19.3 -0.8
baz=122,SNR=6.6
335A Moody 122.52 38 ⇓P PKPdf 05 48 19.9 -0.4
baz=122
137A Heron Place, G 122.54 36 ⇑P PKPdf 05 48 20.5 +0.1
baz=122
WCI Wyandotte Cave 122.64 24 *e*PKIKP **PKPdf 05 48 19.6 -0.8**
WCI Wyandotte Cave 122.64 24 *e*PKPdf **PKPdf 05 48 19.6 -0.8**
732A Laxson Ranch, 122.69 42 ⇓P PKPdf 05 48 20.3 -0.4
baz=122
633A Saathoff Ranch 122.71 41 ⇓P PKPdf 05 48 19.9 -0.8
baz=122
534A Blanco 122.76 40 ⇓P PKPdf 05 48 19.5 -1.3
baz=122,SNR=7.8
435B Jarrell 122.78 39 ⇓P PKPdf 05 48 20.3 -0.5
baz=123
336A Riesel 122.79 38 ⇓P PKPdf 05 48 20.3 -0.5
baz=123
237A Washetta, Mont 122.95 36 ⇑P PKPdf 05 48 21.0 -0.1
baz=123
832A Faith Ranch, C 122.98 43 ⇓P PKPdf 05 48 21.0 -0.3
baz=123,SNR=25
733A Divot King Ran 123.14 42 ⇓P PKPdf 05 48 21.3 -0.3
baz=123
SSPA Standing Stone 123.32 16 *e*PKPdf **PKPdf 05 48 21.7 +0.1**
833A Chaparral WMA, 123.34 42 ⇓P PKPdf 05 48 22.0 0.0
baz=123,SNR=14
238A Jacksonville 123.34 36 ⇓P PKPdf 05 48 21.6 -0.3
baz=123
734A La Parita Cree 123.52 41 ⇓P PKPdf 05 48 22.1 -0.2
baz=123
536A Bastrop 123.60 39 ⇓P PKPdf 05 48 22.5 +0.1
baz=123
635A Leesville 123.64 40 ⇓P PKPdf 05 48 22.5 -0.1
baz=123
239A Gary 123.70 35 ⇓P PKPdf 05 48 21.8 -0.8
baz=124
338A Crockett 123.71 36 ⇓P PKPdf 05 48 22.2 -0.4
baz=124
WVT Waverly 123.77 27 *e*PKIKP **PKPdf 05 48 21.8 -0.8**
WVT Waverly 123.77 27 *e*PKPdf **PKPdf 05 48 21.8 -0.8**
933A Laredo 123.89 43 ⇓P PKPdf 05 48 23.0 -0.1
baz=124,SNR=12
735A Kenedy 123.99 40 ⇓P PKPdf 05 48 23.1 -0.1
baz=124
834A Tilden 124.02 42 ⇓P PKPdf 05 48 23.2 -0.1
baz=124
636A Smothers Creek 124.02 39 ⇓P PKPdf 05 48 23.3 +0.1
baz=124
537A Green Hill Far 124.05 38 ⇓P PKPdf 05 48 23.2 -0.1
baz=124
438A Sam Houston St 124.06 37 ⇓P PKPdf 05 48 23.1 -0.2
baz=124
835A Beeville 124.37 41 ⇑P PKPdf 05 48 23.6 -0.3
baz=124
934A Benavides 124.39 42 ⇓P PKPdf 05 48 23.2 -0.9
baz=124
340A Bronson 124.48 35 ⇑P PKPdf 05 48 23.8 -0.3
baz=124
034A Hebbronville 124.65 43 ⇓P PKPdf 05 48 23.4 -1.1
baz=124,SNR=7.1
035A Encino 125.12 42 ⇓P PKPdf 05 48 24.9 -0.5
baz=125
035Z Hargill 125.46 43 ⇓P PKPdf 05 48 25.4 -0.6
baz=125
BLA Blacksburg 125.71 20 *e*PKIKP **PKPdf 05 48 25.8 -0.6**
BLA MLR MLR
comp=Z,2μm,19.0s
BLA Blacksburg 125.71 20 *e*PKPdf **PKPdf 05 48 25.8 -0.6**
BLA LR LR
comp=Z,2μm,19.0s
CBN Corbin Frederi 125.73 17 PFAKE 05 48 40.0 +14
CBN LR LR
comp=Z,2μm,20.0s
TKL Tuckaleechee C 125.87 24 *e*PKIKP **PKPdf 05 48 26.0 -0.7**
TKL Tuckaleechee C 125.87 24 *e*PKPdf **PKPdf 05 48 26.0 -0.7**
JSRW J. Sargeant Re 126.06 18 *e*PKPdf **PKPdf 05 48 26.1 -0.8**
LRAL Lakeview Retre 126.73 28 *e*PKPdf **PKPdf 05 48 28.0 -0.4**
KMSC Kings Mountain 127.25 22 ⇑P PKPdf 05 48 28.9 -0.4
baz=127
KMSC Kings Mountain 127.25 22 *e*PKPdf **PKPdf 05 48 28.1 -1.3**
SHEL Horse Pasture 127.66 260 PFAKE 05 48 40.0 +9.5
SHEL LR LR
comp=Z,2μm,19.0s
GOGA Godfrey 127.95 25 *e*PKIKP **PKPdf 05 48 29.9 -0.8**
GOGA MLR MLR
comp=Z,2μm,20.0s
GOGA Godfrey 127.95 25 *e*PKPdf **PKPdf 05 48 29.9 -0.8**
GOGA *e*SKPdf SKPdf 05 51 54.4 -10
GOGA LR LR
comp=Z,2μm,20.0s
CNNC Cliffs of the 128.33 19 *e*PKPdf **PKPdf 05 48 31.5 +0.2**
CNNC LR LR
comp=Z,2μm,20.0s
BRAL Brewton 128.38 30 PFAKE 05 48 40.0 +8.5
BRAL LR LR
comp=Z,2μm,19.0s
NHSC New Hope 129.50 22 PFAKE 05 48 40.0 +6.4
NHSC LR LR
comp=Z,2μm,21.0s
TIGA Tifton 129.61 26 ⇓P PKPdf 05 48 33.4 -0.5
baz=129
TIGA Tifton 129.61 26 *e*PKPdf **PKPdf 05 48 34.0 +0.1**
TRIS Tristan da Cun 131.74 232 PFAKE 05 48 50.0 +12
TRIS LR LR
comp=Z,1μm,20.0s
BBSR BB Station 133.84 6 PFAKE 05 48 50.0 +8.2
BBSR LR LR
comp=Z,1μm,19.0s
SACV Santiago Islan 134.02 307 PFAKE 05 48 50.0 +7.4
SACV LR LR
comp=Z,1μm,19.0s
ASCN Ascension 134.87 273 PFAKE 05 49 00.0 +16
ASCN LR LR
comp=Z,1μm,20.0s
TEIG Tepich 136.19 40 PFAKE 05 49 00.0 +13
TEIG LR LR
comp=Z,1μm,20.0s
EFI East Falkland 142.22 182 PFAKE 05 49 10.0 +13
EFI LR LR
comp=Z,1μm,20.0s
GRTK Grand Turk 143.21 17 PFAKE 05 49 10.0 +11
GRTK LR LR
comp=Z,3μm,20.0s
GTBY Guantanamo Bay 143.30 24 PFAKE 05 49 10.0 +11
GTBY LR LR
comp=Z,2μm,20.0s
MTDJ Mount Denham 143.75 29 PFAKE 05 49 10.0 +10
MTDJ LR LR
comp=Z,2μm,22.0s
JTS JuntasAbangare 145.53 47 *e*PKIKP **PKPdf 05 49 01.9 -1.6**
JTS MLR MLR
comp=Z,1μm,19.0s
JTS JuntasAbangare 145.53 47 PKPbc **PKPdf 05 49 01.7 -1.8**
comp=Z,33nm,1.1s,baz=300,slow=6.0,SNR=11
JTS JuntasAbangare 145.53 47 *e*PKPbc **PKPdf 05 49 01.9 -1.6**
JTS LR LR
comp=Z,1μm,19.0s
SDDR Presa de Saban 145.55 19 *e*PKPbc **PKPdf 05 49 03.4 -0.1**
SDDR LR LR
comp=Z,2μm,22.0s
AGPR Aguadilla, PR 147.15 13 *e*PKPbc **PKPab 05 49 09.3 -0.5**
LSP Las Mesas 147.44 13 *e*PKPbc **PKPbc 05 49 09.9 +0.8**
SJG San Juan 147.68 11 PKP2 **PKPbc 05 49 08.8 -0.9**
SJG MLR MLR
comp=Z,1μm,22.0s
SJG San Juan 147.68 11 PKPbc **PKPbc 05 49 08.8 -0.9**
comp=Z,21nm,0.4s,baz=86,slow=5.1,SNR=14
SJG San Juan 147.68 11 PKPbc **PKPbc 05 49 08.8 -0.9**
SJG LR LR
comp=Z,1μm,22.0s
ICMP Isla Caja de M 147.83 12 *e*PKPbc **PKPbc 05 49 10.5 +0.4**
ANWB Willy Bob 148.65 3 *e*PKPbc **PKPbc 05 49 12.6 +0.3**
ANWB LR LR
comp=Z,1μm,20.0s
BCIP Isla Barro Col 149.83 42 *e*PKPbc **PKPbc 05 49 15.2 -0.2**
BCIP LR LR
comp=Z,1μm,21.0s
FDF Fort de France 151.60 2 *e*PKIKP **PKPdf 05 49 13.0 -0.3**
FDF MLR MLR
comp=Z,1μm,22.0s
FDF Fort de France 151.60 2 *e*P **PKPbc 05 49 20.4 +0.9**
FDF Fort de France 151.60 2 *e*PKPdf **PKPdf 05 49 13.0 -0.3**
FDF *e*PKPbc **PKiKP 05 49 19.8 -0.2**
FDF LR LR
comp=Z,1μm,22.0s
PLCA Paso Flores 151.65 163 *e*PKIKP **PKPdf 05 49 12.8 0.0**
PLCA *e* 05 49 27.9
PLCA Paso Flores 151.65 163 *e*PKPdf **PKPdf 05 49 12.8 0.0**
PLCA *e*PKPbc **PKiKP 05 49 19.6 +0.1**
PLCA *e*PKPab **PKPab 05 49 27.9 +0.3**
ZAM Aeronautique 151.76 2 *e*P **PKPdf 05 49 15.1 +1.5**
TRMF Trois Ilets 151.80 2 *e*P **PKPbc 05 49 21.1 +1.1**
BIM Bigot 151.81 2 *e*P **PKPbc 05 49 20.9 +0.9**
BBGH Gun Hill 153.20 359 PFAKE 05 49 30.0 -4.6
BBGH LR LR
comp=Z,2μm,19.0s
GRGR Grenville 154.15 4 PFAKE 05 49 30.0 +4.8
GRGR LR LR
comp=Z,871nm,21.0s
RCBR Riachuelo 154.99 286 *e*PKPdf **PKPdf 05 49 17.7 -0.7**
RCBR LR LR
comp=Z,1μm,20.0s
SDV Santo Domingo 155.08 26 PFAKE 05 49 30.0 +11
SDV LR LR
comp=Z,2μm,22.0s
TRQA Tornquist 155.81 176 *e*PKPdf **PKPdf 05 49 18.1 -0.6**
TRQA *e*PKPab **PKPab 05 49 45.8 +0.6**
TRQA LR LR
comp=Z,1μm,20.0s
ROSC El Rosal 156.61 38 PKP **PKPdf 05 49 21.1 +0.1**
comp=Z,23nm,1.1s,baz=66,slow=4.6,SNR=6.2
OTAV Otavalo 156.98 54 *e*PKPdf **PKPdf 05 49 21.7 +0.2**
OTAV LR LR
comp=Z,1μm,21.0s
ATAH Atahualpa 160.72 72 PKP **PKPdf 05 49 26.7 +0.9**
comp=Z,20nm,1.0s,baz=9.3,slow=3.0,SNR=10
LCO Las Campanas 161.92 148 *e*PKPdf **PKPdf 05 49 26.1 -0.4**
LCO LR LR
comp=Z,2μm,22.0s
PTGA Pitinga 166.99 360 PKP **PKPdf 05 49 31.2 +0.1**
comp=Z,9.5nm,1.0s,baz=302,slow=0.5,SNR=11
PTGA PKPab **PKPab 05 50 34.1 -0.3**
comp=Z,46nm,1.1s,baz=15,slow=5.9,SNR=14
PTGA Pitinga 166.99 360 PKP **PKPdf 05 49 31.2 +0.1**
PTGA PKPab **PKPab 05 50 34.1 -0.3**
PTGA LR LR
comp=Z,1μm,22.0s
LVC Limon Verde 167.83 137 *e*PKPdf **PKPdf 05 49 33.9 +2.2**
LVC LR LR
comp=Z,2μm,21.0s
LPAZ La Paz 171.76 108 *e*PKIKP **PKPdf 05 49 32.2 -2.5**
LPAZ La Paz 171.76 108 PKP **PKPdf 05 49 34.7 0.0**
comp=Z,12nm,1.1s,baz=2.1,slow=1.3,SNR=22
LPAZ PKPab **PKPab 05 50 57.4 +0.7**
comp=Z,26nm,1.1s,baz=263,slow=4.0,SNR=8.6
LPAZ La Paz 171.76 108 *e*PKPdf **PKPdf 05 49 32.2 -2.5**
LPAZ PKP 05 49 34.7
LPAZ *e*PKPab **PKPab 05 50 56.0 -0.7**
LPAZ PKPab PKPab 05 50 57.4 +0.7
SAML Samuel 174.22 33 *e*PKPdf **PKPdf 05 49 34.2 -0.7**
SAML *e*PKPab **PKPab 05 51 04.4 -2.2**
SAML LR LR
comp=Z,2μm,20.0s
SIV San Ignacio 177.61 154 PKPab PKPab 05 51 20.4 -1.1
comp=Z,6.9nm,1.1s,baz=231,slow=4.8,SNR=3.7

GUC 25 05:32:52.0±0.4, 33°.88S×72°.30W, h28km±3km, ML3.5,2D,
Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.74**	**96**		*e*P	Pb	05 33 05.8	-0.6
RCDM	**Rinconada Maip**	**1.31**	**73**		*e*P	Pn	05 33 14.6	+0.1
RCDM					*e*S	Sb	05 33 31.8	-0.5
RCDM					AML	AML	05 33 34.2	
comp=N,1μm,0.4s								
CHCH	**Chadas Angostu**	**1.37**	**93**		*e*P	Pn	05 33 16.1	+0.6
NICH	**Los Niches**	**1.43**	**142**		*e*P	Pn	05 33 16.5	+0.4
NICH					*e*S	Sb	05 33 35.3	-0.5
CACH	**El Canelo**	**1.43**	**100**	⇓	*e*P	Pb	05 33 17.8	-0.5
LACH	**Col Las Americ**	**1.54**	**74**		*e*P	Pn	05 33 18.2	+0.6
LACH					*e*S	Sb	05 33 38.8	-0.3
LACH					AML	AML	05 33 50.3	
comp=N,880nm,0.8s								
CLCH	**Cerro Calan**	**1.55**	**72**		*e*P	Pn	05 33 18.8	+0.9
CLCH					*e*S	Sb	05 33 38.9	-0.6
CLCH					AML	AML	05 33 58.1	
comp=E,2μm,0.7s								
TALC	**Talca**	**1.61**	**160**	⇓	*e*P	Pn	05 33 19.5	+0.9
TALC					*e*S	Sb	05 33 40.6	-0.3
SJCH	**San Jose de Ma**	**1.64**	**82**		*e*P9	Pn	05 33 19.7	+0.5
SJCH					*e*S	Sb	05 33 41.1	-1.0
LNCH	**Linares**	**2.04**	**164**		*e*P	Pb	05 33 26.6	-1.9
LNCH					*e*S	Sb	05 33 52.5	-1.0

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*ISCJB **25** 05:34:35.1±0.5, 6°.00S±0°.07×130°.6E±0°.1, h86km, mb4.3/3,*
Error ellipse: s-maj=16.9km s-min=8.4km az=154.4
*IDC **25** 05:34:40.5±3.1, 5°.78S×130°.70E, h114km±33km, mb4.2/3,*
mb1 4.6/6, mb1mx3.9/38, mbtmp4.9/6, Error ellipse:
s-maj=35.4km s-min=23.6km az=154.0
ISC 25 05:34:36.4±0.9, 6°.15S±0°.09×130°.6E±0°.1, h86km, n21,
σ0s82/21, mb4.3/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.94**	**239**		P	Pn	05 36 38.8	+10
26nm,0.3s,baz=67,slow=4.5,SNR=1.6								
BATI					S	Sn	05 38 07.4	+10
19nm,0.3s,baz=244,slow=23,SNR=2.6								
JAY	**Jayapura**	**10.72**	**71**		P	**Pn**	**05 37 07.0**	**-0.1**
2.5nm,0.3s,baz=270,slow=9.1,SNR=3.3								
WRA	**Warramunga Arr**	**14.19**	**165**		P	**Pn**	**05 37 55.3**	**+1.9**
3.1nm,0.3s,baz=352,slow=13,SNR=1.4								
WRA					S	**Sn**	**05 40 28.5**	**-1.1**
5.1nm,0.3s,baz=323,slow=25,SNR=4.9								
ASAR	**Alice Springs**	**17.71**	**170**		P	Pn	05 38 43.5	+6.1
9.7nm,0.3s,baz=354,slow=9.0,SNR=6.1								
ASAR					S	**Sn**	**05 41 52.5**	**-2.1**
0.8nm,0.3s,baz=355,slow=29,SNR=2.7								
ODAN	**Odare**	**53.14**	**310**		*e*P	**P**	**05 43 45.8**	**-0.2**
28nm,0.7s								
TAPN	**Taplejung**	**53.16**	**311**		*e*P	**P**	**05 43 46.1**	**-0.1**
21nm,0.5s								
RAMN	**Ramite**	**53.79**	**310**		*e*P	**P**	**05 43 51.0**	**+0.3**
94nm,0.6s								
JIRN	**Jiri**	**54.47**	**310**		*e*P	**P**	**05 43 55.7**	**-0.1**
28nm,0.6s								
GUN	**Gumba**	**54.83**	**310**		*e*P	**P**	**05 43 58.3**	**-0.1**
65nm,0.7s								
PKI	**Pulchoki**	**55.02**	**310**		*e*P	**P**	**05 43 59.3**	**-0.4**
20nm,0.6s								
PKIN	**Phulchoki**	**55.03**	**310**		*e*P	**P**	**05 43 59.3**	**-0.4**
KKN	**Kakani**	**55.23**	**310**		*e*P	**P**	**05 44 00.9**	**-0.2**
28nm,0.7s								
DMN	**Daman**	**55.27**	**310**		*e*P	**P**	**05 44 01.4**	**0.0**
26nm,0.7s								
GKN	**Gorkha**	**55.83**	**310**		*e*P	**P**	**05 44 05.2**	**-0.1**
45nm,0.6s								
KOLN	**Koldanda**	**56.51**	**309**		*e*P	**P**	**05 44 10.4**	**+0.2**
39nm,0.7s								
DANN	**Dangsing**	**56.67**	**310**		*e*P	**P**	**05 44 10.9**	**-0.6**
20nm,0.6s								
PYUN	**Piuthan**	**57.14**	**309**		*e*P	**P**	**05 44 14.8**	**+0.1**
96nm,0.7s								
MKAR	**Makanchi Array**	**67.84**	**326**		P	**P**	**05 45 25.2**	**-0.2**
6.6nm,0.6s,baz=128,slow=8.9,SNR=11								
AAK	**Ala-Archa**	**70.27**	**319**		P	**P**	**05 45 41.2**	**+0.5**
1.5nm,0.3s,baz=67,slow=7.7,SNR=2.6								
KURBB	**Kurchatov Arra**	**72.09**	**328**		P	**P**	**05 45 50.1**	**-1.2**
1.0nm,0.3s,baz=120,slow=4.5,SNR=3.4								
TORD	**Torodi Ar. Bea**	**129.20**	**282**		PKP	**PKPdf**	**05 53 35.7**	**0.0**
0.5nm,0.7s,baz=74,slow=1.7,SNR=1.5								

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*CSEM **25** 05:36:08.0±0.2, 42°.55N×19°.02E, h19km, ML1.6, Error*
ellipse: s-maj=3.9km s-min=3.0km az=69.0
PDG 25 05:36:08.1±0.1, 42°.54N×19°.02E, h21km, ML1.6/9, 3C-12D,
Error ellipse: s-maj=0.2km s-min=0.5km az=0.0,

Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.21**	**122**	⇓*i*Pg	Pb	05 36 13.2	-0.8
PDG				*e*Sg	Sb	05 36 17.2	-0.9
TTG	**Podgorica**	**0.21**	**122**	⇓*i*Pg	Pb	05 36 13.2	-0.8
TTG				*e*Sg	Sb	05 36 17.2	-0.9
NKME	**Niksic**	**0.23**	**348**	⇓*i*Pg	Pb	05 36 13.6	-0.6
NKME				*e*Sg	Sb	05 36 18.1	-0.3
NKME	**Niksic**	**0.23**	**348**	⇓*i*Pg	Pb	05 36 13.6	-0.6
NKME				*e*Sg	Sb	05 36 18.1	-0.3
BUM	**Brajici-Budva**	**0.26**	**201**	⇓*i*Pg	Pb	05 36 13.7	-0.7
BUM				*e*Sg	Sb	05 36 19.2	+0.5
BUM	**Brajici-Budva**	**0.26**	**201**	⇓*i*Pg	Pb	05 36 13.7	-0.7
BUM				*e*Sg	Sb	05 36 19.2	+0.5
NKY	**Niksic**	**0.27**	**356**	⇓*i*Pg	Pb	05 36 14.2	-0.4
NKY				*e*Sg	Sb	05 36 19.2	+0.1
NKY	**Niksic**	**0.27**	**356**	⇓*i*Pg	Pb	05 36 14.2	-0.4
NKY				*e*Sg	Sb	05 36 19.2	+0.1
DRME	**Dracevica, Mon**	**0.38**	**161**	⇓*i*Pg	Pb	05 36 16.0	+0.1
DRME				*e*Sg	Sb	05 36 22.7	+1.4
DRME	**Dracevica, Mon**	**0.38**	**161**	⇓*i*Pg	Pb	05 36 16.0	+0.1
DRME				*e*Sg	Sb	05 36 22.7	+1.4
HCY	**Herceg Novi**	**0.40**	**256**	⇑*i*Pg	Pb	05 36 16.1	-0.2
HCY				*e*Sg	Sb	05 36 23.1	+1.2
HCY	**Herceg Novi**	**0.40**	**256**	⇑*i*Pg	Pb	05 36 16.1	-0.2
HCY				*e*Sg	Sb	05 36 23.1	+1.2
ULC	**Ulcinj**	**0.60**	**164**	⇓*i*Pg	Pb	05 36 19.7	-0.4
ULC				*e*Sg	Sn	05 36 29.4	-1.2
ULC	**Ulcinj**	**0.60**	**164**	⇓*i*Pg	Pb	05 36 19.7	-0.4
ULC				*e*Sg	Sn	05 36 29.4	-1.2
UPM	**Unac-Piva**	**0.67**	**353**	*e*Pg	Pb	05 36 20.7	-0.6
UPM				*e*Sg	Sn	05 36 31.5	-1.1
UPM	**Unac-Piva**	**0.67**	**353**	*e*Pg	Pb	05 36 20.7	-0.6
UPM				*e*Sg	Sn	05 36 31.5	-1.1
PVY	**Plav**	**0.70**	**85**	⇑*i*Pg	Pb	05 36 21.9	+0.1
PVY				*e*Sg	Sn	05 36 32.8	-0.4
STON	**Ston**	**1.02**	**289**	*e*Pg	Pb	05 36 26.9	-0.2
STON				Sg	Sn	05 36 43.1	+2.2
STON	**Ston**	**1.02**	**289**	*e*Pg	Pb	05 36 26.9	-0.2
STON				Sg	Sn	05 36 43.0	+2.1

*IDC **25** 07:35:42.8±2.1, 34°.02S×72°.21W, h0km, mb4.0/1, mb1 3.8/3, mb1mx3.6/24, mbtmp3.7/3, ML3.5/2, Error ellipse: s-maj=43.1km s-min=20.8km az=108.0*
*ISCJB **25** 07:35:43.5±1.0, 33°.95S±0°.04×72°.50W±0°.08, h17km, mb4.0/1, Error ellipse: s-maj=9.3km s-min=5.4km az=19.3*
*GUC **25** 07:35:44.1±0.4, 33°.98S×72°.36W, h24km±4km, ML3.6*

ISC 25 07:35:44.9±1.4, 33°.96S±0°.06×72°.4W±0°.1, h17km, n13, σ0s84/18, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.44**	**72**	⇓*e*P	Pn	07 36 09.0	-1.3
RCDM				*e*S	**Sn**	**07 36 28.2**	**-0.6**
RCDM				AML	AML	07 36 29.0	
	comp=N,2μm,0.3s						
NICH	**Los Niches**	**1.45**	**136**	*e*P	Pn	07 36 09.3	-1.0
NICH				*e*S	**Sn**	**07 36 28.3**	**-0.6**
TALC	**Talca**	**1.58**	**155**	*e*P4	**Pn**	**07 36 11.6**	**-0.6**
TALC				*e*S	**Sn**	**07 36 32.4**	**+0.2**
LACH	**Col Las Americ**	**1.67**	**73**	*e*P	**Pn**	**07 36 13.0**	**-0.4**
LACH				*e*S	**Sn**	**07 36 34.9**	**+0.4**
LACH				AML	AML	07 36 38.5	
	comp=N,786nm,0.7s						
PEL	**Peldehue**	**1.68**	**62**	⇓*e*P	**Pn**	**07 36 13.1**	**-0.4**
PEL				*e*S	**Sn**	**07 36 35.0**	**+0.4**
SJCH	**San Jose de Ma**	**1.77**	**80**	*e*P9	Pn	07 36 13.2	-1.6
SJCH				*e*S	**Sn**	**07 36 36.0**	**-0.9**
YECH	**El Yeso**	**1.99**	**82**	*e*P	**Pn**	**07 36 18.4**	**+0.5**
YECH				*e*S	**Sn**	**07 36 44.6**	**+1.9**
YECH				AML	AML	07 36 59.7	
	comp=N,1μm,0.6s						
LNCH	**Linares**	**2.01**	**160**	*e*P	**Pn**	**07 36 18.2**	**+0.2**
LNCH				*e*S	**Sn**	**07 36 44.1**	**+1.3**
CFAA	**Coronel Fontan**	**4.25**	**58**	Pn	**Pn**	**07 36 48.9**	**0.0**
	comp=N,0.2nm,0.3s,baz=231,slow=15,SNR=12						
CFAA				Lg	Lg	07 37 53.0	
	comp=N,1.3nm,0.3s,baz=338,slow=20,SNR=6.4						
PLCA	**Paso Flores**	**6.93**	**168**	Pn	**Pn**	**07 37 25.6**	**0.0**
	comp=N,0.2nm,0.3s,baz=336,slow=8.7,SNR=7.5						
PLCA				Lg	Lg	07 39 19.1	
	comp=N,0.1nm,0.3s,baz=84,slow=15,SNR=3.0						
LPAZ	**La Paz**	**18.02**	**14**	P	**Pn**	**07 39 56.4**	**+1.2**
	comp=N,0.1nm,0.3s,baz=209,slow=11,SNR=5.1						
TORD	**Torodi Ar. Bea**	**84.51**	**70**	P	**P**	**07 48 16.6**	**-0.7**
	comp=N,0.9nm,0.7s,baz=248,slow=3.7,SNR=6.0						
MKAR	**Makanchi Array**	**156.99**	**49**	PKPab	**PKPab**	**07 56 08.9**	**-0.6**
	comp=N,0.2nm,0.5s,baz=298,slow=3.4,SNR=3.7						

MEX 25 07:39:58.4±0.4, 15°.40N×96°.87W, h26km±18km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.82**	**64**	*i*P	Pb	07 40 11.5	-2.5
HUIG				*i*S	Sb	07 40 21.7	-3.0
VHO	**Vista Hermosa**	**1.66**	**5**	*e*P	Pn	07 40 24.0	-2.1
VHO				*e*S	Sn	07 40 43.4	-3.5
CMIG	**Matias Romero**	**2.54**	**48**	*e*P	Pn	07 40 35.2	-2.7
CMIG				*i*S	Sn	07 41 05.8	-2.3

*IDC **25** 07:45:21.5±1.8, 31°.31S×178°.35W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/21, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=45.8km s-min=30.8km az=53.0*

ISC 25 07:45:27.5±1.4, 31°.2S±0°.1×179°.9E±0°.2, h35km, n22, σ1s98/29, mb4.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.69**	**46**	Sn	**Sn**	**07 46 40.5**	**+0.9**
	314nm,0.3s,baz=62,slow=19,SNR=8.5						
MXZ	**Matakaoa Point**	**6.53**	**191**	*e*PN	**Pn**	**07 47 03.4**	**+2.3**
MXZ				SN	**Sn**	**07 48 14.4**	**+0.1**
WMGZ	**Waiomatatini S**	**6.76**	**190**	*e*PN	**Pn**	**07 47 05.1**	**+0.8**
WMGZ				SN	**Sn**	**07 48 19.8**	**-0.3**
HAZ	**Te Kaha**	**6.81**	**194**	PN	Pn	07 47 08.7	+3.8
HAZ				SN	**Sn**	**07 48 22.9**	**+1.6**
PUZ	**Puketiti**	**7.04**	**190**	PN	**Pn**	**07 47 08.9**	**+0.8**
PUZ				SN	**Sn**	**07 48 24.7**	**-2.2**
TWGZ	**Tauwhareparae**	**7.18**	**192**	PN	**Pn**	**07 47 11.8**	**+1.7**
MWZ	**Matawai**	**7.43**	**194**	PN	**Pn**	**07 47 14.9**	**+1.5**
MWZ				SN	**Sn**	**07 48 38.1**	**+1.7**
CNGZ	**Carnagh Statio**	**7.45**	**190**	PN	**Pn**	**07 47 14.9**	**+1.2**
URZ	**Urewera**	**7.45**	**197**	Pn	**Pn**	**07 47 16.9**	**+3.2**
	1.7nm,0.3s,baz=283,slow=5.4,SNR=20						
URZ	**Urewera**	**7.45**	**197**	PN	**Pn**	**07 47 16.6**	**+2.9**
URZ				SN	**Sn**	**07 48 41.9**	**+5.0**
RIGZ	**Rimuhau**	**7.74**	**192**	*e*PN	**Pn**	**07 47 18.5**	**+0.8**
RIGZ				SN	**Sn**	**07 48 45.5**	**+1.4**
SNGZ	**Shannon Statio**	**7.89**	**195**	*e*PN	**Pn**	**07 47 21.4**	**+1.5**
ARHZ	**Aropaoanui**	**8.43**	**195**	PN	**Pn**	**07 47 28.1**	**+0.9**
ARHZ				SN	**Sn**	**07 49 01.7**	**+0.6**
KAHZ	**Kahuranaki**	**8.97**	**195**	*e*PN	**Pn**	**07 47 34.1**	**-0.4**
ANWZ	**Angora Road**	**9.69**	**196**	SN	**Sn**	**07 49 29.4**	**-2.6**
MRZ	**Mangatainoka R**	**10.11**	**199**	PN	**Pn**	**07 47 48.9**	**-1.3**
MRZ				SN	**Sn**	**07 49 39.2**	**-3.2**
THZ	**Tophouse**	**11.98**	**206**	*e*PN	**Pn**	**07 48 16.7**	**+0.9**
THZ				SN	**Sn**	**07 50 27.1**	**-1.2**
ASAR	**Alice Springs**	**41.25**	**269**	P	P	07 53 20.9	+11
	1.1nm,0.4s,baz=105,slow=7.5,SNR=16						
WRA	**Warramunga Arr**	**42.30**	**274**	P	P	07 53 29.6	+12
	0.8nm,0.3s,baz=113,slow=7.9,SNR=14						
QSPA	**South Pole Qui**	**58.97**	**180**	P	**P**	**07 55 21.7**	**-1.5**
	0.8nm,0.4s,baz=29,slow=10,SNR=8.9						
FINES	**FINESS Array B**	**145.18**	**338**	PKPbc	**PKPbc**	**08 05 01.4**	**+1.2**
	0.5nm,0.4s,baz=50,slow=3.0,SNR=7.1						
TORD	**Torodi Ar. Bea**	**162.01**	**186**	PKPab	**PKPab**	**08 06 09.9**	**-1.9**
	0.7nm,0.8s,baz=172,slow=3.7,SNR=3.6						

GUC 25 08:03:04.0±0.3, 34°.56S×71°.71W, h36km±4km, ML3.6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.59**	**138**	*e*P	Pn	08 03 16.5	+0.4
NICH				*e*S	Sn	08 03 25.8	+1.3
TALC	**Talca**	**0.84**	**176**	*e*P	Pn	08 03 20.2	+1.0
LNCH	**Linares**	**1.29**	**176**	⇑*e*P	Pn	08 03 27.2	+1.8
LNCH				*e*S	Sn	08 03 44.8	+3.3
RCDM	**Rinconada Maip**	**1.30**	**35**	*e*P	Pn	08 03 27.4	+1.6
RCDM				*e*S1	Sn	08 03 45.3	+3.4
SJCH	**San Jose de Ma**	**1.45**	**51**	*e*P	Pn	08 03 29.9	+2.0
SJCH				*e*S	Sn	08 03 49.7	+4.0
LACH	**Col Las Americ**	**1.48**	**42**	*e*P	Pn	08 03 30.2	+2.1
LACH				*e*S	Sn	08 03 50.3	+4.1
CLCH	**Cerro Calan**	**1.51**	**40**	*e*P	Pn	08 03 31.2	+2.5
CLCH				*e*S	Sn	08 03 51.5	+4.2
CLCH				AML	AML	08 03 57.6	
	comp=N,2μm,0.7s						
PEL	**Peldehue**	**1.65**	**31**	*e*P	Pn	08 03 33.0	+2.5
PEL				*e*S	Sn	08 03 54.8	+4.3
PEL				AML	AML	08 04 03.8	
	comp=N,929nm,0.6s						

GUC 25 08:03:48.6±0.5, 34°.57S×71°.70W, h41km±4km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.58**	**139**	*e*P	Pn	08 04 01.0	+0.5
NICH				*e*S	Sn	08 04 10.6	+1.6
TALC	**Talca**	**0.83**	**176**	*e*P9	Pn	08 04 04.0	+0.1
TALC				*e*S	Sn	08 04 16.1	+1.1
LNCH	**Linares**	**1.28**	**176**	*e*P	Pn	08 04 11.9	+1.8
LNCH				*e*S	Sn	08 04 29.0	+3.0
SJCH	**San Jose de Ma**	**1.45**	**51**	*e*S	Sn	08 04 34.1	+3.7
LACH	**Col Las Americ**	**1.48**	**41**	*e*S	Sn	08 04 34.6	+3.7
CLCH	**Cerro Calan**	**1.51**	**40**	*e*S	Sn	08 04 35.4	+3.5
CLCH				AML	AML	08 04 42.2	
	comp=N,2μm,0.4s						
PEL	**Peldehue**	**1.65**	**31**	*e*S	Sn	08 04 39.0	+3.7
PEL				AML	AML	08 04 48.4	
	comp=N,748nm,0.4s						

GUC 25 08:23:50.5±0.5, 35°.81S×73°.41W, h17km±3km, ML3.9, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.60**	**122**	⇑*e*P	Pb	08 24 02.7	+0.2
COCH				*e*S	Sb	08 24 11.7	+1.0
CCSP	**San Pedro de C**	**1.06**	**167**	*e*P	Pb	08 24 10.5	+0.1
CCSP				*e*S	Sn	08 24 25.5	+0.6
CCSP				AML	AML	08 24 33.1	
	comp=E,6μm,0.3s						
LNCH	**Linares**	**1.47**	**92**	⇑*e*P	Pb	08 24 17.2	-0.3
LNCH				*e*S	Sg	08 24 37.4	-0.7
TALC	**Talca**	**1.51**	**75**	⇑*e*P	Pb	08 24 17.6	-0.5
TALC				*e*S	Sg	08 24 38.6	-0.5
NICH	**Los Niches**	**1.96**	**66**	*e*P	Pb	08 24 25.1	-0.7
NICH				*e*S	Sb	08 24 51.5	+1.6
CLCH	**Cerro Calan**	**3.38**	**45**	*e*P9	Pn	08 24 42.7	0.0
CLCH				*e*S	Sn	08 25 24.6	+2.1

IDC 25 08:42:17.3±8.0, 17°.37S×173°.88W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/35, mbtmp3.6/3, Error ellipse: s-maj=350.8km s-min=39.7km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.98**	**258**	P	P	08 51 05.5	-0.5
	0.3nm,0.6s,baz=96,slow=7.0,SNR=5.2						
ASAR	**Alice Springs**	**49.09**	**254**	P	P	08 51 07.1	+0.2
	1.7nm,0.6s,baz=90,slow=8.3,SNR=34						
ILAR	**Eielson Array**	**84.45**	**11**	P	P	08 54 51.5	0.0
	0.2nm,0.6s,baz=224,slow=6.5,SNR=4.1						

IDC 25 08:51:03.5±3.0, 53°.37N×87°.49E, h0km, mb1 2.9/2, mb1mx2.8/29, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=29.7km s-min=14.4km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.69**	**291**	*i*		09 03 04.1	
	baz=107,slow=337,SNR=0.4						
ZALV	**Zalesovo Beam**	**1.69**	**291**	Pg	Pn	08 51 32.8	-1.5
	1.2nm,0.3s,baz=114,slow=15,SNR=15						
ZALV				Lg	Lg	08 51 57.3	
	1.7nm,0.3s,baz=114,slow=28,SNR=7.6						
KURBB	**Kurchatov Arra**	**6.18**	**247**	Pn	Pn	08 52 37.0	+1.1
	0.0nm,0.3s,baz=61,slow=14,SNR=6.6						
MKAR	**Makanchi Array**	**7.38**	**209**	Pn	Pn	08 52 53.6	+1.2
	0.2nm,0.3s,baz=31,slow=14,SNR=20						
MKAR				Lg	Lg	08 54 55.9	
	0.0nm,0.3s,baz=37,slow=30,SNR=3.6						

*IDC **25** 08:53:44.4±1.1, 31°.18S×179°.08W, h0km, mb4.4/3, mb1 4.5/5, mb1mx4.1/29, mbtmp4.4/5, ML4.1/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/22, Error ellipse: s-maj=31.5km s-min=22.7km az=105.0*
*ISCJB **25** 08:53:47.4±0.6, 31°.18S±0°.05×179°.1W±0°.1, h33km, mb4.6/7, MS3.3/3, Error ellipse: s-maj=14.5km s-min=5.6km az=19.8*
*NEIC **25** 08:53:48.8±0.6, 31°.11S×178°.92W, h35km, mb4.6/3, Error ellipse: s-maj=15.4km s-min=9.3km az=105.0*

ISC 25 08:53:49.3±0.7, 31°.16S±0°.07×179°.0W±0°.1, h35km, n32, σ0s99/20, mb4.6/7, MS3.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.12**	**26**	Pn	**Pn**	**08 54 22.8**	**+0.6**
	62nm,0.3s,baz=296,slow=22,SNR=5.8						
RAO	**Raoul Island**	**2.12**	**26**	*e*Pn	**Pn**	**08 54 20.6**	**-1.6**
RAO				*e*Sn	**Sn**	**08 54 48.9**	**+1.6**
URZ	**Urewera**	**7.77**	**203**	Pn	**Pn**	**08 55 39.6**	**-0.3**
	2.7nm,0.3s,baz=15,slow=0.6,SNR=4.6						
URZ				Sn	**Sn**	**08 57 06.7**	**0.0**
	baz=192,slow=23,SNR=1.0						
URZ				LR	LR	08 58 27.7	
	comp=Z,364nm,19.2s,baz=49,slow=37						
MSVF	**Nonsavu**	**13.63**	**348**	*e*Pn	**Pn**	**08 56 59.0**	**-1.3**
	42nm,1.4s						
MSVF				*e*Sn	**Sn**	**08 59 31.3**	**+0.8**
DZM	**Mont Dzumac**	**15.84**	**301**	LR	LR	09 02 17.7	
	comp=Z,163nm,18.5s,baz=202,slow=32						
AFI	**Afiamalu**	**18.41**	**23**	*e*Pn	**P**	**08 58 01.4**	**-0.2**
TBI	**Tubuai**	**27.33**	**81**	*e*LR	LR	09 06 18.7	
	84nm,29.8s						
TBI	**Tubuai**	**27.33**	**81**	*e*T	T	09 27 53.5	
	124nm,0.4s						
HNR	**Honiara**	**29.17**	**313**	LR	LR	09 10 24.8	
	comp=Z,49nm,18.7s,baz=327,slow=34						
PAE	**Paea**	**29.86**	**70**	*e*T	T	09 31 00.3	
	23nm,0.2s						
PPT2	**Papeete2**	**29.90**	**70**	*e*LR	LR	09 07 27.5	
	129nm,27.2s						
PPT2	**Papeete2**	**29.90**	**70**	*e*T	T	09 31 04.2	
	19nm,0.3s						
PPT	**Papeete**	**29.92**	**70**	LR	LR	09 11 31.4	
	comp=Z,29nm,18.3s,baz=284,slow=36						
TVO	**Taravao**	**30.06**	**71**	*e*T	T	09 31 12.4	
	4.4nm,0.4s						
TIAR	**Tiarei**	**30.11**	**70**	*e*T	T	09 31 09.0	
	4.3nm,0.3s						
MEH	**Mehetia**	**30.98**	**72**	*e*T	T	09 32 24.7	
	42nm,0.3s						
PMOR	**Pomariorio Ree**	**32.67**	**68**	*e*T	T	09 34 30.6	
	5.9nm,0.4s						
VAH	**Vaihoa**	**32.75**	**68**	*e*T	T	09 34 36.4	
	96nm,0.2s						
BBOO	**Buckleboo**	**37.94**	**255**	*e*P	**P**	**09 01 04.8**	**+1.3**
	189nm,1.0s						
RKT	**Rikitea**	**39.78**	**89**	*e*T	T	09 43 27.0	
	3.6nm,0.3s						
ASAR	**Alice Springs**	**42.22**	**268**	P	**P**	**09 01 39.1**	**0.0**
	2.6nm,0.9s,baz=105,slow=7.5,SNR=20						
WB2	**Warramunga Arr**	**43.27**	**274**	*e*P	**P**	**09 01 46.8**	**-0.8**
WRAB	**Tennant Creek**	**43.27**	**274**	*e*P	**P**	**09 01 48.3**	**+0.6**
	14nm,1.2s						
WRA	**Warramunga Arr**	**43.28**	**273**	P	**P**	**09 01 47.2**	**-0.5**
	6.9nm,0.9s,baz=113,slow=7.8,SNR=14						
FITZ	**Fitzroy Crossi**	**51.51**	**271**	*e*P	**P**	**09 02 51.9**	**+0.2**
	13nm,1.1s						
QSPA	**South Pole Qui**	**58.95**	**180**	P	**P**	**09 03 45.9**	**+1.0**
	3.4nm,0.7s,baz=9.6,slow=1.3,SNR=17						
QSPA	**South Pole Qui**	**58.95**	**180**	*e*P	**P**	**09 03 46.1**	**+1.2**
SNAA	**Sanae**	**77.42**	**179**	*e*P	**P**	**09 05 40.4**	**-0.1**
	3.4nm,0.8s						
PDAR	**Pinedale Array**	**97.28**	**44**	LR	LR	09 49 09.0	
	comp=Z,28nm,18.2s,baz=326,slow=34						
FINES	**FINESS Array B**	**145.55**	**339**	PKPbc	**PKPbc**	**09 13 23.2**	**+0.1**
	1.2nm,0.6s,baz=43,slow=2.5,SNR=5.3						
BRTR	**Keskin Array B**	**152.19**	**297**	PKPbc	**PKPbc**	**09 13 41.0**	**-0.4**
	1.0nm,0.8s,baz=115,slow=6.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**162.06**	**182**	PKPab	**PKPab**	**09 14 32.0**	**-1.8**
	1.0nm,0.8s,baz=186,slow=2.9,SNR=4.6						

*ISCJB **25** 09:02:31.6±0.9, 10°.52S±0°.06×110°.06E±0°.06, h34km±11km, mb3.8/6, Error ellipse: s-maj=10.8km s-min=9.1km az=145.5*
*AUST **25** 09:02:31.4±6.1, 10°.56S×110°.04E, h30km, Error ellipse: s-maj=1.1km s-min=0.8km az=261.0*
*IDC **25** 09:02:37.4±1.6, 9°.97S×110°.50E, h40km±7km, mb3.6/6, mb1 3.8/6, mb1mx3.5/34, mbtmp3.8/6, Error ellipse: s-maj=71.6km s-min=14.6km az=49.0*
*DJA **25** 09:02:40.1±0.8, 10°S±7°×11°0E±°, h63km±51km, M3.9/13, MLv3.9/13*

ISC 25 09:02:35.1±0.9, 10°.36S±0°.07×110°.11E±0°.06, h40km±8km, n25, σ1s27/29, mb3.9/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**2.39**	**26**	P	**Pn**	**09 03 11.9**	**+0.1**
PCJI				S	**Sn**	**09 03 38.3**	**-1.6**
UGM	**Wanagama**	**2.46**	**10**	P	**Pn**	**09 03 12.7**	**-0.1**
UGM				S	Sn	09 03 38.9	-2.8
UGM	**Wanagama**	**2.46**	**10**	P	**Pn**	**09 03 12.5**	**-0.3**
	baz=2.7,SNR=32						
UGM				S	**Sn**	**09 03 41.5**	**-0.2**
	baz=2.7,SNR=4.6						
WOJI	**Wonogiri, Jawa**	**2.63**	**18**	P	**Pn**	**09 03 15.2**	**+0.2**
WOJI				S	Sn	09 03 43.3	-2.4
PWJI	**Pagerwojo**	**2.86**	**36**	P	**Pn**	**09 03 17.7**	**-0.5**
PWJI				S	Sn	09 03 47.7	-3.7
CMJI	**Cimerak**	**3.04**	**327**	P	**Pn**	**09 03 21.3**	**+0.7**
CMJI				S	**Sn**	**09 03 53.3**	**-2.5**
KPJI	**Karang Pucung**	**3.22**	**339**	P	**Pn**	**09 03 23.2**	**0.0**
NGJI	**Ngawi**	**3.26**	**24**	P	**Pn**	**09 03 24.1**	**+0.4**
SMRI	**Semarang**	**3.30**	**6**	P	**Pn**	**09 03 24.1**	**-0.2**
SMRI	**Semarang**	**3.30**	**6**	P	**Pn**	**09 03 26.1**	**+1.7**
	baz=3.5,SNR=6.4						
CISI	**Cisompet, Garu**	**3.59**	**321**	P	**Pn**	**09 03 28.9**	**+0.6**
CISI				S	Sn	09 04 06.4	-3.1
CISI	**Cisompet, Garu**	**3.59**	**321**	S	**Sn**	**09 04 08.5**	**-1.0**
	baz=3.7,SNR=3.4						
GMJI	**Gumukmas**	**3.89**	**58**	P	**Pn**	**09 03 34.1**	**+1.7**
XMIS	**Christmas Isla**	**4.39**	**268**	P	Pn	09 03 36.5	-2.7
	baz=4.3,SNR=7.2						
XMIS				S	Sn	09 04 21.4	-7.7
	baz=4.3,SNR=4.2						
JAGI	**Jajag, Banyuwa**	**4.41**	**65**	P	**Pn**	**09 03 39.0**	**-0.5**
JAGI	**Jajag, Banyuwa**	**4.41**	**65**	P	**Pn**	**09 03 38.9**	**-0.6**
	baz=4.6,SNR=14						
JAGI				S	Sn	09 04 25.3	-4.3
	baz=4.6,SNR=6.1						
GIRL	**Giralia**	**12.84**	**163**	P	Pn	09 05 31.0	-4.1
	baz=13,SNR=6.1						
GIRL				S	Sn	09 07 44.3	-12
	baz=13,SNR=3.7						
MEEK	**Meekatharra**	**18.08**	**155**	P	**Pn**	**09 06 39.5**	**-3.8**
	baz=18,SNR=9.6						
MEEK				S	Sn	09 09 50.9	-13
	baz=18,SNR=3.4						
WRA	**Warramunga Arr**	**25.22**	**115**	P	**P**	**09 07 57.7**	**+0.3**
	1.7nm,0.8s,baz=286,slow=11,SNR=6.6						
WRA				pP	**pP**	**09 08 08.9**	**+0.6**
	2.9nm,0.8s,baz=287,slow=11,SNR=12						
ASAR	**Alice Springs**	**26.27**	**123**	P	**P**	**09 08 08.9**	**+2.1**
	0.6nm,0.6s,baz=299,slow=8.9,SNR=9.5						
ASAR				pP	**pP**	**09 08 19.1**	**+1.2**
	1.1nm,0.7s,baz=300,slow=8.4,SNR=7.0						
CMAR	**Chiang Mai Arr**	**30.68**	**339**	P	**P**	**09 08 47.2**	**+1.1**
	1.6nm,0.4s,baz=174,slow=8.0,SNR=12						
USRK	**Ussuriysk Ar.**	**57.82**	**18**	pP	pP	09 12 34.4	+0.2
	1.7nm,0.6s,baz=223,slow=5.4,SNR=3.2						
SONM	**Songino Array**	**58.03**	**357**	P	**P**	**09 12 24.0**	**0.0**
	0.6nm,0.6s,baz=170,slow=8.5,SNR=4.2						
SONM				pP	**pP**	**09 12 36.2**	**+0.5**
	0.8nm,0.6s,baz=177,slow=7.8,SNR=4.5						
MKAR	**Makanchi Array**	**62.09**	**339**	P	**P**	**09 12 52.4**	**+0.6**
	0.5nm,0.5s,baz=146,slow=8.6,SNR=14						
MKAR				pP	**pP**	**09 13 03.9**	**+0.3**
	0.7nm,0.5s,baz=148,slow=8.2,SNR=7.4						
KURBB	**Kurchatov Arra**	**66.66**	**339**	P	**P**	**09 13 21.9**	**+0.4**
	0.8nm,0.5s,baz=137,slow=5.6,SNR=2.7						

IDC 25 09:07:21.8±3.1, 30°.57S×179°.01W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/17, mbtmp3.7/3, ML3.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/20, Error ellipse: s-maj=69.2km s-min=48.5km az=109.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.

0.7nm,0.5s,baz=100,slow=6.8,SNR=19
WRA Warramunga Arr 44.64 271 P **P 10 10 15.9 +0.5**
0.6nm,0.4s,baz=111,slow=8.0,SNR=20
FINES FINESS Array B 144.86 341 PKP **PKPdf 10 21 39.2 +0.6**
2.2nm,0.4s,baz=64,slow=3.2,SNR=16
TORD Torodi Ar. Bea 163.31 177 PKPab PKPab 10 23 04.8 +8.8
0.3nm,0.5s,baz=172,slow=4.4,SNR=5.2

GUC 25 10:23:38.8±0.7,24°.37S×67°.79W,h253km±18km,ML4.2, 5C,Fault plane solution: NP1:φ75.00000°,δ29.00000°, λ-147.00000°.,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.33**	**315**	⇑*i*P	Pn	10 24 26.0	+1.2
PB06				*i* S	S	10 25 01.7	+0.7
PB06				IAML		10 25 03.9	
	comp=E,376nm,0.5s						
PB04	**IPOC Station P**	**2.61**	**323**	⇑*i*P	Pn	10 24 32.7	+5.3
PB04				*i* S	S	10 25 14.1	+8.3
PB04				IAML		10 25 17.3	
	comp=N,286nm,0.4s						
PB07	**IPOC Station P**	**3.26**	**323**	⇑*i*P	Pn	10 24 35.9	+1.2
PB07				*i* S	S	10 25 19.7	+0.9
PB07				IAML		10 25 22.6	
	comp=E,186nm,0.4s						
PB01	**IPOC Station P**	**3.66**	**334**	*e*P	Pn	10 24 40.5	+1.5
PB01				*e*S	S	10 25 27.2	+0.4
PB01				IAML		10 25 32.4	
	comp=E,106nm,0.1s						
HMBC	**Humberstone**	**4.51**	**334**	⇑*i*P	Pn	10 24 51.3	+2.3
HMBC				*i* S	S	10 25 45.3	+0.5
LCO	**Las Campanas**	**5.31**	**209**	*e*P	Pn	10 25 01.7	+3.0
LCO				*e*S	S	10 26 04.0	+1.4
MNMC	**Minimini**	**5.47**	**342**	⇑*i*P	Pn	10 25 03.6	+2.6
MNMC				*e*S	S	10 26 07.7	+1.2

*IDC **25** 10:42:25.4±0.8,26°.96S×176°.55W,h0km,mb4.1/8, mb1 4.4/9,mb1mx4.2/30,mbtmp4.1/9,ML5.2/1,MS3.9/7, Ms1 3.9/7,ms1mx3.6/33,Error ellipse: s-maj=31.5km s-min=19.8km az=134.0*
*ISCJB **25** 10:42:27.9±0.6,27°.50S±0°.09×176°.5W±0°.1,h34km, mb4.2/10,MS3.9/6,Error ellipse: s-maj=18.4km s-min=9.0km az=32.7*
*NEIC **25** 10:42:33.1±1.9,27°.13S×176°.61W,h58km±18km,mb4.6/2, Error ellipse: s-maj=21.4km s-min=12.1km az=166.0*
ISC 25 10:42:29.5±0.7,27°.45±0°.1×176°.4W±0°.2,h34km,n39, σ1§28/32,mb4.1/10,MS3.9/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.32**	**215**	Pn	**Pb**	**10 43 10.0**	**-0.7**
	453nm,0.3s,baz=95,slow=4.5,SNR=15						
RAO				Sn	**Sb**	**10 43 43.7**	**+4.7**
	727nm,0.3s,baz=21,slow=22,SNR=8.0						
URZ	**Urewera**	**12.17**	**205**	Pn	**Pn**	**10 45 17.4**	**-3.0**
	0.7nm,0.3s,baz=258,slow=4.7,SNR=6.8						
URZ				Sn	**Sn**	**10 47 33.5**	**-1.3**
	6.9nm,0.3s,baz=207,slow=22,SNR=28						
DZM	**Mont Dzumac**	**16.45**	**285**	LR	LR	10 51 30.3	
	comp=Z,1μm,19.2s,baz=94,slow=34						
TBI	**Tubuai**	**24.64**	**87**	*e*LQ	LQ	10 52 24.8	
	392nm,27.9s						
TBI				*e*LR	LR	10 53 44.5	
	507nm,28.0s,baz=253						
TBI	**Tubuai**	**24.64**	**87**	*e*T	T	11 12 46.8	
	8.0nm,0.3s						
PAE	**Paea**	**26.53**	**74**	*e*T	T	11 14 54.3	
	3.3nm,0.3s						
PPT2	**Papeete2**	**26.57**	**74**	*e*LQ	LQ	10 53 11.7	
	548nm,23.8s						
PPT2				*e*LR	LR	10 54 34.6	
	417nm,24.0s,baz=249						
PPT	**Papeete**	**26.58**	**74**	LR	LR	10 56 10.1	
	comp=Z,187nm,18.9s,baz=251,slow=31						
HNR	**Honiara**	**28.57**	**304**	LR	LR	10 57 42.5	
	comp=Z,372nm,21.7s,baz=144,slow=32						
VAH	**Vaihoa**	**29.31**	**72**	*e*T	T	11 18 19.6	
	6.0nm,0.3s						
RKT	**Rikitea**	**37.58**	**93**	*e*LR	LR	10 59 45.2	
	422nm,31.2s						
RKT	**Rikitea**	**37.58**	**93**	*e*T	T	11 29 03.1	
	1.6nm,0.4s						
AS31	**Alice Springs**	**44.77**	**263**	*e*P	**P**	**10 50 39.2**	**-1.0**
ASAR	**Alice Springs**	**44.77**	**263**	P	**P**	**10 50 40.0**	**-0.2**
	1.0nm,0.5s,baz=96,slow=6.6,SNR=49						
ASAR				LR	LR	11 08 30.1	
	comp=Z,214nm,18.2s,baz=95,slow=35						
WRA	**Warramunga Arr**	**45.49**	**268**	P	**P**	**10 50 45.5**	**-0.4**
	0.8nm,0.3s,baz=104,slow=8.3,SNR=36						
WRA				LR	LR	11 07 54.9	
	comp=Z,176nm,21.9s,baz=155,slow=34						
WRKA	**Warakurna**	**49.34**	**259**	P	**P**	**10 51 14.8**	**-1.0**
	baz=50,SNR=14						
KDU	**Kakadu**	**49.88**	**276**	P	**P**	**10 51 19.8**	**-0.1**
	baz=51,SNR=5.9						
KNRA	**Kununurra**	**51.97**	**271**	P	**P**	**10 51 35.3**	**-0.3**
	baz=53,SNR=9.0						
MEEK	**Meekatharra**	**57.29**	**255**	P	**P**	**10 52 14.7**	**+0.4**
	baz=58,SNR=3.3						
MJAR	**Matsushiro Arr**	**76.58**	**324**	P	**P**	**10 54 15.6**	**-0.9**
	2.9nm,0.9s,baz=167,slow=5.0,SNR=5.9						
MJAR				LR	LR	11 23 07.0	
	comp=Z,43nm,20.9s,baz=195,slow=32						
KSRS	**Korea Array**	**82.97**	**319**	P	**P**	**10 54 51.8**	**+0.7**
	1.4nm,0.9s,baz=165,slow=5.0,SNR=4.3						
KSRS				LR	LR	11 29 38.8	
	comp=Z,38nm,18.1s,baz=158,slow=34						
KSAR	**Wonju Array Be**	**82.99**	**318**	P	**P**	**10 54 51.8**	**+0.6**
NVAR	**Mina Array Bea**	**85.05**	**42**	P	**P**	**10 55 02.4**	**+0.5**
	0.6nm,0.3s,baz=218,slow=9.4,SNR=5.0						
TPH	**Tonopah**	**85.47**	**43**	*e*P	**P**	**10 55 04.4**	**+0.4**
	1.2nm,0.3s						
TXAR	**Lajitas Array**	**89.55**	**56**	P	**P**	**10 55 24.6**	**+0.8**
	0.5nm,1.0s,baz=246,slow=5.3,SNR=3.5						
PDAR	**Pinedale Array**	**92.95**	**43**	P	**P**	**10 55 40.6**	**+1.2**
	0.5nm,0.7s,baz=229,slow=8.2,SNR=3.3						
BOZ	**Bozeman (W)**	**93.42**	**39**	*e*P	**P**	**10 55 41.4**	**0.0**
	5.4nm,1.6s						
ILAR	**Eielson Array**	**94.66**	**12**	P	**P**	**10 55 45.7**	**-0.7**
	0.4nm,0.8s,baz=225,slow=5.4,SNR=4.6						
MKAR	**Makanchi Array**	**116.87**	**311**	PKP	**PKPdf**	**11 01 10.0**	**-0.4**
	0.2nm,0.4s,baz=171,slow=1.1,SNR=4.7						
KURK	**Kurchatov**	**119.93**	**315**	PKP	**PKPdf**	**11 01 15.4**	**-0.7**
KURBB	**Kurchatov Arra**	**119.98**	**315**	PKP	**PKPdf**	**11 01 15.4**	**-0.7**
	0.2nm,0.3s,baz=92,slow=1.7,SNR=6.9						
ARCES	**ARCESS Array B**	**135.90**	**349**	PKP	**PKPdf**	**11 01 46.4**	**+0.4**
	1.6nm,0.7s,baz=349,slow=1.8,SNR=7.5						
FINES	**FINESS Array B**	**142.73**	**342**	PKP	**PKPdf**	**11 01 59.4**	**+0.8**
	0.9nm,0.8s,baz=42,slow=3.1,SNR=4.1						
NB2	**NORSAR Subarra**	**145.93**	**353**	PKP	**PKPdf**	**11 02 03.9**	**-0.3**
	comp=Z,9.8nm,1.4s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**145.93**	**353**	PKPbc	**PKPdf**	**11 02 04.6**	**+0.4**
	comp=Z,3.7nm,1.0s,baz=16,slow=2.5,SNR=4.8						
HFS	**Hagfors**	**146.51**	**351**	PKPbc	**PKPdf**	**11 02 05.7**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=73,slow=5.0,SNR=15						
AKASG	**Malin Array Be**	**149.62**	**327**	PKPbc	**PKPbc**	**11 02 15.4**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=46,slow=3.2,SNR=5.9						
BRTR	**Keskin Array B**	**152.23**	**304**	PKPbc	**PKPbc**	**11 02 21.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=163,slow=6.3,SNR=4.1						
BRTR				PKPab	**PKPab**	**11 02 31.8**	**0.0**
	comp=Z,1.4nm,0.9s,baz=79,slow=1.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**165.75**	**172**	PKPab	**PKPab**	**11 03 32.5**	**+2.0**
	comp=Z,2.6nm,1.1s,baz=193,slow=3.4,SNR=9.3						

*IDC **25** 10:46:21.5±2.1,9°.95N×123°.02E,h0km,mb4.0/4, mb1 4.3/4,mb1mx3.7/46,mbtmp4.0/4,Error ellipse: s-maj=100.8km s-min=22.1km az=54.0*
*MAN **25** 10:46:22,9°.94N×122°.18E,h1km,mb4.5,ML3.4,MS3.3*
*ISCJB **25** 10:46:25.8±1.2,10°.01N±0°.04×122°.2E±0°.1,h27km, mb4.0/4,Error ellipse: s-maj=15.6km s-min=6.1km az=174.3*
ISC 25 10:46:25.6±1.1,9°.97N±0°.05×122°.4E±0°.1,h27km,n11, σ1§71/13,mb4.1/4,1C,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.70**	**20**	*e*P	**Pb**	**10 46 37.5**	**-1.7**
GUIM				*e*S	**Sb**	**10 46 48.8**	**+0.3**
TBP	**Tagbilaran**	**1.52**	**100**	*e*P	**Pb**	**10 46 54.5**	**+1.3**
TBP				*e*S	Sb	10 47 20.8	+8.7
RCP	**Roxas**	**1.63**	**14**	*e*P	**Pn**	**10 46 53.4**	**+0.8**
LLP	**Lapu-Lapu**	**1.63**	**78**	*e*P	**Pb**	**10 46 55.2**	**+0.1**
DCPH	**Dipolog City**	**1.70**	**144**	⇑*e*P	**Pn**	**10 46 53.7**	**+0.2**
DCPH				*e*S	**Sb**	**10 47 17.8**	**+0.6**
PAGZ	**Pagadian**	**2.34**	**154**	*e*P	**Pn**	**10 47 03.5**	**+1.2**
PAGZ				*e*S	**Sb**	**10 47 34.8**	**-0.9**
MSLP	**Maasin**	**2.48**	**86**	*e*P	**Pb**	**10 47 07.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**24.18**	**293**	P	P	10 51 45.6	+5.5
	3.8nm,0.3s,baz=102,slow=8.4,SNR=3.8						
WRA	**Warramunga Arr**	**31.98**	**158**	P	**P**	**10 52 46.9**	**-2.8**
	1.5nm,0.5s,baz=338,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**35.29**	**161**	P	**P**	**10 53 16.7**	**-1.8**
	1.2nm,0.5s,baz=338,slow=6.9,SNR=27						
MKAR	**Makanchi Array**	**49.98**	**325**	P	**P**	**10 55 20.3**	**+2.8**
	0.4nm,0.8s,baz=130,slow=8.8,SNR=3.7						

MEX 25 10:48:24.3±0.4,15°.46N×96°.82W,h10km±23km,MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.75**	**66**	*e*P	Pg	10 48 36.8	-2.0
HUIG				*e*S	Sg	10 48 46.9	-1.7
VHO	**Vista Hermosa**	**1.61**	**3**	*e*P	Pn	10 48 49.6	-3.4
VHO				*e*S	Sn	10 49 08.9	-5.2
CMIG	**Matias Romero**	**2.47**	**49**	*i* P	Pn	10 49 01.1	-3.4
CMIG				*i* S	Sn	10 49 30.5	-4.3

*ATH **25** 10:55:44.0,40°.20N×19°.69E,h5km±4km,MD3.4/14*
*TIR **25** 10:55:47.6,42°.12N×19°.85E,h7km,ML2.6*
*THE **25** 10:55:47.6,40°.17N×19°.90E,h0km±1km,ML2.9/5,Error ellipse: s-maj=1.6km s-min=0.5km az=303.0*
*CSEM **25** 10:55:49.6±0.4,40°.07N×20°.02E,h5km,ML2.9,Error ellipse: s-maj=9.0km s-min=5.1km az=94.0*
*SKO **25** 10:55:51.1,40°.06N×20°.00E,h9km,M2.4,ML2.8*
*BEO **25** 10:55:59.4±1.3,40°.70N×20°.41E,h5km±5km,ML2.6/7*
ISC 25 10:55:48.4±1.1,40°.14N±0°.02×19°.91E±0°.03,h4km±10km, n75,σ1§30/106,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.26**	**165**	*i* PG	**Pg**	**10 55 53.5**	**0.0**
SRN				*i* SG	**Sg**	**10 55 57.9**	**+1.0**
SRN	**Sarande**	**0.26**	**165**	P	**Pg**	**10 55 53.5**	**0.0**
SRN				S	**Sg**	**10 55 58.0**	**+1.0**
SRN	**Sarande**	**0.26**	**165**	*i* Pg	**Pg**	**10 55 53.5**	**0.0**
SRN				*i* Sg	**Sg**	**10 55 57.9**	**+1.0**
KEK	**Kerkira**	**0.43**	**192**	P	**Pg**	**10 55 56.5**	**-0.2**
KEK				S	**Sg**	**10 56 03.8**	**+1.5**
KEK	**Kerkira**	**0.43**	**192**	*e*PB	**Pg**	**10 55 56.7**	**0.0**
KEK				*e*SB	**Sg**	**10 56 01.4**	**-0.9**
KEK	**Kerkira**	**0.43**	**192**	*e*Pb	**Pg**	**10 55 56.7**	**0.0**
KEK				*e*Sb	**Sg**	**10 56 01.4**	**-0.9**
KEK				S	**Sg**	**10 56 03.8**	**+1.5**
IGT	**Igoumenitsa**	**0.68**	**152**	P	**Pg**	**10 56 00.6**	**-0.9**
IGT				S	**Sg**	**10 56 12.1**	**+1.7**
IGT	**Igoumenitsa**	**0.68**	**152**	*e*PB	**Pg**	**10 56 00.3**	**-1.2**
IGT				*e*SB	**Sg**	**10 56 11.1**	**+0.7**
IGT	**Igoumenitsa**	**0.68**	**152**	*e*Pb	**Pg**	**10 56 00.3**	**-1.2**
IGT				*e*Sb	**Sg**	**10 56 11.1**	**+0.7**
IGT				S	**Sg**	**10 56 12.1**	**+1.7**
JAN	**Janina**	**0.87**	**123**	P	**Pg**	**10 56 04.2**	**-0.8**
JAN				S	**Sg**	**10 56 17.8**	**+1.6**
JAN	**Janina**	**0.87**	**123**	*e*PG	**Pg**	**10 56 03.4**	**-1.6**
JAN				*e*SB	**Sb**	**10 56 18.0**	**0.0**
JAN	**Janina**	**0.87**	**123**	*e*Pg	**Pg**	**10 56 03.4**	**-1.6**
JAN				*e*Sb	**Sb**	**10 56 18.0**	**0.0**
NEST	**Nestorio**	**0.91**	**72**	P	**Pg**	**10 56 04.6**	**-1.3**
NEST				S	**Sb**	**10 56 18.1**	**-1.3**
NEST	**Nestorio**	**0.91**	**72**	*e*PB	**Pg**	**10 56 03.0**	**-2.9**
OHR	**Ohrid**	**1.19**	**34**	*i* Pg	**Pn**	**10 56 13.1**	**+1.3**
OHR				*i* Sg	**Sn**	**10 56 31.6**	**+3.1**
OHR				*e*Lg	Lg	10 56 34.6	
	comp=N,135nm,0.5s						
OHR				*e*Lg	Lg	10 56 34.9	
	comp=E,195nm,0.5s						
OHR	**Ohrid**	**1.19**	**34**	*i* Pg	**Pn**	**10 56 13.1**	**+1.3**
OHR				*i* Sg	**Sn**	**10 56 31.5**	**+3.1**
OHR				*e*Lg	Lg	10 56 34.5	
	comp=E,135nm,0.5s						
FNA	**Florina**	**1.29**	**59**	*e*PB	**Pg**	**10 56 11.0**	**-2.1**
FNA				*e*SB	**Sn**	**10 56 31.0**	**0.0**
DSL	**Palaion Diasel**	**1.35**	**137**	P	**Pn**	**10 56 13.4**	**-0.7**
DSL				S	**Sg**	**10 56 33.4**	**+1.5**
DSL	**Palaion Diasel**	**1.35**	**137**	*e*PB	**Pn**	**10 56 12.5**	**-1.6**
DSL	**Palaion Diasel**	**1.35**	**137**	*e*Pb	**Pn**	**10 56 12.5**	**-1.6**
DSL	**Palaion Diasel**	**1.35**	**137**	P	**Pn**	**10 56 13.4**	**-0.7**
KZN	**Kozani**	**1.43**	**83**	P	**Pn**	**10 56 14.2**	**-1.0**
KZN				S	**Sn**	**10 56 34.9**	**+0.3**
KZN	**Kozani**	**1.43**	**83**	*e*PB	**Pn**	**10 56 14.1**	**-1.1**
KZN	**Kozani**	**1.43**	**83**	*e*Pb	**Pn**	**10 56 14.1**	**-1.1**
KZN				S	**Sn**	**10 56 34.9**	**+0.3**
LKD2	**Lefkada island**	**1.46**	**157**	P	**Pn**	**10 56 15.3**	**-0.3**
LKD2				S	**Sn**	**10 56 36.2**	**+1.0**
LKD2	**Lefkada island**	**1.46**	**157**	*e*PB	**Pn**	**10 56 14.4**	**-1.2**
LKD2				*e*SB	**Sn**	**10 56 37.0**	**+1.8**
LKD2	**Lefkada island**	**1.46**	**157**	*e*Pb	**Pn**	**10 56 14.4**	**-1.2**
LKD2	**Lefkada island**	**1.46**	**157**	P	**Pn**	**10 56 15.3**	**-0.3**
LKD2				*e*Sb	**Sn**	**10 56 37.0**	**+1.8**
THL	**Klokotos Trika**	**1.72**	**109**	*e*PN	**Pb**	**10 56 20.6**	**+0.1**
THL	**Klokotos Trika**	**1.72**	**109**	*e*Pn	**Pb**	**10 56 20.6**	**+0.1**
PDO	**Prodromos**	**1.82**	**147**	*e*PG	**Pn**	**10 56 20.5**	**0.0**
PDO	**Prodromos**	**1.82**	**147**	*e*Pg	**Pn**	**10 56 20.5**	**0.0**
EVR	**Evrytania**	**1.91**	**129**	*e*PN	**Pn**	**10 56 22.4**	**+0.6**
EVR	**Evrytania**	**1.91**	**129**	*e*Pn	**Pn**	**10 56 22.4**	**+0.6**
LIT	**Litokhoron**	**1.98**	**90**	*e*PG	**Pn**	**10 56 23.9**	**+1.2**
LIT	**Litokhoron**	**1.98**	**90**	*e*Pg	**Pn**	**10 56 23.9**	**+1.2**
VLS	**Valsamata**	**2.02**	**165**	*e*PN	**Pn**	**10 56 22.9**	**-0.4**
VLS	**Valsamata**	**2.02**	**165**	*e*Pn	**Pn**	**10 56 22.9**	**-0.4**
MAKR	**Makrakomi, Fth**	**2.05**	**122**	*e*PG	**Pn**	**10 56 25.1**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.05**	**122**	*e*Pg	**Pn**	**10 56 25.1**	**+1.4**
SKO	**Skopje**	**2.17**	**32**	*i* Pn	**Pb**	**10 56 28.1**	**-0.1**
SKO				*e*Sg	**Sg**	**10 57 00.8**	**+2.7**
SKO				*e*Lg	Lg	10 57 02.7	
	comp=E,59nm,0.7s						
SKO				*e*Lg	Lg	10 57 04.5	
	comp=N,54nm,0.5s						
SKO	**Skopje**	**2.17**	**32**	*i* Pn	**Pb**	**10 56 28.1**	**-0.1**
SKO				*e*Sg	**Sg**	**10 57 00.7**	**+2.7**
SKO				*e*Lg	Lg	10 57 02.7	
	comp=N,59nm,0.7s						
AGG	**Agios Georgios**	**2.17**	**120**	*e*PN	**Pn**	**10 56 26.3**	**+0.9**
AGG	**Agios Georgios**	**2.17**	**120**	*e*Pn	**Pn**	**10 56 26.3**	**+0.9**
EFP	**Efpalio**	**2.30**	**137**	*e*PN	**Pn**	**10 56 27.6**	**+0.5**
EFP	**Efpalio**	**2.30**	**137**	*e*Pn	**Pn**	**10 56 27.6**	**+0.5**
VAY	**Valandovo**	**2.34**	**59**	*e*Pg	**Pb**	**10 56 31.5**	**+0.4**
VAY				*e*Sg	**Sn**	**10 56 54.1**	**-2.8**
VAY	**Valandovo**	**2.34**	**59**	*i* Pn	**Pb**	**10 56 30.3**	**-0.8**
VAY				*e*Sg	**Sg**	**10 57 04.8**	**+1.2**
VAY				*e*Lg	Lg	10 57 14.3	
	comp=N,50nm,0.9s						
VAY				*e*Lg	Lg	10 57 14.7	
	comp=E,95nm,1.9s						
VAY	**Valandovo**	**2.34**	**59**	*i* Pn	**Pb**	**10 56 30.3**	**-0.8**
VAY	**Valandovo**	**2.34**	**59**	*e*Pg	**Pb**	**10 56 31.5**	**+0.4**
VAY				*e*Lg	Lg	10 57 14.3	
	comp=E,50nm,0.9s						
PDG	**Podgorica**	**2.34**	**348**	*e*Pg	**Pg**	**10 56 33.2**	**-0.1**
PDG				*e*Sg	**Sb**	**10 57 00.1**	**-0.4**
PDG	**Podgorica**	**2.34**	**348**	*e*Pg	**Pg**	**10 56 33.2**	**-0.1**
PDG				*e*Sg	**Sb**	**10 57 00.1**	**-0.4**
KALE	**Kalithea**	**2.45**	**135**	*e*PN	**Pn**	**10 56 30.7**	**+1.4**
KALE	**Kalithea**	**2.45**	**135**	*e*Pn	**Pn**	**10 56 30.7**	**+1.4**
AXAR	**Agios Charalam**	**2.53**	**122**	*e*PN	**Pn**	**10 56 31.1**	**+0.9**
AXAR	**Agios Charalam**	**2.53**	**122**	*e*Pn	**Pn**	**10 56 31.1**	**+0.9**
DRO	**Drossia**	**2.59**	**147**	*e*PN	**Pn**	**10 56 31.2**	**+0.1**
DRO	**Drossia**	**2.59**	**147**	*e*Pn	**Pn**	**10 56 31.2**	**+0.1**
PLG	**Polygyros**	**2.71**	**84**	*e*PB	**Pn**	**10 56 32.5**	**-0.3**
PLG	**Polygyros**	**2.71**	**84**	*e*Pb	**Pn**	**10 56 32.5**	**-0.3**
KLV	**Kalavryta, Ach**	**2.72**	**139**	*e*PB	**Pn**	**10 56 32.5**	**-0.4**
KLV	**Kalavryta, Ach**	**2.72**	**139**	*e*Pb	**Pn**	**10 56 32.5**	**-0.4**
TREB	**Trebinje**	**2.83**	**336**	*e*Sn	**Sb**	**10 57 12.2**	**-2.4**
TREB	**Trebinje**	**2.83**	**336**	*e*Sn	**Sb**	**10 57 12.2**	**-2.4**
GUR	**Goura**	**2.90**	**138**	*e*PN	**Pn**	**10 56 35.9**	**+0.5**
GUR	**Goura**	**2.90**	**138**	*e*Pn	**Pn**	**10 56 35.9**	**+0.5**
BARS	**Barje**	**3.04**	**27**	*e*Pn	**Pn**	**10 56 38.1**	**+0.9**
BARS	**Barje**	**3.04**	**27**	*e*Pn	**Pn**	**10 56 38.1**	**+0.9**
SJES	**Sjenica**	**3.12**	**1**	*e*Pn	**Pb**	**10 56 42.2**	**-2.4**
SJES				*e*Sg	**Sb**	**10 57 22.3**	**-0.7**
SELS	**Selova**	**3.21**	**16**	*e*Pn	**Pn**	**10 56 41.5**	**+1.8**
BBLS	**Lazići**	**3.75**	**354**	*e*Pn	**Pb**	**10 56 52.6**	**-2.6**
BBLS	**Lazići**	**3.75**	**354**	*e*Pn	**Pb**	**10 56 52.6**	**-2.6**
DIVS	**Divibare**	**3.96**	**1**	*e*Pg	**Pb**	**10 57 00.5**	**+1.7**
VLI	**Veliai**	**4.16**	**144**	*e*PN	**Pn**	**10 56 52.1**	**-0.5**
VLI	**Veliai**	**4.16**	**144**	*e*Pn	**Pn**	**10 56 52.1**	**-0.5**

*IDC **25** 10:57:20.3±0.8,12°.17N×143°.86E,h0km,mb4.1/13, mb1 4.3/13,mb1mx4.0/40,mbtmp4.1/13,Error ellipse: s-maj=31.2km s-min=18.2km az=91.0*
*ISCJB **25** 10:57:22.6±0.4,12°.09N±0°.06×143°.64E±0°.10,h26km, mb4.1/14,Error ellipse: s-maj=14.4km s-min=7.3km az=25.5*
*NEIC **25** 10:57:25.3±0.4,12°.10N×143°.82E,h35km,mb4.4/1,Error ellipse: s-maj=14.5km s-min=7.2km az=102.0*
ISC 25 10:57:24.0±0.6,12°.11N±0°.09×143°.8E±0°.1,h26km,n28, σ0§79/23,mb4.2/14,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.81**	**36**	*e*Pn	**Pn**	**10 57 53.3**	**-0.3**
GUMO				*e*Sn	**Sb**	**10 58 18.8**	**0.0**
H11S3	**WAKE ISLAND Hy**	**22.97**	**71**	T	T	11 26 19.8	
	baz=256,slow=74,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**22.98**	**71**	T	T	11 26 30.5	
	baz=256,slow=74,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**22.99**	**71**	T	T	11 26 21.3	
	baz=256,slow=74,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**23.45**	**68**	T	T	11 27 07.3	
	baz=252,slow=75,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**23.46**	**68**	T	T	11 26 54.3	
	baz=252						
H11N3	**WAKE ISLAND Hy**	**23.47**	**68**	T	T	11 27 03.9	
	baz=252,slow=75,SNR=3.1						
LUWI	**Luwuk**	**24.62**	**239**	*e*P	**P**	**11 02 42.4**	**-0.2**
COEN	**Coen**	**25.91**	**181**	P	**P**	**11 02 53.8**	**-0.4**
KSRS	**Korea Array**	**28.97**	**333**	P	**P**	**11 03 20.0**	**-1.4**
	1.8nm,0.9s,baz=138,slow=11,SNR=3.5						
KSAR	**Wonju Array Be**	**28.97**	**333**	P	**P**	**11 03 20.0**	**-1.5**
WRAB	**Tennant Creek**	**33.17**	**196**	*e*P	**P**	**11 03 58.5**	**-0.1**
	2.8nm,0.5s						
WB2	**Warramunga Arr**	**33.18**	**196**	*e*P	**P**	**11 03 59.0**	**+0.3**
WRA	**Warramunga Arr**	**33.18**	**196**	P	**P**	**11 03 59.1**	**+0.3**
	1.7nm,0.6s,baz=20,slow=9.8,SNR=20						
ASAR	**Alice Springs**	**36.85**	**195**	P	**P**	**11 04 31.1**	**+0.7**
	0.5nm,0.5s,baz=20,slow=10,SNR=14						
BBOO	**Buckleboo**	**45.27**	**189**	*e*P	**P**	**11 05 38.7**	**-0.9**
SONM	**Songino Array**	**47.35**	**326**	P	**P**	**11 05 56.7**	**+0.8**
	0.4nm,0.5s,baz=155,slow=8.4,SNR=5.4						
MKAR	**Makanchi Array**	**61.83**	**317**	P	**P**	**11 07 41.4**	**+0.5**
	0.4nm,0.5s,baz=96,slow=8.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**62.22**	**325**	P	**P**	**11 07 44.3**	**+0.9**
	0.5nm,0.4s,baz=84,slow=5.9,SNR=2.7						
KURK	**Kurchatov**	**65.04**	**320**	P	**P**	**11 08 02.8**	**+0.8**
KURBB	**Kurchatov Arra**	**65.07**	**320**	P	**P**	**11 08 02.8**	**+0.5**
	1.9nm,0.7s,baz=104,slow=6.6,SNR=10						
ILAR	**Eielson Array**	**70.35**	**25**	P	**P**	**11 08 34.3**	**-1.0**
	1.6nm,0.4s,baz=251,slow=5.8,SNR=91						
YKA	**Yellowknife Ar**	**84.65**	**27**	P	**P**	**11 09 55.9**	**+0.7**
	2.2nm,0.4s,baz=286,slow=5.1,SNR=66						
ARCES	**ARCESS Array B**	**88.16**	**342**	P	**P**	**11 10 12.6**	**+0.3**
	1.8nm,0.5s,baz=348,slow=5.3,SNR=19						
BSMT	**Bassoo Peak**	**88.65**	**41**	*e*P	**P**	**11 10 15.6**	**+0.2**
NVAR	**Mina Array Bea**	**88.67**	**51**	P	**P**	**11 10 16.4**	**+0.8**
	0.6nm,0.5s,baz=236,slow=3.3,SNR=3.0						
FINES	**FINESS Array B**	**92.05**	**335**	P	**P**	**11 10 29.6**	**-1.0**
	1.1nm,0.4s,baz=84,slow=5.2,SNR=13						

CLCH					AML	AML	11 12 40.0	
	comp=N,12µm,0.8s							
CLCH					AML	AML	11 12 40.6	
	comp=N,13µm,0.7s							
PEL	**Peldehue**	**3.44**	**40**	‖ *i*P	**Pn**		**11 11 29.7**	**-2.2**
PEL					AML	AML	11 12 37.9	
	comp=N,6µm,0.8s							
PLCA	**Paso Flores**	**5.37**	**157**	*e*P	**Pn**		**11 11 58.2**	**-0.3**
PLCA	**Paso Flores**	**5.37**	**157**	Pn	**Pn**		**11 11 58.7**	**+0.2**
	comp=N,4.2nm,0.3s,baz=329,slow=11,SNR=76							
PLCA					Lg	Lg	11 13 25.9	
	comp=N,3.1nm,0.3s,baz=47,slow=12,SNR=3.0							
PLCA	**Paso Flores**	**5.37**	**157**	*e*Pn	**Pn**		**11 11 58.2**	**-0.3**
PLCA					Lg	Lg	11 13 25.9	
CFAA	**Coronel Fontan**	**5.96**	**47**	Pn	**Pn**		**11 12 04.8**	**-1.7**
	comp=N,4.8nm,0.3s,baz=222,slow=12,SNR=146							
CFAA					Lg	Lg	11 13 39.2	
	comp=N,1.1nm,0.3s,baz=311,slow=15,SNR=5.1							
LCO	**Las Campanas**	**7.13**	**19**	*e*Pn	Pn		11 12 18.8	-4.1
TRQA	**Tornquist**	**9.35**	**107**	*e*Pn	**Pn**		**11 12 52.1**	**-0.9**
LVC	**Limon Verde**	**13.70**	**17**	*e*Pn	**Pn**		**11 13 54.8**	**+2.0**
USHA	**Ushuaia**	**19.32**	**171**	P	**Pn**		**11 15 03.9**	**-0.2**
	comp=N,0.4nm,0.3s,baz=338,slow=6.3,SNR=8.0							
USHA					LR	LR	11 22 10.2	
	comp=N,4µm,20.2s,baz=326,slow=36							
LPAZ	**La Paz**	**19.99**	**15**	*e*P	**P**		**11 15 11.2**	**0.0**
LPAZ					pmax	pmax		
	comp=Z,46nm,1.0s							
LPAZ	**La Paz**	**19.99**	**15**	P	**P**		**11 15 10.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=172,slow=7.4,SNR=19							
LPAZ	**La Paz**	**19.99**	**15**	*e*P	**P**		**11 15 11.2**	**0.0**
	comp=Z,46nm,1.0s							
SIV	**San Ignacio**	**22.57**	**32**	P	**P**		**11 15 36.4**	**-2.0**
	comp=Z,40nm,1.2s,baz=229,slow=13,SNR=43							
SIV					LR	LR	11 26 04.8	
	comp=Z,6µm,19.2s,baz=224,slow=41							
NNA	**Nana**	**23.93**	**351**	LR	LR		11 23 13.8	
	comp=Z,687nm,18.2s,baz=176,slow=32							
SAML	**Samuel**	**28.30**	**22**	*e*P	**P**		**11 16 30.2**	**-1.3**
	comp=Z,14nm,1.5s							
SAML				*e*pP	**pP**		**11 16 39.2**	**+0.8**
ATAH	**Atahualpa**	**28.92**	**350**	LR	LR		11 26 15.6	
	comp=Z,714nm,19.4s,baz=186,slow=33							
BDFB	**Brasilia**	**30.23**	**55**	P	**P**		**11 16 46.6**	**-2.2**
	comp=Z,18nm,0.9s,baz=237,slow=9.5,SNR=15							
BDFB					LR	LR	11 30 49.4	
	comp=Z,3µm,18.1s,baz=224,slow=40							
OTAV	**Otavalo**	**36.18**	**351**	*e*P	**P**		**11 17 43.7**	**+2.6**
	comp=Z,25nm,1.4s							
PTGA	**Pitinga**	**37.05**	**23**	P	**P**		**11 17 45.9**	**-2.1**
	comp=Z,14nm,1.0s,baz=187,slow=9.0,SNR=12							
PTGA					LR	LR	11 34 50.0	
	comp=Z,2µm,18.1s,baz=186,slow=39							
PTGA	**Pitinga**	**37.05**	**23**	*e*P	**P**		**11 17 46.0**	**-1.9**
	comp=Z,71nm,1.6s							
SDV	**Santo Domingo**	**44.53**	**4**	*e*P	**P**		**11 18 52.4**	**+2.5**
	comp=Z,19nm,1.3s							
RCBR	**Riachuelo**	**45.49**	**58**	P	**P**		**11 18 55.4**	**-2.1**
	comp=Z,30nm,1.3s,baz=235,slow=5.6,SNR=5.0							
RCBR					LR	LR	11 36 50.4	
	comp=Z,1µm,19.4s,baz=206,slow=35							
RCBR	**Riachuelo**	**45.49**	**58**	*e*P	**P**		**11 18 56.6**	**-0.9**
	comp=Z,86nm,1.6s							
VNA3	**Neumayer Olymp**	**48.09**	**157**	P	**P**		**11 19 17.4**	**+0.3**
VNA2	**Neumayer--Watz**	**48.76**	**156**	P	**P**		**11 19 22.6**	**+0.4**
SNAA	**Sanae**	**50.32**	**157**	P	**P**		**11 19 34.6**	**+0.4**
SNAA	**Sanae**	**50.32**	**157**	‖ *i*P	**P**		**11 19 33.7**	**-0.5**
SNAA					pmax	pmax		
	comp=Z,101nm,1.5s							
SNAA	**Sanae**	**50.32**	**157**	P	**P**		**11 19 33.6**	**-0.5**
	comp=Z,15nm,0.9s,baz=294,slow=6.2,SNR=17							
SNAA					LR	LR	11 40 36.2	
	comp=Z,336nm,18.8s,baz=259,slow=36							
SNAA	**Sanae**	**50.32**	**157**	*e*P	**P**		**11 19 34.0**	**-0.1**
	comp=Z,68nm,1.1s							
RKT	**Rikitea**	**54.36**	**266**	*e*S	**S**		**11 27 38.2**	**-3.5**
	comp=Z,394nm,26.0s							
RKT				*e*LR	LR		11 35 58.5	
	comp=Z,710nm,33.8s,baz=121							
QSPA	**South Pole Qui**	**54.43**	**180**	P	**P**		**11 20 04.5**	**-0.3**
	comp=Z,18nm,0.9s,baz=134,slow=2.1,SNR=24							
QSPA	**South Pole Qui**	**54.43**	**180**	*e*P	**P**		**11 20 04.0**	**-0.8**
	comp=Z,21nm,1.0s							
NVL	**N'lazarevskaya**	**55.08**	**156**	*e*P	**P**		**11 20 09.2**	**-0.1**
NVL				*e**PP	**pP**		**11 20 16.6**	**+0.1**
NVL				*e*			11 22 21.0	
NVL				*e*PPP	PPP		11 23 35.3	
NVL				*e*S	S		11 28 02.6	+12
NVL					pmax	pmax		
	comp=Z,12nm,0.7s							
NVL					MLR	MLR		
	comp=Z,324nm,16.0s							
VNDA	**Vanda**	**62.12**	**192**	*e*P	**P**		**11 20 59.5**	**+1.3**
VNDA				*e**PP	**pP**		**11 21 08.5**	**+3.0**
VNDA					pmax	pmax		
	comp=Z,14nm,1.5s							
VNDA	**Vanda**	**62.12**	**192**	P	**P**		**11 20 58.8**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=203,slow=3.6,SNR=4.7							
VNDA	**Vanda**	**62.12**	**192**	*e*P	**P**		**11 20 59.5**	**+1.3**
	comp=Z,14nm,1.5s							
VNDA				*e*pP	**pP**		**11 21 08.5**	**+3.0**
SYO	**Syowa Base**	**64.57**	**158**	⇑ *e*P	pP		11 21 30.4	+8.6
TBI	**Tubuai**	**65.89**	**258**	*e*S	**S**		**11 30 07.8**	**-2.0**
	comp=Z,984nm,28.2s							
TBI	**Tubuai**	**65.89**	**258**	*e*LR	LR		11 41 19.1	
	comp=Z,994nm,28.2s							
MEH	**Mehetia**	**67.58**	**264**	*e*T	T		12 34 58.7	
	comp=Z,18nm,0.2s							
TVO	**Taravao**	**68.59**	**263**	*e*T	T		12 36 13.7	
	comp=Z,0.8nm,0.3s							
TIAR	**Tiarei**	**68.78**	**263**	*e*T	T		12 36 28.4	
	comp=Z,2.9nm,0.3s							
PAE	**Paea**	**68.92**	**263**	*e*T	T		12 36 38.7	
	comp=Z,1.0nm,0.4s							
PPT2	**Papeete2**	**68.95**	**263**	*e*S	**S**		**11 30 45.6**	**-1.3**
	comp=Z,772nm,26.5s							
PPT2	**Papeete2**	**68.95**	**263**	*e*LR	LR		11 42 37.6	
	comp=Z,1µm,26.0s,baz=114							
PPT	**Papeete**	**68.96**	**263**	LR	LR		11 44 01.1	
	comp=Z,524nm,18.3s,baz=115,slow=29							
532A	**Rocksprings**	**70.20**	**336**	P	**P**		**11 21 49.9**	**-0.7**
	baz=71							
531A	**Rocksprings**	**70.45**	**335**	P	**P**		**11 21 51.5**	**-0.6**
	baz=71							
JCT	**Junction City**	**70.49**	**336**	P	**P**		**11 21 52.0**	**-0.4**
	baz=71							
530A	**J-C Ranch, Com**	**70.71**	**334**	P	**P**		**11 21 53.8**	**+0.1**
	baz=71							
TXAR	**Lajitas Array**	**70.82**	**332**	P	**P**		**11 21 52.5**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=151,slow=7.8,SNR=7.4							
TXAR					LR	LR	11 48 35.3	
	comp=Z,651nm,18.4s,baz=0.0,slow=32							
529A	**Stev Forest Ra**	**71.00**	**334**	P	**P**		**11 21 54.5**	**-1.0**
	baz=71							
333A	**Richland Sprin**	**71.00**	**337**	P	**P**		**11 21 55.7**	**+0.2**
	baz=71							
CPCT	**Cooper Cave**	**71.66**	**350**	*e*P	**P**		**11 22 02.3**	**+2.9**
MAW	**Mawson**	**71.74**	**164**	LR	LR		11 54 39.3	
	comp=Z,1µm,18.0s,baz=230,slow=37							
TKL	**Tuckaleechee C**	**71.77**	**351**	*e*P	P		11 22 05.5	+5.5
TKL	**Tuckaleechee C**	**71.77**	**351**	*e*P	P		11 22 05.5	+5.5
231A	**Bronte**	**72.00**	**336**	P	**P**		**11 22 00.8**	**-0.6**
	baz=72							
MIAR	**Mount Ida**	**72.51**	**343**	*e*P	**P**		**11 22 06.4**	**+2.0**
MIAR					pmax	pmax		
	comp=Z,40nm,1.7s							
MIAR	**Mount Ida**	**72.51**	**343**	*e*P	**P**		**11 22 06.4**	**+2.0**
	comp=Z,40nm,1.7s							
TZTN	**Tazewell**	**72.62**	**351**	*e*P	P		11 22 08.9	+3.8
	comp=Z,26nm,1.4s							
WVT	**Waverly**	**72.84**	**348**	*e*P	**P**		**11 22 05.0**	**-1.3**
WVT					pmax	pmax		
	comp=Z,24nm,1.1s							
WVT	**Waverly**	**72.84**	**348**	*e*P	**P**		**11 22 05.0**	**-1.3**
	comp=Z,24nm,1.1s							
Z32A	**Haskell**	**72.99**	**337**	P	**P**		**11 22 06.3**	**-1.1**
	baz=73							
Z31A	**Sharp Cattle R**	**73.21**	**337**	P	**P**		**11 22 07.7**	**-1.0**
	baz=74							
JSRW	**J. Sargeant Re**	**73.26**	**356**	*e*P	**P**		**11 22 09.1**	**+0.3**
Z30A	**Sanderson Ranc**	**73.50**	**336**	P	**P**		**11 22 09.8**	**-0.6**
	baz=74							
MNTX	**Cornudas Mount**	**73.59**	**332**	*e*P	**P**		**11 22 09.7**	**-1.2**
	comp=Z,4.3nm,1.2s							
TUL1	**Leonard**	**74.36**	**341**	*e*P	**P**		**11 22 17.4**	**+2.1**
	comp=Z,14nm,0.9s							
MSTX	**Muleshoe**	**74.68**	**335**	*e*P	**P**		**11 22 17.6**	**+0.2**
	comp=Z,58nm,2.0s							
SUR	**Sutherland**	**74.88**	**119**	P	**P**		**11 22 18.5**	**-0.4**
	comp=Z,9.3nm,0.9s,baz=202,slow=5.8,SNR=5.2							
121A	**Cookes Peak, D**	**75.27**	**330**	*e*P	**P**		**11 22 23.0**	**+2.1**
	comp=Z,9.7nm,1.1s							
U34A	**Anderson Ranch**	**75.33**	**340**	P	**P**		**11 22 21.6**	**+0.7**
	baz=76							
U34A	**Anderson Ranch**	**75.33**	**340**	*e*P	**P**		**11 22 22.0**	**+1.1**
	comp=Z,15nm,0.9s							
SLM	**Saint Louis**	**75.71**	**346**	*e*P	**P**		**11 22 24.7**	**+1.7**
SLM	**Saint Louis**	**75.71**	**346**	*e*P	**P**		**11 22 24.6**	**+1.7**
ACSO	**Alum Creek Sta**	**76.19**	**352**	*e*P	**P**		**11 22 24.8**	**-1.0**
	comp=Z,46nm,1.3s							
LIC	**Lamto**	**76.34**	**72**	*e*P	**P**		**11 22 26.6**	**-0.6**
	comp=Z,90nm,1.0s							
W25A	**X Bar L Ranch,**	**76.40**	**334**	P	**P**		**11 22 26.4**	**-0.9**
	baz=77							
TIC	**Toumodi**	**76.61**	**72**	*e*P	**P**		**11 22 28.2**	**-0.6**
	comp=Z,11nm,0.2s							
KIC	**Kosan Boka**	**76.65**	**72**	*e*P	**P**		**11 22 28.5**	**-0.5**
	comp=Z,86nm,0.9s							
LAZ	**Ladron**	**76.66**	**332**	*e*P	**P**		**11 22 30.4**	**+1.6**
	comp=Z,7.1nm,1.5s							
DBIC	**Dimbokro**	**76.75**	**72**	*e*P	**P**		**11 22 29.0**	**-0.5**
DBIC					pmax	pmax		
	comp=Z,35nm,0.8s							
DBIC	**Dimbokro**	**76.75**	**72**	P	**P**		**11 22 28.6**	**-1.0**
	comp=Z,28nm,0.8s,baz=207,slow=7.9,SNR=30							
DBIC					LR	LR	11 53 19.3	
	comp=Z,436nm,20.5s,baz=212,slow=33							
DBIC	**Dimbokro**	**76.75**	**72**	*e*P	**P**		**11 22 29.0**	**-0.5**
	comp=Z,35nm,0.8s							
ANMO	**Albuquerque**	**76.88**	**333**	*i* P	**P**		**11 22 29.2**	**-0.8**
ANMO					pmax	pmax		
	comp=Z,30nm,2.2s							
ANMO	**Albuquerque**	**76.88**	**333**	*e*P	**P**		**11 22 31.8**	**+1.8**
S32A	**Newby Ranch, P**	**76.90**	**339**	P	**P**		**11 22 28.7**	**-1.2**
	baz=77							
V25A	**Rancho No Teng**	**77.01**	**334**	P	**P**		**11 22 29.0**	**-1.8**
	baz=78							
T28A	**Walsh**	**77.33**	**337**	P	**P**		**11 22 30.6**	**-1.8**
	baz=78							
V23A	**Ortiz Mt. (NFS**	**77.49**	**333**	P	**P**		**11 22 31.5**	**-1.9**
	baz=78							
R31A	**Burdett**	**77.62**	**339**	P	**P**		**11 22 33.3**	**-0.6**
	baz=78							
S28A	**Manter**	**77.69**	**337**	P	**P**		**11 22 33.5**	**-0.9**
	baz=78							
V22A	**San Miguel Ran**	**77.91**	**333**	P	**P**		**11 22 35.3**	**-0.5**
	baz=78							
U23A	**El Rito**	**78.02**	**333**	P	**P**		**11 22 36.1**	**-0.2**
	baz=78							
T25A	**Trinidad**	**78.11**	**335**	P	**P**		**11 22 36.2**	**-0.7**
	baz=79							
T25A	**Trinidad**	**78.11**	**335**	*e*P	**P**		**11 22 37.5**	**+0.6**
	comp=Z,84nm,1.9s							
CASY	**Casey**	**78.19**	**182**	*e*P	**P**		**11 22 36.0**	**-0.7**
	comp=Z,72nm,1.7s							
S26A	**Kim**	**78.23**	**336**	P	**P**		**11 22 36.4**	**-1.0**
	baz=79							
X16A	**Lo Mia Camp, P**	**78.41**	**329**	P	**P**		**11 22 38.0**	**-0.6**
	baz=79							
S24A	**Houchin Ranch,**	**78.84**	**335**	P	**P**		**11 22 40.3**	**-0.7**
	baz=79							
SDCO	**Great Sand Dun**	**79.03**	**335**	P	**P**		**11 22 41.1**	**-0.9**
	baz=80							
SDCO	**Great Sand Dun**	**79.03**	**335**	*e*P	**P**		**11 22 42.2**	**+0.2**
	comp=Z,33nm,2.4s							
KSCO	**Kaye Shedlock'**	**79.22**	**337**	*e*P	**P**		**11 22 44.0**	**+1.1**
	comp=Z,71nm,1.9s							
P29A	**Atwood**	**79.25**	**339**	P	**P**		**11 22 42.3**	**-0.6**
	baz=80							
S22A	**4UR Ranch, Cre**	**79.51**	**334**	P	**P**		**11 22 44.2**	**-0.5**
	baz=80							
S22A	**4UR Ranch, Cre**	**79.51**	**334**	*e*P	P		11 22 52.3	+7.6
	comp=Z,23nm,1.8s							
MVCO	**Mesa Verde**	**79.65**	**332**	*e*P	**P**		**11 22 47.6**	**+2.2**
	comp=Z,112nm,2.8s							
TSUM	**Tsumeb**	**79.73**	**106**	*e*P	**P**		**11 22 46.2**	**0.0**
	comp=Z,8.9nm,1.3s							
JFWS	**Jewell Farm**	**79.86**	**347**	*e*P	**P**		**11 22 47.8**	**+1.7**
JFWS					pmax	pmax		
	comp=Z,40nm,1.5s							
JFWS	**Jewell Farm**	**79.86**	**347**	*e*P	**P**		**11 22 47.8**	**+1.7**
	comp=Z,40nm,1.5s							
PV01	**Paradox Valley**	**80.49**	**333**	*e*P	**P**		**11 22 49.9**	**0.0**
	comp=Z,1µm,1.6s							
SMCO	**Snowmass**	**80.83**	**334**	*e*P	**P**		**11 22 52.6**	**+0.7**
	comp=Z,12nm,1.1s							
PV04	**Paradox Valley**	**80.84**	**332**	*e*P	P		11 22 60.0	+8.3
ISCO	**Idaho Springs**	**80.92**	**335**	*e*P	**P**		**11 22 53.4**	**+1.2**
ISCO					pmax	pmax		
	comp=Z,41nm,2.3s							
ISCO	**Idaho Springs**	**80.92**	**335**	*e*P	**P**		**11 22 53.4**	**+1.2**
	comp=Z,41nm,2.3s							
P22A	**Eagle**	**81.13**	**334**	P	**P**		**11 22 53.5**	**+0.2**
	baz=82							
O23A	**Lake Granby, G**	**81.39**	**335**	P	**P**		**11 22 54.4**	**-0.2**
	baz=82							
GSC	**Goldstone, Bar**	**81.53**	**325**	P	**P**		**11 22 54.8**	**-0.5**
	baz=82							
SHPR	**Sheep Range**	**81.79**	**327**	*e*P	**P**		**11 22 57.1**	**+0.4**
BSC	**Santa Cruz Isl**	**81.82**	**323**	P	**P**		**11 22 56.8**	**0.0**
	baz=82							
CCUT	**Cedar City**	**81.89**	**329**	*e*P	**P**		**11 22 58.8**	**+1.5**
	comp=Z,30nm,1.9s							
ECSD	**EROS Data Cent**	**81.96**	**343**	P	**P**		**11 22 56.2**	**-1.1**
	baz=82							
ECSD	**EROS Data Cent**	**81.96**	**343**	*e*P	**P**		**11 22 55.5**	**-1.7**
	comp=Z,76nm,1.8s							
SRU	**San Rafael Swe**	**82.09**	**332**	*e*P	**P**		**11 22 58.3**	**0.0**
SRU					pmax	pmax		
	comp=Z,29nm,2.0s							
SRU	**San Rafael Swe**	**82.09**	**332**	*e*P	**P**		**11 22 58.3**	**0.0**
	comp=Z,29nm,2.0s							
ARUT	**Antelope Range**	**82.13**	**329**	*e*P	**P**		**11 22 59.2**	**+0.7**
ARUT	**Antelope Range**	**82.13**	**329**	*e*P	**P**		**11 22 59.2**	**+0.7**
	comp=Z,187nm,1.4s							
MVU	**Marysvale**	**82.23**	**330**	*e*P	**P**		**11 23 01.6**	**+2.4**
	comp=Z,33nm,2.0s							
MPMC	**Manual Prospec**	**82.47**	**325**	P	**P**		**11 22 59.2**	**-1.2**
	baz=83							
LBTB	**Lobatse**	**82.49**	**115**	*e*P	**P**		**11 23 00.4**	**-0.4**
LBTB					pmax	pmax		
	comp=Z,22nm,1.0s							
LBTB	**Lobatse**	**82.49**	**115**	*e*P	**P**		**11 23 00.4**	**-0.4**
	comp=Z,22nm,1.0s							
DAC	**Darwin (Calif)**	**82.70**	**325**	*e*P	**P**		**11 23 00.1**	**-1.5**
DAC					pmax	pmax		
	comp=Z,44nm,2.1s							
DAC	**Darwin (Calif)**	**82.70**	**325**	*e*P	**P**		**11 23 00.1**	**-1.5**
	comp=Z,44nm,2.1s							
NLU	**North Lily Min**	**83.42**	**331**	P	**P**		**11 23 06.8**	**+1.6**
	comp=Z,48nm,2.0s							
R11A	**Troy Canyon, C**	**83.51**	**328**	*e*P	**P**		**11 23 06.6**	**+0.9**
	comp=Z,35nm,2.0s							
K22A	**Casper**	**83.77**	**336**	*e*P	**P**		**11 23 07.1**	**+0.2**
	comp=Z,39nm,1.6s							
TPH	**Tonopah**	**84.01**	**327**	*e*P	**P**		**11 23 08.0**	**-0.3**
TPH					pmax	pmax		
	comp=Z,37nm,1.9s							
TPH	**Tonopah**	**84.01**	**327**	*e*P	**P**		**11 23 08.0**	**-0.3**
	comp=Z,37nm,1.9s							
RSSD	**Black Hills**	**84.31**	**338**	*e*P	**P**		**11 23 12.6**	**+2.9**
RSSD	**Black Hills**	**84.31**	**338**	*e*P	**P**		**11 23 12.6**	**+2.9**
	comp=Z,3.9nm,1.0s							
BGU	**Big Grassy Mou**	**84.63**	**331**	*e*P	P		11 23 16.3	+5.0
	comp=Z,8.8nm,1.7s							
NVAR	**Mina Array Bea**	**84.78**	**326**	P	**P**		**11 23 11.2**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=148,slow=5.3,SNR=2.5							
G27A	**Dupree**	**84.86**	**340**	P	**P**		**11 23 11.2**	**-1.0**
	baz=85							
PDAR	**Pinedale Array**	**84.92**	**334**	P	**P**		**11 23 12.0**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=66,slow=36,SNR=3.4							
PDAR					LR	LR	11 57 33.8	
	comp=Z,406nm,18.2s,baz=152,slow=33							
I21A	**Big Trails, Te**	**85.06**	**336**	P	**P**		**11 23 13.0**	**-0.4**
	baz=86							
J19A	**Crowheart**	**85.17**	**335**	P	**P**		**11 23 13.6**	**-0.4**
	baz=86							
HVU	**Hansel Valley**	**85.26**	**332**	*e*P	**P**		**11 23 14.2**	**-0.2**
HVU					pmax	pmax		
	comp=Z,115nm,2.7s							
HVU	**Hansel Valley**	**85.26**	**332**	*e*P	**P**		**11 23 14.2**	**-0.2**
	comp=Z,115nm,2.7s							
AHID	**Auburn Hatcher**	**85.47**	**333**	*e*P	**P**		**11 23 16.3**	**+0.8**
	comp=Z,39nm,1.8s							
TORD	**Torodi Ar. Bea**	**85.81**	**71**	P	**P**		**11 23 16.0**	**-1.6**
	comp=Z,8.8nm,1.0s,baz=245,slow=3.5,SNR=27							
TORD					LR	LR	12 01 22.8	
	comp=Z,398nm,18.9s,baz=255,slow=36							
REDW	**Red Top Meadow**	**85.90**	**334**	*e*P	P		11 23 24.7	+7.0
LOHW	**Long Hollow**	**86.03**	**334**	*e*P	P		11 23 25.2	+7.0
TPAW	**Teton Pass**	**86.05**	**334**	*e*P	**P**		**11 23 19.8**	**+1.4**
FXWY	**Fox Creek**	**86.20**	**334**	*e*P	P		11 23 26.2	+7.1
	comp=Z,71nm,3.0s							
E25A	**Miller Ranch,**	**86.30**	**340**	P	**P**		**11 23 19.6**	**+0.3**
	baz=87							
IMW	**Indian Meadow**	**86.39**	**334**	*e*P	**P**		**11 23 21.7**	**+1.6**
	comp=Z,27nm,1.6s							
FLWY	**Flagg Ranch**	**86.47**	**334**	*e*P	P		11 23 26.9	+6.5
MDND	**Maddock**	**86.54**	**343**	*e*P	**P**		**11 23 20.2**	**-0.2**
	comp=Z,34nm,1.5s							
MDND				*e*			11 23 28.2	
E24A	**Baker**	**86.61**	**339**	P	**P**		**11 23 21.4**	**+0.5**
	baz=87							
YMR	**Madison River**	**87.07**	**334**	*e*P	**P**		**11 23 25.8**	**+2.4**
	comp=Z,32nm,1.4s							
D24A	**Glendive**	**87.12**	**339**	P	**P**		**11 23 23.3**	**0.0**
	baz=88							
HLID	**Hailey**	**87.41**	**331**	*e*P	**P**		**11 23 27.2**	**+2.2**
	comp=Z,65nm,2.8s							
C24A	**Savage**	**87.52**	**339**	P	**P**		**11 23 25.0**	**-0.3**
	baz=88							
MCMT	**McKenzie Canyo**	**87.89**	**333**	*e*P	**P**		**11 23 28.8**	**+1.5**
	comp=Z,15nm,1.6s							
ULM	**Lac du Bonnet**	**87.98**	**346**	P	**P**		**11 23 25.4**	**-1.9**
	comp=Z,4.3nm,1.0s,baz=158,slow=5.4,SNR=3.4							
DLMT	**Dillon**	**88.26**	**333**	*e*P	**P**		**11 23 29.8**	**+0.9**
	comp=Z,21nm,1.6s							
LRM	**Limekiln Ridge**	**88.60**	**334**	*e*P	**P**		**11 23 31.3**	**+0.6**
B22A	**Reddig Ranch S**	**88.67**	**339**	P	**P**		**11 23 30.0**	**-0.7**
	baz=89							
K05A	**Summer Lake**	**89.41**	**327**	*e*P	P		11 23 42.8	+8.3
	comp=Z,69nm,1.8s							
BMO	**Blue Mountains**	**89.63**	**330**	*e*P	P		11 23 43.6	+8.3
	comp=Z,38nm,2.3s							
I07A	**Izee**	**89.90**	**329**	*e*P	P		11 23 44.7	+8.0
	comp=Z,9.0nm,1.2s							
MDT	**Midelt**	**93.77**	**52**	P	**P**		**11 23 54.9**	**0.0**
	comp=Z,2.4nm,0.8s,baz=3.0,slow=9.7,SNR=3.7							
ESDC	**Sonseca Array**	**98.58**	**47**	LR	LR		12 07 41.6	
	comp=Z,500nm,19.3s,baz=245,slow=35							
YKA	**Yellowknife Ar**	**103.44**	**342**	Pdiff	**Pdif**		**11 24 35.6**	**-1.8**
	comp=Z,0.2nm,0.8s,baz=241,slow=5.5,SNR=3.7							
CLL	**Collm**	**114.88**	**44**	*e*SKSac	**SKSac**		**11 36 07.0**	**+2.9**
CLL				*e*Sdif	**Sdif**		**11 38 06.0**	**+6.5**
CLL				*e*PS	**PS**		**11 39 56.0**	**-0.1**
CLL				*e*PPS	PPS		11 41 10.0	
CLL				*e*			11 42 05.0	
CLL				*e*SS	**SS**		**11 46 13.0**	**+1.6**
CLL				*e*SSS	SSS		11 50 29.0	
CLL				*e*SSSS			11 53 48.0	
CLL				*e*			11 57 12.0	
CLL				Lm	MLR		12 17 00.0	
	comp=N,200nm,21.7s							
CLL				Lm	MLR		12 17 00.0	
	comp=E,300nm,20.6s							
CLL				Lm	MLR		12 17 00.0	
	comp=Z,400nm,20.7s							
CLL				LmV			15 02 00.0	
	comp=Z,100nm,20.3s							
WRA	**Warramunga Arr**	**118.67**	**210**	PKP	**PKPdf**		**11 29 24.0**	**-2.3**
	comp=Z,0.4nm,0.8s,baz=168,slow=1.6,SNR=3.3							
AKASG	**Malin Array Be**	**124.18**	**49**	*i* PKIKP	**PKPdf**		**11 29 37.5**	**+1.7**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KIV	**Kislovodsk**	**131.32**	**60**	*i* PKIKP	**PKPdf**		**11 29 49.0**	**-0.8**
KIV				*e*			11 32 04.6	
KIV				*e*PS	**PS**		**11 42 17.8**	**-4.8**
KIV				*e*SS	SS		11 49 34.7	-6.0
KIV				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KLMR	**Klimovskoe**	**131.48**	**37**	*e*PKHKP	PKPpre		11 29 34.0	
KLMR				pmax	pmax			
	comp=Z,20nm,1.8s							
KLMR				MLR	MLR			
	comp=Z,424nm,17.0s							
BILL	**B

comp=Z,160nm,20.0s
TLY Talaya 163.99 7 *e*PKP2 **PKPab 11 31 33.6 +0.1**
TLY pmax pmax
comp=Z,12nm,1.9s
ZAK Zakamensk 165.23 9 *e*PKIKP PKPpre 11 30 29.9
ZAK *e* 11 31 37.8
ZAK pmax pmax
comp=Z,2.0nm,2.4s
SONM Songino Array 167.99 1 PKPab **PKPab 11 31 50.4 -1.0**
comp=Z,1.4nm,1.0s,baz=323,slow=4.1,SNR=5.3
KMI Kunming 168.82 161 PKP **PKPdf 11 30 46.0 +0.7**
KMI LN
comp=Z,390nm,9.4s
KMI LE
comp=Z,150nm,12.5s
KMI LZ
comp=Z,280nm,17.1s
NJ2 Nanjing 169.22 253 *e*PKP **PKPdf 11 30 45.3 +0.2**
GYA Guiyang 170.68 180 PKP **PKPdf 11 30 47.0 +0.7**
GYA PKPab **PKPab 11 32 05.5 +1.7**
GYA PKS **PKSdf 11 34 18.8 -0.1**
GYA PP **PP 11 35 56.3 +3.2**
GYA SKKS 11 42 43.0
GYA SS **SS 11 56 56.5 +2.8**
GYA PPMZ
comp=Z,130nm,8.6s
GYA LN
comp=Z,150nm,20.6s
GYA LE
comp=Z,130nm,21.0s
GYA LZ
comp=Z,160nm,20.8s
WHN Wuhan 171.70 233 PKP **PKPdf 11 30 44.8 -1.7**
HHC Hu-ho-hao-te 173.68 324 *e*PKP **PKPdf 11 30 44.8 -2.4**
HHC pPKP **pPKPdf 11 30 54.3 -0.6**
HHC SKKS 11 42 51.3
HHC PPMZ
comp=Z,160nm,10.0s
HHC LN
comp=Z,530nm,21.2s
HHC LE
comp=Z,250nm,19.8s
HHC LZ
comp=Z,280nm,19.2s
CD2 Chengdu 174.53 153 *e*PKP **PKPdf 11 30 49.0 +1.3**
CD2 PKPab **PKPab 11 32 24.5 +3.7**
CD2 PP **PP 11 36 13.3 +0.9**
CD2 SS SS 11 57 31.5 -0.4
CD2 PPMZ
comp=Z,240nm,7.1s
CD2 LN
comp=Z,350nm,21.4s
CD2 LZ
comp=Z,480nm,17.8s
LZH Lanzhou 177.68 82 *e*PKP PKPdf 11 30 40.5 -7.9
LZH pPKP pPKPdf 11 30 47.8 -8.4
LZH sPKP 11 30 52.0
LZH PKP PP 11 36 12.8 -16
LZH LR LR
comp=N,270nm,14.2s
LZH LR LR
comp=E,150nm,12.2s
LZH LR LR
comp=Z,370nm,21.7s

MAN 25 11:14:02.13±56N×119°77E, h1km, mb4.3, ML3.1, MS2.9, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.49**	**70**	*e*P	Pg	11 14 12.0	+0.5
PGP	**Puerto Galera**	**1.15**	**93**	⇓*e*P	Pb	11 14 24.5	-0.3
PGP				*i* S	Sn	11 14 41.9	+0.1
BUSP	**Coron**	**1.61**	**165**	*e*P	Pb	11 14 32.1	-0.4
SJMP	**San Jose**	**1.71**	**130**	*e*P	Pn	11 14 33.0	0.0
ENPP	**El Nido**	**2.37**	**188**	*e*P	Pn	11 14 42.6	+0.6
CUYO	**Cuyo Island**	**2.96**	**156**	*e*P	Pn	11 14 50.3	+0.1

IDC 25 11:19:46.3±9.2, 12°01N×144°00E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/42, mbtmp3.9/5, Error ellipse: s-maj=275.6km s-min=48.5km az=177.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**62.04**	**317**	P	P	11 30 09.2	+0.4
	0.3nm,0.7s,baz=107,slow=6.0,SNR=3.7						
ILAR	**Eielson Array**	**70.35**	**25**	P	P	11 31 01.1	-0.6
	0.2nm,0.4s,baz=247,slow=5.4,SNR=12						
YKA	**Yellowknife Ar**	**84.65**	**27**	P	P	11 32 23.0	+1.3
	0.4nm,0.4s,baz=286,slow=5.1,SNR=12						
ARCES	**ARCESS Array B**	**88.32**	**342**	P	P	11 32 39.4	-0.3
	3.6nm,1.0s,baz=51,slow=7.1,SNR=4.3						
FINES	**FINESS Array B**	**92.23**	**335**	P	P	11 32 56.4	-1.5
	0.6nm,0.6s,baz=93,slow=7.0,SNR=4.0						

*IDC **25** 11:20:38.7±1.5, 8°82S×157°88E, h0km, mb3.9/7, mb1 4.2/8, mb1mx4.0/18, mbtmp3.9/8, ML4.0/1, MS3.4/4, Ms1 3.4/4, ms1mx3.1/24, Error ellipse: s-maj=77.3km s-min=22.8km az=136.0*

ISC 25 11:20:40.9±0.9, 9°35S±0°2×158°3E±0°1, h30km, n12, σ0°62/8, mb3.9/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.60**	**94**	*e*P	**Pb**	**11 21 10.0**	**+0.1**
HNR				*e*S	Sb	11 21 43.0	+13
PMG	**Port Moresby**	**11.02**	**269**	LR	LR	11 27 13.3	
	comp=Z,231nm,18.6s,baz=128,slow=37						
DZM	**Mont Dzumac**	**14.89**	**149**	LR	LR	11 28 54.9	
	comp=Z,127nm,18.7s,baz=17,slow=32						
CTA	**Charters Tower**	**15.83**	**226**	Pn	**P**	**11 24 24.6**	**-0.8**
	0.4nm,0.3s,baz=46,slow=18,SNR=3.1						
WRA	**Warramunga Arr**	**25.46**	**243**	P	**P**	**11 26 07.4**	**+0.8**
	2.9nm,0.8s,baz=68,slow=9.5,SNR=15						
ASAR	**Alice Springs**	**27.36**	**236**	P	**P**	**11 26 24.4**	**+0.6**
	0.9nm,0.8s,baz=63,slow=8.5,SNR=9.7						
ASAR				LR	LR	11 37 04.1	
	comp=Z,66nm,18.4s,baz=23,slow=36						
BATI	**Baumata**	**34.16**	**266**	LR	LR	11 42 16.3	
	comp=Z,87nm,19.6s,baz=108,slow=38						
ILAR	**Eielson Array**	**84.34**	**21**	P	**P**	**11 33 10.0**	**+0.2**
	0.2nm,0.6s,baz=271,slow=4.6,SNR=4.4						
MKAR	**Makanchi Array**	**87.32**	**318**	P	**P**	**11 33 24.7**	**-0.3**
	0.5nm,0.7s,baz=102,slow=5.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**87.94**	**325**	P	**P**	**11 33 28.0**	**+0.2**
	0.4nm,0.5s,baz=126,slow=7.3,SNR=2.2						
NVAR	**Mina Array Bea**	**90.57**	**51**	P	P	11 33 45.1	+4.3
	1.2nm,0.6s,baz=193,slow=4.8,SNR=4.8						
YKA	**Yellowknife Ar**	**96.83**	**28**	P	**P**	**11 34 08.4**	**-0.3**
	0.1nm,0.6s,baz=258,slow=4.9,SNR=3.5						

*IDC **25** 11:28:00.5±1.4, 3°61S×146°14E, h0km, mb3.5/4, mb1 3.9/6, mb1mx3.7/25, mbtmp3.7/6, ML3.1/2, MS3.8/2, Ms1 3.8/2, ms1mx3.0/25, Error ellipse: s-maj=52.5km s-min=20.3km az=93.0*
*ISCJB **25** 11:28:02.8±1.0, 3°59S±0°08×146°0E±0°2, h25km, mb3.5/4, MS3.8/2, Error ellipse: s-maj=31.6km s-min=10.3km az=168.9*

ISC 25 11:28:04.5±1.0, 3°59S±0°10×145°9E±0°3, h25km, n8, σ1°53/8, mb3.6/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.91**	**168**	Pn	**Pn**	**11 29 29.6**	**-1.0**
	0.4nm,0.3s,baz=346,slow=19,SNR=3.2						
PMG				Sn	**Sn**	**11 30 39.7**	**+2.2**
	0.1nm,0.3s,baz=262,slow=14,SNR=2.5						
WRA	**Warramunga Arr**	**19.79**	**214**	P	**Pn**	**11 32 33.9**	**-1.0**
	0.2nm,0.3s,baz=39,slow=12,SNR=44						
ASAR	**Alice Springs**	**23.09**	**209**	P	**P**	**11 33 08.3**	**-0.3**
	2.7nm,0.9s,baz=43,slow=8.1,SNR=22						
NWAO	**Narrogin (SRO)**	**39.64**	**219**	LR	LR	11 51 47.2	
	comp=Z,64nm,19.0s,slow=36						
SONM	**Songino Array**	**61.79**	**331**	P	**P**	**11 38 22.9**	**+1.6**
	0.4nm,0.8s,baz=123,slow=5.3,SNR=3.2						
MKAR	**Makanchi Array**	**74.96**	**320**	P	**P**	**11 39 44.4**	**+0.7**
	0.5nm,0.8s,baz=124,slow=6.5,SNR=3.8						
ILAR	**Eielson Array**	**83.71**	**23**	P	**P**	**11 40 30.0**	**-1.0**
	0.2nm,0.6s,baz=256,slow=5.4,SNR=4.2						
ILAR				LR	LR	12 16 10.5	
	comp=Z,78nm,18.7s,baz=104,slow=35						
TORD	**Torodi Ar. Bea**	**143.40**	**287**	PKP	**PKPdf**	**11 47 37.0**	**-0.9**
	0.3nm,0.6s,baz=85,slow=2.7,SNR=2.8						

*ISCJB **25** 11:32:06.1±0.6, 22°94S±0°08×63°7W±0°1, h530km, mb3.7/4, Error ellipse: s-maj=15.8km s-min=8.9km az=23.0*
*IDC **25** 11:32:06.5±1.3, 22°98S×63°67W, h530km±17km, mb3.3/4, mb1 3.2/9, mb1mx3.0/34, mbtmp3.9/9, Error ellipse: s-maj=24.9km s-min=16.1km az=107.0*

ISC 25 11:32:06.5±0.7, 22°98S±0°10×63°7W±0°1, h530km, n15, σ0°68/15, mb3.8/4, 1C, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**5.40**	**276**	*e*P9	P	11 33 44.3	+5.6
PB04				IAML		11 34 08.8	
	comp=E,240nm,0.1s						
PB06	**IPOC Station P**	**5.43**	**272**	*e*P	**P**	**11 33 39.3**	**+0.1**
PB06				IAML		11 34 01.7	
	comp=E,189nm,0.1s						
PB01	**IPOC Station P**	**5.71**	**289**	⇑*i*P	**P**	**11 33 41.5**	**-0.1**
PB01				IAML		11 34 00.5	
	comp=N,278nm,0.2s						
PATCX	**Punta Patache**	**6.37**	**289**	*e*P1	**P**	**11 33 47.8**	**0.0**
PATCX				IAML		11 34 06.8	
	comp=E,238nm,0.4s						
SIV	**San Ignacio**	**7.38**	**20**	P	**P**	**11 33 58.4**	**+0.8**
	comp=E,0.6nm,0.3s,baz=216,slow=9.5,SNR=4.9						
LPAZ	**La Paz**	**7.86**	**327**	P	**P**	**11 34 03.4**	**+0.3**
	comp=E,1.6nm,0.3s,baz=126,slow=4.7,SNR=32						
CFAA	**Coronel Fontan**	**9.49**	**204**	P	**P**	**11 34 19.9**	**+1.1**
	comp=E,0.2nm,0.3s,baz=38,slow=7.7,SNR=9.2						
CFAA				S	**S**	**11 36 07.2**	**-0.3**
	comp=E,0.1nm,0.3s,baz=248,slow=21,SNR=9.2						
BDFB	**Brasília**	**16.49**	**67**	P	**P**	**11 35 31.6**	**-0.1**
	comp=E,0.5nm,0.3s,baz=246,slow=11,SNR=4.2						
PLCA	**Paso Flores**	**18.62**	**197**	P	**P**	**11 35 50.3**	**-0.6**
	comp=E,0.1nm,0.3s,baz=351,slow=13,SNR=2.9						
PTGA	**Pitinga**	**22.41**	**10**	P	**P**	**11 36 23.9**	**-1.6**
	comp=E,1.4nm,0.3s,baz=290,slow=21,SNR=4.1						
TORD	**Torodi Ar. Bea**	**73.37**	**68**	P	**P**	**11 42 45.0**	**+0.1**
	comp=E,3.4nm,0.6s,baz=261,slow=5.9,SNR=46						
PDAR	**Pinedale Array**	**77.88**	**327**	P	**P**	**11 43 10.3**	**+0.7**
	comp=E,0.5nm,0.2s,baz=118,slow=9.3,SNR=12						
YKA	**Yellowknife Ar**	**94.25**	**339**	P	**P**	**11 44 28.0**	**-0.4**
	comp=E,0.1nm,0.4s,baz=125,slow=4.5,SNR=3.8						
WRA	**Warramunga Arr**	**133.85**	**204**	PKP	**PKPdf**	**11 50 24.1**	**+0.1**
	comp=E,0.3nm,0.8s,baz=153,slow=2.0,SNR=5.2						
MKAR	**Makanchi Array**	**143.79**	**41**	PKP	**PKPdf**	**11 50 40.9**	**-0.3**
	comp=E,1.1nm,0.7s,baz=286,slow=4.8,SNR=12						

*ISCJB **25** 11:32:23.8±0.5, 22°94S±0°06×63°64W±0°09, h530km, mb3.8/9, Error ellipse: s-maj=11.1km s-min=7.5km az=10.0*
*IDC **25** 11:32:24.1±1.0, 22°93S×63°73W, h525km±9km, mb3.5/9, mb1 3.5/15, mb1mx3.4/25, mbtmp4.3/15, Error ellipse: s-maj=14.4km s-min=13.3km az=88.0*

ISC 25 11:32:24.4±0.6, 22°92S±0°07×63°75W±0°09, h530km, n25, σ0°63/28, mb3.7/9, 1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**5.34**	**276**	*i* S	P	11 34 02.7	+6.6
PB06	**IPOC Station P**	**5.38**	**271**	*i* S	**P**	**11 33 56.2**	**-0.3**
PB01	**IPOC Station P**	**5.64**	**288**	*i* S	**P**	**11 33 59.3**	**+0.4**
PATCX	**Punta Patache**	**6.30**	**288**	*i* S4	**P**	**11 34 05.9**	**+0.8**
SIV	**San Ignacio**	**7.34**	**21**	P	**P**	**11 34 15.7**	**+0.5**
	1.1nm,0.3s,baz=220,slow=12,SNR=5.7						
LPAZ	**La Paz**	**7.79**	**327**	P	**P**	**11 34 21.0**	**+0.8**
	12nm,0.3s,baz=127,slow=4.9,SNR=100						
LPAZ				S	**S**	**11 35 53.9**	**-1.0**
	1.2nm,0.3s,baz=257,slow=15,SNR=7.3						
LCO	**Las Campanas**	**8.71**	**224**	⇓*i*P	**P**	**11 34 29.9**	**+0.9**
CFAA	**Coronel Fontan**	**9.52**	**204**	P	**P**	**11 34 37.6**	**+0.6**
	0.5nm,0.3s,baz=3.2,slow=6.5,SNR=16						
CFAA				S	**S**	**11 36 25.3**	**-0.8**
	0.6nm,0.3s,baz=251,slow=21,SNR=9.4						
BDFB	**Brasília**	**16.52**	**67**	P	**P**	**11 35 48.9**	**-0.8**
	3.1nm,0.3s,baz=216,slow=17,SNR=22						
NNA	**Nana**	**16.55**	**309**	P	**P**	**11 35 50.1**	**0.0**
	1.2nm,0.3s,baz=139,slow=9.3,SNR=3.1						
PLCA	**Paso Flores**	**18.66**	**196**	P	**P**	**11 36 09.5**	**+0.3**
	0.1nm,0.3s,baz=21,slow=14,SNR=3.4						
PTGA	**Pitinga**	**22.36**	**10**	P	**P**	**11 36 42.3**	**-0.6**
	1.6nm,0.4s,baz=210,slow=20,SNR=2.6						
RCBR	**Riachuelo**	**31.78**	**62**	P	**P**	**11 38 06.6**	**+1.1**
	7.7nm,0.7s,baz=212,slow=11,SNR=6.9						
SNAA	**Sanae**	**59.39**	**161**	P	**P**	**11 41 35.2**	**-0.1**
	1.7nm,0.9s,baz=315,slow=2.9,SNR=3.8						
TXAR	**Lajitas Array**	**64.62**	**322**	P	**P**	**11 42 10.2**	**+0.3**
	0.9nm,0.7s,baz=148,slow=9.1,SNR=11						
DBIC	**Dimbokro**	**64.63**	**70**	P	**P**	**11 42 09.9**	**-0.3**
	5.3nm,0.4s,baz=217,slow=6.9,SNR=12						
TORD	**Torodi Ar. Bea**	**73.40**	**68**	P	**P**	**11 43 02.7**	**-0.3**
	9.7nm,0.5s,baz=261,slow=6.0,SNR=68						
PDAR	**Pinedale Array**	**77.81**	**327**	P	**P**	**11 43 27.8**	**+0.6**
	0.9nm,0.5s,baz=125,slow=8.0,SNR=9.0						
ULM	**Lac du Bonnet**	**78.21**	**340**	P	**P**	**11 43 28.7**	**-0.1**
	1.5nm,0.4s,baz=147,slow=5.1,SNR=4.4						
YKA	**Yellowknife Ar**	**94.17**	**339**	P	**P**	**11 44 45.6**	**-0.3**
	0.3nm,0.6s,baz=128,slow=4.6,SNR=11						
ASAR	**Alice Springs**	**130.61**	**201**	PKP	**PKPdf**	**11 50 36.0**	**+0.2**
	0.2nm,0.4s,baz=136,slow=1.6,SNR=7.1						
ASAR				SKPbc	**SKPbc**	**11 53 09.5**	**-0.7**
	2.0nm,0.7s,baz=149,slow=3.3,SNR=20						
WRA	**Warramunga Arr**	**133.88**	**204**	PKP	**PKPdf**	**11 50 42.0**	**0.0**
	0.4nm,0.4s,baz=157,slow=1.8,SNR=14						
WRA				SKPbc	**SKPbc**	**11 53 21.2**	**-0.3**
	1.6nm,0.8s,baz=160,slow=3.2,SNR=9.6						
AAK	**Ala-Archa**	**140.26**	**50**	PKP	**PKPdf**	**11 50 52.2**	**-0.9**
	0.6nm,0.5s,baz=37,slow=20,SNR=2.5						
ZALV	**Zalesovo Beam**	**141.02**	**29**	SKPbc	**SKiKP**	**11 53 42.2**	**-0.5**
	0.5nm,0.5s,baz=274,slow=6.8,SNR=1.9						
MKAR	**Makanchi Array**	**143.78**	**41**	PKP	PKPbc	11 50 58.1	0.0
	0.6nm,0.6s,baz=311,slow=4.0,SNR=11						
MKAR				SKPbc	**SKiKP**	**11 53 49.2**	**+0.6**
	0.2nm,0.5s,baz=305,slow=4.0,SNR=2.6						

TIF 25 11:43:47.0, 42°53N×43°54E, h4km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.09**	**316**	P	Pg	11 43 49.5	+0.4
ONI				S	Sg	11 43 51.1	+0.7

*ISK **25** 11:45:12.8, 38°79N×40°03E, h10km, MD2.8*
*ISCJB **25** 11:45:13.2±0.7, 38°74N±0°03×40°02E±0°03, h5km±6km, Error ellipse: s-maj=5.8km s-min=4.4km az=176.6*
*DDA **25** 11:45:13.2, 38°71N×40°02E, h12km, MD2.7*
*CSEM **25** 11:45:14.2±0.3, 38°75N×39°97E, h12km, MD2.8, Error ellipse: s-maj=7.2km s-min=5.0km az=149.0*

ISC 25 11:45:13.1±1.1, 38°75N±0°03×40°03E±0°03, h10km±11km, n27, σ0°45/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.38**	**71**	*e*Pg	**Pn**	**11 45 23.7**	**-1.0**
PTK	**Pertek**	**0.52**	**286**	*e*PG	**Pg**	**11 45 23.1**	**-0.1**
PTK				*e*Sg	**Sg**	**11 45 29.9**	**-0.2**
PTK	**Pertek**	**0.52**	**286**	*e*Pg	**Pg**	**11 45 23.1**	**-0.1**
PTK				*e*Sg	**Sg**	**11 45 29.9**	**-0.2**
BNGB	**Bing¶‖**	**0.56**	**65**	*e*PG	**Pg**	**11 45 23.7**	**-0.3**
SVRC	**Sivrice-ELAZID**	**0.68**	**237**	*e*PG	**Pb**	**11 45 27.3**	**+0.2**
SVRC				*e*SG	**Sb**	**11 45 37.1**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.68**	**237**	*e*Pg	**Pb**	**11 45 27.3**	**+0.2**
SVRC				*e*Sg	**Sb**	**11 45 37.1**	**+0.5**
ELZG	**Elazig**	**0.86**	**253**	*i* P	**Pg**	**11 45 29.3**	**-0.3**
ELZG				*i* S	**Sb**	**11 45 41.9**	**+0.2**
ELZG	**Elazig**	**0.86**	**253**	*i* P	**Pg**	**11 45 29.3**	**-0.3**
ELZG				*i* S	**Sb**	**11 45 41.9**	**+0.2**
ERZN	**Erzincan**	**0.87**	**344**	*e*PG	**Pg**	**11 45 29.9**	**+0.1**
BNGL	**BINGOL**	**0.90**	**77**	*i* P	**Pg**	**11 45 30.5**	**+0.1**
BNGL				*i* S	**Sn**	**11 45 44.8**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.10**	**123**	*e*PN	**Pn**	**11 45 34.7**	**+0.2**
BEST	**Besiri**	**1.30**	**131**	*i* P	**Pn**	**11 45 36.1**	**-1.3**
BEST				*i* S	**Sg**	**11 45 55.3**	**+0.4**
KEMA	**Kemaliye**	**1.30**	**294**	*i* P	**Pn**	**11 45 37.0**	**-0.4**
KEMA	**Kemaliye**	**1.30**	**294**	*i* P	**Pn**	**11 45 37.0**	**-0.4**
KOPT	**Kop Dagi**	**1.31**	**16**	*i* P	**Pg**	**11 45 39.4**	**+1.0**
KOPT	**Kop Dagi**	**1.31**	**16**	*i* P	**Pg**	**11 45 39.4**	**+1.0**
MALT	**Malatya**	**1.33**	**251**	*e*PN	**Pn**	**11 45 37.9**	**+0.1**
MALT	**Malatya**	**1.33**	**251**	*e*Pn	**Pn**	**11 45 37.9**	**+0.1**
MAZI	**Mazidag**	**1.33**	**166**	*e*PN	**Pn**	**11 45 38.0**	**+0.2**
MAZI	**Mazidag**	**1.33**	**166**	*e*Pn	**Pn**	**11 45 38.0**	**+0.2**
ILIC	**ilic-Erzincan**	**1.34**	**302**	*e*PN	**Pb**	**11 45 38.3**	**0.0**
ILIC	**ilic-Erzincan**	**1.34**	**302**	*e*Pn	**Pb**	**11 45 38.3**	**0.0**
KELT	**Kelkit**	**1.52**	**337**	*i* P	**Pg**	**11 45 42.2**	**0.0**
KELT				*i* S	**Sg**	**11 46 02.0**	**0.0**
KELT	**Kelkit**	**1.52**	**337**	*i* P	**Pg**	**11 45 42.2**	**0.0**
KELT				*i* S	**Sg**	**11 46 02.0**	**0.0**
EZM	**Erzurum**	**1.55**	**41**	*e*PN	**Pn**	**11 45 40.4**	**-0.5**
URFA	**Urfa**	**1.62**	**216**	*e*PN	**Pb**	**11 45 43.0**	**0.0**
URFA	**Urfa**	**1.62**	**216**	*e*Pn	**Pb**	**11 45 43.1**	**0.0**

*ISCJB **25** 11:51:12.5±0.5, 35°76S±0°05×72°21W±0°09, h59km±5km, mb3.9/6, Error ellipse: s-maj=13.9km s-min=5.1km az=34.4*
*GUC **25** 11:51:13.3±0.5, 35°70S×72°31W, h40km±1km, ML4.3*
*IDC **25** 11:51:17.4±2.7, 35°81S×71°79W, h85km±22km, mb3.6/6, mb1 3.7/9, mb1mx3.6/19, mbtmp3.9/9, Error ellipse: s-maj=36.1km s-min=15.1km az=104.0*

ISC 25 11:51:13.3±0.9, 35°78S±0°06×72°20W±0°08, h53km±8km, n19, σ1°27/27, mb3.9/6, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.49**	**99**	*e*P	**Pn**	**11 51 24.7**	**+0.1**
LNCH				*e*S	**Sn**	**11 51 33.5**	**+0.7**
TALC	**Talca**	**0.59**	**51**	⇓*e*P	**Pn**	**11 51 26.0**	**+0.2**
TALC				*e*S	**Sn**	**11 51 34.5**	**-0.3**
COCH	**Cobquecura**	**0.60**	**233**	*e*S	**Sn**	**11 51 33.1**	**-1.8**
NICH	**Los Niches**	**1.10**	**46**	*e*P	**Pn**	**11 51 32.5**	**0.0**
NICH				*e*S	**Sn**	**11 51 47.5**	**+0.7**
CCSP	**San Pedro de C**	**1.29**	**214**	*e*P	**Pn**	**11 51 35.5**	**+0.5**
CCSP				*e*S	**Sn**	**11 51 52.4**	**+1.1**
CCSP				AML	AML	11 51 59.0	
	comp=N,6μm,0.4s						
CLCH	**Cerro Calan**	**2.74**	**30**	*e*P	**Pn**	**11 51 55.5**	**+0.7**
CLCH				*e*S	**Sn**	**11 52 27.4**	**+0.6**
CLCH				AML	AML	11 52 37.9	
	comp=N,1μm,0.4s						
PEL	**Peldehue**	**2.91**	**26**	*e*P	**Pn**	**11 51 57.7**	**+0.5**
PEL				*e*S	**Sn**	**11 52 30.8**	**-0.1**
PEL				AML	AML	11 52 46.5	
	comp=N,2μm,0.5s						
PLCA	**Paso Flores**	**5.12**	**166**	P	**Pn**	**11 52 29.3**	**+1.9**
	comp=N,2.4nm,0.3s,baz=335,slow=11,SNR=67						
CFAA	**Coronel Fontan**	**5.31**	**40**	P	**Pn**	**11 52 30.5**	**+0.4**
	comp=N,1.1nm,0.3s,baz=209,slow=13,SNR=19						
CFAA				S	**Sn**	**11 53 32.5**	**+2.5**
	comp=N,0.3nm,0.3s,baz=78,slow=19,SNR=2.2						
LPAZ	**La Paz**	**19.75**	**12**	P	**Pn**	**11 55 41.5**	**+0.2**
	comp=N,0.3nm,0.3s,baz=194,slow=5.8,SNR=7.3						
SIV	**San Ignacio**	**22.07**	**30**	P	**P**	**11 56 02.7**	**-1.1**
	comp=N,1.6nm,0.5s,baz=226,slow=14,SNR=6.6						
BDFB	**Brasília**	**29.47**	**53**	P	**P**	**11 57 11.4**	**-1.0**
	comp=N,1.5nm,0.3s,baz=218,slow=4.8,SNR=3.2						
QSPA	**South Pole Qui**	**54.47**	**180**	P	**P**	**12 00 36.7**	**+1.6**
	comp=N,0.9nm,0.5s,baz=297,slow=0.4,SNR=8.6						
TXAR	**Lajitas Array**	**71.22**	**331**	P	**P**	**12 02 28.7**	**+1.9**
	comp=N,0.3nm,0.6s,baz=152,slow=8.0,SNR=4.8						
TXAR				pP	**PcP**	**12 02 47.5**	**+1.1**
	comp=N,0.3nm,0.6s,baz=146,slow=9.1,SNR=4.0						
LBTB	**Lobatse**	**81.68**	**115**	P	**P**	**12 03 24.9**	**-1.4**
	comp=N,1.5nm,0.5s,baz=269,slow=13,SNR=3.7						
TORD	**Torodi Ar. Bea**	**84.94**	**70**	P	**P**	**12 03 41.2**	**-1.8**
	comp=N,0.6nm,0.9s,baz=261,slow=7.4,SNR=3.5						
WRA	**Warramunga Arr**	**119.15**	**209**	PKP	**PKPdf**	**12 09 56.6**	**-0.2**
	comp=N,0.3nm,0.9s,baz=256,slow=3.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**155.78**	**34**	PKPab	**PKPab**	**12 11 25.3**	**-2.1**
	comp=N,0.6nm,0.4s,baz=326,slow=2.3,SNR=3.2						
MKAR	**Makanchi Array**	**157.99**	**52**	PKPab	**PKPab**	**12 11 37.7**	**+0.4**
	comp=N,0.2nm,0.5s,baz=254,slow=3.2,SNR=3.1						

IDC 25 12:08:00.7±7.5, 16°38S×175°08W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/27, mbtmp3.8/3, Error ellipse: s-maj=330.9km s-min=36.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.05**	**258**	P	P	12 16 41.9	-0.4
	0.7nm,0.5s,baz=93,slow=7.1,SNR=25						
ASAR	**Alice Springs**	**48.27**	**253**	P	P	12 16 44.1	+0.1
	1.0nm,0.3s,baz=88,slow=7.6,SNR=79						
ILAR	**Eielson Array**	**83.72**	**12**	P	P	12 20 31.1	0.0
	0.3nm,0.9s,baz=213,slow=4.7,SNR=6.0						

*NNC **25** 12:16:24.3±4.2, 54°10N×86°87E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=33.3km s-min=24.3km az=11.0*
IDC 25 12:16:21.9±2.8, 54°42N×86°83E, h0km, mb1 3.4/2, mb1mx3.1/29, mbtmp3.4/2, ML2.9/2, 6C-3D, Error ellipse: s-maj=24.7km s-min=15.0km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**249**	*i*		12 24 50.0	
	baz=69,slow=342,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.27**	**249**	Pg	Pg	12 16 44.7	-1.6
	2.4nm,0.3s,baz=66,slow=17,SNR=31						
ZALV				Lg	Pg	12 17 02.7	
	1.8nm,0.3s,baz=66,slow=27,SNR=7.5						
KURK	**Kurchatov**	**6.23**	**237**	⇓Pn	Pn	12 17 55.4	+0.3
	2.7nm,0.9s						
KURK				⇑Sn	Sn	12 19 05.8	-1.1
	1.0nm,0.9s						
KURK				⇑Lg	Lg	12 19 43.0	
	4.3nm,1.1s						
KURBB	**Kurchatov Arra**	**6.33**	**236**	⇑Pn	Pn	12 17 56.3	-0.1
	3.9nm,0.6s,baz=54,slow=14						
KURBB				⇓Sn	Sn	12 19 09.4	-0.1
	1.1nm,0.4s						
KURBB				⇑Lg	Lg	12 19 44.5	

0.2nm,0.6s,baz=116,slow=6.6,SNR=2.6
MKAR Makanchi Array 43.90 305 P **P 12 25 55.0 -0.6**
0.2nm,0.5s,baz=91,slow=9.7,SNR=4.9
WRA Warramunga Arr 53.16 184 P **P 12 27 06.0 +0.1**
0.2nm,0.4s,baz=0.2,slow=7.8,SNR=10.0
ASAR Alice Springs 56.89 185 P **P 12 27 32.3 -0.1**
0.1nm,0.8s,baz=354,slow=7.4,SNR=2.8

IDC 25 12:30:04.2±1.2, 16°.87N×144°.76E, h0km, mb3.2/4, mb1 3.6/4, mb1mx3.3/30, mbtmp3.2/4, Error ellipse: s-maj=51.1km s-min=28.5km az=107.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**20.95**	**82**	T	T	12 55 34.8	
baz=266,slow=74,SNR=7.7							
H11S1	**WAKE ISLAND Hy**	**20.96**	**82**	T	T	12 55 38.3	
baz=266							
H11S2	**WAKE ISLAND Hy**	**20.97**	**82**	T	T	12 55 36.0	
baz=266,slow=74,SNR=3.3							
H11N1	**WAKE ISLAND Hy**	**21.20**	**79**	T	T	12 55 53.8	
baz=263,slow=75,SNR=6.6							
H11N2	**WAKE ISLAND Hy**	**21.20**	**79**	T	T	12 55 53.5	
baz=263,slow=75,SNR=7.7							
H11N3	**WAKE ISLAND Hy**	**21.21**	**79**	T	T	12 55 54.6	
baz=263,slow=75,SNR=7.2							
WRA	**Warramunga Arr**	**37.99**	**196**	P	P	12 37 23.9	-0.2
0.4nm,1.0s,baz=20,slow=8.4,SNR=6.6							
MKAR	**Makanchi Array**	**59.10**	**315**	P	P	12 40 06.2	-0.3
0.1nm,0.3s,baz=80,slow=8.9,SNR=2.3							
ILAR	**Eielson Array**	**65.67**	**26**	P	P	12 40 50.1	0.0
0.2nm,0.6s,baz=250,slow=5.9,SNR=5.3							
YKA	**Yellowknife Ar**	**80.02**	**28**	P	P	12 42 15.6	+0.3
0.2nm,0.6s,baz=278,slow=6.1,SNR=3.6							

GUC 25 12:41:29.0±0.3, 34°.03S×72°.50W, h38km±2km, ML3.5, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.42**	**133⇑**	*e*P	Pn	12 41 52.9	+0.6
NICH				*e*S	Sn	12 42 11.1	+1.3
TALC	**Talca**	**1.54**	**153**	*e*P	Pn	12 41 54.6	+0.8
TALC				*e*S	Sn	12 42 13.9	+1.4
CLCH	**Cerro Calan**	**1.75**	**69**	*e*P	Pn	12 41 57.6	+0.7
CLCH				*e*S	Sn	12 42 19.5	+1.4
CLCH				AML	AML	12 42 32.5	
comp=N,602nm,0.3s							
PEL	**Peldehue**	**1.75**	**60**	*e*P	Pn	12 41 57.6	+0.7
PEL				*e*S	Sn	12 42 19.6	+1.5
PEL				AML	AML	12 42 29.6	
comp=N,1μm,0.6s							
FCH	**Farellones**	**1.97**	**70⇑**	*e*P	Pn	12 41 56.4	-3.8
FCH				*e*S	Sn	12 42 20.9	-3.1
FCH				AML	AML	12 42 28.2	
comp=N,458nm,0.4s							

IDC 25 12:42:52.8±3.4, 3°.38S×135°.69E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/25, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=154.9km s-min=29.7km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.52**	**184**	Pn	Pn	12 46 47.2	+1.1
0.1nm,0.3s,baz=3.6,slow=12,SNR=5.6							
ASAR	**Alice Springs**	**20.25**	**185**	P	P	12 47 29.4	-0.5
1.4nm,0.6s,baz=7.7,slow=11,SNR=29							
MKAR	**Makanchi Array**	**68.50**	**324**	P	P	12 53 57.2	0.0
0.2nm,0.6s,baz=109,slow=7.0,SNR=3.3							

IDC 25 12:49:58.8±3.0, 18°.83S×177°.85W, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.5/30, mbtmp3.7/3, ML4.3/1, Error ellipse: s-maj=66.9km s-min=46.7km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.85**	**192**	P	P	12 54 31.6	+0.3
0.8nm,0.3s,baz=36,slow=10,SNR=5.7							
WRA	**Warramunga Arr**	**44.99**	**260**	P	P	12 58 16.5	+0.1
0.1nm,0.4s,baz=97,slow=7.5,SNR=14							
ASAR	**Alice Springs**	**45.06**	**255**	P	P	12 58 16.2	-0.6
0.4nm,0.6s,baz=98,slow=7.6,SNR=6.6							
BRTR	**Keskin Array B**	**145.81**	**314**	PKPbc	PKPdf	13 09 39.5	-0.4
0.3nm,0.3s,baz=48,slow=2.1,SNR=2.4							

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*IDC **25** 12:59:33.7±0.7, 34°.23S×72°.14W, h0km, mb4.2/7, mb1 4.4/10, mb1mx4.2/31, mbtmp4.2/10, ML3.9/3, MS3.5/5, Ms1 3.5/5, ms1mx3.3/18, Error ellipse: s-maj=30.0km s-min=17.1km az=99.0*
*ISCJB **25** 12:59:34.4±2.0, 34°.24S±0°.03×72°.12W±0°.05, h10km±13km, mb4.7/32, MS3.6/3, Error ellipse: s-maj=7.5km s-min=4.7km az=175.9*
*GUC **25** 12:59:35.8±0.4, 34°.26S×72°.11W, h34km±5km, ML4.7*
*NEIC **25** 12:59:39.2±0.2, 34°.25S×71°.90W, h35km, mb4.8/29, ML4.7(GUC), Error ellipse: s-maj=8.1km s-min=5.8km az=70.0*
NEIC Felt [V] at Pichilemu; [IV] at Navidad; [III] at El Tabo, Paredones and Talca; [II] at San Antonio, San Fernando and Santa Cruz. Also felt at Curico and Rancagua.
*BJI **25** 12:59:39.0, 34°.20S×71°.80W, h35km, mB5.1/6, Ms5.3/6, Ms7 5.1/6*
ISC 25 12:59:37.9±0.9, 34°.29S±0°.04×71°.95W±0°.07, h27km±5km, n90, σ1§04/93, mb4.8/32, MS3.6/3, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.56**	**53⇑**	*i*P	**Pb**	**12 59 48.4**	**-0.7**
NICH	**Los Niches**	**0.93**	**140⇑**	*i*P	**Pn**	**12 59 54.5**	**-0.6**
NICH				*i* S	**Sn**	**13 00 08.5**	**+0.9**
NICH				AML	AML	13 00 10.6	
comp=E,66μm,0.7s							
CACH	**El Canelo**	**1.13**	**82⇑**	*i*P	**Pn**	**12 59 58.3**	**+0.3**
CHCH	**Chadas Angostu**	**1.13**	**72⇓**	*i*P	**Pn**	**12 59 57.7**	**-0.3**
TALC	**Talca**	**1.14**	**167⇓**	*i*P	**Pn**	**12 59 56.9**	**-1.1**
TALC				*i* S	**Sn**	**13 00 12.8**	**+0.2**
RCDM	**Rinconada Maip**	**1.24**	**50⇑**	*i*P	**Pn**	**12 59 58.6**	**-0.9**
RCDM				*i* S	**Sb**	**13 00 16.1**	**-0.2**
RCDM				AML	AML	13 00 21.3	
comp=E,16μm,0.7s							
FSR	**Penalolen**	**1.43**	**56**	*e*P9	**Pb**	**13 00 03.8**	**-0.2**
FSR				*i* S1	**Sb**	**13 00 23.7**	**+1.9**
LACH	**Col Las Americ**	**1.45**	**55⇑**	*i*P	**Pn**	**13 00 02.4**	**+0.1**
LACH				*e*S1	**Sb**	**13 00 22.8**	**+0.7**
LACH				AML	AML	13 00 27.8	
comp=E,10μm,0.5s							
CLCH	**Cerro Calan**	**1.47**	**53⇑**	*i*P	**Pn**	**13 00 02.8**	**+0.1**
CLCH				*i* S	**Sb**	**13 00 23.3**	**+0.2**
CLCH				AML	AML	13 00 33.6	
comp=N,19μm,0.6s							
LNCH	**Linares**	**1.58**	**170⇑**	*i*P	**Pn**	**13 00 04.6**	**+0.5**
LNCH				*i* S	**Sb**	**13 00 25.9**	**-0.1**
LNCH				AML	AML	13 00 32.1	
comp=N,22μm,0.5s							
CFAA	**Coronel Fontan**	**4.11**	**50**	Pn	**Pn**	**13 00 40.9**	**+1.9**
comp=N,1.6nm,0.3s,baz=225,slow=12,SNR=33							
CFAA				Lg	Lg	13 01 40.6	
comp=N,3.7nm,0.3s,baz=323,slow=20,SNR=4.3							
CFAA				LR	LR	13 01 54.5	
comp=N,66nm,18.2s,baz=240,slow=34							
LCO	**Las Campanas**	**5.37**	**12**	*e*Pn	**Pn**	**13 00 55.0**	**-1.5**
PLCA	**Paso Flores**	**6.53**	**171**	Pn	**Pn**	**13 01 13.3**	**+1.2**
comp=N,1.0nm,0.3s,baz=345,slow=9.9,SNR=31							
PLCA				Lg	Lg	13 02 57.9	
comp=N,0.9nm,0.3s,baz=284,slow=16,SNR=4.0							
PLCA				LR	LR	13 04 06.0	
comp=N,617nm,19.6s,baz=354,slow=41							
TRQA	**Tornquist**	**8.89**	**118**	*e*Pn	**Pn**	**13 01 44.1**	**-0.5**
LPAZ	**La Paz**	**18.25**	**12**	P	**P**	**13 03 50.1**	**+0.2**
comp=N,0.3nm,0.3s,baz=191,slow=5.9,SNR=16							
LPAZ	**La Paz**	**18.25**	**12**	*e*P	**Pn**	**13 03 49.8**	**-0.1**
comp=N,23nm,0.8s							
SIV	**San Ignacio**	**20.68**	**31**	P	**P**	**13 04 15.5**	**-0.5**
comp=N,5.7nm,0.7s,baz=225,slow=14,SNR=12							
SIV				LR	LR	13 13 46.9	
comp=N,282nm,18.6s,baz=214,slow=41							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAML	**Samuel**	**26.48**	**20**	*e*P	**P**	**13 05 12.3**	**-0.6**
comp=N,11nm,1.1s							
BDFB	**Brasilia**	**28.44**	**55**	P	**P**	**13 05 31.0**	**+0.4**
comp=N,6.0nm,0.8s,baz=225,slow=8.6,SNR=3.1							
BDFB				LR	LR	13 16 48.3	
comp=N,147nm,21.2s,baz=214,slow=36							
VNA3	**Neumayer Olymp**	**49.06**	**158**	P	**P**	**13 08 22.4**	**+0.2**
VNA2	**Neumayer--Watz**	**49.72**	**157**	P	**P**	**13 08 28.6**	**+1.4**
SNAA	**Sanae**	**51.29**	**158**	P	**P**	**13 08 40.2**	**+1.0**
SNAA	**Sanae**	**51.29**	**158**	P	**P**	**13 08 39.9**	**+0.7**
comp=N,1.2nm,0.3s,baz=262,slow=6.7,SNR=15							
SNAA	**Sanae**	**51.29**	**158**	*e*P	**P**	**13 08 39.7**	**+0.6**
comp=N,34nm,1.4s							
RKT	**Rikitea**	**55.62**	**264**	*e*T	T	14 08 57.1	
comp=N,1.4nm,0.3s							
QSPA	**South Pole Qui**	**55.95**	**180**	P	**P**	**13 09 14.5**	**+1.1**
comp=N,9.0nm,1.1s,baz=146,slow=4.0,SNR=13							
QSPA	**South Pole Qui**	**55.95**	**180**	*e*P	**P**	**13 09 14.4**	**+0.9**
comp=N,10nm,1.0s							
TBI	**Tubuai**	**67.32**	**257**	*e*LR	LR	13 30 41.3	
comp=N,153nm,31.0s							
TBI	**Tubuai**	**67.32**	**257**	*e*T	T	14 23 30.8	
comp=N,3.5nm,0.3s							
MEH	**Mehetia**	**68.88**	**262**	*e*T	T	14 25 30.8	
comp=N,23nm,0.2s							
TVO	**Taravao**	**69.90**	**262**	*e*T	T	14 26 46.9	
comp=N,1.7nm,0.3s							
TIAR	**Tiarei**	**70.09**	**262**	*e*T	T	14 27 01.3	
comp=N,4.2nm,0.2s							
PAE	**Paea**	**70.23**	**262**	*e*T	T	14 27 11.7	
comp=N,0.8nm,0.2s							
PPT2	**Papeete2**	**70.27**	**262**	*e*LR	LR	13 31 54.5	
comp=N,148nm,26.8s							
PPT	**Papeete**	**70.28**	**262**	LR	LR	13 34 30.3	
comp=N,36nm,18.9s,baz=94,slow=30							
CPCT	**Cooper Cave**	**70.37**	**349**	*e*P	**P**	**13 10 49.9**	**+0.7**
TKL	**Tuckaleechee C**	**70.46**	**350**	*e*P	**P**	**13 10 49.4**	**-0.3**
WVT	**Waverly**	**71.61**	**346**	*e*P	**P**	**13 10 56.1**	**-0.5**
comp=N,14nm,0.8s							
MNTX	**Cornudas Mount**	**72.80**	**331**	*e*P	**P**	**13 11 03.1**	**-0.8**
comp=N,29nm,2.6s							
TUC	**Tucson**	**75.65**	**327**	*e*P	**P**	**13 11 20.8**	**+0.2**
comp=N,11nm,1.7s							
LAZ	**Ladron**	**75.87**	**331**	*e*P	**P**	**13 11 22.0**	**0.0**
comp=N,8.4nm,1.7s							
T25A	**Trinidad**	**77.23**	**334**	*e*P	**P**	**13 11 30.5**	**+0.9**
comp=N,27nm,1.4s							
WUAZ	**Wupatki**	**78.62**	**328**	*e*P	**P**	**13 11 37.3**	**0.0**
comp=N,10nm,1.3s							
S22A	**4UR Ranch, Cre**	**78.67**	**332**	*e*P	**P**	**13 11 37.5**	**-0.2**
comp=N,57nm,2.9s							
MVCO	**Mesa Verde**	**78.85**	**331**	*e*P	**P**	**13 11 38.5**	**-0.2**
comp=N,6.5nm,1.1s							
Q24A	**Divide**	**79.11**	**334**	*e*P	**P**	**13 11 40.2**	**+0.1**
comp=N,23nm,1.6s							
SMCO	**Snowmass**	**79.97**	**333**	*e*P	**P**	**13 11 45.8**	**+0.9**
comp=N,13nm,1.4s							
ECSD	**EROS Data Cent**	**80.85**	**342**	*e*P	**P**	**13 11 49.3**	**+0.3**
comp=N,18nm,1.3s							
N23A	**Red Feather La**	**81.10**	**335**	*e*P	**P**	**13 11 50.9**	**+0.1**
comp=N,21nm,1.7s							
SHPR	**Sheep Range**	**81.14**	**326**	*e*P	**P**	**13 11 50.8**	**-0.1**
CCUT	**Cedar City**	**81.19**	**328**	*e*P	**P**	**13 11 53.4**	**+2.1**
comp=N,7.2nm,1.2s							
DAC	**Darwin (Calif)**	**82.11**	**324**	*e*P	**P**	**13 11 57.3**	**+1.2**
comp=N,3.5nm,0.9s							
LBTB	**Lobatse**	**82.11**	**115**	*e*P	**P**	**13 11 56.5**	**0.0**
comp=N,15nm,1.3s							
R11A	**Troy Canyon, C**	**82.84**	**327**	*e*P	**P**	**13 12 00.5**	**+0.6**
comp=N,6.6nm,1.3s							
K22A	**Casper**	**82.86**	**335**	*e*P	**P**	**13 12 00.7**	**+0.9**
comp=N,12nm,1.3s							
DUG	**Dugway, Tooele**	**83.16**	**330**	*e*P	**P**	**13 12 01.8**	**+0.3**
comp=N,17nm,1.6s							
TPH	**Tonopah**	**83.37**	**326**	*e*P	**P**	**13 12 03.1**	**+0.5**
comp=N,8.0nm,1.2s							
BGU	**Big Grassy Mou**	**83.86**	**330**	*e*P	**P**	**13 12 05.0**	**0.0**
comp=N,3.8nm,1.6s							
PDAR	**Pinedale Array**	**84.06**	**333**	P	**P**	**13 12 05.5**	**-0.6**
comp=N,1.0nm,0.9s,baz=193,slow=4.0,SNR=7.1							
NVAR	**Mina Array Bea**	**84.17**	**325**	P	**P**	**13 12 07.2**	**+0.5**
comp=N,1.2nm,0.8s,baz=124,slow=7.9,SNR=5.4							
TORD	**Torodi Ar. Bea**	**84.24**	**70**	P	**P**	**13 12 07.6**	**+0.2**
comp=N,2.5nm,0.8s,baz=262,slow=4.0,SNR=12							
TPAW	**Teton Pass**	**85.20**	**333**	*e*P	**P**	**13 12 12.4**	**+0.5**
comp=N,30nm,2.3s							
IMW	**Indian Meadow**	**85.54**	**333**	*e*P	**P**	**13 12 12.5**	**-1.1**
comp=N,24nm,2.0s							
YMR	**Madison River**	**86.21**	**333**	*e*P	**P**	**13 12 16.4**	**-0.4**
comp=N,12nm,1.2s							
HLID	**Hailey**	**86.62**	**331**	*e*P	**P**	**13 12 18.7**	**-0.1**
comp=N,22nm,2.0s							
MCMT	**McKenzie Canyo**	**87.06**	**332**	*e*P	**P**	**13 12 21.6**	**+0.6**
comp=N,7.3nm,1.5s							
YKA	**Yellowknife Ar**	**102.36**	**341**	P	**Pdif**	**13 13 29.9**	**-0.3**
comp=N,0.2nm,0.5s,baz=144,slow=4.6,SNR=4.5							
WRA	**Warramunga Arr**	**120.55**	**209**	PKP	**PKPdf**	**13 18 26.8**	**-0.8**
comp=N,0.2nm,0.3s,baz=151,slow=1.9,SNR=9.6							
ARCES	**ARCESS Array B**	**124.25**	**25**	PKP	**PKPdf**	**13 18 33.1**	**+0.1**
comp=N,2.6nm,0.9s,baz=241,slow=2.5,SNR=3.5							
H11S2	**WAKE ISLAND Hy**	**25.84**	**269**	T	T	15 36 56.1	
baz=120,slow=76,SNR=15							
H11S1	**WAKE ISLAND Hy**	**25.85**	**269**	T	T	15 36 56.1	
baz=120,slow=76,SNR=30							
H11S3	**WAKE ISLAND Hy**	**25.86**	**269**	T	T	15 36 56.7	
baz=120,slow=76,SNR=26							
H11N3	**WAKE ISLAND Hy**	**26.26**	**270**	T	T	15 37 33.6	
baz=115,slow=78,SNR=4.0							
H11N1	**WAKE ISLAND Hy**	**26.28**	**270**	T	T	15 37 33.7	
baz=115,slow=78,SNR=10							
H11N2	**WAKE ISLAND Hy**	**26.28**	**270**	T	T	15 37 33.8	
baz=115,slow=78,SNR=6.4							
PSI	**Prapat**	**147.53**	**163**	PKPbc	**PKPbc**	**13 19 19.1**	**-1.2**
comp=N,2.8nm,0.4s,baz=176,slow=12,SNR=3.8							
HYB	**Hyderabad**	**148.74**	**115**	*i* PKP	**PKPbc**	**13 19 22.5**	**-0.8**
KKAR	**Karatay Array**	**149.62**	**62**	*e*PKPdf	**PKPdf**	**13 19 19.7**	**-0.4**
AAK	**Ala-Archa**	**152.57**	**62**	PKPbc	**PKPbc**	**13 19 32.0**	**+0.2**
comp=N,1.4nm,0.4s,baz=192,slow=4.0,SNR=6.4							
KURBB	**Kurchatov Arra**	**153.03**	**44**	PKPbc	**PKPbc**	**13 19 32.7**	**+0.4**
comp=N,0.9nm,0.5s,baz=306,slow=3.2,SNR=12							
KURK	**Kurchatov**	**153.04**	**44**	PKPbc	**PKPbc**	**13 19 32.7**	**+0.4**
KSH	**Kashi**	**153.91**	**69**	PKPbc	**PKPdf**	**13 19 26.0**	**-0.8**
KSH				sPKP		13 19 39.8	
KSH				PKS	**PKSdf**	**13 23 00.5**	**-0.7**
KSH				PP	**PP**	**13 23 20.5**	**-2.7**
KSH				SKS	**SKSdf**	**13 26 31.0**	**-0.9**
KSH				SKKS	**SKKSac**	**13 30 11.5**	**+0.4**
KSH				SS	**SS**	**13 42 55.8**	**-3.8**
KSH				PPMZ			
comp=N,52nm,4.9s							
KSH				LN			
comp=N,27nm,4.4s							
KSH				LE			
comp=N,55nm,5.6s							
KSH				LZ			
comp=N,100nm,5.2s							
ZALV	**Zalesovo Beam**	**154.43**	**33**	PKPbc	**PKPbc**	**13 19 35.5**	**+0.3**
comp=N,2.2nm,0.7s,baz=302,slow=3.3,SNR=9.3							
MKAR	**Makanchi Array**	**156.90**	**50**	PKPab	**PKPab**	**13 20 00.7**	**+0.1**
comp=N,0.5nm,0.5s,baz=283,slow=2.4,SNR=10							
WMQ	**Urumqi**	**161.59**	**53**	*e*PKP	**PKPdf**	**13 19 34.3**	**-1.8**
WMQ				pPKP	**pPKPdf**	**13 19 45.0**	**-0.1**
WMQ				LN			
comp=N,13nm,23.0s							
WMQ				LE			
comp=N,41nm,19.0s							
WMQ				LZ			
comp=N,33nm,22.0s							
SONM	**Songino Array**	**166.41**	**5**	PKPab	**PKPab**	**13 20 40.4**	**-1.7**
comp=N,2.1nm,1.3s,baz=321,slow=1.8,SNR=3.9							
KMI	**Kunming**	**169.77**	**152**	PKP	**PKPdf**	**13 19 45.5**	**+1.9**
NJ2	**Nanjing**	**170.68**	**259**	*e*PKP	**PKPdf**	**13 19 45.5**	**+2.0**
HHC	**Hu-ho-hao-te**	**172.88**	**338**	*e*PKP	**PKPdf**	**13 19 44.5**	**0.0**
HHC				pPKP	**pPKPdf**	**13 19 53.0**	**-0.5**
HHC				sPKP		13 19 59.5	
HHC				PP	**PP**	**13 25 03.3**	**+1.4**
HHC				SKS	**SKSdf**	**13 26 44.3**	**-1.6**
HHC				SKKS	**SKKSac**	**13 31 47.5**	**+0.3**
HHC				SS	**SS**	**13 46 17.0**	**+3.9**
HHC				PPMZ			
comp=N,82nm,10.0s							
HHC				LN			
comp=N,150nm,20.2s							
HHC				LE			
comp=N,170nm,20.6s							
HHC				LZ			
comp=N,140nm,19.0s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**175.05**	**132**	*e*PKP	**PKPdf**	**13 19 45.3**	**-0.2**

MAN 25 13:00:19, 15°.45N×119°.30E, h10km, mb4.7, ML3.6, MS3.6, Luzon

MAN 25 13:05:27, 8°.93N×123°.65E, h32km, mb4.3, ML3.1, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.45**	**220⇑**	*i*P	Pn	13 05 38.0	+0.8
DCPH				*i* S	Sn	13 05 45.9	+1.7
TBP	**Tagbilaran**	**0.79**	**16**	*e*P	Pn	13 05 41.2	-0.7
TBP				*e*S	Sn	13 05 51.2	-1.4
MSLP	**Maasin**	**1.69**	**45**	*e*P	Pb	13 05 56.5	-1.0
MSLP				*e*S	Sn	13 06 14.6	-0.3
GUIM	**Jordan**	**1.98**	**328**	*e*P	Pb	13 06 00.7	-1.8
GUIM				*e*S	Sn	13 06 22.3	+0.2

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*IDC **25** 13:06:03.3±1.1, 36°.09N×141°.62E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.6/28, mbtmp3.6/9, ML3.1/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/43, Error ellipse: s-maj=26.4km s-min=20.0km az=67.0*
*ISCJB **25** 13:06:05.1±0.8, 36°.10N±0°.06×141°.63E±0°.07, h26km, mb3.6/7, Error ellipse: s-maj=9.7km s-min=6.9km az=141.2*
*JMA **25** 13:06:07.6±0.2, 36°.05N×141°.42E, h40km±3km, M3.4*
ISC 25 13:06:07.4±1.0, 36°.12N±0°.06×141°.47E±0°.07, h26km, n21, σ1§15/18, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.65**	**230**	P	**Pb**	**13 06 19.3**	**-0.8**
CHOJ				S	**Sb**	**13 06 27.8**	**-0.9**
JHO	**Hirono**	**0.88**	**304**	P	**Pb**	**13 06 23.7**	**-0.2**
JYT	**Yasato**	**1.04**	**276**	P	**Pn**	**13 06 25.2**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.12**	**331**	P	**Pn**	**13 06 27.6**	**+0.2**
MJAR	**Matsushiro Arr**	**2.67**	**280**	Pn	**Pn**	**13 06 49.8**	**+1.2**
3.7nm,0.3s,baz=114,slow=7.7,SNR=36							
MJAR				Sn	**Sb**	**13 07 23.9**	**-2.8**
3.5nm,0.3s,baz=95,slow=15,SNR=6.2							
MJAR				LR	LR	13 08 09.3	
comp=Z,97nm,20.5s,baz=190,slow=46							
MAT	**Matsushiro**	**2.67**	**280**	P	**Pn**	**13 06 50.0**	**+1.3**
MAT				S	**Sn**	**13 07 21.8**	**+1.6**
ASAJ	**Asahikawa**	**8.03**	**6**	Pn	**Pn**	**13 08 01.9**	**-0.5**
0.2nm,0.3s,baz=233,slow=15,SNR=4.4							
ASAJ				Sn	**Sn**	**13 09 31.7**	**-0.6**
0.1nm,0.3s,baz=308,slow=30,SNR=1.4							
JNU	**Nakatsue**	**9.23**	**254**	LR	LR	13 12 11.5	
comp=Z,160nm,18.7s,baz=12,slow=39							
H11N2	**WAKE ISLAND Hy**	**27.65**	**119**	T	T	13 41 01.0	
baz=311,slow=75,SNR=12							
H11N1	**WAKE ISLAND Hy**	**27.66**	**119**	T	T	13 40 59.5	
baz=311,slow=75,SNR=9.2							
H11N3	**WAKE ISLAND Hy**	**27.67**	**119**	T	T	13 41 02.1	
baz=311,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	13 41 50.2	
baz=313,slow=76,SNR=23							
H11S3	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	13 41 50.7	
baz=313,slow=76,SNR=22							
SONM	**Songino Array**	**28.34**	**305**	P	**P**	**13 11 59.9**	**+0.7**
0.3nm,0.6s,baz=104,slow=10,SNR=3.1							
H11S2	**WAKE ISLAND Hy**	**28.35**	**122**	T	T	13 41 51.4	
baz=313,slow=76,SNR=16							
ZALV	**Zalesovo Beam**	**42.57**	**313**	P	**P**	**13 14 01.1**	**+0.3**
0.8nm,0.6s,baz=81,slow=9.2,SNR=4.8							
MKAR	**Makanchi Array**	**44.65**	**303**	P	**P**	**13 14 18.4**	**+0.7**
0.3nm,0.5s,baz=82,slow=8.2,SNR=5.4							
KURBB	**Kurchatov Arra**	**46.60**	**309**	P	**P**	**13 14 33.7**	**+0.7**
1.6nm,0.7s,baz=82,slow=7.7,SNR=5.9							
WRA	**Warramunga Arr**	**56.16**	**188**	P	**P**	**13 15 44.0**	**-0.9**
0.4nm,0.4s,baz=3.7,slow=7.6,SNR=11							
ASAR	**Alice Springs**	**59.89**	**188**	P	**P**	**13 16 11.5**	**+0.5**
0.1nm,0.3s,baz=20,slow=11,SNR=2.9							
PDAR	**Pinedale Array**	**78.28**	**45**	P	**P**	**13 18 05.6**	**+0.3**
0.3nm,0.2s,baz=297,slow=2.6,SNR=4.4							

IDC 25 13:13:52.8±1.0, 27°.84N×139°.68E, h470km±71km, mb2.7/5, mb1 2.8/6, mb1mx2.6/46, mbtmp3.6/6, Error ellipse: s-maj=188.3km s-min=14.8km az=71.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.35**	**108**	P	P	13 14 59.0	+1.9
13nm,0.3s,baz=287,slow=17,SNR=6.6							
JCJ				S	S	13 15 49.4	0.0
31nm,0.3s,baz=288,slow=20,SNR=15							
ZALV	**Zalesovo Beam**	**47.47**	**319**	P	P	13 21 43.1	-0.5
0.4nm,0.3s,baz=110,slow=8.5,SNR=2.1							
WRA	**Warramunga Arr**	**47.78**	**187**	P	P	13 21 46.5	+0.1
0.5nm,0.3s,baz=4.6,slow=7.7,SNR=18							
MKAR	**Makanchi Array**	**48.28**	**309**	P	P	13 21 49.9	0.0
0.1nm,0.3s,baz=94,slow=9.1,SNR=4.9							
KURBB	**Kurchatov Arra**	**50.92**	**314**	P	P	13 22 09.3	0.0
0.7nm,0.5s,baz=91,slow=8.2,SNR=9.5							
ASAR	**Alice Springs**	**51.51**	**187**	P	P	13 22 13.6	-0.4
0.2nm,0.3s,baz

ZALV	Zalesovo Beam	46.42	332	P	P	13 36 19.2 +2.0
	0.3nm,0.3s,baz=116,slow=13,SNR=1.8					
ILAR	Eielson Array	77.11	26	P	P	13 39 45.4 +1.9
	0.2nm,0.6s,baz=295,slow=4.9,SNR=3.2					
YKA	Yellowknife Ar	91.00	22	P	P	13 40 56.7 +2.4
	0.2nm,0.8s,baz=313,slow=5.7,SNR=4.5					

DDA 25 13:36:51.7,37°.25N×35°.47E,h7km,MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GULE	Gulek	0.55	273	*i* P	Pg	13 37 00.3	-2.3
GULE				*i* S	Sg	13 37 10.9	+0.9
KAMA	Osmaniye	0.96	94	*i* P	Pg	13 37 10.1	-0.3
KAMA				*i* S	Sn	13 37 28.9	+3.1

IDC 25 13:39:58.9±853.0,45°.39N×39°.45E,h0km,Error ellipse: s-maj=342.8km s-min=189.0km az=23.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASONI	1.43	354	*i*		14 54 50.0	
	baz=173,slow=331,SNR=0.4						
I31KZ	AKTYUBINSK INF	13.44	61	*i*		15 05 00.0	
	baz=256,slow=315,SNR=0.9						
I46RU	ZALESOVO INFRA	30.13	57	*i*		16 42 40.0	
	baz=273,slow=327,SNR=0.7						

*IDC **25** 13:48:44.5±0.7, 12°.16N×143°.86E, h0km, mb4.2/18, mb1 4.4/18, mb1mx4.3/29, mbtmp4.2/18, MS3.6/10, Ms1 3.6/10, ms1mx3.3/39, Error ellipse: s-maj=22.8km s-min=15.6km az=78.0*

*ISCJB **25** 13:48:46.2±0.3, 12°.10N±0°.05×143°.80E±0°.06, h26km, mb4.4/29, MS3.5/9, Error ellipse: s-maj=8.6km s-min=6.4km az=32.0*

*NEIC **25** 13:48:49.1±0.3, 12°.14N×143°.90E, h35km, mb4.6/12, Error ellipse: s-maj=11.8km s-min=7.4km az=101.0*

*BJI **25** 13:48:52.0, 12°.20N×143°.90E, h51km, mB4.9/7, mb4.4/11, Ms4.6/2*

ISC 25 13:48:48.1±0.5,12°.17N±0°.07×143°.81E±0°.09,h26km,n63, σ1809/54,mb4.6/29,MS3.5/9,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.75	36	*e*Pn	Pn	13 49 17.2	+0.5
GUMO				*e*Sn	Sb	13 49 40.1	-1.0
JAY	Jayapura	14.91	192	LR	LR	13 57 35.0	
	comp=Z,179nm,19.4s,baz=3.0,slow=36						
JOW	Kunigami	20.64	317	P	Pn	13 53 27.5	-0.7
	2.5nm,0.5s,baz=111,slow=18,SNR=3.6						
PMG	Port Moresby	21.69	171	*e*P	P	13 53 36.1	-1.0
	37nm,1.2s						
H11S3	WAKE ISLAND Hy	22.93	71	T	T	14 17 44.0	
	baz=291,slow=74,SNR=4.0						
H11S1	WAKE ISLAND Hy	22.95	71	T	T	14 17 44.0	
	baz=291						
H11S2	WAKE ISLAND Hy	22.95	71	T	T	14 17 43.4	
	baz=291,slow=74,SNR=5.9						
H11N1	WAKE ISLAND Hy	23.41	68	T	T	14 18 25.4	
	baz=255,slow=75,SNR=11						
H11N2	WAKE ISLAND Hy	23.42	68	T	T	14 18 27.8	
	baz=255,slow=75,SNR=9.6						
H11N3	WAKE ISLAND Hy	23.43	68	T	T	14 18 19.1	
	baz=255,slow=75,SNR=10						
LUWI	Luwuk	24.67	239	*e*P	P	13 54 07.1	0.0
	65nm,0.8s						
MJAR	Matsushiro Arr	24.79	349	P	P	13 54 08.6	+0.6
	2.9nm,0.9s,baz=173,slow=9.5,SNR=4.5						
MJAR				LR	LR	14 03 15.0	
	comp=Z,234nm,18.3s,baz=170,slow=35						
KSRS	Korea Array	28.93	333	P	P	13 54 46.7	+1.6
	3.5nm,1.0s,baz=145,slow=9.5,SNR=5.9						
KSRS				LR	LR	14 06 29.4	
	comp=Z,53nm,18.2s,baz=132,slow=37						
KSAR	Wonju Array Be	28.93	333	P	P	13 54 46.7	+1.5
WRAB	Tennant Creek	33.23	196	*e*P	P	13 55 22.5	-0.7
	4.4nm,0.7s						
WB2	Warramunga Arr	33.24	196	*e*P	P	13 55 23.1	-0.2
WRA	Warramunga Arr	33.24	196	P	P	13 55 23.5	+0.2
	3.3nm,0.7s,baz=18,slow=9.8,SNR=19						
QIZ	Qiongzhong	33.38	286	P	P	13 55 25.5	+0.9
QIZ				S	S	14 00 40.0	-4.3
ASAR	Alice Springs	36.91	195	P	P	13 55 55.0	+0.1
	1.2nm,0.9s,baz=17,slow=7.1,SNR=6.4						
ASAR				LR	LR	14 12 11.1	
	comp=Z,78nm,18.1s,baz=16,slow=38						
DZM	Mont Dzumac	40.63	147	P	P	13 56 26.7	+0.5
	6.4nm,0.7s,baz=306,slow=17,SNR=4.6						
PETK	Petropavlovsk-	42.32	12	LR	LR	14 15 23.1	
	comp=Z,51nm,18.5s,baz=193,slow=38						
CMAR	Chiang Mai Arr	43.64	284	P	P	13 56 51.8	+0.9
	0.7nm,0.5s,baz=93,slow=6.1,SNR=5.3						
BBOO	Buckleboo	45.33	189	*e*P	P	13 57 04.2	+0.1
SONM	Songino Array	47.31	326	P	P	13 57 20.6	+0.9
	1.6nm,0.7s,baz=146,slow=7.9,SNR=13						
SONM				LR	LR	14 17 24.0	
	comp=Z,96nm,19.6s,baz=154,slow=36						
GTA	Gaotai	47.36	313	*e*P	P	13 57 21.5	+1.3
GTA				PMZ			
	6.0nm,0.7s						
SEY	Seymchan	51.06	5	P	P	13 57 48.2	+0.3
	1.1nm,0.7s,baz=183,slow=7.1,SNR=6.6						
NWAO	Narrogin (SRO)	51.52	209	LR	LR	14 21 03.3	
	comp=Z,48nm,18.8s,slow=38						
TAPN	Taplejung	54.49	295	*e*P	P	13 58 14.7	+0.4
ODAN	Odare	54.74	294	*e*P	P	13 58 16.2	+0.1
RAMN	Ramite	55.45	294	*e*P	P	13 58 21.0	-0.2
JIRN	Jiri	55.86	295	*e*P	P	13 58 24.6	+0.3
	10nm,0.6s						
GUN	Gumba	56.15	295	*e*P	P	13 58 27.1	+0.8
	21nm,0.8s						
PKI	Pulchoki	56.55	295	*e*P	P	13 58 29.1	0.0
	8.8nm,0.7s						
PKIN	Phulchoki	56.56	295	*e*P	P	13 58 29.2	+0.1
	4.3nm,0.6s						
KKN	Kakani	56.68	295	*e*P	P	13 58 30.2	+0.3
	8.3nm,0.7s						
DMN	Daman	56.82	295	*e*P	P	13 58 31.5	+0.5
	16nm,0.8s						
GKN	Gorkha	57.26	295	*e*P	P	13 58 34.2	+0.3
	7.5nm,0.7s						
BILL	Bilibino	57.73	10	P	P	13 58 34.7	-1.7
	3.6nm,0.8s						
DANN	Dangsing	58.05	296	*e*P	P	13 58 40.1	+0.4
	20nm,0.6s						
KOLN	Koldanda	58.16	295	*e*P	P	13 58 39.9	-0.5
	11nm,0.8s						
MKAR	Makanchi Array	61.80	317	P	P	13 59 05.7	+0.9
	1.8nm,0.8s,baz=93,slow=9.0,SNR=21						
MKAR				LR	LR	14 26 39.9	
	comp=Z,37nm,21.0s,baz=7.0,slow=37						
ZALV	Zalesovo Beam	62.18	325	P	P	13 59 07.3	+0.2
	0.7nm,0.5s,baz=113,slow=6.7,SNR=5.9						
ZALV				LR	LR	14 26 05.0	
	comp=Z,58nm,20.1s,baz=72,slow=36						
KURK	Kurchatov	65.01	320	P	P	13 59 26.6	+0.7
KURBB	Kurchatov Arra	65.05	320	P	P	13 59 26.6	+0.5
	4.6nm,0.7s,baz=103,slow=6.7,SNR=19						
KTH	Kantishna Hill	68.26	26	*e*P	P	13 59 45.9	-0.6
	6.1nm,1.0s						
PMR	Palmer	68.52	28	*e*P	P	13 59 46.4	-1.7
COLD	Coldfoot	69.65	22	*e*P	P	13 59 53.4	-1.6
	4.8nm,1.0s						
ILAR	Eielson Array	70.29	25	P	P	13 59 58.1	-0.8
	2.6nm,0.5s,baz=251,slow=5.8,SNR=68						
ILAR				LR	LR	14 30 46.1	
	comp=Z,27nm,18.6s,baz=290,slow=36						
PAX	Paxson	70.50	27	*e*P	P	13 59 58.7	-1.8
	4.4nm,0.8s						
EGAK	Eagle	72.70	26	*e*P	P	14 00 13.4	-0.1
	17nm,1.6s						
HYT	Haines Junctio	73.95	30	*e*P	P	14 00 20.8	-0.3
ABKAR	Akbulak array	76.90	318	*e*P	P	14 00 35.6	-2.5
	2.4nm,0.7s						
YKA	Yellowknife Ar	84.59	27	P	P	14 01 19.9	+0.9
	2.2nm,0.4s,baz=286,slow=5.1,SNR=47						
B08A	Colville Reser	85.52	42	*e*P	P	14 01 24.5	+0.5
	3.4nm,0.7s						
NEW	Newport	86.97	41	*e*P	P	14 01 30.4	-0.8
	7.1nm,0.8s						
BMO	Blue Mountains	87.72	45	*e*P	P	14 01 34.2	-0.7
	7.7nm,1.2s						
ARCES	ARCESS Array B	88.11	342	P	P	14 01 36.1	-0.1
	2.7nm,0.6s,baz=70,slow=7.1,SNR=20						
BSMT	Bassoo Peak	88.59	41	*e*P	P	14 01 38.9	-0.3
NVAR	Mina Array Bea	88.61	51	P	P	14 01 41.4	+1.9
	2.6nm,0.7s,baz=261,slow=5.9,SNR=17						
JOF	Joensuu	89.14	335	*e*p	P	14 01 40.6	-0.5
FINES	FINESS Array B	92.00	335	P	P	14 01 53.7	-0.7
	4.9nm,0.6s,baz=73,slow=4.7,SNR=18						
DAU	Daniels Canyon	93.28	48	*e*P	P	14 01 57.9	-3.4
PDAR	Pinedale Array	93.69	45	P	P	14 02 03.9	+0.9
	0.2nm,0.5s,baz=188,slow=0.6,SNR=2.0						

GUC 25 13:52:02.2±0.4,36°.25S×72°.82W,h29km±1km,ML3.5,1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.12	11	*e*P	Pb	13 52 06.8	-0.7
COCH				*e*S	Sb	13 52 10.3	-0.9
CCSP	San Pedro de C	0.63	202	*e*S	Sb	13 52 23.2	-0.2
CCSP				AML	AML	13 52 24.7	
	comp=E,2μm,0.4s						
LNCH	Linares	1.07	68	↑*e*P	Pn	13 52 20.9	-0.3
LNCH				*e*S	Sn	13 52 35.3	+0.3
TALC	Talca	1.29	49	*e*P	Pn	13 52 24.3	+0.1
TALC				*e*S	Sb	13 52 41.6	-0.3
CLCH	Cerro Calan	3.41	34	*e*P	Pn	13 52 55.6	+2.0
CLCH				*e*S	Sn	13 53 36.0	+2.8
CLCH				AML	AML	13 53 51.8	
	comp=N,164nm,0.7s						

*IDC **25** 13:57:48.2±0.5, 36°.03S×72°.78W, h0km, mb4.5/12, mb1 4.6/14, mb1mx4.5/29, mbtmp4.5/14, ML3.8/2, MS4.2/15, Ms1 4.2/15, ms1mx4.1/20, Error ellipse: s-maj=23.2km s-min=15.9km az=81.0*

*BJI **25** 13:57:51.8, 35°.90S×72°.70W, h35km, mB5.1/8, Ms5.4/7, Ms7 5.3/7*

*ISCJB **25** 13:57:52.6±0.2, 35°.97S±0°.04×72°.76W±0°.04, h35km, mb4.9/47, MS4.3/13, Error ellipse: s-maj=5.8km s-min=4.5km az=169.5*

*NEIC **25** 13:57:52.0, 35°.99S×72°.73W, h34km, mb5.0/37, ML5.1(GUC), After GUC.*

NEIC Felt [V] at Constitucion and Retiro; [IV] at Chillan, Pichilemu, San Javier and Talca; [III] at Concepcion and Linares; [II] at Curico, Lebu and Santiago. Also felt at Arauco, Chiguayante, Coronel, Los Angeles and Talcahuano.

*GUC **25** 13:57:52.7±0.7, 35°.99S×72°.73W, h34km±5km, ML5.1*

ISC 25 13:57:53.5±0.4,35°.97S±0°.05×72°.72W±0°.06,h35km,n323, σ0999/305,mb5.0/48,MS4.4/13,115C-88D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	Linares	0.91	83	↓*i*P	Pn	13 58 09.6	-0.3
LNCH				*i* S	Sn	13 58 22.0	+0.2
LNCH				AML	AML	13 58 28.9	
	comp=N,63μm,0.7s						
TALC	Talca	1.05	57	↓*i*P	Pn	13 58 11.9	+0.2
TALC				*i* S	Sn	13 58 26.0	+0.8
NICH	Los Niches	1.55	52	*e*P	Pn	13 58 20.0	+1.3
NICH				*i* S	Sn	13 58 40.4	+2.9
NICH				AML	AML	13 58 47.4	
	comp=E,64μm,0.5s						
RCDM	Rinconada Maip	2.93	33	*e*P	Pn	13 58 38.1	+0.4
RCDM				*i* S4	Sn	13 59 23.4	+12
RCDM				AML	AML	13 59 35.7	
	comp=E,5μm,0.3s						
PLCA	Paso Flores	5.05	161	Pn	Pn	13 59 08.1	+1.2
	comp=E,13nm,0.3s,baz=332,slow=13,SNR=173						
PLCA				LR	LR	14 01 13.0	
	comp=E,3μm,18.1s,baz=338,slow=41						
PLCA	Paso Flores	5.05	161	*e*Pn	Pn	13 59 08.1	+1.2
PLCA				*e*Sn	Sn	13 59 56.0	-8.0
CFAA	Coronel Fontan	5.73	42	Pn	Pn	13 59 16.8	+0.6
	comp=E,1.0nm,0.3s,baz=204,slow=9.5,SNR=64						
CFAA				Sn	Sn	14 00 24.6	+3.9
	comp=E,2.6nm,0.3s,baz=288,slow=13,SNR=2.9						
CFAA				LR	LR	14 01 41.5	
	comp=E,425nm,19.0s,baz=232,slow=40						
LCO	Las Campanas	7.14	14	*e*Pn	Pn	13 59 34.7	-1.1
LCO				*e*Sn	Sn	14 00 53.1	-2.8
TRQA	Tornquist	8.84	107	Pn	Pn	13 59 56.2	-2.6
TRQA				*e*Sn	Sn	14 01 32.8	-4.3
LVC	Limon Verde	13.72	15	*e*Pn	Pn	14 01 04.0	-1.8
LVC				*e*Sn	Sn	14 03 35.8	-1.2
USHA	Ushuaia	19.09	172	P	P	14 02 13.6	+0.7
	comp=E,0.6nm,0.3s,baz=344,slow=13,SNR=7.1						
LPAZ	La Paz	20.02	13	P	P	14 02 25.8	+1.7
	comp=E,8.6nm,0.7s,baz=193,slow=7.1,SNR=24						
LPAZ	La Paz	20.02	13	*e*P	P	14 02 22.3	-1.8
	comp=E,29nm,1.0s						
SIV	San Ignacio	22.45	31	P	P	14 02 49.3	-0.3
	comp=E,15nm,0.9s,baz=212,slow=1.8,SNR=24						
BDFB	Brasilia	29.92	54	LR	LR	14 17 13.6	
	comp=E,1μm,18.2s,baz=224,slow=39						
OTAV	Otavalo	36.42	350	*e*P	P	14 04 53.8	-1.6
	comp=E,54nm,1.9s						
PTGA	Pitinga	37.01	22	*e*P	P	14 04 55.6	-4.3
	comp=E,31nm,1.5s						
ROSC	El Rosal	40.64	358	LR	LR	14 21 59.8	
	comp=E,155nm,20.3s,baz=206,slow=36						
SDV	Santo Domingo	44.66	3	*e*P	P	14 05 59.6	-3.6
	comp=E,9.3nm,0.9s						
VNA3	Neumayer Olymp	47.76	157	P	P	14 06 27.9	+1.2
VNA2	Neumayer--Watz	48.42	156	P	P	14 06 33.0	+1.2
SNAA	Sanae	49.98	157	P	P	14 06 44.5	+0.7
SNAA	Sanae	49.98	157	P	P	14 06 43.8	0.0
	comp=E,8.0nm,1.0s,baz=278,slow=6.5,SNR=10						
CELP	Cerrillos	54.06	7	*e*P	P	14 07 12.9	-1.8
QSPA	South Pole Qui	54.27	180	P	P	14 07 11.3	-4.6
	comp=E,22nm,1.0s						
RKT	Rikitea	54.83	265	*e*T	T	15 05 48.0	
	comp=E,1.5nm,0.2s						
VNDA	Vanda	62.06	192	LR	LR	14 32 11.4	
	comp=E,80nm,18.7s,baz=136,slow=33						
VNDA	Vanda	62.06	192	*e*P	P	14 08 10.9	+0.9
	comp=E,47nm,2.3s						
SYO	Syowa Base	64.24	158	↑*e*P	P	14 08 22.0	-2.5
SYO	Syowa Base	64.24	158	↑*e*X	P	14 08 30.0	+5.5
H06E1	SOCORRO T-PHAS	65.37	320	T	T	15 19 33.5	
	SNR=4.3						
TBI	Tubuai	66.33	258	*e*S	S	14 17 26.1	-0.2
	comp=E,90nm,34.0s						
TBI	Tubuai	66.33	258	*e*LR	LR	14 28 39.3	
	comp=E,452nm,25.2s						
034A	Hebbronville	67.31	335	↓P	P	14 08 46.4	+1.7
	baz=68						
MEH	Mehetia	68.05	263	*e*T	T	15 22 18.6	
	comp=E,25nm,0.2s						
834A	Tilden	68.25	336	↑P	P	14 08 52.2	+1.6
	baz=69						
735A	Kenedy	68.67	336	↓P	P	14 08 54.6	+1.4
	baz=69						
833A	Chaparral WMA,	68.72	335	↓P	P	14 08 54.5	+0.9
	baz=69,SNR=5.7						
832A	Faith Ranch, C	68.88	334	↓P	P	14 08 55.4	+0.8
	baz=69						
636A	Smothers Creek	69.02	337	↓P	P	14 08 56.9	+1.5
	baz=69						
TVO	Taravao	69.06	263	*e*T	T	15 23 33.9	
	comp=E,0.9nm,0.2s						
TIAR	Tiarei	69.25	263	*e*T	T	15 23 48.7	
	comp=E,3.8nm,0.2s						
732A	Laxson Ranch,	69.29	335	↓P	P	14 08 58.0	+1.0
	baz=70,SNR=12						
PPT2	Papeete2	69.42	263	*e*S	S	14 18 03.3	-0.1
	comp=E,115nm,26.0s						
PPT2	Papeete2	69.42	263	*e*LR	LR	14 30 01.8	
	comp=E,444nm,22.8s						
PPT	Papeete	69.43	263	LR	LR	14 31 02.8	
	comp=E,326nm,18.9s,baz=125,slow=29						
536A	Bastrop	69.57	338	↓P	P	14 08 60.0	+1.2
	baz=70						
GOGA	Godfrey	69.75	350	*e*P	P	14 08 57.9	-1.9
	comp=E,8.7nm,0.8s						
632A	Uvalde	69.94	335	↑P	P	14 09 01.9	+0.8
	baz=70,SNR=12						
631A	Perdido Creek	70.12	334	↑P	P	14 09 02.7	+0.4
	baz=70,SNR=6.0						
533A	Kerrville	70.20	336	↓P	P	14 09 03.9	+1.2
	baz=70						
532A	Rocksprings	70.54	335	↑P	P	14 09 05.4	+0.5
	baz=71,SNR=26						
434A	Burnet	70.64	337	↓P	P	14 09 05.8	+0.4
	baz=71,SNR=5.4						
336A	Riesel	70.73	338	↑P	P	14 09 06.7	+0.8
	baz=71						
531A	Rocksprings	70.80	335	↑P	P	14 09 07.3	+0.9
	baz=71,SNR=10						
335A	Moody	70.81	338	↓P	P	14 09 07.3	+0.9
	baz=71						
JCT	Junction City	70.83	335	↑P	P	14 09 06.9	+0.3
	baz=71,SNR=5.8						
JCT	Junction City	70.83	335	*e*P	P	14 09 03.9	-2.7
	comp=E,13nm,0.7s						
433A	Art	70.85	336	↑P	P	14 09 06.8	+0.1
	baz=71,SNR=7.7						
530A	J-C Ranch, Com	71.06	334	↑P	P	14 09 08.8	+0.8
	baz=71,SNR=14						
334A	Lometa	71.11	337	↓P	P	14 09 08.5	+0.3
	baz=71,SNR=8.5						
TXAR	Lajitas Array	71.19	332	P	P	14 09 09.6	+0.7
	comp=E,4.8nm,0.6s,baz=152,slow=8.4,SNR=54						
TXAR				LR	LR	14 35 05.8	
	comp=E,240nm,20.9s,baz=0.0,slow=31						
432A	Menard	71.19	336	↑P	P	14 09 09.1	+0.3
	baz=72						
KMSC	Kings Mountain	71.20	353	*e*P	P	14 09 08.5	-0.2
	comp=E,7.3nm,0.6s						
431A	Sonora	71.29	335	↑P	P	14 09 10.0	+0.5
	baz=72,SNR=7.0						
333A	Richland Sprin	71.34	336	↓P	P	14 09 09.4	-0.2
	baz=72,SNR=5.8						
529A	Stev Forest Ra	71.36	333	↑P	P	14 09 10.4	+0.6
	baz=72						
430A	Baggett Ranch,	71.61	334	↑P	P	14 09 11.5	+0.2
	baz=72,SNR=8.0						
429A	Davenport Ranc	71.69	334	↓P	P	14 09 12.7	+0.9
	baz=72						
234A	Clairette	71.70	337	↑P	P	14 09 12.6	+0.8
	baz=72						
331A	San Angelo	71.80	335	↓P	P	14 09 12.8	+0.3
	baz=72,SNR=11						
233A	Rising Star	71.95	337	↓P	P	14 09 13.9	+0.6
	baz=72						
TKL	Tuckaleechee C	72.00	351	*e*P	P	14 09 10.9	-2.6
232A	Coleman	72.07	336	↓P	P	14 09 14.5	+0.5
	baz=72						
330A	Mertzon	72.15	335	↑P	P	14 09 14.8	+0.3
	baz=72						
231A	Bronte	72.34	336	↑P	P	14 09 15.6	0.0
	baz=73,SNR=9.5						
133A	Hamilton Ranch	72.50	337	↓P	P	14 09 17.1	+0.5
	baz=73						
329A	Wagon Wheel Ra	72.51	334	↑P	P	14 09 17.2	+0.5
	baz=73						
230A	Sterling City	72.57	335	↑P	P	14 09 17.5	+0.4
	baz=73						
Z35A	Perchaven, San	72.66	339	↓P	P	14 09 18.2	+0.7
	baz=73						
ABTX	Abilene, Hawle	72.75	336	↑P	P	14 09 18.7	+0.6
	baz=73						
ABTX	Abilene, Hawle	72.75	336	P	P	14 09 15.6	-2.5
	comp=E,14nm,0.6s						
229A	Bryant Ranch,	72.88	334	↑P	P	14 09 19.4	+0.5
	baz=73						
131A	Roby	73.04	336	↑P	P	14 09 20.2	+0.4
	baz=73						
Z33A	Whitaker Ranch	73.08	337	↓P	P	14 09 20.4	+0.4
	baz=73						
WVT	Waverly	73.10	347	*e*P	P	14 09 17.0	-3.0
	comp=E,22nm,0.9s						
BBTS	Babate	73.15	57	LR	LR	14 41 02.2	
	comp=E,627nm,18.4s,baz=210,slow=35						
130A	Snyder	73.16	335	↑P	P	14 09 21.0	+0.5
	baz=74						
228A	UT Block 9, Go	73.30	334	↑P	P	14 09 21.5	+0.1
	baz=74						
Z32A	Haskell	73.33	337	↑P	P	14 09 21.6	+0.2
	baz=74						
Y34A	Reagan Ranch,	73.40	338	↑P	P	14 09 22.3	+0.5
	baz=74						
Z31A	Sharp Cattle R	73.55	336	↑P	P	14 09 23.1	+0.3
	baz=74						
Y33A	Hilltop Ranch,	73.71	338	↑P	P	14 09 24.0	+0.3
	baz=74						
128A	Castleberry Fa	73.71	334	↑P	P	14 09 23.8	0.0
	baz=74,SNR=6.3						
Z30A	Sanderson Ranc	73.85	335	↑P	P	14 09 24.5	0.0
	baz=74,SNR=5.4						
Y32A	R-V Farms, Ver	73.96	337	↓P	P	14 09 25.4	+0.3
	baz=74						
MNTX	Cornudas Mount	73.96	331	*e*P	P	14 09 24.7	-0.5
	comp=E,4.5nm,0.7s						
X34A	Smith Ranch, M	74.02	339	↑P	P	14 09 26.0	+0.5
	baz=74						
Z29A	Hungry Hill Ra	74.02	335	↓P	P	14 09 25.2	-0.4
	baz=74,SNR=5.4						
Y31A	Rekieta Farm,	74.18	336	↑P	P	14 09 27.0	+0.5
	baz=74						
Z28A	Tucker Farm, M	74.28	334	↓P	P	14 09 27.5	+0.4
	baz=75						
SUR	Sutherland	74.37	119	P	P	14 09 29.4	+1.4
	comp=E,5.9nm,0.9s,baz=265,slow=6.8,SNR=3.7						
TUL1	Leonard	74.67	341	↑P	P	14 09 29.4	+0.1
	baz=75						
TUL1	Leonard	74.67	341	*e*P	P	14 09 29.3	+0.1
	comp=E,13nm,0.7s						
X31A	McDonald Ranch	74.70	337	↑P	P	14 09 29.8	+0.3
	baz=75						
W33A	Caddo, Fort Co	74.72	338	↑P	P	14 09 30.4	+0.8
	baz=75						
V35A	Meyer Ranch, C	74.82	340	↓P	P	14 09 30.5	+0.4
	baz=75						
X30A	Coker Ranch, T	74.82	336	↓P	P	14 09 31.0	+0.8
	baz=75						
W32A	Sentinel	74.93	338	↑P	P	14 09 31.2	+0.4
	baz=75						
MSTX	Muleshoe	75.03	334	↓P	P	14 09 31.8	+0.3
	baz=75						
V34A	Guthrie	75.08	339	↑P	P	14 09 32.0	+0.4
	baz=75						
X29A	Tulia	75.10	336	↑P	P	14 09 32.0	+0.2
	baz=75,SNR=5.7						
319A	Douglas	75.27	328	↑P	P	14 09 34.0	+1.1
	baz=76						
V33A	Lossen Ranch,	75.29	339	↑P	P	14 09 33.4	+0.6
	baz=76						
AMTX	Amarillo	75.49	336	↑P	P	14 09 34.5	+0.5
	baz=76						
AMTX	Amarillo	75.49	336	*e*P	P	14 09 31.5	-2.6
	comp=E,15nm,0.9s						
121A	Cookes Peak, D	75.65	330	↓P	P	14 09 35.7	+0.6
	baz=76						
W29A	Amarillo	75.70	336	↓P	P	14 09 35.5	+0.2
	baz=76						
LIC	Lamto	75.92	71	*e*P	P	14 09 37.4	+0.4
	comp=E,54nm,1.4s						
TIC	Toumod

comp=E,13nm,1.3s
U27A **Thompson Grove** 77.27 335 ⇓P P 14 09 45.4 +1.2
baz=78
S31A **Mullinville** 77.31 338 ⇑P P 14 09 45.2 +1.0
baz=78
214A **Organ Pipe Nat** 77.32 326 ⇓P P 14 09 46.1 +1.6
baz=78
V25A **Rancho No Teng** 77.37 334 ⇑P P 14 09 45.6 +0.8
baz=78
T29A **Hugoton** 77.44 337 ⇑P P 14 09 46.0 +0.9
baz=78
R33A **Olander Ranch,** 77.52 340 ⇑P P 14 09 46.2 +0.8
baz=78
U26A **Atchley Ranch,** 77.56 335 ⇑P P 14 09 46.2 +0.3
baz=78
S30A **Montezuma** 77.63 338 ⇑P P 14 09 46.8 +0.7
baz=78
T28A **Walsh** 77.67 336 ⇓P P 14 09 46.6 +0.2
baz=78,SNR=6.7
U25A **Circle Dot Ran** 77.80 334 ⇑P P 14 09 47.9 +0.7
baz=78
S29A **Ulysses** 77.81 337 ⇓P P 14 09 48.0 +0.9
baz=78
V23A **Ortiz Mt. (NFS** 77.86 333 ⇓P P 14 09 48.3 +0.7
baz=78
R31A **Burdett** 77.94 339 ⇑P P 14 09 48.6 +0.8
baz=78
S28A **Manter** 78.03 337 ⇑P P 14 09 48.9 +0.5
baz=78,SNR=5.6
CASY **Casey** 78.04 181 *e*P P 14 09 48.9 +0.8
comp=E,14nm,0.9s
T26A **Comanche Natio** 78.22 335 ⇑P P 14 09 50.6 +1.1
baz=79
X18A **Snowflake** 78.27 329 ⇑P P 14 09 51.1 +1.2
baz=79
V22A **San Miguel Ran** 78.28 332 ⇓P P 14 09 51.5 +1.6
baz=79
Q32A **Meitler Ranch,** 78.32 340 ⇑P P 14 09 50.5 +0.6
baz=79
T25A **Trinidad** 78.46 335 ⇑P P 14 09 52.0 +1.0
baz=79,SNR=6.9
T25A **Trinidad** 78.46 335 *e*P P 14 09 50.5 -0.5
comp=E,21nm,1.1s
R29A **Marienthal** 78.56 338 ⇓P P 14 09 52.1 +0.9
baz=79
Q31A **Ellis** 78.57 339 ⇓P P 14 09 52.2 +1.0
baz=79
S26A **Kim** 78.58 336 ⇓P P 14 09 51.4 -0.1
baz=79,SNR=6.3
R28A **Tribune** 78.69 337 ⇓P P 14 09 53.1 +1.1
baz=79
W18A **Petrified Fore** 78.69 330 ⇑P P 14 09 53.8 +1.6
baz=79
T24B **San Luis** 78.74 334 ⇑P P 14 09 53.9 +1.4
baz=79
Q30A **Quinter** 78.79 338 ⇓P P 14 09 53.6 +1.2
baz=79
X16A **Lo Mia Camp, P** 78.81 328 ⇓P P 14 09 54.5 +1.6
baz=79
Q29A **Oakley** 78.94 338 ⇑P P 14 09 54.0 +0.7
baz=79
S25A **Robets Cordova** 78.94 335 ⇓P P 14 09 54.5 +0.9
baz=79
R27A **Eads** 78.96 336 ⇓P P 14 09 54.2 +0.7
baz=79
R26A **Arlington** 79.18 336 ⇑P P 14 09 55.9 +1.2
baz=80
S24A **Houchin Ranch,** 79.19 334 ⇓P P 14 09 56.2 +1.2
baz=80
TSUM **Tsumeb** 79.21 106 P P 14 09 56.2 +0.7
comp=E,4.2nm,1.1s,baz=243,slow=9.1,SNR=4.0
SDCO **Great Sand Dun** 79.39 334 ⇓P P 14 09 56.9 +0.8
baz=80
SWSC **Sam W. Stewart** 79.53 324 ⇓P P 14 09 57.6 +1.0
baz=80
P29A **Atwood** 79.58 338 ⇑P P 14 09 58.2 +1.4
baz=80
R24A **Sanders Place,** 79.69 335 ⇑P P 14 09 58.4 +0.8
baz=80,SNR=6.3
WUAZ **Wupatki** 79.72 329 ⇓P P 14 09 59.4 +1.7
baz=80
S22A **4UR Ranch, Cre** 79.87 333 ⇑P P 14 09 59.6 +0.9
baz=80
S22A **4UR Ranch, Cre** 79.87 333 *e*P P 14 09 58.5 -0.2
comp=E,49nm,2.4s
BC3 **Big Chuckawall** 79.96 325 ⇓P P 14 10 00.1 +1.0
baz=80
MVCO **Mesa Verde** 80.02 332 ⇓P P 14 10 00.2 +0.7
baz=80
IRM **Iron Mountain** 80.24 325 ⇑P P 14 10 01.5 +1.1
baz=80
P26A **Davis Ranch, A** 80.29 336 ⇑P P 14 10 02.2 +1.4
baz=81
Q24A **Divide** 80.36 335 ⇓P P 14 10 02.0 +0.7
baz=81,SNR=6.3
Q24A **Divide** 80.36 335 *e*P P 14 10 01.8 +0.5
comp=E,9.3nm,1.0s
PFO **Pinyon Flats O** 80.39 324 LR LR 14 36 55.5
comp=E,203nm,21.9s,baz=196,slow=29
PFO **Pinyon Flats O** 80.39 324 ⇑P P 14 10 02.8 +1.4
baz=81
W13A **Hualapai Mount** 80.45 327 ⇓P P 14 10 02.8 +1.1
baz=81
BELC **Belle Mtn. Jos** 80.50 325 ⇑P P 14 10 03.0 +1.0
baz=81
P25A **Willow Gulch B** 80.52 336 ⇓P P 14 10 03.5 +1.5
baz=81
U15A **North Rim** 80.88 329 ⇑P P 14 10 05.4 +1.3
baz=81
O26A **Horse Wrangler** 80.90 337 ⇑P P 14 10 05.8 +1.8
baz=81
GMRC **Granite Mounta** 80.98 325 ⇑P P 14 10 06.5 +1.9
baz=81
OGNE **Ogallala** 81.14 338 ⇑P P 14 10 06.4 +1.3
baz=82
N27A **Anderson Farm,** 81.17 338 ⇓P P 14 10 06.6 +1.2
baz=82
ISCO **Idaho Springs** 81.26 335 ⇑P P 14 10 07.3 +1.2
baz=82
ISCO **Idaho Springs** 81.26 335 *e*P P 14 10 04.0 -2.2
comp=E,6.7nm,1.2s
BFSC **Mount Baldy Ra** 81.48 324 ⇑P P 14 10 08.3 +1.1
baz=82
P22A **Eagle** 81.48 334 ⇑P P 14 10 08.4 +1.2
baz=82
O23A **Lake Granby, G** 81.74 335 ⇓P P 14 10 09.8 +1.2
baz=82
O22A **Kremmling** 81.91 334 ⇑P P 14 10 10.2 +0.6
baz=82
GSC **Goldstone, Bar** 81.94 325 ⇓P P 14 10 10.7 +1.2
baz=82
LBTB **Lobatse** 81.98 115 P P 14 10 10.5 +0.2
comp=E,5.3nm,0.7s,baz=243,slow=5.3,SNR=11
LBTB **Lobatse** 81.98 115 *e*P P 14 10 06.9 -3.3
comp=E,11nm,0.8s
EDW2 **Edwards Air Fo** 82.16 324 ⇓P P 14 10 11.9 +1.2
baz=82
ECSD **EROS Data Cent** 82.26 343 ⇑P P 14 10 11.1 +0.2
baz=83
ECSD **EROS Data Cent** 82.26 343 *e*P P 14 10 07.0 -3.8
comp=E,13nm,0.8s
CCUT **Cedar City** 82.28 329 P P 14 10 06.9 -4.6
comp=E,13nm,1.3s
N23A **Red Feather La** 82.36 335 ⇑P P 14 10 11.9 +0.1
baz=83
N22A **Wattenberg Ran** 82.45 335 ⇓P P 14 10 13.9 +1.6
baz=83
O20A **White River Ci** 82.49 333 ⇓P P 14 10 13.6 +1.1
baz=83
M24A **Cheyenne** 82.50 336 ⇑P P 14 10 13.5 +1.1
baz=83
MPMC **Manual Prospec** 82.88 325 ⇑P P 14 10 16.0 +1.4
baz=83
ISA **Isabella, Lake** 83.03 324 ⇑P P 14 10 16.6 +1.4
baz=83
TPNV **Topopah Spring** 83.04 326 ⇑P P 14 10 16.8 +1.5
baz=83
PKM **Mcpherson Peak** 83.06 323 ⇓P P 14 10 16.7 +1.2
baz=83
DAC **Darwin (Calif)** 83.11 325 *e*P P 14 10 16.7 +1.0
comp=E,8.6nm,1.0s
N20A **Spence Gulch,** 83.11 334 ⇑P P 14 10 16.4 +0.7
baz=84
J27A **Elkhorn Farm,** 83.25 339 ⇑P P 14 10 17.0 +0.9
baz=84
L23A **Garrett** 83.36 336 ⇑P P 14 10 17.6 +0.6
baz=84
I28A **Midland** 83.69 340 ⇑P P 14 10 18.8 +0.5
baz=84
R11A **Troy Canyon, C** 83.91 327 ⇑P P 14 10 20.8 +1.0
baz=84
H29A **Onida** 84.01 341 ⇑P P 14 10 20.2 +0.2
baz=84
K22A **Casper** 84.12 336 ⇓P P 14 10 21.8 +1.1
baz=84
H28A **Mission Ridge** 84.27 340 ⇑P P 14 10 22.0 +0.7
baz=85
DUG **Dugway, Tooele** 84.30 330 ⇓P P 14 10 22.5 +0.8
baz=85
DUG **Dugway, Tooele** 84.30 330 *e*P P 14 10 22.3 +0.6
comp=E,14nm,1.3s
K21A **Alcova** 84.35 335 ⇑P P 14 10 22.1 +0.1
baz=85,SNR=5.7
TPH **Tonopah** 84.41 326 *e*P P 14 10 22.7 +0.3
comp=E,58nm,2.2s
I25A **Rochford** 84.46 338 ⇑P P 14 10 22.4 0.0
baz=85
H27A **Howes** 84.53 339 ⇑P P 14 10 22.9 +0.3
baz=85
RSSD **Black Hills** 84.64 338 *e*P P 14 10 22.0 -1.5
comp=E,4.5nm,1.0s
J22A **Midwest** 84.78 336 ⇓P P 14 10 24.7 +0.6
baz=85
F29A **Eureka** 85.03 341 ⇑P P 14 10 25.5 +0.5
baz=85
NVAR **Mina Array Bea** 85.19 326 P P 14 10 27.6 +1.3
comp=E,2.3nm,0.7s,baz=160,slow=6.3,SNR=18
I22A **9 Mile Ranch,** 85.21 336 ⇓P P 14 10 26.4 +0.2
baz=86,SNR=5.3
J20A **Shoshoni** 85.27 335 ⇑P P 14 10 27.2 +0.7
baz=86,SNR=8.8
PDAR **Pinedale Array** 85.27 334 P P 14 10 27.1 +0.4
comp=E,1.0nm,0.8s,baz=116,slow=4.1,SNR=7.7
PDAR LR LR 14 44 43.9
comp=E,112nm,18.4s,baz=175,slow=33
G26A **Maurine** 85.28 339 ⇓P P 14 10 26.8 +0.4
baz=86
H24A **Dirks Ranch, A** 85.37 338 ⇓P P 14 10 27.1 +0.2
baz=86
TORD **Torodi Ar. Bea** 85.40 70 P P 14 10 27.2 -0.4
comp=E,2.5nm,0.8s,baz=248,slow=3.9,SNR=11
TORD LR LR 14 45 10.6
comp=E,164nm,20.4s,baz=240,slow=33
I21A **Big Trails, Te** 85.41 336 ⇑P P 14 10 27.5 +0.3
baz=86
G25A **Newell** 85.43 339 ⇑P P 14 10 27.7 +0.5
baz=86
J19A **Crowheart** 85.53 334 ⇓P P 14 10 28.0 +0.1
baz=86,SNR=5.9
HVU **Hansel Valley** 85.63 331 *e*P P 14 10 26.5 -1.9
F27A **Lemmon** 85.65 340 ⇓P P 14 10 28.5 +0.3
baz=86
H22A **Clearmont** 85.79 337 ⇑P P 14 10 29.2 +0.2
baz=86
I20A **Worland** 85.81 335 ⇑P P 14 10 29.4 +0.2
baz=86,SNR=7.6
G23A **Biddle** 86.03 338 ⇓P P 14 10 30.5 +0.3
baz=86
H21A **Big Horn, Sher** 86.05 336 ⇓P P 14 10 30.6 +0.2
baz=86
F25A **Bowman** 86.11 339 ⇑P P 14 10 31.0 +0.5
baz=86
I19A **Meeteetse** 86.18 335 ⇑P P 14 10 31.5 +0.4
baz=86
H20A **Greybull** 86.24 336 ⇓P P 14 10 31.6 +0.4
baz=87
REDW **Red Top Meadow** 86.26 333 *e*P P 14 10 31.4 -0.1
comp=E,16nm,1.5s
F24A **Ekalaka** 86.33 338 ⇑P P 14 10 31.4 -0.2
baz=87
AGMN **Agassiz Nation** 86.40 345 ⇑P P 14 10 31.9 +0.1
baz=87
AGMN **Agassiz Nation** 86.40 345 *e*P P 14 10 31.2 -0.6
comp=E,51nm,1.9s
TPAW **Teton Pass** 86.41 333 *e*P P 14 10 33.0 +0.8
comp=E,20nm,1.6s
C30A **Mose, Pekin** 86.43 343 ⇑P P 14 10 32.7 +0.8
baz=87
F23A **Volborg** 86.50 338 ⇓P P 14 10 33.3 +0.8
baz=87
FXWY **Fox Creek** 86.56 333 *e*P P 14 10 33.2 +0.2
comp=E,43nm,2.8s
E25A **Miller Ranch,** 86.61 339 ⇓P P 14 10 34.0 +1.0
baz=87
G21A **Lodge Grass** 86.63 336 ⇑P P 14 10 34.0 +0.9
baz=87
I17A **Pilgrim Ck.** 86.64 334 ⇓P P 14 10 34.1 +0.7
baz=87
IMW **Indian Meadow** 86.75 333 *e*P P 14 10 33.6 -0.4
comp=E,91nm,3.0s
F22A **Rosebud** 86.82 337 ⇑P P 14 10 34.6 +0.6
baz=87
D26A **Manning** 86.83 340 ⇓P P 14 10 34.6 +0.7
baz=87
FLWY **Flagg Ranch** 86.83 334 *e*P P 14 10 33.6 -0.7
comp=E,16nm,1.4s
E24A **Baker** 86.93 339 ⇑P P 14 10 35.1 +0.6
baz=87
G20A **Bridger** 86.96 336 ⇓P P 14 10 34.7 0.0
baz=87
H18A **Shoshone NF, C** 86.98 335 ⇑P P 14 10 34.9 -0.1
baz=87,SNR=8.0
B30A **Myrvik Farm, E** 87.10 343 ⇑P P 14 10 35.7 +0.5
baz=88
D25A **Fairfield** 87.18 340 ⇑P P 14 10 36.2 +0.5
baz=88
C27A **Sayler Ranch,** 87.20 341 ⇓P P 14 10 36.5 +0.7
baz=88
B29A **Wagenman Farm,** 87.36 343 ⇑P P 14 10 36.8 +0.4
baz=88
YMR **Madison River** 87.43 334 *e*P P 14 10 36.9 -0.3
comp=E,16nm,1.2s
D24A **Glendive** 87.44 339 ⇑P P 14 10 37.3 +0.4
baz=88
A30A **Hoffart Farm,** 87.55 343 ⇓P P 14 10 37.1 -0.2
baz=88
B28A **Dugan Ranch, T** 87.59 342 ⇑P P 14 10 38.3 +0.7
baz=88
A29A **Manning Farm,** 87.75 343 ⇓P P 14 10 38.9 +0.6
baz=88
HLID **Hailey** 87.78 331 ⇑P P 14 10 39.6 +0.8
baz=88
HLID **Hailey** 87.78 331 P P 14 10 37.6 -1.2
comp=E,24nm,2.2s
D22A **Cohagen** 88.02 338 ⇓P P 14 10 39.9 +0.2
baz=88
E20A **Meyer Farm, Mu** 88.06 336 ⇓P P 14 10 40.0 0.0
baz=88
B25A **Knox Farm, Ray** 88.16 340 ⇓P P 14 10 40.5 +0.1
baz=88
ULM **Lac du Bonnet** 88.26 345 P P 14 10 40.2 -0.4
comp=E,5.8nm,0.7s,baz=195,slow=3.6,SNR=11
C23A **Lambert** 88.31 339 ⇓P P 14 10 41.4 +0.4
baz=89
A20A **Cobblestone Ra** 90.10 338 ⇓P P 14 10 49.3 -0.2
baz=90
SCHQ **Schefferville** 90.58 3 LR LR 14 52 09.4
comp=E,38nm,18.3s,baz=130,slow=36
MDT **Midelt** 93.48 52 LR LR 14 53 00.0
comp=E,261nm,19.4s,baz=162,slow=35
ESDC **Sonseca Array** 98.33 47 LR LR 14 55 49.4
comp=E,56nm,18.4s,baz=240,slow=35
YKA **Yellowknife Ar** 103.74 341 Pdiff **Pdif** 14 11 49.6 -1.3
comp=E,0.2nm,0.7s,baz=138,slow=4.4,SNR=4.1
ASAR **Alice Springs** 115.56 207 PKP **PKPdf** 14 16 31.2 -1.1
comp=E,0.3nm,0.6s,baz=134,slow=2.7,SNR=4.0
ILAR **Eielson Array** 115.69 333 PKP **PKPdf** 14 16 30.9 -0.3
comp=E,0.4nm,1.0s,baz=167,slow=2.4,SNR=4.4
WRA **Warramunga Arr** 118.77 209 PKP **PKPdf** 14 16 37.2 -1.3
comp=E,0.5nm,0.5s,baz=156,slow=1.7,SNR=14
BRTR **Keskin Array B** 123.26 62 PKP **PKPdf** 14 16 46.4 -0.2
comp=E,0.4nm,0.4s,baz=221,slow=5.7,SNR=2.5
H11S2 **WAKE ISLAND Hyl** 125.17 268 T T 16 34 34.1
baz=118,slow=74,SNR=15
H11S1 **WAKE ISLAND Hyl** 125.18 268 T T 16 34 35.8
baz=118,slow=74,SNR=9.6
H11S3 **WAKE ISLAND Hyl** 125.19 268 T T 16 34 34.1
baz=118,slow=74,SNR=7.8
H11N3 **WAKE ISLAND Hyl** 125.63 270 T T 16 34 57.9
baz=120
H11N1 **WAKE ISLAND Hyl** 125.64 270 T T 16 34 58.9
baz=120,slow=74,SNR=7.1
H11N2 **WAKE ISLAND Hyl** 125.65 270 T T 16 35 00.4
baz=120,slow=74,SNR=7.6
AKTO **Aktyubinsk** 142.01 52 PKhKP PKPpre 14 17 18.5
comp=E,0.5nm,0.4s,baz=214,slow=7.3,SNR=3.7
KSM **Kuching** 145.56 185 *e*PKPdf **PKPdf** 14 17 29.3 +0.7
PSI **Prapat** 146.10 165 PKPbc **PKPdf** 14 17 29.9 +0.2
comp=E,22nm,0.9s,baz=176,slow=2.5,SNR=19
HYB **Hyderabad** 148.55 118 *i* PKP **PKPdf** 14 17 36.0 +2.5
AAK **Ala-Archa** 153.88 65 PKPbc **PKPbc** 14 17 49.5 +0.5
comp=E,2.8nm,0.8s,baz=228,slow=3.4,SNR=12
KURBB **Kurchatov Arra** 154.66 46 PKP **PKPdf** 14 17 42.5 +0.8
comp=E,0.3nm,0.6s,baz=306,slow=2.1,SNR=3.2
KURBB PKPbc **PKPbc** 14 17 50.3 +0.1
comp=E,0.7nm,0.7s,baz=311,slow=3.1,SNR=4.8
KURK **Kurchatov** 154.68 45 PKP **PKPdf** 14 17 42.5 +0.8
KURK PKPbc **PKPbc** 14 17 50.3 0.0
KSH **Kashi** 155.05 72 PKPbc **PKPdf** 14 17 43.0 +0.2
KSH sPKP 14 17 56.5
KSH PKS **PKSdf** 14 21 17.0 0.0
KSH PP **PP** 14 21 42.8 -1.3
KSH SKS **SKSdf** 14 24 46.5 -0.2
KSH SS **SS** 14 41 24.0 -1.8
KSH PPMZ
comp=E,87nm,5.8s
KSH LN
comp=E,29nm,5.9s
KSH LE
comp=E,42nm,4.2s
KSH LZ
comp=E,140nm,6.3s
ZALV **Zalesovo Beam** 156.18 34 PKP **PKPdf** 14 17 43.9 +0.3
comp=E,0.8nm,0.6s,baz=29,slow=3.4,SNR=6.9
ZALV PKPab **PKPab** 14 18 11.2 -0.3
comp=E,3.3nm,0.8s,baz=297,slow=4.3,SNR=7.6
MKAR **Makanchi Array** 158.44 52 PKP **PKPdf** 14 17 46.9 +0.1
comp=E,0.9nm,0.8s,baz=338,slow=1.3,SNR=9.5
MKAR PKPab **PKPab** 14 18 21.4 -0.2
comp=E,0.7nm,0.7s,baz=301,slow=4.1,SNR=5.6
GKN **Gorkha** 159.24 106 *e*P **PKPab** 14 18 25.9 +0.1
comp=E,11nm,0.6s
DMN **Daman** 159.42 108 *e*P **PKPab** 14 18 26.4 -0.3
comp=E,25nm,1.0s
PKIN **Phulchoki** 159.63 108 *e*P **PKPab** 14 18 27.7 0.0
comp=E,15nm,0.9s
PKI **Pulchoki** 159.63 108 *e*P **PKPab** 14 18 27.7 -0.1
comp=E,23nm,1.0s
KKN **Kakani** 159.64 107 *e*P **PKPab** 14 18 28.2 +0.5
comp=E,18nm,0.7s
GUN **Gumba** 160.16 108 *e*P **PKPab** 14 18 30.7 +0.6
JIRN **Jiri** 160.28 109 *e*P **PKPab** 14 18 30.9 +0.3
comp=E,14nm,0.8s
CMAR **Chiang Mai Arr** 161.06 155 PKP **PKPdf** 14 17 49.0 -1.5
comp=E,0.4nm,0.3s,baz=241,slow=2.6,SNR=3.7
CMAR PKPab **PKPab** 14 18 33.3 -0.3
comp=E,0.5nm,0.3s,baz=216,slow=7.1,SNR=4.2
WMQ **Urumqi** 163.07 56 *e*PKP **PKPdf** 14 17 50.5 -1.5
WMQ pPKP **pPKPdf** 14 18 01.0 -2.4
WMQ PKPab **PKPab** 14 18 42.5 +0.5
WMQ PKS **PKSdf** 14 21 22.5 -2.5
WMQ PP **PP** 14 22 28.0 +0.7
WMQ SKS **SKSdf** 14 24 50.0 -3.8
WMQ SKKS **SKKSac** 14 29 11.0 -1.3
WMQ LN
comp=E,93nm,22.0s
WMQ LE
comp=E,43nm,24.0s
WMQ LZ
comp=E,75nm,25.0s
SONM **Songino Array** 168.13 3 PKPab **PKPab** 14 19 04.2 +0.1
comp=E,0.8nm,0.8s,baz=342,slow=4.2,SNR=7.9
KMI **Kunming** 168.50 159 PKP **PKPdf** 14 17 58.0 +0.9
NJ2 **Nanjing** 169.63 251 *e*PKP **PKPdf** 14 17 59.0 +1.7
HHC **Hu-ho-hao-te** 174.08 327 *e*PKP **PKPdf** 14 17 59.0 -0.3
HHC pPKP **pPKPdf** 14 18 09.8 -1.0
HHC sPKP 14 18 15.3
HHC PP **PP** 14 23 23.0 +0.4
HHC SKS **SKSdf** 14 24 56.0 -3.7
HHC SKKS **SKKSac** 14 30 06.0 -0.5
HHC SS **SS** 14 44 37.8 -1.1
HHC PPMZ
comp=E,170nm,8.8s
HHC LN
comp=E,400nm,19.4s
HHC LE
comp=E,240nm,21.2s
CD2 **Chengdu** 174.16 149 *e*PKP **PKPdf** 14 17 59.5 -0.1

IDC ***25*** *13:59:57.8±2.0, 1°.42N×126°.46E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/40, mbtmp3.4/3, Error ellipse: s-maj=174.8km s-min=24.4km az=66.0*
ISCJB ***25*** *14:00:02.3±1.4, 1°.5N±0°.2×126°.5E±0°.1, h47km, mb3.2/3, Error ellipse: s-maj=28.0km s-min=14.6km az=31.4*
DJA ***25*** *14:00:04.7±2.1, 1°N±7°×12°6E±°, h36km±28km, M3.4/4, MLv3.4/4*
ISC 25 14:00:03.9±1.4, 1°.4N±0°.2×126°.5E±0°.1, h47km, n6, σ0.59/6, mb3.3/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	1.06	125	P	Pn	14 00 22.1	-0.3
LBMI	**Labuha**	2.24	153	P	Pn	14 00 38.6	0.0
KMSI	**Cibinong**	2.64	252	P	Pn	14 00 43.9	-0.2
WRA	**Warramunga Arr**	22.54	160	P	P	14 04 59.7	-0.5
	0.8nm,0.4s,baz=339,slow=11,SNR=17						
ASAR	**Alice Springs**	25.92	164	P	P	14 05 32.7	+0.8
	0.2nm,0.3s,baz=343,slow=11,SNR=11						
MKAR	**Makanchi Array**	59.35	326	P	P	14 10 01.5	+0.1
	0.1nm,0.4s,baz=126,slow=7.3,SNR=4.8						

NNC 25 14:08:18.3±11.0, 36°.75N×70°.74E, h0km±211km, mb3.8, mpv3.5, 2C-5D, Error ellipse: s-maj=260.5km s-min=43.2km az=168.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	2.55	324	⇓P	Pn	14 09 02.2	+1.1
DZET				⇓S	Sn	14 09 33.9	+1.0
KK31	**Karatay Array**	6.35	358	P	Pn	14 09 53.5	+0.4
	1.4nm,0.4s,baz=177,slow=12,SNR=20						
KK31				⇓S	Sn	14 11 06.6	+0.3
	0.6nm,0.3s,baz=170,slow=25,SNR=4.4						
AAK	**Ala-Archa**	6.55	25	⇓P	Pn	14 09 57.1	+1.0
	2.2nm,0.5s						
AAK				⇓S	Sn	14 11 14.7	+3.1
	2.5nm,0.6s						
AB31	**Akbulak array**	14.76	331	⇑P	Pn	14 11 43.2	-5.1
	0.6nm,0.5s,baz=159,slow=12,SNR=24						
AKTO	**Aktyubinsk**	16.46	330	⇑P	Pn	14 12 06.2	-4.3
	0.9nm,0.7s						

CRAAG ***25*** *14:27:23.2, 35°.57N×0°.07W, Ml3.7*
ISCJB ***25*** *14:27:28.6±0.6, 35°.68N±0°.06×0°.38E±0°.04, h20km±9km, Error ellipse: s-maj=9.8km s-min=5.7km az=172.4*
MDD ***25*** *14:27:28.0±0.7, 35°.49N×0°.39E, h12km±4km, mb4.0/6, Error ellipse: s-maj=8.5km s-min=5.7km az=172.0, PRXIMO*
CSEM ***25*** *14:27:28.5±0.3, 35°.61N×0°.42E, h15km, mb4.0, Error ellipse: s-maj=9.5km s-min=5.5km az=11.0*
ISC 25 14:27:27.6±1.1, 35°.58N±0°.05×0°.42E±0°.03, h15km±7km, n57, σ1.22/65, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJBR	**Djebel Berber**	0.06	276	P	Pg	14 27 31.0	+0.4
OJBR	**Djebel Berber**	0.06	276	P	Pg	14 27 31.0	+0.4
OJBR	**Djebel Berber**	0.06	276	P	Pg	14 27 31.0	+0.4
OJGS	**Djebel Guires**	0.28	105	P	Pb	14 27 37.0	+2.6
OJGS	**Djebel Guires**	0.28	105	P	Pb	14 27 37.0	+2.6
OJGS	**Djebel Guires**	0.28	105	P	Pb	14 27 37.0	+2.6
OKGL	**Djebel Kef Gue**	0.49	21	P	Pb	14 27 38.0	0.0
OKGL	**Djebel Kef Gue**	0.49	21	P	Pb	14 27 38.0	0.0
OKGL	**Djebel Kef Gue**	0.49	21	P	Pb	14 27 38.0	0.0
ODJA	**Bouhanifia**	0.53	242	P	Pg	14 27 29.0	-9.0
ODJA	**Bouhanifia**	0.53	242	P	Pg	14 27 29.0	-9.0
EANR	**'Ain N'Sour**	0.67	56	P	Pn	14 27 41.7	-0.9
EANR	**'Ain N'Sour**	0.67	56	P	Pn	14 27 41.7	-0.9
EANR	**'Ain N'Sour**	0.67	56	P	Pn	14 27 41.7	-0.9
ETRT	**Tiaret**	0.74	104	P	Pb	14 27 42.0	-0.3
ETRT	**Tiaret**	0.74	104	P	Pb	14 27 42.0	-0.3
ETRT	**Tiaret**	0.74	104	P	Pb	14 27 42.0	-0.3
USTO	**Oran**	0.81	281	P	Pn	14 27 45.0	+0.6
USTO	**Oran**	0.81	281	P	Pn	14 27 45.0	+0.6
ECHF	**Ech Chlef**	0.94	52	P	Pb	14 27 43.8	-1.9
ECHA	**Ech Chlef**	0.96	53	P	Pb	14 27 43.8	-2.1
ECHA	**Ech Chlef**	0.96	53	P	Pb	14 27 43.8	-2.1

EBNR	**Beni Rached**	**1.15 51**	P		**Pg**	**14 27 50.9**	**+1.1**
EBNR	**Beni Rached**	**1.15 51**	P		**Pg**	**14 27 50.9**	**+1.1**
OLHC	**Oulhaca**	**1.54 258**	P		Pn	14 27 40.0	-15
OLHC	**Oulhaca**	**1.54 258**	P		Pn	14 27 40.0	-15
EMHD	**Djebel Mahouad**	**2.15 72**	P		**Pg**	**14 28 10.6**	**+1.8**
EMHD	**Djebel Mahouad**	**2.15 72**	P		**Pg**	**14 28 10.6**	**+1.8**
ENIJ	**Nijar**	**2.54 304**	P		**Pn**	**14 28 08.6**	**+0.3**
	4.6nm,0.1s,SNR=4.0						
ENIJ			S		**Sn**	**14 28 36.4**	**-2.5**
	29nm,0.5s,SNR=7.9						
ENIJ	**Nijar**	**2.54 304**	P		**Pn**	**14 28 08.6**	**+0.3**
	4.6nm,0.1s,SNR=4.0						
EMUR	**La Murta**	**2.62 330**	P		**Pn**	**14 28 09.3**	**-0.2**
	0.5nm,0.1s,SNR=7.9						
EMUR			S		**Sn**	**14 28 38.2**	**-2.9**
	2.5nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**2.62 330**	P		**Pn**	**14 28 09.3**	**-0.2**
	0.5nm,0.1s,SNR=7.9						
EBER	**Berja**	**2.98 297**	P		**Pn**	**14 28 14.3**	**-0.3**
	4.2nm,0.1s,SNR=30						
EBER			S		**Sn**	**14 28 48.8**	**-1.4**
	3.4nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.98 297**	P		**Pn**	**14 28 14.3**	**-0.3**
	4.2nm,0.1s,SNR=30						
EBER			S		**Sn**	**14 28 48.8**	**-1.4**
	3.4nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**3.16 351**	P		**Pn**	**14 28 17.6**	**+0.7**
	0.1nm,0.2s,SNR=4.0						
EBEN			S		**Sn**	**14 28 52.8**	**-1.6**
	1.0nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.16 351**	P		**Pn**	**14 28 17.6**	**+0.7**
	0.1nm,0.2s,SNR=4.0						
EBEN			S		**Sn**	**14 28 52.8**	**-1.6**
	1.0nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.44 333**	P		**Pn**	**14 28 22.1**	**+1.3**
	0.6nm,0.2s,SNR=23						
ETOB			S		**Sn**	**14 29 00.4**	**-0.9**
	1.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.44 333**	P		**Pn**	**14 28 22.1**	**+1.3**
	0.6nm,0.2s,SNR=23						
ETOB			S		**Sn**	**14 29 00.4**	**-0.9**
	1.6nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.48 318**	P		**Pn**	**14 28 23.0**	**+1.7**
	3.8nm,0.1s,SNR=7.9						
SESP			S		**Sn**	**14 29 01.1**	**-1.2**
	118nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**3.48 318**	P		**Pn**	**14 28 23.0**	**+1.7**
	3.8nm,0.1s,SNR=7.9						
SESP			S		**Sn**	**14 29 01.1**	**-1.2**
	118nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**3.51 299**	P		**Pn**	**14 28 23.1**	**+1.3**
	0.8nm,0.1s,SNR=9.2						
EQUE	**Quentar**	**3.51 299**	P		**Pn**	**14 28 23.1**	**+1.3**
	0.8nm,0.1s,SNR=9.2						
EIBI	**Ibiza**	**3.52 12**	P		**Pn**	**14 28 22.7**	**+0.9**
	1.8nm,0.1s,SNR=8.9						
EIBI			S		**Sn**	**14 29 02.4**	**-0.8**
	2.3nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.52 12**	P		**Pn**	**14 28 22.7**	**+0.9**
	1.8nm,0.1s,SNR=8.9						
EIBI			S		**Sn**	**14 29 02.4**	**-0.8**
	2.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.58 309**	P		**Pn**	**14 28 24.6**	**+1.9**
	1.9nm,0.1s,SNR=17						
EQES			S		**Sn**	**14 29 05.1**	**+0.3**
	3.5nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.58 309**	P		**Pn**	**14 28 24.6**	**+1.9**
	1.9nm,0.1s,SNR=17						
EQES			S		**Sn**	**14 29 05.1**	**+0.3**
	3.5nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.85 323**	P		**Pn**	**14 28 27.3**	**+0.9**
	1.7nm,0.2s,SNR=8.3						
EVIA			S		**Sn**	**14 29 11.3**	**0.0**
	27nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.85 323**	P		**Pn**	**14 28 27.3**	**+0.9**
	1.7nm,0.2s,SNR=8.3						
EVIA			S		**Sn**	**14 29 11.3**	**0.0**
	27nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.32 285**	P		**Pn**	**14 28 31.8**	**-1.0**
	0.6nm,0.1s,SNR=7.9						
EMIJ			S		Sn	14 29 17.0	-6.0
	0.5nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.32 285**	P		**Pn**	**14 28 31.8**	**-1.0**
	0.6nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.83 352**	P		**Pn**	**14 28 41.7**	**+1.8**
	0.2nm,0.1s,SNR=7.3						
EMOS			S		**Sn**	**14 29 35.0**	**-0.7**
	0.6nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.83 352**	P		**Pn**	**14 28 41.7**	**+1.8**
	0.2nm,0.1s,SNR=7.3						
EMOS			S		**Sn**	**14 29 35.0**	**-0.7**
	0.6nm,0.2s,SNR=7.9						
CASM	**Ain Smara**	**4.97 80**	P		Pn	14 28 46.5	+4.7
CASM	**Ain Smara**	**4.97 80**	P		Pn	14 28 46.5	+4.7
CASM	**Ain Smara**	**4.97 80**	P		Pn	14 28 46.5	+4.7
CKFL	**Kef-Lekhel**	**5.17 79**	P		**Pn**	**14 28 45.6**	**+1.0**
CKFL	**Kef-Lekhel**	**5.17 79**	P		**Pn**	**14 28 45.6**	**+1.0**

SJA 25 14:33:28.5±0.4,31°.85S×69°.10W,h209km±4km,ML3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.18**	**287**	*e*P4	Pn	14 33 55.4	-0.9
AUSP	**Uspallata**	**0.45**	**214**	*e*P	Pn	14 33 57.6	+0.7
AUSP				*e*S	S	14 34 18.8	-0.4
ASAL	**Salagasta**	**0.77**	**163**	*e*P4	Pn	14 33 56.6	-1.4
ASAL				*e*S	S	14 34 20.3	-0.7
CFAA	**Coronel Fontan**	**0.77**	**72**	*e*P	Pn	14 33 58.2	+0.2
CFAA				*e*P	Pn	14 33 58.2	+0.2
ARCO	**CERRO ARCO**	**1.00**	**172**	AML	AML	14 34 27.2	
	comp=Z,552nm,0.3s						
AMOG	**MOGNA**	**1.05**	**30**	*e*P	Pn	14 33 59.8	+0.1
AAGR	**Agrelo**	**1.25**	**170**	*e*P	Pn	14 34 01.4	+0.2
AAGR				*e*S	S	14 34 25.9	-0.6

IDC 25 14:41:55.9±5.1,6°.23S×154°.28E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/21,mbtmp3.3/3,Error ellipse: s-maj=154.7km s-min=36.8km az=111.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.68**	**233**	P	P	14 47 10.2	+0.6
	0.5nm,0.4s,baz=59,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**26.16**	**226**	P	P	14 47 31.7	-0.6
	0.2nm,0.5s,baz=57,slow=9.1,SNR=9.5						
MKAR	**Makanchi Array**	**82.37**	**319**	P	P	14 54 19.9	0.0
	0.1nm,0.4s,baz=94,slow=4.3,SNR=2.9						

IDC 25 14:49:35.2±7.6,3°.24S×127°.01E,h336km±80km,mb2.5/2, mb1 2.9/4,mb1mx2.7/35,mbtmp3.5/4,Error ellipse: s-maj=115.5km s-min=21.6km az=56.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.67**	**205**	P	Pn	14 51 25.7	+0.3
	2.2nm,0.3s,baz=59,slow=2.6,SNR=5.2						
BATI				S	S	14 52 46.8	-8.2
	0.8nm,0.3s,baz=85,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**18.08**	**157**	P	P	14 53 23.1	-0.7
	0.3nm,0.3s,baz=334,slow=12,SNR=29						
ASAR	**Alice Springs**	**21.37**	**162**	P	P	14 53 57.2	+0.4
	0.5nm,0.4s,baz=344,slow=10,SNR=28						
MKAR	**Makanchi Array**	**63.47**	**327**	P	P	14 59 30.2	-0.1
	0.1nm,0.5s,baz=140,slow=7.2,SNR=2.8						

*ISCJB **25** 15:07:16.1±1.0,4°.0S±0°.1×142°.4E±0°.1,h109km,mb3.3/2, Error ellipse: s-maj=21.1km s-min=8.1km az=138.8*
*IDC **25** 15:07:19.6±1.7,3°.94S×142°.10E,h126km±20km,mb3.0/2, mb1 3.3/4,mb1mx3.0/37,mbtmp3.6/4,Error ellipse: s-maj=32.2km s-min=18.4km az=72.0*

ISC 25 15:07:18.3±1.0,4°.0S±0°.1×142°.3E±0°.1,h109km,n6, σ2°.07/8,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.17**	**312**	P	**Pn**	**15 07 54.3**	**+0.8**
	7.4nm,0.3s,baz=155,slow=12,SNR=40						
JAY				S	**Sn**	**15 08 19.2**	**-1.2**
	4.0nm,0.3s,baz=162,slow=20,SNR=4.4						
PMG	**Port Moresby**	**7.22**	**138**	P	**Pn**	**15 09 04.0**	**+2.7**
	1.8nm,0.3s,baz=297,slow=16,SNR=8.5						
PMG				S	**Sn**	**15 10 18.6**	**-3.3**
	0.1nm,0.3s,baz=286,slow=19,SNR=1.8						
WRA	**Warramunga Arr**	**17.66**	**205**	P	**P**	**15 11 16.4**	**-0.6**
	0.3nm,0.3s,baz=30,slow=11,SNR=16						
BATI	**Baumata**	**19.50**	**251**	P	**Pn**	**15 11 39.3**	**-0.2**
	1.5nm,0.3s,baz=141,slow=6.5,SNR=3.9						
ASAR	**Alice Springs**	**21.18**	**202**	P	**P**	**15 11 55.5**	**+0.2**
	0.8nm,0.6s,baz=30,slow=9.6,SNR=22						
ILAR	**Eielson Array**	**85.51**	**24**	P	**P**	**15 19 43.0**	**-0.9**
	0.4nm,0.7s,baz=247,slow=5.6,SNR=4.8						

*BJI **25** 15:13:13.6,7°.77S×128°.96E,h166km,mB5.4/39,mb5.7/74*
*MOS **25** 15:16.8±1.6,7°.28S×128°.44E,h153km,mb5.6/56,Error ellipse: s-maj=11.5km s-min=7.4km az=110.2*
*ISCJB **25** 15:13:20.5±0.3,7°.41S±0°.02×128°.52E±0°.02,h189km±2km, mb5.4/170,Error ellipse: s-maj=3.1km s-min=2.9km az=135.6*
*NEIC **25** 15:13:20.1±0.1,7°.29S×128°.46E,mb5.5/89,MW5.4,Error ellipse: s-maj=4.3km s-min=3.7km az=223.0,Moment Tensor Solution. s13 Moment tensor: Scale 10^{17}Nm; M_{rr}1.14; $M_{\theta\theta}$-1.10; $M_{\phi\phi}$-0.04; $M_{r\theta}$0.59; $M_{\theta\phi}$0.39; $M_{\phi r}$0.37; Best double couple: $M_0$1.40000×10^{17} NP1:ϕ_s308.00000°, δ38.00000°,λ124.00000°. NP2:ϕ_s87.00000°,δ59.00000°, λ66.00000°. Principal axes: T 1.4300, Plg66.0000°, Azm310.0000°; N -0.1100, Plg20.0000°, Azm99.0000°; P -1.3100, Plg11.0000°, Azm193.0000°;*
NEIC Felt [II] at Darwin, Australia.
*GCMT **25** 15:13:20.1±0.1,7°.44S×128°.55E,h170km±1km, MW5.3/120,Moment Tensor Solution. s81,c122; s120,c212; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.55±.02; $M_{\theta\theta}$-0.66±.02; $M_{\phi\phi}$0.10±.02; $M_{r\theta}$0.81±.02; $M_{\theta\phi}$-0.12±.02; $M_{\phi r}$0.71±.02; Best double couple: $M_0$1.24200×10^{17} NP1:ϕ_s54.00000°,δ77.00000°, λ74.00000°. NP2:ϕ_s286.00000°,δ21.00000°,λ140.00000°. Principal axes: T 1.2680, Plg55.0000°, Azm304.0000°; N -0.0530, Plg16.0000°, Azm57.0000°; P -1.2150, Plg30.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **25** 15:13:21.5±0.7,7°.30S×128°.47E,h178km±5km,mb5.0/38, mb1 5.0/41,mb1mx4.9/46,mbtmp5.5/41,MS3.9/10, Ms1 3.8/10,ms1mx3.6/33 Error ellipse: s-maj=7.4km s-min=6.1km az=68.0*
*KLM **25** 15:13:21.5,7°.43S×128°.51E,h178km,mb5.6,MS6.6*
*DJA **25** 15:13:22.2±0.2,7°.S±2°.×12°.9E±°,h180km±2km,M5.5/71, mb5.6/71,mB5.8/57,MLv6.8/2,Mw(mB)5.4/57*

ISC 25 15:13:20.5±0.2,7°.32S±0°.03×128°.50E±0°.03,h174km±1km, h174km:pP-P,n1199,σ1°.34/1309,mb5.5/170,251C-180D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.85**	**103**	P	**Pn**	**15 14 07.3**	**+0.2**
SAUI				S	**Sn**	**15 14 44.8**	**+1.4**
SAUI	**Saumlaki**	**2.85**	**103**	*e*Pn	**Pn**	**15 14 06.7**	**-0.5**
SAUI				*e*Sn	Sn	15 14 33.7	-10
BNDI	**Bandanaira**	**3.11**	**27**	P	**Pn**	**15 14 12.4**	**+2.1**
MSAI	**Masohi**	**3.97**	**6**	P	**Pn**	**15 14 23.7**	**+2.5**
NLAI	**Namlea**	**4.29**	**341**	P	**Pn**	**15 14 28.3**	**+3.1**
SOEI	**Soe**	**4.83**	**240**	P	**Pn**	**15 14 32.7**	**+0.4**
SOEI				S	**Sn**	**15 15 27.8**	**-0.8**
SOEI	**Soe**	**4.83**	**240**	⇓P	**Pn**	**15 14 32.7**	**+0.4**
	baz=4.7,SNR=602						
SOEI	**Soe**	**4.83**	**240**	*e*Pn	**Pn**	**15 14 32.4**	**0.0**
SOEI				*e*Sn	Sn	15 15 21.0	-7.6
BATI	**Baumata**	**5.57**	**239**	P	**Pn**	**15 14 42.3**	**+0.4**
BATI				S	**Sn**	**15 15 45.9**	**+0.1**
BATI	**Baumata**	**5.57**	**239**	P	**Pn**	**15 14 42.3**	**+0.4**
	651nm,0.3s,baz=88,slow=3.0,SNR=383						
BATI				S	**Sn**	**15 15 43.7**	**-2.1**
	1μm,0.3s,baz=132,slow=22,SNR=23						
FAKI	**Fak Fak**	**5.75**	**41**	P	**Pn**	**15 14 42.8**	**-1.5**
FAKI				S	**Sn**	**15 15 46.8**	**-3.3**
FAKI	**Fak Fak**	**5.75**	**41**	*e*Pn	**Pn**	**15 14 42.9**	**-1.5**
FAKI				*e*Sn	Sn	15 15 41.9	-8.2
SANI	**Sanana**	**5.80**	**334**	P	**Pn**	**15 14 47.6**	**+2.6**
MTN	**Manton Dam**	**6.07**	**155**	P	**Pn**	**15 14 46.5**	**-1.9**
	baz=5.9,SNR=1000						
BBSI	**Bau Bau**	**6.17**	**287**	P	**Pn**	**15 14 52.3**	**+2.6**
MMRI	**Maumere**	**6.34**	**258**	P	**Pn**	**15 14 52.6**	**+0.7**
MMRI	**Maumere**	**6.34**	**258**	*e*Pn	**Pn**	**15 14 51.6**	**-0.3**
MMRI				*e*Sn	**Sn**	**15 16 02.7**	**-1.2**
KDU	**Kakadu**	**6.61**	**144**	P	**Pn**	**15 14 54.1**	**-1.4**
	baz=6.5,SNR=1000						
LBMI	**Labuha**	**6.71**	**351**	P	**Pn**	**15 14 59.6**	**+2.6**
EDFI	**Ende, Flores**	**6.89**	**258**	P	**Pn**	**15 15 00.5**	**+1.2**
RKPI	**Ransiki, Papua**	**8.09**	**45**	P	**Pn**	**15 15 14.6**	**-0.5**
TNTI	**Ternate**	**8.12**	**352**	P	**Pn**	**15 15 17.0**	**+2.5**
TNTI	**Ternate**	**8.12**	**352**	*e*Pn	**Pn**	**15 15 17.3**	**+1.8**
KNRA	**Kununurra**	**8.31**	**178**	P	**Pn**	**15 15 15.7**	**-2.3**
	baz=8.1,SNR=1000						
BASI	**Baing, Sumba**	**8.34**	**249**	P	**Pn**	**15 15 18.2**	**-0.2**
WSI	**Waingapu**	**8.44**	**253**	P	**Pn**	**15 15 18.7**	**-1.0**
WSI	**Waingapu**	**8.44**	**253**	P	**Pn**	**15 15 18.3**	**-1.4**
	baz=8.4,SNR=24						
LUWI	**Luwuk**	**8.46**	**317**	P	Pn	15 15 23.7	+3.8
LUWI	**Luwuk**	**8.46**	**317**	⇑P	Pn	15 15 24.0	+4.1
	baz=8.6,SNR=14						
LUWI	**Luwuk**	**8.46**	**317**	*e*Pn	**Pn**	**15 15 22.5**	**+2.6**
BKSI	**Bulukumba**	**8.56**	**283**	P	**Pn**	**15 15 23.1**	**+1.8**
BNSI	**Bone**	**8.84**	**289**	P	**Pn**	**15 15 27.3**	**+2.3**
KAPI	**Kappang**	**8.99**	**284**	Pn	**Pn**	**15 15 29.0**	**+2.0**
	331nm,1.1s,SNR=14						
KAPI	**Kappang**	**8.99**	**284**	P	**Pn**	**15 15 29.7**	**+2.7**
	SNR=18						
KAPI	**Kappang**	**8.99**	**284**	*e*Pn	**Pn**	**15 15 27.2**	**+0.2**
KMSI	**Cibinong**	**9.05**	**330**	P	Pn	15 15 31.1	+3.4
WBSI	**Waikabubak, Su**	**9.30**	**255**	P	**Pn**	**15 15 29.9**	**-1.2**
SPSI	**Sidrap Palu**	**9.30**	**291**	P	**Pn**	**15 15 33.2**	**+2.1**
APSI	**Ampana**	**9.34**	**313**	P	Pn	15 15 34.9	+3.3
SRPI	**Serui, Papua**	**9.43**	**55**	P	**Pn**	**15 15 34.1**	**+1.4**
GTOI	**Gorontalo**	**9.62**	**325**	P	Pn	15 15 41.3	+6.1
TTSI	**Tana Toraja**	**9.63**	**296**	P	Pn	15 15 39.1	+3.7
MRSI	**Marisa**	**10.14**	**320**	P	Pn	15 15 45.7	+3.6
PCI	**Palu**	**10.73**	**306**	P	**Pn**	**15 15 52.7**	**+2.9**
	486nm,1.2s,4μm						
FITZ	**Fitzroy Crossi**	**11.07**	**194**	*e*Pn	Pn	15 15 50.3	-3.9
SGSI	**Sangihe**	**11.33**	**345**	P	**Pn**	**15 15 59.6**	**+2.0**
TOLI	**Toli-Toli**	**11.38**	**317**	*e*Pn	**Pn**	**15 16 01.3**	**+3.1**
MPSI	**Mapaga**	**11.47**	**311**	P	**Pn**	**15 16 02.1**	**+2.8**
SMPI	**Sarmi**	**11.47**	**63**	P	**Pn**	**15 15 58.8**	**-0.6**
MMPI	**Merauke**	**11.83**	**96**	P	**Pn**	**15 16 03.9**	**-0.1**
MMPI	**Merauke**	**11.83**	**96**	⇑P	**Pn**	**15 16 04.7**	**+0.7**
	baz=12,SNR=3.4						
GENI	**Genyem**	**12.54**	**69**	P	**P**	**15 16 15.8**	**-2.1**
BKB	**Balikpapan**	**13.04**	**297**	P	**P**	**15 16 22.9**	**-0.5**
JAY	**Jayapura**	**13.06**	**69**	P	**Pn**	**15 16 21.8**	**+1.9**
JAY	**Jayapura**	**13.06**	**69**	P	**Pn**	**15 16 21.1**	**+1.2**
	2.7nm,0.3s,baz=226,slow=7.6,SNR=13						
JAY				S	**Sn**	**15 18 44.3**	**-0.8**
	2.6nm,0.3s,baz=205,slow=19,SNR=3.5						
JAY				LR	LR	15 23 07.5	
	comp=Z,524nm,19.9s,baz=272,slow=45						
SRBI	**Singaraja**	**13.19**	**266**	P	**Pn**	**15 16 20.8**	**-0.6**
DNP	**Denpasar**	**13.23**	**263**	P	**Pn**	**15 16 23.7**	**+1.8**
IGBI	**Denpasar**	**13.30**	**263**	P	**Pn**	**15 16 24.1**	**+1.3**
WRAB	**Tennant Creek**	**13.76**	**156**	Pn	Pn	15 16 24.0	-4.6
	19μm,0.7s						
WRAB	**Tennant Creek**	**13.76**	**156**	*d*iP	Pn	15 16 24.5	-4.1
WRAB				pmax	pmax		
	comp=Z,3μm,1.2s						
WRAB	**Tennant Creek**	**13.76**	**156**	*e*Pn	Pn	15 16 24.1	-4.4
WRAB				*e*Sn	Sn	15 18 47.7	-14
WRA	**Warramunga Arr**	**13.77**	**156**	P	**Pn**	**15 16 25.6**	**-3.0**
	comp=Z,12nm,0.3s,baz=339,slow=13,SNR=180						
WRA				S	Sn	15 18 50.1	-12
	comp=Z,174nm,0.3s,baz=328,slow=23,SNR=13						
WB2	**Warramunga Arr**	**13.77**	**156**	*e*Pn	Pn	15 16 24.3	-4.4
WB2				*e*Sn	Sn	15 18 48.8	-13
BBKI	**Banjar Baru**	**14.12**	**285**	P	**P**	**15 16 36.1**	**+0.6**
ABJI	**Asem Bagus**	**14.15**	**267**	P	**Pn**	**15 16 34.2**	**+0.8**
JAGI	**Jajag, Banyuwa**	**14.26**	**264**	P	**Pn**	**15 16 34.6**	**-0.2**
	comp=Z,168nm,1.0s,comp=Z,4μm						
JAGI	**Jajag, Banyuwa**	**14.26**	**264**	⇑P	**Pn**	**15 16 33.3**	**-1.5**
	baz=14,SNR=22						
JAGI	**Jajag, Banyuwa**	**14.26**	**264**	*e*Pn	**Pn**	**15 16 32.9**	**-1.9**
MATI	**Mati**	**14.35**	**351**	*e*P	**P**	**15 16 38.1**	**+0.1**
KMMI	**Kalianget**	**14.42**	**270**	P	**P**	**15 16 39.6**	**+0.8**
DAV	**Davao City (W)**	**14.59**	**348**	⇑*i*P	**P**	**15 16 42.7**	**+2.0**
DAV	**Davao City (W)**	**14.59**	**348**	P	**P**	15 16 44.2	+3.5
	SNR=11						
DAV	**Davao City (W)**	**14.59**	**348**	*e*Pn	**P**	15 16 45.1	+4.4
BLJI	**Banyuglugur**	**14.78**	**267**	P	**Pn**	**15 16 42.0**	**+0.7**
GMJI	**Gumukmas**	**14.95**	**265**	P	**P**	**15 16 44.1**	**-0.5**
CTBH	**Cotabato--PC H**	**15.06**	**344**	⇑*e*P	**P**	**15 16 48.2**	**+2.4**
BUKP	**Musuan**	**15.48**	**347**	*e*P	**P**	**15 16 52.8**	**+2.1**
BUKP				*e*S	**pP**	**15 17 19.6**	**0.0**
TSM	**Tawau**	**15.67**	**317**	⇑P	**P**	**15 16 54.8**	**+2.2**
TSM	**Tawau**	**15.67**	**317**	⇓P	ScP	15 25 22.5	+23
BWJI	**Bawean**	**15.80**	**274**	P	**P**	**15 16 55.5**	**+1.4**
COEN	**Coen**	**15.85**	**116**	P	**Pn**	**15 16 53.0**	**-1.4**
	baz=16,SNR=465						
COEN	**Coen**	**15.85**	**116**	*e*Pn	**Pn**	**15 16 53.2**	**-1.3**
GRJI	**Gresik**	**15.90**	**270**	P	**Pn**	**15 16 55.1**	**+0.1**
PAGZ	**Pagadian**	**15.91**	**341**	*e*P	**P**	**15 16 57.6**	**+2.4**
CGP	**Cagayan de Oro**	**16.12**	**346**	*e*P	**Pn**	**15 16 58.7**	**+1.0**
IPIL	**Ipil**	**16.13**	**338**	*e*P	Pn	15 17 02.9	+5.0
MBWA	**Marble Bar**	**16.16**	**211**	P	**P**	**15 16 56.9**	**-1.1**
	SNR=20						
MBWA	**Marble Bar**	**16.16**	**211**	*e*P	**P**	**15 16 56.2**	**-1.8**
	comp=Z,163nm,0.8s						
BUTP	**Butuan**	**16.44**	**350**	*e*P	**Pn**	**15 17 04.2**	**+2.7**
TBJI	**Tambak Boyo**	**16.53**	**271**	P	**Pn**	**15 17 02.5**	**-0.2**
PWJI	**Pagerwojo**	**16.56**	**266**	P	**P**	**15 17 00.0**	**-2.5**
DCPH	**Dipolog City**	**16.61**	**342**	⇑*e*P	**Pn**	**15 17 06.7**	**+3.1**
QIS	**Mount Isa**	**16.99**	**142**	P	**P**	**15 17 06.9**	**-0.3**
	baz=17,SNR=427						
AS31	**Alice Springs**	**17.06**	**163**	*e*Pn	**P**	**15 17 06.5**	**-1.4**
AS31				*e*Sn	S	15 20 07.9	-9.1
ASAR	**Alice Springs**	**17.06**	**163**	P	**Pn**	**15 17 09.6**	**+0.6**
	comp=Z,154nm,0.3s,baz=339,slow=8.8,SNR=4415						
ASAR				S	**S**	**15 20 09.8**	**-7.1**
	comp=Z,35nm,0.3s,baz=343,slow=26,SNR=5.5						
ASAR				P3KPbc		15 51 52.2	
	comp=Z,0.0nm,0.3s,baz=151,slow=3.9,SNR=6.3						
AS01	**Alice Springs**	**17.07**	**163**	*e*P	**P**	**15 17 07.4**	**-0.7**
SDKM	**Sandakan**	**17.12**	**318**	⇑P	**Pn**	**15 17 10.7**	**+0.9**
SDKM	**Sandakan**	**17.12**	**318**	⇑P	**ScP**	**15 25 01.0**	**-1.7**
PCJI	**Pacitan**	**17.18**	**266**	P	**P**	**15 17 06.9**	**-2.4**
PBKI	**Pangkalan Bun**	**17.38**	**284**	P	**Pn**	**15 17 13.3**	**+0.5**
WOJI	**Wonogiri, Jawa**	**17.43**	**267**	P	**P**	**15 17 11.0**	**-1.0**
UWJI	**Ujung Watu**	**17.45**	**272**	P	Pn	15 17 20.7	+7.1
WRKA	**Warakurna**	**17.62**	**181**	⇑P	**P**	**15 17 14.3**	**+0.2**
	baz=18,SNR=1000						
MSLP	**Maasin**	**17.72**	**348**	*e*P	**Pn**	**15 17 17.9**	**+1.2**
UGM	**Wanagama**	**17.83**	**267**	P	**P**	**15 17 16.7**	**+0.3**
	comp=Z,273nm,1.1s,comp=Z,3μm						
UGM	**Wanagama**	**17.83**	**267**	P	**P**	**15 17 15.2**	**-1.3**
	baz=18,SNR=43						
UGM	**Wanagama**	**17.83**	**267**	*e*P	**P**	**15 17 14.7**	**-1.7**
	comp=Z,358nm,1.3s						
KKM	**Kota Kinabalu**	**18.07**	**317**	P	**Pn**	**15 17 21.1**	**+0.1**
	baz=18,SNR=39						
KKM	**Kota Kinabalu**	**18.07**	**317**	⇓P	**P**	**15 17 19.7**	**+0.6**
KKM	**Kota Kinabalu**	**18.07**	**317**	⇓P	**ScP**	**15 25 04.2**	**-0.5**
KKM	**Kota Kinabalu**	**18.07**	**317**	*e*P	**Pn**	**15 17 21.1**	**+0.1**
	comp=Z,296nm,0.7s						
LLP	**Lapu-Lapu**	**18.09**	**346**	⇑*e*P	**Pn**	**15 17 20.5**	**-0.7**
KDM	**Kudat**	**18.32**	**320**	⇑P	**P**	**15 17 22.3**	**+0.6**
KDM	**Kudat**	**18.32**	**320**	⇓P	**ScP**	**15 25 07.0**	**+1.9**
STKI	**Sintang**	**18.49**	**293**	P	**Pn**	**15 17 25.4**	**-0.5**
PMG	**Port Moresby**	**18.58**	**98**	*c iP*	**P**	**15 17 23.0**	**-1.6**
PMG				pmax	pmax		
	comp=Z,830nm,1.0s						
PMG	**Port Moresby**	**18.58**	**98**	P	**P**	**15 17 24.0**	**-0.6**
	comp=Z,2.4nm,0.3s,baz=263,slow=2.1,SNR=16						
PMG				S	**S**	**15 20 46.0**	**-1.4**
	comp=Z,2.8nm,0.3s,baz=210,slow=20,SNR=6.4						
PMG				LR	LR	15 25 26.1	
	comp=Z,672nm,19.1s,baz=267,

MYKOM	**Kota Tinggi**	**26.21 289**	*e*P	**P**	**15 18 40.1 +0.7**
	comp=Z,239nm,1.0s				
BBOO	**Buckleboo**	**26.32 166**	P	**P**	**15 18 40.4 +0.2**
	baz=26,SNR=302				
BBOO	**Buckleboo**	**26.32 166**	*e*P	**P**	**15 18 40.5 +0.2**
	comp=Z,1μm,0.8s				
GUMO	**Guam**	**26.38 38**	*e*P	**P**	**15 18 40.0 -0.9**
GUMO			pmax	pmax	
	comp=Z,164nm,1.0s				
GUMO	**Guam**	**26.38 38**	*e*Pn	**P**	**15 18 40.0 -0.9**
	comp=Z,164nm,1.0s				
KGM	**Kluang**	**26.78 289**	⇑P	**ScP**	**15 25 28.6 +1.5**
NWAO	**Narrogin (SRO)**	**27.54 201**	P	**P**	**15 18 51.5 +0.4**
NWAO			pmax	pmax	
	comp=Z,42nm,0.4s				
NWAO			MLR	MLR	
	comp=Z,333nm,18.2s				
NWAO	**Narrogin (SRO)**	**27.54 201**	P	**P**	**15 18 51.5 +0.4**
	comp=Z,42nm,0.4s,baz=59,slow=7.5,SNR=95				
NWAO			LR	LR	15 32 26.0
	comp=Z,333nm,18.1s,baz=145,slow=42				
DLV	**T Lat**	**27.61 314**	*e*P	**P**	**15 18 52.8 +0.7**
	comp=Z,80nm,0.9s				
SDSI	**Sungai Dareh**	**27.72 282**	P	**P**	**15 18 54.7 +1.7**
	comp=Z,89nm,1.3s				
EIDS	**Eidsvold**	**28.05 132**	*e*P	**P**	**15 18 55.5 -0.3**
	comp=Z,48nm,0.9s				
KTGM	**Kuala Trenggan**	**28.26 296**	⇑P	Sx	15 25 02.0
FRIM	**Kepong**	**28.80 290**	⇑P	**ScP**	**15 25 36.5 +3.2**
IPM	**Ipoh**	**29.82 292**	⇓P	**ScP**	**15 25 35.6 -1.1**
IPM	**Ipoh**	**29.82 292**	*e*P	**P**	**15 19 11.5 -0.1**
	comp=Z,111nm,1.0s				
IPM			*e*ScP	**ScP**	**15 25 35.5 -1.1**
MNSI	**Mandailing Nat**	**29.95 284**	P	**P**	**15 19 11.9 -0.8**
	comp=Z,70nm,0.7s,comp=Z,1μm				
KULM	**Kulim**	**30.48 294**	⇓P	**ScP**	**15 25 36.0 -2.8**
KULM	**Kulim**	**30.48 294**	*e*P	**P**	**15 19 17.1 -0.3**
	comp=Z,94nm,1.0s				
HNR	**Honiara**	**31.18 96**	PFAKE		15 19 40.0 +16
HNR			LR	LR	
	comp=Z,63nm,21.0s				
PSI	**Prapat**	**31.18 288**	P	**P**	**15 19 22.8 -0.9**
	comp=Z,148nm,0.9s,baz=129,slow=6.3,SNR=62				
PSI			ScP	**ScP**	**15 25 39.6 -1.6**
	comp=Z,7.9nm,0.8s,baz=184,slow=3.1,SNR=4.5				
TPUB	**Ta-pu**	**31.39 346**	*e*P	**P**	**15 19 24.0 -1.3**
	comp=Z,120nm,1.2s				
ARMA	**Armidale**	**31.59 140**	*e*P	**P**	**15 19 28.2 +1.1**
	comp=Z,38nm,0.8s				
TSI	**Tuntungan**	**31.75 289**	P	**P**	**15 19 31.1 +2.6**
	comp=Z,90nm,1.2s,comp=Z,2μm				
SSLB	**Suanglung**	**31.79 347**	*e*P	**P**	**15 19 26.4 -2.3**
	comp=Z,39nm,0.8s				
QIZ	**Qiongzhong**	**32.00 325**	P	**P**	**15 19 31.3 +0.7**
QIZ			pP	**pP**	**15 20 07.5 +0.6**
QIZ			S	**S**	**15 24 32.0 +2.6**
QIZ			sS	**sS**	**15 25 36.0 +2.4**
QIZ			PMZ		
	comp=Z,56nm,0.8s				
QIZ			LZ		
	comp=Z,530nm,15.6s				
QIZ	**Qiongzhong**	**32.00 325**	*e*P	**P**	**15 19 30.8 +0.2**
	comp=Z,44nm,0.8s				
QIZ			LR	LR	
	comp=Z,527nm,20.0s				
UBPT	**Khong Chiam**	**32.02 315**	P	**P**	**15 19 31.6 +0.8**
	comp=Z,305nm,1.2s,comp=Z,3μm				
GSI	**Gunungsitoli**	**32.02 284**	P	**P**	**15 19 30.3 -0.6**
	comp=Z,124nm,0.9s				
GSI	**Gunungsitoli**	**32.02 284**	*e*P	**P**	**15 19 28.8 -2.1**
	comp=Z,134nm,1.1s				
NACB	**Ninganchiao**	**32.02 348**	*e*P	**P**	**15 19 28.6 -2.1**
	comp=Z,63nm,0.9s				
KCSI	**Kotacane, Aceh**	**32.50 288**	P	**P**	**15 19 35.3 +0.2**
	comp=Z,50nm,1.9s,comp=Z,807nm				
YHNB	**Yeheng**	**32.55 348**	*e*P	**P**	**15 19 33.2 -2.1**
	comp=Z,96nm,0.7s				
CHBT	**CHBT**	**32.77 307**	P	**P**	**15 19 37.7 +0.3**
	comp=Z,163nm,1.3s,comp=Z,2μm				
TPTI		**32.97 288**	P	**P**	**15 19 40.3 +1.1**
	comp=Z,301nm,0.8s,comp=Z,20μm				
SURA	**Surathani**	**33.10 299**	P	**P**	**15 19 41.0 +0.7**
	comp=Z,70nm,1.1s,comp=Z,2μm				
CAN	**Canberra**	**33.63 149**	*e*P	**P**	**15 19 45.9 +1.3**
CAN			*e**PP	**pP**	**15 20 20.9 -0.3**
CAN			pmax	pmax	
	comp=Z,109nm,1.0s				
CAN	**Canberra**	**33.63 149**	*e*P	**P**	**15 19 45.9 +1.3**
	comp=Z,109nm,1.0s				
CAN			*e*pP	**pP**	**15 20 20.9 -0.3**
CAN			*e*ScP	**ScP**	**15 25 48.4 -0.8**
CAN			LR	LR	
	comp=Z,143nm,19.0s				
PKDT	**Phuket**	**33.66 296**	P	**P**	**15 19 45.1 0.0**
	comp=Z,84nm,1.2s,comp=Z,2μm				
SURT	**Suratani**	**33.73 298**	P	**P**	**15 19 46.0 +0.3**
	comp=Z,35nm,1.2s,comp=Z,546nm				
LHMI	**Lhok Sumawe**	**33.86 291**	P	**P**	**15 19 48.3 +1.4**
	comp=Z,420nm,1.1s,comp=Z,5μm				
LHMI	**Lhok Sumawe**	**33.86 291**	*e*P	**P**	**15 19 46.3 -0.6**
	comp=Z,253nm,0.8s				
JOW	**Kunigami**	**33.95 360**	P	**P**	**15 19 48.1 +0.7**
	comp=Z,18nm,0.9s,baz=176,slow=8.4,SNR=13				
JOW	**Kunigami**	**33.95 360**	*e*P	**P**	**15 19 48.3 +0.9**
	comp=Z,205nm,0.9s				
PBKT	**Sadao Pong**	**36.13 311**	P	**P**	**15 20 06.6 +0.4**
	comp=Z,74nm,1.1s				
SRDT	**SRDT**	**36.23 306**	P	**P**	**15 20 08.1 +1.0**
	comp=Z,365nm,1.1s				
CBIJ	**Chichi jima**	**36.69 21**	*e*P	**P**	**15 20 09.8 -1.0**
	comp=Z,140nm,0.5s				
JCJ	**Chichijima**	**36.69 21**	P	**P**	**15 20 10.3 -0.6**
	comp=Z,120nm,0.5s,baz=207,slow=3.1,SNR=9.8				
KHLT	**Khaolaem Dam**	**36.91 307**	P	**P**	**15 20 13.7 +0.8**
	comp=Z,65nm,0.7s,comp=Z,813nm				
UTTA	**Uttaradit**	**37.18 312**	P	**P**	**15 20 15.8 +0.8**
	comp=Z,82nm,0.9s,comp=Z,655nm				
SLVN	**Son La**	**37.33 320**	⇑*i*P	**P**	**15 20 17.4 +1.0**
	comp=Z,79nm,0.8s				
SLVN			*e*ScP	**ScP**	**15 26 03.6 +0.7**
UMPA	**Umpang Tak**	**37.51 309**	P	P	15 20 23.5 +5.6
	comp=Z,15nm,0.9s,comp=Z,1μm				
LAMP	**Lampang**	**38.35 312**	P	**P**	**15 20 25.7 +0.8**
	comp=Z,57nm,1.0s,comp=Z,482nm				
CM31	**Chiang Mai Arr**	**38.81 312**	⇑*i*P	**P**	**15 20 29.6 +0.8**
	comp=Z,23nm,0.8s				
CMAR	**Chiang Mai Arr**	**38.81 312**	P	**P**	**15 20 29.8 +1.0**
	comp=Z,95nm,1.0s,baz=144,slow=7.3,SNR=365				
CMAR			PcP	**PcP**	**15 22 38.3 +1.7**
	comp=Z,14nm,0.6s,baz=169,slow=2.8,SNR=13				
CMAR			ScP	**ScP**	**15 26 08.6 +0.1**
	comp=Z,12nm,0.9s,baz=158,slow=3.1,SNR=14				
SSE	**Sheshan**	**38.84 350**	⇑P	**P**	**15 20 29.0 +0.3**
SSE			PMZ		
	comp=Z,120nm,0.8s				
SSE			PMZ		
	comp=Z,180nm,9.2s				
SSE			LN		
	comp=Z,55nm,23.1s				
SSE			LE		
	comp=Z,93nm,23.1s				
SSE			LZ		
	comp=Z,86nm,23.8s				
CRAI	**Chiangrai**	**38.92 315**	P	**P**	**15 20 27.7 -2.0**
	comp=Z,121nm,1.1s				
CMMT	**Chiang Mai**	**39.03 312**	P	**P**	**15 20 31.0 +0.4**
	comp=Z,296nm,1.1s,comp=Z,3μm				
CHTO	**Chiang Mai**	**39.03 312**	*e*P	**P**	**15 20 31.5 +0.9**
CHTO			pmax	pmax	
	comp=Z,312nm,1.2s				
CHTO			MLR	MLR	
	comp=Z,462nm,20.0s				
CHTO	**Chiang Mai**	**39.03 312**	P	**P**	**15 20 31.7 +1.1**
	SNR=60				
CHTO	**Chiang Mai**	**39.03 312**	P	**P**	**15 20 31.1 +0.5**
	comp=Z,1μm,1.1s,comp=Z,10μm				
CHTO	**Chiang Mai**	**39.03 312**	*e*P	**P**	**15 20 31.5 +0.9**
	comp=Z,312nm,1.2s				
CHTO			LR	LR	
	comp=Z,462nm,20.0s				
TAU	**Tasmania Unive**	**39.13 158**	*e*P	**P**	**15 20 33.0 +1.9**
TAU			*e*		15 22 02.9
TAU			pmax	pmax	
	comp=Z,210nm,1.8s				
TAU	**Tasmania Unive**	**39.13 158**	*e*P	**P**	**15 20 33.0 +1.9**
	comp=Z,210nm,1.8s				
TAU			*e*PP	**PP**	**15 22 02.9 -1.7**
NOUC	**Port Laguerre**	**39.27 116**	*e*P	P	15 20 36.1 +3.6
DZM	**Mont Dzumac**	**39.38 116**	P	**P**	**15 20 34.6 +1.0**
	comp=Z,31nm,0.8s,baz=281,slow=7.1,SNR=14				
DZM	**Mont Dzumac**	**39.38 116**	*e*P	**P**	**15 20 34.1 +0.5**
	comp=Z,116nm,1.4s				
MHMT	**Maesarieng**	**39.40 310**	P	**P**	**15 20 34.2 +0.6**
	comp=Z,33nm,0.9s,comp=Z,462nm				
CMAI	**Chiengmai2**	**39.67 314**	P	**P**	**15 20 36.4 +0.3**
	comp=Z,172nm,1.1s,comp=Z,2μm				
GYA	**Guiyang**	**39.71 329**	⇑*i*P	**P**	**15 20 36.8 +0.6**
GYA			pP	**pP**	**15 21 16.0 +2.3**
GYA			sP	**sP**	**15 21 37.5 +4.1**
GYA			PP	**PnPn**	**15 22 16.5 +0.3**
GYA			PcP	**PcP**	**15 22 40.0 +0.6**
GYA			ScP	**ScP**	**15 26 12.0 0.0**
GYA			S	**S**	**15 26 28.3 +1.3**
GYA			PcS	**PcS**	**15 26 30.8 +0.8**
GYA			ScS	**ScS**	**15 30 23.5 -1.8**
GYA			PMZ		
	comp=Z,140nm,0.9s				
GYA			PMZ		
	comp=Z,470nm,4.6s				
WHN	**Wuhan**	**40.02 341**	⇑P	**P**	**15 20 39.5 +0.9**
WHN			PMZ		
	comp=Z,840nm,1.0s				
NJ2	**Nanjing**	**40.22 347**	*e*P	**P**	**15 20 41.0 +0.8**
NJ2			pP	**pP**	**15 21 16.3 -1.4**
NJ2			sP	**sP**	**15 21 37.5 +0.1**
NJ2			PP	**PP**	**15 22 17.3 +0.7**
NJ2			ScP	**ScP**	**15 26 14.0 +0.4**
NJ2			S	**S**	**15 26 34.5 +0.3**
NJ2			PMZ		
	comp=Z,380nm,0.9s				
NJ2			PMZ		
	comp=Z,2μm,5.1s				
NJ2			LN		
	comp=Z,900nm,14.7s				
NJ2			LE		
	comp=Z,480nm,18.8s				
NJ2			LZ		
	comp=Z,2μm,18.6s				
JNU	**Nakatsue**	**40.28 3**	P	**P**	**15 20 40.7 -0.1**
	comp=Z,54nm,1.0s,baz=167,slow=1.7,SNR=13				
JNU	**Nakatsue**	**40.28 3**	*e*P	**P**	**15 20 40.6 -0.1**
	comp=Z,83nm,1.0s				
KMI	**Kunming**	**40.85 323**	P	**P**	**15 20 47.8 +2.0**
KMI			S	**S**	**15 26 49.8 +5.6**
KMI			PMZ		
	comp=Z,160nm,1.3s				
KMI			PMZ		
	comp=Z,530nm,3.3s				
KMI			LN		
	comp=Z,360nm,19.0s				
KMI			LE		
	comp=Z,270nm,13.3s				
KMI			LZ		
	comp=Z,240nm,17.1s				
ENH	**Enshi**	**41.60 335**	*e*P	**P**	**15 20 51.7 +0.2**
	comp=Z,175nm,0.9s				
ENH			LR	LR	
	comp=Z,208nm,22.0s				
TJN	**Taejon**	**43.48 359**	*e*P	**P**	**15 21 06.9 +0.4**
KS15	**Wonju Array Si**	**44.53 359**	⇑*i*P	**P**	**15 21 14.8 -0.2**
KS15			*e*pP	**pP**	**15 21 58.0 +4.8**
KS15			*e*PcP	**PcP**	**15 22 55.0 0.0**
KSAR	**Wonju Array Be**	**44.53 359**	P	**P**	**15 21 15.6 +0.7**
KSAR			*PP	**pP**	**15 21 51.9 -1.2**
KSAR					15 22 56.2
KSAR	**Wonju Array Be**	**44.53 359**	P	**P**	**15 21 15.6 +0.7**
KSAR			pP	**pP**	**15 21 51.9 -1.2**
KSAR			PcP	**PcP**	**15 22 56.2 +1.1**
KSAR			ScP	**ScP**	**15 26 31.6 +0.7**
KSRS	**Korea Array**	**44.55 359**	P	**P**	**15 21 15.6 +0.6**
	comp=Z,20nm,0.8s,baz=179,slow=9.9,SNR=44				
KSRS			pP	**pP**	**15 21 51.9 -1.3**
	comp=Z,20nm,1.0s,baz=181,slow=11,SNR=3.9				
KSRS			PcP	**PcP**	**15 22 56.2 +1.1**
	comp=Z,4.5nm,0.5s,baz=184,slow=3.1,SNR=8.5				
KSRS			ScP	**ScP**	**15 26 31.6 +0.6**
	comp=Z,3.5nm,0.9s,baz=173,slow=4.2,SNR=5.0				
KSRS			LR	LR	15 40 26.6
	comp=Z,106nm,19.6s,baz=170,slow=36				
MJAR	**Matsushiro Arr**	**44.57 11**	P	**P**	**15 21 14.3 -1.0**
	comp=Z,45nm,0.8s,baz=188,slow=9.4,SNR=82				
MJAR			ScP	**ScP**	**15 26 30.7 -0.4**
	comp=Z,6.1nm,0.7s,baz=197,slow=5.3,SNR=8.8				
MAJO	**Matsushiro**	**44.58 11**	*c i*P	**P**	**15 21 13.8 -1.5**
MAJO			pmax	pmax	
	comp=Z,305nm,0.8s				
MAJO	**Matsushiro**	**44.58 11**	*e*P	**P**	**15 21 14.0 -1.3**
	comp=Z,60nm,0.8s				
MAT	**Matsushiro**	**44.58 11**	P	**P**	**15 21 13.9 -1.4**
MAT			S	**S**	**15 27 34.0 -3.9**
TIA	**Tai'an**	**44.60 347**	⇑P	**P**	**15 21 15.0 -0.5**
TIA			PMZ		
	comp=Z,150nm,0.9s				
TIA			PMZ		
	comp=Z,280nm,5.0s				
CD2	**Chengdu**	**44.80 329**	⇑*i*P	**P**	**15 21 17.3 +0.1**
CD2			pP	**pP**	**15 21 51.0 -4.5**
CD2			sP	**sP**	**15 22 13.8 -1.2**
CD2			PcP	**PcP**	**15 22 56.3 +0.1**
CD2			S	**S**	**15 27 42.0 +0.7**
CD2			sS	**sS**	**15 28 47.5 -0.7**
CD2			SS	**SS**	**15 31 01.8 -4.8**
CD2			PMZ		
	comp=Z,370nm,0.8s				
CD2			PMZ		
	comp=Z,310nm,6.5s				
XAN	**Xi'an**	**45.13 337**	P	**P**	**15 21 19.3 -0.4**
XAN			pP	**pP**	**15 21 56.8 -1.2**
XAN			ScP	**ScP**	**15 26 33.5 0.0**
XAN			S	**S**	**15 27 40.3 -5.7**
XAN			PMZ		
	comp=Z,120nm,0.9s				
XAN			PMZ		
	comp=Z,48nm,5.5s				
XAN			LN		
	comp=Z,160nm,12.5s				
XAN			LE		
	comp=Z,88nm,16.3s				
XAN			LZ		
	comp=Z,66nm,14.3s				
DL2	**Dalian**	**46.43 353**	⇑P	**P**	**15 21 29.8 0.0**
DL2			sP	**sP**	**15 22 26.3 -1.4**
DL2			S	**S**	**15 28 04.0 -0.3**
DL2			PMZ		
	comp=Z,140nm,0.8s				
DL2			PMZ		
	comp=Z,240nm,4.5s				
BJT	**Baijiatuau**	**48.46 347**	*e*P	**P**	**15 21 44.0 -1.5**
BJT			pmax	pmax	
	comp=Z,270nm,0.7s				
BJT			MLR	MLR	
	comp=Z,208nm,20.0s				
BJT	**Baijiatuau**	**48.46 347**	*e*P	**P**	**15 21 44.0 -1.5**
	comp=Z,270nm,0.7s				
BJT			LR	LR	
	comp=Z,208nm,20.0s				
BJI	**Beijing**	**48.48 347**	P	**P**	**15 21 45.8 +0.2**
BJI			pP	**pP**	**15 22 25.8 +1.4**
BJI			sP	**sP**	**15 22 41.5 -2.2**
BJI			PcP	**PcP**	**15 23 10.3 +1.4**
BJI			S	**S**	**15 28 36.0 +2.8**
BJI			sS	**sS**	**15 29 43.5 +2.6**
BJI			PMZ		
	comp=Z,370nm,0.8s				
LZH	**Lanzhou**	**49.01 333**	*e*P	**P**	**15 21 50.8 +0.9**
LZH			pP	**pP**	**15 22 28.8 0.0**
LZH			sP	**sP**	**15 22 45.0 -3.1**
LZH			ScP	**ScP**	**15 26 52.0 +2.1**
LZH			*e*S	**S**	**15 28 43.3 +2.2**
LZH			SS	**SS**	**15 32 12.0 -2.7**
LZH			PMZ		
	comp=Z,780nm,1.3s				
LZH			PMZ		
	comp=Z,4μm,5.4s				
SNY	**Shenyang**	**49.12 355**	⇑P	**P**	**15 21 50.3 -0.1**
SNY			PMZ		
	comp=Z,45nm,1.2s				
MSVF	**Nonsavu**	**49.33 107**	*e*P	**P**	**15 21 54.5 +1.9**
MSVF			pmax	pmax	
	comp=Z,37nm,1.0s				
MSVF	**Nonsavu**	**49.33 107**	*e*P	**P**	**15 21 54.5 +1.9**
	comp=Z,37nm,1.0s				
OUZ	**Omahuta**	**49.76 131**	*e*P	**P**	**15 21 58.1 +2.6**
	comp=Z,572nm,1.4s				
OUZ			*e*pP	pP	15 22 41.7 +7.3
PALK	**Pallekele**	**49.82 286**	P	**P**	**15 21 56.0 -0.3**
	comp=Z,210nm,0.9s,SNR=5.3				
PALK	**Pallekele**	**49.82 286**	P	**P**	**15 21 56.5 +0.2**
	SNR=7.2				
PALK	**Pallekele**	**49.82 286**	P	**P**	**15 21 55.2 -1.1**
	comp=Z,39nm,0.8s,baz=104,slow=7.6,SNR=18				
PALK			PcP	**PcP**	**15 23 15.2 +0.7**
	comp=Z,20nm,0.5s,baz=127,slow=3.0,SNR=6.2				
PALK			ScP	**ScP**	**15 26 53.5 -0.2**
	comp=Z,8.8nm,0.9s,baz=156,slow=6.4,SNR=3.6				
PALK	**Pallekele**	**49.82 286**	⇓*i*P	**P**	**15 21 55.4 -1.0**
	SNR=7.3				
PALK	**Pallekele**	**49.82 286**	*e*P	**P**	**15 21 55.0 -1.4**
	comp=Z,32nm,0.9s				
PALK			PcP	**PcP**	**15 23 15.2 +0.7**
PALK			ScP	**ScP**	**15 26 53.5 -0.2**
VLA	**Vladivostok**	**50.30 3**	⇑*i*P	**P**	**15 21 58.4 -0.9**
VLA			*i*		15 23 13.1
VLA			*i*		15 23 54.7
VLA			*e*S	**S**	**15 28 57.3 -1.1**
VLA			pmax	pmax	
	comp=Z,90nm,1.3s				
HHC	**Hu-ho-hao-te**	**50.40 343**	*e*P	**P**	**15 22 01.0 +0.7**
HHC			pP	**pP**	**15 22 36.5 -2.9**
HHC			sP	**sP**	**15 22 57.8 -0.9**
HHC			PP	**PP**	**15 24 00.8 +3.0**
HHC			S	**S**	**15 28 58.5 -1.8**
HHC			sS	**sS**	**15 30 09.8 +1.4**
HHC			SS	**SS**	**15 32 37.8 +1.2**
HHC			PMZ		
	comp=Z,250nm,0.9s				
HHC			PMZ		
	comp=Z,400nm,4.5s				
BTO	**Baotou**	**50.64 342**	*e*P	**P**	**15 22 00.8 -1.2**
ERM	**Erimo**	**50.90 14**	*e*P	**P**	**15 22 03.9 +0.1**
ERM			pmax	pmax	
	comp=Z,35nm,0.9s				
ERM	**Erimo**	**50.90 14**	⇑*i*P	**P**	**15 22 04.0 +0.1**
	comp=Z,172nm,1.4s				
ERM			LR	LR	
	comp=Z,155nm,19.0s				
CN2	**Changchun**	**50.96 357**	*e*P	**P**	**15 22 04.0 -0.2**
CN2			*e*pP	**pP**	**15 22 43.5 +0.1**
CN2			*e*S	**S**	**15 29 11.8 +4.3**
CN2			PMZ		
	comp=Z,20nm,0.5s				
CN2			PMZ		
	comp=Z,100nm,3.0s				
CN2			LN		
	comp=Z,90nm,8.0s				
CN2			LE		
	comp=Z,140nm,8.0s				
CN2			LZ		
	comp=Z,190nm,12.0s				
WHZ	**Wether Hill Ro**	**51.28 145**	*e*P	**P**	**15 22 07.8 +1.2**
	comp=Z,85nm,0.7s				
USRK	**Ussuriysk Ar.**	**51.38 3**	P	**P**	**15 22 07.6 +0.2**
	comp=Z,21nm,0.7s,baz=183,slow=6.8,SNR=51				
USRK			LR	LR	15 43 30.8
	comp=Z,51nm,21.2s,baz=193,slow=35				
LSA	**Lhasa**	**51.41 318**	P	**P**	**15 22 09.5 +1.1**
LSA	**Lhasa**	**51.41 318**	*e*P	**P**	**15 22 09.6 +1.1**
LSA			pmax	pmax	
	comp=Z,75nm,0.8s				
LSA			MLR	MLR	
	comp=Z,255nm,21.0s				
LSA	**Lhasa**	**51.41 318**	*e*P	**P**	**15 22 09.6 +1.1**
	comp=Z,76nm,0.8s				
LSA			LR	LR	
	comp=Z,255nm,21.0s				
MDJ	**Mudanjiang**	**51.71 1**	P	**P**	**15 22 10.0 +0.2**
MDJ			pP	**pP**	**15 22 48.8 -0.3**
MDJ			sP	**sP**	**15 23 03.3 -5.0**
MDJ			PP	**PP**	**15 24 10.5 +1.1**
MDJ			S	**S**	**15 29 20.0 +2.2**
MDJ			sS	**sS**	**15 30 24.0 -2.2**
MDJ			SS	**SS**	**15 32 59.5 +2.6**
MDJ			PMZ		
	comp=Z,45nm,1.4s				
MDJ			PMZ		
	comp=Z,170nm,8.0s				
MDJ			LN		
	comp=Z,41nm,18.6s				
MDJ			LE		
	comp=Z,180nm,22.8s				
MDJ			LZ		
	comp=Z,170nm,25.4s				
MDJ	**Mudanjiang**	**51.71 1**	*e*P	**P**	**15 22 10.3 +0.5**
	comp=Z,78nm,1.3s				
MDJ			LR	LR	
	comp=Z,127nm,20.0s				
RPZ	**Rata Peaks**	**51.90 141**	*e*P	**P**	**15 22 13.2 +1.9**
	comp=Z,295nm,1.0s				
ODAN	**Odare**	**52.35 312**	*e*P	**P**	**15 22 15.5 +0.3**
	comp=Z,144nm,0.4s				
TAPN	**Taplejung**	**52.40 313**	*e*P	**P**	**15 22 15.9 +0.3**
	comp=Z,162nm,0.5s				
ASAJ	**Asahikawa**	**52.76 13**	P	**P**	**15 22 17.9 +0.3**
ASAJ			pmax	pmax	
	comp=Z,58nm,0.7s				
ASAJ	**Asahikawa**	**52.76 13**	P	**P**	**15 22 17.9 +0.3**
	comp=Z,58nm,0.7s,baz=230,slow=9.6,SNR=49				
ASAJ	**Asahikawa**	**52.76 13**	*e*P	**P**	**15 22 17.7 +0.1**
	comp=Z,59nm,0.8s				
RAMN	**Ramite**	**52.99 312**	*e*P	**P**	**15 22 20.4 +0.5**
	comp=Z,235nm,0.5s				
BKZ	**Black Stump Fm**	**53.44 134**	*e*P	**P**	**15 22 23.4 +0.6**
	comp=Z,65nm,0.8s				
YUK	**Yuzh-Kuril'sk**	**53.48 16**	*e*P	P	15 22 18.0 -4.8
YUK			*i* S	**S**	**15 29 38.2 -3.6**
YUK			*i* *SS	sS	15 30 45.1 -5.5
URZ	**Urewera**	**53.53 133**	P	**P**	**15 22 23.5 +0.1**
	comp=Z,23nm,0.8s,baz=253,slow=5.8,SNR=13				
URZ	**Urewera**	**53.53 133**	*e*P	**P**	**15 22 23.9 +0.5**
	comp=Z,70nm,1.4s				
GTA	**Gaotai**	**53.55 332**	⇑P	**P**	**15 22 24.5 +0.9**
GTA			pP	**pP**	**15 22 58.5 -4.7**
GTA			sP	**sP**	**15 23 24.0 +1.7**
GTA			ScP	**ScP**	**15 27 09.5 0.0**
GTA			PcS	**PcS**	**15 27 26.0 -1.4**
GTA			S	**S**	**15 29 45.3 +2.0**
GTA			sS	**sS**	**15 30 54.0 +1.9**
GTA			SS	**SS**	**15 33 27.8 +1.3**
GTA			PMZ		
	comp=Z,330nm,1.0s				
GTA			PMZ		
	comp=Z,870nm,5.0s				
GTA			LN		
	comp=Z,130nm,13.8s				
GTA			LE		
	comp=Z,110nm,12.6s				
GTA			LZ		
	comp=Z,120nm,11.4s				
JIRN	**Jiri**	**53.69 312**	*e*P	**P**	**15 22 25.4 +0.3**
GUN	**Gumba**	**54.05 312**	*e*P	**P**	**15 22 28.0 +0.3**
	comp=Z,280nm,0.6s				
PKI	**Pulchoki**	**54.21 312**	*e*P	**P**	**15 22 28.8 -0.1**
	comp=Z,120nm,0.5s				
PKIN	**Phulchoki**	**54.23 312**	*e*P	**P**	**15 22 28.7 -0.2**
	comp=Z,79nm,0.5s				
KKN	**Kakani**	**54.43 312**	*e*P	**P**	**15 22 30.5 +0.2**
	comp=Z,89nm,0.4s				
DMN	**Daman**	**54.46 311**	*e*P	**P**	**15 22 30.8 +0.2**
	comp=Z,138nm,0.6s				
GKN	**Gorkha**	**55.02 312**	*e*P	**P**	**15 22 34.7 +0.2**
	comp=Z,229nm,0.4s				
HYB	**Hyderabad**	**55.13 297**	*i* P	**P**	**15 22 33.0 -2.2**
	comp=Z,125nm,1.0s				
HYB			*e*pP	**pP**	**15 23 17.0 +2.0**
YSS	**Yuzh-Sakhalins**	**55.50 12**	*e*P	**P**	**15 22 34.8 -2.5**
YSS			pmax	pmax	
	comp=Z,94nm,0.6s				
YSS	**Yuzh-Sakhalins**	**55.50 12**	*e*P	**P**	**15 22 34.8 -2.5**
	comp=Z,94nm,0.6s				
DGAR	**Diego Garcia**	**55.55 266**	*e*P	**P**	**15 22 37.7 -0.6**
DGAR	**Diego Garcia**	**55.55 266**	*e*P	**P**	**15 22 37.7 -0.6**
KOLN	**Koldanda**	**55.67 311**	*e*P	**P**	**15 22 39.5 +0.3**
	comp=Z,262nm,0.7s				
HABR	**Khabarovsk**	**55.85 5**	*e*P	**P**	**15 22 38.4 -1.4**
HABR			*e**PP	**pP**	**15 23 18.7 -0.9**
HABR			*e*		15 23 34.1
HABR			*e**SP	**sP**	**15 23 38.9 +0.2**
HABR			*e*PPP	PPP	15 26 01.3

HABR				*e*S	**S**	**15 30 12.7**	**-0.7**
HABR				*e*		15 32 08.1	
HABR				*e*SS	**SS**	**15 34 01.5**	**-0.6**
HABR				pmax	pmax		
	comp=N,17nm,0.9s						
HABR				pmax	pmax		
	comp=E,15nm,1.8s						
HABR				pmax	pmax		
	comp=Z,58nm,0.9s						
HABR				MLR	MLR		
	comp=Z,86nm,17.0s						
DANN	**Dangsing**	**55.86**	**311**	*e*P	**P**	**15 22 40.7**	**+0.1**
KLR	**Kul'dur**	**56.38**	**3**	*e*P	P	15 22 39.8	-3.8
KLR				*e*		15 30 15.5	
KLR				pmax	pmax		
	comp=Z,120nm,1.8s						
HIA	**Hailar**	**56.87**	**353**	*e*P	**P**	**15 22 47.6**	**+0.6**
HIA				pmax	pmax		
	comp=Z,104nm,1.6s						
HIA				MLR	MLR		
	comp=Z,162nm,22.0s						
HIA	**Hailar**	**56.87**	**353**	*e*P	**P**	**15 22 47.6**	**+0.6**
	comp=Z,104nm,1.6s						
HIA				LR	LR		
	comp=Z,162nm,22.0s						
ULN	**Ulaanbaatar**	**58.12**	**343***c*	*i*P	**P**	**15 22 56.9**	**+0.9**
ULN				pmax	pmax		
	comp=Z,181nm,1.1s						
ULN	**Ulaanbaatar**	**58.12**	**343**	P	**P**	**15 22 57.4**	**+1.5**
	SNR=94						
ULN	**Ulaanbaatar**	**58.12**	**343**	*e*P	**P**	**15 22 57.2**	**+1.2**
	comp=Z,321nm,1.3s						
ULN				LR	LR		
	comp=Z,164nm,21.0s						
SONM	**Songino Array**	**58.29**	**343**	P	**P**	**15 22 58.0**	**+0.9**
	comp=Z,114nm,0.9s,baz=165,slow=6.4,SNR=344						
SONM				ScP	**ScP**	**15 27 30.9**	**+0.7**
	comp=Z,2.9nm,1.0s,baz=155,slow=4.0,SNR=3.5						
AFI	**Afiamalu**	**58.95**	**102**	*e*P	**P**	**15 23 03.8**	**+1.6**
AFI				pmax	pmax		
	comp=Z,407nm,1.1s						
AFI	**Afiamalu**	**58.95**	**102**	*e*P	**P**	**15 23 03.8**	**+1.6**
	comp=Z,406nm,1.1s						
CASY	**Casey**	**60.16**	**188**	*e*P	**P**	**15 23 10.5**	**+1.0**
	comp=Z,31nm,0.8s						
CASY				LR	LR		
	comp=Z,271nm,20.0s						
CIT	**Chita**	**60.48**	**349**	*e*P	**P**	**15 23 12.2**	**+0.3**
CIT				*e*		15 23 50.4	
CIT				pmax	pmax		
	comp=Z,127nm,1.7s						
ZAK	**Zakamensk**	**61.49**	**342**⇓	*i*P	**P**	**15 23 19.1**	**+0.2**
ZAK				*e*		15 31 22.4	
ZAK				pmax	pmax		
	comp=Z,42nm,2.1s						
SMLA	**Simla**	**62.20**	**311**	*i*P	**P**	**15 23 24.2**	**+0.4**
SMLA				*i*S	S	15 31 23.4	-12
SMLA				*i*S	S	15 31 30.0	-5.7
SKR	**Severo-Kuril's**	**62.52**	**19**	*e*P	P	15 23 18.0	-7.5
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SDNR	**Sundarnagar**	**62.53**	**311**	*e*x	**P**	**15 23 27.0**	**+0.9**
TLY	**Talaya**	**62.53**	**343**	P	**P**	**15 23 26.5**	**+0.9**
	comp=Z,342nm,0.5s,SNR=27						
TLY	**Talaya**	**62.53**	**343***c*	*i*P	**P**	**15 23 26.8**	**+1.2**
TLY				*e*		15 24 23.7	
TLY				pmax	pmax		
	comp=Z,30nm,0.6s						
TLY	**Talaya**	**62.53**	**343**	P	**P**	**15 23 27.2**	**+1.6**
	SNR=30						
TLY	**Talaya**	**62.53**	**343**	P	**P**	**15 23 27.0**	**+1.4**
	comp=Z,29nm,0.6s,baz=183,slow=5.4,SNR=61						
TLY	**Talaya**	**62.53**	**343**	*e*P	**P**	**15 23 27.0**	**+1.4**
	comp=Z,232nm,1.8s						
TLY				LR	LR		
	comp=Z,172nm,20.0s						
IRK	**Irkutsk**	**62.85**	**344**	*e*P	**P**	**15 23 28.0**	**+0.3**
IRK				pmax	pmax		
	comp=Z,30nm,1.2s						
WMQ	**Urumqi**	**62.86**	**328**	P	**P**	**15 23 29.0**	**+0.9**
WMQ				PcP	**PcP**	**15 24 06.0**	**+1.3**
WMQ				pP	**pP**	**15 24 11.8**	**+3.0**
WMQ				sP	**sP**	**15 24 29.0**	**+1.3**
WMQ				PP	**PP**	**15 25 47.8**	**-0.9**
WMQ				S	**S**	**15 31 42.8**	**-1.0**
WMQ				sS	**sS**	**15 32 53.8**	**-0.8**
WMQ				ScS	**SKSac**	**15 33 00.0**	**-3.8**
WMQ				SS	**SS**	**15 35 52.3**	**-0.1**
WMQ				PMZ			
	comp=Z,240nm,1.0s						
WMQ				PMZ			
	comp=Z,340nm,3.5s						
WMQ				LN			
	comp=Z,510nm,17.0s						
WMQ				LE			
	comp=Z,300nm,18.0s						
WMQ				LZ			
	comp=Z,230nm,24.0s						
BHK	**Bhakra**	**62.90**	**311**	*e*x	**P**	**15 23 30.0**	**+1.5**
MOY	**Mondy**	**63.33**	**341**	*e*P	**P**	**15 23 32.3**	**+1.3**
MOY				pmax	pmax		
	comp=Z,227nm,3.6s						
CLNS	**Chul'man**	**64.00**	**358**	*e*P	**P**	**15 23 35.8**	**+0.6**
CLNS				pmax	pmax		
	comp=Z,29nm,0.8s						
CLNS				pmax	pmax		
	comp=N,15nm,0.8s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
PEA0	**Petropavlovsk-**	**65.10**	**19**	*e*P	**P**	**15 23 42.5**	**+0.1**
PETK	**Petropavlovsk-**	**65.10**	**19**	P	**P**	**15 23 43.2**	**+0.8**
	comp=E,135nm,0.6s,baz=181,slow=3.9,SNR=494						
PETK				LR	LR	15 55 01.1	
	comp=E,20nm,18.9s,baz=209,slow=38						
PET	**Petropavlovsk**	**65.34**	**20**⇑	*i*P	**P**	**15 23 44.1**	**+0.2**
PET				pmax	pmax		
	comp=Z,149nm,1.1s						
PET	**Petropavlovsk**	**65.34**	**20**	*e*P	**P**	**15 23 44.6**	**+0.7**
	comp=Z,184nm,1.2s						
HVS	**Khovu-Aksy**	**65.49**	**337***c*	*i*P	**P**	**15 23 45.7**	**+0.7**
HVS				pmax	pmax		
	comp=Z,1μm,1.4s						
BOD	**Bodaibo**	**65.98**	**352**⇓	*i*P	**P**	**15 23 47.9**	**0.0**
BOD				pmax	pmax		
	comp=Z,57nm,0.7s						
PDGK	**Podgornoye**	**67.16**	**323**	P	**P**	**15 23 55.9**	**+0.3**
KSH	**Kashi**	**67.26**	**318**⇑	*i*P	**P**	**15 23 57.5**	**+0.9**
KSH				pP	**pP**	**15 24 38.3**	**+0.4**
KSH				PP	**PP**	**15 26 28.5**	**+1.3**
KSH				S	**S**	**15 32 32.3**	**-5.4**
KSH				PMZ			
	comp=Z,56nm,0.9s						
KSH				PMZ			
	comp=Z,300nm,2.8s						
KSH				LN			
	comp=Z,130nm,4.5s						
KSH				LE			
	comp=Z,85nm,6.8s						
KSH				LZ			
	comp=Z,170nm,11.7s						
MK31	**Makanchi Array**	**67.69**	**328**	P	**P**	**15 23 59.4**	**+0.4**
MK31				pmax	pmax		
	comp=Z,193nm,0.8s						
MK31	**Makanchi Array**	**67.69**	**328**⇑	*i*P	**P**	**15 23 59.8**	**+0.8**
MKAR	**Makanchi Array**	**67.69**	**328**	P	**P**	**15 23 59.9**	**+0.9**
	comp=Z,74nm,0.5s,baz=118,slow=8.2,SNR=1152						
MKAR				S	**S**	**15 32 41.9**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=138,slow=6.1,SNR=3.4						
MKAR				PKP2bc		15 52 19.2	
	comp=Z,0.3nm,0.8s,baz=336,slow=3.2,SNR=3.3						
ULHL	**Ulahol**	**68.53**	**321**	P	**P**	**15 24 05.6**	**+1.1**
	SNR=16						
ULHL	**Ulahol**	**68.53**	**321**	*i*P	**P**	**15 24 05.6**	**+1.1**
KZA	**Kyzart**	**69.06**	**320**	P	**P**	**15 24 09.7**	**+1.5**
	SNR=123						
KZA	**Kyzart**	**69.06**	**320**	*i*P	**P**	**15 24 09.6**	**+1.5**
YAK	**Yakutsk**	**69.15**	**1***c*	*i*P	**P**	**15 24 07.7**	**+0.1**
YAK				*e*		15 24 27.8	
YAK				*e**PP	**pP**	**15 24 46.5**	**-2.7**
YAK				*e*		15 26 40.7	
YAK				*e*S	**S**	**15 32 57.0**	**-1.9**
YAK				*e*		15 33 48.3	
YAK				*e*SS	**SS**	**15 37 26.1**	**-2.9**
YAK				pmax	pmax		
	comp=Z,247nm,0.9s						
YAK				pmax	pmax		
	comp=N,63nm,1.0s						
YAK				pmax	pmax		
	comp=E,27nm,0.9s						
YAK				pmax	pmax		
	comp=Z,17nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,11nm,1.0s						
YAK				smax	smax		
	comp=N,78nm,1.8s						
YAK				smax	smax		
	comp=E,80nm,2.3s						
YAK	**Yakutsk**	**69.15**	**1**	P	**P**	**15 24 07.8**	**+0.1**
	comp=E,112nm,0.5s,baz=359,slow=1.2,SNR=142						
YAK	**Yakutsk**	**69.15**	**1**	*e*P	**P**	**15 24 07.9**	**+0.2**
	comp=E,257nm,0.8s						
YAK				LR	LR		
	comp=Z,166nm,21.0s						
TKM2	**Tokmak 2**	**69.29**	**321**	P	**P**	**15 24 10.1**	**+0.8**
	SNR=12						
TKM2	**Tokmak 2**	**69.29**	**321**	P	**P**	**15 24 09.9**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,121nm,1.1s						
TKM2	**Tokmak 2**	**69.29**	**321**	*e*P	**P**	**15 24 10.3**	**+1.0**
	comp=Z,102nm,0.9s						
TKM2				LR	LR		
	comp=Z,253nm,19.0s						
KBK	**Karagaybulak**	**69.56**	**321**	P	**P**	**15 24 12.2**	**+1.3**
	SNR=59						
KBK	**Karagaybulak**	**69.56**	**321**	*i*P	**P**	**15 24 12.2**	**+1.3**
UCH	**Uchtor**	**69.61**	**320**	P	**P**	**15 24 12.8**	**+1.2**
	SNR=108						
UCH	**Uchtor**	**69.61**	**320**	*i*P	**P**	**15 24 12.7**	**+1.2**
KRAR	**Krasnoyarsk**	**69.63**	**340**	*e*P	**P**	**15 24 11.5**	**+0.8**
KRAR				pmax	pmax		
	comp=Z,15nm,0.8s						
MRIV	**Mauritius Mete**	**69.71**	**251**	*e*P	**P**	**15 24 13.1**	**+1.0**
AAK	**Ala-Archa**	**69.83**	**321**	P	**P**	**15 24 13.0**	**+0.5**
	comp=Z,728nm,1.1s						
AAK	**Ala-Archa**	**69.83**	**321**	P	**P**	**15 24 13.9**	**+1.3**
	SNR=128						
AAK	**Ala-Archa**	**69.83**	**321**	P	**P**	**15 24 12.5**	**0.0**
AAK				pmax	pmax		
	comp=Z,174nm,1.3s						
AAK	**Ala-Archa**	**69.83**	**321**	P	**P**	**15 24 14.1**	**+1.6**
	SNR=84						
AAK	**Ala-Archa**	**69.83**	**321**	P	**P**	**15 24 13.8**	**+1.3**
	comp=Z,90nm,0.9s,baz=120,slow=5.3,SNR=246						
AAK				LR	LR	15 55 55.8	
	comp=Z,141nm,21.9s,baz=142,slow=37						
AAK	**Ala-Archa**	**69.83**	**321**	*e*P	**P**	**15 24 13.8**	**+1.3**
	comp=Z,163nm,1.1s						
KBL	**Kabul**	**69.84**	**311**	*e*P	**P**	**15 24 12.9**	**+0.1**
KBL				pmax	pmax		
	comp=Z,31nm,0.8s						
KBL	**Kabul**	**69.84**	**311**	*e*P	**P**	**15 24 12.9**	**+0.1**
	comp=Z,31nm,0.8s						
FRU	**Bishkek**	**69.86**	**321**⇑	*i*P	**P**	**15 24 14.0**	**+1.5**
FRU				*e*		15 24 36.5	
FRU				pmax	pmax		
	comp=Z,190nm,1.8s						
CHMS	**Chumysh**	**69.86**	**321**	P	**P**	**15 24 13.2**	**+0.7**
	SNR=33						
CHMS	**Chumysh**	**69.86**	**321**	*i*P	**P**	**15 24 13.2**	**+0.7**
AML	**Almayashu**	**70.08**	**320**	P	**P**	**15 24 16.2**	**+1.9**
	SNR=8.3						
AML	**Almayashu**	**70.08**	**320**	*i*P	**P**	**15 24 16.2**	**+1.9**
USP	**Ospenovka**	**70.16**	**321**	P	**P**	**15 24 15.5**	**+1.1**
	SNR=115						
USP	**Ospenovka**	**70.16**	**321**	*i*P	**P**	**15 24 15.4**	**+1.1**
EKS2	**Erkin-Say**	**70.30**	**320**	P	**P**	**15 24 16.8**	**+1.5**
	SNR=126						
EKS2	**Erkin-Say**	**70.30**	**320**	*e*P	**P**	**15 24 16.8**	**+1.5**
EKS2				pmax	pmax		
	comp=Z,172nm,1.0s						
EKS2				MLR	MLR		
	comp=Z,169nm,22.0s						
EKS2	**Erkin-Say**	**70.30**	**320**	*e*P	**P**	**15 24 16.8**	**+1.5**
	comp=Z,172nm,1.0s						
EKS2				LR	LR		
	comp=Z,169nm,22.0s						
RAR	**Rarotonga**	**70.38**	**110**	PFAKE		15 24 30.0	+14
RAR				LR	LR		
	comp=Z,3.0nm,21.0s						
FX1	**Attu Island--F**	**70.92**	**27**	P	**P**	**15 24 19.6**	**+0.9**
FX1				pmax	pmax		
	comp=Z,39nm,0.6s						
FX1	**Attu Island--F**	**70.92**	**27**	P	**P**	**15 24 19.6**	**+0.9**
	comp=Z,39nm,0.6s,baz=308,slow=3.6,SNR=18						
FX1	**Attu Island--F**	**70.92**	**27**	*e*P	**P**	**15 24 19.8**	**+1.1**
ZAA0	**Zalesovo Array**	**71.22**	**334**	*e*P	**P**	**15 24 19.2**	**-1.2**
ZAA0				*e*pP	**pP**	**15 24 60.0**	**-2.2**
ZALV	**Zalesovo Beam**	**71.22**	**334**	P	**P**	**15 24 20.3**	**-0.1**
	comp=Z,89nm,0.6s,baz=130,slow=5.4,SNR=410						
ZALV				S	**S**	**15 33 19.7**	**-3.6**
	comp=Z,1.8nm,0.7s,baz=144,slow=10.0,SNR=6.5						
KURBB	**Kurchatov Arra**	**72.01**	**329**	P	**P**	**15 24 25.9**	**+0.7**
	comp=Z,111nm,0.6s,baz=128,slow=4.9,SNR=1281						
KURBB				S	**S**	**15 33 32.0**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=106,slow=28,SNR=4.7						
KURK	**Kurchatov**	**72.02**	**329**	P	**P**	**15 24 26.3**	**+1.0**
	comp=Z,857nm,1.1s						
KURK	**Kurchatov**	**72.02**	**329**	*e*P	**P**	**15 24 26.0**	**+0.7**
KURK				S	**S**	**15 33 32.1**	**-0.5**
KURK				pmax	pmax		
	comp=Z,221nm,1.2s						
KURK				MLR	MLR		
	comp=Z,74nm,19.0s						
KURK	**Kurchatov**	**72.02**	**329**	P	**P**	**15 24 26.2**	**+1.0**
	SNR=158						
KURK	**Kurchatov**	**72.02**	**329**	*e*P	**P**	**15 24 26.0**	**+0.7**
	comp=Z,221nm,1.2s						
KURK				S	**S**	**15 33 32.0**	**-0.5**
KURK				LR	LR		
	comp=Z,74nm,19.0s						
VNDA	**Vanda**	**72.31**	**173**	P	**P**	**15 24 27.2**	**+0.6**
VNDA				S	**S**	**15 33 33.8**	**-1.4**
VNDA				pmax	pmax		
	comp=Z,16nm,0.7s						
VNDA				smax	smax		
	comp=N,1.0nm,0.8s						
VNDA	**Vanda**	**72.31**	**173**	P	**P**	**15 24 27.2**	**+0.6**
	comp=N,16nm,0.7s,baz=319,slow=6.4,SNR=90						
VNDA				S	**S**	**15 33 33.8**	**-1.4**
	comp=N,1.0nm,0.8s,baz=273,slow=13,SNR=5.6						
VNDA	**Vanda**	**72.31**	**173**	*e*P	**P**	**15 24 27.3**	**+0.6**
	comp=N,22nm,0.9s						
VNDA				S	**S**	**15 33 33.8**	**-1.4**
SEY	**Seymchan**	**72.40**	**11**	P	**P**	**15 24 28.2**	**+1.0**
	comp=N,103nm,0.6s,baz=202,slow=4.8,SNR=594						
SEY				S	**S**	**15 33 36.6**	**+0.1**
	comp=N,0.3nm,0.5s,baz=217,slow=5.1,SNR=4.2						
NVS	**Novosibirsk**	**72.51**	**334**⇑	*i*P	**P**	**15 24 28.0**	**-0.1**
NVS				*i*		15 25 21.4	
NVS				*e*		15 28 50.8	
NVS				*i*S	S	15 33 31.9	-6.0
NVS				pmax	pmax		
	comp=N,110nm,1.7s						
NVS				pmax	pmax		
	comp=E,119nm,1.7s						
NVS				pmax	pmax		
	comp=Z,194nm,1.7s						
NVS				smax	smax		
	comp=N,25nm,2.1s						
NVS				smax	smax		
	comp=E,44nm,1.8s						
KK31	**Karatay Array**	**72.61**	**319**	*i*P	**P**	**15 24 29.2**	**+0.2**
KK31				pmax	pmax		
	comp=Z,171nm,1.2s						
KKAR	**Karatay Array**	**72.61**	**319**	*e*P	**P**	**15 24 29.6**	**+0.6**
KKAR	**Karatay Array**	**72.61**	**319**	*e*P	**P**	**15 24 29.6**	**+0.6**
SBA	**Scott Base**	**73.22**	**172**	*e*P	**P**	**15 24 33.6**	**+1.6**
SBA				pmax	pmax		
	comp=Z,16nm,0.8s						
SBA	**Scott Base**	**73.22**	**172**	*e*P	**P**	**15 24 33.6**	**+1.6**
	comp=Z,16nm,0.8s						
OTUK	**Ortayu**	**74.03**	**325**	P	**P**	**15 24 38.1**	**+0.9**
MAW	**Mawson**	**74.11**	**201**	P	**P**	**15 24 38.3**	**+1.0**
	comp=Z,43nm,1.0s,baz=100,slow=9.0,SNR=5.9						
MAW				LR	LR	15 55 25.5	
	comp=Z,94nm,19.7s,baz=60,slow=34						
WBK	**Wadi Bani Khal**	**74.20**	**296**	P	**P**	**15 24 39.2**	**+0.4**
	SNR=12						
JMDO	**Jabal Madar**	**74.92**	**295**	P	**P**	**15 24 43.5**	**+0.7**
	SNR=10						
SMDO	**Samad**	**75.14**	**296**	P	**P**	**15 24 44.4**	**+0.1**
	SNR=17						
ADK	**Adak**	**75.23**	**32**	*e*P	**P**	**15 24 44.1**	**+0.1**
ADK	**Adak**	**75.23**	**32**	*e*P	**P**	**15 24 44.1**	**+0.1**
BSY	**Bisya**	**75.82**	**296**	P	**P**	**15 24 47.7**	**-0.3**
	SNR=17						
HOQ	**Hoqain**	**75.93**	**296**	P	**P**	**15 24 49.0**	**+0.4**
	SNR=29						
IDAH	**Dahanechah**	**76.32**	**306**	*e*P	**P**	**15 24 52.4**	**+1.4**
ARQ	**Araqi**	**76.57**	**296**	P	**P**	**15 24 53.4**	**+1.1**
	SNR=9.7						
IKOO	**Kooshah**	**76.92**	**306**	*e*P	**P**	**15 24 55.4**	**+1.1**
UOSS	**Wadi Hilu**	**77.25**	**298**	P	**P**	**15 24 56.0**	**0.0**
	comp=Z,249nm,0.8s,SNR=8.4						
ITEG	**Tejag**	**77.27**	**306**	*e*P	**P**	**15 24 57.7**	**+1.6**
HATD	**Hatta, Dubai**	**77.28**	**297**	P	**P**	**15 24 56.2**	**0.0**
	SNR=9.2						
HATD	**Hatta, Dubai**	**77.28**	**297**	*i*P	**P**	**15 24 56.2**	**0.0**
	SNR=8.4						
IMYA	**Miami**	**77.28**	**310**	*e*P	**P**	**15 24 57.0**	**+0.8**
ASHO	**Ashiyiah**	**77.31**	**297**	P	**P**	**15 24 57.2**	**+0.9**
	SNR=9.9						
ASHO	**Ashiyiah**	**77.31**	**297**⇓	*i*P	**P**	**15 24 56.2**	**-0.2**
	SNR=21						
RBK	**Rabkut**	**77.39**	**290**	P	**P**	**15 24 56.7**	**-0.3**
	SNR=5.6						
BANOM	**Banah**	**77.41**	**299**	P	**P**	**15 24 57.9**	**+1.0**
	SNR=5.8						
BANOM	**Banah**	**77.41**	**299**	*i*P	**P**	**15 24 58.4**	**+1.5**
	SNR=12						
BVA0	**Borovoye Array**	**77.55**	**328**	*i*P	**P**	**15 24 56.8**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,138nm,1.2s						
BRVK	**Borovoye**	**77.62**	**328**	P	**P**	**15 24 57.8**	**+0.4**
	comp=Z,599nm,1.1s,SNR=63						
NAZ	**Nazwa, Dubai**	**77.73**	**297**	P	**P**	**15 24 59.2**	**+0.6**
	SNR=5.7						
NAZ	**Nazwa, Dubai**	**77.73**	**297**⇑	*i*P	**P**	**15 24 58.4**	**-0.2**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**77.74**	**297**	*i*P	**P**	**15 24 58.4**	**-0.3**
	SNR=31						
ISRO	**Mashad**	**77.75**	**309**	*e*P	**P**	**15 24 59.5**	**+0.8**
IMOG	**Moghan**	**77.79**	**309**	*e*P	**P**	**15 24 59.1**	**0.0**
ASUD	**Al Ashush, Dub**	**77.94**	**297**⇑	*i*P	**P**	**15 24 60.0**	**+0.2**
	SNR=16						
IPAY	**Payeh**	**78.16**	**309**	*e*P	**P**	**15 25 01.5**	**+0.4**
ABTO	**Aybut**	**78.20**	**289**	P	**P**	**15 25 01.4**	**-0.1**
	SNR=6.2						
IAKL	**Akhelmad**	**78.39**	**310**	*e*P	**P**	**15 25 02.6**	**+0.2**
IKRD	**Kardeh**	**78.63**	**310**	*e*P	**P**	**15 25 00.9**	**-2.7**
TIXI	**Tiksi**	**78.81**	**0***c*	*i*P	**P**	**15 25 02.4**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,70nm,1.0s						
TIXI	**Tiksi**	**78.81**	**0**	*e*P	**P**	**15 25 02.7**	**-0.8**
	comp=Z,64nm,0.6s						
TIXI				LR	LR		
	comp=Z,149nm,22.0s						
ISFR	**Sfrayin**	**79.11**	**310**	*e*P	**P**	**15 25 07.0**	**+0.7**
ABKT	**Ailbek**	**79.29**	**311**	P	**P**	**15 25 07.4**	**+0.4**
	comp=Z,191nm,1.1s,SNR=10						
GEYT	**Alibeck**	**79.29**	**311**	P	**P**	**15 25 07.6**	**+0.6**
	comp=Z,20nm,0.9s,baz=151,slow=3.4,SNR=40						
GEYT				LR	LR	16 05 34.9	
	comp=Z,55nm,19.6s,baz=85,slow=40						
ABPO	**Ambohimpanom**	**79.43**	**252**	*e*P	**P**	**15 25 08.7**	**+0.4**
ABPO				pmax	pmax		
	comp=Z,43nm,1.4s						
ABPO	**Ambohimpanom**	**79.43**	**252**	*e*P	**P**	**15 25 08.7**	**+0.4**
	comp=Z,43nm,1.4s						
IBAF	**Bafgh**	**79.49**	**304**	*e*P	**P**	**15 25 08.2**	**-0.1**
OPO	**Ambohidratompo**	**79.50**	**252**	P	**P**	**15 25 09.6**	**+0.9**
	comp=Z,14nm,0.8s,baz=104,slow=4.9,SNR=12						
BILL	**Bilibino**	**79.77**	**14***c*	*i*P	**P**	**15 25 08.7**	**-0.1**
BILL				*e*		15 28 20.1	
BILL				*e*PPP	PPP	15 29 58.4	
BILL				*e*S	**S**	**15 34 54.0**	**-2.8**
BILL				pmax	pmax		
	comp=Z,13nm,1.3s						
BILL	**Bilibino**	**79.77**	**14**	*e*P	**P**	**15 25 08.3**	**-0.5**
	comp=Z,9.3nm,0.6s						
TBI	**Tubuai**	**79.86**	**112**	*e*S	**S**	**15 34 55.3**	**-4.2**
	comp=Z,111nm,29.5s						
TBI	**Tubuai**	**79.86**	**112**	*e*LR	LR	15 50 18.2	
	comp=Z,128nm,27.8s						
PPT2	**Papeete2**	**80.16**	**107**	*e*S	S	15 34 56.8	-6.2
	comp=Z,186nm,35.5s						
IMEH	**Mehriz**	**80.22**	**304**	*e*P	**P**	**15 25 12.2**	**-0.2**
ICHK	**Chekchek**	**80.61**	**304**	*e*P	**P**	**15 25 14.0**	**-0.4**
ISRV	**Sarvestan**	**80.99**	**301**	*e*P	**P**	**15 25 16.1**	**-0.5**
ISAD	**Sadrabad**	**81.12**	**304**	*e*P	**P**	**15 25 17.1**	**-0.1**
IPAR	**Pars**	**81.15**	**302**	*e*P	**P**	**15 25 18.1**	**+0.6**
UNV	**Unalaska Valle**	**81.58**	**33**	*e*P	**P**	**15 25 19.3**	**+0.6**
	comp=Z,447nm,2.6s						
IANJ	**Anjilo**	**81.83**	**307**	*e*P	**P**	**15 25 20.7**	**-0.1**
AB31	**Akbulak array**	**81.84**	**322**	*i*P	**P**	**15 25 19.9**	**-0.3**
AB31				pmax	pmax		
	comp=Z,53nm,0.8s						
ABKAR	**Akbulak array**	**81.84**	**322**	*e*P	**P**	**15 25 20.1**	**-0.1**
IKAZ	**Kazeroun**	**82.16**	**301**	*e*P	**P**	**15 25 21.7**	**-1.0**
IGLO	**Ghaloghah**	**82.16**	**308**	*e*P	**P**	**15 25 22.9**	**+0.4**
ILAS	**Lasjerd**	**82.56**	**307**	*e*P	**P**	**15 25 24.5**	**-0.2**
QSPA	**South Pole Qui**	**82.66**	**180**	P	**P**	**15 25 24.5**	**+0.2**
	comp=Z,31nm,0.7s,baz=306,slow=1.0,SNR=141						
QSPA	**South Pole Qui**	**82.66**	**180**	*e*P	**P**	**15 25 24.6**	**+0.2**
	comp=Z,27nm,0.7s						
SYO	**Syowa Base**	**82.82**	**201**⇓	*e*P	**P**	**15 25 24.0**	**-1.0**
SYO	**Syowa Base**	**82.82**	**201**⇓	*e*P	**P**	**15 25 24.8**	**-0.2**
IKLH	**Kolahrood**	**83.18**	**305**	*e*P	**P**	**15 25 28.5**	**+0.7**
IPRN	**Peran**	**83.26**	**308**	*e*P	**P**	**15 25 27.5**	**-0.5**
IDMV	**Damavand**	**83.34**	**307**	*e*P	**P**	**15 25 28.4**	**-0.3**
AKTO	**Aktyubinsk**	**83.42**	**323**	P	**P**	**15 25 28.8**	**+0.4**
	comp=Z,75nm,0.8s,baz=109,slow=6.3,SNR=198						
IVRN	**Varamin**	**83.45**	**306**	*e*P	**P**	**15 25 29.6**	**+0.6**
IPIR	**Pirpir**	**83.60**	**304**	*e*P	**P**	**15 25 28.6**	**-1.4**
GAMB	**Gambell**	**83.79**	**23**	*e*P	**P**	**15 25 30.8**	**+0.9**
	comp=Z,71nm,0.8s						
IR3	**Iran Long-Peri**	**84.12**	**307**	*e*P	**P**	**15 25 33.1**	**+0.7**
SVE	**Sverdlovsk**	**84.28**	**329***d*	*i*P	**P**	**15 25 33.0**	**+0.5**
SVE				pmax	pmax		
	comp=Z,200nm,1.3s						
IRAZ	**Razeghan**	**84.98**	**307**	*e*P	**P**	**15 25 37.2**	**+0.3**
ARU	**Arti**	**85.19**	**328**	P	**P**	**15 25 36.6**	**-0.5**
	comp=Z,607nm,

RSO Redoubt South 90.81 29 eP P 15 26 06.0 +1.9
ZEI Tsey 90.97 313 eP P 15 26 04.2 -1.0
ZEI pmax pmax
comp=Z,45nm,1.3s
KMBO Kilima Mbogo 91.09 269 i P P 15 26 07.5 +1.0
KMBO pmax pmax
comp=Z,5.0nm,0.6s
KMBO Kilima Mbogo 91.09 269 P P 15 26 07.4 +0.9
SNR=6.5
KMBO Kilima Mbogo 91.09 269 P P 15 26 07.3 +0.9
comp=Z,4.1nm,0.5s,baz=63,slow=5.0,SNR=15
ONI Oni 91.27 313 P P 15 26 07.1 +0.7
PPLA Purkeypile 91.62 27 eP P 15 26 07.6 -0.1
comp=Z,120nm,1.9s
IM04 Indian Mountai 91.67 24 eP P 15 26 07.3 -0.4
KBZ Khabaz 91.84 314 P P 15 26 09.0 +0.1
KBZ Khabaz 91.84 314 P P 15 26 08.9 +0.1
comp=Z,10nm,1.0s,baz=168,slow=1.5,SNR=11
GOF Gofitskoye 91.93 315 eP P 15 26 09.7 +0.4
KIV Kislovodsk 92.02 314 eP P 15 26 09.6 -0.3
KIV e 15 29 50.6
KIV e 15 36 25.0
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,49nm,19.0s
KIV Kislovodsk 92.02 314 eP P 15 26 09.8 -0.1
comp=Z,16nm,1.1s
KIV LR LR
comp=Z,71nm,20.0s
KTH Kantishna Hill 92.32 26 eP P 15 26 10.4 -0.5
comp=Z,33nm,1.0s
RC01 Rabbit Creek A 92.39 29 eP P 15 26 10.8 -0.3
comp=Z,23nm,0.9s
TRF Thorofare Moun 92.58 26 eP P 15 26 11.4 -0.7
comp=Z,28nm,1.2s
PMR Palmer 92.76 28 eP P 15 26 11.5 -1.2
PMR pmax pmax
comp=Z,33nm,1.1s
PMR Palmer 92.76 28 eP P 15 26 11.5 -1.2
comp=Z,32nm,1.1s
PRGR Permogore 93.01 332 P P 15 26 10.6 -3.3
PRGR e 15 29 56.0
PRGR eS SKSac 15 36 27.3 -3.7
PRGR pmax pmax
comp=Z,15nm,1.1s
MCK McKinley 93.23 26 eP P 15 26 13.9 -1.0
MCK pmax pmax
comp=Z,41nm,1.0s
MCK McKinley 93.23 26 eP P 15 26 13.9 -1.0
comp=Z,41nm,1.0s
COLD Coldfoot 93.34 23 eP P 15 26 15.6 +0.3
comp=Z,35nm,1.2s
VRHR Novokhopersk 93.68 321 eP P 15 26 15.4 -1.8
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,20nm,1.0s
VRHR pmax pmax
comp=Z,30nm,1.0s
COLA College 93.88 25 eP P 15 26 16.5 -1.3
COLA pmax pmax
comp=Z,52nm,1.3s
COLA College 93.88 25 eP P 15 26 17.4 -0.5
IL1 Eielson Array 94.27 25 eP P 15 26 17.4 -2.2
ILAR Eielson Array 94.27 25 P P 15 26 17.9 -1.8
comp=Z,7.4nm,0.8s,baz=270,slow=4.3,SNR=24
ILAR PP PP 15 30 01.4 -7.6
comp=Z,2.9nm,1.1s,baz=260,slow=7.4,SNR=5.0
ILAR PKKPbc PKKPdf 15 43 20.1 -1.2
comp=Z,1.3nm,0.8s,baz=40,slow=1.4,SNR=15
DIV Divide 94.29 29 eP P 15 26 20.4 +0.5
comp=Z,33nm,0.8s
MALT Malatya 94.54 308 ⇓P P 15 26 20.8 -0.9
MALT Malatya 94.54 308 ⇓/P P 15 26 20.8 -0.9
PAX Paxson 94.66 27 eP P 15 26 21.4 -0.2
PAX pmax pmax
comp=Z,22nm,0.8s
PAX Paxson 94.66 27 eP P 15 26 21.4 -0.2
comp=Z,22nm,0.8s
BMRM Bremner River 94.84 29 eP P 15 26 22.7 +0.3
comp=Z,20nm,0.9s
SNAA Sanae 95.00 194 eP P 15 26 22.6 -0.5
SNAA pmax pmax
comp=Z,12nm,1.0s
SNAA Sanae 95.00 194 eP P 15 26 23.6 +0.5
SNAA epP pP 15 27 05.4 -1.3
VORD Divnogorie 95.13 321 eP P 15 26 22.0 -1.9
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,30nm,1.0s
VORD pmax pmax
comp=Z,30nm,1.0s
ASF Jabal al Asfar 95.20 302 P P 15 26 24.7 -0.1
comp=Z,4.4nm,0.8s,baz=71,slow=8.5,SNR=9.1
VSR Storozhevoye 95.23 321 eP P 15 26 22.8 -1.5
VSR pmax pmax
comp=E,30nm,1.1s
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,4.0nm,1.0s
DOT Dot Lake 95.37 27 eP P 15 26 24.7 0.0
comp=N,19nm,0.8s
MENT Mentasta 95.45 27 eP P 15 26 24.8 -0.4
KLMR Klimovskoe 95.84 331 eP P 15 26 23.7 -3.2
KLMR e 15 30 20.8
KLMR pmax pmax
comp=Z,20nm,1.0s
MMAI Mount Meron Ar 96.53 302 P P 15 26 31.4 +0.6
comp=Z,0.8nm,0.4s,baz=99,slow=7.7,SNR=5.5
EGAK Eagle 96.72 26 eP P 15 26 30.9 +0.1
comp=Z,13nm,1.1s
TMCR Tamitsa 96.74 334 eP P 15 26 29.3 -1.5
TMCR e 15 30 25.5
TMCR pmax pmax
comp=Z,25nm,1.1s
OBN Obninsk 97.06 325 ceP P 15 26 31.1 -1.4
OBN e 15 30 33.7
OBN eS SKSac 15 36 50.6 -2.2
OBN i SS SS 15 44 30.2 +9.3
OBN eSSS SSS 15 48 04.9
OBN pmax pmax
comp=Z,26nm,1.2s
OBN Obninsk 97.06 325 LR LR 16 13 33.7
comp=Z,54nm,21.6s,baz=88,slow=37
OBN Obninsk 97.06 325 eP P 15 26 31.5 -1.0
PTCN Pitcairn Islan 97.16 116 PFAKE 15 26 50.0 +16
PTCN LR LR
comp=Z,1µm,22.0s
LSZ Lusaka 97.94 253 eP Pdif 15 26 38.0 +0.4
LSZ pmax pmax
comp=Z,10.0nm,0.8s
LSZ Lusaka 97.94 253 P Pdif 15 26 38.0 +0.4
comp=Z,11nm,0.8s,baz=73,slow=6.2,SNR=16
LSZ Lusaka 97.94 253 eP Pdif 15 26 38.0 +0.3
comp=Z,9.7nm,0.8s
HYT Haines Junctio 98.29 30 eP Pdif 15 26 38.7 +0.5
BRTR Keskin Array B 98.36 309 i P P 15 26 38.2 -0.8
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 98.36 309 P P 15 26 38.0 -0.9
comp=Z,1.3nm,0.5s,baz=115,slow=5.9,SNR=9.1
BRTR PP PP 15 30 40.2 -1.1
comp=Z,3.0nm,1.0s,baz=92,slow=4.3,SNR=4.8
CSS Prodhromos 98.37 304 PFAKE 15 26 50.0 +11
CSS LR LR
comp=Z,22nm,19.0s
LBTB Lobatse 98.49 243 eP Pdif 15 26 40.7 +0.8
LBTB pmax pmax
comp=Z,25nm,1.2s
LBTB Lobatse 98.49 243 P Pdif 15 26 40.5 +0.6
comp=Z,9.1nm,0.9s,baz=107,slow=3.9,SNR=8.5
LBTB Lobatse 98.49 243 eP Pdif 15 26 40.7 +0.8
comp=Z,25nm,1.2s
APA Apatity 98.67 337 ⇓/P Pdif 15 26 40.0 +0.5
APA i *PP pP 15 27 22.0 -1.2
APA MLR MLR
comp=Z,500nm,20.0s
ISP Isparta 100.74 307 PFAKE 15 27 00.0 +10
ISP LR LR
comp=Z,67nm,22.0s
SUR Sutherland 100.81 235 ePdif Pdif 15 26 48.5 -1.7
ARCES ARCESS Array B 101.36 340 P Pdif 15 26 50.7 -0.8
comp=Z,16nm,1.0s,baz=82,slow=6.1,SNR=22

ARCES PP PP 15 31 00.9 -2.0
comp=Z,14nm,1.1s,baz=52,slow=9.3,SNR=3.0
ARCES PKiKP PKiKP 15 31 15.1 +0.3
comp=Z,5.1nm,0.9s,baz=109,slow=1.7,SNR=11
ARCES PKKPbc PKKPbc 15 42 59.8 -3.2
comp=Z,6.9nm,1.1s,baz=343,slow=3.8,SNR=4.0
AKASG Malin Array Be 101.50 320 i P Pdif 15 26 51.5 -1.0
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 101.50 320 P Pdif 15 26 51.0 -1.4
comp=Z,0.9nm,0.4s,baz=73,slow=4.1,SNR=8.1
AKASG PP PP 15 30 59.9 -4.6
comp=Z,2.2nm,0.5s,baz=1.4,slow=19,SNR=3.2
KIEV Kiev 101.51 320 PFAKE 15 27 00.0 +7.5
KIEV LR LR
comp=Z,115nm,19.0s
SPITS Spitsbergen Ar 101.59 349 P Pdif 15 26 52.1 -0.3
comp=Z,11nm,0.5s,baz=95,slow=9.3,SNR=55
SPITS PP PP 15 31 01.9 -2.6
comp=Z,12nm,1.0s,baz=266,slow=5.9,SNR=3.7
SPITS PKiKP PKiKP 15 31 16.2 +1.1
comp=Z,5.5nm,0.9s,baz=100,slow=3.5,SNR=3.5
DLBC Dease Lake 102.21 32 P Pdif 15 26 55.9 +0.3
comp=Z,1.6nm,0.6s,baz=292,slow=5.4,SNR=5.0
FINES FINESS Array B 102.33 331 P Pdif 15 26 54.5 -1.4
comp=Z,1.3nm,0.6s,baz=29,slow=4.4,SNR=5.5
FINES PP PP 15 31 05.2 -5.2
comp=Z,5.3nm,0.8s,baz=94,slow=8.4,SNR=3.9
FINES PKiKP PKiKP 15 31 16.4 -0.3
comp=Z,9.5nm,1.1s,baz=74,slow=6.8,SNR=6.1
CFR Carcaliu 102.46 315 ⇓P Pdif 15 26 56.3 -0.5
CFR Carcaliu 102.46 315 ⇓/P Pdif 15 26 56.3 -0.5
TLB Topalu 102.55 314 ⇓P Pdif 15 26 55.8 -1.4
TLB Topalu 102.55 314 ⇓/P Pdif 15 26 55.8 -1.4
VRI Vrincioaia 103.41 315 ⇓P Pdif 15 27 01.2 +0.1
VRI Vrincioaia 103.41 315 ⇓/P Pdif 15 27 01.2 +0.1
TESR Tescani 103.43 316 ⇑/P Pdif 15 27 00.5 -0.7
PLOR Plostina 103.47 315 ⇑P Pdif 15 27 01.3 -0.1
PLOR Plostina 103.47 315 ⇑/P Pdif 15 27 01.3 -0.1
MLR Muntele Rosu 103.98 315 ⇓P Pdif 15 27 02.6 -1.2
MLR Muntele Rosu 103.98 315 ⇓/P Pdif 15 27 02.6 -1.2
MLR Muntele Rosu 103.98 315 Pdiff Pdif 15 27 03.2 -0.7
comp=Z,0.7nm,0.8s,baz=70,slow=9.5,SNR=4.8
MLR PKiKP PKiKP 15 31 19.5 -0.9
comp=Z,2.8nm,1.0s,baz=104,slow=6.0,SNR=3.5
BURAR Bucovina Array 104.32 317 ⇓P Pdif 15 27 05.6 +0.3
BURAR Bucovina Array 104.32 317 ⇓/P Pdif 15 27 05.6 +0.3
SANT Santorini 104.80 306 PFAKE 15 27 20.0 +12
SANT LR LR
comp=Z,145nm,19.0s
LOT Lotru 105.51 315 ⇑/P Pdif 15 27 10.2 -0.4
KOLS Kolonicke sedl 106.14 319 eP Pdif 15 27 16.6 +3.4
KOLS Kolonicke sedl 106.14 319 PDIF Pdif 15 27 16.5 +3.4
GZR Gura Zlata 106.21 315 ⇓P Pdif 15 27 13.4 -0.3
GZR Gura Zlata 106.21 315 ⇓/P Pdif 15 27 13.4 -0.3
BZS Buzias 107.00 315 ⇑P Pdif 15 27 10.3 -6.8
BZS Buzias 107.00 315 ⇑/P Pdif 15 27 10.3 -6.8
TSUM Tsumeb 107.05 247 PFAKE 15 31 40.0
TSUM LR LR
comp=Z,111nm,19.0s
PSZ Piszkesteto 107.85 318 PFAKE 15 31 40.0
PSZ LR LR
comp=Z,101nm,20.0s
RES Resolute Bay 108.28 11 Pdiff Pdif 15 27 22.2 +0.1
comp=Z,2.1nm,0.6s,baz=306,slow=4.7,SNR=17
RES PKiKP PKiKP 15 31 27.1 -0.3
comp=Z,2.8nm,0.7s,baz=261,slow=5.2,SNR=12
VYHS Vyhne 108.45 319 eP Pdif 15 27 28.7 +5.2
VYHS Vyhne 108.45 319 PDIF Pdif 15 27 28.7 +5.2
YKA Yellowknife Ar 108.69 26 Pdiff Pdif 15 27 24.2 0.0
comp=Z,0.8nm,0.7s,baz=292,slow=4.9,SNR=12
YKA PKiKP PKiKP 15 31 28.3 -0.1
comp=Z,3.0nm,0.7s,baz=295,slow=1.7,SNR=43
YKA PKKPbc PKKPbc 15 42 37.9 -2.6
comp=Z,1.7nm,0.7s,baz=106,slow=3.1,SNR=25
J04D Umpqua Nationa 109.09 47 ⇑PKiKP PKiKP 15 31 30.8 +0.7
baz=109
NB2 NORSAR Subarra 109.38 333 PKPdf PKiKP 15 31 29.7 -0.2
comp=Z,1.4nm,0.8s,baz=68,slow=1.9
NOA NORSAR Array B 109.38 333 Pdiff Pdif 15 27 26.9 -0.5
comp=Z,0.9nm,0.8s,baz=66,slow=4.6,SNR=3.1
NOA PKiKP PKiKP 15 31 29.7 -0.2
comp=Z,1.5nm,0.8s,baz=270,slow=3.2,SNR=6.9
KRLC Kraliky 109.47 321 ePP PP 15 32 06.7 +3.4
I05D Terrebonne, OR 109.48 46 ⇑PKiKP PKiKP 15 31 31.9 +1.3
baz=110
DPC Dobruska-Polom 109.70 321 eP Pdif 15 27 30.4 +1.4
DPC e 15 32 06.3
DPC e 15 42 27.1
DPC Dobruska-Polom 109.70 321 ePDIFF Pdif 15 27 30.4 +1.4
DPC ex x 15 28 16.6
DPC ePP PP 15 32 06.3 +1.4
DPC ePKKP PKKPbc 15 42 27.1 -10
DPC Dobruska-Polom 109.70 321 ePKiKP PKiKP 15 31 31.8 +1.0
J05D Fort Rock, OR 109.72 47 ⇑PKiKP PKiKP 15 31 32.5 +1.3
baz=110
UPC Upice 109.86 321 ePP PP 15 32 07.2 +1.2
B08A Colville Reser 110.12 41 ePdif Pdif 15 27 29.2 -1.7
TREC Trest 110.46 320 ePP PP 15 32 13.6 +3.2
PRU Pruhonice 110.90 321 ePKiKP PKKPab 15 42 41.6 -0.2
G08A Pilot Rock 110.98 44 ePKiKP PKiKP 15 31 34.9 +1.4
BRG Berggiesshubel 111.05 322 eP PKiKP 15 31 33.5 +0.3
comp=Z,4.8nm,0.8s
BRG Berggiesshubel 111.05 322 ePKiKP PKiKP 15 31 33.5 +0.3
BRG pmax pmax
comp=Z,5.0nm,0.9s
LEGS Legarje 111.29 316 ePKiKP PKiKP 15 31 34.0 +0.1
SOKA Soboth 111.33 317 ⇑/PKiKP PKiKP 15 31 34.1 0.0
comp=Z,7.2nm,1.2s
TIP Timpagrande 111.42 309 ePKiKP PKiKP 15 31 35.0 +0.6
TIP LR LR
comp=Z,81nm,21.0s
BOJS Bojanci 111.43 316 ePKiKP PKiKP 15 31 34.5 +0.3
CLL Collm 111.50 322 ePKiKP PKiKP 15 31 34.0 -0.1
CLL e 15 32 17.0
CLL Collm 111.50 322 ePKiKP PKiKP 15 31 34.0 -0.1
CLL ePP PP 15 32 17.0 -0.7
CLL esPP 15 33 16.0
CLL esPPP 15 35 33.0
CLL e 15 40 43.0
CLL ePS PS 15 41 57.0 +4.7
CLL ePPS PPS 15 42 57.0
CLL e 15 43 50.0
CLL e(SS) 15 48 06.0
CLL eSSS SSS 15 51 48.0
VISS Visnje 111.65 316 ePKiKP PKiKP 15 31 34.8 +0.2
GEC2 GERESS Array S 111.71 320 ePKiKP PKiKP 15 31 34.6 -0.1
GEC2 GERESS Array S 111.71 320 ePKiKP PKiKP 15 31 34.6 -0.1
GERES GERESS Array B 111.71 320 PKiKP PKiKP 15 31 34.9 +0.2
comp=Z,3.6nm,0.5s,baz=59,slow=1.8,SNR=26
GERES PP PP 15 32 14.8 -4.6
comp=Z,1.5nm,0.7s,baz=66,slow=3.2,SNR=4.9
GERES SKP 15 34 52.4
comp=Z,2.6nm,0.6s,baz=57,slow=1.6,SNR=10
GERES PKKPbc PKKPbc 15 42 28.6 -1.8
comp=Z,0.2nm,0.3s,baz=243,slow=5.8,SNR=4.9
KHC Kasperske Hory 111.72 320 ePP PP 15 32 22.1 +2.7
KHC ePKKP PKKPdf 15 42 44.8 -3.9
CUC Castrocucco 112.02 310 PFAKE 15 31 50.0
CUC LR LR
comp=Z,61nm,20.0s
MTUM Tungsten Hills 112.62 53 ePKiKP PKiKP 15 31 34.5 -2.4
NV01 Mina Array Sit 112.66 51 ePKiKP PKiKP 15 31 38.0 +1.0
NVAR Mina Array Bea 112.66 51 Pdiff Pdif 15 27 49.6 +6.9
comp=Z,0.6nm,0.8s,baz=241,slow=2.8,SNR=4.6
NVAR PKiKP PKiKP 15 31 38.5 +1.4
comp=Z,2.2nm,0.9s,baz=273,slow=1.5,SNR=11
NVAR PP PP 15 32 28.4 +1.6
comp=Z,1.0nm,0.8s,baz=260,slow=2.9,SNR=3.5
NVAR SKP 15 34 56.3
comp=Z,1.5nm,0.7s,baz=264,slow=2.0,SNR=5.3
NVAR PKKPbc PKKPbc 15 42 24.9 -2.1
comp=Z,1.2nm,0.8s,baz=104,slow=3.8,SNR=7.5
ABTA Abfaltersbach 113.00 318 ⇑/PKiKP PKiKP 15 31 36.7 -0.5
comp=Z,11nm,1.2s
BSMT Bassoo Peak 113.20 41 ePKiKP PKiKP 15 31 38.2 +0.5
AQU L'Aquila 113.38 313 PFAKE 15 31 50.0
AQU LR LR
comp=Z,106nm,19.0s
EDW2 Edwards Air Fo 113.42 55 ⇑PKiKP PKiKP 15 31 39.6 +1.3
baz=113
WTTA Wattenberg 113.45 319 ⇑/PKiKP PKiKP 15 31 38.4 +0.2
comp=Z,24nm,0.6s
WATA Walderalm 113.47 319 ⇑/PKiKP PKiKP 15 31 38.0 -0.2
comp=Z,6.7nm,0.5s

DAC Darwin (Calif) 113.54 54 ePKiKP PKiKP 15 31 39.8 +1.1
DAC Darwin (Calif) 113.54 54 ePKiKP PKiKP 15 31 39.8 +1.1
MFID Camas Ranch 113.57 46 ePKiKP PKiKP 15 31 40.1 +1.7
MPMC Manual Prospec 113.66 54 ⇓PKiKP PKiKP 15 31 40.0 +1.0
baz=114
MOTA Moosalm 113.78 319 ⇑/PKPdf PKiKP 15 31 38.5 -0.3
comp=Z,5.8nm,0.5s
SWMT Swartz Lake 113.81 41 ePKiKP PKiKP 15 31 39.2 +0.4
MSO Missoula 114.03 42 ⇓PKiKP PKiKP 15 31 40.0 +0.8
baz=114
MSO Missoula 114.03 42 ePKiKP PKiKP 15 31 39.9 +0.6
FETA Feichten 114.11 318 ⇑/PKiKP PKPdf 15 31 39.4 0.0
comp=Z,11nm,1.2s
SLMT Seeley Lake 114.21 41 ePKiKP PKiKP 15 31 40.0 +0.4
GSC Goldstone, Bar 114.32 55 ⇓PKiKP PKiKP 15 31 41.1 +1.0
baz=114
MSKU Masuku 114.43 265 PFAKE 15 31 50.0 +9.2
MSKU LR LR
comp=Z,2.0nm,20.0s
CHMT Chamberlain Mo 114.46 42 ePKiKP PKiKP 15 31 40.6 +0.5
TPNV Topopah Spring 114.51 53 ⇑PKiKP PKiKP 15 31 41.3 +0.8
baz=114
FUORN Ofenpass-Fuorn 114.53 318 ePKiKP PKiKP 15 31 40.7 +0.3
HLID Hailey 114.54 45 ⇑PKiKP PKiKP 15 31 41.6 +1.2
baz=114
HLID Hailey 114.54 45 ePKiKP PKiKP 15 31 42.0 +1.6
ELK Elko 114.57 49 ePKIKP PKPdf 15 31 42.2 +1.6
ELK Elko 114.57 49 ePKIKP PKiKP 15 31 42.2 +1.6
DAVA Damuels 114.59 319 ⇑/PKiKP PKiKP 15 31 40.6 +0.2
comp=Z,12nm,0.5s
HEC Hector,Ludlow 114.78 55 ⇑PKiKP PKiKP 15 31 42.5 +1.5
baz=115
R11A Troy Canyon, C 114.78 51 ⇓PKiKP PKiKP 15 31 42.5 +1.4
baz=115
R11A Troy Canyon, C 114.78 51 ePKiKP PKiKP 15 31 42.8 +1.7
PFO Pinyon Flats O 114.85 56 ePKiKP PKPdf 15 31 42.9 +1.7
PFO Pinyon Flats O 114.85 56 ⇓PKiKP PKPdf 15 31 42.9 +1.6
baz=115
PFO Pinyon Flats O 114.85 56 ePKiKP PKPdf 15 31 42.9 +1.7
VLC Villacollemand 115.11 315 PFAKE 15 31 50.0 +8.7
VLC LR LR
comp=Z,99nm,19.0s
BELC Belle Mtn. Jos 115.17 56 ⇑PKiKP PKPdf 15 31 43.4 +1.5
baz=115
TUE Stuetta 115.18 318 ePKPdf PKPdf 15 31 41.6 +0.1
MCMT McKenzie Canyo 115.30 44 ePKPdf PKPdf 15 31 43.4 +1.4
GMRC Granite Mounta 115.33 55 ⇑PKiKP PKPdf 15 31 43.9 +1.8
baz=115
DLMT Dillon 115.33 43 ePKPdf PKPdf 15 31 43.5 +1.7
SHPR Sheep Range 115.44 53 ePKPdf PKPdf 15 31 44.5 +2.2
SWSC Sam W. Stewart 115.49 57 ⇑PKiKP PKiKP 15 31 44.0 +1.7
baz=116
BC3 Big Chuckawall 115.67 56 ⇓PKiKP PKiKP 15 31 44.2 +1.4
baz=116
IRM Iron Mountain 115.84 56 ⇑PKiKP PKiKP 15 31 44.5 +1.5
baz=116
BOZ Bozeman (W) 115.90 43 ePKiKP PKPdf 15 31 44.2 +1.3
BOZ MLR MLR
comp=Z,344nm,19.0s
BOZ Bozeman (W) 115.90 43 ePKPdf PKPdf 15 31 44.2 +1.3
BOZ LR LR
comp=Z,344nm,19.0s
CDF Champ du Feu 115.91 321 ePKIKP PKPdf 15 31 41.6 -1.2
CDF Champ du Feu 115.91 321 ePKIKP PKPdf 15 31 41.6 -1.2
CDF Champ du Feu 115.91 321 ePKPdf PKPdf 15 31 41.6 -1.2
HVU Hansel Valley 116.14 47 ePKIKP PKPdf 15 31 44.9 +1.4
HVU Hansel Valley 116.14 47 ePKPdf PKPdf 15 31 44.9 +1.4
EGMT Eagleton 116.37 40 ⇑PKiKP PKiKP 15 31 44.4 +0.7
baz=116
EGMT Eagleton 116.37 40 ePKPdf PKPdf 15 31 41.0 -2.6
HINF Hinterlalfeld 116.38 320 ⇑/PKiKP PKPdf 15 31 43.4 -0.2
comp=Z,22nm,0.6s
HINF Hinterlalfeld 116.38 320 ⇑/PKiKP PKPdf 15 31 43.4 -0.2
HINF Hinterlalfeld 116.38 320 ⇑/PKPdf PKPdf 15 31 43.4 -0.2
DUG Dugway, Tooele 116.50 49 ePKiKP PKPdf 15 31 45.9 +1.6
DUG Dugway, Tooele 116.50 49 ⇑PKiKP PKiKP 15 31 44.8 +0.5
baz=116
DUG Dugway, Tooele 116.50 49 ePKPdf PKPdf 15 31 45.9 +1.6
PGF Pioggiola 116.50 314 ePKIKP PKPdf 15 31 44.1 0.0
PGF Pioggiola 116.50 314 ePKIKP PKPdf 15 31 44.1 0.0
PGF Pioggiola 116.50 314 ePKPdf PKPdf 15 31 44.1 0.0
SENIN Lac Senin/Sane 116.56 319 ePKPdf PKPdf 15 31 44.1 -0.2
SENIN ePKPdf PKiKP 15 31 44.5 +0.3
HAU Haudompre 116.63 321 ePKIKP PKPdf 15 31 44.1 0.0
comp=Z,12nm,0.6s
HAU eR
comp=Z,85nm,21.0s
HAU Haudompre 116.63 321 ePKIKP PKPdf 15 31 44.1 0.0
HAU Haudompre 116.63 321 ePKPdf PKPdf 15 31 44.1 0.0
A19A Klindworth Far 116.69 38 ⇓PKiKP PKPdf 15 31 44.2 0.0
baz=117
W13A Hualapai Mount 116.71 54 ⇑PKiKP PKiKP 15 31 45.8 +0.9
baz=117
B19A Brinkman Farms 116.73 39 ⇓PKiKP PKiKP 15 31 44.7 +0.3
baz=117
YFT Old Faithful 116.79 44 ePKPdf PKPdf 15 31 48.2 +3.4
GIVF Givet 116.81 323 ePKIKP PKPdf 15 31 44.8 +0.5
GIVF Givet 116.81 323 ePKIKP PKPdf 15 31 44.8 +0.5
GIVF Givet 116.81 323 ePKPdf PKPdf 15 31 44.8 +0.5
PAGF Fort de Pagny 116.83 321 ePKIKP PKPdf 15 31 44.5 +0.1
PAGF Fort de Pagny 116.83 321 ePKPdf PKPdf 15 31 44.5 +0.1
IMW Indian Meadow 116.88 44 ePKPdf PKPdf 15 31 46.7 +1.6
FXWY Fox Creek 116.89 45 ePKPdf PKPdf 15 31 46.2 +1.2
C19A Slack Wire Ran 116.92 40 ⇓PKiKP PKiKP 15 31 45.0 +0.3
baz=117
H17A Grant Village 116.98 44 ⇓PKiKP PKiKP 15 31 47.0 +1.8
baz=117
H17A Grant Village 116.98 44 ePKPdf PKPdf 15 31 47.9 +2.7
TPAW Teton Pass 116.99 45 ePKPdf PKPdf 15 31 46.7 +1.5
FLWY Flagg Ranch 116.99 44 ePKPdf PKPdf 15 31 47.3 +2.2
HWUT Hardware Ranch 117.06 47 ePKPdf PKPdf 15 31 46.1 +0.7
REDW Red Top Meadow 117.09 45 ePKPdf PKPdf 15 31 46.8 +1.4
I17A Pilgrim Ck. 117.12 44 ⇑PKiKP PKiKP 15 31 47.2 +1.7
baz=117
SNOW Snow King Moun 117.13 45 ePKPdf PKPdf 15 31 47.4 +1.9
GCMT Greycliff 117.17 42 ePKPdf PKPdf 15 31 46.4 +1.0
KNB Kanab 117.19 52 ePKIKP PKPdf 15 31 47.8 +2.1
KNB Kanab 117.19 52 ePKPdf PKPdf 15 31 47.8 +2.1
BAIF Baives 117.19 323 ⇑/PKIKP PKPdf 15 31 45.5 +0.5
comp=Z,15nm,0.8s
BAIF Baives 117.19 323 ⇑/PKIKP PKPdf 15 31 45.5 +0.5
BAIF Baives 117.19 323 ⇑/PKPdf PKPdf 15 31 45.5 +0.5
LOHW Long Hollow 117.19 44 ePKPdf PKPdf 15 31 46.9 +1.3
LPG La Plagne 117.20 318 ⇑/PKiKP PKPdf 15 31 45.9 +0.3
comp=Z,11nm,0.6s
LPG La Plagne 117.20 318 ⇑/PKIKP PKPdf 15 31 45.9 +0.3
LPG La Plagne 117.20 318 ⇑/PKPdf PKPdf 15 31 45.9 +0.3
LPL La Plagne 117.21 318 ⇑/PKIKP PKPdf 15 31 45.8 +0.3
comp=Z,17nm,0.6s
LPL La Plagne 117.21 318 ⇑/PKIKP PKPdf 15 31 45.8 +0.3
LPL La Plagne 117.21 318 ⇑/PKPdf PKPdf 15 31 45.8 +0.3
A20A Cobblestone Ra 117.21 38 ⇑PKiKP PKiKP 15 31 45.8 +0.6
baz=117
D19A Cripps Ranch, 117.22 40 ⇓PKiKP PKiKP 15 31 45.6 +0.3
baz=117
CABF La Chapelle 117.27 319 ⇑/PKIKP PKPdf 15 31 45.9 +0.4
comp=Z,33nm,0.6s
CABF La Chapelle 117.27 319 ⇑/PKIKP PKPdf 15 31 45.9 +0.4
CABF La Chapelle 117.27 319 ⇑/PKPdf PKPdf 15 31 45.9 +0.4
B20A Solberg Farm, 117.31 39 ⇓PKiKP PKiKP 15 31 45.6 +0.2
baz=117
BNI Bardonecchia 117.39 317 ePKIKP PKPdf 15 31 46.0 +0.2
BNI Bardonecchia 117.39 317 ePKPdf PKPdf 15 31 46.0 +0.2
MBDF Montbardon 117.43 317 ePKIKP PKPdf 15 31 46.0 +0.1
comp=Z,7.3nm,0.6s
MBDF Montbardon 117.43 317 ePKIKP PKPdf 15 31 46.0 +0.1
MBDF Montbardon 117.43 317 ePKPdf PKPdf 15 31 46.0 +0.1
H18A Shoshone NF, C 117.52 43 ⇑PKiKP PKiKP 15 31 46.8 +0.6
baz=118
E19A Rath Farm, Rou 117.52 41 ⇓PKiKP PKiKP 15 31 46.3 +0.3
baz=118
C20A Veseth Ranch, 117.59 39 ⇑PKiKP PKiKP 15 31 46.5 +0.6
baz=118
F19A Roth Farm, Mol 117.62 42 ⇓PKiKP PKiKP 15 31 47.0 +0.8
baz=118
RLMT Red Lodge 117.65 43 ePKPdf PKPdf 15 31 47.8 +1.4
D20A Manuel Ranch, 117.72 40 ⇑PKiKP PKiKP 15 31 47.1 +0.8
baz=118
U15A North Rim 117.73 53 ⇓PKiKP PKiKP 15 31 48.1 +1.2
baz=118
A21A Bergtoll Ranch 117.78 38 ⇓PKiKP PKiKP 15 31 47.2 +0.8
baz=118
KEST Kesra 117.82 307 PKP PKPdf 15 31 47.5 +0.7
comp=Z,3.6nm,0.7s,baz=135,slow=1.7,SNR=13

KEST PP PP 15 32 57.1 -5.7
comp=Z,6.0nm,1.0s,baz=6.5,slow=0.1,SNR=5.2
KEST Kesra 117.82 307 ePKPdf PKPdf 15 31 48.0 +1.1
KEST PP PP 15 32 57.1 -5.7
FRF La Foret Royal 117.87 316 ePKIKP PKPdf 15 31 46.7 +0.1
FRF La Foret Royal 117.87 316 ePKIKP PKPdf 15 31 46.7 +0.1
FRF La Foret Royal 117.87 316 ePKPdf PKPdf 15 31 46.7 +0.1
TMUT Trail Mountain 117.91 49 ePKPdf PKPdf 15 31 48.8 +1.6
E20A Meyer Farm, Mu 117.93 41 ⇑PKIKP PKIKP 15 31 47.3 +0.6
baz=118
ORIF Oris-en-Rattie 117.97 317 ⇑iPKIKP PKPdf 15 31 47.0 +0.1
comp=Z,12nm,0.5s
ORIF eR
comp=Z,96nm,20.2s
ORIF Oris-en-Rattie 117.97 317 ⇑iPKIKP PKPdf 15 31 47.0 +0.1
ORIF Oris-en-Rattie 117.97 317 ⇑iPKPdf PKPdf 15 31 47.0 +0.1
FFC Flin Flon 117.99 30 ePKIKP PKPdf 15 31 46.6 +0.1
FFC Flin Flon 117.99 30 ePKPdf PKPdf 15 31 46.6 +0.1
FFC ePKPdf PKIKP 15 31 47.0 +0.5
C21A Desert Coulee 118.11 39 ⇑PKiKP PKiKP 15 31 47.8 +0.8
baz=118
214A Organ Pipe Nat 118.13 58 ⇓PKiKP PKiKP 15 31 48.4 +0.9
baz=118
F20A Billings 118.16 42 ⇓PKiKP PKiKP 15 31 48.3 +1.0
baz=118
BW06 Boulder Array 118.17 45 ePKPdf PKPdf 15 31 48.0 +0.5
PDAR Pinedale Array 118.17 45 PKP PKPdf 15 31 48.0 +0.4
comp=Z,4.5nm,0.8s,baz=226,slow=1.5,SNR=36
PDAR SKP 15 35 06.6
comp=Z,3.1nm,0.9s,baz=230,slow=2.7,SNR=7.6
PDAR PKKPbc PKKPbc 15 42 07.4 -0.7
comp=Z,2.2nm,0.8s,baz=119,slow=5.2,SNR=9.6
I19A Meeteetse 118.18 44 ⇑PKiKP PKiKP 15 31 48.2 +0.7
baz=118
G20A Bridger 118.32 42 ⇓PKiKP PKiKP 15 31 48.4 +0.8
baz=118
J19A Crowheart 118.38 44 ⇑PKiKP PKiKP 15 31 48.6 +0.7
baz=118
A22A Carney Farms, 118.39 38 ⇑PKiKP PKiKP 15 31 48.2 +0.7
baz=118
D21A La Casta Ranch 118.46 40 ⇓PKiKP PKiKP 15 31 48.5 +0.7
baz=118
LOR Lormes 118.47 320 ePKIKP PKPdf 15 31 47.7 +0.1
LOR eR
comp=Z,74nm,22.0s
LOR Lormes 118.47 320 ePKIKP PKPdf 15 31 47.7 +0.1
LOR Lormes 118.47 320 ePKPdf PKPdf 15 31 47.7 +0.1
SRU San Rafael Swe 118.47 49 ePKIKP PKPdf 15 31 49.3 +1.2
SRU San Rafael Swe 118.47 49 ePKPdf PKPdf 15 31 49.3 +1.2
SMRF Simiane la Rot 118.48 316 ePKIKP PKPdf 15 31 48.4 +0.6
SMRF Simiane la Rot 118.48 316 ePKPdf PKPdf 15 31 48.4 +0.6
B22A Reddig Ranch S 118.61 38 ⇓PKiKP PKiKP 15 31 48.9 +0.9
baz=119
WUAZ Wupatki 118.65 54 ⇑PKiKP PKiKP 15 31 49.9 +1.3
baz=119
WUAZ Wupatki 118.65 54 ePKPdf PKPdf 15 31 50.3 +1.7
H20A Greybull 118.71 43 ⇑PKiKP PKiKP 15 31 48.5 +0.1
baz=119
SMF Signal de Mont 118.71 320 ⇑iPKIKP PKPdf 15 31 48.1 0.0
comp=Z,6.8nm,0.6s
SMF Signal de Mont 118.71 320 ⇑iPKIKP PKPdf 15 31 48.1 0.0
SMF Signal de Mont 118.71 320 ⇑iPKPdf PKPdf 15 31 48.1 0.0
SSF Saint Saulge 118.77 320 ⇑iPKIKP PKPdf 15 31 48.5 +0.3
comp=Z,31nm,0.8s
SSF Saint Saulge 118.77 320 ⇑iPKIKP PKPdf 15 31 48.5 +0.3
SSF Saint Saulge 118.77 320 ⇑iPKPdf PKPdf 15 31 48.5 +0.3
I20A Worland 118.80 43 ⇓PKiKP PKiKP 15 31 49.2 +0.7
baz=119
VIVF Saint-Julien-l 118.80 318 ⇑iPKIKP PKPdf 15 31 48.5 +0.1
comp=Z,36nm,1.1s
VIVF Saint-Julien-l 118.80 318 ⇑iPKIKP PKPdf 15 31 48.5 +0.1
VIVF Saint-Julien-l 118.80 318 ⇑iPKPdf PKPdf 15 31 48.5 +0.1
X16A Lo Mia Camp, P 118.82 55 ⇑PKiKP PKiKP 15 31 50.2 +1.2
baz=119
F21A Absaloka Mine, 118.83 41 ⇑PKiKP PKiKP 15 31 49.9 +1.4
baz=119
D22A Cohagen 118.95 40 ⇓PKiKP PKiKP 15 31 49.9 +1.2
baz=119
AVF Avril sur Loir 118.97 320 ⇑iPKIKP PKPdf 15 31 48.5 -0.1
comp=Z,15nm,0.6s
AVF Avril sur Loir 118.97 320 ⇑iPKIKP PKPdf 15 31 48.5 -0.1
AVF Avril sur Loir 118.97 320 ⇑iPKPdf PKPdf 15 31 48.5 -0.1
G21A Lodge Grass 118.98 42 ⇑PKiKP PKiKP 15 31 49.3 +0.5
baz=119
J20A Shoshoni 119.02 44 ⇓PKiKP PKiKP 15 31 49.8 +0.7
baz=119
A23A Redstone 119.03 37 ⇑PKiKP PKiKP 15 31 49.4 +0.7
baz=119
LAO LASA Array 119.09 40 ePKPdf PKPdf 15 31 50.4 +1.4
B23A Brockton 119.16 38 ⇑PKiKP PKiKP 15 31 50.2 +1.1
baz=119
FCC Fort Churchill 119.25 24 ePKIKP PKPdf 15 31 48.3 -0.4
FCC Fort Churchill 119.25 24 ePKPdf PKPdf 15 31 48.3 -0.4
H21A Big Horn, Sher 119.30 42 ⇑PKiKP PKiKP 15 31 50.6 +1.0
baz=119
C23A Lambert 119.31 39 ⇓PKiKP PKiKP 15 31 50.7 +1.4
baz=119
E22A Miles City 119.36 40 ⇑PKiKP PKiKP 15 31 50.3 +0.8
baz=119
BGF Bois d'Agland 119.38 320 ⇑iPKIKP PKPdf 15 31 49.9 +0.5
comp=Z,40nm,0.6s
BGF Bois d'Agland 119.38 320 ⇑iPKIKP PKPdf 15 31 49.9 +0.5
BGF Bois d'Agland 119.38 320 ⇑iPKPdf PKPdf 15 31 49.9 +0.5
I21A Big Trails, Te 119.41 43 ⇑PKiKP PKiKP 15 31 49.9 +0.1
baz=119
J21A Lysite 119.46 44 ⇓PKiKP PKiKP 15 31 50.1 +0.2
baz=119
A24A Westby 119.57 37 ⇓PKiKP PKiKP 15 31 50.6 +0.8
baz=120
LASF Ste Croix 119.61 317 ⇑iPKIKP PKPdf 15 31 50.0 +0.1
LASF Ste Croix 119.61 317 ⇑iPKPdf PKPdf 15 31 50.0 +0.1
N20A Spence Gulch, 119.67 47 ⇑PKiKP PKiKP 15 31 51.4 +0.9
baz=120
PV09 Paradox Valley 119.68 50 ePKPdf PKPdf 15 31 52.3 +1.7
E23A Ismay 119.75 40 ⇓PKiKP PKiKP 15 31 51.0 +0.8
baz=120
TUC Tucson 119.76 57 ePKIKP PKPdf 15 31 52.3 +1.6
TUC Tucson 119.76 57 ePKPdf PKPdf 15 31 52.3 +1.6
H22A Clearmont 119.78 42 ⇑PKiKP PKiKP 15 31 51.2 +0.8
baz=120
PV10 Paradox Valley 119.79 50 ePKPdf PKPdf 15 31 52.4 +1.6
PV05 Paradox Valley 119.82 50 ePKPdf PKPdf 15 31 52.4 +1.6
K21A Alcova 119.83 45 ⇑PKiKP PKiKP 15 31 51.0 +0.2
baz=120
PV04 Paradox Valley 119.88 50 ePKPdf PKPdf 15 31 52.6 +1.8
TCF Toulx Ste Croi 119.89 320 ePKIKP PKPdf 15 31 50.8 +0.4
comp=Z,48nm,1.1s
TCF Toulx Ste Croi 119.89 320 ePKIKP PKPdf 15 31 50.8 +0.4
TCF Toulx Ste Croi 119.89 320 ePKPdf PKPdf 15 31 50.8 +0.4
C24A Savage 119.89 39 ⇓PKiKP PKiKP 15 31 51.4 +0.9
baz=120
O20A White River Ci 119.89 48 ⇓PKiKP PKiKP 15 31 52.3 +1.4
baz=120
O20A White River Ci 119.89 48 ePKPdf PKPdf 15 31 52.2 +1.4
O20A epPKPdf pPKPdf 15 32 37.2 +0.7
I22A 9 Mile Ranch, 119.93 43 ⇑PKiKP PKPdf 15 31 50.7 -0.1
baz=120
F23A Volborg 119.98 41 ⇓PKiKP PKiKP 15 31 51.2 +0.5
baz=120
X18A Snowflake 120.00 54 ⇓PKiKP PKiKP 15 31 52.3 +1.0
baz=120
W18A Petrified Fore 120.04 54 ⇓PKiKP PKiKP 15 31 52.4 +1.1
baz=120
A25A Svangstu Ranch 120.09 37 ⇓PKiKP PKiKP 15 31 51.7 +0.9
baz=120
J22A Midwest 120.10 44 ⇑PKiKP PKiKP 15 31 51.2 +0.1
baz=120
D24A Glendive 120.12 39 ⇑PKiKP PKiKP 15 31 51.8 +0.8
baz=120
G23A Biddle 120.19 41 ⇑PKiKP PKiKP 15 31 51.9 +0.7
baz=120
PV01 Paradox Valley 120.21 50 ePKPdf PKPdf 15 31 53.1 +1.6
K22A Casper 120.33 44 ⇑PKiKP PKPdf 15 31 51.6 0.0
baz=120
K22A Casper 120.33 44 ePKPdf PKPdf 15 31 52.1 +0.6
E24A Baker 120.36 40 ⇓PKiKP PKiKP 15 31 52.5 +1.0
baz=120
LDF La Druitiere 120.38 323 ePKIKP PKPdf 15 31 52.2 +1.0
comp=Z,36nm,1.0s
LDF La Druitiere 120.38 323 ePKIKP PKPdf 15 31 52.2 +1.0
LDF La Druitiere 120.38 323 ePKPdf PKPdf 15 31 52.2 +1.0
SFJD Kangerlussuaq 120.41 360 PKP PKPdf 15 31 50.4 -0.3
comp=Z,8.9nm,0.6s,baz=58,slow=3.1,SNR=9.3
CAF Calviac 120.50 318 ⇑iPKIKP PKPdf 15 31 52.3 +0.6
comp=Z,48nm,1.0s
CAF Calviac 120.50 318 ⇑iPKIKP PKPdf 15 31 52.3 +0.6
CAF Calviac 120.50 318 ⇑iPKPdf PKPdf 15 31 52.3 +0.6
MVCO Mesa Verde 120.50 51 ⇑PKiKP PKiKP 15 31 53.4 +1.1
baz=120
MVCO Mesa Verde 120.50 51 ePKPdf PKPdf 15 31 54.0 +1.8
MVCO LR LR
comp=Z,189nm,22.0s
FLN La Foliniere 120.52 323 ePKIKP PKPdf 15 31 51.7 +0.2
FLN eR
comp=Z,147nm,21.2s
FLN La Foliniere 120.52 323 ePKIKP PKPdf 15 31 51.7 +0.2
FLN La Foliniere 120.52 323 ePKPdf PKPdf 15 31 51.7 +0.2
F24A Ekalaka 120.56 40 ⇑PKiKP PKiKP 15 31 52.5 +0.6
baz=120
L22A Ellis Ranch, M 120.60 45 ⇑PKiKP PKiKP 15 31 52.9 +0.7
baz=121
M22A Cedar Creek Ra 120.69 46 ⇓PKiKP PKiKP 15 31 52.7 +0.2
baz=121
RJF Les Rejaudoux 120.72 319 ePKIKP PKPdf 15 31 52.6 +0.6
RJF eR
comp=Z,80nm,19.8s
RJF Les Rejaudoux 120.72 319 ePKIKP PKPdf 15 31 52.6 +0.6
RJF Les Rejaudoux 120.72 319 ePKPdf PKPdf 15 31 52.6 +0.6
D25A Fairfield 120.73 39 ⇓PKiKP PKiKP 15 31 53.2 +1.0
baz=121
A26A Wade Farm, Ken 120.74 36 ⇑PKiKP PKiKP 15 31 53.0 +1.0
baz=121
H24A Dirks Ranch, A 120.91 42 ⇓PKiKP PKiKP 15 31 53.0 +0.4
baz=121
K23A Bowen Ranch, D 120.92 44 ⇓PKiKP PKiKP 15 31 52.9 +0.1
baz=121
E25A Miller Ranch, 120.95 39 ⇓PKiKP PKiKP 15 31 53.5 +0.8
baz=121
MTLF Montolieu 120.99 317 ⇑iPKIKP PKPdf 15 31 52.8 +0.2
MTLF Montolieu 120.99 317 ⇑iPKIKP PKPdf 15 31 52.8 +0.2
MTLF Montolieu 120.99 317 ⇑iPKPdf PKPdf 15 31 52.8 +0.2
N22A Wattenberg Ran 120.99 46 ⇓PKiKP PKiKP 15 31 53.8 +0.7
baz=121
L23A Garrett 121.09 45 ⇑PKiKP PKiKP 15 31 53.2 0.0
baz=121
SMCO Snowmass 121.11 48 ePKPdf PKPdf 15 31 55.1 +1.7
SMCO ePKPdf PKiKP 15 31 55.3 +1.7
O22A Kremmling 121.12 47 ⇓PKiKP PKPdf 15 31 53.3 0.0
baz=121
P22A Eagle 121.14 48 ⇓PKiKP PKiKP 15 31 54.4 +0.9
baz=121
F25A Bowman 121.16 40 ⇑PKiKP PKiKP 15 31 54.2 +1.2
baz=121
C26A Wahner Farm, P 121.19 37 ⇓PKiKP PKiKP 15 31 54.2 +1.1
baz=121
319A Douglas 121.20 58 ⇓PKiKP PKiKP 15 31 55.1 +1.5
baz=121
I24A Kummerle Ranc 121.20 43 ⇓PKiKP PKiKP 15 31 53.4 +0.2
baz=121
MFF Saint Martin d 121.25 321 ePKIKP PKPdf 15 31 53.2 +0.2
comp=Z,17nm,0.5s
MFF Saint Martin d 121.25 321 ePKIKP PKPdf 15 31 53.2 +0.2
MFF Saint Martin d 121.25 321 ePKPdf PKPdf 15 31 53.2 +0.2
N23A Red Feather La 121.32 46 ⇓PKiKP PKiKP 15 31 54.3 +0.5
baz=121
N23A Red Feather La 121.32 46 ePKPdf PKPdf 15 31 55.0 +1.3
D26A Manning 121.33 38 ⇑PKiKP PKiKP 15 31 53.8 +0.5
baz=121
LFF La Frestale 121.37 319 ePKIKP PKPdf 15 31 54.0 +0.8
comp=Z,42nm,0.9s
LFF La Frestale 121.37 319 ePKIKP PKPdf 15 31 54.0 +0.8
LFF La Frestale 121.37 319 ePKPdf PKPdf 15 31 54.0 +0.8
J24A Dixon Ranch, L 121.37 43 ⇑PKiKP PKiKP 15 31 54.1 +0.5
baz=121
G25A Newell 121.48 41 ⇓PKiKP PKiKP 15 31 54.2 +0.5
baz=121
RSSD Black Hills 121.49 42 ePKIKP PKPdf 15 31 53.9 +0.1
RSSD Black Hills 121.49 42 ePKPdf PKPdf 15 31 53.9 +0.1
E26A Carlson Angus 121.56 39 ⇑PKiKP PKiKP 15 31 54.6 +0.8
baz=122
O23A Lake Granby, G 121.56 47 ⇑PKiKP PKiKP 15 31 54.9 +0.6
baz=122
H25A Fruitdale 121.59 41 ⇑PKiKP PKiKP 15 31 54.6 +0.6
baz=122
C27A Sayler Ranch, 121.60 37 ⇑PKiKP PKiKP 15 31 54.8 +1.0
baz=122
S22A 4UR Ranch, Cre 121.64 50 ⇓PKiKP PKiKP 15 31 56.2 +1.6
baz=122
S22A 4UR Ranch, Cre 121.64 50 ePKPdf PKiKP 15 31 56.2 +1.6
F26A Lodgepole 121.69 40 ⇑PKiKP PKiKP 15 31 54.7 +0.6
baz=122
I25A Rochford 121.73 42 ⇑PKiKP PKiKP 15 31 54.7 +0.3
baz=122
A28A Rude Farm, Bot 121.77 36 ⇓PKiKP PKiKP 15 31 54.8 +0.6
baz=122
D27A Center 121.86 38 ⇓PKiKP PKiKP 15 31 55.2 +0.8
baz=122
P23A Jefferson 121.89 48 ⇓PKiKP PKiKP 15 31 56.0 +1.0
baz=122
ISCO Idaho Springs 121.92 47 ePKIKP PKPdf 15 31 56.3 +1.4
ISCO Idaho Springs 121.92 47 ⇑PKiKP PKiKP 15 31 55.8 +0.8
baz=122
ISCO Idaho Springs 121.92 47 ePKPdf PKPdf 15 31 56.3 +1.4
M24A Cheyenne 121.92 45 ⇑PKiKP PKiKP 15 31 55.2 +0.3
baz=122
J25A Sunshine Ranch 121.93 43 ⇑PKiKP PKiKP 15 31 55.2 +0.5
baz=122
B28A Dugan Ranch, T 121.94 36 ⇓PKiKP PKiKP 15 31 55.1 +0.6
baz=122
G26A Maurine 121.97 40 ⇑PKiKP PKiKP 15 31 54.9 +0.2
baz=122
SGMF Saint Gilles 121.98 324 ePKIKP PKPdf 15 31 54.3 0.0
comp=Z,21nm,0.8s
SGMF Saint Gilles 121.98 324 ePKIKP PKPdf 15 31 54.3 0.0
SGMF Saint Gilles 121.98 324 ePKPdf PKPdf 15 31 54.3 0.0
V22A San Miguel Ran 122.08 52 ⇓PKiKP PKiKP 15 31 57.2 +1.7
baz=122
F27A Lemmon 122.09 40 ⇑PKiKP PKiKP 15 31 55.6 +0.8
baz=122
N24A Carr 122.11 46 ⇑PKiKP PKiKP 15 31 56.1 +0.8
baz=122
E27A Carson 122.13 39 ⇑PKiKP PKiKP 15 31 55.7 +0.8
baz=122
K25A Mack Ranch, Ha 122.18 44 ⇑PKiKP PKiKP 15 31 55.8 +0.5
baz=122
121A Cookes Peak, D 122.20 56 ⇓PKiKP PKiKP 15 31 56.9 +1.2
baz=122
S23A Nye Farm, Mont 122.28 50 ⇑PKiKP PKiKP 15 31 57.3 +1.5
baz=122
G27A Dupree 122.36 40 ⇓PKiKP PKiKP 15 31 56.0 +0.6
baz=122
ROSF Rostrenen 122.36 324 ePKIKP PKPdf 15 31 55.0 0.0
comp=Z,54nm,1.1s
ROSF Rostrenen 122.36 324 ePKIKP PKPdf 15 31 55.0 0.0
ROSF Rostrenen 122.36 324 ePKPdf PKPdf 15 31 55.0 0.0
A29A Manning Farm, 122.36 35 ⇑PKiKP PKiKP 15 31 55.7 +0.5
baz=122
EPF Esparros 122.38 317 ePKIKP PKPdf 15 31 55.5 +0.2
comp=Z,16nm,0.6s
EPF Esparros 122.38 317 ePKIKP PKPdf 15 31 55.5 +0.2
EPF Esparros 122.38 317 ePKPdf PKPdf 15 31 55.5 +0.2
D28A Regan 122.40 38 ⇑PKiKP PKiKP 15 31 56.0 +0.5
baz=122
T23A Casias Ranch, 122.44 51 ⇑PKiKP PKiKP 15 31 57.6 +1.5
baz=122
J26A Sides Ranch, S 122.45 43 ⇓PKiKP PKiKP 15 31 56.2 +0.5
baz=122
M25A Palm-Egli Farm 122.48 45 ⇑PKiKP PKiKP 15 31 56.8 +0.8
baz=122
QUIF Quistinic 122.50 323 ePKIKP PKPdf 15 31 55.4 +0.1
QUIF Quistinic 122.50 323 ePKIKP PKPdf 15 31 55.4 +0.1
QUIF Quistinic 122.50 323 ePKPdf PKPdf 15 31 55.4 +0.1
B29A Wagenman Farm, 122.52 36 ⇓PKiKP PKiKP 15 31 55.8 +0.2
baz=122
H27A Howes 122.58 41 ⇑PKiKP PKiKP 15 31 56.1 +0.2
baz=122
E28A Huff 122.61 38 ⇑PKiKP PKiKP 15 31 56.1 +0.3
baz=123
K26A Motz Farm, Whi 122.61 43 ⇑PKiKP PKiKP 15 31 56.1 +0.1
baz=123
SDCO Great Sand Dun 122.64 50 ⇑PKiKP PKiKP 15 31 58.0 +1.4
baz=123
SDCO Great Sand Dun 122.64 50 ePKPdf PKPdf 15 31 58.1 +1.7
MDND Maddock 122.67 37 ⇓PKiKP PKiKP 15 31 56.3 +0.4
baz=123
MDND Maddock 122.67 37 ePKPdf PKiKP 15 31 56.3 +0.4
ANMO Albuquerque 122.69 53 iPKIKP PKPdf 15 31 57.1 +0.7
ANMO Albuquerque 122.69 53 ePKPdf PKPdf 15 31 58.1 +1.7
V23A Ortiz Mt. (NFS 122.69 52 ⇓PKiKP PKiKP 15 31 58.8 +2.2
baz=123
LPM Los Pinos Moun 122.72 54 ePKPdf PKPdf 15 31 58.1 +1.7
BNM Barren Site 122.76 54 ePKPdf PKPdf 15 31 58.0 +1.4
R24A Sanders Place, 122.79 49 ⇑PKiKP PKiKP 15 31 57.4 +0.7
baz=123
I27A Quinn 122.83 41 ⇑PKiKP PKiKP 15 31 56.8 +0.4
baz=123
F28A McLaughlin 122.87 39 ⇓PKiKP PKiKP 15 31 56.6 +0.2
baz=123
A30A Hoffart Farm, 122.88 35 ⇑PKiKP PKiKP 15 31 56.2 0.0
baz=123
S24A Houchin Ranch, 122.89 50 ⇑PKiKP PKiKP 15 31 57.8 +0.8
baz=123
O25A Wiggins 122.90 47 ⇓PKiKP PKiKP 15 31 57.2 +0.4
baz=123
T24B San Luis 122.94 50 ⇑PKiKP PKiKP 15 31 58.3 +1.1
baz=123
ETSF Etsaut 123.04 317 ePKIKP PKPdf 15 31 56.9 +0.3
comp=Z,15nm,0.7s
ETSF Etsaut 123.04 317 ePKIKP PKPdf 15 31 56.9 +0.3
ETSF Etsaut 123.04 317 ePKPdf PKPdf 15 31 56.9 +0.3
D29A Pettibone, Tap 123.05 37 ⇓PKiKP PKiKP 15 31 57.4 +0.8
baz=123
P25A Willow Gulch B 123.07 47 ⇓PKiKP PKiKP 15 31 58.3 +1.1
baz=123
B30A Myrvik Farm, E 123.11 35 ⇑PKiKP PKiKP 15 31 57.1 +0.3
baz=123
G28A Parade 123.14 40 ⇓PKiKP PKiKP 15 31 57.0 0.0
baz=123
J27A Elkhorn Farm, 123.19 42 ⇓PKiKP PKiKP 15 31 57.7 +0.6
baz=123
SJPF Ste Jean 123.40 318 ePKIKP PKPdf 15 31 58.2 +1.0
comp=Z,29nm,0.9s
SJPF Ste Jean 123.40 318 ePKIKP PKPdf 15 31 58.2 +1.0
SJPF Ste Jean 123.40 318 ePKPdf PKPdf 15 31 58.2 +1.0
C30A Mose, Pekin 123.40 36 ⇑PKiKP PKiKP 15 31 57.4 0.0
baz=123
V24A Rampart Ranch, 123.41 52 ⇑PKiKP PKiKP 15 31 59.3 +1.3
baz=123
O26A Horse Wrangler 123.43 46 ⇑PKiKP PKiKP 15 31 58.2 +0.4
baz=123
R25A Fountain Ranch 123.43 49 ⇓PKiKP PKiKP 15 31 58.5 +0.6
baz=123
I28A Midland 123.43 41 ⇑PKiKP PKiKP 15 31 57.9 +0.4
baz=123
W24A Lazy 6 Ranch, 123.45 52 ⇓PKiKP PKiKP 15 31 59.5 +1.4
baz=123
S25A Robets Cordova 123.47 49 ⇓PKiKP PKiKP 15 31 58.8 +0.8
baz=124
F29A Eureka 123.48 39 ⇓PKiKP PKiKP 15 31 58.3 +0.7
baz=123
ULM Lac du Bonnet 123.52 33 PKP PKPdf 15 31 56.8 -0.4
comp=Z,8.6nm,0.6s,baz=324,slow=1.8,SNR=17
ULM SKP 15 35 14.2
comp=Z,2.9nm,0.8s,baz=315,slow=7.8,SNR=2.8
D30A Buchanan 123.53 37 ⇑PKiKP PKiKP 15 31 57.6 0.0
baz=124
J28A Allard Ranch, 123.63 42 ⇑PKiKP PKiKP 15 31 58.8 +0.8
baz=124
P26A Davis Ranch, A 123.65 47 ⇑PKiKP PKiKP 15 31 59.2 +1.0
baz=124
T25A Trinidad 123.65 50 ⇑PKiKP PKiKP 15 31 59.3 +0.8
baz=124
T25A Trinidad 123.65 50 ePKPdf PKPdf 15 31 59.8 +1.6
E30A Jud 123.73 38 ⇓PKiKP PKiKP 15 31 58.4 +0.3
baz=124
Q26A Hugo 123.74 48 ⇓PKiKP PKiKP 15 31 59.4 +0.9
baz=124
N27A Anderson Farm, 123.78 45 ⇓PKiKP PKiKP 15 31 58.7 +0.3
baz=124
H29A Onida 123.78 40 ⇓PKiKP PKiKP 15 31 58.3 +0.1
baz=124
K28A Ten Mile Ranch 123.84 43 ⇓PKiKP PKPdf 15 31 58.3 +0.2
baz=124
U25A Circle Dot Ran 123.88 51 ⇑PKiKP PKiKP 15 31 59.6 +0.7
baz=124
V25A Rancho No Teng 123.89 52 ⇑PKiKP PKiKP 15 31 60.0 +1.0
baz=124
F30A Leola 123.98 38 ⇓PKiKP PKiKP 15 31 59.0 +0.4
baz=124
I29A Vivian Onida 123.99 41 ⇓PKiKP PKiKP 15 31 59.1 +0.5
baz=124
R26A Arlington 124.00 48 ⇑PKiKP PKiKP 15 31 59.7 +0.7
baz=124
O27A Beecher Island 124.04 46 ⇑PKiKP PKiKP 15 31 59.6 +0.6
baz=124
OGNE Ogallala 124.08 45 PFAKE 15 32 10.0 +11
OGNE LR LR
comp=Z,250nm,19.0s
W25A X Bar L Ranch, 124.19 52 ⇓PKiKP PKiKP 15 32 00.3 +0.8
baz=124
P27A Ficken Ranch, 124.20 47 ⇓PKiKP PKiKP 15 32 00.1 +0.7
baz=124
S26A Kim 124.21 49 ⇓PKiKP PKiKP 15 32 00.2 +0.8
baz=124
G30A Faulkton 124.23 39 ⇓PKiKP PKiKP 15 31 59.4 +0.4
baz=124
J29A Okreek 124.24 42 ⇓PKiKP PKiKP 15 31 59.2 0.0
baz=124
T26A Comanche Natio 124.26 50 ⇑PKiKP PKiKP 15 32 00.6 +0.9
baz=124
MNTX Cornudas Mount 124.38 57 ePKPdf PKPdf 15 32 00.9 +1.5
U26A Atchley Ranch, 124.39 51 ⇓PKiKP PKiKP 15 32 00.6 +0.6
baz=124
R27A Eads 124.49 48 ⇓PKiKP PKiKP 15 32 00.7 +0.8
baz=124
K29A Lazy Trails An 124.52 42 ⇓PKiKP PKiKP 15 31 59.9 +0.1
baz=124
N28A Pribbeno Ranch 124.52 45 ⇑PKiKP PKiKP 15 32 00.5 +0.6
baz=124
V26A Tequesquite Ra 124.55 51 ⇑PKiKP PKiKP 15 32 00.4 +0.2
baz=124
O28A Krutsinger Ran 124.57 46 ⇓PKiKP PKPdf 15 31 59.8 +0.1
baz=124
AGMN Agassiz Nation 124.60 35 ⇑PKiKP PKPdf 15 31 59.2 -0.1
baz=124
L29A Maesberg Ranch 124.70 43 ⇑PKiKP PKiKP 15 32 00.2 0.0
baz=125
W26A Owens Ranch, T 124.77 52 ⇓PKiKP PKiKP 15 32 00.7 0.0
baz=125
P28A Saint Francis 124.79 46 ⇑PKiKP PKiKP 15 32 00.7 +0.2
baz=125
J30A Dallas 124.82 41 ⇓PKiKP PKiKP 15 32 00.5 +0.1
baz=125
Q28A Sharon Springs 124.92 47 ⇑PKiKP PKiKP 15 32 01.7 +0.9
baz=125
K30A Basset 125.03 42 ⇑PKiKP PKiKP 15 32 01.0 +0.2
baz=125
U27A Thompson Grove 125.09 50 ⇑PKiKP PKiKP 15 32 01.8 +0.5
baz=125
GDL2 Guadalupe Moun 125.09 56 ePKPdf PKPdf 15 32 02.4 +1.4
N29A Votaw Ranch, W 125.11 45 ⇓PKiKP PKiKP 15 32 01.3 +0.2
baz=125
R28A Tribune 125.20 48 ⇓PKiKP PKiKP 15 32 02.4 +1.1
baz=125
O29A 4D Ranch, Culb 125.26 45 ⇑PKiKP PKiKP 15 32 01.9 +0.6
baz=125
L30A Spencer Herefo 125.27 43 ⇑PKiKP PKiKP 15 32 02.0 +0.8
baz=125
V27A Dan Oppiter Fa 125.29 51 ⇓PKiKP PKiKP 15 32 02.0 +0.4
baz=125
P29A Atwood 125.37 46 ⇑PKiKP PKiKP 15 32 01.6 0.0
baz=125
S28A Manter 125.40 49 ⇓PKiKP PKiKP 15 32 02.3 +0.6
baz=125
T28A Walsh 125.40 49 ⇓PKiKP PKiKP 15 32 02.3 +0.6
baz=125
N30A Hueftle Ranch, 125.48 44 ⇑PKiKP PKiKP 15 32 02.5 +0.7
baz=125
Q29A Oakley 125.60 47 ⇓PKiKP PKiKP 15 32 02.6 +0.5
baz=126
R29A Marienthal 125.66 47 ⇓PKiKP PKiKP 15 32 02.7 +0.5
baz=126
L31A Butterfield Fa 125.76 42 ⇓PKiKP PKiKP 15 32 02.4 +0.1
baz=126
O30A MW Ranch, Wils 125.76 45 ⇓PKiKP PKiKP 15 32 03.0 +0.7
baz=126
P30A Selden 125.88 46 ⇑PKiKP PKiKP 15 32 03.1 +0.5
baz=126
MSTX Muleshoe 125.89 53 ⇓PKiKP PKiKP 15 32 03.5 +0.7
baz=126
MSTX Muleshoe 125.89 53 ePKPdf PKiKP 15 32 03.6 +0.7
W28A Vega 125.94 51 ⇑PKiKP PKiKP 15 32 03.7 +0.8
baz=126
S29A Ulysses 125.97 48 ⇑PKiKP PKiKP 15 32 03.8 +0.9
baz=126
T29A Hugoton 126.00 49 ⇓PKiKP PKiKP 15 32 03.8 +0.9
baz=126
M31A Lambtecht Ranc 126.03 43 ⇑PKiKP PKiKP 15 32 03.1 +0.3
baz=126
Q30A Quinter 126.12 46 ⇑PKiKP PKiKP 15 32 03.6 +0.5

baz=126
X28A Dimmitt 126.17 52 ⇑PKiKP PKiKP 15 32 04.1 +0.7
baz=126
V29A Stinnett 126.27 51 ⇑PKiKP PKiKP 15 32 03.9 +0.4
baz=126
TX31 Lajitas Ar. Si 126.37 59 *e*PKPdf PKPdf 15 32 04.2 +0.7
TXAR Lajitas Array 126.37 59 PKP PKPdf 15 32 04.4 +0.9
comp=Z,1.1nm,0.5s,baz=222,slow=1.2,SNR=21
TXAR SKPbc SKiKP 15 35 05.1 -18
comp=Z,2.6nm,0.7s,baz=251,slow=3.8,SNR=6.5
TXAR PKKPbc PKKPbc 15 41 36.7 +0.1
comp=Z,0.4nm,0.7s,baz=120,slow=5.0,SNR=4.2
AMTX Amarillo 126.46 52 ⇓PKiKP PKiKP 15 32 04.7 +0.8
baz=126
ECSD EROS Data Cent 126.49 40 ⇑PKiKP PKiKP 15 32 03.9 +0.2
baz=126
ECSD EROS Data Cent 126.49 40 *e*PKPdf PKPdf 15 32 03.6 +0.4
P31A Stockton 126.50 46 ⇑PKiKP PKiKP 15 32 04.3 +0.5
baz=126
128A Castleberry Fa 126.51 55 ⇓PKiKP PKiKP 15 32 04.1 0.0
baz=126
BGNE Belgrade 126.56 43 ⇑PKiKP PKiKP 15 32 04.1 +0.2
baz=126
BGNE Belgrade 126.56 43 *e*PKPdf PKiKP 15 32 04.0 +0.2
228A UT Block 9, Go 126.56 55 ⇑PKiKP PKiKP 15 32 04.4 +0.2
baz=127
X29A Tulia 126.59 52 ⇓PKiKP PKiKP 15 32 04.6 +0.4
baz=127
T30A Plains 126.61 49 ⇑PKiKP PKiKP 15 32 04.6 +0.5
baz=127
ES19 SONSECA Array 126.62 315 *e*PKPdf PKPdf 15 32 04.3 +0.7
ESDC Sonseca Array 126.68 315 PKP PKPdf 15 32 04.3 +0.7
comp=Z,6.3nm,0.9s,baz=11,slow=3.4,SNR=14
ESDC PP PP 15 34 02.1 -0.2
comp=Z,1.4nm,0.5s,baz=63,slow=6.8,SNR=6.8
Q31A Ellis 126.70 46 ⇓PKiKP PKiKP 15 32 04.8 +0.6
baz=127
U30A WK&E Inc. Balk 126.70 49 ⇓PKiKP PKiKP 15 32 04.9 +0.6
baz=127
Y29A Porterfield Fa 126.79 53 ⇑PKiKP PKiKP 15 32 05.1 +0.5
baz=127
R31A Burdett 126.88 47 ⇓PKiKP PKiKP 15 32 05.1 +0.5
baz=127
Z29A Hungry Hill Ra 126.95 54 ⇑PKiKP PKiKP 15 32 05.0 +0.1
baz=127
O32A Brockman Farm, 126.97 44 ⇓PKiKP PKiKP 15 32 05.0 +0.3
baz=127
P32A Huiting Farm, 127.01 45 ⇓PKiKP PKiKP 15 32 04.9 +0.1
baz=127
T31A Randall Ranch, 127.22 48 ⇑PKiKP PKiKP 15 32 05.8 +0.5
baz=127
329A Wagon Wheel Ra 127.23 56 ⇑PKiKP PKiKP 15 32 05.7 +0.2
baz=127
X30A Coker Ranch, T 127.23 52 ⇑PKiKP PKiKP 15 32 06.3 +0.9
baz=127
Q32A Meitler Ranch, 127.30 46 ⇓PKiKP PKiKP 15 32 05.8 +0.4
baz=127
529A Stev Forest Ra 127.40 58 ⇓PKiKP PKiKP 15 32 06.5 +0.6
baz=127
Y30A Stafford Cattl 127.40 53 ⇑PKiKP PKiKP 15 32 06.1 +0.3
baz=127
Z30A Sanderson Ranc 127.40 53 ⇓PKiKP PKPdf 15 32 05.5 +0.3
baz=127
TOA0 Torodi Ar. Sit 127.41 281 *e*PKPdf PKPdf 15 32 05.7 0.0
TORD Torodi Ar. Bea 127.41 281 PKP PKPdf 15 32 05.6 0.0
comp=Z,49nm,1.2s,baz=35,slow=2.0,SNR=56
TORD SKPbc SKiKP 15 35 06.3 -20
comp=Z,5.0nm,1.0s,baz=74,slow=3.3,SNR=4.7
R32A Long Quarter, 127.42 47 ⇑PKiKP PKiKP 15 32 06.3 +0.6
baz=127
429A Davenport Ranc 127.54 57 ⇓PKiKP PKiKP 15 32 06.8 +0.6
baz=128
S32A Newby Ranch, P 127.54 47 ⇑PKiKP PKiKP 15 32 06.4 +0.5
baz=128
V31A Spring Creek L 127.58 50 ⇓PKiKP PKiKP 15 32 07.1 +1.0
baz=128
W31A Holland Ranch, 127.71 51 ⇓PKiKP PKiKP 15 32 07.0 +0.6
baz=128
P33A Williams Farm, 127.72 45 ⇑PKiKP PKiKP 15 32 06.6 +0.4
baz=128
T32A Huddler Ranch, 127.75 48 ⇓PKiKP PKiKP 15 32 06.7 +0.3
baz=128
Q33A Connelly Farm, 127.81 46 ⇑PKiKP PKiKP 15 32 06.6 +0.2
baz=128
X31A McDonald Ranch 127.87 51 ⇑PKiKP PKiKP 15 32 06.9 +0.2
baz=128
Y31A Rekieta Farm, 127.87 52 ⇓PKiKP PKiKP 15 32 07.3 +0.6
baz=128
330A Mertzon 127.92 56 ⇓PKiKP PKiKP 15 32 07.4 +0.5
baz=128
R33A Olander Ranch, 127.99 46 ⇑PKiKP PKiKP 15 32 07.6 +0.8
baz=128
U32A Winter Ranch, 128.00 49 ⇓PKiKP PKiKP 15 32 07.6 +0.7
baz=128
430A Baggett Ranch, 128.04 56 ⇓PKiKP PKiKP 15 32 07.9 +0.7
baz=128
530A J-C Ranch, Com 128.13 57 ⇑PKiKP PKiKP 15 32 07.9 +0.6
baz=128
Z31A Sharp Cattle R 128.17 53 ⇑PKiKP PKiKP 15 32 08.0 +0.7
baz=128
V32A Arapaho 128.21 50 ⇑PKiKP PKiKP 15 32 08.0 +0.7
baz=128
S33A Kaszmaul Farm, 128.26 47 ⇑PKiKP PKiKP 15 32 07.9 +0.5
baz=128
T33A Patterson Ranc 128.29 48 ⇓PKiKP PKiKP 15 32 08.0 +0.6
baz=128
231A Bronte 128.46 55 ⇑PKiKP PKiKP 15 32 07.9 0.0
baz=128
X32A Elmer 128.48 51 ⇓PKiKP PKiKP 15 32 08.4 +0.5
baz=128
PVRL Vila Real 128.53 318 PKPdf PKPdf 15 32 09.2 +2.0
331A San Angelo 128.56 56 ⇑PKiKP PKiKP 15 32 08.4 +0.2
baz=128
431A Sonora 128.59 56 ⇓PKiKP PKiKP 15 32 08.4 +0.1
baz=129
KSU1 Kansas State U 128.63 45 ⇑PKiKP PKiKP 15 32 08.4 +0.4
baz=129
KSU1 Kansas State U 128.63 45 *e*PKPdf PKPdf 15 32 08.9 +1.5
Z32A Haskell 128.70 53 ⇓PKiKP PKiKP 15 32 09.0 +0.6
baz=129
V33A Lossen Ranch, 128.74 49 ⇓PKiKP PKiKP 15 32 08.9 +0.5
baz=129
WMOK Wichita Mounta 128.76 51 *e*PKIKP PKPdf 15 32 09.3 +1.5
WMOK Wichita Mounta 128.76 51 *e*PKPdf PKPdf 15 32 09.3 +1.5
531A Rocksprings 128.78 57 ⇓PKiKP PKiKP 15 32 09.5 +0.9
baz=129
ABTX Abilene, Hawle 128.79 54 ⇑PKiKP PKiKP 15 32 09.3 +0.7
baz=129
S34A Willow Spring 128.87 47 ⇓PKiKP PKiKP 15 32 08.6 +0.1
baz=129
631A Perdido Creek 128.96 58 ⇓PKiKP PKiKP 15 32 09.2 +0.3
baz=129
232A Coleman 129.02 55 ⇓PKiKP PKiKP 15 32 09.5 +0.4
baz=129
X33A Lawton 129.04 51 ⇓PKiKP PKiKP 15 32 09.2 +0.2
baz=129
PCBR Castelo Branco 129.05 316 PKPdf PKPdf 15 32 09.1 +1.0
U34A Anderson Ranch 129.07 48 ⇑PKiKP PKiKP 15 32 09.3 +0.3
baz=129
U34A Anderson Ranch 129.07 48 *e*PKPdf PKPdf 15 32 10.4 +2.1
PLCA Paso Flores 129.07 161 PKP PKPdf 15 32 09.6 +1.3
comp=Z,5.3nm,0.8s,baz=185,slow=3.1,SNR=9.9
PLCA SKPbc SKPbc 15 35 13.1 -0.2
comp=Z,14nm,0.9s,baz=227,slow=4.3,SNR=16
PLCA Paso Flores 129.07 161 *e*PKPdf PKPdf 15 32 10.3 +2.0
PLCA SKPbc SKPbc 15 35 13.1 -0.2
432A Menard 129.21 56 ⇓PKiKP PKiKP 15 32 10.2 +0.7
baz=129
V34A Guthrie 129.31 49 ⇑PKiKP PKiKP 15 32 10.5 +1.0
baz=129
JCT Junction City 129.31 56 *e*PKIKP PKPdf 15 32 09.7 +0.7
JCT Junction City 129.31 56 ⇓PKiKP PKiKP 15 32 10.5 +0.8
baz=129
JCT Junction City 129.31 56 *e*PKPdf PKPdf 15 32 09.7 +0.7
532A Rocksprings 129.33 57 ⇓PKiKP PKiKP 15 32 10.4 +0.7
baz=129
133A Hamilton Ranch 129.38 54 ⇓PKiKP PKiKP 15 32 10.5 +0.8
baz=129
PBAR Barrancos 129.49 314 PKPdf PKPdf 15 32 08.1 -0.9
PESTR Estremoz 129.57 315 PKPdf PKPdf 15 32 11.1 +1.9
233A Rising Star 129.58 54 ⇓PKiKP PKiKP 15 32 11.1 +0.9
baz=130
632A Uvalde 129.60 58 ⇑PKiKP PKiKP 15 32 11.4 +1.2
baz=130
732A Laxson Ranch, 129.66 59 ⇑PKiKP PKiKP 15 32 11.3 +0.9
baz=130
333A Richland Sprin 129.73 55 ⇑PKiKP PKiKP 15 32 11.1 +0.6
baz=130
832A Faith Ranch, C 129.77 59 ⇓PKiKP PKiKP 15 32 11.1 +0.5
baz=130
433A Art 129.82 56 ⇓PKiKP PKiKP 15 32 11.3 +0.7
baz=130
Y34A Reagan Ranch, 129.83 51 ⇓PKiKP PKiKP 15 32 11.2 +0.6
baz=130
V35A Meyer Ranch, C 129.85 49 ⇑PKiKP PKiKP 15 32 11.2 +0.7
baz=130
S36A Lake Cedric, C 129.95 46 ⇓PKiKP PKiKP 15 32 11.0 +0.3
baz=130
134A White-Moore Ra 130.06 53 ⇑PKiKP PKiKP 15 32 11.7 +0.6
baz=130
533A Kerrville 130.07 57 ⇑PKiKP PKiKP 15 32 11.9 +0.7
baz=130
633A Saathoff Ranch 130.12 57 ⇓PKiKP PKiKP 15 32 12.2 +0.9
baz=130
234A Clairette 130.20 54 ⇓PKiKP PKiKP 15 32 11.9 +0.5
baz=130
833A Chaparral WMA, 130.25 59 ⇓PKiKP PKiKP 15 32 12.8 +1.2
baz=130
334A Lometa 130.34 55 ⇑PKiKP PKiKP 15 32 12.2 +0.5
baz=130
PCVE Castro Verde 130.44 314 PKPdf PKPdf 15 32 10.4 -0.4
Z35A Perchaven, San 130.45 52 ⇓PKiKP PKiKP 15 32 12.6 +0.8
baz=130
MESJ Messejana 130.47 314 *e*PKPdf PKPdf 15 32 12.6 +1.7
434A Burnet 130.47 55 ⇑PKiKP PKiKP 15 32 12.6 +0.6
baz=130
TUL1 Leonard 130.57 48 ⇑PKiKP PKiKP 15 32 13.0 +1.0
baz=130
TUL1 Leonard 130.57 48 *e*PKPdf PKiKP 15 32 13.0 +1.0
JFWS Jewell Farm 130.86 37 *e*SKPbc SKPbc 15 35 19.3 -0.3
335A Moody 131.01 55 ⇓PKiKP PKiKP 15 32 13.9 +0.9
baz=131
SCHQ Schefferville 131.05 12 PKP PKPdf 15 32 12.2 +0.7
comp=Z,10.0nm,0.6s,baz=339,slow=2.8,SNR=15
SCHQ SKPbc SKPbc 15 35 19.4 -0.5
comp=Z,35nm,0.7s,baz=4.3,slow=3.8,SNR=38
SCHQ Schefferville 131.05 12 *e*PKPdf PKPdf 15 32 12.9 +1.4
SCHQ SKPbc SKPbc 15 35 19.4 -0.5
636A Smothers Creek 131.88 57 ⇓PKiKP PKiKP 15 32 16.0 +1.1
baz=132
MIAR Mount Ida 132.79 49 *e*PKIKP PKPdf 15 32 17.1 +1.8
MIAR Mount Ida 132.79 49 *e*PKPdf PKPdf 15 32 17.1 +1.8
MIAR *e*SKPbc SKPab 15 35 27.9 -0.5
NATX Nacogdoches 133.06 53 PFAKE 15 32 30.0 +14
NATX LR LR
comp=Z,591nm,22.0s
339A Huntington 133.29 53 ⇓PKiKP PKiKP 15 32 17.6 0.0
baz=133
KIC Kosan Boka 133.58 272 *e*P PKiKP 15 32 16.9 -1.8
comp=Z,25nm,0.7s
KIC Kosan Boka 133.58 272 *e*PKP1 SKPbc 15 35 28.7 -1.3
comp=Z,58nm,0.8s
UALR University of 133.60 48 *e*PKPdf PKPdf 15 32 18.7 +1.9
UALR *e*SKPbc SKPbc 15 35 30.4 +1.0
DBIC Dimbokro 133.71 272 PKP PKPdf 15 32 18.0 +0.4
comp=Z,14nm,0.6s,baz=87,slow=2.4,SNR=17
DBIC SKPbc SKPbc 15 35 29.1 -1.3
comp=Z,20nm,0.6s,baz=79,slow=3.8,SNR=25
TRQA Tornquist 133.81 169 *e*SKPbc SKPbc 15 35 29.2 -0.9
LIC Lamto 133.85 272 *e*PKIKP PKPdf 15 32 18.1 +0.2
comp=Z,20nm,0.4s
LIC Lamto 133.85 272 *e*P PKiKP 15 32 18.2 -1.0
comp=Z,69nm,0.8s
LIC Lamto 133.85 272 *e*PKP1 SKPbc 15 35 29.5 -1.4
comp=Z,42nm,0.5s
LIC Lamto 133.85 272 *e*PKPdf PKPdf 15 32 18.1 +0.2
TIC Toumodi 133.87 272 *e*P PKiKP 15 32 19.2 -0.1
comp=Z,20nm,0.2s
TIC Toumodi 133.87 272 *e*PKP1 SKPbc 15 35 29.5 -1.4
comp=Z,18nm,0.2s
SFIN Lafayette 134.26 38 ⇑PKiKP PKiKP 15 32 18.7 -0.6
baz=134
PARMO Parma 134.56 44 *e*PKPdf PKPdf 15 32 20.8 +2.1
OLIL Olney 134.57 41 *e*PKPdf PKPdf 15 32 19.4 +0.9
OLIL *e*PKPdf PKiKP 15 32 20.7 +0.7
OLIL *e*SKPbc SKPbc 15 35 32.6 +0.1
OXF Oxford 135.87 47 *e*SKPbc SKPbc 15 35 37.0 +0.3
WCI Wyandotte Cave 136.02 40 *e*PKIKP PKPdf 15 32 22.8 +1.5
WCI Wyandotte Cave 136.02 40 *e*PKPdf PKPdf 15 32 22.8 +1.5
VBMS Vicksburg 136.09 50 *e*SKPbc SKPbc 15 35 38.7 +1.3
WVT Waverly 136.16 44 *e*PKIKP PKPdf 15 32 21.8 +0.2
WVT Waverly 136.16 44 *e*PKPdf PKPdf 15 32 21.8 +0.2
CMIG Matias Romero 136.59 73 PKP PKPdf 15 32 23.9 +1.0
comp=Z,2.3nm,0.5s,baz=278,slow=4.0,SNR=5.4
CMIG SKPbc SKPbc 15 35 39.9 +0.6
comp=Z,18nm,0.9s,baz=291,slow=2.5,SNR=15
ACSO Alum Creek Sta 136.81 36 *e*PKPdf PKPdf 15 32 25.0 +2.3
ACSO *e*SKPbc SKPbc 15 35 39.0 -0.4
SWET Sewanee 137.95 44 *e*PKPdf PKPdf 15 32 26.9 +1.9
LRAL Lakeview Retre 138.34 47 *e*PKPdf PKPdf 15 32 26.5 +0.8
NCB Newcomb 138.44 25 PFAKE 15 32 40.0 +14
NCB LR LR
comp=Z,535nm,19.0s
TZTN Tazewell 138.78 40 *e*PKPdf PKPdf 15 32 29.3 +2.8
CPCT Cooper Cave 138.78 42 *e*PKPdf PKPdf 15 32 30.5 +4.0
BINY Binghamton 139.07 28 *e*PKPdf PKPdf 15 32 29.6 +2.8
TKL Tuckaleechee C 139.16 42 *e*PKIKP PKPdf 15 32 28.2 +1.0
TKL Tuckaleechee C 139.16 42 *e*PKPdf PKPdf 15 32 28.2 +1.0
PKME Peaks-Kenny Pk 139.17 19 PFAKE 15 32 40.0 +13
PKME LR LR
comp=Z,2μm,20.0s
SSPA Standing Stone 139.32 31 *e*PKPpre PKPpre 15 32 21.3
MVL Millersville 140.58 31 *e*PKPpre PKPpre 15 32 26.1
ODNJ Ogdensburg 140.59 28 *e*PKPdf PKPdf 15 32 32.7 +3.1
ODNJ *e*SKPbc SKPbc 15 35 49.5 -0.3
GOGA Godfrey 140.65 44 *e*PKIKP PKPdf 15 32 31.1 +1.1
GOGA Godfrey 140.65 44 *e*PKPdf PKPdf 15 32 31.1 +1.1
KMSC Kings Mountain 141.06 40 ⇓PKiKP PKiKP 15 32 32.9 -0.4
baz=141
KMSC Kings Mountain 141.06 40 *e*PKPpre PKPpre 15 32 25.1
CBN Corbin Frederi 141.37 33 PFAKE 15 32 40.0 +8.9
CBN LR LR
comp=Z,455nm,19.0s
JSRW J. Sargeant Re 141.45 34 *e*SKPbc SKPbc 15 35 51.8 -0.3
TIGA Tifton 141.63 47 *e*PKPdf PKPdf 15 32 32.5 +0.7
TEIG Tepich 142.16 66 PFAKE 15 32 50.0 +17
TEIG LR LR
comp=Z,222nm,21.0s
CNNC Cliffs of the 143.14 37 PFAKE 15 32 50.0 +16
CNNC LR LR
comp=Z,1μm,21.0s
LVC Limon Verde 145.71 151 *e*PKPdf PKPab 15 32 42.0 +1.3
LVC *ep*PKPdf pPKPdf 15 33 24.9 -0.2
JTS JuntasAbangare 146.82 82 PKPbc PKPab 15 32 44.6 -0.4
baz=305,slow=6.4
JTS JuntasAbangare 146.82 82 *e*PKPab PKPab 15 32 44.6 -0.4
JTS *e*PKPdf PKiKP 15 32 45.0 -0.8
NNA Nana 148.33 127 PKP2 PKPbc 15 32 49.0 +1.6
NNA pmax pmax
comp=Z,36nm,0.9s
NNA Nana 148.33 127 PKPbc PKPbc 15 32 49.0 +1.6
comp=Z,36nm,0.9s,baz=250,slow=8.4,SNR=8.4
NNA Nana 148.33 127 *e*PKPbc PKPbc 15 32 48.9 +1.4
LPAZ La Paz 151.34 145 *e*PKIKP PKPdf 15 32 51.1 +1.9
LPAZ La Paz 151.34 145 PKPbc PKPbc 15 32 56.8 +1.5
comp=Z,16nm,0.7s,baz=229,slow=20,SNR=12
LPAZ PKPab PKPab 15 33 06.4 +2.5
comp=Z,33nm,0.6s,baz=223,slow=19,SNR=36
LPAZ La Paz 151.34 145 *e*PKPdf PKPdf 15 32 51.1 +1.9
LPAZ PKPbc PKPbc 15 32 56.8 +1.5
LPAZ PKPab PKPab 15 33 06.4 +2.5
SACV Santiago Islan 151.62 288 *e*PKPbc PKPbc 15 32 56.7 +1.4
SACV LR LR
comp=Z,189nm,22.0s
BCIP Isla Barro Col 151.90 84 PFAKE 15 33 00.0 +4.1
BCIP LR LR
comp=Z,218nm,20.0s
SIV San Ignacio 154.97 158 PKP PKPdf 15 32 55.1 +1.4
comp=Z,1.3nm,0.5s,baz=181,slow=1.9,SNR=4.3
SIV PKPbc PKiKP 15 33 03.3 +0.7
comp=Z,3.1nm,0.8s,baz=283,slow=2.0,SNR=5.4
SIV PKPab PKPab 15 33 19.5 +1.0
comp=Z,8.3nm,0.6s,baz=230,slow=5.6,SNR=18
BDFB Brasília 156.92 189 PKP PKPdf 15 32 57.1 +0.7
comp=Z,4.2nm,0.8s,baz=263,slow=1.1,SNR=5.7
BDFB PKPab PKPab 15 33 30.8 +3.9
comp=Z,3.2nm,0.6s,baz=136,slow=18,SNR=3.7
RCBR Riachuelo 159.68 230 *e*PKPab PKPab 15 33 41.0 +1.9
SAML Samuel 160.08 144 *e*PKPdf PKPdf 15 33 01.5 +1.4
SAML *e*PKPab PKPab 15 33 41.3 +0.7
SDV Santo Domingo 161.00 84 *e*PKPdf PKPdf 15 33 02.0 +0.6
SDV LR LR
comp=Z,85nm,21.0s
CPD Cerro la Pandu 162.38 51 *e*PKIKP PKPdf 15 33 02.5 +0.1
CPD Cerro la Pandu 162.38 51 *e*PKPdf PKPdf 15 33 02.5 +0.1
SMRT St. Maarten 164.48 46 *e*PKPdf PKPdf 15 33 04.6 +0.3
ANWB Willy Bob 165.64 43 PFAKE 15 33 20.0 +15
ANWB LR LR
comp=Z,132nm,20.0s
PTGA Pitinga 168.37 133 *e*PKPdf PKPdf 15 33 07.6 +0.1
PTGA *ep*PKPdf pPKPdf 15 33 55.4 +2.0
PTGA LR LR
comp=Z,931nm,22.0s

GUC 25 15:14:53.7±0.4,34°.81S×71°.76W,h43km±7km,ML3.6,1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.48	113	⇑*e*P	Pn	15 15 04.5	+0.2
NICH				*e*S	Sn	15 15 12.4	+0.7
TALC	Talca	0.59	170	*e*P	Pn	15 15 05.8	0.0
TALC				*e*S	Sn	15 15 15.4	+1.0
RCDM	Rinconada Maip	1.54	31	*e*P	Pn	15 15 19.2	+0.5
RCDM				*e*S	Sn	15 15 38.9	+1.3
RCDM				AML	AML	15 15 42.4	
comp=E,1μm,0.1s							
CLCH	Cerro Calan	1.74	36	*e*P	Pn	15 15 22.4	+0.8
CLCH				*e*S	Sn	15 15 44.3	+1.6
CLCH				AML	AML	15 15 46.0	
comp=E,815nm,0.3s							
PEL	Peldehue	1.89	29	*e*P	Pn	15 15 24.6	+1.0
PEL				*e*S	Sn	15 15 47.9	+1.6
PEL				AML	AML	15 15 53.3	
comp=N,1μm,0.3s							

GUC 25 15:20:45.8±0.6,34°.26S×72°.10W,h36km±3km,ML3.9, 5C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.65	62	⇑*i*P	Pn	15 20 58.3	-0.2
NICH	Los Niches	1.03	136	⇑*i*P	Pn	15 21 04.5	+0.8
NICH				*i* S	Sn	15 21 18.4	+1.5
NICH				AML	AML	15 21 20.5	
comp=E,7μm,0.6s							
TALC	Talca	1.20	162	⇑*i*P	Pn	15 21 07.0	+1.0
TALC				*i* S	Sn	15 21 22.6	+1.6
TALC				AML	AML	15 21 23.3	
comp=E,10μm,0.4s							
CHCH	Chadas Angostu	1.24	75	⇑*i*P	Pn	15 21 07.7	+1.0
CACH	El Canelo	1.25	84	⇑*i*P	Pn	15 21 08.1	+1.2
IHA	Instituto Hidr	1.29	17	⇓*i*P	Pn	15 21 08.3	+1.1
IHA				*i* S1	Sg	15 21 25.2	
RCDM	Rinconada Maip	1.32	55	⇓*i*P	Pn	15 21 08.2	+0.5
RCDM				*i* S	Sn	15 21 26.2	+2.0
RCDM				AML	AML	15 21 31.0	
comp=N,2μm,0.4s							
CLCH	Cerro Calan	1.56	57	⇓*i*P	Pn	15 21 12.7	+1.6
CLCH				*i* S	Sn	15 21 32.7	+2.6
CLCH				AML	AML	15 21 38.0	
comp=N,2μm,0.3s							
LNCH	Linares	1.64	166	*e*P9	Pb	15 21 14.5	
LNCH				*i* S	Sn	15 21 35.6	+3.8

DJA 25 15:26:56.6±1.4,5°.S±7°.×10°.2E±°,h24km±14km,M3.7/8, MLv3.7/8,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	1.23	45	P	Pn	15 27 17.5	-0.8
LWLI	Liwa	1.97	84	P	Pn	15 27 29.3	+0.6
LHSI	Lahat	2.00	46	P	Pn	15 27 29.8	+0.8
MASI	Maura Aman, Be	2.09	4	P	Pn	15 27 30.5	+0.3
MDSI	Maura Dua	2.21	70	P	Pn	15 27 32.8	+1.0
MDSI				S	Sn	15 28 00.1	+1.7
KASI	Kota Agung	2.41	97	P	Pn	15 27 34.3	-0.3
KASI				S	Sn	15 28 04.1	+0.7
CGJI	Cibinong	3.83	111	P	Pn	15 27 54.7	+0.5

WEL 25 15:28:12.4±0.2,39°.75S×174°.76E,h122km±1km,ML3.6/11, 10C-16D,Error ellipse: s-maj=0.7km s-min=0.5km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.17	93	⇑PN	Pn	15 28 29.4	+0.2
WAZ				SN	Sn	15 28 41.9	+0.1
LREZ	Lake Rotokare	0.40	316	⇑PN	Pn	15 28 29.9	0.0
LREZ				SN	Sn	15 28 43.3	+0.1
VRZ	Vera Road	0.62	0	PN	Pn	15 28 30.9	-0.4
VRZ				SN	Sn	15 28 44.5	-1.1
PKVZ	Pokaka	0.64	45	⇓PN	Pn	15 28 31.2	-0.4
PKVZ				SN	Sn	15 28 44.7	-1.3
MTVZ	Mangateitei	0.66	57	PN	Pn	15 28 31.4	-0.3
NEZ	North Egmont	0.70	313	PN	Pn	15 28 31.9	-0.2
DREZ	Durham Road	0.70	322	PN	Pn	15 28 31.8	-0.2
KHEZ	Kahui Hut	0.73	308	PN	Pn	15 28 32.0	-0.2
MHEZ	Mangahewa	0.75	333	PN	Pn	15 28 32.3	0.0
TRVZ	Turoa	0.76	54	⇓PN	Pn	15 28 32.3	-0.4
NMEZ	Namu Road	0.76	296	PN	Pn	15 28 32.1	-0.3
WNVZ	Wahianoa	0.77	57	PN	Pn	15 28 32.4	-0.3
DRZ	Dome Shelter	0.78	53	PN	Pn	15 28 32.7	-0.3
FWVZ	Far West T-bar	0.79	52	⇓PN	Pn	15 28 32.5	-0.4
WHVZ	Whangaehu Hut	0.79	54	⇓PN	Pn	15 28 32.5	-0.4
PKE	Pukeiti	0.81	313	PN	Pn	15 28 32.8	-0.1
WPVZ	Whakapapa	0.81	49	⇓PN	Pn	15 28 32.7	-0.3
COVZ	Chateau Observ	0.82	48	⇓PN	Pn	15 28 32.6	-0.4
NWEZ	Newall Road	0.84	304	PN	Pn	15 28 33.1	0.0
MOVZ	Moawhango	0.84	66	⇓PN	Pn	15 28 32.6	-0.6
TUVZ	Tukino	0.84	56	⇓PN	Pn	15 28 33.1	-0.2
TWVZ	Taurewa	0.86	38	PN	Pn	15 28 32.8	-0.6
NGZ	Ngauruhoe	0.87	49	⇓PN	Pn	15 28 33.1	-0.4
WTVZ	West Tongariro	0.90	46	PN	Pn	15 28 33.4	-0.4
KRVZ	Karewarewa	0.94	47	PN	Pn	15 28 33.8	-0.4
BHHZ	Black Hill Sta	1.04	76	⇓PN	Pn	15 28 34.2	-0.8
OGWZ	Otaki Gorge	1.11	164	PN	Pn	15 28 35.8	+0.1
KIW	Kapiti Island	1.12	174	PN	Pn	15 28 35.6	-0.2
KIW				AML	AML	15 28 54.0	
KIW				AML	AML	15 28 54.0	
PNHZ	Pukenui	1.12	99	PN	Pn	15 28 35.8	0.0
RITZ	Rihia Road	1.15	48	⇓PN	Pn	15 28 36.1	0.0
RATZ	Rangitukua	1.18	42	PN	Pn	15 28 36.3	-0.1
DVHZ	Dannevirke	1.21	117	PN	Pn	15 28 36.7	-0.1
PRWZ	Pori Road	1.23	131	PN	Pn	15 28 37.3	+0.4
DUWZ	D'Urville Isla	1.23	211	⇓PN	Pn	15 28 36.8	-0.2
KRHZ	Kereru	1.25	86	PN	Pn	15 28 36.9	-0.2
WATZ	Wairara	1.28	36	⇑PN	Pn	15 28 37.7	+0.2
HOWZ	Holdsworth Sta	1.29	154	PN	Pn	15 28 37.5	-0.1
WPHZ	Waipukurau	1.33	104	PN	Pn	15 28 38.1	+0.1
TIWZ	Tintock	1.34	140	PN	Pn	15 28 38.2	0.0
TIWZ				AML	AML	15 28 57.1	
TIWZ				AML	AML	15 28 58.5	
CAW	Cannon Point	1.38	170	PN	Pn	15 28 38.5	0.0
CAW				AML	AML	15 28 58.2	
CAW				AML	AML	15 28 59.0	
BKZ	Black Stump Fm	1.46	67	⇓PN	Pn	15 28 38.9	-0.7
BKZ				AML	AML	15 28 59.2	
BFZ	Birch Farm	1.47	130	PN	Pn	15 28 39.4	-0.2
ANWZ	Angora Road	1.50	119	⇓PN	Pn	15 28 40.1	+0.2
TCW	Tory Channel	1.51	194	⇑PN	Pn	15 28 39.8	-0.2
TCW				AML	AML	15 29 00.6	
TCW				AML	AML	15 29 01.6	
MTW	Mount Morrison	1.52	158	⇑PN	Pn	15 28 39.9	-0.3
MTW				AML	AML	15 28 59.1	
MTW				AML	AML	15 29 01.0	
MCHZ	McNeill Hill	1.53	79	PN	Pn	15 28 40.6	+0.4
PRHZ	Porangahau	1.53	110	PN	Pn	15 28 40.4	+0.1
WEL	Wellington	1.54	180	⇑PN	Pn	15 28 40.0	-0.3
WEL				AML	AML	15 29 01.8	
WEL				AML	AML	15 29 03.8	
TLZ	Tolley Road	1.54	23	⇓PN	Pn	15 28 40.0	-0.5
CPWZ	Castlepoint	1.60	137	SN	Sn	15 29 01.9	-1.1
CPWZ				SN		15 29 02.0	
TMWZ	Te Maipa	1.61	148	PN	Pn	15 28 41.1	-0.1
KAHZ	Kahuranaki	1.63	92	PN	Pn	15 28 41.4	-0.1
PXZ	Pawanui	1.64	101	⇓PN	Pn	15 28 41.4	-0.2
BHW	Baring Head	1.66	177	⇑PN	Pn	15 28 41.4	-0.4
BHW				AML	AML	15 29 03.3	
BHW				AML	AML	15 29 04.1	
MSWZ	Moikau Station	1.71	167	⇑PN	Pn	15 28 42.1	-0.3

MSWZ				AML	AML	15 29 04.8	
MSWZ				AML	AML	15 29 04.9	
PAWZ	**Paruwai Farm**	**1.71**	**163**	PN	Pn	15 28 42.1	-0.3
PAWZ				AML	AML	15 29 02.6	
PAWZ				AML	AML	15 29 05.2	
CKHZ	**Cape Kidnapper**	**1.79**	**88**	PN	Pn	15 28 43.2	-0.2
TUWZ	**Tuamarina**	**1.79**	**200**	PN	Pn	15 28 42.6	-0.7
TUWZ				AML	AML	15 29 06.8	
TUWZ				AML	AML	15 29 06.9	
TRWZ	**Traveller**	**1.80**	**157**	PN	Pn	15 28 43.0	-0.4
ARHZ	**Aropaoanui**	**1.80**	**75**	PN	Pn	15 28 43.3	-0.1
PLWZ	**Palliser**	**1.86**	**168**	PN	Pn	15 28 43.6	-0.6
RAHZ	**Arahi**	**1.99**	**66**	PN	Pn	15 28 45.4	-0.4
QRZ	**Quartz Range**	**2.02**	**237**	PN	Pn	15 28 45.1	-1.0
BSWZ	**Blackbirch Sta**	**2.08**	**199**	PN	Pn	15 28 46.4	-0.5
SNGZ	**Shannon Statio**	**2.23**	**65**	PN	Pn	15 28 48.1	-0.7
URZ	**Urewera**	**2.36**	**52**	⇑PN	Pn	15 28 49.1	-1.3
KNZ	**Kokohu**	**2.37**	**73**	PN	Pn	15 28 49.2	-1.3
MHGZ	**Mahia Peninsul**	**2.51**	**77**	PN	Pn	15 28 51.6	-0.7
RIGZ	**Rimuhau**	**2.56**	**67**	PN	Pn	15 28 51.7	-1.3
PRGZ	**Paritu Road**	**2.56**	**72**	PN	Pn	15 28 52.0	-1.0
MWZ	**Matawai**	**2.58**	**58**	⇑PN	Pn	15 28 52.0	-1.3
TKGZ	**Te Karaka**	**2.74**	**62**	PN	Pn	15 28 54.2	-1.1
TWGZ	**Tauwhareparae**	**2.96**	**59**	PN	Pn	15 28 57.0	-1.3
CNGZ	**Carnagh Statio**	**2.96**	**66**	PN	Pn	15 28 57.2	-1.0
DSZ	**Denniston Nort**	**3.00**	**227**	PN	Pn	15 28 57.5	-1.3
HAZ	**Te Kaha**	**3.09**	**51**	PN	Pn	15 28 57.6	-2.3
PUZ	**Puketiti**	**3.20**	**60**	PN	Pn	15 28 59.6	-1.9
WMGZ	**Waiomatatini S**	**3.45**	**57**	PN	Pn	15 29 02.7	-1.9
OXZ	**Oxford**	**4.12**	**209**	PN	Pn	15 29 11.3	-2.2
CRLZ	**Canterbury Las**	**4.15**	**202**	PN	Pn	15 29 11.1	-2.8
MQZ	**McQueen's Vall**	**4.26**	**201**	PN	Pn	15 29 12.5	-2.9
MQZ				SN	Sn	15 29 56.5	-7.7

IDC 25 15:37:35.6±2.8, 16°66S×176°54W, h0km, mb4.1/3, mb1 4.5/3, mb1mx3.8/25, mbtmp4.1/3, Error ellipse: s-maj=340.7km s-min=30.2km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMQ	**Roma**	**33.63**	**247**	P	P	15 44 21.9	+3.8
	baz=32,SNR=5.1						
CMSA	**Cobar Meteorol**	**37.32**	**240**	P	P	15 44 52.7	+2.9
	baz=35,SNR=9.2						
QLP	**Quilpie**	**37.65**	**248**	P	P	15 44 54.7	+2.1
	baz=36,SNR=4.9						
BBOO	**Buckleboo**	**45.57**	**240**	P	P	15 45 58.9	+1.4
	baz=44,SNR=15						
WRA	**Warramunga Arr**	**46.62**	**258**	P	P	15 46 05.2	-0.9
	1.0nm,0.5s,baz=95,slow=7.2,SNR=28						
ASAR	**Alice Springs**	**46.85**	**253**	P	P	15 46 08.5	+0.6
	10nm,0.5s,baz=89,slow=7.9,SNR=429						
KDU	**Kakadu**	**49.38**	**267**	P	P	15 46 28.9	+1.4
	baz=47,SNR=7.6						
WRKA	**Warakurna**	**51.93**	**251**	P	P	15 46 46.8	+0.2
	baz=50,SNR=15						
KNRA	**Kununurra**	**52.40**	**263**	P	P	15 46 50.5	+0.3
	baz=50,SNR=12						
BKNI	**Bangkinang**	**82.83**	**272**	P	P	15 49 57.6	-5.0
	baz=81,SNR=3.1						
TXAR	**Lajitas Array**	**83.82**	**57**	P	P	15 50 07.5	0.0
	0.4nm,1.0s,baz=238,slow=6.3,SNR=2.1						

IDC 25 15:45:30.6±913.0, 54°41N×2°45E, h0km, Error ellipse: s-maj=438.6km s-min=121.6km az=118.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.94**	**124**	*i*		16 41 00.0	
	baz=314,slow=325,SNR=1.2						
I48TN	**KESRA INFRASON**	**19.20**	**163**	*i*		17 45 58.2	
	baz=348,slow=324,SNR=0.3						
I43RU	**DUBNA INFRASON**	**19.67**	**69**	*i*		17 50 00.0	
	baz=280,slow=310,SNR=5.7						

*IDC **25** 15:50:35.0±1.7, 38°92N×74°64E, h0km, mb3.3/3, mb1 3.5/6, mb1mx3.3/39, mbtmp3.3/6, ML3.0/3, Error ellipse: s-maj=35.2km s-min=21.6km az=118.0*
*NNC **25** 15:50:45.7±3.8, 39°65N×74°54E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=33.6km s-min=20.8km az=178.0*
ISC 25 15:50:37.6±1.5, 39°0N±0°1×74°5E±0°1, h10km, n18, σ1°93/19, mb3.4/3, 6C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**3.10**	**10**	P	**Pn**	**15 51 28.5**	**+1.5**
	SNR=9.6						
AML	**Almayashu**	**3.17**	**349**	P	**Pn**	**15 51 29.8**	**+1.9**
	SNR=28						
UCH	**Uchtor**	**3.20**	**360**	P	**Pn**	**15 51 30.3**	**+1.9**
	SNR=31						
AAK	**Ala-Archa**	**3.61**	**360**	⇑Pn	Pn	15 51 36.7	+3.0
	12nm,0.6s						
AAK				⇑Lg	Lg	15 52 24.8	
	38nm,0.9s						
AAK	**Ala-Archa**	**3.61**	**360**	P	**Pn**	**15 51 36.2**	**+2.5**
	SNR=18						
AAK	**Ala-Archa**	**3.61**	**360**	Pn	**Pn**	**15 51 36.3**	**+2.6**
	1.3nm,0.3s,baz=181,slow=2.9,SNR=26						
AAK				Sn	**Sb**	**15 52 23.6**	**-1.9**
	0.6nm,0.3s,baz=253,slow=19,SNR=3.6						
KBK	**Karagaybulak**	**3.65**	**5**	P	**Pn**	**15 51 37.0**	**+2.8**
	SNR=18						
EKS2	**Erkin-Say**	**3.68**	**351**	P	**Pn**	**15 51 37.6**	**+2.9**
	SNR=18						
TKM2	**Tokmak 2**	**3.98**	**11**	⇓Pn	**Pn**	**15 51 39.3**	**+0.5**
	8.7nm,0.5s						
TKM2				⇓Lg	Lg	15 52 27.9	
	33nm,0.6s						
KK31	**Karatay Array**	**5.08**	**325**	⇓Pn	**Pn**	**15 51 55.2**	**+1.4**
	1.9nm,0.4s,baz=132,slow=12,SNR=20						
KK31				⇑Pg	**Pb**	**15 52 08.2**	**+1.6**
	1.5nm,0.3s,baz=129,slow=16,SNR=2.9						
KK31				⇑Sn	**Sn**	**15 52 51.4**	**-1.1**
	1.9nm,0.3s,baz=185,slow=36						
KK31				⇓Lg	Lg	15 53 11.8	
	3.2nm,0.5s,baz=137,slow=30						
PDGK	**Podgornoye**	**5.70**	**39**	⇓Pn	Pn	15 52 05.4	+3.2
PDGK				⇑Pg	Pb	15 52 20.1	+3.0
PDGK				⇓Lg	Lg	15 53 30.5	
MKAR	**Makanchi Array**	**9.63**	**34**	Pn	**Pn**	**15 52 58.1**	**+1.9**
	0.0nm,0.3s,baz=216,slow=12,SNR=3.4						
AB31	**Akbulak array**	**14.61**	**319**	⇑P	**Pn**	**15 54 02.5**	**-1.8**
	1.5nm,0.7s						
AKTO	**Aktyubinsk**	**16.32**	**320**	⇓P	**Pn**	**15 54 25.6**	**-1.2**
	1.0nm,0.6s						
AKTO	**Aktyubinsk**	**16.32**	**320**	Pn	**Pn**	**15 54 26.1**	**-0.6**
	0.2nm,0.3s,baz=129,slow=14,SNR=4.7						
TORD	**Torodi Ar. Bea**	**68.55**	**270**	P	**P**	**16 01 40.6**	**-0.1**
	0.2nm,0.5s,baz=45,slow=5.7,SNR=2.5						
ILAR	**Eielson Array**	**71.57**	**17**	P	**P**	**16 01 56.8**	**-1.6**
	0.2nm,0.6s,baz=304,slow=5.3,SNR=3.8						
YKA	**Yellowknife Ar**	**78.56**	**4**	P	**P**	**16 02 39.0**	**+0.2**
	0.2nm,0.6s,baz=351,slow=5.7,SNR=5.5						

*IDC **25** 15:56:04.0±1.2, 31°38N×130°73E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/26, mbtmp3.8/9, Error ellipse: s-maj=64.9km s-min=20.7km az=71.0*
*ISCJB **25** 15:56:22.9±0.5, 31°25N±0°06×130°4E±0°1, h172km±4km, mb3.9/10, Error ellipse: s-maj=19.5km s-min=9.6km az=171.9*
*JMA **25** 15:56:25.5±0.1, 31°27N×130°38E, h160km±1km, M3.6*
ISC 25 15:56:24.1±0.7, 31°25N±0°07×130°3E±0°1, h167km±6km, n17, σ0°53/24, mb3.7/10, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.28**	**21**	P	**Pn**	**15 56 47.2**	**+0.6**
JSU				*e*S	**Sn**	**15 57 03.9**	**-0.2**
JTSR	**Tashiro 2**	**0.51**	**99**	P	**Pn**	**15 56 48.0**	**+0.5**
JTSR				*e*S	**Sn**	**15 57 04.7**	**-0.6**
JSJ	**Shimokoshiki**	**0.68**	**309**	P	**Pn**	**15 56 48.6**	**+0.3**
JSJ				*e*S	**Sn**	**15 57 06.8**	**-0.2**
JTN	**Tanegashima 3**	**0.81**	**137**	P	**Pn**	**15 56 49.8**	**+0.6**
JTN				*e*S	**Sn**	**15 57 08.2**	**-0.2**
JTZ	**Takazaki**	**0.91**	**44**	P	**Pn**	**15 56 50.4**	**+0.6**
JTZ				*e*S	**Sn**	**15 57 08.5**	**-1.2**
JYAK	**Yakushimahirau**	**1.02**	**172**	P	**Pn**	**15 56 51.2**	**+0.5**
JYAK				*e*S	**Sn**	**15 57 10.6**	**-0.5**
JIU2	**Izumi 2**	**1.36**	**17**	P	**Pn**	**15 56 54.5**	**+0.9**
JIU2				*e*S	**Sn**	**15 57 16.2**	**-0.3**
SONM	**Songino Array**	**24.66**	**319**	P	**P**	**16 01 29.4**	**+0.1**
	2μm,0.4s,baz=138,slow=10,SNR=0.2						
MKAR	**Makanchi Array**	**39.78**	**307**	P	**P**	**16 03 40.5**	**-0.1**
	0.1nm,0.4s,baz=86,slow=10.0,SNR=4.1						
KURBB	**Kurchatov Arra**	**42.67**	**312**	P	**P**	**16 04 04.0**	**0.0**
	0.2nm,0.4s,baz=96,slow=8.5,SNR=5.0						
WRA	**Warramunga Arr**	**51.04**	**175**	P	**P**	**16 05 09.2**	**0.0**
	0.5nm,0.9s,baz=356,slow=8.2,SNR=3.1						
ASAR	**Alice Springs**	**54.71**	**176**	P	**P**	**16 05 35.9**	**-0.2**
	0.2nm,0.3s,baz=357,slow=5.7,SNR=5.9						
SPITS	**Spitsbergen Ar**	**64.32**	**348**	P	**P**	**16 06 41.2**	**0.0**
	1.8nm,0.6s,baz=92,slow=8.6,SNR=12						
ARCES	**ARCESS Array B**	**66.04**	**338**	P	**P**	**16 06 52.1**	**-0.2**
	2.7nm,0.8s,baz=54,slow=9.1,SNR=4.7						
FINES	**FINESS Array B**	**69.43**	**330**	P	**P**	**16 07 13.3**	**-0.3**
	1.3nm,0.4s,baz=82,slow=5.9,SNR=14						
AKASG	**Malin Array Be**	**72.94**	**311**	P	**P**	**16 07 34.4**	**-0.5**
	0.8nm,0.4s,baz=57,slow=6.4,SNR=3.4						
BRTR	**Keskin Array B**	**75.43**	**308**	P	**P**	**16 07 50.3**	**+0.5**
	1.0nm,0.8s,baz=72,slow=4.0,SNR=4.3						

IDC 25 15:59:52.4±3.7, 5°53S×147°94E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.3/30, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=112.5km s-min=40.6km az=100.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.92**	**191**	Pn	Pn	16 00 53.8	-0.2
	2.2nm,0.3s,baz=346,slow=8.3,SNR=11						
PMG				Sn	Sn	16 01 35.0	-5.8
	9.0nm,0.3s,baz=18,slow=19,SNR=12						
WRA	**Warramunga Arr**	**19.50**	**222**	P	P	16 04 21.1	-0.2
	0.3nm,0.3s,baz=46,slow=11,SNR=23						
ASAR	**Alice Springs**	**22.53**	**215**	P	P	16 04 54.4	+0.2
	0.8nm,0.4s,baz=49,slow=9.2,SNR=35						
TORD	**Torodi Ar. Bea**	**145.88**	**285**	PKPbc	PKPdf	16 19 34.0	-0.3
	0.3nm,0.9s,baz=87,slow=3.5,SNR=2.7						

*ISCJB **25** 16:02:51.8±0.7, 6°93N±0°07×72°97W±0°07, h166km, mb3.3/3, Error ellipse: s-maj=12.3km s-min=7.0km az=139.7*
*FUNV **25** 16:02:51.7, 6°84N×73°15W, h176km, MW3.6*
*IDC **25** 16:02:54.5±3.1, 6°64N×73°46W, h178km±25km, mb3.1/3, mb1 3.4/3, mb1mx3.0/32, mbtmp3.5/3, Error ellipse: s-maj=56.3km s-min=21.8km az=64.0*
ISC 25 16:02:51.7±0.9, 6°85N±0°07×73°01W±0°07, h166km, n14, σ1°87/22, mb3.5/3, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**34**	⇓*i*P	**Pn**	**16 03 21.0**	**+0.9**
CAPV				*e*S	**Sn**	**16 03 42.8**	**+0.8**
ROSC	**El Rosal**	**2.38**	**214**	P	**Pn**	**16 03 33.2**	**+0.5**
	12nm,0.3s,baz=110,slow=15,SNR=16						
ROSC				S	**Sn**	**16 04 00.3**	**-4.0**
	8.6nm,0.3s,baz=108,slow=17,SNR=7.5						
VIGV	**El Vigia**	**2.56**	**39**	*e*P	**Pn**	**16 03 34.9**	**+0.5**
VIGV				*e*S	**Sn**	**16 04 07.6**	**0.0**
SOCV	**Socops**	**2.56**	**56**	*e*P	**Pn**	**16 03 35.1**	**+0.6**
SOCV				*e*S	**Sn**	**16 04 07.6**	**0.0**
VIRV	**Villa del Rosa**	**3.68**	**9**	*e*P	**Pn**	**16 03 48.0**	**-0.3**
VIRV				*e*S	**Sn**	**16 04 28.7**	**-3.8**
SANV	**Sanarito**	**4.33**	**52**	*e*P	**Pn**	**16 03 57.4**	**+0.6**
SANV				*e*S	**Sn**	**16 04 45.2**	**-2.5**
CURV	**Curarigua**	**4.35**	**44**	*e*P	**Pn**	**16 03 57.5**	**+0.4**
BAUV	**El Baul**	**5.34**	**67**	*e*P	**Pn**	**16 04 09.2**	**-0.7**
BAUV				*e*S	**Sn**	**16 05 08.1**	**-3.1**
MAPV	**Macapo**	**5.39**	**56**	*e*P	**Pn**	**16 04 11.0**	**+0.4**
MAPV				*e*S	**Sn**	**16 05 09.2**	**-3.2**
SIV	**San Ignacio**	**25.59**	**153**	P	**P**	**16 08 08.0**	**+2.3**
	1.1nm,0.6s,baz=309,slow=3.1,SNR=3.0						
TXAR	**Lajitas Array**	**36.53**	**312**	P	**P**	**16 09 42.3**	**+0.7**
	0.2nm,0.6s,baz=117,slow=9.4,SNR=3.1						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**16 13 03.1**	**+0.7**
	0.3nm,0.5s,baz=132,slow=6.5,SNR=8.1						
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	**PKPbc**	**16 22 21.1**	**-0.5**
	0.2nm,0.7s,baz=126,slow=3.8,SNR=4.3						
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc	**PKPbc**	**16 22 24.1**	**-0.5**
	0.1nm,0.3s,baz=105,slow=2.7,SNR=5.5						

IDC 25 16:04:26.5±2.3, 52°84N×172°14E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.2/51, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=59.4km s-min=16.3km az=8.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**0.62**	**86**	Pn	Pn	16 04 42.1	-0.5
	285nm,0.3s,baz=300,slow=5.0,SNR=851						
FX1				Sn	Sn	16 04 52.6	-0.7
	803nm,0.3s,baz=166,slow=19,SNR=100						
PETK	**Petropavlovsk-**	**8.72**	**278**	Pn	Pn	16 06 33.0	-0.8
	0.4nm,0.3s,baz=93,slow=19,SNR=18						
PETK				Sn	Sn	16 08 03.1	-10
	0.4nm,0.3s,baz=98,slow=18,SNR=6.2						
ILAR	**Eielson Array**	**23.86**	**44**	P	P	16 09 40.4	-0.7
	0.7nm,0.8s,baz=255,slow=7.8,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**33.30**	**189**	T	T	16 46 22.8	
	baz=5.9,slow=76,SNR=83						
H11N3	**WAKE ISLAND Hy**	**33.31**	**189**	T	T	16 46 29.7	
	baz=5.9,slow=76,SNR=72						
H11N1	**WAKE ISLAND Hy**	**33.31**	**189**	T	T	16 46 31.7	
	baz=5.9,slow=76,SNR=87						
H11S1	**WAKE ISLAND Hy**	**34.52**	**189**	T	T	16 48 01.9	
	baz=5.7,slow=76,SNR=133						
H11S3	**WAKE ISLAND Hy**	**34.54**	**189**	T	T	16 48 03.5	
	baz=5.7,slow=76,SNR=121						
H11S2	**WAKE ISLAND Hy**	**34.54**	**189**	T	T	16 48 03.4	
	baz=5.7,slow=76,SNR=116						
YKA	**Yellowknife Ar**	**38.26**	**46**	P	P	16 11 48.2	+0.3
	0.3nm,0.8s,baz=287,slow=7.2,SNR=3.9						

*IDC **25** 16:33:15.5±2.1, 1°57N×126°38E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/26, mbtmp3.3/3, Error ellipse: s-maj=175.7km s-min=26.5km az=65.0*
*DJA **25** 16:33:30.6±1.3, 1°N±5°×12°6E±°, h12km±11km, M4.0/8, mb4.5/1, MLv3.7/8*
*ISCJB **25** 16:33:31.9±1.1, 0°88N±0°09×125°79E±0°06, h50km, mb3.2/3, Error ellipse: s-maj=12.4km s-min=8.2km az=3.0*
ISC 25 16:33:30.3±1.7, 0°9N±0°1×125°79E±0°07, h50km, n9, σ3°30/10, mb3.3/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.58**	**96**	P	**Pn**	**16 33 56.1**	**+0.2**
TNTI				S	**Sn**	**16 34 18.5**	**+3.3**
KMSI	**Cibinong**	**1.85**	**259**	P	**Pn**	**16 34 01.8**	**+2.2**
LBMI	**Labuha**	**2.32**	**133**	P	**Pn**	**16 34 07.5**	**+1.5**
LBMI				S	**Sn**	**16 34 36.7**	**+3.3**
GTOI	**Gorontalo**	**2.80**	**264**	P	Pn	16 34 16.9	+4.3
SANI	**Sanana**	**2.98**	**176**	P	**Pn**	**16 34 16.1**	**+1.0**
SANI				S	**Sn**	**16 34 50.8**	**+1.2**
NLAI	**Namlea**	**4.36**	**163**	P	**Pn**	**16 34 35.4**	**+1.4**
WRA	**Warramunga Arr**	**22.38**	**158**	P	**P**	**16 38 19.9**	**-4.7**
	0.5nm,0.4s,baz=339,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.70**	**163**	P	**P**	**16 38 51.4**	**-4.6**
	0.4nm,0.7s,baz=342,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**59.33**	**327**	P	P	16 43 18.0	-9.2
	0.1nm,0.4s,baz=123,slow=7.7,SNR=4.4						

GUC 25 16:33:49.3±0.4, 34°41S×71°98W, h42km±2km, ML3.6, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.86**	**134**	⇓*e*P	Pn	16 34 05.3	+0.4
NICH				*e*S	Sn	16 34 17.3	+0.9
TALC	**Talca**	**1.03**	**164**	*e*P	Pn	16 34 08.1	+0.8
TALC				*e*S	Sn	16 34 21.8	+1.2
RCDM	**Rinconada Maip**	**1.34**	**47**	*e*P	Pn	16 34 12.6	+1.0
RCDM				*e*S	Sn	16 34 30.0	+1.7
RCDM				AML	AML	16 34 35.5	
	comp=E,939nm,0.7s						
LNCH	**Linares**	**1.47**	**168**	*e*P	Pn	16 34 14.9	+1.5
LNCH				*e*S	Sn	16 34 34.0	+2.6
CLCH	**Cerro Calan**	**1.57**	**50**	*e*P	Pn	16 34 16.4	+1.6
CLCH				*e*S	Sn	16 34 36.8	+2.9
CLCH				AML	AML	16 34 44.2	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**1.66**	**41**	*e*P	Pn	16 34 17.5	+1.5
PEL				*e*S	Sn	16 34 39.1	+2.9
PEL				AML	AML	16 34 43.9	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**1.77**	**53**	*e*P9	Pn	16 34 10.6	-7.3
FCH				*e*S	Sn	16 34 33.8	-5.8
COCH	**Cobquecura**	**1.84**	**201**	*e*P	Pn	16 34 19.9	+1.5
COCH				*e*S	Sn	16 34 43.0	+2.5

IDC 25 17:08:25.3±1.8, 33°15N×95°91E, h0km, mb3.3/2, mb1 3.3/4, mb1mx3.1/36, mbtmp3.3/4, ML2.9/2, MS3.3/1, Ms1 3.3/1, ms1mx2.3/23, Error ellipse: s-maj=77.4km s-min=27.6km az=60.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**16.67**	**25**	Pn	Pn	17 12 20.3	-0.1
	0.1nm,0.3s,baz=210,slow=14,SNR=4.5						
MKAR	**Makanchi Array**	**17.13**	**327**	P	Pn	17 12 26.9	+0.8
	0.0nm,0.3s,baz=136,slow=14,SNR=4.8						
KURBB	**Kurchatov Arra**	**21.64**	**329**	P	P	17 13 16.6	-0.3
	1.4nm,0.9s,baz=135,slow=11,SNR=10						
PSI	**Prapat**	**30.32**	**174**	LR	LR	17 27 27.6	
	comp=Z,51nm,19.1s,baz=19,slow=38						
ASAR	**Alice Springs**	**67.11**	**142**	P	P	17 19 20.9	0.0
	0.2nm,0.8s,baz=325,slow=6.4,SNR=5.0						

*IDC **25** 17:12:43.0±0.8, 41°97N×82°59E, h0km, mb3.5/8, mb1 3.6/13, mb1mx3.5/36, mbtmp3.4/13, ML2.8/5, Error ellipse: s-maj=17.2km s-min=14.0km az=65.0*
*BJI **25** 17:12:46.5, 42°00N×82°58E, h5km, ML3.5/10*
*NNC **25** 17:12:50.9±2.6, 42°33N×82°47E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=24.0km s-min=14.6km az=149.0*
ISC 25 17:12:45.1±0.8, 41°92N±0°09×82°51E±0°05, h13km, n25, σ1°67/23, mb3.5/9, 9C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**2.64**	**303**	⇓Pn	**Pb**	**17 13 31.5**	**-0.6**
PDGK				⇑Lg	Lg	17 14 07.6	
WMQ	**Urumqi**	**4.26**	**62**	Pg	**Pb**	**17 14 00.5**	**+0.6**
WMQ				Sg	**Sg**	**17 14 58.5**	**-3.4**
WMQ				SMN			
	110nm,0.6s						
WMQ				SME			
	130nm,0.8s						
MK31	**Makanchi Array**	**4.88**	**358**	Pn	**Pn**	**17 13 59.9**	**+1.8**
	1.4nm,0.3s,baz=180,slow=13,SNR=118						
MK31				⇑Pg	**Pb**	**17 14 12.1**	**+1.7**
	5.3nm,0.4s,baz=174,slow=15,SNR=11						
MK31				⇑Lg	Lg	17 15 15.4	
	15nm,0.6s,baz=177,slow=31,SNR=4.7						
MKAR	**Makanchi Array**	**4.88**	**358**	Pn	**Pn**	**17 14 00.2**	**+2.0**
	1.7nm,0.3s,baz=177,slow=11,SNR=46						
MKAR				Lg	Lg	17 15 16.8	
	4.3nm,0.3s,baz=180,slow=28,SNR=6.4						
KSH	**Kashi**	**5.51**	**246**	Pn	Pn	17 14 14.0	+7.0
KSH				SMN			
	61nm,0.8s						
KSH				SME			
	61nm,0.8s						
AAK	**Ala-Archa**	**5.99**	**280**	⇓Pn	Pb	17 14 24.3	-5.1
	1.6nm,0.6s						
AAK				⇑Pg	**Pg**	**17 14 37.7**	**-2.0**
	5.2nm,0.6s						
AAK				⇓Lg	Lg	17 15 56.1	
	17nm,0.9s						
AAK	**Ala-Archa**	**5.99**	**280**	Pn	Pn	17 14 19.1	+5.6
	0.1nm,0.3s,baz=90,slow=15,SNR=3.7						
AAK				Lg	Lg	17 15 54.6	
	0.6nm,0.3s,baz=354,slow=19,SNR=4.3						
KK31	**Karatay Array**	**8.94**	**282**	⇓Pg	Pg	17 15 28.3	-7.9
	0.6nm,0.5s						
KK31				⇑Lg	Lg	17 17 35.4	
	3.9nm,0.8s						
KURBB	**Kurchatov Arra**	**9.13**	**344**	⇑Pn	Pn	17 14 59.9	+3.5
	1.8nm,0.6s						
KURBB				⇓Lg	Lg	17 17 34.0	
	12nm,0.7s						
KURBB	**Kurchatov Arra**	**9.13**	**344**	Pn	**Pn**	**17 14 56.3**	**-0.1**
	0.1nm,0.3s,baz=168,slow=12,SNR=6.9						
KURBB				Lg	Lg	17 17 29.7	
	0.1nm,0.3s,baz=163,slow=32,SNR=5.9						
KURK	**Kurchatov**	**9.20**	**344**	⇑Pn	**Pn**	**17 14 57.5**	**+0.1**
	0.4nm,0.5s						
KURK				⇓Lg	Lg	17 17 33.8	
	5.9nm,0.9s						
OTUK	**Ortayu**	**9.57**	**315**	⇓Pn	Pn	17 15 06.3	+3.8
OTUK				⇑Sn	**Sn**	**17 16 52.5**	**+2.5**
OTUK				⇑Lg	Lg	17 17 46.0	
ZALV	**Zalesovo Beam**	**12.14**	**7**	Pn	**Pn**	**17 15 35.5**	**-2.1**
	0.3nm,0.3s,baz=188,slow=14,SNR=6.2						
ZALV				Lg	Lg	17 19 04.9	
	baz=191,slow=28,SNR=3.1						
BVA0	**Borovoye Array**	**13.79**	**328**	⇓Pn	**Pn**	**17 16 00.3**	**+0.2**
	0.5nm,0.6s						
BVA0				⇓Lg	Lg	17 19 50.5	
	15nm,1.2s						
AB31	**Akbulak array**	**17.38**	**303**	⇓P	**Pn**	**17 16 47.0**	**-0.1**
	0.6nm,0.6s,baz=102,slow=11,SNR=8.3						
SONM	**Songino Array**	**17.90**	**63**	P	**Pn**	**17 16 53.2**	**-0.6**
	0.0nm,0

CLCH AML AML 17 27 53.8
comp=E,4μm,0.5s
CFAA Coronel Fontan 4.17 49 Pn **Pn 17 28 04.0 +2.5**
comp=E,0.2nm,0.3s,baz=197,slow=11,SNR=19
CFAA Lg Lg 17 29 02.2
comp=E,1.5nm,0.3s,baz=66,slow=12,SNR=4.9
LCO Las Campanas 5.46 12 *eP* **Pn 17 28 19.2 -0.2**
comp=E,12nm,0.3s
PLCA Paso Flores 6.44 170 Pn **Pn 17 28 34.1 +1.4**
comp=E,1.5nm,0.3s,baz=337,slow=11,SNR=27
PLCA Lg Lg 17 30 15.2
comp=E,0.6nm,0.3s,baz=257,slow=19,SNR=2.4
PLCA LR LR 17 30 29.8
comp=E,52nm,20.2s,baz=74,slow=33
PLCA Paso Flores 6.44 170 *eP* **Pn 17 28 34.8 +2.1**
comp=E,13nm,0.7s
PLCA Lg Lg 17 30 15.2
LPAZ La Paz 18.34 12 P **Pn 17 31 12.6 -0.3**
comp=E,0.1nm,0.3s,baz=184,slow=15,SNR=3.0
SIV San Ignacio 20.76 31 P **P 17 31 37.9 -0.9**
comp=E,2.1nm,0.8s,baz=222,slow=10,SNR=4.4
SNAA Sanae 51.21 158 P **P 17 35 59.1 -1.7**
comp=E,1.8nm,1.0s,baz=232,slow=18,SNR=2.2
QSPA South Pole Qui 55.86 180 P **P 17 36 35.9 +0.8**
comp=E,2.3nm,0.8s,baz=215,slow=2.3,SNR=4.3
QSPA South Pole Qui 55.86 180 P **P 17 36 35.9 +0.8**
comp=E,2.8nm,1.1s
SBA Scott Base 62.72 192 P **P 17 37 20.4 -1.8**
TXAR Lajitas Array 70.10 331 P **P 17 38 09.8 -0.2**
comp=E,0.2nm,0.5s,baz=178,slow=9.0,SNR=2.2
TKL Tuckaleechee C 70.55 350 LR LR 18 11 29.1
comp=E,32nm,19.3s,baz=103,slow=38
PDAR Pinedale Array 84.13 333 P **P 17 39 30.4 +1.6**
comp=E,0.3nm,0.6s,baz=179,slow=4.5,SNR=3.6
NVAR Mina Array Bea 84.23 325 P **P 17 39 31.1 +1.7**
comp=E,0.6nm,0.4s,baz=129,slow=7.1,SNR=3.7
TORD Torodi Ar. Bea 84.27 70 P **P 17 39 30.6 +0.7**
comp=E,1.6nm,0.7s,baz=260,slow=4.0,SNR=9.3
WRA Warramunga Arr 120.46 209 PKP **PKPdf 17 45 49.5 -0.3**
comp=E,0.4nm,0.8s,baz=160,slow=1.8,SNR=6.3
WRAB Tennant Creek 120.47 209 PKPdf **PKPdf 17 45 48.4 -1.4**
H11S2 WAKE ISLAND Hyl 25.83 269 T T 20 04 19.3
baz=120,slow=75,SNR=22
H11S1 WAKE ISLAND Hyl 25.85 269 T T 20 04 19.5
baz=120,slow=75,SNR=44
H11S3 WAKE ISLAND Hyl 25.85 269 T T 20 04 18.2
baz=120,slow=75,SNR=39
H11N3 WAKE ISLAND Hyl 26.26 270 T T 20 04 54.9
baz=115,slow=78,SNR=7.1
H11N1 WAKE ISLAND Hyl 26.27 270 T T 20 04 47.9
baz=115,slow=78,SNR=25
H11N2 WAKE ISLAND Hyl 26.27 270 T T 20 04 53.2
baz=115,slow=78,SNR=13
ZALV Zalesovo Beam 154.51 33 PKPbc **PKPbc 17 46 59.0 +1.2**
comp=E,1.3nm,0.7s,baz=280,slow=2.7,SNR=6.3
ZALV PKPab **PKPab 17 47 13.1 +0.8**
comp=E,0.3nm,0.3s,baz=299,slow=5.9,SNR=3.6
MKAR Makanchi Array 156.96 50 PKPab **PKPab 17 47 23.0 -0.1**
comp=E,0.4nm,0.9s,baz=276,slow=2.8,SNR=3.1

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*ROM **25** 17:30:17.9±0.1,40°.03N×15°.86E,h8km±1km,Ml3.2/35, Error ellipse: s-maj=1.5km s-min=1.2km az=38.0*
*CSEM **25** 17:30:17.8±0.2,40°.03N×15°.83E,h2km,ML3.7/12,Error ellipse: s-maj=4.1km s-min=3.0km az=48.0*
*ISCJB **25** 17:30:18.1±0.3,40°.07N±0°.02×15°.82E±0°.02,h6km±2km, mb3.4/5,Error ellipse: s-maj=3.2km s-min=2.2km az=139.0*
*IDC **25** 17:30:19.1±1.1,40°.12N×15°.66E,h0km,mb3.4/6, mb1 3.6/10,mb1mx3.5/38,mbtmp3.4/10,ML3.0/4,MS2.1/1, Ms1 2.1/1,ms1mx1.8/34,Error ellipse: s-maj=18.7km s-min=13.9km az=84.0*
ISC 25 17:30:18.7±0.9,40°.04N±0°.02×15°.84E±0°.02,h3km±7km, n170,σ1§36/198,mb3.5/5,2D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CUC	**Castrocucco**	**0.05**	**203**	Pg	**Pg**	**Pg**	**17 30 19.7**	**-0.1**
CUC				Sg		**Sg**	**17 30 20.8**	**+0.2**
63μm,1.4s								
CUC	**Castrocucco**	**0.05**	**203**	Pg	**Pg**	**Pg**	**17 30 19.7**	**-0.1**
CUC				Sg		**Sg**	**17 30 20.8**	**+0.2**
63μm,1.4s								
SIRI	**Monte Sirino -**	**0.14**	**8**	Pg	**Pg**	**Pg**	**17 30 21.7**	**+0.1**
SIRI				Sg		**Sg**	**17 30 24.9**	**+1.4**
24μm,0.7s								
SIRI	**Monte Sirino -**	**0.14**	**8**	Pg	**Pg**	**Pg**	**17 30 21.7**	**+0.1**
SIRI				Sg		**Sg**	**17 30 24.9**	**+1.4**
24μm,0.7s								
MMN	**Mormanno**	**0.19**	**142**	Pg	**Pg**	**Pg**	**17 30 22.1**	**-0.3**
MMN				Sg		**Sg**	**17 30 25.6**	**+0.8**
4μm,0.4s								
MMN	**Mormanno**	**0.19**	**142**	Pg	**Pg**	**Pg**	**17 30 22.1**	**-0.3**
MMN				Sg		**Sg**	**17 30 25.6**	**+0.8**
4μm,0.4s								
MTSN	**Montesano sull**	**0.24**	**343**	Pg	**Pg**	**Pg**	**17 30 23.4**	**+0.1**
MTSN				Sg		**Sg**	**17 30 27.8**	**+1.4**
3μm,0.6s								
MTSN	**Montesano sull**	**0.24**	**343**	Pg	**Pg**	**Pg**	**17 30 23.4**	**+0.1**
MTSN				Sg		**Sg**	**17 30 27.8**	**+1.4**
3μm,0.6s								
SCHR	**S. Chirico Rap**	**0.24**	**48**	Pg	**Pg**	**Pg**	**17 30 23.2**	**-0.2**
SCHR				Sg		**Sg**	**17 30 27.6**	**+1.1**
7μm,0.6s								
MGR	**Morigerati**	**0.24**	**294**	Pg	**Pg**	**Pg**	**17 30 23.6**	**+0.2**
MGR				Sg		**Sg**	**17 30 29.0**	**+2.5**
7μm,0.8s								
MGR	**Morigerati**	**0.24**	**294**	Pg	**Pg**	**Pg**	**17 30 23.6**	**+0.2**
MGR				Sg		**Sg**	**17 30 29.0**	**+2.5**
7μm,0.8s								
BULG	**Bulgheria - Ca**	**0.36**	**276**	Pg	**Pg**	**Pg**	**17 30 25.7**	**+0.1**
BULG				Sg		**Sb**	**17 30 32.0**	**-1.9**
4μm,0.5s								
BULG	**Bulgheria - Ca**	**0.36**	**276**	Pg	**Pg**	**Pg**	**17 30 25.7**	**+0.1**
BULG				Sg		**Sb**	**17 30 32.0**	**-1.9**
4μm,0.5s								
SALB	**San Lorenzo Be**	**0.42**	**113**	Pg	**Pg**	**Pg**	**17 30 26.2**	**-0.6**
SALB				Sg		**Sg**	**17 30 33.8**	**+1.5**
2μm,0.5s								
SALB	**San Lorenzo Be**	**0.42**	**113**	Pg	**Pg**	**Pg**	**17 30 26.2**	**-0.6**
SALB				Sg		**Sg**	**17 30 33.8**	**+1.5**
2μm,0.5s								
ORI	**Oriolo Calabro**	**0.47**	**87**	Pg	**Pg**	**Pg**	**17 30 27.6**	**-0.1**
4μm,0.6s								
ORI	**Oriolo Calabro**	**0.47**	**87**	Pg	**Pg**	**Pg**	**17 30 27.6**	**-0.1**
4μm,0.6s								
CMPR	**Campora**	**0.50**	**304**	Pg	**Pg**	**Pg**	**17 30 27.9**	**-0.4**
CMPR				Sg		**Sb**	**17 30 36.8**	**-1.1**
CMPR	**Campora**	**0.50**	**304**	Pg	**Pg**	**Pg**	**17 30 27.9**	**-0.4**
CMPR				Sg		**Sb**	**17 30 36.8**	**-1.1**
CRAC	**Craco**	**0.56**	**54**	Pg	**Pg**	**Pg**	**17 30 29.8**	**+0.3**
CRAC				Sg		**Sg**	**17 30 37.2**	**+0.5**
3μm,0.7s								
CRAC	**Craco**	**0.56**	**54**	Pg	**Pg**	**Pg**	**17 30 29.8**	**+0.3**
CRAC				Sg		**Sg**	**17 30 37.2**	**+0.5**
3μm,0.7s								
CDRU	**Civita di Ruta**	**0.61**	**318**	Pg	**Pg**	**Pg**	**17 30 29.5**	**-0.9**
CDRU				Sg		**Sg**	**17 30 39.7**	**+1.4**
1μm,0.8s								
CDRU	**Civita di Ruta**	**0.61**	**318**	Pg	**Pg**	**Pg**	**17 30 29.5**	**-0.9**
CDRU				Sg		**Sg**	**17 30 39.7**	**+1.4**
1μm,0.8s								
SGO	**Sicignano**	**0.66**	**322**	Pg	**Pg**	**Pg**	**17 30 30.5**	**-0.9**
974nm,1.1s								
SGO	**Sicignano**	**0.66**	**322**	Pg	**Pg**	**Pg**	**17 30 30.5**	**-0.9**
974nm,1.1s								
MIGL	**Miglionico**	**0.73**	**39**	Pg	**Pg**	**Pg**	**17 30 31.7**	**-1.0**
MIGL				Sg		**Sg**	**17 30 42.6**	**+0.5**
3μm,0.6s								
MIGL	**Miglionico**	**0.73**	**39**	Pg	**Pg**	**Pg**	**17 30 31.7**	**-1.0**
MIGL				Sg		**Sg**	**17 30 42.6**	**+0.5**
3μm,0.6s								
ACER	**Acerenza**	**0.75**	**6**	Pg	**Pg**	**Pg**	**17 30 32.3**	**-0.8**
ACER	**Acerenza**	**0.75**	**6**	Pg	**Pg**	**Pg**	**17 30 32.3**	**-0.8**
MRLC	**Muro Lucano**	**0.77**	**340**	Pg	**Pg**	**Pg**	**17 30 32.8**	**-0.6**
MRLC				Sg		**Sb**	**17 30 44.6**	**-1.0**
653nm,0.6s								
MRLC	**Muro Lucano**	**0.77**	**340**	Pg	**Pg**	**Pg**	**17 30 32.8**	**-0.6**
MRLC				Sg		**Sb**	**17 30 44.6**	**-1.0**
653nm,0.6s								
MATE	**Matera**	**0.90**	**47**	Pg	**Pg**	**Pg**	**17 30 34.3**	**-1.7**
1μm,0.7s								
MATE	**Matera**	**0.90**	**47**	Pg	**Pg**	**Pg**	**17 30 34.3**	**-1.7**
1μm,0.7s								
MCRV	**Calabrutti - M**	**0.90**	**326**	Pg	**Pg**	**Pg**	**17 30 34.9**	**-1.2**
MCRV				Sg		**Sb**	**17 30 49.0**	**-0.7**
617nm,0.6s								
MCRV	**Calabrutti - M**	**0.90**	**326**	Pg	**Pg**	**Pg**	**17 30 34.9**	**-1.2**
MCRV				Sg		**Sb**	**17 30 49.0**	**-0.7**
617nm,0.6s								
PALZ	**Palazzo San Ge**	**0.91**	**6**	Pg	**Pg**	**Pg**	**17 30 35.4**	**-0.8**
1μm,0.9s								
PALZ	**Palazzo San Ge**	**0.91**	**6**	Pg	**Pg**	**Pg**	**17 30 35.4**	**-0.8**
1μm,0.9s								
VULT	**Monte Vulture**	**0.93**	**349**	Pg	**Pg**	**Pb**	**17 30 37.3**	**-0.3**
664nm,0.6s								
VULT	**Monte Vulture**	**0.93**	**349**	Pg	**Pg**	**Pb**	**17 30 37.3**	**-0.3**
664nm,0.6s								
PIPA	**Pietrapaola**	**0.93**	**126**	Pg	**Pg**	**Pg**	**17 30 35.5**	**-1.1**
PIPA	**Pietrapaola**	**0.93**	**126**	Pg	**Pg**	**Pg**	**17 30 35.5**	**-1.1**
LTRZ	**Laterza**	**0.94**	**53**	Pg	**Pg**	**Pg**	**17 30 35.6**	**-1.1**
17μm,5.9s								
LTRZ	**Laterza**	**0.94**	**53**	Pg	**Pg**	**Pg**	**17 30 35.6**	**-1.1**
17μm,5.9s								
SNAL	**S. Angelo Dei**	**1.01**	**332**	Pg	**Pg**	**Pg**	**17 30 36.8**	**-1.3**
1μm,0.8s								
SNAL	**S. Angelo Dei**	**1.01**	**332**	Pg	**Pg**	**Pg**	**17 30 36.8**	**-1.3**
1μm,0.8s								
SG1	**Sgolgore (BA)**	**1.02**	**38**	*e*Pg	**Pg**	**Pg**	**17 30 37.7**	**-0.7**
AMUR	**Altamura**	**1.04**	**34**	Pg	**Pg**	**Pg**	**17 30 37.2**	**-1.6**
386nm,0.5s								
AMUR	**Altamura**	**1.04**	**34**	Pg	**Pg**	**Pg**	**17 30 37.2**	**-1.6**
386nm,0.5s								
MRVN	**Minervino Murg**	**1.05**	**15**	Pg	**Pg**	**Pg**	**17 30 37.9**	**-1.1**
376nm,0.8s								
MRVN	**Minervino Murg**	**1.05**	**15**	Pg	**Pg**	**Pg**	**17 30 37.9**	**-1.1**
376nm,0.8s								
CAFE	**Carife**	**1.09**	**335**	Pg	**Pg**	**Pg**	**17 30 38.4**	**-1.2**
426nm,0.7s								
CAFE	**Carife**	**1.09**	**335**	Pg	**Pg**	**Pg**	**17 30 38.4**	**-1.2**
426nm,0.7s								
CDT	**Castel del Mon**	**1.09**	**17**	*e*Pg	**Pg**	**Pg**	**17 30 38.3**	**-1.4**
CDT				Sg		**Sn**	**17 30 56.6**	**-0.1**
TIP	**Timpagrande**	**1.11**	**140**	Pg	**Pg**	**Pg**	**17 30 40.4**	**+0.3**
466nm,1.1s								
TIP	**Timpagrande**	**1.11**	**140**	Pg	**Pg**	**Pg**	**17 30 40.4**	**+0.3**
466nm,1.1s								
NOCI	**Noci**	**1.20**	**51**	Pg	**Pg**	**Pg**	**17 30 40.0**	**-1.7**
487nm,0.5s								
NOCI	**Noci**	**1.20**	**51**	Pg	**Pg**	**Pg**	**17 30 40.0**	**-1.7**
487nm,0.5s								
SERS	**Sersale**	**1.20**	**147**	Pg	**Pg**	**Pg**	**17 30 41.0**	**-0.7**
339nm,0.7s								
SERS	**Sersale**	**1.20**	**147**	Pg	**Pg**	**Pg**	**17 30 41.0**	**-0.7**
339nm,0.7s								
TAR1	**Taranto**	**1.21**	**66**	*e*Pg	**Pg**	**Pg**	**17 30 41.1**	**-0.8**
TAR1				Sg		**Sn**	**17 31 01.0**	**+1.6**
MRB1	**Monte Rocchett**	**1.27**	**329**	Pg	**Pg**	**Pn**	**17 30 43.5**	**0.0**
849nm,0.7s								
MRB1	**Monte Rocchett**	**1.27**	**329**	Pg	**Pg**	**Pn**	**17 30 43.5**	**0.0**
849nm,0.7s								
GRI	**Girifalco**	**1.30**	**160**	Pg	**Pg**	**Pg**	**17 30 42.5**	**-1.1**
529nm,0.8s								
GRI	**Girifalco**	**1.30**	**160**	Pg	**Pg**	**Pg**	**17 30 42.5**	**-1.1**
529nm,0.8s								
BAI	**Bari**	**1.33**	**36**	*e*Pg	**Pn**	**Pn**	**17 30 43.1**	**-1.1**
BAI				Sg		**Sn**	**17 31 03.4**	**+1.0**
IPES	**Pescosannita**	**1.42**	**328**	Pg	**Pn**	**Pn**	**17 30 43.8**	**-1.7**
PSB1	**Pescosannita**	**1.42**	**327**	Pg	**Pg**	**Pn**	**17 30 46.3**	**+0.4**
540nm,0.9s								
PSB1	**Pescosannita**	**1.42**	**327**	Pg	**Pg**	**Pn**	**17 30 46.3**	**+0.4**
540nm,0.9s								
MOCO	**Biccari - m.te**	**1.43**	**339**	Pg	**Pg**	**Pb**	**17 30 46.2**	**+0.1**
252nm,0.8s								
PE1	**Pezze di Greco**	**1.43**	**57**	*e*Pg	**Pn**	**Pn**	**17 30 44.4**	**-1.2**
GATE	**Gambatesa**	**1.63**	**335**	Pg	**Pb**	**Pn**	**17 30 49.1**	**-0.5**
GATE	**Gambatesa**	**1.63**	**335**	Pg	**Pb**	**Pn**	**17 30 49.1**	**-0.5**
PLAC	**Placanica**	**1.65**	**164**	Pg	**Pg**	**Pn**	**17 30 47.2**	**-1.6**
415nm,0.7s								
PLAC	**Placanica**	**1.65**	**164**	Pg	**Pg**	**Pn**	**17 30 47.2**	**-1.6**
415nm,0.7s								
PTRJ	**Pietraroja**	**1.66**	**323**	Pg	**Pg**	**Pn**	**17 30 48.0**	**-0.9**
537nm,0.8s								
PTRJ	**Pietraroja**	**1.66**	**323**	Pg	**Pg**	**Pn**	**17 30 48.0**	**-0.9**
537nm,0.8s								
MS1	**Monte Sant'Ang**	**1.67**	**3**	*e*Pn	**Pn**	**Pn**	**17 30 47.2**	**-1.8**
MSAG	**Monte S. Angel**	**1.67**	**2**	Pg	**Pn**	**Pn**	**17 30 47.6**	**-1.4**
262nm,0.5s								
MSAG	**Monte S. Angel**	**1.67**	**2**	Pg	**Pn**	**Pn**	**17 30 47.6**	**-1.4**
262nm,0.5s								
SGRT	**San Giovanni R**	**1.71**	**358**	Pg	**Pn**	**Pn**	**17 30 48.2**	**-1.5**
SGRT				Sg		**Sn**	**17 31 11.6**	**-0.6**
208nm,0.7s								
SGRT	**San Giovanni R**	**1.71**	**358**	Pg	**Pn**	**Pn**	**17 30 48.2**	**-1.5**
SGRT				Sg		**Sn**	**17 31 11.6**	**-0.6**
208nm,0.7s								
SGG	**Gregorio Mates**	**1.75**	**321**	Pg	**Pn**	**Pn**	**17 30 50.2**	**+0.1**
240nm,0.7s								
SGG	**Gregorio Mates**	**1.75**	**321**	Pg	**Pn**	**Pn**	**17 30 50.2**	**+0.1**
240nm,0.7s								
MELA	**Melanico ??? S**	**1.75**	**342**	Pg	**Pn**	**Pn**	**17 30 50.5**	**+0.5**
MELA	**Melanico ??? S**	**1.75**	**342**	Pg	**Pn**	**Pn**	**17 30 50.5**	**+0.5**
CIGN	**Sant'Elia a Pi**	**1.76**	**337**	Pg	**Pn**	**Pn**	**17 30 50.4**	**+0.2**
CIGN	**Sant'Elia a Pi**	**1.76**	**337**	Pg	**Pn**	**Pn**	**17 30 50.4**	**+0.2**
CEL	**Celeste**	**1.78**	**179**	Pg	**Pn**	**Pn**	**17 30 48.4**	**-2.1**
184nm,0.7s								
CEL	**Celeste**	**1.78**	**179**	Pg	**Pn**	**Pn**	**17 30 48.4**	**-2.1**
184nm,0.7s								
VPL	**Vulcano Piano**	**1.79**	**202**	Pg	**Pn**	**Pn**	**17 30 49.0**	**-1.6**
VPL	**Vulcano Piano**	**1.79**	**202**	Pg	**Pn**	**Pn**	**17 30 49.0**	**-1.6**
IACL	**Alicudi**	**1.89**	**218**	Pg	**Pn**	**Pn**	**17 30 50.1**	**-1.9**
213nm,0.6s								
IACL	**Alicudi**	**1.89**	**218**	Pg	**Pn**	**Pn**	**17 30 50.1**	**-1.9**
213nm,0.6s								
KEK	**Kerkira**	**3.06**	**95**	*e*P	**Pb**	**Pn**	**17 31 11.3**	**-2.6**
STON	**Ston**	**3.15**	**26**	*i* Pn	**Pn**	**Pn**	**17 31 08.8**	**-0.6**
STON				Sn		**Sn**	**17 31 46.6**	**-0.9**
STON	**Ston**	**3.15**	**26**	*i* Pn	**Pn**	**Pn**	**17 31 08.7**	**-0.6**
STON				Sn		**Sn**	**17 31 46.6**	**-0.9**
IGT	**Igoumenitsa**	**3.50**	**97**	*e*P	**Pn**	**Pn**	**17 31 15.6**	**+1.5**
JAN	**Janina**	**3.88**	**94**	*e*P	**Pn**	**Pn**	**17 31 21.3**	**+2.0**
OHR	**Ohrid**	**3.92**	**73**	*e*Pn	**Pn**	**Pn**	**17 31 20.1**	**+0.1**
OHR				*i* Sg		**Sn**	**17 32 11.2**	**+4.6**
OHR				*e*Lg		Lg	17 32 11.6	
comp=E,34nm,0.9s								
OHR				*e*Lg		Lg	17 32 12.1	
comp=N,27nm,0.8s								
OHR	**Ohrid**	**3.92**	**73**	*e*Pn	**Pn**	**Pn**	**17 31 20.1**	**+0.1**
OHR				*e*Lg		Lg	17 32 12.1	
comp=N,27nm,0.8s								
LKD2	**Lefkada island**	**3.93**	**107**	*e*P	**Pn**	**Pn**	**17 31 22.6**	**+2.5**
NEST	**Nestorio**	**4.00**	**83**	*e*P	**Pn**	**Pn**	**17 31 23.4**	**+2.3**
VLS	**Valsamata**	**4.13**	**115**	*e*P	**Pn**	**Pn**	**17 31 23.2**	**+0.3**
DSL	**Palaion Diasel**	**4.16**	**101**	*e*P	**Pn**	**Pn**	**17 31 26.3**	**+3.1**
FNA	**Florina**	**4.29**	**78**	*e*P	**Pn**	**Pn**	**17 31 25.3**	**+0.3**
PDO	**Prodromos**	**4.39**	**107**	*e*P	Pn	Pn	17 31 22.0	-4.3
UDBI	**Udbina**	**4.49**	**359**	*i* Pn	**Pn**	**Pn**	**17 31 28.9**	**+1.1**
UDBI				Sn		**Sn**	**17 32 20.6**	**+0.1**
UDBI	**Udbina**	**4.49**	**359**	*i* Pn	**Pn**	**Pn**	**17 31 28.8**	**+1.1**
UDBI				Sn		**Sn**	**17 32 20.5**	**+0.1**
KZN	**Kozani**	**4.55**	**85**	*e*P	**Pn**	**Pn**	**17 31 31.4**	**+2.8**
NVLJ	**Novalja**	**4.58**	**351**	*e*Pn	**Pn**	**Pn**	**17 31 28.0**	**-0.9**
NVLJ				Sn		**Sn**	**17 32 21.3**	**-1.3**
NVLJ	**Novalja**	**4.58**	**351**	*e*Pn	**Pn**	**Pn**	**17 31 28.0**	**-0.9**
NVLJ				Sn		**Sn**	**17 32 21.3**	**-1.3**
SKO	**Skopje**	**4.66**	**64**	*e*Pn	**Pn**	**Pn**	**17 31 29.2**	**-0.8**
SKO	**Skopje**	**4.66**	**64**	*e*Pn	**Pn**	**Pn**	**17 31 29.2**	**-0.8**
EVR	**Evrytania**	**4.75**	**102**	*e*P	Pn	Pn	17 31 26.5	-4.9
THL	**Klokotos Trika**	**4.78**	**94**	*e*P	Pn	Pn	17 31 35.3	+3.6
IVAS	**Ivanjica**	**4.78**	**41**	*e*Pn	**Pn**	**Pn**	**17 31 32.7**	**+0.9**
RLS	**Riolos of Patr**	**4.80**	**113**	*e*P	Pn	Pn	17 31 28.0	-4.0
MAKR	**Makrakomi, Fth**	**4.97**	**100**	*e*P	**Pn**	**Pn**	**17 31 37.5**	**+3.1**
EFP	**Efpalio**	**4.98**	**107**	*e*P	**Pn**	**Pn**	**17 31 36.9**	**+2.5**
DRO	**Drossia**	**5.03**	**113**	*e*P	Pn	Pn	17 31 27.4	-7.7
SELS	**Selova**	**5.07**	**50**	*e*Pn	**Pn**	**Pn**	**17 31 34.9**	**-0.8**
GRG	**Griva**	**5.08**	**78**	*e*P	**Pn**	**Pn**	**17 31 36.4**	**+0.5**
DIVS	**Divibare**	**5.10**	**36**	*e*Pn	**Pn**	**Pn**	**17 31 38.9**	**+2.8**
LIT	**Litokhoron**	**5.10**	**87**	*e*P	**Pn**	**Pn**	**17 31 37.8**	**+1.7**
AGG	**Agios Georgios**	**5.12**	**99**	*e*P	**Pn**	**Pn**	**17 31 38.9**	**+2.5**
KALE	**Kalithea**	**5.16**	**107**	*e*P	Pn	Pn	17 31 40.9	+3.9
AMT	**Artemida-Makis**	**5.22**	**117**	*e*P	Sn	Pn	17 32 32.0	-6.6
TEKS	**Tekeris**	**5.27**	**30**	*e*Pn	**Pn**	**Pn**	**17 31 39.0**	**+0.5**
VAY	**Valandovo**	**5.27**	**74**	*e*Pn	**Pn**	**Pn**	**17 31 38.9**	**+0.4**
VAY	**Valandovo**	**5.27**	**74**	*e*Pn	**Pn**	**Pn**	**17 31 38.8**	**+0.4**
BARS	**Barje**	**5.28**	**56**	*e*Pn	**Pn**	**Pn**	**17 31 38.1**	**-0.4**
GRUS	**Gruza**	**5.29**	**42**	*e*Pn	**Pn**	**Pn**	**17 31 38.5**	**-0.2**
TRUS	**Trudelj**	**5.38**	**38**	*e*Pn	**Pn**	**Pn**	**17 31 38.2**	**-1.8**
AXAR	**Agios Charalam**	**5.43**	**101**	*e*P	**Pn**	**Pn**	**17 31 40.6**	**-0.1**
GUR	**Goura**	**5.48**	**110**	*e*P	Pn	Pn	17 31 44.7	+3.2
KNT	**Kendrikon**	**5.49**	**76**	*e*P	**Pn**	**Pn**	**17 31 41.1**	**-0.3**
ITM	**Ithomi**	**5.55**	**119**	*e*P	**Pn**	**Pn**	**17 31 42.9**	**+0.5**
PYL	**PYLOS**	**5.59**	**122**	*e*P	**Pn**	**Pn**	**17 31 44.7**	**+1.8**
XOR	**Xorichti**	**5.71**	**94**	*e*P	**Pn**	**Pn**	**17 31 46.3**	**+1.8**
NEO	**Neokhori**	**5.74**	**95**	*e*P	**Pn**	**Pn**	**17 31 47.0**	**+2.0**
VLX	**Vlachokerasia**	**5.77**	**115**	*e*P	Pn	Pn	17 31 51.1	+5.8
SMIA	**Simia**	**5.82**	**99**	*e*P	**Pn**	**Pn**	**17 31 48.0**	**+2.0**
PLG	**Polygyros**	**5.83**	**84**	*e*P	**Pn**	**Pn**	**17 31 46.6**	**+0.4**
SKIA	**Skiathos**	**5.95**	**96**	*e*P	**Pn**	**Pn**	**17 31 50.3**	**+2.5**
SRS	**Serrai**	**6.00**	**77**	*e*P	**Pn**	**Pn**	**17 31 49.1**	**+0.6**
PAIG	**Paliouri**	**6.02**	**89**	*e*P	**Pn**	**Pn**	**17 31 49.4**	**+0.7**
MRKA	**Markates**	**6.15**	**100**	*e*P	**Pn**	**Pn**	**17 31 51.7**	**+1.2**
NVR	**Nevrokopi**	**6.24**	**75**	*e*P	**Pn**	**Pn**	**17 31 51.8**	**+0.1**
AOS	**Alonnisos**	**6.27**	**95**	*e*P	**Pn**	**Pn**	**17 31 53.2**	**+1.1**
OBKA	**Obir**	**6.54**	**352**	*i* Pn	Pn	Pn	17 31 52.5	-3.3
KEST	**Kesra**	**6.70**	**232**	Pn	**Pn**	**Pn**	**17 32 00.1**	**+2.0**
comp=N,0.2nm,0.3s,baz=325,slow=4.4,SNR=6.4								
KYTH	**Kithira**	**6.80**	**121**	*e*P	**Pn**	**Pn**	**17 32 02.1**	**+2.7**
RDO	**Rodhopi**	**7.46**	**78**	*e*P	**Pn**	**Pn**	**17 32 06.4**	**-2.1**
ALN	**Alexandroupoli**	**7.83**	**80**	*e*P	**Pn**	**Pn**	**17 32 13.7**	**+0.2**
MOA	**Molln**	**7.89**	**352**	*i* Pn	**Pn**	**Pn**	**17 32 15.4**	**+1.0**
MOA	**Molln**	**7.89**	**352**	Pn	**Pn**	**Pn**	**17 32 15.4**	**+1.0**
DAVOX	**Davos/Dischmat**	**8.01**	**329**	Pn	Pn	Pn	17 32 19.5	+3.2
comp=N,0.3nm,0.3s,baz=164,slow=19,SNR=3.6								
VAM	**Vamos**	**8.08**	**122**	*e*P	**Pn**	**Pn**	**17 32 16.9**	**-0.1**
IDI	**Anoyia**	**8.60**	**121**	Pn	Pn	Pn	17 32 28.0	+3.8
comp=N,0.4nm,0.3s,baz=312,slow=18,SNR=3.7								
IDI				Sn		**Sn**	**17 34 07.1**	**+5.4**
comp=N,0.3nm,0.3s,baz=357,slow=19,SNR=2.6								
GERES	**GERESS Array B**	**8.94**	**351**	Pn	**Pn**	**Pn**	**17 32 29.1**	**+0.3**
comp=N,0.3nm,0.3s,baz=160,slow=13,SNR=7.3								
GERES				Sn		**Sn**	**17 34 06.8**	**-3.2**
comp=N,0.1nm,0.3s,baz=169,slow=24,SNR=7.6								
MLR	**Muntele Rosu**	**9.21**	**50**	Pn	**Pn**	**Pn**	**17 32 35.5**	**+2.8**
comp=N,0.0nm,0.3s,baz=138,slow=14,SNR=1.9								
MLR				LR		LR	17 36 37.4	
comp=N,11nm,20.0s,baz=270,slow=41								
KHC	**Kasperske Hory**	**9.23**	**351**	*e*PN	**Pn**	**Pn**	**17 32 32.8**	**0.0**
KHC				*ex*		x	17 32 42.0	
KHC				*ex*		x	17 32 47.0	
KHC				*e*SN		**Sn**	**17 34 13.8**	**-3.4**
KHC	**Kasperske Hory**	**9.23**	**351**	Pn	**Pn**	**Pn**	**17 32 32.8**	**0.0**
HFS	**Hagfors**	**20.16**	**357**	P	Pn	Pn	17 34 56.3	+0.5
comp=N,

TNTI	Ternate	0.37	61	*e*Pg		Pn	17 53 56.7 -0.2
LBMI	Labuha	1.31	160	P		Pn	17 54 09.1 -0.5
LBMI				S		Sn	17 54 26.7 +0.8
SANI	Sanana	2.83	202	P		Pn	17 54 28.9 -1.7
SANI				S		Sn	17 55 06.7 +3.2
KMSI	Cibinong	3.06	270	P		Pn	17 54 33.7 -0.1
SGSI	Sangihe	3.42	334	P		Pn	17 54 39.2 +0.4
NLAI	Namlea	3.81	179	P		Pn	17 54 44.0 0.0
MSAI	Masohi	4.34	154	P		Pn	17 54 55.1 +3.7
LUWI	Luwuk	4.57	249	P		Pn	17 54 54.7 +0.2
LUWI	Luwuk	4.57	249	P		Pn	17 54 54.8 +0.2
	baz=4.5,SNR=22						
LUWI	Luwuk	4.57	249	*e*Pn		Pn	17 54 54.1 -0.4
MRSI	Marisa	5.11	269	P		Pn	17 55 00.8 -1.1
APSI	Ampana	5.60	255	P		Pn	17 55 07.7 -1.0
	429nm,1.0s,5μm1.7nm						
BNDI	Bandanaira	5.83	151	P		Pn	17 55 14.8 +3.0
	199nm,0.9s,2μm1.4nm						
FAKI	Fak Fak	6.26	124	P		Pn	17 55 20.2 +2.4
	65nm,0.7s,858nm0.3nm						
FAKI	Fak Fak	6.26	124	P		Pn	17 55 20.1 +2.3
	baz=6.3,SNR=30						
FAKI	Fak Fak	6.26	124	*e*Pn		Pn	17 55 19.7 +1.8
TOLI	Toli-Toli	6.27	275	*e*Pn		Pn	17 55 17.9 0.0
MATI	Mati	6.36	353	*e*P		Pn	17 55 21.5 +2.4
MATI				*e*S		Px	17 55 47.9
CTBH	Cotabato--PC H	7.15	337⇑	*e*P		Pn	17 55 30.5 +0.6
MPSI	Mapaga	7.15	268	P		Pn	17 55 30.4 +0.4
	44nm,1.2s,519nm0.1nm						
BUKP	Musuan	7.50	345	*e*P		Pn	17 55 35.9 +1.1
TTSI	Tana Toraja	8.08	243	P		Pn	17 55 42.0 -0.7
	389nm,0.6s,3μm1.4nm						
PAGZ	Pagadian	8.08	333	*e*P		Pn	17 55 43.2 +0.5
BUTP	Butuan	8.44	350	*e*P		Pn	17 55 47.6 -0.1
BNSI	Bone	8.53	234	P		Pn	17 55 48.3 -0.5
	226nm,0.8s,2μm						
SPSI	Sidrap Palu	8.57	238	P		Pn	17 55 49.2 -0.2
	421nm,0.6s,5μm						
KAPI	Kappang	9.17	233	Pn		Pn	17 55 57.3 -0.4
	503nm,0.5s,SNR=12						
KAPI	Kappang	9.17	233	*e*Pn		Pn	17 55 57.1 -0.6
MSLP	Maasin	9.72	347	*e*P		Pn	17 56 05.7 +0.4
TSM	Tawau	9.87	292	⇑P		Pn	17 56 07.3 0.0
MMRI	Maumere	10.35	207	P		Pn	17 56 14.7 +0.9
	44nm,1.4s						
MMRI	Maumere	10.35	207	*e*Pn		Pn	17 56 16.0 +2.2
	115nm,1.4s						
SOEI	Soe	10.65	195	P		Pn	17 56 19.5 +1.5
	77nm,1.0s						
SOEI	Soe	10.65	195	P		Pn	17 56 24.6 +6.6
	baz=11,SNR=4.6						
SOEI	Soe	10.65	195	*e*Pn		Pn	17 56 24.6 +6.6
OCLP	Ormoc	10.67	347	*e*P		Pn	17 56 19.2 +1.0
EDFI	Ende, Flores	10.71	210	P		Pn	17 56 20.1 +1.2
	83nm,0.8s,973nm						
GUIM	Jordan	10.91	336	*e*P		Pn	17 56 22.6 +1.1
SDKM	Sandakan	11.04	297	⇓P		Pn	17 56 25.3 +2.0
BATI	Baumata	11.24	197	Pn		Pn	17 56 30.4 +4.2
	2.0nm,0.3s,baz=23,slow=3.5,SNR=6.6						
BATI				LR		LR	18 00 53.6
	comp=Z,561nm,21.0s,baz=357,slow=38						
KKM	Kota Kinabalu	12.09	297	P		P	17 56 46.7 -3.1
	baz=12,SNR=5.6						
KKM	Kota Kinabalu	12.09	297	⇓P		Pn	17 56 40.8 +3.0
KKM	Kota Kinabalu	12.09	297	*e*Pn		Pn	17 56 39.3 +1.5
BBKI	Banjar Baru	12.85	252	P		Pn	17 56 48.3 +0.3
	56nm,1.3s						
GENI	Genyem	13.49	104	P		P	17 57 01.6 -3.7
	80nm,1.6s,1μm						
MTN	Manton Dam	13.95	163	P		Pn	17 57 02.3 -0.8
	baz=14,SNR=14						
JAY	Jayapura	14.00	103	Pn		P	17 57 08.4 -2.6
	0.2nm,0.3s,baz=312,slow=16,SNR=3.3						
KDU	Kakadu	14.25	158	P		Pn	17 57 05.0 -2.2
	baz=14,SNR=5.1						
SBUM	Sibu	14.93	277	*e*Pn		Pn	17 57 13.4 -2.9
KMMI	Kalianget	15.10	240	P		Pn	17 57 20.5 +2.0
	55nm,1.4s,923nm						
JAGI	Jajag, Banyuwa	15.69	235	P		Pn	17 57 27.6 +1.3
	baz=16,SNR=11						
JAGI	Jajag, Banyuwa	15.69	235	*e*Pn		Pn	17 57 26.8 +0.6
	120nm,1.2s						
KNRA	Kununurra	16.26	174	P		Pn	17 57 31.9 -1.5
	baz=16,SNR=25						
KSM	Kuching	16.76	273	P		Pn	17 57 39.9 +0.1
	baz=17,SNR=35						
KSM	Kuching	16.76	273	⇓P		Pn	17 57 40.4 +0.6
KSM	Kuching	16.76	273	*e*Pn		Pn	17 57 39.8 0.0
	70nm,0.9s						
PWJI	Pagerwojo	17.44	240	P		Pn	17 57 48.4 +0.1
	75nm,0.8s						
SMRI	Semarang	18.22	245	*e*P		P	17 57 54.0 -3.8
	81nm,1.0s						
FITZ	Fitzroy Crossi	18.63	184	P		P	17 58 01.9 -0.3
	baz=19,SNR=32						
FITZ	Fitzroy Crossi	18.63	184	*e*P		P	17 58 02.2 0.0
	10nm,0.8s						
KPJI	Karang Pucung	19.71	246	P		P	17 58 13.9 -0.2
	70nm,0.9s						
CISI	Cisompet, Garu	20.82	247	P		P	17 58 24.2 -2.0
	73nm,1.1s						
CISI	Cisompet, Garu	20.82	247	P		P	17 58 24.2 -2.0
	baz=21,SNR=6.3						
CISI	Cisompet, Garu	20.82	247	*e*P		P	17 58 24.2 -2.0
	51nm,0.7s						
COEN	Coen	21.55	133	PFAKE			17 58 50.0 +16
COEN				LR		LR	
	comp=Z,1μm,20.9s						
WRAB	Tennant Creek	21.62	161	P		P	17 58 34.6 -0.1
	comp=Z,281nm,0.5s,SNR=50						
WRAB	Tennant Creek	21.62	161	*e*P		P	17 58 34.6 -0.1
WRAB				pmax		pmax	
	comp=Z,47nm,1.0s						
WRAB	Tennant Creek	21.62	161	*e*P		P	17 58 34.6 -0.1
	comp=Z,27nm,0.8s						
WRAB				LR		LR	
	comp=Z,200nm,19.4s						
WRA	Warramunga Arr	21.62	161	*i* P		P	17 58 34.5 -0.3
WRA				pmax		pmax	
	comp=Z,17nm,0.6s						
WRA	Warramunga Arr	21.62	161	P		P	17 58 34.2 -0.6
	comp=Z,16nm,0.6s,baz=339,slow=10,SNR=76						
WRA				S		S	18 02 30.1 -2.2
	comp=Z,6.0nm,1.1s,baz=337,slow=19,SNR=6.9						
WRA				ScP		ScP	18 06 09.9 +0.1
	comp=Z,2.2nm,1.1s,baz=336,slow=2.8,SNR=5.1						
WB2	Warramunga Arr	21.63	161	*e*P		P	17 58 34.6 -0.2
PMG	Port Moresby	22.36	117	PFAKE			17 59 00.0 +17
PMG				LR		LR	
	comp=Z,300nm,21.0s						
TPUB	Ta-pu	23.42	345	*e*P		P	17 58 50.7 -2.8
	comp=Z,89nm,0.8s						
SSLB	Suanglung	23.80	346	*e*P		P	17 58 53.7 -3.5
	comp=Z,45nm,0.8s						
NACB	Ninganchiao	24.03	348	*e*P		P	17 58 59.2 0.0
KTGM	Kuala Trenggan	24.33	282	⇑P		P	17 59 03.0 +0.9
QIS	Mount Isa	24.35	150	P		P	17 59 02.9 +0.6
	baz=24,SNR=5.4						
YHNB	Yeheng	24.55	348	*e*P		P	17 59 04.7 +0.5
	comp=Z,112nm,0.7s						
QIZ	Qiongzhong	24.91	318	P		P	17 59 08.8 +1.5
QIZ				S		S	18 03 30.8 +2.7
QIZ				PMZ			
	comp=Z,38nm,1.4s						
AS31	Alice Springs	25.02	165	*e*P		P	17 59 08.1 -0.2
ASAR	Alice Springs	25.02	165	P		P	17 59 07.7 -0.6
	comp=Z,16nm,0.7s,baz=343,slow=9.8,SNR=131						
ASAR				S		S	18 03 29.8 -0.1
	comp=Z,1.4nm,0.8s,baz=348,slow=19,SNR=3.6						
ASAR				ScP		ScP	18 06 19.1 +0.3
	comp=Z,0.5nm,0.5s,baz=343,slow=2.7,SNR=5.4						
WRKA	Warakurna	25.51	177	P		P	17 59 13.2 +0.5
	baz=26,SNR=70						
JOW	Kunigami	26.11	2	P		P	17 59 19.6 +1.4
	comp=Z,8.4nm,0.8s,baz=191,slow=11,SNR=6.7						
JOW	Kunigami	26.17	2	*e*P		P	17 59 20.1 +1.9
IPM	Ipoh	26.27	279	⇓P		P	17 59 20.4 +0.6
PSI	Prapat	28.19	275	P		P	17 59 36.0 -1.1
	comp=Z,1.9nm,0.4s,baz=260,slow=6.9,SNR=3.8						
MEEK	Meekatharra	28.27	196	P		P	17 59 37.9 +0.4
	baz=28,SNR=8.8						
FORT	Forrest	31.21	178	*e*P		P	18 00 03.6 +0.1
	comp=Z,46nm,0.7s						
MORW	Morawa	31.32	199	P		P	18 00 11.0 +6.5
	baz=31,SNR=3.8						
QLP	Quilpie	31.69	150	P		P	18 00 14.4 +6.5
	baz=32,SNR=4.8						
NJ2	Nanjing	32.23	347	*e*P		P	18 00 15.0 +2.5
NJ2				PMZ			
	comp=Z,80nm,0.9s						
GYA	Guiyang	32.34	324	P		P	18 00 16.3 +2.6
GYA				pP		pP	18 00 26.8 +2.0
GYA				PP		PP	18 01 25.5 -1.8
GYA				S		S	18 05 27.3 +2.0
GYA				SS		SnSn	18 07 23.3 +3.4
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,4.8s						
GYA				LN			
	comp=Z,650nm,18.4s						
GYA				LE			
	comp=Z,530nm,19.0s						
GYA				LZ			
	comp=Z,660nm,18.2s						
CMAR	Chiang Mai Arr	32.81	304	*i* P		P	18 00 23.5 +5.8
CMAR	Chiang Mai Arr	32.81	304	P		P	18 00 16.9 -0.8
	comp=Z,0.3nm,0.4s,baz=135,slow=8.5,SNR=3.4						
CMAR				PcP		PcP	18 03 02.8 +0.5
	comp=Z,0.7nm,0.7s,baz=167,slow=2.1,SNR=4.6						
CMAR				ScP		ScP	18 06 44.6 +1.2
	comp=Z,0.5nm,0.3s,baz=152,slow=4.1,SNR=4.2						
CHTO	Chiang Mai	32.98	305	*e*P		P	18 00 23.2 +3.9
CHTO				pmax		pmax	
	comp=Z,33nm,2.3s						
CHTO	Chiang Mai	32.98	305	*e*P		P	18 00 23.2 +3.9
	comp=Z,33nm,2.3s						
CMAI	Chiengmai2	33.47	307	P		P	18 00 35.5 +12
KMI	Kunming	33.86	318	P		P	18 00 27.8 +0.7
KMI				pP		pP	18 00 40.5 +2.3
KMI				PMZ			
	comp=Z,10.0nm,0.7s						
BBOO	Buckleboo	34.30	166	P		P	18 00 30.4 -0.1
	baz=34,SNR=16						
BBOO	Buckleboo	34.30	166	*e*P		P	18 00 30.3 -0.1
	comp=Z,724nm,1.2s						
CMSA	Cobar Meteorol	36.52	153	P		P	18 00 56.4 +6.8
	baz=37,SNR=5.9						
TIA	Tai'an	36.62	346	⇓P		P	18 00 51.8 +1.4
TIA				PMZ			
	comp=Z,40nm,1.0s						
KSAR	Wonju Array Be	36.67	1	P		P	18 00 52.3 +1.4
KSAR							18 03 13.3
KSAR	Wonju Array Be	36.67	1	P		P	18 00 52.2 +1.4
KSAR				PcP		PcP	18 03 13.3 +0.2
KSRS	Korea Array	36.69	1	P		P	18 00 52.2 +1.3
	comp=Z,10nm,0.7s,baz=180,slow=10,SNR=34						
KSRS				PcP		PcP	18 03 13.3 +0.2
	comp=Z,2.1nm,0.8s,baz=234,slow=1.9,SNR=4.3						
KSRS				LR		LR	18 21 02.3
	comp=Z,39nm,18.2s,baz=192,slow=44						
MAJO	Matsushiro	37.24	15	*e*P		P	18 00 55.6 -0.1
MAJO				pmax		pmax	
	comp=Z,83nm,1.8s						
MAJO	Matsushiro	37.24	15	*e*P		P	18 00 55.5 -0.1
	comp=Z,83nm,1.8s						
MAT	Matsushiro	37.24	15	P		P	18 00 55.3 -0.4
MJAR	Matsushiro Arr	37.24	15	P		P	18 00 55.3 -0.4
	comp=Z,6.6nm,0.7s,baz=190,slow=9.1,SNR=17						
MJAR				LR		LR	18 17 37.3
	comp=Z,42nm,18.1s,baz=185,slow=38						
XAN	Xi'an	37.36	335	P		P	18 00 56.8 0.0
XAN				PMZ			
	comp=Z,6.0nm,0.7s						
CD2	Chengdu	37.37	326	*e*P		P	18 00 56.5 -0.5
CD2				PMZ			
	comp=Z,20nm,0.8s						
ARMA	Armidale	38.71	145	P		P	18 01 09.7 +1.4
	baz=39,SNR=5.4						
ARMA	Armidale	38.71	145	*e*P		P	18 01 09.7 +1.4
	comp=Z,19nm,1.1s						
BJT	Baijiatuau	40.47	347	*e*P		P	18 01 23.8 +1.1
BJT				pmax		pmax	
	comp=Z,77nm,0.6s						
BJT	Baijiatuau	40.47	347	*e*P		P	18 01 23.8 +1.1
	comp=Z,77nm,0.6s						
BJI	Beijing	40.49	347	P		P	18 01 24.0 +1.2
BJI				PMZ			
	comp=Z,130nm,0.7s						
CAN	Canberra	41.19	152	*e*P		P	18 01 29.6 +0.8
CAN				pmax		pmax	
	comp=Z,10.0nm,0.7s						
CAN	Canberra	41.19	152	*e*P		P	18 01 29.6 +0.8
	comp=Z,9.6nm,0.7s						
LZH	Lanzhou	41.37	331	*e*P		P	18 01 31.8 +1.4
LZH				PMZ			
	comp=Z,24nm,1.1s						
LZH				PMZ			
	comp=Z,92nm,4.2s						
HHC	Hu-ho-hao-te	42.46	343	*e*P		P	18 01 40.8 +1.7
HHC				PP		PcP	18 03 24.8 -6.8
HHC				S		S	18 07 59.8 +1.4
HHC				PMZ			
	comp=Z,60nm,1.0s						
HHC				PMZ			
	comp=Z,150nm,5.1s						
HHC				LN			
	comp=Z,290nm,15.3s						
HHC				LE			
	comp=Z,270nm,13.7s						
HHC				LZ			
	comp=Z,200nm,16.3s						
VLA	Vladivostok	42.56	5⇑	*i* P		P	18 01 41.1 +1.4
VLA				*e*			18 03 18.4
VLA							18 03 31.1
VLA				*e*S		S	18 08 00.5 +1.0
VLA				pmax		pmax	
	comp=Z,40nm,1.2s						
CN2	Changchun	43.04	358	*e*P		P	18 01 44.5 +0.8
CN2				PMZ			
	comp=Z,10.0nm,0.5s						
USRK	Ussuriysk Ar.	43.64	5	P		P	18 01 49.6 +1.2
	comp=Z,16nm,0.7s,baz=177,slow=7.0,SNR=28						
ERM	Erimo	43.72	17	*e*P		P	18 01 49.5 +0.4
ERM				pmax		pmax	
	comp=Z,83nm,1.9s						
MDJ	Mudanjiang	43.89	3	P		P	18 01 52.0 +1.5
MDJ				PcP		PcP	18 03 38.0 +1.8
MDJ				PMZ			
	comp=Z,37nm,1.0s						
MDJ				PMZ			
	comp=Z,54nm,6.3s						
MDJ				LZ			
	comp=Z,53nm,20.5s						
MDJ	Mudanjiang	43.89	3	*e*P		P	18 01 51.6 +1.1
	comp=Z,40nm,1.0s						
DZM	Mont Dzumac	44.53	123	LR		LR	18 21 12.8
	comp=Z,55nm,20.0s,baz=192,slow=37						
LSA	Lhasa	44.78	314	*e*P		P	18 01 58.5 +0.1
LSA				pmax		pmax	
	comp=Z,6.0nm,0.8s						
LSA	Lhasa	44.78	314	*e*P		P	18 01 58.5 +0.1
	comp=Z,6.1nm,0.8s						
ASAJ	Asahikawa	45.49	16	P		P	18 02 04.4 +1.1
	comp=Z,9.2nm,0.8s,baz=231,slow=9.2,SNR=10						
GTA	Gaotai	45.95	330	*e*P		P	18 02 08.0 +0.9
GTA				PcP		PcP	18 03 44.5 +0.9
GTA				S		S	18 08 51.3 +2.0
GTA				SS		SS	18 12 08.5 -6.1
GTA				PMZ			
	comp=Z,8.0nm,0.9s						
GTA				PMZ			
	comp=Z,110nm,5.5s						
GTA				LN			
	comp=Z,100nm,10.2s						
GTA				LE			
	comp=Z,100nm,10.9s						
GTA				LZ			
	comp=Z,100nm,12.4s						
TAPN	Taplejung	46.16	309	*e*P		P	18 02 09.0 -0.2
	comp=Z,12nm,0.7s						
ODAN	Odare	46.18	308	*e*P		P	18 02 09.0 -0.3
	comp=Z,12nm,0.6s						
RAMN	Ramite	46.85	307	*e*P		P	18 02 14.7 +0.1
	comp=Z,18nm,0.7s						
JIRN	Jiri	47.50	308	*e*P		P	18 02 19.6 -0.2
	comp=Z,14nm,0.7s						
GUN	Gumba	47.86	308	*e*P		P	18 02 21.2 -1.3
	comp=Z,19nm,0.6s						
PKI	Pulchoki	48.08	308	*e*P		P	18 02 23.4 -0.8
PKIN	Phulchoki	48.09	308	*e*P		P	18 02 23.5 -0.7
	comp=Z,4.4nm,0.6s						
YSS	Yuzh-Sakhalins	48.17	14	*e*P		P	18 02 25.3 +1.1
YSS				pmax		pmax	
	comp=Z,14nm,0.9s						
YSS	Yuzh-Sakhalins	48.17	14	*e*P		P	18 02 25.3 +1.1
	comp=Z,14nm,0.9s						
HABR	Khabarovsk	48.19	7	*de*P		P	18 02 22.5 -1.8
HABR				*e**PP		pP	18 02 31.9 -3.9
HABR				*e**SP		sP	18 02 35.9 -4.6
HABR				*e*			18 03 48.6
HABR				*e*			18 04 14.4
HABR				*e*PPP		PPP	18 05 03.1
HABR				*e*S		S	18 09 20.0 -0.7
HABR				*e**SS		sS	18 09 35.9 -3.8
HABR				*e*			18 12 12.0
HABR				*e*SS		SS	18 12 50.4 -0.1
HABR				*e*SSS		SSS	18 14 01.2
HABR				pmax		pmax	
	comp=N,56nm,2.5s						
HABR				pmax		pmax	
	comp=E,57nm,2.5s						
HABR				pmax		pmax	
	comp=Z,120nm,2.5s						
KKN	Kakani	48.27	308	*e*P		P	18 02 25.1 -0.5
DMN	Daman	48.33	307	*e*P		P	18 02 25.7 -0.4
KLR	Kul'dur	48.62	4	*e*P		P	18 02 24.4 -3.2
KLR				pmax		pmax	
	comp=Z,43nm,1.4s						
GKN	Gorkha	48.88	308	*e*P		P	18 02 28.8 -1.4
	comp=Z,9.8nm,0.7s						
HIA	Hailar	48.89	354	*e*P		P	18 02 31.2 +1.5
HIA				pmax		pmax	
	comp=Z,4.0nm,0.6s						
HIA	Hailar	48.89	354	*e*P		P	18 02 31.2 +1.5
	comp=Z,4.2nm,0.6s						
KOLN	Koldanda	49.60	307	*e*P		P	18 02 34.8 -1.0
	comp=Z,26nm,0.6s						
DANN	Dangsing	49.73	308	*e*P		P	18 02 36.3 -0.5
	comp=Z,26nm,0.6s						
ULN	Ulaanbaatar	50.18	343	*c i* P		P	18 02 39.4 -0.3
ULN				pmax		pmax	
	comp=Z,22nm,0.8s						
ULN	Ulaanbaatar	50.18	343	*e*P		P	18 02 41.1 +1.3
	comp=Z,21nm,0.8s						
SONM	Songino Array	50.35	342	P		P	18 02 42.0 +1.0
	comp=Z,15nm,0.9s,baz=153,slow=7.7,SNR=80						
SONM				PcP		PcP	18 03 59.5 +0.3
	comp=Z,2.7nm,0.7s,baz=154,slow=4.6,SNR=3.9						
SONM				ScP		ScP	18 07 52.3 +0.2
	comp=Z,0.8nm,0.8s,baz=147,slow=4.0,SNR=4.9						
SONM				LR		LR	18 25 37.5
	comp=Z,38nm,20.6s,baz=168,slow=38						
HYB	Hyderabad	50.52	292	*i* P		P	18 02 45.5 +2.8
ZAK	Zakamensk	53.57	341	*e*P		P	18 03 05.1 +0.2
ZAK				*e*			18 04 11.8
ZAK				pmax		pmax	
	comp=Z,5.0nm,1.3s						
TLY	Talaya	54.59	342	*e*P		P	18 03 15.4 +3.2
TLY				pmax		pmax	
	comp=Z,23nm,1.0s						
TLY	Talaya	54.59	342	*e*P		P	18 03 15.1 +2.9
	comp=Z,15nm,0.8s						
MOY	Mondy	55.42	341	*e*P		P	18 03 19.8 +1.5
MOY				pmax		pmax	
	comp=Z,29nm,1.7s						
WMQ	Urumqi	55.47	326	P		P	18 03 20.5 +1.7
WMQ				PcP		PcP	18 04 19.5 +0.9
WMQ				PP		PP	18 05 25.8 +2.7
WMQ				S		S	18 11 01.0 -0.2
WMQ				ScS		ScS	18 13 03.5 -1.4
WMQ				SS		SS	18 14 45.5 -1.0
WMQ				PMZ			
	comp=Z,32nm,1.0s						
WMQ				PMZ			
	comp=Z,36nm,4.0s						
WMQ				LN			
	comp=Z,85nm,20.0s						
WMQ				LE			
	comp=Z,57nm,21.0s						
WMQ				LZ			
	comp=Z,46nm,23.0s						
HVS	Khovu-Aksy	57.70	336	*c i* P		P	18 03 35.5 +1.0
HVS				pmax		pmax	
	comp=Z,132nm,1.0s						
BOD	Bodaibo	57.99	352	*e*P		P	18 03 36.1 -0.2
BOD				pmax		pmax	
	comp=Z,12nm,0.1s						
PETK	Petropavlovsk-	58.21	21	P		P	18 03 39.2 +1.3
	comp=Z,8.8nm,0.7s,baz=183,slow=4.6,SNR=21						
PETK				LR		LR	18 29 28.4
	comp=Z,13nm,19.9s,baz=199,slow=37						
PET	Petropavlovsk	58.49	22	*e*P		P	18 03 39.9 +0.1
PDGK	Podgornoye	60.04	322	P		P	18 03 51.5 +0.8
URZ	Urewera	60.07	136	LR		LR	18 31 51.6
	comp=Z,84nm,18.4s,baz=332,slow=38						
MK31	Makanchi Array	60.31	326	P		P	18 03 52.9 +0.3
MK31				pmax		pmax	
	comp=Z,2.0nm,0.3s						
MKAR	Makanchi Array	60.31	326	P		P	18 03 53.2 +0.6
	comp=Z,3.4nm,0.4s,baz=117,slow=8.1,SNR=87						
MKAR				PcP		PcP	18 04 37.5 0.0
	comp=Z,3.9nm,0.6s,baz=137,slow=4.7,SNR=3.7						
MKAR				ScP		ScP	18 08 36.0 +0.3
	comp=Z,0.9nm,0.8s,baz=127,slow=3.2,SNR=3.5						
MKAR				S		S	18 12 05.5 +1.2
	comp=Z,0.4nm,0.8s,baz=130,slow=13,SNR=3.8						
KSH	Kashi	60.49	316	P		P	18 03 56.0 +1.9
KSH				pP		pP	18 04 08.0 +2.1
KSH				PP		PP	18 06 11.0 +3.2
KSH				S		S	18 12 05.3 -1.8
KSH				ScS		SKKSac	18 13 37.3 -4.6
KSH				SS		SS	18 16 05.5 -0.2
KSH				PMZ			
	comp=Z,5.0nm,0.9s						
KSH				PMZ			
	comp=Z,79nm,3.8s						
KSH				LN			
	comp=Z,120nm,4.4s						
KSH				LE			
	comp=Z,61nm,4.9s						
KSH				LZ			
	comp=Z,110nm,6.0s						
YAK	Yakutsk	61.31	1	*e*P		P	18 03 58.8 -0.3
YAK				*e*			18 04 06.9
YAK				*e*			18 13 43.7
YAK				pmax		pmax	
	comp=Z,27nm,0.9s						
YAK				pmax		pmax	
	comp=N,10.0nm,1.2s						
YAK				pmax		pmax	
	comp=E,4.0nm,1.3s						
YAK	Yakutsk	61.31	1	*e*P		P	18 03 59.8 +0.8
	comp=E,41nm,0.7s						
ULHL	Ulahol	61.57	319	P		P	18 04 02.4 +0.9
	SNR=5.7						
ULHL	Ulahol	61.57	319	*i* P		P	18 04 02.4 +0.9
KZA	Kyzart	62.14	319	P		P	18 04 07.3 +1.6
	SNR=11						
KZA	Kyzart	62.14	319	*i* P		P	18 04 07.2 +1.6
UCH	Uchtor	62.70	318	P		P	18 04 11.3 +1.9
	SNR=14						
UCH	Uchtor	62.70	318	*i* P		P	18 04 11.3 +1.9
AAK	Ala-Archa	62.89	319	P		P	18 04 11.5 +1.1
	comp=E,40nm,1.3s,SNR=5.6						
AAK	Ala-Archa	62.89	319	P		P	18 04 11.2 +0.9
AAK				pmax		pmax	
	comp=Z,11nm,1.5s						
AAK	Ala-Archa	62.89	319	*e*P		P	18 04 11.4 +1.1
	comp=Z,10nm

KBL	**Kabul**	63.69	309	*e*P		**P**	**18 04 16.5 +0.7**
	comp=Z,12nm,0.7s						
KURK	**Kurchatov**	64.55	328	*e*P		**P**	**18 04 21.8 +1.0**
	comp=Z,129nm,0.7s,SNR=25						
KURK	**Kurchatov**	64.55	328	*e*P		**P**	**18 04 21.1 +0.3**
KURK				pmax		pmax	
	comp=Z,17nm,0.7s						
KURK	**Kurchatov**	64.55	328	*e*P		**P**	**18 04 21.1 +0.3**
	comp=Z,17nm,0.7s						
NVS	**Novosibirsk**	64.80	334⇑	*i*P		**P**	**18 04 21.7 -0.6**
NVS				*e*			18 04 52.6
NVS				*e*			18 06 44.8
NVS				*e*S		**S**	**18 12 58.1 -2.2**
NVS				pmax		pmax	
	comp=N,9.0nm,1.4s						
NVS				pmax		pmax	
	comp=E,11nm,1.4s						
NVS				pmax		pmax	
	comp=Z,16nm,1.4s						
NVS				pmax		pmax	
	comp=Z,13nm,2.3s						
NVS				smax		smax	
	comp=E,27nm,3.0s						
SEY	**Seymchan**	65.00	12	P		**P**	**18 04 25.0 +1.5**
	comp=E,15nm,0.9s,baz=211,slow=7.6						
KK31	**Karatay Array**	65.74	318	P		**P**	**18 04 28.4 -0.4**
KK31				pmax		pmax	
	comp=Z,9.0nm,0.9s						
KKAR	**Karatay Array**	65.74	318	*e*P		**P**	**18 04 28.9 +0.2**
KKAR	**Karatay Array**	65.74	318	*e*P		**P**	**18 04 28.9 +0.2**
OTUK	**Ortayu**	66.81	324	P		**P**	**18 04 35.4 -0.1**
CASY	**Casey**	67.76	187	*e*P		P	18 04 44.5 +3.4
	comp=Z,16nm,1.4s						
BVA0	**Borovoye Array**	70.11	328	*i* P		**P**	**18 04 56.1 +0.1**
BVA0				pmax		pmax	
	comp=Z,14nm,1.2s						
TIXI	**Tiksi**	70.95	1d	*i* P		**P**	**18 05 01.1 +0.4**
TIXI				pmax		pmax	
	comp=Z,17nm,1.3s						
TIXI	**Tiksi**	70.95	1	*e*P		**P**	**18 05 00.5 -0.3**
	comp=Z,27nm,1.3s						
BILL	**Bilibino**	72.49	14⇑	*e*P		**P**	**18 05 08.5 -1.6**
BILL				*e*			18 07 58.5
BILL				*e*PPP		PPP	18 09 32.8
BILL				pmax		pmax	
	comp=Z,3.0nm,1.2s						
GEYT	**Alibeck**	73.11	310	P		**P**	**18 05 15.2 +0.7**
	comp=Z,2.8nm,0.6s,baz=142,slow=5.1,SNR=8.2						
AB31	**Akbulak array**	74.77	321	*i* P		**P**	**18 05 23.4 -0.4**
AB31				pmax		pmax	
	comp=Z,3.0nm,0.6s						
ABKAR	**Akbulak array**	74.77	321	*e*P		**P**	**18 05 23.8 -0.1**
AKTO	**Aktyubinsk**	76.30	322	LR		LR	18 40 59.5
	comp=Z,20nm,20.4s,baz=97,slow=37						
SVE	**Sverdlovsk**	76.78	329	*e*P		**P**	**18 05 34.9 -0.3**
SVE				pmax		pmax	
	comp=Z,17nm,1.0s						
ARU	**Arti**	77.74	328*c*	*i*P		**P**	**18 05 39.6 -1.0**
ARU				S		**S**	**18 15 30.6 +0.7**
ARU				SS		**SS**	**18 20 25.0 -5.6**
ARU				pmax		pmax	
	comp=Z,5.0nm,1.2s						
ARU	**Arti**	77.74	328	*e*P		**P**	**18 05 39.6 -1.0**
	comp=Z,5.3nm,0.8s						
VNDA	**Vanda**	80.30	173	LR		LR	18 41 12.4
	comp=Z,43nm,19.3s,baz=334,slow=36						
MAW	**Mawson**	80.94	200	P		**P**	**18 05 57.3 -0.5**
	comp=Z,40nm,1.1s,baz=304,slow=15,SNR=2.1						
RAYN	**Ar Rayn**	82.00	294	*e*P		**P**	**18 06 04.5 +0.1**
	comp=Z,6.6nm,0.9s						
SVW2	**Sparrevohn**	83.39	29	*e*P		**P**	**18 06 12.8 +2.1**
	comp=Z,9.8nm,0.9s						
GNI	**Garni**	83.73	310	LR		LR	18 48 26.7
	comp=Z,12nm,20.2s,baz=96,slow=39						
KDAK	**Kodiak Island**	84.36	32	*i* P		**P**	**18 06 17.2 +1.5**
ZEI	**Tsey**	84.56	313	*e*P		**P**	**18 06 14.8 -2.6**
ZEI				pmax		pmax	
	comp=Z,11nm,1.3s						
RSO	**Redoubt South**	84.65	29	*e*P		**P**	**18 06 18.2 +0.8**
KBZ	**Khabaz**	85.35	314	P		**P**	**18 06 20.6 -0.4**
	comp=Z,1.5nm,0.8s,baz=135,slow=10.0,SNR=3.8						
PRGR	**Permogore**	85.39	332	P		P	18 06 13.1 -7.7
COLD	**Coldfoot**	86.64	23	*e*P		**P**	**18 06 28.1 +1.1**
	comp=Z,4.7nm,0.8s						
ILAR	**Eielson Array**	87.78	25	P		**P**	**18 06 31.1 -1.4**
	comp=Z,0.8nm,0.6s,baz=251,slow=4.7,SNR=10						
KLMR	**Klimovskoe**	88.28	331	*e*P		P	18 06 31.5 -3.4
KLMR				pmax		pmax	
	comp=Z,25nm,1.6s						
SYO	**Syowa Base**	89.63	201⇑	*e*X		P	18 06 34.8 -6.3
OBN	**Obninsk**	89.79	325⇑	*e*P		**P**	**18 06 40.7 -1.4**
OBN				*i*			18 10 12.2
OBN				*e*S		S	18 17 21.6 -9.5
OBN				pmax		pmax	
	comp=Z,31nm,2.5s						
DAWY	**Dawson**	91.04	26	*e*P		**P**	**18 06 48.8 +1.0**
BRTR	**Keskin Array B**	92.25	310	P		**P**	**18 06 52.3 -1.9**
	comp=Z,0.9nm,1.0s,baz=127,slow=6.3,SNR=3.5						
ARCES	**ARCESS Array B**	93.48	340	P		**P**	**18 06 58.1 -0.9**
	comp=Z,1.7nm,0.5s,baz=81,slow=7.4,SNR=13						
FINES	**FINESS Array B**	94.73	332	P		**P**	**18 07 04.3 -0.5**
	comp=Z,0.5nm,0.6s,baz=102,slow=5.8,SNR=3.2						
KOLS	**Kolonicke sedl**	99.23	320	*e*P		**Pdif**	**18 07 30.1 +4.6**
KOLS	**Kolonicke sedl**	99.23	320	PDIF		**Pdif**	**18 07 30.1 +4.6**
STHS	**Stebnicka Huta**	99.79	320	*e*P		**Pdif**	**18 07 28.5 +0.5**
STHS	**Stebnicka Huta**	99.79	320	PDIF		**Pdif**	**18 07 28.5 +0.5**
DAG	**Danmarks Havn**	100.38	352	*i* P		**Pdif**	**18 07 28.8 -1.2**
DAG				*i* S		X	18 07 46.1
YKA	**Yellowknife Ar**	102.20	25	P		**Pdif**	**18 07 38.8 +0.5**
	comp=Z,0.3nm,0.5s,baz=295,slow=4.2,SNR=6.8						
YKA				PKiKP		**PKiKP**	**18 12 00.3 0.0**
	comp=Z,0.1nm,0.6s,baz=302,slow=1.9,SNR=4.0						
LTY	**Liberty**	104.52	41	*e*Pdif		**Pdif**	**18 07 56.9 +7.7**
TORD	**Torodi Ar. Bea**	124.14	286	PKP		**PKPdf**	**18 12 42.9 -0.4**
	comp=Z,1.6nm,0.8s,baz=59,slow=1.6,SNR=10.0						

MEX 25 17:58:25.1±0.8, 15°.45N×96°.83W, h16km±16km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	0.76	65	*i* P		Pb	17 58 37.3	-2.7
HUIG				*e*S		Sg	17 58 46.2	-4.0
PNIG	**Pinotepa**	1.56	307	*e*P		Pn	17 58 49.5	-2.8
PNIG				*i* S		Sn	17 59 06.6	-5.7
VHO	**Vista Hermosa**	1.62	3	*e*P		Pn	17 58 50.1	-3.1
VHO				*e*S		Sn	17 59 09.2	-4.7

*IDC **25** 18:04:21.8±1.0, 36°.07N×140°.12E, h0km, mb3.4/8, mb1 3.6/8, mb1mx3.5/25, mbtmp3.4/8, MS3.4/2, Ms1 3.4/2, ms1mx2.6/28, Error ellipse: s-maj=23.9km s-min=19.9km az=43.0*
*ISCJB **25** 18:04:27.9±0.6, 36°.06N±0°.05×139°.96E±0°.06, h61km±4km, mb3.4/8, Error ellipse: s-maj=8.6km s-min=7.0km az=42.2*
*JMA **25** 18:04:29.5±0.1, 36°.07N×139°.89E, h47km±1km, M3.2 Broadband fault plane solution: P waves. NP1: ϕ_s43.00000°, δ78.00000°, λ86.00000°. NP2:ϕ_s243.00000°, δ13.00000°, λ109.00000°. Principal axes: T Plg57.0000°, Azm308.0000°; N Plg4.0000°, Azm44.0000°; P Plg33.0000°, Azm137.0000°;*
JMA Felt I J1.

ISC 25 18:04:28.9±0.9, 36°.06N±0°.06×139°.93E±0°.06, h52km±7km, n20, σ0°88/26, mb3.4/8, 1C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	0.28	51	⇑P		**Pn**	**18 04 38.3**	**+0.2**
JYT				S		**Sn**	**18 04 44.5**	**-0.1**
JAG	**Ashikaga**	0.53	314	⇓P		**Pn**	**18 04 40.7**	**0.0**
JAG				*e*S		**Sn**	**18 04 48.5**	**-0.7**
JRY	**Ryogami san**	0.83	268	⇓P		**Pn**	**18 04 44.4**	**-0.1**
JRY				S		**Sn**	**18 04 54.8**	**-1.1**
JKT	**Katashina**	0.90	323	⇓P		**Pn**	**18 04 45.3**	**-0.1**
JKT				*e*S		**Sn**	**18 04 57.4**	**-0.1**
JOD2	**Odawara 2**	1.04	221	P		**Pn**	**18 04 48.5**	**+1.2**
JOD2				*e*S		**Sn**	**18 05 01.2**	**+0.3**
JYN	**Shimob**	1.25	244	P		**Pn**	**18 04 51.6**	**+1.4**
JFY	**Yanaizu**	1.36	353	P		**Pn**	**18 04 52.4**	**+0.8**
JFY				*e*S		**Sn**	**18 05 09.9**	**+1.3**
MJAR	**Matsushiro Arr**	1.47	290	Pn		**Pn**	**18 04 52.2**	**-0.8**
	21nm,0.3s,baz=90,slow=8.9,SNR=231							
MJAR				Sn		**Sn**	**18 05 12.2**	**+0.9**
	11nm,0.3s,baz=4.1,slow=37,SNR=2.7							
MAT	**Matsushiro**	1.47	290	P		**Pn**	**18 04 53.7**	**+0.6**
MAT				*e*S		**Sn**	**18 05 11.4**	**+0.1**
ASAJ	**Asahikawa**	8.31	13	Pn		**Pn**	**18 06 26.4**	**-0.3**
	0.1nm,0.3s,baz=198,slow=6.4,SNR=2.0							
SONM	**Songino Array**	27.36	306	P		**P**	**18 10 10.8**	**+1.7**
	0.3nm,0.7s,baz=100,slow=9.4,SNR=3.7							
ZALV	**Zalesovo Beam**	41.70	313	P		**P**	**18 12 11.9**	**-0.4**
	1.0nm,0.5s,baz=87,slow=7.5,SNR=6.8							
MKAR	**Makanchi Array**	43.63	303	P		**P**	**18 12 28.1**	**0.0**
	0.3nm,0.6s,baz=87,slow=7.5,SNR=5.7							
AAK	**Ala-Archa**	49.91	299	LR		LR	18 36 24.2	
	comp=Z,38nm,18.4s,baz=55,slow=38							
ILAR	**Eielson Array**	50.96	32	P		**P**	**18 13 22.8**	**-2.0**
	0.3nm,0.6s,baz=263,slow=5.4,SNR=2.7							
WRA	**Warramunga Arr**	55.94	186	P		**P**	**18 14 02.0**	**+0.3**
	0.4nm,0.7s,baz=4.3,slow=7.6,SNR=9.3							
ASAR	**Alice Springs**	59.67	186	P		**P**	**18 14 27.7**	**-0.2**
	0.2nm,0.8s,baz=12,slow=4.4,SNR=3.7							
YKA	**Yellowknife Ar**	65.25	30	P		**P**	**18 15 05.3**	**+0.6**
	0.1nm,0.6s,baz=309,slow=7.5,SNR=3.2							
FINES	**FINESS Array B**	69.12	332	P		**P**	**18 15 29.2**	**0.0**
	1.6nm,0.9s,baz=54,slow=7.1,SNR=2.9							
NWAO	**Narrogin (SRO)**	71.84	200	LR		LR	18 51 59.0	
	comp=Z,23nm,18.7s,baz=164,slow=40							

IDC 25 18:38:37.7±2.1, 10°.07S×161°.36E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/37, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=52.4km s-min=33.1km az=98.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	1.53	294	LR		LR	18 39 30.2	
	comp=Z,43nm,19.3s,baz=25,slow=34							
DZM	**Mont Dzumac**	12.89	158	Pn		Pn	18 41 42.3	-0.2
	0.3nm,0.3s,baz=324,slow=19,SNR=16							
WRA	**Warramunga Arr**	27.84	246	P		P	18 44 29.6	+0.4
	0.9nm,0.8s,baz=73,slow=9.1,SNR=7.1							
H11S2	**WAKE ISLAND Hy**	28.87	11	T		T	19 15 38.8	
	baz=189,slow=74							
H11S3	**WAKE ISLAND Hy**	28.87	11	T		T	19 15 41.9	
	baz=189,slow=74							
H11S1	**WAKE ISLAND Hy**	28.88	11	T		T	19 15 29.8	
	baz=189							
ASAR	**Alice Springs**	29.47	239	P		P	18 44 43.2	-0.4
	0.4nm,1.0s,baz=62,slow=10,SNR=3.2							
H11N1	**WAKE ISLAND Hy**	30.09	10	T		T	19 17 09.9	
	baz=192							
H11N3	**WAKE ISLAND Hy**	30.10	10	T		T	19 17 08.5	
	baz=192							
H11N2	**WAKE ISLAND Hy**	30.11	10	T		T	19 17 01.8	
	baz=192							
SONM	**Songino Array**	75.37	325	P		P	18 50 24.1	+0.8
	0.6nm,0.6s,baz=136,slow=6.1,SNR=6.4							
MKAR	**Makanchi Array**	89.88	318	P		P	18 51 37.6	-1.1
	0.2nm,0.4s,baz=96,slow=5.2,SNR=5.8							

*ISCJB **25** 18:39:24.1±0.3, 20°.10S±0°.05×68°.98W±0°.06, h104km, mb4.5/34, Error ellipse: s-maj=8.1km s-min=5.7km az=145.2*
*NEIC **25** 18:39:25.4±0.2, 20°.08S×69°.00W, mb4.6/14, Error ellipse: s-maj=7.3km s-min=5.3km az=72.0*
NEIC Felt [IV] at Camina; [III] at Alto Hospicio, Cuya, Huara, Iquique, Pisagua and Pozo Almonte; [II] at Mejillones.
*IDC **25** 18:39:25.6±0.5, 20°.04S×68°.98W, h101km±3km, mb4.1/19, mb1 4.3/20, mb1mx4.2/36, mbtmp4.5/20, MS3.5/7, Ms1 3.4/7, ms1mx3.2/20, Error ellipse: s-maj=16.0km s-min=13.3km az=42.0*
*GUC **25** 18:39:25.7±0.6, 20°.35S×69°.49W, h123km±7km, ML5.3*

ISC 25 18:39:25.3±0.3, 20°.17S±0°.04×69°.12W±0°.06, h104km, n137, σ1°18/144, mb4.5/34, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PATCX	**Punta Patache**	1.17	236	⇓*i*P		**Pn**	**18 39 46.2**	**-1.7**
PATCX				*i* S		**Sn**	**18 40 02.3**	**-2.7**
PATCX				AML		AML	18 40 03.5	
	comp=E,33μm,0.4s							
MACH	**Maria Elena**	2.10	196	*e*P1		**Pn**	**18 39 58.7**	**-0.9**
MACH				*i* S1		**Sn**	**18 40 23.2**	**-2.5**
LVC	**Limon Verde**	2.43	176	*e*P1		**Pn**	**18 40 04.4**	**+0.5**
LVC				*i* S1		**Sn**	**18 40 33.7**	**+0.2**
LVC	**Limon Verde**	2.43	176	*e*P		**Pn**	**18 40 04.0**	**+0.1**
CEN1	**Los Morros**	3.35	197	*e*P1		**Pn**	**18 40 17.5**	**+1.6**
CEN1				AML		AML	18 41 11.2	
	comp=E,3μm,0.6s							
PB10	**IPOC Station P**	3.58	202	*e*P1		**Pn**	**18 40 16.3**	**-2.6**
PB10				AML		AML	18 41 16.6	
	comp=N,10μm,0.5s							
ANCH	**Antofagasta**	3.69	199	AML		AML	18 41 18.7	
	comp=E,5μm,0.8s							
LPAZ	**La Paz**	3.98	14	P		**Pn**	**18 40 27.5**	**+2.7**
	comp=E,83nm,0.3s,baz=186,slow=7.7,SNR=1189							
LPAZ				LR		LR	18 42 01.2	
	comp=E,163nm,21.5s,baz=206,slow=41							
ARE	**Arequipa**	4.33	328	⇑*i*P		**Pn**	**18 40 27.2**	**-2.1**
ARE				*i*			18 40 31.8	
ARE				*e*S		**Sn**	**18 41 19.0**	**+0.2**
SIV	**San Ignacio**	8.71	63	P		**Pn**	**18 41 27.0**	**-1.5**
	comp=E,25nm,0.3s,baz=260,slow=12,SNR=262							
LCO	**Las Campanas**	8.91	189	*e*P		Pn	18 41 26.0	-5.4
	comp=E,153nm,0.5s							
NNA	**Nana**	11.01	316	P		Pn	18 41 56.5	-3.3
	comp=E,1.9nm,0.3s,baz=193,slow=14,SNR=3.6							
NNA				S		Sn	18 43 54.6	-6.5
	comp=E,2.9nm,0.3s,baz=204,slow=17,SNR=2.7							
NNA	**Nana**	11.01	316	*e*P		**Pn**	**18 42 01.7**	**+1.8**
NNA				S		Sn	18 43 54.6	-6.5
CFAA	**Coronel Fontan**	11.41	176	P		Pn	18 42 00.3	-4.7
	comp=E,0.2nm,0.3s,baz=350,slow=12,SNR=15							
CFAA				S		Sn	18 43 59.3	-11
	comp=E,0.2nm,0.3s,baz=68,slow=19,SNR=3.4							
SAML	**Samuel**	12.55	28	*e*P		**Pn**	**18 42 17.9**	**-2.2**
	comp=E,25nm,0.8s							
ATAH	**Atahualpa**	15.78	324	P		**P**	**18 43 05.1**	**+1.2**
	comp=E,0.2nm,0.3s,baz=13,slow=5.4,SNR=3.8							
TRQA	**Tornquist**	18.87	162	*e*P		**P**	**18 43 37.0**	**-0.4**
	comp=E,21nm,0.7s							
BDFB	**Brasilia**	20.58	81	P		**P**	**18 43 55.6**	**-0.5**
	comp=E,43nm,0.5s,baz=249,slow=11,SNR=46							
BDFB				LR		LR	18 53 13.6	
	comp=E,161nm,21.9s,baz=240,slow=40							
PTGA	**Pitinga**	21.30	26	P		**P**	**18 44 01.9**	**-1.8**
	comp=E,11nm,0.4s,baz=200,slow=20,SNR=16							
OTAV	**Otavalo**	22.25	335	*e*P		**P**	**18 44 17.7**	**+3.4**
	comp=E,7.1nm,0.4s							
SDV	**Santo Domingo**	28.92	357	*e*P		**P**	**18 45 13.8**	**-1.1**
	comp=E,10nm,0.9s							
USHA	**Ushuaia**	34.60	179	P		**P**	**18 46 05.3**	**+1.3**
	comp=E,9.4nm,1.0s,baz=328,slow=9.5,SNR=3.9							
RCBR	**Riachuelo**	35.27	71	*e*P		**P**	**18 46 10.2**	**-0.1**
	comp=E,45nm,0.9s							
OBIP	**Obispado Ponce**	38.06	4	*e*P		**P**	**18 46 33.5**	**-0.3**
	comp=E,27nm,0.8s							
CELP	**Cerrillos**	38.09	4	*e*P		**P**	**18 46 32.9**	**-1.2**
SJG	**San Juan**	38.16	5	*e*P		**P**	**18 46 33.2**	**-1.5**
	comp=E,24nm,0.3s							
LRS	**Lares**	38.29	3	*e*P		**P**	**18 46 34.4**	**-1.4**
CMIG	**Matias Romero**	44.85	324	P		**P**	**18 47 30.3**	**+0.9**
	comp=E,1.0nm,0.4s,baz=125,slow=12,SNR=2.7							
CMIG				pP		**pP**	**18 47 54.0**	**+0.3**
	comp=E,2.3nm,0.6s,baz=132,slow=10,SNR=2.7							
833A	**Chaparral WMA,**	56.40	328	P		**P**	**18 48 56.5**	**+0.5**
	baz=57							
TKL	**Tuckaleechee C**	57.24	346	P		**P**	**18 49 01.7**	**-0.1**
	comp=E,3.2nm,0.6s,baz=132,slow=6.0,SNR=4.6							
TKL				pP		**pP**	**18 49 26.3**	**-0.8**
	comp=E,5.6nm,0.8s,baz=168,slow=9.8,SNR=3.2							
234A	**Clairette**	58.86	331	P		**P**	**18 49 13.7**	**+0.5**
	baz=59							
530A	**J-C Ranch, Com**	58.87	327	P		**P**	**18 49 13.4**	**+0.1**
	baz=59							
529A	**Stev Forest Ra**	59.30	327	P		**P**	**18 49 16.6**	**+0.3**
	baz=60							
430A	**Baggett Ranch,**	59.33	328	P		**P**	**18 49 16.2**	**-0.3**
	baz=60							
TXAR	**Lajitas Array**	59.44	325	P		**P**	**18 49 17.5**	**+0.1**
	comp=E,0.4nm,0.4s,baz=151,slow=7.3,SNR=6.3							
429A	**Davenport Ranc**	59.53	327	P		**P**	**18 49 18.4**	**+0.5**
	baz=60							
W32A	**Sentinel**	61.99	332	P		**P**	**18 49 34.4**	**0.0**
	baz=62							
SNAA	**Sanae**	63.59	161	P		**P**	**18 49 45.4**	**+0.7**
SADO	**Sadowa**	65.27	352	P		**P**	**18 49 54.5**	**-1.3**
	comp=E,3.5nm,0.5s,baz=202,slow=6.8,SNR=3.7							
214A	**Organ Pipe Nat**	66.62	320	P		**P**	**18 50 06.4**	**+1.6**
	baz=67							
BGNE	**Belgrade**	66.93	337	P		**P**	**18 50 07.2**	**+0.7**
	baz=67							
SDCO	**Great Sand Dun**	67.01	329	P		**P**	**18 50 08.5**	**+1.1**
	baz=67							
P25A	**Willow Gulch B**	67.81	331	P		**P**	**18 50 13.1**	**+0.8**
	baz=68							
Q24A	**Divide**	67.82	330	P		**P**	**18 50 13.2**	**+0.7**
	baz=68							
Y14A	**Wickenburg**	68.14	322	P		**P**	**18 50 15.2**	**+0.9**
	baz=68							
LIC	**Lamto**	68.21	74	*e*P		**P**	**18 50 14.4**	**-0.8**
	comp=E,55nm,1.1s							
TIC	**Toumodi**	68.39	74	*e*P		**P**	**18 50 15.5**	**-0.8**
	comp=E,5.0nm,0.2s							
ECSD	**EROS Data Cent**	68.42	339	P		**P**	**18 50 15.6**	**-0.2**
	baz=69							
KIC	**Kosan Boka**	68.53	74	*e*P		**P**	**18 50 16.5**	**-0.6**
	comp=E,20nm,0.5s							
DBIC	**Dimbokro**	68.55	74	P		**P**	**18 50 16.6**	**-0.6**
	comp=E,17nm,0.8s,baz=220,slow=6.1,SNR=30							
DBIC				pP		**PcP**	**18 50 42.2**	**+0.5**
	comp=E,15nm,0.9s,baz=216,slow=4.7,SNR=6.3							
DBIC				LR		LR	19 19 07.8	
	comp=E,44nm,18.8s,baz=201,slow=35							
O22A	**Kremmling**	69.42	330	P		**P**	**18 50 23.4**	**+0.9**
	baz=70							
J29A	**Okreek**	69.46	336	P		**P**	**18 50 22.9**	**+0.5**
	baz=70							
U15A	**North Rim**	69.52	324	P		**P**	**18 50 25.2**	**+2.1**
	baz=70							
M24A	**Cheyenne**	69.69	332	P		**P**	**18 50 25.7**	**+1.8**
	baz=70							
N23A	**Red Feather La**	69.73	331	P		**P**	**18 50 24.8**	**+0.5**
	baz=70							
J28A	**Allard Ranch,**	69.83	336	P		**P**	**18 50 25.5**	**+0.9**
	baz=70							
J27A	**Elkhorn Farm,**	69.99	335	P		**P**	**18 50 26.9**	**+1.3**
	baz=70							
QSPA	**South Pole Qui**	70.01	180	*e*P		**P**	**18 50 27.2**	**+1.6**
	comp=E,7.2nm,1.0s							
GMRC	**Granite Mounta**	70.30	321	P		**P**	**18 50 29.4**	**+1.7**
	baz=70							
HEC	**Hector,Ludlow**	70.73	320	P		**P**	**18 50 32.0**	**+1.7**
	baz=71							
CCUT	**Cedar City**	70.93	324	*e*P		**P**	**18 50 32.5**	**+0.9**
	comp=E,3.4nm,0.8s							
SHPR	**Sheep Range**	71.20	322	*e*P		**P**	**18 50 35.1**	**+1.9**
	comp=E,2.8nm,0.7s							
I25A	**Rochford**	71.32	334	P		**P**	**18 50 34.9**	**+1.1**
	baz=72							
EDW2	**Edwards Air Fo**	71.77	319	P		**P**	**18 50 37.3**	**+0.7**
	baz=72							
G26A	**Maurine**	71.93	336	P		**P**	**18 50 36.8**	**-0.5**
	baz=72							
TPNV	**Topopah Spring**	72.14	322	P		**P**	**18 50 40.8**	**+1.9**
	baz=72							
AGMN	**Agassiz Nation**	72.24	342	P		**P**	**18 50 38.7**	**-0.3**
	baz=72							
I22A	**9 Mile Ranch,**	72.37	333	P		**P**	**18 50 40.0**	**0.0**
	baz=73							
F26A	**Lodgepole**	72.42	336	P		**P**	**18 50 40.6**	**+0.3**
	baz=73							
J20A	**Shoshoni**	72.65	331	P		**P**	**18 50 42.0**	**+0.3**
	baz=73							
R11A	**Troy Canyon, C**	72.73	323	P		**P**	**18 50 43.9**	**+1.6**
	baz=73							
PDAR	**Pinedale Array**	72.87	330	P		**P**	**18 50 43.7**	**+0.6**
	comp=E,0.8nm,0.7s,baz=122,slow=8.1,SNR=4.1							
PKM	**Mcpherson Peak**	72.91	318	P		**P**	**18 50 44.3**	**+0.8**
	baz=73							
J19A	**Crowheart**	73.02	331	P		**P**	**18 50 44.8**	**+0.8**
	baz=73							
MDND	**Maddock**	73.03	339	P		**P**	**18 50 44.0**	**+0.3**
	baz=73							
MDND	**Maddock**	73.03	339	*e*P		**P**	**18 50 44.5**	**+0.8**
	comp=E,3.6nm,0.6s							
F24A	**Ekalaka**	73.11	335	P		**P**	**18 50 44.6**	**+0.3**
	baz=73							
B30A	**Myrvik Farm, E**	73.14	340	P		**P**	**18 50 44.5**	**+0.2**
	baz=73							
B29A	**Wagenman Farm,**	73.48	340	P		**P**	**18 50 46.9**	**+0.5**
	baz=74							
E24A	**Baker**	73.64	336	P		**P**	**18 50 48.6**	**+1.2**
	baz=74							
A29A	**Manning Farm,**	73.84	340	P		**P**	**18 50 48.8**	**+0.4**
	baz=74							
ULM	**Lac du Bonnet**	74.00	343	P		**P**	**18 50 48.8**	**-0.5**
	comp=E,5.1nm,0.6s,baz=149,slow=5.0,SNR=13							
ULM				pP		**pP**	**18 51 13.4**	**-2.3**
	comp=E,2.6nm,0.5s,baz=93,slow=4.5,SNR=2.5							
ELK	**Elko**	74.23	325	P		**P**	**18 50 51.5**	**+0.3**
	comp=E,0.9nm,0.6s,baz=261,slow=23,SNR=3.6							
NVAR	**Mina Array Bea**	74.33	322	P		**P**	**18 50 52.6**	**+0.8

H11N1	**WAKE ISLAND Hy**	**27.57**	**280**	T	T		21 18 14.1	
	baz=102,slow=74,SNR=146							
SEY	**Seymchan**	**128.81**	**337**	PKP	**PKPdf**		**18 58 21.3**	**+1.3**
	comp=E,0.7nm,0.6s,baz=172,slow=7.2,SNR=6.1							
ASAR	**Alice Springs**	**130.99**	**208**	PKP	**PKPdf**		**18 58 25.6**	**+0.1**
	comp=E,0.8nm,0.5s,baz=129,slow=1.7,SNR=15							
WRA	**Warramunga Arr**	**133.99**	**211**	PKP	**PKPdf**		**18 58 31.4**	**+0.2**
	comp=E,1.2nm,0.8s,baz=158,slow=1.7,SNR=12							
WRA				pPKP	**pPKPdf**		**18 58 58.3**	**-1.4**
	comp=E,0.5nm,0.6s,baz=160,slow=1.5,SNR=2.0							
ZALV	**Zalesovo Beam**	**140.84**	**24**	PKhKP	PKPpre		18 58 34.6	
	comp=E,0.5nm,0.4s,baz=338,slow=3.1,SNR=3.2							
ZALV				PKP	**PKPdf**		**18 58 41.2**	**-1.5**
	comp=E,2.1nm,0.6s,baz=318,slow=2.0,SNR=9.0							
ZALV				pPKP	pPKPdf		18 59 10.1	-1.1
	comp=E,1.6nm,0.7s,baz=263,slow=2.5,SNR=2.5							
KSH	**Kashi**	**144.41**	**50**	PKPbc	**PKPdf**		**18 58 49.5**	**-0.2**
KSH				pPKP	**PKiKP**		**18 58 54.3**	**+0.9**
KSH				PP	**PP**		**19 02 01.5**	**-4.8**
MKAR	**Makanchi Array**	**144.67**	**35**	PKP	**PKPdf**		**18 58 49.5**	**-0.3**
	comp=E,4.2nm,0.5s,baz=315,slow=2.8,SNR=77							
MKAR				pPKP	**pPKPdf**		**18 59 16.7**	**-1.6**
	comp=E,1.6nm,0.8s,baz=313,slow=2.9,SNR=2.9							
USRK	**Ussuriysk Ar.**	**150.29**	**328**	PKPbc	**PKPbc**		**18 59 05.2**	**+0.8**
	comp=E,4.5nm,0.7s,baz=360,slow=0.9,SNR=9.6							
USRK				pPKPbc	**pPKPbc**		**18 59 32.3**	**-0.4**
	comp=E,3.3nm,0.8s,baz=235,slow=4.1,SNR=3.9							
MJAR	**Matsushiro Arr**	**151.09**	**310**	PKPbc	**PKPbc**		**18 59 07.0**	**+0.4**
	comp=E,0.9nm,0.4s,baz=105,slow=0.5,SNR=6.2							
MJAR				pPKPbc	**pPKPbc**		**18 59 34.1**	**-0.8**
	comp=E,3.3nm,0.9s,baz=72,slow=2.0,SNR=4.6							
SONM	**Songino Array**	**152.17**	**6**	PKP	**PKPdf**		**18 59 02.5**	**+0.4**
	comp=E,0.5nm,0.7s,baz=205,slow=4.7,SNR=10							
SONM				PKPbc	**PKiKP**		**18 59 09.6**	**+0.5**
	comp=E,2.9nm,0.4s,baz=296,slow=1.2,SNR=40							
SONM				pPKPbc	**pPKPbc**		**18 59 37.5**	**+0.4**
	comp=E,1.5nm,0.5s,baz=350,slow=0.4,SNR=3.9							
KOLN	**Koldanda**	**153.99**	**68**	*eP*	**PKPab**		**18 59 26.4**	**-0.9**
DANN	**Dangsing**	**154.01**	**66**	*eP*	**PKPab**		**18 59 26.3**	**-1.2**
	comp=E,27nm,0.9s							
GKN	**Gorkha**	**154.84**	**67**	*eP*	**PKPab**		**18 59 30.3**	**-0.5**
	comp=E,15nm,0.5s							
DMN	**Daman**	**155.33**	**68**	*eP*	**PKPab**		**18 59 32.3**	**-0.8**
KKN	**Kakani**	**155.44**	**67**	*eP*	**PKPab**		**18 59 32.9**	**-0.6**
	comp=E,9.6nm,0.6s							
PKIN	**Phulchoki**	**155.59**	**68**	*eP*	**PKPab**		**18 59 32.9**	**-1.3**
	comp=E,5.7nm,0.6s							
PKI	**Pulchoki**	**155.60**	**68**	*eP*	**PKPab**		**18 59 33.5**	**-0.8**
	comp=E,6.9nm,0.7s							
GUN	**Gumba**	**155.93**	**67**	*eP*	**PKPab**		**18 59 35.3**	**-0.5**
	comp=E,17nm,0.8s							
JIRN	**Jiri**	**156.26**	**67**	*eP*	**PKPab**		**18 59 36.4**	**-0.8**
RAMN	**Ramite**	**156.76**	**69**	*eP*	**PKPab**		**18 59 39.2**	**-0.1**
ODAN	**Odare**	**157.47**	**68**	*eP*	**PKPab**		**18 59 42.2**	**-0.1**
TAPN	**Taplejung**	**157.64**	**67**	*eP*	**PKPab**		**18 59 42.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**168.60**	**97**	PKPab	**PKPab**		**19 00 30.5**	**-0.5**
	comp=E,0.6nm,0.6s,baz=254,slow=6.2,SNR=4.8							
CMAR				PP	**PP**		**19 04 22.9**	**+2.1**
	comp=E,0.6nm,0.8s,baz=255,slow=6.4,SNR=5.5							

*ISCJB **25** 18:42:55.3±0.8, 7°.57S±0°.07×128°.46E±0°.06, h151km, mb2.9/1, Error ellipse: s-maj=9.8km s-min=7.4km az=31.3*
*IDC **25** 18:42:57.7±8.3, 7°.59S×128°.31E, h169km±89km, mb2.9/1, mb1 3.2/4, mb1mx3.0/19, mbtmp3.6/4, Error ellipse: s-maj=87.5km s-min=26.0km az=37.0*
ISC 25 18:42:56.7±1.5, 7°.6S±0°.1×128°.43E±0°.08, h151km, n9, σ1§63/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.63**	**242**	P	**Pn**	**18 44 06.6**	**+1.2**
	baz=4.8,SNR=9.3						
BATI	**Baumata**	**5.36**	**241**	P	**Pn**	**18 44 15.9**	**+0.9**
	6.7nm,0.3s,baz=111,slow=4.6,SNR=21						
BATI				S	**Sn**	**18 45 15.8**	**-0.4**
	4.3nm,0.3s,baz=204,slow=20,SNR=3.9						
MTN	**Manton Dam**	**5.83**	**153**	P	**Pn**	**18 44 22.6**	**+1.4**
	baz=5.9,SNR=43						
MTN				S	**Sn**	**18 45 28.0**	**+0.7**
	baz=5.9,SNR=4.3						
FAKI	**Fak Fak**	**6.03**	**39**	P	Pn	18 44 22.0	-1.9
	baz=5.9,SNR=4.6						
KDU	**Kakadu**	**6.41**	**142**	P	**Pn**	**18 44 30.1**	**+1.1**
	baz=6.5,SNR=58						
KDU				S	**Sn**	**18 45 41.0**	**-0.2**
	baz=6.5,SNR=6.3						
KNRA	**Kununurra**	**8.01**	**178**	P	**Pn**	**18 44 50.9**	**+0.6**
	baz=8.2,SNR=85						
KNRA				S	**Sn**	**18 46 16.3**	**-3.3**
	baz=8.2,SNR=5.8						
WRA	**Warramunga Arr**	**13.52**	**156**	P	**Pn**	**18 46 02.0**	**-0.6**
	0.4nm,0.3s,baz=328,slow=13,SNR=24						
WRA				S	Sn	18 48 25.8	-6.6
	0.4nm,0.3s,baz=334,slow=22,SNR=7.8						
ASAR	**Alice Springs**	**16.79**	**162**	P	**Pn**	**18 46 45.0**	**+1.8**
	0.2nm,0.3s,baz=339,slow=10,SNR=14						
ASAR				S	S	18 49 42.1	-7.8
	0.1nm,0.3s,baz=345,slow=25,SNR=3.5						
MKAR	**Makanchi Array**	**67.90**	**328**	P	**P**	**18 53 37.4**	**-1.6**
	0.1nm,0.4s,baz=126,slow=6.1,SNR=4.2						

DJA 25 18:47:08.9±0.9, 11°S±7°.3×11°.8E±°, h10km, M4.1/5, mb4.1/2, MLv4.1/5, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.94**	**38**	P	Pn	18 47 41.6	-0.4
WBSI				S	Sn	18 48 04.8	-1.7
JAGI	**Jajag, Banyuwa**	**4.80**	**304**	P	Pn	18 48 20.4	-0.9
GMJI	**Gumukmas**	**5.49**	**301**	P	Pn	18 48 31.0	+0.2
	16nm,1.5s,0.1nm						
BKSI	**Bulukumba**	**6.13**	**18**	P	Pn	18 48 41.6	+2.0
PCJI	**Pacitan**	**7.51**	**293**	P	Pn	18 48 57.7	-0.9

*IDC **25** 19:00:13.8±0.7, 15°.12N×119°.14E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.0/35, mbtmp4.2/12, ML3.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/34, Error ellipse: s-maj=31.6km s-min=14.6km az=70.0*
*ISCJB **25** 19:00:15.0±0.4, 15°.14N±0°.05×119°.13E±0°.05, h22km, mb4.2/16, MS3.2/2, Error ellipse: s-maj=7.8km s-min=5.7km az=145.5*
*NEIC **25** 19:00:18.6±0.4, 15°.09N×119°.19E, h35km, mb4.3/5, Error ellipse: s-maj=19.4km s-min=8.5km az=65.0*
*MAN **25** 19:00:19, 15°.45N×119°.30E, h10km, mb4.7, ML3.6, MS3.6*
ISC 25 19:00:16.8±0.6, 15°.18N±0°.07×119°.22E±0°.06, h22km, n25, σ1§15/30, mb4.3/16, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.89**	**48**	*eP*	**Pb**	**19 00 32.5**	**-1.1**
BOLP	**Bolinao**	**1.37**	**29**	*eP*	**Pn**	**19 00 40.0**	**-0.7**
BOLP				*eS*	**Sn**	**19 00 55.9**	**-2.3**
BCPH	**Baguio City Da**	**1.77**	**47**	⇑*iP*	**Pn**	**19 00 46.7**	**+0.3**
BCPH				*i S*	**Sn**	**19 01 08.7**	**+0.4**
PCPH	**Palayan**	**1.85**	**78**	⇑*eP*	**Pn**	**19 00 48.6**	**+1.5**
PCPH				*eS*	**Sb**	**19 01 12.9**	**+0.3**
BALP	**Baler**	**2.34**	**76**	*eP*	**Pb**	**19 00 56.6**	**-1.7**
BALP				*eS*	**Sn**	**19 01 21.6**	**-0.4**
APYP	**Conner**	**3.30**	**36**	*eP*	**Pn**	**19 01 08.8**	**+1.6**
CMAR	**Chiang Mai Arr**	**19.69**	**282**	P	**Pn**	**19 04 45.9**	**-0.3**
	0.1nm,0.3s,baz=89,slow=7.7,SNR=12						
CMAR				LR	LR	19 11 47.4	
	comp=Z,45nm,20.8s,baz=126,slow=35						
BATI	**Baumata**	**25.60**	**170**	P	**P**	**19 05 45.1**	**+0.5**
	20nm,0.5s,baz=313,slow=1.8,SNR=18						
SONM	**Songino Array**	**34.26**	**345**	P	**P**	**19 07 01.3**	**0.0**
	0.7nm,0.6s,baz=167,slow=9.7,SNR=7.1						
SONM				LR	LR	19 21 50.1	
	comp=Z,48nm,18.4s,baz=65,slow=38						
WRAB	**Tennant Creek**	**37.93**	**156**	*eP*	**P**	**19 07 31.9**	**-1.0**
	6.0nm,0.7s						
WRA	**Warramunga Arr**	**37.93**	**156**	P	**P**	**19 07 32.1**	**-0.8**
	4.4nm,0.5s,baz=337,slow=9.4,SNR=82						
WB2	**Warramunga Arr**	**37.94**	**156**	*eP*	**P**	**19 07 31.4**	**-1.5**
AS31	**Alice Springs**	**41.18**	**159**	*eP*	**P**	**19 07 59.5**	**-0.5**
ASAR	**Alice Springs**	**41.19**	**159**	P	**P**	**19 07 59.9**	**-0.1**
	3.5nm,0.6s,baz=338,slow=7.1,SNR=91						
ASAR				PcP	**PcP**	**19 09 59.6**	**+0.6**
	0.8nm,0.7s,baz=339,slow=3.2,SNR=7.5						
CTAO	**Charters Tower**	**43.98**	**142**	P	**P**	**19 08 20.3**	**-2.5**
	4.7nm,0.8s						
MKAR	**Makanchi Array**	**44.00**	**324**	P	**P**	**19 08 22.1**	**-0.6**
	1.2nm,0.3s,baz=126,slow=10,SNR=2.2						
MKAR				LR	LR	19 27 38.2	
	comp=Z,26nm,20.3s,baz=359,slow=37						
ZALV	**Zalesovo Beam**	**47.10**	**333**	P	**P**	**19 08 46.8**	**-0.2**
	0.9nm,0.7s,baz=116,slow=6.6,SNR=5.4						
KURK	**Kurchatov**	**48.18**	**326**	*eP*	**P**	**19 08 55.5**	**+0.1**
	2.4nm,1.0s						
PETK	**Petropavlovsk-**	**48.45**	**30**	P	**P**	**19 08 59.4**	**+1.9**
	4.2nm,0.8s,baz=197,slow=4.6,SNR=6.1						
TIXI	**Tiksi**	**56.75**	**4**	*eP*	**P**	**19 09 58.9**	**+0.2**
	1.8nm,0.9s						
ABKAR	**Akbulak array**	**58.69**	**319**	*eP*	**P**	**19 10 11.5**	**-1.2**
	2.5nm,0.9s						
KBZ	**Khabaz**	**69.84**	**311**	P	**P**	**19 11 26.1**	**+0.2**
	2.6nm,1.0s,baz=115,slow=9.0,SNR=3.5						
ILAR	**Eielson Array**	**78.06**	**26**	P	**P**	**19 12 15.2**	**+1.6**
	0.4nm,0.9s,baz=272,slow=6.2,SNR=4.0						
YKA	**Yellowknife Ar**	**91.96**	**22**	P	**P**	**19 13 24.7**	**+1.1**
	0.4nm,0.7s,baz=309,slow=4.3,SNR=7.6						
VNDA	**Vanda**	**95.70**	**171**	P	**P**	**19 13 41.3**	**+1.0**
	1.0nm,0.8s,baz=289,slow=4.7,SNR=4.1						

IDC 25 19:13:52.9±3.6, 5°.66S×147°.72E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.3/18, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=99.7km s-min=31.7km az=94.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.77**	**188**	Pn	Pn	19 14 52.5	+0.2
	2.8nm,0.3s,baz=10,slow=11,SNR=12						
PMG				Sn	Sn	19 15 32.2	-5.2
	1.9nm,0.3s,baz=12,slow=18,SNR=3.8						
WRA	**Warramunga Arr**	**19.26**	**221**	P	P	19 18 18.9	-0.3
	0.1nm,0.3s,baz=46,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**22.31**	**215**	P	P	19 18 52.2	0.0
	0.4nm,0.4s,baz=49,slow=9.5,SNR=13						
MKAR	**Makanchi Array**	**77.69**	**320**	P	P	19 25 51.7	+0.1
	0.2nm,0.8s,baz=108,slow=4.7,SNR=2.1						

KRSC 25 19:14:59.4±0.7, 54°.55N×162°.23E, h34km±7km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.29**	**272**	*i* P	Pb	19 15 08.0	+0.9
MKZ				*eS*	Sb	19 15 12.4	0.0
KZV	**Kizimen**	**1.25**	**298**	*eP*	Pb	19 15 21.9	-0.8
TUMR	**Tumrok**	**1.41**	**302**	*eP*	Pb	19 15 24.2	-1.1
KMNR	**Kamenistaya**	**1.67**	**318**	*eP*	Pn	19 15 27.8	+1.6
KBTR	**Krutoberegovo**	**1.70**	**11**	*eP*	Pb	19 15 29.5	-0.5
KBTR				*eS*	Sb	19 15 49.4	-1.7
KLY	**Klyuchi**	**1.99**	**334**	*eP*	Pn	19 15 32.3	+1.8
SMKR	**Semkarok**	**2.09**	**348**	*eP*	Pb	19 15 34.9	-1.8
SMKR				*eS*	Sn	19 15 58.8	+2.0
BDR	**Baidarnaya**	**2.11**	**344**	*eP*	Pb	19 15 36.1	-1.0
BDR				*eS*	Sb	19 16 00.8	-2.1
BKI	**Bering**	**2.26**	**72**	*eS*	Sn	19 16 02.9	+2.0
SRDR	**Sredinnyy**	**2.28**	**322**	*eP*	Pn	19 15 36.1	+1.5
SDLR	**Sedlovina**	**2.35**	**239**	*eP*	Pb	19 15 38.7	-2.5
SDLR				*eS*	Sn	19 16 05.4	+2.0
KRER	**Koryakskii**	**2.40**	**240**	*eP*	Pb	19 15 39.8	-2.4
KRER				*eS*	Sn	19 16 07.3	+2.4
UGLR	**Uglovaya**	**2.42**	**238**	*eP*	Pb	19 15 39.5	-2.9
KRX	**Arik**	**2.42**	**242**	*eP*	Pb	19 15 40.2	-2.3
AVH	**Avacha**	**2.43**	**240**	*eP*	Pb	19 15 40.2	-2.3
AVH				*eS*	Sn	19 16 08.1	+2.8
ESO	**Esso**	**2.45**	**306**	*eP*	Pn	19 15 39.7	+2.8
KOK	**Koryaka**	**2.47**	**241**	*eP*	Pn	19 15 40.1	+2.9
GNL	**Ganaly**	**2.66**	**253**	*eP*	Pn	19 15 43.1	+3.2
RUS	**Russkaya**	**3.06**	**228**	*eP*	Pn	19 15 49.0	+3.7
MTVR	**Mutnovka**	**3.18**	**231**	*eS*	Sn	19 16 27.7	+3.8

IDC 25 19:21:48.3±2.3, 2°.05N×98°.94E, h128km±6km, mb3.2/4, mb1 3.3/5, mb1mx3.1/25, mbtmp3.6/5, Error ellipse: s-maj=82.1km s-min=22.2km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.75**	**359**	P	Pn	19 22 09.1	+0.1
	11nm,0.3s,baz=330,slow=12,SNR=32						
PSI				S	Sn	19 22 24.5	-0.2
	5.6nm,0.3s,baz=282,slow=23,SNR=29						
CMAR	**Chiang Mai Arr**	**16.31**	**360**	P	P	19 25 30.6	-0.1
	0.4nm,0.3s,baz=191,slow=11,SNR=11						
WRA	**Warramunga Arr**	**41.03**	**124**	P	P	19 29 19.2	-0.2
	0.3nm,0.4s,baz=303,slow=9.1,SNR=5.7						
SONM	**Songino Array**	**46.06**	**7**	P	P	19 29 59.4	-0.1
	0.1nm,0.3s,baz=191,slow=8.7,SNR=4.3						
MKAR	**Makanchi Array**	**46.87**	**344**	P	P	19 30 05.5	-0.1
	0.4nm,0.4s,baz=152,slow=9.1,SNR=14						
ZALV	**Zalesovo Beam**	**53.02**	**350**	P	P	19 30 51.5	-0.4
	0.5nm,0.3s,baz=182,slow=10,SNR=4.4						

GUC 25 19:39:47.5±0.4, 34°.09S×72°.46W, h10km±11km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.36**	**132**	*eP*	Pn	19 40 10.7	-1.9
NICH				*eS*	Sb	19 40 28.4	-2.2
TALC	**Talca**	**1.47**	**153**	*eP*	Pn	19 40 12.6	-1.4
TALC				*eS*	Sn	19 40 31.2	-2.1
RCDM	**Rinconada Maip**	**1.50**	**67**	*eP*	Pn	19 40 12.6	-1.9
RCDM				*eS*	Sn	19 40 31.8	-2.3
RCDM				AML	AML	19 40 34.7	
	comp=N,1μm,0.4s						
CLCH	**Cerro Calan**	**1.74**	**67**	*eP*	Pn	19 40 16.8	-1.1
CLCH				*eS*	Sn	19 40 39.1	-1.1
CLCH				AML	AML	19 40 49.9	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**1.75**	**58**	*eP*	Pn	19 40 17.0	-1.1
PEL				*eS*	Sn	19 40 39.6	-0.9
PEL				AML	AML	19 40 47.8	
	comp=N,3μm,0.4s						

NNC 25 19:42:05.8±2.0, 37°.89N×71°.67E, h0km, mb3.8, mpv3.4, 4C-2D, Error ellipse: s-maj=19.1km s-min=7.6km az=153.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.41**	**293**	⇓P	Pn	19 42 46.3	-0.4
DZET				⇑S	Sn	19 43 18.5	+1.4
AAK	**Ala-Archa**	**5.21**	**24**	⇑P	Pn	19 43 25.4	+0.2
	1.4nm,0.4s						
AAK				⇑S	Sn	19 44 27.0	+0.8
	1.4nm,0.5s						
KK31	**Karatay Array**	**5.28**	**351**	⇑P	Pn	19 43 27.1	+1.1
	2.1nm,0.3s,baz=167,slow=11,SNR=134						
KK31				⇓S	Sn	19 44 28.3	+0.7
	0.4nm,0.2s,baz=165,slow=23,SNR=13						

*MOS **25** 19:48:54.8±1.1, 6°.26N×126°.08E, h118km, mb4.8/14, Error ellipse: s-maj=14.4km s-min=6.8km az=113.0*
*ISCJB **25** 19:48:56.3±0.2, 6°.31N±0°.02×126°.29E±0°.04, h127km, mb4.5/62, Error ellipse: s-maj=5.0km s-min=3.1km az=173.2*
*IDC **25** 19:48:57.8±2.1, 6°.27N×126°.18E, h128km±19km, mb4.0/25, mb1 4.1/26, mb1mx4.1/33, mbtmp4.4/26, Error ellipse: s-maj=14.9km s-min=9.3km az=77.0*
*BJI **25** 19:48:57.0, 6°.30N×126°.30E, h119km, mB4.9/16, mb4.9/28*
*NEIC **25** 19:48:58.7±0.6, 6°.23N×126°.19E, h136km±6km, mb4.6/32, Error ellipse: s-maj=7.3km s-min=4.5km az=78.0*
*DJA **25** 19:49:01.2±0.6, 6°N±5°×12°6E±°, h107km±5km, M4.8/13, mB5.2/4, mb4.8/13, MLv5.0/1, Mw(mB)4.5/4*
*MAN **25** 19:49:07, 6°.79N×125°.89E, h54km, mb5.2, ML4.2, MS4.4*
ISC 25 19:48:58.0±0.3, 6°.27N±0°.04×126°.22E±0°.06, h127km, n178, σ1§26/176, mb4.5/62, 13C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.68**	**3**	*eP*	**Pn**	**19 49 20.1**	**+2.2**
MATI				*eS*	Sn	19 49 28.1	-4.9
DAV	**Davao City (W)**	**1.02**	**321**	*eP*	**Pn**	**19 49 23.1**	**+2.2**
GSPH	**General Santos**	**1.28**	**262**	⇓*eP*	**Pn**	**19 49 23.4**	**-0.2**
GSPH				*i S*	**Sn**	**19 49 43.0**	**0.0**
BIPH	**Bislig**	**1.91**	**4**	⇑*eP*	**Pn**	**19 49 32.3**	**+1.6**
BUKP	**Musuan**	**1.97**	**324**	*eP*	**Pn**	**19 49 33.9**	**+2.3**
CTBH	**Cotabato--PC H**	**2.18**	**296**	⇑*iP*	**Pn**	**19 49 35.1**	**+1.1**
CGP	**Cagayan de Oro**	**2.65**	**325**	⇑*iP*	**Pn**	**19 49 41.1**	**+1.1**
CGP				*i S*	**Sn**	**19 50 15.9**	**+3.5**
SGSI	**Sangihe**	**2.66**	**195**	P	**Pn**	**19 49 41.6**	**+1.5**
BUTP	**Butuan**	**2.75**	**348**	*eP*	**Pn**	**19 49 44.0**	**+2.7**
PAGZ	**Pagadian**	**3.23**	**299**	*eP*	**Pn**	**19 49 49.0**	**+1.5**
DCPH	**Dipolog City**	**3.66**	**309**	⇑*eP*	**Pn**	**19 49 55.3**	**+2.1**
MSLP	**Maasin**	**4.07**	**341**	*eP*	**Pn**	**19 49 59.5**	**+0.8**
OCLP	**Ormoc**	**5.01**	**342**	*eP*	**Pn**	**19 50 12.8**	**+1.5**
TNTI	**Ternate**	**5.58**	**168**	P	**Pn**	**19 50 18.7**	**-0.2**
TNTI	**Ternate**	**5.58**	**168**	*eP*	**Pn**	**19 50 17.9**	**-1.0**
	314nm,0.4s						
KMSI	**Cibinong**	**6.08**	**202**	P	**Pn**	**19 50 26.8**	**+1.2**
RCP	**Roxas**	**6.28**	**327**	*eP*	**Pn**	**19 50 30.3**	**+2.0**
GTOI	**Gorontalo**	**6.45**	**210**	P	**Pn**	**19 50 30.7**	**+0.1**
LBMI	**Labuha**	**6.98**	**169**	P	**Pn**	**19 50 37.5**	**-0.3**
MRSI	**Marisa**	**7.16**	**217**	P	**Pn**	**19 50 41.4**	**+1.1**
TOLI	**Toli-Toli**	**7.45**	**227**	*eP*	**Pn**	**19 50 43.2**	**-0.8**
	310nm,0.4s						
LUWI	**Luwuk**	**8.04**	**205**	P	**Pn**	**19 50 54.7**	**+2.7**
LUWI	**Luwuk**	**8.04**	**205**	⇑P	**Pn**	**19 50 53.4**	**+1.4**
	baz=8.5,SNR=13						
LUWI	**Luwuk**	**8.04**	**205**	*eP*	**Pn**	**19 50 53.2**	**+1.2**
	308nm,0.8s						
SANI	**Sanana**	**8.27**	**182**	P	Pn	19 50 51.7	-3.4
APSI	**Ampana**	**8.47**	**213**	P	**Pn**	**19 51 00.2**	**+2.4**
MPSI	**Mapaga**	**8.63**	**227**	P	Pn	19 51 04.1	+4.0
NLAI	**Namlea**	**9.48**	**175**	P	**Pn**	**19 51 09.4**	**-2.1**
PCI	**Palu**	**9.56**	**222**	P	Pn	19 51 16.4	+3.8
	86nm,1.1s						
MSAI	**Masohi**	**9.93**	**164**	P	Pn	19 51 23.2	+5.7
FAKI	**Fak Fak**	**10.93**	**146**	P	**Pn**	**19 51 30.9**	**-0.1**
FAKI	**Fak Fak**	**10.93**	**146**	P	**Pn**	**19 51 31.1**	**+0.1**
	baz=12,SNR=18						
FAKI	**Fak Fak**	**10.93**	**146**	*eP*	**Pn**	**19 51 30.4**	**-0.6**
	35nm,0.7s						
TTSI	**Tana Toraja**	**11.24**	**215**	P	Pn	19 51 38.7	+3.6
BKB	**Balikpapan**	**11.94**	**232**	P	P	19 51 48.3	-3.5
	90nm,1.1s,1μm						
SPSI	**Sidrap Palu**	**12.03**	**213**	P	**Pn**	**19 51 46.5**	**+1.0**
BNSI	**Bone**	**12.23**	**210**	P	**Pn**	**19 51 49.3**	**+1.2**
SRPI	**Serui, Papua**	**12.86**	**129**	P	**P**	**19 52 02.7**	**+0.5**
KAPI	**Kappang**	**12.93**	**210**	*eP*	**Pn**	**19 51 57.3**	**0.0**
	193nm,1.1s						
BKSI	**Bulukumba**	**13.02**	**208**	P	**Pn**	**19 51 59.0**	**+0.6**
	17nm,1.3s						
BBKI	**Banjar Baru**	**14.92**	**230**	P	**P**	**19 52 27.6**	**+2.6**
	59nm,1.1s,1μm						
SAUI	**Saumlaki**	**15.04**	**160**	P	**P**	**19 52 26.0**	**-0.3**
	222nm,0.9s						
MMRI	**Maumere**	**15.33**	**195**	P	**P**	**19 52 30.9**	**+1.3**
	62nm,1.2s						
MMRI	**Maumere**	**15.33**	**195**	*eP*	**Pn**	**19 52 26.7**	**-1.0**
	32nm,0.6s						
STKI	**Sintang**	**15.95**	**248**	P	**P**	**19 52 41.0**	**+4.5**
	17nm,1.1s						
SOEI	**Soe**	**16.04**	**187**	P	**P**	**19 52 38.0**	**+0.4**
SOEI	**Soe**	**16.04**	**187**	P	**P**	**19 52 37.9**	**+0.4**
	baz=17,SNR=12						
SOEI	**Soe**	**16.04**	**187**	*eP*	**Pn**	**19 52 37.3**	**+0.7**
	30nm,0.6s						
BATI	**Baumata**	**16.56**	**189**	P	**P**	**19 52 44.0**	**+0.7**
BATI	**Baumata**	**16.56**	**189**	P	**Pn**	**19 52 42.8**	**-0.2**
	6.9nm,0.3s,baz=322,slow=1.2,SNR=29						
BATI				S	**Sn**	**19 55 47.4**	**0.0**
	2.9nm,0.3s,baz=86,slow=10,SNR=6.5						
KSM	**Kuching**	**16.57**	**254**	*eP*	**P**	**19 52 44.9**	**+1.5**
	3.3nm,0.6s						
WBSI	**Waikabubak, Su**	**17.21**	**203**	P	**P**	**19 52 47.7**	**-2.7**
DLV	**T Lat**	**18.39**	**289**	*eP*	**Pn**	**19 53 05.5**	**+0.3**
	137nm,1.1s						
JAGI	**Jajag, Banyuwa**	**18.95**	**220**	P	Pn	19 53 18.0	+6.5
JAGI	**Jajag, Banyuwa**	**18.95**	**220**	⇑P	**P**	**19 53 09.9**	**+0.4**
	baz=19,SNR=7.6						
JAGI	**Jajag, Banyuwa**	**18.95**	**220**	*eP*	**P**	**19 53 08.8**	**-0.6**
	22nm,0.6s						
MTN	**Manton Dam**	**19.60**	**166**	⇑P	**P**	**19 53 17.8**	**

BBOO Buckleboo 39.97 167 *eP* **P 19 56 20.3 +0.1**
comp=Z,118nm,0.4s
ASAJ Asahikawa 40.34 18 P **P 19 56 24.0 +0.9**
comp=Z,5.9nm,0.7s,baz=216,slow=7.6,SNR=7.7
GTA Gaotai 40.68 328 *eP* **P 19 56 25.8 -0.4**
GTA PMZ
comp=Z,4.0nm,0.9s
TAPN Taplejung 42.14 304 *eP* **P 19 56 38.1 -0.4**
comp=Z,6.3nm,0.4s
ODAN Odare 42.22 304 *eP* **P 19 56 38.7 -0.4**
comp=Z,12nm,0.6s
HABR Khabarovsk 42.72 9 *eP* P 19 56 40.0 -2.4
HABR *e* 19 58 20.2
HABR *e* 19 58 30.3
HABR *eS* S 20 03 03.1 +6.6
HABR pmax pmax
comp=Z,25nm,1.2s
HABR MLR MLR
comp=Z,54nm,17.0s
RAMN Ramite 42.91 303 *eP* **P 19 56 45.2 +0.5**
KLR Kul'dur 43.07 5 *eP* P 19 56 41.8 -3.4
KLR pmax pmax
comp=Z,34nm,1.2s
JIRN Jiri 43.51 304 *eP* **P 19 56 48.8 -0.8**
GUN Gumba 43.86 304 *eP* **P 19 56 51.3 -1.1**
comp=Z,11nm,0.4s
ARMA Armidale 43.86 148 P **P 19 56 53.0 +1.0**
baz=44,SNR=4.0
ARMA Armidale 43.86 148 *eP* **P 19 56 52.8 +0.8**
comp=Z,8.8nm,0.7s
PKI Pulchoki 44.12 304 *eP* **P 19 56 53.7 -0.8**
comp=Z,3.2nm,0.5s
PKIN Phulchoki 44.14 304 *eP* **P 19 56 53.9 -0.6**
comp=Z,2.6nm,0.4s
KKN Kakani 44.31 304 *eP* **P 19 56 54.8 -1.0**
comp=Z,3.4nm,0.4s
DMN Daman 44.39 303 *eP* **P 19 56 56.0 -0.5**
ULN Ulaanbaatar 44.57 342 ||*iP* **P 19 56 57.3 -0.1**
ULN pmax pmax
comp=Z,4.0nm,1.1s
ULN Ulaanbaatar 44.57 342 *eP* **P 19 56 56.4 -1.0**
comp=Z,3.4nm,0.7s
SONM Songino Array 44.75 341 P **P 19 56 59.0 +0.1**
SONM Songino Array 44.75 341 P **P 19 56 59.0 +0.1**
comp=Z,0.6nm,0.3s,baz=164,slow=8.8,SNR=10
SONM ScP **ScP 20 02 20.5 +0.9**
comp=Z,0.5nm,0.9s,baz=162,slow=2.8,SNR=3.6
GKN Gorkha 44.92 304 *eP* **P 19 56 59.2 -1.4**
comp=Z,3.6nm,0.4s
PALK Pallekele 45.20 274 P **P 19 57 02.2 -0.6**
comp=Z,4.5nm,0.7s,baz=108,slow=3.2,SNR=3.1
KOLN Koldanda 45.70 303 *eP* **P 19 57 06.6 -0.2**
DANN Dangsing 45.76 304 *eP* **P 19 57 06.5 -0.9**
comp=Z,11nm,0.4s
DZM Mont Dzumac 48.43 127 P **P 19 57 28.7 +0.8**
comp=Z,5.1nm,0.6s,baz=237,slow=12,SNR=6.0
BOD Bodaibo 52.30 352 *eP* **P 19 57 56.4 +0.1**
BOD pmax pmax
comp=Z,6.0nm,0.8s
PETK Petropavlovsk- 53.30 23 P **P 19 58 05.0 +1.2**
PETK Petropavlovsk- 53.30 23 P **P 19 58 05.0 +1.2**
comp=Z,13nm,0.7s,baz=190,slow=6.2,SNR=22
PDGK Podgornoye 55.16 320 P **P 19 58 15.5 -1.9**
MK31 Makanchi Array 55.20 325 P **P 19 58 16.7 -1.0**
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 55.20 325 P **P 19 58 17.0 -0.7**
MKAR Makanchi Array 55.20 325 P **P 19 58 16.9 -0.7**
comp=Z,1.7nm,0.5s,baz=122,slow=8.7,SNR=28
MKAR ScP **ScP 20 03 02.1 -2.2**
comp=Z,0.5nm,0.8s,baz=113,slow=4.4,SNR=3.9
YAK Yakutsk 55.70 2 *eP* **P 19 58 20.6 -0.3**
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.3s
YAK Yakutsk 55.70 2 *eP* **P 19 58 21.9 +0.9**
comp=E,15nm,0.7s
ZALV Zalesovo Beam 58.11 333 P **P 19 58 37.1 -1.1**
comp=E,1.8nm,0.7s,baz=108,slow=9.5,SNR=5.3
AAK Ala-Archa 58.16 317 P **P 19 58 38.1 -0.8**
comp=E,0.7nm,0.4s,baz=91,slow=5.0,SNR=6.4
EKS2 Erkin-Say 58.66 317 *eP* **P 19 58 42.2 -0.1**
EKS2 pmax pmax
comp=Z,1.0nm,0.4s
EKS2 Erkin-Say 58.66 317 *eP* **P 19 58 42.2 -0.1**
comp=Z,0.9nm,0.4s
KURK Kurchatov 59.35 327 *eP* **P 19 58 45.3 -1.4**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 59.35 327 *eP* **P 19 58 45.3 -1.4**
comp=Z,4.7nm,0.9s
NVS Novosibirsk 59.40 333 *eP* **P 19 58 45.2 -1.7**
NVS pmax pmax
comp=E,4.0nm,1.8s
NVS pmax pmax
comp=Z,9.0nm,1.8s
NVS pmax pmax
comp=N,2.0nm,1.6s
KK31 Karatay Array 61.05 316 P **P 19 58 56.9 -1.6**
KKAR Karatay Array 61.05 316 *eP* **P 19 58 57.6 -0.9**
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 61.05 316 *eP* **P 19 58 57.6 -0.9**
comp=Z,0.7nm,0.4s
BVA0 Borovoye Array 64.93 327 *iP* **P 19 59 22.6 -1.4**
BVA0 pmax pmax
comp=Z,6.0nm,1.5s
TIXI Tiksi 65.33 1 *diP* **P 19 59 25.9 -0.2**
TIXI pmax pmax
comp=Z,14nm,0.9s
TIXI Tiksi 65.33 1 *eP* **P 19 59 26.2 0.0**
comp=Z,15nm,0.8s
BILL Bilibino 67.25 15 *eP* **P 19 59 38.9 +0.4**
BILL pmax pmax
comp=Z,3.0nm,0.6s
BILL Bilibino 67.25 15 *eP* **P 19 59 38.9 +0.4**
comp=Z,3.0nm,0.6s
GEYT Alibeck 68.93 308 P **P 19 59 49.5 -0.1**
comp=Z,1.2nm,0.6s,baz=108,slow=4.7,SNR=3.3
AB31 Akbulak array 69.88 320 *iP* **P 19 59 53.1 -2.1**
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 69.88 320 *eP* **P 19 59 53.3 -1.8**
comp=Z,1.2nm,0.6s
AKTO Aktyubinsk 71.37 321 P **P 20 00 02.0 -2.2**
AKTO pmax pmax
comp=Z,3.0nm,1.0s
RAYN Ar Rayn 79.03 293 *eP* **P 20 00 47.2 -1.5**
comp=Z,18nm,0.8s
KDAK Kodiak Island 80.03 33 *eP* **P 20 00 54.2 +0.9**
KDAK pmax pmax
comp=Z,17nm,0.9s
KDAK Kodiak Island 80.03 33 *eP* **P 20 00 54.2 +0.9**
comp=Z,17nm,0.9s
PPLA Purkeypile 80.62 27 *eP* **P 20 00 57.5 +0.9**
comp=Z,4.1nm,0.7s
KTH Kantishna Hill 81.24 27 *eP* **P 20 01 00.3 +0.6**
comp=Z,2.6nm,0.6s
TRF Thorofare Moun 81.52 27 *eP* **P 20 01 01.7 +0.4**
comp=Z,7.2nm,0.7s
COLD Coldfoot 81.77 23 *eP* **P 20 01 03.9 +1.5**
comp=Z,11nm,0.8s
MCK McKinley 82.13 27 *eP* **P 20 01 04.8 +0.4**
MCK pmax pmax
comp=Z,18nm,0.7s
MCK McKinley 82.13 27 *eP* **P 20 01 04.8 +0.4**
comp=Z,18nm,0.7s
COLA College 82.64 25 *eP* **P 20 01 06.9 0.0**
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA College 82.64 25 *eP* **P 20 01 06.9 0.0**
comp=Z,5.8nm,0.8s
KLMR Klimovskoe 82.96 330 *eP* **P 20 01 06.7 -2.0**
KLMR pmax pmax
comp=Z,28nm,2.0s
ILAR Eielson Array 83.05 26 P **P 20 01 08.6 -0.5**
comp=Z,4.4nm,0.7s,baz=239,slow=4.7,SNR=51
DIV Divide 83.59 29 *eP* **P 20 01 13.2 +1.2**
comp=Z,22nm,1.1s
PAX Paxson 83.69 27 *eP* **P 20 01 13.5 +1.0**
PAX pmax pmax
comp=Z,5.0nm,1.0s
PAX Paxson 83.69 27 *eP* **P 20 01 13.5 +1.0**
comp=Z,4.8nm,1.0s

BMRM Bremner River 84.17 29 *eP* **P 20 01 16.0 +1.1**
comp=Z,11nm,0.8s
LVZ Lovozero 84.83 338 *ceP* **P 20 01 18.8 +0.7**
LVZ pmax pmax
comp=Z,74nm,1.7s
EGAK Eagle 85.50 25 *eP* **P 20 01 21.9 +0.4**
comp=Z,2.8nm,0.7s
ARCES ARCESS Array B 87.91 340 P **P 20 01 32.6 -0.4**
comp=Z,6.0nm,0.8s,baz=82,slow=6.0,SNR=10.0
BRTR Keskin Array B 88.02 310 P **P 20 01 32.5 -1.9**
comp=Z,0.5nm,0.6s,baz=124,slow=7.2,SNR=4.8
FINES FINESS Array B 89.37 332 P **P 20 01 38.7 -1.4**
comp=Z,1.3nm,0.5s,baz=75,slow=3.9,SNR=17
NOA NORSAR Array B 96.30 334 P **P 20 02 10.5 -1.6**
comp=Z,0.5nm,0.7s,baz=66,slow=4.6,SNR=3.7
YKA Yellowknife Ar 97.41 24 P **P 20 02 16.5 -0.4**
comp=Z,1.0nm,0.8s,baz=298,slow=4.4,SNR=14
TXAR Lajitas Array 120.42 51 PKP **PKPdf 20 07 35.1 -0.2**
comp=Z,0.1nm,0.4s,baz=256,slow=3.6,SNR=2.9
TORD Torodi Ar. Bea 121.62 290 PKP **PKPdf 20 07 37.5 -0.3**
comp=Z,0.8nm,0.6s,baz=69,slow=1.8,SNR=9.9
JTS JuntasAbangare 144.87 62 PKP PKPbc 20 08 21.2 +0.6
comp=Z,7.4nm,0.7s,baz=269,slow=4.8,SNR=7.2

IDC 25 19:51:59.2±2.4, 9.92S×159.26E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.8/5, MS3.1/2, Ms1 3.1/2, ms1mx2.6/22, Error ellipse: s-maj=87.4km s-min=34.8km az=132.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.91**	**151**	LR	LR	19 58 57.1	
	comp=Z,81nm,21.4s,baz=206,slow=30						
ASAR	**Alice Springs**	**27.79**	**237**	P	P	19 57 50.1	-0.1
	1.7nm,0.7s,baz=79,slow=7.9,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**29.17**	**15**	T	T	20 26 55.4	
	baz=194,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**29.17**	**15**	T	T	20 26 51.5	
	baz=194,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**29.19**	**15**	T	T	20 27 00.4	
	baz=194,slow=76,SNR=9.4						
H11N1	**WAKE ISLAND Hy**	**30.39**	**14**	T	T	20 28 23.8	
	baz=195,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**30.40**	**14**	T	T	20 28 24.9	
	baz=195,slow=76,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**30.41**	**14**	T	T	20 28 24.9	
	baz=195,slow=76,SNR=7.0						
PETK	**Petropavlovsk-**	**62.79**	**359**	LR	LR	20 29 39.2	
	comp=Z,15nm,18.9s,baz=95,slow=36						
SONM	**Songino Array**	**74.08**	**326**	P	P	20 03 37.3	0.0
	1.0nm,0.6s,baz=139,slow=6.1,SNR=10						
ILAR	**Eielson Array**	**84.58**	**20**	P	P	20 04 33.4	-0.7
	0.2nm,0.4s,baz=243,slow=5.2,SNR=2.0						
MKAR	**Makanchi Array**	**88.38**	**318**	P	P	20 04 53.4	+0.3
	0.3nm,0.6s,baz=93,slow=5.9,SNR=4.2						
YKA	**Yellowknife Ar**	**96.94**	**28**	P	P	20 05 32.8	+0.5
	0.2nm,0.5s,baz=267,slow=4.9,SNR=2.5						

ISCJB 25 19:55:25.5±1.0, 4.87S±0.09×129.76E±0.1, h182km, mb3.6/3, Error ellipse: s-maj=16.7km s-min=11.7km az=18.0
IDC 25 19:55:27.2±8.7, 4.91S×129.55E, h181km±91km, mb3.2/3, mb1 3.4/6, mb1mx3.2/20, mbtmp3.8/6, MS3.4/1, Ms1 3.4/1, ms1mx2.5/13, Error ellipse: s-maj=73.0km s-min=22.9km az=46.0
ISC 25 19:55:27.5±1.1, 4.90S±0.09×129.5E±0.1, h182km, n12, σ1°35/11, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.84**	**227**	P	**Pn**	**19 57 20.6**	**+1.8**
	6.8nm,0.3s,baz=91,slow=3.5,SNR=7.5						
BATI				S	**Sn**	**19 58 46.4**	**-0.5**
	1.0nm,0.3s,baz=136,slow=14,SNR=1.5						
MTN	**Manton Dam**	**8.05**	**169**	S	**Pn**	**19 57 23.8**	**+2.3**
	baz=20,SNR=4.1						
KDU	**Kakadu**	**8.27**	**160**	S	Pn	19 57 27.9	+3.5
	baz=20,SNR=6.3						
KNRA	**Kununurra**	**10.73**	**184**	S	**Pn**	**19 57 56.4**	**-0.2**
	baz=23,SNR=4.5						
FITZ	**Fitzroy Crossi**	**13.65**	**196**	S	**Pn**	**19 58 34.9**	**+1.0**
	baz=25,SNR=7.1						
WRA	**Warramunga Arr**	**15.67**	**163**	P	**Pn**	**19 58 58.2**	**-0.6**
	0.3nm,0.3s,baz=343,slow=13,SNR=6.9						
ASAR	**Alice Springs**	**19.13**	**168**	P	**P**	**19 59 36.3**	**-0.6**
	0.4nm,0.3s,baz=350,slow=12,SNR=9.9						
WRKA	**Warakurna**	**20.05**	**183**	S	**P**	**19 59 45.0**	**-1.8**
	baz=32,SNR=6.0						
CMAR	**Chiang Mai Arr**	**38.04**	**308**	P	**P**	**20 02 28.4**	**-0.2**
	0.8nm,0.5s,baz=134,slow=6.5,SNR=12						
ASAJ	**Asahikawa**	**50.20**	**12**	LR	LR	20 23 08.7	
	comp=Z,38nm,20.0s,baz=138,slow=33						
SONM	**Songino Array**	**56.31**	**341**	P	**P**	**20 04 50.1**	**+0.6**
	0.3nm,0.8s,baz=142,slow=7.3,SNR=3.1						
MKAR	**Makanchi Array**	**66.22**	**327**	P	**P**	**20 05 55.4**	**-0.5**
	0.8nm,0.4s,baz=126,slow=7.3,SNR=23						

ISCJB 25 19:59:28.0±0.4, 16.13N±0.05×61.40W±0.09, h104km±3km, mb3.6/8, Error ellipse: s-maj=15.1km s-min=6.3km az=157.4
IDC 25 19:59:28.3±0.7, 16.15N×61.45W, h88km±6km, mb3.4/8, mb1 3.6/8, mb1mx3.4/27, mbtmp3.7/8, Error ellipse: s-maj=19.3km s-min=7.9km az=80.0
TRN 25 19:59:28.3, 16.09N×61.41W, h92km, MD3.5, M3.0(FDF)
ISC 25 19:59:28.9±0.7, 16.10N±0.05×61.43W±0.09, h97km±6km, n34, σ0°48/40, mb3.8/8, 4C-5D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCG	**Bois Riant Cap**	**0.18**	**265**	⇑*iP*	**Pn**	**19 59 43.0**	**+0.3**
DOG	**Dongo Capester**	**0.19**	**249**	*eP*	**Pn**	**19 59 42.8**	**+0.1**
MGG	**Marie-Galante**	**0.21**	**148**	*eP*	**Pn**	**19 59 42.9**	**+0.1**
PHG	**Guadaloupe-2**	**0.22**	**247**	||*eP*	**Pn**	**19 59 43.1**	**+0.1**
ECG	**Echelle**	**0.22**	**255**	*eP*	**Pn**	**19 59 43.0**	**+0.1**
TAG	**Tarade**	**0.23**	**255**	*eP*	**Pn**	**19 59 43.3**	**+0.4**
SSG	**Sans Toucher**	**0.23**	**267**	||*eP*	**Pn**	**19 59 43.0**	**0.0**
FNG	**Fond-Bernard**	**0.25**	**261**	*eP*	**Pn**	**19 59 43.2**	**+0.2**
SCG	**Saint Claude**	**0.25**	**253**	⇑*iP*	**Pn**	**19 59 43.4**	**+0.4**
SCG				*eS*	**Sn**	**19 59 53.8**	**+0.3**
MLG	**Mont-d'or**	**0.27**	**262**	⇑*iP*	**Pn**	**19 59 43.6**	**+0.6**
HMG	**Houelmont**	**0.28**	**245**	*eP*	**Pn**	**19 59 43.5**	**+0.4**
SEG	**Port Louis**	**0.31**	**347**	||*iP*	**Pn**	**19 59 43.4**	**+0.2**
TBG	**Guadaloupe-3**	**0.32**	**219**	*eP*	**Pn**	**19 59 43.4**	**+0.2**
LZG	**Guadaloupe-1**	**0.33**	**277**	⇑*iP*	**Pn**	**19 59 43.4**	**+0.2**
H05N1	**Guadeloupe/Mar**	**0.42**	**59**	P	**Pn**	**19 59 43.9**	**0.0**
H05N1				S	**Sn**	**19 59 54.4**	**-0.6**
BBL	**Barber's Block**	**0.57**	**183**	*eP*	**Pn**	**19 59 45.2**	**+0.2**
DLPL	**La Plaine**	**0.79**	**167**	*eP*	**Pn**	**19 59 47.0**	**+0.1**
BPA	**Boggy Peak**	**1.02**	**337**	*eP*	**Pn**	**19 59 50.3**	**+0.9**
BPA				*eS*	**Sn**	**20 00 05.2**	**+0.4**
SVN	**Savane Anatole**	**1.28**	**168**	*eP*	**Pn**	**19 59 52.0**	**-0.4**
FDF	**Fort de France**	**1.39**	**169**	||*iP*	**Pn**	**19 59 53.8**	**+0.1**
FDF	**Fort de France**	**1.39**	**169**	*eP*	**Pn**	**19 59 54.2**	**+0.6**
FDF				*eS*	**Sn**	**20 00 11.9**	**-0.5**
FDF				*eS*	**Sn**	**20 00 12.7**	**+0.3**
ZAM	**Aeronautique**	**1.57**	**165**	||*eP*	**Pn**	**19 59 56.2**	**+0.4**
LPMF	**Morne Lapointe**	**1.58**	**163**	*eP*	**Pn**	**19 59 56.3**	**+0.2**
TRMF	**Trois Ilets**	**1.60**	**167**	*eP*	**Pn**	**19 59 56.9**	**+0.7**
MVM	**Montagne Vaucl**	**1.62**	**161**	*eP*	**Pn**	**19 59 57.1**	**+0.6**
H05S1	**Guadeloupe/Mar**	**1.76**	**161**	P	**Pn**	**19 59 58.9**	**+0.6**
	SNR=434						
H05S1				S	**Sn**	**20 00 20.6**	**0.0**
TXAR	**Lajitas Array**	**40.90**	**296**	P	**P**	**20 07 01.3**	**-0.6**
	0.2nm,0.5s,baz=114,slow=9.0,SNR=7.9						
ULM	**Lac du Bonnet**	**43.92**	**328**	P	**P**	**20 07 25.4**	**-0.6**
	1.3nm,0.4s,baz=145,slow=6.1,SNR=3.2						
PDAR	**Pinedale Array**	**48.78**	**313**	P	**P**	**20 08 04.5**	**+0.1**
	0.8nm,0.6s,baz=118,slow=9.0,SNR=7.1						
NVAR	**Mina Array Bea**	**54.32**	**306**	P	**P**	**20 08 46.8**	**+1.0**
	0.5nm,0.5s,baz=93,slow=9.1,SNR=2.9						
DBIC	**Dimbokro**	**56.10**	**93**	P	**P**	**20 08 59.4**	**+0.8**
	0.7nm,0.5s,baz=257,slow=7.9,SNR=2.9						
YKA	**Yellowknife Ar**	**59.23**	**334**	P	**P**	**20 09 19.2**	**-0.5**
	0.4nm,0.6s,baz=108,slow=7.4,SNR=8.5						
TORD	**Torodi Ar. Bea**	**60.95**	**84**	P	**P**	**20 09 32.8**	**+0.5**
	0.2nm,0.6s,baz=269,slow=8.6,SNR=2.6						
ILAR	**Eielson Array**	**73.64**	**334**	P	**P**	**20 10 50.8**	**-0.8**
	0.2nm,0.4s,baz=82,slow=5.6,SNR=6.1						

IDC 25 20:11:39.1±1.4, 26.08N×128.71E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/27, mbtmp3.6/5, MS2.6/1, Ms1 2.6/1, ms1mx2.2/28, Error ellipse: s-maj=67.1km s-min=15.0km az=69.0
ISCJB 25 20:11:41.3±1.0, 25.94N±0.05×128.60E±0.04, h28km±7km, mb3.6/5, Error ellipse: s-maj=7.8km s-min=6.4km az=13.4
JMA 25 20:11:42.1±0.3, 25.98N×128.58E, h32km, M3.0
ISC 25 20:11:40.2±2.0, 26.00N±0.05×128.61E±0.04, h10km±13km, n18, σ1°05/25, mb3.8/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.74**	**315**	P	**Pb**	**20 11 55.6**	**+0.5**
JNTH				*eS*	**Sb**	**20 12 05.6**	**+0.3**
JJT2	**Tamagusuku 2**	**0.78**	**280**	P	**Pb**	**20 11 56.6**	**+0.7**
JJT2				S	**Sb**	**20 12 07.0**	**+0.4**
JOW	**Kunigami**	**0.88**	**340**	P	**Pn**	**20 11 58.6**	**-0.1**
JOW	**Kunigami**	**0.88**	**340**	Pn	**Pn**	**20 11 58.7**	**0.0**
	7.3nm,0.3s,baz=148,slow=15,SNR=51						
JOW				Sn	**Sn**	**20 12 11.3**	**-0.3**
	11nm,0.3s,baz=162,slow=19,SNR=13						
JIH	**Iheya**	**1.18**	**331**	P	**Pn**	**20 12 03.1**	**+0.3**
JOKE	**Okinoerabujima**	**1.35**	**359**	P	**Pg**	**20 12 05.9**	**-0.3**
JOKE				*eS*	**Sn**	**20 12 23.1**	**-0.2**
JAGN	**Aguni-jima**	**1.36**	**296**	P	**Pn**	**20 12 05.1**	**-0.1**
JAGN				*eS*	**Sb**	**20 12 22.7**	**-0.5**
JKE	**Kume jima 2**	**1.67**	**282**	P	**Pn**	**20 12 08.6**	**-0.9**
JKE				*eS*	**Sn**	**20 12 28.1**	**-2.9**
JTK	**Tokunoshima**	**1.80**	**10**	P	**Pb**	**20 12 12.3**	**-1.0**
JTK				*eS*	**Sb**	**20 12 35.0**	**-1.0**
JAMN	**Amaminishikomi**	**2.29**	**13**	P	**Pn**	**20 12 19.6**	**+1.5**
JMZ	**Minamidaito 2**	**2.36**	**94**	P	**Pn**	**20 12 19.2**	**+0.2**
JMZ				*eS*	**Sn**	**20 12 46.0**	**-2.1**
JAM	**Amami Oshima**	**2.56**	**20**	P	**Pn**	**20 12 22.5**	**+0.7**
KSRS	**Korea Array**	**11.43**	**357**	LR	LR	20 18 02.6	
	comp=Z,32nm,21.2s,baz=95,slow=34						
SONM	**Songino Array**	**27.93**	**327**	P	**P**	**20 17 31.8**	**+1.0**
	3.3nm,1.3s,baz=129,slow=9.5,SNR=4.9						
MKAR	**Makanchi Array**	**41.94**	**312**	P	**P**	**20 19 30.8**	**-0.3**
	0.3nm,0.6s,baz=100,slow=7.9,SNR=4.6						
WRA	**Warramunga Arr**	**46.01**	**172**	P	**P**	**20 20 04.5**	**+0.6**
	0.7nm,0.7s,baz=353,slow=8.5,SNR=6.5						
ASAR	**Alice Springs**	**49.64**	**174**	P	**P**	**20 20 33.3**	**+1.1**
	0.4nm,0.8s,baz=359,slow=9.5,SNR=3.8						
AKASG	**Malin Array Be**	**75.92**	**320**	P	**P**	**20 23 27.4**	**+0.3**
	0.5nm,0.5s,baz=48,slow=6.9,SNR=2.2						

ISCJB 25 20:36:39.0±0.3, 9.68S±0.05×118.51E±0.03, h48km, mb4.2/8, Error ellipse: s-maj=6.9km s-min=3.6km az=19.6
IDC 25 20:36:38.7±4.2, 9.48S×118.30E, h55km±35km, mb3.7/7, mb1 3.7/8, mb1mx3.6/34, mbtmp3.9/8, ML4.1/2, Error ellipse: s-maj=38.0km s-min=11.5km az=51.0
NEIC 25 20:36:41.0±0.7, 9.52S×118.44E, h81km±7km, mb4.3/2, Error ellipse: s-maj=10.3km s-min=7.1km az=225.0
DJA 25 20:36:41.2±0.6, 10.0S±4.7×11.9E±.7, h28km±8km, M4.4/25, mb4.5/12, mB4.9/3, MLv4.4/25, Mw(mB)4.2/3
ISC 25 20:36:40.1±0.6, 9.50S±0.05×118.52E±0.04, h48km, n56, σ2°10/53, mb4.2/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.88**	**99**	P	**Pn**	**20 36 57.2**	**+1.0**
WSI	**Waingapu**	**1.77**	**96**	P	**Pn**	**20 37 10.4**	**+2.1**
WSI	**Waingapu**	**1.77**	**96**	P	**Pn**	**20 37 10.2**	**+1.9**
	baz=1.8,SNR=42						
WSI				S	Sn	20 37 39.8	+10
	baz=1.8,SNR=4.4						
BASI	**Baing, Sumba**	**2.15**	**110**	P	**Pn**	**20 37 15.4**	**+1.8**
EDFI	**Ende, Flores**	**3.22**	**77**	P	**Pn**	**20 37 30.6**	**+2.2**
DNP	**Denpasar**	**3.37**	**284**	P	**Pn**	**20 37 32.9**	**+2.7**
IGBI	**Denpasar**	**3.40**	**281**	P	**Pn**	**20 37 32.6**	**+2.0**
SRBI	**Singaraja**	**3.55**	**293**	P	**Pn**	**20 37 34.2**	**+1.4**
MMRI	**Maumere**	**3.78**	**77**	P	**Pn**	**20 37 38.4**	**+2.5**
MMRI	**Maumere**	**3.78**	**77**	*eP*	**Pn**	**20 37 38.1**	**+2.2**
JAGI	**Jajag, Banyuwa**	**4.43**	**283**	P	**Pn**	**20 37 44.9**	**0.0**
JAGI	**Jajag, Banyuwa**	**4.43**	**283**	P	**Pn**	**20 37 44.8**	**-0.1**
	baz=4.4,SNR=54						
JAGI				S	**Sn**	**20 38 37.3**	**+2.1**
	baz=4.4,SNR=7.4						
JAGI	**Jajag, Banyuwa**	**4.43**	**283**	*eP*	**Pn**	**20 37 44.6**	**-0.3**
BKSI	**Bulukumba**	**4.45**	**21**	P	**Pn**	**20 37 47.8**	**+2.7**
KAPI	**Kappang**	**4.62**	**15**	*eP*	**Pn**	**20 37 49.6**	**+2.1**
KAPI				*eS*	**Sn**	**20 38 39.8**	**-0.2**
KMMI	**Kalianget**	**5.12**	**298**	P	**Pn**	**20 37 57.1**	**+2.8**
	25nm,1.2s,0.2nm						
BATI	**Baumata**	**5.12**	**98**	P	**Pn**	**20 37 56.4**	**+2.0**
	42nm,0.5s,1μm0.2nm						
BATI	**Baumata**	**5.12**	**98**	P	**Pn**	**20 37 56.2**	**+1.9**
	23nm,0.3s,baz=301,slow=0.8,SNR=42						
BATI				S	**Sn**	**20 38 56.7**	**+4.5**
	9.5nm,0.3s,baz=216,slow=19,SNR=4.3						
GMJI	**Gumukmas**	**5.16**	**283**	P	**Pn**	**20 37 56.5**	**+1.7**
	47nm,0.8s,1μm0.4nm						
BLJI	**Banyuglugur**	**5.17**	**289**	P	**Pn**	**20 37 57.0**	**+2.0**
	57nm,0.5s,1μm0.5nm						
BNSI	**Bone**	**5.31**	**17**	P	**Pn**	**20 38 00.0**	**+3.1**
	21nm,0.8s,0.2nm						
SPSI	**Sidrap Palu**	**5.64**	**13**	P	**Pn**	**20 38 04.0**	**+2.5**
	13nm,0.5s,0.1nm						
SOEI	**Soe**	**5.68**	**93**	P	**Pn**	**20 38 04.3**	**+2.2**
	64nm,1.1s,0.2nm						
SOEI	**Soe**	**5.68**	**93**	P	**Pn**	**20 38 04.4**	**+2.2**
	baz=5.7,SNR=21						
SOEI	**Soe**	**5.68**	**93**	*eP*	**Pn**	**20 38 04.1**	**+2.0**
	40nm,0.6s						
BBKI	**Banjar Baru**	**7.02**	**328**	P	**Pn**	**20 38 23.1**	**+2.7**
	31nm,0.8s,0.1nm						
PCJI	**Pacitan**	**7.37**	**280**	P	**Pn**	**20 38 26.3**	**+1.1**
	37nm,0.9s,0.2nm						
UGM	**Wanagama**	**8.06**	**281**	P	**Pn**	**20 38 36.6**	**+1.9**
UGM	**Wanagama**	**8.06**	**281**	P	Pn	20 38 38.3	+3.6
	baz=8.0,SNR=10						
UGM				S	**Sn**	**20 40 05.5**	**+1.0**
	baz=8.0,SNR=4.9						
FITZ	**Fitzroy Crossi**	**10.99**	**142**	P	**Pn**	**20 39 13.4**	**-1.5**
	baz=11,SNR=14						
FITZ				S	Sn	20 41 07.7	-8.8
	baz=11,SNR=3.5						
MBWA	**Marble Bar**	**11.65**	**174**	*eP*	**Pn**	**20 39 23.8**	**0.0**
	2.6nm,0.5s						
KNRA	**Kununurra**	**11.73**	**123**	P	**Pn**	**20 39 24.2**	**-0.8**
	baz=12,SNR=11						
MTN	**Manton Dam**	**12.82**	**106**	P	**Pn**	**20 39 37.7**	**-2.0**
	baz=13,SNR=14						
MTN				S	**Sn**	**20 41 59.6**	**-1.5**
	baz=13,SNR=4.6						
KDU	**Kakadu**	**14.06**	**104**	P	**Pn**	**20 39 59.2**	**+2.5**
	baz=14,SNR=12						
FAKI	**Fak Fak**	**15.13**	**65**	P	**Pn**	**20 40 10.7**	**-0.2**
	baz=15,SNR=4.0						
MEEK	**Meekatharra**	**17.05**	**180**	P	**P**	**20 40 37.5**	**+1.1**
	baz=17,SNR=4.7						
MEEK				S	Sn	20 43 25.4

MDJ Mudanjiang 54.79 10 *eP* P 20 46 02.0 -3.1
4.6nm,0.6s
USRK Ussuriysk Ar. 54.83 12 P **P 20 46 03.2 -2.1**
1.7nm,0.5s,baz=200,slow=6.5,SNR=6.6
SONM Songino Array 58.09 350 P P 20 46 26.2 -2.3
1.3nm,0.5s,baz=168,slow=8.5,SNR=27
MKAR Makanchi Array 64.68 333 P P 20 47 09.9 -3.3
1.7nm,0.7s,baz=146,slow=8.0,SNR=23
KURK Kurchatov 69.23 334 *eP* P 20 47 38.7 -3.2
1.1nm,0.7s
ZALV Zalesovo Beam 69.34 339 P P 20 47 38.4 -4.0
1.3nm,0.4s,baz=136,slow=4.6,SNR=12
TORD Torodi Ar. Bea 118.08 280 PKP **PKPdf 20 55 21.1 -1.6**
0.6nm,1.1s,baz=107,slow=0.7,SNR=2.7
LPAZ La Paz 153.55 166 PKPab **PKPab 20 56 44.8 -2.7**
0.9nm,0.5s,baz=243,slow=4.1,SNR=6.7

JMA 25 20:59:31.2±0.1,33°.55N×140°.63E,h30km,M3.5,
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.81**	**238**	P	Pn	20 59 46.2	-0.3
JHJ2				*eS*	Sb	20 59 55.7	-1.7
JHCJ	**Hachijojimakas**	**0.84**	**236**	P	Pn	20 59 46.9	-0.1
JHCJ				S	Sb	20 59 56.7	-1.7
JMY	**Miyakejima3**	**1.07**	**300**	P	Pn	20 59 50.6	+0.4
JMY				S	Sn	21 00 04.2	+0.2
BSO1	**Boso 1**	**1.14**	**15**	P	Pb	20 59 51.2	-0.4
BSO1				S	Sb	21 00 06.2	+0.7
BSO3	**Boso 3**	**1.25**	**355**	P	Pn	20 59 53.0	+0.7
JNIO	**Niijimaoohara**	**1.38**	**306**	P	Pb	20 59 55.5	-0.9
JNIO				*eS*	Sn	21 00 12.7	+0.9
JKO	**Kozu shima**	**1.40**	**297**	P	Pn	20 59 55.5	+0.9
JKO				S	Sn	21 00 12.9	+0.9
BSO4	**Boso 4**	**1.46**	**351**	P	Pb	20 59 56.7	-0.9
JIM2	**Oshima 3**	**1.53**	**320**	P	Pn	20 59 56.9	+0.3
JIM2				*eS*	Sn	21 00 14.8	-0.7
JIZS	**Izushimoda**	**1.86**	**309**	P	Pn	21 00 02.1	+1.0
JIZS				S	Sn	21 00 24.6	+1.0
MAT	**Matsushiro**	**3.59**	**327**	P	Pn	21 00 27.4	+2.6
MAT				S	Sn	21 01 08.8	+2.6

*IDC **25** 20:59:47.5±1.5,27°.01N×96°.84E,h0km,mb3.3/5,*
mb1 3.5/5,mb1mx3.3/43,mbtmp3.3/5,Error ellipse:
s-maj=61.1km s-min=25.6km az=60.0
*ISCJB **25** 20:59:50.0±1.1,27°.1N±0°.1×96°.91E±0°.09,h28km,mb3.3/5,*
Error ellipse: s-maj=20.0km s-min=10.8km az=163.0
ISC 25 20:59:52.2±1.2,27°.2N±0°.2×97°.0E±0°.1,h28km,n18,
σ0 79/16,mb3.4/5,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.83**	**252**	*eP*	**Pn**	**21 01 04.0**	**+0.8**
TAPN	**Taplejung**	**8.24**	**273**	*eP*	**Pn**	**21 01 51.4**	**+1.1**
10nm,0.4s							
ODAN	**Odare**	**8.55**	**270**	*eP*	**Pn**	**21 01 55.0**	**+0.6**
8.7nm,0.4s							
RAMN	**Ramite**	**9.25**	**271**	*eP*	**Pn**	**21 02 03.6**	**-0.4**
JIRN	**Jiri**	**9.59**	**275**	*eP*	**Pn**	**21 02 08.9**	**+0.1**
GUN	**Gumba**	**9.87**	**277**	*eP*	**Pn**	**21 02 12.7**	**0.0**
14nm,0.3s							
PKI	**Pulchoki**	**10.29**	**275**	*eP*	**Pn**	**21 02 17.6**	**-0.7**
2.9nm,0.2s							
PKIN	**Phulchoki**	**10.30**	**275**	*eP*	**Pn**	**21 02 18.4**	**0.0**
4.9nm,0.3s							
KKN	**Kakani**	**10.40**	**276**	*eP*	**Pn**	**21 02 19.4**	**-0.4**
8.3nm,0.4s							
DMN	**Daman**	**10.55**	**275**	*eP*	**Pn**	**21 02 21.5**	**-0.4**
2.6nm,0.3s							
GKN	**Gorkha**	**10.97**	**277**	*eP*	**Pn**	**21 02 26.0**	**-1.6**
DANN	**Dangsing**	**11.76**	**279**	*eP*	Pn	21 02 34.7	-3.8
KOLN	**Koldanda**	**11.89**	**276**	*eP*	Pn	21 02 35.9	-4.2
12nm,0.5s							
SONM	**Songino Array**	**21.93**	**17**	P	**P**	**21 04 44.5**	**+1.1**
0.3nm,0.7s,baz=203,slow=11,SNR=2.9							
MKAR	**Makanchi Array**	**22.77**	**333**	P	**P**	**21 04 51.8**	**-0.6**
0.4nm,0.5s,baz=147,slow=9.4,SNR=9.0							
KURBB	**Kurchatov Arra**	**27.33**	**334**	P	**P**	**21 05 35.2**	**+0.6**
0.7nm,0.8s,baz=146,slow=11,SNR=7.7							
WRA	**Warramunga Arr**	**59.19**	**138**	P	**P**	**21 09 50.3**	**-0.7**
0.6nm,0.8s,baz=329,slow=7.6,SNR=4.6							
NOA	**NORSAR Array B**	**64.62**	**328**	P	**P**	**21 10 26.9**	**-0.1**
0.7nm,0.8s,baz=81,slow=6.7,SNR=2.7							

*BJI **25** 21:00:11.0,11°.60N×144°.89E,h10km,mB4.9/12,mb4.6/20,*
Ms4.5/3,Ms7 4.2/3
*IDC **25** 21:00:18.8±0.6,12°.31N×144°.18E,h0km,mb4.4/25,*
mb1 4.6/25,mb1mx4.4/40,mbtmp4.4/25,MS3.6/22,
Ms1 3.6/22,ms1mx3.5/41,Error ellipse: s-maj=19.5km
s-min=14.6km az=96.0
*ISCJB **25** 21:00:22.7±1.1,12°.31N±0°.04×144°.13E±0°.06,*
h41km±10km,mb4.6/60,MS3.6/24,Error ellipse:
s-maj=10.7km s-min=6.4km az=25.4
*MOS **25** 21:00:22.1±0.9,12°.27N×144°.19E,h40km,mb4.9/20,Error*
ellipse: s-maj=12.8km s-min=7.0km az=105.8
*NEIC **25** 21:00:23.6±0.2,12°.26N×144°.17E,h35km,mb4.7/22,Error*
ellipse: s-maj=8.7km s-min=5.6km az=105.0
NEIC Felt at Andersen AFB.
*DJA **25** 21:00:25.2±0.6,12°.7N±6°.×14°.4E±°.,h52km±10km,M5.2/12,*
mB5.5/3,mb4.8/12,MLv5.4/1,Mw(mB)5.0/3
ISC 25 21:00:24.8±0.8,12°.30N±0°.07×144°.23E±0°.09,h46km±7km,
n148,σ0 95/134,mb4.7/60,MS3.7/24,4C-4D,South of
Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.43**	**26**	*eP*	**Pn**	**21 00 47.6**	**-0.7**
GUMO				*e*		21 01 04.4	
GUMO	**Guam**	**1.43**	**26**	*eP*	**Pn**	**21 00 47.6**	**-0.7**
GUMO				*eSg*	**Sn**	**21 01 04.3**	**-1.6**
JAY	**Jayapura**	**15.12**	**194**	LR	LR	21 09 11.2	
comp=Z,690nm,18.3s,baz=70,slow=35							
GENI	**Genyem**	**15.33**	**196**	P	**Pn**	**21 03 59.3**	**+1.1**
59nm,1.0s,3μm							
MSAI	**Masohi**	**21.74**	**225**	P	**P**	**21 05 12.2**	**-0.3**
16nm,1.0s							
H11S3	**WAKE ISLAND Hy**	**22.50**	**71**	T	T	21 28 53.2	
baz=258,slow=75,SNR=15							
H11S1	**WAKE ISLAND Hy**	**22.52**	**71**	T	T	21 29 04.8	
baz=258,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**22.52**	**71**	T	T	21 29 01.2	
baz=258,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy**	**22.98**	**68**	T	T	21 29 27.4	
baz=255,slow=75,SNR=41							
H11N2	**WAKE ISLAND Hy**	**22.99**	**68**	T	T	21 29 33.6	
baz=255,slow=75,SNR=33							
H11N3	**WAKE ISLAND Hy**	**23.00**	**68**	T	T	21 29 31.9	
baz=255,slow=75,SNR=34							
KMSI	**Cibinong**	**23.21**	**241**	P	**P**	**21 05 28.1**	**+0.1**
135nm,1.1s,4μm							
GTOI	**Gorontalo**	**24.02**	**243**	P	**P**	**21 05 34.9**	**-0.7**
68nm,0.8s							
JNU	**Nakatsue**	**24.06**	**332**	P	**P**	**21 05 35.5**	**-0.4**
16nm,0.8s,baz=150,slow=1.6,SNR=9.0							
MJAR	**Matsushiro Arr**	**24.74**	**348**	P	**P**	**21 05 40.9**	**-1.2**
9.8nm,1.1s,baz=164,slow=9.5,SNR=7.5							
MJAR				LR	LR	21 14 56.0	
comp=Z,327nm,18.3s,baz=185,slow=36							
MAJO	**Matsushiro**	**24.74**	**348**	*eP*	**P**	**21 05 40.7**	**-1.4**
MAJO				pmax	pmax		
comp=Z,7.0nm,0.6s							
MAJO	**Matsushiro**	**24.74**	**348**	*eP*	**P**	**21 05 40.7**	**-1.4**
comp=Z,7.3nm,0.6s							
MRSI	**Marisa**	**25.03**	**244**	P	**P**	**21 05 44.2**	**-0.7**
comp=Z,39nm,1.2s,comp=Z,460nm							
APSI	**Ampana**	**25.97**	**241**	P	pP	21 06 03.9	-1.5
HNR	**Honiara**	**26.65**	**143**	LR	LR	21 15 40.1	
comp=Z,99nm,20.4s,baz=295,slow=34							
KSRS	**Korea Array**	**29.00**	**333**	P	**P**	**21 06 19.9**	**-0.4**
comp=Z,1.7nm,0.6s,baz=143,slow=9.4,SNR=7.8							
KSRS				LR	LR	21 17 33.7	
comp=Z,73nm,18.6s,baz=150,slow=36							
KSAR	**Wonju Array Be**	**29.00**	**332**	P	**P**	**21 06 19.9**	**-0.4**
KSAR	**Wonju Array Be**	**29.00**	**332**	P	**P**	**21 06 19.9**	**-0.4**
BATI	**Baumata**	**30.28**	**223**	LR	LR	21 18 08.6	
comp=Z,46nm,21.1s,baz=40,slow=35							
NJ2	**Nanjing**	**30.50**	**314**	*eP*	P	21 06 38.0	+4.4
NJ2				PMZ			
comp=Z,30nm,0.6s							
ASAJ	**Asahikawa**	**31.74**	**358**	P	**P**	**21 06 45.2**	**+0.8**
comp=Z,5.5nm,0.9s,baz=208,slow=7.7,SNR=4.5							
ASAJ				LR	LR	21 19 20.5	
comp=Z,58nm,21.5s,baz=196,slow=36							
ASAJ	**Asahikawa**	**31.74**	**358**	*eP*	**P**	**21 06 44.9**	**+0.5**
comp=Z,2.2nm,0.7s							
CTA	**Charters Tower**	**32.24**	**176**	LR	LR	21 20 18.8	
comp=Z,77nm,20.8s,baz=348,slow=37							
WRAB	**Tennant Creek**	**33.47**	**197**	⇑*iP*	**P**	**21 06 59.3**	**-0.5**
WRAB				pmax	pmax		
comp=Z,15nm,0.8s							
WRAB	**Tennant Creek**	**33.47**	**197**	*eP*	**P**	**21 06 58.9**	**-0.9**
comp=Z,6.7nm,0.6s							
WB2	**Warramunga Arr**	**33.48**	**197**	*eP*	**P**	**21 06 58.8**	**-1.0**
WRA	**Warramunga Arr**	**33.48**	**197**	P	**P**	**21 06 59.4**	**-0.6**
comp=Z,6.5nm,0.7s,baz=21,slow=9.8,SNR=80							
USRK	**Ussuriysk Ar.**	**33.49**	**344**	P	**P**	**21 06 59.7**	**0.0**
comp=Z,1.4nm,0.6s,baz=159,slow=7.3,SNR=5.1							
USRK				LR	LR	21 18 47.6	
comp=Z,136nm,21.3s,baz=139,slow=33							
FITZ	**Fitzroy Crossi**	**35.34**	**212**	*eP*	**P**	**21 07 15.6**	**-0.3**
comp=Z,2.3nm,0.7s							
AS31	**Alice Springs**	**37.14**	**196**	*eP*	**P**	**21 07 30.9**	**-0.4**
ASAR	**Alice Springs**	**37.14**	**196**	P	**P**	**21 07 31.2**	**-0.2**
comp=Z,4.2nm,0.6s,baz=20,slow=10,SNR=84							
ASAR				LR	LR	21 22 58.2	
comp=Z,169nm,20.3s,baz=22,slow=37							
KLR	**Kul'dur**	**38.25**	**347**	*eP*	P	21 07 36.8	-3.6
MBWA	**Marble Bar**	**41.04**	**216**	*eP*	**P**	**21 08 03.1**	**-0.9**
comp=Z,4.1nm,0.5s							
PETK	**Petropavlovsk-**	**42.11**	**12**	P	**P**	**21 08 12.8**	**+0.5**
comp=Z,0.8nm,0.7s,baz=127,slow=6.3,SNR=3.7							
PETK				PcP	**PcP**	**21 10 08.2**	**+1.9**
comp=Z,4.8nm,0.9s,baz=184,slow=5.8,SNR=5.7							
PETK				LR	LR	21 22 52.7	
comp=Z,64nm,20.4s,baz=190,slow=32							
LZH	**Lanzhou**	**43.35**	**310**	*eP*	**P**	**21 08 24.0**	**+1.1**
LZH				PMZ			
comp=Z,24nm,1.0s							
LZH				PMZ			
comp=Z,98nm,4.2s							
CMAR	**Chiang Mai Arr**	**44.00**	**284**	*i* P	**P**	**21 08 28.7**	**+0.5**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**44.00**	**284**	P	**P**	**21 08 28.4**	**+0.3**
comp=Z,1.1nm,0.4s,baz=88,slow=6.5,SNR=14							
CMAR				PcP	**PcP**	**21 10 15.3**	**+2.0**
comp=Z,1.1nm,0.6s,baz=100,slow=2.0,SNR=5.6							
PSI	**Prapat**	**45.82**	**262**	P	**P**	**21 08 43.8**	**+1.0**
comp=Z,2.6nm,0.4s,baz=125,slow=8.5,SNR=4.0							
ULN	**Ulaanbaatar**	**47.09**	**326**	⇓*iP*	**P**	**21 08 52.8**	**+0.4**
ULN				pmax	pmax		
comp=Z,5.0nm,1.2s							
ULN	**Ulaanbaatar**	**47.09**	**326**	*eP*	**P**	**21 08 52.4**	**0.0**
comp=Z,3.3nm,0.9s							
SONM	**Songino Array**	**47.43**	**326**	P	**P**	**21 08 55.5**	**+0.5**
comp=Z,2.4nm,0.7s,baz=138,slow=7.6,SNR=24							
SONM				PcP	**PcP**	**21 10 25.6**	**+0.7**
comp=Z,0.7nm,0.5s,baz=137,slow=3.9,SNR=5.1							
SONM				LR	LR	21 29 46.5	
comp=Z,56nm,18.6s,baz=162,slow=37							
GTA	**Gaotai**	**47.57**	**313**	*eP*	**P**	**21 08 56.5**	**+0.3**
GTA				pP	pP	21 09 02.3	-6.6
GTA				sP	sP	21 09 05.5	-8.8
GTA				PcP	**PcP**	**21 10 27.5**	**+1.9**
GTA				PMZ			
comp=Z,8.0nm,1.1s							
ZAK	**Zakamensk**	**50.57**	**327**	*eP*	**P**	**21 09 17.8**	**-1.1**
ZAK				pmax	pmax		
comp=Z,3.0nm,1.4s							
YAK	**Yakutsk**	**50.76**	**351**	*eP*	**P**	**21 09 18.4**	**-1.6**
YAK				pmax	pmax		
comp=N,4.0nm,1.5s							
YAK				pmax	pmax		
comp=Z,14nm,1.0s							
YAK	**Yakutsk**	**50.76**	**351**	LR	LR	21 29 41.0	
comp=Z,70nm,21.3s,baz=150,slow=35							
YAK	**Yakutsk**	**50.76**	**351**	*eP*	**P**	**21 09 19.7**	**-0.3**
comp=Z,16nm,0.7s							
SEY	**Seymchan**	**50.90**	**5**	P	**P**	**21 09 21.6**	**+0.6**
comp=Z,1.2nm,0.6s,baz=180,slow=13,SNR=9.4							
BOD	**Bodaibo**	**50.90**	**340**	*eP*	**P**	**21 09 20.4**	**-0.7**
TLY	**Talaya**	**51.12**	**329**	*eP*	**P**	**21 09 23.7**	**+0.8**
TLY				pmax	pmax		
comp=Z,4.0nm,0.9s							
TLY				MLR	MLR		
comp=Z,78nm,16.0s							
TLY	**Talaya**	**51.12**	**329**	P	**P**	**21 09 23.3**	**+0.3**
comp=Z,2.0nm,0.6s,baz=201,slow=0.4,SNR=7.3							
LSA	**Lhasa**	**52.03**	**298**	*eP*	**P**	**21 09 30.7**	**0.0**
LSA				pmax	pmax		
comp=Z,6.0nm,0.8s							
LSA	**Lhasa**	**52.03**	**298**	*eP*	**P**	**21 09 30.7**	**0.0**
comp=Z,6.1nm,0.8s							
TAPN	**Taplejung**	**54.81**	**295**	*eP*	**P**	**21 09 50.4**	**-0.5**
comp=Z,9.4nm,0.5s							
ODAN	**Odare**	**55.06**	**294**	*eP*	**P**	**21 09 52.3**	**-0.3**
comp=Z,9.3nm,0.5s							
RAMN	**Ramite**	**55.77**	**294**	*eP*	**P**	**21 09 57.5**	**-0.3**
JIRN	**Jiri**	**56.17**	**295**	*eP*	**P**	**21 10 00.7**	**-0.1**
comp=Z,20nm,0.7s							
GUN	**Gumba**	**56.47**	**295**	*eP*	**P**	**21 10 02.7**	**-0.1**
comp=Z,26nm,0.4s							
PKI	**Pulchoki**	**56.86**	**295**	*eP*	**P**	**21 10 05.0**	**-0.6**
comp=Z,5.6nm,0.3s							
PKIN	**Phulchoki**	**56.87**	**295**	*eP*	**P**	**21 10 04.9**	**-0.7**
comp=Z,7.2nm,0.4s							
KKN	**Kakani**	**56.99**	**295**	*eP*	**P**	**21 10 06.5**	**+0.1**
DMN	**Daman**	**57.13**	**295**	*eP*	**P**	**21 10 06.9**	**-0.6**
comp=Z,8.5nm,0.5s							
BILL	**Bilibino**	**57.53**	**10**	⇓*eP*	**P**	**21 10 09.9**	**+0.6**
BILL				*i* *PP	**sP**	**21 10 28.0**	**+0.5**
BILL				*e*		21 10 59.5	
BILL				*e*		21 12 22.7	
BILL				*e*SS	**SS**	**21 21 55.4**	**+1.8**
BILL				pmax	pmax		
comp=Z,4.0nm,0.9s							
BILL				MLR	MLR		
comp=Z,87nm,20.0s							
GKN	**Gorkha**	**57.57**	**295**	*eP*	**P**	**21 10 09.7**	**-0.7**
comp=Z,14nm,0.4s							
DANN	**Dangsing**	**58.36**	**296**	*eP*	**P**	**21 10 15.7**	**-0.4**
comp=Z,19nm,0.4s							
KOLN	**Koldanda**	**58.47**	**295**	*eP*	**P**	**21 10 15.7**	**-1.1**
TIXI	**Tiksi**	**60.05**	**354**	*eP*	**P**	**21 10 27.1**	**+0.4**
TIXI				pmax	pmax		
comp=Z,1.0nm,0.4s							
TIXI	**Tiksi**	**60.05**	**354**	*eP*	**P**	**21 10 27.1**	**+0.4**
comp=Z,1.3nm,0.4s							
MKAR	**Makanchi Array**	**61.99**	**317**	P	**P**	**21 10 41.0**	**+0.7**
MKAR	**Makanchi Array**	**61.99**	**317**	P	**P**	**21 10 41.0**	**+0.7**
comp=Z,8.3nm,0.6s,baz=88,slow=7.9,SNR=112							
MKAR				LR	LR	21 38 18.5	
comp=Z,34nm,21.6s,baz=106,slow=37							
ZALV	**Zalesovo Beam**	**62.31**	**325**	*i* P	**P**	**21 10 42.0**	**-0.3**
ZALV				pmax	pmax		
comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**62.31**	**325**	P	**P**	**21 10 41.9**	**-0.4**
comp=Z,1.4nm,0.4s,baz=114,slow=7.1,SNR=12							
ZALV				PcP	**PcP**	**21 11 20.9**	**-0.8**
comp=Z,2.3nm,0.5s,baz=121,slow=4.9,SNR=6.7							
ZALV				LR	LR	21 38 50.4	
comp=Z,50nm,19.2s,baz=68,slow=37							
NVS	**Novosibirsk**	**63.46**	**326**	*i* P	**P**	**21 10 49.9**	**0.0**
NVS				pmax	pmax		
comp=E,12nm,1.6s							
NVS				pmax	pmax		
comp=Z,16nm,1.6s							
NVS				pmax	pmax		
comp=N,5.0nm,1.4s							
KURK	**Kurchatov**	**65.17**	**320**	*eP*	**P**	**21 11 01.0**	**-0.1**
KURK				pmax	pmax		
comp=Z,5.0nm,0.7s							
KURK	**Kurchatov**	**65.17**	**320**	*eP*	**P**	**21 11 01.0**	**-0.1**
comp=Z,5.4nm,0.7s							
KURBB	**Kurchatov Arra**	**65.21**	**320**	P	**P**	**21 11 01.5**	**+0.1**
comp=Z,7.1nm,0.4s,baz=104,slow=6.8,SNR=96							
KDAK	**Kodiak Island**	**65.49**	**32**	*i* P	**P**	**21 11 05.1**	**+2.0**
AAK	**Ala-Archa**	**66.88**	**311**	*ceP*	**P**	**21 11 12.3**	**-0.3**
AAK				pmax	pmax		
comp=Z,9.0nm,1.2s							
AAK	**Ala-Archa**	**66.88**	**311**	P	**P**	**21 11 12.4**	**-0.1**
comp=Z,1.2nm,0.4s,baz=115,slow=5.4,SNR=7.0							
AAK	**Ala-Archa**	**66.88**	**311**	*eP*	**P**	**21 11 12.6**	**+0.1**
comp=Z,1.3nm,0.6s							
PPLA	**Purkeypile**	**67.22**	**26**	*eP*	**P**	**21 11 15.5**	**+1.2**
KTH	**Kantishna Hill**	**67.97**	**26**	*eP*	**P**	**21 11 19.6**	**+0.7**
comp=Z,9.2nm,1.2s							
KKAR	**Karatay Array**	**69.83**	**312**	*eP*	**P**	**21 11 30.8**	**0.0**
KKAR				pmax	pmax		
comp=Z,4.0nm,0.6s							
KKAR	**Karatay Array**	**69.83**	**312**	*eP*	**P**	**21 11 30.8**	**0.0**
comp=Z,4.4nm,0.6s							
ILAR	**Eielson Array**	**70.00**	**25**	P	**P**	**21 11 30.7**	**-0.7**
comp=Z,1.8nm,0.4s,baz=250,slow=5.7,SNR=39							
ILAR				LR	LR	21 42 04.0	
comp=Z,46nm,19.1s,baz=274,slow=36							
PAX	**Paxson**	**70.20**	**27**	*eP*	**P**	**21 11 32.4**	**-0.4**
PAX				pmax	pmax		
comp=Z,3.0nm,0.8s							
PAX	**Paxson**	**70.20**	**27**	*eP*	**P**	**21 11 32.4**	**-0.4**
comp=Z,3.2nm,0.8s							
DOT	**Dot Lake**	**70.96**	**27**	*eP*	**P**	**21 11 37.6**	**+0.3**
comp=Z,6.0nm,0.8s							
KBL	**Kabul**	**70.99**	**302**	*eP*	**P**	**21 11 38.1**	**-0.2**
KBL				pmax	pmax		
comp=Z,12nm,1.1s							
KBL	**Kabul**	**70.99**	**302**	*eP*	**P**	**21 11 38.1**	**-0.2**
comp=Z,12nm,1.1s							
PPT	**Papeete**	**71.77**	**113**	P	**P**	**21 11 40.9**	**-2.1**
comp=Z,30nm,0.4s,baz=38,slow=11,SNR=4.8							
PPT				LR	LR	21 37 23.4	
comp=Z,66nm,21.9s,baz=15,slow=31							
DAWY	**Dawson**	**73.07**	**27**	*eP*	**P**	**21 11 50.4**	**+0.4**
HYT	**Haines Junctio**	**73.63**	**30**	*eP*	**P**	**21 11 54.7**	**+1.3**
H02S1	**DAWSON INLET T**	**76.25**	**38**	T	T	22 34 07.3	
SNR=7.7							
SVE	**Sverdlovsk**	**76.30**	**326**	*eP*	**P**	**21 12 08.9**	**+0.1**
SVE				pmax	pmax		
comp=Z,18nm,1.4s							
ABKAR	**Akbulak array**	**77.08**	**318**	*eP*	**P**	**21 12 13.1**	**-0.2**
comp=Z,13nm,0.6s							
ARU	**Arti**	**77.47**	**325**	*d iP*	**P**	**21 12 15.1**	**-0.2**
ARU				S	**S**	**21 22 00.4**	**-2.3**
ARU				SS	**SS**	**21 27 01.2**	**-0.7**
ARU				pmax	pmax		
comp=Z,22nm,1.2s							
ARU	**Arti**	**77.47**	**325**	*eP*	**P**	**21 12 14.7**	**-0.6**
comp=Z,11nm,0.8s							
GEYT	**Alibeck**	**79.51**	**307**	P	**P**	**21 12 28.0**	**+1.0**
comp=Z,9.5nm,0.8s,baz=23,slow=7.8,SNR=26							
PRGR	**Permogore**	**83.33**	**332**	*eP*	**P**	**21 12 45.9**	**-0.8**
PRGR				pmax	pmax		
comp=Z,21nm,0.9s							
YKA	**Yellowknife Ar**	**84.29**	**27**	P	**P**	**21 12 52.4**	**+0.9**
comp=Z,3.4nm,0.9s,baz=286,slow=5.3,SNR=27							
RES	**Resolute Bay**	**85.94**	**13**	*eP*	**P**	**21 13 00.5**	**+0.8**
RES				pmax	pmax		
comp=Z,18nm,1.0s							
RES	**Resolute Bay**	**85.94**	**13**	*eP*	**P**	**21 13 00.5**	**+0.8**
comp=Z,18nm,1.0s							
NEW	**Newport**	**86.61**	**41**	*eP*	**P**	**21 13 03.6**	**+0.1**
NEW				pmax	pmax		
comp=Z,8.0nm,0.9s							
NEW	**Newport**	**86.61**	**41**	*eP*	**P**	**21 13 03.6**	**+0.1**
comp=Z,8.0nm,0.9s							
BMO	**Blue Mountains**	**87.34**	**45**	*eP*	**P**	**21 13 08.6**	**+1.4**
BMO				pmax	pmax		
comp=Z,6.0nm,0.9s							
BMO	**Blue Mountains**	**87.34**	**45**	*eP*	**P**	**21 13 08.6**	**+1.4**
comp=Z,5.7nm,0.9s							
ARCES	**ARCESS Array B**	**88.11**	**342**	P	**P**	**21 13 10.8**	**+0.5**
comp=Z,2.1nm,0.6s,baz=75,slow=7.7,SNR=14							
ARCES				LR	LR	21 56 32.2	
comp=Z,37nm,18.6s,baz=42,slow=38							
NVAR	**Mina Array Bea**	**88.21**	**51**	P	**P**	**21 13 14.2**	**+2.5**
comp=Z,3.7nm,0.7s,baz=265,slow=5.3,SNR=7.3							
BSMT	**Bassoo Peak**	**88.23**	**41**	*eP*	**P**	**21 13 13.0**	**+1.5**
comp=Z,6.2nm,1.0s							
VRHR	**Novokhopersk**	**88.29**	**322**	*eP*	**P**	**21 13 09.4**	**-2.1**
VRHR				pmax	pmax		
comp=N,6.0nm,0.8s							
VRHR				pmax	pmax		
comp=E,10.0nm,0.8s							
VRHR				pmax	pmax		
comp=Z,20nm,0.8s							
ZEI	**Tsey**	**89.18**	**314**	*eP*	**P**	**21 13 14.3**	**-1.8**
ZEI				pmax	pmax		
comp=Z,4.0nm,1.0s							
JOF	**Joensuu**	**89.20**	**335**	*eP*	**P**	**21 13 14.6**	**-0.9**
JOF	**Joensuu**	**89.20**	**335**	*ep*	**P**	**21 13 14.6**	**-0.9**
KBZ	**Khabaz**	**89.62**	**315**	P	**P**	**21 13 17.4**	**-0.5**
comp=Z,3.7nm,0.8s,baz=64,slow=5.5,SNR=5.4							
KBZ				LR	LR	21 58 25.7	
comp=Z,29nm,19.0s,baz=70,slow=39							
VSR	**Storozhevoye**	**89.72**	**323**	*eP*	**P**	**21 13 16.3**	**-1.9**
VSR				pmax	pmax		
comp=N,6.0nm,0.8s							
VSR				pmax	pmax		
comp=E,6.0nm,0.8s							
VSR				pmax	pmax		
comp=Z,10.0nm,0.8s							
VORD	**Divnogorie**	**89.73**	**322**	*eP*	**P**	**21 13 16.0**	**-2.2**
VORD				pmax	pmax		
comp=N,10.0nm,0.7s							
VORD				pmax	pmax		
comp=E,10.0nm,0.7s							
VORD				pmax	pmax		
comp=Z,9.0nm,0.7s							
OBN	**Obninsk**	**89.83**	**327**	⇓*eP*	**P**	**21 13 17.5**	**-1.1**
OBN				*i* *PP	pP	21 13 37.4	+5.1

PUK	**Puka**	**0.43 273**	*i* PG	Pg	21 11 07.7	-0.5
PUK			*i* SG	Sg	21 11 13.0	-0.9
PUK	**Puka**	**0.43 273**	*i* Pg	Pg	21 11 07.7	-0.5
	SNR=91					
PUK			*i* Sg	Sg	21 11 13.0	-0.9
	SNR=91					
BCI	**Bajram Curri**	**0.46 319**	*i* PG	Pg	21 11 08.1	-0.5
BCI			*i* SG	Sg	21 11 15.2	+0.5
BCI	**Bajram Curri**	**0.46 319**	*i* Pg	Pg	21 11 08.1	-0.5
	SNR=91					
BCI			*i* Sg	Sg	21 11 15.2	+0.5
	SNR=91					
SKO	**Skopje**	**0.72 93**	*e*Pg	Pg	21 11 11.8	-1.8
SKO			*e*Sg	Sb	21 11 24.7	-0.4
SKO	**Skopje**	**0.72 93**	*i* Pg	Pg	21 11 12.9	-0.7
SKO			*i* Sg	Sb	21 11 24.5	-0.5
SKO			*e*Lg	Lg	21 11 25.4	
	comp=E,40nm,0.3s					
SKO			*e*Lg	Lg	21 11 25.8	
	comp=N,41nm,0.3s					
SKO	**Skopje**	**0.72 93**	*i* Pg	Pg	21 11 12.8	-0.8
SKO			*i* Sg	Sb	21 11 24.5	-0.6
SKO			*e*Lg	Lg	21 11 25.4	
	comp=N,40nm,0.3s					
OHR	**Ohrid**	**0.94 165**	*e*Pg	Pn	21 11 19.1	-0.5
OHR			*e*Sg	Sb	21 11 31.9	+0.5
OHR			*e*Lg	Lg	21 11 32.4	
	comp=E,24nm,0.5s					
OHR			*e*Lg	Lg	21 11 35.5	
	comp=N,65nm,1.2s					
OHR	**Ohrid**	**0.94 165**	*e*Pg	Pn	21 11 19.1	-0.5
OHR			*e*Sg	Sb	21 11 31.9	+0.5
OHR			*e*Lg	Lg	21 11 32.3	
	comp=N,24nm,0.5s					
PDG	**Podgorica**	**0.99 295**	*e*Pg	Pg	21 11 17.6	-1.2
PDG			*e*Sg	Sn	21 11 33.9	-0.8
PDG	**Podgorica**	**0.99 295**	*e*Pg	Pg	21 11 17.6	-1.2
PDG			*e*Sg	Sn	21 11 33.9	-0.8
BARS	**Barje**	**1.27 51**	*e*Pg	Pg	21 11 24.0	-0.2
BARS			*e*Sg	Sg	21 11 40.2	-0.6
BARS	**Barje**	**1.27 51**	*e*Pg	Pg	21 11 24.0	-0.2
BARS			*e*Sg	Sg	21 11 40.2	-0.6
SELS	**Selova**	**1.29 21**	*e*Pg	Pn	21 11 23.8	-0.7
SELS			*e*Sg	Sn	21 11 43.3	+1.1
SJES	**Sjenica**	**1.29 344**	*e*Pg	Pn	21 11 24.3	-0.3
VAY	**Valandovo**	**1.72 113**	*i* Pg	Pb	21 11 31.9	+0.1
VAY			*e*Sg	Sb	21 11 53.3	-0.4
VAY			*e*Lg	Lg	21 11 55.7	
	comp=E,5.9nm,0.5s					
VAY			*e*Lg	Lg	21 11 56.3	
	comp=N,8.1nm,0.6s					
VAY	**Valandovo**	**1.72 113**	*i* Pg	Pb	21 11 31.8	0.0
VAY			*e*Sg	Sb	21 11 53.2	-0.5
VAY			*e*Lg	Lg	21 11 55.6	
	comp=N,5.9nm,0.5s					
TREB	**Trebinje**	**1.72 295**	*e*Pg	Pb	21 11 32.2	+0.4
TREB			*e*Sg	Sg	21 11 56.9	+1.8
TREB	**Trebinje**	**1.72 295**	*e*Pg	Pb	21 11 32.2	+0.4
TREB			*e*Sg	Sg	21 11 56.9	+1.8
GRUS	**Gruza**	**1.88 5**	*e*Pn	Pb	21 11 34.4	-0.1
GRUS			*e*Sg	Sg	21 12 02.3	+2.2
GRUS	**Gruza**	**1.88 5**	*e*Pn	Pb	21 11 34.4	-0.1
GRUS			*e*Sg	Sg	21 12 02.3	+2.2
BBLS	**Lazići**	**2.01 337**	*e*Pn	Pn	21 11 33.4	-1.0
BBLS			*e*Sg	Sg	21 12 05.1	+0.7
BBLS	**Lazići**	**2.01 337**	*e*Pn	Pn	21 11 33.4	-1.0
BBLS			*e*Sg	Sg	21 12 05.1	+0.7

*ISK **25** 21:11:43.8, 38°58N×30°35E, h2km, MD3.6*
*CSEM **25** 21:11:44.6±0.1, 38°58N×30°37E, h2km, MD3.6, Error ellipse: s-maj=2.9km s-min=2.8km az=40.0*
*DDA **25** 21:11:44.8, 38°66N×30°35E, h7km, MD3.3*
ISC 25 21:11:44.4±1.0, 38°59N±0°02×30°34E±0°02, h7km±9km, n91, σ1°07/104, 5C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.17**	**104**	PG	**Pg**	**21 11 48.1**	**+0.2**
SHUT				*e*SG	**Sg**	**21 11 50.3**	**0.0**
SHUT	**Suhut-Afyon**	**0.17**	**104**	*i* Pg	**Pg**	**21 11 48.1**	**+0.2**
SHUT				*e*Sg	**Sg**	**21 11 50.3**	**0.0**
BOLV	**Bolvadin**	**0.49**	**75**	*i* P	**Pg**	**21 11 54.0**	**0.0**
BOLV				*i* S	**Sg**	**21 12 00.9**	**+0.5**
BOLV	**Bolvadin**	**0.49**	**75**	*i* P	**Pg**	**21 11 54.0**	**0.0**
BOLV				*i* S	**Sg**	**21 12 00.9**	**+0.5**
KHL	**Karahalli**	**0.70**	**247**	*e*PG	**Pb**	**21 11 58.1**	**-0.9**
KHL				*e*SG	**Sb**	**21 12 08.0**	**-0.8**
KHL	**Karahalli**	**0.70**	**247**	*e*Pg	**Pb**	**21 11 58.1**	**-0.9**
KHL				*e*Sg	**Sb**	**21 12 08.0**	**-0.8**
ISP	**Isparta**	**0.78**	**170**	*e*PG	**Pg**	**21 11 58.4**	**-1.1**
ISP	**Isparta**	**0.78**	**170**	*e*Pg	**Pg**	**21 11 58.4**	**-1.1**
GDZ	**Gediz**	**0.83**	**307**	*i* P	**Pg**	**21 12 00.4**	**-0.1**
GDZ				*i* S	**Sg**	**21 12 11.6**	**+0.3**
GDZ	**Gediz**	**0.83**	**307**	*i* P	**Pg**	**21 12 00.4**	**-0.1**
GDZ				*i* S	**Sg**	**21 12 11.6**	**+0.3**
ESKT	**Eskisehir**	**1.00**	**23**	*e*PG	**Pg**	**21 12 03.3**	**-0.4**
ESKT	**Eskisehir**	**1.00**	**23**	*e*Pg	**Pg**	**21 12 03.3**	**-0.4**
SEYT	**Eskypehyr**	**1.00**	**23**	*i* P	**Pg**	**21 12 02.8**	**-0.9**
SEYT	**Eskypehyr**	**1.00**	**23**	*i* P	**Pg**	**21 12 02.8**	**-0.9**
TVSB	**Tavsanli**	**1.10**	**321**	*e*PN	**Pb**	**21 12 06.0**	**+0.2**
TVSB	**Tavsanli**	**1.10**	**321**	*e*Pn	**Pb**	**21 12 06.0**	**+0.2**
BCK	**Bucak**	**1.15**	**170**	*e*PN	**Pb**	**21 12 06.2**	**-0.5**
BCK				*e*SN	**Sn**	**21 12 23.0**	**0.0**
BCK	**Bucak**	**1.15**	**170**	*e*Pn	**Pb**	**21 12 06.2**	**-0.5**
BCK				*e*Sn	**Sn**	**21 12 23.0**	**0.0**
KIZT	**Kizilcal**	**1.24**	**76**	*e*PN	**Pb**	**21 12 08.0**	**-0.2**
KIZT	**Kizilcal**	**1.24**	**76**	*e*Pn	**Pb**	**21 12 08.0**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.25**	**47**	*e*PN	**Pn**	**21 12 08.9**	**+0.4**
SVRH	**Sivrihisar-ESK**	**1.25**	**47**	*e*Pn	**Pn**	**21 12 08.9**	**+0.4**
BORA	**Eskisehir**	**1.29**	**4**	*i* P	**Pg**	**21 12 08.2**	**-0.9**
BORA				*i* S	**Sg**	**21 12 26.0**	**+0.2**
BORA	**Eskisehir**	**1.29**	**4**	*i* P	**Pg**	**21 12 08.2**	**-0.9**
BORA				*i* S	**Sg**	**21 12 26.0**	**+0.2**
KULA	**Kula-Manisa**	**1.32**	**267**	*e*PN	**Pb**	**21 12 09.9**	**+0.3**
KULA	**Kula-Manisa**	**1.32**	**267**	*e*Pn	**Pb**	**21 12 09.9**	**+0.3**
DENT	**Denizli**	**1.33**	**231**	*e*PN	**Pb**	**21 12 09.9**	**+0.2**
DENT	**Denizli**	**1.33**	**231**	*e*Pn	**Pb**	**21 12 09.9**	**+0.2**
LADK	**Ladik-KONYA**	**1.64**	**103**	*e*PN	**Pb**	**21 12 14.7**	**-0.3**
LADK	**Ladik-KONYA**	**1.64**	**103**	*e*Pn	**Pb**	**21 12 14.7**	**-0.3**
CAVI	**Cavuskoy**	**1.65**	**347**	*e*PN	**Pn**	**21 12 14.4**	**+0.5**
CAVI	**Cavuskoy**	**1.65**	**347**	*e*Pn	**Pn**	**21 12 14.4**	**+0.5**
DST	**Dursunbey**	**1.68**	**307**	*e*PN	**Pb**	**21 12 15.3**	**-0.4**
DST	**Dursunbey**	**1.68**	**307**	*e*Pn	**Pb**	**21 12 15.3**	**-0.4**
GPA	**Golpazari**	**1.69**	**359**	*e*PN	**Pn**	**21 12 15.1**	**+0.7**
GPA	**Golpazari**	**1.69**	**359**	*e*Pn	**Pn**	**21 12 15.1**	**+0.7**
ANTB	**Antalya**	**1.71**	**172**	*e*PN	**Pb**	**21 12 15.6**	**-0.5**
ANTB	**Antalya**	**1.71**	**172**	*e*Pn	**Pb**	**21 12 15.6**	**-0.5**
KONT	**Konya--Tatoy**	**1.72**	**112**	*e*PN	**Pb**	**21 12 15.9**	**-0.4**
KONT	**Konya--Tatoy**	**1.72**	**112**	*e*Pn	**Pb**	**21 12 15.9**	**-0.4**
DURS	**Dursunbey**	**1.77**	**305**	*i* P	**Pn**	**21 12 16.5**	**+1.0**
DURS				*i* S	**Sg**	**21 12 41.5**	**+0.3**
DURS	**Dursunbey**	**1.77**	**305**	*i* P	**Pn**	**21 12 16.5**	**+1.0**
DURS				*i* S	**Sg**	**21 12 41.5**	**+0.3**
GULT	**Gulveren**	**1.84**	**4**	*e*PN	**Pn**	**21 12 17.4**	**+0.8**
GULT	**Gulveren**	**1.84**	**4**	*e*Pn	**Pn**	**21 12 17.4**	**+0.8**
ELL	**Elmali**	**1.88**	**191**	*e*PN	**Pb**	**21 12 17.9**	**-1.2**
ELL	**Elmali**	**1.88**	**191**	*e*Pn	**Pb**	**21 12 17.9**	**-1.2**
ADVT	**Abdulvahap**	**1.90**	**346**	*e*PN	**Pb**	**21 12 19.0**	**-0.3**
ADVT	**Abdulvahap**	**1.90**	**346**	*e*Pn	**Pb**	**21 12 19.0**	**-0.3**
MDUB	**Mudurnu**	**1.99**	**19**	*e*PN	**Pb**	**21 12 20.3**	**-0.7**
MDUB	**Mudurnu**	**1.99**	**19**	*e*Pn	**Pb**	**21 12 20.3**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**2.04**	**252**	*e*PN	**Pb**	**21 12 21.0**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**2.04**	**252**	*e*Pn	**Pb**	**21 12 21.0**	**-0.8**
GEMT	**Gemlik**	**2.04**	**334**	*e*PN	**Pn**	**21 12 20.5**	**+1.3**
GEMT	**Gemlik**	**2.04**	**334**	*e*Pn	**Pn**	**21 12 20.5**	**+1.3**
MDNY	**Mudanya-Bursa**	**2.10**	**328**	*e*PN	**Pn**	**21 12 20.9**	**+0.9**
MDNY	**Mudanya-Bursa**	**2.10**	**328**	*e*Pn	**Pn**	**21 12 20.9**	**+0.9**
BALB	**Balikesir**	**2.18**	**299**	*e*PN	**Pb**	**21 12 22.8**	**-1.4**
BALB	**Balikesir**	**2.18**	**299**	*e*Pn	**Pb**	**21 12 22.8**	**-1.4**
FETY	**Fethiye**	**2.20**	**207**	*e*PN	**Pn**	**21 12 22.1**	**+0.7**
FETY	**Fethiye**	**2.20**	**207**	*e*Pn	**Pn**	**21 12 22.1**	**+0.7**
DALY	**Dalyan (Mu¨la**	**2.22**	**218**	*e*PN	**Pn**	**21 12 22.8**	**+1.1**
DALY	**Dalyan (Mu¨la**	**2.22**	**218**	*e*Pn	**Pn**	**21 12 22.8**	**+1.1**
KCTX	**Karacabey (Bur**	**2.27**	**318**	*e*PN	**Pn**	**21 12 23.7**	**+1.3**
KCTX	**Karacabey (Bur**	**2.27**	**318**	*e*Pn	**Pn**	**21 12 23.7**	**+1.3**
ARMT	**Armutlu**	**2.28**	**330**	*e*PN	**Pb**	**21 12 24.6**	**-1.3**
ARMT	**Armutlu**	**2.28**	**330**	*e*Pn	**Pb**	**21 12 24.6**	**-1.3**
HRT	**Hereke**	**2.28**	**347**	*e*PN	**Pb**	**21 12 24.8**	**-1.2**
HRT	**Hereke**	**2.28**	**347**	*e*Pn	**Pb**	**21 12 24.8**	**-1.2**
ANTO	**Ankara**	**2.29**	**55**	*e*PN	**Pn**	**21 12 23.9**	**+1.3**
ANTO	**Ankara**	**2.29**	**55**	*e*Pn	**Pn**	**21 12 24.0**	**+1.3**
EDC	**Edincik**	**2.60**	**313**	*e*PN	**Pn**	**21 12 28.2**	**+1.4**
EDC	**Edincik**	**2.60**	**313**	*e*Pn	**Pn**	**21 12 28.3**	**+1.4**
BLCB	**Balcova**	**2.60**	**266**	*e*PN	**Pn**	**21 12 28.7**	**+1.9**
BLCB	**Balcova**	**2.60**	**266**	*e*Pn	**Pn**	**21 12 28.7**	**+1.9**
ISK	**Istanbul-Kandi**	**2.66**	**339**	*e*PN	**Pn**	**21 12 29.3**	**+1.6**
ISK	**Istanbul-Kandi**	**2.66**	**339**	*e*Pn	**Pn**	**21 12 29.3**	**+1.6**
BGKT	**Bogazkoy**	**2.85**	**335**	*e*PN	**Pn**	**21 12 31.5**	**+1.2**
BGKT	**Bogazkoy**	**2.85**	**335**	*e*Pn	**Pn**	**21 12 31.5**	**+1.2**
MRMT	**Marmara Adasi**	**2.92**	**314**	*e*PN	**Pn**	**21 12 33.7**	**+2.3**
MRMT	**Marmara Adasi**	**2.92**	**314**	*e*Pn	**Pn**	**21 12 33.7**	**+2.3**
EZN	**Ezine**	**3.35**	**293**	*e*PN	**Pn**	**21 12 38.7**	**+1.5**
EZN	**Ezine**	**3.35**	**293**	*e*Pn	**Pn**	**21 12 38.7**	**+1.5**
ALN	**Alexandroupoli**	**4.03**	**306**	*e*PN	**Pn**	**21 12 48.2**	**+1.6**
ALN	**Alexandroupoli**	**4.03**	**306**	*e*Pn	**Pn**	**21 12 48.2**	**+1.6**
TIRR	**Tirgusor**	**6.04**	**347**	⇑*i*P	**Pn**	**21 13 14.1**	**+0.1**
CFR	**Carcaliu**	**6.78**	**347**	⇑*i*P	**Pn**	**21 13 26.3**	**+2.0**
MLR	**Muntele Rosu**	**7.63**	**336**	⇑*i*P	Pn	21 13 41.1	+5.0
VRI	**Vrincioaia**	**7.75**	**341**	⇓*i*P	**Pn**	**21 13 38.0**	**+0.4**
PLOR	**Plostina**	**7.75**	**341**	⇑*i*P	**Pn**	**21 13 40.7**	**+3.0**
ARR	**Arges**	**7.99**	**330**	⇑*i*P	**Pn**	**21 13 44.0**	**+3.0**
BURAR	**Bucovina Array**	**9.76**	**339**	⇓*i*P	**Pn**	**21 14 03.0**	**-2.3**

*CSEM **25** 21:12:23.7±0.1, 39°53N×23°43E, h15km, MD2.7, Error ellipse: s-maj=3.5km s-min=2.3km az=88.0*
*ATH **25** 21:12:24.2, 39°54N×23°42E, h12km±4km, MD2.7/10*
THE 25 21:12:24.0, 39°53N×23°45E, h10km±1km, ML1.7/4, Error ellipse: s-maj=1.8km s-min=0.6km az=177.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.26**	**230**	P	Pg	21 12 29.0	-0.4
XOR				S	Sg	21 12 33.3	+0.4
XOR	**Xorichti**	**0.26**	**230**	*e*PG	Pg	21 12 29.1	-0.3
XOR				*e*SG	Sg	21 12 33.2	+0.3
XOR	**Xorichti**	**0.26**	**230**	*e*Pg	Pg	21 12 29.1	-0.3
XOR				*e*Sg	Sg	21 12 33.2	+0.3
NEO	**Neokhori**	**0.29**	**218**	P	Pg	21 12 29.5	-0.3
NEO				S	Sg	21 12 34.6	+0.9
NEO	**Neokhori**	**0.29**	**218**	*e*PG	Pg	21 12 29.6	-0.2
NEO	**Neokhori**	**0.29**	**218**	*e*Pg	Pg	21 12 29.6	-0.2
PAIG	**Paliouri**	**0.43**	**24**	P	Pg	21 12 32.8	+0.3
PAIG				S	Sg	21 12 39.1	+0.9
PAIG	**Paliouri**	**0.43**	**24**	*e*PB	Pg	21 12 32.8	+0.3
PAIG	**Paliouri**	**0.43**	**24**	P	Pg	21 12 32.8	+0.3
PAIG				S	Sg	21 12 39.1	+0.9
AOS	**Alonnisos**	**0.49**	**137**	P	Pg	21 12 33.6	0.0
AOS				S	Sg	21 12 40.3	+0.2
AOS	**Alonnisos**	**0.49**	**137**	*e*PB	Pb	21 12 34.2	-0.6
AOS				*e*SB	Sb	21 12 41.4	-0.6
AOS	**Alonnisos**	**0.49**	**137**	P	Pg	21 12 33.6	0.0
AOS	**Alonnisos**	**0.49**	**137**	*e*Pb	Pb	21 12 34.2	-0.6
AOS				S	Sg	21 12 40.3	+0.2
AOS				*e*Sb	Sb	21 12 41.4	-0.6
PLG	**Polygyros**	**0.84**	**360**	P	Pg	21 12 39.5	-0.8
PLG				S	Sg	21 12 51.7	+0.4
PLG	**Polygyros**	**0.84**	**360**	*e*PB	Pg	21 12 39.6	-0.7
PLG	**Polygyros**	**0.84**	**360**	*e*Pb	Pg	21 12 39.6	-0.7
PLG				S	Sg	21 12 51.7	+0.4
OUR	**Ouranopolis**	**0.90**	**27**	*e*PG	Pg	21 12 41.1	-0.2
OUR	**Ouranopolis**	**0.90**	**27**	*e*Pg	Pg	21 12 41.1	-0.2
LIT	**Litokhoron**	**0.93**	**308**	P	Pg	21 12 41.2	-0.8
LIT	**Litokhoron**	**0.93**	**308**	*e*PB	Pg	21 12 41.8	-0.2
LIT	**Litokhoron**	**0.93**	**308**	P	Pg	21 12 41.2	-0.8
LIT	**Litokhoron**	**0.93**	**308**	*e*Pb	Pg	21 12 41.8	-0.2
LKR	**Lokris**	**0.95**	**202**	*e*PB	Pg	21 12 42.2	-0.1
LKR	**Lokris**	**0.95**	**202**	*e*Pb	Pg	21 12 42.2	-0.1
HORT	**Hortiatis**	**1.10**	**346**	*e*PG	Pb	21 12 44.3	-0.9
HORT	**Hortiatis**	**1.10**	**346**	*e*Pg	Pb	21 12 44.3	-0.9
SOH	**Sokhos**	**1.29**	**357**	P	Pn	21 12 46.5	-1.7
SOH				S	Sg	21 13 05.9	+0.2
SOH	**Sokhos**	**1.29**	**357**	*e*PB	Pn	21 12 48.3	+0.1
SOH	**Sokhos**	**1.29**	**357**	P	Pn	21 12 46.5	-1.7
SOH	**Sokhos**	**1.29**	**357**	*e*Pb	Pn	21 12 48.3	+0.1
SOH				S	Sg	21 13 05.9	+0.2

*SJA **25** 21:18:33.0±0.9, 33°17S×69°41W, h8km±5km, ML3.5*
*GUC **25** 21:18:35.3±0.4, 33°20S×69°53W, h20km±4km, ML2.6*
ISC 25 21:18:33.4±1.1, 33°22S±0°04×69°41W±0°04, h13km±10km, n16, σ0°75/31, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	**Agrelo**	**0.51**	**75**	*i* P	**Pg**	**21 18 43.4**	**-0.1**
AAGR				*i* S	**Sb**	**21 18 51.2**	**-0.3**
ARCO	**CERRO ARCO**	**0.55**	**47**	*i* P	**Pg**	**21 18 44.0**	**-0.3**
ARCO				*i* S	**Sg**	**21 18 52.2**	**+0.6**
ARCO				AML	AML	21 18 52.3	
	comp=Z,2μm,0.3s						
YECH	**El Yeso**	**0.72**	**231**	*e*P	**Pn**	**21 18 49.4**	**-0.2**
YECH				*e*S	**Sn**	**21 18 59.8**	**-0.8**
ASAL	**Salagasta**	**0.79**	**38**	*i* P	**Pg**	**21 18 48.2**	**-0.6**
ASAL				*i* S	**Sb**	**21 18 59.6**	**-0.1**
AUSP	**Uspallata**	**0.99**	**1**	*i* P	**Pb**	**21 18 52.1**	**-0.5**
AUSP				*i* P	**Pb**	**21 18 52.1**	**-0.5**
AUSP				*i* S	**Sb**	**21 19 05.2**	**-0.4**
PEL	**Peldehue**	**1.07**	**274**	*e*P	**Pb**	**21 18 53.8**	**-0.1**
PEL				*e*S	**Sg**	**21 19 07.8**	**-0.3**
PEL				AML	AML	21 19 17.5	
	comp=N,244nm,0.6s						
RCDM	**Rinconada Maip**	**1.20**	**257**	*e*P	**Pb**	**21 18 56.1**	**+0.1**
RCDM				*e*S	**Sg**	**21 19 11.9**	**-0.2**
RCDM				AML	AML	21 19 13.9	
	comp=N,475nm,0.0s						
CHCH	**Chadas Angostu**	**1.26**	**235**	*e*P	**Pg**	**21 18 57.6**	**-0.1**
CHCH				*e*S	**Sg**	**21 19 14.5**	**+0.5**
CACH	**El Canelo**	**1.34**	**228**	*e*P	**Pg**	**21 18 59.1**	**0.0**
CACH				*e*S	**Sg**	**21 19 17.4**	**+0.8**
RTLS	**Leoncito**	**1.42**	**4**	*i* P	**Pb**	**21 18 59.7**	**-0.2**
RTLS				*i* S	**Sg**	**21 19 19.8**	**+0.6**
LNV	**Longovilo**	**1.82**	**246**	*e*P	**Pb**	**21 19 06.1**	**-0.6**
LNV				*e*S	**Sb**	**21 19 29.6**	**+0.2**
SJA	**San Juan**	**1.83**	**23**	*i* P	**Pb**	**21 19 06.6**	**-0.2**
SJA				*i* S	**Sb**	**21 19 30.8**	**+1.0**
SJA				AML	AML	21 19 34.2	
	comp=Z,693nm,0.2s						
RTLL	**Cerro Villicun**	**2.04**	**23**	*i* P	**Pb**	**21 19 09.6**	**-0.8**
ACAN	**Cantantal**	**2.10**	**64**	*i* P	**Pb**	**21 19 10.1**	**-1.2**
ACAN				*i* S	**Sb**	**21 19 38.4**	**+1.1**
AMOG	**MOGNA**	**2.40**	**19**	*i* P	**Pb**	**21 19 15.1**	**-1.5**
AMOG				*i* S	**Sb**	**21 19 45.3**	**-0.8**
AVFE	**Valle Fertil**	**3.04**	**34**	*i* P	**Pn**	**21 19 23.3**	**+1.9**
AVFE				AML	AML	21 20 09.3	
	comp=Z,132nm,0.8s						

GUC 25 21:30:47.0±0.5, 35°84S×72°69W, h33km±4km, ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.30**	**195**	*e*P	Pb	21 30 54.4	-0.5
COCH				*e*S	Sn	21 30 59.2	-0.6
LNCH	**Linares**	**0.89**	**91**	*e*P	Pn	21 31 03.2	+0.1
LNCH				*e*S	Sb	21 31 15.2	-0.3
TALC	**Talca**	**0.97**	**63**	*e*P	Pn	21 31 04.4	+0.2
TALC				*e*S	Sb	21 31 17.4	-0.4
NICH	**Los Niches**	**1.46**	**56**	*e*P	Pb	21 31 12.3	-1.2
NICH				*e*S	Sb	21 31 31.2	-0.6
CLCH	**Cerro Calan**	**3.02**	**37**	*e*P	Pn	21 31 34.6	+2.1
CLCH				*e*S	Sn	21 32 10.7	+3.1
CLCH				AML	AML	21 32 27.4	
	comp=E,269nm,0.7s						
PEL	**Peldehue**	**3.16**	**32**	*e*P	Pn	21 31 36.7	+2.3
PEL				*e*S	Sn	21 32 14.0	+2.9
PEL				AML	AML	21 32 32.3	
	comp=E,262nm,0.6s						

IDC 25 21:32:13.2±3.4, 33°75S×178°99W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/15, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=78.3km s-min=37.4km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.50**	**214**	Pn	Pn	21 33 36.8	+0.4
	2.2nm,0.3s,baz=283,slow=3.5,SNR=11						
URZ				Sn	Sn	21 34 38.9	-1.4
	1.5nm,0.3s,baz=158,slow=18,SNR=6.8						
ASAR	**Alice Springs**	**42.21**	**271**	P	P	21 40 08.5	+0.4
	0.4nm,0.7s,baz=116,slow=7.4,SNR=3.6						
WRA	**Warramunga Arr**	**43.50**	**276**	P	P	21 40 18.1	-0.4
	0.5nm,0.6s,baz=115,slow=7.8,SNR=4.8						
FINES	**FINESS Array B**	**147.95**	**337**	PKPbc	PKPbc	21 51 58.7	-0.9
	1.3nm,0.9s,baz=38,slow=7.0,SNR=2.5						

BER 25 21:33:53.8±1.4, 81°17N×4°10W, h10km, MD1.6, ML2.4, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**3.57**	**121**	*e*P	Pn	21 34 46.5	-2.7
KBS				IAML		21 34 55.9	
	comp=Z,13nm,0.2s						
KBS				*e*S	Sn	21 35 26.8	-4.4
KBS	**Kingsbay**	**3.57**	**121**	*e*P	Pn	21 34 46.5	-2.6
KBS				*e*S	Pb	21 34 55.1	-1.8
KBS				IAML		21 34 55.9	
	comp=Z,12nm,0.3s						
SPA0	**Spitsbergen Ar**	**4.72**	**119**	*e*P	Pn	21 35 02.8	-2.2
SPA0				IAML		21 35 12.3	
	comp=Z,17nm,0.4s						
SPA0				*e*S	Sn	21 35 54.1	-5.5
SPA0	**Spitsbergen Ar**	**4.72**	**119**	*e*P	Pn	21 35 02.8	-2.1
SPA0				IAML		21 35 12.3	
	comp=Z,17nm,0.4s						
DAG	**Danmarks Havn**	**5.21**	**220**	*i* P	Pn	21 35 10.7	-0.8
DAG				*i* S	Sn	21 36 10.2	-1.3
HSPB	**Hornsund (broa**	**5.56**	**128**	*e*P	Pn	21 35 15.3	-1.1
HSPB				IAML		21 35 24.0	
	comp=Z,14nm,0.3s						
HSPB	**Hornsund (broa**	**5.56**	**128**	*e*P	Pn	21 35 15.4	-1.0
HSPB				*e*Pg	Pb	21 35 22.3	-8.5
HSPB				IAML		21 35 24.0	
	comp=Z,14nm,0.2s						
HOPEN	**Hopen**	**7.22**	**115**	*e*P	Pn	21 35 36.5	-2.7
HOPEN				*e*S	Sn	21 36 52.7	-8.3
HOPEN	**Hopen**	**7.22**	**115**	*e*P	Pn	21 35 36.4	-2.7

*IDC **25** 21:47:17.6±1.5, 23°79N×109°07W, h0km, mb4.0/5, mb1 4.3/11, mb1mx4.0/38, mbtmp4.0/11, ML3.6/6, MS3.7/20, Ms1 3.7/20, ms1mx3.6/45, Error ellipse: s-maj=28.0km s-min=17.7km az=13.0*
*ISCJB **25** 21:47:18.9±0.5, 23°78N±0°05×108°95W±0°03, h22km, mb4.5/21, MS3.7/15, Error ellipse: s-maj=7.0km s-min=3.5km az=8.7*
*NEIC **25** 21:47:20.7±2.7, 23°88N×108°91W, h17km±6km, mb4.4/52, Error ellipse: s-maj=19.8km s-min=14.2km az=195.0*
ISC 25 21:47:21.1±0.8, 23°90N±0°09×108°90W±0°06, h22km, n278, σ1°31/253, mb4.5/21, MS3.8/15, 70C-87D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLBS	**Sierra La Lagu**	**0.98**	**258**	*e*Pg	**Pb**	**21 47 37.0**	**-2.5**
LPIG	**La Paz**	**1.31**	**279**	Pn	Pn	21 47 39.6	-4.4
	333nm,0.3s,baz=61,slow=2.6,SNR=108						
LPIG				Sn	**Sn**	**21 47 59.9**	**-1.0**
	439nm,0.3s,baz=180,slow=20,SNR=12						
MAIG	**Mazatlaan**	**2.38**	**107**	*e*Pn	**Pn**	**21 47 59.3**	**+0.5**
LTX	**Lajitas**	**7.16**	**40**	*e*Pn	**P

baz=12,SNR=5.7
V25A **Rancho No Teng** 12.46 16 ⇓P Pn 21 50 20.2 +2.8
baz=12
Z32A **Haskell** 12.49 39 ⇓P Pn 21 50 19.0 +1.3
baz=12
U22A **Llaves** 12.56 8 ⇓P Pn 21 50 22.3 +3.5
baz=13
AMTX **Amarillo** 12.62 28 *e*Pn Pn 21 50 18.7 -0.8
U15A **North Rim** 12.83 348 ⇑P Pn 21 50 24.6 +2.1
baz=13
Y32A **R-V Farms, Ver** 13.03 37 ⇓P Pn 21 50 27.9 +2.9
baz=13
U25A **Circle Dot Ran** 13.05 16 ⇑P Pn 21 50 27.7 +2.3
baz=13,SNR=13
X31A **McDonald Ranch** 13.22 34 ⇓P Pn 21 50 30.5 +2.9
baz=13
U26A **Atchley Ranch,** 13.22 18 ⇑P Pn 21 50 29.6 +1.8
baz=13,SNR=5.7
MVCO **Mesa Verde** 13.27 1 ⇓P Pn 21 50 30.5 +2.0
baz=13
MVCO **Mesa Verde** 13.27 1 *e*Pn Pn 21 50 28.5 0.0
T24B **San Luis** 13.46 12 ⇑P Pn 21 50 34.4 +3.2
baz=14
KNB **Kanab** 13.50 346 *e*Pn Pn 21 50 31.4 -0.2
U27A **Thompson Grove** 13.54 21 ⇓P Pn 21 50 34.5 +2.5
baz=14
SHOC **Shoshone, Teco** 13.56 334 ⇑P Pn 21 50 33.4 +1.2
baz=14
W31A **Holland Ranch,** 13.68 33 ⇓P Pn 21 50 35.1 +1.2
baz=14
SHPR **Sheep Range** 13.68 338 *e*Pn Pn 21 50 34.5 +0.6
U28A **Mallet** 13.71 23 ⇓P Pn 21 50 36.2 +1.9
baz=14
T25A **Trinidad** 13.75 15 ⇓P Pn 21 50 37.9 +2.9
baz=14
T25A **Trinidad** 13.75 15 *e*Pn Pn 21 50 33.7 -1.3
S22A **4UR Ranch, Cre** 13.92 7 ⇑P Pn 21 50 39.9 +2.6
baz=14
S22A **4UR Ranch, Cre** 13.92 7 *e*Pn Pn 21 50 36.3 -1.1
WMOK **Wichita Mounta** 13.94 37 *e*Pn Pn 21 50 37.5 +0.1
T26A **Comanche Natio** 13.99 18 ⇑P Pn 21 50 41.9 +3.5
baz=14,SNR=5.3
S24A **Houchin Ranch,** 14.06 12 ⇓P Pn 21 50 41.8 +2.6
baz=14,SNR=5.2
CCUT **Cedar City** 14.14 345 *e*Pn Pn 21 50 42.8 +2.5
PV01 **Paradox Valley** 14.19 1 *e*Pn Pn 21 50 42.9 +1.8
MPMC **Manual Prospec** 14.22 330 ⇓P Pn 21 50 40.3 -1.0
baz=14,SNR=6.4
S25A **Robets Cordova** 14.24 15 ⇓P Pn 21 50 44.6 +2.9
baz=14
FURC **Furnace Creek,** 14.29 333 ⇓P Pn 21 50 43.1 +0.9
baz=14
ARUT **Antelope Range** 14.38 345 *e*Pn Pn 21 50 46.6 +3.0
T28A **Walsh** 14.41 22 ⇓P Pn 21 50 46.1 +2.2
baz=14
DAC **Darwin (Calif)** 14.44 331 *e*Pn Pn 21 50 44.7 +0.3
S26A **Kim** 14.45 18 ⇑P Pn 21 50 46.4 +2.0
baz=14,SNR=7.0
TPNV **Topopah Spring** 14.46 336 *e*Pn Pn 21 50 45.9 +1.2
R23A **Moffat** 14.49 10 ⇓P Pn 21 50 47.4 +2.3
baz=15,SNR=9.1
R25A **Fountain Ranch** 14.74 14 ⇓P Pn 21 50 50.5 +2.1
baz=15
CMIG **Matias Romero** 14.77 115 LR LR 21 56 33.0
comp=Z,691nm,20.5s,baz=274,slow=37
MVU **Marysvale** 14.83 350 *e*Pn Pn 21 50 49.6 -0.2
S28A **Manter** 14.91 22 ⇑P Pn 21 50 53.0 +2.3
baz=15,SNR=5.5
R26A **Arlington** 15.09 17 ⇓P Pn 21 50 54.7 +1.6
baz=15,SNR=5.4
SRU **San Rafael Swe** 15.23 355 *e*Pn Pn 21 50 55.6 +0.6
10nm,1.1s
R27A **Eads** 15.26 19 ⇓P Pn 21 50 57.7 +2.4
baz=15
SMCO **Snowmass** 15.32 6 *e*Pn Pn 21 50 56.2 -0.3
46nm,1.4s
Q24A **Divide** 15.35 11 ⇓P P 21 50 59.9 -1.4
baz=15
Q24A **Divide** 15.35 11 *e*Pn Pn 21 50 58.4 +1.6
13nm,0.9s
TMUT **Trail Mountain** 15.48 353 *e*Pn Pn 21 50 58.2 -0.2
17nm,1.1s
Q25A **Bedland, Calha** 15.48 14 ⇑P P 21 51 01.2 -1.4
baz=16
R11A **Troy Canyon, C** 15.49 340 ⇓P Pn 21 50 58.6 +0.2
baz=16,SNR=8.8
R11A **Troy Canyon, C** 15.49 340 *e*Pn Pn 21 50 58.7 +0.2
13nm,1.3s
U33A **Lingo Farm, Me** 15.57 34 ⇑P Pn 21 51 01.6 +2.2
baz=16
R28A **Tribune** 15.62 21 ⇑P P 21 51 02.9 -1.2
baz=16
P23A **Jefferson** 15.65 9 ⇑P P 21 51 02.9 -1.7
baz=16,SNR=7.5
Q26A **Hugo** 15.66 16 ⇑P P 21 51 03.9 -0.7
baz=16
P22A **Eagle** 15.76 6 ⇑P P 21 51 05.1 -0.6
baz=16
TPH **Tonopah** 15.82 335 *e*Pn Pn 21 51 03.3 +0.5
24nm,1.4s
R29A **Marienthal** 15.92 23 ⇓P Pn 21 51 03.5 -0.3
baz=16
P24A **Kohler Place,** 15.93 11 ⇑P P 21 51 06.6 -1.1
baz=16
ISCO **Idaho Springs** 16.10 9 ⇓P P 21 51 08.5 -1.1
baz=16,SNR=14
ISCO **Idaho Springs** 16.10 9 *e*Pn Pn 21 51 08.1 +1.8
21nm,1.2s
O20A **White River Ci** 16.20 2 ⇓P P 21 51 09.4 -1.2
baz=16,SNR=6.4
O20A **White River Ci** 16.20 2 *e*Pn Pn 21 51 08.2 +0.6
56nm,1.4s
NLU **North Lily Min** 16.23 351 *e*Pn Pn 21 51 08.4 +0.4
18nm,1.2s
O22A **Kremmling** 16.34 6 ⇑P Pn 21 51 11.1 +1.6
baz=16,SNR=19
O23A **Lake Granby, G** 16.46 8 ⇑P P 21 51 13.1 -0.5
baz=16
NV01 **Mina Array Sit** 16.56 333 *e*Pn P 21 51 13.6 -1.1
NVAR **Mina Array Bea** 16.56 333 Pn P 21 51 16.3 +1.7
0.1nm,0.3s,baz=155,slow=11,SNR=14
DUG **Dugway, Tooele** 16.58 349 ⇑P Pn 21 51 13.2 +0.8
baz=17
DUG **Dugway, Tooele** 16.58 349 *e*Pn Pn 21 51 13.2 +0.8
24nm,1.3s
DAU **Daniels Canyon** 16.59 354 *e*Pn Pn 21 51 13.0 +0.4
O25A **Wiggins** 16.66 13 ⇓P P 21 51 15.8 +0.2
baz=17
P28A **Saint Francis** 16.76 19 ⇓P P 21 51 16.6 -0.1
baz=17
N20A **Spence Gulch,** 16.90 2 ⇑P Pn 21 51 17.5 +1.0
baz=17,SNR=8.2
O26A **Horse Wrangler** 16.96 15 ⇓P P 21 51 18.7 -0.3
baz=17
N22A **Wattenberg Ran** 16.98 6 ⇓P P 21 51 18.9 -0.4
baz=17,SNR=7.1
MIAR **Mount Ida** 17.05 48 *e*Pn Pn 21 51 19.1 +1.0
16nm,0.9s
WAKR **Walker** 17.11 331 *e*Pn Pn 21 51 19.3 +0.2
N23A **Red Feather La** 17.13 8 *e*Pn P 21 51 20.9 0.0
16nm,0.6s
BGU **Big Grassy Mou** 17.33 349 *e*Pn Pn 21 51 22.1 +0.3
14nm,1.4s
ELK **Elko** 17.62 344 P P 21 51 26.2 -0.2
0.0nm,0.3s,baz=181,slow=8.0,SNR=11
ELK **Elko** 17.62 344 *e*Pn Pn 21 51 25.6 +0.1
13nm,1.1s
HWUT **Hardware Ranch** 17.80 353 *e*Pn P 21 51 28.3 0.0
32nm,1.1s
HVU **Hansel Valley** 18.12 351 *e*Pn P 21 51 32.5 +0.6
28nm,1.0s
L22A **Ellis Ranch, M** 18.20 6 ⇓P P 21 51 34.4 +1.7
baz=18,SNR=5.7
K21A **Alcova** 18.73 4 ⇓P Pn 21 51 39.5 +0.4
baz=19,SNR=5.2
K22A **Casper** 18.81 5 ⇑P Pn 21 51 40.7 +0.8
baz=19,SNR=8.9
K22A **Casper** 18.81 5 *e*P Pn 21 51 40.9 +1.0
83nm,1.1s
BW06 **Boulder Array** 18.83 358 *e*P P 21 51 39.5 -0.2
25nm,1.1s
PD31 **Pinedale Array** 18.83 358 *e*P P 21 51 39.6 0.0
PDAR **Pinedale Array** 18.83 358 P P 21 51 39.6 0.0
0.2nm,0.3s,baz=169,slow=11,SNR=60
PDAR LR LR 21 59 20.9
comp=Z,226nm,18.1s,baz=198,slow=38
AHID **Auburn Hatcher** 18.91 355 *e*P Pn 21 51 41.5 +0.3
42nm,1.5s
K23A **Bowen Ranch, D** 19.00 7 ⇓P Pn 21 51 43.0 +0.7
baz=19
J19A **Crowheart** 19.32 360 ⇓P Pn 21 51 46.3 +0.2
baz=19,SNR=31
J20A **Shoshoni** 19.42 2 ⇓P P 21 51 46.9 +0.9
baz=20,SNR=7.6
J21A **Lysite** 19.43 3 ⇑P P 21 51 46.5 +0.2
baz=21,SNR=7.9
TEIG **Tepich** 19.45 97 LR LR 21 59 48.5
comp=Z,130nm,18.7s,baz=62,slow=38
REDW **Red Top Meadow** 19.48 356 *e*P P 21 51 47.3 +0.5
17nm,1.3s
APG **El Apazote** 19.48 114 P P 21 51 47.6 +0.6
0.0nm,0.3s,baz=212,slow=8.6,SNR=3.7
J22A **Midwest** 19.57 5 ⇓P Pn 21 51 49.0 -0.1
baz=20,SNR=19
SNOW **Snow King Moun** 19.57 356 *e*P P 21 51 48.6 +0.7
16nm,1.0s
TPAW **Teton Pass** 19.61 356 *e*P P 21 51 48.9 +0.6
18nm,1.1s
LOHW **Long Hollow** 19.71 356 *e*P P 21 51 49.5 +0.2
9.3nm,0.9s
FXWY **Fox Creek** 19.77 355 *e*P P 21 51 50.4 +0.4
16nm,1.4s
I21A **Big Trails, Te** 19.91 3 ⇑P P 21 51 52.5 +1.1
baz=20,SNR=6.7
I20A **Worland** 20.01 2 ⇑P Pn 21 51 53.8 -0.5
baz=20,SNR=8.5
I17A **Pilgrim Ck.** 20.02 356 ⇑P Pn 21 51 53.9 -0.7
baz=20,SNR=19
IMW **Indian Meadow** 20.02 356 *e*P P 21 51 53.5 +0.8
27nm,1.5s
I22A **9 Mile Ranch,** 20.04 5 ⇓P Pn 21 51 54.5 -0.2
baz=20,SNR=8.8
I19A **Meeteetse** 20.09 360 ⇓P Pn 21 51 55.1 -0.3
baz=20,SNR=8.6
HLID **Hailey** 20.13 348 ⇑P P 21 51 55.0 +1.1
baz=20,SNR=8.9
HLID **Hailey** 20.13 348 *e*P P 21 51 55.0 +1.1
11nm,1.1s
WVOR **Wild Horse Val** 20.18 339 *e*P P 21 51 54.2 -0.1
20nm,0.8s
FLWY **Flagg Ranch** 20.19 356 *e*P P 21 51 55.0 +0.5
39nm,1.3s
MFID **Camas Ranch** 20.29 345 *e*P P 21 51 55.1 -0.3
26nm,1.5s
H17A **Grant Village** 20.49 357 *e*P P 21 51 58.5 +0.7
18nm,1.1s
H20A **Greybull** 20.55 2 ⇑P Pn 21 52 00.0 -0.6
baz=21,SNR=14
YFT **Old Faithful** 20.56 356 *e*P P 21 51 59.9 +1.3
46nm,1.5s
LKWY **Lake** 20.65 357 *e*P Pn 21 52 01.5 -0.5
32nm,1.0s
H19A **Powell** 20.72 360 ⇑P P 21 52 01.3 +1.1
baz=21
H18A **Shoshone NF, C** 20.74 358 ⇓P P 21 52 01.1 +0.7
baz=21,SNR=11
YNR **Norris Junctio** 20.82 356 *e*P P 21 52 00.8 -0.6
20nm,1.2s
I27A **Quinn** 20.89 14 ⇓P Pn 21 52 04.0 -0.5
baz=21
QLMT **Earthquake Lak** 20.98 355 *e*P P 21 52 02.8 -0.3
H25A **Fruitdale** 21.12 11 ⇓P P 21 52 04.8 +0.4
baz=21
MCMT **McKenzie Canyo** 21.13 352 *e*P P 21 52 06.2 +1.5
RLMT **Red Lodge** 21.18 359 *e*P P 21 52 04.5 -0.7
33nm,1.4s
H26A **Fairpoint** 21.27 12 ⇑P P 21 52 06.5 +0.5
baz=21
G20A **Bridger** 21.28 1 ⇑P P 21 52 06.7 +0.5
baz=21,SNR=7.7
G21A **Lodge Grass** 21.32 3 ⇓P P 21 52 07.3 +0.7
baz=21,SNR=5.5
G22A **Birney** 21.38 5 ⇓P P 21 52 07.5 +0.3
baz=21,SNR=6.0
H27A **Howes** 21.42 13 ⇑P P 21 52 08.4 +0.8
baz=22
G23A **Biddle** 21.44 7 ⇑P P 21 52 08.7 +0.8
baz=22
DLMT **Dillon** 21.62 353 *e*P P 21 52 08.7 -1.3
9.7nm,1.0s
GCMT **Greycliff** 21.85 359 *e*P P 21 52 12.4 +0.1
F20A **Billings** 21.86 1 ⇓P P 21 52 12.9 +0.5
baz=22,SNR=16
WVT **Waverly** 21.89 51 *e*P P 21 52 13.3 +0.7
9.0nm,1.0s
F19A **Roth Farm, Mol** 21.91 360 ⇑P P 21 52 13.2 +0.3
baz=22,SNR=11
F23A **Volborg** 21.96 7 ⇑P P 21 52 14.1 +0.8
baz=22,SNR=7.4
BMO **Blue Mountains** 22.00 344 *e*P P 21 52 13.3 -0.6
50nm,2.5s
LRM **Limekiln Ridge** 22.06 353 *e*P P 21 52 15.0 +0.3
G27A **Dupree** 22.16 13 ⇑P P 21 52 16.4 +0.8
baz=22
F24A **Ekalaka** 22.19 8 ⇓P P 21 52 16.7 +0.7
baz=22
E19A **Rath Farm, Rou** 22.51 0 ⇑P P 21 52 19.7 +0.3
baz=23,SNR=8.8
E20A **Meyer Farm, Mu** 22.56 1 ⇑P P 21 52 20.9 +1.0
baz=23,SNR=7.4
E22A **Miles City** 22.62 5 ⇑P P 21 52 21.1 +0.7
baz=23,SNR=6.7
G30A **Faulkton** 22.62 18 ⇓P P 21 52 21.3 +0.9
baz=23
F27A **Lemmon** 22.62 13 ⇓P P 21 52 20.5 0.0
baz=23
E21A **Keefer Ranch,** 22.64 3 ⇓P P 21 52 21.0 +0.3
baz=23
I05D **Terrebonne, OR** 22.79 336 ⇑P P 21 52 21.4 -1.0
baz=23
LAO **LASA Array** 22.84 5 *e*P P 21 52 22.6 -0.2
69nm,1.4s
SWET **Sewanee** 22.88 55 *e*P P 21 52 25.1 +1.7
HRY **Holter Researc** 22.89 355 *e*P P 21 52 23.9 +0.6
F10A **Beach Ranch, E** 23.03 345 *e*P P 21 52 24.1 -0.7
12nm,1.3s
D20A **Manuel Ranch,** 23.15 1 ⇓P P 21 52 26.7 +0.7
baz=23,SNR=9.2
D21A **La Casta Ranch** 23.17 3 ⇓P P 21 52 27.8 +1.6
baz=23,SNR=6.8
D19A **Cripps Ranch,** 23.22 0 ⇓P P 21 52 27.8 +1.1
baz=23,SNR=9.2
CHMT **Chamberlain Mo** 23.23 352 *e*P P 21 52 27.2 +0.3
MSO **Missoula** 23.24 351 ⇓P P 21 52 27.3 +0.4
baz=23
MSO **Missoula** 23.24 351 *e*P P 21 52 26.5 -0.4
D22A **Cohagen** 23.30 5 ⇑P P 21 52 28.7 +1.2
baz=23,SNR=9.2
SLMT **Seeley Lake** 23.58 352 *e*P P 21 52 30.6 +0.2
TIGA **Tifton** 23.60 66 *e*P P 21 52 31.6 +1.0
107nm,1.4s
D26A **Manning** 23.66 11 ⇑P P 21 52 31.5 +0.6
baz=24
C20A **Veseth Ranch,** 23.78 1 ⇓P P 21 52 32.9 +0.8
baz=24,SNR=13
C19A **Slack Wire Ran** 23.79 360 ⇓P P 21 52 32.8 +0.6
baz=24,SNR=7.4
D27A **Center** 23.90 12 ⇑P P 21 52 34.2 +1.0
baz=24
C21A **Desert Coulee** 23.92 3 ⇑P P 21 52 33.8 +0.3
baz=24,SNR=5.0
C23A **Lambert** 24.04 6 ⇓P P 21 52 36.2 +1.6
baz=24
CPCT **Cooper Cave** 24.04 56 *e*P P 21 52 36.9 +2.3
EGMT **Eagleton** 24.09 359 ⇑P P 21 52 34.6 -0.4
baz=24
EGMT **Eagleton** 24.09 359 *e*P P 21 52 35.1 0.0
62nm,1.6s
B22A **Reddig Ranch S** 24.46 5 ⇓P P 21 52 39.1 +0.6
baz=24,SNR=7.7
C26A **Wahner Farm, P** 24.48 11 ⇓P P 21 52 39.4 +0.8
baz=25
C27A **Sayler Ranch,** 24.49 12 ⇓P P 21 52 39.6 +0.9
baz=25
B19A **Brinkman Farms** 24.51 360 ⇓P P 21 52 40.9 +2.0
baz=25
D30A **Buchanan** 24.54 17 ⇑P P 21 52 39.4 +0.3
baz=25
TKL **Tuckaleechee C** 24.68 56 P P 21 52 41.9 +1.3
3.4nm,0.7s,baz=222,slow=7.0,SNR=4.0
TKL LR LR 22 03 12.9
comp=Z,399nm,20.4s,baz=257,slow=38
TKL **Tuckaleechee C** 24.68 56 *e*P P 21 52 41.0 +0.4
B23A **Brockton** 24.71 6 ⇑P P 21 52 41.5 +0.8
baz=25,SNR=9.9
B25A **Knox Farm, Ray** 24.75 9 ⇑P P 21 52 42.3 +1.2
baz=25
A20A **Cobblestone Ra** 24.95 2 ⇓P P 21 52 43.6 +0.8
baz=25,SNR=12
A19A **Klindworth Far** 24.98 0 ⇓P P 21 52 43.7 +0.5
baz=25,SNR=7.8
B26A **Jensen Ranch,** 24.99 11 ⇓P P 21 52 44.4 +1.1
baz=25
LON **Longmire** 25.05 339 *e*P P 21 52 45.0 +1.2
10nm,1.1s
A21A **Bergtoll Ranch** 25.09 3 ⇑P P 21 52 44.7 +0.5
baz=25
A22A **Carney Farms,** 25.16 5 ⇓P P 21 52 45.4 +0.7
baz=25,SNR=9.5
C30A **Mose, Pekin** 25.16 17 ⇑P P 21 52 46.0 +1.2
baz=25
NEW **Newport** 25.18 347 P P 21 52 45.2 +0.2
2.4nm,0.7s,baz=150,slow=9.3,SNR=4.4
NEW **Newport** 25.18 347 ⇑P P 21 52 45.1 +0.2
baz=25
NEW **Newport** 25.18 347 *e*P P 21 52 44.4 -0.6
46nm,2.1s
A24A **Westby** 25.27 8 ⇑P P 21 52 47.3 +1.5
baz=25
A25A **Svangstu Ranch** 25.41 9 ⇓P P 21 52 48.2 +1.3
baz=26
B28A **Dugan Ranch, T** 25.42 13 ⇓P P 21 52 48.0 +0.9
baz=26
WALA **Waterton Lakes** 25.42 352 *e*P P 21 52 47.4 +0.2
27nm,1.4s
B08A **Colville Reser** 25.78 344 *e*P P 21 52 49.9 -0.4
B30A **Myrvik Farm, E** 25.89 16 ⇑P P 21 52 52.2 +0.8
baz=26
A29A **Manning Farm,** 26.11 15 ⇑P P 21 52 54.0 +0.6
baz=26
A30A **Hoffart Farm,** 26.35 16 ⇑P P 21 52 56.4 +0.9
baz=26
AGMN **Agassiz Nation** 26.45 20 ⇓P P 21 52 57.4 +1.0
baz=26
AGMN **Agassiz Nation** 26.45 20 *e*P P 21 52 55.9 -0.5
62nm,2.3s
JTS **JuntasAbangare** 26.53 117 LR LR 22 04 21.3
comp=Z,164nm,19.3s,baz=315,slow=38
EYMN **Ely** 27.70 26 *e*P P 21 53 07.2 -0.4
64nm,2.0s
ULM **Lac du Bonnet** 28.20 18 LR LR 22 04 55.4
comp=Z,83nm,21.8s,baz=274,slow=37
BBB **Bella Bella** 31.84 337 LR LR 22 08 11.0
comp=Z,85nm,19.9s,baz=164,slow=39
FCC **Fort Churchill** 36.39 13 *e*P P 21 54 22.7 -0.9
10nm,1.0s
DLBC **Dease Lake** 37.66 342 P P 21 54 34.9 +0.4
2.4nm,0.8s,baz=168,slow=12,SNR=5.7
DLBC **Dease Lake** 37.66 342 *e*P P 21 54 34.2 -0.3
ROSC **El Rosal** 38.29 114 LR LR 22 12 02.9
comp=Z,76nm,19.6s,baz=360,slow=39
YKA **Yellowknife Ar** 38.77 356 P P 21 54 43.0 -0.7
1.8nm,1.0s,baz=169,slow=7.8,SNR=16
YKB5 **Yellowknife Ar** 38.77 356 *e*P P 21 54 42.8 -1.0
SDV **Santo Domingo** 39.47 106 *e*P P 21 54 50.2 -0.2
10nm,0.9s
SCHQ **Schefferville** 43.80 34 LR LR 22 14 20.2
comp=Z,268nm,19.4s,baz=316,slow=37
IL1 **Eielson Array** 47.69 339 *e*P P 21 55 55.4 -0.4
ILAR **Eielson Array** 47.69 339 P P 21 55 56.2 +0.4
1.4nm,1.0s,baz=152,slow=6.8,SNR=8.1
ILAR LR LR 22 16 42.5
comp=Z,70nm,19.3s,baz=130,slow=37
ILB **Eielson Array** 47.69 339 *e*P P 21 55 56.2 +0.4
TRF **Thorofare Moun** 48.05 336 *e*P P 21 55 59.1 +0.3
11nm,0.6s
KTH **Kantishna Hill** 48.34 336 *e*P P 21 56 01.4 +0.5
9.1nm,1.0s
RES **Resolute Bay** 51.36 5 LR LR 22 18 14.7
comp=Z,105nm,18.9s,baz=164,slow=36
PPT2 **Papeete2** 57.24 228 *e*LR LR 22 13 50.7
225nm,26.5s
FX1 **Attu Island--F** 64.13 319 LR LR 22 19 00.9
comp=Z,71nm,21.2s,baz=208,slow=30
PETK **Petropavlovsk-** 73.22 321 LR LR 22 25 01.8
comp=Z,20nm,21.8s,baz=77,slow=31
RCBR **Riachuelo** 76.96 102 LR LR 22 33 46.4
comp=Z,62nm,18.9s,baz=276,slow=36
ARCES **ARCESS Array B** 81.27 15 LR LR 22 36 02.9
comp=Z,46nm,21.4s,baz=316,slow=36
ESDC **Sonseca Array** 85.75 48 LR LR 22 36 46.1
comp=Z,60nm,20.5s,baz=305,slow=34
KEST **Kesra** 96.79 46 LR LR 22 45 14.9
comp=Z,23nm,18.1s,baz=250,slow=36
AKASG **Malin Array Be** 97.03 25 LR LR 22 46 28.7
comp=Z,42nm,18.5s,baz=280,slow=36
WRA **Warramunga Arr** 121.62 261 PKP PKPdf 22 06 14.6 +0.8
0.3nm,0.6s,baz=68,slow=2.2,SNR=5.5

GUC 25 21:51:09.3±0.4,36°.05S×73°.18W,h11km±2km,ML4.2,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.33**	**105**	*e*P	Pg	21 51 15.7	-0.2
COCH				*e*S	Sg	21 51 20.1	-0.3
LNCH	**Linares**	**1.30**	**82**	*e*P	Pn	21 51 31.2	-2.2
LNCH				*e*S	Sb	21 51 48.3	-2.1
LNCH				AML	AML	21 51 53.9	
comp=E,4μm,0.6s							
TALC	**Talca**	**1.42**	**63**	*e*P	Pn	21 51 33.3	-1.7
TALC				*e*S	Sn	21 51 51.5	-2.1
TALC				AML	AML	21 51 55.1	
comp=E,9μm,0.1s							
NICH	**Los Niches**	**1.90**	**57**	*e*P	Pn	21 51 40.9	-0.8
NICH				*e*S	Sn	21 52 05.1	-0.6
NICH				AML	AML	21 52 12.9	
comp=N,4μm,0.3s							
PEL	**Peldehue**	**3.55**	**36**	*e*P	Pn	21 52 04.9	+0.4
PEL				*e*S	Sn	21 52 47.3	+0.7

*JMA **25** 21:57:23.5±0.2,24°.67N×121°.97E,h68km±3km,M2.6*
*ISCJB **25** 21:57:24.5±0.4,24°.68N±0°.03×122°.02E±0°.02,h60km±5km,*
Error ellipse: s-maj=4.7km s-min=2.8km az=161.5
*TAP **25** 21:57:24.8,24°.67N×121°.96E,h58km,ML3.6,C*
ISC 25 21:57:24.9±1.3,24°.68N±0°.04×122°.02E±0°.03,h58km±7km,
n52,σ0=81/100,2C-6D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.17**	**246**	⇓*i*P	Pn	21 57 34.0	0.0
TWC				S	Sn	21 57 40.4	-0.2
baz=236							
ILA	**Ilan**	**0.26**	**290**	*e*P	Pn	21 57 35.0	+0.5
ILA				*e*S	Sn	21 57 41.9	+0.4
baz=307							
ENA	**Nanau**	**0.35**	**225**	⇓*i*P	Pn	21 57 35.5	+0.2
ENA				S	Sn	21 57 43.3	+0.5
baz=218							
ENTT	**Nioudou**	**0.41**	**265**	⇓*i*P	Pn	21 57 36.2	+0.3
ENTT				*e*S	Sn	21 57 44.3	+0.5
baz=270							
NWF	**Wu-fen Shan**	**0.45**	**332**	⇑*i*P	Pn	21 57 36.3	0.0
NWF				*i* S	Sn	21 57 44.1	-0.4
baz=339							
TWA	**Mucha**	**0.49**	**308**	⇑*i*P	Pn	21 57 36.6	-0.1
TWA				*i* S	Sn	21 57 44.8	-0.5
baz=321							
TAP1	**Taipei**	**0.57**	**309**	P	Pn	21 57 37.2	-0.3
TAP1				S	Sn	21 57 46.5	-0.2
baz=314							
TAP	**Taipei**	**0.59**	**308**	P	Pn	21 57 37.3	-0.4
TAP				*e*S	Sn	21 57 46.5	-0.6
baz=314							
NSK	**Sanguang**	**0.60**	**270**	⇓*i*P	Pn	21 57 37.9	0.0
NSK				S	Sn	21 57 47.2	-0.2
baz=271							
NNS	**Nan Shan**	**0.63**	**248**	⇓*i*P	Pn	21 57 38.4	+0.1
NNS				S	Sn	21 57 48.1	-0.1
baz=241							
TWS1	**Kuangyinshan**	**0.69**	**308**	*i* P	Pn	21 57 39.0	+0.1

	baz=318						
TWS1			S		Sn	21 57 49.3	+0.2
	baz=318						
TWY	**Chenhua**	**0.70 328**	*e*P		**Pn**	**21 57 38.7**	**-0.4**
	baz=333						
TWY			*e*S		**Sn**	**21 57 49.5**	**0.0**
	baz=333						
TWD	**Chiawan**	**0.71 213**	*e*P		**Pn**	**21 57 38.9**	**-0.3**
	baz=220						
TWD			*e*S		**Sn**	**21 57 49.3**	**-0.2**
	baz=220						
HWA	**Hwalien**	**0.79 208**	*e*P		**Pn**	**21 57 40.4**	**+0.2**
	baz=195						
NCU	**National Centr**	**0.81 291**	P		**Pn**	**21 57 40.4**	**0.0**
	baz=295						
NCU			*e*S		**Sn**	**21 57 52.1**	**+0.3**
	baz=295						
WHF	**Hehuan Shan**	**0.86 232**	P		**Pn**	**21 57 41.5**	**-0.1**
	baz=224						
WHF			S		**Sn**	**21 57 53.4**	**-0.3**
	baz=224						
TWT	**Tachien**	**0.87 241**	⇓*i*P		**Pn**	**21 57 42.0**	**+0.6**
	baz=231						
TWT			S		**Sn**	**21 57 54.0**	**+0.4**
	baz=231						
JYNG	**Yonagunijimaku**	**0.88 105**	P		**Pn**	**21 57 41.2**	**-0.1**
JYNG			S		**Sn**	**21 57 53.6**	**+0.3**
NSTT	**Nanjuang**	**0.92 267**	*e*P		**Pn**	**21 57 41.8**	**-0.1**
	baz=279						
NSTT			S		**Sn**	**21 57 54.3**	**-0.1**
	baz=279						
YOJ	**Yonaguni jima**	**0.93 103**	P		**Pn**	**21 57 41.9**	**-0.1**
YOJ			S		**Sn**	**21 57 54.5**	**-0.1**
HSN	**Hsinchu**	**0.96 278**	*e*P		**Pn**	**21 57 41.7**	**-0.6**
	baz=291						
HSN			*e*S		**Sn**	**21 57 52.3**	**-2.9**
	baz=291						
ESL	**Shilin**	**1.01 212**	*e*P		**Pn**	**21 57 41.5**	**-1.5**
	baz=216						
ESL			*e*S		**Sn**	**21 57 55.1**	**-1.3**
	baz=216						
NSY	**Sanyi**	**1.17 257**	*e*P		**Pn**	**21 57 45.3**	**+0.2**
	baz=257						
NSY			*e*S		**Sn**	**21 58 00.7**	**+0.4**
	baz=257						
TWQ1	**Liyutan**	**1.18 254**	P		**Pn**	**21 57 45.4**	**+0.1**
	baz=253						
TWQ1			*e*S		**Sn**	**21 58 00.5**	**+0.1**
	baz=253						
WDT	**Danda**	**1.22 221**	*e*P		**Pn**	**21 57 45.8**	**-0.3**
	baz=208						
WDT			*e*S		**Sn**	**21 58 00.9**	**-0.9**
	baz=208						
SMLT	**Sun Moon Lake**	**1.29 232**	*e*P		**Pn**	**21 57 47.2**	**+0.4**
	baz=229						
SMLT			*e*S		**Sn**	**21 58 04.8**	**+1.6**
	baz=229						
TYC	**Yuchr**	**1.31 234**	P		**Pn**	**21 57 47.5**	**+0.6**
	baz=224						
TYC			*e*S		**Sn**	**21 58 04.4**	**+0.9**
	baz=224						
TCU	**Taichung**	**1.33 247**	*e*P		**Pn**	**21 57 48.1**	**+0.9**
	baz=258						
TCU			*e*S		**Sn**	**21 58 04.7**	**+0.7**
	baz=258						
TWF1	**Yuli**	**1.47 207**	*e*P		**Pn**	**21 57 49.0**	**-0.2**
	baz=210						
YUS	**Yu-Shan**	**1.53 220**	*e*P		**Pn**	**21 57 50.2**	**-0.2**
	baz=209						
YUS			*e*S		**Sn**	**21 58 09.3**	**-0.2**
	baz=209						
IRIF	**Iriomote-Funau**	**1.60 102**	P		**Pn**	**21 57 50.7**	**-0.2**
IRIF			S		**Sn**	**21 58 10.6**	**+0.1**
ALS	**Alishan**	**1.60 224**	P		**Pn**	**21 57 52.0**	**+0.8**
	baz=230						
ALS			*e*S		**Sn**	**21 58 11.7**	**+0.6**
	baz=230						
CHN5	**Tsauling**	**1.63 229**	P		**Pn**	**21 57 52.0**	**+0.6**
	baz=238						
CHN5			*e*S		**Sn**	**21 58 12.5**	**+1.2**
	baz=238						
WGK	**Gukeng**	**1.65 234**	*e*P		**Pn**	**21 57 51.8**	**+0.2**
	baz=241						
WGK			*e*S		**Sn**	**21 58 12.7**	**+0.9**
	baz=241						
CHKT	**Chengkung**	**1.68 201**	*e*P		**Pn**	**21 57 50.8**	**-1.2**
	baz=188						
ELDTW	**Lidau**	**1.74 212**	*e*P		**Pn**	**21 57 52.4**	**-0.6**
	baz=198						
ELDTW			*e*S		**Sn**	**21 58 12.9**	**-1.2**
	baz=198						
CHN4	**Tsaushan**	**1.85 225**	*e*P		**Pn**	**21 57 55.2**	**+0.8**
	baz=235						
CHN4			*e*S		**Sn**	**21 58 18.6**	**+1.9**
	baz=235						
CHY	**Chiayi**	**1.87 231**	*e*P		**Pn**	**21 57 54.3**	**-0.2**
	baz=240						
CHY			*e*S		**Sn**	**21 58 17.6**	**+0.5**
	baz=240						
JKRS	**Kuro-shima**	**1.87 103**	P		**Pn**	**21 57 55.0**	**+0.4**
JKRS			*e*S		**Sn**	**21 58 17.9**	**+0.8**
STYT	**Tauyuan**	**1.90 218**	*e*P		**Pn**	**21 57 56.2**	**+1.2**
	baz=203						
STYT			*e*S		**Sn**	**21 58 18.6**	**+0.8**
	baz=203						
WTP	**Ta-pu**	**1.92 222**	*e*P		**Pn**	**21 57 55.6**	**+0.4**
	baz=230						
WTP			*e*S		**Sn**	**21 58 19.6**	**+1.3**
	baz=230						
WSF	**Szhu**	**1.94 238**	*e*P		**Pn**	**21 57 54.2**	**-1.2**
	baz=234						
WSF			*e*S		**Sn**	**21 58 18.6**	**-0.1**
	baz=234						
JIJ	**Ishigaki jima**	**1.96 99**	P		**Pn**	**21 57 55.6**	**-0.2**
JIJ			S		**Sn**	**21 58 19.0**	**-0.4**
TWK	**Hsinying**	**1.98 225**	*e*P		**Pn**	**21 57 56.3**	**+0.2**
	baz=234						
TWK			*e*S		**Sn**	**21 58 21.2**	**+1.4**
	baz=234						
CHN1	**Nanshi**	**2.01 223**	*e*P		**Pn**	**21 57 57.2**	**+0.6**
	baz=232						
CHN1			*e*S		**Sn**	**21 58 21.6**	**+0.9**
	baz=232						
TWG	**Pinlang**	**2.04 205**	*e*P		**Pn**	**21 57 55.3**	**-1.6**
	baz=190						
TWG			*e*S		**Sn**	**21 58 19.4**	**-1.9**
	baz=190						
SGST	**Jiashian**	**2.06 220**	*e*P		**Pn**	**21 57 56.8**	**-0.4**
	baz=227						
SGST			*e*S		**Sn**	**21 58 22.7**	**+1.0**
	baz=227						
JISG	**Ishigakijimahi**	**2.09 92**	P		**Pn**	**21 57 58.0**	**+0.4**
JISG			*e*S		**Sn**	**21 58 23.2**	**+0.7**
ECL	**Taimali**	**2.29 205**	*e*P		**Pn**	**21 57 59.3**	**-1.0**
	baz=192						
ECL			*e*S		**Sn**	**21 58 24.5**	**-2.8**
	baz=192						
SSD	**Sandimen**	**2.30 214**	*e*P		**Pn**	**21 58 00.5**	**0.0**
	baz=198						
SSD			*e*S		**Sn**	**21 58 26.8**	**-0.9**
	baz=198						
EAST	**Anshuo**	**2.52 205**	*e*P		**Pn**	**21 58 04.4**	**+0.9**
	baz=194						
SCZT	**Fangliau**	**2.63 209**	*e*P		**Pn**	**21 58 05.1**	**+0.2**
	baz=192						
SCZT			*e*S		**Sn**	**21 58 36.1**	**+0.5**
	baz=192						

*IDC **25** 22:16:20.1±2.3, 50°.90N×178°.98E, h0km, mb3.3/4, mb1 3.8/5, mb1mx3.4/40, mbtmp3.5/5, ML4.1/1, Error ellipse: s-maj=57.2km s-min=13.7km az=12.0*
*ISCJB **25** 22:16:22.3±0.8, 51°.02N±0°.06×178°.68E±0°.06, h10km, mb3.4/4, Error ellipse: s-maj=8.1km s-min=5.2km az=4.8*
*NEIC **25** 22:16:25.8, 51°.22N×178°.73E, h16km, ML3.9(AEIC), After AEIC.*

ISC 25 22:16:23.9±1.3, 51°.13N±0°.10×178°.71E±0°.05, h10km, n24, σ1°64/29, mb3.5/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.45**	**55**	P	**Pg**	**22 16 34.1**	**+1.4**
AMKA				S	**Sb**	**22 16 40.4**	**-0.3**
LSSE	**Little Sitkin**	**0.81**	**354**	P	**Pg**	**22 16 39.8**	**+0.2**
LSPA	**Little Sitkin**	**0.84**	**354**	P	**Pg**	**22 16 40.1**	**+0.1**
LSPA				S	**Sb**	**22 16 51.0**	**-0.9**
CESW	**Semis' Southwe**	**0.94**	**34**	P	**Pg**	**22 16 42.1**	**0.0**
CETU	**Semis' Tuman**	**0.97**	**30**	P	**Pg**	**22 16 42.8**	**+0.2**
CERB	**Semis' Cerberu**	**0.99**	**35**	P	**Pg**	**22 16 43.0**	**0.0**
CERB				S	**Sb**	**22 16 56.7**	**+0.5**
CERAA	**Semis' Rag'd T**	**0.99**	**37**	P	**Pg**	**22 16 42.8**	**-0.2**
CEAP	**Semis' Anvil P**	**1.03**	**31**	P	**Pg**	**22 16 43.6**	**-0.1**
ADK	**Adak**	**2.98**	**73**	P	**Pn**	**22 17 11.9**	**+0.7**
ADK				S	**Sn**	**22 17 47.8**	**+0.9**
SMY	**Shemya**	**3.28**	**301**	P	**Pn**	**22 17 16.6**	**+1.3**
FX1	**Attu Island--F**	**3.85**	**299**	Pn	**Pn**	**22 17 22.5**	**-0.7**
	37nm,0.3s,baz=74,slow=5.4,SNR=90						
FX1				Sn	**Sn**	**22 18 10.8**	**+2.3**
	21nm,0.3s,baz=78,slow=19,SNR=2.6						
FX1	**Attu Island--F**	**3.85**	**299**	P	**Pn**	**22 17 24.2**	**+0.9**
FX1				Sn	**Sn**	**22 18 10.8**	**+2.3**
KOKL	**Mount Kliuchef**	**4.57**	**72**	P	**Pn**	**22 17 35.1**	**+2.0**
KOFP	**Korovin Flat P**	**4.62**	**73**	P	**Pn**	**22 17 35.4**	**+1.6**
NIKH	**Nikolski High**	**7.89**	**72**	P	**Pn**	**22 18 20.2**	**+1.7**
SPIA	**Saint Paul Isl**	**8.87**	**43**	P	**Pn**	**22 18 34.5**	**+2.5**
MSOM	**Makushin Julie**	**9.16**	**67**	P	**Pn**	**22 18 38.1**	**+2.2**
MREP	**Makushin Rep't**	**9.28**	**68**	P	**Pn**	**22 18 39.7**	**+2.1**
UNV	**Unalaska Valle**	**9.42**	**67**	P	**Pn**	**22 18 41.1**	**+1.5**
WESN	**West Dahl Nort**	**10.67**	**65**	P	**Pn**	**22 18 59.8**	**+3.1**
ILAR	**Eielson Array**	**22.43**	**39**	P	**P**	**22 21 19.6**	**-2.9**
	0.5nm,0.5s,baz=253,slow=8.3,SNR=8.7						
YKA	**Yellowknife Ar**	**36.53**	**46**	P	**P**	**22 23 27.2**	**-1.9**
	0.5nm,0.6s,baz=282,slow=9.0,SNR=7.0						
MKAR	**Makanchi Array**	**58.95**	**307**	P	P	22 26 20.9	-2.3
	0.2nm,0.4s,baz=56,slow=6.6,SNR=9.7						
TXAR	**Lajitas Array**	**60.24**	**79**	P	**P**	**22 26 31.0**	**-1.4**
	0.2nm,0.5s,baz=305,slow=6.5,SNR=5.5						

MEX 25 22:21:18.6±0.3, 17°.42N×100°.33W, h55km±5km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.37**	**171**	*e*P	Pn	22 21 27.5	-1.4
CAIG				*e*S	Sn	22 21 34.5	-1.7
ACX	**Acapulco**	**0.71**	**140**	*e*P	Pn	22 21 29.3	-3.4
ACX				*i* S	Sn	22 21 39.1	-3.9
ARIG	**Puente Sto Nin**	**0.86**	**359**	*e*P	Pn	22 21 33.3	-1.4
ARIG				*i* S	Sn	22 21 44.5	-2.0
TLIG	**Tlapa**	**1.69**	**85**	*e*P	Pn	22 21 44.3	-1.6
TLIG				*i* S	Sn	22 22 04.2	-2.4

*IDC **25** 22:26:15.4±1.2, 35°.30S×72°.47W, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.9/18, mbtmp3.9/7, ML3.6/2, MS3.2/4, Ms1 3.2/4, ms1mx3.0/23, Error ellipse: s-maj=44.6km s-min=22.5km az=98.0*
*GUC **25** 22:26:19.4±0.4, 35°.23S×72°.50W, h22km±3km, ML4.5*

ISC 25 22:26:16.9±2.4, 35°.23S±0°.05×72°.52W±0°.07, h9km±15km, n18, σ1°39/25, mb3.9/5, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.74**	**103**	⇓*e*P	**Pb**	**22 26 32.2**	**+0.2**
TALC				*e*S	**Sb**	**22 26 41.9**	**-0.3**
COCH	**Cobquecura**	**0.93**	**194**	*e*P	**Pb**	**22 26 35.3**	**+0.1**
COCH				*e*S	**Sb**	**22 26 47.4**	**-0.2**
LNCH	**Linares**	**0.97**	**130**	*e*P	**Pb**	**22 26 35.7**	**-0.1**
LNCH				*e*S	**Sg**	**22 26 48.4**	**+0.2**
NICH	**Los Niches**	**1.08**	**78**	⇓*e*P	**Pb**	**22 26 37.9**	**+0.1**
NICH				*e*S	**Sg**	**22 26 51.5**	**-0.2**
CCSP	**San Pedro de C**	**1.68**	**196**	*e*P	**Pb**	**22 26 47.5**	**-0.6**
CCSP				*e*S	**Sn**	**22 27 08.6**	**+0.4**
CCSP				AML	AML	22 27 14.4	
	comp=E,6μm,0.4s						
RCDM	**Rinconada Maip**	**2.24**	**40**	*e*P1	**Pn**	**22 26 55.5**	**+1.3**
RCDM				*e*S	**Sn**	**22 27 23.0**	**+1.0**
CLCH	**Cerro Calan**	**2.46**	**42**	*e*P	**Pn**	**22 26 58.7**	**+1.5**
CLCH				*e*S	**Sn**	**22 27 29.0**	**+1.6**
CLCH				AML	AML	22 27 46.1	
	comp=N,3μm,0.6s						
PEL	**Peldehue**	**2.58**	**37**	*e*P	**Pn**	**22 27 00.7**	**+1.8**
PEL				*e*S	**Sn**	**22 27 31.7**	**+1.4**
PEL				AML	AML	22 27 45.6	
	comp=E,3μm,0.5s						
CFAA	**Coronel Fontan**	**5.08**	**46**	Pn	**Pn**	**22 27 34.6**	**+1.3**
	comp=E,0.8nm,0.3s,baz=212,slow=14,SNR=4.1						
CFAA				Sn	**Sn**	**22 28 42.6**	**-4.7**
	comp=E,0.9nm,0.3s,baz=335,slow=23,SNR=4.3						
CFAA				LR	LR	22 29 41.4	
	comp=E,48nm,18.1s,baz=208,slow=40						
LPAZ	**La Paz**	**19.27**	**13**	P	**Pn**	**22 30 44.1**	**+0.7**
	comp=E,0.2nm,0.3s,baz=171,slow=3.9,SNR=10						
USHA	**Ushuaia**	**19.81**	**173**	LR	LR	22 38 32.2	
	comp=E,146nm,20.2s,baz=6.0,slow=37						
SIV	**San Ignacio**	**21.73**	**31**	P	**P**	**22 31 07.6**	**-1.0**
	comp=E,14nm,0.9s,baz=221,slow=9.6,SNR=29						
SIV				LR	LR	22 40 46.5	
	comp=E,62nm,21.4s,baz=212,slow=40						
BDFB	**Brasilia**	**29.36**	**55**	LR	LR	22 45 06.3	
	comp=E,105nm,20.3s,baz=226,slow=38						
SNAA	**Sanae**	**50.60**	**157**	P	**P**	**22 35 15.7**	**0.0**
	comp=E,1.6nm,1.1s,baz=291,slow=8.6,SNR=2.6						
QSPA	**South Pole Qui**	**55.01**	**180**	P	**P**	**22 35 47.5**	**-1.0**
	comp=E,1.4nm,0.6s,baz=160,slow=15,SNR=3.4						
TXAR	**Lajitas Array**	**70.62**	**331**	P	**P**	**22 37 33.3**	**+0.5**
	comp=E,0.3nm,0.5s,baz=156,slow=9.1,SNR=5.2						
TORD	**Torodi Ar. Bea**	**85.00**	**70**	P	**P**	**22 38 52.1**	**-0.9**
	comp=E,0.5nm,0.8s,baz=248,slow=5.1,SNR=2.8						
MKAR	**Makanchi Array**	**157.85**	**51**	PKPab	**PKPab**	**22 46 46.7**	**+0.1**
	comp=E,0.2nm,0.8s,baz=307,slow=5.2,SNR=2.2						

*IDC **25** 22:26:13.8±0.7, 17°.24S×172°.01W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.0/37, mbtmp4.1/7, MS3.5/6, Ms1 3.5/6, ms1mx3.1/39, Error ellipse: s-maj=34.6km s-min=20.3km az=139.0*
*ISCJB **25** 22:26:15.1±0.8, 17°.0S±0°.2×172°.2W±0°.2, h20km, mb4.0/7, MS3.5/6, Error ellipse: s-maj=36.0km s-min=18.0km az=135.2*

ISC 25 22:26:16.5±0.8, 17°.1S±0°.2×172°.1W±0°.2, h20km, n21, σ1°43/10, mb4.2/7, MS3.6/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT2	**Papeete2**	**21.55**	**95**	*e*LR	LR	22 35 44.7	
	340nm,26.0s						
PPT	**Papeete**	**21.55**	**95**	LR	LR	22 37 08.4	
	comp=Z,88nm,19.6s,baz=201,slow=31						
TBI	**Tubuai**	**22.16**	**110**	*e*LR	LR	22 36 01.7	
	388nm,29.5s						
URZ	**Urewera**	**23.09**	**202**	P	**P**	**22 31 22.2**	**+1.3**
	9.3nm,0.6s,baz=258,slow=4.6,SNR=7.4						
HNR	**Honiara**	**28.19**	**282**	LR	LR	22 42 04.6	
	comp=Z,47nm,21.9s,baz=126,slow=34						
H11S2	**WAKE ISLAND Hy**	**41.03**	**329**	T	T	23 18 19.1	
	baz=148,slow=74						
H11S3	**WAKE ISLAND Hy**	**41.05**	**329**	T	T	23 18 27.4	
	baz=148						
H11S1	**WAKE ISLAND Hy**	**41.05**	**329**	T	T	23 18 23.0	
	baz=148,slow=74						
WRA	**Warramunga Arr**	**50.65**	**258**	P	**P**	**22 35 14.7**	**-0.1**
	2.7nm,0.6s,baz=97,slow=7.8,SNR=48						
ASAR	**Alice Springs**	**50.76**	**253**	P	**P**	**22 35 16.4**	**+0.8**
	12nm,1.0s,baz=90,slow=8.4,SNR=39						
BATI	**Baumata**	**62.53**	**267**	LR	LR	23 01 42.1	
	comp=Z,60nm,18.3s,baz=110,slow=34						
QSPA	**South Pole Qui**	**72.95**	**180**	P	**P**	**22 37 43.2**	**-1.2**
	1.9nm,0.8s,baz=63,slow=6.8,SNR=6.2						
NVAR	**Mina Array Bea**	**74.79**	**41**	P	**P**	**22 37 55.6**	**-0.1**
	1.0nm,0.8s,baz=221,slow=8.7,SNR=3.8						
TXAR	**Lajitas Array**	**80.56**	**55**	P	**P**	**22 38 30.4**	**+2.5**
	0.4nm,0.7s,baz=216,slow=6.2,SNR=5.5						
PDAR	**Pinedale Array**	**82.73**	**41**	P	**P**	**22 38 38.2**	**-1.0**
	0.3nm,0.7s,baz=197,slow=7.6,SNR=2.6						
ILAR	**Eielson Array**	**83.88**	**11**	LR	LR	23 10 57.3	
	comp=Z,35nm,20.2s,baz=218,slow=32						
CMAR	**Chiang Mai Arr**	**94.29**	**288**	LR	LR	23 15 39.7	
	comp=Z,17nm,21.7s,baz=120,slow=31						
LPAZ	**La Paz**	**98.10**	**110**	LR	LR	23 15 21.8	
	comp=Z,21nm,18.1s,baz=226,slow=30						
GERES	**GERESS Array B**	**147.98**	**353**	PKPbc	**PKPab**	**22 46 02.2**	**-0.9**
	0.9nm,1.0s,baz=126,slow=1.7,SNR=4.4						
BRTR	**Keskin Array B**	**148.23**	**320**	PKPbc	**PKPab**	**22 46 03.8**	**-0.8**
	0.8nm,0.9s,baz=46,slow=4.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**172.87**	**123**	PKPab	**PKPab**	**22 47 50.1**	**-1.4**
	0.4nm,0.5s,baz=263,slow=4.0,SNR=6.2						

*CSEM **25** 22:34:27.1, 38°.22N×21°.77E, h15km, MD2.6*

ATH 25 22:34:27.1, 38°.22N×21°.77E, h15km±5km, MD2.6/10, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.23**	**27**	*e*PB	Pg	22 34 31.5	-0.8
EFP				*e*SB	Sg	22 34 35.3	-0.5
EFP	**Efpalio**	**0.23**	**27**	*e*Pb	Pg	22 34 31.5	-0.8
EFP				*e*Sb	Sg	22 34 35.3	-0.5
DRO	**Drossia**	**0.27**	**190**	*e*PB	Pg	22 34 32.5	-0.5
DRO				*e*SB	Sg	22 34 36.7	-0.2
DRO	**Drossia**	**0.27**	**190**	*e*Pb	Pg	22 34 32.5	-0.5
DRO				*e*Sb	Sg	22 34 36.7	-0.2
RLS	**Riolos of Patr**	**0.29**	**236**	*e*PB	Pg	22 34 32.5	-0.7
RLS				*e*SB	Sb	22 34 38.4	-0.2
RLS	**Riolos of Patr**	**0.29**	**236**	*e*Pb	Pg	22 34 32.5	-0.7
RLS				*e*Sb	Sb	22 34 38.4	-0.2
KALE	**Kalithea**	**0.34**	**59**	*e*PB	Pg	22 34 33.6	-0.6
KALE				*e*SB	Sg	22 34 38.9	-0.1
KALE	**Kalithea**	**0.34**	**59**	*e*Pb	Pg	22 34 33.6	-0.6
KALE				*e*Sb	Sg	22 34 38.9	-0.1
KLV	**Kalavryta, Ach**	**0.35**	**120**	*e*PB	Pg	22 34 33.8	-0.6
KLV				*e*SB	Sb	22 34 40.5	0.0
KLV	**Kalavryta, Ach**	**0.35**	**120**	*e*Pb	Pg	22 34 33.8	-0.6
KLV				*e*Sb	Sb	22 34 40.5	0.0
GUR	**Goura**	**0.53**	**122**	*e*PN	Pg	22 34 36.9	-0.9
GUR				*e*SN	Sg	22 34 45.3	+0.2
GUR	**Goura**	**0.53**	**122**	*e*Pn	Pg	22 34 36.9	-0.9
GUR				*e*Sn	Sg	22 34 45.3	+0.2
PDO	**Prodromos**	**0.60**	**310**	*e*PN	Pg	22 34 38.6	-0.3
PDO				*e*SN	Sb	22 34 47.8	+0.3
PDO	**Prodromos**	**0.60**	**310**	*e*Pn	Pg	22 34 38.6	-0.3
PDO				*e*Sn	Sb	22 34 47.8	+0.3
AMT	**Artemida-Makis**	**0.69**	**184**	*e*PN	Pb	22 34 41.2	+0.3
AMT				*e*SN	Sb	22 34 50.6	+0.4
AMT	**Artemida-Makis**	**0.69**	**184**	*e*Pn	Pb	22 34 41.2	+0.3
AMT				*e*Sn	Sb	22 34 50.6	+0.4
EVR	**Evrytania**	**0.70**	**2**	*e*PB	Pg	22 34 39.4	-1.5
EVR	**Evrytania**	**0.70**	**2**	*e*Pb	Pg	22 34 39.4	-1.5
MAKR	**Makrakomi, Fth**	**0.84**	**20**	*e*PN	Pg	22 34 44.0	+0.5
MAKR				*e*SN	Sn	22 34 55.7	-0.9
MAKR	**Makrakomi, Fth**	**0.84**	**20**	*e*Pn	Pg	22 34 44.0	+0.5
MAKR				*e*Sn	Sn	22 34 55.7	-0.9
AGG	**Agios Georgios**	**0.91**	**29**	*e*PN	Pn	22 34 45.4	-0.1
AGG	**Agios Georgios**	**0.91**	**29**	*e*Pn	Pn	22 34 45.4	-0.1
VLS	**Valsamata**	**0.93**	**268**	*e*PB	Pb	22 34 44.3	-0.7
VLS	**Valsamata**	**0.93**	**268**	*e*Pb	Pb	22 34 44.3	-0.7

NNC 25 22:35:40.6±5.6, 37°.59N×74°.47E, h0km, mb3.6, mpv3.1, 4C-3D, Error ellipse: s-maj=49.4km s-min=21.9km az=147.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**4.61**	**287**	⇑Pn	Pn	22 36 50.1	-1.6
DZET				⇓Sn	Sn	22 37 47.5	+1.5
AAK	**Ala-Archa**	**5.04**	**0**	⇑Pn	Pn	22 36 59.9	+2.2
	1.4nm,0.6s						
AAK				Lg	Lg	22 38 23.5	
	4.1nm,0.9s						
TKM2	**Tokmak 2**	**5.39**	**9**	⇓Pn	Pn	22 37 02.7	+0.1
	2.8nm,0.4s						
TKM2				⇓Sn	Sn	22 38 06.2	+0.6
	4.0nm,0.6s						
KK31	**Karatay Array**	**6.28**	**332**	⇑Pn	Pn	22 37 13.6	-0.9
	0.4nm,0.4s,baz=142,slow=14,SNR=11						
KK31				⇑Sn	Sn	22 38 27.3	+0.3
	1.9nm,0.6s,baz=145,slow=25,SNR=4.0						

IDC 25 22:41:58.3±2.1, 2°.18N×127°.63E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/36, mbtmp3.2/3, Error ellipse: s-maj=147.9km s-min=25.1km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.95**	**164**	P	P	22 47 04.0	-0.4
	0.5nm,0.6s,baz=343,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**26.41**	**167**	P	P	22 47 36.8	-0.1
	0.1nm,0.3s,baz=342,slow=8.2,SNR=2.7						
MKAR	**Makanchi Array**	**59.33**	**325**	P	P	22 52 02.4	+0.2
	0.2nm,0.7s,baz=114,slow=6.6,SNR=2.9						

*BJI **25** 22:46:43.8, 21°.86S×177°.45W, h300km, mB4.9/8, mb4.8/21*
*ISCJB **25** 22:46:58.4±0.2, 21°.49S±0°.05×178°.12W±0°.04, h412km, mb4.7/105, Error ellipse: s-maj=7.5km s-min=3.7km az=151.0*
*NEIC **25** 22:47:00.7±1.6, 21°.55S×178°.11W, h429km±5km, mb4.7/76, Error ellipse: s-maj=14.5km s-min=14.1km az=196.0*
*IDC **25** 22:47:01.8±1.4, 21°.57S×178°.20W, h432km±14km, mb4.1/24, mb1 4.3/26, mb1mx4.2/29, mbtmp4.9/26, Error ellipse: s-maj=12.3km s-min=10.2km az=143.0*
*MOS **25** 22:47:11.1±2.2, 19°.37S×178°.29W, h459km, mb4.7/17, Error ellipse: s-maj=16.9km s-min=12.3km az=97.7*

ISC 25 22:46:59.1±0.3, 21°.57S±0°.07×178°.02W±0°.06, h412km, n497, σ0°95/505, mB4.7/105, 73C-28D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.32**	**315**	*e*P	**P**	**22 48 26.3**	**+1.3**
MSVF	**Nonsavu**	**5.32**	**315**	*e*P	**P**	**22 48 26.3**	**+1.3**
NIUE	**Niue**	**7.99**	**73**	P	**P**	**22 48 53.6**	**-0.8**
	baz=7.9,SNR=83						
NIUE				S	**S**	**22 50 24.8**	**-3.5**
	baz=7.9,SNR=15						
DZM	**Mont Dzumac**	**14.44**	**265**	P	**P**	**22 50 07.5**	**+2.1**
	8.2nm,0.3s,baz=112,slow=16,SNR=40						
NOUC	**Port Laguerre**	**14.57**	**265**	*e*P	P	22 50 11.4	+4.8
RAR	**Rarotonga**	**17.00**	**92**	*e*P	**P**	**22 50 34.5**	**+1.9**
	168nm,

AS12	Alice Springs	44.27	258	eP	P	22 54 29.9	-0.6
AS12				epP	pP	22 55 56.8	+6.2
AS12				eScP	ScP	22 59 17.8	-0.8
AS12				eS	S	23 00 29.9	-3.2
ASAR	Alice Springs	44.27	258	P	P	22 54 29.9	-0.6
	comp=Z,11nm,0.6s,baz=99,slow=7.9,SNR=143						
ASAR				pP	pP	22 55 56.8	+6.2
	comp=Z,3.7nm,0.9s,baz=87,slow=8.4,SNR=3.1						
ASAR				ScP	ScP	22 59 17.8	-0.8
	comp=Z,0.5nm,0.5s,baz=99,slow=4.6,SNR=3.4						
ASAR				S	S	23 00 29.9	-3.2
	comp=Z,1.1nm,0.8s,baz=97,slow=15,SNR=6.9						
JAY	Jayapura	44.38	290	eP	P	22 54 30.4	-1.0
JAY	Jayapura	44.38	290	P	P	22 54 30.4	-1.0
	comp=Z,39nm,0.5s,baz=128,slow=3.3,SNR=33						
WRAB	Tennant Creek	44.44	263	eP	P	22 54 30.2	-1.6
WRAB	Tennant Creek	44.44	263	eP	P	22 54 30.2	-1.6
WRA	Warramunga Arr	44.45	263	eP	P	22 54 30.6	-1.3
WRA	Warramunga Arr	44.45	263	P	P	22 54 30.6	-1.3
	comp=Z,8.8nm,0.7s,baz=98,slow=6.8,SNR=76						
KDU	Kakadu	47.97	272	P	P	22 54 58.1	-0.8
	baz=48,SNR=9.3						
FORT	Forrest	48.86	247	P	P	22 55 05.0	-0.4
	baz=49,SNR=76						
FORT	Forrest	48.86	247	eP	P	22 55 05.0	-0.4
	comp=Z,153nm,0.6s						
MTN	Manton Dam	49.17	271	P	P	22 55 06.3	-1.6
	baz=49,SNR=7.3						
WRKA	Warakurna	49.17	255	P	P	22 55 07.3	-0.6
	baz=49,SNR=55						
WRKA				S	S	23 01 40.4	-1.3
	baz=49,SNR=4.0						
KNRA	Kununurra	50.58	267	P	P	22 55 17.8	-0.6
	baz=51,SNR=22						
FITZ	Fitzroy Crossi	52.88	263	P	P	22 55 35.4	+0.3
	baz=53,SNR=20						
KMBL	Kambalda	54.11	246	P	P	22 55 43.6	-0.2
	baz=54,SNR=8.6						
SOEI	Soe	56.52	272	P	P	22 56 03.4	+2.3
	comp=Z,78nm,1.0s						
SOEI	Soe	56.52	272	P	P	22 56 02.9	+1.8
	baz=56,SNR=6.2						
SOEI	Soe	56.52	272	eP	P	22 56 00.8	-0.4
	comp=Z,52nm,0.8s						
VNDA	Vanda	56.85	185	P	P	22 56 04.8	+2.6
	comp=Z,2.7nm,0.6s,baz=7.4,slow=7.7,SNR=15						
BATI	Baumata	56.94	272	P	P	22 56 05.0	+1.1
	comp=Z,25nm,0.6s						
BATI	Baumata	56.94	272	P	P	22 56 04.3	+0.4
	comp=Z,33nm,0.5s,baz=108,slow=6.4,SNR=11						
MEEK	Meekatharra	57.56	251	P	P	22 56 07.3	-0.7
	baz=58,SNR=16						
MBWA	Marble Bar	57.61	258	eP	P	22 56 07.5	-0.9
	comp=Z,48nm,0.6s						
NWAO	Narrogin (SRO)	57.88	244	P	P	22 56 10.1	0.0
	baz=58,SNR=8.1						
BLDU	Ballidu	58.61	247	P	P	22 56 14.7	-0.4
	baz=59,SNR=17						
MMRI	Maumere	58.79	273	eP	P	22 56 16.1	-0.4
	comp=Z,36nm,1.1s						
MORW	Morawa	59.41	248	P	P	22 56 20.3	-0.3
	baz=59,SNR=19						
GIRL	Giralia	62.26	255	P	P	22 56 40.8	+1.3
	baz=62,SNR=6.8						
IGBI	Denpasar	65.32	270	P	P	22 57 00.2	+0.8
IGBI	Denpasar	65.32	270	P	P	22 57 00.2	+0.8
	comp=Z,220nm,0.9s						
SRBI	Singaraja	65.51	271	P	P	22 57 00.5	-0.1
	comp=Z,50nm,0.8s						
JAGI	Jajag, Banyuwa	66.36	270	P	P	22 57 04.7	-1.3
	comp=Z,59nm,1.2s,comp=Z,1µm						
JAGI	Jajag, Banyuwa	66.36	270	P	P	22 57 05.1	-0.9
	comp=Z,59nm,1.2s,comp=Z,1µm						
JAGI	Jajag, Banyuwa	66.36	270	P	P	22 57 04.9	-1.1
	baz=66,SNR=7.3						
JAGI	Jajag, Banyuwa	66.36	270	eP	P	22 57 04.7	-1.3
	comp=Z,50nm,1.0s						
GMJI	Gumukmas	67.09	270	P	P	22 57 10.0	-0.5
	comp=Z,40nm,1.0s,comp=Z,1µm						
GMJI	Gumukmas	67.09	270	P	P	22 57 10.1	-0.5
	comp=Z,40nm,1.0s,comp=Z,1µm						
BLJI	Banyuglugur	67.13	271	P	P	22 57 10.8	+0.1
	comp=Z,74nm,0.6s						
BBKI	Banjar Baru	67.49	275	P	P	22 57 18.7	+5.7
PWJI	Pagerwojo	68.70	270	P	P	22 57 20.1	-0.3
	comp=Z,68nm,0.7s						
PCJI	Pacitan	69.23	269	P	P	22 57 23.8	+0.2
	comp=Z,308nm,0.6s,comp=Z,3µm						
PCJI	Pacitan	69.23	269	P	P	22 57 23.8	+0.2
	comp=Z,308nm,0.6s,comp=Z,3µm						
UGM	Wanagama	69.93	269	P	P	22 57 26.7	-1.2
	comp=Z,144nm,0.8s						
UGM	Wanagama	69.93	269	P	P	22 57 27.9	-0.1
	baz=70,SNR=6.3						
UGM	Wanagama	69.93	269	eP	P	22 57 27.5	-0.4
	comp=Z,84nm,0.7s						
MJAR	Matsushiro Arr	71.06	324	P	P	22 57 34.2	+0.1
	comp=Z,4.4nm,0.5s,baz=156,slow=7.6,SNR=21						
MAJO	Matsushiro	71.06	324	eP	P	22 57 32.1	-2.0
MAJO				pmax	pmax		
	comp=Z,68nm,1.1s						
MAJO	Matsushiro	71.06	324	eP	P	22 57 34.2	+0.1
	comp=Z,15nm,1.0s						
KPJI	Karang Pucung	71.61	269	P	P	22 57 38.5	+0.6
	comp=Z,57nm,0.6s						
KPJI	Karang Pucung	71.61	269	P	P	22 57 37.3	-0.6
	comp=Z,57nm,0.6s						
CMJI	Cimerak	71.91	269	P	P	22 57 38.8	-0.8
	comp=Z,62nm,0.9s						
STKI	Sintang	71.93	277	P	P	22 57 40.9	+1.1
CISI	Cisompet, Garu	72.57	269	P	P	22 57 42.9	-0.6
	comp=Z,76nm,0.9s,comp=Z,2µm						
CISI	Cisompet, Garu	72.57	269	P	P	22 57 42.2	-1.4
	comp=Z,76nm,1.0s,comp=Z,2µm						
CISI	Cisompet, Garu	72.57	269	P	P	22 57 43.0	-0.6
	baz=73,SNR=3.4						
CISI	Cisompet, Garu	72.57	269	eP	P	22 57 41.8	-1.8
	comp=Z,46nm,0.6s						
LEM	Lembang	73.01	269	P	P	22 57 46.5	+0.3
	comp=Z,149nm,0.8s						
JNU	Nakatsue	73.04	317	P	P	22 57 45.7	-0.2
	comp=Z,26nm,1.0s,baz=42,slow=4.5,SNR=4.8						
JNU	Nakatsue	73.04	317	eP	P	22 57 45.4	-0.5
	comp=Z,642nm,2.8s						
ADK	Adak	73.15	1	eP	P	22 57 45.5	-0.4
ADK				pmax	pmax		
	comp=Z,38nm,0.7s						
ADK	Adak	73.15	1	eP	P	22 57 45.5	-0.4
	comp=Z,38nm,0.7s						
CNJI	Cibinong	73.30	269	P	P	22 57 45.9	-1.8
	comp=Z,57nm,0.8s						
KSM	Kuching	73.55	278	P	P	22 57 49.8	+0.7
	baz=74,SNR=11						
KSM	Kuching	73.55	278	eP	P	22 57 48.5	-0.6
	comp=Z,32nm,0.7s						
FX1	Attu Island--F	74.53	354	eP	P	22 57 53.5	-0.3
FX1	Attu Island--F	74.53	354	eP	P	22 57 53.5	-0.3
TPUB	Ta-pu	74.55	303	eP	P	22 57 53.9	-0.7
	comp=Z,63nm,0.8s						
SSLB	Suanglung	74.55	304	eP	P	22 57 53.3	-1.4
	comp=Z,283nm,2.4s						
ASAJ	Asahikawa	74.66	332	P	P	22 57 56.4	+1.6
	comp=Z,10.0nm,0.6s,baz=220,slow=9.2,SNR=7.5						
ASAJ	Asahikawa	74.66	332	eP	P	22 57 53.6	-1.1
	comp=Z,21nm,0.9s						
CGJI	Cibinong	74.87	269	P	P	22 57 55.8	-0.9
	comp=Z,53nm,0.8s,comp=Z,1µm						
CGJI	Cibinong	74.87	269	P	P	22 57 55.7	-0.9
	comp=Z,53nm,0.8s,comp=Z,1µm						
KASI	Kota Agung	76.37	269	P	P	22 58 04.6	-0.5
	comp=Z,49nm,1.0s						
YSS	Yuzh-Sakhalins	76.84	334⇑	eP	P	22 58 05.1	-1.8
MDSI	Maura Dua	77.03	270	P	P	22 58 07.4	-1.3
	comp=Z,26nm,1.0s						
PEA2	Petropavlovsk-	77.30	345	eP	P	22 58 10.1	+0.8
PEA0	Petropavlovsk-	77.30	345	eP	P	22 58 09.5	+0.2
PETK	Petropavlovsk-	77.30	345	P	P	22 58 10.1	+0.8
	comp=Z,16nm,0.8s,baz=153,slow=7.6,SNR=14						
KSRS	Korea Array	77.68	319	P	P	22 58 13.0	+1.3
	comp=Z,4.2nm,0.7s,baz=132,slow=6.0,SNR=9.8						
KS15	Wonju Array Si	77.69	319	eP	P	22 58 13.0	+1.2
KS01	Wonju Array Si	77.71	319	eP	P	22 58 11.3	-0.6
KMRM	Mail Ridge	79.59	39	eP	P	22 58 24.4	+2.3
	comp=Z,43nm,0.8s						
USRK	Ussurivsk Ar.	79.84	326	P	P	22 58 24.6	+1.4
	comp=Z,11nm,0.7s,baz=130,slow=3.8,SNR=24						
CMB	Columbia Colle	80.26	43	eP	P	22 58 26.8	+1.2
CMB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CMB	Columbia Colle	80.26	43	eP	P	22 58 26.8	+1.2
	comp=Z,5.5nm,1.0s						
NJ2	Nanjing	80.55	310	eP	P	22 58 27.8	+0.6
NJ2				PMZ			
	comp=Z,50nm,0.6s						
WAKR	Walker	81.14	43	eP	P	22 58 31.9	+1.5
MDJ	Mudanjiang	81.39	325	P	P	22 58 32.8	+1.5
MDJ				PMZ			
	comp=Z,20nm,1.0s						
MDJ				PMZ			
	comp=Z,91nm,6.5s						
MDJ	Mudanjiang	81.39	325	eP	P	22 58 31.9	+0.6
	comp=Z,20nm,0.9s						
NV01	Mina Array Sit	81.81	43	eP	P	22 58 34.9	+1.0
NVAR	Mina Array Bea	81.81	43	P	P	22 58 35.4	+1.4
	comp=Z,7.3nm,0.8s,baz=223,slow=9.2,SNR=22						
TPH	Tonopah	82.30	44	eP	P	22 58 37.3	+0.9
TPH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TPH	Tonopah	82.30	44	eP	P	22 58 37.3	+0.9
	comp=Z,10nm,0.9s						
TPNV	Topopah Spring	82.30	45	eP	P	22 58 35.1	-1.3
TPNV				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TPNV	Topopah Spring	82.30	45	eP	P	22 58 35.1	-1.3
	comp=Z,6.9nm,0.6s						
MOD	Modoc Plateau	82.65	40	eP	P	22 58 38.4	+0.4
	comp=Z,12nm,0.9s						
CN2	Changchun	83.14	323	eP	P	22 58 41.0	+0.8
CN2				PMZ			
	comp=Z,20nm,1.1s						
IPM	Ipoh	83.25	277	eP	P	22 58 40.7	-0.8
	comp=Z,49nm,0.7s						
KLR	Kul'dur	83.44	330	eP	P	22 58 37.9	-3.7
R11A	Troy Canyon, C	83.52	45	eP	P	22 58 43.0	+0.4
	comp=Z,3.0nm,0.9s						
TUC	Tucson	83.65	52	eP	P	22 58 43.1	-0.1
TUC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TUC	Tucson	83.65	52	eP	P	22 58 43.1	-0.1
	comp=Z,7.8nm,1.1s						
BMN	Battle Mountai	83.65	42	eP	P	22 58 43.9	+0.8
BMN				pmax	pmax		
	comp=Z,11nm,0.9s						
BMN	Battle Mountai	83.65	42	eP	P	22 58 43.9	+0.8
	comp=Z,11nm,0.9s						
KULM	Kulim	83.91	278	eP	P	22 58 45.4	+0.6
	comp=Z,21nm,0.8s						
RSO	Redoubt South	84.28	12	eP	P	22 58 45.6	-0.3
CCUT	Cedar City	84.56	46	eP	P	22 58 46.9	-0.9
	comp=Z,9.6nm,1.4s						
PSI	Prapat	84.57	275	eP	P	22 58 47.1	-1.2
PSI	Prapat	84.57	275	P	P	22 58 47.1	-1.2
	comp=Z,18nm,0.8s,baz=166,slow=8.3,SNR=11						
ELK	Elko	85.08	43	eP	P	22 58 50.1	-0.2
ELK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ELK	Elko	85.08	43	P	P	22 58 51.3	+1.0
	comp=Z,2.0nm,0.8s,baz=158,slow=1.5,SNR=6.3						
ELK	Elko	85.08	43	eP	P	22 58 50.1	-0.2
	comp=Z,3.5nm,1.0s						
GSI	Gunungsitoli	85.27	273	P	P	22 58 52.2	+0.6
	comp=Z,101nm,1.1s						
GSI	Gunungsitoli	85.27	273	P	P	22 58 53.1	+1.5
	comp=Z,100nm,1.1s						
GSI	Gunungsitoli	85.27	273	eP	P	22 58 51.0	-0.6
	comp=Z,67nm,0.7s						
G08A	Pilot Rock	85.47	37	eP	P	22 58 52.2	+0.3
	comp=Z,9.3nm,0.9s						
RC01	Rabbit Creek A	85.48	13	eP	P	22 58 51.4	0.0
	comp=Z,21nm,1.2s						
LTY	Liberty	85.73	35	eP	P	22 58 52.7	-0.4
	comp=Z,8.0nm,0.9s						
PMR	Palmer	86.06	13	eP	P	22 58 53.8	-0.4
PMR	Palmer	86.06	13	eP	P	22 58 53.8	-0.4
BMO	Blue Mountains	86.16	38	eP	P	22 58 55.7	+0.4
	comp=Z,4.3nm,0.8s						
DIV	Divide	86.42	15	eP	P	22 58 56.0	-0.1
	comp=Z,14nm,0.8s						
D08A	Wollman Farm,	86.55	36	eP	P	22 58 57.9	+0.9
	comp=Z,12nm,0.9s						
BMRM	Bremner River	86.57	16	eP	P	22 58 56.7	-0.1
	comp=Z,39nm,1.6s						
BJI	Beijing	86.64	315	P	P	22 58 58.5	+1.0
BJI				PMZ			
	comp=Z,22nm,0.6s						
E09A	Wood Farm, Sta	86.66	37	eP	P	22 58 58.1	+0.6
	comp=Z,14nm,1.1s						
F10A	Beach Ranch, E	86.86	38	eP	P	22 58 58.6	+0.1
TMUT	Trail Mountain	86.91	46	eP	P	22 59 00.3	+1.0
	comp=Z,8.7nm,1.0s						
VNA3	Neumayer Olymp	87.08	176	P	P	22 58 59.5	+0.3
HLID	Hailey	87.14	41	eP	P	22 58 59.3	-0.8
	comp=Z,3.8nm,0.8s						
TNA	Tin City	87.20	4	eP	P	22 58 59.6	+0.1
	comp=Z,6.9nm,0.8s						
SRU	San Rafael Swe	87.27	46	eP	P	22 59 01.1	+0.3
SRU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SRU	San Rafael Swe	87.27	46	eP	P	22 59 01.1	+0.3
	comp=Z,6.4nm,0.8s						
C09A	Chrisman Ranch	87.35	36	eP	P	22 59 01.6	+0.9
	comp=Z,9.7nm,0.8s						
SEY	Seymchan	87.41	347	eP	P	22 59 00.7	+0.1
SEY	Seymchan	87.41	347	P	P	22 59 00.7	+0.1
	comp=Z,15nm,0.7s,baz=162,slow=9.6,SNR=33						
KTH	Kantishna Hill	87.47	12	eP	P	22 58 59.9	-1.1
	comp=Z,9.9nm,1.0s						
TRF	Thorofare Moun	87.50	12	eP	P	22 59 00.7	-0.6
	comp=Z,13nm,0.8s						
VNA2	Neumayer--Watz	87.52	177	P	P	22 59 01.8	+0.5
LTX	Lajitas	87.64	57	eP	P	22 59 04.7	+2.0
LTX	Lajitas	87.64	57	eP	P	22 59 04.7	+2.0
LTX				epP	pP	23 00 41.2	+4.2
TX31	Lajitas Ar. Si	87.64	57	eP	P	22 59 03.5	+0.8
TXAR	Lajitas Array	87.64	57	P	P	22 59 04.7	+2.0
	comp=Z,2.2nm,0.8s,baz=223,slow=6.2,SNR=24						
TXAR				pP	pP	23 00 41.2	+4.2
	comp=Z,0.8nm,0.9s,baz=201,slow=6.6,SNR=4.3						
VNA1	Neumayer--Stat	87.75	177	P	P	22 59 03.5	+1.2
MCK	McKinley	88.02	12	eP	P	22 59 02.7	-0.8
MCK				pmax	pmax		
	comp=Z,32nm,1.3s						
MCK	McKinley	88.02	12	eP	P	22 59 02.7	-0.8
	comp=Z,32nm,1.3s						
ANMO	Albuquerque	88.08	51	eP	P	22 59 02.0	-2.7
ANMO				pmax	pmax		
	comp=Z,17nm,1.2s						
ANMO	Albuquerque	88.08	51	eP	P	22 59 05.2	+0.4
	comp=Z,4.1nm,1.0s						
PAX	Paxson	88.09	14	eP	P	22 59 03.3	-0.6
PAX				pmax	pmax		
	comp=Z,76nm,2.9s						
PAX	Paxson	88.09	14	eP	P	22 59 03.3	-0.6
	comp=Z,76nm,2.9s						
NEW	Newport	88.25	36	eP	P	22 59 04.5	-0.5
NEW				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NEW	Newport	88.25	36	P	P	22 59 05.2	+0.2
	comp=Z,3.5nm,0.8s,baz=219,slow=6.6,SNR=6.9						
NEW	Newport	88.25	36	eP	P	22 59 04.5	-0.5
	comp=Z,4.4nm,0.9s						
HYT	Haines Junctio	88.39	19	eP	P	22 59 05.3	-0.1
XAN	Xi'an	88.77	307	P	P	22 59 08.8	+1.0
XAN				PMZ			
	comp=Z,7.0nm,0.9s						
AHID	Auburn Hatcher	88.77	43	eP	P	22 59 07.4	-0.4
	comp=Z,7.9nm,1.2s						
MCMT	McKenzie Canyo	88.78	40	eP	P	22 59 08.1	+0.3
DOT	Dot Lake	89.00	14	eP	P	22 59 07.9	-0.2
	comp=Z,15nm,1.3s						
DLBC	Dease Lake	89.04	23	P	P	22 59 08.9	+0.5
	comp=Z,1.7nm,0.7s,baz=225,slow=6.0,SNR=9.4						
DLBC	Dease Lake	89.04	23	eP	P	22 59 08.0	-0.4
	comp=Z,28nm,1.9s						
S22A	4UR Ranch, Cre	89.13	49	eP	P	22 59 09.7	0.0
	comp=Z,22nm,2.0s						
IM04	Indian Mountai	89.20	10	eP	P	22 59 08.6	-0.4
DLMT	Dillon	89.21	40	eP	P	22 59 08.1	-1.7
	comp=Z,5.0nm,0.8s						
REDW	Red Top Meadow	89.23	42	eP	P	22 59 08.8	-1.1
	comp=Z,10.0nm,1.0s						
TPAW	Teton Pass	89.24	42	eP	P	22 59 08.6	-1.5
	comp=Z,4.9nm,0.8s						
COLA	College	89.25	12	d iP	P	22 59 08.1	-1.1
COLA				pmax	pmax		
	comp=Z,68nm,1.1s						
COLA	College	89.25	12	eP	P	22 59 08.4	-0.8
	comp=Z,91nm,0.3s						
FXWY	Fox Creek	89.27	42	eP	P	22 59 10.2	+0.1
	comp=Z,19nm,2.0s						
SNOW	Snow King Moun	89.35	42	eP	P	22 59 09.7	-0.8
	comp=Z,16nm,1.1s						
IL1	Eielson Array	89.36	13	eP	P	22 59 08.6	-1.1
ILAR	Eielson Array	89.36	13	P	P	22 59 09.0	-0.7
	comp=Z,5.2nm,0.7s,baz=219,slow=5.4,SNR=39						
ILB	Eielson Array	89.36	13	eP	P	22 59 09.0	-0.7
IMW	Indian Meadow	89.45	42	eP	P	22 59 10.4	-0.6
	comp=Z,8.8nm,0.8s						
LOHW	Long Hollow	89.52	42	eP	P	22 59 11.8	+0.6
	comp=Z,4.3nm,0.8s						
HIA	Hailar	89.56	325⇓	eP	P	22 59 10.0	-1.0
HIA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
QLMT	Earthquake Lak	89.64	41	eP	P	22 59 12.7	+1.0
FLWY	Flagg Ranch	89.70	42	eP	P	22 59 12.2	+0.1
	comp=Z,10.0nm,0.8s						
SMCO	Snowmass	89.71	47	eP	P	22 59 13.0	+0.5
	comp=Z,11nm,1.4s						
BW06	Boulder Array	89.75	43	eP	P	22 59 12.5	+0.1
BW06				eP	PcP	22 59 12.7	-0.6
PD31	Pinedale Array	89.75	43	eP	P	22 59 13.2	+0.8
PDAR	Pinedale Array	89.75	43	P	P	22 59 13.2	+0.8
	comp=Z,5.7nm,0.9s,baz=211,slow=3.2,SNR=32						
KMI	Kunming	89.82	297	P	P	22 59 14.8	+1.7
KMI				PMZ			
	comp=Z,18nm,1.1s						
YMR	Madison River	89.84	41	eP	P	22 59 13.6	+0.9
	comp=Z,11nm,0.9s						
H17A	Grant Village	89.93	41	eP	P	22 59 15.4	+2.2
	comp=Z,6.3nm,0.8s						
BOZ	Bozeman (W)	89.94	40	eP	P	22 59 13.7	+0.6
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BOZ	Bozeman (W)	89.94	40	eP	P	22 59 13.7	+0.6
	comp=Z,5.4nm,0.8s						
BILL	Bilibino	90.10	354⇑	eP	P	22 59 12.1	-0.9
BILL				e		23 02 46.3	
BILL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MSTX	Muleshoe	90.36	53	eP	P	22 59 16.0	+0.8
	comp=Z,6.5nm,0.9s						
CM01	Chiang Mai Arr	90.43	290	eP	P	22 59 17.0	+1.2
CM31	Chiang Mai Arr	90.46	290	eP	P	22 59 17.6	+1.7
CMAR	Chiang Mai Arr	90.46	290	eeP	P	22 59 17.8	+1.9
CMAR				pmax	pmax		
	comp=Z,13nm,0.9s						
CMAR	Chiang Mai Arr	90.46	290	P	P	22 59 17.6	+1.7
	comp=Z,13nm,0.9s,baz=129,slow=3.1,SNR=58						
DAWY	Dawson	90.49	16	eP	P	22 59 15.0	0.0
CHTO	Chiang Mai	90.59	290	eP	P	22 59 17.0	+0.5
CHTO				pmax	pmax		
	comp=Z,15nm,1.0s						
CHTO	Chiang Mai	90.59	290	eP	P	22 59 17.0	+0.5
	comp=Z,16nm,1.0s						
EGAK	Eagle	90.64	15	eP	P	22 59 15.2	-0.4
	comp=Z,8.1nm,0.8s						
COLD	Coldfoot	90.93	10	eP	P	22 59 17.8	+0.8
	comp=Z,6.6nm,0.8s						
YAK	Yakutsk	93.10	338	eP	P	22 59 26.3	-0.7
YAK				pmax	pmax		
	comp=Z,21nm,0.6s						
YAK	Yakutsk	93.10	338	P	P	22 59 27.9	+0.9
	comp=Z,25nm,0.6s,baz=31,slow=2.3,SNR=4.3						
ULN	Ulaanbaatar	96.16	319	eP	P	22 59 40.3	-1.2
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONA0	Songino Array	96.55	319	eP	P	22 59 43.7	+0.4
SONM	Songino Array	96.55	319	P	P	22 59 43.7	+0.4
	comp=Z,0.4nm,0.7s,baz=114,slow=3.6,SNR=3.5						
YKA	Yellowknife Ar	97.49	25	P	P	22 59 46.3	-0.6
	comp=Z,0.3nm,0.6s,baz=237,slow=4.4,SNR=7.7						
YKB5	Yellowknife Ar	97.49	25	eP	P	22 59 46.0	-0.9
ZAA0	Zalesovo Array	111.31	321	ePKiKP	PKiKP	23 04 42.6	-2.0
ZAA1	Zalesovo Array	111.31	321	ePKiKP	PKiKP	23 04 43.2	-1.4
ZALV	Zalesovo Beam	111.31	321	PKiKP	PKiKP	23 04 43.2	-1.4
	comp=Z,2.1nm,0.6s,baz=100,slow=2.7,SNR=15						
MK01	Makanchi Array	111.91	313	ePKiKP	PKiKP	23 04 44.3	-1.8
MK32	Makanchi Array	111.92	313	ePKiKP	PKiKP	23 04 44.7	-1.4
MKAR	Makanchi Array	111.92	313	PKiKP	PKiKP	23 04 44.7	-1.4
	comp=Z,1.1nm,0.4s,baz=81,slow=1.8,SNR=20						
MKAR	Makanchi Array	111.92	313	ePKiKP	PKiKP	23 04 44.3	-1.8
KURK	Kurchatov	114.77	317	ePKIKP	PKPdf	23 04 49.9	-1.5
KURK	Kurchatov	114.77	317	ePKiKP	PKPdf	23 04 49.9	-1.5
KKAR	Karatay Array	119.90	308	ePKIKP	PKPdf	23 05 00.3	-1.2
KKAR	Karatay Array	119.90	308	ePKPdf	PKPdf	23 05 00.3	-1.2
KBL	Kabul	120.39	298	ePKIKP	PKPdf	23 05 02.4	-0.6
KBL	Kabul	120.39	298	ePKPdf	PKPdf	23 05 02.4	-0.6
SPA0	Spitsbergen Ar	122.93	357	ePKPdf	PKPdf	23 05 06.0	-0.4
SPITS	Spitsbergen Ar	122.93	357	PKP	PKPdf	23 05 06.0	-0.4
	comp=Z,10nm,0.7s,baz=72,slow=4.7,SNR=7.6						
DAG	Danmarks Havn	123.80	6	i PKIKP	PKPdf	23 05 06.6	-1.4
DAG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DAG	Danmarks Havn	123.80	6	i P	PKPdf	23 05 06.6	-1.4
	comp=Z,2.6nm,1.0s						
SFJD	Kangerlussuaq	123.94	22	i PKIKP	PKPdf	23 05 08.

SUW	**Suwalki**	**143.83**	**339**	*e*PKP	PKPab	23 05 44.2	-0.3
SUW	**Suwalki**	**143.83**	**339**	*e*PKPdf	PKPab	23 05 43.9	-0.6
KPL	**Plockton**	**143.84**	**7**	*e*P	PKPbc	23 05 44.4	0.0
KPL				AMB	AMB	23 05 46.1	
	comp=Z,83nm,2.0s						
MDO	**Dochfour**	**143.87**	**6**	*e*P	PKPab	23 05 44.0	-0.5
AKASG	**Malin Array Be**	**143.94**	**330**	PKP	PKPbc	23 05 44.0	-0.9
	comp=Z,36nm,0.5s,baz=42,slow=4.3,SNR=109						
AKBB	**Malin Array Si**	**143.94**	**330**	*e*PKPbc	PKPbc	23 05 44.0	-0.9
KIEV	**Kiev**	**143.95**	**330**	*e*PKPbc	PKPbc	23 05 43.7	-1.3
AK1	**Malin Array Si**	**143.98**	**330**	*e*PKPbc	PKPbc	23 05 44.0	-1.1
KSB	**Sheil Bridge**	**143.99**	**7**	*e*P	PKPbc	23 05 44.7	-0.2
MALT	**Malatya**	**144.56**	**306**	⇑*i*P	**PKPdf**	**23 05 47.8**	**0.0**
MUD	**Monsted U'grnd**	**144.76**	**353**	*i* P	PKPbc	23 05 47.4	0.0
	comp=Z,45nm,0.8s						
SIM	**Simferopol'**	**144.79**	**319**	*de*PKHKP	**PKPdf**	**23 05 48.1**	**+0.2**
SIM				pmax	pmax		
	comp=Z,56nm,0.7s						
EAB	**Aberfoyle**	**145.11**	**6**	*e*P	**PKPdf**	**23 05 48.0**	**-0.1**
BSD	**Bornholm Skovb**	**145.12**	**347**	*i* P	**PKPbc**	**23 05 48.4**	**-0.2**
	comp=Z,43nm,0.8s						
PGBU	**Glenifferbraes**	**145.47**	**6**	*e*P	**PKPdf**	**23 05 48.6**	**-0.1**
ESY	**Stoneypath**	**145.53**	**5**	*e*P	**PKPbc**	**23 05 49.4**	**-0.4**
EBL	**Broad Law**	**145.64**	**5**	*e*P	**PKPbc**	**23 05 49.6**	**-0.5**
ESK	**Eskdalemuir**	**146.08**	**5**	*e*P	**PKPbc**	**23 05 50.7**	**-0.7**
ESK				AMB	AMB	23 05 54.0	
	comp=Z,63nm,3.1s						
ECK	**Cauldkaine Hil**	**146.22**	**5**	*e*P	**PKPdf**	**23 05 50.0**	**+0.1**
GKP	**Gorka Klasztor**	**146.27**	**343**	*e*PKIKP	**PKPbc**	**23 05 52.1**	**+0.1**
GKP	**Gorka Klasztor**	**146.27**	**343**	*e*PKP	**PKPbc**	**23 05 52.1**	**+0.1**
GAL1	**Galloway**	**146.37**	**7**	*e*P	**PKPbc**	**23 05 51.5**	**-0.8**
GAL1				AMB	AMB	23 05 54.2	
	comp=Z,50nm,1.9s						
BEL	**Belsk**	**146.44**	**339**	*e*PKIKP	**PKPbc**	**23 05 53.1**	**+0.6**
BEL	**Belsk**	**146.44**	**339**	*e*PKP	**PKPbc**	**23 05 53.1**	**+0.6**
ZALF	**Zalf**	**146.75**	**297**	*e*P	**PKPbc**	**23 05 54.1**	**0.0**
	SNR=90						
ZALF	**Zalf**	**146.75**	**297**	*e*P	**PKPbc**	**23 05 54.1**	**0.0**
KESW	**Keswick, Cumbr**	**146.81**	**5**	*e*P	**PKPbc**	**23 05 53.4**	**-0.1**
LVV	**L'vov**	**146.86**	**334**	*e*PKHKP	**PKPdf**	**23 05 52.3**	**+1.1**
WRDH	**Warideh**	**146.90**	**302**	*e*P	**PKPbc**	**23 05 54.0**	**-0.5**
	SNR=90						
WRDH	**Warideh**	**146.90**	**302**	*e*P	**PKPbc**	**23 05 54.0**	**-0.5**
BIDA	**Albida**	**147.10**	**302**	*e*P	**PKPbc**	**23 05 55.0**	**0.0**
	SNR=90						
BIDA	**Albida**	**147.10**	**302**	*e*P	**PKPbc**	**23 05 55.0**	**0.0**
BIDA				AML	AML	23 05 58.9	
	comp=N,21nm,0.7s						
BIDA				AML	AML	23 05 59.8	
	comp=E,20nm,0.5s						
HAWK	**Haweek**	**147.16**	**301**	*e*P	**PKPbc**	**23 05 54.3**	**-0.9**
	SNR=90						
HAWK	**Haweek**	**147.16**	**301**	*e*P	**PKPbc**	**23 05 54.3**	**-0.9**
BR101	**Keskin Array S**	**147.54**	**311**	*e*PKPbc	**PKPbc**	**23 05 55.6**	**-0.5**
BRTR	**Keskin Array B**	**147.54**	**311**	PKPbc	**PKPbc**	**23 05 55.6**	**-0.5**
	comp=E,6.3nm,0.8s,baz=139,slow=5.3,SNR=28						
KWP	**Kalwaria Pacla**	**147.54**	**335**	*e*PKIKP	**PKPbc**	**23 05 55.6**	**-0.1**
KWP	**Kalwaria Pacla**	**147.54**	**335**	*e*PKP	**PKPbc**	**23 05 55.5**	**-0.1**
HPK	**Haverah Park**	**147.55**	**4**	*e*P	**PKPbc**	**23 05 55.4**	**-0.1**
HPK				AMB	AMB	23 05 56.8	
	comp=Z,33nm,1.0s						
PRAR	**RASCA**	**147.68**	**329**	⇑*i*P	**PKPbc**	**23 05 57.6**	**+1.5**
TLCR		**147.76**	**323**	⇑PKIKP	**PKPbc**	**23 05 56.3**	**0.0**
TLCR		**147.76**	**323**	⇑*i*P	**PKPbc**	**23 05 56.3**	**0.0**
RUE	**Ruedersdorf**	**147.83**	**346**	*e*PKPdf	**PKPdf**	**23 05 53.5**	**+0.9**
LHO	**Holmfirth**	**147.94**	**4**	*e*P	**PKPbc**	**23 05 56.3**	**-0.2**
WLF1	**Llynfaes**	**147.96**	**7**	*e*P	**PKPbc**	**23 05 56.2**	**-0.4**
WLF1				AMB	AMB	23 05 57.9	
	comp=Z,56nm,2.0s						
BUR04	**Bucovina Ar. S**	**147.98**	**330**	*e*PKPbc	**PKPbc**	**23 05 57.0**	**+0.1**
BURAR	**Bucovina Array**	**147.98**	**330**	⇑PKIKP	**PKPbc**	**23 05 57.6**	**+0.7**
BURAR	**Bucovina Array**	**147.98**	**330**	⇑*i*P	**PKPbc**	**23 05 57.6**	**+0.7**
TESR	**Tescani**	**148.06**	**327**	⇑*i*P	**PKPbc**	**23 05 57.1**	**+0.1**
ANTO	**Ankara**	**148.07**	**311**	⇓PKIKP	**PKPbc**	**23 05 57.3**	**-0.1**
ANTO	**Ankara**	**148.07**	**312**	⇓*i*P	**PKPbc**	**23 05 57.3**	**-0.1**
ANTO	**Ankara**	**148.07**	**312**	*e*PKPbc	**PKPbc**	**23 05 57.2**	**-0.2**
BR231	**Keskin MP Arra**	**148.09**	**312**	*e*PKPdf	**PKPdf**	**23 05 53.0**	**-0.7**
CFR	**Carcaliu**	**148.14**	**324**	⇑PKIKP	**PKPbc**	**23 05 57.3**	**+0.1**
CFR	**Carcaliu**	**148.14**	**324**	⇑*i*P	**PKPbc**	**23 05 57.3**	**+0.1**
OJC	**Ojcow**	**148.15**	**338**	*i* PKIKP	**PKPbc**	**23 05 58.3**	**+1.2**
OJC	**Ojcow**	**148.15**	**338**	*e*PKIKP	**PKPbc**	**23 05 58.3**	**+1.2**
OJC	**Ojcow**	**148.15**	**338**	*e*PKPbc	**PKPbc**	**23 05 56.8**	**-0.3**
KBI1	**Birley Grange**	**148.26**	**4**	*e*P	**PKPbc**	**23 05 56.9**	**-0.4**
KOLS	**Kolonicke sedl**	**148.27**	**334**	*e*PKIKP	**PKPbc**	**23 05 57.9**	**+0.4**
KOLS	**Kolonicke sedl**	**148.27**	**334**	*e*PKP	**PKPbc**	**23 05 57.9**	**+0.4**
KOLS				*e*		23 23 15.9	
PETR	**Petresti**	**148.28**	**325**	⇑*i*P	**PKPbc**	**23 05 58.6**	**+1.0**
STHS	**Stebnicka Huta**	**148.29**	**336**	*e*PKIKP	**PKPbc**	**23 05 57.4**	**-0.1**
STHS	**Stebnicka Huta**	**148.29**	**336**	*e*PKP	**PKPbc**	**23 05 57.4**	**-0.1**
TIRR	**Tirgusor**	**148.43**	**322**	⇑PKIKP	**PKPbc**	**23 05 58.1**	**+0.1**
TIRR	**Tirgusor**	**148.43**	**322**	⇑*i*P	**PKPbc**	**23 05 58.1**	**+0.1**
TIRR	**Tirgusor**	**148.43**	**322**	*e*PKPbc	**PKPbc**	**23 05 57.4**	**-0.6**
VRI	**Vrincioaia**	**148.45**	**326**	⇑PKIKP	**PKPbc**	**23 05 58.1**	**0.0**
VRI	**Vrincioaia**	**148.45**	**326**	⇑*i*P	**PKPbc**	**23 05 58.1**	**0.0**
FOEL	**Foel Wylfa**	**148.48**	**6**	*e*P	**PKPbc**	**23 05 57.7**	**-0.2**
FOEL				AMB	AMB	23 05 59.0	
	comp=Z,37nm,0.8s						
PLOR	**Plostina**	**148.50**	**326**	⇑PKIKP	**PKPbc**	**23 05 58.0**	**-0.2**
PLOR	**Plostina**	**148.50**	**326**	⇑*i*P	**PKPbc**	**23 05 58.0**	**-0.2**
UZH	**Uzhgorod**	**148.50**	**334**	*e*PKIKP	**PKPbc**	**23 05 58.3**	**+0.3**
TLB	**Topalu**	**148.56**	**323**	⇑PKIKP	**PKPbc**	**23 05 58.7**	**+0.4**
TLB	**Topalu**	**148.56**	**323**	⇑*i*P	**PKPbc**	**23 05 58.7**	**+0.4**
NIE	**Niedzica**	**148.63**	**337**	*i* PKIKP	**PKPbc**	**23 05 59.2**	**+0.8**
NIE	**Niedzica**	**148.63**	**337**	*e*PKIKP	**PKPbc**	**23 05 59.2**	**+0.8**
KSP	**Ksiaz**	**148.71**	**342**	*e*PKIKP	**PKPbc**	**23 05 58.9**	**+0.4**
KSP	**Ksiaz**	**148.71**	**342**	*e*PKP	**PKPbc**	**23 05 59.2**	**+0.7**
MANR	**Mangalia**	**148.72**	**321**	⇑*i*P	**PKPbc**	**23 05 59.3**	**+0.6**
BMR	**Baia Mare**	**148.72**	**331**	⇑PKIKP	**PKPbc**	**23 05 59.1**	**+0.4**
BMR	**Baia Mare**	**148.72**	**331**	⇑*i*P	**PKPbc**	**23 05 59.1**	**+0.4**
TRPA	**Tarpa**	**148.79**	**333**	⇑*i*P	**PKPbc**	**23 05 58.9**	**+0.1**
TRPA	**Tarpa**	**148.79**	**333**	⇑*e*	**PKPbc**	**23 05 59.8**	**+1.0**
PGOR	**Pogoanele**	**148.94**	**324**	⇑*i*P	**PKPbc**	**23 05 59.8**	**+0.5**
MSAB	**Monastry St. A**	**148.99**	**322**	⇑*i*P	**PKPbc**	**23 05 59.8**	**+0.4**
OKC	**Ostrava-Krasne**	**149.03**	**339**	*e*PKIKP	**PKPbc**	**23 05 59.1**	**-0.2**
OKC				*e*		23 06 06.4	
OKC	**Ostrava-Krasne**	**149.03**	**339**	*e*PKP	**PKPbc**	**23 05 59.1**	**-0.2**
OKC				*e*PKPAB	**PKPab**	**23 06 06.4**	**+1.4**
PSN	**Preselentsi**	**149.04**	**321**	⇑PKIKP	**PKPbc**	**23 06 00.1**	**+0.6**
PSN	**Preselentsi**	**149.04**	**321**	⇑*i*P	**PKPbc**	**23 06 00.1**	**+0.6**
PSN	**Preselentsi**	**149.04**	**321**	*i* P	**PKPbc**	**23 05 58.8**	**-0.7**
ISR	**Istrita**	**149.04**	**325**	⇑PKIKP	**PKPbc**	**23 05 59.8**	**+0.2**
ISR	**Istrita**	**149.04**	**325**	⇑*i*P	**PKPbc**	**23 05 59.8**	**+0.2**
DOPR	**Dopca**	**149.06**	**327**	⇑*i*P	**PKPbc**	**23 06 00.3**	**+0.7**
UPC	**Upice**	**149.09**	**342**	*e*PKIKP	**PKPbc**	**23 05 59.7**	**+0.2**
UPC				*e*		23 06 06.6	
UPC	**Upice**	**149.09**	**342**	⇑*e*PKP	**PKPbc**	**23 05 59.7**	**+0.2**
UPC				*e*PKPAB	**PKPab**	**23 06 06.6**	**+1.3**
CLL	**Collm**	**149.10**	**346**	⇓*e*PKHKP	**PKPdf**	**23 05 55.0**	**+0.2**
CLL				*i*		23 05 59.4	
CLL				*i*		23 06 05.9	
CLL				pmax	pmax		
	comp=Z,42nm,0.9s						
CLL				pmax	pmax		
	comp=Z,19nm,0.8s						
CLL	**Collm**	**149.10**	**346**	*e*PKPdf	**PKPdf**	**23 05 55.0**	**+0.2**
CLL				⇓*i*PKPbc	**PKPbc**	**23 05 59.4**	**0.0**
	comp=Z,42nm,0.9s						
CLL				*i* PKPab	**PKPab**	**23 06 05.9**	**+0.6**
	comp=Z,19nm,0.8s						
CLL				*e*pPKPab	**pPKPab**	**23 07 44.0**	**+2.3**
CLL	**Collm**	**149.10**	**346**	*e*PKPbc	**PKPbc**	**23 05 59.5**	**0.0**
MLR	**Muntele Rosu**	**149.11**	**326**	⇑PKIKP	**PKPbc**	**23 06 00.8**	**+0.9**
MLR	**Muntele Rosu**	**149.11**	**326**	⇑*i*P	**PKPbc**	**23 06 00.8**	**+0.9**
DPC	**Dobruska-Polom**	**149.14**	**342**	*e*PKIKP	**PKPbc**	**23 05 59.5**	**-0.2**
DPC	**Dobruska-Polom**	**149.14**	**342**	⇑*e*PKP	**PKPbc**	**23 06 00.1**	**+0.4**
DPC				*e*PKPAB	**PKPab**	**23 06 07.1**	**+1.6**
DPC	**Dobruska-Polom**	**149.14**	**342**	*e*PKPbc	**PKPbc**	**23 05 59.5**	**-0.2**
MORC	**Moravsky Berou**	**149.28**	**340**	*e*PKIKP	**PKPbc**	**23 05 59.8**	**-0.2**
MORC	**Moravsky Berou**	**149.28**	**340**	⇓*i*P	**PKPbc**	**23 06 00.4**	**+0.4**
MORC	**Moravsky Berou**	**149.28**	**340**	*e*PKPbc	**PKPbc**	**23 05 59.8**	**-0.2**
BRG	**Berggiesshubel**	**149.29**	**345**	*e*PKP	**PKPbc**	**23 05 59.9**	**-0.1**
	comp=Z,14nm,0.7s						
BRG				*e*		23 06 05.9	
	comp=Z,8.6nm,0.7s						
BRG	**Berggiesshubel**	**149.29**	**345**	*e*PKIKP	**PKPbc**	**23 05 59.9**	**-0.1**
BRG				*e*		23 06 05.9	
BRG				pmax	pmax		
	comp=Z,14nm,0.7s						
BRG				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SECR		**149.35**	**325**	⇑*i*P	**PKPbc**	**23 06 00.5**	**+0.2**
MCH1	**Michaelchurch**	**149.38**	**6**	*e*P	**PKPbc**	**23 05 59.3**	**-0.8**
MCH1				AMB	AMB	23 06 00.7	
	comp=Z,16nm,0.8s						
MDB	**Medias**	**149.44**	**329**	⇑PKIKP	**PKPbc**	**23 06 01.0**	**+0.5**
MDB	**Medias**	**149.44**	**329**	⇑*i*P	**PKPbc**	**23 06 01.0**	**+0.5**
PVCC	**Panska Ves**	**149.45**	**344**	*e*PKIKP	**PKPbc**	**23 06 00.7**	**+0.4**
PVCC	**Panska Ves**	**149.45**	**344**	⇑*e*PKP	**PKPbc**	**23 06 00.7**	**+0.4**
CSS	**Prodhromos**	**149.48**	**303**	*e*PKPbc	**PKPbc**	**23 06 00.2**	**-0.7**
SULR		**149.49**	**325**	⇑*i*P	**PKPbc**	**23 06 01.8**	**+1.2**
MONM	**Monmouth**	**149.56**	**6**	*e*P	**PKPbc**	**23 05 59.8**	**-0.8**
VOIR		**149.60**	**327**	⇓PKIKP	**PKPbc**	**23 06 00.8**	**-0.2**
VOIR		**149.60**	**327**	⇓*i*P	**PKPbc**	**23 06 00.8**	**-0.2**
DRGR		**149.74**	**331**	⇑PKIKP	**PKPbc**	**23 06 00.2**	**-1.1**
DRGR		**149.74**	**331**	⇑*i*P	**PKPbc**	**23 06 00.2**	**-1.1**
MTUR	**Matau**	**149.74**	**327**	⇑PKIKP	**PKPbc**	**23 06 02.4**	**+1.1**
MTUR	**Matau**	**149.74**	**327**	⇑*i*P	**PKPbc**	**23 06 02.4**	**+1.1**
PRD	**Provadia**	**149.78**	**321**	*i* P	**PKPbc**	**23 06 00.8**	**-0.5**
ARR	**Arges**	**149.86**	**327**	⇑*i*P	**PKPbc**	**23 06 02.7**	**+1.1**
PRA	**Prague**	**149.91**	**344**	*e*PKIKP	**PKPbc**	**23 06 01.5**	**+0.1**
PRA				*e*		23 06 10.2	
PRA	**Prague**	**149.91**	**344**	⇑*e*PKP	**PKPbc**	**23 06 01.5**	**+0.1**
PRA				*e*PKPAB	**PKPab**	**23 06 10.2**	**+1.6**
VYHS	**Vyhne**	**149.94**	**337**	*e*PKIKP	**PKPbc**	**23 06 01.6**	**0.0**
VYHS				*e*		23 06 09.2	
VYHS	**Vyhne**	**149.94**	**337**	*e*PKP	**PKPbc**	**23 06 01.6**	**0.0**
VYHS				*e*		23 06 09.2	
PRU	**Pruhonice**	**149.95**	**344**	*e*PKIKP	**PKPbc**	**23 06 01.6**	**0.0**
PRU				*e*		23 06 09.0	
PRU	**Pruhonice**	**149.95**	**344**	⇑*e*PKP	**PKPbc**	**23 06 01.6**	**0.0**
PRU				*e*PKPAB	**PKPab**	**23 06 09.0**	**+0.1**
VRAC	**Vranov**	**149.98**	**341**	⇓PKIKP	**PKPbc**	**23 06 01.8**	**+0.1**
VRAC	**Vranov**	**149.98**	**341**	⇓*i*P	**PKPbc**	**23 06 01.8**	**+0.1**
PSZ	**Piszkesteto**	**150.03**	**336**	*e*PKIKP	**PKPbc**	**23 06 01.0**	**-0.9**
PSZ	**Piszkesteto**	**150.03**	**336**	⇓*i*P	**PKPbc**	**23 06 01.8**	**-0.1**
PSZ	**Piszkesteto**	**150.03**	**336**	⇓*i*e	**PKPbc**	**23 06 01.6**	**-0.3**
PSZ	**Piszkesteto**	**150.03**	**336**	*e*PKPbc	**PKPbc**	**23 06 01.0**	**-0.9**
WOL	**Wolverton**	**150.21**	**4**	*e*P	**PKPbc**	**23 06 01.4**	**-0.7**
HUMR	**Humele**	**150.26**	**326**	⇓*i*P	**PKPbc**	**23 06 02.3**	**-0.2**
TREC	**Trest**	**150.32**	**342**	⇑*e*PKP	**PKPbc**	**23 06 02.4**	**-0.1**
TREC				*e*PKPAB	**PKPab**	**23 06 11.2**	**+0.7**
SZH	**Strazhica**	**150.58**	**323**	*i* P	**PKPbc**	**23 06 02.4**	**-0.9**
JMB	**Yambol**	**150.71**	**321**	⇑PKIKP	**PKPdf**	**23 06 00.0**	**+2.4**
JMB	**Yambol**	**150.71**	**321**	⇑*i*P	**PKPdf**	**23 06 00.0**	**+2.4**
GZR	**Gura Zlata**	**150.75**	**329**	⇓PKIKP	**PKPbc**	**23 06 03.0**	**-0.7**
GZR	**Gura Zlata**	**150.75**	**329**	⇓*i*P	**PKPbc**	**23 06 03.0**	**-0.7**
MEM	**Membach**	**150.85**	**355**	PKPbc	**PKPbc**	**23 06 03.4**	**-0.3**
MEM	**Membach**	**150.85**	**355**	*e*PKPbc	**PKPbc**	**23 06 03.3**	**-0.3**
PVL	**Pavlikeni**	**150.94**	**323**	*i* P	**PKPbc**	**23 06 03.9**	**-0.2**
KHC	**Kasperske Hory**	**150.99**	**344**	*e*PKIKP	**PKPdf**	**23 05 59.1**	**+1.2**
KHC				*e*		23 06 03.7	
KHC				*e*		23 06 13.5	
KHC				*e*		23 07 46.3	
KHC	**Kasperske Hory**	**150.99**	**344**	*e*PKPDF	**PKPdf**	**23 05 59.1**	**+1.2**
KHC				⇑*e*PKP	**PKPbc**	**23 06 03.7**	**-0.4**
KHC				*e*PKPAB	**PKPab**	**23 06 13.5**	**+0.2**
KHC				*e*pPKP	pPKPdf	23 07 46.3	+7.7
KHC	**Kasperske Hory**	**150.99**	**344**	*e*PKPbc	**PKPbc**	**23 06 03.6**	**-0.4**
KHC				*e*PKPab	**PKPab**	**23 06 13.3**	**0.0**
PKS7	**Kunszentmiklos**	**151.03**	**335**	⇓*i*e	**PKPbc**	**23 06 03.9**	**-0.2**
PKSG		**151.03**	**337**	⇑*i*e	**PKPbc**	**23 06 04.0**	**-0.1**
SNF	**Seneffe**	**151.06**	**357**	PKPbc	**PKPbc**	**23 06 03.6**	**-0.5**
SRE	**Strehaia**	**151.08**	**328**	⇑*i*P	**PKPbc**	**23 06 05.3**	**+0.9**
BCLA	**Clavier**	**151.09**	**356**	PKPbc	**PKPbc**	**23 06 02.9**	**-1.2**
CSKK	**Cs´ákako**	**151.10**	**337**	*e*	**PKPbc**	**23 06 03.8**	**-0.5**
BZS	**Buzias**	**151.13**	**331**	⇓*i*P	**PKPbc**	**23 06 04.4**	**0.0**
GEC2	**GERESS Array S**	**151.22**	**344**	*e*PKIKP	**PKPdf**	**23 05 58.1**	**-0.2**
GEC2				*e*		23 06 04.7	
GEC2	**GERESS Array S**	**151.22**	**344**	*e*PKPdf	**PKPdf**	**23 05 58.1**	**-0.2**
GEC2				*e*PKPbc	**PKPbc**	**23 06 04.7**	**0.0**
GERES	**GERESS Array B**	**151.22**	**344**	PKP	**PKPdf**	**23 05 58.1**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=2.4,slow=2.4,SNR=8.4						
GERES				PKPbc	**PKPbc**	**23 06 04.7**	**0.0**
	comp=Z,7.6nm,0.6s,baz=29,slow=2.2,SNR=48						
PKS6	**Bocsa**	**151.23**	**334**	⇓*i*e	**PKPbc**	**23 06 04.8**	**+0.2**
PKST	**T¨s**	**151.27**	**337**	⇑*i*e	**PKPbc**	**23 06 04.4**	**-0.3**
SOP	**Sopron**	**151.42**	**339**	⇓*i*e	**PKPbc**	**23 06 05.2**	**+0.2**
CONA	**Conrad Observa**	**151.43**	**340**	⇑*i*PKPdf	**PKPdf**	**23 05 58.4**	**-0.2**
	comp=Z,1.0nm,0.9s						
CONA				*i* PKiKP	**PKiKP**	**23 06 05.3**	**-0.2**
	comp=Z,22nm,0.7s,SNR=14						
DOU	**Dourbes**	**151.46**	**356**	PKPbc	**PKPbc**	**23 06 05.1**	**+0.1**
PKS2	**Kecel**	**151.46**	**335**	⇑*i*e	**PKPbc**	**23 06 05.4**	**+0.3**
DIM	**Dimitrovgrad**	**151.57**	**321**	*i* P	**PKPbc**	**23 06 05.2**	**-0.4**
MPEP	**Malo Peshtene**	**151.72**	**325**	*i* P	**PKPbc**	**23 06 05.6**	**-0.3**
PKS9	**Tamasi**	**151.75**	**336**	⇑*i*e	**PKPbc**	**23 06 05.5**	**-0.3**
WLF	**Walferdange**	**151.77**	**354**	PKPbc	**PKPbc**	**23 06 06.6**	**+0.9**
WLF	**Walferdange**	**151.77**	**354**	*e*PKPbc	**PKPbc**	**23 06 05.8**	**+0.1**
KDZ	**Kurdzhali**	**151.89**	**321**	⇑PKIKP	**PKPbc**	**23 06 06.2**	**-0.1**
KDZ	**Kurdzhali**	**151.89**	**321**	⇑*i*P	**PKPbc**	**23 06 06.2**	**-0.1**
KDZ	**Kurdzhali**	**151.89**	**321**	*i* P	**PKPbc**	**23 06 04.9**	**-1.4**
MOA	**Molln**	**151.98**	**342**	*i* PKiKP	**PKPbc**	**23 06 06.2**	**-0.1**
	comp=Z,8.5nm,0.6s,SNR=5.6						
ARSA	**Arzberg**	**152.14**	**340**	⇓*i*PKiKP	**PKiKP**	**23 06 07.4**	**+0.5**
	comp=Z,3.4nm,0.7s						
STU	**Stuttgart**	**152.25**	**350**	*e*PKIKP	**PKPbc**	**23 06 06.9**	**0.0**
STU	**Stuttgart**	**152.25**	**350**	*e*PKPbc	**PKPbc**	**23 06 06.9**	**0.0**
RZN	**Rozhen**	**152.28**	**322**	*i* P	**PKPbc**	**23 06 05.9**	**-1.5**
VTS	**Vitosha**	**152.53**	**325**	⇑PKIKP	**PKPbc**	**23 06 07.9**	**0.0**
VTS	**Vitosha**	**152.53**	**325**	⇑*i*P	**PKPbc**	**23 06 07.9**	**0.0**
VTS	**Vitosha**	**152.53**	**325**	*i* P	**PKPbc**	**23 06 07.5**	**-0.4**
SOKA	**Soboth**	**152.80**	**340**	⇑*i*PKPbc	**PKPbc**	**23 06 07.7**	**-0.5**
	comp=Z,12nm,1.3s						
PERS	**Pernice**	**152.81**	**340**	*e*PKPbc	**PKPbc**	**23 06 07.7**	**-0.6**
PERS				*i*		23 06 08.9	
BFO	**Black Forest**	**152.82**	**351**	*e*PKIKP	**PKPbc**	**23 06 07.7**	**-0.5**
BFO	**Black Forest**	**152.82**	**351**	*e*PKPbc	**PKPbc**	**23 06 07.7**	**-0.5**
MMB	**Musomiste**	**152.91**	**322**	⇑*i*P	**PKPab**	**23 06 21.0**	**-0.6**
MMB	**Musomiste**	**152.91**	**322**	*i* P	**PKPbc**	**23 06 07.5**	**-1.1**
KBA	**Koelnbreinsper**	**152.94**	**343**	⇑*i*PKPdf	**PKPdf**	**23 05 59.3**	**-1.7**
	comp=Z,4.1nm,1.3s						
KBA				⇓*i*PKPbc	**PKPbc**	**23 06 06.3**	**-2.3**
	comp=Z,15nm,0.9s						
KKB	**Krupnik**	**153.09**	**324**	*i* P	**PKPbc**	**23 06 08.5**	**-0.4**
WATA	**Walderalm**	**153.15**	**345**	*i* PKiKP	**PKPbc**	**23 06 08.7**	**-0.4**
	comp=Z,6.5nm,0.5s,SNR=5.3						
RETA	**Reutte**	**153.19**	**347**	⇓*i*PKPbc	**PKPbc**	**23 06 08.5**	**-0.5**
	comp=Z,6.4nm,0.7s						
WTTA	**Wattenberg**	**153.21**	**345**	⇑*i*PKPdf	**PKPdf**	**23 06 01.0**	**-0.4**
	comp=Z,3.7nm,0.8s						
WTTA				*i* PKiKP	**PKPbc**	**23 06 08.8**	**-0.4**
	comp=Z,11nm,0.5s,SNR=5.8						
WTTA				⇓*i*PKPab	**PKPab**	**23 06 23.0**	**+0.1**
	comp=Z,13nm,0.6s						
MOTA	**Moosalm**	**153.25**	**346**	⇑*i*PKPbc	**PKPbc**	**23 06 08.5**	**-0.8**
	comp=Z,6.3nm,0.6s						
ABTA	**Abfaltersbach**	**153.47**	**344**	⇑*i*PKPdf	**PKPdf**	**23 06 00.5**	**-1.2**
	comp=Z,5.7nm,1.0s						
ABTA				⇓*i*PKPbc	**PKPbc**	**23 06 08.9**	**-0.8**
	comp=Z,18nm,0.6s,SNR=8.5						
ABTA				⇑*i*PKPab	**PKPab**	**23 06 23.4**	**-0.4**
	comp=Z,9.4nm,0.8s						
DAVA	**Damuels**	**153.56**	**348**	⇓*i*PKiKP	**PKiKP**	**23 06 10.5**	**+0.5**
	comp=Z,13nm,1.2s						
CRNS	**Crni Vrh**	**153.58**	**341**	*e*PKPbc	**PKPbc**	**23 06 09.4**	**-0.5**
CRNS				*i*		23 06 10.6	
FETA	**Feichten**	**153.64**	**346**	⇑*i*PKPdf	**PKPdf**	**23 06 01.8**	**-0.2**
	comp=Z,5.7nm,0.9s						
FETA				⇓*i*PKiKP	**PKPbc**	**23 06 10.1**	**-0.1**
	comp=Z,13nm,0.9s						
VAY	**Valandovo**	**153.74**	**323**	*e*PKP	**PKPbc**	**23 06 10.0**	**-0.3**
SKO	**Skopje**	**153.90**	**326**	*e*PKP	**PKPbc**	**23 06 11.1**	**+0.5**
FUORN	**Ofenpass-Fuorn**	**154.12**	**347**	*e*PKPbc	**PKPbc**	**23 06 10.3**	**-1.1**
FUORN				*e*PKPab	**PKPab**	**23 06 26.9**	**+0.1**
OHR	**Ohrid**	**154.85**	**325**	*e*PKP	**PKPbc**	**23 06 12.7**	**-0.1**
OHR				*e*PKP	**PKPab**	**23 06 29.0**	**-0.9**
ESDC	**Sonseca Array**	**161.25**	**14**	PKPab	**PKPab**	**23 06 58.1**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=349,slow=5.1,SNR=5.2						
LIC	**Lamto**	**163.30**	**155**	*e*PKP1	**PKPdf**	**23 06 13.1**	**-1.1**
	comp=Z,31nm,1.4s						
KIC	**Kosan Boka**	**163.54**	**156**	*e*PKP1	**PKPdf**	**23 06 13.9**	**-0.5**
	comp=Z,11nm,0.7s						
TIC	**Toumodi**	**163.69**	**154**	*e*PKP1	**PKPdf**	**23 06 14.1**	**-0.5**
	comp=Z,20nm,0.2s						
DBIC	**Dimbokro**	**163.78**	**155**	*e*PKIKP	**PKPdf**	**23 06 13.5**	**-1.1**
DBIC	**Dimbokro**	**163.78**	**155**	PKP	**PKPdf**	**23 06 13.8**	**-0.8**
	comp=Z,4.6nm,0.7s,baz=192,slow=2.4,SNR=11						
DBIC	**Dimbokro**	**163.78**	**155**	*e*PKPdf	**PKPdf**	**23 06 13.5**	**-1.1**
KEST	**Kesra**	**164.49**	**337**	PKPab	**PKPab**	**23 07 12.8**	**+0.7**
	com

WEL 25 23:06:31.2±0.3, 35°.29S×178°.12E, h251km±4km, ML3.8/4, 1D, Error ellipse: s-maj=5.0km s-min=4.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.27	176	ePN	Pn	23 07 15.9	-0.3
HAZ	Te Kaha	2.47	186	PN	Pn	23 07 18.5	+0.3
HAZ				SN	S	23 07 55.0	-0.4
WMGZ	Waiomatatini S	2.53	175	PN	Pn	23 07 18.9	+0.1
PUZ	Puketiti	2.78	178	⇓PN	Pn	23 07 21.3	0.0
PUZ				SN	S	23 07 60.0	-1.1
URZ	Urewera	3.07	195	PN	Pn	23 07 24.7	+0.3
MWZ	Matawai	3.07	189	PN	Pn	23 07 24.8	+0.3
CNGZ	Carnagh Statio	3.19	179	PN	Pn	23 07 25.9	+0.2
RIGZ	Rimuhau	3.42	185	PN	Pn	23 07 28.2	-0.1
ARHZ	Aropaoanui	4.06	192	PN	Pn	23 07 35.1	-0.5
BHHZ	Black Hill Sta	4.50	201	PN	Pn	23 07 40.4	-0.5
BHHZ				SN	S	23 08 36.6	+0.1
KAHZ	Kahuranaki	4.60	192	PN	Pn	23 07 41.6	-0.6
BFZ	Birch Farm	5.58	195	PN	Pn	23 07 52.3	-1.7

IDC 25 23:07:20.8±2.5, 4°.48N×123°.51E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, Error ellipse: s-maj=340.9km s-min=27.3km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.50	157	P	P	23 13 00.2	+0.1
	0.4nm,0.3s,baz=335,slow=9.7,SNR=3.8						
ASAR	Alice Springs	29.75	161	P	P	23 13 29.2	-0.1
	0.2nm,0.4s,baz=344,slow=7.1,SNR=1.9						
MKAR	Makanchi Array	55.13	127	P	P	23 16 55.0	-0.1
	0.1nm,0.3s,baz=123,slow=7.2,SNR=6.8						

*IDC **25** 23:27:34.3±0.8, 24°.49S×176°.10W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.2/31, mbtmp4.3/10, MS3.8/4, Ms1 3.8/4, ms1mx3.2/28, Error ellipse: s-maj=26.4km s-min=23.5km az=100.0*

*ISCJB **25** 23:27:37.5±0.7, 24°.6S±0°.1×176°.2W±0°.2, h30km, mb4.2/10, MS3.7/4, Error ellipse: s-maj=24.0km s-min=20.8km az=23.8*

ISC 25 23:27:39.2±0.7, 24°.5S±0°.2×176°.1W±0°.2, h30km, n17, σ1§20/13, mb4.3/10, MS3.8/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	Tubuai	24.36	93	eLR	LR	23 38 33.3	
	159nm,28.8s						
PPT2	Papeete2	25.65	80	eLR	LR	23 39 11.4	
	124nm,22.0s						
PPT	Papeete	25.66	80	LR	LR	23 41 47.3	
	comp=Z,94nm,19.1s,baz=257,slow=33						
HNR	Honiara	27.31	299	LR	LR	23 42 50.2	
	comp=Z,170nm,18.6s,baz=170,slow=34						
ASAR	Alice Springs	45.46	260	P	P	23 35 54.8	-1.1
	3.2nm,1.0s,baz=92,slow=6.9,SNR=17						
WRA	Warramunga Arr	45.93	265	P	P	23 35 57.7	-1.9
	1.8nm,0.4s,baz=100,slow=8.0,SNR=48						
WRA				LR	LR	23 54 51.0	
	comp=Z,176nm,18.4s,baz=105,slow=36						
VNDA	Vanda	54.12	186	P	P	23 37 02.2	+1.4
	1.5nm,1.0s,baz=31,slow=5.2,SNR=4.5						
QSPA	South Pole Qui	65.59	180	P	P	23 38 19.3	-0.7
	3.2nm,1.0s,baz=37,slow=6.8,SNR=4.4						
QSPA				LR	LR	00 02 50.9	
	comp=Z,75nm,18.6s,baz=52,slow=32						
PETK	Petropavlovsk-	80.58	344	P	P	23 39 48.6	+0.2
	5.0nm,0.8s,baz=128,slow=9.6,SNR=6.6						
KSRS	Korea Array	81.04	318	P	P	23 39 51.5	+0.3
	1.9nm,0.8s,baz=119,slow=4.4,SNR=4.2						
NVAR	Mina Array Bea	82.75	42	P	P	23 40 00.3	-0.2
	0.5nm,0.4s,baz=222,slow=6.6,SNR=5.1						
USRK	Ussuriysk Ar.	83.25	325	P	P	23 40 03.5	+0.9
	6.7nm,0.8s,baz=112,slow=3.9,SNR=12						
TXAR	Lajitas Array	87.75	56	P	P	23 40 24.5	-1.0
	0.9nm,1.0s,baz=226,slow=6.1,SNR=5.4						
CMAR	Chiang Mai Arr	93.09	289	P	P	23 40 52.5	+1.8
	3.3nm,0.9s,baz=135,slow=3.0,SNR=18						
AKASG	Malin Array Be	147.35	330	PKPbc	PKPdf	23 47 17.9	+0.8
	2.7nm,0.7s,baz=35,slow=3.1,SNR=7.2						
BRTR	Keskin Array B	150.77	308	PKPbc	PKPbc	23 47 27.8	-1.1
	0.8nm,0.8s,baz=119,slow=4.4,SNR=4.3						
TORD	Torodi Ar. Bea	168.52	169	PKPab	PKPab	23 48 52.8	-0.2
	0.7nm,1.0s,baz=190,slow=3.6,SNR=3.1						

*CSEM **24** 23:59:36.4, 43°.32N×17°.41E, h8km, ML2.2*

BEO 25 23:59:36.4±0.5, 43°.32N×17°.41E, h8km±8km, ML2.2/7, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.50	155	*i* Pg	Pg	23 59 45.2	-0.7
STON				Sg	Sg	23 59 52.9	+0.4
TREB	Trebinje	0.92	131	*e*Pg	Pg	23 59 52.1	-1.9
TREB	Trebinje	0.92	131	*e*Pg	Pg	23 59 52.1	-1.9
BLY	Banja Luka	1.44	354	*e*Pg	Pb	00 00 03.3	-0.2
BLY				*e*Sg	Sg	00 00 24.4	+1.7
BLY	Banja Luka	1.44	354	*e*Pg	Pb	00 00 03.3	-0.2
BLY				*e*Sg	Sg	00 00 24.4	+1.7
BBLS	Lazići	1.55	69	*e*Pg	Pn	00 00 03.9	-0.5
BBLS				*e*Sg	Sg	00 00 26.0	-0.4
BBLS	Lazići	1.55	69	*e*Pg	Pn	00 00 03.9	-0.5
BBLS				*e*Sg	Sg	00 00 26.0	-0.4
PDG	Podgorica	1.62	123	*e*Pg	Pb	00 00 06.0	-0.6
PDG				*e*Sg	Sg	00 00 28.9	+0.4
PDG	Podgorica	1.62	123	*e*Pg	Pb	00 00 06.0	-0.6
PDG				*e*Sg	Sg	00 00 28.9	+0.4
UDBI	Udbina	1.69	316	*e*Pn	Pg	00 00 10.2	+1.2
UDBI				Sg	Sg	00 00 38.0	+6.9
SJES	Sjenica	1.87	91	*e*Pg	Pn	00 00 09.9	+1.0
SJES				*e*Sg	Sb	00 00 35.5	+0.8
TEKS	Tekeris	1.96	51	*e*Pg	Pn	00 00 10.0	-0.1
TEKS				*e*Sg	Sb	00 00 38.1	+1.0
TEKS	Tekeris	1.96	51	*e*Pg	Pn	00 00 10.0	-0.1
TEKS				*e*Sg	Sb	00 00 38.1	+1.0
IVAS	Ivanjica	2.01	82	*e*Pg	Pn	00 00 11.2	+0.4
IVAS				*e*Sg	Sg	00 00 40.5	-0.8
IVAS	Ivanjica	2.01	82	*e*Pg	Pn	00 00 11.2	+0.4
IVAS				*e*Sg	Sg	00 00 40.5	-0.8
DIVS	Divibare	2.03	67	*e*Pg	Pb	00 00 13.0	-0.6
DIVS				*e*Sg	Sb	00 00 40.3	+1.2
DIVS	Divibare	2.03	67	*e*Pg	Pb	00 00 13.0	-0.6
DIVS				*e*Sg	Sb	00 00 40.3	+1.2
NVLJ	Novalja	2.21	305	*e*Pn	Pb	00 00 16.6	-0.1
NVLJ				Sn	Sg	00 00 47.5	0.0
TRUS	Trudelj	2.35	66	*e*Pg	Pb	00 00 18.7	-0.3
TRUS				*e*Sg	Sg	00 00 51.2	-0.8
TRUS	Trudelj	2.35	66	*e*Pg	Pb	00 00 18.7	-0.3
TRUS				*e*Sg	Sg	00 00 51.2	-0.8
GRUS	Gruza	2.47	76	*e*Pg	Pb	00 00 19.5	-1.5
GRUS				*e*Sg	Sg	00 00 56.1	+0.4
GRUS	Gruza	2.47	76	*e*Pg	Pb	00 00 19.5	-1.5
GRUS				*e*Sg	Sg	00 00 56.1	+0.4
FGSL	Fruska Gora	2.52	42	*e*Pg	Pb	00 00 22.2	+0.2
FRGS	Fruska Gora	2.52	42	*e*Pg	Pb	00 00 22.2	+0.2
SELS	Selova	2.71	91	*e*Pn	Pn	00 00 20.3	0.0
SELS	Selova	2.71	91	*e*Pn	Pn	00 00 20.3	0.0

WEL 26 00:00:09.7±0.3, 38°.56S×175°.94E, h137km±2km, ML3.5/14, 9C-4D, Error ellipse: s-maj=2.6km s-min=2.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	Karewarewa	0.58	204	PN	Pn	00 00 30.0	-0.1
WTVZ	West Tongariro	0.62	206	PN	Pn	00 00 30.2	-0.1
WTVZ				SN	Sn	00 00 45.8	-0.3
OTVZ	Oturere	0.64	200	PN	Pn	00 00 30.7	+0.1
OTVZ				SN	Sn	00 00 47.0	+0.5
TWVZ	Taurewa	0.64	218	PN	Pn	00 00 30.4	-0.2
NGZ	Ngauruhoe	0.67	203	PN	Pn	00 00 30.7	0.0
TUVZ	Tukino	0.74	198	PN	Pn	00 00 31.3	0.0
TUVZ				SN	Sn	00 00 47.5	-0.2
BKZ	Black Stump Fm	0.74	145	⇑PN	Pn	00 00 30.9	-0.2
BKZ				SN	Sn	00 00 46.6	-0.9
BKZ				AML	AML	00 00 48.9	
WHVZ	Whangaehu Hut	0.77	201	PN	Pn	00 00 31.8	+0.2
TRVZ	Turoa	0.80	203	PN	Pn	00 00 31.7	-0.1
WNVZ	Wahianoa	0.81	199	PN	Pn	00 00 31.8	0.0
HIZ	Hauiti	0.85	273	⇓PN	Pn	00 00 31.7	-0.2
MOVZ	Moawhango	0.85	190	⇑PN	Pn	00 00 31.7	-0.4
PKVZ	Pokaka	0.86	212	PN	Pn	00 00 32.0	-0.2
PKVZ				SN	Sn	00 00 49.5	+0.4
MTVZ	Mangateitei	0.90	204	PN	Pn	00 00 32.4	-0.1
BHHZ	Black Hill Sta	0.93	174	PN	Pn	00 00 32.4	-0.3
BHHZ				SN	Sn	00 00 48.9	-1.4
RAHZ	Arahi	0.96	112	PN	Pn	00 00 33.4	+0.5
RAHZ				SN	Sn	00 00 50.7	+0.2
URZ	Urewera	0.97	72	PN	Pn	00 00 31.9	-1.0
URZ				SN	Sn	00 00 48.9	-1.6
MCHZ	McNeill Hill	1.06	146	⇑PN	Pn	00 00 34.5	+0.7
MCHZ				SN	Sn	00 00 52.9	+0.8
ARHZ	Aropaoanui	1.08	131	PN	Pn	00 00 34.4	+0.5
ARHZ				SN	Sn	00 00 52.5	+0.1
KRHZ	Kereru	1.13	163	⇑PN	Pn	00 00 34.5	0.0
MWZ	Matawai	1.27	80	AML	AML	00 00 57.5	
PNHZ	Pukenui	1.36	172	PN	Pn	00 00 36.4	-0.4
WAZ	Wanganui	1.40	212	PN	Pn	00 00 36.9	-0.3
CKHZ	Cape Kidnapper	1.41	141	PN	Pn	00 00 37.5	+0.2
KAHZ	Kahuranaki	1.43	150	PN	Pn	00 00 37.7	+0.1
RIGZ	Rimuhau	1.43	96	PN	Pn	00 00 37.5	-0.1
TSZ	Takapari Road	1.49	179	⇑PN	Pn	00 00 37.8	-0.5
WPHZ	Waipukurau	1.55	166	⇑PN	Pn	00 00 38.4	-0.4
PXZ	Pawanui	1.63	154	⇑PN	Pn	00 00 39.4	-0.3
MHGZ	Mahia Peninsul	1.64	112	PN	Pn	00 00 39.9	0.0
HAZ	Te Kaha	1.66	61	PN	Pn	00 00 38.7	-1.3
DVHZ	Dannevirke	1.74	174	PN	Pn	00 00 40.2	-0.9
PRHZ	Porangahau	1.78	163	PN	Pn	00 00 41.0	-0.5
ANWZ	Angora Road	1.94	168	PN	Pn	00 00 42.7	-0.5
ANWZ				SN	Sn	00 01 06.9	-2.1
PRWZ	Pori Road	1.99	179	PN	Pn	00 00 43.1	-0.8
MRZ	Mangatainoka R	2.11	187	⇑PN	Pn	00 00 44.0	-1.4
MRZ				AML	AML	00 01 12.3	
MRZ				AML	AML	00 01 12.3	
BFZ	Birch Farm	2.13	174	⇓PN	Pn	00 00 44.4	-1.2
HOWZ	Holdsworth Sta	2.35	188	⇑PN	Pn	00 00 46.6	-1.8
KIW	Kapiti Island	2.43	199	PN	Pn	00 00 47.3	-1.9
TMWZ	Te Maipa	2.54	181	⇓PN	Pn	00 00 48.9	-1.8
MTW	Mount Morrison	2.61	187	PN	Pn	00 00 49.4	-2.2
DUWZ	D'Urville Isla	2.73	214	PN	Pn	00 00 50.9	-2.2
TRWZ	Traveller	2.84	184	PN	Pn	00 00 52.3	-2.1
PAWZ	Paruwai Farm	2.84	188	PN	Pn	00 00 52.0	-2.5
MSWZ	Moikau Station	2.90	190	PN	Pn	00 00 52.7	-2.6
TCW	Tory Channel	2.94	205	PN	Pn	00 00 53.4	-2.3
BHW	Baring Head	2.96	196	PN	Pn	00 00 53.3	-2.6
PLWZ	Palliser	3.05	190	PN	Pn	00 00 54.4	-2.8
TUWZ	Tuamarina	3.25	208	PN	Pn	00 00 57.1	-2.6
NNZ	Nelson	3.30	216	PN	Pn	00 00 57.8	-2.6
THZ	Tophouse	3.95	215	PN	Pn	00 01 06.2	-2.9
KHZ	Kahutara	4.26	205	PN	Pn	00 01 09.8	-3.2
OXZ	Oxford	5.60	211	SN	Sn	00 02 25.8	-8.4
MQZ	McQueen's Vall	5.71	205	⇓PN	Pn	00 01 27.0	-5.2
MQZ				SN	Sn	00 02 26.7	-10
ODZ	Otahua Downs	7.59	210	PN	Pn	00 01 52.7	-4.8

IDC 26 00:04:31.9±3.6, 4°.10S×138°.79E, H77km±34km, mb3.6/2, mb1 3.5/4, mb1mx3.2/18, mbtmp3.7/4, Error ellipse: s-maj=64.7km s-min=22.5km az=125.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.48	51	P	Pn	00 05 10.5	+0.3
	0.9nm,0.3s,baz=244,slow=13,SNR=6.6						
JAY				S	Sn	00 05 40.0	+0.5
	1.1nm,0.3s,baz=156,slow=19,SNR=2.9						
WRA	Warramunga Arr	16.34	195	P	Pn	00 08 16.7	0.0
	0.3nm,0.3s,baz=12,slow=13,SNR=18						
ASAR	Alice Springs	20.02	193	P	P	00 08 58.5	-0.2
	0.6nm,0.6s,baz=19,slow=9.2,SNR=8.6						
DZM	Mont Dzumac	32.21	126	P	P	00 10 53.2	+0.1
	6.5nm,0.9s,baz=332,slow=18,SNR=3.2						
YKA	Yellowknife Ar	101.26	27	P	Pdif	00 18 13.5	-0.4
	0.2nm,0.8s,baz=272,slow=4.2,SNR=3.9						

GUC 26 00:05:35.6±0.3, 38°.09S×74°.53W, h15km±2km, ML4.2, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	Puerto Saavedr	1.14	129	*e*P9	Pg	00 05 59.4	+1.8
PSCH				*e*S	Sg	00 06 14.0	+1.5
CCSP	San Pedro de C	1.68	43	*e*P	Pn	00 06 03.4	-1.0
CCSP				*e*S	Sn	00 06 24.6	-1.1
CCSP				AML	AML	00 06 31.1	
	comp=N,4μm,0.2s						
VLCH	Valdivia	1.98	150	*e*P	Pn	00 06 08.2	-0.4
VLCH				*e*S	Sn	00 06 32.9	-0.2
COCH	Cobquecura	2.40	36	*e*P	Pn	00 06 14.6	+0.2
COCH				*e*S	Sn	00 06 44.3	+0.8

*CSEM **26** 00:15:46.1±0.2, 38°.91N×21°.80E, h6km±1km, MD3.0, Error ellipse: s-maj=3.6km s-min=3.3km az=115.0*

ATH 26 00:15:46.3, 38°.92N×21°.79E, h5km±2km, MD3.0/12, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.01	103	*e*PG	Pg	00 15 46.9	-0.5
EVR				*e*SG	Sg	00 15 47.5	-0.7
EVR	Evrytania	0.01	103	*e*Pg	Pg	00 15 46.9	-0.5
EVR				*e*Sg	Sg	00 15 47.5	-0.7
MAKR	Makrakomi, Fth	0.28	71	*e*PG	Pg	00 15 51.5	-0.4
MAKR				*e*SG	Sg	00 15 56.1	+0.4
MAKR	Makrakomi, Fth	0.28	71	*e*Pg	Pg	00 15 51.5	-0.4
MAKR				*e*Sg	Sg	00 15 56.1	+0.4
AGG	Agios Georgios	0.43	76	*e*PG	Pg	00 15 54.2	-0.5
AGG	Agios Georgios	0.43	76	*e*Pg	Pg	00 15 54.2	-0.5
EFP	Efpalio	0.50	170	*e*PG	Pg	00 15 55.9	0.0
EFP				*e*SB	Sb	00 16 04.1	-1.1
EFP	Efpalio	0.50	170	*e*Pg	Pg	00 15 55.9	0.0
EFP				*e*Sb	Sb	00 16 04.1	-1.1
PDO	Prodromos	0.57	236	*e*PB	Pg	00 15 57.8	+0.5
PDO				*e*SB	Sg	00 16 05.9	+1.1
PDO	Prodromos	0.57	236	*e*Pb	Pg	00 15 57.8	+0.5
PDO				*e*Sb	Sg	00 16 05.9	+1.1
DSL	Palaion Diasel	0.58	292	*e*PG	Pg	00 15 57.2	-0.4
DSL	Palaion Diasel	0.58	292	*e*Pg	Pg	00 15 57.2	-0.4
KALE	Kalithea	0.59	152	*e*PB	Pg	00 15 57.2	-0.7
KALE				*e*SB	Sg	00 16 06.7	+1.0
KALE	Kalithea	0.59	152	*e*Pb	Pg	00 15 57.2	-0.7
KALE				*e*Sb	Sg	00 16 06.7	+1.0
THL	Klokotos Trika	0.67	15	*e*PB	Pg	00 15 59.2	+0.1
THL				*e*SB	Sb	00 16 09.6	-0.4
THL	Klokotos Trika	0.67	15	*e*Pb	Pg	00 15 59.2	+0.1
THL				*e*Sb	Sb	00 16 09.6	-0.4
AXAR	Agios Charalam	0.70	102	*e*PG	Pg	00 15 59.4	-0.3
AXAR				*e*SB	Sg	00 16 09.6	+0.8
AXAR	Agios Charalam	0.70	102	*e*Pg	Pg	00 15 59.4	-0.3
AXAR				*e*Sb	Sg	00 16 09.6	+0.8
LKD2	Lefkada island	0.89	262	*e*PB	Pg	00 16 03.9	+0.4
LKD2	Lefkada island	0.89	262	*e*Pb	Pg	00 16 03.9	+0.4
KLV	Kalavryta, Ach	0.92	162	*e*PB	Pg	00 16 04.2	+0.1
KLV				*e*SB	Sb	00 16 17.2	-0.2
KLV	Kalavryta, Ach	0.92	162	*e*Pb	Pg	00 16 04.2	+0.1
KLV				*e*Sb	Sb	00 16 17.2	-0.2
DRO	Drossia	0.97	184	*e*PG	Pg	00 16 04.6	-0.3
DRO	Drossia	0.97	184	*e*Pg	Pg	00 16 04.6	-0.3

*IDC **26** 00:16:59.3±1.5, 33°.96S×71°.79W, h0km, mb4.0/3, mb1 4.0/4, mb1mx3.7/28, mbtmp3.9/4, Error ellipse: s-maj=62.1km s-min=34.6km az=170.0*

*GUC **26** 00:17:05.8±0.3, 31°.14S×71°.18W, h113km±3km, ML4.2*

ISC 26 00:17:04.3±1.3, 31°.55S±0°.06×71°.90W±0°.09, h10km, n15, σ1§43/17, mb4.2/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.85	64	*e*P	Pn	00 17 22.1	-0.3
CMCH				*e*S	Sn	00 17 34.4	-0.7
PEL	Peldehue	1.89	147	*e*P	Pg	00 17 40.3	-0.2
PEL				*e*S	Sg	00 18 06.3	+1.3
PEL				AML	AML	00 18 11.7	
	comp=E,2μm,0.6s						
RCDM	Rinconada Maip	2.14	155	*e*P	Pg	00 17 44.4	-0.9
RCDM				*e*S	Sg	00 18 13.8	+0.7
CLCH	Cerro Calan	2.17	148	*e*P	Pg	00 17 43.9	-1.9
CLCH				*e*S	Sg	00 18 12.7	-1.3
CLCH				AML	AML	00 18 23.2	
	comp=E,1μm,0.6s						
FCH	Farellones	2.23	143	*e*P9	Pn	00 17 50.1	+8.5
FCH				*e*S	Sg	00 18 19.8	+3.8
LNV	Longovilo	2.43	170	*e*P	Pg	00 17 50.1	-0.8
CHCH	Chadas Angostu	2.59	156	*e*P	Pb	00 17 50.4	-0.6
CACH	El Canelo	2.78	157	*e*P	Pb	00 17 53.6	-0.5
CFAA	Coronel Fontan	3.12	92	Pn	Pg	00 17 59.6	-4.5
	baz=264,slow=14						
CFAA				Sn	Sg	00 18 45.4	+0.8
	comp=E,3.8nm,0.3s,baz=311,slow=11,SNR=5.4						
TXAR	Lajitas Array	67.67	330	P	P	00 28 11.5	+10
	comp=E,0.2nm,0.6s,baz=152,slow=8.1,SNR=4.6						
DBIC	Dimbokro	74.29	72	P	P	00 28 43.1	+0.9
	comp=E,1.6nm,0.6s,baz=230,slow=9.1,SNR=4.2						
TORD	Torodi Ar. Bea	83.27	70	P	P	00 29 31.2	-0.3
	comp=E,1.2nm,0.7s,baz=252,slow=4.2,SNR=8.6						
BVAR	Borovoye Array	145.38	41	PKPbc	PKPdf	00 36 43.5	+1.5
	comp=E,0.9nm,0.7s,baz=291,slow=4.1,SNR=8.9						
KURBB	Kurchatov Arra	150.97	40	PKPbc	PKPbc	00 36 57.8	+0.9
	comp=E,0.5nm,0.6s,baz=307,slow=3.0,SNR=6.1						
ZALV	Zalesovo Beam	152.07	30	PKPbc	PKPbc	00 37 00.0	+0.6
	comp=E,1.1nm,0.5s,baz=305,slow=3.4,SNR=7.0						

*BJI **26** 00:19:49.5, 55°.36N×160°.96E, h97km, mB4.9/2, mb4.4/3*

*MOS **26** 00:19:53.8±1.1, 55°.09N×160°.53E, h107km, mb4.4/29, Error ellipse: s-maj=9.5km s-min=5.8km az=89.6*

*KRSC **26** 00:19:54.5±0.7, 54°.92N×160°.95E, h111km±8km, ML4.6, FELT [II-III] at GMS Kronoki.*

*ISCJB **26** 00:19:55.6±0.2, 55°.01N±0°.03×160°.59E±0°.05, h125km±1km, mb4.2/70, Error ellipse: s-maj=5.4km s-min=2.3km az=24.8*

*IDC **26** 00:19:55.6±0.4, 55°.20N×160°.32E, h106km±3km, mb3.9/33, mb1 4.1/36, mb1mx4.0/49, mbtmp4.3/36, MS3.2/12, Ms1 3.2/12, ms1mx3.0/38, Error ellipse: s-maj=10.6km s-min=6.6km az=139.0*

*NEIC **26** 00:19:55.6±0.4, 54°.96N±0°.03×160°.80E±0°.03, h112km±3km, h111km; pP-P, n227, σ1§53/300, mb4.3/70, 7C-5D, Near east coast of Kamchatka Peninsula*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	Kizimen	0.33	298	*e*P	Pn	00 20 11.5	+0.2
KZV				*e*S	Sn	00 20 23.8	+0.2
TUMR	Tumrok	0.50	311	*e*P	Pn	00 20 13.1	+0.9
TUMR				*e*S	Sn	00 20 27.0	+1.9
MKZ	Mys Kozlova	0.67	126	PN	Pn	00 20 13.4	+0.1
MKZ				S	Sn	00 20 27.1	+0.1
MKZ	Mys Kozlova	0.67	126	*e*P	Pn	00 20 13.4	+0.1
MKZ				*e*S	Sn	00 20 27.1	+0.1
KMNR	Kamenistaya	0.86	338	*e*P	Pn	00 20 16.3	+1.2
KMNR				*e*S	Sn	00 20 31.8	+1.5
BZGR	Bezymyannyi-Gr	0.99	357	*e*P	Pn	00 20 17.2	+0.9
BZGR				*e*S	Sn	00 20 32.8	+0.3
BZMR	Bezymyannaya	1.00	350	*e*P	Pn	00 20 17.8	+1.3
BZMR				*e*S	Sn	00 20 35.2	+2.5
BZWR	Bezymyannyi-We	1.02	350	*e*P	Pn	00 20 18.0	+1.2
BZWR				*i* S	Sn	00 20 34.7	+1.5
KIRR	Kirishev	1.03	345	*e*P	Pn	00 20 17.9	+1.1
KIRR				*e*S	Sn	00 20 34.8	+1.5
ZLN	Zelenaya	1.06	0	*e*P	Pn	00 20 18.7	+1.6
ZLN				*e*S	Sn	00 20 36.7	+2.9
KPT	Kopyto	1.06	342	*e*P	Pn	00 20 17.9	+0.8
KPT				*i* S	Sn	00 20 34.9	+1.1
LGNR	Loginova	1.13	357	*e*P	Pn	00 20 19.3	+1.3
LGNR				*e*S	Sn	00 20 36.7	+1.3
CIRR	Tsirk	1.16	359	*e*P	Pn	00 20 19.6	+1.4
KII	Karymskiy	1.21	221	*e*P	Pn	00 20 19.9	+1.2
KII				*e*S	Sn	00 20 39.0	+2.4
KOZ	Kozyrevsk	1.22	335	*e*P	Pn	00 20 20.1	+1.4
KOZ				*e*S	Sn	00 20 39.3	+2.6
KOZR	Kozyr	1.23	336	PN	Pn	00 20 20.1	+1.3
KRSR	Krestovskiy	1.27	354	*e*P	Pn	00 20 20.4	+1.0
KRSR				*e*S	Sn	00 20 39.6	+1.8
KLY	Klyuchi	1.36	356	PN	Pn	00 20 21.6	+1.3
KLY				S	Sn	00 20 41.7	+2.3
KLY	Klyuchi	1.36	356	*e*P	Pn	00 20 21.6	+1.3
KLY				*e*P	Pn	00 20 21.6	+1.3
KLY				*e*S	Sn	00 20 41.7	+2.3
KLY				*e*S	Sn	00 20 41.7	+2.3
SRDR	Sredinnyy	1.50	336	*e*P	Pn	00 20 22.8	+0.9
ESO	Esso	1.54	310	PN	Pn	00 20 23.7	+1.3
ESO				S	Sn	00 20 44.5	+1.2
ESO	Esso	1.54	310	*i* P	Pn	00 20 23.7	+1.3
ESO				*e*S	Sn	00 20 44.5	+1.2
BDR	Baidarnaya	1.63	8	*e*P	Pn	00 20 25.1	+1.5
BDR				*e*S	Sn	00 20 48.5	+3.2

SKR	Severo-Kuril's	5.14	215	eP	Pn	00 21 10.6 +1.0
FX1	Attu Island--F	7.59	101	P	Pn	00 21 43.4 +0.6
	comp=E,13nm,0.3s,baz=313,slow=6.6,SNR=28					
FX1				S	Sn	00 23 02.7 -4.5
	comp=E,43nm,0.3s,baz=177,slow=22,SNR=25					
SEY	Seymchan	9.10	335	P	Pn	00 22 03.3 +0.2
	baz=137,slow=13,SNR=9.6					
BILL	Bilibino	13.38	9⇑	ePN	P	00 23 04.4 -1.1
BILL				eS	Sn	00 25 33.8 +6.7
BILL				pmax	pmax	
	comp=Z,15nm,1.0s					
BILL	Bilibino	13.38	9	eP	P	00 23 04.2 -1.3
	comp=Z,11nm,0.6s					
ADK	Adak	13.76	94	P	P	00 23 08.3 -1.5
ADK	Adak	13.76	94	Pn	P	00 23 08.3 -1.5
YSS	Yuzh-Sakhalins	13.88	242	eP	Pn	00 23 06.0 -0.7
ASAJ	Asahikawa	15.99	235	P	P	00 23 34.5 -0.1
	comp=Z,1.6nm,0.3s,baz=77,slow=14,SNR=11					
ASAJ				LR	LR	00 29 03.3
	comp=Z,52nm,21.2s,baz=122,slow=34					
ASAJ	Asahikawa	15.99	235	eP	P	00 23 34.7 +0.1
	comp=Z,8.3nm,0.8s					
ERM	Erimo	17.38	229	eP	P	00 23 49.2 -0.8
ERM	Erimo	17.38	229	eP	P	00 23 48.6 -1.3
YAK	Yakutsk	17.60	306	eP	P	00 23 51.8 -0.4
YAK				pmax	pmax	
	comp=Z,52nm,0.9s					
YAK				pmax	pmax	
	comp=E,19nm,1.0s					
YAK				pmax	pmax	
	comp=N,8.0nm,0.9s					
YAK	Yakutsk	17.60	306	P	P	00 23 49.7 -2.4
	comp=N,0.0nm,0.3s,baz=87,slow=3.6,SNR=11					
YAK				LR	LR	00 32 14.5
	comp=N,50nm,18.3s,baz=180,slow=43					
TNA	Tin City	18.57	43	eP	Pn	00 24 05.5 +1.1
	comp=N,6.0nm,0.6s					
KLR	Kul'dur	18.66	264	eP	P	00 24 02.3 -1.7
CLNS	Chul'man	20.08	290	eP	P	00 24 19.5 +0.2
CLNS				pmax	pmax	
	comp=Z,12nm,0.9s					
CLNS				pmax	pmax	
	comp=N,8.0nm,0.8s					
TIXI	Tiksi	21.59	333	eP	P	00 24 35.6 +0.4
TIXI				pmax	pmax	
	comp=Z,4.0nm,0.8s					
TIXI	Tiksi	21.59	333	eP	P	00 24 30.7 -4.6
	comp=Z,8.6nm,0.6s					
MAJO	Matsushiro	24.06	229	eP	P	00 24 58.8 -0.8
MAJO				pmax	pmax	
	comp=Z,99nm,1.0s					
MAJO	Matsushiro	24.06	229	eP	P	00 25 01.2 +1.5
	comp=Z,15nm,0.6s					
MAT	Matsushiro	24.06	229	P	P	00 25 00.7 +1.1
MJAR	Matsushiro Arr	24.06	229	P	P	00 25 01.1 +1.5
	comp=Z,7.1nm,0.6s,baz=28,slow=8.0,SNR=15					
MJAR				LR	LR	00 34 22.6
	comp=Z,36nm,19.2s,baz=220,slow=36					
RSO	Redoubt South	24.98	58	eP	P	00 25 11.8 +3.8
	comp=Z,29nm,0.9s					
PPLA	Purkeypile	25.00	52	eP	P	00 25 10.3 +2.2
	comp=Z,63nm,1.8s					
KTH	Kantishna Hill	25.54	51	eP	P	00 25 14.3 +1.4
HIA	Hailar	25.56	274	eP	P	00 25 12.9 -0.3
HIA				pmax	pmax	
	comp=Z,3.0nm,0.7s					
KDAK	Kodiak Island	25.57	64	ceP	P	00 25 15.5 +2.4
BOD	Bodaibo	25.66	296	eP	P	00 25 11.9 -2.0
BOD				pmax	pmax	
	comp=Z,6.0nm,0.8s					
ILAR	Eielson Array	27.23	48	eP	P	00 25 29.0 +1.0
ILAR				pmax	pmax	
	comp=Z,2.0nm,0.6s					
ILAR	Eielson Array	27.23	48	P	P	00 25 28.9 +0.9
	comp=Z,1.7nm,0.6s,baz=266,slow=7.0,SNR=22					
ILAR				PcP	PcP	00 28 44.8 0.0
	comp=Z,0.4nm,0.5s,baz=273,slow=3.5,SNR=4.6					
ILAR				LR	LR	00 38 33.2
	comp=Z,48nm,18.4s,baz=212,slow=41					
KSRS	Korea Array	28.34	246	P	P	00 25 38.9 +0.8
KSRS						00 28 48.3
KSRS				pmax	pmax	
	comp=Z,1.0nm,0.4s					
KSRS				MLR	MLR	
	comp=Z,20nm,20.2s					
KSRS	Korea Array	28.34	246	P	P	00 25 38.9 +0.8
	comp=Z,0.8nm,0.3s,baz=43,slow=8.7,SNR=3.3					
KSRS				PcP	PcP	00 28 48.3 +0.4
	comp=Z,2.1nm,0.6s,baz=334,slow=2.0,SNR=5.9					
KSRS				LR	LR	00 35 57.0
	comp=Z,20nm,20.2s,baz=73,slow=34					
KSAR	Wonju Array Be	28.37	246	P	P	00 25 38.9 +0.6
KSAR						00 28 48.3
KSAR	Wonju Array Be	28.37	246	P	P	00 25 38.9 +0.6
KSAR				PcP	PcP	00 28 48.3 +0.3
BMRM	Bremner River	28.82	56	eP	P	00 25 43.5 +1.3
	comp=Z,5.3nm,0.8s					
EGAK	Eagle	29.67	47	eP	P	00 25 49.6 +0.1
	comp=Z,3.6nm,0.6s					
SONM	Songino Array	33.92	281	P	P	00 26 26.2 -0.9
	comp=Z,1.1nm,0.5s,baz=57,slow=8.8,SNR=11					
SONM				PcP	PcP	00 29 03.4 +0.5
	comp=Z,4.5nm,0.7s,baz=76,slow=1.8,SNR=26					
SONM				ScP	ScP	00 32 36.8 -0.3
	comp=Z,1.1nm,0.8s,baz=38,slow=3.6,SNR=9.2					
H11N2	WAKE ISLAND Hy	35.47	170	T	T	01 04 14.8
	baz=355,slow=76,SNR=144					
H11N3	WAKE ISLAND Hy	35.48	170	T	T	01 04 15.9
	baz=355,slow=76,SNR=207					
H11N1	WAKE ISLAND Hy	35.49	170	T	T	01 04 16.1
	baz=355,slow=76,SNR=705					
DLBC	Dease Lake	36.62	56	P	P	00 26 52.8 +2.8
	comp=Z,0.6nm,0.3s,baz=280,slow=5.3,SNR=4.4					
DLBC				LR	LR	00 41 49.8
	comp=Z,46nm,18.5s,baz=114,slow=36					
H11S1	WAKE ISLAND Hy	36.66	171	T	T	01 05 41.7
	baz=37,slow=73,SNR=5.2					
H11S3	WAKE ISLAND Hy	36.67	171	T	T	01 05 41.7
	baz=37,slow=73,SNR=4.1					
H11S2	WAKE ISLAND Hy	36.68	171	T	T	01 05 41.7
	baz=37,slow=73,SNR=7.1					
WHN	Wuhan	40.90	253	P	P	00 27 32.5 +6.6
RES	Resolute Bay	41.44	23	P	P	00 27 30.6 +0.7
	comp=Z,2.1nm,0.7s,baz=301,slow=7.2,SNR=13					
RES				pP	pP	00 27 54.7 -0.7
	comp=Z,3.6nm,1.0s,baz=1.5,slow=1.0,SNR=5.9					
YKA	Yellowknife Ar	41.52	44	P	P	00 27 32.1 +1.4
	comp=Z,2.3nm,0.6s,baz=300,slow=8.0,SNR=36					
YKA				pP	pP	00 27 55.4 -0.7
	comp=Z,1.1nm,0.7s,baz=299,slow=7.9,SNR=4.0					
YKA				PcP	PcP	00 29 27.0 +1.2
	comp=Z,0.6nm,0.6s,baz=306,slow=3.4,SNR=8.1					
YKA				ScP	ScP	00 33 06.3 +1.0
	comp=Z,0.5nm,0.8s,baz=299,slow=3.8,SNR=8.5					
ZALV	Zalesovo Beam	42.14	301	P	P	00 27 33.7 -2.2
	comp=Z,0.4nm,0.4s,baz=35,slow=5.3,SNR=2.3					
ZALV				PP	PP	00 29 13.7 -1.6
	comp=Z,0.9nm,0.7s,baz=57,slow=10,SNR=3.6					
ZALV				PcP	PcP	00 29 28.4 +0.3
	comp=Z,2.6nm,0.7s,baz=42,slow=2.3,SNR=7.5					
ZALV				ScP	ScP	00 33 08.6 +0.7
	comp=Z,0.4nm,0.5s,baz=47,slow=6.3,SNR=3.2					
ZALV				LR	LR	00 46 35.9
	comp=Z,31nm,19.4s,baz=42,slow=38					
NVS	Novosibirsk	42.42	303	eP	P	00 27 37.0 -1.1
NVS				i		00 28 04.7
NVS				pmax	pmax	
	comp=Z,8.0nm,1.6s					
NVS				pmax	pmax	
	comp=N,3.0nm,1.1s					
NVS				pmax	pmax	
	comp=E,4.0nm,1.1s					
KURK	Kurchatov	47.12	301	P	P	00 28 14.2 -1.2
KURK						00 29 45.4
KURK				pmax	pmax	
	comp=Z,2.0nm,0.4s					
KURK	Kurchatov	47.12	301	eP	P	00 28 13.1 -2.2
	comp=Z,2.7nm,0.4s					
KURK				PcP	PcP	00 29 45.4 +0.2
KURK				ScP	ScP	00 33 29.0 +0.5
KURBB	Kurchatov Arra	47.22	301	P	P	00 28 14.2 -1.9
	comp=Z,2.4nm,0.4s,baz=57,slow=7.5,SNR=38					
KURBB				PcP	PcP	00 29 45.4 -0.2
	comp=Z,3.2nm,0.7s,baz=49,slow=3.3,SNR=16					
KURBB				ScP	ScP	00 33 29.0 +0.1
	comp=Z,0.5nm,0.8s,baz=49,slow=4.9,SNR=3.6					
MKAR	Makanchi Array	47.74	295	eP	P	00 28 18.0 -2.3
MKAR				pmax	pmax	
	comp=Z,2.0nm,0.5s					
MKAR	Makanchi Array	47.74	295	P	P	00 28 18.2 -2.0
	comp=Z,1.6nm,0.5s,baz=56,slow=7.6,SNR=26					
MKAR				pP	pP	00 28 42.2 -4.2
	comp=Z,0.9nm,0.6s,baz=60,slow=8.0,SNR=2.8					
MKAR				PcP	PcP	00 29 47.3 -0.3
	comp=Z,0.8nm,0.7s,baz=66,slow=4.7,SNR=3.1					
MKAR				LR	LR	00 50 47.1
	comp=Z,26nm,18.1s,baz=13,slow=39					
NEW	Newport	48.63	62	P	P	00 28 29.1 +2.0
	comp=Z,0.6nm,0.3s,baz=298,slow=7.6,SNR=4.1					
NEW				LR	LR	00 48 57.1
	comp=Z,30nm,18.2s,baz=318,slow=36					
BVAR	Borovoye Array	49.57	307	P	P	00 28 32.5 -1.7
	comp=Z,1.0nm,0.4s,baz=59,slow=7.7,SNR=16					
BVAR				pP	pP	00 28 55.5 -4.9
	comp=Z,1.4nm,0.6s,baz=47,slow=8.2,SNR=5.4					
BVAR				LR	LR	00 51 31.3
	comp=Z,32nm,18.4s,baz=68,slow=38					
BSMT	Bassoo Peak	50.09	61	eP	P	00 28 40.2 +1.8
	comp=Z,4.5nm,0.3s					
SLMT	Seeley Lake	51.15	61	eP	P	00 28 48.3 +2.0
	comp=Z,2.4nm,0.7s					
ARCES	ARCESS Array B	51.65	342	P	P	00 28 48.7 -0.8
	comp=Z,1.9nm,0.8s,baz=36,slow=7.8,SNR=3.1					
ARCES				PcP	PcP	00 30 01.7 +0.2
	comp=Z,2.2nm,0.6s,baz=19,slow=4.1,SNR=9.5					
FCC	Fort Churchill	51.77	40	eP	P	00 28 50.8 +0.3
FCC	Fort Churchill	51.77	40	eP	P	00 28 50.8 +0.3
	comp=Z,0.1nm,0.8s					
ARU	Arti	52.32	317	d i P	P	00 28 53.9 -0.7
ARU				*PP	pP	00 29 21.8 +0.7
ARU						00 30 52.6
ARU				S	S	00 36 10.7 -0.3
ARU				SS	SS	00 39 43.8 -5.5
ARU				pmax	pmax	
	comp=Z,14nm,2.5s					
PRGR	Permogore	53.09	327	P	P	00 28 59.0 -1.2
PRGR				pmax	pmax	
	comp=Z,4.0nm,0.6s					
WAKR	Walker	54.06	72	eP	P	00 29 10.6 +2.7
AAK	Ala-Archa	54.64	295	ceP	P	00 29 11.0 -1.0
AAK				pmax	pmax	
	comp=Z,17nm,2.5s					
AAK	Ala-Archa	54.64	295	P	P	00 29 10.3 -1.7
	comp=Z,1.3nm,0.5s,baz=126,slow=5.6,SNR=8.0					
AAK				PcP	PcP	00 30 13.5 -0.1
	comp=Z,1.3nm,0.8s,baz=85,slow=6.9,SNR=3.6					
AAK	Ala-Archa	54.64	295	eP	P	00 29 10.1 -1.9
	comp=Z,2.0nm,0.8s					
AAK				PcP	PcP	00 30 13.5 -0.1
NVAR	Mina Array Bea	54.74	72	P	P	00 29 15.7 +2.9
	comp=Z,7.9nm,0.7s,baz=301,slow=7.4,SNR=33					
NVAR				pP	pP	00 29 41.0 +1.5
	comp=Z,2.4nm,0.7s,baz=300,slow=7.6,SNR=3.6					
EKS2	Erkin-Say	54.99	296	eP	P	00 29 12.8 -1.7
EKS2				pmax	pmax	
	comp=Z,2.0nm,0.7s					
EKS2	Erkin-Say	54.99	296	eP	P	00 29 12.8 -1.7
	comp=Z,1.6nm,0.7s					
JOF	Joensuu	56.05	335	eP	P	00 29 20.0 -1.6
JOF				pmax	pmax	
	comp=Z,2.0nm,0.6s					
JOF	Joensuu	56.05	335	ep	P	00 29 20.0 -1.6
	comp=Z,1.7nm,0.6s					
KSH	Kashi	56.09	292	eP	P	00 29 22.8 +0.4
KSH				pP	pP	00 29 47.0 -2.2
KSH				PP	PP	00 31 28.5 +0.4
KSH				S	S	00 36 58.0 -4.4
KSH				sS	sS	00 37 40.5 -8.0
PDAR	Pinedale Array	56.27	62	P	P	00 29 26.0 +2.3
	comp=Z,2.4nm,0.7s,baz=318,slow=2.2,SNR=22					
PDAR				pP	pP	00 29 52.1 +1.5
	comp=Z,3.6nm,0.9s,baz=327,slow=3.0,SNR=10					
PDAR				LR	LR	00 52 30.4
	comp=Z,32nm,19.1s,baz=111,slow=35					
KKAR	Karatay Array	56.35	298	eP	P	00 29 21.7 -2.4
KKAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
KKAR	Karatay Array	56.35	298	eP	P	00 29 21.7 -2.4
	comp=Z,1.3nm,0.6s					
ULM	Lac du Bonnet	57.25	48	eP	P	00 29 31.7 +1.4
ULM				pmax	pmax	
	comp=Z,1.0nm,0.4s					
ULM	Lac du Bonnet	57.25	48	P	P	00 29 32.0 +1.7
	comp=Z,1.4nm,0.4s,baz=339,slow=7.8,SNR=3.8					
KAF	Kangasniemi	57.93	337	eP	P	00 29 33.7 -1.2
KAF				pmax	pmax	
	comp=Z,2.0nm,0.5s					
KAF	Kangasniemi	57.93	337	ep	P	00 29 33.7 -1.2
	comp=Z,1.5nm,0.5s					
RSSD	Black Hills	58.04	58	eP	P	00 29 38.4 +2.2
RSSD				pmax	pmax	
	comp=Z,4.0nm,0.6s					
RSSD	Black Hills	58.04	58	eP	P	00 29 38.4 +2.2
	comp=Z,3.5nm,0.6s					
FINES	FINESS Array B	58.58	336	eP	P	00 29 39.1 -0.2
FINES				pmax	pmax	
	comp=Z,2.0nm,0.5s					
FINES	FINESS Array B	58.58	336	P	P	00 29 38.5 -0.8
	comp=Z,1.6nm,0.5s,baz=41,slow=7.0,SNR=18					
FINES				PcP	PcP	00 30 27.7 -0.6
	comp=Z,1.0nm,0.5s,baz=50,slow=3.7,SNR=3.5					
CMAR	Chiang Mai Arr	58.98	258	P	P	00 29 42.5 -0.3
	comp=Z,1.1nm,0.5s,baz=30,slow=6.2,SNR=4.6					
CMAR				PcP	PcP	00 30 30.9 +0.3
	comp=Z,2.4nm,0.6s,baz=14,slow=3.4,SNR=8.8					
CMAR				LR	LR	00 56 02.3
	comp=Z,27nm,18.1s,baz=150,slow=37					
JAY	Jayapura	59.63	203	P	P	00 29 49.0 +1.8
	comp=Z,5.7nm,0.8s,baz=32,slow=9.5,SNR=3.5					
OBN	Obninsk	61.17	327⇑	i P	P	00 29 56.5 -0.6
OBN				e		00 32 12.5
OBN				eS	S	00 37 57.9 -10
OBN				pmax	pmax	
	comp=Z,24nm,2.5s					
NB2	NORSAR Subarra	61.87	344	P	P	00 30 01.0 -0.8
	comp=Z,1.4nm,0.7s,baz=21,slow=6.9					
NOA	NORSAR Array B	61.87	344	P	P	00 30 01.1 -0.7
	comp=Z,1.5nm,0.7s,baz=20,slow=6.0,SNR=10					
NOA				PcP	PcP	00 30 41.5 -0.1
	comp=Z,1.8nm,0.8s,baz=25,slow=3.9,SNR=5.1					
ANMO	Albuquerque	63.70	66	ceP	P	00 30 16.1 +1.6
ANMO				pmax	pmax	
	comp=Z,16nm,2.5s					
SCHQ	Schefferville	63.80	28	P	P	00 30 15.1 +0.4
	comp=Z,2.3nm,0.7s,baz=3.9,slow=7.0,SNR=5.2					
GEYT	Alibeck	66.43	303	P	P	00 30 30.0 -1.9
	comp=Z,1.4nm,0.7s,baz=357,slow=5.8,SNR=4.7					
GEYT				PcP	PcP	00 31 01.2 +0.4
	comp=Z,1.6nm,0.7s,baz=36,slow=5.4,SNR=3.7					
AKASG	Malin Array Be	67.23	329	P	P	00 30 35.9 -0.9
	comp=Z,0.6nm,0.3s,baz=38,slow=6.3,SNR=2.8					
KIV	Kislovodsk	68.36	317⇑	i P	P	00 30 44.0 -0.1
KIV				i *PP	pP	00 31 12.7 +0.8
KIV				e		00 33 17.6
KIV				ePPP	PPP	00 34 57.2
KIV				pmax	pmax	
	comp=Z,8.0nm,1.7s					
KBZ	Khabaz	68.47	316	P	P	00 30 43.8 -0.8
	comp=Z,1.5nm,0.7s,baz=80,slow=6.1,SNR=4.1					
TXAR	Lajitas Array	69.54	68	P	P	00 30 53.9 +2.2
	comp=Z,4.3nm,0.7s,baz=301,slow=4.5,SNR=65					
TXAR				pP	pP	00 31 20.6 +1.1
	comp=Z,1.7nm,0.7s,baz=304,slow=4.2,SNR=4.8					
STHS	Stebnicka Huta	70.61	333	eP	P	00 30 58.2 +0.4
STHS				pmax	pmax	
	comp=Z,4.0nm,1.3s					
STHS	Stebnicka Huta	70.61	333	eP	P	00 30 58.2 +0.4
CLL	Collm	70.76	339	epP	pP	00 31 28.0 +1.5
KOLS	Kolonicke sedl	70.79	332	eP	P	00 30 57.3 -1.5
KOLS	Kolonicke sedl	70.79	332	e	P	00 30 57.3 -1.5
DPC	Dobruska-Polom	70.94	337	eP	P	00 31 00.5 +0.7
DPC	Dobruska-Polom	70.94	337	eP	P	00 31 00.5 +0.7
DPC				ex	x	00 31 06.5
PRU	Pruhonice	71.68	338	eP	P	00 31 04.7 +0.6
PRU	Pruhonice	71.68	338	eP	P	00 31 04.7 +0.6
VYHS	Vyhne	72.08	334	eP	P	00 31 08.4 +1.8
VYHS				pmax	pmax	
	comp=Z,19nm,2.8s					
VYHS	Vyhne	72.08	334	eP	P	00 31 08.4 +1.8
KHC	Kasperske Hory	72.70	338	eP	P	00 31 11.0 +0.7
KHC	Kasperske Hory	72.70	338	eP	P	00 31 11.0 +0.7
KHC				ex	x	00 31 15.7
GERES	GERESS Array B	72.94	338	eP	P	00 31 12.5 +0.7
GERES				pmax	pmax	
	comp=Z,1.0nm,0.6s					
GERES	GERESS Array B	72.94	338	P	P	00 31 11.6 -0.2
	comp=Z,0.9nm,0.6s,baz=33,slow=5.8,SNR=11					
BAIF	Baives	73.54	345	eP	P	00 31 15.0 -0.1
BAIF	Baives	73.54	345	eP	P	00 31 15.0 -0.1
BAIF	Baives	73.54	345	eP	P	00 31 15.0 -0.1
CDF	Champ du Feu	74.62	342	eP	P	00 31 21.6 0.0
	comp=Z,2.8nm,0.5s					
CDF	Champ du Feu	74.62	342	eP	P	00 31 21.6 0.0
CDF				pmax	pmax	
	comp=Z,3.0nm,0.5s					
CDF	Champ du Feu	74.62	342	eP	P	00 31 21.6 0.0
	comp=Z,2.8nm,0.5s					
KBA	Koelnbreinsper	74.69	338⇓	i P	P	00 31 23.3 +1.2
	comp=Z,7.9nm,1.2s					
PAGF	Fort de Pagny	74.75	343	eP	P	00 31 22.5 +0.3
	comp=Z,2.3nm,0.6s					
PAGF	Fort de Pagny	74.75	343	eP	P	00 31 22.5 +0.3
	comp=Z,2.3nm,0.6s					
MEZF	Maizieres J'vi	74.92	344	eP	P	00 31 23.2 0.0
	comp=Z,8.0nm,0.7s					
MEZF	Maizieres J'vi	74.92	344	eP	P	00 31 23.2 0.0
	comp=Z,8.0nm,0.6s					
OBKA	Obir	74.96	337⇑	i P	P	00 31 24.4 +0.8
	comp=Z,8.3nm,1.1s					
HAU	Haudompre	75.18	343	eP	P	00 31 24.0 -0.7
	comp=Z,3.8nm,0.5s					
HAU	Haudompre	75.18	343	eP	P	00 31 24.0 -0.7
HAU				pmax	pmax	
	comp=Z,4.0nm,0.5s					
HAU	Haudompre	75.18	343	eP	P	00 31 24.0 -0.7
	comp=Z,3.8nm,0.5s					
ABTA	Abfaltersbach	75.19	338⇓	i P	P	00 31 25.8 +0.9
	comp=Z,6.1nm,1.2s					
SFTF	Sexfontaines	75.20	343	eP	P	00 31 24.8 0.0
	comp=Z,7.2nm,0.5s					
SFTF	Sexfontaines	75.20	343	eP	P	00 31 24.8 0.0
	comp=Z,7.2nm,0.5s					
BRTR	Keskin Array B	75.45	321	eP	P	00 31 27.1 +0.5
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.5s					
BRTR	Keskin Array B	75.45	321	P	P	00 31 26.4 -0.1
	comp=Z,0.6nm,0.5s,baz=31,slow=3.0,SNR=6.7					
CTA	Charters Tower	75.77	194	P	P	00 31 30.0 +1.7
CTA	Charters Tower	75.77	194	P	P	00 31 29.9 +1.7
	comp=Z,4.4nm,0.6s,baz=333,slow=4.5,SNR=3.9					
GRR	Gorron	75.88	348	eP	P	00 31 28.3 -0.3
GRR	Gorron	75.88	348	eP	P	00 31 28.3 -0.3
GRR	Gorron	75.88	348	eP	P	00 31 28.3 -0.3
LOR	Lormes	76.31	344	eP	P	00 31 30.8 -0.3
	comp=Z,12nm,0.8s					
LOR	Lormes	76.31	344	eP	P	00 31 30.8 -0.3
LOR				pmax	pmax	
	comp=Z,12nm,0.8s					
LOR	Lormes	76.31	344	eP	P	00 31 30.8 -0.3
	comp=Z,12nm,0.8s					
SSF	Saint Saulge	76.56	344	eP	P	00 31 32.4 -0.2
SSF	Saint Saulge	76.56	344	eP	P	00 31 32.4 -0.2
SSF	Saint Saulge	76.56	344	eP	P	00 31 32.4 -0.2
CABF	La Chapelle	76.57	342	eP	P	00 31 32.8 0.0
CABF	La Chapelle	76.57	342	eP	P	00 31 32.8 0.0
CABF	La Chapelle	76.57	342	eP	P	00 31 32.8 0.0
AVF	Avril sur Loir	76.85	344	eP	P	00 31 34.0 -0.2
	comp=Z,6.9nm,0.8s					
AVF	Avril sur Loir	76.85	344	eP	P	00 31 34.0 -0.2
AVF				pmax	pmax	
	comp=Z,7.0nm,0.8s					
AVF	Avril sur Loir	76.85	344	eP	P	00 31 34.0 -0.2
	comp=Z,6.9nm,0.8s					
LPL	La Plagne	77.52	342	eP	P	00 31 39.1 +0.9
	comp=Z,9.8nm,0.8s					
LPL	La Plagne	77.52	342	eP	P	00 31 39.1 +0.9
LPL				pmax	pmax	
	comp=Z,10.0nm,0.8s					
LPL	La Plagne	77.52	342	eP	P	00 31 39.1 +0.9
	comp=Z,9.8nm,0.8s					
LPG	La Plagne	77.53	342	eP	P	00 31 39.3 +0.9
	comp=Z,6.4nm,0.7s					
LPG	La Plagne	77.53	342	eP	P	00 31 39.3 +0.9
LPG				pmax	pmax	
	comp=Z,6.0nm,0.7s					
LPG	La Plagne	77.53	342	eP	P	00 31 39.3 +0.9
	comp=Z,6.4nm,0.7s					
WRAB	Tennant Creek	77.94	205	eP	P	00 31 41.4 +1.0
WRAB				pmax	pmax	
	comp=Z,2.0nm,0.5s					
WRAB	Tennant Creek	77.94	205	eP	P	00 31 41.4 +1.0
	comp=Z,2.5nm,0.5s					
WB2	Warramunga Arr	77.94	205	eP	P	00 31 41.2 +0.8
WRA	Warramunga Arr	77.95	205	eP	P	00 31 41.7 +1.2
WRA				pmax	pmax	
	comp=Z,3.0nm,0.5s					
WRA	Warramunga Arr	77.95	205	P	P	00 31 41.5 +1.0
	comp=Z,2.6nm,0.5s,baz=19,slow=5.9,SNR=9.6					
WRA				pP	pP	00 32 09.2 +0.3
	comp=Z,1.5nm,0.8s,baz=24,slow=6.2,SNR=3.4					
ORIF	Oris-en-Rattie	78.25	342	eP	P	00 31 42.9 +0.8
	comp=Z,4.8nm,0.7s					
ORIF	Oris-en-Rattie	78.25	342	eP	P	00 31 42.9 +0.8
ORIF				pmax	pmax	
	comp=Z,5.0nm,0.7s					
ORIF	Oris-en-Rattie	78.25	342	eP	P	00 31 42.9 +0.8
	comp=Z,4.8nm,0.7s					
MBDF	Montbardon	78.27	341	eP	P	00 31 43.0 +0.7
MBDF	Montbardon	78.27	341	eP	P	00 31 43.0 +0.7
MBDF	Montbardon	78.27	341	eP	P	00 31 43.0 +0.7
SJPF	Ste Jean	81.11	347	eP	P	00 31 59.2 +1.7
SJPF	Ste Jean	81.11	347	eP	P	00 31 59.2 +1.7
SJPF	Ste Jean	81.11	347	eP	P	00 31 59.2 +1.7
ETSF	Etsaut	81.23	346	eP	P	00 31 59.8 +1.6
ETSF	Etsaut	81.23	346	eP	P	00 31 59.8 +1.6
ETSF	Etsaut	81.23	346	eP	P	00 31 59.8 +1.6
ASAR	Alice Springs	81.63	205	P	P	00 32 02.0 +1.7
	comp=Z,4.5nm,0.8s,baz=15,slow=5.1,SNR=33					
ASAR				pP	pP	00 32 29.8 +0.8
	comp=Z,1.6nm,0.8s,baz=15,slow=4.8,SNR=4.4					
ESDC	Sonseca Array	84.84	348	P	P	00 32 17.7 +0.8
	comp=Z,4.5nm,0.6s,baz=2.2,slow=4.8,SNR=34					
KEST	Kesra	86.41	337	P	P	00 32 24.8 +0.1
	com

ellipse: s-maj=6.9km s-min=6.0km az=163.0, Mining explosion.
*UPP **26** 00:22:07.3, 67°.85N×20°.21E, h0km, ML2.0, Mining explosion.*

ISC 26 00:22:03.0±0.9, 67°.86N±0°.03×20°.22E±0°.03, h0km, n24, σ1§09/28, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.45**	**272**	*i* P	**Pg**	**00 22 11.8**	**+0.3**
NIKU				*i* S	**Sg**	**00 22 17.9**	**+0.6**
NIKU	**Nikkaluokta**	**0.45**	**272**	P	**Pg**	**00 22 11.8**	**+0.3**
NIKU				S	**Sg**	**00 22 17.9**	**+0.6**
LANU	**Lannavaara**	**0.69**	**73**	*e*P	**Pg**	**00 22 16.7**	**+0.5**
	Lannavaara baz=260						
LANU	**Lannavaara**	**0.69**	**73**	P	**Pg**	**00 22 16.7**	**+0.5**
SALU	**Saltoluokta**	**0.81**	**235**	*i* P	**Pg**	**00 22 18.2**	**-0.3**
SALU	**Saltoluokta**	**0.81**	**235**	P	**Pg**	**00 22 18.2**	**-0.3**
KIF	**Kilpisjarvi**	**1.17**	**10**	*e*P	**Pg**	**00 22 26.0**	**+0.5**
	baz=194						
KIF				*e*SB	**Sg**	**00 22 42.0**	**+1.5**
KIF	**Kilpisjarvi**	**1.17**	**10**	P	**Pg**	**00 22 25.9**	**+0.5**
KIF				Sb	**Sg**	**00 22 42.0**	**+1.5**
PAJU	**Pajala**	**1.40**	**126**	*e*P	**Pn**	**00 22 28.8**	**-0.9**
PAJU	**Pajala**	**1.40**	**126**	P	**Pn**	**00 22 28.8**	**-0.9**
HEF	**Hetta**	**1.40**	**65**	*e*PG	**Pn**	**00 22 29.2**	**-0.5**
	baz=242						
HEF	**Hetta**	**1.40**	**65**	Pg	**Pn**	**00 22 29.2**	**-0.5**
HARU	**Harads**	**1.73**	**170**	*e*P	**Pn**	**00 22 34.5**	**+0.3**
HARU	**Harads**	**1.73**	**170**	P	**Pn**	**00 22 34.5**	**+0.3**
HARU	**Harads**	**1.73**	**170**	P	**Pg**	**00 22 38.7**	**+2.7**
KALU	**Kalix**	**2.36**	**147**	*e*SG	**Sb**	**00 23 16.1**	**+0.2**
KALU	**Kalix**	**2.36**	**147**	P	**Pg**	**00 22 48.4**	**+0.3**
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P	**Pn**	**00 22 45.0**	**+1.2**
SJUU	**Sjulsmark**	**2.42**	**166**	P	**Pn**	**00 22 44.9**	**+1.2**
ARE0	**ARCESS Array S**	**2.56**	**46**	*e*P	**Pn**	**00 22 46.4**	**+0.7**
	baz=231						
ARE0	**ARCESS Array S**	**2.56**	**46**	P	**Pn**	**00 22 46.4**	**+0.7**
RNF	**Rovaniemi**	**2.58**	**116**	*e*SG	**Sb**	**00 23 22.4**	**+0.2**
RNF				MSG		00 23 22.4	
	comp=Z,2.3nm,0.2s						
MSF	**Maaselka**	**3.99**	**115**	*e*PB	**Pb**	**00 23 11.8**	**-2.2**
MSF	**Maaselka**	**3.99**	**115**	Pb	**Pb**	**00 23 11.8**	**-2.2**

*UPP **26** 00:22:03.3, 67°.84N×20°.20E, h0km, ML1.3, Mining explosion.*
*ISCJB **26** 00:22:04.1±0.8, 67°.79N±0°.06×20°.6E±0°.1, h0km, Error ellipse: s-maj=9.8km s-min=6.1km az=145.6*
*CSEM **26** 00:22:04.1±0.3, 67°.80N×20°.67E, h1km, ML2.0, Error ellipse: s-maj=8.8km s-min=5.5km az=171.0, Mining explosion.*

ISC 26 00:22:03.2±1.1, 67°.80N±0°.06×20°.48E±0°.04, h0km, n16, σ0§53/15, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.55**	**278**	P	**Pb**	**00 22 15.9**	**+0.2**
NIKU	**Nikkaluokta**	**0.55**	**278**	P	**Pb**	**00 22 15.9**	**+0.2**
SALU	**Saltoluokta**	**0.86**	**242**	P	**Pn**	**00 22 22.5**	**-0.1**
SALU	**Saltoluokta**	**0.86**	**242**	P	**Pn**	**00 22 22.5**	**-0.1**
PAJU	**Pajala**	**1.28**	**126**	P	Pn	00 22 32.9	+4.6
PAJU	**Pajala**	**1.28**	**126**	P	Pn	00 22 32.9	+4.6
KALU	**Kalix**	**2.25**	**148**	Pb	**Pb**	**00 22 44.3**	**-0.3**
KALU	**Kalix**	**2.25**	**148**	*e*PB	**Pb**	**00 22 44.3**	**-0.3**
SGF	**Sodankyl**	**2.34**	**96**	*e*PB	**Pb**	**00 22 46.6**	**+0.5**
	baz=287						
SGF	**Sodankyl**	**2.34**	**96**	Pb	**Pb**	**00 22 46.6**	**+0.5**
RNF	**Rovaniemi**	**2.46**	**116**	Pb	**Pb**	**00 22 48.3**	**+0.1**
RNF	**Rovaniemi**	**2.46**	**116**	*e*PB	**Pb**	**00 22 48.4**	**+0.2**
ARE0	**ARCESS Array S**	**2.54**	**44**	Sb	**Sb**	**00 23 20.6**	**-0.6**
	2.0nm,0.2s						
ARE0	**ARCESS Array S**	**2.54**	**44**	*e*SB	**Sb**	**00 23 20.6**	**-0.6**
ARE0				MSG		00 23 20.6	
	comp=Z,2.0nm,0.2s						
KEV	**Kevo**	**3.08**	**47**	*e*SB	**Sb**	**00 23 38.2**	**+1.3**
KEV				*e*PB	**Pb**	**00 22 58.5**	**-0.4**
KEV	**Kevo**	**3.08**	**47**	Pb	**Pb**	**00 22 58.4**	**-0.4**

KRSC 26 00:35:09.3±1.1, 53°.27N×160°.54E, h49km±18km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDLR	**Sedlovina**	**0.99**	**271**	*e*P	Pn	00 35 28.5	+1.5
SDLR				*e*S	Sn	00 35 40.7	+0.6
KII	**Karymskiy**	**1.01**	**320**	*e*P	Pn	00 35 28.3	+1.1
KII				*e*S	Sn	00 35 40.4	0.0
UGLR	**Uglovaya**	**1.03**	**267**	*e*P	Pn	00 35 29.3	+1.8
UGLR				*e*S	Sn	00 35 42.3	+1.3
SMAR	**Somma**	**1.04**	**270**	*e*P	Pn	00 35 29.1	+1.3
SMAR				*e*S	Sn	00 35 41.9	+0.4
KRER	**Koryakskii**	**1.07**	**273**	*e*P	Pn	00 35 29.9	+1.7
KRER				*e*S	Sn	00 35 43.2	+0.9
AVH	**Avacha**	**1.08**	**271**	*e*P	Pn	00 35 29.9	+1.7
AVH				*e*S	Sn	00 35 43.3	+1.2
KRX	**Arik**	**1.14**	**275**	*e*P	Pn	00 35 30.2	+1.2
KRX				*e*S	Sn	00 35 43.8	+0.1
KOK	**Koryaka**	**1.14**	**272**	*e*P	Pn	00 35 30.5	+1.5
PET	**Petropavlovsk**	**1.16**	**259**	*e*P	Pn	00 35 30.9	+1.8
PET				*e*S	Sn	00 35 44.7	+0.9
MKZ	**Mys Kozlova**	**1.47**	**28**	*e*P	Pn	00 35 36.0	+2.7
MKZ				*e*S	Sn	00 35 53.6	+2.2
RUS	**Russkaya**	**1.48**	**237**	*e*P	Pn	00 35 35.8	+2.3
RUS				*e*S	Sn	00 35 53.1	+1.4
GNL	**Ganaly**	**1.61**	**286**	*e*P	Pn	00 35 36.9	+1.5
MTVR	**Mutnovka**	**1.63**	**242**	*e*P	Pn	00 35 38.4	+2.7
MTVR				*e*S	Sn	00 35 57.0	+1.4
KZV	**Kizimen**	**1.85**	**356**	*e*P	Pn	00 35 41.4	+2.6
TUMR	**Tumrok**	**2.03**	**354**	*e*P	Pn	00 35 44.3	+3.1
TUMR				*e*S	Sn	00 36 08.3	+2.8
APC	**Apacha**	**2.07**	**262**	*e*P	Pn	00 35 44.2	+2.7
APC				*e*S	Sn	00 36 07.7	+1.7
KMNR	**Kamenistaya**	**2.50**	**356**	*e*P	Pn	00 35 50.8	+3.2
MIPR	**Malaya Ipel'ka**	**2.50**	**248**	P	Pn	00 35 50.9	+3.4
ESO	**Esso**	**2.87**	**339**	*e*P	Pn	00 35 55.0	+2.5
SRDR	**Sredinnyy**	**3.09**	**351**	*e*P	Pn	00 35 58.2	+2.6
KBTR	**Krutoberegovo**	**3.23**	**23**	*e*P	Pn	00 36 01.6	+4.2
KBTR				*e*S	Sn	00 36 39.2	+4.6
BDR	**Baidarnaya**	**3.33**	**6**	P	Pn	00 36 03.7	+4.8
BDR				S	Sn	00 36 41.7	+4.4
SMKR	**Semkarok**	**3.37**	**9**	*e*P	Pn	00 36 03.6	+4.2
SMKR				*e*S	Sn	00 36 42.1	+4.0
SRKR	**Sorokina**	**3.41**	**6**	*e*P	Pn	00 36 04.4	+4.4
SRKR				*e*S	Sn	00 36 43.7	+4.4
BKI	**Bering**	**3.73**	**57**	*e*P	Pn	00 36 06.3	+2.0
BKI				*e*S	Sn	00 36 47.8	+0.9

*NNC **26** 00:39:03.0±4.6, 37°.71N×71°.73E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=40.1km s-min=15.7km az=160.0*

ISC 26 00:39:04.3±2.5, 37°.5N±0°.2×71°.70E±0°.07, h109km, n11, σ1§70/15, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.60**	**300**	⇑Pn	**Pn**	**00 39 44.9**	**-0.2**
DZET				⇑Sn	**Sn**	**00 40 18.9**	**+2.5**
KSH	**Kashi**	**3.89**	**58**	SS	**Sn**	**00 40 47.0**	**-0.1**
KSH				pmax	pmax		
	comp=Z,110nm,4.9s						
KSH				LR	LR		
	comp=N,44nm,4.2s						
KSH				LR	LR		
	comp=E,62nm,4.9s						
KSH				LR	LR		
	comp=Z,130nm,5.2s						
AML	**Almayashu**	**4.84**	**18**	P	**Pn**	**00 40 15.7**	**+0.5**
	SNR=141						
UCH	**Uchtor**	**5.16**	**24**	P	**Pn**	**00 40 19.3**	**-0.4**
	SNR=29						
KZA	**Kyzart**	**5.29**	**30**	P	**Pn**	**00 40 20.6**	**-0.8**
	SNR=5.4						
EKS2	**Erkin-Say**	**5.36**	**17**	P	**Pn**	**00 40 23.1**	**+1.1**
	SNR=5.5						
AAK	**Ala-Archa**	**5.52**	**22**	⇓Pn	**Pn**	**00 40 24.7**	**+0.4**
	comp=Z,3.6nm,0.5s						
AAK				⇑Sn	**Sn**	**00 41 28.8**	**+2.2**
	comp=Z,12nm,0.8s						
AAK	**Ala-Archa**	**5.52**	**22**	P	**Pn**	**00 40 24.8**	**+0.5**
	SNR=15						

2010 MAR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.63**	**351**	⇑Pn	**Pn**	**00 40 26.3**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=182,slow=14,SNR=26						
KK31				Sn	**Sn**	**00 41 30.2**	**+1.1**
	comp=Z,1.1nm,0.2s,baz=171,slow=22,SNR=13						
CHMS	**Chumysh**	**5.93**	**22**	P	**Pn**	**00 40 30.1**	**+0.5**
	SNR=5.8						
AB31	**Akbulak array**	**14.48**	**328**	Pn	**Pn**	**00 42 24.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=208,slow=5.8,SNR=7.5						
AB31				⇑Sn	**Sn**	**00 44 59.0**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=143,slow=26,SNR=2.7						

*ISCJB **26** 01:06:34.7±0.5, 37°.32N±0°.04×72°.09E±0°.07, h200km, mb3.4/7, Error ellipse: s-maj=7.8km s-min=5.7km az=156.0*
*IDC **26** 01:06:34.5±3.8, 37°.28N×72°.09E, h192km±28km, mb3.3/7, mb1 3.3/13, mb1mx3.1/31, mbtmp3.8/13, MS2.8/1, Ms1 2.8/1, ms1mx2.1/30, Error ellipse: s-maj=36.1km s-min=20.6km az=161.0*
*NNC **26** 01:06:40.2±1.6, 37°.69N×71°.99E, h201km±19km, mb3.0, mpv4.5, Error ellipse: s-maj=18.8km s-min=10.5km az=145.0*

ISC 26 01:06:35.4±0.7, 37°.31N±0°.06×72°.18E±0°.07, h200km, n38, σ1§37/40, mb3.5/7, 6C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.04**	**300**	⇑P	**Pn**	**01 07 26.9**	**+1.4**
DZET				⇓S	**Sn**	**01 08 03.5**	**-1.3**
AML	**Almayashu**	**4.95**	**13**	P	**Pn**	**01 07 50.5**	**+0.9**
	SNR=335						
UCH	**Uchtor**	**5.23**	**19**	P	**Pn**	**01 07 54.0**	**+0.9**
	SNR=37						
KZA	**Kyzart**	**5.32**	**25**	P	**Pn**	**01 07 54.6**	**+0.4**
	SNR=23						
EKS2	**Erkin-Say**	**5.48**	**12**	P	**Pn**	**01 07 57.0**	**+0.9**
	SNR=39						
AAK	**Ala-Archa**	**5.61**	**18**	P	**Pn**	**01 07 58.6**	**+1.0**
AAK				S	**Sn**	**01 09 01.5**	**-1.3**
AAK	**Ala-Archa**	**5.61**	**18**	P	**Pn**	**01 07 59.0**	**+1.4**
	SNR=53						
AAK	**Ala-Archa**	**5.61**	**18**	P	**Pn**	**01 07 58.8**	**+1.1**
	11nm,0.3s,baz=177,slow=6.0,SNR=176						
AAK				S	**Sn**	**01 09 02.2**	**-0.5**
	2.8nm,0.3s,baz=120,slow=20,SNR=3.8						
KBK	**Karagaybulak**	**5.75**	**21**	P	**Pn**	**01 08 01.2**	**+1.7**
	SNR=22						
ULHL	**Ulahol**	**5.84**	**31**	P	**Pn**	**01 08 01.3**	**+0.6**
	SNR=23						
KK31	**Karatay Array**	**5.92**	**348**	⇓P	**Pn**	**01 08 02.3**	**+0.6**
	14nm,0.2s,baz=156,slow=11,SNR=153						
KK31				S	**Sn**	**01 09 05.6**	**-4.3**
	12nm,0.2s,baz=170,slow=16,SNR=9.8						
CHMS	**Chumysh**	**6.01**	**18**	P	**Pn**	**01 08 03.6**	**+0.8**
	SNR=13						
DHRM	**DHARAMSHALA**	**6.08**	**145**	*e*P	**Pn**	**01 08 05.6**	**+1.6**
DHRM				*e*S	**Sn**	**01 09 12.6**	**-1.4**
DHRM				AML	AML	01 09 17.0	
	comp=E,311nm,0.6s						
DHRM				AML	AML	01 09 17.3	
	comp=N,275nm,0.4s						
TKM2	**Tokmak 2**	**6.18**	**24**	⇑P	**Pn**	**01 08 05.9**	**+0.7**
	comp=N,31nm,0.6s						
TKM2	**Tokmak 2**	**6.18**	**24**	P	**Pn**	**01 08 06.2**	**+1.0**
	SNR=21						
USP	**Ospenovka**	**6.21**	**16**	P	**Pn**	**01 08 05.5**	**+0.2**
	SNR=8.0						
KNDC	**Almaty**	**6.94**	**30**	⇑P	**Pn**	**01 08 16.2**	**+1.3**
SMLA	**Simla**	**7.42**	**145**	*e*P	**Pn**	**01 08 22.8**	**+1.6**
SMLA				*e*S	**Sn**	**01 09 41.2**	**-4.0**
SMLA				AML	AML	01 09 46.5	
	comp=N,99nm,0.3s						
SMLA				AML	AML	01 09 46.6	
	comp=E,125nm,0.1s						
MK31	**Makanchi Array**	**12.08**	**35**	P	**Pn**	**01 09 20.9**	**-0.3**
	comp=E,1.3nm,1.0s,baz=218,slow=9.7,SNR=7.1						
MKAR	**Makanchi Array**	**12.08**	**35**	P	**Pn**	**01 09 21.1**	**-0.1**
	comp=E,0.1nm,0.3s,baz=222,slow=12,SNR=7.8						
KURBB	**Kurchatov Arra**	**14.06**	**17**	P	**Pn**	**01 09 44.6**	**-1.3**
	comp=E,0.0nm,0.3s,baz=208,slow=11,SNR=3.1						
BHPL	**Bhopal**	**14.73**	**161**	*e*P	P	01 10 06.2	+11
AB31	**Akbulak array**	**14.87**	**327**	⇑P	**P**	**01 09 58.4**	**+1.7**
	comp=E,0.4nm,0.4s,baz=137,slow=13,SNR=17						
AB31				⇑S	S	01 12 31.7	-9.2
	comp=E,0.5nm,0.3s,baz=122,slow=25,SNR=4.1						
BVAR	**Borovoye Array**	**15.76**	**356**	P	**P**	**01 10 06.1**	**-0.4**
	comp=E,0.4nm,0.3s,baz=153,slow=12,SNR=6.3						
AKTO	**Aktyubinsk**	**16.58**	**327**	⇑P	**Pn**	**01 10 16.8**	**+0.2**
	comp=E,3.0nm,1.1s						
AKTO	**Aktyubinsk**	**16.58**	**327**	P	**P**	**01 10 14.6**	**-1.0**
	comp=E,0.2nm,0.3s,baz=143,slow=10,SNR=6.3						
BOK	**Bokaro**	**17.88**	**135**	*e*P	Pn	01 10 45.1	+13
BOK				*ex*	x	01 10 54.5	
ZALV	**Zalesovo Beam**	**18.79**	**24**	P	**P**	**01 10 39.3**	**-0.3**
	comp=E,0.6nm,0.3s,baz=215,slow=12,SNR=9.0						
SHL	**Shillong**	**20.44**	**119**	*e*P	Pn	01 11 12.0	+9.0
SONM	**Songino Array**	**27.10**	**56**	P	**P**	**01 12 01.1**	**+1.4**
	comp=E,0.4nm,0.4s,baz=270,slow=9.4,SNR=2.6						
FINES	**FINESS Array B**	**37.35**	**325**	P	**P**	**01 13 28.5**	**+0.2**
	comp=E,0.3nm,0.4s,baz=117,slow=11,SNR=5.6						
ARCES	**ARCESS Array B**	**40.76**	**337**	P	**P**	**01 13 56.7**	**+0.2**
	comp=E,3.1nm,0.9s,baz=111,slow=6.9,SNR=9.4						
KSRS	**Korea Array**	**43.73**	**72**	LR	LR	01 35 16.2	
	comp=E,13nm,21.9s,baz=145,slow=39						
NB2	**NORSAR Subarra**	**44.31**	**322**	P	**P**	**01 14 24.9**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.31**	**322**	P	**P**	**01 14 25.2**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=105,slow=6.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**66.68**	**269**	P	**P**	**01 17 04.3**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=49,slow=5.6,SNR=27						
INK	**Inuvik**	**72.95**	**10**	P	**P**	**01 17 42.7**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=350,slow=0.5,SNR=6.6						
YKA	**Yellowknife Ar**	**80.39**	**3**	P	**P**	**01 18 24.0**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=348,slow=5.6,SNR=13						

*IDC **26** 01:28:36.3±1.1, 34°.30S×72°.07W, h0km, mb4.1/4, mb1 4.1/6, mb1mx3.9/22, mbtmp4.0/6, ML3.9/2, MS3.0/1, Ms1 3.0/1, ms1mx2.6/23, Error ellipse: s-maj=43.3km s-min=28.0km az=74.0*
*ISCJB **26** 01:28:37.7±1.1, 34°.29S±0°.03×72°.05W±0°.07, h17km±8km, mb4.0/5, MS2.8/1, Error ellipse: s-maj=10.4km s-min=4.6km az=19.9*
*GUC **26** 01:28:38.9±0.5, 34°.31S×71°.96W, h42km±2km, ML3.8*
*NEIC **26** 01:28:39.6±3.0, 34°.25S×72°.04W, h21km±21km, mb4.0/1, Error ellipse: s-maj=28.7km s-min=9.8km az=87.0*

ISC 26 01:28:38.0±1.8, 34°.31S±0°.04×71°.93W±0°.07, h10km±11km, n28, σ1§15/35, mb4.1/5, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.56**	**50**	*e*P1	**Pb**	**01 28 50.5**	**+0.6**
NICH	**Los Niches**	**0.90**	**140**	⇑*e*P	**Pb**	**01 28 55.7**	**0.0**
NICH				*e*S	**Sb**	**01 29 08.8**	**+1.2**
TALC	**Talca**	**1.11**	**168**	*e*P	**Pg**	**01 28 58.7**	**-0.6**
TALC				*e*S	**Sb**	**01 29 13.9**	**+0.1**
CACH	**El Canelo**	**1.12**	**80**	⇑*e*P	**Pb**	**01 28 59.8**	**+0.3**
CHCH	**Chadas Angostu**	**1.12**	**71**	*e*P	**Pg**	**01 28 59.5**	**-0.1**
RCDM	**Rinconada Maip**	**1.24**	**49**	⇑*e*P	**Pn**	**01 29 01.1**	**-0.4**
IHA	**Instituto Hidr**	**1.31**	**11**	*e*P	**Pn**	**01 29 02.0**	**-0.3**
FSR	**Penalolen**	**1.43**	**55**	*e*P	**Pn**	**01 29 04.1**	**0.0**
FSR				*e*S	**Sb**	**01 29 23.4**	**+0.3**
LACH	**Col Las Americ**	**1.45**	**54**	*e*P	**Pn**	**01 29 04.2**	**0.0**
LACH				*e*S	**Sb**	**01 29 23.9**	**+0.4**
LACH				AML	AML	01 29 32.5	
	comp=N,1μm,0.8s						
CLCH	**Cerro Calan**	**1.48**	**52**	⇑*e*P	**Pn**	**01 29 04.9**	**+0.2**
CLCH				*e*S	**Sn**	**01 29 24.4**	**+0.2**
CLCH				AML	AML	01 29 37.1	
	comp=E,4μm,0.5s						
LNCH	**Linares**	**1.55**	**170**	*e*P	**Pn**	**01 29 05.3**	**-0.4**
LNCH				*e*S	**Sn**	**01 29 25.5**	**-0.4**
FCH	**Farellones**	**1.68**	**55**	*e*P9	Pn	01 29 02.6	-5.2
FCH				*e*S	**Sn**	**01 29 25.0**	**-4.5**
FCH				AML	AML	01 29 33.3	
	comp=E,2μm,0.6s						
COCH	**Cobquecura**	**1.94**	**201**	*e*P	**Pn**	**01 29 10.6**	**-0.5**
COCH				*e*S	**Sn**	**01 29 35.3**	**-0.3**
LCO	**Las Campanas**	**5.39**	**12**	*e*Pn	**Pn**	**01 29 57.1**	**-1.7**
	comp=E,11nm,0.6s						
LCO				*e*Sn	**Sn**	**01 31 03.3**	**+2.3**
PLCA	**Paso Flores**	**6.50**	**171**	Pn	**Pn**	**01 30 15.1**	**+1.3**
	comp=E,0.7nm,0.3s,baz=342,slow=14,SNR=20						
PLCA				Lg	Lg	01 31 54.9	
	comp=E,0.3nm,0.3s,baz=289,slow=14,SNR=2.3						
PLCA	**Paso Flores**	**6.50**	**171**	*e*Pn	**Pn**	**01 30 15.2**	**+1.4**
	comp=E,27nm,0.1s						
PLCA				*e*Lg	Lg	01 32 02.5	
LPAZ	**La Paz**	**18.27**	**12**	P	**P**	**01 32 53.8**	**+1.2**
	comp=E,0.1nm,0.3s,baz=197,slow=7.7,SNR=4.6						
SIV	**San Ignacio**	**20.69**	**31**	LR	LR	01 42 38.3	
	comp=E,41nm,19.9s,baz=142,slow=41						
SNAA	**Sanae**	**51.26**	**158**	*e*P	**P**	**01 37 42.2**	**+0.6**
	comp=E,1.3nm,0.6s						
KMSC	**Kings Mountain**	**69.66**	**352**	*e*P	**P**	**01 39 46.8**	**-0.7**
TXAR	**Lajitas Array**	**70.05**	**331**	P	**P**	**01 39 49.8**	**-0.5**
	comp=E,0.0nm,0.5s,baz=156,slow=9.0,SNR=6.3						
DBIC	**Dimbokro**	**75.19**	**71**	P	**P**	**01 40 21.6**	**+0.5**
	comp=E,7.1nm,1.2s,baz=231,slow=6.5,SNR=3.3						
LBTB	**Lobatse**	**82.09**	**115**	P	**P**	**01 41 00.0**	**+0.8**
	comp=E,1.1nm,0.5s,baz=265,slow=6.8,SNR=6.4						
TORD	**Torodi Ar. Bea**	**84.23**	**70**	P	**P**	**01 41 10.3**	**+0.2**
	comp=E,0.9nm,0.7s,baz=259,slow=3.3,SNR=6.8						
WRA	**Warramunga Arr**	**120.53**	**209**	PKP	**PKPdf**	**01 47 29.7**	**-0.8**
	comp=E,0.3nm,0.4s,baz=177,slow=1.3,SNR=2.9						
KKAR	**Karatay Array**	**149.61**	**62**	*e*PKPbc	**PKPbc**	**01 48 26.9**	**-0.8**
ZALV	**Zalesovo Beam**	**154.44**	**33**	PKPbc	**PKPbc**	**01 48 38.5**	**+0.3**
	comp=E,1.5nm,0.7s,baz=300,slow=3.3,SNR=6.5						
MKAR	**Makanchi Array**	**156.90**	**50**	PKPab	**PKPab**	**01 49 02.5**	**-0.9**
	comp=E,0.4nm,0.8s,baz=317,slow=3.9,SNR=3.0						

*IDC **26** 01:28:53.4±0.7, 20°.83S×174°.36W, h0km, mb4.2/14, mb1 4.5/15, mb1mx4.3/35, mbtmp4.2/15, ML3.9/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/27, Error ellipse: s-maj=28.1km s-min=18.7km az=134.0*
*NEIC **26** 01:28:54.7±0.3, 20°.87S×174°.40W, h10km, mb4.7/7, Error ellipse: s-maj=13.3km s-min=7.9km az=136.0*
*ISCJB **26** 01:28:55.6±0.6, 21°.0S±0°.1×174°.4W±0°.1, h27km, mb4.4/20, MS3.6/5, Error ellipse: s-maj=19.5km s-min=11.7km az=41.8*

ISC 26 01:28:57.5±0.6, 20°.9S±0°.1×174°.3W±0°.1, h27km, n61, σ1§13/62, mb4.5/20, MS3.6/6, 9C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.92**	**292**	*e*Pn	Pn	01 30 59.2	+8.3
DZM	**Mont Dzumac**	**18.00**	**263**	P	**P**	**01 33 08.8**	**+2.5**
	0.7nm,0.3s,baz=106,slow=16,SNR=8.4						
DZM				LR	LR	01 39 00.1	
	comp=Z,288nm,18.7s,baz=182,slow=34						
DZM	**Mont Dzumac**	**18.00**	**263**	*e*Pn	**P**	**01 33 09.2**	**+2.9**
URZ	**Urewera**	**18.84**	**201**	P	**P**	**01 33 14.6**	**-0.7**
	0.4nm,0.3s,baz=355,slow=4.6,SNR=4.5						
URZ	**Urewera**	**18.84**	**201**	*e*P	**P**	**01 33 14.2**	**-1.1**
	12nm,0.7s						
TBI	**Tubuai**	**23.09**	**101**	*e*LR	LR	01 39 22.8	
	331nm,28.2s						
PPT2	**Papeete2**	**23.52**	**86**	*e*LR	LR	01 39 32.1	
	373nm,27.2s						
PPT	**Papeete**	**23.53**	**86**	LR	LR	01 42 42.8	
	comp=Z,168nm,18.2s,baz=260,slow=35						
HNR	**Honiara**	**27.34**	**291**	LR	LR	01 44 58.7	
	comp=Z,150nm,18.3s,baz=126,slow=36						
AS31	**Alice Springs**	**47.84**	**257**	*e*P	**P**	**01 37 31.5**	**-1.7**
ASAR	**Alice Springs**	**47.84**	**257**	P	**P**	**01 37 31.9**	**-1.3**
	5.1nm,0.8s,baz=92,slow=8.2,SNR=38						
ASAR				PcP	**PcP**	**01 39 01.8**	**0.0**
	1.3nm,0.7s,baz=111,slow=4.1,SNR=5.0						
ASAR				LR	LR	01 57 53.8	
	comp=Z,90nm,18.3s,baz=104,slow=36						
WB2	**Warramunga Arr**	**48.00**	**262**	*e*P	**P**	**01 37 32.7**	**-1.8**
WRAB	**Tennant Creek**	**48.01**	**262**	*e*P	**P**	**01 37 32.9**	**-1.6**
	6.2nm,0.9s						
WRA	**Warramunga Arr**	**48.01**	**262**	P	**P**	**01 37 32.8**	**-1.8**
	3.4nm,0.7s,baz=97,slow=7.6,SNR=12						
WRA				PcP	**PcP**	**01 39 03.0**	**+0.6**
	0.8nm,0.8s,baz=96,slow=3.3,SNR=2.7						
VNDA	**Vanda**	**57.85**	**186**	P	**P**	**01 38 47.4**	**+1.1**
	1.0nm,0.8s,baz=5.9,slow=6.7,SNR=5.5						
MJAR	**Matsushiro Arr**	**72.66**	**322**	P	**P**	**01 40 22.8**	**0.0**
	5.1nm,0.8s,baz=160,slow=6.3,SNR=11						
MJAR				LR	LR	02 12 19.3	
	comp=Z,17nm,18.3s,baz=120,slow=36						
KKM	**Kota Kinabalu**	**73.26**	**283**	*e*P	**P**	**01 40 27.0**	**0.0**

CSS	**Prodhromos**	**152.00**	**306**	*e*PKPbc	**PKPbc**	**01 48 50.5**	**-0.1**
ABTA	**Abfaltersbach**	**153.64**	**349**	⇑*i*PKiKP	**PKPbc**	**01 48 53.5**	**-0.3**
	comp=Z,5.9nm,1.0s						

NNC 26 01:33:21.6±4.9, 36°.96N×71°.05E, h0km, mb4.1, mpv3.7, 7C, Error ellipse: s-maj=42.4km s-min=20.5km az=179.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.55**	**317**	⇑Pn	Pn	01 34 04.2	-0.2
DZET				⇑Sn	Sn	01 34 37.7	+1.3
KK31	**Karatay Array**	**6.15**	**356**	Pn	Pn	01 34 52.8	-1.0
	2.6nm,0.4s,baz=180,slow=13,SNR=84						
KK31				⇑Sn	Sn	01 36 03.3	-1.7
	0.8nm,0.4s,baz=189,slow=25,SNR=6.6						
AAK	**Ala-Archa**	**6.26**	**24**	⇑Pn	Pn	01 34 55.5	0.0
	2.1nm,0.4s						
AAK				⇑Sn	Sn	01 36 11.2	+3.3
	1.8nm,0.4s						
TKM2	**Tokmak 2**	**6.90**	**29**	⇑Pn	Pn	01 35 04.1	-0.3
	4.2nm,0.4s						
TKM2				⇑Sn	Sn	01 36 11.7	-12
	6.5nm,0.9s						

*IDC **26** 01:36:33.3±1.5, 36°.61S×72°.33W, h0km, mb4.0/6, mb1 4.0/8, mb1mx3.9/22, mbtmp3.9/8, ML3.3/2, MS1.9/1, Ms1 1.9/1, ms1mx1.9/25, Error ellipse: s-maj=40.4km s-min=25.0km az=91.0*

*ISCJB **26** 01:36:35.8±0.7, 36°.64S±0°.06×72°.4W±0°.1, h35km, mb4.2/9, Error ellipse: s-maj=15.6km s-min=8.6km az=15.2*

*NEIC **26** 01:36:37.1±0.6, 36°.62S×72°.50W, h35km, mb4.3/5, ML4.3(GUC), Error ellipse: s-maj=21.1km s-min=10.7km az=87.0*

NEIC Felt [IV] at Parral and Talca, [III] at Cauquenes and [II] at Curico and Pelluhue.

*GUC **26** 01:36:41.1±0.7, 36°.34S×72°.44W, h51km±5km, ML4.3*

ISC 26 01:36:37.6±0.7, 36°.62S±0°.07×72°.42W±0°.07, h35km, n25, σ1⇕21/26, mb4.3/9, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.57**	**328**	⇓*i*P	**Pn**	**01 36 51.3**	**+2.1**
COCH				*i* S1	**Sn**	**01 36 57.9**	**+0.6**
CCSP	**San Pedro de C**	**0.60**	**248**	⇑*i*P	Pn	01 36 55.7	+6.0
CCSP				*e*S1	Sn	01 37 06.3	+8.1
LNCH	**Linares**	**1.01**	**41**	⇓*i*P	**Pn**	**01 36 56.6**	**+1.3**
LNCH				*e*S1	**Sn**	**01 37 09.0**	**+0.7**
LNCH				AML	AML	01 37 13.8	
	comp=N,7μm,0.3s						
TALC	**Talca**	**1.37**	**28**	⇑*i*P	**Pn**	**01 37 01.4**	**+1.1**
TALC				*i* S1	**Sn**	**01 37 16.0**	**-1.1**
TALC				AML	AML	01 37 21.4	
	comp=N,13μm,0.1s						
NICH	**Los Niches**	**1.88**	**31**	*e*P1	**Pn**	**01 37 08.4**	**+1.2**
NICH				AML	AML	01 37 40.8	
	comp=E,5μm,0.4s						
CLCH	**Cerro Calan**	**3.56**	**26**	⇓*i*P	**Pn**	**01 37 31.5**	**+1.0**
CLCH				AML	AML	01 38 24.6	
	comp=E,1μm,0.4s						
PLCA	**Paso Flores**	**4.36**	**161**	Pn	**Pn**	**01 37 40.5**	**-0.9**
	comp=E,0.5nm,0.3s,baz=310,slow=14,SNR=8.6						
PLCA	**Paso Flores**	**4.36**	**161**	*e*Pn	**Pn**	**01 37 39.6**	**-1.9**
CFAA	**Coronel Fontan**	**6.08**	**36**	Pn	**Pn**	**01 38 04.7**	**-0.3**
	comp=E,0.4nm,0.3s,baz=211,slow=9.8,SNR=27						
CFAA				Sn	**Sn**	**01 39 13.9**	**+0.5**
	comp=E,0.7nm,0.3s,baz=331,slow=19,SNR=3.6						
CFAA				LR	LR	01 40 39.7	
	comp=E,12nm,21.7s,baz=238,slow=41						
LCO	**Las Campanas**	**7.72**	**11**	*e*Pn	**Pn**	**01 38 26.3**	**-1.5**
	comp=E,12nm,0.4s						
LCO				*e*Sn	Sn	01 39 47.7	-6.4
LPAZ	**La Paz**	**20.60**	**12**	P	Pn	01 41 15.6	-1.4
	comp=E,1.8nm,0.6s,baz=204,slow=7.7,SNR=7.6						
LPAZ	**La Paz**	**20.60**	**12**	*e*P	Pn	01 41 17.6	+0.6
	comp=E,3.2nm,0.8s						
SIV	**San Ignacio**	**22.88**	**29**	P	**P**	**01 41 37.7**	**-0.6**
	comp=E,5.5nm,0.7s,baz=202,slow=8.7,SNR=12						
PTGA	**Pitinga**	**37.52**	**21**	P	**P**	**01 43 47.9**	**-0.4**
	comp=E,4.0nm,0.6s,baz=212,slow=9.5,SNR=7.4						
JTS	**JuntasAbangare**	**48.12**	**343**	*e*P	**P**	**01 45 13.4**	**-0.8**
	comp=E,2.4nm,0.7s						
SNAA	**Sanae**	**49.29**	**157**	*e*P	**P**	**01 45 23.2**	**+0.6**
	comp=E,4.5nm,0.9s						
TXAR	**Lajitas Array**	**71.87**	**332**	P	**P**	**01 47 58.3**	**+1.3**
	comp=E,0.6nm,0.8s,baz=154,slow=8.9,SNR=6.0						
SWET	**Sewanee**	**72.57**	**348**	*e*P	**P**	**01 48 01.2**	**+0.2**
	comp=E,3.4nm,0.7s						
ABTX	**Abilene, Hawle**	**73.44**	**336**	*e*P	**P**	**01 48 04.1**	**-2.1**
	comp=E,1.7nm,0.6s						
DBIC	**Dimbokro**	**76.32**	**71**	P	**P**	**01 48 24.3**	**+1.1**
	comp=E,2.4nm,0.6s,baz=211,slow=7.0,SNR=6.5						
LAZ	**Ladron**	**77.71**	**331**	*e*P	**P**	**01 48 29.1**	**-1.8**
TORD	**Torodi Ar. Bea**	**85.39**	**70**	P	**P**	**01 49 12.6**	**+0.9**
	comp=E,0.4nm,0.8s,baz=248,slow=5.8,SNR=4.4						
ABKAR	**Akbulak array**	**143.50**	**54**	*e*PKPdf	**PKPdf**	**01 56 06.8**	**-1.1**
KULM	**Kulim**	**148.18**	**167**	*e*PKPbc	**PKPbc**	**01 56 19.7**	**-0.7**
MKAR	**Makanchi Array**	**158.64**	**54**	PKPab	**PKPab**	**01 57 07.3**	**+0.7**
	comp=E,0.5nm,0.9s,baz=268,slow=3.3,SNR=4.8						

*IGQ **26** 01:56:33±0.1, 1°.15S×78°.47W, h3km±3km, Mb4.9, Error ellipse: s-maj=2.9km s-min=0.6km az=13.1*

*ISCJB **26** 01:56:36.4±0.2, 1°.30S±0°.02×78°.33W±0°.03, h16km, mb4.8/99, MS4.3/20, Error ellipse: s-maj=3.8km s-min=2.8km az=2.7*

*NEIC **26** 01:56:37.5±0.2, 1°.10S×78°.13W, h10km, mb5.0/87, MD5.0(IGQ), Error ellipse: s-maj=8.1km s-min=4.4km az=52.0*

NEIC Felt [IV] at Banos; [III] at Cuenca and Quito; [II] at Ambato, Orellana and Tulcan. Also felt at Guayaquil, Ibarra, Latacunga, Puyo, Riobamba, Santo Domingo and Tena.

*BJI **26** 01:56:37.7, 1°.20S×78°.20W, h10km, mB5.1/4, Ms5.4/5, Ms7 4.9/6*

*GCMT **26** 01:56:37.4±0.3, 1°.24S×78°.32W, h12km, MW5.0/92, Moment Tensor Solution. s25,c31; s92,c138; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.33±.08; $M_{\theta\theta}$2.41±.06; $M_{\phi\phi}$-3.74±.09; $M_{r\theta}$-0.42±.19; $M_{\theta\phi}$1.20±.07; $M_{\phi r}$1.04±.24; Best double couple: $M_0$3.43200×10^{16} NP1:ϕ_s125.00000°, δ90.00000°, λ-16.00000°. NP2: ϕ_s215.00000°, δ74.00000°, λ-180.00000°. Principal axes: T 2.6790, Plg11.0000°, Azm171.0000°; N 1.5070, Plg74.0000°, Azm304.0000°; P -4.1860, Plg11.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **26** 01:56:41.9±2.2, 1°.16S×78°.20W, h53km±20km, mb3.9/15, mb1 4.1/19, mb1mx4.0/33, mbtmp4.2/19, ML4.0/4, MS4.3/22, Ms1 4.3/22, ms1mx4.2/31 Error ellipse: s-maj=18.8km s-min=10.8km az=62.0*

ISC 26 01:56:38.1±0.3, 1°.21S±0°.04×78°.22W±0°.05, h16km, n515, σ1⇕05/469, mb4.9/101, MS4.2/20, 150C-145D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.23**	**312**	⇑P	Pg	01 56 36.1	-7.5
BRUN	**Tungurahua Vol**	**0.28**	**223**	⇑S	**Sg**	**01 56 45.0**	**-3.8**
BRUN	**Tungurahua Vol**	**0.28**	**223**	⇑P	Pg	01 56 39.9	-4.6
RUN5	**Runtun**	**0.29**	**225**	⇑P	Pg	01 56 39.9	-4.7
BULB	**Ulba Tungurahu**	**0.30**	**220**	⇑P	Pg	01 56 39.1	-5.6
ULBA	**Ulba**	**0.30**	**219**	⇑P	Pg	01 56 39.2	-5.7
JUI6	**Juive**	**0.33**	**230**	⇑P	Pg	01 56 39.0	-6.2
RETU	**Refugio**	**0.33**	**224**	⇑P	Pg	01 56 40.7	-4.7
BBIL	**Ulba Tungurahu**	**0.36**	**229**	⇑P	Pg	01 56 40.7	-5.1
BPAT	**Tungurahua Vol**	**0.36**	**217**	⇑P	Pg	01 56 41.5	-4.3
PAT1	**Patacocha**	**0.37**	**217**	⇑P	Pg	01 56 40.5	-5.5
BIL2	**Estacion Bilba**	**0.37**	**230**	P	Pg	01 56 40.7	-5.3
BMAS	**Trigal station**	**0.39**	**222**	⇑P	Pg	01 56 40.4	-5.9
BMAS	**Trigal station**	**0.39**	**222**	⇑S	**Sg**	**01 56 47.2**	**-4.7**
IGUA	**Igualata**	**0.50**	**237**	⇑P	Pg	01 56 42.4	-6.0
BMOR	**Cotopaxi Volca**	**0.53**	**333**	⇓P	Pg	01 56 42.4	-6.6
MOV1	**Cotopaxi Vol s**	**0.54**	**336**	⇓P	Pg	01 56 42.3	-6.9
COV1	**Cotopaxi Volc**	**0.56**	**347**	⇓P	Pg	01 56 44.6	-4.9
BTAM	**Cotopaxi Volca**	**0.56**	**341**	⇓P	Pg	01 56 43.0	-6.4
BREF	**Cotopaxi Volca**	**0.58**	**337**	⇓P	Pg	01 56 44.6	-5.2
BVC2	**Cotopaxi Volca**	**0.58**	**341**	⇓P	Pg	01 56 43.4	-6.5
VC1	**Cotopaxi 1**	**0.59**	**342**	⇓P	Pg	01 56 44.7	-5.4
CAMI	**Rancho Maria**	**0.60**	**332**	⇓P	Pg	01 56 44.7	-5.6
PORT	**Chimborazo Vol**	**0.61**	**246**	P	Pg	01 56 41.5	-8.9
PAST	**Pastocalle**	**0.67**	**320**	⇓P	Pg	01 56 45.0	-6.3
RIOE	**Riobamba**	**0.68**	**218**	⇑P	Pg	01 56 46.8	-4.8
MACE	**Macas**	**1.04**	**179**	⇑S	**Sn**	**01 57 12.5**	**0.0**
MACE	**Macas**	**1.04**	**179**	⇑P	Pb	01 56 54.1	-3.8
OTAV	**Otavalo**	**1.46**	**351**	⇓P	Pn	01 56 59.0	-5.2
OTAV	**Otavalo**	**1.46**	**351**	⇓*i*P	Pn	01 56 58.8	-5.4
OTAV				*e*Sn	**Sn**	**01 57 20.0**	**-3.2**
LITE	**Lita**	**2.01**	**356**	P	Pn	01 57 08.1	-3.5
ATAH	**Atahualpa**	**5.89**	**182**	P	Pn	01 58 07.8	+2.6
	10nm,0.3s,baz=5.1,slow=6.4,SNR=77						
ATAH				S	Sb	01 59 20.9	-10
	4.7nm,0.3s,baz=74,slow=18,SNR=5.7						
ROSC	**El Rosal**	**7.17**	**33**	P	**Pn**	**01 58 24.8**	**+2.0**
	1.9nm,0.3s,baz=214,slow=5.5,SNR=19						
ROSC				S	**Sg**	**02 00 24.5**	**-4.0**
	4.3nm,0.3s,baz=86,slow=19,SNR=2.9						
ROSC				LR	LR	02 01 25.7	
	comp=Z,8μm,18.7s,baz=198,slow=40						
ROSC	**El Rosal**	**7.17**	**33**	*e*Pn	Pn	01 58 27.1	+4.4
ROSC				S	**Sg**	**02 00 24.5**	**-4.0**
SDV	**Santo Domingo**	**12.56**	**37**	*e*Pn	**Pn**	**01 59 35.2**	**-1.3**
JTS	**JuntasAbangare**	**13.25**	**330**	P	**Pn**	**01 59 46.9**	**+1.1**
	0.2nm,0.3s,baz=164,slow=16,SNR=3.2						
JTS				LR	LR	02 03 43.9	
	comp=Z,708nm,20.9s,baz=148,slow=32						
JTS	**JuntasAbangare**	**13.25**	**330**	*e*Pn	**Pn**	**01 59 46.1**	**+0.4**
SAML	**Samuel**	**16.82**	**118**	*e*Pn	**Pn**	**02 00 30.8**	**-2.5**
	30nm,1.4s						
SAML				*e*S	**S**	**02 03 51.4**	**+0.8**
SAML				*e*Lg	Lg	02 05 30.3	
LPAZ	**La Paz**	**17.98**	**147**	P	**P**	**02 00 48.8**	**+0.1**
	0.3nm,0.3s,baz=332,slow=11,SNR=12						
LPAZ	**La Paz**	**17.98**	**147**	*e*Pn	**P**	**02 00 49.0**	**+0.2**
	105nm,1.9s						
PTGA	**Pitinga**	**18.25**	**89**	P	**Pn**	**02 00 50.9**	**-0.2**
	0.4nm,0.3s,baz=266,slow=9.0,SNR=6.4						
PTGA	**Pitinga**	**18.25**	**89**	*e*P	**Pn**	**02 00 50.2**	**-0.8**
	29nm,1.2s						
PTGA				*e*Sn	**Sn**	**02 04 13.4**	**-1.3**
APG	**El Apazote**	**20.16**	**324**	P	**P**	**02 01 08.3**	**-3.9**
	6.1nm,0.9s,baz=149,slow=9.7,SNR=6.0						
APG				LR	LR	02 07 06.9	
	comp=Z,462nm,20.6s,baz=135,slow=31						
TRN	**Trinidad (W)**	**20.46**	**54**	*e*	Pn	02 01 19.1	+1.7
TBH	**Brigand Hill**	**20.64**	**55**	*e*	Pn	02 01 22.6	+3.0
TPR	**Prospect**	**21.27**	**54**	*e*	**P**	**02 01 27.1**	**+3.0**
BOT	**Bacolet**	**21.31**	**54**	*e*	**P**	**02 01 27.1**	**+2.6**
CELP	**Cerrillos**	**22.33**	**30**	*e*P	**P**	**02 01 33.6**	**-1.7**
LRS	**Lares**	**22.38**	**29**	*e*P	**P**	**02 01 40.2**	**+4.2**
SIV	**San Ignacio**	**22.39**	**132**	P	**P**	**02 01 36.2**	**+0.1**
	15nm,1.1s,baz=313,slow=12,SNR=16						
SIV				LR	LR	02 10 09.5	
	comp=Z,727nm,20.7s,baz=322,slow=36						
AOPR	**Arecibo Observ**	**22.47**	**30**	*e*P	P	02 01 42.1	+5.1
	95nm,1.1s						
SJG	**San Juan**	**22.58**	**31**	P	**P**	**02 01 38.0**	**0.0**
	18nm,0.7s						
SJG				LR	LR	02 11 09.7	
	comp=Z,2μm,21.1s,slow=38						
SJG	**San Juan**	**22.58**	**31**	*e*P	**P**	**02 01 35.7**	**-2.4**
	121nm,1.4s						
CBYP	**Canovanas**	**22.86**	**32**	*e*P	**P**	**02 01 41.9**	**+0.8**
	115nm,1.3s						
LVC	**Limon Verde**	**23.12**	**158**	*e*P	**P**	**02 01 44.5**	**+0.5**
	333nm,2.2s						
BBGH	**Gun Hill**	**23.36**	**52**	*e*P	**P**	**02 01 46.6**	**+0.3**
	574nm,1.3s						
TEIG	**Tepich**	**23.48**	**336**	LR	LR	02 10 59.8	
	comp=Z,478nm,19.1s,baz=130,slow=37						
CMIG	**Matias Romero**	**24.51**	**319**	P	**P**	**02 01 56.3**	**-0.8**
	3.8nm,0.8s,baz=130,slow=11,SNR=3.8						
CMIG				LR	LR	02 10 10.4	
	comp=Z,437nm,20.3s,baz=147,slow=33						
LCO	**Las Campanas**	**28.56**	**166**	*e*P	**P**	**02 02 35.1**	**+1.4**
	21nm,1.1s						
CFAA	**Coronel Fontan**	**31.67**	**164**	P	**P**	**02 03 01.0**	**0.0**
	1.0nm,0.8s,baz=347,slow=10,SNR=10						
BDFB	**Brasilia**	**33.06**	**117**	P	**P**	**02 03 12.7**	**-0.8**
	5.9nm,0.8s,baz=294,slow=7.6,SNR=5.1						
BDFB				LR	LR	02 17 15.8	
	comp=Z,1μm,19.1s,baz=289,slow=37						
034A	**Hebbronville**	**34.34**	**326**	⇑P	**P**	**02 03 25.4**	**+1.1**
	baz=34						
934A	**Benavides**	**34.67**	**327**	⇑P	**P**	**02 03 28.5**	**+1.3**
	baz=35						
LRAL	**Lakeview Retre**	**35.06**	**347**	*e*P	P	02 03 26.6	-3.8
	15nm,1.1s						
933A	**Laredo**	**35.09**	**326**	⇑P	**P**	**02 03 31.8**	**+0.9**
	baz=35						
834A	**Tilden**	**35.10**	**328**	⇑P	**P**	**02 03 31.7**	**+0.9**
	baz=35						
735A	**Kenedy**	**35.30**	**329**	⇓P	**P**	**02 03 33.5**	**+0.9**
	baz=35						
636A	**Smothers Creek**	**35.44**	**331**	⇑P	**P**	**02 03 34.7**	**+0.9**
	baz=36						
537A	**Green Hill Far**	**35.59**	**332**	⇑P	**P**	**02 03 36.1**	**+1.1**
	baz=36						
733A	**Divot King Ran**	**35.97**	**327**	⇓P	**P**	**02 03 38.9**	**+0.6**
	baz=36						
832A	**Faith Ranch, C**	**36.00**	**326**	⇑P	**P**	**02 03 39.4**	**+0.8**
	baz=36						
KMSC	**Kings Mountain**	**36.28**	**356**	⇓P	**P**	**02 03 42.2**	**+1.3**
	baz=36						
732A	**Laxson Ranch,**	**36.34**	**327**	⇑P	**P**	**02 03 41.9**	**+0.3**
	baz=36						
633A	**Saathoff Ranch**	**36.49**	**328**	⇓P	**P**	**02 03 43.4**	**+0.6**
	baz=37						
534A	**Blanco**	**36.59**	**330**	⇑P	**P**	**02 03 44.3**	**+0.6**
	baz=37						
632A	**Uvalde**	**36.85**	**328**	⇓P	**P**	**02 03 46.5**	**+0.6**
	baz=37,SNR=5.9						
CPCT	**Cooper Cave**	**36.94**	**351**	*e*P	P	02 03 50.1	+3.5
237A	**Washetta, Mont**	**37.00**	**335**	⇑P	**P**	**02 03 46.9**	**-0.2**
	baz=37						
434A	**Burnet**	**37.13**	**331**	⇓P	**P**	**02 03 48.2**	**0.0**
	baz=37						
631A	**Perdido Creek**	**37.20**	**327**	⇑P	**P**	**02 03 49.6**	**+0.7**
	baz=37						
138A	**Matatall Enter**	**37.27**	**336**	⇑P	**P**	**02 03 49.6**	**+0.2**
	baz=37						
532A	**Rocksprings**	**37.40**	**328**	⇓P	**P**	**02 03 51.1**	**+0.4**
	baz=38,SNR=19						
433A	**Art**	**37.48**	**330**	⇓P	**P**	**02 03 51.3**	**0.0**
	baz=38,SNR=7.8						
334A	**Lometa**	**37.54**	**331**	⇑P	**P**	**02 03 52.1**	**+0.4**
	baz=38						
JCT	**Junction City**	**37.63**	**329**	⇓P	**P**	**02 03 53.3**	**+0.8**
	baz=38						
JCT	**Junction City**	**37.63**	**329**	*e*P	**P**	**02 03 52.7**	**+0.1**
	47nm,1.4s						
WHTX	**Lake Whitney,**	**37.72**	**333**	⇓P	**P**	**02 03 53.7**	**+0.5**
	baz=38						
531A	**Rocksprings**	**37.77**	**328**	⇓P	**P**	**02 03 54.2**	**+0.4**
	baz=38,SNR=9.9						
333A	**Richland Sprin**	**37.89**	**330**	⇓P	**P**	**02 03 55.1**	**+0.4**
	baz=38						
432A	**Menard**	**37.94**	**329**	⇑P	**P**	**02 03 55.5**	**+0.3**
	baz=38						
234A	**Clairette**	**38.05**	**332**	⇑P	**P**	**02 03 56.3**	**+0.3**
	baz=38						
UALR	**University of**	**38.17**	**341**	*e*P	**P**	**02 03 56.9**	**0.0**
	36nm,1.5s						
530A	**J-C Ranch, Com**	**38.19**	**327**	⇑P	**P**	**02 03 57.7**	**+0.4**
	baz=38,SNR=9.0						
431A	**Sonora**	**38.21**	**328**	⇓P	**P**	**02 03 57.3**	**-0.2**
	baz=38,SNR=8.4						
332A	**Milersview**	**38.32**	**330**	⇑P	**P**	**02 03 58.3**	**0.0**
	baz=38,SNR=9.4						
233A	**Rising Star**	**38.42**	**331**	⇑P	**P**	**02 03 59.6**	**+0.4**
	baz=38						
331A	**San Angelo**	**38.61**	**329**	⇓P	**P**	**02 04 01.3**	**+0.4**
	baz=39						
430A	**Baggett Ranch,**	**38.63**	**327**	⇑P	**P**	**02 04 01.5**	**+0.5**
	baz=39						
232A	**Coleman**	**38.68**	**330**	⇓P	**P**	**02 04 01.4**	**0.0**
	baz=39						
429A	**Davenport Ranc**	**38.86**	**327**	⇑P	**P**	**02 04 02.6**	**-0.4**
	baz=39,SNR=6.4						
133A	**Hamilton Ranch**	**38.91**	**332**	⇓P	**P**	**02 04 03.5**	**+0.2**
	baz=39						
TXAR	**Lajitas Array**	**38.92**	**323**	P	**P**	**02 04 02.9**	**-0.6**
	1.6nm,0.9s,baz=139,slow=8.4,SNR=10						
TXAR				PcP	**PcP**	**02 06 12.8**	**-1.4**
	0.6nm,0.9s,baz=151,slow=5.8,SNR=3.7						
231A	**Bronte**	**39.05**	**329**	⇓P	**P**	**02 04 04.7**	**+0.2**
	baz=39						
330A	**Mertzon**	**39.08**	**328**	⇑P	**P**	**02 04 04.6**	**-0.2**
	baz=39						
ABTX	**Abilene, Hawle**	**39.27**	**331**	⇑P	**P**	**02 04 06.7**	**+0.4**
	baz=39						
ABTX	**Abilene, Hawle**	**39.27**	**331**	*e*P	**P**	**02 04 06.1**	**-0.3**
	32nm,1.4s						
Z33A	**Whitaker Ranch**	**39.40**	**332**	⇑P	**P**	**02 04 07.5**	**+0.1**
	baz=40						
230A	**Sterling City**	**39.43**	**329**	⇓P	**P**	**02 04 07.2**	**-0.4**
	baz=40,SNR=9.7						
Y34A	**Reagan Ranch,**	**39.51**	**334**	⇑P	**P**	**02 04 08.1**	**-0.1**
	baz=40						
329A	**Wagon Wheel Ra**	**39.57**	**327**	⇑P	**P**	**02 04 08.7**	**-0.2**
	baz=40,SNR=7.1						
TRQA	**Tornquist**	**39.59**	**160**	*e*P	**P**	**02 04 10.2**	**+1.3**
	23nm,1.2s						
131A	**Roby**	**39.68**	**330**	⇑P	**P**	**02 04 09.5**	**-0.3**
	baz=40						
Z32A	**Haskell**	**39.75**	**332**	⇓P	**P**	**02 04 10.2**	**-0.1**
	baz=40,SNR=9.2						
130A	**Snyder**	**39.91**	**329**	⇓P	**P**	**02 04 11.3**	**-0.4**
	baz=40,SNR=12						
Y33A	**Hilltop Ranch,**	**39.94**	**333**	⇓P	**P**	**02 04 12.1**	**+0.2**
	baz=40						
PLCA	**Paso Flores**	**39.95**	**171**	P	**P**	**02 04 11.5**	**-0.4**
	13nm,0.9s,baz=350,slow=9.0,SNR=28						
PLCA				LR	LR	02 18 16.1	
	comp=Z,213nm,19.4s,baz=334,slow=32						
Z31A	**Sharp Cattle R**	**40.08**	**331**	⇓P	**P**	**02 04 12.6**	**-0.5**
	baz=40,SNR=7.8						
Y32A	**R-V Farms, Ver**	**40.31**	**332**	⇑P	**P**	**02 04 15.6**	**+0.7**
	baz=40						
228A	**UT Block 9, Go**	**40.39**	**327**	⇑P	**P**	**02 04 15.9**	**+0.2**
	baz=40						
129A	**Stewart Farms,**	**40.40**	**329**	⇓P	**P**	**02 04 15.8**	**0.0**
	baz=40						
Z30A	**Sanderson Ranc**	**40.54**	**330**	⇓P	**P**	**02 04 16.5**	**-0.4**
	baz=41,SNR=8.0						
X32A	**Elmer**	**40.59**	**333**	⇓P	**P**	**02 04 17.5**	**+0.3**
	baz=41						
WMOK	**Wichita Mounta**	**40.62**	**334**	*e*P	**P**	**02 04 17.2**	**-0.3**
	16nm,1.4s						
Y31A	**Rekieta Farm,**	**40.66**	**331**	⇑P	**P**	**02 04 17.9**	**0.0**
	baz=41						
V35A	**Meyer Ranch, C**	**40.68**	**337**	⇑P	**P**	**02 04 17.9**	**-0.1**
	baz=41						
128A	**Castleberry Fa**	**40.72**	**328**	⇑P	**P**	**02 04 18.3**	**-0.1**
	baz=41						
Z29A	**Hungry Hill Ra**	**40.81**	**329**	⇓P	**P**	**02 04 19.4**	**+0.2**
	baz=41						
W33A	**Caddo, Fort Co**	**40.84**	**334**	⇓P	**P**	**02 04 19.7**	**+0.5**
	baz=41						
Y30A	**Stafford Cattl**	**40.90**	**331**	⇓P	**P**	**02 04 19.9**	**0.0**
	baz=41,SNR=11						
V34A	**Guthrie**	**41.02**	**336**	⇑P	**P**	**02 04 20.9**	**+0.2**
	baz=41						
V34A	**Guthrie**	**41.02**	**336**	*e*P	**P**	**02 04 18.4**	**-2.3**
	12nm,0.8s						
MVL	**Millersville**	**41.05**	**2**	*e*P	P	02 04 25.9	+5.0
	23nm,1.1s						
X31A	**McDonald Ranch**	**41.08**	**332**	⇑P	**P**	**02 04 21.3**	**+0.1**
	baz=41						
W32A	**Sentinel**	**41.15**	**333**	⇑P	**P**	**02 04 21.8**	**0.0**
	baz=41						
Z28A	**Tucker Farm, M**	**41.19**	**329**	⇑P	**P**	**02 04 22.3**	**0.0**
	baz=41						
Y29A	**Porterfield Fa**	**41.27**	**330**	⇓P	**P**	**02 04 22.9**	**-0.1**
	baz=41						
V33A	**Lossen Ranch,**	**41.33**	**335**	⇓P	**P**	**02 04 23.5**	**+0.3**
	baz=41						
X30A	**Coker Ranch, T**	**41.35**	**331**	⇑P	**P**	**02 04 23.8**	**+0.3**
	baz=41						
GDL2	**Guadalupe Moun**	**41.43**	**326**	*e*P	**P**	**02 04 22.6**	**-1.8**
W31A	**Holland Ranch,**	**41.52**	**333**	⇓P	**P**	**02 04 25.4**	**+0.4**
	baz=42						
U34A	**Anderson Ranch**	**41.55**	**336**	⇑P	**P**	**02 04 25.5**	**+0.4**
	baz=42						
V32A	**Arapaho**	**41.57**	**334**	⇓P	**P**	**02 04 25.7**	**+0.5**
	baz=42						
Y28A	**McKinney Farm,**	**41.60**	**329**	⇓P	**P**	**02 04 26.0**	**+0.3**
	baz=42						
MNTX	**Cornudas Mount**	**41.65**	**324**	*e*P	**P**	**02 04 26.6**	**+0.6**
	105nm,2.8s						
SSPA	**Standing Stone**	**41.65**	**0**	*e*P	P	02 04 29.6	+3.8
	37nm,1.7s						
X29A	**Tulia**	**41.76**	**330**	⇓P	**P**	**02 04 27.1**	**+0.2**
	baz=42						
W30A	**Crocket Farms**	**41.81**	**332**	⇑P	**P**	**02 04 27.7**	**+0.4**
	baz=42						
MSTX	**Muleshoe**	**41.92**	**329**	⇑P

32nm,1.4s
U25A Circle Dot Ran 44.65 330 ⇑P P 02 04 51.0 +0.5
baz=45
R29A Marienthal 44.74 334 ⇓P P 02 04 51.8 +0.8
baz=45
Q30A Quinter 44.82 336 ⇓P P 02 04 52.0 +0.5
baz=45
P31A Stockton 44.94 337 ⇓P P 02 04 52.8 +0.3
baz=45
R28A Tribune 44.97 334 ⇓P P 02 04 53.1 +0.3
baz=45
SCIA State Center 45.02 344 eP P 02 04 52.0 -1.0
19nm,0.8s
Q29A Oakley 45.06 335 ⇓P P 02 04 53.7 +0.2
baz=45
V23A Ortiz Mt. (NFS 45.08 327 ⇑P P 02 04 54.4 +0.5
baz=45
U24A Moreno Valley 45.10 329 ⇓P P 02 04 54.3 +0.2
baz=45
S26A Kim 45.15 331 ⇓P P 02 04 54.9 +0.5
baz=45
T25A Trinidad 45.23 330 ⇑P P 02 04 55.6 +0.5
baz=45
T25A Trinidad 45.23 330 eP P 02 04 56.6 +1.5
P30A Selden 45.31 336 ⇑P P 02 04 55.9 +0.5
baz=45
R27A Eads 45.37 333 ⇑P P 02 04 56.4 +0.3
baz=46
TUC Tucson 45.39 320 eP P 02 04 55.9 -0.3
6.4nm,0.9s
U23A El Rito 45.52 328 ⇑P P 02 04 58.0 +0.6
baz=46
Q28A Sharon Springs 45.57 334 ⇑P P 02 04 58.5 +0.9
baz=46
V22A San Miguel Ran 45.60 327 ⇓P P 02 04 58.7 +0.7
baz=46
P29A Atwood 45.64 335 ⇑P P 02 04 58.9 +0.8
baz=46
S25A Robets Cordova 45.65 331 ⇑P P 02 04 59.0 +0.7
baz=46
PTN Potsdam (NY) 45.67 3 eP P 02 05 02.3 +4.2
358nm,2.4s
R26A Arlington 45.68 332 ⇑P P 02 04 59.0 +0.4
baz=46
U22A Llaves 45.91 327 ⇑P P 02 05 01.3 +0.8
baz=46
R25A Fountain Ranch 45.96 331 ⇓P P 02 05 01.8 +1.0
baz=46
P28A Saint Francis 45.96 335 ⇓P P 02 05 02.0 +1.3
baz=46
T23A Casias Ranch, 45.98 329 ⇑P P 02 05 02.1 +1.1
baz=46
S24A Houchin Ranch, 46.02 330 ⇓P P 02 05 02.6 +1.2
baz=46
O29A 4D Ranch, Culb 46.02 336 ⇓P P 02 05 02.6 +1.5
baz=46
SDCO Great Sand Dun 46.24 330 ⇑P P 02 05 04.1 +0.9
baz=46
SDCO Great Sand Dun 46.24 330 eP P 02 05 04.5 +1.3
28nm,1.2s
R24A Sanders Place, 46.43 331 ⇓P P 02 05 05.4 +0.9
baz=46
214A Organ Pipe Nat 46.48 318 ⇑P P 02 05 05.8 +0.9
baz=47
214A Organ Pipe Nat 46.48 318 eP P 02 05 03.5 -1.3
28nm,1.4s
W18A Petrified Fore 46.63 324 ⇓P P 02 05 06.6 +0.4
baz=47
R23A Moffat 46.75 330 ⇑P P 02 05 07.8 +0.7
baz=47
N28A Pribbeno Ranch 46.80 336 ⇓P P 02 05 08.3 +1.1
baz=47
S22A 4UR Ranch, Cre 46.92 329 ⇑P P 02 05 09.4 +0.9
baz=47
S22A 4UR Ranch, Cre 46.92 329 eP P 02 05 09.6 +1.1
P25A Willow Gulch B 46.99 332 ⇓P P 02 05 09.7 +0.9
baz=47
Q24A Divide 47.02 331 ⇓P P 02 05 09.7 +0.4
baz=47
Q24A Divide 47.02 331 eP P 02 05 13.9 +4.6
L31A Butterfield Fa 47.04 339 ⇑P P 02 05 09.3 +0.3
baz=47
M29A Burnside Ranch 47.10 337 ⇑P P 02 05 10.3 +0.7
baz=47
X16A Lo Mia Camp, P 47.19 322 ⇓P P 02 05 10.5 0.0
baz=47,SNR=5.1
OGNE Ogallala 47.22 335 ⇑P P 02 05 10.8 +0.3
baz=47
M28A Bar X Bar Ranc 47.33 336 ⇓P P 02 05 12.6 +1.2
baz=47
MVCO Mesa Verde 47.42 327 ⇑P P 02 05 12.9 +0.6
baz=48
MVCO Mesa Verde 47.42 327 eP P 02 05 13.2 +1.0
45nm,1.8s
O25A Wiggins 47.45 333 ⇑P P 02 05 13.2 +0.8
baz=48
Z14A Wintersburg 47.45 320 ⇓P P 02 05 13.1 +0.8
baz=48
113A Mohawk Valley, 47.62 318 ⇑P P 02 05 14.5 +0.9
baz=48
P23A Jefferson 47.67 331 ⇑P P 02 05 14.9 +0.5
baz=48
ECSD EROS Data Cent 47.68 342 eP P 02 05 12.7 -1.3
13nm,1.3s
K30A Basset 47.75 339 ⇓P P 02 05 14.9 +0.3
baz=48
Y14A Wickenburg 47.86 320 ⇓P P 02 05 15.8 +0.2
baz=48
WUAZ Wupatki 47.88 323 ⇑P P 02 05 16.5 +0.7
baz=48
WUAZ Wupatki 47.88 323 eP P 02 05 16.6 +0.7
40nm,1.5s
ISCO Idaho Springs 47.90 331 ⇑P P 02 05 16.6 +0.6
baz=48
ISCO Idaho Springs 47.90 331 eP P 02 05 18.8 +2.7
17nm,1.5s
O24A Longmont 47.90 332 ⇑P P 02 05 16.7 +0.8
baz=48
SMCO Snowmass 48.08 330 eP P 02 05 18.8 +1.2
PV01 Paradox Valley 48.13 328 eP P 02 05 17.6 -0.2
P22A Eagle 48.30 330 ⇓P P 02 05 19.7 +0.6
baz=48
O23A Lake Granby, G 48.36 332 ⇓P P 02 05 20.1 +0.5
baz=48,SNR=6.9
K28A Ten Mile Ranch 48.45 337 ⇑P P 02 05 20.5 +0.5
baz=48
M25A Palm-Egli Farm 48.49 334 ⇑P P 02 05 21.4 +0.9
baz=49
PV04 Paradox Valley 48.50 328 eP P 02 05 21.3 +0.7
L26A Underwood Farm 48.57 335 ⇓P P 02 05 21.9 +0.9
baz=49
O22A Kremmling 48.63 331 ⇓P P 02 05 22.0 +0.3
baz=49
J29A Okreek 48.65 339 ⇓P P 02 05 21.0 -0.4
baz=49
N23A Red Feather La 48.91 332 ⇓P P 02 05 24.2 +0.4
baz=49
N23A Red Feather La 48.91 332 eP P 02 05 25.2 +1.4
J28A Allard Ranch, 49.00 338 ⇓P P 02 05 24.5 +0.3
baz=49
L25A Engebretsen Ra 49.04 335 ⇓P P 02 05 25.5 +0.9
baz=49
U15A North Rim 49.04 323 ⇑P P 02 05 25.1 +0.2
baz=49
N22A Wattenberg Ran 49.08 332 ⇑P P 02 05 25.5 +0.4
baz=49
J27A Elkhorn Farm, 49.15 337 ⇓P P 02 05 26.0 +0.6
baz=49
W13A Hualapai Mount 49.16 321 ⇓P P 02 05 25.8 0.0
baz=49
I29A Vivian Onida 49.17 339 ⇑P P 02 05 26.3 +0.8
baz=49
M23A Laramie 49.26 333 ⇓P P 02 05 27.2 +0.7
baz=49
L24A Wheatland 49.37 334 ⇓P P 02 05 27.6 +0.5
baz=50
IRM Iron Mountain 49.39 319 ⇑P P 02 05 27.8 +0.6
baz=50
O20A White River Ci 49.45 330 ⇓P P 02 05 27.7 -0.2
baz=50
I28A Midland 49.47 338 ⇓P P 02 05 27.9 +0.2
baz=50
MONP Monument Peak, 49.48 317 ⇓P P 02 05 28.6 +0.3
baz=50
BAR Barrett 49.53 316 eP P 02 05 28.1 -0.4
19nm,1.3s
J26A Sides Ranch, S 49.62 336 ⇑P P 02 05 29.5 +0.5
baz=50,SNR=10

G30A Faulkton 49.74 341 ⇑P P 02 05 30.1 +0.3
baz=50
L23A Garrett 49.77 333 ⇓P P 02 05 30.0 -0.3
baz=50
BELC Belle Mtn. Jos 49.85 318 ⇓P P 02 05 30.4 -0.6
baz=50
I27A Quinn 49.86 338 ⇓P P 02 05 31.3 +0.5
baz=50
SRU San Rafael Swe 49.89 327 eP P 02 05 32.0 +0.8
40nm,1.7s
J25A Sunshine Ranch 49.98 336 ⇑P P 02 05 32.1 +0.3
baz=50
N20A Spence Gulch, 49.98 330 ⇓P P 02 05 32.4 +0.4
baz=50,SNR=5.9
L22A Ellis Ranch, M 50.03 333 ⇓P P 02 05 33.0 +0.7
baz=50
GMRC Granite Mounta 50.10 319 ⇓P P 02 05 33.8 +1.0
baz=50
I26A New Underwood 50.14 337 ⇓P P 02 05 33.3 +0.4
baz=50
K23A Bowen Ranch, D 50.24 334 ⇓P P 02 05 34.8 +0.9
baz=50
H27A Howes 50.35 338 ⇓P P 02 05 35.6 +1.2
baz=50
MVU Marysvale 50.41 325 eP P 02 05 35.6 +0.3
8.9nm,1.1s
MURC Murrieta 50.42 317 ⇑P P 02 05 36.0 +0.8
baz=50
CCUT Cedar City 50.43 324 eP P 02 05 36.9 +1.4
I25A Rochford 50.48 336 ⇑P P 02 05 35.8 +0.2
baz=51,SNR=10
K22A Casper 50.56 333 ⇓P P 02 05 37.2 +0.9
baz=51
K22A Casper 50.56 333 eP P 02 05 36.3 0.0
RSSD Black Hills 50.68 336 eP P 02 05 37.3 +0.1
106nm,2.4s
K21A Alcova 50.88 333 ⇓P P 02 05 39.1 +0.4
baz=51
H25A Fruitdale 50.92 337 ⇑P P 02 05 39.2 +0.4
baz=51
G27A Dupree 50.93 339 ⇑P P 02 05 39.0 +0.2
baz=51
BFSC Mount Baldy Ra 51.10 317 ⇓P P 02 05 40.5 +0.1
baz=51
G26A Maurine 51.10 338 ⇓P P 02 05 40.3 +0.2
baz=51
J22A Midwest 51.15 334 ⇓P P 02 05 40.6 0.0
baz=51,SNR=10
GSC Goldstone, Bar 51.16 319 ⇑P P 02 05 41.7 +0.9
baz=51
GSC Goldstone, Bar 51.16 319 eP P 02 05 41.6 +0.9
11nm,1.0s
DAU Daniels Canyon 51.22 328 eP P 02 05 41.3 -0.1
30nm,1.4s
MWC Mount Wilson 51.37 317 eP P 02 05 42.5 0.0
H24A Dirks Ranch, A 51.41 336 ⇑P P 02 05 42.8 +0.3
baz=52
J21A Lysite 51.53 333 ⇑P P 02 05 43.5 0.0
baz=52
I22A 9 Mile Ranch, 51.53 334 ⇓P P 02 05 43.2 -0.3
baz=52,SNR=5.7
F26A Lodgepole 51.60 338 ⇑P P 02 05 44.1 +0.2
baz=52
H23A Clabaugh Cattl 51.60 335 ⇑P P 02 05 44.0 +0.1
baz=52
AGMN Agassiz Nation 51.64 345 ⇓P P 02 05 44.4 +0.4
baz=52
EDW2 Edwards Air Fo 51.70 318 ⇑P P 02 05 44.2 -0.6
baz=52,SNR=5.9
E27A Carson 51.70 340 ⇑P P 02 05 45.0 +0.5
baz=52
TCUT Toone Canyon 51.80 328 eP P 02 05 46.3 +0.6
42nm,1.5s
TPNV Topopah Spring 51.81 321 ⇓P P 02 05 45.8 +0.1
baz=52
TPNV Topopah Spring 51.81 321 eP P 02 05 46.8 +1.0
I21A Big Trails, Te 51.82 333 ⇑P P 02 05 45.5 -0.2
baz=52
J20A Shoshoni 51.83 332 ⇑P P 02 05 45.9 +0.2
baz=52
DUG Dugway, Tooele 51.91 326 ⇑P P 02 05 46.8 +0.4
baz=52,SNR=9.4
DUG Dugway, Tooele 51.91 326 eP P 02 05 46.5 +0.2
43nm,1.5s
E26A Carlson Angus 52.06 339 ⇓P P 02 05 47.4 +0.2
baz=52
MPMC Manual Prospec 52.06 319 ⇑P P 02 05 47.7 0.0
baz=52
PDAR Pinedale Array 52.08 331 P P 02 05 46.1 -1.6
1.3nm,1.0s,baz=133,slow=8.7,SNR=5.6
PDAR LR LR 02 28 40.1
comp=Z,189nm,21.8s,baz=146,slow=37
G23A Biddle 52.12 336 ⇑P P 02 05 47.9 +0.1
baz=52
J19A Crowheart 52.21 332 ⇑P P 02 05 48.7 +0.1
baz=52
HWUT Hardware Ranch 52.23 329 eP P 02 05 48.7 -0.1
50nm,1.6s
F24A Ekalaka 52.27 337 ⇓P P 02 05 49.3 +0.4
baz=52
R11A Troy Canyon, C 52.28 323 ⇓P P 02 05 48.9 -0.4
baz=52
MDND Maddock 52.30 342 eP P 02 05 48.3 -0.6
38nm,1.7s
I20A Worland 52.31 333 ⇓P P 02 05 49.7 +0.5
baz=52
ARVC Arvin 52.40 318 ⇑P P 02 05 49.9 0.0
baz=52
E25A Miller Ranch, 52.42 338 ⇑P P 02 05 50.3 +0.3
baz=52
ISA Isabella, Lake 52.47 318 eP P 02 05 54.9 +4.4
G22A Birney 52.51 335 ⇓P P 02 05 50.9 +0.2
baz=53
D26A Manning 52.52 339 ⇓P P 02 05 50.9 +0.2
baz=53
BGU Big Grassy Mou 52.53 327 eP P 02 05 51.1 +0.1
13nm,1.3s
GRAC Grapevine Rang 52.55 320 ⇓P P 02 05 50.9 -0.2
baz=53
F23A Volborg 52.55 336 ⇑P P 02 05 50.5 -0.5
baz=53
H20A Greybull 52.67 333 ⇑P P 02 05 51.4 -0.5
baz=53
B29A Wagenman Farm, 52.77 342 ⇓P P 02 05 52.8 +0.3
baz=53
I19A Meeteetse 52.77 332 ⇑P P 02 05 52.3 -0.5
baz=53
E24A Baker 52.82 338 ⇓P P 02 05 52.8 -0.1
baz=53
AHID Auburn Hatcher 52.84 330 eP P 02 05 52.2 -1.1
22nm,1.5s
A30A Hoffart Farm, 52.89 344 ⇑P P 02 05 54.0 +0.7
baz=53
G21A Lodge Grass 52.90 335 ⇓P P 02 05 53.6 0.0
baz=53
D25A Fairfield 52.95 339 ⇓P P 02 05 54.6 +0.8
baz=53
PKM Mcpherson Peak 52.95 317 ⇑P P 02 05 54.7 +0.5
baz=53
F22A Rosebud 52.95 336 ⇑P P 02 05 55.8 +2.0
baz=53
VES Vestal, Richgr 52.98 318 ⇑P P 02 05 55.7 +1.5
baz=53
HVU Hansel Valley 52.99 328 eP P 02 05 55.3 +0.9
C26A Wahner Farm, P 53.09 340 ⇓P P 02 05 55.2 +0.4
baz=53
TPH Tonopah 53.11 322 eP P 02 05 54.3 -1.1
22nm,1.5s
REDW Red Top Meadow 53.15 331 eP P 02 05 56.0 +0.4
33nm,1.4s
LOHW Long Hollow 53.22 331 eP P 02 05 56.5 +0.4
32nm,1.8s
H19A Powell 53.26 333 ⇑P P 02 05 58.9 +2.7
baz=53
TPAW Teton Pass 53.30 331 eP P 02 05 59.6 +2.9
SMMC Simmler 53.30 317 ⇑P P 02 05 58.5 +1.9
baz=53
G20A Bridger 53.34 334 ⇑P P 02 05 56.3 -0.5
baz=53
E22A Miles City 53.36 336 ⇓P P 02 05 56.6 -0.2
baz=54
I17A Pilgrim Ck. 53.43 331 ⇓P P 02 05 57.6 -0.1
baz=54
FXWY Fox Creek 53.44 331 eP P 02 05 58.0 +0.2
MTUM Tungsten Hills 53.52 320 eP P 02 05 54.8 -3.6
H18A Shoshone NF, C 53.57 332 ⇓P P 02 05 58.5 -0.2
baz=54
IMW Indian Meadow 53.59 331 eP P 02 05 59.7 +0.8

FLWY Flagg Ranch 53.61 331 eP P 02 05 59.7 +0.7
ELK Elko 53.64 325 eP P 02 06 03.8 +4.5
F20A Billings 53.76 334 ⇑P P 02 05 59.8 -0.1
baz=54
H17A Grant Village 53.79 332 eP P 02 06 00.5 +0.1
24nm,1.5s
LKWY Lake 53.83 332 eP P 02 06 00.8 +0.2
19nm,1.0s
A26A Wade Farm, Ken 54.00 341 ⇓P P 02 06 02.0 +0.5
baz=54
NVAR Mina Array Bea 54.00 321 P P 02 06 01.0 -1.0
8.1nm,0.9s,baz=136,slow=7.0,SNR=17
D22A Cohagen 54.03 337 ⇑P P 02 06 01.8 0.0
baz=54
USHA Ushuaia 54.05 173 P P 02 06 00.9 -0.8
8.4nm,1.0s,baz=332,slow=11,SNR=3.1
YNR Norris Junctio 54.08 332 eP P 02 06 05.3 +2.9
F19A Roth Farm, Mol 54.15 334 ⇑P P 02 06 02.5 -0.2
baz=54
YMR Madison River 54.18 332 eP P 02 06 03.8 +0.7
14nm,0.9s
C23A Lambert 54.18 338 ⇓P P 02 06 02.7 -0.2
baz=54
E20A Meyer Farm, Mu 54.31 335 ⇑P P 02 06 03.9 +0.1
baz=54,SNR=6.5
A25A Svangstu Ranch 54.40 340 ⇑P P 02 06 04.9 +0.5
baz=54
QLMT Earthquake Lak 54.52 331 eP P 02 06 06.3 +0.7
E19A Rath Farm, Rou 54.56 334 ⇑P P 02 06 05.6 -0.1
baz=55
BMN Battle Mountai 54.59 324 eP P 02 06 06.3 +0.2
9.5nm,1.0s
B23A Brockton 54.66 338 ⇑P P 02 06 06.5 +0.2
baz=55
A24A Westby 54.69 339 ⇑P P 02 06 06.5 0.0
baz=55
WAKR Walker 54.76 321 eP P 02 06 08.8 +1.4
2.5nm,0.9s
D20A Manuel Ranch, 54.78 335 ⇑P P 02 06 07.2 0.0
baz=55,SNR=7.1
C21A Desert Coulee 54.94 337 ⇓P P 02 06 08.0 -0.4
baz=55,SNR=6.7
HLID Hailey 55.10 328 ⇑P P 02 06 09.4 -0.5
baz=55,SNR=9.1
HLID Hailey 55.10 328 eP P 02 06 09.9 0.0
MCMT McKenzie Canyo 55.20 330 eP P 02 06 11.1 +0.5
10nm,1.5s
C20A Veseth Ranch, 55.22 336 ⇓P P 02 06 10.4 0.0
baz=55
BOZ Bozeman (W) 55.22 332 eP P 02 06 11.0 +0.4
A22A Carney Farms, 55.44 338 ⇓P P 02 06 12.4 +0.4
baz=56
C19A Slack Wire Ran 55.66 335 ⇓P P 02 06 13.9 +0.2
baz=56
LRM Limekiln Ridge 55.74 332 eP P 02 06 13.8 -0.7
MFID Camas Ranch 55.75 327 eP P 02 06 15.4 +1.0
19nm,1.0s
A21A Bergtoll Ranch 55.82 338 ⇑P P 02 06 15.0 +0.3
baz=56
HRY Holter Researc 56.10 333 eP P 02 06 17.5 +0.6
A20A Cobblestone Ra 56.12 337 ⇑P P 02 06 17.0 +0.1
baz=56
EGMT Eagleton 56.19 335 ⇑P P 02 06 17.3 -0.1
baz=56
EGMT Eagleton 56.19 335 eP P 02 06 17.5 +0.1
B19A Brinkman Farms 56.19 336 ⇓P P 02 06 17.6 +0.2
baz=56
A19A Klindworth Far 56.48 336 ⇓P P 02 06 19.3 -0.1
baz=57
OHCM Honcut 56.54 320 eP P 02 06 23.6 +3.7
SCHQ Schefferville 56.64 8 LR LR 02 32 43.2
comp=Z,201nm,19.7s,baz=204,slow=38
WVOR Wild Horse Val 56.68 325 eP P 02 06 24.9 +3.9
MSO Missoula 57.18 332 ⇓P P 02 06 24.2 -0.3
baz=57,SNR=8.3
MSO Missoula 57.18 332 eP P 02 06 24.4 -0.1
MOD Modoc Plateau 57.32 324 eP P 02 06 25.1 -0.5
23nm,1.5s
BMO Blue Mountains 57.51 328 eP P 02 06 29.7 +2.8
YBMT Yellow Bay 57.96 332 eP P 02 06 30.4 +0.4
JTMT Jette 58.00 332 eP P 02 06 30.5 +0.2
M04C Macdoel 58.17 323 ⇓P P 02 06 31.1 -0.6
baz=58
BSMT Bassoo Peak 58.31 332 eP P 02 06 32.2 -0.4
G08A Pilot Rock 58.68 327 eP P 02 06 35.8 +0.7
J05D Fort Rock, OR 58.70 324 ⇓P P 02 06 35.5 +0.2
baz=59
FFC Flin Flon 59.09 344 eP P 02 06 36.3 -1.3
12nm,1.3s
RKT Rikitea 59.15 244 eLR LR 02 24 06.6
705nm,28.0s
J04D Umpqua Nationa 59.19 324 ⇑P P 02 06 39.0 +0.2
baz=59
I05D Terrebonne, OR 59.40 325 ⇓P P 02 06 40.9 +0.8
baz=60
L02D Cave Junction, 59.47 322 ⇓P P 02 06 41.2 +0.7
baz=60
NEW Newport 59.72 331 ⇓P P 02 06 41.1 -1.0
baz=60,SNR=7.8
NEW Newport 59.72 331 eP P 02 06 41.8 -0.3
9.3nm,1.0s
FCC Fort Churchill 61.10 351 eP P 02 06 49.4 -1.9
ASCN Ascension 63.95 98 eP P 02 07 11.7 +0.5
67nm,1.0s
BBB Bella Bella 67.67 329 LR LR 02 40 24.3
comp=Z,87nm,18.4s,baz=76,slow=39
YKA Yellowknife Ar 69.20 343 P P 02 07 41.4 -2.4
1.7nm,0.8s,baz=138,slow=5.8,SNR=38
YKA PP PP 02 10 15.9 -1.0
0.2nm,0.8s,baz=143,slow=7.1,SNR=2.9
PPT Papeete 71.87 252 LR LR 02 31 23.6
comp=Z,152nm,20.6s,baz=88,slow=29
PPT2 Papeete2 71.87 252 eLR LR 02 30 01.9
621nm,25.8s
TBI Tubuai 72.32 246 eLR LR 02 30 11.7
455nm,30.5s
DBIC Dimbokro 73.62 83 LR LR 02 38 24.3
comp=Z,575nm,19.2s,baz=244,slow=34
DBIC Dimbokro 73.62 83 eP P 02 08 12.1 +0.5
11nm,1.3s
RES Resolute Bay 76.45 355 eP P 02 08 28.4 +1.8
7.5nm,1.5s
SUMG Summit 77.79 11 i P P 02 08 34.8 +0.1
8.2nm,0.9s
SUMG Summit 77.79 11 eP P 02 08 34.3 -0.4
32nm,1.4s
ESDC Sonseca Array 78.69 49 P P 02 08 38.2 -1.8
0.7nm,0.7s,baz=268,slow=5.6,SNR=2.9
ESDC LR LR 02 41 17.4
comp=Z,70nm,18.7s,baz=330,slow=34
EGAK Eagle 79.87 337 eP P 02 08 45.5 -0.3
27nm,1.4s
TORD Torodi Ar. Bea 80.45 77 P P 02 08 48.8 -1.2
0.3nm,0.8s,baz=282,slow=6.0,SNR=2.8
TORD LR LR 02 41 56.4
comp=Z,510nm,21.7s,baz=265,slow=34
PAX Paxson 80.91 335 eP P 02 08 51.4 -0.2
19nm,1.5s
SGMF Saint Gilles 81.38 41 eP P 02 08 54.3 +0.1
123nm,1.4s
SGMF Saint Gilles 81.38 41 eP P 02 08 54.3 +0.1
123nm,1.4s
ILAR Eielson Array 82.13 336 P P 02 08 56.3 -1.6
2.3nm,0.9s,baz=114,slow=3.4,SNR=12
ILAR PP PP 02 12 06.8 +0.8
0.6nm,0.9s,baz=152,slow=4.1,SNR=4.7
ILAR LR LR 02 48 44.3
comp=Z,141nm,18.9s,baz=116,slow=38
ESK Eskdalemuir 82.50 34 P P 02 08 57.2 -2.7
53nm,1.0s
GRR Gorron 82.52 41 eP P 02 09 00.3 +0.1
84nm,1.3s
GRR Gorron 82.52 41 eP P 02 09 00.3 +0.1
84nm,1.3s
MCK McKinley 82.64 335 eP P 02 09 02.3 +1.8
4.0nm,0.7s
MFF Saint Martin d 82.69 43 eP P 02 09 01.3 +0.1
116nm,1.6s
MFF Saint Martin d 82.69 43 eP P 02 09 01.3 +0.1
116nm,1.6s
FLN La Foliniere 82.83 41 eP P 02 09 02.6 +0.8
FLN La Foliniere 82.83 41 eP P 02 09 02.6 +0.8
LDF La Druitiere 83.04 41 eP P 02 09 03.6 +0.7
29nm,1.0s
LDF La Druitiere 83.04 41 eP P 02 09 03.6 +0.7
29nm,1.0s
KTH Kantishna Hill 83.44 335 eP P 02 09 04.8 +0.1

6.8nm,0.9s
MTLF Montolieu 83.87 46 *e*P **P 02 09 07.2 -0.1**
MTLF Montolieu 83.87 46 *e*P **P 02 09 07.2 -0.1**
TCF Toulx Ste Croi 84.25 43 *e*P P 02 09 05.7 -3.6
57nm,1.4s
TCF Toulx Ste Croi 84.25 43 *e*P P 02 09 05.7 -3.6
57nm,1.4s
SNAA Sanae 84.28 162 *e*P **P 02 09 09.8 +0.8**
7.5nm,0.9s
DAG Danmarks Havn 84.48 12 *i* P **P 02 09 08.6 -1.1**
4.5nm,0.9s
BGF Bois d'Agland 84.72 43 *e*P **P 02 09 11.3 -0.3**
110nm,1.5s
BGF Bois d'Agland 84.72 43 *e*P **P 02 09 11.3 -0.3**
110nm,1.5s
AVF Avril sur Loir 85.10 43 *e*P **P 02 09 12.0 -1.5**
59nm,1.5s
AVF Avril sur Loir 85.10 43 *e*P **P 02 09 12.0 -1.5**
59nm,1.5s
SMF Signal de Mont 85.41 43 *e*P **P 02 09 15.8 +0.7**
14nm,1.0s
SMF Signal de Mont 85.41 43 *e*P **P 02 09 15.8 +0.7**
14nm,1.0s
LOR Lormes 85.50 43 *e*P **P 02 09 16.5 +1.0**
31nm,1.4s
LOR Lormes 85.50 43 *e*P **P 02 09 16.5 +1.0**
31nm,1.4s
MEZF Maizieres J'vi 86.43 41 *e*P **P 02 09 20.3 +0.3**
MEZF Maizieres J'vi 86.43 41 *e*P **P 02 09 20.3 +0.3**
PAGF Fort de Pagny 86.88 41 *e*P **P 02 09 21.9 -0.4**
22nm,1.4s
PAGF Fort de Pagny 86.88 41 *e*P **P 02 09 21.9 -0.4**
22nm,1.4s
WLF Walferdange 87.26 40 *e*P **P 02 09 25.1 +1.0**
20nm,1.1s
CDF Champ du Feu 87.90 42 *e*P **P 02 09 28.7 +1.4**
32nm,1.4s
CDF Champ du Feu 87.90 42 *e*P **P 02 09 28.7 +1.4**
32nm,1.4s
KEST Kesra 88.72 54 LR LR 02 46 26.1
comp=Z,51nm,21.1s,baz=244,slow=34
DAVA Damuels 89.59 43 ||*i*sP P 02 09 39.9 +4.5
8.7nm,1.1s
FETA Feichten 90.16 43 ⇑*i*PcP **P 02 09 39.3 +1.2**
6.1nm,1.1s
NOA NORSAR Array B 90.77 29 LR LR 02 46 16.2
comp=Z,140nm,22.0s,baz=270,slow=33
GERES GERESS Array B 92.17 41 LR LR 02 47 01.4
comp=Z,89nm,21.8s,baz=267,slow=33
BRG Berggiesshubel 92.30 39 *e*P P 02 09 59.5 +12
17nm,1.8s
MORC Moravsky Berou 94.65 40 *e*P **P 02 09 58.2 -0.3**
2.5nm,0.7s
VNDA Vanda 95.05 191 *e*P **P 02 10 00.4 +0.6**
5.4nm,1.5s
TSUM Tsumeb 95.09 109 *e*P **P 02 10 01.4 +0.1**
1.8nm,0.4s
VYHS Vyhne 95.59 42 *e*P **P 02 10 03.0 +0.1**
VYHS *e* 02 10 11.8
ARCES ARCESS Array B 95.92 20 LR LR 02 50 14.7
comp=Z,97nm,18.4s,baz=270,slow=34
PSZ Piszkesteto 96.34 42 *e*P **P 02 10 06.5 +0.1**
2.9nm,0.9s
SUR Sutherland 96.98 123 *e*P **P 02 10 10.7 +0.9**
42nm,1.5s
KOLS Kolonicke sedl 97.81 41 *e*P Pdif 02 10 14.0 +1.0
FINES FINESS Array B 97.88 28 LR LR 02 50 17.1
comp=Z,202nm,21.4s,baz=289,slow=33
CSS Prodhromos 108.27 54 *e*PKP **PKiKP 02 15 06.2 -0.1**
GNI Garni 115.49 45 *e*PKPdf **PKPdf 02 15 20.2 +0.2**
ABKAR Abkulak array 120.26 30 *e*PKPdf **PKPdf 02 15 30.1 +1.4**
ZALV Zalesovo Beam 125.61 12 PKP **PKPdf 02 15 36.7 -2.1**
0.6nm,0.5s,baz=270,slow=1.4,SNR=2.3
GEYT Alibeck 125.78 42 PKP **PKPdf 02 15 39.0 -0.7**
0.6nm,0.3s,baz=318,slow=3.9,SNR=3.3
KURK Kurchatov 126.91 18 *e*PKPdf **PKPdf 02 15 42.9 +1.4**
USRK Ussuriysk Ar. 129.50 332 PKP **PKPdf 02 15 44.2 -2.4**
1.3nm,0.9s,baz=199,slow=18,SNR=2.4
MDJ Mudanjiang 130.26 334 PKP **PKPdf 02 15 49.8 +1.8**
MKAR Makanchi Array 131.51 18 PKP **PKPdf 02 15 49.5 -0.9**
0.2nm,0.5s,baz=322,slow=1.7,SNR=4.1
EKS2 Erkin-Say 131.71 28 *e*PKPdf **PKPdf 02 15 52.3 +1.3**
CN2 Changchun 132.65 337 *e*PKP **PKPdf 02 15 50.5 -2.0**
SONM Songino Array 133.39 356 PKP **PKPdf 02 15 53.1 -0.9**
0.4nm,0.7s,baz=340,slow=1.7,SNR=2.9
KSH Kashi 135.20 29 *e*PKP **PKPdf 02 15 58.0 +0.4**
KSH PP **PP 02 18 33.3 +1.0**
KSH PKS **PKSdf 02 19 34.5 +0.4**
KSH SKS **SKSdf 02 23 08.5 0.0**
KSH SKKS **SKKSac 02 25 29.0 +0.8**
KSH SS **SS 02 36 29.0 +2.7**
KSH PPMZ
54nm,4.3s
KSH LN
29nm,4.4s
KSH LE
31nm,4.1s
KSH LZ
110nm,6.7s
KSRS Korea Array 136.63 329 PKP **PKPdf 02 15 58.6 -1.6**
0.8nm,0.4s,baz=44,slow=2.1,SNR=3.3
KSAR Wonju Array Be 136.66 329 PKP **PKPdf 02 15 58.6 -1.6**
HHC Hu-ho-hao-te 139.56 349 *e*PKP **PKPdf 02 16 07.0 +1.4**
HHC PP PP 02 19 05.5 +6.5
HHC SKS **SKSdf 02 23 15.3 -0.5**
HHC SS **SS 02 37 23.0 +5.7**
HHC PPMZ
110nm,6.6s
HHC LN
140nm,21.8s
HHC LE
170nm,19.4s
HHC LZ
91nm,19.4s
AS31 Alice Springs 140.17 230 *e*PKPdf **PKPdf 02 16 06.4 -0.7**
ASAR Alice Springs 140.17 230 PKhKP PKPpre 02 16 02.3
0.8nm,0.7s,baz=116,slow=2.7,SNR=4.5
WRA Warramunga Arr 141.78 235 PKhKP PKPpre 02 16 04.5
0.9nm,0.8s,baz=118,slow=2.3,SNR=4.3
GTA Gaotai 141.94 2 *e*PKP **PKPdf 02 16 13.3 +3.3**
LZH Lanzhou 145.25 357 *e*PKPbc **PKPbc 02 16 11.5 -4.0**
LZH pPKP **PKiKP 02 16 19.5 -0.4**
LZH sPKP 02 16 24.3
LZH LN
170nm,13.7s
LZH LE
140nm,11.2s
LZH LZ
190nm,13.5s
XAN Xi'an 146.66 349 PKPbc **PKPbc 02 16 19.5 -0.3**
XAN PPMZ
48nm,5.3s
FITZ Fitzroy Crossi 149.68 230 *e*PKPbc **PKPbc 02 16 29.8 +1.6**
FITZ *e*PKPab **PKPab 02 16 33.9 +0.6**
CD2 Chengdu 150.40 357 *e*PKPbc **PKPdf 02 16 24.5 +0.1**
KMI Kunming 156.21 358 PKP **PKPdf 02 16 36.0 +2.8**
QIZ Qiongzhong 160.61 336 PKP **PKPdf 02 16 37.3 -1.0**
QIZ PP **PP 02 21 01.5 +0.8**
QIZ SS SS 02 41 13.0 +1.0
QIZ LZ
140nm,24.4s
KAPI Kappang 161.01 251 *e*PKPdf **PKPdf 02 16 40.0 +1.1**
CMAR Chiang Mai Arr 162.63 9 PKP **PKPdf 02 16 38.7 -1.8**
0.9nm,0.3s,baz=329,slow=1.1,SNR=2.6

GUC 26 02:08:48.1±0.4,34°.04S×72°.42W,h38km±2km,ML3.7,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.38**	**135**	*e*P			Pn	02 09 11.1	+0.4
NICH				*e*S			Sn	02 09 29.0	+1.3
RCDM	**Rinconada Maip**	**1.45**	**68**	*e*P			Pn	02 09 12.2	+0.4
RCDM				*e*S			Sn	02 09 30.9	+1.3
RCDM				AML			AML	02 09 38.0	
	comp=N,1μm,0.5s								
TALC	**Talca**	**1.50**	**155**	*e*P			Pn	02 09 13.5	+0.9
TALC				*e*S4			Sn	02 09 32.5	+1.6
CLCH	**Cerro Calan**	**1.69**	**68**	*e*P			Pn	02 09 15.9	+0.7
CLCH				*e*S			Sn	02 09 37.1	+1.4
CLCH				AML			AML	02 09 47.2	
	comp=E,1μm,0.5s								
PEL	**Peldehue**	**1.70**	**59**	*e*P			Pn	02 09 16.0	+0.7
PEL				*e*S			Sn	02 09 37.2	+1.3
PEL				AML			AML	02 09 48.1	
	comp=N,2μm,0.5s								
SJCH	**San Jose de Ma**	**1.76**	**78**	*e*P			Pn	02 09 16.8	+0.6
SJCH				*e*S			Sn	02 09 38.9	+1.3
SJCH				AML			AML	02 09 45.7	
	comp=E,852nm,0.4s								
FCH	**Farellones**	**1.91**	**69**	*e*P9			Pb	02 09 21.9	
FCH				*e*S			Sn	02 09 45.8	+4.1
LNCH	**Linares**	**1.93**	**160**	*e*P			Pn	02 09 19.2	+0.8
LNCH				*e*S			Sn	02 09 42.5	+1.1
COCH	**Cobquecura**	**2.11**	**188**	*e*P			Pn	02 09 21.7	+0.8
COCH				*e*S			Sn	02 09 46.8	+0.9

IDC 26 02:22:59.5±9.2,14°.41S×166°.98E,h219km±89km,mb3.3/3,
mb1 3.5/4,mb1mx3.1/34,mbtmp3.8/4,MS3.3/1,Ms1 3.3/1,
ms1mx2.6/12,Error ellipse: s-maj=81.8km
s-min=33.2km az=176.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.64**	**184**	P			Pn	02 24 48.4	+0.2
	0.5nm,0.3s,baz=74,slow=7.4,SNR=4.0								
DZM				S			S	02 26 15.1	0.0
	0.2nm,0.3s,baz=90,slow=20,SNR=2.6								
RAO	**Raoul Island**	**20.33**	**139**	LR			LR	02 32 38.3	
	comp=Z,92nm,20.9s,baz=94,slow=28								
WRA	**Warramunga Arr**	**31.63**	**255**	P			P	02 29 02.4	+0.1
	0.6nm,0.5s,baz=86,slow=9.3,SNR=3.2								
ASAR	**Alice Springs**	**32.53**	**249**	P			P	02 29 10.0	-0.1
	0.5nm,0.4s,baz=79,slow=9.2,SNR=10								
MKAR	**Makanchi Array**	**96.78**	**316**	P			P	02 36 04.8	-0.5
	0.2nm,0.5s,baz=90,slow=5.8,SNR=3.9								
ARCES	**ARCESS Array B**	**119.87**	**345**	PKP			PKPdf	02 41 22.9	-0.2
	2.8nm,0.8s,baz=90,slow=2.7,SNR=4.8								
FINES	**FINESS Array B**	**125.32**	**338**	PKP			PKPdf	02 41 33.6	-0.2
	1.1nm,0.8s,baz=316,slow=3.8,SNR=3.0								

IDC 26 02:23:51.8±10.0,16°.92S×171°.70W,h0km,mb3.5/3,
mb1 3.8/3,mb1mx3.5/38,mbtmp3.5/3,Error ellipse:
s-maj=601.5km s-min=40.1km az=146.0,Samoa Islands
region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**51.10**	**258**	P			P	02 32 57.0	+0.3
	0.2nm,0.4s,baz=90,slow=7.3,SNR=2.4								
ASAR	**Alice Springs**	**51.21**	**253**	P			P	02 32 56.9	-0.6
	0.5nm,0.9s,baz=88,slow=8.3,SNR=4.3								
YKA	**Yellowknife Ar**	**90.85**	**23**	P			P	02 36 56.8	-0.1
	0.2nm,0.7s,baz=236,slow=5.4,SNR=4.9								

*IDC **26** 02:26:51.2±1.6,6°.21S×123°.42E,h0km,mb3.3/2,*
mb1 3.8/4,mb1mx3.5/35,mbtmp3.6/4,ML3.7/2,Error
ellipse: s-maj=102.1km s-min=24.4km az=65.0
*DJA **26** 02:26:56.3±0.3,7°.5±2°×12°.2E±°,h10km,M3.9/12,*
MLv3.9/12
*ISCJB **26** 02:26:57.4±0.6,7°.11S±0°.04×121°.94E±0°.07,h33km,*
mb3.1/1,Error ellipse: s-maj=9.7km s-min=5.1km
az=162.6
ISC 26 02:26:57.6±1.0,7°.11S±0°.04×121°.91E±0°.07,h35km,n14,
σ1°.83/16,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.55**	**168**	P			**Pn**	**02 27 21.6**	**-1.2**
MMRI				S			**Sn**	**02 27 41.7**	**0.0**
EDFI	**Ende, Flores**	**1.65**	**188**	P			**Pn**	**02 27 23.3**	**-0.9**
BSSI	**Bau Bau, Buton**	**1.71**	**304**	P			**Pn**	**02 27 24.7**	**-0.2**
BSSI				S			**Sn**	**02 27 48.5**	**+3.0**
BBSI	**Bau Bau**	**1.74**	**22**	P			**Pn**	**02 27 25.5**	**+0.2**
BBSI				S			**Sn**	**02 27 46.3**	**+0.1**
BKSI	**Bulukumba**	**2.51**	**315**	P			**Pn**	**02 27 34.1**	**-1.9**
BNSI	**Bone**	**3.23**	**326**	P			**Pn**	**02 27 46.8**	**+0.9**
BASI	**Baing, Sumba**	**3.36**	**203**	P			**Pn**	**02 27 49.5**	**+1.8**
SOEI	**Soe**	**3.51**	**139**	P			**Pn**	**02 27 51.0**	**+1.1**
BATI	**Baumata**	**3.53**	**151**	P			**Pn**	**02 27 52.4**	**+2.4**
BATI	**Baumata**	**3.53**	**151**	Pn			**Pn**	**02 27 52.9**	**+2.8**
12nm,0.3s,baz=349,slow=10,SNR=5.1									
SPSI	**Sidrap Palu**	**3.78**	**326**	P			**Pn**	**02 27 55.9**	**+2.5**
WRA	**Warramunga Arr**	**17.55**	**138**	P			Pn	02 30 54.3	-5.4
0.2nm,0.3s,baz=318,slow=12,SNR=4.0									
ASAR	**Alice Springs**	**20.09**	**146**	P			**P**	**02 31 26.7**	**-1.7**
1.1nm,0.5s,baz=330,slow=14,SNR=13									
MKAR	**Makanchi Array**	**64.16**	**331**	P			**P**	**02 37 27.4**	**-1.2**
0.1nm,0.5s,baz=130,slow=7.4,SNR=3.0									

*ISCJB **26** 02:43:04.4±0.6,2°.04S±0°.03×78°.72W±0°.06,h10km,*
mb3.8/9,MS3.2/1,Error ellipse: s-maj=9.2km s-min=4.4km
az=8.8
*IGQ **26** 02:43:04±0.3,1°.97S×78°.76W,h2km±179km,Mb4.6,Error*
ellipse: s-maj=2.7km s-min=0.9km az=12.9
*IDC **26** 02:43:13.2±2.4,2°.04S×78°.59W,h75km±22km,mb3.5/10,*
mb1 3.7/14,mb1mx3.6/33,mbtmp3.9/14,MS3.0/4,
Ms1 3.0/4,ms1mx2.7/25,Error ellipse: s-maj=28.2km
s-min=15.0km az=48.0
ISC 26 02:43:05.5±0.6,1°.96S±0°.04×78°.67W±0°.08,h10km,n40,
σ1°.54/37,mb4.0/9,15C-1D,Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RIOE	**Riobamba**	**0.21**	**12**	⇑P			**Pg**	**02 43 10.9**	**+0.8**
RIOE	**Riobamba**	**0.21**	**12**	⇑S			**Sg**	**02 43 14.8**	**+1.6**
BMAS	**Trigal station**	**0.49**	**23**	⇑P			**Pg**	**02 43 15.2**	**-0.1**
BMAS	**Trigal station**	**0.49**	**23**	⇑S			**Sb**	**02 43 23.8**	**-0.2**
BBIL	**Ulba Tungurahu**	**0.54**	**20**	⇑P			**Pg**	**02 43 16.9**	**+0.8**
BBIL	**Ulba Tungurahu**	**0.54**	**20**	⇑S			**Sg**	**02 43 24.1**	**+0.8**
MACE	**Macas**	**0.56**	**122**	||P		**Pg**	**02 43 16.1**	**-0.3**
BULB	**Ulba Tungurahu**	**0.58**	**27**	⇑P			**Pg**	**02 43 17.9**	**+0.9**
BULB	**Ulba Tungurahu**	**0.58**	**27**	⇑S			**Sb**	**02 43 26.6**	**0.0**
BMOR	**Cotopaxi Volca**	**1.24**	**10**	⇑P			**Pn**	**02 43 28.2**	**-1.2**
BREF	**Cotopaxi Volca**	**1.30**	**10**	⇑P			**Pb**	**02 43 30.8**	**+0.3**
BREF	**Cotopaxi Volca**	**1.30**	**10**	⇑S			**Sg**	**02 43 49.0**	**+1.3**
BTAM	**Cotopaxi Volca**	**1.31**	**12**	⇑S			**Sb**	**02 43 48.4**	**+0.8**
BTAM	**Cotopaxi Volca**	**1.31**	**12**	⇑P			**Pn**	**02 43 29.5**	**-0.9**
BVC2	**Cotopaxi Volca**	**1.32**	**11**	⇑P			**Pn**	**02 43 30.9**	**+0.3**
BVC2	**Cotopaxi Volca**	**1.32**	**11**	⇑S			**Sg**	**02 43 49.5**	**+1.4**
OTAV	**Otavalo**	**2.19**	**6**	P			**Pn**	**02 43 44.1**	**+1.6**
LITE	**Lita**	**2.77**	**6**	P			**Pg**	**02 43 57.4**	**-1.3**
LITE	**Lita**	**2.77**	**6**	S			**Sg**	**02 44 35.4**	**+0.8**
ATAH	**Atahualpa**	**5.15**	**177**	P			Pn	02 44 26.6	+3.5
5.2nm,0.3s,baz=15,slow=14,SNR=22									
ATAH				S			**Sn**	**02 45 28.7**	**+5.9**
4.8nm,0.3s,baz=64,slow=20,SNR=4.1									
ATAH				LR			LR	02 46 14.2	
comp=Z,102nm,18.6s,baz=1.1,slow=36									
ROSC	**El Rosal**	**8.04**	**33**	P			Pn	02 45 08.0	+5.1
0.9nm,0.3s,baz=292,slow=15,SNR=2.2									
ROSC				LR			LR	02 47 57.7	
comp=Z,88nm,21.1s,baz=164,slow=35									
JTS	**JuntasAbangare**	**13.68**	**333**	LR			LR	02 50 34.4	
comp=Z,65nm,19.1s,baz=156,slow=32									
LPAZ	**La Paz**	**17.62**	**145**	P			**P**	**02 47 13.8**	**+0.8**
0.4nm,0.3s,baz=329,slow=4.1,SNR=11									
PTGA	**Pitinga**	**18.74**	**87**	P			**Pn**	**02 47 25.6**	**+0.5**
0.3nm,0.3s,baz=278,slow=17,SNR=3.3									
APG	**El Apazote**	**20.50**	**326**	P			Pn	02 47 47.2	+0.8
4.4nm,0.8s,baz=156,slow=13,SNR=4.0									
SIV	**San Ignacio**	**22.25**	**130**	P			**P**	**02 48 03.1**	**+0.2**
7.9nm,0.9s,baz=312,slow=13,SNR=8.5									
SIV				LR			LR	02 57 59.1	
comp=Z,81nm,18.1s,baz=3.5,slow=40									
TXAR	**Lajitas Array**	**39.25**	**324**	P			**P**	**02 50 35.0**	**+0.5**
0.3nm,0.7s,baz=149,slow=10.0,SNR=3.9									
TXAR				PcP			**PcP**	**02 52 42.4**	**-1.3**
0.3nm,0.7s,baz=146,slow=5.8,SNR=3.9									
PDAR	**Pinedale Array**	**52.51**	**332**	P			**P**	**02 52 19.9**	**+0.6**
0.8nm,1.0s,baz=126,slow=5.9,SNR=3.2									
ULM	**Lac du Bonnet**	**54.06**	**346**	P			**P**	**02 52 31.6**	**+1.3**
1.6nm,0.5s,baz=166,slow=7.8,SNR=4.0									
NVAR	**Mina Array Bea**	**54.30**	**322**	P			**P**	**02 52 33.8**	**+1.3**
2.4nm,0.8s,baz=140,slow=7.1,SNR=3.5									
YKA	**Yellowknife Ar**	**69.78**	**343**	P			**P**	**02 54 14.9**	**-0.8**
0.3nm,0.7s,baz=142,slow=5.4,SNR=5.0									
DBIC	**Dimbokro**	**74.17**	**83**	P			**P**	**02 54 42.4**	**-0.8**
1.7nm,0.7s,baz=277,slow=5.9,SNR=3.6									
TORD	**Torodi Ar. Bea**	**81.07**	**76**	P			**P**	**02 55 20.1**	**-1.5**
0.4nm,0.5s,baz=284,slow=5.6,SNR=8.5									
ILAR	**Eielson Array**	**82.63**	**336**	P			**P**	**02 55 27.8**	**-1.0**
0.8nm,0.8s,baz=101,slow=4.7,SNR=5.2									
ZALV	**Zalesovo Beam**	**126.43**	**12**	PKP			**PKPdf**	**03 02 08.3**	**-0.5**
0.6nm,0.4s,baz=342,slow=3.6,SNR=3.0									
GEYT	**Alibeck**	**126.64**	**42**	PKP			**PKPdf**	**03 02 07.4**	**-2.4**
0.7nm,0.4s,baz=234,slow=1.2,SNR=4.5									
KURBB	**Kurchatov Arra**	**127.81**	**18**	PKP			**PKPdf**	**03 02 10.8**	**-0.7**
0.7nm,0.7s,baz=328,slow=2.6,SNR=8.9									
MKAR	**Makanchi Array**	**132.36**	**18**	PKhKP			PKPpre	03 02 15.7	
0.2nm,0.5s,baz=342,slow=0.5,SNR=3.6									
ASAR	**Alice Springs**	**139.34**	**229**	PKP			**PKPdf**	**03 02 33.0**	**-1.0**
0.5nm,0.9s,baz=119,slow=3.3,SNR=3.6									
WRA	**Warramunga Arr**	**140.98**	**234**	PKP			**PKPdf**	**03 02 33.8**	**-3.2**
0.7nm,0.5s,baz=116,slow=1.8,SNR=3.0									

GUC 26 02:45:30.2±0.4,34°.01S×72°.60W,h34km±2km,ML3.6,1D,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.50**	**132**	*e*P			Pb	02 45 56.2	-1.4
NICH				*e*S			Sb	02 46 15.9	-0.4
RCDM	**Rinconada Maip**	**1.58**	**71**	*e*P			Pn	02 45 57.1	+1.2
RCDM				*e*S			Sb	02 46 17.8	-0.8
TALC	**Talca**	**1.60**	**150**	*e*P			Pn	02 45 57.6	+1.5
TALC				*e*S			Sb	02 46 18.1	-0.9
PEL	**Peldehue**	**1.81**	**62**	||*e*P		Pb	02 46 01.2	-1.7
PEL				*e*S			Sb	02 46 24.6	-0.7
PEL				AML			AML	02 46 37.3	
	comp=N,2μm,0.7s								
CLCH	**Cerro Calan**	**1.82**	**71**	*e*P			Pn	02 46 01.1	+1.8
CLCH				*e*S			Sb	02 46 24.9	-0.8
CLCH				AML			AML	02 46 36.6	
	comp=E,409nm,0.1s								
LNCH	**Linares**	**2.01**	**156**	*e*P			Pn	02 46 03.8	+2.0
LNCH				*e*S			Sb	02 46 29.3	-1.5

*SKO **26** 03:26:44.4,41°.76N×22°.60E,h22km,M1.4,ML1.6*
*ATH **26** 03:26:45.4,41°.67N×22°.65E,h37km±2km,MD3.0/4*
CSEM 26 03:26:44.6±0.4,41°.75N×22°.64E,h21km±3km,ML1.9,
Error ellipse: s-maj=8.3km s-min=4.4km az=29.0,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.43**	**187**	*i* Pg			Pb	03 26 53.9	+0.6
VAY				*i* Sg			Sb	03 27 00.4	+1.1
VAY				*e*Lg			Lg	03 27 00.4	
	comp=E,18nm,0.2s								
VAY				*e*Lg			Lg	03 27 01.9	
	comp=N,16nm,0.2s								
VAY	**Valandovo**	**0.43**	**187**	*i* Pg			Pb	03 26 53.9	+0.6
VAY				*i* Sg			Sb	03 27 00.3	+1.0
VAY				*e*Lg			Lg	03 27 01.9	
	comp=N,16nm,0.2s								
KNT	**Kendrikon**	**0.61**	**161**	*e*PN			Pb	03 26 57.3	+0.5
KNT				*e*SN			Sb	03 27 05.7	+0.6
KNT	**Kendrikon**	**0.61**	**161**	*e*Pn			Pb	03 26 57.3	+0.5
KNT				*e*Sn			Sb	03 27 05.7	+0.6
GRG	**Griva**	**0.81**	**193**	*e*PN			Pn	03 27 00.5	-0.3
GRG				*e*SN			Sb	03 27 11.1	+0.6
GRG	**Griva**	**0.81**	**193**	*e*Pn			Pn	03 27 00.5	-0.3
GRG				*e*Sn			Sb	03 27 11.1	+0.6
SKO	**Skopje**	**0.92**	**285**	*i* Pg			Pn	03 27 02.2	-0.1
SKO				*i* Sg			Sb	03 27 12.3	-1.5
SKO				*e*Lg			Lg	03 27 12.3	
	comp=N,23nm,0.3s								
SKO				*e*Lg			Lg	03 27 12.3	
	comp=E,24nm,0.3s								
SKO	**Skopje**	**0.92**	**285**	*i* Pg			Pn	03 27 02.2	-0.1
SKO				*i* Sg			Sb	03 27 12.2	-1.6
SKO				*e*Lg			Lg	03 27 12.3	
	comp=E,23nm,0.3s								
SRS	**Serrai**	**0.95**	**131**	*e*PN			Pn	03 27 02.7	-0.1
SRS				*e*SN			Sn	03 27 15.8	+0.1
SRS	**Serrai**	**0.95**	**131**	*e*Pn			Pn	03 27 02.7	-0.1
SRS				*e*Sn			Sn	03 27 15.8	+0.1
NVR	**Nevrokopi**	**1.00**	**113**	*e*PN			Pn	03 27 03.9	+0.4
NVR				*e*SN			Sn	03 27 17.7	+0.7
NVR	**Nevrokopi**	**1.00**	**113**	*e*Pn			Pn	03 27 03.9	+0.4
NVR				*e*Sn			Sn	03 27 17.7	+0.7
SOH	**Sokhos**	**1.07**	**149**	*e*PB			Pn	03 27 03.8	-0.6
SOH				*e*SN			Sn	03 27 18.5	-0.2
SOH	**Sokhos**	**1.07**	**149**	*e*Pb			Pn	03 27 03.8	-0.6
SOH				*e*Sn			Sn	03 27 18.5	-0.2
HORT	**Hortiatis**	**1.20**	**163**	*e*PN			Pn	03 27 06.1	-0.1
HORT	**Hortiatis**	**1.20**	**163**	*e*Pn			Pn	03 27 06.1	-0.1

*ISCJB **26** 03:27:01.0±0.3,38°.83N±0°.02×21°.94E±0°.02,h4km±3km,*
Error ellipse: s-maj=3.1km s-min=2.4km az=22.7
*THE **26** 03:27:01.5,38°.82N×21°.93E,h2km±25km,ML2.2/8,Error*
ellipse: s-maj=25.7km s-min=0.3km az=0.0
*ATH **26** 03:27:01.4,38°.83N×21°.94E,h5km±2km,MD3.2/21*
*CSEM **26** 03:27:01.1±0.1,38°.83N×21°.93E,h5km,MD3.2,Error*
ellipse: s-maj=2.4km s-min=2.0km az=117.0
ISC 26 03:27:01.4±0.9,38°.83N±0°.01×21°.93E±0°.02,h5km±9km,
n69,σ0°.56/116,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.13**	**313**	P			**Pg**	**03 27 03.6**	**-0.5**
EVR				S			**Sg**	**03 27 05.9**	**0.0**
EVR	**Evrytania**	**0.13**	**313**	*e*PG			**Pg**	**03 27 03.7**	**-0.4**
EVR				*e*SG			**Sg**	**03 27 06.0**	**0.0**
EVR	**Evrytania**	**0.13**	**313**	*e*Pg			**Pg**	**03 27 03.7**	**-0.4**
EVR				*e*Sg			**Sg**	**03 27 06.0**	**0.0**
MAKR	**Makrakomi, Fth**	**0.24**	**41**	P			**Pg**	**03 27 06.3**	**+0.1**
MAKR				S			**Sg**	**03 27 10.3**	**+0.9**
MAKR	**Makrakomi, Fth**	**0.24**	**41**	*e*PG			**Pg**	**03 27 06.4**	**+0.2**
MAKR				*e*SG			**Sg**	**03 27 10.6**	**+1.2**
MAKR	**Makrakomi, Fth**	**0.24**	**41**	*e*Pg			**Pg**	**03 27 06.4**	**+0.2**
MAKR				S			**Sg**	**03 27 10.3**	**+0.9**
AGG	**Agios Georgios**	**0.37**	**58**	P			**Pg**	**03 27 08.5**	**-0.1**
AGG	**Agios Georgios**	**0.37**	**58**	*e*PB			**Pg**	**03 27 08.5**	**-0.1**
AGG				*e*SB			**Sg**	**03 27 13.8**	**+0.4**
AGG	**Agios Georgios**	**0.37**	**58**	P			**Pg**	**03 27 08.5**	**-0.1**
AGG				*e*Sb			**Sg**	**03 27 13.8**	**+0.4**
PVO	**Paravola**	**0.38**	**236**	P			**Pg**	**03 27 08.4**	**-0.4**
PVO			

KLV	**Kalavryta, Ach**	**0.80**	**167**	*e*Pb	**Pg**	**03 27 16.9 0.0**
KLV				S	**Sg**	**03 27 28.2 +0.9**
RLS	**Riolos of Patr**	**0.85**	**205**	*e*PB	**Pg**	**03 27 17.9 +0.1**
RLS	**Riolos of Patr**	**0.85**	**205**	*e*Pb	**Pg**	**03 27 17.9 +0.1**
LKR	**Lokris**	**0.86**	**102**	P	**Pg**	**03 27 17.2 -0.7**
LKR	**Lokris**	**0.86**	**102**	*e*PG	**Pg**	**03 27 17.6 -0.3**
LKR	**Lokris**	**0.86**	**102**	P	**Pg**	**03 27 17.2 -0.7**
LKR	**Lokris**	**0.86**	**102**	*e*Pg	**Pg**	**03 27 17.6 -0.3**
DRO	**Drossia**	**0.89**	**191**	P	**Pg**	**03 27 17.8 -0.8**
DRO				S	**Sb**	**03 27 31.1 -0.5**
DRO	**Drossia**	**0.89**	**191**	*e*PG	**Pg**	**03 27 17.8 -0.8**
DRO				*e*SB	**Sg**	**03 27 30.7 +0.5**
DRO	**Drossia**	**0.89**	**191**	*e*Pg	**Pg**	**03 27 17.8 -0.8**
DRO				*e*Sb	**Sg**	**03 27 30.7 +0.5**
DRO				S	**Sb**	**03 27 31.1 -0.5**
GUR	**Goura**	**0.95**	**160**	P	**Pg**	**03 27 19.3 -0.4**
GUR				S	**Sg**	**03 27 32.7 +0.7**
GUR	**Goura**	**0.95**	**160**	*e*PN	**Pb**	**03 27 20.3 -0.1**
GUR				*e*SB	**Sb**	**03 27 34.0 +0.7**
GUR	**Goura**	**0.95**	**160**	*e*Pn	**Pb**	**03 27 20.3 -0.1**
GUR				S	**Sg**	**03 27 32.7 +0.7**
GUR				*e*Sb	**Sb**	**03 27 34.0 +0.7**
LKD2	**Lefkada island**	**0.99**	**268**	P	**Pg**	**03 27 20.5 0.0**
LKD2	**Lefkada island**	**0.99**	**268**	*e*PB	**Pg**	**03 27 20.6 0.0**
LKD2				*e*SB	**Sb**	**03 27 34.6 +0.1**
LKD2	**Lefkada island**	**0.99**	**268**	*e*Pb	**Pg**	**03 27 20.6 0.0**
LKD2				*e*Sb	**Sb**	**03 27 34.6 +0.1**
SMIA	**Simia**	**1.00**	**87**	*e*PN	**Pb**	**03 27 21.1 -0.2**
SMIA				*e*SN	**Sg**	**03 27 33.6 0.0**
SMIA	**Simia**	**1.00**	**87**	*e*Pn	**Pb**	**03 27 21.1 -0.2**
SMIA				*e*Sn	**Sg**	**03 27 33.6 0.0**
NEO	**Neokhori**	**1.11**	**64**	*e*PB	**Pb**	**03 27 23.0 -0.2**
NEO				*e*SB	**Sb**	**03 27 38.6 +0.6**
NEO	**Neokhori**	**1.11**	**64**	*e*Pb	**Pb**	**03 27 23.0 -0.2**
NEO				*e*Sb	**Sb**	**03 27 38.6 +0.6**
XOR	**Xorichti**	**1.12**	**61**	*e*PN	**Pn**	**03 27 23.8 0.0**
XOR	**Xorichti**	**1.12**	**61**	*e*Pn	**Pn**	**03 27 23.8 0.0**
VLS	**Valsamata**	**1.24**	**239**	P	**Pg**	**03 27 24.4 -0.8**
VLS	**Valsamata**	**1.24**	**239**	*e*PB	**Pn**	**03 27 26.6 +1.2**
VLS	**Valsamata**	**1.24**	**239**	P	**Pg**	**03 27 24.4 -0.8**
VLS	**Valsamata**	**1.24**	**239**	*e*Pb	**Pn**	**03 27 26.6 +1.2**
AMT	**Artemida-Makis**	**1.31**	**188**	*e*PB	**Pn**	**03 27 26.4 0.0**
AMT	**Artemida-Makis**	**1.31**	**188**	*e*Pb	**Pn**	**03 27 26.4 0.0**
LIT	**Litokhoron**	**1.34**	**19**	*e*PG	**Pn**	**03 27 26.1 -0.7**
LIT				*e*SG	**Sb**	**03 27 44.0 -0.6**
LIT	**Litokhoron**	**1.34**	**19**	*e*Pg	**Pn**	**03 27 26.1 -0.7**
LIT				*e*Sg	**Sb**	**03 27 44.0 -0.6**
IGT	**Igoumenitsa**	**1.43**	**300**	*e*PN	**Pg**	**03 27 29.3 +0.5**
IGT	**Igoumenitsa**	**1.43**	**300**	*e*PB	**Pg**	**03 27 29.3 +0.5**
IGT	**Igoumenitsa**	**1.43**	**300**	*e*Pb	**Pg**	**03 27 29.3 +0.5**
IGT	**Igoumenitsa**	**1.43**	**300**	*e*Pn	**Pg**	**03 27 29.3 +0.5**
ITM	**Ithomi**	**1.65**	**180**	*e*PG	**Pb**	**03 27 31.9 -0.4**
ITM	**Ithomi**	**1.65**	**180**	*e*Pg	**Pb**	**03 27 31.9 -0.4**
PYL	**PYLOS**	**1.94**	**184**	*e*PG	**Pb**	**03 27 37.7 +0.5**
PYL	**PYLOS**	**1.94**	**184**	*e*Pg	**Pb**	**03 27 37.7 +0.5**

*IDC **26** 03:27:28.5±0.8, 12°.30N×144°.15E, h0km, mb4.1/15, mb1 4.3/15, mb1mx4.0/41, mbtmp4.1/15, MS3.1/2, Ms1 3.1/2, ms1mx2.6/33, Error ellipse: s-maj=28.2km s-min=19.6km az=90.0*
*ISCJB **26** 03:27:30.8±0.5, 12°.22N±0°.07×144°.07E±0°.09, h27km, mb4.3/23, MS3.0/2, Error ellipse: s-maj=13.8km s-min=7.9km az=29.3*
*NEIC **26** 03:27:32.8±3.2, 12°.24N×144°.13E, h31km±23km, mb4.5/7, Error ellipse: s-maj=10.8km s-min=7.6km az=98.0*

ISC 26 03:27:32.3±0.7, 12°.22N±0°.10×144°.1E±0°.1, h27km, n36, σ0°62/29, mb4.4/23, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.53**	**27**	*e*Pn	**Pn**	**03 27 57.7**	**-0.2**
GUMO				*e*Sn	**Sn**	**03 28 16.4**	**-0.6**
H11S3	**WAKE ISLAND Hy 22.61**	**71**		T	T	03 56 04.2	
	baz=258,slow=75,SNR=5.2						
H11S1	**WAKE ISLAND Hy 22.62**	**71**		T	T	03 56 03.6	
	baz=258,slow=75,SNR=5.2						
H11S2	**WAKE ISLAND Hy 22.62**	**71**		T	T	03 56 03.9	
	baz=258,slow=75,SNR=6.6						
H11N1	**WAKE ISLAND Hy 23.09**	**68**		T	T	03 56 37.3	
	baz=255,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy 23.10**	**68**		T	T	03 56 38.0	
	baz=255,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy 23.11**	**68**		T	T	03 56 38.9	
	baz=255,slow=75,SNR=8.6						
MJAR	**Matsushiro Arr**	**24.80**	**349**	LR	LR	03 41 48.3	
	comp=Z,54nm,18.4s,baz=170,slow=35						
KSRS	**Korea Array**	**29.02**	**333**	LR	LR	03 44 41.3	
	comp=Z,30nm,19.6s,baz=250,slow=36						
WRAB	**Tennant Creek**	**33.38**	**197**	*e*P	**P**	**03 34 09.3**	**+0.8**
	19nm,1.5s						
WRA	**Warramunga Arr**	**33.39**	**197**	P	**P**	**03 34 09.3**	**+0.6**
	0.8nm,0.5s,baz=20,slow=9.6,SNR=4.8						
DLV	**T Lat**	**34.85**	**273**	*e*P	**P**	**03 34 21.4**	**-0.4**
KSM	**Kuching**	**35.20**	**255**	*e*P	**P**	**03 34 23.1**	**-1.4**
	51nm,0.8s						
ASAR	**Alice Springs**	**37.05**	**196**	P	**P**	**03 34 41.4**	**+1.2**
	0.7nm,0.5s,baz=20,slow=10,SNR=15						
DZM	**Mont Dzumac**	**40.50**	**147**	*e*P	**P**	**03 35 08.2**	**-1.0**
	33nm,1.3s						
CMAR	**Chiang Mai Arr**	**43.94**	**284**	P	**P**	**03 35 37.9**	**+0.5**
	1.0nm,0.3s,baz=90,slow=7.2,SNR=3.4						
SONM	**Songino Array**	**47.45**	**326**	P	**P**	**03 36 05.1**	**+0.3**
	0.7nm,0.6s,baz=139,slow=8.6,SNR=5.4						
MKAR	**Makanchi Array**	**61.98**	**317**	P	**P**	**03 37 50.4**	**+0.2**
	2.6nm,0.6s,baz=96,slow=6.4,SNR=30						
ZALV	**Zalesovo Beam**	**62.32**	**325**	P	**P**	**03 37 52.2**	**0.0**
	0.7nm,0.5s,baz=99,slow=7.4,SNR=4.2						
ZALV				PcP	**PcP**	**03 38 31.8**	**+0.1**
	0.5nm,0.4s,baz=155,slow=4.0,SNR=4.2						
KURK	**Kurchatov**	**65.17**	**320**	*e*P	**P**	**03 38 10.9**	**-0.1**
	2.1nm,0.7s						
KURBB	**Kurchatov Arra**	**65.21**	**320**	P	**P**	**03 38 11.7**	**+0.4**
	3.3nm,0.7s,baz=103,slow=6.9,SNR=24						
TKM2	**Tokmak 2**	**66.08**	**312**	*e*P	**P**	**03 38 16.4**	**-1.0**
	2.4nm,0.8s						
AAK	**Ala-Archa**	**66.87**	**311**	*e*P	**P**	**03 38 22.6**	**+0.3**
KKAR	**Karatay Array**	**69.82**	**312**	*e*P	**P**	**03 38 41.1**	**+0.5**
	0.5nm,0.4s						
ILAR	**Eielson Array**	**70.10**	**25**	P	**P**	**03 38 42.3**	**+0.4**
	0.4nm,0.5s,baz=254,slow=5.9,SNR=5.0						
BVAR	**Borovoye Array**	**70.56**	**322**	P	**P**	**03 38 44.6**	**-0.3**
	3.4nm,0.4s,baz=92,slow=6.5,SNR=21						
ABKAR	**Akbulak array**	**77.08**	**318**	*e*P	**P**	**03 39 23.1**	**-0.1**
	4.2nm,0.6s						
ARU	**Arti**	**77.48**	**325**	*e*P	**P**	**03 39 25.2**	**-0.1**
	2.4nm,0.6s						
AKTO	**Aktyubinsk**	**78.23**	**319**	P	**P**	**03 39 29.6**	**0.0**
	2.0nm,0.6s,baz=76,slow=8.5,SNR=6.7						
GEYT	**Alibeck**	**79.49**	**307**	P	**P**	**03 39 37.1**	**+0.3**
	2.5nm,0.6s,baz=62,slow=3.4,SNR=5.8						
YKA	**Yellowknife Ar**	**84.39**	**27**	P	**P**	**03 40 02.7**	**+0.7**
	0.4nm,0.5s,baz=287,slow=4.8,SNR=8.4						
ARCES	**ARCESS Array B**	**88.16**	**342**	P	**P**	**03 40 20.9**	**+0.5**
	5.4nm,1.0s,baz=67,slow=6.7,SNR=4.9						
NVAR	**Mina Array Bea**	**88.32**	**51**	P	**P**	**03 40 22.4**	**+0.2**
	0.5nm,0.6s,baz=275,slow=4.6,SNR=4.7						
FINES	**FINESS Array B**	**92.09**	**335**	P	**P**	**03 40 38.0**	**-0.9**
	1.1nm,0.5s,baz=73,slow=4.8,SNR=13						
TORD	**Torodi Ar. Bea**	**135.03**	**303**	PKP	**PKPdf**	**03 46 49.5**	**-0.6**
	0.2nm,0.5s,baz=22,slow=2.3,SNR=3.7						
DBIC	**Dimbokro**	**143.91**	**300**	PKP	PKPbc	03 47 05.2	+1.1
	3.2nm,0.6s,baz=80,slow=3.4,SNR=6.6						

IDC 26 03:57:58.6±1.8, 37°.66S×73°.51W, h0km, mb3.3/2, mb1 3.2/4, mb1mx3.2/21, mbtmp3.0/4, ML2.7/2, Error ellipse: s-maj=53.8km s-min=21.0km az=59.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.83**	**144**	Pn	Pn	03 58 59.4	+0.4
	0.1nm,0.3s,baz=320,slow=14,SNR=2.9						
PLCA				Lg	Lg	04 00 00.7	
	0.7nm,0.3s,baz=321,slow=14,SNR=4.5						
CFAA	**Coronel Fontan**	**7.44**	**37**	Pn	Pn	03 59 48.9	+0.5
	0.1nm,0.3s,baz=216,slow=8.2,SNR=8.5						
TXAR	**Lajitas Array**	**72.38**	**333**	P	P	04 09 26.6	+0.2
	0.1nm,0.6s,baz=168,slow=9.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**86.57**	**71**	P	P	04 10 43.5	-0.4
	0.3nm,1.1s,baz=224,slow=4.0,SNR=2.7						

*IDC **26** 03:58:14.5±1.4, 39°.26N×74°.83E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.3/27, mbtmp3.4/5, ML2.7/2, Error ellipse: s-maj=43.5km s-min=29.1km az=129.0*
*KRNET **26** 03:58:17.8±0.1, 39°.48N×74°.84E, h3km, mb4.0*
*NNC **26** 03:58:22.9±1.1, 39°.66N×74°.70E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=10.1km s-min=4.1km az=136.0*

ISC 26 03:58:17.4±1.0, 39°.50N±0°.06×74°.95E±0°.05, h10km, n25, σ1°79/30, mb3.6/3, 10C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.96**	**302**	*e*P	**Pb**	**03 58 52.8**	**-0.4**
	baz=304						
OHH				*e*S	**Sg**	**03 59 20.2**	**-0.1**
	baz=304						
NRN	**Naryn**	**2.09**	**22**	*e*P	**Pb**	**03 58 57.0**	**+1.3**
	baz=24						
NRN				*e*S	**Sg**	**03 59 27.0**	**+2.3**
	baz=24						
ARSB	**Arslanbob**	**2.37**	**321**	*e*P	**Pb**	**03 59 01.6**	**+1.4**
	baz=323						
ARSB				*e*S	**Sg**	**03 59 34.8**	**+1.4**
	baz=323						
DRK	**Karamyk**	**2.44**	**271**	*e*P	**Pb**	**03 59 02.0**	**+0.5**
	baz=271						
DRK				*e*S	**Sg**	**03 59 35.0**	**-0.8**
	baz=271						
KZA	**Kyzart**	**2.59**	**5**	P	**Pb**	**03 59 03.5**	**-0.7**
	SNR=6.3						
UCH	**Uchtor**	**2.75**	**353**	P	**Pb**	**03 59 06.0**	**-0.9**
	SNR=12						
AML	**Almayashu**	**2.80**	**340**	P	**Pb**	**03 59 06.7**	**-1.1**
	SNR=64						
ULHL	**Ulahol**	**2.92**	**19**	P	**Pb**	**03 59 07.9**	**-1.7**
	SNR=15						
AAK	**Ala-Archa**	**3.15**	**354**	⇑Pn	**Pb**	**03 59 11.5**	**-2.1**
	13nm,0.5s						
AAK				⇑Lg	Lg	03 59 57.0	
	31nm,0.7s						
AAK	**Ala-Archa**	**3.15**	**354**	P	**Pb**	**03 59 12.0**	**-1.6**
	SNR=12						
KBK	**Karagaybulak**	**3.16**	**360**	P	**Pb**	**03 59 13.2**	**-0.5**
	SNR=12						
ARK	**Arkit**	**3.23**	**316**	*e*P	**Pb**	**03 59 13.1**	**-1.9**
	baz=318						
BTK	**Batken**	**3.23**	**281**	*e*P	**Pg**	**03 59 18.0**	**-1.4**
	baz=282						
BTK				*e*S	**Sg**	**04 00 02.2**	**+0.9**
	baz=282						
EKS2	**Erkin-Say**	**3.28**	**345**	P	**Pb**	**03 59 13.5**	**-2.4**
	SNR=13						
TKM2	**Tokmak 2**	**3.46**	**8**	⇑Pn	Pb	03 59 15.9	-2.9
	19nm,0.6s						
TKM2				⇓Sn	**Sb**	**03 59 58.1**	**-2.8**
	37nm,0.6s						
TKM2	**Tokmak 2**	**3.46**	**8**	P	Pb	03 59 16.0	-2.9
	SNR=14						
DZET	**Dzherino**	**4.81**	**264**	⇑Pn	Pn	03 59 33.9	+3.9
DZET				⇓Pg	**Pg**	**03 59 48.2**	**-1.3**
DZET				⇑Sn	**Sn**	**04 00 30.0**	**+4.1**
DZET				⇑Lg	Lg	04 00 51.0	
KK31	**Karatay Array**	**4.92**	**319**	⇑Pn	Pn	03 59 35.8	+4.5
	0.7nm,0.4s,baz=132,slow=13,SNR=13						
KK31				⇑Pg	Pb	03 59 47.0	+3.5
	7.4nm,0.7s,baz=133,slow=16,SNR=31						
KK31				⇓Sn	**Sn**	**04 00 30.2**	**+1.9**
	4.2nm,0.5s,baz=138,slow=18,SNR=8.1						
KK31				⇑Lg	Lg	04 00 52.0	
	5.4nm,0.5s,baz=132,slow=28,SNR=5.8						
MKAR	**Makanchi Array**	**9.05**	**34**	Pn	**Pn**	**04 00 31.2**	**+3.1**
	0.0nm,0.3s,baz=224,slow=18,SNR=2.9						
AB31	**Akbulak array**	**14.48**	**317**	Pn	**Pn**	**04 01 42.7**	**+0.4**
	1.9nm,0.9s,baz=126,slow=13,SNR=13						
ZALV	**Zalesovo Beam**	**15.94**	**22**	Pn	**P**	**04 02 04.1**	**-1.1**
	0.3nm,0.3s,baz=210,slow=13,SNR=2.5						
AKTO	**Aktyubinsk**	**16.18**	**318**	⇑Pn	**P**	**04 02 10.1**	**+2.1**
	1.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**68.88**	**270**	P	**P**	**04 09 21.2**	**-1.4**
	0.8nm,1.2s,baz=45,slow=5.7,SNR=4.1						
YKA	**Yellowknife Ar**	**78.06**	**5**	P	**P**	**04 10 15.6**	**-0.3**
	0.2nm,0.5s,baz=350,slow=5.8,SNR=6.9						
WRA	**Warramunga Arr**	**81.03**	**125**	P	**P**	**04 10 31.0**	**-1.6**
	0.4nm,0.7s,baz=326,slow=4.7,SNR=4.2						

*KRNET **26** 04:03:36.3±0.1, 39°.59N×75°.00E, h3km, mb3.6*
*NNC **26** 04:03:39.7±4.0, 39°.70N×74°.60E, h0km±19km, mb3.2, mpv2.8, Error ellipse: s-maj=31.6km s-min=13.8km az=137.0*

ISC 26 04:03:38.2±2.7, 39°.62N±0°.07×74°.86E±0°.07, h7km±16km, n12, σ1°09/25, 13C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.83**	**300**	*e*P	**Pn**	**04 04 10.2**	**0.0**
	baz=300						
OHH				*e*S	**Sg**	**04 04 37.5**	**+0.5**
	baz=300						
NRN	**Naryn**	**2.00**	**25**	⇓*i*P	**Pn**	**04 04 12.0**	**-0.8**
	baz=22						
NRN				⇓*e*S	**Sb**	**04 04 40.5**	**0.0**
	baz=22						
ARSB	**Arslanbob**	**2.22**	**320**	*e*P	**Pb**	**04 04 18.3**	**-0.5**
	baz=319						
ARSB				*e*S	**Sg**	**04 04 50.3**	**+0.7**
	baz=319						
ARLS	**Aral**	**2.27**	**350**	*i* P	**Pn**	**04 04 18.1**	**+1.8**
	baz=347						
ARLS				*e*S	**Sg**	**04 04 50.5**	**-0.7**
	baz=347						
DRK	**Karamyk**	**2.37**	**268**	*e*P	**Pb**	**04 04 20.8**	**-0.6**
	baz=269						
DRK				*e*S	**Sg**	**04 04 55.4**	**+1.0**
	baz=269						
KZA	**Kyzart**	**2.47**	**7**	⇓*i*P	**Pn**	**04 04 20.0**	**+0.7**
	baz=4.0						
KZA				⇓*i*S	**Sb**	**04 04 54.5**	**+0.5**
	baz=4.0						
UCH	**Uchtor**	**2.62**	**354**	⇑*i*P	**Pn**	**04 04 22.0**	**+0.7**
	baz=352						
UCH				⇑*i*S	**Sb**	**04 04 57.9**	**-0.3**
	baz=352						
AML	**Almayashu**	**2.66**	**341**	⇑*i*P	**Pb**	**04 04 24.4**	**-1.9**
	baz=339						
AML				⇑*i*S	**Sb**	**04 05 00.1**	**+0.8**
	baz=339						
AAK	**Ala-Archa**	**3.02**	**355**	⇑Pn	**Pb**	**04 04 31.5**	**-0.9**
	6.6nm,1.1s						
AAK				⇓Lg	Lg	04 05 12.2	
	4.9nm,0.6s						
TKM2	**Tokmak 2**	**3.34**	**9**	⇑Pn	**Pn**	**04 04 31.3**	**+0.3**
	2.8nm,0.5s						
TKM2				⇑Sn	**Sn**	**04 05 13.2**	**+2.1**
	6.1nm,0.6s						
DZET	**Dzherino**	**4.76**	**262**	⇑Pn	**Pn**	**04 04 49.2**	**-1.3**
DZET				⇓Pg	**Pb**	**04 05 03.3**	**+1.3**
DZET				⇑Sn	**Sn**	**04 05 45.3**	**-0.6**
DZET				⇑Lg	Lg	04 06 02.4	
KK31	**Karatay Array**	**4.78**	**318**	⇑Pn	**Pn**	**04 04 48.9**	**-1.7**
	0.2nm,0.4s,baz=0.0,slow=0.1,SNR=4.2						
KK31				⇑Pg	**Pb**	**04 05 01.8**	**-0.4**
	1.8nm,0.8s,baz=137,slow=15,SNR=9.1						
KK31				⇑Sn	**Sn**	**04 05 45.8**	**-0.4**
	0.3nm,0.3s,baz=135,slow=15,SNR=4.2						
KK31				⇓Lg	Lg	04 06 07.8	
	1.8nm,0.5s,baz=123,slow=28,SNR=5.4						

MAN 26 04:14:21, 6°.50N×124°.20E, h27km, mb4.6, ML3.5, MS3.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.71**	**4**	⇓*i*P	Pb	04 14 34.5	-0.4
CTBH				*i* S	Sb	04 14 44.3	0.0
GSPH	**General Santos**	**0.85**	**119**	*e*P	Pn	04 14 39.8	+2.4
GSPH				*i* S	Sn	04 14 54.3	+5.2
PAGZ	**Pagadian**	**1.56**	**329**	*e*P	Pn	04 14 47.5	+0.5
PAGZ				*e*S	Sn	04 15 05.9	-0.5
BUKP	**Musuan**	**1.61**	**32**	*e*P	Pn	04 14 48.0	+0.3
BUKP				*e*S	Sn	04 15 08.7	+0.9
IPIL	**Ipil**	**2.06**	**308**	*e*P	Pn	04 14 55.3	+1.4
MATI	**Mati**	**2.09**	**78**	*e*P	Pb	04 14 57.2	-1.1

IDC 26 04:25:54.5±4.7, 5°.75S×147°.72E, h211km±53km, mb3.0/2, mb1 3.4/4, mb1mx3.0/24, mbtmp3.7/4, Error ellipse: s-maj=109.8km s-min=25.2km az=130.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.67**	**189**	P	Pn	04 26 54.5	+1.7
	7.2nm,0.3s,baz=356,slow=13,SNR=9.7						
PMG				S	S	04 27 38.3	+0.1
	5.0nm,0.3s,baz=288,slow=20,SNR=9.2						
WRA	**Warramunga Arr**	**19.19**	**221**	P	P	04 30 02.3	-0.3
	1.2nm,0.3s,baz=48,slow=12,SNR=20						
ASAR	**Alice Springs**	**22.23**	**215**	P	P	04 30 34.9	+0.7
	1.7nm,0.7s,baz=45,slow=8.6,SNR=14						
ILAR	**Eielson Array**	**84.97**	**23**	P	P	04 38 05.4	-0.4
	0.2nm,0.8s,baz=249,slow=5.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**145.72**	**285**	PKPbc	PKPdf	04 45 08.6	-0.3
	0.3nm,0.4s,baz=68,slow=3.3,SNR=13						

*IDC **26** 04:27:43.7±1.2, 37°.50N×74°.35E, h0km, mb3.7/9, mb1 3.8/14, mb1mx3.7/30, mbtmp3.7/14, ML3.3/5, Error ellipse: s-maj=24.8km s-min=20.7km az=154.0*
*BJI **26** 04:27:47.8, 37°.52N×74°.67E, h5km, ML3.5/5*
*NNC **26** 04:27:48.4±2.6, 37°.58N×74°.50E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=23.3km s-min=12.2km az=151.0*

ISC 26 04:27:44.7±0.6, 37°.36N±0°.05×74°.33E±0°.06, h10km, n35, σ1°84/36, mb3.6/9, 6C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.51**	**30**	Pg	Pn	04 28 16.8	-8.9
KSH				Sg	Sn	04 28 39.5	-17
KSH				SMN			
	610nm,1.0s						
KSH				SME			
	400nm,0.6s						
CHCP	**Chirah Chowk**	**3.79**	**194**	P	**Pb**	**04 28 51.8**	**+0.1**
CEP	**Cherat**	**4.04**	**210**	P	**Pb**	**04 28 54.2**	**-1.8**
CEP				S	**Sg**	**04 29 58.0**	**+3.5**
DZET	**Dzherino**	**4.57**	**290**	⇓Pn	Pn	04 28 58.4	+4.4
DZET				⇑Sn	**Sb**	**04 29 56.9**	**-3.4**
THW	**Thamme Wali**	**5.02**	**206**	P	Pb	04 29 07.1	-5.6
AAK	**Ala-Archa**	**5.27**	**1**	Pn	Pn	04 29 06.6	+3.0
	14nm,0.7s						
AAK				⇓Sn	**Sn**	**04 30 06.9**	**+2.4**
	6.9nm,0.6s						
AAK	**Ala-Archa**	**5.27**	**1**	Pn	**Pn**	**04 29 05.3**	**+1.7**
	1.2nm,0.3s,baz=136,slow=7.6,SNR=11						
SARP	**Sargodha**	**5.59**	**195**	P	Pn	04 29 15.2	+7.3
TKM2	**Tokmak 2**	**5.64**	**10**	⇓Pn	**Pn**	**04 29 10.8**	**+2.0**
	7.7nm,0.3s						
TKM2				⇓Sn	**Sn**	**04 30 14.3**	**+0.6**
	14nm,0.8s						
KK31	**Karatay Array**	**6.44**	**334**	⇑Pn	**Pn**	**04 29 22.1**	**+2.5**
	2.6nm,0.3s,baz=134,slow=12,SNR=48						
KK31				⇑Sn	**Sn**	**04 30 35.0**	**+2.0**
	8.5nm,0.6s,baz=180,slow=26,SNR=3.8						
PDGK	**Podgornoye**	**7.14**	**32**	⇓Pn	**Pn**	**04 29 30.2**	**+1.1**
MKAR	**Makanchi Array**	**11.12**	**30**	Pn	**Pn**	**04 30 23.9**	**+0.1**
	0.1nm,0.3s,baz=211,slow=14,SNR=4.3						
MK31	**Makanchi Array**	**11.12**	**30**	⇑Pn	**Pn**	**04 30 24.4**	**+0.6**
	0.3nm,0.5s,baz=221,slow=14,SNR=4.5						
PYUN	**Piuthan**	**11.76**	**139**	*e*P	**Pn**	**04 30 30.9**	**-1.8**
	48nm,0.4s						
DANN	**Dangsing**	**11.97**	**136**	*e*P	**Pn**	**04 30 33.9**	**-1.8**
	10nm,0.4s						
WMQ	**Urumqi**	**12.03**	**53**	*e*P	**Pn**	**04 30 37.0**	**+0.8**
KOLN	**Koldanda**	**12.34**	**138**	*e*P	**Pn**	**04 30 38.5**	**-2.2**
GKN	**Gorkha**	**12.73**	**134**	*e*P	**Pn**	**04 30 43.7**	**-2.3**
	9.4nm,0.3s						
KURBB	**Kurchatov Arra**	**13.60**	**11**	Pn	**Pn**	**04 30 55.7**	**-1.8**
	0.0nm,0.3s,baz=202,slow=12,SNR=2.9						
JIRN	**Jiri**	**13.90**	**131**	*e*P	**Pn**	**04 31 00.0**	**-2.1**
	16nm,0.5s						
ODAN	**Odare**	**15.22**	**130**	*e*P	**Pn**	**04 31 17.7**	**-2.2**
	6.2nm,0.4s						
AB31	**Akbulak array**	**15.81**	**323**	⇑Pn	**P**	**04 31 31.0**	**-0.1**
	3.8nm,0.9s,baz=108,slow=7.8,SNR=27						
AB31				⇑Sn	**Sn**	**04 34 18.1**	**-4.4**
	0.6nm,0.5s,baz=137,slow=22,SNR=5.0						
BVA0	**Borovoye Array**	**15.91**	**351**	⇓Pn	**P**	**04 31 32.1**	**-0.1**
	2.9nm,0.8s,baz=154,slow=10,SNR=11						
AKTO	**Aktyubinsk**	**17.53**	**323**	⇓Pn	**P**	**04 31 51.4**	**+1.3**
	3.1nm,1.0s						
AKTO	**Aktyubinsk**	**17.53**	**323**	P	**Pn**	**04 31 49.0**	**0.0**
	0.8nm,0.3s,baz=127,slow=21,SNR=10						
ZALV	**Zalesovo Beam**	**18.10**	**20**	P	**Pn**	**04 31 55.2**	**-0.9**
	0.4nm,0.3s,baz=212,slow=11,SNR=6.5						
SONM	**Songino Array**

comp=N,0.1nm,0.3s,baz=259,slow=16,SNR=5.3
PLCA Paso Flores 18.38 187 P **Pn 04 33 29.2 +0.6**
comp=N,0.1nm,0.3s,baz=351,slow=6.3,SNR=3.5
BDFB Brasilia 19.80 73 P **P 04 33 42.3 0.0**
comp=N,1.6nm,0.3s,baz=247,slow=11,SNR=15
PTGA Pitinga 22.87 20 P **P 04 34 13.2 -0.7**
comp=N,1.4nm,0.3s,baz=325,slow=22,SNR=5.1
RCBR Riachuelo 34.87 67 P **P 04 36 01.2 +0.7**
comp=N,5.0nm,0.7s,baz=219,slow=6.5,SNR=3.7
DBIC Dimbokro 67.95 72 P **P 04 40 05.6 -0.7**
comp=N,2.1nm,0.6s,baz=234,slow=7.0,SNR=4.3
PDAR Pinedale Array 75.49 330 P **P 04 40 50.4 -0.7**
comp=N,0.3nm,0.7s,baz=134,slow=12,SNR=3.2
TORD Torodi Ar. Bea 76.63 70 P **P 04 40 57.7 -0.1**
comp=N,2.6nm,0.4s,baz=256,slow=5.7,SNR=83
NVAR Mina Array Bea 76.93 321 P **P 04 40 60.0 +0.7**
comp=N,0.2nm,0.5s,baz=161,slow=3.6,SNR=2.5
YKA Yellowknife Ar 92.45 340 P **P 04 42 16.8 +0.4**
comp=N,0.4nm,0.6s,baz=133,slow=4.4,SNR=12
WRA Warramunga Arr 132.68 209 PKP **PKPdf 04 48 22.4 +1.5**
comp=N,0.2nm,0.4s,baz=144,slow=1.6,SNR=4.1
MKAR Makanchi Array 145.73 38 PKPbc **PKPbc 04 48 44.5 +0.1**
comp=N,0.2nm,0.7s,baz=5.5,slow=4.5,SNR=2.7

WEL 26 04:55:45.6±0.4, 38°.52S×178°.47W, h33km, ML3.9/10, Error ellipse: s-maj=3.7km s-min=3.6km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.55**	**285**	*e*PN		Pn	04 56 23.9	-0.8
CNGZ	**Carnagh Statio**	**2.60**	**270**	PN		Pn	04 56 25.0	-0.4
PUZ	**Puketiti**	**2.61**	**279**	PN		Pn	04 56 24.5	-1.0
PUZ				SN		Sn	04 56 54.3	-1.8
TWGZ	**Tauwhareparae**	**2.81**	**276**	*e*PN		Pn	04 56 27.4	-0.9
TWGZ				SN		Sn	04 57 00.3	-0.8
MHGZ	**Mahia Peninsul**	**2.90**	**256**	*e*PN		Pn	04 56 28.4	-1.1
RIGZ	**Rimuhau**	**2.96**	**265**	PN		Pn	04 56 29.6	-0.7
RIGZ				SN		Sn	04 57 02.6	-2.1
HAZ	**Te Kaha**	**3.05**	**283**	*e*PN		Pn	04 56 30.5	-1.0
HAZ				SN		Sn	04 57 05.3	-1.5
KNZ	**Kokohu**	**3.05**	**259**	PN		Pn	04 56 30.3	-1.2
MWZ	**Matawai**	**3.15**	**272**	PN		Pn	04 56 31.9	-1.1
MWZ				SN		Sn	04 57 06.0	-3.4
MWZ				AML		AML	04 57 09.0	
RAGZ	**Rawiri**	**3.23**	**269**	PN		Pn	04 56 33.6	-0.4
WHHZ	**Waihua**	**3.40**	**259**	*e*PN		Pn	04 56 35.0	-1.4
URZ	**Urewera**	**3.48**	**273**	PN		Pn	04 56 37.5	0.0
RAHZ	**Arahi**	**3.50**	**262**	*e*PN		Pn	04 56 37.2	-0.5
ARHZ	**Aropaoanui**	**3.61**	**257**	*e*PN		Pn	04 56 38.4	-0.8
ARHZ				SN		Sn	04 57 19.1	-1.7
PXZ	**Pawanui**	**3.92**	**246**	SN		Sn	04 57 25.6	-2.9
PXZ				AML		AML	04 57 35.5	
BKZ	**Black Stump Fm**	**3.98**	**259**	PN		Pn	04 56 43.7	-0.8
BHHZ	**Black Hill Sta**	**4.37**	**255**	PN		Pn	04 56 48.6	-1.1
TSZ	**Takapari Road**	**4.58**	**249**	AML		AML	04 57 48.4	
TRVZ	**Turoa**	**4.73**	**259**	PN		Pn	04 56 54.8	-0.2
MRZ	**Mangatainoka R**	**5.07**	**243**	PN		Pn	04 56 56.2	-3.1
MRZ				SN		Sn	04 57 51.5	-5.2
CTZ	**Chatham Island**	**5.40**	**166**	SN		Sn	04 57 57.5	-7.2
KHZ	**Kahutara**	**7.23**	**235**	AML		AML	04 58 45.1	
THZ	**Tophouse**	**7.36**	**241**	AML		AML	04 58 51.4	
MQZ	**McQueen's Vall**	**8.47**	**229**	SN		Sn	04 59 09.9	-10

DJA 26 05:06:57.5±0.7, 8°S±4°×107°E±°, h27km±6km, M3.8/12, MLv3.8/12, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.79**	**41**	P		Pb	05 07 11.7	-1.0
CISI				S		Sb	05 07 21.8	-1.3
CNJI	**Cibinong**	**0.85**	**349**	P		Pb	05 07 13.0	-0.7
CNJI				S		Sb	05 07 23.6	-1.1
CMJI	**Cimerak**	**1.20**	**72**	P		Pn	05 07 17.6	-1.0
CMJI				S		Sn	05 07 31.5	-2.5
SKJI	**Sukabumi**	**1.35**	**327**	P		Pn	05 07 20.9	+0.3
SKJI				S		Sn	05 07 37.1	-0.6
LEM	**Lembang**	**1.35**	**14**	P		Pn	05 07 21.3	+0.4
LEM				S		Sn	05 07 38.4	+0.3
KPJI	**Karang Pucung**	**1.82**	**64**	P		Pn	05 07 27.5	+0.5
CGJI	**Cibinong**	**2.20**	**314**	P		Pn	05 07 32.1	-0.2
CGJI				S		Sn	05 07 56.5	-2.1
UGM	**Wanagama**	**3.21**	**86**	P		Pn	05 07 45.6	-0.7
PCJI	**Pacitan**	**3.85**	**91**	P		Pn	05 07 55.0	0.0

GCMT ***26*** *05:33:08.4±0.3, 18°.56S×172°.45W, h14km, MWS.0/89, Moment Tensor Solution. s43,c54; s89,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.46±.16; $M_{\theta\theta}$-1.16±.11; $M_{\phi\phi}$-2.30±.11; $M_{r\theta}$1.24±.28; $M_{r\phi}$-1.93±.07; $M_{\theta\phi}$1.97±.27; Best double couple: $M_0$4.28800×10^{16} NP1:ϕ_s34.00000°,δ61.00000°,λ87.00000°. NP2: ϕ_s220.00000°,δ29.00000°,λ95.00000°. Principal axes: T 4.1510, Plg73.0000°, Azm297.0000°; N 0.2750, Plg2.0000°, Azm35.0000°; P -4.4260, Plg16.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***26*** *05:33:08.4±0.2, 18°.40S×173°.18W, h10km, mb5.1/90 Error ellipse: s-maj=9.8km s-min=4.6km az=138.0*

ISCJB ***26*** *05:33:09.8±0.2, 18°.54S±0°.05×173°.11W±0°.04, h31km, mb5.1/139, MS4.6/28, Error ellipse: s-maj=8.2km s-min=3.7km az=150.5*

BJI ***26*** *05:33:12.6, 17°.89S×173°.03W, h32km, mB5.6/28, mb5.1/32, Ms5.3/26, Ms7 4.8/26*

IDC ***26*** *05:33:13.0±2.7, 18°.50S×173°.14W, h46km±24km, mb4.3/15, mb1 4.6/16, mb1mx4.4/28, mbtmp4.6/16, ML3.9/1, MS4.4/21, Ms1 4.4/21, ms1mx4.3/28, Error ellipse: s-maj=16.0km s-min=10.6km az=120.0*

MOS ***26*** *05:33:17.3±1.5, 16°.81S×173°.12W, h33km, mb5.3/27, MS4.8/6, Error ellipse: s-maj=14.7km s-min=10.8km az=62.6*

ISC 26 05:33:11.9±0.4, 18°.47S±0°.06×173°.16W±0°.06, h34km±1km, h34km:pP-P, n436, σ1°.21/451, mb5.1/139, MS4.5/28, 22C-33D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.12**	**102**	⇓S		Sn	05 34 16.0	-19
baz=2.5,SNR=5.9								
AFI	**Afiamalu**	**4.73**	**17**	*e*P		Pn	05 34 14.7	-6.3
AFI	**Afiamalu**	**4.73**	**17**	*e*Pn		Pn	05 34 14.7	-6.3
MSVF	**Nonsavu**	**8.39**	**274**	Pn		Pn	05 35 19.0	+7.7
397nm,1.1s,SNR=7.5								
MSVF	**Nonsavu**	**8.39**	**274**	*e*P		Pn	05 35 18.1	+6.8
MSVF	**Nonsavu**	**8.39**	**274**	*e*Pn		Pn	05 35 18.1	+6.8
DZM	**Mont Dzumac**	**19.46**	**256**	P		**Pn**	**05 37 37.7**	**+0.3**
0.3nm,0.3s,baz=68,slow=10,SNR=4.4								
DZM	**Mont Dzumac**	**19.46**	**256**	*e*P		**Pn**	**05 37 37.6**	**+0.2**
30nm,0.8s								
OUZ	**Omahuta**	**20.41**	**213**	*e*P		Pn	05 37 47.3	-1.1
177nm,1.1s								
URZ	**Urewera**	**21.47**	**201**	P		**P**	**05 37 57.3**	**-0.2**
40nm,0.8s,baz=70,slow=5.9,SNR=12								
URZ				S		**S**	**05 41 53.2**	**-0.7**
14nm,1.0s,baz=66,slow=20,SNR=4.9								
URZ				LR		LR	05 46 09.7	
comp=Z,480nm,19.4s,baz=8.0,slow=36								
URZ	**Urewera**	**21.47**	**201**	*e*P		**P**	**05 37 58.1**	**+0.6**
71nm,0.9s								
URZ				S		**S**	**05 41 53.1**	**-0.7**
PAE	**Paea**	**22.43**	**92**	*e*P		P	05 38 02.6	-5.5
19nm,1.3s								
PAE	**Paea**	**22.43**	**92**	*e*T		T	06 00 07.1	
8.0nm,0.3s								
PPT2	**Papeete2**	**22.44**	**91**	*e*P		P	05 38 03.1	-5.2
83nm,1.1s								
PPT2				*e*LQ		LQ	05 42 12.6	
3μm,25.0s								
PPT2				*e*LR		LR	05 43 12.0	
2μm,26.5s,baz=263								
PPT2	**Papeete2**	**22.44**	**91**	*e*T		T	06 00 10.2	
7.2nm,0.3s								
PPT	**Papeete**	**22.45**	**91**	P		**P**	**05 38 04.8**	**-3.5**
76nm,1.0s,baz=197,slow=1.7,SNR=5.3								
PPT				LR		LR	05 45 04.3	
comp=Z,1μm,18.3s,baz=252,slow=32								
BKZ	**Black Stump Fm**	**22.49**	**201**	*e*P		**P**	**05 38 08.8**	**+0.1**
41nm,1.1s								
TBI	**Tubuai**	**22.66**	**106**	*e*P		P	05 38 04.4	-6.0
194nm,1.1s								
TBI				*e*LQ		LQ	05 42 07.7	
1μm,28.0s								
TBI				*e*LR		LR	05 43 06.8	
2μm,29.8s,baz=282								
TBI	**Tubuai**	**22.66**	**106**	*e*T		T	06 00 52.5	
5.6nm,0.4s								
TIAR	**Tiarei**	**22.67**	**91**	*e*T		T	06 00 26.8	
2.8nm,0.3s								
TVO	**Taravao**	**22.73**	**92**	*e*P		P	05 38 05.7	-5.7
23nm,1.1s								
TVO	**Taravao**	**22.73**	**92**	*e*T		T	06 00 22.8	
2.2nm,0.3s								
BFZ	**Birch Farm**	**23.94**	**200**	*e*P		**P**	**05 38 24.6**	**+1.6**
167nm,1.8s								
PMOR	**Pomariorio Ree**	**24.43**	**86**	*e*P		P	05 38 22.4	-5.4
126nm,1.3s								
KHZ	**Kahutara**	**26.41**	**203**	*e*P		**P**	**05 38 45.9**	**+0.5**
576nm,2.7s								
HNR	**Honiara**	**27.57**	**285**	LR		LR	05 48 35.7	
comp=Z,587nm,18.4s,baz=121,slow=33								
RPZ	**Rata Peaks**	**28.46**	**204**	*e*P		P	05 39 10.8	+7.0
206nm,1.7s								
EIDS	**Eidsvold**	**33.80**	**252**	*e*P		**P**	**05 39 50.8**	**-0.2**
6.1nm,0.8s								
ARMA	**Armidale**	**34.05**	**243**	*e*P		**P**	**05 39 54.3**	**+1.0**
151nm,2.5s								
RKT	**Rikitea**	**35.93**	**104**	*e*P		P	05 40 05.0	-4.5
60nm,1.2s								
RKT				*e*LR		LR	05 49 28.4	
2μm,28.8s								
CNB	**Canberra Magne**	**37.13**	**236**	⇓P		**P**	**05 40 19.3**	**-0.4**
baz=38,SNR=7.6								
CAN	**Canberra**	**37.42**	**236**	*e*P		**P**	**05 40 21.9**	**-0.1**
19nm,1.1s								
CTAO	**Charters Tower**	**38.28**	**261**	*e*P		**P**	**05 40 29.0**	**-0.5**
CTAO				pmax		pmax		
comp=Z,22nm,0.9s								
CTAO	**Charters Tower**	**38.28**	**261**	*e*P		**P**	**05 40 29.0**	**-0.5**
comp=Z,22nm,0.9s								
CMSA	**Cobar Meteorol**	**39.27**	**243**	⇓P		**P**	**05 40 36.4**	**-1.3**
baz=40,SNR=9.2								
PMG	**Port Moresby**	**39.47**	**278**	LR		LR	05 55 33.4	
comp=Z,283nm,18.2s,baz=22,slow=34								
QLP	**Quilpie**	**40.02**	**250**	⇑P		**P**	**05 40 43.0**	**-1.0**
baz=40,SNR=4.5								
TOO	**Toolangi**	**40.77**	**233**	⇓P		**P**	**05 40 50.1**	**+0.1**
baz=41,SNR=4.0								
COEN	**Coen**	**42.09**	**269**	*e*P		**P**	**05 41 00.6**	**-0.6**
comp=Z,105nm,1.0s								
BBOO	**Buckleboo**	**47.53**	**242**	⇑P		**P**	**05 41 43.1**	**-1.1**
baz=48,SNR=8.2								
BBOO	**Buckleboo**	**47.53**	**242**	*e*P		**P**	**05 41 43.3**	**-0.9**
comp=Z,2μm,1.8s								
JAY	**Jayapura**	**47.87**	**284**	LR		LR	06 01 02.1	
comp=Z,209nm,19.0s,baz=292,slow=35								
WB2	**Warramunga Arr**	**49.42**	**259**	*e*P		**P**	**05 41 57.0**	**-2.0**
WRAB	**Tennant Creek**	**49.42**	**259**	P		**P**	**05 41 57.0**	**-2.0**
comp=Z,71nm,0.8s,SNR=13								
WRAB	**Tennant Creek**	**49.42**	**259**	⇓*i*P		**P**	**05 41 56.7**	**-2.3**
WRAB				pmax		pmax		
comp=Z,109nm,1.8s								
WRAB	**Tennant Creek**	**49.42**	**259**	*e*P		**P**	**05 41 57.6**	**-1.4**
comp=Z,58nm,1.6s								
WRA	**Warramunga Arr**	**49.43**	**259**	P		**P**	**05 41 57.4**	**-1.7**
comp=Z,5.0nm,0.6s,baz=97,slow=8.6,SNR=39								
WRA				S		**S**	**05 49 03.7**	**-0.7**
comp=Z,0.2nm,0.3s,baz=96,slow=33,SNR=5.1								
ASAR	**Alice Springs**	**49.44**	**254**	P		**P**	**05 41 58.3**	**-0.9**
comp=Z,17nm,0.8s,baz=90,slow=8.6,SNR=79								
ASAR				S		**S**	**05 49 03.4**	**-1.1**
comp=Z,2.1nm,0.9s,baz=95,slow=15,SNR=9.5								
ASAR				LR		LR	06 04 02.0	
comp=Z,319nm,18.2s,baz=90,slow=37								
FORT	**Forrest**	**54.28**	**245**	*e*P		**P**	**05 42 34.1**	**-1.1**
WRKA	**Warakurna**	**54.42**	**252**	⇓P		**P**	**05 42 34.9**	**-1.3**
baz=55,SNR=19								
KNRA	**Kununurra**	**55.39**	**263**	⇑P		**P**	**05 42 41.7**	**-1.6**
baz=56,SNR=5.8								
FITZ	**Fitzroy Crossi**	**57.85**	**260**	*e*P		**P**	**05 42 59.7**	**-1.1**
comp=Z,37nm,1.8s								
SBA	**Scott Base**	**60.23**	**185**	*e*P		**P**	**05 43 16.6**	**+0.3**
comp=Z,37nm,1.5s								
VNDA	**Vanda**	**60.36**	**186**	P		**P**	**05 43 16.8**	**-0.4**
comp=Z,5.8nm,1.1s,baz=5.7,slow=7.4,SNR=12								
VNDA				LR		LR	06 06 38.3	
comp=Z,98nm,19.2s,baz=24,slow=33								
VNDA	**Vanda**	**60.36**	**186**	*e*P		**P**	**05 43 18.0**	**+0.7**
comp=Z,21nm,1.6s								
SOEI	**Soe**	**61.05**	**269**	⇓P		**P**	**05 43 23.3**	**+0.2**
baz=62,SNR=3.6								
SOEI	**Soe**	**61.05**	**269**	*e*P		**P**	**05 43 24.6**	**+1.5**
comp=Z,58nm,1.0s								
JCJ	**Chichijima**	**62.66**	**315**	LR		LR	06 07 41.5	
comp=Z,539nm,19.3s,baz=105,slow=33								
MBWA	**Marble Bar**	**62.76**	**255**	*e*P		**P**	**05 43 33.0**	**-1.4**
comp=Z,35nm,1.4s								
CASY	**Casey**	**67.73**	**205**	*e*P		**P**	**05 44 06.2**	**+0.4**
comp=Z,15nm,1.0s								
MPSI	**Mapaga**	**68.29**	**278**	P		**P**	**05 44 11.6**	**+1.4**
IGBI	**Denpasar**	**69.96**	**267**	P		**P**	**05 44 20.7**	**+0.1**
JAGI	**Jajag, Banyuwa**	**71.00**	**267**	P		**P**	**05 44 26.3**	**-0.7**
JAGI	**Jajag, Banyuwa**	**71.00**	**267**	*e*P		**P**	**05 44 26.0**	**-1.0**
comp=Z,41nm,1.1s								
ABJI	**Asem Bagus**	**71.12**	**268**	P		**P**	**05 44 28.0**	**+0.4**
H06S1	**SOCORRO T**	**71.41**	**62**	T		T	07 01 39.7	
SNR=3.5								
MJAR	**Matsushiro Arr**	**71.43**	**320**	P		**P**	**05 44 29.0**	**-0.1**
MJAR	**Matsushiro Arr**	**71.43**	**320**	P		**P**	**05 44 28.9**	**-0.1**
comp=Z,2.8nm,0.6s,baz=150,slow=6.0,SNR=7.2								
MJAR				LR		LR	06 12 46.5	
comp=Z,173nm,20.1s,baz=105,slow=33								
QSPA	**South Pole Qui**	**71.59**	**180**	P		**P**	**05 44 29.3**	**-0.4**
comp=Z,8.7nm,1.0s,baz=55,slow=3.6,SNR=12								
BLJI	**Banyuglugur**	**71.74**	**268**	P		**P**	**05 44 32.1**	**+0.7**
comp=Z,39nm,1.0s,comp=Z,3μm								
BBKI	**Banjar Baru**	**71.84**	**272**	P		**P**	**05 44 33.8**	**+1.8**
comp=Z,56nm,1.4s								
PWJI	**Pagerwojo**	**73.36**	**267**	P		**P**	**05 44 41.6**	**+0.6**
comp=Z,35nm,1.4s								
NGJI	**Ngawi**	**73.87**	**267**	P		**P**	**05 44 46.7**	**+2.6**
comp=Z,55nm,1.1s								
PCJI	**Pacitan**	**73.90**	**267**	P		**P**	**05 44 45.5**	**+1.3**
comp=Z,113nm,1.2s								
ARVC	**Arvin**	**74.14**	**44**	P		**P**	**05 44 46.0**	**+0.9**
baz=74								
WOJI	**Wonogiri, Jawa**	**74.24**	**267**	P		**P**	**05 44 47.4**	**+1.2**
comp=Z,67nm,1.8s,comp=Z,3μm								
EDW2	**Edwards Air Fo**	**74.55**	**44**	P		**P**	**05 44 48.8**	**+1.2**
baz=75								
MIR	**Mirnyy**	**74.73**	**204**	⇓*i*P		P	05 44 51.5	+3.4
MIR				*i*			05 45 03.0	
MIR				pmax		pmax		
comp=Z,91nm,2.0s								
PET	**Petropavlovsk**	**75.26**	**343**	*e*P		P	05 44 56.9	+5.7
PET				pmax		pmax		
comp=Z,100nm,12.9s								
PET				MLR		MLR		
comp=Z,500nm,18.0s								
BELC	**Belle Mtn. Jos**	**75.39**	**46**	P		**P**	**05 44 53.4**	**+0.8**
baz=76								
MPMC	**Manual Prospec**	**75.58**	**44**	P		**P**	**05 44 52.8**	**-0.9**
baz=76								
PETK	**Petropavlovsk-**	**75.61**	**342**	P		**P**	**05 44 53.1**	**-0.1**
comp=Z,12nm,0.9s,baz=124,slow=7.9,SNR=11								
PETK				LR		LR	06 15 37.9	
comp=Z,168nm,19.7s,baz=178,slow=34								
WAKR	**Walker**	**75.80**	**41**	*e*P		**P**	**05 44 55.5**	**+0.6**
IRM	**Iron Mountain**	**76.06**	**46**	P		**P**	**05 44 56.1**	**-0.2**
baz=76								
YSS	**Yuzh-Sakhalins**	**76.25**	**331**	*e*P		**P**	**05 44 57.2**	**+0.2**
YSS				*e*S		**S**	**05 54 35.0**	**-4.1**
KPJI	**Karang Pucung**	**76.28**	**267**	P		**P**	**05 44 59.5**	**+1.5**
comp=Z,37nm,1.2s								
NVAR	**Mina Array Bea**	**76.46**	**41**	P		**P**	**05 44 57.8**	**-1.0**
comp=Z,3.2nm,0.9s,baz=227,slow=8.5,SNR=8.5								
214A	**Organ Pipe Nat**	**76.51**	**49**	P		**P**	**05 44 57.8**	**-1.1**
baz=77								
TPNV	**Topopah Spring**	**76.90**	**44**	*e*P		**P**	**05 45 00.9**	**-0.3**
TPNV				pmax		pmax		
comp=Z,10.0nm,1.1s								
TPNV	**Topopah Spring**	**76.90**	**44**	*e*P		**P**	**05 45 00.9**	**-0.3**
comp=Z,10.0nm,1.1s								
TPH	**Tonopah**	**76.93**	**42**	*e*P		**P**	**05 45 02.3**	**+1.0**
TPH				pmax		pmax		
comp=Z,19nm,1.1s								
TPH	**Tonopah**	**76.93**	**42**	*e*P		**P**	**05 45 02.3**	**+1.0**
comp=Z,20nm,1.1s								
JCJI	**Jatiwangi**	**77.16**	**267**	P		**P**	**05 45 03.8**	**+0.9**
comp=Z,188nm,0.4s								
CISI	**Cisompet, Garu**	**77.27**	**266**	P		**P**	**05 45 03.8**	**+0.2**
comp=Z,54nm,1.3s								
SHPR	**Sheep Range**	**77.37**	**44**	*e*P		**P**	**05 45 03.2**	**-0.6**
MOD	**Modoc Plateau**	**77.39**	**38**	*e*P		**P**	**05 45 04.3**	**+0.5**
comp=Z,17nm,1.1s								
Y14A	**Wickenburg**	**77.43**	**48**	P		**P**	**05 45 03.5**	**-0.6**
baz=78								
W13A	**Hualapai Mount**	**77.45**	**46**	P		**P**	**05 45 03.6**	**-0.7**
baz=78								
LEM	**Lembang**	**77.67**	**267**	P		**P**	**05 45 07.7**	**+1.7**
comp=Z,94nm,1.4s								
KSM	**Kuching**	**77.70**	**276**	*e*P		**P**	**05 45 07.1**	**+1.1**
comp=Z,118nm,0.6s								
R11A	**Troy Canyon, C**	**78.14**	**43**	P		**P**	**05 45 07.4**	**-0.7**
baz=78								
R11A	**Troy Canyon, C**	**78.14**	**43**	*e*P		**P**	**05 45 05.6**	**-2.5**
comp=Z,29nm,1.8s								
TUC	**Tucson**	**78.16**	**50**	*e*P		**P**	**05 45 09.4**	**+1.2**
TUC				pmax		pmax		
comp=Z,42nm,1.7s								
TUC	**Tucson**	**78.16**	**50**	*e*P		**P**	**05 45 09.4**	**+1.2**
comp=Z,42nm,1.7s								
BMN	**Battle Mountai**	**78.33**	**40**	*e*P		**P**	**05 45 08.5**	**-0.5**
BMN				pmax		pmax		
comp=Z,20nm,1.3s								
BMN	**Battle Mountai**	**78.33**	**40**	*e*P		**P**	**05 45 08.5**	**-0.5**
comp=Z,20nm,1.3s								
KSRS	**Korea Array**	**78.50**	**316**	P		**P**	**05 45 10.3**	**+0.4**
comp=Z,7.6nm,0.9s,baz=125,slow=5.7,SNR=15								
KSRS				LR		LR	06 16 58.7	
comp=Z,193nm,19.2s,baz=138,slow=33								
KSAR	**Wonju Array Be**	**78.52**	**316**	P		**P**	**05 45 10.3**	**+0.3**
KSAR	**Wonju Array Be**	**78.52**	**316**	P		**P**	**05 45 10.3**	**+0.3**
WVOR	**Wild Horse Val**	**78.69**	**38**	*e*P		**P**	**05 45 12.0**	**+1.0**
WVOR				pmax		pmax		
comp=Z,31nm,1.5s								
WVOR	**Wild Horse Val**	**78.69**	**38**	*e*P		**P**	**05 45 12.0**	**+1.0**
comp=Z,32nm,1.5s								
X16A	**Lo Mia Camp, P**	**78.78**	**48**	P		**P**	**05 45 11.2**	**-0.5**
baz=79								
TPI	**Tanjungpandan**	**78.88**	**271**	P		**P**	**05 45 13.6**	**+1.1**
comp=Z,34nm,1.3s,comp=Z,420nm								
CCUT	**Cedar City**	**79.14**	**44**	*e*P		**P**	**05 45 13.4**	**-0.3**
comp=Z,11nm,1.2s								
ARUT	**Antelope Range**	**79.22**	**44**	*e*P		**P**	**05 45 13.2**	**-0.8**
ARUT	**Antelope Range**	**79.22**	**44**	*e*P		**P**	**05 45 13.2**	**-0.8**
comp=Z,172nm,1.0s								
U15A	**North Rim**	**79.26**	**46**	P		**P**	**05 45 14.5**	**+0.1**
baz=79								
SBJI	**Serang**	**79.30**	**267**	P		**P**	**05 45 15.2**	**+0.4**
comp=Z,85nm,1.6s,comp=Z,13μm								
CGJI	**Cibinong**	**79.56**	**266**	P		**P**	**05 45 16.7**	**+0.5**
comp=Z,42nm,1.2s								
ELK	**Elko**	**79.73**	**41**	*e*P		**P**	**05 45 17.7**	**+0.8**
ELK				pmax		pmax		
comp=Z,7.0nm,1.0s								
ELK	**Elko**	**79.73**	**41**	*e*P		**P**	**05 45 17.7**	**+0.8**
comp=Z,6.9nm,1.0s								
USRK	**Ussuriysk Ar.**	**79.97**	**323**	P		**P**	**05 45 17.9**	**+0.3**
comp=Z,2.1nm,0.8s,baz=93,slow=4.2,SNR=7.0								
USRK				LR		LR	06 17 56.8	
comp=Z,369nm,19.1s,baz=131,slow=34								
G08A	**Pilot Rock**	**80.28**	**36**	*e*P		**P**	**05 45 19.9**	**+0.4**
comp=Z,15nm,1.1s								
121A	**Cookes Peak, D**	**80.47**	**51**	*e*P		**P**	**05 45 22.5**	**+1.5**
comp=Z,44nm,1.6s								
MFID	**Camas Ranch**	**80.93**	**38**	*e*P		**P**	**05 45 22.0**	**-1.1**
comp=Z,5.8nm,1.0s								
BMO	**Blue Mountains**	**80.94**	**37**	*e*P		**P**	**05 45 22.1**	**-1.0**
comp=Z,15nm,1.4s								
DUG	**Dugway, Tooele**	**80.95**	**42**	*e*P		**P**	**05 45 24.9**	**+1.6**
DUG				pmax		pmax		
comp=Z,13nm,1.3s								
DUG	**Dugway, Tooele**	**80.95**	**42**	*e*P		**P**	**05 45 24.9**	**+1.6**
comp=Z,13nm,1.3s								
KASI	**Kota Agung**	**81.02**	**267**	P		**P**	**05 45 24.6**	**+0.5**
comp=Z,61nm,1.1s,comp=Z,2μm								
HABR	**Khabarovsk**	**81.05**	**328**	*e*P		**P**	**05 45 22.9**	**-0.5**
HABR							05 45 28.3	
HABR				*e**PP		**pP**	**05 45 32.2**	**-1.7**
HABR				*e*			05 48 25.9	
HABR				*e*PPP		PPP	05 50 16.1	
HABR				S		**S**	**05 55 29.8**	**-0.5**
HABR				*e**SS		**sS**	**05 55 45.4**	**-2.4**
HABR				pmax		pmax		
comp=Z,49nm,1.7s								
HABR				MLR		MLR		
comp=Z,278nm,19.0s								
D08A	**Wollman Farm,**	**81.41**	**34**	*e*P		**P**	**05 45 26.4**	**+1.0

GDL2	Guadalupe Moun	82.88	53	eP		P	05 45 36.3	+2.7
KLR	Kul'dur	83.21	327	eP		P	05 45 30.7	-4.0
AHID	Auburn Hatcher	83.43	41	eP		P	05 45 37.6	+1.3
	comp=Z,16nm,1.2s							
U23A	El Rito	83.45	48	P		P	05 45 36.1	-0.5
	baz=84							
W24A	Lazy 6 Ranch,	83.49	50	P		P	05 45 36.3	-0.4
	baz=84							
MCMT	McKenzie Canyo	83.50	38	eP		P	05 45 36.0	-0.6
	comp=Z,5.0nm,1.0s							
SKAG	Skagway	83.57	18	eP		P	05 45 36.7	+0.4
	comp=Z,29nm,1.4s							
CN2	Changchun	83.58	320	eP		P	05 45 38.5	+1.8
KTH	Kantishna Hill	83.58	10	eP		P	05 45 36.8	+0.4
	comp=Z,49nm,2.0s							
TRF	Thorofare Moun	83.59	10	eP		P	05 45 35.5	-1.1
	comp=Z,23nm,1.1s							
529A	Stev Forest Ra	83.61	55	P		P	05 45 36.8	-0.5
	baz=84							
S22A	4UR Ranch, Cre	83.68	47	P		P	05 45 37.6	-0.2
	baz=84							
S22A	4UR Ranch, Cre	83.68	47	eP		P	05 45 37.6	-0.2
	comp=Z,18nm,1.0s							
TNA	Tin City	83.87	2	eP		P	05 45 38.3	+0.6
	comp=Z,20nm,1.2s							
REDW	Red Top Meadow	83.90	41	eP		P	05 45 39.7	+1.0
	comp=Z,24nm,1.4s							
TPAW	Teton Pass	83.91	40	eP		P	05 45 38.8	0.0
	comp=Z,13nm,1.1s							
FXWY	Fox Creek	83.94	40	eP		P	05 45 39.0	0.0
	comp=Z,16nm,1.3s							
DLMT	Dillon	83.94	38	eP		P	05 45 39.3	+0.5
	comp=Z,14nm,1.2s							
MSO	Missoula	84.00	36	P		P	05 45 38.2	-0.8
	baz=84							
MSO	Missoula	84.00	36	eP		P	05 45 38.4	-0.6
	comp=Z,13nm,1.4s							
PAX	Paxson	84.04	12	eP		P	05 45 38.0	-0.8
PAX				pmax		pmax		
	comp=Z,22nm,1.6s							
PAX	Paxson	84.04	12	eP		P	05 45 38.0	-0.8
	comp=Z,22nm,1.6s							
HYT	Haines Junctio	84.07	17	eP		P	05 45 39.0	0.0
429A	Davenport Ranc	84.08	55	P		P	05 45 38.6	-1.1
	baz=84							
MCK	McKinley	84.08	11	eP		P	05 45 38.2	-0.7
MCK				pmax		pmax		
	comp=Z,26nm,1.1s							
MCK	McKinley	84.08	11	eP		P	05 45 38.1	-0.7
	comp=Z,26nm,1.1s							
BSMT	Bassoo Peak	84.12	35	eP		P	05 45 39.7	0.0
IMW	Indian Meadow	84.14	40	eP		P	05 45 41.1	+1.1
	comp=Z,18nm,1.1s							
W25A	X Bar L Ranch,	84.18	50	P		P	05 45 39.4	-0.8
	baz=84							
LOHW	Long Hollow	84.19	40	eP		P	05 45 41.1	+0.9
	comp=Z,12nm,1.3s							
N20A	Spence Gulch,	84.24	44	P		P	05 45 39.4	-1.1
	baz=84							
QIZ	Qiongzhong	84.26	292	P		P	05 45 41.0	+0.2
QIZ				S		S	05 56 04.5	+0.1
QIZ				LZ				
	comp=Z,100nm,31.0s							
SMCO	Snowmass	84.28	46	eP		P	05 45 40.6	-0.3
	comp=Z,15nm,1.0s							
530A	J-C Ranch, Com	84.31	56	P		P	05 45 41.6	+0.7
	baz=84							
QLMT	Earthquake Lak	84.34	39	eP		P	05 45 41.0	+0.1
V25A	Rancho No Teng	84.35	49	P		P	05 45 40.6	-0.5
	baz=84							
FLWY	Flagg Ranch	84.38	40	eP		P	05 45 41.3	+0.1
	comp=Z,21nm,1.1s							
BW06	Boulder Array	84.40	42	eP		P	05 45 39.4	-1.9
	comp=Z,8.4nm,1.0s							
PDAR	Pinedale Array	84.40	42	P		P	05 45 39.8	-1.5
	comp=Z,1.8nm,0.8s,baz=219,slow=3.3,SNR=14							
PDAR				LR		LR	06 18 48.2	
	comp=Z,385nm,18.9s,baz=250,slow=32							
DLBC	Dease Lake	84.47	21	eP		P	05 45 40.4	-0.7
SDCO	Great Sand Dun	84.61	47	P		P	05 45 40.4	-2.1
	baz=85							
SDCO	Great Sand Dun	84.61	47	eP		P	05 45 41.9	-0.7
	comp=Z,30nm,1.9s							
631A	Perdido Creek	84.61	57	P		P	05 45 41.5	-0.8
	baz=85							
H17A	Grant Village	84.62	40	P		P	05 45 41.9	-0.5
	baz=85							
H17A	Grant Village	84.62	40	eP		P	05 45 44.6	+2.2
	comp=Z,10nm,1.3s							
832A	Faith Ranch, C	84.63	58	P		P	05 45 41.2	-1.3
	baz=85							
430A	Baggett Ranch,	84.66	55	P		P	05 45 41.1	-1.6
	baz=85							
BOZ	Bozeman (W)	84.67	38	eP		P	05 45 42.0	-0.5
BOZ				pmax		pmax		
	comp=Z,18nm,1.3s							
BOZ	Bozeman (W)	84.67	38	eP		P	05 45 42.0	-0.5
	comp=Z,18nm,1.3s							
Z28A	Tucker Farm, M	84.85	53	P		P	05 45 43.3	-0.3
	baz=85							
MSTX	Muleshoe	84.86	52	eP		P	05 45 43.4	-0.3
	comp=Z,74nm,1.6s							
933A	Laredo	84.92	59	P		P	05 45 43.5	-0.4
	baz=85							
DOT	Dot Lake	84.94	13	eP		P	05 45 42.9	-0.3
	comp=Z,16nm,1.2s							
531A	Rocksprings	84.94	56	P		P	05 45 44.3	+0.2
	baz=85							
129A	Stewart Farms,	84.96	53	P		P	05 45 44.4	+0.3
	baz=85							
MAW	Mawson	84.97	199	LR		LR	06 23 22.3	
	comp=Z,324nm,18.2s,baz=66,slow=35							
J19A	Crowheart	84.97	41	P		P	05 45 42.8	-1.2
	baz=85							
O22A	Kremmling	85.05	45	P		P	05 45 43.9	-0.8
	baz=85							
T25A	Trinidad	85.09	48	P		P	05 45 45.4	+0.5
	baz=85							
833A	Chaparral WMA,	85.11	58	P		P	05 45 45.6	+0.7
	baz=85							
HRY	Holter Researc	85.14	37	eP		P	05 45 43.3	-1.5
U26A	Atchley Ranch,	85.23	49	P		P	05 45 46.3	+0.7
	baz=85							
632A	Uvalde	85.28	57	P		P	05 45 45.2	-0.5
	baz=85							
S25A	Robets Cordova	85.31	48	P		P	05 45 45.2	-0.8
	baz=85							
COLA	College	85.32	11	eP		P	05 45 42.5	-2.5
COLA				pmax		pmax		
	comp=Z,187nm,2.2s							
COLA	College	85.32	11	eP		P	05 45 42.5	-2.5
	comp=Z,187nm,2.2s							
ILAR	Eielson Array	85.40	11	P		P	05 45 44.2	-1.3
	comp=Z,3.6nm,0.9s,baz=226,slow=6.2,SNR=38							
N22A	Wattenberg Ran	85.42	44	P		P	05 45 45.7	-0.8
	baz=86							
Q24A	Divide	85.42	46	eP		P	05 45 48.1	+1.5
	comp=Z,25nm,1.4s							
532A	Rocksprings	85.44	56	P		P	05 45 45.9	-0.6
	baz=86							
IM04	Indian Mountai	85.45	8	eP		P	05 45 45.4	-0.3
331A	San Angelo	85.51	55	P		P	05 45 47.1	+0.2
	baz=86							
V27A	Dan Oppiter Fa	85.60	50	P		P	05 45 47.0	-0.3
	baz=86							
834A	Tilden	85.71	59	P		P	05 45 49.3	+1.4
	baz=86							
H19A	Powell	85.74	40	P		P	05 45 46.3	-1.5
	baz=86							
633A	Saathoff Ranch	85.74	57	P		P	05 45 47.4	-0.6
	baz=86							
K21A	Alcova	85.79	42	P		P	05 45 47.6	-0.6
	baz=86							
Z30A	Sanderson Ranc	85.80	53	P		P	05 45 46.9	-1.4
	baz=86							
432A	Menard	85.83	56	P		P	05 45 48.1	-0.4
	baz=86							
AMTX	Amarillo	86.07	51	eP		P	05 45 49.7	0.0
	comp=Z,28nm,1.1s							
332A	Millersview	86.08	55	P		P	05 45 48.8	-0.9
	baz=86							
533A	Kerrville	86.10	57	P		P	05 45 49.3	-0.6
	baz=86							
DAWY	Dawson	86.33	14	eP		P	05 45 49.8	-0.3
433A	Art	86.33	56	P		P	05 45 50.4	-0.5
	baz=86							
232A	Coleman	86.36	55	P		P	05 45 50.5	-0.6
	baz=86							
534A	Blanco	86.53	57	P		P	05 45 50.6	-1.3
	baz=87							
EGAK	Eagle	86.54	13	eP		P	05 45 50.9	-0.2
	comp=Z,33nm,1.5s							
Z31A	Sharp Cattle R	86.56	53	P		P	05 45 51.3	-0.8
	baz=87							
333A	Richland Sprin	86.64	56	P		P	05 45 52.5	0.0
	baz=87							
ABTX	Abilene, Hawle	86.66	54	P		P	05 45 52.1	-0.4
	baz=87							
ABTX	Abilene, Hawle	86.66	54	eP		P	05 45 51.9	-0.6
233A	Rising Star	86.99	55	P		P	05 45 53.7	-0.4
	baz=87							
434A	Burnet	87.00	56	P		P	05 45 53.6	-0.6
	baz=87							
Z32A	Haskell	87.07	54	P		P	05 45 53.9	-0.6
	baz=87							
COLD	Coldfoot	87.13	9	eP		P	05 45 55.5	+1.5
	comp=Z,8.9nm,1.2s							
334A	Lometa	87.23	56	P		P	05 45 54.4	-0.9
	baz=87							
PLCA	Paso Flores	87.29	132	P		P	05 45 55.1	-0.6
	comp=Z,18nm,1.1s,baz=257,slow=5.0,SNR=12							
PLCA				LR		LR	06 18 10.7	
	comp=Z,168nm,18.3s,baz=256,slow=31							
PLCA	Paso Flores	87.29	132	eP		P	05 45 55.8	+0.1
	comp=Z,33nm,1.3s							
Y32A	R-V Farms, Ver	87.38	53	P		P	05 45 55.2	-0.7
	baz=88							
W31A	Holland Ranch,	87.49	52	P		P	05 45 56.8	+0.3
	baz=88							
BILL	Bilibino	87.57	352	c iP		P	05 45 55.3	-0.7
BILL				e			05 49 17.5	
BILL				i S		S	05 56 32.9	-1.8
BILL				pmax		pmax		
	comp=Z,21nm,1.5s							
BILL				MLR		MLR		
	comp=Z,648nm,20.0s							
BILL	Bilibino	87.57	352	eP		P	05 45 55.9	-0.1
	comp=Z,32nm,1.4s							
234A	Clairette	87.58	55	P		P	05 45 56.2	-0.7
	baz=88							
Z33A	Whitaker Ranch	87.61	54	P		P	05 45 56.1	-1.0
	baz=88							
X32A	Elmer	87.67	53	P		P	05 45 56.8	-0.5
	baz=88							
BJI	Beijing	87.74	314	P		P	05 45 59.3	+1.8
BJI				S		S	05 56 30.8	-6.7
BJI				PMZ				
	comp=Z,20nm,1.3s							
BJI				PMZ				
	comp=Z,310nm,4.3s							
BJI				LN				
	comp=Z,220nm,18.0s							
BJI				LE				
	comp=Z,280nm,20.9s							
BJI				LZ				
	comp=Z,140nm,18.4s							
WHTX	Lake Whitney,	88.11	55	eP		P	05 45 59.1	-0.4
	comp=Z,5.5nm,0.7s							
WMOK	Wichita Mounta	88.18	53	eP		P	05 45 58.6	-1.2
WMOK				pmax		pmax		
	comp=Z,18nm,1.6s							
WMOK	Wichita Mounta	88.18	53	eP		P	05 45 58.6	-1.2
	comp=Z,18nm,1.6s							
HKT	Hockley	88.61	58	eP		P	05 46 03.1	+1.3
HKT				pmax		pmax		
	comp=Z,51nm,1.8s							
HKT	Hockley	88.61	58	eP		P	05 46 03.1	+1.3
	comp=Z,51nm,1.8s							
SYO	Syowa Base	89.65	191	‖eP		P	05 46 03.4	-2.6
GYA	Guiyang	89.68	298	⇑i P		P	05 46 09.8	+2.7
GYA				pP		pP	05 46 18.0	+0.2
GYA				sP		sP	05 46 22.5	+0.8
GYA				PP		PP	05 49 41.5	+1.9
GYA				SKS		SKSac	05 56 33.8	-1.8
GYA				S		S	05 56 53.3	-3.4
GYA				sS		sS	05 57 12.0	-2.4
GYA				SS		SS	06 02 53.5	-0.6
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,140nm,5.2s							
GYA				LN				
	comp=Z,570nm,19.0s							
GYA				LE				
	comp=Z,510nm,20.3s							
GYA				LZ				
	comp=Z,580nm,19.4s							
XAN	Xi'an	90.60	306	P		P	05 46 13.0	+1.8
XAN				sP		sP	05 46 28.0	+2.3
XAN				PMZ				
	comp=Z,3.0nm,1.4s							
CLNS	Chul'man	91.02	331	eP		P	05 46 13.2	+0.7
CLNS				e			05 46 20.5	
CLNS				e			05 49 51.7	
CLNS				ePPP		PPP	05 51 48.4	
CLNS				eS		SKSac	05 56 33.8	-8.0
CLNS				pmax		pmax		
	comp=Z,3.0nm,1.1s							
CLNS				pmax		pmax		
	comp=E,9.0nm,1.0s							
CLNS				pmax		pmax		
	comp=N,6.0nm,1.1s							
CLNS				pmax		pmax		
	comp=N,2.0nm,0.7s							
CLNS				pmax		pmax		
	comp=E,5.0nm,1.0s							
CLNS				pmax		pmax		
	comp=Z,2.0nm,0.7s							
CLNS				smax		smax		
	comp=N,109nm,11.5s							
CLNS				smax		smax		
	comp=E,452nm,16.7s							
INK	Inuvik	91.18	14	eP		P	05 46 11.8	-1.2
INK				pmax		pmax		
	comp=Z,13nm,1.3s							
INK	Inuvik	91.18	14	eP		P	05 46 11.8	-1.2
	comp=Z,13nm,1.3s							
HHC	Hu-ho-hao-te	91.27	313	eP		P	05 46 14.5	+0.3
HHC				pP		pP	05 46 25.3	+0.4
HHC				sP		sP	05 46 29.5	+0.7
HHC				SKS		SKSac	05 56 42.5	-1.7
HHC				S		S	05 57 08.0	-2.7
HHC				sS		sS	05 57 27.3	-1.2
HHC				PMZ				
	comp=Z,22nm,0.6s							
HHC				PMZ				
	comp=Z,600nm,5.9s							
HHC				LN				
	comp=Z,280nm,17.8s							
HHC				LE				
	comp=Z,420nm,16.5s							
HHC				LZ				
	comp=Z,160nm,17.3s							
PBKT	Sadao Pong	91.36	287	P		P	05 46 19.0	+4.0
	comp=Z,24nm,0.8s,comp=Z,36µm							
JTS	JuntasAbangare	91.53	80	eP		P	05 46 16.7	+0.8
JTS				pmax		pmax		
	comp=Z,55nm,1.3s							
JTS	JuntasAbangare	91.53	80	eP		P	05 46 16.6	+0.8
	comp=Z,55nm,1.3s							
LCO	Las Campanas	91.57	121	eP		P	05 46 16.4	+0.2
	comp=Z,33nm,1.2s							
UTTA	Uttaradit	92.11	288	P		P	05 46 25.5	+7.1
	comp=Z,2.2nm,1.1s							
NANT	Nan	92.31	289	P		P	05 46 23.1	+3.7
	comp=Z,22nm,1.2s							
KMI	Kunming	92.55	296	P		P	05 46 23.5	+2.9
KMI				pP		pP	05 46 32.3	+0.9
KMI				sP		sP	05 46 36.3	+1.1
KMI				S		ScS	05 57 24.5	-0.7
KMI				sS		sS	05 57 39.5	-1.4
KMI				PMZ				
	comp=Z,13nm,1.2s							
KMI				PMZ				
	comp=Z,240nm,5.4s							
KMI				LN				
	comp=Z,250nm,17.6s							
KMI				LE				
	comp=Z,290nm,16.4s							
KMI				LZ				
	comp=Z,150nm,26.2s							
YKA	Yellowknife Ar	92.81	23	P		P	05 46 19.4	-1.3
	comp=Z,1.4nm,1.0s,baz=239,slow=4.3,SNR=9.4							
CRAI	Chiangrai	93.05	290	P		P	05 46 23.5	+0.7
	comp=Z,16nm,1.3s							
UMPA	Umpang Tak	93.16	286	P		P	05 46 23.5	+0.1
	comp=Z,18nm,0.5s,comp=Z,1µm							
ECSD	EROS Data Cent	93.26	45	eP		P	05 46 23.0	-0.2
	comp=Z,11nm,1.1s							
CD2	Chengdu	93.59	301	eP		P	05 46 25.5	+0.4
CD2				sP		sP	05 46 38.0	-1.7
CD2				PP		PP	05 50 12.5	+2.1
CD2				SKS		SKSac	05 56 55.0	-2.5
CD2				S		S	05 57 27.3	-4.5
CD2				sS		sS	05 57 46.3	-3.3
CD2				SS		SS	06 03 50.3	0.0
CD2				PMZ				
	comp=Z,190nm,7.1s							
CD2				LE				
	comp=Z,340nm,15.5s							
CD2				LZ				
	comp=Z,300nm,16.6s							
CMAR	Chiang Mai Arr	93.78	288	P		P	05 46 29.1	+2.9
	comp=Z,2.4nm,0.3s,baz=103,slow=2.8,SNR=9.2							
CMAR				LR		LR	06 27 48.5	
	comp=Z,92nm,19.4s,baz=82,slow=35							
CMMT	Chiang Mai	93.89	288	P		P	05 46 30.3	+3.6
	comp=Z,12nm,1.7s							
CHTO	Chiang Mai	93.89	288	P		P	05 46 30.3	+3.6
	comp=Z,39nm,2.0s							
CMAI	Chiengmai2	94.15	290	P		P	05 46 31.8	+3.8
LZH	Lanzhou	95.22	306	eP		P	05 46 34.0	+1.4
LZH				pP		pP	05 46 43.8	+0.5
LZH				sP		sP	05 46 49.3	+2.2
LZH				PP		PP	05 50 27.8	+4.7
LZH				SKS		SKSac	05 57 09.5	+3.2
LZH				eS		S	05 57 42.5	-3.5
LZH				sS		sS	05 58 02.0	-1.8
LZH				SS		SS	06 04 12.0	-1.4
LZH				PMZ				
	comp=Z,14nm,1.0s							
LZH				PMZ				
	comp=Z,85nm,5.4s							
LZH				LN				
	comp=Z,1µm,16.8s							
LZH				LE				
	comp=Z,1µm,15.6s							
LZH				LZ				
	comp=Z,1µm,17.8s							
ULM	Lac du Bonnet	96.16	39	LR		LR	06 26 33.5	
	comp=Z,793nm,18.3s,baz=286,slow=33							
ULN	Ulaanbaatar	96.86	318	eP		P	05 46 38.9	-0.9
ULN				pmax		pmax		
	comp=Z,2.0nm,1.0s							
SONM	Songino Array	97.27	318	LR		LR	06 29 07.5	
	comp=Z,111nm,18.2s,baz=106,slow=34							
TIXI	Tiksi	98.00	344	eP		P	05 46 43.9	-0.2
TIXI				pmax		pmax		
	comp=Z,6.0nm,2.0s							
LPAZ	La Paz	98.55	110	LR		LR	06 21 06.7	
	comp=Z,209nm,21.5s,baz=264,slow=29							
GTA	Gaotai	99.26	308	eP		Pdif	05 46 52.3	+1.6
GTA				pP		pP	05 47 03.0	+1.5
GTA				sP		sP	05 47 06.8	+1.5
GTA				PMZ				
	comp=Z,3.0nm,1.1s							
ROSC	El Rosal	99.89	88	LR		LR	06 24 24.4	
	comp=Z,48nm,18.9s,baz=225,slow=31							
MKAR	Makanchi Array	113.12	314	PKiKP		PKiKP	05 51 46.0	+0.1
	comp=Z,0.4nm,0.6s,baz=218,slow=1.3,SNR=5.3							
KURK	Kurchatov	115.58	318	ePKIKP		PKPdf	05 51 49.9	-0.5
KURK	Kurchatov	115.58	318	ePKPdf		PKPdf	05 51 49.9	-0.5
KSH	Kashi	117.45	305	ePKP		PKPdf	05 51 55.0	+0.4
KSH				sPKP			05 52 08.5	
KSH				PP		PP	05 53 08.3	+1.5
KSH				PKS		PKSdf	05 55 31.8	+0.4
KSH				SKS		SKSdf	05 59 04.8	+0.4
KSH				SKKS		SKKSac	06 00 04.8	-0.2
KSH				SS		SS	06 09 20.0	+4.1
KSH				PPMZ				
	comp=Z,130nm,5.7s							
KSH				LN				
	comp=Z,68nm,4.8s							
KSH				LE				
	comp=Z,57nm,5.2s							
KSH				LZ				
	comp=Z,180nm,6.3s							
ARU	Arti	126.05	327	i PKIKP		PKPdf	05 52 10.7	+0.3
ARU							05 54 01.7	
ARU							05 59 11.4	
ARU				SS		SS	06 10 57.2	-6.7
ARU				MLR		MLR		
	comp=Z,203nm,19.0s							
KLMR	Klimovskoe	131.73	339	ePKIKP		PKPdf	05 52 21.6	+0.6
KLMR				pmax		pmax		
	comp=Z,23nm,1.6s							
OBN	Obninsk	136.99	335	⇑i PKIKP		PKPdf	05 52 32.0	+1.0
OBN				e			05 55 15.6	
OBN				pmax		pmax		
	comp=Z,10.0nm,0.5s							
SOC	Sochi	142.71	319	ePKHKP		PKPpre	05 52 37.6	
SOC				eSS		SS	06 14 17.6	-7.3
AKASG	Malin Array Be	143.24	336	PKP		PKPbc	05 52 40.3	+0.8
	comp=Z,1.9nm,0.9s,baz=31,slow=2.7,SNR=5.7							
RAYN	Ar Rayn	143.63	285	ePKPdf		PKPbc	05 52 42.7	+1.0
KMBO	Kilima Mbogo	144.31	240	ePKHKP		PKPdf	05 52 45.4	-0.5
KMBO	Kilima Mbogo	144.31	240	PKPbc		PKPdf	05 52 46.0	+0.1
	comp=Z,7.9nm,0.9s,baz=80,slow=3.3,SNR=25							
KMBO	Kilima Mbogo	144.31	240	ePKPdf		PKPdf	05 52 45.4	-0.5
KMBO				PKPbc		PKPbc	05 52 46.0	+1.7
KBSD	Kabsdagh	145.17	309	eP		PKPbc	05 52 40.8	-5.2
SFNV	Sufian	145.71	308	eP		PKPab	05 52 50.0	+1.8
LVV	L'vov	145.81	340	ePKIKP		PKPab	05 52 48.1	+0.1
MALT	Malatya	146.14	312	‖PKIKP		PKPab	05 52 51.7	+1.9
MALT	Malatya	146.14	312	‖i P		PKPab	05 52 51.7	+1.9
KIS	Kishinev	146.31	332	ePKIKP		PKPbc	05 52 49.0	-0.2
KIS				e			05 53 04.0	
KIS				pmax		pmax		
	comp=Z,180nm,1.6s							
KIS	Kishinev	146.31	332	ePKP		PKPbc	05 52 49.0	-0.2
	comp=Z,200nm,1.6s							
KIS				eL		L	07 00 28.0	
KIS				LRM		MLR	07 08 24.0	
	comp=Z,300nm,18.0s							
KWP	Kalwaria Pacla	146.40	341	ePKIKP		PKPab	05 52 50.3	+0.1
KWP	Kalwaria Pacla	146.40	341	ePKP		PKPab	05 52 50.3	+0.1
KWP	Kalwaria Pacla	146.40	341	ePKPbc		PKPab	05 52 50.3	+0.1
KSP	Ksiaz	146.84	349	ePKP2		PKPbc	05 52 50.8	+0.2
KSP	Ksiaz	146.84	349	ePKP		PKPbc	05 52 50.9	+0.3
CLL	Collm	146.87	353	⇑i PKP2		PKPbc	05 52 50.7	0.0
CLL				pmax		pmax		
	comp=Z,113nm,1.7s							
CLL				MLR		MLR		
	comp=Z,200nm,19.9s							
CLL	Collm	146.87	353	⇑i PKPbc		PKPbc	05 52 50.7	0.0
	comp=Z,113nm,1.7s							
CLL				i pPKiKP		PKiKP	05 52 56.5	+3.2
CLL				i			05 53 05.6	
CLL				i			05 53 27.7	
CLL				LmV			07 02 00.0	
	comp=N,100nm,19.5s							
CLL				LmV			07 02 00.0	
	comp=E,100nm,18.4s							
CLL				LmV			07 02 00.0	
	comp=Z,200nm,19.9s							
CLL				LmH			07 03 00.0	
	comp=N,100nm,18.5s							
CLL				LmH			07 03 00.0	
	comp=E,200nm,19.4s							
STHS	Stebnicka Huta	147.02	343	ePKIKP		PKPab	05 52 52.8	+0.1
STHS	Stebnicka Huta	147.02	343	ePKP		PKPab	05 52 52.8	+0.1
KOLS	Kolonicke sedl	147.15	341	ePKP2		PKPab	05 52 53.4	+0.2
KOLS	Kolonicke sedl	147.15	341	ePKP		PKPab	05 52 53.4	+0.2
BRG	Berggiesshubel	147.18	352	ePKP		PKPbc	05 52 51.8	+0.3
	comp=E,20nm,1.5s							
BRG				i			05 52 53.7	
	comp=E,28nm,1.2s							
BRG	Berggiesshubel	147.18	352	ePKIKP		PKPbc	05 52 51.8	+0.3
BRG				i			05 52 53.7	
BRG				pmax		pmax		
	comp=Z,20nm,1.5s							
BRG				pmax		pmax		
	comp=Z,28nm,1.2s							
UPC	Upice	147.21	349

DPC	**Dobruska-Polom**	**147.30**	**349**	*e*PKP	**PKPab**	**05 52 53.0**	**-0.8**
UZH	**Uzhgorod**	**147.41**	**341**	⇓*i*PKIKP	**PKPbc**	**05 52 52.7**	**+0.5**
UZH				*i*		05 52 56.1	
OKC	**Ostrava-Krasne**	**147.42**	**346**	*e*PKP2	**PKPab**	**05 52 53.8**	**-0.4**
OKC	**Ostrava-Krasne**	**147.42**	**346**	*e*PKP	**PKPab**	**05 52 53.8**	**-0.4**
PVCC	**Panska Ves**	**147.43**	**351**	*e*PKIKP	**PKPbc**	**05 52 52.6**	**+0.4**
PVCC	**Panska Ves**	**147.43**	**351**	*e*PKP	**PKPbc**	**05 52 52.6**	**+0.4**
MORC	**Moravsky Berou**	**147.60**	**347**	*e*PKIKP	**PKPbc**	**05 52 53.1**	**+0.3**
MORC	**Moravsky Berou**	**147.60**	**347**	⇓*i*P	**PKPab**	**05 52 55.9**	**+0.9**
MORC	**Moravsky Berou**	**147.60**	**347**	*e*PKPbc	**PKPbc**	**05 52 53.1**	**+0.3**
TESR	**Tescani**	**147.61**	**334**	⇓*i*P	**PKPab**	**05 52 53.8**	**+0.9**
UCC	**Uccle**	**147.69**	**3**	PKPab	**PKPab**	**05 52 55.1**	**-0.1**
TRPA	**Tarpa**	**147.77**	**340**	⇓*i*P	**PKPab**	**05 52 54.6**	**-1.0**
TRPA	**Tarpa**	**147.77**	**340**	*e*	**PKPab**	**05 52 54.7**	**-0.9**
PRA	**Prague**	**147.89**	**351**	*e*PKP2	**PKPbc**	**05 52 54.7**	**+1.2**
PRA	**Prague**	**147.89**	**351**	*e*PKP	**PKPbc**	**05 52 54.7**	**+1.2**
MEM	**Membach**	**147.93**	**1**	PKPbc	**PKPbc**	**05 52 53.9**	**+0.3**
PRU	**Pruhonice**	**147.96**	**351**	*e*PKP2	**PKPbc**	**05 52 54.7**	**+1.0**
PRU				MLR	MLR		
	comp=Z,300nm,19.3s						
PRU	**Pruhonice**	**147.96**	**351**	*e*PKP	**PKPbc**	**05 52 54.7**	**+1.0**
PRU				*e*pPKP	**pPKPdf**	**05 53 00.7**	**-1.0**
PRU				AMS	AMS	07 04 50.0	
	comp=Z,300nm,19.3s						
CFR	**Carcaliu**	**148.00**	**331**	⇓PKP2	**PKPab**	**05 52 56.8**	**+0.2**
CFR	**Carcaliu**	**148.00**	**331**	⇓*i*P	**PKPab**	**05 52 56.8**	**+0.2**
PLOR	**Plostina**	**148.14**	**333**	⇑PKP2	**PKPbc**	**05 52 55.6**	**+1.2**
PLOR	**Plostina**	**148.14**	**333**	⇑*i*P	**PKPbc**	**05 52 55.6**	**+1.2**
VRAC	**Vranov**	**148.25**	**348**	⇑PKP2	**PKPab**	**05 52 56.3**	**-1.2**
VRAC	**Vranov**	**148.25**	**348**	⇑*i*P	**PKPab**	**05 52 56.3**	**-1.2**
DOU	**Dourbes**	**148.40**	**3**	PKPbc	**PKPbc**	**05 52 55.6**	**+0.7**
TREC	**Trest**	**148.47**	**349**	*e*PKP2	**PKPbc**	**05 52 56.0**	**+0.9**
TREC				MLR	MLR		
	comp=Z,5μm,23.1s						
TREC	**Trest**	**148.47**	**349**	*e*PKP	**PKPbc**	**05 52 56.0**	**+0.9**
TLB	**Topalu**	**148.49**	**330**	⇑PKP2	**PKPbc**	**05 52 56.5**	**+1.2**
TLB	**Topalu**	**148.49**	**330**	⇑*i*P	**PKPbc**	**05 52 56.5**	**+1.2**
VYHS	**Vyhne**	**148.51**	**345**	*e*PKP2	**PKPbc**	**05 52 56.0**	**+0.8**
VYHS	**Vyhne**	**148.51**	**345**	*e*PKP	**PKPbc**	**05 52 56.0**	**+0.8**
DOPR	**Dopca**	**148.57**	**335**	⇓*i*P	**PKPbc**	**05 52 56.2**	**+0.7**
BRTR	**Keskin Array B**	**148.63**	**318**	PKPbc	**PKPbc**	**05 52 56.4**	**+0.4**
	comp=Z,7.1nm,1.0s,baz=112,slow=1.3,SNR=19						
GRF	**Grafenberg Arr**	**148.66**	**355**	*e*PKP	**PKPbc**	**05 52 56.1**	**+0.5**
ROOS	**tl_alroos**	**148.70**	**306**	*e*P	**PKPbc**	**05 52 58.0**	**+1.7**
MLR	**Muntele Rosu**	**148.72**	**334**	⇓PKIKP	**PKPbc**	**05 52 56.9**	**+0.9**
MLR	**Muntele Rosu**	**148.72**	**334**	⇓*i*P	**PKPbc**	**05 52 56.9**	**+0.9**
PSZ	**Piszkesteto**	**148.75**	**343**	*e*PKP2	**PKPbc**	**05 52 56.9**	**+1.0**
PSZ	**Piszkesteto**	**148.75**	**343**	⇓*i*P	**PKPbc**	**05 52 57.0**	**+1.0**
PSZ	**Piszkesteto**	**148.75**	**343**	*e*	**PKPbc**	**05 52 57.0**	**+1.0**
PSZ	**Piszkesteto**	**148.75**	**343**	*e*PKPbc	**PKPbc**	**05 52 56.9**	**+1.0**
WRDH	**Warideh**	**148.82**	**309**	*e*P	**PKPbc**	**05 52 57.3**	**+0.8**
WLF	**Walferdange**	**148.88**	**1**	PKPab	**PKPab**	**05 52 58.8**	**-1.2**
WLF	**Walferdange**	**148.88**	**1**	*e*PKP2	**PKPbc**	**05 52 57.6**	**+1.5**
WLF	**Walferdange**	**148.88**	**1**	*e*PKPbc	**PKPbc**	**05 52 57.6**	**+1.5**
DRGR		**148.88**	**339**	⇓PKP2	**PKPbc**	**05 52 57.2**	**+0.9**
DRGR		**148.88**	**339**	⇓*i*P	**PKPbc**	**05 52 57.2**	**+0.9**
KHC	**Kasperske Hory**	**148.93**	**351**	*e*PKIKP	**PKPbc**	**05 52 56.7**	**+0.4**
KHC				*e*		05 53 04.2	
KHC	**Kasperske Hory**	**148.93**	**351**	*e*PKP	**PKPbc**	**05 52 56.7**	**+0.4**
KHC				*e*pPKP	**pPKPdf**	**05 53 04.2**	**+0.8**
KHC				*ex*	x	05 53 28.0	
KHC	**Kasperske Hory**	**148.93**	**351**	*e*PKPdf	**PKPdf**	**05 52 53.1**	**+0.8**
KHC				*e*PKPbc	**PKiKP**	**05 52 57.4**	**-0.3**
ARNB	**Al Arnab**	**148.99**	**310**	*e*P	**PKPbc**	**05 52 57.8**	**+0.8**
ANTO	**Ankara**	**149.08**	**319**	*e*PKHKP	**PKPdf**	**05 52 54.0**	**+1.1**
ANTO				*e*		05 52 58.6	
ANTO	**Ankara**	**149.08**	**319**	*e*PKPdf	**PKPdf**	**05 52 54.0**	**+1.1**
ANTO				*e*PKPbc	**PKiKP**	**05 52 58.6**	**+0.3**
BIDA	**Albida**	**149.10**	**308**	*e*P	**PKPbc**	**05 52 57.9**	**+0.6**
ZALF	**Zalf**	**149.11**	**304**	*e*P	**PKPdf**	**05 52 52.7**	**-0.5**
GERES	**GERESS Array B**	**149.19**	**351**	PKPbc	**PKPbc**	**05 52 57.2**	**+0.1**
	comp=Z,3.6nm,0.9s,baz=42,slow=2.2,SNR=12						
HAWK	**Haweek**	**149.24**	**307**	*e*P	**PKPbc**	**05 52 58.5**	**+0.9**
ARR	**Arges**	**149.36**	**335**	⇓*i*P	**PKPbc**	**05 52 59.5**	**+1.9**
PKSG		**149.64**	**344**	*e*	**PKPbc**	**05 52 58.6**	**+0.5**
SALA	**Sala**	**149.66**	**304**	*e*P	**PKPbc**	**05 52 59.7**	**+0.8**
PKSN	**Nyarlorinc**	**149.69**	**342**	*e*	**PKPbc**	**05 52 59.6**	**+1.4**
CONA	**Conrad Observa**	**149.71**	**348**	⇑*i*PKiKP	**PKPbc**	**05 52 58.6**	**+0.2**
	comp=Z,51nm,1.5s,SNR=15						
PKS7	**Kunszentmiklos**	**149.75**	**343**	*e*	**PKPbc**	**05 52 59.0**	**+0.7**
SOP	**Sopron**	**149.80**	**347**	*e*	**PKPdf**	**05 52 54.8**	**+1.1**
PKST	**T"'s**	**149.85**	**345**	*e*	**PKPbc**	**05 52 57.7**	**-0.9**
PKS6	**Bocsa**	**150.05**	**342**	*e*	**PKPbc**	**05 53 01.6**	**+2.5**
GZR	**Gura Zlata**	**150.06**	**337**	⇓PKHKP	**PKPbc**	**05 52 59.9**	**+0.6**
GZR	**Gura Zlata**	**150.06**	**337**	⇓*i*P	**PKPbc**	**05 52 59.9**	**+0.6**
MOA	**Molln**	**150.08**	**350**	⇑*i*PKiKP	**PKiKP**	**05 53 00.6**	**+0.6**
	comp=Z,18nm,1.4s						
BFO	**Black Forest**	**150.19**	**358**	*e*PKIKP	**PKPbc**	**05 52 58.7**	**-0.7**
BFO	**Black Forest**	**150.19**	**358**	*e*PKPbc	**PKPbc**	**05 52 58.7**	**-0.7**
PKS2	**Kecel**	**150.25**	**343**	*e*	**PKPbc**	**05 53 01.9**	**+2.3**
BZS	**Buzias**	**150.28**	**339**	⇑PKIKP	**PKPbc**	**05 53 00.1**	**+0.4**
BZS	**Buzias**	**150.28**	**339**	⇑*i*P	**PKPbc**	**05 53 00.1**	**+0.4**
ECH	**Echery**	**150.33**	**360**	PKP	**PKPbc**	**05 52 57.7**	**-2.1**
PKS9	**Tamasi**	**150.41**	**344**	*e*	**PKPbc**	**05 53 00.4**	**+0.4**
MOF	**Molkenrain**	**150.69**	**360**	PKP	**PKPbc**	**05 52 58.9**	**-1.8**
BEHE	**Becsehely**	**150.90**	**346**	*e*	**PKPbc**	**05 53 03.5**	**+2.4**
KBA	**Koelnbreinsper**	**150.97**	**351**	⇓*i*PKiKP	**PKPbc**	**05 53 01.4**	**-0.2**
	comp=Z,19nm,1.8s						
MOTA	**Moosalm**	**150.99**	**354**	⇓*i*PKiKP	**PKiKP**	**05 53 02.0**	**-0.1**
	comp=Z,20nm,1.1s						
WTTA	**Wattenberg**	**151.01**	**353**	⇑*i*PKiKP	**PKPbc**	**05 53 01.9**	**+0.3**
	comp=Z,38nm,1.6s						
SOKA	**Soboth**	**151.07**	**348**	⇑*i*PKPbc	**PKPbc**	**05 53 00.9**	**-0.7**
	comp=Z,17nm,1.5s						
PERS	**Pernice**	**151.09**	**348**	*i*PKPdf	**PKPbc**	**05 53 01.5**	**-0.2**
DAVA	**Damuels**	**151.15**	**356**	⇑*i*pPKPbc	**PKPbc**	**05 53 03.4**	**+1.5**
	comp=Z,32nm,1.6s						
LOMF	**Lomont**	**151.20**	**0**	PKP	**PKPbc**	**05 52 59.5**	**-2.4**
CSS	**Prodhromos**	**151.32**	**310**	*e*PKPbc	**PKPbc**	**05 53 03.9**	**+1.4**
FETA	**Feichten**	**151.35**	**354**	⇑*i*pPKPbc	**PKPbc**	**05 53 04.1**	**+1.7**
	comp=Z,19nm,1.3s						
ABTA	**Abfaltersbach**	**151.41**	**352**	⇓*i*PKPbc	**PKPbc**	**05 53 01.4**	**-1.1**
	comp=Z,23nm,1.2s						
VISS	**Visnje**	**151.95**	**348**	*i*PKPdf	**PKPbc**	**05 53 04.5**	**+0.9**
TUE	**Stuetta**	**152.00**	**356**	*e*PKPbc	**PKPbc**	**05 53 04.6**	**+0.6**
JAVS	**Javornik**	**152.00**	**349**	*i*PKPdf	**PKPbc**	**05 53 05.4**	**+1.6**
BOJS	**Bojanci**	**152.15**	**347**	*i*PKPdf	**PKPbc**	**05 53 04.3**	**+0.3**
VTS	**Vitosha**	**152.23**	**333**	⇓*i*P	**PKPab**	**05 53 09.9**	**-4.4**
PYM	**Petit Puy Mans**	**152.61**	**6**	PKP	**PKPbc**	**05 53 04.4**	**-0.8**
LBL	**Lubilhac**	**153.15**	**6**	PKP	**PKPbc**	**05 53 03.5**	**-2.9**
BNI	**Bardonecchia**	**153.50**	**0**	*e*PKPab	**PKPab**	**05 53 19.5**	**0.0**
TORD	**Torodi Ar. Bea**	**172.75**	**136**	PKP	**PKPdf**	**05 53 19.0**	**+0.5**
	comp=Z,0.5nm,1.1s,baz=164,slow=3.5,SNR=3.5						
TORD				PKPab	**PKPab**	**05 54 44.6**	**+0.3**
	comp=Z,4.0nm,1.1s,baz=261,slow=4.2,SNR=7.5						

*IDC **26** 05:50:27.9±2.3, 37°.50N×74°.57E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/39, mbtmp3.5/6, ML2.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/24, Error ellipse: s-maj=63.7km s-min=27.0km az=147.0*

*NNC **26** 05:50:35.8±3.0, 37°.74N×74°.39E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=27.7km s-min=12.4km az=153.0*

ISC 26 05:50:32.5±1.3, 37°.93N±0°.09×74°.90E±0°.06, h10km, n23, σ2°33/23, mb3.4/4, 8C-8D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.79**	**28**	Pg	**Pn**	**05 51 03.0**	**-0.7**
KSH				Sg	**Sn**	**05 51 25.0**	**-1.6**
KSH				smax	smax		
	comp=N,380nm,0.7s						
KSH				smax	smax		
	comp=E,390nm,0.8s						
AAK	**Ala-Archa**	**4.71**	**356**	⇑Pn	**Pb**	**05 51 52.8**	**-2.5**
	comp=E,9.3nm,0.8s						
AAK	**Ala-Archa**	**4.71**	**356**	*e*PKIKP	**Pb**	**05 51 54.8**	**-0.5**
AAK	**Ala-Archa**	**4.71**	**356**	*e*PKPdf	**Pb**	**05 51 54.8**	**-0.5**
EKS2	**Erkin-Say**	**4.80**	**350**	*e*PKIKP	**Pb**	**05 51 55.1**	**-1.8**
EKS2	**Erkin-Say**	**4.80**	**350**	*e*PKPdf	**Pb**	**05 51 55.1**	**-1.8**
DZET	**Dzherino**	**4.85**	**282**	⇑Pn	**Pn**	**05 51 46.8**	**+1.1**
DZET				⇓Pg	**Pb**	**05 51 56.7**	**-1.0**
DZET				⇑Sn	**Sn**	**05 52 39.8**	**-2.2**
DZET				⇑Lg	Lg	05 52 56.0	
TKM2	**Tokmak 2**	**5.01**	**6**	⇑Pn	Pb	05 51 55.6	-4.9
	comp=E,6.0nm,0.4s						
TKM2				⇓Pg	**Pg**	**05 52 10.1**	**+1.6**
	comp=E,6.8nm,0.6s						
TKM2				⇓Sn	**Sb**	**05 53 00.1**	**-0.8**
	comp=E,4.3nm,0.6s						

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TKM2				⇓Lg	Lg	05 53 21.5	
	comp=E,21nm,1.4s						
TKM2	**Tokmak 2**	**5.01**	**6**	*e*PKIKP	Pb	05 51 55.7	-4.8
TKM2	**Tokmak 2**	**5.01**	**6**	*e*PKPdf	Pb	05 51 55.7	-4.8
KK31	**Karatay Array**	**6.15**	**328**	⇓Pn	Pn	05 52 06.7	+3.3
	comp=E,0.8nm,0.3s,baz=138,slow=12,SNR=16						
KK31				Sn	**Sn**	**05 53 19.8**	**+5.9**
	comp=E,5.3nm,0.6s,baz=156,slow=25,SNR=8.6						
KKAR	**Karatay Array**	**6.15**	**328**	*e*PKIKP	**Pn**	**05 52 04.4**	**+0.9**
KKAR	**Karatay Array**	**6.15**	**328**	*e*PKPdf	**Pn**	**05 52 04.4**	**+0.9**
PDGK	**Podgornoye**	**6.42**	**31**	⇓Pn	Pn	05 52 14.5	+7.4
PDGK				⇑Pg	**Pg**	**05 52 37.5**	**+2.0**
PDGK				⇑Lg	Lg	05 54 08.2	
MKAR	**Makanchi Array**	**10.40**	**29**	Pn	Pn	05 53 06.7	+4.9
	comp=E,0.1nm,0.3s,baz=225,slow=12,SNR=4.1						
AB31	**Akbulak array**	**15.64**	**321**	⇓Pn	**P**	**05 54 16.3**	**-0.7**
	comp=E,1.2nm,0.7s,baz=131,slow=12,SNR=7.4						
AB31				⇑Sn	**Sn**	**05 57 00.6**	**-5.5**
	comp=E,0.6nm,0.7s,baz=158,slow=20,SNR=2.8						
AKTO	**Aktyubinsk**	**17.35**	**321**	⇓Pn	**P**	**05 54 38.0**	**+1.9**
	comp=E,4.0nm,1.3s						
ZALV	**Zalesovo Beam**	**17.41**	**20**	P	**P**	**05 54 37.6**	**+0.9**
	comp=E,0.2nm,0.3s,baz=201,slow=11,SNR=4.6						
TLY	**Talaya**	**24.40**	**46**	LR	LR	06 06 01.3	
	comp=E,43nm,19.1s,baz=54,slow=38						
SONM	**Songino Array**	**24.96**	**57**	P	**P**	**05 55 58.0**	**+1.9**
	comp=E,0.5nm,0.9s,baz=251,slow=9.1,SNR=3.9						
ARCES	**ARCESS Array B**	**41.06**	**336**	P	**P**	**05 58 16.0**	**+0.2**
	comp=E,2.3nm,1.0s,baz=106,slow=9.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**68.84**	**270**	P	P	06 01 33.0	-4.5
	comp=E,0.2nm,0.5s,baz=53,slow=5.3,SNR=6.5						
YKA	**Yellowknife Ar**	**79.63**	**4**	P	**P**	**06 02 37.7**	**-1.9**
	comp=E,0.2nm,0.7s,baz=348,slow=4.8,SNR=5.4						

JMA 26 05:55:09.1±0.3, 32°.52N×136°.62E, h449km, M3.5, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAI	**Aioi**	**2.22**	**305**	P	P	05 56 11.1	+0.4
JWT	**Wachi**	**2.94**	**340**	P	P	05 56 15.5	0.0
BSO4	**Boso 4**	**3.96**	**50**	P	P	05 56 24.8	+1.2
BSO4				*e*S	S	05 57 23.7	-0.6
BSO3	**Boso 3**	**3.96**	**54**	P	P	05 56 24.6	+1.2
BSO3				*e*S	S	05 57 24.5	+0.5
JRY	**Ryogami san**	**3.97**	**28**	P	P	05 56 25.8	+2.0
JRY				*e*S	S	05 57 23.5	-1.2
BSO1	**Boso 1**	**4.21**	**58**	P	P	05 56 26.5	+1.2
BSO1				S	S	05 57 26.5	-1.0
JAG	**Ashikaga**	**4.54**	**30**	P	P	05 56 29.3	+0.3
JHO	**Hitachi**	**5.22**	**38**	P	P	05 56 35.3	-0.1
JHO				S	S	05 57 40.0	-6.0

*ISCJB **26** 06:30:28.7±0.3, 50°.40N±0°.03×91°.30E±0°.05, h10km, mb4.0/16, MS3.7/1, Error ellipse: s-maj=4.5km s-min=3.7km az=163.3*

*BJI **26** 06:30:28.8, 50°.40N×91°.40E, h10km, ML4.1/5*

*IDC **26** 06:30:29.1±0.6, 50°.23N×91°.40E, h0km, mb4.0/14, mb1 4.0/21, mb1mx3.9/37, mbtmp3.9/21, ML3.1/7, MS3.7/1, Ms1 3.8/1, ms1mx2.7/44, Error ellipse: s-maj=13.9km s-min=8.7km az=178.0*

*NNC **26** 06:30:29.6±1.1, 50°.36N×91°.28E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=11.1km s-min=9.6km az=127.0*

*MOS **26** 06:30:31.6±1.4, 50°.29N×91°.37E, h37km, mb4.3/6, Error ellipse: s-maj=10.0km s-min=8.6km az=127.5*

*ASRS **26** 06:30:32.2±1.2, 50°.33N×91°.20E, h15km, Ms3.5/5*

*NEIC **26** 06:30:33.1±1.7, 50°.23N×91°.30E, h26km±13km, mb4.2/4, Error ellipse: s-maj=8.5km s-min=5.5km az=188.0*

ISC 26 06:30:30.6±0.5, 50°.32N±0°.04×91°.48E±0°.04, h10km, n84, σ1°39/89, mb4.0/16, 11C-9D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERR	**Cheremushki**	**2.54**	**359**	*i* PN	**Pb**	**06 31 17.6**	**+1.4**
CERR				*i*		06 31 51.6	
CERR	**Cheremushki**	**2.54**	**359**	*i* Pg	**Pb**	**06 31 17.6**	**+1.4**
CERR				*i* Sg	**Sg**	**06 31 51.6**	**-0.5**
ARTR	**Artybash**	**3.03**	**301**	*e*PN	**Pb**	**06 31 25.2**	**+0.5**
ARTR	**Artybash**	**3.03**	**301**	*e*Pg	**Pb**	**06 31 25.2**	**+0.5**
TASR	**Tashtagol**	**3.32**	**319**	*i* PN	**Pb**	**06 31 30.5**	**+1.0**
TASR	**Tashtagol**	**3.32**	**319**	*i* Pg	**Pb**	**06 31 30.5**	**+1.0**
TASR				*i* Sg	**Sb**	**06 32 13.0**	**+3.0**
ELT	**Yel'tsovka**	**4.39**	**314**	*i* PN	**Pn**	**06 31 38.4**	**+1.2**
ELT	**Yel'tsovka**	**4.39**	**314**	*i* Pn	**Pn**	**06 31 38.4**	**+1.2**
ELT				*e*Pg	**Pb**	**06 31 48.0**	**+0.3**
ELT				*e*Sg	**Sb**	**06 32 45.4**	**+4.8**
ZALV	**Zalesovo Beam**	**5.48**	**314**	Pn	**Pn**	**06 31 52.9**	**+0.7**
	1.7nm,0.3s,baz=133,slow=13,SNR=15						
ZALV				Pg	**Pb**	**06 32 09.4**	**+3.1**
	4.5nm,0.3s,baz=132,slow=16,SNR=16						
ZALV				Lg	Lg	06 33 22.0	
	14nm,0.3s,baz=132,slow=28,SNR=11						
KRAR	**Krasnoyarsk**	**5.76**	**8**	*i* PN	**Pn**	**06 31 55.1**	**-1.0**
NVS	**Novosibirsk**	**6.76**	**315**	*i* PN	**Pn**	**06 32 10.6**	**+0.8**
NVS	**Novosibirsk**	**6.76**	**315**	*i* Pn	**Pn**	**06 32 10.6**	**+0.8**
NVS				*i* Pg	Pb	06 32 32.4	+4.3
NVS				*e*Sn	**Sn**	**06 33 23.4**	**-3.3**
NVS				*i* Sg	Sb	06 33 57.1	+8.3
WMQ	**Urumqi**	**7.00**	**203**	Pn	Pb	06 32 25.0	-7.2
WMQ				Sn	**Sn**	**06 33 35.5**	**+2.8**
WMQ				smax	smax		
	comp=N,190nm,0.7s						
WMQ				smax	smax		
	comp=E,190nm,0.8s						
WMQ				LR	LR		
	comp=N,81nm,18.0s						
WMQ				LR	LR		
	comp=E,88nm,18.0s						
WMQ				LR	LR		
	comp=Z,85nm,20.0s						
MK31	**Makanchi Array**	**7.04**	**243**	⇓Pn	**Pn**	**06 32 13.4**	**-0.4**
	comp=Z,1.9nm,0.4s,baz=75,slow=14,SNR=39						
MK31				⇓Pg	**Pb**	**06 32 36.1**	**+3.1**
	comp=Z,9.0nm,0.5s,baz=68,slow=15,SNR=9.5						
MK31				⇓Lg	Lg	06 34 12.8	
	comp=Z,39nm,0.7s,baz=44,slow=25,SNR=3.8						
MK31	**Makanchi Array**	**7.04**	**243**	PN	**Pn**	**06 32 13.8**	**+0.1**
MK31				pmax	pmax		
	comp=Z,19nm,0.5s						
MK31				pmax	pmax		
	comp=N,18nm,0.5s						
MKAR	**Makanchi Array**	**7.04**	**243**	Pn	**Pn**	**06 32 13.8**	**+0.1**
	comp=N,1.2nm,0.3s,baz=51,slow=15,SNR=28						
MKAR				Lg	Lg	06 34 08.5	
	comp=N,4.0nm,0.3s,baz=59,slow=28,SNR=3.7						
ZAK	**Zakamensk**	**7.55**	**85**	*e*P	**Pb**	**06 32 41.0**	**-0.7**
ZAK				*e*		06 33 43.8	
ZAK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TLY	**Talaya**	**7.80**	**75**	Pn	**Pn**	**06 32 25.9**	**+1.8**
	comp=Z,0.0nm,0.3s,baz=233,slow=20,SNR=1.6						
TLY				Lg	Lg	06 34 38.8	
	comp=Z,0.0nm,0.3s,baz=129,slow=5.7,SNR=3.1						
TLY	**Talaya**	**7.80**	**75**	*e*Pn	Pn	06 32 27.5	+3.5
TLY				Lg	Lg	06 34 38.8	
TLY				*e*Sg	**Sg**	**06 34 39.8**	**-0.8**
KURK	**Kurchatov**	**8.21**	**278**	⇑Pn	**Pn**	**06 32 28.5**	**-1.1**
	comp=Z,3.3nm,0.6s						
KURK				⇑Lg	Lg	06 34 45.6	
	comp=Z,46nm,0.9s						
KURK	**Kurchatov**	**8.21**	**278**	P	**Pn**	**06 32 28.5**	**-1.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**8.21**	**278**	*e*Pn	**Pn**	**06 32 28.6**	**-1.1**
	comp=Z,4.1nm,0.6s						
KURK				Lg	Lg	06 34 49.9	
IRK	**Irkutsk**	**8.25**	**72**	*e*P	Pn	06 32 25.9	-4.3
KURBB	**Kurchatov Arra**	**8.27**	**277**	⇑Pn	**Pn**	**06 32 29.0**	**-1.5**
	comp=Z,8.6nm,0.5s						
KURBB				⇓Lg	Lg	06 34 47.0	
	comp=Z,86nm,0.7s						
KURBB	**Kurchatov Arra**	**8.27**	**277**	Pn	**Pn**	**06 32 29.0**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=92,slow=14,SNR=30						
KURBB				Pg	Pb	06 32 48.1	-5.7
	comp=Z,0.5nm,0.3s,baz=89,slow=14,SNR=13						
KURBB				Lg	Lg	06 34 49.9	
	comp=Z,0.9nm,0.3s,baz=84,slow=35,SNR=10						
SONM	**Songino Array**	**10.10**	**99**	P	**Pn**	**06 32 57.0**	**+1.3**
SONM	**Songino Array**	**10.10**	**99**	Pn	**Pn**	**06 32 57.0**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=298,slow=15,SNR=3.5						
SONM				Lg	Lg	06 35 50.7	
	comp=Z,0.8nm,0.3s,baz=294,slow=32,SNR=4.5						
ULN	**Ulaanbaatar**	**10.51**	**98**	*e*P	**Pn**	**06 33 01.3**	**0.0**
PDGK	**Podgornoye**	**10.78**	**234**	⇑Pn	**Pn**	**06 33 03.6**	**-1.3**
PDGK				⇓Lg	Lg	06 36 05.4	
PDGK	**Podgornoye**	**10.78**	**234**	P	Pn	06 32 59.7	-5.2
OTUK	**Ortayu**	**12.67**	**268**	⇓Sn	**Sn**	**06 35 52.1**	**+0.3**
OTUK				⇑Lg	Lg	06 37 07.2	
TKM2	**Tokmak 2**	**13.17**	**242**	⇓Pn	**Pn**	**06 33 36.8**	**-1.0**
	comp=Z,2.1nm,0.7s						
TKM2				⇑Lg	Lg	06 37 25.6	
	comp=Z,9.5nm,1.0s						
TKM2	**Tokmak 2**	**13.17**	**242**	P	**Pn**	**06 33 39.4**	**+1.6**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVA0	**Borovoye Array**	**13.36**	**290**	⇑Pn	**Pn**	**06 33 38.9**	**-1.2**
	comp=Z,1.9nm,0.5s,baz=95,slow=13,SNR=3.7						
BVA0				⇑Sn	**Sn**	**06 36 06.2**	**-2.3**
	comp=Z,3.5nm,0.8s						
BVA0				⇓Lg	Lg	06 37 29.0	
	comp=Z,8.3nm,1.1s						
BVA0	**Borovoye Array**	**13.36**	**290**	P	**Pn**	**06 33 38.9**	**-1.2**
BVA0						06 36 03.0	
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVA0				smax	smax		
	comp=N,4.0nm,0.8s						
BVAR	**Borovoye Array**	**13.36**	**290**	P	**Pn**	**06 33 39.0**	**-1.1**
BVAR	**Borovoye Array**	**13.36**	**290**	Pn	**Pn**	**06 33 39.0**	**-1.1**
	comp=N,0.5nm,0.3s,baz=95,slow=14,SNR=4.1						
AAK	**Ala-Archa**	**13.98**	**243**	⇑Lg	Lg	06 37 51.4	
	comp=N,12nm,1.0s						
AAK	**Ala-Archa**	**13.98**	**243**	*e*P	**Pn**	**06 33 49.2**	**+0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
AAK	**Ala-Archa**	**13.98**	**243**	Pn	**Pn**	**06 33 48.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=29,slow=12,SNR=2.1						
AAK				Lg	Lg	06 37 49.7	
	comp=Z,0.1nm,0.3s,baz=291,slow=17,SNR=6.3						
EKS2	**Erkin-Say**	**14.38**	**245**	*e*P	**P**	**06 34 00.8**	**-0.5**
EKS2				pmax	pmax		
	comp=Z,9.0nm,1.2s						
EKS2	**Erkin-Say**	**14.38**	**245**	*e*P	**P**	**06 34 00.8**	**-0.5**
	comp=Z,9.3nm,1.2s						
**BOD

SJCH					*i* S	Sn	06 34 21.7	+0.7
SJCH					IAML		06 34 27.5	
	comp=E,744nm,0.4s							
FSR	**Penalolen**	**1.65**	**41**	⇑*i*P		Pn	06 34 03.6	+2.4
FSR				*i* S		Sn	06 34 23.3	+2.0
LACH	**Col Las Americ**	**1.67**	**41**	*e*P1		Pn	06 34 02.8	+1.4
LACH				*i* S1		Sn	06 34 24.8	+3.1
IHA	**Instituto Hidr**	**1.71**	**6**	⇑*i*P		Pn	06 34 03.1	+1.3
CLCH	**Cerro Calan**	**1.71**	**39**	⇑*i*P		Pn	06 34 03.4	+1.4
CLCH				*i* S1		Sn	06 34 25.0	+2.3
CLCH				AML		AML	06 34 31.4	
	comp=N,2μm,0.4s							
FCH	**Farellones**	**1.90**	**43**	AML		AML	06 34 17.5	
	comp=N,1μm,0.4s							

*IDC **26** 06:43:09.2±5.0, 1°.54S×101°.69E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/32, mbtmp3.4/3, Error ellipse: s-maj=275.2km s-min=28.0km az=53.0*
*ICSJB **26** 06:43:12.9±0.9, 2°.36S±0°.04×100°.59E±0°.07, h50km, mb3.2/3, Error ellipse: s-maj=10.8km s-min=5.3km az=158.8*
*DJA **26** 06:43:14.9±0.7, 2°.S±3°.×10°.1E±°, h63km±15km, M3.9/10, MLv3.9/10*

ISC 26 06:43:13.6±1.2, 2°.34S±0°.06×100°.61E±0°.09, h50km, n14, σ1°.25/20, mb3.3/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.42**	**354**	P	**Pn**	**06 43 38.3**	**+1.2**
PDSI				S	**Sn**	**06 43 56.6**	**+1.9**
SDSI	**Sungai Dareh**	**1.62**	**30**	P	**Pn**	**06 43 41.2**	**+1.5**
SDSI				S	**Sn**	**06 44 00.5**	**+1.1**
MASI	**Maura Aman, Be**	**1.81**	**116**	P	**Pn**	**06 43 43.7**	**+1.3**
MASI				S	**Sn**	**06 44 05.5**	**+1.2**
RGRI	**Rengat**	**2.62**	**41**	P	**Pn**	**06 43 53.5**	**+0.1**
RGRI				S	**Sn**	**06 44 24.5**	**+0.4**
BKNI	**Bangkinang**	**2.68**	**9**	P	**Pn**	**06 43 54.8**	**+0.5**
MNAI	**Manna**	**3.09**	**131**	P	**Pn**	**06 44 00.9**	**+1.0**
MNAI				S	**Sn**	**06 44 37.7**	**+2.1**
JMBI	**JAMBI**	**3.11**	**77**	P	**Pn**	**06 44 00.9**	**+0.7**
JMBI				S	**Sn**	**06 44 35.8**	**-0.3**
LHSI	**Lahat**	**3.27**	**117**	P	**Pn**	**06 44 03.3**	**+1.0**
MDSI	**Maura Dua**	**4.15**	**121**	P	**Pn**	**06 44 15.1**	**+0.6**
LWLI	**Liwa**	**4.35**	**128**	P	**Pn**	**06 44 18.1**	**+0.8**
WRA	**Warramunga Arr**	**37.30**	**120**	P	**P**	**06 50 19.8**	**-1.4**
	0.2nm,0.5s,baz=302,slow=9.4,SNR=2.3						
ASAR	**Alice Springs**	**38.56**	**126**	P	**P**	**06 50 30.0**	**-1.9**
	0.3nm,0.4s,baz=300,slow=7.6,SNR=5.6						
MKAR	**Makanchi Array**	**51.52**	**344**	P	**P**	**06 52 13.6**	**-0.7**
	0.1nm,0.3s,baz=164,slow=8.4,SNR=5.2						
TXAR	**Lajitas Array**	**144.59**	**38**	PKP	**PKPab**	**07 02 43.8**	**-0.2**
	0.1nm,0.4s,baz=336,slow=2.2,SNR=3.2						

*IDC **26** 07:02:38.3±2.8, 6°.69S×128°.77E, h0km, mb3.5/1, mb1 4.0/3, mb1mx3.6/33, mbtmp3.7/3, ML4.1/2, Error ellipse: s-maj=297.0km s-min=30.8km az=67.0*

ISC 26 07:02:39.7±1.5, 6°.8S±0°.2×128°.7E±0°.4, h10km, n6, σ2°.29/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.48**	**158**	P	Pn	07 04 22.6	+7.3
	baz=4.9,SNR=40						
KDU	**Kakadu**	**6.95**	**148**	P	**Pn**	**07 04 24.0**	**+2.3**
	baz=5.1,SNR=144						
WRA	**Warramunga Arr**	**14.18**	**158**	Pn	**Pn**	**07 06 00.5**	**-0.4**
	1.1nm,0.3s,baz=334,slow=13,SNR=19						
WRA				Sn	Sn	07 08 28.9	-9.4
	0.4nm,0.3s,baz=344,slow=23,SNR=4.0						
QIS	**Mount Isa**	**17.31**	**143**	P	**Pn**	**07 06 38.5**	**-3.2**
	baz=15,SNR=3.5						
ASAR	**Alice Springs**	**17.51**	**164**	P	**P**	**07 06 45.7**	**+0.4**
	0.6nm,0.3s,baz=348,slow=12,SNR=27						
ASAR				S	**Sn**	**07 09 58.8**	**-0.5**
	0.1nm,0.3s,baz=358,slow=22,SNR=4.1						
MKAR	**Makanchi Array**	**67.34**	**327**	P	**P**	**07 13 35.0**	**0.0**
	0.3nm,0.6s,baz=121,slow=6.3,SNR=3.3						

IDC 26 07:10:21.9±12.0, 11°.75N×93°.26E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/40, mbtmp3.3/3, Error ellipse: s-maj=727.8km s-min=29.7km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.14**	**347**	P	P	07 17 25.7	-0.1
	0.2nm,0.5s,baz=170,slow=9.0,SNR=3.9						
WRA	**Warramunga Arr**	**51.26**	**128**	P	P	07 19 27.7	-0.1
	0.2nm,0.5s,baz=308,slow=8.1,SNR=4.2						
ASAR	**Alice Springs**	**53.09**	**132**	P	P	07 19 41.4	-0.1
	0.5nm,0.9s,baz=307,slow=6.5,SNR=3.5						

*ISCJB **26** 07:13:43.7±0.9, 34°.91S±0°.05×71°.8W±0°.2, h63km±10km, Error ellipse: s-maj=21.4km s-min=6.9km az=11.4*
*NEIC **26** 07:13:44.0, 34°.91S×71°.76W, h46km, MG4.2(GUC), After GUC.*
NEIC Felt [III] at Curico, Romeral and Talca; [II] at Linares.
*GUC **26** 07:13:44.5±0.6, 34°.91S×71°.76W, h46km±2km, ML4.2*

ISC 26 07:13:44.7±1.5, 34°.90S±0°.06×71°.8W±0°.1, h49km±19km, n11, σ1°.19/17, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.48**	**102**	⇓*i*P	**Pn**	**07 13 55.3**	**-0.4**
NICH				*i* S	**Sn**	**07 14 03.0**	**-0.5**
NICH				AML	AML	07 14 03.7	
	comp=E,31μm,0.3s						
TALC	**Talca**	**0.52**	**164**	⇑*i*P	**Pn**	**07 13 56.1**	**+0.1**
TALC				*i* S	**Sn**	**07 14 04.3**	**+0.2**
TALC				AML	AML	07 14 05.2	
	comp=E,50μm,0.1s						
LNCH	**Linares**	**0.96**	**170**	⇓*i*P	**Pn**	**07 14 01.9**	**+0.1**
LNCH				*i* S	**Sn**	**07 14 15.0**	**+0.6**
RCDM	**Rinconada Maip**	**1.63**	**31**	⇑*i*P	**Pn**	**07 14 10.9**	**-0.1**
RCDM				*i* S	**Sn**	**07 14 31.7**	**+0.8**
LACH	**Col Las Americ**	**1.79**	**37**	⇑*i*P	**Pn**	**07 14 13.2**	**0.0**
LACH				*i* S4	**Sn**	**07 14 37.4**	**+2.6**
CLCH	**Cerro Calan**	**1.83**	**35**	⇓*i*P	**Pn**	**07 14 14.1**	**+0.3**
CLCH				*i* S	**Sn**	**07 14 36.9**	**+1.1**
CLCH				AML	AML	07 14 41.7	
	comp=N,2μm,1.0s						
IHA	**Instituto Hidr**	**1.88**	**4**	⇑*i*P	**Pn**	**07 14 14.7**	**+0.4**
PLCA	**Paso Flores**	**5.91**	**171**	*e*Pn	**Pn**	**07 15 11.6**	**+1.9**
LCO	**Las Campanas**	**5.95**	**9**	*e*Pn	**Pn**	**07 15 09.3**	**-1.1**
LCO				*e*Sn	Sn	07 16 24.0	+6.6
TRQA	**Tornquist**	**8.52**	**115**	*e*Pn	**Pn**	**07 15 46.0**	**+0.7**
SAML	**Samuel**	**27.01**	**19**	P	**P**	**07 19 20.3**	**-1.9**

*IDC **26** 07:16:48.6±1.8, 13°.77N×88°.95W, h0km, mb3.6/4, mb1 4.0/6, mb1mx3.6/34, mbtmp3.7/6, ML3.6/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/29, Error ellipse: s-maj=55.0km s-min=18.0km az=40.0*
*ISCJB **26** 07:16:49.9±0.7, 12°.93N±0°.04×89°.59W±0°.04, h10km, mb3.8/3, MS3.1/2, Error ellipse: s-maj=6.7km s-min=5.1km az=38.3*
*CASC **26** 07:16:53.0±1.6, 13°.08N×89°.55W, h29km±4km, MD3.8, ML4.1*

ISC 26 07:16:49.4±1.1, 13°.05N±0°.07×89°.62W±0°.04, h10km, n30, σ1°.27/31, mb3.9/3, 11C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.73**	**31**	⇑*i*P	**Pn**	**07 17 06.4**	**+0.5**
SNET				*e*S	**Sn**	**07 17 16.8**	**-0.4**
SNET				AML	AML	07 17 17.8	
	comp=Z,8μm,0.2s						
BOQS	**Boqueron**	**0.75**	**26**	⇓*i*P	**Pn**	**07 17 06.9**	**+0.6**
SBLS	**San Blas**	**0.78**	**360**	⇑*i*P	**Pn**	**07 17 07.7**	**+1.0**
LFRS	**El Faro**	**0.79**	**44**	⇑*i*P	**Pn**	**07 17 07.0**	**+0.4**
SNJE	**San Jose**	**0.81**	**1**	⇑*i*P	**Pn**	**07 17 08.0**	**+0.9**
RTR	**El Retiro**	**0.84**	**358**	*i* P	**Pn**	**07 17 08.6**	**+1.1**
LBRS	**Las Brisas**	**0.88**	**39**	⇑*i*P	**Pn**	**07 17 08.7**	**+0.7**
SNVI	**San Vicente**	**0.94**	**54**	⇑*i*P	**Pn**	**07 17 09.1**	**+0.3**
SNVI				*e*S	**Sn**	**07 17 21.6**	**-0.8**
RBDL	**Robledal**	**1.05**	**357**	⇑*i*P	**Pn**	**07 17 11.6**	**+1.2**
MTO2	**Montecristo 2**	**1.36**	**11**	⇑*i*P	**Pb**	**07 17 15.6**	**+0.5**
VSM	**San Miguel**	**1.36**	**74**	⇓*i*P	**Pb**	**07 17 15.2**	**+0.1**
BLLM	**Bellamira**	**1.40**	**74**	*i* P	**Pb**	**07 17 15.7**	**0.0**
BLLM				*e*S	**Sb**	**07 17 33.0**	**-0.6**
CAHU	**Cacacuatique**	**1.55**	**62**	⇑*i*P	**Pn**	**07 17 17.5**	**+0.4**
NBG	**Las Nubes**	**1.68**	**335**	*e*P	**Pg**	**07 17 22.7**	**+1.0**
CNCH	**Conchagua**	**1.75**	**83**	⇑*i*P	**Pn**	**07 17 20.2**	**+0.2**
CNCH				*e*S	**Sn**	**07 17 42.7**	**+0.2**
MRL	**Marmol**	**2.00**	**358**	⇓*i*P	**Pn**	**07 17 25.1**	**+1.7**
MRL				*e*P	**Pb**	**07 17 26.0**	**0.0**
APG	**El Apazote**	**2.10**	**337**	Pn	Pn	07 17 21.6	-3.3
	comp=Z,6.4nm,0.3s,baz=330,slow=12,SNR=71						
APG				LR	LR	07 17 56.6	
	comp=Z,62nm,20.9s,baz=108,slow=36						
JAT	**Jato**	**2.33**	**303**	*e*P	**Pb**	**07 17 31.0**	**-0.4**
COPN	**Copaltepe**	**3.08**	**106**	*e*P	**Pn**	**07 17 37.9**	**-0.3**
JTS	**JuntasAbangare**	**5.33**	**120**	Pn	**Pn**	**07 18 09.3**	**+0.1**
	comp=Z,2.9nm,0.3s,baz=301,slow=24,SNR=42						
JTS				Lg	Lg	07 19 32.6	
	comp=Z,1.2nm,0.3s,baz=118,slow=20,SNR=3.7						
JCR	**Jicaral**	**5.45**	**125**	⇑*i*P	**Pn**	**07 18 12.2**	**+1.5**
JCR				*e*S	Sn	07 19 05.6	-7.9
CGA2	**Cerro Gallo 2**	**5.88**	**120**	*e*P	**Pn**	**07 18 19.5**	**+2.6**
CMIG	**Matias Romero**	**6.48**	**309**	Pn	**Pn**	**07 18 27.2**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=139,slow=11,SNR=14						
CMIG				Sn	**Sn**	**07 19 36.7**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=58,slow=9.5,SNR=2.8						
BUS	**Buena Vista**	**6.72**	**121**	*e*P	**Pn**	**07 18 31.3**	**+2.8**
BUS				*e*S	Sn	07 19 35.4	-10
TXAR	**Lajitas Array**	**20.80**	**323**	P	**P**	**07 21 31.5**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=141,slow=10,SNR=25						
TKL	**Tuckaleechee C**	**23.12**	**12**	LR	LR	07 30 18.7	
	comp=Z,62nm,18.2s,baz=151,slow=36						
SJG	**San Juan**	**23.15**	**74**	LR	LR	07 30 50.4	
	comp=Z,55nm,18.4s,baz=270,slow=38						
PDAR	**Pinedale Array**	**34.27**	**334**	P	**P**	**07 23 33.5**	**-2.5**
	comp=Z,0.2nm,0.7s,baz=137,slow=11,SNR=3.2						
SCHQ	**Schefferville**	**45.34**	**18**	P	P	07 25 02.2	-5.4
	comp=Z,2.7nm,0.8s,baz=216,slow=6.7,SNR=6.7						
YKA	**Yellowknife Ar**	**52.49**	**346**	P	P	07 25 58.2	-4.1
	comp=Z,0.7nm,0.4s,baz=132,slow=7.9,SNR=29						

GUC 26 07:25:10.6±0.5, 37°.60S×74°.14W, h11km±5km, ML4.2, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.12**	**48**	*e*P	Pb	07 25 31.9	0.0
CCSP				*e*S	Sn	07 25 48.1	+0.6
CCSP				AML	AML	07 25 49.0	
	comp=E,11μm,0.4s						
PSCH	**Puerto Saavedr**	**1.34**	**154**	*e*P	Pn	07 25 35.4	+0.2
PSCH				*e*S	Sg	07 25 54.5	+0.8
COCH	**Cobquecura**	**1.82**	**37**	*e*P	Pb	07 25 43.4	-0.6
COCH				*e*S	Sg	07 26 08.0	-1.2
VLCH	**Valdivia**	**2.31**	**163**	*e*P	Pb	07 25 51.0	-1.3
VLCH				*e*S	Sb	07 26 21.5	+0.6
LNCH	**Linares**	**2.69**	**50**	*e*P	Pb	07 25 56.5	-2.2
LNCH				*e*S	Sb	07 26 31.2	-0.5

*IDC **26** 08:09:51.0±1.0, 8°.93S×110°.68E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.1/45, mbtmp4.3/14, ML4.5/1, MS3.4/6, Ms1 3.5/6, ms1mx3.1/28, Error ellipse: s-maj=34.2km s-min=16.5km az=44.0*
*ISCJB **26** 08:09:55.7±0.4, 9°.20S±0°.04×110°.51E±0°.02, h51km, mb4.3/18, MS3.4/6, Error ellipse: s-maj=6.0km s-min=3.3km az=9.4*
*NEIC **26** 08:09:55.8±0.3, 9°.07S×110°.55E, h35km, mb4.4/5, Error ellipse: s-maj=10.7km s-min=6.4km az=207.0*
*DJA **26** 08:09:56.7±0.7, 9°.S±3°.×11°.1E±°, h16km±7km, M4.7/33, mb4.7/6, mB5.0/3, MLv4.7/33, Mw(mB)4.4/3*

ISC 26 08:09:57.4±0.6, 9°.21S±0°.07×110°.54E±0°.04, h51km, n74, σ1°.30/70, mb4.2/18, MS3.4/6, 2C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.19**	**32**	P	Pn	08 10 14.6	-3.2
UGM	**Wanagama**	**1.29**	**359**	P	**Pn**	**08 10 17.6**	**-1.6**
WOJI	**Wonogiri, Jawa**	**1.42**	**15**	P	**Pn**	**08 10 18.8**	**-2.1**
WOJI				S	**Sn**	**08 10 36.4**	**-2.0**
PWJI	**Pagerwojo**	**1.72**	**47**	P	**Pn**	**08 10 23.3**	**-1.7**
PWJI				S	**Sn**	**08 10 43.1**	**-2.7**
NGJI	**Ngawi**	**2.05**	**26**	P	**Pn**	**08 10 31.3**	**+1.8**
SMRI	**Semarang**	**2.15**	**357**	P	**Pn**	**08 10 32.0**	**+1.1**
SMRI				S	**Sn**	**08 10 55.4**	**-1.0**
SMRI	**Semarang**	**2.15**	**357**	*e*Pn	**Pn**	**08 10 32.2**	**+1.3**
SMRI				*e*Sg	**Sn**	**08 10 59.4**	**+2.9**
KPJI	**Karang Pucung**	**2.46**	**319**	P	**Pn**	**08 10 35.7**	**+0.7**
CMJI	**Cimerak**	**2.51**	**304**	P	**Pn**	**08 10 34.5**	**-1.3**
TBJI	**Tambak Boyo**	**2.71**	**29**	P	**Pn**	**08 10 38.6**	**+0.1**
UWJI	**Ujung Watu**	**2.81**	**8**	P	**Pn**	**08 10 40.4**	**+0.5**
GRJI	**Gresik**	**2.98**	**40**	P	**Pn**	**08 10 41.9**	**-0.4**
GMJI	**Gumukmas**	**3.02**	**72**	P	**Pn**	**08 10 41.1**	**-1.6**
CISI	**Cisompet, Garu**	**3.16**	**301**	P	**Pn**	**08 10 44.6**	**-0.2**
CISI				S	**Sn**	**08 11 22.0**	**+0.7**
BLJI	**Banyuglugur**	**3.35**	**64**	P	**Pn**	**08 10 47.6**	**+0.2**
BLJI				S	**Sn**	**08 11 28.4**	**+2.4**
JAGI	**Jajag, Banyuwa**	**3.64**	**79**	P	**Pn**	**08 10 50.1**	**-1.3**
JAGI	**Jajag, Banyuwa**	**3.64**	**79**	*e*Pn	**Pn**	**08 10 49.8**	**-1.6**
JAGI				*e*S	**Sn**	**08 11 33.9**	**+0.7**
LEM	**Lembang**	**3.74**	**309**	P	**Pn**	**08 10 52.4**	**-0.5**
LEM				S	**Sn**	**08 11 35.7**	**-0.1**
CNJI	**Cibinong**	**3.87**	**299**	P	**Pn**	**08 10 53.9**	**-0.6**
ABJI	**Asem Bagus**	**3.92**	**69**	P	**Pn**	**08 10 55.7**	**+0.6**
BWJI	**Bawean**	**3.94**	**32**	P	**Pn**	**08 10 55.1**	**-0.4**
KMMI	**Kalianget**	**4.01**	**58**	P	**Pn**	**08 10 56.1**	**-0.3**
IGBI	**Denpasar**	**4.56**	**85**	P	**Pn**	**08 11 05.5**	**+1.5**
DNP	**Denpasar**	**4.64**	**84**	P	**Pn**	**08 11 06.3**	**+1.2**
SRBI	**Singaraja**	**4.75**	**77**	P	**Pn**	**08 11 07.7**	**+1.1**
XMIS	**Christmas Isla**	**4.98**	**255**	*e*Pn	**Pn**	**08 11 07.5**	**-2.2**
	437nm,0.5s						
XMIS				*e*Sn	Sn	08 11 57.7	-8.3
CGJI	**Cibinong**	**5.45**	**298**	P	**Pn**	**08 11 15.9**	**-0.3**
	121nm,0.7s,0.7nm						
KASI	**Kota Agung**	**7.03**	**301**	P	**Pn**	**08 11 37.4**	**-0.4**
	40nm,1.2s,0.3nm						
KASI				S	**Sn**	**08 12 55.8**	**-0.6**
	40nm,1.2s,0.3nm						
BBKI	**Banjar Baru**	**7.13**	**37**	P	Pn	08 11 42.9	+3.6
MDSI	**Maura Dua**	**7.87**	**306**	P	**Pn**	**08 11 48.9**	**-0.5**
	19nm,1.2s,1μm0.1nm						
KAPI	**Kappang**	**10.04**	**66**	*e*Pn	**Pn**	**08 12 21.0**	**+1.8**
	169nm,1.1s						
BNSI	**Bone**	**10.63**	**64**	P	Pn	08 12 34.9	+7.7
EDFI	**Ende, Flores**	**11.02**	**88**	P	**Pn**	**08 12 33.7**	**+1.1**
	32nm,1.2s,768nm						
TTSI	**Tana Toraja**	**11.07**	**57**	P	Pn	08 12 39.6	+6.4
BATI	**Baumata**	**12.97**	**95**	Pn	Pn	08 12 54.9	-4.3
	2.7nm,0.3s,baz=326,slow=3.6,SNR=3.0						
BATI				Sn	Sn	08 15 11.7	-10
	1.8nm,0.3s,baz=342,slow=9.6,SNR=3.2						
MPSI	**Mapaga**	**13.30**	**45**	P	**P**	**08 13 14.2**	**+2.3**
SOEI	**Soe**	**13.55**	**93**	P	Pn	08 13 11.0	+3.8
SOEI	**Soe**	**13.55**	**93**	*e*Pn	**Pn**	**08 13 05.0**	**-2.2**
	25nm,0.6s						
LUWI	**Luwuk**	**14.63**	**57**	P	**P**	**08 13 28.9**	**+2.2**
MRSI	**Marisa**	**14.88**	**50**	P	**P**	**08 13 29.4**	**-0.2**
GTOI	**Gorontalo**	**15.81**	**52**	P	**P**	**08 13 40.2**	**+0.4**
NWAO	**Narrogin (SRO)**	**24.40**	**166**	LR	LR	08 25 23.8	
	comp=Z,88nm,19.5s,baz=321,slow=38						
WRA	**Warramunga Arr**	**25.34**	**118**	P	**P**	**08 15 20.2**	**+0.4**
	3.1nm,0.6s,baz=290,slow=11,SNR=36						
WRA				PcP	**PcP**	**08 18 53.0**	**+1.3**
	0.3nm,0.7s,baz=305,slow=1.9,SNR=2.4						
WRA				LR	LR	08 26 04.1	
	comp=Z,56nm,18.4s,baz=330,slow=38						
WRAB	**Tennant Creek**	**25.35**	**117**	*e*P	**P**	**08 15 21.3**	**+1.4**
	10nm,0.8s						
WB2	**Warramunga Arr**	**25.36**	**118**	*e*P	**P**	**08 15 20.2**	**+0.2**
ASAR	**Alice Springs**	**26.56**	**126**	P	**P**	**08 15 31.6**	**+0.8**
	3.9nm,0.7s,baz=302,slow=9.2,SNR=31						
AS31	**Alice Springs**	**26.56**	**126**	*e*P	**P**	**08 15 31.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**29.78**	**337**	P	**P**	**08 15 59.0**	**-0.5**
	0.7nm,0.3s,baz=169,slow=6.7,SNR=4.5						
CMAR				LR	LR	08 27 54.1	
	comp=Z,35nm,19.9s,baz=150,slow=37						
PALK	**Pallekele**	**33.95**	**298**	LR	LR	08 28 45.0	
	comp=Z,105nm,20.9s,baz=140,slow=33						
H08S2	**Diego Garcia H**	**37.66**	**269**	T	T	08 57 11.1	
	baz=94,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**37.67**	**269**	T	T	08 57 10.7	
	baz=94,slow=75,SNR=11						
H08S1	**Diego Carcia H**	**37.68**	**269**	T	T	08 57 11.4	
	baz=94,slow=75,SNR=15						
KSAR	**Wonju Array Be**	**49.17**	**18**	P	**P**	**08 18 40.1**	**-0.2**
KSRS	**Korea Array**	**49.20**	**18**	P	**P**	**08 18 40.1**	**-0.4**
	3.2nm,0.8s,baz=199,slow=7.9,SNR=6.6						
MJAR	**Matsushiro Arr**	**52.42**	**28**	P	**P**	**08 19 02.1**	**-2.8**
	5.8nm,0.8s,baz=207,slow=8.4,SNR=15						
USRK	**Ussuriysk Ar.**	**56.60**	**18**	P	**P**	**08 19 33.3**	**-1.8**
	10nm,0.8s,baz=210,slow=4.7,SNR=16						
TKM2	**Tokmak 2**	**60.89**	**331**	*e*P	**P**	**08 20 04.5**	**-0.7**
	2.3nm,0.6s						
MKAR	**Makanchi Array**	**61.19**	**338**	P	**P**	**08 20 05.8**	**-1.0**
	0.8nm,0.5s,baz=151,slow=8.0,SNR=11						
KURBB	**Kurchatov Arra**	**65.76**	**338**	P	**P**	**08 20 36.2**	**-0.7**
	2.0nm,0.6s,baz=63,slow=14,SNR=10						
KURBB	**Kurchatov Arra**	**65.76**	**338**	⇑Pn	**P**	**08 20 37.9**	**+1.0**
	2.7nm,0.7s						
KURK	**Kurchatov**	**65.80**	**338**	*e*P	**P**	**08 20 36.1**	**-1.1**
	1.7nm,0.9s						
KURK	**Kurchatov**	**65.80**	**338**	⇑Pn	**P**	**08 20 36.0**	**-1.2**
	1.8nm,0.9s						
ZALV	**Zalesovo Beam**	**66.58**	**344**	P	**P**	**08 20 41.0**	**-1.1**
	2.8nm,0.6s,baz=140,slow=3.4,SNR=24						
GEYT	**Alibeck**	**67.75**	**317**	LR	LR	08 53 20.2	
	comp=Z,30nm,19.4s,baz=45,slow=39						
ABKAR	**Akbulak array**	**73.12**	**328**	*e*P	**P**	**08 21 22.1**	**-0.3**
	4.7nm,0.6s						
PETK	**Petropavlovsk-**	**73.87**	**27**	P	**P**	**08 21 25.6**	**-1.1**
	2.1nm,0.7s,baz=204,slow=6.8,SNR=3.5						
AKTO	**Aktyubinsk**	**74.82**	**328**	P	**P**	**08 21 32.4**	**+0.1**
	1.7nm,0.7s,baz=45,slow=2.6,SNR=7.2						
KBZ	**Khabaz**	**80.64**	**317**	P	**P**	**08 22 05.0**	**+0.1**
	1.5nm,0.8s,baz=135,slow=5.7,SNR=2.7						
QSPA	**South Pole Qui**	**80.79**	**180**	*e*P	**P**	**08 22 07.2**	**+1.7**
	2.9nm,0.9s						
BRTR	**Keskin Array B**	**85.91**	**311**	P	**P**	**08 22 33.4**	**+1.0**
	1.2nm,0.9s,baz=138,slow=5.8,SNR=4.7						
ARCES	**ARCESS Array B**	**96.83**	**339**	LR	LR	09 13 50.6	
	comp=Z,32nm,18.1s,baz=148,slow=40						
YKA	**Yellowknife Ar**	**117.66**	**22**	PKP	**PKPdf**	**08 28 37.1**	**-0.4**
	0.1nm,0.6s,baz=311,slow=1.8,SNR=3.8						
JCT	**Junction City**	**144.67**	**49**	*e*PKPdf	PKPbc	08 29 28.7	+0.6
MIAR	**Mount Ida**	**146.47**	**38**	*e*PKPbc	**PKPbc**	**08 29 33.8**	**+0.3**

*ISCJB **26** 08:18:07.9±0.3, 8°.91S±0°.05×118°.21E±0°.02, h164km±3km, mb4.2/18, Error ellipse: s-maj=7.8km s-min=3.7km az=12.0*
*BJI **26** 08:18:07.8, 8°.80S×118°.20E, h152km, mB4.9/8, mb4.6/20*
*NEIC **26** 08:18:08.8±0.6, 8°.77S×118°.21E, h150km±6km, mb4.3/8, Error ellipse: s-maj=9.4km s-min=5.9km az=216.0*
*IDC **26** 08:18:08.7±1.9, 8°.76S×118°.29E, h148km±15km, mb4.0/12, mb1 4.1/14, mb1mx3.9/27, mbtmp4.5/14, Error ellipse: s-maj=27.4km s-min=7.8km az=45.0*
*DJA **26** 08:18:10.5±0.3, 9°.S±3°.×11°.8E±°, h109km±5km, M4.8/18, mb4.8/4, mB5.0/3, MLv4.8/18, Mw(mB)4.3/3*

ISC 26 08:18:09.5±0.5, 8°.91S±0°.05×118°.22E±0°.04, h162km±3km, n79, σ1°.61/106, mb4.2/18, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.19**	**110**	P	**Pn**	**08 18 46.1**	**-1.5**
WSI				S	**Sn**	**08 19 14.0**	**-2.9**
BASI	**Baing, Sumba**	**2.67**	**119**	P	**Pn**	**08 18 53.3**	**0.0**
BASI				S	**Sn**	**08 19 25.6**	**-1.6**
DNP	**Denpasar**	**2.98**	**274**	P	**Pn**	**08 18 56.7**	**-0.5**
DNP				S	**Sn**	**08 19 32.7**	**-1.4**
IGBI	**Denpasar**	**3.04**	**272**	P	**Pn**	**08 18 57.0**	**-0.9**
IGBI				S	**Sn**	**08 19 33.7**	**-1.6**
SRBI	**Singaraja**	**3.08**	**285**	P	**Pn**	**08 18 57.7**	**-0.7**
EDFI	**Ende, Flores**	**3.44**	**88**	P	**Pn**	**08 19 01.6**	**-1.4**
MMRI	**Maumere**	**3.98**	**86**	P	**Pn**	**08 19 08.5**	**-1.4**
MMRI				S	**Sn**	**08 19 53.1**	**-3.9**
MMRI	**Maumere**	**3.98**	**86**	*e*Pn	**Pn**	**08 19 08.5**	**-1.4**
BKSI	**Bulukumba**	**4.04**	**28**	P	**Pn**	**08 19 09.6**	**-1.0**
JAGI	**Jajag, Banyuwa**	**4.04**	**276**	P	**Pn**	**08 19 08.6**	**-2.1**
JAGI				S	**Sn**

8.1nm,0.3s
DANN Dangsing 49.80 319 *e*P **P** **08 26 45.3 -1.1**
29nm,0.5s
PYUN Piuthan 50.14 318 *e*P **P** **08 26 48.3 -0.5**
44nm,0.4s
GTA Gaotai 51.02 342 *e*P **P** **08 26 55.8 +0.6**
GTA pP **pP** **08 27 32.3 +0.3**
GTA sP **sP** **08 27 49.5 -0.4**
GTA PMZ
10.0nm,1.1s
MDJ Mudanjiang 54.26 10 P **P** **08 27 19.5 +0.8**
MDJ PMZ
6.0nm,0.9s
MDJ PMZ
17nm,2.8s
USRK Ussuriysk Ar. 54.32 12 P **P** **08 27 18.7 -0.4**
2.0nm,0.4s,baz=196,slow=6.0,SNR=10
ULN Ulaanbaatar 57.39 351 *e*P **P** **08 27 41.2 +0.2**
4.1nm,0.7s
SONM Songino Array 57.46 351 P **P** **08 27 41.6 0.0**
6.6nm,0.5s,baz=168,slow=7.9,SNR=29
WMQ Urumqi 59.34 335 *e*P **P** **08 27 55.3 +0.7**
WMQ pP **pP** **08 28 35.3 +2.8**
WMQ PcP **PcP** **08 28 41.3 +0.4**
WMQ PP **PP** **08 30 10.0 +2.3**
WMQ S **S** **08 35 49.0 -1.5**
WMQ sS **sS** **08 36 54.3 -1.8**
WMQ ScS **ScS** **08 37 25.5 -3.3**
WMQ SS **SS** **08 39 47.5 -0.8**
WMQ PMZ
3.0nm,1.0s
WMQ PMZ
160nm,4.0s
WMQ LN
52nm,17.0s
WMQ LE
130nm,16.0s
WMQ LZ
44nm,19.0s
KSH Kashi 62.08 324 *e*P **P** **08 28 12.8 -0.5**
KSH pP **PcP** **08 28 51.3 -0.8**
KSH PP **PP** **08 30 32.5 +0.5**
KSH S S 08 36 18.5 -7.0
KSH sS sS 08 37 24.5 -7.1
KSH SS **SS** **08 40 25.8 -5.7**
KSH PMZ
49nm,5.6s
KSH LN
38nm,3.9s
KSH LE
27nm,3.9s
KSH LZ
140nm,5.1s
KBL Kabul 63.49 316 *e*P **P** **08 28 21.4 -1.5**
3.2nm,0.4s
MKAR Makanchi Array 64.03 333 P **P** **08 28 25.4 -0.4**
1.0nm,0.3s,baz=151,slow=5.7,SNR=23
AAK Ala-Archa 64.97 326 *e*P **P** **08 28 31.6 -0.6**
1.5nm,0.7s
KKAR Karatay Array 67.53 324 *e*P **P** **08 28 46.6 -1.7**
KURBB Kurchatov Arra 68.55 334 P **P** **08 28 54.0 -0.5**
0.9nm,0.5s,baz=139,slow=5.6,SNR=17
KURK Kurchatov 68.58 334 *e*P **P** **08 28 53.9 -0.8**
0.9nm,0.6s
ZALV Zalesovo Beam 68.69 340 P **P** **08 28 54.0 -1.2**
7.3nm,0.6s,baz=146,slow=5.4,SNR=30
BVAR Borovoye Array 73.86 332 P **P** **08 29 26.1 -0.3**
2.8nm,0.9s,baz=142,slow=7.3,SNR=9.8
SEY Seymchan 76.28 15 P **P** **08 29 40.8 +0.7**
1.5nm,0.6s,baz=223,slow=4.0,SNR=6.7
ABKAR Akbulak array 77.05 325 *e*P **P** **08 29 44.2 -0.4**
3.2nm,0.7s
AKTO Aktyubinsk 78.72 326 P **P** **08 29 53.5 -0.3**
1.6nm,0.6s,baz=81,slow=3.6,SNR=6.4
TIXI Tiksi 80.70 3 *e*P **P** **08 30 03.4 -0.7**
2.7nm,0.8s
VYHS Vyhne 102.83 318 PDIF **Pdif** **08 31 49.8 +1.0**
YKA Yellowknife Ar 114.43 24 PKP PKPdf 08 36 30.9 +1.2
0.1nm,0.4s,baz=303,slow=1.9,SNR=5.8
TORD Torodi Ar. Bea 117.68 280 PKP **PKPdf** **08 36 38.5 +1.1**
0.2nm,0.3s,baz=50,slow=2.0,SNR=6.5

*ATH **26** 08:40:40.7, 39.°34N×20.°96E, h28km±2km, MD3.1/8*
*CSEM **26** 08:40:40.9±0.1, 39.°33N×20.°97E, h15km, ML1.8, Error ellipse: s-maj=3.5km s-min=2.9km az=63.0*
*THE **26** 08:40:41.5, 39.°32N×20.°97E, h2km±32km, ML1.8/5, Error ellipse: s-maj=32.4km s-min=0.5km az=0.0*

ISC 26 08:40:41.0±0.9, 39.°33N±0.°02×20.°96E±0.°02, h10km±10km, n31, σ0.°42/52, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSL	**Palaion Diasel**	**0.22**	**151**	P	**Pg**	**08 40 45.1**	**-0.4**
DSL				S	**Sg**	**08 40 48.7**	**+0.1**
DSL	**Palaion Diasel**	**0.22**	**151**	P	**Pg**	**08 40 45.1**	**-0.4**
DSL				S	**Sg**	**08 40 48.7**	**+0.1**
JAN	**Janina**	**0.34**	**345**	P	**Pg**	**08 40 48.0**	**+0.2**
JAN				S	**Sg**	**08 40 53.2**	**+0.9**
JAN	**Janina**	**0.34**	**345**	*e*PB	**Pg**	**08 40 47.6**	**-0.2**
JAN				*e*SB	**Sb**	**08 40 54.5**	**-0.2**
JAN	**Janina**	**0.34**	**345**	*e*Pb	**Pg**	**08 40 47.6**	**-0.2**
JAN	**Janina**	**0.34**	**345**	P	**Pg**	**08 40 48.0**	**+0.2**
JAN				S	**Sg**	**08 40 53.2**	**+0.9**
JAN				*e*Sb	**Sb**	**08 40 54.5**	**-0.2**
MEV	**Metsovon**	**0.50**	**24**	P	**Pg**	**08 40 50.8**	**0.0**
MEV				S	**Sb**	**08 40 59.1**	**-0.4**
MEV	**Metsovon**	**0.50**	**24**	P	**Pg**	**08 40 50.8**	**0.0**
MEV				S	**Sb**	**08 40 59.1**	**-0.4**
IGT	**Igoumenitsa**	**0.53**	**293**	P	**Pg**	**08 40 51.5**	**+0.2**
IGT				S	**Sb**	**08 40 59.6**	**-0.5**
IGT	**Igoumenitsa**	**0.53**	**293**	*e*PN	**Pg**	**08 40 51.1**	**-0.2**
IGT				*e*SN	**Sb**	**08 40 59.9**	**-0.2**
IGT	**Igoumenitsa**	**0.53**	**293**	*e*Pn	**Pg**	**08 40 51.1**	**-0.2**
IGT	**Igoumenitsa**	**0.53**	**293**	P	**Pg**	**08 40 51.5**	**+0.2**
IGT				S	**Sb**	**08 40 59.6**	**-0.5**
LKD2	**Lefkada island**	**0.59**	**204**	P	**Pg**	**08 40 52.7**	**+0.3**
LKD2				S	**Sg**	**08 41 00.2**	**+0.1**
LKD2	**Lefkada island**	**0.59**	**204**	*e*PN	**Pg**	**08 40 52.6**	**+0.2**
LKD2				*e*SN	**Sb**	**08 41 02.3**	**+0.5**
LKD2	**Lefkada island**	**0.59**	**204**	P	**Pg**	**08 40 52.7**	**+0.3**
LKD2				S	**Sg**	**08 41 00.2**	**+0.1**
LKD2				*e*Sn	**Sb**	**08 41 02.3**	**+0.5**
PDO	**Prodromos**	**0.75**	**167**	P	**Pb**	**08 40 55.8**	**-0.3**
PDO				S	**Sb**	**08 41 06.4**	**0.0**
PDO	**Prodromos**	**0.75**	**167**	P	**Pb**	**08 40 55.8**	**-0.3**
PDO				S	**Sb**	**08 41 06.4**	**0.0**
EVR	**Evrytania**	**0.78**	**122**	P	**Pb**	**08 40 56.5**	**-0.2**
EVR				S	**Sb**	**08 41 06.8**	**-0.5**
EVR	**Evrytania**	**0.78**	**122**	P	**Pb**	**08 40 56.5**	**-0.2**
EVR				S	**Sb**	**08 41 06.8**	**-0.5**
THL	**Klokotos Trika**	**0.85**	**73**	P	**Pg**	**08 40 57.8**	**+0.5**
THL				S	**Sg**	**08 41 09.4**	**+1.0**
THL	**Klokotos Trika**	**0.85**	**73**	*e*PN	**Pg**	**08 40 57.4**	**+0.1**
THL	**Klokotos Trika**	**0.85**	**73**	*e*Pn	**Pg**	**08 40 57.4**	**+0.1**
THL	**Klokotos Trika**	**0.85**	**73**	P	**Pg**	**08 40 57.8**	**+0.5**
THL				S	**Sg**	**08 41 09.4**	**+1.0**
KEK	**Kerkira**	**0.98**	**294**	*e*PN	**Pb**	**08 40 59.5**	**-0.6**
KEK	**Kerkira**	**0.98**	**294**	*e*Pn	**Pb**	**08 40 59.5**	**-0.6**
NEST	**Nestorio**	**1.09**	**4**	*e*PN	**Pg**	**08 41 02.1**	**+0.2**
NEST	**Nestorio**	**1.09**	**4**	*e*Pn	**Pg**	**08 41 02.1**	**+0.2**
AGG	**Agios Georgios**	**1.11**	**106**	*e*PN	**Pb**	**08 41 01.6**	**-0.7**
AGG	**Agios Georgios**	**1.11**	**106**	*e*Pn	**Pb**	**08 41 01.6**	**-0.7**
VLS	**Valsamata**	**1.18**	**194**	*e*PN	**Pb**	**08 41 03.5**	**-0.1**
VLS	**Valsamata**	**1.18**	**194**	*e*Pn	**Pb**	**08 41 03.5**	**-0.1**

GUC 26 09:01:58.9±0.3, 35.°02S×73.°06W, h12km±2km, ML4.1, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.13**	**169**	⇓*e*P	Pb	09 02 18.0	-2.3
COCH				*e*S	Sb	09 02 33.0	-2.0
TALC	**Talca**	**1.23**	**108**	*e*P	Pn	09 02 20.0	-1.9
TALC				*e*S	Sb	09 02 35.7	-2.1
LNCH	**Linares**	**1.45**	**125**	⇑*e*P	Pn	09 02 23.4	-1.5
LNCH				*e*S	Sn	09 02 41.7	-2.2
NICH	**Los Niches**	**1.50**	**90**	*e*P	Pn	09 02 24.2	-1.5
NICH				*e*S	Sn	09 02 43.6	-1.6
LNV	**Longovilo**	**1.73**	**53**	*e*P	Pn	09 02 27.8	-0.9
LNV				*e*S	Sn	09 02 49.6	-1.1
CHCH	**Chadas Angostu**	**2.26**	**62**	*e*P	Pn	09 02 36.4	+0.2
CLCH	**Cerro Calan**	**2.64**	**53**	*e*P	Pn	09 02 41.7	+0.2
CLCH				*e*S	Sn	09 03 14.5	+0.9
CLCH				AML	AML	09 03 27.7	
	comp=N,792nm,0.4s						
PEL	**Peldehue**	**2.72**	**47**	*e*P9	Pn	09 02 42.2	-0.3
PEL				*e*S	Sn	09 03 15.6	+0.2
PEL				AML	AML	09 03 28.8	
	comp=N,994nm,0.2s						

GUC 26 09:08:45.3±0.5, 35.°04S×73.°12W, h30km±4km, ML3.9, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.12**	**166**	*e*P	Pn	09 09 04.6	-0.3
COCH				*e*S	Sn	09 09 18.7	-0.6
TALC	**Talca**	**1.27**	**107**	*e*P	Pn	09 09 06.7	-0.2
TALC				*e*S	Sn	09 09 22.7	-0.2
LNCH	**Linares**	**1.48**	**123**	*e*P	Pn	09 09 09.8	0.0
LNCH				*e*S	Sn	09 09 28.6	+0.5
NICH	**Los Niches**	**1.55**	**89**	⇑*e*P	Pn	09 09 11.0	+0.1
NICH				*e*S	Sn	09 09 31.3	+1.3
LNV	**Longovilo**	**1.78**	**53**	*e*P	Pn	09 09 14.6	+0.6
CACH	**El Canelo**	**2.28**	**67**	*e*P	Pn	09 09 21.8	+0.8
CHCH	**Chadas Angostu**	**2.32**	**62**	*e*P	Pn	09 09 22.2	+0.7
CLCH	**Cerro Calan**	**2.70**	**53**	*e*P	Pn	09 09 27.6	+0.9
CLCH				*e*S	Sn	09 09 59.8	+1.3
CLCH				AML	AML	09 10 14.6	
	comp=N,410nm,0.7s						
PEL	**Peldehue**	**2.77**	**48**	*e*P	Pn	09 09 28.6	+0.9
PEL				*e*S	Sn	09 10 01.5	+1.4
PEL				AML	AML	09 10 15.8	
	comp=N,455nm,0.5s						

*ISCJB **26** 09:12:47.2±1.2, 1.°40S±0.°04×120.°38E±0.°04, h1km±9km, mb4.0/7, MS3.3/7, Error ellipse: s-maj=6.8km s-min=5.5km az=39.6*
*IDC **26** 09:12:48.0±0.9, 1.°46S×120.°48E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/24, mbtmp4.0/7, MS3.4/8, Ms1 3.5/8, ms1mx3.2/28, Error ellipse: s-maj=107.8km s-min=17.7km az=59.0*
*DJA **26** 09:12:49.7±0.2, 1.°S±2.°×12.°0E±.°, h10km, M4.4/17, mb4.5/2, MLv4.3/1, MLv4.5/17*

ISC 26 09:12:48.8±1.9, 1.°34S±0.°05×120.°38E±0.°04, h7km±14km, n29, σ1.°05/26, mb4.0/7, MS3.3/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.69**	**308**	P	**Pg**	**09 13 02.1**	**-0.1**
PCI				S	**Sb**	**09 13 12.6**	**-0.4**
APSI	**Ampana**	**1.34**	**71**	P	**Pn**	**09 13 13.0**	**-0.8**
APSI				S	**Sn**	**09 13 33.6**	**+1.8**
MPSI	**Mapaga**	**1.73**	**344**	P	**Pn**	**09 13 18.0**	**-1.3**
TTSI	**Tana Toraja**	**1.79**	**198**	P	**Pn**	**09 13 19.2**	**-0.8**
TTSI				S	**Sn**	**09 13 43.2**	**+0.3**
MRSI	**Marisa**	**2.38**	**41**	P	**Pn**	**09 13 28.6**	**+0.4**
MRSI				S	**Sb**	**09 14 00.0**	**-1.6**
LUWI	**Luwuk**	**2.41**	**83**	P	**Pn**	**09 13 27.8**	**-0.8**
LUWI				S	**Sb**	**09 14 00.8**	**-1.5**
SPSI	**Sidrap Palu**	**2.68**	**193**	P	**Pn**	**09 13 31.8**	**-0.5**
BNSI	**Bone**	**3.05**	**185**	P	**Pn**	**09 13 37.7**	**+0.2**
GTOI	**Gorontalo**	**3.28**	**53**	P	**Pn**	**09 13 41.5**	**+0.9**
BKB	**Balikpapan**	**3.49**	**271**	P	**Pn**	**09 13 44.0**	**+0.6**
BKSI	**Bulukumba**	**3.96**	**184**	P	**Pn**	**09 13 50.1**	**+0.1**
KMSI	**Cibinong**	**4.07**	**62**	P	**Pb**	**09 14 02.1**	**+1.3**
BBSI	**Bau Bau**	**4.66**	**152**	P	**Pn**	**09 13 59.9**	**+0.3**
SANI	**Sanana**	**5.65**	**97**	P	**Pn**	**09 14 11.6**	**-1.6**
BBKI	**Banjar Baru**	**5.92**	**249**	P	**Pn**	**09 14 17.4**	**+0.4**
67nm,1.1s,0.5nm							
NLAI	**Namlea**	**6.97**	**106**	P	**Pn**	**09 14 32.3**	**+0.9**
BATI	**Baumata**	**9.39**	**160**	LR	LR	09 19 02.9	
	comp=Z,369nm,21.4s,baz=348,slow=41						
WRA	**Warramunga Arr**	**22.98**	**144**	P	**P**	**09 17 52.3**	**-1.9**
	3.5nm,0.9s,baz=324,slow=11,SNR=16						
WRA				LR	LR	09 28 39.6	
	comp=Z,106nm,18.1s,baz=315,slow=42						
ASAR	**Alice Springs**	**25.78**	**150**	P	**P**	**09 18 19.7**	**-0.8**
	0.9nm,0.6s,baz=324,slow=8.2,SNR=12						
ASAR				LR	LR	09 28 58.0	
	comp=Z,106nm,19.7s,baz=320,slow=38						
CMAR	**Chiang Mai Arr**	**28.84**	**314**	LR	LR	09 33 46.6	
	comp=Z,110nm,18.1s,baz=141,slow=43						
KSRS	**Korea Array**	**39.23**	**10**	LR	LR	09 36 37.3	
	comp=Z,36nm,20.8s,baz=180,slow=36						
HNR	**Honiara**	**40.16**	**103**	LR	LR	09 37 42.5	
	comp=Z,33nm,18.9s,baz=258,slow=37						
MJAR	**Matsushiro Arr**	**41.17**	**22**	LR	LR	09 35 41.8	
	comp=Z,33nm,21.8s,baz=235,slow=33						
DZM	**Mont Dzumac**	**49.30**	**118**	LR	LR	09 44 09.2	
	comp=Z,63nm,18.3s,baz=210,slow=38						
SONM	**Songino Array**	**50.47**	**348**	P	P	09 21 50.7	+3.3
	1.8nm,0.9s,baz=166,slow=7.4,SNR=11						
MKAR	**Makanchi Array**	**58.42**	**330**	P	**P**	**09 22 45.7**	**+0.6**
	2.3nm,0.8s,baz=124,slow=6.6,SNR=19						
AAK	**Ala-Archa**	**60.14**	**322**	P	**P**	**09 22 58.3**	**+1.0**
	2.6nm,0.9s,baz=149,slow=11,SNR=6.1						
KURBB	**Kurchatov Arra**	**62.84**	**331**	P	**P**	**09 23 15.2**	**0.0**
	1.4nm,0.7s,baz=139,slow=5.8,SNR=9.4						
AKTO	**Aktyubinsk**	**73.82**	**324**	P	P	09 24 27.2	+3.2
	0.7nm,0.4s,baz=124,slow=5.2,SNR=3.6						

JMA 26 09:16:17.8±0.1, 39.°83N×142.°38E, h50km±1km, M3.5, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.41**	**285**	⇓P	Pn	09 16 28.2	+0.1
JTH				*e*S	Sn	09 16 35.6	+0.2
MIYJ	**Miyakonagasawa**	**0.50**	**240**	⇓P	Pn	09 16 29.0	-0.1
MIYJ				*e*S	Sn	09 16 36.9	-0.2
JKZ	**Kuzumaki**	**0.82**	**281**	⇓P	Pn	09 16 33.5	+0.3
JKZ				*e*S	Sn	09 16 44.6	+0.1
JANG	**Nango**	**0.86**	**310**	⇓P	Pn	09 16 33.3	-0.3
JANG				S	Sn	09 16 45.1	-0.1
JOM	**Ohasama**	**0.91**	**247**	⇓P	Pn	09 16 34.5	+0.2
JOM				S	Sn	09 16 46.7	+0.2
OFUJ	**Ofunato**	**0.93**	**217**	⇓P	Pn	09 16 34.4	-0.2
OFUJ				*e*S	Sn	09 16 46.5	-0.4
JMK	**Ichinoseki**	**1.26**	**226**	P	Pn	09 16 39.1	+0.1
JMK				*e*S	Sn	09 16 54.9	+0.2
JTM	**Tenmabayashi**	**1.39**	**314**	⇓P	Pn	09 16 40.9	+0.2
JTM				*e*S	Sn	09 16 58.2	+0.3
JAH	**Hinai**	**1.39**	**286**	⇓P	Pn	09 16 41.3	+0.6
JAH				*e*S	Sn	09 16 59.0	+1.1
JRG	**Rokugo**	**1.42**	**253**	P	Pn	09 16 41.6	+0.4
JRG				*e*S	Sn	09 17 00.1	+1.4
JIO	**Ouri**	**1.59**	**211**	P	Pn	09 16 43.3	-0.2
JIO				*e*S	Sn	09 17 02.7	-0.2

IGQ 26 09:24:56±0.1, 1.°10S×78.°41W, h2km±1km, Mb4.5, 14C, Error ellipse: s-maj=3.2km s-min=0.3km az=12.7, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRUN	**Tungurahua Vol**	**0.32**	**180**	⇑P	Pg	09 25 03.2	+0.6
BULB	**Ulba Tungurahu**	**0.34**	**180**	⇑S	Sb	09 25 09.7	-1.7
BULB	**Ulba Tungurahu**	**0.34**	**180**	⇑P	Pg	09 25 03.4	+0.5
BBIL	**Ulba Tungurahu**	**0.36**	**192**	⇑P	Pg	09 25 04.1	+0.8
BBIL	**Ulba Tungurahu**	**0.36**	**192**	⇑S	Sg	09 25 09.9	+1.6
BMOR	**Cotopaxi Volca**	**0.37**	**353**	⇑P	Pb	09 25 06.0	-0.1
BPAT	**Tungurahua Vol**	**0.40**	**183**	⇑P	Pb	09 25 05.9	-0.6
BMAS	**Trigal station**	**0.41**	**189**	⇑P	Pb	09 25 05.7	-0.7
BTAM	**Cotopaxi Volca**	**0.42**	**2**	⇑P	Pb	09 25 06.5	-0.4
BREF	**Cotopaxi Volca**	**0.43**	**356**	⇑P	Pb	09 25 06.1	-1.0
BVC2	**Cotopaxi Volca**	**0.44**	**0**	⇑P	Pb	09 25 06.9	-0.3
RIOE	**Riobamba**	**0.68**	**199**	⇑P	Pg	09 25 10.1	+0.5
MACE	**Macas**	**1.17**	**169**	⇑P	Pn	09 25 19.6	0.0
OTAV	**Otavalo**	**1.33**	**358**	⇑P	Pg	09 25 21.4	-0.7

*IDC **26** 09:36:54.4±0.5, 1.°26S×15.°91W, h0km, mb4.3/22, mb1 4.4/24, mb1mx4.3/38, mbtmp4.3/24, ML4.3/2, MS4.1/23, Ms1 4.1/23, ms1mx4.1/31, Error ellipse: s-maj=15.7km s-min=14.6km az=135.0*
*MOS **26** 09:36:54.6±1.3, 1.°25S×15.°84W, h10km, mb5.1/19, Error ellipse: s-maj=15.2km s-min=7.0km az=56.6*
*BJI **26** 09:36:54.7, 0.°54S×16.°61W, h9km, mB5.5/4, mb5.0/2, Ms5.0/6, Ms7 4.6/7*
*ISCJB **26** 09:36:55.5±0.2, 1.°29S±0.°06×15.°75W±0.°03, h12km, mb4.7/58, MS4.2/25, Error ellipse: s-maj=8.4km s-min=4.7km az=164.9*
*NEIC **26** 09:36:56.8±0.3, 1.°28S×15.°83W, h10km, mb5.2/21, Error ellipse: s-maj=10.1km s-min=7.9km az=166.0*
*GCMT **26** 09:36:56.8±0.3, 1.°38S×15.°92W, h12km±1km, MW5.0/93, Moment Tensor Solution. s31,c35; s93,c122; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}-2.73±.17; $M_{\theta\theta}$-0.41±.10; $M_{\phi\phi}$3.14±.14; $M_{r\theta}$-1.86±.38; $M_{\theta\phi}$-0.28±.08; $M_{\phi r}$-0.22±.29; Best double couple: $M_0$3.47100×10^16 NP1:ϕ_s22.00000°, δ53.00000°, λ-52.00000°. NP2: ϕ_s150.00000°, δ51.00000°, λ-129.00000°. Principal axes: T 3.1630, Plg1.0000°, Azm86.0000°; N 0.6110, Plg29.0000°, Azm176.0000°; P -3.7790, Plg61.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **26** 09:37:02.1, 0.°35N×17.°09W, h10km, mb4.5, North of Ascension Island*

ISC 26 09:36:56.7±0.4, 1.°32S±0.°08×15.°90W±0.°07, h12km, n381, σ1.°21/376, mb4.8/58, MS4.1/25, 111C-129D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.62**	**168**	T	T	09 45 14.1	
baz=348,slow=74,SNR=322							
H10N3	**ASCENSION HYDR**	**6.62**	**168**	T	T	09 45 14.9	
baz=348,slow=74,SNR=378							
H10N1	**ASCENSION HYDR**	**6.63**	**168**	T	T	09 45 15.5	
baz=348,slow=74,SNR=653							
H10S1	**ASCENSION HYDR**	**7.67**	**171**	T	T	09 46 37.4	
baz=351,slow=74,SNR=314							
H10S3	**ASCENSION HYDR**	**7.68**	**171**	T	T	09 46 37.8	
baz=351,slow=74,SNR=319							
H10S2	**ASCENSION HYDR**	**7.69**	**171**	T	T	09 46 36.9	
baz=351,slow=74,SNR=237							
LIC	**Lamto**	**13.19**	**55**	*e*P	**Pn**	**09 40 06.6**	**+2.7**
119nm,1.2s							
TIC	**Toumodi**	**13.43**	**54**	*e*P	**Pn**	**09 40 08.0**	**+0.7**
6.3nm,0.2s							
KIC	**Kosan Boka**	**13.50**	**55**	*e*P	**Pn**	**09 40 09.2**	**+1.0**
184nm,1.5s							
DBIC	**Dimbokro**	**13.58**	**54**	*e*P	**Pn**	**09 40 09.0**	**-0.3**
DBIC				*e*		09 42 32.1	
DBIC	**Dimbokro**	**13.58**	**54**	Pn	**Pn**	**09 40 08.1**	**-1.1**
0.6nm,0.3s,baz=222,slow=14,SNR=12							
DBIC				Sn	Sn	09 42 28.0	-12
0.4nm,0.3s,baz=270,slow=15,SNR=3.2							
DBIC				LR	LR	09 44 19.5	
comp=Z,2μm,20.9s,baz=212,slow=33							
DBIC	**Dimbokro**	**13.58**	**54**	*e*Pn	**Pn**	**09 40 09.0**	**-0.3**
DBIC				*e*Sn	Sn	09 42 32.1	-8.1
BBTS	**Babate**	**15.89**	**358**	Pn	**Pn**	**09 40 40.2**	**-0.1**
2.5nm,0.3s,baz=160,slow=1.1,SNR=2.5							
BBTS				LR	LR	09 46 16.8	
comp=Z,625nm,19.6s,baz=210,slow=36							
RCBR	**Riachuelo**	**20.46**	**257**	LR	LR	09 47 18.8	
comp=Z,773nm,19.8s,baz=90,slow=30							
TORD	**Torodi Ar. Bea**	**22.61**	**50**	P	**P**	**09 41 56.8**	**-0.7**
20nm,0.9s,baz=233,slow=8.7,SNR=39							
TORD				LR	LR	09 49 52.8	
comp=Z,1μm,19.2s,baz=230,slow=34							
MSKU	**Masuku**	**29.50**	**91**	P	**P**	**09 43 00.6**	**-0.6**
12nm,0.6s,baz=269,slow=11,SNR=4.4							
MSKU				LR	LR	09 51 57.9	
comp=Z,522nm,21.4s,baz=270,slow=31							
TAM	**Tamanrasset**	**31.78**	**40**	*e*P	**P**	**09 43 23.5**	**+2.2**
TAM				pmax	pmax		
comp=Z,18nm,1.5s							
TAM	**Tamanrasset**	**31.78**	**40**	*e*P	**P**	**09 43 23.5**	**+2.2**
comp=Z,18nm,1.5s							
BDFB	**Brasilia**	**34.73**	**244**	*e*P	**P**	**09 43 47.4**	**+0.3**
BDFB	**Brasilia**	**34.73**	**244**	P	**P**	**09 43 46.5**	**-0.6**
comp=Z,3.8nm,0.8s,baz=32,slow=17,SNR=4.0							
BDFB				LR	LR	09 55 50.6	
comp=Z,254nm,20.7s,baz=69,slow=33							
BDFB	**Brasilia**	**34.73**	**244**	*e*P	**P**	**09 43 47.4**	**+0.3**
MDT	**Midelt**	**35.59**	**16**	P	**P**	**09 43 53.3**	**-1.1**
comp=Z,1.5nm,0.6s,baz=194,slow=8.3,SNR=3.0							
TSUM	**Tsumeb**	**37.30**	**121**	P	**P**	**09 44 09.1**	**-0.1**
comp=Z,3.1nm,1.0s,baz=259,slow=4.9,SNR=4.3							
ESDC	**Sonseca Array**	**42.24**	**14**	LR	LR	10 02 53.5	
comp=Z,201nm,19.6s,baz=180,slow=37							
KEST	**Kesra**	**43.74**	**30**	LR	LR	10 04 01.7	
comp=Z,239nm,20.6s,baz=173,slow=37							
SUR	**Sutherland**	**46.34**	**136**	P	**P**	**09 45 22.9**	**-0.2**
comp=Z,6.3nm,0.7s,baz=318,slow=9.2,SNR=8.6							
LBTB	**Lobatse**	**46.45**	**124**	*e*P	**P**	**09 45 24.1**	**+0.2**
LBTB	**Lobatse**	**46.45**	**124**	P	**P**	**09 45 23.5**	**-0.4**
comp=Z,5.8nm,0.8s,baz=290,slow=6.4,SNR=10							
LBTB	**Lobatse**	**46.45**	**124**	*e*P	**P**	**09 45 24.1**	**+0.2**
H05S1	**Guadeloupe/Mar**	**47.16**	**291**	T	T	10 36 04.7	
SNR=7.5							
SAML	**Samuel**	**47.66**	**259**	*e*P	**P**	**09 45 33.5**	**+0.1**
comp=Z,39nm,1.9s							
H05N1	**Guadeloupe/Mar**	**47.89**	**293**	T	T	10 36 51.8	
KMBO	**Kilima Mbogo**	**53.13**	**90**	*e*P	**P**	**09 46 16.5**	**+1.3**
KMBO	**Kilima Mbogo**	**53.13**	**90**	P	**P**	**09 46 15.2**	**0.0**
comp=Z,0.9nm,0.4s,baz=252,slow=8.1,SNR=7.6							
KMBO				LR	LR	10 07 17.3	
comp=Z,856nm,18.7s,baz=272,slow=34							
KMBO	**Kilima Mbogo**	**53.13**	**90**	*e*P	**P**	**09 46 16.5**	**+1.3**
DAVA	**Damuels**	**53.41**	**22**	⇓*i*pP	pP	09 46 20.9	+0.5
comp=Z,10nm,1.1s							
LPAZ	**La Paz**	**53.53**	**251**	P	**P**	**09 46 18.1**	**-0.4**
comp=Z,1.0nm,0.8s,baz=62,slow=6.9,SNR=4.3							
LPAZ				PcP	**PcP**	**09 47 24.8**	**-0.6**
comp=Z,2.5nm,0.8s,baz=69,slow=4.0,SNR=6.7							
LPAZ				LR	LR	10 08 27.6	
comp=Z,475nm,19.0s,baz=89,slow=35							
WTTA	**Wattenberg**	**54.05**	**23**	⇑*i*P	P	09 46 18.0	-3.3
comp=Z,14nm,1.3s							
APE	**Apeiranthos**	**54.14**	**41**	*i*P	**P**	**09 46 21.7**	**-0.2**
SOKA	**Soboth**	**54.98**	**26**	⇓*i*P	**P**	**09 46 28.5**	**+0.6**
comp=Z,9.0nm,1.3s							
GRF	**Grafenberg Arr**	**55.91**	**21

DRGR 58.66 30 ⇓*iP* P 09 46 54.9 +0.9
ROSC El Rosal 58.70 276 LR LR 10 09 18.4
comp=Z,217nm,21.9s,baz=84,slow=33
ARR Arges 58.70 32 ⇓*iP* P 09 46 55.5 +1.1
OKC Ostrava-Krasne 58.74 25 *eP* P 09 46 57.0 +2.6
OKC Ostrava-Krasne 58.74 25 *eP* P 09 46 57.0 +2.6
LCO Las Campanas 58.95 237 *eP* P 09 46 48.3 -8.4
comp=Z,25nm,1.4s
VOIR 58.97 33 ⇑P P 09 46 56.1 -0.1
VOIR 58.97 33 ⇑*iP* P 09 46 56.1 -0.1
MLR Muntele Rosu 59.49 33 ⇓P P 09 47 00.4 +0.5
MLR Muntele Rosu 59.49 33 ⇓*iP* P 09 47 00.4 +0.5
STHS Stebnicka Huta 59.79 27 *eP* P 09 47 10.3 +8.5
STHS Stebnicka Huta 59.79 27 *e* P 09 47 10.3 +8.5
KOLS Kolonicke sedl 59.92 28 *eP* P 09 47 03.2 +0.5
KOLS Kolonicke sedl 59.92 28 *eP* P 09 47 03.2 +0.5
PLOR Plostina 60.10 33 ⇓P P 09 47 03.2 -0.8
PLOR Plostina 60.10 33 ⇓*iP* P 09 47 03.2 -0.8
VRI Vrincioaia 60.16 33 ⇑P P 09 47 02.8 -1.5
VRI Vrincioaia 60.16 33 ⇑*iP* P 09 47 02.8 -1.5
BRTR Keskin Array B 60.93 42 *i* P P 09 47 10.1 +0.2
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 60.93 42 P P 09 47 09.3 -0.6
comp=Z,5.1nm,0.9s,baz=265,slow=6.2,SNR=19
BRTR LR LR 10 14 55.4
comp=Z,79nm,21.5s,baz=212,slow=38
LVV L'vov 61.37 28 *eP* P 09 47 12.5 0.0
KIS Kishinev 61.99 33 *eP* P 09 47 16.0 -0.7
KIS *e* 09 47 23.0
KIS Kishinev 61.99 33 *eP* P 09 47 16.0 -0.7
KONO Kongsberg 63.99 14 *eP* P 09 47 27.9 -1.8
KONO pmax pmax
comp=Z,17nm,1.1s
KONO Kongsberg 63.99 14 *eP* P 09 47 27.9 -1.8
comp=Z,17nm,1.1s
KIEV Kiev 64.46 30 *eP* P 09 47 32.2 -0.8
KIEV pmax pmax
comp=Z,18nm,1.2s
KIEV Kiev 64.46 30 *eP* P 09 47 32.2 -0.8
comp=Z,18nm,1.2s
AKASG Malin Array Be 64.47 30 P P 09 47 32.0 -1.0
comp=Z,2.8nm,0.7s,baz=232,slow=6.9,SNR=10
AKASG LR LR 10 17 23.1
comp=Z,173nm,20.1s,baz=235,slow=38
RAYN Ar Rayn 64.52 63 *eP* P 09 47 35.9 +1.9
comp=Z,6.8nm,1.2s
NOA NORSAR Array B 65.60 14 P P 09 47 38.7 -1.6
comp=Z,1.1nm,0.9s,baz=212,slow=6.2,SNR=2.8
NOA LR LR 10 17 01.1
comp=Z,86nm,20.2s,baz=210,slow=37
ANN Anapa 65.86 39 *eP* P 09 47 51.8 +10
ANN *e**PP pP 09 47 54.7 +8.6
ANN *e* 09 48 18.6
ANN *e*S S 09 56 50.1 +21
ANN pmax pmax
comp=Z,50nm,0.9s
KIV Kislovodsk 68.86 41 ⇓*eP* P 09 48 02.0 +0.5
KIV *e* 09 50 33.8
KIV *e*S SKiKP 09 57 36.6 -17
KIV *e*SS **SS** 10 01 31.7 +0.7
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,74nm,23.0s
KBZ Khabaz 68.91 42 P P 09 48 01.4 -0.2
comp=Z,7.7nm,0.9s,baz=265,slow=3.3,SNR=14
KBZ LR LR 10 22 32.0
comp=Z,56nm,18.4s,baz=240,slow=40
VNA1 Neumayer--Stat 69.40 177 P P 09 48 04.7 +0.6
VNA2 Neumayer--Watz 69.72 177 P P 09 48 06.9 +0.8
SCHQ Schefferville 69.77 331 LR LR 10 14 40.6
comp=Z,92nm,18.3s,baz=94,slow=32
VORD Divnogorie 69.93 34 *eP* P 09 48 05.8 -1.9
VORD pmax pmax
comp=N,7.0nm,0.8s
VORD pmax pmax
comp=Z,8.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.9s
VNA3 Neumayer Olymp 69.93 178 P P 09 48 05.9 -1.6
VSR Storozhevoye 69.98 33 *eP* P 09 48 05.9 -2.2
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,8.0nm,0.9s
FINES FINESS Array B 70.30 20 P P 09 48 09.3 -0.5
comp=N,3.4nm,0.9s,baz=218,slow=4.9,SNR=11
FINES LR LR 10 20 57.8
comp=N,53nm,18.8s,baz=218,slow=38
OBN Obninsk 70.66 29 *ceP* P 09 48 11.4 -0.7
OBN *e* 09 50 47.4
OBN *e*PPP PPP 09 52 31.3
OBN pmax pmax
comp=Z,8.0nm,1.1s
OBN MLR MLR
comp=Z,185nm,17.0s
SNAA Sanae 70.74 176 P P 09 48 13.0 +0.5
SNAA Sanae 70.74 176 P P 09 48 20.0 +7.5
SNAA Sanae 70.74 176 *ceP* P 09 48 12.5 +0.1
SNAA pmax pmax
comp=Z,17nm,1.0s
SNAA Sanae 70.74 176 P P 09 48 12.8 +0.3
comp=Z,1.2nm,0.8s,baz=293,slow=7.7,SNR=3.1
VRHR Novokhopersk 71.29 34 *eP* P 09 48 18.6 +2.6
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,6.0nm,0.6s
MOS Moscow 71.50 29 *eP* P 09 48 15.1 -2.1
MOS *e* 09 48 22.5
KLMR Klimovskoe 75.06 25 *eP* P 09 48 35.2 -2.9
KLMR pmax pmax
comp=Z,36nm,1.5s
ARCES ARCESS Array B 75.98 14 LR LR 10 23 02.4
comp=Z,83nm,19.9s,baz=177,slow=36
WVT Waverly 76.26 308 *eP* P 09 48 45.4 -0.1
WVT pmax pmax
comp=Z,9.0nm,0.9s
WVT Waverly 76.26 308 *eP* P 09 48 45.4 -0.1
comp=Z,9.2nm,0.9s
APA Apatity 76.76 17 *eP* P 09 48 53.0 +5.3
APA MLR MLR
comp=Z,600nm,19.0s
OLIL Olney 77.01 310 *eP* P 09 48 49.4 -0.4
comp=Z,33nm,1.1s
PRGR Permogore 78.02 25 *eP* P 09 48 53.6 -1.3
PRGR *e* 09 49 01.3
PRGR pmax pmax
comp=Z,12nm,1.0s
GEYT Alibeck 78.24 51 LR LR 10 26 12.0
comp=Z,298nm,19.3s,baz=225,slow=38
ABKAR Akbulak array 81.78 40 *eP* P 09 49 15.1 -0.4
comp=Z,0.8nm,0.5s
ARU Arti 82.54 33 *diP* P 09 49 19.6 +0.2
ARU 09 52 25.9
ARU S **S** 09 59 38.5 +2.5
ARU SS **SS** 10 04 53.2 -4.3
ARU pmax pmax
comp=Z,32nm,2.5s
ARU Arti 82.54 33 *eP* P 09 49 19.0 -0.3
TUL1 Leonard 82.59 306 ⇓P P 09 49 20.5 +0.4
baz=83
S36A Lake Cedric, C 82.66 308 ⇑P P 09 49 20.3 -0.1
baz=83
636A Smothers Creek 82.95 300 ⇑P P 09 49 22.2 +0.1
baz=83
336A Riesel 82.96 302 ⇓P P 09 49 22.2 +0.2
baz=83
V35A Meyer Ranch, C 83.42 306 ⇑P P 09 49 24.9 +0.5
baz=84
335A Moody 83.44 302 ⇑P P 09 49 25.1 +0.5
baz=84
535A Dale 83.45 300 ⇑P P 09 49 25.1 +0.5
baz=84
Z35A Perchaven, San 83.50 304 ⇓P P 09 49 25.6 +0.8
baz=84
835A Beeville 83.52 299 ⇓P P 09 49 25.9 +0.8
baz=84
435B Jarrell 83.53 301 ⇑P P 09 49 26.1 +1.0
baz=84
WHTX Lake Whitney, 83.53 302 ⇑P P 09 49 26.1 +1.0
baz=84
635A Leesville 83.56 300 ⇓P P 09 49 26.2 +1.0
baz=84
KSU1 Kansas State U 83.62 309 ⇑P P 09 49 25.9 +0.6
baz=84
KSU1 Kansas State U 83.62 309 *eP* P 09 49 25.8 +0.4
comp=Z,10nm,0.9s
V34A Guthrie 83.97 306 ⇓P P 09 49 27.8 +0.6
baz=84
Y34A Reagan Ranch, 83.98 304 ⇑P P 09 49 27.5 +0.2
baz=84
U34A Anderson Ranch 84.05 307 ⇑P P 09 49 28.3 +0.7
baz=84
U34A Anderson Ranch 84.05 307 *eP* P 09 49 28.4 +0.7
comp=Z,40nm,1.2s
934A Benavides 84.07 298 ⇓P P 09 49 28.5 +0.7
baz=84
X34A Smith Ranch, M 84.10 305 ⇑P P 09 49 28.4 +0.4
baz=84
234A Clairette 84.11 302 ⇓P P 09 49 28.5 +0.5
baz=84
434A Burnet 84.12 301 ⇑P P 09 49 28.3 +0.2
baz=84,SNR=9.6
W34A Bridge Creek, 84.12 305 ⇑P P 09 49 28.8 +0.8
baz=84
W34A Bridge Creek, 84.12 305 *eP* P 09 49 28.6 +0.5
comp=Z,13nm,0.7s
334A Lometa 84.14 302 ⇑P P 09 49 28.7 +0.5
baz=84,SNR=12
834A Tilden 84.14 298 ⇑P P 09 49 29.0 +0.8
baz=84
034A Hebbronville 84.17 297 ⇑P P 09 49 29.3 +0.9
baz=84
ECSD EROS Data Cent 84.20 314 ⇑P P 09 49 28.4 +0.1
baz=84
ECSD EROS Data Cent 84.20 314 *eP* P 09 49 28.1 -0.1
comp=Z,18nm,1.3s
534A Blanco 84.23 300 ⇑P P 09 49 28.4 -0.3
baz=84,SNR=7.6
AGMN Agassiz Nation 84.30 319 ⇓P P 09 49 28.5 -0.1
baz=84,SNR=9.3
AGMN Agassiz Nation 84.30 319 *eP* P 09 49 27.8 -0.8
comp=Z,30nm,1.1s
S33A Kaszmaul Farm, 84.54 308 ⇑P P 09 49 30.2 +0.1
baz=85
Q33A Connelly Farm, 84.55 309 ⇑P P 09 49 29.7 -0.5
baz=85
V33A Lossen Ranch, 84.59 306 ⇓P P 09 49 30.3 -0.1
baz=85
R33A Olander Ranch, 84.60 308 ⇓P P 09 49 30.5 +0.1
baz=85
ULM Lac du Bonnet 84.60 321 P P 09 49 28.6 -1.5
comp=Z,5.6nm,1.0s,baz=147,slow=6.5,SNR=6.6
ULM LR LR 10 22 34.6
comp=Z,126nm,18.9s,baz=18,slow=32
W33A Caddo, Fort Co 84.68 305 ⇓P P 09 49 31.3 +0.4
baz=85
533A Kerrville 84.72 300 ⇓P P 09 49 31.6 +0.4
baz=85
Z33A Whitaker Ranch 84.75 303 ⇓P P 09 49 32.0 +0.7
baz=85
233A Rising Star 84.76 302 ⇓P P 09 49 31.8 +0.4
baz=85
333A Richland Sprin 84.77 301 ⇓P P 09 49 31.6 +0.2
baz=85
633A Saathoff Ranch 84.79 300 ⇓P P 09 49 31.8 +0.3
baz=85
433A Art 84.82 301 ⇓P P 09 49 31.6 -0.1
baz=85
133A Hamilton Ranch 84.82 303 ⇓P P 09 49 32.1 +0.5
baz=85
733A Divot King Ran 84.84 299 ⇓P P 09 49 32.0 +0.3
baz=85
833A Chaparral WMA, 84.89 298 ⇓P P 09 49 32.5 +0.4
baz=85
WMOK Wichita Mounta 84.89 305 *eP* P 09 49 33.6 +1.6
WMOK pmax pmax
comp=Z,18nm,1.3s
WMOK Wichita Mounta 84.89 305 *eP* P 09 49 33.6 +1.6
comp=Z,18nm,1.3s
O32A Brockman Farm, 85.03 310 ⇓P P 09 49 32.7 +0.1
baz=85
Q32A Meitler Ranch, 85.12 309 ⇑P P 09 49 34.5 +1.5
baz=85
R32A Long Quarter, 85.18 309 ⇑P P 09 49 33.5 +0.2
baz=85
P32A Huiting Farm, 85.21 310 ⇓P P 09 49 33.7 +0.2
baz=85
T32A Huddler Ranch, 85.23 307 ⇓P P 09 49 34.2 +0.5
baz=85
X32A Elmer 85.28 305 ⇓P P 09 49 34.5 +0.6
baz=85
S32A Newby Ranch, P 85.29 308 ⇑P P 09 49 34.2 +0.3
baz=85
632A Uvalde 85.32 300 ⇑P P 09 49 35.0 +0.7
baz=85,SNR=10
Z32A Haskell 85.35 303 ⇑P P 09 49 34.6 +0.3
baz=85,SNR=9.9
Y32A R-V Farms, Ver 85.38 304 ⇓P P 09 49 34.6 +0.2
baz=85
232A Coleman 85.38 302 ⇑P P 09 49 34.8 +0.3
baz=85
832A Faith Ranch, C 85.40 298 ⇑P P 09 49 34.7 +0.1
baz=86
JCT Junction City 85.41 301 *eP* P 09 49 35.3 +0.6
JCT pmax pmax
comp=Z,28nm,1.3s
JCT Junction City 85.41 301 ⇑P P 09 49 34.5 -0.1
baz=86,SNR=8.7
JCT Junction City 85.41 301 *eP* P 09 49 35.3 +0.6
comp=Z,28nm,1.3s
332A Millersview 85.42 301 ⇓P P 09 49 34.7 0.0
baz=86,SNR=7.7
432A Menard 85.43 301 ⇓P P 09 49 35.1 +0.4
baz=86
ABTX Abilene, Hawle 85.44 303 ⇑P P 09 49 34.9 +0.2
baz=86
532A Rocksprings 85.47 300 ⇓P P 09 49 35.3 +0.3
baz=86,SNR=6.4
S31A Mullinville 85.72 308 ⇓P P 09 49 36.7 +0.6
baz=86
P31A Stockton 85.80 310 ⇑P P 09 49 37.5 +1.1
baz=86
R31A Burdett 85.81 308 ⇓P P 09 49 37.5 +1.0
baz=86
T31A Randall Ranch, 85.82 307 ⇓P P 09 49 36.7 +0.2
baz=86
V31A Spring Creek L 85.85 306 ⇓P P 09 49 37.0 +0.2
baz=86
X31A McDonald Ranch 85.87 305 ⇑P P 09 49 36.9 +0.1
baz=86,SNR=8.4
W31A Holland Ranch, 85.88 305 ⇓P P 09 49 37.8 +0.8
baz=86
Z31A Sharp Cattle R 85.91 303 ⇓P P 09 49 37.6 +0.6
baz=86,SNR=8.8
231A Bronte 85.95 302 ⇑P P 09 49 38.2 +0.9
baz=86
B30A Myrvik Farm, E 85.95 319 ⇓P P 09 49 37.8 +0.8
baz=86
A30A Hoffart Farm, 85.99 319 ⇑P P 09 49 37.8 +0.7
baz=86
331A San Angelo 86.00 301 ⇓P P 09 49 37.8 +0.2
baz=86
631A Perdido Creek 86.00 299 ⇑P P 09 49 37.7 +0.1
baz=86,SNR=8.9
531A Rocksprings 86.03 300 ⇓P P 09 49 38.3 +0.6
baz=86
Y31A Rekieta Farm, 86.05 304 ⇓P P 09 49 38.5 +0.7
baz=86,SNR=7.6
131A Roby 86.07 303 ⇑P P 09 49 38.8 +0.9
baz=86
D30A Buchanan 86.09 317 ⇑P P 09 49 38.2 +0.5
baz=86
431A Sonora 86.12 301 ⇓P P 09 49 38.5 +0.3
baz=86
G30A Faulkton 86.16 315 ⇑P P 09 49 38.9 +0.9
baz=86
K30A Basset 86.26 313 ⇑P P 09 49 39.3 +0.6
baz=86
L30A Spencer Herefo 86.27 312 ⇑P P 09 49 39.3 +0.6
baz=86
O30A MW Ranch, Wils 86.38 310 ⇑P P 09 49 39.9 +0.7
baz=86
R30A Dighton 86.39 308 ⇓P P 09 49 39.8 +0.4
baz=86
Q30A Quinter 86.40 309 ⇓P P 09 49 39.2 -0.2
baz=86,SNR=6.5
P30A Selden 86.47 310 ⇑P P 09 49 40.3 +0.5
baz=86
U30A WK&E Inc. Balk 86.56 307 ⇓P P 09 49 40.7 +0.4
baz=87
X30A Coker Ranch, T 86.59 304 ⇓P P 09 49 40.9 +0.4
baz=87
A29A Manning Farm, 86.60 319 ⇓P P 09 49 40.4 +0.3
baz=87
B29A Wagenman Farm, 86.63 319 ⇑P P 09 49 39.1 -1.2
baz=87,SNR=6.3
430A Baggett Ranch, 86.66 301 ⇓P P 09 49 41.4 +0.6
baz=87
530A J-C Ranch, Com 86.71 300 ⇓P P 09 49 41.9 +0.8
baz=87
Z30A Sanderson Ranc 86.73 303 ⇓P P 09 49 41.9 +0.7
baz=87
MDND Maddock 86.74 318 ⇑P P 09 49 41.7 +0.9
baz=87
K29A Lazy Trails An 86.79 313 ⇑P P 09 49 42.1 +0.8
baz=87
J29A Okreek 86.84 313 ⇓P P 09 49 42.5 +1.0
baz=87
H29A Onida 86.87 315 ⇑P P 09 49 42.2 +0.7
baz=87
I29A Vivian Onida 86.88 314 ⇑P P 09 49 42.7 +1.0
baz=87
O29A 4D Ranch, Culb 86.94 310 ⇓P P 09 49 42.6 +0.5
baz=87
M29A Burnside Ranch 86.96 311 ⇓P P 09 49 43.0 +0.9
baz=87
Q29A Oakley 86.99 309 ⇓P P 09 49 43.3 +1.0
baz=87
P29A Atwood 87.00 310 ⇓P P 09 49 43.1 +0.7
baz=87
Z29A Hungry Hill Ra 87.21 303 ⇓P P 09 49 44.4 +0.8
baz=87
Y29A Porterfield Fa 87.22 304 ⇑P P 09 49 43.6 +0.1
baz=87
429A Davenport Ranc 87.22 301 ⇓P P 09 49 43.8 +0.2
baz=87,SNR=5.3
329A Wagon Wheel Ra 87.34 301 ⇑P P 09 49 43.5 -0.7
baz=87
E28A Huff 87.37 317 ⇓P P 09 49 44.1 +0.2
baz=87
G28A Parade 87.40 315 ⇓P P 09 49 44.4 +0.3
baz=87
H28A Mission Ridge 87.44 315 ⇑P P 09 49 45.0 +0.7
baz=88
I28A Midland 87.50 314 ⇓P P 09 49 45.3 +0.6
baz=88
J28A Allard Ranch, 87.51 313 ⇑P P 09 49 45.8 +1.1
baz=88
N28A Pribbeno Ranch 87.54 311 ⇓P P 09 49 45.8 +0.9
baz=88
K28A Ten Mile Ranch 87.55 313 ⇑P P 09 49 45.9 +0.9
baz=88
R28A Tribune 87.60 308 ⇓P P 09 49 45.5 +0.2
baz=88,SNR=7.3
L28A Connealy Angus 87.62 312 ⇓P P 09 49 45.8 +0.5
baz=88
S28A Manter 87.62 308 ⇓P P 09 49 45.7 +0.3
baz=88
P28A Saint Francis 87.64 310 ⇓P P 09 49 46.1 +0.7
baz=88
O28A Krutsinger Ran 87.68 310 ⇓P P 09 49 45.9 +0.2
baz=88
Y28A McKinney Farm, 87.70 304 ⇓P P 09 49 46.4 +0.5
baz=88
T28A Walsh 87.77 307 ⇑P P 09 49 47.0 +0.9
baz=88
Z28A Tucker Farm, M 87.78 303 ⇓P P 09 49 46.3 0.0
baz=88
128A Castleberry Fa 87.83 303 ⇑P P 09 49 46.8 +0.3
baz=88
OGNE Ogallala 87.93 311 ⇓P P 09 49 47.6 +0.7
baz=88
OGNE Ogallala 87.93 311 *eP* P 09 49 48.4 +1.5
comp=Z,44nm,1.1s
J27A Elkhorn Farm, 88.06 313 ⇑P P 09 49 48.1 +0.8
baz=88
MSTX Muleshoe 88.14 304 ⇑P P 09 49 48.9 +0.9
baz=88,SNR=7.0
G27A Dupree 88.14 315 ⇓P P 09 49 48.7 +1.0
baz=88
I27A Quinn 88.14 314 ⇑P P 09 49 48.4 +0.7
baz=88,SNR=8.8
K27A Flueckinger Fa 88.19 313 ⇑P P 09 49 48.3 +0.2
baz=88
H27A Howes 88.19 315 ⇑P P 09 49 48.3 +0.3
baz=88
F27A Lemmon 88.23 316 ⇓P P 09 49 48.4 +0.3
baz=88
T27A Campo 88.25 307 ⇓P P 09 49 49.2 +0.7
baz=88
KSCO Kaye Shedlock' 88.28 309 ⇑P P 09 49 48.6 0.0
baz=88
KSCO Kaye Shedlock' 88.28 309 *eP* P 09 49 50.0 +1.4
comp=Z,33nm,1.3s
U27A Thompson Grove 88.30 306 ⇓P P 09 49 48.5 -0.2
baz=88
N27A Anderson Farm, 88.31 311 ⇓P P 09 49 49.2 +0.5
baz=88
RES Resolute Bay 88.36 345 *eP* P 09 49 48.9 +0.9
RES Resolute Bay 88.36 345 P P 09 49 48.0 0.0
comp=Z,1.4nm,0.7s,baz=117,slow=5.2,SNR=11
RES Resolute Bay 88.36 345 *eP* P 09 49 48.9 +0.9
R27A Eads 88.37 308 ⇑P P 09 49 49.6 +0.6
baz=88,SNR=5.7
B26A Jensen Ranch, 88.54 318 ⇓P P 09 49 49.5 +0.1
baz=89
E26A Carlson Angus 88.58 316 ⇓P P 09 49 49.7 0.0
baz=89
D26A Manning 88.59 317 ⇓P P 09 49 50.2 +0.4
baz=89
G26A Maurine 88.60 315 ⇓P P 09 49 50.0 +0.1
baz=89,SNR=7.9
H26A Fairpoint 88.69 314 ⇑P P 09 49 50.4 +0.1
baz=89
TXAR Lajitas Array 88.69 299 P P 09 49 50.3 -0.4
comp=Z,1.7nm,1.0s,baz=124,slow=6.8,SNR=10
TXAR LR LR 10 26 31.7
comp=Z,37nm,20.9s,baz=0.0,slow=34
QSPA South Pole Qui 88.76 180 *eP* P 09 49 50.9 +0.6
J26A Sides Ranch, S 88.84 313 ⇑P P 09 49 51.6 +0.5
baz=89
P26A Davis Ranch, A 88.86 309 ⇓P P 09 49 52.6 +1.2
baz=89,SNR=6.8
O26A Horse Wrangler 88.87 310 ⇑P P 09 49 51.5 +0.1
baz=89
S26A Kim 88.87 307 ⇑P P 09 49 52.0 +0.5
baz=89
K26A Motz Farm, Whi 88.88 313 ⇑P P 09 49 51.9 +0.6
baz=89
R26A Arlington 88.88 308 ⇑P P 09 49 52.0 +0.6
baz=89
T26A Comanche Natio 88.95 307 ⇓P P 09 49 52.0 +0.1
baz=89
U26A Atchley Ranch, 89.04 306 ⇓P P 09 49 52.8 +0.4
baz=89
V26A Tequesquite Ra 89.05 306 ⇓P P 09 49 53.2 +0.9
baz=89
G25A Newell 89.18 315 ⇑P P 09 49 53.6 +1.1
baz=89
C25A Freed Ranch, W 89.19 318 ⇓P P 09 49 53.1 +0.5
baz=89
D25A Fairfield 89.20 317 ⇓P P 09 49 53.1 +0.5
baz=89
E25A Miller Ranch, 89.23 316 ⇑P P 09 49 52.9 +0.1
baz=89
I25A Rochford 89.35 314 ⇓P P 09 49 53.5 -0.1
baz=89
P25A Willow Gulch B 89.50 309 ⇑P P 09 49 55.1 +0.8
baz=90
Q25A Bedland, Calha 89.53 309 ⇑P P 09 49 55.1 +0.5
baz=90
T25A Trinidad 89.60 307 ⇑P P 09 49 55.6 +0.7
baz=90
S25A Robets Cordova 89.64 307 ⇓P P 09 49 56.2 +1.1
baz=90
A24A Westby 89.74 319 ⇓P P 09 49 55.4 +0.3
baz=90
D24A Glendive 89.89 317 ⇑P P 09 49 56.1 +0.2
baz=90
F24A Ekalaka 89.92 316 ⇓P P 09 49 56.8 +0.6
baz=90
H24A Dirks Ranch, A 89.96 315 ⇓P P 09 49 57.3 +1.0
baz=90
C24A Savage 89.97 317 ⇑P P 09 49 57.5 +1.2

	baz=90							
M24A	Cheyenne	90.06	311	⇑P		P	09 49 57.9	+0.9
	baz=90							
N24A	Carr	90.09	311	⇓P		P	09 49 58.0	+0.9
	baz=90							
Q24A	Divide	90.24	309	⇑P		P	09 49 59.0	+0.9
	baz=90							
Q24A	Divide	90.24	309	eP		P	09 50 00.9	+2.9
V24A	Rampart Ranch,	90.25	306	⇓P		P	09 49 58.7	+0.6
	baz=90							
S24A	Houchin Ranch,	90.26	307	⇑P		P	09 49 58.7	+0.6
	baz=90							
U24A	Moreno Valley	90.28	306	⇓P		P	09 49 58.8	+0.5
	baz=90							
W24A	Lazy 6 Ranch,	90.35	305	⇓P		P	09 49 59.3	+0.7
	baz=90							
T24B	San Luis	90.38	307	⇑P		P	09 49 59.5	+0.8
	baz=90							
B23A	Brockton	90.38	318	⇑P		P	09 49 59.0	+0.9
	baz=90							
SDCO	Great Sand Dun	90.49	308	⇑P		P	09 49 59.7	+0.6
	baz=90,SNR=11							
SDCO	Great Sand Dun	90.49	308	eP		P	09 50 00.4	+1.2
C23A	Lambert	90.49	318	⇓P		P	09 49 59.6	+1.0
	baz=90							
D23A	Lindsay	90.49	317	⇓P		P	09 50 00.1	+1.4
	baz=90							
E23A	Ismay	90.54	316	⇓P		P	09 49 59.9	+1.0
	baz=91							
H23A	Clabaugh Cattl	90.56	314	⇓P		P	09 49 60.0	+0.8
	baz=91							
G23A	Biddle	90.57	315	⇑P		P	09 50 00.1	+1.0
	baz=91							
F23A	Volborg	90.59	316	⇑P		P	09 49 59.7	+0.5
	baz=91							
ISCO	Idaho Springs	90.62	310	eP		P	09 50 02.4	+2.6
ISCO				pmax		pmax		
	comp=Z,12nm,1.4s							
ISCO	Idaho Springs	90.62	310	⇓P		P	09 49 59.2	-0.5
	baz=91							
ISCO	Idaho Springs	90.62	310	eP		P	09 50 02.4	+2.6
	comp=Z,12nm,1.4s							
R23A	Moffat	90.75	308	⇓P		P	09 49 60.0	-0.4
	baz=91							
P23A	Jefferson	90.78	309	⇓P		P	09 50 00.1	-0.5
	baz=91							
O23A	Lake Granby, G	90.86	310	⇓P		P	09 50 00.1	-0.8
	baz=91							
N23A	Red Feather La	90.89	311	⇑P		P	09 50 01.4	+0.4
	baz=91							
N23A	Red Feather La	90.89	311	eP		P	09 50 03.4	+2.4
E22A	Miles City	90.98	316	⇓P		P	09 50 01.7	+0.7
	baz=91							
V23A	Ortiz Mt. (NFS	91.00	306	⇓P		P	09 50 01.7	+0.2
	baz=91							
A22A	Carney Farms,	91.00	319	⇓P		P	09 50 01.9	+0.9
	baz=91							
U23A	El Rito	91.01	306	⇓P		P	09 50 02.2	+0.6
	baz=91							
B22A	Reddig Ranch S	91.04	318	⇓P		P	09 50 01.4	+0.2
	baz=91							
AAK	Ala-Archa	91.17	48	⇑i P		P	09 50 02.8	+0.7
ANMO	Albuquerque	91.21	305	ceP		P	09 50 04.0	+1.5
ANMO				pmax		pmax		
	comp=Z,32nm,2.5s							
N22A	Wattenberg Ran	91.28	311	⇑P		P	09 50 02.8	0.0
	baz=91							
J22A	Midwest	91.32	313	⇓P		P	09 50 03.0	+0.2
	baz=91							
I22A	9 Mile Ranch,	91.33	314	⇑P		P	09 50 03.3	+0.5
	baz=91							
O22A	Kremmling	91.34	310	⇑P		P	09 50 03.4	+0.3
	baz=91							
K22A	Casper	91.35	312	⇓P		P	09 50 03.5	+0.6
	baz=91							
M22A	Cedar Creek Ra	91.39	311	⇑P		P	09 50 03.9	+0.7
	baz=91							
P22A	Eagle	91.50	309	⇓P		P	09 50 04.7	+0.9
	baz=92							
S22A	4UR Ranch, Cre	91.54	308	⇑P		P	09 50 04.6	+0.5
	baz=92							
U22A	Llaves	91.55	306	⇓P		P	09 50 04.7	+0.6
	baz=92							
V22A	San Miguel Ran	91.59	306	⇑P		P	09 50 04.5	+0.2
	baz=92							
SMCO	Snowmass	91.66	309	eP		P	09 50 07.1	+2.4
A21A	Bergtoll Ranch	91.67	319	⇓P		P	09 50 04.2	+0.1
	baz=92							
B21A	Ellsworth Farm	91.72	318	⇓P		P	09 50 05.3	+1.0
	baz=92							
H21A	Big Horn, Sher	91.74	314	⇓P		P	09 50 05.9	+1.3
	baz=92							
K21A	Alcova	91.89	312	⇑P		P	09 50 06.7	+1.2
	baz=92							
I21A	Big Trails, Te	91.92	314	⇓P		P	09 50 06.5	+0.9
	baz=92							
J21A	Lysite	92.03	313	⇓P		P	09 50 07.0	+0.9
	baz=92							
KSH	Kashi	92.28	51	P		P	09 50 07.0	-0.2
KSH				sP		sP	09 50 14.0	+1.3
KSH				PP		PP	09 53 49.0	+1.3
KSH				SKS		SKSac	10 00 37.0	-3.8
KSH				S		S	10 01 05.3	-5.3
KSH				sS		ScS	10 01 12.8	-0.1
KSH				SS		SS	10 07 16.0	-4.8
KSH				PMZ				
	comp=Z,6.0nm,1.0s							
KSH				LN				
	comp=Z,100nm,5.6s							
KSH				LE				
	comp=Z,100nm,6.2s							
KSH				LZ				
	comp=Z,180nm,5.3s							
A20A	Cobblestone Ra	92.33	319	⇑P		P	09 50 08.0	+0.8
	baz=92							
C20A	Veseth Ranch,	92.39	318	⇓P		P	09 50 08.0	+0.5
	baz=92							
J20A	Shoshoni	92.49	313	⇑P		P	09 50 09.0	+0.8
	baz=92							
G20A	Bridger	92.57	315	⇑P		P	09 50 09.2	+0.7
	baz=93							
N20A	Spence Gulch,	92.65	311	⇓P		P	09 50 09.6	+0.5
	baz=93							
A19A	Klindworth Far	92.86	319	⇑P		P	09 50 10.1	+0.4
	baz=93							
MVCO	Mesa Verde	92.87	307	⇑P		P	09 50 10.8	+0.7
	baz=93							
MVCO	Mesa Verde	92.87	307	eP		P	09 50 13.2	+3.1
	comp=Z,15nm,1.4s							
E19A	Rath Farm, Rou	92.95	316	⇓P		P	09 50 10.2	+0.1
	baz=93							
D19A	Cripps Ranch,	93.00	317	⇑P		P	09 50 10.8	+0.5
	baz=93							
C19A	Slack Wire Ran	93.10	318	⇑P		P	09 50 11.2	+0.5
	baz=93							
I19A	Meeteetse	93.14	314	⇑P		P	09 50 11.7	+0.5
	baz=93							
J19A	Crowheart	93.20	313	⇑P		P	09 50 12.0	+0.5
	baz=93							
EGMT	Eagleton	93.56	318	⇓P		P	09 50 13.6	+0.7
	baz=94							
319A	Douglas	93.58	301	⇑P		P	09 50 14.1	+0.7
	baz=94							
PDAR	Pinedale Array	93.58	313	P		P	09 50 12.9	-0.5
	comp=Z,0.4nm,0.8s,baz=87,slow=5.5,SNR=3.0							
PDAR				LR		LR	10 26 55.8	
	comp=Z,115nm,18.7s,baz=99,slow=32							
REDW	Red Top Meadow	94.51	313	eP		P	09 50 19.4	+1.9
YKA	Yellowknife Ar	95.20	333	P		P	09 50 19.5	-0.4
	comp=Z,1.4nm,1.0s,baz=83,slow=5.1,SNR=15							
MKAR	Makanchi Array	96.57	43	i P		P	09 50 26.6	0.0
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
MKAR	Makanchi Array	96.57	43	P		P	09 50 26.0	-0.6
	comp=Z,1.0nm,0.8s,baz=270,slow=3.6,SNR=8.0							
WMQ	Urumqi	100.71	46	eP		Pdif	09 50 45.5	+0.2
WMQ				PP		PP	09 54 55.0	+2.4
WMQ				SKS		SKSac	10 01 23.5	-1.1
WMQ				S		Sdif	10 02 18.5	-4.4
WMQ				sS		sS	10 02 25.5	-4.1
WMQ				PMZ				
	comp=Z,3.0nm,1.0s							
WMQ				LN				
	comp=Z,32nm,22.0s							
WMQ				LE				
	comp=Z,160nm,23.0s							
WMQ				LZ				
	comp=Z,41nm,26.0s							
BILL	Bilibino	113.39	359	⇑i PKIKP		PKiKP	09 55 33.7	-0.5
BILL				i			09 56 27.1	
BILL				i PPP		PPP	09 58 48.7	
BILL				e			10 02 17.4	
BILL				pmax		pmax		
	comp=Z,6.0nm,1.9s							
CD2	Chengdu	115.90	56	ePKP		PKPdf	09 55 40.8	+0.6
KMI	Kunming	116.36	63	PKP		PKPdf	09 55 43.3	+1.9
HHC	Hu-ho-hao-te	118.44	43	ePKP		PKPdf	09 55 46.5	+1.7
HHC				PP		PP	09 57 06.0	+5.0
HHC				SKS		SKSdf	10 02 57.8	+0.7
HHC				SS		SS	10 13 19.8	+2.0
HHC				PPMZ				
	comp=Z,86nm,6.2s							
HHC				LN				
	comp=Z,360nm,20.4s							
HHC				LE				
	comp=Z,190nm,19.5s							
HHC				LZ				
	comp=Z,68nm,19.7s							
GYA	Guiyang	119.50	60	ePdif		Pdif	09 52 08.5	-0.8
GYA				PKP		PKPdf	09 55 46.8	-0.5
GYA				PP		PP	09 57 13.3	+4.2
GYA				PKS		PKSdf	09 59 22.0	-2.3
GYA				SKKS			10 04 03.5	
GYA				SS		SS	10 13 32.8	0.0
GYA				PPMZ				
	comp=Z,130nm,7.8s							
GYA				LN				
	comp=Z,170nm,21.0s							
GYA				LE				
	comp=Z,140nm,22.3s							
GYA				LZ				
	comp=Z,180nm,20.8s							
QIZ	Qiongzhong	124.04	68	PKP		PKPdf	09 55 55.3	-0.7
QIZ				SS		SS	10 14 28.3	-2.7
QIZ				LZ				
	comp=Z,73nm,46.8s							
CN2	Changchun	125.52	34	ePKP		PKPdf	09 55 54.8	-3.4
MDJ	Mudanjiang	127.18	31	PKP		PKPdf	09 55 59.8	-1.5
NJ2	Nanjing	127.57	50	ePKP		PKPdf	09 56 02.0	-0.4
ASAR	Alice Springs	141.54	132	PKhKP		PKPpre	09 56 21.2	
	comp=Z,2.5nm,0.8s,baz=214,slow=3.1,SNR=21							
WRA	Warramunga Arr	143.97	127	PKhKP		PKPpre	09 56 29.2	
	comp=Z,3.5nm,0.8s,baz=240,slow=2.4,SNR=35							
ARMA	Armidale	146.27	160	ePKPbc		PKPab	09 56 39.2	+0.4

*ISCJB **26** 09:38:05.6±0.3, 62°.46N±0°.02×151°.44W±0°.06, h110km±4km, mb3.4/1, Error ellipse: s-maj=4.5km s-min=3.2km az=12.6*
*NEIC **26** 09:38:07.6, 62°.47N×151°.55W, h98km, MG3.1(AEIC), After AEIC.*
*IDC **26** 09:38:09.4±6.5, 62°.79N×151°.30W, h122km±55km, mb3.0/1, mb1 3.0/4, mb1mx2.8/39, mbtmp3.3/4, Error ellipse: s-maj=64.0km s-min=40.5km az=32.0*

ISC 26 09:38:06.5±0.9, 62°.47N±0°.03×151°.45W±0°.04, h103km±7km, n92, σ0°77/100, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	Skwentna	0.49	184	P	Pn	09 38 22.3	-0.2
SKT				S	Sn	09 38 33.9	-0.6
PPLA	Purkeypile	0.55	322	P	Pn	09 38 22.9	-0.2
PPLA				S	Sn	09 38 35.0	-0.5
CUT	Chulitna	0.55	96	P	Pn	09 38 23.4	+0.5
HUR	Hurricane	0.98	58	P	Pn	09 38 27.6	+0.7
STLK	Strandline Lak	0.99	191	P	Pn	09 38 26.7	-0.3
CAST	Castle Rocks	1.00	343	P	Pn	09 38 26.7	-0.4
CAST				S	Sn	09 38 41.2	-1.4
SUA	Susitna One	1.06	161	P	Pn	09 38 28.2	+0.3
SUA				S	Sn	09 38 44.7	+0.7
KTH	Kantishna Hill	1.12	12	P	Pn	09 38 28.6	+0.2
KTH				S	Sn	09 38 44.5	-0.5
TRF	Thorofare Moun	1.12	28	P	Pn	09 38 29.0	+0.4
TRF				S	Sn	09 38 46.2	+1.0
SPCG	Spurr Capps Gl	1.21	193	P	Pn	09 38 29.4	-0.1
BGL	Barrier Glacie	1.29	201	P	Pn	09 38 30.6	+0.2
SPBG	Spurr Blockage	1.29	200	P	Pn	09 38 30.5	+0.1
CKN	Chakachatna No	1.29	196	P	Pn	09 38 30.6	+0.2
CKL	Chakachamna La	1.34	199	P	Pn	09 38 31.1	0.0
PMR	Palmer	1.40	128	P	Pn	09 38 31.7	+0.1
FIB	Fire Island	1.44	155	P	Pn	09 38 33.7	+1.7
CHUM	Lake Minchumin	1.48	345	P	Pn	09 38 32.5	+0.1
RND	Reindeer	1.52	50	P	Pn	09 38 33.8	+0.7
RC01	Rabbit Creek A	1.60	149	P	Pn	09 38 34.0	-0.1
MCK	McKinley	1.71	41	P	Pn	09 38 36.1	+0.7
BWN	Browne	1.93	27	P	Pn	09 38 39.0	+0.8
DFR	Drift River	1.97	198	P	Pn	09 38 38.9	+0.1
DHY	Denali Highway	1.97	70	P	Pn	09 38 39.8	+0.9
SCM	Sheep Creek Mo	2.04	106	P	Pn	09 38 39.5	-0.1
NCT	North Crescent	2.04	201	P	Pn	09 38 39.9	+0.2
SLKM	Skilak Lake	2.05	163	P	Pn	09 38 40.2	+0.4
RDWB	Redoubt West	2.09	199	P	Pn	09 38 40.7	+0.2
RSO	Redoubt South	2.11	198	ePn	Pn	09 38 40.7	0.0
RSO				eSn	Sn	09 39 08.1	+1.3
TT01	Tatalina	2.15	284	P	Pn	09 38 40.3	-0.8
SVW2	Sparrevohn	2.40	237	P	Pn	09 38 43.8	-0.4
WRH	Wood River Hil	2.52	35	P	Pn	09 38 46.0	+0.3
ILW	Iliamna West	2.55	199	P	Pn	09 38 46.9	+0.5
SEW	Seward	2.56	157	P	Pn	09 38 46.5	+0.1
MLY	Manley	2.59	7	P	Pn	09 38 47.0	+0.1
GLI	Glacier Island	2.62	126	P	Pn	09 38 46.9	-0.3
JPK	Jack Peak	2.71	119	P	Pn	09 38 48.5	+0.1
BRLK	Bradley Lake	2.73	174	P	Pn	09 38 49.5	+0.9
CCB	Clear Creek Bu	2.73	35	P	Pn	09 38 48.8	+0.2
PS10	TAPS Pump St10	2.77	67	P	Pn	09 38 51.1	+1.9
VLZ	Valdez	2.77	117	P	Pn	09 38 48.5	-0.7
KLU	Klutina	2.79	108	P	Pn	09 38 49.0	-0.5
PAX	Paxson	2.80	77	P	Pn	09 38 50.8	+1.1
HDA	Harding Lake	2.81	44	P	Pn	09 38 50.4	+0.7
HOM	Homer	2.82	182	P	Pn	09 38 48.5	-1.3
PS11	TAPS Pump St11	2.82	95	P	Pn	09 38 50.8	+0.9
DDM	Donnelly Dome	2.86	60	P	Pn	09 38 52.0	+1.6
MDM	Murphy Dome	2.88	28	P	Pn	09 38 50.9	+0.2
COLA	College	2.90	32	P	Pn	09 38 51.2	+0.4
HARP	HAARP	2.93	88	P	Pn	09 38 52.1	+0.8
PS08	TAPS Pump Stn8	2.94	43	P	Pn	09 38 52.0	+0.6
OPT	Oil Point	2.95	198	P	Pn	09 38 52.2	+0.6
DIV	Divide	3.01	114	ePn	Pn	09 38 51.8	-0.7
DIV				eSn	Sn	09 39 27.1	-0.8
IL1	Eielson Array	3.08	39	P	Pn	09 38 53.5	+0.2
ILAR	Eielson Array	3.08	39	P	Pn	09 38 54.1	+0.8
	2.6nm,0.3s,baz=225,slow=14,SNR=208						
ILAR				S	Sn	09 39 26.4	-3.0
	3.1nm,0.3s,baz=227,slow=17,SNR=9.7						
ILB	Eielson Array	3.08	39	P	Pn	09 38 53.5	+0.1
HIN	Hinchinbrook I	3.16	129	P	Pn	09 38 53.8	-0.5
GCSA	Galena City Sc	3.33	316	P	Pn	09 38 53.9	-2.7
EYAK	Cordova Ski Ar	3.34	123	P	Pn	09 38 56.2	-0.5
PS06	TAPS Pump Stn6	3.48	12	P	Pn	09 38 59.2	+0.6
DOT	Dot Lake	3.57	67	P	Pn	09 39 00.3	+0.5
SGAM	Sherman Glacie	3.58	121	P	Pn	09 38 59.4	-0.7
BMRM	Bremner River	3.59	112	P	Pn	09 38 59.4	-0.8
IM3	Indian Mountai	3.67	345	P	Pn	09 39 01.4	+0.2
SCRK	Sand Creek	3.70	63	P	Pn	09 39 02.3	+0.6
GOAT	Goat Mountain	3.73	117	P	Pn	09 39 02.2	+0.1
GLB	Gilahina Butte	3.75	103	P	Pn	09 39 02.5	+0.2
RAGM	Ragged Mountai	3.87	120	P	Pn	09 39 04.2	+0.4
VRDI	Verde Repeater	3.99	105	P	Pn	09 39 05.4	-0.2
MCARA	McCarthy VSAT	4.13	101	P	Pn	09 39 07.4	+0.1
PS05	TAPS Pump Stn5	4.38	4	P	Pn	09 39 11.8	+1.1
KHIT	Khitrov Hills	4.43	114	P	Pn	09 39 11.8	+0.4
PTPK	Patty Peak	4.45	103	P	Pn	09 39 11.9	0.0
BCA3	Beaver Creek A	4.48	78	P	Pn	09 39 12.4	+0.2
KELA	Mount Kelaz	4.56	210	P	Pn	09 39 14.3	+1.0
KCE	Katmai Mt Cerb	4.62	205	P	Pn	09 39 15.5	+1.4
KDAK	Kodiak Island	4.73	187	P	Pn	09 39 14.2	-1.3
ISLE	Juniper Island	4.74	109	P	Pn	09 39 15.2	-0.6
BARK	Barkley Ridge	4.77	112	P	Pn	09 39 16.5	+0.4
COLD	Coldfoot	4.81	6	P	Pn	09 39 17.0	+0.5
BARN	Barnard Glacie	4.86	103	P	Pn	09 39 17.5	+0.1
BAGL	Bagley Icefiel	4.91	110	P	Pn	09 39 17.6	-0.2
GRNC	Granite Creek	4.95	106	P	Pn	09 39 18.9	+0.3
MESA	MESA	5.12	112	P	Pn	09 39 21.1	+0.1
EGAK	Eagle	5.14	59	ePn	Pn	09 39 21.3	+0.3
	15nm,0.7s						
OHAK	Old Harbor	5.34	191	P	Pn	09 39 24.1	+0.4
TABL	Table Mountain	5.34	108	P	Pn	09 39 24.2	+0.2
DAWY	Dawson	5.67	68	P	Pn	09 39 28.8	+0.5
BM3	Burnt Mountain	5.76	27	P	Pn	09 39 30.0	+0.6
GAMB	Gambell	9.26	287	Pn	Pn	09 40 19.0	+2.2
	53nm,0.4s						
INK	Inuvik	9.47	44	P	Pn	09 40 20.3	+0.7
	0.1nm,0.3s,baz=186,slow=26,SNR=7.5						
YKA	Yellowknife Ar	16.88	73	P	Pn	09 41 56.9	+0.8
	0.0nm,0.3s,baz=285,slow=11,SNR=4.1						
MKAR	Makanchi Array	62.97	322	P	P	09 48 20.6	-1.1
	0.2nm,0.5s,baz=27,slow=6.8,SNR=4.1						

BUC 26 09:39:12.0±0.4, 46°.10N×22°.87E, h4km±4km, MD2.2/1, 2C-4D, Error ellipse: s-maj=4.1km s-min=1.7km az=85.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEV	Deva	0.21	173	⇓i P	Pg	09 39 16.6	+0.4
DEV	Deva	0.21	173	S	Sg	09 39 19.6	+0.6
DEV	Deva	0.21	173	⇓i P	Pg	09 39 16.6	+0.4
DEV				i S	Sg	09 39 19.6	+0.6
DRGR		0.70	351	S	Sb	09 39 36.8	-0.3
DRGR		0.70	351	i S	Sb	09 39 36.8	-0.3
GZR	Gura Zlata	0.71	185	⇑i P	Pg	09 39 26.2	+0.5
GZR	Gura Zlata	0.71	185	⇑i P	Pg	09 39 26.2	+0.5
GZR				i S	Sb	09 39 37.0	-0.1
BZS	Buzias	1.00	242	S	Sn	09 39 47.0	-0.3
BZS	Buzias	1.00	242	i S	Sn	09 39 47.0	-0.3
ARR	Arges	1.44	120	S	Sg	09 39 59.9	+1.5
ARR	Arges	1.44	120	i S	Sg	09 39 59.9	+1.5
VOIR		1.66	113	⇓i P	Pg	09 39 43.8	-0.2
VOIR		1.66	113	⇓i P	Pg	09 39 43.8	-0.2
VOIR				i S	Sg	09 40 05.8	+0.1

GUC 26 09:45:21.8±0.4, 34°.82S×72°.05W, h43km±4km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.67	149	eP	Pn	09 45 35.8	+0.9
TALC				eS	Sn	09 45 46.1	+1.8
NICH	Los Niches	0.70	105	eP	Pn	09 45 36.0	+0.6
NICH				eS	Sn	09 45 46.8	+1.8
LNCH	Linares	1.09	160	eP	Pn	09 45 41.8	+1.3
LNCH				eS	Sn	09 45 57.4	+2.9
COCH	Cobquecura	1.44	204	eP	Pn	09 45 46.9	+1.5
COCH				eS	Sn	09 46 06.0	+3.0
SJCH	San Jose de Ma	1.84	51	eP	Pn	09 45 53.4	+2.4
SJCH				eS	Sn	09 46 17.1	+4.0
CLCH	Cerro Calan	1.90	42	eP	Pn	09 45 54.0	+2.1
CLCH				eS	Sn	09 46 18.6	+4.0
CLCH				AML	AML	09 46 23.2	
	comp=N,1μm,0.5s						
PEL	Peldehue	2.02	35	eP	Pn	09 45 56.1	+2.5
PEL				eS	Sn	09 46 21.7	+4.0
PEL				AML	AML	09 46 31.1	
	comp=E,1μm,1.2s						

GUC 26 09:51:35.5±0.5, 35°.00S×72°.37W, h28km±5km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.72	124	eP	Pb	09 51 49.0	-0.5
TALC				eS	Sb	09 51 58.0	0.0
NICH	Los Niches	0.94	90	eP	Pn	09 51 52.4	-0.3
NICH				eS	Sb	09 52 04.9	-0.3
LNCH	Linares	1.05	144	eP	Pn	09 51 54.2	-0.2
LNCH				eS	Sb	09 52 08.5	0.0
COCH	Cobquecura	1.18	197	eP	Pn	09 51 56.1	0.0
COCH				eS	Sn	09 52 11.5	+0.3
CLCH	Cerro Calan	2.21	44	eP	Pn	09 52 12.3	+1.9
CLCH				eS	Sb	09 52 40.3	-1.5
CLCH				AML	AML	09 52 49.8	
	comp=E,452nm,0.6s						
PEL	Peldehue	2.32	37	eP	Pn	09 52 14.2	+2.2
PEL				eS	Sb	09 52 43.2	-1.8
PEL				AML	AML	09 52 50.9	
	comp=N,384nm,0.1s						

*ISK **26** 09:59:53.5, 37°.22N×28°.22E, h20km, MD2.6*
*DDA **26** 09:59:54.9, 37°.18N×28°.21E, h7km, MD2.7*

CSEM 26 09:59:54.4±0.4, 37°.27N×28°.33E, h1km, MD2.6, Error ellipse: s-maj=10.7km s-min=7.2km az=49.0, Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.14	195	ePG	Pg	09 59 58.2	+1.1
YER				eSG	Sg	10 00 00.8	+1.8
YER	Yerkesik	0.14	195	ePg	Pg	09 59 58.2	+1.0
YER				eSg	Sg	10 00 00.8	+1.8
DALY	Dalyan (Mu¨la	0.52	150	ePG	Pg	10 00 04.5	+0.1
DALY	Dalyan (Mu¨la	0.52	150	ePg	Pg	10 00 04.5	+0.1
AYDN	Tasoluk	0.53	318	i P	Pb	10 00 06.1	-0.5
AYDN				i S	Sb	10 00 13.5	-1.3
AYDN	Tasoluk	0.53	318	i P	Pb	10 00 06.1	-0.5
AYDN				i S	Sb	10 00 13.5	-1.4
DNZL	Cakiroluk	0.71	53	i P	Pb	10 00 09.5	-0.4
DNZL				i S	Sn	10 00 23.6	-0.1
DNZL	Cakiroluk	0.71	53	i P	Pb	10 00 09.5	-0.4
DNZL				i S	Sn	10 00 23.6	0.0
AYDB	Zeytinkoy-Aydi	0.76	333	ePG	Pg	10 00 09.1	-0.2
AYDB	Zeytinkoy-Aydi	0.76	333	ePg	Pg	10 00 09.1	-0.1
BODT	Bodrum	0.84	256	ePG	Pg	10 00 08.3	-2.2
BODT	Bodrum	0.84	256	ePg	Pg	10 00 08.3	-2.2
FETY	Fethiye	0.88	136	ePG	Pg	10 00 11.3	+0.1
FETY	Fethiye	0.88	136	ePg	Pg	10 00 11.3	0.0
GCAM	G?zelcaml?	0.97	297	i P	Pg	10 00 12.9	-0.1
GCAM				i S	Sb	10 00 26.5	-0.8
GCAM	G?zelcaml?	0.97	297	i P	Pg	10 00 12.9	-0.1
GCAM				i S	Sb	10 00 26.5	-0.8
KULA	Kula-Manisa	1.27	12	ePN	Pg	10 00 17.8	-1.1
KULA	Kula-Manisa	1.27	12	ePn	Pg	10 00 17.8	-1.1
ELL	Elmali	1.37	112	ePN	Pn	10 00 18.9	-1.9
ELL	Elmali	1.37	112	ePn	Pn	10 00 18.9	-1.9
AKAS	Kas	1.46	135	i P	Pb	10 00 22.5	0.0
AKAS	Kas	1.46	135	i P	Pb

KALE eSb **Sb** **10 02 18.6 -0.5**
PDO Prodromos 0.61 247 P **Pg** **10 02 13.1 +0.1**
PDO S **Sb** **10 02 22.6 0.0**
PDO Prodromos 0.61 247 P **Pg** **10 02 13.1 +0.1**
PDO Prodromos 0.61 247 S **Sb** **10 02 22.6 0.0**
DSL Palaion Diasel 0.69 296 P **Pg** **10 02 14.9 +0.2**
DSL S **Sb** **10 02 25.0 -0.1**
DSL Palaion Diasel 0.69 296 P **Pg** **10 02 14.9 +0.2**
DSL S **Sb** **10 02 25.0 -0.1**
THL Klokotos Trika 0.73 7 P **Pb** **10 02 16.2 0.0**
THL S **Sb** **10 02 26.9 +0.6**
THL Klokotos Trika 0.73 7 ePB **Pb** **10 02 16.5 +0.3**
THL Klokotos Trika 0.73 7 P **Pb** **10 02 16.2 0.0**
THL Klokotos Trika 0.73 7 ePb **Pb** **10 02 16.5 +0.3**
THL S **Sb** **10 02 26.9 +0.6**
KLV Kalavryta, Ach 0.81 166 P **Pg** **10 02 16.9 -0.1**
KLV S **Sb** **10 02 29.3 +0.6**
KLV Kalavryta, Ach 0.81 166 ePB **Pg** **10 02 16.4 -0.6**
KLV Kalavryta, Ach 0.81 166 ePb **Pg** **10 02 16.4 -0.6**
KLV Kalavryta, Ach 0.81 166 P **Pg** **10 02 16.9 -0.1**
KLV S **Sb** **10 02 29.3 +0.6**
RLS Riolos of Patr 0.85 204 ePG **Pg** **10 02 17.1 -0.5**
RLS Riolos of Patr 0.85 204 ePg **Pg** **10 02 17.1 -0.5**
LKR Lokris 0.88 102 ePN **Pn** **10 02 19.1 -0.7**
LKR Lokris 0.88 102 ePn **Pn** **10 02 19.1 -0.7**
DRO Drossia 0.89 189 P **Pg** **10 02 18.4 -0.1**
DRO S **Sb** **10 02 31.2 +0.3**
DRO Drossia 0.89 189 ePB **Pg** **10 02 18.3 -0.2**
DRO Drossia 0.89 189 P **Pg** **10 02 18.4 -0.1**
DRO S **Sb** **10 02 31.2 +0.3**
LKD2 Lefkada island 0.97 268 P **Pn** **10 02 20.7 -0.3**
LKD2 S **Sn** **10 02 34.6 -0.3**
LKD2 Lefkada island 0.97 268 P **Pn** **10 02 20.7 -0.3**
LKD2 Lefkada island 0.97 268 S **Sn** **10 02 34.6 -0.3**

ISN 26 10:08:39.6±2.1, 36°22N×46°35E, h0km±9km, ML3.5, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**1.82**	**244**	ePN	Pn	10 09 12.3	+0.1
IKRK				*i* Sn	Sn	10 09 35.0	-1.1
BHD	**Baghdad**	**3.36**	**209**	ePn	Pn	10 09 33.9	+0.6
BHD				*i* Sn	Sn	10 10 11.2	-2.7
NSR	**Nassriya**	**5.20**	**182**	ePN	Pn	10 09 57.8	-0.8
NSR				*i* Sn	Sn	10 10 55.3	-4.0

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*DDA **26** 10:15:00.1, 38°90N×40°21E, h8km, MD2.8*
*ISK **26** 10:15:01.5, 38°83N×40°18E, h14km, MD2.6*
*CSEM **26** 10:15:03.6±0.3, 38°83N×40°15E, h30km, MD2.6, Error ellipse: s-maj=9.0km s-min=7.5km az=178.0*
ISC 26 10:15:01.0±1.4, 38°82N±0°03×40°09E±0°04, h9km±12km, n20, σ1§09/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.32**	**79**	ePg	**Pb**	**10 15 10.4**	**+1.5**
BINT				eSg	**Sb**	**10 15 16.9**	**+2.7**
BNGB	**Bing¨¶l**	**0.49**	**69**	ePG	**Pg**	**10 15 10.4**	**-0.2**
BNGB				eSG	**Sb**	**10 15 16.9**	**-2.3**
ELZG	**Elazig**	**0.92**	**250**	*i* P	**Pb**	**10 15 19.7**	**+0.4**
ELZG	**Elazig**	**0.92**	**250**	*i* P	**Pb**	**10 15 19.6**	**+0.3**
ELZG				*i* S	**Sn**	**10 15 35.1**	**+1.3**
ELZG	**Elazig**	**0.92**	**250**	*i* P	**Pb**	**10 15 19.6**	**+0.3**
ELZG				*i* S	**Sn**	**10 15 35.1**	**+1.3**
ELZG	**Elazig**	**0.92**	**250**	*i* P	**Pb**	**10 15 19.7**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.09**	**127**	ePG	**Pg**	**10 15 22.1**	**+0.1**
BTMT	**Batman**	**1.26**	**119**	ePN	**Pg**	**10 15 24.9**	**-0.3**
BTMT	**Batman**	**1.26**	**119**	ePn	**Pg**	**10 15 24.9**	**-0.3**
BEST	**Besiri**	**1.31**	**135**	*i* P	**Pb**	**10 15 25.3**	**-0.5**
BEST				*i* S	**Sg**	**10 15 42.9**	**-0.2**
MAZI	**Mazidag**	**1.39**	**168**	ePN	**Pb**	**10 15 27.0**	**-0.1**
MAZI				eSN	**Sb**	**10 15 45.4**	**+0.5**
MAZI	**Mazidag**	**1.39**	**168**	ePn	**Pb**	**10 15 27.0**	**-0.1**
MAZI				eSn	**Sb**	**10 15 45.4**	**+0.5**
MALT	**Malatya**	**1.40**	**249**	ePN	**Pb**	**10 15 28.3**	**+1.0**
MALT	**Malatya**	**1.40**	**249**	ePn	**Pb**	**10 15 28.3**	**+1.0**
KELT	**Kelkit**	**1.48**	**334**	*i* P	**Pb**	**10 15 28.8**	**0.0**
KELT				*i* S	**Sn**	**10 15 47.4**	**-0.1**
KELT	**Kelkit**	**1.48**	**334**	*i* P	**Pb**	**10 15 28.8**	**0.0**
KELT				*i* S	**Sn**	**10 15 47.4**	**-0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.57**	**1**	ePN	**Pn**	**10 15 29.1**	**-0.2**
BAYT	**Ayd¨–ntepe-Bay**	**1.57**	**1**	ePn	**Pn**	**10 15 29.1**	**-0.2**
AKCD	**Akcadag**	**1.78**	**254**	*i* P	**Pb**	**10 15 34.5**	**+0.7**
AKCD				*i* S	**Sn**	**10 15 52.7**	**-2.1**
AKCD	**Akcadag**	**1.78**	**254**	*i* P	**Pb**	**10 15 34.5**	**+0.7**
AKCD				*i* S	**Sn**	**10 15 52.7**	**-2.1**

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*CSEM **26** 10:15:13.0, 37°27N×37°39E, h7km, MD2.8*
DDA 26 10:15:13.0, 37°27N×37°39E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**0.17**	**58**	*i* P	Pg	10 15 15.5	-1.2
GZT				*i* S	Sg	10 15 20.3	+1.2
ANDN	**Andirin**	**0.89**	**291**	*i* P	Pg	10 15 29.7	-0.5
ANDN				*i* S	Sn	10 15 45.6	+0.3
ANDN	**Andirin**	**0.89**	**291**	*i* P	Pg	10 15 29.7	-0.5
ANDN				*i* S	Sn	10 15 45.6	+0.3
DARE	**Darende-Malaty**	**1.30**	**3**	ePN	Pn	10 15 37.5	-0.3
DARE	**Darende-Malaty**	**1.30**	**3**	ePn	Pn	10 15 37.6	-0.2

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*IDC **26** 10:20:27.2±0.6, 35°22S×72°73W, h0km, mb4.2/8, mb1 4.4/12, mb1mx4.2/28, mbtmp4.2/12, ML3.8/4, MS3.1/4, Ms1 3.1/4, ms1mx3.0/24, Error ellipse: s-maj=30.5km s-min=15.8km az=87.0*
*GUC **26** 10:20:28.5±0.6, 35°23S×72°80W, h15km±3km, ML4.7*
*ISCJB **26** 10:20:29.7±1.0, 35°31S±0°03×72°70W±0°06, h22km±7km, mb4.6/26, MS3.6/2, Error ellipse: s-maj=8.7km s-min=4.5km az=26.7*
*NEIC **26** 10:20:33.4±4.2, 35°23S×72°47W, h35km±29km, mb4.8/20, Error ellipse: s-maj=22.0km s-min=9.8km az=84.0*
*BJI **26** 10:20:34.5, 35°30S×72°40W, h35km, mB5.0/5, Ms5.2/4, Ms7 4.9/4*
ISC 26 10:20:31.8±0.9, 35°28S±0°03×72°60W±0°05, h26km±5km, n76, σ1§77/87, mb4.8/26, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.80**	**99**	⇑*i*P	**Pb**	**10 20 45.5**	**-1.5**
TALC				*i* S	**Sn**	**10 20 58.2**	**-0.2**
COCH	**Cobquecura**	**0.86**	**190**	⇓*i*P	Pb	10 20 44.6	-3.5
COCH				*i* S	**Sb**	**10 20 56.4**	**-3.0**
LNCH	**Linares**	**0.99**	**125**	⇑*i*P	**Pn**	**10 20 48.8**	**-1.2**
LNCH				*i* S	**Sn**	**10 21 04.5**	**+1.2**
NICH	**Los Niches**	**1.15**	**77**	⇑*i*P	**Pn**	**10 20 51.0**	**-1.3**
NICH				*i* S	**Sb**	**10 21 08.2**	**+0.6**
CCSP	**San Pedro de C**	**1.62**	**195**	⇓*i*P	**Pn**	**10 20 56.1**	**-2.5**
CCSP				eS	**Sn**	**10 21 17.2**	**-1.5**
CCSP				AML	AML	10 21 24.2	
	comp=N,8μm,0.3s						
LNV	**Longovilo**	**1.64**	**37**	eP1	**Pn**	**10 20 57.0**	**-2.0**
CACH	**El Canelo**	**2.01**	**55**	⇓*i*P	**Pn**	**10 21 04.3**	**+0.1**
CHCH	**Chadas Angostu**	**2.09**	**51**	eP1	**Pn**	**10 21 05.3**	**0.0**
SJCH	**San Jose de Ma**	**2.47**	**49**	eP1	**Pn**	**10 21 10.8**	**+0.3**
SJCH				eS	**Sb**	**10 21 42.8**	**-2.8**
CLCH	**Cerro Calan**	**2.54**	**43**	eP	**Pn**	**10 21 11.6**	**+0.1**
CLCH				eS	**Sn**	**10 21 43.7**	**+2.2**
CLCH				AML	AML	10 21 50.0	
	comp=N,5μm,0.8s						
PEL	**Peldehue**	**2.66**	**37**	⇓*i*P	**Pn**	**10 21 12.8**	**-0.2**
PEL				eS4	**Sb**	**10 21 48.8**	**-2.0**
PEL				AML	AML	10 21 56.1	
	comp=E,4μm,0.7s						
CFAA	**Coronel Fontan**	**5.17**	**46**	Pn	**Pn**	**10 21 47.5**	**-0.1**
	comp=E,0.4nm,0.3s,baz=224,slow=13,SNR=32						
CFAA				Sn	**Sb**	**10 22 57.6**	**-5.5**
	comp=E,0.6nm,0.3s,baz=262,slow=15,SNR=3.2						
CFAA				LR	LR	10 23 59.6	
	comp=E,32nm,21.0s,baz=220,slow=41						
PLCA	**Paso Flores**	**5.68**	**164**	Pn	**Pn**	**10 21 55.5**	**+0.9**
	comp=E,1.0nm,0.3s,baz=24,slow=22,SNR=9.2						
PLCA				Lg	Lg	10 23 22.9	
	comp=E,1.8nm,0.3s,baz=255,slow=20,SNR=2.2						
PLCA				LR	LR	10 23 51.9	
	comp=E,108nm,18.0s,baz=336,slow=36						
PLCA	**Paso Flores**	**5.68**	**164**	e*P*n	**Pn**	**10 21 55.3**	**+0.7**
PLCA				e*S*n	**Sn**	**10 22 59.5**	**+0.5**
PLCA				Lg	Lg	10 23 22.9	
LCO	**Las Campanas**	**6.45**	**15**	e*P*n	**Pn**	**10 22 02.3**	**-3.1**
LCO				e*S*n	**Sn**	**10 23 15.2**	**-3.2**
TRQA	**Tornquist**	**8.97**	**111**	e*P*n	**Pn**	**10 22 41.5**	**+1.8**
TRQA				e*S*n	Sn	10 24 13.3	-6.6
LPAZ	**La Paz**	**19.33**	**13**	e*P*	**P**	**10 24 56.1**	**+0.3**
	comp=E,0.4nm,0.3s,baz=172,slow=9.9,SNR=17						
LPAZ	**La Paz**	**19.33**	**13**	e*P*	**P**	**10 24 56.0**	**+0.2**
USHA	**Ushuaia**	**19.77**	**173**	P	**P**	**10 25 00.3**	**+0.6**
	comp=E,0.2nm,0.3s,baz=283,slow=17,SNR=3.9						
SIV	**San Ignacio**	**21.80**	**31**	P	**P**	**10 25 20.0**	**-2.0**
	comp=E,15nm,0.8s,baz=219,slow=9.2,SNR=37						
PMSA	**Palmer Station**	**29.98**	**173**	LR	LR	10 39 23.0	
	comp=E,101nm,18.6s,baz=30,slow=38						
RPN	**Rapa Nui**	**32.31**	**274**	LR	LR	10 36 14.2	
	comp=E,138nm,19.1s,baz=175,slow=29						
OTAV	**Otavalo**	**35.75**	**350**	e*P*	**P**	**10 27 30.2**	**+1.0**
PTGA	**Pitinga**	**36.33**	**22**	e*P*	**P**	**10 27 34.5**	**+0.9**
	comp=E,86nm,2.5s						
SDV	**Santo Domingo**	**43.96**	**3**	e*P*	**P**	**10 28 36.4**	**-0.7**
	comp=E,9.0nm,1.0s						
VNA3	**Neumayer Olymp**	**48.35**	**157**	P	**P**	**10 29 11.6**	**+0.7**
VNA2	**Neumayer--Watz**	**49.02**	**157**	P	**P**	**10 29 16.9**	**+0.9**
SNAA	**Sanae**	**50.58**	**157**	P	**P**	**10 29 28.4**	**+0.5**
SNAA	**Sanae**	**50.58**	**157**	P	**P**	**10 29 28.5**	**+0.5**
	comp=E,2.4nm,0.6s,baz=278,slow=8.8,SNR=15						
SNAA	**Sanae**	**50.58**	**157**	e*P*	**P**	**10 29 28.3**	**+0.5**
	comp=E,5.7nm,0.6s						
QSPA	**South Pole Qui**	**54.96**	**180**	P	**P**	**10 29 59.7**	**-0.7**
	comp=E,4.5nm,0.9s,baz=163,slow=1.9,SNR=8.4						
QSPA	**South Pole Qui**	**54.96**	**180**	e*P*	**P**	**10 30 01.2**	**+0.8**
	comp=E,5.8nm,0.9s						
H06E1	**SOCORRO T-PHAS**	**54.91**	**320**	T	T	11 41 37.6	
	SNR=13						
JCT	**Junction City**	**70.25**	**335**	e*P*	P	10 31 46.2	+3.5
	comp=E,9.6nm,1.0s						
TXAR	**Lajitas Array**	**70.63**	**331**	P	**P**	**10 31 44.3**	**-0.8**
	comp=E,0.9nm,0.6s,baz=153,slow=7.8,SNR=14						
TX31	**Lajitas Ar. Si**	**70.63**	**331**	e*P*	**P**	**10 31 45.1**	**0.0**
WHTX	**Lake Whitney,**	**70.87**	**338**	e*P*	**P**	**10 31 46.0**	**-0.4**
	comp=E,8.0nm,0.8s						
ABTX	**Abilene, Hawle**	**72.16**	**336**	e*P*	**P**	**10 31 54.4**	**+0.2**
	comp=E,7.7nm,0.8s						
WVT	**Waverly**	**72.45**	**347**	e*P*	**P**	**10 31 58.3**	**+2.5**
	comp=E,12nm,0.9s						
MSTX	**Muleshoe**	**74.45**	**334**	e*P*	**P**	**10 32 09.5**	**+1.7**
	comp=E,7.1nm,0.8s						
AMTX	**Amarillo**	**74.90**	**336**	e*P*	**P**	**10 32 12.9**	**+2.6**
	comp=E,11nm,1.1s						
ANMO	**Albuquerque**	**76.69**	**332**	e*P*	**P**	**10 32 23.2**	**+2.6**
	comp=E,4.4nm,1.0s						
T25A	**Trinidad**	**77.88**	**334**	e*P*	**P**	**10 32 29.5**	**+2.2**
	comp=E,10.0nm,0.9s						
MVCO	**Mesa Verde**	**79.46**	**332**	e*P*	P	10 32 41.0	+4.9
	comp=E,15nm,1.4s						
SMCO	**Snowmass**	**80.61**	**334**	e*P*	P	10 32 46.6	+4.1
	comp=E,16nm,1.6s						
PV10	**Paradox Valley**	**80.69**	**332**	e*P*	**P**	**10 32 43.2**	**+0.5**
KNB	**Kanab**	**81.06**	**328**	e*P*	**P**	**10 32 45.7**	**+1.1**
	comp=E,16nm,1.5s						
ECSD	**EROS Data Cent**	**81.62**	**343**	e*P*	**P**	**10 32 46.8**	**-0.5**
	comp=E,9.0nm,0.8s						
CCUT	**Cedar City**	**81.75**	**328**	e*P*	**P**	**10 32 49.5**	**+1.2**
	comp=E,5.2nm,1.0s						
ARUT	**Antelope Range**	**81.98**	**328**	e*P*	**P**	**10 32 47.4**	**-2.0**
ARUT				ePcP	**PcP**	**10 32 53.9**	**-1.0**
DUG	**Dugway, Tooele**	**83.75**	**330**	e*P*	P	10 33 02.5	+4.0
	comp=E,32nm,2.3s						
HWUT	**Hardware Ranch**	**84.45**	**332**	e*P*	**P**	**10 33 02.1**	**0.0**
	comp=E,6.8nm,1.1s						
NVAR	**Mina Array Bea**	**84.67**	**326**	P	**P**	**10 33 02.6**	**-0.8**
	comp=E,0.7nm,0.7s,baz=163,slow=4.5,SNR=2.7						
PDAR	**Pinedale Array**	**84.70**	**334**	P	**P**	**10 33 01.8**	**-1.6**
	comp=E,0.7nm,0.9s,baz=123,slow=5.5,SNR=4.0						
TOA0	**Torodi Ar. Sit**	**85.08**	**70**	e*P*	**P**	**10 33 04.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**85.08**	**70**	P	**P**	**10 33 04.8**	**-0.8**
	comp=E,1.4nm,0.7s,baz=262,slow=4.8,SNR=6.5						
IMW	**Indian Meadow**	**86.18**	**333**	e*P*	P	10 33 14.0	+3.2
	comp=E,4.9nm,1.2s						
ULM	**Lac du Bonnet**	**87.61**	**345**	P	**P**	**10 33 16.5**	**-0.8**
	comp=E,5.0nm,0.9s,baz=145,slow=4.2,SNR=7.0						
MCMT	**McKenzie Canyo**	**87.69**	**333**	e*P*	**P**	**10 33 17.5**	**-0.6**
MCMT				e*pP*	**PcP**	**10 33 22.7**	**+2.7**
YKA	**Yellowknife Ar**	**103.12**	**341**	Pdiff	**Pdif**	**10 34 26.5**	**-1.2**
	comp=E,0.3nm,0.8s,baz=136,slow=3.9,SNR=2.5						
WRA	**Warramunga Arr**	**119.42**	**209**	PKP	**PKPdf**	**10 39 17.9**	**-1.6**
	comp=E,0.2nm,0.6s,baz=158,slow=1.8,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**125.28**	**269**	T	T	12 57 08.6	
	baz=118,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**125.30**	**269**	T	T	12 57 12.1	
	baz=118,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**125.30**	**269**	T	T	12 57 12.0	
	baz=118,slow=75,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**125.73**	**270**	T	T	12 57 35.8	
	baz=116,slow=78,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**125.74**	**270**	T	T	12 57 36.2	
	baz=116,slow=78,SNR=13						
H11N2	**WAKE ISLAND Hy**	**125.75**	**270**	T	T	12 57 35.9	
	baz=116,slow=78,SNR=8.1						
KURBB	**Kurchatov Arra**	**154.11**	**45**	PKP	**PKPdf**	**10 40 19.0**	**-1.7**
	comp=E,0.3nm,0.3s,baz=316,slow=2.6,SNR=3.1						
KURBB				PKPbc	**PKPbc**	**10 40 28.2**	**-0.6**
	comp=E,1.1nm,0.6s,baz=301,slow=2.9,SNR=6.1						
KURK	**Kurchatov**	**154.12**	**45**	PKP	**PKPdf**	**10 40 18.9**	**-1.7**
KURK				PKPbc	**PKPbc**	**10 40 28.2**	**-0.6**
KSH	**Kashi**	**154.75**	**71**	e*P*KPbc	**PKPdf**	**10 40 23.3**	**+1.2**
KSH				sPKP		10 40 36.8	
KSH				PKS	**PKSdf**	**10 43 57.5**	**+1.2**
KSH				PP	**PP**	**10 44 20.3**	**-1.7**
KSH				SKS	**SKSdf**	**10 47 28.0**	**+0.9**
KSH				SKKS	**SKKSac**	**10 51 10.5**	**+0.6**
KSH				SS	**SS**	**11 04 00.5**	**-2.5**
KSH				PPMZ			
	comp=E,120nm,5.2s						
KSH				LN			
	comp=E,39nm,5.2s						
KSH				LE			
	comp=E,53nm,4.6s						
KSH				LZ			
	comp=E,110nm,6.2s						
ZALV	**Zalesovo Beam**	**155.55**	**33**	PKP	**PKPdf**	**10 40 22.6**	**+0.1**
	comp=E,0.5nm,0.3s,baz=260,slow=4.4,SNR=5.1						
MKAR	**Makanchi Array**	**157.94**	**51**	PKP	**PKPdf**	**10 40 25.7**	**-0.2**
	comp=E,0.4nm,0.8s,baz=321,slow=0.8,SNR=4.2						
MKAR				PKPab	**PKPab**	**10 40 58.0**	**-1.1**
	comp=E,0.2nm,0.5s,baz=294,slow=3.4,SNR=2.8						
WMQ	**Urumqi**	**162.60**	**55**	e*P*KP	**PKPdf**	**10 40 32.0**	**+0.8**
WMQ				pPKP	**pPKPdf**	**10 40 42.8**	**+3.0**
CN2	**Changchun**	**163.71**	**307**	e*P*KP	**PKPdf**	**10 40 34.3**	**+2.1**
SONM	**Songino Array**	**167.43**	**3**	PKPab	**PKPab**	**10 41 40.1**	**-0.6**
	comp=E,1.4nm,0.9s,baz=321,slow=3.5,SNR=5.4						
HHC	**Hu-ho-hao-te**	**173.54**	**331**	e*P*KP	**PKPdf**	**10 40 39.5**	**+0.7**
HHC				pPKP	**pPKPdf**	**10 40 51.0**	**+3.5**
HHC				sPKP		10 40 54.3	
HHC				PP	**PP**	**10 46 04.5**	**+5.0**
HHC				SKS	**SKSdf**	**10 47 38.0**	**-2.3**
HHC				SS	**SS**	**11 07 18.0**	**+4.0**
HHC				PPMZ			
	comp=E,65nm,6.1s						
HHC				LN			
	comp=E,120nm,20.3s						
HHC				LE			
	comp=E,140nm,19.3s						
HHC				LZ			
	comp=E,160nm,21.0s						

IDC 26 10:27:45.1±2.5, 54°03N×86°40E, h0km, mb1 3.0/2, mb1mx2.9/54, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=21.7km s-min=13.1km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**266**	*i*		10 35 28.9	
	baz=86,slow=331,SNR=2.1						
ZALV	**Zalesovo Beam**	**0.93**	**266**	Pg	Pg	10 28 01.7	-1.3
	1.1nm,0.3s,baz=84,slow=18,SNR=11						
ZALV				Lg	Lg	10 28 16.2	
	0.9nm,0.3s,baz=82,slow=28,SNR=5.4						
KURBB	**Kurchatov Arra**	**5.91**	**238**	Pn	Pn	10 29 14.9	+1.1
	0.2nm,0.3s,baz=54,slow=13,SNR=2.5						
MKAR	**Makanchi Array**	**7.70**	**202**	Pn	Pn	10 29 39.5	+1.0
	0.2nm,0.3s,baz=23,slow=14,SNR=10						

BUC 26 10:29:15.1±1.4, 46°19N×24°63E, h13km±9km, MD2.3/1, 2C-2D, Error ellipse: s-maj=4.5km s-min=2.3km az=324.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOT	**Lotru**	**0.96**	**220**	S	Sn	10 29 47.3	-0.6
LOT	**Lotru**	**0.96**	**220**	*i* S	Sn	10 29 47.3	-0.6
TESR	**Tescani**	**1.43**	**76**	⇑*i*P	Pb	10 29 41.3	-0.4
TESR				S	Sg	10 30 00.6	-0.7
TESR	**Tescani**	**1.43**	**76**	⇑*i*P	Pb	10 29 41.3	-0.4
TESR				*i* S	Sg	10 30 00.6	-0.7
BURAR	**Bucovina Array**	**1.48**	**15**	⇓*i*P	Pb	10 29 42.3	-0.3
BURAR				S	Sb	10 30 01.5	+0.1
BURAR	**Bucovina Array**	**1.48**	**15**	⇓*i*P	Pb	10 29 42.3	-0.3
BURAR				*i* S	Sb	10 30 01.5	+0.1

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*IDC **26** 10:30:35.3±0.5, 35°24S×71°90W, h0km, mb4.8/17, mb1 4.9/19, mb1mx4.7/31, mbtmp4.8/19, ML4.3/2, MS3.9/6, Ms1 3.9/6, ms1mx3.6/30, Error ellipse: s-maj=22.8km s-min=14.0km az=83.0*
*BJI **26** 10:30:38.2, 35°18S×72°24W, h28km, mB5.4/3, Ms5.2/4, Ms7 4.9/4*
*NEIC **26** 10:30:40.0, 35°27S×72°15W, h40km, mb4.9/44, After GUC.*
NEIC Felt [IV] at Constitucion, Longavi, Parral, San Javier and Talca; [III] at Curico and Romeral; [II] at Pichilemu. Also felt at Concepcion, San Bernardo, San Clemente and Santiago.
*GUC **26** 10:30:40.4±0.7, 35°27S×72°15W, h40km±4km, ML4.9*
*ISCJB **26** 10:30:41.4±0.5, 35°26S±0°03×71°96W±0°07, h53km±4km, mb4.8/64, MS4.1/4, Error ellipse: s-maj=9.6km s-min=5.4km az=178.7*
ISC 26 10:30:41.1±0.3, 35°29S±0°03×72°08W±0°06, h42km±2km, h42km:pP-P, n434, σ1§16/490, mb4.9/64, MS4.2/4, 148C-162D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.38**	**106**	⇓*i*P	**Pn**	**10 30 50.5**	**+0.1**
TALC				*i* S	**Sn**	**10 30 57.3**	**+0.4**
LNCH	**Linares**	**0.68**	**145**	⇓*i*P	**Pn**	**10 30 54.8**	**+0.5**
LNCH				*i* S	**Sn**	**10 31 05.0**	**+1.3**
LNCH				AML	AML	10 31 07.6	
	comp=E,68μm,0.7s						
NICH	**Los Niches**	**0.75**	**68**	⇓*i*P	**Pn**	**10 30 55.9**	**+0.6**
NICH				*i* S	**Sn**	**10 31 07.2**	**+1.6**
NICH				AML	AML	10 31 08.0	
	comp=E,75μm,0.6s						
LNV	**Longovilo**	**1.44**	**23**	⇑*i*P	**Pn**	**10 31 05.2**	**+0.4**
CACH	**El Canelo**	**1.69**	**46**	⇓*i*P	**Pn**	**10 31 09.1**	**+0.8**
CCSP	**San Pedro de C**	**1.76**	**208**	⇑*i*P	**Pn**	**10 31 09.2**	**+0.1**
CHCH	**Chadas Angostu**	**1.79**	**41**	⇓*i*P	**Pn**	**10 31 10.5**	**+0.9**
TACH	**Talagante**	**1.89**	**30**	⇑*i*P	**Pn**	**10 31 11.2**	**+0.4**
CLCH	**Cerro Calan**	**2.28**	**34**	⇑*i*P	**Pn**	**10 31 17.1**	**+0.7**
CLCH				AML	AML	10 31 58.7	
	comp=N,19μm,0.6s						
IHA	**Instituto Hidr**	**2.29**	**9**	⇑*i*P	**Pn**	**10 31 16.2**	**-0.1**
YECH	**El Yeso**	**2.31**	**46**	eP1	**Pn**	**10 31 18.2**	**+1.3**
YECH				eS	**Sn**	**10 31 46.9**	**+2.6**
CFAA	**Coronel Fontan**	**4.88**	**42**	Pn	**Pn**	**10 31 52.1**	**+0.1**
	comp=N,1.0nm,0.3s,baz=217,slow=12,SNR=55						
CFAA				Sn	Sn	10 32 55.4	+8.1
	comp=N,1.4nm,0.3s,baz=261,slow=8.9,SNR=3.6						
CFAA				LR	LR	10 33 56.2	
	comp=N,218nm,21.8s,baz=230,slow=42						
PLCA	**Paso Flores**	**5.56**	**168**	Pn	**Pn**	**10 32 03.3**	**+1.9**
	comp=N,6.4nm,0.3s,baz=335,slow=12,SNR=114						
PLCA				Lg	Lg	10 33 31.9	
	comp=N,6.4nm,0.3s,baz=264,slow=11,SNR=4.4						
PLCA				LR	LR	10 34 23.6	
	comp=N,797nm,21.3s,baz=338,slow=41						
PLCA	**Paso Flores**	**5.56**	**168**	e*P*n	**Pn**	**10 32 03.8**	**+2.4**
PLCA				e*S*n	**Sn**	**10 32 59.5**	**-4.6**
PLCA				Lg	Lg	10 33 31.9	
LCO	**Las Campanas**	**6.37**	**11**	e*P*n	**Pn**	**10 32 11.1**	**-1.6**
LCO				e*S*n	**Sn**	**10 33 22.1**	**-2.1**
TRQA	**Tornquist**	**8.57**	**112**	e*P*n	**Pn**	**10 32 43.5**	**+0.9**
TRQA				e*S*n	**Sn**	**10 34 12.9**	**-4.9**
LVC	**Limon Verde**	**12.93**	**13**	e*P*n	**Pn**	**10 33 43.0**	**+0.5**
LVC				e*S*n	**Sn**	**10 36 01.8**	**-3.5**
LPAZ	**La Paz**	**19.25**	**12**	P	**P**	**10 35 03.1**	**+0.4**
	comp=N,0.9nm,0.3s,baz=149,slow=1.7,SNR=80						
LPAZ	**La Paz**	**19.25**	**12**	e*P*	**P**	**10 35 02.6**	**-0.1**
	comp=N,30nm,0.8s						
USHA	**Ushuaia**	**19.70**	**174**	P	**Pn**	**10 35 07.9**	**-0.5**
	comp=N,0.3nm,0.3s,baz=311,slow=9.8,SNR=7.7						
SIV	**San Ignacio**	**21.60**	**30**	P	**P**	**10 35 26.5**	**-0.9**
	comp=N,48nm

baz=70,SNR=5.7
532A Rocksprings 70.15 335 ⇓P P 10 41 50.1 +0.9
baz=70,SNR=19
239A Gary 70.18 340 ⇓P P 10 41 50.2 +0.9
baz=70
434A Burnet 70.22 336 ⇓P P 10 41 50.3 +0.7
baz=70,SNR=10
336A Riesel 70.30 338 ⇑P P 10 41 50.9 +0.9
baz=71,SNR=6.0
238A Jacksonville 70.35 339 ⇓P P 10 41 51.5 +1.2
baz=71
335A Moody 70.38 337 ⇓P P 10 41 51.5 +1.0
baz=71
531A Rocksprings 70.42 334 ⇑P P 10 41 51.8 +1.0
baz=71,SNR=15
JCT Junction City 70.44 335 ⇑P P 10 41 51.8 +0.9
baz=71
JCT Junction City 70.44 335 eP P 10 41 51.8 +0.9
comp=N,14nm,0.9s
JCT epP pP 10 42 03.8 +0.3
433A Art 70.44 335 ⇓P P 10 41 51.3 +0.3
baz=71,SNR=9.6
237A Washetta, Mont 70.55 339 ⇓P P 10 41 52.2 +0.7
baz=71
KMSC Kings Mountain 70.60 352 ⇓P P 10 41 52.0 +0.2
baz=71
530A J-C Ranch, Com 70.69 333 ⇑P P 10 41 53.6 +1.1
baz=71,SNR=12
334A Lometa 70.69 336 ⇓P P 10 41 52.8 +0.3
baz=71,SNR=12
432A Menard 70.80 335 ⇑P P 10 41 53.7 +0.5
baz=71
TXAR Lajitas Array 70.85 331 P P 10 41 54.3 +0.7
comp=N,3.9nm,0.6s,baz=152,slow=8.5,SNR=67
431A Sonora 70.91 334 ⇓P P 10 41 54.4 +0.6
baz=71,SNR=7.9
333A Richland Sprin 70.93 336 ⇑P P 10 41 54.4 +0.5
baz=71,SNR=5.9
529A Stev Forest Ra 70.99 333 ⇑P P 10 41 54.9 +0.6
baz=71
WHTX Lake Whitney, 71.05 337 ⇑P P 10 41 55.0 +0.4
baz=71,SNR=6.5
WHTX Lake Whitney, 71.05 337 eP P 10 41 55.0 +0.4
WHTX epP pP 10 42 06.1 -1.0
WHTX esP sP 10 42 10.9 -1.0
137A Heron Place, G 71.10 339 ⇑P P 10 41 55.8 +0.9
baz=71
430A Baggett Ranch, 71.23 334 ⇓P P 10 41 56.3 +0.5
baz=72,SNR=11
332A Millersview 71.24 335 ⇓P P 10 41 56.2 +0.4
baz=72
234A Clairette 71.28 337 ⇑P P 10 41 56.2 +0.2
baz=72,SNR=6.3
429A Davenport Ranc 71.32 333 ⇑P P 10 41 56.8 +0.5
baz=72,SNR=6.6
CPCT Cooper Cave 71.33 349 eP P 10 41 59.9 +3.7
CPCT epP pP 10 42 12.0 +3.2
331A San Angelo 71.41 335 ⇓P P 10 41 57.1 +0.3
baz=72,SNR=9.9
233A Rising Star 71.54 336 ⇓P P 10 41 57.9 +0.3
baz=72,SNR=7.2
135A Vickery Place, 71.56 338 ⇓P P 10 41 58.4 +0.8
baz=72
232A Coleman 71.67 335 ⇑P P 10 41 58.3 -0.1
baz=72,SNR=5.1
330A Mertzon 71.77 334 ⇑P P 10 41 59.3 +0.3
baz=72,SNR=7.8
134A White-Moore Ra 71.78 337 ⇓P P 10 41 59.5 +0.5
baz=72
231A Bronte 71.94 335 ⇑P P 10 42 00.3 +0.3
baz=72,SNR=14
MAW Mawson 71.95 163 P P 10 42 00.3 +0.6
comp=N,30nm,0.8s,baz=198,slow=6.4,SNR=10
133A Hamilton Ranch 72.09 336 ⇑P P 10 42 01.5 +0.6
baz=72
329A Wagon Wheel Ra 72.13 333 ⇑P P 10 42 01.8 +0.6
baz=72,SNR=7.7
Z35A Perchaven, San 72.23 338 ⇓P P 10 42 02.1 +0.4
baz=72,SNR=5.5
MIAR Mount Ida 72.33 341 eP P 10 42 02.3 +0.1
comp=N,3.1nm,0.8s
ABTX Abilene, Hawle 72.34 336 ⇓P P 10 42 02.6 +0.2
baz=73,SNR=6.6
ABTX Abilene, Hawle 72.34 336 eP P 10 42 02.8 +0.5
ABTX epP pP 10 42 15.3 +0.4
Z34A Collier Ranch, 72.47 338 ⇓P P 10 42 03.5 +0.4
baz=73
229A Bryant Ranch, 72.50 334 ⇑P P 10 42 03.8 +0.4
baz=73
WVT Waverly 72.56 347 eP P 10 42 02.7 -0.9
WVT epP pP 10 42 15.6 -0.5
WVT esP sP 10 42 20.6 -0.3
131A Roby 72.64 335 ⇓P P 10 42 04.6 +0.4
baz=73
Z33A Whitaker Ranch 72.66 337 ⇓P P 10 42 04.5 +0.3
baz=73,SNR=8.9
130A Snyder 72.77 335 ⇓P P 10 42 05.4 +0.4
baz=73
Z32A Haskell 72.91 336 ⇓P P 10 42 06.1 +0.4
baz=73,SNR=9.5
228A UT Block 9, Go 72.92 333 ⇓P P 10 42 06.3 +0.3
baz=73,SNR=6.5
Y34A Reagan Ranch, 72.96 338 ⇓P P 10 42 06.5 +0.4
baz=73
129A Stewart Farms, 73.12 334 ⇑P P 10 42 07.1 0.0
baz=73
Z31A Sharp Cattle R 73.14 336 ⇑P P 10 42 07.5 +0.4
baz=73,SNR=10
Y33A Hilltop Ranch, 73.28 337 ⇓P P 10 42 08.1 +0.2
baz=74,SNR=6.5
128A Castleberry Fa 73.33 334 ⇑P P 10 42 08.5 +0.1
baz=74,SNR=9.0
Z30A Sanderson Ranc 73.45 335 ⇓P P 10 42 09.2 +0.2
baz=74
Y32A R-V Farms, Ver 73.54 337 ⇑P P 10 42 09.8 +0.4
baz=74
X34A Smith Ranch, M 73.58 338 ⇓P P 10 42 10.1 +0.4
baz=74
MNTX Cornudas Mount 73.62 331 eP P 10 42 09.6 -0.3
comp=N,6.6nm,0.8s
Z29A Hungry Hill Ra 73.63 334 ⇓P P 10 42 10.0 -0.1
baz=74,SNR=6.6
GDL2 Guadalupe Moun 73.66 332 eP P 10 42 02.5 -7.9
X33A Lawton 73.73 337 ⇑P P 10 42 10.7 +0.2
baz=74
Y31A Rekieta Farm, 73.77 336 ⇑P P 10 42 11.2 +0.4
baz=74,SNR=6.2
X32A Elmer 73.87 337 ⇓P P 10 42 11.4 0.0
baz=74
Z28A Tucker Farm, M 73.90 334 ⇓P P 10 42 11.9 +0.2
baz=74
Y30A Stafford Cattl 73.91 335 ⇑P P 10 42 11.7 +0.1
baz=74
WMOK Wichita Mounta 74.00 337 eP P 10 42 11.7 -0.4
comp=N,6.9nm,1.0s
W34A Bridge Creek, 74.15 338 ⇑P P 10 42 13.2 +0.2
baz=74
Y29A Porterfield Fa 74.16 335 ⇑P P 10 42 13.1 -0.1
baz=74,SNR=8.2
TUL1 Leonard 74.21 340 ⇑P P 10 42 13.3 +0.1
baz=74,SNR=5.7
TUL1 Leonard 74.21 340 eP P 10 42 13.4 +0.1
TUL1 epP pP 10 42 25.1 -0.8
TUL1 esP sP 10 42 30.3 -0.4
W33A Caddo, Fort Co 74.29 338 ⇑P P 10 42 14.7 +0.9
baz=75,SNR=10
X31A McDonald Ranch 74.29 336 ⇓P P 10 42 14.0 +0.1
baz=75,SNR=8.6
V35A Meyer Ranch, C 74.37 339 ⇓P P 10 42 14.1 -0.1
baz=75,SNR=6.2
Y28A McKinney Farm, 74.41 334 ⇑P P 10 42 15.0 +0.4
baz=75
X30A Coker Ranch, T 74.42 336 ⇓P P 10 42 14.3 -0.3
baz=75
W32A Sentinel 74.51 337 ⇑P P 10 42 15.7 +0.7
baz=75,SNR=10
V34A Guthrie 74.63 339 ⇑P P 10 42 15.6 -0.1
baz=75
MSTX Muleshoe 74.65 334 ⇓P P 10 42 16.3 +0.2
baz=75,SNR=6.3
MSTX Muleshoe 74.65 334 eP P 10 42 15.8 -0.3
comp=N,9.1nm,0.7s
MSTX epP pP 10 42 26.7 -1.9
X29A Tulia 74.70 335 ⇑P P 10 42 16.7 +0.4
baz=75,SNR=6.1
W31A Holland Ranch, 74.79 337 ⇓P P 10 42 16.9 +0.1
baz=75
V33A Lossen Ranch, 74.85 338 ⇑P P 10 42 17.4 +0.3
baz=75,SNR=6.7
319A Douglas 74.97 328 ⇓P P 10 42 19.3 +1.3
baz=75,SNR=5.0
V32A Arapaho 74.99 338 ⇓P P 10 42 18.3 +0.4
baz=75
AMTX Amarillo 75.09 335 ⇓P P 10 42 19.3 +0.8
baz=75
AMTX Amarillo 75.09 335 eP P 10 42 19.3 +0.8
comp=N,7.1nm,0.5s
AMTX epP pP 10 42 31.1 -0.1
U34A Anderson Ranch 75.20 339 ⇓P P 10 42 19.2 +0.2
baz=76
LIC Lamto 75.21 71 eP P 10 42 19.3 -0.3
comp=N,75nm,0.9s
V31A Spring Creek L 75.29 337 ⇓P P 10 42 20.9 +1.3
baz=76
W29A Amarillo 75.30 335 ⇑P P 10 42 20.4 +0.7
baz=76,SNR=8.0
121A Cookes Peak, D 75.33 329 ⇑P P 10 42 22.0 +1.9
baz=76,SNR=11
121A Cookes Peak, D 75.33 329 eP P 10 42 21.8 +1.7
comp=N,15nm,0.9s
121A epP PcP 10 42 33.2 0.0
U33A Lingo Farm, Me 75.36 339 ⇑P P 10 42 19.8 -0.1
baz=76
TIC Toumodi 75.48 71 eP P 10 42 21.0 -0.2
comp=N,8.4nm,0.2s
KIC Kosan Boka 75.52 71 eP P 10 42 21.4 0.0
comp=N,104nm,0.8s
U32A Winter Ranch, 75.59 338 ⇓P P 10 42 22.0 +0.7
baz=76
DBIC Dimbokro 75.62 71 P P 10 42 21.9 0.0
comp=N,36nm,0.8s,baz=208,slow=6.4,SNR=56
DBIC LR LR 11 12 17.0
comp=N,112nm,21.2s,baz=214,slow=33
DBIC Dimbokro 75.62 71 eP P 10 42 22.1 +0.1
comp=N,38nm,0.8s
ACSO Alum Creek Sta 75.82 351 eP P 10 42 22.3 -0.1
comp=N,15nm,0.5s
ACSO epP PcP 10 42 34.4 -0.5
S36A Lake Cedric, C 75.86 341 ⇓P P 10 42 22.7 -0.1
baz=76,SNR=7.0
T33A Patterson Ranc 76.01 339 ⇓P P 10 42 24.5 +0.9
baz=76
W26A Owens Ranch, T 76.02 334 ⇓P P 10 42 24.6 +0.7
baz=76
V28A Channing 76.06 335 ⇓P P 10 42 25.5 +1.4
baz=76
U30A WK&E Inc. Balk 76.25 337 ⇓P P 10 42 26.5 +1.4
baz=76
V27A Dan Oppiter Fa 76.28 335 ⇓P P 10 42 26.1 +0.8
baz=77
T32A Huddler Ranch, 76.30 338 ⇓P P 10 42 25.9 +0.6
baz=77
W25A X Bar L Ranch, 76.38 333 ⇓P P 10 42 26.4 +0.4
baz=77
S33A Kaszmaul Farm, 76.41 339 ⇓P P 10 42 26.5 +0.6
baz=77
LPM Los Pinos Moun 76.41 331 eP P 10 42 27.5 +1.3
LPM epP pP 10 42 40.1 +1.3
T31A Randall Ranch, 76.46 338 ⇓P P 10 42 26.8 +0.6
baz=77
U28A Mallet 76.63 335 ⇑P P 10 42 27.8 +0.4
baz=77
V26A Tequesquite Ra 76.66 334 ⇑P P 10 42 28.2 +0.7
baz=77
LAZ Ladron 76.69 331 eP P 10 42 29.4 +1.6
comp=N,2.6nm,1.0s
W24A Lazy 6 Ranch, 76.73 332 ⇓P P 10 42 29.0 +1.0
baz=77,SNR=10
S32A Newby Ranch, P 76.78 338 ⇓P P 10 42 28.6 +0.6
baz=77
S31A Mullinville 76.88 338 ⇓P P 10 42 29.3 +0.7
baz=77
U27A Thompson Grove 76.88 335 ⇓P P 10 42 29.6 +0.9
baz=77,SNR=5.3
ANMO Albuquerque 76.90 332 P P 10 42 29.9 +0.9
comp=N,4.4nm,0.9s,baz=168,slow=8.1,SNR=15
ANMO LR LR 11 11 28.2
comp=N,185nm,21.4s,baz=135,slow=32
ANMO Albuquerque 76.90 332 eP P 10 42 30.1 +1.1
V25A Rancho No Teng 76.99 333 ⇑P P 10 42 30.3 +0.8
baz=77,SNR=8.1
T29A Hugoton 77.03 336 ⇑P P 10 42 30.4 +0.9
baz=77
214A Organ Pipe Nat 77.06 325 ⇓P P 10 42 31.5 +1.8
baz=77
R33A Olander Ranch, 77.07 339 ⇑P P 10 42 30.2 +0.6
baz=77
V24A Rampart Ranch, 77.14 333 ⇑P P 10 42 31.4 +1.1
baz=77
U26A Atchley Ranch, 77.17 334 ⇑P P 10 42 31.5 +1.0
baz=78
S30A Montezuma 77.20 337 ⇑P P 10 42 31.0 +0.5
baz=78
T28A Walsh 77.27 336 ⇑P P 10 42 31.4 +0.6
baz=78,SNR=13
R32A Long Quarter, 77.39 339 ⇓P P 10 42 32.3 +0.9
baz=78
S29A Ulysses 77.39 337 ⇑P P 10 42 32.3 +0.8
baz=78
U25A Circle Dot Ran 77.42 334 ⇑P P 10 42 32.8 +0.9
baz=78,SNR=7.5
T27A Campo 77.42 335 ⇑P P 10 42 32.4 +0.6
baz=78,SNR=5.5
KSU1 Kansas State U 77.42 341 ⇑P P 10 42 31.9 +0.3
baz=78
KSU1 Kansas State U 77.42 341 eP P 10 42 31.3 -0.2
V23A Ortiz Mt. (NFS 77.50 332 ⇑P P 10 42 33.8 +1.5
baz=78
R31A Burdett 77.51 338 ⇑P P 10 42 32.8 +0.7
baz=78
S28A Manter 77.62 336 ⇑P P 10 42 33.9 +1.1
baz=78,SNR=12
R30A Dighton 77.73 338 ⇑P P 10 42 34.4 +1.0
baz=78
U24A Moreno Valley 77.75 333 ⇓P P 10 42 35.2 +1.4
baz=78
T26A Comanche Natio 77.82 335 ⇓P P 10 42 35.1 +1.1
baz=78,SNR=5.6
Q32A Meitler Ranch, 77.87 339 ⇑P P 10 42 34.8 +0.7
baz=78
V22A San Miguel Ran 77.93 332 ⇑P P 10 42 36.7 +1.9
baz=78,SNR=11
X18A Snowflake 77.96 329 ⇑P P 10 42 36.2 +1.3
baz=78
U23A El Rito 78.02 332 ⇓P P 10 42 36.4 +1.2
baz=78
T25A Trinidad 78.08 334 ⇓P P 10 42 36.9 +1.4
baz=78,SNR=12
Q31A Ellis 78.13 339 ⇑P P 10 42 36.4 +0.8
baz=78
S26A Kim 78.18 335 ⇓P P 10 42 37.4 +1.4
baz=78,SNR=11
R28A Tribune 78.28 337 ⇑P P 10 42 37.4 +1.0
baz=79,SNR=8.7
U22A Llaves 78.31 332 ⇑P P 10 42 38.1 +1.2
baz=79
T24B San Luis 78.36 333 ⇑P P 10 42 38.7 +1.5
baz=79,SNR=5.2
W18A Petrified Fore 78.38 329 ⇓P P 10 42 37.8 +0.6
baz=79
P32A Huiting Farm, 78.46 339 ⇑P P 10 42 38.1 +0.8
baz=79
Q29A Oakley 78.51 337 ⇑P P 10 42 38.2 +0.5
baz=79,SNR=5.2
X16A Lo Mia Camp, P 78.51 328 ⇑P P 10 42 39.6 +1.6
baz=79,SNR=9.7
R27A Eads 78.55 336 ⇓P P 10 42 38.7 +0.7
baz=79,SNR=12
S25A Robets Cordova 78.55 334 ⇓P P 10 42 39.4 +1.3
baz=79,SNR=5.0
T23A Casias Ranch, 78.58 333 ⇓P P 10 42 39.4 +1.0
baz=79
P31A Stockton 78.60 339 ⇓P P 10 42 39.0 +0.8
baz=79
R26A Arlington 78.78 335 ⇓P P 10 42 40.4 +1.2
baz=79
Y14A Wickenburg 78.80 326 ⇑P P 10 42 40.6 +1.1
baz=79
S24A Houchin Ranch, 78.81 334 ⇓P P 10 42 41.2 +1.5
baz=79,SNR=9.0
P30A Selden 78.88 338 ⇑P P 10 42 40.5 +0.8
baz=79
GLA Glamis 78.92 324 eP P 10 42 36.5 -3.5
Q28A Sharon Springs 78.94 337 ⇑P P 10 42 40.9 +0.9
baz=79
O32A Brockman Farm, 78.96 340 ⇓P P 10 42 41.1 +1.0
baz=79
SDCO Great Sand Dun 79.01 334 ⇓P P 10 42 41.7 +0.9
baz=79,SNR=8.4
SDCO Great Sand Dun 79.01 334 eP P 10 42 42.0 +1.2
P29A Atwood 79.14 338 ⇓P P 10 42 42.3 +1.2
baz=79,SNR=7.4
KSCO Kaye Shedlock' 79.15 336 eP P 10 42 42.4 +1.1
comp=N,11nm,0.6s
O31A Woolen Ranch, 79.17 339 ⇓P P 10 42 42.0 +0.7
baz=80
P28A Saint Francis 79.38 337 ⇓P P 10 42 43.8 +1.4
baz=80
O30A MW Ranch, Wils 79.41 339 ⇑P P 10 42 43.5 +1.0
baz=80
N32A Stulken Farm, 79.44 340 ⇑P P 10 42 44.2 +1.5
baz=80
S22A 4UR Ranch, Cre 79.50 333 ⇑P P 10 42 44.7 +1.3
baz=80
R23A Moffat 79.53 334 ⇓P P 10 42 44.8 +1.3
baz=80
JFWS Jewell Farm 79.58 347 eP P 10 42 42.9 -0.5
comp=N,13nm,1.0s
Q25A Bedland, Calha 79.61 335 ⇑P P 10 42 44.9 +1.0
baz=80
PDMCI Parker Dam,Lak 79.62 326 ⇑P P 10 42 45.0 +1.2
baz=80
MVCO Mesa Verde 79.68 331 ⇑P P 10 42 45.6 +1.3
baz=80
MVCO Mesa Verde 79.68 331 eP P 10 42 45.0 +0.7
comp=N,8.5nm,1.3s
BC3 Big Chuckawall 79.71 324 ⇑P P 10 42 45.7 +1.3
baz=80
P26A Davis Ranch, A 79.88 336 ⇓P P 10 42 46.4 +1.1
baz=80
O28A Krutsinger Ran 79.89 337 ⇓P P 10 42 46.2 +1.0
baz=80
Q24A Divide 79.97 334 ⇑P P 10 42 46.7 +0.8
baz=80
Q24A Divide 79.97 334 eP P 10 42 47.1 +1.1
BGNE Belgrade 80.00 340 ⇑P P 10 42 46.2 +0.5
baz=80
P25A Willow Gulch B 80.12 335 ⇑P P 10 42 48.2 +1.6
baz=80,SNR=12
PFO Pinyon Flats O 80.15 324 P P 10 42 48.5 +1.6
comp=N,3.9nm,0.8s,baz=126,slow=5.2,SNR=4.8
PFO Pinyon Flats O 80.15 324 ⇓P P 10 42 48.5 +1.6
baz=80
M31A Lambtecht Ranc 80.17 340 ⇑P P 10 42 47.6 +1.0
baz=80
O27A Beecher Island 80.17 337 ⇑P P 10 42 48.1 +1.3
baz=80
W13A Hualapai Mount 80.17 326 ⇓P P 10 42 48.1 +1.1
baz=80
N28A Pribbeno Ranch 80.32 338 ⇓P P 10 42 48.6 +1.0
baz=81
P24A Kohler Place, 80.37 335 ⇑P P 10 42 49.1 +1.1
baz=81
O26A Horse Wrangler 80.49 336 ⇑P P 10 42 50.2 +1.7
baz=81
PV01 Paradox Valley 80.51 332 eP P 10 42 50.0 +1.2
comp=N,718nm,1.0s
PV01 epP pP 10 43 01.8 +0.3
U15A North Rim 80.58 328 ⇓P P 10 42 51.0 +1.8
baz=81
OGNE Ogallala 80.71 337 ⇓P P 10 42 51.0 +1.4
baz=81
N27A Anderson Farm, 80.75 337 ⇓P P 10 42 51.1 +1.2
baz=81
ISCO Idaho Springs 80.88 334 ⇑P P 10 42 51.5 +0.7
baz=81,SNR=5.3
ISCO Idaho Springs 80.88 334 eP P 10 42 51.7 +0.9
comp=N,3.4nm,0.8s
ISCO epP pP 10 43 04.1 +0.6
L31A Butterfield Fa 80.90 340 ⇓P P 10 42 51.7 +1.1
baz=81
P22A Eagle 81.11 334 ⇓P P 10 42 53.3 +1.4
baz=81
L29A Maesberg Ranch 81.26 339 ⇑P P 10 42 53.7 +1.2
baz=82
O23A Lake Granby, G 81.35 334 ⇓P P 10 42 54.5 +1.2
baz=82,SNR=10
M27A Reverse DX Ran 81.35 337 ⇓P P 10 42 54.5 +1.5
baz=82
TUQ Turquoise Moun 81.39 325 ⇓P P 10 42 54.7 +1.3
baz=82
RRX Edison Barstow 81.44 324 ⇓P P 10 42 54.1 +0.5
baz=82
O22A Kremmling 81.53 334 ⇑P P 10 42 54.9 +0.6
baz=82,SNR=7.6
K30A Basset 81.58 340 ⇓P P 10 42 55.6 +1.5
baz=82
GSC Goldstone, Bar 81.69 324 ⇓P P 10 42 56.4 +1.4
baz=82
ECSD EROS Data Cent 81.77 342 ⇓P P 10 42 55.3 +0.2
baz=82,SNR=12
ECSD EROS Data Cent 81.77 342 eP P 10 42 55.0 0.0
ECSD epP pP 10 43 07.5 -0.3
ECSD esP sP 10 43 12.1 -0.5
LBTB Lobatse 81.79 115 eP P 10 42 56.1 +0.1
comp=N,15nm,0.7s
M25A Palm-Egli Farm 81.80 336 ⇑P P 10 42 56.3 +0.8
baz=82
K29A Lazy Trails An 81.86 339 ⇑P P 10 42 57.3 +1.7
baz=82
SHPR Sheep Range 81.91 326 eP P 10 42 58.2 +2.0
comp=N,2.9nm,0.8s
SHPR epP pP 10 43 10.1 +1.1
N23A Red Feather La 81.96 335 ⇑P P 10 42 58.1 +1.6
baz=82
CCUT Cedar City 81.98 328 eP P 10 42 58.2 +1.5
comp=N,11nm,1.0s
CCUT epP pP 10 43 10.6 +1.2
N22A Wattenberg Ran 82.06 334 ⇑P P 10 42 58.3 +1.3
baz=82
M24A Cheyenne 82.09 336 ⇓P P 10 42 58.1 +1.1
baz=82
K28A Ten Mile Ranch 82.12 339 ⇑P P 10 42 58.2 +1.2
baz=82,SNR=6.0
O20A White River Ci 82.12 333 ⇓P P 10 42 58.2 +0.9
baz=82
ARUT Antelope Range 82.21 328 eP P 10 42 59.8 +2.0
comp=N,208nm,1.1s
K27A Flueckinger Fa 82.37 338 ⇓P P 10 42 59.5 +1.1
baz=83
M23A Laramie 82.39 335 ⇓P P 10 42 59.5 +0.8
baz=83,SNR=5.4
J29A Okreek 82.45 340 ⇓P P 10 42 59.3 +0.6
baz=83,SNR=5.1
MPMC Manual Prospec 82.63 324 ⇓P P 10 43 00.9 +0.9
baz=83
M22A Cedar Creek Ra 82.64 335 ⇑P P 10 43 01.6 +1.6
baz=83
FURC Furnace Creek, 82.67 325 ⇓P P 10 43 01.4 +1.5
baz=83
J28A Allard Ranch, 82.73 339 ⇓P P 10 43 01.4 +1.2
baz=83
N20A Spence Gulch, 82.74 333 ⇑P P 10 43 01.4 +0.8
baz=83
ISA Isabella, Lake 82.79 324 ⇑P P 10 43 01.8 +1.2
baz=83
J27A Elkhorn Farm, 82.80 338 ⇑P P 10 43 01.5 +0.9
baz=83
L23A Garrett 82.96 335 ⇑P P 10 43 02.0 +0.4
baz=83
I29A Vivian Onida 83.01 340 ⇓P P 10 43 02.3 +0.8
baz=83
J26A Sides Ranch, S 83.19 338 ⇑P P 10 43 03.2 +0.6
baz=84
K24A Anderson Ranch 83.21 336 ⇑P P 10 43 03.8 +1.0
baz=84
I28A Midland 83.24 339 ⇓P P 10 43 03.9 +1.1
baz=84
MPU Maple Canyon 83.34 330 eP P 10 43 04.7 +1.1
comp=N,12nm,0.9s
MPU epP pP 10 43 16.3 0.0
J25A Sunshine Ranch 83.48 337 ⇑P P 10 43 05.1 +1.0
baz=84
H29A Onida 83.54 340 ⇓P P 10 43 05.1 +0.8
baz=84
I27A Quinn 83.56 339 ⇓P P 10 43 05.1 +0.7
baz=84
R11A Troy Canyon, C 83.62 327 ⇓P P 10 43 06.9 +1.9
baz=84
R11A Troy Canyon, C 83.62 327 eP P 10 43 06.3 +1.3
comp=N,5.8nm,0.8s
R11A epP pP 10 43 18.6 +0.8
J24A Dixon Ranch, L 83.70 337 ⇓P P 10 43 06.2 +0.9
baz=84

K22A	Casper	83.72 335	⇓P		P	10 43 06.3 +0.8
	baz=84,SNR=5.2					
K22A	Casper	83.72 335	*e*P		P	10 43 06.4 +1.0
	comp=N,16nm,1.0s					
K22A			*e*pP		pP	10 43 18.9 +0.7
H28A	Mission Ridge	83.82 340	⇓P		P	10 43 06.7 +1.0
	baz=84					
K21A	Alcova	83.95 335	⇓P		P	10 43 07.2 +0.5
	baz=84,SNR=7.6					
DUG	Dugway, Tooele	83.97 330	⇓P		P	10 43 07.5 +0.7
	baz=84					
DUG	Dugway, Tooele	83.97 330	*e*P		P	10 43 08.0 +1.2
	comp=N,11nm,1.1s					
DUG			*e*pP		pP	10 43 19.7 +0.2
G29A	Hoven	83.99 341	⇓P		P	10 43 06.9 +0.4
	baz=84					
I25A	Rochford	84.03 338	⇑P		P	10 43 07.9 +0.9
	baz=84					
H27A	Howes	84.08 339	⇓P		P	10 43 07.3 +0.2
	baz=84					
TPH	Tonopah	84.14 326	*e*P		P	10 43 09.4 +1.7
	comp=N,0.9nm,0.7s					
TPH			*e*pP		pP	10 43 21.2 +0.7
G28A	Parade	84.15 340	⇑P		P	10 43 07.6 +0.2
	baz=84					
I24A	Kuemmerle Ranc	84.17 337	⇑P		P	10 43 08.1 +0.4
	baz=84					
TCUT	Toone Canyon	84.19 331	*e*P		P	10 43 09.0 +1.0
	comp=N,6.9nm,0.6s					
RSSD	Black Hills	84.21 337	*e*P		P	10 43 08.3 +0.3
	comp=N,1.7nm,0.6s					
RSSD			*e*pP		pP	10 43 20.5 -0.2
RSSD			*e*sP		sP	10 43 25.7 +0.2
J22A	Midwest	84.38 336	⇑P		P	10 43 09.1 +0.4
	baz=85					
H25A	Fruitdale	84.53 338	⇑P		P	10 43 10.1 +0.8
	baz=85					
F29A	Eureka	84.55 341	⇓P		P	10 43 09.7 +0.3
	baz=85					
J21A	Lysite	84.65 335	⇑P		P	10 43 11.5 +1.3
	baz=85					
HWUT	Hardware Ranch	84.67 331	*e*P		P	10 43 10.5 +0.2
	comp=N,8.1nm,0.7s					
HWUT			*e*pP		pP	10 43 22.9 -0.2
TORD	Torodi Ar. Bea	84.68 70	P		P	10 43 10.5 -0.3
	comp=N,12nm,0.8s,baz=260,slow=4.2,SNR=74					
G27A	Dupree	84.72 339	⇑P		P	10 43 10.5 +0.2
	baz=85,SNR=5.3					
I22A	9 Mile Ranch,	84.80 336	⇑P		P	10 43 11.3 +0.4
	baz=85,SNR=5.6					
F28A	McLaughlin	84.83 340	⇓P		P	10 43 11.9 +1.1
	baz=85					
G26A	Maurine	84.84 339	⇑P		P	10 43 11.0 +0.1
	baz=85					
J20A	Shoshoni	84.88 334	⇑P		P	10 43 12.5 +1.2
	baz=85,SNR=13					
PDAR	Pinedale Array	84.90 333	P		P	10 43 11.4 -0.1
	comp=N,1.5nm,0.7s,baz=154,slow=5.6,SNR=14					
NVAR	Mina Array Bea	84.93 325	P		P	10 43 12.6 +0.9
	comp=N,2.2nm,0.8s,baz=157,slow=5.8,SNR=10					
G25A	Newell	84.99 338	⇓P		P	10 43 12.1 +0.4
	baz=85,SNR=5.4					
I21A	Big Trails, Te	85.01 335	⇓P		P	10 43 12.5 +0.6
	baz=85,SNR=6.8					
J19A	Crowheart	85.15 334	⇓P		P	10 43 13.2 +0.5
	baz=85,SNR=7.0					
F27A	Lemmon	85.20 340	⇑P		P	10 43 13.0 +0.3
	baz=86,SNR=6.8					
HVU	Hansel Valley	85.29 331	*e*P		P	10 43 14.1 +0.7
	comp=N,12nm,0.8s					
HVU			*e*pP		pP	10 43 26.2 +0.1
HVU			*e*sP		sP	10 43 31.1 +0.2
F26A	Lodgepole	85.36 339	⇑P		P	10 43 14.3 +0.8
	baz=86					
H22A	Clearmont	85.38 336	⇓P		P	10 43 14.5 +0.8
	baz=86					
I20A	Worland	85.42 335	⇓P		P	10 43 14.5 +0.6
	baz=86,SNR=14					
D30A	Buchanan	85.46 342	⇓P		P	10 43 14.2 +0.3
	baz=86					
E28A	Huff	85.47 341	⇓P		P	10 43 14.5 +0.5
	baz=86					
E27A	Carson	85.58 340	⇓P		P	10 43 14.8 +0.2
	baz=86					
G23A	Biddle	85.61 337	⇓P		P	10 43 14.9 +0.1
	baz=86					
H21A	Big Horn, Sher	85.64 336	⇑P		P	10 43 15.4 +0.4
	baz=86					
F25A	Bowman	85.67 339	⇑P		P	10 43 15.6 +0.5
	baz=86					
I19A	Meeteetse	85.80 334	⇓P		P	10 43 16.8 +0.9
	baz=86					
H20A	Greybull	85.84 335	⇑P		P	10 43 16.5 +0.5
	baz=86,SNR=14					
AGMN	Agassiz Nation	85.89 344	⇑P		P	10 43 16.4 +0.5
	baz=86					
AGMN	Agassiz Nation	85.89 344	*e*P		P	10 43 16.0 0.0
	comp=N,6.7nm,0.6s					
AGMN			*e*pP		pP	10 43 28.0 -0.8
AGMN			*e*sP		sP	10 43 32.6 -1.0
F24A	Ekalaka	85.89 338	⇑P		P	10 43 16.7 +0.5
	baz=86,SNR=5.5					
F23A	Volborg	86.08 337	⇑P		P	10 43 17.3 +0.2
	baz=86,SNR=10					
E25A	Miller Ranch,	86.17 339	⇓P		P	10 43 18.2 +0.7
	baz=86					
D27A	Center	86.19 340	⇑P		P	10 43 18.3 +0.7
	baz=86					
G21A	Lodge Grass	86.22 336	⇑P		P	10 43 18.4 +0.5
	baz=86					
I17A	Pilgrim Ck.	86.27 333	⇑P		P	10 43 19.2 +1.0
	baz=86,SNR=8.2					
H19A	Powell	86.35 335	⇑P		P	10 43 18.9 +0.3
	baz=87,SNR=6.5					
D26A	Manning	86.37 340	⇓P		P	10 43 19.2 +0.7
	baz=87					
F22A	Rosebud	86.40 337	⇑P		P	10 43 18.8 +0.1
	baz=87,SNR=6.7					
E24A	Baker	86.49 338	⇓P		P	10 43 19.5 +0.4
	baz=87					
G20A	Bridger	86.56 335	⇓P		P	10 43 19.5 0.0
	baz=87,SNR=10					
H18A	Shoshone NF, C	86.59 334	⇓P		P	10 43 20.1 +0.2
	baz=87,SNR=16					
B30A	Myrvik Farm, E	86.60 343	⇓P		P	10 43 19.9 +0.4
	baz=87,SNR=6.0					
D25A	Fairfield	86.73 339	⇓P		P	10 43 20.9 +0.7
	baz=87					
C27A	Sayler Ranch,	86.74 341	⇑P		P	10 43 20.9 +0.7
	baz=87					
E23A	Ismay	86.74 338	⇓P		P	10 43 20.4 +0.2
	baz=87,SNR=6.9					
RLMT	Red Lodge	86.84 335	*e*P		P	10 43 21.5 +0.5
	comp=N,9.8nm,0.7s					
RLMT			*e*pP		pP	10 43 33.5 -0.3
RLMT			*e*sP		sP	10 43 38.7 +0.1
E22A	Miles City	86.89 337	⇓P		P	10 43 21.2 +0.1
	baz=87					
D24A	Glendive	87.00 339	⇓P		P	10 43 22.7 +1.2
	baz=87					
C26A	Wahner Farm, P	87.00 340	⇑P		P	10 43 22.2 +0.7
	baz=87					
YMR	Madison River	87.06 333	*e*P		P	10 43 23.3 +1.2
	comp=N,11nm,0.9s					
YMR			*e*pP		pP	10 43 35.5 +0.6
YMR			*e*sP		sP	10 43 39.9 +0.3
B28A	Dugan Ranch, T	87.11 342	⇑P		P	10 43 22.4 +0.4
	baz=87					
LAO	LASA Array	87.20 337	*e*P		P	10 43 22.8 +0.2
	comp=N,12nm,1.0s					
LAO			*e*pP		pP	10 43 35.4 0.0
LAO			*e*sP		sP	10 43 40.2 0.0
C25A	Freed Ranch, W	87.22 340	⇓P		P	10 43 23.3 +0.7
	baz=88					
A29A	Manning Farm,	87.26 342	⇑P		P	10 43 23.2 +0.5
	baz=88,SNR=7.6					
D23A	Lindsay	87.31 338	⇓P		P	10 43 24.0 +0.9
	baz=88,SNR=12					
E21A	Keefer Ranch,	87.34 337	⇓P		P	10 43 23.8 +0.6
	baz=88					
F19A	Roth Farm, Mol	87.36 335	⇓P		P	10 43 23.8 +0.4
	baz=88					
QLMT	Earthquake Lak	87.37 333	*e*P		P	10 43 24.8 +1.2
	comp=N,0.3nm,0.6s					
QLMT			*e*pP		pP	10 43 37.0 +0.6
QLMT			*e*sP		sP	10 43 42.1 +1.0
C24A	Savage	87.40 339	⇑P		P	10 43 24.2 +0.8
	baz=88,SNR=16					
HLID	Hailey	87.44 331	⇓P		P	10 43 25.0 +1.1
	baz=88,SNR=7.4					
HLID	Hailey	87.44 331	*e*P		P	10 43 24.8 +0.8
	comp=N,5.5nm,0.8s					
HLID			*e*pP		pP	10 43 37.5 +0.8
HLID			*e*sP		sP	10 43 42.5 +1.0
D22A	Cohagen	87.60 337	⇑P		P	10 43 25.2 +0.7
	baz=88,SNR=6.1					
E20A	Meyer Farm, Mu	87.66 336	⇑P		P	10 43 25.3 +0.6
	baz=88,SNR=11					
ULM	Lac du Bonnet	87.74 345	P		P	10 43 24.8 -0.1
	comp=N,11nm,0.9s,baz=169,slow=4.5,SNR=17					
E19A	Rath Farm, Rou	87.84 336	⇑P		P	10 43 26.0 +0.4
	baz=88,SNR=7.8					
C23A	Lambert	87.87 338	⇑P		P	10 43 26.1 +0.4
	baz=88,SNR=6.8					
MCMT	McKenzie Canyo	87.90 332	*e*P		P	10 43 27.1 +1.0
	comp=N,4.2nm,1.0s					
MCMT			*e*pP		pP	10 43 39.2 +0.2
A26A	Wade Farm, Ken	87.96 341	⇓P		P	10 43 26.3 +0.2
	baz=88					
D20A	Manuel Ranch,	88.17 336	⇓P		P	10 43 27.6 +0.4
	baz=88,SNR=6.7					
A25A	Svangstu Ranch	88.30 340	⇑P		P	10 43 28.5 +0.8
	baz=89					
B23A	Brockton	88.41 339	⇓P		P	10 43 29.5 +1.3
	baz=89					
D19A	Cripps Ranch,	88.48 336	⇓P		P	10 43 28.6 -0.1
	baz=89					
C21A	Desert Coulee	88.48 337	⇑P		P	10 43 28.6 0.0
	baz=89,SNR=5.8					
B22A	Reddig Ranch S	88.56 338	⇑P		P	10 43 29.5 +0.5
	baz=89					
LRM	Limekiln Ridge	88.59 333	*e*P		P	10 43 30.4 +1.0
	comp=N,29nm,0.7s					
LRM			*e*pP		pP	10 43 42.9 +0.6
MOD	Modoc Plateau	88.62 326	*e*P		P	10 43 30.6 +1.1
	comp=N,4.3nm,0.8s					
MOD			*e*pP		pP	10 43 42.6 +0.2
MOD			*e*sP		sP	10 43 48.1 +1.0
C20A	Veseth Ranch,	88.67 337	⇑P		P	10 43 30.1 +0.6
	baz=89					
B21A	Ellsworth Farm	88.99 338	⇓P		P	10 43 31.6 +0.6
	baz=89					
C19A	Slack Wire Ran	89.04 336	⇑P		P	10 43 31.4 +0.2
	baz=89					
A22A	Carney Farms,	89.15 338	⇓P		P	10 43 32.5 +0.7
	baz=89					
A20A	Cobblestone Ra	89.67 337	⇓P		P	10 43 34.8 +0.6
	baz=90					
SCHQ	Schefferville	89.88 3	P		P	10 43 34.9 0.0
	comp=N,2.8nm,0.7s,baz=225,slow=5.7,SNR=3.3					
SWMT	Swartz Lake	90.58 333	*e*P		P	10 43 39.6 +1.0
	comp=N,2.2nm,0.8s					
SWMT			*e*pP		pP	10 43 51.2 -0.2
BSMT	Bassoo Peak	91.16 333	*e*P		P	10 43 42.4 +1.0
	comp=N,2.9nm,1.0s					
BSMT			*e*pP		pP	10 43 53.4 -0.8
MDT	Midelt	92.65 51	P		P	10 43 48.4 -0.1
	comp=N,5.2nm,1.0s,baz=214,slow=6.4,SNR=6.4					
TAM	Tamanrasset	93.41 65	*e*P		P	10 43 52.8 +0.5
	comp=N,4.1nm,0.9s					
TAM			*e*pP		pP	10 44 05.4 +0.3
TAM			*e*sP		sP	10 44 10.1 +0.2
YKA	Yellowknife Ar	103.27 341	Pdiff		Pdif	10 44 34.8 -0.7
	comp=N,0.4nm,0.8s,baz=137,slow=4.5,SNR=8.9					
STU	Stuttgart	110.44 44	*e*PKPdf		PKiKP	10 49 10.2 +2.0
SML	Sawmill	114.45 330	*e*PKPdf		PKPdf	10 49 10.8 -4.8
ILAR	Eielson Array	115.33 333	PKP		PKPdf	10 49 17.2 +0.2
	comp=N,0.4nm,0.7s,baz=174,slow=3.5,SNR=4.4					
KOLS	Kolonicke sedl	118.25 48	*e*		PKPdf	10 49 30.7 +7.5
VOIR		118.68 53	⇑*i*P		Pdif	10 45 51.9 +7.3
MLR	Muntele Rosu	119.28 53	⇑*i*P		Pdif	10 45 56.1 +8.8
BRTR	Keskin Array B	122.48 62	PKP		PKPdf	10 49 32.0 +0.2
	comp=N,2.0nm,0.8s,baz=194,slow=3.6,SNR=9.1					
AKASG	Malin Array Be	123.08 48	PKP		PKPdf	10 49 31.1 -1.3
	comp=N,0.3nm,0.3s,baz=258,slow=2.7,SNR=3.9					
RAYN	Ar Rayn	125.16 84	*e*PKPdf		PKPdf	10 49 37.7 +0.4
H11S2	WAKE ISLAND Hyl	25.71 268	T		T	13 07 52.6
	baz=117,slow=74,SNR=15					
H11S1	WAKE ISLAND Hyl	25.72 268	T		T	13 07 51.4
	baz=117,slow=74,SNR=12					
H11S3	WAKE ISLAND Hyl	25.73 268	T		T	13 07 52.1
	baz=117,slow=74,SNR=9.6					
H11N3	WAKE ISLAND Hyl	26.16 270	T		T	13 08 19.0
	baz=116,slow=77,SNR=3.9					
H11N1	WAKE ISLAND Hyl	26.17 270	T		T	13 08 19.4
	baz=116,slow=77,SNR=10					
H11N2	WAKE ISLAND Hyl	26.17 270	T		T	13 08 14.4
	baz=116,slow=77,SNR=6.8					
ABKAR	Akbulak array	142.49 53	*e*PKPdf		PKPdf	10 50 03.8 -5.1
PALK	Pallekele	142.56 132	*e*PKPdf		PKPdf	10 50 10.5 +0.4
KSM	Kuching	146.28 184	*e*PKPbc		PKPbc	10 50 17.7 +0.1
PSI	Prapat	146.61 164	PKPbc		PKPbc	10 50 18.1 -0.7
	comp=N,8.5nm,0.7s,baz=254,slow=5.1,SNR=5.3					
KBL	Kabul	148.24 80	*e*PKPbc		PKPbc	10 50 21.8 -1.0
AAK	Ala-Archa	153.12 64	*e*PKPbc		PKPbc	10 50 34.9 +0.8
KURK	Kurchatov	153.83 45	*e*PKPbc		PKPbc	10 50 32.8 -2.3
TKM2	Tokmak 2	153.90 63	*e*PKPdf		PKPdf	10 50 29.3 +1.5
TKM2			*e*PKPbc		PKiKP	10 50 37.0 +1.1
TKM2			*e*PKPab		PKPab	10 50 49.6 +0.3
KSH	Kashi	154.35 71	*e*PKPbc		PKPdf	10 50 28.8 +0.3
KSH			sPKP			10 50 42.5
KSH			PKS		PKSdf	10 54 03.0 +0.2
KSH			PP		PP	10 54 25.0 -1.9
KSH			SKS		SKSdf	10 57 33.5 +1.6
KSH			SS		SS	11 14 03.3 -0.9
KSH			PPMZ			
	comp=N,150nm,6.1s					
KSH			LN			
	comp=N,53nm,4.9s					
KSH			LE			
	comp=N,37nm,3.9s					
KSH			LZ			
	comp=N,67nm,5.5s					
WMQ	Urumqi	162.26 55	*e*PKP		PKPdf	10 50 38.5 +0.7
WMQ			LN			
	comp=N,50nm,25.0s					
WMQ			LE			
	comp=N,10.0nm,23.0s					
WMQ			LZ			
	comp=N,66nm,21.0s					
CN2	Changchun	164.06 307	*e*PKP		PKPdf	10 50 40.5 +1.1
KMI	Kunming	168.92 155	PKP		PKPdf	10 50 39.8 -4.3
HHC	Hu-ho-hao-te	173.75 334	*e*PKP		PKPdf	10 50 46.8 +0.9
HHC			pPKP		pPKPdf	10 50 55.8 -3.4
HHC			sPKP			10 51 01.0
HHC			PP		PP	10 56 10.3 +2.8
HHC			SKS		SKSdf	10 57 44.3 -1.3
HHC			SS		SS	11 17 20.0 -1.4
HHC			PPMZ			
	comp=N,270nm,6.1s					
HHC			LN			
	comp=N,190nm,21.0s					
HHC			LE			
	comp=N,140nm,20.2s					
HHC			LZ			
	comp=N,190nm,22.2s					

BJI ***26*** *10:38:56.5,6°.77S×130°.63E,h124km,mB5.7/53,mb5.6/82*
ISCJB ***26*** *10:39:02.5±0.3,6°.33S±0°.02×130°.31E±0°.02,h138km±2km, mb5.6/170, Error ellipse: s-maj=3.0km s-min=2.6km az=140.2*
NEIC ***26*** *10:39:02.6±0.5,6°.33S×130°.28E,h124km±4km,mb5.7/80, MW5.6,MW5.7,MW5.7, Error ellipse: s-maj=4.9km s-min=3.8km az=49.0,Moment Tensor Solution. s36 Moment tensor: Scale 10^17^Nm; M_{rr}2.47; $M_{\theta\theta}$-4.33; $M_{\phi\phi}$1.86; $M_{r\theta}$0.75; $M_{\theta\phi}$-0.31; $M_{\phi r}$1.33; Best double couple: M_{o4}.10000×10^17^ NP1:φs57.00000°,δ62.00000°, λ47.00000°. NP2:φs300.00000°,δ50.00000°,λ142.00000°. Principal axes: T 3.5500, Plg52.0000°, Azm274.0000°; N 0.9000, Plg36.0000°, Azm80.0000°; P -4.4500, Plg7.0000°, Azm175.0000°;*
NEIC Felt [III] at Saumlaki, Indonesia and at Darwin, Australia.
NEIC ***26*** *10:39:02.0±0.0,6°.34S×130°.24E,h123km Best double couple: NP1:φs54.00000°,δ55.00000°,λ46.00000°. NP2:φs294.00000°,δ53.00000°,λ135.00000°. Principal axes: T 3.6200, Plg55.0000°, Azm265.0000°; N 0.1700, Plg34.0000°, Azm83.0000°; P -3.7800, Plg1.0000°, Azm173.0000°;*
MOS ***26*** *10:39:02.2±1.0,6°.17S×130°.22E,h127km,mb5.7/52 Error ellipse: s-maj=8.7km s-min=5.3km az=115.9*
GCMT ***26*** *10:39:02.6±0.1,6°.31S×130°.25E,h132km,MW5.7/128, Moment Tensor Solution. s120,c213; s128,c302; Duration: 1s7 Moment tensor: Scale 10^17^Nm; M_{rr}2.99±.04; $M_{\theta\theta}$-4.88±.05; $M_{\phi\phi}$1.89±.05; $M_{r\theta}$0.41±.04; $M_{\theta\phi}$-0.27±.05; $M_{\phi r}$1.69±.04; Best double couple: M_{o4}.57100×10^17^ NP1:φs58.00000°,δ58.00000°, λ47.00000°. NP2:φs298.00000°,δ52.00000°,λ138.00000°. Principal axes: T 4.2200, Plg54.0000°, Azm272.0000°; N 0.7000, Plg36.0000°, Azm84.0000°; P -4.9210, Plg4.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***26*** *10:39:03.4±0.5,6°.28S×130°.17E,h126km±4km,mb5.1/32, mb1 5.1/34,mb1mx5.1/34,mbtmp5.5/34,MS4.6/22, Ms1 4.6/22,ms1mx4.5/28 Error ellipse: s-maj=10.0km s-min=6.6km az=62.0*
DJA ***26*** *10:39:04.7±0.2,6°.5±2°×13°0E±°,h145km±2km,M5.9/115, mb5.9/115,mB6.2/110,MLv6.7/16,Mw(mB)5.8/110, Mwp5.8/11*
NEIC ***26*** *10:39:05.9±0.0,6°.17S×130°.90E,h111km,Moment Tensor Solution. s98 Moment tensor: Scale 10^17^Nm; M_{rr}2.68; $M_{\theta\theta}$-4.88; $M_{\phi\phi}$2.20; $M_{r\theta}$0.34; $M_{\theta\phi}$-0.89; $M_{\phi r}$1.51; Best double couple: M_{o4}.50000×10^17^ NP1:φs297.00000°, δ54.00000°,λ144.00000°. NP2:φs50.00000°,δ61.00000°, λ42.00000°. Principal axes: T 3.9800, Plg48.0000°, Azm266.0000°; N 1.0500, Plg40.0000°, Azm78.0000°; P -5.0300, Plg4.0000°, Azm172.0000°;*

ISC 26 10:39:02.8±0.2,6°.24S±0°.03×130°.30E±0°.03,h128km±1km, h127km:pP-P,n1169,σ1s32/1360,mb5.6/168,254C-250D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.76	347	P	Pn	10 39 36.3	+2.6
SAUI	Saumlaki	1.99	150	P	Pn	10 39 36.4	-0.1
SAUI				S	Sn	10 39 59.6	-2.8
SAUI	Saumlaki	1.99	150	*e*Pn	Pn	10 39 37.1	+0.5
MSAI	Masohi	3.19	335	P	Pn	10 39 54.4	+2.6
FAKI	Fak Fak	3.83	31	P	Pn	10 40 00.5	+0.2
FAKI				S	Sn	10 40 40.8	-4.1
FAKI	Fak Fak	3.83	31	⇑P	Pn	10 40 00.2	-0.1
	baz=4.0,SNR=1000						
FAKI	Fak Fak	3.83	31	*e*Pn	Pn	10 40 00.2	-0.1
FAKI				*e*Sn	Sn	10 40 40.7	-4.2
NLAI	Namlea	4.37	313	P	Pn	10 40 11.2	+3.7
SANI	Sanana	5.99	314	P	Pn	10 40 31.8	+2.6
	3μm,1.1s,40μm63μm15nm						
RKPI	Ransiki, Papua	6.09	40	P	Pn	10 40 31.6	+1.1
	10μm,0.6s,280μm161nm						
RKPI				S	Sn	10 41 35.7	-3.3
	10μm,0.6s,280μm161nm						
LBMI	Labuha	6.23	333	P	Pn	10 40 34.8	+2.3
	13μm,1.2s,185μm33μm46nm						
MTN	Manton Dam	6.61	173	⇓P	Pn	10 40 35.3	-2.3
	baz=6.6,SNR=1000						
KDU	Kakadu	6.75	162	⇑P	Pn	10 40 37.0	-2.4
	baz=6.7,SNR=1000						
SOEI	Soe	6.92	239	P	Pn	10 40 43.0	+1.2
	4μm,0.9s,71μm71μm65nm						
SOEI				S	Sn	10 41 58.5	-0.8
	4μm,0.9s,71μm71μm65nm						
SOEI	Soe	6.92	239	*e*Pn	Pn	10 40 42.7	+0.9
SOEI				*e*Sn	Sn	10 41 58.7	-0.6
SRPI	Serui, Papua	7.34	54	P	Pn	10 40 47.8	+0.3
	947nm,1.1s,64μm19nm						
TNTI	Ternate	7.56	337	P	Pn	10 40 51.7	+1.3
	8μm,0.9s,70μm31nm						
TNTI	Ternate	7.56	337	*e*Pn	Pn	10 40 51.6	+1.3
TNTI				*e*Sn	Sn	10 42 16.6	+2.0
BATI	Baumata	7.66	239	P	Pn	10 40 52.1	+0.4
	2μm,0.9s,39μm18nm						
BATI	Baumata	7.66	239	P	Pn	10 40 51.9	+0.1
	260nm,0.3s,baz=114,slow=1.6,SNR=215						
BATI				S	Sn	10 42 13.8	-3.3
	364nm,0.3s,baz=94,slow=16,SNR=18						
BATI				LR	LR	10 43 25.7	
	comp=Z,7μm,20.4s,baz=47,slow=35						
BBSI	Bau Bau	7.73	275	P	Pn	10 40 56.4	+3.7
	2μm,1.2s,20μm6.7nm						
MMRI	Maumere	8.34	253	P	Pn	10 41 02.3	+1.4
	920nm,1.0s,13μm25μm						
MMRI	Maumere	8.34	253	*e*Pn	Pn	10 41 01.5	+0.6
	2μm,1.3s						
MMRI				*e*Sn	Sn	10 42 32.8	-0.7
WAMI	Wamena	8.70	75	P	Pn	10 41 08.7	+3.0
	2μm,1.0s,26μm						
EDFI	Ende, Flores	8.89	253	P	Pn	10 41 10.2	+1.7
	428nm,1.0s,6μm						
LUWI	Luwuk	9.12	304	P	Pn	10 41 14.8	+3.4
	3μm,1.3s,30μm						
LUWI	Luwuk	9.12	304	*e*Pn	Pn	10 41 15.0	+3.6
LUWI				*e*Sn	Sn	10 42 48.8	-3.6
KMSI	Cibinong	9.26	317	P	Pn	10 41 15.3	+2.0
	3μm,1.2s,31μm						
SMPI	Sarmi	9.39	64	P	Pn	10 41 15.8	+0.8
	370nm,1.2s,5μm						
KNRA	Kununurra	9.49	189	⇑P	Pn	10 41 13.1	-3.3
	baz=9.5,SNR=1000						
APSI	Ampana	10.13	301	P	Pn	10 41 29.6	+4.6
	2μm,1.0s,19μm16μm						
BKSI	Bulukumba	10.17	275	P	Pn	10 41 27.8	+2.3
	392nm,1.0s,5μm						
MMPI	Merauke	10.24	103	P	Pn	10 41 25.5	-0.9
	6μm,0.8s,48μm65μm						
MMPI	Merauke	10.24	103	⇓P	Pn	10 41 25.6	-0.9
	baz=10,SNR=17						
BNSI	Bone	10.31	280	P	Pn	10 41 30.0	+2.5
	765nm,1.2s,6μm9μm						
BASI	Baing, Sumba	10.40	247	P	Pn	10 41 28.1	-0.5
	1μm,1.0s,17μm						
WSI	Waingapu	10.48	250	P	Pn	10 41 28.4	-1.2
	2μm,0.8s,25μm						
GENI	Genyem	10.48	70	P	Pn	10 41 30.5	+0.8
	644nm,0.9s,9μm						
KAPI	Kappang	10.57	276	P	Pn	10 41 33.5	+2.6
	SNR=40						
KAPI	Kappang	10.57	276	*e*Pn	Pn	10 41 32.9	+2.0
MRSI	Marisa	10.69	308	P	Pn	10 41 35.1	+2.6
	2μm,1.1s,18μm						
SPSI	Sidrap Palu	10.73	282	P	Pn	10 41 36.4	+3.3
	471nm,1.1s,6μm						
TTSI	Tana Toraja	10.92	286	P	Pn	10 41 41.0	+5.4
SGSI	Sangihe	10.96	334	P	Pn	10 41 36.9	+0.8
	1μm,0.8s,82μm						
JAY	Jayapura	11.01	71	P	Pn	10 41 38.6	+1.7
	241nm,0.7s,5μm						
JAY	Jayapura	11.01	71	P	Pn	10 41 37.0	+0.1
	12nm,0.3s,baz=238,slow=11,SNR=27						
JAY				S	Sn	10 43 39.9	+1.5
	14nm,0.3s,baz=291,slow=23,SNR=4.8						
JAY				LR	LR	10 47 31.5	
	comp=Z,4μm,18.0s,baz=288,slow=46						
PCI	Palu	11.71	297	P	Pn	10 41 48.8	+2.7
	994nm,1.3s,11μm						
TOLI	Toli-Toli	11.98	307	*e*Pn	Pn	10 41 50.5	+0.9
MPSI	Mapaga	12.27	302	P	P	10 41 57.2	-3.2
	255nm,1.4s,3μm						
FITZ	Fitzroy Crossi	12.63	201	*e*Pn	Pn	10 41 52.8

WRA PKiKP **PKiKP** 10 55 22.2 -1.4
comp=Z,0.5nm,0.3s,baz=338,slow=1.5,SNR=4.7
WRA P3KPbc 11 17 48.4
comp=Z,0.1nm,0.3s,baz=162,slow=3.1,SNR=13
WB2 Warramunga Arr 14.17 164 *e*Pn Pn 10 42 12.0 -5.9
WB2 *e*Sn Sn 10 44 40.2 -15
BKB Balikpapan 14.26 290 P **P** 10 42 25.0 +2.5
CTBH Cotabato--PC H 14.68 336⇓*e*P **Pn** 10 42 23.9 -0.4
BIPH Bislig 14.86 345⇑*e*P **Pn** 10 42 26.3 -0.3
BUKP Musuan 14.97 339 *e*P **P** 10 42 29.9 -0.6
BUKP *e*S Px 10 42 55.3
SRBI Singaraja 15.08 262 P **Pn** 10 42 30.2 +0.8
comp=Z,714nm,1.0s,comp=Z,5μm
DNP Denpasar 15.16 260 P **P** 10 42 33.8 +1.4
IGBI Denpasar 15.24 259 P **Pn** 10 42 31.5 +0.1
comp=Z,1μm,0.9s,comp=Z,14μmcomp=Z,8μm
PAGZ Pagadian 15.61 334 *e*P **Pn** 10 42 35.9 0.0
PAGZ *e*S Px 10 42 49.6
CGP Cagayan de Oro 15.64 339⇓*e*P **P** 10 42 38.6 +0.9
BBKI Banjar Baru 15.65 279 P **P** 10 42 40.2 +2.3
BUTP Butuan 15.82 343 *e*P **P** 10 42 40.8 +1.0
IPIL Ipil 15.93 331 *e*P **P** 10 42 42.6 +1.6
ABJI Asem Bagus 16.02 264 P **Pn** 10 42 41.3 +0.2
comp=Z,1μm,1.1s,comp=Z,11μm
JAGI Jajag, Banyuwa 16.17 261 P **Pn** 10 42 40.6 -2.3
comp=Z,391nm,1.2s,comp=Z,5μm
JAGI Jajag, Banyuwa 16.17 261 ⇑P **Pn** 10 42 40.7 -2.3
baz=16,SNR=34
JAGI Jajag, Banyuwa 16.17 261 *e*Pn **Pn** 10 42 41.1 -1.8
comp=Z,478nm,1.0s
JAGI *e*Sn **Sn** 10 45 40.1 -2.6
TSM Tawau 16.23 310 ⇑P **P** 10 42 44.8 +0.4
KMMI Kalianget 16.25 266 P **P** 10 42 47.3 +2.8
comp=Z,2μm,1.1s,comp=Z,17μm
DCPH Dipolog City 16.28 335⇑*e*P **P** 10 42 47.0 +2.2
BLJI Banyuglugur 16.65 264 P **P** 10 42 49.0 0.0
comp=Z,2μm,1.2s,comp=Z,17μm
GMJI Gumukmas 16.84 262 P **P** 10 42 50.6 -0.5
comp=Z,367nm,1.0s,comp=Z,4μm
PMG Port Moresby 16.99 102 *d i*P **Pn** 10 42 54.2 +1.3
PMG pmax pmax
comp=Z,706nm,2.5s
PMG Port Moresby 16.99 102 P **Pn** 10 42 54.0 +1.0
comp=Z,10nm,0.3s,baz=232,slow=4.7,SNR=47
PMG LR LR 10 51 40.5
comp=Z,2μm,19.7s,baz=264,slow=44
PMG Port Moresby 16.99 102 P **Pn** 10 42 54.2 +1.3
baz=17,SNR=35
PMG Port Moresby 16.99 102 *e*P **Pn** 10 42 53.7 +0.8
comp=Z,700nm,0.9s
PMG *e*S Sn 10 45 53.0 -10
BWJI Bawean 17.55 270 P **Pn** 10 43 01.3 +1.6
comp=Z,588nm,1.2s,comp=Z,6μm
LLP Lapu-Lapu 17.62 339⇓*e*P **Pn** 10 43 02.3 +1.8
LLP *e*S **Sn** 10 46 19.4 +1.8
SDKM Sandakan 17.62 312 ⇑P **Pn** 10 43 01.7 +1.1
AS31 Alice Springs 17.66 169 *e*P **P** 10 42 58.0 -2.2
AS31 *e*S **S** 10 46 14.0 -3.3
ASAR Alice Springs 17.67 169 P **P** 10 42 59.0 -1.1
comp=Z,56nm,0.3s,baz=349,slow=10,SNR=503
ASAR S S 10 46 06.4 -11
comp=Z,40nm,0.3s,baz=348,slow=23,SNR=7.7
ASAR LR LR 10 50 27.7
comp=Z,4μm,18.9s,baz=350,slow=39
ASAR PKiKP **PKiKP** 10 55 23.8 -1.0
comp=Z,0.4nm,0.3s,baz=7.2,slow=1.4,SNR=4.6
ASAR P3KPbc 11 17 36.4
comp=Z,0.0nm,0.3s,baz=157,slow=4.9,SNR=5.4
AS11 Alice Springs 17.68 169 ⇓P **P** 10 42 59.6 -0.6
baz=18
AS11 ⇓P **P** 10 42 59.6 -0.6
baz=18
AS11 ⇓P **P** 10 42 59.6 -0.6
baz=18
AS11 ⇓P **P** 10 42 59.6 -0.6
baz=18
AS19 Alice Springs 17.71 169 ⇓P **P** 10 42 59.7 -1.0
baz=18
AS19 ⇓P **P** 10 42 59.7 -1.0
baz=18
AS19 ⇓P **P** 10 42 59.7 -1.0
baz=18
AS19 ⇓P **P** 10 42 59.7 -1.0
baz=18
GRJI Gresik 17.72 267 P **Pn** 10 43 03.4 +1.7
comp=Z,747nm,1.2s,comp=Z,6μm
MBWA Marble Bar 18.02 214 P **P** 10 43 03.6 -0.4
SNR=42
MBWA Marble Bar 18.02 214 *e*P **P** 10 43 03.1 -0.9
comp=Z,341nm,0.9s
MBWA *e*S S 10 46 12.2 -12
PLP Palo 18.09 343⇓*e*P **P** 10 43 05.2 +0.4
TBJI Tambak Boyo 18.34 267 P **Pn** 10 43 11.2 +2.1
comp=Z,1μm,1.1s
PWJI Pagerwojo 18.44 263 P **P** 10 43 08.6 0.0
comp=Z,282nm,0.9s,comp=Z,3μm
KKM Kota Kinabalu 18.62 311 ⇑P **Pn** 10 43 12.1 -0.4
baz=19,SNR=69
KKM Kota Kinabalu 18.62 311 ⇓P **Pn** 10 43 12.8 +0.3
KKM Kota Kinabalu 18.62 311 *e*P **P** 10 43 10.5 -0.2
comp=Z,670nm,1.0s
KKM *e*S **S** 10 46 38.0 +1.4
NGJI Ngawi 18.74 265 P **Pn** 10 43 13.6 -0.2
comp=Z,404nm,1.2s,comp=Z,7μm
KDM Kudat 18.75 314 ⇑P **Pn** 10 43 14.0 +0.1
WRKA Warakurna 18.79 186 P **P** 10 43 11.7 -0.7
baz=19,SNR=433
PBKI Pangkalan Bun 18.90 280 P **Pn** 10 43 16.2 +0.5
comp=Z,2μm,1.1s,comp=Z,21μm
PCJI Pacitan 19.07 263 P **P** 10 43 14.5 -1.0
comp=Z,416nm,1.3s,comp=Z,4μm
RCP Roxas 19.22 337⇑*e*P **Pn** 10 43 19.2 -0.2
UWJI Ujung Watu 19.24 268 P **Pn** 10 43 22.0 +2.3
WOJI Wonogiri, Jawa 19.30 264 P **P** 10 43 16.7 -1.3
comp=Z,369nm,1.0s,comp=Z,6μm
CUYO Cuyo Island 19.33 331 *e*P **Pn** 10 43 21.3 +0.5
CUYO *e*S Px 10 44 01.1
CNP Cataman 19.46 343 *e*P **Pn** 10 43 21.1 -1.0
CNP *e*S Pn 10 43 29.3 +7.1
UGM Wanagama 19.70 264 P **P** 10 43 22.2 -0.2
comp=Z,374nm,1.1s,comp=Z,5μm
UGM Wanagama 19.70 264 ⇓P **P** 10 43 20.8 -1.6
baz=20,SNR=18
UGM Wanagama 19.70 264 *e*P **P** 10 43 21.8 -0.6
comp=Z,270nm,0.9s
SMRI Semarang 19.74 267 P **Pn** 10 43 28.1 +2.5
SMRI Semarang 19.74 267 ⇓P **P** 10 43 22.7 -0.1
baz=20,SNR=6.1
SMRI Semarang 19.74 267 *e*P **P** 10 43 22.8 -0.1
comp=Z,2μm,1.4s
STKI Sintang 19.81 288 P **Pn** 10 43 25.4 -0.9
comp=Z,476nm,1.5s,comp=Z,17μm
SBUM Sibu 20.01 295 ⇓P Pn 10 43 28.1 -0.6
SBUM Sibu 20.01 295 *e*P Pn 10 43 27.6 -1.2
comp=Z,6μm,2.6s
OTRP Odiongan 20.23 336 *e*P **P** 10 43 29.6 +1.6
ENPP El Nido 20.44 328 *e*P Pn 10 43 33.0 -0.6
PVCP Virac 20.64 343 ⇓*i*P Pn 10 43 34.3 -1.6
PVCP *i* S Px 10 44 09.9
CTA Charters Tower 20.72 133 P **P** 10 43 34.4 +1.1
comp=Z,165nm,0.9s,baz=308,slow=12,SNR=68
CTA S **S** 10 47 20.5 +2.6
comp=Z,46nm,0.6s,baz=18,slow=20,SNR=3.5
CTA LR LR 10 52 03.1
comp=Z,3μm,20.6s,baz=312,slow=38
CTA Charters Tower 20.72 133 ⇑P **P** 10 43 34.5 +1.1
baz=21
CTAO Charters Tower 20.72 133 *e*P **P** 10 43 33.9 +0.6
CTAO *e*S **S** 10 47 17.3 -0.5
CTAO pmax pmax
comp=Z,1μm,1.6s
CTAO Charters Tower 20.72 133 *e*P **P** 10 43 33.9 +0.6
comp=Z,1μm,1.6s
CTAO *e*S **S** 10 47 17.3 -0.5
BUSP Coron 20.73 331 *e*P Pn 10 43 36.3 -0.8
AUQP San Andres 20.86 339 *e*P Pn 10 43 45.4 +6.7
KPJI Karang Pucung 21.25 266 P **P** 10 43 37.3 -1.7
comp=Z,463nm,1.1s,comp=Z,7μm
KSM Kuching 21.38 290 P **P** 10 43 40.9 +0.5
baz=21,SNR=19
KSM Kuching 21.38 290 ⇓P **P** 10 43 41.1 +0.6
KSM Kuching 21.38 290 *e*P **P** 10 43 40.8 +0.3
comp=Z,221nm,1.1s
GQP Guinayangan 21.48 339⇓*e*P **P** 10 43 44.0 +2.5
CMJI Cimerak 21.74 265 P **P** 10 43 41.5 -2.8
comp=Z,1μm,1.2s,comp=Z,11μm

RABL Rabaul 21.86 86 ⇓P **P** 10 43 46.5 +0.8
baz=22,SNR=3.9
JCJI Jatiwangi 21.90 268 P **P** 10 43 45.9 0.0
comp=Z,2μm,1.4s,comp=Z,32μm
LUBP Lubang 22.22 333 *e*P **P** 10 43 51.1 +2.0
CISI Cisompet, Garu 22.36 265 P **P** 10 43 48.1 -2.6
comp=Z,3μm,1.2s,comp=Z,27μm
CISI Cisompet, Garu 22.36 265 ⇓P **P** 10 43 49.1 -1.6
baz=22,SNR=46
CISI Cisompet, Garu 22.36 265 *e*P **P** 10 43 47.8 -2.9
comp=Z,3μm,1.0s
GIRL Giralia 22.50 222 P **P** 10 43 52.2 +0.4
baz=22,SNR=22
LEM Lembang 22.54 267 ⇓P **P** 10 43 52.4 -0.2
baz=22,SNR=38
TPI Tanjungpandan 22.84 278 P **P** 10 43 55.7 +0.4
comp=Z,347nm,1.2s,comp=Z,8μm
CNJI Cibinong 23.03 266 P **P** 10 43 55.4 -1.7
comp=Z,7μm,1.1s,comp=Z,64μm
MEEK Meekatharra 23.14 207 ⇓P **P** 10 43 57.8 -0.2
baz=23,SNR=58
CBJI Citeko 23.31 268 P **P** 10 43 58.0 -1.7
comp=Z,5μm,0.9s,comp=Z,79μm
SKJI Sukabumi 23.60 267 P **P** 10 44 01.3 -1.0
comp=Z,2μm,1.1s,comp=Z,19μm
SBJI Serang 24.03 269 P **P** 10 44 06.5 +0.3
comp=Z,659nm,1.2s,comp=Z,8μm
QLP Quilpie 24.20 148 ⇑P **P** 10 44 08.1 +0.5
baz=24,SNR=114
CGJI Cibinong 24.46 268 P **P** 10 44 08.0 -2.1
comp=Z,2μm,1.1s,comp=Z,20μm
FORT Forrest 24.50 185 ⇑P **P** 10 44 10.4 +0.2
baz=24,SNR=87
FORT Forrest 24.50 185 *e*P **P** 10 44 09.0 -1.2
comp=Z,1μm,1.0s
FORT *e*S **S** 10 48 18.0 -3.5
XMI Christmas Isla 24.70 259 P **P** 10 44 11.2 -1.1
baz=25,SNR=23
XMIS Christmas Isla 24.74 259 ⇑P **P** 10 44 11.9 -0.8
baz=25,SNR=13
XMIS Christmas Isla 24.74 259 *e*P **P** 10 44 10.4 -2.3
comp=Z,2μm,0.8s
BLSI Bandar Lampung 24.94 271 P **P** 10 44 15.6 +1.1
comp=Z,168nm,0.9s,comp=Z,4μm
KLI Kotabumi 25.36 272 P **P** 10 44 21.1 +2.8
comp=Z,415nm,1.0s
PMBI Palembang 25.66 276 P **P** 10 44 24.0 +3.0
comp=Z,2μm,1.0s,comp=Z,27μm
PMBI Palembang 25.66 276 *e*P **P** 10 44 24.1 +3.0
comp=Z,1μm,0.9s
KASI Kota Agung 25.68 270 P **P** 10 44 20.1 -1.1
comp=Z,322nm,1.0s,comp=Z,2μm
MDSI Maura Dua 26.07 273 P **P** 10 44 24.3 -0.4
comp=Z,126nm,1.6s,comp=Z,2μm
LWLI Liwa 26.14 271 P **P** 10 44 27.2 +1.7
comp=Z,197nm,1.5s
KMBL Kambalda 26.21 196 P **P** 10 44 25.6 -0.2
baz=26,SNR=91
MORW Morawa 26.40 209 P **P** 10 44 26.9 -0.6
baz=26,SNR=32
TPRI Tanjung Pinang 26.70 285 P **P** 10 44 32.9 +2.5
comp=Z,256nm,0.4s,comp=Z,22μm
RMQ Roma 26.74 141 P **P** 10 44 31.3 +0.7
baz=27,SNR=18
LHSI Lahat 26.78 274 P **P** 10 44 32.5 +1.4
comp=Z,333nm,1.9s,comp=Z,6μm
BBOO Buckleboo 26.97 169 ⇑P **P** 10 44 32.3 -0.3
baz=27,SNR=42
BBOO Buckleboo 26.97 169 *e*P **P** 10 44 31.8 -0.8
comp=Z,9μm,1.1s
JMBI JAMBI 26.98 279 P **P** 10 44 36.6 +3.7
BLDU Ballidu 27.40 206 ⇑P **P** 10 44 36.1 -0.3
baz=27,SNR=42
EIDS Eidsvold 27.51 136 ⇑P **P** 10 44 37.3 -0.2
baz=28,SNR=3.4
EIDS Eidsvold 27.51 136 *e*P **P** 10 44 37.2 -0.3
comp=Z,150nm,1.0s
MYKOM Kota Tinggi 27.59 286 ⇓P **P** 10 44 38.5 +0.2
MYKOM Kota Tinggi 27.59 286 *e*P **P** 10 44 38.5 +0.2
comp=Z,429nm,1.5s
MASI Maura Aman, Be 28.13 275 P **P** 10 44 44.7 +1.5
comp=Z,743nm,1.1s,comp=Z,9μm
KGM Kluang 28.16 286 ⇑P **P** 10 44 44.3 +0.8
DLV T Lat 28.23 310 *e*P **P** 10 44 45.0 +0.8
comp=Z,306nm,1.4s
CMSA Cobar Meteorol 29.00 152 P **P** 10 44 51.0 +0.4
baz=29,SNR=142
NWAO Narrogin (SRO) 29.20 203 P **P** 10 44 52.4 0.0
comp=Z,26nm,0.6s,baz=59,slow=6.7,SNR=28
NWAO LR LR 10 58 12.3
comp=Z,2μm,18.1s,baz=330,slow=40
NWAO Narrogin (SRO) 29.20 203 ⇓P **P** 10 44 52.5 0.0
baz=29,SNR=22
SDSI Sungai Dareh 29.29 279 P **P** 10 44 53.5 +0.1
comp=Z,192nm,1.3s,comp=Z,15μm
BKNI Bangkinang 29.93 282 P **P** 10 44 59.0 -0.1
comp=Z,364nm,1.2s,comp=Z,4μm
BKNI Bangkinang 29.93 282 *e*P **P** 10 44 58.8 -0.3
comp=Z,420nm,1.1s
FRIM Kepong 30.14 287 ⇓P **P** 10 45 01.3 +0.3
PDSI Padang 30.24 279 P **P** 10 44 59.8 -2.1
comp=Z,163nm,1.3s,comp=Z,8μm
RKGY Rocky Gully 30.80 202 ⇑P **P** 10 45 07.7 +1.2
baz=31,SNR=26
IPM Ipoh 31.11 289 ⇓P **P** 10 45 09.9 +0.4
IPM Ipoh 31.11 289 *e*P **P** 10 45 09.1 -0.5
comp=Z,66nm,0.9s
ARMA Armidale 31.31 143 ⇓P **P** 10 45 12.0 +0.8
baz=31,SNR=12
ARMA Armidale 31.31 143 *e*P **P** 10 45 11.9 +0.7
comp=Z,55nm,1.0s
MNSI Mandailing Nat 31.45 282 P **P** 10 45 11.2 -1.3
comp=Z,282nm,1.1s,comp=Z,4μm
KULM Kulim 31.74 291 ⇑P **P** 10 45 15.2 +0.2
KULM Kulim 31.74 291 *e*P **P** 10 45 14.3 -0.7
QIZ Qiongzhong 32.20 322 P **P** 10 45 20.0 +1.0
QIZ pP **pP** 10 45 47.3 +0.6
QIZ sP **sP** 10 46 01.3 -0.1
QIZ S **S** 10 50 18.5 -4.3
QIZ PMZ
comp=Z,150nm,1.3s
QIZ PMZ
comp=Z,470nm,6.6s
QIZ LN
comp=Z,1μm,15.9s
QIZ LZ
comp=Z,2μm,15.9s
YNG Young 32.55 151 ⇑P **P** 10 45 23.1 +1.2
baz=33,SNR=89
PSI Prapat 32.59 285 P **P** 10 45 21.0 -1.7
comp=Z,140nm,0.9s,baz=117,slow=5.2,SNR=98
PSI LR LR 11 01 13.3
comp=Z,787nm,18.8s,baz=121,slow=41
UBPT Khong Chiam 32.60 311 P **P** 10 45 23.2 +0.7
comp=Z,520nm,1.4s,comp=Z,5μm
JOW Kunigami 32.94 357 P **P** 10 45 26.3 +1.0
comp=Z,8.3nm,0.6s,baz=189,slow=9.2,SNR=11
JOW Kunigami 32.94 357 *e*P **P** 10 45 24.8 -0.5
comp=Z,110nm,1.4s
QZH Quanzhou 33.03 340 P P 10 45 30.0 +3.9
QZH S **S** 10 50 32.0 -3.4
MGCD Mangrove Creek 33.07 147 ⇑P **P** 10 45 28.6 +2.2
baz=33,SNR=11
GSI Gunungsitoli 33.52 282 P **P** 10 45 28.8 -1.8
comp=Z,194nm,1.1s,comp=Z,4μm
GSI Gunungsitoli 33.52 282 *e*P **P** 10 45 28.5 -2.1
comp=Z,326nm,1.3s
CHBT CHBT 33.60 304 P **P** 10 45 31.4 +0.2
comp=Z,190nm,1.2s,comp=Z,5μm
CAN Canberra 33.67 152 *e*P **P** 10 45 32.6 +0.9
CAN pmax pmax
comp=Z,209nm,1.0s
CAN Canberra 33.67 152 ⇓P **P** 10 45 33.2 +1.5
baz=34
CAN Canberra 33.67 152 *e*P **P** 10 45 32.6 +0.9
comp=Z,209nm,1.0s
CNB Canberra Magne 33.84 151 ⇓P **P** 10 45 34.1 +1.0
baz=34,SNR=28
KCSI Kotacane, Aceh 33.90 286 P **P** 10 45 31.6 -2.3
comp=Z,82nm,1.7s,comp=Z,1μm
TOO Toolangi 34.11 158 ⇑P **P** 10 45 37.2 +1.8
baz=34,SNR=25
TPTI 34.39 285 P **P** 10 45 36.7 -1.4
comp=Z,54nm,1.1s,comp=Z,19μm
PKDT Phuket 34.84 293 P **P** 10 45 41.5 -0.4
comp=Z,105nm,1.0s
SURT Suratani 34.85 295 P **P** 10 45 41.8 -0.2
comp=Z,30nm,1.5s,comp=Z,505nm

SNSI Sinabang, Aceh 35.00 283 P P 10 45 47.0 +3.7
CBIJ Chichi jima 35.08 19 *e*P **P** 10 45 42.8 -1.0
JCJ Chichijima 35.08 19 P **P** 10 45 42.6 -1.2
comp=Z,110nm,0.4s,baz=277,slow=17,SNR=26
MILA Mila 35.17 153 ⇓P **P** 10 45 46.2 +1.6
baz=35,SNR=26
LHMI Lhok Sumawe 35.19 288 P **P** 10 45 44.5 -0.5
comp=Z,719nm,0.9s,comp=Z,7μm
LHMI Lhok Sumawe 35.19 288 *e*P **P** 10 45 43.9 -1.1
comp=Z,489nm,0.7s
KHON Khomkaen 35.25 310 P **P** 10 45 46.1 +0.7
comp=Z,180nm,1.1s,comp=Z,3μm
NAYO Nakonayok 35.27 306 P **P** 10 45 45.9 +0.3
comp=Z,228nm,0.7s,comp=Z,7μm
PHET Kaeng Krachan 35.93 302 P **P** 10 45 51.8 +0.6
comp=Z,572nm,0.9s,comp=Z,5μm
PBKT Sadao Pong 36.82 308 P **P** 10 45 59.0 +0.2
comp=Z,102nm,1.5s,comp=Z,14μm
SRDT SRDT 37.09 304 P **P** 10 46 01.8 +0.7
comp=Z,667nm,1.2s,comp=Z,8μm
UTHA Uthaitani 37.46 306 P **P** 10 46 04.6 +0.4
comp=Z,66nm,1.1s,comp=Z,596nm
SLVN Son La 37.71 317 *e*P **P** 10 46 07.3 +1.0
comp=Z,201nm,1.2s
KHLT Khaolaem Dam 37.76 304 P **P** 10 46 07.3 +0.6
comp=Z,124nm,1.1s,comp=Z,1μm
UTTA Uttaradit 37.83 310 P **P** 10 46 07.8 +0.5
comp=Z,97nm,1.1s,comp=Z,990nm
SSE Sheshan 38.14 347 P **P** 10 46 10.8 +1.1
SSE sP **sP** 10 46 48.0 -4.5
SSE PMZ
comp=Z,63nm,1.1s
SSE PMZ
comp=Z,150nm,4.0s
SSE LN
comp=Z,590nm,33.6s
SSE LE
comp=Z,290nm,34.0s
SSE LZ
comp=Z,750nm,38.1s
DZM Mont Dzumac 38.27 118 P **P** 10 46 12.0 +0.9
comp=Z,22nm,0.7s,baz=273,slow=8.4,SNR=17
DZM Mont Dzumac 38.27 118 *e*P **P** 10 46 12.2 +1.1
LAMP Lampang 38.99 310 P **P** 10 46 18.1 +1.1
comp=Z,89nm,0.9s,comp=Z,904nm
MOO Moorlands 39.03 160 ⇑P **P** 10 46 18.7 +1.7
baz=39,SNR=12
JNU Nakatsue 39.15 1 P **P** 10 46 18.8 +0.6
comp=Z,36nm,0.8s,baz=210,slow=3.3,SNR=19
JNU LR LR 11 02 27.8
comp=Z,2μm,19.6s,baz=178,slow=36
JNU Nakatsue 39.15 1 *e*P **P** 10 46 18.8 +0.6
comp=Z,73nm,1.2s
CRAI Chiangrai 39.47 313 P **P** 10 46 18.4 -2.6
comp=Z,138nm,1.4s,comp=Z,2μm
CMAR Chiang Mai Arr 39.48 309 *ce*P **P** 10 46 22.2 +1.1
CMAR pmax pmax
comp=Z,94nm,0.7s
CMAR Chiang Mai Arr 39.48 309 P **P** 10 46 22.4 +1.3
comp=Z,94nm,0.7s,baz=139,slow=7.1,SNR=408
CMAR pP **pP** 10 46 50.4 +0.7
comp=Z,46nm,1.0s,baz=137,slow=7.6,SNR=4.1
CMAR PcP **PcP** 10 48 28.3 +1.7
comp=Z,14nm,0.8s,baz=159,slow=2.8,SNR=5.3
CMAR ScP **ScP** 10 52 03.9 +0.2
comp=Z,2.0nm,0.7s,baz=158,slow=2.4,SNR=4.2
CMAR S **S** 10 52 13.6 -0.5
comp=Z,2.0nm,0.9s,baz=144,slow=11,SNR=3.0
CMAR PKiKP **PKiKP** 10 55 38.2 -0.3
comp=Z,1.2nm,0.4s,baz=295,slow=2.4,SNR=4.1
NJ2 Nanjing 39.62 345 *e*P **P** 10 46 23.8 +1.8
NJ2 pP **pP** 10 46 50.8 +0.3
NJ2 sP **sP** 10 47 04.8 -0.1
NJ2 S **S** 10 52 13.5 -2.1
NJ2 SS **SS** 10 55 12.0 -4.1
NJ2 PMZ
comp=Z,90nm,0.7s
NJ2 PMZ
comp=Z,2μm,4.5s
NJ2 LN
comp=Z,1μm,25.9s
NJ2 LE
comp=Z,1μm,23.6s
NJ2 LZ
comp=Z,2μm,23.8s
WHN Wuhan 39.65 338 ⇑P **P** 10 46 24.0 +1.8
WHN pP **pP** 10 46 49.8 -0.9
WHN sP **sP** 10 47 02.0 -3.2
WHN S **S** 10 52 13.5 -2.5
WHN PMZ
comp=Z,470nm,1.3s
WHN LN
comp=Z,2μm,12.5s
WHN LE
comp=Z,1μm,7.0s
WHN LZ
comp=Z,3μm,22.6s
CMMT Chiang Mai 39.69 309 P **P** 10 46 23.3 +0.5
comp=Z,574nm,1.3s,comp=Z,6μm
CHTO Chiang Mai 39.69 309 *e*P **P** 10 46 23.7 +0.9
CHTO pmax pmax
comp=Z,843nm,1.5s
CHTO Chiang Mai 39.69 309 P **P** 10 46 24.0 +1.1
SNR=101
CHTO Chiang Mai 39.69 309 P **P** 10 46 23.4 +0.6
comp=Z,2μm,1.3s,comp=Z,21μm
CHTO Chiang Mai 39.69 309 *e*P **P** 10 46 23.7 +0.9
comp=Z,843nm,1.5s
GYA Guiyang 39.78 326⇑*i*P **P** 10 46 24.0 +0.4
GYA pP **pP** 10 46 54.3 +2.2
GYA PP **PnPn** 10 48 02.8 +0.7
GYA PcP **PcP** 10 48 28.8 +1.3
GYA ScP **ScP** 10 52 05.0 +0.3
GYA S **S** 10 52 20.0 +1.6
GYA sS **sS** 10 53 11.5 +3.6
GYA SS **SS** 10 55 17.8 -1.9
GYA PMZ
comp=Z,70nm,0.8s
GYA PMZ
comp=Z,370nm,6.2s
GYA LN
comp=Z,900nm,16.3s
GYA LE
comp=Z,810nm,18.3s
GYA LZ
comp=Z,550nm,15.4s
MHMT Maesarieng 40.11 308 P **P** 10 46 27.0 +0.7
comp=Z,175nm,1.0s,comp=Z,2μm
CMAI Chiengmai2 40.28 311 P **P** 10 46 28.6 +0.8
comp=Z,355nm,0.9s,comp=Z,4μm
KMI Kunming 41.12 320 P **P** 10 46 36.5 +1.7
KMI pP **pP** 10 47 08.5 +5.0
KMI PP **PnPn** 10 48 17.0 -1.0
KMI S **S** 10 52 36.3 -2.4
KMI sS **sS** 10 53 27.8 -0.6
KMI SS **SS** 10 55 47.5 +0.9
KMI PMZ
comp=Z,150nm,1.4s
KMI PMZ
comp=Z,750nm,6.2s
KMI LN
comp=Z,930nm,20.9s
KMI LE
comp=Z,790nm,20.4s
KMI LZ
comp=Z,2μm,21.2s
ENH Enshi 41.43 332 *e*P **P** 10 46 37.7 +0.7
comp=Z,34nm,1.1s
MJAR Matsushiro Arr 43.20 9 P **P** 10 46 50.9 -0.4
comp=Z,41nm,0.8s,baz=187,slow=9.8,SNR=95
MJAR S **S** 10 53 03.5 -5.0
comp=Z,2.6nm,1.1s,baz=172,slow=13,SNR=4.0
MJAR LR LR 11 03 33.6
comp=Z,1μm,20.2s,baz=190,slow=34
MAJO Matsushiro 43.20 9 *c i*P **P** 10 46 50.9 -0.3
MAJO pmax pmax
comp=Z,642nm,1.0s
MAJO Matsushiro 43.20 9 *e*P **P** 10 46 50.9 -0.3
comp=Z,78nm,0.7s
MAT Matsushiro 43.20 9 P **P** 10 46 50.8 -0.4
MAT S **S** 10 53 04.6 -3.9
KSAR Wonju Array Be 43.52 357 P **P** 10 46 55.2 +1.5
KSAR 10 48 40.3
KSAR Wonju Array Be 43.52 357 P **P** 10 46 55.2 +1.5
KSAR PcP **PcP** 10 48 40.3 +0.9
KSAR ScP **ScP** 10 52 18.8 -0.4

KSRS	**Korea Array**	**43.53 357**	P	**P**	**10 46 55.2**	**+1.4**
	comp=Z,9.3nm,0.6s,baz=172,slow=8.7,SNR=48					
KSRS			PcP	**PcP**	**10 48 40.3**	**+0.9**
	comp=Z,12nm,0.7s,baz=178,slow=3.2,SNR=10					
KSRS			ScP	**ScP**	**10 52 18.8**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=184,slow=3.2,SNR=6.0					
KSRS			LR	LR	11 03 45.5	
	comp=Z,1μm,21.5s,baz=152,slow=34					
INCN	**Inchon**	**43.63 356**	*e*P	**P**	**10 46 56.4**	**+1.7**
	comp=Z,55nm,0.9s					
INCN			*e*pP	**pP**	**10 47 25.1**	**+1.5**
INCN			*e*sP	**sP**	**10 47 38.5**	**+0.5**
TIA	**Tai'an**	**44.01 345**	⇑P	**P**	**10 46 58.0**	**+0.4**
TIA			sP	**sP**	**10 47 39.5**	**-1.5**
TIA			S	**S**	**10 53 16.3**	**-3.9**
TIA			SS	**ScS**	**10 56 43.5**	**+0.1**
TIA			PMZ			
	comp=Z,50nm,1.4s					
TIA			PMZ			
	comp=Z,670nm,5.4s					
TIA			LN			
	comp=Z,530nm,15.0s					
TIA			LE			
	comp=Z,620nm,19.6s					
TIA			LZ			
	comp=Z,460nm,22.0s					
CD2	**Chengdu**	**44.83 327**	⇑*i*P	P	10 47 14.5	+10
CD2			pP	pP	10 47 34.3	+0.8
CD2			sP	sP	10 47 46.3	-1.5
CD2			PcP	**PcP**	**10 48 44.5**	**+0.4**
CD2			PP	**PP**	**10 48 55.0**	**+3.3**
CD2			S	**S**	**10 53 27.5**	**-4.9**
CD2			sS	sS	10 54 14.0	-8.7
CD2			ScS	**ScS**	**10 56 47.5**	**-1.5**
CD2			SS	**SS**	**10 56 54.5**	**-2.4**
XAN	**Xi'an**	**44.89 335**	P	**P**	**10 47 04.8**	**+0.1**
XAN			pP	**pP**	**10 47 33.0**	**-0.8**
XAN			sP	**sP**	**10 47 47.3**	**-0.9**
XAN			PP	**PP**	**10 48 51.8**	**-0.4**
XAN			S	**S**	**10 53 28.5**	**-4.6**
XAN			PMZ			
	comp=Z,41nm,1.4s					
XAN			PMZ			
	comp=Z,91nm,6.5s					
XAN			LN			
	comp=Z,770nm,46.3s					
XAN			LE			
	comp=Z,210nm,34.4s					
XAN			LZ			
	comp=Z,360nm,47.4s					
TIY	**Taiyuan**	**46.80 340**	*e*P	**P**	**10 47 19.8**	**+0.1**
TIY			pP	**pP**	**10 47 50.5**	**+1.5**
TIY			S	**S**	**10 53 58.5**	**-1.9**
TIY			ScS	**ScS**	**10 57 02.5**	**+1.0**
TIY			PMZ			
	comp=Z,72nm,1.0s					
TIY			LN			
	comp=Z,620nm,12.8s					
TIY			LE			
	comp=Z,240nm,6.7s					
TIY			LZ			
	comp=Z,510nm,16.6s					
BJT	**Baijiatuau**	**47.84 345**	*e*P	**P**	**10 47 28.8**	**+1.1**
BJT			*e**PP	**pP**	**10 47 57.0**	**-0.1**
BJT			*e*		10 48 55.8	
BJT			pmax	pmax		
	comp=Z,60nm,0.6s					
BJT	**Baijiatuau**	**47.84 345**	*e*P	**P**	**10 47 28.8**	**+1.1**
	comp=Z,60nm,0.6s					
BJT			*e*pP	**pP**	**10 47 57.0**	**-0.1**
BJT			*e*PcP	**PcP**	**10 48 55.8**	**+1.3**
BJI	**Beijing**	**47.86 345**	P	**P**	**10 47 28.5**	**+0.7**
BJI			pP	**pP**	**10 47 58.3**	**+1.1**
BJI			sP	**sP**	**10 48 12.0**	**+0.6**
BJI			PcP	**PcP**	**10 48 55.8**	**+1.3**
BJI			S	**S**	**10 54 12.3**	**-2.9**
BJI			sS	**sS**	**10 55 06.0**	**0.0**
BJI			ScS	**ScS**	**10 57 09.0**	**+0.8**
BJI			PMZ			
	comp=Z,150nm,0.8s					
BJI			PMZ			
	comp=Z,500nm,4.2s					
BJI			LN			
	comp=Z,390nm,17.8s					
BJI			LE			
	comp=Z,360nm,17.8s					
BJI			LZ			
	comp=Z,580nm,40.2s					
MSVF	**Nonsavu**	**47.95 108**	*e*P	**P**	**10 47 30.6**	**+1.6**
MSVF			*e**PP	**pP**	**10 47 58.3**	**-0.1**
MSVF			pmax	pmax		
	comp=Z,70nm,1.0s					
MSVF	**Nonsavu**	**47.95 108**	*e*P	**P**	**10 47 30.6**	**+1.6**
	comp=Z,70nm,1.0s					
MSVF			*e*pP	**pP**	**10 47 58.3**	**-0.1**
SNY	**Shenyang**	**48.23 353**	⇑P	**P**	**10 47 31.5**	**+0.9**
SNY			PMZ			
	comp=Z,46nm,0.7s					
SNY			PMZ			
	comp=Z,280nm,6.4s					
SNY			LN			
	comp=Z,2μm,18.1s					
SNY			LE			
	comp=Z,650nm,24.0s					
SNY			LZ			
	comp=Z,980nm,22.9s					
LZH	**Lanzhou**	**48.89 331**	*e*P	**P**	**10 47 37.5**	**+1.5**
LZH			pP	**pP**	**10 48 06.8**	**+1.3**
LZH			sP	**sP**	**10 48 21.5**	**+1.8**
LZH			PP	**PP**	**10 49 34.5**	**+3.9**
LZH			ScP	**ScP**	**10 52 42.0**	**+0.1**
LZH			*e*S	**S**	**10 54 28.5**	**-1.7**
LZH			SS	**SS**	**10 58 02.5**	**-0.3**
LZH			PMZ			
	comp=Z,360nm,1.4s					
SHL	**Shillong**	**48.92 312**	⇑*i*P	**P**	**10 47 37.0**	**+0.6**
SHL			*ex*	x	10 54 26.0	
OUZ	**Omahuta**	**49.12 132**	*e*P	**P**	**10 47 40.2**	**+2.6**
	comp=Z,434nm,1.4s					
OUZ			*e*pP	**pP**	**10 48 06.7**	**-0.4**
VLA	**Vladivostok**	**49.15 2**	⇑*i*P	**P**	**10 47 38.6**	**+1.0**
VLA			*i*		10 48 57.8	
VLA			*e*		10 49 31.4	
VLA			*i* S	**S**	**10 54 35.2**	**+2.0**
VLA			pmax	pmax		
	comp=Z,55nm,0.9s					
VLA			smax	smax		
	comp=N,2μm,0.6s					
HHC	**Hu-ho-hao-te**	**49.92 341**	*e*P	**P**	**10 47 45.0**	**+1.3**
HHC			pP	**pP**	**10 48 14.5**	**+1.2**
HHC			sP	**sP**	**10 48 29.0**	**+1.5**
HHC			PP	**PP**	**10 49 41.8**	**+1.9**
HHC			S	**S**	**10 54 44.8**	**+0.4**
HHC			sS	**sS**	**10 55 37.0**	**+1.5**
HHC			PMZ			
	comp=N,73nm,0.6s					
HHC			PMZ			
	comp=N,1μm,5.8s					
CN2	**Changchun**	**50.01 355**	⇑*i*P	**P**	**10 47 44.5**	**+0.4**
CN2			*e*pP	**pP**	**10 48 14.3**	**+0.6**
CN2			*e*sP	**sP**	**10 48 28.0**	**+0.1**
CN2			PcP	**PcP**	**10 49 03.0**	**+0.8**
CN2			ScP	**ScP**	**10 52 45.0**	**-1.2**
CN2			*e*S	**S**	**10 54 40.5**	**-4.6**
CN2			ScS	**ScS**	**10 57 21.0**	**-1.5**
CN2			PMZ			
	comp=N,70nm,0.8s					
CN2			PMZ			
	comp=N,200nm,5.0s					
CN2			LN			
	comp=N,300nm,18.0s					
CN2			LE			
	comp=N,600nm,18.0s					
CN2			LZ			
	comp=N,600nm,18.0s					
BTO	**Baotou**	**50.21 340**	*e*P	**P**	**10 47 45.5**	**-0.4**
USRK	**Ussuriysk Ar.**	**50.23 2**	P	**P**	**10 47 46.9**	**+1.1**
	comp=N,29nm,0.6s,baz=181,slow=6.8,SNR=88					
USRK			LR	LR	11 08 24.2	
	comp=N,728nm,21.0s,baz=160,slow=35					
MDJ	**Mudanjiang**	**50.63 359**	P	**P**	**10 47 49.8**	**+1.0**
MDJ			pP	**pP**	**10 48 18.0**	**-0.5**
MDJ			sP	**sP**	**10 48 29.8**	**-2.9**
MDJ			ScP	**ScP**	**10 52 50.3**	**+1.4**
MDJ			PcS	**PcS**	**10 53 03.0**	**+1.1**
MDJ			S	**S**	**10 54 54.0**	**+0.2**
MDJ			sS	**sS**	**10 55 45.0**	**0.0**
MDJ			PMZ			
	comp=N,58nm,0.9s					
MDJ			PMZ			
	comp=N,220nm,4.8s					
MDJ			LN			
	comp=N,690nm,16.8s					
MDJ			LE			
	comp=N,690nm,23.5s					
MDJ			LZ			
	comp=N,740nm,16.8s					
MDJ	**Mudanjiang**	**50.63 359**	*e*P	**P**	**10 47 49.9**	**+1.0**
	comp=N,37nm,0.7s					
MDJ			*e*pP	**pP**	**10 48 17.6**	**-0.9**
MDJ			*e*sP	**sP**	**10 48 33.0**	**+0.3**
QRZ	**Quartz Range**	**51.02 139**	pP	pP	10 48 29.8	+8.2
WHZ	**Wether Hill Ro**	**51.16 147**	*e*P	**P**	**10 47 53.4**	**+0.6**
	comp=N,219nm,0.4s					
PALK	**Pallekele**	**51.27 284**	P	**P**	**10 47 53.3**	**-0.9**
	SNR=21					
PALK	**Pallekele**	**51.27 284**	P	**P**	**10 47 53.4**	**-0.9**
	comp=N,82nm,0.7s,baz=94,slow=8.1,SNR=47					
PALK			LR	LR	11 12 40.0	
	comp=N,846nm,18.1s,baz=104,slow=39					
PALK	**Pallekele**	**51.27 284**	⇑*i*P	**P**	**10 47 53.4**	**-0.9**
	SNR=23					
PALK	**Pallekele**	**51.27 284**	*e*P	**P**	**10 47 53.2**	**-0.9**
	comp=N,120nm,1.2s					
PALK			*e*pP	**pP**	**10 48 26.2**	**+2.2**
PALK			*e*PcP	**PcP**	**10 49 09.5**	**+1.8**
ASAJ	**Asahikawa**	**51.34 11**	P	**P**	**10 47 55.2**	**+1.1**
ASAJ			pmax	pmax		
	comp=Z,25nm,0.6s					
ASAJ	**Asahikawa**	**51.34 11**	P	**P**	**10 47 55.2**	**+1.1**
	comp=Z,25nm,0.6s,baz=242,slow=8.0,SNR=22					
ASAJ	**Asahikawa**	**51.34 11**	*e*P	**P**	**10 47 55.1**	**+1.0**
	comp=Z,15nm,0.8s					
RPZ	**Rata Peaks**	**51.65 143**	PN	**P**	**10 47 57.5**	**+1.0**
RPZ	**Rata Peaks**	**51.65 143**	*e*P	**P**	**10 47 58.0**	**+1.5**
	comp=Z,130nm,0.8s					
THZ	**Tophouse**	**51.75 140**	PN	**P**	**10 47 58.6**	**+1.3**
THZ			pP	pP	10 48 34.6	+7.5
LSA	**Lhasa**	**51.87 316**	P	**P**	**10 48 00.0**	**+1.1**
LSA			S	**S**	**10 55 07.8**	**-4.5**
LSA			PMZ			
	comp=Z,240nm,0.6s					
LSA			PMZ			
	comp=Z,630nm,4.0s					
LSA			LN			
	comp=Z,330nm,20.3s					
LSA			LE			
	comp=Z,320nm,16.8s					
LSA			LZ			
	comp=Z,710nm,20.3s					
LSA	**Lhasa**	**51.87 316**	*e*P	**P**	**10 47 59.6**	**+0.7**
LSA			*e**PP	**pP**	**10 48 29.4**	**+0.7**
LSA			pmax	pmax		
	comp=Z,117nm,0.6s					
LSA	**Lhasa**	**51.87 316**	*e*P	**P**	**10 47 59.6**	**+0.7**
	comp=Z,117nm,0.6s					
LSA			*e*pP	**pP**	**10 48 29.4**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**51.98 14**	*c i*P	P	10 47 53.6	-5.2
YUK			*i* S	S	10 55 05.4	-6.9
TUWZ	**Tuamarina**	**52.25 139**	*e*PN	**P**	**10 48 00.9**	**0.0**
TUWZ			pP	pP	10 48 36.6	+5.8
TCW	**Tory Channel**	**52.36 139**	*e*PN	**P**	**10 48 02.1**	**+0.3**
TCW			pP	pP	10 48 37.5	+5.9
KHZ	**Kahutara**	**52.49 140**	PN	**P**	**10 48 02.9**	**+0.2**
KHZ			pP	pP	10 48 38.7	+6.1
KHZ	**Kahutara**	**52.49 140**	*e*P	**P**	**10 48 03.3**	**+0.6**
	comp=Z,95nm,0.8s					
MQZ	**McQueen's Vall**	**52.61 142**	PN	**P**	**10 48 04.3**	**+0.7**
MQZ			pP	pP	10 48 40.6	+7.2
SNZO	**South Karori**	**52.69 138**	*e*pP	pP	10 48 32.8	-1.3
BKZ	**Black Stump Fm**	**52.92 135**	*e*P	**P**	**10 48 06.4**	**+0.4**
	comp=Z,84nm,0.9s					
URZ	**Urewera**	**52.97 134**	P	**P**	**10 48 06.5**	**+0.2**
	comp=Z,8.6nm,0.6s,baz=262,slow=3.0,SNR=9.3					
URZ			LR	LR	11 09 31.2	
	comp=Z,471nm,20.9s,baz=350,slow=34					
ODAN	**Odare**	**52.99 310**	*e*P	**P**	**10 48 07.5**	**+0.5**
	comp=Z,686nm,0.5s					
TAPN	**Taplejung**	**53.02 311**	*e*P	**P**	**10 48 07.9**	**+0.7**
	comp=Z,744nm,0.5s					
MWZ	**Matawai**	**53.30 134**	PN	**P**	**10 48 09.2**	**+0.4**
GTA	**Gaotai**	**53.46 331**	⇑P	**P**	**10 48 11.3**	**+1.3**
GTA			pP	**pP**	**10 48 40.8**	**+0.8**
GTA			sP	**sP**	**10 48 55.0**	**+0.9**
GTA			PcP	**PcP**	**10 49 16.8**	**+1.3**
GTA			ScP	**ScP**	**10 53 01.0**	**-0.5**
GTA			PcS	**PcS**	**10 53 13.8**	**-0.9**
GTA			S	**S**	**10 55 30.3**	**-2.7**
GTA			ScS	**ScS**	**10 57 44.5**	**-2.6**
GTA			SS	**SKiKP**	**10 59 12.5**	**-0.4**
GTA			PMZ			
	comp=Z,130nm,1.3s					
GTA			PMZ			
	comp=Z,860nm,6.2s					
GTA			LN			
	comp=Z,450nm,17.6s					
GTA			LE			
	comp=Z,560nm,18.5s					
GTA			LZ			
	comp=Z,650nm,20.9s					
RAMN	**Ramite**	**53.64 310**	*e*P	**P**	**10 48 12.6**	**+0.9**
	comp=Z,1μm,0.6s					
YSS	**Yuzh-Sakhalins**	**54.11 11**	⇑*i*P	**P**	**10 48 15.0**	**+0.6**
YSS			*e**SP	sP	10 48 49.3	-9.2
YSS			*e*S	**S**	**10 55 38.0**	**-3.0**
YSS			smax	smax		
	comp=N,900nm,8.0s					
YSS	**Yuzh-Sakhalins**	**54.11 11**	*e*P	**P**	**10 48 15.2**	**+0.9**
JIRN	**Jiri**	**54.32 311**	*e*P	**P**	**10 48 17.4**	**+0.6**
	comp=N,521nm,0.5s					
HABR	**Khabarovsk**	**54.64 4**	*de*P	**P**	**10 48 18.5**	**+0.3**
HABR			*e**PP	**pP**	**10 48 43.7**	**-4.6**
HABR			*e*		10 49 18.1	
HABR			PPP	PPP	10 51 34.4	
HABR			*e*S	**S**	**10 55 48.1**	**-0.1**
HABR			*e**SS	**sS**	**10 56 36.2**	**-3.9**
HABR			*e*		10 57 55.4	
HABR			*e*SS	**SS**	**10 59 36.3**	**+3.2**
HABR			pmax	pmax		
	comp=Z,90nm,1.2s					
HABR			pmax	pmax		
	comp=N,12nm,0.6s					
HABR			pmax	pmax		
	comp=E,34nm,1.4s					
HABR			MLR	MLR		
	comp=Z,352nm,17.0s					
GUN	**Gumba**	**54.69 311**	*e*P	**P**	**10 48 20.0**	**+0.6**
	comp=Z,1μm,0.6s					
PKI	**Pulchoki**	**54.87 310**	*e*P	**P**	**10 48 20.9**	**+0.2**
	comp=Z,335nm,0.6s					
PKIN	**Phulchoki**	**54.88 310**	*e*P	**P**	**10 48 21.0**	**+0.3**
	comp=Z,119nm,0.5s					
KKN	**Kakani**	**55.08 310**	*e*P	**P**	**10 48 22.5**	**+0.4**
	comp=Z,387nm,0.5s					
DMN	**Daman**	**55.12 310**	*e*P	**P**	**10 48 23.0**	**+0.6**
	comp=Z,931nm,0.8s					
KLR	**Kul'dur**	**55.26 1**	⇓*i*P	**P**	**10 48 19.8**	**-2.9**
KLR			*e*S	**S**	**10 55 51.5**	**-4.9**
KLR			pmax	pmax		
	comp=Z,170nm,1.8s					
KLR			smax	smax		
	comp=N,1μm,9.0s					
KLR			smax	smax		
	comp=E,600nm,9.0s					
KLR			MLR	MLR		
	comp=Z,1μm,12.0s					
GKN	**Gorkha**	**55.68 310**	*e*P	**P**	**10 48 26.8**	**+0.5**
	comp=Z,776nm,0.5s					
HIA	**Hailar**	**56.04 352**	*e*P	**P**	**10 48 29.2**	**+0.9**
HIA			pmax	pmax		
	comp=Z,82nm,1.4s					
HIA	**Hailar**	**56.04 352**	*e*P	**P**	**10 48 29.2**	**+0.9**
	comp=Z,82nm,1.4s					
HYB	**Hyderabad**	**56.26 296**	*i* P	**P**	**10 48 29.0**	**-1.4**
	comp=Z,140nm,1.0s					
HYB			*e*pP	**pP**	**10 49 00.0**	**-0.7**
HYB			*e*		10 49 19.0	
HYB			*e*PcP	**PcP**	**10 49 26.5**	**-0.1**
HYB			*e*S	S	10 56 04.0	-6.8
HYB			*e*		10 56 54.0	
HYB			*e*		10 57 56.0	
KOLN	**Koldanda**	**56.35 309**	*e*P	**P**	**10 48 31.8**	**+0.6**
	comp=Z,774nm,0.8s					
DANN	**Dangsing**	**56.52 310**	*e*P	**P**	**10 48 33.0**	**+0.6**
	comp=Z,2μm,1.3s					
DGAR	**Diego Garcia**	**57.42 265**	*e*P	**P**	**10 48 38.6**	**-0.1**
DGAR			pmax	pmax		
	comp=Z,458nm,1.0s					
DGAR	**Diego Garcia**	**57.42 265**	*e*P	**P**	**10 48 38.6**	**-0.1**
	comp=Z,458nm,1.0s					
ULN	**Ulaanbaatar**	**57.65 342**	*c i*P	**P**	**10 48 41.4**	**+1.6**
ULN			pmax	pmax		
	comp=Z,262nm,1.7s					
ULN	**Ulaanbaatar**	**57.65 342**	P	**P**	**10 48 41.8**	**+2.0**
	SNR=61					
ULN	**Ulaanbaatar**	**57.65 342**	*e*P	**P**	**10 48 41.6**	**+1.8**
	comp=Z,101nm,0.7s					
ULN			*e*pP	**pP**	**10 49 11.0**	**+0.8**
SONM	**Songino Array**	**57.83 341**	P	**P**	**10 48 43.0**	**+1.9**
	comp=Z,23nm,0.5s,baz=161,slow=6.8,SNR=197					
SONM			pP	**pP**	**10 49 11.7**	**+0.3**
	comp=Z,21nm,0.7s,baz=152,slow=6.2,SNR=4.9					
SONM			S	**S**	**10 56 31.5**	**+0.8**
	comp=Z,3.0nm,1.1s,baz=191,slow=6.9,SNR=4.4					
SONM			PKPPKP	**P'P'df**	**11 18 26.0**	**+3.3**
	comp=Z,2.0nm,1.1s,baz=234,slow=1.1,SNR=6.2					
SONM			PKP2bc		11 18 33.3	
	comp=Z,4.1nm,1.1s,baz=294,slow=1.0,SNR=9.6					
MNCY	**Minicoy**	**58.90 283**	*i x*	x	10 49 09.0	
H08N1	**Diego Garcia H**	**58.90 266**	P	**P**	**10 48 48.9**	**+0.3**
	baz=127,slow=4.3,SNR=16					
H08N2	**Diego Garcia H**	**58.91 266**	P	**P**	**10 48 49.9**	**+1.2**
	baz=127,slow=4.3,SNR=15					
H08N3	**Diego Garcia H**	**58.92 266**	P	**P**	**10 48 50.1**	**+1.3**
	baz=127,slow=4.3,SNR=9.9					
NIUE	**Niue**	**59.44 108**	⇓P	**P**	**10 48 54.3**	**+1.7**
	baz=60					
LGTI	**Lohaghat**	**59.74 309**	*e*P	**P**	**10 48 54.8**	**+0.3**
CIT	**Chita**	**59.78 348**	*e*P	**P**	**10 48 54.7**	**+0.3**
CIT			*e*		10 49 26.1	
CIT			*e*		10 49 40.6	
CIT			*e*		10 56 58.6	
DRV	**Dumont d'Urvil**	**60.70 176**	S	S	10 56 44.0	-23
DRV			L	L	11 03 00.0	
DRV			R		11 07 00.0	
POO	**Poona**	**60.85 295**	⇑*i*P	**P**	**10 49 01.0**	**-1.3**
	comp=Z,100nm,1.0s					
ZAK	**Zakamensk**	**61.05 341**	*i* P	**P**	**10 49 03.9**	**+0.8**
ZAK			*e*		10 49 32.8	
ZAK			pmax	pmax		
	comp=Z,45nm,1.9s					
CASY	**Casey**	**61.49 189**	*e*P	**P**	**10 49 05.3**	**-0.4**
	comp=Z,69nm,0.9s					
NDI	**New Delhi**	**61.77 307**	*e*P	**P**	**10 49 07.0**	**-1.2**
NDI			*ex*	x	10 57 14.0	
TLY	**Talaya**	**62.06 342**	*e*P	**P**	**10 49 11.3**	**+1.6**
TLY			*e*SS	SS	11 01 35.0	+5.4
TLY			pmax	pmax		
	comp=Z,121nm,2.0s					
TLY			MLR	MLR		
	comp=Z,174nm,18.0s					
TLY	**Talaya**	**62.06 342**	P	**P**	**10 49 11.2**	**+1.4**
	SNR=39					
TLY	**Talaya**	**62.06 342**	P	**P**	**10 49 11.6**	**+1.9**
	comp=Z,20nm,0.7s,baz=172,slow=6.0,SNR=33					
TLY			pP	**pP**	**10 49 40.5**	**0.0**
	comp=Z,29nm,1.0s,baz=147,slow=6.0,SNR=4.4					
TLY	**Talaya**	**62.06 342**	*e*P	**P**	**10 49 10.8**	**+1.0**
	comp=Z,153nm,1.6s					
TLY			pP	**pP**	**10 49 40.5**	**0.0**
IRK	**Irkutsk**	**62.35 342**	*i* P	**P**	**10 49 12.5**	**+0.8**
IRK			*e*		10 49 41.8	
IRK			*e*S	**S**	**10 57 29.7**	**+1.6**
IRK			pmax	pmax		
	comp=Z,280nm,2.0s					
SMLA	**Simla**	**62.88 310**	*i* P	**P**	**10 49 16.7**	**+1.1**
SMLA			AMB	AMB	10 49 17.2	
	comp=Z,210nm,1.2s					
SMLA			*i x*	x	10 57 31.1	
MOY	**Mondy**	**62.91 340**	*e*P	**P**	**10 49 17.4**	**+1.9**
MOY			pmax	pmax		
	comp=Z,321nm,2.1s					
WMQ	**Urumqi**	**62.93 327**	P	**P**	**10 49 17.0**	**+1.2**
WMQ			pP	**pP**	**10 49 46.8**	**+0.2**
WMQ			PcP	**PcP**	**10 49 53.5**	**+0.7**
WMQ			sP	**sP**	**10 50 02.0**	**+1.5**
WMQ			PP	**PP**	**10 51 40.3**	**+4.4**
WMQ			ScP	**ScP**	**10 53 43.0**	**-0.2**
WMQ			PcS	**PcS**	**10 53 56.0**	**-0.3**
WMQ			S	**S**	**10 57 33.8**	**-2.0**
WMQ			ScS	**SKSac**	**10 58 52.3**	**-4.1**
WMQ			PMZ			
	comp=Z,140nm,1.4s					
WMQ			PMZ			
	comp=Z,880nm,4.5s					
WMQ			LN			
	comp=Z,510nm,23.5s					
WMQ			LE			
	comp=Z,330nm,26.0s					
WMQ			LZ			
	comp=Z,430nm,27.0s					
CLNS	**Chul'man**	**63.02 357**	*e*P	**P**	**10 49 17.3**	**+1.3**
CLNS			*e*		10 49 53.3	
CLNS			*e*		10 51 35.4	
CLNS			*e*S	**S**	**10 57 36.8**	**+0.5**
CLNS			*e**SS	sS	10 58 20.2	-9.3
CLNS			*e*		10 58 56.0	
CLNS			*e*SS	**SS**	**11 01 46.4**	**+1.9**
CLNS			pmax	pmax		
	comp=Z,33nm,0.8s					
CLNS			pmax	pmax		
	comp=E,11nm,1.0s					
CLNS			pmax	pmax		
	comp=N,22nm,1.0s					
CLNS			pmax	pmax		
	comp=E,6.0nm,0.9s					
CLNS			pmax	pmax		
	comp=Z,15nm,1.1s					
CLNS			pmax	pmax		
	comp=N,15nm,1.0s					
CLNS			smax	smax		
	comp=E,134nm,9.4s					
CLNS			smax	smax		
	comp=N,466nm,11.1s					
SDNR	**Sundarnagar**	**63.20 310**	*e*P	**P**	**10 49 18.5**	**+0.8**
PETK	**Petropavlovsk-**	**63.52 18**	P	**P**	**10 49 21.1**	**+1.7**
	comp=N,61nm,0.7s,baz=186,slow=6.2,SNR=59					
PETK			LR	LR	11 12 43.1	
	comp=N,363nm,21.8s,baz=207,slow=32					
BHK	**Bhakra**	**63.58 310**	*e*P	**P**	**10 49 21.3**	**+1.0**
BHK			*ex*	x	10 49 51.1	
PET	**Petropavlovsk**	**63.74 19**	*e*P	**P**	**10 49 21.9**	**+1.1**
PET			*e**SP	**sP**	**10 50 04.6**	**-1.0**
PET			*e*S	**S**	**10 57 43.1**	**-2.2**
PET			pmax	pmax		
	comp=Z,500nm,2.4s					
PET			pmax	pmax		
	comp=Z,113nm,1.2s					
PET			pmax	pmax		
	comp=Z,200nm,13.2s					
PET	**Petropavlovsk**	**63.74 19**	*e*P	**P**	**10 49 21.4**	**+0.6**
PONG	**Pong**	**64.17 310**	*e*P	**P**	**10 49 24.5**	**+0.4**
DLH	**Dalhousie**	**64.42 310**	*e*P	**P**	**10 49 26.0**	**0.0**
BOD	**Bodaibo**	**65.20 350**	⇓*i*P	**P**	**10 49 30.7**	**+0.5**
BOD			*e*S	**S**	**10 58 02.5**	**-0.6**
BOD			pmax	pmax		
	comp=Z,80nm,0.1s					
HVS	**Khovu-Aksy**	**65.23 336**	*c i*P	**P**	**10 49 32.0**	**+1.3**
HVS			pmax	pmax		
	comp=Z,974nm,1.2s					
MIR	**Mirnyy**	**65.45 195**	⇓*i*P	**P**	**10 49 33.0**	**+1.3**
MIR			pmax	pmax		
	comp=Z,188nm,1.0s					
PAF	**Port-aux-Franc**	**66.05 218**	P	P	10 49 21.0	-15
PAF			S	S	10 58 00.0	-14
PAF			L	L	11 05 00.0	
PAF			R		11 11 00.0	
PDGK	**Podgornoye**	**67.39 322**	P	**P**	**10 49 45.6**	**+1.2**
KSH	**Kashi**	**67.67 317**	⇑*i*P	**P**	**10 49 48.3**	**+1.8**
KSH			pP	**pP**	**10 50 19.5**	**+1.8**
KSH			PP	**PP**	**10 52 21.5**	**+4.1**
KSH			S	**S**	**10 58 31.0**	**-2.9**
KSH			ScS	**SKiKP**	**10 59 27.0**	**-4.4**
KSH			PMZ			

comp=Z,71nm,0.8s
KSH PMZ
comp=Z,750nm,2.6s
KSH LN
comp=Z,630nm,17.3s
KSH LE
comp=Z,280nm,9.8s
KSH LZ
comp=Z,520nm,23.9s
MK31 Makanchi Array 67.76 327 P **P 10 49 48.0 +1.2**
MK31 pmax pmax
comp=Z,196nm,0.6s
MKAR Makanchi Array 67.76 327 P **P 10 49 48.6 +1.8**
comp=Z,191nm,0.5s,baz=115,slow=8.8,SNR=2610
MKAR pP **pP 10 50 18.1 0.0**
comp=Z,58nm,0.8s,baz=126,slow=7.6,SNR=3.4
MKAR S **S 10 58 31.8 -2.7**
comp=Z,1.7nm,0.8s,baz=123,slow=13,SNR=5.9
MKAR PKP2bc 11 18 03.5
comp=Z,2.5nm,0.3s,baz=281,slow=3.3,SNR=36
MKAR P4KPbc 11 26 35.0
comp=Z,0.5nm,0.7s,baz=116,slow=5.5,SNR=5.4
MKAR Makanchi Array 67.76 327 ⇑P **P 10 49 48.4 +1.6**
baz=68
YAK Yakutsk 68.08 360*c i*P **P 10 49 49.0 +0.6**
YAK *e* **pP 10 50 16.9 -2.7**
YAK *e**PP **sP 10 50 35.6 +2.2**
YAK *e* 10 52 27.0
YAK *e*S **S 10 58 36.7 -0.8**
YAK *e* 10 59 31.8
YAK *e*SSS SSS 11 06 04.2
YAK pmax pmax
comp=Z,143nm,0.8s
YAK pmax pmax
comp=N,49nm,1.0s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=Z,70nm,1.9s
YAK pmax pmax
comp=N,38nm,1.8s
YAK pmax pmax
comp=E,50nm,2.0s
YAK smax smax
comp=N,605nm,2.5s
YAK smax smax
comp=E,262nm,1.9s
YAK Yakutsk 68.08 360 P **P 10 49 49.4 +1.0**
comp=E,207nm,0.8s,baz=316,slow=0.3,SNR=45
YAK S **S 10 58 37.1 -0.4**
comp=E,6.4nm,0.3s,baz=272,slow=23,SNR=14
YAK Yakutsk 68.08 360 *e*P **P 10 49 49.3 +0.9**
comp=E,243nm,0.9s
YAK S **S 10 58 37.1 -0.4**
ULHL Ulahol 68.85 320 P **P 10 49 55.7 +1.8**
SNR=11
AAA Alma-Ata 68.92 321 *e*P **P 10 49 55.4 +1.2**
AAA *e*S **S 10 58 47.2 -1.3**
AAA pmax pmax
comp=Z,1μm,3.9s
AAA smax smax
comp=E,1μm,11.5s
FX1 Attu Island--F 69.17 26 *e*P **P 10 49 57.0 +1.7**
FX1 Attu Island--F 69.17 26 *e*P **P 10 49 57.0 +1.7**
KZA Kyzart 69.40 319 P **P 10 49 59.5 +2.0**
SNR=206
TKM2 Tokmak 2 69.60 320 P **P 10 49 59.9 +1.4**
SNR=228
TKM2 Tokmak 2 69.60 320 P **P 10 50 00.0 +1.5**
TKM2 pmax pmax
comp=Z,145nm,0.7s
TKM2 Tokmak 2 69.60 320 *e*P **P 10 49 59.8 +1.2**
comp=Z,134nm,0.7s
KBK Karagaybulak 69.88 320 P **P 10 50 01.9 +1.7**
SNR=74
UCH Uchtor 69.95 319 P **P 10 50 02.7 +1.7**
SNR=248
AAK Ala-Archa 70.16 320 P **P 10 50 03.7 +1.7**
SNR=169
AAK Ala-Archa 70.16 320*c i*P **P 10 50 03.6 +1.7**
AAK pmax pmax
comp=Z,871nm,1.7s
AAK Ala-Archa 70.16 320 P **P 10 50 03.8 +1.9**
SNR=116
AAK Ala-Archa 70.16 320 P **P 10 50 03.8 +1.9**
comp=Z,72nm,0.7s,baz=107,slow=5.2,SNR=204
AAK S **S 10 59 02.5 -0.7**
comp=Z,1.7nm,0.8s,baz=135,slow=13,SNR=7.6
AAK Ala-Archa 70.16 320 *e*P **P 10 50 03.6 +1.7**
comp=Z,525nm,1.6s
AAK S **S 10 59 02.5 -0.7**
CHMS Chumysh 70.17 320 P **P 10 50 03.0 +1.2**
SNR=38
FRU Bishkek 70.18 320 ⇑*i*P **P 10 50 03.0 +1.1**
FRU *i* *PP **PcP 10 50 27.0 +4.0**
FRU *i* S **S 10 59 03.0 -0.2**
FRU pmax pmax
comp=Z,480nm,2.1s
AML Almayashu 70.44 319 P **P 10 50 05.7 +1.8**
SNR=424
USP Ospenovka 70.47 320 P **P 10 50 05.1 +1.5**
SNR=52
KBL Kabul 70.51 310 *e*P **P 10 50 05.0 +0.7**
KBL Kabul 70.51 310 ⇓P **P 10 50 05.3 +1.1**
baz=71,SNR=21
KBL Kabul 70.51 310 *e*P **P 10 50 05.0 +0.7**
EKS2 Erkin-Say 70.64 319 P **P 10 50 06.6 +1.8**
SNR=147
EKS2 Erkin-Say 70.64 319 *e*P **P 10 50 06.6 +1.8**
EKS2 pmax pmax
comp=Z,1μm,1.8s
EKS2 Erkin-Say 70.64 319 *e*P **P 10 50 06.6 +1.8**
comp=Z,1μm,1.8s
ZALV Zalesovo Beam 71.04 334 P **P 10 50 07.2 +0.4**
comp=Z,80nm,0.6s,baz=133,slow=5.5,SNR=338
ZALV pP **pP 10 50 36.6 -1.7**
comp=Z,65nm,0.9s,baz=104,slow=6.3,SNR=5.2
ZALV S **S 10 59 09.0 -3.6**
comp=Z,2.8nm,0.9s,baz=145,slow=8.8,SNR=4.6
ZALV PKP2bc 11 17 59.6
comp=Z,0.5nm,0.5s,baz=328,slow=5.3,SNR=4.5
ZALV LR LR 11 23 22.9
comp=Z,142nm,20.6s,baz=93,slow=37
KURBB Kurchatov Arra 72.03 328 P **P 10 50 13.9 +1.1**
comp=Z,95nm,0.5s,baz=128,slow=4.9,SNR=552
KURBB pP **pP 10 50 43.3 -1.0**
comp=Z,66nm,0.9s,baz=125,slow=4.9,SNR=5.2
KURBB S **S 10 59 19.6 -4.4**
comp=Z,2.8nm,1.0s,baz=123,slow=13,SNR=8.1
KURK Kurchatov 72.03 328 P **P 10 50 13.9 +1.1**
KURK *PP **pP 10 50 43.3 -1.1**
KURK S **S 10 59 19.7 -4.5**
KURK pmax pmax
comp=Z,95nm,0.5s
KURK pmax pmax
comp=Z,66nm,0.9s
KURK smax smax
comp=N,3.0nm,1.0s
KURK Kurchatov 72.03 328 P **P 10 50 13.9 +1.1**
SNR=81
KURK Kurchatov 72.03 328 *e*P **P 10 50 13.5 +0.7**
comp=N,474nm,1.8s
KURK pP **pP 10 50 43.3 -1.1**
KURK S **S 10 59 19.6 -4.5**
NVS Novosibirsk 72.33 334 ⇑*i*P **P 10 50 14.6 +0.2**
NVS *i* *PP **pP 10 50 44.8 -1.2**
NVS *i* S **S 10 59 25.0 -2.3**
NVS *i* *SS SKSac 10 59 56.0 -11
NVS *i* 11 00 20.5
NVS pmax pmax
comp=N,97nm,1.4s
NVS pmax pmax
comp=Z,197nm,1.4s
NVS pmax pmax
comp=E,118nm,1.3s
NVS smax smax
comp=N,48nm,1.8s
NVS smax smax
comp=E,287nm,2.1s
KK31 Karatay Array 72.97 319 P **P 10 50 19.2 +0.6**
KK31 pmax pmax
comp=Z,262nm,1.2s
VNDA Vanda 73.16 173 P **P 10 50 19.4 +0.3**
comp=Z,45nm,0.8s,baz=320,slow=6.4,SNR=112
VNDA LR LR 11 22 44.2
comp=Z,316nm,18.9s,baz=346,slow=36
RER Riviere de l'E 73.39 250 *e*P **P 10 50 22.2 +0.6**
comp=Z,196nm,1.1s
SBA Scott Base 74.04 172 *e*P **P 10 50 25.7 +1.5**
SBA pmax pmax
comp=Z,37nm,0.8s
SBA Scott Base 74.04 172 *e*P **P 10 50 25.7 +1.5**
comp=Z,38nm,0.8s
OTUK Ortayu 74.21 324 P **P 10 50 26.7 +1.0**
MSEY Mahe Island 74.44 267 *e*P **P 10 50 28.5 +0.7**
MSEY pmax pmax
comp=Z,533nm,1.8s
MSEY Mahe Island 74.44 267 P **P 10 50 28.7 +0.9**
SNR=13
MSEY Mahe Island 74.44 267 ⇓*i*P **P 10 50 28.0 +0.2**
SNR=9.6
MSEY Mahe Island 74.44 267 *e*P **P 10 50 28.5 +0.7**
comp=Z,534nm,1.8s
WBK Wadi Bani Khal 75.36 295 P **P 10 50 34.2 +1.3**
SNR=53
MAW Mawson 75.76 201 P **P 10 50 34.4 +0.2**
comp=Z,35nm,0.6s,baz=20,slow=1.5,SNR=7.9
MAW LR LR 11 21 46.0
comp=Z,709nm,20.1s,baz=62,slow=34
JMDO Jabal Madar 76.09 295 P **P 10 50 37.8 +0.8**
SNR=41
SMDO Samad 76.29 295 P **P 10 50 39.1 +0.9**
SNR=60
BSY Bisya 76.98 295 P **P 10 50 43.0 +0.9**
SNR=34
HOQ Hoqain 77.07 296 P **P 10 50 43.6 +1.1**
SNR=80
IDAH Dahanechah 77.15 305 *e*P **P 10 50 44.9 +1.8**
SHAO Shalim 77.48 290 P **P 10 50 45.7 +0.8**
SNR=15
CRZF Crozet Islands 77.54 224 P P 10 50 26.0 -19
CRZF S **SKiKP 10 59 49.0 +3.2**
BVA0 Borovoye Array 77.59 328 P **P 10 50 44.0 -0.7**
BVA0 pmax pmax
comp=Z,161nm,1.3s
ARQ Araqi 77.72 295 P **P 10 50 47.0 +0.9**
SNR=46
TIXI Tiksi 77.74 360*c i*P **P 10 50 44.9 -0.3**
TIXI pmax pmax
comp=Z,140nm,1.6s
TIXI Tiksi 77.74 360 *e*P **P 10 50 44.8 -0.3**
comp=Z,35nm,0.4s
IKOO Kooshah 77.76 305 *e*P **P 10 50 47.8 +1.3**
IMYA Miami 77.99 309 *e*P **P 10 50 48.6 +1.0**
BILL Bilibino 78.31 13*c i*P **P 10 50 48.6 +0.2**
BILL *e* 10 50 57.6
BILL *e**PP **pP 10 51 18.3 -2.2**
BILL *e* 10 53 43.5
BILL *e*S **S 11 00 33.8 +0.8**
BILL *e*SS **SS 11 05 41.6 +3.2**
BILL pmax pmax
comp=Z,28nm,2.1s
BILL Bilibino 78.31 13 *e*P **P 10 50 48.2 -0.3**
HATD Hatta, Dubai 78.39 297 P **P 10 50 50.7 +1.0**
SNR=44
HATD Hatta, Dubai 78.39 297 *i* P **P 10 50 50.5 +0.7**
SNR=35
ASHO Ashiyiah 78.42 297 P **P 10 50 51.0 +1.0**
SNR=47
ASHO Ashiyiah 78.42 297 *i* P **P 10 50 50.7 +0.6**
SNR=57
ISRO Mashad 78.47 309 *e*P **P 10 50 51.5 +1.4**
BANOM Banah 78.48 298 P **P 10 50 51.9 +1.6**
SNR=27
BANOM Banah 78.48 298 ⇓*i*P **P 10 50 50.9 +0.6**
SNR=43
IMOG Moghan 78.51 309 *e*P **P 10 50 51.3 +0.7**
TBI Tubuai 78.61 112 *e*S **S 11 00 35.3 -2.6**
comp=Z,875nm,27.2s
TBI Tubuai 78.61 112 *e*LQ LQ 11 12 06.7
comp=Z,869nm,32.0s
TBI *e*LR LR 11 15 20.4
comp=Z,530nm,38.2s
RBK Rabkut 78.72 289 P **P 10 50 52.3 +0.5**
SNR=70
PAE Paea 78.74 107 *e*pP **pP 10 51 22.9 -1.0**
comp=Z,12nm,1.1s
PAE *e*sP sP 10 51 32.3 -5.2
comp=Z,29nm,1.2s
PPT2 Papeete2 78.75 107 *e*pP **pP 10 51 23.2 -0.8**
comp=Z,32nm,1.4s
PPT2 *e*sP sP 10 51 32.8 -4.9
comp=Z,127nm,1.1s
PPT2 *e*S **S 11 00 36.2 -3.5**
comp=Z,322nm,25.2s
PPT2 Papeete2 78.75 107 *e*LQ LQ 11 12 15.5
comp=Z,683nm,30.5s
PPT2 *e*LR LR 11 15 35.5
comp=Z,1μm,41.5s
PPT Papeete 78.75 107 P **P 10 50 54.0 +2.1**
comp=Z,14nm,0.6s,baz=252,slow=20,SNR=4.2
NAZ Nazwa, Dubai 78.84 297 P **P 10 50 53.1 +0.8**
SNR=30
NAZ Nazwa, Dubai 78.84 297 *i* P **P 10 50 52.8 +0.6**
SNR=28
FAQ Al Faqa, Dubai 78.85 297 *i* P **P 10 50 52.9 +0.6**
SNR=57
IPAY Payeh 78.87 309 *e*P **P 10 50 53.7 +1.2**
TIAR Tiarei 78.97 107 *e*pP **pP 10 51 24.4 -0.8**
comp=Z,16nm,1.1s
TIAR *e*sP sP 10 51 34.0 -4.8
comp=Z,44nm,1.1s
TVO Taravao 79.05 107 *e*pP **pP 10 51 25.1 -0.6**
comp=Z,16nm,1.2s
TVO *e*sP sP 10 51 34.5 -4.8
comp=Z,55nm,1.4s
ASUD Al Ashush, Dub 79.06 296 P **P 10 50 54.9 +1.5**
SNR=23
ASUD Al Ashush, Dub 79.06 296 ⇓*i*P **P 10 50 54.4 +1.0**
SNR=31
IAKL Akhelmad 79.10 309 *e*P **P 10 50 54.6 +0.8**
IKRD Kardeh 79.33 309 *e*P **P 10 50 52.7 -2.4**
ABTO Aybut 79.55 289 P **P 10 50 57.0 +0.7**
SNR=64
UNV Unalaska Valle 79.71 33 *e*P **P 10 50 57.3 +1.0**
comp=Z,38nm,0.6s
ISFR Sfrayin 79.81 309 *e*P **P 10 50 58.6 +1.0**
GEYT Alibeck 79.96 310 P **P 10 50 59.2 +1.1**
comp=Z,24nm,0.5s,baz=146,slow=3.2,SNR=63
GEYT pP **pP 10 51 29.9 -0.4**
comp=Z,15nm,0.9s,baz=159,slow=4.6,SNR=2.3
GEYT LR LR 11 34 27.2
comp=Z,121nm,18.4s,baz=65,slow=42
MEH Mehetia 80.17 107 *e*pP **pP 10 51 30.6 -1.2**
comp=Z,70nm,1.3s
MEH *e*sP sP 10 51 39.9 -5.5
IBAF Bafgh 80.38 303 *e*P **P 10 51 00.9 +0.2**
PMOR Pomariorio Ree 80.52 104 *e*P **P 10 51 02.8 +1.3**
comp=Z,48nm,0.8s
PMOR *e*pP **pP 10 51 32.5 -1.2**
comp=Z,162nm,1.3s
PMOR *e*sP **sP 10 51 42.1 -5.1**
comp=Z,231nm,1.1s
VAH Vaihoa 80.76 104 *e*pP **pP 10 51 33.8 -1.2**
VAH *e*sP sP 10 51 43.4 -5.1
comp=Z,102nm,1.2s
ABPO Ambohimpanom 81.47 252 *e*P **P 10 51 07.2 +0.5**
ABPO pmax pmax
comp=Z,132nm,1.7s
ABPO Ambohimpanom 81.47 252 *e*P **P 10 51 07.2 +0.5**
comp=Z,132nm,1.7s
ICHK Chekchek 81.49 304 *e*P **P 10 51 06.8 +0.2**
ISRV Sarvestan 81.97 301 *e*P **P 10 51 09.8 +0.4**
AB31 Akbulak array 82.11 321 P **P 10 51 09.2 0.0**
AB31 pmax pmax
comp=Z,18nm,0.5s
ABKAR Akbulak array 82.11 321 ⇑P **P 10 51 09.7 +0.5**
baz=82
GAMB Gambell 82.11 22 *e*P **P 10 51 10.0 +1.2**
comp=Z,105nm,1.6s
IANJ Anjilo 82.61 307 *e*P **P 10 51 12.9 +0.4**
IGLO Ghaloghah 82.91 308 *e*P **P 10 51 13.0 -0.9**
IKAZ Kazeroun 83.14 301 *e*P **P 10 51 15.3 0.0**
MUKL Al Mukalla 83.14 285 *e*P **P 10 51 15.4 +0.2**
ISHM Shahmirzad 83.18 307 *e*P **P 10 51 16.1 +0.7**
ILAS Lasjerd 83.36 307 *e*P **P 10 51 16.5 +0.3**
IFIR Firoozkooh 83.57 307 *e*P **P 10 51 17.2 -0.2**
IALA Alasht 83.62 307 *e*P **P 10 51 18.6 +0.9**
AKTO Aktyubinsk 83.66 322 P **P 10 51 17.7 +0.5**
comp=Z,27nm,0.5s,baz=111,slow=7.7,SNR=56
AKTO S **S 11 01 24.9 -4.1**
comp=Z,0.9nm,0.6s,baz=204,slow=20,SNR=9.9
QSPA South Pole Qui 83.73 180 *e*P **P 10 51 16.9 -0.5**
comp=Z,77nm,0.9s
IPRN Peran 84.03 307 *e*P **P 10 51 19.9 +0.4**
IDMV Damavand 84.14 307 *e*P **P 10 51 20.6 +0.3**
IVRN Varamin 84.26 306 *e*P **P 10 51 21.3 +0.7**
SVE Sverdlovsk 84.28 329*d i*P **P 10 51 20.5 +0.4**
SVE *e*S S 11 01 28.6 -6.4
SVE pmax pmax
comp=Z,269nm,1.5s
TNA Tin City 84.41 22 *e*P **P 10 51 21.5 +0.9**
comp=Z,78nm,1.3s
SYO Syowa Base 84.47 201 ⇓*e*P P 10 51 17.0 -3.9
SYO Syowa Base 84.47 201 ⇓*i*P **P 10 51 19.9 -1.0**
IPIR Pirpir 84.49 304 *e*Pn **P 10 51 21.4 -0.8**
IR3 Iran Long-Peri 84.92 306 *e*P **P 10 51 25.1 +1.0**
ARU Arti 85.23 328*c i*P **P 10 51 24.2 -0.7**
ARU *PP **pP 10 51 53.9 -3.5**
ARU *SP **sP 10 52 10.5 -0.4**
ARU 10 54 41.6
ARU S **SKSac 11 01 38.4 +0.6**
ARU pmax pmax
comp=Z,191nm,1.7s
ARU Arti 85.23 328 *e*P **P 10 51 24.1 -0.8**
comp=Z,100nm,0.9s
IGZV Ghazvin 85.74 307 *e*P **P 10 51 28.4 +0.2**
IRAZ Razeghan 85.78 306 *e*P **P 10 51 29.4 +1.0**
SOKR Solikamsk 87.11 331*c i*P **P 10 51 33.3 -0.7**
SOKR *PP **pP 10 52 03.9 -2.7**
SOKR S **S 11 01 58.7 -3.7**
SOKR pmax pmax
comp=Z,80nm,1.3s
IBZA Bozab 87.30 305 *e*P **P 10 51 35.4 -0.5**
IKOM Komasi 87.53 305 *e*P **P 10 51 36.5 -0.4**
DHBB Dhamar BB 87.61 285 *e*P **P 10 51 38.9 +1.0**
RAYN Ar Rayn 87.72 294 *e*P **P 10 51 38.1 +0.3**
comp=Z,251nm,0.9s
ILIN Lien 88.10 305 *e*P **P 10 51 39.0 -0.7**
KDAK Kodiak Island 88.42 31*c e*P **P 10 51 41.4 +1.1**
IDHR Dehrash 88.53 305 *e*P **P 10 51 40.6 -1.1**
IBST Bostanabad 88.58 308 *e*P **P 10 51 40.3 -1.6**
MAK Makhachkala 88.96 313 *e*P **P 10 51 43.7 +0.5**
MAK *e**PP **pP 10 52 16.4 +0.4**
MAK *e**SP **sP 10 52 28.9 -0.5**
MAK *e* 10 55 14.1
MAK *e*S **SKKSac 11 02 11.7 -1.4**
IAZR Azarshahr 89.30 308 *e*P **P 10 51 46.0 +0.7**
PPLA Purkeypile 89.86 27 *e*P **P 10 51 47.4 +0.2**
comp=Z,9.8nm,0.6s
KTH Kantishna Hill 90.57 26 *e*P **P 10 51 50.1 -0.3**
comp=Z,20nm,1.1s
RC01 Rabbit Creek A 90.59 29 *e*P **P 10 51 49.6 -0.8**
comp=Z,19nm,0.8s
GNI Garni 90.60 310*c e*P **P 10 51 52.2 +1.0**
GNI pmax pmax
comp=Z,46nm,1.6s
GNI Garni 90.60 310 *e*P **P 10 51 52.1 +0.9**
comp=Z,13nm,0.8s
TRF Thorofare Moun 90.83 26 *e*P **P 10 51 51.1 -0.6**
comp=Z,40nm,1.7s
PMR Palmer 90.97 28 *e*P **P 10 51 49.9 -2.2**
PMR pmax pmax
comp=Z,112nm,2.7s
PMR Palmer 90.97 28 *e*P **P 10 51 49.9 -2.2**
comp=Z,112nm,2.7s
MCK McKinley 91.48 26 *e*P **P 10 51 53.8 -0.7**
MCK pmax pmax
comp=Z,36nm,1.3s
MCK McKinley 91.48 26 *e*P **P 10 51 53.8 -0.7**
comp=Z,36nm,1.3s
ZEI Tsey 91.56 313 *e*P **P 10 51 54.2 -1.4**
ZEI pmax pmax
comp=Z,33nm,1.3s
COLD Coldfoot 91.66 23 *e*P **P 10 51 55.7 +0.4**
comp=Z,40nm,1.0s
RKT Rikitea 91.90 113 *e*SKSac **SKSac 11 02 19.3 +0.3**
comp=Z,382nm,28.2s
RKT *e*SP **SP 11 03 55.9 -2.9**
comp=Z,313nm,29.8s
RKT Rikitea 91.90 113 *e*LQ LQ 11 17 39.0
comp=Z,434nm,31.8s
RKT *e*LR LR 11 21 40.6
comp=Z,446nm,38.5s
COLA College 92.15 25*c i*P **P 10 51 56.4 -1.1**
COLA pmax pmax
comp=Z,150nm,2.2s
COLA College 92.15 25 *e*P **P 10 51 56.3 -1.1**
comp=Z,12nm,0.8s
KBZ Khabaz 92.39 314 P **P 10 51 59.0 -0.1**
comp=Z,2.8nm,0.6s,baz=158,slow=0.9,SNR=8.4
DIV Divide 92.49 29 *e*P **P 10 51 59.5 +0.2**
comp=Z,11nm,0.6s
ILAR Eielson Array 92.54 25 P **P 10 51 58.1 -1.2**
comp=Z,10nm,0.7s,baz=275,slow=4.4,SNR=105
ILAR PKKPbc **PKKPdf 11 09 11.2 -1.0**
comp=Z,1.0nm,0.9s,baz=39,slow=0.5,SNR=8.5
ILAR LR LR 11 29 33.2
comp=Z,123nm,20.3s,baz=272,slow=33
KIV Kislovodsk 92.57 314*c e*P **P 10 52 00.0 -0.1**
KIV *e* 10 55 43.9
KIV *i* S S 11 02 47.2 -6.6
KIV *e*SS SS 11 09 20.4 +12
KIV pmax pmax
comp=Z,22nm,1.7s
PAX Paxson 92.89 27 *e*P **P 10 52 00.8 -0.3**
PAX pmax pmax
comp=Z,76nm,1.6s
PAX Paxson 92.89 27 *e*P **P 10 52 00.8 -0.3**
comp=Z,76nm,1.6s
KMBO Kilima Mbogo 92.91 269 P **P 10 52 03.5 +1.1**
SNR=21
KMBO Kilima Mbogo 92.91 269 P **P 10 52 02.5 0.0**
comp=Z,15nm,0.9s,baz=68,slow=5.7,SNR=44
KMBO LR LR 11 28 44.9
comp=Z,142nm,21.8s,baz=96,slow=32
KMBO Kilima Mbogo 92.91 269 ⇑P **P 10 52 03.6 +1.1**
baz=93,SNR=6.4
KMBO Kilima Mbogo 92.91 269 *e*P **P 10 52 03.4 +0.9**
PRGR Permogore 92.92 332 *e*P P 10 51 57.4 -3.7
PRGR *e**PP pP 10 52 29.1 -4.9
PRGR 10 55 41.2
PRGR pmax pmax
comp=Z,34nm,0.6s
BMRM Bremner River 93.03 29 *e*P **P 10 52 01.7 -0.1**
comp=Z,15nm,0.9s
MZRK Al-Mazaregh 93.33 306 *e*P **P 10 52 05.2 +1.5**
DOT Dot Lake 93.61 26 *e*P **P 10 52 04.2 -0.1**
comp=Z,10nm,0.8s
VRHR Novokhopersk 93.98 321 *e*P **P 10 52 04.4 -1.9**
VRHR pmax pmax
comp=N,5.0nm,0.6s
VRHR pmax pmax
comp=E,7.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
KSRV Kasrt alli 94.67 305 *e*P **P 10 52 10.4 +0.5**
SOC Sochi 94.68 313 *e*P **P 10 52 06.9 -2.8**
SOC *e*S **SKSac 11 02 32.2 -1.1**
EGAK Eagle 94.98 25 *e*P **P 10 52 10.3 -0.2**
comp=Z,24nm,1.0s
VORD Divnogorie 95.44 321 *e*P **P 10 52 11.1 -1.8**
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,30nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 95.53 321 *e*P **P 10 52 11.3 -2.1**
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
DAWY Dawson 95.70 26 *e*P **P 10 52 14.3 +0.4**
KLMR Klimovskoe 95.79 331 *e*P P 10 52 10.4 -3.9
KLMR *e**PP pP 10 52 41.8 -5.4
KLMR pmax pmax
comp=Z,72nm,1.1s
ZALF Zalf 95.84 302 *e*P **P 10 52 15.9 +0.6**
ROOS tl_alroos 95.95 304 *e*P **P 10 52 16.6 +0.8**
ASF Jabal al Asfar 96.16 302 P **P 10 52 17.2 +0.4**
comp=Z,7.7nm,0.8s,baz=119,slow=2.2,SNR=14
ANN Anapa 96.39 314 *e* **SKSac 11 02 39.7 -2.6**
ANN pmax pmax
comp=Z,49nm,1.1s
SNAA Sanae 96.46 193 P **P 10 52 17.8 +0.5**

SNAA Sanae 96.46 193 P PKKPbc 11 08 59.1 -5.4
SNAA Sanae 96.46 193c *i*P **P 10 52 17.6 +0.2**
SNAA pmax pmax
comp=Z,41nm,1.3s
SNAA Sanae 96.46 193 *e*P **P 10 52 17.4 0.0**
comp=Z,46nm,1.4s
HYT Haines Junctio 96.48 30 *e*P **P 10 52 18.1 +0.4**
TMCR Tamitsa 96.57 334 *e*P **P 10 52 15.6 -2.1**
TMCR *e* 10 56 13.8
TMCR pmax pmax
comp=Z,54nm,1.3s
MOS Moscow 96.62 325 *e*P **P 10 52 15.3 -2.9**
MOS *e* 10 56 18.4
WRDH Warideh 96.75 305 *e*P **P 10 52 19.2 -0.1**
BIDA Albida 96.80 304 *e*P **P 10 52 19.1 -0.5**
BRBR Barbar 97.03 303 *e*P **P 10 52 20.4 -0.5**
OBN Obninsk 97.22 325*c i*P **P 10 52 19.6 -1.3**
OBN *e**PP **pP 10 52 50.5 -3.3**
OBN *i* 10 56 22.4
OBN pmax pmax
comp=Z,70nm,1.5s
OBN Obninsk 97.22 325 P **P 10 52 19.5 -1.3**
comp=Z,20nm,0.3s,baz=88,slow=2.3,SNR=7.6
MMAI Mount Meron Ar 97.47 302 P Pdif 10 52 23.4 +0.7
comp=Z,2.5nm,0.5s,baz=129,slow=6.6,SNR=5.2
EIL Elat 97.69 299 P Pdif 10 52 23.9 +0.1
comp=Z,4.6nm,0.6s,baz=58,slow=0.9,SNR=4.1
VNA2 Neumayer--Watz 98.03 193 P Pdif 10 52 24.8 +0.4
VNA2 Neumayer--Watz 98.03 193 P **PKKPbc 11 08 56.6 -3.5**
baz=332,slow=6.2
INK Inuvik 98.05 22 *e*P **P 10 52 24.0 -0.4**
INK pmax pmax
comp=Z,19nm,1.1s
INK Inuvik 98.05 22 *e*P **P 10 52 24.0 -0.4**
comp=Z,20nm,1.1s
VNA3 Neumayer Olymp 98.28 192 P **P 10 52 25.1 -0.4**
VNA3 Neumayer Olymp 98.28 192 P **PKKPbc 11 08 56.0 -3.5**
APA Apatity 98.37 337⇑ *i*P **P 10 52 25.4 -0.4**
APA *i* 11 02 46.0
APA *i* S S 11 03 36.0 -6.8
APA *i* PS PS 11 05 14.0 -10
APA *i* SS **SS 11 10 28.0 -1.4**
BRTR Keskin Array B 99.08 309 P **Pdif 10 52 29.0 -0.9**
comp=Z,3.1nm,0.8s,baz=136,slow=5.5,SNR=12
BRTR PKKPbc **PKKPbc 11 08 56.2 -0.2**
comp=Z,1.1nm,0.8s,baz=151,slow=2.8,SNR=4.8
BRTR LR LR 11 44 59.4
comp=Z,77nm,20.9s,baz=92,slow=40
JOF Joensuu 99.62 333 *e*P **Pdif 10 52 30.0 -1.5**
JOF pmax pmax
comp=Z,11nm,0.5s
JOF Joensuu 99.62 333 *e*p **Pdif 10 52 30.0 -1.5**
comp=Z,11nm,0.5s
LSZ Lusaka 99.97 253 *e*P **Pdif 10 52 34.0 -0.3**
LSZ pmax pmax
comp=Z,16nm,1.1s
LSZ Lusaka 99.97 253 *e*Pdif **Pdif 10 52 34.0 -0.3**
comp=Z,16nm,1.1s
LBTB Lobatse 100.58 243 *e*P **Pdif 10 52 37.0 +0.2**
LBTB pmax pmax
comp=Z,22nm,1.4s
LBTB Lobatse 100.58 243 *e*Pdif **Pdif 10 52 37.0 +0.2**
comp=Z,22nm,1.4s
SPITS Spitsbergen Ar 100.89 349 P **Pdif 10 52 36.5 -0.5**
comp=Z,8.7nm,0.6s,baz=92,slow=8.3,SNR=25
SPITS PKiKP **PKiKP 10 57 02.3 +0.6**
comp=Z,15nm,1.2s,baz=141,slow=3.2,SNR=4.2
ARCES ARCESS Array B 100.98 340 P **Pdif 10 52 37.0 -0.4**
comp=Z,6.3nm,0.5s,baz=75,slow=5.0,SNR=26
ARCES PKiKP **PKiKP 10 57 02.8 +0.7**
comp=Z,2.9nm,0.9s,baz=90,slow=1.2,SNR=6.1
AKASG Malin Array Be 101.82 320 P **Pdif 10 52 40.4 -1.2**
comp=Z,2.1nm,0.6s,baz=76,slow=3.3,SNR=6.9
KAF Kangasniemi 102.03 332 *e*P **Pdif 10 52 39.7 -2.5**
KAF pmax pmax
comp=Z,8.0nm,0.6s
KAF Kangasniemi 102.03 332 *e*p **Pdif 10 52 39.7 -2.5**
comp=Z,7.6nm,0.6s
FINES FINESS Array B 102.25 332 P **Pdif 10 52 42.3 -0.9**
comp=Z,6.4nm,0.7s,baz=64,slow=5.4,SNR=19
FINES PKiKP **PKiKP 10 57 04.8 +0.3**
comp=Z,2.2nm,0.6s,baz=114,slow=4.6,SNR=4.0
TIRR Tirgusor 102.83 314⇑ *i*P **PP 10 57 03.0 +1.3**
CFR Carcaliu 102.98 315⇓ *i*P **PP 10 56 58.4 -4.3**
TLB Topalu 103.09 314⇑ *i*P **PP 10 57 01.2 -2.4**
MSAB Monastry St. A 103.28 314⇑ *i*P **PP 10 57 07.1 +2.1**
TESR Tescani 103.90 316⇑ *i*P **PP 10 57 13.7 +4.1**
VRI Vrincioaia 103.91 316⇓ *i*P **PP 10 57 07.8 -1.9**
PLOR Plostina 103.96 316⇑ *i*P **PP 10 57 08.1 -2.0**
ISR Istrita 104.11 315⇑ *i*P **PP 10 57 15.7 +4.5**
JMB Yambol 104.31 312⇓ *i*P **PP 10 57 12.4 -0.3**
MLR Muntele Rosu 104.49 315⇓ *i*P **PP 10 57 17.5 +3.3**
MLR Muntele Rosu 104.49 315 Pdiff **Pdif 10 52 53.8 +0.1**
comp=Z,0.6nm,0.7s,baz=267,slow=1.6,SNR=4.2
VOIR 105.12 315⇓ *i*P **PP 10 57 23.6 +4.8**
TRPA Tarpa 106.46 318⇑ *i*P PP 10 57 36.0 +7.6
KOLS Kolonicke sedl 106.51 319 *e*P **Pdif 10 53 03.1 +0.6**
KOLS Kolonicke sedl 106.51 319 PDIF **Pdif 10 53 03.1 +0.6**
UZH Uzhgorod 106.54 319 *e*P **Pdif 10 53 02.7 +0.1**
UZH *e* 10 57 29.8
DRGR 106.56 317⇓ *i*P **PP 10 57 29.1 -0.2**
VTS Vitosha 106.78 313⇓ *i*P **PP 10 57 28.4 -2.7**
RES Resolute Bay 106.88 11 Pdiff **Pdif 10 53 04.1 +0.5**
comp=Z,2.2nm,0.6s,baz=295,slow=5.3,SNR=20
YKA Yellowknife Ar 106.94 26 Pdiff **Pdif 10 53 04.2 +0.1**
comp=Z,0.4nm,0.6s,baz=293,slow=4.8,SNR=12
YKA PKiKP **PKiKP 10 57 12.9 -0.2**
comp=Z,3.4nm,0.6s,baz=295,slow=1.7,SNR=78
YKA PKKPbc **PKKPbc 11 08 29.1 -4.6**
comp=Z,1.2nm,0.6s,baz=114,slow=3.3,SNR=19
DAG Danmarks Havn 107.54 353 *i*P **PKiKP 10 57 13.6 -0.3**
comp=Z,2.2nm,0.9s
DAG Danmarks Havn 107.54 353 *i*P **PKKPbc 11 08 27.9 -4.4**
DAG *i* S PKKPab 11 08 57.9 +14
J05D Fort Rock, OR 107.68 47⇑PKiKP **PKiKP 10 57 16.3 +0.9**
baz=108
PSZ Piszkesteto 108.25 318⇑ *i*P **PP 10 57 45.3 +3.7**
HFS Hagfors 108.44 332 Pdiff **Pdif 10 53 09.9 -0.9**
comp=Z,3.5nm,0.6s,baz=131,slow=4.3,SNR=14
HFS PKKPbc **PKKPbc 11 08 26.2 -2.8**
comp=Z,1.7nm,0.5s,baz=155,slow=4.2,SNR=8.9
NB2 NORSAR Subarra109.25 333 P **Pdif 10 53 13.1 -1.3**
comp=Z,5.6nm,0.9s,baz=70,slow=4.6
NB2 NORSAR Subarra109.25 333 PKPdf **PKiKP 10 57 18.0 +0.4**
comp=Z,7.2nm,1.4s,baz=248,slow=1.9
NB2 NORSAR Subarra109.25 333 PKPdf **PKiKP 10 57 18.0 +0.4**
baz=248,slow=1.9
NB2 NORSAR Subarra109.25 333 P **Pdif 10 53 13.1 -1.3**
baz=70,slow=4.6
NOA NORSAR Array B 109.25 333 Pdiff **Pdif 10 53 12.8 -1.6**
comp=Z,2.8nm,0.8s,baz=70,slow=4.5,SNR=8.3
NOA pPdiff **pPdif 10 53 43.8 -3.6**
comp=Z,2.5nm,0.9s,baz=69,slow=4.5,SNR=4.6
NOA PKiKP **PKiKP 10 57 17.7 +0.1**
comp=Z,2.4nm,0.9s,baz=60,slow=7.2,SNR=4.4
NOA PKKPbc **PKKPbc 11 08 24.6 -2.0**
comp=Z,1.3nm,0.7s,baz=68,slow=3.2,SNR=5.6
MORC Moravsky Berou 109.37 321⇓ *i*P **PKiKP 10 57 19.2 +1.1**
MORC Moravsky Berou 109.37 321 *e*PKPdf **PKiKP 10 57 18.9 +0.7**
DPC Dobruska-Polom 109.99 321 *e*PKP **PKiKP 10 57 19.4 +0.1**
DPC *e*PP PP 10 57 48.6 -5.4
DPC AMS AMS 11 52 30.0
VRAC Vranov 110.08 320⇑ *i*P PP 10 58 01.2 +6.5
UPC Upice 110.14 322 *e*PP PP 10 57 51.7 -3.3
NVAR Mina Array Bea 110.59 51 Pdiff **Pdif 10 53 24.6 +3.4**
comp=Z,1.1nm,0.7s,baz=252,slow=4.6,SNR=3.5
NVAR PKiKP **PKiKP 10 57 22.2 +1.2**
comp=Z,1.1nm,0.7s,baz=260,slow=2.2,SNR=5.9
NVAR PKKPbc **PKKPbc 11 08 20.6 -1.0**
comp=Z,0.9nm,0.6s,baz=105,slow=4.0,SNR=5.6
PRU Pruhonice 111.19 321 *e*PP PP 10 57 59.3 -3.3
BRG Berggiesshubel 111.30 322 *e*PDIF **PKiKP 10 57 22.0 +0.3**
comp=Z,21nm,1.7s
BRG pPDIF 10 57 55.5
comp=Z,13nm,1.4s
comp=N,297nm,27.1s
comp=E,203nm,22.2s
comp=Z,351nm,22.7s
BRG Berggiesshubel 111.30 322 *e*PKIKP **PKiKP 10 57 22.0 +0.3**
BRG *PP PP 10 57 55.5 -7.8
BRG pmax pmax
comp=Z,21nm,1.7s
BRG MLR MLR
comp=N,297nm,27.1s
BRG MLR MLR
comp=E,203nm,22.2s
BRG MLR MLR
comp=Z,351nm,22.7s
EDW2 Edwards Air Fo 111.33 55⇑PKiKP **PKiKP 10 57 23.0 +0.7**
baz=111
MPMC Manual Prospec 111.58 54⇑PKiKP **PKiKP 10 57 24.1 +1.1**
baz=112
CLL Collm 111.73 323 *e*PKIKP **PKiKP 10 57 22.0 -0.5**
CLL *e* 10 58 05.0
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 111.73 323 *e*PKiKP **PKiKP 10 57 22.0 -0.5**
comp=Z,7.0nm,0.8s
CLL *e*PP **PP 10 58 05.0 -1.4**
CLL *es*PP 10 58 47.0
CLL *ep*SKSac **pSKSac 11 04 42.0 +2.9**
CLL *e*Sdif Sdif 11 05 35.0 0.0
CLL *e*SP **SP 11 07 24.0 -1.2**
CLL *e*(pSP) 11 08 14.0
CLL *e*PPS PPS 11 08 46.0
CLL *es*PPS 11 09 23.0
CLL *e*SS **SS 11 13 36.0 +3.6**
CLL *e*SSS SSS 11 17 42.0
CLL *e* 11 24 48.0
SWMT Swartz Lake 111.82 41 *e*PKPdf **PKiKP 10 57 23.4 +0.4**
KHC Kasperske Hory 112.03 321 *e*PKIKP **PKiKP 10 57 23.1 -0.1**
KHC Kasperske Hory 112.03 321 *e*PKP **PKiKP 10 57 23.1 -0.1**
KHC *e*PP PP 10 58 01.3 -7.4
GERES GERESS Array B 112.03 320 PKiKP **PKiKP 10 57 23.5 +0.2**
comp=Z,4.1nm,0.5s,baz=73,slow=1.8,SNR=18
MSO Missoula 112.03 42⇑PKiKP **PKiKP 10 57 23.9 +0.6**
baz=112
MURC Murrieta 112.15 56⇓PKiKP **PKiKP 10 57 24.2 +0.3**
baz=112
SLMT Seeley Lake 112.22 41 *e*PKPdf **PKiKP 10 57 24.0 +0.2**
GSC Goldstone, Bar 112.24 54⇓PKiKP **PKiKP 10 57 25.1 +1.0**
baz=112
TPNV Topopah Spring 112.43 53⇑PKiKP **PKiKP 10 57 25.6 +1.1**
baz=112
HLID Hailey 112.51 45⇑PKiKP **PKiKP 10 57 25.8 +1.4**
baz=113
HLID Hailey 112.51 45 *e*PKPdf **PKiKP 10 57 26.1 +1.6**
R11A Troy Canyon, C 112.71 51⇑PKiKP **PKiKP 10 57 25.6 +0.6**
baz=113
KBA Koelnbreinsper 112.76 319⇓ *i*PKiKP **PKiKP 10 57 23.7 -1.2**
comp=Z,4.5nm,0.9s
PFO Pinyon Flats O 112.76 56⇓PKiKP **PKiKP 10 57 25.7 +0.5**
baz=113
MONP Monument Peak, 112.89 57⇑PKiKP **PKiKP 10 57 26.3 +0.8**
baz=113
BELC Belle Mtn. Jos 113.09 56⇓PKiKP **PKiKP 10 57 27.0 +1.2**
baz=113
GMRC Granite Mounta 113.25 55⇓PKiKP **PKiKP 10 57 27.5 +1.4**
baz=113
GRF Grafenberg Arr 113.33 322 *e*PP PP 10 58 15.9 -1.9
SHPR Sheep Range 113.37 53 *e*PKPdf **PKiKP 10 57 28.2 +1.9**
SUMG Summit 113.38 356 *i*PKIKP **PKiKP 10 57 26.3 +0.7**
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 113.38 356 *i*P **PKiKP 10 57 26.3 +0.7**
comp=Z,7.8nm,0.8s
SUMG Summit 113.38 356 *e*PKPdf **PKiKP 10 57 26.3 +0.7**
ABTA Abfaltersbach 113.40 318⇑ *i*PKiKP **PKiKP 10 57 24.5 -1.4**
comp=Z,18nm,1.3s
BC3 Big Chuckawall 113.58 56⇓PKiKP **PKiKP 10 57 27.8 +1.1**
baz=114
WTTA Wattenberg 113.82 319⇑ *i*PKiKP **PKiKP 10 57 26.8 -0.1**
comp=Z,26nm,0.5s
WATA Walderalm 113.84 319⇓ *i*PKPdf **PKiKP 10 57 25.8 -1.1**
comp=Z,7.5nm,0.5s
MOTA Moosalm 114.14 319⇓ *i*PKiKP PKPdf 10 57 27.2 -0.3
comp=Z,7.6nm,0.5s
EGMT Eagleton 114.41 40⇓PKiKP **PKiKP 10 57 27.9 +0.1**
baz=114
DUG Dugway, Tooele 114.44 49 *e*PKIKP PKPdf 10 57 29.4 +1.2
DUG Dugway, Tooele 114.44 49⇑PKiKP **PKiKP 10 57 28.8 +0.6**
baz=114
DUG Dugway, Tooele 114.44 49 *e*PKPdf PKPdf 10 57 29.4 +1.2
FETA Feichten 114.49 319⇑ *i*PKiKP **PKiKP 10 57 28.2 0.0**
comp=Z,9.9nm,0.9s
PDMCI Parker Dam,Lak 114.56 55⇑PKiKP **PKiKP 10 57 28.9 +0.5**
baz=115
W13A Hualapai Mount 114.63 54⇓PKiKP **PKiKP 10 57 29.9 +1.1**
baz=115
A19A Klindworth Far 114.74 39⇑PKiKP PKPdf 10 57 28.6 +0.2
baz=115
B19A Brinkman Farms 114.77 39⇑PKiKP PKPdf 10 57 29.5 +1.0
baz=115
C19A Slack Wire Ran 114.95 40⇑PKiKP PKPdf 10 57 29.4 +0.5
baz=115
DAVA Damuels 114.95 320⇑ *i*PKiKP PKPdf 10 57 29.1 +0.1
comp=Z,14nm,0.5s
H17A Grant Village 114.97 44⇑PKiKP PKPdf 10 57 30.9 +1.6
baz=115
H17A Grant Village 114.97 44 *e*PKPdf PKPdf 10 57 31.1 +1.8
I17A Pilgrim Ck. 115.11 44⇑PKiKP **PKPdf 10 57 30.5 +1.0**
baz=115
DAVOX Davos/Dischmat 115.12 319 PKP **PKPdf 10 57 29.8 +0.4**
comp=Z,7.3nm,0.5s,baz=16,slow=7.4,SNR=14
113A Mohawk Valley, 115.12 57⇓PKiKP **PKPdf 10 57 30.6 +1.1**
baz=115
D19A Cripps Ranch, 115.25 40⇑PKiKP **PKPdf 10 57 29.6 +0.1**
baz=115
A20A Cobblestone Ra 115.26 38⇑PKiKP **PKPdf 10 57 29.7 +0.3**
baz=115
B20A Solberg Farm, 115.36 39⇑PKiKP **PKPdf 10 57 29.9 +0.3**
baz=115
E19A Rath Farm, Rou 115.54 41⇑PKiKP **PKPdf 10 57 30.4 +0.3**
baz=116
TUE Stuetta 115.56 319 *e*PKPdf **PKPdf 10 57 30.1 -0.1**
C20A Veseth Ranch, 115.62 40⇑PKiKP **PKPdf 10 57 30.5 +0.4**
baz=116
F19A Roth Farm, Mol 115.63 42⇓PKiKP **PKPdf 10 57 30.8 +0.5**
baz=116
U15A North Rim 115.65 53⇓PKiKP **PKiKP 10 57 32.0 +1.1**
baz=116
Z14A Wintersburg 115.70 56⇓PKiKP **PKiKP 10 57 31.6 +0.9**
baz=116
D20A Manuel Ranch, 115.75 40⇑PKiKP **PKPdf 10 57 31.1 +0.7**
baz=116
A21A Bergtoll Ranch 115.83 38⇓PKiKP **PKiKP 10 57 30.9 +0.4**
baz=116
TMUT Trail Mountain 115.86 49 *e*PKPdf **PKPdf 10 57 32.5 +1.3**
E20A Meyer Farm, Mu 115.95 41⇓PKiKP **PKiKP 10 57 31.0 +0.2**
baz=116
H19A Powell 115.97 43⇓PKiKP **PKiKP 10 57 31.7 +0.7**
baz=116
B21A Ellsworth Farm 115.98 39⇓PKiKP **PKiKP 10 57 31.3 +0.5**
baz=116
BW06 Boulder Array 116.15 45 *e*PKPdf **PKPdf 10 57 31.9 +0.3**
PDAR Pinedale Array 116.15 45 PKP **PKPdf 10 57 31.8 +0.2**
comp=Z,2.5nm,0.8s,baz=215,slow=0.8,SNR=16
PDAR PKKPbc **PKKPbc 11 08 01.2 -1.9**
comp=Z,2.1nm,0.9s,baz=127,slow=5.2,SNR=9.0
C21A Desert Coulee 116.15 39⇑PKiKP **PKiKP 10 57 31.7 +0.5**
baz=116
F20A Billings 116.17 42⇓PKiKP **PKiKP 10 57 32.3 +1.0**
baz=116
G20A Bridger 116.32 42⇓PKiKP **PKiKP 10 57 32.4 +0.7**
baz=116
J19A Crowheart 116.36 45⇓PKiKP **PKiKP 10 57 32.3 +0.4**
baz=116
A22A Carney Farms, 116.45 38⇑PKiKP **PKiKP 10 57 32.2 +0.5**
baz=116
WUAZ Wupatki 116.57 53⇓PKiKP **PKiKP 10 57 33.2 +0.7**
baz=117
E21A Keefer Ranch, 116.62 41⇓PKiKP **PKiKP 10 57 32.9 +0.8**
baz=117
B22A Reddig Ranch S 116.66 38⇑PKiKP **PKiKP 10 57 32.8 +0.6**
baz=117
HINF Hinteralfeld 116.69 321 *e*PKIKP **PKPdf 10 57 31.8 -0.4**
comp=Z,14nm,0.6s
HINF Hinteralfeld 116.69 321 *e*PKIKP **PKPdf 10 57 31.8 -0.4**
HINF Hinteralfeld 116.69 321 *e*PKPdf **PKPdf 10 57 31.8 -0.4**
H20A Greybull 116.70 43⇓PKiKP **PKiKP 10 57 33.0 +0.6**
baz=117
X16A Lo Mia Camp, P 116.74 55⇑PKiKP **PKiKP 10 57 34.1 +1.2**
baz=117
I20A Worland 116.78 44⇑PKiKP **PKiKP 10 57 33.3 +0.6**
baz=117
HAU Haudompre 116.93 321 *e*PKIKP **PKPdf 10 57 32.6 0.0**
HAU Haudompre 116.93 321 *e*PKIKP **PKPdf 10 57 32.6 0.0**
HAU Haudompre 116.93 321 *e*PKPdf **PKPdf 10 57 32.6 0.0**
D22A Cohagen 116.98 40⇓PKiKP **PKiKP 10 57 33.4 +0.6**
baz=117
G21A Lodge Grass 116.99 42⇓PKiKP **PKiKP 10 57 33.4 +0.4**
baz=117
J20A Shoshoni 117.00 44⇓PKiKP **PKiKP 10 57 33.4 +0.3**
baz=117
PGF Pioggiola 117.03 315 *e*PKIKP **PKPdf 10 57 33.3 +0.2**
comp=Z,11nm,0.6s
PGF Pioggiola 117.03 315 *e*PKIKP **PKPdf 10 57 33.3 +0.2**
PGF Pioggiola 117.03 315 *e*PKPdf **PKPdf 10 57 33.3 +0.2**
A23A Redstone 117.09 37⇓PKiKP **PKiKP 10 57 32.9 0.0**
baz=117
PAGF Fort de Pagny 117.10 322 *e*PKIKP **PKPdf 10 57 33.0 +0.1**
PAGF Fort de Pagny 117.10 322 *e*PKPdf **PKPdf 10 57 33.0 +0.1**
LAO LASA Array 117.12 40 *e*PKPdf **PKPdf 10 57 34.2 +1.1**
USHA Ushuaia 117.17 168 PKP **PKPdf 10 57 33.8 +1.0**
comp=Z,12nm,0.5s,baz=175,slow=1.8,SNR=26
B23A Brockton 117.22 38⇑PKiKP **PKiKP 10 57 33.8 +0.6**
baz=117
H21A Big Horn, Sher 117.30 43⇑PKiKP **PKiKP 10 57 33.9 +0.3**
baz=117
C23A Lambert 117.36 39⇓PKiKP **PKiKP 10 57 34.2 +0.7**
baz=117
E22A Miles City 117.39 40⇑PKiKP **PKiKP 10 57 34.0 +0.4**
baz=117
I21A Big Trails, Te 117.40 44⇓PKiKP **PKPdf 10 57 33.8 0.0**
baz=117
F22A Rosebud 117.42 41⇓PKiKP **PKiKP 10 57 33.7 0.0**
baz=118
J21A Lysite 117.45 44⇑PKiKP **PKiKP 10 57 34.0 0.0**
baz=118
FCC Fort Churchill 117.55 24 *e*PKIKP **PKPdf 10 57 33.0 -0.4**
FCC Fort Churchill 117.55 24 *e*PKPdf **PKPdf 10 57 33.0 -0.4**
D23A Lindsay 117.58 39⇓PKiKP **PKiKP 10 57 34.6 +0.7**
baz=118
LPG La Plagne 117.60 319 *e*PKIKP **PKPdf 10 57 34.5 +0.2**
comp=Z,13nm,0.5s
LPG La Plagne 117.60 319 *e*PKIKP **PKPdf 10 57 34.5 +0.2**
LPG La Plagne 117.60 319 *e*PKPdf **PKPdf 10 57 34.5 +0.2**
G22A Birney 117.60 42⇑PKiKP **PKiKP 10 57 34.7 +0.6**
baz=118
LPL La Plagne 117.60 319 *e*PKIKP **PKPdf 10 57 34.4 +0.2**
comp=Z,17nm,0.5s
LPL La Plagne 117.60 319 *e*PKIKP **PKPdf 10 57 34.4 +0.2**
LPL La Plagne 117.60 319 *e*PKPdf **PKPdf 10 57 34.4 +0.2**
N20A Spence Gulch, 117.63 47⇓PKiKP **PKiKP 10 57 35.3 +0.8**
baz=118
A24A Westby 117.63 37⇓PKiKP **PKiKP 10 57 34.7 +0.7**
baz=118
TUC Tucson 117.68 57 *e*PKIKP **PKPdf 10 57 36.0 +1.4**
TUC Tucson 117.68 57 *e*PKPdf **PKPdf 10 57 36.0 +1.4**
SBF Sospel 117.70 317 *e*PKIKP **PKPdf 10 57 34.1 -0.2**
comp=Z,26nm,0.7s
SBF Sospel 117.70 317 *e*PKIKP **PKPdf 10 57 34.1 -0.2**
SBF Sospel 117.70 317 *e*PKPdf **PKPdf 10 57 34.1 -0.2**
H22A Clearmont 117.78 42⇑PKiKP **PKiKP 10 57 34.5 0.0**
baz=118
E23A Ismay 117.78 40⇑PKiKP **PKiKP 10 57 35.0 +0.7**
baz=118
K21A Alcova 117.81 45⇓PKiKP **PKiKP 10 57 35.2 +0.5**
baz=118
O20A White River Ci 117.85 48⇑PKiKP **PKiKP 10 57 35.5 +0.7**
baz=118
O20A White River Ci 117.85 48 *e*PKPdf **PKPdf 10 57 35.9 +1.1**
MBDF Montbardon 117.85 318 *e*PKIKP **PKPdf 10 57 34.9 +0.2**
comp=Z,27nm,0.9s
MBDF Montbardon 117.85 318 *e*PKIKP **PKPdf 10 57 34.9 +0.2**
MBDF Montbardon 117.85 318 *e*PKPdf **PKPdf 10 57 34.9 +0.2**
X18A Snowflake 117.92 54⇑PKiKP **PKiKP 10 57 35.9 +0.8**
baz=118
I22A 9 Mile Ranch, 117.93 43⇓PKiKP **PKiKP 10 57 34.9 +0.1**
baz=118
C24A Savage 117.94 39⇑PKiKP **PKiKP 10 57 35.6 +0.9**
baz=118
W18A Petrified Fore 117.96 54⇓PKiKP **PKPdf 10 57 35.2 -0.1**
baz=118
F23A Volborg 118.00 41⇓PKiKP **PKiKP 10 57 35.1 +0.2**
baz=118
J22A Midwest 118.09 44⇓PKiKP **PKiKP 10 57 35.4 +0.2**
baz=118
PV01 Paradox Valley 118.14 50 *e*PKPdf **PKPdf 10 57 36.5 +0.9**
A25A Svangstu Ranch 118.16 37⇑PKiKP **PKiKP 10 57 35.7 +0.7**
baz=118
D24A Glendive 118.16 39⇑PKiKP **PKiKP 10 57 36.0 +0.9**
baz=118
G23A Biddle 118.20 42⇑PKiKP **PKiKP 10 57 35.3 +0.1**
baz=118
K22A Casper 118.31 45⇑PKiKP **PKiKP 10 57 35.8 +0.1**
baz=118
K22A Casper 118.31 45 *e*PKPdf **PKPdf 10 57 35.6 0.0**
FRF La Foret Royal 118.34 317 *e*PKIKP **PKPdf 10 57 35.5 +0.1**
FRF La Foret Royal 118.34 317 *e*PKIKP **PKPdf 10 57 35.5 +0.1**
FRF La Foret Royal 118.34 317 *e*PKPdf **PKPdf 10 57 35.5 +0.1**
ORIF Oris-en-Rattie 118.38 318 *e*PKIKP **PKPdf 10 57 35.6 0.0**
comp=Z,13nm,0.6s
ORIF Oris-en-Rattie 118.38 318 *e*PKIKP **PKPdf 10 57 35.6 0.0**
ORIF Oris-en-Rattie 118.38 318 *e*PKPdf **PKPdf 10 57 35.6 0.0**
E24A Baker 118.39 40⇓PKiKP **PKiKP 10 57 35.9 +0.4**
baz=118
MVCO Mesa Verde 118.44 51⇑PKiKP **PKiKP 10 57 37.3 +1.2**
baz=118
MVCO Mesa Verde 118.44 51 *e*PKPdf **PKiKP 10 57 37.4 +1.2**
L22A Ellis Ranch, M 118.58 45⇑PKiKP **PKiKP 10 57 37.4 +1.2**
baz=119
F24A Ekalaka 118.58 41⇓PKiKP **PKPdf 10 57 35.9 0.0**
baz=119
C25A Freed Ranch, W 118.59 38⇓PKiKP **PKiKP 10 57 36.8 +0.9**
baz=119
KEST Kesra 118.61 307 PKP **PKPdf 10 57 36.9 +0.6**
comp=Z,4.2nm,1.0s,baz=59,slow=2.4,SNR=5.5
KEST Kesra 118.61 307 PKP **PKPdf 10 57 36.9 +0.6**
KEST *e*PKPdf **PKiKP 10 57 37.2 +0.8**
M22A Cedar Creek Ra 118.66 46⇑PKiKP **PKiKP 10 57 36.8 +0.3**
baz=119
HOPE Hope Point 118.68 189 *e*Pdif **Pdif 10 53 59.1 +2.5**
LOR Lormes 118.77 321 *e*PKIKP **PKPdf 10 57 36.3 +0.1**
LOR Lormes 118.77 321 *e*PKIKP **PKPdf 10 57 36.3 +0.1**
LOR Lormes 118.77 321 *e*PKPdf **PKPdf 10 57 36.3 +0.1**
D25A Fairfield 118.78 39⇓PKiKP **PKiKP 10 57 37.0 +0.7**
baz=119
H24A Dirks Ranch, A 118.92 42⇓PKiKP **PKiKP 10 57 36.8 +0.1**
baz=119
SMRF Simiane la Rot 118.92 317 *e*PKIKP **PKPdf 10 57 37.2 +0.6**
comp=Z,12nm,0.7s
SMRF Simiane la Rot 118.92 317 *e*PKPdf **PKPdf 10 57 37.2 +0.6**
N22A Wattenberg Ran 118.95 47⇑PKiKP **PKiKP 10 57 37.9 +0.8**
baz=119
E25A Miller Ranch, 118.99 40⇑PKiKP **PKiKP 10 57 37.4 +0.7**
baz=119
SMF Signal de Mont 119.03 321 *e*PKIKP **PKPdf 10 57 37.0 +0.3**
comp=Z,10nm,0.6s
SMF Signal de Mont 119.03 321 *e*PKIKP **PKPdf 10 57 37.0 +0.3**
SMF Signal de Mont 119.03 321 *e*PKPdf **PKPdf 10 57 37.0 +0.3**
L23A Garrett 119.06 45⇓PKiKP **PKPdf 10 57 36.5 -0.7**
baz=119
SSF Saint Saulge 119.08 321 *e*PKIKP **PKPdf 10 57 37.0 +0.3**
comp=Z,22nm,0.7s
SSF Saint Saulge 119.08 321 *e*PKIKP **PKPdf 10 57 37.0 +0.3**
SSF Saint Saulge 119.08 321 *e*PKPdf **PKPdf 10 57 37.0 +0.3**
O22A Kremmling 119.08 47⇓PKiKP **PKPdf 10 57 37.4 0.0**
baz=119
P22A Eagle 119.09 48⇓PKiKP **PKiKP 10 57 38.5 +1.2**
baz=119
319A Douglas 119.11 58⇑PKiKP **PKiKP 10 57 38.5 +1.0**
baz=119
F25A Bowman 119.18 40⇓PKiKP **PKiKP 10 57 37.4 +0.3**
baz=119
I24A Kuemmerle Ranc 119.20 43⇓PKiKP **PKPdf 10 57 36.7 -0.5**
baz=119
VIVF Saint-Julien-I 119.20 319 *e*PKIKP **PKPdf 10 57 37.1 0.0**
VIVF Saint-Julien-I 119.20 319 *e*PKIKP **PKPdf 10 57 37.1 0.0**
VIVF Saint-Julien-I 119.20 319 *e*PKPdf **PKPdf 10 57 37.1 0.0**
C26A Wahner Farm, P 119.25 38⇑PKiKP **PKiKP 10 57 37.6 +0.4**
baz=119
M23A Laramie 119.26 46⇓PKiKP **PKiKP 10 57 37.9 +0.2**
baz=119
AVF Avril sur Loir 119.28 321 *e*PKIKP **PKPdf 10 57 37.0 -0.1**
comp=Z,6.8nm,0.5s
AVF Avril sur Loir 119.28 321 *e*PKIKP **PKPdf 10 57 37.0 -0.1**
AVF Avril sur Loir 119.28 321 *e*PKPdf **PKPdf 10 57 37.0 -0.1**
N23A Red Feather La 119.29 46⇑PKiKP **PKiKP 10 57 38.3 +0.5**
baz=119
SFJD Kangerlussuaq 119.34 0 *i*PKIKP **PKPdf 10 57 36.6 0.0**
SFJD pmax pmax
comp=Z,17nm,0.8s
SFJD Kangerlussuaq 119.34 0 *i*P **PKPdf 10 57 36.6 0.0**
comp=Z,17nm,0.7s
J24A Dixon Ranch, L 119.36 43⇓PKiKP **PKPdf 10 57 37.4 -0.1**
baz=119
D26A Manning 119.38 39⇑PKiKP **PKiKP 10 57 38.1 +0.6**

	baz=119							
G25A	Newell	119.50	41	⇓PKiKP	PKiKP	10 57 37.8	0.0	
	baz=120							
RSSD	Black Hills	119.50	42	*e*PKIKP	PKPdf	10 57 37.8	-0.1	
RSSD	Black Hills	119.50	42	*e*PKPdf	PKPdf	10 57 37.8	-0.1	
O23A	Lake Granby, G	119.52	47	⇑PKiKP	PKiKP	10 57 38.9	+0.6	
	baz=120							
S22A	4UR Ranch, Cre	119.58	50	⇑PKiKP	PKiKP	10 57 39.7	+1.3	
	baz=120							
E26A	Carlson Angus	119.59	39	⇑PKiKP	PKiKP	10 57 38.2	+0.3	
	baz=120							
H25A	Fruitdale	119.60	42	⇑PKiKP	PKPdf	10 57 37.9	-0.1	
	baz=120							
C27A	Sayler Ranch,	119.66	38	⇑PKiKP	PKiKP	10 57 38.5	+0.5	
	baz=120							
BGF	Bois d'Agland	119.70	321	*e*PKIKP	PKPdf	10 57 38.4	+0.4	
	comp=Z,34nm,0.6s							
BGF	Bois d'Agland	119.70	321	*e*PKIKP	PKPdf	10 57 38.4	+0.4	
BGF	Bois d'Agland	119.70	321	*e*PKPdf	PKPdf	10 57 38.4	+0.4	
F26A	Lodgepole	119.72	40	⇓PKiKP	PKiKP	10 57 38.3	+0.2	
	baz=120							
I25A	Rochford	119.74	42	⇑PKiKP	PKPdf	10 57 38.3	-0.1	
	baz=120							
P23A	Jefferson	119.84	48	⇓PKiKP	PKiKP	10 57 40.1	+1.1	
	baz=120							
A28A	Rude Farm, Bot	119.85	36	⇑PKiKP	PKPdf	10 57 38.2	0.0	
	baz=120							
ISCO	Idaho Springs	119.88	47	*e*PKIKP	PKPdf	10 57 40.0	+1.0	
ISCO	Idaho Springs	119.88	47	⇓PKiKP	PKPdf	10 57 39.9	+1.0	
	baz=120							
ISCO	Idaho Springs	119.88	47	*e*PKPdf	PKPdf	10 57 40.0	+1.0	
M24A	Cheyenne	119.90	45	⇑PKiKP	PKiKP	10 57 39.3	+0.5	
	baz=120							
D27A	Center	119.91	38	⇓PKiKP	PKiKP	10 57 39.2	+0.7	
	baz=120							
J25A	Sunshine Ranch	119.92	43	⇑PKiKP	PKPdf	10 57 38.6	0.0	
	baz=120							
U22A	Llaves	119.93	51	⇓PKiKP	PKiKP	10 57 40.4	+1.3	
	baz=120							
G26A	Maurine	119.99	41	⇑PKiKP	PKiKP	10 57 38.9	+0.1	
	baz=120							
Q23A	Hartsel	119.99	48	⇓PKiKP	PKiKP	10 57 40.5	+1.2	
	baz=120							
V22A	San Miguel Ran	120.01	52	⇓PKiKP	PKiKP	10 57 40.7	+1.4	
	baz=120							
B28A	Dugan Ranch, T	120.01	36	⇑PKiKP	PKPdf	10 57 38.5	0.0	
	baz=120							
N24A	Carr	120.07	46	⇑PKiKP	PKiKP	10 57 39.3	+0.1	
	baz=120							
121A	Cookes Peak, D	120.12	56	⇓PKiKP	PKiKP	10 57 40.5	+1.0	
	baz=120							
121A	Cookes Peak, D	120.12	56	*e*PKPdf	PKPdf	10 57 40.8	+1.3	
F27A	Lemmon	120.12	40	⇑PKiKP	PKiKP	10 57 39.1	+0.2	
	baz=120							
H26A	Fairpoint	120.14	41	⇓PKiKP	PKiKP	10 57 39.0	0.0	
	baz=120							
K25A	Mack Ranch, Ha	120.16	44	⇑PKiKP	PKiKP	10 57 40.3	+1.1	
	baz=120							
E27A	Carson	120.17	39	⇑PKiKP	PKiKP	10 57 39.5	+0.4	
	baz=120							
R23A	Moffat	120.21	49	⇓PKiKP	PKiKP	10 57 40.5	+0.9	
	baz=120							
TCF	Toulx Ste Croi	120.21	321	*e*PKIKP	PKPdf	10 57 39.3	+0.3	
	comp=Z,20nm,0.7s							
TCF	Toulx Ste Croi	120.21	321	*e*PKIKP	PKPdf	10 57 39.3	+0.3	
TCF	Toulx Ste Croi	120.21	321	*e*PKPdf	PKPdf	10 57 39.3	+0.3	
S23A	Nye Farm, Mont	120.22	50	⇑PKiKP	PKiKP	10 57 40.8	+1.2	
	baz=120							
L25A	Engebretsen Ra	120.26	44	⇑PKiKP	PKPdf	10 57 39.4	0.0	
	baz=120							
I26A	New Underwood	120.32	42	⇓PKiKP	PKPdf	10 57 39.2	-0.1	
	baz=120							
C28A	Hausauer Farms	120.33	37	⇑PKiKP	PKiKP	10 57 39.2	0.0	
	baz=120							
T23A	Caslas Ranch,	120.38	51	⇓PKiKP	PKiKP	10 57 41.4	+1.4	
	baz=120							
G27A	Dupree	120.38	40	⇑PKiKP	PKPdf	10 57 39.4	0.0	
	baz=120							
J26A	Sides Ranch, S	120.45	43	⇑PKiKP	PKPdf	10 57 39.4	-0.2	
	baz=120							
A29A	Manning Farm,	120.45	36	⇓PKiKP	PKPdf	10 57 39.2	-0.1	
	baz=120							
U23A	El Rito	120.46	51	⇓PKiKP	PKiKP	10 57 41.3	+1.1	
	baz=120							
SDCO	Great Sand Dun	120.58	50	⇓PKiKP	PKiKP	10 57 41.3	+0.8	
	baz=121							
H27A	Howes	120.59	41	⇑PKiKP	PKPdf	10 57 39.5	-0.3	
	baz=121							
B29A	Wagenman Farm,	120.60	36	⇑PKiKP	PKPdf	10 57 39.5	-0.1	
	baz=121							
K26A	Motz Farm, Whi	120.61	43	⇓PKiKP	PKiKP	10 57 40.5	+0.5	
	baz=121							
ANMO	Albuquerque	120.62	53	*c i*PKIKP	PKPdf	10 57 41.4	+1.1	
ANMO				pmax	pmax			
	comp=Z,93nm,1.7s							
V23A	Ortiz Mt. (NFS	120.62	52	⇑PKiKP	PKiKP	10 57 42.2	+1.8	
	baz=121							
LPM	Los Pinos Moun	120.64	54	*e*PKPdf	PKPdf	10 57 41.8	+1.4	
E28A	Huff	120.65	39	⇓PKiKP	PKiKP	10 57 40.1	+0.2	
	baz=121							
S24A	Houchin Ranch,	120.83	50	⇑PKiKP	PKiKP	10 57 41.7	+0.8	
	baz=121							
I27A	Quinn	120.84	42	⇓PKiKP	PKiKP	10 57 40.7	+0.3	
	baz=121							
O25A	Wiggins	120.86	47	⇓PKiKP	PKiKP	10 57 41.3	+0.6	
	baz=121							
CAF	Calviac	120.87	319	*e*PKIKP	PKPdf	10 57 40.9	+0.6	
CAF	Calviac	120.87	319	*e*PKIKP	PKPdf	10 57 40.9	+0.6	
CAF	Calviac	120.87	319	*e*PKPdf	PKPdf	10 57 40.9	+0.6	
T24B	San Luis	120.88	50	⇑PKiKP	PKiKP	10 57 42.1	+1.0	
	baz=121							
F28A	McLaughlin	120.90	39	⇑PKiKP	PKiKP	10 57 40.5	0.0	
	baz=121							
L26A	Underwood Farm	120.92	44	⇑PKiKP	PKiKP	10 57 40.9	+0.2	
	baz=121							
A30A	Hoffart Farm,	120.98	35	⇓PKiKP	PKiKP	10 57 40.6	+0.1	
	baz=121							
Q25A	Bedland, Calha	121.16	48	⇓PKiKP	PKiKP	10 57 42.0	+0.6	
	baz=121							
G28A	Parade	121.16	40	⇑PKiKP	PKiKP	10 57 41.1	+0.1	
	baz=121							
J27A	Elkhorn Farm,	121.19	43	⇑PKiKP	PKiKP	10 57 41.3	+0.1	
	baz=121							
B30A	Myrvik Farm, E	121.20	36	⇓PKiKP	PKPdf	10 57 40.6	-0.2	
	baz=121							
K27A	Flueckinger Fa	121.25	43	⇓PKiKP	PKPdf	10 57 40.8	-0.4	
	baz=121							
N26A	Koester Ranch,	121.25	46	⇓PKiKP	PKPdf	10 57 41.3	0.0	
	baz=121							
H28A	Mission Ridge	121.26	41	⇑PKiKP	PKPdf	10 57 41.0	0.0	
	baz=121							
E29A	Napoleon	121.31	38	⇓PKiKP	PKiKP	10 57 41.5	+0.3	
	baz=121							
V24A	Rampart Ranch,	121.34	52	⇓PKiKP	PKiKP	10 57 43.0	+1.1	
	baz=121							
W24A	Lazy 6 Ranch,	121.38	52	⇑PKiKP	PKiKP	10 57 42.9	+1.0	
	baz=121							
R25A	Fountain Ranch	121.38	49	⇑PKiKP	PKiKP	10 57 42.3	+0.5	
	baz=121							
O26A	Horse Wrangler	121.40	46	⇓PKiKP	PKiKP	10 57 41.7	-0.1	
	baz=121							
S25A	Robets Cordova	121.42	49	⇑PKiKP	PKiKP	10 57 42.7	+0.8	
	baz=122							
L27A	T5 Ranch, Ells	121.43	44	⇑PKiKP	PKiKP	10 57 42.6	+0.9	
	baz=122							
I28A	Midland	121.45	41	⇑PKiKP	PKiKP	10 57 41.6	0.0	
	baz=122							
C30A	Mose, Pekin	121.48	37	⇓PKiKP	PKPdf	10 57 41.3	-0.1	
	baz=122							
F29A	Eureka	121.52	39	⇓PKiKP	PKPdf	10 57 41.5	0.0	
	baz=122							
MFF	Saint Martin d	121.53	322	*e*PKIKP	PKPdf	10 57 41.7	+0.2	
	comp=Z,38nm,0.6s							
MFF	Saint Martin d	121.53	322	*e*PKIKP	PKPdf	10 57 41.7	+0.2	
MFF	Saint Martin d	121.53	322	*e*PKPdf	PKPdf	10 57 41.7	+0.2	
D30A	Buchanan	121.59	37	⇓PKiKP	PKPdf	10 57 41.7	+0.1	
	baz=122							
T25A	Trinidad	121.59	50	⇓PKiKP	PKiKP	10 57 42.9	+0.6	
	baz=122							
P26A	Davis Ranch, A	121.61	47	⇑PKiKP	PKiKP	10 57 42.5	+0.3	
	baz=122							
J28A	Allard Ranch,	121.64	42	⇑PKiKP	PKiKP	10 57 42.0	0.0	
	baz=122							
ULM	Lac du Bonnet	121.65	33	PKP	PKPdf	10 57 41.4	-0.2	
	comp=Z,6.5nm,0.6s,baz=320,slow=2.3,SNR=15							
ULM				PKKPbc	PKKPab	11 07 39.8	-2.3	
	comp=Z,5.1nm,0.8s,baz=106,slow=3.6,SNR=7.3							
ULM				PKKP	PKKPdf	11 08 18.3	+0.7	
	comp=Z,2.5nm,0.8s,baz=133,slow=1.3,SNR=3.7							
Q26A	Hugo	121.69	48	⇓PKiKP	PKiKP	10 57 43.0	+0.6	
	baz=122							
LFF	La Frestale	121.72	320	*e*PKIKP	PKPdf	10 57 42.5	+0.6	
LFF	La Frestale	121.72	320	*e*PKIKP	PKPdf	10 57 42.5	+0.6	
LFF	La Frestale	121.72	320	*e*PKPdf	PKPdf	10 57 42.5	+0.6	
G29A	Hoven	121.75	40	⇓PKiKP	PKPdf	10 57 41.9	0.0	
	baz=122							
N27A	Anderson Farm,	121.75	45	⇓PKiKP	PKPdf	10 57 42.0	-0.2	
	baz=122							
E30A	Jud	121.78	38	⇑PKiKP	PKiKP	10 57 42.1	0.0	
	baz=122							
H29A	Onida	121.81	40	⇓PKiKP	PKiKP	10 57 42.2	-0.1	
	baz=122							
U25A	Circle Dot Ran	121.82	51	⇓PKiKP	PKiKP	10 57 43.2	+0.5	
	baz=122							
V25A	Rancho No Teng	121.82	51	⇓PKiKP	PKiKP	10 57 43.1	+0.3	
	baz=122							
K28A	Ten Mile Ranch	121.83	43	⇓PKiKP	PKPdf	10 57 42.3	0.0	
	baz=122							
R26A	Arlington	121.95	48	⇑PKiKP	PKiKP	10 57 43.1	+0.2	
	baz=122							
I29A	Vivian Onida	122.00	41	⇑PKiKP	PKPdf	10 57 42.5	-0.1	
	baz=122							
L28A	Connealy Angus	122.01	44	⇓PKiKP	PKPdf	10 57 41.8	-0.8	
	baz=122							
O27A	Beecher Island	122.01	46	⇑PKiKP	PKiKP	10 57 43.4	+0.4	
	baz=122							
F30A	Leola	122.02	39	⇑PKiKP	PKPdf	10 57 42.2	-0.3	
	baz=122							
OGNE	Ogallala	122.05	45	⇑PKiKP	PKPdf	10 57 42.8	0.0	
	baz=122							
W25A	X Bar L Ranch,	122.12	52	⇑PKiKP	PKiKP	10 57 43.8	+0.5	
	baz=122							
S26A	Kim	122.15	49	⇓PKiKP	PKiKP	10 57 43.6	+0.3	
	baz=122							
SGMF	Saint Gilles	122.16	325	*e*PKIKP	PKPdf	10 57 42.7	+0.1	
SGMF	Saint Gilles	122.16	325	*e*PKIKP	PKPdf	10 57 42.7	+0.1	
SGMF	Saint Gilles	122.16	325	*e*PKPdf	PKPdf	10 57 42.7	+0.1	
P27A	Ficken Ranch,	122.17	47	⇓PKiKP	PKiKP	10 57 43.4	+0.1	
	baz=122							
T26A	Comanche Natio	122.20	50	⇓PKiKP	PKiKP	10 57 44.2	+0.7	
	baz=122							
J29A	Okreek	122.25	42	⇑PKiKP	PKPdf	10 57 42.9	-0.1	
	baz=122							
G30A	Faulkton	122.27	40	⇓PKiKP	PKPdf	10 57 42.6	-0.4	
	baz=122							
KSCO	Kaye Shedlock'	122.32	47	⇓PKiKP	PKiKP	10 57 43.7	+0.1	
	baz=122							
KSCO	Kaye Shedlock'	122.32	47	*e*PKPdf	PKPdf	10 57 43.9	+0.5	
U26A	Atchley Ranch,	122.33	51	⇑PKiKP	PKiKP	10 57 44.0	+0.2	
	baz=122							
M28A	Bar X Bar Ranc	122.34	44	⇑PKiKP	PKPdf	10 57 43.0	-0.3	
	baz=122							
R27A	Eads	122.44	48	⇓PKiKP	PKiKP	10 57 44.3	+0.5	
	baz=122							
V26A	Tequesquite Ra	122.48	51	⇓PKiKP	PKiKP	10 57 44.0	0.0	
	baz=122							
N28A	Pribbeno Ranch	122.50	45	⇓PKiKP	PKiKP	10 57 43.9	+0.1	
	baz=122							
K29A	Lazy Trails An	122.52	42	⇓PKiKP	PKiKP	10 57 43.7	-0.1	
	baz=122							
ROSF	Rostrenen	122.53	325	*e*PKIKP	PKPdf	10 57 43.9	+0.6	
ROSF	Rostrenen	122.53	325	*e*PKIKP	PKPdf	10 57 43.9	+0.6	
ROSF	Rostrenen	122.53	325	*e*PKPdf	PKPdf	10 57 43.9	+0.6	
O28A	Krutsinger Ran	122.54	46	⇓PKiKP	PKPdf	10 57 43.6	-0.1	
	baz=123							
S27A	Las Animas	122.56	49	⇓PKiKP	PKiKP	10 57 44.2	0.0	
	baz=123							
QUIF	Quistinic	122.68	325	*e*PKIKP	PKPdf	10 57 43.6	0.0	
QUIF	Quistinic	122.68	325	*e*PKIKP	PKPdf	10 57 43.6	0.0	
QUIF	Quistinic	122.68	325	*e*PKPdf	PKPdf	10 57 43.6	0.0	
AGMN	Agassiz Nation	122.70	35	⇓PKiKP	PKPdf	10 57 43.2	-0.4	
	baz=123							
L29A	Maesberg Ranch	122.70	43	⇑PKiKP	PKPdf	10 57 43.8	-0.2	
	baz=123							
W26A	Owens Ranch, T	122.70	52	⇑PKiKP	PKiKP	10 57 44.4	0.0	
	baz=123							
P28A	Saint Francis	122.75	46	⇓PKiKP	PKPdf	10 57 44.3	+0.1	
	baz=123							
EPF	Esparros	122.80	318	*e*PKIKP	PKPdf	10 57 44.8	+0.7	
	comp=Z,7.9nm,0.6s							
EPF	Esparros	122.80	318	*e*PKIKP	PKPdf	10 57 44.8	+0.7	
EPF	Esparros	122.80	318	*e*PKPdf	PKPdf	10 57 44.8	+0.7	
M29A	Burnside Ranch	122.80	44	⇓PKiKP	PKPdf	10 57 43.8	-0.3	
	baz=123							
J30A	Dallas	122.83	42	⇓PKiKP	PKPdf	10 57 44.0	-0.1	
	baz=123							
Q28A	Sharon Springs	122.88	47	⇑PKiKP	PKiKP	10 57 44.9	+0.2	
	baz=123							
T27A	Campo	122.90	50	⇓PKiKP	PKiKP	10 57 44.9	+0.1	
	baz=123							
U27A	Thompson Grove	123.03	50	⇓PKiKP	PKiKP	10 57 45.1	0.0	
	baz=123							
K30A	Basset	123.03	42	⇓PKiKP	PKPdf	10 57 44.5	0.0	
	baz=123							
N29A	Votaw Ranch, W	123.09	45	⇑PKiKP	PKPdf	10 57 44.8	0.0	
	baz=123							
R28A	Tribune	123.15	48	⇑PKiKP	PKiKP	10 57 45.3	+0.1	
	baz=123							
V27A	Dan Oppiter Fa	123.22	51	⇓PKiKP	PKiKP	10 57 45.7	+0.2	
	baz=123							
O29A	4D Ranch, Culb	123.23	46	⇓PKiKP	PKiKP	10 57 45.6	+0.3	
	baz=123							
P29A	Atwood	123.33	46	⇓PKiKP	PKiKP	10 57 45.5	0.0	
	baz=123							
T28A	Walsh	123.34	49	⇑PKiKP	PKiKP	10 57 45.5	-0.1	
	baz=123							
S28A	Manter	123.34	49	⇓PKiKP	PKiKP	10 57 45.9	+0.3	
	baz=123							
ETSF	Etsaut	123.45	318	*e*PKIKP	PKPdf	10 57 46.4	+1.0	
	comp=Z,9.8nm,0.7s							
ETSF	Etsaut	123.45	318	*e*PKIKP	PKPdf	10 57 46.4	+1.0	
ETSF	Etsaut	123.45	318	*e*PKPdf	PKPdf	10 57 46.4	+1.0	
N30A	Hueftle Ranch,	123.46	45	⇑PKiKP	PKiKP	10 57 45.7	0.0	
	baz=124							
Q29A	Oakley	123.56	47	⇓PKiKP	PKiKP	10 57 46.2	+0.2	
	baz=124							
R29A	Marienthal	123.61	48	⇓PKiKP	PKPdf	10 57 45.9	+0.1	
	baz=124							
O30A	MW Ranch, Wils	123.74	45	⇓PKiKP	PKPdf	10 57 46.0	0.0	
	baz=124							
L31A	Butterfield Fa	123.76	43	⇓PKiKP	PKPdf	10 57 45.3	-0.7	
	baz=124							
MSTX	Muleshoe	123.81	53	⇓PKiKP	PKPdf	10 57 46.4	0.0	
	baz=124							
MSTX	Muleshoe	123.81	53	*e*PKPdf	PKPdf	10 57 46.6	+0.3	
P30A	Selden	123.85	46	⇓PKiKP	PKPdf	10 57 46.2	0.0	
	baz=124							
W28A	Vega	123.87	51	⇓PKiKP	PKiKP	10 57 46.8	0.0	
	baz=124							
S29A	Ulysses	123.92	48	⇓PKiKP	PKiKP	10 57 47.0	+0.3	
	baz=124							
T29A	Hugoton	123.94	49	⇓PKiKP	PKiKP	10 57 46.9	+0.1	
	baz=124							
M31A	Lambtecht Ranc	124.02	44	⇑PKiKP	PKPdf	10 57 46.2	-0.3	
	baz=124							
Q30A	Quinter	124.08	47	⇑PKiKP	PKPdf	10 57 46.8	+0.1	
	baz=124							
X28A	Dimmitt	124.10	52	⇓PKiKP	PKiKP	10 57 47.1	-0.1	
	baz=124							
U29A	Oasis Ranch, S	124.20	50	⇑PKiKP	PKiKP	10 57 47.5	+0.2	
	baz=124							
V29A	Stinnett	124.20	51	⇑PKiKP	PKPdf	10 57 46.9	-0.1	
	baz=124							
Y28A	McKinney Farm,	124.25	53	⇑PKiKP	PKiKP	10 57 47.5	0.0	
	baz=124							
O31A	Woolen Ranch,	124.26	45	⇓PKiKP	PKiKP	10 57 47.1	-0.1	
	baz=124							
TXAR	Lajitas Array	124.28	59	PKP	PKPdf	10 57 47.5	+0.1	
	comp=Z,5.6nm,0.9s,baz=235,slow=1.2,SNR=39							
TXAR				PKKPbc	PKKPab	11 07 31.0	-0.5	
	comp=Z,0.4nm,0.6s,baz=112,slow=6.0,SNR=6.2							
R30A	Dighton	124.30	47	⇓PKiKP	PKiKP	10 57 47.3	-0.1	
	baz=124							
Z28A	Tucker Farm, M	124.32	54	⇑PKiKP	PKPdf	10 57 47.1	-0.2	
	baz=124							
W29A	Amarillo	124.34	51	⇓PKiKP	PKiKP	10 57 47.7	0.0	
	baz=124							
AMTX	Amarillo	124.39	52	⇓PKiKP	PKiKP	10 57 47.8	0.0	
	baz=124							
AMTX	Amarillo	124.39	52	*e*PKPdf	PKPdf	10 57 48.5	+1.0	
TAM	Tamanrasset	124.40	293	*e*PKIKP	PKPdf	10 57 50.1	+2.3	
TAM	Tamanrasset	124.40	293	*e*PKPdf	PKPdf	10 57 50.1	+2.3	
128A	Castleberry Fa	124.43	55	⇓PKiKP	PKiKP	10 57 47.9	0.0	
	baz=124							
P31A	Stockton	124.47	46	⇑PKiKP	PKPdf	10 57 47.3	-0.1	
	baz=124							
228A	UT Block 9, Go	124.48	55	⇑PKiKP	PKPdf	10 57 47.6	-0.1	
	baz=124							
X29A	Tulia	124.52	52	⇓PKiKP	PKiKP	10 57 47.9	-0.1	
	baz=124							
ECSD	EROS Data Cent	124.52	40	⇓PKiKP	PKPdf	10 57 47.2	-0.1	
	baz=124							
ECSD	EROS Data Cent	124.52	40	*e*PKPdf	PKPdf	10 57 47.0	-0.3	
BGNE	Belgrade	124.55	43	⇓PKiKP	PKPdf	10 57 47.1	-0.4	
	baz=125							
BGNE	Belgrade	124.55	43	*e*PKPdf	PKPdf	10 57 47.5	0.0	
T30A	Plains	124.55	49	⇑PKiKP	PKPdf	10 57 47.7	0.0	
	baz=125							
U30A	WK&E Inc. Balk	124.64	49	⇑PKiKP	PKiKP	10 57 48.2	+0.1	
	baz=125							
Q31A	Ellis	124.66	46	⇑PKiKP	PKiKP	10 57 48.0	-0.1	
	baz=125							
Y29A	Porterfield Fa	124.72	53	⇑PKiKP	PKiKP	10 57 48.4	0.0	
	baz=125							
N32A	Stulken Farm,	124.73	44	⇑PKiKP	PKiKP	10 57 48.0	-0.2	
	baz=125							
R31A	Burdett	124.84	47	⇑PKiKP	PKPdf	10 57 48.2	+0.1	
	baz=125							
Z29A	Hungry Hill Ra	124.87	54	⇓PKiKP	PKPdf	10 57 48.3	-0.1	
	baz=125							
V30A	Spur Ranch, Mi	124.88	50	⇑PKiKP	PKPdf	10 57 47.8	-0.5	
	baz=125							
129A	Stewart Farms,	124.92	54	⇓PKiKP	PKPdf	10 57 48.3	-0.2	
	baz=125							
O32A	Brockman Farm,	124.95	44	⇓PKiKP	PKPdf	10 57 48.1	-0.2	
	baz=125							
P32A	Huiting Farm,	124.98	45	⇓PKiKP	PKPdf	10 57 48.3	-0.1	
	baz=125							
S31A	Mullinville	125.12	48	⇑PKiKP	PKPdf	10 57 48.4	-0.3	
	baz=125							
329A	Wagon Wheel Ra	125.15	56	⇑PKiKP	PKPdf	10 57 49.0	0.0	
	baz=125							
W30A	Crocket Farms	125.16	51	⇑PKiKP	PKiKP	10 57 49.1	-0.1	
	baz=125							
229A	Bryant Ranch,	125.16	55	⇓PKiKP	PKPdf	10 57 48.6	-0.3	
	baz=125							
X30A	Coker Ranch, T	125.16	52	⇓PKiKP	PKPdf	10 57 48.8	-0.1	
	baz=125							
T31A	Randall Ranch,	125.17	49	⇑PKiKP	PKiKP	10 57 49.1	0.0	
	baz=125							
Q32A	Meitler Ranch,	125.27	46	⇓PKiKP	PKPdf	10 57 48.9	0.0	
	baz=125							
U31A	Nine Bar Ranch	125.30	49	⇑PKiKP	PKiKP	10 57 49.4	-0.1	
	baz=125							
529A	Stev Forest Ra	125.31	57	⇓PKiKP	PKiKP	10 57 49.5	-0.1	
	baz=125							
Z30A	Sanderson Ranc	125.32	53	⇑PKiKP	PKPdf	10 57 48.9	-0.3	
	baz=125							
Y30A	Stafford Cattl	125.33	53	⇓PKiKP	PKPdf	10 57 49.3	+0.1	
	baz=125							
R32A	Long Quarter,	125.38	47	⇑PKiKP	PKPdf	10 57 49.3	+0.1	
	baz=125							
429A	Davenport Ranc	125.45	57	⇓PKiKP	PKPdf	10 57 49.7	+0.1	
	baz=126							
S32A	Newby Ranch, P	125.50	48	⇑PKiKP	PKiKP	10 57 49.6	-0.2	
	baz=126							
V31A	Spring Creek L	125.52	50	⇑PKiKP	PKPdf	10 57 49.5	0.0	
	baz=126							
W31A	Holland Ranch,	125.64	51	⇓PKiKP	PKPdf	10 57 49.9	+0.1	
	baz=126							
130A	Snyder	125.66	54	⇓PKiKP	PKPdf	10 57 50.0	+0.1	
	baz=126							
P33A	Williams Farm,	125.70	45	⇑PKiKP	PKiKP	10 57 50.0	-0.1	
	baz=126							
T32A	Huddler Ranch,	125.70	48	⇓PKiKP	PKPdf	10 57 50.0	+0.2	
	baz=126							
230A	Sterling City	125.75	55	⇑PKiKP	PKPdf	10 57 50.1	0.0	
	baz=126							
Q33A	Connelly Farm,	125.78	46	⇑PKiKP	PKPdf	10 57 50.0	+0.1	
	baz=126							
Y31A	Rekieta Farm,	125.80	52	⇑PKiKP	PKiKP	10 57 50.6	+0.1	
	baz=126							
X31A	McDonald Ranch	125.80	51

732A	Laxson Ranch,	127.57	58	⇓PKiKP	PKiKP	10 57 54.0	-0.2
	baz=128						
333A	Richland Sprin	127.65	55	⇑PKiKP	PKPdf	10 57 53.7	0.0
	baz=128						
832A	Faith Ranch, C	127.68	59	⇓PKiKP	PKPdf	10 57 53.9	+0.1
	baz=128						
COWI	Conover	127.72	34	*e*PKPdf	PKPdf	10 57 54.0	+0.7
433A	Art	127.73	56	⇑PKiKP	PKPdf	10 57 53.8	-0.1
	baz=128						
Y34A	Reagan Ranch,	127.76	51	⇓PKiKP	PKiKP	10 57 54.2	-0.2
	baz=128						
V35A	Meyer Ranch, C	127.80	49	⇑PKiKP	PKPdf	10 57 54.0	+0.2
	baz=128						
Z34A	Collier Ranch,	127.84	52	⇑PKiKP	PKPdf	10 57 54.2	+0.2
	baz=128						
S36A	Lake Cedric, C	127.91	46	⇑PKiKP	PKPdf	10 57 53.9	0.0
	baz=128						
134A	White-Moore Ra	127.98	53	⇑PKiKP	PKPdf	10 57 54.3	+0.1
	baz=128						
533A	Kerrville	127.98	57	⇑PKiKP	PKPdf	10 57 54.4	0.0
	baz=128						
633A	Saathoff Ranch	128.04	57	⇑PKiKP	PKPdf	10 57 54.5	0.0
	baz=128						
234A	Clairette	128.12	54	⇑PKiKP	PKPdf	10 57 54.9	+0.3
	baz=128						
733A	Divot King Ran	128.14	58	⇑PKiKP	PKiKP	10 57 55.0	-0.2
	baz=128						
833A	Chaparral WMA,	128.16	59	⇓PKiKP	PKPdf	10 57 55.0	+0.2
	baz=128						
334A	Lometa	128.25	55	⇓PKiKP	PKPdf	10 57 54.6	-0.2
	baz=128						
Z35A	Perchaven, San	128.37	52	⇓PKiKP	PKiKP	10 57 55.3	-0.3
	baz=128						
434A	Burnet	128.39	55	⇑PKiKP	PKPdf	10 57 55.1	0.0
	baz=128						
933A	Laredo	128.45	60	⇓PKiKP	PKiKP	10 57 56.0	+0.1
	baz=128						
534A	Blanco	128.46	56	⇑PKiKP	PKPdf	10 57 55.5	+0.2
	baz=128						
135A	Vickery Place,	128.52	53	⇓PKiKP	PKiKP	10 57 56.1	+0.2
	baz=128						
TUL1	Leonard	128.52	48	⇓PKiKP	PKPdf	10 57 55.3	+0.2
	baz=128						
WHTX	Lake Whitney,	128.67	54	⇑PKiKP	PKPdf	10 57 55.8	+0.2
	baz=129						
WHTX	Lake Whitney,	128.67	54	*e*PKPdf	PKPdf	10 57 56.7	+1.1
734A	La Parita Cree	128.73	58	⇑PKiKP	PKiKP	10 57 56.3	-0.2
	baz=129						
634A	China Grove, S	128.75	57	⇑PKiKP	PKiKP	10 57 56.3	-0.2
	baz=129						
335A	Moody	128.93	55	⇑PKiKP	PKPdf	10 57 56.4	+0.3
	baz=129						
834A	Tilden	128.93	59	⇑PKiKP	PKiKP	10 57 56.8	-0.1
	baz=129						
TORD	Torodi Ar. Bea	128.95	282	PKP	PKPdf	10 57 56.6	0.0
	comp=Z,9.7nm,0.6s,baz=74,slow=1.9,SNR=47						
TORD				SKPbc	SKiKP	11 01 04.4	-17
	comp=Z,9.1nm,1.0s,baz=77,slow=3.3,SNR=4.7						
435B	Jarrell	128.96	55	⇓PKiKP	PKiKP	10 57 56.7	-0.2
	baz=129						
034A	Hebbronville	129.10	60	⇓PKiKP	PKiKP	10 57 57.7	+0.5
	baz=129						
934A	Benavides	129.10	59	⇑PKiKP	PKiKP	10 57 58.0	+0.7
	baz=129						
535A	Dale	129.21	56	⇓PKiKP	PKiKP	10 57 57.4	0.0
	baz=129						
635A	Leesville	129.23	57	⇑PKiKP	PKiKP	10 57 57.6	+0.1
	baz=129						
735A	Kenedy	129.36	58	⇓PKiKP	PKiKP	10 57 57.8	+0.1
	baz=129						
336A	Riesel	129.36	54	⇓PKiKP	PKiKP	10 57 57.5	-0.2
	baz=129						
PLCA	Paso Flores	129.48	159	PKP	PKPdf	10 57 57.7	+0.7
	comp=Z,12nm,0.9s,baz=283,slow=3.4,SNR=6.7						
PLCA	Paso Flores	129.48	159	PKP	PKPdf	10 57 57.7	+0.7
PLCA				*e*PKPdf	PKiKP	10 57 58.1	+0.3
835A	Beeville	129.50	58	⇑PKiKP	PKiKP	10 57 58.7	+0.7
	baz=130						
436A	Wall Ranch, Ga	129.61	55	⇑PKiKP	PKiKP	10 57 58.2	0.0
	baz=130						
536A	Bastrop	129.61	56	⇓PKiKP	PKiKP	10 57 58.2	0.0
	baz=130						
SCHQ	Schefferville	129.63	13	PKP	PKPdf	10 57 57.0	+0.3
	comp=Z,7.2nm,0.6s,baz=267,slow=8.3,SNR=23						
SCHQ				SKPbc	SKPab	11 01 05.0	-1.6
	comp=Z,8.2nm,0.9s,baz=34,slow=2.9,SNR=4.8						
035A	Encino	129.63	60	⇓PKiKP	PKiKP	10 57 59.1	+0.8
	baz=130						
035Z	Hargill	129.78	61	⇓PKiKP	PKiKP	10 57 59.3	+0.7
	baz=130						
636A	Smothers Creek	129.80	57	⇑PKiKP	PKiKP	10 57 59.4	+0.8
	baz=130						
137A	Heron Place, G	129.81	52	⇓PKiKP	PKiKP	10 57 59.2	+0.6
	baz=130						
237A	Washetta, Mont	129.98	53	⇑PKiKP	PKiKP	10 57 59.2	+0.4
	baz=130						
537A	Green Hill Far	130.22	56	⇓PKiKP	PKiKP	10 57 59.6	+0.2
	baz=130						
138A	Matatall Enter	130.31	52	⇓PKiKP	PKiKP	10 57 59.5	0.0
	baz=130						
EVO	Evora	130.49	317	*e*PKIKP	PKPdf	10 57 59.7	+0.9
	comp=Z,184nm,1.6s						
238A	Jacksonville	130.53	53	⇑PKiKP	PKiKP	10 57 59.6	-0.3
	baz=131						
EVOP	Sao Brissos	130.57	317	*e*PKIKP	PKPdf	10 57 59.7	+0.7
EVOP	Sao Brissos	130.57	317	*e*PKPdf	PKPdf	10 57 59.7	+0.7
338A	Crockett	130.61	54	⇑PKiKP	PKiKP	10 58 00.4	+0.3
	baz=131						
438A	Sam Houston St	130.69	54	⇓PKiKP	PKiKP	10 58 00.9	+0.6
	baz=131						
538A	Harpers Horsep	130.85	55	⇓PKiKP	PKPdf	10 58 00.1	+0.4
	baz=131						
239A	Gary	131.04	52	⇓PKiKP	PKiKP	10 58 01.0	0.0
	baz=131						
339A	Huntington	131.22	53	⇑PKiKP	PKiKP	10 58 01.3	-0.1
	baz=131						
340A	Bronson	131.72	53	⇑PKiKP	PKPdf	10 58 01.7	+0.4
	baz=132						
SFIN	Lafayette	132.30	39	⇑PKiKP	PKPdf	10 58 02.5	+0.3
	baz=132						
OLIL	Olney	132.58	41	*e*PKPdf	PKPdf	10 58 04.2	+1.4
WVT	Waverly	134.15	44	*e*PKIKP	PKPdf	10 58 05.5	-0.3
WVT	Waverly	134.15	44	*e*PKPdf	PKPdf	10 58 05.5	-0.3
KIC	Kosan Boka	135.33	273	*e*PKIKP	PKPdf	10 58 10.1	+1.5
	comp=Z,79nm,1.2s						
KIC	Kosan Boka	135.33	273	*e*P	PP	11 00 44.7	-1.8
	comp=Z,163nm,1.5s						
DBIC	Dimbokro	135.45	273	PKP	PKPdf	10 58 09.3	+0.4
	comp=Z,16nm,0.7s,baz=99,slow=2.7,SNR=11						
DBIC				SKPbc	SKPbc	11 01 26.6	-1.9
	comp=Z,7.6nm,0.8s,baz=115,slow=4.9,SNR=3.5						
DBIC	Dimbokro	135.45	273	*e*PKPdf	PKPdf	10 58 08.8	0.0
DBIC				PKP	PKPdf	10 58 09.3	+0.4
DBIC				SKPbc	SKPbc	11 01 26.6	-1.9
LIC	Lamto	135.60	273	⇑*i*PKIKP	PKPdf	10 58 09.1	-0.1
	comp=Z,11nm,0.3s						
LIC	Lamto	135.60	273	*e*PKIKP	PKPdf	10 58 10.5	+1.3
	comp=Z,51nm,0.8s						
LIC	Lamto	135.60	273	*e*P	PP	11 00 46.3	-1.9
	comp=Z,116nm,1.6s						
LIC	Lamto	135.60	273	⇑*i*PKPdf	PKPdf	10 58 09.1	-0.1
TIC	Toumodi	135.61	273	*e*PKIKP	PKPdf	10 58 10.7	+1.5
	comp=Z,30nm,0.7s						
TIC	Toumodi	135.61	273	*e*P	PP	11 00 43.3	-5.0
	comp=Z,7.2nm,0.2s						
LRAL	Lakeview Retre	136.30	47	*e*PKPdf	PKPdf	10 58 10.3	+0.4
SSPA	Standing Stone	137.47	32	*e*PKPdf	PKPdf	10 58 12.3	+0.4
CFAA	Coronel Fontan	138.41	156	PKhKP	PKPpre	10 58 04.8	
	comp=Z,1.1nm,0.5s,baz=226,slow=3.1,SNR=11						
CFAA				PKP	PKPdf	10 58 14.2	+0.2
	comp=Z,1.8nm,0.5s,baz=223,slow=3.3,SNR=9.8						
CFAA				SKPbc	SKPbc	11 01 33.8	-3.1
	comp=Z,0.5nm,0.8s,baz=198,slow=1.7,SNR=7.9						
KMSC	Kings Mountain	139.08	41	⇓PKiKP	PKPdf	10 58 15.2	+0.3
	baz=139						
KMSC	Kings Mountain	139.08	41	*e*PKPdf	PKPdf	10 58 15.4	+0.4
LCO	Las Campanas	139.53	151	*e*PKPdf	PKPdf	10 58 17.1	+0.7
TEIG	Tepich	140.08	66	PKhKP	PKPpre	10 58 10.9	
	baz=352,slow=7.1						
JTS	JuntasAbangare	144.90	81	PKIKP	PKPdf	10 58 26.8	+0.9
JTS				pmax	pmax		
	comp=Z,155nm,0.6s						
JTS	JuntasAbangare	144.90	81	PKPbc	PKPdf	10 58 26.8	+0.9
	comp=Z,155nm,0.6s,baz=310,slow=2.7,SNR=196						
LVC	Limon Verde	145.71	147	*e*PKPbc	PKPab	10 58 29.1	+0.7
ATAH	Atahualpa	148.44	114	PKP	PKPdf	10 58 34.1	+1.7
	comp=Z,77nm,0.8s,baz=239,slow=2.3,SNR=21						
ATAH				PKPbc	PKiKP	10 58 38.2	+0.7
	comp=Z,77nm,0.8s,baz=252,slow=2.5,SNR=21						
BCIP	Isla Barro Col	150.00	83	*e*PKPdf	PKPdf	10 58 34.6	+0.3
BCIP				*e*PKPbc	PKPbc	10 58 39.7	+0.3
BCIP				*e*PKPab	PKPab	10 58 46.2	+0.7
OTAV	Otavalo	150.69	101	*e*PKPdf	PKPdf	10 58 36.3	+0.2
OTAV				*e*PKPbc	PKiKP	10 58 42.5	+0.1
OTAV				*e*PKPab	PKPab	10 58 49.7	+0.7
LPAZ	La Paz	151.12	141	PKP	PKPdf	10 58 38.0	+1.2
	comp=Z,9.0nm,0.9s,baz=16,slow=0.9,SNR=29						
LPAZ				PKPbc	PKiKP	10 58 44.1	+0.8
	comp=Z,36nm,0.4s,baz=241,slow=0.5,SNR=167						
LPAZ	La Paz	151.12	141	*e*PKPdf	PKPdf	10 58 37.7	+0.9
LPAZ				PKP	PKPdf	10 58 38.0	+1.2
LPAZ				*e*PKPbc	PKiKP	10 58 43.2	-0.1
LPAZ				PKPbc	PKiKP	10 58 44.1	+0.8
LPAZ				*e*PKPab	PKPab	10 58 51.9	+1.2
SIV	San Ignacio	155.20	153	PKP	PKPdf	10 58 42.7	+0.7
	comp=Z,8.5nm,0.9s,baz=234,slow=1.9,SNR=14						
SIV				PKPab	PKPab	10 59 07.5	+0.3
	comp=Z,16nm,0.7s,baz=232,slow=3.3,SNR=3.4						
ROSC	El Rosal	155.45	92	PKP	PKPdf	10 58 43.0	+0.1
	comp=Z,9.3nm,0.6s,baz=84,slow=2.8,SNR=7.5						
ROSC				PKPab	PKPab	10 59 11.9	+2.8
	comp=Z,16nm,0.6s,baz=183,slow=16,SNR=6.4						
BDFB	Brasilia	158.19	184	PKP	PKPdf	10 58 45.5	-0.5
	comp=Z,10nm,0.9s,baz=144,slow=14,SNR=11						
SDV	Santo Domingo	159.08	81	*e*PKPdf	PKPdf	10 58 46.9	-0.2
SDV				*e*PKPab	PKPab	10 59 26.2	+1.7
LRS	Lares	159.43	53	*e*PKPdf	PKPdf	10 58 47.3	+0.1
LRS				*e*PKPab	PKPab	10 59 25.9	+0.4
CELP	Cerrillos	159.76	53	*e*PKPdf	PKPdf	10 58 47.8	+0.2
CELP				*e*PKPab	PKPab	10 59 27.8	+0.9
SAML	Samuel	159.79	138	*e*PKPdf	PKPdf	10 58 48.2	+0.5
RCBR	Riachuelo	161.74	229	PKPab	PKPab	10 59 36.3	+0.6
	comp=Z,41nm,0.9s,baz=124,slow=5.5,SNR=11						
PTGA	Pitinga	167.63	124	PKP	PKPdf	10 58 55.0	0.0
	comp=Z,7.3nm,0.7s,baz=200,slow=1.1,SNR=11						
PTGA	Pitinga	167.63	124	*e*PKPdf	PKPdf	10 58 55.0	0.0
PTGA				PKP		10 58 55.0	
PTGA				*e*PKPab	PKPab	11 00 02.4	+0.7

*GUC **26** 10:39:05.6±0.4, 28°.24S×69°.12W, h103km±5km, ML3.3*
*ISCJB **26** 10:39:07.2±0.8, 28°.28S±0°.06×69°.28W±0°.10, h102km, mb3.6/4, Error ellipse: s-maj=12.6km s-min=6.8km az=21.9*
*IDC **26** 10:39:51.5±20.0, 25°.06S×67°.94W, h384km±141km, mb3.1/4, mb1 3.4/5, mb1mx3.2/21, mbtmp3.7/5, Error ellipse: s-maj=262.7km s-min=29.6km az=20.0*

ISC 26 10:39:06.2±1.2, 28°.16S±0°.06×69°.1W±0°.1, h102km, n13, σ2s 51/14, mb3.4/3, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	1.36	306	*e*P	Pn	10 39 30.7	-0.1
CPCH				*e*S	Sn	10 39 49.9	+0.4
VACH	Vallenar	1.50	254	*e*P	Pn	10 39 31.9	-0.7
VACH				*e*S	Sn	10 39 51.4	-1.2
LSCH	La Serena	2.55	226	*e*P	Pn	10 39 44.6	-1.3
LSCH				*e*S	Sn	10 40 14.2	-2.3
LSCH				AML	AML	10 40 38.5	
	comp=N,134nm,0.4s						
CMCH	Combarbala	3.42	208	*e*P	Pn	10 39 56.5	-1.2
CMCH				*e*S	Sn	10 40 35.0	-2.4
CEN1	Los Morros	4.85	348	*e*P	Pn	10 40 14.9	-2.1
CEN1				*e*S	Sn	10 41 08.0	-4.2
LPAZ	La Paz	11.85	5	P	Pn	10 41 55.3	+2.8
	comp=N,0.5nm,0.3s,baz=178,slow=4.2,SNR=13						
TXAR	Lajitas Array	66.04	327	P	P	10 49 45.9	+3.7
	comp=N,0.3nm,0.6s,baz=140,slow=7.1,SNR=4.7						
PDAR	Pinedale Array	79.80	331	P	P	10 51 06.8	+3.5
	comp=N,0.4nm,0.6s,baz=139,slow=8.1,SNR=4.1						
TORD	Torodi Ar. Bea	79.83	69	P	P	10 51 07.9	+4.1
	comp=N,1.7nm,1.1s,baz=272,slow=5.9,SNR=7.7						
YKA	Yellowknife Ar	97.38	340	P	Pdif	10 52 30.1	+2.6
	comp=N,0.3nm,0.6s,baz=141,slow=3.9,SNR=8.2						
KURBB	Kurchatov Arra	146.83	39	PKP	PKPab	10 58 40.2	+2.5
	comp=N,1.7nm,0.6s,baz=308,slow=3.3,SNR=7.9						
ZALV	Zalesovo Beam	147.94	29	PKP	PKPab	10 58 43.1	+1.1
	comp=N,3.7nm,0.5s,baz=294,slow=3.5,SNR=8.4						
MKAR	Makanchi Array	150.90	43	PKPbc	PKPab	10 58 50.4	-4.0
	comp=N,3.2nm,0.7s,baz=300,slow=3.0,SNR=14						

MAN 26 10:40:20, 13°.69N×120°.52E, h81km, mb4.0, ML2.8, MS2.5, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.27	281	*e*P	Pn	10 40 34.9	+2.7
LUBP				*e*S	Sn	10 40 39.4	-1.9
PGP	Puerto Galera	0.46	113⇑	*e*P	Pn	10 40 36.4	+2.8
PGP				*i* S	Sn	10 40 47.7	+4.1
TGY	Tagaytay City	0.58	44⇑	*i*P	Pn	10 40 37.0	+2.4
TGY				*i* S	Sn	10 40 49.6	+4.1
SJMP	San Jose	1.35	154	*e*P	Pn	10 40 46.1	+2.6
BUSP	Coron	1.70	191	*e*P	Pn	10 40 49.6	+1.6
OTRP	Odiongan	1.97	132	*e*P	Pn	10 40 53.5	+2.0
ENPP	El Nido	2.69	204	*e*P	Pn	10 41 03.1	+2.0
CUYO	Cuyo Island	2.86	170	*e*P	Pn	10 41 05.0	+1.4

*ISCJB **26** 10:40:24.6±0.4, 38°.85N±0°.02×21°.90E±0°.03, h8km±4km, Error ellipse: s-maj=4.1km s-min=3.1km az=147.5*
*CSEM **26** 10:40:24.3±0.2, 38°.85N×21°.89E, h15km, MD3.1, Error ellipse: s-maj=3.5km s-min=3.2km az=116.0*
*ATH **26** 10:40:24.2, 38°.86N×21°.87E, h13km±2km, MD3.1/12*
*THE **26** 10:40:25.1, 38°.84N×21°.90E, h2km±40km, ML2.1/7, Error ellipse: s-maj=40.5km s-min=0.6km az=0.0*

ISC 26 10:40:24.3±0.8, 38°.84N±0°.02×21°.88E±0°.02, h10km±5km, n45, σ0s 49/78, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.10	325	P	Pg	10 40 26.6	-0.4
EVR				S	Sg	10 40 28.8	-0.2
EVR	Evrytania	0.10	325	*e*PG	Pg	10 40 26.8	-0.2
EVR				*e*SG	Sg	10 40 29.0	0.0
EVR	Evrytania	0.10	325	*e*Pg	Pg	10 40 26.8	-0.2
EVR				*e*Sg	Sg	10 40 29.0	0.0
MAKR	Makrakomi, Fth	0.26	48	*e*PG	Pg	10 40 29.7	0.0
MAKR				*e*SG	Sg	10 40 34.0	+0.7
MAKR	Makrakomi, Fth	0.26	48	*e*Pg	Pg	10 40 29.7	0.0
MAKR				*e*Sg	Sg	10 40 34.0	+0.7
PVO	Paravola	0.35	232	P	Pg	10 40 31.7	+0.4
PVO				S	Sb	10 40 38.0	-0.3
PVO	Paravola	0.35	232	P	Pg	10 40 31.7	+0.4
PVO				S	Sb	10 40 38.0	-0.3
AGG	Agios Georgios	0.40	62	P	Pg	10 40 32.1	0.0
AGG				S	Sg	10 40 38.2	+0.8
AGG	Agios Georgios	0.40	62	*e*PB	Pg	10 40 31.9	-0.2
AGG				*e*SB	Sg	10 40 37.8	+0.4
AGG	Agios Georgios	0.40	62	P	Pg	10 40 32.1	0.0
AGG				*e*Sb	Sg	10 40 37.8	+0.4
AGG				S	Sg	10 40 38.2	+0.8
EFP	Efpalio	0.41	177	P	Pg	10 40 32.7	+0.4
EFP				S	Sb	10 40 39.4	-0.4
EFP	Efpalio	0.41	177	*e*PB	Pg	10 40 32.8	+0.4
EFP	Efpalio	0.41	177	P	Pg	10 40 32.7	+0.4
EFP				S	Sb	10 40 39.4	-0.4
KALE	Kalithea	0.49	155	*e*PB	Pg	10 40 33.7	-0.1
KALE				*e*SB	Sb	10 40 42.3	+0.1
KALE	Kalithea	0.49	155	*e*Pb	Pg	10 40 33.7	-0.1
KALE				*e*Sb	Sb	10 40 42.3	+0.1
PDO	Prodromos	0.59	247	P	Pg	10 40 35.6	-0.2
PDO				S	Sb	10 40 45.0	-0.2
PDO	Prodromos	0.59	247	*e*PB	Pg	10 40 35.1	-0.7
PDO	Prodromos	0.59	247	*e*Pb	Pg	10 40 35.1	-0.7
PDO	Prodromos	0.59	247	P	Pg	10 40 35.6	-0.2
PDO				S	Sb	10 40 45.0	-0.2
DSL	Palaion Diasel	0.68	296	P	Pb	10 40 38.2	-0.1
DSL				S	Sb	10 40 48.1	+0.3
DSL	Palaion Diasel	0.68	296	*e*PB	Pg	10 40 37.8	+0.3
DSL	Palaion Diasel	0.68	296	*e*Pb	Pg	10 40 37.8	+0.3
DSL	Palaion Diasel	0.68	296	P	Pb	10 40 38.2	-0.1
DSL				S	Sb	10 40 48.1	+0.3
THL	Klokotos Trika	0.74	8	P	Pb	10 40 39.5	+0.3
THL				S	Sb	10 40 49.8	+0.5
THL	Klokotos Trika	0.74	8	*e*PB	Pg	10 40 37.4	-1.1
THL	Klokotos Trika	0.74	8	*e*Pb	Pg	10 40 37.4	-1.1
THL	Klokotos Trika	0.74	8	P	Pb	10 40 39.5	+0.3
THL				S	Sb	10 40 49.8	+0.5
KLV	Kalavryta, Ach	0.82	165	P	Pg	10 40 39.6	-0.5
KLV				S	Sb	10 40 52.1	+0.4
KLV	Kalavryta, Ach	0.82	165	*e*PG	Pg	10 40 39.6	-0.5
KLV	Kalavryta, Ach	0.82	165	P	Pg	10 40 39.6	-0.5
KLV				S	Sb	10 40 52.1	+0.4
RLS	Riolos of Patr	0.84	203	*e*PB	Pb	10 40 41.2	+0.2
RLS	Riolos of Patr	0.84	203	*e*Pb	Pb	10 40 41.2	+0.2
DRO	Drossia	0.89	189	P	Pg	10 40 41.1	-0.4
DRO				S	Sn	10 40 55.2	-0.7
DRO	Drossia	0.89	189	*e*PB	Pg	10 40 40.7	-0.8
DRO	Drossia	0.89	189	*e*Pb	Pg	10 40 40.7	-0.8
DRO	Drossia	0.89	189	P	Pg	10 40 41.1	-0.4
DRO				S	Sn	10 40 55.2	-0.7
LKR	Lokris	0.89	102	P	Pn	10 40 42.1	-0.8
LKR				S	Sb	10 40 54.2	+0.4
LKR	Lokris	0.89	102	*e*PN	Pn	10 40 42.2	-0.7
LKR	Lokris	0.89	102	P	Pn	10 40 42.1	-0.8
LKR				S	Sb	10 40 54.2	+0.4
LKD2	Lefkada island	0.96	268	P	Pn	10 40 43.6	-0.2
LKD2				S	Sn	10 40 57.6	+0.1
LKD2	Lefkada island	0.96	268	P	Pn	10 40 43.6	-0.2
LKD2				S	Sn	10 40 57.6	+0.1
GUR	Goura	0.97	158	P	Pn	10 40 43.9	-0.1
GUR				S	Sn	10 40 57.5	-0.4
GUR	Goura	0.97	158	P	Pn	10 40 43.9	-0.1
GUR				S	Sn	10 40 57.5	-0.4
KFL	Anninata	1.12	230	P	Pn	10 40 45.9	-0.2
KFL				S	Sn	10 41 02.8	+1.3
KFL	Anninata	1.12	230	P	Pn	10 40 45.9	-0.2
KFL				S	Sn	10 41 02.8	+1.3

IDC 26 10:41:08.5±2.9, 53°.52N×87°.91E, h0km, mb1 2.8/2, mb1mx2.7/46, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=26.7km s-min=17.3km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.88	284	*i*		10 54 40.4	
	baz=98,slow=332,SNR=1.2						
ZALV	Zalesovo Beam	1.88	284	Pn	Pn	10 41 41.7	-0.3
	1.6nm,0.3s,baz=104,slow=15,SNR=9.9						
ZALV				Lg	Lg	10 42 07.5	
	3.2nm,0.3s,baz=104,slow=28,SNR=19						
KURBB	Kurchatov Arra	6.47	247	Pn	Pn	10 42 46.2	+1.2
	0.1nm,0.3s,baz=61,slow=14,SNR=2.7						
KURBB				Lg	Lg	10 44 32.8	
	0.1nm,0.3s,baz=62,slow=35,SNR=2.6						
MKAR	Makanchi Array	7.64	210	Pn	Pn	10 43 01.7	+0.6
	0.1nm,0.3s,baz=32,slow=13,SNR=4.8						
MKAR				Lg	Lg	10 45 10.6	
	0.1nm,0.3s,baz=28,slow=34,SNR=3.0						

WEL 26 10:47:56.2±0.2, 45°.11S×167°.48E, h115km±1km, ML3.7/10, 4C-4D, Error ellipse: s-maj=3.3km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.54	36	PN	Pn	10 48 13.8	0.0
MSZ				SN	Sn	10 48 26.9	-0.1
MSZ				AML	AML	10 48 27.6	
MSZ				AML	AML	10 48 27.7	
MSZ				AML	AML	10 48 29.3	
MLZ	Mavora Lakes	0.55	116	⇑PN	Pn	10 48 13.5	-0.5
MLZ				SN	Sn	10 48 26.1	-1.2
MLZ				AML	AML	10 48 27.2	
WHZ	Wether Hill Ro	0.85	157	⇑PN	Pn	10 48 16.1	-0.3
WHZ				AML	AML	10 48 31.2	
WHZ				AML	AML	10 48 31.7	
WKZ	Wanaka	1.13	76	⇓PN	Pn	10 48 19.3	+0.1
WKZ				AML	AML	10 48 36.9	
WKZ				AML	AML	10 48 36.9	
WKZ				AML	AML	10 48 38.0	
WKZ				AML	AML	10 48 38.0	
EAZ	Earnscleugh	1.30	96	⇓PN	Pn	10 48 20.9	-0.1
EAZ				AML	AML	10 48 39.3	
EAZ				AML	AML	10 48 39.3	
EAZ				AML	AML	10 48 40.7	
EAZ				AML	AML	10 48 40.7	
JCZ	Jackson Bay	1.38	42	PN	Pn	10 48 21.8	-0.3
JCZ				AML	AML	10 48 43.5	
JCZ				AML	AML	10 48 44.5	
TUZ	Tuapeka	1.73	120	⇑PN	Pn	10 48 26.2	+0.1
APZ	The Paps	1.76	169	PN	Pn	10 48 26.4	-0.1
APZ				AML	AML	10 48 50.8	
APZ				AML	AML	10 48 51.1	
SYZ	Scrubby Hill	1.84	142	⇓PN	Pn	10 48 27.4	0.0
SYZ

COCH	**Cobquecura**	**1.75 205**	*eP*	Pn	11 06 44.9	+0.9
COCH			*eS*	Sb	11 07 07.2	-0.9

*KOLA **26** 11:06:31.7, 67°.65N×34°.03E, h0km*
*HEL **26** 11:06:31.2±0.5, 67°.59N×34°.11E, h0km, ML2.2, Explosion*
*NAO **26** 11:06:31.2±1.5, 67°.53N×33°.98E, ML2.6*
*CSEM **26** 11:06:32.1±1.0, 67°.50N×33°.68E, h2km, ML2.1, Error ellipse: s-maj=17.3km s-min=9.1km az=98.0, Mining explosion.*

ISC 26 11:06:31.1±1.8, 67°.63N±0°.04×34°.01E±0°.09, h0km, n32, σ1§14/55, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.24 255**		P	**Pg**	**11 06 36.2**	**+0.6**
APA				S	**Sg**	**11 06 39.5**	**+0.7**
APA0	**Apatity Array**	**0.39 267**		Pg	**Pg**	**11 06 35.9**	**-2.6**
APA0				Pg	**Pg**	**11 06 38.4**	**-0.1**
	baz=102,slow=16						
APA0				Lg	Lg	11 06 39.7	
APA0				Lg	Lg	11 06 44.1	
	baz=84,slow=37						
APA0				Rg	Rg	11 06 45.3	
	baz=84,slow=37						
APA0	**Apatity Array**	**0.39 267**		Pn	**Pg**	**11 06 35.9**	**-2.6**
APA0				Pg	**Pg**	**11 06 38.4**	**-0.1**
	baz=102,slow=16						
APA0				Lg	Lg	11 06 39.7	
APA0				Lg	Lg	11 06 44.1	
	baz=84,slow=37						
APA0				Rg	Rg	11 06 45.3	
	baz=84,slow=37						
APA0	**Apatity Array**	**0.39 267**		Pn	**Pg**	**11 06 35.9**	**-2.6**
	SNR=90						
APA0	**Apatity Array**	**0.39 267**		Pg	**Pg**	**11 06 38.4**	**-0.1**
	SNR=91						
APA0				Lg	Lg	11 06 39.7	
	SNR=90						
APA0	**Apatity Array**	**0.39 267**		P	**Pg**	**11 06 38.8**	**+0.3**
APA0				S	**Sg**	**11 06 44.0**	**+0.4**
VRF	**Varrio**	**1.69 276**		PG	**Pn**	**11 07 01.5**	**-0.2**
VRF				SG	**Sn**	**11 07 23.6**	**-0.4**
VRF				MSG		11 07 23.6	
	comp=Z,13nm,0.2s						
VRF	**Varrio**	**1.69 276**		Pg	**Pn**	**11 07 01.5**	**-0.2**
VRF				Sg	**Sn**	**11 07 23.6**	**-0.4**
KU6	**Riekki**	**2.29 227**		PG	**Pn**	**11 07 11.6**	**+1.5**
	baz=49						
KU6				SG	**Sb**	**11 07 41.9**	**-0.2**
KU6	**Riekki**	**2.29 227**		Pg	**Pn**	**11 07 11.6**	**+1.5**
KU6				Sg	**Sb**	**11 07 41.9**	**-0.2**
MSF	**Maaselka**	**2.62 231**		PG	**Pb**	**11 07 17.2**	**-1.6**
	baz=52						
MSF				SG	**Sb**	**11 07 51.8**	**+0.3**
MSF				MSG		11 07 51.8	
	comp=Z,7.3nm,0.3s						
MSF	**Maaselka**	**2.62 231**		Pg	**Pb**	**11 07 17.2**	**-1.6**
MSF				Sg	**Sb**	**11 07 51.8**	**+0.3**
SGF	**Sodankyl**	**2.88 270**		PN	**Pn**	**11 07 19.0**	**+0.9**
SGF				SB	**Sb**	**11 07 58.4**	**-0.6**
SGF				MSG		11 07 58.4	
	comp=Z,26nm,0.3s						
SGF	**Sodankyl**	**2.88 270**		Pn	**Pn**	**11 07 19.0**	**+0.9**
SGF				Sb	**Sb**	**11 07 58.4**	**-0.6**
RNF	**Rovaniemi**	**3.29 256**		PN	**Pn**	**11 07 24.1**	**+0.4**
RNF				SB	**Sn**	**11 08 05.6**	**+2.1**
RNF				MSG		11 08 05.6	
	comp=Z,5.2nm,0.2s						
RNF	**Rovaniemi**	**3.29 256**		Pn	**Pn**	**11 07 24.1**	**+0.4**
RNF				Sb	**Sn**	**11 08 05.6**	**+2.1**
KEV	**Kevo**	**3.33 313**		PN	**Pn**	**11 07 25.3**	**+1.0**
KEV				SN	**Sn**	**11 08 04.8**	**+0.3**
KEV				MSG		11 08 04.8	
	comp=Z,5.5nm,0.2s						
KEV	**Kevo**	**3.33 313**		Pn	**Pn**	**11 07 25.3**	**+1.0**
KEV				Sn	**Sn**	**11 08 04.8**	**+0.3**
ARA0	**ARCESS Array S**	**3.66 305**		Pn	**Pn**	**11 07 29.1**	**+0.2**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**11 07 37.8**	**+1.3**
	baz=124,slow=16						
ARA0				Sn	**Sn**	**11 08 11.2**	**-1.4**
	baz=132,slow=28						
ARA0				Lg	Lg	11 08 22.8	
	baz=124,slow=37						
ARA0	**ARCESS Array S**	**3.66 305**		Pn	**Pn**	**11 07 29.1**	**+0.2**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**11 07 37.8**	**+1.3**
	baz=124,slow=16						
ARA0				Sn	**Sn**	**11 08 11.2**	**-1.4**
	baz=132,slow=28						
ARA0				Lg	Lg	11 08 22.8	
	baz=124,slow=37						
ARA0	**ARCESS Array S**	**3.66 305**		Pn	**Pn**	**11 07 29.1**	**+0.2**
	SNR=50						
ARA0	**ARCESS Array S**	**3.66 305**		Pg	**Pb**	**11 07 37.8**	**+1.3**
	SNR=6.2						
ARA0				Sn	**Sn**	**11 08 11.2**	**-1.4**
	SNR=50						
ARA0				Lg	Lg	11 08 22.8	
ARE0	**ARCESS Array S**	**3.66 305**		PN	**Pn**	**11 07 28.8**	**0.0**
ARE0				SN	**Sn**	**11 08 13.5**	**+0.9**
ARE0				MSG		11 08 13.5	
	comp=Z,5.1nm,0.1s						
ARE0	**ARCESS Array S**	**3.66 305**		Pn	**Pn**	**11 07 28.8**	**0.0**
ARE0				Sn	**Sn**	**11 08 13.5**	**+0.9**
HEF	**Hetta**	**3.97 286**		PN	**Pn**	**11 07 33.8**	**+0.6**
HEF				SN	**Sn**	**11 08 20.0**	**-0.3**
HEF	**Hetta**	**3.97 286**		Pn	**Pn**	**11 07 33.7**	**+0.6**
HEF				Sn	**Sn**	**11 08 19.9**	**-0.3**
KTK1	**Kautokeino**	**4.23 294**	*eP*	Pn	**Pn**	**11 07 38.3**	**+1.6**
KTK1				IAML		11 08 45.1	
	comp=N,10nm,0.4s						
KTK1	**Kautokeino**	**4.23 294**	*eP*	Pn	**Pn**	**11 07 38.3**	**+1.6**
	SNR=49						
FIA0	**FINESS Array S**	**7.08 213**		Lg	Lg	11 10 07.6	
	baz=24,slow=28						
FIA0	**FINESS Array S**	**7.08 213**		Lg	Lg	11 10 07.6	
	baz=24,slow=28						
SPA0	**Spitsbergen Ar**	**11.70 342**		Pn	**Pn**	**11 09 17.9**	**-1.1**
	baz=136,slow=16						
SPA0	**Spitsbergen Ar**	**11.70 342**		P	**Pn**	**11 09 17.9**	**-1.1**
	baz=136,slow=16						

*ISCJB **26** 11:18:59.2±0.6, 5°.09S±0°.07×151°.33E±0°.09, h129km, mb3.8/10, Error ellipse: s-maj=14.4km s-min=8.5km az=27.8*
*IDC **26** 11:19:00.1±1.7, 5°.20S×151°.42E, h129km±13km, mb3.7/10, mb1 3.8/11, mb1mx3.6/29, mbtmp4.0/11, Error ellipse: s-maj=21.5km s-min=10.4km az=119.0*

ISC 26 11:19:00.3±0.8, 5°.2S±0°.1×151°.4E±0°.1, h129km, n23, σ1§10/28, mb4.0/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.98 225**		P	**Pn**	**11 20 26.6**	**+0.1**
	1.4nm,0.3s,baz=50,slow=8.6,SNR=5.4						
PMG				S	**Sn**	**11 21 32.4**	**-1.4**
	5.0nm,0.3s,baz=130,slow=17,SNR=8.3						
PMG	**Port Moresby**	**5.98 225**		P	**Pn**	**11 20 28.4**	**+1.8**
	baz=7.4,SNR=3.9						
PMG				S	**Sn**	**11 21 33.4**	**-0.5**
	baz=7.4,SNR=9.0						
EIDS	**Eidsvold**	**20.11 181**		P	Pn	11 23 25.3	-1.8
	baz=21,SNR=3.6						
KDU	**Kakadu**	**20.15 247**		P	**P**	**11 23 29.3**	**-0.7**
	baz=21,SNR=27						
RMQ	**Roma**	**21.37 187**		P	**P**	**11 23 38.8**	**+1.2**
	baz=23,SNR=12						
MTN	**Manton Dam**	**21.43 248**		P	**P**	**11 23 38.5**	**+0.2**
	baz=23,SNR=21						
WRA	**Warramunga Arr**	**22.19 227**		P	**P**	**11 23 45.3**	**-1.0**
	8.2nm,0.9s,baz=49,slow=10,SNR=62						
WRA				S	**S**	**11 27 39.4**	**-2.5**
	1.6nm,0.9s,baz=49,slow=20,SNR=5.4						
WRA				ScP	**ScP**	**11 31 03.1**	**-0.8**
	1.2nm,0.9s,baz=46,slow=2.5,SNR=7.4						
DZM	**Mont Dzumac**	**22.24 141**		P	**P**	**11 23 47.0**	**+0.2**
	5.9nm,0.6s,baz=288,slow=2.3,SNR=7.5						
QLP	**Quilpie**	**22.39 197**		P	**P**	**11 23 48.8**	**+0.6**
	baz=24,SNR=20						
KNRA	**Kununurra**	**24.59 243**		P	**P**	**11 24 08.4**	**-0.1**
	baz=26,SNR=23						
ASAR	**Alice Springs**	**24.98 221**		P	**P**	**11 24 11.8**	**-0.3**
	2.3nm,0.4s,baz=54,slow=8.9,SNR=53						
ASAR				S	**S**	**11 28 28.9**	**+2.3**
	0.5nm,0.9s,baz=38,slow=17,SNR=3.3						
ASAR				ScP	**ScP**	**11 31 11.1**	**-0.4**
	0.4nm,0.6s,baz=32,slow=2.7,SNR=6.0						
WRKA	**Warakurna**	**29.72 226**		P	**P**	**11 24 53.1**	**-1.4**
	baz=31,SNR=3.6						
MEEK	**Meekatharra**	**37.90 232**		P	**P**	**11 26 04.6**	**-0.6**
	baz=39,SNR=24						
MORW	**Morawa**	**41.06 230**		P	**P**	**11 26 31.5**	**+0.2**
	baz=42,SNR=4.6						
CMAR	**Chiang Mai Arr**	**56.78 296**		P	**P**	**11 28 32.7**	**+1.3**
	0.8nm,0.4s,baz=115,slow=5.7,SNR=8.8						
SONM	**Songino Array**	**65.89 329**		P	**P**	**11 29 33.6**	**+1.2**
	1.3nm,0.6s,baz=147,slow=5.0,SNR=10						
MKAR	**Makanchi Array**	**79.68 319**		P	**P**	**11 30 53.8**	**0.0**
	1.0nm,0.7s,baz=95,slow=7.7,SNR=10.0						
ZALV	**Zalesovo Beam**	**80.68 327**		P	**P**	**11 30 58.0**	**-0.8**
	1.8nm,0.7s,baz=131,slow=4.3,SNR=7.6						
ILAR	**Eielson Array**	**83.00 22**		P	**P**	**11 31 09.8**	**-1.0**
	0.6nm,0.6s,baz=246,slow=5.2,SNR=12						
KURBB	**Kurchatov Arra**	**83.22 322**		P	**P**	**11 31 11.5**	**-0.7**
	0.5nm,0.6s,baz=106,slow=4.5,SNR=11						
AAK	**Ala-Archa**	**83.90 314**		P	**P**	**11 31 16.6**	**+0.5**
	baz=105,slow=6.4						
YKA	**Yellowknife Ar**	**96.37 28**		P	**P**	**11 32 13.9**	**-0.3**
	0.1nm,0.4s,baz=266,slow=4.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**149.10 287**		PKPbc	**PKPbc**	**11 38 33.7**	**-0.8**
	3.2nm,0.7s,baz=102,slow=2.7,SNR=31						

MAN 26 11:40:24, 9°.73N×123°.90E, h8km, mb4.7, ML3.6, MS3.5, 2C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.05 226**		*eP*	Pg	11 40 26.5	+0.7
TBP				*eS*	Sg	11 40 28.2	+1.2
MSLP	**Maasin**	**1.03 67**		*eP*	Pg	11 40 43.5	-0.3
MSLP				*eS*	Sb	11 40 58.5	+0.8
DCPH	**Dipolog City**	**1.26 205**		↑*iP*	Pn	11 40 46.6	-1.3
DCPH				*i S*	Sb	11 41 04.4	+0.1
CGP	**Cagayan de Oro**	**1.49 148**		↑*iP*	Pn	11 40 48.7	-2.3
CGP				*i S*	Sn	11 41 08.2	-2.5
GUIM	**Jordan**	**1.57 305**		*eP*	Pn	11 40 51.6	-0.6
GUIM				*eS*	Sn	11 41 08.1	-4.6
PLP	**Palo**	**1.78 37**		↓*eP*	Pn	11 40 54.7	-0.4
PLP				*eS*	Sn	11 41 11.8	-6.1
BUTP	**Butuan**	**1.86 114**		*eP*	Pn	11 40 56.8	+0.7
PAGZ	**Pagadian**	**1.94 195**		*eP*	Pn	11 40 57.6	+0.4
BUKP	**Musuan**	**2.17 148**		*eP*	Pn	11 41 01.1	+0.6
IPIL	**Ipil**	**2.33 214**		*eP*	Pn	11 41 04.3	+1.6
CTBH	**Cotabato--PC H**	**2.51 172**		↓*iP*	Pn	11 41 05.9	+0.7
CTBH				*i S*	Sn	11 41 37.3	+1.3

IDC 26 11:53:56.4±5.7, 18°.30S×177°.69W, h604km±76km, mb3.0/8, mb1 3.4/8, mb1mx3.1/20, mbtmp3.9/8, Error ellipse: s-maj=43.2km s-min=21.2km az=172.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.40 192**		P	P	11 57 52.9	-0.5
	4.2nm,0.8s,baz=90,slow=1.0,SNR=4.8						
WRA	**Warramunga Arr**	**45.23 260**		P	P	12 01 21.4	-0.1
	0.5nm,0.4s,baz=96,slow=7.3,SNR=18						
ASAR	**Alice Springs**	**45.34 255**		P	P	12 01 22.9	+0.5
	0.5nm,0.4s,baz=88,slow=8.2,SNR=24						
ASAR				PcP	PcP	12 02 48.1	-0.7
	0.3nm,0.9s,baz=96,slow=4.2,SNR=2.7						
NVAR	**Mina Array Bea**	**79.23 43**		P	P	12 05 00.9	+0.4
	0.8nm,0.7s,baz=224,slow=9.8,SNR=4.6						
TXAR	**Lajitas Array**	**85.63 57**		P	P	12 05 34.1	+1.5
	0.9nm,0.7s,baz=218,slow=6.4,SNR=15						
ILAR	**Eielson Array**	**86.11 13**		P	P	12 05 32.8	-1.2
	0.5nm,0.4s,baz=217,slow=5.0,SNR=36						
PDAR	**Pinedale Array**	**87.17 43**		P	P	12 05 39.1	-0.7
	0.5nm,0.7s,baz=222,slow=1.2,SNR=3.1						
YKA	**Yellowknife Ar**	**94.40 25**		P	P	12 06 11.9	-0.4
	0.2nm,0.6s,baz=246,slow=4.8,SNR=5.4						
GERES	**GERESS Array B**	**148.16 346**		PKPbc	PKPbc	12 12 35.0	-0.4
	0.9nm,0.7s,baz=157,slow=4.1,SNR=3.8						

*JMA **26** 12:04:33.8±0.1, 26°.15N×129°.58E, h44km, M3.4*
*IDC **26** 12:04:39.8±8.1, 26°.12N×127°.92E, h0km, mb3.5/5, mb1 3.5/5, mb1mx3.4/25, mbtmp3.5/5, Error ellipse: s-maj=216.0km s-min=45.0km az=8.0*

ISC 26 12:04:33.4±2.7, 26°.30N±0°.09×129°.42E±0°.09, h2km±12km, n16, σ0§90/24, mb3.3/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.16 298**		P	**Pn**	**12 04 56.8**	**+0.1**
JOW				S	**Sn**	**12 05 13.3**	**+0.1**
JNTH	**Nagotoyohara**	**1.27 280**		P	**Pg**	**12 04 57.7**	**-0.2**
JNTH				S	**Sn**	**12 05 15.7**	**-0.3**
JOKE	**Okinoerabujima**	**1.31 325**		P	**Pb**	**12 04 59.2**	**+0.4**
JOKE				S	**Sn**	**12 05 16.6**	**-0.3**
JIH	**Iheya**	**1.50 300**		P	**Pb**	**12 05 01.9**	**-0.1**
JIH				S	**Sg**	**12 05 21.5**	**-0.1**
JJT2	**Tamagusuku 2**	**1.51 264**		P	**Pn**	**12 05 01.2**	**-0.4**
JJT2				S	**Sg**	**12 05 21.7**	**-0.3**
JTK	**Tokunoshima**	**1.54 344**		P	**Pn**	**12 05 02.5**	**+0.5**
JTK				S	**Sn**	**12 05 21.2**	**-1.5**
JMZ	**Minamidaito 2**	**1.69 106**		P	Pn	12 04 59.1	-4.9
JMZ				S	Sn	12 05 17.0	-9.2
JAMN	**Amaminishikomi**	**1.95 354**		P	**Pn**	**12 05 07.9**	**+0.2**
JAMN				S	**Sn**	**12 05 31.9**	**-0.9**
JAGN	**Aguni-jima**	**1.98 279**		P	**Pn**	**12 05 08.2**	**+0.2**
JAGN				S	**Sn**	**12 05 33.5**	**+0.1**
JAM	**Amami Oshima**	**2.12 4**		P	**Pn**	**12 05 09.8**	**-0.1**
JAM				S	**Sn**	**12 05 34.2**	**-2.6**
JKE	**Kume jima 2**	**2.37 271**		P	**Pn**	**12 05 12.4**	**-0.9**
JKE				S	**Sn**	**12 05 41.7**	**-1.3**
SONM	**Songino Array**	**28.09 326**		P	**P**	**12 10 28.3**	**+1.6**
	0.4nm,0.8s,baz=143,slow=9.5,SNR=3.8						
MKAR	**Makanchi Array**	**42.29 312**		P	**P**	**12 12 28.5**	**0.0**
	0.7nm,0.7s,baz=100,slow=9.8,SNR=6.9						
ZALV	**Zalesovo Beam**	**42.85 322**		P	**P**	**12 12 33.5**	**+0.6**
	0.3nm,0.4s,baz=106,slow=9.4,SNR=2.8						
BVAR	**Borovoye Array**	**50.94 318**		P	**P**	**12 13 36.0**	**-0.2**
	0.9nm,0.7s,baz=81,slow=9.2,SNR=5.3						
YKA	**Yellowknife Ar**	**78.01 25**		P	P	12 16 44.1	+11
	0.1nm,0.7s,baz=296,slow=5.7,SNR=3.3						

IDC 26 12:15:34.7±2.8, 17°.75S×177°.80W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/21, mbtmp3.7/3, Error ellipse: s-maj=324.0km s-min=33.8km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.23 259**		P	P	12 23 53.4	-0.8
	0.5nm,0.8s,baz=96,slow=7.7,SNR=4.7						
ASAR	**Alice Springs**	**45.40 254**		P	P	12 23 55.8	+0.3
	1.9nm,0.6s,baz=88,slow=8.1,SNR=38						
TXAR	**Lajitas Array**	**85.42 57**		P	P	12 28 14.7	0.0
	0.3nm,0.8s,baz=222,slow=5.0,SNR=4.4						

*KRNET **26** 12:24:54.2±0.1, 41°.06N×69°.75E, h3km, mb3.3*
*NNC **26** 12:24:58.0±3.2, 41°.13N×69°.01E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=45.9km s-min=17.5km az=110.0*

ISC 26 12:24:54.3±1.6, 41°.03N±0°.05×69°.77E±0°.06, h5km±16km, n9, σ2§30/17, 4C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**1.15 64**		↓*iP*	**Pg**	**12 25 14.0**	**-2.3**
	baz=69						
TRKS				↓*eS*	**Sg**	**12 25 30.0**	**-1.2**
	baz=69						
BTK	**Batken**	**1.25 140**		*eP*	**Pg**	**12 25 18.0**	**-0.4**
	baz=140						
BTK				*eS*	**Sb**	**12 25 36.6**	**+1.6**
	baz=140						
ARK	**Arkit**	**1.82 64**		*eP*	**Pg**	**12 25 29.5**	**+0.3**
	baz=65						
ARK				*eS*	**Sg**	**12 25 56.1**	**+3.4**
	baz=65						
KK31	**Karatay Array**	**2.14 15**		Pn	**Pg**	**12 25 35.3**	**-0.1**
	3.8nm,0.5s,baz=196,slow=15,SNR=50						
KK31				Sn	**Sg**	**12 26 05.0**	**+1.8**
	25nm,0.6s,baz=203,slow=27,SNR=22						
DZET	**Dzherino**	**2.34 198**		↓↓Pn	**Pb**	**12 25 37.3**	**+0.3**
DZET				↑↑Sn	**Sb**	**12 26 07.7**	**+1.5**
OHH	**Osh**	**2.34 101**		*eP*	**Pb**	**12 25 37.2**	**+0.2**
	baz=102						
OHH				*eS*	**Sb**	**12 26 08.5**	**+2.2**
	baz=102						
AAK	**Ala-Archa**	**3.88 64**		↓↓Pn	**Pg**	**12 26 07.1**	**-1.5**
	3.3nm,0.8s						
AAK				↑↑Sn	**Sg**	**12 27 02.0**	**+3.2**
	6.4nm,0.7s						
TKM2	**Tokmak 2**	**4.74 65**		↓↓Pn	**Pb**	**12 26 20.1**	**+2.2**
	2.7nm,0.7s						
TKM2				↓↓Sn	**Sg**	**12 27 23.0**	**-3.4**
	5.5nm,0.6s						
MK31	**Makanchi Array**	**10.71 53**		↑↑P	**Pn**	**12 27 25.4**	**-2.8**
	0.7nm,0.2s,baz=126,slow=15,SNR=47						
MK31				↑↑S	Px	12 27 51.4	
	2.6nm,0.5s,baz=127,slow=26,SNR=12						

GUC 26 12:33:37.6±0.4, 34°.90S×72°.47W, h17km±2km, ML3.8, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.85 126**		↑*eP*	Pb	12 33 53.4	-0.5
TALC				*eS*	Sg	12 34 05.4	0.0
NICH	**Los Niches**	**1.03 96**		*eP*	Pb	12 33 56.2	-0.7
NICH				*eS*	Sb	12 34 10.6	+0.4
LNCH	**Linares**	**1.19 143**		↑*eP*	Pn	12 33 58.9	-0.5
LNCH				*eS*	Sb	12 34 14.7	0.0
COCH	**Cobquecura**	**1.26 192**		↑*eP*	Pn	12 34 00.1	-0.3
COCH				*eS*	Sb	12 34 16.6	-0.1
RCDM	**Rinconada Maip**	**1.97 45**		*eP*	Pn	12 34 11.3	+1.0
CLCH	**Cerro Calan**	**2.20 48**		↑*eP*	Pn	12 34 15.2	+1.7
CLCH				*eS*	Sb	12 34 43.7	-0.4
CLCH				IAML		12 34 53.5	
	comp=E,728nm,0.8s						
PEL	**Peldehue**	**2.30 41**		↓*eP*	Pn	12 34 16.4	+1.6
PEL				*eS*	Sb	12 34 46.4	-0.5
PEL				IAML		12 34 51.6	
	comp=E,776nm,0.5s						
FCH	**Farellones**	**2.40 50**		*eP*9	Pn	12 34 15.3	-1.2
FCH				*eS*	Sn	12 34 46.7	+0.9

MAN 26 12:38:34, 16°.65N×122°.69E, h104km, mb4.3, ML3.1, MS2.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**1.41 230**		*eP*	Pn	12 38 59.2	-0.1
BALP				*eS*	Sn	12 39 15.4	-3.1
SGCP	**Mt. Cagua**	**1.70 339**		*eP*	Pn	12 39 05.5	+2.6
SGCP				*eS*	Sn	12 39 25.6	+0.7
APYP	**Conner**	**1.83 311**		*eP*	Pn	12 39 05.5	+0.9
APYP				*eS*	Sn	12 39 29.2	+1.2
PCPH	**Palayan**	**1.88 235**		↓*eP*	Pn	12 39 06.7	+1.4
PCPH				*i S*	Sn	12 39 30.5	+1.5
ABRA	**Dolores**	**2.14 298**		*eP*	Pn	12 39 09.8	+1.3
BOLP	**Bolinao**	**2.68 265**		*eP*	Pn	12 39 19.6	+3.9

*IDC **26** 12:41:52.4±1.1, 36°.51S×73°.18W, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.8/23, mbtmp3.6/7, ML3.5/2, MS3.8/11, Ms1 3.8/11, ms1mx3.7/19, Error ellipse: s-maj=37.7km s-min=27.6km az=75.0*
*ISCJB **26** 12:41:54.1±1.1, 36°.63S±0°.03×73°.47W±0°.08, h23km±7km, mb4.1/6, MS3.8/10, Error ellipse: s-maj=10.6km s-min=5.5km az=8.8*
*NEIC **26** 12:41:54.0, 36°.61S×73°.43W, h13km, mb4.8/2, ML4.7(GUC), After GUC.*
NEIC Felt [IV] at Chillan and Concepcion and [II] at Angol, Curacautin and Ercilla.
*GUC **26** 12:41:55.1±0.5, 36°.60S×73°.46W, h20km±3km, ML4.7*

ISC 26 12:41:55.9±1.3, 36°.61S±0°.04×73°.32W±0°.09, h24km±9km, n40, σ1§33/30, mb4.0/6, MS3.9/10, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.28 144**		↓*eP*	**Pb**	**12 42 02.4**	**-0.2**
CCSP				*eS*	**Sb**	**12 42 07.5**	**+0.2**
CCSP				IAML		12 42 08.9	
	comp=E,120μm,0.3s						
COCH	**Cobquecura**	**0.64 42**		↑*eP*	**Pb**	**12 42 07.5**	**-1.0**
COCH				*eS*	**Sb**	**12 42 17.3**	**+0.3**
AGCH	**Angol**	**1.29 158**		*eP*	**Pn**	**12 42 17.8**	**-0.5**
AGCH				*eS*	**Sn**	**12 42 35.0**	**+0.1**
LNCH	**Linares**	**1.58 62**		↑*eP*	**Pn**	**12 42 22.7**	**+0.4**
LNCH				*eS*	**Sb**	**12 42 44.4**	**+0.3**
TALC	**Talca**	**1.83 49**		*eP*	**Pn**	**12 42 26.7**	**+1.0**
TALC				*eS*	**Sb**	**12 42 50.5**	**-0.5**
NICH	**Los Niches**	**2.34 47**		*eP*	**Pn**	**12 42 34.3**	**+1.5**
NICH				*eS*	**Sn**	**12 43 03.5**	**+2.8**
CLCH	**Cerro Calan**	**3.94 36**		*eP*	**Pn**	**12 42 56.0**	**+1.1**
PEL	**Peldehue**	**4.08 33**		*eP*	**Pn**	**12 42 57.9**	**+1.1**
PLCA	**Paso Flores**	**4.65 153**		Pn	**Pn**	**12 43 06.6**	**+2.0**
	comp=E,1.1nm,0.3s,baz=326,slow=11,SNR=17						
PLCA	**Paso Flores**	**4.65 153**		*ePn*	**Pn**	**12 43 07.2**	**+2.6**
PLCA				*eSn*	**Sn**	**12 43 57.7**	**-0.1**
CFAA	**Coronel Fontan**	**6.54 42**		Pn	Pn	12 43 26.0	-4.5
	comp=E,0.2nm,0.3s,baz=223,slow=23,SNR=10						
CFAA				LR	LR	12 45 20.5	
	comp=E,6.5nm,20.9s,baz=228,slow=33						
LCO	**Las Campanas**	**7.89 17**		*ePn*	**Pn**	**12 43 46.7**	**-2.6**
	comp=E,8.9nm,0.3s						
LCO				*eSn*	**Sn**	**12 45 17.7**	**-0.3**
TRQA	**Tornquist**	**9.15 102**		*ePn*	**Pn**	**12 44 07.9**	**+1.6**
TRQA				*eSn*	**Sn**	**12 45 46.0**	**-2.4**
USHA	**Ushuaia**	**18.53 171**		LR	LR	12 54 44.3	
	comp=E,280nm,18.1s,baz=23,slow=42						
LPAZ	**La Paz**	**20.76 14**		P	**P**	**12 46 35.6**	**0.0**
	comp=E,0.5nm,0.6s,baz=190,slow=11,SNR=2.1						
SIV	**San Ignacio**	**23.25 31**		LR	LR	12 57

baz=135
H11S1 WAKE ISLAND Hyl 24.67 268 T T 15 17 56.1
baz=135
H11S3 WAKE ISLAND Hyl 24.68 268 T T 15 17 55.5
baz=135
ABKAR Akbulak array 144.09 54 *e*PKPdf **PKPdf 13 01 28.4 -0.4**

SKO 26 13:04:52.5, 42°.60N×24°.13E, h0km, M1.9, ML2.3, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**1.73**	**223**	*i* Pn	Pn	13 05 23.7	-0.1
VAY				*i* Sg	Sb	13 05 47.5	+0.1
VAY				*e*Lg	Lg	13 05 52.2	
	comp=N,29nm,0.9s						
VAY				*e*Lg	Lg	13 05 55.4	
	comp=E,33nm,0.8s						

*CSEM **26** 13:07:08.7±0.5, 40°.90N×34°.38E, h10km, MD2.7, Error ellipse: s-maj=13.4km s-min=8.5km az=132.0*
*DDA **26** 13:07:13.8, 40°.55N×35°.12E, h7km, MD2.6*
ISK 26 13:07:09.3, 40°.81N×34°.39E, h24km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORM	**Corum**	**0.66**	**163**	*e*PG	Pn	13 07 23.0	-0.3
CORM				*e*SG	Sn	13 07 32.8	-0.2
CORM	**Corum**	**0.66**	**163**	*e*Pg	Pn	13 07 23.0	-0.3
CORM				*e*Sg	Sn	13 07 32.8	-0.2
BOYT	**Boyabat**	**0.73**	**32**	*i* P	Pn	13 07 29.0	+4.9
BOYT				*i* S	Sn	13 07 46.2	+12
HAVZ	**Havza**	**1.04**	**75**	*i* P	Pn	13 07 27.4	-1.1
HAVZ				*i* S	Sn	13 07 43.1	+0.7
HAVZ	**Havza**	**1.04**	**75**	*i* P	Pn	13 07 27.4	-1.1
HAVZ				*i* S	Sn	13 07 43.1	+0.7
DIKM	**Dikmen**	**1.07**	**38**	*e*PG	Pb	13 07 29.3	+0.1
DIKM	**Dikmen**	**1.07**	**38**	*e*Pg	Pb	13 07 29.3	+0.2
CDAG	**Cicekdag**	**1.18**	**180**	*i* P	Pb	13 07 34.9	+3.7
CDAG				*i* S	Sb	13 07 50.0	+3.8
CDAG	**Cicekdag**	**1.18**	**180**	*i* P	Pb	13 07 34.9	+3.7
CDAG				*i* S	Sb	13 07 50.0	+3.8
KVT	**Kavak**	**1.29**	**77**	*e*PN	Pn	13 07 32.4	+0.5
KVT	**Kavak**	**1.29**	**77**	*e*Pn	Pn	13 07 32.4	+0.5
AFSR	**Af¨ar-Bala (A**	**1.69**	**217**	*e*PN	Pn	13 07 38.0	+0.5
AFSR	**Af¨ar-Bala (A**	**1.69**	**217**	*e*Pn	Pn	13 07 38.0	+0.5
SVSK	**Karacayir**	**2.19**	**113**	*e*PN	Pn	13 07 44.9	+0.8
SVSK	**Karacayir**	**2.19**	**113**	*e*Pn	Pn	13 07 44.9	+0.8
RSDY	**Resadiye-TOKAT**	**2.28**	**99**	*e*PN	Pn	13 07 46.4	+0.9
RSDY	**Resadiye-TOKAT**	**2.28**	**99**	*e*Pn	Pn	13 07 46.4	+0.9
MDUB	**Mudurnu**	**2.45**	**263**	*e*PN	Pn	13 07 48.9	+1.0
MDUB	**Mudurnu**	**2.45**	**263**	*e*Pn	Pn	13 07 48.9	+1.0

IDC 26 13:11:50.5±2.5, 3°.07N×127°.40E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, Error ellipse: s-maj=195.9km s-min=27.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.86**	**164**	P	P	13 17 05.4	-0.3
	0.7nm,1.1s,baz=342,slow=10.0,SNR=5.1						
ASAR	**Alice Springs**	**27.32**	**167**	P	P	13 17 36.7	-0.5
	0.3nm,0.9s,baz=345,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**58.48**	**325**	P	P	13 21 49.0	+0.6
	0.1nm,0.6s,baz=116,slow=8.4,SNR=2.3						

IDC 26 13:14:10.7±2.6, 6°.91S×128°.00E, h0km, mb3.1/1, mb1 3.1/3, mb1mx3.0/33, mbtmp2.9/3, ML3.0/2, Error ellipse: s-maj=307.6km s-min=32.2km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.34**	**155**	Pn	Pn	13 17 36.1	+0.8
	0.1nm,0.3s,baz=334,slow=13,SNR=5.9						
WRA				Sn	Sn	13 19 57.9	-17
	0.2nm,0.3s,baz=331,slow=22,SNR=7.5						
ASAR	**Alice Springs**	**17.60**	**162**	P	Pn	13 18 17.1	-0.6
	0.0nm,0.3s,baz=340,slow=9.8,SNR=3.2						
ASAR				S	Sn	13 21 21.6	-13
	0.1nm,0.3s,baz=352,slow=26,SNR=3.2						
MKAR	**Makanchi Array**	**67.08**	**328**	P	P	13 25 06.0	0.0
	0.1nm,0.5s,baz=111,slow=7.4,SNR=4.5						

IDC 26 13:17:35.0±21.0, 22°.68S×179°.07W, h318km±229km, mb3.3/4, mb1 3.5/5, mb1mx3.2/28, mbtmp4.0/5, Error ellipse: s-maj=110.7km s-min=37.3km az=3.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.88**	**191**	P	P	13 21 00.3	-0.4
	0.6nm,0.3s,baz=336,slow=18,SNR=7.6						
CTA	**Charters Tower**	**32.35**	**268**	P	P	13 23 36.6	+0.8
	2.8nm,0.4s,baz=95,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**43.09**	**259**	P	P	13 25 04.8	-0.3
	0.4nm,0.4s,baz=93,slow=6.5,SNR=14						
WRA	**Warramunga Arr**	**43.36**	**265**	P	P	13 25 06.6	-0.6
	1.2nm,0.2s,baz=96,slow=8.3,SNR=134						
ILAR	**Eielson Array**	**90.65**	**13**	P	P	13 30 01.4	+0.1
	0.5nm,0.7s,baz=220,slow=4.7,SNR=5.2						

*KRNET **26** 13:23:15.2±0.1, 39°.95N×75°.37E, h3km, mb3.5*
ISC 26 13:23:14.6±3.5, 39°.9N±0°.1×75°.44E±0°.09, h6km±17km, n12, σ1°.08/16, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.49**	**274**	*e*P	**Pn**	**13 23 41.6**	**-0.5**
	baz=273						
SFK				*e*S	**Sb**	**13 24 01.4**	**-0.7**
	baz=273						
NRN	**Naryn**	**1.57**	**16**	⇓*i*P	**Pn**	**13 23 43.0**	**-0.2**
	baz=17						
NRN				⇓*e*S	**Sn**	**13 24 04.0**	**0.0**
	baz=17						
ARLS	**Aral**	**2.11**	**337**	*i* P	**Pb**	**13 23 54.1**	**+0.8**
	baz=337						
ARLS				*e*S	**Sg**	**13 24 22.1**	**-0.3**
	baz=337						
OHH	**Osh**	**2.12**	**287**	*e*P	**Pb**	**13 23 54.0**	**+0.6**
	baz=287						
OHH				*e*S	**Sg**	**13 24 22.4**	**-0.3**
	baz=287						
KZA	**Kyzart**	**2.16**	**356**	P	**Pg**	**13 23 56.2**	**+0.3**
	SNR=14						
ULHL	**Ulahol**	**2.40**	**14**	P	**Pb**	**13 23 58.8**	**+0.6**
	SNR=8.2						
UCH	**Uchtor**	**2.41**	**343**	P	**Pb**	**13 23 60.0**	**+1.5**
	SNR=16						
AML	**Almayashu**	**2.57**	**330**	P	**Pb**	**13 24 02.5**	**+1.2**
	SNR=5.6						
BOOM	**Boomskoye usch**	**2.59**	**8**	*i* P	**Pb**	**13 24 03.2**	**+1.7**
	baz=9.0						
KBK	**Karagaybulak**	**2.75**	**352**	P	**Pb**	**13 24 05.4**	**+1.1**
	SNR=9.4						
AAK	**Ala-Archa**	**2.80**	**346**	⇑Lg	Lg	13 24 44.0	
	7.9nm,0.8s						
TKM2	**Tokmak 2**	**3.00**	**2**	⇓Pg	**Pb**	**13 24 07.2**	**-1.2**
	1.4nm,0.4s						
TKM2				⇑Sn	**Sg**	**13 24 49.3**	**-1.5**
	4.2nm,0.5s						

IDC 26 13:27:13.6±3.9, 30°.01N×107°.85E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/34, mbtmp3.3/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/23, Error ellipse: s-maj=563.5km s-min=26.5km az=53.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.94**	**317**	P	P	13 32 47.6	0.0
	0.2nm,0.6s,baz=112,slow=6.4,SNR=3.1						
GNI	**Garni**	**51.66**	**299**	LR	LR	14 01 21.8	
	comp=Z,26nm,19.3s,baz=256,slow=40						
WRA	**Warramunga Arr**	**55.84**	**150**	P	P	13 36 53.0	0.0
	0.2nm,0.3s,baz=337,slow=8.3,SNR=7.3						
ASAR	**Alice Springs**	**58.95**	**152**	P	P	13 37 14.8	-0.2
	0.2nm,0.6s,baz=329,slow=6.9,SNR=6.2						

*DDA **26** 13:28:37.4, 38°.93N×38°.98E, h5km, MD2.9*
*ISK **26** 13:28:38.6, 38°.85N×39°.00E, h9km, MD2.9*
*CSEM **26** 13:28:38.6±0.2, 38°.87N×38°.97E, h2km, MD2.9, Error ellipse: s-maj=5.7km s-min=4.4km az=90.0*
ISC 26 13:28:38.6±1.2, 38°.89N±0°.02×38°.97E±0°.02, h1km±13km, n44, σ0°.92/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.39**	**178**	*i* P	**Pg**	**13 28 46.2**	**+0.2**
ELZG	**Elazig**	**0.39**	**178**	*i* P	**Pg**	**13 28 46.2**	**+0.2**
ELZG				*i* S	**Sb**	**13 28 53.7**	**-1.2**
KEMA	**Kemaliye**	**0.53**	**316**	*i* P	**Pg**	**13 28 47.6**	**-1.3**
KEMA				*i* S	**Sg**	**13 28 56.0**	**+0.2**
KEMA	**Kemaliye**	**0.53**	**316**	*i* P	**Pg**	**13 28 47.6**	**-1.3**
KEMA				*i* S	**Sg**	**13 28 56.0**	**+0.2**
SVRC	**Sivrice-ELAZID**	**0.57**	**152**	*e*PG	**Pg**	**13 28 49.2**	**-0.4**
SVRC				*e*SG	**Sg**	**13 28 57.3**	**+0.3**
SVRC	**Sivrice-ELAZID**	**0.57**	**152**	*e*Pg	**Pg**	**13 28 49.2**	**-0.4**
SVRC				*e*Sg	**Sg**	**13 28 57.3**	**+0.3**
ILIC	**ilic-Erzincan**	**0.65**	**331**	*e*PG	**Pb**	**13 28 53.3**	**+0.5**
ILIC	**ilic-Erzincan**	**0.65**	**331**	*e*Pg	**Pb**	**13 28 53.3**	**+0.5**
MALT	**Malatya**	**0.71**	**217**	*e*PG	**Pg**	**13 28 51.7**	**-0.6**
MALT				*e*SG	**Sb**	**13 29 02.8**	**-1.4**
MALT	**Malatya**	**0.71**	**217**	*e*Pg	**Pg**	**13 28 51.7**	**-0.6**
MALT				*e*Sg	**Sb**	**13 29 02.8**	**-1.4**
AKCD	**Akcadag**	**1.01**	**235**	*i* S	**Sb**	**13 29 12.5**	**-0.4**
AKCD	**Akcadag**	**1.01**	**235**	*i* P	Pn	13 29 03.0	+2.9
AKCD				*i* S	**Sb**	**13 29 12.5**	**-0.4**
BINT	**Bingol**	**1.19**	**90**	*e*Pn	**Pn**	**13 29 03.8**	**+1.3**
DARE	**Darende-Malaty**	**1.20**	**255**	*e*PN	**Pn**	**13 29 02.3**	**-0.4**
DARE	**Darende-Malaty**	**1.20**	**255**	*e*Pn	**Pn**	**13 29 02.3**	**-0.4**
KELT	**Kelkit**	**1.28**	**10**	*i* P	Pn	13 29 00.1	-3.8
KELT				*i* S	**Sg**	**13 29 18.4**	**-1.4**
DYBB	**Diyarbakir**	**1.31**	**135**	*e*PN	**Pn**	**13 29 03.2**	**-0.9**
BNGB	**Bing¨¶l**	**1.34**	**85**	*e*PN	**Pn**	**13 29 03.8**	**-0.8**
DIY	**Diyarbakir**	**1.40**	**135**	*e*Pn	**Pn**	**13 29 03.2**	**-2.2**
URFA	**Urfa**	**1.45**	**185**	*e*PN	**Pn**	**13 29 05.2**	**-0.8**
URFA	**Urfa**	**1.45**	**185**	*e*Pn	**Pn**	**13 29 05.2**	**-0.8**
SUSE	**Susehri**	**1.45**	**336**	*i* P	**Pn**	**13 29 05.5**	**-0.7**
SUSE				*i* S	**Sb**	**13 29 25.9**	**+0.4**
SUSE	**Susehri**	**1.45**	**336**	*i* P	**Pn**	**13 29 05.5**	**-0.7**
SUSE				*i* S	**Sb**	**13 29 25.9**	**+0.4**
ATAB	**Bozova**	**1.51**	**201**	*i* P	**Pg**	**13 29 08.3**	**+0.7**
ATAB				*i* S	**Sg**	**13 29 26.6**	**-0.5**
ATAB	**Bozova**	**1.51**	**201**	*i* P	**Pg**	**13 29 08.3**	**+0.7**
ATAB				*i* S	**Sg**	**13 29 26.6**	**-0.5**
GUMT	**Gumushane**	**1.62**	**14**	*e*PN	**Pn**	**13 29 07.9**	**-0.6**
GUMT	**Gumushane**	**1.62**	**14**	*e*Pn	**Pn**	**13 29 07.9**	**-0.6**
KOPT	**Kop Dagi**	**1.64**	**46**	*i* P	**Pb**	**13 29 10.0**	**+0.2**
KOPT				*i* S	**Sb**	**13 29 31.6**	**+0.5**
KOPT	**Kop Dagi**	**1.64**	**46**	*i* P	**Pb**	**13 29 10.0**	**+0.2**
KOPT				*i* S	**Sb**	**13 29 31.6**	**+0.5**
BNGL	**BINGOL**	**1.70**	**87**	*i* P	**Pg**	**13 29 11.3**	**+0.1**
BNGL				*i* S	**Sg**	**13 29 34.4**	**+1.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.76**	**31**	*e*PN	**Pn**	**13 29 10.2**	**-0.2**
BAYT	**Ayd¨–ntepe-Bay**	**1.76**	**31**	*e*Pn	**Pn**	**13 29 10.2**	**-0.2**
SVSK	**Karacayir**	**1.84**	**305**	*e*PN	**Pn**	**13 29 11.6**	**+0.2**
SVSK	**Karacayir**	**1.84**	**305**	*e*Pn	**Pn**	**13 29 11.6**	**+0.2**
GZT	**Gaziantep**	**1.89**	**216**	*i* P	**Pg**	**13 29 14.3**	**-0.5**
GZT				*i* S	**Sg**	**13 29 43.4**	**+4.1**
RSDY	**Resadiye-TOKAT**	**1.97**	**320**	*e*PN	**Pn**	**13 29 13.9**	**+0.7**
RSDY	**Resadiye-TOKAT**	**1.97**	**320**	*e*Pn	**Pn**	**13 29 13.9**	**+0.7**
ESPY	**Espiye-Giresun**	**2.04**	**355**	*e*PN	**Pn**	**13 29 14.5**	**+0.4**
ESPY	**Espiye-Giresun**	**2.04**	**355**	*e*Pn	**Pn**	**13 29 14.5**	**+0.4**
EZM	**Erzurum**	**2.12**	**60**	*e*PN	**Pn**	**13 29 15.4**	**-0.1**
KMRS	**Kahramanmaras**	**2.13**	**230**	*e*PN	**Pn**	**13 29 15.7**	**+0.2**
KMRS	**Kahramanmaras**	**2.13**	**230**	*e*Pn	**Pn**	**13 29 15.7**	**+0.2**
BNN	**Bunyan**	**2.44**	**270**	*e*PN	**Pn**	**13 29 20.3**	**+0.5**
BNN	**Bunyan**	**2.44**	**270**	*e*Pn	**Pn**	**13 29 20.3**	**+0.5**

*ISCJB **26** 13:50:57.3±0.2, 5°.59S±0°.04×110°.79E±0°.04, h500km, mb3.8/24, Error ellipse: s-maj=5.9km s-min=5.5km az=18.9*
*DJA **26** 13:50:57.5±0.2, 6°.5S±4°.×11°.1E±°., h530km±3km, M4.7/6, mB5.0/2, mb4.6/6, MLv4.7/3, Mw(mB)4.3/2*
*BJI **26** 13:50:58.1, 5°.70S×110°.80E, h517km, mB4.4/4, mb4.3/7*
*IDC **26** 13:50:59.3±1.4, 5°.70S×111°.01E, h541km±16km, mb3.4/23, mb1 3.5/24, mb1mx3.4/38, mbtmp4.3/24, Error ellipse: s-maj=12.4km s-min=7.3km az=56.0*
*KLM **26** 13:50:59.7, 5°.68S×110°.80E, h496km, mb4.3, ML4.0, MS5.3*
ISC 26 13:50:56.7±0.4, 5°.72S±0°.05×110°.82E±0°.05, h500km, n80, σ2°.14/72, mb3.8/24, 2C-2D, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWJI	**Ujung Watu**	**0.70**	**170**	P	P	13 52 00.8	+3.5
UWJI				S	**S**	**13 52 50.4**	**+4.0**
SMRI	**Semarang**	**1.37**	**196**	S	S	13 52 56.8	+7.0
	baz=1.5,SNR=6.3						
TBJI	**Tambak Boyo**	**1.49**	**137**	P	P	13 52 03.0	+3.5
NGJI	**Ngawi**	**1.75**	**159**	P	P	13 52 04.5	+3.9
NGJI				S	**S**	**13 52 57.8**	**+5.3**
BWJI	**Bawean**	**1.83**	**94**	P	P	13 52 06.2	+5.2
GRJI	**Gresik**	**2.03**	**126**	P	P	13 52 05.4	+3.5
WOJI	**Wonogiri, Jawa**	**2.10**	**177**	P	**P**	**13 52 04.8**	**+2.5**
UGM	**Wanagama**	**2.19**	**188**	P	**P**	**13 52 05.5**	**+2.7**
UGM	**Wanagama**	**2.19**	**188**	P	**P**	**13 52 05.6**	**+2.7**
	baz=2.2,SNR=15						
UGM				S	**S**	**13 52 59.0**	**+2.4**
	baz=2.2,SNR=22						
KPJI	**Karang Pucung**	**2.47**	**230**	P	P	13 52 07.6	+3.3
PCJI	**Pacitan**	**2.48**	**172**	P	**P**	**13 52 06.4**	**+2.0**
PWJI	**Pagerwojo**	**2.48**	**157**	P	**P**	**13 52 06.6**	**+2.2**
PBKI	**Pangkalan Bun**	**3.12**	**16**	P	P	13 52 11.8	+3.3
CMJI	**Cimerak**	**3.12**	**229**	P	**P**	**13 52 09.5**	**+1.0**
LEM	**Lembang**	**3.37**	**251**	P	P	13 52 13.9	+3.5
LEM	**Lembang**	**3.37**	**251**	S	**S**	**13 53 14.9**	**+4.6**
	baz=3.9,SNR=6.8						
KMMI	**Kalianget**	**3.39**	**113**	P	P	13 52 13.6	+3.2
BLJI	**Banyuglugur**	**3.41**	**126**	P	P	13 52 13.5	+3.0
CISI	**Cisompet, Garu**	**3.50**	**238**	P	**P**	**13 52 13.0**	**+1.7**
CISI	**Cisompet, Garu**	**3.50**	**238**	P	**P**	**13 52 13.0**	**+1.7**
	baz=4.0,SNR=46						
CISI				S	**S**	**13 53 12.0**	**+0.1**
	baz=4.0,SNR=12						
GMJI	**Gumukmas**	**3.63**	**134**	P	**P**	**13 52 14.0**	**+1.8**
ABJI	**Asem Bagus**	**3.96**	**121**	P	P	13 52 18.0	+3.2
CNJI	**Cibinong**	**3.99**	**247**	P	**P**	**13 52 16.5**	**+1.5**
CBJI	**Citeko**	**4.01**	**260**	P	**P**	**13 52 18.1**	**+2.9**
JAGI	**Jajag, Banyuwa**	**4.29**	**130**	P	**P**	**13 52 18.6**	**+1.1**
JAGI	**Jajag, Banyuwa**	**4.29**	**130**	P	**P**	**13 52 18.9**	**+1.5**
	baz=3.7,SNR=10						
JAGI				S	**S**	**13 53 22.9**	**-0.3**
	baz=3.7,SNR=11						
TPI	**Tanjungpandan**	**4.32**	**313**	P	P	13 52 21.2	+3.4
SRBI	**Singaraja**	**4.95**	**119**	P	**P**	**13 52 25.7**	**+2.5**
CGJI	**Cibinong**	**5.18**	**260**	P	**P**	**13 52 26.8**	**+1.5**
STKI	**Sintang**	**5.79**	**7**	P	P	13 52 34.5	+3.5
XMI	**Christmas Isla**	**6.92**	**227**	P	**P**	**13 52 44.3**	**+2.2**
	baz=7.3,SNR=12						
XMI				S	S	13 54 15.0	+6.7
	baz=7.3,SNR=3.2						
XMIS	**Christmas Isla**	**6.97**	**227**	P	**P**	**13 52 44.5**	**+2.0**
	baz=7.3,SNR=15						
KSM	**Kuching**	**7.17**	**356**	P	P	13 52 47.5	+2.8
	baz=7.5,SNR=6.0						
KSM				S	**S**	**13 54 16.6**	**+3.6**
	baz=7.5,SNR=5.0						
KSM	**Kuching**	**7.17**	**356**	⇓P	**P**	**13 52 47.2**	**+2.6**
SBUM	**Sibu**	**8.24**	**10**	⇓P	P	13 52 58.7	+3.1
SPSI	**Sidrap Palu**	**9.09**	**79**	P	**P**	**13 53 05.5**	**+1.1**
BTM	**Bintulu**	**9.15**	**14**	⇑P	P	13 53 08.0	+2.9
BKSI	**Bulukumba**	**9.27**	**88**	P	**P**	**13 53 08.0**	**+1.6**
BNSI	**Bone**	**9.34**	**82**	P	**P**	**13 53 09.3**	**+2.2**
PCI	**Palu**	**10.19**	**62**	P	P	13 53 18.8	+2.6
	35nm,0.9s,823nm						
KGM	**Kluang**	**10.74**	**316**	⇑P	**P**	**13 53 24.6**	**+2.7**
MPSI	**Mapaga**	**10.88**	**57**	P	**P**	**13 53 25.4**	**+2.0**
PSI	**Prapat**	**14.59**	**305**	P	**P**	**13 54 03.9**	**+1.0**
	0.2nm,0.3s,baz=87,slow=3.5,SNR=5.1						
KCSI	**Kotacane, Aceh**	**15.95**	**305**	P	**P**	**13 54 17.0**	**+0.1**
TPTI		**16.29**	**303**	P	**P**	**13 54 16.6**	**-3.8**
TNTI	**Ternate**	**17.74**	**69**	P	**P**	**13 54 35.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**26.73**	**334**	P	**P**	**13 55 57.1**	**+1.5**
	5.1nm,0.8s,baz=169,slow=8.2,SNR=33						
WRA	**Warramunga Arr**	**26.88**	**124**	P	**P**	**13 55 56.6**	**-0.3**
	1.1nm,0.5s,baz=313,slow=9.4,SNR=17						
WRA				PcP	**PcP**	**13 59 01.8**	**-1.4**
	0.8nm,0.3s,baz=327,slow=2.0,SNR=16						
WRA				S	**S**	**13 59 53.4**	**-4.7**
	0.6nm,0.7s,baz=291,slow=21,SNR=3.7						
NWAO	**Narrogin (SRO)**	**27.72**	**168**	P	**P**	**13 56 04.2**	**+0.1**
	6.9nm,0.8s,baz=43,slow=2.0,SNR=5.9						
ASAR	**Alice Springs**	**28.49**	**131**	P	**P**	**13 56 10.7**	**-0.4**
	1.8nm,0.6s,baz=310,slow=9.4,SNR=35						
ASAR				PcP	**PcP**	**13 59 06.3**	**-0.9**
	1.6nm,0.7s,baz=319,slow=1.8,SNR=12						
ASAR				S	S	14 00 17.6	-5.7
	0.5nm,0.7s,baz=301,slow=15,SNR=4.1						
XAN	**Xi'an**	**39.59**	**358**	P	**P**	**13 57 44.3**	**0.0**
XAN				PMZ			
	4.0nm,0.6s						
XAN				PMZ			
	33nm,4.4s						
JNU	**Nakatsue**	**43.07**	**25**	P	**P**	**13 58 09.8**	**-2.2**
	4.8nm,0.7s,baz=214,slow=12,SNR=3.5						
KSRS	**Korea Array**	**45.82**	**19**	P	**P**	**13 58 33.1**	**+0.1**
	3.2nm,0.9s,baz=200,slow=9.5,SNR=8.0						
GTA	**Gaotai**	**46.05**	**348**	*e*P	**P**	**13 58 36.0**	**+1.0**
GTA				PMZ			
	4.0nm,1.0s						
MJAR	**Matsushiro Arr**	**49.25**	**29**	P	**P**	**13 58 57.0**	**-2.0**
	4.3nm,0.9s,baz=204,slow=7.4,SNR=6.3						
USRK	**Ussuriysk Ar.**	**53.23**	**19**	P	**P**	**13 59 26.4**	**-1.3**
	4.4nm,0.8s,baz=188,slow=4.0,SNR=5.6						
SONM	**Songino Array**	**53.47**	**356**	P	**P**	**13 59 29.3**	**-0.2**
	2.1nm,0.6s,baz=178,slow=8.5,SNR=14						
SONM				ScP	**ScP**	**14 03 34.7**	**-3.6**
	1.2nm,0.8s,baz=168,slow=4.8,SNR=8.0						
MKAR	**Makanchi Array**	**58.09**	**337**	P	**P**	**14 00 01.4**	**-0.1**
	1.1nm,0.5s,baz=150,slow=7.8,SNR=26						
MKAR				ScP	**ScP**	**14 03 55.7**	**-2.9**
	0.5nm,0.8s,baz=116,slow=6.6,SNR=3.7						
OPO	**Ambohidratompo**	**63.22**	**252**	P	**P**	**14 00 36.5**	**+0.2**
	8.0nm,0.6s,baz=64,slow=3.9,SNR=9.4						
ZALV	**Zalesovo Beam**	**63.34**	**343**	P	**P**	**14 00 35.0**	**-1.0**
	0.7nm,0.3s,baz=165,slow=6.2,SNR=6.7						
GEYT	**Alibeck**	**65.41**	**316**	P	**P**	**14 00 49.0**	**-0.6**
	1.0nm,0.5s,baz=96,slow=4.3,SNR=3.2						
PETK	**Petropavlovsk-**	**70.67**	**28**	P	**P**	**14 01 20.8**	**-0.6**
	1.1nm,0.5s,baz=197,slow=4.4,SNR=3.2						
AKTO	**Aktyubinsk**	**72.03**	**328**	P	**P**	**14 01 28.9**	**-0.5**
	0.6nm,0.5s,baz=123,slow=5.2,SNR=4.7						
KMBO	**Kilima Mbogo**	**73.54**	**271**	P	**P**	**14 01 39.2**	**+0.1**
	0.9nm,0.3s,baz=75,slow=7.8,SNR=4.9						
VNDA	**Vanda**	**76.53**	**170**	P	**P**	**14 01 54.4**	**0.0**
	2.8nm,0.5s,baz=316,slow=7.1,SNR=27						
KBZ	**Khabaz**	**78.30**	**317**	P	**P**	**14 02 03.9**	**-0.6**
	1.9nm,0.8s,baz=165,slow=4.3,SNR=4.5						
ASF	**Jabal al Asfar**	**79.56**	**304**	P	**P**	**14 02 11.7**	**0.0**
	1.9nm,0.6s,baz=51,slow=3.7,SNR=4.3						
MMAI	**Mount Meron Ar**	**80.98**	**305**	P	**P**	**14 02 19.4**	**+0.3**
	1.3nm,0.5s,baz=67,slow=8.0,SNR=3.6						
BRTR	**Keskin Array B**	**83.85**	**311**	P	**P**	**14 02 31.2**	**-2.4**
	2.0nm,0.9s,baz=149,slow=8.1,SNR=7.8						
AKASG	**Malin Array Be**	**89.08**	**321**	P	**P**	**14 02 56.3**	**-1.8**
	1.0nm,0.5s,baz=93,slow=4.3,SNR=3.6						
FINES	**FINESS Array B**	**92.47**	**331**	P	**P**	**14 03 11.4**	**-2.0**
	0.7nm,0.7s,baz=354,slow=13,SNR=3.4						
SPITS	**Spitsbergen Ar**	**96.48**	**348**	P	**P**	**14 03 29.6**	**-1.8**
	8.9nm,1.1s,baz=124,slow=7.4,SNR=5.8						
TORD	**Torodi Ar. Bea**	**109.88**	**282**	PKiKP	**PKiKP**	**14 08 30.1**	**-1.6**
	0.6nm,0.5s,baz=41,slow=2.1,SNR=9.0						
YKA	**Yellowknife Ar**	**114.33**	**21**	PKP	PKPdf	14 08 36.6	-2.2
	0.1nm,0.3s,baz=321,slow=1.8,SNR=3.9						
DBIC	**Dimbokro**	**116.09**	**275**	PKP	**PKPdf**	**14 08 41.4**	**-2.2**
	1.5nm,0.5s,baz=84,slow=10,SNR=3.6						
NVAR	**Mina Array Bea**	**124.94**	**46**	PKP	**PKPdf**	**14 08 57.9**	**-2.4**
	0.4nm,0.6s,baz=234,slow=3.0,SNR=2.9						
ULM	**Lac du Bonnet**	**130.29**	**22**	SKPbc	**SKPbc**	**14 11 43.0**	**-3.3**
	6.0nm,0.7s,baz=334,slow=3.5,SNR=12						
CFAA	**Coronel Fontan**	**142.87**	**181**	PKP	**PKPdf**	**14 09 30.1**	**-3.5**
	1.2nm,0.5s,baz=146,slow=3.1,SNR=17						
BDFB	**Brasilia**	**150.17**	**224**	PKPbc	**PKPbc**	**14 09 50.9**	**-1.0**
	6.3nm,0.8s,baz=201,slow=3.6,SNR=6.6			

CDVI	**St. Croix**	**2.02 146**	*e*Pn	Pn	14 34 51.4	-1.3
CDVI			*e*Sn	Sn	14 35 16.7	-1.0
IMO	**Isla Mona**	**2.28 235⇑**	*e*P	Pn	14 34 55.1	-1.1
IMO	**Isla Mona**	**2.28 235⇑**	*e*P	Pn	14 34 55.1	-1.1
PCDR	**Punta Cana, DR**	**2.48 249⇑**	*e*P	Pn	14 34 55.9	-3.0
PCDR			*e*S	Sn	14 35 25.2	-3.8
PCDR	**Punta Cana, DR**	**2.48 249⇑**	*e*P	Pn	14 34 55.9	-3.0
PCDR	**Punta Cana, DR**	**2.48 249**	*e*S	Sn	14 35 25.2	-3.8
SMN1	**Samana, DR**	**3.15 266⇑**	*e*P	Pn	14 35 06.1	-2.2
SMN1	**Samana, DR**	**3.15 266⇑**	*e*P	Pn	14 35 06.1	-2.2
DR12	**Loma Pena Alta**	**3.31 259⇓**	*e*P	Pn	14 35 07.8	-2.7
DR12	**Loma Pena Alta**	**3.31 259⇓**	*e*P	Pn	14 35 07.8	-2.7
SDDR	**Presa de Saban**	**5.06 266⇑**	*e*P	Pn	14 35 33.4	-1.3
SDDR	**Presa de Saban**	**5.06 266⇑**	*e*P	Pn	14 35 33.4	-1.3

IDC ***26*** *14:39:07.3±0.9, 34°.61S×71°.99W, h0km, mb3.8/5, mb1 4.1/8, mb1mx3.9/25, mbtmp3.8/8, ML4.0/2, MS2.6/2, Ms1 2.7/2, ms1mx2.6/32, Error ellipse: s-maj=27.2km s-min=18.5km az=100.0*

ISCJB ***26*** *14:39:08.9±1.2, 34°.47S±0°.04×71°.9W±0°.1, h19km±9km, mb3.9/4, Error ellipse: s-maj=14.4km s-min=5.9km az=12.5*

GUC ***26*** *14:39:08.8±0.6, 34°.50S×71°.92W, h32km±9km, ML4.3*

NEIC ***26*** *14:39:12.6±0.7, 34°.59S×71°.92W, h35km, ML4.3(GUC), Error ellipse: s-maj=22.8km s-min=13.0km az=101.0*

NEIC Felt [V] at Pichilemu, [IV] at Paradones, [III] at Curico and [II] at Constitucion, El Quisco, Linares and Talca.

ISC 26 14:39:08.0±1.7, 34°.47S±0°.04×71°.77W±0°.09, h3km±11km, n27, σ1°18/27, mb4.0/4, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.59**	**31⇑**	*i*P	**Pb**	**14 39 21.5**	**+0.6**
NICH	**Los Niches**	**0.70**	**140⇑**	*i*P	**Pb**	**14 39 23.2**	**+0.3**
NICH				*i*S	**Sb**	**14 39 33.6**	**+0.8**
NICH				AML	AML	14 39 36.3	
	comp=E,75μm,0.4s						
TALC	**Talca**	**0.94**	**173⇓**	*i*P	**Pg**	**14 39 25.7**	**-0.3**
TALC				*i*S	**Sg**	**14 39 37.9**	**-0.3**
CACH	**El Canelo**	**1.03**	**71⇑**	*i*P	**Pn**	**14 39 29.6**	**+0.1**
CHCH	**Chadas Angostu**	**1.07**	**61⇓**	*i*P	**Pn**	**14 39 29.9**	**0.0**
RCDM	**Rinconada Maip**	**1.26**	**40**	*e*P1	**Pg**	**14 39 32.1**	**-0.1**
RCDM				AML	AML	14 39 56.5	
	comp=E,3μm,0.1s						
LNCH	**Linares**	**1.39**	**174⇓**	*i*P	**Pb**	**14 39 34.5**	**0.0**
LNCH				*i*S	**Sb**	**14 39 52.5**	**-0.2**
LNCH				AML	AML	14 39 53.1	
	comp=E,11μm,0.1s						
CLCH	**Cerro Calan**	**1.48**	**44⇑**	*i*P	**Pb**	**14 39 36.3**	**+0.1**
CLCH				*e*S4	**Sg**	**14 39 58.1**	**+2.5**
CLCH				AML	AML	14 40 04.6	
	comp=N,6μm,0.5s						
FCH	**Farellones**	**1.68**	**48⇑**	*i*P	**Pn**	**14 39 36.9**	**-1.6**
FCH				*i*S	**Sn**	**14 40 00.1**	**-0.5**
FCH				AML	AML	14 40 03.2	
	comp=N,3μm,0.2s						
CFAA	**Coronel Fontan**	**4.12**	**47**	Pn	Pn	14 40 16.4	+4.6
	comp=N,0.3nm,0.3s,baz=42,slow=1.1,SNR=19						
CFAA				Pg	**Pg**	**14 40 25.2**	**-1.7**
	comp=N,1.4nm,0.3s,baz=222,slow=14,SNR=31						
CFAA				Sn	**Sb**	**14 41 09.3**	**-2.0**
	comp=N,1.2nm,0.3s,baz=260,slow=22,SNR=7.0						
CFAA				Lg	Lg	14 41 21.8	
	comp=N,1.4nm,0.3s,baz=133,slow=20,SNR=8.6						
CFAA				LR	LR	14 42 25.7	
	comp=N,17nm,19.3s,baz=215,slow=46						
PLCA	**Paso Flores**	**6.33**	**172**	Pn	**Pn**	**14 40 41.8**	**-0.4**
	comp=N,1.5nm,0.3s,baz=342,slow=12,SNR=27						
PLCA				Lg	Lg	14 42 23.5	
	comp=N,1.8nm,0.3s,baz=305,slow=6.2,SNR=5.6						
PLCA				LR	LR	14 43 11.5	
	comp=N,218nm,19.2s,baz=84,slow=39						
LPAZ	**La Paz**	**18.39**	**11**	P	**P**	**14 43 26.8**	**+2.0**
	comp=N,0.1nm,0.3s,baz=148,slow=6.1,SNR=6.5						
SIV	**San Ignacio**	**20.76**	**30**	P	**P**	**14 43 50.2**	**+0.1**
	comp=N,2.2nm,0.7s,baz=226,slow=16,SNR=8.8						
TXAR	**Lajitas Array**	**70.25**	**331**	P	**P**	**14 50 22.8**	**+0.3**
	comp=N,0.7nm,0.6s,baz=151,slow=8.3,SNR=12						
TORD	**Torodi Ar. Bea**	**84.16**	**70**	P	**P**	**14 51 40.9**	**0.0**
	comp=N,0.9nm,0.9s,baz=301,slow=6.5,SNR=5.7						
PDAR	**Pinedale Array**	**84.28**	**333**	P	**P**	**14 51 40.8**	**-0.4**
	comp=N,0.8nm,0.7s,baz=151,slow=3.4,SNR=6.5						
NVAR	**Mina Array Bea**	**84.39**	**325**	P	**P**	**14 51 41.8**	**0.0**
	comp=N,0.8nm,0.7s,baz=145,slow=6.7,SNR=4.8						
WRA	**Warramunga Arr**	**120.46**	**209**	PKP	**PKPdf**	**14 57 59.6**	**-1.9**
	comp=N,1.0nm,1.2s,baz=165,slow=1.7,SNR=3.3						
H11S2	**WAKE ISLAND Hyl**	**25.98**	**269**	T	T	17 16 30.2	
	baz=120,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hyl**	**25.99**	**269**	T	T	17 16 29.4	
	baz=120,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hyl**	**26.00**	**269**	T	T	17 16 31.7	
	baz=120,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hyl**	**26.41**	**270**	T	T	17 17 02.7	
	baz=116,slow=78,SNR=11						
H11N1	**WAKE ISLAND Hyl**	**26.42**	**270**	T	T	17 17 00.9	
	baz=116,slow=78,SNR=25						
H11N2	**WAKE ISLAND Hyl**	**26.42**	**270**	T	T	17 17 04.4	
	baz=116,slow=78,SNR=11						
BVAR	**Borovoye Array**	**147.47**	**44**	PKPbc	**PKPbc**	**14 58 53.1**	**+0.2**
	comp=N,0.7nm,0.6s,baz=294,slow=1.5,SNR=4.6						
KURBB	**Kurchatov Arra**	**153.05**	**44**	PKPbc	**PKPbc**	**14 59 08.2**	**+1.8**
	comp=N,1.6nm,0.6s,baz=338,slow=5.3,SNR=9.0						
KURK	**Kurchatov**	**153.06**	**44**	PKPbc	**PKPbc**	**14 59 08.2**	**+1.8**

IDC 26 14:39:32.2±535.0, 56°.31N×28°.25E, h0km, Error ellipse: s-maj=238.2km s-min=106.0km az=72.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.99**	**82**	*i*		15 11 50.0	
	baz=269,slow=311,SNR=0.5						
I31KZ	**AKTYUBINSK INF**	**18.64**	**96**	*i*		16 32 10.0	
	baz=301,slow=324,SNR=0.6						
I18DK	**QAANAAQ INFRAS**	**37.41**	**339**	*i*		18 27 20.0	
	baz=64,slow=334,SNR=0.4						
I34MN	**SONGINO INFRAS**	**46.34**	**66**	*i*		19 24 30.0	
	baz=305,slow=330,SNR=0.3						

LDG ***26*** *14:52:02.5±0.3, 27°.75S×70°.65W, h10km, Mb5.9/38, Ms5.8/12, Error ellipse: s-maj=29.2km s-min=14.4km az=115.0*

SJA ***26*** *14:52:04.4±1.0, 28°.06S×70°.87W, h4km±20km, ML6.2*

ISCJB ***26*** *14:52:05.3±0.6, 27°.87S±0°.02×70°.83W±0°.03, h33km±5km, mb6.0/259, MS5.9/290, Error ellipse: s-maj=5.1km s-min=3.4km az=163.4*

GUC ***26*** *14:52:06.2±0.6, 28°.09S×70°.96W, h51km±9km, ML5.9*

IDC ***26*** *14:52:06.0±4.1, 28°.07S×70°.89W, h33km±29km, mb5.3/24, mb1 5.4/26, mb1mx5.3/27, mbtmp5.4/26, ML5.3/1, MS5.8/22, Ms1 5.8/22, ms1mx5.6/26, Error ellipse: s-maj=14.0km s-min=9.9km az=89.0*

NEIC ***26*** *14:52:06.0±0.0, 27°.99S×70°.71W, h35km Best double couple: NP1:φs=5.00000°, δ61.00000°, λ102.00000°. NP2:φs=160.00000°, δ31.00000°, λ68.00000°. Principal axes: T 1.7400, Plg71.0000°, Azm304.0000°; N -0.0500, Plg11.0000°, Azm179.0000°; P -1.6900, Plg15.0000°, Azm86.0000°;*

MOS ***26*** *14:52:06.0±1.0, 27°.79S×70°.86W, h35km, mb6.2/65, MS5.8/47 Error ellipse: s-maj=10.0km s-min=6.8km az=85.3*

NEIC ***26*** *14:52:07.2±0.1, 27°.95S×70°.82W, h42km, mb6.2/234, ME5.8, MS5.9/228, MW6.1, MW6.1, MW6.3, Error ellipse: s-maj=4.6km s-min=2.8km az=68.0, Moment Tensor Solution. s54 Moment tensor: Scale 10^18 Nm; Mrr=3.27; Mθθ=0.54; Mφφ=-3.81; Mrθ=-0.58; Mθφ=1.13; Mφr=0.61; Best double couple: M0=3.80000×10^18 NP1:φs=176.00000°, δ40.00000°, λ104.00000°. NP2:φs=337.00000°, δ51.00000°, λ78.00000°. Principal axes: T 3.4100, Plg79.0000°, Azm197.0000°; N 0.7500, Plg9.0000°, Azm344.0000°; P -4.1600, Plg5.0000°, Azm75.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [VI] at Copiapo and Tierra Amarilla; [V] at La Serena and Vallenar; [IV] at Caldera, Combarbala, Coquimbo and Rio Hurtado; [III] at Ovalle, Petorca, San Antonio, Santiago, Taltal and Vina del Mar; [II] at Punitaqui and Rancagua. Also felt at Lampa, Llaillay, Quillota, Quilpue, Rengo and Valparaiso. Felt [II] at Mendoza, Argentina. Also felt at Catamarca and San Juan.

GCMT ***26*** *14:52:07.2±0.1, 28.11S×71.31W, h41km, MW6.1/130, Moment Tensor Solution. s130, c263; s130, c426; Duration: 29.7 Moment tensor: Scale 10^18 Nm; Mrr=1.59±.01; Mθθ=0.09±.01; Mφφ=-1.69±.01; Mrθ=0.42±.01; Mθφ=-0.28±.01; Mφr=0.43±.01; Best double couple: M0=1.76900×10^18 NP1:φs=21.00000°, δ54.00000°, λ105.00000°. NP2:φs=176.00000°, δ38.00000°, λ70.00000°. Principal axes: T 1.7350, Plg75.0000°, Azm336.0000°; N 0.0630, Plg12.0000°, Azm192.0000°; P -1.8040, Plg8.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***26*** *14:52:07.4, 28°.00S×70°.70W, h40km, mB6.0/55, Ms6.2/75, Ms7 6.1/71*

NEIC ***26*** *14:52:19.8±0.0, 27°.63S×71°.16W, h37km, Moment Tensor Solution. s74 Moment tensor: Scale 10^18 Nm; Mrr=1.83; Mθθ=0.04; Mφφ=-1.87; Mrθ=-0.37; Mθφ=-0.07; Mφr=0.06; Best double couple: M0=1.90000×10^18 NP1:φs=193.00000°, δ47.00000°, λ105.00000°. NP2:φs=351.00000°, δ45.00000°, λ74.00000°. Principal axes: T 1.9000, Plg78.0000°, Azm176.0000°; N -0.0300, Plg11.0000°, Azm2.0000°; P -1.8700, Plg1.0000°, Azm272.0000°;*

ISC 26 14:52:07.0±0.3, 28°.06S±0°.02×70°.91W±0°.04, h41km±2km, h41km:pP-P, n1540, σ1°25/1539, mb6.1/256, MS5.9/292, 280C-246D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.53**	**165⇑**	*i*P	**Pn**	**14 52 18.1**	**-0.2**
VACH				*e*S1	**Sn**	**14 52 26.9**	**+0.7**
VACH				AML	AML	14 52 30.9	
	comp=E,1167μm,0.8s						
CPCH	**Copiapo**	**0.86**	**35**	*i* P	**Pn**	**14 52 23.3**	**+0.7**
LCO	**Las Campanas**	**0.97**	**169⇓**	*i*P	**Pn**	**14 52 24.1**	**-0.3**
LCO				*i* S	**Sn**	**14 52 37.6**	**+0.6**
LCO				AML	AML	14 52 39.9	
	comp=E,631μm,0.6s						
LCO	**Las Campanas**	**0.97**	**169**	*e*Pn	**Pn**	**14 52 24.4**	**+0.1**
LCO				*e*Sn	**Sn**	**14 52 37.7**	**+0.6**
LCO	**Las Campanas**	**0.97**	**169**	*i* P	**Pn**	**14 52 24.2**	**-0.2**
LCO				*i* S	**Sn**	**14 52 38.1**	**+1.1**
CDCH	**Caldera**	**0.99**	**5⇑**	*i*P	**Pn**	**14 52 24.4**	**-0.1**
CDCH				*i* S	**Sn**	**14 52 38.4**	**+1.1**
CMCH	**Combarbala**	**3.10**	**181**	*e*P	**Pn**	**14 52 52.9**	**-0.6**
CMCH				*e*S1	**Sn**	**14 53 28.8**	**-0.7**
AMOG	**MOGNA**	**3.56**	**144**	*i* P	Pn	14 53 03.8	+4.0
ACLC	**CERRO LA CRUZ**	**3.73**	**112**	*i* P	Pn	14 53 05.8	+3.5
RTLL	**Cerro Villicun**	**3.89**	**148**	*i* P	Pn	14 53 07.7	+3.4
AVFE	**Valle Fertil**	**3.98**	**131**	*i* P	**Pn**	**14 53 08.3**	**+2.8**
AVFE				*i* S	Sn	14 53 57.8	+6.9
AVFE				AML	AML	14 54 07.1	
	comp=Z,39μm,0.8s						
SJA	**San Juan**	**4.01**	**150**	*i* P	Pn	14 53 10.2	+4.2
CFAA	**Coronel Fontan**	**4.23**	**147**	Pn	Pn	14 53 12.3	+3.4
	comp=Z,12nm,0.3s,baz=322,slow=13,SNR=257						
CFAA				Sn	Sn	14 54 04.7	+7.6
	comp=Z,102nm,0.3s,baz=52,slow=19,SNR=4.9						
CFAA				Lg	Lg	14 54 19.8	
	comp=Z,402nm,0.3s,baz=219,slow=23,SNR=8.6						
CFAA				LR	LR	14 55 09.3	
	comp=Z,25μm,20.5s,baz=321,slow=44						
CFAA	**Coronel Fontan**	**4.23**	**147**	*i* P	Pn	14 53 13.4	+4.5
CFAA				*i* P	Pn	14 53 13.4	+4.5
CYA	**Choya**	**4.52**	**96**	*i* P	Pn	14 53 17.7	+4.7
CYA				*i* S	**Sn**	**14 54 10.0**	**+5.6**
CYA				AML	AML	14 54 18.8	
	comp=Z,11μm,0.7s						
ARCO	**CERRO ARCO**	**5.06**	**161**	*i* P	Pn	14 53 24.7	+4.2
ARCO				*i* S	Sn	14 54 25.2	+7.4
ARCO				AML	AML	14 54 38.2	
	comp=Z,33μm,0.8s						
AAGR	**Agrelo**	**5.32**	**161**	*i* P	Pn	14 53 28.3	+4.3
CLCH	**Cerro Calan**	**5.33**	**177**	*e*P9	**Pn**	**14 53 24.6**	**+0.5**
CLCH				*e*S1	**Sn**	**14 54 23.9**	**-0.3**
LVC	**Limon Verde**	**5.72**	**19**	*e*Pn	**Pn**	**14 53 28.8**	**-0.8**
LVC				*e*Sn	**Sn**	**14 54 30.6**	**-3.5**
CHCH	**Chadas Angostu**	**5.86**	**178**	*e*P1	**Pn**	**14 53 30.9**	**-0.4**
CACH	**El Canelo**	**6.04**	**178**	*e*P1	**Pn**	**14 53 34.3**	**+0.4**
ARE	**Arequipa**	**11.55**	**357**	*e*P	Pn	14 54 45.0	-4.7
ARE				*e*S	Sn	14 56 50.0	-7.6
ARE	**Arequipa**	**11.55**	**357**	*e*P	Pn	14 54 45.0	-4.7
ARE				*i*		14 54 59.0	
ARE				*e*S	Sn	14 56 50.0	-7.6
LPAZ	**La Paz**	**11.99**	**13**	P	**Pn**	**14 54 53.8**	**-2.2**
LPAZ				*e*		14 57 05.1	
LPAZ	**La Paz**	**11.99**	**13**	Pn	**Pn**	**14 54 53.8**	**-2.2**
	comp=Z,7.8nm,0.3s,baz=198,slow=6.6,SNR=107						
LPAZ				LR	LR	14 59 55.5	
	comp=Z,71μm,21.6s,baz=172,slow=39						
LPAZ	**La Paz**	**11.99**	**13**	Pn	**Pn**	**14 54 53.8**	**-2.2**
LPAZ				*e*Sn	**Sn**	**14 57 05.1**	**-3.7**
TRQA	**Tornquist**	**12.46**	**145**	*e*Pn	**Pn**	**14 55 01.9**	**+0.1**
TRQA				*e*Sn	**Sn**	**14 57 18.8**	**-0.5**
PLCA	**Paso Flores**	**12.64**	**179**	P	**Pn**	**14 55 01.9**	**-2.4**
PLCA	**Paso Flores**	**12.64**	**179**	Pn	**Pn**	**14 55 01.9**	**-2.4**
	baz=310,slow=16,SNR=1.4						
PLCA				LR	LR	15 00 21.1	
	comp=Z,70μm,21.6s,baz=354,slow=39						
SIV	**San Ignacio**	**15.07**	**39**	Pn	Pn	14 55 32.1	-5.1
	comp=Z,5.2nm,0.3s,baz=250,slow=11,SNR=41						
SAML	**Samuel**	**20.36**	**22**	*e*Pn	**P**	**14 56 40.1**	**+0.1**
	comp=Z,157nm,0.9s						
ATAH	**Atahualpa**	**21.99**	**340**	P	**P**	**14 56 58.4**	**+0.3**
	comp=Z,24nm,0.6s,baz=164,slow=8.0,SNR=35						
ATAH				LR	LR	15 04 11.4	
	comp=Z,21μm,20.1s,baz=202,slow=33						
BDFB	**Brasilia**	**24.53**	**65**	P	**P**	**14 57 22.5**	**-0.5**
BDFB	**Brasilia**	**24.53**	**65**	P	**P**	**14 57 22.5**	**-0.5**
	comp=Z,157nm,1.0s,baz=227,slow=11,SNR=28						
BDFB				LR	LR	15 08 21.4	
	comp=Z,47μm,18.9s,baz=239,slow=40						
EFI	**East Falkland**	**25.49**	**161⇓**	*i*P	**P**	**14 57 31.4**	**+0.3**
EFI				pmax	pmax		
	comp=Z,324nm,0.9s						
EFI	**East Falkland**	**25.49**	**161**	*e*P	**P**	**14 57 31.6**	**+0.4**
	comp=Z,713nm,1.2s						
EFI				*e*pP	**pP**	**14 57 42.7**	**+0.4**
EFI				LR	LR		
	comp=Z,39μm,20.0s						
USHA	**Ushuaia**	**26.81**	**177**	P	**P**	**14 57 43.2**	**+0.2**
	comp=Z,212nm,0.9s,baz=349,slow=6.4,SNR=72						
USHA				LR	LR	15 09 00.7	
	comp=Z,28μm,18.6s,baz=347,slow=38						
OTAV	**Otavalo**	**29.05**	**344**	P	**P**	**14 58 02.0**	**-2.0**
	comp=Z,1μm,2.4s						
OTAV				LR	LR		
	comp=Z,8μm,19.0s						
PTGA	**Pitinga**	**29.13**	**23**	P	**P**	**14 58 03.5**	**-0.6**
	comp=Z,79nm,1.0s,baz=196,slow=9.0,SNR=42						
PTGA				LR	LR	15 10 36.3	
	comp=Z,40μm,21.1s,baz=203,slow=38						
PTGA	**Pitinga**	**29.13**	**23**	*e*P	**P**	**14 58 03.4**	**-0.7**
	comp=Z,174nm,1.0s						
ROSC	**El Rosal**	**32.89**	**354**	P	**P**	**14 58 39.4**	**+1.6**
	comp=Z,22nm,0.5s,baz=156,slow=3.4,SNR=17						
ROSC				LR	LR	15 12 16.0	
	comp=Z,13μm,21.6s,baz=197,slow=37						
PAYG	**Puerto Ayora**	**32.95**	**322**	*e*P	**P**	**14 58 35.8**	**-2.1**
	comp=Z,1μm,2.3s						
PAYG				LR	LR		
	comp=Z,31μm,21.0s						
HOPE	**Hope Point**	**36.24**	**146**	PFAKE		14 59 20.0	+14
HOPE				LR	LR		
	comp=Z,31μm,21.0s						
SDV	**Santo Domingo**	**36.73**	**0**	*e*P	**P**	**14 59 08.6**	**-2.0**
	comp=Z,75nm,0.8s						
SDV				LR	LR		
	comp=Z,20μm,20.0s						
PMSA	**Palmer Station**	**36.98**	**175**	P	**P**	**14 59 12.4**	**+0.4**
	comp=Z,70nm,1.0s,baz=334,slow=8.5,SNR=9.2						
PMSA	**Palmer Station**	**36.98**	**175**	*e*P	**P**	**14 59 12.9**	**+0.9**
PMSA				*e*pP	**pP**	**14 59 24.6**	**+1.1**
PMSA				LR	LR		
	comp=Z,31μm,20.0s						
BCIP	**Isla Barro Col**	**38.00**	**346**	P	**P**	**14 59 19.8**	**-1.4**
	comp=Z,2μm,2.3s						
BCIP				LR	LR		
	comp=Z,10μm,22.0s						
RCBR	**Riachuelo**	**39.88**	**63**	P	**P**	**14 59 37.5**	**+0.4**
	comp=Z,88nm,1.0s,baz=229,slow=9.1,SNR=34						
RCBR	**Riachuelo**	**39.88**	**63**	*e*P	**P**	**14 59 37.4**	**+0.4**
	comp=Z,491nm,1.0s						
RCBR				LR	LR		
	comp=Z,27μm,19.0s						
JTS	**JuntasAbangare**	**40.48**	**338**	*c* *i*P	**P**	**14 59 43.5**	**+1.6**
JTS				pmax	pmax		
	comp=Z,110nm,2.0s						
JTS	**JuntasAbangare**	**40.48**	**338**	*e*P	**P**	**14 59 41.0**	**-0.9**
	comp=Z,252nm,1.3s						
JTS				LR	LR		
	comp=Z,6μm,20.0s						
GRGR	**Grenville**	**40.95**	**14**	*e*P	**P**	**14 59 42.5**	**-3.2**
	comp=Z,977nm,1.3s						
GRGR				LR	LR		
	comp=Z,23μm,20.0s						
BBGH	**Gun Hill**	**42.41**	**17**	PFAKE		15 00 10.0	+12
BBGH				LR	LR		
	comp=Z,21μm,22.0s						
FDF	**Fort de France**	**43.58**	**14**	*e*P	**P**	**15 00 06.3**	**-0.8**
FDF				pmax	pmax		
	comp=Z,143nm,0.6s						
FDF	**Fort de France**	**43.58**	**14**	*e*P	**P**	**15 00 06.3**	**-0.8**
	comp=Z,143nm,0.6s						
ICMP	**Isla Caja de M**	**45.87**	**6**	*e*P	**P**	**15 00 23.7**	**-1.6**
SEUS	**St. Eustatius**	**45.93**	**11**	PFAKE		15 00 40.0	+14
SEUS				LR	LR		
	comp=Z,16μm,19.4s						
PCJ	**Portland Cotta**	**45.93**	**352**	*i* P	**P**	**15 00 26.2**	**+0.4**
CRPR	**Cabo Rojo, PR**	**45.94**	**5**	*e*P	**P**	**15 00 23.6**	**-2.2**
CRPR				LR	LR		
	comp=Z,126nm,0.7s						
SABA	**Saba**	**46.01**	**10**	PFAKE		15 00 40.0	+14
SABA				LR	LR		
	comp=Z,13μm,19.5s						
OBIP	**Obispado Ponce**	**46.02**	**6**	*e*P	**P**	**15 00 23.8**	**-2.7**
	comp=Z,132nm,0.9s						
JAKH	**Jacmel**	**46.05**	**358**	PFAKE		15 00 40.0	+13
JAKH				LR	LR		
	comp=Z,9μm,21.2s						
CELP	**Cerrillos**	**46.05**	**6**	*e*P	**P**	**15 00 25.0**	**-1.8**
LSP	**Las Mesas**	**46.11**	**5**	*e*P	**P**	**15 00 25.5**	**-1.7**
SJG	**San Juan**	**46.13**	**6**	*e*P	**P**	**15 00 25.0**	**-2.3**
SJG				pmax	pmax		
	comp=Z,115nm,0.8s						
SJG	**San Juan**	**46.13**	**6**	*e*P	**P**	**15 00 25.0**	**-2.3**
	comp=Z,115nm,0.8s						
HOJ	**Hope**	**46.14**	**352**	*i* P	**P**	**15 00 28.5**	**+1.0**
MPR	**Mayaguez**	**46.14**	**5**	*e*P	**P**	**15 00 26.0**	**-1.4**
	comp=Z,67nm,0.7s						
MPR				LR	LR		
	comp=Z,3μm,19.2s						
MTP	**Monte Pirata**	**46.18**	**7**	*e*P	P	15 00 24.5	-3.3
	comp=Z,227nm,1.6s						
MTP				LR	LR		
	comp=Z,10μm,21.9s						
HUMP	**Col San Antoni**	**46.19**	**7**	*e*P	**P**	**15 00 27.1**	**-0.7**
	comp=Z,148nm,1.4s						
HUMP				LR	LR		
	comp=Z,11μm,20.4s						
GWJ	**Greenwich**	**46.21**	**352**	*i* P	**P**	**15 00 28.1**	**0.0**
STH	**Stony Hill**	**46.22**	**352**	*i* P	**P**	**15 00 29.3**	**+1.2**
LRS	**Lares**	**46.25**	**5**	P	P	15 00 25.0	-3.3
AOPR	**Arecibo Observ**	**46.31**	**5**	*e*P	**P**	**15 00 26.7**	**-2.1**
	comp=Z,757nm,2.0s						
AOPR				LR	LR		
	comp=Z,11μm,20.9s						
ANWB	**Willy Bob**	**46.31**	**12**	*e*P	**P**	**15 00 27.3**	**-1.5**
ANWB				LR	LR		
	comp=Z,13μm,21.0s						
CBYP	**Canovanas**	**46.32**	**7**	*e*P	**P**	**15 00 26.6**	**-2.3**
	comp=Z,165nm,1.1s						
CBYP				LR	LR		
	comp=Z,10μm,20.2s						
LGNH	**LOogne**	**46.33**	**358**	*e*P	**P**	**15 00 28.0**	**-0.9**
LGNH				LR	LR		
	comp=Z,9μm,21.0s						
PAPH	**Port-au-Prince**	**46.33**	**358**	*e*P	**P**	**15 00 28.5**	**-0.4**
PAPH				LR	LR		
	comp=Z,9μm,20.9s						
AGP	**Aguadilla**	**46.34**	**5**	PFAKE		15 00 40.0	+11
AGP				LR	LR		
	comp=Z,6μm,20.9s						
PCDR	**Punta Cana, DR**	**46.36**	**3**	*e*P	**P**	**15 00 28.8**	**-0.4**
MTDJ	**Mount Denham**	**46.46**	**351**	P	**P**	**15 00 27.9**	**-2.1**
	comp=Z,678nm,1.6s						
MTDJ				*e*PcP	**PcP**	**15 02 03.9**	**-0.4**
MTDJ				LR	LR		
	comp=Z,5μm,22.0s						
CVJ	**Coleyville**	**46.46**	**351**	*i* P	**P**	**15 00 30.3**	**+0.2**
SMRT	**St. Maarten**	**46.46**	**10**	*e*P	**P**	**15 00 27.8**	**-2.2**
	comp=Z,124nm,1.0s						
SMRT				*e*pP	**pP**	**15 00 43.5**	**+1.8**
SMRT				LR	LR		
	comp=Z,10μm,20.2s						
STVI	**Saint Thomas**	**46.50**	**8**	*e*P	**P**	**15 00 28.1**	**-2.1**
	comp=Z,104nm,1.2s						
STVI				*e*pP	**pP**	**15 00 41.0**	**-0.9**
BBJ	**Bamboo Saint A**	**46.58**	**352**	*i* P	**P**	**15 00 31.1**	**+0.2**
SDDR	**Presa de Saban**	**46.77**	**360**	PFAKE		15 00 40.0	+7.6
SDDR				LR	LR		
	comp=Z,13μm,20.0s						
GTBY	**Guantanamo Bay**	**47.88**	**355**	*e*P	**P**	**15 00 40.2**	**-0.7**
	comp=Z,128nm,0.7s						
GRTK	**Grand Turk**	**49.28**	**360**	*e*P	**P**	**15 00 50.8**	**-1.0**
	comp=Z,1μm,1.4s						
TRIS	**Tristan da Cun**	**49.52**	**116**	*e*P	**P**	**15 00 53.0**	**-0.6**
	comp=Z,277nm,1.0s						
TEIG	**Tepich**	**50.86**	**339**	*e*P	**P**	**15 01 03.6**	**-0.1**
	comp=Z,3μm,2.2s						
TEIG				LR	LR		
	comp=Z,3μm,22.0s						
**VN

SNR=21
H06E1 SOCORRO T-PHAS 60.56 316 T T 16 07 42.1
SNR=243
035A Encino 60.60 332 ⇑P **P 15 02 14.1 +0.6**
baz=61,SNR=15
936A North Padre Is 60.70 333 ⇓P **P 15 02 14.4 +0.2**
baz=61
BRAL Brewton 60.73 344 *e*P **P 15 02 14.8 +0.5**
comp=Z,4μm,2.8s
034A Hebbronville 60.95 332 ⇓P **P 15 02 17.0 +1.1**
baz=61,SNR=21
SHEL Horse Pasture 60.99 93 *e*P **P 15 02 16.5 -0.1**
SHEL pmax pmax
comp=Z,1μm,1.8s
SHEL MLR MLR
comp=Z,8μm,20.0s
SHEL Horse Pasture 60.99 93 *e*P **P 15 02 16.4 -0.1**
comp=Z,1μm,1.8s
SHEL LR LR
comp=Z,8μm,20.0s
KVTX Kingsville 61.05 333 *e*P **P 15 02 16.8 +0.2**
CSU Charleston Sou 61.33 351 *e*P **P 15 02 19.4 +1.0**
738A Farr-Stevens R 61.34 335 ⇓P **P 15 02 19.1 +0.6**
baz=62
934A Benavides 61.36 332 ⇓P **P 15 02 19.5 +0.8**
baz=62,SNR=6.8
NVL N'lazarevskaya 61.41 158 *e*P **P 15 02 18.3 -0.2**
NVL *e**PP **pP 15 02 30.5 -0.1**
NVL *e* 15 03 01.3
NVL *e*PPP PPP 15 06 12.7
NVL *e*S **S 15 10 30.7 -5.5**
NVL *e* 15 12 04.2
NVL pmax pmax
comp=Z,430nm,1.1s
NVL MLR MLR
comp=Z,5μm,15.0s
NHSC New Hope 61.47 351 *e*P **P 15 02 18.0 -1.3**
comp=Z,677nm,1.4s
NHSC LR LR
comp=Z,7μm,20.0s
835A Beeville 61.68 333 ⇓P **P 15 02 22.2 +1.4**
baz=62,SNR=16
933A Laredo 61.68 331 ⇓P **P 15 02 21.3 +0.5**
baz=62,SNR=20
834A Tilden 61.83 332 ⇓P **P 15 02 22.8 +1.0**
baz=62,SNR=50
QSPA South Pole Qui 62.16 180 P **P 15 02 23.6 -0.1**
comp=Z,225nm,0.9s,baz=150,slow=3.0,SNR=261
QSPA South Pole Qui 62.16 180 *e*P **P 15 02 23.7 -0.1**
comp=Z,425nm,1.2s
QSPA *e*pP **pP 15 02 36.7 +0.8**
735A Kenedy 62.18 333 ⇓P **P 15 02 25.0 +0.9**
baz=62,SNR=5.8
GOGA Godfrey 62.28 348 PFAKE 15 02 40.0 +15
GOGA LR LR
comp=Z,6μm,22.0s
833A Chaparral WMA, 62.36 332 ⇓P **P 15 02 26.0 +0.6**
baz=63,SNR=58
636A Smothers Creek 62.44 334 ⇓P **P 15 02 26.7 +0.8**
baz=63,SNR=26
734A La Parita Cree 62.47 333 ⇓P **P 15 02 26.7 +0.6**
baz=63,SNR=21
538A Harpers Horsep 62.53 336 ⇑P **P 15 02 27.6 +1.2**
baz=63
832A Faith Ranch, C 62.57 331 ⇓P **P 15 02 27.2 +0.5**
baz=63,SNR=77
635A Leesville 62.64 334 ⇑P **P 15 02 27.2 0.0**
baz=63,SNR=23
LRAL Lakeview Retre 62.65 345 *e*P **P 15 02 26.1 -1.1**
comp=Z,491nm,2.0s
733A Divot King Ran 62.66 332 ⇓P **P 15 02 27.6 +0.2**
baz=63,SNR=44
733A ⇓S **S 15 10 55.7 +2.9**
baz=63
SACV Santiago Islan 62.67 53 *e*P **P 15 02 27.0 -0.7**
comp=Z,167nm,1.0s
SACV *e*pP **pP 15 02 38.5 -1.4**
SACV LR LR
comp=Z,7μm,20.0s
537A Green Hill Far 62.70 335 ⇑P **P 15 02 28.3 +0.7**
baz=63,SNR=17
VBMS Vicksburg 62.78 341 *e*P **P 15 02 29.9 +1.8**
comp=Z,735nm,1.5s
VBMS LR LR
comp=Z,21μm,21.0s
634A China Grove, S 62.86 333 ⇓P **P 15 02 29.0 +0.3**
baz=63
732A Laxson Ranch, 62.95 331 ⇑P **P 15 02 29.8 +0.5**
baz=63,SNR=19
536A Bastrop 62.98 335 ⇑P **P 15 02 29.9 +0.4**
baz=63,SNR=13
438A Sam Houston St 63.00 336 ⇓P **P 15 02 30.4 +0.8**
baz=63,SNR=18
340A Bronson 63.07 338 ⇑P **P 15 02 30.4 +0.3**
baz=63,SNR=5.8
535A Dale 63.13 334 ⇓P **P 15 02 30.8 +0.3**
baz=63
339A Huntington 63.22 337 ⇓P **P 15 02 31.7 +0.7**
baz=64
633A Saathoff Ranch 63.26 332 ⇓P **P 15 02 31.6 +0.2**
baz=64,SNR=13
437A Phantom Ranch, 63.31 336 ⇑P **P 15 02 32.3 +0.7**
baz=64
534A Blanco 63.48 333 ⇓P **P 15 02 32.5 -0.4**
baz=64,SNR=14
338A Crockett 63.50 337 ⇑P **P 15 02 33.7 +0.8**
baz=64,SNR=7.7
436A Wall Ranch, Ga 63.50 335 ⇑P **P 15 02 33.0 +0.1**
baz=64,SNR=6.8
632A Uvalde 63.56 332 ⇓P **P 15 02 33.9 +0.6**
baz=64,SNR=103
KMSC Kings Mountain 63.63 350 ⇑P **P 15 02 33.1 -0.6**
baz=64,SNR=12
NATX Nacogdoches 63.64 337 *e*P **P 15 02 34.1 +0.3**
comp=Z,1μm,1.8s
337A Centerville 63.66 336 ⇑P **P 15 02 34.7 +0.7**
baz=64
533A Kerrville 63.75 333 ⇑P **P 15 02 34.6 0.0**
baz=64,SNR=30
631A Perdido Creek 63.81 331 ⇓P **P 15 02 35.2 +0.2**
baz=64,SNR=87
435B Jarrell 63.81 334 ⇑P **P 15 02 35.1 +0.2**
baz=64
239A Gary 63.81 338 ⇓P **P 15 02 35.4 +0.5**
baz=64,SNR=13
238A Jacksonville 64.02 337 ⇑P **P 15 02 37.0 +0.7**
baz=64,SNR=5.5
336A Riesel 64.08 335 ⇓P **P 15 02 36.7 +0.1**
baz=64,SNR=25
434A Burnet 64.10 334 ⇓P **P 15 02 36.8 -0.1**
baz=64,SNR=41
532A Rocksprings 64.15 332 ⇑P **P 15 02 37.8 +0.6**
baz=64,SNR=124
335A Moody 64.20 335 ⇓P **P 15 02 37.5 0.0**
baz=64,SNR=15
237A Washetta, Mont 64.26 337 ⇓P **P 15 02 38.3 +0.4**
baz=64,SNR=19
LPIG La Paz 64.27 320 LR LR 15 24 02.9
comp=Z,5μm,21.8s,baz=133,slow=30
433A Art 64.37 333 ⇓P **P 15 02 38.6 -0.1**
baz=65,SNR=123
JCT Junction City 64.42 332 ⇑P **P 15 02 39.3 +0.3**
baz=65,SNR=68
JCT Junction City 64.42 332 PFAKE 15 02 50.0 +11
JCT LR LR
comp=Z,2μm,22.0s
531A Rocksprings 64.45 332 ⇓P **P 15 02 39.7 +0.4**
baz=65,SNR=138
334A Lometa 64.55 334 ⇓P **P 15 02 39.7 -0.1**
baz=65,SNR=33
138A Matatall Enter 64.61 338 ⇑P **P 15 02 41.0 +0.8**
baz=65,SNR=17
OXF Oxford 64.65 343 *e*P **P 15 02 38.6 -1.8**
OXF *e**PP **pP 15 02 52.7 +0.2**
OXF pmax pmax
comp=Z,228nm,1.0s
OXF Oxford 64.65 343 *e*P **P 15 02 38.6 -1.8**
comp=Z,228nm,1.0s
OXF *e*pP **pP 15 02 52.7 +0.2**
432A Menard 64.76 333 ⇓P **P 15 02 41.7 +0.5**
baz=65,SNR=66
530A J-C Ranch, Com 64.77 331 ⇓P **P 15 02 41.9 +0.6**
baz=65,SNR=102
137A Heron Place, G 64.78 337 ⇓P **P 15 02 42.1 +0.8**
baz=65,SNR=32
333A Richland Sprin 64.83 334 ⇓P **P 15 02 41.8 +0.1**
baz=65,SNR=50
WHTX Lake Whitney, 64.84 335 ⇑P **P 15 02 41.9 +0.2**
baz=65,SNR=14
431A Sonora 64.93 332 ⇓P **P 15 02 42.5 +0.2**
baz=65,SNR=52
TXAR Lajitas Array 65.11 329 P **P 15 02 44.0 +0.4**
TXAR Lajitas Array 65.11 329 P **P 15 02 44.0 +0.4**
comp=Z,25nm,0.9s,baz=152,slow=8.5,SNR=113
TXAR LR LR 15 27 20.0
comp=Z,4μm,20.1s,baz=0.0,slow=32
TXAR PKP2bc 15 31 28.7
comp=Z,2.1nm,1.0s,baz=325,slow=2.0,SNR=9.5
TX31 Lajitas Ar. Si 65.11 329 *e*P **P 15 02 43.2 -0.4**
TX31 ⇑*e* 15 31 28.2
234A Clairette 65.11 335 ⇑P **P 15 02 43.6 +0.2**
baz=65,SNR=5.3
529A Stev Forest Ra 65.13 330 ⇑P **P 15 02 44.1 +0.4**
baz=65,SNR=129
332A Millersview 65.19 333 ⇓P **P 15 02 43.9 -0.1**
baz=65,SNR=43
430A Baggett Ranch, 65.28 331 ⇑P **P 15 02 45.2 +0.6**
baz=66
135A Vickery Place, 65.33 336 ⇓P **P 15 02 45.0 +0.1**
baz=66
TZTN Tazewell 65.35 349 *e*P **P 15 02 44.3 -0.6**
comp=Z,329nm,1.6s
331A San Angelo 65.40 332 ⇓P **P 15 02 45.4 0.0**
baz=66,SNR=37
233A Rising Star 65.42 334 ⇑P **P 15 02 45.5 0.0**
baz=66,SNR=56
429A Davenport Ranc 65.42 331 ⇓P **P 15 02 46.2 +0.7**
baz=66,SNR=75
VWCC Virginia Weste 65.52 352 *e*P **P 15 02 45.7 -0.3**
BLA Blacksburg 65.54 352 *e*P **P 15 02 45.6 -0.6**
BLA pmax pmax
comp=Z,508nm,1.9s
BLA MLR MLR
comp=Z,6μm,22.0s
BLA Blacksburg 65.54 352 *e*P **P 15 02 45.6 -0.6**
comp=Z,508nm,1.9s
BLA LR LR
comp=Z,6μm,22.0s
URVA University of 65.58 354 *e*P **P 15 02 46.8 +0.5**
232A Coleman 65.59 333 ⇑P **P 15 02 46.7 +0.1**
baz=66,SNR=66
134A White-Moore Ra 65.60 335 ⇑P **P 15 02 46.6 +0.1**
baz=66,SNR=14
330A Mertzon 65.79 332 ⇓P **P 15 02 47.9 -0.1**
baz=66,SNR=52
WVT Waverly 65.81 345 PFAKE 15 03 00.0 +12
WVT LR LR
comp=Z,4μm,22.0s
MIAR Mount Ida 65.86 340 *e*pP **pP 15 03 00.8 +0.4**
MIAR ⇑*e* 15 31 26.1
MIAR LR LR
comp=Z,2μm,20.0s
231A Bronte 65.90 333 ⇓P **P 15 02 48.6 0.0**
baz=66,SNR=33
133A Hamilton Ranch 65.95 334 ⇓P **P 15 02 48.9 0.0**
baz=66,SNR=68
HALT Halls 65.96 344 *e*P **P 15 02 46.6 -2.2**
Z35A Perchaven, San 65.97 336 ⇑P **P 15 02 49.3 +0.3**
baz=66,SNR=18
GNAR Gosnell 66.18 343 *e*pP pP 15 03 02.0 -0.4
230A Sterling City 66.19 332 ⇑P **P 15 02 50.4 0.0**
baz=66,SNR=21
329A Wagon Wheel Ra 66.20 331 ⇓P **P 15 02 50.7 +0.1**
baz=66,SNR=33
ABTX Abilene, Hawle 66.24 334 ⇑P **P 15 02 50.7 -0.1**
baz=66,SNR=53
ABTX Abilene, Hawle 66.24 334 *e*P **P 15 02 50.4 -0.4**
comp=Z,618nm,1.4s
ABTX LR LR
comp=Z,2μm,21.8s
Z34A Collier Ranch, 66.25 335 ⇑P **P 15 02 50.6 -0.2**
baz=66,SNR=23
UTMT University of 66.25 344 *e*P **P 15 02 52.8 +2.1**
comp=Z,829nm,1.6s
Z33A Whitaker Ranch 66.49 335 ⇑P **P 15 02 52.5 +0.2**
baz=67,SNR=45
229A Bryant Ranch, 66.55 332 ⇑P **P 15 02 52.6 -0.2**
baz=67,SNR=16
131A Roby 66.58 333 ⇑P **P 15 02 53.2 +0.2**
baz=67,SNR=39
Y34A Reagan Ranch, 66.72 336 ⇑P **P 15 02 53.3 -0.4**
baz=67,SNR=31
130A Snyder 66.75 333 ⇓P **P 15 02 54.0 0.0**
baz=67,SNR=21
Z32A Haskell 66.78 334 ⇓P **P 15 02 54.1 -0.1**
baz=67,SNR=50
228A UT Block 9, Go 67.01 331 ⇑P **P 15 02 55.7 -0.1**
baz=67,SNR=45
Z31A Sharp Cattle R 67.05 334 ⇑P **P 15 02 55.8 -0.1**
baz=67,SNR=58
PBMO Poplar Bluff 67.06 343 *e*P **P 15 02 55.4 -0.4**
comp=Z,1μm,2.0s
Y33A Hilltop Ranch, 67.08 335 ⇑P **P 15 02 55.9 -0.2**
baz=67,SNR=16
129A Stewart Farms, 67.15 332 ⇓P **P 15 02 56.4 -0.2**
baz=67,SNR=5.1
X34A Smith Ranch, M 67.33 336 ⇓P **P 15 02 57.7 +0.1**
baz=68,SNR=29
SDMD Soldier's Deli 67.35 355 P **P 15 02 56.6 -1.0**
comp=Z,220nm,1.5s
SDMD *e*pP **pP 15 03 09.5 -0.3**
Y32A R-V Farms, Ver 67.39 335 ⇑P **P 15 02 57.9 -0.1**
baz=68,SNR=30
128A Castleberry Fa 67.40 331 ⇑P **P 15 02 58.1 -0.1**
baz=68,SNR=48
Z30A Sanderson Ranc 67.41 333 ⇑P **P 15 02 58.0 -0.3**
baz=68,SNR=40
WCI Wyandotte Cave 67.50 347 *e*P **P 15 02 55.7 -2.9**
WCI pmax pmax
comp=Z,842nm,2.3s
WCI MLR MLR
comp=Z,3μm,21.0s
WCI Wyandotte Cave 67.50 347 *e*P **P 15 02 55.7 -2.9**
comp=Z,842nm,2.3s
WCI LR LR
comp=Z,3μm,21.0s
X33A Lawton 67.51 336 ⇓P **P 15 02 58.0 -0.8**
baz=68
USIN University of 67.53 346 *e*pP pP 15 03 10.9 -0.1
Z29A Hungry Hill Ra 67.63 332 ⇑P **P 15 02 59.0 -0.7**
baz=68,SNR=17
Y31A Rekieta Farm, 67.66 334 ⇓P **P 15 02 59.8 0.0**
baz=68,SNR=34
X32A Elmer 67.70 335 ⇓P **P 15 02 59.5 -0.4**
baz=68,SNR=16
WMOK Wichita Mounta 67.79 335 *e*pP **pP 15 03 13.3 +0.5**
WMOK LR LR
comp=Z,6729μm,19.0s
TUL1 Leonard 67.81 338 ⇓P **P 15 03 00.1 -0.5**
baz=68,SNR=40
TUL1 Leonard 67.81 338 *e*P **P 15 03 00.1 -0.5**
comp=Z,455nm,1.3s
TUL1 *e*pP **pP 15 03 12.7 -0.1**
TUL1 LR LR
comp=Z,2μm,20.3s
Y30A Stafford Cattl 67.84 333 ⇑P **P 15 03 00.5 -0.4**
baz=68,SNR=6.5
W34A Bridge Creek, 67.87 336 ⇑P **P 15 03 00.8 -0.3**
baz=68,SNR=10.0
MNTX Cornudas Mount 67.89 329 *e*P **P 15 03 00.6 -0.6**
comp=Z,52nm,1.0s
Z28A Tucker Farm, M 67.93 332 ⇓P **P 15 03 01.1 -0.5**
baz=68,SNR=17
V35A Meyer Ranch, C 68.03 337 ⇑P **P 15 03 01.2 -0.8**
baz=68,SNR=24
W33A Caddo, Fort Co 68.05 336 ⇑P **P 15 03 02.5 +0.3**
baz=68,SNR=36
Y29A Porterfield Fa 68.13 333 ⇓P **P 15 03 02.8 -0.1**
baz=68,SNR=16
X31A McDonald Ranch 68.14 334 ⇓P **P 15 03 02.6 -0.2**
baz=68,SNR=39
W32A Sentinel 68.31 335 ⇓P **P 15 03 04.0 +0.2**
baz=68
V34A Guthrie 68.33 337 ⇑P **P 15 03 03.4 -0.5**
baz=69,SNR=25
X30A Coker Ranch, T 68.33 334 ⇑P **P 15 03 03.6 -0.4**
baz=69,SNR=24
Y28A McKinney Farm, 68.41 332 ⇓P **P 15 03 04.1 -0.4**
baz=69,SNR=9.7
LUPA Lehigh Univers 68.44 356 *e*P **P 15 03 06.8 +2.4**
comp=Z,17nm,1.1s
LUPA LR LR
comp=Z,500nm,20.2s
BRNJ Basking Ridge 68.48 357 *e*P **P 15 03 04.3 -0.3**
comp=Z,1μm,2.5s
CPNY Central Park 68.56 358 PFAKE 15 03 20.0 +15
CPNY LR LR
comp=Z,4μm,20.9s
V33A Lossen Ranch, 68.58 336 ⇓P **P 15 03 05.3 -0.2**
baz=69,SNR=40
W31A Holland Ranch, 68.62 335 ⇓P **P 15 03 05.5 -0.3**
baz=69,SNR=16
SSPA Standing Stone 68.65 354 *e*P **P 15 03 05.0 -0.8**
comp=Z,328nm,1.6s
X29A Tulia 68.66 333 ⇑P **P 15 03 05.9 -0.2**
baz=69,SNR=21
MSTX Muleshoe 68.68 332 ⇑P **P 15 03 05.9 -0.3**
baz=69,SNR=30
MSTX Muleshoe 68.68 332 PFAKE 15 03 20.0 +14
MSTX LR LR
comp=Z,3μm,19.5s
V32A Arapaho 68.77 336 ⇑P **P 15 03 07.0 +0.3**
baz=69,SNR=9.7
PAL Palisades 68.77 358 PFAKE 15 03 20.0 +14
PAL LR LR
comp=Z,3μm,21.0s
W30A Crocket Farms 68.86 334 ⇓P **P 15 03 07.2 -0.1**
baz=69
ACSO Alum Creek Sta 68.86 350 PFAKE 15 03 20.0 +13
ACSO LR LR
comp=Z,4μm,22.0s
U34A Anderson Ranch 68.88 337 ⇑P **P 15 03 07.0 -0.3**
baz=69,SNR=19
U34A Anderson Ranch 68.88 337 *e*pP pP 15 03 19.5 -0.1
ODNJ Ogdensburg 68.88 357 *e*P **P 15 03 08.0 +0.8**
comp=Z,500nm,2.0s
ODNJ LR LR
comp=Z,6μm,20.8s
X28A Dimmitt 68.92 333 ⇓P **P 15 03 07.9 +0.2**
baz=69,SNR=13
AMTX Amarillo 69.03 333 ⇓P **P 15 03 08.4 0.0**
baz=69
AMTX Amarillo 69.03 333 PFAKE 15 03 20.0 +12
AMTX LR LR
comp=Z,4μm,21.0s
YLE Yale 69.05 358 *e*P **P 15 03 09.2 +1.0**
comp=Z,692nm,1.4s
U33A Lingo Farm, Me 69.07 337 ⇑P **P 15 03 08.1 -0.5**
baz=69
V31A Spring Creek L 69.11 335 ⇑P **P 15 03 09.3 +0.5**
baz=69,SNR=13
W29A Amarillo 69.22 333 ⇑P **P 15 03 09.4 -0.2**
baz=70,SNR=22
U32A Winter Ranch, 69.34 336 ⇑P **P 15 03 10.3 +0.1**
baz=70
S36A Lake Cedric, C 69.41 339 ⇑P **P 15 03 10.0 -0.6**
baz=70,SNR=60
KSPA Keystone Colle 69.41 356 *e*P **P 15 03 11.3 +0.8**
comp=Z,451nm,1.7s
KSPA LR LR
comp=Z,5μm,21.4s
V30A Spur Ranch, Mi 69.42 334 ⇓P **P 15 03 11.5 +0.7**
baz=70,SNR=8.6
319A Douglas 69.50 325 ⇓P **P 15 03 12.2 +0.8**
baz=70,SNR=48
W28A Vega 69.57 333 ⇑P **P 15 03 11.8 +0.1**
baz=70,SNR=7.3
BRYW Bryant College 69.63 360 *e*P **P 15 03 12.9 +1.1**
comp=Z,594nm,1.4s
U31A Nine Bar Ranch 69.64 335 ⇑P **P 15 03 12.1 0.0**
baz=70
T33A Patterson Ranc 69.70 337 ⇓P **P 15 03 12.8 +0.4**
baz=70,SNR=16
121A Cookes Peak, D 69.71 327 ⇑P **P 15 03 13.9 +1.1**
baz=70,SNR=56
121A Cookes Peak, D 69.71 327 *e*P **P 15 03 13.8 +1.0**
comp=Z,552nm,1.8s
121A *e*pP **pP 15 03 25.4 +0.4**
SFIN Lafayette 69.73 347 ⇓P **P 15 03 11.0 -1.4**
baz=70,SNR=13
SFIN Lafayette 69.73 347 *e*P **P 15 03 10.5 -2.0**
comp=Z,270nm,1.5s
SFIN LR LR
comp=Z,5μm,20.7s
TBI Tubuai 69.78 254 *e*P **P 15 03 15.0 +1.7**
comp=Z,640nm,1.4s
TBI Tubuai 69.78 254 *e*PP PP 15 05 44.5 -3.3
comp=Z,706nm,28.0s
TBI *e*S **S 15 12 20.5 +0.7**
comp=Z,4μm,30.0s
TBI *e*LQ LQ 15 21 01.3
comp=Z,3μm,29.0s
TBI *e*LR LR 15 24 19.6
comp=Z,11μm,28.8s,baz=107
TBI Tubuai 69.78 254 ⇑*e*T T 16 18 52.6
comp=Z,27nm,0.2s
V29A Stinnett 69.83 334 ⇓P **P 15 03 13.1 -0.3**
baz=70
S34A Willow Spring 69.88 338 ⇓P **P 15 03 13.1 -0.4**
baz=70,SNR=8.2
ALLY Alegheny Colle 69.88 353 *e*P **P 15 03 12.3 -1.1**
comp=Z,277nm,1.4s
QUA2 Belchertown 70.00 359 *e*P **P 15 03 14.6 +0.5**
comp=Z,450nm,1.7s
V28A Channing 70.00 333 ⇓P **P 15 03 14.6 +0.2**
baz=70,SNR=25
T32A Huddler Ranch, 70.03 336 ⇑P **P 15 03 14.6 +0.2**
baz=70,SNR=30
W26A Owens Ranch, T 70.06 332 ⇑P **P 15 03 15.3 +0.5**
baz=70,SNR=60
BINY Binghamton 70.06 356 PFAKE 15 03 30.0 +15
BINY LR LR
comp=Z,5μm,20.0s
U30A WK&E Inc. Balk 70.08 335 ⇑P **P 15 03 14.9 +0.1**
baz=70,SNR=5.1
S33A Kaszmaul Farm, 70.08 337 ⇑P **P 15 03 14.8 +0.1**
baz=70,SNR=21
VNDA Vanda 70.10 191 P **P 15 03 14.9 +0.5**
VNDA Vanda 70.10 191 P **P 15 03 14.8 +0.5**
comp=Z,31nm,0.9s,baz=108,slow=5.9,SNR=15
VNDA PKP2ab 15 31 12.3
comp=Z,15nm,1.2s,baz=302,slow=5.0,SNR=7.7
VNDA PKPPKP **P'P'df 15 31 18.7 -3.3**
comp=Z,2.9nm,1.0s,baz=148,slow=4.3,SNR=4.1
VNDA LR LR 15 32 24.5
comp=Z,3μm,18.6s,baz=130,slow=34
VNDA Vanda 70.10 191 P **P 15 03 14.8 +0.5**
VNDA *e*P'P'df P'P'df 15 31 11.7 -10
VNDA P'P'ab P'P'ab 15 31 12.3 -8.2
VNDA P'P' 15 31 18.7
HRV Adam Dziewonsk 70.22 359 P **P 15 03 15.1 -0.3**
HRV pmax pmax
comp=Z,77nm,0.8s
HRV MLR MLR
comp=Z,6μm,22.0s
HRV Adam Dziewonsk 70.22 359 P **P 15 03 15.1 -0.3**
comp=Z,77nm,0.8s
HRV LR LR
comp=Z,6μm,22.0s
T31A Randall Ranch, 70.22 336 ⇓P **P 15 03 15.8 +0.2**
baz=70,SNR=14
U29A Oasis Ranch, S 70.24 334 ⇓P **P 15 03 15.8 0.0**
baz=70
V27A Dan Oppiter Fa 70.25 333 ⇑P **P 15 03 16.1 +0.2**
baz=70,SNR=26
ERPA Erie 70.33 353 *e*P **P 15 03 14.8 -1.3**
comp=Z,847nm,2.1s
ERPA LR LR
comp=Z,5μm,22.0s
W25A X Bar L Ranch, 70.46 331 ⇑P **P 15 03 17.3 0.0**
baz=71,SNR=62
TRY Troy 70.49 358 *e*P **P 15 03 18.0 +1.0**
comp=Z,617nm,1.5s
T30A Plains 70.49 335 ⇑P **P 15 03 17.3 0.0**
baz=71
S32A Newby Ranch, P 70.50 337 ⇓P **P 15 03 17.6 +0.3**
baz=71
BNM Barren Site 70.51 329 *e*P **P 15 03 18.6 +0.8**
BNM *e*P'P'df **P'P'df 15 31 16.0 +2.3**
U28A Mallet 70.55 334 ⇓P **P 15 03 17.6 -0.2**
baz=71,SNR=19
Y22D IRIS PASSCAL I 70.58 329 ⇓P **P 15 03 19.1 +1.1**
baz=71
S31A Mullinville 70.62 336 ⇓P **P 15 03 18.2 +0.2**
baz=71
LPM Los Pinos Moun 70.65 329 *e*P **P 15 03 18.8 +0.3**
V26A Tequesquite Ra 70.67 332 ⇑P **P 15 03 18.6 0.0**
baz=71,SNR=44
LENM Lemitar 70.68 329 P **P 15 03 17.6 -1.1**
LENM *e*pP **pP 15 03 31.3 +0.4**
R33A Olander Ranch, 70.72 338 ⇑P **P 15 03 18.6 0.0**
baz=71
MMNY Mt. Morris Dam 70.73 355 *e*P **P 15 03 18.6 0.0**

comp=Z,1µm,1.6s
MMNY eP'P'df P'P'df 15 31 26.9 +15
MMNY LR LR
comp=Z,10µm,20.1s
MEH Mehetia 70.74 260 eP **P 15 03 20.9 +1.6**
comp=Z,61nm,1.2s
MEH Mehetia 70.74 260⇑eT T 16 20 19.4
comp=Z,90nm,0.2s
U27A Thompson Grove 70.82 333 ⇓P **P 15 03 19.9 +0.4**
baz=71,SNR=30
W24A Lazy 6 Ranch, 70.86 331 ⇓P **P 15 03 20.1 +0.3**
baz=71,SNR=34
T29A Hugoton 70.87 335 ⇓P **P 15 03 19.9 +0.2**
baz=71,SNR=5.2
S30A Montezuma 70.99 336 ⇑P **P 15 03 20.4 0.0**
baz=71,SNR=5.8
KSU1 Kansas State U 70.99 339 ⇓P **P 15 03 19.6 -0.6**
baz=71,SNR=5.8
KSU1 Kansas State U 70.99 339 eP **P 15 03 18.5 -1.7**
comp=Z,210nm,1.4s
KSU1 epP **pP 15 03 32.3 -0.2**
AAM Ann Arbor 70.99 350 eP **P 15 03 19.3 -0.8**
AAM e*PP **pP 15 03 32.8 +0.4**
AAM MLR MLR
comp=Z,6µm,22.0s
AAM Ann Arbor 70.99 350 eP **P 15 03 19.3 -0.8**
AAM epP **pP 15 03 32.8 +0.4**
AAM LR LR
comp=Z,6µm,22.0s
TUC Tucson 71.01 325 eP **P 15 03 21.0 +0.4**
TUC e*PP **pP 15 03 33.0 +0.1**
TUC pmax pmax
comp=Z,323nm,1.7s
TUC MLR MLR
comp=Z,8µm,20.0s
TUC Tucson 71.01 325 eP **P 15 03 21.0 +0.4**
comp=Z,323nm,1.7s
TUC epP **pP 15 03 33.0 +0.1**
TUC LR LR
comp=Z,8µm,20.0s
SYO Syowa Base 71.04 159 ⇓iP **P 15 03 18.2 -2.0**
V25A Rancho No Teng 71.06 332 ⇓P **P 15 03 21.1 +0.2**
baz=71,SNR=72
R32A Long Quarter, 71.07 337 ⇑P **P 15 03 20.7 0.0**
baz=71,SNR=13
ANMO Albuquerque 71.10 330⇑iP **P 15 03 21.3 0.0**
ANMO pmax pmax
comp=Z,1µm,2.5s
ANMO Albuquerque 71.10 330 eP **P 15 03 21.2 0.0**
comp=Z,493nm,1.8s
ANMO LR LR
comp=Z,9µm,20.0s
ACCN Adirondack Com 71.14 358 PFAKE 15 03 30.0 +9.0
ACCN LR LR
comp=Z,3µm,19.9s
T28A Walsh 71.15 334 ⇑P **P 15 03 21.4 0.0**
baz=71,SNR=28
U26A Atchley Ranch, 71.17 332 ⇓P **P 15 03 22.0 +0.3**
baz=71
S29A Ulysses 71.21 335 ⇓P **P 15 03 22.0 +0.3**
baz=72,SNR=18
R31A Burdett 71.23 337 ⇑P **P 15 03 21.8 +0.1**
baz=72,SNR=16
V24A Rampart Ranch, 71.24 331 ⇓P **P 15 03 22.4 +0.2**
baz=72,SNR=30
Q33A Connelly Farm, 71.29 338 ⇑P **P 15 03 22.1 0.0**
baz=72,SNR=10
T27A Campo 71.34 334 ⇑P **P 15 03 22.6 0.0**
baz=72,SNR=67
HNH Hanover 71.42 359 eP **P 15 03 23.9 +1.2**
comp=Z,1µm,2.3s
VAH Vaihoa 71.44 262 eP **P 15 03 25.1 +1.6**
comp=Z,279nm,1.3s
U25A Circle Dot Ran 71.45 332 ⇓P **P 15 03 23.6 +0.3**
baz=72,SNR=56
S28A Manter 71.48 334 ⇑P **P 15 03 23.5 +0.1**
baz=72,SNR=49
R30A Dighton 71.49 336 ⇑P **P 15 03 23.3 -0.1**
baz=72,SNR=7.6
Q32A Meitler Ranch, 71.53 338 ⇑P **P 15 03 23.3 -0.1**
baz=72,SNR=12
P33A Williams Farm, 71.64 338 ⇓P **P 15 03 24.2 0.0**
baz=72
V23A Ortiz Mt. (NFS 71.65 330 ⇓P **P 15 03 25.6 +1.0**
baz=72,SNR=34
MDV Middlebury 71.74 358 eP **P 15 03 24.8 +0.3**
MDV epP **pP 15 03 37.0 +0.1**
PMOR Pomariorio Ree 71.78 262 eP **P 15 03 27.2 +1.7**
comp=Z,229nm,1.3s
214A Organ Pipe Nat 71.78 323 ⇓P **P 15 03 26.4 +1.2**
baz=72
214A Organ Pipe Nat 71.78 323 eP **P 15 03 25.8 +0.6**
comp=Z,1µm,1.7s
214A epP **pP 15 03 37.9 +0.4**
T26A Comanche Natio 71.78 333 ⇑P **P 15 03 25.8 +0.5**
baz=72,SNR=46
TVO Taravao 71.81 259 eP **P 15 03 27.6 +1.8**
comp=Z,92nm,1.4s
TVO Taravao 71.81 259⇑eT T 16 21 37.1
comp=Z,1.3nm,0.2s
U24A Moreno Valley 71.82 331 ⇑P **P 15 03 26.5 +0.8**
baz=72
Q31A Ellis 71.83 337 ⇓P **P 15 03 25.4 +0.1**
baz=72,SNR=14
R29A Marienthal 71.93 335 ⇑P **P 15 03 26.3 +0.3**
baz=72,SNR=12
S27A Las Animas 71.95 334 ⇓P **P 15 03 26.5 +0.3**
baz=72,SNR=17
LBNH Lisbon 71.95 359 eP **P 15 03 25.8 -0.1**
LBNH pmax pmax
comp=Z,695nm,2.0s
LBNH MLR MLR
comp=Z,4µm,22.0s
LBNH Lisbon 71.95 359 eP **P 15 03 25.8 -0.1**
comp=Z,695nm,2.0s
LBNH LR LR
comp=Z,4µm,22.0s
TIAR Tiarei 71.98 259 eP **P 15 03 28.3 +1.5**
comp=Z,20nm,1.1s
TIAR Tiarei 71.98 259⇑eT T 16 21 46.3
comp=Z,14nm,0.2s
LIC Lamto 72.03 73⇑iP **P 15 03 26.7 -0.3**
comp=Z,127nm,0.7s,baz=244
LIC eR
comp=Z,11µm,22.2s
LIC Lamto 72.03 73 eP **P 15 03 26.7 -0.3**
comp=Z,212nm,0.7s
LIC Lamto 72.03 73⇑iP **P 15 03 26.7 -0.3**
comp=Z,127nm,0.7s
T25A Trinidad 72.08 332 ⇑P **P 15 03 28.1 +0.9**
baz=72,SNR=64
T25A Trinidad 72.08 332 eP **P 15 03 28.1 +0.9**
T25A LR LR
comp=Z,3µm,20.0s
Q30A Quinter 72.09 336 ⇓P **P 15 03 27.0 0.0**
baz=72,SNR=36
R28A Tribune 72.11 335 ⇑P **P 15 03 27.1 0.0**
baz=72,SNR=26
P32A Huiting Farm, 72.11 338 ⇑P **P 15 03 26.7 -0.3**
baz=72,SNR=12
V22A San Miguel Ran 72.11 330 ⇑P **P 15 03 28.6 +1.2**
baz=72,SNR=89
S26A Kim 72.12 333 ⇓P **P 15 03 28.0 +0.8**
baz=72,SNR=60
PAE Paea 72.14 259 eP **P 15 03 29.3 +1.6**
comp=Z,56nm,1.2s
U23A El Rito 72.15 331 ⇓P **P 15 03 28.5 +1.0**
baz=72,SNR=30
PPT2 Papeete2 72.17 259 eP **P 15 03 29.8 +1.8**
comp=Z,240nm,1.4s
PPT2 Papeete2 72.17 259 ePP PP 15 06 03.8 -4.8
comp=Z,1µm,26.8s
PPT2 eS **S 15 12 46.4 -1.4**
comp=Z,3µm,23.8s
PPT2 Papeete2 72.17 259 eLR LR 15 25 24.8
comp=Z,21µm,22.5s,baz=110
PPT Papeete 72.18 259 P **P 15 03 28.9 +0.9**
PPT Papeete 72.18 259 P **P 15 03 28.9 +0.9**
comp=Z,115nm,1.0s,baz=129,slow=1.3,SNR=16
PPT LR LR 15 27 08.4
comp=Z,13µm,20.2s,baz=134,slow=29
TIC Toumodi 72.25 72 eP **P 15 03 28.2 -0.2**
comp=Z,119nm,0.6s
P31A Stockton 72.28 337 ⇑P **P 15 03 28.1 +0.1**
baz=72,SNR=15
Q29A Oakley 72.28 336 ⇓P **P 15 03 27.9 -0.2**
baz=72,SNR=28

KIC Kosan Boka 72.34 73 eP **P 15 03 28.8 -0.1**
comp=Z,490nm,1.1s
X18A Snowflake 72.38 327 ⇑P **P 15 03 30.1 +1.1**
baz=73,SNR=30
DBIC Dimbokro 72.41 72 eP **P 15 03 29.3 0.0**
DBIC Dimbokro 72.41 72 eP **P 15 03 29.4 0.0**
DBIC pmax pmax
comp=Z,177nm,0.9s
DBIC Dimbokro 72.41 72 P **P 15 03 29.3 0.0**
comp=Z,116nm,0.7s,baz=210,slow=6.0,SNR=63
DBIC LR LR 15 32 21.5
comp=Z,7µm,21.7s,baz=223,slow=33
DBIC Dimbokro 72.41 72 eP **P 15 03 29.4 0.0**
comp=Z,177nm,0.9s
LONY Lake Ozonia 72.41 357 P **P 15 03 26.7 -1.9**
comp=Z,750nm,2.2s
LONY LR LR
comp=Z,3µm,20.0s
T24B San Luis 72.42 332 ⇓P **P 15 03 30.4 +1.2**
baz=73,SNR=20
R27A Eads 72.43 334 ⇑P **P 15 03 29.0 0.0**
baz=73,SNR=45
U22A Llaves 72.48 330 ⇓P **P 15 03 31.0 +1.5**
baz=73,SNR=32
EMMW East Machias 72.49 3 eP **P 15 03 29.4 +0.4**
comp=Z,673nm,1.9s
S25A Robets Cordova 72.54 333 ⇑P **P 15 03 30.8 +1.0**
baz=73,SNR=85
O32A Brockman Farm, 72.58 338 ⇓P **P 15 03 29.8 0.0**
baz=73,SNR=8.7
P30A Selden 72.60 337 ⇓P **P 15 03 30.3 +0.3**
baz=73,SNR=11
T23A Casias Ranch, 72.68 331 ⇓P **P 15 03 31.2 +0.5**
baz=73,SNR=18
R26A Arlington 72.70 334 ⇓P **P 15 03 31.0 +0.3**
baz=73,SNR=19
Q28A Sharon Springs 72.75 335 ⇑P **P 15 03 31.1 +0.2**
baz=73,SNR=24
W18A Petrified Fore 72.75 327 ⇑P **P 15 03 32.0 +0.9**
baz=73,SNR=37
W18A Petrified Fore 72.75 327 eP **P 15 03 31.4 +0.3**
comp=Z,458nm,1.4s
W18A LR LR
comp=Z,15µm,20.2s
O31A Woolen Ranch, 72.83 338 ⇑P **P 15 03 31.4 +0.1**
baz=73
JFWS Jewell Farm 72.83 345 ePcP **PcP 15 03 48.1 0.0**
JFWS LR LR
comp=Z,5µm,22.0s
S24A Houchin Ranch, 72.84 332 ⇑P **P 15 03 32.8 +1.1**
baz=73,SNR=100
SADO Sadowa 72.87 354 LR LR 15 35 55.7
comp=Z,3µm,22.0s,baz=172,slow=36
P29A Atwood 72.90 336 ⇓P **P 15 03 32.1 +0.4**
baz=73,SNR=14
R25A Fountain Ranch 72.90 333 ⇑P **P 15 03 32.4 +0.5**
baz=73,SNR=20
113A Mohawk Valley, 72.92 323 ⇑P **P 15 03 33.0 +1.1**
baz=73
Z14A Wintersburg 72.95 324 ⇓P **P 15 03 33.2 +1.1**
baz=73
KSCO Kaye Shedlock' 73.00 335 ⇑P **P 15 03 33.0 +0.6**
baz=73
KSCO Kaye Shedlock' 73.00 335 eP **P 15 03 31.7 -0.7**
comp=Z,658nm,1.5s
X16A Lo Mia Camp, P 73.02 326 ⇓P **P 15 03 33.8 +1.1**
baz=73
N32A Stulken Farm, 73.04 339 ⇑P **P 15 03 32.5 0.0**
baz=73
SDCO Great Sand Dun 73.05 332 ⇑P **P 15 03 33.8 +0.8**
baz=73
SDCO Great Sand Dun 73.05 332 eP **P 15 03 33.2 +0.2**
comp=Z,451nm,1.7s
O30A MW Ranch, Wils 73.10 337 ⇑P **P 15 03 33.3 +0.4**
baz=73
P28A Saint Francis 73.17 336 ⇑P **P 15 03 33.9 +0.5**
baz=73,SNR=6.2
S23A Nye Farm, Mont 73.23 332 ⇓P **P 15 03 35.0 +1.0**
baz=74,SNR=9.4
Q26A Hugo 73.27 334 ⇓P **P 15 03 34.9 +0.9**
baz=74,SNR=19
R24A Sanders Place, 73.30 332 ⇓P **P 15 03 35.5 +1.2**
baz=74
N31A Bailey Ranch, 73.31 338 ⇓P **P 15 03 34.2 +0.1**
baz=74
O29A 4D Ranch, Culb 73.31 336 ⇓P **P 15 03 35.0 +0.8**
baz=74,SNR=12
Y14A Wickenburg 73.43 324 ⇑P **P 15 03 36.0 +1.0**
baz=74
P27A Ficken Ranch, 73.46 335 ⇓P **P 15 03 35.7 +0.6**
baz=74
Q25A Bedland, Calha 73.54 333 ⇓P **P 15 03 36.2 +0.4**
baz=74,SNR=25
R23A Moffat 73.57 332 ⇓P **P 15 03 36.8 +0.8**
baz=74
BGNE Belgrade 73.58 339 ⇓P **P 15 03 35.6 0.0**
baz=74,SNR=14
BGNE Belgrade 73.58 339 PFAKE 15 03 50.0 +14
BGNE LR LR
comp=Z,2µm,21.0s
S22A 4UR Ranch, Cre 73.61 331 ⇓P **P 15 03 37.2 +0.9**
baz=74,SNR=55
S22A 4UR Ranch, Cre 73.61 331 eP **P 15 03 37.0 +0.7**
comp=Z,310nm,1.8s
S22A LR LR
comp=Z,5µm,21.0s
O28A Krutsinger Ran 73.66 336 ⇑P **P 15 03 36.5 +0.3**
baz=74,SNR=22
N30A Hueftle Ranch, 73.67 337 ⇑P **P 15 03 36.7 +0.4**
baz=74
GLA Glamis 73.70 323 ⇓P **P 15 03 37.4 +0.8**
baz=74
GLA Glamis 73.70 323 epP **pP 15 03 49.1 +0.2**
GLA LR LR
comp=Z,3µm,21.0s
P26A Davis Ranch, A 73.75 334 ⇑P **P 15 03 37.5 +0.6**
baz=74,SNR=25
M31A Lambtecht Ranc 73.78 338 ⇑P **P 15 03 37.2 +0.3**
baz=74,SNR=22
WUAZ Wupatki 73.86 327 ⇑P **P 15 03 38.7 +1.0**
baz=74
WUAZ Wupatki 73.86 327 PFAKE 15 03 50.0 +12
WUAZ LR LR
comp=Z,13µm,22.0s
N29A Votaw Ranch, W 73.87 337 ⇓P **P 15 03 37.5 0.0**
baz=74,SNR=9.1
MVCO Mesa Verde 73.90 330 ⇑P **P 15 03 38.8 +0.9**
baz=74
MVCO Mesa Verde 73.90 330 epP **pP 15 03 50.3 +0.1**
MVCO LR LR
comp=Z,10µm,22.0s
Q24A Divide 73.95 333 ⇓P **P 15 03 38.9 +0.7**
baz=74,SNR=60
Q24A Divide 73.95 333 eP **P 15 03 39.0 +0.8**
comp=Z,430nm,1.6s
Q24A LR LR
comp=Z,2µm,21.0s
O27A Beecher Island 73.98 335 ⇑P **P 15 03 39.1 +1.0**
baz=74
P25A Willow Gulch B 74.03 334 ⇑P **P 15 03 39.5 +1.0**
baz=74,SNR=51
N28A Pribbeno Ranch 74.07 336 ⇓P **P 15 03 39.0 +0.4**
baz=74
SWSC Sam W. Stewart 74.14 322 ⇓P **P 15 03 39.9 +0.8**
baz=74
Q23A Hartsel 74.17 332 ⇑P **P 15 03 40.0 +0.4**
baz=74
M30A Dale-Ortello V 74.25 338 ⇑P **P 15 03 40.1 +0.4**
baz=74
PDMCI Parker Dam,Lak 74.30 324 ⇑P **P 15 03 40.7 +0.7**
baz=74
P24A Kohler Place, 74.32 333 ⇑P **P 15 03 41.2 +1.0**
baz=75,SNR=7.3
O26A Horse Wrangler 74.33 335 ⇑P **P 15 03 41.3 +1.1**
baz=75
BAR Barrett 74.42 321 eP **P 15 03 41.1 +0.3**
comp=Z,371nm,1.6s
BAR LR LR
comp=Z,7µm,20.9s
MONP Monument Peak, 74.44 321 ⇑P **P 15 03 42.4 +1.2**
baz=75
M29A Burnside Ranch 74.45 337 ⇑P **P 15 03 41.3 +0.5**
baz=75,SNR=7.1
OGNE Ogallala 74.48 336 ⇓P **P 15 03 41.5 +0.5**
baz=75
OGNE Ogallala 74.48 336 eP **P 15 03 40.9 -0.1**
comp=Z,590nm,1.9s
L31A Butterfield Fa 74.49 339 ⇓P **P 15 03 41.2 +0.2**

baz=75,SNR=18
BC3 Big Chuckawall 74.50 323 ⇓P **P 15 03 42.2 +0.9**
baz=75
O25A Wiggins 74.53 334 ⇓P **P 15 03 42.3 +0.9**
baz=75,SNR=10
N27A Anderson Farm, 74.54 336 ⇑P **P 15 03 42.1 +0.7**
baz=75,SNR=16
L30A Spencer Herefo 74.57 338 ⇑P **P 15 03 41.9 +0.4**
baz=75,SNR=7.9
P23A Jefferson 74.58 333 ⇓P **P 15 03 42.9 +1.0**
baz=75,SNR=22
M28A Bar X Bar Ranc 74.64 337 ⇓P **P 15 03 42.4 +0.5**
baz=75,SNR=9.4
PV01 Paradox Valley 74.69 330 eP **P 15 03 43.5 +1.0**
IRM Iron Mountain 74.72 323 ⇑P **P 15 03 43.4 +0.8**
baz=75
W13A Hualapai Mount 74.79 325 ⇓P **P 15 03 44.2 +1.0**
baz=75
N26A Koester Ranch, 74.81 335 ⇓P **P 15 03 43.8 +0.8**
baz=75,SNR=15
109C Camp Elliot, M 74.82 321 ⇓P **P 15 03 43.8 +0.8**
baz=75
ISCO Idaho Springs 74.85 333 eP **P 15 03 43.4 0.0**
ISCO pmax pmax
comp=Z,275nm,1.6s
ISCO MLR MLR
comp=Z,3µm,22.0s
ISCO Idaho Springs 74.85 333 ⇑P **P 15 03 44.1 +0.7**
baz=75
ISCO Idaho Springs 74.85 333 eP **P 15 03 43.4 0.0**
comp=Z,275nm,1.6s
ISCO LR LR
comp=Z,3µm,22.0s
SMCO Snowmass 74.88 332 eP **P 15 03 44.8 +1.1**
comp=Z,733nm,1.8s
PV05 Paradox Valley 74.88 330 eP **P 15 03 44.2 +0.6**
O24A Longmont 74.91 334 ⇑P **P 15 03 44.6 +1.0**
baz=75
NEE2 Needles Airpor 74.91 324 ⇑P **P 15 03 44.5 +0.9**
baz=75
L29A Maesberg Ranch 74.93 338 ⇓P **P 15 03 44.1 +0.5**
baz=75,SNR=13
PFO Pinyon Flats O 75.00 322 eP **P 15 03 44.6 +0.3**
PFO pmax pmax
comp=Z,447nm,1.7s
PFO MLR MLR
comp=Z,4µm,20.0s
PFO Pinyon Flats O 75.00 322 ⇑P **P 15 03 45.3 +1.0**
baz=75
PFO Pinyon Flats O 75.00 322 eP **P 15 03 44.6 +0.3**
comp=Z,447nm,1.7s
PFO LR LR
comp=Z,4µm,20.0s
U15A North Rim 75.04 327 ⇓P **P 15 03 46.2 +1.6**
baz=75
BELC Belle Mtn. Jos 75.05 322 ⇓P **P 15 03 45.7 +1.1**
baz=75
PV04 Paradox Valley 75.06 330 epP pP 15 03 57.7 +0.8
PV10 Paradox Valley 75.10 330 eP **P 15 03 45.1 +0.2**
M27A Reverse DX Ran 75.12 336 ⇑P **P 15 03 45.7 +1.0**
baz=75
N25A Grover 75.12 335 ⇑P **P 15 03 45.7 +0.9**
baz=75
P22A Eagle 75.14 332 ⇑P **P 15 03 46.1 +1.0**
baz=75,SNR=56
ELIM Elim 75.16 121 eP **P 15 03 46.6 +1.4**
ELIM AMB AMB 15 04 05.7
comp=Z,145nm,2.3s
ELIM Elim 75.16 121 P **P 15 03 46.6 +1.4**
comp=Z,145nm,2.3s
K30A Basset 75.19 339 ⇑P **P 15 03 45.2 +0.2**
baz=75,SNR=12
ECSD EROS Data Cent 75.23 341 ⇑P **P 15 03 45.2 0.0**
baz=76
L28A Connealy Angus 75.23 337 ⇓P **P 15 03 46.0 +0.6**
baz=76
PV09 Paradox Valley 75.24 330 eP **P 15 03 46.6 +0.8**
O23A Lake Granby, G 75.32 333 ⇓P **P 15 03 47.2 +1.1**
baz=76,SNR=51
M26A McRoberts Ranc 75.34 336 ⇓P **P 15 03 46.6 +0.6**
baz=76
KOMG Komaggas 75.35 116 eP **P 15 03 48.1 +1.7**
KOMG AMB AMB 15 03 49.3
comp=Z,167nm,1.7s
KOMG AMS AMS 15 34 52.2
comp=Z,10µm,15.6s
KOMG Komaggas 75.35 116 P **P 15 03 48.1 +1.7**
comp=Z,167nm,1.7s
MURC Murrieta 75.41 321 ⇑P **P 15 03 47.4 +0.9**
baz=76
N24A Carr 75.44 334 ⇑P **P 15 03 47.6 +1.0**
baz=76
GMRC Granite Mounta 75.47 323 ⇓P **P 15 03 48.1 +1.1**
baz=76
K29A Lazy Trails An 75.50 338 ⇑P **P 15 03 47.2 +0.4**
baz=76
O22A Kremmling 75.53 333 ⇑P **P 15 03 48.2 +0.8**
baz=76
L27A T5 Ranch, Ells 75.58 336 ⇓P **P 15 03 48.1 +0.7**
baz=76
SPMN Marine on St. 75.61 344 ⇓P **P 15 03 46.8 -0.6**
baz=76
SPMN Marine on St. 75.61 344 eP **P 15 03 44.8 -2.6**
comp=Z,679nm,1.9s
SPMN LR LR
comp=Z,5µm,20.9s
COWI Conover 75.64 347 eP **P 15 03 47.1 -0.4**
comp=Z,315nm,1.6s
COWI LR LR
comp=Z,6µm,22.0s
M25A Palm-Egli Farm 75.65 335 ⇓P **P 15 03 48.6 +0.8**
baz=76
SCI San Clemente I 75.70 320 ⇓P **P 15 03 49.1 +1.0**
baz=76
J30A Dallas 75.73 339 ⇓P **P 15 03 48.1 0.0**
baz=76
BBRC Big Bear Solar 75.75 322 ⇑P **P 15 03 49.9 +1.2**
baz=76
KNB Kanab 75.77 327 eP **P 15 03 50.1 +1.5**
KNB pmax pmax
comp=Z,844nm,1.5s
KNB MLR MLR
comp=Z,11µm,21.2s
KNB Kanab 75.77 327 eP **P 15 03 50.1 +1.5**
comp=Z,844nm,1.5s
KNB LR LR
comp=Z,11µm,21.2s
K28A Ten Mile Ranch 75.81 337 ⇑P **P 15 03 49.7 +1.1**
baz=76
L26A Underwood Farm 75.81 336 ⇑P **P 15 03 49.5 +0.8**
baz=76
HEC Hector,Ludlow 75.86 323 ⇑P **P 15 03 50.4 +1.3**
baz=76
N23A Red Feather La 75.91 333 ⇓P **P 15 03 50.5 +1.0**
baz=76
N23A Red Feather La 75.91 333 eP **P 15 03 50.3 +0.8**
comp=Z,378nm,1.8s
N23A LR LR
comp=Z,3µm,20.0s
CIS Catalina Islan 75.93 321 ⇓P **P 15 03 50.6 +1.1**
baz=76
KUK Kukurantumi 75.96 75 iP **P 15 03 49.9 -0.1**
KUK PKP **S 15 13 29.4 -1.0**
M24A Cheyenne 75.97 334 ⇓P **P 15 03 50.8 +1.1**
baz=76
N22A Wattenberg Ran 76.04 333 ⇑P **P 15 03 51.4 +1.2**
baz=76
J29A Okreek 76.08 338 ⇑P **P 15 03 50.1 +0.1**
baz=76
K27A Flueckinger Fa 76.10 337 ⇓P **P 15 03 51.0 +0.7**
baz=76
FMP Fort Macarthur 76.10 321 ⇑P **P 15 03 51.5 +1.1**
baz=76
TUQ Turquoise Moun 76.11 323 ⇑P **P 15 03 51.7 +1.1**
baz=76
BFSC Mount Baldy Ra 76.14 322 ⇑P **P 15 03 52.0 +1.2**
baz=76
O20A White River Ci 76.21 331 ⇑P **P 15 03 52.4 +1.3**
baz=76
O20A White River Ci 76.21 331 eP **P 15 03 52.1 +1.0**
comp=Z,498nm,1.5s
O20A LR LR
comp=Z,10µm,20.0s
L25A Engebretsen Ra 76.24 335 ⇑P **P 15 03 52.1 +0.9**
baz=76
I30A Oacoma 76.24 339 ⇓P **P 15 03 50.9 -0.1**
baz=76
RRX Edison Barstow 76.26 322 ⇓P **P 15 03 52.4 +1.1**

baz=76
M23A Laramie 76.31 334 ⇑P P 15 03 52.1 +0.4
baz=77
MWC Mount Wilson 76.34 321 eP P 15 03 51.6 -0.4
MWC pmax pmax
comp=Z,739nm,1.8s
MWC Mount Wilson 76.34 321 eP P 15 03 51.6 -0.4
comp=Z,739nm,1.8s
PASC Pasadena Art C 76.38 321 eP P 15 03 52.2 +0.2
comp=Z,291nm,1.4s
PASC LR LR
comp=Z,4µm,20.0s
J28A Allard Ranch, 76.39 338 ⇑P P 15 03 52.6 +0.7
baz=77
K26A Motz Farm, Whi 76.43 336 ⇓P P 15 03 53.0 +0.9
baz=77
CCUT Cedar City 76.45 327 eP P 15 03 54.2 +1.6
comp=Z,739nm,1.7s
CCUT LR LR
comp=Z,12µm,21.5s
GSC Goldstone, Bar 76.47 323 ⇑P P 15 03 53.7 +1.2
baz=77
GSC Goldstone, Bar 76.47 323 PFAKE 15 04 00.0 +7.4
GSC LR LR
comp=Z,4µm,20.5s
J27A Elkhorn Farm, 76.50 337 ⇑P P 15 03 53.7 +1.1
baz=77
L24A Wheatland 76.50 335 ⇑P P 15 03 53.6 +0.9
baz=77
DECC Green Verdugo 76.52 321 ⇑P P 15 03 53.8 +1.0
baz=77
SHPR Sheep Range 76.53 325 eP P 15 03 54.0 +1.0
BRSD Miller 76.58 340 ⇑P P 15 03 52.6 -0.2
baz=77
BRSD Miller 76.58 340 eP P 15 03 51.7 -1.1
comp=Z,155nm,1.0s
K25A Mack Ranch, Ha 76.60 336 ⇑P P 15 03 54.4 +1.2
baz=77
M22A Cedar Creek Ra 76.60 333 ⇑P P 15 03 54.1 +0.8
baz=77
I29A Vivian Onida 76.62 339 ⇑P P 15 03 53.0 -0.1
baz=77
SHOC Shoshone, Teco 76.65 324 ⇑P P 15 03 54.1 +0.6
baz=77
MVU Marysvale 76.66 328 eP P 15 03 54.9 +1.1
comp=Z,509nm,1.8s
MVU LR LR
comp=Z,11µm,20.0s
ARUT Antelope Range 76.67 327 eP P 15 03 54.0 +0.3
ARUT pmax pmax
comp=Z,76nm,0.8s
ARUT Antelope Range 76.67 327 eP P 15 03 54.0 +0.3
comp=Z,76nm,0.8s
EDW2 Edwards Air Fo 76.80 322 ⇑P P 15 03 54.8 +0.5
baz=77
N20A Spence Gulch, 76.80 332 ⇑P P 15 03 55.3 +0.8
baz=77
BLG Laguna Peak, P 76.82 321 ⇑P P 15 03 55.4 +1.0
baz=77
TMUT Trail Mountain 76.83 329 eP P 15 03 55.7 +0.9
comp=Z,653nm,1.8s
TMUT LR LR
comp=Z,7µm,19.8s
L23A Garrett 76.86 334 ⇑P P 15 03 55.3 +0.5
baz=77
I28A Midland 76.88 338 ⇓P P 15 03 54.9 +0.3
baz=77
SUR Sutherland 76.89 120 eP P 15 03 56.4 +1.0
comp=Z,956nm,2.3s
SUR LR LR
comp=Z,12µm,22.0s
J26A Sides Ranch, S 76.92 336 ⇑P P 15 03 56.1 +1.1
baz=77
OSI Osito Audit: C 77.00 321 ⇓P P 15 03 56.6 +1.1
baz=77
OSI Osito Audit: C 77.00 321 P **P 15 03 55.1 -0.4**
comp=Z,476nm,1.6s
K24A Anderson Ranch 77.04 335 ⇓P P 15 03 56.9 +1.1
baz=77
BSC Santa Cruz Isl 77.06 320 ⇑P P 15 03 56.6 +0.8
baz=77
L22A Ellis Ranch, M 77.07 334 ⇓P P 15 03 57.1 +1.2
baz=77
LRMC Laurel Mtn Rad 77.08 322 ⇑P P 15 03 56.6 +0.6
baz=77
H29A Onida 77.13 339 ⇓P P 15 03 55.8 -0.1
baz=77
I27A Quinn 77.24 338 ⇓P P 15 03 57.2 +0.5
baz=78
J25A Sunshine Ranch 77.25 336 ⇓P P 15 03 57.6 +0.8
baz=78
G30A Faulkton 77.25 340 ⇓P P 15 03 56.8 +0.1
baz=78
K23A Bowen Ranch, D 77.38 335 ⇑P P 15 03 58.3 +0.8
baz=78
FURC Furnace Creek, 77.39 324 ⇑P P 15 03 58.7 +1.2
baz=78
MPMC Manual Prospec 77.41 323 ⇑P P 15 03 58.6 +0.6
baz=78
SBC Santa Barbara 77.43 320 ⇓P P 15 03 58.7 +0.9
baz=78
TPNV Topopah Spring 77.43 324 eP P 15 03 59.3 +1.2
TPNV pmax pmax
comp=Z,632nm,1.8s
TPNV MLR MLR
comp=Z,4µm,20.0s
TPNV Topopah Spring 77.43 324 ⇓P P 15 03 59.5 +1.5
baz=78
TPNV Topopah Spring 77.43 324 eP P 15 03 59.3 +1.2
comp=Z,632nm,1.8s
TPNV LR LR
comp=Z,4µm,20.0s
H28A Mission Ridge 77.43 338 ⇓P P 15 03 58.0 +0.3
baz=78
ARVC Arvin 77.44 321 ⇓P P 15 03 59.0 +1.1
baz=78
I26A New Underwood 77.48 337 ⇓P P 15 03 58.9 +0.9
baz=78
J24A Dixon Ranch, L 77.51 335 ⇑P P 15 03 59.6 +1.3
baz=78
G29A Hoven 77.55 339 ⇓P P 15 03 58.4 +0.1
baz=78
MPU Maple Canyon 77.60 329 eP P 15 03 59.8 +0.8
comp=Z,229nm,1.1s
MPU LR LR
comp=Z,9µm,20.8s
DAC Darwin (Calif) 77.63 323 eP P 15 03 59.8 +0.6
DAC e*PP **pP 15 04 11.6 0.0**
DAC pmax pmax
comp=Z,334nm,1.6s
DAC MLR MLR
comp=Z,6µm,21.0s
DAC Darwin (Calif) 77.63 323 eP P 15 03 59.8 +0.6
comp=Z,334nm,1.6s
DAC epP **pP 15 04 11.6 0.0**
DAC ePKKPbc **PKKPbc 15 23 00.0 -3.7**
DAC LR LR
comp=Z,6µm,21.0s
K22A Casper 77.63 334 ⇑P P 15 03 59.9 +0.9
baz=78
K22A Casper 77.63 334 eP P 15 03 58.8 -0.3
comp=Z,1µm,2.0s
K22A LR LR
comp=Z,4µm,20.7s
ISA Isabella, Lake 77.64 322 ⇓P P 15 04 00.2 +1.0
baz=78
ISA Isabella, Lake 77.64 322 epP pP 15 04 11.9 +0.3
H27A Howes 77.74 338 ⇓P P 15 03 59.9 +0.4
baz=78
NLU North Lily Min 77.75 329 eP P 15 04 00.8 +1.0
comp=Z,327nm,1.5s
NLU LR LR
comp=Z,12µm,20.2s
G28A Parade 77.76 339 ⇑P P 15 03 59.7 +0.2
baz=78
I25A Rochford 77.78 336 ⇓P P 15 04 00.8 +1.0
baz=78
PKM Mcpherson Peak 77.82 321 ⇑P P 15 04 01.6 +1.3
baz=78
F30A Leola 77.86 340 ⇑P P 15 04 00.2 +0.2
baz=78
EYMN Ely 77.89 346 eP P 15 03 58.4 -1.7
comp=Z,455nm,2.0s
EYMN LR LR
comp=Z,4µm,21.0s
DRLN Deer Lake 77.89 9 eP P 15 04 00.4 +0.3
comp=Z,213nm,0.9s
K21A Alcova 77.90 333 ⇑P P 15 04 01.5 +0.9
baz=78
J23A Dilts Ranch, B 77.91 335 ⇓P P 15 04 01.1 +0.7
baz=78
I24A Kuemmerle Ranc 77.96 336 ⇑P P 15 04 01.4 +0.7
baz=78
H26A Fairpoint 77.97 337 ⇓P P 15 04 00.7 0.0
baz=78
RSSD Black Hills 77.97 336 eP P 15 04 01.4 +0.5
RSSD pmax pmax
comp=Z,363nm,1.8s
RSSD MLR MLR
comp=Z,2µm,21.0s
RSSD Black Hills 77.97 336 eP P 15 04 01.4 +0.5
comp=Z,363nm,1.8s
RSSD LR LR
comp=Z,2µm,21.0s
GRAC Grapevine Rang 78.05 324 ⇑P P 15 04 02.8 +1.4
baz=78
WIN Windhoek 78.06 109 eP P 15 04 02.6 +0.6
WIN AMB AMB 15 04 04.5
comp=Z,33nm,1.4s
WIN AMS AMS 15 30 34.9
comp=Z,2µm,31.0s
WIN Windhoek 78.06 109 P **P 15 04 02.6 +0.6**
WIN pmax pmax
comp=Z,33nm,1.4s
WIN Windhoek 78.06 109 P **P 15 04 02.6 +0.6**
comp=Z,33nm,1.4s
F29A Eureka 78.09 340 ⇓P P 15 04 01.1 -0.3
baz=78
VES Vestal, Richgr 78.11 322 ⇓P P 15 04 04.5 +2.9
baz=78
R11A Troy Canyon, C 78.17 326 ⇓P P 15 04 03.2 +1.1
baz=78
R11A Troy Canyon, C 78.17 326 eP P 15 04 03.1 +0.9
comp=Z,457nm,1.7s
R11A eP'P'df P'P'df 15 31 08.0 +7.4
R11A LR LR
comp=Z,4µm,19.1s
SMMC Simmler 78.22 321 ⇓P P 15 04 03.2 +0.9
baz=78
H25A Fruitdale 78.25 337 ⇑P P 15 04 02.8 +0.5
baz=78
J22A Midwest 78.26 334 ⇓P P 15 04 03.0 +0.5
baz=78
DUG Dugway, Tooele 78.29 329 eP P 15 04 03.6 +0.9
DUG pmax pmax
comp=Z,347nm,1.4s
DUG MLR MLR
comp=Z,9µm,21.0s
DUG Dugway, Tooele 78.29 329 ⇓P P 15 04 03.5 +0.9
baz=78
DUG Dugway, Tooele 78.29 329 eP P 15 04 03.5 +0.9
comp=Z,347nm,1.4s
DUG LR LR
comp=Z,9µm,21.0s
I23A Meade Ranch, G 78.35 335 ⇓P P 15 04 03.3 +0.4
baz=79
G27A Dupree 78.36 338 ⇓P P 15 04 03.0 +0.2
baz=79
TCUT Toone Canyon 78.39 330 eP P 15 04 02.9 -0.5
comp=Z,697nm,1.8s
TCUT LR LR
comp=Z,6µm,21.2s
F28A McLaughlin 78.41 339 ⇑P P 15 04 03.3 +0.2
baz=79
E30A Jud 78.42 341 ⇑P P 15 04 03.2 +0.1
baz=79
G26A Maurine 78.50 338 ⇓P P 15 04 03.6 -0.1
baz=79
RCTC Rector, Farmer 78.54 322 ⇓P P 15 04 04.1 +0.2
baz=79
TIN Tinemaha, Big 78.55 323 ⇑P P 15 04 05.3 +1.1
baz=79
J21A Lysite 78.58 334 ⇓P P 15 04 04.9 +0.6
baz=79
MAW Mawson 78.59 164 P **P 15 04 02.9 -1.0**
MAW Mawson 78.59 164 P **P 15 04 02.9 -1.0**
comp=Z,37nm,0.8s,baz=252,slow=5.9,SNR=5.7
MAW LR LR 15 39 17.9
comp=Z,8µm,20.1s,baz=232,slow=36
I22A 9 Mile Ranch, 78.67 335 ⇑P P 15 04 05.1 +0.4
baz=79
G25A Newell 78.69 337 ⇑P P 15 04 05.2 +0.5
baz=79
H24A Dirks Ranch, A 78.70 336 ⇑P P 15 04 05.1 +0.3
baz=79
E29A Napoleon 78.70 340 ⇑P P 15 04 04.4 -0.3
baz=79
TPH Tonopah 78.79 324 eP P 15 04 06.3 +0.7
TPH pmax pmax
comp=Z,458nm,1.8s
TPH MLR MLR
comp=Z,2µm,20.7s
TPH Tonopah 78.79 324 eP P 15 04 06.3 +0.7
comp=Z,458nm,1.8s
TPH LR LR
comp=Z,2µm,20.7s
F27A Lemmon 78.82 338 ⇓P P 15 04 05.8 +0.4
baz=79
J20A Shoshoni 78.84 333 ⇓P P 15 04 06.3 +0.6
baz=79
H23A Clabaugh Cattl 78.84 336 ⇑P P 15 04 05.8 +0.2
baz=79
HWUT Hardware Ranch 78.86 330 eP P 15 04 06.2 +0.4
comp=Z,1µm,2.3s
HWUT LR LR
comp=Z,7µm,20.0s
I21A Big Trails, Te 78.92 334 ⇑P P 15 04 06.2 +0.1
baz=79
D30A Buchanan 78.93 341 ⇓P P 15 04 06.3 +0.4
baz=79
BW06 Boulder Array 78.95 332 eP P 15 04 06.4 0.0
BW06 ePKKPbc **PKKPbc 15 22 58.9 -2.3**
BW06 LR LR
comp=Z,6µm,22.0s
PDAR Pinedale Array 78.95 332 P **P 15 04 06.3 0.0**
comp=Z,34nm,0.9s,baz=126,slow=7.2,SNR=98
PDAR PKKPbc **PKKPbc 15 22 59.0 -2.3**
comp=Z,2.3nm,1.0s,baz=324,slow=2.4,SNR=7.4
PDAR PKPPKP P'P'df 15 31 07.8 +9.1
comp=Z,0.3nm,0.7s,baz=45,slow=2.3,SNR=3.6
PDAR LR LR 15 35 21.2
comp=Z,4µm,20.9s,baz=165,slow=33
BGU Big Grassy Mou 78.97 329 eP P 15 04 06.8 +0.3
comp=Z,213nm,1.7s
BGU epP **pP 15 04 19.0 +0.1**
SPUT South Promonto 79.01 329 eP P 15 04 07.4 +0.7
comp=Z,1µm,2.2s
SPUT LR LR
comp=Z,7µm,21.1s
F26A Lodgepole 79.02 338 ⇑P P 15 04 06.7 +0.3
baz=79
E28A Huff 79.03 340 ⇓P P 15 04 06.9 +0.5
baz=79
D29A Pettibone, Tap 79.13 340 ⇓P P 15 04 07.0 0.0
baz=79
G24A Alzada 79.15 337 ⇓P P 15 04 07.6 +0.3
baz=79
J19A Crowheart 79.15 333 ⇑P P 15 04 08.0 +0.6
baz=79
E27A Carson 79.17 339 ⇑P P 15 04 07.8 +0.6
baz=79
H22A Clearmont 79.22 335 ⇓P P 15 04 07.9 +0.2
baz=80
AGMN Agassiz Nation 79.24 343 ⇑P P 15 04 07.4 -0.1
baz=80
AGMN Agassiz Nation 79.24 343 eP P 15 04 07.2 -0.4
comp=Z,648nm,2.0s
AGMN ePcP **PcP 15 04 15.4 -0.2**
MLAC Mammoth, Mammo 79.30 323 ⇑P P 15 04 09.5 +1.1
baz=80
F25A Bowman 79.34 338 ⇓P P 15 04 08.8 +0.5
baz=80
RAR Rarotonga 79.36 252 eP P 15 04 10.0 +1.1
RAR pmax pmax
comp=Z,1µm,1.7s
RAR Rarotonga 79.36 252 eP P 15 04 10.0 +1.1
comp=Z,1µm,1.7s
I20A Worland 79.36 334 ⇑P P 15 04 08.8 +0.4
baz=80
G23A Biddle 79.39 336 ⇓P P 15 04 08.9 +0.4
baz=80
C30A Mose, Pekin 79.39 341 ⇑P P 15 04 08.8 +0.4
baz=80
E26A Carlson Angus 79.49 338 ⇓P P 15 04 09.0 -0.1
baz=80
H21A Big Horn, Sher 79.51 335 ⇓P P 15 04 09.1 -0.2
baz=80
HVU Hansel Valley 79.53 329 eP P 15 04 09.8 +0.3
HVU pmax pmax
comp=Z,1µm,2.1s
HVU MLR MLR
comp=Z,10µm,21.9s
HVU Hansel Valley 79.53 329 eP P 15 04 09.8 +0.3
comp=Z,1µm,2.1s
HVU LR LR
comp=Z,10µm,21.9s
D28A Regan 79.54 340 ⇑P P 15 04 09.7 +0.5
baz=80
AHID Auburn Hatcher 79.60 331 P **P 15 04 09.0 -0.9**
comp=Z,650nm,1.7s
AHID ePcP **PcP 15 04 17.5 -0.1**
AHID LR LR
comp=Z,5µm,21.0s
F24A Ekalaka 79.61 337 ⇑P P 15 04 10.0 +0.2
baz=80
NV01 Mina Array Sit 79.62 324 eP P 15 04 09.8 -0.3
NV01 ePKKPbc **PKKPbc 15 22 58.3 -1.1**
NV01 eP'P'df **P'P'df 15 31 01.4 +3.2**
NVAR Mina Array Bea 79.62 324 P **P 15 04 10.7 +0.6**
comp=Z,25nm,0.9s,baz=155,slow=5.8,SNR=59
NVAR PKKPbc **PKKPbc 15 22 59.2 -0.1**
comp=Z,1.9nm,0.7s,baz=333,slow=2.3,SNR=9.8
NVAR PKPPKP P'P'df 15 31 05.5 +7.3
comp=Z,0.9nm,1.0s,baz=321,slow=2.3,SNR=3.7
G22A Birney 79.73 335 ⇓P P 15 04 10.8 +0.3
baz=80
H20A Greybull 79.76 334 ⇑P P 15 04 10.9 +0.3
baz=80
D27A Center 79.76 339 ⇓P P 15 04 10.9 +0.4
baz=80
I19A Meeteetse 79.77 333 ⇑P P 15 04 11.5 +0.7
baz=80
E25A Miller Ranch, 79.83 338 ⇑P P 15 04 11.5 +0.6
baz=80
F23A Volborg 79.84 336 ⇑P P 15 04 11.2 +0.2
baz=80
MDND Maddock 79.84 341 ⇓P P 15 04 11.2 +0.4
baz=80
MDND Maddock 79.84 341 eP P 15 04 11.2 +0.4
comp=Z,219nm,1.4s
ELK Elko 79.86 327 eP P 15 04 11.8 +0.4
ELK pmax pmax
comp=Z,523nm,1.9s
ELK Elko 79.86 327 eP P 15 04 11.8 +0.4
comp=Z,523nm,1.9s
TSUM Tsumeb 79.93 106 eP P 15 04 12.5 +0.3
comp=Z,173nm,1.2s
TSUM LR LR
comp=Z,11µm,20.0s
C28A Hausauer Farms 79.96 340 ⇓P P 15 04 11.7 +0.2
baz=80
REDW Red Top Meadow 79.98 332 eP P 15 04 12.3 +0.4
comp=Z,567nm,1.8s
REDW ePKKPbc **PKKPbc 15 22 58.1 -0.8**
D26A Manning 79.98 339 ⇓P P 15 04 12.1 +0.4
baz=80
SNOW Snow King Moun 80.02 332 eP P 15 04 12.9 +0.7
comp=Z,391nm,1.7s
B30A Myrvik Farm, E 80.03 342 ⇑P P 15 04 12.1 +0.2
baz=80
G21A Lodge Grass 80.08 335 ⇑P P 15 04 12.5 +0.2
baz=80
LOHW Long Hollow 80.08 332 eP P 15 04 12.7 +0.2
comp=Z,489nm,1.8s
SAO San Andreas Ge 80.08 321 P **P 15 04 11.6 -0.8**
SAO e 15 04 19.3
SAO pmax pmax
comp=Z,175nm,1.5s
SAO MLR MLR
comp=Z,4µm,21.0s
SAO San Andreas Ge 80.08 321 P **P 15 04 11.6 -0.8**
comp=Z,175nm,1.5s
SAO ePcP **PcP 15 04 19.3 -0.3**
SAO LR LR
comp=Z,4µm,21.0s
TPAW Teton Pass 80.12 332 eP P 15 04 13.1 +0.3
comp=Z,496nm,1.8s
E24A Baker 80.19 337 ⇑P P 15 04 13.3 +0.5
baz=80
F22A Rosebud 80.20 336 ⇓P P 15 04 13.0 +0.1
baz=80
WAKR Walker 80.27 323 eP P 15 04 14.6 +1.0
FXWY Fox Creek 80.28 332 eP P 15 04 13.9 +0.3
comp=Z,338nm,1.8s
C27A Sayler Ranch, 80.29 340 ⇓P P 15 04 14.1 +0.8
baz=80
H19A Powell 80.30 333 ⇓P P 15 04 14.3 +0.7
baz=80
I17A Pilgrim Ck. 80.32 332 ⇓P P 15 04 14.9 +1.1
baz=81
B29A Wagenman Farm, 80.33 341 ⇓P P 15 04 13.4 0.0
baz=81
D25A Fairfield 80.37 338 ⇓P P 15 04 14.4 +0.6
baz=81
CMB Columbia Colle 80.42 323 eP P 15 04 12.6 -1.7
CMB pmax pmax
comp=Z,283nm,1.8s
CMB MLR MLR
comp=Z,4µm,20.0s
CMB Columbia Colle 80.42 323 eP P 15 04 12.6 -1.7
comp=Z,283nm,1.8s
CMB LR LR
comp=Z,4µm,20.0s
IMW Indian Meadow 80.45 332 eP P 15 04 14.9 +0.3
comp=Z,494nm,1.8s
G20A Bridger 80.46 334 ⇑P P 15 04 14.3 -0.1
baz=81
A30A Hoffart Farm, 80.47 342 ⇓P P 15 04 14.0 -0.1
baz=81
E23A Ismay 80.48 337 ⇑P P 15 04 14.7 +0.4
baz=81
FLWY Flagg Ranch 80.50 332 eP P 15 04 15.5 +0.7
comp=Z,1µm,2.0s
F21A Absaloka Mine, 80.55 335 ⇑P P 15 04 15.1 +0.3
baz=81
H18A Shoshone NF, C 80.57 333 ⇓P P 15 04 15.4 +0.2
baz=81
C26A Wahner Farm, P 80.58 339 ⇓P P 15 04 15.3 +0.4
baz=81
BMN Battle Mountai 80.58 326 eP P 15 04 14.9 -0.3
BMN pmax pmax
comp=Z,108nm,1.6s
BMN MLR MLR
comp=Z,5µm,20.0s
BMN Battle Mountai 80.58 326 eP P 15 04 14.9 -0.3
comp=Z,108nm,1.6s
BMN LR LR
comp=Z,5µm,20.0s
B28A Dugan Ranch, T 80.61 341 ⇑P P 15 04 15.3 +0.3
baz=81
E22A Miles City 80.65 336 ⇓P P 15 04 15.4 +0.1
baz=81
D24A Glendive 80.68 338 ⇓P P 15 04 15.8 +0.4
baz=81
H17A Grant Village 80.71 332 ⇑P P 15 04 17.5 +1.6
baz=81
H17A Grant Village 80.71 332 eP P 15 04 15.7 -0.3
comp=Z,107nm,1.4s
H17A LR LR
comp=Z,6µm,22.0s
A29A Manning Farm, 80.71 342 ⇑P P 15 04 15.3 -0.2
baz=81
GRM Grahamstown 80.78 123 eP P 15 04 16.7 +0.2
GRM AMB AMB 15 04 30.6
comp=Z,164nm,2.2s
GRM AMS AMS 15 33 30.3
comp=Z,12µm,20.9s
GRM Grahamstown 80.78 123 P **P 15 04 16.7 +0.2**
GRM pmax pmax
comp=Z,164nm,2.2s
GRM Grahamstown 80.78 123 *i* P **P 15 04 16.9 +0.4**
GRM Grahamstown 80.78 123 P **P 15 04 16.7 +0.2**
comp=Z,164nm,2.2s
RLMT Red Lodge 80.78 334 eP P 15 04 15.8 -0.4
comp=Z,591nm,1.7s
RLMT LR LR
comp=Z,5µm,22.0s
B27A Peters Farms, 80.83 340 ⇑P P 15 04 16.5 +0.3
baz=81
C25A Freed Ranch, W 80.84 339 ⇑P P 15 04 16.9 +0.7
baz=81
YFT Old Faithful 80.86 332 P **P 15 04 16.1 -0.6**
comp=Z,721nm,2.2s
F20A Billings 80.92 335 ⇑P P 15 04 17.2 +0.4

baz=81
LAO LASA Array 80.97 336 eP P 15 04 16.4 -0.6
comp=Z,906nm,1.8s
A28A Rude Farm, Bot 80.99 341 ⇑P P 15 04 17.1 +0.1
baz=81
YNR Norris Junctio 81.01 333 P P 15 04 18.0 +0.5
comp=Z,204nm,1.7s
YNR LR LR
comp=Z,4μm,20.5s
D23A Lindsay 81.03 337 ⇑P P 15 04 18.0 +0.7
baz=81
ULM Lac du Bonnet 81.05 344 P P 15 04 16.6 -0.6
ULM 15 22 53.6
ULM Lac du Bonnet 81.05 344 P P 15 04 16.6 -0.6
comp=Z,82nm,1.0s,baz=160,slow=4.7,SNR=51
ULM PKKPbc **PKKPbc 15 22 53.6 -2.9**
comp=Z,3.0nm,0.7s,baz=304,slow=3.6,SNR=3.9
C24A Savage 81.07 338 ⇑P P 15 04 17.9 +0.4
baz=81
YMR Madison River 81.09 332 eP P 15 04 18.1 +0.2
comp=Z,350nm,1.2s
YMR LR LR
comp=Z,4μm,20.8s
B26A Jensen Ranch, 81.11 339 ⇑P P 15 04 17.9 +0.3
baz=81
E21A Keefer Ranch, 81.15 336 ⇓P P 15 04 18.7 +0.7
baz=81
SAC San Andreas 81.21 321 eP P 15 04 21.3 +2.9
SAC San Andreas 81.21 321 eP P 15 04 21.3 +2.9
HVD Gariep Dam 81.26 120 eP P 15 04 19.5 +0.3
HVD AMB AMB 15 04 21.6
comp=Z,234nm,1.5s
HVD AMS AMS 15 32 06.4
comp=Z,7μm,28.5s
HVD Gariep Dam 81.26 120 P P 15 04 19.5 +0.3
HVD pmax pmax
comp=Z,234nm,1.5s
HVD Gariep Dam 81.26 120 P P 15 04 19.5 +0.3
comp=Z,234nm,1.5s
F19A Roth Farm, Mol 81.27 334 ⇓P P 15 04 19.1 +0.4
baz=82
TORD Torodi Ar. Bea 81.28 70 P P 15 04 19.0 -0.3
comp=Z,82nm,0.9s,baz=254,slow=3.0,SNR=159
TORD PKPPKP **P'P'df 15 30 56.0 -2.6**
comp=Z,1.0nm,1.1s,baz=354,slow=1.5,SNR=3.5
TORD LR LR 15 40 30.6
comp=Z,6μm,19.2s,baz=235,slow=36
B25A Knox Farm, Ray 81.31 339 ⇑P P 15 04 19.5 +0.8
baz=82
A27A Ledoux Ranch, 81.32 340 ⇑P P 15 04 19.0 +0.3
baz=82
D22A Cohagen 81.34 337 ⇑P P 15 04 19.5 +0.5
baz=82
QLMT Earthquake Lak 81.42 332 eP P 15 04 20.6 +0.9
E20A Meyer Farm, Mu 81.50 335 ⇓P P 15 04 20.3 +0.5
baz=82
A26A Wade Farm, Ken 81.51 340 ⇑P P 15 04 20.1 +0.3
baz=82
C23A Lambert 81.56 337 ⇑P P 15 04 20.6 +0.5
baz=82
D21A La Casta Ranch 81.56 336 ⇓P P 15 04 20.6 +0.4
baz=82
HLID Hailey 81.68 330 ⇑P P 15 04 21.9 +0.9
baz=82
HLID Hailey 81.68 330 eP P 15 04 21.3 +0.3
comp=Z,436nm,1.7s
HLID eP'P'df P'P'df 15 31 02.2 +8.3
HLID LR LR
comp=Z,6μm,21.0s
E19A Rath Farm, Rou 81.71 335 ⇑P P 15 04 21.4 +0.4
baz=82
MCCM Marconi Confer 81.87 321 eP P 15 04 20.3 -1.5
comp=Z,262nm,1.3s
MCCM LR LR
comp=Z,3μm,19.3s
A25A Svangstu Ranch 81.88 339 ⇓P P 15 04 22.2 +0.5
baz=82
D20A Manuel Ranch, 82.00 335 ⇑P P 15 04 22.6 +0.2
baz=82
MCMT McKenzie Canyo 82.01 331 eP P 15 04 23.6 +0.8
B23A Brockton 82.07 338 ⇓P P 15 04 23.4 +0.6
baz=82
A24A Westby 82.15 339 ⇑P P 15 04 23.8 +0.6
baz=82
BOZ Bozeman (W) 82.16 332 eP P 15 04 22.0 -1.4
BOZ pmax pmax
comp=Z,238nm,1.7s
BOZ MLR MLR
comp=Z,4μm,22.0s
BOZ Bozeman (W) 82.16 332 eP P 15 04 22.0 -1.4
comp=Z,238nm,1.7s
BOZ ePKKPbc **PKKPbc 15 22 53.0 -0.9**
BOZ LR LR
comp=Z,4μm,22.0s
MFID Camas Ranch 82.21 329 eP P 15 04 23.1 -0.6
comp=Z,314nm,1.6s
MFID ePcP **PcP 15 04 28.8 -0.2**
MFID ePKKPbc **PKKPbc 15 22 53.1 -0.4**
MFID LR LR
comp=Z,8μm,20.0s
C21A Desert Coulee 82.25 336 ⇓P P 15 04 23.8 +0.1
baz=82
B22A Reddig Ranch S 82.27 337 ⇓P P 15 04 24.2 +0.4
baz=82
RUDU RUNDU 82.31 106 eP P 15 04 25.8 +0.9
RUDU AMB AMB 15 04 27.7
comp=Z,195nm,1.6s
RUDU AMS AMS 15 34 51.0
comp=Z,9μm,25.3s
RUDU RUNDU 82.31 106 P P 15 04 25.8 +0.9
comp=Z,195nm,1.6s
DLMT Dillon 82.33 332 eP P 15 04 24.9 +0.6
comp=Z,372nm,1.8s
DLMT ePKKPbc **PKKPbc 15 22 52.8 -0.7**
D19A Cripps Ranch, 82.34 335 ⇓P P 15 04 24.3 0.0
baz=83
A23A Redstone 82.46 338 ⇓P P 15 04 25.0 +0.3
baz=83
C20A Veseth Ranch, 82.48 336 ⇑P P 15 04 24.7 -0.1
baz=83
HOPS Hopland Field 82.57 322 eP P 15 04 25.9 +0.4
comp=Z,611nm,1.9s
HOPS LR LR
comp=Z,4μm,20.0s
SCHQ Schefferville 82.63 2 P P 15 04 24.9 -0.5
comp=Z,68nm,1.2s,baz=190,slow=5.0,SNR=14
SCHQ LR LR 15 40 40.9
comp=Z,3μm,21.9s,baz=204,slow=35
SCHQ Schefferville 82.63 2 eP P 15 04 25.0 -0.5
comp=Z,113nm,1.0s
LRM Limekiln Ridge 82.64 332 P P 15 04 25.0 -1.1
DRV Dumont d'Urvil 82.69 192 P P 15 04 06.0 -20
DRV Dumont d'Urvil 82.69 192 S S 15 14 20.0 -20
DRV SS SS 15 19 48.0 -13
DRV L L 15 26 00.0
DRV R 15 30 00.0
B21A Ellsworth Farm 82.73 337 ⇑P P 15 04 26.7 +0.5
baz=83
WVOR Wild Horse Val 82.79 326 eP P 15 04 25.8 -1.0
WVOR pmax pmax
comp=Z,286nm,1.8s
WVOR MLR MLR
comp=Z,4μm,19.0s
WVOR Wild Horse Val 82.79 326 eP P 15 04 25.8 -1.0
comp=Z,286nm,1.8s
WVOR LR LR
comp=Z,4μm,19.0s
A22A Carney Farms, 82.84 338 ⇓P P 15 04 27.1 +0.3
baz=83
C19A Slack Wire Ran 82.88 335 ⇑P P 15 04 27.2 +0.2
baz=83
B20A Solberg Farm, 83.09 336 ⇓P P 15 04 28.1 0.0
baz=83
HRY Holter Researc 83.11 333 eP P 15 04 28.8 +0.5
A21A Bergtoll Ranch 83.18 337 ⇓P P 15 04 28.2 -0.3
baz=83
MOD Modoc Plateau 83.22 325 eP P 15 04 28.0 -1.0
comp=Z,424nm,1.7s
MOD LR LR
comp=Z,4μm,20.0s
KCPM Cahto Peak 83.34 322 eP P 15 04 30.5 +0.8
comp=Z,320nm,1.7s
KIPM Iron Peak 83.38 322 eP P 15 04 30.0 +0.1
EGMT Eagleton 83.38 335 ⇓P P 15 04 29.4 -0.2
baz=84
EGMT Eagleton 83.38 335 eP P 15 04 29.4 -0.2
comp=Z,427nm,1.8s
EGMT LR LR
comp=Z,6μm,21.0s
WDC Whiskeytown Da 83.42 323 eP P 15 04 28.5 -1.4
WDC pmax pmax
comp=Z,318nm,1.8s
WDC Whiskeytown Da 83.42 323 eP P 15 04 28.5 -1.4
comp=Z,318nm,1.8s
A20A Cobblestone Ra 83.43 336 ⇑P P 15 04 29.9 +0.1
baz=84
B19A Brinkman Farms 83.44 336 ⇓P P 15 04 29.8 -0.1
baz=84
A19A Klindworth Far 83.77 336 ⇑P P 15 04 31.3 -0.2
baz=84
N02D Trinity Center 83.79 323 ⇓P P 15 04 31.7 -0.2
baz=84
KMRM Mail Ridge 83.79 322 eP P 15 04 33.2 +1.3
comp=Z,455nm,1.4s
KMRM LR LR
comp=Z,4μm,19.6s
M04C Macdoel 83.92 324 ⇓P P 15 04 32.5 -0.1
baz=84
LBTB Lobatse 83.92 115 eP P 15 04 32.5 -0.7
LBTB AMB AMB 15 04 51.7
comp=Z,153nm,1.7s
LBTB AMS AMS 15 34 10.8
comp=Z,5μm,29.1s
LBTB Lobatse 83.92 115 eP P 15 04 32.8 -0.4
LBTB pmax pmax
comp=Z,164nm,1.0s
LBTB MLR MLR
comp=Z,7μm,19.4s
LBTB Lobatse 83.92 115 eP P 15 04 32.8 -0.4
comp=Z,164nm,1.0s
LBTB ePcP **PcP 15 04 37.1 0.0**
LBTB LR LR
comp=Z,7μm,19.4s
SEK Senekal 83.96 119 eP P 15 04 33.8 +0.4
SEK AMB AMB 15 04 35.0
comp=Z,180nm,1.6s
SEK AMS AMS 15 36 51.5
comp=Z,8μm,22.3s
SEK Senekal 83.96 119 P P 15 04 33.8 +0.4
comp=Z,180nm,1.6s
BMO Blue Mountains 83.99 329 eP P 15 04 32.8 -0.1
comp=Z,247nm,1.8s
BMO LR LR
comp=Z,8μm,20.0s
MSO Missoula 84.07 332 ⇑P P 15 04 33.6 +0.4
baz=84
MSO Missoula 84.07 332 eP P 15 04 33.5 +0.3
comp=Z,515nm,2.3s
MSO LR LR
comp=Z,4μm,19.0s
K05A Summer Lake 84.12 325 eP P 15 04 34.5 +0.8
comp=Z,822nm,1.8s
M02C Callahan 84.16 323 ⇑P P 15 04 34.1 +0.3
baz=84
SLMT Seeley Lake 84.21 332 eP P 15 04 34.1 +0.1
KHMM Horse Mountain 84.26 323 eP P 15 04 34.8 +0.4
comp=Z,414nm,1.7s
KSD Kokstad 84.27 121 eP P 15 04 35.4 +0.5
KSD AMB AMB 15 04 48.5
comp=Z,49nm,1.9s
KSD AMS AMS 15 35 33.3
comp=Z,5μm,25.1s
KSD Kokstad 84.27 121 P P 15 04 35.4 +0.5
comp=Z,49nm,1.9s
YBH Yreka Blue Hor 84.33 324 eP P 15 04 33.6 -1.0
YBH e*PP **pP 15 04 47.4 +0.2**
YBH pmax pmax
comp=Z,137nm,1.6s
YBH MLR MLR
comp=Z,4μm,20.6s
YBH Yreka Blue Hor 84.33 324 eP P 15 04 33.6 -1.0
comp=Z,137nm,1.6s
YBH epP **pP 15 04 47.4 +0.2**
YBH LR LR
comp=Z,4μm,20.6s
MSKU Masuku 84.39 89 LR LR 15 37 30.9
comp=Z,8μm,21.3s,baz=246,slow=32
MSKU Masuku 84.39 89 eP P 15 04 36.4 +0.9
comp=Z,334nm,1.1s
PRYS Parys 84.42 117 eP P 15 04 35.3 -0.4
PRYS AMB AMB 15 04 36.8
comp=Z,78nm,1.5s
PRYS AMS AMS 15 36 25.5
comp=Z,4μm,24.3s
PRYS Parys 84.42 117 P P 15 04 35.3 -0.4
comp=Z,78nm,1.5s
I07A Izee 84.44 327 eP P 15 04 35.8 +0.6
K04D Chiloquin, OR 84.48 325 ⇑P P 15 04 36.1 +0.7
baz=85
KSR Koster 84.56 116 eP P 15 04 37.0 +0.5
KSR AMB AMB 15 04 38.1
comp=Z,83nm,1.4s
KSR Koster 84.56 116 P P 15 04 37.0 +0.5
comp=Z,83nm,1.4s
SWMT Swartz Lake 84.63 332 eP P 15 04 36.2 +0.1
J05D Fort Rock, OR 84.70 326 ⇓P P 15 04 37.3 +0.8
baz=85
WDLM Western Deep L 84.71 117 eP P 15 04 36.7 -0.6
WDLM AMB AMB 15 04 38.6
comp=Z,87nm,1.6s
F10A Beach Ranch, E 84.82 330 eP P 15 04 36.8 -0.2
comp=Z,170nm,1.5s
KLOF Kloof 84.89 117 eP P 15 04 37.6 -0.6
KLOF AMB AMB 15 04 39.5
comp=Z,94nm,1.4s
KLOF Kloof 84.89 117 P P 15 04 37.6 -0.6
comp=Z,94nm,1.4s
MIR Mirnyy 84.89 174⇓ *iP* P 15 04 33.0 -4.1
MIR *e* 15 07 55.0
MIR *e*S **S 15 14 58.0 -4.2**
MIR *e*SS SS 15 20 44.0 +10
MIR pmax pmax
comp=Z,164nm,1.5s
MIR pmax pmax
comp=Z,2μm,8.0s
MIR MLR MLR
comp=N,6μm,20.0s
MIR MLR MLR
comp=E,4μm,20.0s
MIR MLR MLR
comp=Z,9μm,20.0s
PINOR Pine Mountain 84.91 326 eP P 15 04 35.9 -1.4
comp=Z,712nm,1.9s
PINOR ePcP **PcP 15 04 40.2 -0.4**
YBMT Yellow Bay 84.92 332 eP P 15 04 37.7 +0.2
JTMT Jette 84.94 332 eP P 15 04 37.8 +0.1
HUMO Hull Mountain 85.09 324 eP P 15 04 37.1 -1.2
comp=Z,118nm,1.4s
G08A Pilot Rock 85.09 328 eP P 15 04 38.5 +0.1
comp=Z,165nm,1.5s
L02D Cave Junction, 85.10 324 ⇑P P 15 04 39.3 +0.9
baz=85
J04D Umpqua Nationa 85.11 325 ⇓P P 15 04 39.1 +0.4
baz=85
BLMT Blacktail Moun 85.18 332 eP P 15 04 39.0 +0.1
BSMT Bassoo Peak 85.23 332 eP P 15 04 39.2 +0.1
ERPM east rand prop 85.39 117 eP P 15 04 41.4 +0.8
ERPM AMB AMB 15 05 07.8
comp=Z,56nm,5.0s
ERPM east rand prop 85.39 117 P P 15 04 41.4 +0.8
comp=Z,56nm,5.0s
I05D Terrebonne, OR 85.52 326 ⇓P P 15 04 41.4 +0.9
baz=86
E09A Wood Farm, Sta 85.64 329 eP P 15 04 40.5 -0.4
comp=Z,87nm,1.6s
I04A Tendick Farm, 85.66 325 ⇑P P 15 04 41.4 +0.2
baz=86
SLR Silverton 85.72 117 eP P 15 04 41.6 -0.6
SLR AMB AMB 15 05 00.5
comp=Z,75nm,2.9s
SLR AMS AMS 15 39 42.8
comp=Z,7μm,19.3s
SLR Silverton 85.72 117 P P 15 04 41.6 -0.6
SLR pmax pmax
comp=Z,75nm,2.9s
SLR Silverton 85.72 117 P P 15 04 41.6 -0.6
comp=Z,75nm,2.9s
CROR Criterion Ridg 85.82 327 P P 15 04 42.8 +0.8
WALA Waterton Lakes 85.83 333 eP P 15 04 41.4 -0.6
comp=Z,813nm,1.9s
WALA LR LR
comp=Z,4μm,21.5s
G06A Carlson Farm, 85.84 327 eP P 15 04 42.8 +0.7
comp=Z,556nm,1.8s
CASY Casey 85.96 181 eP P 15 04 41.4 -1.0
comp=Z,419nm,1.3s
CASY LR LR
comp=Z,7μm,19.0s
KEBM Edson Butte 85.99 324 eP P 15 04 44.0 +1.1
comp=Z,346nm,1.3s
KEBM epP **pP 15 04 55.3 -0.1**
I03D Drain, OR 86.06 325 ⇑P P 15 04 43.8 +0.7
baz=86
G05D Wamic, OR 86.17 327 ⇓P P 15 04 44.0 +0.3
baz=86
HAWA Hanford 86.18 329 eP P 15 04 43.0 -0.7
comp=Z,290nm,1.6s
HAWA LR LR
comp=Z,8μm,19.0s
H04A Detroit Lake 86.19 326 eP P 15 04 43.5 -0.3
comp=Z,406nm,1.6s
H04A LR LR
comp=Z,4μm,19.8s
D08A Wollman Farm, 86.40 329 eP P 15 04 44.8 +0.1
comp=Z,211nm,1.6s
RTC Rabat Centre 86.51 48 PFAKE 15 05 00.0 +14
RTC LR LR
comp=Z,8μm,20.0s
NEW Newport 86.53 331 eP P 15 04 44.0 -1.4
NEW pmax pmax
comp=Z,212nm,1.8s
NEW MLR MLR
comp=Z,5μm,20.0s
NEW Newport 86.53 331 ⇑P P 15 04 44.6 -0.8
baz=87
NEW Newport 86.53 331 eP P 15 04 44.0 -1.4
comp=Z,212nm,1.8s
NEW LR LR
comp=Z,5μm,20.0s
TRW Toppenish Ridg 86.58 328 P P 15 04 46.0 +0.4
COR Corvallis 86.67 325 PFAKE 15 05 00.0 +14
COR LR LR
comp=Z,4μm,21.4s
C09A Chrisman Ranch 86.68 330 eP P 15 04 45.9 -0.2
comp=Z,71nm,0.7s
FFC Flin Flon 86.68 343 eP P 15 04 44.9 -1.0
FFC pmax pmax
comp=Z,152nm,1.8s
FFC MLR MLR
comp=Z,2μm,20.0s
FFC Flin Flon 86.68 343 eP P 15 04 44.9 -1.0
comp=Z,152nm,1.8s
FFC LR LR
comp=Z,2μm,20.0s
EBG Ellensburg 87.04 328 P P 15 04 48.2 +0.3
G03D McMinnville, O 87.10 326 ⇓P P 15 04 48.8 +0.7
baz=87
SAW Saint Andrews 87.10 330 P P 15 04 47.6 -0.6
PFVI Vila Bisbo 87.17 45 eP P 15 04 55.0 +6.3
PFVI Vila Bisbo 87.17 45 eS S 15 15 20.8 -4.4
MDT Midelt 87.32 51 P P 15 04 50.2 +0.5
comp=Z,22nm,1.1s,baz=244,slow=5.3,SNR=26
LTY Liberty 87.35 329 eP P 15 04 49.0 -0.4
comp=Z,258nm,1.6s
MORF Marmelete 87.39 45 eP P 15 04 51.6 +1.8
comp=Z,194nm,1.7s
MORF Marmelete 87.39 45 ePcP PcP 15 04 56.2 +4.4
MORF pP **pP 15 05 05.1 +2.7**
MORF Marmelete 87.39 45 eS S 15 15 31.4 +4.0
PTEO Sao Teotonio 87.49 45 eP P 15 04 53.9 +3.7
comp=Z,211nm,1.3s
PTEO pP pP 15 05 05.8 +3.0
LON Longmire 87.51 328 eP P 15 04 49.7 -0.5
LON pmax pmax
comp=Z,48nm,1.0s
LON Longmire 87.51 328 eP P 15 04 49.7 -0.5
comp=Z,48nm,1.0s
BFZ Birch Farm 87.54 225 eP P 15 04 53.2 +2.5
comp=Z,359nm,1.5s
BFZ epP pP 15 05 10.5 +7.3
BFZ LR LR
comp=Z,6μm,20.0s
B08A Colville Reser 87.56 330 eP P 15 04 49.5 -0.8
comp=Z,215nm,1.8s
KNZ Kokohu 87.59 227 PN P 15 04 53.1 +2.2
F04D Rainier, OR 87.60 327 ⇑P P 15 04 51.1 +0.5
baz=88
PUZ Puketiti 87.75 228 PN P 15 04 53.6 +1.9
PBDV Barranco-do-Ve 87.80 45 eP P 15 04 52.9 +1.1
comp=Z,257nm,1.7s
PBDV pP **pP 15 05 05.7 +1.3**
PBDV Barranco-do-Ve 87.80 45 eS S 15 15 23.6 -7.7
D05A Enumclaw 87.91 328 eP P 15 04 52.2 +0.3
comp=Z,111nm,0.9s
PNCL Nicolau / Gran 87.96 44 eP P 15 04 50.4 -2.1
comp=Z,136nm,1.7s
PNCL Nicolau / Gran 87.96 44 ePcP PcP 15 04 55.4 +1.2
PNCL pP **pP 15 05 07.5 +2.4**
PNCL Nicolau / Gran 87.96 44 eS S 15 15 23.3 -9.4
PCVE Castro Verde 87.97 45 eP P 15 04 53.3 +0.8
comp=Z,45nm,2.0s
PCVE pP **pP 15 05 07.8 +2.7**
PCVE Castro Verde 87.97 45 eS S 15 15 24.8 -8.1
MESJ Messejana 87.99 45 eP P 15 04 55.7 +3.1
comp=Z,194nm,1.7s
MESJ pP **pP 15 05 06.5 +1.3**
PMAFR Mafra 88.03 43 eS S 15 15 37.3 +3.9
PVAQ Vaqueiros 88.03 45 eP P 15 04 55.6 +2.8
comp=Z,208nm,1.9s
PVAQ pP **pP 15 05 06.3 +0.9**
PVAQ Vaqueiros 88.03 45 eS S 15 15 23.4 -10
PVAQ Vaqueiros 88.03 45 eLR LR 15 36 47.2
comp=Z,8μm,22.0s
MWZ Matawai 88.07 227 PN P 15 04 54.3 +1.0
SNZO South Karori 88.12 223 PFAKE 15 05 10.0 +17
SNZO LR LR
comp=Z,4μm,18.0s
KHZ Kahutara 88.15 222 eP P 15 04 54.5 +1.0
comp=Z,373nm,1.3s
ODZ Otahua Downs 88.19 219 eP P 15 04 55.7 +2.0
comp=Z,245nm,1.5s
ODZ epP **pP 15 05 09.7 +3.4**
E03A Lebam 88.20 327 eP P 15 04 54.1 +0.7
comp=Z,173nm,1.1s
E03A LR LR
comp=Z,4μm,21.5s
BKZ Black Stump Fm 88.26 226 eP P 15 04 55.9 +1.7
comp=Z,387nm,1.6s
BKZ LR LR
comp=Z,9μm,21.0s
URZ Urewera 88.38 227 P P 15 04 54.9 +0.1
comp=Z,22nm,0.8s
URZ Urewera 88.38 227 eP P 15 04 54.2 -0.5
comp=Z,787nm,2.3s
URZ LR LR
comp=Z,7μm,20.0s
EVOP Sao Brissos 88.47 44⇑ *iP* **P 15 04 54.7 -0.2**
EVOP pmax pmax
comp=Z,75nm,0.8s
EVOP Sao Brissos 88.47 44⇑ *iP* **P 15 04 54.7 -0.2**
comp=Z,75nm,0.8s
OXZ Oxford 88.47 221 PN P 15 04 56.7 +1.6
EVO Evora 88.54 44⇑ *iP* **P 15 04 54.7 -0.5**
comp=Z,75nm,0.8s
EVO *e*R
comp=Z,9μm,21.5s
JCW Jim Creek 88.61 329 P P 15 04 54.5 -0.9
FCC Fort Churchill 88.62 348 eP P 15 04 55.0 -0.1
FCC pmax pmax
comp=Z,872nm,2.2s
FCC MLR MLR
comp=Z,3μm,20.5s
FCC Fort Churchill 88.62 348 eP P 15 04 55.0 -0.1
comp=Z,872nm,2.2s
FCC ePcP **PcP 15 04 57.0 +0.3**
FCC LR LR
comp=Z,3μm,20.5s
ITZ Itezhi-Tezhi 88.65 107 *i* P **P 15 04 56.8 +0.3**
ITZ PKP 15 15 28.7
PMTG Montargil 88.74 44 eP P 15 04 59.7 +3.6
comp=Z,93nm,1.9s
PMTG pP pP 15 05 11.2 +2.4
PMTG Montargil 88.74 44 eS S 15 15 27.2 -13
MSNA Messina 88.76 115 eP P 15 04 57.6 +0.7
MSNA AMB AMB 15 04 59.4
comp=Z,82nm,1.9s
MSNA AMS AMS 15 42 43.5
comp=Z,6μm,18.5s
MSNA Messina 88.76 115 P P 15 04 57.6 +0.7
comp=Z,82nm,1.9s

RPZ	**Rata Peaks**	**88.79**	**220**	PN	**P**		**15 04 57.2**	**+0.6**
RPZ	**Rata Peaks**	**88.79**	**220**	*e*P	**P**		**15 04 57.1**	**+0.6**
RPZ				LR	LR			
	comp=Z,5µm,22.0s							
PBAR	**Barrancos**	**88.93**	**45**	*e*P	**P**		**15 04 59.3**	**+2.3**
PBAR	comp=Z,194nm,1.6s			pP	**pP**		**15 05 11.9**	**+2.2**
PBAR	**Barrancos**	**88.93**	**45**	*e*S	S		15 15 29.3	-13
NLWA	**Neilton Lookou**	**88.95**	**327**	PFAKE			15 05 10.0	+13
NLWA				LR	LR			
	comp=Z,5µm,21.0s							
PTOM	**Tomar**	**88.97**	**43**	pP	pP		15 05 13.1	+3.3
PESTR	**Estremoz**	**89.01**	**44**	pP	pP		15 05 14.3	+4.2
PESTR	**Estremoz**	**89.01**	**44**	*e*S	S		15 15 30.5	-12
WHZ	**Wether Hill Ro**	**89.10**	**217**	*e*P	**P**		**15 04 59.8**	**+1.8**
	comp=Z,279nm,1.5s							
WHZ				LR	LR			
	comp=Z,8µm,21.0s							
PCAS	**Casmilo, Conde**	**89.19**	**43**	*e*P	P		15 05 04.1	+5.9
	comp=Z,217nm,1.7s							
PCAS				pP	pP		15 05 16.9	+6.1
PCAS	**Casmilo, Conde**	**89.19**	**43**	*e*S	S		15 15 50.7	+6.4
A05A	**Maple Falls**	**89.27**	**329**	*e*P	**P**		**15 04 57.9**	**-0.5**
	comp=Z,353nm,1.7s							
A05A				LR	LR			
	comp=Z,8µm,19.8s							
TAM	**Tamanrasset**	**89.37**	**64**	*e*P	**P**		**15 04 59.1**	**-0.6**
TAM				pmax	pmax			
	comp=Z,43nm,1.0s							
TAM	**Tamanrasset**	**89.37**	**64**	*e*P	**P**		**15 04 59.1**	**-0.6**
	comp=Z,43nm,1.0s							
DSZ	**Denniston Nort**	**89.58**	**222**	PN	**P**		**15 04 59.8**	**-0.6**
CRZF	**Crozet Islands**	**89.60**	**144**	P	P		15 04 42.0	-18
CRZF	**Crozet Islands**	**89.60**	**144**	S	S		15 15 15.0	-33
CRZF				R			15 36 00.0	
PGC	**Sidney**	**89.64**	**328**	*e*P	**P**		**15 04 59.6**	**-0.5**
	comp=Z,440nm,1.9s							
PGC				LR	LR			
	comp=Z,5µm,19.5s							
PCBR	**Castelo Branco**	**89.67**	**44**	*e*P	**P**		**15 04 59.3**	**-1.2**
	comp=Z,65nm,2.0s							
HIZ	**Hauiti**	**89.68**	**226**	PN	**P**		**15 05 01.6**	**+0.8**
RAO	**Raoul Island**	**89.91**	**237**	LR	LR		15 39 43.2	
	comp=Z,648nm,19.4s,baz=140,slow=32							
MTE	**Manteigas**	**89.97**	**43**	*e*P	P		15 05 05.5	+3.5
	comp=Z,67nm,3.0s							
MTE				pP	pP		15 05 16.4	+1.8
MTE	**Manteigas**	**89.97**	**43**	*e*S	**S**		**15 15 57.3**	**+5.6**
MTE	**Manteigas**	**89.97**	**43**	*e*LR	LR		15 39 24.0	
	comp=Z,6µm,22.0s							
MTE	**Manteigas**	**89.97**	**43**	PFAKE			15 05 10.0	+8.0
MTE				LR	LR			
	comp=Z,8µm,22.0s							
PGAV	**Gavieira, Arco**	**90.51**	**41**	*e*LR	LR		15 40 38.3	
	comp=Z,7µm,22.0s							
LSZ	**Lusaka**	**90.71**	**108**	*e*P	**P**		**15 05 06.2**	**0.0**
LSZ				pmax	pmax			
	comp=Z,91nm,1.5s							
LSZ				MLR	MLR			
	comp=Z,8µm,22.0s							
LSZ	**Lusaka**	**90.71**	**108**	P	**P**		**15 05 08.2**	**+2.0**
	SNR=35							
LSZ	**Lusaka**	**90.71**	**108**	*e*P	**P**		**15 05 06.2**	**0.0**
	comp=Z,91nm,1.5s							
LSZ				LR	LR			
	comp=Z,8µm,22.0s							
MVO	**Moncorvo**	**90.75**	**43**	pP	pP		15 05 19.3	+1.1
MVO	**Moncorvo**	**90.75**	**43**	*e*S	S		15 16 05.7	+6.8
MVO	**Moncorvo**	**90.75**	**43**	*e*LR	LR		15 38 39.8	
	comp=Z,6µm,22.0s							
PBRG	**Braganca**	**91.31**	**42**	pP	pP		15 05 14.5	-6.3
PAB	**San Pablo**	**91.43**	**45**	*e*P	**P**		**15 05 08.3**	**-0.5**
PAB				pmax	pmax			
	comp=Z,37nm,0.9s							
PAB				MLR	MLR			
	comp=Z,6µm,21.0s							
PAB	**San Pablo**	**91.43**	**45**	*e*P	**P**		**15 05 08.3**	**-0.5**
	comp=Z,37nm,0.9s							
PAB				LR	LR			
	comp=Z,6µm,21.0s							
ESDC	**Sonseca Array**	**91.75**	**45**	P	**P**		**15 05 10.6**	**+0.4**
	comp=Z,6.9nm,0.8s,baz=244,slow=4.1,SNR=13							
ESDC				LR	LR		15 43 45.8	
	comp=Z,5µm,21.2s,baz=225,slow=34							
ES19	**SONSECA Array**	**91.80**	**45**	*e*P	**P**		**15 05 10.5**	**0.0**
OUZ	**Omahuta**	**92.45**	**228**	*e*P	**P**		**15 05 15.4**	**+1.7**
	comp=Z,830nm,1.9s							
OUZ				*e*pP	**pP**		**15 05 30.1**	**+3.8**
OUZ				LR	LR			
	comp=Z,24µm,21.0s							
POHA	**Pohakuloa**	**94.54**	**290**	PFAKE			15 05 40.0	+16
POHA				LR	LR			
	comp=Z,6µm,22.0s							
SJPF	**Ste Jean**	**95.39**	**44**	*e*P	**P**		**15 05 27.3**	**+0.4**
	comp=Z,71nm,0.9s							
SJPF	**Ste Jean**	**95.39**	**44**	*e*P	**P**		**15 05 27.3**	**+0.4**
SJPF				pmax	pmax			
	comp=Z,71nm,0.9s							
SJPF	**Ste Jean**	**95.39**	**44**	*e*P	**P**		**15 05 27.3**	**+0.4**
	comp=Z,71nm,0.9s							
PAF	**Port-aux-Franc**	**95.50**	**156**	P	P		15 05 15.0	-12
PAF	**Port-aux-Franc**	**95.50**	**156**	S	S		15 15 57.0	-44
PAF				SS	SS		15 22 59.0	-8.8
PAF				L	L		15 32 00.0	
PAF				R			15 36 00.0	
ETSF	**Etsaut**	**95.68**	**44**	*e*P	**P**		**15 05 28.8**	**+0.5**
	comp=Z,64nm,0.9s							
ETSF	**Etsaut**	**95.68**	**44**	*e*P	**P**		**15 05 28.8**	**+0.5**
ETSF				pmax	pmax			
	comp=Z,64nm,0.9s							
ETSF	**Etsaut**	**95.68**	**44**	*e*P	**P**		**15 05 28.8**	**+0.5**
	comp=Z,64nm,0.9s							
REYF	**Montagne du Re**	**95.88**	**44**	*e*P	**P**		**15 05 29.9**	**+0.7**
SFJD	**Kangerlussuaq**	**96.00**	**8**	*e*P	**P**		**15 05 29.3**	**+0.3**
SFJD	**Kangerlussuaq**	**96.00**	**8**	*i* P	**P**		**15 05 29.3**	**+0.3**
SFJD	**Kangerlussuaq**	**96.00**	**8**	PFAKE			15 05 40.0	+11
SFJD				LR	LR			
	comp=Z,2µm,21.0s							
SET	**Setif**	**96.08**	**52**	P	P		15 05 34.0	+3.7
EPF	**Esparros**	**96.31**	**44**	*e*P	**P**		**15 05 31.4**	**+0.3**
	comp=Z,66nm,1.0s							
EPF	**Esparros**	**96.31**	**44**	*e*P	**P**		**15 05 31.4**	**+0.3**
EPF				pmax	pmax			
	comp=Z,66nm,1.0s							
EPF	**Esparros**	**96.31**	**44**	*e*P	**P**		**15 05 31.4**	**+0.3**
	comp=Z,66nm,1.0s							
MELF	**Melles**	**96.48**	**45**	*e*P	**P**		**15 05 33.0**	**+1.1**
YKA	**Yellowknife Ar**	**96.76**	**341**	P	**P**		**15 05 31.6**	**-1.0**
YKA	**Yellowknife Ar**	**96.76**	**341**	P	**P**		**15 05 31.6**	**-1.0**
	comp=Z,5.1nm,0.6s,baz=143,slow=4.4,SNR=95							
YKA				PKKPbc	**PKKPbc**		**15 22 15.4**	**-1.9**
	comp=Z,1.0nm,0.9s,baz=325,slow=3.3,SNR=7.4							
QUIF	**Quistinic**	**96.96**	**39**	*e*P	**P**		**15 05 33.5**	**-0.3**
	comp=Z,294nm,1.5s							
QUIF	**Quistinic**	**96.96**	**39**	*e*P	**P**		**15 05 33.5**	**-0.3**
QUIF				pmax	pmax			
	comp=Z,294nm,1.5s							
QUIF	**Quistinic**	**96.96**	**39**	*e*P	**P**		**15 05 33.5**	**-0.3**
	comp=Z,294nm,1.5s							
CARF	**Carcanieres**	**97.24**	**45**	*e*P	Pdif		15 05 36.2	+0.7
FILF	**Fillols**	**97.45**	**46**	*e*P	Pdif		15 05 36.5	+0.1
LFF	**La Frestale**	**97.58**	**43**	*e*P	**P**		**15 05 36.5**	**-0.2**
	comp=Z,151nm,1.4s							
LFF	**La Frestale**	**97.58**	**43**	*e*P	**P**		**15 05 36.5**	**-0.2**
LFF				pmax	pmax			
	comp=Z,151nm,1.4s							
LFF	**La Frestale**	**97.58**	**43**	*e*P	**P**		**15 05 36.5**	**-0.2**
	comp=Z,151nm,1.4s							
MTLF	**Montolieu**	**97.64**	**45**	*e*P	**P**		**15 05 36.8**	**-0.2**
	comp=Z,63nm,1.0s							
MTLF	**Montolieu**	**97.64**	**45**	*e*P	**P**		**15 05 36.8**	**-0.2**
MTLF				pmax	pmax			
	comp=Z,63nm,1.0s							
MTLF	**Montolieu**	**97.64**	**45**	*e*P	**P**		**15 05 36.8**	**-0.2**
	comp=Z,63nm,1.0s							
MFF	**Saint Martin d**	**97.94**	**41**	*e*P	**P**		**15 05 37.9**	**-0.4**
	comp=Z,232nm,1.5s							
MFF	**Saint Martin d**	**97.94**	**41**	*e*P	**P**		**15 05 37.9**	**-0.4**
MFF				pmax	pmax			
	comp=Z,232nm,1.5s							
MFF	**Saint Martin d**	**97.94**	**41**	*e*P	**P**		**15 05 37.9**	**-0.4**
	comp=Z,232nm,1.5s							
DYA	**Yadsworthy**	**97.98**	**36**	PFAKE			15 05 50.0	+12
DYA				LR	LR			
	comp=Z,6µm,21.2s							
ILULI	**Ilulissat**	**98.06**	**7**	*e*P	Pdif		15 05 40.9	+2.6
ILULI				MLR	MLR			
	comp=Z,2µm,18.0s							
ILULI	**Ilulissat**	**98.06**	**7**	*i* P	Pdif		15 05 40.9	+2.6
RJF	**Les Rejaudoux**	**98.23**	**43**	*e*P	**P**		**15 05 39.4**	**-0.3**
RJF				*e*R				
	comp=Z,6µm,19.2s							
RJF	**Les Rejaudoux**	**98.23**	**43**	*e*P	**P**		**15 05 39.4**	**-0.3**
RJF	**Les Rejaudoux**	**98.23**	**43**	*e*P	**P**		**15 05 39.4**	**-0.3**
CAF	**Calviac**	**98.37**	**43**	*e*P	**P**		**15 05 40.3**	**0.0**
	comp=Z,29nm,0.8s							
CAF	**Calviac**	**98.37**	**43**	*e*P	**P**		**15 05 40.3**	**0.0**
CAF				pmax	pmax			
	comp=Z,29nm,0.8s							
CAF	**Calviac**	**98.37**	**43**	*e*P	**P**		**15 05 40.3**	**0.0**
	comp=Z,29nm,0.8s							
DSB	**Dublin**	**98.38**	**33**	PFAKE			15 05 50.0	+10
DSB				LR	LR			
	comp=Z,4µm,19.0s							
GRR	**Gorron**	**98.50**	**39**	*e*P	Pdif		15 05 41.2	+0.4
GRR	**Gorron**	**98.50**	**39**	*e*P	Pdif		15 05 41.2	+0.4
GRR	**Gorron**	**98.50**	**39**	*e*P	Pdif		15 05 41.2	+0.4
KEST	**Kesra**	**98.65**	**54**	P	Pdif		15 05 42.5	+0.6
	comp=Z,1.0nm,0.6s,baz=47,slow=5.3,SNR=2.8							
KEST				LR	LR		15 51 36.4	
	comp=Z,7µm,20.9s,baz=192,slow=36							
WRAK	**Wrangell Islan**	**98.87**	**330**	P	**P**		**15 05 40.9**	**-1.3**
	comp=Z,52nm,0.3s							
WRAK				LR	LR			
	comp=Z,4µm,20.0s							
LDF	**La Druitiere**	**99.03**	**39**	*e*P	**Pdif**		**15 05 42.4**	**-0.7**
	comp=Z,59nm,0.9s							
LDF	**La Druitiere**	**99.03**	**39**	*e*P	**Pdif**		**15 05 42.4**	**-0.7**
LDF				pmax	pmax			
	comp=Z,59nm,0.9s							
LDF	**La Druitiere**	**99.03**	**39**	*e*P	**Pdif**		**15 05 42.4**	**-0.7**
	comp=Z,59nm,0.9s							
LASF	**Ste Croix**	**99.03**	**45**	*e*P	**Pdif**		**15 05 43.4**	**+0.1**
	comp=Z,40nm,1.0s							
LASF	**Ste Croix**	**99.03**	**45**	*e*P	**Pdif**		**15 05 43.4**	**+0.1**
	comp=Z,40nm,1.0s							
TCF	**Toulx Ste Croi**	**99.16**	**42**	*e*P	**Pdif**		**15 05 43.3**	**-0.5**
	comp=Z,252nm,1.9s							
TCF	**Toulx Ste Croi**	**99.16**	**42**	*e*P	**Pdif**		**15 05 43.3**	**-0.5**
TCF				pmax	pmax			
	comp=Z,252nm,1.9s							
TCF	**Toulx Ste Croi**	**99.16**	**42**	*e*P	**Pdif**		**15 05 43.3**	**-0.5**
	comp=Z,252nm,1.9s							
DLBC	**Dease Lake**	**99.17**	**333**	PKKPbc	PKKPbc		15 22 09.6	-0.9
	comp=Z,5.6nm,1.1s,baz=277,slow=4.6,SNR=4.3							
DLBC	**Dease Lake**	**99.17**	**333**	*e*P	**Pdif**		**15 05 43.1**	**-0.5**
DLBC				PKKPbc	**PKKPbc**		**15 22 09.6**	**-0.9**
DLBC				*e*PKKPbc	**PKKPdf**		**15 22 10.1**	**-4.8**
DLBC				LR	LR			
	comp=Z,3µm,20.1s							
LBL	**Lubilhac**	**99.25**	**44**	*e*P	**Pdif**		**15 05 45.5**	**+1.2**
MSVF	**Nonsavu**	**99.25**	**244**	PFAKE			15 06 00.0	+15
MSVF				LR	LR			
	comp=Z,4µm,22.0s							
BGF	**Bois d'Agland**	**99.68**	**42**	*e*P	**Pdif**		**15 05 45.9**	**-0.2**
	comp=Z,132nm,1.4s							
BGF	**Bois d'Agland**	**99.68**	**42**	*e*P	**Pdif**		**15 05 45.9**	**-0.2**
BGF				pmax	pmax			
	comp=Z,132nm,1.4s							
BGF	**Bois d'Agland**	**99.68**	**42**	*e*P	**Pdif**		**15 05 45.9**	**-0.2**
	comp=Z,132nm,1.4s							
PLDF	**La Plantade**	**99.84**	**43**	*e*P	**Pdif**		**15 05 47.5**	**+0.6**
VIVF	**Saint-Julien-l**	**99.93**	**44**	*e*P	**Pdif**		**15 05 47.7**	**+0.4**
	comp=Z,49nm,1.0s							
VIVF	**Saint-Julien-l**	**99.93**	**44**	*e*P	**Pdif**		**15 05 47.7**	**+0.4**
VIVF				pmax	pmax			
	comp=Z,49nm,1.0s							
VIVF	**Saint-Julien-l**	**99.93**	**44**	*e*P	**Pdif**		**15 05 47.7**	**+0.4**
	comp=Z,49nm,1.0s							
SMRF	**Simiane la Rot**	**100.06**	**45**	*e*P	**Pdif**		**15 05 48.7**	**+0.8**
	comp=Z,58nm,1.0s							
SMRF	**Simiane la Rot**	**100.06**	**45**	*e*P	**Pdif**		**15 05 48.7**	**+0.8**
	comp=Z,58nm,1.0s							
AVF	**Avril sur Loir**	**100.10**	**42**	*e*P	**Pdif**		**15 05 47.6**	**-0.3**
	comp=Z,155nm,1.9s							
AVF	**Avril sur Loir**	**100.10**	**42**	*e*P	**Pdif**		**15 05 47.6**	**-0.3**
AVF				pmax	pmax			
	comp=Z,155nm,1.9s							
AVF	**Avril sur Loir**	**100.10**	**42**	*e*P	**Pdif**		**15 05 47.6**	**-0.3**
	comp=Z,155nm,1.9s							
SMF	**Signal de Mont**	**100.31**	**43**	*e*P	**Pdif**		**15 05 49.0**	**+0.1**
	comp=Z,164nm,1.5s							
SMF	**Signal de Mont**	**100.31**	**43**	*e*P	**Pdif**		**15 05 49.0**	**+0.1**
SMF				pmax	pmax			
	comp=Z,164nm,1.5s							
SMF	**Signal de Mont**	**100.31**	**43**	*e*P	**Pdif**		**15 05 49.0**	**+0.1**
	comp=Z,164nm,1.5s							
SSF	**Saint Saulge**	**100.32**	**42**	*e*P	**Pdif**		**15 05 48.4**	**-0.6**
	comp=Z,124nm,1.7s							
SSF	**Saint Saulge**	**100.32**	**42**	*e*P	**Pdif**		**15 05 48.4**	**-0.6**
SSF				pmax	pmax			
	comp=Z,124nm,1.7s							
SSF	**Saint Saulge**	**100.32**	**42**	*e*P	**Pdif**		**15 05 48.4**	**-0.6**
	comp=Z,124nm,1.7s							
LMR	**La Mourre**	**100.34**	**46**	*e*P	**Pdif**		**15 05 49.4**	**+0.3**
	comp=Z,187nm,1.5s							
LMR	**La Mourre**	**100.34**	**46**	*e*P	**Pdif**		**15 05 49.4**	**+0.3**
LMR				pmax	pmax			
	comp=Z,187nm,1.5s							
LMR	**La Mourre**	**100.34**	**46**	*e*P	**Pdif**		**15 05 49.4**	**+0.3**
	comp=Z,187nm,1.5s							
VSL	**Villasalto**	**100.43**	**51**	PFAKE			15 06 00.0	+10
VSL				LR	LR			
	comp=Z,4µm,22.0s							
FRF	**La Foret Royal**	**100.54**	**46**	*e*P	**Pdif**		**15 05 50.5**	**+0.5**
	comp=Z,201nm,1.5s							
FRF	**La Foret Royal**	**100.54**	**46**	*e*P	**Pdif**		**15 05 50.5**	**+0.5**
FRF				pmax	pmax			
	comp=Z,201nm,1.5s							
FRF	**La Foret Royal**	**100.54**	**46**	*e*P	**Pdif**		**15 05 50.5**	**+0.5**
	comp=Z,201nm,1.5s							
LOR	**Lormes**	**100.64**	**42**	*e*P	**Pdif**		**15 05 49.7**	**-0.7**
	comp=Z,128nm,1.9s							
LOR				*e*R				
	comp=Z,5µm,19.8s							
LOR	**Lormes**	**100.64**	**42**	*e*P	**Pdif**		**15 05 49.7**	**-0.7**
LOR				pmax	pmax			
	comp=Z,129nm,1.9s							
LOR	**Lormes**	**100.64**	**42**	*e*P	**Pdif**		**15 05 49.7**	**-0.7**
	comp=Z,128nm,1.9s							
ORIF	**Oris-en-Rattie**	**100.71**	**45**	*e*P	**Pdif**		**15 05 51.6**	**+0.7**
	comp=Z,112nm,1.1s							
ORIF				*e*R				
	comp=Z,11µm,22.5s							
ORIF	**Oris-en-Rattie**	**100.71**	**45**	*e*P	**Pdif**		**15 05 51.6**	**+0.7**
ORIF				pmax	pmax			
	comp=Z,112nm,1.1s							
ORIF	**Oris-en-Rattie**	**100.71**	**45**	*e*P	**Pdif**		**15 05 51.6**	**+0.7**
	comp=Z,112nm,1.1s							
ESK	**Eskdalemuir**	**101.09**	**33**	PFAKE			15 06 00.0	+7.9
ESK				LR	LR			
	comp=Z,3µm,20.0s							
TAU	**Tasmania Unive**	**101.10**	**208**	PFAKE			15 06 00.0	+7.3
TAU				LR	LR			
	comp=Z,5µm,22.0s							
EKA	**Eskdalemuir Ar**	**101.12**	**33**	P	**Pdif**		**15 05 51.7**	**-0.6**
EKA	**Eskdalemuir Ar**	**101.12**	**33**	P	**Pdif**		**15 05 51.7**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=207,slow=1.5,SNR=5.7							
MBDF	**Montbardon**	**101.17**	**45**	*e*P	**Pdif**		**15 05 53.6**	**+0.6**
	comp=Z,73nm,1.1s							
MBDF	**Montbardon**	**101.17**	**45**	*e*P	**Pdif**		**15 05 53.6**	**+0.6**
MBDF				pmax	pmax			
	comp=Z,73nm,1.1s							
MBDF	**Montbardon**	**101.17**	**45**	*e*P	**Pdif**		**15 05 53.6**	**+0.6**
	comp=Z,73nm,1.1s							
SBF	**Sospel**	**101.19**	**46**	*e*P	**Pdif**		**15 05 53.5**	**+0.5**
	comp=Z,132nm,1.0s							
SBF	**Sospel**	**101.19**	**46**	*e*P	**Pdif**		**15 05 53.5**	**+0.5**
SBF				pmax	pmax			
	comp=Z,133nm,1.0s							
SBF	**Sospel**	**101.19**	**46**	*e*P	**Pdif**		**15 05 53.5**	**+0.5**
	comp=Z,132nm,1.0s							
BNI	**Bardonecchia**	**101.27**	**45**	*e*P	**Pdif**		**15 05 53.3**	**-0.1**
BNI				pmax	pmax			
	comp=Z,12nm,1.0s							
BNI				MLR	MLR			
	comp=Z,10µm,22.0s							
BNI	**Bardonecchia**	**101.27**	**45**	*e*Pdif	**Pdif**		**15 05 53.3**	**-0.1**
	comp=Z,12nm,1.0s							
BNI				LR	LR			
	comp=Z,10µm,22.0s							
EDI	**Edinburgh**	**101.43**	**32**	PFAKE			15 06 00.0	+6.4
EDI				LR	LR			
	comp=Z,2µm,20.0s							
LPL	**La Plagne**	**101.53**	**45**	*e*P	**Pdif**		**15 05 55.5**	**+0.9**
	comp=Z,101nm,1.3s							
LPL	**La Plagne**	**101.53**	**45**	*e*P	**Pdif**		**15 05 55.5**	**+0.9**
LPL				pmax	pmax			
	comp=Z,101nm,1.3s							
LPL	**La Plagne**	**101.53**	**45**	*e*P	**Pdif**		**15 05 55.5**	**+0.9**
	comp=Z,101nm,1.3s							
LPG	**La Plagne**	**101.53**	**45**	*e*P	**Pdif**		**15 05 55.6**	**+0.9**
	comp=Z,70nm,1.0s							
LPG	**La Plagne**	**101.53**	**45**	*e*P	**Pdif**		**15 05 55.6**	**+0.9**
LPG				pmax	pmax			
	comp=Z,70nm,1.0s							
LPG	**La Plagne**	**101.53**	**45**	*e*P	**Pdif**		**15 05 55.6**	**+0.9**
	comp=Z,70nm,1.0s							
PGF	**Pioggiola**	**101.59**	**48**	*e*P	**Pdif**		**15 05 55.0**	**+0.2**
	comp=Z,79nm,1.3s							
PGF	**Pioggiola**	**101.59**	**48**	*e*P	**Pdif**		**15 05 55.0**	**+0.2**
PGF				pmax	pmax			
	comp=Z,79nm,1.3s							
PGF	**Pioggiola**	**101.59**	**48**	*e*P	**Pdif**		**15 05 55.0**	**+0.2**
	comp=Z,79nm,1.3s							
DODT	**Dodoma, Tanzan**	**101.64**	**103**	*i* P	**Pdif**		**15 06 03.1**	**+7.3**
DODT				PKP	**PKiKP**		**15 10 19.1**	**-0.4**
DODT				PKP			15 18 01.0	
DODT				PKP			15 34 31.0	
CABF	**La Chapelle**	**101.65**	**43**	*e*P	**Pdif**		**15 05 55.2**	**+0.2**
	comp=Z,54nm,1.1s							
CABF	**La Chapelle**	**101.65**	**43**	*e*P	**Pdif**		**15 05 55.2**	**+0.2**
CABF				pmax	pmax			
	comp=Z,54nm,1.1s							
CABF	**La Chapelle**	**101.65**	**43**	*e*P	**Pdif**		**15 05 55.2**	**+0.2**
	comp=Z,54nm,1.1s							
SFTF	**Sexfontaines**	**101.79**	**42**	*e*P	**Pdif**		**15 05 55.2**	**-0.2**
	comp=Z,197nm,1.7s							
SFTF	**Sexfontaines**	**101.79**	**42**	*e*P	**Pdif**		**15 05 55.2**	**-0.2**
	comp=Z,197nm,1.7s							
MEZF	**Maizieres J'vi**	**101.94**	**41**	*e*P	**Pdif**		**15 05 56.2**	**+0.1**
MEZF	**Maizieres J'vi**	**101.94**	**41**	*e*P	**Pdif**		**15 05 56.2**	**+0.1**
BAIF	**Baives**	**102.21**	**40**	*e*P	**Pdif**		**15 05 56.9**	**-0.3**
	comp=Z,80nm,1.4s							
BAIF	**Baives**	**102.21**	**40**	*e*P	**Pdif**		**15 05 56.9**	**-0.3**
BAIF				pmax	pmax			
	comp=Z,80nm,1.4s							
BAIF	**Baives**	**102.21**	**40**	*e*P	**Pdif**		**15 05 56.9**	**-0.3**
	comp=Z,80nm,1.4s							
CLTB	**Caltabellotta**	**102.26**	**54**	PFAKE			15 06 10.0	+12
CLTB				LR	LR			
	comp=Z,5µm,20.0s							
SENIN	**Lac Senin/Sane**	**102.27**	**44**	*e*Pdif	**Pdif**		**15 06 00.6**	**+2.7**
PAGF	**Fort de Pagny**	**102.36**	**41**	*e*P	**Pdif**		**15 05 58.1**	**+0.1**
	comp=Z,23nm,1.3s							
PAGF	**Fort de Pagny**	**102.36**	**41**	*e*P	**Pdif**		**15 05 58.1**	**+0.1**
	comp=Z,23nm,1.3s							
WDD	**Wield Dalam**	**102.46**	**56**	PFAKE			15 06 10.0	+11
WDD				LR	LR			
	comp=Z,8µm,19.0s							
GIVF	**Givet**	**102.58**	**40**	*e*P	**Pdif**		**15 05 58.6**	**-0.3**
	comp=Z,102nm,1.3s							
GIVF	**Givet**	**102.58**	**40**	*e*P	**Pdif**		**15 05 58.6**	**-0.3**
GIVF				pmax	pmax			
	comp=Z,102nm,1.3s							
GIVF	**Givet**	**102.58**	**40**	*e*P	**Pdif**		**15 05 58.6**	**-0.3**
	comp=Z,102nm,1.3s							
HINF	**Hinteralfeld**	**102.68**	**42**	*e*P	**Pdif**		**15 05 59.2**	**-0.3**
	comp=Z,52nm,1.5s							
HINF	**Hinteralfeld**	**102.68**	**42**	*e*P	**Pdif**		**15 05 59.2**	**-0.3**
HINF				pmax	pmax			
	comp=Z,53nm,1.5s							
HINF	**Hinteralfeld**	**102.68**	**42**	*e*P	**Pdif**		**15 05 59.2**	**-0.3**
	comp=Z,52nm,1.5s							
KULLO	**Kullorsuaq**	**102.78**	**4**	*e*P	**Pdif**		**15 06 01.4**	**+2.2**
KULLO				MLR	MLR			
	comp=Z,3µm,25.0s							
KULLO	**Kullorsuaq**	**102.78**	**4**	*i* P	**Pdif**		**15 06 01.4**	**+2.2**
SUMG	**Summit**	**102.80**	**10**	*e*P	**Pdif**		**15 05 57.6**	**-2.3**
SUMG				MLR	MLR			
	comp=Z,3µm,26.0s							
SUMG	**Summit**	**102.80**	**10**	*i* P	**Pdif**		**15 05 57.6**	**-2.3**
SUMG	**Summit**	**102.80**	**10**	PFAKE			15 06 10.0	+10
SUMG				LR	LR			
	comp=Z,4µm,22.0s							
WLF	**Walferdange**	**103.13**	**41**	PFAKE			15 06 10.0	+8.6
WLF				LR	LR			
	comp=Z,6µm,18.0s							
CDF	**Champ du Feu**	**103.20**	**42**	*e*P	**Pdif**		**15 06 01.5**	**-0.3**
	comp=Z,84nm,1.8s							
CDF	**Champ du Feu**	**103.20**	**42**	*e*P	**Pdif**		**15 06 01.5**	**-0.3**
CDF				pmax

RAGM LR LR
comp=Z,2μm,21.2s
EGAK Eagle 107.15 335 PFAKE 15 10 40.0
EGAK LR LR
comp=Z,3μm,20.0s
GERES GERESS Array B 107.25 44 P **Pdif 15 06 21.7 +1.8**
GERES 15 10 47.9
GERES GERESS Array B 107.25 44 Pdiff **Pdif 15 06 21.6 +1.8**
comp=Z,0.8nm,0.9s,baz=210,slow=3.4,SNR=4.3
GERES PP **PP 15 10 47.9 +0.2**
comp=Z,1.5nm,0.7s,baz=239,slow=7.3,SNR=4.0
GERES PKKPbc **PKKPbc 15 21 46.8 +0.8**
comp=Z,0.7nm,0.7s,baz=64,slow=2.3,SNR=6.3
DIV Divide 107.28 331 PFAKE 15 10 40.0
DIV LR LR
comp=Z,2μm,20.7s
KHC Kasperske Hory 107.28 43 *e*PKP **PKiKP 15 10 29.3 +0.7**
KHC *e*PP **PP 15 10 45.0 -2.9**
KHC *e*x x 15 10 56.1
KHC *e*SDIF 15 18 24.2
KHC *e*SP **SP 15 20 01.2 -2.6**
KHC AMS AMS 15 54 10.0
comp=Z,4μm,20.4s
KHC Kasperske Hory 107.28 43 PFAKE 15 10 40.0
KHC LR LR
comp=Z,3μm,21.3s
CLL Collm 107.79 41⇓ *i*P **Pdif 15 06 23.4 +1.4**
CLL *e* 15 10 53.0
CLL *e* 15 17 04.0
CLL pmax pmax
comp=Z,18nm,1.5s
CLL MLR MLR
comp=Z,3μm,21.5s
CLL Collm 107.79 41⇓ *i*Pdif **Pdif 15 06 23.4 +1.4**
comp=Z,18nm,1.5s
CLL *i* 15 06 43.9
CLL *e* 15 10 37.0
CLL *e*PP **PP 15 10 53.0 +1.6**
CLL *e*pPP 15 11 01.0
CLL *e*SKSac **SKSac 15 17 04.0 +5.6**
CLL *e*Sdif **Sdif 15 18 23.0 -0.6**
CLL *e*SP **SP 15 20 12.0 +3.2**
CLL *e*PKKPab **PKKPdf 15 22 01.0 +2.7**
CLL *e* 15 25 38.0
CLL *e*SS **SS 15 26 06.0 +5.8**
CLL *e*SSS SSS 15 30 06.0
CLL *e* 15 32 54.0
CLL *e*PPPPrev 15 34 00.0
CLL LmV 15 55 00.0
comp=Z,3μm,21.5s
CLL Collm 107.79 41 PFAKE 15 10 40.0
CLL LR LR
comp=Z,4μm,22.0s
AIS Amsterdam Isla 108.13 154 Pdif **Pdif 15 06 24.0 -0.1**
AIS PP PKiKP 15 10 36.0 +5.4
AIS SP SP 15 19 53.0 -19
AIS R 15 42 00.0
BRG Berggiesshubel 108.17 42 *e*PDIF **Pdif 15 06 23.5 -0.2**
comp=Z,12nm,1.6s
BRG *e* 15 10 00.8
comp=Z,21nm,1.8s
BRG *e*PP **PKiKP 15 10 31.8 +1.7**
comp=Z,12nm,1.5s
BRG SKS **SKSac 15 17 05.0 +4.9**
BRG SDIFF **Sdif 15 18 32.0 +5.2**
BRG PS PS 15 20 08.0 -10
BRG SPKKP 15 21 43.6
comp=Z,18nm,1.9s
BRG SS **SS 15 26 03.0 -2.4**
BRG Berggiesshubel 108.17 42 *e*P **Pdif 15 06 23.5 -0.2**
BRG 15 17 05.0
BRG PS PS 15 20 08.0 -10
BRG SS SS 15 26 03.0 -2.4
BRG pmax pmax
comp=Z,12nm,1.6s
BRG MLR MLR
comp=N,2μm,19.7s
BRG MLR MLR
comp=E,3μm,21.6s
BRG MLR MLR
comp=Z,4μm,22.6s
PRU Pruhonice 108.19 43 *e*SKS **SKSac 15 17 01.0 +0.8**
PRU *e*SDIF **Sdif 15 18 32.2 +5.1**
PRU *e*SP **SP 15 20 09.4 -3.6**
PRU AMS AMS 15 52 30.0
comp=Z,3μm,23.2s
CONA Conrad Observa 108.23 45⇑ *i*Pdiff **Pdif 15 06 26.9 +2.7**
comp=Z,8.1nm,1.4s
PVCC Panska Ves 108.41 42 AMS AMS 15 53 50.0
comp=Z,3μm,21.1s
SEW Seward 108.48 329 PFAKE 15 10 40.0
SEW LR LR
comp=Z,2μm,20.5s
TREC Trest 108.50 44 *e*SP SP 15 20 16.4 +0.2
TREC AMS AMS 15 52 40.0
comp=Z,5μm,23.1s
RUE Ruedersdorf 108.68 40 PFAKE 15 10 40.0
RUE LR LR
comp=Z,4μm,19.0s
SML Sawmill 108.69 331 PFAKE 15 10 40.0
SML LR LR
comp=Z,300nm,20.5s
RC01 Rabbit Creek A 109.01 330 PFAKE 15 10 40.0
RC01 LR LR
comp=Z,2μm,20.2s
ARMA Armidale 109.07 218 PFAKE 15 10 40.0
ARMA LR LR
comp=Z,6μm,21.1s
RGN Rugen 109.18 38 PFAKE 15 10 40.0
RGN LR LR
comp=Z,6μm,22.0s
KONO Kongsberg 109.22 32 PFAKE 15 10 40.0
KONO LR LR
comp=Z,3μm,19.0s
UPC Upice 109.26 42 *e*PKP PKiKP 15 10 26.1 -6.1
DAG Danmarks Havn 109.32 11 *e*P **Pdif 15 06 34.8 +6.5**
DAG MLR MLR
comp=Z,5μm,22.0s
DAG Danmarks Havn 109.32 11 *i* P **Pdif 15 06 34.8 +6.5**
DAG Danmarks Havn 109.32 11 *i* P **PKKPbc 15 21 37.8 -2.1**
IL1 Eielson Array 109.33 334 *e*PKiKP **PKiKP 15 10 32.3 +0.4**
IL1 *e* 15 10 44.3
IL1 *e*PKKPab **PKKPab 15 21 49.8 +2.1**
ILAR Eielson Array 109.33 334 P **Pdif 15 06 27.9 -0.7**
ILAR 15 11 02.5
ILAR 15 21 37.5
ILAR Eielson Array 109.33 334 Pdiff **Pdif 15 06 27.9 -0.7**
comp=Z,0.5nm,0.7s,baz=156,slow=4.1,SNR=5.6
ILAR PKiKP **PKiKP 15 10 32.0 +0.1**
comp=Z,1.0nm,0.7s,baz=199,slow=1.1,SNR=7.2
ILAR PP **PP 15 11 02.5 +0.2**
comp=Z,2.6nm,1.0s,baz=115,slow=4.4,SNR=5.6
ILAR PKKPbc **PKKPbc 15 21 37.5 -2.2**
comp=Z,1.5nm,0.8s,baz=295,slow=3.4,SNR=7.4
DPC Dobruska-Polom 109.39 43 *e*PKP **PKiKP 15 10 33.8 +1.3**
DPC *e*SDIF 15 18 38.7
DPC *e*SP **SP 15 20 25.2 0.0**
DPC AMS AMS 15 57 40.0
DPC Dobruska-Polom 109.39 43 PFAKE 15 10 40.0
DPC LR LR
comp=Z,20μm,21.0s
KRLC Kraliky 109.57 43 *e*PKP **PKiKP 15 10 34.3 +1.5**
KRLC *e*PP **PP 15 11 02.9 -1.6**
MCK McKinley 109.72 332 PFAKE 15 10 40.0
MCK LR LR
comp=Z,2μm,20.6s
COLA College 109.75 334 PFAKE 15 10 40.0
COLA LR LR
comp=Z,3μm,20.0s
MORC Moravsky Berou 109.93 44 PFAKE 15 10 50.0
MORC LR LR
comp=Z,4μm,22.0s
TRF Thorofare Moun 110.17 332 *e*Pdif **Pdif 15 06 34.6 +2.0**
TRF LR LR
comp=Z,2μm,20.9s
BSD Bornholm Skovb 110.25 38 *e*P **Pdif 15 06 36.2 +3.4**
BSD MLR MLR
comp=Z,4μm,23.0s
BSD Bornholm Skovb 110.25 38 *i* P **Pdif 15 06 36.2 +3.4**
VYHS Vyhne 110.29 45 *e*PKiKP **PKiKP 15 10 35.2 +1.0**
VYHS Vyhne 110.29 45 *e*PKP **PKiKP 15 10 35.2 +1.0**
OKC Ostrava-Krasne 110.32 44 AMS AMS 15 53 00.0
comp=Z,3μm,21.5s
KTH Kantishna Hill 110.47 332 PFAKE 15 10 50.0
KTH LR LR
comp=Z,2μm,20.8s
PPLA Purkeypile 110.77 331 PFAKE 15 10 50.0
PPLA LR LR
comp=Z,2μm,21.0s
PSZ Piszkesteto 110.77 46 PFAKE 15 10 50.0
PSZ LR LR
comp=Z,4μm,22.0s
SANT Santorini 110.82 59 PFAKE 15 10 50.0
SANT LR LR
comp=Z,2μm,19.0s
CAST Castle Rocks 110.91 332 PFAKE 15 10 50.0
CAST LR LR
comp=Z,2μm,20.7s
APE Apeiranthos 111.11 58⇑ *i*P PKiKP 15 10 48.6 +12
HFS Hagfors 111.32 32 PP PP 15 11 16.6 -0.1
comp=Z,4.2nm,1.0s,baz=286,slow=7.1,SNR=4.0
OJC Ojcow 111.45 44 PFAKE 15 10 50.0
OJC LR LR
comp=Z,3μm,20.0s
COLD Coldfoot 111.54 336 *e*PP PP 15 11 16.8 -1.3
COLD LR LR
comp=Z,4μm,21.3s
STHS Stebnicka Huta 112.09 45 *e*PKIKP **PKiKP 15 10 38.6 +1.0**
STHS Stebnicka Huta 112.09 45 *e*PKP **PKiKP 15 10 38.6 +1.0**
DRGR 112.23 48⇑ *i*P **PKiKP 15 10 34.6 -3.4**
IM04 Indian Mountai 112.46 334 *e*PKiKP **PKiKP 15 10 38.0 +0.2**
IM04 *e*PKKPbc **PKKPbc 15 21 29.3 -0.1**
UZH Uzhgorod 112.52 46 *e*PKIKP PKiKP 15 10 44.6 +6.2
UZH *i* 15 10 59.0
UZH *e* 15 13 54.4
UZH *e* 15 27 00.8
UZH MLR MLR
comp=N,1μm,22.0s
UZH MLR MLR
comp=E,2μm,22.0s
UZH MLR MLR
comp=Z,600nm,22.0s
TRPA Tarpa 112.52 46⇑ *i*P **PKiKP 15 10 37.4 -1.0**
KOLS Kolonicke sedl 112.59 45 *e*PKIKP **PKiKP 15 10 39.1 +0.5**
KOLS Kolonicke sedl 112.59 45 *e*PKP **PKiKP 15 10 39.1 +0.5**
KWP Kalwaria Pacla 113.07 45 PFAKE 15 10 50.0
KWP LR LR
comp=Z,6μm,22.0s
EIDS Eidsvold 113.25 221 PFAKE 15 10 50.0
EIDS LR LR
comp=Z,3μm,21.4s
LVV L'vov 113.94 45 *i* PKIKP **PKiKP 15 10 42.9 +1.8**
LVV *e* 15 11 43.9
LVV *i* PS **PS 15 21 08.1 -4.9**
LVV *e*SS SS 15 27 27.3 +4.7
LVV *e*SSS SSS 15 31 32.7
LVV MLR MLR
comp=N,2μm,24.0s
LVV MLR MLR
comp=E,5μm,24.0s
LVV MLR MLR
comp=Z,5μm,24.0s
BUR04 Bucovina Ar. S 114.10 47 *e*PKiKP **PKiKP 15 10 42.2 +0.6**
BUR04 *e* 15 10 53.9
BUR04 *e*PKKPbc **PKKPab 15 21 29.9 +2.3**
BURAR Bucovina Array 114.11 47⇓ *i*P PKPdf 15 10 38.0 -3.6
BBOO Buckleboo 114.26 205 PFAKE 15 10 50.0 +7.6
BBOO LR LR
comp=Z,21μm,21.6s
SUW Suwalki 114.52 40 PFAKE 15 10 50.0 +8.0
SUW LR LR
comp=Z,3μm,22.0s
VRI Vrincioaia 114.64 50⇑ *i*P PKPdf 15 10 39.9 -2.7
TESR Tescani 114.75 49⇓ *i*P PKPdf 15 10 42.3 -0.5
UNV Unalaska Valle 115.34 319 PFAKE 15 11 00.0 +16
UNV LR LR
comp=Z,5μm,20.7s
TIRR Tirgusor 115.41 51 PFAKE 15 11 00.0 +16
TIRR LR LR
comp=Z,3μm,21.0s
KBS Kingsbay 115.97 12 PFAKE 15 11 00.0 +16
KBS LR LR
comp=Z,2μm,21.0s
KIS Kishinev 116.32 49 *e*PKIKP **PKPdf 15 10 47.0 +1.3**
KIS *e* 15 11 03.0
KIS *e* 15 11 52.0
KIS MLR MLR
comp=Z,2μm,21.0s
KIS MLR MLR
comp=N,2μm,20.0s
KIS MLR MLR
comp=E,3μm,20.0s
KIS MLR MLR
comp=Z,2μm,21.0s
KIS Kishinev 116.32 49 *e*PKP **PKPdf 15 10 47.0 +1.3**
KIS Kishinev 116.32 49 *e*PP PP 15 12 05.0 +12
KIS *e*SKKS 15 18 44.0
KIS Kishinev 116.32 49 *e*PS PS 15 21 46.0 +11
KIS Kishinev 116.32 49 *e*PPS PPS 15 23 06.0
KIS *e*SS SS 15 27 40.0 -14
KIS *e*L L 15 49 00.0
KIS LRM MLR 16 02 46.0
comp=Z,2μm,20.0s
CSS Prodhromos 116.46 63 *e*PKPdf **PKPdf 15 10 46.4 -0.1**
SPITS Spitsbergen Ar 116.69 13 PKIKP **PKPdf 15 10 44.9 -0.7**
SPITS pmax pmax
comp=Z,10.0nm,1.0s
SPITS Spitsbergen Ar 116.69 13 PKP **PKPdf 15 10 44.9 -0.7**
comp=Z,9.5nm,1.0s,baz=116,slow=3.4,SNR=3.9
NACGM Naroch 116.76 40 *e*PKP PKPdf 15 11 04.0 +18
MNK Minsk 117.29 40 *e*PKIKP **PKPdf 15 10 46.0 -1.3**
MNK MLR MLR
comp=Z,6μm,20.0s
MICGM Minsk 117.31 40 *e*P **PKPdf 15 10 46.0 -1.4**
AK11 Malin Array Si 117.35 45 *e*PKPdf **PKPdf 15 10 47.8 +0.2**
AK11 *e*pPKPdf **pPKPdf 15 11 01.1 +0.5**
BR231 Keskin MP Arra 117.36 57 *e*PKPdf **PKPdf 15 10 48.1 0.0**
BR231 *e*PKKPbc **PKKPab 15 21 14.8 +1.0**
KIEV Kiev 117.38 45⇓ *i*PKIKP **PKPdf 15 10 47.6 0.0**
KIEV Kiev 117.38 45 *e*PKPdf **PKPdf 15 10 46.1 -1.6**
KIEV *e*pPKPdf **pPKPdf 15 11 01.1 +0.4**
KIEV LR LR
comp=Z,4μm,21.0s
VSU Vasula 117.38 36⇓ *i*PKIKP **PKPdf 15 10 47.3 -0.1**
ANTO Ankara 117.38 57 PFAKE 15 11 00.0 +12
ANTO LR LR
comp=Z,2μm,20.0s
AKASG Malin Array Be 117.39 45 PKIKP **PKPdf 15 10 46.0 -1.7**
AKASG Malin Array Be 117.39 45 PKP **PKPdf 15 10 46.0 -1.7**
comp=Z,2.0nm,0.6s,baz=261,slow=3.4,SNR=17
AKASG PKKPbc **PKKPbc 15 21 10.6 -1.3**
comp=Z,1.7nm,0.6s,baz=62,slow=3.5,SNR=8.1
FINES FINESS Array B 117.52 33 PKIKP **PKPdf 15 10 47.2 -0.4**
FINES FINESS Array B 117.52 33 PKP **PKPdf 15 10 47.1 -0.4**
comp=Z,1.5nm,0.7s,baz=147,slow=3.9,SNR=4.7
FINES PKKPbc **PKKPbc 15 21 10.4 -1.3**
comp=Z,2.8nm,1.0s,baz=90,slow=4.2,SNR=5.9
MMAI Mount Meron Ar 117.54 65 PKP **PKPdf 15 10 47.8 -0.9**
comp=Z,11nm,1.1s,baz=69,slow=2.8,SNR=7.2
KAF Kangasniemi 117.72 32 *e*PKIKP **PKPdf 15 10 46.5 -1.5**
KAF Kangasniemi 117.72 32 *e*pkp **PKPdf 15 10 46.5 -1.5**
BRTR Keskin Array B 117.98 58*c* *i*PKIKP **PKPdf 15 10 49.9 +0.5**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 117.98 58 PKP **PKPdf 15 10 48.5 -0.9**
comp=Z,2.4nm,0.8s,baz=197,slow=2.6,SNR=11
BRTR PKKPbc **PKKPab 15 21 10.6 -0.5**
comp=Z,1.7nm,0.9s,baz=98,slow=2.9,SNR=5.2
TNA Tin City 118.06 332 *e*PKPdf **PKPdf 15 10 47.4 -1.1**
TNA LR LR
comp=Z,2μm,19.9s
ARCES ARCESS Array B 118.22 23 PKIKP **PKPdf 15 10 48.1 -0.6**
ARCES ARCESS Array B 118.22 23 PKP **PKPdf 15 10 48.1 -0.6**
comp=Z,2.1nm,0.8s,baz=321,slow=1.2,SNR=4.5
ARCES PKKPbc **PKKPab 15 21 08.0 -0.5**
comp=Z,3.5nm,0.6s,baz=75,slow=3.8,SNR=16
HNR Honiara 118.31 240 PFAKE 15 11 00.0 +9.4
HNR LR LR
comp=Z,4μm,22.0s
ASF Jabal al Asfar 118.50 67 PKIKP **PKPdf 15 10 50.7 +0.2**
ASF Jabal al Asfar 118.50 67 PKP **PKPdf 15 10 50.7 +0.2**
comp=Z,2.6nm,0.7s,baz=146,slow=0.6,SNR=10
FORT Forrest 118.75 199 PFAKE 15 11 00.0 +8.9
FORT LR LR
comp=Z,3μm,20.0s
KEV Kevo 118.75 23 PFAKE 15 11 00.0 +10
KEV LR LR
comp=Z,2μm,22.0s
MSEY Mahe Island 119.00 113 PFAKE 15 11 00.0 +8.0
MSEY LR LR
comp=Z,4μm,20.0s
SIM Simferopol' 119.48 52 *e*PKIKP **PKPdf 15 10 53.1 +1.2**
SIM *e* 15 12 13.0
SIM *e* 15 17 48.0
SIM *e*PS **PS 15 21 57.0 -6.6**
SIM pmax pmax
comp=Z,16nm,1.1s
GAMB Gambell 119.52 330 PFAKE 15 11 00.0 +8.7
GAMB LR LR
comp=Z,2μm,21.3s
JOF Joensuu 120.11 31 *e*PKIKP **PKPdf 15 10 50.9 -1.6**
JOF Joensuu 120.11 31 *e*pkp **PKPdf 15 10 50.9 -1.6**
CTAO Charters Tower 120.14 221 PFAKE 15 11 10.0 +16
CTAO LR LR
comp=Z,3μm,22.0s
APA Apatity 121.06 26⇓ *i*PKIKP **PKPdf 15 10 55.4 +1.2**
APA *i* 15 17 52.0
APA *i* PS **PS 15 22 14.0 -2.8**
APA *i* PPS PPS 15 23 40.0
MALT Malatya 121.27 60⇓ *i*P **PKPdf 15 10 55.8 +0.1**
ANN Anapa 121.78 53 *i* PKIKP **PKPdf 15 11 00.7 +4.4**
ANN *e* 15 11 10.3
ANN *e* 15 18 02.5
ANN pmax pmax
comp=Z,96nm,1.6s
OBN Obninsk 122.38 40⇓ *i*PKIKP **PKPdf 15 10 57.6 +0.5**
OBN *i* 15 11 12.0
OBN *e* 15 12 38.6
OBN *e*SSS SSS 15 33 49.7
OBN pmax pmax
comp=Z,120nm,1.7s
OBN MLR MLR
comp=Z,2μm,17.0s
OBN Obninsk 122.38 40 PKP **PKPdf 15 10 56.4 -0.7**
comp=Z,17nm,0.4s,baz=158,slow=0.9,SNR=16
OBN Obninsk 122.38 40 PKP **PKPdf 15 10 56.4 -0.7**
OBN LR LR
comp=Z,3μm,19.0s
MOS Moscow 123.01 40 *e*PKIKP **PKPdf 15 10 56.7 -1.6**
MOS pmax pmax
comp=Z,300nm,2.0s
MOS pmax pmax
comp=Z,98nm,1.4s
TMCR Tamitsa 123.12 30 *e*PKIKP **PKPdf 15 10 58.9 +0.7**
TMCR *e* 15 12 41.4
TMCR pmax pmax
comp=Z,50nm,1.4s
RAYN Ar Rayn 123.13 79 PFAKE 15 11 10.0 +10
RAYN LR LR
comp=Z,4μm,20.0s
SOC Sochi 123.21 54 *e*P **Pdif 15 07 27.1 -3.7**
SOC *e* 15 10 58.4
SOC *e*PPP PPP 15 15 17.9
SOC *e*PS **PS 15 22 31.2 -5.6**
SOC pmax pmax
comp=Z,38nm,1.0s
AS01 Alice Springs 123.26 207 *e*PKPdf **PKPdf 15 10 57.0 -3.0**
ASAR Alice Springs 123.28 207 PKIKP **PKPdf 15 10 58.6 -1.4**
ASAR Alice Springs 123.28 207 PKP **PKPdf 15 10 58.6 -1.4**
comp=Z,15nm,0.7s,baz=144,slow=2.1,SNR=60
ASAR PP **PP 15 12 37.1 -2.3**
comp=Z,9.1nm,1.0s,baz=151,slow=5.7,SNR=6.9
ASAR PKKPbc **PKKPbc 15 20 49.7 0.0**
comp=Z,3.0nm,0.8s,baz=335,slow=3.3,SNR=12
ASAR SKKPbc SKKPbc 15 24 40.0 +6.3
comp=Z,2.0nm,0.9s,baz=338,slow=3.8,SNR=3.1
VSR Storozhevoye 123.69 45 *e*PKIKP **PKPdf 15 10 59.1 -0.7**
VSR pmax pmax
comp=N,9.0nm,1.3s
VSR pmax pmax
comp=E,6.0nm,1.3s
VSR pmax pmax
comp=Z,30nm,1.3s
VSR MLR MLR
comp=N,2μm,23.0s
VSR MLR MLR
comp=E,2μm,23.0s
VSR MLR MLR
comp=Z,4μm,23.0s
VORD Divnogorie 123.75 46 *e*PKIKP **PKPdf 15 10 59.2 -0.7**
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,30nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD MLR MLR
comp=N,1μm,22.0s
VORD MLR MLR
comp=E,2μm,22.0s
VORD MLR MLR
comp=Z,2μm,22.0s
KLMR Klimovskoe 123.99 34 *e*PKIKP **PKPdf 15 10 58.9 -1.1**
KLMR pmax pmax
comp=Z,121nm,1.5s
KLMR MLR MLR
comp=Z,4μm,19.0s
VRHR Novokhopersk 125.22 45 *e*PKIKP **PKPdf 15 11 02.2 -0.5**
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR pmax pmax
comp=N,7.0nm,0.9s
VRHR pmax pmax
comp=E,7.0nm,0.8s
VRHR MLR MLR
comp=N,890nm,24.0s
VRHR MLR MLR
comp=E,2μm,24.0s
VRHR MLR MLR
comp=Z,4μm,24.0s
KIV Kislovodsk 125.39 54⇓ *i*PKIKP **PKPdf 15 11 04.2 +0.8**
KIV *i* SS SS 15 29 48.2 -2.3
KIV pmax pmax
comp=Z,62nm,1.7s
KIV MLR MLR
comp=Z,3μm,22.0s
KIV Kislovodsk 125.39 54 P **PKPdf 15 11 04.7 +1.2**
SNR=9.4
KIV Kislovodsk 125.39 54 *e*PKPdf **PKPdf 15 11 04.2 +0.8**
KIV LR LR
comp=Z,3μm,22.0s
KBZ Khabaz 125.52 55 PKIKP **PKPdf 15 11 03.7 +0.2**
KBZ Khabaz 125.52 55 PKP **PKPdf 15 11 03.7 +0.2**
comp=Z,14nm,1.1s,baz=266,slow=5.4,SNR=16
ZEI Tsey 126.14 56 *i* PKIKP **PKPdf 15 11 04.8 -0.2**
ZEI pmax pmax
comp=Z,43nm,2.1s
WRA Warramunga Arr 126.39 210 PKIKP **PKPdf 15 11 05.0 -1.1**
WRA Warramunga Arr 126.39 210 PKhKP PKPpre 15 10 49.8
comp=Z,0.5nm,0.7s,baz=128,slow=0.8,SNR=8.6
WRA PKP **PKPdf 15 11 05.0 -1.1**
comp=Z,31nm,0.6s,baz=158,slow=1.7,SNR=113
WRA PKKPbc PKKPab 15 20 48.9 +10
comp=Z,0.6nm,0.7s,baz=338,slow=4.2,SNR=4.5
WRA SKKPbc SKKPbc 15 24 27.3 +4.1
comp=Z,3.4nm,1.1s,baz=345,slow=5.6,SNR=5.0
WRAB Tennant Creek 126.39 210 *e*PKIKP **PKPdf 15 11 06.6 +0.5**
WRAB MLR MLR
comp=Z,3μm,20.0s
WRAB Tennant Creek 126.39 210 *e*PKPdf **PKPdf 15 11 06.5 +0.5**
WRAB LR LR
comp=Z,3μm,20.0s
GNI Garni 126.43 59 PFAKE 15 11 20.0 +14
GNI LR LR
comp=Z,2μm,22.0s
H11S2 WAKE ISLAND Hyl 126.63 273 T T 17 30 19.3
baz=112,slow=75,SNR=264
H11S1 WAKE ISLAND Hyl 126.64 273 T T 17 30 22.6
baz=112,slow=75,SNR=247
H11S3 WAKE ISLAND Hyl 126.65 273 T T 17 30 24.1
baz=112,slow=75,SNR=239
COEN Coen 126.76 223 *e*PKPdf **PKPdf 15 11 07.7 +0.9**
COEN LR LR
comp=Z,26μm,21.7s
PRGR Permogore 126.85 32 *e*PKIKP **PKPdf 15 11 03.4 -2.1**
PRGR pmax pmax
comp=Z,40nm,1.0s
H11N3 WAKE ISLAND Hyl 26.89 274 T T 17 30 39.7
baz=113,slow=75,SNR=124
H11N1 WAKE ISLAND Hyl 26.91 274 T T 17 30 38.2
baz=113,slow=75,SNR=55
H11N2 WAKE ISLAND Hyl 26.91 274 T T 17 30 42.3
baz=113,slow=75,SNR=148
WAKE Wake Island 126.97 274 PFAKE 15 11 20.0 +13

WAKE LR LR
comp=Z,5µm,20.0s
PMG Port Moresby 127.63 230⇑ *e*PKIKP **PKPdf 15 11 08.3 -0.2**
PMG pmax pmax
comp=Z,81nm,1.0s
PMG Port Moresby 127.63 230 *e*PKPdf **PKPdf 15 11 08.8 +0.3**
PMG LR LR
comp=Z,4µm,20.0s
BILL Biiibino 127.86 336⇓ *e*PKIKP **PKPdf 15 11 07.7 +0.4**
BILL *e* 15 13 10.9
BILL *e*SS SS 15 30 20.1 +0.7
BILL pmax pmax
comp=Z,96nm,1.9s
BILL MLR MLR
comp=Z,2µm,18.0s
BILL Biiibino 127.86 336 *e*PKPdf **PKPdf 15 11 07.5 +0.3**
BILL LR LR
comp=Z,2µm,20.0s
MAK Makhachkala 128.79 56 *i* PKIKP **PKPdf 15 11 09.1 -0.7**
MAK *e* 15 13 14.1
MAK *e*PPP PPP 15 15 59.2
MAK *e* 15 18 15.2
MAK *e*SS SS 15 30 33.6 +1.0
MAK *e*SSS SSS 15 35 24.1
MAK MLR MLR
comp=Z,2µm,25.0s
MBWA Marble Bar 130.00 193 P **PKPdf 15 11 13.8 +0.9**
SNR=7.1
MBWA Marble Bar 130.00 193 *e*PKPdf **PKPdf 15 11 12.7 -0.2**
MBWA LR LR
comp=Z,3µm,20.0s
FITZ Fitzroy Crossi 131.39 201 *e*PKPdf **PKPdf 15 11 15.9 +0.4**
FITZ LR LR
comp=Z,3µm,20.6s
ASUD Al Ashush, Dub 132.02 81 P **PKPdf 15 11 18.4 +1.9**
SNR=9.9
ASUD Al Ashush, Dub 132.02 81⇑ *i*PKiKP **PKPdf 15 11 16.6 +0.2**
SNR=9.5
FAQ Al Faqa, Dubai 132.28 81⇑ *i*PKPdf **PKPdf 15 11 16.3 -0.7**
SNR=12
NAZ Nazwa, Dubai 132.41 81 P **PKPdf 15 11 19.0 +1.7**
SNR=12
NAZ Nazwa, Dubai 132.41 81⇓ *i*PKPdf **PKPdf 15 11 16.6 -0.7**
SNR=11
SOKR Solikamsk 132.67 33 *c* *i*PKIKP **PKPdf 15 11 17.0 +0.4**
SOKR 15 13 45.6
SOKR SS SS 15 31 55.0 +36
SOKR pmax pmax
comp=Z,70nm,1.7s
ASHO Ashiyiah 132.67 81 P **PKPdf 15 11 17.2 -0.6**
SNR=13
ASHO Ashiyiah 132.67 81⇑ *i*PKPdf **PKPdf 15 11 16.7 -1.1**
SNR=10
ARQ Araqi 132.69 83 P **PKPdf 15 11 18.8 +0.9**
SNR=9.8
HATD Hatta, Dubai 132.78 81 P **PKPdf 15 11 18.9 +1.0**
SNR=11
HATD Hatta, Dubai 132.78 81⇓ *i*PKPdf **PKPdf 15 11 17.0 -1.0**
SNR=9.8
BSY Bisya 133.11 84 P **PKPdf 15 11 20.2 +1.5**
SNR=9.9
BANOM Banah 133.22 80⇓ *i*PKPdf **PKPdf 15 11 18.0 -0.8**
SNR=6.2
JMDO Jabal Madar 133.79 85 P **PKPdf 15 11 20.5 +0.6**
SNR=5.7
SMDO Samad 133.95 84 P **PKPdf 15 11 21.5 +1.2**
SNR=16
ARU Arti 134.52 37 *i* PKIKP **PKPdf 15 11 20.4 +0.2**
ARU 15 13 51.5
ARU PPP PPP 15 16 44.7
ARU 15 18 28.4
ARU PS PS 15 24 01.9 -13
ARU SS SS 15 31 35.9 -5.6
ARU MLR MLR
comp=Z,5µm,22.0s
ARU Arti 134.52 37 *e*PKPdf **PKPdf 15 11 20.6 +0.4**
ARU LR LR
comp=Z,5µm,22.0s
WBK Wadi Bani Khal 134.63 85 P **PKPdf 15 11 22.0 +0.5**
SNR=6.5
TIXI Tiksi 135.01 351⇓ *i*PKIKP **PKPdf 15 11 21.0 +0.3**
TIXI pmax pmax
comp=Z,85nm,2.5s
TIXI Tiksi 135.01 351 *e*PKPdf **PKPdf 15 11 20.8 +0.1**
TIXI LR LR
comp=Z,2µm,22.0s
SEY Seymchan 135.26 334 PKIKP **PKPdf 15 11 22.1 +0.7**
SEY Seymchan 135.26 334 PKP **PKPdf 15 11 22.1 +0.7**
comp=Z,20nm,0.7s,baz=106,slow=3.1
SVE Sverdlovsk 135.49 36 *i* PKIKP **PKPdf 15 11 22.0 0.0**
SVE pmax pmax
comp=Z,79nm,2.0s
SVE MLR MLR
comp=E,3µm,23.0s
AKTO Aktyubinsk 135.63 45 PKIKP **PKPdf 15 11 21.8 -0.7**
AKTO pmax pmax
comp=Z,17nm,0.9s
PET Petropavlovsk 135.99 319 *e*P Pdif 15 08 39.0 +12
PET *e*SPP SPP 15 26 04.4
PET pmax pmax
comp=Z,100nm,16.8s
PET MLR MLR
comp=Z,2µm,20.0s
PET Petropavlovsk 135.99 319 PFAKE 15 11 30.0 +7.0
PET LR LR
comp=Z,2µm,21.8s
PETK Petropavlovsk- 136.52 319 PKIKP **PKPdf 15 11 24.8 +0.8**
PETK Petropavlovsk- 136.52 319 PKhKP PKPpre 15 11 12.7
comp=Z,4.8nm,0.9s,baz=138,slow=2.4,SNR=5.4
PETK PKP **PKPdf 15 11 24.8 +0.8**
comp=Z,24nm,0.8s,baz=120,slow=5.8,SNR=16
GEYT Alibeck 136.59 63 PKhKP PKPpre 15 11 13.8
comp=Z,0.5nm,0.4s,baz=247,slow=3.0,SNR=2.7
GEYT PKP **PKPdf 15 11 24.5 -0.2**
comp=Z,9.1nm,0.9s,baz=260,slow=4.4,SNR=17
AB31 Akbulak array 137.08 47 *i* PKHKP PKPpre 15 11 17.1
AB31 pmax pmax
comp=Z,19nm,0.8s
ABKAR Akbulak array 137.08 47 *e*PKPdf **PKPdf 15 11 25.2 0.0**
SAUI Saumlaki 138.23 214 PFAKE 15 11 40.0 +12
SAUI LR LR
comp=Z,4µm,19.8s
BATI Baumata 139.43 202 PKhKP PKPpre 15 11 22.9
baz=219,slow=6.1
BATI PKP **PKPdf 15 11 30.2 -0.4**
comp=Z,35nm,0.7s,baz=193,slow=4.0
SOEI Soe 139.64 203 *e*PKPdf **PKPdf 15 11 32.1 +1.0**
SOEI LR LR
comp=Z,6µm,22.0s
MMRI Maumere 141.37 201 P **PKPdf 15 11 37.1 +2.9**
comp=Z,141nm,1.5s,comp=Z,3µm
MMRI Maumere 141.37 201 *e*PKPdf **PKPdf 15 11 34.0 -0.1**
FAKI Fak Fak 141.98 220 PFAKE 15 11 50.0 +15
FAKI LR LR
comp=Z,2µm,21.5s
RKPI Ransiki, Papua 141.99 223 P **PKPdf 15 11 40.0 +4.7**
comp=Z,113nm,1.7s,comp=Z,10µm
BVA0 Borovoye Array 142.14 38 *i* PKHKP PKPpre 15 11 29.2
BVA0 pmax pmax
comp=Z,24nm,1.0s
IGBI Denpasar 142.87 190 P **PKPdf 15 11 38.8 +2.0**
comp=Z,282nm,1.6s,comp=Z,4µm
JAGI Jajag, Banyuwa 143.36 188 P PKPbc 15 11 36.2 +1.4
comp=Z,79nm,0.8s,comp=Z,3µm
JAGI Jajag, Banyuwa 143.36 188 *e*PKPdf **PKPdf 15 11 38.3 +0.6**
YAK Yakutsk 143.39 344 *c* *i*PKHKP PKPpre 15 11 32.0
YAK *i* 15 11 36.5
YAK *e* 15 11 41.6
YAK pmax pmax
comp=Z,104nm,1.1s
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=E,17nm,1.1s
YAK Yakutsk 143.39 344 *e*PKPdf **PKPdf 15 11 36.9 +0.7**
SRBI Singaraja 143.58 190 P PKPbc 15 11 35.8 +0.4
comp=E,129nm,2.2s,comp=E,4µm
GUMO Guam 143.75 254 *e*PKIKP PKPbc 15 11 36.0 +0.1
GUMO Guam 143.75 254 *e*PKPdf PKPbc 15 11 36.0 +0.1
PCJI Pacitan 143.90 184 P PKPbc 15 11 36.4 +0.1
comp=E,390nm,1.3s,comp=E,6µm
TRD Trivandrum 144.00 116 *e*P PKPbc 15 11 37.2 +0.5
ABJI Asem Bagus 144.01 189 P **PKPdf 15 11 38.4 -0.4**
comp=E,273nm,1.5s,comp=E,6µm
BLJI Banyuglugur 144.14 188 P **PKPab 15 11 36.4 -0.2**
comp=E,370nm,1.9s,comp=E,6µm

UGM Wanagama 144.21 182 P PKPbc 15 11 37.2 -0.2
comp=E,558nm,1.7s,comp=E,9µm
UGM Wanagama 144.21 182 *e*PKPdf PKPbc 15 11 37.5 +0.1
BHJ Bhuj 144.24 89 *e*P PKPbc 15 11 37.1 -0.1
WOJI Wonogiri, Jawa 144.27 183 P **PKPab 15 11 36.4 -0.7**
comp=E,473nm,1.4s,comp=E,9µm
CISI Cisompet, Garu 144.57 178 P **PKPab 15 11 38.2 -0.1**
CISI Cisompet, Garu 144.57 178 *e*PKPdf PKPbc 15 11 39.1 +0.5
SMRI Semarang 145.07 182 P **PKPbc 15 11 40.0 -0.1**
comp=E,948nm,1.1s,comp=E,17µm
SMRI Semarang 145.07 182 *e*PKPdf **PKPab 15 11 40.1 0.0**
GOA Goa 145.08 104 *e*P **PKPab 15 11 40.1 +0.1**
GOA AMS AMS 16 24 40.4
comp=Z,1µm,7.9s
GRJI Gresik 145.08 186 P **PKPbc 15 11 39.9 -0.2**
comp=Z,446nm,1.0s,comp=Z,5µm
OTUK Ortayu 145.22 45 PKIKP **PKPab 15 11 39.8 0.0**
TBJI Tambak Boyo 145.22 185 P **PKPdf 15 11 41.5 +0.6**
comp=Z,847nm,1.3s,comp=Z,14µm
LEM Lembang 145.29 177 P **PKPdf 15 11 41.3 0.0**
comp=Z,1µm,1.1s,comp=Z,21µm
KBL Kabul 145.35 69 *e*PKP2 **PKPbc 15 11 39.7 -1.0**
KBL Kabul 145.35 69 *e*PKPdf **PKPbc 15 11 39.7 -1.0**
KAPI Kappang 145.55 199 P **PKPab 15 11 41.9 0.0**
SNR=181
KAPI Kappang 145.55 199 *e*PKPdf **PKPdf 15 11 41.5 0.0**
KK31 Karatay Array 145.55 54 *i* PKIKP **PKPdf 15 11 40.1 -0.5**
KK31 pmax pmax
comp=Z,75nm,0.7s
KKAR Karatay Array 145.55 54 *e*PKIKP **PKPdf 15 11 40.5 -0.1**
KKAR Karatay Array 145.55 54 *e*PKPdf **PKPdf 15 11 40.5 -0.1**
PALK Pallekele 146.12 122 *e*PKIKP **PKPdf 15 11 42.7 +0.2**
PALK Pallekele 146.12 122 P **PKPab 15 11 43.8 -0.3**
SNR=36
PALK Pallekele 146.12 122 PKPbc **PKPbc 15 11 43.4 0.0**
comp=Z,92nm,1.0s,baz=211,slow=3.8,SNR=41
PALK Pallekele 146.12 122 *e*PKPdf **PKPdf 15 11 42.7 +0.2**
KASI Kota Agung 146.32 172 P **PKPbc 15 11 44.3 +0.3**
comp=Z,643nm,1.3s,comp=Z,9µm
POO Poona 146.37 99 *e*P **PKPbc 15 11 44.0 -0.1**
POO AMS AMS 16 14 29.7
comp=Z,3µm,17.4s
YUK Yuzh-Kuril'sk 146.59 308 *d* *i*PKHKP PKPpre 15 11 29.3
YUK *i* 15 15 03.8
YUK *i* 15 27 53.6
YUK *i* SS SS 15 34 06.3 +3.1
NVS Novosibirsk 147.32 28⇑ *i*PKIKP **PKPdf 15 11 42.2 -1.0**
NVS *e* 15 11 57.1
NVS pmax pmax
comp=Z,444nm,1.7s
NVS pmax pmax
comp=N,31nm,1.2s
NVS pmax pmax
comp=E,166nm,2.1s
YSS Yuzh-Sakhalins 147.65 315⇑ *i*PKIKP **PKPdf 15 11 44.0 0.0**
YSS pmax pmax
comp=Z,3µm,8.0s
YSS pmax pmax
comp=Z,1µm,2.0s
YSS Yuzh-Sakhalins 147.65 315 *e*PKPbc **PKPbc 15 11 46.5 -0.2**
TNTI Ternate 147.71 216 *e*PKPdf **PKPdf 15 11 45.6 +0.4**
KURK Kurchatov 147.72 37 *e*PKIKP **PKPdf 15 11 44.1 +0.1**
KURK 15 11 45.7
KURK Kurchatov 147.72 37 P **PKPdf 15 11 44.7 +0.7**
SNR=83
KURK Kurchatov 147.72 37 *e*PKPdf **PKPdf 15 11 44.1 +0.1**
KURK PKPbc **PKPbc 15 11 45.7 -1.1**
KURBB Kurchatov Arra 147.72 37 PKPbc **PKPbc 15 11 45.7 -1.1**
comp=Z,38nm,0.7s,baz=306,slow=3.3,SNR=3.5
EKS2 Erkin-Say 147.99 54 P **PKPdf 15 11 45.9 +1.0**
SNR=53
EKS2 Erkin-Say 147.99 54 *e*PKIKP **PKPdf 15 11 45.6 +0.7**
EKS2 *e* 15 11 50.5
EKS2 Erkin-Say 147.99 54 *e*PKPdf **PKPdf 15 11 45.6 +0.7**
EKS2 *e*PKPab **PKPab 15 11 50.5 -0.3**
AML Almayashu 148.06 55 P **PKPdf 15 11 46.1 +0.7**
SNR=45
LUWI Luwuk 148.22 207 *e*PKPdf **PKPdf 15 11 47.4 +1.4**
LUWI *e*PKPbc **PKiKP 15 11 50.5 -0.5**
USP Ospenovka 148.32 52 P **PKPdf 15 11 45.9 +0.6**
SNR=51
AAK Ala-Archa 148.50 53 P **PKPdf 15 11 46.6 +0.8**
SNR=46
AAK Ala-Archa 148.50 53 PKIKP **PKPdf 15 11 46.2 +0.4**
AAK pmax pmax
comp=Z,101nm,0.8s
AAK Ala-Archa 148.50 53 P **PKPdf 15 11 46.9 +1.1**
SNR=163
AAK Ala-Archa 148.50 53 *e*PKPdf **PKPdf 15 11 46.4 +0.6**
AAK *e*PKPab **PKPab 15 11 52.6 -0.3**
FRU Bishkek 148.53 53⇑ *i*PKIKP **PKPdf 15 11 46.0 +0.3**
FRU *i* 15 12 02.0
FRU pmax pmax
comp=Z,1µm,2.0s
CHMS Chumysh 148.58 53 P **PKPbc 15 11 47.7 -1.7**
SNR=33
ZALV Zalesovo Beam 148.61 28 PKP2 **PKPbc 15 11 48.8 -0.3**
ZALV Zalesovo Beam 148.61 28 PKPbc **PKPbc 15 11 48.8 -0.3**
comp=Z,46nm,0.6s,baz=287,slow=2.5,SNR=86
UCH Uchtor 148.63 54 P **PKPdf 15 11 47.3 +0.9**
SNR=76
LATR Latur 148.69 101 *ex* **PKPbc 15 11 52.0 +1.7**
ASAJ Asahikawa 148.80 310 PKPbc **PKPbc 15 11 49.1 -0.7**
comp=Z,55nm,0.9s,baz=262,slow=5.2,SNR=17
ASAJ Asahikawa 148.80 310 *e*PKPdf **PKPdf 15 11 46.1 +0.1**
ASAJ PKPbc **PKPbc 15 11 49.1 -0.7**
KBK Karagaybulak 148.82 53 P **PKPdf 15 11 47.0 +0.7**
SNR=25
PMBI Palembang 148.91 172 *e*PKPbc **PKPbc 15 11 50.8 -0.3**
PMBI *ep*PKPab **pPKPab 15 12 07.9 +0.1**
ERM Erimo 149.05 306 *c* *i*PKP2 **PKPab 15 11 53.5 -1.4**
ERM pmax pmax
comp=Z,274nm,2.5s
CLNS Chul'man 149.12 343 *e*PKIKP **PKPdf 15 11 45.6 -0.6**
CLNS pmax pmax
comp=Z,101nm,1.0s
CLNS pmax pmax
comp=E,21nm,1.3s
CLNS pmax pmax
comp=N,33nm,1.0s
KZA Kyzart 149.19 54 P **PKPdf 15 11 47.1 -0.2**
SNR=14
TKM2 Tokmak 2 149.19 52 P **PKPdf 15 11 47.2 +0.3**
SNR=40
TKM2 Tokmak 2 149.19 52 PKIKP **PKPdf 15 11 48.5 +1.5**
TKM2 Tokmak 2 149.19 52 *e*PKPdf **PKPdf 15 11 47.0 0.0**
TKM2 *e*PKPbc **PKPbc 15 11 51.4 +0.2**
MDRS Chennai 149.26 113 *e*P **PKPdf 15 11 49.1 +1.5**
MDRS AMS AMS 16 21 33.6
comp=Z,2µm,17.4s
ULHL Ulahol 149.85 53 P **PKPdf 15 11 48.8 +0.8**
SNR=23
AKL Akola 149.95 97 *e*P **PKPdf 15 11 47.4 -1.1**
HYB Hyderabad 149.99 104 *i* PKP **PKPdf 15 11 49.0 +0.3**
comp=Z,240nm,1.0s
HYB *e* 15 11 52.5
HYB *e*PP **PP 15 15 28.0 -0.3**
HYB *e*SKKS 15 22 12.0
HYB Hyderabad 149.99 104 *e*P **PKPdf 15 11 47.4 -1.3**
HYB AMS AMS 16 15 27.3
comp=Z,2µm,19.3s
AAA Alma-Ata 150.02 51 *e*PKIKP **PKPdf 15 11 47.2 -0.8**
AAA pmax pmax
comp=Z,3µm,4.5s
AAA MLR MLR
comp=Z,3µm,25.0s
BOD Bodaibo 150.06 355 *e*PKIKP **PKPdf 15 11 46.4 -1.1**
BOD pmax pmax
comp=Z,196nm,0.1s
KSH Kashi 150.36 59⇑ *i*PKPbc **PKPdf 15 11 48.8 0.0**
KSH sPKP 15 12 01.5
KSH PKS **PKSdf 15 15 22.5 -1.2**
KSH PP **PP 15 15 27.5 -2.6**
KSH SKS **SKSdf 15 18 53.5 0.0**
KSH SKKS **SKKSac 15 22 15.5 -2.2**
KSH SS **SS 15 34 43.5 -2.8**
KSH PPMZ
comp=Z,560nm,7.2s
KSH LN
comp=Z,2µm,21.9s
KSH LE
comp=Z,1µm,17.8s
KSH LZ
comp=Z,3µm,22.2s
KHET Khetri 150.68 82 *e*P **PKPdf 15 11 48.9 -0.6**

CBIJ Chichi jima 150.69 276 PKPbc **PKPbc 15 11 54.0 -1.1**
CBIJ PKPab **PKPab 15 12 02.1 0.0**
JCJ Chichijima 150.69 276 PKPbc **PKPbc 15 11 54.0 -1.1**
comp=Z,111nm,0.6s,baz=270,slow=1.2,SNR=6.4
JCJ PKPab **PKPab 15 12 02.1 0.0**
comp=Z,133nm,0.9s,baz=144,slow=3.0,SNR=2.8
TOLI Toli-Toli 150.96 205 *e*PKPbc **PKPbc 15 11 56.1 0.0**
BHPL Bhopal 151.10 92 *e*P **PKPdf 15 11 49.3 -1.0**
DLH Dalhousie 151.12 73 *e*P **PKPdf 15 11 49.0 -1.3**
GSI Gunungsitoli 151.20 156 *e*PKPdf **PKPdf 15 11 51.6 +0.9**
GSI *e*PKPbc **PKiKP 15 11 57.2 0.0**
KUDL Kundal 151.29 82 *e*P **PKPdf 15 11 51.0 +0.6**
BKNI Bangkinang 151.37 163 *e*PKPbc **PKPbc 15 11 56.4 -0.6**
DHRM DHARAMSHALA 151.41 73 *e*P **PKPdf 15 11 50.4 -0.4**
HABR Khabarovsk 151.41 323 *ce*PKIKP **PKPdf 15 11 50.2 +0.3**
HABR *e* 15 12 01.3
HABR *e* 15 12 05.3
HABR *e* 15 15 36.5
HABR *e* 15 18 55.2
HABR *e*PPP PPP 15 19 00.7
HABR *e*SS SS 15 34 59.0 +2.7
HABR *e*SSS SSS 15 40 44.7
HABR pmax pmax
comp=N,56nm,2.7s
HABR pmax pmax
comp=E,64nm,2.7s
HABR pmax pmax
comp=Z,62nm,2.7s
BHK Bhakra 151.49 75 *ex* **PKPab 15 12 07.3 +1.9**
PDGK Podgornoye 151.72 50 PKIKP **PKPdf 15 11 52.9 +2.4**
BHGR Bahadurgarh 151.75 81 *e*P **PKPdf 15 11 51.8 +0.7**
SONA Sohna 151.82 82 *e*P **PKPdf 15 11 51.2 +0.1**
MK31 Makanchi Array 151.88 41 *i* PKIKP **PKPdf 15 11 50.0 -0.8**
MK31 pmax pmax
comp=Z,81nm,0.7s
MKAR Makanchi Array 151.88 41 *e*PKIKP **PKPdf 15 11 50.5 -0.3**
MKAR 15 11 57.2
MKAR 15 12 08.0
MKAR Makanchi Array 151.88 41 PKP **PKPdf 15 11 50.4 -0.3**
comp=Z,3.1nm,0.8s,baz=300,slow=2.4,SNR=24
MKAR PKPbc **PKPbc 15 11 57.1 -0.1**
comp=Z,56nm,0.9s,baz=306,slow=2.2,SNR=102
MKAR PKPab **PKPab 15 12 08.0 +1.5**
comp=Z,88nm,0.8s,baz=294,slow=2.2,SNR=20
NGP Nagpur 151.88 97 *e*P **PKPdf 15 11 51.4 -0.1**
NGP *ex* x 15 12 29.2
NGP AMS AMS 16 10 00.8
comp=Z,4µm,29.8s
AYAN Aya Nagar 151.89 81 *e*P **PKPdf 15 11 51.6 +0.3**
MK01 Makanchi Array 151.90 41 *e*PKPdf **PKPdf 15 11 49.7 -1.1**
SDNR Sundarnagar 151.97 75 *ex* **PKPbc 15 12 00.0 +2.1**
NDI New Delhi 151.99 81 *e*P **PKPdf 15 11 52.0 +0.5**
SMLA Simla 152.12 76 *i* P **PKPdf 15 11 51.0 -0.6**
AGRA Agra 152.43 84 *e*P **PKPdf 15 11 52.0 -0.1**
AGRA AMB AMB 15 11 54.6
comp=Z,36nm,0.7s
KLR Kul'dur 152.62 327 *e*PKIKP **PKPdf 15 11 47.0 -4.7**
KLR *e* 15 15 42.0
KLR pmax pmax
comp=Z,200nm,1.8s
KLR pmax pmax
comp=Z,2µm,7.0s
PSI Prapat 153.07 157 PKIKP **PKPdf 15 11 54.0 +0.3**
PSI 15 12 00.9
PSI 15 12 11.9
PSI Prapat 153.07 157 PKP **PKPdf 15 11 54.0 +0.3**
comp=Z,12nm,0.8s,baz=206,slow=5.2,SNR=22
PSI PKPbc **PKPbc 15 12 00.9 -0.1**
comp=Z,48nm,1.0s,baz=228,slow=8.2,SNR=24
PSI PKPab **PKPab 15 12 11.9 -0.5**
comp=Z,45nm,0.8s,baz=165,slow=5.5,SNR=12
MYKOM Kota Tinggi 153.40 168 *e*PKPdf **PKPdf 15 11 54.7 +0.7**
KGM Kluang 153.52 167 ⇑P **PKPdf 15 11 53.0 -1.1**
KSM Kuching 153.54 183 *e*PKPdf **PKPdf 15 11 54.8 +0.6**
KSM *e*PKPbc **PKPbc 15 12 01.6 -0.3**
MJAR Matsushiro Arr 154.05 296 PKIKP **PKPdf 15 11 54.6 +0.3**
MJAR 15 12 01.6
MJAR 15 12 16.1
MJAR Matsushiro Arr 154.05 296 PKP **PKPdf 15 11 54.6 +0.3**
comp=Z,20nm,1.1s,baz=185,slow=0.4,SNR=22
MJAR PKPbc **PKPbc 15 12 01.6 -0.7**
comp=Z,11nm,0.8s,baz=80,slow=1.5,SNR=8.8
MJAR PKPab **PKPab 15 12 16.1 +0.1**
comp=Z,86nm,1.2s,baz=106,slow=1.8,SNR=9.8
MAJO Matsushiro 154.05 296 *e*PKIKP **PKPdf 15 11 54.2 -0.1**
MAJO *e* 15 12 01.9
MAJO Matsushiro 154.05 296 *e*PKPdf **PKPdf 15 11 54.2 -0.1**
MAJO *e*PKPbc **PKPbc 15 12 01.9 -0.4**
MAT Matsushiro 154.05 296 PKP **PKPdf 15 11 54.5 +0.3**
VIS Vishakhapatnam 154.19 108 *e*P **PKPdf 15 11 54.3 -0.6**
VIS AMS AMS 16 09 23.4
comp=Z,3µm,25.7s
FRIM Kepong 154.31 163 ⇑P **PKPdf 15 11 56.1 +0.9**
SBUM Sibu 154.36 187 *e*PKPdf **PKPdf 15 11 56.6 +1.3**
CMBY CAMPBELL BAY 154.62 143 *e*P **PKPdf 15 11 56.7 +1.0**
CMBY AMS AMS 16 08 05.6
comp=Z,4µm,20.2s
CTBH Cotabato--PC H 154.79 218 ⇓*i*P **PKPdf 15 11 56.4 +0.5**
IPM Ipoh 155.32 160 ⇑P **PKPdf 15 11 57.8 +1.1**
IPM Ipoh 155.32 160 *e*PKPdf **PKPdf 15 11 56.1 -0.6**
IRK Irkutsk 155.58 7 *e*PKIKP **PKPdf 15 11 55.8 0.0**
IRK *e* 15 15 57.7
IRK pmax pmax
comp=Z,310nm,2.1s
USRK Ussuriysk Ar. 155.59 317 PKP **PKPdf 15 11 56.5 +0.5**
comp=Z,9.5nm,1.0s,baz=225,slow=0.5,SNR=16
USRK PKPbc PKPbc 15 12 05.5
comp=Z,15nm,0.9s,baz=306,slow=4.5,SNR=4.6
USRK PKPab **PKPab 15 12 21.9 -0.3**
comp=Z,17nm,0.8s,baz=104,slow=2.1,SNR=7.6
MOY Mondy 155.65 12 *e*PKIKP **PKPdf 15 11 56.9 +0.8**
MOY pmax pmax
comp=Z,391nm,2.7s
CIT Chita 155.83 353 *e*PKIKP **PKPdf 15 11 57.9 +1.7**
CIT *e* 15 15 58.6
CIT pmax pmax
comp=Z,227nm,2.2s
KULM Kulim 155.98 159 ⇓P **PKPdf 15 11 59.5 +2.0**
KULM Kulim 155.98 159 *e*PKPdf **PKPdf 15 11 58.0 +0.5**
KULM *e*PKPab **PKPab 15 12 24.9 +0.3**
TLY Talaya 156.06 8 *c* *i*PKIKP **PKPdf 15 11 56.1 -0.4**
TLY *e* 15 12 22.4
TLY *e* 15 15 58.8
TLY *e*SS SS 15 35 47.7 +1.9
TLY pmax pmax
comp=Z,113nm,1.6s
TLY Talaya 156.06 8 P **PKPdf 15 11 57.7 +1.2**
SNR=33
TLY Talaya 156.06 8 PKP **PKPdf 15 11 57.5 +1.0**
comp=Z,3.7nm,0.5s,baz=320,slow=1.8,SNR=11
TLY PKPab **PKPab 15 12 23.4 -0.5**
comp=Z,13nm,0.7s,baz=316,slow=2.6,SNR=7.9
TLY Talaya 156.06 8 *e*PKPdf **PKPdf 15 11 57.4 +1.0**
TLY *e*PKPab **PKPab 15 12 23.2 -0.7**
TLY PKPab PKPab 15 12 23.4 -0.5
KTGM Kuala Trenggan 156.69 165 ⇑P **PKPdf 15 12 00.1 +1.7**
WMQ Urumqi 156.71 42 PKP **PKPdf 15 11 57.0 -0.7**
WMQ pPKP **pPKPdf 15 12 08.5 -2.2**
WMQ PKPab **PKPab 15 12 29.0 +1.9**
WMQ PKS **PKSdf 15 15 29.8 -1.7**
WMQ PP **PP 15 16 08.0 +2.7**
WMQ SKS **SKSdf 15 18 58.0 -2.5**
WMQ SKKS **SKKSac 15 22 50.8 -0.7**
WMQ SS **SS 15 35 53.0 -1.5**
WMQ PPMZ
comp=Z,870nm,4.8s
WMQ LN
comp=Z,2µm,20.0s
WMQ LE
comp=Z,2µm,20.0s
WMQ LZ
comp=Z,3µm,26.0s
MDJ Mudanjiang 156.74 321 PKP **PKPdf 15 11 56.8 -0.8**
MDJ PP **PP 15 16 04.0 -1.3**
MDJ SS SS 15 35 57.0 +2.5
MDJ LN
comp=Z,1µm,26.2s
MDJ LE
comp=Z,2µm,19.3s
MDJ LZ
comp=Z,4µm,22.1s
MDJ Mudanjiang 156.74 321 *e*PKPdf **PKPdf 15 11 57.1 -0.4**
ZAK Zakamensk 157.27 10⇑ *i*PKIKP **PKPdf 15 11 58.6 +0.4**

ZAK				*e*		15 12 12.2	
ZAK				pmax	pmax		
	comp=Z,40nm,2.0s						
HIA	**Hailar**	**157.29**	**342**	*e*PKIKP	**PKPdf**	**15 11 58.8**	**+0.6**
HIA	**Hailar**	**157.29**	**342**	*e*PKPdf	**PKPdf**	**15 11 58.8**	**+0.6**
KOLN	**Koldanda**	**157.48**	**85**	*e*P	**PKPdf**	**15 11 58.6**	**-0.7**
	comp=Z,42nm,0.8s						
PBA	**Port Blair**	**157.62**	**134**	*e*P	PKPdf	15 11 58.3	-1.2
PBA				AMS	AMS	16 17 39.7	
	comp=Z,4μm,21.3s						
DANN	**Dangsing**	**157.69**	**83**	*e*P	**PKPdf**	**15 11 59.7**	**0.0**
	comp=Z,161nm,0.8s						
GKN	**Gorkha**	**158.42**	**84**	*e*P	**PKPdf**	**15 11 59.8**	**-0.6**
	comp=Z,203nm,1.2s						
BOK	**Bokaro**	**158.71**	**96**	*e*P	**PKPdf**	**15 12 00.5**	**-0.2**
DMN	**Daman**	**158.79**	**86**	*e*P	**PKPdf**	**15 12 01.1**	**+0.1**
DGPR	**DIGLIPUR**	**158.87**	**131**	*e*P	**PKPdf**	**15 12 01.0**	**-0.1**
KKN	**Kakani**	**158.97**	**85**	*e*P	**PKPdf**	**15 12 00.5**	**-0.6**
PKIN	**Phulchoki**	**159.04**	**86**	*e*P	**PKPdf**	**15 12 01.9**	**+0.6**
PKI	**Pulchoki**	**159.05**	**86**	*e*P	**PKPdf**	**15 12 00.5**	**-0.9**
	comp=Z,264nm,1.7s						
GUN	**Gumba**	**159.51**	**85**	*e*P	**PKPdf**	**15 12 01.3**	**-0.6**
	comp=Z,525nm,1.9s						
CN2	**Changchun**	**159.51**	**324**	*e*PKP	**PKPdf**	**15 12 00.8**	**-0.2**
CN2				*ep*PKP	**pPKPdf**	**15 12 12.8**	**-1.2**
CN2				*e*SKKS		15 23 06.3	
CN2				*e*SS	**SS**	**15 36 25.8**	**+2.1**
CN2				LN			
	comp=Z,3μm,20.0s						
CN2				LE			
	comp=Z,900nm,20.0s						
CN2				LZ			
	comp=Z,3μm,20.0s						
JIRN	**Jiri**	**159.75**	**86**	*e*P	**PKPdf**	**15 12 02.5**	**+0.2**
	comp=Z,321nm,1.9s						
RAMN	**Ramite**	**160.02**	**88**	*e*P	**PKPdf**	**15 12 02.2**	**-0.2**
	comp=Z,642nm,1.8s						
SONM	**Songino Array**	**160.15**	**5**	PKIKP	**PKPdf**	**15 12 01.4**	**-0.4**
SONM						15 12 42.0	
SONM						15 16 23.6	
SONM	**Songino Array**	**160.15**	**5**	PKP	**PKPdf**	**15 12 01.4**	**-0.4**
	comp=Z,16nm,1.2s,baz=162,slow=0.1,SNR=53						
SONM				PKPab	**PKPab**	**15 12 42.0**	**+0.2**
	comp=Z,6.1nm,0.7s,baz=336,slow=2.7,SNR=6.3						
SONM				PP	**PP**	**15 16 23.6**	**+0.3**
	comp=Z,14nm,1.3s,baz=344,slow=4.9,SNR=6.7						
ULN	**Ulaanbaatar**	**160.16**	**4**	*e*PKIKP	**PKPdf**	**15 12 01.7**	**-0.1**
ULN	**Ulaanbaatar**	**160.16**	**4**	P	**PKPdf**	**15 12 02.2**	**+0.4**
	SNR=22						
ULN	**Ulaanbaatar**	**160.16**	**4**	*e*PKPdf	**PKPdf**	**15 12 01.7**	**-0.1**
JNU	**Nakatsue**	**160.59**	**290**	PKPab	**PKPab**	**15 12 44.0**	**-0.3**
	comp=Z,29nm,1.1s,baz=13,slow=5.7,SNR=5.9						
ODAN	**Odare**	**160.71**	**88**	*e*P	**PKPdf**	**15 12 03.1**	**-0.1**
	comp=Z,145nm,1.1s						
TAPN	**Taplejung**	**161.06**	**87**	*e*P	**PKPdf**	**15 12 02.3**	**-1.3**
	comp=Z,182nm,1.3s						
KSRS	**Korea Array**	**161.62**	**305**	PKP	**PKPdf**	**15 12 03.6**	**+0.1**
	comp=Z,32nm,1.1s,baz=98,slow=0.4,SNR=45						
KSRS				PKPab	**PKPab**	**15 12 48.8**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=63,slow=5.2,SNR=6.7						
KS01	**Wonju Array Si**	**161.63**	**306**	*e*PKPdf	**PKPdf**	**15 12 02.4**	**-1.1**
KSAR	**Wonju Array Be**	**161.66**	**305**	PKIKP	**PKPdf**	**15 12 03.6**	**+0.1**
KSAR						15 12 48.8	
KSAR	**Wonju Array Be**	**161.66**	**305**	PKP	**PKPdf**	**15 12 03.6**	**+0.1**
KSAR				PKPab	**PKPab**	**15 12 48.8**	**0.0**
SNY	**Shenyang**	**161.88**	**323**	⇑PKP	**PKPdf**	**15 12 03.0**	**-0.6**
SNY				PKPab	**PKPab**	**15 12 51.5**	**+2.0**
SNY				PP	**PP**	**15 16 34.3**	**+1.2**
SNY				PPMZ			
	comp=Z,2μm,10.4s						
SNY				LN			
	comp=Z,560nm,19.2s						
SNY				LE			
	comp=Z,2μm,24.1s						
SNY				LZ			
	comp=Z,4μm,22.8s						
SRDT	**SRDT**	**163.51**	**144**	P	**PKPab**	**15 12 59.4**	**+2.2**
	comp=Z,141nm,1.3s						
LSA	**Lhasa**	**164.20**	**80**	*e*PKP	**PKPdf**	**15 12 07.5**	**+0.6**
LSA	**Lhasa**	**164.20**	**80**	*e*PKIKP	**PKPdf**	**15 12 06.9**	**0.0**
LSA	**Lhasa**	**164.20**	**80**	*e*PKPdf	**PKPdf**	**15 12 06.9**	**0.0**
SHL	**Shillong**	**164.44**	**95**	*e*P	**PKPdf**	**15 12 06.0**	**-0.8**
SHL				*ex*	x	15 23 31.0	
NAYO	**Nakonayok**	**164.53**	**151**	P	PKPab	15 13 15.8	+14
UTHA	**Uthaitani**	**164.68**	**142**	P	**PKPab**	**15 13 02.7**	**+0.3**
	comp=Z,28nm,1.1s						
DL2	**Dalian**	**164.97**	**319**	⇑PKP	**PKPdf**	**15 12 06.3**	**-0.3**
DL2				PP	**PP**	**15 16 49.0**	**-0.5**
DL2				SS	SS	15 37 20.8	0.0
DL2				PPMZ			
	comp=Z,940nm,11.3s						
DL2				LE			
	comp=Z,960nm,19.6s						
DL2				LZ			
	comp=Z,1μm,21.6s						
GTA	**Gaotai**	**166.31**	**32**	⇑PKP	**PKPdf**	**15 12 08.3**	**+0.4**
GTA				pPKP	**pPKPdf**	**15 12 19.3**	**-1.7**
GTA				sPKP		15 12 22.8	
GTA				PKPab	**PKPab**	**15 13 10.8**	**+1.6**
GTA				PP	**PP**	**15 16 55.0**	**-1.4**
GTA				SKS	**SKSdf**	**15 19 06.8**	**-2.0**
GTA				SKKS	**SKKSac**	**15 23 38.0**	**-3.1**
GTA				PPMZ			
	comp=Z,1μm,8.5s						
GTA				LN			
	comp=Z,2μm,20.4s						
GTA				LE			
	comp=Z,2μm,21.4s						
GTA				LZ			
	comp=Z,4μm,22.3s						
CM01	**Chiang Mai Arr**	**166.64**	**134**	*e*PKPdf	**PKPdf**	**15 12 07.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**166.66**	**134**	PKIKP	**PKPdf**	**15 12 08.3**	**-0.3**
CMAR						15 13 11.9	
CMAR	**Chiang Mai Arr**	**166.66**	**134**	PKP	**PKPdf**	**15 12 08.3**	**-0.3**
	comp=Z,18nm,1.2s,baz=261,slow=1.9,SNR=50						
CMAR				PKPab	**PKPab**	**15 13 11.8**	**+0.7**
	comp=Z,13nm,0.9s,baz=233,slow=4.2,SNR=14						
BJI	**Beijing**	**166.69**	**336**	PKP	**PKPdf**	**15 12 07.5**	**-0.4**
BJI				SS	SS	15 37 42.0	+4.7
BJI				LN			
	comp=Z,3μm,23.7s						
BJI				LE			
	comp=Z,1μm,23.7s						
BJI				LZ			
	comp=Z,3μm,25.6s						
CHTO	**Chiang Mai**	**166.92**	**133**	*e*PKIKP	**PKPdf**	**15 12 08.4**	**-0.4**
CHTO	**Chiang Mai**	**166.92**	**133**	P	**PKPdf**	**15 12 09.5**	**+0.7**
	SNR=13						
CHTO	**Chiang Mai**	**166.92**	**133**	P	**PKPab**	**15 13 12.7**	**+0.4**
	comp=Z,353nm,1.3s						
CHTO	**Chiang Mai**	**166.92**	**133**	*e*PKPdf	**PKPdf**	**15 12 08.4**	**-0.4**
CMMT	**Chiang Mai**	**166.92**	**133**	P	**PKPab**	**15 13 12.6**	**+0.3**
	comp=Z,102nm,1.3s						
KHON	**Khomkaen**	**166.98**	**152**	P	PKPab	15 13 27.8	+15
UTTA	**Uttaradit**	**167.07**	**141**	P	**PKPab**	**15 13 13.8**	**+0.9**
HHC	**Hu-ho-hao-te**	**167.08**	**352**	*e*PKP	**PKPdf**	**15 12 08.0**	**-0.4**
HHC				pPKP	**pPKPdf**	**15 12 19.0**	**-2.5**
HHC				sPKP		15 12 23.5	
HHC				PP	**PP**	**15 17 02.8**	**+3.0**
HHC				SKS	**SKSdf**	**15 19 06.8**	**-2.3**
HHC				SS	**SS**	**15 37 44.5**	**+3.5**
HHC				PPMZ			
	comp=Z,3μm,6.9s						
HHC				LN			
	comp=Z,3μm,19.4s						
HHC				LE			
	comp=Z,4μm,19.0s						
HHC				LZ			
	comp=Z,4μm,19.4s						
LAMP	**Lampang**	**167.14**	**136**	P	**PKPab**	**15 13 14.2**	**+1.0**
	comp=Z,15nm,1.2s						
BTO	**Baotou**	**167.46**	**357**	*e*PKP	**PKPdf**	**15 12 08.0**	**-0.7**
SSLB	**Suanglung**	**168.51**	**251**	*e*PKPdf	**PKPdf**	**15 12 11.2**	**+1.4**
SSE	**Sheshan**	**169.04**	**289**	PKP	**PKPdf**	**15 12 09.0**	**-0.9**
SSE				sPKP		15 12 25.5	
TIA	**Tai'an**	**169.40**	**322**	PKP	**PKPdf**	**15 12 09.8**	**-0.2**
TIA				PP	**PP**	**15 17 10.8**	**-1.4**
TIA				PPMZ			
	comp=Z,2μm,10.0s						
TIA				LN			
	comp=Z,700nm,26.0s						
TIA				LE			
	comp=Z,3μm,20.0s						
TIA				LZ			
	comp=Z,4μm,24.0s						
TIY	**Taiyuan**	**169.97**	**345**	*e*PKP	**PKPdf**	**15 12 10.0**	**-0.4**
TIY				PKPab	**PKPab**	**15 13 25.5**	**+0.2**
TIY				PP	**PP**	**15 17 13.8**	**-0.7**
TIY				SS	SS	15 38 14.8	+4.8
TIY				PPMZ			
	comp=Z,1μm,6.6s						
TIY				LN			
	comp=Z,4μm,21.8s						
TIY				LE			
	comp=Z,1μm,15.4s						
TIY				LZ			
	comp=Z,2μm,18.5s						
NJ2	**Nanjing**	**170.65**	**298**	*e*PKP	**PKPdf**	**15 12 11.0**	**+0.2**
NJ2				pPKP	**pPKPdf**	**15 12 21.0**	**-2.9**
NJ2				sPKP		15 12 24.0	
NJ2				PKPab	**PKPab**	**15 13 29.5**	**+0.9**
NJ2				SKS	**SKSdf**	**15 19 13.0**	**+2.0**
NJ2				SKKS	**SKKSac**	**15 24 06.0**	**+3.2**
NJ2				SS	**SS**	**15 38 21.0**	**+1.7**
NJ2				LN			
	comp=Z,5μm,27.8s						
NJ2				LE			
	comp=Z,3μm,28.6s						
NJ2				LZ			
	comp=Z,3μm,28.5s						
LZH	**Lanzhou**	**170.85**	**28**	*e*PKP	**PKPdf**	**15 12 11.8**	**+0.8**
LZH				pPKP	**pPKPdf**	**15 12 21.0**	**-3.1**
LZH				sPKP		15 12 27.0	
LZH				PP	**PP**	**15 17 19.0**	**-0.3**
LZH				SKS	**SKSdf**	**15 19 12.0**	**+0.6**
LZH				SKKS	**SKKSac**	**15 24 05.0**	**+1.4**
LZH				PPMZ			
	comp=Z,1μm,5.2s						
LZH				LN			
	comp=Z,2μm,19.3s						
LZH				LE			
	comp=Z,3μm,18.3s						
LZH				LZ			
	comp=Z,7μm,19.8s						
QZH	**Quanzhou**	**170.94**	**252**	*i* PKP	**PKPdf**	**15 12 12.0**	**+0.9**
QZH				PKPab	**PKPab**	**15 13 32.0**	**+1.9**
QZH				PP	**PP**	**15 17 21.0**	**0.0**
QZH				SKKS		15 24 07.0	
QZH				SS	**SS**	**15 38 27.3**	**+4.7**
QZH				PPMZ			
	comp=Z,3μm,5.3s						
QZH				LN			
	comp=Z,2μm,15.3s						
QZH				LE			
	comp=Z,4μm,16.3s						
QZH				LZ			
	comp=Z,7μm,23.5s						
QIZ	**Qiongzhong**	**170.98**	**185**	PKP	**PKPdf**	**15 12 10.8**	**-0.5**
QIZ				sPKP		15 12 24.8	
QIZ				PKPab	**PKPab**	**15 13 29.0**	**-1.0**
QIZ				PP	**PP**	**15 17 20.5**	**+1.2**
QIZ				SS	SS	15 38 23.8	+4.2
QIZ				LN			
	comp=Z,2μm,23.7s						
QIZ				LZ			
	comp=Z,3μm,21.1s						
SLVN	**Son La**	**171.81**	**144**	*e*PKPdf	**PKPdf**	**15 12 12.0**	**+0.2**
KMI	**Kunming**	**173.61**	**116**	PKP	**PKPdf**	**15 12 12.5**	**-0.2**
KMI				pPKP	**pPKPdf**	**15 12 26.0**	**+0.2**
KMI				sPKP		15 12 31.8	
GZH	**Guangzhou**	**173.73**	**219**	PKP	**PKPdf**	**15 12 11.8**	**-0.6**
GZH				PKPab	**PKPab**	**15 13 43.0**	**+0.7**
GZH				PP	**PP**	**15 17 35.5**	**+1.8**
GZH				LN			
	comp=Z,3μm,21.0s						
GZH				LE			
	comp=Z,4μm,21.0s						
GZH				LZ			
	comp=Z,10μm,24.5s						
XAN	**Xi'an**	**174.04**	**1**	PKP	**PKPdf**	**15 12 12.0**	**-0.3**
XAN				SKS	**SKSdf**	**15 19 14.0**	**+1.7**
XAN				SKKS	**SKKSac**	**15 24 14.3**	**-4.2**
XAN				LN			
	comp=Z,2μm,23.7s						
XAN				LE			
	comp=Z,270nm,20.8s						
XAN				LZ			
	comp=Z,900nm,22.7s						
CD2	**Chengdu**	**174.56**	**57**	PKP	**PKPdf**	**15 12 12.5**	**-0.1**
CD2				pPKP	**pPKPdf**	**15 12 24.3**	**-1.4**
CD2				PKPab	**PKPab**	**15 13 46.3**	**+0.3**
CD2				PKS	**PKSdf**	**15 15 46.8**	**+1.9**
CD2				PP	**PP**	**15 17 38.3**	**-0.1**
CD2				SKS	**SKSdf**	**15 19 09.3**	**-3.3**
CD2				SKKS	**SKKSac**	**15 24 21.5**	**-0.2**
CD2				PPMZ			
	comp=Z,2μm,11.2s						
CD2				LN			
	comp=Z,2μm,19.0s						
CD2				LE			
	comp=Z,2μm,20.2s						
CD2				LZ			
	comp=Z,5μm,25.0s						
WHN	**Wuhan**	**174.78**	**300**	PKP	**PKPdf**	**15 12 12.3**	**-0.3**
WHN				PKPab	**PKPab**	**15 13 45.3**	**-1.7**
WHN				LN			
	comp=Z,4μm,15.2s						
WHN				LE			
	comp=Z,2μm,15.3s						
WHN				LZ			
	comp=Z,7μm,22.4s						
GYA	**Guiyang**	**177.32**	**126**	*i* PKP	**PKPdf**	**15 12 12.5**	**-0.9**
GYA				pPKP	**pPKPdf**	**15 12 23.0**	**-3.6**
GYA				PKPab	PKPab	15 13 57.0	-1.5
GYA				PKS	**PKSdf**	**15 15 43.5**	**-2.3**
GYA				PP	**PP**	**15 17 48.5**	**-3.1**
GYA				SKKS		15 24 33.0	
GYA				SS	**SS**	**15 39 20.3**	**-3.2**
GYA				PPMZ			
	comp=Z,2μm,7.1s						
GYA				LN			
	comp=Z,2μm,21.9s						
GYA				LE			
	comp=Z,2μm,22.2s						
GYA				LZ			
	comp=Z,2μm,22.8s						
ENH	**Enshi**	**177.77**	**351**	*e*PKPdf	**PKPdf**	**15 12 12.9**	**-0.3**

*ISCJB **26** 15:08:19.3±0.9, 28°.05S±0°.03×71°.0W±0°.1, h38km, mb3.8/1, Error ellipse: s-maj=14.4km s-min=4.6km az=7.1*
*GUC **26** 15:08:19.2±0.4, 28°.07S×70°.95W, h39km±2km, ML3.3*
*IDC **26** 15:08:35.8±3.2, 28°.50S×66°.97W, h43km±32km, mb3.7/1, mb1 4.0/3, mb1mx3.5/32, mbtmp3.9/3, ML3.6/2, Error ellipse: s-maj=73.7km s-min=30.5km az=104.0*

ISC 26 15:08:19.7±1.2, 28°.03S±0°.04×71°.0W±0°.1, h38km, n11, σ1§48/14, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.59**	**155**	⇓*e*P	**Pn**	**15 08 30.5**	**-1.4**
VACH				*e*S	**Sn**	**15 08 38.5**	**-1.8**
CPCH	**Copiapo**	**0.91**	**42**	⇑*e*P	**Pn**	**15 08 35.6**	**-0.4**
CPCH				*e*S	**Sn**	**15 08 47.9**	**0.0**
CDCH	**Caldera**	**0.98**	**11**	⇓*e*P	**Pn**	**15 08 37.0**	**0.0**
CDCH				*e*S	**Sn**	**15 08 51.0**	**+1.4**
LSCH	**La Serena**	**1.88**	**185**	⇑*e*P	**Pn**	**15 08 49.6**	**+0.3**
LSCH				*e*S	**Sn**	**15 09 12.4**	**+0.7**
LSCH				IAML		15 09 15.5	
	comp=N,458nm,0.4s						
CMCH	**Combarbala**	**3.13**	**179**	*e*P	**Pn**	**15 09 06.9**	**+0.2**
CMCH				*e*S	**Sn**	**15 09 43.0**	**+0.2**
CFAA	**Coronel Fontan**	**4.31**	**146**	P	**Pn**	**15 09 24.8**	**+1.9**
	comp=N,4.1nm,0.3s,baz=324,slow=14,SNR=36						
CFAA				S	**Sn**	**15 10 14.7**	**+2.8**
	comp=N,3.1nm,0.3s,baz=233,slow=22,SNR=11						
LPAZ	**La Paz**	**11.99**	**14**	P	Px	15 11 27.4	
	comp=N,0.2nm,0.3s,baz=170,slow=11,SNR=3.3						
TORD	**Torodi Ar. Bea**	**81.38**	**70**	P	**P**	**15 20 31.1**	**-1.9**
	comp=N,0.8nm,0.6s,baz=222,slow=3.9,SNR=8.0						
WRA	**Warramunga Arr**	**126.36**	**210**	PKP	PKPdf	15 27 36.4	+17
	comp=N,0.5nm,0.6s,baz=158,slow=1.8,SNR=5.2						
ZALV	**Zalesovo Beam**	**148.64**	**28**	PKPbc	PKPab	15 28 13.3	+7.3
	comp=N,1.8nm,0.6s,baz=303,slow=3.9,SNR=8.3						
MKAR	**Makanchi Array**	**151.94**	**41**	PKPbc	**PKPab**	**15 28 21.0**	**+1.1**
	comp=N,0.7nm,0.6s,baz=317,slow=2.0,SNR=9.8						

NNC 26 15:25:23.4±2.0, 37°.02N×71°.18E, h0km, mb3.6, mpv3.4, 5C-2D, Error ellipse: s-maj=16.5km s-min=8.2km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.58**	**314**	⇑Pn	Pn	15 26 06.3	-0.2
DZET				⇑Sn	Sn	15 26 39.7	+1.1
KK31	**Karatay Array**	**6.10**	**355**	⇑Pn	Pn	15 26 54.5	-0.2
	1.5nm,0.3s,baz=179,slow=13,SNR=19						
KK31				⇑Sn	Sn	15 28 05.5	+0.3
	0.4nm,0.3s,baz=183,slow=24,SNR=3.9						
AAK	**Ala-Archa**	**6.16**	**23**	⇓Pn	Pn	15 26 55.8	0.0
	2.7nm,1.1s						
AAK				⇓Sn	Sn	15 28 08.7	+1.6
	2.1nm,0.8s						
AB31	**Akbulak array**	**14.70**	**330**	⇑P	Pn	15 28 45.0	-7.5
	0.6nm,0.8s						

IDC 26 15:41:42.3±5.7, 19°.98S×177°.02W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.7/29, mbtmp4.1/2, Error ellipse: s-maj=282.0km s-min=55.7km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.54**	**256**	P	P	15 50 04.0	-0.2
	2.2nm,0.6s,baz=97,slow=7.7,SNR=44						
WRA	**Warramunga Arr**	**45.59**	**261**	P	P	15 50 04.5	-0.1
	0.8nm,0.3s,baz=97,slow=7.7,SNR=50						
AKASG	**Malin Array Be**	**143.00**	**332**	PKP	PKPdf	16 01 15.7	-2.2
	0.7nm,0.5s,baz=44,slow=3.7,SNR=7.9						
BRTR	**Keskin Array B**	**147.16**	**314**	PKPbc	PKPbc	16 01 27.4	-0.4
	0.4nm,0.7s,baz=141,slow=5.2,SNR=3.0						

IDC 26 15:43:49.2±16.0, 19°.04S×177°.81W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/28, mbtmp3.8/3, Error ellipse: s-maj=392.3km s-min=42.1km az=37.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.99**	**261**	P	P	15 52 06.6	-0.1
	0.3nm,0.3s,baz=96,slow=8.2,SNR=10						
ASAR	**Alice Springs**	**45.04**	**255**	P	P	15 52 06.8	-0.2
	0.3nm,0.3s,baz=87,slow=8.5,SNR=10						
VNDA	**Vanda**	**59.37**	**185**	P	P	15 53 52.7	-0.1
	0.6nm,0.3s,baz=28,slow=6.2,SNR=9.8						

*IDC **26** 15:47:08.8±1.6, 31°.72S×177°.84W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/30, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=54.9km s-min=30.8km az=133.0*

ISC 26 15:47:13.4±1.7, 31°.8S±0°.1×177°.8W±0°.3, h35km, n14, σ1§55/17, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**6.82**	**206**	*e*PN	**Pn**	**15 48 50.3**	**-0.6**
HAZ	**Te Kaha**	**7.02**	**210**	*e*PN	**Pn**	**15 48 53.8**	**+0.1**
HAZ				*e*SN	**Sn**	**15 50 15.0**	**+2.8**
PUZ	**Puketiti**	**7.10**	**206**	PN	**Pn**	**15 48 53.7**	**-1.2**
PUZ				SN	**Sn**	**15 50 16.8**	**+2.6**
TWGZ	**Tauwhareparae**	**7.30**	**207**	*e*PN	Pn	15 48 53.1	-4.4
CNGZ	**Carnagh Statio**	**7.48**	**205**	*e*PN	**Pn**	**15 48 58.7**	**-1.3**
MWZ	**Matawai**	**7.62**	**209**	*e*PN	**Pn**	**15 48 58.8**	**-3.1**
MWZ				*e*SN	**Sn**	**15 50 27.0**	**0.0**
URZ	**Urewera**	**7.73**	**212**	Pn	**Pn**	**15 49 03.3**	**-0.1**
	0.7nm,0.3s,baz=280,slow=10,SNR=7.0						
URZ				Sn	**Sn**	**15 50 30.3**	**+0.5**
	1.7nm,0.3s,baz=43,slow=22,SNR=7.1						
URZ	**Urewera**	**7.73**	**212**	*e*PN	Pn	15 48 59.0	-4.4
URZ				SN	**Sn**	**15 50 27.5**	**-2.3**
ASAR	**Alice Springs**	**43.25**	**268**	P	**P**	**15 55 11.4**	**-0.3**
	0.6nm,0.4s,baz=106,slow=7.1,SNR=30						
WRA	**Warramunga Arr**	**44.36**	**273**	P	**P**	**15 55 20.7**	**+0.1**
	1.2nm,0.4s,baz=111,slow=8.1,SNR=38						
MKAR	**Makanchi Array**	**118.79**	**309**	PKP	**PKPdf**	**16 05 58.2**	**+0.5**
	0.3nm,0.8s,baz=110,slow=3.0,SNR=2.8						
KURBB	**Kurchatov Arra**	**122.16**	**313**	PKP	**PKPdf**	**16 06 04.7**	**+0.7**
	1.9nm,0.2s,baz=126,slow=1.3,SNR=8.8						
FINES	**FINESS Array B**	**146.48**	**339**	PKPbc	**PKPab**	**16 06 50.8**	**-0.3**
	2.0nm,0.6s,baz=27,slow=3.1,SNR=22						
AKASG	**Malin Array Be**	**152.49**	**321**	PKPbc	**PKPbc**	**16 07 06.2**	**+0.7**
	0.2nm,0.3s,baz=44,slow=2.3,SNR=4.1						

GUC 26 16:10:50.1±0.3, 34°.50S×71°.89W, h23km±3km, ML3.6, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.67**	**36**	*e*P	Pb	16 11 02.6	-0.5
NICH	**Los Niches**	**0.74**	**133**	⇑*e*P	Pb	16 11 03.9	-0.4
NICH				*e*S	Sb	16 11 14.3	+0.3
TALC	**Talca**	**0.92**	**167**	*e*P	Pb	16 11 06.7	-0.7
TALC				*e*S	Sb	16 11 19.4	+0.1
CACH	**El Canelo**	**1.13**	**71**	*e*P	Pn	16 11 10.6	-0.1
CHCH	**Chadas Angostu**	**1.17**	**62**	⇓*e*P	Pn	16 11 10.7	-0.4
RCDM	**Rinconada Maip**	**1.35**	**42**	⇓*e*P	Pn	16 11 13.2	-0.4
RCDM				*e*S	Sn	16 11 31.2	+0.4
LNCH	**Linares**	**1.37**	**170**	⇓*e*P	Pn	16 11 13.9	+0.1
LNCH				*e*S	Sb	16 11 31.8	-0.2
PEL	**Peldehue**	**1.68**	**37**	*e*P	Pn	16 11 19.1	+0.9
PEL				*e*S	Sb	16 11 41.1	-0.2
PEL				IAML		16 11 45.9	
	comp=E,1μm,0.8s						
FCH	**Farellones**	**1.77**	**49**	*e*P9	Pn	16 11 20.7	+0.9
FCH				*e*S	Sb	16 11 44.0	-0.3

GUC 26 16:14:17.4±0.6, 34°.40S×71°.89W, h11km±6km, ML3.7, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.59**	**42**	⇑*i*P	Pg	16 14 29.1	+0.1
NICH	**Los Niches**	**0.81**	**138**	⇑*i*P	Pg	16 14 33.1	+0.1
NICH				*e*S1	Sb	16 14 43.8	-0.7
NICH				AML	AML	16 14 44.9	
	comp=N,6μm,0.3s						
TALC	**Talca**	**1.01**	**168**	⇑*i*P	Pg	16 14 36.0	-0.9
TALC				*e*S1	Sb	16 14 49.6	-0.8
TALC				AML	AML	16 14 55.6	
	comp=N,7μm,0.1s						
CACH	**El Canelo**	**1.10**	**75**	*e*P1	Pn	16 14 37.6	-1.4
CHCH	**Chadas Angostu**	**1.13**	**66**	*e*P1	Pn	16 14 37.5	-1.7
CHCH				*i* S1	Sn	16 14 53.2	-1.6
RCDM	**Rinconada Maip**	**1.28**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.47**	**254**	‖ *i* P	Pn	16 32 26.8	-0.2
CVP				*i* S	Sn	16 32 37.4	+2.4
APYP	**Conner**	**1.01**	**272**	*e* P	Pg	16 32 35.2	+0.7
APYP				*e* S	Sn	16 32 50.5	+2.3
ABRA	**Dolores**	**1.52**	**263**	*e* P	Pb	16 32 42.9	0.0
ABRA				*e* S	Sb	16 33 02.5	+0.6

*IDC **26** 17:13:18.4±2.3, 21°.70N×143°.35E, h225km±18km, mb3.5/16, mb1 3.7/18, mb1mx3.5/39, mbtmp4.1/18, Error ellipse: s-maj=18.3km s-min=16.6km az=115.0*
*ISCJB **26** 17:13:20.2±0.7, 21°.84N±0°.09×143°.3E±0°.1, h250km, mb3.7/16, Error ellipse: s-maj=19.4km s-min=12.0km az=167.0*

ISC 26 17:13:21.3±0.8, 21°.85N±0°.10×143°.3E±0°.2, h250km, n21, σ1§31/20, mb3.9/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.33**	**349**	P	**Pn**	**17 14 39.6**	**-1.4**
	baz=216,slow=13						
JCJ				S	**S**	**17 15 42.2**	**-2.5**
	6.1nm,0.3s,baz=282,slow=20,SNR=2.3						
MJAR	**Matsushiro Arr**	**15.30**	**344**	P	**Pn**	**17 16 44.6**	**-0.4**
	0.5nm,0.3s,baz=164,slow=11,SNR=6.2						
JNU	**Nakatsue**	**15.72**	**318**	P	**Pn**	**17 16 52.1**	**+2.0**
	0.3nm,0.3s,baz=108,slow=13,SNR=3.3						
KSRS	**Korea Array**	**20.46**	**323**	P	Pn	17 17 42.5	-3.2
	1.4nm,0.7s,baz=150,slow=8.7,SNR=7.8						
ASAJ	**Asahikawa**	**22.22**	**359**	P	**P**	**17 17 58.1**	**+1.0**
	7.9nm,0.8s,baz=252,slow=9.8,SNR=5.3						
PETK	**Petropavlovsk-**	**33.10**	**16**	P	**P**	**17 19 34.8**	**+1.1**
	2.0nm,0.8s,baz=168,slow=9.1,SNR=5.6						
SONM	**Songino Array**	**39.30**	**320**	P	**P**	**17 20 26.8**	**+0.5**
	0.2nm,0.4s,baz=123,slow=7.0,SNR=5.2						
SEY	**Seymchan**	**41.52**	**6**	P	**P**	**17 20 45.3**	**+1.3**
	3.4nm,0.7s,baz=190,slow=9.3,SNR=20						
WRA	**Warramunga Arr**	**42.45**	**193**	P	**P**	**17 20 50.0**	**-2.0**
	0.2nm,0.6s,baz=16,slow=9.1,SNR=6.8						
WRA				ScP	**ScP**	**17 26 08.1**	**+1.3**
	1.0nm,0.8s,baz=1.0,slow=3.8,SNR=5.8						
ZALV	**Zalesovo Beam**	**54.16**	**322**	P	**P**	**17 22 21.3**	**+0.5**
	1.3nm,0.5s,baz=111,slow=7.7,SNR=7.8						
MKAR	**Makanchi Array**	**54.68**	**313**	P	**P**	**17 22 25.5**	**+0.8**
	0.7nm,0.7s,baz=88,slow=8.4,SNR=8.1						
ILAR	**Eielson Array**	**61.85**	**27**	P	**P**	**17 23 13.3**	**-0.5**
	3.4nm,0.7s,baz=260,slow=5.5,SNR=35						
YKA	**Yellowknife Ar**	**76.27**	**28**	P	**P**	**17 24 42.6**	**+0.4**
	3.0nm,0.5s,baz=291,slow=5.7,SNR=45						
ARCES	**ARCESS Array B**	**78.82**	**342**	P	**P**	**17 24 56.8**	**+0.6**
	2.2nm,0.7s,baz=67,slow=7.9,SNR=11						
KBZ	**Khabaz**	**82.35**	**314**	P	**P**	**17 25 16.1**	**+0.7**
	1.7nm,0.8s,baz=335,slow=4.2,SNR=5.0						
KAF	**Kangasniemi**	**82.63**	**335**	*e*p	**P**	**17 25 14.5**	**-1.9**
	1.6nm,0.6s						
NVAR	**Mina Array Bea**	**82.96**	**52**	P	P	17 25 19.8	+0.9
	2.0nm,0.7s,baz=277,slow=5.4,SNR=11						
FINES	**FINESS Array B**	**83.10**	**335**	P	**P**	**17 25 18.2**	**-0.5**
	3.2nm,0.5s,baz=85,slow=4.6,SNR=33						
PDAR	**Pinedale Array**	**87.21**	**45**	P	P	17 25 41.4	+1.5
	0.2nm,0.3s,baz=319,slow=5.4,SNR=2.2						
AKASG	**Malin Array Be**	**87.45**	**324**	P	**P**	**17 25 39.6**	**-0.9**
	0.1nm,0.3s,baz=52,slow=5.4,SNR=2.6						
LPAZ	**La Paz**	**149.81**	**85**	PKPbc	**PKPbc**	**17 32 43.5**	**+0.2**
	1.4nm,0.5s,baz=345,slow=1.6,SNR=5.7						

MAN 26 17:13:38, 13°.57N×125°.33E, h28km, mb4.8, ML3.7, MS3.7, 3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.14**	**272**	*e* P	Pn	17 13 58.0	-0.1
PVCP				*e* S	Sn	17 14 12.6	-0.2
CNP	**Cataram**	**1.23**	**212**	*e* P	Pn	17 13 59.7	+0.3
CNP				*e* S	Sn	17 14 10.3	-4.8
PLP	**Palo**	**2.41**	**188**	‖ *e* P	Pn	17 14 16.5	+0.9
GQP	**Guinayangan**	**2.82**	**277**	‖ *e* P	Pb	17 14 28.1	+0.4
RCP	**Roxas**	**3.21**	**232**	‖ *e* P	Pn	17 14 28.5	+1.8
RCP				*e* S	Sn	17 15 06.0	+1.9
GUIM	**Jordan**	**3.96**	**223**	*e* P	Pb	17 14 44.2	-2.9

*IDC **26** 17:25:44.3±0.8, 34°.65S×74°.21W, h0km, mb3.9/7, mb1 4.1/10, mb1mx4.0/27, mbtmp3.9/10, ML3.7/3, MS3.8/1, Ms1 3.8/1, ms1mx3.0/20, Error ellipse: s-maj=29.9km s-min=18.9km az=95.0*
*ISCJB **26** 17:25:47.7±0.6, 34°.64S±0°.04×73°.90W±0°.05, h35km, mb4.1/8, MS3.6/1, Error ellipse: s-maj=6.2km s-min=5.8km az=26.7*
*GUC **26** 17:25:49.2±0.3, 34°.53S×73°.64W, h28km±2km, ML3.8*
*NEIC **26** 17:25:49.2±0.6, 34°.73S×74°.08W, h35km, mb4.9/2, Error ellipse: s-maj=15.1km s-min=9.8km az=89.0*

ISC 26 17:25:49.7±0.7, 34°.63S±0°.06×73°.90W±0°.08, h35km, n24, σ1§33/28, mb4.1/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**2.01**	**113**	*e* P	**Pn**	**17 26 20.9**	**-0.2**
TALC				*e* S	**Sn**	**17 26 44.8**	**-0.3**
NICH	**Los Niches**	**2.23**	**100**	*e* P	**Pn**	**17 26 23.7**	**-0.4**
NICH				*e* S	**Sn**	**17 26 49.8**	**-0.7**
LNCH	**Linares**	**2.24**	**123**	*e* P	**Pn**	**17 26 24.7**	**+0.4**
LNCH				*e* S	**Sn**	**17 26 51.8**	**+1.1**
RCDM	**Rinconada Maip**	**2.81**	**67**	*e* P	Pn	17 26 30.7	-1.5
RCDM				*e* S	Sn	17 27 02.6	-2.2
CLCH	**Cerro Calan**	**3.06**	**67**	*e* P	**Pn**	**17 26 34.7**	**-0.8**
CLCH				*e* S	**Sn**	**17 27 09.0**	**-1.9**
CLCH				IAML		17 27 22.2	
	comp=E,366nm,0.9s						
PEL	**Peldehue**	**3.06**	**62**	*e* P	**Pn**	**17 26 34.5**	**-1.1**
PEL				*e* S	**Sn**	**17 27 09.0**	**-2.0**
CFAA	**Coronel Fontan**	**5.63**	**59**	Pn	**Pn**	**17 27 11.0**	**+0.1**
	comp=E,0.4nm,0.3s,baz=230,slow=12,SNR=20						
CFAA				Sn	**Sn**	**17 28 15.7**	**+1.3**
	comp=E,1.0nm,0.3s,baz=106,slow=19,SNR=9.0						
LCO	**Las Campanas**	**6.23**	**27**	*e*Pn	Pn	17 27 13.7	-5.7
PLCA	**Paso Flores**	**6.65**	**157**	Pn	**Pn**	**17 27 25.2**	**+0.3**
	comp=E,1.2nm,0.3s,baz=326,slow=10,SNR=30						
PLCA				Sn	**Sn**	**17 28 38.8**	**-0.6**
	baz=317,slow=22,SNR=1.1						
TRQA	**Tornquist**	**10.21**	**113**	*e*Pn	**Pn**	**17 28 15.0**	**+1.3**
LVC	**Limon Verde**	**12.75**	**21**	*e*Pn	**Pn**	**17 28 51.1**	**+2.4**
	comp=E,4.7nm,0.4s						
LPAZ	**La Paz**	**18.99**	**17**	P	**P**	**17 30 10.5**	**+1.6**
	comp=E,0.1nm,0.3s,baz=154,slow=4.4,SNR=7.5						
SIV	**San Ignacio**	**21.85**	**35**	P	**P**	**17 30 40.4**	**+1.1**
	comp=E,3.7nm,1.0s,baz=232,slow=12,SNR=4.2						
ATAH	**Atahualpa**	**27.68**	**350**	LR	LR	17 40 45.5	
	comp=E,197nm,21.7s,baz=345,slow=33						
SNAA	**Sanae**	**51.59**	**158**	P	**P**	**17 34 50.2**	**-1.9**
	comp=E,13nm,1.3s						
QSPA	**South Pole Qui**	**55.61**	**180**	P	**P**	**17 35 22.1**	**+0.5**
	comp=E,1.8nm,0.9s,baz=41,slow=9.8,SNR=3.3						
QSPA	**South Pole Qui**	**55.61**	**180**	P	**P**	**17 35 19.1**	**-2.5**
	comp=E,26nm,1.6s						
VNDA	**Vanda**	**63.18**	**192**	P	**P**	**17 36 12.7**	**-0.9**
	comp=E,0.7nm,0.4s,baz=129,slow=14,SNR=3.4						
TXAR	**Lajitas Array**	**69.55**	**332**	P	**P**	**17 36 55.3**	**+0.3**
	comp=E,1.4nm,0.6s,baz=155,slow=8.7,SNR=11						
NVAR	**Mina Array Bea**	**83.54**	**326**	P	**P**	**17 38 12.6**	**-1.5**
	comp=E,0.4nm,0.7s,baz=162,slow=6.4,SNR=2.6						
PDAR	**Pinedale Array**	**83.64**	**334**	P	**P**	**17 38 13.2**	**-1.4**
	comp=E,0.3nm,0.7s,baz=146,slow=8.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**85.88**	**71**	P	**P**	**17 38 26.9**	**+0.8**
	comp=E,1.2nm,0.9s,baz=249,slow=3.5,SNR=5.4						
MKAR	**Makanchi Array**	**158.34**	**49**	PKPab	**PKPab**	**17 46 18.4**	**+1.1**
	comp=E,0.3nm,0.6s,baz=285,slow=4.8,SNR=4.0						
SONM	**Songino Array**	**166.81**	**359**	PKPab	**PKPab**	**17 46 55.8**	**+1.4**
	comp=E,0.9nm,1.2s,baz=351,slow=2.6,SNR=3.3						

NEIC 26 17:44:52.3, 52°.10N×178°.14W, h230km, MG3.5(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.92**	**103**	P	Pn	17 45 23.1	-1.6
ADK				S	S	17 45 48.9	-1.1
CERAA	**Semis' Rag'd T**	**1.36**	**263**	P	Pn	17 45 26.9	-0.7
CEAP	**Semis' Anvil P**	**1.42**	**267**	P	Pn	17 45 27.6	-0.4
CESW	**Semis' Southwe**	**1.44**	**263**	P	Pn	17 45 27.4	-0.8
CETU	**Semis' Tuman**	**1.47**	**266**	P	Pn	17 45 28.0	-0.5
AMKA	**Amchitka**	**1.75**	**247**	P	Pn	17 45 30.5	-0.3
AMKA				S	S	17 45 59.1	-1.7
LSPA	**Little Sitkin**	**2.04**	**267**	P	Pn	17 45 33.1	-0.4
LSPA				S	S	17 46 04.8	-0.8
LSSE	**Little Sitkin**	**2.04**	**267**	P	Pn	17 45 33.3	-0.2
KOFP	**Korovin Flat P**	**2.49**	**84**	P	Pn	17 45 37.6	-0.4
SMY	**Shemya**	**4.79**	**281**	P	Pn	17 46 04.5	-0.4
FX1	**Attu Island--F**	**5.37**	**282**	P	Pn	17 46 09.6	-2.5
NIKH	**Nikolski High**	**5.73**	**78**	P	Pn	17 46 15.3	-1.2
OKFG	**Magazine Ridge**	**6.34**	**74**	P	Pn	17 46 24.3	0.0
MSOM	**Makushin Julie**	**6.97**	**71**	P	Pn	17 46 31.5	-0.7
MREP	**Makushin Rep't**	**7.09**	**72**	P	Pn	17 46 33.9	0.0
UNV	**Unalaska Valle**	**7.24**	**71**	P	Pn	17 46 34.9	-0.8

*IDC **26** 17:56:11.4±1.5, 2°.84S×101°.89E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/31, mbtmp3.5/6, Error ellipse: s-maj=70.0km s-min=20.1km az=50.0*
*ISCJB **26** 17:56:15.1±0.6, 2°.69S±0°.07×101°.96E±0°.09, h10km, mb3.5/6, Error ellipse: s-maj=15.7km s-min=4.7km az=142.9*
*DJA **26** 17:56:16.3±0.3, 3°S±2°×10°2E±°, h10km, M3.9/13, MLv3.9/13*

ISC 26 17:56:15.2±0.9, 2°.69S±0°.06×101°.99E±0°.07, h10km, n20, σ1§40/21, mb3.5/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDSI	**Sungai Dareh**	**1.84**	**342**	P	**Pn**	**17 56 46.5**	**-0.3**
LHSI	**Lahat**	**1.90**	**126**	P	**Pn**	**17 56 48.6**	**+0.9**
MNAI	**Manna**	**1.92**	**150**	P	**Pn**	**17 56 48.9**	**+0.9**
MNAI				S	**Sn**	**17 57 14.1**	**+1.9**
JMBI	**JAMBI**	**1.96**	**58**	P	**Pb**	**17 56 51.6**	**+0.6**
PDSI	**Padang**	**2.33**	**319**	P	**Pn**	**17 56 54.8**	**+1.1**
PDSI				S	**Sn**	**17 57 24.6**	**+2.1**
PMBI	**Palembang**	**2.79**	**95**	P	**Pg**	**17 57 08.3**	**-0.5**
MDSI	**Maura Dua**	**2.82**	**129**	P	**Pn**	**17 57 00.6**	**+0.2**
MDSI				S	**Sn**	**17 57 37.2**	**+2.7**
BKNI	**Bangkinang**	**3.15**	**342**	P	**Pg**	**17 57 16.7**	**+1.2**
KLSI		**3.38**	**126**	P	**Pn**	**17 57 09.2**	**+1.1**
KLI	**Kotabumi**	**3.58**	**127**	P	**Pn**	**17 57 11.9**	**+1.0**
KASI	**Kota Agung**	**3.77**	**138**	P	**Pn**	**17 57 14.3**	**+0.9**
BLSI	**Bandar Lampung**	**4.20**	**129**	P	**Pn**	**17 57 20.4**	**+1.1**
MNSI	**Mandailing Nat**	**4.22**	**325**	P	**Pn**	**17 57 20.7**	**+1.1**
TPRI	**Tanjung Pinang**	**4.39**	**35**	P	**Pn**	**17 57 23.0**	**+1.0**
WRA	**Warramunga Arr**	**35.93**	**121**	P	P	18 03 13.3	-2.9
	0.3nm,0.7s,baz=309,slow=8.7,SNR=3.3						
ASAR	**Alice Springs**	**37.25**	**127**	P	**P**	**18 03 25.6**	**-1.9**
	0.7nm,0.7s,baz=299,slow=7.8,SNR=11						
SONM	**Songino Array**	**50.47**	**4**	P	**P**	**18 05 13.5**	**+0.2**
	0.5nm,0.7s,baz=184,slow=9.0,SNR=7.8						
MKAR	**Makanchi Array**	**52.25**	**343**	P	**P**	**18 05 24.9**	**-1.7**
	0.3nm,0.6s,baz=141,slow=7.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**58.23**	**348**	P	P	18 06 06.8	-2.8
	0.3nm,0.4s,baz=157,slow=6.8,SNR=3.2						
BRTR	**Keskin Array B**	**75.25**	**312**	P	**P**	**18 07 57.2**	**-1.5**
	0.2nm,0.5s,baz=160,slow=5.4,SNR=3.5						

IDC 26 18:01:30.4±2.2, 4°.30N×127°.03E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/33, mbtmp3.2/3, Error ellipse: s-maj=165.4km s-min=27.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.14**	**164**	P	P	18 06 55.9	-1.4
	0.5nm,0.7s,baz=343,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**28.59**	**167**	P	P	18 07 29.7	+1.2
	0.2nm,0.8s,baz=342,slow=9.6,SNR=3.8						
MKAR	**Makanchi Array**	**57.27**	**325**	P	P	18 11 19.8	-0.1
	0.2nm,0.4s,baz=118,slow=8.5,SNR=4.8						

*ISCJB **26** 18:14:53.4±0.4, 10°.64N±0°.03×62°.50W±0°.03, h93km±6km, Error ellipse: s-maj=6.7km s-min=3.0km az=143.9*
*FUNV **26** 18:14:55.2, 10°.61N×62°.41W, h86km, MW3.5*
*TRN **26** 18:14:57.7, 10°.73N×62°.26W, h87km, MD3.8*

ISC 26 18:14:53.6±1.3, 10°.62N±0°.04×62°.46W±0°.04, h95km±9km, n37, σ1§46/58, 13C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.23**	**83**	⇑ *e* P	**Pn**	**18 15 07.8**	**+0.4**
GUIV				*e* S	**Sn**	**18 15 16.1**	**-1.6**
GUNV	**Guanoco**	**0.66**	**226**	⇑ *i* P	**Pn**	**18 15 11.8**	**+1.6**
GUNV				*e* S	**Sn**	**18 15 22.5**	**-0.1**
CRUV	**Carupano**	**0.77**	**274**	⇑ *i* P	**Pn**	**18 15 11.9**	**+0.7**
CRUV				*e* S	**Sn**	**18 15 23.6**	**-0.8**
TRN	**Trinidad (W)**	**1.04**	**88**	⇑ *i* P	**Pn**	**18 15 15.5**	**+1.3**
TRN				*e* S	**Sn**	**18 15 29.1**	**-0.5**
TBH	**Brigand Hill**	**1.38**	**95**	*e* P	**Pn**	**18 15 19.9**	**+1.8**
TBH				*e* S	**Sn**	**18 15 35.8**	**-0.9**
GRGR	**Grenville**	**1.70**	**28**	⇑ *i* P	**Pn**	**18 15 23.5**	**+1.3**
GRGR				*e* S	**Sn**	**18 15 44.2**	**+0.3**
GRW	**Mount Saint Ca**	**1.72**	**27**	*e* P	**Pn**	**18 15 23.9**	**+1.4**
GRW				*e* S	**Sn**	**18 15 43.4**	**-1.1**
TPR	**Prospect**	**1.75**	**71**	*e* P	**Pn**	**18 15 24.2**	**+1.4**
BOT	**Bacolet**	**1.80**	**72**	⇑ *i* P	**Pn**	**18 15 24.7**	**+1.3**
BOT				*e* S	**Sn**	**18 15 43.8**	**-2.2**
ORIV	**Oritupano**	**1.80**	**211**	⇑ *i* P	**Pn**	**18 15 25.0**	**+1.5**
ORIV				*e* S	**Sn**	**18 15 46.4**	**+0.3**
TOSP	**Speyside**	**2.01**	**70**	*e* P	**Pn**	**18 15 26.9**	**+0.8**
TOSP	**Speyside**	**2.01**	**70**	⇑ *i* P	**Pn**	**18 15 26.9**	**+0.8**
TOSP				*e* S	**Sn**	**18 15 49.1**	**-1.9**
TOSP				*e* S	**Sn**	**18 15 51.5**	**+0.6**
PCRV	**Puerto La Cruz**	**2.19**	**259**	⇑ *i* P	**Pn**	**18 15 29.5**	**+1.0**
PCRV				*e* S	**Sn**	**18 15 54.2**	**-0.9**
FCV	**Fort Charlotte**	**2.79**	**25**	*e* P	**Pn**	**18 15 38.8**	**+2.3**
FCV				*e* S	**Sn**	**18 16 07.7**	**-1.7**
PRGV	**PARIAGUAN**	**2.84**	**230**	⇑ *i* P	**Pn**	**18 15 37.9**	**+0.8**
PRGV				*e* S	**Sn**	**18 16 09.5**	**-1.1**
SVB	**Belmont**	**2.89**	**24**	*e* P	**Pn**	**18 15 39.6**	**+1.8**
SVB	**Belmont**	**2.89**	**24**	*e* P	**Pn**	**18 15 39.6**	**+1.8**
SVB				*e* S	**Sn**	**18 16 10.5**	**-1.4**
SVV	**Soufriere Volc**	**2.95**	**24**	*e* P	**Pn**	**18 15 41.1**	**+2.5**
SVV				*e* S	**Sn**	**18 16 11.1**	**-2.1**
CUPV	**Cœpira**	**3.32**	**261**	⇑ *i* P	**Pn**	**18 15 44.9**	**+1.3**
CUPV				*e* S	**Sn**	**18 16 21.9**	**-0.4**
MCLT	**Moule a Chique**	**3.41**	**26**	*e* P	**Pn**	**18 15 46.6**	**+1.7**
MCLT				*e* S	**Sn**	**18 16 22.4**	**-2.1**
BIRV	**Birongo**	**3.75**	**268**	*e* P	**Pn**	**18 15 51.2**	**+1.8**
BIRV				*e* S	**Sn**	**18 16 31.3**	**-1.2**
MERV	**Las Mercedes**	**4.02**	**251**	⇑ *e* P	**Pn**	**18 15 53.3**	**+0.3**
MERV				*e* S	**Sn**	**18 16 37.0**	**-2.1**
BIM	**Bigot**	**4.11**	**19**	*e* P	Pn	18 15 57.4	+3.2
BIM				*e* S	**Sn**	**18 16 40.1**	**-1.1**
ZAM	**Aeronautique**	**4.17**	**19**	*e* P	**Pn**	**18 15 57.7**	**+2.6**
FDF	**Fort de France**	**4.29**	**17**	*e* P	**Pn**	**18 15 58.3**	**+1.6**
FDF	**Fort de France**	**4.29**	**17**	*e* P	**Pn**	**18 15 58.5**	**+1.8**
FDF				*e* S	**Sn**	**18 16 43.4**	**-2.2**
SVN	**Savane Anatole**	**4.38**	**17**	*e* P	**Pn**	**18 15 59.5**	**+1.4**
LUEV	**Luepa**	**4.85**	**168**	*e* P	**Pn**	**18 16 03.9**	**-0.5**
TURV	**Turiamo**	**5.29**	**269**	*e* P	**Pn**	**18 16 10.7**	**+0.4**
PHG	**Guadaloupe-2**	**5.42**	**8**	*e* P	**Pn**	**18 16 14.7**	**+2.5**
FNG	**Fond-Bernard**	**5.46**	**8**	*e* P	**Pn**	**18 16 14.4**	**+1.7**
BAUV	**El Baul**	**5.75**	**254**	*e* P	**Pn**	**18 16 16.3**	**-0.2**
MAPV	**Macapo**	**5.95**	**263**	‖ *i* P	**Pn**	**18 16 19.6**	**+0.2**
SANV	**Sanarito**	**7.06**	**262**	*e* P	**Pn**	**18 16 34.6**	**+0.2**
CURV	**Curarigua**	**7.41**	**266**	‖ *e* P	**Pn**	**18 16 39.5**	**+0.3**
MONV	**Montecano**	**7.49**	**281**	*e* P	**Pn**	**18 16 39.6**	**-0.6**
SOCV	**Socops**	**8.60**	**255**	*e* P	**Pn**	**18 16 53.9**	**-1.5**

*BJI **26** 18:17:06.0, 12°.92N×125°.38E, h18km, mB5.1/49, mb4.6/64, Ms4.7/70, Ms7 4.4/64*
*IDC **26** 18:17:09.0±0.5, 13°.38N×125°.16E, h0km, mb4.4/29, mb1 4.4/30, mb1mx4.3/50, mbtmp4.3/30, ML3.1/1, MS3.9/15, Ms1 3.9/15, ms1mx3.7/44, Error ellipse: s-maj=18.4km s-min=11.6km az=87.0*
*NEIC **26** 18:17:09.8±0.4, 13°.36N×125°.18E, h6km±13km, mb5.0/26, Error ellipse: s-maj=6.9km s-min=3.9km az=88.0*
*GCMT **26** 18:17:09.8±0.4, 13°.70N×125°.30E, h12km, MW5.0/67, Moment Tensor Solution. s17,c19; s67,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.85±.12; $M_{\theta\theta}$-0.65±.10; $M_{\phi\phi}$-2.20±.11; $M_{r\theta}$-2.14±.41; $M_{\phi\phi}$1.02±.08; $M_{\phi r}$1.83±.33; Best double couple: $M_0$3.94600×10^{16} NP1:ϕ_s318.00000°, δ68.00000°, λ79.00000°. NP2: ϕ_s165.00000°, δ24.00000°, λ115.00000°. Principal axes: T 4.1190, Plg65.0000°, Azm209.0000°; N -0.3450, Plg10.0000°, Azm322.0000°; P -3.7730, Plg22.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **26** 18:17:12.5±0.9, 13°.47N±0°.02×125°.29E±0°.03, h33km±6km, mb4.7/71, MS3.9/20 Error ellipse: s-maj=5.4km s-min=3.3km az=173.6*
*MOS **26** 18:17:12.1±1.1, 13°.38N×125°.20E, h33km, mb5.1/26, MS4.1/4, Error ellipse: s-maj=12.7km s-min=6.1km az=117.5*
*MAN **26** 18:17:12, 13°.49N×125°.24E, h57km, mb5.6, ML4.7, MS5.1*
*DJA **26** 18:17:34.9±0.5, 13°N±4°×12°5E±°, h249km±6km, M4.7/18, mB5.0/11, mb4.5/18, MLv5.5/1, Mw(mB)4.3/11*
*BKK **26** 18:17:37.6±1.5, 13°N±6°×12°4E±°, h201km±15km, M4.4/17, mB5.0/8, mb4.5/17, Mw(mB)4.3/8*

ISC 26 18:17:12.7±0.3, 13°.44N±0°.03×125°.30E±0°.04, h23km±1km, h23km:pP-P, n290, σ1§69/330, mb4.8/71, MS4.0/20, 25C-9D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataram**	**1.11**	**214**	*e* P	**Pb**	**18 17 33.0**	**-0.4**
CNP				*e* S	**Sn**	**18 17 49.1**	**+1.6**
PVCP	**Virac**	**1.12**	**278**	‖ *i* P	**Pn**	**18 17 31.0**	**-2.0**
PVCP				*i* S	**Sn**	**18 17 48.1**	**+0.4**
MMPH	**Masbate**	**1.96**	**237**	⇑ *e* P	**Pn**	**18 17 44.7**	**+0.1**
MMPH				*e* S	Sb	18 18 19.4	+7.8
PLP	**Palo**	**2.29**	**188**	‖ *e* P	**Pn**	**18 17 49.3**	**+0.2**
OCLP	**Ormoc**	**2.47**	**196**	*e* P	**Pn**	**18 17 53.1**	**+1.5**
AUQP	**San Andres**	**2.55**	**268**	*e* P	**Pn**	**18 17 54.0**	**+1.3**
GQP	**Guinayangan**	**2.81**	**280**	‖ *e* P	**Pn**	**18 17 55.5**	**-0.8**
RCP	**Roxas**	**3.12**	**233**	⇑ *e* P	**Pn**	**18 18 01.1**	**+0.6**
MSLP	**Maasin**	**3.32**	**187**	*e* P	**Pn**	**18 18 04.5**	**+1.2**
BOAC	**Boac**	**3.36**	**271**	*e* P	**Pn**	**18 18 03.6**	**-0.3**
LLP	**Lapu-Lapu**	**3.37**	**203**	*e* P	**Pn**	**18 18 04.0**	**0.0**
LLP				*e* S	**Sn**	**18 18 43.2**	**-0.1**
GUIM	**Jordan**	**3.85**	**224**	*e* P	**Pn**	**18 18 11.6**	**+1.0**
BALP	**Baler**	**4.26**	**303**	*e* P	**Pn**	**18 18 17.0**	**+0.7**
BUTP	**Butuan**	**4.46**	**176**	*e* P	**Pb**	**18 18 27.7**	**-2.6**
PCPH	**Palayan**	**4.58**	**298**	‖ *e* P	Pn	18 18 17.0	-3.6
LUBP	**Lubang**	**4.92**	**274**	*e* P	Pn	18 18 28.4	+3.1
CGP	**Cagayan de Oro**	**4.99**	**187**	‖ *e* P	Pb	18 18 34.3	-5.2
CVP	**Callao Caves**	**5.40**	**322**	‖ *i* P	**Pn**	**18 18 31.5**	**-0.3**
CVP				*i* S	**Sn**	**18 19 29.8**	**-3.5**
BUKP	**Musuan**	**5.54**	**182**	*e* P	Pb	18 18 43.2	-5.5
APYP	**Conner**	**5.88**	**319**	*e* P	**Pn**	**18 18 37.3**	**-1.2**
ABRA	**Dolores**	**6.08**	**314**	*e* P	**Pn**	**18 18 41.9**	**+0.6**
SZP	**Santa**	**6.20**	**312**	*e*Pn	**Pn**	**18 18 42.3**	**-0.6**
	292nm,0.9s						
SZP				*e*Sn	**Sn**	**18 19 48.4**	**-4.8**
CTBH	**Cotabato--PC H**	**6.27**	**190**	⇑ *i* P	Pn	18 18 47.2	+3.4
DAV	**Davao City (W)**	**6.34**	**177**	Pn	**Pn**	**18 18 47.0**	**+2.1**
SGSI	**Sangihe**	**9.70**	**179**	P	Pn	18 19 46.5	+16
	107nm,1.1s						
TWG	**Pinlang**	**10.15**	**337**	*e*Pn	**Pn**	**18 19 40.4**	**+3.2**
TWG				*e*Sn	Sn	18 21 21.4	-8.9
YULB	**Yu-li**	**10.60**	**340**	*e*Pn	Pn	18 19 38.9	-4.3
YULB				*e*Sn	Sn	18 21 27.1	-14
TPUB	**Ta-pu**	**10.76**	**336**	*e*Pn	**Pn**	**18 19 42.9**	**-2.6**
TPUB				*e*sPn	sPn	18 19 52.7	-1.3
TPUB				*e*Sn	Sn	18 21 28.2	-17
SSLB	**Suanglung**	**11.08**	**339**	*e*Pn	**Pn**	**18 19 51.5**	**+1.6**
SSLB				*e*Sn	Sn	18 21 45.4	-7.8
YHNB	**Yeheng**	**11.76**	**342**	*e*Pn	**Pn

GENI	Genyem	21.72	136	P	P	18 22 21.3	+19
GYA	Guiyang	21.74	309⇑	*i*P	P	18 22 03.3	+0.5
GYA				pP	pP	18 22 10.3	+1.1
GYA				PP	PnPn	18 22 29.0	+4.9
GYA				S	S	18 25 57.8	-4.7
GYA				SS	SnSn	18 26 36.5	+8.8
GYA				PMZ			
	20nm,0.8s						
GYA				PMZ			
	100nm,4.7s						
GYA				LN			
	1μm,16.9s						
GYA				LE			
	610nm,13.9s						
GYA				LZ			
	670nm,14.2s						
SLVN	Son La	21.85	294	*e*P	P	18 22 01.1	-2.9
	25nm,1.1s						
KHON	Khomkaen	21.91	280	P	P	18 22 14.5	+10
MMRI	Maumere	22.14	188	P	P	18 22 20.1	+13
MMRI	Maumere	22.14	188	*e*P	P	18 22 03.9	-3.1
	122nm,1.1s						
ENH	Enshi	22.22	321	P	P	18 22 10.3	+2.5
	21nm,1.2s						
EDFI	Ende, Flores	22.34	189	P	P	18 22 11.2	+2.0
SOEI	Soe	23.07	183	P	P	18 22 18.3	+1.3
SOEI	Soe	23.07	183	*e*P	P	18 22 15.9	-1.1
KMMI	Kalianget	23.26	210	P	P	18 22 19.6	+0.8
NAYO	Nakonayok	23.29	275	P	P	18 22 28.4	+9.3
BATI	Baumata	23.55	184	P	P	18 22 20.3	-1.4
BATI	Baumata	23.55	184	P	P	18 22 19.9	-1.8
	20nm,0.4s,baz=359,slow=3.4,SNR=9.3						
BATI				LR	LR	18 32 56.4	
	comp=Z,372nm,18.8s,baz=335,slow=40						
SRBI	Singaraja	23.62	206	P	P	18 22 21.4	-0.9
PBKT	Sadao Pong	23.70	281	P	P	18 22 23.1	0.0
	13nm,1.2s						
ABJI	Asem Bagus	23.79	208	P	P	18 22 24.0	+0.1
TIA	Tai'an	23.83	343	*e*P	P	18 22 24.0	-0.2
TIA				PMZ			
	10.0nm,1.5s						
TIA				LN			
	320nm,11.0s						
TIA				LE			
	960nm,13.7s						
TIA				LZ			
	320nm,17.0s						
KSAR	Wonju Array Be	24.01	5	P	P	18 22 26.2	+0.4
KSAR	Wonju Array Be	24.01	5	P	P	18 22 26.2	+0.4
KSRS	Korea Array	24.03	5	P	P	18 22 26.2	+0.3
	18nm,1.1s,baz=182,slow=10,SNR=26						
KSRS				LR	LR	18 32 09.6	
	comp=Z,100nm,20.6s,baz=198,slow=37						
BLJI	Banyuglugur	24.05	210	P	P	18 22 35.6	+9.3
KS01	Wonju Array Si	24.05	5	*e*P	P	18 22 26.1	0.0
DNP	Denpasar	24.15	205	P	P	18 22 27.8	+0.5
MYKOM	Kota Tinggi	24.17	243	*e*P	P	18 22 26.8	-0.8
	69nm,1.5s						
KMI	Kunming	24.21	302	P	P	18 22 27.5	-0.6
KMI				pP	pP	18 22 33.8	-1.2
KMI				sP	sP	18 22 36.5	-1.3
KMI				PP	PnPn	18 23 04.5	+6.5
KMI				S	S	18 26 47.0	+1.4
KMI				sS	sS	18 26 57.0	+0.2
KMI				SS	SnSn	18 27 34.5	+6.2
KMI				PMZ			
	28nm,1.7s						
KMI				LN			
	570nm,10.7s						
KMI				LE			
	720nm,12.2s						
KMI				LZ			
	750nm,12.9s						
IGBI	Denpasar	24.31	205	P	P	18 22 28.0	-0.7
JAGI	Jajag, Banyuwa	24.42	208	P	P	18 22 30.3	+0.5
JAGI	Jajag, Banyuwa	24.42	208	*e*P	P	18 22 28.8	-1.1
	75nm,0.9s						
GMJI	Gumukmas	24.58	209	P	P	18 22 30.3	-0.9
NGJI	Ngawi	24.82	214	P	P	18 22 34.0	+0.5
XAN	Xi'an	25.33	327	P	P	18 22 37.0	-0.9
XAN				sP	sP	18 22 47.5	-0.1
XAN				PP	PnPn	18 23 18.0	+4.9
XAN				S	S	18 27 04.0	+1.0
XAN				SS	SnSn	18 28 09.5	+14
XAN				PMZ			
	6.0nm,1.2s						
XAN				PMZ			
	34nm,5.0s						
XAN				LN			
	310nm,10.7s						
XAN				LE			
	150nm,11.3s						
XAN				LZ			
	130nm,10.7s						
WOJI	Wonogiri, Jawa	25.51	215	P	P	18 22 40.3	+0.6
PCJI	Pacitan	25.67	214	P	P	18 22 54.9	+14
MJAR	Matsushiro Arr	25.75	24	LR	LR	18 31 07.5	
	comp=Z,192nm,21.5s,baz=200,slow=32						
CM01	Chiang Mai Arr	25.79	285	*e*P	P	18 22 40.6	-1.6
CMAR	Chiang Mai Arr	25.81	285	P	P	18 22 41.5	-1.0
	7.6nm,0.8s,baz=97,slow=7.6,SNR=38						
CMAR				PcP	PcP	18 26 12.7	+0.8
	1.7nm,0.9s,baz=129,slow=2.4,SNR=5.9						
CMAR				ScP	ScP	18 29 51.1	+0.9
	0.3nm,0.7s,baz=345,slow=1.4,SNR=4.6						
CMAR				LR	LR	18 33 21.1	
	comp=Z,251nm,18.0s,baz=100,slow=38						
CMMT	Chiang Mai	25.85	285	P	P	18 22 42.6	-0.3
	9.8nm,1.2s						
CHTO	Chiang Mai	25.86	285	*e*P	P	18 22 39.9	-3.0
CHTO				*e*		18 26 12.4	
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CHTO	Chiang Mai	25.86	285	P	P	18 22 42.7	-0.2
	comp=Z,73nm,1.9s						
CHTO	Chiang Mai	25.86	285	*e*P	P	18 22 39.9	-3.0
	comp=Z,4.6nm,0.8s						
CHTO				*e*PcP	PcP	18 26 12.4	+0.4
CMAI	Chiengmai2	25.94	288	P	P	18 22 42.7	-1.1
KPJI	Karang Pucung	26.27	219	P	P	18 22 46.6	0.0
CD2	Chengdu	26.37	315	P	P	18 22 47.3	-0.2
CD2				sP	sP	18 22 57.5	+0.3
CD2				PP	PnPn	18 23 33.3	+6.0
CD2				S	S	18 27 17.0	-2.6
CD2				sS	sS	18 27 27.5	-3.4
CD2				PMZ			
	comp=Z,30nm,1.5s						
CD2				PMZ			
	comp=Z,260nm,9.5s						
CD2				LN			
	comp=Z,1μm,13.1s						
CD2				LE			
	comp=Z,1μm,13.7s						
CD2				LZ			
	comp=Z,920nm,15.5s						
BJI	Beijing	27.68	345	P	P	18 23 01.5	+2.5
BJI				S	S	18 27 39.3	-0.6
BJI				PMZ			
	comp=Z,23nm,0.8s						
BJI				LN			
	comp=Z,320nm,10.1s						
BJI				LE			
	comp=Z,590nm,13.6s						
BJI				LZ			
	comp=Z,130nm,19.1s						
PSI	Prapat	28.13	250	P	P	18 23 02.0	-1.5
	comp=Z,2.3nm,0.4s,baz=299,slow=13,SNR=2.9						
PSI				LR	LR	18 34 09.7	
	comp=Z,388nm,19.6s,baz=68,slow=36						
SNY	Shenyang	28.32	357	⇑P	P	18 23 07.3	+2.6
SNY				S	S	18 27 49.8	-0.1
SNY				PMZ			
	comp=Z,18nm,1.1s						
SNY				PMZ			
	comp=Z,290nm,4.5s						
SNY				LN			
	comp=Z,690nm,14.5s						
SNY				LE			
	comp=Z,490nm,14.2s						
SNY				LZ			
	comp=Z,450nm,13.5s						
KCSI	Kotacane, Aceh	28.92	253	P	P	18 23 03.5	-6.9
LZH	Lanzhou	29.66	323	*e*P	P	18 23 18.8	+1.9
LZH				pP	pP	18 23 23.0	-0.8
LZH				sP	sP	18 23 26.5	-0.2
LZH				*e*S	S	18 28 11.0	-0.5
LZH				sS	sS	18 28 21.3	-1.6
LZH				SS	SnSn	18 29 46.8	+5.6
LZH				PMZ			
	comp=Z,26nm,1.0s						
LZH				PMZ			
	comp=Z,160nm,4.8s						
LZH				LN			
	comp=Z,930nm,13.2s						
LZH				LE			
	comp=Z,760nm,12.4s						
LZH				LZ			
	comp=Z,830nm,14.4s						
HHC	Hu-ho-hao-te	29.83	339	*e*P	P	18 23 19.8	+1.5
HHC				pP	pP	18 23 25.8	+0.6
HHC				sP	sP	18 23 28.8	+0.8
HHC				PP	PnPn	18 24 17.0	+2.5
HHC				S	S	18 28 15.8	+1.9
HHC				ScS	ScS	18 33 54.5	-2.9
HHC				PMZ			
	comp=Z,33nm,0.6s						
HHC				PMZ			
	comp=Z,150nm,5.6s						
HHC				LN			
	comp=Z,340nm,14.7s						
HHC				LE			
	comp=Z,630nm,13.3s						
HHC				LZ			
	comp=Z,270nm,14.5s						
CN2	Changchun	30.25	0	*e*P	P	18 23 24.3	+2.5
USRK	Ussuriysk Ar.	31.18	9	P	P	18 23 30.1	0.0
	comp=Z,6.1nm,0.9s,baz=189,slow=8.8,SNR=7.4						
USRK				LR	LR	18 35 34.0	
	comp=Z,97nm,21.8s,baz=155,slow=35						
MDJ	Mudanjiang	31.28	6	P	P	18 23 31.5	+0.6
MDJ				pP	pP	18 23 37.3	-0.5
MDJ				sP	sP	18 23 39.8	-0.9
MDJ				S	S	18 28 38.0	+1.6
MDJ				sS	sS	18 28 48.3	+0.5
MDJ				ScP	ScP	18 30 07.0	+0.3
MDJ				PcS	PcS	18 30 10.3	+1.3
MDJ				PMZ			
	comp=Z,8.0nm,1.9s						
MDJ				LN			
	comp=Z,240nm,12.9s						
MDJ				LE			
	comp=Z,370nm,12.9s						
MDJ				LZ			
	comp=Z,340nm,12.0s						
PMG	Port Moresby	31.41	135⇑	*e*P	P	18 23 31.5	-0.8
PMG				pmax	pmax		
	comp=Z,21nm,1.5s						
SHL	Shillong	33.62	296	*e*P	P	18 23 52.0	0.0
ASAJ	Asahikawa	33.97	23	LR	LR	18 34 54.7	
	comp=Z,160nm,21.4s,baz=356,slow=31						
GTA	Gaotai	34.26	324	*e*P	P	18 23 57.8	+0.6
GTA				pP	pP	18 24 03.5	-0.7
GTA				sP	sP	18 24 06.5	-0.5
GTA				PcP	PcP	18 26 34.3	+0.8
GTA				S	S	18 29 21.8	-1.3
GTA				PMZ			
	comp=Z,8.0nm,1.5s						
GTA				PMZ			
	comp=Z,110nm,5.2s						
GTA				LN			
	comp=Z,350nm,14.3s						
GTA				LE			
	comp=Z,440nm,13.3s						
GTA				LZ			
	comp=Z,410nm,12.8s						
WRAB	Tennant Creek	34.34	165⇑	*e*P	P	18 23 56.6	-1.4
WRAB				pmax	pmax		
	comp=Z,14nm,1.3s						
WRA	Warramunga Arr	34.35	165	P	P	18 23 56.6	-1.4
	comp=Z,1.5nm,0.7s,baz=346,slow=9.0,SNR=16						
WRA				PcP	PcP	18 26 34.6	+0.7
	comp=Z,2.2nm,0.9s,baz=338,slow=3.7,SNR=4.6						
WRA				S	S	18 29 19.4	-5.1
	comp=Z,1.9nm,1.0s,baz=342,slow=15,SNR=3.7						
LSA	Lhasa	35.47	303	*e*P	P	18 24 08.6	+0.4
LSA				pmax	pmax		
	comp=Z,42nm,1.1s						
LSA	Lhasa	35.47	303	*e*P	P	18 24 08.6	+0.4
	comp=Z,42nm,1.1s						
KLR	Kul'dur	36.08	7	*e*P	P	18 24 09.2	-3.4
KLR				pmax	pmax		
	comp=Z,42nm,1.8s						
KLR				MLR	MLR		
	comp=Z,1μm,12.5s						
ULN	Ulaanbaatar	37.53	340*c*	*i*P	P	18 24 24.7	-0.5
ULN				pmax	pmax		
	comp=Z,35nm,1.2s						
ULN	Ulaanbaatar	37.53	340	*e*P	P	18 24 24.9	-0.3
	comp=Z,29nm,1.1s						
TAPN	Taplejung	37.69	297	*e*P	P	18 24 26.1	-0.9
	comp=Z,71nm,1.1s						
SONM	Songino Array	37.73	339	P	P	18 24 27.3	+0.4
	comp=Z,17nm,0.9s,baz=151,slow=7.6,SNR=38						
SONM				LR	LR	18 42 15.7	
	comp=Z,285nm,18.2s,baz=161,slow=40						
AS31	Alice Springs	37.83	167	*e*P	P	18 24 26.0	-1.8
ASAR	Alice Springs	37.83	167	P	P	18 24 27.5	-0.3
	comp=Z,2.2nm,0.6s,baz=348,slow=7.4,SNR=45						
ASAR				S	S	18 30 16.0	-1.8
	comp=Z,2.4nm,0.9s,baz=346,slow=15,SNR=9.0						
ASAR				LR	LR	18 42 06.1	
	comp=Z,113nm,18.2s,baz=334,slow=40						
AS01	Alice Springs	37.84	167	*e*P	P	18 24 26.1	-1.8
ODAN	Odare	37.85	297	*e*P	P	18 24 27.7	-0.6
	comp=Z,76nm,0.9s						
RAMN	Ramite	38.56	296	*e*P	P	18 24 34.0	-0.3
	comp=Z,146nm,1.4s						
JIRN	Jiri	39.07	297	*e*P	P	18 24 38.2	-0.5
	comp=Z,86nm,1.3s						
GUN	Gumba	39.40	298	*e*P	P	18 24 40.9	-0.5
	comp=Z,96nm,1.0s						
CIT	Chita	39.62	349	*e*P	P	18 24 43.4	+0.8
CIT				*e*		18 25 00.0	
PKI	Pulchoki	39.73	297	*e*P	P	18 24 43.1	-1.0
	comp=Z,53nm,1.1s						
PKIN	Phulchoki	39.74	297	*e*P	P	18 24 43.8	-0.4
	comp=Z,37nm,1.1s						
KKN	Kakani	39.89	297	*e*P	P	18 24 44.0	-1.3
	comp=Z,78nm,1.4s						
DMN	Daman	40.00	297	*e*P	P	18 24 45.3	-1.0
	comp=Z,72nm,1.1s						
GKN	Gorkha	40.49	297	*e*P	P	18 24 48.9	-1.4
	comp=Z,75nm,1.3s						
ZAK	Zakamensk	40.98	339	*e*P	P	18 24 53.9	0.0
ZAK				*e*		18 27 03.0	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
DANN	Dangsing	41.32	298	*e*P	P	18 24 56.2	-1.1
	comp=Z,63nm,1.1s						
KOLN	Koldanda	41.34	297	*e*P	P	18 24 56.6	-0.7
	comp=Z,37nm,1.0s						
TLY	Talaya	41.94	340	*e*P	P	18 25 02.5	+0.8
TLY				*e*S	S	18 31 14.7	-4.2
TLY				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TLY				MLR	MLR		
	comp=Z,195nm,16.0s						
TLY	Talaya	41.94	340	P	P	18 25 01.7	0.0
	comp=Z,2.3nm,0.7s,baz=169,slow=8.5,SNR=7.7						
TLY	Talaya	41.94	340	*e*P	P	18 25 01.7	0.0
	comp=Z,10.0nm,1.1s						
IRK	Irkutsk	42.22	341	*e*P	P	18 25 03.4	-0.5
IRK				pmax	pmax		
	comp=Z,24nm,1.9s						
FORT	Forrest	44.05	177	P	P	18 25 18.1	-0.8
	comp=Z,41nm,0.8s						
WMQ	Urumqi	44.16	321	P	P	18 25 20.5	+0.7
WMQ				pP	pP	18 25 27.5	+0.6
WMQ				sP	sP	18 25 30.8	+1.1
WMQ				PP	PcP	18 27 04.5	-0.1
WMQ				S	S	18 31 51.8	0.0
WMQ				sS	sS	18 32 02.0	-1.4
WMQ				SS	SS	18 35 00.8	-9.1
WMQ				ScS	ScS	18 35 15.0	-2.3
WMQ				PMZ			
	comp=Z,12nm,1.4s						
WMQ				PMZ			
	comp=Z,100nm,3.5s						
WMQ				LN			
	comp=Z,460nm,15.0s						
WMQ				LE			
	comp=Z,460nm,15.0s						
WMQ				LZ			
	comp=Z,270nm,15.0s						
BOD	Bodaibo	45.11	351	*e*P	P	18 25 25.9	-1.1
BOD				pmax	pmax		
	comp=Z,8.0nm,0.1s						
HYB	Hyderabad	45.15	281	*i* PKP	P	18 25 26.5	-1.5
HYB				*e*		18 25 35.0	
HVS	Khovu-Aksy	45.45	332⇑	*e*P	P	18 25 29.5	-0.5
HVS				pmax	pmax		
	comp=Z,52nm,1.4s						
BBOO	Buckleboo	47.13	168	*e*P	P	18 25 42.9	-0.3
	comp=Z,3μm,2.8s						
PETK	Petropavlovsk-	47.19	26	P	P	18 25 44.2	+0.7
	comp=Z,8.2nm,1.0s,baz=240,slow=6.0,SNR=5.2						
PETK				LR	LR	18 48 33.1	
	comp=Z,43nm,18.2s,baz=211,slow=40						
YAK	Yakutsk	48.62	3	*e*P	P	18 25 53.3	-1.1
YAK				*e**PP	pP	18 26 03.0	+1.5
YAK				*e*		18 27 20.7	
YAK				*e*		18 27 47.5	
YAK				*e*S	S	18 32 52.5	-2.3
YAK				*e**SS	sS	18 33 12.6	+6.0
YAK				*e*		18 35 38.3	
YAK				pmax	pmax		
	comp=Z,12nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,47nm,2.8s						
YAK				pmax	pmax		
	comp=Z,80nm,3.4s						
YAK				pmax	pmax		
	comp=N,41nm,2.8s						
YAK				smax	smax		
	comp=N,57nm,3.5s						
YAK				smax	smax		
	comp=E,55nm,3.8s						
YAK				MLR	MLR		
	comp=Z,125nm,14.0s						
YAK				MLR	MLR		
	comp=N,107nm,14.0s						
YAK				MLR	MLR		
	comp=E,114nm,14.0s						
YAK	Yakutsk	48.62	3	P	P	18 25 55.8	+1.5
	comp=E,2.3nm,0.3s,baz=206,slow=0.8,SNR=6.6						
YAK	Yakutsk	48.62	3	*e*P	P	18 25 53.8	-0.6
	comp=E,30nm,1.3s						
MK01	Makanchi Array	48.93	322	*e*P	P	18 25 57.4	+0.2
MKAR	Makanchi Array	48.95	322*c*	*e*P	P	18 25 58.0	+0.7
MKAR				pmax	pmax		
	comp=Z,13nm,0.8s						
MKAR	Makanchi Array	48.95	322	P	P	18 25 58.0	+0.7
	comp=Z,13nm,0.8s,baz=115,slow=8.7,SNR=80						
MKAR				ScP	ScP	18 31 16.2	+1.0
	comp=Z,1.1nm,1.1s,baz=90,slow=4.3,SNR=3.5						
MKAR				LR	LR	18 48 45.8	
	comp=Z,150nm,19.0s,baz=118,slow=39						
POO	Poona	49.59	283	*e*P	P	18 26 01.5	-1.1
KSH	Kashi	50.44	310	P	P	18 26 11.0	+2.1
KSH				pP	pP	18 26 18.0	+2.0
KSH				PP	PP	18 28 08.0	+3.4
KSH				S	S	18 33 21.8	+0.4
KSH				sS	sS	18 33 34.0	+0.9
KSH				ScS	ScS	18 35 56.0	-2.9
KSH				SS	SS	18 36 54.0	-1.3
KSH				PMZ			
	comp=Z,19nm,1.4s						
KSH				PMZ			
	comp=Z,130nm,3.7s						
KSH				LN			
	comp=Z,210nm,6.1s						
KSH				LE			
	comp=Z,120nm,9.1s						
KSH				LZ			
	comp=Z,210nm,15.9s						
ULHL	Ulahol	51.08	314	P	P	18 26 14.6	+0.8
	SNR=15						
ZALV	Zalesovo Beam	51.41	331	*i* P	P	18 26 14.8	-0.9
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV	Zalesovo Beam	51.41	331	P	P	18 26 15.2	-0.6
	comp=Z,1.7nm,0.7s,baz=116,slow=6.9,SNR=12						
KZA	Kyzart	51.73	313	P	P	18 26 20.1	+1.2
	SNR=14						
TKM2	Tokmak 2	51.76	314	P	P	18 26 19.4	+0.6
	SNR=7.6						
TKM2	Tokmak 2	51.76	314	*e*P	P	18 26 19.1	+0.3
TKM2				pmax	pmax		
	comp=Z,18nm,1.4s						
TKM2	Tokmak 2	51.76	314	*e*P	P	18 26 19.1	+0.3
	comp=Z,18nm,1.4s						
KBK	Karagaybulak	52.12	314	P	P	18 26 22.6	+1.0
	SNR=7.9						
UCH	Uchtor	52.30	313	P	P	18 26 24.5	+1.4
	SNR=21						
FRU	Bishkek	52.41	314	*e*P	P	18 26 25.0	+1.5
FRU				*e*		18 26 39.0	
AAK	Ala-Archa	52.43	314⇑	*e*P	P	18 26 23.8	0.0
AAK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
AAK	Ala-Archa	52.43	314	*e*P	P	18 26 24.0	+0.2
	comp=Z,6.1nm,0.9s						
USP	Ospenovka	52.63	315	P	P	18 26 25.9	+0.7
	SNR=6.0						
USP	Ospenovka	52.63	315	*i* P	P	18 26 25.8	+0.7
NVS	Novosibirsk	52.68	331	*e*P	P	18 26 23.0	-2.2
NVS				pmax	pmax		
	comp=N,9.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,12nm,1.5s						
NVS				pmax	pmax		
	comp=Z,21nm,1.5s						
AML	Almayashu	52.85	313	P	P	18 26 28.2	+1.0
	SNR=12						
KURK	Kurchatov	52.94	325	P	P	18 26 27.2	0.0
	comp=Z,198nm,1.1s,SNR=21						
KURK	Kurchatov	52.94	325	*e*P	P	18 26 27.6	+0.5
KURK				pmax	pmax		
	comp=Z,42nm,1.1s						
KURK	Kurchatov	52.94	325	*e*P	P	18 26 27.6	+0.5
	comp=Z,42nm,1.1s						
EKS2	Erkin-Say	52.95	314	P	P	18 26 28.6	+1.0
	SNR=8.4						
EKS2	Erkin-Say	52.95	314	*e*P	P	18 26 27.6	0.0
EKS2				pmax	pmax		
	comp=Z,110nm,2.6s						
EKS2	Erkin-Say	52.95	314	*e*P	P	18 26 27.6	0.0
	comp=Z,110nm,2.6s						
SEY	Seymchan	53.01	15	P	P	18 26 28.6	+1.1
	comp=Z,2.4nm,0.8s,baz=231,slow=9.5,SNR=18						
KBL	Kabul	54.79	303	*e*P	P	18 26 40.7	-0.6
KBL				pmax	pmax		
	comp=Z,19nm,1.0s						
KBL	Kabul	54.79	303	*e*P	P	18 26 40.7	-0.6
	comp=Z,18nm,1.0s						
KKAR	Karatay Array	55.38	313	*e*P	P	18 26 45.0	-0.1
KKAR	Karatay Array	55.38	313	*e*P	P	18 26 45.0	-0.1
TIXI	Tiksi	58.22	1⇑	*i*P	P	18 27 04.2	-0.6
TIXI				pmax	pmax		
	comp=Z,16nm,2.0s						
TIXI	Tiksi	58.22	1	*e*P	P	18 27 03.9	-0.8
	comp=Z,13nm,1.3s						
BRVK	Borovoye	58.61	325	P	P	18 27 08.9	+1.1
	comp=Z,167nm,0.9s,SNR=14						
BILL	Bilibino	60.64	16⇑	*i*P	P	18 27 21.8	+0.3
BILL				*i*		18 29 33.0	
BILL				*e*S	S	18 35 55.4	+19
BILL				*e*SS	SS	18 39 41.1	+6.4
BILL				pmax	pmax		
	comp=Z,15nm,2.2s						
BILL				MLR	MLR		
	comp=Z,97nm,17.0s						
BILL	Bilibino	60.64	16	*e*P	P	18 27 21.6	0.0
	comp=Z,38nm,1.8s						
IMYA	Miami	62.23	304	*e*P	P	18 27 33.4	+0.3
IDAH	Dahanechah	62.27	300	*e*P	P	18 27 33.5	0.0
IKOO	Kooshah	62.99	300	*e*P	P	18 27 38.6	+0.2
IPAY	Payeh	63.13	304	*e*P	P	18 27 39.1	-0.1
ITEG	Tejag	63.22	300	*e*P	P	18 27 40.1	+0.3
IAKL	Akhelmad	63.33	304	*e*P	P	18 27 40.9	+0.3
IKRD	Kardeh	63.53	304	*e*P	P	18 27 37.2	-4.7
ABKAR	Akbulak array	63.87	318	*e*P	P	18 27 43.7	+0.1
GEYT	Alibeck	63.91	306	P	P	18 27 43.5	-0.6
	comp=Z,6.4nm,0.8s,baz=114,slow=7.1,SNR=16						
GEYT				LR	LR	18 58 23.4	

comp=Z,146nm,18.8s,baz=95,slow=39
SVE Sverdlovsk 65.05 327 *eP* **P 18 27 51.7 +0.6**
SVE pmax pmax
comp=Z,22nm,1.1s
ARU Arti 66.07 326*c i*P **P 18 27 57.1 -0.6**
ARU 18 28 27.2
ARU S **S 18 36 44.4 -0.1**
ARU pmax pmax
comp=Z,20nm,2.5s
ARU Arti 66.07 326 *eP* **P 18 27 56.5 -1.2**
comp=Z,16nm,1.1s
ISRV Sarvestan 68.12 296 *eP* **P 18 28 11.2 -0.6**
IPAR Pars 68.15 297 *eP* **P 18 28 11.9 0.0**
TNA Tin City 68.31 24 *eP* **P 18 28 13.0 +1.3**
comp=Z,40nm,2.1s
IPIR Pirpir 69.83 300 *eP* **P 18 28 20.9 -1.4**
PRGR Permogore 73.36 331 P **P 18 28 40.9 -1.6**
PRGR pmax pmax
comp=Z,9.0nm,1.2s
IM04 Indian Mountai 74.12 25 *eP* **P 18 28 48.0 +1.0**
ZEI Tsey 74.72 311 *eP* **P 18 28 49.2 -2.0**
ZEI pmax pmax
comp=Z,12nm,1.3s
KBZ Khabaz 75.38 312 P **P 18 28 54.6 0.0**
comp=Z,4.1nm,1.0s,baz=63,slow=9.0,SNR=8.7
KIV Kislovodsk 75.51 312*ceP* **P 18 28 55.5 -0.1**
KIV *i* 18 31 39.0
KIV *eS* **S 18 38 34.0 -1.0**
KIV pmax pmax
comp=Z,27nm,1.7s
KIV Kislovodsk 75.51 312 *eP* **P 18 28 54.8 -0.8**
RAYN Ar Rayn 75.53 291 *eP* **P 18 28 55.1 -0.8**
comp=Z,21nm,1.0s
COLD Coldfoot 75.58 24 *eP* **P 18 28 56.8 +1.4**
VRHR Novokhopersk 75.70 320 *eP* **P 18 28 54.7 -1.7**
VRHR pmax pmax
comp=E,5.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,3.0nm,0.6s
MCK McKinley 76.18 27 *eP* **P 18 28 58.2 -0.7**
MCK McKinley 76.18 27 *eP* **P 18 28 58.1 -0.7**
KLMR Klimovskoe 76.32 330 *eP* P 18 28 54.2 -5.5
KLMR pmax pmax
comp=Z,29nm,1.4s
ILAR Eielson Array 77.02 26 P **P 18 29 03.8 +0.2**
comp=Z,1.2nm,0.8s,baz=249,slow=6.4,SNR=13
VORD Divnogorie 77.18 320 *eP* **P 18 29 03.7 -1.0**
VORD pmax pmax
comp=N,150nm,0.8s
VORD pmax pmax
comp=E,50nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 77.24 320 *eP* **P 18 29 03.6 -1.4**
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
OBN Obninsk 78.38 324⇑ *eP* **P 18 29 10.4 -0.9**
OBN *i* 18 32 03.6
OBN *eS* **S 18 39 04.5 -1.0**
OBN pmax pmax
comp=Z,23nm,1.3s
OBN MLR MLR
comp=Z,136nm,17.0s
MENT Mentasta 78.59 28 P **P 18 29 12.7 +0.3**
JOF Joensuu 79.95 332 *eP* **P 18 29 18.6 -1.2**
JOF pmax pmax
comp=Z,1.0nm,0.6s
JOF Joensuu 79.95 332 *ep* **P 18 29 18.6 -1.2**
comp=Z,0.7nm,0.6s
ARCES ARCESS Array B 80.91 339 P **P 18 29 23.5 -1.3**
comp=Z,2.0nm,0.9s,baz=66,slow=6.8,SNR=6.5
INK Inuvik 81.70 22 *eP* **P 18 29 29.8 +0.8**
INK Inuvik 81.70 22 P **P 18 29 28.7 -0.3**
comp=Z,2.5nm,0.9s,baz=164,slow=32,SNR=6.8
INK Inuvik 81.70 22 *eP* **P 18 29 29.8 +0.8**
HYT Haines Junctio 81.86 29 *eP* **P 18 29 32.4 +2.2**
KAF Kangasniemi 82.39 332 *eP* P 18 29 36.7 +3.9
KAF pmax pmax
comp=Z,2.0nm,0.8s
KAF Kangasniemi 82.39 332 *ep* P 18 29 36.7 +3.9
comp=Z,1.7nm,0.8s
FINES FINESS Array B 82.66 331*ceP* **P 18 29 35.0 +0.8**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 82.66 331 P **P 18 29 34.1 -0.1**
comp=Z,1.2nm,0.7s,baz=72,slow=6.2,SNR=7.4
BRTR Keskin Array B 82.80 309 P **P 18 29 34.8 -0.8**
comp=Z,0.9nm,0.8s,baz=104,slow=5.2,SNR=6.1
VSU Vasula 83.08 328*ceP* **P 18 29 35.4 -1.0**
VSU pmax pmax
comp=Z,37nm,1.2s
ABPO Ambohimpanom 83.37 249 *eP* **P 18 29 37.9 -1.0**
ABPO Ambohimpanom 83.37 249 *eP* **P 18 29 37.9 -1.0**
BR231 Keskin MP Arra 83.43 309 *eP* **P 18 29 38.6 -0.1**
BR231 *ep*P **pP 18 29 45.8 -0.5**
MICGM Minsk 83.43 324 *e* P 18 29 32.0 -6.3
MNK Minsk 83.46 324 *eP* **P 18 29 37.0 -1.4**
AKASG Malin Array Be 83.52 320*ceP* **P 18 29 38.0 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 83.52 320 P **P 18 29 37.7 -1.1**
comp=Z,0.9nm,0.7s,baz=63,slow=5.2,SNR=12
NACGM Naroch 83.95 325 *e* **P 18 29 39.0 -2.0**
CSS Prodhromos 84.01 304 *eP* **P 18 29 41.6 -0.1**
CFR Carcaliu 85.55 315⇑ *iP* P 18 29 56.8 +7.6
PSN Preselentsi 85.89 314⇑ *iP* P 18 29 57.1 +6.1
TESR Tescani 86.21 317⇓ *iP* **P 18 29 52.5 0.0**
VRI Vrincioaia 86.33 316⇑ *iP* **P 18 29 53.1 0.0**
PLOR Plostina 86.39 316⇓ *iP* **P 18 29 50.8 -2.7**
BURAR Bucovina Array 86.85 318⇑ *iP* **P 18 29 55.8 0.0**
MLR Muntele Rosu 86.96 316⇓ *iP* P 18 29 52.7 -3.7
MLR Muntele Rosu 86.96 316 P **P 18 29 57.5 +1.2**
comp=Z,1.0nm,1.1s,baz=171,slow=4.7,SNR=4.1
KMBO Kilima Mbogo 88.36 268 *eP* **P 18 30 03.7 -0.1**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
KMBO Kilima Mbogo 88.36 268 *eP* **P 18 30 03.7 -0.1**
comp=Z,1.7nm,0.9s
UZH Uzhgorod 88.42 320 *eP* **P 18 30 01.7 -1.4**
UZH *i* 18 30 11.9
RES Resolute Bay 88.56 10 *eP* **P 18 30 04.0 +0.8**
RES Resolute Bay 88.56 10 P **P 18 30 04.6 +1.4**
comp=Z,4.5nm,0.8s,baz=313,slow=6.0,SNR=13
RES Resolute Bay 88.56 10 *eP* **P 18 30 04.0 +0.8**
HFS Hagfors 88.81 332 P **P 18 30 04.0 -0.7**
comp=Z,1.6nm,0.6s,baz=116,slow=3.4,SNR=10
STHS Stebnicka Huta 88.82 321 *eP* P 18 30 08.2 +3.2
STHS Stebnicka Huta 88.82 321 *esP* **P 18 30 08.2 +3.2**
CRVS Cervenica-Dubn 88.85 320 *eP* P 18 30 10.1 +4.9
CRVS Cervenica-Dubn 88.85 320 *e* P 18 30 10.1 +4.9
CRVS 18 38 47.5
PPT Papeete 89.45 108 LR LR 19 05 55.8
comp=Z,79nm,18.5s,baz=254,slow=33
NB2 NORSAR Subarra 89.51 334 P P 18 30 13.3 +5.3
comp=Z,3.5nm,1.1s,baz=63,slow=4.8
NOA NORSAR Array B 89.51 334 P **P 18 30 06.5 -1.6**
comp=Z,0.6nm,0.7s,baz=65,slow=4.6,SNR=3.0
NOA LR LR 19 12 05.6
comp=Z,93nm,21.0s,baz=80,slow=37
MMB Musomiste 89.63 313⇑ *iP* **P 18 30 08.3 -0.7**
VYHS Vyhne 90.62 320 *eP* P 18 30 22.8 +9.3
VYHS Vyhne 90.62 320 *e* P 18 30 22.8 +9.3
YKA Yellowknife Ar 91.26 24 P **P 18 30 16.1 +0.1**
comp=Z,0.9nm,1.0s,baz=300,slow=4.5,SNR=8.3
VNDA Vanda 93.18 173 *eP* **P 18 30 24.9 +0.4**
VNDA Vanda 93.18 173 P **P 18 30 24.6 +0.1**
comp=Z,3.4nm,0.9s,baz=310,slow=5.7,SNR=11
VNDA Vanda 93.18 173 *eP* **P 18 30 24.9 +0.4**
TXAR Lajitas Array 116.43 47 PKP **PKPdf 18 35 55.9 +0.4**
comp=Z,0.4nm,0.7s,baz=318,slow=1.2,SNR=4.4
TORD Torodi Ar. Bea 118.18 293 PKP **PKPdf 18 35 58.0 -1.0**
comp=Z,0.9nm,0.9s,baz=56,slow=3.3,SNR=4.8
SSPA Standing Stone 122.06 21 *e*PKPpre PKPpre 18 35 57.9
DBIC Dimbokro 126.62 289 PKP **PKPdf 18 36 15.6 +0.4**
comp=Z,3.1nm,1.0s,baz=36,slow=5.6,SNR=3.3
PLCA Paso Flores 149.48 156 *e*PKP2 **PKPbc 18 37 01.8 +1.3**
PLCA Paso Flores 149.48 156 PKPbc **PKPbc 18 37 01.4 +0.9**
comp=Z,6.0nm,1.0s,baz=212,slow=5.5,SNR=6.9
PLCA Paso Flores 149.48 156 *e*PKPbc **PKPbc 18 37 01.8 +1.3**
SDV Santo Domingo 152.75 36 *e*PKPdf **PKPdf 18 37 02.6 +0.7**
SDV *e*PKPbc **PKiKP 18 37 09.1 -0.1**
OTAV Otavalo 152.82 62 *e*PKPbc **PKPbc 18 37 09.5 -0.1**

CSEM ***26*** *18:34:14.9,38°.24N×21°.74E,h19km,MD2.9*
ATH 26 18:34:14.9,38°.24N×21°.74E,h19km±3km,MD2.9/12,
Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.23**	**35**	*e*PB	Pb	18 34 19.9	-0.2
EFP				*e*SB	Sg	18 34 24.1	0.0
EFP	**Efpalio**	**0.23**	**35**	*e*Pb	Pb	18 34 19.9	-0.2
EFP				*e*Sb	Sg	18 34 24.1	0.0
RLS	**Riolos of Patr**	**0.28**	**230**	*e*PB	Pg	18 34 21.0	-0.2
RLS				*e*SB	Sb	18 34 25.7	+0.2
RLS	**Riolos of Patr**	**0.28**	**230**	*e*Pb	Pg	18 34 21.0	-0.2
RLS				*e*Sb	Sb	18 34 25.7	+0.2
DRO	**Drossia**	**0.29**	**185**	*e*PB	Pb	18 34 21.9	+0.4
DRO				*e*SB	Sg	18 34 25.7	-0.1
DRO	**Drossia**	**0.29**	**185**	*e*Pb	Pb	18 34 21.9	+0.4
DRO				*e*Sb	Sg	18 34 25.7	-0.1
KLV	**Kalavryta, Ach**	**0.38**	**121**	*e*PB	Pg	18 34 22.2	-0.8
KLV				*e*SB	Sb	18 34 29.2	+0.4
KLV	**Kalavryta, Ach**	**0.38**	**121**	*e*Pb	Pg	18 34 22.2	-0.8
KLV				*e*Sb	Sb	18 34 29.2	+0.4
GUR	**Goura**	**0.56**	**122**	*e*PN	Pb	18 34 25.4	-0.9
GUR				*e*SN	Sg	18 34 34.4	+0.3
GUR	**Goura**	**0.56**	**122**	*e*Pn	Pb	18 34 25.4	-0.9
GUR				*e*Sn	Sg	18 34 34.4	+0.3
PDO	**Prodromos**	**0.56**	**309**	*e*PN	Pg	18 34 27.0	+0.7
PDO	**Prodromos**	**0.56**	**309**	*e*Pn	Pg	18 34 27.0	+0.7
AMT	**Artemida-Makis**	**0.71**	**182**	*e*PN	Pn	18 34 30.1	+0.2
AMT	**Artemida-Makis**	**0.71**	**182**	*e*Pn	Pn	18 34 30.1	+0.2
AGG	**Agios Georgios**	**0.91**	**30**	*e*PN	Pb	18 34 32.2	+0.1
AGG	**Agios Georgios**	**0.91**	**30**	*e*Pn	Pb	18 34 32.2	+0.1
VLS	**Valsamata**	**0.91**	**266**	*e*PB	Pb	18 34 31.9	-0.2
VLS	**Valsamata**	**0.91**	**266**	*e*Pb	Pb	18 34 31.9	-0.2
LKD2	**Lefkada island**	**1.01**	**303**	*e*PN	Pn	18 34 34.1	0.0
LKD2	**Lefkada island**	**1.01**	**303**	*e*Pn	Pn	18 34 34.1	0.0
ITM	**Ithomi**	**1.07**	**172**	*e*PN	Pg	18 34 35.4	-0.3
ITM	**Ithomi**	**1.07**	**172**	*e*Pn	Pg	18 34 35.4	-0.3
PYL	**PYLOS**	**1.34**	**180**	*e*PN	Pg	18 34 40.4	-0.5
PYL	**PYLOS**	**1.34**	**180**	*e*Pn	Pg	18 34 40.4	-0.5

DDA ***26*** *18:35:51.8,38°.15N×26°.18E,h24km,ML4.7*
BJI ***26*** *18:35:51.0,38°.20N×26°.30E,h7km,mB5.1/29,mb4.9/44,*
Ms4.7/19,Ms7 4.4/19
ATH ***26*** *18:35:52.8,38°.18N×26°.18E,h25km±1km,MD4.1/42,*
ML4.7
NEIC ***26*** *18:35:52.0,38°.14N×26°.22E,h9km,mb4.9/39,*
ML4.7(THE),ML4.7(ISK),After ISK.
NEIC Felt [II] at Izmir. Also felt at Chios, Piryion and Thymiana,
Greece.
IDC ***26*** *18:35:52.1±0.4,38°.20N×26°.25E,h0km,mb4.4/33,*
mb1 4.4/43,mb1mx4.4/64,mbtmp4.4/43,ML3.7/8,MS3.7/23,
Ms1 3.8/23,ms1mx3.6/43,Error ellipse: s-maj=10.6km
s-min=9.5km az=157.0
NIC ***26*** *18:35:52.5,37°.50N×25°.49E,h156km,mb5.1,ML4.7*
ISCJB ***26*** *18:35:53.7±0.3,38°.18N±0°.01×26°.23E±0°.01,h20km±2km,*
mb4.6/85,MS3.8/16,Error ellipse: s-maj=2.0km
s-min=1.7km az=28.8
ISK ***26*** *18:35:53.0,38°.15N×26°.22E,h11km,ML4.7*
CSEM ***26*** *18:35:53.8±0.1,38°.15N×26°.25E,h10km,mb4.8/45,Ms3.4,*
Error ellipse: s-maj=2.5km s-min=1.9km az=22.0
THE ***26*** *18:35:53.9,38°.19N×26°.25E,h7km±2km,ML4.7/5,Error*
ellipse: s-maj=2.5km s-min=0.8km az=50.0
NSSC ***26*** *18:35:54.0±2.3,37°.90N×26°.41E,h237km±350km,MD2.8,*
ML3.3
MOS ***26*** *18:35:54.8±1.2,38°.20N×26°.33E,h26km,mb5.0/37,Error*
ellipse: s-maj=4.6km s-min=3.2km az=97.6
SOF ***26*** *18:36:10.5,40°.20N×27°.20E,h2km,MD4.0*
ISC 26 18:35:54.5±0.4,38°.21N±0°.02×26°.25E±0°.02,h15km±2km,
n898,σ1§40/974,mb4.8/85,MS3.7/16,15C-11D,Aegean
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEY	**¨zmir**	**0.20**	**81**	*i* P	**Pg**	18 35 58.2	-0.9
ZEY				*i* S	**Sg**	18 36 01.9	-0.4
CHOS	**Chios island**	**0.24**	**320**	P	**Pg**	18 35 58.6	-1.2
CHOS				S	**Sg**	18 36 03.1	-0.3
CHOS	**Chios island**	**0.24**	**320**	*e*PG	**Pg**	18 35 59.5	-0.1
CHOS				*e*SG	**Sg**	18 36 03.5	+0.2
CHOS	**Chios island**	**0.24**	**320**	*e*PB	**Pg**	18 35 58.7	-1.1
CHOS				*e*SB	**Sg**	18 36 02.9	-0.5
CHOS	**Chios island**	**0.24**	**320**	*e*Pb	**Pg**	18 35 58.7	-1.1
CHOS	**Chios island**	**0.24**	**320**	*e*Pg	**Pg**	18 35 59.7	-0.1
CHOS				*e*Sb	**Sg**	18 36 02.9	-0.5
CHOS	**Chios island**	**0.24**	**320**	P	**Pg**	18 35 58.6	-1.2
URLA	**Izmir**	**0.31**	**60**	*i* P	**Pg**	18 36 00.4	-0.7
URLA				*i* S	**Sg**	18 36 05.5	0.0
URLA	**Izmir**	**0.31**	**60**	*i* P	**Pg**	18 36 00.4	-0.7
URLA				*i* S	**Sg**	18 36 05.5	0.0
BLCB	**Balcova**	**0.65**	**74**	*e*PG	**Pg**	18 36 06.3	-0.9
BLCB	**Balcova**	**0.65**	**74**	*e*Pg	**Pg**	18 36 06.3	-0.9
SMG	**Samos**	**0.68**	**137**	P	**Pg**	18 36 06.6	-1.2
SMG				S	**Sb**	18 36 17.6	+0.3
SMG	**Samos**	**0.68**	**137**	*e*PN	**Pg**	18 36 07.0	-0.8
SMG				*e*SN	**Sb**	18 36 17.1	-0.2
SMG	**Samos**	**0.68**	**137**	P	**Pg**	18 36 06.6	-1.2
SMG	**Samos**	**0.68**	**137**	*e*Pn	**Pg**	18 36 07.0	-0.8
SMG				*e*Sn	**Sb**	18 36 17.1	-0.2
SMG	**Samos**	**0.68**	**137**	P	**Pg**	18 36 06.6	-1.2
SMG				S	**Sb**	18 36 17.6	+0.3
IZM	**Izmir**	**0.82**	**76**	*e*PG	**Pg**	18 36 09.7	-0.8
IZM	**Izmir**	**0.82**	**76**	*e*Pg	**Pg**	18 36 09.7	-0.8
GCAM	**G?zelcaml?**	**0.93**	**123**	*i* P	**Pb**	18 36 11.0	-1.3
GCAM				*i* S	**Sg**	18 36 24.7	+0.1
GCAM	**G?zelcaml?**	**0.93**	**123**	*i* P	**Pb**	18 36 11.0	-1.3
GCAM				*i* S	**Sg**	18 36 24.7	+0.1
PRK	**Paraskevi**	**1.04**	**1**	P	**Pb**	18 36 12.9	-1.3
PRK				S	**Sg**	18 36 28.2	0.0
PRK	**Paraskevi**	**1.04**	**1**	P	**Pb**	18 36 12.9	-1.3
PRK				S	**Sg**	18 36 28.2	0.0
PRK	**Paraskevi**	**1.04**	**1**	*e*PN	**Pb**	18 36 13.2	-1.0
PRK				*e*SN	**Sg**	18 36 28.0	-0.2
PRK	**Paraskevi**	**1.04**	**1**	P	**Pb**	18 36 12.9	-1.3
PRK	**Paraskevi**	**1.04**	**1**	*e*Pn	**Pb**	18 36 13.2	-1.0
PRK				S	**Sg**	18 36 28.2	0.0
PRK	**Paraskevi**	**1.04**	**1**	P	**Pb**	18 36 12.9	-1.3
PRK				S	**Sg**	18 36 28.2	0.0
SIGR	**SIGRI**	**1.05**	**343**	P	**Pb**	18 36 13.2	-1.2
SIGR				S	**Sb**	18 36 27.8	-0.2
SIGR	**SIGRI**	**1.05**	**343**	*e*PN	**Pb**	18 36 14.1	-0.3
SIGR	**SIGRI**	**1.05**	**343**	*e*PN	**Pb**	18 36 13.4	-1.0
SIGR				*e*SN	**Sb**	18 36 27.3	-0.7
SIGR	**SIGRI**	**1.05**	**343**	P	**Pb**	18 36 13.2	-1.2
SIGR	**SIGRI**	**1.05**	**343**	*e*Pn	**Pb**	18 36 14.1	-0.3
SIGR				S	**Sb**	18 36 27.8	-0.2
SIGR	**SIGRI**	**1.05**	**343**	P	**Pb**	18 36 13.2	-1.2
SIGR				S	**Sb**	18 36 27.8	-0.2
AYVA	**Ayvalik**	**1.15**	**17**	*i* P	**Pb**	18 36 15.1	-1.1
AYVA				*i* S	**Sn**	18 36 32.5	+0.9
AYVA	**Ayvalik**	**1.15**	**17**	*i* P	**Pb**	18 36 15.1	-1.1
AYVA				*i* S	**Sn**	18 36 32.5	+0.9
APE	**Apeiranthos**	**1.27**	**207**	P	**Pn**	18 36 15.5	-2.3
APE				S	**Sb**	18 36 33.7	-0.7
APE	**Apeiranthos**	**1.27**	**207**	*e*PN	**Pn**	18 36 15.8	-2.0
APE	**Apeiranthos**	**1.27**	**207**	⇓ *iP*	**Pn**	18 36 16.1	-1.7
APE				pmax	pmax		
	comp=Z,4μm,0.7s						
APE	**Apeiranthos**	**1.27**	**207**	*e*PN	**Pn**	18 36 15.8	-2.0
APE				*e*SN	**Sb**	18 36 33.2	-1.2
APE	**Apeiranthos**	**1.27**	**207**	⇑ *iP*	**Pn**	18 36 15.6	-2.3
APE				S	**Sb**	18 36 33.7	-0.7
APE	**Apeiranthos**	**1.27**	**207**	P	**Pn**	18 36 15.5	-2.3
APE	**Apeiranthos**	**1.27**	**207**	*e*Pn	**Pn**	18 36 15.8	-2.0
APE				*e*Sn	**Sb**	18 36 33.2	-1.2
APE	**Apeiranthos**	**1.27**	**207**	P	**Pn**	18 36 15.5	-2.3
APE				S	**Sb**	18 36 33.7	-0.7
AYDB	**Zeytinkoy-Aydi**	**1.32**	**101**	*e*PN	**Pn**	18 36 18.1	-0.5
AYDB	**Zeytinkoy-Aydi**	**1.32**	**101**	*e*Pn	**Pn**	18 36 18.1	-0.5
AKHS	**Akhisar**	**1.40**	**61**	*i* P	**Pn**	18 36 18.9	-0.6
AKHS				*i* S	**Sn**	18 36 37.4	-0.4
AKHS	**Akhisar**	**1.40**	**61**	*i* P	**Pn**	18 36 18.9	-0.6
AKHS				*i* S	**Sn**	18 36 37.4	-0.4
AKS	**Akhisar**	**1.40**	**61**	*e*PN	**Pn**	18 36 19.4	-0.1
AKS	**Akhisar**	**1.40**	**61**	*e*Pn	**Pn**	18 36 19.4	-0.1
AYDN	**Tasoluk**	**1.40**	**112**	*i* P	**Pn**	18 36 19.6	0.0
AYDN				*i* S	**Sg**	18 36 40.0	+0.4
AYDN	**Tasoluk**	**1.40**	**112**	*i* P	**Pn**	18 36 19.6	0.0
AYDN				*i* S	**Sg**	18 36 40.0	+0.4
BODT	**Bodrum**	**1.42**	**143**	*e*PN	**Pn**	18 36 18.8	-1.0
BODT	**Bodrum**	**1.42**	**143**	*e*Pn	**Pn**	18 36 18.8	-1.0
EZN	**Ezine**	**1.62**	**2**	*e*PN	**Pn**	18 36 22.0	-0.5
EZN	**Ezine**	**1.62**	**2**	*e*Pn	**Pn**	18 36 22.0	-0.5
BOZC	**Bozcaada**	**1.64**	**355**	*i* P	**Pn**	18 36 21.9	-0.9
BOZC				*i* S	**Sn**	18 36 42.0	-1.7
NIS1	**Nisyros Isl.**	**1.76**	**155**	*e*PN	**Pn**	18 36 24.3	-0.2
NIS1	**Nisyros Isl.**	**1.76**	**155**	*e*PN	**Pn**	18 36 24.7	+0.1
NIS1	**Nisyros Isl.**	**1.76**	**155**	*e*Pn	**Pn**	18 36 24.3	-0.2
MANT	**Manisa**	**1.84**	**80**	*i* P	**Pn**	18 36 25.4	-0.4
MANT	**Manisa**	**1.84**	**80**	*i* P	**Pn**	18 36 25.4	-0.4
BALY	**Balya**	**1.87**	**34**	*i* P	**Pn**	18 36 25.2	-0.8
BALY				*i* S	**Sg**	18 36 54.8	+0.2
BALY	**Balya**	**1.87**	**34**	*i* P	**Pn**	18 36 25.2	-0.8
BALY				*i* S	**Sg**	18 36 54.8	+0.2
LIA	**Limnos Island**	**1.88**	**334**	P	**Pn**	18 36 25.4	-0.7
LIA	**Limnos Island**	**1.88**	**334**	*e*PN	**Pn**	18 36 25.5	-0.7
LIA				*e*SN	**Sn**	18 36 49.8	+0.2
LIA	**Limnos Island**	**1.88**	**334**	P	**Pn**	18 36 25.4	-0.7
LIA				*e*Sn	**Sn**	18 36 49.8	+0.2
LIA	**Limnos Island**	**1.88**	**334**	P	**Pn**	18 36 25.4	-0.7
PTL	**Penteli**	**1.89**	**266**	P	**Pn**	18 36 25.5	-0.8
PTL	**Penteli**	**1.89**	**266**	*e*PN	**Pn**	18 36 25.2	-1.1
PTL				*e*SN	**Sn**	18 36 48.2	-1.6
PTL	**Penteli**	**1.89**	**266**	P	**Pn**	18 36 25.2	-1.1
PTL	**Penteli**	**1.89**	**266**	P	**Pn**	18 36 25.5	-0.8
PTL				*e*Sn	**Sn**	18 36 48.2	-1.6
PTL	**Penteli**	**1.89**	**266**	P	**Pn**	18 36 25.5	-0.8
THR7	**Fira-Santorini**	**1.90**	**200**	P	**Pn**	18 36 24.5	-1.9
BALB	**Balikesir**	**1.92**	**41**	*e*PN	**Pn**	18 36 26.9	+0.3
BALB	**Balikesir**	**1.92**	**41**	*e*Pn	**Pn**	18 36 26.9	+0.3
KULA	**Kula-Manisa**	**1.92**	**80**	*e*PN	**Pn**	18 36 26.7	-0.1
KULA	**Kula-Manisa**	**1.92**	**80**	*e*Pn	**Pn**	18 36 26.7	-0.1
YER	**Yerkesik**	**1.94**	**123**	*e*PN	**Pn**	18 36 26.8	-0.2
YER	**Yerkesik**	**1.94**	**123**	*e*Pn	**Pn**	18 36 26.8	-0.2
SANT	**Santorini**	**1.94**	**199**	*e*PB	**Pn**	18 36 25.0	-2.0
SANT	**Santorini**	**1.94**	**199**	*e*Pn	**Pn**	18 36 24.1	-2.8
SANT	**Santorini**	**1.94**	**199**	*e*Pn	**Pn**	18 36 24.1	-2.8
ATH	**Athens Observa**	**2.01**	**264**	P	**Pn**	18 36 28.2	+0.3
ATH				S	**Sn**	18 36 53.1	+0.3
ATH	**Athens Observa**	**2.01**	**264**	P	**Pn**	18 36 28.2	+0.3
ATH				S	**Sn**	18 36 53.1	+0.3
ATH	**Athens Observa**	**2.01**	**264**	*e*PN	**Pn**	18 36 27.4	-0.5
ATH				*e*SN	**Sn**	18 36 51.5	-1.3
ATH	**Athens Observa**	**2.01**	**264**	*e*Pn	**Pn**	18 36 27.4	-0.5
ATH	**Athens Observa**	**2.01**	**264**	P	**Pn**	18 36 28.2	+0.3
ATH				*e*Sn	**Sn**	18 36 51.5	-1.3
ATH				S	**Sn**	18 36 53.1	+0.3
ATH	**Athens Observa**	**2.01**	**264**	P	**Pn**	18 36 28.2	+0.3
ATH				S	**Sn**	18 36 53.1	+0.3
AOS	**Alonnisos**	**2.09**	**298**	P	**Pn**	18 36 28.2	-0.8
AOS	**Alonnisos**	**2.09**	**298**	*e*PB	**Pn**	18 36 28.5	-0.5
AOS	**Alonnisos**	**2.09**	**298**	P	**Pn**	18 36 28.2	-0.8
AOS	**Alonnisos**	**2.09**	**298**	P	**Pn**	18 36 28.2	-0.8
MRKA	**Markates**	**2.15**	**284**	*e*PB	**Pn**	18 36 29.2	-0.6
GELI	**Tayfur-Gelibol**	**2.20**	**4**	*e*PN	**Pn**	18 36 30.4	-0.1
GELI	**Tayfur-Gelibol**	**2.20**	**4**	*e*Pn	**Pn**	18 36 30.4	-0.1
LPK	**Lapseki**	**2.20**	**10**	*e*PN	**Pn**	18 36 31.3	+0.8
LPK	**Lapseki**	**2.20**	**10**	*e*Pn	**Pn**	18 36 31.3	+0.8
DENT	**Denizli**	**2.25**	**101**	*e*PN	**Pn**	18 36 31.4	+0.2
DENT	**Denizli**	**2.25**	**101**	*e*Pn	**Pn**	18 36 31.4	+0.2
DNZL	**Cakiroluk**	**2.27**	**102**	*i* P	**Pn**	18 36 31.9	+0.2
DNZL	**Cakiroluk**	**2.27**	**102**	*i* P	**Pn**	18 36 31.9	+0.2
DNZL				*i* S	**Sg**	18 37 07.5	-0.1
DST	**Dursunbey**	**2.32**	**52**	*e*PN	**Pn**	18 36 32.8	+0.6
DST	**Dursunbey**	**2.32**	**52**	*e*Pn	**Pn**	18 36 32.8	+0.6
SMTH	**Samothraki Isl**	**2.33**	**346**	P	**Pn**	18 36 31.4	-0.9
SMTH	**Samothraki Isl**	**2.33**	**346**	*e*PN	**Pn**	18 36 31.4	-0.9
SMTH	**Samothraki Isl**	**2.33**	**346**	P	**Pn**	18 36 31.4	-0.9
SMTH	**Samothraki Isl**	**2.33**	**346**	P	**Pn**	18 36 31.4	-0.9
KRBG	**Karabiga-Canak**	**2.33**	**20**	*e*PN	**Pn**	18 36 33.2	+0.9
KRBG	**Karabiga-Canak**	**2.33**	**20**	*e*Pn	**Pn**	18 36 33.2	+0.9
DALY	**Dalyan (Mu¨la**	**2.36**	**125**	*e*PN	**Pn**	18 36 32.8	+0.1
DALY	**Dalyan (Mu¨la**	**2.36**	**125**	*e*Pn	**Pn**	18 36 32.8	+0.1
SKIA	**Skiathos**	**2.38**	**295**	*e*PB	**Pn**	18 36 32.6	-0.4
ERIK	**Erikli-Kesan**	**2.47**	**5**	*e*PN	**Pn**	18 36 34.8	+0.6
ERIK	**Erikli-Kesan**	**2.47**	**5**	*e*Pn	**Pn**	18 36 34.8	+0.6
SMIA	**Simia**	**2.48**	**287**	*e*PB	**Pn**	18 36 34.0	-0.4
EDC	**Edincik**	**2.48**	**30**	*e*PN	**Pn**	18 36 35.0	+0.7
EDC	**Edincik**	**2.48**	**30**	*e*Pn	**Pn**	18 36 35.0	+0.7
ARG	**Arkhangelos**	**2.49**	**142**	P	**Pn**	18 36 34.0	-0.5
ARG	**Arkhangelos**	**2.49**	**142**	P	**Pn**	18 36 34.0	-0.5
ARG	**Arkhangelos**	**2.49**	**142**	*e*PN

AXAR	Agios Charalam	2.87	282	ePn	Pn	18 36 39.6	-0.2
TKR	Tekirdag	2.95	19	ePN	Pn	18 36 42.5	+1.6
TKR	Tekirdag	2.95	19	ePn	Pn	18 36 42.5	+1.6
MDNY	Mudanya-Bursa	2.97	43	ePN	Pn	18 36 42.5	+1.3
MDNY	Mudanya-Bursa	2.97	43	ePn	Pn	18 36 42.5	+1.3
NPS	Neapolis	2.98	190	P	Pn	18 36 39.8	-1.5
NPS	Neapolis	2.98	190	P	Pn	18 36 39.8	-1.5
NPS	Neapolis	2.98	190	ePN	Pn	18 36 39.8	-1.5
NPS	Neapolis	2.98	190	P	Pn	18 36 39.8	-1.5
NPS	Neapolis	2.98	190	P	Pn	18 36 39.8	-1.5
RDO	Rodhopi	2.99	350	P	Pn	18 36 41.2	-0.1
RDO	Rodhopi	2.99	350	ePN	Pn	18 36 41.2	-0.1
RDO	Rodhopi	2.99	350	P	Pn	18 36 41.2	-0.1
RDO	Rodhopi	2.99	350	P	Pn	18 36 41.2	-0.1
VLI	Veliai	3.02	242	P	Pn	18 36 40.4	-1.4
VLI	Veliai	3.02	242	ePN	Pn	18 36 40.5	-1.4
VLI	Veliai	3.02	242	ePn	Pn	18 36 40.5	-1.4
VLI	Veliai	3.02	242	P	Pn	18 36 40.4	-1.4
KAVA	Kavala	3.09	335	P	Pn	18 36 42.2	-0.6
KAVA	Kavala	3.09	335	ePN	Pn	18 36 42.3	-0.6
KAVA	Kavala	3.09	335	P	Pn	18 36 42.2	-0.6
KAVA	Kavala	3.09	335	P	Pn	18 36 42.2	-0.6
GUR	Goura	3.10	266	P	Pn	18 36 42.9	0.0
GUR	Goura	3.10	266	ePN	Pn	18 36 42.7	-0.2
GUR	Goura	3.10	266	ePn	Pn	18 36 42.7	-0.2
GUR	Goura	3.10	266	P	Pn	18 36 42.9	0.0
LAST	Lasithi	3.10	192	ePN	Pn	18 36 41.1	-1.9
LAST	Lasithi	3.10	192	ePn	Pn	18 36 41.1	-1.9
ARMT	Armutlu	3.11	40	ePN	Pn	18 36 44.7	+1.7
ARMT	Armutlu	3.11	40	ePn	Pn	18 36 44.7	+1.7
IDI	Anoyia	3.11	201	Pn	Pn	18 36 41.3	-1.8
	comp=Z,16nm,0.3s,baz=17,slow=14,SNR=60						
IDI				Sn	Sn	18 37 18.6	-1.4
	comp=Z,96nm,0.3s,baz=308,slow=18,SNR=11						
IDI				LR	LR	18 38 04.5	
	comp=Z,2μm,20.7s,baz=15,slow=43						
ALT	Altintas	3.14	73	ePN	Pn	18 36 44.0	+0.4
ALT	Altintas	3.14	73	ePn	Pn	18 36 44.0	+0.4
AGG	Agios Georgios	3.18	286	P	Pn	18 36 44.2	+0.2
AGG	Agios Georgios	3.18	286	P	Pn	18 36 44.2	+0.2
AGG	Agios Georgios	3.18	286	ePN	Pn	18 36 44.2	+0.2
AGG	Agios Georgios	3.18	286	P	Pn	18 36 44.2	+0.2
AGG	Agios Georgios	3.18	286	P	Pn	18 36 44.2	+0.2
GEMT	Gemlik	3.19	45	ePN	Pn	18 36 45.8	+1.7
GEMT	Gemlik	3.19	45	ePn	Pn	18 36 45.8	+1.7
KYTH	Kithira	3.20	234	ePN	Pn	18 36 43.1	-1.3
KYTH	Kithira	3.20	234	ePn	Pn	18 36 43.1	-1.3
KLV	Kalavryta, Ach	3.24	268	P	Pn	18 36 44.8	0.0
KLV	Kalavryta, Ach	3.24	268	ePN	Pn	18 36 44.8	0.0
KLV	Kalavryta, Ach	3.24	268	P	Pn	18 36 44.8	0.0
KLV	Kalavryta, Ach	3.24	268	P	Pn	18 36 44.8	0.0
KALE	Kalithea	3.24	275	ePN	Pn	18 36 44.8	-0.1
KALE	Kalithea	3.24	275	ePn	Pn	18 36 44.8	-0.1
VAM	Vamos	3.24	211	ePN	Pn	18 36 41.7	-3.2
VAM	Vamos	3.24	211	ePn	Pn	18 36 41.7	-3.2
ELL	Elmali	3.25	115	ePN	Pn	18 36 45.5	+0.3
ELL	Elmali	3.25	115	ePn	Pn	18 36 45.5	+0.3
ANKY	Antikythira Is	3.32	226	ePN	Pn	18 36 44.5	-1.4
ANKY	Antikythira Is	3.32	226	ePn	Pn	18 36 44.5	-1.4
MAKR	Makrakomi, Fth	3.32	285	ePB	Pn	18 36 46.7	+0.7
AKAS	Kas	3.33	125	*i* P	Pn	18 36 47.2	+1.1
AKAS				*i* S	Sn	18 37 28.0	+2.5
AKAS	Kas	3.33	125	*i* P	Pn	18 36 47.2	+1.1
AKAS				*i* S	Sn	18 37 28.0	+2.5
KARN	Karanos	3.37	214	ePN	Pn	18 36 45.0	-1.6
KARN	Karanos	3.37	214	ePn	Pn	18 36 45.0	-1.6
ELBA	Catalca	3.38	29	*i* P	Pn	18 36 48.9	+2.1
ELBA	Catalca	3.38	29	*i* P	Pn	18 36 48.9	+2.1
ELBA				*i* S	Sg	18 37 39.9	-3.4
SIVA	Sivas	3.39	200	ePN	Pn	18 36 45.1	-1.7
SIVA	Sivas	3.39	200	ePn	Pn	18 36 45.1	-1.7
ISP	Isparta	3.40	95	P	Pn	18 36 47.7	+0.6
ISP	Isparta	3.40	95	ePN	Pn	18 36 47.4	+0.3
ISP	Isparta	3.40	95	*e*P	Pn	18 36 47.3	+0.2
ISP	Isparta	3.40	95	‖ *i*P	Pn	18 36 47.7	+0.6
ISP	Isparta	3.40	95	*e*P	Pn	18 36 47.3	+0.2
ISP				*e*Sg	Sg	18 37 44.5	+0.9
ISP	Isparta	3.40	95	*e*Pn	Pn	18 36 47.3	+0.2
ISP				*e*Sg	Sg	18 37 44.5	+0.9
SHUT	Suhut-Afyon	3.40	83	ePN	Pn	18 36 48.1	+1.0
SHUT	Suhut-Afyon	3.40	83	ePn	Pn	18 36 48.1	+1.0
HORT	Hortiatis	3.41	315	P	Pn	18 36 47.6	+0.2
HORT	Hortiatis	3.41	315	ePN	Pn	18 36 47.5	+0.2
HORT	Hortiatis	3.41	315	ePn	Pn	18 36 47.5	+0.2
HORT	Hortiatis	3.41	315	P	Pn	18 36 47.6	+0.2
EFP	Efpalio	3.42	275	P	Pn	18 36 47.7	+0.4
EFP	Efpalio	3.42	275	ePN	Pn	18 36 47.5	+0.2
EFP	Efpalio	3.42	275	ePn	Pn	18 36 47.5	+0.2
CAVI	Cavuskoy	3.43	53	ePN	Pn	18 36 49.9	+2.4
CAVI	Cavuskoy	3.43	53	ePn	Pn	18 36 49.9	+2.4
SOH	Sokhos	3.44	320	ePN	Pn	18 36 47.9	+0.3
SOH	Sokhos	3.44	320	ePn	Pn	18 36 47.9	+0.3
BUY	Buyukada	3.45	39	*i* P	Pg	18 36 58.4	-2.2
BUY				*i* S	Sg	18 37 42.2	-3.1
KORT	Korkueli	3.47	109	*i* P	Pn	18 36 50.1	+2.0
KORT	Korkueli	3.47	109	*i* P	Pn	18 36 50.1	+2.0
KORT				*i* S	Sg	18 37 48.6	+2.6
LIT	Litokhoron	3.48	304	P	Pn	18 36 48.2	0.0
LIT	Litokhoron	3.48	304	P	Pn	18 36 48.2	0.0
LIT	Litokhoron	3.48	304	ePN	Pn	18 36 48.3	0.0
LIT	Litokhoron	3.48	304	P	Pn	18 36 48.2	0.0
LIT	Litokhoron	3.48	304	P	Pn	18 36 48.2	0.0
KDZ	Kurdzhali	3.50	350	‖ *i*P	Pn	18 36 48.0	-0.4
KDZ	Kurdzhali	3.50	350	P	Pn	18 36 48.2	-0.2
KDZ				Pg	Pb	18 36 50.7	-5.5
KDZ	Kurdzhali	3.50	350	P	Pn	18 36 48.2	-0.2
THE	Thessaloniki	3.51	315	ePN	Pn	18 36 48.7	+0.1
THE	Thessaloniki	3.51	315	ePn	Pn	18 36 48.7	+0.1
EVR	Evrytania	3.55	283	P	Pn	18 36 50.2	+1.0
EVR	Evrytania	3.55	283	*e*PB	Pn	18 36 50.3	+1.0
EVR	Evrytania	3.55	283	P	Pn	18 36 50.2	+1.0
EVR	Evrytania	3.55	283	P	Pn	18 36 50.2	+1.0
SRS	Serrai	3.56	326	P	Pn	18 36 49.4	+0.2
SRS	Serrai	3.56	326	P	Pn	18 36 49.4	+0.2
SRS	Serrai	3.56	326	ePN	Pn	18 36 49.3	+0.1
SRS	Serrai	3.56	326	P	Pn	18 36 49.4	+0.2
SRS	Serrai	3.56	326	P	Pn	18 36 49.4	+0.2
ITM	Ithomi	3.58	255	ePN	Pn	18 36 49.8	+0.3
ITM	Ithomi	3.58	255	ePn	Pn	18 36 49.8	+0.3
DRO	Drossia	3.59	267	ePN	Pn	18 36 50.0	+0.3
DRO	Drossia	3.59	267	ePn	Pn	18 36 50.0	+0.3
NVR	Nevrokopi	3.64	330	P	Pn	18 36 50.5	+0.1
NVR	Nevrokopi	3.64	330	ePN	Pn	18 36 50.5	+0.1
NVR	Nevrokopi	3.64	330	P	Pn	18 36 50.5	+0.1
NVR	Nevrokopi	3.64	330	P	Pn	18 36 50.5	+0.1
RZN	Rozhen	3.67	342	P	Pn	18 36 50.8	-0.1
RZN	Rozhen	3.67	342	P	Pn	18 36 50.8	-0.1
PYL	PYLOS	3.81	251	ePN	Pn	18 36 53.5	+0.8
PYL	PYLOS	3.81	251	ePn	Pn	18 36 53.5	+0.8
DIM	Dimitrovgrad	3.88	352	P	Pn	18 36 53.7	+0.1
DIM	Dimitrovgrad	3.88	352	P	Pn	18 36 53.7	+0.1
MMB	Musomiste	3.90	331	‖ *i*P	Pn	18 36 53.3	-0.6
KNT	Kendrikon	3.92	320	ePN	Pn	18 36 55.0	+0.8
KNT	Kendrikon	3.92	320	ePn	Pn	18 36 55.0	+0.8
GRG	Griva	4.05	314	ePN	Pn	18 36 57.2	+1.2
GRG	Griva	4.05	314	ePn	Pn	18 36 57.2	+1.2
PLD	Plovdiv	4.07	344	P	Pn	18 36 57.0	+0.8
PLD	Plovdiv	4.07	344	P	Pn	18 36 57.0	+0.8
VAY	Valandovo	4.21	319	*i* Pn	Pn	18 36 59.5	+1.3
VAY	Valandovo	4.21	319	*i* Pn	Pn	18 36 59.4	+1.3
JMB	Yambol	4.26	3	‖ *i*P	Pn	18 36 59.6	+0.7
LKD2	Lefkada island	4.42	279	ePN	Pn	18 37 01.7	+0.6
LKD2	Lefkada island	4.42	279	ePn	Pn	18 37 01.7	+0.6
VLS	Valsamata	4.46	271	ePN	Pn	18 37 02.8	+1.2
VLS	Valsamata	4.46	271	ePn	Pn	18 37 02.8	+1.2
PGB	Panagyurishte	4.62	341	P	Pn	18 37 03.4	-0.5
PGB	Panagyurishte	4.62	341	P	Pn	18 37 03.4	-0.5
ROIA	ROIAK	4.96	10	Pg	Pn	18 37 08.7	+0.3
PRD	Provadia	5.07	10	Pg	Pn	18 37 09.2	-0.7
PRD	Provadia	5.07	10	Pg	Pn	18 37 09.2	-0.7
OHR	Ohrid	5.11	306	*i* Pn	Pn	18 37 15.6	+5.0
GAZI	Gazipasa	5.23	110	*i* P	Pn	18 37 12.1	-0.1
GAZI				*i* S	Sn	18 38 13.5	+1.3
GAZI	Gazipasa	5.23	110	*i* P	Pn	18 37 12.1	-0.1
GAZI				*i* S	Sn	18 38 13.5	+1.3
KEK	Kerkira	5.25	289	ePN	Pn	18 37 14.3	+1.9
KEK	Kerkira	5.25	289	ePn	Pn	18 37 14.3	+1.9
SKO	Skopje	5.27	317	*i* Pn	Pn	18 37 15.0	+2.3
SKO	Skopje	5.27	317	*i* Pn	Pn	18 37 15.0	+2.3
BR231	Keskin MP Arra	5.34	70	*e*Pn	Pb	18 37 22.6	-5.0
BR231	Keskin MP Arra	5.34	70	*e*Pn	Pb	18 37 22.6	-5.0
ANTO	Ankara	5.36	70	*e*P	Pn	18 37 15.0	+1.0
ANTO	Ankara	5.36	70	P	Pg	18 37 33.8	-3.4
	SNR=6.2						
ANTO	Ankara	5.36	70	*e*P	Pn	18 37 15.0	+1.0
ANTO	Ankara	5.36	70	*e*Pg	Pg	18 37 39.3	+2.2
ANTO	Ankara	5.36	70	*e*Pn	Pn	18 37 15.0	+1.0
ANTO				*e*Pg	Pg	18 37 39.3	+2.2
ANTO				*e*Sg	Sg	18 38 53.5	+7.0
MPEP	Malo Peshtene	5.49	340	P	Pn	18 37 16.3	+0.6
BARS	Barje	5.71	325	‖ *i*Pn	Pn	18 37 19.3	+0.5
AKMC	Akamas	5.83	121	P	Pn	18 37 19.9	-0.6
	baz=296						
AKMC	Akamas	5.83	121	P	Pn	18 37 19.9	-0.6
PPCY	Paphos	5.92	122	P	Pn	18 37 20.8	-0.9
	baz=297						
PPCY	Paphos	5.92	122	P	Pn	18 37 20.8	-0.9
ALFC	Alevga	5.94	119	P	Pn	18 37 21.8	-0.2
	baz=294						
ALFC				S	Sn	18 38 32.5	+2.7
ALFC	Alevga	5.94	119	P	Pn	18 37 21.8	-0.2
BRTR	Keskin Array B	5.96	73	*i* P	Pn	18 37 23.6	+1.3
BRTR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BRTR	Keskin Array B	5.96	73	Pn	Pn	18 37 23.6	+1.3
	comp=Z,0.7nm,0.3s,baz=255,slow=13,SNR=47						
BRTR				LR	LR	18 40 17.5	
	comp=Z,645nm,18.3s,baz=258,slow=45						
SZAC	Souni-Zanaja	6.36	121	P	Pn	18 37 26.9	-0.8
	baz=296						
SZAC				S	Sn	18 38 41.2	+1.1
SZAC	Souni-Zanaja	6.36	121	P	Pn	18 37 26.9	-0.8
SZAC				S	Sn	18 38 41.2	+1.1
TIRR	Tirgusor	6.46	14	*e*P	Pn	18 37 29.1	+0.1
TIRR	Tirgusor	6.46	14	*e*P	Pn	18 37 29.1	+0.1
TIRR				*e*Sg	Sg	18 39 19.6	-2.0
TIRR	Tirgusor	6.46	14	*e*Pn	Pn	18 37 29.1	+0.1
TIRR				*e*Sg	Sg	18 39 19.6	-2.0
BOLS	Boljevac	6.49	331	‖ *i*Pn	Pn	18 37 28.7	-0.7
CSS	Prodhromos	6.55	117	P	Pn	18 37 29.8	-0.6
	baz=294						
CSS	Prodhromos	6.55	117	*e*Pn	Pn	18 37 29.4	-1.0
CSS	Prodhromos	6.55	117	P	Pn	18 37 29.8	-0.6
CSS				*e*Sn	Sn	18 38 41.2	-3.7
CSS	Prodhromos	6.55	117	*e*Pn	Pn	18 37 29.4	-1.0
CSS				*e*Sn	Sn	18 38 41.2	-3.7
GRUS	Gruza	7.05	325	‖ *i*Pn	Pn	18 37 37.3	+0.1
IVAS	Ivanjica	7.08	321	*i* Pn	Pn	18 37 38.6	+1.0
MLR	Muntele Rosu	7.28	358	Pn	Pn	18 37 42.1	+1.7
	baz=169,slow=16,SNR=6.5						
MLR				LR	LR	18 41 04.2	
	comp=Z,241nm,21.3s,baz=175,slow=43						
TRUS	Trudelj	7.45	326	‖ *i*Pn	Pn	18 37 43.3	+0.6
TIP	Timpagrande	7.49	280	*e*Pn	Pn	18 37 43.7	+0.5
TIP	Timpagrande	7.49	280	*e*Pn	Pn	18 37 43.7	+0.5
DIVS	Divibare	7.54	323	‖ *i*Pn	Pn	18 37 44.2	+0.2
TEKS	Tekeris	8.10	324	*i* Pn	Pn	18 37 52.2	+0.6
ARNB	Al Arnab	8.12	104	*e*P	Pn	18 37 50.2	-1.8
	SNR=103						
ARNB	Al Arnab	8.12	104	*e*P	Pn	18 37 50.2	-1.8
ARNB				*e*S	Sn	18 39 15.1	-8.5
CEL	Celeste	8.15	274	*e*Pn	Pn	18 37 52.7	+0.4
CEL	Celeste	8.15	274	*e*Pn	Pn	18 37 52.7	+0.4
CUC	Castrocucco	8.31	286	*e*Pn	Pn	18 37 55.1	+0.6
CUC	Castrocucco	8.31	286	*e*Pn	Pn	18 37 55.1	+0.6
SEV	Sevastopol'	8.44	39	*e*P	Pn	18 37 55.6	-0.5
SEV				*e*S	Sn	18 39 26.9	-4.2
SEV	Sevastopol'	8.44	39	*e*P	Pn	18 37 55.6	-0.5
YAL	Yalta	8.64	41	*e*P	Pn	18 38 00.5	+1.5
YAL	Yalta	8.64	41	*e*P	Pn	18 38 00.5	+1.5
SIM	Simferopol'	8.95	39	P	Pn	18 38 05.6	+2.4
SIM				S	Sn	18 39 45.0	+1.3
SIM				S	Sn	18 39 51.0	+7.3
SIM				pmax	pmax		
	comp=Z,30nm,0.8s						
SIM	Simferopol'	8.95	39	P	Pn	18 38 05.6	+2.4
	comp=Z,30nm,0.8s						
SIM				S	Sn	18 39 45.0	+1.3
HAWK	Haweek	8.98	111	*e*P	Pn	18 38 02.1	-1.7
	SNR=102						
HAWK	Haweek	8.98	111	*e*P	Pn	18 38 02.1	-1.7
HAWK				*e*S	Sn	18 39 36.4	-8.2
HAWK				AML	AML	18 39 48.5	
	comp=Z,16nm,0.6s						
KIS	Kishinev	8.99	11	*e*P	Pn	18 38 06.0	+2.3
KIS				*e*S	Sn	18 39 46.0	+1.4
KIS				pmax	pmax		
	comp=Z,180nm,1.6s						
KIS				pmax	pmax		
	comp=N,220nm,1.5s						
KIS				MLR	MLR		
	comp=N,600nm,10.0s						
KIS				MLR	MLR		
	comp=Z,600nm,10.0s						
KIS				MLR	MLR		
	comp=Z,600nm,10.0s						
KIS	Kishinev	8.99	11	*e*P	Pn	18 38 06.0	+2.3
	comp=Z,200nm,1.5s						
KIS	Kishinev	8.99	11	*e*PP	Pn	18 38 14.0	+10
KIS				*e*S	Sn	18 39 46.0	+1.4
KIS				*e*Li		18 40 21.0	
KIS				*e*Lq1		18 40 32.0	
KIS				*e*Lq2		18 40 46.0	
KIS				*e*Rq		18 41 36.0	
KIS				LRM	MLR	18 42 58.0	
	comp=Z,600nm,10.0s						
KIS	Kishinev	8.99	11	*e*P	Pn	18 38 06.0	+2.3
	comp=Z,220nm,1.5s						
KIS				*e*S	Sn	18 39 46.0	+1.4
	comp=Z,600nm,10.0s						
MMAI	Mount Meron Ar	9.07	122	Pn	Pn	18 38 02.6	-2.4
	comp=Z,13nm,0.3s,baz=310,slow=12,SNR=112						
MMAI				Sn	Sn	18 39 41.7	-5.2
	comp=Z,15nm,0.3s,baz=301,slow=28,SNR=13						
BRBR	Barbar	9.22	118	*e*P	Pn	18 38 04.3	-2.8
	SNR=102						
BRBR	Barbar	9.22	118	*e*P	Pn	18 38 04.3	-2.8
BRBR				*e*S	Sn	18 39 39.1	-12
BRBR				AML	AML	18 39 54.6	
	comp=Z,29nm,0.7s						
MARH	Ras Al Marh	9.27	114	*e*P	Pn	18 38 07.9	0.0
	SNR=102						
MARH	Ras Al Marh	9.27	114	*e*P	Pn	18 38 07.9	0.0
MARH				*e*S	Sn	18 39 42.6	-10
MARH				AMB	AMB	18 40 07.8	
	comp=Z,69nm,0.9s						
SUDU	Sudak	9.36	42	*e*P	Pn	18 38 11.7	+2.9
SUDU				*e*S	Sn	18 39 54.9	+1.2
BUR04	Bucovina Ar. S	9.44	356	*e*P	Pn	18 38 12.8	+2.8
BUR04	Bucovina Ar. S	9.44	356	*e*P	Pn	18 38 12.8	+2.8
TOTH	TOTAH	9.58	117	*e*P	Pn	18 38 11.0	-0.9
	SNR=101						
TOTH	TOTAH	9.58	117	*e*P	Pn	18 38 11.0	-0.9
TOTH				*e*S	Sn	18 39 47.6	-12
MALT	Malatya	9.58	86	‖ *i*P	Pn	18 38 14.1	+2.1
TCHB	Talchebab	9.66	122	*e*P	Pn	18 38 10.3	-2.8
	SNR=101						
TCHB	Talchebab	9.66	122	*e*P	Pn	18 38 10.3	-2.8
TCHB				*e*S	Sn	18 39 50.4	-11
TCHB				AMB	AMB	18 40 09.1	
	comp=Z,122nm,0.8s						
SALA	Sala	10.15	120	*e*P	Pn	18 38 19.1	-0.8
	SNR=101						
SALA	Sala	10.15	120	*e*P	Pn	18 38 19.1	-0.8
SALA				*e*S	Sn	18 40 02.0	-12
SALA				AML	AML	18 40 15.9	
	comp=Z,24nm,0.6s						
CLTB	Caltabellotta	10.32	271	*e*Pn	Pn	18 38 21.6	-0.5
	comp=Z,10nm,0.7s						
CLTB	Caltabellotta	10.32	271	*e*Pn	Pn	18 38 21.6	-0.5
	comp=Z,10nm,0.7s						
ZALF	Zalf	10.45	117	*e*P	Pn	18 38 21.3	-2.6
	SNR=100						
ZALF	Zalf	10.45	117	*e*P	Pn	18 38 21.3	-2.6
ZALF				*e*S	Sn	18 40 07.9	-13
ASF	Jabal al Asfar	10.59	121	Pn	Pn	18 38 24.2	-1.5
	comp=Z,0.7nm,0.3s,baz=335,slow=15,SNR=9.2						
ASF				Sn	Sn	18 40 22.6	-1.5
	comp=Z,0.3nm,0.3s,baz=90,slow=20,SNR=3.0						
ANN	Anapa	10.66	48	*e*P	Pn	18 38 22.3	-4.3
ANN				*e*S	Sn	18 40 18.6	-7.0
ANN				pmax	pmax		
	comp=Z,68nm,1.5s						
PSZ	Piszkesteto	10.76	336	*e*Pn	Pn	18 38 16.9	-11
PSZ	Piszkesteto	10.76	336	*e*Pn	Pn	18 38 16.9	-11
UZH	Uzhgorod	10.81	346	*e*P	Pn	18 38 32.0	+3.4
UZH				*e*S	Sn	18 40 34.0	+4.7
UZH				MLR	MLR		
	comp=N,700nm,8.0s						
UZH				MLR	MLR		
	comp=E,900nm,8.0s						
UZH				MLR	MLR		
	comp=Z,860nm,8.0s						
KOLS	Kolonicke sedl	11.10	346	*e*P	Pn	18 38 37.7	+5.0
KOLS	Kolonicke sedl	11.10	346	*e*	Pn	18 38 37.7	+5.0
EIL	Elat	11.16	137	Pn	Pn	18 38 31.3	-2.3
	comp=Z,1.1nm,0.3s,baz=342,slow=14,SNR=17						
EIL				Sn	Sn	18 40 29.8	-8.3
	comp=Z,2.7nm,0.3s,baz=307,slow=18,SNR=5.0						
VYHS	Vyhne	11.61	335	*e*P	Pn	18 38 42.4	+2.8
VYHS	Vyhne	11.61	335	*e*P	Pn	18 38 42.4	+2.8
VYHS	Vyhne	11.61	335	*e*PN	Pn	18 38 42.4	+2.8
KWP	Kalwaria Pacla	11.70	349	P	Pn	18 38 39.3	-1.6
KWP	Kalwaria Pacla	11.70	349	P	Pn	18 38 39.3	-1.6
KWP	Kalwaria Pacla	11.70	349	Pn	Pn	18 38 39.3	-1.6
LVV	L'vov	11.72	353	*e*P	Pn	18 38 43.9	+2.8
LVV				*e*		18 40 58.3	
LVV				MLR	MLR		
	comp=N,700nm,9.0s						
LVV				MLR	MLR		
	comp=Z,600nm,9.0s						
LVV				MLR	MLR		
	comp=E,600nm,10.0s						
LVV	L'vov	11.72	353	*e*P	Pn	18 38 43.9	+2.8
STHS	Stebnicka Huta	11.77	344	*e*P	Pn	18 38 45.2	+3.4
STHS	Stebnicka Huta	11.77	344	*e*PN	Pn	18 38 45.2	+3.4
SOKA	Soboth	11.84	319	‖ *i*Pn	Pn	18 38 45.6	+2.8
ARSA	Arzberg	11.98	322	‖ *i*Pn	Pn	18 38 46.9	+2.1
ARSA	Arzberg	11.98	322	Pn	Pn	18 38 46.9	+2.1
RTB	Rutbah	12.55	110	*e*Pn	Pn	18 38 49.1	-3.5
	SNR=80						
RTB				*e*Sn	Sn	18 41 01.1	-11
	SNR=79						
AKASG	Malin Array Be	12.67	9	Pn	Pn	18 38 54.6	+0.6
	comp=E,0.8nm,0.3s,baz=198,slow=12,SNR=9.3						
AKASG				LR	LR	18 44 23.5	
	comp=E,212nm,19.4s,baz=190,slow=40						
CHVG	Ch'k'valeri	12.87	65	P	P	18 39 10.2	+2.5
OKC	Ostrava-Krasne	13.00	336	*e*P	P	18 39 03.9	-5.1
OKC				MLR	MLR		
	comp=Z,800nm,8.7s						
OKC	Ostrava-Krasne	13.00	336	*e*P	P	18 39 03.9	-5.1
OKC				*e*x	x	18 39 13.7	
OKC				AMS	AMS	18 45 40.0	
	comp=Z,800nm,8.7s						
MORC	Moravsky Berou	13.14	334	*e*P	Pn	18 39 01.2	+0.6
MORC	Moravsky Berou	13.14	334	*e*P	Pn	18 39 01.2	+0.6
MORC	Moravsky Berou	13.14	334	*e*Pn	Pn	18 39 01.2	+0.6
VSL	Villasalto	13.22	281	Pn	Pn	18 39 02.1	+0.5
VSL	Villasalto	13.22	281	Pn	Pn	18 39 02.1	+0.5
TREC	Trest	13.52	328	AMS	AMS	18 44 50.0	
	comp=Z,900nm,8.3s						
KIV	Kislovodsk	13.66	60	‖ *e*P	Pn	18 39 08.7	+1.0
KIV				pmax	pmax		
	comp=Z,19nm,2.0s						
KIV				MLR	MLR		
	comp=Z,406nm,19.0s						
KIV	Kislovodsk	13.66	60	*e*Pn	Pn	18 39 06.9	-0.8
	comp=Z,4.7nm,0.6s						
KIV	Kislovodsk	13.66	60	*e*P	Pn	18 39 08.7	+1.0
	comp=Z,406nm,19.0s						
KIV	Kislovodsk	13.66	60	*e*Pn	Pn	18 39 06.9	-0.8
	comp=Z,4.7nm,0.6s						
KBZ	Khabaz	13.73	61	Pn	Pn	18 39 11.3	+2.7
	comp=Z,0.0nm,0.3s,baz=263,slow=14,SNR=9.4						
KBZ				LR	LR

BRG MLR MLR
comp=Z,456nm,13.9s
BRG Berggiesshubel 15.38 329 *e*P **P 18 39 37.5 +2.0**
comp=Z,456nm,13.9s
BHD Baghdad 15.52 103 *e*Pn **Pn 18 39 31.9 -0.9**
BHD *e*Sn **Sn 18 42 18.4 -6.1**
BHD Baghdad 15.52 103 *e*Pn **Pn 18 39 31.9 -0.9**
SNR=68
BHD *e*Sn **Sn 18 42 18.4 -6.1**
SNR=77
FRF La Foret Royal 15.75 296 *e*P **P 18 39 40.5 +0.8**
comp=Z,102nm,1.4s
FRF La Foret Royal 15.75 296 *e*P **P 18 39 40.5 +0.8**
FRF pmax pmax
comp=Z,102nm,1.4s
FRF La Foret Royal 15.75 296 *e*P **P 18 39 40.5 +0.8**
comp=Z,51nm,1.4s
FRF La Foret Royal 15.75 296 *e*P **P 18 39 40.5 +0.8**
comp=Z,102nm,1.4s
VSR Storozhevoye 15.89 31 *e*P **Pn 18 39 36.4 -1.1**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
SUW Suwalki 15.95 353 *e*P **Pn 18 39 39.0 +0.8**
SUW Suwalki 15.95 353 *e*P **Pn 18 39 39.0 +0.8**
MBDF Montbardon 15.97 300 *e*P **P 18 39 43.3 +1.0**
comp=Z,19nm,0.9s
MBDF Montbardon 15.97 300 *e*P **P 18 39 43.3 +1.0**
MBDF pmax pmax
comp=Z,19nm,0.9s
MBDF Montbardon 15.97 300 *e*P **P 18 39 43.3 +1.0**
comp=Z,9.6nm,0.9s
MBDF Montbardon 15.97 300 *e*P **P 18 39 43.3 +1.0**
comp=Z,19nm,0.9s
CLL Collm 16.09 329 *e*P **P 18 39 43.4 0.0**
CLL pmax pmax
comp=Z,17nm,1.0s
CLL Collm 16.09 329 *es*P **sP 18 39 45.0 -4.5**
CLL *i* (PP) 18 39 46.9
comp=Z,27nm,1.4s
CLL *i* 18 39 49.2
CLL *i* 18 39 59.4
CLL LmH 18 44 00.0
comp=N,400nm,20.0s
CLL LmH 18 44 00.0
comp=E,500nm,20.4s
CLL LmV 18 45 00.0
comp=Z,200nm,20.1s
CLL Lmax 18 48 00.0
CLL Collm 16.09 329 *e*P **P 18 39 43.4 0.0**
comp=Z,17nm,1.0s
CLL Collm 16.09 329 *e*Pn **P 18 39 43.4 0.0**
comp=Z,16nm,1.0s
BNI Bardonecchia 16.13 301 *e*P **P 18 39 46.0 +2.0**
BNI pmax pmax
comp=Z,354nm,3.0s
BNI Bardonecchia 16.13 301 *e*P **P 18 39 46.0 +2.0**
comp=Z,354nm,3.0s
BNI Bardonecchia 16.13 301 *e*Pn **P 18 39 46.0 +2.0**
comp=Z,354nm,3.0s
SENIN Lac Senin/Sane 16.19 306 *e*Pn **Pn 18 39 42.0 +0.4**
SENIN Lac Senin/Sane 16.19 306 *e*Pn **Pn 18 39 42.0 +0.4**
LPG La Plagne 16.23 303 *e*P **P 18 39 44.4 -0.9**
comp=Z,35nm,1.0s
LPG La Plagne 16.23 303 *e*P **P 18 39 44.4 -0.9**
LPG pmax pmax
comp=Z,35nm,1.0s
LPG La Plagne 16.23 303 *e*P **P 18 39 44.4 -0.9**
comp=Z,18nm,1.0s
LPG La Plagne 16.23 303 *e*P **P 18 39 44.4 -0.9**
comp=Z,35nm,1.0s
LPL La Plagne 16.25 303 *e*P **P 18 39 44.8 -0.6**
comp=Z,35nm,1.1s
LPL La Plagne 16.25 303 *e*P **P 18 39 44.8 -0.6**
LPL pmax pmax
comp=Z,35nm,1.1s
LPL La Plagne 16.25 303 *e*P **P 18 39 44.8 -0.6**
comp=Z,17nm,1.1s
LPL La Plagne 16.25 303 *e*P **P 18 39 44.8 -0.6**
comp=Z,35nm,1.1s
MNK Minsk 16.34 3 *e*P **Pn 18 39 42.0 -1.2**
MICGM Minsk 16.34 3 *e* **Pn 18 39 42.0 -1.2**
BFO Black Forest 16.48 314 P **Pn 18 39 45.3 +0.3**
BFO pmax pmax
comp=Z,6.0nm,0.8s
BFO Black Forest 16.48 314 Pn **Pn 18 39 45.3 +0.3**
comp=Z,6.5nm,0.8s
BFO Black Forest 16.48 314 Pn **Pn 18 39 45.3 +0.3**
comp=Z,6.5nm,0.8s
ORIF Oris-en-Rattie 16.63 300 *e*P **P 18 39 50.5 +1.0**
ORIF *e*R
comp=Z,322nm,20.2s
ORIF Oris-en-Rattie 16.63 300 *e*P **P 18 39 50.5 +1.0**
ORIF Oris-en-Rattie 16.63 300 *e*P **P 18 39 50.5 +1.0**
ORIF Oris-en-Rattie 16.63 300 *e*P **P 18 39 50.5 +1.0**
MAK Makhachkala 16.82 67 *e*P P 18 39 57.1 +5.6
MAK MLR MLR
comp=Z,663nm,19.0s
VRHR Novokhopersk 16.86 35 *e*P **P 18 39 52.2 +0.4**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,6.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR Novokhopersk 16.86 35 *e*P **P 18 39 52.2 +0.4**
ISRB Sarab 16.88 85 *e*P **P 18 39 52.4 -0.1**
ISRB Sarab 16.88 85 *e*P **P 18 39 52.4 -0.1**
CABF La Chapelle 17.06 306 *e*P **P 18 39 55.9 +1.6**
comp=Z,66nm,1.2s
CABF La Chapelle 17.06 306 *e*P **P 18 39 55.9 +1.6**
CABF pmax pmax
comp=Z,66nm,1.2s
CABF La Chapelle 17.06 306 *e*P **P 18 39 55.9 +1.6**
comp=Z,33nm,1.2s
CABF La Chapelle 17.06 306 *e*P **P 18 39 55.9 +1.6**
comp=Z,66nm,1.2s
IDID Didziasalis 17.12 1 *e*P **Pn 18 39 51.4 -1.7**
IDID AMB AMB 18 39 57.3
comp=Z,12nm,1.2s
CDF Champ du Feu 17.12 313 *e*P **P 18 39 56.3 +1.4**
comp=Z,40nm,1.3s
CDF Champ du Feu 17.12 313 *e*P **P 18 39 56.3 +1.4**
CDF pmax pmax
comp=Z,41nm,1.3s
CDF Champ du Feu 17.12 313 *e*P **P 18 39 56.3 +1.4**
comp=Z,20nm,1.3s
CDF Champ du Feu 17.12 313 *e*P **P 18 39 56.3 +1.4**
comp=Z,40nm,1.3s
IIGN Ignalina 17.15 360 *e*P **Pn 18 39 52.0 -1.5**
IIGN AMB AMB 18 39 57.8
comp=Z,12nm,1.3s
ISAL Salakas 17.37 360 *e*P **Pn 18 39 54.4 -1.8**
ISAL AMB AMB 18 40 03.3
comp=Z,9.1nm,1.3s
VIVF Saint-Julien-l 17.44 299 *e*P **P 18 40 00.8 +2.4**
VIVF Saint-Julien-l 17.44 299 *e*P **P 18 40 00.8 +2.4**
VIVF Saint-Julien-l 17.44 299 *e*P **P 18 40 00.8 +2.4**
VIVF Saint-Julien-l 17.44 299 *e*P **P 18 40 00.8 +2.4**
HAU Haudompre 17.48 310 *e*P **P 18 40 02.1 +3.3**
comp=Z,33nm,1.2s
HAU *e*R
comp=Z,390nm,17.8s
HAU Haudompre 17.48 310 *e*P **P 18 40 02.1 +3.3**
HAU pmax pmax
comp=Z,33nm,1.2s
HAU Haudompre 17.48 310 *e*P **P 18 40 02.1 +3.3**
comp=Z,33nm,1.2s
HAU Haudompre 17.48 310 *e*P **P 18 40 02.1 +3.3**
comp=Z,33nm,1.2s
LASF Ste Croix 17.83 296 *e*P **P 18 40 05.4 +2.7**
comp=Z,76nm,1.4s
LASF Ste Croix 17.83 296 *e*P **P 18 40 05.4 +2.7**
comp=Z,76nm,1.4s
LASF Ste Croix 17.83 296 *e*P **P 18 40 05.4 +2.7**
comp=Z,76nm,1.4s
NSR Nassriya 17.86 108 *e*P **Pn 18 39 59.3 -3.1**
NSR *e*S Sn 18 43 12.3 -9.0
NSR Nassriya 17.86 108 *e*P **Pn 18 39 59.3 -3.1**
SNR=63
NSR *e*S Sn 18 43 12.3 -9.0
SNR=77
OBN Obninsk 18.30 19 *de*P **P 18 40 07.9 +0.2**
OBN pmax pmax
comp=Z,25nm,1.2s
OBN MLR MLR
comp=Z,374nm,22.0s
OBN Obninsk 18.30 19 P **P 18 40 07.7 0.0**
comp=Z,1.4nm,0.3s,baz=206,slow=22,SNR=5.1
OBN LR LR 18 47 42.6
comp=Z,299nm,18.3s,baz=264,slow=39
OBN Obninsk 18.30 19 *e*P **Pn 18 40 07.1 -0.5**
comp=Z,16nm,0.9s
OBN Obninsk 18.30 19 *e*P **Pn 18 40 07.1 -0.5**
comp=Z,16nm,0.9s
SFTF Sexfontaines 18.36 310 *e*P **P 18 40 11.1 +2.7**
SFTF Sexfontaines 18.36 310 *e*P **P 18 40 11.1 +2.7**
SFTF Sexfontaines 18.36 310 *e*P **P 18 40 11.1 +2.7**
SMF Signal de Mont 18.52 304 *e*P **Pn 18 40 13.0 +2.5**
comp=Z,70nm,1.4s
SMF Signal de Mont 18.52 304 *e*P **Pn 18 40 13.0 +2.5**
SMF pmax pmax
comp=Z,70nm,1.4s
SMF Signal de Mont 18.52 304 *e*P **Pn 18 40 13.0 +2.5**
comp=Z,70nm,1.4s
SMF Signal de Mont 18.52 304 *e*P **Pn 18 40 13.0 +2.5**
comp=Z,70nm,1.4s
LOR Lormes 18.72 306 *e*P **Pn 18 40 15.5 +2.6**
LOR *e*R
comp=Z,315nm,18.2s
LOR Lormes 18.72 306 *e*P **Pn 18 40 15.5 +2.6**
LOR Lormes 18.72 306 *e*P **Pn 18 40 15.5 +2.6**
LOR Lormes 18.72 306 *e*P **Pn 18 40 15.5 +2.6**
SSF Saint Saulge 18.88 305 *e*P **Pn 18 40 18.3 +3.5**
comp=Z,16nm,0.7s
SSF Saint Saulge 18.88 305 *e*P **Pn 18 40 18.3 +3.5**
SSF pmax pmax
comp=Z,16nm,0.7s
SSF Saint Saulge 18.88 305 *e*P **Pn 18 40 18.3 +3.5**
comp=Z,16nm,0.7s
SSF Saint Saulge 18.88 305 *e*P **Pn 18 40 18.3 +3.5**
comp=Z,16nm,0.7s
AVF Avril sur Loir 18.89 304 *e*P **Pn 18 40 16.8 +1.9**
AVF Avril sur Loir 18.89 304 *e*P **Pn 18 40 16.8 +1.9**
AVF Avril sur Loir 18.89 304 *e*P **Pn 18 40 16.8 +1.9**
AVF Avril sur Loir 18.89 304 *e*P **Pn 18 40 16.8 +1.9**
MOS Moscow 19.13 20 *e*P **Pn 18 40 19.3 +1.5**
MOS pmax pmax
comp=Z,58nm,1.0s
MOS Moscow 19.13 20 *e*P **Pn 18 40 19.3 +1.5**
comp=Z,58nm,1.0s
IRAZ Razeghan 19.16 91 *e*P **Pn 18 40 19.5 +1.0**
IRAZ Razeghan 19.16 91 *e*P **Pn 18 40 19.5 +1.0**
BAIF Baives 19.68 314 *e*P **Pn 18 40 24.6 +0.2**
comp=Z,23nm,0.7s
BAIF Baives 19.68 314 *e*P **Pn 18 40 24.6 +0.2**
BAIF pmax pmax
comp=Z,23nm,0.7s
BAIF Baives 19.68 314 *e*P **Pn 18 40 24.6 +0.2**
comp=Z,11nm,0.7s
BAIF Baives 19.68 314 *e*P **Pn 18 40 24.6 +0.2**
comp=Z,23nm,0.7s
RJF Les Rejaudoux 19.72 299 *e*P **Pn 18 40 27.6 +2.7**
RJF *e*R
comp=Z,221nm,18.5s
RJF Les Rejaudoux 19.72 299 *e*P **Pn 18 40 27.6 +2.7**
RJF Les Rejaudoux 19.72 299 *e*P **Pn 18 40 27.6 +2.7**
RJF Les Rejaudoux 19.72 299 *e*P **Pn 18 40 27.6 +2.7**
IR3 Iran Long-Peri 20.00 90 *e*P **Pn 18 40 28.7 +0.3**
IR3 Iran Long-Peri 20.00 90 *e*P **Pn 18 40 28.7 +0.3**
VSU Vasula 20.27 1⇓ *e*P Pn 18 40 31.5 +0.2
VSU pmax pmax
comp=Z,121nm,1.5s
VSU Vasula 20.27 1 *e*P Pn 18 40 31.5 +0.2
comp=Z,121nm,1.5s
IVRN Varamin 20.69 91 *e*P **P 18 40 35.2 +1.1**
IVRN Varamin 20.69 91 *e*P **P 18 40 35.2 +1.1**
IPIR Pirpir 20.79 98 *e*P **P 18 40 35.5 0.0**
IPIR Pirpir 20.79 98 *e*P **P 18 40 35.5 0.0**
IPRN Peran 20.85 87 *e*P Pn 18 40 37.8 -0.7
ETSF Etsaut 20.86 291 *e*P Pn 18 40 40.3 +1.8
comp=Z,36nm,1.1s
ETSF Etsaut 20.86 291 *e*P Pn 18 40 40.3 +1.8
ETSF pmax pmax
comp=Z,36nm,1.1s
ETSF Etsaut 20.86 291 *e*P Pn 18 40 40.3 +1.8
comp=Z,36nm,1.1s
ETSF Etsaut 20.86 291 *e*P Pn 18 40 40.3 +1.8
comp=Z,36nm,1.1s
MFF Saint Martin d 21.14 302 *e*P **P 18 40 41.8 +2.9**
comp=Z,63nm,1.3s
MFF Saint Martin d 21.14 302 *e*P **P 18 40 41.8 +2.9**
MFF pmax pmax
comp=Z,63nm,1.3s
MFF Saint Martin d 21.14 302 *e*P **P 18 40 41.8 +2.9**
comp=Z,63nm,1.3s
MFF Saint Martin d 21.14 302 *e*P **P 18 40 41.8 +2.9**
comp=Z,63nm,1.3s
SJPF Ste Jean 21.36 292 *e*P **P 18 40 45.9 +4.6**
comp=Z,119nm,1.4s
SJPF Ste Jean 21.36 292 *e*P **P 18 40 45.9 +4.6**
SJPF pmax pmax
comp=Z,119nm,1.4s
SJPF Ste Jean 21.36 292 *e*P **P 18 40 45.9 +4.6**
comp=Z,119nm,1.4s
SJPF Ste Jean 21.36 292 *e*P **P 18 40 45.9 +4.6**
comp=Z,119nm,1.4s
LDF La Druitiere 21.69 307 *e*P **P 18 40 46.4 +1.7**
LDF La Druitiere 21.69 307 *e*P **P 18 40 46.4 +1.7**
LDF La Druitiere 21.69 307 *e*P **P 18 40 46.4 +1.7**
LDF La Druitiere 21.69 307 *e*P **P 18 40 46.4 +1.7**
ISHM Shahmirzad 21.70 88 *e*P **P 18 40 49.5 +4.2**
IZEF Zefreh 21.84 96 *e*P **P 18 40 48.5 +1.8**
IZEF Zefreh 21.84 96 *e*P **P 18 40 48.5 +1.8**
IGLO Ghaloghah 21.96 86 *e*P **P 18 40 50.3 +2.3**
FLN La Foliniere 21.97 307 *e*P **P 18 40 47.7 0.0**
comp=Z,48nm,0.9s
FLN *e*R
comp=Z,306nm,18.2s
FLN La Foliniere 21.97 307 *e*P **P 18 40 47.7 0.0**
FLN pmax pmax
comp=Z,48nm,0.9s
FLN La Foliniere 21.97 307 *e*P **P 18 40 47.7 0.0**
comp=Z,24nm,0.9s
FLN La Foliniere 21.97 307 *e*P **P 18 40 47.7 0.0**
comp=Z,48nm,0.9s
RAYN Ar Rayn 22.01 126 *e*P **P 18 40 49.3 +0.9**
comp=Z,46nm,1.3s
RAYN Ar Rayn 22.01 126 *e*P **P 18 40 49.3 +0.9**
comp=Z,46nm,1.3s
GRR Gorron 22.09 306 *e*P **P 18 40 49.6 +0.6**
GRR Gorron 22.09 306 *e*P **P 18 40 49.6 +0.6**
GRR Gorron 22.09 306 *e*P **P 18 40 49.6 +0.6**
GRR Gorron 22.09 306 *e*P **P 18 40 49.6 +0.6**
SGMF Saint Gilles 23.14 305 *e*P **P 18 41 01.6 +1.5**
SGMF Saint Gilles 23.14 305 *e*P **P 18 41 01.6 +1.5**
SGMF Saint Gilles 23.14 305 *e*P **P 18 41 01.6 +1.5**
SGMF Saint Gilles 23.14 305 *e*P **P 18 41 01.6 +1.5**
FINES FINESS Array B 23.26 360 P **P 18 41 01.0 -0.2**
FINES FINESS Array B 23.26 360 P **P 18 41 01.0 -0.2**
comp=Z,5.6nm,0.8s,baz=170,slow=8.5,SNR=16
FINES LR LR 18 50 08.5
comp=Z,263nm,21.6s,baz=177,slow=37
FINES FINESS Array B 23.26 360 P **P 18 41 01.0 -0.2**
FINES FINESS Array B 23.26 360 P **P 18 41 01.0 -0.2**
HFS Hagfors 23.35 344 P **P 18 41 00.7 -1.4**
comp=Z,5.9nm,0.9s,baz=147,slow=8.5,SNR=9.0
HFS LR LR 18 51 30.3
comp=Z,414nm,19.4s,baz=161,slow=40
ES19 SONSECA Array 23.44 283 *e*P **P 18 41 05.0 +1.7**
ES19 SONSECA Array 23.44 283 *e*P **P 18 41 05.0 +1.7**
TAM Tamanrasset 23.48 235 *e*P **P 18 41 06.2 +2.4**
TAM pmax pmax
comp=Z,24nm,1.3s
TAM Tamanrasset 23.48 235 *e*P **P 18 41 06.2 +2.4**
comp=Z,24nm,1.3s
TAM Tamanrasset 23.48 235 *e*P **P 18 41 06.2 +2.4**
comp=Z,24nm,1.3s
ESDC Sonseca Array 23.50 283 P **P 18 41 03.9 +0.2**
comp=Z,7.8nm,1.0s,baz=80,slow=11,SNR=15
ESDC Sonseca Array 23.50 283 P **P 18 41 04.0 +0.2**
PAB San Pablo 23.81 283 *e*P **P 18 41 09.2 +2.3**
PAB pmax pmax
comp=Z,40nm,1.5s
PAB San Pablo 23.81 283 *e*P **P 18 41 09.2 +2.3**
comp=Z,40nm,1.5s
PAB San Pablo 23.81 283 *e*P **P 18 41 09.2 +2.3**
comp=Z,40nm,1.5s
KAF Kangasniemi 23.93 0 *e*P **P 18 41 05.6 -2.1**
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 23.93 0 *e*p **P 18 41 05.6 -2.1**
comp=Z,3.2nm,0.6s
KLMR Klimovskoe 24.16 16 *e*P **P 18 41 08.5 -1.3**
KLMR pmax pmax
comp=Z,27nm,0.9s
KLMR Klimovskoe 24.16 16 *e*P **P 18 41 08.5 -1.3**
comp=Z,27nm,0.9s
IMEH Mehriz 24.20 98 *e*P **P 18 41 12.0 +1.1**
NB2 NORSAR Subarra 24.72 342 P **P 18 41 14.6 -0.4**
comp=Z,12nm,1.1s,baz=146,slow=10
NB2 NORSAR Subarra 24.72 342 P **P 18 41 14.6 -0.4**
comp=Z,12nm,1.1s,SNR=0.4
NOA NORSAR Array B 24.72 342 P **P 18 41 14.4 -0.6**
comp=Z,1.3nm,0.7s,baz=147,slow=9.4,SNR=10.0
NOA LR LR 18 52 03.5
comp=Z,218nm,19.0s,baz=145,slow=39
NBO02 NORSAR Array S 24.82 342 *e*P **P 18 41 13.7 -2.1**
NBO02 NORSAR Array S 24.82 342 *e*P **P 18 41 13.7 -2.1**
IBAF Bafgh 24.87 97 *e*P **P 18 41 17.8 +1.0**
JOF Joensuu 24.93 5 *e*P **P 18 41 15.3 -1.5**
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 24.93 5 *e*p **P 18 41 15.3 -1.5**
comp=Z,3.5nm,0.7s
GEYT Alibeck 25.03 81 P **P 18 41 19.0 +0.9**
comp=Z,19nm,1.1s,baz=280,slow=8.9,SNR=25
IKRD Kardeh 25.58 83 *e*P P 18 41 31.4 +8.2
AKTO Aktyubinsk 25.60 51 P **P 18 41 22.1 -0.9**
comp=Z,6.6nm,1.0s,baz=246,slow=11,SNR=9.1
AKTO LR LR 18 53 31.4
comp=Z,97nm,18.6s,baz=260,slow=41
MDT Midelt 25.62 267 P **P 18 41 24.1 +0.5**
comp=Z,10.0nm,1.1s,baz=63,slow=6.8,SNR=6.2
IAKL Akhelmad 25.80 83 *e*P **P 18 41 26.4 +1.1**
IPAY Payeh 26.03 84 *e*P **P 18 41 29.0 +1.7**
EKA Eskdalemuir Ar 26.15 320 P **P 18 41 28.2 +0.2**
comp=Z,2.8nm,0.7s,baz=108,slow=11,SNR=4.8
PRGR Permogore 26.36 21 *e*P **P 18 41 27.1 -2.6**
PRGR pmax pmax
comp=Z,25nm,0.7s
ABKAR Akbulak array 26.52 54 *e*P **P 18 41 30.7 -0.7**
comp=Z,2.6nm,0.7s
ABKAR Akbulak array 26.52 54 *e*P **P 18 41 30.7 -0.7**
comp=Z,2.6nm,0.7s
ITEG Tejag 26.88 91 *e*P **P 18 41 36.9 +1.8**
ITEG Tejag 26.88 91 *e*P **P 18 41 36.9 +1.8**
IMYA Miami 26.92 83 *e*P **P 18 41 36.4 +1.1**
IMYA Miami 26.92 83 *e*P **P 18 41 36.4 +1.1**
TMCR Tamitsa 26.93 11 *e*P **P 18 41 37.8 +2.9**
TMCR *e* 18 42 24.7
TMCR pmax pmax
comp=Z,25nm,1.3s
TMCR Tamitsa 26.93 11 *e*P **P 18 41 37.8 +2.9**
comp=Z,25nm,1.3s
IKOO Kooshah 27.25 92 *e*P **P 18 41 40.0 +1.6**
IKOO Kooshah 27.25 92 *e*P **P 18 41 40.0 +1.6**
ARU Arti 28.11 39 *c i*P **P 18 41 45.4 -0.2**
ARU 18 42 32.0
ARU S **S 18 46 31.2 +1.3**
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 28.11 39 *e*P **P 18 41 44.6 -1.0**
comp=Z,33nm,1.7s
ARU S **S 18 46 31.2 +1.3**
ARU Arti 28.11 39 *e*P **P 18 41 44.6 -1.0**
comp=Z,33nm,1.7s
APA Apatity 29.69 6 *e*P P 18 42 05.0 +5.6
APA MLR MLR
comp=Z,400nm,12.0s
ARQ Araqi 29.78 111 ⇓P **P 18 42 01.6 +0.9**
SNR=8.1
ARQ Araqi 29.78 111 P **P 18 42 01.6 +0.9**
SNR=8.1
SMDO Samad 31.07 110 P **P 18 42 12.2 0.0**
SNR=6.2
SMDO Samad 31.07 110 P **P 18 42 12.2 0.0**
SNR=6.2
ARCES ARCESS Array B 31.39 359 P **P 18 42 14.5 0.0**
comp=Z,2.6nm,0.8s,baz=190,slow=6.2,SNR=6.5
ARCES LR LR 18 55 21.5
comp=Z,207nm,18.0s,baz=176,slow=37
JMDO Jabal Madar 31.52 111 ⇑P **P 18 42 16.4 +0.3**
SNR=5.9
JMDO Jabal Madar 31.52 111 P **P 18 42 16.4 +0.3**
SNR=5.9
KEV Kevo 31.61 1 P **P 18 42 16.7 +0.3**
KEV Kevo 31.61 1 P **P 18 42 16.7 +0.3**
KEV Kevo 31.61 1 P **P 18 42 16.7 +0.3**
TORD Torodi Ar. Bea 33.15 228 P **P 18 42 31.0 +0.6**
comp=Z,18nm,0.9s,baz=35,slow=9.2,SNR=80
TORD LR LR 18 58 40.7
comp=Z,123nm,18.5s,baz=340,slow=41
KKAR Karatay Array 33.64 67 *e*P **P 18 42 34.6 +0.1**
KKAR pmax pmax
comp=Z,9.0nm,0.9s
KKAR Karatay Array 33.64 67 *e*P **P 18 42 34.6 +0.1**
comp=Z,9.4nm,0.9s
KKAR Karatay Array 33.64 67 *e*P **P 18 42 34.6 +0.1**
comp=Z,9.4nm,0.9s
BVAR Borovoye Array 33.66 49 P **P 18 42 34.8 +0.3**
comp=Z,1.5nm,0.9s,baz=258,slow=7.4,SNR=6.9
KBL Kabul 34.43 83 *e*P **P 18 42 42.5 +0.8**
KBL pmax pmax
comp=Z,9.0nm,1.3s
KBL Kabul 34.43 83 *e*P **P 18 42 42.5 +0.8**
comp=Z,8.8nm,1.3s
KBL Kabul 34.43 83 *e*P **P 18 42 42.5 +0.8**
comp=Z,8.8nm,1.3s
EKS2 Erkin-Say 36.07 68 P **P 18 42 56.9 +1.3**
SNR=21
EKS2 Erkin-Say 36.07 68 *e*P **P 18 42 56.4 +0.8**
EKS2 *e* 18 45 21.2
EKS2 pmax pmax
comp=Z,12nm,0.8s
EKS2 Erkin-Say 36.07 68 *e*P **P 18 42 56.4 +0.8**
comp=Z,12nm,0.8s
EKS2 Erkin-Say 36.07 68 *e*PcP **PcP 18 45 21.2 -0.4**
EKS2 Erkin-Say 36.07 68 *e*P **P 18 42 56.4 +0.8**
comp=Z,12nm,0.8s
EKS2 *e*PcP **PcP 18 45 21.2 -0.4**
AAK Ala-Archa 36.60 67 P **P 18 43 01.5 +1.3**
SNR=22
AAK Ala-Archa 36.60 67 *e*P **P 18 43 00.8 +0.6**
AAK *e* 18 45 22.8
AAK pmax pmax
comp=Z,13nm,0.8s
AAK Ala-Archa 36.60 67 P **P 18 43 01.7 +1.5**
SNR=8.0
AAK Ala-Archa 36.60 67 P **P 18 43 01.3 +1.1**
comp=Z,14nm,0.8s,baz=233,slow=4.0,SNR=73
AAK PcP **PcP 18 45 23.5 +0.3**
comp=Z,2.8nm,0.9s,baz=213,slow=6.4,SNR=3.7
AAK Ala-Archa 36.60 67 *e*P **P 18 43 00.8 +0.6**
comp=Z,13nm,0.8s
AAK Ala-Archa 36.60 67 *e*PcP **PcP 18 45 22.8 -0.4**
AAK Ala-Archa 36.60 67 *e*P **P 18 43 00.8 +0.6**
comp=Z,13nm,0.8s
AAK *e*PcP **PcP 18 45 22.8 -0.4**
FRU Bishkek 36.66 67 *e*P **P 18 43 01.0 +0.5**
FRU pmax pmax
comp=Z,60nm,2.0s
FRU Bishkek 36.66 67 *e*P **P 18 43 01.0 +0.5**
comp=Z,60nm,2.0s
UCH Uchtor 36.69 68 P **P 18 43 02.6 +1.3**
SNR=5.8
CHMS Chumysh 36.73 67 P **P 18 43 02.5 +1.4**
SNR=11
CHMS Chumysh 36.73 67 *i* P **P 18 43 02.5 +1.4**
CHMS Chumysh 36.73 67 *i* P **P 18 43 02.5 +1.4**
KBK Karagaybulak 36.93 67 P **P 18 43 04.5 +1.5**
SNR=11
KZA Kyzart 37.25 68 P **P 18 43 07.8 +1.8**
SNR=17
TKM2 Tokmak 2 37.35 67 P **P 18 43 07.3 +0.7**
SNR=11
TKM2 Tokmak 2 37.35 67 *e*P **P 18 43 07.1 +0.4**
TKM2 *e* 18 45 25.4
TKM2 pmax pmax
comp=Z,8.0nm,0.9s
TKM2 Tokmak 2 37.35 67 *e*P **P 18 43 07.1 +0.4**
comp=Z,8.2nm,0.9s
TKM2 Tokmak 2 37.35 67 *e*PcP **PcP 18 45 25.4 -0.1**
TKM2 Tokmak 2 37.35 67 *e*P **P 18 43 07.0 +0.4**

	comp=Z,8.2nm,0.9s							
TKM2				*e*PcP	**PcP**	**18 45 25.4**	**-0.1**
ULHL	**Ulahol**	**37.94**	**68**	P	**P**	**18 43 13.1**	**+1.4**
	SNR=17						
BORG	**Borgarnes**	**38.34**	**329**	*i* P	**P**	**18 43 13.7**	**-0.7**
BORG	**Borgarnes**	**38.34**	**329**	*i* P	**P**	**18 43 13.7**	**-0.7**
KSH	**Kashi**	**38.34**	**72** ⇑	*i* P	**P**	**18 43 14.0**	**-1.0**
KSH				sP	**sP**	**18 43 20.8**	**-0.6**
KSH				PP	**PnPn**	**18 44 43.8**	**-0.5**
KSH				S	**S**	**18 49 06.3**	**-2.7**
KSH				sS	**ScP**	**18 49 13.0**	**-2.9**
KSH				SS	SnSn	18 51 42.0	-12
KSH				PMZ			
	comp=Z,11nm,1.1s						
KSH				PMZ			
	comp=Z,180nm,5.8s						
KSH				LN			
	comp=Z,150nm,6.1s						
KSH				LE			
	comp=Z,150nm,5.7s						
KSH				LZ			
	comp=Z,260nm,9.6s						
KURBB	**Kurchatov Arra**	**38.57**	**54**	P	**P**	**18 43 16.9**	**+0.3**
	comp=Z,6.9nm,0.8s,baz=281,slow=8.6,SNR=59						
KURBB				PcP	**PcP**	**18 45 28.8**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=273,slow=3.9,SNR=10						
KURK	**Kurchatov**	**38.63**	**54**	*e*P	**P**	**18 43 16.6**	**-0.4**
KURK						18 45 28.8	
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	**38.63**	**54**	*e*P	**P**	**18 43 16.6**	**-0.4**
	comp=Z,3.9nm,0.8s						
KURK	**Kurchatov**	**38.63**	**54**	PcP	**PcP**	**18 45 28.8**	**-0.2**
KURK	**Kurchatov**	**38.63**	**54**	*e*P	**P**	**18 43 16.6**	**-0.4**
	comp=Z,3.9nm,0.8s						
KURK				PcP	**PcP**	**18 45 28.8**	**-0.2**
KMBO	**Kilima Mbogo**	**40.44**	**163**	P	**P**	**18 43 34.0**	**+1.3**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KMBO	**Kilima Mbogo**	**40.44**	**163**	P	**P**	**18 43 34.3**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=346,slow=8.3,SNR=4.0						
KMBO	**Kilima Mbogo**	**40.44**	**163**	P	**P**	**18 43 34.0**	**+1.3**
	comp=Z,3.3nm,0.9s						
KMBO	**Kilima Mbogo**	**40.44**	**163**	P	**P**	**18 43 34.0**	**+1.3**
	comp=Z,3.3nm,0.9s						
MSKU	**Masuku**	**41.35**	**199**	P	**P**	**18 43 40.2**	**+0.2**
	comp=Z,14nm,0.7s,baz=7.7,slow=7.7,SNR=4.5						
NVS	**Novosibirsk**	**41.35**	**47**	*e*P	**P**	**18 43 37.9**	**-1.6**
NVS				*e*		18 45 14.2	
NVS				pmax	pmax		
	comp=N,2.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NVS	**Novosibirsk**	**41.35**	**47**	*e*P	**P**	**18 43 37.9**	**-1.6**
MKAR	**Makanchi Array**	**41.42**	**59**	*e*P	**P**	**18 43 40.3**	**0.0**
MKAR						18 45 37.6	
MKAR	**Makanchi Array**	**41.42**	**59**	P	**P**	**18 43 40.6**	**+0.3**
	comp=Z,9.9nm,0.7s,baz=286,slow=6.8,SNR=138						
MKAR				PcP	**PcP**	**18 45 37.5**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=287,slow=4.9,SNR=3.5						
MKAR	**Makanchi Array**	**41.42**	**59**	*e*P	**P**	**18 43 40.3**	**0.0**
MKAR	**Makanchi Array**	**41.42**	**59**	*e*P	**P**	**18 43 40.2**	**0.0**
MKAR				PcP	**PcP**	**18 45 37.5**	**-0.6**
MK01	**Makanchi Array**	**41.43**	**60**	*e*P	**P**	**18 43 40.4**	**0.0**
MK01	**Makanchi Array**	**41.43**	**60**	*e*P	**P**	**18 43 40.4**	**0.0**
DBIC	**Dimbokro**	**42.17**	**230**	*e*P	**P**	**18 43 45.4**	**-1.3**
DBIC				pmax	pmax		
	comp=Z,13nm,0.9s						
DBIC	**Dimbokro**	**42.17**	**230**	P	**P**	**18 43 47.1**	**+0.3**
	comp=Z,8.2nm,0.8s,baz=21,slow=9.0,SNR=12						
DBIC	**Dimbokro**	**42.17**	**230**	*e*P	**P**	**18 43 45.4**	**-1.3**
	comp=Z,13nm,0.9s						
DBIC	**Dimbokro**	**42.17**	**230**	*e*P	**P**	**18 43 45.4**	**-1.3**
	comp=Z,13nm,0.9s						
TIC	**Toumodi**	**42.29**	**230**	*e*P	**P**	**18 43 47.7**	**0.0**
	comp=Z,4.9nm,0.2s						
ZALV	**Zalesovo Beam**	**42.30**	**49**	P	**P**	**18 43 47.4**	**0.0**
	comp=Z,4.7nm,0.7s,baz=267,slow=9.1,SNR=28						
ZALV				LR	LR	19 03 31.9	
	comp=Z,81nm,18.5s,baz=242,slow=39						
KIC	**Kosan Boka**	**42.35**	**229**	*e*P	**P**	**18 43 48.2**	**0.0**
	comp=Z,31nm,0.9s						
LIC	**Lamto**	**42.63**	**230**	*e*P	**P**	**18 43 50.2**	**-0.3**
	comp=Z,34nm,1.0s						
LIC				*e*R			
	comp=Z,179nm,21.5s						
LIC	**Lamto**	**42.63**	**230**	*e*P	**P**	**18 43 50.4**	**-0.1**
	comp=Z,82nm,1.5s						
LIC	**Lamto**	**42.63**	**230**	*e*P	**P**	**18 43 50.2**	**-0.3**
	comp=Z,17nm,1.0s						
LIC	**Lamto**	**42.63**	**230**	*e*P	**P**	**18 43 50.2**	**-0.3**
	comp=Z,34nm,1.0s						
WMQ	**Urumqi**	**45.77**	**63**	P	**P**	**18 44 16.5**	**+1.1**
WMQ				pP	pP	18 44 25.0	+4.9
WMQ				PcP	**PcP**	**18 45 56.3**	**+3.4**
WMQ				PMZ			
	comp=Z,23nm,1.1s						
WMQ				PMZ			
	comp=Z,38nm,4.6s						
WMQ				LN			
	comp=Z,90nm,19.0s						
WMQ				LE			
	comp=Z,110nm,24.0s						
WMQ				LZ			
	comp=Z,110nm,23.0s						
SUMG	**Summit**	**46.47**	**338**	*e*P	**P**	**18 44 20.8**	**-0.2**
SUMG				pmax	pmax		
	comp=Z,16nm,1.3s						
SUMG	**Summit**	**46.47**	**338**	*e*P	**P**	**18 44 20.8**	**-0.2**
	comp=Z,16nm,1.3s						
SUMG	**Summit**	**46.47**	**338**	*e*P	**P**	**18 44 20.8**	**-0.2**
	comp=Z,16nm,1.3s						
HVS	**Khovu-Aksy**	**48.04**	**51** ⇑	*i* P	**P**	**18 44 33.8**	**+0.7**
HVS				pmax	pmax		
	comp=Z,39nm,1.1s						
HVS	**Khovu-Aksy**	**48.04**	**51**	*i* P	**P**	**18 44 33.8**	**+0.7**
	comp=Z,39nm,1.1s						
DANN	**Dangsing**	**48.40**	**84**	*e*P	**P**	**18 44 37.3**	**+0.9**
	comp=Z,173nm,0.8s						
KOLN	**Koldanda**	**48.54**	**85**	*e*P	**P**	**18 44 37.9**	**+0.5**
	comp=Z,71nm,0.8s						
GKN	**Gorkha**	**49.25**	**84**	*e*P	**P**	**18 44 42.9**	**+0.1**
	comp=Z,57nm,0.8s						
DMN	**Daman**	**49.80**	**84**	*e*P	**P**	**18 44 47.6**	**+0.5**
	comp=Z,84nm,0.8s						
KKN	**Kakani**	**49.85**	**84**	*e*P	**P**	**18 44 47.5**	**0.0**
	comp=Z,20nm,0.6s						
HYB	**Hyderabad**	**49.97**	**99**	*i* P	**P**	**18 44 47.5**	**-0.8**
PKIN	**Phulchoki**	**50.04**	**84**	*e*P	**P**	**18 44 49.1**	**+0.1**
	comp=Z,18nm,0.9s						
PKI	**Pulchoki**	**50.05**	**84**	*e*P	**P**	**18 44 49.3**	**+0.2**
	comp=Z,48nm,1.0s						
GUN	**Gumba**	**50.26**	**83**	*e*P	**P**	**18 44 51.0**	**+0.3**
	comp=Z,77nm,1.0s						
JIRN	**Jiri**	**50.62**	**83**	*e*P	**P**	**18 44 53.8**	**+0.3**
	comp=Z,51nm,0.8s						
RAMN	**Ramite**	**51.28**	**84**	*e*P	**P**	**18 44 58.3**	**0.0**
	comp=Z,88nm,0.8s						
ODAN	**Odare**	**51.94**	**84**	*e*P	**P**	**18 45 03.2**	**0.0**
	comp=Z,37nm,1.0s						
TAPN	**Taplejung**	**51.96**	**83**	*e*P	**P**	**18 45 03.5**	**+0.1**
	comp=Z,24nm,0.6s						
LSA	**Lhasa**	**53.53**	**78**	*e*P	**P**	**18 45 16.4**	**+1.1**
LSA				pmax	pmax		
	comp=Z,15nm,0.7s						
LSA	**Lhasa**	**53.53**	**78**	*e*P	**P**	**18 45 16.4**	**+1.1**
	comp=Z,14nm,0.7s						
LSA	**Lhasa**	**53.53**	**78**	*e*P	**P**	**18 45 16.4**	**+1.1**
	comp=Z,14nm,0.7s						
TLY	**Talaya**	**53.91**	**49**	*e*P	**P**	**18 45 18.9**	**+1.7**
TLY				pmax	pmax		
	comp=Z,14nm,1.5s						
TLY	**Talaya**	**53.91**	**49**	P	**P**	**18 45 19.3**	**+2.2**
	SNR=6.2						
TLY	**Talaya**	**53.91**	**49**	P	**P**	**18 45 15.7**	**-1.5**
	comp=Z,27nm,1.5s						
TLY	**Talaya**	**53.91**	**49**	P	**P**	**18 45 15.7**	**-1.5**
	comp=Z,27nm,1.5s						
ZAK	**Zakamensk**	**54.10**	**50**	*e*P	**P**	**18 45 19.2**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ZAK	**Zakamensk**	**54.10**	**50**	*e*P	**P**	**18 45 19.2**	**+0.5**
	comp=Z,7.0nm,1.1s						
GTA	**Gaotai**	**55.80**	**64**	*e*P	**P**	**18 45 31.8**	**+0.6**

GTA				pP	**pP**	**18 45 39.8**	**+3.9**
GTA				sP	sP	18 45 43.0	+5.3
GTA				ScP	**ScP**	**18 50 27.5**	**-1.1**
GTA				S	**S**	**18 53 19.0**	**+1.2**
GTA				PMZ			
	comp=Z,13nm,1.1s						
GTA				PMZ			
	comp=Z,210nm,5.5s						
GTA				LN			
	comp=Z,95nm,15.2s						
GTA				LE			
	comp=Z,160nm,14.7s						
GTA				LZ			
	comp=Z,120nm,14.0s						
SONM	**Songino Array**	**56.91**	**52**	P	**P**	**18 45 39.5**	**+0.6**
	comp=Z,5.5nm,0.9s,baz=287,slow=7.5,SNR=49						
ULN	**Ulaanbaatar**	**57.31**	**52**	*d i* P	**P**	**18 45 42.3**	**+0.5**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ULN	**Ulaanbaatar**	**57.31**	**52**	*e*P	**P**	**18 45 42.0**	**+0.2**
	comp=Z,10nm,0.9s						
ULN	**Ulaanbaatar**	**57.31**	**52**	*e*P	**P**	**18 45 42.0**	**+0.2**
	comp=Z,10nm,0.9s						
BOD	**Bodaibo**	**57.53**	**39**	*e*P	**P**	**18 45 42.5**	**-0.5**
BOD	**Bodaibo**	**57.53**	**39**	*e*P	**P**	**18 45 42.5**	**-0.5**
TSUM	**Tsumeb**	**57.68**	**190**	P	**P**	**18 45 43.9**	**-0.7**
TSUM	**Tsumeb**	**57.68**	**190**	P	**P**	**18 45 43.9**	**-0.7**
PALK	**Pallekele**	**57.87**	**108**	*e*P	**P**	**18 45 45.8**	**-0.2**
PALK				pmax	pmax		
	comp=Z,28nm,1.3s						
PALK	**Pallekele**	**57.87**	**108**	*e*P	**P**	**18 45 45.8**	**-0.2**
	comp=Z,28nm,1.3s						
PALK	**Pallekele**	**57.87**	**108**	*e*P	**P**	**18 45 45.8**	**-0.2**
	comp=Z,28nm,1.3s						
TIXI	**Tiksi**	**58.02**	**21** ⇑	*i* P	**P**	**18 45 46.4**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,10.0nm,2.5s						
TIXI	**Tiksi**	**58.02**	**21**	*e*P	**P**	**18 45 45.0**	**-1.2**
	comp=Z,12nm,1.7s						
TIXI	**Tiksi**	**58.02**	**21**	*e*P	**P**	**18 45 45.0**	**-1.2**
	comp=Z,12nm,1.7s						
FRB	**Frobisher Bay**	**58.51**	**329**	P	**P**	**18 45 49.4**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=82,slow=7.4,SNR=5.7						
LZH	**Lanzhou**	**60.11**	**66**	*e*P	**P**	**18 46 02.5**	**+1.0**
LZH				pP	**pP**	**18 46 04.3**	**-2.0**
LZH				sP	**sP**	**18 46 05.3**	**-2.8**
LZH				PMZ			
	comp=Z,34nm,1.2s						
LZH				PMZ			
	comp=Z,130nm,4.3s						
RES	**Resolute Bay**	**60.96**	**345**	LR	LR	19 12 39.5	
	comp=Z,94nm,19.3s,baz=5.5,slow=36						
CD2	**Chengdu**	**62.53**	**71**	*e*P	**P**	**18 46 18.3**	**+0.5**
CD2				PMZ			
	comp=Z,50nm,0.9s						
CD2				PMZ			
	comp=Z,420nm,7.1s						
YAK	**Yakutsk**	**62.81**	**31**	*e*P	**P**	**18 46 16.5**	**-2.6**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK	**Yakutsk**	**62.81**	**31**	*e*P	**P**	**18 46 16.5**	**-2.6**
	comp=Z,6.5nm,0.8s						
LBTB	**Lobatse**	**62.89**	**181**	*e*P	**P**	**18 46 20.8**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LBTB	**Lobatse**	**62.89**	**181**	*e*P	**P**	**18 46 20.8**	**+0.7**
	comp=Z,8.4nm,0.8s						
LBTB	**Lobatse**	**62.89**	**181**	*e*P	**P**	**18 46 20.8**	**+0.7**
	comp=Z,8.4nm,0.8s						
HHC	**Hu-ho-hao-te**	**63.25**	**58**	*e*P	**P**	**18 46 23.0**	**+0.5**
HHC				pP	**pP**	**18 46 30.3**	**+3.0**
HHC				sP	sP	18 46 34.5	+5.4
HHC				PP	**PP**	**18 48 43.5**	**+2.2**
HHC				S	**S**	**18 54 52.0**	**-1.9**
HHC				sS	**sS**	**18 55 04.5**	**+2.7**
HHC				ScS	**SKKSac**	**18 56 09.8**	**-5.4**
HHC				PMZ			
	comp=Z,27nm,0.6s						
HHC				PMZ			
	comp=Z,310nm,5.6s						
HHC				LN			
	comp=Z,220nm,18.0s						
HHC				LE			
	comp=Z,270nm,20.0s						
HHC				LZ			
	comp=Z,150nm,18.5s						
HIA	**Hailar**	**64.28**	**47**	*e*P	**P**	**18 46 30.0**	**+0.9**
HIA				pmax	pmax		
	comp=Z,22nm,1.3s						
HIA	**Hailar**	**64.28**	**47**	*e*P	**P**	**18 46 30.0**	**+0.9**
	comp=Z,22nm,1.3s						
HIA	**Hailar**	**64.28**	**47**	*e*P	**P**	**18 46 30.0**	**+0.9**
	comp=Z,22nm,1.3s						
CMAI	**Chiengmai2**	**64.66**	**84**	P	**P**	**18 46 32.9**	**+0.7**
	comp=Z,18nm,1.1s						
KMI	**Kunming**	**64.73**	**77**	P	**P**	**18 46 33.0**	**+0.4**
KMI				PMZ			
	comp=Z,18nm,0.8s						
XAN	**Xi'an**	**64.75**	**66**	P	**P**	**18 46 32.5**	**+0.1**
XAN				sP	sP	18 46 46.3	+7.3
XAN				PMZ			
	comp=Z,5.0nm,1.3s						
XAN				PMZ			
	comp=Z,81nm,13.7s						
MHMT	**Maesarieng**	**64.76**	**86**	P	**P**	**18 46 33.6**	**+1.0**
	comp=Z,9.7nm,0.9s						
CHTO	**Chiang Mai**	**65.20**	**85**	*e*P	**P**	**18 46 35.2**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,12nm,1.3s						
CHTO	**Chiang Mai**	**65.20**	**85**	P	**P**	**18 46 36.0**	**+0.5**
	comp=Z,105nm,1.2s						
CHTO	**Chiang Mai**	**65.20**	**85**	*e*P	**P**	**18 46 35.2**	**-0.3**
	comp=Z,12nm,1.3s						
CHTO	**Chiang Mai**	**65.20**	**85**	*e*P	**P**	**18 46 35.2**	**-0.3**
	comp=Z,12nm,1.3s						
CMMT	**Chiang Mai**	**65.21**	**85**	P	**P**	**18 46 35.9**	**+0.3**
	comp=Z,19nm,0.7s						
CMAR	**Chiang Mai Arr**	**65.40**	**85**	*ce*P	**P**	**18 46 36.7**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**65.40**	**85**	P	**P**	**18 46 36.8**	**-0.1**
	comp=Z,5.0nm,0.8s,baz=302,slow=7.6,SNR=47						
CM01	**Chiang Mai Arr**	**65.43**	**85**	*e*P	**P**	**18 46 36.8**	**-0.2**
CM01	**Chiang Mai Arr**	**65.43**	**85**	*e*P	**P**	**18 46 36.8**	**-0.2**
CRAI	**Chiangrai**	**65.54**	**83**	P	**P**	**18 46 35.0**	**-2.7**
	comp=Z,114nm,0.7s						
LAMP	**Lampang**	**65.91**	**85**	P	**P**	**18 46 41.4**	**+1.3**
	comp=Z,5.4nm,1.1s						
BJI	**Beijing**	**66.71**	**57**	P	**P**	**18 46 44.3**	**-0.6**
BJI				S	**S**	**18 55 34.5**	**-1.6**
BJI				PMZ			
	comp=Z,13nm,0.9s						
BJI				LZ			
	comp=Z,110nm,25.0s						
GYA	**Guiyang**	**67.01**	**74**	*e*P	**P**	**18 46 47.0**	**-0.2**
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
UTTA	**Uttaradit**	**67.07**	**85**	P	**P**	**18 46 48.1**	**+0.6**
ENH	**Enshi**	**67.10**	**69**	*e*P	**P**	**18 46 47.7**	**+0.1**
	comp=Z,14nm,1.1s						
ENH	**Enshi**	**67.10**	**69**	*e*P	**P**	**18 46 47.6**	**+0.1**
	comp=Z,14nm,1.1s						
SLVN	**Son La**	**67.68**	**80**	*e*P	**P**	**18 46 51.2**	**-0.2**
	comp=Z,11nm,1.0s						
SLVN	**Son La**	**67.68**	**80**	*e*P	**P**	**18 46 51.2**	**-0.2**
	comp=Z,11nm,1.0s						
BILL	**Bilibino**	**69.90**	**15** ⇑	*e*P	**P**	**18 47 04.2**	**-0.3**
BILL				*e*		18 49 39.5	
BILL				*e*PPP	PPP	18 51 16.4	
BILL				pmax	pmax		
	comp=Z,13nm,1.4s						
BILL				MLR	MLR		
	comp=Z,87nm,22.0s						
BILL	**Bilibino**	**69.90**	**15**	*e*P	**P**	**18 47 04.1**	**-0.3**
	comp=Z,13nm,1.3s						
BILL	**Bilibino**	**69.90**	**15**	*e*P	**P**	**18 47 04.1**	**-0.3**
	comp=Z,13nm,1.3s						
SUR	**Sutherland**	**70.41**	**185**	*e*P	**P**	**18 47 08.8**	**+0.7**
	comp=Z,21nm,1.0s						
SUR	**Sutherland**	**70.41**	**185**	*e*P	**P**	**18 47 08.8**	**+0.7**
	comp=Z,21nm,1.0s						
SEY	**Seymchan**	**70.42**	**23**	P	**P**	**18 47 08.2**	**+0.6**
	comp=Z,1.4nm,0.4s,baz=91,slow=9.3,SNR=11						
CN2	**Changchun**	**70.51**	**49**	*e*P	**P**	**18 47 08.0**	**-0.6**
FCC	**Fort Churchill**	**71.44**	**332**	*e*P	**P**	**18 47 13.2**	**-0.7**
FCC	**Fort Churchill**	**71.44**	**332**	*e*P	**P**	**18 47 13.2**	**-0.7**

	comp=Z,0.2nm,1.1s							
FCC	**Fort Churchill**	**71.44**	**332**	*e*P	**P**	**18 47 13.2**	**-0.7**
	comp=Z,0.2nm,1.1s							
MDJ	**Mudanjiang**	**72.47**	**47**	P	**P**	**18 47 17.5**	**-2.9**
MDJ				PMZ				
	comp=Z,5.0nm,1.1s							
MDJ				PMZ				
	comp=Z,53nm,2.9s							
INK	**Inuvik**	**72.72**	**352**	P	**P**	**18 47 20.4**	**-1.1**
	comp=Z,3.1nm,1.1s,baz=70,slow=0.5,SNR=6.0							
NJ2	**Nanjing**	**72.85**	**63**	*e*P	**P**	**18 47 23.5**	**+0.7**
NJ2				PMZ				
	comp=Z,30nm,0.6s							
KCSI	**Kotacane, Aceh**	**73.33**	**99**	P	**P**	**18 47 26.0**	**0.0**
USRK	**Ussuriysk Ar.**	**74.09**	**46**	P	**P**	**18 47 29.3**	**-0.6**
	comp=Z,7.1nm,0.7s,baz=291,slow=4.5,SNR=16							
KULM	**Kulim**	**74.49**	**96**	*e*P	**P**	**18 47 31.8**	**-0.9**
	comp=Z,18nm,0.8s							
KULM	**Kulim**	**74.49**	**96**	*e*P	**P**	**18 47 31.8**	**-0.9**
	comp=Z,18nm,0.8s							
YKA	**Yellowknife Ar**	**74.82**	**342**	P	**P**	**18 47 33.0**	**-0.8**
	comp=Z,1.3nm,1.0s,baz=34,slow=5.6,SNR=12							
KS01	**Wonju Array Si**	**75.72**	**54**	*e*P	**P**	**18 47 38.0**	**-1.5**
KS01	**Wonju Array Si**	**75.72**	**54**	*e*P	**P**	**18 47 38.0**	**-1.5**
KSAR	**Wonju Array Be**	**75.73**	**54**	P	**P**	**18 47 39.1**	**-0.5**
KSAR	**Wonju Array Be**	**75.73**	**54**	P	**P**	**18 47 39.1**	**-0.5**
KSAR	**Wonju Array Be**	**75.73**	**54**	P	**P**	**18 47 39.1**	**-0.5**
KSRS	**Korea Array**	**75.75**	**54**	P	**P**	**18 47 39.1**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=318,slow=4.9,SNR=10							
KSRS				LR	LR	19 25 46.4		
	comp=Z,33nm,18.5s,baz=311,slow=40							
ILAR	**Eielson Array**	**77.22**	**357**	P	**P**	**18 47 47.2**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=349,slow=4.2,SNR=10							
ILAR				LR	LR	19 23 05.0		
	comp=Z,47nm,20.1s,baz=62,slow=37							
FFC	**Flin Flon**	**77.35**	**332**	*e*P	**P**	**18 47 47.9**	**-0.5**
FFC				pmax	pmax			
	comp=Z,10.0nm,1.2s							
FFC	**Flin Flon**	**77.35**	**332**	*e*P	**P**	**18 47 47.9**	**-0.5**
	comp=Z,10nm,1.2s							
FFC	**Flin Flon**	**77.35**	**332**	*e*P	**P**	**18 47 47.9**	**-0.5**
	comp=Z,10nm,1.2s							
DAWY	**Dawson**	**77.43**	**354**	*e*P	**P**	**18 47 49.0**	**+0.2**
DAWY	**Dawson**	**77.43**	**354**	*e*P	**P**	**18 47 49.0**	**+0.2**
BKNI	**Bangkinang**	**77.87**	**99**	P	P	18 48 03.8	+12
YSS	**Yuzh-Sakhalins**	**78.00**	**39**	*e*P	**P**	**18 47 52.5**	**+0.3**
YSS				pmax	pmax		
	comp=Z,31nm,1.1s						
YSS	**Yuzh-Sakhalins**	**78.00**	**39**	*e*P	**P**	**18 47 52.5**	**+0.3**
	comp=Z,31nm,1.1s							
YSS	**Yuzh-Sakhalins**	**78.00**	**39**	*e*P	**P**	**18 47 52.5**	**+0.3**
	comp=Z,31nm,1.1s							
PDSI	**Padang**	**78.20**	**101**	P	**P**	**18 47 53.4**	**-0.4**
ULM	**Lac du Bonnet**	**78.27**	**326**	*e*P	**P**	**18 47 52.7**	**-0.9**
ULM				pmax	pmax			
	comp=Z,90nm,2.5s							
ULM	**Lac du Bonnet**	**78.27**	**326**	P	**P**	**18 47 54.5**	**+0.9**
	comp=Z,4.8nm,1.0s,baz=68,slow=6.6,SNR=5.0							
ULM				LR	LR	19 21 58.8		
	comp=Z,85nm,19.7s,baz=20,slow=35							
ULM	**Lac du Bonnet**	**78.27**	**326**	*e*P	**P**	**18 47 52.7**	**-0.9**
	comp=Z,90nm,2.5s							
ULM	**Lac du Bonnet**	**78.27**	**326**	*e*P	**P**	**18 47 52.7**	**-0.9**
	comp=Z,90nm,2.5s							
MCK	**McKinley**	**78.33**	**358**	*e*P	**P**	**18 47 53.8**	**0.0**
MCK				pmax	pmax			
	comp=Z,12nm,1.2s							
MCK	**McKinley**	**78.33**	**358**	*e*P	**P**	**18 47 53.8**	**0.0**
	comp=Z,12nm,1.2s							
MCK	**McKinley**	**78.33**	**358**	*e*P	**P**	**18 47 53.8**	**0.0**
	comp=Z,12nm,1.2s							
PETK	**Petropavlovsk-**	**79.81**	**27**	LR	LR	19 27 44.8		
	comp=Z,30nm,19.2s,baz=304,slow=39							
HYT	**Haines Junctio**	**80.42**	**352**	*e*P	**P**	**18 48 05.6**	**+0.3**
HYT	**Haines Junctio**	**80.42**	**352**	*e*P	**P**	**18 48 05.6**	**+0.3**
MJAR	**Matsushiro Arr**	**82.65**	**49**	P	**P**	**18 48 17.0**	**-0.5**
MJAR	**Matsushiro Arr**	**82.65**	**49**	P	**P**	**18 48 17.0**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=288,slow=5.1,SNR=5.4							
MJAR				LR	LR	19 28 30.1		
	comp=Z,29nm,20.2s,baz=350,slow=38							
MJAR	**Matsushiro Arr**	**82.65**	**49**	P	**P**	**18 48 17.0**	**-0.5**
MDSI	**Maura Dua**	**83.32**	**101**	P	**P**	**18 48 19.8**	**-1.3**
KASI	**Kota Agung**	**84.21**	**102**	P	**P**	**18 48 26.8**	**+1.1**
STKI	**Sintang**	**86.20**	**93**	P	**P**	**18 48 37.8**	**+2.1**
YBMT	**Yellow Bay**	**87.28**	**334**	*e*P	**P**	**18 48 40.3**	**-0.4**
	comp=Z,8.8nm,1.0s							
YBMT	**Yellow Bay**	**87.28**	**334**	*e*P	**P**	**18 48 40.3**	**-0.4**
	comp=Z,8.8nm,1.0s							
PTGA	**Pitinga**	**87.47**	**267**	P	**P**	**18 48 42.3**	**+0.4**
	comp=Z,1.9nm,0.4s,baz=180,slow=4.0,SNR=3.7							
JTMT	**Jette**	**87.47**	**335**	*e*P	**P**	**18 48 41.6**	**0.0**
JTMT	**Jette**	**87.47**	**335**	*e*P	**P**	**18 48 41.6**	**0.0**
BSMT	**Bassoo Peak**	**87.55**	**335**	*e*P	**P**	**18 48 41.6**	**-0.4**
	comp=Z,2.5nm,0.9s							
BSMT	**Bassoo Peak**	**87.55**	**335**	*e*P	**P**	**18 48 41.6**	**-0.4**
	comp=Z,2.5nm,0.9s							
SWMT	**Swartz Lake**	**87.58**	**334**	*e*P	**P**	**18 48 42.0**	**-0.1**
	comp=Z,12nm,1.1s							
SWMT	**Swartz Lake**	**87.58**	**334**	*e*P	**P**	**18 48 42.0**	**-0.1**
	comp=Z,12nm,1.1s							
BDFB	**Brasilia**	**87.66**	**248**	P	**P**	**18 48 42.7**	**-0.1**
	comp=Z,5.4n

TESR			*i* S	Sn	18 37 19.5	0.0
PGOR	**Pogoanele**	**0.84 158**	⇓*i*P	Pn	18 37 07.3	+0.7
PGOR	**Pogoanele**	**0.84 158**	S	Sn	18 37 21.5	+1.6
PGOR	**Pogoanele**	**0.84 158**	⇓*i*P	Pn	18 37 07.3	+0.7
PGOR			*i* S	Sn	18 37 21.5	+1.6
PGOR	**Pogoanele**	**0.84 158**	⇓*i*P	Pn	18 37 07.3	+0.7
PGOR			*i* S	Sn	18 37 21.5	+1.6
DOPR	**Dopca**	**0.85 289**	⇓*i*P	Pn	18 37 06.7	0.0
DOPR	**Dopca**	**0.85 289**	S	Sn	18 37 19.5	-0.6
DOPR	**Dopca**	**0.85 289**	⇓*i*P	Pn	18 37 06.7	0.0
DOPR			*i* S	Sn	18 37 19.5	-0.6
DOPR	**Dopca**	**0.85 289**	⇓*i*P	Pn	18 37 06.7	0.0
DOPR			*i* S	Sn	18 37 19.5	-0.6
PLAR	**PLOIESTI**	**0.86 205**	⇑*i*P	Pn	18 37 07.2	+0.5
PLAR	**PLOIESTI**	**0.86 205**	S	Sn	18 37 21.6	+1.5
PLAR	**PLOIESTI**	**0.86 205**	⇑*i*P	Pn	18 37 07.2	+0.5
PLAR			*i* S	Sn	18 37 21.6	+1.5
PLAR	**PLOIESTI**	**0.86 205**	⇑*i*P	Pn	18 37 07.2	+0.5
PLAR			*i* S	Sn	18 37 21.6	+1.5
SULR		**1.03 191**	⇑*i*P	Pn	18 37 09.5	+0.8
SULR		**1.03 191**	S	Sn	18 37 25.4	+1.8
SULR		**1.03 191**	⇑*i*P	Pn	18 37 09.5	+0.8
SULR			*i* S	Sn	18 37 25.4	+1.8
SULR		**1.03 191**	⇑*i*P	Pn	18 37 09.5	+0.8
SULR			*i* S	Sn	18 37 25.4	+1.8
VOIR		**1.08 257**	⇑*i*P	Pn	18 37 09.2	-0.1
VOIR		**1.08 257**	S	Sn	18 37 23.7	-1.0
VOIR		**1.08 257**	⇑*i*P	Pn	18 37 09.2	-0.1
VOIR			*i* S	Sn	18 37 23.7	-1.0
VOIR		**1.08 257**	⇑*i*P	Pn	18 37 09.2	-0.1
VOIR			*i* S	Sn	18 37 23.7	-1.0
MTUR	**Matau**	**1.14 246**	⇑*i*P	Pn	18 37 11.6	+1.5
MTUR	**Matau**	**1.14 246**	⇑*i*P	Pn	18 37 11.6	+1.5
MTUR	**Matau**	**1.14 246**	⇑*i*P	Pn	18 37 11.6	+1.5
AMRR	**Amara**	**1.22 152**	S	Sn	18 37 28.5	+0.9
AMRR	**Amara**	**1.22 152**	*i* S	Sn	18 37 28.5	+0.9
AMRR	**Amara**	**1.22 152**	*i* S	Sn	18 37 28.5	+0.9
CFR	**Carcaliu**	**1.24 114**	⇓*i*P	Pn	18 37 11.1	0.0
CFR	**Carcaliu**	**1.24 114**	S	Sn	18 37 26.9	-1.0
CFR	**Carcaliu**	**1.24 114**	⇓*i*P	Pn	18 37 11.1	0.0
CFR			*i* S	Sn	18 37 26.9	-1.0
CFR	**Carcaliu**	**1.24 114**	⇓*i*P	Pn	18 37 11.1	0.0
CFR			*i* S	Sn	18 37 26.9	-1.0
BUC	**Bucharest**	**1.32 194**	S	Sn	18 37 30.1	+0.5
BUC	**Bucharest**	**1.32 194**	*i* S	Sn	18 37 30.1	+0.5
BUC	**Bucharest**	**1.32 194**	*i* S	Sn	18 37 30.1	+0.5
ARR	**Arges**	**1.38 257**	⇓*i*P	Pn	18 37 13.2	+0.2
ARR	**Arges**	**1.38 257**	S	Sn	18 37 30.5	-0.7
ARR	**Arges**	**1.38 257**	⇓*i*P	Pn	18 37 13.2	+0.2
ARR			*i* S	Sn	18 37 30.5	-0.7
ARR	**Arges**	**1.38 257**	⇓*i*P	Pn	18 37 13.2	+0.2
ARR			*i* S	Sn	18 37 30.5	-0.7
GOLR		**1.40 233**	S	Sn	18 37 33.2	+1.6
GOLR		**1.40 233**	*i* S	Sn	18 37 33.2	+1.6
GOLR		**1.40 233**	*i* S	Sn	18 37 33.2	+1.6
LEOM	**Leova**	**1.42 56**	⇑*i*P	Pn	18 37 13.9	+0.5
LEOM	**Leova**	**1.42 56**	S	Sn	18 37 32.2	+0.2
LEOM	**Leova**	**1.42 56**	⇑*i*P	Pn	18 37 13.9	+0.5
LEOM			*i* S	Sn	18 37 32.2	+0.2
LEOM	**Leova**	**1.42 56**	⇑*i*P	Pn	18 37 13.9	+0.5
LEOM			*i* S	Sn	18 37 32.2	+0.2
TLB	**Topalu**	**1.54 136**	⇓*i*P	Pn	18 37 15.2	+0.3
TLB	**Topalu**	**1.54 136**	S	Sn	18 37 33.9	-0.7
TLB	**Topalu**	**1.54 136**	⇓*i*P	Pn	18 37 15.2	+0.3
TLB			*i* S	Sn	18 37 33.9	-0.7
TLB	**Topalu**	**1.54 136**	⇓*i*P	Pn	18 37 15.2	+0.3
TLB			*i* S	Sn	18 37 33.9	-0.7
HUMR	**Humele**	**1.60 224**	⇑*i*P	Pn	18 37 15.7	0.0
HUMR	**Humele**	**1.60 224**	S	Sn	18 37 35.4	-0.8
HUMR	**Humele**	**1.60 224**	⇑*i*P	Pn	18 37 15.7	0.0
HUMR			*i* S	Sn	18 37 35.4	-0.8
HUMR	**Humele**	**1.60 224**	⇑*i*P	Pn	18 37 15.7	0.0
HUMR			*i* S	Sn	18 37 35.4	-0.8
IAS	**Iasi**	**1.66 25**	S	Sn	18 37 36.6	-0.9
IAS	**Iasi**	**1.66 25**	*i* S	Sn	18 37 36.6	-0.9
IAS	**Iasi**	**1.66 25**	*i* S	Sn	18 37 36.6	-0.9
TLCR		**1.68 107**	⇓*i*P	Pn	18 37 17.5	+0.8
TLCR		**1.68 107**	S	Sn	18 37 38.3	+0.4
TLCR		**1.68 107**	⇓*i*P	Pn	18 37 17.5	+0.8
TLCR			*i* S	Sn	18 37 38.3	+0.4
TLCR		**1.68 107**	⇓*i*P	Pn	18 37 17.5	+0.8
TLCR			*i* S	Sn	18 37 38.3	+0.4
CVD	**Cernavoda**	**1.74 142**	⇓*i*P	Pn	18 37 17.6	+0.1
CVD	**Cernavoda**	**1.74 142**	S	Sn	18 37 38.0	-1.2
CVD	**Cernavoda**	**1.74 142**	⇓*i*P	Pn	18 37 17.6	+0.1
CVD			*i* S	Sn	18 37 38.0	-1.2
CVD	**Cernavoda**	**1.74 142**	⇓*i*P	Pn	18 37 17.6	+0.1
CVD			*i* S	Sn	18 37 38.0	-1.2
TIRR	**Tirgusor**	**1.81 132**	⇓*i*P	Pn	18 37 18.7	+0.3
TIRR	**Tirgusor**	**1.81 132**	S	Sn	18 37 39.7	-1.3
TIRR	**Tirgusor**	**1.81 132**	⇓*i*P	Pn	18 37 18.7	+0.3
TIRR			*i* S	Sn	18 37 39.7	-1.3
TIRR	**Tirgusor**	**1.81 132**	⇓*i*P	Pn	18 37 18.7	+0.3
TIRR			*i* S	Sn	18 37 39.7	-1.3
LOT	**Lotru**	**1.96 264**	⇓*i*P	Pn	18 37 20.0	-0.5
LOT	**Lotru**	**1.96 264**	S	Sn	18 37 44.3	-0.4
LOT	**Lotru**	**1.96 264**	⇓*i*P	Pn	18 37 20.0	-0.5
LOT			*i* S	Sn	18 37 44.3	-0.4
LOT	**Lotru**	**1.96 264**	⇓*i*P	Pn	18 37 20.0	-0.5
LOT			*i* S	Sn	18 37 44.3	-0.4
BURAR	**Bucovina Array**	**2.13 335**	⇓*i*P	Pn	18 37 23.5	+0.8
BURAR	**Bucovina Array**	**2.13 335**	S	Sn	18 37 49.4	+0.8
BURAR	**Bucovina Array**	**2.13 335**	⇓*i*P	Pn	18 37 23.5	+0.8
BURAR			*i* S	Sn	18 37 49.4	+0.8
BURAR	**Bucovina Array**	**2.13 335**	⇓*i*P	Pn	18 37 23.5	+0.8
BURAR			*i* S	Sn	18 37 49.4	+0.8
EFOR	**EFORIE**	**2.19 137**	S	Sn	18 37 49.8	-0.1
EFOR	**EFORIE**	**2.19 137**	*i* S	Sn	18 37 49.8	-0.1
EFOR	**EFORIE**	**2.19 137**	*i* S	Sn	18 37 49.8	-0.1
ZIMR		**2.20 203**	S	Sn	18 37 48.6	-1.5
ZIMR		**2.20 203**	*i* S	Sn	18 37 48.6	-1.5
CRAR	**CRAIOVA**	**2.37 236**	S	Sn	18 37 52.5	-1.7
CRAR	**CRAIOVA**	**2.37 236**	*i* S	Sn	18 37 52.5	-1.7
CRAR	**CRAIOVA**	**2.37 236**	*i* S	Sn	18 37 52.5	-1.7
MANR	**Mangalia**	**2.38 141**	S	Sn	18 37 53.7	-0.6
MANR	**Mangalia**	**2.38 141**	*i* S	Sn	18 37 53.7	-0.6
MANR	**Mangalia**	**2.38 141**	*i* S	Sn	18 37 53.7	-0.6
SRE	**Strehaia**	**2.57 248**	⇑*i*P	Pn	18 37 28.4	-0.1
SRE	**Strehaia**	**2.57 248**	S	Sn	18 37 58.6	-0.4
SRE	**Strehaia**	**2.57 248**	⇑*i*P	Pn	18 37 28.4	-0.1
SRE			*i* S	Sn	18 37 58.6	-0.4
SRE	**Strehaia**	**2.57 248**	⇑*i*P	Pn	18 37 28.4	-0.1
SRE			*i* S	Sn	18 37 58.6	-0.4
GZR	**Gura Zlata**	**2.66 265**	⇑*i*P	Pn	18 37 30.0	+0.2
GZR	**Gura Zlata**	**2.66 265**	⇑*i*P	Pn	18 37 30.0	+0.2
GZR	**Gura Zlata**	**2.66 265**	⇑*i*P	Pn	18 37 30.0	+0.2
DRGR		**2.87 294**	⇑*i*P	Pn	18 37 33.1	+0.5
DRGR		**2.87 294**	⇑*i*P	Pn	18 37 33.1	+0.5
DRGR		**2.87 294**	⇑*i*P	Pn	18 37 33.1	+0.5

*ISCJB **26** 18:47:39.7±1.0, 44°.4N±0°.1×147°.2E±0°.2, h177km±9km, mb3.3/4, Error ellipse: s-maj=24.5km s-min=13.6km az=145.3*
*JMA **26** 18:47:40.5±0.4, 44°.53N×147°.30E, h146km, M3.4*
*IDC **26** 18:47:42.0±3.9, 45°.56N×146°.83E, h122km±126km, mb3.1/4, mb1 3.3/5, mb1mx3.0/25, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=268.4km s-min=26.7km az=169.0*

ISC 26 18:47:40.3±1.2, 44°.5N±0°.1×147°.2E±0°.1, h167km±12km, n17, σ1§07/25, mb3.2/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.50**	**224**	P	**Pn**	**18 48 11.0**	**-0.1**
NEM2				*e*S	**Sn**	**18 48 33.3**	**-1.5**
JRA	**Rausu**	**1.56**	**252**	P	**Pn**	**18 48 11.7**	**-0.1**
JRA				*e*S	**Sn**	**18 48 36.0**	**0.0**
JNK	**Nakash**	**1.97**	**245**	P	**Pn**	**18 48 16.7**	**+0.6**
JNK				*e*S	**Sn**	**18 48 43.8**	**0.0**
JAK	**Akkeshi**	**2.31**	**232**	P	**Pn**	**18 48 20.6**	**+0.6**
JAK				*e*S	**Sn**	**18 48 50.8**	**+0.1**
JTKR	**Abashiri--Toko**	**2.40**	**260**	P	**Pn**	**18 48 21.2**	**+0.2**
JAR	**Ashorobuto**	**2.72**	**246**	P	**Pn**	**18 48 26.6**	**+1.7**
JAR				*e*S	**Sn**	**18 49 01.4**	**+2.0**
JMP	**Maruseppu**	**2.78**	**262**	P	**Pn**	**18 48 25.9**	**+0.3**
JKK2	**Kamakawa 2**	**3.24**	**261**	P	**Pn**	**18 48 32.4**	**+1.1**
ASAJ	**Asahikawa**	**3.30**	**266**	P	**Pn**	**18 48 32.8**	**+0.6**
	2.1nm,0.3s,baz=63,slow=9.0,SNR=11						
JSE	**Soyaes**	**3.31**	**281**	P	**Pn**	**18 48 31.8**	**-0.4**
JCH	**Churui**	**3.32**	**238**	P	**Pn**	**18 48 33.3**	**+0.9**
JCH				*e*S	**Sn**	**18 49 12.7**	**-0.1**
JNBK	**Urakawa-nobuka**	**3.88**	**238**	P	**Pn**	**18 48 39.9**	**+0.4**
JNBK				*e*S	**Sn**	**18 49 24.2**	**-1.4**
JKB	**Kayabe**	**5.17**	**242**	P	**Pn**	**18 48 56.5**	**+0.3**
JKB				*e*S	**Sn**	**18 49 52.9**	**-2.7**
ILAR	**Eielson Array**	**40.92**	**37**	P	**P**	**18 55 05.8**	**0.0**
	0.5nm,0.6s,baz=277,slow=7.0,SNR=6.6						
MKAR	**Makanchi Array**	**44.28**	**297**	P	**P**	**18 55 33.8**	**+0.6**
	0.2nm,0.5s,baz=80,slow=9.3,SNR=4.0						
YKA	**Yellowknife Ar**	**55.21**	**34**	P	**P**	**18 56 55.9**	**+0.5**
	0.3nm,0.8s,baz=300,slow=7.0,SNR=6.3						
FINES	**FINES Array B**	**64.26**	**333**	P	**P**	**18 57 56.0**	**-1.1**
	0.7nm,0.5s,baz=43,slow=6.3,SNR=7.4						

GUC 26 18:53:07.8±0.3, 36°.32S×72°.97W, h23km±2km, ML3.7, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.24**	**39**	⇑*e*P	Pb	18 53 13.2	-0.6
COCH				*e*S	Sb	18 53 17.4	-0.4
CCSP	**San Pedro de C**	**0.54**	**192**	⇓*e*P	Pb	18 53 17.6	-1.0
CCSP				*e*S	Sb	18 53 25.1	-0.8
CCSP				IAML		18 53 29.2	
	comp=N,10μm,0.5s						
LNCH	**Linares**	**1.21**	**68**	*e*P	Pn	18 53 28.2	-1.1
LNCH				*e*S	Sn	18 53 43.5	-1.3
TALC	**Talca**	**1.42**	**50**	⇑*e*P	Pn	18 53 31.4	-0.8
TALC				*e*S	Sn	18 53 49.7	-0.5

GUC 26 18:55:44.5±0.5, 35°.45S×73°.33W, h18km±9km, ML3.9, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**2.17**	**47**	*e*P	Pn	18 56 20.2	+0.4
CACH	**El Canelo**	**2.61**	**60**	⇑*e*P	Pn	18 56 27.1	+1.0
CHCH	**Chadas Angostu**	**2.67**	**56**	*e*P	Pn	18 56 27.4	+0.6
CHCH				*e*S	Sn	18 56 59.6	+0.8
CLCH	**Cerro Calan**	**3.08**	**49**	*e*P	Pn	18 56 32.8	+0.3
CLCH				*e*S	Sn	18 57 10.2	+1.1
CLCH				IAML		18 57 21.9	
	comp=E,301nm,1.2s						
ROCH	**El Roble**	**3.13**	**39**	*e*P	Pn	18 56 34.0	+0.7
ROCH				*e*S	Sn	18 57 11.7	+1.2
ROCH				IAML		18 57 19.4	
	comp=N,232nm,0.4s						
PEL	**Peldehue**	**3.17**	**44**	*e*P	Pn	18 56 34.1	+0.4
PEL				*e*S	Sn	18 57 11.9	+0.7
PEL				IAML		18 57 18.3	
	comp=E,352nm,0.3s						

PRU 26 18:57:29.9, 49°.84N×18°.61E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.30**	**270**	*e*PG	Pg	18 57 36.2	+0.5
OKC				*e*SG	Sg	18 57 38.9	-0.7
	comp=Z,4.9nm,0.4s						
DPC	**Dobruska-Polom**	**1.56**	**290**	*e*PG	Pn	18 57 58.0	-1.0
DPC				*e*SG	Sb	18 58 20.1	0.0

*CSEM **26** 19:00:30.7, 38°.17N×21°.76E, h24km, MD2.6*

ATH 26 19:00:30.7, 38°.17N×21°.76E, h24km±5km, MD2.6/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRO	**Drossia**	**0.22**	**190**	*e*PG	Pb	19 00 37.0	+0.4
DRO				*e*SG	Sb	19 00 40.4	-0.1
DRO	**Drossia**	**0.22**	**190**	*e*PB	Pb	19 00 37.0	+0.4
DRO				*e*SB	Sb	19 00 41.0	+0.5
DRO	**Drossia**	**0.22**	**190**	*e*Pb	Pb	19 00 37.0	+0.4
DRO				*e*Sb	Sb	19 00 41.0	+0.5
RLS	**Riolos of Patr**	**0.26**	**244**	*e*PG	Pb	19 00 37.3	+0.3
RLS				*e*SG	Sb	19 00 41.6	+0.3
RLS	**Riolos of Patr**	**0.26**	**244**	*e*PB	Pb	19 00 37.2	+0.2
RLS				*e*SB	Sb	19 00 41.5	+0.2
RLS	**Riolos of Patr**	**0.26**	**244**	*e*Pb	Pb	19 00 37.2	+0.2
RLS				*e*Sb	Sb	19 00 41.5	+0.2
KLV	**Kalavryta, Ach**	**0.33**	**112**	*e*PB	Pb	19 00 38.2	0.0
KLV	**Kalavryta, Ach**	**0.33**	**112**	*e*PB	Pb	19 00 38.2	0.0
KLV	**Kalavryta, Ach**	**0.33**	**112**	*e*Pb	Pb	19 00 38.2	0.0
PDO	**Prodromos**	**0.62**	**314**	*e*PB	Pb	19 00 43.0	0.0
PDO	**Prodromos**	**0.62**	**314**	*e*PN	Pb	19 00 43.0	0.0
PDO				*e*SN	Sn	19 00 52.4	-0.9
PDO	**Prodromos**	**0.62**	**314**	*e*Pn	Pb	19 00 43.0	0.0
PDO				*e*Sn	Sn	19 00 52.4	-0.9
AMT	**Artemida-Makis**	**0.64**	**184**	*e*PB	Pn	19 00 45.0	+0.7
VLS	**Valsamata**	**0.92**	**271**	*e*PG	Pn	19 00 49.2	+1.0

*ISCJB **26** 19:03:20.9±1.1, 45°.79N±0°.07×150°.7E±0°.1, h112km±8km, mb3.7/19, Error ellipse: s-maj=12.5km s-min=10.5km az=40.6*
*JMA **26** 19:03:20.6±0.5, 45°.96N×150°.71E, h30km, M4.8*
*MOS **26** 19:03:20.7±1.1, 46°.09N×150°.80E, h113km, mb4.0/7, Error ellipse: s-maj=13.2km s-min=11.6km az=71.3*
*SKHL **26** 19:03:21.9±0.6, 45°.84N×150°.83E, h115km±4km, mb5.2/2, msh5.7/2*
*IDC **26** 19:03:22.1±2.5, 46°.14N×150°.74E, h106km±22km, mb3.5/18, mb1 3.6/22, mb1mx3.5/56, mbtmp3.9/22, Error ellipse: s-maj=18.8km s-min=14.2km az=138.0*

ISC 26 19:03:20.4±1.3, 45°.79N±0°.07×150°.91E±0°.09, h102km±10km, n91, σ1§65/97, mb3.7/19, 4C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.21**	**256**	*c i*PN	**Pn**	**19 03 57.1**	**+1.4**
KUR				*i* S	**Sn**	**19 04 24.0**	**+1.2**
KUR				pmax	pmax		
	comp=Z,802nm,0.5s						
KUR				pmax	pmax		
	comp=N,346nm,0.2s						
KUR				pmax	pmax		
	comp=E,181nm,0.2s						
KUR				smax	smax		
	comp=N,2μm,0.2s						
KUR				smax	smax		
	comp=E,888nm,0.2s						
KUR	**Kuril'sk**	**2.21**	**256**	*e*P	**Pn**	**19 03 57.1**	**+1.4**
KUR				AMB	AMB	19 03 57.4	
	comp=E,802nm,0.5s						
KUR				*e*S	**Sn**	**19 04 24.0**	**+1.2**
KUR				A	A	19 04 25.1	
	comp=E,888nm,0.2s						
KUR				A	A	19 04 25.1	
	comp=E,174nm,0.2s						
SHO	**Shikotan**	**3.48**	**238**	*e*P	**Pn**	**19 04 14.2**	**+1.7**
SHO				*e*S	**Sn**	**19 04 51.5**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**3.99**	**246**	*c i*PN	**Pn**	**19 04 21.4**	**+2.0**
YUK				*i* S	**Sn**	**19 05 05.6**	**+0.4**
YUK				pmax	pmax		
	comp=Z,135nm,0.8s						
YUK				pmax	pmax		
	comp=E,89nm,0.4s						
YUK				pmax	pmax		
	comp=N,56nm,0.2s						
YUK				smax	smax		
	comp=N,309nm,0.6s						
YUK				smax	smax		
	comp=E,35nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.99**	**246**	*e*P	**Pn**	**19 04 21.4**	**+2.0**
YUK				AMB	AMB	19 04 30.1	
	comp=E,135nm,0.8s						
YUK				*e*S	**Sn**	**19 05 05.6**	**+0.4**
YUK				A	A	19 05 09.9	
	comp=E,309nm,0.6s						
NEM2	**Nemuro 2**	**4.42**	**239**	P	**Pn**	**19 04 24.5**	**-0.6**
NEM2				*e*S	**Sn**	**19 05 11.5**	**-4.0**
JRA	**Rausu**	**4.51**	**248**	P	**Pn**	**19 04 28.0**	**+1.6**
JNK	**Nakash**	**4.94**	**246**	P	**Pn**	**19 04 32.9**	**+0.7**
JNK				*e*S	**Sn**	**19 05 26.8**	**-1.2**
JAK	**Akkeshi**	**5.26**	**240**	P	**Pn**	**19 04 35.7**	**-0.8**
JAK				*e*S	**Sn**	**19 05 31.2**	**-4.6**
JTKR	**Abashiri--Toko**	**5.30**	**252**	P	**Pn**	**19 04 38.7**	**+1.6**
JMP	**Maruseppu**	**5.65**	**254**	P	**Pn**	**19 04 43.9**	**+2.0**
JAR	**Ashorobuto**	**5.68**	**246**	P	**Pn**	**19 04 43.4**	**+1.1**
JAR				*e*S	**Sn**	**19 05 46.5**	**+0.4**
YSS	**Yuzh-Sakhalins**	**5.76**	**285**	⇑*e*PN	**Pn**	**19 04 44.8**	**+1.5**
YSS				*e*S	**Sn**	**19 05 46.0**	**-2.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				smax	smax		
	comp=N,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**5.76**	**285**	*e*P	**Pn**	**19 04 44.8**	**+1.5**
YSS				*e*S	**Sn**	**19 05 46.0**	**-2.1**
JOB	**Onbets**	**5.84**	**243**	P	**Pn**	**19 04 44.4**	**0.0**
JOB				*e*S	**Sn**	**19 05 47.1**	**-2.8**
JKK2	**Kamakawa 2**	**6.11**	**255**	P	**Pn**	**19 04 49.8**	**+1.6**
ASAJ	**Asahikawa**	**6.13**	**257**	PN	**Pn**	**19 04 49.9**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**6.13**	**257**	P	**Pn**	**19 04 49.9**	**+1.5**
	comp=Z,1.7nm,0.3s,baz=71,slow=7.9,SNR=6.0						
JCH	**Churui**	**6.29**	**242**	P	**Pn**	**19 04 49.8**	**-0.7**
JCH				*e*S	**Sn**	**19 05 56.7**	**-4.1**
JBT2	**Biratori 2**	**6.83**	**247**	P	**Pn**	**19 04 58.0**	**+0.1**
JNBK	**Urakawa-nobuka**	**6.85**	**242**	P	**Pn**	**19 04 57.2**	**-0.9**
JNB	**Noboribetsu**	**7.84**	**248**	P	**Pn**	**19 05 10.9**	**-0.7**
JNB				*e*S	**Sn**	**19 06 34.5**	**-4.1**
JKB	**Kayabe**	**8.14**	**245**	P	**Pn**	**19 05 14.2**	**-1.4**
JKB				*e*S	Sn	19 06 38.3	-7.5
JYM2	**Yakumo 2**	**8.44**	**248**	P	**Pn**	**19 05 18.8**	**-1.0**
PETK	**Petropavlovsk-**	**8.55**	**29**	P	**Pn**	**19 05 19.9**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=213,slow=12,SNR=7.4						
JTM	**Tenmabayashi**	**8.75**	**239**	P	**Pn**	**19 05 22.4**	**-1.5**
JTM				*e*S	Sn	19 06 51.6	-9.1
JANG	**Nango**	**8.75**	**235**	P	Pn	19 05 21.1	-2.9
JANG				*e*S	Sn	19 06 51.6	-9.2
JTH	**Tanohata**	**8.85**	**232**	*e*S	Sn	19 06 52.9	-10
OFUJ	**Ofunato**	**9.57**	**229**	*e*S	Sn	19 07 13.2	-7.5
JRG	**Rokugo**	**9.91**	**233**	P	**Pn**	**19 05 38.3**	**-1.4**
JIO	**Ouri**	**10.20**	**227**	P	Pn	19 05 41.4	-2.3
JIO				*e*S	Sn	19 07 25.0	-11
USRK	**Ussuriysk Ar.**	**13.49**	**270**	P	**Pn**	**19 06 27.6**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=74,slow=13,SNR=5.0						
KSRS	**Korea Array**	**19.05**	**252**	P	**Pn**	**19 07 37.4**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=58,slow=12,SNR=10						
YAK	**Yakutsk**	**20.36**	**331**	⇓*e*P	**P**	**19 07 47.5**	**-0.8**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YAK	**Yakutsk**	**20.36**	**331**	*e*P	**P**	**19 07 47.4**	**-0.8**
TIK	**Tiksi**	**27.97**	**345**	*e*P	**P**	**19 08 57.9**	**-2.9**
TIXI	**Tiksi**	**27.98**	**345**	⇑*i*P	**P**	**19 08 57.9**	**-3.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.6s						
H11N2	**WAKE ISLAND Hy**	**29.15**	**148**	T	T	19 40 51.8	
	baz=337,slow=76,SNR=155						
H11N1	**WAKE ISLAND Hy**	**29.16**	**148**	T	T	19 40 56.1	
	baz=337,slow=76,SNR=163						
H11N3	**WAKE ISLAND Hy**	**29.16**	**148**	T	T	19 40 53.5	
	baz=337,slow=76,SNR=140						
ULN	**Ulaanbaatar**	**29.78**	**290**	⇓*i*P	**P**	**19 09 17.3**	**0.0**
ULN	**Ulaanbaatar**	**29.78**	**290**	*e*P	**P**	**19 09 17.3**	**0.0**
H11S1	**WAKE ISLAND Hy**	**30.20**	**149**	T	T	19 42 09.7	
	baz=338,slow=76,SNR=290						
H11S3	**WAKE ISLAND Hy**	**30.20**	**149**	T	T	19 42 09.9	
	baz=338,slow=76,SNR=209						
H11S2	**WAKE ISLAND Hy**	**30.21**	**149**	T	T	19 42 11.0	
	baz=338,slow=76,SNR=185						
SONM	**Songino Array**	**30.22**	**290**	*e*P	**P**	**19 09 22.3**	**+1.1**
SONM	**Songino Array**	**30.22**	**290**	P	**P**	**19 09 21.8**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=95,slow=8.2,SNR=5.3						
ILAR	**Eielson Array**	**38.25**	**38**	P	**P**	**19 10 30.1**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=265,slow=9.5,SNR=4.4						
ZALV	**Zalesovo Beam**	**41.94**	**306**	PcP	**PcP**	**19 12 55.0**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=85,slow=3.0,SNR=3.8						
MKAR	**Makanchi Array**	**46.02**	**297**	*e*P	**P**	**19 11 33.5**	**+0.1**
MKAR	**Makanchi Array**	**46.02**	**297**	P	**P**	**19 11 31.9**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=67,slow=7.1,SNR=13						
MKAR				PcP	**PcP**	**19 13 09.0**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=61,slow=1.6,SNR=6.2						
MKAR	**Makanchi Array**	**46.02**	**297**	*e*P	**P**	**19 11 33.5**	**+0.1**
KURK	**Kurchatov**	**46.62**	**304**	P	**P**	**19 11 35.9**	**-2.1**
KURK

Ms1 2.5/1, ms1mx2.0/33, Error ellipse: s-maj=30.3km s-min=20.8km az=121.0
*DDA **26** 19:15:27.2, 38°.21N×26°.23E, h7km, MD3.2*
*CSEM **26** 19:15:27.4±0.2, 38°.15N×26°.11E, h2km, MD3.2, Error ellipse: s-maj=4.2km s-min=3.3km az=68.0*
*ISCJB **26** 19:15:27.4±0.6, 38°.17N±0°.02×26°.13E±0°.03, h8km±4km, mb3.2/2, Error ellipse: s-maj=3.9km s-min=3.1km az=159.1*
*THE **26** 19:15:28.0, 38°.20N×26°.22E, h11km±1km, ML3.7/5, Error ellipse: s-maj=2.2km s-min=1.0km az=75.0*

ISC 26 19:15:27.4±0.8, 38°.19N±0°.02×26°.17E±0°.02, h14km±6km, n126, σ1$37/150, 4C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.21**	**335**	P	**Pg**	**19 15 32.4**	**+0.2**
CHOS				S	**Sb**	19 15 36.6	-0.5
CHOS	**Chios island**	**0.21**	**335**	*e*PG	**Pb**	19 15 33.5	+0.3
CHOS				*e*SG	**Sb**	19 15 37.6	+0.5
CHOS	**Chios island**	**0.21**	**335**	*e*PB	**Pg**	19 15 32.5	+0.2
CHOS				*e*SB	**Sg**	19 15 36.2	+0.7
CHOS	**Chios island**	**0.21**	**335**	*e*Pb	**Pb**	19 15 32.5	+0.2
CHOS	**Chios island**	**0.21**	**335**	*e*Pg	**Pb**	19 15 33.5	+0.3
CHOS				*e*Sb	**Sg**	19 15 36.2	+0.7
CHOS				*e*Sg	**Sb**	19 15 37.6	+0.5
ZEY	**¨zmir**	**0.27**	**80**	*i* P	**Pg**	19 15 31.9	-1.2
ZEY				*i* S	**Sg**	19 15 35.5	-1.4
BLCB	**Balcova**	**0.71**	**74**	*e*PG	**Pg**	19 15 41.2	-0.1
BLCB	**Balcova**	**0.71**	**74**	*e*Pg	**Pg**	19 15 41.2	-0.1
SMG	**Samos**	**0.71**	**132**	P	**Pg**	19 15 40.4	-0.9
SMG				S	**Sb**	19 15 52.4	+1.0
SMG	**Samos**	**0.71**	**132**	*e*PN	**Pg**	19 15 40.8	-0.5
SMG				*e*SN	**Sb**	19 15 51.3	-0.1
SMG	**Samos**	**0.71**	**132**	P	**Pg**	19 15 40.4	-0.9
SMG				*e*Sn	**Sb**	19 15 51.3	-0.1
SMG				S	**Sb**	19 15 52.4	+1.0
IZM	**Izmir**	**0.89**	**76**	*e*PG	**Pb**	19 15 44.4	-0.2
IZM				*e*SG	**Sn**	19 15 57.6	-0.7
IZM	**Izmir**	**0.89**	**76**	*e*Pg	**Pb**	19 15 44.4	-0.2
IZM				*e*Sg	**Sn**	19 15 57.6	-0.7
SIGR	**SIGRI**	**1.05**	**347**	P	**Pb**	19 15 47.0	-0.4
SIGR				S	**Sn**	19 16 01.9	-0.3
SIGR	**SIGRI**	**1.05**	**347**	*e*PN	**Pn**	19 15 48.1	+0.3
SIGR	**SIGRI**	**1.05**	**347**	*e*PN	**Pb**	19 15 47.2	-0.2
SIGR	**SIGRI**	**1.05**	**347**	P	**Pb**	19 15 47.0	-0.4
SIGR	**SIGRI**	**1.05**	**347**	*e*Pn	**Pn**	19 15 48.1	+0.3
SIGR				S	**Sn**	19 16 01.9	-0.3
PRK	**Paraskevi**	**1.06**	**4**	P	**Pb**	19 15 47.0	-0.5
PRK				S	**Sn**	19 16 02.2	-0.2
PRK	**Paraskevi**	**1.06**	**4**	*e*PN	**Pb**	19 15 47.7	+0.2
PRK				*e*SN	**Sg**	19 16 01.9	+0.3
PRK	**Paraskevi**	**1.06**	**4**	P	**Pb**	19 15 47.0	-0.5
PRK				S	**Sn**	19 16 02.2	-0.2
AYVA	**Ayvalik**	**1.19**	**20**	*i* P	**Pn**	19 15 49.1	-0.6
AYVA				*i* S	**Sg**	19 16 05.9	+0.1
AYVA	**Ayvalik**	**1.19**	**20**	*i* P	**Pn**	19 15 49.1	-0.6
AYVA				*i* S	**Sg**	19 16 05.9	+0.1
APE	**Apeiranthos**	**1.23**	**205**	P	**Pn**	19 15 49.3	-1.0
APE				S	**Sg**	19 16 07.8	+0.7
APE	**Apeiranthos**	**1.23**	**205**	*e*PN	**Pg**	19 15 51.5	+0.4
APE	**Apeiranthos**	**1.23**	**205**	*e*PN	**Pn**	19 15 50.1	-0.2
APE	**Apeiranthos**	**1.23**	**205**	P	**Pn**	19 15 49.3	-1.0
APE	**Apeiranthos**	**1.23**	**205**	*e*Pn	**Pn**	19 15 50.1	-0.2
APE				S	**Sg**	19 16 07.8	+0.7
AYDB	**Zeytinkoy-Aydi**	**1.38**	**100**	*e*PN	**Pb**	19 15 53.6	+0.5
AYDB	**Zeytinkoy-Aydi**	**1.38**	**100**	*e*Pn	**Pb**	19 15 53.6	+0.5
BODT	**Bodrum**	**1.45**	**141**	*e*PN	**Pb**	19 15 53.9	-0.3
BODT	**Bodrum**	**1.45**	**141**	*e*Pn	**Pb**	19 15 53.9	-0.3
AKS	**Akhisar**	**1.46**	**61**	*e*PN	**Pb**	19 15 54.5	0.0
AKS	**Akhisar**	**1.46**	**61**	*e*Pn	**Pb**	19 15 54.5	0.0
AKHS	**Akhisar**	**1.46**	**61**	*i* P	**Pb**	19 15 54.7	+0.2
AKHS				*i* S	**Sb**	19 16 13.2	+0.3
AKHS	**Akhisar**	**1.46**	**61**	*i* P	**Pb**	19 15 54.7	+0.2
AKHS				*i* S	**Sb**	19 16 13.2	+0.3
EZN	**Ezine**	**1.64**	**4**	*e*PN	**Pb**	19 15 58.0	+0.6
EZN	**Ezine**	**1.64**	**4**	*e*Pn	**Pb**	19 15 58.0	+0.6
BOZC	**Bozcaada**	**1.65**	**357**	*i* P	**Pn**	19 15 55.6	-0.5
BOZC				*i* S	**Sb**	19 16 19.2	+0.9
NIS1	**Nisyros Isl.**	**1.78**	**153**	*e*PN	**Pb**	19 15 59.3	-0.6
NIS1	**Nisyros Isl.**	**1.78**	**153**	*e*Pn	**Pb**	19 15 59.3	-0.6
PTL	**Penteli**	**1.82**	**266**	P	**Pb**	19 15 59.9	-0.7
PTL	**Penteli**	**1.82**	**266**	P	**Pb**	19 15 59.9	-0.7
LIA	**Limnos Island**	**1.87**	**336**	P	**Pn**	19 15 59.7	+0.7
LIA				S	**Sn**	19 16 22.2	-0.3
LIA	**Limnos Island**	**1.87**	**336**	*e*PN	**Pn**	19 15 59.7	+0.7
LIA	**Limnos Island**	**1.87**	**336**	P	**Pn**	19 15 59.7	+0.7
LIA				S	**Sn**	19 16 22.2	-0.3
MANT	**Manisa**	**1.90**	**80**	*i* P	**Pb**	19 16 01.5	-0.6
MANT				*i* S	**Sb**	19 16 26.0	+0.2
MANT	**Manisa**	**1.90**	**80**	*i* P	**Pb**	19 16 01.5	-0.6
MANT				*i* S	**Sb**	19 16 26.0	+0.2
ATH	**Athens Observa**	**1.95**	**264**	*e*PN	**Pn**	19 16 00.8	+0.7
ATH	**Athens Observa**	**1.95**	**264**	*e*Pn	**Pn**	19 16 00.8	+0.7
BALB	**Balikesir**	**1.97**	**42**	*e*PN	**Pb**	19 16 03.4	+0.3
BALB	**Balikesir**	**1.97**	**42**	*e*Pn	**Pb**	19 16 03.4	+0.3
YER	**Yerkesik**	**1.98**	**122**	*e*PN	**Pb**	19 16 02.6	-0.8
YER	**Yerkesik**	**1.98**	**122**	*e*Pn	**Pb**	19 16 02.6	-0.8
KULA	**Kula-Manisa**	**1.99**	**80**	*e*PN	**Pb**	19 16 02.6	-0.8
KULA	**Kula-Manisa**	**1.99**	**80**	*e*Pn	**Pb**	19 16 02.6	-0.8
AOS	**Alonnisos**	**2.04**	**299**	*e*PN	**Pn**	19 16 02.5	+1.1
AOS	**Alonnisos**	**2.04**	**299**	*e*Pn	**Pn**	19 16 02.5	+1.1
GELI	**Tayfur-Gelibol**	**2.22**	**6**	*e*PN	**Pb**	19 16 06.4	-0.9
GELI	**Tayfur-Gelibol**	**2.22**	**6**	*e*Pn	**Pb**	19 16 06.4	-0.9
LPK	**Lapseki**	**2.23**	**12**	*e*PN	**Pb**	19 16 06.9	-0.6
LPK	**Lapseki**	**2.23**	**12**	*e*Pn	**Pb**	19 16 06.9	-0.6
DENT	**Denizli**	**2.31**	**100**	*e*PN	**Pb**	19 16 07.5	-1.4
DENT	**Denizli**	**2.31**	**100**	*e*Pn	**Pb**	19 16 07.5	-1.4
SMTH	**Samothraki Isl**	**2.33**	**348**	P	**Pn**	19 16 05.8	+0.4
SMTH	**Samothraki Isl**	**2.33**	**348**	*e*PN	**Pn**	19 16 05.9	+0.5
SMTH	**Samothraki Isl**	**2.33**	**348**	*e*Pn	**Pn**	19 16 05.9	+0.5
KRBG	**Karabiga-Canak**	**2.37**	**21**	*e*PN	**Pb**	19 16 08.8	-1.1
KRBG	**Karabiga-Canak**	**2.37**	**21**	*e*Pn	**Pb**	19 16 08.8	-1.1
ERIK	**Erikli-Kesan**	**2.49**	**6**	*e*PN	**Pb**	19 16 11.0	-1.0
ERIK	**Erikli-Kesan**	**2.49**	**6**	*e*Pn	**Pb**	19 16 11.0	-1.0
ARG	**Arkhangelos**	**2.52**	**141**	*e*PN	**Pn**	19 16 08.2	+0.3
ARG	**Arkhangelos**	**2.52**	**141**	*e*Pn	**Pn**	19 16 08.2	+0.3
EDC	**Edincik**	**2.52**	**31**	*e*PN	**Pb**	19 16 11.0	-1.5
EDC	**Edincik**	**2.52**	**31**	*e*Pn	**Pb**	19 16 11.0	-1.5
ENEZ	**Enez**	**2.54**	**360**	*e*PN	**Pb**	19 16 11.5	-1.3
ENEZ	**Enez**	**2.54**	**360**	*e*Pn	**Pb**	19 16 11.5	-1.3
RKY	**Sarkoy-Tekirda**	**2.61**	**17**	*e*PN	**Pb**	19 16 12.6	-1.5
RKY	**Sarkoy-Tekirda**	**2.61**	**17**	*e*Pn	**Pb**	19 16 12.6	-1.5
MRMT	**Marmara Adasi**	**2.65**	**24**	*e*PN	**Pb**	19 16 12.9	-1.9
MRMT	**Marmara Adasi**	**2.65**	**24**	*e*Pn	**Pb**	19 16 12.9	-1.9
KCTX	**Karacabey (Bur**	**2.68**	**39**	*e*PN	**Pb**	19 16 13.4	-1.8
KCTX	**Karacabey (Bur**	**2.68**	**39**	*e*Pn	**Pb**	19 16 13.4	-1.8
ALN	**Alexandroupoli**	**2.70**	**358**	P	**Pn**	19 16 10.7	+0.2
ALN	**Alexandroupoli**	**2.70**	**358**	*e*PN	**Pb**	19 16 13.3	-2.2
ALN	**Alexandroupoli**	**2.70**	**358**	*e*PN	**Pn**	19 16 10.7	+0.2
ALN	**Alexandroupoli**	**2.70**	**358**	P	**Pn**	19 16 10.7	+0.2
ALN	**Alexandroupoli**	**2.70**	**358**	*e*Pn	**Pb**	19 16 13.4	-2.2
OUR	**Ouranopolis**	**2.73**	**322**	P	**Pn**	19 16 11.9	+1.1
OUR	**Ouranopolis**	**2.73**	**322**	*e*PN	**Pn**	19 16 12.0	+1.1
OUR	**Ouranopolis**	**2.73**	**322**	*e*Pn	**Pn**	19 16 12.0	+1.1
FETY	**Fethiye**	**2.79**	**123**	*e*PN	**Pn**	19 16 14.2	+2.5
FETY	**Fethiye**	**2.79**	**123**	*e*Pn	**Pn**	19 16 14.3	+2.5
TVSB	**Tavsanli**	**2.86**	**63**	*e*PN	**Pn**	19 16 15.3	+2.5
TVSB	**Tavsanli**	**2.86**	**63**	*e*Pn	**Pn**	19 16 15.3	+2.5
TKR	**Tekirdag**	**2.99**	**20**	*e*PN	**Pb**	19 16 18.0	-2.4
TKR	**Tekirdag**	**2.99**	**20**	*e*Pn	**Pb**	19 16 18.0	-2.4
MDNY	**Mudanya-Bursa**	**3.03**	**43**	*e*PN	**Pb**	19 16 18.3	-2.8
MDNY	**Mudanya-Bursa**	**3.03**	**43**	*e*Pn	**Pb**	19 16 18.3	-2.8
IDI	**Anoyia**	**3.07**	**200**	Pn	**Pn**	19 16 15.4	-0.3
	1.2nm,0.3s,baz=17,slow=14,SNR=8.5						
IDI				Lg	Lg	19 17 13.3	
	1.5nm,0.3s,baz=10,slow=12,SNR=3.6						
IDI				LR	LR	19 17 38.4	
	comp=Z,78nm,18.9s,baz=84,slow=44						
KYTH	**Kithira**	**3.14**	**234**	P	**Pn**	**19 16 16.9**	**+0.3**
KYTH	**Kithira**	**3.14**	**234**	P	**Pn**	**19 16 16.9**	**+0.3**
ARMT	**Armutlu**	**3.16**	**41**	*e*PN	**Pn**	**19 16 19.9**	**+3.1**
ARMT	**Armutlu**	**3.16**	**41**	*e*Pn	**Pn**	**19 16 19.9**	**+3.1**
ALT	**Altintas**	**3.21**	**73**	*e*PN	**Pn**	**19 16 20.5**	**+3.0**
ALT	**Altintas**	**3.21**	**73**	*e*Pn	**Pn**	**19 16 20.5**	**+3.0**
GEMT	**Gemlik**	**3.24**	**45**	*e*PN	**Pn**	**19 16 20.8**	**+2.9**
GEMT	**Gemlik**	**3.24**	**45**	*e*Pn	**Pn**	**19 16 20.8**	**+2.9**
ELL	**Elmali**	**3.31**	**115**	*e*PN	**Pn**	**19 16 21.8**	**+2.9**
ELL	**Elmali**	**3.31**	**115**	*e*Pn	**Pn**	**19 16 21.8**	**+2.9**
SHUT	**Suhut-Afyon**	**3.46**	**83**	*e*PN	**Pn**	**19 16 23.5**	**+2.4**
SHUT	**Suhut-Afyon**	**3.46**	**83**	*e*Pn	**Pn**	**19 16 23.5**	**+2.4**
CAVI	**Cavuskoy**	**3.49**	**54**	*e*PN	Pn	19 16 24.6	+3.2
CAVI	**Cavuskoy**	**3.49**	**54**	*e*Pn	Pn	19 16 24.6	+3.2
MMB	**Musomiste**	**3.88**	**332**	⇑ *i* P	**Sg**	**19 17 29.8**	**-2.2**
JMB	**Yambol**	**4.28**	**4**	⇓ *i* P	**Sg**	**19 17 44.0**	**-0.9**
VTS	**Vitosha**	**4.94**	**334**	⇑ *i* P	Sn	19 17 24.2	-14
BRTR	**Keskin Array B**	**6.02**	**73**	Pn	**Pn**	**19 16 59.4**	**+3.1**
	0.1nm,0.3s,baz=252,slow=14,SNR=3.4						
BRTR				Lg	Lg	19 18 43.8	
	0.1nm,0.3s,baz=282,slow=20,SNR=2.2						
MLR	**Muntele Rosu**	**7.30**	**359**	⇓ *i* P	Pn	19 17 18.9	+5.2
MLR	**Muntele Rosu**	**7.30**	**359**	Pn	**Pn**	**19 17 16.3**	**+2.6**
	0.1nm,0.3s,baz=194,slow=12,SNR=4.0						
MLR				Sn	**Sn**	**19 18 31.6**	**-4.8**
	0.0nm,0.3s,baz=142,slow=15,SNR=2.4						
PLOR	**Plostina**	**7.66**	**3**	⇑ *i* P	Pn	19 17 22.0	+3.3
VRI	**Vrincioaia**	**7.68**	**3**	⇓ *i* P	**Pn**	**19 17 22.0**	**+3.1**
BZS	**Buzias**	**8.16**	**337**	⇑ *i* P	**Pn**	**19 17 26.7**	**+1.3**
MMAI	**Mount Meron Ar**	**9.12**	**122**	Pn	**Pn**	**19 17 36.9**	**-1.8**
	0.9nm,0.3s,baz=307,slow=13,SNR=4.8						
TORD	**Torodi Ar. Bea**	**33.09**	**228**	P	**P**	**19 22 03.8**	**+0.8**
	0.5nm,0.7s,baz=38,slow=9.2,SNR=3.9						
MKAR	**Makanchi Array**	**41.48**	**59**	P	**P**	**19 23 14.4**	**+0.5**
	0.2nm,0.6s,baz=292,slow=7.6,SNR=4.5						

*IDC **26** 19:17:36.7±1.1, 33°.89S×68°.37W, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.8/23, mbtmp3.9/5, ML3.8/2, MS2.0/1, Ms1 2.0/1, ms1mx2.0/18, Error ellipse: s-maj=54.1km s-min=20.9km az=98.0*
*SJA **26** 19:17:38.6±0.8, 33°.92S×68°.64W, h46km±15km, ML4.5*
*ISCJB **26** 19:17:39.6±1.2, 33°.86S±0°.05×68°.32W±0°.05, h25km±9km, mb4.0/5, Error ellipse: s-maj=8.8km s-min=6.5km az=2.3*
*GUC **26** 19:17:39.3±0.3, 33°.71S×68°.38W, h24km±4km, ML4.2*
*NEIC **26** 19:17:42.0±1.2, 33°.77S×68°.47W, h36km±10km, mb4.3/2, MD4.5(SJA), Error ellipse: s-maj=20.9km s-min=9.4km az=70.0*
NEIC Felt [IV] in the Valle de Uco and [III] at San Rafael.

ISC 26 19:17:38.0±2.1, 33°.84S±0°.05×68°.37W±0°.05, h6km±13km, n28, σ1$04/35, mb4.1/5, 2C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVIZ	**Vizcacheras**	**0.39**	**342**	*i* P	**Pn**	**19 17 50.3**	**0.0**
AAGR	**Agrelo**	**0.84**	**333**	*i* P	**Pb**	**19 17 54.9**	**-0.3**
ARCO	**CERRO ARCO**	**1.10**	**335**	*i* P	**Pg**	**19 17 59.0**	**-0.2**
ARCO				*i* S	**Sb**	**19 18 14.3**	**+0.1**
ARCO				AML	AML	19 18 16.8	
	comp=Z,9μm,0.3s						
ASAL	**Salagasta**	**1.31**	**343**	*i* P	**Pn**	**19 18 02.8**	**0.0**
YECH	**El Yeso**	**1.44**	**277**	*e*P9	**Pn**	**19 18 05.3**	**+0.4**
YECH				*e*S	**Sb**	**19 18 24.5**	**+0.5**
AUSP	**Uspallata**	**1.82**	**332**	*i* P	**Pn**	**19 18 09.9**	**-0.3**
ACAN	**Cantantal**	**1.85**	**33**	*i* P	**Pb**	**19 18 12.2**	**-0.1**
CLCH	**Cerro Calan**	**1.86**	**283**	⇑ *e*P	**Pn**	**19 18 10.7**	**+0.2**
CLCH				*e*S	**Sn**	**19 18 34.5**	**+0.2**
CLCH				IAML		19 18 37.2	
	comp=E,3μm,0.5s						
PEL	**Peldehue**	**2.05**	**289**	⇑ *e*P	**Pn**	**19 18 13.4**	**+0.3**
PEL				*e*S	**Sn**	**19 18 39.4**	**+0.3**
PEL				IAML		19 18 42.3	
	comp=N,2μm,1.0s						
RTLS	**Leoncito**	**2.18**	**339**	*i* P	**Pn**	**19 18 14.9**	**-0.1**
CFAA	**Coronel Fontan**	**2.23**	**3**	Pn	**Pn**	**19 18 16.2**	**+0.7**
	comp=N,9.0nm,0.3s,baz=184,slow=13,SNR=57						
CFAA				Sn	**Sb**	**19 18 46.9**	**+0.2**
	comp=N,40nm,0.3s,baz=254,slow=19,SNR=12						
CFAA				LR	LR	19 19 29.7	
	comp=N,31nm,18.7s,baz=153,slow=50						
CFAA	**Coronel Fontan**	**2.23**	**3**	*i* P	**Pn**	**19 18 16.3**	**+0.7**
CFAA				*i* S	**Sn**	**19 18 44.7**	**+1.2**
SJA	**San Juan**	**2.31**	**356**	*i* P	**Pn**	**19 18 17.5**	**+0.8**
SJA				*i* S	**Sn**	**19 18 45.6**	**+0.1**
ROCH	**El Roble**	**2.37**	**291**	⇓ *e*P	**Pn**	**19 18 18.6**	**+1.0**
ROCH				*e*S	**Sn**	**19 18 48.6**	**+1.5**
ROCH				IAML		19 18 52.0	
	comp=N,2μm,0.6s						
RTLL	**Cerro Villicun**	**2.51**	**358**	*i* P	**Pn**	**19 18 20.3**	**+0.9**
LCO	**Las Campanas**	**5.21**	**337**	*e*Pn	**Pn**	**19 18 56.1**	**-0.6**
	comp=N,58nm,0.4s						
LCO				*e*Sn	**Sb**	**19 20 16.3**	**+3.6**
TRQA	**Tornquist**	**6.67**	**131**	*e*Pn	**Pn**	**19 19 18.9**	**+2.3**
	comp=N,28nm,0.6s						
PLCA	**Paso Flores**	**7.09**	**194**	Pn	Pb	19 19 32.9	-8.8
LPAZ	**La Paz**	**17.48**	**1**	P	**Pn**	**19 21 43.0**	**-0.1**
	comp=N,0.3nm,0.3s,baz=188,slow=6.6,SNR=12						
SAML	**Samuel**	**25.23**	**12**	*e*P	**P**	**19 23 03.3**	**-1.5**
	comp=N,3.9nm,0.8s						
BDFB	**Brasilia**	**25.80**	**50**	P	**P**	**19 23 09.3**	**-0.8**
	comp=N,3.0nm,0.8s,baz=207,slow=11,SNR=3.1						
RCBR	**Riachuelo**	**41.02**	**54**	P	P	19 25 26.2	+4.0
	comp=N,12nm,1.0s						
QSPA	**South Pole Qui**	**56.40**	**180**	P	**P**	**19 27 20.2**	**+0.2**
	comp=N,0.4nm,0.7s,baz=135,slow=8.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**81.31**	**68**	P	**P**	**19 29 55.7**	**+0.1**
	comp=N,1.3nm,0.7s,baz=289,slow=6.7,SNR=17						
WRA	**Warramunga Arr**	**122.30**	**205**	PKP	**PKPdf**	**19 36 32.8**	**-1.8**
	comp=N,0.3nm,0.5s,baz=177,slow=1.8,SNR=7.1						
AAK	**Ala-Archa**	**149.74**	**62**	*e*PKPbc	**PKPbc**	**19 37 29.1**	**+0.4**
ZALV	**Zalesovo Beam**	**152.40**	**35**	PKPbc	**PKPbc**	**19 37 34.0**	**-0.3**
	comp=N,1.2nm,0.5s,baz=307,slow=2.9,SNR=8.0						
MKAR	**Makanchi Array**	**154.33**	**51**	PKPbc	**PKPbc**	**19 37 38.3**	**-0.5**
	comp=N,0.4nm,0.8s,baz=334,slow=1.2,SNR=3.6						

GUC 26 19:22:52.3±0.4, 35°.64S×73°.28W, h42km±2km, ML3.9, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.63**	**141**	⇓ *e*P	Pn	19 23 04.3	-0.5
COCH				*e*S	Sn	19 23 13.6	-0.2
CCSP	**San Pedro de C**	**1.21**	**174**	*e*P	Pn	19 23 13.0	+0.3
CCSP				IAML		19 23 35.7	
	comp=E,4μm,0.6s						
TALC	**Talca**	**1.36**	**80**	*e*P	Pn	19 23 15.3	+0.5
TALC				*e*S	Sn	19 23 32.5	+0.8
LNCH	**Linares**	**1.38**	**99**	*e*P	Pn	19 23 15.3	+0.2
LNCH				*e*S	Sn	19 23 32.6	+0.6
NICH	**Los Niches**	**1.79**	**70**	*e*P	Pn	19 23 21.3	+0.6
NICH				*e*S	Sn	19 23 43.3	+1.1
RCDM	**Rinconada Maip**	**2.96**	**44**	*e*P	Pn	19 23 36.9	+0.1
CLCH	**Cerro Calan**	**3.18**	**46**	*e*P	Pn	19 23 40.5	+0.6
ROCH	**El Roble**	**3.25**	**36**	*e*P3	Pn	19 23 41.9	+0.7
PEL	**Peldehue**	**3.29**	**41**	*e*P	Pn	19 23 41.9	+0.6

*NSSC **26** 19:25:31.9±5.3, 38°.54N×26°.16E, h13km±999km*
*BJI **26** 19:25:34.1, 38°.10N×26°.20E, h2km, mB4.7/1, mb4.2/6, Ms4.4/1, Ms7 4.2/1*
*IDC **26** 19:25:35.1±0.7, 38°.15N×26°.26E, h0km, mb3.8/14, mb1 3.8/21, mb1mx3.8/43, mbtmp3.8/21, ML3.6/6, MS2.9/8, Ms1 3.0/8, ms1mx2.7/56, Error ellipse: s-maj=14.2km s-min=12.7km az=116.0*
*DDA **26** 19:25:35.4, 38°.19N×26°.20E, h23km, ML4.1*
*NEIC **26** 19:25:35.9±0.9, 38°.15N×26°.31E, h1km±6km, mb4.2/19, ML4.1(THE), ML4.2(ISK), Error ellipse: s-maj=5.4km s-min=4.1km az=212.0*
*ATH **26** 19:25:36.3, 38°.19N×26°.23E, h27km±1km, MD4.0/38, ML4.1*
*ISK **26** 19:25:36.1, 38°.12N×26°.21E, h5km, ML4.2*
*THE **26** 19:25:36.4, 38°.18N×26°.25E, h0km±1km, ML4.0/8, Error ellipse: s-maj=1.1km s-min=0.5km az=179.0*
*ISCJB **26** 19:25:36.6±0.4, 38°.16N±0°.01×26°.22E±0°.02, h13km±2km, mb4.0/27, MS3.0/3, Error ellipse: s-maj=2.2km s-min=2.0km az=29.2*
*CSEM **26** 19:25:37.2±0.1, 38°.15N×26°.23E, h10km, mb4.2/9, Ms2.8, Error ellipse: s-maj=2.8km s-min=2.4km az=20.0*
*MOS **26** 19:25:38.5±1.4, 38°.26N×26°.40E, h26km, mb4.3/8, Error ellipse: s-maj=6.6km s-min=4.5km az=109.3*

ISC 26 19:25:37.7±0.6, 38°.18N±0°.02×26°.26E±0°.02, h12km±3km, n501, σ1$39/563, mb4.0/27, MS3.0/3, 9C-7D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEY	**¨zmir**	**0.20**	**74**	*i* P	**Pg**	**19 25 41.4**	**-0.6**
ZEY				*i* S	**Sg**	**19 25 44.9**	**-0.2**
CHOS	**Chios island**	**0.26**	**322**	P	**Pg**	**19 25 42.0**	**-1.1**
CHOS				S	**Sg**	**19 25 46.4**	**-0.4**
CHOS	**Chios island**	**0.26**	**322**	*e*PG	**Pg**	**19 25 42.4**	**-0.8**
CHOS				*e*SG	**Sg**	**19 25 46.3**	**-0.4**
CHOS	**Chios island**	**0.26**	**322**	*e*PB	**Pg**	**19 25 42.2**	**-0.9**
CHOS	**Chios island**	**0.26**	**322**	P	**Pg**	**19 25 42.0**	**-1.1**
CHOS	**Chios island**	**0.26**	**322**	*e*Pg	**Pg**	**19 25 42.4**	**-0.8**
CHOS				S	**Sg**	**19 25 46.4**	**-0.4**
CHOS	**Chios island**	**0.26**	**322**	P	**Pg**	**19 25 42.0**	**-1.1**
CHOS				S	**Sg**	**19 25 46.4**	**-0.4**
URLA	**Izmir**	**0.32**	**56**	*i* P	**Pg**	**19 25 43.6**	**-0.6**
URLA				*i* S	**Sg**	**19 25 48.8**	**+0.2**
URLA	**Izmir**	**0.32**	**56**	*i* P	**Pg**	**19 25 43.5**	**-0.6**
URLA				*i* S	**Sg**	**19 25 48.8**	**+0.2**
BLCB	**Balcova**	**0.65**	**72**	*e*PG	**Pg**	**19 25 50.2**	**-0.1**
BLCB				*e*SG	**Sb**	**19 26 00.4**	**+0.5**
BLCB	**Balcova**	**0.65**	**72**	*e*Pg	**Pg**	**19 25 50.2**	**-0.1**
BLCB				*e*Sg	**Sb**	**19 26 00.4**	**+0.5**
SMG	**Samos**	**0.66**	**136**	P	**Pg**	**19 25 49.8**	**-0.7**
SMG				S	**Sg**	**19 25 59.7**	**+0.5**
SMG	**Samos**	**0.66**	**136**	*e*PN	**Pg**	**19 25 50.0**	**-0.5**
SMG				*e*SN	**Sb**	**19 26 00.1**	**-0.1**
SMG	**Samos**	**0.66**	**136**	P	**Pg**	**19 25 49.8**	**-0.7**
SMG				S	**Sg**	**19 25 59.7**	**+0.5**
SMG				*e*Sn	**Sb**	**19 26 00.1**	**-0.1**
SMG	**Samos**	**0.66**	**136**	P	**Pg**	**19 25 49.8**	**-0.7**
IZM	**Izmir**	**0.82**	**75**	*e*PG	**Pg**	**19 25 53.0**	**-0.5**
IZM	**Izmir**	**0.82**	**75**	*e*Pg	**Pg**	**19 25 53.1**	**-0.5**
PRK	**Paraskevi**	**1.06**	**1**	P	**Pb**	**19 25 56.3**	**-1.7**
PRK				S	**Sn**	**19 26 12.7**	**-0.3**
PRK	**Paraskevi**	**1.06**	**1**	P	**Pb**	**19 25 56.3**	**-1.7**
PRK				S	**Sg**	**19 26 12.1**	**+0.1**
PRK	**Paraskevi**	**1.06**	**1**	*e*PN	**Pb**	**19 25 56.9**	**-1.1**
PRK				*e*SN	**Sb**	**19 26 11.3**	**-0.5**
PRK	**Paraskevi**	**1.06**	**1**	P	**Pb**	**19 25 56.3**	**-1.7**
PRK	**Paraskevi**	**1.06**	**1**	*e*PN	**Pb**	**19 25 56.9**	**-1.1**
PRK				*e*Sn	**Sb**	**19 26 11.3**	**-0.5**
PRK				S	**Sg**	**19 26 12.1**	**+0.1**
PRK	**Paraskevi**	**1.06**	**1**	P	**Pb**	**19 25 56.3**	**-1.7**
PRK				S	**Sg**	**19 26 12.1**	**+0.1**
SIGR	**SIGRI**	**1.07**	**343**	P	**Pb**	**19 25 56.7**	**-1.4**

ENEZ Enez 2.55 358 ePN Pn 19 26 19.5 +0.7
ENEZ Enez 2.55 358 ePn Pn 19 26 19.5 +0.7
KHL Karahalli 2.57 86 ePN Pn 19 26 19.8 +0.6
KHL Karahalli 2.57 86 ePn Pn 19 26 19.8 +0.6
RKY Sarkoy-Tekirda 2.60 16 ePN Pb 19 26 21.8 -2.4
RKY Sarkoy-Tekirda 2.60 16 ePn Pb 19 26 21.8 -2.4
LTK Loutraki 2.60 267 ePN Pn 19 26 19.1 -0.4
LTK Loutraki 2.60 267 ePn Pn 19 26 19.1 -0.4
LKR Lokris 2.60 281 P Pn 19 26 19.1 -0.4
LKR Lokris 2.60 281 ePN Pn 19 26 18.1 -1.4
LKR Lokris 2.60 281 ePn Pn 19 26 18.1 -1.4
LKR Lokris 2.60 281 P Pn 19 26 19.1 -0.4
LKR Lokris 2.60 281 P Pn 19 26 19.1 -0.4
NEO Neokhori 2.62 296 P Pn 19 26 19.1 -0.8
NEO Neokhori 2.62 296 ePN Pn 19 26 19.4 -0.5
NEO Neokhori 2.62 296 P Pn 19 26 19.1 -0.8
NEO Neokhori 2.62 296 ePn Pn 19 26 19.4 -0.5
NEO Neokhori 2.62 296 P Pn 19 26 19.1 -0.8
MRMT Marmara Adasi 2.63 23 ePN Pn 19 26 22.1 +2.1
MRMT Marmara Adasi 2.63 23 ePn Pn 19 26 22.1 +2.1
KCTX Karacabey (Bur 2.64 37 ePN Pn 19 26 21.6 +1.5
KCTX Karacabey (Bur 2.64 37 ePn Pn 19 26 21.6 +1.5
PAIG Paliouri 2.66 312 P Pn 19 26 19.4 -0.9
PAIG Paliouri 2.66 312 P Pn 19 26 19.4 -0.9
PAIG Paliouri 2.66 312 ePN Pn 19 26 19.6 -0.7
PAIG Paliouri 2.66 312 ePn Pn 19 26 19.6 -0.7
PAIG Paliouri 2.66 312 P Pn 19 26 19.4 -0.9
XOR Xorichti 2.67 297 P Pn 19 26 19.8 -0.7
XOR S Sn 19 26 53.8 +1.0
XOR Xorichti 2.67 297 ePN Pn 19 26 20.1 -0.4
XOR Xorichti 2.67 297 P Pn 19 26 19.8 -0.7
XOR Xorichti 2.67 297 ePn Pn 19 26 20.1 -0.4
XOR S Sn 19 26 53.8 +1.0
ALN Alexandroupoli 2.71 357 P Pn 19 26 20.2 -0.9
ALN S Sn 19 26 54.8 +1.0
ALN Alexandroupoli 2.71 357 ePN Pn 19 26 22.7 +1.6
ALN Alexandroupoli 2.71 357 P Pn 19 26 20.2 -0.9
ALN S Sn 19 26 52.3 -1.5
ALN Alexandroupoli 2.71 357 ePN Pn 19 26 20.1 -1.0
ALN Alexandroupoli 2.71 357 P Pn 19 26 20.2 -0.9
ALN S Sn 19 26 52.3 -1.5
ALN Alexandroupoli 2.71 357 P Pn 19 26 20.2 -0.9
ALN S Sn 19 26 52.3 -1.5
FETY Fethiye 2.73 124 ePN Pn 19 26 21.8 +0.5
FETY Fethiye 2.73 124 ePn Pn 19 26 21.8 +0.5
KARP Karpathos 2.73 164 ePN Pn 19 26 21.0 -0.3
KARP Karpathos 2.73 164 ePn Pn 19 26 21.0 -0.3
ORLT Orhaneli 2.77 47 ePN Pn 19 26 23.7 +1.8
ORLT Orhaneli 2.77 47 ePn Pn 19 26 23.7 +1.8
OUR Ouranopolis 2.78 321 P Pn 19 26 21.4 -0.6
OUR Ouranopolis 2.78 321 P Pn 19 26 21.4 -0.6
OUR Ouranopolis 2.78 321 ePN Pn 19 26 21.2 -0.8
OUR Ouranopolis 2.78 321 P Pn 19 26 21.4 -0.6
OUR Ouranopolis 2.78 321 P Pn 19 26 21.4 -0.6
GOLH Golhisar 2.79 109 *i* P Pn 19 26 22.8 +0.7
GOLH Golhisar 2.79 109 *i* P Pn 19 26 22.8 +0.7
GOLH *i* S Sg 19 27 09.2 +2.0
TVSB Tavsanli 2.80 62 ePN Pn 19 26 23.4 +1.0
TVSB Tavsanli 2.80 62 ePn Pn 19 26 23.4 +1.0
AXAR Agios Charalam 2.88 283 ePN Pn 19 26 23.2 -0.2
AXAR Agios Charalam 2.88 283 ePn Pn 19 26 23.2 -0.2
NPS Neapolis 2.96 190 ePN Pn 19 26 22.9 -1.6
NPS Neapolis 2.96 190 ePn Pn 19 26 22.9 -1.6
ULDT Uludag 2.97 48 *i* P Pn 19 26 23.8 -1.0
ULDT *i* S Sn 19 27 00.8 +0.3
ULDT Uludag 2.97 48 *i* P Pn 19 26 23.8 -1.0
ULDT *i* S Sn 19 27 00.8 +0.3
MDNY Mudanya-Bursa 2.99 42 ePN Pn 19 26 26.9 +2.1
MDNY Mudanya-Bursa 2.99 42 ePn Pn 19 26 26.9 +2.1
RDO Rodhopi 3.01 350 ePN Pn 19 26 24.5 -0.6
RDO Rodhopi 3.01 350 ePn Pn 19 26 24.5 -0.6
VLI Veliai 3.02 242 P Pn 19 26 24.0 -1.2
VLI Veliai 3.02 242 ePN Pn 19 26 24.1 -1.2
VLI Veliai 3.02 242 ePn Pn 19 26 24.1 -1.2
VLI Veliai 3.02 242 P Pn 19 26 24.0 -1.2
LAST Lasithi 3.08 192 ePN Pn 19 26 24.1 -2.1
LAST Lasithi 3.08 192 ePn Pn 19 26 24.1 -2.1
PLG Polygyros 3.09 316 ePB Pn 19 26 26.8 +0.5
IDI Anoyia 3.09 201 Pn Pn 19 26 24.6 -1.8
5.7nm,0.3s,baz=22,slow=16,SNR=44
IDI Sn Sn 19 27 01.4 -1.8
22nm,0.3s,baz=319,slow=18,SNR=5.8
IDI LR LR 19 27 05.9
comp=Z,93nm,21.4s,baz=38,slow=30
IDI Lg Lg 19 27 23.1
14nm,0.3s,baz=325,slow=18,SNR=4.2
GUR Goura 3.10 267 P Pn 19 26 26.3 -0.2
GUR Goura 3.10 267 ePN Pn 19 26 26.3 -0.2
GUR Goura 3.10 267 P Pn 19 26 26.3 -0.2
GUR Goura 3.10 267 P Pn 19 26 26.3 -0.2
KAVA Kavala 3.12 335 P Pn 19 26 25.8 -0.8
KAVA Kavala 3.12 335 ePN Pn 19 26 25.8 -0.8
KAVA Kavala 3.12 335 P Pn 19 26 25.8 -0.8
KAVA Kavala 3.12 335 P Pn 19 26 25.8 -0.8
ARMT Armutlu 3.12 39 ePN Pn 19 26 29.2 +2.6
ARMT Armutlu 3.12 39 ePn Pn 19 26 29.2 +2.6
ALT Altintas 3.14 73 ePN Pn 19 26 28.6 +1.6
ALT Altintas 3.14 73 ePn Pn 19 26 28.6 +1.6
AGG Agios Georgios 3.19 286 ePN Pn 19 26 27.5 -0.1
AGG Agios Georgios 3.19 286 ePn Pn 19 26 27.5 -0.1
KYTH Kithira 3.20 235 ePN Pn 19 26 26.6 -1.1
KYTH Kithira 3.20 235 ePN Pn 19 26 26.4 -1.3
KYTH Kithira 3.20 235 ePn Pn 19 26 26.6 -1.1
GEMT Gemlik 3.20 44 ePN Pn 19 26 29.9 +2.2
GEMT Gemlik 3.20 44 ePn Pn 19 26 29.9 +2.2
VAM Vamos 3.23 211 ePN Pn 19 26 25.2 -2.9
VAM Vamos 3.23 211 ePn Pn 19 26 25.2 -2.9
ELL Elmali 3.24 115 ePN Pn 19 26 28.6 +0.2
ELL Elmali 3.24 115 ePn Pn 19 26 28.6 +0.2
KLV Kalavryta, Ach 3.24 269 ePN Pn 19 26 28.3 -0.1
KLV Kalavryta, Ach 3.24 269 ePn Pn 19 26 28.3 -0.1
KALE Kalithea 3.25 275 ePN Pn 19 26 28.3 -0.2
KALE Kalithea 3.25 275 ePn Pn 19 26 28.3 -0.2
AKAS Kas 3.31 125 *i* P Pn 19 26 30.9 +1.6
AKAS *i* S Sn 19 27 11.4 +2.8
AKAS Kas 3.31 125 *i* P Pn 19 26 30.9 +1.6
AKAS *i* S Sn 19 27 11.4 +2.8
ANKY Antikythira Is 3.31 227 ePN Pn 19 26 28.0 -1.2
ANKY Antikythira Is 3.31 227 ePn Pn 19 26 28.0 -1.2
MAKR Makrakomi, Fth 3.34 286 ePN Pn 19 26 30.5 +0.8
MAKR Makrakomi, Fth 3.34 286 ePn Pn 19 26 30.5 +0.8
KARN Karanos 3.35 215 ePN Pn 19 26 29.1 -0.8
KARN Karanos 3.35 215 ePn Pn 19 26 29.1 -0.8
SIVA Sivas 3.37 201 ePN Pn 19 26 31.2 +1.2
SIVA Sivas 3.37 201 ePn Pn 19 26 31.2 +1.2
ISP Isparta 3.39 95 ePN Pn 19 26 32.1 +1.7
ISP Isparta 3.39 95 *e*P Pn 19 26 30.6 +0.2
ISP Isparta 3.39 95 ‖ *i*P Pn 19 26 30.6 +0.2
ISP Isparta 3.39 95 S Sg 19 27 29.2 +2.7
ISP Isparta 3.39 95 *e*P Pn 19 26 30.6 +0.2
ISP Isparta 3.39 95 ePn Pn 19 26 30.6 +0.2
SHUT Suhut-Afyon 3.39 82 ePN Pn 19 26 32.8 +2.3
SHUT Suhut-Afyon 3.39 82 ePn Pn 19 26 32.8 +2.3
EFP Efpalio 3.43 275 ePN Pn 19 26 31.2 +0.3
EFP Efpalio 3.43 275 ePn Pn 19 26 31.2 +0.3
HORT Hortiatis 3.44 316 ePN Pn 19 26 30.9 -0.2
HORT Hortiatis 3.44 316 ePn Pn 19 26 30.9 -0.2
CAVI Cavuskoy 3.44 53 ePN Pn 19 26 33.8 +2.8
CAVI Cavuskoy 3.44 53 ePn Pn 19 26 33.8 +2.8
KORT Korkueli 3.46 109 *i* P Pn 19 26 33.5 +2.1
KORT Korkueli 3.46 109 *i* P Pn 19 26 33.5 +2.1
KORT *i* S Sg 19 27 28.3 -0.5
SOH Sokhos 3.46 320 ePN Pn 19 26 31.3 -0.1
SOH Sokhos 3.46 320 ePn Pn 19 26 31.3 -0.1
LIT Litokhoron 3.50 304 ePN Pn 19 26 31.8 -0.1
LIT Litokhoron 3.50 304 ePn Pn 19 26 31.8 -0.1
THE Thessaloniki 3.53 315 ePN Pn 19 26 32.4 +0.1
THE Thessaloniki 3.53 315 ePn Pn 19 26 32.4 +0.1
EVR Evrytania 3.56 283 ePN Pn 19 26 33.6 +0.8
EVR Evrytania 3.56 283 ePn Pn 19 26 33.6 +0.8
ITM Ithomi 3.58 255 ePN Pn 19 26 33.9 +0.9
ITM Ithomi 3.58 255 ePn Pn 19 26 33.9 +0.9
SRS Serrai 3.58 326 ePN Pn 19 26 32.2 -0.8
SRS Serrai 3.58 326 ePn Pn 19 26 32.2 -0.8
THL Klokotos Trika 3.59 294 ePB Pn 19 26 35.1 +2.0
DRO Drossia 3.60 268 ePN Pn 19 26 33.5 +0.3
DRO Drossia 3.60 268 ePn Pn 19 26 33.5 +0.3
AMT Artemida-Makis 3.66 261 ePN Pn 19 26 34.8 +0.7
AMT Artemida-Makis 3.66 261 ePn Pn 19 26 34.8 +0.7
NVR Nevrokopi 3.66 330 ePN Pn 19 26 33.8 -0.3
NVR Nevrokopi 3.66 330 ePn Pn 19 26 33.8 -0.3
PYL PYLOS 3.81 252 ePN Pn 19 26 37.3 +1.1
PYL PYLOS 3.81 252 ePn Pn 19 26 37.3 +1.1
MMB Musomiste 3.92 331 ‖ *i*P Pn 19 26 37.2 -0.5
MMB Musomiste 3.92 331 S Sn 19 27 23.4 -0.2
KNT Kendrikon 3.95 320 ePN Pn 19 26 38.2 +0.2
KNT Kendrikon 3.95 320 ePn Pn 19 26 38.2 +0.2
GRG Griva 4.07 314 ePN Pn 19 26 40.5 +0.8
GRG Griva 4.07 314 ePn Pn 19 26 40.5 +0.8
VAY Valandovo 4.23 319 *i* Pg Pn 19 26 43.0 +1.1
JMB Yambol 4.29 3 ‖ *i*P Pn 19 26 42.2 -0.5
VTS Vitosha 4.98 333 ‖ *i*P Pn 19 26 52.6 +0.2
OHR Ohrid 5.13 306 *i* Pg Pn 19 26 56.7 +2.4
SKO Skopje 5.29 317 *i* Pg Pn 19 27 00.2 +3.7
ANTO Ankara 5.36 70 P Pn 19 26 58.9 +1.4
ANTO pmax pmax
comp=Z,23nm,0.8s
ANTO Ankara 5.36 70 ‖ *i*P Pg 19 27 18.0 -2.3
ANTO Ankara 5.36 70 P Pn 19 26 58.9 +1.4
comp=Z,23nm,0.8s
ANTO Ankara 5.36 70 *e*Pg Pg 19 27 18.9 -1.4
ANTO Ankara 5.36 70 Pn Pn 19 26 58.9 +1.4
comp=Z,23nm,0.8s
ANTO *e*Pg Pg 19 27 18.9 -1.4
PSN Preselentsi 5.68 14 ‖ *i*P Pn 19 27 00.5 -1.4
BR131 Keskin Array S 5.96 73 *e*Pn Pn 19 27 01.8 -4.0
comp=Z,11nm,0.7s
BR131 Keskin Array S 5.96 73 *e*Pg Pg 19 27 28.7 -3.0
BR131 Keskin Array S 5.96 73 *e*Pn Pn 19 27 01.8 -4.0
comp=Z,11nm,0.7s
BR131 *e*Pg Pg 19 27 28.7 -3.0
BRTR Keskin Array B 5.96 73 P Pn 19 27 07.0 +1.2
BRTR Keskin Array B 5.96 73 Pn Pn 19 27 07.0 +1.2
comp=Z,0.7nm,0.3s,baz=253,slow=14,SNR=21
BRTR Pg Pb 19 27 25.7 +4.3
comp=Z,0.5nm,0.3s,baz=259,slow=16,SNR=5.7
MSAB Monastry St. A 6.02 11 ‖ *i*P Pn 19 27 06.0 -0.5
TIRR Tirgusor 6.47 14 *e*P Pn 19 27 11.7 -1.0
TIRR pmax pmax
comp=Z,15nm,0.6s
TIRR Tirgusor 6.47 14 ‖ *i*P Pn 19 27 12.0 -0.7
TIRR Tirgusor 6.47 14 *e*P Pn 19 27 11.7 -1.0
comp=Z,15nm,0.6s
TIRR Tirgusor 6.47 14 *e*Pn Pn 19 27 11.7 -1.0
comp=Z,15nm,0.6s
CSS Prodhromos 6.54 117 *e*Pn Pn 19 27 13.7 +0.1
CSS Prodhromos 6.54 117 *e*Pn Pn 19 27 13.7 +0.1
ISR Istrita 6.93 2 ‖ *i*P Pn 19 27 19.3 +0.2
GRUS Gruza 7.07 325 *e*Pn Pn 19 27 20.7 -0.2
IVAS Ivanjica 7.10 321 *e*Pn Pn 19 27 22.2 +0.8
CFR Carcaliu 7.13 11 ‖ *i*P Pn 19 27 20.7 -1.0
TLCR 7.25 14 ‖ *i*P Pn 19 27 22.6 -0.8
VOIR 7.30 353 *e*P Pn 19 27 24.8 +0.6
VOIR 7.30 353 ‖ *i*P Pn 19 27 23.6 -0.6
VOIR 7.30 353 *e*P Pn 19 27 24.8 +0.6
MLR Muntele Rosu 7.31 358 ‖ *i*P Pn 19 27 24.9 +0.6
MLR Muntele Rosu 7.31 358 Pn Pn 19 27 25.2 +1.0
comp=Z,0.6nm,0.3s,baz=165,slow=16,SNR=19
MLR Lg Lg 19 29 31.9
comp=Z,0.3nm,0.3s,baz=41,slow=19,SNR=3.2
MLR LR LR 19 30 45.9
comp=Z,36nm,19.7s,baz=154,slow=42
LOT Lotru 7.49 346 ‖ *i*P Pn 19 27 26.5 -0.3
TIP Timpagrande 7.50 281 *e*Pn Pn 19 27 28.0 +1.1
comp=Z,7.0nm,0.5s
TIP Timpagrande 7.50 281 *e*Pn Pn 19 27 28.0 +1.1
comp=Z,7.0nm,0.5s
DIVS Divibare 7.57 323 *e*Pn Pn 19 27 28.0 +0.2
GZR Gura Zlata 7.66 341 ‖ *i*P Pn 19 27 28.0 -1.0
VRI Vrincioaia 7.69 2 *e*P Pn 19 27 32.0 +2.6
VRI Vrincioaia 7.69 2 *e*P Pn 19 27 32.0 +2.6
TEKS Tekeris 8.12 324 *e*Pn Pn 19 27 35.9 +0.5
CUC Castrocucco 8.32 286 *e*Pn Pn 19 27 39.8 +1.7
comp=Z,4.2nm,0.5s
CUC Castrocucco 8.32 286 *e*Pn Pn 19 27 39.8 +1.7
comp=Z,4.3nm,0.5s
BTCH Batrach 8.43 102 *e*P Pn 19 27 34.7 -4.9
SEV Sevastopol' 8.45 39 *e*P Pn 19 27 38.4 -1.4
SEV *e*S Sn 19 29 10.3 -4.7
SEV Sevastopol' 8.45 39 *e*P Pn 19 27 38.4 -1.4
HAWK Haweek 8.96 111 *e*P Pn 19 27 45.8 -1.2
SNR=45
HAWK Haweek 8.96 111 *e*P Pn 19 27 45.8 -1.2
HAWK *e*S Sn 19 29 22.6 -5.4
MMAI Mount Meron Ar 9.05 122 Pn Pn 19 27 46.3 -2.0
comp=Z,9.1nm,0.3s,baz=305,slow=12,SNR=30
MMAI Sn Sn 19 29 22.9 -7.3
comp=Z,4.3nm,0.3s,baz=247,slow=22,SNR=7.7
BRBR Barbar 9.20 118 *e*P Pn 19 27 49.1 -1.2
SNR=45
BRBR Barbar 9.20 118 *e*P Pn 19 27 49.1 -1.2
BRBR *e*S Sn 19 29 25.8 -8.0
BRBR Barbar 9.20 118 *e*P Pn 19 27 48.8 -1.5
BRBR *e*S Px 19 27 59.6
MARH Ras Al Marh 9.25 114 *e*P Pn 19 27 48.1 -3.1
MARH *e*S Sn 19 29 26.5 -8.8
SUDU Sudak 9.37 42 *e*P Pn 19 27 51.9 -0.5
SUDU *e*S Sn 19 29 34.1 -3.5
SUDU Sudak 9.37 42 *e*P Pn 19 27 51.9 -0.5
SALA Sala 10.14 119 *e*P Pn 19 28 03.1 0.0
SNR=45
SALA Sala 10.14 119 *e*P Pn 19 28 03.1 0.0
SALA *e*S Sn 19 29 50.2 -6.7
ZALF Zalf 10.44 117 *e*P Pn 19 28 06.4 -0.7
SNR=45
ZALF *e*S Sn 19 30 02.2 -1.8
SNR=40
ZALF Zalf 10.44 117 *e*P Pn 19 28 06.4 -0.7
ZALF *e*S Sn 19 30 02.2 -1.8
ASF Jabal al Asfar 10.57 121 Pn Pn 19 28 05.9 -3.0
comp=Z,0.3nm,0.3s,baz=282,slow=11,SNR=2.9
ASF Sn Sn 19 30 03.1 -4.2
comp=Z,0.2nm,0.3s,baz=68,slow=19,SNR=2.7
PSZ Piszkesteto 10.78 337 *e*P Pn 19 28 11.4 -0.4
PSZ Piszkesteto 10.78 337 *e*P Pn 19 28 11.4 -0.4
PSZ Piszkesteto 10.78 337 *e*Pn Pn 19 28 11.4 -0.4
EIL Elat 11.14 137 Pn Pn 19 28 14.9 -1.8
comp=Z,0.5nm,0.3s,baz=330,slow=16,SNR=5.3
EIL Sn Sn 19 30 12.2 -9.0
comp=Z,0.5nm,0.3s,baz=86,slow=17,SNR=3.5
VYHS Vyhne 11.63 335 *e*P Pn 19 28 25.5 +2.1
VYHS Vyhne 11.63 335 *e*P Pn 19 28 25.5 +2.1
VYHS Vyhne 11.63 335 *e*PN Pn 19 28 25.5 +2.1
KWP Kalwaria Pacla 11.73 349 P Pn 19 28 25.1 +0.4
KWP Kalwaria Pacla 11.73 349 P Pn 19 28 25.1 +0.4
KWP Kalwaria Pacla 11.73 349 Pn Pn 19 28 25.1 +0.4
AKASG Malin Array Be 12.69 9 Pn Pn 19 28 36.4 -1.4
comp=Z,0.4nm,0.3s,baz=198,slow=13,SNR=2.8
VRAC Vranov 13.12 331 LR LR 19 34 19.1
comp=Z,75nm,18.5s,baz=140,slow=40
PGF Pioggiola 13.86 294 *e*P Pn 19 28 52.6 -1.3
comp=Z,92nm,1.3s
PGF Pioggiola 13.86 294 *e*P Pn 19 28 52.6 -1.3
PGF pmax pmax
comp=Z,92nm,1.3s
PGF Pioggiola 13.86 294 *e*P Pn 19 28 52.6 -1.3
comp=Z,46nm,1.3s
PGF Pioggiola 13.86 294 *e*P Pn 19 28 52.6 -1.3
comp=Z,92nm,1.3s
ZEI Tsey 14.19 66 *e*P P 19 29 07.2 +1.1
ZEI pmax pmax
comp=Z,13nm,1.0s
KHC Kasperske Hory 14.26 324 P Pn 19 29 01.4 +2.1
KHC pmax pmax
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 14.26 324 *e*P P 19 29 07.7 +1.1
KHC Kasperske Hory 14.26 324 P Pn 19 29 01.4 +2.1
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 14.26 324 Pn Pn 19 29 01.4 +2.1
comp=Z,5.1nm,0.9s
GNI Garni 14.48 76 LR LR 19 34 33.1
comp=Z,41nm,19.9s,baz=270,slow=37
SBF Sospel 15.29 298 *e*P Pn 19 29 12.1 -1.2
comp=Z,86nm,1.0s
SBF Sospel 15.29 298 *e*P Pn 19 29 12.1 -1.2
SBF pmax pmax
comp=Z,86nm,1.0s
SBF Sospel 15.29 298 *e*P Pn 19 29 12.1 -1.2
comp=Z,86nm,1.0s
SBF Sospel 15.29 298 *e*P Pn 19 29 12.1 -1.2
comp=Z,86nm,1.0s
BRG Berggiesshubel 15.40 329 *e*P P 19 29 22.5 +3.2
comp=Z,29nm,1.9s
BRG Berggiesshubel 15.40 329 *e*P P 19 29 22.5 +3.2
BRG pmax pmax
comp=Z,29nm,1.9s
FRF La Foret Royal 15.77 296 *e*P P 19 29 23.5 +0.2
FRF La Foret Royal 15.77 296 *e*P P 19 29 23.5 +0.2
FRF La Foret Royal 15.77 296 *e*P P 19 29 23.5 +0.2
FRF La Foret Royal 15.77 296 *e*P P 19 29 23.5 +0.2
MBDF Montbardon 15.99 300 *e*P P 19 29 26.5 +0.5
comp=Z,14nm,0.9s
MBDF Montbardon 15.99 300 *e*P P 19 29 26.5 +0.5
MBDF pmax pmax
comp=Z,14nm,0.9s
MBDF Montbardon 15.99 300 *e*P P 19 29 26.5 +0.5
comp=Z,7.0nm,0.9s
MBDF Montbardon 15.99 300 *e*P P 19 29 26.5 +0.5
comp=Z,14nm,0.9s
LPG La Plagne 16.25 303 *e*P P 19 29 28.0 -1.0
comp=Z,17nm,1.1s
LPG La Plagne 16.25 303 *e*P P 19 29 28.0 -1.0
LPG pmax pmax
comp=Z,17nm,1.1s
LPG La Plagne 16.25 303 *e*P P 19 29 28.0 -1.0
comp=Z,8.4nm,1.1s
LPG La Plagne 16.25 303 *e*P P 19 29 28.0 -1.0
comp=Z,17nm,1.1s
LPL La Plagne 16.27 303 *e*P P 19 29 28.2 -0.9
LPL La Plagne 16.27 303 *e*P P 19 29 28.2 -0.9
LPL La Plagne 16.27 303 *e*P P 19 29 28.2 -0.9
LPL La Plagne 16.27 303 *e*P P 19 29 28.2 -0.9
ORIF Oris-en-Rattie 16.65 300 *e*P P 19 29 33.5 +0.3
comp=Z,11nm,0.9s
ORIF Oris-en-Rattie 16.65 300 *e*P P 19 29 33.5 +0.3
ORIF pmax pmax
comp=Z,11nm,0.9s
ORIF Oris-en-Rattie 16.65 300 *e*P P 19 29 33.5 +0.3
comp=Z,5.4nm,0.9s
ORIF Oris-en-Rattie 16.65 300 *e*P P 19 29 33.5 +0.3
comp=Z,11nm,0.9s
CABF La Chapelle 17.08 306 *e*P P 19 29 38.6 +0.6
CABF La Chapelle 17.08 306 *e*P P 19 29 38.6 +0.6
CABF La Chapelle 17.08 306 *e*P P 19 29 38.6 +0.6
CABF La Chapelle 17.08 306 *e*P P 19 29 38.6 +0.6
CDF Champ du Feu 17.14 313 *e*P P 19 29 39.2 +0.5
CDF Champ du Feu 17.14 313 *e*P P 19 29 39.2 +0.5
CDF Champ du Feu 17.14 313 *e*P P 19 29 39.2 +0.5
CDF Champ du Feu 17.14 313 *e*P P 19 29 39.2 +0.5
HAU Haudompre 17.50 310 *e*P P 19 29 45.6 +3.1
HAU *e*R
comp=Z,89nm,18.8s
HAU Haudompre 17.50 310 *e*P P 19 29 45.6 +3.1
HAU Haudompre 17.50 310 *e*P P 19 29 45.6 +3.1
HAU Haudompre 17.50 310 *e*P P 19 29 45.6 +3.1
OBN Obninsk 18.32 19 LR LR 19 37 16.0
comp=Z,91nm,19.4s,baz=253,slow=38
SFTF Sexfontaines 18.38 310 *e*P P 19 29 54.4 +2.2
SFTF Sexfontaines 18.38 310 *e*P P 19 29 54.4 +2.2
SFTF Sexfontaines 18.38 310 *e*P P 19 29 54.4 +2.2
SMF Signal de Mont 18.54 304 *e*P Pn 19 29 56.1 +1.9
SMF Signal de Mont 18.54 304 *e*P Pn 19 29 56.1 +1.9
SMF Signal de Mont 18.54 304 *e*P Pn 19 29 56.1 +1.9
SMF Signal de Mont 18.54 304 *e*P Pn 19 29 56.1 +1.9
LOR Lormes 18.74 306 *e*P Pn 19 29 58.8 +2.2
comp=Z,42nm,1.5s
LOR *e*R
comp=Z,77nm,18.8s
LOR Lormes 18.74 306 *e*P Pn 19 29 58.8 +2.2
LOR pmax pmax
comp=Z,43nm,1.5s
LOR Lormes 18.74 306 *e*P Pn 19 29 58.8 +2.2
comp=Z,42nm,1.5s
LOR Lormes 18.74 306 *e*P Pn 19 29 58.8 +2.2
comp=Z,42nm,1.5s
SSF Saint Saulge 18.90 305 *e*P Pn 19 30 01.2 +2.7
comp=Z,16nm,1.0s
SSF Saint Saulge 18.90 305 *e*P Pn 19 30 01.2 +2.7
SSF pmax pmax
comp=Z,16nm,1.0s
SSF Saint Saulge 18.90 305 *e*P Pn 19 30 01.2 +2.7
comp=Z,16nm,1.0s
SSF Saint Saulge 18.90 305 *e*P Pn 19 30 01.2 +2.7
comp=Z,16nm,1.0s
AVF Avril sur Loir 18.91 304 *e*P Pn 19 30 00.0 +1.4
comp=Z,43nm,1.4s
AVF Avril sur Loir 18.91 304 *e*P Pn 19 30 00.0 +1.4
AVF pmax pmax
comp=Z,43nm,1.4s
AVF Avril sur Loir 18.91 304 *e*P Pn 19 30 00.0 +1.4
comp=Z,22nm,1.4s
AVF Avril sur Loir 18.91 304 *e*P Pn 19 30 00.0 +1.4
comp=Z,43nm,1.4s
BAIF Baives 19.70 314 *e*P Pn 19 30 07.5 -0.6
comp=Z,12nm,0.8s
BAIF Baives 19.70 314 *e*P Pn 19 30 07.5 -0.6
BAIF pmax pmax
comp=Z,12nm,0.8s
BAIF Baives 19.70 314 *e*P Pn 19 30 07.5 -0.6
comp=Z,5.9nm,0.8s
BAIF Baives 19.70 314 *e*P Pn 19 30 07.5 -0.6
comp=Z,12nm,0.8s
SJPF Ste Jean 21.38 292 *e*P P 19 30 29.2 +4.2
comp=Z,45nm,1.1s
SJPF Ste Jean 21.38 292 *e*P P 19 30 29.2 +4.2
SJPF pmax pmax
comp=Z,45nm,1.1s
SJPF Ste Jean 21.38 292 *e*P P 19 30 29.2 +4.2
comp=Z,45nm,1.1s
SJPF Ste Jean 21.38 292 *e*P P 19 30 29.2 +4.2
comp=Z,45nm,1.1s
LDF La Druitiere 21.71 307 *e*P P 19 30 29.4 +1.0
LDF La Druitiere 21.71 307 *e*P P 19 30 29.4 +1.0
LDF La Druitiere 21.71 307 *e*P P 19 30 29.4 +1.0
LDF La Druitiere 21.71 307 *e*P P 19 30 29.4 +1.0
FINES FINESS Array B 23.29 360 P P 19 30 43.4 -1.5
comp=Z,1.6nm,0.8s,baz=186,slow=11,SNR=6.6
HFS Hagfors 23.37 344 P P 19 30 43.7 -2.1
comp=Z,2.5nm,0.8s,baz=157,slow=12,SNR=5.1
TAM Tamanrasset 23.47 235 P P 19 30 51.0 +3.7
TAM pmax pmax
comp=Z,6.0nm,1.2s
TAM Tamanrasset 23.47 235 P P 19 30 51.0 +3.7
comp=Z,5.7nm,1.2s
TAM Tamanrasset 23.47 235 P P 19 30 51.0 +3.7
comp=Z,5.7nm,1.2s
ESDC Sonseca Array 23.51 283 P P 19 30 45.9 -1.5
comp=Z,0.1nm,0.3s,baz=72,slow=9.6,SNR=3.4
ESLA Sonseca Array 23.51 283 P P 19 30 50.1 +2.6
ESLA Sonseca Array 23.51 283 P P 19 30 50.1 +2.6
NAO01 NORSAR Array S 24.65 342 P P 19 30 54.5 -3.5
comp=Z,13nm,1.0s
NB2 NORSAR Subarra 24.75 342 P P 19 30 58.0 -0.8
comp=Z,5.1nm,1.1s,baz=147,slow=10
NB2 NORSAR Subarra 24.75 342 P P 19 30 58.0 -0.8
comp=Z,5.1nm,1.1s,SNR=4.8
NOA NORSAR Array B 24.75 342 P P 19 30 57.7 -1.1
comp=Z,1.0nm,0.8s,baz=147,slow=9.0,SNR=5.2
NOA LR LR 19 42 39.9
comp=Z,29nm,18.6s,baz=170,slow=41
GEYT Alibeck 25.03 81 P P 19 31 00.1 -1.4
comp=Z,1.3nm,0.5s,baz=271,slow=9.9,SNR=5.1
AKTK Aktyubinsk 25.61 51 P P 19 31 06.2 -0.4
AKTO Aktyubinsk 25.61 51 P P 19 31 06.2 -0.4
comp=Z,1.5nm,0.8s,baz=246,slow=12,SNR=4.1
EKA Eskdalemuir Ar 26.18 320 P P 19 31 13.0 +1.3
EKA Eskdalemuir Ar 26.18 320 P P 19 31 13.0 +1.3
comp=Z,1.1nm,0.7s,baz=114,slow=10,SNR=3.4
EKA Eskdalemuir Ar 26.18 320 P P 19 31 13.0 +1.3
ARCES ARCESS Array B 31.41 359 LR LR 19 43 51.4
comp=Z,31nm,21.1s,baz=196,slow=35
TOA0 Torodi Ar. Sit 33.14 228 *e*P P 19 32 13.8 -0.1
TOA0 Torodi Ar. Sit 33.14 228 *e*P P 19 32 13.8 -0.1
TORD Torodi Ar. Bea 33.14 228 P P 19 32 13.8 0.0
comp=Z,6.7nm,0.9s,baz=37,slow=9.6,SNR=20
KKAR Karatay Array 33.64 67 P P 19 32 13.9 -4.1
KKAR Karatay Array 33.64 67 P P 19 32 13.9 -4.1
KKAR Karatay Array 33.64 67 P P 19 32 13.9 -4.1
KBL Kabul 34.42 83 P P 19 32 23.0 -2.2
KBL Kabul 34.42 83 P P 19 32 23.0 -2.2
KBL Kabul 34.42 83 P P 19 32 22.9 -2.2
EKS2 Erkin-Say 36.08 67 *e*P P 19 32 40.0 +0.8
EKS2 pmax pmax
comp=Z,2.0nm,0.9s
EKS2 Erkin-Say 36.08 67 *e*P P 19 32 40.0 +0.8
comp=Z,2.2nm,0.9s
EKS2 Erkin-Say 36.08 67 *e*P P 19 32 40.0 +0.8
comp=Z,2.2nm,0.9s
AAK Ala-Archa 36.60 67 *e*P P 19 32 44.7 +0.9

AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 36.60 67 *e*P **P 19 32 44.7 +0.9**
comp=Z,2.5nm,0.9s
AAK Ala-Archa 36.60 67 *e*P **P 19 32 44.7 +0.9**
comp=Z,2.5nm,0.9s
TKM2 Tokmak 2 37.35 67 *e*P **P 19 32 50.1 -0.1**
TKM2 pmax pmax
comp=Z,2.0nm,0.6s
TKM2 Tokmak 2 37.35 67 *e*P **P 19 32 50.1 -0.1**
comp=Z,1.7nm,0.6s
TKM2 Tokmak 2 37.35 67 *e*P **P 19 32 50.1 -0.1**
comp=Z,1.7nm,0.6s
KURK Kurchatov 38.63 54 *e*P **P 19 33 00.7 +0.1**
KURK pmax pmax
comp=Z,1.0nm,0.9s
KURK Kurchatov 38.63 54 *e*P **P 19 33 00.7 +0.1**
comp=Z,1.5nm,0.9s
KURK Kurchatov 38.63 54 *e*P **P 19 33 00.7 +0.1**
comp=Z,1.5nm,0.9s
MK31 Makanchi Array 41.42 59 *e*P **P 19 33 24.1 +0.2**
MK31 Makanchi Array 41.42 59 *e*P **P 19 33 24.1 +0.2**
MK31 Makanchi Array 41.42 59 *e*P **P 19 33 24.1 +0.2**
MKAR Makanchi Array 41.42 59 P **P 19 33 24.1 +0.2**
comp=Z,2.8nm,0.6s,baz=283,slow=7.0,SNR=44
DBIC Dimbokro 42.17 230 P **P 19 33 29.9 -0.3**
comp=Z,4.6nm,1.0s,baz=15,slow=8.3,SNR=4.7
TIC Toumodi 42.28 230 *e*P **P 19 33 32.7 +1.5**
comp=Z,4.0nm,0.2s
ZALV Zalesovo Beam 42.31 49 P **P 19 33 30.4 -0.6**
comp=Z,1.3nm,0.6s,baz=271,slow=9.1,SNR=8.3
KIC Kosan Boka 42.34 229 *e*P **P 19 33 34.1 +2.4**
comp=Z,31nm,1.2s
LIC Lamto 42.62 230 *e*P **P 19 33 33.5 -0.4**
comp=Z,8.0nm,0.7s
LIC Lamto 42.62 230 *e*P **P 19 33 36.5 +2.6**
comp=Z,20nm,1.1s
LIC Lamto 42.62 230 *e*P **P 19 33 33.5 -0.4**
comp=Z,4.0nm,0.7s
LIC Lamto 42.62 230 *e*P **P 19 33 33.5 -0.4**
comp=Z,8.0nm,0.7s
DANN Dangsing 48.40 84 *e*P **P 19 34 20.6 +0.6**
comp=Z,39nm,0.7s
KOLN Koldanda 48.54 85 *e*P **P 19 34 21.2 +0.3**
comp=Z,12nm,0.7s
GKN Gorkha 49.24 84 *e*P **P 19 34 26.3 0.0**
comp=Z,11nm,0.7s
DMN Daman 49.79 84 *e*P **P 19 34 31.0 +0.4**
comp=Z,19nm,0.8s
KKN Kakani 49.84 84 *e*P **P 19 34 31.1 +0.1**
comp=Z,5.1nm,0.6s
PKIN Phulchoki 50.03 84 *e*P **P 19 34 32.8 +0.3**
comp=Z,5.0nm,0.7s
PKI Pulchoki 50.05 84 *e*P **P 19 34 32.6 -0.1**
comp=Z,7.3nm,0.7s
GUN Gumba 50.26 83 *e*P **P 19 34 34.3 0.0**
comp=Z,30nm,1.2s
JIRN Jiri 50.62 83 *e*P **P 19 34 37.1 +0.1**
comp=Z,13nm,0.8s
RAMN Ramite 51.27 84 *e*P **P 19 34 41.4 -0.4**
comp=Z,19nm,0.8s
ODAN Odare 51.94 84 *e*P **P 19 34 46.6 -0.2**
TAPN Taplejung 51.95 83 *e*P **P 19 34 46.7 -0.3**
comp=Z,6.4nm,0.6s
LSA Lhasa 53.53 78 *e*P **P 19 34 59.6 +0.8**
LSA pmax pmax
comp=Z,4.0nm,0.7s
LSA Lhasa 53.53 78 *e*P **P 19 34 59.6 +0.8**
comp=Z,3.5nm,0.7s
LSA Lhasa 53.53 78 *e*P **P 19 34 59.6 +0.8**
comp=Z,3.5nm,0.7s
GTA Gaotai 55.80 64 *e*P **P 19 35 15.3 +0.6**
GTA pP **pP 19 35 18.5 -0.2**
GTA sP **sP 19 35 21.8 +1.6**
GTA PMZ
comp=Z,4.0nm,1.4s
SONM Songino Array 56.92 52 P **P 19 35 22.6 +0.1**
comp=Z,1.3nm,0.8s,baz=291,slow=8.3,SNR=13
ULN Ulaanbaatar 57.31 52 *e*P **P 19 35 25.3 -0.1**
ULN pmax pmax
comp=Z,2.0nm,0.8s
ULN Ulaanbaatar 57.31 52 *e*P **P 19 35 25.3 -0.1**
comp=Z,1.9nm,0.8s
ULN Ulaanbaatar 57.31 52 *e*P **P 19 35 25.3 -0.1**
comp=Z,1.9nm,0.8s
LBTB Lobatse 62.87 181 *e*P **P 19 36 03.4 -0.1**
LBTB pmax pmax
comp=Z,7.0nm,1.1s
LBTB Lobatse 62.87 181 *e*P **P 19 36 03.4 -0.1**
comp=Z,6.8nm,1.1s
LBTB Lobatse 62.87 181 *e*P **P 19 36 03.4 -0.1**
comp=Z,6.8nm,1.1s
CHTO Chiang Mai 65.20 85 P **P 19 36 18.4 -0.7**
CHTO Chiang Mai 65.20 85 P **P 19 36 18.4 -0.7**
CHTO Chiang Mai 65.20 85 P **P 19 36 18.4 -0.7**
CMAR Chiang Mai Arr 65.39 85 P **P 19 36 20.4 0.0**
comp=Z,1.1nm,0.8s,baz=301,slow=7.6,SNR=10.0
SEY Seymchan 70.43 23 P **P 19 36 51.5 +0.1**
comp=Z,0.5nm,0.6s,baz=18,slow=3.3,SNR=3.8
CN2 Changchun 70.52 49 *e*P **P 19 36 50.0 -2.2**
FCC Fort Churchill 71.46 332 P **P 19 36 56.7 -0.9**
FCC Fort Churchill 71.46 332 P **P 19 36 56.7 -0.9**
FCC Fort Churchill 71.46 332 P **P 19 36 56.7 -0.9**
MJAR Matsushiro Arr 82.66 49 LR LR 20 21 26.0
comp=Z,15nm,18.5s,baz=115,slow=40
ASAR Alice Springs 117.69 99 PKP **PKPdf 19 44 21.9 -2.1**
comp=Z,0.3nm,0.7s,baz=320,slow=1.0,SNR=3.8

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*ISCJB **26** 19:40:18.8±2.1, 34°.2S±0°.1×178°.1W±0°.4, h53km, mb3.5/2, Error ellipse: s-maj=45.6km s-min=11.4km az=24.0*
*IDC **26** 19:40:18.3±3.0, 33°.65S×178°.79W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/22, mbtmp3.8/3, ML4.2/1, Error ellipse: s-maj=70.9km s-min=45.0km az=123.0*
ISC 26 19:40:19.3±2.8, 34°.2S±0°.2×177°.9W±0°.4, h53km, n10, σ0§97/15, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**4.99**	**218**	PN	**Pn**	**19 41 31.7**	**+0.2**
PUZ				*e*SN	**Sn**	**19 42 28.9**	**+1.0**
HAZ	**Te Kaha**	**5.01**	**223**	*e*PN	**Pn**	**19 41 33.5**	**+1.7**
MWZ	**Matawai**	**5.56**	**220**	*e*PN	**Pn**	**19 41 38.9**	**-0.6**
MWZ				SN	**Sn**	**19 42 43.2**	**+1.1**
RIGZ	**Rimuhau**	**5.72**	**217**	PN	**Pn**	**19 41 41.3**	**-0.4**
URZ	**Urewera**	**5.74**	**223**	Pn	**Pn**	**19 41 42.9**	**+1.0**
URZ	7.2nm,0.3s,baz=45,slow=5.7,SNR=32			Sn	**Sn**	**19 42 46.3**	**-0.1**
	5.3nm,0.3s,baz=86,slow=19,SNR=8.9						
URZ	**Urewera**	**5.74**	**223**	*e*PN	**Pn**	**19 41 41.8**	**0.0**
URZ				SN	**Sn**	**19 42 45.5**	**-0.9**
BKZ	**Black Stump Fm**	**6.72**	**221**	*e*PN	**Pn**	**19 41 55.6**	**+0.2**
BKZ				SN	**Sn**	**19 43 08.8**	**-1.8**
ASAR	**Alice Springs**	**43.14**	**271**	P	**P**	**19 48 14.6**	**-0.2**
	0.4nm,0.6s,baz=108,slow=7.9,SNR=8.6						
WRA	**Warramunga Arr**	**44.46**	**276**	P	**P**	**19 48 24.9**	**-0.5**
	0.5nm,0.3s,baz=117,slow=8.3,SNR=29						
FINES	**FINESS Array B**	**148.70**	**338**	PKPbc	**PKPab**	**20 00 03.8**	**+0.2**
	1.1nm,0.9s,baz=25,slow=3.7,SNR=5.9						

IDC 26 19:54:38.3±1.1, 21°.98N×144°.30E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.5/37, mbtmp3.6/5, MS3.5/1, Ms1 3.5/1, ms1mx2.4/44, Error ellipse: s-maj=77.4km s-min=22.8km az=98.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.44**	**340**	LR	LR	19 57 51.4	
	comp=Z,476nm,21.6s,baz=58,slow=36						
WRA	**Warramunga Arr**	**42.79**	**194**	P	P	20 02 38.0	+0.1
	0.5nm,0.5s,baz=16,slow=9.3,SNR=22						
ASAR	**Alice Springs**	**46.49**	**193**	P	P	20 03 07.1	-0.3
	0.4nm,0.8s,baz=17,slow=13,SNR=5.7						
YKA	**Yellowknife Ar**	**75.72**	**28**	P	P	20 06 25.5	+0.1
	0.1nm,0.5s,baz=283,slow=5.6,SNR=2.4						
ARCES	**ARCESS Array B**	**78.98**	**342**	P	P	20 06 44.3	+0.7
	3.3nm,0.9s,baz=40,slow=7.1,SNR=2.8						
FINES	**FINESS Array B**	**83.37**	**335**	P	P	20 07 06.0	-1.1
	0.4nm,0.4s,baz=64,slow=6.3,SNR=5.1						

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*IDC **26** 20:08:23.6±1.6, 8°.35N×84°.84W, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/45, mbtmp3.6/7, ML4.0/1, MS3.6/2, Ms1 3.6/2, ms1mx2.8/27, Error ellipse: s-maj=48.8km s-min=19.8km az=45.0*
*NEIC **26** 20:08:25.8±1.6, 8°.51N×84°.62W, h10km, mb4.5/2, Error ellipse: s-maj=36.1km s-min=13.5km az=207.0*
*CASC **26** 20:08:30.2±2.7, 8°.93N×83°.95W, h0km±9km, MD4.1*
ISC 26 20:08:27.6±2.0, 8.77N±0°.08×84°.17W±0°.05, h4km±12km, n35, σ1§24/37, mb3.6/7, 2C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.88**	**27**	*e*P	**Pg**	**20 08 43.9**	**-0.6**
URSC	**Urasca**	**1.13**	**20**	*e*P	**Pg**	**20 08 48.7**	**-0.6**
SJS	**Escuela Geolog**	**1.17**	**5**	*e*P	**Pg**	**20 08 49.7**	**-0.3**
SJS				*e*S	**Sg**	**20 09 05.6**	**+0.3**
CGA2	**Cerro Gallo 2**	**1.27**	**347**	*e*P	**Pn**	**20 08 51.9**	**-0.5**
CGA2				*e*S	**Sn**	**20 09 10.0**	**-0.1**
JCR	**Jicaral**	**1.42**	**319**	*e*P	**Pg**	**20 08 54.4**	**-0.6**
BRU2	**Volcan**	**1.46**	**89** ↑	*i*P	**Pn**	**20 08 54.3**	**-0.7**
BRU2				*e*S	**Sn**	**20 09 13.9**	**-0.8**
BRU	**Baru**	**1.59**	**89** ↑	*i*P	**Pn**	**20 08 56.4**	**-0.6**
JTS	**JuntasAbangare**	**1.70**	**333**	*e*P	**Pb**	**20 08 59.1**	**-0.4**
JTS	**JuntasAbangare**	**1.70**	**333**	Pn	**Pn**	**20 08 57.6**	**-0.6**
	36nm,0.3s,baz=79,slow=12,SNR=115						
JTS				Sn	**Sg**	**20 09 24.4**	**+2.1**
	100nm,0.3s,baz=140,slow=22,SNR=12						
JTS	**JuntasAbangare**	**1.70**	**333**	*e*Pn	**Pn**	**20 08 57.2**	**-1.0**
JTS				Sn	**Sg**	**20 09 24.4**	**+2.1**
CASO	**Castillo**	**1.75**	**341**	*i*P	**Pb**	**20 08 59.5**	**-0.8**
CASO				*i*S	**Sg**	**20 09 24.7**	**+0.9**
CNI	**Changuinola**	**1.75**	**68**	*e*P	**Pb**	**20 08 59.4**	**-1.0**
CUI	**Cuipilapa**	**2.12**	**332**	*i*P	**Pg**	**20 09 07.0**	**-1.3**
CUI				*i*S	**Sg**	**20 09 37.1**	**+1.3**
COLC	**Colonia**	**2.14**	**332**	*i*P	**Pg**	**20 09 07.5**	**-1.3**
LIM1	**Limonal**	**2.20**	**331**	*i*P	**Pb**	**20 09 07.0**	**-1.0**
MESS	**Mesas**	**2.21**	**333**	*i*P	**Pb**	**20 09 07.5**	**-0.7**
LAPC	**Finca la Perla**	**2.35**	**328**	*i*P	**Pb**	**20 09 09.9**	**-0.6**
BUEV	**Buena Vista**	**2.36**	**329**	*i*P	**Pb**	**20 09 10.6**	**-0.2**
GB1A	**Boringuen Arri**	**2.37**	**329**	*i*P	**Pb**	**20 09 10.8**	**-0.3**
BCIP	**Isla Barro Col**	**4.29**	**84**	*e*Pn	**Pn**	**20 09 34.5**	**+0.6**
UPA	**Univ. de Panam**	**4.58**	**87**	*e*P	**Pn**	**20 09 36.9**	**-0.9**
APG	**El Apazote**	**8.74**	**316**	Pn	Pn	20 10 29.1	-6.1
	1.8nm,0.3s,baz=219,slow=7.3,SNR=9.4						
CMIG	**Matias Romero**	**13.32**	**309**	Pn	**Pn**	**20 11 38.8**	**+1.1**
	0.2nm,0.3s,baz=129,slow=13,SNR=2.0						
SDV	**Santo Domingo**	**13.37**	**88**	Pn	Pn	20 11 41.6	+2.9
	5.1nm,0.4s						
SDDR	**Presa de Saban**	**16.09**	**50**	Pn	**P**	**20 12 20.4**	**+1.9**
	10nm,0.8s						
PTGA	**Pitinga**	**25.89**	**110**	P	**P**	**20 14 02.7**	**+1.7**
	4.1nm,1.0s,baz=287,slow=10,SNR=2.8						
TXAR	**Lajitas Array**	**27.45**	**321**	P	**P**	**20 14 11.5**	**-3.5**
	0.2nm,0.8s,baz=158,slow=11,SNR=2.2						
YBH	**Yreka Blue Hor**	**47.23**	**321**	LR	LR	20 38 01.1	
	comp=Z,48nm,18.2s,baz=162,slow=38						
SCHQ	**Schefferville**	**47.98**	**13**	LR	LR	20 38 41.3	
	comp=Z,80nm,18.3s,baz=57,slow=37						
PLCA	**Paso Flores**	**50.83**	**167**	P	**P**	**20 17 30.3**	**+0.7**
YKA	**Yellowknife Ar**	**58.01**	**344**	P	**P**	**20 18 20.1**	**-1.4**
	0.5nm,0.8s,baz=137,slow=7.4,SNR=10						
SUMG	**Summit**	**69.37**	**13**	Pn	**P**	**20 19 38.0**	**+1.2**
	12nm,1.0s						
ILAR	**Eielson Array**	**70.67**	**336**	P	P	20 19 40.8	-3.6
	0.3nm,0.9s,baz=107,slow=5.8,SNR=3.0						
ESDC	**Sonseca Array**	**76.93**	**51**	P	**P**	**20 20 23.0**	**+1.3**
	0.2nm,0.4s,baz=266,slow=4.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**84.05**	**78**	P	**P**	**20 20 59.3**	**-1.1**
	0.7nm,0.8s,baz=279,slow=5.5,SNR=4.7						

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*ISCJB **26** 20:14:06.6±0.6, 52°.8N±0°.1×170°.51W±0°.06, h101km±5km, mb3.9/9, Error ellipse: s-maj=17.5km s-min=5.4km az=168.4*
*NEIC **26** 20:14:08.7, 52°.47N×170°.24W, h80km, MG3.6(AEIC), After AEIC.*
*IDC **26** 20:14:09.1±3.9, 52°.96N×170°.49W, h106km±43km, mb3.7/9, mb1 3.8/11, mb1mx3.3/65, mbtmp3.9/11, Error ellipse: s-maj=46.1km s-min=17.6km az=23.0*
ISC 26 20:14:07.3±1.0, 52°.8N±0°.1×170°.45W±0°.05, h93km±10km, n34, σ1§05/37, mb3.9/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.99**	**76**	P	**Pn**	**20 14 26.6**	**-0.4**
NIKH				S	**Sn**	**20 14 41.3**	**-0.7**
OKFG	**Magazine Ridge**	**1.67**	**66**	P	**Pn**	**20 14 35.4**	**+0.1**
OKFG				S	**Sn**	**20 14 58.0**	**+1.4**
KOKL	**Mount Kliuchef**	**2.33**	**261**	P	**Pn**	**20 14 45.6**	**+1.6**
MSOM	**Makushin Julie**	**2.36**	**62**	P	**Pn**	**20 14 44.6**	**+0.4**
MREP	**Makushin Rep't**	**2.46**	**63**	P	**Pn**	**20 14 46.4**	**+0.7**
MSW	**Makushin Switc**	**2.49**	**61**	P	**Pn**	**20 14 46.2**	**+0.2**
MSW				S	**Sn**	**20 15 16.2**	**+0.5**
UNV	**Unalaska Valle**	**2.61**	**64**	P	**Pn**	**20 14 47.7**	**+0.1**
UNV				S	**Sn**	**20 15 18.8**	**+0.2**
AKRB	**Akutan Reef Bi**	**2.96**	**60**	P	**Pn**	**20 14 53.1**	**+0.8**
AKRB				S	**Sn**	**20 15 28.6**	**+1.5**
ZRO	**Akutan Zero**	**2.99**	**62**	P	**Pn**	**20 14 53.8**	**+1.0**
AKGG	**Akutan Green G**	**3.03**	**60**	P	**Pn**	**20 14 54.0**	**+0.8**
AKSA	**Akutan Strait**	**3.16**	**62**	P	**Pn**	**20 14 55.8**	**+0.8**
WESE	**West Dahl East**	**3.90**	**61**	P	**Pn**	**20 15 06.3**	**+1.4**
ADK	**Adak**	**3.92**	**260**	P	**Pn**	**20 15 06.2**	**+0.9**
SPIA	**Saint Paul Isl**	**4.44**	**1**	P	**Pn**	**20 15 13.5**	**+1.3**
FALS	**False Pass**	**4.67**	**60**	P	**Pn**	**20 15 16.2**	**+0.8**
DRIA	**Deer Island**	**5.33**	**62**	P	**Pn**	**20 15 24.1**	**-0.3**
DT1	**Dutton Round H**	**5.37**	**61**	P	**Pn**	**20 15 24.9**	**0.0**
DOL	**Dolgoi Island**	**5.61**	**61**	P	**Pn**	**20 15 28.0**	**-0.1**
SDPT	**Sand Point**	**6.42**	**62**	P	**Pn**	**20 15 38.4**	**-0.7**
AMKA	**Amchitka**	**6.47**	**262**	P	**Pn**	**20 15 39.8**	**0.0**
FX1	**Attu Island--F**	**9.93**	**277**	P	**Pn**	**20 16 28.2**	**+1.4**
	0.7nm,0.3s,baz=324,slow=18,SNR=5.6						
FX1				S	**Sn**	**20 18 14.8**	**-1.5**
	0.2nm,0.3s,baz=286,slow=20,SNR=2.2						
ILAR	**Eielson Array**	**17.02**	**36**	P	**Pn**	**20 17 56.5**	**-2.7**
	0.1nm,0.3s,baz=219,slow=10,SNR=4.0						
SEY	**Seymchan**	**21.93**	**312**	P	**P**	**20 18 51.6**	**-1.1**
	1.0nm,0.7s,baz=120,slow=9.4,SNR=6.2						
DLBC	**Dease Lake**	**23.26**	**60**	P	**P**	**20 19 07.5**	**+1.1**
	2.6nm,0.7s,baz=258,slow=7.8,SNR=11						
NEW	**Newport**	**33.56**	**76**	P	**P**	**20 20 38.4**	**+0.3**
	4.3nm,0.6s,baz=298,slow=8.7,SNR=8.5						
NVAR	**Mina Array Bea**	**38.33**	**91**	P	**P**	**20 21 20.4**	**+1.3**
	2.6nm,0.7s,baz=304,slow=8.1,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**38.55**	**216**	T	T	21 02 15.1	
	baz=23,slow=76,SNR=8.4						
H11S2	**WAKE ISLAND Hy**	**38.56**	**216**	T	T	21 02 22.0	
	baz=23,slow=76,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**38.56**	**216**	T	T	21 02 18.1	
	baz=23,slow=76,SNR=7.4						
ELK	**Elko**	**38.76**	**85**	P	**P**	**20 21 23.1**	**+0.5**
	1.3nm,0.8s,baz=338,slow=11,SNR=5.2						
PDAR	**Pinedale Array**	**40.98**	**79**	P	**P**	**20 21 41.0**	**0.0**
	2.6nm,0.7s,baz=298,slow=4.3,SNR=12						
TXAR	**Lajitas Array**	**53.40**	**88**	P	**P**	**20 23 17.6**	**+0.2**
	1.4nm,0.4s,baz=306,slow=6.2,SNR=30						
FINES	**FINESS Array B**	**65.40**	**351**	P	**P**	**20 24 39.6**	**+0.4**
	0.8nm,0.7s,baz=0.0,slow=6.9,SNR=3.9						
HFS	**Hagfors**	**67.42**	**358**	P	**P**	**20 24 50.4**	**-1.8**
	0.7nm,0.5s,baz=352,slow=7.4,SNR=5.4						

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*ISCJB **26** 20:25:23.7±1.2, 38°.02N±0°.09×26°.4E±0°.1, h9km, Error ellipse: s-maj=15.2km s-min=8.5km az=38.4*
*CSEM **26** 20:25:24.5, 38°.03N×26°.41E, h24km, MD2.4*
*ISK **26** 20:25:24.5, 38°.03N×26°.41E, h24km, MD2.4*
*DDA **26** 20:25:31.9, 38°.18N×26°.29E, h7km, MD2.6*
ISC 26 20:25:23.4±1.3, 37°.93N±0°.07×26°.34E±0°.07, h9km, n24, σ1§09/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEY	**˜zmir**	**0.34**	**23**	*i*P	**Pn**	**20 25 35.0**	**+0.5**
ZEY				*i*S	**Sb**	**20 25 38.8**	**+1.7**
CHOS	**Chios island**	**0.51**	**334**	*e*PG	**Pb**	**20 25 34.4**	**-0.2**
CHOS	**Chios island**	**0.51**	**334**	*e*Pg	**Pb**	**20 25 34.4**	**-0.2**
GCAM	**G?zelcaml?**	**0.74**	**107**	*i*P	Pn	20 25 49.5	+9.4
GCAM				*i*S	Sn	20 26 01.8	+10
IZM	**Izmir**	**0.87**	**57**	*e*PG	**Pb**	**20 25 40.2**	**-0.4**
IZM	**Izmir**	**0.87**	**57**	*e*Pg	**Pb**	**20 25 40.3**	**-0.4**
BODT	**Bodrum**	**1.16**	**138**	*e*PN	**Pg**	**20 25 46.5**	**+0.8**
BODT	**Bodrum**	**1.16**	**138**	*e*Pn	**Pg**	**20 25 46.5**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**1.23**	**89**	*e*PN	**Pn**	**20 25 45.7**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**1.23**	**89**	*e*Pn	**Pn**	**20 25 45.7**	**-1.2**
SIGR	**SIGRI**	**1.34**	**344**	*e*PN	**Pn**	**20 25 47.4**	**-0.8**
SIGR	**SIGRI**	**1.34**	**344**	*e*Pn	**Pn**	**20 25 47.4**	**-0.8**
AKS	**Akhisar**	**1.50**	**50**	*e*PN	**Pn**	**20 25 48.8**	**-1.7**
AKS	**Akhisar**	**1.50**	**50**	*e*Pn	**Pn**	**20 25 48.8**	**-1.7**
EZN	**Ezine**	**1.90**	**360**	*e*PN	**Pn**	**20 25 54.6**	**-1.3**
EZN	**Ezine**	**1.90**	**360**	*e*Pn	**Pn**	**20 25 54.6**	**-1.3**
KULA	**Kula-Manisa**	**1.92**	**72**	*e*PN	**Pn**	**20 25 55.0**	**-1.3**
KULA	**Kula-Manisa**	**1.92**	**72**	*e*Pn	**Pn**	**20 25 55.0**	**-1.3**
BALB	**Balikesir**	**2.09**	**35**	*e*PN	**Pn**	**20 25 57.4**	**-1.2**
BALB	**Balikesir**	**2.09**	**35**	*e*Pn	**Pn**	**20 25 57.4**	**-1.2**
DST	**Dursunbey**	**2.44**	**46**	*e*PN	**Pn**	**20 26 03.2**	**-0.4**
DST	**Dursunbey**	**2.44**	**46**	*e*Pn	**Pn**	**20 26 03.2**	**-0.4**
KHL	**Karahalli**	**2.54**	**80**	*e*PN	**Pn**	**20 26 04.6**	**-0.3**
KHL	**Karahalli**	**2.54**	**80**	*e*Pn	**Pn**	**20 26 04.6**	**-0.3**

IDC 26 20:31:45.4±5.1, 4°.62S×150°.42E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/29, mbtmp3.4/3, Error ellipse: s-maj=150.0km s-min=32.9km az=102.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.84**	**224**	P	P	20 36 41.2	+1.4
	1.6nm,0.5s,baz=49,slow=9.9,SNR=28						
ASAR	**Alice Springs**	**24.74**	**219**	P	P	20 37 07.7	-1.2
	0.3nm,0.5s,baz=47,slow=8.1,SNR=9.8						
SONM	**Songino Array**	**64.93**	**329**	P	P	20 42 27.1	+0.1
	0.5nm,1.1s,baz=138,slow=5.8,SNR=3.8						

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*ISCJB **26** 20:34:36.7±0.5, 38°.17N±0°.02×26°.11E±0°.02, h7km±4km, Error ellipse: s-maj=3.2km s-min=2.7km az=164.9*
*ATH **26** 20:34:36.4, 38°.17N×26°.14E, h19km±1km, MD3.6/10, ML3.4*
*ISK **26** 20:34:36.1, 38°.12N×26°.06E, h2km, ML3.7*
*DDA **26** 20:34:37.0, 38°.20N×26°.23E, h7km, MD3.2*
*CSEM **26** 20:34:37.1±0.1, 38°.14N×26°.08E, h2km, MD3.6, Error ellipse: s-maj=4.0km s-min=3.6km az=33.0*
*THE **26** 20:34:37.5, 38°.18N×26°.23E, h13km±1km, ML3.5/6, Error ellipse: s-maj=2.1km s-min=1.0km az=86.0*
ISC 26 20:34:37.3±0.9, 38°.18N±0°.02×26°.18E±0°.02, h11km±7km, n151, σ1§25/178, 7C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.23**	**335**	P	**Pg**	**20 34 42.3**	**+0.1**
CHOS				S	**Sg**	**20 34 46.3**	**+0.8**
CHOS	**Chios island**	**0.23**	**335**	*e*PG	**Pg**	**20 34 42.3**	**+0.1**
CHOS	**Chios island**	**0.23**	**335**	*e*PB	**Pg**	**20 34 42.2**	**+0.1**
CHOS				*e*SB	**Sg**	**20 34 45.6**	**+0.1**
CHOS	**Chios island**	**0.23**	**335**	P	**Pg**	**20 34 42.3**	**+0.1**
CHOS				S	**Sg**	**20 34 46.3**	**+0.8**
ZEY	**˜zmir**	**0.26**	**76**	*i*P	**Pg**	**20 34 41.7**	**-1.0**
ZEY				*i*S	**Sg**	**20 34 45.2**	**-1.1**
URLA	**Izmir**	**0.37**	**61**	*i*P	**Pg**	**20 34 44.0**	**-0.7**
URLA				*i*S	**Sg**	**20 34 48.9**	**-0.8**
SMG	**Samos**	**0.70**	**132**	P	**Pg**	**20 34 50.1**	**-0.7**
SMG				S	**Sg**	**20 35 00.7**	**+0.8**
SMG	**Samos**	**0.70**	**132**	*e*PN	**Pg**	**20 34 50.5**	**-0.3**
SMG				*e*SN	**Sg**	**20 35 00.8**	**+0.8**
SMG	**Samos**	**0.70**	**132**	P	**Pg**	**20 34 50.1**	**-0.7**
SMG				S	**Sg**	**20 35 00.7**	**+0.8**
IZM	**Izmir**	**0.88**	**75**	*e*PG	Pn	20 34 55.9	+0.3
IZM	**Izmir**	**0.88**	**75**	*e*Pg	Pn	20 34 55.9	+0.3
GCAM	**G?zelcaml?**	**0.96**	**119**	*i*P	**Pb**	**20 34 55.2**	**-0.7**
GCAM				*i*S	**Sg**	**20 35 08.2**	**0.0**
GCAM	**G?zelcaml?**	**0.96**	**119**	*i*P	**Pb**	**20 34 55.2**	**-0.7**
GCAM				*i*S	**Sg**	**20 35 08.2**	**0.0**
SIGR	**SIGRI**	**1.06**	**346**	P	**Pb**	**20 34 56.8**	**-0.9**
SIGR				S	**Sg**	**20 35 11.9**	**+0.3**
SIGR	**SIGRI**	**1.06**	**346**	*e*PN	**Pn**	**20 34 58.1**	**0.0**
SIGR	**SIGRI**	**1.06**	**346**	*e*PN	**Pb**	**20 34 57.0**	**-0.7**
SIGR				*e*SN	**Sg**	**20 35 11.5**	**-0.1**
SIGR	**SIGRI**	**1.06**	**346**	P	**Pb**	**20 34 56.8**	**-0.9**
SIGR	**SIGRI**	**1.06**	**346**	*e*Pn	**Pn**	**20 34 58.1**	**0.0**
SIGR				S	**Sg**	**20 35 11.9**	**+0.3**
PRK	**Paraskevi**	**1.07**	**4**	P	**Pb**	**20 34 57.0**	**-0.7**
PRK				S	**Sg**	**20 35 11.9**	**+0.2**
PRK	**Paraskevi**	**1.07**	**4**	*e*PN	**Pb**	**20 34 57.1**	**-0.7**
PRK				*e*SN	**Sg**	**20 35 12.0**	**+0.2**
PRK	**Paraskevi**	**1.07**	**4**	P	**Pb**	**20 34 57.0**	**-0.7**
PRK				S	**Sg**	**20 35 11.9**	**+0.2**
AYVA	**Ayvalik**	**1.20**	**19**	*i*P	**Pn**	**20 34 59.0**	**-0.9**
AYVA				*i*S	**Sg**	**20 35 16.3**	**+0.4**
AYVA	**Ayvalik**	**1.20**	**19**	*i*P	**Pn**	**20 34 59.0**	**-0.9**
AYVA				*i*S	**Sg**	**20 35 16.3**	**+0.4**
APE	**Apeiranthos**	**1.22**	**205**	P	**Pn**	**20 34 59.0**	**-1.3**
APE				S	**Sb**	**20 35 15.9**	**-0.3**
APE	**Apeiranthos**	**1.22**	**205**	*e*PN	**Pn**	**20 34 58.4**	**-1.9**
APE	**Apeiranthos**	**1.22**	**205**	*e*PN	**Pn**	**20 34 59.0**	**-1.3**
APE				*e*SN	**Sb**	**20 35 16.1**	**-0.1**
APE	**Apeiranthos**	**1.22**	**205**	P	**Pn**	**20 34 59.0**	**-1.3**
APE

PAIG	Paliouri	2.62	313	*e*Pn	Pn	20 35 20.0 +0.6
XOR	Xorichti	2.62	298	P	Pn	20 35 19.8 +0.3
XOR	Xorichti	2.62	298	P	Pn	20 35 19.8 +0.3
RKY	Sarkoy-Tekirda	2.62	17	*e*PN	Pb	20 35 22.6 -1.7
RKY	Sarkoy-Tekirda	2.62	17	*e*Pn	Pb	20 35 22.6 -1.7
MRMT	Marmara Adasi	2.66	24	*e*PN	Pn	20 35 22.2 +2.1
MRMT	Marmara Adasi	2.66	24	*e*Pn	Pn	20 35 22.2 +2.1
KCTX	Karacabey (Bur	2.68	38	*e*PN	Pn	20 35 23.0 +2.6
KCTX	Karacabey (Bur	2.68	38	*e*Pn	Pn	20 35 23.0 +2.6
ALN	Alexandroupoli	2.72	358	P	Pn	20 35 20.4 -0.4
ALN				S	Sn	20 35 52.9 -0.8
ALN	Alexandroupoli	2.72	358	*e*PN	Pn	20 35 23.1 +2.3
ALN	Alexandroupoli	2.72	358	*e*PN	Pn	20 35 20.4 -0.4
ALN	Alexandroupoli	2.72	358	P	Pn	20 35 20.4 -0.4
ALN	Alexandroupoli	2.72	358	*e*Pn	Pn	20 35 23.1 +2.3
ALN				S	Sn	20 35 52.9 -0.8
OUR	Ouranopolis	2.75	322	P	Pn	20 35 21.5 +0.3
OUR	Ouranopolis	2.75	322	*e*PN	Pn	20 35 21.5 +0.3
OUR	Ouranopolis	2.75	322	P	Pn	20 35 21.5 +0.3
FETY	Fethiye	2.78	123	*e*PN	Pn	20 35 23.7 +2.0
FETY	Fethiye	2.78	123	*e*Pn	Pn	20 35 23.7 +2.0
TVSB	Tavsanli	2.86	63	*e*PN	Pb	20 35 26.1 -2.3
TVSB	Tavsanli	2.86	63	*e*Pn	Pb	20 35 26.1 -2.3
VLI	Veliai	2.96	242	*e*PN	Pn	20 35 24.1 -0.1
VLI	Veliai	2.96	242	*e*Pn	Pn	20 35 24.1 -0.1
MDNY	Mudanya-Bursa	3.03	43	*e*PN	Pn	20 35 28.0 +2.9
MDNY	Mudanya-Bursa	3.03	43	*e*Pn	Pn	20 35 28.0 +2.9
KAVA	Kavala	3.10	336	*e*PN	Pn	20 35 25.8 -0.2
KAVA	Kavala	3.10	336	*e*Pn	Pn	20 35 25.8 -0.2
KYTH	Kithira	3.14	234	P	Pn	20 35 26.6 -0.1
KYTH	Kithira	3.14	234	P	Pn	20 35 26.6 -0.1
ARMT	Armutlu	3.16	40	*e*PN	Pn	20 35 29.6 +2.6
ARMT	Armutlu	3.16	40	*e*Pn	Pn	20 35 29.6 +2.6
KALE	Kalithea	3.19	275	*e*PB	Pn	20 35 29.2 +1.8
KALE	Kalithea	3.19	275	*e*Pb	Pn	20 35 29.2 +1.8
VAM	Vamos	3.19	211	P	Pn	20 35 25.5 -1.8
VAM	Vamos	3.19	211	P	Pn	20 35 25.5 -1.8
GEMT	Gemlik	3.24	45	*e*PN	Pn	20 35 31.5 +3.4
GEMT	Gemlik	3.24	45	*e*Pn	Pn	20 35 31.5 +3.4
MAKR	Makrakomi, Fth	3.28	286	*e*PB	Pn	20 35 30.7 +2.1
MAKR	Makrakomi, Fth	3.28	286	*e*Pb	Pn	20 35 30.7 +2.1
ISP	Isparta	3.45	95	*e*PN	Pn	20 35 34.4 +3.4
ISP	Isparta	3.45	95	*e*Pn	Pn	20 35 34.4 +3.4
SHUT	Suhut-Afyon	3.46	82	*e*PN	Pn	20 35 33.5 +2.4
SHUT	Suhut-Afyon	3.46	82	*e*Pn	Pn	20 35 33.5 +2.4
ITM	Ithomi	3.52	255	*e*PN	Pn	20 35 33.6 +1.7
ITM	Ithomi	3.52	255	*e*Pn	Pn	20 35 33.6 +1.7
DRO	Drossia	3.54	268	*e*PN	Pn	20 35 33.7 +1.6
DRO	Drossia	3.54	268	*e*Pn	Pn	20 35 33.7 +1.6
PYL	PYLOS	3.75	251	*e*PN	Pn	20 35 37.2 +2.1
PYL	PYLOS	3.75	251	*e*Pn	Pn	20 35 37.2 +2.1
KNT	Kendrikon	3.91	321	*e*PN	Pn	20 35 38.6 +1.3
KNT	Kendrikon	3.91	321	*e*Pn	Pn	20 35 38.6 +1.3
JMB	Yambol	4.29	4	⇑*i*P	Pn	20 35 44.6 +2.1
VTS	Vitosha	4.96	334	⇓*i*P	Pn	20 35 52.9 +1.1
BARS	Barje	5.70	326	*e*Pn	Pn	20 36 03.5 +1.6
MSAB	Monastry St. A	6.04	11	⇓*i*P	Pn	20 36 06.1 -0.3
BOLS	Boljevac	6.49	332	*i* Pn	Pn	20 36 14.7 +2.1
TIRR	Tirgusor	6.50	14	⇓*i*P	Pn	20 36 12.4 -0.3
TLB	Topalu	6.55	12	⇑*i*P	Pn	20 36 13.5 0.0
ARR	Arges	7.28	351	⇑*i*P	Pn	20 36 24.5 +1.0
MLR	Muntele Rosu	7.31	359	⇑*i*P	Pn	20 36 26.2 +2.2
DIVS	Divibare	7.54	324	*e*Pn	Pn	20 36 29.3 +2.2
GZR	Gura Zlata	7.64	342	⇓*i*P	Pn	20 36 28.2 -0.4
PLOR	Plostina	7.68	2	⇑*i*P	Pn	20 36 31.9 +2.9
VRI	Vrincioaia	7.69	3	⇑*i*P	Pn	20 36 31.2 +2.0
TESR	Tescani	8.34	2	⇑*i*P	Pn	20 36 40.0 +2.0

MAN 26 20:49:39, 18°.00N×122°.03E, h0km, mb4.4, ML3.2, MS3.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	0.24	5	*e*P	Pg	20 49 44.5	+0.9
SGCP				*i* S	Sg	20 49 59.5	+13
APYP	Conner	0.76	260	*e*P	Pn	20 49 56.3	-0.7
ABRA	Dolores	1.30	255	*e*P	Pn	20 50 04.8	+0.4
ABRA				*e*S	Sg	20 50 09.4	-11

*ISCJB **26** 20:56:24.8±0.5, 36°.69N±0°.05×70°.07E±0°.09, h300km, mb3.3/7, Error ellipse: s-maj=10.7km s-min=4.7km az=152.0*
*IDC **26** 20:56:24.1±3.9, 36°.57N×69°.97E, h273km±40km, mb3.0/8, mb1 3.1/13, mb1mx2.9/36, mbtmp3.7/13, Error ellipse: s-maj=29.4km s-min=15.0km az=35.0*
*NNC **26** 20:56:28.5±1.2, 36°.99N×70°.00E, h265km±8km, mb2.2, mpv3.7, Error ellipse: s-maj=15.6km s-min=9.8km az=136.0*
ISC 26 20:56:25.3±0.7, 36°.68N±0°.07×70°.22E±0°.09, h300km, n38, σ1°95/41, mb3.3/7, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.40	333	⇓P	Pn	20 57 12.7	-2.7
DZET				⇑S	S	20 57 48.0	-7.5
CEP	Cherat	3.16	154	P	Pn	20 57 22.8	-0.1
CEP				S	S	20 58 06.0	-3.0
CHCP	Chirah Chowk	3.91	140	P	Pn	20 57 31.2	+0.6
THW	Thamme Wali	4.07	162	P	Pn	20 57 31.9	-0.5
DLH	Dalhousie	6.28	129	*e*S	S	20 59 11.0	-2.2
KK31	Karatay Array	6.42	2	⇑P	Pn	20 57 58.5	-1.1
	2.9nm,0.4s						
KK31				⇑S	S	20 59 11.1	-4.6
	3.6nm,0.7s,baz=0.0,slow=0.1,SNR=6.6						
DHRM	DHARAMSHALA	6.68	130	*e*P	Pn	20 58 03.2	+0.1
DHRM				*e*S	S	20 59 18.8	-3.3
DHRM				AML	AML	20 59 21.9	
	comp=E,326nm,0.5s						
DHRM				AML	AML	20 59 22.1	
	comp=N,182nm,0.9s						
AAK	Ala-Archa	6.80	28	⇓P	Pn	20 58 04.5	+0.2
	comp=N,2.5nm,0.5s						
AAK				⇑S	S	20 59 22.1	-2.1
	comp=N,5.0nm,0.9s						
AAK	Ala-Archa	6.80	28	P	Pn	20 58 04.3	0.0
	comp=N,1.3nm,0.3s,baz=168,slow=4.8,SNR=32						
AAK				S	S	20 59 18.7	-5.5
	baz=17,slow=19,SNR=2.8						
TKM2	Tokmak 2	7.48	32	⇑P	Pn	20 58 12.8	+0.2
SMLA	Simla	7.99	132	*e*P	Pn	20 58 19.3	+0.4
SMLA				*e*S	S	20 59 46.3	-4.6
SMLA				AML	AML	20 59 51.3	
	comp=E,64nm,0.6s						
SMLA				AML	AML	20 59 53.3	
	comp=N,52nm,1.6s						
MK31	Makanchi Array	13.52	38	P	Pn	20 59 31.4	+5.4
	comp=N,0.2nm,0.4s,baz=219,slow=13,SNR=4.5						
MKAR	Makanchi Array	13.52	38	P	Pn	20 59 28.8	+2.7
	comp=N,0.1nm,0.3s,baz=224,slow=14,SNR=5.0						
DANN	Dangsing	14.11	122	*e*P	Pn	20 59 35.6	+2.1
	comp=N,9.6nm,0.4s						
KOLN	Koldanda	14.38	124	*e*P	Pn	20 59 39.1	+2.5
	comp=N,5.6nm,0.3s						
AB31	Akbulak array	14.63	332	⇓P	Pn	20 59 39.1	-0.1
	comp=N,0.2nm,0.3s,baz=145,slow=11,SNR=22						
GKN	Gorkha	14.93	121	*e*P	Pn	20 59 45.3	+2.2
	comp=N,8.8nm,0.3s						
KURBB	Kurchatov Arra	15.16	21	P	Pn	20 59 46.4	+1.0
	comp=N,0.1nm,0.3s,baz=212,slow=11,SNR=8.1						
DMN	Daman	15.50	121	*e*P	Pn	20 59 52.2	+2.3
	comp=N,6.6nm,0.3s						
KKN	Kakani	15.50	121	*e*P	Pn	20 59 51.7	+1.8
	comp=N,30nm,0.5s						
PKIN	Phulchoki	15.72	121	*e*P	Pn	20 59 54.1	+1.7
	comp=N,11nm,0.3s						
PKI	Pulchoki	15.73	121	*e*P	Pn	20 59 54.6	+2.0
	comp=N,25nm,0.7s						
GUN	Gumba	15.85	119	*e*P	Pn	20 59 55.7	+1.7
	comp=N,20nm,0.6s						
JIRN	Jiri	16.22	119	*e*P	Pn	20 59 59.4	+1.0
	comp=N,20nm,0.3s						
AKTO	Aktyubinsk	16.32	331	⇑P	Pn	20 59 56.9	-2.0
AKTO	Aktyubinsk	16.32	331	P	Pn	20 59 57.7	-1.2
	comp=N,0.8nm,0.3s,baz=150,slow=8.1,SNR=7.2						
BVAR	Borovoye Array	16.35	0	P	Pn	20 59 58.5	-0.7
	comp=N,0.5nm,0.3s,baz=169,slow=10,SNR=9.5						
RAMN	Ramite	16.94	120	*e*P	Pn	21 00 07.1	+0.4
	comp=N,10nm,0.4s						
TAPN	Taplejung	17.48	117	*e*P	Pn	21 00 12.5	-0.6
	comp=N,16nm,0.8s						
ODAN	Odare	17.55	119	*e*P	Pn	21 00 13.1	-0.7
	comp=N,14nm,0.6s						
ZALV	Zalesovo Beam	20.02	26	P	P	21 00 37.7	+1.6
	comp=N,0.5nm,0.3s,baz=226,slow=9.9,SNR=5.6						
CMAR	Chiang Mai Arr	31.09	118	P	P	21 02 19.7	+3.3
	comp=N,0.9nm,0.8s,baz=315,slow=8.9,SNR=6.1						
FINES	FINESS Array B	36.99	326	P	P	21 03 07.3	+1.1
	comp=N,0.8nm,0.6s,baz=125,slow=9.6,SNR=4.9						
ARCES	ARCESS Array B	40.74	338	P	P	21 03 39.0	+1.9
	comp=N,1.5nm,0.6s,baz=104,slow=7.6,SNR=8.8						
NOA	NORSAR Array B	43.86	323	P	P	21 04 02.8	+0.5
	comp=N,0.5nm,0.5s,baz=98,slow=7.8,SNR=4.2						
TORD	Torodi Ar. Bea	65.10	268	P	P	21 06 34.5	-0.1
	comp=N,1.1nm,0.6s,baz=47,slow=5.6,SNR=14						
WRA	Warramunga Arr	82.61	121	P	P	21 08 17.1	+1.6
	comp=N,0.4nm,0.9s,baz=327,slow=4.3,SNR=5.4						
ASAR	Alice Springs	84.87	124	P	P	21 08 28.8	+2.0
	comp=N,0.3nm,0.7s,baz=314,slow=5.5,SNR=4.8						

*ISCJB **26** 21:10:09.4±0.6, 38°.88N±0°.02×23°.65E±0°.03, h10km±4km, Error ellipse: s-maj=3.8km s-min=2.7km az=9.1*
*CSEM **26** 21:10:09.8±0.2, 38°.88N×23°.65E, h10km, MD3.5, Error ellipse: s-maj=4.3km s-min=3.4km az=102.0*
*ATH **26** 21:10:09.3, 38°.88N×23°.66E, h19km±1km, MD3.5/20, ML3.2*
*THE **26** 21:10:10.2, 38°.86N×23°.62E, h4km±1km, ML2.9/6, Error ellipse: s-maj=1.8km s-min=0.7km az=63.0*
ISC 26 21:10:10.0±0.9, 38°.86N±0°.01×23°.64E±0°.02, h12km±7km, n107, σ0°69/142, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	Markates	0.16	194	*e*PB	Pg	21 10 13.6	-0.2
MRKA	Markates	0.16	194	*e*Pb	Pg	21 10 13.6	-0.2
SKIA	Skiathos	0.33	337	*e*PB	Pg	21 10 16.9	+0.1
SKIA				*e*SB	Sg	21 10 21.8	+0.5
SKIA	Skiathos	0.33	337	*e*Pb	Pg	21 10 16.9	+0.1
SKIA				*e*Sb	Sg	21 10 21.8	+0.5
SMIA	Simia	0.33	273	*e*PB	Pg	21 10 16.5	-0.3
SMIA				*e*SB	Sg	21 10 21.8	+0.5
SMIA	Simia	0.33	273	*e*Pb	Pg	21 10 16.5	-0.3
SMIA				*e*Sb	Sg	21 10 21.8	+0.5
AOS	Alonnisos	0.36	32	P	Pg	21 10 17.5	+0.2
AOS				S	Sb	21 10 23.3	-0.8
AOS	Alonnisos	0.36	32	*e*PB	Pg	21 10 17.5	+0.2
AOS				*e*SB	Sg	21 10 22.0	-0.2
AOS	Alonnisos	0.36	32	P	Pg	21 10 17.5	+0.2
AOS				*e*Sb	Sg	21 10 22.0	-0.2
AOS				S	Sb	21 10 23.3	-0.8
LKR	Lokris	0.54	247	P	Pg	21 10 19.8	-0.8
LKR				S	Sg	21 10 27.1	-0.7
LKR	Lokris	0.54	247	P	Pg	21 10 19.8	-0.8
LKR				S	Sg	21 10 27.1	-0.7
NEO	Neokhori	0.55	324	P	Pg	21 10 20.7	0.0
NEO				S	Sg	21 10 27.7	-0.3
NEO	Neokhori	0.55	324	*e*PN	Pg	21 10 20.8	0.0
NEO				*e*SN	Sg	21 10 27.8	-0.3
NEO	Neokhori	0.55	324	P	Pg	21 10 20.7	0.0
NEO				*e*Sn	Sg	21 10 27.8	-0.3
XOR	Xorichti	0.61	326	P	Pg	21 10 21.8	-0.2
XOR				S	Sg	21 10 30.5	+0.5
XOR	Xorichti	0.61	326	*e*PN	Pg	21 10 21.8	-0.2
XOR				*e*SN	Sg	21 10 30.3	+0.3
XOR	Xorichti	0.61	326	P	Pg	21 10 21.8	-0.2
XOR				S	Sg	21 10 30.5	+0.5
PTL	Penteli	0.83	167	P	Pg	21 10 25.8	-0.3
PTL				S	Sg	21 10 37.6	+0.6
PTL	Penteli	0.83	167	*e*PN	Pg	21 10 25.8	-0.3
PTL				*e*SN	Sg	21 10 36.9	-0.1
PTL	Penteli	0.83	167	P	Pg	21 10 25.8	-0.3
PTL				S	Sg	21 10 37.6	+0.6
ATH	Athens Observa	0.89	176	P	Pg	21 10 26.9	-0.3
ATH				S	Sb	21 10 40.1	+0.8
ATH	Athens Observa	0.89	176	*e*PN	Pg	21 10 27.0	-0.3
ATH				*e*SN	Sb	21 10 39.7	+0.4
ATH	Athens Observa	0.89	176	P	Pg	21 10 26.9	-0.3
ATH				*e*Sn	Sb	21 10 39.7	+0.4
ATH				S	Sb	21 10 40.1	+0.8
LTK	Loutraki	0.99	212	P	Pg	21 10 28.2	-0.9
LTK				S	Sn	21 10 43.6	-0.1
LTK	Loutraki	0.99	212	P	Pg	21 10 28.2	-0.9
LTK				S	Sn	21 10 43.6	-0.1
AGG	Agios Georgios	1.03	279	P	Pb	21 10 28.8	-1.0
AGG	Agios Georgios	1.03	279	*e*PB	Pb	21 10 28.6	-1.2
AGG	Agios Georgios	1.03	279	P	Pb	21 10 28.8	-1.0
PAIG	Paliouri	1.06	2	P	Pb	21 10 30.2	-0.2
PAIG				S	Sn	21 10 45.7	+0.2
PAIG	Paliouri	1.06	2	*e*PN	Pb	21 10 30.1	-0.3
PAIG				*e*SN	Sb	21 10 43.8	-0.5
PAIG	Paliouri	1.06	2	P	Pb	21 10 30.2	-0.2
PAIG				*e*Sn	Sb	21 10 43.8	-0.5
PAIG				S	Sn	21 10 45.7	+0.2
MAKR	Makrakomi, Fth	1.18	278	*e*PB	Pn	21 10 31.4	-1.0
MAKR				*e*SN	Sg	21 10 48.7	+0.5
MAKR	Makrakomi, Fth	1.18	278	*e*Pb	Pn	21 10 31.4	-1.0
MAKR				*e*Sn	Sg	21 10 48.7	+0.5
GUR	Goura	1.37	228	P	Pn	21 10 35.0	-0.1
GUR				S	Sn	21 10 53.2	-0.1
GUR	Goura	1.37	228	P	Pn	21 10 35.0	-0.1
GUR				S	Sn	21 10 53.2	-0.1
KLV	Kalavryta, Ach	1.42	235	P	Pn	21 10 35.9	+0.1
KLV	Kalavryta, Ach	1.42	235	P	Pn	21 10 35.9	+0.1
EVR	Evrytania	1.43	273	P	Pn	21 10 36.3	+0.4
EVR	Evrytania	1.43	273	*e*PN	Pn	21 10 36.6	+0.7
EVR	Evrytania	1.43	273	P	Pn	21 10 36.3	+0.4
EVR	Evrytania	1.43	273	*e*Pn	Pn	21 10 36.6	+0.7
THL	Klokotos Trika	1.44	300	P	Pg	21 10 38.0	+0.3
THL				S	Sb	21 10 55.6	+0.5
THL	Klokotos Trika	1.44	300	*e*PN	Pg	21 10 37.7	0.0
THL	Klokotos Trika	1.44	300	*e*Pn	Pg	21 10 37.7	0.0
THL	Klokotos Trika	1.44	300	P	Pg	21 10 38.0	+0.3
THL				S	Sb	21 10 55.6	+0.5
OUR	Ouranopolis	1.49	10	P	Pn	21 10 36.5	-0.1
OUR	Ouranopolis	1.49	10	*e*PN	Pn	21 10 36.6	-0.1
OUR	Ouranopolis	1.49	10	P	Pn	21 10 36.5	-0.1
PLG	Polygyros	1.52	355	P	Pn	21 10 36.7	-0.4
PLG	Polygyros	1.52	355	*e*PN	Pn	21 10 36.7	-0.4
PLG	Polygyros	1.52	355	P	Pn	21 10 36.7	-0.4
LIT	Litokhoron	1.52	325	P	Pn	21 10 36.9	-0.2
LIT	Litokhoron	1.52	325	*e*PN	Pn	21 10 36.7	-0.4
LIT	Litokhoron	1.52	325	P	Pn	21 10 36.9	-0.2
LIA	Limnos Island	1.58	49	P	Pn	21 10 37.9	0.0
LIA	Limnos Island	1.58	49	*e*PN	Pn	21 10 37.8	-0.1
LIA	Limnos Island	1.58	49	*e*Pn	Pn	21 10 37.8	-0.1
SIGR	SIGRI	1.76	78	P	Pn	21 10 40.5	+0.2
SIGR	SIGRI	1.76	78	*e*PN	Pn	21 10 40.6	+0.2
SIGR	SIGRI	1.76	78	P	Pn	21 10 40.5	+0.2
DRO	Drossia	1.77	240	P	Pn	21 10 40.7	+0.3
DRO	Drossia	1.77	240	P	Pn	21 10 40.7	+0.3
HORT	Hortiatis	1.78	347	*e*PN	Pn	21 10 40.7	0.0
HORT	Hortiatis	1.78	347	*e*Pn	Pn	21 10 40.7	0.0
RLS	Riolos of Patr	1.88	245	*e*PN	Pb	21 10 44.1	-0.2
RLS	Riolos of Patr	1.88	245	*e*Pn	Pb	21 10 44.1	-0.2
PDO	Prodromos	1.94	263	P	Pn	21 10 44.2	+1.4
PDO	Prodromos	1.94	263	*e*PN	Pb	21 10 44.4	-0.9
PDO	Prodromos	1.94	263	P	Pn	21 10 44.2	+1.4
CHOS	Chios island	1.95	103	P	Pn	21 10 43.8	+0.7
CHOS	Chios island	1.95	103	*e*PN	Pn	21 10 43.1	0.0
CHOS	Chios island	1.95	103	*e*Pn	Pn	21 10 43.1	0.0
CHOS	Chios island	1.95	103	P	Pn	21 10 43.8	+0.7
SOH	Sokhos	1.97	354	P	Pn	21 10 43.4	+0.1
SOH	Sokhos	1.97	354	*e*PN	Pn	21 10 43.4	+0.1
SOH	Sokhos	1.97	354	P	Pn	21 10 43.4	+0.1
AMT	Artemida-Makis	2.02	229	P	Pn	21 10 45.0	+1.1
AMT	Artemida-Makis	2.02	229	P	Pn	21 10 45.0	+1.1
ITM	Ithomi	2.15	219	P	Pn	21 10 47.3	+1.5
ITM	Ithomi	2.15	219	*e*PN	Pn	21 10 47.1	+1.3
ITM	Ithomi	2.15	219	*e*Pn	Pn	21 10 47.1	+1.3
SMTH	Samothraki Isl	2.17	42	*e*PB	Pn	21 10 46.0	0.0
SMTH	Samothraki Isl	2.17	42	*e*Pb	Pn	21 10 46.0	0.0
VLI	Veliai	2.21	195	P	Pn	21 10 46.3	-0.3
VLI	Veliai	2.21	195	*e*PB	Pn	21 10 46.5	-0.1
VLI	Veliai	2.21	195	P	Pn	21 10 46.3	-0.3
SRS	Serrai	2.25	359	P	Pn	21 10 47.1	0.0
SRS	Serrai	2.25	359	*e*PB	Pn	21 10 47.1	0.0
SRS	Serrai	2.25	359	P	Pn	21 10 47.1	0.0
LKD2	Lefkada island	2.33	269	*e*PB	Pb	21 10 50.7	-1.3
LKD2	Lefkada island	2.33	269	*e*Pb	Pb	21 10 50.7	-1.3
APE	Apeiranthos	2.33	140	P	Pn	21 10 48.6	+0.3
APE	Apeiranthos	2.33	140	P	Pn	21 10 48.6	+0.3
KNT	Kendrikon	2.37	346	*e*PB	Pn	21 10 49.4	+0.7
KNT	Kendrikon	2.37	346	*e*Pb	Pn	21 10 49.4	+0.7
PYL	PYLOS	2.47	218	P	Pn	21 10 52.0	+1.9
PYL	PYLOS	2.47	218	P	Pn	21 10 52.0	+1.9
VLS	Valsamata	2.48	255	*e*PB	Pn	21 10 52.6	+2.3
VLS	Valsamata	2.48	255	*e*Pb	Pn	21 10 52.6	+2.3
NVR	Nevrokopi	2.49	4	*e*PN	Pn	21 10 50.4	0.0
NVR	Nevrokopi	2.49	4	*e*Pn	Pn	21 10 50.4	0.0
NEST	Nestorio	2.53	309	*e*PB	Pn	21 10 52.6	+1.6
NEST	Nestorio	2.53	309	*e*Pb	Pn	21 10 52.6	+1.6
FNA	Florina	2.59	319	*e*PN	Pn	21 10 52.7	+0.9
FNA	Florina	2.59	319	*e*Pn	Pn	21 10 52.7	+0.9
ALN	Alexandroupoli	2.75	42	*e*PB	Pn	21 10 55.3	+1.3
ALN	Alexandroupoli	2.75	42	*e*Pb	Pn	21 10 55.3	+1.3

MAN 26 21:18:27, 12°.23N×125°.93E, h31km, mb5.0, ML3.9, MS4.0, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Catarman	1.27	283	*e*P	Pn	21 18 48.8	+0.2
CNP				*e*S	Sb	21 19 05.9	-0.4
PLP	Palo	1.41	221	⇓*e*P	Pn	21 18 50.1	-0.5
PLP				*e*S	Sn	21 19 07.9	-0.3
OCLP	Ormoc	1.75	228	*e*P	Pb	21 18 57.3	-1.2
PVCP	Virac	2.20	308	*e*P	Pn	21 19 01.5	+0.1
PVCP				*e*S	Sn	21 19 28.6	+1.0
MSLP	Maasin	2.33	207	*e*P	Pn	21 19 05.5	+2.2
MSLP				*e*S	Sn	21 19 33.1	+2.2
RCP	Roxas	3.19	258	⇑*e*P	Pn	21 19 17.2	+2.2
GUIM	Jordan	3.64	244	*e*P	Pn	21 19 23.4	+2.1

*CSEM **26** 21:26:56.9, 40°.23N×21°.71E, h14km, MD2.7*
ATH 26 21:26:56.9, 40°.23N×21°.71E, h14km±3km, MD2.7/5, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.09	31	*e*PG	Pg	21 26 59.5	-0.6
KZN				*e*SG	Sg	21 27 02.5	+0.3
KZN	Kozani	0.09	31	*e*Pg	Pg	21 26 59.5	-0.6
KZN				*e*Sg	Sg	21 27 02.5	+0.3
NEST	Nestorio	0.54	290	*e*PB	Pg	21 27 06.9	-0.8
NEST				*e*SB	Sb	21 27 15.6	-0.4
NEST	Nestorio	0.54	290	*e*Pb	Pg	21 27 06.9	-0.8
NEST				*e*Sb	Sb	21 27 15.6	-0.4
FNA	Florina	0.61	335	*e*PB	Pg	21 27 08.7	-0.3
FNA				*e*SB	Sg	21 27 17.0	-0.1
FNA	Florina	0.61	335	*e*Pb	Pg	21 27 08.7	-0.3
FNA				*e*Sb	Sg	21 27 17.0	-0.1
LIT	Litokhoron	0.61	102	*e*PG	Pg	21 27 08.5	-0.4
LIT				*e*SB	Sb	21 27 17.9	0.0
LIT	Litokhoron	0.61	102	*e*Pg	Pg	21 27 08.5	-0.4
LIT				*e*Sb	Sb	21 27 17.9	0.0
THL	Klokotos Trika	0.70	160	*e*PB	Pg	21 27 10.4	-0.2
THL				*e*SB	Sb	21 27 20.3	-0.2
THL	Klokotos Trika	0.70	160	*e*Pb	Pg	21 27 10.4	-0.2
THL				*e*Sb	Sb	21 27 20.3	-0.2

*IDC **26** 21:27:47.5±1.6, 20°.72S×69°.91W, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.6/23, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=55.4km s-min=40.0km az=149.0*
*ISCJB **26** 21:28:02.3±0.8, 19°.46S±0°.04×69°.8W±0°.1, h88km±6km, mb3.4/2, Error ellipse: s-maj=19.4km s-min=7.4km az=3.5*
*GUC **26** 21:28:03.3±0.4, 19°.52S×69°.73W, h76km±2km, ML3.8*
ISC 26 21:28:02.7±0.9, 19°.45S±0°.06×69°.7W±0°.1, h81km±8km, n13, σ0°72/18, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	Minimini	0.33	17	*e*P	Pn	21 28 16.5	+0.9
MNMC				*e

comp=N,10nm,0.7s
PLCA Lg Lg 21 36 42.5
PLCA Sg **Sg** **21 36 49.7 -0.8**
TRQA Tornquist 9.60 121 *e*Pn **Pn** **21 35 13.8 +0.6**
comp=N,14nm,0.8s
LVC Limon Verde 11.32 17 Pn **Pn** **21 35 35.4 -1.7**
LPAZ La Paz 17.62 14 P **P** **21 37 02.2 +0.1**
comp=N,0.1nm,0.3s,baz=177,slow=6.5,SNR=8.3
LPAZ La Paz 17.62 14 *e*Pn **Pn** **21 37 01.1 0.0**
comp=N,5.8nm,0.7s
SIV San Ignacio 20.26 33 P **P** **21 37 30.3 -0.3**
comp=N,3.5nm,0.7s,baz=124,slow=3.6,SNR=10
EFI East Falkland 20.91 154 *e*P **P** **21 37 36.6 -0.6**
USHA Ushuaia 21.47 174 P **P** **21 37 44.6 +1.4**
comp=N,5.1nm,0.7s,baz=336,slow=13,SNR=5.5
SAML Samuel 25.92 21 *e*P **P** **21 38 27.2 -0.1**
comp=N,4.8nm,0.8s
BDFB Brasilia 28.35 57 P **P** **21 38 48.6 -0.7**
comp=N,1.9nm,0.4s,baz=196,slow=12,SNR=4.3
BDFB LR LR 21 51 12.3
comp=N,101nm,19.8s,baz=228,slow=39
SNAA Sanae 52.13 158 P **P** **21 42 05.7 +0.9**
comp=N,1.2nm,0.8s,baz=289,slow=10,SNR=5.5
SNAA Sanae 52.13 158 *e*P **P** **21 42 04.9 0.0**
QSPA South Pole Qui 56.69 180 *e*P **P** **21 42 39.4 +1.1**
TORD Torodi Ar. Bea 84.36 70 P **P** **21 45 27.0 -0.5**
comp=N,1.2nm,0.7s,baz=230,slow=3.6,SNR=8.8
WRA Warramunga Arr 121.00 210 PKP **PKPdf** **21 51 48.2 +0.1**
comp=N,0.3nm,0.9s,baz=161,slow=2.1,SNR=2.6
BVAR Borovoye Array 147.17 42 PKPbc **PKPab** **21 52 39.0 -0.3**
comp=N,0.7nm,0.7s,baz=304,slow=3.3,SNR=5.7
AAK Ala-Archa 152.57 61 PKPbc **PKPbc** **21 52 52.2 +0.7**
comp=N,0.5nm,0.4s,baz=9.7,slow=4.6,SNR=4.6
KURBB Kurchatov Arra 152.76 42 PKPbc **PKPbc** **21 52 52.2 +0.8**
comp=N,1.0nm,0.7s,baz=304,slow=3.0,SNR=10
KURK Kurchatov 152.76 42 PKPbc **PKPbc** **21 52 52.2 +0.8**
ZALV Zalesovo Beam 154.01 31 PKPbc **PKPbc** **21 52 54.7 +0.7**
comp=N,1.8nm,0.6s,baz=325,slow=2.3,SNR=8.1
MKAR Makanchi Array 156.71 48 PKPab **PKPab** **21 53 19.9 +0.6**
comp=N,1.1nm,0.7s,baz=285,slow=3.4,SNR=14

NNC 26 21:34:38.7±2.4, 42°.18N×83°.48E, h0km, mb3.6, mpv3.2, 7C-2D, Error ellipse: s-maj=21.6km s-min=11.8km az=159.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.16**	**293**	⇑Pn	Pn	21 35 28.4	-1.3
PDGK				⇑Sn	Sn	21 36 09.8	+1.7
PDGK				⇓Lg	Lg	21 36 18.9	
MK31	**Makanchi Array**	**4.69**	**350**	⇓Pn	Pn	21 35 51.5	+0.7
MK31				⇑Pg	Pb	21 36 04.4	+2.4
1.8nm,0.5s,baz=175,slow=12,SNR=5.0							
MK31				⇑Lg	Lg	21 37 06.5	
6.7nm,0.6s,baz=169,slow=25,SNR=5.5							
TKM2	**Tokmak 2**	**5.87**	**280**	⇑Pn	Pn	21 36 08.3	+1.1
3.4nm,1.2s							
TKM2				⇑Lg	Lg	21 37 45.2	
1.9nm,0.6s							
AAK	**Ala-Archa**	**6.67**	**277**	⇑Lg	Lg	21 38 10.8	
1.3nm,0.6s							

IDC 26 21:46:02.3±1.3, 52°.03N×141°.52E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.3/44, mbtmp3.7/4, Error ellipse: s-maj=47.7km s-min=30.7km az=91.0, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**37.43**	**42**	P	P	21 53 16.6	-0.1
0.5nm,0.8s,baz=289,slow=7.0,SNR=5.3							
FINES	**FINESS Array B**	**55.80**	**328**	P	P	21 55 40.6	+0.1
1.2nm,0.7s,baz=36,slow=5.5,SNR=4.1							
NOA	**NORSAR Array B**	**60.50**	**335**	P	P	21 56 13.4	-0.2
0.4nm,0.5s,baz=33,slow=7.2,SNR=3.5							
ASAR	**Alice Springs**	**75.67**	**187**	P	P	21 57 49.1	0.0
0.5nm,0.5s,baz=6.7,slow=6.6,SNR=6.3							

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*IPEC **26** 21:58:20.6±0.2, 50°.05N×18°.47E, h0km±3km, ML1.9/3, Error ellipse: s-maj=2.0km s-min=1.1km az=160.0*
CSEM 26 21:58:20.9±0.4, 50°.05N×18°.36E, h1km, ML2.6/7, 1D, Error ellipse: s-maj=10.2km s-min=4.9km az=3.0, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.11**	**286**	⇓*i*Pg	Pg	21 58 25.0	+1.9
RAC				*e*Sg	Sg	21 58 28.3	+3.8
OKC	**Ostrava-Krasne**	**0.26**	**212**	*e*PG	Pb	21 58 27.2	-1.1
OKC				*e*SG	Sb	21 58 31.6	-1.7
comp=Z,137nm,0.5s							
OKC	**Ostrava-Krasne**	**0.26**	**212**	Pg	Pb	21 58 27.2	-1.1
OKC				Sg	Sb	21 58 31.6	-1.7
137nm,0.5s							
CHZP	**Chorzow**	**0.47**	**59**	*e*Pg	Pg	21 58 29.7	-0.3
CHZP				*e*Sg	Sg	21 58 32.9	-3.2
MORC	**Moravsky Berou**	**0.60**	**243**	*e*Pg	Pg	21 58 33.2	+0.8
MORC				*e*Sg	Sg	21 58 41.2	+1.0
31nm,0.4s							
OJC	**Ojcow**	**0.94**	**79**	*e*Pg	Pg	21 58 37.6	-1.4
OJC				*e*Sg	Sg	21 58 49.8	-1.4
OJC	**Ojcow**	**0.94**	**79**	*e*Pg	Pg	21 58 37.6	-1.4
LANS	**Liptovska Anna**	**1.16**	**141**	*e*Pn	Pg	21 58 43.4	+0.2
LANS				*e*Sn	Sg	21 58 58.7	+0.5
DPC	**Dobruska-Polom**	**1.34**	**284**	*e*PG	Pg	21 58 46.8	+0.1
DPC				*e*SG	Sb	21 59 04.9	+0.2
DPC	**Dobruska-Polom**	**1.34**	**284**	Pg	Pg	21 58 46.8	+0.1
DPC				Sg	Sb	21 59 04.9	+0.2
VRAC	**Vranov**	**1.37**	**238**	*e*Pg	Pn	21 58 47.0	-0.2
VRAC				*e*Sg	Sb	21 59 05.3	-0.1
16nm,0.3s							
NIE	**Niedzica**	**1.42**	**116**	*e*Pg	Pn	21 58 47.4	-0.5
NIE				*e*Sg	Sn	21 59 07.1	-0.1
NIE	**Niedzica**	**1.42**	**116**	*e*Pg	Pn	21 58 47.4	-0.5
KSP	**Ksiaz**	**1.54**	**302**	*e*Pn	Pb	21 58 49.9	-0.3
KSP				*e*Pg	Pg	21 58 52.3	+1.9
KSP				*e*Sn	Sg	21 59 11.2	+0.8
KSP				*e*Sg	Sb	21 59 14.0	+3.7
UPC	**Upice**	**1.57**	**288**	*e*SG	Sg	21 59 12.0	+0.5
comp=Z,5.2nm,0.5s							
UPC	**Upice**	**1.57**	**288**	Sg	Sg	21 59 12.0	+0.5
5.2nm,0.5s							
VYHS	**Vyhne**	**1.59**	**169**	*e*Pn	Pn	21 58 50.1	-0.1
VYHS				*e*Sn	Sn	21 59 11.0	-0.5
VYHS	**Vyhne**	**1.59**	**169**	*e*PN	Pn	21 58 50.0	-0.2
VYHS				*e*SN	Sn	21 59 11.0	-0.5
VYHS				*e*LG	Lg	21 59 14.1	
KRUC	**Moravsky**	**1.62**	**233**	*e*Pg	Pn	21 58 51.0	+0.4
KRUC				*e*Sg	Sg	21 59 12.9	-0.1
8.4nm,0.3s							
STHS	**Stebnicka Huta**	**1.98**	**108**	*e*Pn	Pb	21 58 57.9	+0.2
STHS				*e*Sn	Sb	21 59 23.0	+0.1
STHS	**Stebnicka Huta**	**1.98**	**108**	*e*PN	Pb	21 58 57.9	+0.2
STHS				*e*SN	Sb	21 59 23.0	+0.1
STHS				*e*LG	Lg	21 59 34.9	
CRVS	**Cervenica-Dubn**	**2.33**	**118**	*e*Pn	Pb	21 59 04.1	+0.4
CRVS				*e*Sn	Sn	21 59 31.1	+1.5
CRVS	**Cervenica-Dubn**	**2.33**	**118**	*e*PN	Pb	21 59 04.1	+0.4
CRVS				*e*SN	Sn	21 59 31.0	+1.4
PRU	**Pruhonice**	**2.46**	**270**	*e*PG	Pb	21 59 05.5	-0.5
PRU				*e*SG	Sb	21 59 38.1	+1.3
comp=Z,4.7nm,0.4s							
KOLS	**Kolonicke sedl**	**2.79**	**112**	*e*Sn	Sn	21 59 41.9	+1.0
KOLS	**Kolonicke sedl**	**2.79**	**112**	*e*	Pg	21 59 13.6	-0.8
KOLS	**Kolonicke sedl**	**2.79**	**112**	*e*SN	Sn	21 59 41.9	+1.0
BRG	**Berggiesshubel**	**2.94**	**288**	PG	Pg	21 59 17.6	+0.4
BRG				SG	Sb	21 59 51.2	+0.7
3.5nm,0.5s							
KHC	**Kasperske Hory**	**3.25**	**255**	*e*PG	Pb	21 59 21.1	+1.7
KHC				*e*SG	Sg	22 00 03.1	-2.2
comp=Z,15nm,0.9s							
KHC	**Kasperske Hory**	**3.25**	**255**	Pg	Pb	21 59 21.1	+1.7
KHC				Sg	Sg	22 00 03.1	-2.2
15nm,0.9s							

IDC 26 22:13:01.3±5.8, 39°.04S×75°.75W, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.5/22, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=123.5km s-min=34.1km az=54.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.34**	**115**	Pn	Pn	22 14 09.4	+0.7
0.3nm,0.3s,baz=297,slow=6.9,SNR=9.4							
PLCA				Sn	Sn	22 14 59.8	-0.2
1.5nm,0.3s,baz=235,slow=18,SNR=4.1							
LPAZ	**La Paz**	**23.62**	**19**	P	P	22 18 14.8	0.0
0.8nm,0.7s,baz=203,slow=7.7,SNR=3.6							
TORD	**Torodi Ar. Bea**	**88.67**	**72**	P	P	22 25 56.5	-0.3
0.3nm,0.5s,baz=210,slow=4.5,SNR=4.2							

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*ISCJB **26** 22:39:55.5±0.4, 12°.49N±0°.08×86°.98W±0°.07, h109km±5km, mb3.6/5, Error ellipse: s-maj=17.3km s-min=3.4km az=40.3*
*IDC **26** 22:39:56.4±2.1, 12°.36N×86°.97W, h126km±27km, mb3.3/5, mb1 3.6/7, mb1mx3.3/24, mbtmp3.7/7, Error ellipse: s-maj=48.3km s-min=22.2km az=58.0*
*CASC **26** 22:39:56.5±1.8, 12°.31N×87°.11W, h88km±12km, MD4.0*
ISC 26 22:39:55.9±0.8, 12°.5N±0°.1×86°.96W±0°.09, h111km±7km, n31, σ1°16/42, mb3.5/5, 1C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**0.26**	**88**	*e*P	**Pn**	**22 40 10.9**	**-0.7**
CNGN				*e*S	**Sn**	**22 40 22.2**	**-1.3**
COPN	**Copaltepe**	**0.48**	**131**	*e*P	**Pn**	**22 40 11.9**	**-0.8**
CNCH	**Conchagua**	**1.15**	**313**	*e*P	**Pn**	**22 40 17.9**	**-1.1**
CNCH				*e*S	**Sn**	**22 40 35.8**	**-0.5**
BLLM	**Bellamira**	**1.56**	**307**	*e*P	**Pn**	**22 40 22.8**	**-0.8**
VSM	**San Miguel**	**1.58**	**306**	*e*P	**Pn**	**22 40 23.6**	**-0.4**
VSM				*e*S	**Sn**	**22 40 45.5**	**+0.2**
SNVI	**San Vicente**	**2.14**	**302**	*e*P	**Pn**	**22 40 31.3**	**+0.4**
SNVI				*e*S	**Sn**	**22 40 57.3**	**-0.4**
GBS2	**Las Lilas**	**2.21**	**138**	*i* P	**Pn**	**22 40 32.7**	**+1.0**
GBS2				*i* S	**Sn**	**22 40 58.0**	**-1.1**
GBS3	**Finca Las Im¯¡**	**2.25**	**139**	*i* P	**Pn**	**22 40 32.7**	**+0.5**
LAPC	**Finca la Perla**	**2.28**	**139**	*i* P	**Pn**	**22 40 32.9**	**+0.4**
LFRS	**El Faro**	**2.33**	**299**	*e*P	**Pn**	**22 40 32.6**	**-0.8**
LFRS				*e*S	**Sn**	**22 41 01.4**	**-0.6**
LBRS	**Las Brisas**	**2.38**	**302**	*e*P	**Pn**	**22 40 34.1**	**+0.3**
BOQS	**Boqueron**	**2.57**	**299**	*e*P	**Pn**	**22 40 36.7**	**+0.2**
BOQS				*e*S	**Sn**	**22 41 07.5**	**-0.3**
SNJE	**San Jose**	**2.92**	**298**	*e*P	**Pn**	**22 40 41.6**	**+0.6**
SBLS	**San Blas**	**2.92**	**298**	*e*P	**Pn**	**22 40 41.3**	**+0.2**
SBLS				*e*S	**Sn**	**22 41 15.5**	**-0.3**
JTS	**JuntasAbangare**	**2.94**	**138**	P	**Pn**	**22 40 41.9**	**+0.6**
21nm,0.3s,baz=310,slow=13,SNR=34							
JTS				S	**Sn**	**22 41 15.5**	**-0.7**
14nm,0.3s,baz=297,slow=21,SNR=3.3							
RBDL	**Robledal**	**3.10**	**302**	*e*P	**Pn**	**22 40 43.5**	**0.0**
JCR	**Jicaral**	**3.19**	**145**	*e*P	**Pn**	**22 40 45.4**	**+0.8**
JCR				*e*S	**Sn**	**22 41 19.5**	**-2.6**
CGA2	**Cerro Gallo 2**	**3.47**	**135**	*e*P	**Pn**	**22 40 50.5**	**+2.1**
CGA2				*e*S	**Sn**	**22 41 30.1**	**+1.2**
URSC	**Urasca**	**4.09**	**130**	*e*P	**Pn**	**22 40 57.0**	**+0.3**
URSC				*e*S	Sn	22 41 50.1	+6.3
APG	**El Apazote**	**4.22**	**307**	P	Pn	22 40 54.1	-4.4
1.4nm,0.3s,baz=140,slow=20,SNR=7.3							
BUS	**Buena Vista**	**4.29**	**133**	⇓*e*P	**Pn**	**22 41 01.9**	**+2.3**
BUS				*e*S	**Sn**	**22 41 50.3**	**+1.3**
ACR	**Cerro Adams**	**5.33**	**135**	*e*P	**Pn**	**22 41 14.8**	**+1.4**
TEIG	**Tepich**	**7.79**	**351**	P	**Pn**	**22 41 49.0**	**+2.4**
0.4nm,0.3s,baz=162,slow=19,SNR=3.8							
TXAR	**Lajitas Array**	**22.85**	**320**	P	**P**	**22 44 50.1**	**+0.1**
1.1nm,0.7s,baz=135,slow=9.8,SNR=11							
TXAR				pP	**pP**	**22 45 14.1**	**+2.5**
1.3nm,0.8s,baz=134,slow=12,SNR=5.3							
TKL	**Tuckaleechee C**	**23.24**	**7**	P	**P**	**22 44 55.2**	**+1.7**
2.7nm,0.7s,baz=196,slow=7.4,SNR=3.3							
H06E1	**SOCORRO T-PHAS**	**23.89**	**288**	T	T	23 09 57.1	
SNR=5.3							
PDAR	**Pinedale Array**	**35.96**	**331**	P	**P**	**22 46 45.5**	**-0.8**
0.3nm,0.5s,baz=133,slow=8.0,SNR=3.9							
SCHQ	**Schefferville**	**45.10**	**16**	P	**P**	**22 48 00.4**	**-0.5**
3.4nm,1.0s,baz=223,slow=18,SNR=4.2							
YKA	**Yellowknife Ar**	**53.70**	**344**	P	**P**	**22 49 04.6**	**-1.4**
0.2nm,0.5s,baz=139,slow=7.7,SNR=4.4							
ASAR	**Alice Springs**	**139.73**	**248**	PKP	**PKPdf**	**22 59 11.3**	**-0.4**
0.4nm,0.6s,baz=113,slow=1.7,SNR=4.7							
WRA	**Warramunga Arr**	**139.74**	**254**	PKP	**PKPdf**	**22 59 11.8**	**+0.1**
0.7nm,0.5s,baz=91,slow=2.4,SNR=23							

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*JMA **26** 22:42:02.8±0.1, 23°.15N×121°.61E, h39km±2km, M3.0*
*ISCJB **26** 22:42:03.1±0.4, 23°.16N±0°.02×121°.66E±0°.02, h29km±2km, Error ellipse: s-maj=3.4km s-min=2.5km az=147.5*
*TAP **26** 22:42:04.0, 23°.20N×121°.57E, h40km, ML3.7, B*
ISC 26 22:42:03.5±1.0, 23°.16N±0°.02×121°.63E±0°.03, h31km±8km, n56, σ0°71/99, 12C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.25**	**255**	⇓*i*P	**Pn**	**22 42 11.2**	**+0.2**
baz=242							
CHKT				*i* S	**Sn**	**22 42 16.6**	**+0.7**
baz=242							
TWF1	**Yuli**	**0.36**	**302**	⇓*i*P	**Pb**	**22 42 12.4**	**+0.6**
baz=304							
TWF1				*e*S	**Sb**	**22 42 18.2**	**+0.6**
baz=304							
EHY	**Hungye**	**0.44**	**320**	⇓*i*P	**Pb**	**22 42 13.2**	**+0.1**
baz=312							
EHY				S	**Sb**	**22 42 19.7**	**0.0**
baz=312							
TEGC	**Jichi Village**	**0.55**	**351**	*e*P	**Pn**	**22 42 15.4**	**+0.3**
baz=3.0							
TEGC				*e*S	**Sn**	**22 42 24.1**	**+0.8**
baz=3.0							
ELDTW	**Lidau**	**0.56**	**273**	⇑*i*P	**Pb**	**22 42 14.5**	**-0.5**
baz=269							
ELDTW				*e*S	**Sb**	**22 42 21.6**	**-1.4**
baz=269							
TTN	**Taitung**	**0.60**	**228**	*e*P	**Pn**	**22 42 16.3**	**+0.4**
baz=232							
TWG	**Pinlang**	**0.62**	**236**	⇑*i*P	**Pb**	**22 42 15.3**	**-0.5**
baz=241							
TWG				*e*S	**Sb**	**22 42 23.8**	**-0.6**
baz=241							
ESL	**Shilin**	**0.67**	**344**	P	**Pb**	**22 42 16.1**	**-0.7**
baz=339							
ESL				*e*S	**Sb**	**22 42 24.8**	**-1.1**
baz=339							
YUS	**Yu-Shan**	**0.70**	**298**	⇓*i*P	**Pn**	**22 42 17.5**	**-0.2**
baz=298							
YUS				S	**Sb**	**22 42 26.4**	**-0.8**
baz=298							
WDT	**Danda**	**0.74**	**322**	⇓*e*P	**Pn**	**22 42 17.5**	**-0.6**
baz=325							
WDT				*e*S	**Sb**	**22 42 26.6**	**-1.6**
baz=325							
STYT	**Tauyuan**	**0.80**	**270**	⇑*i*P	**Pn**	**22 42 18.5**	**-0.2**
baz=260							
STYT				*e*S	**Sb**	**22 42 28.7**	**-0.9**
baz=260							
HWA	**Hwalien**	**0.81**	**358**	*e*P	**Pn**	**22 42 17.8**	**-0.9**
baz=10.0							
HWA				*e*S	**Sn**	**22 42 29.2**	**-0.5**
baz=10.0							
ALS	**Alishan**	**0.83**	**295**	⇑P	**Pn**	**22 42 19.6**	**+0.2**
baz=295							
ALS				S	**Sn**	**22 42 30.4**	**-0.3**
baz=295							
ECL	**Taimali**	**0.84**	**228**	*e*P	**Pn**	**22 42 17.9**	**-1.2**
baz=224							
ECL				*e*S	**Sn**	**22 42 28.9**	**-1.6**
baz=224							
TWD	**Chiawan**	**0.91**	**358**	*e*P	**Pn**	**22 42 19.3**	**-0.8**
baz=349							
TWD				S	**Sn**	**22 42 31.5**	**-0.8**
baz=349							
WTP	**Ta-pu**	**0.94**	**275**	⇑*i*P	**Pn**	**22 42 21.1**	**+0.6**
baz=267							
WTP				S	**Sb**	**22 42 33.6**	**+0.2**
baz=267							
SGST	**Jiashian**	**0.97**	**265**	⇑*i*P	**Pb**	**22 42 21.8**	**+0.1**
baz=263							
SGST				*i* S	**Sb**	**22 42 34.6**	**+0.5**
baz=263							
CHN4	**Tsaushan**	**0.97**	**281**	⇑*i*P	**Pb**	**22 42 21.8**	**0.0**
baz=280							
CHN4				S	**Sb**	**22 42 34.8**	**+0.5**
baz=280							
CHN5	**Tsauling**	**0.97**	**296**	⇑*i*P	**Pb**	**22 42 21.9**	**0.0**
baz=297							
CHN5				S	**Sb**	**22 42 34.7**	**+0.3**
baz=297							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLT	**Sun Moon Lake**	**0.98**	**317**	⇑P	**Pn**	**22 42 21.5**	**+0.3**
baz=322							
SMLT				*e*S	**Sn**	**22 42 33.4**	**-0.6**
baz=322							
SSD	**Sandimen**	**1.01**	**246**	*e*P	**Pn**	**22 42 21.5**	**0.0**
baz=238							
CHN1	**Nanshi**	**1.01**	**271**	⇑*i*P	**Pb**	**22 42 22.5**	**0.0**
baz=270							
CHN1				S	**Sb**	**22 42 36.4**	**+0.8**
baz=270							
TYC	**Yuchr**	**1.02**	**316**	⇑*i*P	**Pn**	**22 42 22.2**	**+0.6**
baz=326							
TYC				S	**Sn**	**22 42 34.8**	**-0.2**
baz=326							
WHF	**Hehuan Shan**	**1.03**	**341**	*e*P	**Pn**	**22 42 21.8**	**-0.4**
baz=344							
WHF				S	**Sn**	**22 42 34.4**	**-1.4**
baz=344							
TWK	**Hsinying**	**1.05**	**276**	⇑P	**Pn**	**22 42 22.9**	**+0.7**
baz=275							
TWK				*e*S	**Sb**	**22 42 36.7**	**0.0**
baz=275							
EAST	**Anshuo**	**1.06**	**223**	*e*P	**Pn**	**22 42 21.8**	**-0.4**
baz=218							
WGK	**Gukeng**	**1.11**	**298**	*e*P	**Pn**	**22 42 23.7**	**+0.8**
baz=310							
WGK				*e*S	**Sb**	**22 42 38.9**	**+0.6**
baz=310							
CHN2	**Minshiung**	**1.12**	**289**	*e*P	**Pb**	**22 42 24.4**	**+0.1**
baz=289							
LAY	**Lan-yu**	**1.12**	**184**	*e*P	**Pn**	**22 42 22.6**	**-0.5**
baz=174							
LAY				*e*S	**Sn**	**22 42 36.8**	**-0.6**
baz=174							
WNT	**Mingjian**	**1.12**	**310**	*e*P	**Pn**	**22 42 23.8**	**+0.8**
baz=311							
WNT				*e*S	**Sn**	**22 42 38.3**	**+1.0**
baz=311							
CHY	**Chiayi**	**1.16**	**287**	*e*P	**Pn**	**22 42 24.4**	**+0.9**
baz=287							
TWT	**Tachien**	**1.16**	**339**	*e*P	**Pn**	**22 42 23.9**	**+0.1**
baz=347							
TWT				*e*S	**Sn**	**22 42 38.1**	**-0.5**
baz=347							
TWM1	**Shoushan**	**1.16**	**253**	*e*P	**Pb**	**22 42 25.8**	**+0.8**
baz=251							
SCZT	**Fangliau**	**1.22**	**230**	*e*P	**Pn**	**22 42 24.9**	**+0.6**
baz=226							
SCZT				*e*S	**Sn**	**22 42 40.3**	**+0.5**
baz=226							
ENA	**Nanau**	**1.26**	**5**	*e*P	**Pn**	**22 42 24.9**	**-0.1**
baz=16							
ENA				*e*S	**Sn**	**22 42 40.4**	**-0.5**
baz=16							
NNS	**Nan Shan**	**1.29**	**350**	*e*P	**Pn**	**22 42 26.4**	**+0.9**
baz=2.0							
TCU	**Taichung**	**1.31**	**318**	*e*P	**Pn**	**22 42 26.6**	**+1.0**
baz=309							
TCU				*e*S	**Sn**	**22 42 43.5**	**+1.4**
baz=309							
TWQ1	**Liyutan**	**1.42**	**327**	*e*P	**Pb**	**22 42 28.8**	**-0.5**
baz=328							
TWQ1				*e*S	**Sb**	**22 42 46.4**	**-0.6**
baz=328							
WTCT	**Ta-ch'eng**	**1.42**	**300**	*e*P	**Pn**	**22 42 27.5**	**+0.4**
baz=301							
WTCT				*e*S	**Sn**	**22 42 45.4**	**+0.7**
baz=301							
TWC	**Suao**	**1.45**	**8**	*e*P	**Pn**	**22 42 26.9**	**-0.7**
baz=11							
ENTT	**Nioudou**	**1.47**	**358**	*e*P	**Pn**	**22 42 28.1**	**+0.3**
baz=352							
ENTT				*e*S	**Sn**	**22 42 45.8**	**-0.2**
baz=352							
NSY	**Sanyi**	**1.48**	**328**	*e*P	**Pn**	**22 42 29.0**	**+1.1**
baz=330							
NSY				*e*S	**Sb**	**22 42 48.5**	**-0.3**
baz=330							
NSK	**Sanguang**	**1.53**	**351**	*e*P	**Pn**	**22 42 29.1**	**+0.4**
baz=352							
NSK				*e*S	**Sn**	**22 42 47.2**	**-0.3**
baz=352							
NSTT	**Nanjuang**	**1.57**	**339**	*e*P	**Pn**	**22 42 29.9**	**+0.7**
baz=340							
NSTT				*e*S	**Sn**	**22 42 49.4**	**+0.9**
baz=340							
JYNG	**Yonagunijimaku**	**1.76**	**43**	P	**Pn**	**22 42 32.4**	**+0.6**
JYNG				S	**Sn**	**22 42 53.7**	**+0.6**
YOJ	**Yonaguni jima**	**1.81**	**44**	P	**Pn**	**22 42 33.4**	**+0.9**
YOJ				S	**Sn**	**22 42 55.2**	**+0.9**
YOJ	**Yonaguni jima**	**1.81**	**44**	*e*P	**Pn**	**22 42 33.7**	**+1.2**
baz=46							
TWA	**Mucha**	**1.81**	**359**	*e*P	**Pb**	**22 42 35.2**	**-0.7**
baz=2.0							
NWF	**Wu-fen Shan**	**1.90**	**4**	*e*P	**Pb**	**22 42 36.7**	**-0.9**
baz=356							
PNG	**Penghu**	**1.95**	**282**	*e*P	**Pn**	**22 42 34.1**	**-0.3**
baz=282							
HATJ	**Hateruma jima**	**2.19**	**66**	S	**Sn**	**22 43 04.3**	**+0.7**
IRIF	**Iriomote-Funau**	**2.25**	**58**	P	**Pn**	**22 42 39.5**	**+1.0**
IRIF				S	**Sn**	**22 43 06.3**	**+1.1**
JKRS	**Kuro-shima**	**2.43**	**63**	P	**Pn**	**22 42 42.0**	**+1.0**
JKRS				S	**Sn**	**22 43 10.4**	**+0.8**
JIJ	**Ishigaki jima**	**2.59**	**62**	P	**Pn**	**22 42 43.7**	**+0.4**
JIJ				S	**Sn**	**22 43 13.7**	**0.0**
JISG	**Ishigakijimahi**	**2.83**	**59**	P	**Pn**	**22 42 46.8**	**+0.2**
JISG				S	**Sn**	**22 43 19.0**	**-0.6**
JTJ	**Tarama**	**3.17**	**62**	P	**Pn**	**22 42 52.1**	**+0.9**
JTJ				S	**Sn**	**22 43 28.3**	**+0.3**

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*ISCJB **26** 22:46:11.3±0.8, 27°.9S±0°.1×70°.9W±0°.2, h38km, mb3.9/6, Error ellipse: s-maj=32.2km s-min=8.3km az=155.8*
*IDC **26** 22:46:13.3±0.8, 27°.97S×71°.01W, h42km±5km, mb3.7/6, mb1 3.8/8, mb1mx3.6/31, mbtmp3.8/8, ML3.4/2, MS2.5/2, Ms1 2.6/2, ms1mx2.5/17, Error ellipse: s-maj=37.3km s-min=12.7km az=65.0*
**ISC 26 22:46:12.9±0.7, 27°.9S±0°.1×71°.1W±0°.2, h38km, n15, σ1°07/18, mb3.8/6, Near coast of north

1.5nm,0.5s,baz=300,slow=3.3,SNR=4.6
MKAR Makanchi Array 151.86 41 PKPbc PKPbc 23 06 03.1 -0.5
0.7nm,0.6s,baz=321,slow=2.7,SNR=11
MKAR pPKPbc **pPKPbc 23 06 16.6 +0.8**
1.4nm,0.7s,baz=313,slow=2.1,SNR=10
MKAR sPKPbc **sPKPbc 23 06 21.0 +1.0**
1.0nm,0.6s,baz=325,slow=2.5,SNR=7.4

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*JMA **26** 22:51:22.8±0.3, 23°.42N×123°.68E, h43km±4km, M2.8*
*IDC **26** 22:51:36.3±2.9, 23°.97N×121°.25E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/28, mbtmp3.4/4, Error ellipse: s-maj=251.0km s-min=21.4km az=62.0*
ISC 26 22:51:24.3±2.9, 23°.5N±0°.1×123°.70E±0°.06, h31km±13km, n13, σ0s55/18, mb3.4/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.57**	**10**	P	**Pb**	**22 51 35.6**	**-0.3**
HATJ				S	**Sb**	**22 51 44.5**	**+0.7**
JKRS	**Kuro-shima**	**0.79**	**21**	P	**Pn**	**22 51 39.2**	**-0.2**
JKRS				*e*S	**Sn**	**22 51 50.7**	**+0.5**
IRIF	**Iriomote-Funau**	**0.84**	**2**	P	**Pn**	**22 51 39.5**	**-0.5**
IRIF				*e*S	**Sn**	**22 51 51.1**	**-0.2**
JIJ	**Ishigaki jima**	**0.96**	**25**	P	**Pn**	**22 51 40.9**	**-0.8**
JIJ				*e*S	**Sn**	**22 51 53.7**	**-0.6**
YOJ	**Yonaguni jima**	**1.15**	**327**	P	**Pn**	**22 51 44.0**	**-0.3**
YOJ				*e*S	**Sn**	**22 51 59.5**	**+0.5**
JYNG	**Yonagunijimaku**	**1.17**	**324**	P	**Pn**	**22 51 44.0**	**-0.6**
JYNG				S	**Sn**	**22 51 59.3**	**-0.3**
JISG	**Ishigakijimahi**	**1.22**	**27**	P	**Pn**	**22 51 44.6**	**-0.7**
JTJ	**Tarama**	**1.47**	**39**	P	**Pn**	**22 51 48.4**	**-0.3**
JTJ				*e*S	**Sn**	**22 52 07.1**	**+0.3**
JIRB	**Irabujima**	**1.89**	**45**	P	**Pn**	**22 51 54.1**	**-0.4**
JIRB				*e*S	**Sn**	**22 52 17.7**	**+0.3**
MKAR	**Makanchi Array**	**40.43**	**316**	P	**P**	**22 59 00.5**	**+0.6**
	0.2nm,0.3s,baz=104,slow=8.1,SNR=6.7						
ZALV	**Zalesovo Beam**	**42.08**	**326**	P	P	22 59 16.3	+3.1
	0.3nm,0.3s,baz=130,slow=5.8,SNR=2.2						
WRA	**Warramunga Arr**	**44.41**	**166**	P	P	22 59 57.0	+25
	0.4nm,0.7s,baz=344,slow=10,SNR=8.0						
ASAR	**Alice Springs**	**47.92**	**167**	P	P	23 00 24.4	+24
	0.4nm,0.8s,baz=355,slow=8.5,SNR=3.4						

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*NIED **26** 23:07:00.24°.00N×121°.70E, h62km, Mw4.4 Best double couple: M0=4.69000×10^15 NP1:φs=336.00000°, δ46.00000°, λ-137.00000°. NP2:φs=213.00000°, δ61.00000°, λ-53.00000°.*
*BJI **26** 23:07:51.2, 24°.20N×121°.59E, h9km, mB4.6/17, mb4.4/20, ML4.6/8, Ms4.1/8, Ms7 3.9/7*
*NEIC **26** 23:07:53.9±0.4, 24°.03N×121°.77E, h62km±3km, mb4.8/22, Error ellipse: s-maj=6.5km s-min=4.7km az=119.0*
NEIC Felt at Hua-lien and Taipei. Recorded [3 TAP] in Hua-lien, I-lan, Nan-t'ou and T'ai-chung; [2 TAP] in Chang-hua, Chia-i, Miao-li, T'ai-tung, T'ao-yuan and Yun-lin; [1 TAP] in Hsin-chu, Kao-hsiung, T'ai-nan and T'ai-pei.
*ISCJB **26** 23:07:53.6±0.1, 24°.11N±0°.01×121°.75E±0°.01, h70km±1km, mb4.5/42, Error ellipse: s-maj=2.6km s-min=1.8km az=145.0*
*JMA **26** 23:07:53.3±0.1, 24°.05N×121°.68E, h56km±1km, M4.6*
*TAP **26** 23:07:54.3, 24°.10N×121°.68E, h59km, ML5.2, B*
*IDC **26** 23:07:54.6±0.6, 24°.11N×121°.89E, h72km±3km, mb3.7/16, mb1 3.9/20, mb1mx3.7/42, mbtmp4.0/20, MS3.1/12, Ms1 3.2/12, ms1mx3.1/30, Error ellipse: s-maj=13.1km s-min=11.5km az=49.0*
ISC 26 23:07:54.9±0.4, 24°.11N±0°.02×121°.74E±0°.02, h68km±3km, n206, σ1s35/281, mb4.5/43, 22C-27D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.13**	**259**	⇑*i*P	**Pn**	**23 08 03.1**	**-1.8**
	baz=272						
TWD				S	**Sn**	**23 08 09.0**	**-3.2**
	baz=272						
NACB	**Ninganchiao**	**0.14**	**298**	*e*Pn	**Pn**	**23 08 02.9**	**-2.0**
NACB				*e*Sn	**Sn**	**23 08 09.3**	**-3.0**
HWA	**Hwalien**	**0.17**	**223**	P	**Pn**	**23 08 03.8**	**-1.3**
	baz=219						
HWA				*e*S	**Sn**	**23 08 10.2**	**-2.3**
	baz=219						
EHP	**Heping Village**	**0.20**	**2**	P	**Pn**	**23 08 04.5**	**-0.7**
	baz=17						
EHP				*e*S	**Sn**	**23 08 12.4**	**-0.4**
	baz=17						
ESF	**Shoufeng Towns**	**0.31**	**222**	P	**Pn**	**23 08 04.6**	**-1.2**
	baz=226						
ESF				*e*S	**Sn**	**23 08 11.2**	**-2.7**
	baz=226						
ENA	**Nanau**	**0.32**	**1**	⇑*i*P	**Pn**	**23 08 04.8**	**-1.2**
	baz=3.0						
ENA				*e*S	**Sn**	**23 08 14.0**	**0.0**
	baz=3.0						
ESL	**Shilin**	**0.40**	**224**	⇓*i*P	**Pn**	**23 08 04.3**	**-2.2**
	baz=225						
ESL				*e*S	**Sn**	**23 08 11.4**	**-3.7**
	baz=225						
WHF	**Hehuan Shan**	**0.43**	**275**	⇓*i*P	**Pn**	**23 08 05.7**	**-1.6**
	baz=273						
TEGC	**Jichi Village**	**0.43**	**204**	*e*P	**Pn**	**23 08 06.5**	**-0.4**
	baz=208						
TEGC				*e*S	**Sn**	**23 08 16.2**	**+0.6**
	baz=208						
NNS	**Nan Shan**	**0.47**	**315**	⇑*i*P	**Pn**	**23 08 06.0**	**-1.3**
	baz=324						
NNS				*e*S	**Sn**	**23 08 15.2**	**-1.2**
	baz=324						
TWC	**Suao**	**0.51**	**12**	⇑*i*P	**Pn**	**23 08 07.0**	**-0.6**
	baz=23						
TWT	**Tachien**	**0.53**	**286**	⇓*i*P	**Pn**	**23 08 07.1**	**-0.8**
	baz=282						
ENTT	**Nioudou**	**0.56**	**344**	⇑*i*P	**Pn**	**23 08 07.0**	**-1.1**
	baz=353						
WDT	**Danda**	**0.65**	**238**	⇓*i*P	**Pn**	**23 08 08.0**	**-1.4**
	baz=235						
YHNB	**Yeheng**	**0.65**	**330**	*e*Pn	**Pn**	**23 08 08.1**	**-1.1**
YHNB				*e*Sn	**Sn**	**23 08 17.5**	**-2.1**
ILA	**Ilan**	**0.66**	**1**	*e*P	**Pn**	**23 08 08.7**	**-0.4**
	baz=360						
ILA				*e*S	**Sn**	**23 08 21.2**	**+1.6**
	baz=360						
NSK	**Sanguang**	**0.67**	**329**	⇑*i*P	**Pn**	**23 08 08.4**	**-0.9**
	baz=338						
EHY	**Hungye**	**0.71**	**212**	⇓*e*P	**Pn**	**23 08 07.2**	**-2.5**
	baz=209						
EGS		**0.76**	**14**	⇑*i*P	**Pn**	**23 08 10.7**	**+0.4**
	baz=28						
EGS				S	**Sn**	**23 08 22.3**	**+0.6**
	baz=28						
SSLB	**Suanglung**	**0.78**	**246**	*e*Pn	**Pn**	**23 08 09.2**	**-1.4**
SSLB				*e*Sn	**Sn**	**23 08 19.4**	**-2.8**
SMLT	**Sun Moon Lake**	**0.80**	**254**	⇓*i*P	**Pn**	**23 08 09.9**	**-0.9**
	baz=249						
SMLT				*e*S	**Sn**	**23 08 20.7**	**-1.9**
	baz=249						
YULB	**Yu-li**	**0.81**	**210**	*e*Pn	**Pn**	**23 08 08.3**	**-2.7**
YULB				*e*Sn	**Sn**	**23 08 20.0**	**-2.8**
TYC	**Yuchr**	**0.83**	**256**	⇓*i*P	**Pn**	**23 08 10.3**	**-0.8**
	baz=254						
TYC				*e*S	**Sn**	**23 08 22.0**	**-1.1**
	baz=254						
NSTT	**Nanjuang**	**0.85**	**308**	⇓*i*P	**Pn**	**23 08 10.8**	**-0.5**
	baz=311						
NSTT				*e*S	**Sn**	**23 08 22.2**	**-1.4**
	baz=311						
TWF1	**Yuli**	**0.85**	**208**	⇓P	**Pn**	**23 08 09.1**	**-2.3**
	baz=210						
TWA	**Mucha**	**0.88**	**351**	⇑P	**Pn**	**23 08 11.2**	**-0.6**
	baz=344						
TWA				*e*S	**Sn**	**23 08 24.2**	**-0.1**
	baz=344						
TATO	**Taipei**	**0.90**	**346**	*e*Pn	**Pn**	**23 08 10.9**	**-1.0**
TATO				*e*Sn	**Sn**	**23 08 23.6**	**-1.0**
TWQ1	**Liyutan**	**0.91**	**286**	⇓*i*P	**Pn**	**23 08 11.4**	**-0.7**
	baz=287						
TWQ1				*e*S	**Sn**	**23 08 23.6**	**-1.4**
	baz=287						
NSY	**Sanyi**	**0.94**	**289**	⇓*i*P	**Pn**	**23 08 12.0**	**-0.5**
	baz=291						
NSY				*e*S	**Sn**	**23 08 24.9**	**-0.7**
	baz=291						
YUS	**Yu-Shan**	**0.94**	**230**	⇓P	**Pn**	**23 08 12.2**	**-0.8**
	baz=220						
YUS				*e*S	**Sn**	**23 08 24.3**	**-2.1**
	baz=220						
TAP1	**Taipei**	**0.95**	**348**	⇑*i*P	**Pn**	**23 08 11.7**	**-0.9**
	baz=350						
TAP1				*e*S	**Sn**	**23 08 24.3**	**-1.4**
	baz=350						
TAP	**Taipei**	**0.95**	**347**	⇑P	**Pn**	**23 08 11.7**	**-0.9**
	baz=351						
NWF	**Wu-fen Shan**	**0.96**	**2**	⇑*i*P	**Pn**	**23 08 12.5**	**-0.3**
	baz=353						
TCU	**Taichung**	**0.97**	**273**	⇓*i*P	**Pn**	**23 08 12.3**	**-0.6**
	baz=273						
TCU				*e*S	**Sn**	**23 08 25.5**	**-0.7**
	baz=273						
HSN	**Hsinchu**	**0.98**	**315**	*e*P	**Pn**	**23 08 12.3**	**-0.7**
	baz=330						
HSN				*e*S	**Sn**	**23 08 26.1**	**-0.4**
	baz=330						
WNT	**Mingjian**	**0.99**	**257**	⇓*i*P	**Pn**	**23 08 12.9**	**-0.1**
	baz=257						
WNT				S	**Sn**	**23 08 27.1**	**+0.5**
	baz=257						
NCU	**National Centr**	**1.00**	**330**	⇑*i*P	**Pn**	**23 08 12.7**	**-0.5**
	baz=333						
NCU				*e*S	**Sn**	**23 08 26.1**	**-0.7**
	baz=333						
TWS1	**Kuangyinshan**	**1.03**	**344**	⇑*i*P	**Pn**	**23 08 13.0**	**-0.6**
	baz=357						
TWS1				S	**Sn**	**23 08 26.6**	**-1.0**
	baz=357						
ALS	**Alishan**	**1.04**	**235**	⇓*i*P	**Pn**	**23 08 13.7**	**-0.3**
	baz=228						
ALS				*e*S	**Sn**	**23 08 28.1**	**-0.1**
	baz=228						
CHKT	**Chengkung**	**1.06**	**199**	⇓P	**Pn**	**23 08 12.8**	**-1.1**
	baz=196						
CHKT				*e*S	**Sn**	**23 08 27.0**	**-1.1**
	baz=196						
CHN5	**Tsauling**	**1.09**	**243**	⇓*i*P	**Pn**	**23 08 14.3**	**-0.2**
	baz=242						
ELDTW	**Lidau**	**1.12**	**216**	⇑P	**Pn**	**23 08 13.4**	**-1.6**
	baz=208						
WGK	**Gukeng**	**1.15**	**249**	⇓*i*P	**Pn**	**23 08 15.2**	**0.0**
	baz=248						
WGK				S	**Sn**	**23 08 31.3**	**+1.0**
	baz=248						
JYNG	**Yonagunijimaku**	**1.16**	**72**	P	**Pn**	**23 08 14.9**	**-0.3**
JYNG				S	**Sn**	**23 08 30.3**	**-0.1**
TWY	**Chenhua**	**1.17**	**354**	⇑P	**Pn**	**23 08 14.8**	**-0.7**
	baz=348						
YOJ	**Yonaguni jima**	**1.22**	**73**	P	**Pn**	**23 08 15.7**	**-0.3**
YOJ				S	**Sn**	**23 08 31.8**	**0.0**
YOJ	**Yonaguni jima**	**1.22**	**73**	⇑*i*P	**Pn**	**23 08 15.8**	**-0.3**
	baz=73						
YOJ				S	**Sn**	**23 08 32.0**	**+0.1**
	baz=73						
YOJ	**Yonaguni jima**	**1.22**	**73**	*e*Pn	**Pn**	**23 08 15.6**	**-0.4**
YOJ				*e*Sn	**Sn**	**23 08 29.8**	**-2.1**
CHN4	**Tsaushan**	**1.29**	**235**	⇓*i*P	**Pn**	**23 08 17.3**	**+0.4**
	baz=234						
CHN4				*e*S	**Sn**	**23 08 33.9**	**+0.4**
	baz=234						
TPUB	**Ta-pu**	**1.29**	**232**	*e*Pn	**Pn**	**23 08 16.8**	**-0.2**
TPUB				*e*Sn	**Sn**	**23 08 32.3**	**-1.3**
STYT	**Tauyuan**	**1.30**	**224**	⇓*i*P	**Pn**	**23 08 17.1**	**0.0**
	baz=222						
STYT				S	**Sn**	**23 08 33.4**	**-0.4**
	baz=222						
WTP	**Ta-pu**	**1.34**	**230**	⇓*i*P	**Pn**	**23 08 17.7**	**+0.1**
	baz=229						
WTP				*e*S	**Sn**	**23 08 35.8**	**+1.0**
	baz=229						
CHY	**Chiayi**	**1.34**	**244**	*e*P	**Pn**	**23 08 17.4**	**-0.3**
	baz=232						
CHY				*e*S	**Sn**	**23 08 35.7**	**+0.9**
	baz=232						
WTCT	**Ta-ch'eng**	**1.35**	**260**	*e*P	**Pn**	**23 08 16.6**	**-1.2**
	baz=271						
WTCT				*e*S	**Sn**	**23 08 35.1**	**+0.1**
	baz=271						
TWK	**Hsinying**	**1.42**	**234**	⇓*i*P	**Pn**	**23 08 18.8**	**+0.1**
	baz=233						
TWK				*i* S	**Sn**	**23 08 37.0**	**+0.4**
	baz=233						
TWG	**Pinlang**	**1.42**	**206**	⇑*e*P	**Pn**	**23 08 16.2**	**-2.4**
	baz=195						
TWG	**Pinlang**	**1.42**	**206**	*e*Pn	**Pn**	**23 08 15.9**	**-2.8**
TWG				*e*Sn	**Sn**	**23 08 35.1**	**-1.5**
CHN1	**Nanshi**	**1.44**	**231**	⇓*i*P	**Pn**	**23 08 19.1**	**+0.1**
	baz=229						
CHN1				S	**Sn**	**23 08 37.2**	**+0.2**
	baz=229						
TTN	**Taitung**	**1.45**	**202**	*e*P	**Pn**	**23 08 18.1**	**-1.0**
	baz=191						
WSF	**Szhu**	**1.46**	**252**	⇑*i*P	**Pn**	**23 08 18.8**	**-0.4**
	baz=262						
WSF				*e*S	**Sn**	**23 08 38.5**	**+0.9**
	baz=262						
SGST	**Jiashian**	**1.47**	**226**	⇓*i*P	**Pn**	**23 08 19.9**	**+0.5**
	baz=225						
SGST				*i* S	**Sn**	**23 08 38.5**	**+0.7**
	baz=225						
CHN8	**Yiju**	**1.59**	**242**	P	**Pn**	**23 08 20.5**	**-0.4**
	baz=241						
CHN8				S	**Sn**	**23 08 41.1**	**+0.5**
	baz=241						
CHN3	**Shinhua**	**1.62**	**231**	*e*P	**Pn**	**23 08 22.1**	**+0.8**
	baz=230						
CHN3				*e*S	**Sn**	**23 08 44.0**	**+2.7**
	baz=230						
ECL	**Taimali**	**1.66**	**206**	*e*P	**Pn**	**23 08 20.1**	**-1.8**
	baz=197						
SCLT	**Jiali**	**1.69**	**237**	P	**Pn**	**23 08 22.2**	**0.0**
	baz=227						
SCLT				S	**Sn**	**23 08 43.8**	**+0.8**
	baz=227						
SSD	**Sandimen**	**1.69**	**217**	*e*P	**Pn**	**23 08 22.6**	**+0.3**
	baz=226						
SSD				*e*S	**Sn**	**23 08 44.1**	**+1.1**
	baz=226						
TAI1	**Yung-k'ang**	**1.74**	**233**	⇓*i*P	**Pn**	**23 08 23.3**	**+0.4**
	baz=232						
TAI1				S	**Sn**	**23 08 45.0**	**+0.8**
	baz=232						
TWM1	**Shoushan**	**1.75**	**224**	*e*P	**Pn**	**23 08 24.5**	**+1.3**
	baz=223						
TWM1				*e*S	**Sn**	**23 08 48.3**	**+3.6**
	baz=223						
SGLT	**Jiouru**	**1.79**	**220**	*e*P	**Pn**	**23 08 24.9**	**+1.3**
	baz=218						
IRIF	**Iriomote-Funau**	**1.84**	**82**	P	**Pn**	**23 08 23.9**	**-0.3**
IRIF				S	**Sn**	**23 08 46.6**	**+0.1**
HATJ	**Hateruma jima**	**1.89**	**91**	P	**Pn**	**23 08 25.2**	**+0.2**
HATJ				*e*S	**Sn**	**23 08 49.2**	**+1.3**
EAST	**Anshuo**	**1.90**	**206**	*e*P	**Pn**	**23 08 23.2**	**-2.0**
	baz=196						
TAW	**Tawu**	**1.90**	**204**	*e*P	**Pn**	**23 08 24.0**	**-1.1**
	baz=195						
SCZT	**Fangliau**	**2.01**	**211**	*e*P	**Pn**	**23 08 27.2**	**+0.6**
	baz=222						
SCZT				*e*S	**Sn**	**23 08 52.2**	**+1.6**
	baz=222						
KAU	**Kaohsiung**	**2.02**	**221**	*e*P	**Pn**	**23 08 27.1**	**+0.4**
	baz=232						
LAY	**Lan-yu**	**2.06**	**185**	⇑*e*P	**Pn**	**23 08 25.7**	**-1.6**
	baz=177						
PNG	**Penghu**	**2.07**	**255**	⇓*i*P	**Pn**	**23 08 25.6**	**-1.7**
	baz=255						
PNG				*e*S	**Sn**	**23 08 50.4**	**-1.8**
	baz=255						
WDGT	**Dungji**	**2.08**	**247**	*e*P	**Pn**	**23 08 26.3**	**-1.3**
	baz=246						
WDGT				*e*S	**Sn**	**23 08 50.8**	**-1.7**
	baz=246						
JKRS	**Kuro-shima**	**2.08**	**86**	P	**Pn**	**23 08 27.8**	**+0.3**
JKRS				S	**Sn**	**23 08 53.3**	**+0.8**
TWP	**Hsiaoliuchiu**	**2.16**	**216**	*e*P	**Pn**	**23 08 29.4**	**+0.8**
	baz=228						
JIJ	**Ishigaki jima**	**2.21**	**83**	P	**Pn**	**23 08 28.9**	**-0.4**
JIJ				S	**Sn**	**23 08 54.8**	**-0.9**
HEN	**Hengchun**	**2.28**	**204**	*e*P	**Pn**	**23 08 30.9**	**+0.6**
	baz=213						
TWK1	**Hengchun**	**2.32**	**202**	*e*P	**Pn**	**23 08 30.3**	**-0.4**
	baz=194						
TWK1				*e*S	**Sn**	**23 08 58.5**	**+0.3**
	baz=194						
TSEB	**Hengchuen, Pin**	**2.33**	**199**	*e*P	**Pn**	**23 08 29.9**	**-0.9**
	baz=193						
TSEB				*e*S	**Sn**	**23 08 58.3**	**-0.1**
	baz=193						
JISG	**Ishigakijimahi**	**2.40**	**78**	P	**Pn**	**23 08 31.3**	**-0.5**
JISG				S	**Sn**	**23 09 00.1**	**0.0**
JTJ	**Tarama**	**2.76**	**78**	P	**Pn**	**23 08 36.8**	**+0.1**
JTJ				S	**Sn**	**23 09 08.7**	**-0.2**
QZH	**Quanzhou**	**2.98**	**287**	⇑*i*Pn	**Pn**	**23 08 37.5**	**-2.3**
QZH				Sn	**Sn**	**23 09 09.0**	**-5.4**
QZH				SMN			
	2μm,0.8s						
QZH				SME			
	2μm,0.9s						
KNM	**Kinmen**	**3.03**	**277**	⇓*i*P	**Pn**	**23 08 40.1**	**-0.3**
	baz=277						
JIRB	**Irabujima**	**3.21**	**76**	P	**Pn**	**23 08 42.9**	**0.0**
JIRB				S	**Sn**	**23 09 20.2**	**+0.1**
JIKM	**Ikemajima**	**3.30**	**75**	P	**Pn**	**23 08 44.3**	**+0.2**
JIKM				S	**Sn**	**23 09 21.6**	**-0.6**
JMJ	**Miyako jima 2**	**3.32**	**77**	P	**Pn**	**23 08 44.4**	**0.0**
JMJ				S	**Sn**	**23 09 22.6**	**0.0**
JMJ	**Miyako jima 2**	**3.32**	**77**	*e*P	**Pn**	**23 08 43.5**	**-0.9**
	baz=77						
JOGS	**Gusukube**	**3.41**	**78**	P	**Pn**	**23 08 46.2**	**+0.6**
JOGS				*e*S	**Sn**	**23 09 25.7**	**+0.8**
JKE	**Kume jima 2**	**5.08**	**63**	P	**Pn**	**23 09 08.2**	**-0.3**
JKE				S	**Sn**	**23 10 07.2**	**+1.4**
JAGN	**Aguni-jima**	**5.56**	**62**	P	**Pn**	**23 09 14.7**	**-0.3**
JNTH	**Nagotoyohara**	**6.18**	**66**	P	**Pn**	**23 09 22.4**	**-1.0**
JIH	**Iheya**	**6.34**	**61**	P	**Pn**	**23 09 25.0**	**-0.7**
JOW	**Kunigami**	**6.50**	**64**	P	**Pn**	**23 09 26.3**	**-1.6**
JOW	**Kunigami**	**6.50**	**64**	P	**Pn**	**23 09 26.4**	**-1.6**
	7.4nm,0.3s,baz=123,slow=24,SNR=85						
JOW				S	**Sn**	**23 10 37.4**	**-3.3**
	0.5nm,0.3s,baz=121,slow=27,SNR=1.2						
JOW				LR	LR	23 11 16.0	
	comp=Z,4.7nm,18.7s,baz=228,slow=32						
JOW	**Kunigami**	**6.50**	**64**	⇑*e*P	**Pn**	**23 09 26.4**	**-1.5**
	baz=66						
JOW	**Kunigami**	**6.50**	**64**	*e*Pn	**Pn**	**23 09 26.3**	**-1.6**
JOW				*e*Sn	**Sn**	**23 10 37.9**	**-2.9**
SZP	**Santa**	**6.63**	**191**	*e*Pn	**Pn**	**23 09 28.8**	**-0.9**
JOKE	**Okinoerabujima**	**6.96**	**61**	P	**Pn**	**23 09 32.3**	**-2.0**
SSE	**Sheshan**	**6.98**	**356**	Pn	Px	23 10 13.5	
SSE				Sn	**Sn**	**23 10 48.0**	**-4.4**
SSE				smax	smax		
	comp=N,93nm,0.9s						
SSE				smax	smax		
	comp=E,140nm,0.9s						
JTK	**Tokunoshima**	**7.46**	**59**	P	**Pn**	**23 09 38.9**	**-2.1**
GZH	**Guangzhou**	**7.76**	**264**	P	**Pn**	**23 09 46.5**	**+1.3**
GZH				SMN			
	comp=E,450nm,0.7s						
GZH				SME			
	comp=E,280nm,0.7s						
JAMN	**Amaminishikomi**	**7.85**	**57**	P	**Pn**	**23 09 43.8**	**-2.5**
JAM	**Amami Oshima**	**8.26**	**57**	P	**Pn**	**23 09 49.1**	**-2.9**
NJ2	**Nanjing**	**8.31**	**343**	*e*P	**Pn**	**23 09 51.3**	**-1.4**
NJ2				S	Sn	23 11 16.8	-8.2
NJ2				PMZ			
	comp=E,100nm,0.7s						
NJ2				SMN			
	comp=E,350nm,0.8s						
NJ2				SME			
	comp=E,230nm,1.0s						
NJ2				LN			
	comp=E,760nm,5.1s						
NJ2				LE			
	comp=E,850nm,5.0s						
NJ2				LZ			
	comp=E,690nm,9.1s						
JMZ	**Minamidaito 2**	**8.78**	**77**	P	Pn	23 09 54.8	-4.2
WHN	**Wuhan**	**9.18**	**316**	P	**Pn**	**23 10 01.8**	**-2.7**
JNU	**Nakatsue**	**12.04**	**40**	P	**Pn**	**23 10 44.0**	**+0.3**
	comp=E,0.5nm,0.3s,baz=142,slow=12,SNR=3.3						
JNU	**Nakatsue**	**12.04**	**40**	*e*Pn	**Pn**	**23 10 44.3**	**+0.7**
QIZ	**Qiongzhong**	**12.16**	**248**	*e*Pn	**Pn**	**23 10 46.5**	**+1.3**
GYA	**Guiyang**	**13.84**	**283**	⇑*i*P	**Pn**	**23 11 07.3**	**-0.7**
GYA				S	Sn	23 13 32.8	-7.3
GYA				PMZ			
	comp=E,20nm,0.9s						
GYA				PMZ			
	comp=E,110nm,4.8s						
GYA				LN			
	comp=E,190nm,6.5s						
GYA				LE			
	comp=E,220nm,6.8s						
GYA				LZ			
	comp=E,230nm,5.6s						
KSRS	**Korea Array**	**14.32**	**20**	P	**Pn**	**23 11 14.6**	**+0.5**
	comp=E,0.2nm,0.3s,baz=203,slow=14,SNR=3.7						
KSRS				LR	LR	23 17 11.1	
	comp=E,54nm,19.4s,baz=172,slow=39						
XAN	**Xi'an**	**14.94**	**314**	P	**P**	**23 11 27.3**	**+1.0**
XAN				PMZ			
	comp=E,4.0nm,0.8s						
XAN				PMZ			
	comp=E,36nm,6.5s						
SLVN	**Son La**	**16.68**	**264**	*e*Pn	**Pn**	**23 11 44.2**	**-0.1**
	comp=E,27nm,1.5s						
KMI	**Kunming**	**17.30**	**277**	P	**P**	**23 11 53.3**	**+0.5**
KMI				S	**Sn**	**23 15 05.5**	**+1.2**
KMI				PMZ			
	comp=E,11nm,0.9s						
KMI				PMZ			
	comp=E,70nm,3.9s						
KMI				LN			
	comp=E,230nm,9.0s						
KMI				LE			
	comp=E,290nm,9.5s						
KMI				LZ			
	comp=E,220nm,13.3s						
KKM	**Kota Kinabalu**	**18.73**	**197**	*e*P	**P**	**23 12 08.5**	**+0.2**
	comp=E,136nm,2.0s						
HHC	**Hu-ho-hao-te**	**18.75**	**335**	*e*P	**Pn**	**23 12 11.3**	**+1.8**
HHC				S	**S**	**23 15 34.0**	**-4.1**
HHC				PMZ			
	comp=E,48nm,1.3s						
HHC				PMZ			
	comp=E,320nm,4.8s						
MJAR	**Matsushiro Arr**	**18.83**	**45**	P	**P**	**23 12 07.5**	**-1.7**
	comp=E,0.1nm,0.3s,baz=231,slow=9.4,SNR=3.9						
MJAR				LR	LR	23 19 40.4	
	comp=E,30nm,20.0s,baz=230,slow=38						
CRAI	**Chiangrai**	**20.15**	**263**	P	**P**	**23 12 23.0**	**-0.8**
	comp=E,237nm,0.7s						
UTTA	**Uttaradit**	**20.76**	**256**	P	Pn	23 12 33.9	+0.6
	comp=E,2.0nm,1.0s						
PBKT	**Sadao Pong**	**20.85**	**253**	P	Pn	23 12 33.3	-1.1
	comp=E,23nm,1.1s						
LAMP	**Lampang**	**21.32**	**259**	P	**P**	**23 12 38.2**	**+1.9**
	comp=E,7.3nm,0.8s						
CMAI	**Chiengmai2**	**21.43**	**263**	P	**P**	**23 12 40.0**	**+2.3**
	comp=E,64nm,1.2s						
USRK	**Ussuriysk Ar.**	**21.73**	**20**	LR	LR	23 22 31.8	
	comp=E,43nm,19.6s,baz=214,slow=40						
CMMT	**Chiang Mai**	**21.84**	**260**	P	**P**	**23 12 43.7**	**+1.8**
	comp=E,15nm,0.9s

comp=E,45nm,21.4s,baz=170,slow=36
SONA1 Songino Array 26.64 337 *e*P **P 23 13 27.1 -0.2**
LSA Lhasa 27.79 288 *e*P **P 23 13 38.8 +0.6**
comp=E,9.8nm,0.6s
TPRI Tanjung Pinang 28.45 218 P P 23 13 48.1 +4.6
comp=E,604nm,0.3s,comp=E,26μm
PSI Prapat 30.56 230 LR LR 23 25 26.2
comp=E,57nm,18.4s,baz=26,slow=34
TAPN Taplejung 30.77 283 *e*P **P 23 14 05.8 +1.4**
comp=E,26nm,0.6s
TLY Talaya 30.84 338 LR LR 23 25 49.2
comp=E,37nm,21.2s,baz=164,slow=35
ODAN Odare 31.07 282 *e*P **P 23 14 08.0 +1.0**
comp=E,30nm,0.8s
MNSI Mandailing Nat 31.59 226 P **P 23 14 10.9 -0.4**
comp=E,17nm,0.9s
RAMN Ramite 31.77 283 *e*P **P 23 14 14.2 +1.0**
comp=E,32nm,0.7s
JIRN Jiri 32.11 284 *e*P **P 23 14 17.3 +1.1**
comp=E,20nm,0.7s
GUN Gumba 32.38 285 *e*P **P 23 14 19.2 +0.6**
comp=E,18nm,0.7s
GSI Gunungsitoli 32.57 229 *e*P **P 23 14 18.9 -1.0**
comp=E,23nm,1.2s
PKI Pulchoki 32.80 284 *e*P **P 23 14 22.7 +0.4**
comp=E,7.5nm,0.6s
PKIN Phulchoki 32.81 284 *e*P **P 23 14 22.7 +0.4**
comp=E,6.7nm,0.6s
KKN Kakani 32.91 284 *e*P **P 23 14 23.5 +0.4**
comp=E,14nm,0.6s
DMN Daman 33.07 284 *e*P **P 23 14 24.9 +0.4**
comp=E,14nm,0.6s
GKN Gorkha 33.47 285 *e*P **P 23 14 28.1 +0.2**
comp=E,10nm,0.5s
DANN Dangsing 34.23 285 *e*P **P 23 14 35.2 +0.5**
comp=E,23nm,0.7s
KOLN Koldanda 34.40 284 *e*P **P 23 14 36.3 +0.3**
comp=E,21nm,0.7s
MK01 Makanchi Array 38.73 316 *e*P **P 23 15 12.5 +0.1**
MKAR Makanchi Array 38.74 316 P **P 23 15 12.7 +0.1**
comp=E,1.9nm,0.5s,baz=101,slow=9.0,SNR=40
MKAR pP **pP 23 15 28.5 -0.7**
comp=E,2.2nm,0.8s,baz=112,slow=10.0,SNR=5.9
MKAR sP **sP 23 15 37.6 +0.6**
comp=E,2.5nm,0.8s,baz=103,slow=11,SNR=4.7
MKAR LR LR 23 33 41.1
comp=E,18nm,19.0s,baz=86,slow=40
MKAR Makanchi Array 38.74 316 *e*P **P 23 15 12.5 -0.1**
PETK Petropavlovsk- 39.65 34 LR LR 23 30 50.7
comp=E,22nm,21.6s,baz=210,slow=35
ZAA0 Zalesovo Array 40.59 327 *e*P **P 23 15 26.9 -0.7**
ZALV Zalesovo Beam 40.59 327 P **P 23 15 27.0 -0.7**
comp=E,2.6nm,0.5s,baz=114,slow=7.7,SNR=16
ZALV pP **pP 23 15 43.8 -0.6**
comp=E,1.4nm,0.5s,baz=112,slow=6.6,SNR=2.7
ZALV sP **sP 23 15 55.0 +2.8**
comp=E,2.4nm,0.7s,baz=108,slow=8.0,SNR=2.6
ZALV LR LR 23 33 34.3
comp=E,56nm,18.7s,baz=76,slow=38
KSH Kashi 41.36 303 *e*P **P 23 15 34.0 -0.5**
KSH pP pP 23 16 02.8 +12
KSH PP **PP 23 17 12.5 +1.5**
KSH S S 23 21 38.0 -6.4
KSH sS sS 23 22 29.5 +17
KSH SS **SS 23 24 50.3 -0.1**
KSH pmax pmax
comp=Z,55nm,6.2s
KSH LR LR
comp=N,31nm,4.6s
KSH LR LR
comp=E,44nm,4.3s
KSH LR LR
comp=Z,150nm,5.4s
H11N1 WAKE ISLAND Hy 41.99 87 T T 00 01 09.2
baz=283,slow=74,SNR=19
H11N2 WAKE ISLAND Hy 41.99 87 T T 00 01 09.0
baz=283,slow=74,SNR=17
H11N3 WAKE ISLAND Hy 42.01 87 T T 00 01 09.2
baz=283,slow=74,SNR=16
H11S3 WAKE ISLAND Hy 42.12 89 T T 00 01 22.9
baz=284,slow=75,SNR=38
FITZ Fitzroy Crossi 42.12 174 *e*P **P 23 15 39.0 -1.6**
comp=Z,42nm,2.3s
H11S1 WAKE ISLAND Hy 42.13 89 T T 00 01 24.7
baz=284,slow=75,SNR=19
H11S2 WAKE ISLAND Hy 42.13 89 T T 00 01 26.1
baz=284,slow=75,SNR=23
TKM2 Tokmak 2 42.21 308 *e*P **P 23 15 42.0 +0.6**
comp=Z,4.5nm,0.6s
KURBB Kurchatov Arra 42.49 320 P **P 23 15 43.3 0.0**
comp=Z,1.2nm,0.6s,baz=110,slow=9.0,SNR=4.0
KURBB pP **pP 23 15 59.4 -0.8**
comp=Z,0.6nm,0.3s,baz=112,slow=9.8,SNR=3.3
AAK Ala-Archa 42.95 307 P **P 23 15 48.2 +0.8**
comp=Z,1.4nm,0.6s,baz=141,slow=5.4,SNR=9.9
AAK Ala-Archa 42.95 307 *e*P **P 23 15 47.8 +0.4**
comp=Z,2.2nm,0.8s
MBWA Marble Bar 45.03 183 *e*P **P 23 16 01.1 -2.9**
comp=Z,40nm,1.7s
WRA Warramunga Arr 45.47 163 P **P 23 16 05.6 -1.9**
comp=Z,2.0nm,0.5s,baz=346,slow=8.7,SNR=36
WRA pP **pP 23 16 23.3 -1.2**
comp=Z,3.7nm,0.9s,baz=345,slow=8.8,SNR=4.6
KKAR Karatay Array 45.92 307 *e*P **P 23 16 11.5 +0.6**
KBL Kabul 46.65 295 *e*P **P 23 16 18.4 +1.5**
comp=Z,528nm,0.7s
TIXI Tiksi 47.75 3 *e*P **P 23 16 24.5 -0.1**
comp=Z,13nm,1.8s
ASAR Alice Springs 48.93 165 P **P 23 16 33.1 -1.3**
comp=Z,0.6nm,0.3s,baz=339,slow=7.1,SNR=14
ASAR pP **pP 23 16 53.2 +1.7**
comp=Z,1.4nm,0.7s,baz=343,slow=7.2,SNR=4.2
AS01 Alice Springs 48.94 165 *e*P **P 23 16 33.5 -0.9**
ABKAR Akbulak array 53.86 314 *e*P **P 23 17 11.1 +0.2**
AKTO Aktyubinsk P 55.18 316 P **P 23 17 20.7 +0.2**
comp=Z,1.0nm,0.5s,baz=75,slow=6.7,SNR=4.2
AKTO pP **pP 23 17 38.2 +0.2**
comp=Z,1.7nm,0.7s,baz=54,slow=3.5,SNR=4.3
AKTO sP **sP 23 17 46.8 +1.1**
comp=Z,1.2nm,0.6s,baz=102,slow=10,SNR=3.1
GEYT Alibeck 55.27 300 P **P 23 17 21.1 -0.4**
comp=Z,2.4nm,0.9s,baz=46,slow=4.3,SNR=4.9
GEYT pP **pP 23 17 41.8 +2.9**
comp=Z,1.2nm,0.6s,baz=69,slow=4.8,SNR=2.1
ARU Arti 55.47 323 *e*P **P 23 17 22.3 -0.2**
comp=Z,56nm,2.6s
KBZ Khabaz 65.92 309 P **P 23 18 34.6 +0.8**
comp=Z,1.1nm,0.7s,baz=119,slow=13,SNR=2.4
KBZ pP **pP 23 18 52.2 +0.5**
comp=Z,1.8nm,0.9s,baz=100,slow=7.7,SNR=3.5
IM04 Indian Mountai 66.02 26 *e*P **P 23 18 33.2 -0.8**
PPLA Purkeypile 67.07 30 *e*P **P 23 18 41.5 +0.6**
comp=Z,50nm,1.8s
KTH Kantishna Hill 67.54 29 *e*P **P 23 18 44.4 +0.6**
comp=Z,131nm,3.0s
TRF Thorofare Moun 67.83 29 *e*P **P 23 18 47.0 +1.2**
comp=Z,114nm,2.5s
MCK McKinley 68.38 29 *e*P **P 23 18 49.6 +0.6**
comp=Z,41nm,1.9s
RAYN Ar Rayn 68.85 287 *e*P **P 23 18 52.2 -0.5**
comp=Z,31nm,2.5s
ILAR Eielson Array 69.05 27 P **P 23 18 52.6 -0.5**
comp=Z,0.5nm,0.6s,baz=292,slow=8.9,SNR=7.9
FINES FINESS Array B 71.77 330 P **P 23 19 07.8 -1.9**
comp=Z,0.7nm,0.4s,baz=72,slow=6.8,SNR=12
FINES pP **PcP 23 19 29.3 +0.9**
comp=Z,2.0nm,0.7s,baz=77,slow=5.7,SNR=3.6
DAWY Dawson 72.38 27 *e*P **P 23 19 13.7 +0.3**
comp=Z,108nm,2.9s
INK Inuvik 73.11 22 *e*P **P 23 19 17.9 +0.3**
comp=Z,55nm,2.2s
BRTR Keskin Array B 73.62 307 P **P 23 19 21.4 0.0**
comp=Z,1.1nm,0.9s,baz=114,slow=5.2,SNR=5.6
BRTR pP **pP 23 19 40.0 +0.4**
comp=Z,1.1nm,0.8s,baz=92,slow=7.2,SNR=2.9
BR231 Keskin MP Arra 74.22 307 *e*P **P 23 19 22.5 -2.3**
CSS Prodhromos 75.37 302 *e*P **P 23 19 31.4 0.0**
comp=Z,3.1nm,1.0s
NOA NORSAR Array B 78.53 332 P **P 23 19 48.0 -0.7**
comp=Z,1.0nm,0.8s,baz=37,slow=6.7,SNR=3.4
NOA pP **pP 23 20 08.8 +1.7**
comp=Z,0.8nm,0.8s,baz=58,slow=5.7,SNR=2.6
NOA LR LR 00 00 06.6
comp=Z,23nm,18.2s,baz=335,slow=40
KMBO Kilima Mbogo 85.42 267 P **P 23 20 26.6 +0.7**
comp=Z,1.3nm,0.6s,baz=48,slow=13,SNR=5.2
FCC Fort Churchill 92.27 18 *e*P **P 23 20 56.9 -0.4**
comp=Z,144nm,2.9s
PDAR Pinedale Array 98.40 36 LR LR 00 06 32.1
comp=Z,8.0nm,19.9s,baz=90,slow=36

MAN 26 23:09:46,12.°95N×123.°92E,h19km,mb4.3,ML3.2,MS3.0, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.68**	**19**	*e*P	Pn	23 10 00.4	-0.2
PVCP				*e*S	Sn	23 10 12.6	+1.9
CNP	**Catarman**	**0.85**	**121**	*e*P	Pb	23 10 02.1	0.0
CNP				*e*S	Sn	23 10 16.5	+1.7
RCP	**Roxas**	**1.80**	**220**	⇑*e*P	Pb	23 10 17.7	-0.7
OTRP	**Odiongan**	**1.95**	**253**	*e*P	Pn	23 10 19.3	+1.3
OTRP				*e*S	Sn	23 10 38.9	-3.1
BOAC	**Boac**	**2.08**	**284**	*e*P	Pn	23 10 20.9	+0.9
BOAC				*e*S	Sn	23 10 42.7	-2.7
GUIM	**Jordan**	**2.66**	**210**	*e*P	Pn	23 10 28.9	+1.1

GUC 26 23:15:57.1±0.3,34.°84S×72.°34W,h26km±1km,ML4.0,4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.80**	**134**	⇓*e*P	Pb	23 16 11.8	-0.6
TALC				*e*S	Sb	23 16 22.9	+0.2
NICH	**Los Niches**	**0.92**	**100**	⇓*e*P	Pn	23 16 13.6	-0.8
NICH				*e*S	Sb	23 16 26.1	-0.3
LNCH	**Linares**	**1.17**	**149**	*e*P	Pn	23 16 17.4	-0.4
LNCH				*e*S	Sn	23 16 33.0	0.0
LNV	**Longovilo**	**1.17**	**41**	*e*P	Pn	23 16 17.4	-0.4
COCH	**Cobquecura**	**1.34**	**196**	*e*P	Pn	23 16 20.1	0.0
COCH				*e*S	Sn	23 16 37.4	+0.4
CACH	**El Canelo**	**1.61**	**64**	⇓*e*P	Pn	23 16 24.8	+0.8
CHCH	**Chadas Angostu**	**1.66**	**57**	*e*P	Pn	23 16 25.4	+0.7
RCDM	**Rinconada Maip**	**1.85**	**44**	*e*P	Pn	23 16 28.2	+0.9
RCDM				*e*S	Sb	23 16 52.1	-1.1
CLCH	**Cerro Calan**	**2.08**	**46**	*e*P	Pn	23 16 31.8	+1.4
CLCH				*e*S	Sb	23 16 58.0	-1.7
CLCH				IAML		23 17 01.1	
	comp=E,1μm,0.6s						
ROCH	**El Roble**	**2.17**	**31**	*e*P	Pn	23 16 33.5	+1.6
ROCH				*e*S	Sb	23 17 00.8	-1.9
ROCH				IAML		23 17 06.3	
	comp=N,798nm,0.3s						
PEL	**Peldehue**	**2.18**	**39**	⇓*e*P	Pn	23 16 33.1	+1.2
PEL				*e*S	Sb	23 17 00.5	-2.2
PEL				IAML		23 17 04.6	
	comp=N,2μm,0.4s						

*ISCJB **26** 23:16:39.8±0.3,36.°68N±0.°02×71.°40E±0.°05,h200km, mb3.6/16, Error ellipse: s-maj=5.5km s-min=2.9km az=158.8*
*IDC **26** 23:16:41.1±0.8,36.°59N×71.°38E,h197km±7km,mb3.4/14, mb1 3.6/19,mb1mx3.5/29,mbtmp4.1/19,Error ellipse: s-maj=12.4km s-min=10.8km az=179.0*
*NNC **26** 23:16:44.4±1.8,37.°09N×71.°18E,h196km±13km,mb3.7, mpv4.9,Error ellipse: s-maj=18.4km s-min=10.8km az=163.0*

ISC 26 23:16:40.8±0.4,36.°63N±0.°05×71.°43E±0.°05,h200km,n74, σ1°78/89,mb3.7/16,11C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.83**	**172**	P	**Pn**	**23 17 29.1**	**+0.4**
CEP				S	**Sn**	**23 18 06.0**	**0.0**
DZET	**Dzherino**	**2.99**	**317**	⇑P	**Pn**	**23 17 28.6**	**-1.9**
DZET				⇑S	Sn	23 18 02.9	-6.3
CHCP	**Chirah Chowk**	**3.33**	**153**	P	**Pn**	**23 17 35.7**	**+1.3**
THW	**Thamme Wali**	**3.84**	**176**	P	**Pn**	**23 17 40.9**	**+0.2**
SARP	**Sargodha**	**4.81**	**167**	P	**Pn**	**23 17 52.5**	**-0.3**
DLH	**Dalhousie**	**5.54**	**136**	*ex*	Pn	23 18 08.0	+5.6
DLH				*e*S	**Sn**	**23 19 06.0**	**-0.7**
AML	**Almayashu**	**5.76**	**17**	P	**Pn**	**23 18 04.4**	**-0.9**
SNR=516							
DHRM	**DHARAMSHALA**	**5.94**	**136**	*e*P	**Pn**	**23 18 08.2**	**+0.6**
DHRM				*e*S	**Sn**	**23 19 14.4**	**-1.7**
DHRM				AML	AML	23 19 16.5	
	comp=E,997nm,0.3s						
DHRM				AML	AML	23 19 16.7	
	comp=N,543nm,0.6s						
UCH	**Uchtor**	**6.08**	**22**	P	**Pn**	**23 18 08.6**	**-0.8**
SNR=220							
KZA	**Kyzart**	**6.19**	**27**	P	**Pn**	**23 18 09.3**	**-1.5**
SNR=37							
EKS2	**Erkin-Say**	**6.29**	**16**	P	**Pn**	**23 18 11.3**	**-0.5**
SNR=58							
AAK	**Ala-Archa**	**6.44**	**21**	⇑P	**Pn**	**23 18 13.2**	**-0.6**
	comp=N,57nm,0.3s						
AAK				⇑S	**Sn**	**23 19 24.6**	**-3.0**
	comp=N,58nm,0.7s						
AAK	**Ala-Archa**	**6.44**	**21**	P	**Pn**	**23 18 13.6**	**-0.3**
SNR=194							
AAK	**Ala-Archa**	**6.44**	**21**	P	**Pn**	**23 18 13.5**	**-0.3**
	comp=N,48nm,0.3s,baz=182,slow=6.9,SNR=721						
AAK				S	**Sn**	**23 19 23.6**	**-4.0**
	comp=N,8.3nm,0.3s,baz=128,slow=23,SNR=17						
KK31	**Karatay Array**	**6.50**	**354**	⇑P	**Pn**	**23 18 13.1**	**-1.3**
	comp=N,38nm,0.3s						
KK31				⇑S	Sn	23 19 22.1	-6.6
	comp=N,59nm,0.5s						
KBK	**Karagaybulak**	**6.60**	**23**	P	**Pn**	**23 18 15.6**	**-0.3**
SNR=89							
BHK	**Bhakra**	**6.65**	**140**	*e*S	**Sn**	**23 19 28.8**	**-3.6**
ULHL	**Ulahol**	**6.73**	**32**	P	**Pn**	**23 18 16.8**	**-0.8**
SNR=27							
CHMS	**Chumysh**	**6.85**	**21**	P	**Pn**	**23 18 18.4**	**-0.6**
SNR=29							
SDNR	**Sundarnagar**	**6.88**	**136**	*ex*	**Pn**	**23 18 20.0**	**+0.4**
SDNR				*e*S	**Sn**	**23 19 33.5**	**-4.4**
USP	**Ospenovka**	**7.03**	**19**	P	**Pn**	**23 18 20.1**	**-1.2**
SNR=83							
TKM2	**Tokmak 2**	**7.05**	**26**	⇓P	**Pn**	**23 18 21.3**	**-0.6**
	comp=N,50nm,0.6s						
TKM2				⇑S	**Sn**	**23 19 37.5**	**-4.5**
	comp=N,39nm,0.9s						
TKM2	**Tokmak 2**	**7.05**	**26**	P	**Pn**	**23 18 21.2**	**-0.6**
SNR=98							
SMLA	**Simla**	**7.27**	**137**	*e*P	**Pn**	**23 18 24.4**	**-0.2**
SMLA				*i* S	**Sn**	**23 19 43.7**	**-3.3**
SMLA				*i* S	**Sn**	**23 19 43.7**	**-3.3**
SMLA				AML	AML	23 19 47.2	
	comp=E,262nm,0.4s						
SMLA				AML	AML	23 19 47.3	
	comp=N,186nm,0.2s						
KNDC	**Almaty**	**7.83**	**31**	⇓P	**Pn**	**23 18 32.0**	**+0.2**
PDGK	**Podgornoye**	**9.10**	**40**	⇑P	**Pn**	**23 18 47.9**	**-0.3**
KHET	**Khetri**	**9.30**	**155**	*e*P	**Pn**	**23 18 49.0**	**-2.1**
KHET				*e*S	Sn	23 20 26.4	-8.8
KHET				AML	AML	23 20 31.8	
	comp=E,112nm,0.2s						
KHET				AML	AML	23 20 32.5	
	comp=N,129nm,0.5s						
NDI	**New Delhi**	**9.31**	**147**	*ex*	Pn	23 18 48.0	-3.1
NDI				*e*S	Sn	23 20 29.0	-6.4
AYAN	**Aya Nagar**	**9.44**	**148**	*e*P	**Pn**	**23 18 52.1**	**-0.7**
AYAN				*e*S	Sn	23 20 30.1	-8.4
KUDL	**Kundal**	**9.48**	**152**	*e*P	**Pn**	**23 18 51.6**	**-1.7**
KUDL				*e*S	Sn	23 20 31.1	-8.4
KUDL				AML	AML	23 20 33.4	
	comp=E,42nm,0.5s						
KUDL				AML	AML	23 20 37.9	
	comp=N,24nm,0.3s						
SONA	**Sohna**	**9.63**	**149**	*e*P	**Pn**	**23 18 53.8**	**-1.4**
SONA				*e*S	Sn	23 20 33.7	-9.2
SONA				AML	AML	23 20 40.0	
	comp=N,20nm,0.3s						
SONA				AML	AML	23 20 40.1	
	comp=E,43nm,0.3s						
AJM	**Ajmer**	**10.49**	**164**	*i* P	Pn	23 19 03.0	-3.4
AJM				*i* x	**Sn**	**23 20 58.0**	**-5.6**
GEYT	**Alibeck**	**10.69**	**281**	P	**Pn**	**23 19 07.3**	**-1.6**
	comp=E,1.1nm,0.3s,baz=121,slow=9.6,SNR=12						
GEYT				S	Sn	23 21 00.2	-7.9
	comp=E,2.0nm,0.3s,baz=93,slow=15,SNR=3.6						
AGRA	**Agra**	**10.88**	**148**	*e*S	Sn	23 21 03.0	-10
AGRA				AML	AML	23 21 14.3	
	comp=N,50nm,0.2s						
AGRA				AML	AML	23 21 16.0	
	comp=E,62nm,0.3s						
MK31 Makanchi Array 12.98 35 ⇑P **Pn 23 19 37.4 -0.5**
comp=E,0.8nm,0.3s,baz=200,slow=7.9,SNR=54
MKAR Makanchi Array 12.98 35 P **Pn 23 19 37.5 -0.5**
comp=E,0.7nm,0.3s,baz=212,slow=12,SNR=37
DANN Dangsing 13.28 125 *e*P **Pn 23 19 42.0 -0.1**
comp=E,21nm,0.4s
KOLN Koldanda 13.57 127 *e*P **Pn 23 19 45.0 -0.6**
comp=E,18nm,0.4s
GKN Gorkha 14.09 124 *e*P **Pn 23 19 53.0 +1.0**
comp=E,15nm,0.3s
BHPL Bhopal 14.32 157 *e*P **P 23 19 56.0 -0.2**
BHPL *ex* x 23 22 21.1
KKN Kakani 14.66 123 *e*P **P 23 20 00.3 +0.1**
comp=E,26nm,0.6s
DMN Daman 14.66 124 *e*P **P 23 20 00.2 0.0**
comp=E,22nm,0.4s
PKIN Phulchoki 14.88 123 *e*P **P 23 20 02.6 0.0**
comp=E,22nm,0.3s
PKI Pulchoki 14.89 123 *e*P **P 23 20 03.3 +0.5**
comp=E,38nm,0.4s
KURBB Kurchatov Arra 14.89 18 P **Pn 23 19 59.5 -1.9**
comp=E,0.4nm,0.3s,baz=209,slow=10,SNR=23
KURBB S **Sn 23 22 48.2 +0.3**
comp=E,0.1nm,0.3s,baz=352,slow=38,SNR=5.2
GUN Gumba 14.99 121 *e*P **P 23 20 04.1 +0.1**
comp=E,27nm,0.5s
KURK Kurchatov 15.00 18 ⇓P **Pn 23 19 59.9 -2.8**
comp=E,4.9nm,0.9s
AB31 Akbulak array 15.14 330 P **Pn 23 20 02.7 -1.8**
comp=E,5.6nm,0.4s,baz=142,slow=11,SNR=159
AB31 ⇓S S 23 22 40.3 -12
comp=E,5.7nm,0.5s,baz=156,slow=25,SNR=10
JIRN Jiri 15.36 121 *e*P **P 23 20 09.0 +0.9**
comp=E,66nm,0.4s
RAMN Ramite 16.09 123 *e*P **Pn 23 20 18.3 +1.8**
comp=E,20nm,0.4s
BVA0 Borovoye Array 16.41 358 ⇓P **Pn 23 20 19.9 +0.1**
comp=E,9.9nm,0.6s,baz=170,slow=12,SNR=84
BVAR Borovoye Array 16.41 358 P **P 23 20 18.3 -0.6**
comp=E,2.9nm,0.3s,baz=166,slow=11,SNR=68
TAPN Taplejung 16.61 119 *e*P **Pn 23 20 24.9 +2.1**
comp=E,16nm,0.4s
ODAN Odare 16.69 121 *e*P **Pn 23 20 25.5 +1.8**
comp=E,13nm,0.4s
AKTO Aktyubinsk 16.84 329 ⇑P **Pn 23 20 24.6 -0.3**
comp=E,15nm,0.4s
AKTO ⇑S **S 23 23 23.2 -5.9**
comp=E,5.2nm,0.6s
AKTO Aktyubinsk 16.84 329 P **Pn 23 20 24.7 -0.3**
comp=E,6.4nm,0.3s,baz=140,slow=8.8,SNR=111
AKTO pP **pP 23 20 57.4 +1.3**
comp=E,0.4nm,0.3s,baz=134,slow=10,SNR=3.5
AKTO S S 23 23 21.8 -7.3
comp=E,0.2nm,0.3s,baz=151,slow=16,SNR=3.4
ZALV Zalesovo Beam 19.65 24 P **P 23 20 54.7 +0.5**
comp=E,3.5nm,0.3s,baz=220,slow=12,SNR=36
ZALV S **S 23 24 24.4 -0.3**
comp=E,0.1nm,0.3s,baz=209,slow=15,SNR=2.7
KBZ Khabaz 22.85 297 P **P 23 21 28.1 +1.5**
comp=E,1.4nm,0.8s,baz=108,slow=11,SNR=3.6
KBZ pP **pP 23 22 01.4 -0.9**
comp=E,2.2nm,0.8s,baz=136,slow=7.5,SNR=3.7
SONM Songino Array 27.98 55 P **P 23 22 15.6 +2.7**
comp=E,0.3nm,0.8s,baz=254,slow=11,SNR=3.6
BRTR Keskin Array B 29.72 288 P **P 23 22 30.4 +2.0**
comp=E,0.7nm,0.5s,baz=99,slow=9.7,SNR=5.4
BRTR pP **pP 23 23 09.6 +0.5**
comp=E,0.9nm,0.8s,baz=102,slow=7.7,SNR=3.7
CMAR Chiang Mai Arr 30.22 119 P **P 23 22 34.6 +1.8**
comp=E,0.8nm,0.3s,baz=304,slow=8.6,SNR=4.3
AKASG Malin Array Be 33.13 309 P **P 23 22 58.7 +0.8**
comp=E,1.1nm,0.4s,baz=85,slow=7.2,SNR=4.6
JOF Joensuu 35.92 330 *ep* **P 23 23 21.5 -0.1**
comp=E,1.1nm,0.5s
FINES FINESS Array B 37.56 326 P **P 23 23 37.2 +1.7**
comp=E,0.5nm,0.3s,baz=129,slow=9.7,SNR=13
ARCES ARCESS Array B 41.15 337 P **P 23 24 06.6 +1.6**
comp=E,0.9nm,0.5s,baz=116,slow=7.6,SNR=9.9
BRG Berggiesshubel 42.81 308 *e*(P) **P 23 24 21.0 +2.3**
comp=E,5.1nm,1.1s
NB2 NORSAR Subarra 44.48 323 P **P 23 24 32.6 +0.6**
comp=Z,1.0nm,0.5s,baz=100,slow=7.9
NOA NORSAR Array B 44.48 323 P **P 23 24 32.5 +0.6**
comp=Z,1.1nm,0.5s,baz=104,slow=7.1,SNR=8.5
NOA pP **pP 23 25 13.7 -1.4**
comp=Z,1.1nm,0.7s,baz=97,slow=8.2,SNR=2.9
ESDC Sonseca Array 57.70 298 P **P 23 26 11.3 +0.8**
comp=Z,0.4nm,0.4s,baz=63,slow=7.1,SNR=5.7
TORD Torodi Ar. Bea 66.06 269 P **P 23 27 05.4 -1.2**
comp=Z,3.5nm,0.7s,baz=49,slow=5.8,SNR=38
TORD pP **pP 23 27 52.0 -1.1**
comp=Z,0.2nm,0.5s,baz=44,slow=5.6,SNR=1.6
INK Inuvik 73.72 9 P **P 23 27 54.0 +1.8**
comp=Z,0.6nm,0.5s,baz=2.9,slow=32,SNR=2.5
INK pP **pP 23 28 41.8 +2.0**
comp=Z,1.4nm,1.0s,baz=21,slow=31,SNR=2.7
DBIC Dimbokro 75.05 267 P **P 23 27 59.5 -1.3**
comp=Z,1.8nm,0.8s,baz=21,slow=8.6,SNR=3.4
WRA Warramunga Arr 81.77 122 P **P 23 28 37.8 +0.3**
comp=Z,1.2nm,0.5s,baz=323,slow=4.9,SNR=23
ASAR Alice Springs 84.05 125 P **P 23 28 49.6 +0.5**
comp=Z,1.8nm,0.8s,baz=309,slow=4.8,SNR=14

*ISCJB **26** 23:16:53.0±1.0, 19.°8S±0.°2×177.°8W±0.°2,h400km,mb3.7/3, Error ellipse: s-maj=23.4km s-min=18.6km az=18.8*
*IDC **26** 23:16:54.0±7.5, 19.°81S×177.°78W,h405km±71km,mb3.4/3, mb1 3.6/4,mb1mx3.3/29,mbtmp4.2/4,Error ellipse: s-maj=41.2km s-min=28.9km az=36.0*

ISC 26 23:16:53.5±0.9,19.°8S±0.°2×177.°7W±0.°2,h400km,n20, σ0°70/23,mb3.8/3,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.90**	**193**	P	**P**	**23 20 46.9**	**-0.5**
	0.8nm,0.3s,baz=333,slow=16,SNR=2.4						
ARMA	**Armidale**	**29.62**	**243**	P	**P**	**23 22 25.7**	**+1.5**
baz=32,SNR=6.3							
CMSA	**Cobar Meteorol**	**34.84**	**243**	P	**P**	**23 23 09.3**	**+0.4**
baz=37,SNR=11							
QLP	**Quilpie**	**35.54**	**252**	P	**P**	**23 23 15.2**	**+0.3**
baz=38,SNR=3.8							
BBOO	**Buckleboo**	**43.11**	**243**	P	**P**	**23 24 16.3**	**-0.2**
baz=45,SNR=24							
ASAR	**Alice Springs**	**44.96**	**256**	P	**P**	**23 24 30.9**	**-0.4**
6.3nm,0.6s,baz=98,slow=8.1,SNR=109							
ASAR				PcP	**PcP**	**23 26 04.1**	**-0.5**
0.5nm,0.7s,baz=82,slow=6.6,SNR=3.0							
WRA	**Warramunga Arr**	**44.99**	**261**	P	**P**	**23 24 30.6**	**-0.8**
1.6nm,0.3s,baz=97,slow=7.4,SNR=74							
WRA				PcP	**PcP**	**23 26 04.8**	**+0.1**
0.4nm,0.8s,baz=93,slow=6.5,SNR=2.7							
KDU	**Kakadu**	**48.24**	**271**	P	**P**	**23 24 56.5**	**+0.2**
baz=50,SNR=5.3							
WRKA	**Warakurna**	**49.93**	**254**	P	**P**	**23 25 08.6**	**-0.4**
baz=52,SNR=16							
WRKA				S	S	23 31 54.9	+6.5
baz=52,SNR=3.7							
KNRA	**Kununurra**	**51.00**	**266**	P	**P**	**23 25 16.8**	**0.0**
baz=53,SNR=4.2							
FITZ	**Fitzroy Crossi**	**53.41**	**262**	P	**P**	**23 25 34.5**	**+0.1**
baz=55,SNR=9.9							
ILAR	**Eielson Array**	**87.61**	**13**	P	**P**	**23 28 58.0**	**+0.9**
0.3nm,0.8s,baz=243,slow=4.2,SNR=4.2							
VNA3	**Neumayer Olymp**	**88.77**	**176**	P	**P**	**23 29 02.6**	**-0.1**
VNA2	**Neumayer--Watz**	**89.22**	**177**	P	**P**	**23 29 05.1**	**+0.3**
baz=187,slow=3.4							
VNA1	**Neumayer--Stat**	**89.44**	**176**	P	**P**	**23 29 06.8**	**+1.1**
ARCES	**ARCESS Array B**	**128.33**	**350**	PKP	**PKPdf**	**23 35 11.5**	**-1.2**
4.4nm,0.9s,baz=44,slow=4.0,SNR=4.7							
FINES	**FINESS Array B**	**135.23**	**344**	PKP	**PKPdf**	**23 35 26.2**	**+0.4**
0.7nm,0.8s,baz=29,slow=4.4,SNR=3.7							
BRTR	**Keskin Array B**	**146.62**	**313**	PKPbc	**PKPdf**	**23 35 46.1**	**-0.9**
0.5nm,0.8s,baz=184,slow=2.3,SNR=2.7							
GERES	**GERESS Array B**	**149.65**	**345**	PKPbc	**PKPbc**	**23 35 56.9**	**+0.2**
1.0nm,0.8s,baz=27,slow=1.5,SNR=5.4							
TORD	**Torodi Ar. Bea**	**173.31**	**175**	PKP	**PKPdf**	**23 36 15.4**	**-1.1**
0.5nm,0.8s,baz=163,slow=1.5,SNR=2.8							
TORD				PKPab	**PKPab**	**23 37 47.4**	**+0.4**
0.4nm,0.8s,baz=181,slow=2.8,SNR=2.8							

*CSEM **26** 23:42:39.7±0.2,39.°

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIA	**Simia**	**0.18**	**192**	*e*PG	Pg	23 42 43.7	+0.1
SMIA				*e*SG	Sg	23 42 46.2	-0.1
SMIA	**Simia**	**0.18**	**192**	*e*Pg	Pg	23 42 43.7	+0.1
SMIA				*e*Sg	Sg	23 42 46.2	-0.1
SKIA	**Skiathos**	**0.19**	**56**	*e*PG	Pg	23 42 44.0	+0.3
SKIA	**Skiathos**	**0.19**	**56**	*e*Pg	Pg	23 42 44.0	+0.3
NEO	**Neokhori**	**0.25**	**353**	*e*PG	Pg	23 42 44.8	0.0
NEO				*e*SG	Sg	23 42 48.5	+0.3
NEO	**Neokhori**	**0.25**	**353**	*e*Pg	Pg	23 42 44.8	0.0
NEO				*e*Sg	Sg	23 42 48.5	+0.3
XOR	**Xorichti**	**0.31**	**350**	*e*PB	Pg	23 42 45.7	-0.2
XOR	**Xorichti**	**0.31**	**350**	*e*Pb	Pg	23 42 45.7	-0.2
MRKA	**Markates**	**0.44**	**144**	*e*PB	Pg	23 42 48.0	-0.2
MRKA	**Markates**	**0.44**	**144**	*e*Pb	Pg	23 42 48.0	-0.2
LKR	**Lokris**	**0.46**	**207**	*e*PB	Pg	23 42 48.1	-0.4
LKR				*e*SB	Sg	23 42 55.1	+0.5
LKR	**Lokris**	**0.46**	**207**	*e*Pb	Pg	23 42 48.1	-0.4
LKR				*e*Sb	Sg	23 42 55.1	+0.5
AOS	**Alonnisos**	**0.49**	**77**	*e*PB	Pg	23 42 49.0	-0.3
AOS	**Alonnisos**	**0.49**	**77**	*e*Pb	Pg	23 42 49.0	-0.3
AXAR	**Agios Charalam**	**0.55**	**238**	*e*PB	Pg	23 42 50.6	+0.2
AXAR	**Agios Charalam**	**0.55**	**238**	*e*Pb	Pg	23 42 50.6	+0.2
AGG	**Agios Georgios**	**0.72**	**267**	*e*PG	Pg	23 42 53.1	-0.6
AGG	**Agios Georgios**	**0.72**	**267**	*e*Pg	Pg	23 42 53.1	-0.6

*IDC **26** 23:46:11.5±1.1,2.°97S×128.°14E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/25, mbtmp3.7/5, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/25, Error ellipse: s-maj=69.9km s-min=21.9km az=77.0*

*ISCJB **26** 23:46:14.6±0.6, 3.°02S±0.°06×128.°07E±0.°07, h38km, mb3.7/4, Error ellipse: s-maj=11.0km s-min=7.2km az=142.8*

*DJA **26** 23:46:15.2±0.4, 3.°S±5.°×12.°8E±.°, h31km±6km, M4.4/9, mb5.0/2, mB5.1/2, MLv4.1/9, Mw(mB)4.5/2*

ISC 26 23:46:16.7±0.8, 3.°02S±0.°07×128.°01E±0.°06, h38km, n15, σ1°16/15, mb3.8/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.94**	**256**	P	**Pn**	**23 46 33.5**	**+0.2**
MSAI	**Masohi**	**0.97**	**110**	P	**Pn**	**23 46 35.5**	**+1.7**
SANI	**Sanana**	**2.24**	**295**	P	**Pn**	**23 46 49.9**	**-1.3**
BNDI	**Bandanaira**	**2.41**	**128**	P	**Pn**	**23 46 52.6**	**-1.0**
LBMI	**Labuha**	**2.42**	**348**	P	**Pn**	**23 46 53.6**	**-0.1**
LBMI				S	**Sn**	**23 47 22.3**	**+0.3**
FAKI	**Fak Fak**	**4.23**	**89**	P	**Pn**	**23 47 15.8**	**-2.9**
LUWI	**Luwuk**	**5.59**	**290**	P	**Pn**	**23 47 37.6**	**+0.3**
	67nm,0.8s,2μm0.6nm						
APSI	**Ampana**	**6.69**	**288**	P	**Pn**	**23 47 52.8**	**+0.3**
BATI	**Baumata**	**8.35**	**211**	LR	LR	23 51 23.5	
	comp=Z,133nm,18.8s,baz=13,slow=37						
WRA	**Warramunga Arr**	**17.92**	**160**	P	**Pn**	**23 50 22.7**	**-0.4**
	0.5nm,0.3s,baz=341,slow=12,SNR=31						
ASAR	**Alice Springs**	**21.31**	**165**	P	**P**	**23 51 00.1**	**-0.2**
	5.7nm,1.0s,baz=346,slow=12,SNR=28						
MJAR	**Matsushiro Arr**	**40.49**	**13**	P	**P**	**23 53 51.2**	**-0.8**
	1.5nm,0.7s,baz=211,slow=7.2,SNR=3.7						
SONM	**Songino Array**	**54.06**	**342**	P	**P**	**23 55 38.5**	**+1.0**
	0.2nm,0.6s,baz=168,slow=7.4,SNR=2.2						
MKAR	**Makanchi Array**	**63.83**	**327**	P	**P**	**23 56 45.8**	**+0.5**
	0.7nm,0.8s,baz=128,slow=7.9,SNR=8.3						
TORD	**Torodi Ar. Bea**	**126.01**	**284**	PKP	**PKPdf**	**00 05 16.3**	**+0.5**
	0.3nm,0.7s,baz=109,slow=1.7,SNR=3.2						

*ATH **26** 23:46:38.8, 35.°95N×27.°72E, h26km±3km, MD2.6/3*

*CSEM **26** 23:46:39.3±0.3, 36.°03N×27.°53E, h2km, MD2.6, Error ellipse: s-maj=14.4km s-min=5.3km az=142.0*

*DDA **26** 23:46:41.9, 36.°26N×27.°71E, h9km, MD2.8*

*ISK **26** 23:46:52.2, 37.°09N×28.°77E, h5km, MD2.9*

ISC 26 23:46:41.4±2.4, 36.°23N±0.°08×27.°68E±0.°09, h14km±12km, n32, σ1°12/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.36**	**93**	*e*PB	**Pg**	**23 46 48.3**	**-0.5**
ARG				*e*SB	**Sb**	**23 46 54.8**	**-0.3**
ARG	**Arkhangelos**	**0.36**	**93**	*e*Pb	**Pg**	**23 46 48.3**	**-0.5**
ARG				*e*Sb	**Sb**	**23 46 54.8**	**-0.3**
KARP	**Karpathos**	**0.80**	**212**	*e*PN	Pg	23 46 51.1	-6.0
KARP				*e*SN	Sg	23 47 00.0	-7.6
KARP	**Karpathos**	**0.80**	**212**	*e*Pn	Pg	23 46 51.1	-6.0
KARP				*e*Sn	Sg	23 47 00.0	-7.6
DALY	**Dalyan (Mu¨la**	**0.98**	**53**	*e*PG	**Pg**	**23 46 59.4**	**-1.0**
DALY	**Dalyan (Mu¨la**	**0.98**	**53**	*e*Pg	**Pg**	**23 46 59.4**	**-0.9**
YER	**Yerkesik**	**1.02**	**28**	*e*PG	**Pg**	**23 47 00.6**	**-0.6**
YER	**Yerkesik**	**1.02**	**28**	*e*Pg	**Pg**	**23 47 00.6**	**-0.6**
FETY	**Fethiye**	**1.20**	**70**	*e*PG	**Pb**	**23 47 03.4**	**-0.6**
FETY	**Fethiye**	**1.20**	**70**	*e*Pg	**Pb**	**23 47 03.4**	**-0.6**
AYDN	**Tasoluk**	**1.43**	**6**	*i* P	**Pg**	**23 47 09.7**	**+0.6**
AYDN				*i* S	**Sg**	**23 47 27.0**	**-0.7**
AYDN	**Tasoluk**	**1.43**	**6**	*i* P	**Pg**	**23 47 09.7**	**+0.6**
AYDN				*i* S	**Sg**	**23 47 27.0**	**-0.7**
AKAS	**Kas**	**1.56**	**89**	*i* P	**Pn**	**23 47 09.3**	**+0.5**
AKAS				*i* S	**Sg**	**23 47 32.5**	**+0.9**
AKAS	**Kas**	**1.56**	**89**	*i* P	**Pn**	**23 47 09.3**	**+0.5**
AKAS				*i* S	**Sg**	**23 47 32.5**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.72**	**6**	*e*PN	**Pg**	**23 47 14.8**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.72**	**6**	*e*Pn	**Pg**	**23 47 14.8**	**+0.3**
GOLH	**Golhisar**	**1.81**	**56**	*i* P	**Pb**	**23 47 15.2**	**+0.7**
GOLH				*i* S	**Sg**	**23 47 41.6**	**+1.8**
GOLH	**Golhisar**	**1.81**	**56**	*i* P	**Pb**	**23 47 15.2**	**+0.7**
GOLH				*i* S	**Sg**	**23 47 41.6**	**+1.8**
DNZL	**Cakiroluk**	**1.82**	**37**	*i* P	**Pg**	**23 47 16.4**	**0.0**
DNZL				*i* S	**Sg**	**23 47 40.4**	**+0.3**
DNZL	**Cakiroluk**	**1.82**	**37**	*i* P	**Pg**	**23 47 16.4**	**0.0**
DNZL				*i* S	**Sg**	**23 47 40.4**	**+0.3**
ELL	**Elmali**	**1.87**	**73**	*e*PG	**Pn**	**23 47 11.5**	**-1.6**
ELL	**Elmali**	**1.87**	**73**	*e*Pg	**Pn**	**23 47 11.5**	**-1.6**
NPS	**Neapolis**	**1.94**	**241**	*e*PN	Pn	23 47 10.3	-3.7
NPS	**Neapolis**	**1.94**	**241**	*e*Pn	Pn	23 47 10.3	-3.7
LAST	**Lasithi**	**2.09**	**240**	*e*PB	Pn	23 47 13.1	-2.9
LAST	**Lasithi**	**2.09**	**240**	*e*Pb	Pn	23 47 13.1	-2.9
KORT	**Korkueli**	**2.28**	**70**	*i* P	**Pn**	**23 47 21.0**	**+2.2**
KORT	**Korkueli**	**2.28**	**70**	*i* P	**Pn**	**23 47 21.0**	**+2.2**
ANTB	**Antalya**	**2.48**	**74**	*e*PN	**Pn**	**23 47 21.8**	**+0.4**
ANTB	**Antalya**	**2.48**	**74**	*e*Pn	**Pn**	**23 47 21.8**	**+0.4**
BCK	**Bucak**	**2.63**	**61**	*e*PN	**Pn**	**23 47 21.4**	**-2.1**
BCK	**Bucak**	**2.63**	**61**	*e*Pn	**Pn**	**23 47 21.4**	**-2.2**

*IDC **27** 00:01:21.2±3.5, 39.°78S×76.°44W, h0km, mb3.7/2, mb1 3.6/4, mb1mx3.5/14, mbtmp3.4/4, ML3.3/2, MS3.7/2, Ms1 3.6/2, ms1mx2.9/18, Error ellipse: s-maj=75.8km s-min=45.6km az=61.0*

*ISCJB **27** 00:01:35.1±1.4, 38.°29S±0.°03×73.°9W±0.°2, h10km, mb3.6/2, MS3.7/2, Error ellipse: s-maj=20.4km s-min=4.4km az=177.8*

*GUC **27** 00:01:37.2±0.4, 38.°29S×73.°77W, h10km±2km, ML3.5*

ISC 27 00:01:34.7±1.7, 38.°30S±0.°04×73.°9W±0.°2, h10km, n12, σ1°30/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.64**	**141**	*e*P	**Pg**	**00 01 47.9**	**+0.7**
PSCH				*e*S	**Sg**	**00 01 56.3**	**+0.7**
CCSP	**San Pedro de C**	**1.58**	**24**	*e*P	**Pn**	**00 02 02.9**	**+0.1**
CCSP				*e*S	**Sn**	**00 02 22.7**	**-0.6**
CCSP				IAML		00 02 33.6	
	comp=E,1μm,0.4s						
VLCH	**Valdivia**	**1.59**	**161**	*e*P	**Pn**	**00 02 03.6**	**+0.7**
VLCH				*e*S	**Sn**	**00 02 23.8**	**+0.3**
COCH	**Cobquecura**	**2.34**	**23**	*e*P	**Pn**	**00 02 15.1**	**+1.9**
COCH				*e*S	**Sn**	**00 02 43.8**	**+1.9**
PLCA	**Paso Flores**	**3.56**	**134**	Pn	**Pn**	**00 02 31.4**	**+1.3**
	comp=E,0.9nm,0.3s,baz=298,slow=12,SNR=9.6						
PLCA				Sn	**Sb**	**00 03 19.3**	**-1.7**
	comp=E,6.0nm,0.3s,baz=231,slow=24,SNR=6.4						
NICH	**Los Niches**	**3.93**	**34**	*e*S	**Sn**	**00 03 22.0**	**+0.7**
CFAA	**Coronel Fontan**	**8.14**	**37**	Pn	**Pb**	**00 03 54.6**	**-1.2**
	comp=E,0.0nm,0.3s,baz=228,slow=14,SNR=2.3						
LPAZ	**La Paz**	**22.51**	**15**	P	P	00 06 42.4	+7.2
	comp=E,0.8nm,0.6s,baz=210,slow=11,SNR=4.7						
QSPA	**South Pole Qui**	**51.95**	**180**	LR	LR	00 30 08.4	
	comp=E,114nm,19.5s,baz=322,slow=34						
DBIC	**Dimbokro**	**77.98**	**72**	LR	LR	00 48 45.4	
	comp=E,20nm,18.2s,baz=112,slow=35						
TORD	**Torodi Ar. Bea**	**87.07**	**71**	P	**P**	**00 14 20.7**	**-0.1**
	comp=E,0.4nm,0.6s,baz=223,slow=6.1,SNR=5.7						
MKAR	**Makanchi Array**	**160.57**	**56**	PKPab	**PKPab**	**00 22 14.2**	**-1.7**
	comp=E,0.2nm,0.7s,baz=287,slow=5.6,SNR=3.8						

*CSEM **27** 00:30:25.2±0.3, 67.°82N×20.°30E, h2km, ML1.4, Error ellipse: s-maj=6.6km s-min=6.1km az=135.0, Mining explosion.*

*HEL **27** 00:30:26.0±0.0, 67.°83N×20.°20E, h0km, ML1.5, ML1.4(UPP), Explosion*

UPP 27 00:30:25.4, 67.°83N×20.°20E, h0km, ML1.4, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	00 30 33.9	-0.1
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	00 30 33.8	-0.1
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	00 30 38.5	-0.5
	baz=263						
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 30 38.5	-0.5
MASU	**Masugnsbyn**	**0.78**	**118**	*i* P	Pg	00 30 40.1	-0.4
MASU	**Masugnsbyn**	**0.78**	**118**	P	Pg	00 30 40.0	-0.5
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 30 40.3	-0.4
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 30 40.3	-0.3
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	00 30 48.2	-0.1
	baz=193						
KIF				*e*S	Sg	00 31 04.1	+0.3
KIF	**Kilpisjarvi**	**1.20**	**10**	P	Pg	00 30 48.2	-0.1
KIF				S	Sg	00 31 04.1	+0.3
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pg	00 30 50.8	-1.2
PAJU	**Pajala**	**1.39**	**125**	P	Pg	00 30 50.8	-1.2
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	00 30 51.4	-1.0
HEF	**Hetta**	**1.42**	**64**	P	Pn	00 30 51.4	-1.0
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	00 30 52.8	-0.8
	baz=335						
ERTU				*e*SN	Sn	00 31 16.4	+2.6
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	00 30 52.7	-0.8
ERTU				Sn	Sn	00 31 16.4	+2.6
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	00 30 56.3	0.0
HARU	**Harads**	**1.70**	**169**	P	Pn	00 30 56.2	-0.1
KALU	**Kalix**	**2.34**	**146**	*e*SG	Sb	00 31 38.0	+0.2
KALU	**Kalix**	**2.34**	**146**	P	Pn	00 31 06.2	+1.2
KALU				Sg	Sb	00 31 38.0	+0.2
SJUU	**Sjulsmark**	**2.40**	**166**	*e*P	Pn	00 31 06.9	+1.0
SJUU	**Sjulsmark**	**2.40**	**166**	P	Pn	00 31 06.8	+0.9
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	00 31 08.6	-1.7
	baz=270						
SGF	**Sodankyl**	**2.45**	**96**	Pb	Pb	00 31 08.6	-1.7
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	00 31 10.2	+2.0
RNF	**Rovaniemi**	**2.57**	**116**	Pb	Pn	00 31 10.2	+1.9
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*P	Pn	00 31 08.9	+0.5
	baz=230						
ARE0				*e*SB	Sb	00 31 44.3	-0.6
ARE0				MSG		00 31 44.3	
	comp=Z,1.4nm,0.2s						
ARE0	**ARCESS Array S**	**2.58**	**46**	P	Pn	00 31 08.9	+0.5
KEV	**Kevo**	**3.14**	**49**	*e*PB	Pb	00 31 20.1	-1.8
KEV				*e*SG	Sg	00 32 05.2	-0.9
KEV	**Kevo**	**3.14**	**49**	Sg	Sg	00 32 05.1	-1.0
UMAU	**Umeaa**	**3.97**	**177**	*e*PG	Pg	00 31 39.1	-2.4
	baz=345						
MSF	**Maaselka**	**3.98**	**115**	*e*PG	Pb	00 31 38.9	+2.5
MSF	**Maaselka**	**3.98**	**115**	Pg	Pb	00 31 38.9	+2.5
KU6	**Riekki**	**4.22**	**111**	*e*PG	Pb	00 31 41.2	+0.8
	baz=299						

*CSEM **27** 00:30:35.4, 67.°85N×20.°21E, h0km, ML2.3, Mining explosion.*

UPP 27 00:30:35.4, 67.°85N×20.°21E, h0km, ML2.3, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.45**	**273**	P	Pg	00 30 44.0	0.0
NIKU	**Nikkaluokta**	**0.45**	**273**	P	Pg	00 30 44.0	0.0
LANU	**Lannavaara**	**0.70**	**72**	P	Pg	00 30 48.6	-0.3
LANU	**Lannavaara**	**0.70**	**72**	P	Pg	00 30 48.6	-0.3
LANU	**Lannavaara**	**0.70**	**72**	*e*S	Sg	00 30 48.1	-0.8
LANU	**Lannavaara**	**0.70**	**72**	S	Pg	00 30 48.1	-0.8
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	00 30 50.4	-0.2
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	00 30 50.4	-0.2
SALU	**Saltoluokta**	**0.80**	**235**	P	Pg	00 30 50.4	-0.4
SALU				S	Sg	00 31 00.7	-0.5
SALU	**Saltoluokta**	**0.80**	**235**	P	Pg	00 30 50.4	-0.4
SALU				S	Sg	00 31 00.7	-0.6
PAJU	**Pajala**	**1.39**	**125**	P	Pn	00 31 00.8	-1.3
PAJU	**Pajala**	**1.39**	**125**	P	Pn	00 31 00.8	-1.3
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	00 31 02.8	-0.9
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	00 31 02.8	-0.9
HARU	**Harads**	**1.72**	**170**	P	Pn	00 31 06.4	-0.1
HARU	**Harads**	**1.72**	**170**	P	Pn	00 31 06.4	-0.1
KALU	**Kalix**	**2.35**	**147**	P	Pn	00 31 16.1	+0.9
KALU	**Kalix**	**2.35**	**147**	P	Pn	00 31 16.1	+0.9
SJUU	**Sjulsmark**	**2.41**	**166**	P	Pn	00 31 17.0	+1.0
SJUU	**Sjulsmark**	**2.41**	**166**	P	Pn	00 31 17.1	+1.0

CASC 27 00:34:28.0±2.0, 15.°69N×88.°41W, h10km±47km, MD4.0, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**1.38**	**244**	*e*P	Pn	00 34 51.1	-2.5
MRL				*e*S	Sb	00 35 10.7	-1.4
MTO2	**Montecristo 2**	**1.57**	**216**	*e*P	Pn	00 34 55.5	-0.8
MTO2				*e*S	Sg	00 35 18.7	-0.5
CAHU	**Cacacuatique**	**1.92**	**174**	*e*P	Pn	00 35 00.4	-0.6
CAHU				*e*S	Sn	00 35 26.1	+0.7
RBDL	**Robledal**	**1.99**	**218**	*e*P	Pn	00 35 01.8	-0.2
RBDL				*e*S	Sb	00 35 28.7	-0.9
LBRS	**Las Brisas**	**2.03**	**198**	*e*P	Pn	00 35 02.5	+0.1
SNVI	**San Vicente**	**2.10**	**191**	*e*P	Pn	00 35 02.8	-0.7
SNVI				*e*S	Sn	00 35 30.4	+0.5
BOQS	**Boqueron**	**2.12**	**204**	*e*P	Pn	00 35 04.1	+0.3
RTR	**El Retiro**	**2.14**	**214**	*e*P	Pn	00 35 03.9	-0.2
RTR				*e*S	Sn	00 35 32.0	+1.1
LFRS	**El Faro**	**2.15**	**197**	*e*P	Pn	00 35 03.5	-0.6
LFRS				*e*S	Sn	00 35 31.3	+0.4
SNJE	**San Jose**	**2.15**	**213**	*e*P	Pn	00 35 04.4	+0.2
NBG	**Las Nubes**	**2.17**	**240**	*e*P	Pn	00 35 03.0	-1.5
SBG	**San Blas**	**2.18**	**213**	*e*P	Pn	00 35 04.2	-0.4
VSM	**San Miguel**	**2.25**	**177**	*e*P	Pn	00 35 05.2	-0.5
VSM				*e*S	Sn	00 35 33.5	-0.3

IDC 27 00:56:45.1±2.1, 28.°46S×71.°00W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/15, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=75.1km s-min=50.3km az=40.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**12.40**	**13**	Pn	Pn	00 59 43.8	0.0
	0.1nm,0.3s,baz=207,slow=9.4,SNR=1.6						
TXAR	**Lajitas Array**	**65.41**	**329**	P	P	01 07 29.6	-0.2
	0.2nm,0.6s,baz=152,slow=12,SNR=2.7						
TORD	**Torodi Ar. Bea**	**81.49**	**70**	P	P	01 09 04.6	-0.2
	0.6nm,0.7s,baz=267,slow=5.6,SNR=7.1						
KURBB	**Kurchatov Arra**	**148.09**	**38**	PKPbc	PKPbc	01 16 32.6	+0.2
	0.2nm,0.3s,baz=324,slow=3.6,SNR=6.4						
ZALV	**Zalesovo Beam**	**149.00**	**28**	PKPbc	PKPbc	01 16 34.2	-0.5
	1.1nm,0.3s,baz=323,slow=3.8,SNR=4.2						
MKAR	**Makanchi Array**	**152.24**	**42**	PKPbc	PKPbc	01 16 42.1	-0.6
	0.3nm,0.6s,baz=322,slow=2.9,SNR=4.4						

*ISCJB **27** 01:10:08.6±0.7, 27.°3N±0.°1×140.°7E±0.°2, h500km, mb3.3/10, Error ellipse: s-maj=22.3km s-min=14.3km az=143.8*

*IDC **27** 01:10:09.4±0.7, 27.°34N×140.°60E, h482km±11km, mb2.9/9, mb1 2.9/10, mb1mx2.8/25, mbtmp3.8/10, Error ellipse: s-maj=36.7km s-min=16.3km az=71.0*

ISC 27 01:10:09.5±0.9, 27.°3N±0.°2×140.°8E±0.°2, h500km, n12, σ1°24/13, mb3.3/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.30**	**99**	P	**P**	**01 11 10.8**	**-0.8**
	14nm,0.3s,baz=59,slow=23,SNR=1.6						
JCJ				S	**S**	**01 11 59.8**	**-2.3**
	14nm,0.3s,baz=308,slow=23,SNR=2.3						
JOW	**Kunigami**	**11.13**	**270**	P	**P**	**01 12 37.1**	**-1.7**
	0.3nm,0.3s,baz=135,slow=19,SNR=2.4						
SONM	**Songino Array**	**33.67**	**317**	P	**P**	**01 16 08.1**	**-0.1**
	0.2nm,0.5s,baz=118,slow=8.8,SNR=5.8						
WRA	**Warramunga Arr**	**47.39**	**188**	P	**P**	**01 17 59.0**	**+1.0**
	0.3nm,0.2s,baz=5.6,slow=7.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**48.48**	**319**	P	**P**	**01 18 05.7**	**-0.1**
	0.8nm,0.3s,baz=111,slow=8.2,SNR=3.2						
MKAR	**Makanchi Array**	**49.35**	**309**	P	**P**	**01 18 12.8**	**+0.4**
	0.4nm,0.5s,baz=86,slow=10,SNR=14						
ASAR	**Alice Springs**	**51.12**	**188**	P	**P**	**01 18 27.0**	**+1.5**
	0.3nm,0.5s,baz=5.4,slow=5.8,SNR=4.1						
KURBB	**Kurchatov Arra**	**51.97**	**314**	P	**P**	**01 18 31.9**	**+0.5**
	1.3nm,0.5s,baz=89,slow=8.0,SNR=14						
BVAR	**Borovoye Array**	**57.02**	**317**	P	**P**	**01 19 07.7**	**+0.8**
	1.6nm,0.4s,baz=89,slow=7.1,SNR=15						
JOF	**Joensuu**	**74.31**	**333**	*ep*	**P**	**01 20 55.5**	**+0.5**
	0.3nm,0.3s						
FINES	**FINESS Array B**	**77.18**	**333**	P	**P**	**01 21 12.1**	**+1.2**
	0.8nm,0.3s,baz=82,slow=5.0,SNR=21						
NOA	**NORSAR Array B**	**82.93**	**338**	P	**P**	**01 21 41.9**	**+0.7**
	0.4nm,0.8s,baz=44,slow=4.8,SNR=2.9						

*IDC **27** 01:10:53.1±2.1, 0.°46N×124.°99E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/38, mbtmp3.5/3, Error ellipse: s-maj=285.2km s-min=24.2km az=64.0*

*ISCJB **27** 01:11:00.3±0.9, 0.°58N±0.°10×125.°25E±0.°04, h74km±11km, mb3.4/3, Error ellipse: s-maj=16.4km s-min=6.4km az=12.7*

*DJA **27** 01:11:00.4±0.5, 0.°N±6.°×12.°5E±.°, h10km, M4.1/13, mb4.2/4, mB5.0/3, MLv4.0/13, Mw(mB)4.3/3*

ISC 27 01:11:01.1±1.4, 0.°55N±0.°09×125.°26E±0.°05, h60km±17km, n15, σ1°90/20, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.28**	**271**	P	**Pn**	**01 11 21.2**	**-1.6**
KMSI				S	**Sn**	**01 11 37.1**	**-1.9**
GTOI	**Gorontalo**	**2.25**	**272**	P	**Pn**	**01 11 38.3**	**+2.4**
LBMI	**Labuha**	**2.53**	**118**	P	**Pn**	**01 11 41.1**	**+1.3**
LBMI				S	**Sn**	**01 12 10.0**	**+0.5**
SANI	**Sanana**	**2.68**	**164**	P	**Pn**	**01 11 43.6**	**+1.8**
SANI				S	**Sn**	**01 12 09.3**	**-3.8**
LUWI	**Luwuk**	**2.95**	**238**	P	**Pn**	**01 11 46.7**	**+1.3**
LUWI				S	**Sn**	**01 12 19.2**	**-0.4**
MRSI	**Marisa**	**3.32**	**269**	P	**Pn**	**01 11 50.9**	**+0.3**
APSI	**Ampana**	**3.89**	**248**	P	**Pn**	**01 11 59.6**	**+1.2**
APSI				S	**Sn**	**01 12 46.1**	**+3.3**
NLAI	**Namlea**	**4.19**	**154**	P	**Pn**	**01 12 03.7**	**+1.3**
MSAI	**Masohi**	**5.33**	**137**	P	**Pn**	**01 12 19.8**	**+1.7**
	14nm,0.7s,1μm0.2nm						
MPSI	**Mapaga**	**5.37**	**268**	P	**Pn**	**01 12 20.4**	**+1.8**
	9.5nm,0.8s,0.1nm						
TTSI	**Tana Toraja**	**6.50**	**237**	P	**Pn**	**01 12 35.2**	**+1.0**
	25nm,0.7s,868nm0.1nm						
SPSI	**Sidrap Palu**	**7.08**	**231**	P	**Pn**	**01 12 42.8**	**+0.6**
WRA	**Warramunga Arr**	**22.22**	**157**	P	**P**	**01 15 51.2**	**-1.7**
	1.4nm,0.9s,baz=334,slow=10.0,SNR=4.2						
ASAR	**Alice Springs**	**25.49**	**161**	P	**P**	**01 16 23.6**	**-0.4**
	0.5nm,0.5s,baz=340,slow=7.4,SNR=9.3						
MKAR	**Makanchi Array**	**59.36**	**327**	P	**P**	**01 20 56.7**	**-0.5**
	0.2nm,0.3s,baz=126,slow=7.7,SNR=10						

*IDC **27** 01:18:50.1±1.9, 37.°02N×76.°09E, h0km, mb3.6/5, mb1 3.7/12, mb1mx3.5/31, mbtmp3.6/12, ML3.4/7, Error ellipse: s-maj=35.0km s-min=24.4km az=147.0*

*ISCJB **27** 01:19:03.1±0.3, 37.°50N±0.°03×76.°09E±0.°06, h105km, mb3.4/5, Error ellipse: s-maj=6.8km s-min=3.7km az=169.5*

*NNC **27** 01:19:04.0±3.8, 37.°47N×75.°81E, h71km±67km, mb3.6, mpv3.5, Error ellipse: s-maj=32.4km s-min=17.4km az=151.0*

ISC 27 01:19:03.9±0.7, 37.°48N±0.°05×76.°00E±0.°07, h105km, n41, σ1°54/45, mb3.4/5, 8C-7D, Southern Xinjiang

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

AKTO	Aktyubinsk	18.25	321	⇑P	Pn	01 23 09.4	-0.7
	comp=E,0.4nm,0.3s						
AKTO	Aktyubinsk	18.25	321	P	Pn	01 23 09.7	-0.4
	comp=E,0.3nm,0.3s,baz=117,slow=9.9,SNR=6.8						
SONM	Songino Array	24.48	55	P	P	01 24 13.8	+0.6
	comp=E,0.3nm,0.4s,baz=252,slow=8.7,SNR=5.3						
FINES	FINESS Array B	38.97	324	P	P	01 26 20.1	+0.8
	comp=E,0.3nm,0.3s,baz=118,slow=8.7,SNR=6.8						
ARCES	ARCESS Array B	41.82	336	P	P	01 26 44.3	+1.5
	comp=E,4.0nm,0.9s,baz=110,slow=8.0,SNR=3.0						
TORD	Torodi Ar. Bea	69.72	271	P	P	01 30 03.8	+1.0
	comp=E,0.2nm,0.5s,baz=58,slow=6.9,SNR=4.0						
YKA	Yellowknife Ar	80.00	5	P	P	01 31 01.6	+0.4
	comp=E,0.2nm,0.3s,baz=343,slow=5.7,SNR=4.5						

IDC 27 01:20:02.2±2.7,29°.87N×113°.85W,h0km,mb3.4/1, mb1 3.8/4,mb1mx3.5/25,mbtmp3.5/4,ML3.4/3,MS3.1/6, Ms1 3.1/6,ms1mx2.9/22,Error ellipse: s-maj=38.1km s-min=19.4km az=27.0,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	Pinyon Flats O	4.34	330	Pn	Pn	01 21 06.4	-3.2
	0.2nm,0.3s,baz=133,slow=8.6,SNR=1.8						
PFO				Pg	Pg	01 21 25.7	+0.1
	0.6nm,0.3s,baz=157,slow=9.9,SNR=3.7						
PFO				Lg	Lg	01 22 31.8	
	1.3nm,0.3s,baz=315,slow=1.9,SNR=1.9						
PFO				LR	LR	01 22 50.7	
	comp=Z,212nm,21.9s,baz=160,slow=39						
LPIG	La Paz	6.55	150	LR	LR	01 24 02.5	
	comp=Z,191nm,21.8s,baz=332,slow=37						
ANMO	Albuquerque	8.04	49	Pn	Pn	01 22 01.3	+0.7
	0.3nm,0.3s,baz=226,slow=12,SNR=17						
ANMO				Lg	Lg	01 24 20.5	
	0.3nm,0.3s,baz=118,slow=21,SNR=4.7						
TXAR	Lajitas Array	8.88	91	Pn	Pn	01 22 12.4	+0.4
	0.2nm,0.3s,baz=270,slow=12,SNR=7.7						
TXAR				Lg	Lg	01 24 45.2	
	0.5nm,0.3s,baz=268,slow=29,SNR=6.3						
TXAR				LR	LR	01 25 49.6	
	comp=Z,153nm,20.2s,baz=0.0,slow=39						
ELK	Elko	10.91	354	LR	LR	01 26 23.8	
	comp=Z,35nm,18.9s,baz=179,slow=35						
PDAR	Pinedale Array	13.33	14	Pn	Pn	01 23 15.1	+2.1
	0.0nm,0.3s,baz=206,slow=12,SNR=2.5						
YBH	Yreka Blue Hor	13.84	331	LR	LR	01 27 55.9	
	comp=Z,76nm,19.6s,baz=166,slow=34						
CMIG	Matias Romero	21.51	122	LR	LR	01 33 36.5	
	comp=Z,116nm,18.9s,baz=282,slow=38						
ILAR	Eielson Array	40.56	339	P	P	01 27 44.4	+1.4
	0.6nm,1.0s,baz=149,slow=7.2,SNR=4.7						

IDC 27 01:48:53.6±1.1,39°.80S×73°.43W,h0km,mb4.1/6, mb1 4.3/9,mb1mx4.1/17,mbtmp4.2/9,ML4.2/3,MS2.5/3, Ms1 2.5/3,ms1mx2.5/20,Error ellipse: s-maj=27.1km s-min=19.0km az=83.0
NEIC 27 01:48:57.3±2.9,39°.76S×73°.36W,h25km±20km,mb4.4/9, ML4.7(GUC),Error ellipse: s-maj=15.3km s-min=7.3km az=84.0
NEIC Felt [IV] at Corral, Futrono, La Union, Panguipulli and Valdivia; [III] at Queule; [II] at Pucon.
ISCJB 27 01:48:58.4±0.6,39°.77S±0°.04×73°.4W±0°.1,h54km±5km, mb4.3/12,MS3.1/1,Error ellipse: s-maj=12.9km s-min=7.2km az=178.3
GUC 27 01:48:59.5±0.6,39°.99S×73°.33W,h47km±7km,ML4.7
ISC 27 01:48:59.3±0.8,39°.85S±0°.04×73°.44W±0°.08,h46km±7km, n39,σ1°41/45,mb4.3/12,4C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	Valdivia	0.16	73	⇑iP	Pn	01 49 07.6	+0.7
VLCH				iS	Sn	01 49 13.6	+1.3
VLCH				AML	AML	01 49 14.9	
	comp=N,129μm,0.1s						
OSCH	Osorno	0.76	162	eP1	Pn	01 49 12.7	-1.0
OSCH				iS1	Sn	01 49 22.0	-2.1
OSCH				AML	AML	01 49 24.1	
	comp=N,72μm,0.6s						
PMCH	Puerto Montt	1.69	166	⇑iP	Pn	01 49 25.1	-1.2
PMCH				iS1	Sn	01 49 43.6	-3.1
HOCH	HornopirØn	2.20	159	iS1	Sn	01 49 56.6	-2.6
PLCA	Paso Flores	2.38	113	Pn	Pn	01 49 35.1	-0.7
	comp=N,21nm,0.3s,baz=289,slow=15,SNR=125						
PLCA				Sn	Sn	01 50 05.3	+1.4
	comp=N,58nm,0.3s,baz=38,slow=19,SNR=5.7						
PLCA				LR	LR	01 50 31.9	
	comp=N,109nm,21.3s,baz=266,slow=41						
PLCA	Paso Flores	2.38	113	⇑iP	Pn	01 49 35.1	-0.7
PLCA				eS4	Sn	01 50 03.1	-0.8
PLCA	Paso Flores	2.38	113	ePn	Pn	01 49 34.7	-1.1
PLCA				Sn	Sn	01 50 05.3	+1.4
CCSP	San Pedro de C	3.02	5	eP4	Pn	01 49 44.8	+0.3
CCSP				eS4	Sn	01 50 18.1	-1.3
LNCH	Linares	4.26	211	⇑iP	Pn	01 50 01.1	-0.4
LNCH				iS4	Sn	01 50 48.1	-1.8
TRQA	Tornquist	9.11	82	ePn	Pn	01 51 05.4	-2.7
CFAA	Coronel Fontan	9.25	29	Pn	Pn	01 51 08.3	-1.8
	comp=N,2.6nm,0.3s,baz=201,slow=13,SNR=140						
CFAA				Sn	Sn	01 52 52.7	-0.1
	comp=N,0.3nm,0.3s,baz=285,slow=20,SNR=3.4						
CFAA				LR	LR	01 54 36.0	
	comp=N,7.0nm,21.0s,baz=209,slow=37						
LCO	Las Campanas	11.05	13	ePn	Pn	01 51 32.0	-2.9
	comp=N,12nm,0.5s						
LCO				eSn	Sn	01 53 30.2	-7.0
USHA	Ushuaia	15.36	169	Pn	Pn	01 52 34.0	+1.3
	comp=N,0.2nm,0.3s,baz=341,slow=12,SNR=3.0						
LVC	Limon Verde	17.61	14	ePn	Pn	01 52 59.5	-2.1
	comp=N,4.4nm,0.6s						
LPAZ	La Paz	23.93	13	P	P	01 54 10.7	+0.9
	comp=N,4.2nm,0.7s,baz=186,slow=8.7,SNR=15						
LPAZ	La Paz	23.93	13	eP	P	01 54 10.5	+0.7
	comp=N,6.0nm,0.6s						
SIV	San Ignacio	26.11	28	P	P	01 54 27.8	-1.1
	comp=N,4.9nm,0.8s,baz=205,slow=11,SNR=11						
SIV				LR	LR	02 05 51.1	
	comp=N,53nm,20.1s,baz=173,slow=39						
SAML	Samuel	32.11	19	eP	P	01 55 21.0	-1.1
	comp=N,2.2nm,0.6s						
BDFB	Brasilia	32.77	50	P	P	01 55 27.7	-0.5
	comp=N,1.7nm,0.4s,baz=211,slow=9.4,SNR=4.1						
OTAV	Otavalo	40.16	352	eP	P	01 56 31.6	+0.1
	comp=N,11nm,1.4s						
VNA3	Neumayer Olymp	44.44	156	P	P	01 57 04.4	-0.7
VNA2	Neumayer-Watz	45.13	155	P	P	01 57 10.2	-0.4
	baz=278,slow=8.9						
SNAA	Sanae	46.66	156	P	P	01 57 22.3	-0.5
SDV	Santo Domingo	48.56	4	eP	P	01 57 37.2	-1.0
	comp=N,4.8nm,0.9s						
QSPA	South Pole Qui	50.39	180	P	P	01 57 52.2	+0.6
	comp=N,2.3nm,0.8s,baz=144,slow=11,SNR=7.8						
QSPA	South Pole Qui	50.39	180	eP	P	01 57 51.7	+0.1
	comp=N,3.2nm,0.7s						
VNDA	Vanda	58.15	192	eP	P	01 58 48.8	+1.1
GTBY	Guantanamo Bay	59.49	358	eP	P	01 58 58.1	+0.6
JCT	Junction City	74.14	337	eP	P	02 00 31.2	+0.5
	comp=N,4.4nm,0.8s						
TXAR	Lajitas Array	74.35	333	P	P	02 00 33.2	+1.1
	comp=N,1.1nm,0.6s,baz=157,slow=8.5,SNR=13						
LBTB	Lobatse	80.87	115	eP	P	02 01 10.4	+1.7
	comp=N,2.9nm,0.6s						
WUAZ	Wupatki	82.75	330	eP	P	02 01 18.5	+0.3
	comp=N,3.2nm,0.6s						
TORD	Torodi Ar. Bea	87.24	70	P	P	02 01 42.8	+1.8
	comp=N,0.9nm,1.2s,baz=225,slow=4.4,SNR=2.2						
H11S2	WAKE ISLAND Hyl	24.39	266	T	T	04 24 24.6	
	baz=126,slow=75,SNR=47						
H11S1	WAKE ISLAND Hyl	24.41	266	T	T	04 24 26.3	
	baz=126,slow=75,SNR=51						
H11S3	WAKE ISLAND Hyl	24.41	266	T	T	04 24 26.2	
	baz=126,slow=75,SNR=27						
TIXI	Tiksi	146.20	348	ePKPbc	PKPbc	02 08 33.1	-0.1
ZALV	Zalesovo Beam	159.64	39	PKPab	PKPab	02 09 31.8	+1.0
	comp=N,0.5nm,0.3s,baz=335,slow=6.4,SNR=2.6						
MKAR	Makanchi Array	161.07	61	PKPab	PKPab	02 09 35.9	-1.5
	comp=N,0.3nm,0.6s,baz=261,slow=4.2,SNR=3.4						

IDC 27 02:28:58.2±1.9,12°.15N×48°.41E,h0km,mb3.8/8, mb1 3.9/8,mb1mx3.6/43,mbtmp3.8/8,MS3.3/11, Ms1 3.3/11,ms1mx3.0/40,Error ellipse: s-maj=45.0km s-min=24.4km az=178.0
ISCJB 27 02:28:59.9±1.1,13°.0N±0°.1×48°.32E±0°.06,h10km,mb3.8/8, MS3.2/10,Error ellipse: s-maj=15.9km s-min=6.7km az=163.2
DHMR 27 02:29:00.4±1.6,13°.17N×48°.19E,h14km±31km,ML3.8
ISC 27 02:29:02.0±1.3,12°.9N±0°.2×48°.32E±0°.08,h10km,n20, σ2°67/11,mb3.7/8,MS3.2/10,2C-1D,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	1.68	24	⇑iP	Pn	02 29 27.9	-3.6
MUKL				iS	Sn	02 29 49.1	-4.0
BDHA	Al Bayda'	2.88	291	⇓iP	Pn	02 29 46.9	-1.3
BDHA				iS	Sn	02 30 21.2	-1.8
BDHA				AML	AML	02 30 24.5	
	comp=N,673nm,0.2s						
TRBA	At Turbah	4.11	275	⇑iP	Pn	02 30 02.6	-2.6
TRBA				iS	Sn	02 30 53.2	-0.3
KMBO	Kilima Mbogo	17.77	219	LR	LR	02 38 46.6	
	comp=N,56nm,19.2s,baz=136,slow=34						
EIL	Elat	20.76	325	LR	LR	02 41 12.5	
	comp=N,86nm,20.1s,baz=134,slow=34						
ASF	Jabal al Asfar	21.83	333	P	P	02 33 58.9	+4.1
	comp=N,3.0nm,0.9s,baz=159,slow=8.6,SNR=4.2						
MMAI	Mount Meron Ar	23.22	332	LR	LR	02 43 48.9	
	comp=N,106nm,18.8s,baz=185,slow=37						
GEYT	Alibeck	26.38	18	LR	LR	02 47 00.8	
	comp=N,58nm,18.2s,baz=165,slow=40						
GNI	Garni	27.29	354	LR	LR	02 47 26.8	
	comp=N,118nm,19.8s,baz=127,slow=40						
BRTR	Keskin Array B	29.66	337	LR	LR	02 49 14.2	
	comp=N,25nm,19.3s,baz=142,slow=40						
KBZ	Khabaz	31.04	352	LR	LR	02 48 24.2	
	comp=N,56nm,21.9s,baz=162,slow=37						
AAK	Ala-Archa	37.27	33	P	P	02 36 18.9	+4.6
	comp=N,0.9nm,0.7s,baz=220,slow=6.5,SNR=3.5						
AKASG	Malin Array Be	40.76	341	P	P	02 36 48.8	+5.7
	comp=N,0.3nm,0.4s,baz=160,slow=7.4,SNR=4.7						
MKAR	Makanchi Array	44.18	33	P	P	02 37 12.3	+1.2
	comp=N,1.3nm,1.0s,baz=227,slow=7.2,SNR=3.6						
MKAR				LR	LR	02 58 19.8	
	comp=N,19nm,18.9s,baz=310,slow=39						
TORD	Torodi Ar. Bea	45.38	276	P	P	02 37 20.0	-1.1
	comp=N,1.5nm,0.8s,baz=87,slow=8.0,SNR=12						
CMAR	Chiang Mai Arr	48.92	77	P	P	02 37 47.4	-1.4
	comp=N,1.5nm,0.3s,baz=275,slow=8.3,SNR=7.6						
FINES	FINESS Array B	51.05	346	P	P	02 38 07.0	+2.8
	comp=N,1.2nm,0.7s,baz=147,slow=11,SNR=5.3						
FINES				LR	LR	03 03 34.5	
	comp=N,31nm,20.1s,baz=157,slow=40						
NOA	NORSAR Array B	55.06	339	LR	LR	03 05 48.4	
	comp=N,20nm,18.6s,baz=85,slow=40						
ARCES	ARCESS Array B	58.38	351	LR	LR	03 06 43.6	
	comp=N,28nm,19.2s,baz=192,slow=38						
SONM	Songino Array	59.22	42	P	P	02 39 04.1	+0.4
	comp=N,0.6nm,0.9s,baz=248,slow=7.6,SNR=3.6						

ISCJB 27 02:31:43.1±1.0,10°.8N±0°.2×86°.3W±0°.1,h66km,mb3.6/11, Error ellipse: s-maj=33.5km s-min=7.7km az=35.7
IDC 27 02:31:45.3±1.8,11°.01N×86°.13W,h58km±17km,mb3.5/11, mb1 3.7/12,mb1mx3.5/36,mbtmp3.8/12,MS3.5/5, Ms1 3.6/5,ms1mx3.0/32,Error ellipse: s-maj=40.7km s-min=12.3km az=41.0
ISC 27 02:31:45.2±0.9,10°.9N±0°.2×86°.2W±0°.2,h66km,n20, σ1°23/18,mb3.6/11,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	1.34	117	P	Pn	02 32 06.1	-2.0
	26nm,0.3s,baz=298,slow=16,SNR=104						
JTS				S	Sn	02 32 25.5	+0.4
	63nm,0.3s,baz=267,slow=17,SNR=9.6						
TEIG	Tepich	9.48	348	LR	LR	02 38 15.5	
	comp=Z,213nm,18.9s,baz=73,slow=42						
CMIG	Matias Romero	10.45	307	P	Pn	02 34 10.3	-2.1
	0.3nm,0.3s,baz=124,slow=13,SNR=3.2						
ATAH	Atahualpa	19.53	156	LR	LR	02 42 34.5	
	comp=Z,90nm,21.2s,baz=331,slow=33						
TXAR	Lajitas Array	24.55	321	P	P	02 36 59.5	+0.4
	1.3nm,0.6s,baz=136,slow=9.6,SNR=15						
TXAR				PcP	PcP	02 40 38.2	+2.4
	0.4nm,0.7s,baz=138,slow=5.8,SNR=5.5						
TKL	Tuckaleechee C	24.73	5	P	P	02 37 00.4	-0.1
	3.6nm,0.8s,baz=190,slow=11,SNR=3.0						
TKL				LR	LR	02 47 52.2	
	comp=Z,44nm,18.4s,baz=329,slow=39						
PTGA	Pitinga	28.50	112	P	P	02 37 35.5	+0.8
	1.2nm,0.6s,baz=246,slow=10.0,SNR=2.5						
ANMO	Albuquerque	30.23	326	P	P	02 37 51.7	+1.7
	0.5nm,0.6s,baz=166,slow=8.3,SNR=3.4						
PDAR	Pinedale Array	37.72	331	P	P	02 38 54.6	-0.2
	0.5nm,0.8s,baz=133,slow=11,SNR=4.3						
ULM	Lac du Bonnet	40.03	350	P	P	02 39 14.9	+1.2
	1.3nm,0.6s,baz=162,slow=10.0,SNR=3.2						
BDFB	Brasilia	46.07	124	P	P	02 40 03.2	+0.1
	1.6nm,0.5s,baz=293,slow=7.7,SNR=3.4						
SCHQ	Schefferville	46.40	15	P	P	02 40 04.9	-0.2
	5.8nm,1.1s,baz=220,slow=5.6,SNR=3.8						
PLCA	Paso Flores	53.38	165	LR	LR	02 58 57.0	
	comp=Z,212nm,18.8s,baz=271,slow=30						
YKA	Yellowknife Ar	55.42	344	P	P	02 41 11.7	-0.9
	0.3nm,0.7s,baz=143,slow=6.8,SNR=4.9						
YKA				PcP	PcP	02 42 13.1	+0.9
	0.2nm,0.6s,baz=159,slow=3.9,SNR=4.3						
ILAR	Eielson Array	67.93	336	P	P	02 42 36.9	+0.1
	0.3nm,0.8s,baz=124,slow=4.9,SNR=7.8						
ILAR				LR	LR	03 16 01.4	
	comp=Z,48nm,18.2s,baz=156,slow=39						
TORD	Torodi Ar. Bea	85.51	78	P	P	02 44 16.1	-0.7
	0.2nm,0.7s,baz=291,slow=5.3,SNR=2.5						
BRTR	Keskin Array B	104.88	44	PP	PP	02 50 03.0	-2.6
	0.3nm,0.7s,baz=318,slow=8.4,SNR=4.1						
ASAR	Alice Springs	139.84	246	PKP	PKPdf	02 51 07.1	+0.3
	0.4nm,0.7s,baz=64,slow=2.2,SNR=3.1						
WRA	Warramunga Arr	140.03	252	PKP	PKPdf	02 51 08.2	+1.1
	0.2nm,0.3s,baz=96,slow=2.8,SNR=4.5						
H01W3	Cape Leeuwin H	149.81	215	T	T	05 38 58.9	
	SNR=4.6						

IDC 27 02:33:39.9±3.0,15°.20S×173°.48W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.8/18,mbtmp3.8/4,Error ellipse: s-maj=164.2km s-min=27.7km az=145.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	WAKE ISLAND Hy	38.75	329	T	T	03 21 44.8	
	baz=146,slow=76,SNR=7.4						
H11S3	WAKE ISLAND Hy	38.76	329	T	T	03 21 48.6	
	baz=146,slow=76,SNR=5.6						
H11S1	WAKE ISLAND Hy	38.77	329	T	T	03 21 45.5	
	baz=146,slow=76,SNR=5.5						
H11N3	WAKE ISLAND Hy	39.70	330	T	T	03 23 39.2	
	baz=153						
H11N1	WAKE ISLAND Hy	39.70	330	T	T	03 23 38.7	
	baz=153						
H11N2	WAKE ISLAND Hy	39.71	330	T	T	03 23 39.2	
	baz=153						
WRA	Warramunga Arr	49.81	257	P	P	02 42 34.9	-0.1
	0.4nm,0.4s,baz=90,slow=7.0,SNR=5.0						
ASAR	Alice Springs	50.10	252	P	P	02 42 36.6	-0.5
	2.4nm,0.7s,baz=85,slow=8.1,SNR=30						
PDAR	Pinedale Array	82.17	42	P	P	02 46 03.3	+0.2
	0.6nm,0.9s,baz=199,slow=4.1,SNR=3.7						
ILAR	Eielson Array	82.26	11	P	P	02 46 01.9	-0.8
	0.3nm,0.5s,baz=224,slow=5.7,SNR=11						
ARCES	ARCESS Array B	124.40	352	PKP	PKPdf	02 52 39.5	-0.9
	2.9nm,0.9s,baz=0.0,slow=3.2,SNR=4.2						
GERES	GERESS Array B	145.93	352	PKPbc	PKPab	02 53 22.0	0.0
	0.5nm,0.6s,baz=20,slow=3.1,SNR=3.2						
BRTR	Keskin Array B	145.95	321	PKPbc	PKPbc	02 53 22.2	+0.2
	1.8nm,1.0s,baz=23,slow=1.2,SNR=7.0						

DHMR 27 02:36:25.1±1.8,13°.16N×48°.21E,h16km±35km,ML3.6, 2C-1D,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	1.53	32	⇑iP	Pb	02 36 52.6	-0.6
MUKL				iS	Sb	02 37 13.4	+0.9
BDHA	Al Bayda'	2.69	288	⇓iP	Pb	02 37 11.7	-1.6
BDHA				iS	Sb	02 37 46.1	-0.3
BDHA				AML	AML	02 37 50.3	
	comp=N,354nm,0.7s						

TRBA	At Turbah	3.99	271	⇑iP	Pn	02 37 27.2	+1.3
TRBA				iS	Sb	02 38 18.2	-5.4

CASC 27 02:53:48.2±1.5,13°.74N×91°.48W,h18km±16km,MD3.5,2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.60	345	⇓eP	Pg	02 53 59.0	-1.0
NBG	Las Nubes	1.39	52	⇓eP	Pn	02 54 13.4	+0.4
NBG				eS	Sg	02 54 33.4	-0.3
RBDL	Robledal	1.78	78	eP	Pn	02 54 18.5	+0.1
RTR	El Retiro	1.79	85	eP	Pn	02 54 17.9	-0.6
RTR				eS	Sn	02 54 41.5	+0.5
SBLS	San Blas	1.81	87	eP	Pn	02 54 18.8	-0.1
SBLS				eS	Sn	02 54 42.2	+0.7
SNJE	San Jose	1.83	86	eP	Pn	02 54 19.1	+0.1
SNJE				eS	Sn	02 54 42.5	+0.6

ISCJB 27 02:55:20.8±0.8,7°.28S±0°.09×106°.58E±0°.05,h91km±9km, Error ellipse: s-maj=16.0km s-min=5.8km az=24.6
DJA 27 02:55:21.7±0.4,7°.5±5°×10°.7E±°,h71km±6km,M3.6/11, MLv3.6/11
ISC 27 02:55:21.9±1.5,7°.26S±0°.08×106°.60E±0°.05,h86km±11km, n12,σ0°61/19,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.26	349	P	Pn	02 55 34.6	0.0
SKJI				S	Sn	02 55 44.7	+0.7
CNJI	Cibinong	0.52	96	P	Pn	02 55 35.7	-0.7
CNJI				S	Sn	02 55 46.4	-0.8
LEM	Lembang	1.09	67	P	Pn	02 55 41.9	-0.6
LEM				S	Sn	02 55 58.6	+0.5
LEM	Lembang	1.09	67	P	Pn	02 55 42.0	-0.6
	baz=29,SNR=14						
CGJI	Cibinong	1.11	305	P	Pn	02 55 42.2	-0.3
CGJI				S	Sn	02 55 58.3	+0.2
CISI	Cisompet, Garu	1.24	104	P	Pn	02 55 44.2	0.0
CISI				S	Sn	02 56 02.4	+1.4
CISI	Cisompet, Garu	1.24	104	P	Pn	02 55 44.9	+0.7
	baz=29,SNR=4.0						
CMJI	Cimerak	1.90	106	P	Pn	02 55 52.4	-0.2
CMJI				S	Sn	02 56 16.0	-0.1
KPJI	Karang Pucung	2.31	92	P	Pn	02 55 57.6	-0.4
KASI	Kota Agung	2.71	309	P	Pn	02 56 03.6	+0.2
KASI				S	Sn	02 56 35.4	0.0
XMIS	Christmas Isla	3.34	196	P	Pn	02 56 11.5	-0.4
	baz=30,SNR=14						
MDSI	Maura Dua	3.66	319	P	Pn	02 56 16.1	-0.2

ISCJB 27 02:55:53.5±1.9,36°.87S±0°.05×73°.8W±0°.1,h15km±12km, mb3.6/2,Error ellipse: s-maj=17.0km s-min=8.0km az=13.8
GUC 27 02:55:56.0±0.5,36°.86S×73°.66W,h19km±3km,ML4.0
IDC 27 02:55:57.3±9.2,36°.78S×73°.51W,h30km±60km,mb3.4/2, mb1 3.5/4,mb1mx3.3/21,mbtmp3.4/4,ML3.4/2,MS2.4/1, Ms1 2.4/1,ms1mx2.3/10,Error ellipse: s-maj=83.2km s-min=29.5km az=93.0
ISC 27 02:55:53.4±2.4,36°.87S±0°.06×73°.7W±0°.1,h9km±12km,n10, σ1°23/16,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.46	86	⇓eP	Pb	02 56 03.8	0.0
CCSP				eS	Sb	02 56 10.2	-0.5
CCSP				IAML		02 56 12.6	
	comp=E,24μm,0.6s						
COCH	Cobquecura	1.04	45	eP	Pg	02 56 13.2	-0.1
COCH				eS	Sg	02 56 26.4	-0.3
AGCH	Angol	1.22	140	eP	Pn	02 56 16.6	-0.1
AGCH				eS	Sb	02 56 32.3	-0.3
TALC	Talca	2.22	49	eP	Pn	02 56 31.8	+1.4
TALC				eS	Sn	02 56 59.0	+1.0
NICH	Los Niches	2.73	48	eP	Pn	02 56 39.0	+1.6
NICH				eS	Sn	02 57 11.8	+1.2
PLCA	Paso Flores	4.56	149	Pn	Pn	02 57 05.0	+2.2
	comp=E,0.8nm,0.3s,baz=321,slow=10.0,SNR=32						
CFAA	Coronel Fontan	6.93	42	Pn	Pn	02 57 33.3	-1.9
	comp=E,0.1nm,0.3s,baz=216,slow=11,SNR=19						
CFAA				Sn	Sn	02 58 52.9	-1.3
	comp=E,0.1nm,0.3s,baz=216,slow=19,SNR=3.2						
CFAA				LR	LR	03 00 20.9	
	comp=E,31nm,18.1s,baz=229,slow=39						
LPAZ	La Paz	21.09	15	P	P	03 00 39.1	+0.2
	comp=E,1.4nm,0.7s,baz=198,slow=12,SNR=2.8						
TORD	Torodi Ar. Bea	86.44	71	P	P	03 08 35.9	-0.8
	comp=E,0.3nm,0.6s,baz=225,slow=4.0,SNR=4.5						
MKAR	Makanchi Array	159.61	53	PKPab	PKPab	03 16 30.3	-0.4
	comp=E,0.4nm,0.8s,baz=276,slow=4.1,SNR=4.7						

ISCJB 27 03:00:23.9±0.8,28°.12S±0°.04×71°.26W±0°.09,h38km, mb3.7/3,MS2.8/2,Error ellipse: s-maj=11.5km s-min=4.9km az=7.1
GUC 27 03:00:25.1±0.4,28°.17S×71°.12W,h44km±4km,ML3.1
IDC 27 03:00:26.6±3.5,28°.03S×70°.98W,h53km±29km,mb3.4/3, mb1 3.6/5,mb1mx3.4/17,mbtmp3.6/5,ML3.5/2,MS3.0/2, Ms1 3.0/2,ms1mx2.5/15,Error ellipse: s-maj=54.9km s-min=18.7km az=71.0
ISC 27 03:00:24.8±0.8,28°.11S±0°.04×71°.19W±0°.10,h38km,n15, σ1°26/20,mb3.7/3,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.60	141	⇑eP	Pn	03 00 36.1	-0.8
VACH				eS	Sn	03 00 44.2	-1.2
CPCH	Copiapo	1.05	45	eP	Pn	03 00 44.2	+1.2
CPCH				eS	Sn	03 00 58.6	+2.1
CDC

BLCB	**Balcova**	**0.63**	**77**	*e*PG	**Pg**	**03 05 36.3**	**-0.1**
BLCB				*e*SG	**Sg**	**03 05 45.0**	**+0.4**
BLCB	**Balcova**	**0.63**	**77**	*e*Pg	**Pg**	**03 05 36.3**	**-0.1**
IZM	**Izmir**	**0.80**	**78**	*e*PG	**Pg**	**03 05 39.8**	**+0.1**
IZM	**Izmir**	**0.80**	**78**	*e*Pg	**Pg**	**03 05 39.8**	**+0.1**
GCAM	**G?zelcaml?**	**0.94**	**125**	*i* P	**Pg**	**03 05 41.5**	**-0.8**
GCAM				*i* S	**Sb**	**03 05 54.2**	**-0.9**
GCAM	**G?zelcaml?**	**0.94**	**125**	*i* P	**Pg**	**03 05 41.5**	**-0.8**
GCAM				*i* S	**Sb**	**03 05 54.2**	**-0.9**
SIGR	**SIGRI**	**1.02**	**342**	*e*PG	**Pg**	**03 05 42.8**	**-1.1**
SIGR	**SIGRI**	**1.02**	**342**	*e*Pg	**Pg**	**03 05 42.8**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**102**	*e*PN	**Pg**	**03 05 50.0**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**102**	*e*Pn	**Pg**	**03 05 50.0**	**+0.4**
AKS	**Akhisar**	**1.37**	**62**	*e*PN	**Pn**	**03 05 50.0**	**+0.5**
AKS	**Akhisar**	**1.37**	**62**	*e*Pn	**Pn**	**03 05 50.0**	**+0.5**
AYDN	**Tasoluk**	**1.40**	**114**	*i* P	**Pg**	**03 05 50.8**	**-0.4**
AYDN				*i* S	**Sn**	**03 06 08.9**	**+0.3**
AYDN	**Tasoluk**	**1.40**	**114**	*i* P	**Pg**	**03 05 50.8**	**-0.4**
AYDN				*i* S	**Sn**	**03 06 08.9**	**+0.3**
BODT	**Bodrum**	**1.44**	**144**	*e*PN	**Pg**	**03 05 52.8**	**+0.9**
BODT	**Bodrum**	**1.44**	**144**	*e*Pn	**Pg**	**03 05 52.8**	**+0.9**
BDRM	**Kayabasi**	**1.50**	**141**	*i* P	**Pb**	**03 05 51.6**	**-0.7**
BDRM				*i* S	**Sg**	**03 06 12.1**	**-0.5**
BDRM	**Kayabasi**	**1.50**	**141**	*i* P	**Pb**	**03 05 51.6**	**-0.7**
BDRM				*i* S	**Sg**	**03 06 12.1**	**-0.5**
EZN	**Ezine**	**1.58**	**2**	*e*PN	**Pn**	**03 05 52.3**	**-0.1**
EZN	**Ezine**	**1.58**	**2**	*e*Pn	**Pn**	**03 05 52.3**	**-0.1**
MANT	**Manisa**	**1.82**	**81**	*i* P	**Pg**	**03 05 59.2**	**0.0**
MANT				*i* S	**Sb**	**03 06 21.8**	**+1.0**
MANT	**Manisa**	**1.82**	**81**	*i* P	**Pg**	**03 05 59.2**	**0.0**
MANT				*i* S	**Sb**	**03 06 21.8**	**+1.0**
BALB	**Balikesir**	**1.88**	**42**	*e*PN	**Pn**	**03 05 56.5**	**0.0**
BALB	**Balikesir**	**1.88**	**42**	*e*Pn	**Pn**	**03 05 56.5**	**0.0**
KULA	**Kula-Manisa**	**1.90**	**81**	*e*PN	**Pn**	**03 05 57.8**	**+0.9**
KULA	**Kula-Manisa**	**1.90**	**81**	*e*Pn	**Pn**	**03 05 57.8**	**+0.9**
DST	**Dursunbey**	**2.29**	**53**	*e*PN	**Pn**	**03 06 02.4**	**+0.3**
DST	**Dursunbey**	**2.29**	**53**	*e*Pn	**Pn**	**03 06 02.4**	**+0.3**

*ISCJB **27** 03:26:21.7±0.5, 56°.30S±0°.07×26°.7W±0°.1, h88km, mb4.3/13, Error ellipse: s-maj=12.0km s-min=7.1km az=35.6*
*NEIC **27** 03:26:22.4±1.5, 56°.38S×26°.63W, h84km±14km, mb4.4/7, Error ellipse: s-maj=13.1km s-min=9.1km az=222.0*
*IDC **27** 03:26:25.5±2.4, 56°.40S×26°.73W, h109km±19km, mb4.1/7, mb1 4.2/8, mb1mx3.9/16, mbtmp4.4/8, MS3.4/2, Ms1 3.4/2, ms1mx2.9/18, Error ellipse: s-maj=25.6km s-min=16.4km az=90.0*

ISC 27 03:26:23.1±0.5, 56°.4S±0°.1×26°.72W±0°.08, h88km, n33, σ1°21/32, mb4.5/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.96**	**287**	*e*Pn	**Pn**	**03 27 48.1**	**-0.6**
HOPE	87nm,1.2s						
VNA1	**Neumayer--Stat**	**16.37**	**158**	P	**P**	**03 30 10.3**	**+2.0**
VNA3	**Neumayer Olymp**	**16.57**	**161**	P	**P**	**03 30 11.0**	**+0.3**
VNA2	**Neumayer--Watz**	**16.77**	**158**	P	**P**	**03 30 13.2**	**+0.4**
	baz=322,slow=14						
SNAA	**Sanae**	**18.31**	**156**	P	**P**	**03 30 29.7**	**-0.2**
SNAA	**Sanae**	**18.31**	**156**	P	**P**	**03 30 29.3**	**-0.6**
	0.6nm,0.3s,baz=296,slow=11,SNR=39						
SNAA				S	S	03 33 43.6	-10
	0.1nm,0.3s,baz=290,slow=14,SNR=2.4						
TRQA	**Tornquist**	**29.70**	**293**	*e*P	**P**	**03 32 22.1**	**+1.5**
	2.9nm,0.9s						
QSPA	**South Pole Qui**	**33.85**	**180**	P	**P**	**03 32 57.0**	**+0.3**
	12nm,0.5s,baz=207,slow=2.6,SNR=18						
QSPA				ScP	**ScP**	**03 39 07.9**	**-1.9**
	3.7nm,0.9s,baz=207,slow=2.6,SNR=8.9						
QSPA				LR	LR	03 46 22.1	
	comp=Z,73nm,21.0s,baz=216,slow=35						
LVC	**Limon Verde**	**45.70**	**300**	*e*P	**P**	**03 34 35.3**	**-0.1**
	6.5nm,0.9s						
VNDA	**Vanda**	**46.23**	**183**	P	**P**	**03 34 39.0**	**+0.4**
	9.3nm,0.7s,baz=187,slow=5.8,SNR=46						
H10S2	**ASCENSION HYDR**	**48.27**	**16**	T	T	04 27 26.9	
	baz=189,slow=75,SNR=18						
H10S3	**ASCENSION HYDR**	**48.27**	**16**	T	T	04 27 27.1	
	baz=189,slow=75,SNR=25						
H10S1	**ASCENSION HYDR**	**48.28**	**16**	T	T	04 27 28.2	
	baz=189,slow=75,SNR=18						
LBTB	**Lobatse**	**48.86**	**72**	P	**P**	**03 34 59.3**	**-0.4**
	4.1nm,0.8s,baz=238,slow=8.2,SNR=5.0						
LBTB	**Lobatse**	**48.86**	**72**	*e*P	**P**	**03 34 59.0**	**-0.8**
	7.9nm,1.1s						
TSUM	**Tsumeb**	**49.63**	**60**	*e*P	**P**	**03 35 05.4**	**-0.3**
	13nm,1.1s						
LPAZ	**La Paz**	**50.80**	**305**	P	**P**	**03 35 15.2**	**+0.2**
	2.4nm,0.4s,baz=106,slow=5.0,SNR=14						
SAML	**Samuel**	**55.24**	**314**	*e*P	**P**	**03 35 46.0**	**-1.0**
	1.2nm,0.7s						
LSZ	**Lusaka**	**58.26**	**68**	*e*P	**P**	**03 36 08.1**	**-0.4**
	9.6nm,1.0s						
DBIC	**Dimbokro**	**65.38**	**24**	P	**P**	**03 36 57.1**	**+1.1**
	1.0nm,0.5s,baz=194,slow=8.3,SNR=2.3						
DBIC				LR	LR	03 58 40.9	
	comp=Z,29nm,20.5s,baz=119,slow=30						
OTAV	**Otavalo**	**70.07**	**303**	*e*P	**P**	**03 37 26.4**	**+0.4**
	1.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.24**	**29**	P	**P**	**03 37 44.7**	**+0.3**
	1.1nm,0.6s,baz=200,slow=6.3,SNR=12						
TORD				pP	**pP**	**03 38 09.9**	**+2.8**
	2.7nm,0.6s,baz=200,slow=6.8,SNR=6.5						
ASAR	**Alice Springs**	**98.57**	**162**	P	Pdif	03 39 53.6	+1.7
	0.7nm,0.6s,baz=182,slow=4.0,SNR=16						
WRA	**Warramunga Arr**	**102.29**	**162**	P	**Pdif**	**03 40 09.5**	**+1.0**
	0.9nm,1.0s,baz=195,slow=4.5,SNR=2.8						
FINES	**FINESS Array B**	**124.57**	**28**	PKP	**PKPdf**	**03 45 09.9**	**-0.6**
	2.2nm,1.0s,baz=151,slow=3.2,SNR=3.9						
CMAR	**Chiang Mai Arr**	**124.70**	**110**	PP	PP	03 46 58.3	-2.2
	1.9nm,0.5s,baz=248,slow=9.1,SNR=7.1						
ARCES	**ARCESS Array B**	**131.17**	**22**	PKP	**PKPdf**	**03 45 22.6**	**-0.4**
	2.6nm,1.0s,baz=215,slow=3.0,SNR=2.5						
YKA	**Yellowknife Ar**	**136.61**	**318**	PKP	**PKPdf**	**03 45 32.4**	**-0.9**
	0.5nm,0.6s,baz=128,slow=2.3,SNR=18						
YKA				SKPbc	**SKPbc**	**03 48 53.6**	**-4.0**
	0.6nm,0.8s,baz=129,slow=2.6,SNR=8.8						
INK	**Inuvik**	**146.24**	**320**	*e*PKPbc	**PKPdf**	**03 45 50.9**	**+0.6**
SONM	**Songino Array**	**150.49**	**87**	PKPbc	**PKPbc**	**03 46 03.2**	**-0.4**
	0.7nm,0.7s,baz=213,slow=3.6,SNR=6.5						
ILAR	**Eielson Array**	**150.55**	**311**	PKPbc	**PKPbc**	**03 46 02.0**	**-1.0**
	1.0nm,0.7s,baz=144,slow=5.1,SNR=21						
KTH	**Kantishna Hill**	**152.03**	**308**	*e*PKPbc	**PKPbc**	**03 46 05.7**	**-0.9**
MAJO	**Matsushiro**	**157.68**	**147**	*e*PKPdf	**PKPdf**	**03 46 08.3**	**-0.1**

*ISCJB **27** 03:30:02.4±0.6, 40°.52S±0°.03×176°.75E±0°.06, h30km±3km, mb3.6/2, MS3.1/1, Error ellipse: s-maj=8.6km s-min=3.7km az=32.5*
*WEL **27** 03:30:03.5±0.1, 40°.45S×176°.64E, h21km±1km, ML4.0/38, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0*
WEL Felt from Hawke"s Bay to Wellington, maximum reported intensity MM 4.
*IDC **27** 03:30:05.1±1.4, 39°.81S×175°.95E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.8/12, mbtmp3.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/13, Error ellipse: s-maj=38.8km s-min=13.9km az=129.0*

ISC 27 03:30:02.8±1.3, 40°.47S±0°.04×176°.68E±0°.05, h26km±10km, n77, σ0°92/77, 18C-13D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.21**	**350**	⇓P*	**Pb**	**03 30 08.5**	**-0.1**
DVHZ	**Dannevirke**	**0.43**	**293**	⇓P*	**Pb**	**03 30 11.2**	**-0.7**
WPHZ	**Waipukurau**	**0.45**	**335**	⇓P*	**Pb**	**03 30 11.5**	**-0.6**
PXZ	**Pawanui**	**0.46**	**17**	⇑P*	**Pb**	**03 30 13.8**	**+1.4**
PXZ				AML	AML	03 30 23.8	
PXZ				AML	AML	03 30 23.9	
PXZ				AML	AML	03 30 28.2	
PXZ				AML	AML	03 30 28.2	
PRWZ	**Pori Road**	**0.55**	**261**	⇓P*	**Pn**	**03 30 15.2**	**+0.2**
CPWZ	**Castlepoint**	**0.57**	**220**	⇓P*	**Pn**	**03 30 17.5**	**+2.2**
PNHZ	**Pukenui**	**0.67**	**326**	⇓P*	**Pb**	**03 30 15.1**	**-0.8**
TIWZ	**Tintock**	**0.68**	**243**	⇑P*	**Pn**	**03 30 18.0**	**+1.2**
TIWZ				AML	AML	03 30 29.4	
TIWZ				AML	AML	03 30 31.7	
TSZ	**Takapari Road**	**0.69**	**307**	⇓P*	**Pb**	**03 30 15.4**	**-0.9**
TSZ				AML	AML	03 30 24.7	
TSZ				AML	AML	03 30 25.2	
KAHZ	**Kahuranaki**	**0.69**	**12**	⇓P*	**Pb**	**03 30 17.4**	**+1.1**
POWZ	**Post Office Ro**	**0.70**	**276**	⇓P*	**Pb**	**03 30 16.8**	**+0.3**
KRHZ	**Kereru**	**0.86**	**344**	⇑P*	**Pb**	**03 30 19.0**	**-0.2**
MRZ	**Mangatainoka R**	**0.86**	**257**	⇑P*	**Pb**	**03 30 19.8**	**+0.7**
MRZ				S*	**Sn**	**03 30 31.6**	**+0.5**
MRZ				AML	AML	03 30 32.6	
CKHZ	**Cape Kidnapper**	**0.87**	**21**	P*	**Pb**	**03 30 19.8**	**+0.6**
TMWZ	**Te Maipa**	**0.87**	**223**	⇑P*	**Pn**	**03 30 20.9**	**+1.4**
HOWZ	**Holdsworth Sta**	**0.98**	**244**	⇑P*	**Pn**	**03 30 21.8**	**+0.8**
MCHZ	**McNeill Hill**	**1.03**	**1**	⇓PN	**Pn**	**03 30 22.2**	**+0.7**
BHHZ	**Black Hill Sta**	**1.09**	**334**	⇑PN	**Pn**	**03 30 22.4**	**-0.1**
MTW	**Mount Morrison**	**1.13**	**232**	P*	**Pn**	**03 30 23.7**	**+0.7**
MTW				AML	AML	03 30 40.0	
MTW				AML	AML	03 30 40.2	
TRWZ	**Traveller**	**1.19**	**219**	P*	**Pn**	**03 30 24.6**	**+0.7**
TRWZ				AML	AML	03 30 54.7	
TRWZ				AML	AML	03 30 56.8	
OGWZ	**Otaki Gorge**	**1.20**	**253**	⇑P*	**Pn**	**03 30 24.6**	**+0.6**
ARHZ	**Aropaoanui**	**1.23**	**11**	PN	**Pn**	**03 30 25.1**	**+0.8**
MOVZ	**Moawhango**	**1.28**	**326**	⇑PN	**Pn**	**03 30 25.5**	**+0.4**
MOVZ				AML	AML	03 30 42.2	
MOVZ				AML	AML	03 30 48.1	
BKZ	**Black Stump Fm**	**1.31**	**354**	⇑PN	**Pn**	**03 30 25.6**	**+0.1**
BKZ				*e*SN	**Sn**	**03 30 41.2**	**-1.1**
BKZ				AML	AML	03 30 51.7	
PAWZ	**Paruwai Farm**	**1.32**	**226**	P*	**Pn**	**03 30 26.3**	**+0.8**
PAWZ				AML	AML	03 31 01.6	
PAWZ				AML	AML	03 31 01.8	
CAW	**Cannon Point**	**1.38**	**242**	P*	**Pn**	**03 30 26.9**	**+0.5**
CAW				AML	AML	03 30 46.7	
CAW				AML	AML	03 30 50.5	
KIW	**Kapiti Island**	**1.40**	**253**	⇑P*	**Pn**	**03 30 27.4**	**+0.7**
KIW				AML	AML	03 30 47.5	
KIW				AML	AML	03 30 49.6	
WNVZ	**Wahianoa**	**1.42**	**324**	⇑PN	**Pn**	**03 30 27.8**	**+0.8**
WNVZ				AML	AML	03 30 53.2	
WNVZ				AML	AML	03 30 54.1	
MTVZ	**Mangateitei**	**1.43**	**319**	PN	**Pn**	**03 30 28.0**	**+0.8**
MTVZ				AML	AML	03 30 52.0	
MTVZ				AML	AML	03 30 52.7	
MSWZ	**Moikau Station**	**1.44**	**229**	PN	**Pn**	**03 30 27.7**	**+0.5**
TUVZ	**Tukino**	**1.44**	**326**	⇑PN	**Pn**	**03 30 28.3**	**+0.9**
TUVZ				AML	AML	03 30 31.4	
TUVZ				AML	AML	03 30 51.2	
WHVZ	**Whangaehu Hut**	**1.46**	**324**	⇑PN	**Pn**	**03 30 28.5**	**+0.8**
WHHZ	**Waihua**	**1.46**	**17**	PN	**Pn**	**03 30 27.8**	**+0.3**
TRVZ	**Turoa**	**1.46**	**323**	⇓PN	**Pn**	**03 30 28.3**	**+0.5**
DRZ	**Dome Shelter**	**1.47**	**324**	⇓PN	**Pn**	**03 30 28.7**	**+0.8**
DRZ				AML	AML	03 30 54.1	
DRZ				AML	AML	03 30 55.4	
WAZ	**Wanganui**	**1.48**	**298**	PN	**Pb**	**03 30 29.3**	**-0.5**
WAZ				AML	AML	03 30 53.9	
WAZ				AML	AML	03 30 56.9	
FWVZ	**Far West T-bar**	**1.49**	**324**	⇓PN	**Pn**	**03 30 28.8**	**+0.6**
FWVZ				AML	AML	03 30 53.2	
FWVZ				AML	AML	03 30 54.6	
OTVZ	**Oturere**	**1.52**	**329**	PN	**Pn**	**03 30 29.2**	**+0.7**
OTVZ				AML	AML	03 30 54.3	
OTVZ				AML	AML	03 31 02.2	
WPVZ	**Whakapapa**	**1.54**	**325**	PN	**Pn**	**03 30 29.4**	**+0.7**
WPVZ				AML	AML	03 30 55.1	
WPVZ				AML	AML	03 30 56.7	
NGZ	**Ngauruhoe**	**1.54**	**327**	⇑PN	**Pn**	**03 30 29.4**	**+0.7**
NGZ				AML	AML	03 30 58.3	
NGZ				AML	AML	03 30 59.0	
PLWZ	**Palliser**	**1.54**	**224**	PN	**Pn**	**03 30 28.8**	**+0.2**
COVZ	**Chateau Observ**	**1.54**	**325**	PN	**Pn**	**03 30 29.1**	**+0.4**
PKVZ	**Pokaka**	**1.56**	**319**	⇑PN	**Pn**	**03 30 29.7**	**+0.7**
PKVZ				AML	AML	03 30 54.9	
PKVZ				AML	AML	03 30 57.4	
RAHZ	**Arahi**	**1.58**	**11**	⇑PN	**Pn**	**03 30 29.8**	**+0.5**
KRVZ	**Karewarewa**	**1.59**	**329**	PN	**Pn**	**03 30 30.5**	**+1.0**
KRVZ				AML	AML	03 30 58.8	
KRVZ				AML	AML	03 31 01.6	
WTVZ	**West Tongariro**	**1.59**	**328**	PN	**Pn**	**03 30 30.1**	**+0.6**
WTVZ				AML	AML	03 30 59.9	
WTVZ				AML	AML	03 31 00.1	
RITZ	**Rihia Road**	**1.62**	**337**	PN	**Pn**	**03 30 30.9**	**+1.2**
RITZ				AML	AML	03 30 56.9	
RITZ				AML	AML	03 31 01.3	
KNZ	**Kokohu**	**1.64**	**28**	PN	**Pn**	**03 30 29.8**	**-0.1**
BHW	**Baring Head**	**1.66**	**235**	PN	**Pn**	**03 30 30.6**	**+0.4**
BHW				AML	AML	03 30 52.1	
BHW				AML	AML	03 31 02.3	
TWVZ	**Taurewa**	**1.70**	**325**	PN	**Pn**	**03 30 31.3**	**+0.5**
TWVZ				AML	AML	03 30 59.5	
TWVZ				AML	AML	03 31 02.8	
RATZ	**Rangitukua**	**1.75**	**336**	PN	**Pn**	**03 30 33.3**	**+1.7**
RATZ				AML	AML	03 31 04.7	
RATZ				AML	AML	03 31 14.0	
PRGZ	**Paritu Road**	**1.80**	**31**	PN	**Pn**	**03 30 32.2**	**-0.1**
RIGZ	**Rimuhau**	**1.95**	**26**	PN	**Pn**	**03 30 34.4**	**0.0**
TCW	**Tory Channel**	**1.97**	**247**	PN	**Pn**	**03 30 34.6**	**+0.1**
TCW				AML	AML	03 31 00.6	
TCW				AML	AML	03 31 00.8	
VRZ	**Vera Road**	**2.00**	**312**	PN	**Pn**	**03 30 36.6**	**+1.6**
VRZ				AML	AML	03 31 18.5	
VRZ				AML	AML	03 31 21.4	
RAGZ	**Rawiri**	**2.06**	**16**	PN	**Pn**	**03 30 35.6**	**-0.1**
DUWZ	**D'Urville Isla**	**2.13**	**260**	PN	**Pn**	**03 30 37.8**	**+1.1**
DUWZ				AML	AML	03 31 14.7	
DUWZ				AML	AML	03 31 14.9	
MWZ	**Matawai**	**2.23**	**17**	PN	**Pn**	**03 30 37.8**	**-0.4**
MWZ				AML	AML	03 31 31.4	
URZ	**Urewera**	**2.23**	**9**	⇓PN	**Pn**	**03 30 37.9**	**-0.3**
URZ				AML	AML	03 31 28.5	
URZ				AML	AML	03 31 37.1	
URZ	**Urewera**	**2.23**	**9**	Pg	**Pn**	**03 30 37.9**	**-0.3**
	9.6nm,0.3s,baz=212,slow=6.2,SNR=63						
URZ				Lg	Lg	03 31 02.4	
	16nm,0.3s,baz=284,slow=3.4,SNR=13						
TUWZ	**Tuamarina**	**2.29**	**244**	PN	**Pn**	**03 30 38.5**	**-0.3**
TUWZ				AML	AML	03 31 06.9	
TUWZ				AML	AML	03 31 09.4	
NEZ	**North Egmont**	**2.32**	**300**	PN	**Pn**	**03 30 41.3**	**+1.9**
HIZ	**Hauiti**	**2.41**	**324**	PN	**Pn**	**03 30 41.4**	**+0.8**
HIZ				AML	AML	03 31 23.1	
HIZ				AML	AML	03 31 38.5	
BSWZ	**Blackbirch Sta**	**2.46**	**239**	PN	**Pn**	**03 30 41.0**	**-0.2**
BSWZ				AML	AML	03 31 14.3	
BSWZ				AML	AML	03 31 31.1	
NNZ	**Nelson**	**2.61**	**252**	AML	AML	03 31 30.0	
NNZ				AML	AML	03 31 37.4	
OPRZ	**Ohinepanea**	**2.62**	**358**	PN	**Pn**	**03 30 44.6**	**+1.1**
HAZ	**Te Kaha**	**2.84**	**18**	PN	**Pn**	**03 30 46.3**	**-0.2**
THZ	**Tophouse**	**3.13**	**244**	PN	**Pn**	**03 30 50.0**	**-0.6**
THZ				AML	AML	03 31 54.4	
THZ				AML	AML	03 32 01.3	
MXZ	**Matakaoa Point**	**3.17**	**24**	PN	**Pn**	**03 30 50.8**	**-0.2**
DSZ	**Denniston Nort**	**3.90**	**249**	PN	**Pn**	**03 31 01.3**	**+0.2**
LTZ	**Lake Taylor**	**4.03**	**234**	AML	AML	03 31 50.4	
LTZ				AML	AML	03 31 53.5	
MQZ	**McQueen's Vall**	**4.41**	**222**	*e*PN	**Pn**	**03 31 06.5**	**-1.6**
ODZ	**Otahua Downs**	**6.37**	**222**	*e*PN	**Pn**	**03 31 33.5**	**-1.5**
ASAR	**Alice Springs**	**39.51**	**282**	P	**P**	**03 37 32.0**	**+0.5**
	0.2nm,0.3s,baz=121,slow=6.1,SNR=6.5						
WRA	**Warramunga Arr**	**41.44**	**287**	P	**P**	**03 37 47.7**	**+0.3**
	1.3nm,0.4s,baz=125,slow=8.2,SNR=36						
WRA				LR	LR	03 53 49.0	
	comp=Z,28nm,20.3s,baz=115,slow=35						
ARCES	**ARCESS Array B**	**147.17**	**342**	PKPbc	**PKPbc**	**03 49 44.2**	**+1.8**
	2.4nm,0.9s,baz=57,slow=3.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**152.43**	**191**	PKPbc	**PKPab**	**03 50 04.0**	**-3.0**
	0.2nm,0.7s,baz=169,slow=3.2,SNR=2.8						
TORD				PKPab	PKiKP	03 50 16.7	+19
	0.4nm,0.8s,baz=161,slow=4.2,SNR=5.7						

GUC 27 04:09:27.2±0.4, 37°.75S×73°.85W, h27km±4km, ML4.2, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.92**	**94**	*e*P	Pn	04 09 42.9	-1.4
AGCH				*e*S	Sb	04 09 55.1	-1.2
CCSP	**San Pedro de C**	**1.08**	**33**	*e*P	Pn	04 09 45.8	-0.9
CCSP				*e*S	Sn	04 09 59.7	-1.1
CCSP				IAML		04 10 06.3	
	comp=E,11μm,0.6s						
PSCH	**Puerto Saavedr**	**1.10**	**161**	*e*P	Pn	04 09 45.9	-1.1
PSCH				*e*S	Sn	04 10 00.5	-0.8
COCH	**Cobquecura**	**1.83**	**28**	*e*P	Pn	04 09 57.3	+0.4
COCH				*e*S	Sn	04 10 20.3	+1.2
VLCH	**Valdivia**	**2.10**	**167**	*e*S	Sn	04 10 27.2	+1.3

MEX 27 04:32:36.8±0.6, 16°.97N×99°.92W, h39km±8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.12**	**148**	*e*P	Pn	04 32 45.5	0.0
ACX				*e*S	Sn	04 32 49.1	-3.6
CAIG	**El Cayaco**	**0.34**	**283**	*e*P	Pn	04 32 43.9	-1.5
CAIG				*e*S	Sn	04 32 50.0	-1.7
MEIG	**Mezcala**	**0.99**	**17**	*i* P	Pn	04 32 52.1	-2.3
MEIG				*i* S	Sn	04 33 05.1	-2.2
ARIG	**Puente Sto Nin**	**1.37**	**343**	*i* P	Pn	04 32 57.4	-2.1
ARIG				*e*S	Sn	04 33 13.6	-2.8
TLIG	**Tlapa**	**1.42**	**65**	*i* P	Pn	04 32 59.0	-1.4
TLIG				*i* S	Sn	04 33 16.1	-1.9

*IDC **27** 04:37:49.8±0.5, 33°.53S×71°.81W, h0km, mb4.5/11, mb1 4.5/14, mb1mx4.4/30, mbtmp4.4/14, ML4.3/3, MS4.1/13, Ms1 4.1/13, ms1mx4.0/18, Error ellipse: s-maj=25.3km s-min=12.9km az=89.0*
*GUC **27** 04:37:52.6±0.5, 33°.45S×72°.16W, h55km±9km, ML5.0*
*MOS **27** 04:37:54.2±1.1, 33°.51S×71°.77W, h33km, mb5.0/16, Error ellipse: s-maj=22.4km s-min=9.4km az=99.3*
*ISCJB **27** 04:37:54.1±1.3, 33°.55S±0°.04×71°.83W±0°.07, h32km±9km, mb4.7/45, MS4.2/11, Error ellipse: s-maj=10.6km s-min=5.4km az=154.8*
*BJI **27** 04:37:55.9, 33°.94S×71°.93W, h46km, mB5.0/6, Ms5.4/5, Ms7 5.1/5*
*NEIC **27** 04:37:56.9±1.0, 33°.54S×71°.81W, h49km±8km, mb4.7/33, ML5.0(GUC), Error ellipse: s-maj=11.4km s-min=5.6km az=79.0*
NEIC Felt [IV] at El Tabo and San Antonio; [III] at Valparaiso; [II] at Licanten, Longavi, Parral, Pichilemu, San Javier, Santiago, Talca and Vina del Mar. Also felt at Puente Alto, Quilpue, Rengo and San Bernardo.

ISC 27 04:37:55.0±0.8, 33°.57S±0°.04×71°.93W±0°.05, h33km±5km, n474, σ1°22/478, mb4.7/45, MS4.2/11, 155C-153D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.60**	**24**	⇓*i*P	**Pb**	**04 38 05.4**	**-1.7**
IHA				*i* S1	**Sn**	**04 38 15.6**	**-0.1**
RCDM	**Rinconada Maip**	**0.94**	**85**	AML	AML	04 38 29.5	
	comp=E,12μm,0.3s						
FSR	**Penalolen**	**1.18**	**86**	*e*P1	**Pg**	**04 38 16.2**	**+1.0**
FSR				*e*S1	**Sg**	**04 38 33.4**	**+3.3**
CLCH	**Cerro Calan**	**1.18**	**82**	⇓*i*P	**Pn**	**04 38 15.0**	**-0.3**
CLCH				*i* S1	**Sg**	**04 38 32.7**	**+2.5**
CLCH				AML	AML	04 38 41.5	
	comp=N,24μm,0.8s						
FCH	**Farellones**	**1.39**	**80**	⇑*i*P	**Pb**	**04 38 19.3**	**-1.4**
FCH				*i* S1	**Sg**	**04 38 40.0**	**+4.1**
FCH				AML	AML	04 38 47.1	
	comp=E,11μm,0.6s						
NICH	**Los Niches**	**1.54**	**158**	⇓*i*P	**Pn**	**04 38 20.9**	**+0.8**
NICH				*i* S1	**Sg**	**04 38 42.0**	**+2.9**
NICH				AML	AML	04 38 46.9	
	comp=N,78μm,0.5s						
YECH	**El Yeso**	**1.54**	**94**	⇓*i*P	**Pn**	**04 38 20.1**	**-0.4**
YECH				*i* S1	**Sg**	**04 38 42.5**	**+2.9**
YECH				AML	AML	04 38 45.5	
	comp=N,13μm,0.5s						
TALC	**Talca**	**1.84**	**172**	*e*P1	**Pn**	**04 38 24.5**	**+0.3**
TALC				*e*S1	**Sb**	**04 38 48.8**	**-1.8**
TALC				AML	AML	04 38 51.1	
	comp=N,51μm,0.6s						
LNCH	**Linares**	**2.29**	**173**	AML	AML	04 39 14.5	
	comp=N,32μm,0.5s						
CFAA	**Coronel Fontan**	**3.68**	**59**	Pn	Pn	04 38 51.9	+2.2
	comp=N,1.6nm,0.3s,baz=233,slow=12,SNR=51						
CFAA				Lg	Lg	04 39 42.9	
	comp=N,4.5nm,0.3s,baz=61,slow=15,SNR=7.1						
CFAA				LR	LR	04 40 37.3	
	comp=N,576nm,18.1s,baz=242,slow=47			

933A	Laredo baz=66	66.15 334	⇓P	P	04 48 40.7 +1.5
SYO	Syowa Base	66.23 159	⇓eP	P	04 48 37.0 -2.2
834A	Tilden baz=67	66.35 334	⇑P	P	04 48 41.8 +1.4
735A	Kenedy baz=67	66.75 335	⇑P	P	04 48 44.3 +1.2
833A	Chaparral WMA, baz=67,SNR=8.5	66.84 334	⇓P	P	04 48 44.9 +1.3
734A	La Parita Cree baz=67	67.01 335	⇑P	P	04 48 45.5 +0.8
832A	Faith Ranch, C baz=67,SNR=7.0	67.02 333	⇑P	P	04 48 45.7 +1.0
636A	Smothers Creek baz=67	67.07 336	⇓P	P	04 48 46.3 +1.3
HKT	Hockley	67.11 338	eP	P	04 48 45.5 +0.4
HKT			pmax	pmax	
	comp=Z,14nm,1.5s				
HKT	Hockley comp=Z,14nm,1.5s	67.11 338	eP	P	04 48 45.5 +0.4
733A	Divot King Ran baz=68	67.16 334	⇓P	P	04 48 47.2 +1.6
635A	Leesville baz=68	67.23 336	⇑P	P	04 48 47.4 +1.4
538A	Harpers Horsep baz=68	67.25 338	⇑P	P	04 48 47.5 +1.3
537A	Green Hill Far baz=68	67.38 337	⇑P	P	04 48 48.2 +1.2
732A	Laxson Ranch, baz=68,SNR=11	67.42 333	⇑P	P	04 48 48.3 +1.1
634A	China Grove, S baz=68	67.42 335	⇓P	P	04 48 48.2 +1.0
TBI	Tubuai comp=Z,97nm,26.2s	67.51 256	eS	S	04 57 44.1 +1.6
TBI	Tubuai comp=Z,264nm,23.5s	67.51 256	eLR	LR	05 09 14.7
TBI	Tubuai comp=Z,3.9nm,0.2s	67.51 256	eT	T	06 02 11.1
536A	Bastrop baz=68	67.62 337	⇑P	P	04 48 50.0 +1.5
438A	Sam Houston St baz=68	67.73 338	⇑P	P	04 48 50.5 +1.3
535A	Dale baz=68	67.75 336	⇓P	P	04 48 50.6 +1.3
LRAL	Lakeview Retre comp=Z,11nm,1.1s	67.75 346	eP	P	04 48 48.8 -0.4
633A	Saathoff Ranch baz=68	67.79 334	⇑P	P	04 48 50.7 +1.2
340A	Bronson baz=68	67.88 340	⇓P	P	04 48 51.6 +1.5
339A	Huntington baz=68	68.00 339	⇓P	P	04 48 52.4 +1.6
632A	Uvalde baz=68,SNR=8.5	68.05 334	⇑P	P	04 48 52.8 +1.5
534A	Blanco baz=68	68.06 335	⇑P	P	04 48 53.0 +1.7
436A	Wall Ranch, Ga baz=68	68.17 337	⇑P	P	04 48 53.5 +1.5
631A	Perdido Creek baz=69	68.26 333	⇓P	P	04 48 53.7 +1.1
533A	Kerrville baz=69	68.30 335	⇑P	P	04 48 54.3 +1.5
435B	Jarrell baz=69	68.44 336	⇓P	P	04 48 55.4 +1.7
239A	Gary baz=69	68.61 340	⇑P	P	04 48 56.0 +1.4
532A	Rocksprings baz=69,SNR=9.8	68.66 334	⇓P	P	04 48 56.3 +1.2
434A	Burnet baz=69	68.70 336	⇑P	P	04 48 56.8 +1.5
336A	Riesel baz=69	68.76 337	⇓P	P	04 48 56.5 +0.9
238A	Jacksonville baz=69	68.79 339	⇑P	P	04 48 56.8 +1.1
335A	Moody baz=69	68.85 337	⇑P	P	04 48 56.9 +0.7
KMSC	Kings Mountain	68.92 352	eP	P	04 48 56.3 -0.2
531A	Rocksprings baz=69,SNR=5.7	68.93 334	⇓P	P	04 48 58.0 +1.2
433A	Art baz=69,SNR=9.0	68.94 335	⇑P	P	04 48 57.7 +1.0
JCT	Junction City	68.94 334	eP	P	04 48 57.7 +0.9
JCT			pmax	pmax	
	comp=Z,9.0nm,0.9s				
JCT	Junction City baz=69,SNR=6.6	68.94 334	⇑P	P	04 48 57.8 +1.0
JCT	Junction City comp=Z,9.4nm,0.9s	68.94 334	eP	P	04 48 57.7 +0.9
MEH	Mehetia comp=Z,11nm,0.2s	69.00 262	eT	T	06 04 02.4
237A	Washetta, Mont baz=69	69.00 338	⇑P	P	04 48 58.3 +1.3
334A	Lometa baz=70	69.17 336	⇑P	P	04 48 59.4 +1.2
530A	J-C Ranch, Com baz=70,SNR=7.5	69.21 333	⇑P	P	04 48 59.6 +1.1
432A	Menard baz=70	69.30 335	⇑P	P	04 49 00.1 +1.1
138A	Matatall Enter baz=70	69.40 339	⇓P	P	04 49 01.0 +1.5
TXAR	Lajitas Array comp=Z,1.5nm,0.6s,baz=152,slow=8.1,SNR=15	69.41 331	P	P	04 49 00.6 +0.7
TXAR			LR	LR	05 15 13.4
	comp=Z,197nm,18.1s,baz=0.0,slow=32				
431A	Sonora baz=70	69.42 334	⇑P	P	04 49 00.6 +0.8
333A	Richland Sprin baz=70	69.42 335	⇑P	P	04 49 01.0 +1.3
WHTX	Lake Whitney, baz=70	69.51 337	⇓P	P	04 49 01.4 +1.1
WHTX	Lake Whitney, comp=Z,14nm,0.8s	69.51 337	eP	P	04 49 01.2 +1.0
529A	Stev Forest Ra baz=70	69.53 332	⇑P	P	04 49 01.3 +0.9
137A	Heron Place, G baz=70	69.54 339	⇑P	P	04 49 01.6 +1.2
SWET	Sewanee comp=Z,6.4nm,0.5s	69.68 348	eP	P	04 49 01.2 -0.1
OXF	Oxford	69.69 345	eP	P	04 49 00.7 -0.5
OXF	Oxford	69.69 345	eP	P	04 49 00.7 -0.5
332A	Millersview baz=70	69.74 335	⇑P	P	04 49 02.9 +1.1
430A	Baggett Ranch, baz=70	69.74 333	⇑P	P	04 49 03.1 +1.2
234A	Clairette baz=70	69.75 336	⇓P	P	04 49 02.8 +1.1
429A	Davenport Ranc baz=70,SNR=7.4	69.85 333	⇓P	P	04 49 03.0 +0.6
331A	San Angelo baz=70,SNR=7.0	69.92 334	⇓P	P	04 49 03.4 +0.6
135A	Vickery Place, baz=70	70.02 337	⇓P	P	04 49 04.2 +0.8
233A	Rising Star baz=70	70.02 336	⇓P	P	04 49 04.1 +0.6
TVO	Taravao comp=Z,1.0nm,0.4s	70.02 262	eT	T	06 05 19.5
232A	Coleman baz=70	70.16 335	⇓P	P	04 49 05.6 +1.2
TIAR	Tiarei comp=Z,2.5nm,0.3s	70.21 262	eT	T	06 05 33.5
330A	Mertzon baz=71,SNR=5.3	70.28 334	⇑P	P	04 49 06.1 +1.0
PPT2	Papeete2 comp=Z,99nm,25.0s	70.39 262	eS	S	04 58 14.6 -2.2
PPT2	Papeete2 comp=Z,84nm,21.0s	70.39 262	eLR	LR	05 10 33.0
PPT	Papeete comp=Z,110nm,21.2s,baz=130,slow=30	70.40 262	LR	LR	05 12 41.0
231A	Bronte baz=71	70.44 335	⇑P	P	04 49 06.7 +0.6
133A	Hamilton Ranch baz=71	70.56 336	⇑P	P	04 49 08.0 +1.3
329A	Wagon Wheel Ra baz=71,SNR=6.9	70.65 333	⇓P	P	04 49 08.2 +0.9
230A	Sterling City baz=71	70.69 334	⇑P	P	04 49 09.1 +1.5
ABTX	Abilene, Hawle baz=71	70.83 335	⇓P	P	04 49 09.5 +1.2
ABTX	Abilene, Hawle comp=Z,13nm,0.9s	70.83 335	eP	P	04 49 07.6 -0.7
WVT	Waverly	70.92 346	eP	P	04 49 08.0 -0.7
WVT	Waverly	70.92 346	eP	P	04 49 08.0 -0.7
Z34A	Collier Ranch, baz=71	70.93 337	⇓P	P	04 49 10.1 +1.1
229A	Bryant Ranch, baz=71	71.02 333	⇓P	P	04 49 10.2 +0.6
Z33A	Whitaker Ranch baz=72	71.13 336	⇑P	P	04 49 11.3 +1.1
131A	Roby baz=72	71.14 335	⇑P	P	04 49 10.9 +0.7
130A	Snyder baz=72	71.27 334	⇑P	P	04 49 12.0 +0.9
Z32A	Haskell baz=72	71.39 336	⇑P	P	04 49 13.3 +1.5
Y34A	Reagan Ranch, baz=72	71.42 338	⇓P	P	04 49 13.1 +1.2
228A	UT Block 9, Go baz=72,SNR=5.4	71.45 333	⇓P	P	04 49 12.8 +0.6
129A	Stewart Farms, baz=72	71.63 334	⇑P	P	04 49 13.8 +0.5
Z31A	Sharp Cattle R baz=72	71.63 335	⇓P	P	04 49 14.4 +1.2
Y33A	Hilltop Ranch, baz=72	71.75 337	⇓P	P	04 49 14.8 +0.9
128A	Castleberry Fa baz=72	71.86 333	⇑P	P	04 49 15.3 +0.7
Z30A	Sanderson Ranc baz=72	71.95 335	⇓P	P	04 49 15.4 +0.2
Y32A	R-V Farms, Ver baz=72	72.02 336	⇑P	P	04 49 15.7 +0.2
X34A	Smith Ranch, M baz=72	72.04 338	⇑P	P	04 49 16.1 +0.5
Z29A	Hungry Hill Ra baz=72,SNR=5.1	72.14 334	⇓P	P	04 49 16.4 +0.1
MNTX	Cornudas Mount comp=Z,6.1nm,1.2s	72.18 330	eP	P	04 49 16.2 -0.4
X33A	Lawton baz=72	72.20 337	⇑P	P	04 49 17.6 +1.0
Y31A	Rekieta Farm, baz=73	72.26 336	⇑P	P	04 49 17.6 +0.7
X32A	Elmer baz=73	72.34 337	⇑P	P	04 49 18.3 +0.9
Z28A	Tucker Farm, M baz=73	72.41 334	⇓P	P	04 49 18.6 +0.6
WMOK	Wichita Mounta	72.47 337	eP	P	04 49 14.2 -4.0
WMOK			pmax	pmax	
	comp=Z,8.0nm,0.8s				
WMOK	Wichita Mounta comp=Z,8.0nm,0.8s	72.47 337	eP	P	04 49 14.2 -4.0
W34A	Bridge Creek, baz=73	72.60 338	⇓P	P	04 49 20.5 +1.5
TUL1	Leonard baz=73	72.64 340	⇓P	P	04 49 20.6 +1.5
TUL1	Leonard comp=Z,8.3nm,0.9s	72.64 340	eP	P	04 49 18.1 -1.1
Y29A	Porterfield Fa baz=73	72.67 334	⇑P	P	04 49 19.9 +0.5
WCI	Wyandotte Cave	72.67 348	eP	P	04 49 18.8 -0.5
WCI	Wyandotte Cave	72.67 348	eP	P	04 49 18.8 -0.5
W33A	Caddo, Fort Co baz=73	72.75 337	⇓P	P	04 49 21.1 +1.3
X31A	McDonald Ranch baz=73	72.77 336	⇓P	P	04 49 20.4 +0.5
V35A	Meyer Ranch, C baz=73	72.81 339	⇑P	P	04 49 20.7 +0.5
X30A	Coker Ranch, T baz=73	72.91 335	⇑P	P	04 49 21.4 +0.5
Y28A	McKinney Farm, baz=73	72.92 334	⇓P	P	04 49 22.2 +1.3
W32A	Sentinel baz=73	72.97 337	⇑P	P	04 49 21.9 +0.7
V34A	Guthrie baz=73	73.08 338	⇑P	P	04 49 22.4 +0.7
MSTX	Muleshoe baz=74	73.17 334	⇑P	P	04 49 23.7 +1.2
X29A	Tulia baz=74	73.20 335	⇓P	P	04 49 24.1 +1.5
W31A	Holland Ranch, baz=74	73.26 336	⇓P	P	04 49 23.9 +1.0
V33A	Lossen Ranch, baz=74	73.31 338	⇓P	P	04 49 24.8 +1.7
W30A	Crocket Farms baz=74	73.47 336	⇑P	P	04 49 25.8 +1.6
MAW	Mawson comp=Z,390nm,18.9s,baz=240,slow=38	73.56 164	LR	LR	05 24 17.8
AMTX	Amarillo baz=74	73.59 335	⇑P	P	04 49 26.0 +1.1
319A	Douglas baz=74	73.59 327	⇑P	P	04 49 25.8 +0.8
U34A	Anderson Ranch baz=74	73.64 339	⇑P	P	04 49 26.9 +1.9
V31A	Spring Creek L baz=74	73.76 337	⇓P	P	04 49 27.2 +1.4
W29A	Amarillo baz=74	73.79 335	⇑P	P	04 49 27.1 +1.1
121A	Cookes Peak, D baz=74	73.92 329	⇓P	P	04 49 28.5 +1.5
V30A	Spur Ranch, Mi baz=74	74.04 336	⇓P	P	04 49 28.8 +1.3
U32A	Winter Ranch, baz=74	74.04 338	⇑P	P	04 49 28.7 +1.2
S36A	Lake Cedric, C baz=75	74.28 341	⇓P	P	04 49 30.0 +1.2
U31A	Nine Bar Ranch baz=75	74.31 337	⇓P	P	04 49 29.9 +0.9
V29A	Stinnett baz=75	74.42 335	⇓P	P	04 49 30.5 +0.8
T33A	Patterson Ranc baz=75	74.45 338	⇓P	P	04 49 31.3 +1.6
W26A	Owens Ranch, T baz=75	74.53 333	⇓P	P	04 49 31.7 +1.2
LIC	Lamto comp=Z,45nm,1.4s	74.55 72	eP	P	04 49 30.3 -0.6
U30A	WK&E Inc. Balk baz=75	74.72 336	⇑P	P	04 49 33.0 +1.6
T32A	Huddler Ranch, baz=75	74.75 338	⇑P	P	04 49 33.0 +1.4
V27A	Dan Oppiter Fa baz=75	74.78 334	⇑P	P	04 49 32.8 +0.9
TIC	Toumodi comp=Z,3.0nm,0.2s	74.81 71	eP	P	04 49 32.0 -0.4
S33A	Kaszmaul Farm, baz=75	74.85 339	⇓P	P	04 49 33.2 +1.1
KIC	Kosan Boka comp=Z,46nm,1.3s	74.86 72	eP	P	04 49 32.5 -0.2
W25A	X Bar L Ranch, baz=75	74.91 333	⇓P	P	04 49 33.5 +0.9
SUR	Sutherland comp=Z,18nm,1.0s	74.95 119	eP	P	04 49 34.9 +1.6
DBIC	Dimbokro	74.96 71	eP	P	04 49 32.9 -0.3
DBIC			pmax	pmax	
	comp=Z,3.0nm,0.7s				
DBIC	Dimbokro comp=Z,6.5nm,0.8s,baz=206,slow=8.0,SNR=7.9	74.96 71	P	P	04 49 33.0 -0.2
DBIC			LR	LR	05 21 28.6
	comp=Z,136nm,18.7s,baz=202,slow=35				
DBIC	Dimbokro comp=Z,2.9nm,0.7s	74.96 71	eP	P	04 49 32.9 -0.3
TUC	Tucson	75.06 327	eP	P	04 49 34.8 +1.3
TUC			pmax	pmax	
	comp=Z,10.0nm,1.5s				
TUC	Tucson comp=Z,9.9nm,1.5s	75.06 327	eP	P	04 49 34.8 +1.3
U28A	Mallet baz=76	75.12 335	⇑P	P	04 49 35.0 +1.2
V26A	Tequesquite Ra baz=76	75.17 334	⇑P	P	04 49 35.4 +1.3
S32A	Newby Ranch, P baz=76	75.23 338	⇓P	P	04 49 35.8 +1.4
LAZ	Ladron comp=Z,6.4nm,1.4s	75.26 330	eP	P	04 49 35.4 +0.6
W24A	Lazy 6 Ranch, baz=76	75.27 332	⇑P	P	04 49 36.0 +1.2
U27A	Thompson Grove baz=76	75.38 335	⇓P	P	04 49 36.4 +1.1
ANMO	Albuquerque	75.45 331	⇓iP	P	04 49 37.0 +1.2
ANMO			pmax	pmax	
	comp=Z,33nm,2.5s				
ANMO	Albuquerque comp=Z,8.9nm,1.3s	75.45 331	eP	P	04 49 37.1 +1.2
R33A	Olander Ranch, baz=76	75.51 339	⇓P	P	04 49 37.5 +1.7
V25A	Rancho No Teng baz=76	75.52 333	⇑P	P	04 49 37.0 +0.8
S30A	Montezuma baz=76	75.67 337	⇑P	P	04 49 38.5 +1.7
V24A	Rampart Ranch, baz=76	75.67 333	⇓P	P	04 49 38.1 +1.0
U26A	Atchley Ranch, baz=76	75.68 334	⇑P	P	04 49 38.2 +1.0
214A	Organ Pipe Nat baz=76	75.72 325	⇑P	P	04 49 38.7 +1.5
T28A	Walsh baz=76	75.75 336	⇑P	P	04 49 38.3 +0.9
R32A	Long Quarter, baz=76	75.83 339	⇑P	P	04 49 38.8 +1.1
KSU1	Kansas State U baz=76	75.84 340	⇑P	P	04 49 39.2 +1.5
S29A	Ulysses baz=76	75.86 336	⇑P	P	04 49 39.4 +1.4
T27A	Campo baz=76	75.91 335	⇓P	P	04 49 39.4 +1.0
U25A	Circle Dot Ran baz=76	75.94 333	⇓P	P	04 49 39.6 +1.0
R31A	Burdett baz=76	75.96 338	⇓P	P	04 49 39.6 +1.1
S28A	Manter baz=76	76.10 336	⇓P	P	04 49 40.9 +1.5
R30A	Dighton baz=76	76.19 337	⇓P	P	04 49 41.6 +1.8
U24A	Moreno Valley baz=77	76.27 333	⇑P	P	04 49 42.0 +1.4
Q32A	Meitler Ranch, baz=77	76.31 339	⇓P	P	04 49 41.7 +1.2
T26A	Comanche Natio baz=77	76.32 334	⇓P	P	04 49 42.3 +1.6
V22A	San Miguel Ran baz=77	76.47 331	⇑P	P	04 49 43.2 +1.5
S27A	Las Animas baz=77	76.53 335	⇓P	P	04 49 43.5 +1.6
U23A	El Rito baz=77	76.55 332	⇓P	P	04 49 43.4 +1.3
X18A	Snowflake baz=77	76.56 328	⇑P	P	04 49 43.4 +1.3
Q31A	Ellis baz=77	76.58 338	⇑P	P	04 49 43.5 +1.5
T25A	Trinidad baz=77,SNR=7.9	76.59 334	⇓P	P	04 49 43.8 +1.5
R29A	Marienthal baz=77	76.60 337	⇑P	P	04 49 43.9 +1.8
S26A	Kim baz=77	76.68 335	⇓P	P	04 49 44.3 +1.6
R28A	Tribune baz=77	76.75 336	⇑P	P	04 49 44.4 +1.4
Q30A	Quinter baz=77	76.81 338	⇑P	P	04 49 44.4 +1.1
113A	Mohawk Valley, baz=77	76.85 325	⇑P	P	04 49 45.0 +1.4
U22A	Llaves baz=77	76.86 332	⇓P	P	04 49 44.9 +1.1
T24B	San Luis baz=77	76.89 333	⇓P	P	04 49 45.3 +1.2
W18A	Petrified Fore baz=77	76.97 329	⇑P	P	04 49 45.6 +1.2
R27A	Eads baz=77	77.04 336	⇓P	P	04 49 45.8 +1.2
P31A	Stockton baz=77	77.04 339	⇑P	P	04 49 46.2 +1.6
S25A	Robets Cordova baz=77,SNR=5.4	77.06 334	⇓P	P	04 49 45.9 +0.9
T23A	Casias Ranch, baz=77	77.11 333	⇓P	P	04 49 46.7 +1.3
X16A	Lo Mia Camp, P baz=78	77.13 327	⇓P	P	04 49 46.8 +1.4
R26A	Arlington baz=78	77.28 335	⇓P	P	04 49 47.7 +1.7
S24A	Houchin Ranch, baz=78,SNR=5.2	77.33 333	⇑P	P	04 49 48.2 +1.6
P30A	Selden baz=78	77.33 338	⇓P	P	04 49 47.4 +1.2
Q28A	Sharon Springs baz=78	77.41 337	⇑P	P	04 49 48.3 +1.6
Y14A	Wickenburg baz=78	77.44 326	⇑P	P	04 49 48.5 +1.5
SDCO	Great Sand Dun baz=78	77.53 333	⇑P	P	04 49 48.8 +1.1
GLA	Glamis baz=78	77.59 324	⇑P	P	04 49 49.1 +1.3
P29A	Atwood baz=78	77.60 337	⇓P	P	04 49 49.4 +1.7
R24A	Sanders Place, baz=78,SNR=5.2	77.81 334	⇓P	P	04 49 50.6 +1.4
P28A	Saint Francis baz=78	77.84 337	⇑P	P	04 49 50.9 +1.7
WUAZ	Wupatki baz=78	78.02 328	⇑P	P	04 49 52.1 +1.8
S22A	4UR Ranch, Cre baz=78	78.04 332	⇓P	P	04 49 51.8 +1.3
R23A	Moffat baz=78	78.04 333	⇑P	P	04 49 52.5 +1.9
P26A	Davis Ranch, A baz=79	78.37 336	⇑P	P	04 49 53.5 +1.4
BC3	Big Chuckawall baz=79	78.39 324	⇓P	P	04 49 53.7 +1.4
BGNE	Belgrade baz=79	78.42 340	⇑P	P	04 49 53.4 +1.2
N30A	Hueftle Ranch, baz=79	78.43 339	⇑P	P	04 49 53.9 +1.6
Q24A	Divide baz=79	78.47 334	⇑P	P	04 49 54.1 +1.2
109C	Camp Elliot, M baz=79	78.60 322	⇑P	P	04 49 54.3 +0.9
M31A	Lambtecht Ranc baz=79	78.60 340	⇑P	P	04 49 54.8 +1.6
P25A	Willow Gulch B baz=79	78.61 335	⇑P	P	04 49 55.0 +1.5
N29A	Votaw Ranch, W baz=79	78.61 338	⇑P	P	04 49 54.8 +1.5
O27A	Beecher Island baz=79	78.64 337	⇑P	P	04 49 55.3 +1.8
IRM	Iron Mountain baz=79	78.65 325	⇑P	P	04 49 55.5 +1.8
Q23A	Hartsel baz=79	78.67 334	⇑P	P	04 49 55.6 +1.6
PFO	Pinyon Flats O baz=79	78.84 323	⇓P	P	04 49 56.3 +1.4
P24A	Kohler Place, baz=79	78.87 335	⇑P	P	04 49 56.2 +1.2
O26A	Horse Wrangler baz=79	78.97 336	⇑P	P	04 49 56.6 +1.2
OGNE	Ogallala baz=80	79.17 337	⇓P	P	04 49 57.6 +1.2
U15A	North Rim baz=80	79.19 328	⇓P	P	04 49 57.8 +1.0
M29A	Burnside Ranch baz=80	79.20 338	⇓P	P	04 49 57.7 +1.1
MURC	Murrieta baz=80	79.21 323	⇓P	P	04 49 58.0 +1.3
N27A	Anderson Farm, baz=80	79.21 337	⇓P	P	04 49 57.9 +1.2
TSUM	Tsumeb comp=Z,9.0nm,1.1s	79.24 106	eP	P	04 49 57.1 -0.4
L31A	Butterfield Fa baz=80	79.33 340	⇑P	P	04 49 58.4 +1.2
SMCO	Snowmass	79.34 333	eP	P	04 49 59.2 +1.5
M28A	Bar X Bar Ranc baz=80	79.37 338	⇑P	P	04 49 58.8 +1.3
L30A	Spencer Herefo baz=80	79.37 339	⇓P	P	04 49 58.5 +1.1
ISCO	Idaho Springs	79.38 334	eP	P	04 49 58.5 +0.6
ISCO			pmax	pmax	
	comp=Z,25nm,2.0s				
ISCO	Idaho Springs baz=80	79.38 334	⇓P	P	04 49 58.7 +0.9
ISCO	Idaho Springs comp=Z,24nm,2.0s	79.38 334	eP	P	04 49 58.5 +0.6
GMRC	Granite Mounta baz=80	79.39 325	⇑P	P	04 49 58.9 +1.0
SCI	San Clemente I baz=80	79.41 322	⇑P	P	04 49 59.1 +1.3
N26A	Koester Ranch, baz=80	79.46 336	⇓P	P	04 49 59.3 +1.3
P22A	Eagle baz=80	79.62 333	⇓P	P	04 49 59.7 +0.6
CIS	Catalina Islan baz=80	79.67 322	⇓P	P	04 50 00.0 +0.8
HEC	Hector,Ludlow baz=80	79.76 324	⇓P	P	04 50 01.3 +1.6
O23A	Lake Granby, G baz=80	79.85 334	⇑P	P	04 50 01.4 +1.0
BFSC	Mount Baldy Ra baz=80	79.95 323	⇑P	P	04 50 01.3 +0.4
L28A	Connealy Angus baz=80	79.97 338	⇓P	P	04 50 02.3 +1.5
K30A	Basset baz=80	80.01 340	⇑P	P	04 50 02.9 +2.0
O22A	Kremmling baz=80	80.04 334	⇓P	P	04 50 03.0 +1.6
ECSD	EROS Data Cent baz=80	80.17 342	⇑P	P	04 50 02.7 +1.0
ECSD	EROS Data Cent comp=Z,109nm,2.3s	80.17 342	eP	P	04 50 01.4 -0.2
GSC	Goldstone, Bar baz=81	80.37 324	⇑P	P	04 50 04.9 +1.9

CASY	Casey	80.45	181	eP		P	04 50 03.2 +0.2
	comp=Z,14nm,1.2s						
N22A	Wattenberg Ran	80.57	334	⇑P		P	04 50 06.0 +1.8
	baz=81						
K28A	Ten Mile Ranch	80.57	338	⇓P		P	04 50 05.4 +1.5
	baz=81						
M24A	Cheyenne	80.58	336	⇑P		P	04 50 05.6 +1.5
	baz=81						
CCUT	Cedar City	80.59	328	eP		P	04 50 06.3 +1.9
J29A	Okreek	80.89	339	⇑P		P	04 50 06.5 +1.0
	baz=81						
M23A	Laramie	80.89	335	⇓P		P	04 50 06.8 +0.9
	baz=81						
K26A	Motz Farm, Whi	81.13	337	⇓P		P	04 50 08.5 +1.6
	baz=82						
J28A	Allard Ranch,	81.17	339	⇑P		P	04 50 08.4 +1.2
	baz=82						
J27A	Elkhorn Farm,	81.25	338	⇑P		P	04 50 09.1 +1.5
	baz=82						
K25A	Mack Ranch, Ha	81.27	337	⇓P		P	04 50 09.4 +1.6
	baz=82						
MPMC	Manual Prospec	81.31	324	⇑P		P	04 50 09.7 +1.5
	baz=82						
TPNV	Topopah Spring	81.43	326	eP		P	04 50 10.4 +1.6
TPNV				pmax		pmax	
	comp=Z,12nm,1.4s						
TPNV	Topopah Spring	81.43	326	⇑P		P	04 50 10.3 +1.6
	baz=82						
TPNV	Topopah Spring	81.43	326	eP		P	04 50 10.4 +1.6
	comp=Z,12nm,1.4s						
ISA	Isabella, Lake	81.48	323	⇓P		P	04 50 10.8 +1.8
	baz=82						
J26A	Sides Ranch, S	81.64	338	⇓P		P	04 50 11.0 +1.4
	baz=82						
I28A	Midland	81.68	339	⇓P		P	04 50 10.9 +1.2
	baz=82						
J25A	Sunshine Ranch	81.95	337	⇑P		P	04 50 12.6 +1.3
	baz=82						
G30A	Faulkton	82.14	341	⇓P		P	04 50 13.3 +1.2
	baz=82						
J24A	Dixon Ranch, L	82.18	337	⇓P		P	04 50 14.4 +1.9
	baz=82						
K22A	Casper	82.21	335	⇑P		P	04 50 14.4 +1.6
	baz=83						
H28A	Mission Ridge	82.25	340	⇓P		P	04 50 13.8 +1.1
	baz=83						
R11A	Troy Canyon, C	82.25	327	⇓P		P	04 50 15.0 +1.9
	baz=83						
LBTB	Lobatse	82.40	115	eP		P	04 50 13.9 -0.4
LBTB				pmax		pmax	
	comp=Z,15nm,1.1s						
LBTB	Lobatse	82.40	115	eP		P	04 50 13.9 -0.4
	comp=Z,15nm,1.1s						
K21A	Alcova	82.46	335	⇓P		P	04 50 15.3 +1.2
	baz=83						
I25A	Rochford	82.49	337	⇑P		P	04 50 15.5 +1.3
	baz=83						
H27A	Howes	82.53	339	⇑P		P	04 50 15.3 +1.1
	baz=83						
J23A	Dilts Ranch, B	82.54	336	⇓P		P	04 50 15.8 +1.4
	baz=83						
DUG	Dugway, Tooele	82.55	330	eP		P	04 50 16.2 +1.6
DUG				pmax		pmax	
	comp=Z,17nm,1.5s						
DUG	Dugway, Tooele	82.55	330	⇑P		P	04 50 16.5 +2.0
	baz=83						
DUG	Dugway, Tooele	82.55	330	eP		P	04 50 16.2 +1.6
	comp=Z,17nm,1.5s						
G28A	Parade	82.58	340	⇓P		P	04 50 15.4 +0.9
	baz=83						
H25A	Fruitdale	82.98	338	⇓P		P	04 50 17.6 +1.0
	baz=83						
G27A	Dupree	83.16	339	⇓P		P	04 50 18.5 +1.0
	baz=84						
HWUT	Hardware Ranch	83.22	331	eP		P	04 50 17.8 -0.3
	comp=Z,1.9nm,0.6s						
F28A	McLaughlin	83.26	340	⇓P		P	04 50 19.0 +1.1
	baz=84						
G26A	Maurine	83.28	339	⇑P		P	04 50 18.9 +0.8
	baz=84						
I22A	9 Mile Ranch,	83.29	336	⇑P		P	04 50 18.8 +0.5
	baz=84						
J20A	Shoshoni	83.38	334	⇑P		P	04 50 20.3 +1.5
	baz=84						
PDAR	Pinedale Array	83.42	333	P		P	04 50 18.6 -0.6
	comp=Z,0.8nm,0.8s,baz=140,slow=7.2,SNR=6.9						
PDAR				LR		LR	05 23 44.7
	comp=Z,112nm,20.0s,baz=145,slow=33						
G25A	Newell	83.44	338	⇓P		P	04 50 20.3 +1.4
	baz=84						
I21A	Big Trails, Te	83.50	335	⇑P		P	04 50 19.7 +0.3
	baz=84						
E29A	Napoleon	83.60	341	⇑P		P	04 50 21.2 +1.6
	baz=84						
F27A	Lemmon	83.63	339	⇑P		P	04 50 20.7 +0.8
	baz=84						
J19A	Crowheart	83.66	334	⇓P		P	04 50 21.2 +1.0
	baz=84						
F26A	Lodgepole	83.81	339	⇓P		P	04 50 21.1 +0.4
	baz=84						
D30A	Buchanan	83.86	342	⇑P		P	04 50 22.2 +1.2
	baz=84						
E28A	Huff	83.89	340	⇓P		P	04 50 22.4 +1.2
	baz=84						
I20A	Worland	83.92	335	⇑P		P	04 50 22.3 +0.8
	baz=84						
TORD	Torodi Ar. Bea	83.98	70	P		P	04 50 21.8 -0.6
	comp=Z,7.9nm,0.8s,baz=263,slow=4.5,SNR=42						
TORD				LR		LR	05 24 55.0
	comp=Z,90nm,21.6s,baz=280,slow=34						
E27A	Carson	84.01	340	⇓P		P	04 50 22.8 +1.0
	baz=84						
D29A	Pettibone, Tap	84.04	341	⇑P		P	04 50 22.7 +0.9
	baz=84						
ELK	Elko	84.05	328	P		P	04 50 22.7 +0.3
	comp=Z,2.3nm,1.0s,baz=126,slow=7.3,SNR=6.1						
G23A	Biddle	84.08	337	⇑P		P	04 50 23.8 +1.6
	baz=84						
E26A	Carlson Angus	84.31	339	⇓P		P	04 50 24.5 +1.2
	baz=85						
H20A	Greybull	84.34	335	⇓P		P	04 50 24.3 +0.7
	baz=85						
C30A	Mose, Pekin	84.34	342	⇑P		P	04 50 24.3 +0.9
	baz=85						
F23A	Volborg	84.54	337	⇓P		P	04 50 25.2 +0.6
	baz=85						
E25A	Miller Ranch,	84.61	339	⇓P		P	04 50 26.1 +1.3
	baz=85						
G21A	Lodge Grass	84.71	336	⇓P		P	04 50 26.3 +0.9
	baz=85						
I17A	Pilgrim Ck.	84.79	333	⇓P		P	04 50 27.0 +1.0
	baz=85						
D26A	Manning	84.80	340	⇑P		P	04 50 26.8 +1.0
	baz=85						
H19A	Powell	84.85	334	⇑P		P	04 50 26.9 +0.7
	baz=85						
F22A	Rosebud	84.87	337	⇓P		P	04 50 27.3 +1.1
	baz=85						
B30A	Myrvik Farm, E	85.00	343	⇓P		P	04 50 28.7 +2.0
	baz=85						
G20A	Bridger	85.05	335	⇓P		P	04 50 27.3 +0.1
	baz=85						
H18A	Shoshone NF, C	85.10	334	⇓P		P	04 50 28.2 +0.6
	baz=85,SNR=6.7						
D25A	Fairfield	85.17	339	⇓P		P	04 50 28.9 +1.3
	baz=86						
A29A	Manning Farm,	85.66	342	⇑P		P	04 50 31.1 +1.1
	baz=86						
D23A	Lindsay	85.77	338	⇓P		P	04 50 31.5 +0.8
	baz=86						
C24A	Savage	85.85	339	⇑P		P	04 50 32.2 +1.3
	baz=86						
F19A	Roth Farm, Mol	85.86	335	⇓P		P	04 50 31.7 +0.5
	baz=86						
HLID	Hailey	86.01	331	⇑P		P	04 50 33.7 +1.7
	baz=86						
HLID	Hailey	86.01	331	eP		P	04 50 33.2 +1.1
	comp=Z,8.2nm,1.4s						
D22A	Cohagen	86.06	337	⇓P		P	04 50 32.9 +0.8
	baz=86						
ULM	Lac du Bonnet	86.11	345	P		P	04 50 29.6 -2.6
	comp=Z,3.0nm,0.8s,baz=135,slow=1.4,SNR=4.4						
E20A	Meyer Farm, Mu	86.14	336	⇑P		P	04 50 33.0 +0.5
	baz=86,SNR=6.2						
D21A	La Casta Ranch	86.25	337	⇑P		P	04 50 33.9 +0.9
	baz=87						
C23A	Lambert	86.32	338	⇓P		P	04 50 34.4 +1.1
	baz=87						
E19A	Rath Farm, Rou	86.33	335	⇓P		P	04 50 34.1 +0.7
	baz=87,SNR=6.1						
MFID	Camas Ranch	86.48	330	eP		P	04 50 35.2 +0.9
	comp=Z,5.2nm,1.1s						
D20A	Manuel Ranch,	86.65	336	⇓P		P	04 50 35.4 +0.4
	baz=87,SNR=6.7						
A25A	Svangstu Ranch	86.72	340	⇑P		P	04 50 36.2 +1.0
	baz=87						
B23A	Brockton	86.85	339	⇑P		P	04 50 36.8 +0.9
	baz=87						
C21A	Desert Coulee	86.95	337	⇑P		P	04 50 36.9 +0.5
	baz=87,SNR=5.4						
A24A	Westby	86.97	339	⇓P		P	04 50 37.4 +1.0
	baz=87						
D19A	Cripps Ranch,	86.97	336	⇓P		P	04 50 37.3 +0.7
	baz=87						
B22A	Reddig Ranch S	87.02	338	⇑P		P	04 50 36.8 +0.1
	baz=87						
C20A	Veseth Ranch,	87.15	337	⇓P		P	04 50 37.5 +0.1
	baz=88						
C19A	Slack Wire Ran	87.52	336	⇓P		P	04 50 40.1 +0.9
	baz=88						
A22A	Carney Farms,	87.60	338	⇓P		P	04 50 40.6 +1.1
	baz=88						
N02D	Trinity Center	87.69	324	⇓P		P	04 50 40.6 +0.4
	baz=88						
B20A	Solberg Farm,	87.79	337	⇓P		P	04 50 40.6 +0.2
	baz=88,SNR=5.1						
M04C	Macdoel	87.89	325	⇑P		P	04 50 42.3 +1.0
	baz=88						
A21A	Bergtoll Ranch	87.92	338	⇑P		P	04 50 41.7 +0.6
	baz=88						
EGMT	Eagleton	88.01	336	⇑P		P	04 50 41.9 +0.4
	baz=88						
M02C	Callahan	88.09	324	⇓P		P	04 50 43.6 +1.5
	baz=88						
B19A	Brinkman Farms	88.11	336	⇑P		P	04 50 43.3 +1.4
	baz=88						
A20A	Cobblestone Ra	88.14	337	⇓P		P	04 50 42.3 +0.2
	baz=88						
A19A	Klindworth Far	88.45	337	⇓P		P	04 50 43.9 +0.3
	baz=89						
MSO	Missoula	88.52	333	⇓P		P	04 50 45.5 +1.4
	baz=89						
J05D	Fort Rock, OR	88.77	326	⇓P		P	04 50 47.0 +1.6
	baz=89						
J04D	Umpqua Nationa	89.14	326	⇑P		P	04 50 48.2 +1.1
	baz=90						
LSZ	Lusaka	89.85	108	eP		P	04 50 52.0 +0.8
LSZ				pmax		pmax	
	comp=Z,2.0nm,0.8s						
LSZ	Lusaka	89.85	108	eP		P	04 50 52.0 +0.8
	comp=Z,2.4nm,0.8s						
MDT	Midelt	91.48	51	LR		LR	05 31 09.0
	comp=Z,130nm,20.8s,baz=238,slow=35						
TAM	Tamanrasset	92.56	64	eP		P	04 51 03.9 +0.4
TAM				pmax		pmax	
	comp=Z,3.0nm,1.0s						
TAM	Tamanrasset	92.56	64	eP		P	04 51 03.9 +0.4
	comp=Z,2.7nm,1.0s						
ESDC	Sonseca Array	96.22	46	LR		LR	05 33 12.8
	comp=Z,92nm,19.9s,baz=245,slow=35						
YKA	Yellowknife Ar	101.68	341	P		Pdif	04 51 43.6 0.0
	comp=Z,0.3nm,0.9s,baz=142,slow=5.4,SNR=4.0						
KEST	Kesra	102.53	55	P		Pdif	04 51 48.3 +0.2
	comp=Z,0.7nm,0.5s,baz=3.8,slow=2.2,SNR=6.4						
ASAR	Alice Springs	117.99	207	PKP		PKPdf	04 56 37.8 -1.1
	comp=Z,0.9nm,0.9s,baz=188,slow=2.7,SNR=5.8						
WRA	Warramunga Arr	121.18	209	PKP		PKPdf	04 56 44.2 -0.9
	comp=Z,2.3nm,1.0s,baz=161,slow=2.0,SNR=8.5						
WRAB	Tennant Creek	121.18	209	ePKIKP		PKPdf	04 56 45.1 0.0
WRAB	Tennant Creek	121.18	209	ePKPdf		PKPdf	04 56 44.3 -0.7
BRTR	Keskin Array B	121.55	61	PKP		PKPdf	04 56 43.5 -1.8
	comp=Z,0.6nm,0.8s,baz=274,slow=2.6,SNR=3.4						
KIEV	Kiev	121.82	47	ePKIKP		PKPdf	04 56 43.9 -1.3
KIEV	Kiev	121.82	47	ePKPdf		PKPdf	04 56 43.9 -1.3
AKASG	Malin Array Be	121.84	47	PKP		PKPdf	04 56 43.8 -1.4
	comp=Z,0.2nm,0.3s,baz=278,slow=3.0,SNR=4.4						
ANN	Anapa	125.70	56	i PKIKP		PKPdf	04 56 52.2 -0.6
ANN				pmax		pmax	
	comp=Z,60nm,1.6s						
H11S2	WAKE ISLAND Hyl	25.87	269	T		T	07 15 50.4
	baz=118,slow=75,SNR=17						
H11S1	WAKE ISLAND Hyl	25.88	269	T		T	07 15 52.4
	baz=118,slow=75,SNR=19						
H11S3	WAKE ISLAND Hyl	25.88	269	T		T	07 15 49.0
	baz=118,slow=75,SNR=12						
H11N1	WAKE ISLAND Hyl	26.28	271	T		T	07 16 20.0
	baz=279,slow=74,SNR=3.3						
H11N2	WAKE ISLAND Hyl	26.29	271	T		T	07 16 20.8
	baz=115,slow=74,SNR=8.0						
OBN	Obninsk	127.06	43	⇓i PKIKP		PKPdf	04 56 55.9 +0.9
OBN				pmax		pmax	
	comp=Z,6.0nm,0.9s						
KLMR	Klimovskoe	129.01	36	ePKIKP		PKPdf	04 56 56.8 -1.8
KLMR				pmax		pmax	
	comp=Z,22nm,1.5s						
KIV	Kislovodsk	129.19	58	ePKIKP		PKPdf	04 56 52.7 -7.0
KIV				i			04 57 02.1
KIV				pmax		pmax	
	comp=Z,3.0nm,0.9s						
BILL	Bilibino	132.49	334	⇑i PKIKP		PKPdf	04 57 06.5 +1.5
BILL				pmax		pmax	
	comp=Z,11nm,2.0s						
BILL	Bilibino	132.49	334	ePKPdf		PKPdf	04 57 06.0 +0.9
ARU	Arti	139.36	40	i PKIKP		PKPdf	04 57 18.6 +0.5
ARU							05 00 10.5
ARU	Arti	139.36	40	ePKPdf		PKPdf	04 57 17.8 -0.3
KAPI	Kappang	140.06	198	ePKPdf		PKPdf	04 57 21.3 +0.5
TIXI	Tiksi	140.29	350	ePKIKP		PKPdf	04 57 19.4 0.0
TIXI	Tiksi	140.29	350	ePKPdf		PKPdf	04 57 19.4 0.0
ABKAR	Akbulak array	141.35	51	ePKPdf		PKPdf	04 57 16.8 -5.2
PALK	Pallekele	143.59	130	ePKIKP		PKPbc	04 57 25.8 +1.3
PALK	Pallekele	143.59	130	ePKPdf		PKPbc	04 57 25.8 +1.3
POO	Poona	145.98	107	⇓i P		PKPdf	04 57 31.0 -0.1
	comp=Z,107nm,1.5s						
KSM	Kuching	148.00	184	ePKPdf		PKPdf	04 57 33.5 -1.1
KSM				ePKPbc		PKPbc	04 57 36.7 -1.0
PSI	Prapat	148.21	162	PKPbc		PKPbc	04 57 37.8 -0.6
	comp=Z,6.8nm,0.5s,baz=186,slow=7.2,SNR=6.8						
YAK	Yakutsk	148.36	341	ePKIKP		PKPdf	04 57 35.8 +2.2
YAK				pmax		pmax	
	comp=Z,24nm,1.2s						
YAK	Yakutsk	148.36	341	ePKPbc		PKPbc	04 57 36.7 -0.5
HYB	Hyderabad	149.02	114	i PKP		PKPbc	04 57 39.5 -0.8
KKAR	Karatay Array	149.26	61	ePKP2		PKPbc	04 57 39.9 -0.2
KKAR	Karatay Array	149.26	61	ePKPbc		PKPbc	04 57 39.9 -0.2
IPM	Ipoh	150.32	166	ePKPdf		PKPdf	04 57 38.2 -0.2
IPM				ePKPbc		PKPbc	04 57 42.8 -0.8
KULM	Kulim	151.03	165	ePKPbc		PKPbc	04 57 44.2 -1.0
EKS2	Erkin-Say	151.69	61	ePKIKP		PKPdf	04 57 40.6 +0.9
EKS2				e			04 57 46.7
EKS2	Erkin-Say	151.69	61	ePKPdf		PKPdf	04 57 40.6 +0.9
EKS2				ePKPbc		PKPbc	04 57 46.7 +0.6
AAK	Ala-Archa	152.22	61	ePKIKP		PKPbc	04 57 47.7 +0.4
AAK	Ala-Archa	152.22	61	ePKPbc		PKPbc	04 57 47.7 +0.4
KURK	Kurchatov	152.50	43	ePKIKP		PKPbc	04 57 46.9 -0.5
KURK				e			04 57 58.3
KURK	Kurchatov	152.50	43	ePKPbc		PKPbc	04 57 46.9 -0.5
KURK				ePKPab		PKPab	04 57 58.3 +0.4
NVS	Novosibirsk	152.53	32	ePKIKP		PKPdf	04 57 37.8 -2.6
NVS				pmax		pmax	
	comp=Z,16nm,1.2s						
TKM2	Tokmak 2	152.98	60	ePKIKP		PKPdf	04 57 42.1 +0.3
TKM2				e			04 57 48.7
TKM2				e			04 57 59.5
TKM2	Tokmak 2	152.98	60	ePKPdf		PKPdf	04 57 42.1 +0.3
TKM2				ePKPbc		PKPbc	04 57 48.7 -0.4
TKM2				ePKPab		PKPab	04 57 59.5 -1.0
KSH	Kashi	153.63	68	PKPbc		PKPdf	04 57 43.0 +0.3
KSH				sPKP			04 57 56.5
KSH				PKS		PKSdf	05 01 17.3 +0.2
KSH				SKKS			05 08 26.5
KSH				SS		SS	05 21 10.0 -2.3
KSH				PPMZ			
	comp=Z,110nm,5.7s						
KSH				LN			
	comp=Z,69nm,5.6s						
KSH				LE			
	comp=Z,44nm,4.0s						
KSH				LZ			
	comp=Z,180nm,5.3s						
ZALV	Zalesovo Beam	153.82	32	PKP		PKPdf	04 57 42.1 -0.2
	comp=Z,0.6nm,0.3s,baz=0.0,slow=1.9,SNR=4.8						
ZALV				PKPbc		PKPbc	04 57 50.4 +0.2
	comp=Z,2.8nm,0.6s,baz=298,slow=3.2,SNR=11						
ZALV				PKPab		PKPab	04 58 02.3 -1.0
	comp=Z,4.2nm,0.7s,baz=316,slow=4.1,SNR=3.9						
BOD	Bodaibo	155.42	352	ePKP2		PKPab	04 58 08.5 -1.5
MKAR	Makanchi Array	156.41	48	PKP		PKPdf	04 57 46.0 -0.1
	comp=Z,1.2nm,0.9s,baz=343,slow=1.3,SNR=8.1						
MKAR				PKPab		PKPab	04 58 14.3 -0.4
	comp=Z,1.7nm,0.7s,baz=308,slow=4.8,SNR=12						
WMQ	Urumqi	161.13	51	ePKP		PKPdf	04 57 52.0 +0.1
WMQ				pPKP		pPKPdf	04 58 03.0 +0.3
WMQ				PKS		PKSdf	05 01 23.0 -2.1
WMQ				PP		PP	05 02 21.5 +2.8
WMQ				SKS		SKSdf	05 04 52.0 -2.4
WMQ				SKKS		SKKSac	05 09 04.5 0.0
WMQ				SS		SS	05 22 29.5 -2.1
WMQ				PPMZ			
	comp=Z,93nm,6.0s						
WMQ				LN			
	comp=Z,71nm,23.0s						
WMQ				LZ			
	comp=Z,47nm,19.0s						
TLY	Talaya	161.62	9	ePKP2		PKPab	04 58 37.4 +0.4
TLY				pmax		pmax	
	comp=Z,5.0nm,1.4s						
ZAK	Zakamensk	162.84	10	ePKP2		PKPab	04 58 43.0 +0.5
ZAK				pmax		pmax	
	comp=Z,2.0nm,1.4s						
CMAR	Chiang Mai Arr	162.87	149	PKP		PKPdf	04 57 54.5 +0.2
	comp=Z,1.0nm,0.3s,baz=212,slow=1.9,SNR=6.6						
CMAR				PKPab		PKPab	04 58 42.6 -0.8
	comp=Z,0.5nm,0.3s,baz=167,slow=4.4,SNR=3.0						
SONM	Songino Array	165.70	5	PKPab		PKPab	04 58 54.6 -0.6
	comp=Z,0.8nm,0.9s,baz=0.0,slow=3.3,SNR=5.2						
ULN	Ulaanbaatar	165.70	3	ePKIKP		PKPdf	04 57 55.2 -1.0
ULN				e			04 58 55.7
ULN	Ulaanbaatar	165.70	3	ePKPdf		PKPdf	04 57 55.2 -1.0
ULN				ePKPab		PKPab	04 58 55.7 +0.5
NJ2	Nanjing	170.80	263	ePKP		PKPdf	04 58 00.0 +0.1
GTA	Gaotai	171.16	46	ePKP		PKPdf	04 58 00.3 +0.3
GTA				pPKP		pPKPdf	04 58 11.0 +0.1
GTA				sPKP			04 58 14.5
GTA				PKPab		PKPab	04 59 20.8 +1.0
HHC	Hu-ho-hao-te	172.22	340	ePKP		PKPdf	04 58 01.0 +0.5
HHC				PP		PP	05 03 19.0 +4.1
HHC				SKS		SKSdf	05 04 59.3 -2.0
HHC				SKKS		SKKSac	05 10 01.0 +1.4
HHC				SS		SS	05 24 23.0 +0.8
HHC				PPMZ			
	comp=Z,53nm,5.2s						
HHC				LN			
	comp=Z,230nm,20.6s						
HHC				LE			
	comp=Z,370nm,20.6s						
HHC				LZ			
	comp=Z,98nm,20.0s						
LZH	Lanzhou	175.71	53	ePKP		PKPdf	04 58 02.0 +0.1
LZH				pPKP		pPKPdf	04 58 13.0 +0.2
LZH				sPKP			04 58 19.5

IDC 27 04:39:01.7±2.9, 12°.88N×124°.34E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.3/45, mbtmp3.7/2, Error ellipse: s-maj=213.2km s-min=43.6km az=65.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.07	163	P	P	04 45 47.5	-0.5
	0.8nm,0.3s,baz=343,slow=10,SNR=9.5						
ASAR	Alice Springs	37.51	166	P	P	04 46 17.9	+0.3
	0.4nm,0.5s,baz=351,slow=7.1,SNR=11						
TORD	Torodi Ar. Bea	117.54	292	PKP	PKPdf	04 57 50.4	-0.2
	0.8nm,1.1s,baz=50,slow=3.5,SNR=7.9						

*ISCJB **27** 04:41:00.7±2.0, 33°.31S±0°.04×72°.50W±0°.05, h14km±13km, mb4.4/17, Error ellipse: s-maj=7.9km s-min=5.4km az=147.2*

*IDC **27** 04:41:00.9±0.9, 33°.28S×72°.20W, h0km, mb4.2/6, mb1 4.3/9, mb1mx4.1/31, mbtmp4.2/9, ML4.0/3, Error ellipse: s-maj=35.8km s-min=19.0km az=89.0*

*GUC **27** 04:41:02.2±0.4, 33°.51S×72°.29W, h6km±4km, ML3.7*

*NEIC **27** 04:41:04.1±2.6, 33°.29S×72°.27W, h23km±18km, mb4.6/12, Error ellipse: s-maj=12.7km s-min=6.4km az=82.0*

ISC 27 04:41:02.1±3.2, 33°.30S±0°.06×72°.32W±0°.10, h11km±19km, n35, σ0.9/61/40, mb4.5/17, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	Talagante	1.21	107	eP	Pn	04 41 24.5	-0.5
SAN	Santiago	1.40	97	eP	Pb	04 41 28.1	-0.1
SAN				eS	Sg	04 41 47.8	+0.7
FSR	Penalolen	1.51	97	eP	Pb	04 41 29.9	-0.3
FSR				eS	Sg	04 41 51.0	+0.2
SJCH	San Jose de Ma	1.68	102	eP1	Pn	04 41 32.7	+1.2
SJCH				eS	Sg	04 41 55.7	-0.5
SJCH				IAML		04 42 00.2	
	comp=N,2μm,0.4s						
NICH	Los Niches	1.92	152	eP	Pn	04 41 34.0	-0.8
NICH				eS	Sn	04 41 58.1	-0.9
TALC	Talca	2.17	165	eP	Pn	04 41 37.8	-0.4
TALC				eS	Sn	04 42 04.8	-0.2
LNCH	Linares	2.61	167	⇓eP	Pn	04 41 44.1	-0.1
LNCH				eS	Sn	04 42 16.4	+0.6
CFAA	Coronel Fontan	3.84	65	Pn	Pn	04 42 04.8	+3.6
	comp=N,0.3nm,0.3s,baz=221,slow=11,SNR=3.2						
CFAA				Lg	Lg	04 43 06.2	
	comp=N,1.9nm,0.3s,baz=313,slow=21,SNR=3.4						
PLCA	Paso Flores	7.55	170	Pn	Pn	04 42 52.6	+0.4
	comp=N,0.7nm,0.3s,baz=334,slow=12,SNR=2.7						
LPAZ	La Paz	17.36	14	P	P	04 45 06.2	-0.2
	comp=N,0.3nm,0.3s,baz=194,slow=5.5,SNR=5.4						
LPAZ	La Paz	17.36	14	ePn	P	04 45 05.8	-0.5
SIV	San Ignacio	20.01	33	P	P	04 45 34.8	-0.2
	comp=N,0.2nm,0.3s,baz=221,slow=12,SNR=5.0						
SAML	Samuel	25.66	21	eP	P	04 46 33.1	+1.1
	comp=N,6.6nm,0.8s						
BDFB	Brasilia	28.14	57	P	P	04 46 53.5	-1.0
	comp=N,3.9nm,0.8s,baz=156,slow=12,SNR=3.4						
OTAV	Otavalo	33.85	349	eP	P	04 47 45.3	+0.1
	comp=N,5.9nm,1.3s						
SDDR	Presa de Saban	52.00	1	eP	P	04 50 10.8	-0.7
SNAA	Sanae	52.32	158	P	P	04 50 14.0	+0.6
	comp=N,1.5nm,0.8s,baz=304,slow=11,SNR=3.7						
GTBY	Guantanamo Bay	52.99	357	eP	P

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KZA	**Kyzart** SNR=15	**3.76**	**1**	P	**Pn**	**04 47 56.7**	**+1.3**
UCH	**Uchtor** SNR=16	**3.94**	**353**	P	**Pn**	**04 47 59.5**	**+1.6**
AML	**Almayashu** SNR=12	**3.97**	**344**	P	**Pn**	**04 48 00.0**	**+1.7**
ULHL	**Ulahol** SNR=5.2	**4.01**	**12**	P	**Pn**	**04 47 59.9**	**+1.1**
AAK	**Ala-Archa** 3.7nm,0.8s	**4.34**	**354**	⇓Pn	**Pn**	**04 48 04.8**	**+1.5**
EKS2	**Erkin-Say** SNR=6.3	**4.47**	**347**	P	Pn	04 48 07.6	+2.7
TKM2	**Tokmak 2** 2.6nm,0.5s	**4.61**	**4**	⇑Pn	**Pn**	**04 48 07.9**	**+0.9**
TKM2	**Tokmak 2** SNR=7.1	**4.61**	**4**	P	**Pn**	**04 48 08.2**	**+1.2**
DZET	**Dzherino**	**4.98**	**278**	⇓Sn	**Sn**	**04 49 08.1**	**-0.8**
KK31	**Karatay Array** 1.1nm,0.6s,baz=136,slow=12,SNR=11	**5.94**	**325**	⇓Pn	**Pn**	**04 48 25.3**	**+0.3**
KK31	1.6nm,0.5s,baz=146,slow=23,SNR=7.5			⇓Sn	**Sn**	**04 49 29.9**	**-2.5**
PDGK	**Podgornoye**	**5.99**	**32**	⇓Pn	**Pn**	**04 48 24.9**	**-0.8**

IDC 27 04:57:30.8±2.0, 3°.17N×125°.19E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/37, mbtmp3.5/3, Error ellipse: s-maj=193.0km s-min=25.2km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=336,slow=11,SNR=3.3	**24.66**	**159**	P	P	05 02 52.9	-0.7
ASAR	**Alice Springs** 0.3nm,0.5s,baz=359,slow=8.6,SNR=6.4	**27.99**	**163**	P	P	05 03 24.4	+0.8
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=113,slow=8.1,SNR=9.3	**57.15**	**326**	P	P	05 07 19.2	-0.2

MEX 27 05:29:24.0±0.3, 17°.33N×95°.41W, h113km±14km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.29**	**259**	*e*P	Pn	05 29 47.6	-1.2
VHO				*e*S	Sn	05 30 06.0	-1.8
HUIG	**Huatulco**	**1.69**	**203**	*e*P	Pn	05 29 52.0	-1.4
HUIG				*i* S	Sn	05 30 14.4	-1.3
TGIG		**2.25**	**104**	*e*P	Pn	05 29 59.6	-0.9
TGIG				*i* S	Sn	05 30 26.3	-2.1
CCIG	**Comitan**	**3.30**	**108**	*i* P	Pn	05 30 12.9	-1.4
CCIG				*i* S	Sn	05 30 52.0	-1.2

JMA 27 05:29:58.4±0.4, 25°.90N×128°.58E, h33km, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.79**	**288**	P	Pn	05 30 13.2	+0.1
JJT2				*e*S	Sn	05 30 23.2	-0.6
JNTH	**Nagotoyohara**	**0.79**	**321**	P	Pn	05 30 13.1	-0.2
JNTH				*e*S	Sn	05 30 23.0	-1.0
JOW	**Kunigami**	**0.97**	**344**	P	Pn	05 30 15.7	0.0
JOW				*e*S	Sb	05 30 29.5	+0.2
JIH	**Iheya**	**1.26**	**334**	P	Pb	05 30 21.0	-0.6
JIH				*e*S	Sb	05 30 36.7	-0.7
JOKE	**Okinoerabujima**	**1.46**	**360**	P	Pn	05 30 23.0	+0.6
JOKE				*e*S	Sn	05 30 41.0	+0.6
JKE	**Kume jima 2**	**1.67**	**285**	P	Pn	05 30 25.3	0.0
JKE				*e*S	Sn	05 30 46.6	+1.0
JTK	**Tokunoshima**	**1.91**	**10**	P	Pn	05 30 29.3	+0.7
JTK				*e*S	Sn	05 30 49.6	-1.9
JMZ	**Minamidaito 2**	**2.38**	**91**	P	Pn	05 30 35.2	+0.1
JAMN	**Amaminishikomi**	**2.39**	**13**	P	Pn	05 30 36.4	+1.1

NIED 27 05:30:00, 25°.90N×128°.60E, h11km, Mw3.8 Best double couple: M0 5.57000×10^14 NP1:φ0=64.00000°, δ65.00000°, λ1.00000°. NP2:φ0=333.00000°, δ89.00000°, λ155.00000°.
IDC 27 05:30:04.9±1.6, 25°.87N×128°.38E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/33, mbtmp3.7/5, ML3.6/1, MS2.9/3, Ms1 2.9/3, ms1mx2.6/42, Error ellipse: s-maj=61.2km s-min=24.2km az=73.0
ISCJB 27 05:30:05.4±0.6, 25°.87N±0°.04×128°.60E±0°.04, h27km, mb3.5/4, Error ellipse: s-maj=5.5km s-min=4.5km az=154.6
JMA 27 05:30:06.9±0.4, 25°.90N×128°.57E, h35km, M3.5

ISC 27 05:30:06.8±0.9, 25°.87N±0°.05×128°.55E±0°.04, h27km, n22, σ1§71/32, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.77**	**290**	P	**Pb**	**05 30 21.5**	**-0.2**
JJT2				S	**Sn**	**05 30 32.2**	**-0.4**
JNTH	**Nagotoyohara**	**0.80**	**324**	P	**Pb**	**05 30 21.2**	**-1.0**
JNTH				*e*S	**Sb**	**05 30 32.1**	**-0.5**
JOW	**Kunigami**	**0.99**	**345**	P	**Pb**	**05 30 25.1**	**-0.2**
JOW				S	**Sb**	**05 30 36.4**	**-1.6**
JIH	**Iheya**	**1.27**	**336**	P	**Pb**	**05 30 29.4**	**-0.7**
JIH				S	**Sn**	**05 30 44.4**	**-0.6**
JOKE	**Okinoerabujima**	**1.48**	**1**	P	**Pn**	**05 30 31.3**	**-0.5**
JOKE				S	**Sn**	**05 30 48.8**	**-1.5**
JKE	**Kume jima 2**	**1.65**	**286**	P	**Pn**	**05 30 33.5**	**-0.6**
JKE				*e*S	**Sn**	**05 30 53.3**	**-1.1**
JTK	**Tokunoshima**	**1.94**	**10**	P	**Pn**	**05 30 37.8**	**-0.2**
JTK				*e*S	**Sn**	**05 30 59.7**	**-1.8**
JMZ	**Minamidaito 2**	**2.40**	**91**	P	**Pn**	**05 30 43.8**	**-0.6**
JMZ				*e*S	**Sn**	**05 31 09.5**	**-3.5**
JAMN	**Amaminishikomi**	**2.42**	**13**	P	**Pn**	**05 30 44.6**	**-0.1**
JAMN				*e*S	**Sn**	**05 31 13.0**	**-0.5**
JAM	**Amami Oshima**	**2.70**	**20**	P	**Pn**	**05 30 48.3**	**-0.1**
JAM				*e*S	**Sn**	**05 31 18.6**	**-1.6**
JZK	**Kikaishima**	**2.74**	**27**	*e*S	**Sn**	**05 31 21.9**	**+0.6**
JTJ	**Tarama**	**3.70**	**251**	P	**Pn**	**05 31 01.7**	**-0.5**
JTJ				*e*S	**Sn**	**05 31 42.8**	**-2.1**
JISG	**Ishigakijimahi**	**4.05**	**252**	P	**Pn**	**05 31 06.8**	**-0.2**
JISG				*e*S	**Sn**	**05 31 50.6**	**-3.0**
JIJ	**Ishigaki jima**	**4.27**	**250**	*e*S	**Sn**	**05 31 54.6**	**-4.5**
JNU	**Nakatsue** 0.9nm,0.3s,baz=203,slow=15,SNR=3.5	**7.50**	**15**	Pn	**Pn**	**05 31 55.0**	**+0.4**
JNU	0.4nm,0.3s,baz=156,slow=20,SNR=2.1			Sn	**Sn**	**05 33 16.0**	**-2.7**
KSRS	**Korea Array** comp=Z,23nm,21.6s,baz=162,slow=36	**11.56**	**357**	LR	LR	05 37 00.2	
JCJ	**Chichijima** comp=Z,366nm,21.1s,baz=108,slow=33	**12.27**	**81**	LR	LR	05 36 49.7	
MJAR	**Matsushiro Arr** comp=Z,20nm,19.6s,baz=235,slow=37	**13.46**	**35**	LR	LR	05 38 31.0	
SONM	**Songino Array** 0.5nm,0.4s,baz=137,slow=9.6,SNR=6.3	**28.01**	**327**	P	**P**	**05 35 58.7**	**+3.1**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=103,slow=9.6,SNR=5.6	**41.99**	**312**	P	**P**	**05 37 55.4**	**-0.3**
ZALV	**Zalesovo Beam** 1.1nm,0.3s,baz=97,slow=10,SNR=2.6	**42.70**	**323**	P	**P**	**05 38 02.6**	**+1.3**
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=352,slow=8.3,SNR=8.7	**45.89**	**172**	P	**P**	**05 38 29.3**	**+2.2**

IDC 27 05:42:54.5±2.2, 18°.82S×65°.47E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/46, mbtmp3.8/5, MS3.6/5, Ms1 3.6/5, ms1mx3.1/32, Error ellipse: s-maj=70.9km s-min=35.6km az=51.0

ISC 27 05:42:55.7±2.1, 18°.9S±0°.3×65°.4E±0°.4, h10km, n17, σ1§02/7, mb3.8/6, MS3.7/4, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H** baz=211,slow=75,SNR=60	**13.10**	**33**	T	T	05 59 12.9	
H08S2	**Diego Garcia H** baz=211,slow=75,SNR=63	**13.11**	**33**	T	T	05 59 09.7	
H08S3	**Diego Garcia H** baz=211,slow=75,SNR=122	**13.12**	**33**	T	T	05 59 14.3	
H08N3	**Diego Garcia H** baz=204,slow=76,SNR=16	**13.59**	**24**	T	T	05 59 52.5	
H08N1	**Diego Garcia H** baz=204,slow=76,SNR=159	**13.60**	**24**	T	T	05 59 59.6	
H08N2	**Diego Garcia H** baz=204,slow=76,SNR=15	**13.61**	**24**	T	T	05 59 50.9	
OPO	**Ambohidratompo** comp=Z,162nm,19.1s,baz=111,slow=32	**17.26**	**268**	LR	LR	05 52 02.1	
KMBO	**Kilima Mbogo** comp=Z,57nm,19.9s,baz=93,slow=32	**32.75**	**299**	LR	LR	06 00 19.3	
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=241,slow=7.4,SNR=4.4	**49.61**	**44**	P	**P**	**05 51 47.1**	**-0.4**
CMAR	comp=Z,62nm,18.8s,baz=196,slow=35			LR	LR	06 11 46.1	
GEYT	**Alibeck** 0.9nm,0.3s,baz=160,slow=4.6,SNR=3.2	**56.91**	**353**	P	**P**	**05 52 42.4**	**+1.4**
ASAR	**Alice Springs** 0.6nm,0.8s,baz=266,slow=6.7,SNR=5.1	**63.48**	**108**	P	**P**	**05 53 27.1**	**+0.6**
ASAR	comp=Z,46nm,18.7s,baz=80,slow=34			LR	LR	06 17 42.3	
MKAR	**Makanchi Array** 0.6nm,0.9s,baz=222,slow=6.5,SNR=4.5	**67.11**	**13**	P	**P**	**05 53 48.8**	**-0.6**
KURBB	**Kurchatov Arra** 0.6nm,0.7s,baz=209,slow=6.9,SNR=5.0	**70.15**	**9**	P	**P**	**05 54 07.8**	**-0.4**
DBIC	**Dimbokro** comp=Z,46nm,18.7s,baz=80,slow=34	**73.71**	**283**	LR	LR	06 24 48.1	
SONM	**Songino Array** 0.2nm,0.6s,baz=233,slow=6.5,SNR=2.5	**75.88**	**27**	P	P	05 54 47.3	+4.9
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=342,slow=2.5,SNR=4.8	**136.42**	**0**	PKP	**PKPdf**	**06 02 16.8**	**-0.5**
ULM	**Lac du Bonnet** 3.1nm,0.6s,baz=48,slow=3.9,SNR=6.7	**145.31**	**339**	PKPbc	**PKPbc**	**06 02 32.5**	**-0.9**

MAN 27 05:43:44, 13°.47N×120°.43E, h8km, mb4.4, ML3.3, MS3.1, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.31**	**326**	*e*P	Pb	05 43 51.3	-0.5
PGP	**Puerto Galera**	**0.51**	**87**	⇑*e*P	Pg	05 43 54.4	+0.4
PGP				*i* S	Sb	05 44 02.0	-0.9
TGY	**Tagaytay City**	**0.80**	**38**	⇑*e*P	Pn	05 44 01.6	-0.1
TGY				*e*S	Sn	05 44 14.2	+0.4
SJMP	**San Jose**	**1.21**	**146**	*e*P	Pb	05 44 07.1	-0.1
SJMP				*e*S	Sn	05 44 35.0	+11
OTRP	**Odiongan**	**1.91**	**125**	*e*P	Pb	05 44 18.2	-0.9

IDC 27 05:46:45.7±2.2, 7°.31S×129°.44E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.4/37, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=135.5km s-min=32.4km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=342,slow=13,SNR=32	**13.43**	**160**	Pn	Pn	05 49 56.8	-0.9
WRA	0.3nm,0.3s,baz=334,slow=22,SNR=6.9			Sn	Sn	05 52 17.8	-10
ASAR	**Alice Springs** 0.3nm,0.3s,baz=346,slow=8.1,SNR=11	**16.82**	**166**	Pn	Pn	05 50 43.6	+0.8
ASAR	0.0nm,0.3s,baz=357,slow=28,SNR=3.6			Sn	Sn	05 53 43.0	-7.4
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=109,slow=6.0,SNR=5.0	**68.18**	**327**	P	P	05 57 48.0	0.0

NEIC 27 06:29:06.1, 18°.51N×101°.07W, h55km, MD4.1(MEX), After MEX.

MEX 27 06:29:06.1±0.6, 18°.51N×101°.07W, h55km±10km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.73**	**108**	*e*P	Pn	06 29 18.7	-1.7
ARIG				*i* S	Sn	06 29 28.9	-2.0
ZIIG	**Zihuatanejo**	**0.97**	**203**	*e*P	Pn	06 29 21.6	-2.0
ZIIG				*e*S	Sn	06 29 34.9	-1.6
ZIIG	**Zihuatanejo**	**0.97**	**203**	*e*P	Pn	06 29 21.6	-2.0
ZIIG				*e*S	Sn	06 29 34.9	-1.6
MOIG	**Morelia**	**1.17**	**355**	*e*P	Pn	06 29 24.7	-1.9
MOIG				*e*S	Sn	06 29 40.1	-1.6
MOIG	**Morelia**	**1.17**	**355**	*e*P	Pn	06 29 24.7	-1.9
MOIG				*e*S	Sn	06 29 40.1	-1.6
PLIG	**Platanillo**	**1.50**	**94**	*e*P	Pn	06 29 29.5	-1.2
PLIG				*e*S	Sn	06 29 47.0	-2.4
PLIG	**Platanillo**	**1.50**	**94**	*e*P	Pn	06 29 29.5	-1.2
PLIG				*e*S	Sn	06 29 47.0	-2.4
MEIG	**Mezcala**	**1.50**	**113**	*e*P	Pn	06 29 29.7	-1.1
MEIG				*i* S	Sn	06 29 47.5	-1.9
MEIG	**Mezcala**	**1.50**	**113**	*e*P	Pn	06 29 29.7	-1.1
MEIG				*i* S	Sn	06 29 47.5	-1.9
CAIG	**El Cayaco**	**1.64**	**152**	*e*P	Pn	06 29 30.8	-1.9
CAIG				*i* S	Sn	06 29 49.9	-2.9
CAIG	**El Cayaco**	**1.64**	**152**	*e*P	Pn	06 29 30.8	-1.9
CAIG				*i* S	Sn	06 29 49.9	-2.9
ACX	**Acapulco**	**2.00**	**144**	*e*P	Pn	06 29 40.4	+2.8
ACX				*i* S	Sn	06 30 03.4	+1.9
ACX	**Acapulco**	**2.00**	**144**	*e*P	Pn	06 29 40.4	+2.8
ACX				*e*S	Sn	06 29 57.3	-4.2
MMIG	**Aquila**	**2.17**	**265**	*e*P	Pn	06 29 37.6	-2.2
MMIG				*i* S	Sn	06 30 04.3	-1.3
MMIG	**Aquila**	**2.17**	**265**	*e*P	Pn	06 29 37.6	-2.2
MMIG				*i* S	Sn	06 30 04.3	-1.3
TLIG	**Tlapa**	**2.56**	**111**	*e*P	Pn	06 29 44.6	-0.8
TLIG				*e*S	Sn	06 30 12.7	-2.9
PNIG	**Pinotepa**	**3.51**	**126**	*e*P	Pn	06 29 57.5	-0.8
PNIG				*i* S	Sn	06 30 36.4	-2.2
PNIG	**Pinotepa**	**3.51**	**126**	*e*P	Pn	06 29 57.5	-0.8
PNIG				*i* S	Sn	06 30 36.4	-2.2

SJA 27 06:37:02.1±0.9, 32°.41S×69°.35W, h19km±5km, ML4.4
IDC 27 06:37:02.1±0.7, 32°.49S×69°.31W, h0km, mb4.2/8, mb1 4.3/10, mb1mx4.3/19, mbtmp4.2/10, ML4.0/2, MS3.9/11, Ms1 3.9/11, ms1mx3.7/18, Error ellipse: s-maj=24.1km s-min=12.2km az=124.0
ISCJB 27 06:37:03.3±0.6, 32°.42S±0°.02×69°.34W±0°.03, h14km±4km, mb4.5/21, MS3.9/8, Error ellipse: s-maj=4.7km s-min=3.2km az=41.1
GUC 27 06:37:04.6±0.4, 32°.45S×69°.55W, h15km±4km, ML4.2
NEIC 27 06:37:06.8±2.4, 32°.40S×69°.19W, h24km±16km, mb4.7/12, Error ellipse: s-maj=15.0km s-min=7.9km az=84.0
NEIC Felt [II] at Mendoza. Also felt at San Martin.
BJI 27 06:37:07.2, 32°.40S×69°.10W, h23km, mB5.2/3, Ms5.4/2, Ms7 5.0/4

ISC 27 06:37:04.7±0.8, 32°.42S±0°.03×69°.37W±0°.03, h15km±4km, n80, σ1§66/104, mb4.6/21, MS3.9/8, 2C-2D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.20**	**355**	*i* P	**Pg**	**06 37 07.4**	**-2.2**
AUSP				*i* S	**Sg**	**06 37 12.6**	**-0.2**
ASAL	**Salagasta**	**0.48**	**111**	*i* P	**Pg**	**06 37 12.2**	**-2.0**
ASAL				*e*P	**Pb**	**06 37 12.4**	**-2.5**
ASAL				*i* S4	**Sg**	**06 37 21.3**	**+0.5**
ARCO	**CERRO ARCO**	**0.56**	**139**	*i* P	**Pg**	**06 37 13.6**	**-2.1**
ARCO				*i* S	**Sg**	**06 37 21.6**	**-1.6**
ARCO	comp=Z,55μm,0.6s			AML	AML	06 37 22.8	
RTLS	**Leoncito**	**0.62**	**5**	*i* P	**Pg**	**06 37 14.9**	**-2.1**
RTLS				*i* P	**Pg**	**06 37 14.9**	**-2.1**
AAGR	**Agrelo**	**0.80**	**146**	*i* P	**Pg**	**06 37 18.0**	**-2.3**
AAGR				*i* S	**Sg**	**06 37 30.1**	**-0.8**
SJA	**San Juan**	**1.13**	**38**	*i* P	**Pb**	**06 37 23.6**	**-2.3**
SJA	comp=Z,4μm,0.6s			AML	AML	06 37 54.4	
CFAA	**Coronel Fontan** comp=Z,9.2nm,0.3s,baz=222,slow=17,SNR=390	**1.26**	**50**	Pg	**Pn**	**06 37 26.3**	**-1.4**
CFAA	comp=Z,42nm,0.3s,baz=292,slow=19,SNR=70			Lg	Lg	06 37 43.4	
PEL	**Peldehue**	**1.32**	**237**	⇑*e*P	**Pn**	**06 37 26.8**	**-1.9**
PEL				*e*S	**Sn**	**06 37 44.0**	**-2.0**
PEL	comp=E,10μm,1.3s			IAML		06 37 47.3	
RTLL	**Cerro Villicun**	**1.33**	**35**	*i* P	**Pn**	**06 37 26.7**	**-2.0**
RTLL				*i* S	**Sb**	**06 37 44.8**	**-1.3**
YECH	**El Yeso**	**1.38**	**206**	*e*P	**Pn**	**06 37 29.5**	**-0.1**
YECH				*e*S4	**Sn**	**06 37 46.9**	**-0.8**
YECH	comp=E,6μm,1.2s			IAML		06 37 47.7	
CLCH	**Cerro Calan**	**1.38**	**225**	⇓*e*P	**Pn**	**06 37 28.1**	**-1.3**
CLCH				*e*S	**Sn**	**06 37 46.2**	**-1.4**
CLCH	comp=E,16μm,0.7s			IAML		06 37 47.8	
FSR	**Penalolen**	**1.44**	**223**	*e*P	**Pn**	**06 37 29.2**	**-1.0**
FSR				*e*S	**Sn**	**06 37 47.5**	**-1.4**
SJCH	**San Jose de Ma**	**1.47**	**214**	*e*P9	**Pn**	**06 37 28.7**	**-2.0**
SJCH				*e*S	**Sn**	**06 37 48.2**	**-1.6**
SJCH	comp=E,7μm,1.1s			IAML		06 37 49.6	
ROCH	**El Roble**	**1.49**	**248**	⇓*e*P	**Pn**	**06 37 30.0**	**-1.2**
ROCH				*e*S	**Sn**	**06 37 49.5**	**-1.0**
ROCH	comp=N,8μm,0.8s			IAML		06 37 51.3	
RCDM	**Rinconada Maip**	**1.61**	**228**	*e*P	**Pn**	**06 37 32.1**	**-0.5**
RCDM				*e*S	**Sn**	**06 37 52.3**	**-0.9**
RCDM	comp=N,4μm,1.5s			IAML		06 37 54.3	
ACAN	**Cantantal**	**1.85**	**86**	*i* P4	**Pn**	**06 37 36.3**	**+0.4**
ACAN				*i* S	**Sn**	**06 37 59.2**	**+0.3**
CHCH	**Chadas Angostu**	**1.85**	**215**	*e*P	**Pn**	**06 37 36.0**	**+0.1**
CACH	**El Canelo**	**1.98**	**211**	*e*P	**Pn**	**06 37 38.6**	**+0.8**
LNV	**Longovilo**	**2.30**	**228**	*e*P	**Pn**	**06 37 42.4**	**+0.4**
NICH	**Los Niches**	**3.01**	**211**	*e*P4	**Pn**	**06 37 52.4**	**+0.7**
NICH				*e*S4	**Sn**	**06 38 28.0**	**+0.5**
TALC	**Talca**	**3.52**	**212**	*e*P	**Pn**	**06 38 00.1**	**+1.3**
TALC				*e*S	**Sn**	**06 38 41.9**	**+1.8**
LCO	**Las Campanas**	**3.59**	**341**	*e*Pn	**Pn**	**06 38 02.2**	**+2.2**
LCO				*e*Sn	**Sb**	**06 38 48.0**	**-3.4**
TRQA	**Tornquist**	**8.25**	**135**	*e*Pn	**Pn**	**06 39 02.7**	**-1.0**
TRQA				*e*Sn	**Sn**	**06 40 37.8**	**+1.1**
PLCA	**Paso Flores** comp=N,0.6nm,0.3s,baz=12,slow=12,SNR=34	**8.35**	**186**	Pn	Pn	06 39 09.1	+3.9
PLCA				Lg	Lg	06 41 30.9	
PLCA	comp=N,2.2nm,0.3s,baz=291,slow=19,SNR=3.0			LR	LR	06 42 19.5	
LVC	**Limon Verde** comp=N,865nm,18.1s,baz=350,slow=38	**9.78**	**2**	*e*Pn	**Pn**	**06 39 24.2**	**-0.8**
LPAZ	**La Paz** comp=N,0.2nm,0.3s,baz=176,slow=7.7,SNR=21	**16.10**	**4**	Pn	**Pn**	**06 40 52.0**	**+0.8**
LPAZ	comp=N,539nm,18.5s,baz=164,slow=41			LR	LR	06 48 01.6	
LPAZ	**La Paz** comp=N,42nm,0.9s	**16.10**	**4**	*e*P	**P**	**06 40 53.6**	**-0.8**
SIV	**San Ignacio** comp=N,0.5nm,0.3s,baz=237,slow=12,SNR=20	**18.01**	**27**	P	**P**	**06 41 14.7**	**-0.2**
SIV	comp=N,277nm,18.2s,baz=218,slow=40			LR	LR	06 49 09.0	
USHA	**Ushuaia** comp=N,16nm,0.8s,baz=342,slow=5.3,SNR=4.5	**22.41**	**179**	P	**P**	**06 42 02.3**	**-0.1**
USHA	comp=N,495nm,21.1s,baz=356,slow=38			LR	LR	06 51 14.4	
SAML	**Samuel** comp=N,14nm,0.8s	**24.05**	**15**	*e*P	**P**	**06 42 18.6**	**-0.7**
BDFB	**Brasilia** comp=N,9.1nm,0.8s,baz=222,slow=11,SNR=12	**25.59**	**54**	P	**P**	**06 42 33.0**	**-0.5**
BDFB	comp=N,255nm,19.2s,baz=226,slow=37			LR	LR	06 52 56.1	
BDFB	**Brasilia**	**25.59**	**54**	*e*P	**P**	**06 42 34.1**	**+0.6**
PTGA	**Pitinga** comp=N,5.0nm,0.6s	**32.74**	**18**	*e*P	**P**	**06 43 38.2**	**+1.2**
OTAV	**Otavalo** comp=N,10nm,1.3s	**33.60**	**343**	*e*P	**P**	**06 43 47.0**	**+2.1**
ROSC	**El Rosal** comp=N,2.5nm,0.6s,baz=62,slow=2.9,SNR=3.7	**37.37**	**352**	P	P	06 44 21.9	+4.6
ROSC	comp=N,137nm,19.4s,baz=222,slow=36			LR	LR	06 59 33.5	
SDV	**Santo Domingo** comp=N,6.6nm,1.0s	**41.09**	**358**	*e*P	**P**	**06 44 51.0**	**+2.8**
VNA3	**Neumayer Olymp**	**49.99**	**159**	P	**P**	**06 46 00.5**	**+2.7**
VNA2	**Neumayer--Watz** baz=286,slow=8.7	**50.61**	**158**	P	**P**	**06 46 02.5**	**0.0**
SNAA	**Sanae**	**52.21**	**158**	P	**P**	**06 46 14.8**	**+0.3**
SNAA	**Sanae** comp=N,2.8nm,0.7s,baz=299,slow=8.3,SNR=21	**52.21**	**158**	P	**P**	**06 46 13.4**	**-1.2**
SNAA	**Sanae** comp=N,9.9nm,0.9s	**52.21**	**158**	*e*P	**P**	**06 46 13.7**	**-0.8**
TEIG	**Tepich** comp=N,28nm,1.1s	**55.39**	**338**	*e*P	**P**	**06 46 38.3**	**+0.1**
QSPA	**South Pole Qui** comp=N,81nm,19.3s,baz=161,slow=36	**57.81**	**180**	LR	LR	07 11 45.2	
VNDA	**Vanda** comp=N,0.7nm,0.7s,baz=157,slow=6.2,SNR=2.1	**66.07**	**191**	P	**P**	**06 47 50.1**	**-0.3**
SYO	**Syowa Base**	**66.50**	**158**	⇑*e*P	**P**	**06 47 54.0**	**+0.8**
JCT	**Junction City** comp=N,38nm,2.0s	**68.89**	**332**	*e*P	**P**	**06 48 08.7**	**0.0**
TXAR	**Lajitas Array** comp=N,0.7nm,0.9s,baz=156,slow=12,SNR=3.0	**69.51**	**328**	P	**P**	**06 48 13.0**	**+0.3**
TBI	**Tubuai** comp=N,144nm,27.5s	**69.88**	**255**	*e*LR	LR	07 09 42.7	
WVT	**Waverly** comp=N,13nm,0.9s	**70.35**	**344**	*e*P	**P**	**06 48 17.3**	**-0.3**
LIC	**Lamto** comp=N,44nm,1.5s	**72.14**	**70**	*e*P	**P**	**06 48 31.3**	**+2.3**
TIC	**Toumodi** comp=N,4.8nm,0.2s	**72.40**	**70**	*e*P	**P**	**06 48 33.0**	**+2.5**
KIC	**Kosan Boka** comp=N,21nm,0.9s	**72.45**	**70**	*e*P	**P**	**06 48 30.6**	**-0.2**
DBIC	**Dimbokro** comp=N,5.8nm,0.7s,baz=222,slow=8.0,SNR=8.3	**72.54**	**70**	P	**P**	**06 48 31.0**	**-0.4**
DBIC	comp=N,64nm,18.4s,baz=205,slow=35			LR	LR	07 19 10.4	
DBIC	**Dimbokro** comp=N,9.5nm,0.9s	**72.54**	**70**	*e*P	**P**	**06 48 31.4**	**0.0**
PPT2	**Papeete2** comp=N,70nm,27.8s	**72.70**	**260**	*e*S	**S**	**06 57 57.6**	**0.0**
PPT2	**Papeete2** comp=N,77nm,24.8s	**72.70**	**260**	*e*LR	LR	07 10 52.3	
MAW	**Mawson** comp=N,171nm,18.2s,baz=238,slow=36	**74.04**	**163**	LR	LR	07 21 17.6	
ECSD	**EROS Data Cent** comp=N,13nm,1.3s	**79.78**	**340**	*e*P	**P**	**06 49 11.4**	**-0.4**
LBTB	**Lobatse** comp=N,4.3nm,0.6s	**80.91**	**114**	*e*P	**P**	**06 49 19.6**	**+0.9**
TOA0	**Torodi Ar. Sit**	**81.56**	**69**	*e*P	**P**	**06 49 21.6**	**-0.4**
TORD	**Torodi Ar. Bea** comp=N,6.3nm,0.8s,baz=260,slow=4.8,SNR=19	**81.56**	**69**	P	**P**	**06 49 22.2**	**+0.2**
TORD	comp=N,46nm,19.0s,baz=335,slow=35			LR	LR	07 24 27.2	
PDAR	**Pinedale Array** comp=N,0.5nm,0.8s,baz=132,slow=2.2,SNR=3.7	**83.41**	**331**	P	**P**	**06 49 31.4**	**0.0**
ULM	**Lac du Bonnet** comp=N,39nm,20.6s,baz=302,slow=36	**85.60**	**343**	LR	LR	07 29 05.1	
YKA	**Yellowknife Ar** comp=N,0.1nm,0.5s,baz=135,slow=4.7,SNR=2.8	**101.31**	**340**	P	**Pdif**	**06 50 55.2**	**+0.9**
KOLS	**Kolonicke sedl**	**114.65**	**46**	PDIF	**Pdif**	**06 51 55.0**	**+1.0**
AKASG	**Malin Array Be** comp=N,0.3nm,0.5s,baz=256,slow=3.0,SNR=3.3	**119.48**	**46**	PKP	**PKPdf**	**06 55 53.

HHC				LZ				
	comp=N,160nm,21.0s							
NJ2	**Nanjing**	**173.03**	**269**	*e*PKP	**PKPdf**	**06 57 12.5**	**-0.9**
LZH	**Lanzhou**	**173.29**	**55**	*e*PKP	**PKPdf**	**06 57 13.8**	**+0.2**
LZH				pPKP	**pPKPdf**	**06 57 23.5**	**+4.6**
LZH				sPKP		06 57 27.3	

*IDC **27** 06:54:06.4±1.6, 3°.89S×138°.81E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.7/30, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=55.6km s-min=27.1km az=89.0*
*ISCJB **27** 06:54:08.4±1.3, 3°.9S±0°.1×138°.7E±0°.3, h24km, mb3.9/4, Error ellipse: s-maj=48.9km s-min=17.2km az=0.1*
ISC 27 06:54:09.8±1.4, **4°.0S**±0°.2×**138°.8E**±0°.4, **h24**km, **n6**, σ0s**79**/6, **mb3.9**/4, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.44**	**195**	Pn	**P**	**06 58 01.3**	**-0.4**
	0.4nm,0.3s,baz=18,slow=12,SNR=15						
ASAR	**Alice Springs**	**20.12**	**193**	P	**P**	**06 58 42.6**	**+0.4**
	3.9nm,0.8s,baz=19,slow=9.7,SNR=42						
CMAR	**Chiang Mai Arr**	**45.13**	**301**	P	**P**	**07 02 24.2**	**-0.5**
	1.0nm,0.3s,baz=106,slow=6.7,SNR=5.9						
MKAR	**Makanchi Array**	**70.83**	**323**	P	**P**	**07 05 25.7**	**+1.1**
	0.9nm,1.1s,baz=128,slow=6.1,SNR=3.4						
ZALV	**Zalesovo Beam**	**73.06**	**330**	P	**P**	**07 05 37.6**	**-0.1**
	0.6nm,0.3s,baz=90,slow=5.8,SNR=3.1						
ILAR	**Eielson Array**	**86.96**	**24**	P	**P**	**07 06 52.5**	**-0.2**
	0.4nm,0.9s,baz=272,slow=5.1,SNR=4.2						

MAN 27 07:17:19.13°.69N×120°.22E, h73km, mb4.3, ML3.1, MS2.9, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.05**	**28**	*e*P	Pn	07 17 30.3	+0.8
LUBP				*e*S	Sn	07 17 35.3	-2.0
PGP	**Puerto Galera**	**0.73**	**105**	*e*P	Pn	07 17 38.2	+3.6
PGP				*i* S	Sn	07 17 48.6	+2.5
SJMP	**San Jose**	**1.50**	**144**	*e*P	Pn	07 17 39.8	-4.3
BUSP	**Coron**	**1.68**	**181**	*e*P	Pn	07 17 47.7	+1.2
ENPP	**El Nido**	**2.59**	**198**	*e*P	Pn	07 18 00.3	+1.6

*IDC **27** 07:45:40.8±1.0, 36°.64S×73°.20W, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/30, mbtmp4.0/8, ML3.6/2, MS3.5/7, Ms1 3.5/7, ms1mx3.3/18, Error ellipse: s-maj=30.0km s-min=18.5km az=70.0*
*ISCJB **27** 07:45:42.3±1.1, 36°.72S±0°.04×73°.47W±0°.08, h22km±7km, mb4.3/12, MS3.5/5, Error ellipse: s-maj=10.9km s-min=6.5km az=4.6*
*GUC **27** 07:45:43.7±0.5, 36°.72S×73°.39W, h14km±1km, ML4.0*
*NEIC **27** 07:45:46.1±1.4, 36°.63S×73°.17W, h36km±11km, mb4.6/8, Error ellipse: s-maj=18.3km s-min=8.4km az=78.0*
ISC 27 07:45:43.9±0.6, **36°.69S**±0°.05×**73°.29W**±0°.08, **h21**km±1km, **n33**, σ0s**91**/37, **mb4.4**/12, **MS3.5**/5, **4C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.21**	**137**	⇑*i*P	**Pb**	**07 45 49.8**	**0.0**
CCSP				*i* S	**Sb**	**07 45 53.9**	**-0.1**
CCSP				AML	AML	07 45 55.3	
	comp=E,40μm,0.5s						
COCH	**Cobquecura**	**0.69**	**36**	⇑*i*P	**Pb**	**07 45 57.5**	**+0.4**
COCH				*i* S	**Sn**	**07 46 08.0**	**-0.4**
AGCH	**Angol**	**1.22**	**157**	⇓*i*P	**Pn**	**07 46 05.0**	**-0.6**
AGCH				*i* S	**Sb**	**07 46 21.0**	**-0.5**
LNCH	**Linares**	**1.60**	**59**	⇑*i*P	**Pb**	**07 46 12.0**	**-0.8**
LNCH				*i* S	**Sb**	**07 46 34.1**	**+1.6**
TALC	**Talca**	**1.86**	**47**	⇑*i*P	**Pb**	**07 46 16.2**	**-1.0**
TALC				*i* S	**Sb**	**07 46 41.1**	**+1.2**
PLCA	**Paso Flores**	**4.57**	**153**	Pn	**Pn**	**07 46 53.4**	**+1.5**
	comp=E,1.5nm,0.3s,baz=324,slow=10.0,SNR=7.9						
PLCA				Lg	Lg	07 48 05.6	
	comp=E,2.0nm,0.3s,baz=49,slow=22,SNR=4.8						
PLCA				LR	LR	07 49 00.5	
	comp=E,305nm,19.3s,baz=322,slow=44						
PLCA	**Paso Flores**	**4.57**	**153**	*e*Pn	**Pn**	**07 46 53.0**	**+1.1**
PLCA				Lg	Lg	07 48 05.6	
PLCA				*e*Sg	Sb	07 48 10.3	+12
CFAA	**Coronel Fontan**	**6.58**	**41**	Pn	**Pn**	**07 47 18.2**	**-1.2**
	comp=E,0.2nm,0.3s,baz=214,slow=10,SNR=18						
CFAA				Sn	**Sn**	**07 48 33.0**	**-0.7**
	comp=E,0.5nm,0.3s,baz=258,slow=15,SNR=3.1						
LCO	**Las Campanas**	**7.96**	**17**	*e*Pn	**Pn**	**07 47 37.1**	**-1.5**
	comp=E,19nm,0.6s						
LCO				*e*Sn	**Sn**	**07 49 05.9**	**-2.2**
TRQA	**Tornquist**	**9.11**	**102**	*e*Pn	**Pn**	**07 47 54.8**	**+0.7**
LVC	**Limon Verde**	**14.53**	**16**	*e*Pn	**Pn**	**07 49 08.7**	**+0.2**
USHA	**Ushuaia**	**18.45**	**171**	LR	LR	07 56 44.2	
	comp=E,128nm,20.5s,baz=172,slow=36						
LPAZ	**La Paz**	**20.83**	**14**	P	**P**	**07 50 25.4**	**+0.6**
	comp=E,1.2nm,0.7s,baz=182,slow=7.4,SNR=6.0						
LPAZ	**La Paz**	**20.83**	**14**	*e*P	**P**	**07 50 25.4**	**+0.6**
	comp=E,4.8nm,0.9s						
SIV	**San Ignacio**	**23.30**	**31**	P	**P**	**07 50 49.3**	**-1.1**
	comp=E,1.3nm,0.7s,baz=207,slow=11,SNR=3.7						
SIV				LR	LR	08 01 33.2	
	comp=E,177nm,18.4s,baz=216,slow=41						
PMSA	**Palmer Station**	**28.66**	**172**	LR	LR	08 01 21.8	
	comp=E,109nm,19.2s,baz=328,slow=33						
ATAH	**Atahualpa**	**29.78**	**350**	LR	LR	08 01 46.8	
	comp=E,48nm,20.6s,baz=189,slow=32						
BDFB	**Brasilia**	**30.72**	**54**	LR	LR	08 05 31.8	
	comp=E,135nm,18.3s,baz=228,slow=39						
OTAV	**Otavalo**	**37.05**	**351**	*e*P	**P**	**07 52 54.6**	**+1.6**
	comp=E,3.8nm,1.2s						
QSPA	**South Pole Qui**	**53.55**	**180**	*e*P	**P**	**07 55 03.1**	**+0.2**
	comp=E,7.7nm,1.1s						
TEIG	**Tepich**	**58.35**	**343**	P	**P**	**07 55 37.2**	**-0.3**
	comp=E,3.7nm,0.6s,baz=67,slow=7.7,SNR=4.9						
JCT	**Junction City**	**71.29**	**336**	*e*P	**P**	**07 57 02.3**	**+0.5**
	comp=E,24nm,1.6s						
TXAR	**Lajitas Array**	**71.60**	**332**	P	**P**	**07 57 04.5**	**+0.7**
	comp=E,1.5nm,0.7s,baz=149,slow=8.3,SNR=12						
TXAR				LR	LR	08 23 52.6	
	comp=E,39nm,18.2s,baz=0.0,slow=32						
DBIC	**Dimbokro**	**77.00**	**71**	P	**P**	**07 57 35.2**	**-0.3**
	comp=E,2.0nm,0.7s,baz=175,slow=8.7,SNR=3.8						
DBIC	**Dimbokro**	**77.00**	**71**	*e*P	**P**	**07 57 36.2**	**+0.7**
	comp=E,18nm,1.7s						
ANMO	**Albuquerque**	**77.67**	**333**	*e*P	**P**	**07 57 39.5**	**+0.6**
	comp=E,2.7nm,1.2s						
LBTB	**Lobatse**	**82.10**	**115**	*e*P	**P**	**07 58 03.0**	**-0.3**
	comp=E,15nm,1.0s						
ECSD	**EROS Data Cent**	**82.80**	**343**	*e*P	**P**	**07 58 05.7**	**-0.4**
	comp=E,34nm,2.0s						
PDAR	**Pinedale Array**	**85.71**	**334**	P	**P**	**07 58 21.1**	**-0.2**
	comp=E,0.9nm,0.9s,baz=174,slow=4.5,SNR=5.2						
TORD	**Torodi Ar. Bea**	**86.08**	**71**	P	**P**	**07 58 22.9**	**-0.4**
	comp=E,1.0nm,1.0s,baz=250,slow=5.1,SNR=4.3						
ABKAR	**Akbulak array**	**144.11**	**55**	*e*PKPdf	**PKPab**	**08 05 15.0**	**0.0**
MKAR	**Makanchi Array**	**159.24**	**53**	PKPab	**PKPab**	**08 06 16.8**	**-0.8**
	comp=E,0.9nm,0.8s,baz=299,slow=2.5,SNR=5.3						
SONM	**Songino Array**	**168.86**	**1**	PKP	**PKPdf**	**08 05 48.5**	**-0.5**
	comp=E,0.6nm,0.9s,baz=45,slow=2.2,SNR=2.4						
SONM				PKPab	**PKPab**	**08 06 59.6**	**-0.1**
	comp=E,0.2nm,0.5s,baz=48,slow=2.1,SNR=2.4						

GUC 27 07:48:15.9±0.7, **34°.75S**×**71°.82W**, **h43**km±3km, **ML4.0, 2C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.55**	**118**	⇓*i*P	Pn	07 48 27.8	+0.4
NICH				*i* S	Sn	07 48 36.2	+0.6
NICH				AML	AML	07 48 36.5	
	comp=N,26μm,0.1s						
TALC	**Talca**	**0.66**	**167**	⇓*i*P	Pn	07 48 29.7	+0.8
TALC				*i* S	Sn	07 48 39.2	+0.9
LNCH	**Linares**	**1.11**	**171**	⇑*i*P	Pn	07 48 36.0	+1.0
LNCH				*i* S1	Sn	07 48 50.6	+1.5
LNCH				AML	AML	07 48 52.0	
	comp=E,4μm,0.2s						
RCDM	**Rinconada Maip**	**1.51**	**34**	*e*P1	Pn	07 48 40.9	+0.3
RCDM				*i* S1	Sn	07 49 00.2	+1.1
RCDM				AML	AML	07 49 04.7	
	comp=E,4μm,0.1s						
CLCH	**Cerro Calan**	**1.72**	**39**	*e*P1	Pn	07 48 44.6	+1.2
CLCH				*e*S1	Sn	07 49 06.4	+2.1
CLCH				AML	AML	07 49 14.0	
	comp=N,3μm,0.3s						
IHA	**Instituto Hidr**	**1.73**	**5**	*e*P1	Pn	07 48 44.3	+0.9
IHA				*e*S1	Sn	07 49 05.5	+1.2
YECH	**El Yeso**	**1.80**	**54**	⇑*i*P	Pn	07 48 43.1	-1.7
YECH				*e*S1	Sn	07 49 06.4	-0.4
YECH				AML	AML	07 49 15.6	
	comp=N,2μm,0.5s						
FCH	**Farellones**	**1.90**	**42**	AML	AML	07 49 38.1	
	comp=N,2μm,0.2s						

*ISCJB **27** 08:07:58.1±0.3, 37°.94N±0°.02×22°.20E±0°.02, h9km±2km, Error ellipse: s-maj=3.0km s-min=2.8km az=33.9*
*CSEM **27** 08:07:58.3±0.1, 37°.95N×22°.20E, h10km, MD3.2, Error ellipse: s-maj=3.4km s-min=3.0km az=114.0*
*ATH **27** 08:07:58.0, 37°.94N×22°.21E, h19km±1km, MD3.2/30, ML2.5*
*THE **27** 08:07:58.4, 37°.95N×22°.19E, h10km±1km, ML2.4/8, Error ellipse: s-maj=1.3km s-min=0.4km az=25.0*
ISC 27 08:07:58.4±0.8, **37°.95N**±0°.01×**22°.20E**±0°.02, **h13**km±4km, **n80**, σ0s**54**/125, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.10**	**340**	P	**Pg**	**08 08 01.4**	**-0.2**
KLV				S	**Sg**	**08 08 03.1**	**-0.7**
KLV	**Kalavryta, Ach**	**0.10**	**340**	P	**Pg**	**08 08 01.4**	**-0.2**
KLV				S	**Sg**	**08 08 03.1**	**-0.7**
GUR	**Goura**	**0.12**	**94**	P	**Pg**	**08 08 01.7**	**0.0**
GUR				S	**Sg**	**08 08 03.8**	**-0.3**
GUR	**Goura**	**0.12**	**94**	*e*PB	**Pg**	**08 08 01.9**	**+0.2**
GUR				*e*SB	**Sg**	**08 08 04.4**	**+0.3**
GUR	**Goura**	**0.12**	**94**	P	**Pg**	**08 08 01.7**	**0.0**
GUR				S	**Sg**	**08 08 03.8**	**-0.3**
GUR				*e*Sb	**Sg**	**08 08 04.4**	**+0.3**
DRO	**Drossia**	**0.38**	**271**	P	**Pg**	**08 08 06.1**	**-0.1**
DRO				S	**Sg**	**08 08 11.4**	**+0.1**
DRO	**Drossia**	**0.38**	**271**	*e*PB	**Pg**	**08 08 06.1**	**-0.1**
DRO				*e*SB	**Sb**	**08 08 12.3**	**-0.7**
DRO	**Drossia**	**0.38**	**271**	P	**Pg**	**08 08 06.1**	**-0.1**
DRO				S	**Sg**	**08 08 11.4**	**+0.1**
DRO				*e*Sb	**Sb**	**08 08 12.3**	**-0.7**
KALE	**Kalithea**	**0.45**	**354**	P	**Pg**	**08 08 07.0**	**-0.3**
KALE				S	**Sg**	**08 08 13.2**	**-0.2**
KALE	**Kalithea**	**0.45**	**354**	*e*PB	**Pg**	**08 08 07.0**	**-0.3**
KALE				*e*SB	**Sg**	**08 08 13.8**	**+0.4**
KALE	**Kalithea**	**0.45**	**354**	P	**Pg**	**08 08 07.0**	**-0.3**
KALE				S	**Sg**	**08 08 13.2**	**-0.2**
EFP	**Efpalio**	**0.53**	**335**	P	**Pg**	**08 08 08.4**	**-0.4**
EFP				S	**Sg**	**08 08 15.8**	**-0.2**
EFP	**Efpalio**	**0.53**	**335**	*e*PN	**Pg**	**08 08 08.5**	**-0.4**
EFP				*e*SN	**Sg**	**08 08 16.2**	**+0.2**
EFP	**Efpalio**	**0.53**	**335**	*e*Pn	**Pg**	**08 08 08.5**	**-0.4**
EFP				S	**Sg**	**08 08 15.8**	**-0.2**
EFP				*e*Sn	**Sg**	**08 08 16.2**	**+0.2**
AMT	**Artemida-Makis**	**0.56**	**223**	P	**Pg**	**08 08 09.6**	**+0.1**
AMT				S	**Sg**	**08 08 16.9**	**-0.1**
AMT	**Artemida-Makis**	**0.56**	**223**	*e*PN	**Pg**	**08 08 09.6**	**+0.1**
AMT	**Artemida-Makis**	**0.56**	**223**	P	**Pg**	**08 08 09.6**	**+0.1**
AMT				S	**Sg**	**08 08 16.9**	**-0.1**
RLS	**Riolos of Patr**	**0.59**	**281**	P	**Pg**	**08 08 09.3**	**-0.6**
RLS				S	**Sg**	**08 08 18.1**	**+0.4**
RLS	**Riolos of Patr**	**0.59**	**281**	*e*PB	**Pg**	**08 08 09.4**	**-0.5**
RLS	**Riolos of Patr**	**0.59**	**281**	*e*Pb	**Pg**	**08 08 09.4**	**-0.5**
RLS				S	**Sg**	**08 08 18.1**	**+0.4**
LTK	**Loutraki**	**0.61**	**82**	P	**Pg**	**08 08 10.2**	**-0.2**
LTK				S	**Sb**	**08 08 19.4**	**-0.2**
LTK	**Loutraki**	**0.61**	**82**	*e*PN	**Pg**	**08 08 10.6**	**+0.2**
LTK				*e*SB	**Sb**	**08 08 19.4**	**-0.2**
LTK	**Loutraki**	**0.61**	**82**	P	**Pg**	**08 08 10.2**	**-0.2**
LTK	**Loutraki**	**0.61**	**82**	*e*Pn	**Pg**	**08 08 10.6**	**+0.2**
LTK				S	**Sb**	**08 08 19.4**	**-0.2**
ITM	**Ithomi**	**0.79**	**196**	P	**Pg**	**08 08 13.2**	**-0.6**
ITM				S	**Sb**	**08 08 25.3**	**+0.5**
ITM	**Ithomi**	**0.79**	**196**	*e*PN	**Pg**	**08 08 13.4**	**-0.4**
ITM	**Ithomi**	**0.79**	**196**	P	**Pg**	**08 08 13.2**	**-0.6**
ITM				S	**Sb**	**08 08 25.3**	**+0.5**
AXAR	**Agios Charalam**	**0.90**	**24**	P	**Pg**	**08 08 15.2**	**-0.6**
AXAR				S	**Sb**	**08 08 28.6**	**+0.8**
AXAR	**Agios Charalam**	**0.90**	**24**	*e*PB	**Pg**	**08 08 14.8**	**-1.0**
AXAR	**Agios Charalam**	**0.90**	**24**	*e*Pb	**Pg**	**08 08 14.8**	**-1.0**
AXAR	**Agios Charalam**	**0.90**	**24**	P	**Pg**	**08 08 15.2**	**-0.6**
AXAR				S	**Sb**	**08 08 28.6**	**+0.8**
LKR	**Lokris**	**0.95**	**42**	P	**Pg**	**08 08 16.1**	**-0.6**
LKR				S	**Sb**	**08 08 30.4**	**+1.0**
LKR	**Lokris**	**0.95**	**42**	*e*PN	**Pg**	**08 08 16.2**	**-0.5**
LKR	**Lokris**	**0.95**	**42**	P	**Pg**	**08 08 16.1**	**-0.6**
LKR				S	**Sb**	**08 08 30.2**	**+1.0**
EVR	**Evrytania**	**1.02**	**343**	P	**Pg**	**08 08 16.3**	**-1.8**
EVR				S	**Sn**	**08 08 32.5**	**-0.2**
EVR	**Evrytania**	**1.02**	**343**	*e*PN	**Pb**	**08 08 18.2**	**+0.2**
EVR	**Evrytania**	**1.02**	**343**	P	**Pg**	**08 08 16.3**	**-1.8**
EVR	**Evrytania**	**1.02**	**343**	*e*Pn	**Pb**	**08 08 18.2**	**+0.2**
EVR				S	**Sn**	**08 08 32.5**	**-0.2**
PDO	**Prodromos**	**1.03**	**310**	P	**Pg**	**08 08 18.1**	**-0.2**
PDO				S	**Sn**	**08 08 33.2**	**+0.3**
PDO	**Prodromos**	**1.03**	**310**	*e*PN	**Pb**	**08 08 18.4**	**+0.3**
PDO	**Prodromos**	**1.03**	**310**	P	**Pg**	**08 08 18.1**	**-0.2**
PDO	**Prodromos**	**1.03**	**310**	*e*Pn	**Pb**	**08 08 18.4**	**+0.3**
PDO				S	**Sn**	**08 08 33.2**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.07**	**357**	*e*PB	**Pg**	**08 08 17.1**	**-1.9**
MAKR				*e*SN	**Sb**	**08 08 33.6**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.07**	**357**	*e*Pb	**Pg**	**08 08 17.1**	**-1.9**
MAKR				*e*Sn	**Sb**	**08 08 33.6**	**+0.9**
AGG	**Agios Georgios**	**1.08**	**6**	P	**Pg**	**08 08 19.2**	**-0.1**
AGG	**Agios Georgios**	**1.08**	**6**	*e*PN	**Pb**	**08 08 18.6**	**-0.4**
AGG	**Agios Georgios**	**1.08**	**6**	*e*Pn	**Pb**	**08 08 18.6**	**-0.4**
AGG	**Agios Georgios**	**1.08**	**6**	P	**Pg**	**08 08 19.2**	**-0.1**
PYL	**PYLOS**	**1.11**	**199**	P	**Pg**	**08 08 18.8**	**-0.7**
PYL				S	**Sg**	**08 08 34.6**	**+0.4**
PYL	**PYLOS**	**1.11**	**199**	*e*PN	**Pb**	**08 08 19.2**	**-0.3**
PYL				*e*SB	**Sg**	**08 08 34.2**	**0.0**
PYL	**PYLOS**	**1.11**	**199**	P	**Pb**	**08 08 18.8**	**-0.7**
PYL	**PYLOS**	**1.11**	**199**	*e*Pn	**Pb**	**08 08 19.2**	**-0.3**
PYL				*e*Sb	**Sg**	**08 08 34.2**	**0.0**
SFD	**Strofades**	**1.17**	**234**	*e*PN	**Pg**	**08 08 21.2**	**+0.3**
SFD	**Strofades**	**1.17**	**234**	*e*Pn	**Pg**	**08 08 21.2**	**+0.3**
ATH	**Athens Observa**	**1.20**	**88**	*e*PN	**Pg**	**08 08 21.4**	**-0.2**
ATH	**Athens Observa**	**1.20**	**88**	*e*Pn	**Pg**	**08 08 21.4**	**-0.2**
SMIA	**Simia**	**1.23**	**40**	*e*PN	**Pg**	**08 08 21.8**	**-0.1**
SMIA	**Simia**	**1.23**	**40**	*e*Pn	**Pg**	**08 08 21.9**	**-0.1**
VLS	**Valsamata**	**1.29**	**281**	*e*PN	**Pb**	**08 08 22.7**	**+0.1**
VLS	**Valsamata**	**1.29**	**281**	*e*Pn	**Pb**	**08 08 22.7**	**+0.1**
PTL	**Penteli**	**1.32**	**85**	*e*PN	**Pn**	**08 08 22.7**	**+0.1**
PTL				*e*SN	**Sn**	**08 08 40.6**	**+0.4**
PTL	**Penteli**	**1.32**	**85**	*e*Pn	**Pn**	**08 08 22.7**	**+0.1**
PTL				*e*Sn	**Sn**	**08 08 40.6**	**+0.4**
MRKA	**Markates**	**1.33**	**55**	*e*PN	**Pn**	**08 08 22.6**	**-0.2**
MRKA	**Markates**	**1.33**	**55**	*e*Pn	**Pn**	**08 08 22.6**	**-0.2**
VLI	**Veliai**	**1.36**	**154**	*e*PB	**Pn**	**08 08 22.5**	**-0.6**
VLI				*e*SN	**Sg**	**08 08 41.8**	**-0.4**
VLI	**Veliai**	**1.36**	**154**	*e*Pb	**Pn**	**08 08 22.5**	**-0.6**
VLI				*e*Sn	**Sg**	**08 08 41.8**	**-0.4**
DSL	**Palaion Diasel**	**1.47**	**324**	*e*PN	**Pg**	**08 08 27.3**	**+0.7**
DSL	**Palaion Diasel**	**1.47**	**324**	*e*Pn	**Pg**	**08 08 27.3**	**+0.7**
LKD2	**Lefkada island**	**1.47**	**305**	*e*PN	**Pb**	**08 08 26.0**	**+0.3**
LKD2	**Lefkada island**	**1.47**	**305**	*e*Pn	**Pb**	**08 08 26.0**	**+0.3**
SKIA	**Skiathos**	**1.57**	**39**	*e*PB	**Pn**	**08 08 26.4**	**+0.3**
SKIA				*e*SN	**Sg**	**08 08 48.7**	**-0.4**
SKIA	**Skiathos**	**1.57**	**39**	*e*Pb	**Pn**	**08 08 26.4**	**+0.3**
SKIA				*e*Sn	**Sg**	**08 08 48.7**	**-0.4**
XOR	**Xorichti**	**1.62**	**28**	*e*PB	**Pn**	**08 08 26.8**	**+0.1**
XOR	**Xorichti**	**1.62**	**28**	*e*Pb	**Pn**	**08 08 26.8**	**+0.1**
THL	**Klokotos Trika**	**1.62**	**355**	*e*PN	**Pb**	**08 08 28.8**	**+0.5**
THL	**Klokotos Trika**	**1.62**	**355**	*e*Pn	**Pb**	**08 08 28.8**	**+0.5**
KYTH	**Kithira**	**1.79**	**158**	*e*PN	**Pb**	**08 08 31.3**	**+0.2**
KYTH	**Kithira**	**1.79**	**158**	*e*Pn	**Pb**	**08 08 31.3**	**+0.2**
AOS	**Alonnisos**	**1.80**	**47**	*e*PB	**Pn**	**08 08 29.2**	**0.0**
ANKY	**Antikythira Is**	**2.25**	**157**	*e*PB	**Pn**	**08 08 35.2**	**-0.2**

*ISCJB **27** 08:50:49.1±0.6, 23°.69S±0°.05×66°.73W±0°.06, h201km, mb3.3/4, Error ellipse: s-maj=8.0km s-min=6.3km az=44.3*
*IDC **27** 08:50:49.7±1.7, 23°.66S×66°.65W, h196km±16km, mb3.3/4, mb1 3.4/9, mb1mx3.3/19, mbtmp3.7/9, Error ellipse: s-maj=21.7km s-min=15.5km az=90.0*
*GUC **27** 08:50:52.5±0.3, 23°.55S×67°.11W, h214km±10km, ML4.2*

ISC 27 08:50:49.8±0.8, **23°.67S**±0°.07×**66°.72W**±0°.08, **h201**km, **n20**, σ1s**00**/27, **mb3.4**/4, **1C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.80**	**290**	*e*P	**Pn**	**08 51 38.1**	**+0.8**
PB06				*e*S	**S**	**08 52 12.7**	**-1.0**
PB06				IAML		08 52 18.6	
	comp=N,394nm,0.8s						
PB04	**IPOC Station P**	**2.91**	**298**	*e*P	Pn	08 51 45.7	+7.2
PB04				*e*S	S	08 52 26.2	+10
PB04				IAML		08 52 30.7	
	comp=N,389nm,0.5s						
PB07	**IPOC Station P**	**3.51**	**303**	⇑*e*P	**Pn**	**08 51 46.8**	**+0.9**
PB07				*e*S	**S**	**08 52 27.9**	**-1.1**
PB10	**IPOC Station P**	**3.52**	**272**	*e*P	**Pn**	**08 51 46.6**	**+0.8**
PB10				*e*S	**S**	**08 52 27.6**	**-1.3**
PB01	**IPOC Station P**	**3.66**	**315**	*e*P	**Pn**	**08 51 48.8**	**+1.2**
PB01				*e*S	**S**	**08 52 31.9**	**-0.4**
PATCX	**Punta Patache**	**4.26**	**311**	*e*P	**Pn**	**08 51 56.1**	**+1.1**
PATCX				*e*S	**S**	**08 52 44.8**	**-1.0**
HMBC	**Humberstone**	**4.48**	**318**	*e*P	**Pn**	**08 51 59.5**	**+1.7**
HMBC				*e*S4	**S**	**08 52 49.5**	**-1.3**
MNMC	**Minimini**	**5.25**	**329**	*e*P9	**Pn**	**08 52 08.1**	**+0.3**
MNMC				*e*S	**S**	**08 53 07.1**	**-1.8**
LPAZ	**La Paz**	**7.47**	**350**	P	**Pn**	**08 52 37.5**	**+0.8**
	comp=N,1.2nm,0.3s,baz=161,slow=6.1,SNR=40						
LPAZ				S	**S**	**08 54 00.8**	**-0.8**
	comp=N,0.3nm,0.3s,baz=298,slow=19,SNR=4.7						
CFAA	**Coronel Fontan**	**8.02**	**189**	P	**Pn**	**08 52 42.6**	**-0.7**
	comp=N,0.2nm,0.3s,baz=36,slow=10,SNR=36						
CFAA				S	S	08 54 07.0	-6.7
	comp=N,0.9nm,0.3s,baz=197,slow=14,SNR=23						
SIV	**San Ignacio**	**9.30**	**36**	P	**Pn**	**08 52 59.3**	**-0.8**
	comp=N,0.2nm,0.3s,baz=213,slow=12,SNR=6.0						
PLCA	**Paso Flores**	**17.31**	**190**	P	**Pn**	**08 54 40.1**	**+0.4**
	comp=N,0.1nm,0.3s,baz=0.0,slow=20,SNR=3.3						
BDFB	**Brasilia**	**19.33**	**69**	P	**P**	**08 55 00.3**	**+0.1**
	comp=N,0.4nm,0.3s,baz=224,slow=13,SNR=6.4						
TXAR	**Lajitas Array**	**63.56**	**324**	P	**P**	**09 00 59.5**	**+0.2**
	comp=N,0.1nm,0.4s,baz=156,slow=7.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**76.21**	**69**	P	**P**	**09 02 16.0**	**-0.5**
	comp=N,0.4nm,0.4s,baz=264,slow=6.1,SNR=11						
PDAR	**Pinedale Array**	**77.00**	**329**	P	**P**	**09 02 21.4**	**+0.8**
	comp=N,0.3nm,0.5s,baz=149,slow=6.9,SNR=3.6						
YKA	**Yellowknife Ar**	**93.91**	**340**	P	**P**	**09 03 44.5**	**+0.5**
	comp=N,0.4nm,0.6s,baz=139,slow=4.7,SNR=13						
ASAR	**Alice Springs**	**128.86**	**205**	PKP	**PKPdf**	**09 09 34.8**	**+0.7**
	comp=N,0.5nm,0.8s,baz=154,slow=2.0,SNR=5.3						
WRA	**Warramunga Arr**	**132.03**	**207**	PKP	**PKPdf**	**09 09 38.7**	**-1.5**
	comp=N,0.3nm,0.5s,baz=184,slow=1.5,SNR=19						
MKAR	**Makanchi Array**	**146.11**	**39**	PKPbc	**PKPbc**	**09 10 06.3**	**+0.2**
	comp=N,1.1nm,0.4s,baz=295,slow=3.8,SNR=17						

GUC 27 09:11:17.1±0.4, **34°.78S**×**72°.37W**, **h29**km±3km, **ML4.2, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.86**	**136**	*e*P	Pb	09 11 33.8	+0.3
TALC				*e*S	Sn	09 11 46.0	+1.2
NICH	**Los Niches**	**0.96**	**104**	*e*P	Pb	09 11 35.3	+0.2
NICH				*e*S	Sb	09 11 49.0	+1.5
LNV	**Longovilo**	**1.14**	**44**	*e*P	Pb	09 11 37.9	-0.4
LNCH	**Lin

SIV	San Ignacio	23.79	29	P		P	09 59 17.2	-0.8
	4.6nm,0.8s,baz=231,slow=12,SNR=12							
SIV				LR		LR	10 10 34.9	
	comp=Z,387nm,19.0s,baz=224,slow=41							
PMSA	Palmer Station	27.90	172	LR		LR	10 09 54.0	
	comp=Z,145nm,19.6s,baz=308,slow=34							
PMSA	Palmer Station	27.90	172	*e*P		P	09 59 56.4	+1.6
	4.0nm,0.6s							
SAML	Samuel	29.69	20	*e*P		P	10 00 10.7	-0.4
	3.2nm,1.1s							
HOPE	Hope Point	30.05	136	P		P	10 00 15.3	+1.4
	31nm,1.2s							
ATAH	Atahualpa	30.55	349	LR		LR	10 10 17.7	
	comp=Z,118nm,19.9s,baz=171,slow=32							
BDFB	Brasilia	30.94	52	P		P	10 00 23.8	+1.4
	1.1nm,0.5s,baz=217,slow=13,SNR=1.6							
BDFB				LR		LR	10 14 07.8	
	comp=Z,266nm,19.1s,baz=222,slow=38							
OTAV	Otavalo	37.81	351	*e*P		P	10 01 23.9	+1.7
	3.4nm,0.9s							
PTGA	Pitinga	38.42	21	P		P	10 01 28.6	+1.8
	3.1nm,0.7s							
RCBR	Riachuelo	46.11	56	P		P	10 02 30.2	+0.6
	26nm,1.3s							
SDV	Santo Domingo	46.11	3	P		P	10 02 29.9	+0.3
	6.3nm,1.0s							
SNAA	Sanae	48.72	157	P		P	10 02 46.6	-2.7
	1.5nm,1.0s,baz=310,slow=6.0,SNR=3.8							
SNAA	Sanae	48.72	157	*e*P		P	10 02 48.0	-1.3
	17nm,1.1s							
RKT	Rikitea	54.55	267	*e*LR		LR	10 19 06.5	
	215nm,26.0s							
RKT	Rikitea	54.55	267	*e*T		T	11 01 28.8	
	2.6nm,0.2s							
TBI	Tubuai	65.85	258	*e*LR		LR	10 24 22.4	
	170nm,24.8s							
TBI	Tubuai	65.85	258	*e*T		T	11 15 33.8	
	3.1nm,0.2s							
MEH	Mehetia	67.71	264	*e*T		T	11 17 54.5	
	26nm,0.2s							
TVO	Taravao	68.70	264	*e*T		T	11 19 08.7	
	1.0nm,0.2s							
TIAR	Tiarei	68.90	264	*e*T		T	11 19 23.5	
	3.3nm,0.3s							
PAE	Paea	69.03	263	*e*T		T	11 19 32.9	
	0.7nm,0.3s							
PPT2	Papeete2	69.06	264	*e*LR		LR	10 25 49.5	
	155nm,23.8s							
PPT	Papeete	69.07	264	LR		LR	10 29 17.6	
	comp=Z,214nm,18.1s,baz=116,slow=31							
MAW	Mawson	70.12	164	LR		LR	10 35 24.6	
	comp=Z,144nm,18.0s,baz=244,slow=35							
JCT	Junction City	72.07	336	*e*P		P	10 05 31.6	+2.5
	5.5nm,1.1s							
TXAR	Lajitas Array	72.38	332	P		P	10 05 25.9	-5.2
	0.6nm,0.8s,baz=150,slow=8.6,SNR=7.0							
TXAR				LR		LR	10 32 22.8	
	comp=Z,136nm,18.5s,baz=0.0,slow=32							
ABTX	Abilene, Hawle	74.00	337	P		P	10 05 40.4	-0.1
	2.2nm,0.6s							
WMOK	Wichita Mounta	75.70	338	*e*P		P	10 05 50.9	+0.6
DBIC	Dimbokro	76.98	71	P		P	10 05 57.4	-0.6
	1.0nm,0.4s,baz=224,slow=7.3,SNR=3.4							
DBIC				LR		LR	10 38 12.0	
	comp=Z,83nm,18.2s,baz=186,slow=34							
ANMO	Albuquerque	78.44	332	*e*P		P	10 06 07.5	+1.6
	2.8nm,1.1s							
URZ	Urewera	80.83	229	LR		LR	10 34 06.9	
	comp=Z,165nm,19.3s,baz=42,slow=30							
TORD	Torodi Ar. Bea	86.06	70	P		P	10 06 44.6	-1.4
	0.5nm,0.6s,baz=216,slow=3.1,SNR=3.6							
TORD				LR		LR	10 43 47.1	
	comp=Z,54nm,18.0s,baz=170,slow=34							
MDT	Midelt	94.52	52	LR		LR	10 50 12.5	
	comp=Z,198nm,19.5s,baz=236,slow=36							
ABKAR	Abkulak array	144.31	55	*e*PKPdf		PKPab	10 13 36.9	-1.6
AAK	Ala-Archa	154.63	68	*e*PKPdf		PKPbc	10 14 03.7	-2.1
MKAR	Makanchi Array	159.45	55	PKPab		PKPab	10 14 37.8	-3.3
	0.2nm,0.4s,baz=236,slow=1.6,SNR=3.1							

IDC 27 10:11:19.1±1.9, 2°.18N×127°.81E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/31, mbtmp3.7/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4/34, Error ellipse: s-maj=130.4km s-min=24.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	13.71	110	LR	LR	10 19 26.5	
	comp=Z,34nm,18.7s,baz=213,slow=36						
WRA	Warramunga Arr	22.90	164	P		P	10 16 25.0	+0.3
	1.8nm,0.4s,baz=344,slow=11,SNR=28						
ASAR	Alice Springs	26.37	167	P		P	10 16 56.9	-0.4
	0.6nm,0.5s,baz=346,slow=7.6,SNR=14						
MKAR	Makanchi Array	59.43	325	P		P	10 21 23.8	+0.1
	0.3nm,0.4s,baz=111,slow=8.0,SNR=3.2						

IDC 27 10:27:47.6±1.5, 33°.77S×178°.47W, h0km, mb4.3/3, mb1 4.5/4, mb1mx4.0/29, mbtmp4.4/4, ML4.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/27, Error ellipse: s-maj=48.6km s-min=29.6km az=141.0

ISC 27 10:27:52.5±1.3, 33°.9S±0°.1×178°.4W±0°.2, h37km, n25, σ1§89/33, mb4.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.55	215	*e*PN		Pn	10 28 58.6	-0.2
WMGZ	Waiomatatini S	4.71	213	*e*PN		Pn	10 29 02.1	+1.2
HAZ	Te Kaha	4.96	218	*e*PN		Pn	10 29 05.7	+1.3
HAZ				*e*SN		Sn	10 30 05.1	+4.6
PUZ	Puketiti	4.99	212	PN		Pn	10 29 04.8	0.0
PUZ				SN		Sn	10 30 03.6	+2.4
CNGZ	Carnagh Statio	5.35	210	*e*PN		Pn	10 29 10.1	+0.4
MWZ	Matawai	5.54	216	PN		Pn	10 29 12.2	-0.1
MWZ				*e*SN		Sn	10 30 18.0	+3.2
URZ	Urewera	5.69	219	Pn		Pn	10 29 13.9	-0.5
	7.7nm,0.3s,baz=26,slow=3.0,SNR=74							
URZ				Sn		Sn	10 30 20.6	+2.2
	7.4nm,0.3s,baz=272,slow=22,SNR=11							
URZ	Urewera	5.69	219	PN		Pn	10 29 14.1	-0.3
URZ				SN		Sn	10 30 20.6	+2.2
RIGZ	Rimuhau	5.73	212	*e*PN		Pn	10 29 15.3	+0.3
KNZ	Kokohu	6.03	211	PN		Pn	10 29 18.5	-0.5
ARHZ	Aropaoanui	6.53	213	*e*PN		Pn	10 29 26.4	+0.5
BKZ	Black Stump Fm	6.69	217	PN		Pn	10 29 25.0	-3.2
BFZ	Birch Farm	8.02	211	*e*PN		Pn	10 29 44.9	-1.5
BFZ				SN		Sn	10 31 14.5	-1.2
MRZ	Mangatainoka R	8.30	214	PN		Pn	10 29 47.8	-2.4
MRZ				*e*SN		Sn	10 31 19.6	-3.0
THZ	Tophouse	10.45	219	*e*PN		Pn	10 30 17.0	-2.7
THZ				*e*SN		Sn	10 32 10.7	-4.8
HNR	Honiara	31.46	316	LR		LR	10 44 08.3	
	comp=Z,50nm,20.8s,baz=148,slow=31							
CTA	Charters Tower	34.21	285	P		P	10 34 35.1	+0.5
	3.2nm,0.6s,baz=123,slow=9.8,SNR=5.8							
ASAR	Alice Springs	42.73	271	P		P	10 35 45.7	-0.5
	3.0nm,0.7s,baz=111,slow=7.4,SNR=40							
ASAR				PcP		PcP	10 37 37.5	0.0
	0.8nm,0.8s,baz=120,slow=4.0,SNR=4.2							
WRA	Warramunga Arr	44.03	276	P		P	10 35 56.0	-0.8
	2.3nm,0.4s,baz=117,slow=8.1,SNR=46							
WRA				PcP		PcP	10 37 41.7	-0.2
	0.4nm,0.7s,baz=116,slow=2.9,SNR=3.1							
JOF	Joensuu	145.51	336	*e*p		PKPdf	10 47 24.9	-0.8
	0.3nm,0.3s							
KAF	Kangasniemi	147.70	338	*e*p		PKPbc	10 47 31.3	-1.0
	2.0nm,0.6s							
FINES	FINESS Array B	148.28	338	PKPbc		PKPbc	10 47 33.9	+0.1
	4.5nm,0.7s,baz=54,slow=3.8,SNR=22							
HFS	Hagfors	152.58	347	PKPbc		PKPbc	10 47 44.3	+0.2
	2.1nm,0.7s,baz=40,slow=2.5,SNR=4.3							
AKASG	Malin Array Be	153.79	318	PKPbc		PKPbc	10 47 48.8	+1.7
	0.2nm,0.3s,baz=62,slow=2.5,SNR=4.5							
BRTR	Keskin Array B	153.81	292	PKPbc		PKPbc	10 47 48.6	+0.9
	1.2nm,0.7s,baz=115,slow=3.1,SNR=6.5							

GUC 27 10:32:34.0±0.5, 37°.04S×73°.20W, h26km±3km, ML4.3, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.21	22	↑*e*P	Pb	10 32 39.1	-0.7
CCSP				*e*S	Sb	10 32 43.6	-0.3
CCSP				IAML		10 32 45.1	
	comp=E,73μm,0.4s						
AGCH	Angol	0.87	152	*e*P	Pb	10 32 49.1	-1.4
AGCH				*e*S	Sb	10 33 00.5	-1.2
COCH	Cobquecura	0.96	20	*e*P	Pn	10 32 50.3	-1.5
COCH				*e*S	Sb	10 33 03.3	-1.1
PSCH	Puerto Saavedr	1.76	185	*e*P	Pn	10 33 03.3	+0.5
PSCH				*e*S	Sn	10 33 25.2	+0.7

WEL 27 10:39:42.7±0.3, 38°.74S×175°.32E, h204km±2km, ML3.8/15, 31C-13D, Error ellipse: s-maj=2.3km s-min=2.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.35	164	PN	Pn	10 40 09.7	-0.2
TWVZ				SN	S	10 40 30.1	-1.3
HIZ	Hauiti	0.42	302	↓PN	Pn	10 40 09.9	-0.2
HIZ				SN	S	10 40 31.0	-0.3
WTVZ	West Tongariro	0.43	151	PN	Pn	10 40 10.2	0.0
WTVZ				SN	S	10 40 30.8	-0.9
KRVZ	Karewarewa	0.44	145	PN	Pn	10 40 10.2	0.0
KRVZ				SN	S	10 40 31.5	-0.3
NGZ	Ngauruhoe	0.49	153	↑PN	Pn	10 40 10.4	0.0
NGZ				SN	S	10 40 31.3	-0.9
COVZ	Chateau Observ	0.49	159	↑PN	Pn	10 40 10.2	-0.2
COVZ				SN	S	10 40 31.5	-0.6
WPVZ	Whakapapa	0.50	159	PN	Pn	10 40 10.3	-0.1
OTVZ	Oturere	0.51	147	PN	Pn	10 40 10.8	+0.3
FWVZ	Far West T-bar	0.55	160	↑PN	Pn	10 40 10.6	-0.1
PKVZ	Pokaka	0.55	177	↑PN	Pn	10 40 10.3	-0.2
VRZ	Vera Road	0.58	228	↑PN	Pn	10 40 10.0	-0.6
WHVZ	Whangaehu Hut	0.58	159	↑PN	Pn	10 40 10.9	0.0
TRVZ	Turoa	0.59	162	↑PN	Pn	10 40 10.8	-0.1
TUVZ	Tukino	0.59	154	↑PN	Pn	10 40 10.9	+0.1
WNVZ	Wahianoa	0.63	160	PN	Pn	10 40 11.0	0.0
MTVZ	Mangateitei	0.66	169	↑PN	Pn	10 40 10.9	-0.1
MOVZ	Moawhango	0.75	153	↑PN	Pn	10 40 11.1	-0.4
MHEZ	Mangahewa	0.84	246	PN	Pn	10 40 11.7	-0.2
BHHZ	Black Hill Sta	0.95	142	↑PN	Pn	10 40 12.3	-0.3
DREZ	Durham Road	0.98	242	PN	Pn	10 40 12.0	-0.8
BKZ	Black Stump Fm	1.01	115	↓PN	Pn	10 40 12.9	-0.1
BKZ				SN	S	10 40 35.0	-1.4
BKZ				AML	AML	10 40 37.8	
WAZ	Wanganui	1.05	194	↑PN	Pn	10 40 12.9	-0.3
NEZ	North Egmont	1.09	240	PN	Pn	10 40 13.1	-0.5
KHEZ	Kahui Hut	1.16	241	PN	Pn	10 40 13.4	-0.7
KRHZ	Kereru	1.22	138	PN	Pn	10 40 14.6	+0.1
NWEZ	Newall Road	1.25	244	PN	Pn	10 40 14.0	-0.6
MCHZ	McNeill Hill	1.28	124	PN	Pn	10 40 15.7	+0.7
PNHZ	Pukenui	1.36	150	PN	Pn	10 40 15.4	-0.2
RAHZ	Arahi	1.40	98	↓PN	Pn	10 40 16.3	+0.4
ARHZ	Aropaoanui	1.41	112	↑PN	Pn	10 40 16.5	+0.5
TSZ	Takapari Road	1.41	159	↑PN	Pn	10 40 15.7	-0.3
TSZ				AML	AML	10 40 40.4	
TSZ				AML	AML	10 40 41.6	
URZ	Urewera	1.49	72	↓PN	Pn	10 40 15.9	-0.7
URZ				SN	S	10 40 41.5	-1.1
URZ				AML	AML	10 40 42.8	
WHHZ	Waihua	1.54	103	↓PN	Pn	10 40 17.4	+0.3
SNGZ	Shannon Statio	1.58	92	PN	Pn	10 40 17.6	+0.1
WPHZ	Waipukurau	1.59	147	PN	Pn	10 40 17.4	-0.1
KAHZ	Kahuranaki	1.61	132	↓PN	Pn	10 40 18.1	+0.4
CKHZ	Cape Kidnapper	1.65	124	PN	Pn	10 40 18.5	+0.4
RAGZ	Rawiri	1.66	82	↓PN	Pn	10 40 18.1	-0.3
POWZ	Post Office Ro	1.69	168	PN	Pn	10 40 17.7	-0.8
DVHZ	Dannevirke	1.69	157	↑PN	Pn	10 40 17.9	-0.6
PXZ	Pawanui	1.76	138	↓PN	Pn	10 40 18.9	-0.2
PXZ				AML	AML	10 40 46.9	
PXZ				AML	AML	10 40 46.9	
PXZ				AML	AML	10 40 49.4	
PXZ				AML	AML	10 40 49.4	
MWZ	Matawai	1.78	78	PN	Pn	10 40 18.8	-0.6
MWZ				SN	S	10 40 45.5	-2.0
MWZ				AML	AML	10 40 48.4	
PRHZ	Porangahau	1.84	147	PN	Pn	10 40 19.6	-0.2
KNZ	Kokohu	1.86	99	PN	Pn	10 40 19.9	-0.1
PRWZ	Pori Road	1.88	165	PN	Pn	10 40 19.7	-0.6
RIGZ	Rimuhau	1.92	90	↓PN	Pn	10 40 20.7	0.0
MRZ	Mangatainoka R	1.93	174	↑PN	Pn	10 40 19.6	-1.2
MRZ				SN	S	10 40 47.1	-3.0
MRZ				AML	AML	10 40 47.8	
ANWZ	Angora Road	1.94	153	PN	Pn	10 40 20.5	-0.4
TKGZ	Te Karaka	2.01	82	PN	Pn	10 40 21.5	-0.1
PRGZ	Paritu Road	2.01	96	PN	Pn	10 40 21.6	-0.1
MHGZ	Mahia Peninsul	2.06	102	↑PN	Pn	10 40 22.4	+0.3
BFZ	Birch Farm	2.07	160	↓PN	Pn	10 40 21.1	-1.1
OGWZ	Otaki Gorge	2.08	183	↑PN	Pn	10 40 21.1	-1.1
TIWZ	Tintock	2.08	168	↑PN	Pn	10 40 21.2	-1.2
TIWZ				AML	AML	10 40 51.5	
TIWZ				AML	AML	10 40 52.3	
KIW	Kapiti Island	2.14	188	PN	Pn	10 40 21.3	-1.7
HOWZ	Holdsworth Sta	2.16	176	↑PN	Pn	10 40 21.7	-1.5
TWGZ	Tauwhareparae	2.17	76	PN	Pn	10 40 23.2	-0.2
HAZ	Te Kaha	2.18	64	PN	Pn	10 40 22.0	-1.3
CPWZ	Castlepoint	2.27	163	↑PN	Pn	10 40 23.6	-0.7
CNGZ	Carnagh Statio	2.28	85	PN	Pn	10 40 24.7	+0.2
DUWZ	D'Urville Isla	2.33	207	PN	Pn	10 40 22.9	-2.1
CAW	Cannon Point	2.37	185	↑PN	Pn	10 40 23.8	-1.6
CAW				AML	AML	10 40 24.6	
CAW				AML	AML	10 40 24.7	
PUZ	Puketiti	2.41	75	PN	Pn	10 40 25.1	-0.8
PUZ				AML	AML	10 40 59.7	
PUZ				AML	AML	10 41 00.6	
TMWZ	Te Maipa	2.41	170	↑PN	Pn	10 40 24.2	-1.6
MTW	Mount Morrison	2.42	177	↑PN	Pn	10 40 24.0	-1.9
MTW				AML	AML	10 40 58.8	
MTW				AML	AML	10 40 58.9	
WEL	Wellington	2.58	189	↑PN	Pn	10 40 25.6	-2.1
TCW	Tory Channel	2.60	198	↑PN	Pn	10 40 26.0	-1.9
TCW				AML	AML	10 41 02.3	
TCW				AML	AML	10 41 03.6	
WMGZ	Waiomatatini S	2.61	70	PN	Pn	10 40 26.1	-2.0
MXZ	Matakaoa Point	2.63	64	PN	Pn	10 40 27.7	-0.6
PAWZ	Paruwai Farm	2.64	178	↑PN	Pn	10 40 26.4	-2.0
PAWZ				AML	AML	10 41 01.6	
TRWZ	Traveller	2.67	174	PN	Pn	10 40 26.8	-1.9
TRWZ				AML	AML	10 41 02.9	
MSWZ	Moikau Station	2.67	181	↑PN	Pn	10 40 26.6	-2.2
MSWZ				AML	AML	10 41 01.6	
BHW	Baring Head	2.69	187	PN	Pn	10 40 26.6	-2.2
PLWZ	Palliser	2.83	181	↑PN	Pn	10 40 28.2	-2.4
TUWZ	Tuamarina	2.89	201	↓PN	Pn	10 40 28.7	-2.4
TUWZ				AML	AML	10 40 29.4	
TUWZ				AML	AML	10 40 29.9	
NNZ	Nelson	2.89	210	PN	Pn	10 40 28.2	-3.0
QRZ	Quartz Range	2.99	225	PN	Pn	10 40 28.8	-3.6
BSWZ	Blackbirch Sta	3.17	200	PN	Pn	10 40 32.3	-2.2
THZ	Tophouse	3.54	211	↑PN	Pn	10 40 35.4	-3.6
KHZ	Kahutara	3.92	200	↑PN	Pn	10 40 40.7	-2.8
DSZ	Denniston Nort	4.03	221	PN	Pn	10 40 40.7	-4.3
LTZ	Lake Taylor	4.65	209	PN	Pn	10 40 48.0	-4.8
OXZ	Oxford	5.21	207	PN	Pn	10 40 55.0	-4.8
CRLZ	Canterbury Las	5.24	202	↓PN	Pn	10 40 55.7	-4.5
MQZ	McQueen's Vall	5.35	201	PN	Pn	10 40 56.8	-4.8
WVZ	Waitaha Valley	5.55	217	PN	Pn	10 40 59.3	-4.8
RPZ	Rata Peaks	5.92	211	PN	Pn	10 41 03.8	-5.1
FOZ	Fox Glacier	6.42	220	PN	Pn	10 41 09.4	-6.0
LBZ	Lake Benmore	6.83	213	PN	Pn	10 41 15.2	-5.5
ODZ	Otahua Downs	7.20	207	↓PN	Pn	10 41 21.0	-4.5
WKZ	Wanaka	7.69	216	PN	Pn	10 41 26.2	-5.7

NIED 27 10:54:00, 43°.70N×147°.10E, h86km, Mw4.1 Best double couple: M0:1.61000×10^15 NP1:φ=125.00000°, δ=30.00000°, λ=-20.00000°. NP2:φ=233.00000°, δ=80.00000°, λ=-118.00000°.
BJI 27 10:54:22.7, 44°.15N×147°.32E, h95km, mB4.9/17, mb4.7/24
ISCJB 27 10:54:23.9±0.4, 43°.87N±0°.03×147°.11E±0°.04, h97km±2km, mb4.3/46, Error ellipse: s-maj=6.5km s-min=4.0km az=142.9
MOS 27 10:54:23.7±1.1, 43°.92N×147°.12E, h95km, mb4.5/25, Error ellipse: s-maj=9.7km s-min=5.7km az=110.2
MOS Felt (III) at Malokuril'skoe; (II) at Yuzhno-Kuril'sk.
SKHL 27 10:54:25.3±0.4, 43°.98N×146°.94E, h105km±4km, mb6.7/2, msh6.8/2
SKHL Felt (III) at Malokurilskoe, (II) at Yushno-Kurilsk.
NEIC 27 10:54:25.2±0.7, 43°.94N×147°.07E, h94km±6km, mb4.5/8, Error ellipse: s-maj=9.0km s-min=6.0km az=138.0
NEIC Felt [III] at Shakotan and [II] at Yuzhno-Kuril'sk. Recorded [1 JMA] in eastern Hokkaido.
JMA 27 10:54:25.7±0.2, 43°.74N×147°.07E, h86km±3km, M4.4
JMA Felt I J1.
IDC 27 10:54:25.5±2.1, 43°.95N×147°.02E, h98km±18km, mb4.0/19, mb1 4.0/24, mb1mx4.0/30, mbtmp4.2/24, MS2.5/2, Ms1 2.5/2, ms1mx2.3/37, Error ellipse: s-maj=16.3km s-min=13.5km az=144.0

ISC 27 10:54:25.0±0.6, 43°.87N±0°.05×147°.17E±0°.05, h96km±4km, n189, σ1§19/212, mb4.4/46, 19C-17D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.24	270	*e*P	Pn	10 54 38.9	+0.1
SHO				*e*S	Sn	10 54 48.8	-0.3
YUK	Yuzh-Kuril'sk	0.96	280	↓*i*PN	Pn	10 54 43.8	-0.8
YUK				*i* S	Sn	10 54 57.6	-1.7
YUK				pmax	pmax		
	comp=N,4μm,0.2s						
YUK				pmax	pmax		
	comp=E,5μm,0.2s						
YUK				pmax	pmax		
	comp=Z,43μm,0.2s						
YUK				smax	smax		
	comp=N,7μm,0.1s						
YUK				smax	smax		
	comp=E,11μm,0.3s						
YUK	Yuzh-Kuril'sk	0.96	280	*e*P	Pn	10 54 43.8	-0.8
YUK				AMB	AMB	10 54 44.0	
	comp=E,44μm,0.2s						
YUK				AMB	AMB	10 54 44.0	
	comp=E,43μm,0.2s						
YUK				*e*S	Sn	10 54 57.6	-1.7
YUK				A	A	10 54 59.3	
	comp=E,7μm,0.1s						
YUK				A	A	10 54 59.3	
	comp=E,11μm,0.1s						
NEM2	Nemuro 2	1.15	244	P	Pn	10 54 45.6	-1.2
NEM2				*e*S	Sn	10 55 00.5	-2.7
KUR	Kuril'sk	1.45	20	↓*i*PN	Pn	10 54 50.3	-0.1
KUR				*i* S	Sn	10 55 09.4	-0.2
KUR				pmax	pmax		
	comp=E,184nm,0.2s						
KUR				pmax	pmax		
	comp=Z,117nm,0.2s						
KUR				pmax	pmax		
	comp=N,392nm,0.5s						
KUR				smax	smax		
	comp=N,2μm,0.2s						
KUR				smax	smax		
	comp=E,663nm,0.2s						
KUR	Kuril'sk	1.45	20	*e*P	Pn	10 54 50.3	-0.1
KUR				AMB	AMB	10 54 54.1	
	comp=E,4μm,0.2s						
KUR				*e*S	Sn	10 55 09.4	-0.2
KUR				A	A	10 55 12.7	
	comp=E,7μm,0.2s						
KUR				A	A	10 55 12.7	
	comp=E,2μm,0.2s						
JRA	Rausu	1.48	273	P	Pn	10 54 50.7	-0.1
JRA				*e*S	Sn	10 55 09.7	-0.6
JNK	Nakash	1.80	262	P	Pn	10 54 54.1	-0.7
JNK				*e*S	Sn	10 55 15.7	-1.8
JAK	Akkeshi	2.00	245	P	Pn	10 54 56.5	-0.9
JAK				*e*S	Sn	10 55 19.5	-2.6
JTKR	Abashiri--Toko	2.36	274	P	Pn	10 55 02.2	+0.1
JTKR				*e*S	Sn	10 55 29.4	-1.1
JAR	Ashorobuto	2.54	258	P	Pn	10 55 04.6	+0.1
JAR				*e*S	Sn	10 55 33.5	-1.2
JOB	Onbets	2.62	249	P	Pn	10 55 05.4	-0.1
JOB				*e*S	Sn	10 55 34.6	-2.0
JMP	Maruseppu	2.75	274	P	Pn	10 55 07.7	+0.3
JMP				*e*S	Sn	10 55 39.6	-0.4
JCH	Churui	3.05	247	P	Pn	10 55 10.5	-0.8
JCH				*e*S	Sn	10 55 43.7	-3.3
JKK2	Kamakawa 2	3.20	272	P	Pn	10 55 13.9	+0.6
ASAJ	Asahikawa	3.31	276	P	Pn	10 55 15.5	+0.7
ASAJ	Asahikawa	3.31	276	P	Pn	10 55 15.7	+0.9
	comp=E,22nm,0.3s,baz=81,slow=16,SNR=268						
ASAJ				S	Sn	10 55 54.4	+1.2
	comp=E,10nm,0.3s,baz=291,slow=33,SNR=5.3						
ASAJ				LR	LR	10 56 47.1	
	comp=E,123nm,19.6s,baz=87,slow=44						
ASAJ	Asahikawa	3.31	276	*e*Pn	Pn	10 55 14.6	-0.2
ASAJ				S	Sn	10 55 54.4	+1.2
JFR	Furan	3.40	260	P	Pn	10 55 16.5	+0.4
JFR				*e*S	Sn	10 55 54.7	-0.8
JSE	Soyaes	3.46	290	P	Pn	10 55 17.0	+0.2
JSE				*e*S	Sn	10 55 55.2	-1.6
ERM	Erimo	3.48	239	*d*↑PN	Pn	10 55 18.0	+0.9
ERM	Erimo	3.48	239	*e*P	Pn	10 55 18.0	+0.9
ERM	Erimo	3.48	239	*e*Pn	Pn	10 55 17.8	+0.7
ERM				*e*Sn	Sn	10 55 54.8	-2.6
JEM	Erimo	3.48	239	*e*S	Sn	10 55 56.0	-1.3
JNBK	Urakawa-nobuka	3.60	245	P	Pn	10 55 17.9	-0.9
JNBK				*e*S	Sn	10 55 58.1	-2.3
YSS	Yuzh-Sakhalins	4.38	316	↑*e*PN	Pn	10 55 29.8	+0.6
YSS				*e*S	Sn	10 56 16.5	-2.5
YSS				pmax	pmax		
	comp=Z,50nm,0.4s						
YSS				smax	smax		
	comp=N,70nm,1.0s						
YSS				smax	smax		
	comp=E,120nm,1.0s						
YSS	Yuzh-Sakhalins	4.38	316	*e*P	Pn	10 55 29.8	+0

ULN Ulaanbaatar 27.99 292⇓ *eP* **P 11 00 07.3 +0.5**
ULN pmax pmax
comp=Z,7.0nm,1.5s
ULN Ulaanbaatar 27.99 292 *eP* **P 11 00 07.3 +0.5**
ULN Ulaanbaatar 27.99 292 *eP* **P 11 00 06.0 -0.8**
comp=Z,7.3nm,1.2s
SONM Songino Array 28.44 292 P **P 11 00 10.4 -0.3**
comp=Z,3.2nm,0.6s,baz=82,slow=8.5,SNR=36
WHN Wuhan 29.12 254 P P 11 00 26.5 +10
H11N2 WAKE ISLAND Hy 29.18 139 T T 11 31 15.7
baz=330,slow=75,SNR=630
H11N1 WAKE ISLAND Hy 29.20 139 T T 11 31 16.7
baz=330,slow=75,SNR=536
H11N3 WAKE ISLAND Hy 29.20 139 T T 11 31 17.2
baz=330,slow=75,SNR=543
TIXI Tiksi 29.24 348 *eP* P 11 00 13.0 -4.4
TIXI pmax pmax
comp=Z,2.0nm,1.0s
TLY Talaya 29.90 301 *eP* **P 11 00 23.8 +0.3**
TLY pmax pmax
comp=Z,2.0nm,0.8s
TLY Talaya 29.90 301 *eP* **P 11 00 23.8 +0.3**
H11S1 WAKE ISLAND Hy 30.15 141 T T 11 32 26.8
baz=331,slow=76,SNR=1089
H11S3 WAKE ISLAND Hy 30.16 141 T T 11 32 28.5
baz=331,slow=76,SNR=788
H11S2 WAKE ISLAND Hy 30.17 141 T T 11 32 29.7
baz=331,slow=76,SNR=618
ZAK Zakamensk 30.21 298 *eP* **P 11 00 25.2 -1.1**
ZAK pmax pmax
comp=Z,2.0nm,0.8s
LZH Lanzhou 33.78 272 *eP* **P 11 00 59.0 +1.2**
LZH pP **pP 11 01 20.5 +0.9**
LZH sP **sP 11 01 34.0 +3.4**
LZH PMZ
comp=Z,16nm,1.0s
GYA Guiyang 36.97 256 *eP* **P 11 01 26.0 +0.9**
GYA PMZ
comp=Z,10.0nm,0.8s
IM04 Indian Mountai 38.52 34 *eP* **P 11 01 38.4 +0.7**
KMI Kunming 40.56 257 P **P 11 01 53.8 -1.5**
KMI PMZ
comp=Z,7.0nm,0.8s
ZALV Zalesovo Beam 40.94 307 P **P 11 01 56.4 -1.4**
comp=Z,2.1nm,0.4s,baz=74,slow=8.8,SNR=6.4
COLA College 40.97 36 *eP* **P 11 01 57.8 -0.1**
COLA pmax pmax
comp=Z,14nm,0.8s
COLA College 40.97 36 *eP* **P 11 01 57.8 -0.1**
COLA College 40.97 36 *eP* **P 11 01 59.1 +1.3**
comp=Z,4.7nm,0.6s
ILAR Eielson Array 41.38 36 P **P 11 02 02.0 +0.7**
comp=Z,2.4nm,0.7s,baz=278,slow=9.2,SNR=29
WMQ Urumqi 42.06 291 P **P 11 02 07.8 +0.6**
WMQ pP **pP 11 02 30.5 +0.9**
WMQ PMZ
comp=Z,12nm,1.0s
WMQ PMZ
comp=Z,130nm,4.0s
WMQ LN
comp=Z,51nm,23.0s
WMQ LE
comp=Z,47nm,24.0s
WMQ LZ
comp=Z,27nm,17.0s
EGAK Eagle 43.83 36 *eP* **P 11 02 21.8 +0.8**
MK31 Makanchi Array 44.54 298 P **P 11 02 27.0 -0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.3s
MKAR Makanchi Array 44.54 298 P **P 11 02 26.9 -0.2**
comp=Z,6.3nm,0.5s,baz=78,slow=8.3,SNR=93
KURK Kurchatov 45.47 304 *eP* **P 11 02 33.4 -0.9**
KURK pmax pmax
comp=Z,5.0nm,0.6s
KURK Kurchatov 45.47 304 *eP* **P 11 02 33.8 -0.5**
KURK Kurchatov 45.47 304 *eP* **P 11 02 33.4 -0.9**
comp=Z,5.0nm,0.6s
INK Inuvik 46.29 30 *eP* **P 11 02 41.2 +0.7**
INK pmax pmax
comp=Z,4.0nm,0.4s
INK Inuvik 46.29 30 *eP* **P 11 02 41.1 +0.7**
comp=Z,3.8nm,0.4s
TKM2 Tokmak 2 50.47 295 P **P 11 03 14.0 +0.7**
SNR=9.3
TKM2 Tokmak 2 50.47 295 *i* P **P 11 03 13.9 +0.7**
TKM2 Tokmak 2 50.47 295 *eP* **P 11 03 13.9 +0.7**
KBK Karagaybulak 51.01 295 P **P 11 03 18.2 +0.9**
SNR=8.4
KBK Karagaybulak 51.01 295 *i* P **P 11 03 18.2 +0.9**
USP Ospenovka 51.02 296 P **P 11 03 17.7 +0.6**
SNR=7.5
USP Ospenovka 51.02 296 *i* P **P 11 03 17.7 +0.6**
KZA Kyzart 51.08 295 P **P 11 03 19.4 +1.3**
SNR=12
KZA Kyzart 51.08 295 *i* P **P 11 03 19.4 +1.3**
AAK Ala-Archa 51.32 296 P P 11 03 16.2 -3.4
SNR=5.2
AAK Ala-Archa 51.32 296⇓ *eP* **P 11 03 20.1 +0.6**
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 51.32 296 *eP* **P 11 03 20.1 +0.6**
AAK Ala-Archa 51.32 296 *eP* **P 11 03 19.8 +0.3**
comp=Z,6.6nm,1.2s
EKS2 Erkin-Say 51.77 296 P **P 11 03 23.4 +0.5**
SNR=6.7
EKS2 Erkin-Say 51.77 296 *i* P **P 11 03 23.4 +0.5**
EKS2 Erkin-Say 51.77 296 *eP* **P 11 03 23.4 +0.5**
comp=Z,7.1nm,1.1s
KSH Kashi 51.83 291 *eP* P 11 03 28.0 +4.7
KSH pP pP 11 03 51.0 +4.6
KSH PP PP 11 05 28.0 +6.3
KSH S **S 11 10 41.8 +3.4**
KSH sS sS 11 11 23.0 +5.0
KSH ScS **ScS 11 13 05.0 +0.9**
KSH SS **SS 11 14 17.8 +2.0**
KSH PMZ
comp=Z,97nm,6.5s
KSH LN
comp=Z,110nm,5.3s
KSH LE
comp=Z,130nm,6.1s
KSH LZ
comp=Z,130nm,5.5s
AML Almayashu 52.08 295 P **P 11 03 26.4 +0.9**
SNR=5.4
AML Almayashu 52.08 295 *i* P **P 11 03 26.4 +0.9**
KK31 Karatay Array 53.67 298 *i* P **P 11 03 36.7 0.0**
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 53.67 298 *eP* **P 11 03 37.0 +0.3**
KKAR Karatay Array 53.67 298 *eP* **P 11 03 37.0 +0.3**
ARU Arti 54.27 317 *d iP* **P 11 03 40.0 -0.8**
ARU 11 05 39.2
ARU S **S 11 11 12.6 +1.9**
ARU pmax pmax
comp=Z,14nm,1.7s
ARU Arti 54.27 317 *eP* **P 11 03 40.2 -0.6**
ARU Arti 54.27 317 *eP* **P 11 03 39.9 -0.8**
YKA Yellowknife Ar 55.69 34 P **P 11 03 51.7 +0.7**
comp=Z,1.3nm,0.7s,baz=302,slow=6.9,SNR=23
AB31 Akbulak array 57.00 309 P **P 11 04 00.4 0.0**
AB31 pmax pmax
comp=Z,4.0nm,0.3s
AKTO Aktyubinsk 57.47 311 P **P 11 04 02.6 -1.2**
comp=Z,1.9nm,0.4s,baz=71,slow=7.0,SNR=15
PRGR Permogore 57.47 326 P **P 11 04 02.0 -1.6**
PRGR pmax pmax
comp=Z,10.0nm,1.0s
KEV Kevo 58.60 339 *eP* **P 11 04 09.4 -1.9**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 58.60 339 *ep* **P 11 04 09.4 -1.9**
comp=Z,0.8nm,0.3s
ARCES ARCESS Array B 59.14 340 P **P 11 04 13.1 -2.0**
comp=Z,1.2nm,0.4s,baz=49,slow=7.3,SNR=21
DAG Danmarks Havn 59.30 356 *i* P **P 11 04 14.0 -2.0**
DAG pmax pmax
comp=Z,1.0nm,0.3s
DAG Danmarks Havn 59.30 356 *i* P **P 11 04 14.0 -2.0**
comp=Z,0.9nm,0.3s
JOF Joensuu 61.99 332 *eP* **P 11 04 33.2 -1.3**
JOF pmax pmax
comp=Z,4.0nm,0.5s
JOF Joensuu 61.99 332 *ep* **P 11 04 33.2 -1.3**
comp=Z,3.6nm,0.5s

SUMG Summit 63.79 2 *i* P **P 11 04 47.0 +0.2**
SUMG pmax pmax
comp=Z,4.0nm,0.7s
SUMG Summit 63.79 2 *i* P **P 11 04 47.0 +0.2**
comp=Z,3.8nm,0.7s
KAF Kangasniemi 64.21 333 *eP* **P 11 04 47.3 -1.9**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 64.21 333 *ep* **P 11 04 47.3 -1.9**
comp=Z,1.1nm,0.4s
WRA Warramunga Arr 64.58 193 *i* P **P 11 04 52.4 +0.3**
WRA pmax pmax
comp=Z,2.0nm,1.0s
WRA Warramunga Arr 64.58 193 P **P 11 04 52.0 -0.1**
comp=Z,1.5nm,1.0s,baz=11,slow=7.0,SNR=5.6
FINES FINESS Array B 64.77 333 *cePP* **P 11 04 51.7 -1.1**
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 64.77 333 P **P 11 04 51.4 -1.4**
comp=Z,3.7nm,0.6s,baz=50,slow=6.7,SNR=29
FINES FINESS Array B 64.77 333 *eP* **P 11 04 51.7 -1.1**
OBN Obninsk 65.22 324⇑ *eP* **P 11 04 55.2 -0.7**
OBN pmax pmax
comp=Z,7.0nm,0.6s
OBN Obninsk 65.22 324 *eP* **P 11 04 55.2 -0.7**
FCC Fort Churchill 65.91 30 *eP* **P 11 05 00.4 +0.2**
FCC Fort Churchill 65.91 30 *eP* **P 11 05 00.4 +0.2**
comp=Z,0.1nm,0.5s
VSR Storozhevoye 66.65 319 *eP* **P 11 05 03.9 -1.2**
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,2.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
ASAR Alice Springs 68.30 193 P **P 11 05 15.9 +0.2**
comp=Z,0.8nm,0.7s,baz=6.3,slow=5.2,SNR=6.7
NB2 NORSAR Subarra 69.49 339 P **P 11 05 21.8 -1.0**
comp=Z,3.0nm,0.5s,baz=31,slow=6.5
NOA NORSAR Array B 69.49 339 P **P 11 05 22.1 -0.6**
comp=Z,3.1nm,0.4s,baz=32,slow=6.6,SNR=30
KIV Kislovodsk 69.69 312 *eP* **P 11 05 26.6 +2.2**
KIV pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 69.73 312 P **P 11 05 25.0 +0.6**
comp=Z,5.5nm,0.7s,baz=106,slow=4.7,SNR=9.3
PDAR Pinedale Array 69.82 50 P **P 11 05 26.1 +0.7**
comp=Z,0.4nm,0.5s,baz=299,slow=0.6,SNR=6.5
AKASG Malin Array Be 71.49 324 *cePP* **P 11 05 34.7 -0.3**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 71.49 324 P **P 11 05 34.6 -0.3**
comp=Z,4.5nm,0.5s,baz=38,slow=5.9,SNR=28
KIEV Kiev 71.50 324 *eP* **P 11 05 35.3 +0.2**
KIEV pmax pmax
comp=Z,16nm,1.1s
KIEV Kiev 71.50 324 *eP* **P 11 05 35.5 +0.4**
KIEV Kiev 71.50 324 *eP* **P 11 05 35.3 +0.2**
comp=Z,16nm,1.1s
BURAR Bucovina Array 75.55 324⇑ P **P 11 05 59.3 +0.3**
BURAR Bucovina Array 75.55 324⇑ *iP* **P 11 05 59.3 +0.3**
KOLS Kolonicke sedl 75.74 326 *eP* **P 11 06 01.4 +1.4**
KOLS Kolonicke sedl 75.74 326 *eP* **P 11 06 01.4 +1.4**
STHS Stebnicka Huta 75.77 327 *eP* **P 11 06 01.5 +1.4**
STHS pmax pmax
comp=Z,3.0nm,0.5s
STHS Stebnicka Huta 75.77 327 *eP* **P 11 06 01.5 +1.4**
TESR Tescani 75.77 322⇓ *iP* **P 11 06 00.3 +0.1**
MALT Malatya 75.90 310⇑ P **P 11 06 03.3 +2.1**
MALT Malatya 75.90 310⇑ *iP* **P 11 06 03.3 +2.1**
CRVS Cervenica-Dubn 76.09 326 *eP* **P 11 06 02.8 +0.8**
CRVS Cervenica-Dubn 76.09 326 *eP* **P 11 06 02.8 +0.8**
CFR Carcaliu 76.11 320 ⇓P **P 11 06 01.6 -0.5**
CFR Carcaliu 76.11 320⇓ *iP* **P 11 06 01.6 -0.5**
TRPA Tarpa 76.27 325⇑ *iP* **P 11 06 03.8 +0.9**
TIRR Tirgusor 76.53 320 ⇑P **P 11 06 05.0 +0.5**
TIRR Tirgusor 76.53 320⇑ *iP* **P 11 06 05.0 +0.5**
DOPR Dopca 76.75 322⇑ *iP* **P 11 06 07.8 +2.1**
DPC Dobruska-Polom 76.86 330 *eP* **P 11 06 07.2 +0.9**
DPC Dobruska-Polom 76.86 330 *eP* **P 11 06 07.2 +0.9**
MLR Muntele Rosu 76.87 322 ⇑P **P 11 06 07.5 +0.9**
MLR Muntele Rosu 76.87 322⇑ *iP* **P 11 06 07.5 +0.9**
ISR Istrita 76.89 321 ⇓P **P 11 06 07.3 +0.7**
ISR Istrita 76.89 321⇓ *iP* **P 11 06 07.3 +0.7**
MORC Moravsky Berou 76.89 329 *eP* **P 11 06 07.3 +0.8**
MORC pmax pmax
comp=Z,4.0nm,0.7s
MORC Moravsky Berou 76.89 329⇑ *iP* **P 11 06 07.6 +1.1**
MORC Moravsky Berou 76.89 329 *eP* **P 11 06 07.2 +0.8**
comp=Z,4.0nm,0.7s
MSAB Monastry St. A 77.09 320⇑ *iP* **P 11 06 08.5 +0.9**
CLL Collm 77.21 333⇓ *iP* **P 11 06 08.3 +0.1**
CLL pmax pmax
comp=Z,8.0nm,0.6s
CLL Collm 77.21 333⇓ *iP* **P 11 06 08.3 +0.1**
comp=Z,8.0nm,0.6s
BRG Berggiesshubel 77.26 332 *eP* **P 11 06 09.0 +0.5**
comp=Z,2.3nm,0.5s
BRG Berggiesshubel 77.26 332 *eP* **P 11 06 09.0 +0.5**
BRG pmax pmax
comp=Z,2.0nm,0.5s
VOIR 77.31 322⇑ P **P 11 06 10.2 +1.2**
VOIR 77.31 322⇑ *iP* **P 11 06 10.2 +1.2**
BRTR Keskin Array B 77.47 314 *cePP* **P 11 06 11.1 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 77.47 314 P **P 11 06 10.2 +0.1**
comp=Z,1.3nm,0.7s,baz=58,slow=4.2,SNR=7.7
SCHQ Schefferville 77.50 19 P **P 11 06 09.7 -0.1**
comp=Z,14nm,1.3s,baz=235,slow=9.9,SNR=5.3
PSZ Piszkesteto 77.50 327 ⇓P **P 11 06 09.8 -0.2**
PSZ Piszkesteto 77.50 327 ⇓*iP* **P 11 06 09.8 -0.2**
VRAC Vranov 77.63 329 ⇓P **P 11 06 11.3 +0.7**
VRAC Vranov 77.63 329 ⇓*iP* **P 11 06 11.3 +0.7**
PRU Pruhonice 77.80 331 *eP* **P 11 06 12.0 +0.5**
PRU Pruhonice 77.80 331 *eP* **P 11 06 12.0 +0.5**
KHC Kasperske Hory 78.86 331 *eP* **P 11 06 17.1 -0.3**
KHC Kasperske Hory 78.86 331 *eP* **P 11 06 17.1 -0.3**
GERES GERESS Array B 79.06 331 P **P 11 06 18.4 -0.1**
comp=Z,0.8nm,0.4s,baz=37,slow=5.2,SNR=9.0
TXAR Lajitas Array 82.57 56 P **P 11 06 38.9 +1.2**
comp=Z,0.5nm,0.6s,baz=301,slow=4.3,SNR=9.5

*IDC **27** 11:25:27.4±0.8, 33°.62S×72°.12W, h0km, mb3.9/6, mb1 4.1/9, mb1mx3.8/39, mbtmp3.9/9, ML4.0/3, MS3.0/4, Ms1 3.0/4, ms1mx2.9/21, Error ellipse: s-maj=34.2km s-min=17.8km az=100.0*
*ISCJB **27** 11:25:31.9±1.1, 33°.57S±0°.04×72°.01W±0°.09, h43km±11km, mb4.0/5, MS3.5/2, Error ellipse: s-maj=13.6km s-min=5.9km az=20.9*
*GUC **27** 11:25:31.0±0.3, 33°.59S×71°.91W, h46km±5km, ML3.9*
ISC 27 11:25:33.3±1.7, 33°.58S±0°.06×71°.9W±0°.1, h41km±16km, n24, σ0°.86/28, mb4.1/5, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.98**	**52**	*eP*	**Pn**	**Pn**	**11 25 50.0**	**-0.9**
ROCH				*eS*	**Sn**	**Sn**	**11 26 04.6**	**+1.0**
ROCH				IAML			11 26 05.2	
comp=N,5μm,0.3s								
FSR	**Penalolen**	**1.17**	**85**	*eP*	**Pn**	**Pn**	**11 25 52.3**	**-1.0**
FSR				*eS*	**Sn**	**Sn**	**11 26 08.5**	**+0.3**
SJCH	**San Jose de Ma**	**1.31**	**93**	*ePg*	**Pn**	**Pn**	**11 25 53.7**	**-1.6**
SJCH				*eS*	**Sn**	**Sn**	**11 26 11.7**	**0.0**
SJCH				IAML			11 26 17.2	
comp=E,3μm,0.2s								
NICH	**Los Niches**	**1.53**	**158**	*eP*	**Pn**	**Pn**	**11 25 57.5**	**-0.7**
NICH				*eS*	**Sn**	**Sn**	**11 26 17.3**	**+0.4**
YECH	**El Yeso**	**1.54**	**94**	*eP*	**Pn**	**Pn**	**11 25 58.3**	**-0.3**
YECH				*eS*	**Sn**	**Sn**	**11 26 19.1**	**+1.5**
YECH				IAML			11 26 26.6	
comp=N,4μm,0.5s								
TALC	**Talca**	**1.83**	**172⇑**	*eP*	**Pn**	**Pn**	**11 26 01.7**	**-0.6**
TALC				*eS*	**Sn**	**Sn**	**11 26 25.4**	**+1.1**
LNCH	**Linares**	**2.28**	**173**	*eP*	**Pn**	**Pn**	**11 26 07.9**	**-0.6**
LNCH				*eS*	**Sn**	**Sn**	**11 26 36.3**	**+0.9**
CFAA	**Coronel Fontan**	**3.68**	**59**	Pn	**Pn**	**Pn**	**11 26 28.9**	**+1.1**
comp=N,3.4nm,0.3s,baz=224,slow=12,SNR=36								
CFAA				Lg		Lg	11 27 20.1	
comp=N,1.8nm,0.3s,baz=88,slow=16,SNR=8.6								
CFAA				LR		LR	11 27 30.7	
comp=N,19nm,18.9s,baz=268,slow=32								
PLCA	**Paso Flores**	**7.22**	**172**	Pn	**Pn**	**Pn**	**11 27 15.4**	**-1.0**
comp=N,1.6nm,0.3s,baz=335,slow=11,SNR=42								
PLCA				Lg		Lg	11 29 10.2	
comp=N,0.3nm,0.3s,baz=263,slow=18,SNR=1.9								
PLCA				LR		LR	11 30 06.3	
comp=N,120nm,20.6s,baz=168,slow=39								
LPAZ	**La Paz**	**17.55**	**12**	P	**Pn**	**Pn**	**11 29 35.5**	**-0.1**
comp=N,0.1nm,0.3s,baz=195,slow=8.1,SNR=7.7								
SIV	**San Ignacio**	**20.07**	**32**	P	Pn	Pn	11 30 05.4	+0.1
comp=N,1.4nm,0.5s,baz=195,slow=4.8,SNR=4.4								
ATAH	**Atahualpa**	**26.99**	**346**	LR	LR	LR	11 40 28.4	
comp=N,59nm,19.2s,baz=84,slow=33								
VNA3	**Neumayer Olymp**	**49.71**	**158**	P	**P**	**P**	**11 34 21.3**	**+0.3**
VNA2	**Neumayer--Watz**	**50.36**	**157**	P	**P**	**P**	**11 34 26.8**	**+0.9**
baz=297,slow=7.5								
SNAA	**Sanae**	**51.94**	**158**	P	**P**	**P**	**11 34 38.6**	**+0.9**
SNAA	**Sanae**	**51.94**	**158**	P	**P**	**P**	**11 34 38.3**	**+0.5**
comp=N,0.5nm,0.5s,baz=270,slow=8.7,SNR=8.7								
QSPA	**South Pole Qui**	**56.66**	**180**	P	**P**	**P**	**11 35 12.4**	**+0.2**
comp=N,2.7nm,1.0s,baz=164,slow=1.6,SNR=7.2								
VNDA	**Vanda**	**64.53**	**191**	P	**P**	**P**	**11 36 04.9**	**-0.6**
comp=N,0.5nm,0.3s,baz=0.6,slow=2.9,SNR=6.1								
TXAR	**Lajitas Array**	**69.41**	**331**	P	**P**	**P**	**11 36 37.8**	**+0.6**
comp=N,0.6nm,0.6s,baz=157,slow=8.8,SNR=9.2								
PFO	**Pinyon Flats O**	**78.85**	**323**	LR	LR	LR	12 05 04.5	
comp=N,40nm,18.7s,baz=309,slow=30								
TORD	**Torodi Ar. Bea**	**83.98**	**70**	P	**P**	**P**	**11 37 59.6**	**0.0**
comp=N,1.9nm,0.7s,baz=232,slow=4.6,SNR=11								
WRA	**Warramunga Arr**	**121.17**	**209**	PKP	**PKPdf**	**PKPdf**	**11 44 21.2**	**-1.1**
comp=N,0.4nm,0.6s,baz=162,slow=1.8,SNR=5.6								
ZALV	**Zalesovo Beam**	**153.82**	**32**	PKPbc	**PKPbc**	**PKPbc**	**11 45 27.2**	**-0.3**
comp=N,0.6nm,0.3s,baz=198,slow=4.4,SNR=4.0								
MKAR	**Makanchi Array**	**156.42**	**48**	PKPab	**PKPab**	**PKPab**	**11 45 51.8**	**-0.3**
comp=N,0.4nm,0.6s,baz=318,slow=1.6,SNR=3.7								

IDC 27 11:29:37.0±2.9, 10°.91N×84°.86W, h60km±42km, mb3.2/2, mb1 3.6/2, mb1mx3.2/34, mbtmp3.5/2, MS4.2/1, Ms1 4.2/1, ms1mx2.7/18, Error ellipse: s-maj=92.4km s-min=57.0km az=73.0, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**0.62**	**188**	P	Pn	Pn	11 29 52.0	+1.5
95nm,0.3s,baz=300,slow=20,SNR=300								
JTS				S		Sn	11 30 01.8	+1.6
308nm,0.3s,baz=270,slow=19,SNR=116								
TXAR	**Lajitas Array**	**25.38**	**319**	P	P	P	11 34 59.1	+0.1
1.0nm,0.6s,baz=134,slow=10,SNR=16								
PFO	**Pinyon Flats O**	**36.70**	**313**	LR	LR	LR	11 52 18.3	
comp=Z,315nm,19.5s,baz=168,slow=37								
YKA	**Yellowknife Ar**	**55.77**	**344**	P	P	P	11 39 07.0	-0.6
0.1nm,0.4s,baz=136,slow=7.9,SNR=8.1								
ASAR	**Alice Springs**	**141.01**	**246**	PKP	PKPdf	PKPdf	11 49 01.3	-0.1
0.4nm,1.0s,baz=96,slow=1.8,SNR=4.3								
WRA	**Warramunga Arr**	**141.24**	**252**	PKP	PKPdf	PKPdf	11 49 01.7	-0.2
0.7nm,1.1s,baz=93,slow=2.4,SNR=4.0								

IDC 27 11:31:58.0±2.8, 17°.88S×171°.82W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.6/37, mbtmp3.9/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/23, Error ellipse: s-maj=311.0km s-min=30.8km az=157.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.85**	**255**	LR	LR	LR	11 43 32.5	
comp=Z,164nm,18.6s,baz=30,slow=33								
PPT2	**Papeete2**	**21.19**	**93**	*e*LR	LR	LR	11 41 23.6	
118nm,27.8s								
PPT	**Papeete**	**21.19**	**93**	LR	LR	LR	11 43 18.1	
comp=Z,88nm,18.1s,baz=284,slow=32								
TBI	**Tubuai**	**21.61**	**108**	*e*LR	LR	LR	11 41 45.2	
128nm,29.2s								
WRA	**Warramunga Arr**	**50.80**	**259**	P	P	P	11 40 59.9	-0.8
0.9nm,0.8s,baz=97,slow=8.2,SNR=9.5								
ASAR	**Alice Springs**	**50.83**	**254**	P	P	P	11 41 01.4	+0.5
1.7nm,0.5s,baz=90,slow=8.2,SNR=32								
TXAR	**Lajitas Array**	**80.75**	**55**	P	P	P	11 44 13.8	0.0
0.6nm,0.9s,baz=224,slow=8.3,SNR=5.9								

*IDC **27** 11:32:15.6±0.8, 51°.54N×175°.17W, h0km, mb3.6/8, mb1 3.9/10, mb1mx3.6/54, mbtmp3.6/10, ML3.5/2, Error ellipse: s-maj=31.1km s-min=13.4km az=171.0*
*ISCJB **27** 11:32:21.7±0.6, 51°.6N±0°.1×175°.24W±0°.05, h55km, mb3.6/8, Error ellipse: s-maj=17.5km s-min=3.8km az=173.5*
*NEIC **27** 11:32:21.8, 51°.63N×175°.31W, h22km, ML3.8(AEIC), After AEIC.*
ISC 27 11:32:23.3±0.8, 51°.8N±0°.2×175°.34W±0°.05, h55km, n30, σ1°.67/31, mb3.6/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ADK	**Adak**	**0.84**	**275**	P	**Pn**	**Pn**	**11 32 38.1**	**-0.9**
ADK				S		**Sn**	**11 32 50.6**	**+0.1**
KOKL	**Mount Kliuchef**	**0.87**	**54**	P	**Pn**	**Pn**	**11 32 39.8**	**+0.4**
CERAA	**Semis' Rag'd T**	**3.09**	**274**	P	**Pn**	**Pn**	**11 33 10.4**	**+0.8**
CESW	**Semis' Southwe**	**3.16**	**274**	P	**Pn**	**Pn**	**11 33 11.5**	**+0.9**
CESW				S		**Sn**	**11 33 50.3**	**+3.2**
CETU	**Semis' Tuman**	**3.21**	**275**	P	**Pn**	**Pn**	**11 33 10.9**	**-0.3**
CETU				S		**Sn**	**11 33 51.6**	**+3.5**
AMKA	**Amchitka**	**3.37**	**265**	P	**Pn**	**Pn**	**11 33 14.3**	**+0.9**
AMKA				S		**Sn**	**11 33 53.7**	**+1.5**
LSPA	**Little Sitkin**	**3.78**	**275**	P	**Pn**	**Pn**	**11 33 20.3**	**+1.3**
LSPA				S		**Sn**	**11 34 06.1**	**+4.0**
NIKH	**Nikolski High**	**4.14**	**71**	P	**Pn**	**Pn**	**11 33 23.5**	**-0.4**
NIKH				S		**Sn**	**11 34 13.5**	**+2.6**
MREP	**Makushin Rep't**	**5.58**	**66**	P	**Pn**	**Pn**	**11 33 45.6**	**+1.9**
UNV	**Unalaska Valle**	**5.73**	**66**	P	**Pn**	**Pn**	**11 33 47.5**	**+1.8**
FX1	**Attu Island--F**	**7.13**	**283**	Pn	**Pn**	**Pn**	**11 34 03.5**	**-1.3**
1.1nm,0.3s,baz=108,slow=20,SNR=2.0								
SDPT	**Sand Point**	**9.52**	**62**	P	**Pn**	**Pn**	**11 34 39.5**	**+2.0**
ILAR	**Eielson Array**	**19.57**	**38**	P	**P**	**P**	**11 36 45.6**	**-0.6**
0.3nm,0.3s,baz=220,slow=9.0,SNR=25								
SEY	**Seymchan**	**20.41**	**316**	P	**P**	**P**	**11 36 53.5**	**-1.9**
0.3nm,0.3s,baz=236,slow=15,SNR=2.6								
INK	**Inuvik**	**25.87**	**35**	P	**P**	**P**	**11 37 50.0**	**+0.6**
0.3nm,0.3s,baz=217,slow=20,SNR=5.7								
YKA	**Yellowknife Ar**	**33.35**	**47**	P	**P**	**P**	**11 38 54.0**	**-1.7**
0.1nm,0.4s,baz=275,slow=7.4,SNR=5.3								
YKA				PcP		**PcP**	**11 41 36.6**	**+0.5**
0.1nm,0.4s,baz=282,slow=2.9,SNR=6.9								
H11N2	**WAKE ISLAND Hy**	**34.92**	**210**	T		T	12 16 18.5	
baz=20,slow=76,SNR=45								
H11N3	**WAKE ISLAND Hy**	**34.92**	**210**	T		T	12 16 22.1	
baz=20,slow=76,SNR=40								
H11N1	**WAKE ISLAND Hy**	**34.94**	**210**	T		T	12 16 21.7	
baz=20,slow=76,SNR=44								
H11S1	**WAKE ISLAND Hy**	**36.13**	**210**	T		T	12 17 51.8	
baz=19,slow=76,SNR=79								
H11S2	**WAKE ISLAND Hy**	**36.14**	**210**	T		T	12 17 52.8	
baz=19,slow=76,SNR=44								
H11S3	**WAKE ISLAND Hy**	**36.14**	**210**	T		T	12 17 54.6	
baz=19,slow=76,SNR=30								
NEW	**Newport**	**36.70**	**72**	P	**P**	**P**	**11 39 24.9**	**+0.2**
1.0nm,0.4s,baz=289,slow=6.2,SNR=5.5								
KSRS	**Korea Array**	**41.78**	**273**	P	**P**	**P**	**11 40 06.1**	**-1.0**
0.8nm,0.7s,baz=47,slow=9.8,SNR=3.4								
PDAR	**Pinedale Array**	**44.11**	**75**	P	**P**	**P**	**11 40 26.9**	**+0.7**
1.5nm,0.6s,baz=308,slow=3.8,SNR=15								
SONM	**Songino Array**	**48.37**	**298**	PcP	**PcP**	**PcP**	**11 42 25.7**	**+0.5**
0.2nm,0.6s,baz=46,slow=4.2,SNR=2.3								
TXAR	**Lajitas Array**	**56.45**	**84**	P	**P**	**P**	**11 41 59.1**	**-0.3**
0.6nm,1.0s,baz=312,slow=7.0,SNR=3.6								
WRA	**Warramunga Arr**	**83.86**	**227**	P	**P**	**P**	**11 44 45.8**	**-1.0**
0.2nm,0.4s,baz=34,slow=6.0,SNR=3.2								
ASAR	**Alice Springs**	**87.30**	**225**	P	**P**	**P**	**11 45 03.6**	**-0.3**
0.2nm,0.5s,baz=23,slow=5.0,SNR=3.5								
TORD	**Torodi Ar. Bea**	**115.26**	**3**	PKP	**PKPdf**	**PKPdf**	**11 50 57.2**	**-1.4**
0.3nm,0.9s,baz=344,slow=2.5,SNR=2.6								

*ISCJB **27** 11:44:18.2±0.6, 52°.76S±0°.09×25°.9E±0°.4, h10km, mb4.1/8, MS3.8/13, Error ellipse: s-maj=33.8km s-min=11.7km az=169.4*
*IDC **27** 11:44:18.4±0.8, 52°.78S×25°.99E, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.9/26, mbtmp4.1/8, MS3

σ0°84/15, **mb4.2/8, MS3.8/13, 1C-1D, South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.47**	**164**	*e*P	**Pn**	**11 48 21.2**	**-2.0**
SYO	**Syowa Base**	**17.47**	**164**	⇓*i*P	**Pn**	**11 48 23.3**	**+0.1**
SUR	**Sutherland**	**20.76**	**347**	P	**P**	**11 49 00.7**	**-0.2**
	22nm,1.1s,baz=225,slow=9.3,SNR=3.6						
SUR				LR	LR	11 55 10.7	
	comp=Z,439nm,20.1s,baz=182,slow=32						
SNAA	**Sanae**	**22.79**	**203**	P	**P**	**11 49 22.8**	**+0.5**
	2.5nm,0.8s,baz=7.1,slow=11,SNR=12						
MAW	**Mawson**	**23.05**	**144**	LR	LR	11 56 31.1	
	comp=Z,232nm,22.0s,baz=266,slow=32						
LBTB	**Lobatse**	**27.75**	**359**	LR	LR	11 59 14.1	
	comp=Z,223nm,20.8s,baz=188,slow=32						
TSUM	**Tsumeb**	**34.17**	**346**	P	**P**	**11 51 05.2**	**-0.2**
	1.3nm,0.7s,baz=185,slow=12,SNR=2.3						
QSPA	**South Pole Qui**	**37.42**	**180**	P	**P**	**11 51 32.0**	**-0.9**
	17nm,1.1s,baz=245,slow=3.8,SNR=28						
QSPA	**South Pole Qui**	**37.42**	**180**	*e*P	**P**	**11 51 32.6**	**-0.2**
VNDA	**Vanda**	**47.09**	**168**	P	**P**	**11 52 51.8**	**+0.6**
	1.9nm,0.7s,baz=246,slow=7.4,SNR=6.7						
VNDA				LR	LR	12 11 37.2	
	comp=Z,195nm,21.6s,baz=208,slow=35						
SBA	**Scott Base**	**47.39**	**169**	P	**P**	**11 52 53.9**	**+0.4**
	12nm,1.0s						
KMBO	**Kilima Mbogo**	**52.34**	**14**	LR	LR	12 15 32.2	
	comp=Z,111nm,18.0s,baz=103,slow=36						
H10S2	**ASCENSION HYDR**	**54.71**	**308**	T	T	12 53 08.8	
	baz=151,slow=75,SNR=21						
H10S3	**ASCENSION HYDR**	**54.73**	**308**	T	T	12 53 08.7	
	baz=151,slow=75,SNR=18						
H10S1	**ASCENSION HYDR**	**54.73**	**308**	T	T	12 53 09.4	
	baz=151,slow=75,SNR=8.2						
PLCA	**Paso Flores**	**62.40**	**238**	LR	LR	12 18 48.5	
	comp=Z,40nm,18.3s,baz=187,slow=33						
DBIC	**Dimbokro**	**64.80**	**326**	LR	LR	12 16 52.9	
	comp=Z,69nm,19.4s,baz=137,slow=30						
BDFB	**Brasilia**	**68.07**	**273**	LR	LR	12 18 56.9	
	comp=Z,112nm,18.4s,baz=172,slow=31						
TORD	**Torodi Ar. Bea**	**68.95**	**334**	P	**P**	**11 55 24.5**	**-0.5**
	0.4nm,0.7s,baz=181,slow=6.5,SNR=2.6						
TORD				LR	LR	12 19 41.7	
	comp=Z,54nm,21.8s,baz=150,slow=31						
LPAZ	**La Paz**	**79.70**	**257**	LR	LR	12 26 38.2	
	comp=Z,45nm,21.9s,baz=112,slow=32						
ASAR	**Alice Springs**	**81.57**	**118**	P	**P**	**11 56 38.2**	**+0.3**
	1.5nm,0.8s,baz=211,slow=4.7,SNR=11						
ASAR				LR	LR	12 26 00.6	
	comp=Z,33nm,19.0s,baz=226,slow=31						
WRA	**Warramunga Arr**	**84.82**	**116**	P	**P**	**11 56 55.7**	**+1.0**
	1.3nm,0.8s,baz=214,slow=3.8,SNR=5.3						
KEST	**Kesra**	**89.36**	**346**	LR	LR	12 37 06.4	
	comp=Z,38nm,20.8s,baz=281,slow=36						
BRTR	**Keskin Array B**	**92.38**	**6**	LR	LR	12 39 22.7	
	comp=Z,25nm,20.3s,baz=224,slow=36						
RSSD	**Black Hills**	**146.40**	**275**	*e*PKPbc	**PKPab**	**12 04 02.5**	**+1.1**
PDAR	**Pinedale Array**	**148.99**	**269**	PKPbc	**PKPbc**	**12 04 07.9**	**+0.3**
	0.7nm,0.9s,baz=126,slow=4.6,SNR=6.5						
YKA	**Yellowknife Ar**	**157.19**	**311**	PKPab	**PKPab**	**12 04 45.0**	**-0.4**
	0.3nm,0.9s,baz=78,slow=5.5,SNR=3.9						

*DDA **27** 11:59:20.2, 34°.26N×26°.30E, h25km, MD3.6*
*ISK **27** 11:59:32.9, 35°.02N×26°.89E, h13km, MD3.7*
*CSEM **27** 11:59:36.6±0.4, 35°.24N×27°.17E, h2km, MD3.2, Error ellipse: s-maj=11.4km s-min=4.1km az=155.0*
*ATH **27** 11:59:37.8, 35°.32N×27°.10E, h18km±1km, MD3.2/9*
*THE **27** 11:59:38.1, 35°.32N×27°.13E, h0km±1km, ML3.2/2, Error ellipse: s-maj=2.5km s-min=0.8km az=144.0*

ISC 27 11:59:37.1±1.2, 35°.26N±0°.05×27°.14E±0°.03, h7km±9km, n64, σ1°21/89, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.29**	**3**	P	**Pg**	**11 59 42.8**	**-0.1**
KARP				S	**Sg**	**11 59 47.6**	**+0.9**
KARP	**Karpathos**	**0.29**	**3**	*e*PB	**Pg**	**11 59 42.9**	**0.0**
KARP				*e*SB	**Sg**	**11 59 47.4**	**+0.7**
KARP	**Karpathos**	**0.29**	**3**	P	**Pg**	**11 59 42.8**	**-0.1**
KARP				*e*Sb	**Sg**	**11 59 47.4**	**+0.7**
ZKR	**Zakros**	**0.77**	**260**	P	**Pb**	**11 59 51.5**	**-1.3**
ZKR				S	**Sn**	**12 00 06.2**	**0.0**
ZKR	**Zakros**	**0.77**	**260**	*e*PB	**Pb**	**11 59 51.5**	**-1.3**
ZKR				*e*SN	**Sb**	**12 00 02.9**	**-0.6**
ZKR	**Zakros**	**0.77**	**260**	P	**Pb**	**11 59 51.5**	**-1.3**
ZKR				S	**Sn**	**12 00 06.2**	**0.0**
ARG	**Arkhangelos**	**1.25**	**40**	P	**Pn**	**12 00 00.2**	**-0.8**
ARG				S	**Sn**	**12 00 18.6**	**+0.6**
ARG	**Arkhangelos**	**1.25**	**40**	*e*PN	**Pg**	**12 00 01.0**	**-0.1**
ARG				*e*SN	**Sn**	**12 00 18.3**	**+0.3**
ARG	**Arkhangelos**	**1.25**	**40**	P	**Pn**	**12 00 00.2**	**-0.8**
ARG	**Arkhangelos**	**1.25**	**40**	*e*Pn	**Pg**	**12 00 01.0**	**-0.1**
ARG				*e*Sn	**Sn**	**12 00 18.3**	**+0.3**
NPS	**Neapolis**	**1.25**	**271**	P	**Pg**	**12 00 01.1**	**0.0**
NPS				S	**Sn**	**12 00 19.3**	**+1.2**
NPS	**Neapolis**	**1.25**	**271**	*e*PN	**Pg**	**12 00 01.2**	**+0.1**
NPS	**Neapolis**	**1.25**	**271**	*e*Pn	**Pg**	**12 00 01.2**	**+0.1**
NPS				S	**Sn**	**12 00 19.3**	**+1.2**
NIS1	**Nisyros Isl.**	**1.34**	**1**	*e*PN	**Pn**	**12 00 01.6**	**-0.7**
NIS1	**Nisyros Isl.**	**1.34**	**1**	*e*Pn	**Pn**	**12 00 01.6**	**-0.7**
LAST	**Lasithi**	**1.36**	**266**	P	**Pg**	**12 00 03.0**	**-0.3**
LAST				S	**Sg**	**12 00 21.9**	**+0.9**
LAST	**Lasithi**	**1.36**	**266**	*e*PN	**Pg**	**12 00 03.0**	**-0.3**
LAST	**Lasithi**	**1.36**	**266**	P	**Pg**	**12 00 03.0**	**-0.3**
LAST				S	**Sg**	**12 00 21.9**	**+0.9**
SANT	**Santorini**	**1.76**	**310**	*e*PN	**Pn**	**12 00 08.1**	**+0.1**
SANT	**Santorini**	**1.76**	**310**	*e*Pn	**Pn**	**12 00 08.1**	**+0.1**
BODT	**Bodrum**	**1.81**	**4**	*e*PN	**Pn**	**12 00 08.2**	**-0.4**
BODT				*e*SN	**Sb**	**12 00 33.9**	**+0.6**
BODT	**Bodrum**	**1.81**	**4**	*e*Pn	**Pn**	**12 00 08.3**	**-0.4**
BODT				*e*Sn	**Sb**	**12 00 33.9**	**+0.6**
BDRM	**Kayabasi**	**1.82**	**8**	*i* P	**Pn**	**12 00 06.9**	**-1.9**
BDRM				*i* S	**Sg**	**12 00 37.6**	**+1.9**
BDRM	**Kayabasi**	**1.82**	**8**	*i* P	**Pn**	**12 00 06.9**	**-1.9**
BDRM				*i* S	**Sg**	**12 00 37.6**	**+1.9**
DALY	**Dalyan (Mu¨la**	**1.98**	**38**	*e*PN	**Pn**	**12 00 11.5**	**+0.5**
DALY				*e*SN	**Sb**	**12 00 39.7**	**+1.4**
DALY	**Dalyan (Mu¨la**	**1.98**	**38**	*e*Pn	**Pn**	**12 00 11.5**	**+0.5**
DALY				*e*Sn	**Sb**	**12 00 39.7**	**+1.4**
YER	**Yerkesik**	**2.09**	**26**	*e*PN	**Pn**	**12 00 13.1**	**+0.5**
YER	**Yerkesik**	**2.09**	**26**	*e*Pn	**Pn**	**12 00 13.1**	**+0.5**
FETY	**Fethiye**	**2.09**	**48**	*e*PN	**Pn**	**12 00 12.8**	**+0.2**
FETY	**Fethiye**	**2.09**	**48**	*e*Pn	**Pn**	**12 00 12.8**	**+0.2**
APE	**Apeiranthos**	**2.23**	**325**	*e*PN	**Pn**	**12 00 12.0**	**-2.5**
APE	**Apeiranthos**	**2.23**	**325**	*e*PN	**Pn**	**12 00 15.4**	**+0.9**
APE	**Apeiranthos**	**2.23**	**325**	*e*Pn	**Pn**	**12 00 15.4**	**+0.9**
AKAS	**Kas**	**2.23**	**63**	*i* P	**Pn**	**12 00 13.3**	**-1.3**
AKAS				*i* S	**Sb**	**12 00 45.7**	**+0.1**
AKAS	**Kas**	**2.23**	**63**	*i* P	**Pn**	**12 00 13.3**	**-1.3**
AKAS				*i* S	**Sb**	**12 00 45.7**	**+0.1**
VAM	**Vamos**	**2.41**	**274**	*e*PN	**Pb**	**12 00 19.0**	**-1.8**
VAM	**Vamos**	**2.41**	**274**	*e*Pn	**Pb**	**12 00 19.0**	**-1.8**
AYDN	**Tasoluk**	**2.47**	**14**	*i* P	**Pn**	**12 00 19.3**	**+1.4**
AYDN				*i* S	**Sb**	**12 00 51.3**	**-1.2**
AYDN	**Tasoluk**	**2.47**	**14**	*i* P	**Pn**	**12 00 19.3**	**+1.4**
AYDN				*i* S	**Sb**	**12 00 51.3**	**-1.2**
KARN	**Karanos**	**2.64**	**274**	P	Pb	12 00 21.3	-3.4
KARN	**Karanos**	**2.64**	**274**	*e*PB	**Pb**	**12 00 22.1**	**-2.6**
KARN	**Karanos**	**2.64**	**274**	P	Pb	12 00 21.3	-3.4
ELL	**Elmali**	**2.69**	**56**	*e*PN	**Pn**	**12 00 20.7**	**-0.3**
ELL	**Elmali**	**2.69**	**56**	*e*Pn	**Pn**	**12 00 20.7**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**2.75**	**12**	*e*PN	**Pn**	**12 00 21.8**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**2.75**	**12**	*e*Pn	**Pn**	**12 00 21.8**	**+0.1**
GOLH	**Golhisar**	**2.78**	**44**	*i* P	**Pn**	**12 00 22.8**	**+0.7**
GOLH	**Golhisar**	**2.78**	**44**	*i* P	**Pn**	**12 00 22.8**	**+0.7**
GOLH				*i* S	**Sg**	**12 01 12.1**	**+5.6**
DNZL	**Cakiroluk**	**2.87**	**32**	*i* P	**Pb**	**12 00 26.3**	**-2.5**
DNZL	**Cakiroluk**	**2.87**	**32**	*i* P	**Pb**	**12 00 26.3**	**-2.5**
DNZL				*i* S	**Sg**	**12 01 07.5**	**-1.9**
IZM	**Izmir**	**3.13**	**2**	*e*PN	**Pn**	**12 00 26.5**	**-0.5**
IZM	**Izmir**	**3.13**	**2**	*e*Pn	**Pn**	**12 00 26.5**	**-0.5**
ANKY	**Antikythira Is**	**3.19**	**282**	P	**Pn**	**12 00 27.7**	**+0.1**
ANKY	**Antikythira Is**	**3.19**	**282**	P	**Pn**	**12 00 27.7**	**+0.1**
CHOS	**Chios island**	**3.24**	**345**	*e*PN	**Pn**	**12 00 27.4**	**-1.0**
CHOS	**Chios island**	**3.24**	**345**	*e*Pn	**Pn**	**12 00 27.4**	**-1.0**
KYTH	**Kithira**	**3.49**	**288**	P	**Pn**	**12 00 32.5**	**+0.7**
KYTH	**Kithira**	**3.49**	**288**	*e*PN	**Pn**	**12 00 33.0**	**+1.2**
KYTH	**Kithira**	**3.49**	**288**	P	**Pn**	**12 00 32.5**	**+0.7**
KYTH	**Kithira**	**3.49**	**288**	*e*Pn	**Pn**	**12 00 33.0**	**+1.2**
VLI	**Veliai**	**3.71**	**294**	P	**Pn**	**12 00 34.5**	**-0.3**
VLI				S	**Sn**	**12 01 19.6**	**+1.0**
VLI	**Veliai**	**3.71**	**294**	*e*PN	**Pn**	**12 00 35.4**	**+0.6**
VLI	**Veliai**	**3.71**	**294**	P	**Pn**	**12 00 34.5**	**-0.3**
VLI	**Veliai**	**3.71**	**294**	*e*Pn	**Pn**	**12 00 35.4**	**+0.6**
VLI				S	**Sn**	**12 01 19.6**	**+1.0**

*JMA **27** 12:16:02.3±0.2, 23°.02N×120°.43E, h0km, M4.0*
*TAP **27** 12:16:04.5, 22°.98N×120°.54E, h20km, ML4.0, B*
*ISCJB **27** 12:16:05.6±0.2, 22°.97N±0°.01×120°.51E±0°.02, h25km±2km, mb3.4/6, MS2.8/2, Error ellipse: s-maj=3.1km s-min=2.2km az=166.0*
*IDC **27** 12:16:28.2±6.7, 22°.71N×121°.75E, h221km±69km, mb3.0/6, mb1 3.2/7, mb1mx3.0/25, mbtmp3.5/7, MS2.9/3, Ms1 2.9/3, ms1mx2.7/9, Error ellipse: s-maj=31.5km s-min=14.9km az=79.0*

ISC 27 12:16:05.1±0.8, 22°.98N±0°.02×120°.50E±0°.02, h24km±4km, n78, σ1°05/119, mb3.5/6, 11C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.13**	**38**	⇑*i*P	**Pb**	**12 16 09.3**	**-0.7**
	baz=22						
SGST				S	**Sb**	**12 16 12.7**	**-0.5**
	baz=22						
CHN3	**Shinhua**	**0.15**	**309**	⇓*i*P	**Pb**	**12 16 10.9**	**+0.8**
	baz=301						
TWM1	**Shoushan**	**0.17**	**204**	⇑*i*P	**Pb**	**12 16 10.8**	**+0.5**
	baz=214						
CHN1	**Nanshi**	**0.21**	**8**	⇑P	**Pb**	**12 16 10.5**	**-0.3**
	baz=2.0						
CHN1				*e*S	**Sb**	**12 16 14.8**	**+0.2**
	baz=2.0						
SGLT	**Jiouru**	**0.25**	**181**	*e*P	**Pb**	**12 16 11.8**	**+0.4**
	baz=184						
SGLT				*e*S	**Sn**	**12 16 17.9**	**-0.5**
	baz=184						
TAI1	**Yung-k'ang**	**0.26**	**284**	⇑*i*P	**Pb**	**12 16 12.1**	**+0.8**
	baz=283						
TAI1				*e*S	**Sn**	**12 16 18.1**	**-0.3**
	baz=283						
SSD	**Sandimen**	**0.26**	**152**	⇓*i*P	**Pb**	**12 16 10.8**	**-0.7**
	baz=153						
SSD				*i* S	**Sb**	**12 16 15.4**	**-0.5**
	baz=153						
TWK	**Hsinying**	**0.29**	**358**	⇓P	**Pb**	**12 16 11.9**	**0.0**
	baz=1.0						
TWK				*e*S	**Sb**	**12 16 17.3**	**+0.7**
	baz=1.0						
WTP	**Ta-pu**	**0.29**	**22**	⇑*i*P	**Pb**	**12 16 11.6**	**-0.4**
	baz=15						
WTP				*i* S	**Sb**	**12 16 16.8**	**+0.2**
	baz=15						
STYT	**Tauyuan**	**0.30**	**52**	⇑*i*P	**Pb**	**12 16 11.6**	**-0.6**
	baz=48						
STYT				*i* S	**Sb**	**12 16 16.7**	**-0.2**
	baz=48						
SCLT	**Jiali**	**0.34**	**305**	*e*P	**Pb**	**12 16 13.3**	**+0.7**
	baz=302						
SCLT				*e*S	**Sn**	**12 16 20.7**	**+0.1**
	baz=302						
CHN4	**Tsaushan**	**0.38**	**13**	⇑*i*P	**Pb**	**12 16 13.0**	**-0.3**
	baz=7.0						
CHN4				S	**Sb**	**12 16 19.6**	**+0.6**
	baz=7.0						
KAU	**Kaohsiung**	**0.44**	**203**	*e*P	**Pb**	**12 16 15.1**	**+0.8**
	baz=218						
CHN8	**Yiju**	**0.45**	**324**	*e*P	**Pb**	**12 16 15.1**	**+0.6**
	baz=322						
CHN8				*e*S	**Sn**	**12 16 23.1**	**-0.2**
	baz=322						
CHY	**Chiayi**	**0.52**	**353**	P	**Pb**	**12 16 16.1**	**+0.5**
	baz=349						
CHY				*e*S	**Sn**	**12 16 24.8**	**-0.3**
	baz=349						
ELDTW	**Lidau**	**0.52**	**66**	*e*P	**Pb**	**12 16 15.1**	**-0.6**
	baz=64						
CHN2	**Minshiung**	**0.55**	**358**	*e*P	**Pb**	**12 16 16.7**	**+0.6**
	baz=354						
TWG	**Pinlang**	**0.55**	**106**	⇓*i*P	**Pb**	**12 16 15.9**	**-0.3**
	baz=108						
TWG				S	**Sb**	**12 16 24.3**	**+0.6**
	baz=108						
ECL	**Taimali**	**0.57**	**132**	⇓P	**Pb**	**12 16 15.8**	**-0.6**
	baz=140						
ECL				*e*S	**Sb**	**12 16 23.5**	**-0.6**
	baz=140						
ALS	**Alishan**	**0.60**	**28**	P	**Pb**	**12 16 16.7**	**-0.4**
	baz=25						
ALS				S	**Sb**	**12 16 25.7**	**+0.3**
	baz=25						
SCZT	**Fangliau**	**0.61**	**169**	⇓*i*P	**Pb**	**12 16 17.0**	**-0.2**
	baz=163						
SCZT				*e*S	**Sn**	**12 16 28.4**	**+1.0**
	baz=163						
CHN5	**Tsauling**	**0.64**	**15**	⇑P	**Pb**	**12 16 17.4**	**-0.2**
	baz=11						
CHN5				S	**Sn**	**12 16 28.0**	**-0.1**
	baz=11						
TTN	**Taitung**	**0.64**	**110**	*e*P	**Pb**	**12 16 17.8**	**+0.2**
	baz=112						
TTN				*e*S	**Sn**	**12 16 28.4**	**+0.4**
	baz=112						
TWP	**Hsiaoliuchiu**	**0.64**	**191**	*e*P	**Pn**	**12 16 19.4**	**+0.8**
	baz=195						
TWP				S	**Sn**	**12 16 31.1**	**+3.1**
	baz=195						
YUS	**Yu-Shan**	**0.66**	**39**	*i* P	**Pb**	**12 16 18.1**	**-0.2**
	baz=36						
YUS				S	**Sb**	**12 16 27.3**	**+0.1**
	baz=36						
EAST	**Anshuo**	**0.68**	**151**	⇓*i*P	**Pb**	**12 16 18.0**	**-0.3**
	baz=150						
EAST				*e*S	**Sn**	**12 16 29.0**	**+0.1**
	baz=150						
WSF	**Szhu**	**0.70**	**339**	*e*P	**Pb**	**12 16 19.1**	**+0.4**
	baz=336						
WSF				S	**Sn**	**12 16 30.2**	**+0.6**
	baz=336						
WGK	**Gukeng**	**0.71**	**5**	*e*P	**Pb**	**12 16 19.1**	**+0.3**
	baz=2.0						
WGK				*e*S	**Sn**	**12 16 30.6**	**+1.0**
	baz=2.0						
TAW	**Tawu**	**0.72**	**149**	⇓P	**Pb**	**12 16 18.7**	**-0.3**
	baz=144						
TAW				S	**Sn**	**12 16 29.6**	**-0.4**
	baz=144						
CHKT	**Chengkung**	**0.81**	**81**	P	**Pb**	**12 16 20.5**	**0.0**
	baz=81						
CHKT				*e*S	**Sn**	**12 16 33.8**	**+1.6**
	baz=81						
WDGT	**Dungji**	**0.82**	**290**	⇑*i*P	**Pb**	**12 16 20.3**	**-0.3**
	baz=289						
WDGT				*e*S	**Sb**	**12 16 31.8**	**+0.5**
	baz=289						
TWF1	**Yuli**	**0.82**	**63**	⇓*i*P	**Pb**	**12 16 20.3**	**-0.5**
	baz=61						
TWF1				*e*S	**Sb**	**12 16 30.8**	**-0.7**
	baz=61						
WTCT	**Ta-ch'eng**	**0.90**	**347**	*e*P	**Pb**	**12 16 21.8**	**-0.3**
	baz=345						
WTCT				*e*S	**Sn**	**12 16 34.9**	**+0.3**
	baz=345						
WNT	**Mingjian**	**0.91**	**11**	*e*P	**Pb**	**12 16 22.1**	**-0.1**
	baz=8.0						
WNT				*e*S	**Sn**	**12 16 36.2**	**+1.4**
	baz=8.0						
EHY	**Hungye**	**0.92**	**55**	P	**Pn**	**12 16 21.9**	**-0.6**
	baz=57						
EHY				*e*S	**Sn**	**12 16 35.6**	**+0.6**
	baz=57						
WDT	**Danda**	**0.97**	**37**	P	**Pn**	**12 16 23.0**	**-0.5**
	baz=42						
SMLT	**Sun Moon Lake**	**0.97**	**22**	⇑P	**Pn**	**12 16 23.1**	**-0.2**
	baz=20						
SMLT				*e*S	**Sn**	**12 16 37.2**	**+0.8**
	baz=20						
TYC	**Yuchr**	**0.98**	**20**	*e*P	**Pn**	**12 16 22.9**	**-0.3**
	baz=7.0						
HEN	**Hengchun**	**0.99**	**167**	*e*P	**Pb**	**12 16 24.0**	**+0.4**
	baz=169						
PNG	**Penghu**	**1.05**	**304**	*e*P	**Pn**	**12 16 23.4**	**-0.8**
	baz=304						
TWK1	**Hengchun**	**1.07**	**164**	*e*P	**Pb**	**12 16 25.1**	**+0.2**
	baz=166						
TSEB	**Hengchuen, Pin**	**1.14**	**161**	*e*P	**Pb**	**12 16 26.6**	**+0.5**
	baz=166						
TSEB				*e*S	**Sb**	**12 16 42.5**	**+2.2**
	baz=166						
TCU	**Taichung**	**1.18**	**8**	*e*P	**Pb**	**12 16 26.5**	**-0.2**
	baz=357						
ESL	**Shilin**	**1.20**	**46**	P	**Pn**	**12 16 26.7**	**+0.4**
	baz=44						
ESL				*e*S	**Sb**	**12 16 43.9**	**+1.8**
	baz=44						
LAY	**Lan-yu**	**1.35**	**134**	*e*P	**Pn**	**12 16 28.0**	**-0.4**
	baz=135						
LAY				*e*S	**Sb**	**12 16 46.3**	**-0.3**
	baz=135						
WHF	**Hehuan Shan**	**1.36**	**31**	⇑*i*P	**Pb**	**12 16 29.7**	**-0.4**
	baz=29						
WHF				*e*S	**Sb**	**12 16 50.2**	**+3.0**
	baz=29						
TWQ1	**Liyutan**	**1.39**	**10**	*e*P	**Pb**	**12 16 30.0**	**-0.3**
	baz=8.0						
TWQ1				*e*S	**Sb**	**12 16 48.8**	**+1.2**
	baz=8.0						
TWT	**Tachien**	**1.41**	**26**	*e*P	**Pn**	**12 16 29.8**	**+0.3**
	baz=23						
TWT				*e*S	**Sb**	**12 16 49.7**	**+1.2**
	baz=23						
NSY	**Sanyi**	**1.45**	**10**	*e*P	**Pb**	**12 16 31.1**	**-0.3**
	baz=8.0						
TWD	**Chiawan**	**1.49**	**42**	*e*P	**Pb**	**12 16 31.4**	**-0.7**
	baz=41						
TWD				*e*S	**Sb**	**12 16 51.7**	**+1.2**
	baz=41						
NNS	**Nan Shan**	**1.66**	**29**	⇓P	**Pb**	**12 16 34.5**	**-0.6**
	baz=14						
NSTT	**Nanjuang**	**1.71**	**16**	*e*P	**Pn**	**12 16 34.0**	**+0.7**
	baz=15						
ENA	**Nanau**	**1.84**	**38**	*e*P	**Pn**	**12 16 35.8**	**+0.7**
	baz=49						
NSK	**Sanguang**	**1.86**	**25**	*e*P	**Pb**	**12 16 37.2**	**-1.3**
	baz=9.0						
ENTT	**Nioudou**	**1.92**	**30**	*e*P	**Pb**	**12 16 38.1**	**-1.3**
	baz=15						
TWC	**Suao**	**2.04**	**37**	*e*P	**Pb**	**12 16 40.9**	**-0.6**
	baz=37						
TWA	**Mucha**	**2.23**	**26**	*e*P	**Pb**	**12 16 43.1**	**-1.5**
	baz=26						
EGS		**2.28**	**35**	*e*P	**Pb**	**12 16 45.5**	**0.0**
	baz=48						
KNM	**Kinmen**	**2.37**	**308**	*e*P	**Pn**	**12 16 42.9**	**+0.4**
	baz=306						
NWF	**Wu-fen Shan**	**2.39**	**29**	*e*P	**Pb**	**12 16 47.7**	**+0.2**
	baz=14						
JYNG	**Yonagunijimaku**	**2.68**	**56**	P	**Pn**	**12 16 48.4**	**+1.7**
JYNG				S	**Sn**	**12 17 20.6**	**+2.2**
YOJ	**Yonaguni jima**	**2.74**	**57**	P	**Pn**	**12 16 49.3**	**+1.8**
YOJ				S	**Sn**	**12 17 22.1**	**+2.3**
YOJ	**Yonaguni jima**	**2.74**	**57**	*e*P	**Pn**	**12 16 49.2**	**+1.7**
	baz=55						
HATJ	**Hateruma jima**	**3.22**	**70**	P	**Pn**	**12 16 55.2**	**+1.1**
HATJ				S	**Sn**	**12 17 33.5**	**+1.8**
IRIF	**Iriomote-Funau**	**3.26**	**65**	P	**Pn**	**12 16 56.3**	**+1.7**
IRIF				S	**Sn**	**12 17 36.8**	**+4.2**
JKRS	**Kuro-shima**	**3.46**	**68**	P	**Pn**	**12 16 58.6**	**+1.2**
JKRS				S	**Sn**	**12 17 39.2**	**+1.6**
JIJ	**Ishigaki jima**	**3.62**	**67**	P	**Pn**	**12 17 00.1**	**+0.5**
JIJ				S	**Sn**	**12 17 42.1**	**+0.6**
JISG	**Ishigakijimahi**	**3.84**	**65**	P	**Pn**	**12 17 03.5**	**+0.8**
JISG				S	**Sn**	**12 17 48.0**	**+0.9**
JTJ	**Tarama**	**4.19**	**66**	P	**Pn**	**12 17 08.8**	**+1.3**
JTJ				S	**Sn**	**12 17 58.2**	**+2.5**
KSRS	**Korea Array**	**15.78**	**22**	LR	LR	12 26 34.5	
	comp=Z,33nm,18.0s,baz=206,slow=39						
MJAR	**Matsushiro Arr**	**20.43**	**45**	P	Pn	12 20 42.6	-0.2
	0.0nm,0.3s,baz=220,slow=8.9,SNR=5.2						
MJAR				LR	LR	12 28 34.3	
	comp=Z,36nm,21.4s,baz=210,slow=37						
SONM	**Songino Array**	**27.25**	**339**	P	P	12 21 57.7	+10
	0.6nm,0.9s,baz=155,slow=12,SNR=4.3						
JAY	**Jayapura**	**32.10**	**140**	LR	LR	12 34 37.3	
	comp=Z,28nm,19.0s,baz=196,slow=35						
MKAR	**Makanchi Array**	**38.78**	**317**	P	P	12 23 39.6	+12
	0.3nm,0.7s,baz=108,slow=9.3,SNR=3.5						
WRA	**Warramunga Arr**	**44.75**	**161**	P	**P**	**12 24 14.5**	**-2.2**
	1.3nm,0.6s,baz=345,slow=8.5,SNR=15						
ASAR	**Alice Springs**	**48.16**	**163**	P	**P**	**12 24 42.4**	**-1.1**
	0.7nm,0.8s,baz=354,slow=13,SNR=14						
ILAR	**Eielson Array**	**70.57**	**27**	P	**P**	**12 27 17.1**	**-0.8**
	0.2nm,0.6s,baz=292,slow=5.6,SNR=2.1						
YKA	**Yellowknife Ar**	**84.32**	**22**	P	**P**	**12 28 34.2**	**-0.5**
	0.2nm,0.6s,baz=312,slow=4.7,SNR=4.3						

*IDC **27** 12:22:31.0±2.1, 8°.48N×125°.77E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/24, mbtmp3.6/4, MS3.3/2, Ms1 3.3/2, ms1mx2.6/28, Error ellipse: s-maj=229.2km s-min=26.2km az=67.0*
*MAN **27** 12:22:36, 8°.98N×126°.49E, h19km, mb4.9, ML3.8, MS3.8*

**ISC 27 12

3.1nm,0.6s,baz=16,slow=7.4,SNR=6.7
TBI Tubuai 23.54 111 *e*LR LR 12 57 22.4
69nm,27.0s
TBI Tubuai 23.54 111 *e*T T 13 15 47.6
4.5nm,0.3s
RKT Rikitea 36.70 107 *e*T T 13 32 10.2
1.3nm,0.3s
H11S2 WAKE ISLAND Hy 39.70 330 T T 13 36 26.3
baz=153
H11S3 WAKE ISLAND Hy 39.71 330 T T 13 36 04.0
baz=153
H11S1 WAKE ISLAND Hy 39.72 330 T T 13 36 08.3
baz=153
H11N3 WAKE ISLAND Hy 40.65 331 T T 13 37 14.0
baz=155,slow=74,SNR=3.2
H11N1 WAKE ISLAND Hy 40.66 331 T T 13 37 17.1
baz=155,SNR=4.3
H11N2 WAKE ISLAND Hy 40.67 331 T T 13 37 15.1
baz=155,slow=74,SNR=3.0
ASAR Alice Springs 49.91 253 P P 12 55 42.6 -0.1
2.4nm,0.6s,baz=88,slow=8.4,SNR=22
ASAR LR LR 13 15 22.8
comp=Z,30nm,20.4s,baz=98,slow=34
PDAR Pinedale Array 82.84 42 P P 12 59 13.7 +0.1
1.0nm,0.8s,baz=208,slow=4.2,SNR=7.4
ILAR Eielson Array 83.24 11 P P 12 59 14.3 -0.5
0.3nm,0.6s,baz=215,slow=5.6,SNR=9.7
YKA Yellowknife Ar 90.83 23 P P 12 59 52.0 +0.2
0.2nm,0.7s,baz=232,slow=4.8,SNR=3.8
BRTR Keskin Array B 146.83 320 PKPbc PKPbc 13 06 30.9 -0.7
0.9nm,0.8s,baz=20,slow=3.4,SNR=4.6
GERES GERESS Array B 146.96 351 PKPbc PKPbc 13 06 31.2 -0.4
0.3nm,0.6s,baz=7.6,slow=4.0,SNR=4.2

*IDC **27** 12:58:11.7±0.8, 33°.94S×72°.31W, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.9/24, mbtmp4.0/8, ML3.3/3, MS3.3/3, Ms1 3.2/3, ms1mx3.0/17, Error ellipse: s-maj=28.1km s-min=17.4km az=115.0*
*ISCJB **27** 12:58:13.2±2.3, 33°.90S±0°.05×72°.49W±0°.07, h23km±18km, mb4.1/5, MS3.2/2, Error ellipse: s-maj=10.4km s-min=7.3km az=30.4*
*GUC **27** 12:58:14.0±0.3, 33°.91S×72°.24W, h14km±4km, ML4.1*
ISC 27 12:58:13.5±2.8, 33°.94S±0°.05×72°.3W±0°.1, h11km±16km, n22, σ0°61/27, mb4.2/5, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.36**	**141**	*e*P		**Pg**	**12 58 39.4**	**-0.2**
NICH				*e*S		**Sg**	**12 58 58.6**	**+1.2**
ROCH	**El Roble**	**1.43**	**48**	*e*P		**Pb**	**12 58 40.3**	**0.0**
ROCH				*e*S		**Sg**	**12 59 00.1**	**+0.6**
ROCH				IAML4			12 59 12.0	
	comp=E,5μm,0.8s							
CLCH	**Cerro Calan**	**1.54**	**70**	*e*P		**Pb**	**12 58 41.8**	**-0.3**
CLCH				*e*S		**Sg**	**12 59 03.0**	**-0.1**
CLCH				IAML			12 59 18.3	
	comp=N,5μm,0.9s							
PEL	**Peldehue**	**1.54**	**59**	⇓*e*P		**Pb**	**12 58 41.8**	**-0.4**
PEL				*e*S		**Sg**	**12 59 02.9**	**-0.3**
PEL				IAML			12 59 13.6	
	comp=N,9μm,1.4s							
SJCH	**San Jose de Ma**	**1.62**	**80**	*e*P		**Pb**	**12 58 43.0**	**-0.4**
SJCH				*e*S		**Sg**	**12 59 05.3**	**-0.4**
SJCH				IAML			12 59 12.5	
	comp=N,2μm,0.4s							
LNCH	**Linares**	**1.98**	**164**	*e*P		**Pb**	**12 58 49.2**	**-0.2**
LNCH				*e*S		**Sg**	**12 59 16.3**	**-0.8**
CFAA	**Coronel Fontan**	**4.12**	**57**	Pn		**Pn**	**12 59 17.3**	**+0.9**
	comp=N,0.2nm,0.3s,baz=136,slow=7.3,SNR=9.7							
CFAA				Lg		Lg	13 00 23.4	
	comp=N,2.1nm,0.3s,baz=96,slow=14,SNR=5.3							
PLCA	**Paso Flores**	**6.91**	**169**	Pn		**Pn**	**12 59 55.2**	**+0.5**
	comp=N,0.2nm,0.3s,baz=349,slow=11,SNR=5.8							
PLCA				LR		LR	13 02 34.0	
	comp=N,127nm,20.6s,baz=314,slow=38							
LPAZ	**La Paz**	**17.97**	**13**	P		**Pn**	**13 02 24.1**	**+0.1**
	comp=N,0.1nm,0.3s,baz=187,slow=9.2,SNR=3.3							
SIV	**San Ignacio**	**20.53**	**32**	P		**P**	**13 02 50.7**	**-1.2**
	comp=N,2.5nm,0.8s,baz=223,slow=11,SNR=9.6							
SIV				LR		LR	13 12 31.7	
	comp=N,104nm,18.1s,baz=219,slow=42							
BDFB	**Brasilia**	**28.46**	**56**	LR		LR	13 17 45.5	
	comp=N,62nm,18.7s,baz=198,slow=41							
SNAA	**Sanae**	**51.71**	**158**	P		**P**	**13 07 20.7**	**+0.4**
	comp=N,1.5nm,0.9s,baz=291,slow=11,SNR=5.6							
QSPA	**South Pole Qui**	**56.29**	**180**	P		**P**	**13 07 53.9**	**0.0**
	comp=N,2.5nm,1.0s,baz=173,slow=6.2,SNR=4.5							
TXAR	**Lajitas Array**	**69.59**	**331**	P		**P**	**13 09 23.2**	**+0.6**
	comp=N,0.4nm,0.6s,baz=156,slow=8.8,SNR=6.1							
DBIC	**Dimbokro**	**75.34**	**71**	P		**P**	**13 09 57.3**	**+0.1**
	comp=N,5.2nm,1.0s,baz=168,slow=4.1,SNR=3.5							
TORD	**Torodi Ar. Bea**	**84.37**	**70**	P		**P**	**13 10 45.9**	**-0.2**
	comp=N,3.4nm,0.8s,baz=264,slow=4.3,SNR=16							
WRA	**Warramunga Arr**	**120.72**	**209**	PKP		**PKPdf**	**13 17 04.7**	**-1.4**
	comp=N,0.4nm,0.8s,baz=149,slow=1.7,SNR=2.7							
BRTR	**Keskin Array B**	**121.97**	**61**	PKP		**PKPdf**	**13 17 08.1**	**+0.1**
	comp=N,0.3nm,0.3s,baz=90,slow=2.9,SNR=3.6							
BVAR	**Borovoye Array**	**147.37**	**43**	PKPbc		**PKPbc**	**13 17 57.0**	**+0.3**
	comp=N,1.1nm,0.6s,baz=280,slow=8.9,SNR=4.1							
AAK	**Ala-Archa**	**152.65**	**62**	PKPbc		**PKPbc**	**13 18 10.0**	**-0.2**
	comp=N,3.2nm,0.9s,baz=217,slow=6.7,SNR=4.5							
ZALV	**Zalesovo Beam**	**154.28**	**32**	PKPbc		**PKPbc**	**13 18 12.8**	**-0.3**
	comp=N,1.3nm,0.5s,baz=259,slow=3.0,SNR=5.0							
MKAR	**Makanchi Array**	**156.87**	**49**	PKPab		**PKPab**	**13 18 38.4**	**-0.1**
	comp=N,0.9nm,0.6s,baz=306,slow=4.1,SNR=4.8							

GUC 27 13:03:50.5±0.3, 33°.95S×72°.40W, h34km±4km, ML3.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.82**	**91**	*e*P		Pb	13 04 06.3	-0.1
NICH	**Los Niches**	**1.43**	**138**	*e*P		Pb	13 04 16.1	-0.5
NICH				*e*S		Sb	13 04 35.2	+0.7
CHCH	**Chadas Angostu**	**1.45**	**90**	*e*P		Pb	13 04 16.5	-0.6
ROCH	**El Roble**	**1.52**	**50**	*e*P		Pb	13 04 17.8	-0.6
ROCH				*e*S		Sb	13 04 38.7	+1.1
ROCH				IAML			13 04 48.6	
	comp=E,2μm,0.5s							
TALC	**Talca**	**1.58**	**157**	*e*P		Pb	13 04 18.3	-0.8
TALC				*e*S		Sb	13 04 39.3	+0.6
PEL	**Peldehue**	**1.64**	**61**	*e*P		Pb	13 04 19.4	-0.9
PEL				*e*S		Sb	13 04 41.3	+0.5
PEL				IAML			13 04 50.3	
	comp=N,4μm,1.0s							
CLCH	**Cerro Calan**	**1.65**	**71**	*e*P		Pb	13 04 19.6	-0.9
CLCH				*e*S		Sb	13 04 41.8	+0.8
CLCH				IAML			13 04 54.8	
	comp=N,1μm,0.8s							

*IGIL **27** 13:05:40.3, 36°.61N×15°.74W, h0km*
*MDD **27** 13:05:42.6±1.6, 36°.64N×15°.41W, h0km, mb4.1/10, Error ellipse: s-maj=24.3km s-min=12.7km az=141.0, PRXIMO*
*CSEM **27** 13:05:43.8±0.5, 36°.60N×15°.26W, h10km, ML2.6, Error ellipse: s-maj=13.7km s-min=8.8km az=141.0*
*INMG **27** 13:05:45.2±0.9, 36°.53N×15°.74W, h10km, ML2.6, Error ellipse: s-maj=8.0km s-min=3.4km az=121.0*
ISC 27 13:05:47.1±3.9, 36°.9N±0°.1×15°.0W±0°.2, h10km, n75, σ1°07/118, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**3.94**	**196**	*e*Sn		Sn	13 07 09.9	-24
PMPS				A		A	13 07 13.2	
	22nm,0.2s							
PMPS	**Porto Santo**	**3.94**	**196**	S		Sn	13 07 09.9	-24
	11nm,0.2s							
PMPS	**Porto Santo**	**3.94**	**196**	*e*Sn		Sn	13 07 09.9	-24
	22nm,0.2s							
PMAR	**Madeira**	**4.40**	**201**	*e*Pn		Pn	13 06 44.2	-10
PMAR				*e*Sn		Sn	13 07 21.9	-24
PMAR				A		A	13 07 26.9	
	22nm,0.2s							
PMAR	**Madeira**	**4.40**	**201**	P		Pn	13 06 44.2	-10
PMAR				S		Sn	13 07 21.9	-24
	11nm,0.2s							
PMAR	**Madeira**	**4.40**	**201**	*e*Pn		Pn	13 06 44.2	-10
PMAR				*e*Sn		Sn	13 07 21.9	-24
	22nm,0.2s							
PMAFR	**Mafra**	**5.01**	**64**	*e*Pn		**Pn**	**13 07 02.7**	**+0.4**
PMAFR				*e*Sn		**Sn**	**13 08 02.2**	**+1.9**
PMAFR	**Mafra**	**5.01**	**64**	P		**Pn**	**13 07 02.4**	**+0.1**
	2.4nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**13 08 01.4**	**+1.1**
	SNR=7.9							
PMAFR	**Mafra**	**5.01**	**64**	P		**Pn**	**13 07 02.4**	**+0.1**
	2.4nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**5.01**	**64**	*e*Pn		**Pn**	**13 07 02.7**	**+0.4**
PMAFR				S		**Sn**	**13 08 01.4**	**+1.1**
	SNR=7.9							
PMAFR				*e*Sn		Sb	13 08 02.2	-13
PTEO	**Sao Teotonio**	**5.09**	**80**	*e*Pn		**Pn**	**13 07 04.1**	**+0.7**
PTEO				*e*Sn		**Sn**	**13 08 02.5**	**+0.3**
PTEO				A		A	13 08 13.9	
	6.9nm,0.5s							
PTEO	**Sao Teotonio**	**5.09**	**80**	P		**Pn**	**13 07 04.1**	**+0.7**
PTEO				S		**Sn**	**13 08 02.5**	**+0.3**
	3.5nm,0.5s							
PTEO	**Sao Teotonio**	**5.09**	**80**	P		**Pn**	**13 07 04.1**	**+0.7**
PTEO				S		**Sn**	**13 08 02.5**	**+0.3**
	3.5nm,0.5s							
MORF	**Marmelete**	**5.13**	**83**	*e*P		**Pn**	**13 07 04.3**	**+0.3**
MORF	**Marmelete**	**5.13**	**83**	*e*Pn		**Pn**	**13 07 04.3**	**+0.3**
MORF				*e*Sn		**Sn**	**13 08 03.2**	**0.0**
MORF				A		A	13 08 05.8	
	3.7nm,0.1s							
MORF	**Marmelete**	**5.13**	**83**	P		**Pn**	**13 07 04.3**	**+0.3**
MORF				S		**Sn**	**13 08 03.2**	**0.0**
	3.7nm,0.1s							
MORF	**Marmelete**	**5.13**	**83**	P		**Pn**	**13 07 04.3**	**+0.3**
MORF				S		**Sn**	**13 08 03.2**	**0.0**
	3.7nm,0.1s							
PACT	**Alcochete**	**5.27**	**67**	*e*Pn		**Pn**	**13 07 07.4**	**+1.5**
PACT				*e*Sn		**Sn**	**13 08 09.4**	**+2.7**
PACT	**Alcochete**	**5.27**	**67**	*e*Pn		**Pn**	**13 07 07.4**	**+1.5**
PACT				*e*Sn		**Sn**	**13 08 09.4**	**+2.7**
PNCL	**Nicolau / Gran**	**5.33**	**74**	*e*Pn		**Pn**	**13 07 06.6**	**0.0**
PNCL				*e*Sn		**Sn**	**13 08 09.0**	**+1.0**
PNCL				A		A	13 08 15.2	
	2.1nm,0.2s							
PNCL	**Nicolau / Gran**	**5.33**	**74**	*e*Pn		**Pn**	**13 07 06.6**	**0.0**
PNCL				*e*Sn		**Sn**	**13 08 09.0**	**+1.0**
	2.1nm,0.2s							
MESJ	**Messejana**	**5.52**	**78**	*e*P		**Pn**	**13 07 09.5**	**+0.2**
MESJ	**Messejana**	**5.52**	**78**	*e*Pn		**Pn**	**13 07 09.0**	**-0.3**
MESJ				*e*Sn		**Sn**	**13 08 13.9**	**+1.1**
MESJ				A		A	13 08 15.7	
	1.8nm,0.3s							
MESJ	**Messejana**	**5.52**	**78**	P		**Pn**	**13 07 09.5**	**+0.2**
MESJ				S		**Sn**	**13 08 13.9**	**+1.1**
	1.8nm,0.3s							
MESJ	**Messejana**	**5.52**	**78**	*e*Pn		**Pn**	**13 07 09.0**	**-0.3**
MESJ	**Messejana**	**5.52**	**78**	P		**Pn**	**13 07 09.5**	**+0.2**
MESJ				S		**Sn**	**13 08 13.9**	**+1.1**
	1.8nm,0.3s							
PCVE	**Castro Verde**	**5.64**	**80**	*e*Pn		**Pn**	**13 07 11.3**	**+0.4**
PCVE				*e*Sn		**Sn**	**13 08 15.6**	**-0.1**
PCVE	**Castro Verde**	**5.64**	**80**	P		**Pn**	**13 07 11.3**	**+0.4**
PCVE				S		**Sn**	**13 08 15.6**	**-0.1**
PCVE	**Castro Verde**	**5.64**	**80**	P		**Pn**	**13 07 11.3**	**+0.4**
PCVE				S		**Sn**	**13 08 15.6**	**-0.1**
PBDV	**Barranco-do-Ve**	**5.70**	**84**	*e*Pn		**Pn**	**13 07 12.5**	**+0.7**
PBDV				*e*Sn		**Sn**	**13 08 17.6**	**+0.3**
PBDV				A		A	13 08 21.0	
	2.8nm,0.4s							
PBDV	**Barranco-do-Ve**	**5.70**	**84**	P		**Pn**	**13 07 12.5**	**+0.7**
PBDV				S		**Sn**	**13 08 17.6**	**+0.3**
	2.8nm,0.4s							
PBDV	**Barranco-do-Ve**	**5.70**	**84**	P		**Pn**	**13 07 12.5**	**+0.7**
PBDV				S		**Sn**	**13 08 17.6**	**+0.3**
	2.8nm,0.4s							
PMTG	**Montargil**	**5.82**	**66**	*e*Pn		**Pn**	**13 07 13.8**	**+0.4**
PMTG				*e*Sn		**Sn**	**13 08 20.8**	**+0.6**
PMTG				A		A	13 08 24.6	
	2.8nm,0.7s							
PMTG	**Montargil**	**5.82**	**66**	*e*Pn		**Pn**	**13 07 13.8**	**+0.4**
PMTG				*e*Sn		**Sn**	**13 08 20.8**	**+0.6**
	2.8nm,0.7s							
PVAQ	**Vaqueiros**	**5.88**	**82**	*e*Pn		**Pn**	**13 07 14.8**	**+0.6**
PVAQ				*e*Sn		**Sn**	**13 08 21.0**	**-0.6**
PVAQ				A		A	13 08 25.2	
	2.1nm,0.1s							
PVAQ	**Vaqueiros**	**5.88**	**82**	P		**Pn**	**13 07 14.8**	**+0.6**
PVAQ				S		**Sn**	**13 08 21.0**	**-0.6**
	2.1nm,0.1s							
PVAQ	**Vaqueiros**	**5.88**	**82**	P		**Pn**	**13 07 14.8**	**+0.6**
PVAQ				S		**Sn**	**13 08 21.0**	**-0.6**
	2.1nm,0.1s							
PTOM	**Tomar**	**5.90**	**60**	*e*Pn		**Pn**	**13 07 15.1**	**+0.6**
PTOM	**Tomar**	**5.90**	**60**	P		**Pn**	**13 07 15.1**	**+0.6**
PTOM	**Tomar**	**5.90**	**60**	P		**Pn**	**13 07 15.1**	**+0.6**
PCAS	**Casmilo, Conde**	**6.04**	**56**	*e*Pn		**Pn**	**13 07 17.2**	**+0.7**
PCAS	**Casmilo, Conde**	**6.04**	**56**	*e*Pn		**Pn**	**13 07 17.2**	**+0.7**
EGRO	**El Granado**	**6.07**	**81**	P		**Pn**	**13 07 17.1**	**+0.2**
	0.3nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**13 08 24.3**	**-2.1**
	3.3nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**6.07**	**81**	P		**Pn**	**13 07 17.0**	**+0.2**
	0.3nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**13 08 24.3**	**-2.1**
	3.3nm,0.2s,SNR=7.9							
PESTR	**Estremoz**	**6.22**	**69**	*e*Pn		**Pn**	**13 07 19.9**	**+0.9**
PESTR				*e*Sn		**Sn**	**13 08 31.0**	**+0.8**
PESTR	**Estremoz**	**6.22**	**69**	*e*Pn		**Pn**	**13 07 19.9**	**+0.9**
PESTR				*e*Sn		**Sn**	**13 08 31.0**	**+0.8**
PBAR	**Barrancos**	**6.49**	**76**	*e*Pn		**Pn**	**13 07 24.3**	**+1.6**
PBAR				*e*Sn		**Sn**	**13 08 36.2**	**-0.6**
PBAR				A		A	13 08 41.6	
	2.5nm,0.7s							
PBAR	**Barrancos**	**6.49**	**76**	P		**Pn**	**13 07 24.3**	**+1.6**
PBAR				S		**Sn**	**13 08 36.2**	**-0.6**
	2.5nm,0.7s							
PBAR	**Barrancos**	**6.49**	**76**	P		**Pn**	**13 07 24.3**	**+1.6**
PBAR				S		**Sn**	**13 08 36.2**	**-0.6**
	2.5nm,0.7s							
PMRV	**Marv??o**	**6.55**	**65**	*e*Pn		**Pn**	**13 07 24.0**	**+0.5**
PMRV				*e*Sn		**Sn**	**13 08 37.4**	**-0.9**
PMRV	**Marv??o**	**6.55**	**65**	P		**Pn**	**13 07 24.0**	**+0.5**
PMRV				S		**Sn**	**13 08 37.4**	**-0.9**
PMRV	**Marv??o**	**6.55**	**65**	P		**Pn**	**13 07 24.0**	**+0.5**
PMRV				S		**Sn**	**13 08 37.4**	**-0.9**
EBAD	**Badajoz**	**6.63**	**71**	P		**Pn**	**13 07 25.6**	**+1.0**
	1.3nm,0.2s,SNR=7.9							
EBAD				S		**Sn**	**13 08 38.0**	**-2.2**
	0.8nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**6.63**	**71**	P		**Pn**	**13 07 25.5**	**+1.0**
	1.3nm,0.2s,SNR=7.9							
EBAD				S		**Sn**	**13 08 38.0**	**-2.2**
	0.8nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**6.73**	**80**	P		**Pn**	**13 07 26.2**	**+0.3**
	0.4nm,0.1s,SNR=6.9							
EMIN				S		**Sn**	**13 08 39.5**	**-3.2**
	0.3nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**6.73**	**80**	P		**Pn**	**13 07 26.2**	**+0.3**
	0.4nm,0.1s,SNR=6.9							
PVIS	**Viseu**	**6.78**	**53**	*e*Pn		**Pn**	**13 07 28.9**	**+2.2**
PVIS				*e*Sn		**Sn**	**13 08 42.6**	**-1.4**
PVIS	**Viseu**	**6.78**	**53**	P		**Pn**	**13 07 28.9**	**+2.2**
PVIS				S		**Sn**	**13 08 42.6**	**-1.4**
PVIS	**Viseu**	**6.78**	**53**	P		**Pn**	**13 07 28.9**	**+2.2**
PVIS				S		**Sn**	**13 08 42.6**	**-1.4**
POLO	**Lamas de Olo**	**7.21**	**49**	*e*Pn		**Pn**	**13 07 33.4**	**+0.7**
POLO	**Lamas de Olo**	**7.21**	**49**	*e*Pn		**Pn**	**13 07 33.4**	**+0.7**
PGAV	**Gavieira, Arco**	**7.31**	**44**	*e*Pn		**Pn**	**13 07 34.1**	**+0.1**
PGAV				*e*Sn		**Sn**	**13 08 55.8**	**-1.3**
PGAV				A		A	13 08 58.6	
	4.0nm,0.8s							
PGAV	**Gavieira, Arco**	**7.31**	**44**	*e*Pn		**Pn**	**13 07 34.1**	**+0.1**
PGAV				*e*Sn		**Sn**	**13 08 55.8**	**-1.3**
	4.0nm,0.8s							
ESPR	**Espera**	**7.36**	**87**	P		**Pn**	**13 07 34.6**	**0.0**
	1.7nm,0.1s,SNR=4.0							
ESPR	**Espera**	**7.36**	**87**	P		**Pn**	**13 07 34.6**	**0.0**
	1.7nm,0.1s,SNR=4.0							
ELOB	**Lobios**	**7.37**	**45**	P		**Pn**	**13 07 35.3**	**+0.6**
	0.4nm,0.1s,SNR=7.9							
ELOB				S		Sn	13 08 54.3	-4.1
	0.5nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**7.37**	**45**	P		**Pn**	**13 07 35.3**	**+0.6**
	0.4nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**7.57**	**53**	P		**Pn**	**13 07 37.4**	**-0.2**
	0.9nm,0.1s,SNR=4.0							
MVO	**Moncorvo**	**7.57**	**53**	P		**Pn**	**13 07 37.4**	**-0.2**
	0.9nm,0.1s,SNR=4.0							
ECAB	**El Cabril**	**7.75**	**78**	P		**Pn**	**13 07 40.3**	**+0.4**
	0.6nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**13 09 04.8**	**-2.9**
	0.2nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**7.75**	**78**	P		**Pn**	**13 07 40.3**	**+0.4**
	0.6nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**13 09 04.8**	**-2.9**
	0.2nm,0.1s,SNR=7.9							
EAGO	**Agolada(Pontev**	**7.99**	**40**	P		**Pn**	**13 07 43.4**	**+0.2**
	0.8nm,0.2s,SNR=4.0							
EAGO				S		Sn	13 09 09.4	-4.2
	0.6nm,0.1s,SNR=7.9							
EAGO	**Agolada(Pontev**	**7.99**	**40**	P		**Pn**	**13 07 43.4**	**+0.2**
	0.8nm,0.2s,SNR=4.0							
ECAL	**Calabor**	**8.19**	**49**	P		**Pn**	**13 07 46.3**	**+0.3**
	1.2nm,0.2s,SNR=7.9							
ECAL				S		**Sn**	**13 09 17.4**	**-1.2**
	2.1nm,0.3s,SNR=7.9							
ECAL	**Calabor**	**8.19**	**49**	P		**Pn**	**13 07 46.3**	**+0.3**
	1.2nm,0.2s,SNR=7.9							
ECAL				S		**Sn**	**13 09 17.4**	**-1.2**
	2.1nm,0.3s,SNR=7.9							

*IDC **27** 13:09:57.7±1.4, 38°.38N×66°.07E, h0km, mb3.4/6, mb1 3.7/12, mb1mx3.5/31, mbtmp3.6/12, ML3.6/6, Error ellipse: s-maj=25.4km s-min=12.0km az=157.0*
*NNC **27** 13:10:00.7±1.4, 38°.92N×66°.07E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=12.6km s-min=5.9km az=37.0*
*ISCJB **27** 13:10:02.7±0.8, 38°.95N±0°.06×66°.01E±0°.05, h33km, mb3.3/5, Error ellipse: s-maj=8.4km s-min=5.8km az=12.4*
ISC 27 13:10:03.8±0.9, 38°.81N±0°.08×65°.94E±0°.05, h35km, n21, σ1°68/30, mb3.3/5, 10C-4D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.26**	**89**	⇓Pn		**Pn**	**13 10 37.0**	**-1.7**
DZET				⇓Sn		**Sn**	**13 11 06.6**	**+1.2**
KK31	**Karatay Array**	**5.51**	**37**	Pn		**Pn**	**13 11 23.6**	**+0.3**
	3.0nm,0.4s,baz=219,slow=17,SNR=48							
KK31				⇓Sn		**Sn**	**13 12 25.5**	**-0.1**
	4.0nm,0.3s,baz=110,slow=44,SNR=5.3							
GEYT	**Alibeck**	**6.21**	**264**	Pn		**Pn**	**13 11 30.4**	**-2.6**
	1.4nm,0.3s,baz=245,slow=27,SNR=6.4							
GEYT				Sn		**Sn**	**13 12 41.2**	**-1.5**
	1.2nm,0.3s,baz=83,slow=12,SNR=2.7							
AAK	**Ala-Archa**	**7.54**	**57**	⇑Pn		**Pn**	**13 11 50.7**	**-0.6**
	4.9nm,0.6s							
AAK				⇑Sn		**Sn**	**13 13 14.1**	**-1.6**
	11nm,0.7s							
AAK				⇓Lg		Lg	13 13 55.6	
	17nm,0.9s							
AAK	**Ala-Archa**	**7.54**	**57**	Pn		**Pn**	**13 11 51.0**	**-0.3**
	1.6nm,0.3s,baz=182,slow=1.5,SNR=20							
AAK				Sn		**Sn**	**13 13 16.1**	**+0.4**
	0.7nm,0.3s,baz=166,slow=17,SNR=3.9							
AAK				Lg		Lg	13 13 56.1	
	0.8nm,0.3s,baz=335,slow=19,SNR=4.1							
TKM2	**Tokmak 2**	**8.39**	**58**	⇑Pn		**Pn**	**13 12 01.6**	**-1.5**
TKM2				⇑Sn		**Sn**	**13 13 36.7**	**0.0**
TKM2				⇑Lg		Lg	13 14 23.7	
AB31	**Akbulak array**	**11.29**	**340**	⇑Pn		**Pn**	**13 12 42.7**	**+0.1**
	1.4nm,0.4s,baz=157,slow=13,SNR=83							
AB31				⇑Sn		**Sn**	**13 14 50.0**	**+2.6**
	0.6nm,0.4s							
SMLA	**Simla**	**11.98**	**126**	*e*x		Pn	13 12 44.8	-7.2
AKTO	**Aktyubinsk**	**12.91**	**337**	⇑Pn		**Pn**	**13 13 06.4**	**+1.7**
	5.1nm,1.0s							
AKTO				⇑Sn		**Sn**	**13 15 26.5**	**-0.5**
	2.1nm,0.8s							
AKTO	**Aktyubinsk**	**12.91**	**337**	Pn		**Pn**	**13 13 05.8**	**+1.1**
	0.5nm,0.3s,baz=143,slow=16,SNR=8.6							
MK31	**Makanchi Array**	**14.40**	**51**	Pn		**Pn**	**13 13 24.2**	**-0.8**
	0.8nm,0.7s,baz=241,slow=14,SNR=11							
MKAR	**Makanchi Array**	**14.40**	**51**	Pn		**Pn**	**13 13 22.5**	**-2.5**
	0.2nm,0.3s,baz=243,slow=14,SNR=11							
BVA0	**Borovoye Array**	**14.55**	**11**	Pn		**Pn**	**13 13 25.7**	**-1.2**
	2.9nm,0.4s,baz=177,slow=12,SNR=20							
BVA0				⇑Sn		**Sn**	**13 16 05.0**	**-1.8**
	3.9nm,0.8s							
BVAR	**Borovoye Array**	**14.55**	**11**	Pn		**Pn**	**13 13 26.3**	**-0.7**
	1.0nm,0.3s,baz=182,slow=12,SNR=19							
BVAR				Sn		**Sn**	**13 16 03.0**	**-3.9**
	0.3nm,0.3s,baz=181,slow=22,SNR=4.0							
KURBB	**Kurchatov Arra**	**14.79**	**33**	Pn		**Pn**	**13 13 27.9**	**-2.4**
	0.0nm,0.3s,baz=228,slow=11,SNR=3.6							
KURBB				Lg		Lg	13 17 55.6	
	baz=226,slow=30,SNR=3.1							
ZALV	**Zalesovo Beam**	**19.88**	**34**	P		**Pn

*ISCJB **27** 13:26:18.2±0.6,22.°19S±0.°04×68.°63W±0.°08,h111km±6km, mb3.9/8,Error ellipse: s-maj=12.7km s-min=6.6km az=6.1*
*GUC **27** 13:26:18.4±0.4,22.°17S×68.°85W,h126km±2km,ML4.3*
*IDC **27** 13:26:21.2±1.0,22.°09S×68.°49W,h117km±6km,mb3.7/9, mb1 3.7/12,mb1mx3.6/27,mbtmp4.0/12,Error ellipse: s-maj=24.1km s-min=17.0km az=16.0*

ISC 27 13:26:19.9±0.7,22.°19S±0.°05×68.°69W±0.°09,h113km±6km, n30,σ1§31/35,mb3.9/8,2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.65**	**307**	*e*P	**Pn**	**13 26 37.7**	**-0.7**
PB09				*e*S	**Sn**	**13 26 52.3**	**+0.1**
PB09				IAML		13 26 52.5	
	comp=N,40μm,0.3s						
PB04	**IPOC Station P**	**0.74**	**264**	*e*P	Pn	13 26 43.9	+5.0
PB04				*e*S	Sn	13 27 03.2	+10
PB04				IAML		13 27 06.5	
	comp=E,4μm,0.3s						
PB06	**IPOC Station P**	**0.96**	**238**	*e*P	**Pn**	**13 26 40.4**	**-0.8**
PB06				*e*S	**Sn**	**13 26 56.7**	**-0.5**
PB06				IAML		13 26 56.9	
	comp=E,15μm,0.2s						
PB07	**IPOC Station P**	**1.20**	**292**	*e*P	**Pn**	**13 26 42.4**	**-1.3**
PB07				*e*S	**Sn**	**13 27 00.5**	**-1.2**
PB07				IAML		13 27 02.5	
	comp=E,6μm,0.7s						
PB01	**IPOC Station P**	**1.36**	**327⇓**	*e*P	**Pn**	**13 26 44.5**	**-0.9**
PB01				*e*S	**Sn**	**13 27 04.1**	**-0.6**
PB01				IAML		13 27 06.3	
	comp=E,4μm,0.5s						
PATCX	**Punta Patache**	**1.93**	**315**	*e*P	**Pn**	**13 26 50.7**	**-1.5**
PATCX				*e*S	**Sn**	**13 27 15.3**	**-1.6**
PATCX				IAML		13 27 21.7	
	comp=N,2μm,0.3s						
PB10	**IPOC Station P**	**2.17**	**232⇓**	*e*P	**Pn**	**13 26 53.7**	**-1.4**
PB10				*e*S	**Sn**	**13 27 20.5**	**-1.6**
PB10				IAML		13 27 31.0	
	comp=N,2μm,0.6s						
HMBC	**Humberstone**	**2.21**	**329**	*e*P	**Pn**	**13 26 54.5**	**-1.4**
HMBC				*e*S	**Sn**	**13 27 22.1**	**-1.2**
HMBC				IAML		13 27 24.3	
	comp=E,2μm,0.5s						
PSGC	**Pisagua**	**2.91**	**332**	*e*P	**Pn**	**13 27 03.7**	**-1.3**
PSGC				*e*S	**Sn**	**13 27 38.3**	**-1.3**
PSGC				IAML		13 28 02.7	
	comp=E,446nm,0.6s						
MNMC	**Minimini**	**3.16**	**344**	*e*P	**Pn**	**13 27 07.9**	**-0.6**
MNMC				*e*S	**Sn**	**13 27 45.6**	**-0.2**
MNMC				IAML		13 28 13.5	
	comp=E,899nm,0.1s						
LPAZ	**La Paz**	**5.90**	**5**	P	**Pn**	**13 27 47.0**	**+1.5**
	comp=E,0.5nm,0.3s,baz=174,slow=6.6,SNR=10.0						
SIV	**San Ignacio**	**9.48**	**51**	P	**Pn**	**13 28 30.4**	**-3.2**
	comp=E,2.1nm,0.3s,baz=249,slow=12,SNR=36						
PLCA	**Paso Flores**	**18.55**	**184**	P	**Pn**	**13 30 29.5**	**0.0**
	comp=E,0.1nm,0.3s,baz=359,slow=8.5,SNR=3.4						
BDFB	**Brasilia**	**20.61**	**75**	P	**P**	**13 30 48.7**	**-1.7**
	comp=E,4.2nm,0.5s,baz=247,slow=15,SNR=6.7						
PTGA	**Pitinga**	**22.96**	**23**	P	**P**	**13 31 13.1**	**-1.7**
	comp=E,1.8nm,0.3s,baz=212,slow=6.1,SNR=4.5						
RCBR	**Riachuelo**	**35.60**	**68**	P	**P**	**13 33 06.9**	**-0.1**
	comp=E,11nm,0.6s,baz=236,slow=10,SNR=11						
CMIG	**Matias Romero**	**46.71**	**325**	P	**P**	**13 34 38.0**	**+0.3**
	comp=E,1.6nm,0.6s,baz=162,slow=16,SNR=2.4						
TXAR	**Lajitas Array**	**61.31**	**325**	P	**P**	**13 36 24.9**	**+1.1**
	comp=E,0.2nm,0.5s,baz=140,slow=7.9,SNR=3.5						
TXAR				pP	**pP**	**13 36 52.3**	**+1.0**
	comp=E,0.5nm,0.9s,baz=147,slow=7.4,SNR=3.2						
DBIC	**Dimbokro**	**68.74**	**73**	P	**P**	**13 37 11.8**	**-0.3**
	comp=E,2.9nm,0.6s,baz=217,slow=7.2,SNR=5.1						
PDAR	**Pinedale Array**	**74.81**	**330**	P	**P**	**13 37 49.5**	**+1.4**
	comp=E,0.4nm,1.0s,baz=123,slow=9.8,SNR=2.6						
PDAR				pP	**pP**	**13 38 18.2**	**+1.7**
	comp=E,0.4nm,0.6s,baz=138,slow=6.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**77.40**	**70**	P	**P**	**13 38 02.4**	**-0.7**
	comp=E,2.1nm,0.4s,baz=262,slow=5.6,SNR=37						
YKA	**Yellowknife Ar**	**91.90**	**341**	P	**P**	**13 39 15.9**	**+0.8**
	comp=E,0.1nm,0.6s,baz=136,slow=4.2,SNR=4.0						
YKA				pP	**pP**	**13 39 45.8**	**+1.4**
	comp=E,0.7nm,0.7s,baz=139,slow=4.6,SNR=10.0						
H11S2	**WAKE ISLAND Hyd**	**28.16**	**277**	T	T	16 05 25.6	
	baz=103,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hyd**	**28.17**	**277**	T	T	16 05 25.9	
	baz=103,slow=74,SNR=5.9						
H11S3	**WAKE ISLAND Hyd**	**28.18**	**277**	T	T	16 05 31.9	
	baz=103,slow=74,SNR=5.0						
H11N3	**WAKE ISLAND Hyd**	**28.26**	**278**	T	T	16 05 33.5	
	baz=101						
H11N2	**WAKE ISLAND Hyd**	**28.28**	**278**	T	T	16 05 41.9	
	baz=101						
H11N1	**WAKE ISLAND Hyd**	**28.28**	**278**	T	T	16 05 41.5	
	baz=101						
ZALV	**Zalesovo Beam**	**142.49**	**26**	PKP	**PKPdf**	**13 45 40.8**	**+1.6**
	comp=E,0.4nm,0.3s,baz=282,slow=2.7,SNR=3.0						
MKAR	**Makanchi Array**	**146.07**	**37**	PKPbc	**PKPbc**	**13 45 46.7**	**-0.1**
	comp=E,0.5nm,0.6s,baz=309,slow=4.6,SNR=7.2						
MKAR				pPKPbc	pPKPbc	13 46 18.1	+1.0
	comp=E,0.6nm,0.7s,baz=329,slow=4.2,SNR=5.2						

*ISCJB **27** 13:37:49.1±0.2,39.°017N±0.°010×7.°49W±0.°01,h7km±2km, Error ellipse: s-maj=1.9km s-min=1.6km az=17.8*
*CSEM **27** 13:37:50.1±0.1,38.°99N×7.°54W,h2km,ML4.3/40,Error ellipse: s-maj=1.8km s-min=1.5km az=103.0*
*SFS **27** 13:37:51.0,38.°99N×7.°62W,h5km,ML4.0*
*NEIC **27** 13:37:52.0,38.°97N×7.°61W,h15km,ML4.1(LIS), MN4.0(MDD),After LIS.*
NEIC Felt [III] at Evora and Portalegre. Also felt at Alenquer, Borba, Estremoz, Montemor-o-Novo and Reguengos. Felt at Badajoz, Spain.
*LDG **27** 13:37:52.0±0.1,38.°97N×7.°66W,h5km,Md4.1/1,Ml4.0/7, Error ellipse: s-maj=1.7km s-min=1.4km az=103.0*
*IGIL **27** 13:37:52.1,38.°97N×7.°61W,h4km,ML4.0*
*MDD **27** 13:37:52.1±0.2,38.°98N×7.°63W,h11km,mbLg4.0/59, Error ellipse: s-maj=2.3km s-min=1.8km az=94.0,PRXIMO MDD EMS: III INTENSIDAD MAXIMA-ESPAA.*
*INMG **27** 13:37:52.5±2.8,38.°96N×7.°62W,h13km±5km,MD3.5, ML4.1,Error ellipse: s-maj=4.2km s-min=2.1km az=88.0*
*CNRM **27** 13:37:53.0,38.°88N×7.°73W,h32km,MD3.9*

ISC 27 13:37:50.9±0.8,39.°00N±0.°01×7.°55W±0.°01,h18km±2km, n340,σ1§35/538,7C-6D,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PESTR	**Estremoz**	**0.13**	**194**	*e*Pg	**Pg**	**13 37 55.5**	**+0.5**
PESTR				*e*Sg	**Sg**	**13 37 57.7**	**-0.1**
PESTR				A	A	13 37 58.0	
	13μm,0.1s						
PESTR	**Estremoz**	**0.13**	**194**	Pg	**Pg**	**13 37 55.2**	**+0.2**
PESTR	**Estremoz**	**0.13**	**194**	Pg	**Pg**	**13 37 55.2**	**+0.2**
PMRV	**Marv??o**	**0.45**	**16**	*e*Pg	**Pn**	**13 38 01.8**	**-0.7**
PMRV				*e*Sg	**Sb**	**13 38 08.4**	**+1.6**
PMRV				A	A	13 38 08.7	
	7μm,0.1s						
PMRV	**Marv??o**	**0.45**	**16**	Pg	**Pn**	**13 38 01.8**	**-0.7**
PMRV				Lg	Lg	13 38 08.4	
	7μm,0.1s						
PMRV	**Marv??o**	**0.45**	**16**	Pg	**Pn**	**13 38 01.8**	**-0.7**
PMRV				Lg	Lg	13 38 08.4	
	7μm,0.1s						
EBAD	**Badajoz**	**0.48**	**120**	⇓Pg	**Pn**	**13 38 02.0**	**-0.9**
	911nm,0.1s,SNR=18						
EBAD				Lg	Lg	13 38 08.9	
	10μm,0.1s,SNR=28						
EBAD	**Badajoz**	**0.48**	**120**	*e*Pg	**Pn**	**13 38 01.9**	**-1.0**
EBAD				Lg	Lg	13 38 08.9	
	10μm,0.1s,SNR=28						
EBAD	**Badajoz**	**0.48**	**120**	*e*Pg	**Pn**	**13 38 01.9**	**-1.0**
EBAD				*e*Lg	Lg	13 38 08.9	
PMTG	**Montargil**	**0.53**	**278**	*e*Pg	**Pb**	**13 38 01.3**	**-0.4**
PMTG				*e*Sg	**Sg**	**13 38 08.0**	**-0.8**
PMTG				A	A	13 38 08.5	
	12μm,0.4s						
PMTG	**Montargil**	**0.53**	**278**	*e*Pg	**Pb**	**13 38 01.3**	**-0.4**
PMTG				*e*Sg	**Sg**	**13 38 08.0**	**-0.8**
	12μm,0.4s						
EVO	**Evora**	**0.59**	**218**	*e*Pg	**Pn**	**13 38 03.4**	**-1.0**
EVO				*e*Sg	**Sb**	**13 38 11.0**	**+0.5**
EVO				*e*Sn	**Sn**	**13 38 13.9**	**+0.4**
	10μm,0.2s						
EVO	**Evora**	**0.59**	**218**	*i* Pg	**Pb**	**13 38 02.6**	**-0.1**
EVO				*e*Sg	**Sb**	**13 38 09.7**	**-0.8**
EVO				A	A	13 38 09.8	
	11μm,0.1s						
EVO	**Evora**	**0.59**	**218**	⇑Pg	**Pb**	**13 38 02.6**	**-0.1**
EVO				Lg	Lg	13 38 09.7	
	1μm,0.1s						
EVO	**Evora**	**0.59**	**218**	*e*P	**Pb**	**13 38 02.5**	**-0.1**
EVO				*e*Sg	**Sg**	**13 38 09.6**	**-0.9**
EVO				Lg	Lg	13 38 09.7	
	1μm,0.1s						
EVO	**Evora**	**0.59**	**218**	*e*P	**Pb**	**13 38 02.5**	**-0.1**
EVO				*e*Sg	**Sg**	**13 38 09.6**	**-0.9**
EVOP	**Sao Brissos**	**0.65**	**224**	*e*Pg	**Pb**	**13 38 03.4**	**-0.2**
EVOP				*e*Sg	**Sg**	**13 38 11.0**	**-1.4**
EVOP				*e*Sn	**Sb**	**13 38 13.9**	**+1.6**
	5μm,0.2s						
EVOP	**Sao Brissos**	**0.65**	**224**	*e*Pg	**Pb**	**13 38 03.4**	**-0.2**
EVOP				*e*Sg	**Sg**	**13 38 11.0**	**-1.4**
EVOP				*e*Sn	**Sb**	**13 38 13.9**	**+1.6**
PCBR	**Castelo Branco**	**0.85**	**4**	*e*P	**Pn**	**13 38 08.7**	**+0.8**
PCBR				*e*S	**Sn**	**13 38 19.9**	**0.0**
PCBR				A	A	13 38 22.9	
	2μm,0.2s						
PCBR	**Castelo Branco**	**0.85**	**4**	Pg	**Pn**	**13 38 08.7**	**+0.8**
PCBR				Lg	Lg	13 38 19.9	
	1μm,0.2s						
PCBR	**Castelo Branco**	**0.85**	**4**	*e*P	**Pn**	**13 38 08.7**	**+0.8**
PCBR				*e*S	**Sn**	**13 38 19.9**	**0.0**
	2μm,0.2s						
PBAR	**Barrancos**	**0.91**	**154**	*e*P	**Pn**	**13 38 09.0**	**+0.2**
PBAR				*e*S	**Sn**	**13 38 21.9**	**+0.5**
PBAR				A	A	13 38 23.2	
	3μm,0.2s						
PBAR	**Barrancos**	**0.91**	**154**	Pg	**Pn**	**13 38 09.0**	**+0.2**
PBAR				Lg	Lg	13 38 21.9	
	3μm,0.2s						
PBAR	**Barrancos**	**0.91**	**154**	*e*P	**Pn**	**13 38 09.0**	**+0.2**
PBAR				Lg	Lg	13 38 21.9	
	3μm,0.2s						
PTOM	**Tomar**	**0.91**	**313**	*i* P	**Pn**	**13 38 08.9**	**0.0**
PTOM				*e*S	**Sb**	**13 38 20.8**	**+0.8**
PTOM	**Tomar**	**0.91**	**313**	⇓Pg	**Pn**	**13 38 08.9**	**0.0**
PTOM				Lg	Lg	13 38 20.8	
PTOM	**Tomar**	**0.91**	**313**	Pg	**Pn**	**13 38 08.9**	**0.0**
PTOM				*e*S	**Sb**	**13 38 20.8**	**+0.8**
PACT	**Alcochete**	**1.03**	**258**	*e*P	**Pn**	**13 38 11.2**	**+0.8**
PACT				*e*S	**Sn**	**13 38 25.1**	**+0.8**
PACT				A	A	13 38 25.8	
	6μm,0.2s						
PACT	**Alcochete**	**1.03**	**258**	*e*P	**Pn**	**13 38 11.1**	**+0.7**
PACT				*e*Sg	Sg	13 38 12.1	-12
PACT				*e*S	**Sn**	**13 38 25.1**	**+0.8**
	6μm,0.2s						
PACT	**Alcochete**	**1.03**	**258**	*e*P	**Pn**	**13 38 11.1**	**+0.7**
PACT				*e*Sg	Sg	13 38 12.1	-12
PNCL	**Nicolau / Gran**	**1.17**	**221**	*e*P	**Pn**	**13 38 12.3**	**-0.1**
PNCL				*e*S	**Sb**	**13 38 27.4**	**0.0**
PNCL				A	A	13 38 28.5	
	3μm,0.4s						
PNCL	**Nicolau / Gran**	**1.17**	**221**	*e*P	**Pn**	**13 38 12.3**	**-0.1**
PNCL				*e*S	**Sb**	**13 38 27.4**	**0.0**
	3μm,0.4s						
INMG	**Instituto de M**	**1.25**	**260**	*e*P	**Pg**	**13 38 14.7**	**-0.4**
INMG				*e*S	**Sn**	**13 38 30.6**	**+0.8**
INMG				*e*S	**Sg**	**13 38 31.2**	**-0.3**
INMG				A	A	13 38 35.1	
	2μm,0.4s						
INMG	**Instituto de M**	**1.25**	**260**	Pg	**Pg**	**13 38 14.7**	**-0.4**
INMG				Lg	Lg	13 38 31.2	
	1μm,0.4s						
INMG	**Instituto de M**	**1.25**	**260**	*e*P	**Pg**	**13 38 14.7**	**-0.4**
INMG				*e*S	**Sn**	**13 38 30.6**	**+0.8**
INMG				Lg	Lg	13 38 31.2	
	1μm,0.4s						
MESJ	**Messejana**	**1.27**	**205**	*e*P	**Pb**	**13 38 13.9**	**-0.4**
MESJ				*e*S	**Sb**	**13 38 30.2**	**0.0**
MESJ				AML	AML	13 38 31.8	
	comp=N,4μm,0.2s						
MESJ	**Messejana**	**1.27**	**205**	*e*P	**Pb**	**13 38 13.9**	**-0.4**
MESJ				*e*S	**Sg**	**13 38 30.4**	**-1.6**
MESJ				A	A	13 38 31.8	
	comp=N,3μm,0.6s						
MESJ	**Messejana**	**1.27**	**205**	Pg	**Pb**	**13 38 13.9**	**-0.4**
MESJ				Lg	Lg	13 38 30.2	
	comp=N,4μm,0.2s						
MESJ	**Messejana**	**1.27**	**205**	*e*P	**Pb**	**13 38 13.9**	**-0.4**
MESJ				Lg	Lg	13 38 30.2	
	comp=N,4μm,0.2s						
MESJ				*e*S	**Sg**	**13 38 30.4**	**-1.6**
	comp=N,3μm,0.6s						
MESJ	**Messejana**	**1.27**	**205**	*e*P	**Pn**	**13 38 13.7**	**0.0**
LIS	**Lisbon**	**1.28**	**258**	*e*P	**Pn**	**13 38 13.9**	**0.0**
LIS				*e*S	**Sb**	**13 38 30.1**	**-0.5**
LIS				AML	AML	13 38 32.8	
	comp=E,2μm,0.2s						
LIS	**Lisbon**	**1.28**	**258**	*e*P	**Pn**	**13 38 13.9**	**0.0**
LIS	**Lisbon**	**1.28**	**258**	*e*P	**Pn**	**13 38 13.9**	**0.0**
LIS				*e*S	**Sb**	**13 38 30.1**	**-0.5**
LIS				*e*S	**Sb**	**13 38 30.1**	**-0.5**
LIS				A	A	13 38 33.8	
	comp=E,2μm,0.3s						
LIS	**Lisbon**	**1.28**	**258**	Pg	**Pn**	**13 38 13.9**	**0.0**
LIS				Lg	Lg	13 38 30.1	
	comp=E,2μm,0.2s						
LIS	**Lisbon**	**1.28**	**258**	*e*P	**Pn**	**13 38 13.9**	**0.0**
LIS				*e*S	**Sb**	**13 38 30.1**	**-0.5**
	comp=E,2μm,0.3s						
PCAS	**Casmilo, Conde**	**1.29**	**325**	*e*P	**Pg**	**13 38 14.7**	**-1.1**
PCAS				*e*S	**Sn**	**13 38 32.4**	**+1.6**
PCAS				A	A	13 38 39.7	
	comp=E,1μm,0.6s						
PCAS	**Casmilo, Conde**	**1.29**	**325**	*e*P	**Pg**	**13 38 14.7**	**-1.1**
PCAS				*e*S	**Sn**	**13 38 32.4**	**+1.6**
	comp=E,1μm,0.6s						
PMST	**Lisbon--Monsan**	**1.30**	**259**	*e*P	**Pn**	**13 38 14.0**	**-0.2**
PMST				*e*S	**Sn**	**13 38 32.5**	**+1.4**
PMST				A	A	13 38 35.2	
	comp=E,3μm,0.2s						
PMST	**Lisbon--Monsan**	**1.30**	**259**	*e*P	**Pn**	**13 38 14.2**	**0.0**
PMST				*e*S	**Sn**	**13 38 32.5**	**+1.4**
	comp=E,3μm,0.2s						
PMST				*e*Sg	**Sn**	**13 38 33.0**	**+1.9**
PMST	**Lisbon--Monsan**	**1.30**	**259**	*e*P	**Pn**	**13 38 14.2**	**0.0**
PMST				*e*Sg	**Sn**	**13 38 33.0**	**+1.9**
PMAFR	**Mafra**	**1.35**	**269**	*e*P	**Pn**	**13 38 14.6**	**-0.3**
PMAFR				*e*S	**Sn**	**13 38 33.1**	**+0.7**
PMAFR				A	A	13 38 34.4	
	comp=E,5μm,0.2s						
PMAFR	**Mafra**	**1.35**	**269**	⇑Pg	**Pn**	**13 38 14.5**	**-0.3**
	comp=E,382nm,0.1s,SNR=18						
PMAFR				Lg	Lg	13 38 32.7	
	comp=E,5μm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**1.35**	**269**	*e*P	**Pn**	**13 38 14.6**	**-0.3**
PMAFR				Lg	Lg	13 38 32.7	
	comp=E,5μm,0.2s,SNR=7.9						
PMAFR				*e*S	**Sn**	**13 38 33.1**	**+0.7**
	comp=E,5μm,0.2s						
MTE	**Manteigas**	**1.40**	**0**	*e*P	**Pb**	**13 38 16.8**	**+0.1**
MTE				*e*S	**Sg**	**13 38 36.5**	**+0.1**
MTE				A	A	13 38 36.9	
	comp=E,2μm,0.3s						
MTE	**Manteigas**	**1.40**	**0**	Pg	**Pb**	**13 38 16.8**	**+0.1**
MTE				Lg	Lg	13 38 36.5	
	comp=E,1μm,0.3s						
MTE	**Manteigas**	**1.40**	**0**	*e*Pn	**Pb**	**13 38 16.7**	**+0.1**
MTE				*e*S	**Sg**	**13 38 36.5**	**+0.1**
	comp=E,2μm,0.3s						
MTE				*e*Sg	**Sg**	**13 38 36.9**	**+0.5**
MTE	**Manteigas**	**1.40**	**0**	*e*Pn	**Pb**	**13 38 16.7**	**+0.1**
MTE				*e*Sg	**Sg**	**13 38 36.9**	**+0.5**
EMIN	**Mina Concepcio**	**1.41**	**150**	⇓Pn	**Pg**	**13 38 16.5**	**-1.6**
	comp=E,7.5nm,0.1s,SNR=18						
EMIN				Pg	**Pg**	**13 38 17.7**	**-0.3**
	comp=E,60nm,0.1s,SNR=1265						
EMIN				Lg	Lg	13 38 36.5	
	comp=E,377nm,0.1s,SNR=16						
EMIN	**Mina Concepcio**	**1.41**	**150**	Pn	**Pg**	**13 38 16.5**	**-1.6**
	comp=E,7.5nm,0.1s,SNR=18						
EMIN	**Mina Concepcio**	**1.41**	**150**	*e*Pg	**Pg**	**13 38 17.7**	**-0.3**
EMIN				*e*Lg	Lg	13 38 36.4	
PCVE	**Castro Verde**	**1.42**	**196**	*e*P	**Pn**	**13 38 16.0**	**+0.3**
PCVE				*e*S	**Sn**	**13 38 34.7**	**+0.8**
PCVE				A	A	13 38 35.9	
	comp=E,185nm,0.5s						
PCVE	**Castro Verde**	**1.42**	**196**	Pg	**Pn**	**13 38 16.0**	**+0.3**
PCVE				Lg	Lg	13 38 34.7	
	comp=E,185nm,0.5s						
PCVE	**Castro Verde**	**1.42**	**196**	*e*P	**Pn**	**13 38 16.0**	**+0.3**
PCVE				*e*S	**Sn**	**13 38 34.7**	**+0.8**
	comp=E,185nm,0.5s						
EGRO	**El Granado**	**1.46**	**178**	⇓Pn	**Pb**	**13 38 16.8**	**-0.7**
	comp=E,1.3nm,0.1s,SNR=18						
EGRO				Pg	**Pg**	**13 38 18.8**	**-0.3**
	comp=E,100nm,0.2s,SNR=970						
EGRO				Lg	Lg	13 38 37.1	
	comp=E,2μm,0.2s,SNR=38						
EGRO	**El Granado**	**1.46**	**178**	Pn	**Pb**	**13 38 16.8**	**-0.7**
	comp=E,1.3nm,0.1s,SNR=18						
EGRO	**El Granado**	**1.46**	**178**	*e*Pg	**Pg**	**13 38 18.6**	**-0.5**
EGRO				*e*Lg	Lg	13 38 37.1	
EPLA	**Plasencia**	**1.56**	**46**	Pn	**Pb**	**13 38 19.5**	**+0.2**
	comp=E,2.1nm,0.1s,SNR=7.9						
EPLA				Pg	**Pg**	**13 38 20.8**	**-0.2**
	comp=E,16nm,0.1s,SNR=14						
EPLA				Lg	Lg	13 38 41.4	
	comp=E,364nm,0.1s,SNR=5.0						
EPLA	**Plasencia**	**1.56**	**46**	Pn	**Pb**	**13 38 19.5**	**+0.2**
	comp=E,2.1nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**1.56**	**46**	*e*Pg	**Pg**	**13 38 20.5**	**-0.5**
EPLA				*e*Lg	Lg	13 38 41.3	
PVAQ	**Vaqueiros**	**1.59**	**185**	*e*Pn	**Pn**	**13 38 18.7**	**+0.5**
PVAQ	**Vaqueiros**	**1.59**	**185**	*e*Pg	**Pg**	**13 38 21.4**	**-0.2**
PVAQ				*e*Sg	**Sg**	**13 38 40.4**	**-2.0**
PVAQ				A	A	13 38 43.8	
	comp=E,3μm,0.2s						
PVAQ	**Vaqueiros**	**1.59**	**185**	Pn	**Pn**	**13 38 18.7**	**+0.5**
PVAQ				Pg	**Pg**	**13 38 21.4**	**-0.2**
PVAQ				Lg	Lg	13 38 40.4	
	comp=E,3μm,0.2s						
PVAQ	**Vaqueiros**	**1.59**	**185**	*e*Pn	**Pn**	**13 38 18.7**	**+0.5**
PVAQ	**Vaqueiros**	**1.59**	**185**	*e*Pg	**Pg**	**13 38 21.4**	**-0.2**
PVAQ				*e*Sg	**Sg**	**13 38 40.4**	**-2.0**
	comp=E,3μm,0.2s						
PTEO	**Sao Teotonio**	**1.72**	**213**	*e*Pn	**Pn**	**13 38 19.7**	**-0.2**
PTEO	**Sao Teotonio**	**1.72**	**213**	*e*Pg	**Pg**	**13 38 22.5**	**-1.5**
PTEO				*e*Sg	**Sb**	**13 38 43.4**	**+0.2**
PTEO				A	A	13 38 44.7	
	comp=E,2μm,0.4s						
PTEO	**Sao Teotonio**	**1.72**	**213**	Pn	**Pn**	**13 38 19.7**	**-0.2**
PTEO				Pg	**Pg**	**13 38 22.5**	**-1.5**
PTEO				Lg	Lg	13 38 43.4	
	comp=E,1μm,0.4s						
PTEO	**Sao Teotonio**	**1.72**	**213**	*e*Pn	**Pn**	**13 38 19.7**	**-0.2**
PTEO	**Sao Teotonio**	**1.72**	**213**	*e*Pg	**Pg**	**13 38 22.5**	**-1.5**
PTEO				*e*Sg	**Sb**	**13 38 43.4**	**+0.2**
	comp=E,2μm,0.4s						
PVIS	**Viseu**	**1.74**	**351**	*e*Pn	**Pb**	**13 38 21.5**	**-0.9**
PVIS	**Viseu**	**1.74**	**351**	*e*Pg	**Pg**	**13 38 24.2**	**-0.2**
PVIS				*e*Sg	**Sg**	**13 38 47.2**	**+0.1**
PVIS				A	A	13 38 49.8	
	comp=E,1μm,0.2s						
PVIS	**Viseu**	**1.74**	**351**	Pn	**Pb**	**13 38 21.5**	**-0.9**
PVIS				Pg	**Pg**	**13 38 24.2**	**-0.2**
PVIS				Lg	Lg	13 38 47.2	
	comp=E,522nm,0.2s						
PVIS	**Viseu**	**1.74**	**351**	*e*Pn	**Pb**	**13 38 21.5**	**-0.9**
PVIS	**Viseu**	**1.74**	**351**	*e*Pg	**Pg**	**13 38 24.2**	**-0.2**
PVIS				*e*Sg	**Sg**	**13 38 47.2**	**+0.1**
	comp=E,1μm,0.2s						
PBDV	**Barranco-do-Ve**	**1.77**	**190**	*e*Pn	**Pn**	**13 38 21.1**	**+0.4**
PBDV	**Barranco-do-Ve**	**1.77**	**190**	*e*Pg	**Pg**	**13 38 24.1**	**-1.0**
PBDV				*e*Sg	**Sb**	**13 38 45.3**	**+0.5**
PBDV				A	A	13 38 48.9	
	comp=E,1μm,0.2s						
PBDV	**Barranco-do-Ve**	**1.77**	**190**	Pn	**Pn**	**13 38 21.1**	**+0.4**
PBDV				Pg	**Pg**	**13 38 24.1**	**-1.0**
PBDV				Lg	Lg	13 38 45.3	
	comp=E,1μm,0.2s						
PBDV	**Barranco-do-Ve**	**1.77**	**190**	*e*Pn	**Pn**	**13 38 21.1**	**+0.4**
PBDV	**Barranco-do-Ve**	**1.77**	**190**	*e*Pg	**Pg**	**13 38 24.1**	**-1.0**
PBDV				*e*Sg	**Sb**	**13 38 45.3**	**+0.5**
	comp=E,1μm,0.2s						
MORF	**Marmelete**	**1.90**	**208**	*e*P	**Pn**	**13 38 22.2**	**-0.2**
MORF				*e*S	**Sn**	**13 38 45.1**	**-0.7**
MORF				AML	AML	13 38 46.7	
	comp=N,695nm,0.2s						
MORF	**Marmelete**	**1.90**	**208**	*e*Pn	**Pn**	**13 38 22.2**	**-0.2**
MORF	**Marmelete**	**1.90**	**208**	*e*Pg	**Pn**	**13 38 23.4**	**+1.0**
MORF				*e*Sg	**Sb**	**13 38 49.3**	**+0.9**
MORF				A	A	13 38 51.3	
	comp=N,1μm,0.3s						
MORF	**Marmelete**	**1.90**	**208**	Pn	**Pn**	**13 38 22.2**	**-0.2**
MORF				Lg	Lg	13 38 49.3	
	comp=N,1μm,0.3s						
MORF	**Marmelete**	**1.90**	**208**	*e*Pn	**Pn**	**13 38 22.2**	**-0.2**
MORF				*e*Sg	**Sb**	**13 38 49.3**	**+0.9**
	comp=N,1μm,0.3s						
MORF	**Marmelete**	**1.90**	**208**

PVRL Vila Real 2.28 357 *e*Pg **Pg 13 38 34.0 -0.8**
PVRL *e*Sg **Sg 13 39 02.9 -1.5**
comp=N,936nm,0.5s
PTO Porto 2.29 340 *e*Pg **Pg 13 38 35.1 +0.2**
PTO *e*Sg **Sg 13 39 03.1 -1.5**
PTO A A 13 39 08.0
comp=N,573nm,0.2s
PTO Porto 2.29 340 Pg **Pg 13 38 35.1 +0.2**
PTO Lg Lg 13 39 03.1
comp=N,286nm,0.2s
PTO Porto 2.29 340 *e*Pg **Pg 13 38 35.1 +0.2**
PTO *e*Sg **Sg 13 39 03.1 -1.5**
comp=N,573nm,0.2s
POLO Lamas de Olo 2.38 356 *e*Pn **Pn 13 38 30.1 +0.9**
POLO Lamas de Olo 2.38 356 *e*Pg **Pg 13 38 35.4 -1.3**
POLO *e*Sg **Sg 13 39 07.5 -0.1**
POLO A A 13 39 07.6
comp=N,230nm,0.3s
POLO Lamas de Olo 2.38 356 *e*Pn **Pn 13 38 30.1 +0.9**
POLO Lamas de Olo 2.38 356 *e*Pg **Pg 13 38 35.4 -1.3**
POLO *e*Sg **Sg 13 39 07.5 -0.1**
comp=N,230nm,0.3s
ESPR Espera 2.51 147 ⇑Pn **Pn 13 38 32.4 +1.6**
comp=N,16nm,0.2s,SNR=18
ESPR Pg **Pg 13 38 39.5 +0.4**
comp=N,109nm,0.2s,SNR=7.9
ESPR Sn **Sb 13 39 04.6 -1.3**
comp=N,272nm,0.4s,SNR=5.9
ESPR Lg Lg 13 39 13.5
comp=N,697nm,0.4s,SNR=7.4
ESPR Espera 2.51 147 Pn **Pn 13 38 32.4 +1.6**
comp=N,16nm,0.2s,SNR=18
ESPR Espera 2.51 147 *e*Pg **Pg 13 38 38.9 -0.2**
ESPR Sn **Sb 13 39 04.6 -1.3**
comp=N,272nm,0.4s,SNR=5.9
ESPR Lg Lg 13 39 13.5
comp=N,697nm,0.4s,SNR=7.4
ESPR Espera 2.51 147 *e*Pn **Pn 13 38 32.4 +1.6**
ESPR *e*Pg **Pg 13 38 38.9 -0.2**
ESPR *e*Sn **Sb 13 39 04.3 -1.6**
ESPR *e*Lg Lg 13 39 12.6
PAB San Pablo 2.54 77 *e*Pn **Pn 13 38 33.2 +1.8**
PAB San Pablo 2.54 77 *e*Pg **Pg 13 38 40.5 +0.8**
PAB San Pablo 2.54 77 *e*Pn **Pn 13 38 33.2 +1.8**
PAB *e*Pg **Pg 13 38 40.5 +0.8**
PAB *e*Sn **Sn 13 39 03.2 +1.3**
PAB *e*Sg **Sg 13 39 11.7 -1.1**
LIJA Lijar 2.69 140 Pn **Pn 13 38 34.0 +0.7**
LIJA Sn **Sn 13 39 07.0 +1.6**
LIJA Lijar 2.69 140 *i* P **Pn 13 38 34.0 +0.7**
LIJA *i* S **Sn 13 39 07.0 +1.6**
SFS San Fernando 2.74 157 Lg Lg 13 39 14.6
SFS San Fernando 2.74 157 Lg Lg 13 39 14.6
ESDC Sonseca Array 2.86 75 Pn **Pn 13 38 36.6 +0.9**
comp=N,2.7nm,0.1s,baz=259,slow=13,SNR=77
ESDC Pg **Pg 13 38 43.8 -2.0**
comp=N,29nm,0.2s,baz=265,slow=17,SNR=7.9
ESDC Sn **Sn 13 39 11.7 +2.0**
comp=N,48nm,0.1s,baz=259,slow=23,SNR=7.9
ESDC Lg Lg 13 39 19.9
comp=N,804nm,0.4s,baz=262,slow=29,SNR=10
ESDC Sonseca Array 2.86 75 Pn **Pn 13 38 36.6 +0.9**
comp=N,2.7nm,0.1s,SNR=77
ESDC Sonseca Array 2.86 75 Pg **Pg 13 38 43.8 -2.0**
comp=N,29nm,0.2s,SNR=7.9
ESDC Sn **Sn 13 39 11.7 +2.0**
comp=N,48nm,0.1s,SNR=7.9
ESDC Lg Lg 13 39 19.9
comp=N,804nm,0.4s,SNR=10
ESDC Sonseca Array 2.86 75 *e*Pn **Pn 13 38 37.9 +2.2**
ESDC *e*Pg **Pg 13 38 43.5 -2.3**
ESDC *e*Sn **Sn 13 39 12.1 +2.4**
PBRG Braganca 2.87 12 *e*Pn **Pn 13 38 37.7 +1.8**
PBRG *e*Sg **Sg 13 39 22.1 -1.2**
PBRG A A 13 39 32.1
comp=N,505nm,0.5s
PBRG Braganca 2.87 12 Pn **Pn 13 38 37.7 +1.8**
PBRG Lg Lg 13 39 22.1
comp=N,252nm,0.5s
PBRG Braganca 2.87 12 *e*Pn **Pn 13 38 37.4 +1.5**
PBRG *e*Sg **Sg 13 39 22.1 -1.2**
comp=N,505nm,0.5s
PBRG Braganca 2.87 12 *e*Pn **Pn 13 38 37.4 +1.5**
CNIL Conil 2.88 155 Pn **Pn 13 38 37.5 +1.7**
CNIL Sn **Sn 13 39 11.0 +1.1**
CNIL Conil 2.88 155 *e*P **Pn 13 38 37.5 +1.7**
CNIL *e*S **Sn 13 39 11.0 +1.1**
ELOB Lobios 2.90 352 ⇑Pn **Pn 13 38 37.1 +0.9**
comp=N,2.8nm,0.1s,SNR=18
ELOB Pg **Pb 13 38 43.3 +1.2**
comp=N,17nm,0.1s,SNR=7.9
ELOB Sn **Sn 13 39 10.7 +0.1**
comp=N,72nm,0.2s,SNR=7.9
ELOB Lg Lg 13 39 23.3
comp=N,541nm,0.3s,SNR=14
ELOB Lobios 2.90 352 Pn **Pn 13 38 37.1 +0.9**
comp=N,2.8nm,0.1s,SNR=18
ELOB Lobios 2.90 352 *e*Pn **Pn 13 38 37.0 +0.9**
ELOB *e*Sn **Sn 13 39 10.6 +0.1**
ELOB *e*Lg Lg 13 39 22.2
ELUQ Luque 2.95 118 Pn **Pn 13 38 38.2 +1.2**
comp=N,2.7nm,0.2s,SNR=7.9
ELUQ Pg **Pg 13 38 44.8 -2.8**
comp=N,7.0nm,0.1s,SNR=7.9
ELUQ Sn **Sb 13 39 16.8 -2.0**
comp=N,60nm,0.2s,SNR=7.9
ELUQ Lg Lg 13 39 27.2
comp=N,396nm,0.3s,SNR=7.9
ELUQ Luque 2.95 118 Pn **Pn 13 38 38.2 +1.2**
comp=N,2.7nm,0.2s,SNR=7.9
ECAL Calabor 3.01 12 Pn **Pn 13 38 39.1 +1.4**
comp=N,1.3nm,0.1s,SNR=25
ECAL Pg **Pb 13 38 45.3 +1.3**
comp=N,25nm,0.2s,SNR=41
ECAL Sn **Sn 13 39 15.3 +2.0**
comp=N,252nm,0.4s,SNR=5.0
ECAL Lg Lg 13 39 27.4
comp=N,1µm,0.4s,SNR=21
ECAL Calabor 3.01 12 Pn **Pn 13 38 39.1 +1.4**
comp=N,1.3nm,0.1s,SNR=25
ECAL Calabor 3.01 12 *e*Pn **Pn 13 38 39.8 +2.1**
ECAL *e*Lg Lg 13 39 27.4
PGAV Gavieira, Arco 3.02 350 *e*Pn **Pn 13 38 38.8 +0.9**
PGAV Gavieira, Arco 3.02 350 *e*Pg **Pn 13 38 39.7 +1.8**
PGAV *e*Sg **Sg 13 39 28.1 +0.2**
PGAV A A 13 39 36.9
comp=N,451nm,0.5s
PGAV Gavieira, Arco 3.02 350 *e*Pn **Pn 13 38 38.8 +0.9**
PGAV *e*Sg **Sg 13 39 28.1 +0.2**
comp=N,451nm,0.5s
EJIF Jimena Fronter 3.03 146 Pn **Pn 13 38 40.0 +2.1**
comp=N,11nm,0.2s,SNR=7.9
EJIF Pg **Pg 13 38 47.7 -1.3**
comp=N,15nm,0.5s,SNR=7.9
EJIF Sn **Sn 13 39 14.3 +0.6**
comp=N,26nm,0.2s,SNR=7.9
EJIF Lg Lg 13 39 29.5
comp=N,199nm,0.4s,SNR=7.9
EJIF Jimena Fronter 3.03 146 Pn **Pn 13 38 40.0 +2.1**
comp=N,11nm,0.2s,SNR=7.9
EJIF Jimena Fronter 3.03 146 *e*Pn Pb 13 38 41.1 -3.2
EJIF *e*Lg Lg 13 39 30.6
EBAN Banos Encina 3.06 105 ⇓Pn **Pn 13 38 39.3 +0.9**
comp=N,9.3nm,0.1s,SNR=18
EBAN Pg **Pg 13 38 48.9 -0.8**
comp=N,36nm,0.2s,SNR=12
EBAN Sn **Sn 13 39 14.0 -0.6**
comp=N,74nm,0.2s,SNR=6.7
EBAN Lg Lg 13 39 30.6
SNR=7.9
EBAN Banos Encina 3.06 105 Pn **Pn 13 38 39.3 +0.9**
comp=N,9.3nm,0.1s,SNR=18
EBAN Banos Encina 3.06 105 Pg **Pg 13 38 48.9 -0.8**
comp=N,36nm,0.2s,SNR=12
EBAN Sn **Sn 13 39 14.0 -0.6**
comp=N,74nm,0.2s,SNR=6.7
EBAN *e*Lg Lg 13 39 29.7
EBAN Banos Encina 3.06 105 *e*Pn **Pn 13 38 39.3 +0.9**
EBAN *e*Lg Lg 13 39 29.7
GUD Guadarrama 3.09 57 Pn **Pn 13 38 40.3 +1.4**
comp=N,1.5nm,0.1s,SNR=36
GUD Pg **Pg 13 38 48.7 -1.5**
comp=N,107nm,0.4s,SNR=7.9
GUD Sn **Sn 13 39 14.9 -0.5**
comp=N,71nm,0.3s,SNR=7.9
GUD Lg Lg 13 39 30.9
comp=N,210nm,0.4s,SNR=12
GUD Guadarrama 3.09 57 Pn **Pn 13 38 40.3 +1.4**
comp=N,1.5nm,0.1s,SNR=36
GUD Guadarrama 3.09 57 *e*Pg **Pg 13 38 49.0 -1.2**
GUD Sn **Sn 13 39 14.9 -0.5**
comp=N,71nm,0.3s,SNR=7.9
GUD Lg Lg 13 39 30.9
comp=N,210nm,0.4s,SNR=12
GUD Guadarrama 3.09 57 *e*Pn **Pn 13 38 40.3 +1.4**
GUD *e*Pg **Pg 13 38 49.0 -1.2**
REAL Reales 3.12 143 Pg **Pg 13 38 50.8 0.0**
REAL Lg Lg 13 39 35.0
REAL Reales 3.12 143 Pg **Pg 13 38 50.8 0.0**
REAL Lg Lg 13 39 35.0
EMIJ Mijas 3.27 137 Pn **Pn 13 38 43.5 +2.1**
comp=N,5.6nm,0.1s,SNR=43
EMIJ Pg **Pg 13 38 52.9 -0.8**
comp=N,15nm,0.2s,SNR=12
EMIJ Sn **Sn 13 39 20.6 +0.7**
comp=N,57nm,0.3s,SNR=5.5
EMIJ Lg Lg 13 39 37.6
comp=N,238nm,0.6s,SNR=5.0
EMIJ Mijas 3.27 137 Pn **Pn 13 38 43.5 +2.1**
comp=N,5.6nm,0.1s,SNR=43
EMIJ Mijas 3.27 137 Pg **Pg 13 38 52.9 -0.8**
comp=N,15nm,0.2s,SNR=12
EMIJ *e*Sn **Sn 13 39 22.3 +2.5**
EMIJ Lg Lg 13 39 37.6
comp=N,238nm,0.6s,SNR=5.0
EMIJ Mijas 3.27 137 *e*Pn **Pn 13 38 43.8 +2.5**
EMIJ *e*Sn **Sn 13 39 22.3 +2.5**
EMIJ *e*Lg Lg 13 39 37.5
EMAL Malaga-Limoner 3.33 131 *e*P **Pn 13 38 44.4 +2.4**
EMAL *e*S **Sn 13 39 22.1 +1.1**
SELV Sierra Elvira 3.49 119 Pn **Pn 13 38 46.9 +2.6**
comp=N,0.9nm,0.2s,SNR=7.9
SELV Pg **Pg 13 38 56.1 -1.7**
comp=N,7.8nm,0.2s,SNR=7.9
SELV Sn **Sn 13 39 26.0 +0.9**
comp=N,15nm,0.3s,SNR=7.9
SELV Lg Lg 13 39 43.1
comp=N,242nm,0.6s,SNR=7.9
SELV Sierra Elvira 3.49 119 *e*Pn **Pn 13 38 46.8 +2.6**
SELV Sierra Elvira 3.49 119 Pg **Pg 13 38 56.1 -1.7**
comp=N,7.8nm,0.2s,SNR=7.9
SELV Sn **Sn 13 39 26.0 +0.9**
comp=N,15nm,0.3s,SNR=7.9
SELV Lg Lg 13 39 43.1
comp=N,242nm,0.6s,SNR=7.9
SELV Sierra Elvira 3.49 119 *e*Pn **Pn 13 38 46.8 +2.6**
SELV *e*Pg **Pg 13 38 56.0 -1.7**
SELV *e*Sn **Sn 13 39 28.7 +3.6**
SELV *e*Lg Lg 13 39 43.3
ECOG Cogollos-Vega 3.58 117 Pn **Pn 13 38 48.3 +2.8**
comp=N,5.1nm,0.2s,SNR=7.9
ECOG Pg **Pg 13 38 58.6 -1.0**
comp=N,16nm,0.2s,SNR=7.9
ECOG Lg Lg 13 39 48.4
comp=N,82nm,0.3s,SNR=7.9
ECOG Cogollos-Vega 3.58 117 *e*Pn **Pn 13 38 48.0 +2.4**
ECOG Cogollos-Vega 3.58 117 *e*Pn **Pn 13 38 48.0 +2.4**
ECOG *e*Pg **Pg 13 38 58.5 -1.0**
EQUE Quentar 3.70 118 ⇑Pn **Pn 13 38 50.0 +2.7**
comp=N,6.1nm,0.1s,SNR=18
EQUE Lg Lg 13 39 49.8
comp=N,95nm,0.8s,SNR=5.0
EQUE Quentar 3.70 118 Pn **Pn 13 38 50.0 +2.7**
comp=N,6.1nm,0.1s,SNR=18
EQUE Lg Lg 13 39 49.8
comp=N,95nm,0.8s,SNR=5.0
EQES Quesada 3.71 107 ⇓Pn **Pn 13 38 48.2 +0.7**
comp=N,3.1nm,0.1s,SNR=18
EQES Pg **Pg 13 39 00.3 -1.7**
comp=N,10nm,0.1s,SNR=9.1
EQES Sn **Sn 13 39 32.3 +1.5**
comp=N,17nm,0.4s,SNR=4.5
EQES Lg Lg 13 39 51.0
comp=N,469nm,0.6s,SNR=13
EQES Quesada 3.71 107 Pn **Pn 13 38 48.2 +0.7**
comp=N,3.1nm,0.1s,SNR=18
EQES Quesada 3.71 107 *e*Pn **Pn 13 38 48.1 +0.7**
EQES *e*Sn **Sn 13 39 32.3 +1.5**
EQES *e*Lg Lg 13 39 51.0
EGUA Guajares 3.82 123 Pn **Pn 13 38 50.8 +2.0**
comp=N,15nm,0.3s,SNR=7.9
EGUA Lg Lg 13 39 56.1
comp=N,169nm,0.5s,SNR=7.9
EGUA Guajares 3.82 123 Pn **Pn 13 38 50.8 +2.0**
comp=N,15nm,0.3s,SNR=7.9
EGUA *e*Lg Lg 13 39 53.8
EGUA Guajares 3.82 123 *e*Pn **Pn 13 38 51.7 +2.9**
EGUA *e*Lg Lg 13 39 53.8
EAGO Agolada(Pontev 3.83 354 Pn **Pn 13 38 49.6 +0.7**
comp=N,7.2nm,0.1s,SNR=7.9
EAGO Sn **Sn 13 39 31.7 -1.7**
comp=N,36nm,0.2s,SNR=7.9
EAGO Lg Lg 13 39 52.0
comp=N,90nm,0.3s,SNR=7.9
EAGO Agolada(Pontev 3.83 354 Pn **Pn 13 38 49.6 +0.7**
comp=N,7.2nm,0.1s,SNR=7.9
EAGO Sn **Sn 13 39 31.7 -1.7**
comp=N,36nm,0.2s,SNR=7.9
EAGO Lg Lg 13 39 52.0
comp=N,90nm,0.3s,SNR=7.9
GORA Gorafe 3.86 112 Lg Lg 13 39 56.1
comp=N,340nm,0.2s,SNR=7.9
GORA Gorafe 3.86 112 Lg Lg 13 39 56.1
comp=N,340nm,0.2s,SNR=7.9
STS Santiago 3.96 349 Pn **Pn 13 38 52.0 +1.3**
comp=N,7.3nm,0.1s,SNR=9.6
STS Sn **Sn 13 39 35.9 -0.8**
comp=N,16nm,0.1s,SNR=7.9
STS Lg Lg 13 39 58.1
comp=N,225nm,0.4s,SNR=11
STS Santiago 3.96 349 Pn **Pn 13 38 52.0 +1.3**
comp=N,7.3nm,0.1s,SNR=9.6
STS *e*Sn **Sn 13 39 36.0 -0.7**
STS Lg Lg 13 39 58.1
comp=N,225nm,0.4s,SNR=11
STS Santiago 3.96 349 *e*Pn **Pn 13 38 52.0 +1.3**
STS *e*Sn **Sn 13 39 36.0 -0.7**
STS *e*Lg Lg 13 39 58.1
SESP Santiago Espad 4.02 101 Pn **Pn 13 38 52.3 +0.6**
comp=N,1.4nm,0.1s,SNR=7.9
SESP Pg **Pg 13 39 06.6 -1.3**
SNR=7.9
SESP Sn **Sn 13 39 39.2 +0.8**
comp=N,30nm,0.1s,SNR=7.9
SESP Lg Lg 13 39 59.8
comp=N,904nm,0.3s,SNR=7.9
SESP Santiago Espad 4.02 101 *e*Pn **Pn 13 38 53.1 +1.4**
SESP Santiago Espad 4.02 101 *e*Pn **Pn 13 38 53.1 +1.4**
SESP *e*Sn **Sn 13 39 38.4 0.0**
SESP *e*Lg Lg 13 39 59.8
EHUE Huescar 4.07 105 Pn **Pn 13 38 53.0 +0.7**
comp=N,4.1nm,0.1s,SNR=7.9
EHUE Sn **Sn 13 39 41.8 +2.3**
comp=N,22nm,0.2s,SNR=7.9
EHUE Lg Lg 13 40 03.0
comp=N,248nm,0.3s,SNR=7.9
EHUE Huescar 4.07 105 *e*Pn **Pn 13 38 53.3 +1.0**
EHUE *e*Sn **Sn 13 39 41.0 +1.5**
EHUE Lg Lg 13 40 03.0
comp=N,248nm,0.3s,SNR=7.9
EHUE Huescar 4.07 105 *e*Pn **Pn 13 38 53.3 +1.0**
EHUE *e*Sn **Sn 13 39 41.0 +1.5**
EMAZ Mazaricos 4.09 345 Pn **Pn 13 38 53.5 +0.9**
comp=N,15nm,0.2s,SNR=15
EMAZ Sn **Sn 13 39 40.1 +0.1**
comp=N,29nm,0.3s,SNR=7.9
EMAZ Lg Lg 13 39 60.0
comp=N,51nm,0.2s,SNR=11
EMAZ Mazaricos 4.09 345 Pn **Pn 13 38 53.5 +0.9**
comp=N,15nm,0.2s,SNR=15
EMAZ Sn **Sn 13 39 40.1 +0.1**
comp=N,29nm,0.3s,SNR=7.9
EMAZ Lg Lg 13 40 00.0
comp=N,51nm,0.2s,SNR=11
EMAZ Mazaricos 4.09 345 *e*Pn **Pn 13 38 53.4 +0.9**
EMAZ *e*Sn **Sn 13 39 39.4 -0.6**
EBER Berja 4.24 118 Pn Pn 13 38 57.9 +3.2
comp=N,12nm,0.3s,SNR=43
EBER Sn **Sn 13 39 45.7 +2.0**
comp=N,22nm,0.3s,SNR=4.0
EBER Lg Lg 13 40 07.1
comp=N,486nm,0.6s,SNR=15
EBER Berja 4.24 118 *e*Pn Pn 13 38 57.9 +3.2
EBER *e*Sn **Sn 13 39 43.4 -0.4**
EBER *e*Lg Lg 13 40 07.0
RSA Sarsar 4.33 161 Pn **Pn 13 38 55.0 -0.9**
RSA Sn **Sn 13 39 42.0 -4.0**
RSA Sarsar 4.33 161 *e*P **Pn 13 38 55.0 -0.9**
EPON Pontenova 4.34 4 Pn **Pn 13 38 58.0 +2.1**
comp=N,0.7nm,0.1s,SNR=7.9
EPON Lg Lg 13 40 08.8
comp=N,83nm,0.3s,SNR=7.9
EPON Pontenova 4.34 4 Pn **Pn 13 38 58.0 +2.1**
comp=N,0.7nm,0.1s,SNR=7.9
EPON Lg Lg 13 40 08.8
comp=N,83nm,0.3s,SNR=7.9
EPON Pontenova 4.34 4 *e*Pn **Pn 13 38 58.2 +2.3**
EPON *e*Lg Lg 13 40 08.7
ETOR Torete 4.60 65 ⇑Pn **Pn 13 39 01.0 +1.4**
comp=N,14nm,0.1s,SNR=18
ETOR Sn **Sn 13 39 53.0 +0.4**
comp=N,63nm,0.4s,SNR=7.9
ETOR Lg Lg 13 40 20.0
comp=N,257nm,0.3s,SNR=8.2
ETOR Torete 4.60 65 Pn **Pn 13 39 01.0 +1.4**
comp=N,14nm,0.1s,SNR=18
ETOR Sn **Sn 13 39 53.0 +0.4**
comp=N,63nm,0.4s,SNR=7.9
ETOR Lg Lg 13 40 20.0
comp=N,257nm,0.3s,SNR=8.2
EARI Arriondas 4.65 22 Pn **Pn 13 39 02.7 +2.5**
comp=N,0.2nm,0.1s,SNR=7.9
EARI Sn **Sn 13 39 53.7 0.0**
comp=N,1.6nm,0.5s,SNR=7.9
EARI Lg Lg 13 40 19.1
comp=N,203nm,0.7s,SNR=7.9
EARI Arriondas 4.65 22 Pn **Pn 13 39 02.7 +2.5**
comp=N,0.2nm,0.1s,SNR=7.9
EARI Sn **Sn 13 39 53.7 0.0**
comp=N,1.6nm,0.5s,SNR=7.9
EARI Lg Lg 13 40 19.1
comp=N,203nm,0.7s,SNR=7.9
ENIJ Nijar 4.68 114 Pn **Pn 13 39 03.3 +2.7**
comp=N,3.1nm,0.1s,SNR=7.9
ENIJ Lg Lg 13 40 21.4
comp=N,149nm,0.6s,SNR=7.9
ENIJ Nijar 4.68 114 *e*Pn **Pn 13 39 02.8 +2.2**
ENIJ *e*Lg Lg 13 40 21.3
ENIJ Nijar 4.68 114 *e*Pn **Pn 13 39 02.8 +2.2**
ENIJ *e*Lg Lg 13 40 21.3
ETOB Tobarra 4.70 92 Pn **Pn 13 39 01.7 +0.7**
comp=N,2.6nm,0.2s,SNR=8.1
ETOB Sn **Sn 13 39 55.5 +0.4**
comp=N,20nm,0.4s,SNR=4.0
ETOB Lg Lg 13 40 22.8
comp=N,239nm,0.4s,SNR=5.0
ETOB Tobarra 4.70 92 Pn **Pn 13 39 01.7 +0.7**
comp=N,2.6nm,0.2s,SNR=8.1
ETOB Sn **Sn 13 39 55.5 +0.4**
comp=N,20nm,0.4s,SNR=4.0
ETOB *e*Lg Lg 13 40 21.7
ETOB Tobarra 4.70 92 *e*Pn **Pn 13 39 01.3 +0.3**
ETOB *e*Lg Lg 13 40 21.7
EMUR La Murta 5.09 101 Pn **Pn 13 39 06.8 +0.5**
comp=N,0.4nm,0.1s,SNR=12
EMUR Pg **Pb 13 39 22.0 +2.6**
comp=N,3.1nm,0.2s,SNR=7.9
EMUR Sn **Sn 13 40 03.9 -0.6**
comp=N,14nm,0.3s,SNR=4.5
EMUR Lg Lg 13 40 35.5
comp=N,230nm,0.5s,SNR=5.0
EMUR La Murta 5.09 101 *e*Pn **Pn 13 39 07.2 +1.0**
EMUR Sn **Sn 13 40 03.9 -0.6**
comp=N,14nm,0.3s,SNR=4.5
EMUR Lg Lg 13 40 35.5
comp=N,230nm,0.5s,SNR=5.0
EMUR La Murta 5.09 101 *e*Pn **Pn 13 39 07.2 +1.0**
ECHE Chera 5.14 81 Lg Lg 13 40 36.6
comp=N,41nm,0.3s,SNR=7.9
ECHE Chera 5.14 81 Lg Lg 13 40 36.6
comp=N,41nm,0.3s,SNR=7.9
ELAN Lanestosa 5.25 35 Pn **Pn 13 39 11.5 +3.1**
comp=N,0.3nm,0.1s,SNR=7.9
ELAN Sn **Sn 13 40 09.4 +1.0**
comp=N,5.9nm,0.2s,SNR=7.9
ELAN Lg Lg 13 40 40.3
comp=N,68nm,0.5s,SNR=7.9
ELAN Lanestosa 5.25 35 Pn **Pn 13 39 11.5 +3.1**
comp=N,0.3nm,0.1s,SNR=7.9
ELAN Sn **Sn 13 40 09.4 +1.0**
comp=N,5.9nm,0.2s,SNR=7.9
ELAN *e*Lg Lg 13 40 39.6
ELAN Lanestosa 5.25 35 *e*Pn Pn 13 39 11.7 +3.3
ELAN *e*Lg Lg 13 40 39.6
EMOS Mosqueruela 5.63 74 Pn **Pn 13 39 16.0 +2.1**
comp=N,1.5nm,0.2s,SNR=17
EMOS Sn **Sn 13 40 16.3 -1.8**
comp=N,6.6nm,0.2s,SNR=7.9
EMOS Lg Lg 13 40 52.2
comp=N,28nm,0.3s,SNR=5.0
EMOS Mosqueruela 5.63 74 *e*Pn **Pn 13 39 15.9 +2.1**
EMOS *e*Sn **Sn 13 40 17.1 -1.0**
EMOS Lg Lg 13 40 52.2
comp=N,28nm,0.3s,SNR=5.0
EMOS Mosqueruela 5.63 74 *e*Pn **Pn 13 39 15.9 +2.1**
EMOS *e*Sn **Sn 13 40 17.1 -1.0**
EMOS *e*Lg Lg 13 40 51.2
EBEN Beniarda 5.72 91 Pn Pn 13 39 18.2 +3.2
comp=N,0.2nm,0.1s,SNR=7.9
EBEN Lg Lg 13 40 55.6
comp=N,88nm,0.4s,SNR=7.9
EBEN Beniarda 5.72 91 *e*Pn **Pn 13 39 17.5 +2.5**
EBEN Lg Lg 13 40 55.6
comp=N,88nm,0.4s,SNR=7.9
EBEN Beniarda 5.72 91 *e*Pn **Pn 13 39 17.5 +2.5**
EBEN *e*Lg Lg 13 40 56.5
EARA Aranguren 5.89 48 Pn **Pn 13 39 19.1 +1.8**
comp=N,5.4nm,0.3s,SNR=7.9
EARA Sn **Sn 13 40 22.8 -1.4**
comp=N,6.8nm,0.4s,SNR=7.9
EARA Lg Lg 13 41 00.5
comp=N,52nm,0.4s,SNR=7.9
EARA Aranguren 5.89 48 Pn **Pn 13 39 19.1 +1.8**
comp=N,5.4nm,0.3s,SNR=7.9
EARA Lg Lg 13 41 00.5
comp=N,52nm,0.4s,SNR=7.9
IELO Elcoad 6.13 49 Pn **Pn 13 39 22.4 +1.8**
comp=N,6.5nm,0.3s,SNR=7.9
IELO Sn **Sn 13 40 30.0 -0.3**
comp=N,16nm,0.4s,SNR=7.9
IELO Lg Lg 13 41 08.6
comp=N,50nm,0.4s,SNR=7.9
IELO Elcoad 6.13 49 Pn **Pn 13 39 22.4 +1.8**
comp=N,6.5nm,0.3s,SNR=7.9
IELO Sn **Sn 13 40 30.0 -0.3**
comp=N,16nm,0.4s,SNR=7.9
IELO Lg Lg 13 41 08.6
comp=N,50nm,0.4s,SNR=7.9
ELIZ Elizondo 6.17 46 Pn **Pn 13 39 23.1 +2.0**
comp=N,13nm,0.4s,SNR=11
ELIZ Sn **Sn 13 40 30.6 -0.4**
comp=N,9.1nm,0.3s,SNR=7.9
ELIZ Lg Lg 13 41 08.8
comp=N,24nm,0.3s,SNR=7.9
ELIZ Elizondo 6.17 46 Pn **Pn 13 39 23.1 +2.0**
comp=N,13nm,0.4s,SNR=11
ELIZ *e*Sn **Sn 13 40 30.2 -0.9**
ELIZ Lg Lg 13 41 08.8
comp=N,24nm,0.3s,SNR=7.9
ELIZ Elizondo 6.17 46 *e*Pn **Pn 13 39 23.1 +2.0**
ELIZ *e*Sn **Sn 13 40 30.2 -0.9**
ELIZ *e*Lg Lg 13 41 07.3
EALK Alkurruntz 6.21 45 Pn **Pn 13 39 23.6 +1.9**
comp=N,3.9nm,0.3s,SNR=5.1
EALK Sn **Sn 13 40 32.3 +0.1**
comp=N,18nm,0.3s,SNR=7.9
EALK Lg Lg 13 41 11.0
comp=N,105nm,0.4s,SNR=7.9
EALK Alkurruntz 6.21 45 Pn **Pn 13 39 23.6 +1.9**
comp=N,3.9nm,0.3s,SNR=5.1
EALK Sn **Sn 13 40 32.3 +0.1**
comp=N,18nm,0.3s,SNR=7.9

EALK eLg Lg 13 41 09.8
EALK Alkurruntz 6.21 45 ePn **Pn 13 39 23.6 +1.9**
EALK eLg Lg 13 41 09.8
SJPF Ste Jean 6.30 47 ePn **Pn 13 39 24.8 +1.8**
SJPF eSn **Sn 13 40 33.3 -1.2**
SJPF eSg **Sg 13 41 13.1 -0.1**
comp=N,60nm,0.4s
SJPF Ste Jean 6.30 47 Pn **Pn 13 39 24.8 +1.8**
SJPF Sn **Sn 13 40 33.3 -1.2**
SJPF Lg Lg 13 41 13.1
comp=N,30nm,0.4s
SJPF Ste Jean 6.30 47 ePn **Pn 13 39 24.8 +1.8**
SJPF eSn **Sn 13 40 33.3 -1.2**
SJPF eSg **Sg 13 41 13.1 -0.1**
comp=N,30nm,0.4s
SJPF Ste Jean 6.30 47 ePn **Pn 13 39 24.8 +1.8**
SJPF eSn **Sn 13 40 33.3 -1.2**
SJPF eSg **Sg 13 41 13.1 -0.1**
ERTA Horta de San J 6.36 70 Pn **Pn 13 39 24.9 +1.1**
comp=N,1.2nm,0.1s,SNR=7.9
ERTA Sn **Sn 13 40 33.6 -2.4**
comp=N,6.0nm,0.3s,SNR=7.9
ERTA Lg Lg 13 41 15.8
comp=N,41nm,0.5s,SNR=7.9
ERTA Horta de San J 6.36 70 Pn **Pn 13 39 24.9 +1.1**
comp=N,1.2nm,0.1s,SNR=7.9
ERTA Lg Lg 13 41 15.8
comp=N,41nm,0.5s,SNR=7.9
ERTA Horta de San J 6.36 70 ePn **Pn 13 39 24.7 +0.9**
KIB El Ksiba 6.52 169 Pn **Pn 13 39 26.5 +0.5**
KIB Sn 13 40 34.0 -6.0
KIB El Ksiba 6.52 169 iP **Pn 13 39 26.5 +0.5**
ETSF Etsaut 6.57 51 ePn **Pn 13 39 28.2 +1.5**
ETSF eSn **Sn 13 40 39.0 -2.1**
ETSF eSg **Sg 13 41 20.2 -1.6**
comp=N,48nm,0.7s
ETSF Etsaut 6.57 51 Pn **Pn 13 39 28.2 +1.5**
ETSF Sn **Sn 13 40 39.0 -2.1**
ETSF Lg Lg 13 41 20.2
comp=N,24nm,0.7s
ETSF Etsaut 6.57 51 ePn **Pn 13 39 28.2 +1.5**
ETSF eSn **Sn 13 40 39.0 -2.1**
ETSF eSg **Sg 13 41 20.2 -1.6**
comp=N,24nm,0.7s
ETSF Etsaut 6.57 51 ePn **Pn 13 39 28.2 +1.5**
ETSF eSn **Sn 13 40 39.0 -2.1**
ETSF eSg **Sg 13 41 20.2 -1.6**
ATE Arette 6.59 50 Pn **Pn 13 39 28.8 +1.8**
comp=N,2.2nm,0.1s,SNR=7.9
ATE Sn **Sn 13 40 41.7 +0.1**
comp=N,6.3nm,0.5s,SNR=7.9
ATE Lg Lg 13 41 24.7
comp=N,18nm,0.4s,SNR=7.9
ATE Arette 6.59 50 ePn **Pn 13 39 28.7 +1.8**
ATE Sn **Sn 13 40 41.7 +0.1**
comp=N,6.3nm,0.5s,SNR=7.9
ATE eLg Lg 13 41 23.7
ATE Arette 6.59 50 ePn **Pn 13 39 28.7 +1.8**
ATE eLg Lg 13 41 23.7
TZC Tazercounte 6.89 172 Pn **Pn 13 39 31.0 -0.1**
TZC Tazercounte 6.89 172 eP **Pn 13 39 31.0 -0.1**
EPOB Poblet 7.01 68 Pn **Pn 13 39 33.1 +0.4**
comp=N,0.7nm,0.1s,SNR=9.5
EPOB Sn **Sn 13 40 49.4 -2.6**
comp=N,1.9nm,0.2s,SNR=7.9
EPOB Lg Lg 13 41 36.7
comp=N,4.0nm,0.7s,SNR=5.0
EPOB Poblet 7.01 68 Pn **Pn 13 39 33.1 +0.4**
comp=N,0.7nm,0.1s,SNR=9.5
EPOB Lg Lg 13 41 36.7
comp=N,4.0nm,0.7s,SNR=5.0
EPOB Poblet 7.01 68 ePn **Pn 13 39 33.1 +0.4**
EPF Esparros 7.20 53 ePn **Pn 13 39 37.0 +1.7**
EPF eSn **Sn 13 40 54.7 -1.8**
EPF eSg **Sg 13 41 41.3 -0.5**
comp=N,42nm,0.6s
EPF Esparros 7.20 53 Pn **Pn 13 39 37.0 +1.7**
EPF Esparros 7.20 53 ePn **Pn 13 39 37.0 +1.7**
EPF eSn **Sn 13 40 54.7 -1.8**
EPF eSg **Sg 13 41 41.3 -0.5**
comp=N,21nm,0.6s
EPF Esparros 7.20 53 ePn **Pn 13 39 37.0 +1.7**
EPF eSn **Sn 13 40 54.7 -1.8**
EPF eSg **Sg 13 41 41.3 -0.5**
CSOR Sort 7.41 60 Pn **Pn 13 39 39.6 +1.4**
comp=N,1.2nm,0.2s,SNR=12
CSOR Sn **Sn 13 40 57.6 -4.3**
comp=N,3.6nm,0.4s,SNR=7.9
CSOR Lg Lg 13 41 54.3
comp=N,12nm,0.3s,SNR=7.9
CSOR Sort 7.41 60 Pn **Pn 13 39 39.6 +1.4**
comp=N,1.2nm,0.2s,SNR=12
CSOR Lg Lg 13 41 54.3
comp=N,12nm,0.3s,SNR=7.9
ZFT Errachidia 7.42 158 Pn **Pn 13 39 38.0 -0.4**
ZFT Errachidia 7.42 158 iP **Pn 13 39 38.0 -0.4**
EMIR Miracle 7.51 64 Pn **Pn 13 39 40.9 +1.4**
comp=N,6.6nm,0.3s,SNR=8.3
EMIR Sn **Sn 13 41 04.8 +0.6**
comp=N,12nm,0.3s,SNR=4.0
EMIR Lg Lg 13 41 55.6
comp=N,16nm,0.3s,SNR=7.9
EMIR Miracle 7.51 64 Pn **Pn 13 39 40.9 +1.4**
comp=N,6.6nm,0.3s,SNR=8.3
EMIR Sn **Sn 13 41 04.8 +0.6**
comp=N,12nm,0.3s,SNR=4.0
EMIR Lg Lg 13 41 55.6
comp=N,16nm,0.3s,SNR=7.9
EMIR Miracle 7.51 64 ePn Pn 13 39 43.0 +3.5
OUK Oukaimeden 7.77 182 Pn **Pn 13 39 41.0 -2.4**
CLLI Llivia 8.02 61 Pn **Pn 13 39 48.9 +2.3**
comp=N,0.6nm,0.3s,SNR=7.9
CLLI Sn **Sn 13 41 14.0 -2.9**
comp=N,2.7nm,0.4s,SNR=7.9
CLLI Llivia 8.02 61 Pn **Pn 13 39 48.9 +2.3**
comp=N,0.6nm,0.3s,SNR=7.9
ETOS Mallorca 8.06 81 Pn Pn 13 39 50.8 +3.6
comp=N,0.8nm,0.2s,SNR=4.0
CFON Fontmartina 8.11 67 Pn **Pn 13 39 49.8 +2.0**
comp=N,2.5nm,0.1s,SNR=20
CFON Fontmartina 8.11 67 ePn **Pn 13 39 49.7 +2.0**
CFON Fontmartina 8.11 67 ePn **Pn 13 39 49.7 +2.0**
MTLF Montolieu 8.55 56 ePn **Pn 13 39 54.7 +1.0**
MTLF eSn **Sn 13 41 26.8 -2.9**
MTLF eSg 13 42 22.3
comp=N,9.9nm,0.5s
MTLF Montolieu 8.55 56 Pn **Pn 13 39 54.7 +1.0**
MTLF Montolieu 8.55 56 ePn **Pn 13 39 54.7 +1.0**
MTLF eSn **Sn 13 41 26.8 -2.9**
MTLF eSg 13 42 22.3
comp=N,4.9nm,0.5s
MTLF Montolieu 8.55 56 ePn **Pn 13 39 54.7 +1.0**
MTLF eSn **Sn 13 41 26.8 -2.9**
MTLF eSg 13 42 22.3
LFF La Frestale 8.56 43 ePn **Pn 13 39 54.6 +0.7**
LFF eSn **Sn 13 41 27.2 -2.8**
comp=N,9.5nm,0.4s
LFF La Frestale 8.56 43 Pn **Pn 13 39 54.6 +0.7**
LFF La Frestale 8.56 43 ePn **Pn 13 39 54.6 +0.7**
LFF eSn **Sn 13 41 27.2 -2.8**
LFF La Frestale 8.56 43 ePn **Pn 13 39 54.6 +0.7**
LFF eSn **Sn 13 41 27.2 -2.8**
EJON La Jonquera 8.64 63 Lg Lg 13 42 29.0
comp=N,5.5nm,0.5s,SNR=7.9
EJON La Jonquera 8.64 63 Lg Lg 13 42 29.0
comp=N,5.5nm,0.5s,SNR=7.9
SJAF Saint Jean de 8.65 63 Pn **Pn 13 39 58.0 +2.9**
comp=N,5.7nm,0.3s,SNR=7.9
SJAF Lg Lg 13 42 28.9
SNR=7.9
SJAF Saint Jean de 8.65 63 Pn **Pn 13 39 58.0 +2.9**
comp=N,5.7nm,0.3s,SNR=7.9
SJAF Lg Lg 13 42 28.9
SNR=7.9
RJF Les Rejaudoux 9.22 44 ePn **Pn 13 40 02.5 -0.4**
RJF eSn **Sn 13 41 42.8 -3.3**
comp=N,4.5nm,0.2s
RJF Les Rejaudoux 9.22 44 Pn **Pn 13 40 02.5 -0.4**
RJF Sn **Sn 13 41 42.8 -3.3**
comp=N,2.2nm,0.2s
RJF Les Rejaudoux 9.22 44 ePn **Pn 13 40 02.5 -0.4**
RJF eSn **Sn 13 41 42.8 -3.3**
RJF Les Rejaudoux 9.22 44 ePn **Pn 13 40 02.5 -0.4**
RJF eSn **Sn 13 41 42.8 -3.3**
CAF Calviac 9.29 47 ePn **Pn 13 40 03.6 -0.3**
CAF Calviac 9.29 47 ePn **Pn 13 40 03.6 -0.3**
CAF Calviac 9.29 47 ePn **Pn 13 40 03.6 -0.3**
MFF Saint Martin d 9.34 33 ePn **Pn 13 40 04.3 -0.3**
MFF Saint Martin d 9.34 33 ePn **Pn 13 40 04.3 -0.3**
MFF Saint Martin d 9.34 33 ePn **Pn 13 40 04.3 -0.3**
QUIF Quistinic 9.47 18 ePn **Pn 13 40 07.1 +0.8**
QUIF Quistinic 9.47 18 ePn **Pn 13 40 07.1 +0.8**
QUIF Quistinic 9.47 18 ePn **Pn 13 40 07.1 +0.8**
ROSF Rostrenen 9.84 17 ePn **Pn 13 40 12.0 +0.7**
ROSF Rostrenen 9.84 17 ePn **Pn 13 40 12.0 +0.7**
ROSF Rostrenen 9.84 17 ePn **Pn 13 40 12.0 +0.7**
SGMF Saint Gilles 9.94 20 ePn **Pn 13 40 13.5 +0.8**
SGMF Saint Gilles 9.94 20 ePn **Pn 13 40 13.5 +0.8**
SGMF Saint Gilles 9.94 20 ePn **Pn 13 40 13.5 +0.8**
LASF Ste Croix 9.94 56 ePn **Pn 13 40 14.0 +1.2**
LASF Ste Croix 9.94 56 ePn **Pn 13 40 14.0 +1.2**
LASF Ste Croix 9.94 56 ePn **Pn 13 40 14.0 +1.2**
TCF Toulx Ste Croi 10.23 41 ePn **Pn 13 40 17.9 +1.1**
TCF Toulx Ste Croi 10.23 41 ePn **Pn 13 40 17.9 +1.1**
TCF Toulx Ste Croi 10.23 41 ePn **Pn 13 40 17.9 +1.1**
BGF Bois d'Agland 10.74 42 eSn **Sn 13 42 18.9 -4.5**
comp=N,12nm,0.3s
VIVF Saint-Julien-l 10.82 53 ePn **Pn 13 40 26.1 +1.2**
VIVF Saint-Julien-l 10.82 53 ePn **Pn 13 40 26.1 +1.2**
VIVF Saint-Julien-l 10.82 53 ePn **Pn 13 40 26.1 +1.2**
FLN La Foiniere 11.01 25 ePn **Pn 13 40 28.1 +0.7**
baz=215
FLN La Foiniere 11.01 25 ePn **Pn 13 40 28.1 +0.7**
FLN La Foiniere 11.01 25 ePn **Pn 13 40 28.1 +0.7**
HYF Humbligny 11.12 39 ePn **Pn 13 40 29.7 +0.8**
HYF Humbligny 11.12 39 ePn **Pn 13 40 29.7 +0.8**
HYF Humbligny 11.12 39 ePn **Pn 13 40 29.7 +0.8**
SMF Signal de Mont 11.32 44 ePn **Pn 13 40 32.9 +1.2**
SMF Signal de Mont 11.32 44 ePn **Pn 13 40 32.9 +1.2**
SMF Signal de Mont 11.32 44 ePn **Pn 13 40 32.9 +1.2**
SSF Saint Saulge 11.41 41 ePn **Pn 13 40 33.8 +0.9**
SSF Saint Saulge 11.41 41 ePn **Pn 13 40 33.8 +0.9**
SSF Saint Saulge 11.41 41 ePn **Pn 13 40 33.8 +0.9**
LOR Lormes 11.73 41 ePn **Pn 13 40 38.3 +1.0**
baz=221
LOR Lormes 11.73 41 ePn **Pn 13 40 38.3 +1.0**
LOR Lormes 11.73 41 ePn **Pn 13 40 38.3 +1.0**

*ISCJB **27** 13:39:50.2±0.6, 36°.34S±0°.07×72°.5W±0°.1, h63km±6km, mb3.6/4, Error ellipse: s-maj=16.6km s-min=7.6km az=40.9*
*GUC **27** 13:39:51.1±0.4, 36°.33S×72°.49W, h60km±5km, ML3.5*
*IDC **27** 13:39:52.1±1.3, 36°.44S×69°.92W, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.7/15, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=46.0km s-min=19.3km az=97.0*
ISC 27 13:39:50.8±0.9, 36°.26S±0°.09×72°.5W±0°.1, h63km±9km, n19, σ0§96/15, mb3.6/3, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.24**	**302⇑**	eP	**Pn**	**13 40 00.9**	**+0.1**
COCH				eS	**Sn**	**13 40 08.5**	**+0.5**
CCSP	**San Pedro de C**	**0.74**	**218**	eP	**Pn**	**13 40 05.0**	**-0.8**
CCSP				eS	**Sn**	**13 40 16.2**	**-0.6**
CCSP				IAML		13 40 20.3	
	comp=E,3μm,0.4s						
LNCH	**Linares**	**0.86**	**62⇑**	eP	**Pn**	**13 40 07.2**	**-0.1**
LNCH				eS	**Sn**	**13 40 19.1**	**-0.2**
TALC	**Talca**	**1.13**	**41⇑**	eP	**Pn**	**13 40 11.0**	**+0.3**
TALC				eS	**Sn**	**13 40 26.0**	**+0.6**
NICH	**Los Niches**	**1.64**	**41**	eP4	**Pn**	**13 40 15.9**	**-1.6**
NICH				eS4	Sn	13 40 30.4	-7.3
PLCA	**Paso Flores**	**4.74**	**161**	Pn	**Pn**	**13 40 59.7**	**0.0**
	comp=E,1.4nm,0.3s,baz=328,slow=11,SNR=36						
PLCA				Lg	Lg	13 42 08.0	
	comp=E,1.6nm,0.3s,baz=273,slow=19,SNR=3.4						
CFAA	**Coronel Fontan**	**5.86**	**39**	Pn	**Pn**	**13 41 13.1**	**-2.0**
	comp=E,0.4nm,0.3s,baz=164,slow=5.7,SNR=18						
LPAZ	**La Paz**	**20.27**	**12**	P	Pn	13 44 26.4	+1.9
	comp=E,0.6nm,0.5s,baz=159,slow=3.8,SNR=2.7						
SIV	**San Ignacio**	**22.62**	**30**	P	**P**	**13 44 46.8**	**+0.3**
	comp=E,1.3nm,0.6s,baz=227,slow=11,SNR=3.7						
TXAR	**Lajitas Array**	**71.51**	**332**	P	pP	13 51 22.9	+0.8
	comp=E,0.3nm,0.6s,baz=148,slow=8.6,SNR=3.6						
DBIC	**Dimbokro**	**76.30**	**71**	P	**P**	**13 51 33.1**	**0.0**
	comp=E,4.2nm,1.1s,baz=176,slow=7.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**85.36**	**70**	P	**P**	**13 52 21.5**	**0.0**
	comp=E,0.2nm,0.7s,baz=228,slow=3.7,SNR=3.4						
H11S2	**WAKE ISLAND Hyl**	**25.30**	**268**	T	T	16 17 28.6	
	baz=119						
H11S1	**WAKE ISLAND Hyl**	**25.31**	**268**	T	T	16 17 29.8	
	baz=119						
H11S3	**WAKE ISLAND Hyl**	**25.32**	**268**	T	T	16 17 31.3	
	baz=119						
H11N3	**WAKE ISLAND Hyl**	**25.77**	**269**	T	T	16 17 59.9	
	baz=115						
H11N1	**WAKE ISLAND Hyl**	**25.78**	**269**	T	T	16 18 00.0	
	baz=115						
H11N2	**WAKE ISLAND Hyl**	**25.79**	**269**	T	T	16 18 01.8	
	baz=115						
MKAR	**Makanchi Array**	**158.50**	**53**	PKPab	**PKPab**	**14 00 17.1**	**+1.3**
	comp=E,0.2nm,0.7s,baz=301,slow=0.8,SNR=3.0						

IDC 27 13:41:37.6±2.2, 28°.44S×66°.89W, h0km, mb3.7/1, mb1 3.5/2, mb1mx3.4/15, mbtmp3.5/2, ML3.0/1, MS1.5/1, Ms1 1.5/1, ms1mx1.5/22, Error ellipse: s-maj=139.4km s-min=21.1km az=115.0, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.36**	**200**	Pn	Pn	13 42 32.5	+1.1
	1.4nm,0.3s,baz=332,slow=14,SNR=7.9						
CFAA				Lg	Lg	13 43 23.6	
	1.1nm,0.3s,baz=242,slow=20,SNR=3.0						
CFAA				LR	LR	13 44 12.8	
	comp=Z,8.0nm,21.6s,baz=274,slow=46						
TORD	**Torodi Ar. Bea**	**78.11**	**68**	P	P	13 53 39.0	+0.2
	0.5nm,0.7s,baz=255,slow=5.1,SNR=2.7						
TORD				pP	PcP	13 53 51.9	+3.4
	0.4nm,0.6s,baz=271,slow=4.4,SNR=2.8						
ZALV	**Zalesovo Beam**	**147.20**	**31**	PKPbc	PKPbc	14 01 22.0	-0.4
	0.7nm,0.4s,baz=337,slow=3.3,SNR=2.1						
MKAR	**Makanchi Array**	**149.75**	**44**	PKPbc	PKPbc	14 01 28.2	-1.1
	0.2nm,0.4s,baz=310,slow=3.6,SNR=4.2						

*IDC **27** 14:06:39.4±0.8, 1°.03N×126°.23E, h0km, mb4.0/14, mb1 4.1/14, mb1mx4.0/24, mbtmp4.0/14, Error ellipse: s-maj=32.1km s-min=16.8km az=70.0*
*NEIC **27** 14:06:40.7±3.4, 0°.97N×126°.28E, h13km±22km, mb4.4/3, Error ellipse: s-maj=27.2km s-min=9.6km az=76.0*
*ISCJB **27** 14:06:43.4±0.3, 1°.13N±0°.05×126°.38E±0°.05, h39km, mb4.1/17, Error ellipse: s-maj=8.4km s-min=5.0km az=142.7*
*DJA **27** 14:06:45.3±0.4, 1°.N±4°×12°.7E±°, h46km±19km, M4.0/6, MLv4.0/6*
ISC 27 14:06:45.3±0.5, 1°.11N±0°.07×126°.44E±0°.05, h39km, n40, σ1§37/43, mb4.1/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.98**	**110**	eP	**Pn**	**14 07 02.1**	**-0.5**
TNTI				S	**Sn**	**14 07 15.0**	**-0.3**
TNTI	**Ternate**	**0.98**	**110**	ePg	**Pn**	**14 07 01.9**	**-0.6**
TNTI				eSg	**Sn**	**14 07 16.8**	**+1.5**
LBMI	**Labuha**	**2.04**	**149**	P	**Pn**	**14 07 16.8**	**-0.2**
LBMI				S	**Sn**	**14 07 41.5**	**+0.3**
KMSI	**Cibinong**	**2.52**	**258**	P	**Pn**	**14 07 24.1**	**+0.4**
SANI	**Sanana**	**3.17**	**188**	P	**Pn**	**14 07 32.9**	**+0.2**
GTOI	**Gorontalo**	**3.46**	**262**	P	**Pn**	**14 07 39.1**	**+2.4**
NLAI	**Namlea**	**4.37**	**171**	P	**Pn**	**14 07 49.3**	**+0.1**
MRSI	**Marisa**	**4.55**	**262**	P	**Pn**	**14 07 52.3**	**+0.7**
FAKI	**Fak Fak**	**7.05**	**125**	P	**Pn**	**14 08 27.8**	**+1.8**
	baz=6.7,SNR=5.7						
MTN	**Manton Dam**	**14.63**	**162**	P	**P**	**14 10 13.8**	**-1.5**
	baz=14,SNR=4.1						
KDU	**Kakadu**	**14.96**	**157**	P	**P**	**14 10 19.1**	**0.0**
	baz=15,SNR=4.1						
KNRA	**Kununurra**	**16.84**	**172**	P	**P**	**14 10 41.4**	**+1.5**
	baz=16,SNR=5.2						
FITZ	**Fitzroy Crossi**	**19.11**	**182**	P	**P**	**14 11 04.3**	**-0.6**
	baz=19,SNR=4.1						
MANU	**Manus Island**	**21.15**	**99**	P	**P**	**14 11 30.7**	**+3.4**
	baz=21,SNR=4.8						
WRAB	**Tennant Creek**	**22.31**	**160**	eP	**P**	**14 11 36.2**	**-3.3**
	8.4nm,0.6s						
WRA	**Warramunga Arr**	**22.31**	**160**	P	**P**	**14 11 39.0**	**-0.6**
	8.7nm,0.7s,baz=339,slow=11,SNR=68						
WB2	**Warramunga Arr**	**22.32**	**160**	eP	**P**	**14 11 36.4**	**-3.3**
QIS	**Mount Isa**	**25.10**	**150**	P	**P**	**14 12 07.0**	**+0.5**
	baz=25,SNR=4.4						
AS31	**Alice Springs**	**25.68**	**164**	eP	**P**	**14 12 09.6**	**-2.2**
ASAR	**Alice Springs**	**25.68**	**164**	P	**P**	**14 12 11.4**	**-0.3**
	3.2nm,0.7s,baz=347,slow=12,SNR=45						
WRKA	**Warakurna**	**26.06**	**176**	P	**P**	**14 12 15.5**	**+0.3**
	baz=26,SNR=9.2						
CMAR	**Chiang Mai Arr**	**32.02**	**304**	P	**P**	**14 13 07.8**	**-0.5**
	0.5nm,0.5s,baz=134,slow=8.4,SNR=5.9						
BBOO	**Buckleboo**	**34.94**	**166**	P	**P**	**14 13 34.2**	**+0.6**
	baz=35,SNR=10						
KSAR	**Wonju Array Be**	**36.18**	**2**	P	**P**	**14 13 45.5**	**+1.5**
KSRS	**Korea Array**	**36.19**	**2**	P	**P**	**14 13 45.5**	**+1.4**
	0.7nm,0.7s,baz=176,slow=10.0,SNR=3.2						
MJAR	**Matsushiro Arr**	**36.90**	**16**	P	**P**	**14 13 50.0**	**-0.4**
	0.7nm,0.5s,baz=181,slow=9.9,SNR=5.1						
SONM	**Songino Array**	**49.68**	**342**	P	**P**	**14 15 33.1**	**-0.3**
	0.8nm,0.7s,baz=158,slow=8.4,SNR=9.7						
PETK	**Petropavlovsk-**	**57.95**	**22**	P	**P**	**14 16 35.5**	**+1.9**
	1.1nm,0.7s,baz=152,slow=2.9,SNR=6.4						
MKAR	**Makanchi Array**	**59.54**	**326**	P	**P**	**14 16 44.4**	**-0.5**
	1.2nm,0.4s,baz=122,slow=7.9,SNR=24						
MKAR				PcP	**PcP**	**14 17 31.8**	**-0.2**
	0.9nm,0.6s,baz=132,slow=5.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**62.78**	**334**	P	**P**	**14 17 07.1**	**+0.4**
	0.7nm,0.4s,baz=125,slow=8.2,SNR=3.5						
KURBB	**Kurchatov Arra**	**63.79**	**328**	P	**P**	**14 17 12.9**	**-0.4**
	2.7nm,0.6s,baz=127,slow=6.2,SNR=35						
KURK	**Kurchatov**	**63.79**	**328**	P	**P**	**14 17 12.9**	**-0.4**
BVAR	**Borovoye Array**	**69.35**	**328**	P	**P**	**14 17 48.4**	**-0.5**
	0.9nm,0.6s,baz=107,slow=7.9,SNR=4.5						
GEYT	**Alibeck**	**72.31**	**310**	P	**P**	**14 18 05.4**	**-1.8**
	1.4nm,0.5s,baz=108,slow=4.7,SNR=2.6						
ABKAR	**Akbulak array**	**73.99**	**321**	eP	**P**	**14 18 15.1**	**-1.8**
	1.2nm,0.5s						
AKTO	**Aktyubinsk**	**75.53**	**322**	P	**P**	**14 18 25.1**	**-0.6**
	2.4nm,0.6s,baz=113,slow=6.4,SNR=9.1						
ARU	**Arti**	**76.99**	**328**	eP	P	14 18 30.5	-3.3
	6.7nm,0.6s						
ILAR	**Eielson Array**	**87.58**	**25**	P	**P**	**14 19 28.9**	**-0.2**
	0.6nm,1.1s,baz=243,slow=4.2,SNR=4.0						
YKA	**Yellowknife Ar**	**101.98**	**25**	P	**Pdif**	**14 20 35.5**	**+0.6**
	0.1nm,0.5s,baz=296,slow=4.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**123.42**	**286**	PKP	**PKPdf**	**14 25 38.2**	**-1.1**
	0.2nm,0.6s,baz=66,slow=2.3,SNR=2.3						

*ISCJB **27** 14:16:05.2±0.4, 1°.52S±0°.04×99°.30E±0°.04, h30km, mb4.1/18, Error ellipse: s-maj=6.4km s-min=5.0km az=21.4*
*NEIC **27** 14:16:07.6±0.5, 1°.51S×99°.38E, h35km, mb4.2/2, Error ellipse: s-maj=9.9km s-min=8.8km az=46.0*
NEIC Felt [III] in the Kepulauan Mentawai.
*DJA **27** 14:16:07.0±0.5, 1°.S±4°×9°.9E±°, h10km, M4.5/12, mb4.7/3, mB5.1/2, MLv4.4/12, Mw(mB)4.5/2*
*IDC **27** 14:16:10.4±3.2, 1°.43S×99°.52E, h60km±27km, mb3.8/17, mb1 3.9/19, mb1mx3.8/29, mbtmp4.1/19, ML3.7/2, Error ellipse: s-maj=25.0km s-min=14.0km az=38.0*
ISC 27 14:16:06.9±0.6, 1°.51S±0°.07×99°.39E±0°.05, h30km, n47, σ1§41/45, mb4.1/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.22**	**61**	P	**Pn**	**14 16 26.4**	**-1.5**
PDSI				S	**Sn**	**14 16 43.5**	**0.0**
SDSI	**Sungai Dareh**	**2.11**	**74**	P	**Pn**	**14 16 41.9**	**+1.7**
SDSI				S	**Sb**	**14 17 08.3**	**-2.1**
MNSI	**Mandailing Nat**	**2.30**	**5**	P	**Pn**	**14 16 43.5**	**+0.8**
BKNI	**Bangkinang**	**2.46**	**42**	P	**Pn**	**14 16 46.0**	**+1.1**
BKNI	**Bangkinang**	**2.46**	**42**	S	**Pn**	**14 16 47.3**	**+2.4**
	baz=26,SNR=14						
BKNI	**Bangkinang**	**2.46**	**42**	ePn	**Pn**	**14 16 46.8**	**+1.9**
BKNI				eSn	**Sn**	**14 17 15.3**	**+1.3**
GSI	**Gunungsitoli**	**3.34**	**327**	P	**Pn**	**14 16 58.1**	**+1.1**
GSI	**Gunungsitoli**	**3.34**	**327**	ePn	**Pn**	**14 16 56.8**	**-0.3**
GSI				eSn	**Sn**	**14 17 35.7**	**0.0**
JMBI	**JAMBI**	**4.25**	**92**	P	**Pn**	**14 17 11.9**	**+2.3**
PSI	**Prapat**	**4.31**	**354**	P	**Pn**	**14 17 09.9**	**-0.6**
	1.8nm,0.3s,baz=160,slow=11,SNR=8.6						
LHSI	**Lahat**	**4.72**	**119**	P	**Pn**	**14 17 18.7**	**+2.6**
KCSI	**Kotacane, Aceh**	**5.26**	**342**	P	**Pn**	**14 17 24.4**	**+0.9**
	2.7nm,0.6s,488nm0.2nm						
MDSI	**Maura Dua**	**5.62**	**122**	P	**Pn**	**14 17 29.9**	**+1.5**
	36nm,0.8s,0.1nm						
LWLI	**Liwa**	**5.81**	**127**	P	**Pn**	**14 17 33.9**	**+2.7**
IPM	**Ipoh**	**6.17**	**15**	ePn	**Pn**	**14 17 38.0**	**+1.9**
	19nm,0.7s						
IPM				eSn	**Sn**	**14 18 49.0**	**+3.4**
CMAR	**Chiang Mai Arr**	**19.85**	**359**	P	**P**	**14 20 36.0**	**+0.4**
	0.2nm,0.3s,baz=186,slow=10,SNR=18						
PALK	**Pallekele**	**20.59**	**295**	P	**P**	**14 20 43.8**	**+0.1**
	10nm,0.7s,baz=118,slow=11,SNR=5.6						
H08S2	**Diego Garcia H**	**27.49**	**256**	T	T	14 49 54.3	
	baz=78,slow=75,SNR=265						
H08S3	**Diego Garcia H**	**27.49**	**256**	T	T	14 49 54.5	
	baz=78,slow=75,SNR=373						
H08S1	**Diego Garcia H**	**27.50**	**256**	T	T	14 49 53.4	
	baz=78,slow=75,SNR=272						
H08N1	**Diego Garcia H**	**28.71**	**260**	T	T	14 52 00.0	
	baz=127,slow=74,SNR=3.3						
H08N2	**Diego Garcia H**	**28.72**	**260**	T	T	14 52 01.2	
	baz=127,slow=74,SNR=3.1						
H08N3	**Diego Garcia H**	**28.73**	**260**	T	T	14 52 01.2	
	baz=127						
H01W3	**Cape Leeuwin H**	**35.93**	**159**	T	T	15 01 03.2	
	baz=335,slow=75,SNR=26						
H01W2	**Cape Leeuwin H**	**35.95**	**159**	T	T	15 01 03.2	
	baz=335,slow=75,SNR=34						
H01W1	**Cape Leeuwin H**	**35.95**	**159**	T	T	15 01 04.4	
	baz=335,slow=75,SNR=26						
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**	**14 23 28.6**	**-0.3**
	1.4nm,0.6s,baz=302,slow=9.2,SNR=5.9						
ASAR	**Alice Springs**	**40.03**	**126**	P	**P**	**14 23 40.1**	**+0.5**
	1.8nm,0.7s,baz=301,slow=7.8,SNR=9.7						
ASAR				S	**S**	**14 29 40.1**	**-3.6**
	0.4nm,0.6s,baz=286,slow=17,SNR=5.1						
KSAR	**Wonju Array Be**	**46.89**	**31**	P	**P**	**14 24 33.8**	**-0.8**
KSRS	**Korea Array**	**46.92**	**31**	P	**P**	**14 24 33.8**	**-1.0**
	0.7nm,0.6s,baz=229,slow=7.9,SNR=4.8						
SONM	**Songino Array**	**49.52**	**6**	P	**P**	**14 24 54.9**	**0.0**
	0.8nm,0.7s,baz=188,slow=9.8,SNR=7.3						
SONM				PcP	**PcP**	**14 26 16.5**	**0.0**
	0.3nm,0.5s,baz=189,slow=4.2,SNR=3.3						
MKAR	**Makanchi Array**	**50.40**	**345**	P	**P**	**14 25 01.6**	**+0.1**
	1.6nm,0.6s,baz=147,slow=8.2,SNR=24						
GEYT	**Alibeck**	**54.69**	**320**	P	**P**	**14 25 33.2**	**-0.2**
	2.0nm,0.7s,baz=152,slow=10.0

*NEIC **27** 14:16:21.1±0.2, 11°.28S×162°.97E, h10km, mb5.0/23, Error ellipse: s-maj=8.2km s-min=5.6km az=137.0*
*ISCJB **27** 14:16:23.3±0.3, 11°.26S±0°.06×162°.90E±0°.05, h33km, mb4.8/42, MS3.5/16, Error ellipse: s-maj=10.0km s-min=5.6km az=146.0*
*MOS **27** 14:16:23.7±1.1, 11°.14S×162°.84E, h33km, mb5.1/19, Error ellipse: s-maj=11.0km s-min=10.5km az=175.1*

ISC 27 14:16:24.5±0.4, 11°.31S±0°.07×163°.00E±0°.08, h35km, n136, σ1§**06**/126, **mb4.8**/43, **MS3.6**/16, **5C-2D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.53**	**302**	LR	LR	14 18 47.0	
	comp=Z,2μm,20.0s,baz=116,slow=42						
DZM	**Mont Dzumac**	**11.20**	**163**	Pn	**Pn**	**14 19 01.0**	**-1.2**
	1.7nm,0.3s,baz=279,slow=4.3,SNR=25						
DZM				LR	LR	14 22 44.3	
	comp=Z,465nm,19.9s,baz=0.0,slow=34						
PMG	**Port Moresby**	**15.70**	**275**	*e*P	**Pn**	**14 20 02.8**	**-0.4**
PMG	**Port Moresby**	**15.70**	**275**	LR	LR	14 25 57.5	
	comp=Z,576nm,18.2s,baz=112,slow=37						
PMG	**Port Moresby**	**15.70**	**275**	*e*Pn	**Pn**	**14 20 02.8**	**-0.4**
	24nm,0.9s						
TARA	**Tarawa**	**15.99**	**39**	*e*Pn	**Pn**	**14 20 06.3**	**-0.7**
	581nm,1.7s						
CTA	**Charters Tower**	**18.32**	**239**	P	**Pn**	**14 20 36.4**	**+0.3**
	0.2nm,0.3s,baz=70,slow=15,SNR=3.1						
CTAO	**Charters Tower**	**18.32**	**239**	*e*P	**P**	**14 20 35.5**	**-0.4**
CTAO	**Charters Tower**	**18.32**	**239**	*e*P	**P**	**14 20 35.5**	**-0.4**
COEN	**Coen**	**19.52**	**260**	P	**Pn**	**14 20 52.5**	**+1.9**
	baz=20,SNR=6.4						
RMQ	**Roma**	**20.20**	**220**	P	Pn	14 20 59.3	+0.8
	baz=21,SNR=24						
ARMA	**Armidale**	**21.75**	**207**	P	P	14 21 18.9	+5.6
	baz=23,SNR=4.7						
ARMA	**Armidale**	**21.75**	**207**	*e*P	**P**	**14 21 14.8**	**+1.5**
QLP	**Quilpie**	**23.31**	**227**	P	**P**	**14 21 30.2**	**+0.6**
	baz=24,SNR=6.1						
JAY	**Jayapura**	**23.77**	**290**	P	**P**	**14 21 33.5**	**-0.6**
	4.6nm,0.6s,baz=141,slow=8.6,SNR=4.5						
JAY				LR	LR	14 31 44.4	
	comp=Z,200nm,18.4s,baz=62,slow=39						
RAO	**Raoul Island**	**25.21**	**138**	LR	LR	14 30 08.2	
	comp=Z,185nm,19.2s,baz=4.5,slow=33						
CMSA	**Cobar Meteorol**	**25.71**	**216**	P	**P**	**14 21 52.1**	**+0.5**
	baz=26,SNR=8.6						
WRAB	**Tennant Creek**	**28.85**	**249**	*e*P	**P**	**14 22 17.5**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,17nm,1.2s						
WRA	**Warramunga Arr**	**28.87**	**249**	P	**P**	**14 22 19.6**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=78,slow=9.1,SNR=26						
WRA				PcP	**PcP**	**14 25 29.8**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=78,slow=2.9,SNR=9.3						
WRA				LR	LR	14 32 53.6	
	comp=Z,132nm,20.2s,baz=35,slow=34						
URZ	**Urewera**	**29.66**	**157**	LR	LR	14 33 17.2	
	comp=Z,88nm,20.2s,baz=350,slow=34						
H11S2	**WAKE ISLAND Hy**	**29.84**	**7**	T	T	14 54 00.9	
	baz=188,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**29.84**	**7**	T	T	14 54 02.0	
	baz=188,slow=76,SNR=64						
H11S1	**WAKE ISLAND Hy**	**29.85**	**7**	T	T	14 54 00.3	
	baz=188,slow=76,SNR=38						
KDU	**Kakadu**	**29.88**	**264**	P	**P**	**14 22 28.9**	**-0.3**
	baz=30,SNR=4.0						
AS31	**Alice Springs**	**30.27**	**242**	*e*P	**P**	**14 22 30.4**	**-2.3**
ASAR	**Alice Springs**	**30.28**	**242**	P	**P**	**14 22 31.9**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=66,slow=10.0,SNR=70						
ASAR				PcP	**PcP**	**14 25 32.9**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=69,slow=3.1,SNR=5.2						
ASAR				LR	LR	14 34 19.6	
	comp=Z,98nm,18.6s,baz=65,slow=36						
H11N1	**WAKE ISLAND Hy**	**31.06**	**7**	T	T	14 55 31.9	
	baz=188,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy**	**31.07**	**7**	T	T	14 55 34.2	
	baz=188,slow=76,SNR=29						
H11N2	**WAKE ISLAND Hy**	**31.08**	**7**	T	T	14 55 34.2	
	baz=188,slow=76,SNR=19						
BBOO	**Buckleboo**	**32.71**	**225**	P	**P**	**14 22 54.9**	**+1.0**
	baz=34,SNR=10						
KNRA	**Kununurra**	**33.55**	**259**	P	**P**	**14 23 01.2**	**-0.2**
	baz=34,SNR=10						
WRKA	**Warakurna**	**35.56**	**243**	P	**P**	**14 23 18.2**	**-0.6**
	baz=36,SNR=8.0						
BATI	**Baumata**	**38.64**	**268**	P	**P**	**14 23 45.3**	**+0.3**
	comp=Z,18nm,0.8s,baz=132,slow=6.9,SNR=4.3						
MEEK	**Meekatharra**	**44.41**	**243**	P	**P**	**14 24 33.2**	**+0.9**
	baz=45,SNR=12						
TBI	**Tubuai**	**46.74**	**111**	*e*S	**S**	**14 31 36.5**	**-1.9**
	comp=Z,59nm,33.8s						
TBI				*e*LR	LR	14 36 56.8	
	comp=Z,109nm,32.8s						
MORW	**Morawa**	**47.14**	**241**	P	**P**	**14 24 54.4**	**+0.7**
	baz=48,SNR=4.1						
MJAR	**Matsushiro Arr**	**53.02**	**335**	P	**P**	**14 25 37.8**	**-0.2**
	comp=Z,3.4nm,0.9s,baz=170,slow=9.5,SNR=8.4						
MJAR				LR	LR	14 44 38.4	
	comp=Z,33nm,21.7s,baz=120,slow=32						
CISI	**Cisompet, Garu**	**54.50**	**269**	P	**P**	**14 25 48.7**	**-0.8**
	baz=55,SNR=4.0						
CISI	**Cisompet, Garu**	**54.50**	**269**	*e*P	**P**	**14 25 47.8**	**-1.7**
	comp=Z,88nm,1.5s						
ASAJ	**Asahikawa**	**58.20**	**343**	P	**P**	**14 26 15.8**	**+0.7**
	comp=Z,22nm,0.7s,baz=200,slow=9.5,SNR=17						
ASAJ	**Asahikawa**	**58.20**	**343**	P	**P**	**14 26 13.7**	**-1.4**
	comp=Z,16nm,1.1s						
KSRS	**Korea Array**	**58.61**	**328**	P	**P**	**14 26 19.1**	**+1.0**
	comp=Z,7.3nm,0.9s,baz=143,slow=7.0,SNR=19						
KSRS				LR	LR	14 49 57.2	
	comp=Z,29nm,19.9s,baz=137,slow=34						
KSAR	**Wonju Array Be**	**58.62**	**328**	P	**P**	**14 26 19.2**	**+1.0**
KSAR	**Wonju Array Be**	**58.62**	**328**	P	**P**	**14 26 19.1**	**+1.0**
YSS	**Yuzh-Sakhalins**	**60.76**	**344**	*e*P	**P**	**14 26 31.0**	**-1.7**
USRK	**Ussuriysk Ar.**	**62.01**	**335**	P	**P**	**14 26 42.9**	**+1.6**
	comp=Z,14nm,0.9s,baz=143,slow=6.3,SNR=17						
USRK				LR	LR	14 49 30.3	
	comp=Z,25nm,20.1s,baz=170,slow=32						
PETK	**Petropavlovsk-**	**64.32**	**356**	P	**P**	**14 26 56.9**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=186,slow=11,SNR=5.5						
PETK				LR	LR	14 52 07.1	
	comp=Z,25nm,20.3s,baz=125,slow=33						
HABR	**Khabarovsk**	**64.46**	**340**	*e*P	**P**	**14 26 58.7**	**+1.3**
HABR				*e**PP	**PcP**	**14 27 30.2**	**-1.2**
HABR				*e*		14 29 24.5	
HABR				*e*PPP	PPP	14 30 59.8	
HABR				*e*		14 36 41.9	
HABR				pmax	pmax		
	comp=Z,33nm,1.8s						
VNDA	**Vanda**	**66.20**	**180**	P	**P**	**14 27 10.0**	**+1.7**
VNDA	**Vanda**	**66.20**	**180**	P	**P**	**14 27 10.0**	**+1.7**
	comp=Z,1.7nm,0.9s,baz=337,slow=6.9,SNR=6.3						
VNDA				LR	LR	14 53 50.9	
	comp=Z,58nm,18.2s,baz=306,slow=34						
KLR	**Kul'dur**	**66.26**	**338**	*e*P	P	14 27 05.7	-3.4
KLR				pmax	pmax		
	comp=Z,50nm,1.8s						
CMAR	**Chiang Mai Arr**	**69.76**	**295**	P	**P**	**14 27 32.5**	**+0.8**
	comp=Z,3.7nm,1.0s,baz=110,slow=4.5,SNR=18						
CMAR				LR	LR	14 56 57.4	
	comp=Z,8.1nm,21.4s,baz=120,slow=35						
CHTO	**Chiang Mai**	**69.88**	**295**	*e*P	**P**	**14 27 31.3**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CHTO	**Chiang Mai**	**69.88**	**295**	*e*P	**P**	**14 27 31.3**	**-1.1**
	comp=Z,4.1nm,1.0s						
ULN	**Ulaanbaatar**	**76.95**	**325**	*d i*P	**P**	**14 28 15.0**	**+1.3**
ULN				pmax	pmax		
	comp=Z,20nm,1.2s						
ULN	**Ulaanbaatar**	**76.95**	**325**	*e*P	**P**	**14 28 12.6**	**-1.1**
	comp=Z,14nm,1.0s						
SONM	**Songino Array**	**77.31**	**325**	P	**P**	**14 28 16.9**	**+1.2**
	comp=Z,6.7nm,0.8s,baz=142,slow=5.7,SNR=43						
SONM				LR	LR	15 02 12.3	
	comp=Z,36nm,19.3s,baz=142,slow=36						
YAK	**Yakutsk**	**77.61**	**345**	*e*P	**P**	**14 28 16.2**	**-0.6**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
YAK	**Yakutsk**	**77.61**	**345**	*e*P	**P**	**14 28 17.4**	**+0.6**
	comp=Z,19nm,0.8s						
QSPA	**South Pole Qui**	**78.70**	**180**	*e*P	**P**	**14 28 21.9**	**-1.2**
	comp=Z,223nm,3.0s						
BILL	**Bilibino**	**79.17**	**1**	*d i*P	**P**	**14 28 25.7**	**+0.3**
BILL				*i*		14 28 37.0	
BILL				pmax	pmax		
	comp=Z,23nm,1.2s						
BILL	**Bilibino**	**79.17**	**1**	*e*P	**P**	**14 28 26.0**	**+0.7**
	comp=Z,16nm,1.0s						
BOD	**Bodaibo**	**79.64**	**336**	*e*P	**P**	**14 28 26.3**	**-1.8**
ZAK	**Zakamensk**	**80.39**	**326**	*e*P	**P**	**14 28 31.0**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
TLY	**Talaya**	**80.86**	**327**	*e*P	**P**	**14 28 35.8**	**+0.9**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TLY	**Talaya**	**80.86**	**327**	P	**P**	**14 28 35.7**	**+0.9**
	comp=Z,4.1nm,0.6s,baz=189,slow=4.8,SNR=3.8						
TAPN	**Taplejung**	**82.39**	**300**	*e*P	**P**	**14 28 44.0**	**+0.2**
ODAN	**Odare**	**82.52**	**299**	*e*P	**P**	**14 28 44.7**	**+0.2**
	comp=Z,26nm,0.7s						
RAMN	**Ramite**	**83.22**	**299**	*e*P	**P**	**14 28 48.3**	**+0.2**
MCK	**McKinley**	**83.27**	**19**	*e*P	**P**	**14 28 47.6**	**+0.3**
MCK				pmax	pmax		
	comp=Z,25nm,1.5s						
MCK	**McKinley**	**83.27**	**19**	*e*P	**P**	**14 28 47.6**	**+0.3**
	comp=Z,25nm,1.5s						
IM04	**Indian Mountai**	**83.40**	**16**	*e*P	**P**	**14 28 48.8**	**+0.9**
JIRN	**Jiri**	**83.77**	**300**	*e*P	**P**	**14 28 51.5**	**+0.4**
PALK	**Pallekele**	**83.92**	**279**	LR	LR	15 13 19.4	
	comp=Z,24nm,18.9s,baz=74,slow=41						
GUN	**Gumba**	**84.10**	**300**	*e*P	**P**	**14 28 53.2**	**+0.5**
	comp=Z,28nm,0.8s						
COLA	**College**	**84.39**	**19**	⇑*i*P	**P**	**14 28 52.9**	**0.0**
COLA				pmax	pmax		
	comp=Z,49nm,0.8s						
COLA	**College**	**84.39**	**19**	*e*P	**P**	**14 28 52.8**	**-0.1**
	comp=Z,14nm,0.7s						
PKI	**Pulchoki**	**84.41**	**299**	*e*P	**P**	**14 28 54.4**	**+0.1**
	comp=Z,29nm,0.8s						
KKN	**Kakani**	**84.58**	**300**	*e*P	**P**	**14 28 55.3**	**+0.3**
	comp=Z,18nm,0.7s						
ILAR	**Eielson Array**	**84.63**	**19**	P	**P**	**14 28 53.8**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=224,slow=4.1,SNR=34						
ILAR				PKKPbc	**PKKPbc**	**14 47 04.6**	**-2.9**
	comp=Z,0.3nm,0.7s,baz=359,slow=1.7,SNR=5.7						
ILAR				LR	LR	15 04 35.9	
	comp=Z,71nm,20.5s,baz=256,slow=34						
DMN	**Daman**	**84.68**	**299**	*e*P	**P**	**14 28 55.5**	**-0.1**
	comp=Z,60nm,0.9s						
GKN	**Gorkha**	**85.18**	**300**	*e*P	**P**	**14 28 57.7**	**-0.3**
	comp=Z,37nm,0.8s						
M02C	**Callahan**	**85.80**	**47**	P	**P**	**14 29 02.2**	**+1.5**
	baz=86						
TIXI	**Tiksi**	**85.85**	**350**	⇑*i*P	**P**	**14 29 00.1**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TIXI	**Tiksi**	**85.85**	**350**	*e*P	**P**	**14 29 00.1**	**+0.1**
	comp=Z,7.2nm,1.4s						
KOLN	**Koldanda**	**86.01**	**299**	*e*P	**P**	**14 29 00.7**	**-1.4**
	comp=Z,12nm,0.5s						
YBH	**Yreka Blue Hor**	**86.01**	**46**	*e*P	**P**	**14 29 02.0**	**+0.3**
YBH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YBH	**Yreka Blue Hor**	**86.01**	**46**	*e*P	**P**	**14 29 02.0**	**+0.3**
	comp=Z,6.5nm,1.0s						
DANN	**Dangsing**	**86.02**	**300**	*e*P	**P**	**14 29 01.7**	**-0.6**
	comp=Z,16nm,0.8s						
HUMO	**Hull Mountain**	**86.12**	**45**	*e*P	**P**	**14 29 02.8**	**+0.6**
	comp=Z,7.5nm,0.9s						
HVS	**Khovu-Aksy**	**86.15**	**324**	⇑*i*P	**P**	**14 29 02.8**	**+0.7**
HVS				pmax	pmax		
	comp=Z,40nm,1.2s						
EGAK	**Eagle**	**86.56**	**21**	*e*P	**P**	**14 29 03.7**	**0.0**
	comp=Z,13nm,0.8s						
CMB	**Columbia Colle**	**86.58**	**50**	*e*P	**P**	**14 29 04.8**	**+0.3**
CMB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CMB	**Columbia Colle**	**86.58**	**50**	*e*P	**P**	**14 29 04.8**	**+0.3**
	comp=Z,5.5nm,1.0s						
DAWY	**Dawson**	**86.79**	**22**	*e*P	**P**	**14 29 06.0**	**+1.0**
I04A	**Tendick Farm,**	**86.88**	**44**	P	**P**	**14 29 03.7**	**-2.1**
	baz=87						
ISA	**Isabella, Lake**	**87.38**	**53**	P	**P**	**14 29 09.5**	**+1.0**
	baz=88						
J05D	**Fort Rock, OR**	**87.54**	**45**	P	**P**	**14 29 10.5**	**+1.3**
	baz=88						
EDW2	**Edwards Air Fo**	**87.55**	**54**	P	**P**	**14 29 10.3**	**+1.0**
	baz=88						
BFSC	**Mount Baldy Ra**	**87.64**	**55**	P	**P**	**14 29 10.7**	**+0.8**
	baz=88						
MONP	**Monument Peak,**	**88.30**	**56**	P	**P**	**14 29 14.0**	**+0.9**
	baz=88						
BELC	**Belle Mtn. Jos**	**88.91**	**55**	P	**P**	**14 29 16.8**	**+0.9**
	baz=89						
I07A	**Izee**	**88.97**	**45**	*e*P	**P**	**14 29 16.3**	**+0.4**
	comp=Z,5.1nm,0.8s						
WVOR	**Wild Horse Val**	**89.11**	**46**	*e*P	**P**	**14 29 16.4**	**-0.2**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WVOR	**Wild Horse Val**	**89.11**	**46**	*e*P	**P**	**14 29 16.4**	**-0.2**
	comp=Z,6.5nm,1.1s						
BC3	**Big Chuckawall**	**89.27**	**56**	P	**P**	**14 29 18.5**	**+1.0**
	baz=89						
R11A	**Troy Canyon, C**	**90.30**	**51**	P	**P**	**14 29 23.1**	**+0.8**
	baz=90						
R11A	**Troy Canyon, C**	**90.30**	**51**	*e*P	**P**	**14 29 22.1**	**-0.2**
	comp=Z,3.7nm,1.1s						
BMO	**Blue Mountains**	**90.70**	**44**	*e*P	**P**	**14 29 24.4**	**+0.5**
BMO				pmax	pmax		
	comp=Z,11nm,1.5s						
BMO	**Blue Mountains**	**90.70**	**44**	*e*P	**P**	**14 29 24.4**	**+0.5**
	comp=Z,11nm,1.5s						
F10A	**Beach Ranch, E**	**91.04**	**43**	*e*P	**P**	**14 29 25.8**	**+0.3**
	comp=Z,9.0nm,1.0s						
214A	**Organ Pipe Nat**	**91.04**	**58**	P	**P**	**14 29 27.3**	**+1.5**
	baz=91						
ELK	**Elko**	**91.14**	**49**	*e*P	**P**	**14 29 26.6**	**+0.3**
ELK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ELK	**Elko**	**91.14**	**49**	*e*P	**P**	**14 29 26.6**	**+0.3**
	comp=Z,4.2nm,1.0s						
MFID	**Camas Ranch**	**91.36**	**46**	*e*P	**P**	**14 29 27.9**	**+0.8**
	comp=Z,26nm,2.0s						
NEW	**Newport**	**91.71**	**41**	P	**P**	**14 29 29.0**	**+0.6**
	baz=92						
MKAR	**Makanchi Array**	**91.88**	**317**	*ce*P	**P**	**14 29 29.7**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR	**Makanchi Array**	**91.88**	**317**	P	**P**	**14 29 29.6**	**+0.4**
	comp=Z,5.6nm,0.7s,baz=98,slow=6.5,SNR=59						
ZALV	**Zalesovo Beam**	**92.20**	**325**	*i* P	**P**	**14 29 30.1**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**92.20**	**325**	P	**P**	**14 29 29.9**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=85,slow=3.6,SNR=5.7						
ZALV				LR	LR	15 10 06.8	
	comp=Z,24nm,20.4s,baz=41,slow=35						
HLID	**Hailey**	**92.40**	**46**	P	**P**	**14 29 32.8**	**+0.8**
	baz=92						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**14 29 49.1**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=257,slow=4.7,SNR=34						
AAK	**Ala-Archa**	**96.46**	**312**	*e*P	**P**	**14 29 50.7**	**+0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
EGMT	**Eagleton**	**96.48**	**42**	P	**P**	**14 29 51.1**	**+0.7**
	baz=97						
TXAR	**Lajitas Array**	**98.32**	**62**	LR	LR	15 09 21.7	
	comp=Z,28nm,18.8s,baz=0.0,slow=32						
GNI	**Garni**	**118.75**	**310**	*i* PKIKP	**PKPdf**	**14 35 05.6**	**-4.0**
KIV	**Kislovodsk**	**119.49**	**314**	‖*e*PKIKP	**PKPdf**	**14 35 13.0**	**+2.2**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.3s						
LPAZ	**La Paz**	**122.47**	**118**	PKIKP	**PKPdf**	**14 35 19.0**	**+1.0**
LPAZ	**La Paz**	**122.47**	**118**	PKP	**PKPdf**	**14 35 19.0**	**+1.0**
	comp=Z,1.5nm,0.9s,baz=281,slow=10,SNR=4.6						
KMBO	**Kilima Mbogo**	**124.69**	**261**	*i* PKIKP	**PKPdf**	**14 35 22.7**	**+0.8**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LBTB	**Lobatse**	**124.97**	**229**	PKP	**PKPdf**	**14 35 22.4**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=113,slow=2.5,SNR=6.2						
LSZ	**Lusaka**	**128.03**	**240**	PKP	**PKPdf**	**14 35 28.9**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=194,slow=4.2,SNR=3.4						
BDFB	**Brasilia**	**139.26**	**130**	PKP	**PKPdf**	**14 35 51.7**	**+2.6**
	comp=Z,1.1nm,0.4s,baz=285,slow=4.3,SNR=3.5						
KEST	**Kesra**	**145.94**	**320**	PKPbc	**PKPab**	**14 36 01.4**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=11,slow=4.0,SNR=3.7						
ESDC	**Sonseca Array**	**149.47**	**340**	PKPbc	**PKPbc**	**14 36 11.2**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=6.5,slow=3.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**161.64**	**278**	PKP	**PKPdf**	**14 36 22.9**	**0.0**
	comp=Z,0.9nm,1.0s,baz=2.3,slow=1.8,SNR=3.9						
TORD				PKPab	**PKPab**	**14 37 07.8**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=77,slow=3.0,SNR=5.2						

*CNRM **27** 14:21:43.1, 34°.00N×4°.59W, h0km, MD3.1*
*CSEM **27** 14:21:46.9±0.5, 33°.79N×4°.68W, h10km, mb3.8, Error ellipse: s-maj=17.3km s-min=7.2km az=96.0*

MDD 27 14:21:47.0±1.0, 33°.78N×4°.63W, h0km, mb3.8/3, **Error ellipse: s-maj=11.6km s-min=6.3km az=109.0, PRXIMO, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIF	**Mishlifen**	**0.62**	**234**	P	Pg	14 21 58.0	-1.3
MIF				S	Sg	14 22 07.0	-0.6
MIF	**Mishlifen**	**0.62**	**234**	P	Pg	14 21 58.0	-1.3
MIF				S	Sg	14 22 07.0	-0.6
RSA	**Sarsar**	**1.48**	**318**	P	Pn	14 22 07.0	-8.0
RSA				S	Sg	14 22 25.0	-10
RSA	**Sarsar**	**1.48**	**318**	P	Pn	14 22 07.0	-8.0
RSA				S	Sg	14 22 25.0	-10
KIB	**El Ksiba**	**1.69**	**225**	P	Pn	14 22 17.0	-0.8
KIB				S	Sn	14 22 40.0	-0.2
KIB	**El Ksiba**	**1.69**	**225**	P	Pn	14 22 17.0	-0.8
KIB				S	Sn	14 22 40.0	-0.2
ZFT	**Errachidia**	**1.75**	**172**	P	Pn	14 22 17.0	-2.0
ZFT				S	Sn	14 22 40.0	-2.2
ZFT	**Errachidia**	**1.75**	**172**	P	Pn	14 22 17.0	-2.0
ZFT				S	Sn	14 22 40.0	-2.2
EMIJ	**Mijas**	**2.78**	**358**	S	Sn	14 23 05.1	-2.1
	1.2nm,0.2s,SNR=4.0						
EMIJ	**Mijas**	**2.78**	**358**	S	Sn	14 23 05.1	-2.1
	1.2nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**4.31**	**338**	P	Pn	14 22 52.8	-1.1
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	14 23 40.3	-4.6
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.31**	**338**	P	Pn	14 22 52.8	-1.1
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	14 23 40.3	-4.6
	0.2nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.33**	**352**	P	Pn	14 22 54.4	+0.1
	0.5nm,0.1s,SNR=7.9						
ECAB				S	Sn	14 23 41.7	-3.8
	0.5nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.33**	**352**	P	Pn	14 22 54.4	+0.2
	0.5nm,0.1s,SNR=7.9						
ECAB				S	Sn	14 23 41.7	-3.8
	0.5nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.41**	**329**	P	Pn	14 22 53.0	-2.1
	3.8nm,0.1s,SNR=25						
EGRO				S	Sn	14 23 42.1	-5.2
	0.6nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.41**	**329**	P	Pn	14 22 53.0	-2.2
	3.8nm,0.1s,SNR=25						
EGRO				S	Sn	14 23 42.1	-5.1
	0.6nm,0.1s,SNR=7.9						

DDA 27 14:31:21.7, 37°.46N×35°.44E, h15km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.31**	**87**	*e*PG	Pg	14 31 25.9	-2.3
KOZT				*e*SG	Sg	14 31 30.9	-1.6
GULE	**Gulek**	**0.56**	**251**	*i* P	Pg	14 31 28.5	-4.5
GULE				*i* S	Sb	14 31 41.6	+0.1

*IDC **27** 14:43:56.6±0.9, 27°.66N×87°.53E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.5/32, mbtmp3.7/8, ML3.6/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/37, Error ellipse: s-maj=50.3km s-min=17.5km az=52.0*
*ISCJB **27** 14:43:59.7±0.8, 27°.7N±0°.2×87°.7E±0°.2, h35km, mb3.7/7, MS2.9/2, Error ellipse: s-maj=31.2km s-min=8.4km az=41.7*

ISC 27 14:44:01.6±0.9, 27°.8N±0°.2×87°.7E±0°.2, h35km, n12, σ0§**69**/10, **mb3.8**/7, **Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.34**	**120**	*e*P	Pn	14 45 09.0	+3.7
SHL				*e*S	**Sn**	**14 45 55.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**13.88**	**130**	Pn	**Pn**	**14 47 15.3**	**-0.7**
	0.2nm,0.3s,baz=315,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**19.45**	**349**	P	**Pn**	**14 48 25.5**	**-1.0**
	0.1nm,0.3s,baz=165,slow=12,SNR=4.9						
KURBB	**Kurchatov Arra**	**23.86**	**345**	P	**P**	**14 49 11.8**	**+0.3**
	1.1nm,0.2s,baz=162,slow=9.4,SNR=5.2						
TLY	**Talaya**	**26.71**	**22**	LR	LR	15 02 19.4	
	comp=Z,37nm,18.8s,baz=66,slow=41						
BVAR	**Borovoye Array**	**28.30**	**338**	LR	LR	15 01 41.6	
	comp=Z,29nm,20.9s,baz=34,slow=38						
FINES	**FINESS Array B**	**52.49**	**328**	P	**P**	**14 53 10.9**	**+0.1**
	1.0nm,0.8s,baz=118,slow=12,SNR=3.3						
ARCES	**ARCESS Array B**	**54.59**	**338**	P

GTOI	**Gorontalo**	**7.91**	**3**	P	**P**	**15 03 45.5**	**+0.5**
KMSI	**Cibinong**	**7.96**	**10**	P	**P**	**15 03 45.1**	**-0.4**
MPSI	**Mapaga**	**8.05**	**341**	P	**P**	**15 03 46.0**	**-0.5**
LBMI	**Labuha**	**8.25**	**37**	P	**P**	**15 03 47.4**	**-1.0**
	84nm,0.8s,686nm0.3nm						
JAGI	**Jajag, Banyuwa**	**8.42**	**262**	P	**P**	**15 03 47.7**	**-2.3**
	54nm,0.7s,0.2nm						
KPJI	**Karang Pucung**	**13.53**	**269**	P	**P**	**15 04 41.2**	**-0.7**
CBJI	**Citeko**	**15.63**	**272**	P	**P**	**15 05 06.0**	**+3.3**
WRA	**Warramunga Arr**	**16.97**	**139**	P	**P**	**15 05 15.3**	**+0.4**
	0.8nm,0.3s,baz=313,slow=9.9,SNR=57						
WRA				PcP	**PcP**	**15 09 27.2**	**+0.7**
	0.0nm,0.3s,baz=325,slow=1.6,SNR=2.8						
ASAR	**Alice Springs**	**19.57**	**147**	P	**P**	**15 05 39.6**	**+1.1**
	0.4nm,0.3s,baz=323,slow=8.8,SNR=30						
ASAR				PcP	**PcP**	**15 09 31.8**	**+0.8**
	0.0nm,0.3s,baz=346,slow=1.5,SNR=7.3						
SONM	**Songino Array**	**56.74**	**347**	P	**P**	**15 10 37.1**	**-0.5**
	0.3nm,0.6s,baz=155,slow=8.7,SNR=3.6						
MKAR	**Makanchi Array**	**64.65**	**331**	P	**P**	**15 11 29.9**	**+0.4**
	0.6nm,0.7s,baz=134,slow=8.7,SNR=7.6						
ZALV	**Zalesovo Beam**	**68.80**	**337**	P	**P**	**15 11 53.8**	**-1.0**
	0.5nm,0.4s,baz=132,slow=2.1,SNR=2.7						
VNDA	**Vanda**	**73.12**	**172**	P	**P**	**15 12 21.2**	**+1.5**
	0.8nm,0.7s,baz=321,slow=5.7,SNR=4.1						
BRTR	**Keskin Array B**	**93.80**	**309**	P	**P**	**15 14 04.3**	**0.0**
	0.3nm,0.6s,baz=120,slow=2.0,SNR=2.4						
TORD	**Torodi Ar. Bea**	**121.63**	**281**	PKP	**PKPdf**	**15 19 38.5**	**+0.8**
	0.3nm,0.6s,baz=109,slow=1.4,SNR=3.0						

*ISCJB **27** 15:05:09.7±0.4, 32°.34N±0°.02×115°.26W±0°.02, h1km±3km, Error ellipse: s-maj=3.6km s-min=2.6km az=15.3*
*NEIC **27** 15:05:11.7, 32°.27N×115°.31W, h6km, ML3.6(PAS), ML3.7(ECX), After PAS.*
NEIC Felt at Lakeside, California.
*ECX **27** 15:05:11.6±0.5, 32°.33N×115°.21W, h5km±9km, MD3.6, ML3.7*

ISC 27 15:05:11.3±1.0, 32°.30N±0°.02×115°.29W±0°.02, h9km±8km, n32, σ1§07/62, 4C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.12**	**355**	⇓*e*P	**Pg**	**15 05 14.1**	**0.0**
EMX	**El Mayor**	**0.31**	**172**	⇓*i*P	**Pg**	**15 05 17.6**	**+0.1**
EMX				*i* S	**Sg**	**15 05 22.6**	**+1.0**
EMX				⇓*e*		15 05 23.2	
	comp=N,4μm,0.3s						
RDX	**Rancho Dawling**	**0.66**	**237**	⇑*e*P	**Pg**	**15 05 24.5**	**+0.4**
RDX				⇓*e*		15 05 48.9	
	comp=N,1μm,0.7s						
RMX	**La Rumorosa**	**0.73**	**295**	⇓*e*P	**Pg**	**15 05 25.3**	**-0.2**
SWSC	**Sam W. Stewart**	**0.77**	**327**	P	**Pg**	**15 05 25.3**	**-0.8**
	baz=0.8						
ECBX	**El Chinero**	**0.85**	**166**	*e*P	**Pg**	**15 05 26.8**	**-0.8**
ECBX				*e*		15 05 40.3	
	comp=E,3μm,0.5s						
ECBX				⇓*e*		15 05 40.3	
	comp=N,3μm,0.4s						
GLA	**Glamis**	**0.85**	**27**	P	**Pg**	**15 05 26.6**	**-1.1**
	baz=0.9						
GLA				S	**Sg**	**15 05 38.4**	**-0.3**
	baz=0.9						
GLA	**Glamis**	**0.85**	**27**	*e*Pg	**Pg**	**15 05 27.0**	**-0.6**
GLA				*e*Sg	**Sg**	**15 05 38.9**	**+0.2**
GLA				*e*Sn	**Sn**	**15 05 43.6**	**+1.6**
MONP	**Monument Peak,**	**1.12**	**302**	P	**Pg**	**15 05 31.6**	**-1.3**
	baz=1.1						
MONP				S	**Sg**	**15 05 46.7**	**-0.7**
	baz=1.1						
ZAX	**El Zacaton**	**1.14**	**227**	*e*P	**Pb**	**15 05 32.9**	**-0.3**
CBX	**Cerro Bola**	**1.16**	**271**	⇑*e*P	**Pb**	**15 05 33.2**	**-0.4**
BAR	**Barrett**	**1.23**	**289**	*e*P	**Pn**	**15 05 34.2**	**-0.5**
BAR				*e*Sg	**Sb**	**15 05 49.2**	**-1.4**
SPX	**San Pedro Mart**	**1.26**	**187**	⇓*e*P	**Pn**	**15 05 34.6**	**-0.8**
ECNX	**Esteban Cantu**	**1.28**	**240**	⇑*e*P	**Pn**	**15 05 35.2**	**-0.2**
PBX	**Punta Banda**	**1.34**	**246**	⇑*e*P	**Pn**	**15 05 35.9**	**-0.2**
BC3	**Big Chuckawall**	**1.36**	**354**	P	**Pn**	**15 05 34.2**	**-2.4**
	baz=1.4						
113A	**Mohawk Valley,**	**1.37**	**70**	P	**Pn**	**15 05 34.7**	**-1.9**
	baz=1.4						
113A				S	**Sb**	**15 05 52.3**	**-2.4**
	baz=1.4						
PFO	**Pinyon Flats O**	**1.63**	**324**	P	**Pn**	**15 05 38.0**	**-2.3**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.63**	**324**	*e*Pn	**Pn**	**15 05 38.0**	**-2.3**
PFO				*e*Sn	**Sn**	**15 06 00.9**	**-0.7**
109C	**Camp Elliot, M**	**1.64**	**292**	Pg	**Pn**	**15 05 41.0**	**+0.8**
	baz=1.6						
109C				Sb	**Sn**	**15 06 01.8**	**+0.3**
	baz=1.6						
MURC	**Murrieta**	**2.06**	**310**	Sb	**Sb**	**15 06 15.5**	**+0.8**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.13**	**99**	P	**Pn**	**15 05 45.1**	**-2.0**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.13**	**99**	*e*Pn	**Pn**	**15 05 46.5**	**-0.6**
214A				*e*Pg	**Pg**	**15 05 52.1**	**0.0**
214A				*e*Sn	**Sn**	**15 06 13.8**	**+0.1**
214A				*e*Sg	**Sg**	**15 06 19.8**	**0.0**
CIS	**Catalina Islan**	**2.84**	**294**	Sb	**Sb**	**15 06 37.7**	**+0.5**
	baz=2.8						
MWC	**Mount Wilson**	**3.01**	**310**	*e*Pn	**Pn**	**15 05 59.0**	**-0.3**
MWC				*e*Pg	**Pg**	**15 06 09.1**	**+0.1**
MWC				*e*Sn	**Sn**	**15 06 34.9**	**-0.7**
PASC	**Pasadena Art C**	**3.06**	**308**	Pn	**Pn**	**15 06 00.1**	**+0.3**
PASC				*e*Pg	**Pg**	**15 06 10.5**	**+0.6**
PASC				*e*Sn	**Sn**	**15 06 37.4**	**+0.8**
GSC	**Goldstone, Bar**	**3.25**	**338**	*e*Pn	**Pn**	**15 06 03.8**	**+1.3**
GSC				*e*Pg	**Pg**	**15 06 14.1**	**+0.5**
GSC				*e*Sn	**Sn**	**15 06 42.1**	**+0.7**
GSC				*e*Sg	**Sg**	**15 06 56.8**	**+1.0**
TUC	**Tucson**	**3.82**	**89**	*e*Pn	**Pn**	**15 06 10.3**	**0.0**
TUC				*e*Pg	**Pg**	**15 06 24.5**	**+0.1**
TUC				*e*Sn	**Sn**	**15 06 56.5**	**+1.1**
TUC				*e*Sg	**Sg**	**15 07 15.4**	**+1.5**
SHPR	**Sheep Range**	**4.20**	**1**	Pn	**Pn**	**15 06 16.9**	**+1.3**
SHPR				*e*Pg	**Pg**	**15 06 33.2**	**+1.5**
SHPR				*e*Sg	**Sg**	**15 07 27.4**	**+1.2**
ISA	**Isabella, Lake**	**4.27**	**323**	Pn	**Pn**	**15 06 16.6**	**0.0**
ISA				*e*Pg	**Pg**	**15 06 33.6**	**+0.5**
ISA				*e*Sn	**Sn**	**15 07 07.0**	**+0.4**
ISA				*e*Sg	**Sg**	**15 07 27.2**	**-1.4**
WUAZ	**Wupatki**	**4.57**	**44**	*e*Pn	**Pn**	**15 06 21.7**	**+0.9**
WUAZ				*e*Pg	**Pg**	**15 06 38.5**	**-0.5**
WUAZ				*e*Sn	**Sn**	**15 07 15.3**	**+1.2**
WUAZ				*e*Sg	**Sg**	**15 07 40.1**	**+1.9**
121A	**Cookes Peak, D**	**6.35**	**86**	*e*Pn	**Pn**	**15 06 45.4**	**+0.1**
	comp=N,7.8nm,0.3s						

MEX 27 15:07:34.9±0.7, 16°.55N×95°.94W, h81km±17km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.79**	**192**	*i* P	Pn	15 07 49.8	-1.9
HUIG				*i* S	Sn	15 08 02.6	-1.5
VHO	**Vista Hermosa**	**0.92**	**305**	*i* P	Pn	15 07 51.7	-1.7
VHO				*e*S	Sn	15 08 05.3	-1.8
CMIG	**Matias Romero**	**1.15**	**62**	*i* P	Pn	15 07 54.9	-0.9
CMIG				*i* S	Sn	15 08 09.5	-1.9
PNIG	**Pinotepa**	**2.11**	**266**	*i* P	Pn	15 08 07.8	-0.4
PNIG				*e*S	Sn	15 08 31.8	-2.0

IDC 27 15:10:21.3±7.6, 17°.56S×174°.40W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/18, mbtmp3.6/2, Error ellipse: s-maj=340.9km s-min=69.0km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.45**	**259**	P	P	15 19 05.5	-0.4
	0.4nm,0.8s,baz=96,slow=7.4,SNR=5.9						
ASAR	**Alice Springs**	**48.56**	**254**	P	P	15 19 07.0	+0.2
	1.0nm,0.7s,baz=88,slow=8.6,SNR=9.0						
BRTR	**Keskin Array B**	**147.17**	**318**	PKPbc	PKPbc	15 30 06.0	-0.9
	0.3nm,0.4s,baz=64,slow=3.4,SNR=2.3						

*CSEM **27** 15:15:26.1±1.4, 36°.09N×22°.21E, h4km±1km, MD2.8, Error ellipse: s-maj=46.7km s-min=16.2km az=43.0*

ATH 27 15:15:27.8, 36°.11N×22°.18E, h17km±14km, MD2.8/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.71**	**76**	*e*PN	Pb	15 15 41.7	-0.1
KYTH	**Kithira**	**0.71**	**76**	*e*Pn	Pb	15 15 41.7	-0.1
PYL	**PYLOS**	**0.86**	**336**	*e*PN	Pb	15 15 44.4	+0.1
PYL				*e*SN	Sg	15 15 56.5	+0.5
PYL	**PYLOS**	**0.86**	**336**	*e*Pn	Pb	15 15 44.4	+0.1
PYL				*e*Sn	Sg	15 15 56.5	+0.5
VLI	**Veliai**	**0.86**	**45**	*e*PN	Pb	15 15 44.4	+0.1
VLI	**Veliai**	**0.86**	**45**	*e*Pn	Pb	15 15 44.4	+0.1
ANKY	**Antikythira Is**	**0.94**	**105**	*e*PN	Pb	15 15 45.8	+0.1
ANKY	**Antikythira Is**	**0.94**	**105**	*e*Pn	Pb	15 15 45.8	+0.1
ITM	**Ithomi**	**1.09**	**349**	*e*PB	Pb	15 15 47.7	-0.5
ITM	**Ithomi**	**1.09**	**349**	*e*Pb	Pb	15 15 47.7	-0.5
AMT	**Artemida-Makis**	**1.47**	**345**	*e*PN	Pg	15 15 55.6	-0.6
AMT	**Artemida-Makis**	**1.47**	**345**	*e*Pn	Pg	15 15 55.6	-0.6

*MDD **27** 15:32:41.5±1.7, 37°.41N×12°.71W, h0km, mb4.3/4, Error ellipse: s-maj=15.1km s-min=11.2km az=60.0, PRXIMO*
*IGIL **27** 15:32:42.4, 37°.41N×12°.79W, h11km, ML2.6*
*INMG **27** 15:32:42.9±1.3, 37°.26N×13°.11W, h10km, ML2.6, Error ellipse: s-maj=7.3km s-min=5.7km az=81.0*
*CSEM **27** 15:32:43.4±0.4, 37°.52N×12°.55W, h10km, ML3.5/6, Error ellipse: s-maj=7.4km s-min=5.9km az=43.0*

ISC 27 15:32:39.8±3.3, 37°.43N±0°.08×12°.8W±0°.2, h10km, n90, σ1§40/154, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.14**	**60**	*e*Pn	**Pn**	**15 33 31.2**	**+1.8**
PMAFR				*e*Sn	**Sn**	**15 34 07.1**	**+0.2**
PMAFR				A	A	15 34 10.1	
	27nm,0.2s						
PMAFR	**Mafra**	**3.14**	**60**	P	**Pn**	**15 33 31.2**	**+1.8**
	3.3nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**15 34 07.5**	**+0.6**
	47nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.14**	**60**	P	**Pn**	**15 33 31.2**	**+1.8**
	3.3nm,0.1s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**15 34 07.1**	**+0.2**
	27nm,0.2s						
PMAFR				S	Sb	15 34 07.5	-6.6
	47nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.15**	**94**	*e*Pn	**Pn**	**15 33 30.4**	**+0.9**
PFVI				*e*Sn	**Sn**	**15 34 05.4**	**-1.8**
PFVI				A	A	15 34 06.5	
	14nm,0.1s						
PFVI	**Vila Bisbo**	**3.15**	**94**	P	**Pn**	**15 33 30.5**	**+0.9**
	1.8nm,0.0s,SNR=6.0						
PFVI				S	**Sn**	**15 34 05.6**	**-1.6**
	43nm,0.2s,SNR=11						
PFVI	**Vila Bisbo**	**3.15**	**94**	P	**Pn**	**15 33 30.5**	**+0.9**
	1.8nm,0.0s,SNR=6.0						
PFVI				S	**Sn**	**15 34 05.6**	**-1.6**
	43nm,0.2s,SNR=11						
PTEO	**Sao Teotonio**	**3.22**	**87**	*e*Pn	**Pn**	**15 33 31.4**	**+1.0**
PTEO				*e*Sn	**Sn**	**15 34 07.5**	**-1.3**
PTEO				A	A	15 34 11.7	
	8.6nm,0.2s						
PTEO	**Sao Teotonio**	**3.22**	**87**	P	**Pn**	**15 33 31.4**	**+1.0**
PTEO				S	**Sn**	**15 34 07.5**	**-1.3**
	4.3nm,0.2s						
PTEO	**Sao Teotonio**	**3.22**	**87**	P	**Pn**	**15 33 31.4**	**+1.0**
PTEO				S	**Sn**	**15 34 07.5**	**-1.3**
	4.3nm,0.2s						
MORF	**Marmelete**	**3.28**	**91**	*e*P	**Pn**	**15 33 32.5**	**+1.2**
MORF				*e*S	**Sn**	**15 34 08.8**	**-1.6**
MORF				AML	AML	15 34 09.9	
	comp=N,18nm,0.1s						
MORF	**Marmelete**	**3.28**	**91**	*e*Pn	**Pn**	**15 33 32.5**	**+1.2**
MORF				*e*Sn	**Sn**	**15 34 08.8**	**-1.6**
MORF				A	A	15 34 13.3	
	comp=N,18nm,0.1s						
MORF	**Marmelete**	**3.28**	**91**	P	**Pn**	**15 33 32.5**	**+1.2**
MORF				S	**Sn**	**15 34 08.8**	**-1.6**
	comp=N,18nm,0.1s						
MORF	**Marmelete**	**3.28**	**91**	P	**Pn**	**15 33 32.5**	**+1.2**
MORF				S	**Sn**	**15 34 08.8**	**-1.6**
	comp=N,18nm,0.1s						
PACT	**Alcochete**	**3.38**	**65**	*e*Sn	**Sn**	**15 34 15.3**	**+2.6**
PACT				A	A	15 34 16.1	
	comp=N,16nm,0.3s						
PACT	**Alcochete**	**3.38**	**65**	*e*Sn	**Sn**	**15 34 15.3**	**+2.6**
	comp=N,16nm,0.3s						
PNCL	**Nicolau / Gran**	**3.42**	**77**	*e*Pn	**Pn**	**15 33 34.3**	**+1.0**
PNCL				*e*Sn	**Sn**	**15 34 13.8**	**-0.1**
PNCL				A	A	15 34 17.4	
	comp=N,15nm,0.1s						
PNCL	**Nicolau / Gran**	**3.42**	**77**	*e*Pn	**Pn**	**15 33 34.3**	**+1.0**
PNCL				*e*Sn	**Sn**	**15 34 13.8**	**-0.1**
	comp=N,15nm,0.1s						
MESJ	**Messejana**	**3.63**	**82**	*e*P	**Pn**	**15 33 37.2**	**+1.1**
MESJ				*e*S	**Sn**	**15 34 17.4**	**-1.6**
MESJ	**Messejana**	**3.63**	**82**	*e*Pn	**Pn**	**15 33 37.4**	**+1.3**
MESJ				*e*Sn	**Sn**	**15 34 19.7**	**+0.7**
MESJ				A	A	15 34 23.7	
	comp=N,8.4nm,0.2s						
MESJ	**Messejana**	**3.63**	**82**	P	**Pn**	**15 33 37.2**	**+1.1**
MESJ				S	**Sn**	**15 34 17.4**	**-1.6**
MESJ	**Messejana**	**3.63**	**82**	P	**Pn**	**15 33 37.2**	**+1.1**
MESJ				S	**Sn**	**15 34 17.4**	**-1.6**
MESJ				*e*Sn	Sb	15 34 19.7	-8.5
	comp=N,8.4nm,0.2s						
PCVE	**Castro Verde**	**3.76**	**85**	*e*Pn	**Pn**	**15 33 39.0**	**+1.1**
PCVE				*e*Sn	**Sn**	**15 34 20.3**	**-1.9**
PCVE				A	A	15 34 27.7	
	comp=N,0.3nm,0.3s						
PCVE	**Castro Verde**	**3.76**	**85**	P	**Pn**	**15 33 39.0**	**+1.1**
PCVE				S	**Sn**	**15 34 20.3**	**-1.9**
	comp=N,0.3nm,0.3s						
PCVE	**Castro Verde**	**3.76**	**85**	P	**Pn**	**15 33 39.0**	**+1.1**
PCVE				S	**Sn**	**15 34 20.3**	**-1.9**
	comp=N,0.3nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.86**	**91**	*e*Pn	**Pn**	**15 33 40.9**	**+1.7**
PBDV				*e*Sn	**Sn**	**15 34 23.4**	**-1.2**
PBDV				A	A	15 34 28.8	
	comp=N,10nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.86**	**91**	P	**Pn**	**15 33 40.9**	**+1.7**
PBDV				S	**Sn**	**15 34 23.4**	**-1.2**
	comp=N,10nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.86**	**91**	P	**Pn**	**15 33 40.9**	**+1.7**
PBDV				S	**Sn**	**15 34 23.4**	**-1.2**
	comp=N,10nm,0.5s						
EVO	**Evora**	**3.91**	**72**	*e*Pn	**Pn**	**15 33 41.2**	**+1.2**
EVO				*e*Sn	**Sn**	**15 34 25.3**	**-0.7**
EVO				A	A	15 34 28.7	
	comp=N,22nm,0.1s						
EVO	**Evora**	**3.91**	**72**	P	**Pn**	**15 33 41.2**	**+1.2**
EVO				S	**Sn**	**15 34 25.3**	**-0.7**
	comp=N,22nm,0.1s						
EVO	**Evora**	**3.91**	**72**	P	**Pn**	**15 33 41.2**	**+1.2**
EVO				S	**Sn**	**15 34 25.3**	**-0.7**
	comp=N,22nm,0.1s						
PMTG	**Montargil**	**3.93**	**64**	*e*Pn	**Pn**	**15 33 41.4**	**+1.2**
PMTG				*e*Sn	**Sn**	**15 34 26.2**	**-0.2**
PMTG				A	A	15 34 29.7	
	comp=N,6.2nm,0.2s						
PMTG	**Montargil**	**3.93**	**64**	*e*Pn	**Pn**	**15 33 41.4**	**+1.2**
PMTG				*e*Sn	**Sn**	**15 34 26.2**	**-0.2**
	comp=N,6.2nm,0.2s						
PVAQ	**Vaqueiros**	**4.02**	**89**	*e*Pn	**Pn**	**15 33 43.2**	**+1.8**
PVAQ				*e*Sn	**Sn**	**15 34 27.5**	**-1.1**
PVAQ				A	A	15 34 32.5	
	comp=N,15nm,0.1s						
PVAQ	**Vaqueiros**	**4.02**	**89**	P	**Pn**	**15 33 43.2**	**+1.8**
PVAQ				S	**Sn**	**15 34 27.5**	**-1.1**
	comp=N,15nm,0.1s						
PVAQ	**Vaqueiros**	**4.02**	**89**	P	**Pn**	**15 33 43.2**	**+1.8**
PVAQ				S	**Sn**	**15 34 27.5**	**-1.1**
	comp=N,15nm,0.1s						
PTOM	**Tomar**	**4.05**	**56**	*e*Pn	**Pn**	**15 33 43.9**	**+2.0**
PTOM				*e*Sn	**Sn**	**15 34 29.6**	**+0.1**
PTOM				A	A	15 34 33.8	
	comp=N,7.8nm,0.1s						
PTOM	**Tomar**	**4.05**	**56**	P	**Pn**	**15 33 43.9**	**+2.0**
PTOM				S	**Sn**	**15 34 29.6**	**+0.1**
	comp=N,3.9nm,0.1s						
PTOM	**Tomar**	**4.05**	**56**	P	**Pn**	**15 33 43.9**	**+2.0**
PTOM				S	**Sn**	**15 34 29.6**	**+0.1**
	comp=N,3.9nm,0.1s						
EGRO	**El Granado**	**4.20**	**87**	P	**Pn**	**15 33 44.9**	**+0.9**
	comp=N,0.3nm,0.1s,SNR=8.1						
EGRO				S	**Sn**	**15 34 32.4**	**-0.7**
	comp=N,7.2nm,0.1s,SNR=5.0						
EGRO	**El Granado**	**4.20**	**87**	P	**Pn**	**15 33 44.8**	**+0.9**
	comp=N,0.3nm,0.1s,SNR=8.1						
EGRO				S	**Sn**	**15 34 32.4**	**-0.7**
	comp=N,7.2nm,0.1s,SNR=5.0						
PCAS	**Casmilo, Conde**	**4.24**	**51**	*e*Pn	**Pn**	**15 33 45.6**	**+1.1**
PCAS				*e*Sn	**Sn**	**15 34 34.1**	**0.0**
PCAS				A	A	15 34 41.9	
	comp=N,2.7nm,0.2s						
PCAS	**Casmilo, Conde**	**4.24**	**51**	*e*Pn	**Pn**	**15 33 45.6**	**+1.1**
PCAS				*e*Sn	**Sn**	**15 34 34.1**	**0.0**
	comp=N,2.7nm,0.2s						
PESTR	**Estremoz**	**4.33**	**69**	*e*Pn	**Pn**	**15 33 47.0**	**+1.3**
PESTR				*e*Sn	**Sn**	**15 34 35.4**	**-0.8**
PESTR				A	A	15 34 39.9	
	comp=N,3.4nm,0.2s						
PESTR	**Estremoz**	**4.33**	**69**	*e*Pn	**Pn**	**15 33 47.0**	**+1.3**
PESTR				*e*Sn	**Sn**	**15 34 35.4**	**-0.8**
	comp=N,3.4nm,0.2s						
PBAR	**Barrancos**	**4.60**	**79**	*e*Pn	**Pn**	**15 33 51.2**	**+1.8**
PBAR				*e*Sn	**Sn**	**15 34 41.4**	**-1.4**
PBAR				A	A	15 34 45.9	
	comp=N,7.8nm,0.1s						
PBAR	**Barrancos**	**4.60**	**79**	P	**Pn**	**15 33 51.2**	**+1.8**
PBAR				S	**Sn**	**15 34 41.4**	**-1.4**
	comp=N,7.8nm,0.1s						
PBAR	**Barrancos**	**4.60**	**79**	P	**Pn**	**15 33 51.2**	**+1.8**
PBAR				S	**Sn**	**15 34 41.4**	**-1.4**
	comp=N,7.8nm,0.1s						
PMRV	**Marv??o**	**4.67**	**63**	*e*Pn	**Pn**	**15 33 52.3**	**+1.9**
PMRV				*e*Sn	**Sn**	**15 34 43.9**	**-0.7**
PMRV				A	A	15 34 47.5	
	comp=N,4.5nm,0.2s						
PMRV	**Marv??o**	**4.67**	**63**	P	**Pn**	**15 33 52.3**	**+1.9**
PMRV				S	**Sn**	**15 34 43.9**	**-0.7**
	comp=N,4.5nm,0.2s						
PMRV	**Marv??o**	**4.67**	**63**	P	**Pn**	**15 33 52.3**	**+1.9**
PMRV				S	**Sn**	**15 34 43.9**	**-0.7**
	comp=N,4.5nm,0.2s						
EBAD	**Badajoz**	**4.73**	**72**	P	**Pn**	**15 33 52.2**	**+1.0**
	comp=N,0.4nm,0.1s,SNR=8.8						
EBAD				S	**Sn**	**15 34 44.7**	**-1.3**
	comp=N,4.9nm,0.1s,SNR=9.0						
EBAD	**Badajoz**	**4.73**	**72**	P	**Pn**	**15 33 52.2**	**+1.0**
	comp=N,0.4nm,0.1s,SNR=8.8						
EBAD				S	**Sn**	**15 34 44.7**	**-1.3**
	comp=N,4.9nm,0.1s,SNR=9.0						
PCBR	**Castelo Branco**	**4.79**	**58**	*e*Pn	**Pn**	**15 33 53.7**	**+1.7**
PCBR				*e*Sn	**Sn**	**15 34 46.1**	**-1.5**
PCBR				A	A	15 34 50.5	
	comp=N,3.0nm,0.3s						
PCBR	**Castelo Branco**	**4.79**	**58**	P	**Pn**	**15 33 53.7**	**+1.7**
PCBR				S	**Sn**	**15 34 46.1**	**-1.5**
	comp=N,1.5nm,0.3s						
PCBR	**Castelo Branco**	**4.79**	**58**	P	**Pn**	**15 33 53.7**	**+1.7**
PCBR				S	**Sn**	**15 34 46.1**	**-1.5**
	comp=N,1.5nm,0.3s						
EMIN	**Mina Concepcio**	**4.85**	**84**	P	**Pn**	**15 33 54.2**	**+1.3**
	comp=N,0.1nm,0.1s,SNR=7.2						
EMIN				S	**Sn**	**15 34 46.7**	**-2.4**
	comp=N,1.5nm,0.1s,SNR=12						
EMIN	**Mina Concepcio**	**4.85**	**84**	P	**Pn**	**15 33 54.2**	**+1.3**
	comp=N,0.1nm,0.1s,SNR=7.2						
EMIN				S	**Sn**	**15 34 46.7**	**-2.4**
	comp=N,1.5nm,0.1s,SNR=12						
PVIS	**Viseu**	**5.01**	**48**	*e*Sn	**Sn**	**15 34 51.6**	**-1.6**
PVIS	**Viseu**	**5.01**	**48**	S	**Sn**	**15 34 51.6**	**-1.6**
PVIS	**Viseu**	**5.01**	**48**	S	**Sn**	**15 34 51.6**	**-1.6**
MTE	**Manteigas**	**5.04**	**52**	*e*Pn	**Pn**	**15 33 56.9**	**+1.4**
MTE				*e*Sn	**Sn**	**15 34 54.2**	**+0.4**
MTE	**Manteigas**	**5.04**	**52**	P	**Pn**	**15 33 56.9**	**+1.4**
MTE				S	**Sn**	**15 34 54.2**	**+0.4**
MTE	**Manteigas**	**5.04**	**52**	P	**Pn**	**15 33 56.9**	**+1.4**
MTE				S	**Sn**	**15 34 54.2**	**+0.4**
ESPR	**Espera**	**5.55**	**94**	P	**Pn**	**15 34 04.4**	**+2.0**
	comp=N,2.9nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**15 35 05.4**	**-0.9**
	comp=N,20nm,0.3s,SNR=7.9						
ESPR	**Espera**	**5.55**	**94**	P	**Pn**	**15 34 04.4**	**+2.0**
	comp=N,2.9nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**15 35 05.4**	**-0.9**
	comp=N,20nm,0.3s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.71**	**36**	*e*Pn	**Pn**	**15 34 05.3**	**+0.6**
PGAV				*e*Sn	Sn	15 35 07.1	-3.2
PGAV				A	A	15 35 11.7	
	comp=N,2.9nm,0.1s						
PGAV	**Gavieira, Arco**	**5.71**	**36**	*e*Pn	**Pn**	**15 34 05.3**	**+0.6**
ELOB	**Lobios**	**5.73**	**38**	P	**Pn**	**15 34 05.4**	**+0.4**
	comp=N,0.9nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**15 35 08.1**	**-2.8**
	comp=N,1.0nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.73**	**38**	P	**Pn**	**15 34 05.4**	**+0.

mb4.5/4,mB4.8/1,MLv4.5/8,Mw(mB)4.0/1

ISC 27 16:02:06.7±0.6, 6°81S±0°05×130°63E±0°08, h78km, n30, σ2°03/34, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.34**	**150**	P	**Pn**	**16 02 32.7**	**+2.8**
SAUI				S	**Sn**	**16 02 51.5**	**+4.1**
FAKI	**Fak Fak**	**4.18**	**23**	P	**Pn**	**16 03 08.3**	**+0.1**
FAKI	**Fak Fak**	**4.18**	**23**	P	**Pn**	**16 03 08.3**	**+0.1**
	baz=4.4,SNR=41						
FAKI				S	**Sn**	**16 03 53.2**	**-2.6**
	baz=4.4,SNR=13						
MTN	**Manton Dam**	**6.02**	**175**	P	**Pn**	**16 03 34.1**	**+0.9**
	baz=5.9,SNR=69						
MTN				S	**Sn**	**16 04 38.1**	**-2.6**
	baz=5.9,SNR=11						
KDU	**Kakadu**	**6.12**	**163**	P	**Pn**	**16 03 34.7**	**+0.2**
	baz=6.0,SNR=101						
KDU				S	**Sn**	**16 04 39.4**	**-3.7**
	baz=6.0,SNR=12						
SANI	**Sanana**	**6.62**	**315**	P	**Pn**	**16 03 43.5**	**+2.2**
	14nm,1.4s,0.1nm						
SOEI	**Soe**	**6.95**	**245**	P	**Pn**	**16 03 48.1**	**+2.1**
	37nm,0.5s,0.2nm						
SOEI	**Soe**	**6.95**	**245**	P	**Pn**	**16 03 47.0**	**+1.1**
	baz=6.8,SNR=39						
BATI	**Baumata**	**7.67**	**243**	P	**Pn**	**16 03 57.8**	**+2.0**
KNRA	**Kununurra**	**9.00**	**192**	P	**Pn**	**16 04 12.6**	**-1.3**
	baz=8.9,SNR=160						
KNRA				S	**Sn**	**16 05 48.2**	**-5.5**
	baz=8.9,SNR=12						
WRA	**Warramunga Arr**	**13.54**	**165**	Pn	**Pn**	**16 05 12.4**	**-3.2**
	0.8nm,0.3s,baz=352,slow=13,SNR=43						
WRA				Sn	Sn	16 07 34.2	-10
	4.4nm,0.3s,baz=334,slow=22,SNR=12						
COEN	**Coen**	**14.23**	**121**	P	**Pn**	**16 05 24.6**	**0.0**
	baz=14,SNR=12						
COEN				S	Sn	16 07 51.8	-9.4
	baz=14,SNR=4.9						
QIS	**Mount Isa**	**16.20**	**148**	P	**Pn**	**16 05 48.8**	**-0.9**
	baz=16,SNR=5.7						
QIS				S	Sn	16 08 23.2	-26
	baz=16,SNR=3.5						
ASAR	**Alice Springs**	**17.06**	**170**	P	**Pn**	**16 05 60.0**	**-0.3**
	0.6nm,0.3s,baz=354,slow=8.7,SNR=45						
ASAR				S	Sn	16 08 58.6	-11
	0.9nm,0.3s,baz=351,slow=24,SNR=7.5						
WRKA	**Warakurna**	**18.27**	**187**	P	**P**	**16 06 14.2**	**0.0**
	baz=18,SNR=18						
WRKA				S	S	16 09 27.7	-11
	baz=18,SNR=3.6						
MEEK	**Meekatharra**	**22.80**	**209**	P	**P**	**16 07 05.6**	**+2.5**
	baz=23,SNR=3.4						
CMAR	**Chiang Mai Arr**	**40.09**	**309**	P	**P**	**16 09 34.6**	**-0.3**
	0.5nm,0.4s,baz=137,slow=6.5,SNR=7.3						
MJAR	**Matsushiro Arr**	**43.70**	**9**	LR	LR	16 27 05.7	
	comp=Z,19nm,21.1s,baz=280,slow=34						
RAMN	**Ramite**	**54.25**	**310**	*e*P	**P**	**16 11 25.1**	**-0.1**
	20nm,0.5s						
JIRN	**Jiri**	**54.94**	**311**	*e*P	**P**	**16 11 30.3**	**0.0**
	9.4nm,0.5s						
GUN	**Gumba**	**55.30**	**311**	*e*P	**P**	**16 11 32.4**	**-0.5**
	17nm,0.7s						
PKI	**Pulchoki**	**55.48**	**310**	*e*P	**P**	**16 11 33.5**	**-0.7**
PKIN	**Phulchoki**	**55.49**	**310**	*e*P	**P**	**16 11 34.0**	**-0.2**
	3.2nm,0.4s						
KKN	**Kakani**	**55.69**	**310**	*e*P	**P**	**16 11 35.2**	**-0.4**
DMN	**Daman**	**55.73**	**310**	*e*P	**P**	**16 11 35.7**	**-0.2**
GKN	**Gorkha**	**56.29**	**310**	*e*P	**P**	**16 11 39.5**	**-0.2**
DANN	**Dangsing**	**57.13**	**310**	*e*P	**P**	**16 11 45.7**	**-0.2**
SONM	**Songino Array**	**58.46**	**341**	P	**P**	**16 11 55.5**	**+0.9**
	0.4nm,0.6s,baz=159,slow=5.2,SNR=5.1						
MKAR	**Makanchi Array**	**68.41**	**326**	P	**P**	**16 13 00.8**	**+0.7**
	1.2nm,0.6s,baz=120,slow=8.0,SNR=19						
LPAZ	**La Paz**	**150.48**	**141**	PKPbc	**PKPbc**	**16 21 54.0**	**+2.9**
	0.6nm,0.4s,baz=243,slow=2.3,SNR=3.9						

NNC 27 16:11:01.4±15.0, 37°44N×74°15E, h0km, mb3.8, mpv3.4, 5C-3D, Error ellipse: s-maj=126.2km s-min=107.6km az=25.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.20**	**3**	⇑Pn	Pn	16 12 23.5	+2.9
	2.1nm,0.8s						
AAK				⇑Pg	Pb	16 12 34.5	+1.1
	6.4nm,0.7s						
AAK				⇓Lg	Lg	16 13 44.4	
	4.8nm,0.8s						
TKM2	**Tokmak 2**	**5.59**	**11**	⇓Pn	Pn	16 12 26.2	+0.1
	7.4nm,0.6s						
TKM2				⇑Sn	Sn	16 13 30.3	-0.9
	3.8nm,0.6s						
KK31	**Karatay Array**	**6.30**	**335**	⇑Pn	Pn	16 12 36.8	+1.1
	0.7nm,0.4s,baz=174,slow=16,SNR=11						
KK31				⇑Sn	Sn	16 13 50.6	+2.2
	1.1nm,0.4s,baz=156,slow=23,SNR=5.1						
PDGK	**Podgornoye**	**7.16**	**33**	⇓Pn	Pn	16 12 44.4	-2.9

IDC 27 16:25:20.6±2.6, 16°60S×173°28W, h39km±5km, mb3.4/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.6/5, MS3.6/5, Ms1 3.6/5, ms1mx3.3/12, Error ellipse: s-maj=141.1km s-min=19.0km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.89**	**251**	LR	LR	16 36 25.0	
	comp=Z,141nm,20.5s,baz=40,slow=33						
PAE	**Paea**	**22.67**	**96**	*e*T	T	16 53 24.3	
	1.8nm,0.3s						
PPT	**Papeete**	**22.67**	**96**	LR	LR	16 37 20.4	
	comp=Z,58nm,19.0s,baz=302,slow=32						
PPT2	**Papeete2**	**22.67**	**96**	*e*LR	LR	16 35 57.1	
	135nm,25.5s						
PPT2	**Papeete2**	**22.67**	**96**	*e*T	T	16 53 25.6	
	3.1nm,0.2s						
TVO	**Taravao**	**22.98**	**96**	*e*T	T	16 53 48.3	
	0.9nm,0.3s						
TBI	**Tubuai**	**23.35**	**111**	*e*LR	LR	16 36 25.7	
	158nm,25.8s						
TBI	**Tubuai**	**23.35**	**111**	*e*T	T	16 54 30.8	
	4.3nm,0.2s						
VAH	**Vaihoa**	**24.70**	**90**	*e*T	T	16 55 51.1	
	5.1nm,0.3s						
HNR	**Honiara**	**27.02**	**282**	LR	LR	16 40 19.0	
	comp=Z,200nm,21.2s,baz=103,slow=33						
RKT	**Rikitea**	**36.52**	**107**	*e*T	T	17 10 53.4	
	2.2nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**40.05**	**330**	T	T	17 15 17.2	
	baz=146,slow=74,SNR=13						
H11S3	**WAKE ISLAND Hy**	**40.06**	**330**	T	T	17 15 16.1	
	baz=146,slow=74,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**40.07**	**330**	T	T	17 15 18.9	
	baz=146						
H11N3	**WAKE ISLAND Hy**	**41.01**	**331**	T	T	17 16 27.8	
	baz=150						
H11N1	**WAKE ISLAND Hy**	**41.02**	**331**	T	T	17 16 27.4	
	baz=150						
H11N2	**WAKE ISLAND Hy**	**41.03**	**331**	T	T	17 16 27.2	
	baz=150						
WRA	**Warramunga Arr**	**49.70**	**258**	P	P	16 34 08.1	-1.0
	0.3nm,0.4s,baz=84,slow=6.0,SNR=11						
WRA				pP	pP	16 34 20.6	+0.2
	0.8nm,0.5s,baz=92,slow=7.0,SNR=4.7						
ASAR	**Alice Springs**	**49.86**	**253**	P	P	16 34 10.1	-0.3
	1.9nm,0.5s,baz=88,slow=8.1,SNR=60						
ASAR				pP	pP	16 34 21.5	-0.2
	8.3nm,0.8s,baz=88,slow=8.2,SNR=29						
ASAR				LR	LR	16 54 35.5	
	comp=Z,34nm,18.9s,baz=90,slow=35						
JCJ	**Chichijima**	**61.27**	**315**	LR	LR	16 57 44.5	
	comp=Z,127nm,19.1s,baz=98,slow=32						
PETK	**Petropavlovsk-**	**73.81**	**342**	pP	pP	16 37 01.7	-0.8
	4.3nm,0.8s,baz=141,slow=9.6,SNR=4.7						
PDAR	**Pinedale Array**	**83.08**	**42**	P	P	16 37 42.8	+0.3
	0.1nm,0.4s,baz=219,slow=5.2,SNR=2.8						
PDAR				pP	pP	16 37 54.2	-0.2
	0.8nm,0.7s,baz=208,slow=4.3,SNR=5.5						
ILAR	**Eielson Array**	**83.59**	**11**	P	P	16 37 44.1	-0.2
	0.2nm,0.7s,baz=192,slow=7.8,SNR=3.8						
ILAR				pP	pP	16 37 55.5	-0.9
	0.5nm,0.6s,baz=227,slow=6.2,SNR=5.1						
SEY	**Seymchan**	**83.70**	**345**	pP	pP	16 37 56.5	-0.4
	2.4nm,0.9s,baz=144,slow=6.0,SNR=7.1						
YKA	**Yellowknife Ar**	**91.15**	**23**	P	P	16 38 20.2	-0.7
	0.2nm,0.7s,baz=260,slow=3.7,SNR=3.7						
YKA				pP	pP	16 38 32.2	-0.8
	0.3nm,0.9s,baz=236,slow=4.2,SNR=3.4						
CMAR	**Chiang Mai Arr**	**93.10**	**288**	pP	pP	16 38 44.2	+1.1
	1.1nm,0.9s,baz=90,slow=2.3,SNR=6.3						
KMBO	**Kilima Mbogo**	**145.11**	**243**	pPKP	pPKPdf	16 45 07.5	-0.2
	0.8nm,0.3s,baz=86,slow=7.6,SNR=2.6						
BRTR	**Keskin Array B**	**147.16**	**320**	PKPbc	PKPab	16 45 01.2	-0.5
	0.8nm,0.7s,baz=116,slow=2.9,SNR=4.6						
BRTR				pPKPbc	pPKPbc	16 45 12.6	+0.2
	2.0nm,0.8s,baz=102,slow=2.3,SNR=9.6						
GERES	**GERESS Array B**	**147.34**	**351**	pPKPbc	pPKPbc	16 45 12.0	-0.6
	0.6nm,0.6s,baz=5.2,slow=2.9,SNR=4.2						

GUC 27 16:27:00.4±0.4, 35°47S×72°47W, h85km±6km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.68**	**84**	*e*P	Pn	16 27 17.0	+0.8
TALC				*e*S	Sn	16 27 29.4	+1.3
COCH	**Cobquecura**	**0.71**	**202**	*e*P	Pn	16 27 16.9	+0.4
COCH				*e*S	Sn	16 27 29.8	+1.2
NICH	**Los Niches**	**1.11**	**66**	*e*P	Pn	16 27 21.7	+0.6
NICH				*e*S	Sn	16 27 38.1	+1.5
CLCH	**Cerro Calan**	**2.61**	**38**	*e*P	Pn	16 27 42.0	+1.2
CLCH				*e*S	Sn	16 28 13.7	+2.0
CLCH				IAML		16 28 24.0	
	comp=N,298nm,0.6s						
PEL	**Peldehue**	**2.75**	**33**	*e*P1	Pn	16 27 43.7	+1.1
PEL				*e*S	Sn	16 28 16.6	+1.7
PEL				IAML		16 28 27.5	
	comp=N,311nm,0.7s						
ROCH	**El Roble**	**2.77**	**26**	*e*P	Pn	16 27 44.8	+1.8
ROCH				*e*S	Sn	16 28 18.0	+2.2

*ISCJB **27** 16:35:50.4±0.3, 37°96N±0°03×73°48E±0°06, h140km, mb3.7/7, Error ellipse: s-maj=7.3km s-min=3.8km az=155.3*

*IDC **27** 16:35:52.0±5.0, 38°00N×73°62E, h141km±33km, mb3.6/7, mb1 3.6/12, mb1mx3.2/46, mbtmp3.9/12, Error ellipse: s-maj=50.0km s-min=27.7km az=162.0*

*NNC **27** 16:35:52.2±4.0, 38°45N×73°35E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=40.2km s-min=15.6km az=150.0*

ISC 27 16:35:50.9±0.6, 37°98N±0°05×73°61E±0°06, h140km, n49, σ1°65/51, mb3.9/7, 9C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.85**	**284**	⇓P	**Pn**	**16 36 49.8**	**+0.8**
DZET				⇑S	**Sn**	**16 37 31.8**	**-2.2**
AML	**Almayashu**	**4.15**	**1**	P	**Pn**	**16 36 53.8**	**+0.6**
	SNR=102						
KZA	**Kyzart**	**4.29**	**17**	P	**Pn**	**16 36 55.6**	**+0.6**
	SNR=31						
UCH	**Uchtor**	**4.30**	**9**	P	**Pn**	**16 36 56.0**	**+0.7**
	SNR=122						
EKS2	**Erkin-Say**	**4.68**	**2**	P	**Pn**	**16 37 01.0**	**+1.0**
	SNR=22						
AAK	**Ala-Archa**	**4.70**	**8**	⇓P	**Pn**	**16 37 01.1**	**+0.9**
	6.1nm,0.5s						
AAK				⇑S	**Sn**	**16 37 51.3**	**-3.0**
	11nm,0.5s						
AAK	**Ala-Archa**	**4.70**	**8**	P	**Pn**	**16 37 01.3**	**+1.0**
	SNR=16						
AAK	**Ala-Archa**	**4.70**	**8**	P	**Pn**	**16 37 01.2**	**+0.9**
	3.0nm,0.3s,baz=177,slow=14,SNR=34						
AAK				S	**Sn**	**16 37 52.1**	**-2.2**
	2.1nm,0.3s,baz=126,slow=19,SNR=8.9						
ULHL	**Ulahol**	**4.72**	**24**	P	**Pn**	**16 37 01.5**	**+1.0**
	SNR=9.3						
KBK	**Karagaybulak**	**4.79**	**12**	P	**Pn**	**16 37 02.6**	**+1.2**
	SNR=14						
CHMS	**Chumysh**	**5.09**	**9**	P	**Pn**	**16 37 06.2**	**+0.9**
	SNR=10						
TKM2	**Tokmak 2**	**5.17**	**16**	⇓P	**Pn**	**16 37 07.4**	**+0.9**
TKM2	22nm,0.5s			⇑S	**Sn**	**16 38 02.5**	**-2.9**
	7.2nm,0.5s						
TKM2	**Tokmak 2**	**5.17**	**16**	P	**Pn**	**16 37 07.5**	**+1.0**
	SNR=56						
KK31	**Karatay Array**	**5.64**	**336**	⇑P	**Pn**	**16 37 12.5**	**-0.2**
	2.6nm,0.3s,baz=143,slow=12,SNR=62						
KK31				S	Sn	16 38 10.1	-6.4
	72nm,0.5s,baz=150,slow=22,SNR=48						
DLH	**Dalhousie**	**5.75**	**160**	*e*P	Pn	16 37 21.0	+6.5
DLH				*e*x	x	16 38 25.0	
PDGK	**Podgornoye**	**6.97**	**38**	⇑P	**Pn**	**16 37 29.2**	**-1.2**
SMLA	**Simla**	**7.43**	**156**	*e*P	Pn	16 37 42.3	+5.6
SMLA				*e*S	**Sn**	**16 38 59.1**	**-0.5**
SMLA				AML	AML	16 39 05.5	
	comp=N,99nm,0.3s						
SMLA				AML	AML	16 39 07.7	
	comp=E,118nm,0.4s						
NDI	**New Delhi**	**9.74**	**161**	*e*S	**Sn**	**16 39 54.0**	**-1.5**
KHET	**Khetri**	**10.04**	**169**	*e*S	**Sn**	**16 39 57.6**	**-5.2**
KHET				AML	AML	16 40 05.2	
	comp=N,110nm,0.1s						
KHET				AML	AML	16 40 06.1	
	comp=E,99nm,0.3s						
KUDL	**Kundal**	**10.10**	**165**	*e*S	**Sn**	**16 40 00.5**	**-3.5**
KUDL				AML	AML	16 40 05.4	
	comp=N,8.0nm,0.2s						
KUDL				AML	AML	16 40 05.7	
	comp=E,16nm,0.5s						
SONA	**Sohna**	**10.12**	**162**	*e*P	Pn	16 38 19.5	+6.7
SONA				*e*S	**Sn**	**16 40 02.0**	**-2.6**
SONA				AML	AML	16 40 09.2	
	comp=E,26nm,0.2s						
SONA				AML	AML	16 40 10.1	
	comp=N,15nm,0.5s						
MK31	**Makanchi Array**	**10.90**	**33**	⇑P	**Pn**	**16 38 21.6**	**-1.3**
	comp=N,1.0nm,0.6s						
MKAR	**Makanchi Array**	**10.90**	**33**	P	**Pn**	**16 38 23.6**	**+0.7**
	comp=N,0.1nm,0.3s,baz=215,slow=15,SNR=12						
AGRA	**Agra**	**11.32**	**160**	*e*S	**Sn**	**16 40 31.1**	**-2.4**
AGRA				AML	AML	16 40 36.3	
	comp=N,64nm,0.1s						
AGRA				AML	AML	16 40 36.9	
	comp=E,66nm,0.2s						
GEYT	**Alibeck**	**12.23**	**275**	S	Sn	16 40 47.4	-8.1
	comp=E,1.1nm,0.3s,baz=95,slow=18,SNR=5.9						
DANN	**Dangsing**	**12.81**	**136**	*e*P	**Pn**	**16 38 50.0**	**+1.7**
	comp=E,20nm,0.4s						
KURBB	**Kurchatov Arra**	**13.12**	**14**	P	**P**	**16 38 56.4**	**-0.4**
	comp=E,0.1nm,0.3s,baz=206,slow=10,SNR=20						
KOLN	**Koldanda**	**13.18**	**138**	*e*P	**Pn**	**16 38 55.5**	**+2.5**
	comp=E,6.8nm,0.3s						
GKN	**Gorkha**	**13.57**	**134**	*e*P	**Pn**	**16 39 00.0**	**+2.0**
	comp=E,10nm,0.4s						
KKN	**Kakani**	**14.10**	**133**	*e*P	**Pn**	**16 39 06.5**	**+1.7**
	comp=E,13nm,0.7s						
DMN	**Daman**	**14.14**	**134**	*e*P	**Pn**	**16 39 07.3**	**+2.0**
	comp=E,6.7nm,0.4s						
PKIN	**Phulchoki**	**14.33**	**133**	*e*P	**P**	**16 39 10.2**	**-0.5**
	comp=E,6.5nm,0.5s						
PKI	**Pulchoki**	**14.34**	**133**	*e*P	**Pn**	**16 39 09.9**	**+2.0**
	comp=E,8.5nm,0.5s						
GUN	**Gumba**	**14.37**	**131**	*e*P	**Pn**	**16 39 09.9**	**+1.7**
	comp=E,8.3nm,0.5s						
AB31	**Akbulak array**	**14.98**	**323**	⇑P	**Pn**	**16 39 14.2**	**-1.0**
	comp=E,0.6nm,0.3s						
BVA0	**Borovoye Array**	**15.22**	**353**	⇑P	**P**	**16 39 19.5**	**-0.5**
	comp=E,1.7nm,0.6s,baz=155,slow=10,SNR=19						
BVAR	**Borovoye Array**	**15.22**	**353**	P	**P**	**16 39 19.9**	**-0.1**
	comp=E,0.6nm,0.3s,baz=156,slow=11,SNR=15						
RAMN	**Ramite**	**15.51**	**131**	*e*P	**P**	**16 39 24.2**	**+0.5**
AKTO	**Aktyubinsk**	**16.69**	**323**	⇑P	**Pn**	**16 39 35.9**	**-0.5**
	comp=E,7.0nm,1.2s						
AKTO	**Aktyubinsk**	**16.69**	**323**	P	**Pn**	**16 39 35.8**	**-0.6**
	comp=E,0.6nm,0.3s,baz=137,slow=8.5,SNR=16						
AKTO				S	Sn	16 42 31.5	-11
	comp=E,0.1nm,0.3s,baz=198,slow=20,SNR=5.1						
ZALV	**Zalesovo Beam**	**17.74**	**22**	P	**P**	**16 39 48.1**	**+0.4**
	comp=E,0.5nm,0.3s,baz=212,slow=10,SNR=8.2						
FINES	**FINESS Array B**	**37.46**	**324**	P	**P**	**16 42 51.4**	**+1.0**
	comp=E,1.4nm,0.3s,baz=124,slow=11,SNR=17						
ARCES	**ARCESS Array B**	**40.60**	**336**	P	**P**	**16 43 17.2**	**+0.8**
	comp=E,1.2nm,0.5s,baz=110,slow=8.0,SNR=14						
NB2	**NORSAR Subarra**	**44.48**	**322**	P	**P**	**16 43 48.2**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.48**	**322**	P	**P**	**16 43 48.4**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=92,slow=7.7,SNR=6.5						
TORD	**Torodi Ar. Bea**	**67.82**	**270**	P	**P**	**16 46 35.3**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=37,slow=6.5,SNR=5.8						
INK	**Inuvik**	**72.10**	**10**	P	**P**	**16 47 00.6**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=18,slow=32,SNR=4.3						
YKA	**Yellowknife Ar**	**79.66**	**4**	P	**P**	**16 47 43.3**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=348,slow=5.7,SNR=9.3						
ULM	**Lac du Bonnet**	**91.66**	**353**	P	**P**	**16 48 42.0**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=348,slow=19,SNR=2.6						

*IDC **27** 16:52:27.8±1.5, 12°02S×165°67E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.8/19, mbtmp3.8/8, ML4.0/2, Error ellipse: s-maj=33.9km s-min=29.3km az=117.0*

*ISCJB **27** 16:52:30.9±1.0, 12°25S±0°1×165°6E±0°1, h33km, mb3.6/6, Error ellipse: s-maj=21.3km s-min=11.6km az=42.6*

ISC 27 16:52:32.8±1.1, 12°1S±0°1×165°7E±0°1, h35km, n8, σ1°36/9, mb3.6/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.23**	**294**	P	**Pn**	**16 54 00.6**	**-1.8**
	8.4nm,0.3s,baz=135,slow=6.5,SNR=7.1						
HNR				Sn	**Sn**	**16 55 14.5**	**+2.1**
	2.4nm,0.3s,baz=176,slow=19,SNR=2.4						
DZM	**Mont Dzumac**	**9.97**	**176**	Pn	**Pn**	**16 54 54.1**	**+0.4**
	0.5nm,0.3s,baz=288,slow=20,SNR=4.8						
WRA	**Warramunga Arr**	**31.10**	**251**	P	**P**	**16 58 48.1**	**-0.1**
	0.7nm,0.6s,baz=84,slow=9.3,SNR=8.4						
ASAR	**Alice Springs**	**32.30**	**245**	P	**P**	**16 58 58.4**	**-0.4**
	0.9nm,0.7s,baz=68,slow=9.7,SNR=11						
CMAR	**Chiang Mai Arr**	**72.48**	**294**	P	**P**	**17 03 57.2**	**+0.7**
	0.4nm,0.8s,baz=128,slow=5.8,SNR=3.9						
SONM	**Songino Array**	**79.46**	**324**	P	**P**	**17 04 36.5**	**+0.7**
	0.3nm,0.7s,baz=132,slow=4.3,SNR=3.4						
ILAR	**Eielson Array**	**84.49**	**18**	P	**P**	**17 05 02.3**	**+0.6**
	0.2nm,0.5s,baz=251,slow=5.6,SNR=4.0						
MKAR	**Makanchi Array**	**94.24**	**317**	P	**P**	**17 05 47.0**	**-1.4**
	0.4nm,0.7s,baz=95,slow=5.1,SNR=6.0						

*IDC **27** 16:59:08.6±3.5, 7°84S×157°20E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/29, mbtmp3.8/6, ML2.8/1, Error ellipse: s-maj=101.6km s-min=28.7km az=119.0*

ISC 27 16:59:15.4±2.8, 7°7S±0°4×156°9E±0°4, h35km, n12, σ0°59/6, mb3.9/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.77**	**260**	Pn	**Pn**	**17 01 33.5**	**0.0**
	0.4nm,0.3s,baz=51,slow=14,SNR=2.5						
WRA	**Warramunga Arr**	**24.99**	**239**	P	**P**	**17 04 35.8**	**-0.4**
	0.8nm,0.9s,baz=64,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**27.14**	**232**	P	**P**	**17 04 56.0**	**+0.3**
	0.3nm,1.0s,baz=64,slow=10.0,SNR=3.2						
H11S3	**WAKE ISLAND Hy**	**27.80**	**20**	T	T	17 33 34.1	
	baz=204						
H11S2	**WAKE ISLAND Hy**	**27.80**	**20**	T	T	17 33 29.7	
	baz=204						
H11S1	**WAKE ISLAND Hy**	**27.82**	**20**	T	T	17 33 31.5	
	baz=204						
H11N1	**WAKE ISLAND Hy**	**29.00**	**20**	T	T	17 35 03.3	
	baz=199						
H11N3	**WAKE ISLAND Hy**	**29.01**	**20**	T	T	17 35 01.0	
	baz=199						
H11N2	**WAKE ISLAND Hy**	**29.02**	**20**	T	T	17 35 00.4	
	baz=199						
SONM	**Songino Array**	**70.98**	**327**	P	**P**	**17 10 29.9**	**+0.2**
	0.7nm,0.7s,baz=136,slow=5.9,SNR=6.6						
MKAR	**Makanchi Array**	**85.20**	**318**	P	**P**	**17 11 48.9**	**+0.4**
	1.6nm,0.7s,baz=101,slow=6.3,SNR=18						
ZALV	**Zalesovo Beam**	**85.85**	**326**	P	**P**	**17 11 50.7**	**-0.7**
	1.0nm,0.4s,baz=111,slow=6.3,SNR=3.0						

IDC 27 17:13:46.1±2.3, 6°91S×127°29E, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.3/32, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=275.4km s-min=31.8km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**13.07**	**98**	P	Pn	17 16 54.7	+1.5
	baz=10.0,SNR=3.4						
WRA	**Warramunga Arr**	**14.65**	**153**	Pn	Pn	17 17 13.2	-1.7
	0.1nm,0.3s,baz=329,slow=14,SNR=11						
WRA				Sn	Sn	17 19 41.8	-16
	0.4nm,0.3s,baz=336,slow=22,SNR=8.8						
ASAR	**Alice Springs**	**17.83**	**160**	P	P	17 17 56.9	+0.2
	0.3nm,0.3s,baz=341,slow=12,SNR=48						
ASAR				S	Sn	17 21 08.5	-6.9
	0.1nm,0.3s,baz=346,slow=24,SNR=5.4						
MKAR	**Makanchi Array**	**66.70**	**328**	P	P	17 24 39.0	0.0
	0.3nm,0.6s,baz=121,slow=5.6,SNR=4.0						

*IDC **27** 17:19:09.8±0.8, 30°40N×41°93W, h0km, mb3.9/14, mb1 4.1/14, mb1mx3.8/50, mbtmp3.9/14, MS3.7/13, Ms1 3.7/13, ms1mx3.4/38, Error ellipse: s-maj=22.8km s-min=19.2km az=179.0*

*ISCJB **27** 17:19:10.2±0.4, 30°35N±0°08×41°89W±0°08, h15km, mb4.1/26, MS3.7/13, Error ellipse: s-maj=12.6km s-min=9.6km az=22.4*

*NEIC **27** 17:19:11.1±0.4, 30°34N×41°84W, h10km, mb4.7/11, Error ellipse: s-maj=12.6km s-min=9.3km az=206.0*

ISC 27 17:19:11.9±0.5, 30°3N±0°1×41°87W±0°09, h15km, n50, σ1°10/34, mb4.2/26, MS3.6/13, Northern Mid-Atlantic Ridge

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time

comp=Z,47nm,19.8s,baz=0.0,slow=34
FINES FINESS Array B 53.36 34 P **P 17 28 31.3 +0.9**
1.5nm,0.9s,baz=265,slow=4.8,SNR=3.8
BW06 Boulder Array 54.43 303 *eP* **P 17 28 38.0 -0.8**
9.2nm,1.3s
PDAR Pinedale Array 54.43 303 P **P 17 28 38.8 -0.1**
2.5nm,0.9s,baz=77,slow=6.4,SNR=14
PDAR LR LR 17 49 55.8
comp=Z,272nm,20.5s,baz=108,slow=34
YMR Madison River 55.10 306 *eP* **P 17 28 45.5 +1.9**
43nm,1.7s
BOZ Bozeman (W) 55.39 307 P P 17 28 37.9 -7.7
8.2nm,1.1s
AKASG Malin Array Be 55.53 47 P **P 17 28 46.2 -0.1**
0.1nm,0.3s,baz=272,slow=7.3,SNR=3.8
AKASG LR LR 17 51 00.9
comp=Z,91nm,18.5s,baz=265,slow=34
YKA Yellowknife Ar 55.65 328 P **P 17 28 46.0 -1.0**
0.8nm,1.0s,baz=91,slow=7.6,SNR=8.7
YKA Yellowknife Ar 55.65 328 P **P 17 28 46.0 -1.0**
HLID Hailey 57.75 305 P **P 17 29 02.5 +0.1**
NEW Newport 58.60 311 *eP* **P 17 29 08.1 -0.1**
4.5nm,1.3s
BRTR Keskin Array B 60.87 59 P **P 17 29 25.6 +1.5**
0.9nm,0.8s,baz=208,slow=5.0,SNR=3.7
INK Inuvik 62.79 335 *eP* **P 17 29 36.1 -0.1**
7.8nm,1.1s
ILAR Eielson Array 69.02 334 P **P 17 30 16.7 +0.2**
2.0nm,1.0s,baz=73,slow=4.3,SNR=11
ILAR LR LR 18 00 20.9
comp=Z,189nm,18.0s,baz=114,slow=36
COLA College 69.34 334 P **P 17 30 20.2 +1.8**
9.2nm,1.1s
PLCA Paso Flores 75.54 202 P **P 17 30 57.6 +2.0**
2.2nm,1.1s,baz=18,slow=6.4,SNR=2.9
TIXI Tiksi 78.09 3 *eP* **P 17 31 10.2 +0.5**
BVAR Borovoye Array 78.30 35 P **P 17 31 11.3 +0.1**
0.3nm,0.7s,baz=308,slow=5.6,SNR=3.4
BILL Bilibino 79.69 350 P **P 17 31 17.9 -0.7**
KURK Kurchatov 83.74 33 P **P 17 31 40.9 +0.7**
KURBB Kurchatov Arra 83.76 34 P **P 17 31 40.9 +0.6**
0.4nm,0.3s,baz=315,slow=5.9,SNR=4.8
AAK Ala-Archa 86.80 41 P **P 17 31 53.1 -2.8**
YAK Yakutsk 87.70 4 P **P 17 31 59.8 +0.1**

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*IDC **27** 17:19:57.2±0.8, 13°.56N×92°.95E, h0km, mb3.9/13, mb1 4.0/15, mb1mx3.8/42, mbtmp3.9/15, ML4.0/2, MS3.0/2, Ms1 3.1/2, ms1mx2.7/31, Error ellipse: s-maj=26.1km s-min=16.5km az=53.0*
*ISCJB **27** 17:19:60.0±0.3, 13°.68N±0°.03×92°.94E±0°.04, h29km, mb3.9/15, Error ellipse: s-maj=5.9km s-min=4.5km az=176.4*
*NEIC **27** 17:19:60.0±2.7, 13°.56N×92°.91E, h18km±17km, mb4.1/3, Error ellipse: s-maj=7.3km s-min=6.9km az=149.0*
ISC 27 17:20:01.4±0.6, 13°.64N±0°.06×92°.98E±0°.06, h29km, n44, σ1§11/45, mb3.9/15, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.46**	**186**	*eP*	**Pn**	**17 20 12.0**	**-0.1**
DGPR				*eS*	**Sb**	**17 20 16.9**	**-0.8**
DGPR				AML	AML	17 20 21.3	
	comp=E,11μm,0.2s						
DGPR				AML	AML	17 20 21.8	
	comp=N,9μm,0.7s						
PBA	**Port Blair**	**1.98**	**187**	*eP*	Pb	17 20 35.3	-1.5
PBA				*eS*	Sb	17 21 00.5	-0.6
PBA				AML	AML	17 21 16.7	
	comp=N,1μm,0.5s						
PBA				AML	AML	17 21 18.3	
	comp=E,2μm,0.6s						
CMBY	**CAMPBELL BAY**	**6.65**	**172**	*eP*	**Pn**	**17 21 38.5**	**+1.3**
CM31	**Chiang Mai Arr**	**7.47**	**49**	*ePn*	**Pn**	**17 21 50.2**	**+1.6**
	comp=E,4.7nm,0.4s						
CM31				*eSn*	**Sn**	**17 23 10.3**	**-2.2**
CMAR	**Chiang Mai Arr**	**7.47**	**49**	Pn	**Pn**	**17 21 49.5**	**+0.8**
	comp=E,0.5nm,0.3s,baz=241,slow=15,SNR=21						
CMAR				Sn	**Sn**	**17 23 11.0**	**-1.5**
	comp=E,1.0nm,0.3s,baz=217,slow=24,SNR=5.4						
CMAR				LR	LR	17 25 26.8	
	comp=E,96nm,20.5s,baz=218,slow=44						
CHTO	**Chiang Mai**	**7.70**	**47**	*ePn*	**Pn**	**17 21 52.9**	**+1.1**
	comp=E,9.2nm,0.6s						
CHTO				*eSn*	**Sn**	**17 23 14.5**	**-3.6**
VIS	**Vishakhapatnam**	**10.14**	**295**	*i P*	**Pn**	**17 22 25.2**	**+0.1**
VIS				*i S*	Sn	17 24 06.4	-12
VIS				*ex*	x	17 24 08.2	
	comp=N,52nm,0.3s						
VIS				*ex*	x	17 24 08.5	
	comp=E,54nm,0.4s						
PSI	**Prapat**	**12.26**	**151**	Pn	P	17 23 01.9	-4.5
	comp=E,0.2nm,0.3s,baz=190,slow=7.3,SNR=2.3						
PSI				LR	LR	17 28 10.6	
	comp=E,77nm,18.1s,baz=358,slow=40						
PALK	**Pallekele**	**13.62**	**244**	Pn	**Pn**	**17 23 11.0**	**-1.9**
	comp=E,1.2nm,0.3s,baz=57,slow=11,SNR=7.1						
PALK				Sn	Sn	17 25 32.6	-11
	comp=E,3.5nm,0.3s,baz=0.5,slow=2.5,SNR=8.7						
ODAN	**Odare**	**14.16**	**339**	*eP*	**Pn**	**17 23 19.5**	**-0.8**
	comp=E,6.6nm,0.3s						
HYB	**Hyderabad**	**14.40**	**287**	*i P*	**Pn**	**17 23 22.5**	**-1.0**
HYB				*eS*	**Sn**	**17 26 02.0**	**-0.3**
TAPN	**Taplejung**	**14.51**	**341**	*eP*	**Pn**	**17 23 23.8**	**-1.3**
RAMN	**Ramite**	**14.53**	**337**	*eP*	**Pn**	**17 23 24.4**	**-1.0**
	comp=E,21nm,0.5s						
JIRN	**Jiri**	**15.32**	**337**	*eP*	**Pn**	**17 23 35.9**	**-0.3**
	comp=E,17nm,0.6s						
PKI	**Pulchoki**	**15.56**	**334**	*eP*	**Pn**	**17 23 38.3**	**-0.9**
PKIN	**Phulchoki**	**15.57**	**334**	*eP*	**Pn**	**17 23 38.6**	**-0.7**
GUN	**Gumba**	**15.67**	**336**	*eP*	**Pn**	**17 23 40.4**	**-0.2**
DMN	**Daman**	**15.73**	**333**	*eP*	**Pn**	**17 23 40.3**	**-0.9**
LSA	**Lhasa**	**16.08**	**354**	*ePn*	**Pn**	**17 23 46.3**	**+0.3**
	comp=E,9.5nm,0.6s						
GKN	**Gorkha**	**16.27**	**333**	*eP*	**Pn**	**17 23 46.8**	**-1.4**
TRD	**Trivandrum**	**16.52**	**254**	*eP*	**Pn**	**17 23 49.3**	**-2.0**
TRD				*eS*	**Sn**	**17 26 52.7**	**-1.3**
KOLN	**Koldanda**	**16.56**	**330**	*eP*	**Pn**	**17 23 51.1**	**-0.8**
DANN	**Dangsing**	**16.97**	**331**	*eP*	**Pn**	**17 23 57.2**	**+0.1**
H08S3	**Diego Garcia H**	**29.33**	**225**	T	T	17 56 02.5	
	baz=43,slow=76,SNR=6.9						
H08S2	**Diego Garcia H**	**29.34**	**225**	T	T	17 56 00.3	
	baz=43,slow=76,SNR=9.7						
H08S1	**Diego Garcia H**	**29.35**	**225**	T	T	17 55 59.4	
	baz=43,slow=76,SNR=6.0						
MK31	**Makanchi Array**	**34.25**	**347**	*eP*	**P**	**17 26 45.5**	**+0.7**
MKAR	**Makanchi Array**	**34.25**	**347**	P	**P**	**17 26 45.8**	**+0.9**
	comp=E,1.5nm,0.8s,baz=163,slow=8.6,SNR=14						
SONM	**Songino Array**	**35.88**	**15**	P	**P**	**17 26 59.6**	**+0.6**
	comp=E,1.0nm,0.9s,baz=198,slow=9.4,SNR=7.6						
ULN	**Ulaanbaatar**	**36.09**	**16**	P	**P**	**17 27 00.6**	**-0.2**
KURBB	**Kurchatov Arra**	**38.72**	**345**	P	**P**	**17 27 23.2**	**+0.4**
	comp=E,2.8nm,0.2s,baz=161,slow=7.8,SNR=9.0						
KURK	**Kurchatov**	**38.78**	**345**	P	**P**	**17 27 23.2**	**-0.1**
GEYT	**Alibeck**	**39.27**	**314**	P	**P**	**17 27 28.8**	**+1.1**
	comp=E,0.7nm,0.5s,baz=123,slow=5.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**40.73**	**353**	P	**P**	**17 27 40.0**	**+0.5**
	comp=E,1.5nm,0.6s,baz=188,slow=9.0,SNR=5.4						
BVAR	**Borovoye Array**	**43.21**	**340**	P	**P**	**17 28 00.3**	**+0.5**
	comp=E,0.4nm,0.4s,baz=149,slow=10,SNR=6.3						
ABKAR	**Akbulak array**	**44.69**	**329**	*eP*	**P**	**17 28 12.7**	**+1.0**
	comp=E,0.7nm,0.4s						
WRA	**Warramunga Arr**	**52.62**	**129**	P	**P**	**17 29 12.8**	**-0.4**
	comp=E,0.5nm,0.4s,baz=302,slow=10,SNR=19						
WRAB	**Tennant Creek**	**52.63**	**129**	*eP*	**P**	**17 29 13.4**	**+0.2**
	comp=E,5.4nm,1.0s						
ASAR	**Alice Springs**	**54.55**	**132**	P	**P**	**17 29 27.4**	**+0.2**
	comp=E,0.6nm,0.4s,baz=308,slow=6.6,SNR=37						
BRTR	**Keskin Array B**	**57.90**	**308**	P	**P**	**17 29 51.6**	**+0.5**
	comp=E,0.7nm,0.8s,baz=117,slow=11,SNR=4.7						
FINES	**FINESS Array B**	**67.13**	**331**	P	**P**	**17 30 52.1**	**0.0**
	comp=E,1.1nm,0.7s,baz=108,slow=6.2,SNR=6.8						
ARCES	**ARCESS Array B**	**69.50**	**340**	P	**P**	**17 31 07.3**	**+0.4**
	comp=E,0.9nm,0.5s,baz=93,slow=7.7,SNR=7.3						
GERES	**GERESS Array B**	**72.82**	**317**	P	**P**	**17 31 28.4**	**+0.8**
	comp=E,0.3nm,0.5s,baz=80,slow=3.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**88.18**	**283**	P	**P**	**17 32 51.0**	**+0.5**
	comp=E,0.2nm,0.6s,baz=88,slow=4.5,SNR=2.3						

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*ISCJB **27** 17:25:03.8±1.7, 7°.6S±0°.3×69°.1E±0°.3, h10km, mb3.5/6, MS3.7/6, Error ellipse: s-maj=48.5km s-min=24.1km az=139.3*
*IDC **27** 17:25:04.5±1.6, 7°.64S×69°.18E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/34, mbtmp3.5/6, MS3.7/6, Ms1 3.7/6, ms1mx3.3/25, Error ellipse: s-maj=50.2km s-min=26.3km az=51.0*
ISC 27 17:25:06.1±1.7, 7°.6S±0°.3×69°.2E±0°.3, h10km, n18, σ1§74/8, mb3.6/6, MS3.7/6, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**2.19**	**56**	T	T	17 29 12.7	
	baz=237,slow=74,SNR=484						
H08N2	**Diego Garcia H**	**2.21**	**56**	T	T	17 29 23.9	
	baz=237,slow=74,SNR=946						
H08N1	**Diego Garcia H**	**2.21**	**56**	T	T	17 29 26.6	
	baz=237,slow=74,SNR=540						
H08S1	**Diego Garcia H**	**3.28**	**91**	T	T	17 30 52.2	
	baz=282,slow=74,SNR=5.2						
H08S3	**Diego Garcia H**	**3.29**	**91**	T	T	17 30 47.5	
	baz=282,slow=74,SNR=6.1						
H08S2	**Diego Garcia H**	**3.30**	**91**	T	T	17 31 02.7	
	baz=282,slow=74,SNR=5.5						
CMAR	**Chiang Mai Arr**	**39.15**	**48**	P	**P**	**17 32 34.3**	**+0.1**
	0.2nm,0.7s,baz=238,slow=8.0,SNR=3.1						
CMAR				LR	LR	17 46 53.6	
	comp=Z,52nm,20.9s,baz=200,slow=33						
GEYT	**Alibeck**	**46.43**	**348**	LR	LR	17 51 41.5	
	comp=Z,69nm,19.2s,baz=255,slow=34						
MKAR	**Makanchi Array**	**55.38**	**11**	P	**P**	**17 34 38.8**	**-1.5**
	0.4nm,0.6s,baz=194,slow=9.5,SNR=5.1						
BRTR	**Keskin Array B**	**57.39**	**328**	P	**P**	**17 34 55.5**	**+0.6**
	0.4nm,0.8s,baz=151,slow=4.5,SNR=3.7						
MAW	**Mawson**	**60.09**	**183**	LR	LR	17 56 17.3	
	comp=Z,37nm,21.1s,baz=246,slow=31						
ZALV	**Zalesovo Beam**	**62.70**	**10**	LR	LR	18 01 50.7	
	comp=Z,51nm,18.0s,baz=39,slow=35						
ASAR	**Alice Springs**	**63.89**	**113**	P	**P**	**17 35 38.9**	**-0.7**
	0.3nm,0.8s,baz=278,slow=6.4,SNR=9.7						
WRA	**Warramunga Arr**	**64.15**	**108**	P	**P**	**17 35 41.7**	**+0.3**
	1.0nm,1.1s,baz=278,slow=5.8,SNR=3.7						
SONM	**Songino Array**	**64.21**	**27**	P	**P**	**17 35 42.9**	**+1.6**
	0.6nm,0.7s,baz=222,slow=5.8,SNR=6.5						
SONM				LR	LR	18 03 33.0	
	comp=Z,153nm,19.5s,baz=220,slow=36						
SNAA	**Sanae**	**77.22**	**198**	LR	LR	18 02 41.5	
	comp=Z,43nm,19.2s,baz=50,slow=29						
YKA	**Yellowknife Ar**	**125.12**	**2**	PKP	**PKPdf**	**17 44 08.2**	**+1.7**
	0.3nm,0.8s,baz=12,slow=3.2,SNR=4.8						
PDAR	**Pinedale Array**	**144.93**	**358**	PKPbc	**PKPab**	**17 44 40.8**	**-2.5**
	0.3nm,0.5s,baz=113,slow=3.4,SNR=3.9						

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*ISCJB **27** 17:28:29.1±0.4, 52°.70S±0°.06×26°.1E±0°.2, h10km, mb4.4/23, MS4.3/16, Error ellipse: s-maj=14.9km s-min=9.2km az=173.5*
*IDC **27** 17:28:29.5±0.6, 52°.77S×26°.24E, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.3/28, mbtmp4.3/14, MS4.3/16, Ms1 4.3/16, ms1mx4.2/23, Error ellipse: s-maj=23.4km s-min=14.2km az=88.0*
*GCMT **27** 17:28:30.5±0.2, 52°.81S×25°.79E, h12km±1km, MW5.2/86, Moment Tensor Solution. s59,c81; s86,c150; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.83±.15; Mθθ4.82±.16; Mφφ-3.99±.16; Mrθ0.28±.33; Mφφ4.75±.12; Mφr-0.55±.35; Best double couple: M0 6.51300×10^16 NP1:φs291.00000°, δ86.00000°, λ-5.00000°. NP2: φs22.00000°, δ85.00000°, λ-176.00000°. Principal axes: T 6.8930, Plg0.0000°, Azm336.0000°; N -0.7650, Plg83.0000°, Azm69.0000°; P -6.1340, Plg7.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 17:28:30.4±0.3, 52°.73S×26°.14E, h10km, mb4.7/16 Error ellipse: s-maj=13.8km s-min=9.1km az=83.0*
ISC 27 17:28:30.6±0.5, 52°.74S±0°.08×26°.2E±0°.1, h10km, n67, σ1§14/46, mb4.5/23, MS4.3/16, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.72**	**347**	P	**P**	**17 33 11.6**	**+0.3**
	33nm,0.9s,baz=173,slow=8.8,SNR=12						
SUR				LR	LR	17 39 31.9	
	comp=Z,2μm,19.9s,baz=160,slow=32						
SNAA	**Sanae**	**22.89**	**203**	P	**P**	**17 33 33.4**	**-0.6**
SNAA	**Sanae**	**22.89**	**203**	P	**P**	**17 33 33.2**	**-0.8**
	3.8nm,0.9s,baz=13,slow=5.3,SNR=10						
SNAA				LR	LR	17 39 56.4	
	comp=Z,160nm,21.1s,baz=202,slow=30						
SNAA	**Sanae**	**22.89**	**203**	*eP*	**P**	**17 33 32.5**	**-1.5**
	25nm,1.0s						
MAW	**Mawson**	**23.04**	**144**	P	P	17 33 41.7	+6.3
	12nm,0.7s,baz=290,slow=9.8,SNR=3.3						
MAW				LR	LR	17 40 42.0	
	comp=Z,1μm,21.5s,baz=285,slow=32						
VNA2	**Neumayer--Watz**	**23.62**	**207**	P	**P**	**17 33 41.8**	**+0.4**
	baz=41,slow=12						
LBTB	**Lobatse**	**27.69**	**359**	P	**P**	**17 34 18.5**	**-0.3**
	3.7nm,0.8s,baz=204,slow=9.8,SNR=3.6						
LBTB				LR	LR	17 43 34.8	
	comp=Z,1μm,19.2s,baz=186,slow=33						
LBTB	**Lobatse**	**27.69**	**359**	*eP*	**P**	**17 34 17.2**	**-1.7**
	7.1nm,0.9s						
TSUM	**Tsumeb**	**34.14**	**345**	P	**P**	**17 35 15.8**	**0.0**
	4.2nm,0.8s,baz=189,slow=7.9,SNR=4.9						
TSUM	**Tsumeb**	**34.14**	**345**	*eP*	**P**	**17 35 15.5**	**-0.3**
	6.6nm,0.8s						
LSZ	**Lusaka**	**37.41**	**3**	P	**P**	**17 35 45.7**	**+1.9**
	2.6nm,0.6s,baz=176,slow=10,SNR=6.7						
LSZ	**Lusaka**	**37.41**	**3**	*eP*	**P**	**17 35 44.3**	**+0.5**
	5.9nm,0.8s						
QSPA	**South Pole Qui**	**37.48**	**180**	P	**P**	**17 35 42.5**	**-1.5**
	21nm,0.8s,baz=242,slow=3.7,SNR=66						
CASY	**Casey**	**41.37**	**142**	P	**P**	**17 36 17.4**	**+1.1**
	11nm,0.9s						
VNDA	**Vanda**	**47.13**	**168**	P	**P**	**17 37 03.0**	**+0.7**
	4.2nm,0.7s,baz=235,slow=7.3,SNR=12						
VNDA				LR	LR	17 55 47.9	
	comp=Z,699nm,21.7s,baz=209,slow=35						
VNDA	**Vanda**	**47.13**	**168**	*eP*	**P**	**17 37 02.0**	**-0.2**
	4.8nm,0.7s						
SBA	**Scott Base**	**47.43**	**169**	*eP*	**P**	**17 37 05.6**	**+1.0**
	10nm,0.9s						
USHA	**Ushuaia**	**51.76**	**227**	LR	LR	17 55 29.5	
	comp=Z,447nm,19.0s,baz=120,slow=31						
KMBO	**Kilima Mbogo**	**52.25**	**14**	LR	LR	17 58 41.9	
	comp=Z,359nm,18.6s,baz=198,slow=35						
MSEY	**Mahe Island**	**53.63**	**37**	P	**P**	**17 37 49.6**	**-2.5**
	16nm,1.4s						
H10S2	**ASCENSION HYDR**	**54.76**	**308**	T	T	18 37 11.6	
	baz=150,slow=75,SNR=44						
H10S3	**ASCENSION HYDR**	**54.77**	**308**	T	T	18 37 17.9	
	baz=150,slow=75,SNR=63						
H10S1	**ASCENSION HYDR**	**54.77**	**308**	T	T	18 37 21.1	
	baz=150,slow=75,SNR=43						
TRQA	**Tornquist**	**59.84**	**246**	*eP*	P	17 38 30.4	-5.7
	8.0nm,0.9s						
H01W2	**Cape Leeuwin H**	**61.94**	**111**	T	T	18 47 09.6	
	baz=217,slow=74						
H01W3	**Cape Leeuwin H**	**61.95**	**111**	T	T	18 47 13.3	
	baz=217,slow=74						
H01W1	**Cape Leeuwin H**	**61.95**	**111**	T	T	18 47 11.0	
	baz=217						
PLCA	**Paso Flores**	**62.51**	**238**	P	**P**	**17 38 55.0**	**+0.8**
	3.1nm,0.9s,baz=143,slow=5.5,SNR=7.5						
PLCA	**Paso Flores**	**62.51**	**238**	*eP*	**P**	**17 38 54.7**	**+0.5**
	4.5nm,0.9s						
DBIC	**Dimbokro**	**64.81**	**325**	LR	LR	18 00 43.5	
	comp=Z,338nm,21.5s,baz=130,slow=30						
CFAA	**Coronel Fontan**	**68.06**	**247**	P	**P**	**17 39 31.2**	**+1.0**
	0.5nm,0.4s,baz=129,slow=1.9,SNR=9.1						
BDFB	**Brasilia**	**68.17**	**273**	LR	LR	18 03 09.8	
	comp=Z,306nm,19.5s,baz=146,slow=30						
RCBR	**Riachuelo**	**68.72**	**289**	LR	LR	18 03 37.2	
	comp=Z,112nm,18.6s,baz=168,slow=31						
TOA0	**Torodi Ar. Sit**	**68.94**	**334**	*eP*	**P**	**17 39 34.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**68.94**	**334**	P	**P**	**17 39 35.1**	**-0.5**
	1.3nm,0.6s,baz=172,slow=7.0,SNR=10						
LVC	**Limon Verde**	**75.33**	**252**	*eP*	**P**	**17 40 11.8**	**-2.6**
	5.0nm,0.8s						
MBWA	**Marble Bar**	**75.51**	**106**	P	**P**	**17 40 15.2**	**0.0**
	8.6nm,0.9s						
TAM	**Tamanrasset**	**77.35**	**340**	P	**P**	**17 40 26.7**	**+1.3**
	7.1nm,1.1s						
LPAZ	**La Paz**	**79.81**	**257**	P	**P**	**17 40 41.3**	**+1.4**
	1.4nm,0.8s,baz=112,slow=3.3,SNR=4.4						
LPAZ				LR	LR	18 11 12.1	
	comp=Z,139nm,22.0s,baz=127,slow=32						
LPAZ	**La Paz**	**79.81**	**257**	*eP*	**P**	**17 40 41.3**	**+1.4**
	2.4nm,1.0s						
ASAR	**Alice Springs**	**81.51**	**118**	P	**P**	**17 40 49.1**	**+0.8**
	3.4nm,0.8s,baz=214,slow=4.8,SNR=30						
AS31	**Alice Springs**	**81.51**	**118**	*eP*	**P**	**17 40 48.3**	**0.0**
SAML	**Samuel**	**82.60**	**265**	*eP*	**P**	**17 40 53.0**	**-1.0**
	3.3nm,0.8s						
WRA	**Warramunga Arr**	**84.76**	**116**	P	**P**	**17 41 05.5**	**+0.4**
	2.9nm,0.9s,baz=212,slow=3.8,SNR=12						
WRAB	**Tennant Creek**	**84.77**	**116**	P	**P**	**17 41 05.5**	**+0.4**
	5.5nm,0.8s						
KEST	**Kesra**	**89.33**	**346**	LR	LR	18 23 41.6	
	comp=Z,120nm,18.4s,baz=156,slow=37						
CTAO	**Charters Tower**	**90.85**	**126**	P	P	17 41 28.8	-5.6
BRTR	**Keskin Array B**	**92.31**	**6**	P	**P**	**17 41 41.0**	**+0.4**
	0.7nm,0.7s,baz=182,slow=6.7,SNR=6.9						
ATAH	**Atahualpa**	**93.12**	**254**	LR	LR	18 22 37.8	
	comp=Z,99nm,19.0s,baz=153,slow=35						
GEYT	**Alibeck**	**94.46**	**25**	LR	LR	18 25 02.7	
	comp=Z,69nm,18.1s,baz=260,slow=36						
CMAR	**Chiang Mai Arr**	**94.50**	**65**	LR	LR	18 16 27.3	
	comp=Z,74nm,19.6s,baz=219,slow=30						
ESDC	**Sonseca Array**	**95.69**	**337**	LR	LR	18 22 12.3	
	comp=Z,65nm,21.4s,baz=110,slow=34						
TBI	**Tubuai**	**104.14**	**184**	*e*LR	LR	18 17 21.7	
	220nm,37.5s						
PPT2	**Papeete2**	**109.87**	**184**	*e*LR	LR	18 20 00.8	
	222nm,23.2s						
TXAR	**Lajitas Array**	**136.68**	**258**	PKP	**PKPdf**	**17 47 53.0**	**+0.2**
	0.5nm,0.9s,baz=160,slow=2.9,SNR=3.0						
TIXI	**Tiksi**	**142.67**	**31**	*e*PKPpre	PKPpre	17 47 57.5	
ULM	**Lac du Bonnet**	**144.70**	**290**	PKP	**PKPdf**	**17 48 06.2**	**-0.3**
	0.8nm,0.3s,baz=191,slow=9.8,SNR=3.0						
MDND	**Maddock**	**145.75**	**284**	PKPdf	**PKPbc**	**17 48 08.9**	**0.0**
FCC	**Fort Churchill**	**146.88**	**305**	*e*PKPdf	**PKPdf**	**17 48 10.4**	**+0.5**
SHPR	**Sheep Range**	**148.54**	**254**	*e*PKPbc	**PKPbc**	**17 48 17.3**	**-0.1**
PDAR	**Pinedale Array**	**149.10**	**269**	PKP	**PKPdf**	**17 48 14.2**	**-0.2**
	1.1nm,1.0s,baz=129,slow=1.1,SNR=4.4						
PDAR				PKPbc	**PKiKP**	**17 48 20.1**	**+0.2**
	2.4nm,0.9s,baz=126,slow=4.0,SNR=14						
HWUT	**Hardware Ranch**	**149.65**	**266**	*e*PKPbc	**PKPbc**	**17 48 18.4**	**-1.6**
ISA	**Isabella, Lake**	**149.87**	**250**	*e*PKPbc	**PKPbc**	**17 48 18.4**	**-2.1**
SEY	**Seymchan**	**150.47**	**49**	PKPbc	**PKPbc**	**17 48 21.8**	**+0.8**
	1.5nm,0.2s,baz=244,slow=3.3,SNR=14						
QLMT	**Earthquake Lak**	**151.36**	**271**	*e*PKPbc	**PKPbc**	**17 48 26.8**	**+2.8**
HRY	**Holter Researc**	**152.53**	**274**	*e*PKPbc	**PKPbc**	**17 48 26.3**	**-0.1**
YKA	**Yellowknife Ar**	**157.22**	**311**	PKP	PKPdf	17 48 32.0	+6.8
	0.4nm,1.0s,baz=66,slow=1.6,SNR=4.0						
YKA				PKPab	**PKPab**	**17 48 56.7**	**+0.3**
	0.6nm,0.8s,baz=81,slow=4.8,SNR=7.1						

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*ISCJB **27** 17:32:22.0±0.6, 39°.14N±0°.03×28°.24E±0°.05, h11km, Error ellipse: s-maj=6.1km s-min=4.6km az=2.0*
*ISK **27** 17:32:21.9, 39°.15N×28°.22E, h20km, MD2.4*
*CSEM **27** 17:32:22.4±0.1, 39°.15N×28°.22E, h20km, MD2.4, Error ellipse: s-maj=3.3km s-min=2.4km az=107.0*
*DDA **27** 17:32:27.3, 38°.73N×28°.03E, h7km, MD2.7*
ISC 27 17:32:21.8±1.0, 39°.15N±0°.03×28°.23E±0°.04, h11km, n22, σ0§39/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.42**	**230**	*i P*	**Pb**	**17 32 31.4**	**+0.1**
AKHS				*i S*	**Sg**	**17 32 36.6**	**+0.8**
AKHS	**Akhisar**	**0.42**	**230**	*i P*	**Pb**	**17 32 31.4**	**+0.1**
AKHS				*i S*	**Sg**	**17 32 36.6**	**+0.8**
AKS	**Akhisar**	**0.42**	**230**	*e*PG	**Pb**	**17 32 31.2**	**-0.1**
AKS	**Akhisar**	**0.42**	**230**	*e*Pg	**Pb**	**17 32 31.2**	**-0.1**
DST	**Dursunbey**	**0.54**	**34**	*e*PG	**Pb**	**17 32 33.4**	**0.0**
DST	**Dursunbey**	**0.54**	**34**	*e*Pg	**Pb**	**17 32 33.4**	**+0.1**
BALB	**Balikesir**	**0.56**	**331**	*e*PG	**Pb**	**17 32 33.4**	**-0.2**
BALB				*e*SG	**Sb**	**17 32 41.9**	**+0.3**
BALB	**Balikesir**	**0.56**	**331**	*e*Pg	**Pb**	**17 32 33.4**	**-0.1**
BALB				*e*Sg	**Sb**	**17 32 41.9**	**+0.4**
MANT	**Manisa**	**0.71**	**159**	*e*P	**Pb**	**17 32 36.6**	**+0.3**
MANT				*e*S	**Sg**	**17 32 44.4**	**-0.5**
MANT	**Manisa**	**0.71**	**159**	*e*P	**Pb**	**17 32 36.6**	**+0.3**
MANT				*e*S	**Sg**	**17 32 44.4**	**-0.5**
KULA	**Kula-Manisa**	**0.72**	**152**	*e*PG	**Pb**	**17 32 36.3**	**-0.1**
KULA	**Kula-Manisa**	**0.72**	**152**	*e*Pg	**Pb**	**17 32 36.3**	**-0.1**
TVSB	**Tavsanli**	**1.00**	**72**	*e*PG	**Pn**	**17 32 42.1**	**+0.2**
TVSB	**Tavsanli**	**1.00**	**72**	*e*Pg	**Pn**	**17 32 42.1**	**+0.2**
IZM	**Izmir**	**1.07**	**225**	*e*PG	**Pb**	**17 32 42.1**	**-0.2**
IZM	**Izmir**	**1.07**	**225**	*e*Pg	**Pb**	**17 32 42.1**	**-0.2**
KCTX	**Karacabey (Bur**	**1.11**	**5**	*e*PN	**Pb**	**17 32 42.

CFAA	**Coronel Fontan**	**4.00**	**57**	Pn	**Pn**	**17 53 21.4**	**+2.1**
	comp=E,0.5nm,0.3s,baz=223,slow=11,SNR=5.6						
CFAA				Lg	Lg	17 54 20.9	
	comp=E,4.8nm,0.3s,baz=14,slow=13,SNR=10						
CFAA				LR	LR	17 54 28.7	
	comp=E,21nm,18.5s,baz=237,slow=34						
LCO	**Las Campanas**	**4.97**	**15**	*e*Pn	**Pn**	**17 53 33.1**	**+0.3**
LCO				*e*Sn	**Sn**	**17 54 26.8**	**-3.1**
PLCA	**Paso Flores**	**7.01**	**170**	Pn	**Pn**	**17 54 00.9**	**+0.3**
	comp=E,1.3nm,0.3s,baz=334,slow=10,SNR=8.9						
PLCA				Lg	Lg	17 55 53.8	
	comp=E,0.4nm,0.3s,baz=217,slow=20,SNR=4.0						
PLCA	**Paso Flores**	**7.01**	**170**	*e*Pn	**Pn**	**17 54 00.6**	**0.0**
	comp=E,10nm,0.8s						
PLCA				Lg	Lg	17 55 53.8	
TRQA	**Tornquist**	**9.28**	**120**	*e*Pn	**Pn**	**17 54 34.7**	**+3.0**
	comp=E,23nm,1.2s						
TRQA				*e*Lg	Lg	17 57 08.1	
LPAZ	**La Paz**	**17.85**	**13**	P	**P**	**17 56 28.7**	**+1.2**
	comp=E,0.2nm,0.3s,baz=207,slow=10,SNR=4.6						
LPAZ	**La Paz**	**17.85**	**13**	*e*Pn	**P**	**17 56 28.4**	**+0.9**
	comp=E,5.7nm,1.1s						
EFI	**East Falkland**	**20.56**	**154**	P	**P**	**17 56 54.5**	**-1.7**
SAML	**Samuel**	**26.12**	**21**	*e*P	**P**	**17 57 52.2**	**+0.4**
	comp=E,2.4nm,0.8s						
PTGA	**Pitinga**	**34.87**	**22**	LR	LR	18 15 09.9	
	comp=E,253nm,20.4s,baz=270,slow=39						
RCBR	**Riachuelo**	**43.65**	**59**	LR	LR	18 20 02.1	
	comp=E,147nm,18.4s,baz=184,slow=38						
SNAA	**Sanae**	**51.78**	**158**	P	**P**	**18 01 25.2**	**+0.2**
	comp=E,3.0nm,1.1s,baz=315,slow=4.0,SNR=3.8						
SNAA	**Sanae**	**51.78**	**158**	*e*P	**P**	**18 01 25.2**	**+0.2**
	comp=E,17nm,1.3s						
QSPA	**South Pole Qui**	**56.40**	**180**	P	**P**	**18 01 59.0**	**+0.1**
	comp=E,3.9nm,1.0s,baz=160,slow=3.8,SNR=5.4						
QSPA	**South Pole Qui**	**56.40**	**180**	*e*P	**P**	**18 01 58.7**	**-0.2**
	comp=E,7.3nm,1.1s						
TXAR	**Lajitas Array**	**69.53**	**331**	P	**P**	**18 03 28.7**	**+2.2**
	comp=E,0.1nm,0.5s,baz=165,slow=7.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**84.26**	**70**	P	**P**	**18 04 49.5**	**-0.3**
	comp=E,2.0nm,0.9s,baz=256,slow=4.2,SNR=10						
WRA	**Warramunga Arr**	**120.85**	**209**	PKP	**PKPdf**	**18 11 09.3**	**-1.2**
	comp=E,0.3nm,0.8s,baz=159,slow=1.7,SNR=4.7						
BVAR	**Borovoye Array**	**147.24**	**43**	PKPbc	**PKPbc**	**18 12 01.4**	**+0.9**
	comp=E,0.5nm,0.4s,baz=245,slow=2.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**152.83**	**43**	PKPbc	**PKPbc**	**18 12 14.5**	**+0.3**
	comp=E,0.4nm,0.4s,baz=307,slow=3.1,SNR=10						
KURBB				PKPab	**PKPab**	**18 12 25.0**	**-0.3**
	comp=E,0.2nm,0.4s,baz=300,slow=3.3,SNR=5.0						
KURK	**Kurchatov**	**152.84**	**43**	PKPbc	**PKPbc**	**18 12 14.5**	**+0.3**
KURK				PKPab	**PKPab**	**18 12 25.0**	**-0.3**
ZALV	**Zalesovo Beam**	**154.15**	**32**	PKPbc	**PKPbc**	**18 12 16.7**	**-0.2**
	comp=E,0.5nm,0.3s,baz=252,slow=3.0,SNR=3.8						

*IDC **27** 17:52:21.2±1.1, 4°.21S×136°.77E, h0km, mb3.5/3, mb1 3.9/7, mb1mx3.7/24, mbtmp3.7/7, ML3.6/4, Error ellipse: s-maj=26.8km s-min=25.1km az=23.0*
*ISCJB **27** 17:52:25.5±0.7, 4°.41S±0°.07×136°.83E±0°.07, h33km, mb3.4/3, Error ellipse: s-maj=11.7km s-min=8.0km az=138.7*

ISC 27 17:52:26.7±0.8, 4°.39S±0°.08×136°.64E±0°.08, h35km, n18, σ3§10/15, mb3.4/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.46**	**65**	Pn	Pn	17 53 27.0	-4.9
	1.0nm,0.3s,baz=208,slow=10,SNR=5.3						
JAY				Sn	**Sn**	**17 54 21.6**	**-1.1**
	0.5nm,0.3s,baz=112,slow=23,SNR=2.6						
FAKI	**Fak Fak**	**4.62**	**288**	P	Pn	17 53 38.2	+4.1
	baz=5.0,SNR=7.4						
KDU	**Kakadu**	**9.21**	**206**	P	Pn	17 54 40.7	+3.6
	baz=9.4,SNR=6.9						
KDU				S	Sn	17 56 37.5	+18
	baz=9.4,SNR=6.0						
MTN	**Manton Dam**	**10.01**	**213**	P	Pn	17 54 53.6	+5.6
	baz=10,SNR=7.8						
MTN				S	Sn	17 56 24.9	-14
	baz=10,SNR=6.7						
COEN	**Coen**	**11.48**	**146**	P	**Pn**	**17 55 05.5**	**-2.7**
	baz=11,SNR=19						
PMG	**Port Moresby**	**11.56**	**116**	Pn	Pn	17 55 05.4	-4.0
	0.8nm,0.3s,baz=297,slow=6.8,SNR=4.4						
SOEI	**Soe**	**13.38**	**246**	P	**P**	**17 55 44.5**	**+1.1**
	baz=14,SNR=3.7						
KNRA	**Kununurra**	**13.63**	**214**	P	**Pn**	**17 55 40.1**	**+2.5**
	baz=14,SNR=31						
WRA	**Warramunga Arr**	**15.62**	**188**	Pn	**Pn**	**17 56 03.5**	**-0.8**
	0.3nm,0.3s,baz=12,slow=13,SNR=14						
WRA				Sn	**Sn**	**17 58 50.7**	**-5.6**
	0.1nm,0.3s,baz=14,slow=23,SNR=2.8						
QIS	**Mount Isa**	**16.32**	**170**	P	**Pn**	**17 56 11.5**	**-1.9**
	baz=16,SNR=3.6						
WSI	**Waingapu**	**17.04**	**251**	S	**Sn**	**17 59 26.4**	**-4.5**
	baz=17,SNR=3.9						
ASAR	**Alice Springs**	**19.34**	**188**	P	**Pn**	**17 56 52.1**	**+1.6**
	0.7nm,0.3s,baz=18,slow=10.0,SNR=65						
WRKA	**Warakurna**	**22.04**	**201**	P	**P**	**17 57 20.8**	**+2.4**
	baz=22,SNR=13						
QLP	**Quilpie**	**23.23**	**163**	P	**P**	**17 57 31.2**	**+0.4**
	baz=23,SNR=3.7						
EIDS	**Eidsvold**	**25.04**	**148**	S	**S**	**18 02 15.6**	**+5.7**
	baz=25,SNR=4.9						
CMAR	**Chiang Mai Arr**	**43.54**	**303**	P	**P**	**18 00 27.5**	**+0.1**
	0.4nm,0.8s,baz=120,slow=6.3,SNR=4.4						
MKAR	**Makanchi Array**	**69.88**	**324**	P	**P**	**18 03 32.6**	**-1.5**
	0.2nm,0.5s,baz=109,slow=7.8,SNR=3.6						
ILAR	**Eielson Array**	**88.21**	**25**	P	**P**	**18 05 14.2**	**+0.3**
	0.3nm,0.7s,baz=256,slow=3.6,SNR=2.9						

MEX 27 18:00:28.9±0.4, 17°.40N×101°.01W, h5km±13km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.48**	**295**	*i* P	Pg	18 00 37.5	-0.7
ZIIG				*e*S	Sg	18 00 45.0	+0.5
CAIG	**El Cayaco**	**0.79**	**117**	*i* P	Pg	18 00 42.8	-1.3
CAIG				*e*S	Sg	18 00 53.2	-1.2
ARIG	**Puente Sto Nin**	**1.07**	**36**	*i* P	Pg	18 00 46.5	-3.0
ARIG				*e*S	Sg	18 00 59.7	-3.9
MEIG	**Mezcala**	**1.42**	**68**	*i* P	Pn	18 00 52.0	-3.5
MEIG				*i* S	Sb	18 01 10.3	-4.2
PLIG	**Platanillo**	**1.74**	**55**	*i* P	Pn	18 00 56.7	-3.2
PLIG				*e*S	Sn	18 01 17.6	-4.9

*NEIC **27** 18:14:50.1±0.9, 15°.44S×72°.28W, h120km±8km, mb4.6/8, Error ellipse: s-maj=12.8km s-min=7.9km az=85.0*
*IDC **27** 18:14:51.4±0.8, 15°.53S×72°.20W, h129km±6km, mb3.9/8, mb1 4.0/10, mb1mx3.6/41, mbtmp4.3/10, Error ellipse: s-maj=20.0km s-min=18.0km az=93.0*

ISC 27 18:14:48.7±0.5, 15°.60S±0°.07×72°.54W±0°.08, h108km, n36, σ1§98/41, mb4.3/14, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.33**	**131**	⇑*i* P	**Pn**	**18 15 16.4**	**+2.7**
ARE				*e*S	**Sn**	**18 15 35.0**	**+2.4**
LPAZ	**La Paz**	**4.30**	**100**	P	Pn	18 15 55.2	+2.5
	3.0nm,0.3s,baz=323,slow=6.5,SNR=56						
LPAZ				S	**Sn**	**18 16 44.2**	**+2.0**
	3.1nm,0.3s,baz=156,slow=18,SNR=4.8						
LPAZ	**La Paz**	**4.30**	**100**	*e*Pn	**Pn**	**18 15 54.4**	**+1.7**
LPAZ				S	**Sn**	**18 16 44.2**	**+2.0**
LVC	**Limon Verde**	**7.78**	**154**	*e*Pn	**Pn**	**18 16 38.9**	**-0.5**
	9.1nm,0.4s						
LVC				*e*Sn	**Sn**	**18 18 03.1**	**-2.9**
SIV	**San Ignacio**	**11.05**	**94**	P	**Pn**	**18 17 20.8**	**-2.8**
	1.1nm,0.3s,baz=280,slow=15,SNR=11						
SAML	**Samuel**	**11.28**	**55**	*e*Pn	Pn	18 17 21.7	-5.0
	7.3nm,0.7s						
OTAV	**Otavalo**	**16.78**	**339**	P	**Pn**	**18 18 37.2**	**-0.5**
PTGA	**Pitinga**	**19.29**	**41**	P	**P**	**18 19 03.5**	**-1.8**
	0.9nm,0.3s,baz=219,slow=12,SNR=13						
ROSC	**El Rosal**	**20.40**	**355**	P	**P**	**18 19 17.6**	**+0.1**
	6.6nm,0.5s,baz=236,slow=1.6,SNR=5.0						
BDFB	**Brasilia**	**23.62**	**93**	P	**P**	**18 19 48.0**	**-2.4**
	1.7nm,0.4s,baz=237,slow=9.9,SNR=3.1						
TRQA	**Tornquist**	**24.24**	**159**	P	**P**	**18 19 56.5**	**+1.0**
SDV	**Santo Domingo**	**24.40**	**5**	*e*P	**P**	**18 19 55.9**	**-1.4**
	37nm,1.0s						
PLCA	**Paso Flores**	**25.11**	**176**	P	**P**	**18 20 04.5**	**+1.0**
	6.5nm,0.7s,baz=352,slow=11,SNR=8.6						
SJG	**San Juan**	**34.08**	**11**	P	**P**	**18 21 25.1**	**+2.1**
GTBY	**Guantanamo Bay**	**35.39**	**356**	P	**P**	**18 21 33.1**	**-1.1**
	22nm,0.9s						
SDCO	**Great Sand Dun**	**61.44**	**331**	*e*P	**P**	**18 24 54.2**	**+0.1**
	1.9nm,0.8s						
SNAA	**Sanae**	**68.95**	**161**	*e*P	**P**	**18 25 42.6**	**+0.7**
	4.4nm,0.8s						
SCHQ	**Schefferville**	**70.31**	**4**	P	**P**	**18 25 48.2**	**-2.1**
DBIC	**Dimbokro**	**70.57**	**77**	P	**P**	**18 25 51.0**	**-1.7**
	3.7nm,0.7s,baz=210,slow=7.5,SNR=5.2						
QSPA	**South Pole Qui**	**74.56**	**180**	*e*P	**P**	**18 26 17.0**	**+1.4**
	5.7nm,1.1s						
TOA0	**Torodi Ar. Sit**	**78.78**	**73**	*e*P	**P**	**18 26 37.5**	**-2.6**
TORD	**Torodi Ar. Bea**	**78.78**	**73**	P	**P**	**18 26 38.1**	**-2.0**
	3.2nm,0.6s,baz=267,slow=4.7,SNR=19						
TORD				pP	**pP**	**18 27 11.4**	**+3.7**
	0.6nm,0.8s,baz=266,slow=6.5,SNR=1.5						
SBA	**Scott Base**	**80.97**	**191**	P	**P**	**18 26 52.6**	**+1.8**
VNDA	**Vanda**	**82.03**	**190**	P	**P**	**18 26 56.8**	**+0.4**
	1.6nm,0.8s,baz=105,slow=5.1,SNR=5.7						
ESDC	**Sonseca Array**	**84.16**	**46**	P	**P**	**18 27 07.8**	**-0.2**
	3.1nm,0.8s,baz=259,slow=5.3,SNR=18						
ESLA	**Sonseca Array**	**84.16**	**46**	P	**P**	**18 27 06.7**	**-1.4**
	0.6nm,0.8s						
YKA	**Yellowknife Ar**	**84.52**	**342**	P	**P**	**18 27 08.6**	**-0.5**
	1.0nm,0.7s,baz=135,slow=5.2,SNR=18						
YKA				pP	**pP**	**18 27 41.4**	**+4.3**
	0.7nm,0.8s,baz=134,slow=5.1,SNR=5.3						
LBTB	**Lobatse**	**90.66**	**116**	P	**P**	**18 27 40.4**	**+0.5**
SUMG	**Summit**	**90.82**	**10**	P	**P**	**18 27 39.3**	**-0.4**
	8.6nm,1.2s						
ASAR	**Alice Springs**	**133.19**	**214**	PKP	**PKPdf**	**18 33 52.7**	**0.0**
	0.4nm,0.9s,baz=122,slow=1.8,SNR=4.2						
WRA	**Warramunga Arr**	**135.89**	**218**	PKP	**PKPdf**	**18 33 58.6**	**+0.9**
	1.2nm,0.9s,baz=142,slow=1.1,SNR=5.5						
MKAR	**Makanchi Array**	**142.50**	**29**	PKhKP	PKPpre	18 34 02.9	
	0.2nm,0.6s,baz=288,slow=1.4,SNR=2.4						
MKAR				PKP	**PKPdf**	**18 34 07.5**	**-1.5**
	0.2nm,0.6s,baz=273,slow=1.4,SNR=2.5						
MJAR	**Matsushiro Arr**	**145.62**	**313**	PKPbc	**PKPbc**	**18 34 15.2**	**0.0**
	1.6nm,0.9s,baz=75,slow=1.4,SNR=6.6						
SONM	**Songino Array**	**147.84**	**1**	PKPbc	**PKPbc**	**18 34 21.5**	**+0.2**
	0.8nm,0.6s,baz=355,slow=1.7,SNR=7.9						
SONM				pPKPbc	**pPKPbc**	**18 34 55.7**	**+5.1**
	1.2nm,0.8s,baz=332,slow=1.9,SNR=4.6						
KSRS	**Korea Array**	**151.67**	**324**	PKPbc	**PKPbc**	**18 34 31.9**	**+1.1**
	1.7nm,0.7s,baz=27,slow=0.6,SNR=6.8						
KSAR	**Wonju Array Be**	**151.70**	**324**	PKPbc	**PKPbc**	**18 34 31.9**	**+1.0**

GUC 27 18:14:53.6±0.5, 34°.33S×71°.98W, h39km±3km, ML3.6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.11**	**165**	*e*P	Pn	18 15 13.2	+0.6
TALC				*e*S	Sn	18 15 28.0	+1.4
RCDM	**Rinconada Maip**	**1.28**	**50**	*e*P	Pn	18 15 16.1	+1.0
RCDM				*e*S	Sn	18 15 33.1	+1.9
CLCH	**Cerro Calan**	**1.52**	**53**	*e*P	Pn	18 15 19.9	+1.5
CLCH				*e*S	Sn	18 15 39.9	+2.9
CLCH				IAML		18 15 44.5	
	comp=E,979nm,1.2s						
LNCH	**Linares**	**1.55**	**169**	*e*P	Pn	18 15 20.3	+1.6
LNCH				*e*S	Sn	18 15 40.5	+3.0
ROCH	**El Roble**	**1.57**	**31**	⇑*e*P	Pn	18 15 21.0	+1.6
ROCH				*e*S	Sn	18 15 42.2	+3.5
ROCH				IAML		18 15 46.2	
	comp=N,1μm,0.4s						
PEL	**Peldehue**	**1.60**	**43**	*e*P	Pn	18 15 21.3	+1.8
PEL				*e*S	Sn	18 15 41.7	+2.8
PEL				IAML		18 15 45.9	
	comp=N,1μm,0.4s						

GUC 27 18:16:42.7±0.5, 34°.37S×72°.15W, h39km±3km, ML3.5, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.98**	**130**	⇓*e*P	Pn	18 17 00.7	+0.7
NICH				*e*S	Sn	18 17 13.9	+1.3
TALC	**Talca**	**1.10**	**158**	*e*P	Pn	18 17 02.3	+0.7
TALC				*e*S	Sn	18 17 17.1	+1.4
RCDM	**Rinconada Maip**	**1.42**	**52**	*e*P9	Pn	18 17 05.2	-0.8
RCDM				*e*S	Sn	18 17 23.6	0.0
LNCH	**Linares**	**1.54**	**163**	*e*P	Pn	18 17 09.2	+1.6
LNCH				*e*S	Sn	18 17 29.1	+2.8
CLCH	**Cerro Calan**	**1.66**	**54**	*e*P	Pn	18 17 11.2	+1.9
CLCH				*e*S	Sn	18 17 32.9	+3.4
CLCH				IAML		18 17 40.4	
	comp=E,767nm,0.8s						
ROCH	**El Roble**	**1.69**	**34**	*e*P	Pn	18 17 11.8	+1.8
ROCH				*e*S	Sn	18 17 34.2	+3.6
ROCH				IAML		18 17 42.8	
	comp=N,496nm,0.7s						
PEL	**Peldehue**	**1.73**	**45**	*e*P	Pn	18 17 12.1	+1.8
PEL				*e*S	Sn	18 17 34.1	+3.0
PEL				IAML		18 17 41.0	
	comp=N,1μm,0.5s						

*BJI **27** 18:36:28.3, 6°.74S×128°.61E, h363km, mB4.5/35, mb4.6/58*
*ISCJB **27** 18:36:31.6±0.2, 6°.52S±0°.02×128°.32E±0°.02, h368km±2km, mb4.4/62, Error ellipse: s-maj=4.1km s-min=2.8km az=149.2*
*MOS **27** 18:36:31.5±1.2, 6°.50S×128°.32E, h367km, mb4.9/15, Error ellipse: s-maj=11.0km s-min=5.3km az=124.2*
*NEIC **27** 18:36:32.5±0.3, 6°.49S×128°.30E, h363km±4km, mb4.6/42, Error ellipse: s-maj=5.5km s-min=3.5km az=57.0*
*IDC **27** 18:36:32.4±0.8, 6°.58S×128°.20E, h363km±8km, mb4.0/18, mb1 4.1/21, mb1mx4.0/30, mbtmp4.9/21, Error ellipse: s-maj=10.8km s-min=6.9km az=72.0*
*DJA **27** 18:36:33.1±0.1, 7°.S±2°.×12°.8E±°, h343km±3km, M5.1/27, mB5.5/19, mb5.2/27, MLv5.5/8, Mw(mB)4.9/19*
*KLM **27** 18:36:34.4, 6°.58S×128°.22E, h365km, mb4.8, MS6.2*

ISC 27 18:36:31.8±0.3, 6°.54S±0°.03×128°.31E±0°.04, h356km±2km, n299, σ1§40/373, mb4.5/62, 24C-8D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.56**	**38**	P	**Pn**	**18 37 28.8**	**+0.9**
BNDI				S	**S**	**18 38 13.8**	**+0.9**
MSAI	**Masohi**	**3.23**	**11**	P	**Pn**	**18 37 33.5**	**-0.3**
MSAI				S	**S**	**18 38 21.6**	**-2.0**
SAUI	**Saumlaki**	**3.29**	**116**	P	**Pn**	**18 37 34.6**	**+0.3**
SAUI				S	**S**	**18 38 24.3**	**-0.4**
SAUI	**Saumlaki**	**3.29**	**116**	*e*Pn	**Pn**	**18 37 35.9**	**+1.6**
NLAI	**Namlea**	**3.49**	**340**	P	**Pn**	**18 37 37.3**	**+1.1**
SANI	**Sanana**	**5.02**	**332**	P	**Pn**	**18 37 52.9**	**+0.9**
	772nm,1.2s,7μm2.3nm						
SOEI	**Soe**	**5.12**	**231**	P	**Pn**	**18 37 53.1**	**-0.1**
SOEI	**Soe**	**5.12**	**231**	P	**Pn**	**18 37 53.9**	**+0.7**
	baz=5.1,SNR=162						
SOEI				S	**S**	**18 38 57.8**	**-1.3**
	baz=5.1,SNR=8.8						
SOEI	**Soe**	**5.12**	**231**	⇓*i*Pn	**Pn**	**18 37 53.7**	**+0.5**
SOEI				*e*Sn	**S**	**18 38 54.8**	**-4.3**
FAKI	**Fak Fak**	**5.32**	**48**	P	**Pn**	**18 37 55.8**	**+0.5**
	3μm,0.8s,33μm13nm						
FAKI	**Fak Fak**	**5.32**	**48**	P	**Pn**	**18 37 55.8**	**+0.5**
	baz=5.4,SNR=1000						
FAKI				S	**S**	**18 38 58.0**	**-4.9**
	baz=5.4,SNR=26						
FAKI	**Fak Fak**	**5.32**	**48**	⇑*i*Pn	**Pn**	**18 37 55.7**	**+0.4**
FAKI				*e*Sn	S	18 38 44.0	-19
BBSI	**Bau Bau**	**5.80**	**280**	P	**Pn**	**18 38 01.4**	**+0.8**
BATI	**Baumata**	**5.87**	**231**	P	**Pn**	**18 38 01.5**	**+0.1**
BATI	**Baumata**	**5.87**	**231**	P	**Pn**	**18 38 02.4**	**+1.0**
	339nm,0.3s,baz=97,slow=1.5,SNR=606						
BATI				S	**S**	**18 39 12.3**	**-1.7**
	89nm,0.3s,baz=240,slow=4.9,SNR=13						
LBMI	**Labuha**	**5.92**	**352**	P	**Pn**	**18 38 02.9**	**+0.9**
	1μm,1.0s,9μm3.4nm						
MMRI	**Maumere**	**6.37**	**251**	P	**Pn**	**18 38 07.5**	**+0.4**
	179nm,0.9s,2μm1.0nm						
MMRI	**Maumere**	**6.37**	**251**	*e*Pn	**Pn**	**18 38 07.7**	**+0.6**
MTN	**Manton Dam**	**6.86**	**156**	P	**P**	**18 38 13.8**	**-0.2**
	baz=6.9,SNR=139						
EDFI	**Ende, Flores**	**6.92**	**251**	P	**Pn**	**18 38 13.9**	**+0.4**
	80nm,1.3s,1μm0.8nm						
TNTI	**Ternate**	**7.32**	**353**	P	**P**	**18 38 19.6**	**+0.2**
TNTI	**Ternate**	**7.32**	**353**	*e*Pn	**Pn**	**18 38 18.3**	**+0.1**
KDU	**Kakadu**	**7.36**	**146**	P	**P**	**18 38 19.5**	**-0.3**
	baz=7.4,SNR=291						
RKPI	**Ransiki, Papua**	**7.69**	**50**	P	**P**	**18 38 24.2**	**+0.5**
	896nm,1.0s,14μm10nm						
LUWI	**Luwuk**	**7.77**	**314**	P	**P**	**18 38 24.9**	**+0.4**
LUWI	**Luwuk**	**7.77**	**314**	P	**P**	**18 38 25.3**	**+0.7**
	baz=7.8,SNR=22						
LUWI	**Luwuk**	**7.77**	**314**	*e*Pn	**P**	**18 38 25.3**	**+0.7**
BSSI	**Bau Bau, Buton**	**7.78**	**272**	P	**P**	**18 38 24.5**	**-0.2**
BKSI	**Bulukumba**	**8.23**	**278**	P	**Pn**	**18 38 29.7**	**+0.9**
KMSI	**Cibinong**	**8.28**	**328**	P	**P**	**18 38 31.2**	**-0.7**
BNSI	**Bone**	**8.44**	**284**	P	**Pn**	**18 38 32.4**	**+1.1**
KAPI	**Kappang**	**8.65**	**280**	*e*Pn	**P**	**18 38 36.1**	**+0.1**
APSI	**Ampana**	**8.68**	**310**	P	**P**	**18 38 35.8**	**-0.6**
GTOI	**Gorontalo**	**8.87**	**323**	P	**P**	**18 38 40.3**	**+1.8**
SPSI	**Sidrap Palu**	**8.88**	**286**	P	**Pn**	**18 38 37.6**	**+1.1**
KNRA	**Kununurra**	**9.09**	**177**	P	**P**	**18 38 40.1**	**-0.8**
	baz=9.2,SNR=724						
KNRA				S	**S**	**18 40 26.5**	**+3.3**
	baz=9.2,SNR=12						
TTSI	**Tana Toraja**	**9.14**	**292**	P	**P**	**18 38 41.2**	**-0.3**
SRPI	**Serui, Papua**	**9.17**	**60**	P	**P**	**18 38 41.7**	**-0.1**
WBSI	**Waikabubak, Su**	**9.35**	**250**	P	**Pn**	**18 38 42.5**	**+0.3**
MRSI	**Marisa**	**9.43**	**317**	P	**P**	**18 38 44.7**	**0.0**
PCI	**Palu**	**10.14**	**303**	P	**P**	**18 38 53.0**	**+0.4**
	499nm,1.1s,4μm						
SGSI	**Sangihe**	**10.53**	**345**	P	**P**	**18 38 58.1**	**+1.2**
TOLI	**Toli-Toli**	**10.68**	**315**	*e*Pn	**P**	**18 38 59.5**	**+0.9**
MPSI	**Mapaga**	**10.82**	**309**	P	**P**	**18 39 01.6**	**+1.4**
	117nm,0.9s,1μm						
SMPI	**Sarmi**	**11.31**	**67**	P	**P**	**18 39 07.7**	**+2.1**
	209nm,1.2s						
MMPI	**Merauke**	**12.12**	**100**	P	**Pn**	**18 39 17.2**	**+2.2**
	1μm,0.5s,15μm						
MMPI	**Merauke**	**12.12**	**100**	P	**Pn**	**18 39 17.3**	**+2.2**
	baz=12,SNR=29						
SGKI	**Sangatta, Kali**	**12.23**	**299**	P	Pn	18 39 27.8	+11
GENI	**Genyem**	**12.45**	**72**	P	**Pn**	**18 39 20.2**	**+1.3**
	507nm,0.6s,4μm						
BKB	**Balikpapan**	**12.53**	**294**	P	Pn	18 39 25.7	+5.8
JAY	**Jayapura**	**12.98**	**73**	P	**Pn**	**18 39 26.2**	**+1.0**
	135nm,1.0s,3μm						
JAY	**Jayapura**	**12.98**	**73**	P	**Pn**	**18 39 26.0**	**+0.8**
	5.9nm,0.3s,baz=250,slow=8.8,SNR=45						
JAY				S	**S**	**18 41 49.2**	**+2.2**
	0.2nm,0.3s,baz=306,slow=23,SNR=14						
SRBI	**Singaraja**	**13.08**	**262**	P	**Pn**	**18 39 27.9**	**+1.6**
	28nm,0.9s						
IGBI	**Denpasar**	**13.24**	**259**	P	**Pn**	**18 39 28.4**	**+0.2**
MATI	**Mati**	**13.55**	**351**	*e*P	**Pn**	**18 39 31.2**	**-0.5**
BBKI	**Banjar Baru**	**13.76**	**282**	P	**Pn**	**18 39 35.3**	**+1.0**
	94nm,0.9s,3μm						
DAV	**Davao City (W)**	**13.79**	**349**	*e*Pn	**P**	**18 39 33.6**	**+0.6**
	321nm,0.8s						
JAGI	**Jajag, Banyuwa**	**14.17**	**261**	P	**Pn**	**18 39 38.2**	**-0.8**
JAGI	**Jajag, Banyuwa**	**14.17**	**261**	P	**P**	**18 39 35.8**	**-1.3**
	baz=14,SNR=6.6						
JAGI				S	S	18 42 04.2	-6.6
	baz=14,SNR=5.3						
KMMI	**Kalianget**	**14.25**	**267**	P	Pn	18 39 46.0	+6.1
CTBH	**Cotabato--PC H**	**14.26**	**343**	⇑*i*P	**P**	**18 39 38.2**	**+0.1**
WRAB	**Tennant Creek**	**14.55**	**157**	*ce*P	**P**	**18 39 42.1**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,2μm,1.2s						
WRAB	**Tennant Creek**	**14.55**	**157**	*e*P	**P**	**18 39 42.2**	**+0.8**
WRA	**Warramunga Arr**	**14.55**	**157**	*i* P	**P**	**18 39 41.2**	**-0.2**
WRA				pmax	pmax		
	comp=Z,474nm,0.6s						
WRA	**Warramunga Arr**	**14.55**	**157**	P	**P**	**18 39 41.2**	**-0.2**
	comp=Z,30nm,0.3s,baz=336,slow=12,SNR=633						
WRA				S	**S**	**18 42 16.3**	**-2.2**
	comp=Z,7.4nm,0.3s,baz=336,slow=15,SNR=28						
WB2	**Warramunga Arr**	**14.56**	**157**	⇑*i*P	**P**	**18 39 42.0**	**+0.6**
WB2				*e*S	**S**	**18 42 15.1**	**-3.5**
BUKP	**Musuan**	**14.68**	**347**	*e*P	**P**	**18 39 43.3**	**+0.5**
BIPH	**Bislig**	**14.75**	**352**	⇑*e*P	**P**	**18 39 44.6**	**+1.1**
TSM	**Tawau**

IPM	**Ipoh**	**29.35 291**	⇑P	**P**	**18 42 05.2**	**+1.8**
CMSA	**Cobar Meteorol**	**29.71 149**	P	**P**	**18 42 07.3**	**+1.0**
	baz=30,SNR=48					
RKGY	**Rocky Gully**	**29.83 199**	P	**P**	**18 42 08.8**	**+1.5**
	baz=30,SNR=9.4					
KULM	**Kulim**	**30.00 292**	⇑P	**P**	**18 42 10.8**	**+1.6**
KULM	**Kulim**	**30.00 292**	*e*P	**P**	**18 42 09.5**	**+0.4**
	comp=Z,16nm,1.1s					
PSI	**Prapat**	**30.77 287**	P	**P**	**18 42 14.3**	**-1.6**
	comp=Z,4.3nm,0.7s,baz=138,slow=6.7,SNR=4.5					
PSI			ScP	**ScP**	**18 48 09.6**	**-2.4**
	comp=Z,3.6nm,0.2s,baz=332,slow=20,SNR=8.4					
NACB	**Ninganchiao**	**31.22 348**	*e*P	**P**	**18 42 16.5**	**-3.1**
	comp=Z,23nm,0.9s					
QIZ	**Qiongzhong**	**31.25 325**	P	**P**	**18 42 21.3**	**+1.4**
QIZ			S	**S**	**18 47 03.3**	**+3.4**
QIZ			sS	**sS**	**18 49 02.5**	**+0.4**
QIZ			PMZ			
	comp=Z,19nm,1.5s					
HNR	**Honiara**	**31.45 97**	*e*P	**P**	**18 42 21.0**	**-0.8**
HNR			pmax	pmax		
	comp=Z,129nm,0.8s					
HNR	**Honiara**	**31.45 97**	*e*P	**P**	**18 42 21.0**	**-0.8**
	comp=Z,129nm,0.8s					
COCO	**West Island**	**31.54 257**	*i* P	**P**	**18 42 23.8**	**+1.3**
YHNB	**Yeheng**	**31.75 348**	*e*P	**P**	**18 42 22.4**	**-1.8**
	comp=Z,20nm,0.7s					
ARMA	**Armidale**	**32.31 140**	P	**P**	**18 42 30.7**	**+1.6**
	baz=32,SNR=18					
ARMA	**Armidale**	**32.31 140**	*e*P	**P**	**18 42 28.8**	**-0.3**
	comp=Z,79nm,1.8s					
JOW	**Kunigami**	**33.17 360**	P	**P**	**18 42 36.7**	**+0.3**
	comp=Z,6.8nm,0.8s,baz=209,slow=10,SNR=13					
JOW	**Kunigami**	**33.17 360**	*e*P	**P**	**18 42 35.4**	**-0.9**
	comp=Z,64nm,0.7s					
YNG	**Young**	**33.28 149**	P	**P**	**18 42 38.9**	**+1.6**
	baz=33,SNR=23					
MGCD	**Mangrove Creek**	**33.95 144**	P	**P**	**18 42 45.3**	**+2.3**
	baz=34,SNR=4.2					
CHAI	**Chaiyaphum**	**34.30 311**	P	**P**	**18 42 46.1**	**0.0**
	comp=Z,5.3nm,0.7s					
CAN	**Canberra**	**34.39 149**	*e*P	**P**	**18 42 48.4**	**+1.6**
CAN			pmax	pmax		
	comp=Z,44nm,0.8s					
CAN	**Canberra**	**34.39 149**	*e*P	**P**	**18 42 48.4**	**+1.6**
	comp=Z,44nm,0.8s					
CNB	**Canberra Magne**	**34.57 149**	P	**P**	**18 42 50.0**	**+1.7**
	baz=35,SNR=11					
TOO	**Toolangi**	**34.62 156**	P	**P**	**18 42 50.8**	**+2.1**
	baz=35,SNR=12					
SRDT	**SRDT**	**35.62 306**	P	P	18 43 00.9	+3.5
	comp=Z,74nm,1.5s,comp=Z,8μm					
LOEI	**Loei**	**35.84 312**	P	**P**	**18 43 01.1**	**+1.9**
	comp=Z,81nm,1.7s,comp=Z,5μm					
UTHA	**Uthaitani**	**36.05 308**	P	**P**	**18 43 01.4**	**+0.5**
	comp=Z,3.7nm,0.9s					
UTTA	**Uttaradit**	**36.52 312**	P	**P**	**18 43 04.6**	**-0.2**
	comp=Z,4.7nm,0.9s					
SLVN	**Son La**	**36.62 320**	*e*P	**P**	**18 43 05.5**	**-0.2**
	comp=Z,12nm,1.0s					
CM01	**Chiang Mai Arr**	**38.12 311**	*e*P	**P**	**18 43 17.1**	**-1.1**
CM01			*e*ScP	**ScP**	**18 48 37.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**38.16 311**	P	**P**	**18 43 18.4**	**-0.1**
	comp=Z,5.5nm,0.7s,baz=139,slow=6.9,SNR=47					
CMAR			PcP	**PcP**	**18 45 24.3**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=165,slow=3.9,SNR=6.0					
CMAR			ScP	**ScP**	**18 48 38.0**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=162,slow=3.1,SNR=14					
CRAI	**Chiangrai**	**38.24 315**	P	**P**	**18 43 16.3**	**-2.9**
	comp=Z,105nm,0.8s,comp=Z,9μm					
CMMT	**Chiang Mai**	**38.37 312**	P	**P**	**18 43 20.2**	**-0.1**
	comp=Z,22nm,1.1s					
CHTO	**Chiang Mai**	**38.38 312**	*e*P	**P**	**18 43 19.9**	**-0.4**
CHTO			*e*		18 48 38.6	
CHTO	**Chiang Mai**	**38.38 312**	P	**P**	**18 43 20.2**	**-0.1**
	comp=Z,75nm,1.0s					
CHTO	**Chiang Mai**	**38.38 312**	*e*P	**P**	**18 43 19.9**	**-0.4**
	comp=Z,10nm,0.8s					
CHTO			*e*ScP	**ScP**	**18 48 38.6**	**-0.6**
GYA	**Guiyang**	**38.94 328**	*e*P	**P**	**18 43 26.8**	**+1.8**
GYA			pP	**pP**	**18 44 37.0**	**+2.8**
GYA			sP	**sP**	**18 45 17.5**	**+2.5**
GYA			PcP	**PcP**	**18 45 29.3**	**+1.8**
GYA			ScP	**ScP**	**18 48 41.8**	**+0.5**
GYA			S	**S**	**18 49 01.5**	**+4.8**
GYA			sS	**sS**	**18 51 04.5**	**+2.5**
GYA			PMZ			
	comp=Z,10.0nm,0.8s					
WHN	**Wuhan**	**39.22 341**	⇑P	**P**	**18 43 27.3**	**+0.3**
WHN			pP	**pP**	**18 44 37.0**	**+0.6**
WHN			PMZ			
	comp=Z,130nm,0.8s					
NJ2	**Nanjing**	**39.42 347**	*e*P	**P**	**18 43 28.0**	**-0.6**
NJ2			PMZ			
	comp=Z,20nm,0.6s					
JNU	**Nakatsue**	**39.52 3**	P	**P**	**18 43 28.8**	**-0.7**
	comp=Z,16nm,0.8s,baz=176,slow=3.2,SNR=5.9					
JNU	**Nakatsue**	**39.52 3**	*e*P	**P**	**18 43 29.0**	**-0.5**
	comp=Z,29nm,1.0s					
DZM	**Mont Dzumac**	**39.90 117**	P	**P**	**18 43 33.7**	**+0.8**
	comp=Z,18nm,0.9s,baz=272,slow=10,SNR=8.7					
TAU	**Tasmania Unive**	**39.92 158**	*e*P	**P**	**18 43 33.2**	**+0.6**
TAU	**Tasmania Unive**	**39.92 158**	*e*P	**P**	**18 43 33.2**	**+0.6**
KMI	**Kunming**	**40.12 323**	P	**P**	**18 43 35.8**	**+1.1**
KMI			pP	pP	18 44 51.0	+6.6
KMI			PMZ			
	comp=Z,21nm,0.7s					
ENH	**Enshi**	**40.81 335**	*e*P	**P**	**18 43 39.7**	**-0.3**
KSAR	**Wonju Array Be**	**43.75 360**	P	**P**	**18 44 03.9**	**+0.6**
KSAR	**Wonju Array Be**	**43.75 360**	P	**P**	**18 44 03.9**	**+0.6**
KSAR			ScP	**ScP**	**18 48 59.3**	**-0.8**
KSRS	**Korea Array**	**43.76 360**	P	**P**	**18 44 03.9**	**+0.5**
	comp=Z,18nm,0.7s,baz=178,slow=9.5,SNR=84					
KSRS			ScP	**ScP**	**18 48 59.3**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=174,slow=4.4,SNR=4.2					
KS01	**Wonju Array Si**	**43.79 360**	*e*P	**P**	**18 44 01.8**	**-1.8**
MJAR	**Matsushiro Arr**	**43.85 12**	P	**P**	**18 44 02.9**	**-1.2**
	comp=Z,11nm,0.8s,baz=188,slow=9.2,SNR=28					
MJAR			ScP	**ScP**	**18 48 58.7**	**-1.8**
	comp=Z,2.3nm,0.9s,baz=178,slow=4.0,SNR=6.4					
MAJO	**Matsushiro**	**43.85 12**	*d i* P	**P**	**18 44 03.0**	**-1.1**
MAJO			pmax	pmax		
	comp=Z,99nm,1.0s					
MAJO	**Matsushiro**	**43.85 12**	*e*P	**P**	**18 44 02.4**	**-1.8**
	comp=Z,16nm,0.8s					
MAT	**Matsushiro**	**43.85 12**	P	**P**	**18 44 02.7**	**-1.4**
CD2	**Chengdu**	**44.03 329**	*e*P	**P**	**18 44 05.3**	**-0.4**
CD2			pP	**pP**	**18 45 18.0**	**+1.2**
CD2			PP	**PP**	**18 45 57.8**	**+1.5**
CD2			S	**S**	**18 50 12.3**	**+1.6**
CD2			sS	**sS**	**18 52 19.0**	**+0.5**
CD2			SS	**ScS**	**18 53 30.3**	**+5.4**
CD2			PMZ			
	comp=Z,50nm,0.5s					
CD2			PMZ			
	comp=Z,130nm,5.3s					
XAN	**Xi'an**	**44.34 337**	P	**P**	**18 44 07.0**	**-1.1**
XAN			pP	**pP**	**18 45 18.0**	**-1.3**
XAN			sP	**sP**	**18 45 56.0**	**-3.5**
XAN			PMZ			
	comp=Z,15nm,0.8s					
BJI	**Beijing**	**47.68 347**	P	**P**	**18 44 33.3**	**-0.4**
BJI			PMZ			
	comp=Z,60nm,0.7s					
BJI			PMZ			
	comp=Z,110nm,3.6s					
LZH	**Lanzhou**	**48.22 333**	⇑P	**P**	**18 44 38.5**	**+0.4**
LZH			pP	**pP**	**18 45 50.3**	**-0.4**
LZH			sP	**sP**	**18 46 28.0**	**-2.5**
LZH			ScP	**ScP**	**18 49 19.3**	**+0.3**
LZH			S	**S**	**18 51 09.3**	**-0.7**
LZH			sS	**sS**	**18 53 19.0**	**-1.0**
LZH			SS	**SS**	**18 54 44.0**	**-0.9**
LZH			PMZ			
	comp=Z,42nm,1.0s					
LZH			PMZ			
	comp=Z,140nm,4.0s					
PALK	**Pallekele**	**49.43 285**	P	**P**	**18 44 47.0**	**-0.5**
PALK	**Pallekele**	**49.43 285**	P	**P**	**18 44 47.0**	**-0.5**
	comp=Z,8.2nm,0.9s					
HHC	**Hu-ho-hao-te**	**49.60 343**	*e*P	P	18 44 52.0	+3.7
HHC			PP	**PP**	**18 46 52.0**	**+5.1**
HHC			S	**S**	**18 51 33.8**	**+5.0**
HHC			sS	sS	18 53 41.5	+2.0
HHC			ScS	**ScS**	**18 54 03.3**	**+1.8**
HHC			PMZ			
	comp=Z,40nm,1.2s					
HHC			PMZ			
	comp=Z,180nm,5.0s					
HHC			LN			
	comp=Z,180nm,15.9s					
HHC			LE			
	comp=Z,240nm,16.1s					
HHC			LZ			
	comp=Z,110nm,15.9s					
MSVF	**Nonsavu**	**49.74 108**	*e*P	**P**	**18 44 49.6**	**-0.2**
MSVF			pmax	pmax		
	comp=Z,34nm,1.0s					
MSVF	**Nonsavu**	**49.74 108**	*e*P	**P**	**18 44 49.6**	**-0.2**
	comp=Z,34nm,1.0s					
CN2	**Changchun**	**50.17 357**	*e*P	**P**	**18 44 51.5**	**-0.8**
CN2			*e*pP	**pP**	**18 46 04.0**	**-1.6**
USRK	**Ussuriysk Ar.**	**50.61 3**	P	**P**	**18 44 55.8**	**+0.2**
	comp=Z,12nm,0.7s,baz=184,slow=6.9,SNR=27					
LSA	**Lhasa**	**50.71 317**	*e*P	**P**	**18 44 57.4**	**+0.2**
LSA			*e*S	**S**	**18 51 43.8**	**-1.3**
LSA			pmax	pmax		
	comp=Z,22nm,0.7s					
LSA	**Lhasa**	**50.71 317**	*e*P	**P**	**18 44 57.4**	**+0.2**
	comp=Z,22nm,0.7s					
LSA			*e*S	**S**	**18 51 43.8**	**-1.3**
MDJ	**Mudanjiang**	**50.93 1**	P	**P**	**18 44 58.3**	**+0.3**
MDJ			PMZ			
	comp=Z,11nm,0.9s					
MDJ			PMZ			
	comp=Z,56nm,3.5s					
MDJ	**Mudanjiang**	**50.93 1**	*e*P	**P**	**18 44 58.1**	**+0.1**
	comp=Z,7.1nm,0.8s					
ODAN	**Odare**	**51.69 312**	*e*P	**P**	**18 45 03.8**	**-0.4**
	comp=Z,38nm,0.6s					
TAPN	**Taplejung**	**51.73 313**	*e*P	**P**	**18 45 04.3**	**-0.3**
	comp=Z,34nm,0.4s					
RAMN	**Ramite**	**52.33 311**	*e*P	**P**	**18 45 08.9**	**0.0**
	comp=Z,96nm,0.7s					
RPZ	**Rata Peaks**	**52.63 142**	*e*P	**P**	**18 45 11.2**	**+0.6**
	comp=Z,50nm,0.7s					
GTA	**Gaotai**	**52.77 332**	⇑P	**P**	**18 45 12.0**	**+0.3**
GTA			pP	**pP**	**18 46 26.3**	**+0.5**
GTA			sP	**sP**	**18 47 03.8**	**-1.4**
GTA			ScP	**ScP**	**18 49 38.8**	**+0.3**
GTA			PcS	**PcS**	**18 50 12.3**	**-2.8**
GTA			S	**S**	**18 52 12.5**	**+0.5**
GTA			sS	**ScS**	**18 54 22.0**	**-1.7**
GTA			SS	**SS**	**18 55 57.3**	**+0.7**
GTA			PMZ			
	comp=Z,28nm,0.7s					
GTA			PMZ			
	comp=Z,120nm,5.0s					
GTA			LN			
	comp=Z,110nm,16.6s					
GTA			LE			
	comp=Z,77nm,18.5s					
GTA			LZ			
	comp=Z,97nm,14.5s					
JIRN	**Jiri**	**53.02 312**	*e*P	**P**	**18 45 13.7**	**-0.3**
	comp=Z,51nm,0.7s					
GUN	**Gumba**	**53.39 312**	*e*P	**P**	**18 45 16.5**	**-0.2**
	comp=Z,88nm,0.7s					
KHZ	**Kahutara**	**53.55 139**	*e*P	**P**	**18 45 17.2**	**+0.1**
	comp=Z,53nm,0.8s					
PKI	**Pulchoki**	**53.56 311**	*e*P	**P**	**18 45 17.2**	**-0.6**
	comp=Z,28nm,0.6s					
PKIN	**Phulchoki**	**53.57 311**	*e*P	**P**	**18 45 17.3**	**-0.5**
	comp=Z,6.0nm,0.4s					
KKN	**Kakani**	**53.77 311**	*e*P	**P**	**18 45 18.7**	**-0.5**
	comp=Z,30nm,0.7s					
DMN	**Daman**	**53.80 311**	*e*P	**P**	**18 45 19.2**	**-0.3**
	comp=Z,38nm,0.9s					
BKZ	**Black Stump Fm**	**54.12 134**	*e*P	**P**	**18 45 22.0**	**+0.6**
	comp=Z,26nm,0.8s					
URZ	**Urewera**	**54.20 133**	P	**P**	**18 45 21.9**	**0.0**
	comp=Z,24nm,0.7s,baz=290,slow=3.4,SNR=10					
URZ	**Urewera**	**54.20 133**	*e*P	**P**	**18 45 21.2**	**-0.7**
	comp=Z,31nm,0.8s					
GKN	**Gorkha**	**54.37 311**	*e*P	**P**	**18 45 23.2**	**-0.2**
	comp=Z,55nm,0.5s					
YSS	**Yuzh-Sakhalins**	**54.78 12**	*e*P	**P**	**18 45 25.0**	**-0.7**
KOLN	**Koldanda**	**55.02 310**	*e*P	**P**	**18 45 27.9**	**-0.2**
	comp=Z,71nm,0.8s					
HABR	**Khabarovsk**	**55.10 5**	*e*P	**P**	**18 45 26.2**	**-1.7**
HABR			*e*		18 46 22.7	
HABR			*e*		18 47 33.5	
HABR			*e*S	**S**	**18 52 42.1**	**-0.1**
HABR			*e*SSS	SSS	18 59 09.0	
HABR			MLR	MLR		
	comp=Z,52nm,18.0s					
DANN	**Dangsing**	**55.20 311**	*e*P	**P**	**18 45 29.1**	**-0.4**
	comp=Z,43nm,0.8s					
ULN	**Ulaanbaatar**	**57.32 343**	*e*P	**P**	**18 45 44.3**	**+0.5**
ULN	**Ulaanbaatar**	**57.32 343**	*e*P	**P**	**18 45 44.3**	**+0.5**
	comp=Z,25nm,1.5s					
ULN			*e*ScP	**ScP**	**18 49 57.9**	**-0.5**
SONM	**Songino Array**	**57.49 343**	P	**P**	**18 45 45.3**	**+0.4**
	comp=Z,6.5nm,0.6s,baz=159,slow=6.0,SNR=52					
SONM			ScP	**ScP**	**18 49 58.0**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=159,slow=4.9,SNR=5.8					
SONA1	**Songino Array**	**57.50 343**	*e*P	**P**	**18 45 45.4**	**+0.4**
ZAK	**Zakamensk**	**60.69 342**	*e*P	**P**	**18 46 06.0**	**-0.6**
CASY	**Casey**	**60.91 188**	P	**P**	**18 46 07.8**	**+0.1**
	comp=Z,11nm,1.2s					
TLY	**Talaya**	**61.73 343**	*e*P	**P**	**18 46 14.4**	**+1.1**
TLY			pmax	pmax		
	comp=Z,6.0nm,0.6s					
TLY	**Talaya**	**61.73 343**	*e*P	**P**	**18 46 13.8**	**+0.4**
	comp=Z,7.8nm,0.7s					
WMQ	**Urumqi**	**62.10 328**	P	**P**	**18 46 16.5**	**+0.5**
WMQ			PcP	**PcP**	**18 46 53.5**	**+0.9**
WMQ			pP	**pP**	**18 47 34.0**	**+1.0**
WMQ			PP	**PP**	**18 48 40.5**	**+2.6**
WMQ			S	**S**	**18 54 12.0**	**-0.3**
WMQ			sS	**sS**	**18 56 26.5**	**-2.5**
WMQ			PMZ			
	comp=Z,22nm,1.0s					
WMQ			PMZ			
	comp=Z,210nm,5.6s					
MOY	**Mondy**	**62.53 341**	*e*P	**P**	**18 46 19.5**	**+0.8**
PETK	**Petropavlovsk-**	**64.42 19**	P	**P**	**18 46 31.6**	**+0.7**
	comp=Z,4.9nm,0.6s,baz=181,slow=4.3,SNR=17					
HVS	**Khovu-Aksy**	**64.70 337**	*c i* P	**P**	**18 46 33.0**	**+0.2**
HVS			pmax	pmax		
	comp=Z,101nm,1.0s					
BOD	**Bodaibo**	**65.19 352**	*e*P	**P**	**18 46 34.9**	**-0.7**
BOD			pmax	pmax		
	comp=Z,8.0nm,0.1s					
KSH	**Kashi**	**66.55 318**	P	**P**	**18 46 45.8**	**+1.0**
KSH			pP	**pP**	**18 48 03.8**	**+0.8**
KSH			PP	**PP**	**18 49 21.8**	**+4.9**
KSH			S	**S**	**18 55 00.8**	**-5.9**
KSH			PMZ			
	comp=Z,10.0nm,0.8s					
KSH			PMZ			
	comp=Z,97nm,4.8s					
KSH			LN			
	comp=Z,110nm,5.5s					
KSH			LE			
	comp=Z,120nm,5.2s					
KSH			LZ			
	comp=Z,180nm,5.5s					
MK01	**Makanchi Array**	**66.91 327**	*e*P	**P**	**18 46 46.8**	**0.0**
MK01			*e*S	**S**	**18 55 09.2**	**-1.3**
MKAR	**Makanchi Array**	**66.93 327**	*ce*P	**P**	**18 46 47.2**	**+0.3**
MKAR			pmax	pmax		
	comp=Z,14nm,0.7s					
MKAR	**Makanchi Array**	**66.93 327**	P	**P**	**18 46 47.2**	**+0.3**
	comp=Z,14nm,0.7s,baz=128,slow=8.2,SNR=141					
MKAR	**Makanchi Array**	**66.93 327**	*e*P	**P**	**18 46 47.3**	**+0.3**
MKAR			*e*S	**S**	**18 55 09.4**	**-1.3**
YAK	**Yakutsk**	**68.37 1**	*e*P	**P**	**18 46 54.7**	**-0.7**
YAK			pmax	pmax		
	comp=Z,17nm,1.0s					
YAK	**Yakutsk**	**68.37 1**	*e*P	**P**	**18 46 54.8**	**-0.6**
	comp=Z,17nm,0.7s					
TKM2	**Tokmak 2**	**68.57 321**	P	**P**	**18 46 58.0**	**+0.7**
	SNR=6.1					
TKM2	**Tokmak 2**	**68.57 321**	*e*P	**P**	**18 46 57.7**	**+0.3**
TKM2			pmax	pmax		
	comp=Z,9.0nm,0.8s					
TKM2	**Tokmak 2**	**68.57 321**	*e*P	**P**	**18 46 57.7**	**+0.3**
	comp=Z,9.2nm,0.8s					
UCH	**Uchtor**	**68.89 320**	P	**P**	**18 47 00.4**	**+0.8**
	SNR=9.2					
UCH	**Uchtor**	**68.89 320**	*i* P	**P**	**18 47 00.4**	**+0.8**
AAK	**Ala-Archa**	**69.11 320**	P	**P**	**18 47 01.9**	**+1.3**
	SNR=5.8					
AAK	**Ala-Archa**	**69.11 320**	*e*P	**P**	**18 47 02.0**	**+1.3**
AAK			pmax	pmax		
	comp=Z,28nm,1.2s					
AAK	**Ala-Archa**	**69.11 320**	*e*P	**P**	**18 47 01.2**	**+0.6**
	comp=Z,7.3nm,0.8s					
KBL	**Kabul**	**69.19 311**	*e*P	**P**	**18 47 02.1**	**+0.8**
KBL	**Kabul**	**69.19 311**	*e*P	**P**	**18 47 02.1**	**+0.8**
	comp=Z,12nm,1.4s					
AML	**Almayashu**	**69.37 320**	P	**P**	**18 47 03.4**	**+0.9**
	SNR=9.3					
USP	**Ospenovka**	**69.43 321**	P	**P**	**18 47 03.0**	**+0.6**
	SNR=8.0					
USP	**Ospenovka**	**69.43 321**	*i* P	**P**	**18 47 03.0**	**+0.6**
EKS2	**Erkin-Say**	**69.58 320**	P	**P**	**18 47 04.8**	**+1.3**
	SNR=8.5					
EKS2	**Erkin-Say**	**69.58 320**	*e*P	**P**	**18 47 04.7**	**+1.3**
EKS2			pmax	pmax		
	comp=Z,10.0nm,0.8s					
EKS2	**Erkin-Say**	**69.58 320**	*e*P	**P**	**18 47 04.7**	**+1.3**
	comp=Z,10nm,0.8s					
ZAA0	**Zalesovo Array**	**70.44 334**	*e*P	**P**	**18 47 07.3**	**-0.8**
ZALV	**Zalesovo Beam**	**70.44 334**	P	**P**	**18 47 07.4**	**-0.7**
	comp=Z,4.9nm,0.6s,baz=120,slow=5.3,SNR=15					
KURK	**Kurchatov**	**71.26 329**	*e*P	**P**	**18 47 13.1**	**0.0**
KURK	**Kurchatov**	**71.26 329**	*e*P	**P**	**18 47 13.1**	**0.0**
	comp=Z,6.9nm,0.9s					
NVS	**Novosibirsk**	**71.72 334**	*e*P	**P**	**18 47 13.0**	**-2.8**
NVS			*e*S	S	18 55 59.4	-6.5
NVS			*e*PS		18 56 34.8	
NVS			pmax	pmax		
	comp=Z,10.0nm,1.3s					
NVS			smax	smax		
	comp=N,27nm,2.0s					
NVS			smax	smax		
	comp=E,32nm,1.7s					
KKAR	**Karatay Array**	**71.89 319**	*e*P	**P**	**18 47 17.2**	**+0.1**
KKAR	**Karatay Array**	**71.89 319**	*e*P	**P**	**18 47 17.2**	**+0.1**
VNDA	**Vanda**	**73.11 173**	*e*P	**P**	**18 47 23.6**	**0.0**
VNDA			pmax	pmax		
	comp=Z,82nm,3.0s					
VNDA	**Vanda**	**73.11 173**	P	**P**	**18 47 23.1**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=316,slow=6.7,SNR=9.4					
VNDA	**Vanda**	**73.11 173**	*e*P	**P**	**18 47 23.6**	**0.0**
	comp=Z,82nm,3.0s					
SBA	**Scott Base**	**74.02 172**	*e*P	**P**	**18 47 29.2**	**+0.4**
SBA	**Scott Base**	**74.02 172**	*e*P	**P**	**18 47 29.2**	**+0.4**
	comp=Z,3.6nm,0.8s					
TIXI	**Tiksi**	**78.03 0**	⇓*i* P	**P**	**18 47 51.1**	**-0.1**
TIXI			pmax	pmax		
	comp=Z,9.0nm,2.0s					
TIXI	**Tiksi**	**78.03 0**	*e*P	**P**	**18 47 50.7**	**-0.5**
	comp=Z,2.7nm,0.7s					
GEYT	**Alibeck**	**78.64 311**	P	**P**	**18 47 54.6**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=151,slow=3.4,SNR=5.3					
BILL	**Bilibino**	**79.06 14**	*e*P	**P**	**18 47 56.1**	**-0.8**
BILL	**Bilibino**	**79.06 14**	P	**P**	**18 47 56.3**	**-0.5**
ABKAR	**Akbulak array**	**81.11 322**	*e*P	**P**	**18 48 08.0**	**-0.1**
GAMB	**Gambell**	**83.14 23**	*e*P	**P**	**18 48 19.0**	**+0.8**
	comp=Z,13nm,0.8s					
QSPA	**South Pole Qui**	**83.44 180**	P	**P**	**18 48 19.1**	**-0.8**
	comp=Z,6.2nm,0.6s,baz=296,slow=1.3,SNR=45					
QSPA	**South Pole Qui**	**83.44 180**	*e*P	**P**	**18 48 19.3**	**-0.7**
	comp=Z,7.3nm,0.8s					
ARU	**Arti**	**84.43 328**	P	**P**	**18 48 21.9**	**-3.0**
ARU	**Arti**	**84.43 328**	P	**P**	**18 48 21.9**	**-3.0**
	comp=Z,1.8nm,0.8s					
RAYN	**Ar Rayn**	**86.03 294**	*e*P	**P**	**18 48 34.0**	**+0.4**
	comp=Z,3.1nm,0.8s					
KIV	**Kislovodsk**	**91.34 314**	*i* P	**P**	**18 48 57.7**	**-0.4**
KIV			pmax	pmax		
	comp=Z,7.0nm,1.1s					
ILAR	**Eielson Array**	**93.65 25**	P	**P**	**18 49 05.6**	**-2.5**
	comp=Z,0.8nm,0.7s,baz=264,slow=4.2,SNR=9.8					
VYHS	**Vyhne**	**107.75 319**	*e*P	**Pdif**	**18 50 05.8**	**-5.7**
VYHS	**Vyhne**	**107.75 319**	PDIF	**Pdif**	**18 50 05.8**	**-5.7**
YKA	**Yellowknife Ar**	**108.07 26**	PKiKP	**PKiKP**	**18 54 16.5**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=297,slow=1.6,SNR=16					
GERES	**GERESS Array B**	**110.99 320**	PKiKP	**PKiKP**	**18 54 22.4**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=90,slow=1.3,SNR=8.3					
HLID	**Hailey**	**114.12 45**	*e*PKiKP	**PKiKP**	**18 54 30.7**	**+1.0**
FXWY	**Fox Creek**	**116.47 44**	*e*PKPdf	**PKPdf**	**18 54 34.9**	**+0.6**
REDW	**Red Top Meadow**	**116.67 44**	*e*PKPdf	**PKPdf**	**18 54 35.3**	**+0.7**
LOHW	**Long Hollow**	**116.77 44**	*e*PKPdf	**PKPdf**	**18 54 35.2**	**+0.4**
BW06	**Boulder Array**	**117.75 45**	*e*PKPdf	**PKPdf**	**18 54 36.4**	**-0.4**
SRU	**San Rafael Swe**	**118.11 49**	*e*PKiKP	**PKPdf**	**18 54 37.8**	**+0.3**
SRU	**San Rafael Swe**	**118.11 49**	*e*PKPdf	**PKPdf**	**18 54 37.8**	**+0.3**
O20A	**White River Ci**	**119.50 47**	*e*PKPdf	**PKPdf**	**18 54 40.6**	**+0.4**
PV01	**Paradox Valley**	**119.84 50**	*e*PKPdf	**PKPdf**	**18 54 41.1**	**+0.2**
S22A	**4UR Ranch, Cre**	**121.28 50**	*e*PKPdf	**PKPdf**	**18 54 45.0**	**+1.3**
ANMO	**Albuquerque**	**122.37 53**	*c i* PKiKP	**PKPdf**	**18 54 45.2**	**-0.6**
ANMO			pmax	pmax		
	comp=Z,19nm,1.2s					
ANMO	**Albuquerque**	**122.37 53**	*e*PKPdf	**PKPdf**	**18 54 46.6**	**+0.8**
ULM	**Lac du Bonnet**	**122.97 32**	PKP	**PKPdf**	**18 54 44.8**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=299,slow=4.7,SNR=7.2					
T25A	**Trinidad**	**123.29 50**	*e*PKPdf	**PKPdf**	**18 54 48.3**	**+0.8**
TXAR	**Lajitas Array**	**126.12 58**	PKP	**PKPdf**	**18 54 52.2**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=253,slow=2.0,SNR=10					
TORD	**Torodi Ar. Bea**	**127.07 281**	PKP	**PKPdf**	**18 54 54.0**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=67,slow=2.1,SNR=15					
TORD			SKPbc	SKiKP	18 57 35.3	-22
	comp=Z,0.9nm,0.7s,baz=82,slow=3.5,SNR=5.9					
U34A	**Anderson Ranch**	**128.68 48**	*e*PP	PP	18 57 07.5	-0.9
JCT	**Junction City**	**129.03 56**	*e*PKiKP	**PKPdf**	**18 54 58.3**	**-0.2**
JCT	**Junction City

CERAA Semis' Rag'd T 0.93 291 P Pn 19 13 13.8 -0.6
CERB Semis' Cerberu 0.97 292 P Pn 19 13 14.2 -0.7
CERB S Sn 19 13 28.0 -0.6
CESW Semis' Southwe 1.00 290 P Pn 19 13 14.4 -0.8
CEAP Semis' Anvil P 1.02 295 P Pn 19 13 15.0 -0.5
CEAP S Sn 19 13 28.8 -1.0
CETU Semis' Tuman 1.06 292 P Pn 19 13 15.1 -0.9
CETU S Sn 19 13 31.0 +0.4
AMKA Amchitka 1.13 261 P Pn 19 13 15.8 -1.0
AMKA S Sn 19 13 31.8 -0.3
ADK Adak 1.43 77 P Pn 19 13 19.6 -1.0
ADK S Sn 19 13 38.3 -0.5
LSSE Little Sitkin 1.60 284 P Pn 19 13 22.4 -0.5
LSSE S Sn 19 13 41.9 -1.0
LSPA Little Sitkin 1.60 285 P Pn 19 13 22.2 -0.8
LSPA S Sn 19 13 42.3 -0.7
KOFP Korovin Flat P 3.07 75 P Pn 19 13 42.6 -0.1
NIKH Nikolski High 6.34 73 P Pn 19 14 26.7 -0.5

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*JMA **27** 19:23:42.8±0.2,35.°45N×142.°28E,h63km,M3.2*
*ISCJB **27** 19:23:43.3±1.9,35.°45N±0.°05×142.°10E±0.°08, h11km±13km,mb3.5/7,Error ellipse: s-maj=10.8km s-min=8.5km az=8.3*
*IDC **27** 19:24:01.2±4.7,34.°63N×139.°68E,h75km±37km,mb3.2/7, mb1 3.3/8,mb1mx3.1/37,mbtmp3.5/8,ML2.7/1,MS2.1/1, Ms1 2.1/1,ms1mx1.9/18,Error ellipse: s-maj=232.6km s-min=18.0km az=66.0*
ISC 27 19:23:44.1±2.3,35.°44N±0.°06×141.°97E±0.°09,h2km±13km, n19,σ1°9°10/24,mb3.4/7,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.94**	**287**	P	**Pb**	**19 24 03.9**	**+0.8**
BSO1	**Boso 1**	**1.13**	**226**	**P**	**Pg**	**19 24 05.5**	**-0.1**
BSO1				S	**Sn**	**19 24 22.6**	**+0.5**
BSO3	**Boso 3**	**1.35**	**243**	**P**	**Pg**	**19 24 09.7**	**-0.3**
JAG	**Ashikaga**	**2.27**	**297**	**P**	**Pn**	**19 24 21.7**	**-0.8**
JOD2	**Odawara 2**	**2.36**	**267**	**P**	**Pn**	**19 24 23.6**	**-0.2**
JOD2				S	**Sn**	**19 24 53.7**	**+0.3**
JFT	**Otama**	**2.46**	**328**	**P**	**Pn**	**19 24 24.3**	**-0.9**
JFT				S	**Sn**	**19 24 54.6**	**-1.2**
JRY	**Ryogami san**	**2.56**	**284**	**P**	**Pn**	**19 24 26.9**	**+0.3**
JRY				S	**Sb**	**19 25 01.1**	**-1.6**
JYN	**Shimob**	**2.79**	**272**	**P**	**Pn**	**19 24 29.9**	**0.0**
JHJ2	**Mitsune**	**2.92**	**218**	S	**Sn**	**19 25 04.8**	**-2.4**
MJAR	**Matsushiro Arr**	**3.24**	**291**	P	**Pn**	**19 24 36.0**	**+0.1**
	2.1nm,0.3s,baz=148,slow=33,SNR=43						
MJAR				LR	LR	19 25 18.9	
	comp=Z,44nm,20.0s,baz=80,slow=35						
MAT	**Matsushiro**	**3.24**	**291**	P	**Pn**	**19 24 36.5**	**+0.5**
MAT				eS	**Sn**	**19 25 16.3**	**+1.1**
MAT	**Matsushiro**	**3.24**	**291**	P	**Pn**	**19 24 36.8**	**+0.8**
SONM	**Songino Array**	**29.07**	**306**	P	**P**	**19 29 45.7**	**-0.1**
	0.4nm,0.6s,baz=100,slow=8.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**43.33**	**314**	P	**P**	**19 31 48.3**	**+1.0**
	0.7nm,0.3s,baz=111,slow=8.2,SNR=2.9						
MKAR	**Makanchi Array**	**45.36**	**304**	P	**P**	**19 32 02.3**	**-1.4**
	0.1nm,0.5s,baz=79,slow=9.2,SNR=2.4						
KURBB	**Kurchatov Arra**	**47.35**	**309**	P	**P**	**19 32 20.9**	**+1.7**
	1.0nm,0.5s,baz=82,slow=7.7,SNR=10						
BVAR	**Borovoye Array**	**51.98**	**313**	P	**P**	**19 32 56.3**	**+1.8**
	0.2nm,0.4s,baz=116,slow=6.6,SNR=2.8						
WRA	**Warramunga Arr**	**55.55**	**189**	P	**P**	**19 33 21.2**	**+0.4**
	0.6nm,0.5s,baz=1.0,slow=7.7,SNR=18						
ASAR	**Alice Springs**	**59.27**	**189**	P	**P**	**19 33 47.6**	**+0.5**
	0.2nm,0.7s,baz=357,slow=5.3,SNR=9.8						

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*KRNET **27** 19:25:40.8±0.1,41.°54N×73.°55E,h6km,mb2.6*
*KNET **27** 19:25:42.4±0.5,41.°61N×73.°60E,h5km±4km,ml1.7,Error ellipse: s-maj=3.5km s-min=2.2km az=54.0*
*NNC **27** 19:25:44.0±3.1,41.°73N×73.°45E,h0km,mb2.6,mpv2.5, Error ellipse: s-maj=36.8km s-min=15.3km az=153.0*
ISC 27 19:25:41.9±1.3,41.°58N±0.°05×73.°55E±0.°04,h3km±14km, n21,σ0°74/36,23C-11D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.50**	**239**	*e*P	**Pg**	**19 25 51.3**	**-0.2**
	baz=244						
ARSB				*e*S	**Sg**	**19 25 57.5**	**-0.5**
	baz=244						
AML	**Almayashu**	**0.56**	**11**	⇓P	**Pg**	**19 25 52.8**	**+0.1**
	17nm,0.2s,SNR=8.8						
AML				⇑S	**Sg**	**19 26 01.0**	**+1.0**
	41nm,0.1s						
AML	**Almayashu**	**0.56**	**11**	⇓*i*P	**Pg**	**19 25 52.6**	**-0.1**
	baz=10.0						
AML				⇓*i*S	**Sg**	**19 26 00.7**	**+0.7**
	baz=10.0						
ARLS	**Aral**	**0.64**	**64**	⇓*i*P	**Pg**	**19 25 54.5**	**+0.3**
	baz=61						
ARLS				⇓*e*S	**Sg**	**19 26 04.0**	**+1.4**
	baz=61						
UCH	**Uchtor**	**0.96**	**48**	⇓P	**Pg**	**19 26 00.5**	**+0.1**
	3.6nm,0.1s,SNR=23						
UCH				⇓S	**Sg**	**19 26 14.6**	**+1.6**
	8.6nm,0.1s						
UCH	**Uchtor**	**0.96**	**48**	⇑*i*P	**Pg**	**19 26 00.3**	**-0.2**
	baz=46						
UCH				⇑*i*S	**Sg**	**19 26 14.1**	**+1.1**
	baz=46						
EKS2	**Erkin-Say**	**1.09**	**9**	⇑P	**Pg**	**19 26 02.1**	**-0.8**
	1.8nm,0.1s,SNR=13						
EKS2	**Erkin-Say**	**1.09**	**9**	⇑*i*P	**Pg**	**19 26 01.9**	**-1.0**
	baz=9.0						
EKS2				⇑*i*S	**Sg**	**19 26 16.7**	**-0.4**
	baz=9.0						
AAK	**Ala-Archa**	**1.26**	**33**	⇓P	**Pg**	**19 26 05.7**	**-0.5**
	4.7nm,0.9s						
AAK				⇑S	**Sb**	**19 26 22.9**	**-0.3**
	5.2nm,0.2s						
AAK	**Ala-Archa**	**1.26**	**33**	⇑P	**Pg**	**19 26 05.8**	**-0.4**
	1.7nm,0.2s,SNR=9.7						
AAK				⇓S	**Sb**	**19 26 23.3**	**0.0**
	3.7nm,0.1s						
AAK	**Ala-Archa**	**1.26**	**33**	⇑*i*P	**Pg**	**19 26 05.6**	**-0.5**
	baz=32						
AAK				⇑*i*S	**Sb**	**19 26 23.3**	**0.0**
	baz=32						
KZA	**Kyzart**	**1.36**	**68**	⇑P	**Pn**	**19 26 07.6**	**-0.7**
	2.7nm,0.2s,SNR=10						
KZA	**Kyzart**	**1.36**	**68**	⇑*i*P	**Pn**	**19 26 07.3**	**-0.9**
	baz=66						
KZA				⇑*i*S	**Sb**	**19 26 26.2**	**-0.1**
	baz=66						
CHMS	**Chumysh**	**1.67**	**32**	⇑P	**Pb**	**19 26 13.1**	**-0.3**
	3.5nm,0.2s,SNR=6.2						
CHMS	**Chumysh**	**1.67**	**32**	⇑*i*P	**Pb**	**19 26 12.9**	**-0.5**
	baz=31						
CHMS				⇑*i*S	**Sg**	**19 26 35.6**	**-0.1**
	baz=31						
USP	**Ospenovka**	**1.83**	**22**	⇓P	**Pb**	**19 26 15.6**	**-0.4**
	4.7nm,0.3s,SNR=8.9						
USP	**Ospenovka**	**1.83**	**22**	⇑*i*P	**Pb**	**19 26 15.3**	**-0.7**
	baz=22						
USP				⇑*i*S	**Sg**	**19 26 39.8**	**-0.8**
	baz=22						
TKM2	**Tokmak 2**	**2.02**	**48**	⇑Pn	**Pb**	**19 26 19.4**	**-0.1**
	2.7nm,0.4s						
TKM2				⇑Sn	**Sg**	**19 26 46.7**	**-0.3**
	4.0nm,0.5s						
TKM2	**Tokmak 2**	**2.02**	**48**	⇓P	**Pb**	**19 26 19.6**	**+0.1**
	2.3nm,0.2s,SNR=6.9						
TKM2	**Tokmak 2**	**2.02**	**48**	⇑*i*P	**Pb**	**19 26 19.4**	**-0.1**
	baz=47						
TKM2				⇑*i*S	**Sb**	**19 26 45.9**	**+0.7**
	baz=47						
KK31	**Karatay Array**	**2.72**	**305**	Pn	**Pn**	**19 26 28.5**	**+1.9**
	0.5nm,0.4s,baz=121,slow=17,SNR=14						
KK31				⇑Lg	Lg	19 27 03.6	
	2.4nm,0.5s,baz=126,slow=28,SNR=12						

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*IDC **27** 19:32:25.9±0.8,34.°71N×36.°66W,h0km,mb3.9/13, mb1 4.1/13,mb1mx3.8/54,mbtmp3.9/13,MS3.4/5, Ms1 3.4/5,ms1mx2.9/50,Error ellipse: s-maj=23.2km s-min=17.4km az=175.0*
*ISCJB **27** 19:32:26.1±0.5,34.°7N±0.°1×36.°7W±0.°1,h13km,mb3.8/15, MS3.4/5,Error ellipse: s-maj=16.6km s-min=11.8km az=8.0*

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*NEIC **27** 19:32:27.5±0.4,34.°72N×36.°68W,h10km,mb4.4/2,Error ellipse: s-maj=12.1km s-min=8.6km az=188.0*
ISC 27 19:32:28.0±0.7,34.°7N±0.°2×36.°7W±0.°1,h13km,n28, σ0°67/17,mb4.1/15,MS3.5/5,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	**Midelt**	**26.67**	**85**	LR	LR	19 46 22.2	
	comp=Z,61nm,21.8s,baz=286,slow=31						
SCHQ	**Schefferville**	**29.01**	**323**	LR	LR	19 48 27.8	
	comp=Z,133nm,19.7s,baz=86,slow=33						
GERES	**GERESS Array B**	**39.41**	**53**	P	**P**	**19 39 57.0**	**-0.4**
	0.5nm,0.7s,baz=272,slow=4.8,SNR=3.5						
TOA0	**Torodi Ar. Sit**	**40.78**	**112**	P	**P**	**19 40 09.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**40.78**	**112**	P	**P**	**19 40 08.6**	**-0.5**
	1.5nm,0.9s,baz=300,slow=3.9,SNR=7.4						
EYMN	**Ely**	**42.37**	**305**	P	P	19 40 18.0	-3.8
FCC	**Fort Churchill**	**44.35**	**321**	*e*P	**P**	**19 40 38.0**	**+0.5**
	0.2nm,1.2s						
ULM	**Lac du Bonnet**	**45.13**	**309**	P	**P**	**19 40 42.8**	**-1.1**
	1.7nm,0.7s,baz=67,slow=6.5,SNR=3.6						
MIAR	**Mount Ida**	**46.26**	**287**	P	**P**	**19 40 52.9**	**-0.2**
	4.1nm,0.7s						
H10N2	**ASCENSION HYDR**	**47.23**	**149**	T	T	20 31 15.8	
	baz=335,slow=75,SNR=34						
H10N3	**ASCENSION HYDR**	**47.24**	**149**	T	T	20 31 16.2	
	baz=335,slow=75,SNR=29						
H10N1	**ASCENSION HYDR**	**47.25**	**149**	T	T	20 31 17.2	
	baz=335,slow=75,SNR=42						
H10S1	**ASCENSION HYDR**	**48.17**	**150**	T	T	20 32 30.9	
	baz=335,slow=75,SNR=24						
H10S3	**ASCENSION HYDR**	**48.17**	**150**	T	T	20 32 23.2	
	baz=335,slow=75,SNR=29						
H10S2	**ASCENSION HYDR**	**48.19**	**150**	T	T	20 32 27.5	
	baz=335,slow=75,SNR=23						
RES	**Resolute Bay**	**48.56**	**342**	P	**P**	**19 41 11.3**	**+0.9**
	1.9nm,0.8s,baz=102,slow=4.1,SNR=7.5						
RES	**Resolute Bay**	**48.56**	**342**	*e*P	**P**	**19 41 10.9**	**+0.4**
	2.8nm,0.9s						
SPITS	**Spitsbergen Ar**	**48.94**	**13**	LR	LR	19 56 25.3	
	comp=Z,50nm,19.7s,baz=235,slow=29						
AKASG	**Malin Array Be**	**49.35**	**50**	P	**P**	**19 41 16.1**	**-0.7**
	1.3nm,0.6s,baz=274,slow=7.3,SNR=8.2						
YKA	**Yellowknife Ar**	**54.40**	**326**	P	**P**	**19 41 54.8**	**+0.5**
	0.5nm,0.7s,baz=86,slow=7.5,SNR=8.1						
BRTR	**Keskin Array B**	**54.91**	**63**	P	**P**	**19 41 59.6**	**+1.0**
	0.2nm,0.4s,baz=302,slow=5.6,SNR=3.9						
BRTR				LR	LR	20 03 33.6	
	comp=Z,17nm,21.1s,baz=290,slow=34						
SIV	**San Ignacio**	**55.50**	**209**	P	**P**	**19 42 03.1**	**+0.3**
	2.0nm,0.8s,baz=49,slow=6.2,SNR=3.7						
PDAR	**Pinedale Array**	**55.80**	**302**	P	**P**	**19 42 04.1**	**-0.9**
	0.7nm,0.8s,baz=86,slow=6.9,SNR=5.5						
TXAR	**Lajitas Array**	**56.12**	**285**	P	**P**	**19 42 08.0**	**+0.6**
	1.7nm,0.7s,baz=89,slow=7.5,SNR=13						
LPAZ	**La Paz**	**58.88**	**216**	P	**P**	**19 42 27.4**	**0.0**
	1.2nm,0.7s,baz=70,slow=7.7,SNR=3.6						
KBZ	**Khabaz**	**60.10**	**55**	P	**P**	**19 42 34.9**	**+0.1**
	3.2nm,1.0s,baz=221,slow=6.4,SNR=4.1						
YBH	**Yreka Blue Hor**	**65.25**	**305**	LR	LR	20 14 11.7	
	comp=Z,48nm,18.1s,baz=1.5,slow=38						
MKAR	**Makanchi Array**	**82.08**	**37**	P	**P**	**19 44 48.0**	**-0.1**
	0.4nm,0.7s,baz=335,slow=5.4,SNR=4.4						

MAN 27 19:35:36,13.°59N×120.°81E,h17km,mb4.3,ML3.2,MS3.0, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.16**	**123**	⇑*e*P	Pb	19 35 41.7	+1.1
PGP				*i* S	Sb	19 35 45.0	+1.4
LUBP	**Lubang**	**0.57**	**285**	*e*P	Pb	19 35 47.8	+0.3
LUBP				*e*S	Sg	19 35 54.0	-1.0
SJMP	**San Jose**	**1.16**	**165**	*e*P	Pg	19 35 59.3	+0.9
SJMP				*e*S	Sg	19 36 13.6	0.0

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*IDC **27** 19:39:09.8±0.9,33.°69S×71.°62W,h0km,mb3.8/3, mb1 3.9/5,mb1mx3.7/26,mbtmp3.7/5,ML3.5/2,MS1.7/1, Ms1 1.7/1,ms1mx1.7/24,Error ellipse: s-maj=33.7km s-min=24.9km az=111.0*
*ISCJB **27** 19:39:16.6±0.8,33.°53S±0.°05×71.°4W±0.°1,h61km±6km, mb3.9/5,Error ellipse: s-maj=14.7km s-min=8.2km az=169.4*
*NEIC **27** 19:39:17.0,33.°54S×71.°29W,h52km,mb4.4/4,After GUC.*
NEIC Felt [III] at El Tabo, Maipo, Melipilla, Quillota, Rancagua and San Antonio; [II] at Quintero, San Fernando, Santiago, Valparaiso and Vina del Mar.
*GUC **27** 19:39:17.4±0.9,33.°55S×71.°30W,h52km±10km,ML4.1*
ISC 27 19:39:17.8±0.9,33.°53S±0.°04×71.°33W±0.°06,h54km±8km, n34,σ0°82/38,mb4.0/5,3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**0.35**	**112**	⇑*i*P	**Pn**	**19 39 27.0**	**-0.7**
RCDM	**Rinconada Maip**	**0.43**	**85**	⇓*i*P	**Pn**	**19 39 28.4**	**-0.2**
RCDM				*i* S	**Sn**	**19 39 36.1**	**-0.3**
RCDM				AML	AML	19 39 37.1	
	comp=N,37μm,0.1s						
SAN	**Santiago**	**0.56**	**83**	⇑*i*P	**Pn**	**19 39 29.8**	**-0.2**
SAN				*i* S	**Sn**	**19 39 38.6**	**-0.2**
SAN				AML	AML	19 39 39.8	
	comp=E,10μm,0.3s						
IHA	**Instituto Hidr**	**0.56**	**332**	⇑*i*P	**Pn**	**19 39 29.8**	**-0.2**
IHA				*i* S1	**Sn**	**19 39 39.1**	**+0.3**
FSR	**Penalolen**	**0.67**	**86**	*i* P9	**Pn**	**19 39 32.4**	**+1.0**
FSR				*i* S	**Sn**	**19 39 42.5**	**+1.3**
CLCH	**Cerro Calan**	**0.67**	**79**	⇓*i*P	**Pn**	**19 39 31.3**	**-0.1**
CLCH				*i* S1	**Sn**	**19 39 41.3**	**+0.1**
CLCH				AML	AML	19 39 44.8	
	comp=E,6μm,0.5s						
PCH	**Pirque**	**0.68**	**98**	*e*P1	**Pn**	**19 39 31.1**	**-0.5**
PCH				*i* S1	**Sn**	**19 39 40.6**	**-1.0**
FCH	**Farellones**	**0.89**	**77**	AML	AML	19 40 02.7	
	comp=N,25μm,0.4s						
YECH	**El Yeso**	**1.05**	**98**	⇓*i*P	Pn	19 39 46.1	+10
YECH				*i* S1	Sn	19 40 00.4	+10
YECH				AML	AML	19 40 01.2	
	comp=N,9μm,0.4s						
NICH	**Los Niches**	**1.48**	**177**	*e*P1	**Pn**	**19 39 41.9**	**-0.2**
NICH				*i* S1	**Sn**	**19 39 59.3**	**-0.9**
NICH				AML	AML	19 40 04.8	
	comp=E,6μm,0.3s						
TALC	**Talca**	**1.89**	**188**	*e*P1	**Pn**	**19 39 47.5**	**0.0**
TALC				*e*S1	**Sn**	**19 40 10.6**	**+0.4**
CFAA	**Coronel Fontan**	**3.23**	**55**	Pn	**Pn**	**19 40 08.0**	**+1.9**
	comp=E,2.8nm,0.3s,baz=216,slow=9.7,SNR=78						
CFAA				Sn	Sn	19 40 51.2	+7.8
	comp=E,6.4nm,0.3s,baz=8.0,slow=20,SNR=10						
CFAA				LR	LR	19 41 40.8	
	comp=E,11nm,21.8s,baz=252,slow=43						
LCO	**Las Campanas**	**4.53**	**7**	*e*Pn	Pn	19 40 16.6	-7.5
LCO				*e*Sn	**Sn**	**19 41 14.8**	**-0.8**
PLCA	**Paso Flores**	**7.22**	**175**	Pn	**Pn**	**19 41 01.5**	**+0.8**
	comp=E,0.3nm,0.3s,baz=344,slow=11,SNR=12						
PLCA	**Paso Flores**	**7.22**	**175**	*e*Pn	**Pn**	**19 41 01.4**	**+0.7**
TRQA	**Tornquist**	**8.84**	**123**	*e*Pn	**Pn**	**19 41 23.6**	**+0.8**
LVC	**Limon Verde**	**11.08**	**12**	*e*Pn	**Pn**	**19 41 54.0**	**+0.2**
LPAZ	**La Paz**	**17.40**	**10**	P	**P**	**19 43 18.6**	**+0.5**
	comp=E,0.1nm,0.3s,baz=225,slow=10.0,SNR=3.5						
LPAZ	**La Paz**	**17.40**	**10**	*e*Pn	**Pn**	**19 43 18.1**	**+0.6**
SIV	**San Ignacio**	**19.76**	**30**	P	**P**	**19 43 41.1**	**-2.4**
	comp=E,1.7nm,0.6s,baz=209,slow=11,SNR=6.2						
EFI	**East Falkland**	**20.54**	**156**	*e*P	**P**	**19 43 50.8**	**-0.7**
	comp=E,16nm,0.7s						
SAML	**Samuel**	**25.59**	**19**	*e*P	**P**	**19 44 41.9**	**-0.1**
	comp=E,1.6nm,0.7s						
SNAA	**Sanae**	**51.80**	**158**	P	**P**	**19 48 20.3**	**+0.4**
	comp=E,0.9nm,0.8s,baz=304,slow=3.6,SNR=5.9						
SNAA	**Sanae**	**51.80**	**158**	*e*P	**P**	**19 48 20.0**	**+0.2**
	comp=E,3.3nm,0.9s						
QSPA	**South Pole Qui**	**56.71**	**180**	P	**P**	**19 48 56.3**	**+0.6**
	comp=E,3.9nm,1.1s						
TXAR	**Lajitas Array**	**69.62**	**330**	P	**P**	**19 50 22.3**	**+0.9**
	comp=E,0.3nm,0.4s,baz=154,slow=9.0,SNR=6.0						
TORD	**Torodi Ar. Bea**	**83.49**	**70**	P	**P**	**19 51 39.8**	**-0.3**
	comp=E,1.2nm,0.8s,baz=264,slow=4.8,SNR=9.6						
ASAR	**Alice Springs**	**118.26**	**206**	PKP	**PKPdf**	**19 57 58.3**	**-1.2**
	comp=E,0.5nm,1.1s,baz=137,slow=1.7,SNR=3.5						
WRA	**Warramunga Arr**	**121.46**	**209**	PKP	**PKPdf**	**19 58 04.9**	**-0.9**
	comp=E,0.3nm,0.5s,baz=156,slow=1.9,SNR=10						
H11S2	**WAKE ISLAND Hyl**	**26.37**	**269**	T	T	22 17 13.5	
	baz=118,slow=76,SNR=9.0						
H11S1	**WAKE ISLAND Hyl**	**26.39**	**269**	T	T	22 17 14.5	
	baz=118,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hyl**	**26.39**	**269**	T	T	22 17 13.3	
	baz=118,slow=76,SNR=5.7						
ZALV	**Zalesovo Beam**	**153.51**	**32**	PKPbc	**PKPbc**	**19 59 09.1**	**-0.6**
	comp=E,1.9nm,0.6s,baz=301,slow=2.9,SNR=6.3						
ZALV				PKPab	**PKPab**	**19 59 22.6**	**+0.4**
	comp=E,0.6nm,0.4s,baz=304,slow=3.4,SNR=4.1						
MKAR	**Makanchi Array**	**156.00**	**49**	PKPab	**PKPab**	**19 59 33.1**	**-0.1**
	comp=E,0.4nm,0.7s,baz=309,slow=4.4,SNR=5.7						

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*ROM **27** 19:48:22.5±0.2,44.°65N×11.°99E,h1km,Md2.7/22, Ml2.6/15,Error ellipse: s-maj=2.6km s-min=1.5km az=68.0*
*LDG **27** 19:48:22.6±0.1,44.°61N×12.°21E,h10km,Ml2.8/7,Error ellipse: s-maj=3.1km s-min=2.3km az=132.0*
*CSEM **27** 19:48:23.7±0.1,44.°62N×12.°01E,h20km,ML3.3/7,Error ellipse: s-maj=2.9km s-min=2.2km az=90.0*
*ISCJB **27** 19:48:23.8±0.3,44.°64N±0.°02×11.°96E±0.°03,h26km±4km, Error ellipse: s-maj=3.5km s-min=2.8km az=158.0*
*VIE **27** 19:48:23.4±0.4,44.°68N×12.°13E,h10km,mb2.1/5,ML2.5/8, Error ellipse: s-maj=3.0km s-min=2.8km az=86.0 66 km ENE of Bologna*
*PRU **27** 19:48:26.1,44.°65N×12.°09E,h32km*
ISC 27 19:48:23.7±0.9,44.°64N±0.°02×11.°99E±0.°02,h17km±7km, n129,σ0°87/186,12C-14D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIU	**Minerbio Fiu**	**0.35**	**271**	Pg	**Pg**	**19 48 30.8**	**-0.3**
FIU				Sg	**Sg**	**19 48 36.0**	**-0.1**
	335nm,0.3s						
FIU	**Minerbio Fiu**	**0.35**	**271**	Pg	**Pg**	**19 48 30.8**	**-0.3**
FIU				Sg	**Sg**	**19 48 36.0**	**-0.1**
	335nm,0.3s						
FAEN	**Faenza**	**0.35**	**193**	Pg	**Pg**	**19 48 31.2**	**+0.1**
FAEN				Sg	**Sg**	**19 48 36.1**	**0.0**
FAEN	**Faenza**	**0.35**	**193**	Pg	**Pg**	**19 48 31.2**	**+0.1**
FAEN				Sg	**Sg**	**19 48 36.1**	**0.0**
SEI	**Scarperia**	**0.74**	**218**	Pg	**Pg**	**19 48 38.0**	**-0.1**
	185nm,0.3s						
SEI	**Scarperia**	**0.74**	**218**	Pg	**Pg**	**19 48 38.0**	**-0.1**
	185nm,0.3s						
SFI	**Santa Sofia**	**0.74**	**188**	Pg	**Pg**	**19 48 36.4**	**-1.8**
SFI				Sg	**Sn**	**19 48 49.6**	**-0.6**
SFI	**Santa Sofia**	**0.74**	**188**	Pg	**Pg**	**19 48 36.4**	**-1.8**
SFI				Sg	**Sn**	**19 48 49.6**	**-0.6**
VMG	**Vicchio**	**0.74**	**205**	Pg	**Pg**	**19 48 37.2**	**-1.1**
VMG	**Vicchio**	**0.74**	**205**	Pg	**Pg**	**19 48 37.2**	**-1.1**
TEOL	**Teolo**	**0.76**	**343**	Pg	**Pb**	**19 48 39.0**	**+0.5**
TEOL				Sg	**Sn**	**19 48 50.4**	**-0.3**
	902nm,0.9s						
TEOL	**Teolo**	**0.76**	**343**	Pg	**Pb**	**19 48 39.0**	**+0.5**
TEOL				Sg	**Sn**	**19 48 50.4**	**-0.3**
	902nm,0.9s						
FNVD	**Fontana Vidola**	**0.78**	**233**	Pg	**Pg**	**19 48 39.0**	**+0.1**
FNVD	**Fontana Vidola**	**0.78**	**233**	Pg	**Pg**	**19 48 39.0**	**+0.1**
ASQU	**Asqua**	**0.85**	**190**	Pg	**Pb**	**19 48 38.0**	**-2.0**
ASQU				Sg	**Sn**	**19 48 53.5**	**+0.5**
	108nm,0.4s						
ASQU	**Asqua**	**0.85**	**190**	Pg	**Pb**	**19 48 38.0**	**-2.0**
PESA	**Pesaro**	**0.93**	**138**	Pg	**Pn**	**19 48 41.8**	**-0.1**
PESA	**Pesaro**	**0.93**	**138**	Pg	**Pn**	**19 48 41.8**	**-0.1**
PARC	**Parchiule**	**1.00**	**169**	Pg	**Pb**	**19 48 42.2**	**-0.4**
	85nm,0.7s						
PARC	**Parchiule**	**1.00**	**169**	Pg	**Pb**	**19 48 42.2**	**-0.4**
	85nm,0.7s						
CRE	**Caprese Michel**	**1.01**	**181**	Pg	**Pg**	**19 48 44.1**	**+0.7**
	62nm,0.4s						
CRE	**Caprese Michel**	**1.01**	**181**	Pg	**Pg**	**19 48 44.1**	**+0.7**
	62nm,0.4s						
FSSB	**Fossombrone**	**1.10**	**149**	Pg	**Pn**	**19 48 44.5**	**+0.1**
FSSB				Sg	**Sn**	**19 49 00.2**	**+1.0**
	72nm,0.3s						
FSSB	**Fossombrone**	**1.10**	**149**	Pg	**Pn**	**19 48 44.5**	**+0.1**
BADI	**Badiali**	**1.14**	**171**	Pg	**Pn**	**19 48 44.8**	**-0.1**
BADI				Sg	**Sg**	**19 49 02.9**	**+2.2**
	102nm,0.6s						
BADI	**Badiali**	**1.14**	**171**	Pg	**Pn**	**19 48 44.8**	**-0.1**
MARN	**Marana (Italy)**	**1.14**	**332**	*e*Pg	**Pn**	**19 48 44.8**	**-0.1**
MARN				*e*Sg	**Sg**	**19 49 00.8**	**0.0**
MARN	**Marana (Italy)**	**1.14**	**332**	*e*Pg	**Pn**	**19 48 44.8**	**-0.1**
MARN				*e*Sg	**Sg**	**19 49 00.8**	**0.0**
PIEI	**Pieia**	**1.17**	**160**	Pg	**Pn**	**19 48 44.7**	**-0.6**
PIEI				Sg	**Sg**	**19 49 02.9**	**+1.3**
	114nm,0.3s						
PIEI	**Pieia**	**1.17**	**160**	Pg	**Pn**	**19 48 44.7**	**-0.6**
MTLO	**Montello**	**1.18**	**4**	*e*Pg	**Pn**	**19 48 45.3**	**-0.1**
MTLO	**Montello**	**1.18**	**4**	*e*Pg	**Pn**	**19 48 45.3**	**-0.1**
ROVR	**Rover¨¤ Verone**	**1.20**	**328**	Pg	**Pn**	**19 48 45.4**	**-0.4**
ROVR				Sg	**Sg**	**19 49 02.6**	**-0.1**
	153nm,0.3s						
ROVR	**Rover¨¤ Verone**	**1.20**	**328**	Pg	**Pn**	**19 48 45.4**	**-0.4**

ZOU	**Zoufplan**	**2.04**	**19**	⇑*e*Pn	**Pn**	**19 48 57.2**	**-0.3**
NVLJ	**Novalja**	**2.06**	**91**	*e*Pn	**Pn**	**19 48 56.7**	**-0.8**
NVLJ				Sn	**Sn**	**19 49 21.7**	**-1.2**
NVLJ	**Novalja**	**2.06**	**91**	*e*Pn	**Pn**	**19 48 56.7**	**-0.8**
NVLJ				Sn	**Sn**	**19 49 21.6**	**-1.2**
ABSI	**Aberstueckl**	**2.15**	**348**	*e*Pn	**Pn**	**19 48 59.2**	**+0.3**
ABTA	**Abfaltersbach**	**2.15**	**10**	⇑*i*Pn	**Pn**	**19 48 59.2**	**+0.4**
ABTA	**Abfaltersbach**	**2.15**	**10**	Pn	**Pn**	**19 48 59.2**	**+0.4**
ACOM	**Acomizza, Ital**	**2.19**	**29**	⇑*e*Pn	**Pn**	**19 48 59.2**	**-0.3**
ACOM	**Acomizza, Ital**	**2.19**	**29**	⇑*e*Pn	**Pn**	**19 48 59.2**	**-0.3**
MOSI	**Grossmontoni**	**2.22**	**334**	*e*Pn	**Pn**	**19 49 01.5**	**+1.5**
MYKA	**Terra Mystica**	**2.31**	**30**	⇑*i*Pn	**Pn**	**19 49 00.7**	**-0.3**
MYKA				⇑*i*Sg	**Sg**	**19 49 37.0**	**-1.0**
	6.4nm,0.3s						
MYKA	**Terra Mystica**	**2.31**	**30**	Pn	**Pn**	**19 49 00.7**	**-0.3**
RISI	**Rein**	**2.31**	**2**	⇓*e*Pn	**Pn**	**19 49 02.4**	**+1.2**
VISS	**Visnje**	**2.33**	**59**	*i* Pn	**Pn**	**19 49 00.5**	**-0.7**
VISS	**Visnje**	**2.33**	**59**	*i* Pn	**Pn**	**19 49 00.5**	**-0.7**
OBKA	**Obir**	**2.60**	**43**	⇓*i*Pn	**Pn**	**19 49 04.0**	**-1.0**
OBKA	**Obir**	**2.60**	**43**	Pn	**Pn**	**19 49 04.0**	**-1.0**
KBA	**Koelnbreinsper**	**2.62**	**21**	⇓*i*Pn	**Pn**	**19 49 05.7**	**+0.3**
KBA				⇑*i*Sg	**Sg**	**19 49 48.3**	**+0.3**
	5.0nm,0.3s						
KBA	**Koelnbreinsper**	**2.62**	**21**	Pn	**Pn**	**19 49 05.7**	**+0.3**
WTTA	**Wattenberg**	**2.64**	**355**	⇓*i*Pn	**Pn**	**19 49 05.6**	**-0.1**
WTTA				⇑*i*Sn	**Sn**	**19 49 38.5**	**+1.1**
WTTA				⇓*i*Sg	**Sg**	**19 49 50.2**	**+1.6**
	12nm,0.4s						
WTTA	**Wattenberg**	**2.64**	**355**	Pn	**Pn**	**19 49 05.6**	**-0.1**
WTTA				Sn	**Sn**	**19 49 38.5**	**+1.1**
UDBI	**Udbina**	**2.70**	**91**	*e*Pn	**Pn**	**19 49 07.0**	**+0.6**
UDBI				Sn	**Sn**	**19 49 39.1**	**+0.3**
UDBI	**Udbina**	**2.70**	**91**	*e*Pn	**Pn**	**19 49 07.0**	**+0.6**
UDBI				Sn	**Sn**	**19 49 39.0**	**+0.3**
PGF	**Pioggiola**	**3.01**	**227**	*e*Pn	**Pn**	**19 49 10.0**	**-0.7**
PGF	**Pioggiola**	**3.01**	**227**	*e*Pn	**Pn**	**19 49 10.0**	**-0.7**
MOA	**Molln**	**3.58**	**25**	⇓*i*Pn	**Pn**	**19 49 18.1**	**-0.4**
MOA				⇓*i*Sn	**Sn**	**19 50 00.5**	**+0.1**
MOA	**Molln**	**3.58**	**25**	Pn	**Pn**	**19 49 18.1**	**-0.4**
MOA				Sn	**Sn**	**19 50 00.5**	**+0.1**
MBDF	**Montbardon**	**3.72**	**273**	*e*Pn	**Pn**	**19 49 20.3**	**-0.2**
MBDF	**Montbardon**	**3.72**	**273**	*e*Pn	**Pn**	**19 49 20.3**	**-0.2**
LPG	**La Plagne**	**3.81**	**285**	*e*Pn	**Pn**	**19 49 20.6**	**-1.2**
LPG				*e*Sn	**Sn**	**19 50 06.3**	**0.0**
LPG				*e*Sg	**Sg**	**19 50 27.4**	**+1.4**
	2.2nm,0.4s						
LPG	**La Plagne**	**3.81**	**285**	*e*Pn	**Pn**	**19 49 20.6**	**-1.2**
LPG				*e*Sn	**Sn**	**19 50 06.3**	**0.0**
LPL	**La Plagne**	**3.83**	**285**	*e*Pn	**Pn**	**19 49 21.0**	**-1.0**
LPL				*e*Sn	**Sn**	**19 50 06.4**	**-0.2**
LPL				*e*Sg	**Sg**	**19 50 28.5**	**+2.0**
	2.8nm,0.5s						
LPL	**La Plagne**	**3.83**	**285**	*e*Pn	**Pn**	**19 49 21.0**	**-1.0**
LPL				*e*Sn	**Sn**	**19 50 06.4**	**-0.2**
FRF	**La Foret Royal**	**3.99**	**256**	*e*Pn	**Pn**	**19 49 24.8**	**+0.7**
FRF	**La Foret Royal**	**3.99**	**256**	*e*Pn	**Pn**	**19 49 24.8**	**+0.7**
LMR	**La Mourre**	**4.16**	**254**	*e*Pn	**Pn**	**19 49 25.4**	**-1.0**
LMR	**La Mourre**	**4.16**	**254**	*e*Pn	**Pn**	**19 49 25.4**	**-1.0**
ORIF	**Oris-en-Rattie**	**4.36**	**276**	*e*Pn	**Pn**	**19 49 29.2**	**0.0**
ORIF	**Oris-en-Rattie**	**4.36**	**276**	*e*Pn	**Pn**	**19 49 29.2**	**0.0**
CABF	**La Chapelle**	**4.59**	**298**	*e*Pn	**Pn**	**19 49 32.2**	**-0.1**
CABF	**La Chapelle**	**4.59**	**298**	*e*Pn	**Pn**	**19 49 32.2**	**-0.1**
KHC	**Kasperske Hory**	**4.63**	**13**	*e*PN	**Pn**	**19 49 33.1**	**+0.3**
KHC				*e*PG	Pg	19 49 55.5	+3.2
KHC				*e*SN	**Sn**	**19 50 26.5**	**+0.3**
KHC				*e*SG	Sg	19 50 59.0	+6.8
KHC	**Kasperske Hory**	**4.63**	**13**	Pn	**Pn**	**19 49 33.1**	**+0.3**
KHC				Sn	**Sn**	**19 50 26.5**	**+0.3**
HINF	**Hinteralfeld**	**4.78**	**314**	*e*Pn	**Pn**	**19 49 34.4**	**-0.5**
HINF				*e*Sn	**Sn**	**19 50 28.5**	**-1.3**
	2.7nm,0.3s						
HINF	**Hinteralfeld**	**4.78**	**314**	*e*Pn	**Pn**	**19 49 34.4**	**-0.5**
HINF				*e*Sn	**Sn**	**19 50 28.5**	**-1.3**
	1.4nm,0.3s						
CDF	**Champ du Feu**	**4.98**	**321**	*e*Pn	**Pn**	**19 49 38.0**	**+0.2**
CDF				*e*Sn	**Sn**	**19 50 32.8**	**-2.2**
	2.3nm,0.3s						
CDF	**Champ du Feu**	**4.98**	**321**	*e*Pn	**Pn**	**19 49 38.0**	**+0.2**
CDF				*e*Sn	**Sn**	**19 50 32.8**	**-2.2**
	1.1nm,0.3s						
HAU	**Haudompre**	**5.16**	**313**	*e*Pn	**Pn**	**19 49 39.9**	**-0.2**
HAU				*e*Sn	**Sn**	**19 50 37.3**	**-1.9**
	6.6nm,0.4s						
HAU	**Haudompre**	**5.16**	**313**	*e*Pn	**Pn**	**19 49 39.9**	**-0.2**
HAU				*e*Sn	**Sn**	**19 50 37.3**	**-1.9**
	3.3nm,0.4s						
VIVF	**Saint-Julien-l**	**5.21**	**275**	*e*Pn	**Pn**	**19 49 40.2**	**-0.7**
VIVF	**Saint-Julien-l**	**5.21**	**275**	*e*Pn	**Pn**	**19 49 40.2**	**-0.7**
SFTF	**Sexfontaines**	**5.98**	**309**	*e*Pn	**Pn**	**19 49 50.7**	**-0.7**
	baz=130						
SFTF	**Sexfontaines**	**5.98**	**309**	*e*Pn	**Pn**	**19 49 50.7**	**-0.7**
SMF	**Signal de Mont**	**6.05**	**292**	*e*Pn	**Pn**	**19 49 52.1**	**-0.3**
SMF				*e*Sn	**Sn**	**19 50 58.9**	**-2.4**
	1.1nm,0.3s						
SMF	**Signal de Mont**	**6.05**	**292**	*e*Pn	**Pn**	**19 49 52.1**	**-0.3**
LOR	**Lormes**	**6.25**	**298**	*e*Pn	**Pn**	**19 49 55.0**	**-0.1**
	baz=115						
LOR				*e*Sn	**Sn**	**19 51 02.7**	**-3.3**
	3.6nm,0.5s						
LOR	**Lormes**	**6.25**	**298**	*e*Pn	**Pn**	**19 49 55.0**	**-0.1**

ISCJB ***27*** *19:50:03.3±0.5, 34°.7N±0°.1×36°.74W±0°.07, h13km, mb4.1/22, MS3.5/19, Error ellipse: s-maj=15.5km s-min=8.8km az=179.6*
IDC ***27*** *19:50:03.4±0.9, 34°.73N×36°.67W, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.7/51, mbtmp3.8/13, MS3.5/19, Ms1 3.5/19, ms1mx3.3/41, Error ellipse: s-maj=26.9km s-min=17.4km az=172.0*
CSEM ***27*** *19:50:04.4, 34°.63N×36°.72W, h10km, mb4.5*
NEIC ***27*** *19:50:04.4±0.4, 34°.63N×36°.72W, h10km, mb4.5/9, Error ellipse: s-maj=12.1km s-min=6.9km az=179.0*

ISC 27 19:50:05.0±0.6,**34°.6N**±0°.1×**36°.74W**±0°.08,**h13km**,**n65**, σ0§**82**/48,**mb4.1**/22,**MS3.5**/19,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTC	**Rabat Centre**	**24.65**	**83**	*e*P	**P**	**19 55 25.6**	**+0.3**
RTC	**Rabat Centre**	**24.65**	**83**	*e*P	**P**	**19 55 25.6**	**+0.3**
ESDC	**Sonseca Array**	**26.51**	**69**	LR	LR	20 02 58.6	
	comp=Z,56nm,21.4s,baz=310,slow=29						
MDT	**Midelt**	**26.72**	**85**	LR	LR	20 03 25.0	
	comp=Z,105nm,20.5s,baz=309,slow=30						
BBTS	**Babate**	**26.97**	**133**	LR	LR	20 03 53.6	
	comp=Z,136nm,18.2s,baz=14,slow=31						
DSB	**Dublin**	**28.39**	**40**	*e*P	**P**	**19 55 59.4**	**+0.6**
	26nm,1.1s						
DSB	**Dublin**	**28.39**	**40**	*e*P	**P**	**19 55 59.4**	**+0.6**
	26nm,1.1s						
SCHQ	**Schefferville**	**29.05**	**323**	LR	LR	20 06 26.6	
	comp=Z,120nm,19.9s,baz=111,slow=34						
ESK	**Eskdalemuir**	**31.01**	**38**	P	P	19 56 26.8	+4.8
	54nm,1.0s						
SADO	**Sadowa**	**33.82**	**300**	LR	LR	20 10 23.1	
	comp=Z,68nm,18.8s,baz=298,slow=36						
BNI	**Bardonecchia**	**34.55**	**59**	P	**P**	**19 56 53.5**	**+0.2**
BNI	**Bardonecchia**	**34.55**	**59**	P	**P**	**19 56 53.5**	**+0.2**
KONO	**Kongsberg**	**39.06**	**36**	*e*P	**P**	**19 57 31.6**	**+0.3**
	15nm,1.3s						
KONO	**Kongsberg**	**39.06**	**36**	*e*P	**P**	**19 57 31.6**	**+0.3**
	15nm,1.3s						
GERES	**GERESS Array B**	**39.50**	**53**	P	**P**	**19 57 35.1**	**-0.1**
	0.7nm,0.9s,baz=249,slow=7.0,SNR=4.0						
GERES				LR	LR	20 10 55.2	
	comp=Z,25nm,18.7s,baz=262,slow=32						
SDV	**Santo Domingo**	**40.26**	**239**	*e*P	**P**	**19 57 40.2**	**-1.8**
	9.4nm,0.9s						
SDV	**Santo Domingo**	**40.26**	**239**	*e*P	**P**	**19 57 40.2**	**-1.8**
	9.4nm,0.9s						
NOA	**NORSAR Array B**	**40.27**	**34**	P	**P**	**19 57 40.8**	**-0.6**
	1.0nm,0.9s,baz=252,slow=8.6,SNR=2.9						
NOA				LR	LR	20 11 31.9	
	comp=Z,13nm,19.1s,baz=225,slow=32						
DBIC	**Dimbokro**	**40.47**	**126**	LR	LR	20 12 32.0	
	comp=Z,84nm,19.1s,baz=300,slow=33						
TOA0	**Torodi Ar. Sit**	**40.79**	**112**	*e*P	**P**	**19 57 45.9**	**-0.3**
TOA0	**Torodi Ar. Sit**	**40.79**	**112**	*e*P	**P**	**19 57 45.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**40.79**	**112**	P	**P**	**19 57 45.4**	**-0.8**
	1.3nm,0.9s,baz=313,slow=3.6,SNR=6.8						
TORD				LR	LR	20 13 20.1	
	comp=Z,111nm,19.2s,baz=245,slow=34						
EYMN	**Ely**	**42.38**	**305**	P	**P**	**19 57 59.1**	**+0.2**
EYMN	**Ely**	**42.38**	**305**	P	**P**	**19 57 59.1**	**+0.2**
FCC	**Fort Churchill**	**44.38**	**321**	*e*P	**P**	**19 58 15.2**	**+0.4**
	0.6nm,1.6s						
FCC	**Fort Churchill**	**44.38**	**321**	*e*P	**P**	**19 58 15.2**	**+0.4**
	0.7nm,1.6s						
ULM	**Lac du Bonnet**	**45.15**	**309**	P	**P**	**19 58 20.7**	**-0.4**
	1.4nm,0.5s,baz=65,slow=11,SNR=3.3						
ULM				LR	LR	20 17 22.3	
	comp=Z,70nm,18.1s,baz=70,slow=36						
ROSC	**El Rosal**	**45.68**	**238**	LR	LR	20 18 15.8	
	comp=Z,44nm,18.9s,baz=184,slow=37						
H10N2	**ASCENSION HYDR**	**47.19**	**149**	T	T	20 49 03.1	
	baz=335,slow=75,SNR=48						
H10N3	**ASCENSION HYDR**	**47.19**	**149**	T	T	20 48 57.3	
	baz=335,slow=75,SNR=41						
H10N1	**ASCENSION HYDR**	**47.20**	**149**	T	T	20 48 57.5	
	baz=335,slow=75,SNR=52						
TEIG	**Tepich**	**47.46**	**266**	LR	LR	20 15 47.6	
	comp=Z,71nm,21.4s,baz=143,slow=32						
MLR	**Muntele Rosu**	**48.06**	**57**	P	**P**	**19 58 44.6**	**+0.4**
	0.4nm,0.8s,baz=296,slow=4.0,SNR=3.6						
H10S1	**ASCENSION HYDR**	**48.12**	**150**	T	T	20 50 04.2	
	baz=335,slow=75,SNR=44						
H10S3	**ASCENSION HYDR**	**48.13**	**150**	T	T	20 50 04.5	
	baz=335,slow=75,SNR=54						
H10S2	**ASCENSION HYDR**	**48.14**	**150**	T	T	20 50 05.5	
	baz=335,slow=75,SNR=55						
RES	**Resolute Bay**	**48.62**	**342**	P	**P**	**19 58 48.2**	**+0.4**
	2.7nm,0.9s,baz=106,slow=5.1,SNR=8.9						
AKASG	**Malin Array Be**	**49.44**	**50**	P	**P**	**19 58 53.9**	**-0.6**
	2.1nm,0.8s,baz=274,slow=7.4,SNR=12						
AKASG				LR	LR	20 17 41.1	
	comp=Z,39nm,18.4s,baz=260,slow=34						
JTS	**JuntasAbangare**	**50.12**	**253**	LR	LR	20 19 48.5	
	comp=Z,38nm,19.4s,baz=71,slow=36						
ISCO	**Idaho Springs**	**53.87**	**297**	P	**P**	**19 59 29.6**	**+1.4**
ISCO	**Idaho Springs**	**53.87**	**297**	P	**P**	**19 59 29.6**	**+1.4**
BR131	**Keskin Array S**	**54.99**	**62**	P	**P**	**19 59 36.4**	**+0.3**
	2.0nm,1.0s						
BR131	**Keskin Array S**	**54.99**	**62**	P	**P**	**19 59 36.4**	**+0.3**
	2.0nm,1.0s						
BRTR	**Keskin Array B**	**54.99**	**62**	P	**P**	**19 59 36.7**	**+0.6**
	1.4nm,1.0s,baz=256,slow=5.0,SNR=6.5						
BRTR				LR	LR	20 22 33.5	
	comp=Z,14nm,18.7s,baz=298,slow=36						
PDAR	**Pinedale Array**	**55.80**	**302**	P	**P**	**19 59 41.9**	**-0.2**
	1.4nm,1.0s,baz=100,slow=6.2,SNR=5.9						
PDAR				LR	LR	20 22 44.9	
	comp=Z,83nm,19.3s,baz=360,slow=35						
BW06	**Boulder Array**	**55.80**	**302**	*e*P	**P**	**19 59 41.6**	**-0.5**
	4.0nm,1.2s						
BW06	**Boulder Array**	**55.80**	**302**	*e*P	**P**	**19 59 41.6**	**-0.5**
	4.0nm,1.2s						
TXAR	**Lajitas Array**	**56.09**	**285**	P	**P**	**19 59 45.1**	**+1.0**
	1.9nm,0.9s,baz=101,slow=6.5,SNR=8.3						
TXAR				LR	LR	20 22 58.1	
	comp=Z,83nm,18.8s,baz=0.0,slow=35						
LPAZ	**La Paz**	**58.78**	**216**	P	**P**	**20 00 05.7**	**+2.0**
	1.8nm,0.9s,baz=28,slow=9.9,SNR=5.2						
LPAZ				LR	LR	20 23 55.6	
	comp=Z,42nm,18.4s,baz=38,slow=34						
NEW	**Newport**	**59.14**	**310**	*e*P	**P**	**20 00 04.6**	**-0.7**
	4.6nm,1.0s						
NEW	**Newport**	**59.14**	**310**	*e*P	**P**	**20 00 04.6**	**-0.7**
	4.6nm,1.0s						
INK	**Inuvik**	**60.73**	**335**	*e*P	**P**	**20 00 15.1**	**-0.6**
INK	**Inuvik**	**60.73**	**335**	*e*P	**P**	**20 00 15.1**	**-0.6**
AKTO	**Aktyubinsk**	**66.97**	**44**	P	**P**	**20 00 57.0**	**-0.2**
	0.7nm,0.6s,baz=285,slow=10,SNR=3.6						
AKTO	**Aktyubinsk**	**66.97**	**44**	P	**P**	**20 00 57.0**	**-0.2**
ILAR	**Eielson Array**	**67.08**	**334**	LR	LR	20 28 48.2	
	comp=Z,72nm,19.8s,baz=155,slow=35						
RAYN	**Ar Rayn**	**70.93**	**74**	*e*P	**P**	**20 01 21.9**	**-0.4**
	4.5nm,1.0s						
RAYN	**Ar Rayn**	**70.93**	**74**	*e*P	**P**	**20 01 21.9**	**-0.4**
	4.5nm,1.0s						
KURK	**Kurchatov**	**77.75**	**36**	*e*P	**P**	**20 02 01.1**	**-0.4**
	1.8nm,1.1s						
KURK	**Kurchatov**	**77.75**	**36**	*e*P	**P**	**20 02 01.1**	**-0.4**
	1.8nm,1.1s						
EKS2	**Erkin-Say**	**80.28**	**45**	P	**P**	**20 02 16.6**	**+0.9**
EKS2	**Erkin-Say**	**80.28**	**45**	P	**P**	**20 02 16.6**	**+0.9**
MK31	**Makanchi Array**	**82.17**	**37**	P	**P**	**20 02 23.7**	**-1.9**
MK31	**Makanchi Array**	**82.17**	**37**	P	**P**	**20 02 23.7**	**-1.9**
MKAR	**Makanchi Array**	**82.17**	**37**	P	**P**	**20 02 25.1**	**-0.5**
	0.6nm,0.8s,baz=336,slow=2.7,SNR=4.8						

NIED ***27*** *20:02:00, 33°.40N×140°.90E, h50km, Mw4.5 Best double couple: M0:6.59000×10*^{15} *NP1:*ϕ_S*=210.00000°, δ35.00000°, λ154.00000°. NP2:*ϕ_S*=322.00000°, δ75.00000°, λ58.00000°.*
BJI ***27*** *20:02:29.5, 33°.44N×141°.12E, h32km, mB4.8/21, mb4.4/37, Ms4.2/17, Ms7 4.1/13*
MOS ***27*** *20:02:31.1±1.1, 33°.33N×140°.89E, h33km, mb4.5/28, Error ellipse: s-maj=12.5km s-min=6.5km az=111.9*
ISCJB ***27*** *20:02:33.1±0.6, 33°.38N±0°.03×140°.94E±0°.04, h50km±4km, mb4.3/59, MS3.4/7, Error ellipse: s-maj=6.0km s-min=4.5km az=166.3*
JMA ***27*** *20:02:34.4±0.1, 33°.51N×140°.92E, h50km, M4.7*
JMA Felt II J1.
IDC ***27*** *20:02:35.0±1.5, 33°.34N×140°.85E, h52km±13km, mb4.0/26, mb1 4.1/30, mb1mx4.1/46, mbtmp4.3/30, ML4.2/2, MS3.3/10, Ms1 3.3/10, ms1mx3.1/40, Error ellipse: s-maj=13.0km s-min=9.2km az=70.0*
NEIC ***27*** *20:02:35.8±0.6, 33°.36N×140°.82E, h59km±5km, mb4.5/24, MW4.5(NIED), Error ellipse: s-maj=5.8km s-min=4.8km az=80.0*
NEIC Recorded [2 JMA] on Hachijo-jima.

ISC 27 20:02:32.6±0.6,**33°.39N**±0°.04×**141°.08E**±0°.04,**h33**km±2km, **n183**, σ1§**60**/203,**mb4.4**/59,**MS3.3**/7,**9C-7D**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.09**	**256**	⇓P	**Pb**	**20 02 52.5**	**-0.6**
JHJ2				S	**Sn**	**20 03 05.9**	**+0.3**
JHJ2	**Mitsune**	**1.09**	**256**	*e*Pn	**Pb**	**20 02 52.4**	**-0.6**
JHJ2				*e*Sn	**Sn**	**20 03 05.8**	**+0.1**
JHCJ	**Hachijojimakas**	**1.12**	**254**	⇓P	**Pb**	**20 02 52.7**	**-0.8**
JHCJ				S	**Sn**	**20 03 06.0**	**-0.3**
BSO1	**Boso 1**	**1.27**	**356**	⇑P	**Pb**	**20 02 54.5**	**-1.1**
JMY	**Miyakejima3**	**1.48**	**298**	P	**Pn**	**20 02 56.8**	**-0.1**
BSO3	**Boso 3**	**1.49**	**342**	⇑P	**Pn**	**20 02 57.4**	**+0.6**
BSO4	**Boso 4**	**1.71**	**339**	⇑P	**Pn**	**20 03 00.7**	**+0.6**
JNIO	**Niijimaoohara**	**1.79**	**303**	P	**Pn**	**20 03 01.0**	**-0.2**
JKO	**Kozu shima**	**1.81**	**297**	⇓P	**Pn**	**20 03 01.6**	**+0.2**
JKO				S	**Sn**	**20 03 22.0**	**-1.2**
JIM2	**Oshima 3**	**1.91**	**315**	⇓P	**Pn**	**20 03 02.6**	**-0.3**
JIM2				S	**Sn**	**20 03 23.2**	**-2.6**
JIZS	**Izushimoda**	**2.26**	**307**	⇓P	**Pn**	**20 03 08.2**	**+0.5**
JIZS				S	**Sn**	**20 03 32.7**	**-1.7**
KTJJ	**Kamata 2**	**2.27**	**313**	P	**Pn**	**20 03 08.7**	**0.0**
KTJJ				S	**Sn**	**20 03 32.0**	**-2.7**
JOD2	**Odawara 2**	**2.50**	**319**	P	**Pn**	**20 03 11.0**	**+0.1**
JOD2				S	**Sn**	**20 03 37.3**	**-3.0**
MJAR	**Matsushiro Arr**	**3.93**	**324**	P	**Pn**	**20 03 32.0**	**+1.3**
	51nm,0.3s,baz=152,slow=13,SNR=483						
MJAR				S	**Sn**	**20 04 15.9**	**+0.1**
	35nm,0.3s,baz=158,slow=22,SNR=12						
MJAR				LR	LR	20 05 20.0	
	comp=Z,198nm,18.9s,baz=145,slow=43						
MAJO	**Matsushiro**	**3.94**	**324**	*e i*P	**Pn**	**20 03 31.9**	**+1.2**
MAJO	**Matsushiro**	**3.94**	**324**	*e*Pn	**Pn**	**20 03 32.1**	**+1.3**
MAJO				*e*Sn	**Sn**	**20 04 16.4**	**+0.6**
MAT	**Matsushiro**	**3.94**	**324**	P	**Pn**	**20 03 07.2**	**+1.5**
MAT				S	**Sn**	**20 04 15.7**	**-0.1**
CBIJ	**Chichi jima**	**6.34**	**171**	*e*Pn	**Pn**	**20 04 05.2**	**+1.3**
CBIJ				*e*Sn	**Sn**	**20 05 12.9**	**-2.2**
JCJ	**Chichijima**	**6.34**	**171**	P	**Pn**	**20 04 04.6**	**+0.8**
	59nm,0.3s,baz=0.4,slow=4.3,SNR=22						
JCJ				S	**Sn**	**20 05 15.7**	**+0.6**
	27nm,0.3s,baz=240,slow=6.2,SNR=4.4						
JNU	**Nakatsue**	**8.55**	**271**	P	**Pn**	**20 04 35.6**	**+1.5**
	1.9nm,0.3s,baz=127,slow=1.5,SNR=24						
JNU				LR	LR	20 06 40.4	
	comp=Z,50nm,21.0s,baz=46,slow=29						
ERM	**Erimo**	**8.77**	**10**	*e*P	**Pn**	**20 04 35.8**	**-1.2**
ERM	**Erimo**	**8.77**	**10**	*e*Pn	**Pn**	**20 04 36.0**	**-1.0**
ERM				*e*Sn	**Sn**	**20 06 09.8**	**-4.9**
ASAJ	**Asahikawa**	**10.78**	**6**	P	**Pn**	**20 05 02.7**	**-1.9**
	5.5nm,0.3s,baz=227,slow=11,SNR=7.7						
ASAJ	**Asahikawa**	**10.78**	**6**	*e*Pn	**Pn**	**20 05 03.1**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**11.27**	**18**	⇑*i*P	**Pn**	**20 05 09.4**	**-1.8**
YUK				pmax	pmax		
	comp=N,93nm,1.1s						
YUK				pmax	pmax		
	comp=E,87nm,1.1s						
YUK				pmax	pmax		
	comp=Z,99nm,1.1s						
YUK				pmax	pmax		
	comp=Z,781nm,1.9s						
YUK				MLR	MLR		
	comp=E,147nm,7.0s						
YUK				MLR	MLR		
	comp=Z,54nm,7.0s						
KSRS	**Korea Array**	**11.47**	**294**	P	Pn	20 05 17.9	+3.8
	comp=Z,0.2nm,0.3s,baz=109,slow=13,SNR=9.2						
KSRS				LR	LR	20 09 46.6	
	comp=Z,114nm,18.4s,baz=102,slow=38						
KSAR	**Wonju Array Be**	**11.50**	**294**	P	Pn	20 05 17.9	+3.4
KSAR	**Wonju Array Be**	**11.50**	**294**	P	Pn	20 05 17.9	+3.4
USRK	**Ussuriysk Ar.**	**12.91**	**329**	P	**Pn**	**20 05 33.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=148,slow=13,SNR=3.3						
YSS	**Yuzh-Sakhalins**	**13.61**	**5**	*e*P	Pn	20 05 40.0	-3.3
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**13.61**	**5**	*e*Pn	**Pn**	**20 05 41.1**	**-2.2**
MDJ	**Mudanjiang**	**14.32**	**325**	P	**Pn**	**20 05 52.0**	**-0.9**
MDJ				PMZ			
	comp=Z,6.0nm,2.3s						
MDJ				PMZ			
	comp=Z,49nm,4.8s						
MDJ	**Mudanjiang**	**14.32**	**325**	*e*Pn	**Pn**	**20 05 55.1**	**+2.1**
	comp=Z,6.8nm,0.8s						
CN2	**Changchun**	**16.02**	**315**	*e*P	Pn	20 06 10.3	-5.1
NJ2	**Nanjing**	**18.75**	**272**	*e*P	**Pn**	**20 06 49.5**	**+0.1**
NJ2				PMZ			
	comp=Z,20nm,0.6s						
BJI	**Beijing**	**21.00**	**296**	P	**P**	**20 07 13.8**	**+0.6**
BJI				S	**S**	**20 11 07.0**	**+1.6**
BJI				PMZ			
	comp=Z,8.0nm,0.5s						
BJI				LN			
	comp=Z,170nm,12.2s						
BJI				LE			
	comp=Z,150nm,12.2s						
HIA	**Hailar**	**22.43**	**321**	P	**P**	**20 07 29.0**	**+0.4**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HIA	**Hailar**	**22.43**	**321**	P	**P**	**20 07 29.0**	**+0.4**
	comp=Z,5.1nm,0.5s						
WHN	**Wuhan**	**22.83**	**270**	⇑P	**P**	**20 07 31.5**	**-1.4**
PETK	**Petropavlovsk-**	**23.03**	**26**	P	**P**	**20 07 38.1**	**+3.4**
	comp=Z,3.7nm,0.9s,baz=224,slow=8.1,SNR=3.2						
PETK				LR	LR	20 15 51.2	
	comp=Z,30nm,21.5s,baz=176,slow=34						
HHC	**Hu-ho-hao-te**	**24.61**	**296**	*e*P	**P**	**20 07 51.3**	**+1.3**
HHC				PP	**PnPn**	**20 08 27.8**	**+5.8**
HHC				S	**S**	**20 12 07.5**	**-1.6**
HHC				sS	**sS**	**20 12 22.8**	**-1.8**
HHC				SS	**SnSn**	**20 13 04.0**	**+8.3**
HHC				PMZ			
	comp=Z,24nm,1.2s						
HHC				PMZ			
	comp=Z,140nm,5.4s						
HHC				LN			
	comp=Z,220nm,13.7s						
HHC				LE			
	comp=Z,220nm,14.1s						
HHC				LZ			
	comp=Z,120nm,14.5s						
H11N2	**WAKE ISLAND Hy**	**26.71**	**114**	T	T	20 37 13.4	
	baz=306,slow=75,SNR=213						
H11N1	**WAKE ISLAND Hy**	**26.71**	**114**	T	T	20 37 11.0	
	baz=306,slow=

WMQ PMZ
comp=Z,170nm,4.5s
WMQ LN
comp=Z,51nm,17.0s
WMQ LE
comp=Z,25nm,20.0s
KSM Kuching 42.89 229 P **P 20 10 26.9 -1.4**
ZAA0 Zalesovo Array 44.24 315 *eP* **P 20 10 37.1 -1.5**
ZALV Zalesovo Beam 44.24 315 *i P* **P 20 10 40.5 +1.9**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 44.24 315 P **P 20 10 37.8 -0.8**
comp=Z,1.3nm,0.4s,baz=116,slow=6.8,SNR=7.5
ZALV PcP **PP 20 12 21.7 -0.2**
comp=Z,1.7nm,0.4s,baz=130,slow=2.4,SNR=4.7
NVS Novosibirsk 45.22 316 *eP* **P 20 10 44.6 -1.8**
MKAR Makanchi Array 45.91 305 P **P 20 10 51.1 -0.9**
comp=Z,3.0nm,0.7s,baz=86,slow=9.5,SNR=41
MKAR ScP **ScP 20 16 15.8 -3.5**
comp=Z,0.7nm,0.8s,baz=76,slow=5.1,SNR=6.2
MKAR LR LR 20 31 19.9
comp=Z,46nm,19.6s,baz=20,slow=38
TAPN Taplejung 46.03 277 *eP* **P 20 10 52.3 -1.3**
comp=Z,2.4nm,0.3s
RAMN Ramite 47.09 277 *eP* **P 20 11 00.1 -1.8**
JIRN Jiri 47.18 278 *eP* **P 20 11 01.1 -1.6**
comp=Z,8.3nm,0.4s
KKN Kakani 47.88 279 *eP* **P 20 11 06.5 -1.5**
KURK Kurchatov 48.03 311 *eP* **P 20 11 07.8 -0.7**
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 48.03 311 *eP* **P 20 11 07.8 -0.7**
comp=Z,3.3nm,0.7s
KURBB Kurchatov Arra 48.10 311 P **P 20 11 08.3 -0.7**
comp=Z,4.2nm,0.6s,baz=88,slow=7.6,SNR=21
GKN Gorkha 48.34 279 *eP* **P 20 11 10.0 -1.4**
comp=Z,4.7nm,0.4s
DANN Dangsing 48.94 280 *eP* **P 20 11 14.7 -1.5**
comp=Z,18nm,0.6s
KDAK Kodiak Island 50.03 40 *ceP* **P 20 11 26.2 +2.5**
TKM2 Tokmak 2 51.20 301 *eP* **P 20 11 32.4 -0.6**
TKM2 pmax pmax
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 51.20 301 *eP* **P 20 11 32.4 -0.6**
comp=Z,3.3nm,0.6s
KSH Kashi 51.72 297 P **P 20 11 39.5 +2.6**
KSH sP **sP 20 11 53.5 +2.8**
KSH PP **PP 20 13 38.5 +4.0**
KSH S **S 20 18 56.5 +0.1**
KSH ScS **ScS 20 21 20.5 -4.3**
KSH SS **SS 20 22 31.5 -1.3**
KSH PMZ
comp=Z,4.0nm,0.8s
KSH PMZ
comp=Z,82nm,3.4s
KSH LN
comp=Z,150nm,5.4s
KSH LE
comp=Z,100nm,4.2s
KSH LZ
comp=Z,96nm,4.8s
AAK Ala-Archa 52.05 301 *eP* **P 20 11 38.4 -1.0**
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 52.05 301 *eP* **P 20 11 38.4 -1.0**
comp=Z,4.0nm,0.9s
EKS2 Erkin-Say 52.56 301 P **P 20 11 41.9 -1.2**
EKS2 pmax pmax
comp=Z,2.0nm,0.8s
EKS2 Erkin-Say 52.56 301 P **P 20 11 41.9 -1.2**
comp=Z,2.5nm,0.8s
ILAR Eielson Array 52.74 31 P **P 20 11 44.6 +0.7**
comp=Z,2.0nm,0.7s,baz=265,slow=5.8,SNR=22
IL1 Eielson Array 52.74 31 *eP* **P 20 11 43.9 0.0**
WRAB Tennant Creek 53.41 188 *eP* **P 20 11 49.3 0.0**
WRAB pmax pmax
comp=Z,33nm,1.2s
WRAB Tennant Creek 53.41 188 *eP* **P 20 11 49.0 -0.2**
WB2 Warramunga Arr 53.42 188 *eP* **P 20 11 49.1 -0.3**
WRA Warramunga Arr 53.42 188 P **P 20 11 49.5 +0.1**
comp=Z,17nm,0.6s,baz=4.9,slow=7.6,SNR=334
KKAR Karatay Array 54.78 302 *eP* **P 20 11 57.9 -1.3**
KKAR Karatay Array 54.78 302 *eP* **P 20 11 57.9 -1.3**
AS01 Alice Springs 57.14 188 *eP* **P 20 12 16.2 0.0**
AS31 Alice Springs 57.15 188 *eP* **P 20 12 16.1 -0.1**
ASAR Alice Springs 57.15 188 P **P 20 12 16.4 +0.3**
comp=Z,3.6nm,0.4s,baz=5.3,slow=6.8,SNR=252
INK Inuvik 57.77 26 P **P 20 12 21.4 +1.4**
comp=Z,2.0nm,0.6s,baz=191,slow=33,SNR=12
ARU Arti 58.94 320 *d i P* **P 20 12 29.6 +1.2**
ARU S **S 20 20 33.4 +1.2**
ARU SS **SS 20 24 29.2 +3.7**
ARU pmax pmax
comp=Z,7.0nm,0.6s
ARU Arti 58.94 320 *eP* **P 20 12 27.0 -1.5**
comp=Z,9.7nm,0.5s
ABKAR Akbulak array 60.12 312 *eP* **P 20 12 35.4 -1.2**
GEYT Alibeck 65.40 300 P **P 20 13 11.5 -0.6**
comp=Z,2.2nm,0.7s,baz=56,slow=5.4,SNR=3.2
RES Resolute Bay 66.19 14 *eP* **P 20 13 17.2 +0.7**
RES pmax pmax
comp=Z,4.0nm,0.6s
RES Resolute Bay 66.19 14 *eP* **P 20 13 17.2 +0.7**
comp=Z,4.1nm,0.6s
YKA Yellowknife Ar 67.10 29 P **P 20 13 22.7 +0.2**
comp=Z,0.9nm,0.9s,baz=296,slow=6.2,SNR=11
ARCES ARCESS Array B 67.31 340 P **P 20 13 23.6 -0.2**
comp=Z,2.5nm,1.0s,baz=64,slow=8.1,SNR=2.9
JOF Joensuu 69.06 333 *eP* **P 20 13 34.9 +0.1**
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 69.06 333 *ep* **P 20 13 34.9 +0.1**
comp=Z,1.8nm,0.4s
DAG Danmarks Havn 69.38 355 *i P* **P 20 13 36.4 -0.1**
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 69.38 355 *i P* **P 20 13 36.4 -0.1**
comp=Z,3.6nm,0.8s
OBN Obninsk 70.86 324 *eP* **P 20 13 45.9 -0.1**
OBN pmax pmax
comp=Z,4.0nm,1.2s
KAF Kangasniemi 71.42 333 *eP* **P 20 13 48.3 -1.0**
KAF pmax pmax
comp=Z,1.0nm,0.6s
KAF Kangasniemi 71.42 333 *ep* **P 20 13 48.3 -1.0**
comp=Z,1.4nm,0.6s
FINES FINESS Array B 71.92 333 P **P 20 13 52.1 -0.1**
comp=Z,1.8nm,0.5s,baz=100,slow=6.9,SNR=8.9
NEW Newport 72.95 43 P **P 20 14 00.5 +1.7**
comp=Z,2.4nm,0.9s,baz=5.5,slow=4.3,SNR=4.4
KBZ Khabaz 73.09 311 P **P 20 13 59.4 -0.1**
comp=Z,2.9nm,0.8s,baz=60,slow=5.6,SNR=5.7
KIV Kislovodsk 73.11 312 *eP* **P 20 13 58.5 -1.3**
KIV pmax pmax
comp=Z,4.0nm,1.2s
KIV Kislovodsk 73.11 312 P **P 20 13 58.2 -1.6**
SUMG Summit 74.32 360 *eP* **P 20 14 08.0 +1.2**
SUMG pmax pmax
comp=Z,72nm,2.2s
SUMG Summit 74.32 360 *i P* **P 20 14 07.9 +1.2**
comp=Z,5.4nm,0.8s
SUMG Summit 74.32 360 *eP* **P 20 14 08.0 +1.2**
comp=Z,72nm,2.2s
BMO Blue Mountains 74.62 46 *eP* **P 20 14 10.2 +1.5**
comp=Z,4.2nm,0.8s
FFC Flin Flon 76.92 32 *eP* **P 20 14 21.7 +0.2**
FFC pmax pmax
comp=Z,4.0nm,0.8s
FFC Flin Flon 76.92 32 *eP* **P 20 14 21.7 +0.2**
comp=Z,3.7nm,0.8s
LRM Limekiln Ridge 76.96 44 *eP* **P 20 14 23.9 +1.7**
AKASG Malin Array Be 77.02 323 P **P 20 14 21.5 -0.6**
comp=Z,2.5nm,0.4s,baz=49,slow=5.6,SNR=23
KIEV Kiev 77.03 323 *eP* **P 20 14 21.4 -0.7**
KIEV pmax pmax
comp=Z,5.0nm,0.5s
KIEV Kiev 77.03 323 *eP* **P 20 14 21.4 -0.7**
comp=Z,5.1nm,0.5s
DLMT Dillon 77.14 44 *eP* **P 20 14 23.9 +0.8**
comp=Z,6.1nm,0.8s
FCC Fort Churchill 77.39 26 *eP* **P 20 14 24.0 0.0**
FCC Fort Churchill 77.39 26 *eP* **P 20 14 24.0 0.0**
comp=Z,104nm,2.8s
NB2 NORSAR Subarra 77.44 337 P **P 20 14 23.6 -0.7**
comp=Z,15nm,1.4s,baz=40,slow=5.9
NOA NORSAR Array B 77.44 337 P **P 20 14 23.4 -0.9**
comp=Z,2.5nm,0.9s,baz=40,slow=5.8,SNR=6.5
ELK Elko 78.13 49 *eP* **P 20 14 31.4 +2.6**
ELK pmax pmax
comp=Z,3.0nm,0.6s
ELK Elko 78.13 49 P **P 20 14 31.1 +2.3**
comp=Z,2.5nm,0.4s,baz=324,slow=2.6,SNR=12
ELK Elko 78.13 49 *eP* **P 20 14 31.4 +2.6**
comp=Z,2.9nm,0.6s
H17A Grant Village 78.87 44 *eP* P 20 14 37.0 +4.1
comp=Z,10nm,1.3s
TPNV Topopah Spring 79.58 53 *eP* **P 20 14 38.8 +2.0**
TPNV pmax pmax
comp=Z,4.0nm,0.9s
TPNV Topopah Spring 79.58 53 *eP* **P 20 14 38.8 +2.0**
comp=Z,4.0nm,0.9s
PDAR Pinedale Array 80.43 45 P **P 20 14 42.5 +1.2**
comp=Z,0.5nm,0.6s,baz=255,slow=2.7,SNR=4.7
BUR04 Bucovina Ar. S 81.00 322 *eP* **P 20 14 43.9 -0.2**
BRTR Keskin Array B 81.07 312 *ceP* **P 20 14 45.0 +0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 81.07 312 P **P 20 14 45.0 +0.3**
comp=Z,0.7nm,0.6s,baz=94,slow=5.0,SNR=5.4
CCUT Cedar City 81.14 51 *eP* **P 20 14 46.9 +1.6**
comp=Z,4.1nm,1.0s
PFO Pinyon Flats O 81.31 56 P **P 20 14 46.3 +0.3**
comp=Z,4.4nm,0.9s,baz=330,slow=3.5,SNR=4.4
PFO LR LR 20 43 53.1
comp=Z,58nm,20.2s,baz=18,slow=30
BR231 Keskin MP Arra 81.54 312 *eP* **P 20 14 45.3 -1.9**
KOLS Kolonicke sedl 81.61 324 *eP* P 20 14 54.4 +7.2
STHS Stebnicka Huta 81.78 325 *eP* P 20 14 51.6 +3.5
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 81.78 325 *e* P 20 14 51.6 +3.5
RAYN Ar Rayn 81.80 293 *eP* **P 20 14 47.4 -1.3**
comp=Z,11nm,0.8s
CRVS Cervenica-Dubn 82.03 325 *eP* **P 20 14 49.7 +0.3**
CRVS Cervenica-Dubn 82.03 325 *eP* **P 20 14 49.7 +0.3**
CRVS Cervenica-Dubn 82.03 325 *eP* **P 20 14 49.7 +0.3**
SRU San Rafael Swe 82.03 48 *eP* **P 20 14 51.9 +2.1**
SRU pmax pmax
comp=Z,7.0nm,0.7s
SRU San Rafael Swe 82.03 48 *eP* **P 20 14 51.9 +2.1**
comp=Z,6.5nm,0.7s
PV10 Paradox Valley 83.40 48 *eP* **P 20 14 59.7 +2.7**
VYHS Vyhne 83.57 326 *eP* **P 20 14 58.0 +0.6**
VYHS pmax pmax
comp=Z,1.0nm,0.9s
VYHS Vyhne 83.57 326 *eP* **P 20 14 58.0 +0.6**
CLL Collm 84.12 330 *eP* **P 20 14 59.0 -1.1**
KHC Kasperske Hory 85.50 328 *eP* P 20 15 00.0 -7.2
KHC Kasperske Hory 85.50 328 *eP* P 20 15 00.0 -7.2
GERES GERESS Array B 85.66 328 P **P 20 15 07.5 -0.6**
comp=Z,0.5nm,0.6s,baz=31,slow=6.5,SNR=5.0
ANMO Albuquerque 87.15 49 *eP* **P 20 15 16.4 +0.6**
ANMO pmax pmax
comp=Z,4.0nm,1.2s
ANMO Albuquerque 87.15 49 LR LR 20 46 53.4
comp=Z,57nm,21.2s,baz=320,slow=30
TX31 Lajitas Ar. Si 92.56 52 *eP* **P 20 15 42.5 +1.3**
TXAR Lajitas Array 92.56 52 P **P 20 15 42.8 +1.6**
comp=Z,1.2nm,0.6s,baz=309,slow=3.9,SNR=12
TORD Torodi Ar. Bea 119.66 313 PKP **PKPdf 20 21 18.8 -1.0**
comp=Z,0.4nm,0.9s,baz=24,slow=1.8,SNR=5.3
QSPA South Pole Qui 123.14 180 PKP **PKPdf 20 21 24.5 -0.4**
comp=Z,1.7nm,1.1s,baz=263,slow=2.4,SNR=5.2
SAML Samuel 146.95 48 *e*PKPdf **PKPbc 20 22 12.5 +0.1**
LPAZ La Paz 148.65 64 *e*PKP2 **PKPbc 20 22 18.5 +0.8**
LPAZ La Paz 148.65 64 PKPbc **PKPbc 20 22 18.7 +1.1**
comp=Z,3.0nm,0.6s,baz=5.2,slow=3.9,SNR=15
LPAZ La Paz 148.65 64 *e*PKPbc **PKPbc 20 22 18.5 +0.8**
SIV San Ignacio 153.54 54 PKPbc **PKPbc 20 22 29.2 +0.8**
comp=Z,2.3nm,0.8s,baz=239,slow=3.2,SNR=4.0
CFAA Coronel Fontan 155.24 94 PKPab **PKPab 20 22 49.4 +1.5**
comp=Z,0.3nm,0.7s,baz=296,slow=6.4,SNR=5.3

*CSEM **27** 20:13:19.8±0.4, 43.°56N×17.°42E, h2km, ML2.0, Error ellipse: s-maj=10.1km s-min=7.9km az=36.0*
BEO 27 20:13:19.0±0.7, 43.°62N×17.°23E, h7km±5km, ML2.0/6, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STON	**Ston**	**0.82**	**155**	*i* Pg		Pg	20 13 33.4	-1.4
STON				Sg		Sg	20 13 45.9	+0.4
STON	**Ston**	**0.82**	**155**	*i* Pg		Pg	20 13 33.3	-1.5
STON				Sg		Sg	20 13 45.9	+0.4
BLY	**Banja Luka**	**1.13**	**358**	*e*Sg		Sb	20 13 55.7	-0.1
TREB	**Trebinje**	**1.22**	**137**	*e*Pg		Pb	20 13 39.8	-2.6
TREB				*e*Sg		Sg	20 13 58.1	-0.2
TREB	**Trebinje**	**1.22**	**137**	*e*Pg		Pb	20 13 39.8	-2.6
UDBI	**Udbina**	**1.39**	**311**	*i* Pn		Pg	20 13 47.0	+1.1
UDBI				Sn		Sg	20 14 10.8	+6.8
UDBI	**Udbina**	**1.39**	**311**	*i* Pn		Pg	20 13 46.9	+1.1
UDBI				Sn		Sg	20 14 10.8	+6.8
BBLS	**Lazići**	**1.59**	**80**	*e*Pn		Pn	20 13 45.7	-2.0
BBLS				*e*Sg		Sb	20 14 09.7	+0.4
BBLS	**Lazići**	**1.59**	**80**	*e*Pn		Pn	20 13 45.7	-2.0
BBLS				*e*Sg		Sb	20 14 09.7	+0.4
TEKS	**Tekeris**	**1.90**	**60**	*e*Pn		Pb	20 13 53.6	-0.4
TEKS	**Tekeris**	**1.90**	**60**	*e*Pn		Pb	20 13 53.6	-0.4
PDG	**Podgorica**	**1.90**	**128**	*e*Pn		Pn	20 13 52.1	+0.3
PDG				*e*Sg		Sg	20 14 20.3	+0.2
PDG	**Podgorica**	**1.90**	**128**	*e*Pn		Pn	20 13 52.1	+0.3
NVLJ	**Novalja**	**1.94**	**300**	*e*Pn		Pg	20 13 56.7	+0.4
NVLJ				Sn		Sg	20 14 23.7	+2.2
NVLJ	**Novalja**	**1.94**	**300**	*e*Pn		Pg	20 13 56.6	+0.3
NVLJ				Sn		Sg	20 14 23.6	+2.2
DIVS	**Divibare**	**2.05**	**76**	*e*Pn		Pn	20 13 53.4	-0.7
DIVS	**Divibare**	**2.05**	**76**	*e*Pg		Pb	20 13 56.8	+0.1
DIVS				*e*Sg		Sb	20 14 23.7	+1.1
DIVS	**Divibare**	**2.05**	**76**	*e*Pn		Pn	20 13 53.4	-0.7
DIVS	**Divibare**	**2.05**	**76**	*e*Pg		Pb	20 13 56.8	+0.1
DIVS				*e*Sg		Sb	20 14 23.7	+1.1

IDC 27 20:43:22.1±3.8, 2.°75S×147.°24E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/28, mbtmp3.3/4, ML2.7/1, Error ellipse: s-maj=122.7km s-min=29.3km az=90.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.61**	**181**	Pn		Pn	20 45 00.8	+0.1
	0.9nm,0.3s,baz=4.4,slow=13,SNR=6.1							
WRA	**Warramunga Arr**	**21.23**	**215**	P		P	20 48 09.7	-0.1
	0.6nm,0.9s,baz=38,slow=11,SNR=5.4							
ASAR	**Alice Springs**	**24.47**	**211**	P		P	20 48 43.1	0.0
	0.3nm,0.9s,baz=46,slow=8.1,SNR=3.2							
MKAR	**Makanchi Array**	**75.17**	**320**	P		P	20 55 06.5	0.0
	0.4nm,0.7s,baz=96,slow=7.2,SNR=6.2							

*JMA **27** 20:46:40.0±0.5, 33.°52N×141.°82E, h13km, M3.2*
*IDC **27** 20:46:41.0±6.0, 33.°15N×141.°39E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/24, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=215.8km s-min=26.3km az=66.0*
*ISCJB **27** 20:46:41.3±1.3, 33.°45N±0.°06×141.°9E±0.°1, h41km, mb3.3/2, Error ellipse: s-maj=13.8km s-min=8.6km az=166.0*
ISC 27 20:46:43.3±1.9, 33.°43N±0.°07×141.°9E±0.°1, h41km, n9, σ0.99/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.75**	**260**	P		**Pn**	**20 47 10.0**	**-1.1**
JHCJ	**Hachijojimakas**	**1.77**	**259**	P		**Pn**	**20 47 10.9**	**-0.5**
JHCJ				S		**Sn**	**20 47 32.5**	**-0.2**
BSO3	**Boso 3**	**1.77**	**321**	P		**Pn**	**20 47 10.1**	**-1.1**
BSO3				S		**Sn**	**20 47 31.6**	**-0.8**
JYN	**Shimob**	**3.43**	**308**	P		**Pn**	**20 47 34.3**	**-0.1**
JYN				*e*S		**Sn**	**20 48 15.2**	**+1.4**
JRY	**Ryogami san**	**3.55**	**317**	P		**Pn**	**20 47 34.9**	**-1.1**
JRY				*e*S		**Sn**	**20 48 17.6**	**+0.9**
JAG	**Ashikaga**	**3.59**	**327**	P		**Pn**	**20 47 35.6**	**-0.8**
MJAR	**Matsushiro Arr**	**4.32**	**317**	Pn		**Pn**	**20 47 45.8**	**-0.7**
	0.7nm,0.3s,baz=138,slow=11,SNR=8.7							
MJAR				Sn		**Sn**	**20 48 36.7**	**+1.1**
	0.6nm,0.3s,baz=203,slow=34,SNR=4.9							
SONM	**Songino Array**	**30.23**	**309**	P		P	20 52 53.0	+3.0
	0.3nm,0.8s,baz=106,slow=11,SNR=3.0							
WRA	**Warramunga Arr**	**53.56**	**189**	P		**P**	**20 56 00.8**	**+0.7**
	0.4nm,0.6s,baz=5.4,slow=7.6,SNR=5.2							

*IDC **27** 20:47:20.3±3.1, 39.°14S×74.°68W, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.7/35, mbtmp3.8/5, ML4.8/1, MS3.7/9, Ms1 3.7/9, ms1mx3.5/21, Error ellipse: s-maj=64.3km s-min=33.1km az=79.0*
*ISCJB **27** 20:47:21.4±0.9, 39.°01S±0.°07×74.°5W±0.°1, h10km, mb4.4/10, MS3.8/6, Error ellipse: s-maj=15.3km s-min=9.4km az=172.4*
*NEIC **27** 20:47:22.4±8.8, 39.°06S×74.°62W, h12km±50km, mb4.5/9, Error ellipse: s-maj=40.3km s-min=13.1km az=72.0*
ISC 27 20:47:22.4±1.0, 39.°01S±0.°08×74.°6W±0.°1, h10km, n24, σ1.92/21, mb4.5/10, MS3.8/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.53**	**120**	Pn		**Pn**	**20 48 17.3**	**-0.1**
	17nm,0.3s,baz=289,slow=14,SNR=160							
PLCA				Sn		**Sb**	**20 49 05.8**	**-2.3**
	17nm,0.3s,baz=178,slow=22,SNR=4.8							
PLCA				LR		LR	20 49 41.0	
	comp=Z,489nm,21.9s,baz=270,slow=40							
PLCA	**Paso Flores**	**3.53**	**120**	*e*Pn		**Pn**	**20 48 16.8**	**-0.7**
PLCA				*e*Pg		**Pb**	**20 48 27.6**	**+2.5**
PLCA				Sn		**Sb**	**20 49 05.8**	**-2.3**
CFAA	**Coronel Fontan**	**9.01**	**37**	Pn		**Pn**	**20 49 32.5**	**-0.1**
	0.2nm,0.3s,baz=211,slow=14,SNR=12							
CFAA				Sn		**Sn**	**20 51 16.8**	**+2.6**
	0.3nm,0.3s,baz=124,slow=19,SNR=7.6							
CFAA				LR		LR	20 53 21.2	
	comp=Z,66nm,19.8s,baz=256,slow=39							
TRQA	**Tornquist**	**9.90**	**88**	*e*Pn		**Pn**	**20 49 46.5**	**+1.7**
	8.2nm,0.6s							
LCO	**Las Campanas**	**10.47**	**19**	*e*Pn		Pn	20 49 47.3	-5.5
LCO				*e*Sn		**Sn**	**20 51 46.3**	**-4.1**
USHA	**Ushuaia**	**16.36**	**167**	LR		LR	20 57 38.2	
	comp=Z,445nm,18.9s,baz=326,slow=38							
LVC	**Limon Verde**	**17.04**	**18**	*e*Pn		**Pn**	**20 51 19.4**	**-1.7**
	3.9nm,0.7s							
EFI	**East Falkland**	**17.12**	**143**	*e*Pn		**Pn**	**20 51 21.1**	**-0.5**
	27nm,1.0s							
LPAZ	**La Paz**	**23.33**	**16**	P		**P**	**20 52 32.3**	**+0.9**
	1.2nm,0.6s,baz=270,slow=7.1,SNR=4.8							
SIV	**San Ignacio**	**25.80**	**31**	P		**P**	**20 52 56.1**	**+2.3**
	4.1nm,0.9s,baz=222,slow=7.5,SNR=5.8							
SIV				LR		LR	21 04 33.0	
	comp=Z,224nm,19.2s,baz=218,slow=40							
PMSA	**Palmer Station**	**26.53**	**170**	LR		LR	21 02 54.3	
	comp=Z,160nm,19.3s,baz=342,slow=35							
SAML	**Samuel**	**31.62**	**22**	P		**P**	**20 53 45.6**	**0.0**
	5.8nm,1.4s							
BDFB	**Brasilia**	**32.92**	**52**	LR		LR	21 08 47.6	
	comp=Z,363nm,18.1s,baz=214,slow=39							
OTAV	**Otavalo**	**39.22**	**354**	P		**P**	**20 54 52.1**	**+0.7**
	2.5nm,0.8s							
PTGA	**Pitinga**	**40.37**	**23**	LR		LR	21 14 15.0	
	comp=Z,132nm,19.2s,baz=196,slow=40							
BCIP	**Isla Barro Col**	**48.18**	**353**	P		P	20 56 08.5	+5.6
	29nm,0.8s							
TEIG	**Tepich**	**60.31**	**345**	P		**P**	**20 57 32.7**	**+1.5**
	63nm,1.6s							
DBIC	**Dimbokro**	**78.69**	**72**	LR		LR	21 32 06.5	
	comp=Z,49nm,18.6s,baz=210,slow=34							
DBIC	**Dimbokro**	**78.69**	**72**	*e*P		**P**	**20 59 24.0**	**-1.1**
	3.6nm,0.6s							
KSU1	**Kansas State U**	**80.32**	**343**	P		P	20 59 29.2	-4.2
	6.0nm,0.6s							
LBTB	**Lobatse**	**82.01**	**116**	P		**P**	**20 59 43.9**	**+0.8**
	7.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**87.79**	**71**	P		**P**	**21 00 12.5**	**+0.5**
	0.6nm,1.0s,baz=228,slow=3.4,SNR=4.1							
TORD				LR		LR	21 36 27.7	
	comp=Z,21nm,20.2s,baz=250,slow=34							
ABKAR	**Akbulak array**	**146.24**	**57**	*e*PKPdf		**PKPdf**	**21 06 59.2**	**-2.3**
MKAR	**Makanchi Array**	**161.39**	**58**	PKPab		**PKPab**	**21 08 05.3**	**-1.9**
	0.3nm,0.7s,baz=305,slow=4.3,SNR=3.9							

GUC 27 20:54:29.2±0.3, 33.°98S×71.°94W, h15km±3km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.06**	**63**	*e*P		Pn	20 54 49.5	-0.1
NICH	**Los Niches**	**1.18**	**150**	*e*P		Pb	20 54 51.3	0.0
NICH				*e*S		Sg	20 55 08.2	+0.8
ROCH	**El Roble**	**1.27**	**38**	*e*P		Pb	20 54 53.4	+0.3
ROCH				*e*S		Sg	20 55 11.7	+0.9
ROCH				IAML			20 55 18.4	
	comp=N,2μm,0.6s							
FSR	**Penalolen**	**1.28**	**67**	*e*P4		Pn	20 54 55.0	+2.4
FSR				*e*S4		Sn	20 55 13.8	+4.3
PEL	**Peldehue**	**1.34**	**52**	*e*P		Pb	20 54 54.2	+0.1
PEL				*e*S		Sg	20 55 13.2	+0.6
PEL				IAML			20 55 19.4	
	comp=E,3μm,0.4s							
SJCH	**San Jose de Ma**	**1.36**	**76**	*e*P		Pb	20 54 54.6	0.0
SJCH				*e*S		Sg	20 55 13.8	+0.3
TALC	**Talca**	**1.44**	**170**	*e*P		Pb	20 54 55.7	0.0
TALC				*e*S		Sg	20 55 15.6	0.0
YECH	**El Yeso**	**1.58**	**79**	*e*P4		Pg	20 55 02.0	+2.1
YECH				*e*S4		Sb	20 55 18.1	-0.4
LNCH	**Linares**	**1.89**	**172**	*e*P		Pb	20 55 02.7	-0.7
LNCH				*e*S		Sb	20 55 28.3	+1.6

*ISCJB **27** 21:00:10.4±0.6, 0.°87S±0.°05×99.°53E±0.°06, h50km, mb3.9/8, MS4.0/1, Error ellipse: s-maj=10.1km s-min=4.6km az=140.0*
*IDC **27** 21:00:10.9±1.0, 0.°74S×99.°92E, h59km±7km, mb3.6/9, mb1 3.7/11, mb1mx3.5/32, mbtmp3.9/11, MS3.1/3, Ms1 3.2/3, ms1mx2.8/30, Error ellipse: s-maj=35.2km s-min=14.9km az=56.0*
*DJA **27** 21:00:12.3±0.8, 1.°S±3.°×10.°0E±.°, h25km±8km, M4.2/7, mb4.4/3, mB4.8/1, MLv4.0/7, Mw(mB)4.0/1*
ISC 27 21:00:10.1±0.8, 0.°89S±0.°08×99.°55E±0.°08, h50km, n33, σ1.62/28, mb4.0/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.91**	**91**	P		**Pn**	**21 00 27.6**	**+0.9**
PDSI				S		**Sn**	**21 00 40.0**	**+1.2**
MNSI	**Mandailing Nat**	**1.68**	**1**	P		**Pn**	**21 00 38.3**	**+1.3**
MNSI				S		**Sn**	**21 00 59.0**	**+1.7**
SDSI	**Sungai Dareh**	**1.88**	**91**	P		**Pn**	**21 00 41.6**	**+1.8**
BKNI	**Bangkinang**	**1.92**	**51**	P		**Pn**	**21 00 41.3**	**+1.0**
GSI	**Gunungsitoli**	**2.94**	**318**	P		Pn	21 00 57.2	+2.9
PSI	**Prapat**	**3.72**	**350**	P		**Pn**	**21 01 05.1**	**0.0**
	7.7nm,0.3s,baz=151,slow=9.4,SNR=55							
PSI				LR		LR	21 02 04.8	
	comp=Z,49nm,19.0s,baz=162,slow=32							
JMBI	**JAMBI**	**4.16**	**100**	P		**Pn**	**21 01 13.3**	**+2.3**
TSI	**Tuntungan**	**4.47**	**347**	P		**Pn**	**21 01 17.2**	**+1.8**
KCSI	**Kotacane, Aceh**	**4.73**	**338**	P		**Pn**	**21 01 21.0**	**+2.1**
TPTI		**4.75**	**330**	P		**Pn**	**21 01 21.6**	**+2.4**
MNAI	**Manna**	**4.84**	**135**	P		Pn	21 01 24.2	+3.7
MNAI				S		**Sn**	**21 02 17.0**	**+1.7**
LHSI	**Lahat**	**4.93**	**126**	P		Pn	21 01 24.9	+3.3
MDSI	**Maura Dua**	**5.84**	**128**	P		Pn	21 01 37.6	+3.4
	20nm,0.9s,0.1nm							
LWLI	**Liwa**	**6.09**	**132**	P		Pn	21 01 41.1	+3.4
KASI	**Kota Agung**	**6.75**	**133**	P		Pn	21 01 50.3	+3.7
CMAR	**Chiang Mai Arr**	**19.24**	**358**	P		**P**	**21 04 29.8**	**-0.5**
	0.2nm,0.3s,baz=177,slow=7.7,SNR=3.7							
CMAR				LR		LR	21 11 20.3	
	comp=Z,37nm,18.2s,baz=147,slow=35							
PALK	**Pallekele**	**20.48**	**294**	P		Pn	21 04 47.8	+1.3
	4.1nm,0.6s,baz=135,slow=11,

ASAR Alice Springs 40.27 127 P **P 21 07 41.1 -1.5**
0.3nm,0.3s,baz=298,slow=7.1,SNR=16
ASAR PcP **PcP 21 09 44.4 -1.4**
0.3nm,0.5s,baz=304,slow=2.4,SNR=3.6
SONM Songino Array 48.89 6 P **P 21 08 49.7 -1.4**
0.4nm,0.4s,baz=189,slow=10.0,SNR=7.6
SONM pP **pP 21 09 06.6 +2.0**
0.5nm,0.7s,baz=190,slow=9.5,SNR=3.7
SONM PcP **PcP 21 10 13.0 -1.8**
0.2nm,0.5s,baz=177,slow=4.5,SNR=2.3
MKAR Makanchi Array 49.85 345 P **P 21 08 57.6 -0.6**
0.9nm,0.4s,baz=161,slow=8.5,SNR=35
MKAR pP **pP 21 09 14.2 +2.3**
1.2nm,0.5s,baz=151,slow=7.6,SNR=5.0
ZALV Zalesovo Beam 56.00 350 P **P 21 09 42.2 -1.2**
1.9nm,0.5s,baz=184,slow=8.3,SNR=10
ZALV pP **pP 21 09 57.2 0.0**
3.5nm,0.8s,baz=172,slow=5.4,SNR=5.3
FINES FINESS Array B 82.93 332 P **P 21 12 28.9 -0.5**
0.9nm,0.8s,baz=103,slow=8.2,SNR=4.6
FINES pP **pP 21 12 44.0 +0.2**
7.7nm,1.3s,baz=164,slow=7.5,SNR=2.4
ARCES ARCESS Array B 85.28 340 P **P 21 12 40.5 -0.8**
1.3nm,0.7s,baz=95,slow=5.0,SNR=13
GERES GERESS Array B 87.92 319 LR LR 21 57 43.2
comp=Z,60nm,18.1s,baz=277,slow=39
QSPA South Pole Qui 89.06 180 P **P 21 13 01.7 +2.0**
0.7nm,0.8s,baz=288,slow=3.2,SNR=4.1
TXAR Lajitas Array 144.09 36 PKP **PKPab 21 19 38.2 -0.4**
0.5nm,0.6s,baz=268,slow=2.0,SNR=2.8

*CSEM **27** 21:15:26.3±0.3, 42°.39N×8°.67W, h15km, ML2.8/6, Error ellipse: s-maj=9.0km s-min=3.7km az=80.0*
MDD 27 21:15:27.4±0.7, 42°.38N×8°.66W, h0km, mbLg1.8/9, 1C, Error ellipse: s-maj=7.3km s-min=3.1km az=70.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGAV	**Gavieira, Arco**	**0.51**	**145**	*e*Pg	Pg	21 15 37.5	+0.2
PGAV				*e*Sg	Sg	21 15 44.7	+0.8
PGAV				A	A	21 15 46.7	
	13nm,0.1s						
PGAV	**Gavieira, Arco**	**0.51**	**145**	*e*Pg	Pg	21 15 37.5	+0.2
PGAV				*e*Sg	Sg	21 15 44.7	+0.8
	13nm,0.1s						
STS	**Santiago**	**0.51**	**9**	Pg	Pg	21 15 36.9	-0.3
	10nm,0.1s,SNR=7.1						
STS				Lg	Lg	21 15 43.4	
	19nm,0.1s,SNR=16						
STS	**Santiago**	**0.51**	**9**	Pg	Pg	21 15 36.9	-0.3
	10nm,0.1s,SNR=7.1						
STS				Lg	Lg	21 15 43.4	
	19nm,0.1s,SNR=16						
EAGO	**Agolada(Pontev**	**0.59**	**45**	⇑Pg	Pg	21 15 38.4	-0.5
	5.1nm,0.1s,SNR=18						
EAGO				Lg	Lg	21 15 46.2	
	14nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**0.59**	**45**	Pg	Pg	21 15 38.4	-0.5
	5.1nm,0.1s,SNR=18						
EAGO				Lg	Lg	21 15 46.2	
	14nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**0.61**	**338**	Pg	Pg	21 15 38.7	-0.5
	5.9nm,0.1s,SNR=11						
EMAZ				Lg	Lg	21 15 46.7	
	13nm,0.1s,SNR=14						
EMAZ	**Mazaricos**	**0.61**	**338**	Pg	Pg	21 15 38.7	-0.5
	5.9nm,0.1s,SNR=11						
EMAZ				Lg	Lg	21 15 46.7	
	13nm,0.1s,SNR=14						
ELOB	**Lobios**	**0.68**	**139**	Pg	Pg	21 15 40.4	-0.2
	2.7nm,0.2s,SNR=14						
ELOB				Lg	Lg	21 15 49.8	
	11nm,0.1s,SNR=28						
ELOB	**Lobios**	**0.68**	**139**	Pg	Pg	21 15 40.4	-0.1
	2.7nm,0.2s,SNR=14						
ELOB				Lg	Lg	21 15 49.8	
	11nm,0.1s,SNR=28						
POLO	**Lamas de Olo**	**1.20**	**147**	*e*P	Pg	21 15 48.1	-2.4
POLO				*e*S	Sg	21 16 05.3	-0.8
POLO				A	A	21 16 05.6	
	2.6nm,0.2s						
POLO	**Lamas de Olo**	**1.20**	**147**	*e*P	Pg	21 15 48.1	-2.4
POLO				*e*S	Sg	21 16 05.3	-0.8
	2.6nm,0.2s						
PVRL	**Vila Real**	**1.31**	**147**	*e*P	Pg	21 15 49.4	-3.2
PVRL				*e*S	Sg	21 16 08.5	-1.1
PVRL				A	A	21 16 09.3	
	7.6nm,0.1s						
PVRL	**Vila Real**	**1.31**	**147**	Pg	Pg	21 15 49.4	-3.2
PVRL				Lg	Lg	21 16 08.5	
	3.8nm,0.1s						
PVRL	**Vila Real**	**1.31**	**147**	*e*P	Pg	21 15 49.4	-3.2
PVRL				*e*S	Sg	21 16 08.5	-1.1
	7.6nm,0.1s						
EPON	**Pontenova**	**1.46**	**49**	Lg	Lg	21 16 12.5	
	1.7nm,0.1s,SNR=4.0						
EPON	**Pontenova**	**1.46**	**49**	Lg	Lg	21 16 12.5	
	1.7nm,0.1s,SNR=4.0						
ECAL	**Calabor**	**1.50**	**106**	Pg	Pn	21 15 54.9	-0.7
	0.4nm,0.3s,SNR=4.0						
ECAL				Lg	Lg	21 16 14.1	
	1.1nm,0.1s,SNR=6.9						
ECAL	**Calabor**	**1.50**	**106**	Pg	Pn	21 15 54.9	-0.7
	0.4nm,0.3s,SNR=4.0						
ECAL				Lg	Lg	21 16 14.1	
	1.1nm,0.1s,SNR=6.9						
PBRG	**Braganca**	**1.54**	**111**	*e*Pn	Pn	21 15 51.3	-4.9
PBRG				*e*Sn	Sn	21 16 15.7	-1.2
PBRG				A	A	21 16 16.5	
	7.0nm,0.8s						
PBRG	**Braganca**	**1.54**	**111**	Pn	Pn	21 15 51.3	-4.9
PBRG				Sn	Sn	21 16 15.7	-1.2
	3.5nm,0.8s						
PBRG	**Braganca**	**1.54**	**111**	Pn	Pn	21 15 51.3	-4.9
PBRG				Sn	Sn	21 16 15.7	-1.2
	3.5nm,0.8s						
MVO	**Moncorvo**	**1.72**	**134**	Sn	Sn	21 16 19.6	-1.9
	0.5nm,0.1s,SNR=4.0						
MVO				Lg	Lg	21 16 23.9	
	1.9nm,0.2s,SNR=4.0						
MVO	**Moncorvo**	**1.72**	**134**	Sn	Sn	21 16 19.6	-1.9
	0.5nm,0.1s,SNR=4.0						
MVO				Lg	Lg	21 16 23.9	
	1.9nm,0.2s,SNR=4.0						
PVIS	**Viseu**	**1.76**	**161**	*e*Sg	Sb	21 16 22.9	-0.4
PVIS				A	A	21 16 25.5	
	4.1nm,0.1s						
PVIS	**Viseu**	**1.76**	**161**	Lg	Lg	21 16 22.9	
	2.0nm,0.1s						
PVIS	**Viseu**	**1.76**	**161**	*e*Sg	Sb	21 16 22.9	-0.4
	4.1nm,0.1s						
PCAS	**Casmilo, Conde**	**2.33**	**177**	*e*Sg	Sb	21 16 40.1	+0.5
PCAS	**Casmilo, Conde**	**2.33**	**177**	*e*Sg	Sb	21 16 40.1	+0.5
PCBR	**Castelo Branco**	**2.69**	**160**	*e*Sg	Sg	21 16 52.9	-1.0
PCBR	**Castelo Branco**	**2.69**	**160**	Lg	Lg	21 16 52.9	
PCBR	**Castelo Branco**	**2.69**	**160**	*e*Sg	Sg	21 16 52.9	-1.0
PMRV	**Marv??o**	**3.10**	**162**	*e*Sg	Sg	21 17 06.3	-0.9
PMRV	**Marv??o**	**3.10**	**162**	Lg	Lg	21 17 06.3	
PMRV	**Marv??o**	**3.10**	**162**	*e*Sg	Sg	21 17 06.3	-0.9

*JMA **27** 21:41:37.2±0.1, 23°.27N×121°.30E, h49km±1km, M3.3*
*TAP **27** 21:41:37.5, 23°.25N×121°.43E, h43km±1km, ML3.6, C*
*ISCJB **27** 21:41:38.4±0.3, 23°.25N±0°.02×121°.42E±0°.02, h43km±5km, Error ellipse: s-maj=3.2km s-min=2.3km az=140.5*
ISC 27 21:41:40.1±1.7, 23°.26N±0°.02×121°.40E±0°.02, h35km±1km, n60, σ1°59/100, 7C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWF1	**Yuli**	**0.13**	**314**	⇑*i*P	Pn	21 41 45.5	-0.5
TWF1				*i* S	Sn	21 41 50.5	+0.8
	baz=311						
CHKT	**Chengkung**	**0.16**	**191**	P	Pn	21 41 46.1	-0.3
CHKT				*e*S	Sn	21 41 52.5	+2.1
	baz=199						
EHY	**Hungye**	**0.26**	**344**	⇑*i*P	**Pn**	**21 41 46.3**	**-1.2**
EHY				S	**Sn**	**21 41 51.8**	**-0.6**
	baz=339						
ELDTW	**Lidau**	**0.36**	**259**	⇑*i*P	**Pn**	**21 41 47.4**	**-1.6**
ELDTW				*i* S	**Sn**	**21 41 53.6**	**-1.3**
	baz=260						
TEGC	**Jichi Village**	**0.47**	**16**	*e*S	**Sn**	**21 41 56.4**	**-1.0**
	baz=13						
YUS	**Yu-Shan**	**0.47**	**299**	⇑*i*P	**Pn**	**21 41 49.5**	**-1.3**
	baz=298						
YUS				S	**Sn**	**21 41 57.9**	**-0.3**
	baz=298						
TWG	**Pinlang**	**0.53**	**215**	⇓*i*P	**Pn**	**21 41 48.5**	**-2.8**
	baz=216						
TWG				S	**Sn**	**21 41 56.4**	**-2.7**
	baz=216						
WDT	**Danda**	**0.55**	**334**	*e*P	**Pn**	**21 41 50.4**	**-1.4**
	baz=332						
WDT				*e*S	**Sn**	**21 41 58.3**	**-1.6**
	baz=332						
ESL	**Shilin**	**0.55**	**3**	⇓*i*P	**Pn**	**21 41 49.1**	**-2.4**
	baz=1.0						
ESL				S	**Sn**	**21 41 56.7**	**-2.8**
	baz=1.0						
TTN	**Taitung**	**0.56**	**205**	*e*P	**Pn**	**21 41 49.8**	**-1.8**
	baz=207						
TTN				S	**Sn**	**21 41 59.2**	**-0.4**
	baz=207						
STYT	**Tauyuan**	**0.60**	**261**	P	**Pn**	**21 41 50.4**	**-1.9**
	baz=261						
STYT				*e*S	**Sn**	**21 41 59.6**	**-1.2**
	baz=261						
ALS	**Alishan**	**0.60**	**295**	*e*P	**Pn**	**21 41 51.0**	**-1.5**
	baz=294						
ALS				*e*S	**Sn**	**21 42 00.7**	**-0.5**
	baz=294						
WTP	**Ta-pu**	**0.72**	**269**	⇑*i*P	**Pn**	**21 41 52.4**	**-1.6**
	baz=269						
WTP				S	**Sn**	**21 42 02.9**	**-0.9**
	baz=269						
HWA	**Hwalien**	**0.74**	**15**	*e*P	**Pn**	**21 41 52.2**	**-1.9**
	baz=13						
HWA				*e*S	**Sn**	**21 42 03.2**	**-0.9**
	baz=13						
CHN5	**Tsauling**	**0.74**	**297**	*e*P	**Pn**	**21 41 52.8**	**-1.4**
	baz=296						
CHN5				*e*S	**Sn**	**21 42 03.2**	**-1.2**
	baz=296						
CHN4	**Tsaushan**	**0.75**	**277**	⇑*i*P	**Pn**	**21 41 52.7**	**-1.6**
	baz=277						
CHN4				S	**Sn**	**21 42 03.6**	**-0.7**
	baz=277						
SMLT	**Sun Moon Lake**	**0.77**	**324**	*e*P	**Pn**	**21 41 53.6**	**-1.0**
	baz=322						
SMLT				S	**Sn**	**21 42 04.2**	**-0.9**
	baz=322						
SGST	**Jiashian**	**0.77**	**257**	⇑*i*P	**Pn**	**21 41 53.2**	**-1.4**
	baz=257						
SGST				S	**Sn**	**21 42 04.3**	**-0.7**
	baz=257						
ECL	**Taimali**	**0.78**	**212**	⇓*i*P	Pn	21 41 51.3	-3.3
	baz=213						
ECL				*e*S	**Sn**	**21 42 01.0**	**-4.1**
	baz=213						
CHN1	**Nanshi**	**0.81**	**265**	*e*P	**Pn**	**21 41 53.4**	**-1.6**
	baz=265						
CHN1				*e*S	**Sn**	**21 42 04.1**	**-1.8**
	baz=265						
TYC	**Yuchr**	**0.81**	**322**	*e*P	**Pn**	**21 41 54.0**	**-1.1**
	baz=321						
TYC				S	**Sn**	**21 42 05.3**	**-0.6**
	baz=321						
TWD	**Chiawan**	**0.83**	**12**	P	**Pn**	**21 41 52.9**	**-2.5**
	baz=10.0						
TWD				*e*S	**Sn**	**21 42 03.1**	**-3.4**
	baz=10.0						
TWK	**Hsinying**	**0.84**	**271**	*e*P	**Pn**	**21 41 54.0**	**-1.6**
	baz=270						
TWK				*e*S	**Sn**	**21 42 05.5**	**-1.1**
	baz=270						
SSD	**Sandimen**	**0.87**	**234**	*e*P	**Pn**	**21 41 54.6**	**-1.3**
	baz=235						
SSD				S	**Sn**	**21 42 06.8**	**-0.7**
	baz=235						
WGK	**Gukeng**	**0.88**	**299**	*e*P	**Pn**	**21 41 54.7**	**-1.3**
	baz=298						
WGK				*e*S	**Sn**	**21 42 06.9**	**-0.7**
	baz=298						
WHF	**Hehuan Shan**	**0.89**	**352**	P	**Pn**	**21 41 54.6**	**-2.0**
	baz=350						
WHF				S	**Sn**	**21 42 05.7**	**-2.7**
	baz=350						
CHN2	**Minshiung**	**0.89**	**288**	*e*S	**Sn**	**21 42 07.5**	**-0.4**
	baz=287						
WNT	**Mingjian**	**0.90**	**313**	*e*P	**Pn**	**21 41 55.2**	**-1.1**
	baz=312						
WNT				*e*S	**Sn**	**21 42 07.6**	**-0.5**
	baz=312						
CHY	**Chiayi**	**0.93**	**285**	*e*P	**Pn**	**21 41 54.8**	**-1.9**
	baz=284						
CHY				*e*S	**Sn**	**21 42 08.1**	**-0.7**
	baz=284						
CHN3	**Shinhua**	**0.97**	**259**	*e*P	**Pn**	**21 41 56.8**	**-0.4**
	baz=259						
CHN3				*e*S	**Sn**	**21 42 10.0**	**+0.2**
	baz=259						
SGLT	**Jiouru**	**0.99**	**238**	*e*P	**Pn**	**21 41 58.6**	**+1.0**
	baz=238						
SGLT				*e*S	**Sn**	**21 42 13.4**	**+3.1**
	baz=238						
TWM1	**Shoushan**	**1.00**	**244**	*e*P	**Pn**	**21 41 57.7**	**0.0**
	baz=245						
TWM1				*e*S	**Sn**	**21 42 11.9**	**+1.2**
	baz=245						
TWT	**Tachien**	**1.01**	**348**	*e*P	**Pn**	**21 41 56.7**	**-1.3**
	baz=346						
TWT				*e*S	**Sn**	**21 42 10.3**	**-0.8**
	baz=346						
EAST	**Anshuo**	**1.01**	**210**	*e*P	Pn	21 41 54.8	-3.1
	baz=211						
CHN8	**Yiju**	**1.10**	**275**	*e*S	**Sn**	**21 42 11.6**	**-1.4**
	baz=274						
TCU	**Taichung**	**1.10**	**323**	*e*P	**Pn**	**21 41 58.6**	**-0.6**
	baz=322						
TCU				*e*S	**Sn**	**21 42 13.2**	**0.0**
	baz=322						
SCLT	**Jiali**	**1.11**	**266**	*e*S	**Sn**	**21 42 12.6**	**-0.8**
	baz=266						
SCZT	**Fangliau**	**1.14**	**219**	*e*P	**Pn**	**21 41 57.8**	**-1.9**
	baz=220						
SCZT				*e*S	**Sn**	**21 42 13.3**	**-0.8**
	baz=220						
WSF	**Szhu**	**1.15**	**289**	*e*S	**Sn**	**21 42 12.0**	**-2.2**
	baz=289						
NNS	**Nan Shan**	**1.18**	**359**	*e*P	**Pn**	**21 41 58.3**	**-1.9**
	baz=357						
WTCT	**Ta-ch'eng**	**1.19**	**301**	*e*S	**Sn**	**21 42 13.6**	**-1.7**
	baz=300						
ENA	**Nanau**	**1.20**	**15**	*e*P	**Pn**	**21 41 58.0**	**-2.5**
	baz=14						
LAY	**Lan-yu**	**1.22**	**173**	*e*P	**Pn**	**21 41 58.2**	**-2.6**
	baz=174						
TWQ1	**Liyutan**	**1.23**	**332**	*e*P	**Pn**	**21 41 59.7**	**-1.1**
	baz=331						
TWQ1				*e*S	**Sn**	**21 42 16.9**	**+0.7**
	baz=331						
ENTT	**Nioudou**	**1.38**	**6**	*e*P	**Pn**	**21 42 01.0**	**-2.0**
	baz=5.0						
HEN	**Hengchun**	**1.39**	**206**	*e*P	**Pn**	**21 42 02.4**	**-0.7**
	baz=206						
TWC	**Suao**	**1.40**	**17**	*e*P	**Pn**	**21 42 01.2**	**-2.0**
	baz=16						
TWC				*e*S	**Sn**	**21 42 19.7**	**-0.8**
	baz=16						
NSK	**Sanguang**	**1.41**	**358**	P	**Pn**	**21 42 02.2**	**-1.2**
	baz=357						
NSK				*e*S	**Sn**	**21 42 18.5**	**-2.3**
	baz=357						
NSTT	**Nanjuang**	**1.41**	**345**	*e*P	**Pn**	**21 42 02.3**	**-1.1**
	baz=344						
NSTT				*e*S	**Sn**	**21 42 20.8**	**0.0**
	baz=344						
TWK1	**Hengchun**	**1.42**	**203**	*e*P	**Pn**	**21 42 02.7**	**-0.8**
	baz=203						
TWK1				*e*S	**Sn**	**21 42 19.7**	**-1.3**
	baz=203						
TWA	**Mucha**	**1.72**	**6**	*e*P	**Pn**	**21 42 06.0**	**-1.6**
	baz=4.0						
PNG	**Penghu**	**1.72**	**281**	*e*P	**Pn**	**21 42 04.9**	**-2.7**
	baz=280						
PNG				*e*S	**Sn**	**21 42 24.4**	**-4.0**
	baz=280						
JYNG	**Yonagunijimaku**	**1.85**	**50**	P	**Pn**	**21 42 08.6**	**-0.7**
JYNG				*e*S	**Sn**	**21 42 31.5**	**+0.1**
YOJ	**Yonaguni jima**	**1.90**	**51**	P	**Pn**	**21 42 09.5**	**-0.5**
YOJ				*e*S	**Sn**	**21 42 32.9**	**+0.1**
HATJ	**Hateruma jima**	**2.34**	**70**	P	**Pn**	**21 42 15.4**	**-0.8**
HATJ				*e*S	**Sn**	**21 42 43.4**	**-0.3**
IRIF	**Iriomote-Funau**	**2.39**	**63**	P	**Pn**	**21 42 16.4**	**-0.4**
IRIF				*e*S	**Sn**	**21 42 45.9**	**+1.1**
JKRS	**Kuro-shima**	**2.58**	**67**	P	**Pn**	**21 42 18.9**	**-0.5**
JKRS				*e*S	**Sn**	**21 42 49.2**	**-0.4**
JIJ	**Ishigaki jima**	**2.74**	**66**	P	**Pn**	**21 42 20.5**	**-1.1**
JIJ				*e*S	**Sn**	**21 42 52.3**	**-1.3**
JISG	**Ishigakijimahi**	**2.97**	**63**	P	**Pn**	**21 42 23.7**	**-1.1**
JISG				*e*S	**Sn**	**21 42 57.6**	**-1.7**
JTJ	**Tarama**	**3.32**	**65**	*e*S	**Sn**	**21 43 07.1**	**-0.7**

*ISCJB **27** 21:44:28.9±0.9, 43°.89N±0°.06×147°.78E±0°.08, h35km, mb3.4/3, Error ellipse: s-maj=10.6km s-min=5.9km az=141.5*
*JMA **27** 21:44:29.1±0.4, 43°.58N×147°.53E, h7km±4km, M3.9*
*SKHL **27** 21:44:29.9±0.7, 43°.89N×147°.82E, h39km±2km, mb5.2/2*
*MOS **27** 21:44:30.6±1.3, 43°.86N×147°.74E, h59km, mb4.0/1, Error ellipse: s-maj=27.4km s-min=22.2km az=53.8*
*IDC **27** 21:44:32.3±4.2, 45°.19N×147°.38E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/33, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=128.8km s-min=30.4km az=155.0*
ISC 27 21:44:29.4±1.2, 43°.80N±0°.08×147°.81E±0°.08, h35km, n23, σ1°51/30, mb3.2/3, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.71**	**276**	*e*P	**Pn**	**21 44 42.8**	**-0.2**
SHO				*e*S	**Sn**	**21 44 52.0**	**-0.7**
SHO				A	A	21 44 53.6	
	3μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.43**	**280**	⇑*i*PN	**Pn**	**21 44 52.8**	**0.0**
YUK				*i* S	**Sn**	**21 45 10.5**	**+0.2**
YUK				pmax	pmax		
	comp=N,127nm,0.2s						
YUK				pmax	pmax		
	comp=E,213nm,0.2s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.43**	**280**	*e*P	**Pn**	**21 44 52.8**	**0.0**
YUK				AMB	AMB	21 44 54.1	
	comp=E,601nm,0.2s						
YUK				*e*S	**Sn**	**21 45 10.5**	**+0.2**
YUK				A	A	21 45 12.9	
	comp=E,2μm,0.3s						
KUR	**Kuril'sk**	**1.44**	**2**	⇑*i*PN	**Pn**	**21 44 54.7**	**+1.8**
KUR				*i* S	**Sn**	**21 45 07.0**	**-3.6**
KUR				pmax	pmax		
	comp=E,140nm,0.1s						
KUR				pmax	pmax		
	comp=Z,171nm,0.1s						
KUR				smax	smax		
	comp=N,140nm,0.6s						
KUR				smax	smax		
	comp=E,118nm,0.6s						
KUR	**Kuril'sk**	**1.44**	**2**	*e*P	**Pn**	**21 44 54.7**	**+1.8**
KUR				AMB	AMB	21 44 58.6	
	comp=E,191nm,0.1s						
KUR				*e*S	**Sn**	**21 45 07.0**	**-3.6**
KUR				A	A	21 45 09.0	
	comp=E,1μm,0.6s						
KUR				A	A	21 45 09.0	
	comp=E,140nm,0.6s						
NEM2	**Nemuro 2**	**1.56**	**255**	P	**Pn**	**21 44 53.7**	**-0.9**
NEM2				*e*S	**Sn**	**21 45 10.6**	**-3.0**
JRA	**Rausu**	**1.95**	**275**	P	**Pn**	**21 45 00.5**	**+0.6**
JNK	**Nakash**	**2.25**	**266**	P	**Pn**	**21 45 04.3**	**+0.2**
JAK	**Akkeshi**	**2.41**	**252**	P	**Pn**	**21 45 06.0**	**-0.2**
JTKR	**Abashiri--Toko**	**2.83**	**275**	P	**Pn**	**21 45 13.5**	**+1.5**
JAR	**Ashorobuto**	**2.98**	**262**	P	**Pn**	**21 45 14.8**	**+0.7**
JAR				*e*S	**Sn**	**21 45 49.0**	**+0.4**
JOB	**Onbets**	**3.04**	**254**	P	**Pn**	**21 45 15.3**	**+0.5**
JOB				*e*S	**Sn**	**21 45 49.4**	**-0.5**
JMP	**Maruseppu**	**3.23**	**275**	P	**Pn**	**21 45 19.6**	**+2.1**
JCH	**Churui**	**3.46**	**252**	P	**Pn**	**21 45 21.4**	**+0.7**
ASAJ	**Asahikawa**	**3.78**	**277**	Pn	Pn	21 45 28.9	+3.8
	comp=E,1.6nm,0.3s,baz=81,slow=8.9,SNR=3.4						
ASAJ				Sn	Sn	21 46 22.9	+15
	comp=E,2.3nm,0.3s,baz=18,slow=20,SNR=2.7						
JFR	**Furan**	**3.85**	**262**	P	**Pn**	**21 45 28.1**	**+2.0**
ERM	**Erimo**	**3.85**	**244**	*i* PN	Pn	21 45 28.9	+2.8
JNBK	**Urakawa-nobuka**	**4.01**	**250**	P	**Pn**	**21 45 29.1**	**+0.9**
YSS	**Yuzh-Sakhalins**	**4.76**	**313**	*e*P	**Pn**	**21 45 39.8**	**+1.2**
YSS				*e*S	**Sn**	**21 46 31.0**	**-1.5**
YSS				A	A	21 46 34.0	
	comp=E,300nm,0.9s						
ILAR	**Eielson Array**	**41.17**	**36**	P	**P**	**21 52 10.2**	**+0.2**
	comp=E,0.4nm,0.8s,baz=268,slow=8.7,SNR=4.0						
YKA	**Yellowknife Ar**	**55.50**	**34**	P	**P**	**21 54 01.3**	**+1.0**
	comp=E,0.1nm,0.6s,baz=306,slow=7.5,SNR=2.9						
FINES	**FINESS Array B**	**65.05**	**333**	P	**P**	**21 55 05.0**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**65.05**	**333**	P	**P**	**21 55 05.0**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=33,slow=8.3,SNR=3.4						

*JMA **27** 22:02:47.6±0.3, 43°.61N×147°.60E, h9km, M3.9*
*ISCJB **27** 22:02:49.9±0.8, 43°.87N±0°.08×147°.59E±0°.08, h63km, mb3.2/5, Error ellipse: s-maj=13.0km s-min=4.7km az=143.0*
*MOS **27** 22:02:49.9±1.3, 43°.91N×147°.74E, h57km, mb3.9/2, Error ellipse: s-maj=20.0km s-min=14.2km az=65.9*
*SKHL **27** 22:02:50.8±0.2, 43°.84N×147°.63E, h35km, mb4.6/2*
*IDC **27** 22:02:55.3±4.0, 44°.12N×147°.64E, h80km±29km, mb3.0/5, mb1 3.4/8, mb1mx3.1/42, mbtmp3.5/8, MS2.9/2, Ms1 2.9/2, ms1mx2.4/9, Error ellipse: s-maj=58.4km s-min=20.3km az=163.0*
ISC 27 22:02:50.7±1.2, 43°.84N±0°.09×147°.65E±0°.09, h63km, n37, σ1°35/33, mb3.2/5, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.59**	**273**	*e*P	**Pn**	**22 03 01.8**	**-2.1**
SHO				*e*S	**Sn**	**22 03 10.2**	**-3.3**
YUK	**Yuzh-Kuril'sk**	**1.31**	**279**	*d*⇑*i*PN	**Pn**	**22 03 11.6**	**-1.2**
YUK				*i* S	**Sn**	**22 03 28.9**	**-0.5**
YUK				pmax	pmax		
	comp=E,169nm,0.5s						
YUK				pmax	pmax		
	comp=Z,442nm,0.5s						
YUK				pmax	pmax		
	comp=N,1μm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
YUK				smax	smax		
	comp=N,1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.31**	**279**	*e*P	**Pn**	**22 03 11.6**	**-1.2**
YUK				AMB	AMB	22 03 12.7	
	comp=N,442nm,0.5s						
YUK				*e*S	**Sn**	**22 03 28.0**	**-1.4**
YUK				A	A	22 03 31.9	
	comp=N,1μm,0.5s						
YUK				A	A	22 03 31.9	
	comp=N,1μm,0.5s						
KUR	**Kuril'sk**	**1.40**	**6**	⇓*i*PN	**Pn**	**22 03 13.4**	**-0.7**
KUR				*i* S	**Sn**	**22 03 30.2**	**-1.5**
KUR				pmax	pmax		
	comp=N,57nm,0.5s						
KUR				pmax	pmax		
	comp=Z,181nm,0.5s						
KUR				pmax	pmax		
	comp=E,72nm,0.2s						
KUR				smax	smax		
	comp=N,351nm,0.2s						
KUR				smax	smax		
	comp=E,164nm,0.2s						
KUR

NEM2	Nemuro 2	1.46 252	P	Pn	22 03 12.8	-2.1
NEM2			eS	Sn	22 03 31.0	-2.1
JRA	Rausu	1.83 274	P	Pn	22 03 19.5	-0.3
JNK	Nakash	2.14 264	P	Pn	22 03 23.5	-0.6
JAK	Akkeshi	2.31 250	P	Pn	22 03 25.1	-1.3
JAK			eS	Sn	22 03 52.8	-0.9
JTKR	Abashiri--Toko	2.71 274	P	Pn	22 03 32.5	+0.7
JAR	Ashorobuto	2.87 260	P	Pn	22 03 33.8	-0.2
JOB	Onbets	2.93 253	P	Pn	22 03 34.3	-0.6
JMP	Maruseppu	3.10 275	P	Pn	22 03 37.9	+0.7
JCH	Churui	3.36 250	P	Pn	22 03 39.9	-0.8
ASAJ	Asahikawa	3.66 276	PN	Pn	22 03 49.9	+5.1
ASAJ			pmax	pmax		
comp=Z,7.0nm,0.3s						
ASAJ	Asahikawa	3.66 276	P	Pn	22 03 49.9	+5.1
comp=Z,6.5nm,0.3s,baz=88,slow=10,SNR=16						
JFR	Furan	3.74 261	P	Pn	22 03 47.1	+1.2
ERM	Erimo	3.77 243	ePN	Pn	22 03 47.6	+1.3
JSE	Soyaes	3.80 289	P	Pn	22 03 48.3	+1.6
JNBK	Urakawa-nobuka	3.91 248	P	Pn	22 03 48.1	-0.1
JNBK			eS	Sn	22 04 33.3	+0.4
MJAR	Matsushiro Arr	10.25 228	LR	LR	22 08 30.1	
comp=Z,24nm,20.8s,baz=80,slow=32						
PETK	Petropavlovsk-	11.41 32	P	Pn	22 05 30.0	-0.7
comp=Z,0.3nm,0.3s,baz=193,slow=19,SNR=2.9						
SEY	Seymchan	19.33 7	P	Pn	22 07 11.9	-0.2
baz=177,slow=6.5,SNR=6.1						
H11N2	WAKE ISLAND Hy 28.93 140		T	T	22 39 23.9	
baz=331,slow=76,SNR=19						
H11N1	WAKE ISLAND Hy 28.95 140		T	T	22 39 24.8	
baz=331,slow=76,SNR=18						
H11N3	WAKE ISLAND Hy 28.95 140		T	T	22 39 25.2	
baz=331,slow=76,SNR=16						
H11S1	WAKE ISLAND Hy 29.91 142		T	T	22 40 38.9	
baz=332,slow=76,SNR=26						
H11S3	WAKE ISLAND Hy 29.91 142		T	T	22 40 38.1	
baz=332,slow=76,SNR=24						
H11S2	WAKE ISLAND Hy 29.93 142		T	T	22 40 39.6	
baz=332,slow=76,SNR=20						
TLY	Talaya	30.21 301	LR	LR	22 22 20.6	
comp=Z,52nm,19.0s,baz=354,slow=39						
ILAR	Eielson Array	41.20 36	P	P	22 10 30.0	+1.2
ILAR			pmax	pmax		
comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	41.20 36	P	P	22 10 29.9	+1.2
comp=Z,0.6nm,0.8s,baz=275,slow=9.6,SNR=5.9						
MKAR	Makanchi Array	44.86 298	P	P	22 11 00.4	+1.8
comp=Z,0.1nm,0.3s,baz=69,slow=7.9,SNR=2.8						
KURK	Kurchatov	45.78 304	P	P	22 11 06.9	+1.2
KURBB	Kurchatov Arra	45.86 304	P	P	22 11 06.9	+0.6
comp=Z,0.1nm,0.4s,baz=81,slow=8.5,SNR=2.8						
YKA	Yellowknife Ar	55.53 34	P	P	22 12 20.5	+1.6
comp=Z,0.2nm,0.5s,baz=303,slow=7.2,SNR=4.1						
TXAR	Lajitas Array	82.30 57	P	P	22 15 07.2	+1.6
comp=Z,0.2nm,0.6s,baz=284,slow=3.6,SNR=2.6						

*ISCJB **27** 22:05:52.0±0.6, 35°.16N±0°.02×27°.18E±0°.02, h20km±5km, mb3.7/14, MS2.5/1, Error ellipse: s-maj=4.1km s-min=3.1km az=167.9*
*IDC **27** 22:05:51.7±0.9, 35°.11N×27°.22E, h0km, mb3.7/9, mb1 3.7/15, mb1mx3.6/42, mbtmp3.6/15, ML3.4/6, MS2.4/2, Ms1 2.5/2, ms1mx2.2/40, Error ellipse: s-maj=18.7km s-min=14.4km az=0.0*
*ATH **27** 22:05:52.7, 35°.29N×27°.15E, h20km±1km, MD3.7/36, ML3.6*
*CSEM **27** 22:05:53.5±0.3, 35°.21N×27°.18E, h20km, mb4.0/4, Ms2.9, Error ellipse: s-maj=6.9km s-min=5.2km az=162.0*
*DDA **27** 22:05:54.3, 35°.27N×27°.01E, h21km, MD3.6*
*THE **27** 22:05:54.1, 35°.30N×27°.10E, h6km±1km, ML3.6/4, Error ellipse: s-maj=3.2km s-min=1.2km az=134.0*
*ISK **27** 22:05:58.7, 35°.76N×27°.19E, h24km, ML3.1*
ISC 27 22:05:52.6±1.1, 35°.23N±0°.03×27°.12E±0°.03, h9km±7km, n197, σ1§43/213, mb3.8/14, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.32	6	P	Pg	22 05 58.3	-0.6
KARP				S	Sg	22 06 03.3	0.0
KARP	Karpathos	0.32	6	ePB	Pg	22 05 58.4	-0.5
KARP				eSB	Sg	22 06 03.2	0.0
KARP	Karpathos	0.32	6	ePb	Pg	22 05 58.4	-0.5
KARP				eSb	Sg	22 06 03.2	0.0
ZKR	Zakros	0.75	261	ePN	Pg	22 06 07.0	0.0
ZKR				eSN	Sn	22 06 19.4	-1.5
ZKR	Zakros	0.75	261	ePn	Pg	22 06 07.0	0.0
ZKR				eSn	Sn	22 06 19.4	-1.5
NPS	Neapolis	1.24	272	P	Pg	22 06 16.2	-0.1
NPS				S	Sg	22 06 33.0	+0.6
NPS	Neapolis	1.24	272	ePN	Pg	22 06 16.5	+0.2
NPS				eSN	Sg	22 06 32.9	+0.6
NPS	Neapolis	1.24	272	P	Pg	22 06 16.2	-0.1
NPS	Neapolis	1.24	272	ePn	Pg	22 06 16.5	+0.2
NPS				S	Sg	22 06 33.0	+0.6
ARG	Arkhangelos	1.28	39	P	Pn	22 06 15.3	-1.4
ARG				S	Sg	22 06 33.1	-0.7
ARG	Arkhangelos	1.28	39	ePN	Pn	22 06 15.7	-1.0
ARG				eSN	Sg	22 06 33.3	-0.5
ARG	Arkhangelos	1.28	39	P	Pn	22 06 15.3	-1.4
ARG	Arkhangelos	1.28	39	ePn	Pn	22 06 15.7	-1.0
ARG				eSn	Sg	22 06 33.3	-0.5
LAST	Lasithi	1.35	268	P	Pb	22 06 17.5	-0.6
LAST	Lasithi	1.35	268	ePN	Pg	22 06 18.2	-0.3
LAST	Lasithi	1.35	268	P	Pb	22 06 17.5	-0.6
LAST	Lasithi	1.35	268	ePn	Pg	22 06 18.2	-0.3
NIS1	Nisyros Isl.	1.37	2	P	Pn	22 06 17.3	-0.6
NIS1				S	Sn	22 06 35.3	-0.9
NIS1	Nisyros Isl.	1.37	2	ePG	Pn	22 06 16.1	-1.8
NIS1	Nisyros Isl.	1.37	2	ePN	Pb	22 06 17.8	-0.6
NIS1	Nisyros Isl.	1.37	2	ePg	Pn	22 06 16.1	-1.8
NIS1	Nisyros Isl.	1.37	2	P	Pn	22 06 17.3	-0.6
NIS1	Nisyros Isl.	1.37	2	ePn	Pb	22 06 17.8	-0.6
NIS1				S	Sn	22 06 35.3	-0.9
THR1	Thera Island	1.77	311	ePN	Pb	22 06 25.6	+0.4
THR1	Thera Island	1.77	311	ePn	Pb	22 06 25.6	+0.4
SANT	Santorini	1.77	311	P	Pn	22 06 23.0	-0.4
SANT	Santorini	1.77	311	ePN	Pb	22 06 25.1	-0.1
SANT	Santorini	1.77	311	P	Pn	22 06 23.0	-0.4
SANT	Santorini	1.77	311	ePn	Pb	22 06 25.1	-0.1
IDI	Anoyia	1.83	272	Pn	Pb	22 06 26.2	0.0
9.3nm,0.3s,baz=81,slow=12,SNR=92							
IDI				LR	LR	22 07 31.1	
comp=Z,540nm,19.4s,baz=72,slow=52							
BODT	Bodrum	1.83	5	ePN	Pn	22 06 22.2	-2.1
BODT	Bodrum	1.83	5	ePn	Pn	22 06 22.2	-2.1
BDRM	Kayabasi	1.85	8	iP	Pn	22 06 23.7	-0.8
BDRM	Kayabasi	1.85	8	iP	Pn	22 06 23.7	-0.8
BDRM				iS	Sg	22 06 54.0	+2.0
SIVA	Sivas	1.91	264	P	Pn	22 06 24.4	-0.9
SIVA	Sivas	1.91	264	ePN	Pb	22 06 27.5	-0.1
SIVA	Sivas	1.91	264	P	Pn	22 06 24.4	-0.9
SIVA	Sivas	1.91	264	ePn	Pb	22 06 27.5	-0.1
DALY	Dalyan (Mu¨la	2.01	38	ePN	Pn	22 06 26.2	-0.5
DALY	Dalyan (Mu¨la	2.01	38	ePn	Pn	22 06 26.2	-0.5
YER	Yerkesik	2.12	26	ePN	Pn	22 06 27.3	-1.0
YER	Yerkesik	2.12	26	ePn	Pn	22 06 27.3	-1.0
FETY	Fethiye	2.12	48	ePN	Pn	22 06 28.5	+0.2
FETY	Fethiye	2.12	48	ePn	Pn	22 06 28.5	+0.2
APE	Apeiranthos	2.24	325	P	Pn	22 06 29.6	-0.4
APE				S	Sn	22 06 56.3	-1.5
APE	Apeiranthos	2.24	325	ePN	Pn	22 06 29.3	-0.7
APE	Apeiranthos	2.24	325	ePB	Pn	22 06 30.0	0.0
APE	Apeiranthos	2.24	325	ePn	Pn	22 06 29.3	-0.7
APE	Apeiranthos	2.24	325	P	Pn	22 06 29.6	-0.4
APE	Apeiranthos	2.24	325	ePb	Pn	22 06 30.0	0.0
APE				S	Sn	22 06 56.3	-1.5
AKAS	Kas	2.25	63	iP	Pn	22 06 30.2	0.0
AKAS	Kas	2.25	63	iP	Pn	22 06 30.2	0.0
AKAS				iS	Sg	22 07 07.0	+1.9
VAM	Vamos	2.40	275	P	Pn	22 06 32.7	+0.7
VAM	Vamos	2.40	275	ePB	Pb	22 06 34.0	-1.9
VAM	Vamos	2.40	275	P	Pn	22 06 32.7	+0.7
VAM	Vamos	2.40	275	ePb	Pb	22 06 34.0	-1.9
SMG	Samos	2.48	355	P	Pn	22 06 33.2	-0.1
SMG				S	Sn	22 07 03.7	0.0
SMG	Samos	2.48	355	ePN	Pn	22 06 33.1	-0.2
SMG	Samos	2.48	355	ePn	Pn	22 06 33.1	-0.2
SMG				S	Sn	22 07 03.7	0.0
AYDN	Tasoluk	2.50	14	iP	Pn	22 06 34.6	+1.1
AYDN	Tasoluk	2.50	14	iP	Pn	22 06 34.6	+1.1
AYDN				iS	Sg	22 07 14.2	+1.2
KARN	Karanos	2.63	275	P	Pn	22 06 36.1	+0.9
KARN	Karanos	2.63	275	ePB	Pb	22 06 37.4	-2.4
KARN	Karanos	2.63	275	P	Pn	22 06 36.1	+0.9
KARN	Karanos	2.63	275	ePb	Pb	22 06 37.4	-2.4
ELL	Elmali	2.72	55	ePN	Pn	22 06 37.9	+1.3
ELL	Elmali	2.72	55	ePn	Pn	22 06 37.9	+1.3
AYDB	Zeytinkoy-Aydi	2.78	13	ePN	Pn	22 06 35.3	-2.1
AYDB	Zeytinkoy-Aydi	2.78	13	ePn	Pn	22 06 35.3	-2.1
GOLH	Golhisar	2.81	44	iP	Pn	22 06 39.2	+1.4
GOLH	Golhisar	2.81	44	iP	Pn	22 06 39.2	+1.4
GOLH				iS	Sg	22 07 23.7	+0.8
DNZL	Cakiroluk	2.90	32	iP	Pn	22 06 40.8	+1.6
DNZL	Cakiroluk	2.90	32	iP	Pn	22 06 40.8	+1.6
DNZL				iS	Sg	22 07 26.7	+0.8
DENT	Denizli	2.95	31	ePN	Pn	22 06 38.3	-1.4
DENT	Denizli	2.95	31	ePn	Pn	22 06 38.3	-1.4
ZEY	¨zmir	3.04	351	iP	Pn	22 06 40.8	-0.1
ZEY				iS	Sg	22 07 33.9	+3.5
BLCB	Balcova	3.15	359	ePN	Pn	22 06 39.9	-2.5
BLCB	Balcova	3.15	359	ePn	Pn	22 06 39.9	-2.5
KORT	Korkueli	3.15	55	iP	Pn	22 06 44.5	+1.9
KORT	Korkueli	3.15	55	iP	Pn	22 06 44.5	+1.9
KORT				iS	Sb	22 07 27.4	-0.1
IZM	Izmir	3.16	2	ePN	Pn	22 06 41.0	-1.6
IZM	Izmir	3.16	2	ePn	Pn	22 06 41.0	-1.6
ANKY	Antikythira Is	3.18	283	P	Pn	22 06 43.8	+1.0
ANKY				S	Sn	22 07 20.1	-0.8
ANKY	Antikythira Is	3.18	283	ePN	Pn	22 06 44.4	+1.6
ANKY	Antikythira Is	3.18	283	P	Pn	22 06 43.8	+1.0
ANKY	Antikythira Is	3.18	283	ePn	Pn	22 06 44.4	+1.6
ANKY				S	Sn	22 07 20.1	-0.8
CHOS	Chios island	3.27	345	ePN	Pn	22 06 42.9	-1.2
CHOS	Chios island	3.27	345	ePN	Pn	22 06 44.3	+0.2
CHOS	Chios island	3.27	345	ePn	Pn	22 06 44.3	+0.2
KYTH	Kithira	3.48	289	ePN	Pn	22 06 48.4	+1.4
KYTH	Kithira	3.48	289	ePn	Pn	22 06 48.4	+1.4
KULA	Kula-Manisa	3.50	20	ePN	Pn	22 06 46.0	-1.3
KULA	Kula-Manisa	3.50	20	ePn	Pn	22 06 46.0	-1.3
VLI	Veliai	3.71	295	P	Pn	22 06 50.8	+0.8
VLI				S	Sn	22 07 32.5	-1.3
VLI	Veliai	3.71	295	ePN	Pn	22 06 50.6	+0.6
VLI	Veliai	3.71	295	ePn	Pn	22 06 50.6	+0.6
VLI				S	Sn	22 07 32.5	-1.3
ATH	Athens Observa	3.87	316	ePN	Pn	22 06 54.1	+1.8
ATH	Athens Observa	3.87	316	ePn	Pn	22 06 54.1	+1.8
SLUM		4.06	204	S	Sn	22 07 38.6	-3.9
PRK	Paraskevi	4.07	351	ePN	Pn	22 06 55.9	+0.9
PRK	Paraskevi	4.07	351	ePn	Pn	22 06 55.9	+0.9
SIGR	SIGRI	4.10	346	ePN	Pn	22 06 54.8	-0.7
SIGR	SIGRI	4.10	346	ePN	Pn	22 06 56.0	+0.6
SIGR	SIGRI	4.10	346	ePn	Pn	22 06 54.8	-0.7
LTK	Loutraki	4.35	311	ePN	Pn	22 07 01.3	+2.4
LTK	Loutraki	4.35	311	ePn	Pn	22 07 01.3	+2.4
BALB	Balikesir	4.44	8	ePN	Pn	22 06 59.0	-1.1
BALB	Balikesir	4.44	8	ePn	Pn	22 06 59.1	-1.1
MRKA	Markates	4.48	322	ePN	Pn	22 07 03.1	+2.4
MRKA	Markates	4.48	322	ePn	Pn	22 07 03.1	+2.4
ITM	Ithomi	4.63	296	ePN	Pn	22 07 05.2	+2.4
ITM	Ithomi	4.63	296	ePn	Pn	22 07 05.2	+2.4
PYL	PYLOS	4.67	292	ePN	Pn	22 07 05.3	+2.1
PYL	PYLOS	4.67	292	ePn	Pn	22 07 05.3	+2.1
GUR	Goura	4.70	306	ePN	Pn	22 07 06.4	+2.6
GUR	Goura	4.70	306	ePn	Pn	22 07 06.4	+2.6
LKR	Lokris	4.75	317	ePN	Pn	22 07 06.8	+2.4
LKR	Lokris	4.75	317	ePn	Pn	22 07 06.8	+2.4
SMIA	Simia	4.80	320	ePN	Pn	22 07 06.5	+1.4
SMIA	Simia	4.80	320	ePn	Pn	22 07 06.5	+1.4
SKIA	Skiathos	4.89	324	ePN	Pn	22 07 08.1	+1.7
SKIA	Skiathos	4.89	324	ePn	Pn	22 07 08.1	+1.7
LIA	Limnos Island	4.91	342	ePN	Pn	22 07 07.0	+0.5
LIA	Limnos Island	4.91	342	ePn	Pn	22 07 07.0	+0.5
AMT	Artemida-Makis	4.94	299	ePN	Pn	22 07 09.9	+2.9
AMT	Artemida-Makis	4.94	299	ePn	Pn	22 07 09.9	+2.9
NEO	Neokhori	5.12	324	ePN	Pn	22 07 11.3	+1.8
NEO	Neokhori	5.12	324	ePn	Pn	22 07 11.3	+1.8
XOR	Xorichti	5.18	324	ePN	Pn	22 07 13.2	+2.8
XOR	Xorichti	5.18	324	ePn	Pn	22 07 13.2	+2.8
EFP	Efpalio	5.26	309	ePN	Pn	22 07 13.4	+2.0
EFP	Efpalio	5.26	309	ePn	Pn	22 07 13.4	+2.0
AGG	Agios Georgios	5.38	316	ePN	Pn	22 07 16.3	+3.2
ALN	Alexandroupoli	5.72	352	ePN	Pn	22 07 19.2	+1.5
ALN	Alexandroupoli	5.72	352	ePn	Pn	22 07 19.2	+1.5
THL	Klokotos Trika	5.94	318	ePN	Pn	22 07 24.3	+3.6
LIT	Litokhoron	6.09	324	ePN	Pn	22 07 25.7	+2.8
SWA2		6.13	194	P	Pn	22 07 31.5	+0.7
GLL	Jalalah	6.84	144	P	Pn	22 07 31.5	-1.7
BRTR	Keskin Array B	6.85	47	Pn	Pn	22 07 35.0	+1.6
0.2nm,0.3s,baz=220,slow=15,SNR=9.7							
BRTR				Sn	Sn	22 08 52.4	+0.7
0.1nm,0.3s,baz=218,slow=26,SNR=5.0							
AMAG	Maghara	6.86	130	P	Pn	22 07 31.9	-1.6
RSH		6.99	126	P	Pn	22 07 33.9	-1.2
MMAI	Mount Meron Ar	7.21	105	Pn	Pn	22 07 36.8	-1.5
1.6nm,0.3s,baz=305,slow=12,SNR=11							
MMAI				Sn	Sn	22 08 59.4	-1.0
3.1nm,0.3s,baz=310,slow=28,SNR=9.9							
HNKL	Nakhl	7.84	131	P	Pn	22 07 45.5	-1.3
EIL	Elat	8.63	128	Pn	Pn	22 07 56.4	-1.3
0.3nm,0.3s,baz=122,slow=9.5,SNR=4.7							
EIL				Sn	Sn	22 09 28.5	-6.6
1.1nm,0.3s,baz=10,slow=8.0,SNR=4.9							
MLR	Muntele Rosu	10.29	355	Pn	Pn	22 08 23.4	+2.9
0.0nm,0.3s,baz=159,slow=8.6,SNR=3.3							
MLR				LR	LR	22 12 18.5	
comp=Z,13nm,19.1s,baz=188,slow=37							
KOLS	Kolonicke sedl	14.15	347	e	P	22 09 28.1	+7.3
VYHS	Vyhne	14.61	338	e	P	22 09 45.2	+19
KBZ	Khabaz	14.83	50	Pn	P	22 09 29.9	+1.6
0.1nm,0.3s,baz=188,slow=6.5,SNR=4.6							
AKASG	Malin Array Be	15.54	5	Pn	Pn	22 09 32.9	+1.1
0.2nm,0.3s,baz=194,slow=11,SNR=2.9							
GERES	GERESS Array B	16.83	328	Pn	P	22 09 50.3	-0.3
0.1nm,0.3s,baz=142,slow=9.9,SNR=2.8							
MBDF	Montbardon	18.21	308	eP	Pn	22 10 04.2	-1.6
MBDF	Montbardon	18.21	308	eP	Pn	22 10 04.2	-1.6
LPG	La Plagne	18.56	310	eP	P	22 10 07.9	-2.0
9.3nm,0.8s							
LPG	La Plagne	18.56	310	eP	P	22 10 07.9	-2.0
4.7nm,0.8s							
LPL	La Plagne	18.58	310	eP	P	22 10 07.4	-2.7
9.6nm,0.8s							
CABF	La Chapelle	19.48	312	eP	Pn	22 10 19.7	-1.3
7.8nm,0.6s							
CABF	La Chapelle	19.48	312	eP	Pn	22 10 19.7	-1.3
3.9nm,0.6s							
HINF	Hinteralfeld	19.64	316	eP	Pn	22 10 22.4	-0.4
HINF	Hinteralfeld	19.64	316	eP	Pn	22 10 22.4	-0.4
VIVF	Saint-Julien-l	19.64	306	eP	P	22 10 20.4	-1.1
8.7nm,0.7s							
VIVF	Saint-Julien-l	19.64	306	eP	P	22 10 20.4	-1.1
4.3nm,0.7s							
CDF	Champ du Feu	19.73	318	eP	Pn	22 10 22.7	-1.3
CDF	Champ du Feu	19.73	318	eP	Pn	22 10 22.7	-1.3
HAU	Haudompre	20.02	316	eP	Pn	22 10 25.9	-1.5
HAU				eR			
75nm,18.8s							
HAU	Haudompre	20.02	316	eP	Pn	22 10 25.9	-1.5
SFTF	Sexfontaines	20.88	315	eP	P	22 10 33.8	-1.1
SFTF	Sexfontaines	20.88	315	eP	P	22 10 33.8	-1.1
SMF	Signal de Mont	20.88	310	eP	P	22 10 33.6	-1.4
SMF	Signal de Mont	20.88	310	eP	P	22 10 33.6	-1.4
MEZF	Maizieres J´vi	21.02	316	eP	P	22 10 39.0	+2.5
14nm,0.8s							
LOR	Lormes	21.14	312	eP	P	22 10 36.4	-1.3
LOR	Lormes	21.14	312	eP	P	22 10 36.4	-1.3
AVF	Avril sur Loir	21.25	310	eP	P	22 10 37.2	-1.7
12nm,1.0s							
AVF	Avril sur Loir	21.25	310	eP	P	22 10 37.2	-1.7
5.8nm,1.0s							
SSF	Saint Saulge	21.26	311	eP	P	22 10 37.1	-2.0
14nm,0.9s							
SSF	Saint Saulge	21.26	311	eP	P	22 10 37.1	-2.0
6.9nm,0.9s							
BGF	Bois d'Agland	21.47	309	eP	P	22 10 39.5	-1.8
BGF	Bois d'Agland	21.47	309	eP	P	22 10 39.5	-1.8
RJF	Les Rejaudoux	21.89	305	eP	P	22 10 45.1	-0.8
8.4nm,0.7s							
RJF	Les Rejaudoux	21.89	305	eP	P	22 10 45.1	-0.8
4.2nm,0.7s							
BAIF	Baives	22.32	319	eP	P	22 10 48.6	-1.8
12nm,0.9s							
BAIF	Baives	22.32	319	eP	P	22 10 48.6	-1.8
6.0nm,0.9s							
LDF	La Druitiere	24.12	312	eP	P	22 11 06.0	-2.6
LDF	La Druitiere	24.12	312	eP	P	22 11 06.0	-2.6
FLN	La Foliniere	24.41	312	eP	P	22 11 08.0	-3.3
GRR	Gorron	24.50	311	eP	P	22 11 09.1	-2.9
ESDC	Sonseca Array	25.00	289	P	P	22 11 17.6	+0.7
0.9nm,0.6s,baz=82,slow=9.9,SNR=11							
FINES	FINESS Array B	26.24	359	P	P	22 11 28.9	+1.2
0.6nm,0.6s,baz=148,slow=11,SNR=3.6							
HFS	Hagfors	26.40	345	P	P	22 11 31.2	+2.0
1.0nm,0.7s,baz=122,slow=11,SNR=4.0							
NOA	NORSAR Array B	27.77	343	LR	LR	22 24 40.0	
comp=Z,14nm,19.2s,baz=155,slow=40							
TORD	Torodi Ar. Bea	31.79	233	P	P	22 12 18.0	+0.5
0.9nm,0.7s,baz=31,slow=8.5,SNR=9.7							
ARCES	ARCESS Array B	34.37	359	P	P	22 12 42.3	+2.7
1.1nm,0.7s,baz=165,slow=8.4,SNR=4.0							
MKAR	Makanchi Array	42.39	57	P	P	22 13 48.1	+0.8
0.8nm,0.6s,baz=283,slow=6.9,SNR=8.7							
ZALV	Zalesovo Beam	43.80	46	P	P	22 14 00.2	+1.7
0.8nm,0.5s,baz=270,slow=8.8,SNR=4.8							
SONM	Songino Array	58.20	51	P	P	22 15 47.5	+0.4
0.3nm,0.6s,baz=273,slow=9.6,SNR=4.0							
CMAR	Chiang Mai Arr	64.97	84	P	P	22 16 32.6	-0.5
0.2nm,0.6s,baz=308,slow=7.9,SNR=2.9							

IDC 27 22:33:26.0±1.8, 2°.13N×126°.68E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/28, mbtmp3.4/3, Error ellipse: s-maj=182.7km s-min=20.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.19	161	P	P	22 38 33.8	-0.8
0.5nm,0.4s,baz=340,slow=10,SNR=16							
ASAR	Alice Springs	26.59	165	P	P	22 39 06.7	+0.5
0.2nm,0.4s,baz=346,slow=12,SNR=3.9							
MKAR	Makanchi Array	58.84	326	P	P	22 43 26.8	+0.3
0.2nm,0.3s,baz=122,slow=8.1,SNR=8.1							
KURBB	Kurchatov Arra	63.05	328	P	P	22 43 54.8	-0.2
baz=128,slow=6.3							

*DDA **27** 22:40:08.8, 34°.62N×26°.70E, h18km, MD3.3*
*ATH **27** 22:40:17.8, 35°.24N×27°.21E, h5km*
*IDC **27** 22:40:17.2±1.5, 35°.28N×27°.07E, h0km, mb3.3/4, mb1 3.3/5, mb1mx3.2/42, mbtmp3.2/5, ML2.4/1, Error ellipse: s-maj=60.8km s-min=21.2km az=154.0*
*ISCJB **27** 22:40:18.4±1.0, 35°.25N±0°.04×27°.13E±0°.04, h8km±6km, mb3.2/4, Error ellipse: s-maj=7.8km s-min=4.6km az=148.0*
*CSEM **27** 22:40:19.4±0.4, 35°.34N×27°.07E, h2km, ML3.1, Error ellipse: s-maj=10.8km s-min=4.2km az=150.0*
*THE **27** 22:40:19.3, 35°.30N×27°.15E, h1km±2km, ML3.1/4, Error ellipse: s-maj=3.5km s-min=1.2km az=147.0*
*ISK **27** 22:40:22.9, 35°.60N×27°.07E, h18km, MD3.4*
ISC 27 22:40:19.5±1.2, 35°.30N±0°.04×27°.08E±0°.03, h9km±8km, n68, σ1§14/88, mb3.2/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.25	15	P	Pg	22 40 24.1	-0.6
KARP				S	Sg	22 40 29.1	+0.9
KARP	Karpathos	0.25	15	ePB	Pg	22 40 24.2	-0.5
KARP				eSB	Sg	22 40 29.0	+0.9
KARP	Karpathos	0.25	15	P	Pg	22 40 24.1	-0.6
KARP				eSb	Sg	22 40 29.0	+0.9
ZKR	Zakros	0.73	255	P	Pg	22 40 32.7	-0.8
ZKR	Zakros	0.73	255	ePB	Pg	22 40 32.8	-0.8
ZKR				eSB	Sb	22 40 45.7	+1.3
ZKR	Zakros	0.73	255	P	Pg	22 40 32.7	-0.8
ZKR				eSb	Sb	22 40 45.7	+1.3
NPS	Neapolis	1.20	269	P	Pb	22 40 42.2	-0.2
NPS	Neapolis	1.20	269	ePB	Pn	22 40 42.5	+0.1
NPS				eSB	Sn	22 41 01.0	+2.2
NPS	Neapolis	1.20	269	P	Pb	22 40 42.2	-0.2
NPS	Neapol

ATH ***27*** *22:45:45.7, 38°.18N×26°.17E, h24km±1km, MD3.1/5*
ISCJB ***27*** *22:45:45.4±0.7, 38°.19N±0°.02×26°.12E±0°.03, h1km±5km, Error ellipse: s-maj=4.3km s-min=2.7km az=157.1*
THE ***27*** *22:45:46.6, 38°.18N×26°.22E, h12km±1km, ML3.5/4, Error ellipse: s-maj=1.9km s-min=0.9km az=71.0*
CSEM ***27*** *22:45:46.2±0.2, 38°.18N×26°.13E, h2km, MD3.1, Error ellipse: s-maj=4.0km s-min=2.7km az=63.0*
ISK ***27*** *22:45:47.4, 38°.24N×26°.25E, h9km, MD3.1*
ISC 27 22:45:46.7±0.9, 38°.18N±0°.02×26°.17E±0°.02, h11km±7km, n111, σ0$94/148, 3C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.23**	**337**	P	**Pg**	**22 45 51.6**	**+0.2**
CHOS				S	**Sg**	**22 45 55.3**	**+0.7**
CHOS	**Chios island**	**0.23**	**337**	PG	**Pb**	**22 45 52.4**	**-0.5**
CHOS				*e*SG	**Sg**	**22 45 56.0**	**+1.4**
CHOS	**Chios island**	**0.23**	**337**	*e*PB	**Pg**	**22 45 51.8**	**+0.4**
CHOS				*e*SB	**Sg**	**22 45 55.4**	**+0.8**
CHOS	**Chios island**	**0.23**	**337**	P	**Pg**	**22 45 51.6**	**+0.2**
CHOS	**Chios island**	**0.23**	**337**	*i* Pg	**Pb**	**22 45 52.4**	**-0.5**
CHOS				S	**Sg**	**22 45 55.3**	**+0.7**
ZEY	**˜zmir**	**0.27**	**77**	*i* P	**Pg**	**22 45 51.2**	**-1.0**
ZEY				*i* S	**Sg**	**22 45 55.2**	**-0.7**
URLA	**Izmir**	**0.38**	**62**	*i* P	**Pg**	**22 45 53.3**	**-1.0**
URLA				*i* S	**Sg**	**22 45 58.8**	**-0.6**
URLA	**Izmir**	**0.38**	**62**	*i* P	**Pg**	**22 45 53.3**	**-1.0**
URLA				*i* S	**Sg**	**22 45 58.8**	**-0.6**
SMG	**Samos**	**0.71**	**131**	P	**Pg**	**22 45 59.6**	**-0.7**
SMG				S	**Sg**	**22 46 09.6**	**0.0**
SMG	**Samos**	**0.71**	**131**	*e*PN	**Pg**	**22 45 59.7**	**-0.6**
SMG				*e*SN	**Sg**	**22 46 10.0**	**+0.4**
SMG	**Samos**	**0.71**	**131**	P	**Pg**	**22 45 59.6**	**-0.7**
SMG				S	**Sg**	**22 46 09.6**	**0.0**
SMG				*e*Sn	**Sg**	**22 46 10.0**	**+0.4**
BLCB	**Balcova**	**0.72**	**73**	*e*PG	**Pg**	**22 45 59.5**	**-1.1**
BLCB	**Balcova**	**0.72**	**73**	*e*Pg	**Pg**	**22 45 59.5**	**-1.1**
IZM	**Izmir**	**0.89**	**75**	*e*PG	**Pg**	**22 46 03.8**	**0.0**
IZM	**Izmir**	**0.89**	**75**	*e*Pg	**Pg**	**22 46 03.8**	**0.0**
GCAM	**G?zelcaml?**	**0.97**	**119**	*i* P	**Pg**	**22 46 03.9**	**-1.4**
GCAM				*i* S	**Sg**	**22 46 18.0**	**+0.1**
GCAM	**G?zelcaml?**	**0.97**	**119**	*i* P	**Pg**	**22 46 03.9**	**-1.4**
GCAM				*i* S	**Sg**	**22 46 18.0**	**+0.1**
SIGR	**SIGRI**	**1.06**	**347**	P	**Pb**	**22 46 06.3**	**-0.8**
SIGR				S	**Sb**	**22 46 20.1**	**-0.9**
SIGR	**SIGRI**	**1.06**	**347**	*e*PG	**Pg**	**22 46 07.1**	**+0.1**
SIGR	**SIGRI**	**1.06**	**347**	*e*PN	**Pb**	**22 46 06.4**	**-0.7**
SIGR				*e*SN	**Sg**	**22 46 21.2**	**+0.3**
SIGR	**SIGRI**	**1.06**	**347**	P	**Pb**	**22 46 06.3**	**-0.8**
SIGR	**SIGRI**	**1.06**	**347**	*e*Pg	**Pg**	**22 46 07.1**	**+0.1**
SIGR				S	**Sb**	**22 46 20.1**	**-0.9**
SIGR				*e*Sn	**Sg**	**22 46 21.2**	**+0.3**
PRK	**Paraskevi**	**1.07**	**4**	P	**Pb**	**22 46 06.4**	**-0.8**
PRK				S	**Sb**	**22 46 21.0**	**-0.2**
PRK	**Paraskevi**	**1.07**	**4**	*e*PN	**Pb**	**22 46 06.4**	**-0.8**
PRK				*e*SN	**Sb**	**22 46 21.3**	**+0.1**
PRK	**Paraskevi**	**1.07**	**4**	P	**Pb**	**22 46 06.3**	**-0.9**
PRK				S	**Sb**	**22 46 21.0**	**-0.2**
AYVA	**Ayvalik**	**1.20**	**20**	*i* P	**Pn**	**22 46 08.5**	**-0.9**
AYVA				*i* S	**Sn**	**22 46 26.3**	**+0.6**
AYVA	**Ayvalik**	**1.20**	**20**	*i* P	**Pn**	**22 46 08.5**	**-0.9**
AYVA				*i* S	**Sn**	**22 46 26.3**	**+0.6**
APE	**Apeiranthos**	**1.22**	**205**	P	**Pn**	**22 46 08.4**	**-1.3**
APE				S	**Sb**	**22 46 25.0**	**-0.5**
APE	**Apeiranthos**	**1.22**	**205**	*e*PN	**Pg**	**22 46 11.7**	**+1.6**
APE	**Apeiranthos**	**1.22**	**205**	*e*PN	**Pn**	**22 46 08.4**	**-1.3**
APE				*e*SN	**Sn**	**22 46 26.4**	**+0.2**
APE	**Apeiranthos**	**1.22**	**205**	P	**Pn**	**22 46 08.4**	**-1.3**
APE				S	**Sb**	**22 46 25.0**	**-0.5**
APE				*e*Sn	**Sn**	**22 46 26.4**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.38**	**99**	*e*PN	**Pb**	**22 46 12.8**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.38**	**99**	*e*Pn	**Pb**	**22 46 12.8**	**+0.2**
BODT	**Bodrum**	**1.44**	**140**	*e*PN	**Pg**	**22 46 14.5**	**+0.2**
BODT	**Bodrum**	**1.44**	**140**	*e*Pn	**Pg**	**22 46 14.5**	**+0.2**
AYDN	**Tasoluk**	**1.45**	**110**	*i* P	**Pb**	**22 46 13.3**	**-0.4**
AYDN				*i* S	**Sg**	**22 46 33.1**	**-0.2**
AYDN	**Tasoluk**	**1.45**	**110**	*i* P	**Pb**	**22 46 13.3**	**-0.4**
AYDN				*i* S	**Sg**	**22 46 33.1**	**-0.2**
AKHS	**Akhisar**	**1.47**	**61**	*i* P	**Pn**	**22 46 12.6**	**-0.6**
AKHS				*i* S	**Sg**	**22 46 33.9**	**0.0**
AKHS	**Akhisar**	**1.47**	**61**	*i* P	**Pn**	**22 46 12.6**	**-0.6**
AKHS				*i* S	**Sg**	**22 46 33.9**	**0.0**
AKS	**Akhisar**	**1.47**	**61**	*e*PN	**Pb**	**22 46 13.8**	**-0.2**
AKS	**Akhisar**	**1.47**	**61**	*e*Pn	**Pb**	**22 46 13.8**	**-0.2**
BDRM	**Kayabasi**	**1.50**	**137**	*i* P	**Pb**	**22 46 14.7**	**+0.1**
BDRM				*i* S	**Sg**	**22 46 35.3**	**+0.3**
BDRM	**Kayabasi**	**1.50**	**137**	*i* P	**Pb**	**22 46 14.7**	**+0.1**
BDRM				*i* S	**Sg**	**22 46 35.3**	**+0.3**
EZN	**Ezine**	**1.65**	**4**	*e*PN	**Pb**	**22 46 16.5**	**-0.6**
EZN	**Ezine**	**1.65**	**4**	*e*Pn	**Pb**	**22 46 16.5**	**-0.6**
BOZC	**Bozcaada**	**1.66**	**357**	*i* P	**Pn**	**22 46 14.8**	**-1.0**
BOZC				*i* S	**Sg**	**22 46 40.3**	**+0.1**
BOZC				*i* S	**Sg**	**22 46 40.3**	**+0.1**
NIS1	**Nisyros Isl.**	**1.77**	**153**	*e*PN	**Pb**	**22 46 19.7**	**+0.6**
NIS1	**Nisyros Isl.**	**1.77**	**153**	*e*Pn	**Pb**	**22 46 19.7**	**+0.6**
PTL	**Penteli**	**1.82**	**267**	P	**Pn**	**22 46 18.1**	**+0.1**
PTL	**Penteli**	**1.82**	**267**	*e*PN	**Pn**	**22 46 17.8**	**-0.2**
PTL	**Penteli**	**1.82**	**267**	*e*Pn	**Pn**	**22 46 17.8**	**-0.2**
PTL	**Penteli**	**1.82**	**267**	P	**Pn**	**22 46 18.1**	**+0.1**
LIA	**Limnos Island**	**1.88**	**336**	P	**Pn**	**22 46 18.3**	**-0.5**
LIA	**Limnos Island**	**1.88**	**336**	*e*PN	**Pn**	**22 46 18.6**	**-0.2**
LIA	**Limnos Island**	**1.88**	**336**	P	**Pn**	**22 46 18.3**	**-0.5**
LIA	**Limnos Island**	**1.88**	**336**	*e*Pn	**Pn**	**22 46 18.6**	**-0.2**
BALY	**Balya**	**1.93**	**36**	*i* P	**Pn**	**22 46 19.9**	**+0.4**
BALY				*i* S	**Sg**	**22 46 50.1**	**+1.5**
BALY	**Balya**	**1.93**	**36**	*i* P	**Pn**	**22 46 19.9**	**+0.4**
BALY				*i* S	**Sg**	**22 46 50.1**	**+1.5**
YER	**Yerkesik**	**1.98**	**121**	*e*PN	**Pb**	**22 46 21.9**	**-0.8**
YER	**Yerkesik**	**1.98**	**121**	*e*Pn	**Pb**	**22 46 21.9**	**-0.8**
BALB	**Balikesir**	**1.98**	**42**	*e*PN	**Pn**	**22 46 20.8**	**+0.6**
BALB	**Balikesir**	**1.98**	**42**	*e*Pn	**Pn**	**22 46 20.8**	**+0.6**
KULA	**Kula-Manisa**	**1.99**	**80**	*e*PN	**Pn**	**22 46 21.3**	**+0.9**
KULA	**Kula-Manisa**	**1.99**	**80**	*e*Pn	**Pn**	**22 46 21.3**	**+0.9**
GELI	**Tayfur-Gelibol**	**2.23**	**6**	*e*PN	**Pn**	**22 46 24.0**	**+0.4**
GELI	**Tayfur-Gelibol**	**2.23**	**6**	*e*Pn	**Pn**	**22 46 24.0**	**+0.4**
LPK	**Lapseki**	**2.24**	**12**	*e*PN	**Pn**	**22 46 24.8**	**+1.1**
LPK	**Lapseki**	**2.24**	**12**	*e*Pn	**Pn**	**22 46 24.8**	**+1.1**
DENT	**Denizli**	**2.31**	**100**	*e*PN	**Pn**	**22 46 26.2**	**+1.5**
DENT	**Denizli**	**2.31**	**100**	*e*Pn	**Pn**	**22 46 26.2**	**+1.5**
DNZL	**Cakiroluk**	**2.33**	**101**	*i* P	**Pb**	**22 46 28.2**	**-0.6**
DNZL	**Cakiroluk**	**2.33**	**101**	*i* P	**Pb**	**22 46 28.2**	**-0.6**
DNZL				*i* S	**Sg**	**22 47 02.4**	**+0.9**
SMTH	**Samothraki Isl**	**2.34**	**348**	P	**Pn**	**22 46 24.3**	**-0.9**
SMTH	**Samothraki Isl**	**2.34**	**348**	*e*PN	**Pn**	**22 46 24.5**	**-0.7**
SMTH	**Samothraki Isl**	**2.34**	**348**	*e*Pn	**Pn**	**22 46 24.5**	**-0.7**
KRBG	**Karabiga-Canak**	**2.38**	**21**	*e*PN	**Pn**	**22 46 26.5**	**+0.8**
KRBG	**Karabiga-Canak**	**2.38**	**21**	*e*Pn	**Pn**	**22 46 26.5**	**+0.8**
DST	**Dursunbey**	**2.38**	**53**	*e*PN	**Pn**	**22 46 26.2**	**+0.4**
DST	**Dursunbey**	**2.38**	**53**	*e*Pn	**Pn**	**22 46 26.2**	**+0.4**
ERIK	**Erikli-Kesan**	**2.50**	**6**	*e*PN	**Pn**	**22 46 28.4**	**+1.0**
ERIK	**Erikli-Kesan**	**2.50**	**6**	*e*Pn	**Pn**	**22 46 28.4**	**+1.0**
ARG	**Arkhangelos**	**2.51**	**141**	*e*PN	**Pn**	**22 46 26.9**	**-0.5**
ARG	**Arkhangelos**	**2.51**	**141**	*e*Pn	**Pn**	**22 46 26.9**	**-0.5**
ENEZ	**Enez**	**2.56**	**360**	*e*PN	**Pn**	**22 46 29.7**	**+1.6**
ENEZ	**Enez**	**2.56**	**360**	*e*Pn	**Pn**	**22 46 29.7**	**+1.6**
RKY	**Sarkoy-Tekirda**	**2.63**	**17**	*e*PN	**Pn**	**22 46 30.5**	**+1.4**
RKY	**Sarkoy-Tekirda**	**2.63**	**17**	*e*Pn	**Pn**	**22 46 30.5**	**+1.4**
MRMT	**Marmara Adasi**	**2.66**	**24**	*e*PN	**Pn**	**22 46 31.1**	**+1.4**
MRMT	**Marmara Adasi**	**2.66**	**24**	*e*Pn	**Pn**	**22 46 31.1**	**+1.4**
ALN	**Alexandroupoli**	**2.72**	**358**	P	**Pn**	**22 46 29.6**	**-0.7**
ALN	**Alexandroupoli**	**2.72**	**358**	*e*PN	**Pn**	**22 46 31.0**	**+0.7**
ALN	**Alexandroupoli**	**2.72**	**358**	P	**Pn**	**22 46 29.6**	**-0.7**
ALN	**Alexandroupoli**	**2.72**	**358**	*e*Pn	**Pn**	**22 46 31.0**	**+0.7**
GDZ	**Gediz**	**2.75**	**70**	*i* P	**Pb**	**22 46 37.2**	**+1.2**
GDZ				*i* S	**Sg**	**22 47 19.9**	**+4.9**
TVSB	**Tavsanli**	**2.87**	**63**	*e*PN	**Pn**	**22 46 34.0**	**+1.5**
TVSB	**Tavsanli**	**2.87**	**63**	*e*Pn	**Pn**	**22 46 34.0**	**+1.5**
ALT	**Altintas**	**3.21**	**73**	*e*PN	**Pn**	**22 46 38.6**	**+1.4**
ALT	**Altintas**	**3.21**	**73**	*e*Pn	**Pn**	**22 46 38.6**	**+1.4**
KDZ	**Kurdzhali**	**3.52**	**351**	*i* P	**Pn**	**22 46 40.9**	**-0.4**
RZN	**Rozhen**	**3.68**	**343**	*i* P	**Pn**	**22 46 43.7**	**0.0**
MMB	**Musomiste**	**3.89**	**332**	*i* P	**Pn**	**22 46 46.3**	**-0.2**
PLD	**Plovdiv**	**4.08**	**345**	*i* P	**Pn**	**22 46 48.8**	**-0.2**
JMB	**Yambol**	**4.30**	**4**	*i* P	Pb	22 46 57.3	-4.9
VTS	**Vitosha**	**4.95**	**334**	*i* P	**Pn**	**22 47 02.0**	**+0.8**
PVL	**Pavlikeni**	**5.07**	**353**	*i* P	**Pn**	**22 47 03.1**	**+0.4**
MPEP	**Malo Peshtene**	**5.49**	**341**	*i* P	**Pn**	**22 47 08.0**	**-0.4**
MANR	**Mangalia**	**5.92**	**17**	⇑*i* P	**Pg**	**22 47 37.5**	**-2.5**
HUMR	**Humele**	**6.41**	**352**	⇓*i* P	**Pb**	**22 47 38.3**	**+0.1**
VRI	**Vrincioaia**	**7.69**	**3**	⇑*i* P	**Pn**	**22 47 40.8**	**+2.1**
DOPR	**Dopca**	**7.80**	**356**	⇓*i* P	**Pn**	**22 47 42.0**	**+1.8**
BZS	**Buzias**	**8.17**	**337**	⇑*i* P	**Pn**	**22 47 44.8**	**-0.4**

IDC ***27*** *22:45:53.5±1.6, 11°.80N×86°.34W, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.8/29, mbtmp3.9/7, ML3.2/2, MS3.1/5, Ms1 3.1/5, ms1mx2.9/32, Error ellipse: s-maj=56.4km s-min=23.0km az=49.0*
ISCJB ***27*** *22:45:57.8±0.4, 11°.46N±0°.06×86°.56W±0°.07, h35km, mb3.9/7, MS3.2/2, Error ellipse: s-maj=12.4km s-min=4.3km az=44.8*
NEIC ***27*** *22:45:57.0±0.9, 11°.52N×86°.56W, h35km, mb4.1/1, Error ellipse: s-maj=34.2km s-min=11.0km az=41.0*
NEIC Felt at Managua and San Rafael del Sur.
CASC ***27*** *22:45:58.2±2.6, 11°.55N×86°.55W, h29km±14km, MD4.3*
ISC 27 22:45:58.1±0.8, 11°.53N±0°.07×86°.52W±0°.09, h35km, n78, σ1$75/67, mb4.1/7, 16C-28D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.65**	**354**	*e*P	**Pn**	**22 46 09.6**	**-1.2**
HUEN		**0.88**	**23**	⇓*i* P	**Pn**	**22 46 14.8**	**+0.9**
CNGN	**Cerro Negro**	**0.98**	**350**	*e*P	**Pn**	**22 46 15.7**	**+0.2**
CNGN				*e*S	**Sn**	**22 46 29.6**	**+1.4**
GBS2	**Las Lilas**	**1.25**	**123**	*i* P	**Pn**	**22 46 17.7**	**-1.5**
GBS2				*i* S	Sn	22 46 43.9	+9.0
PTEN	**Parque Tenorio**	**1.71**	**118**	*i* P	**Pn**	**22 46 25.2**	**-0.2**
JTS	**JuntasAbangare**	**1.97**	**128**	Pn	**Pn**	**22 46 28.9**	**-0.2**
	18nm,0.3s,baz=125,slow=22,SNR=41						
JTS				Lg	Lg	22 47 03.7	
	56nm,0.3s,baz=295,slow=18,SNR=7.6						
JTS	**JuntasAbangare**	**1.97**	**128**	*e*Pn	**Pn**	**22 46 28.4**	**-0.6**
JTS				Lg	Lg	22 47 03.7	
CNCH	**Conchagua**	**2.16**	**324**	*e*P	**Pn**	**22 46 31.5**	**-0.2**
JCR	**Jicaral**	**2.17**	**140**	*e*P	**Pn**	**22 46 33.0**	**+1.2**
CGA2	**Cerro Gallo 2**	**2.52**	**126**	*e*P	**Pn**	**22 46 37.9**	**+1.2**
CGA2				*e*S	Sn	22 47 14.6	+8.4
BLLM	**Bellamira**	**2.54**	**319**	*e*P	**Pn**	**22 46 37.1**	**+0.3**
VSM	**San Miguel**	**2.55**	**318**	*e*P	**Pn**	**22 46 37.8**	**+0.6**
CAHU	**Cacacuatique**	**2.77**	**324**	*e*P	**Pn**	**22 46 40.4**	**-0.2**
URSC	**Ursasca**	**3.18**	**122**	*e*P	**Pn**	**22 46 46.0**	**+0.2**
LFRS	**El Faro**	**3.24**	**310**	*e*P	**Pn**	**22 46 46.2**	**-0.3**
BUS	**Buena Vista**	**3.35**	**126**	*e*P	**Pn**	**22 46 49.5**	**+1.1**
LFU	**La Fuente**	**3.36**	**311**	*e*P	**Pn**	**22 46 48.2**	**+0.1**
SNJE	**San Jose**	**3.80**	**308**	*e*P	**Pn**	**22 46 55.0**	**+0.7**
RTR	**El Retiro**	**3.85**	**308**	*e*P	**Pn**	**22 46 56.0**	**+0.9**
RBDL	**Robledal**	**4.01**	**310**	*e*P	**Pn**	**22 46 58.0**	**+0.7**
APG	**El Apazote**	**5.16**	**312**	Pn	**Pn**	**22 47 10.1**	**-3.0**
	0.4nm,0.3s,baz=122,slow=18,SNR=3.2						
APG				LR	LR	22 48 48.8	
	comp=Z,62nm,20.1s,baz=77,slow=34						
BCIP	**Isla Barro Col**	**6.98**	**109**	*e*Pn	**Pn**	**22 47 37.3**	**-0.6**
CMIG	**Matias Romero**	**9.81**	**305**	LR	LR	22 52 32.7	
	comp=Z,109nm,20.7s,baz=171,slow=41						
ROSC	**El Rosal**	**13.76**	**118**	LR	LR	22 54 34.1	
	comp=Z,83nm,19.5s,baz=326,slow=38						
034A	**Hebbronville**	**19.23**	**325**	⇑P	**Pn**	**22 50 22.3**	**+1.8**
	baz=19,SNR=6.2						
ATAH	**Atahualpa**	**20.23**	**156**	LR	LR	22 57 42.4	
	comp=Z,150nm,18.1s,baz=339,slow=35						
832A	**Faith Ranch, C**	**20.89**	**325**	⇓P	Pn	22 50 39.8	-0.3
	baz=21,SNR=9.5						
732A	**Laxson Ranch,**	**21.23**	**326**	⇑P	**P**	**22 50 44.0**	**+2.9**
	baz=21,SNR=7.2						
534A	**Blanco**	**21.50**	**331**	⇓P	**P**	**22 50 46.6**	**+2.6**
	baz=22,SNR=5.5						
337A	**Centerville**	**21.51**	**338**	⇑P	P	22 50 49.9	+5.8
	baz=22						
533A	**Kerrville**	**21.81**	**330**	⇑P	**P**	**22 50 49.7**	**+2.4**
	baz=22						
434A	**Burnet**	**22.07**	**332**	⇑P	**P**	**22 50 53.6**	**+3.5**
	baz=22						
631A	**Perdido Creek**	**22.09**	**326**	⇓P	**P**	**22 50 52.4**	**+2.0**
	baz=22,SNR=7.8						
532A	**Rocksprings**	**22.30**	**328**	⇑P	**P**	**22 50 55.2**	**+2.6**
	baz=22,SNR=5.4						
433A	**Art**	**22.40**	**331**	⇓P	**P**	**22 50 55.9**	**+2.2**
	baz=22						
138A	**Matatall Enter**	**22.46**	**341**	⇑P	P	22 51 01.1	+6.8
	baz=22						
334A	**Lometa**	**22.49**	**333**	⇓P	**P**	**22 50 56.6**	**+2.0**
	baz=23						
JCT	**Junction City**	**22.53**	**329**	⇓P	**P**	**22 50 56.5**	**+1.5**
	baz=23						
JCT	**Junction City**	**22.53**	**329**	*e*P	**P**	**22 50 55.0**	**-0.1**
	5.2nm,0.7s						
137A	**Heron Place, G**	**22.62**	**339**	⇑P	P	22 51 02.6	+6.6
	baz=23						
531A	**Rocksprings**	**22.66**	**327**	⇓P	**P**	**22 50 57.1**	**+0.6**
	baz=23						
WHTX	**Lake Whitney,**	**22.73**	**335**	⇓P	**P**	**22 51 00.6**	**+3.6**
	baz=23						
333A	**Richland Sprin**	**22.82**	**332**	⇑P	**P**	**22 50 59.8**	**+1.7**
	baz=23,SNR=5.5						
432A	**Menard**	**22.84**	**329**	⇓P	**P**	**22 50 59.3**	**+0.9**
	baz=23						
530A	**J-C Ranch, Com**	**23.08**	**326**	⇓P	**P**	**22 51 02.2**	**+1.4**
	baz=23,SNR=7.2						
431A	**Sonora**	**23.11**	**328**	⇓P	**P**	**22 51 02.6**	**+1.5**
	baz=23,SNR=6.2						
332A	**Millersview**	**23.23**	**330**	⇓P	**P**	**22 51 03.7**	**+1.4**
	baz=23,SNR=8.0						
233A	**Rising Star**	**23.37**	**333**	⇓P	**P**	**22 51 04.8**	**+1.2**
	baz=23						
331A	**San Angelo**	**23.51**	**329**	⇑P	**P**	**22 51 07.4**	**+2.4**
	baz=24,SNR=6.4						
430A	**Baggett Ranch,**	**23.52**	**327**	⇓P	**P**	**22 51 06.0**	**+0.8**
	baz=24						
232A	**Coleman**	**23.60**	**331**	⇓P	**P**	**22 51 07.2**	**+1.3**
	baz=24,SNR=7.3						
429A	**Davenport Ranc**	**23.75**	**325**	⇓P	**P**	**22 51 09.2**	**+1.8**
	baz=24,SNR=11						
TXAR	**Lajitas Array**	**23.86**	**320**	P	**P**	**22 51 09.0**	**+0.6**
	8.9nm,0.7s,baz=137,slow=9.8,SNR=69						
330A	**Mertzon**	**23.97**	**328**	⇓P	**P**	**22 51 10.2**	**+0.8**
	baz=24						
ABTX	**Abilene, Hawle**	**24.21**	**332**	⇑P	**P**	**22 51 14.3**	**+2.7**
	baz=24						
329A	**Wagon Wheel Ra**	**24.46**	**327**	⇓P	**P**	**22 51 14.7**	**+0.7**
	baz=24,SNR=8.0						
Y34A	**Reagan Ranch,**	**24.57**	**337**	⇑P	**P**	**22 51 18.2**	**+3.4**
	baz=25						
Z32A	**Haskell**	**24.72**	**333**	⇑P	**P**	**22 51 18.1**	**+1.9**
	baz=25						
229A	**Bryant Ranch,**	**24.75**	**328**	⇓P	**P**	**22 51 17.4**	**+0.9**
	baz=25,SNR=5.5						
130A	**Snyder**	**24.82**	**330**	⇑P	**P**	**22 51 18.0**	**+0.8**
	baz=25						
Z31A	**Sharp Cattle R**	**25.02**	**332**	⇑P	**P**	**22 51 21.5**	**+2.5**
	baz=25						
228A	**UT Block 9, Go**	**25.28**	**327**	⇑P	**P**	**22 51 23.0**	**+1.6**
	baz=25						
X33A	**Lawton**	**25.38**	**336**	⇓P	**P**	**22 51 25.6**	**+3.4**
	baz=26						
X32A	**Elmer**	**25.59**	**335**	⇓P	P	22 51 30.7	+6.6
	baz=26						
128A	**Castleberry Fa**	**25.61**	**328**	⇓P	**P**	**22 51 25.3**	**+0.9**
	baz=26,SNR=5.7						
Y31A	**Rekieta Farm,**	**25.62**	**333**	⇓P	**P**	**22 51 27.9**	**+3.5**
	baz=26						
Z29A	**Hungry Hill Ra**	**25.72**	**330**	⇓P	**P**	**22 51 26.5**	**+1.2**
	baz=26						
T28A	**Walsh**	**29.09**	**334**	⇓P	P	22 52 01.7	+6.2
	baz=29						
Q31A	**El Rio**	**29.67**	**339**	⇓P	P	22 52 09.6	+9.0
	baz=30						
U23A	**El Rito**	**30.41**	**328**	⇓P	**P**	**22 52 09.4**	**+2.0**
	baz=30,SNR=6.8						
LPAZ	**La Paz**	**33.09**	**146**	LR	LR	23 06 02.4	
	comp=Z,27nm,19.2s,baz=74,slow=36						
PDAR	**Pinedale Array**	**37.01**	**331**	P	**P**	**22 53 04.4**	**-0.3**
	0.3nm,0.5s,baz=138,slow=9.9,SNR=4.3						
ULM	**Lac du Bonnet**	**39.37**	**351**	P	**P**	**22 53 21.1**	**-3.0**
	4.0nm,0.9s,baz=156,slow=6.9,SNR=7.6						
SCHQ	**Schefferville**	**45.91**	**16**	P	**P**	**22 54 15.9**	**-1.2**
	2.4nm,0.8s,baz=217,slow=7.5,SNR=5.2						
YKA	**Yellowknife Ar**	**54.74**	**344**	P	**P**	**22 55 22.3**	**-1.5**
	0.6nm,0.8s,baz=141,slow=7.2,SNR=11						
ILAR	**Eielson Array**	**67.22**	**336**	P	**P**	**22 56 49.2**	**+0.6**
	0.2nm,0.5s,baz=133,slow=4.6,SNR=5.4						
ASAR	**Alice Springs**	**139.76**	**247**	PKhKP	PKPpre	23 05 20.9	
	0.3nm,0.4s,baz=101,slow=2.3,SNR=4.3						
WRA	**Warramunga Arr**	**139.88**	**253**	PKP	**PKPdf**	**23 05 22.6**	**-0.9**
	0.7nm,0.6s,baz=92,slow=2.6,SNR=14						

DJA 27 22:49:24.0±1.0, 8°S±4°×112°1E±°, h36km±14km, M3.6/8, MLv3.6/8, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.96**	**137**	P	Pn	22 49 40.6	-0.5
EDFI				S	Sn	22 49 54.2	+0.5
MMRI	**Maumere**	**1.33**	**116**	P	Pn	22 49 46.4	+0.3
MMRI				S	Sn	22 50 03.2	+0.6
WSI	**Waingapu**	**1.77**	**204**	P	Pn	22 49 52.4	+0.3
WSI				S	Sn	22 50 14.3	+0.8
BASI	**Baing, Sumba**	**2.21**	**192**	P	Pn	22 49 58.5	+0.3
WBSI	**Waikabubak, Su**	**2.27**	**225**	P	Pn	22 49 59.4	+0.3
BKSI	**Bulukumba**	**2.85**	**341**	P	Pn	22 50 06.8	-0.1
SOEI	**Soe**	**3.62**	**118**	P	Pn	22 50 18.1	+0.3

IDC 27 22:57:39.7±2.4, 33°.75S×72°.92W, h0km, mb3.9/1, mb1 3.5/3, mb1mx3.4/14, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=69.5km s-min=41.1km az=107.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.49**	**63**	Pn	Pn	22 58 49.7	+0.6
	0.1nm,0.3s,baz=240,slow=15,SNR=6.9						
PLCA	**Paso Flores**	**7.22**	**166**	Pn	Pn	22 59 26.9	+0.2
	0.3nm,0.3s,baz=330,slow=15,SNR=4.1						
TORD	**Torodi Ar. Bea**	**84.81**	**71**	P	P	23 10 16.0	-0.5
	1.0nm,0.9s,baz=239,slow=4.6,SNR=5.4						
ZALV	**Zalesovo Beam**	**154.40**	**31**	PKPbc	PKPbc	23 17 41.8	+0.3
	0.6nm,0.5s,baz=300,slow=1.2,SNR=3.2						

NNC 27 23:00:36.3±4.0, 36°.82N×70°.76E, h0km, mb3.8, mpv3.5, 6C-1D, Error ellipse: s-maj=33.0km s-min=19.0km az=2.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.50**	**323**	⇑P	Pn	23 01 18.9	+0.5
DZET				⇑S	Sn	23 01 51.0	+1.1
KK31	**Karatay Array**	**6.28**	**358**	P	Pn	23 02 10.9	+0.7
	1.1nm,0.3s,baz=174,slow=12,SNR=51						
KK31				⇑S	Sn	23 03 23.7	+1.0
	0.8nm,0.5s,baz=188,slow=24,SNR=4.9						
AAK	**Ala-Archa

ARG Arkhangelos 1.25 37 *e*PN **Pg 23 35 22.0 -0.8**
ARG *e*SN **Sg 23 35 38.5 -0.4**
ARG Arkhangelos 1.25 37 P **Pg 23 35 21.8 -1.0**
ARG *e*Sn **Sg 23 35 38.5 -0.4**
ARG S **Sn 23 35 40.5 0.0**
NPS Neapolis 1.30 272 P **Pg 23 35 22.6 -1.2**
NPS S **Sn 23 35 42.3 +0.5**
NPS Neapolis 1.30 272 *e*PN **Pg 23 35 23.1 -0.7**
NPS *e*SN **Sb 23 35 42.1 +1.0**
NPS Neapolis 1.30 272 P **Pg 23 35 22.6 -1.2**
NPS Neapolis 1.30 272 *e*Pn **Pg 23 35 23.1 -0.7**
NPS *e*Sn **Sb 23 35 42.1 +1.0**
NIS1 Nisyros Isl. 1.38 359 P **Pg 23 35 23.6 -1.7**
NIS1 S **Sb 23 35 42.3 -1.0**
NIS1 Nisyros Isl. 1.38 359 *e*PN **Pb 23 35 25.0 -0.3**
NIS1 Nisyros Isl. 1.38 359 *e*Pn **Pg 23 35 24.0 -1.3**
NIS1 Nisyros Isl. 1.38 359 P **Pg 23 35 23.6 -1.7**
NIS1 Nisyros Isl. 1.38 359 *e*Pn **Pb 23 35 25.0 -0.3**
NIS1 S **Sb 23 35 42.3 -1.0**
LAST Lasithi 1.41 268 P **Pn 23 35 24.8 -0.7**
LAST S **Sg 23 35 44.2 0.0**
LAST Lasithi 1.41 268 P **Pn 23 35 24.8 -0.7**
LAST S **Sg 23 35 44.2 0.0**
SANT Santorini 1.82 309 P **Pn 23 35 29.6 -1.5**
SANT Santorini 1.82 309 *e*PN **Pn 23 35 30.2 -0.9**
SANT Santorini 1.82 309 P **Pn 23 35 29.6 -1.5**
SANT Santorini 1.82 309 *e*Pn **Pn 23 35 30.2 -0.9**
THR1 Thera Island 1.82 309 *e*PN **Pn 23 35 30.5 -0.6**
THR1 Thera Island 1.82 309 *e*Pn **Pn 23 35 30.5 -0.6**
BODT Bodrum 1.84 3 *e*PN **Pn 23 35 32.0 +0.6**
BODT Bodrum 1.84 3 *e*Pn **Pn 23 35 32.0 +0.6**
BDRM Kayabasi 1.85 6 *i* P **Pn 23 35 30.7 -0.8**
BDRM *i* S **Sg 23 35 58.4 +0.1**
BDRM Kayabasi 1.85 6 *i* P **Pn 23 35 30.7 -0.8**
BDRM *i* S **Sg 23 35 58.4 +0.1**
THR7 Fira-Santorini 1.87 310 P **Pn 23 35 31.1 -0.7**
IDI Anoyia 1.89 273 **Pn 23 35 32.5 +0.4**
30nm,0.3s,baz=78,slow=15,SNR=118
IDI Sn **Sn 23 35 57.6 +1.1**
70nm,0.3s,baz=165,slow=20,SNR=5.0
IDI LR LR 23 36 37.7
comp=Z,2µm,19.4s,baz=74,slow=52
SIVA Sivas 1.97 265 P **Pn 23 35 32.8 -0.3**
SIVA Sivas 1.97 265 *e*PN **Pn 23 35 35.1 +2.0**
SIVA Sivas 1.97 265 P **Pn 23 35 32.8 -0.3**
DALY Dalyan (Mu¨la 1.98 36 *e*PN **Pn 23 35 33.0 -0.3**
DALY Dalyan (Mu¨la 1.98 36 *e*Pn **Pn 23 35 33.0 -0.3**
FETY Fethiye 2.08 47 *e*PN **Pn 23 35 33.7 -1.0**
FETY Fethiye 2.08 47 *e*Pn **Pn 23 35 33.7 -1.0**
YER Yerkesik 2.10 24 *e*PN **Pn 23 35 34.8 -0.2**
YER Yerkesik 2.10 24 *e*Pn **Pn 23 35 34.8 -0.2**
AKAS Kas 2.20 62 *i* P **Pn 23 35 37.0 +0.5**
AKAS Kas 2.20 62 *i* P **Pn 23 35 37.0 +0.5**
AKAS *i* S **Sg 23 36 12.4 +2.7**
APE Apeiranthos 2.28 324 P **Pn 23 35 36.7 -0.8**
APE S **Sn 23 36 04.4 -1.8**
APE Apeiranthos 2.28 324 *e*PN **Pn 23 35 38.1 +0.6**
APE Apeiranthos 2.28 324 *d i*P **Pn 23 35 36.9 -0.6**
APE Apeiranthos 2.28 324 *e*PN **Pn 23 35 36.8 -0.8**
APE Apeiranthos 2.28 324 ⇓*i*P **Pn 23 35 37.6 +0.1**
APE Apeiranthos 2.28 324 *i* P **Pn 23 35 36.9 -0.6**
APE S **Sn 23 36 04.4 -1.8**
VAM Vamos 2.46 275 P **Pn 23 35 38.5 -1.4**
VAM S **Sn 23 36 10.0 -0.5**
VAM Vamos 2.46 275 *e*PN **Pn 23 35 39.6 -0.3**
VAM Vamos 2.46 275 P **Pn 23 35 38.5 -1.4**
VAM Vamos 2.46 275 *e*Pn **Pn 23 35 39.6 -0.3**
VAM S **Sn 23 36 10.0 -0.5**
GCAM G?zelcaml? 2.47 1 *i* P **Pn 23 35 40.6 +0.5**
GCAM *i* S **Sb 23 36 13.2 -1.6**
GCAM G?zelcaml? 2.47 1 *i* P **Pn 23 35 40.6 +0.5**
GCAM *i* S **Sb 23 36 13.2 -1.6**
AYDN Tasoluk 2.49 12 *i* P **Pn 23 35 41.3 +0.9**
AYDN *i* S **Sb 23 36 14.7 -0.8**
AYDN Tasoluk 2.49 12 *i* P **Pn 23 35 41.3 +0.9**
AYDN *i* S **Sb 23 36 14.7 -0.8**
SMG Samos 2.50 353 P **Pn 23 35 38.9 -1.5**
SMG Samos 2.50 353 *e*PN **Pn 23 35 39.0 -1.5**
SMG Samos 2.50 353 *e*Pn **Pn 23 35 39.0 -1.5**
ELL Elmali 2.67 55 *e*PN **Pn 23 35 42.4 -0.6**
ELL Elmali 2.67 55 *e*Pn **Pn 23 35 42.4 -0.6**
KARN Karanos 2.69 275 P **Pn 23 35 43.6 +0.5**
KARN Karanos 2.69 275 *e*PN **Pn 23 35 43.9 +0.8**
KARN Karanos 2.69 275 P **Pn 23 35 43.6 +0.5**
KARN Karanos 2.69 275 *e*Pn **Pn 23 35 43.9 +0.8**
GOLH Golhisar 2.77 43 *i* P **Pn 23 35 45.7 +1.4**
GOLH Golhisar 2.77 43 *i* P **Pn 23 35 45.7 +1.4**
GOLH *i* S **Sg 23 36 29.8 +1.8**
AYDB Zeytinkoy-Aydi 2.77 11 *e*PN **Pn 23 35 44.6 +0.3**
AYDB Zeytinkoy-Aydi 2.77 11 *e*Pn **Pn 23 35 44.6 +0.3**
DNZL Cakiroluk 2.88 31 *i* P **Pn 23 35 46.3 +0.5**
DNZL Cakiroluk 2.88 31 *i* P **Pn 23 35 46.3 +0.5**
DNZL *i* S **Sb 23 36 28.2 +1.6**
DENT Denizli 2.93 30 *e*PN **Pn 23 35 47.3 +0.9**
DENT Denizli 2.93 30 *e*Pn **Pn 23 35 47.3 +0.9**
BLCB Balcova 3.16 358 *e*PN **Pn 23 35 50.3 +0.8**
BLCB Balcova 3.16 358 *e*Pn **Pn 23 35 50.3 +0.8**
IZM Izmir 3.17 1 *e*PN **Pn 23 35 50.7 +1.0**
IZM Izmir 3.17 1 *e*Pn **Pn 23 35 50.7 +1.0**
ANKY Antikythira Is 3.24 283 P **Pn 23 35 50.4 -0.3**
ANKY S **Sn 23 36 30.2 +0.4**
ANKY Antikythira Is 3.24 283 *e*PN **Pn 23 35 50.4 -0.3**
ANKY Antikythira Is 3.24 283 P **Pn 23 35 50.4 -0.3**
ANKY S **Sn 23 36 30.2 +0.4**
KULA Kula-Manisa 3.49 19 *e*PN **Pn 23 35 54.4 +0.3**
KULA Kula-Manisa 3.49 19 *e*Pn **Pn 23 35 54.4 +0.3**
KYTH Kithira 3.55 289 *e*PN **Pn 23 35 55.2 +0.3**
KYTH Kithira 3.55 289 *e*Pn **Pn 23 35 55.2 +0.3**
KHL Karahalli 3.61 30 *e*PN **Pn 23 35 56.5 +0.7**
KHL Karahalli 3.61 30 *e*Pn **Pn 23 35 56.5 +0.7**
AKS Akhisar 3.68 7 *e*PN **Pn 23 35 57.1 +0.4**
AKS Akhisar 3.68 7 *e*Pn **Pn 23 35 57.1 +0.4**
ISP Isparta 3.73 45 ⇑*i*P **Pn 23 35 57.9 +0.5**
VLI Veliai 3.77 295 P **Pn 23 35 57.4 -0.4**
VLI S **Sn 23 36 42.1 -0.6**
VLI Veliai 3.77 295 *e*PN **Pn 23 35 57.6 -0.2**
VLI Veliai 3.77 295 P **Pn 23 35 57.4 -0.4**
VLI S **Sn 23 36 42.1 -0.6**
MATC Matruh 3.87 180 P **Pn 23 35 59.0 -0.2**
baz=182
PTL Penteli 3.89 317 *e*PN **Pn 23 35 59.9 +0.3**
PTL Penteli 3.89 317 *e*Pn **Pn 23 35 59.9 +0.3**
ATH Athens Observa 3.92 315 *e*PN **Pn 23 36 00.9 +0.9**
ATH Athens Observa 3.92 315 *e*Pn **Pn 23 36 00.9 +0.9**
SLUM 4.08 205 P **Pn 23 36 01.6 -0.5**
SLUM 4.08 205 P **Pn 23 36 01.6 -0.5**
baz=207
SIGR SIGRI 4.12 345 P **Pn 23 36 01.7 -1.0**
SIGR SIGRI 4.12 345 *e*PN **Pn 23 36 03.7 +1.0**
SIGR SIGRI 4.12 345 *e*PN **Pn 23 36 02.0 -0.7**
SIGR SIGRI 4.12 345 P **Pn 23 36 01.7 -1.0**
SIGR SIGRI 4.12 345 *e*Pn **Pn 23 36 02.0 -0.7**
AKMC Akamas 4.21 91 P **Pn 23 36 02.5 -1.5**
baz=273
AKMC Akamas 4.21 91 P **Pn 23 36 02.5 -1.5**
PPCY Paphos 4.24 93 P **Pn 23 36 03.4 -0.9**
baz=275
PPCY Paphos 4.24 93 P **Pn 23 36 03.4 -0.9**
LTK Loutraki 4.40 311 *e*PN **Pn 23 36 08.2 +1.6**
LTK Loutraki 4.40 311 *e*Pn **Pn 23 36 08.2 +1.6**
ALFC Alevga 4.42 89 P **Pn 23 36 05.4 -1.5**
baz=272
ALFC S **Sn 23 36 58.8 -0.1**
ALFC Alevga 4.42 89 P **Pn 23 36 05.4 -1.5**
ALFC S **Sn 23 36 58.8 -0.1**
BALB Balikesir 4.44 7 *e*PN **Pn 23 36 08.6 +1.5**
BALB Balikesir 4.44 7 *e*Pn **Pn 23 36 08.6 +1.5**
DST Dursunbey 4.52 14 *e*PN **Pn 23 36 08.9 +0.7**
DST Dursunbey 4.52 14 *e*Pn **Pn 23 36 08.9 +0.7**
MRKA Markates 4.52 321 *e*PN **Pn 23 36 08.6 +0.3**
MRKA Markates 4.52 321 *e*Pn **Pn 23 36 08.6 +0.3**
SZAC Souni-Zanaja 4.69 94 P **Pn 23 36 09.3 -1.3**
baz=276
SZAC S **Sn 23 37 05.2 -0.3**
SZAC Souni-Zanaja 4.69 94 P **Pn 23 36 09.3 -1.3**
SZAC S **Sn 23 37 05.2 -0.3**
PYL PYLOS 4.73 292 *e*PN **Pn 23 36 11.1 +0.1**
PYL PYLOS 4.73 292 *e*Pn **Pn 23 36 11.1 +0.1**
AOS Alonnisos 4.75 327 *e*PN **Pn 23 36 12.3 +0.9**
AOS Alonnisos 4.75 327 *e*Pn **Pn 23 36 12.3 +0.9**

MAMC Mammari 4.93 89 P **Pn 23 36 12.6 -1.2**
baz=272
MAMC Mammari 4.93 89 P **Pn 23 36 12.6 -1.2**
LIA Limnos Island 4.93 342 *e*PN **Pn 23 36 13.7 -0.2**
LIA Limnos Island 4.93 342 *e*Pn **Pn 23 36 13.7 -0.2**
LPK Lapseki 5.15 356 *e*PN **Pn 23 36 18.5 +1.6**
LPK Lapseki 5.15 356 *e*Pn **Pn 23 36 18.5 +1.6**
GELI Tayfur-Gelibol 5.20 354 *e*PN **Pn 23 36 19.2 +1.7**
GELI Tayfur-Gelibol 5.20 354 *e*Pn **Pn 23 36 19.2 +1.7**
SMTH Samothraki Isl 5.40 346 *e*PN **Pn 23 36 20.1 -0.2**
SMTH Samothraki Isl 5.40 346 *e*Pn **Pn 23 36 20.1 -0.2**
PHNC Paralimni 5.61 90 P **Pn 23 36 24.5 +1.4**
baz=274
PHNC S **Sn 23 37 30.3 +2.3**
OUR Ouranopolis 5.70 334 *e*PN **Pn 23 36 26.1 +1.7**
OUR Ouranopolis 5.70 334 *e*Pn **Pn 23 36 26.1 +1.7**
SWA2 6.14 194 P **Pn 23 36 30.3 -0.2**
SWA2 6.14 194 P **Pn 23 36 30.3 -0.2**
baz=196
SWA2 S Sn 23 37 35.8 -5.5
baz=196
SWA2 AMP 23 38 00.0
comp=E,80µm,0.7s,logA/T=5.0,baz=196
HMYD Mayadein 6.21 150 P Pn 23 36 30.1 -1.3
HMYD Mayadein 6.21 150 P Pn 23 36 30.1 -1.3
baz=150
HNAT Natroun 6.28 152 P Pn 23 36 31.0 -1.4
HNAT Natroun 6.28 152 P Pn 23 36 31.0 -1.4
baz=152
ANTO Ankara 6.42 42 ⇑*i*P **Pn 23 36 34.5 +0.1**
KDZ Kurdzhali 6.57 348 ⇑*i*P **Pn 23 36 37.3 +1.0**
KOT Kottamia 6.57 142 P Pn 23 36 34.6 -1.8
KOT Kottamia 6.57 142 P Pn 23 36 34.6 -1.8
baz=142
GLL Jalalah 6.80 145 P Pn 23 36 38.3 -1.3
GLL Jalalah 6.80 145 P Pn 23 36 38.3 -1.3
baz=145
AMAG Maghara 6.81 130 P Pn 23 36 37.8 -1.9
AMAG Maghara 6.81 130 P Pn 23 36 37.8 -1.9
baz=130
BRTR Keskin Array B 6.81 47 P **Pn 23 36 40.0 +0.2**
BRTR 23 37 59.4
BRTR pmax pmax
comp=Z,1.0nm,0.3s
BRTR MLR MLR
comp=Z,439nm,19.6s
BRTR Keskin Array B 6.81 47 Pn **Pn 23 36 40.0 +0.2**
comp=Z,0.6nm,0.3s,baz=214,slow=12,SNR=45
BRTR Sn **Sn 23 37 59.4 +1.4**
comp=Z,0.1nm,0.3s,baz=216,slow=24,SNR=3.5
BRTR LR LR 23 40 05.5
comp=Z,439nm,19.6s,baz=224,slow=45
MMB Musomiste 6.92 338 ⇑*i*P **Pn 23 36 41.6 +0.5**
RSH 6.93 126 P Pn 23 36 39.3 -2.0
RSH 6.93 126 P Pn 23 36 39.3 -2.0
baz=126
AWBH 7.03 168 P Pn 23 36 41.2 -1.6
AWBH 7.03 168 P Pn 23 36 41.2 -1.6
baz=168
BHL Bhannes 7.10 98 *e*P Pn 23 36 40.9 -2.8
BHL Bhannes 7.10 98 *e*P Pn 23 36 40.9 -2.8
MMAI Mount Meron Ar 7.15 106 Pn Pn 23 36 42.7 -1.8
comp=Z,5.8nm,0.3s,baz=304,slow=12,SNR=43
MMAI Sn **Sn 23 38 05.1 -1.1**
comp=Z,11nm,0.3s,baz=309,slow=29,SNR=13
SUZ 7.17 137 P Pn 23 36 43.8 -0.9
SUZ 7.17 137 P Pn 23 36 43.8 -0.9
baz=137
HWQ Hawqa 7.26 95 *e*P Pn 23 36 43.8 -2.2
HWQ Hawqa 7.26 95 *e*P Pn 23 36 43.8 -2.2
RCY Rachaya 7.35 101 *e*P Pn 23 36 44.7 -2.5
HNKL Nakhl 7.78 131 P Pn 23 36 52.0 -1.1
HNKL Nakhl 7.78 131 P Pn 23 36 52.0 -1.1
baz=131
HNKL S Sn 23 38 14.0 -7.8
baz=131
VTS Vitosha 7.99 338 ⇑P **Pn 23 36 58.2 +2.2**
VTS Vitosha 7.99 338 ⇑*i*P **Pn 23 36 58.2 +2.2**
VTS Vitosha 7.99 338 P **Pn 23 36 58.2 +2.2**
EIL Elat 8.57 128 Pn Pn 23 37 01.9 -2.0
comp=Z,0.7nm,0.3s,baz=323,slow=5.6,SNR=14
EIL Sn Sn 23 38 34.9 -6.3
comp=Z,2.9nm,0.3s,baz=10,slow=12,SNR=7.9
HKAT Jabal Katrina 8.83 137 P Pn 23 37 06.2 -1.4
HKAT Jabal Katrina 8.83 137 P Pn 23 37 06.2 -1.4
baz=137
TLB Topalu 9.37 4 ⇓P **Pn 23 37 16.5 +1.7**
TLB Topalu 9.37 4 ⇓*i*P **Pn 23 37 16.5 +1.7**
TLB Topalu 9.37 4 P **Pn 23 37 16.5 +1.7**
HUMR Humele 9.45 350 ⇓*i*P **Pn 23 37 18.1 +2.3**
MALT Malatya 9.52 68 ⇑P **Pn 23 37 15.3 -1.7**
MALT Malatya 9.52 68 ⇑*i*P **Pn 23 37 15.3 -1.7**
MALT Malatya 9.52 68 P **Pn 23 37 15.3 -1.7**
ISR Istrita 9.90 357 ⇓P **Pn 23 37 24.7 +2.7**
ISR Istrita 9.90 357 ⇓*i*P **Pn 23 37 24.6 +2.6**
ISR Istrita 9.90 357 P **Pn 23 37 24.7 +2.7**
CFR Carcaliu 9.97 4 ⇓P **Pn 23 37 25.4 +2.5**
CFR Carcaliu 9.97 4 ⇓*i*P **Pn 23 37 25.4 +2.5**
CFR Carcaliu 9.97 4 P **Pn 23 37 25.4 +2.5**
MLR Muntele Rosu 10.30 355 ⇓*i*P Pn 23 37 31.2 +3.6
MLR Muntele Rosu 10.30 355 Pn Pn 23 37 31.2 +3.6
comp=Z,0.0nm,0.3s,baz=230,slow=8.8,SNR=8.1
MLR LR LR 23 41 51.9
comp=Z,47nm,21.5s,baz=182,slow=40
ARR Arges 10.32 350 ⇓*i*P Pn 23 37 31.9 +4.1
VOIR 10.33 352 ⇓P **Pn 23 37 30.6 +2.6**
VOIR 10.33 352 ⇓*i*P **Pn 23 37 30.6 +2.6**
VOIR 10.33 352 P **Pn 23 37 30.6 +2.6**
PLOR Plostina 10.62 358 ⇑P Pn 23 37 35.7 +3.7
PLOR Plostina 10.62 358 ⇑*i*P Pn 23 37 35.7 +3.7
PLOR Plostina 10.62 358 P Pn 23 37 35.7 +3.7
VRI Vrincioaia 10.64 358 ⇑P Pn 23 37 36.8 +4.6
VRI Vrincioaia 10.64 358 ⇑*i*P Pn 23 37 36.8 +4.6
VRI Vrincioaia 10.64 358 P Pn 23 37 36.8 +4.6
GZR Gura Zlata 10.70 343 ⇑P **Pn 23 37 33.2 +0.1**
GZR Gura Zlata 10.70 343 ⇑*i*P **Pn 23 37 33.2 +0.1**
GZR Gura Zlata 10.70 343 P **Pn 23 37 33.2 +0.1**
DOPR Dopca 10.82 353 ⇑*i*P **Pn 23 37 35.5 +0.8**
BZS Buzias 11.22 339 ⇑P **Pn 23 37 40.5 +0.5**
BZS Buzias 11.22 339 ⇑*i*P **Pn 23 37 40.5 +0.5**
BZS Buzias 11.22 339 P **Pn 23 37 40.5 +0.5**
TESR Tescani 11.29 358 ⇑*i*P **Pn 23 37 42.8 +1.8**
ANN Anapa 12.36 36 *e*P **Pn 23 37 54.6 -1.1**
ANN pmax pmax
comp=Z,11nm,0.9s
ANN Anapa 12.36 36 *e*P **Pn 23 37 54.6 -1.1**
comp=Z,11nm,0.9s
CHVG Ch'k'valeri 13.78 53 P **P 23 38 26.0 +2.2**
UZH Uzhgorod 13.88 346 *e*P **Pn 23 38 17.1 +0.7**
UZH *e*S **Sn 23 40 52.5 +1.5**
UZH Uzhgorod 13.88 346 *e*P **Pn 23 38 17.1 +0.7**
UZH *e*S **Sn 23 40 52.5 +1.5**
KOLS Kolonicke sedl 14.18 347 *e*P **P 23 38 28.2 0.0**
KOLS Kolonicke sedl 14.18 347 *e*P **P 23 38 28.2 0.0**
KOLS Kolonicke sedl 14.18 347 *e*PN **P 23 38 28.2 0.0**
CRVS Cervenica-Dubn 14.31 345 *e*P **P 23 38 31.2 +1.5**
CRVS Cervenica-Dubn 14.31 345 *e*P **P 23 38 31.2 +1.5**
CRVS Cervenica-Dubn 14.31 345 *e*PN **P 23 38 31.2 +1.5**
KEST Kesra 14.56 277 Pn Pn 23 38 29.2 +3.3
comp=Z,0.0nm,0.3s,baz=35,slow=18,SNR=2.0
ONI Oni 14.62 55 P **P 23 38 33.5 +0.2**
ONI Oni 14.62 55 P **P 23 38 33.5 +0.2**
VYHS Vyhne 14.64 337 *e*P **P 23 38 34.2 +0.9**
VYHS Vyhne 14.64 337 *e*P **P 23 38 34.2 +0.9**
VYHS Vyhne 14.64 337 *e*PN **P 23 38 34.2 +0.9**
GNI Garni 14.73 65 LR LR 23 45 37.2
comp=Z,103nm,20.1s,baz=272,slow=44
KIV Kislovodsk 14.77 49 *e*P **Pn 23 38 28.8 +0.1**
KIV *e*S Sn 23 41 19.6 +6.8
KIV pmax pmax
comp=Z,9.0nm,1.2s
KIV MLR MLR
comp=Z,75nm,14.0s
KIV Kislovodsk 14.77 49 *e*P **Pn 23 38 28.8 +0.1**
comp=Z,75nm,14.0s
KIV *e*S Sn 23 41 19.6 +6.8
LVV L'vov 14.77 352 *e*P P 23 38 42.5 +7.7
LVV MLR MLR
comp=Z,100nm,11.0s
LVV MLR MLR
comp=N,100nm,12.0s
LVV MLR MLR
comp=E,70nm,12.0s

LVV L'vov 14.77 352 *e*P P 23 38 42.5 +7.7
comp=E,100nm,11.0s
KBZ Khabaz 14.78 50 Pn **Pn 23 38 31.7 +2.9**
comp=E,0.0nm,0.3s,baz=240,slow=8.1,SNR=3.0
KBZ LR LR 23 45 06.9
comp=E,86nm,19.5s,baz=254,slow=41
STHS Stebnicka Huta 14.84 345 *e*P **P 23 38 36.4 +0.8**
STHS Stebnicka Huta 14.84 345 *e*P **P 23 38 36.4 +0.8**
STHS Stebnicka Huta 14.84 345 *e*PN **P 23 38 36.4 +0.8**
ZEI Tsey 15.01 55 *e*P Pn 23 38 35.3 +3.3
ZEI pmax pmax
comp=Z,11nm,1.0s
GUDG Gudauri 15.27 57 P **P 23 38 41.0 +0.4**
GUDG Gudauri 15.27 57 P **P 23 38 41.0 +0.4**
KIEV Kiev 15.53 5 *e*P **Pn 23 38 41.1 +2.4**
KIEV Kiev 15.53 5 *e*P **Pn 23 38 41.1 +2.4**
AKASG Malin Array Be 15.54 5 *i* P **P 23 38 41.7 -1.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 15.54 5 Pn **Pn 23 38 39.2 +0.4**
comp=Z,1.9nm,0.3s,baz=196,slow=11,SNR=12
AKASG Malin Array Be 15.54 5 *i* P **P 23 38 41.7 -1.6**
comp=Z,1.0nm,0.4s
DGRG David-gareji 15.55 61 P **Pn 23 38 42.1 +3.1**
DGRG David-gareji 15.55 61 P **Pn 23 38 42.1 +3.1**
KBA Koelnbreinsper 15.76 323 ⇑*i*Pn **P 23 38 45.9 0.0**
PGF Pioggiola 15.93 303 *e*P **Pn 23 38 41.1 -3.0**
OKC Ostrava-Krasne 16.04 338 *e*P **P 23 38 52.0 +3.2**
OKC Ostrava-Krasne 16.04 338 *e*P **P 23 38 52.0 +3.2**
OKC Ostrava-Krasne 16.04 338 *e*P **P 23 38 52.0 +3.2**
TREC Trest 16.49 332 *e*P **P 23 38 53.3 -0.6**
TREC Trest 16.49 332 *e*P **P 23 38 53.3 -0.6**
TREC *epP* Pn 23 38 57.4 +6.3
TREC Trest 16.49 332 *e*P **P 23 38 53.3 -0.6**
KRLC Kraliky 16.68 336 *e*P **P 23 38 58.6 +2.6**
KRLC Kraliky 16.68 336 *e*P **P 23 38 58.6 +2.6**
KRLC Kraliky 16.68 336 *e*P **P 23 38 58.6 +2.6**
GERES GERESS Array B 16.87 328 Pn **Pn 23 38 56.3 +0.3**
comp=Z,0.1nm,0.3s,baz=135,slow=11,SNR=9.1
DPC Dobruska-Polom 17.07 336 *e*P **Pn 23 38 59.2 +0.8**
DPC Dobruska-Polom 17.07 336 *e*P **Pn 23 38 59.2 +0.8**
DPC *epP* **P 23 39 02.9 +2.6**
DPC Dobruska-Polom 17.07 336 *e*P **Pn 23 38 59.2 +0.8**
KHC Kasperske Hory 17.14 328 *e*P **Pn 23 38 58.6 -0.7**
KHC Kasperske Hory 17.14 328 *e*P **Pn 23 38 58.6 -0.7**
KHC *epP* **P 23 39 03.3 +2.2**
KHC Kasperske Hory 17.14 328 *e*P **Pn 23 38 58.6 -0.7**
DAVOX Davos/Dischmat 17.40 317 P **Pn 23 39 03.0 +0.2**
DAVOX Davos/Dischmat 17.40 317 Pn **Pn 23 39 03.0 +0.2**
comp=Z,0.1nm,0.3s,baz=139,slow=20,SNR=3.1
DAVOX Davos/Dischmat 17.40 317 P **Pn 23 39 03.0 +0.2**
PRU Pruhonice 17.41 332 *e*P **Pn 23 39 03.3 +0.6**
PRU MLR MLR
comp=Z,200nm,17.0s
PRU Pruhonice 17.41 332 *e*P **Pn 23 39 03.3 +0.6**
PRU *epP* **P 23 39 07.3 +3.2**
PRU AMS AMS 23 46 20.0
comp=Z,200nm,17.0s
PRU Pruhonice 17.41 332 *e*P **Pn 23 39 03.3 +0.6**
comp=Z,200nm,17.0s
VSR Storozhevoye 18.17 25 *e*P **P 23 39 14.9 +2.5**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,9.0nm,0.9s
VSR Storozhevoye 18.17 25 *e*P **P 23 39 14.9 +2.5**
MBDF Montbardon 18.27 307 *e*P **Pn 23 39 11.5 -2.0**
comp=Z,13nm,0.7s
MBDF Montbardon 18.27 307 *e*P **Pn 23 39 11.5 -2.0**
comp=Z,6.4nm,0.7s
BRG Berggiesshubel 18.35 333 *e*P P 23 39 22.4 +8.0
comp=Z,5.2nm,0.8s
BRG Berggiesshubel 18.35 333 *e*P P 23 39 22.4 +8.0
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 18.35 333 *e*P P 23 39 22.4 +8.0
comp=Z,5.0nm,0.8s
GRA1 Grafenberg Arr 18.60 326 *e*P **P 23 39 17.6 +0.5**
comp=Z,8.0nm,1.5s
GRF Grafenberg Arr 18.60 326 *e*P **P 23 39 17.6 +0.5**
comp=Z,8.0nm,1.5s
LPG La Plagne 18.61 310 *e*P **P 23 39 14.8 -2.8**
comp=Z,12nm,0.7s
LPG La Plagne 18.61 310 *e*P **P 23 39 14.8 -2.8**
comp=Z,5.9nm,0.7s
LPL La Plagne 18.63 310 *e*P **P 23 39 14.7 -3.1**
comp=Z,16nm,0.9s
ORIF Oris-en-Rattie 18.93 307 *e*P **P 23 39 18.3 -2.6**
comp=Z,26nm,1.1s
ORIF *e*R
comp=Z,104nm,19.3s
ORIF Oris-en-Rattie 18.93 307 *e*P **P 23 39 18.3 -2.6**
comp=Z,13nm,1.1s
VRHR Novokhopersk 18.98 29 *e*P **P 23 39 21.4 +0.1**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR Novokhopersk 18.98 29 *e*P **P 23 39 21.4 +0.1**
CLL Collm 19.06 332 *e*P **Pn 23 39 24.0 +1.1**
CLL Collm 19.06 332 *e*P **Pn 23 39 24.0 +1.1**
CLL *i* (sP) 23 39 27.1
comp=Z,34nm,1.8s
CLL Collm 19.06 332 *e*P **Pn 23 39 24.0 +1.1**
CABF La Chapelle 19.53 312 *e*P **P 23 39 26.2 -1.3**
comp=Z,16nm,0.6s
CABF La Chapelle 19.53 312 *e*P **P 23 39 26.2 -1.3**
comp=Z,8.1nm,0.6s
HINF Hinteralfeld 19.69 316 *e*P **P 23 39 29.2 +0.1**
HINF Hinteralfeld 19.69 316 *e*P **P 23 39 29.2 +0.1**
VIVF Saint-Julien-I 19.69 306 *e*P **P 23 39 27.7 -1.5**
comp=Z,17nm,0.9s
VIVF Saint-Julien-I 19.69 306 *e*P **P 23 39 27.7 -1.5**
comp=Z,8.6nm,0.9s
CDF Champ du Feu 19.78 318 *e*P **P 23 39 29.6 -0.6**
comp=Z,19nm,1.1s
CDF Champ du Feu 19.78 318 *e*P **P 23 39 29.6 -0.6**
comp=Z,9.4nm,1.1s
HAU Haudompre 20.07 316 *e*P **P 23 39 32.4 -0.9**
comp=Z,5.8nm,0.6s
HAU *e*R
comp=Z,158nm,21.0s
HAU Haudompre 20.07 316 *e*P **P 23 39 32.4 -0.9**
comp=Z,2.9nm,0.6s
PAGF Fort de Pagny 20.72 317 *e*P **P 23 39 39.3 -1.0**
PAGF Fort de Pagny 20.72 317 *e*P **P 23 39 39.3 -1.0**
OBN Obninsk 20.92 15 *e*P **P 23 39 42.9 +0.5**
OBN *i* 23 39 58.2
OBN pmax pmax
comp=Z,11nm,1.0s
OBN Obninsk 20.92 15 P **P 23 39 41.3 -1.1**
comp=Z,9.1nm,0.6s,baz=175,slow=21,SNR=4.6
OBN LR LR 23 48 37.6
comp=Z,50nm,19.4s,baz=268,slow=39
OBN Obninsk 20.92 15 *e*P **P 23 39 42.9 +0.5**
comp=Z,11nm,1.0s
SFTF Sexfontaines 20.93 315 *e*P **P 23 39 41.9 -0.7**
comp=Z,45nm,1.1s,baz=117
SFTF Sexfontaines 20.93 315 *e*P **P 23 39 41.9 -0.7**
comp=Z,22nm,1.1s
SMF Signal de Mont 20.93 310 *e*P **P 23 39 40.6 -2.0**
comp=Z,8.0nm,0.6s
SMF Signal de Mont 20.93 310 *e*P **P 23 39 40.6 -2.0**
comp=Z,4.0nm,0.6s
MEZF Maizieres J'vi 21.07 316 *e*P **P 23 39 45.7 +1.6**
MEZF Maizieres J'vi 21.07 316 *e*P **P 23 39 45.7 +1.6**
LOR Lormes 21.19 312 *e*P **P 23 39 43.5 -1.9**
LOR *e*R
comp=Z,144nm,18.5s
LOR Lormes 21.19 312 *e*P **P 23 39 43.5 -1.9**
AVF Avril sur Loir 21.30 310 *e*P **P 23 39 43.9 -2.7**
comp=Z,30nm,1.1s
AVF Avril sur Loir 21.30 310 *e*P **P 23 39 43.9 -2.7**
comp=Z,15nm,1.1s
SSF Saint Saulge 21.32 311 *e*P **P 23 39 44.4 -2.4**
SSF Saint Saulge 21.32 311 *e*P **P 23 39 44.4 -2.4**
CAF Calviac 21.46 304 *e*P **P 23 39 47.3 -1.1**
comp=Z,37nm,1.4s
CAF Calviac 21.46 304 *e*P **P 23 39 47.3 -1.1**
comp=Z,19nm,1.4s
BGF Bois d'Agland 21.52 309 *e*P **P 23 39 46.4 -2.6**

BGF	Bois d'Agland	21.52	309	eP	P	23 39 46.4	-2.6
RJF	Les Rejaudoux	21.95	305	eP	P	23 39 51.7	-1.9
	comp=Z,48nm,1.3s						
RJF				eR			
	comp=Z,119nm,21.2s						
RJF	Les Rejaudoux	21.95	305	eP	P	23 39 51.7	-1.9
	comp=Z,24nm,1.3s						
BAIF	Baives	22.36	319	eP	P	23 39 55.6	-2.4
BAIF	Baives	22.36	319	eP	P	23 39 55.6	-2.4
LFF	La Frestale	22.36	304	eP	P	23 39 55.9	-2.1
	comp=Z,319nm,1.9s						
LFF	La Frestale	22.36	304	eP	P	23 39 55.9	-2.1
	comp=Z,159nm,1.9s						
MFF	Saint Martin d	23.46	307	eP	P	23 40 06.4	-3.1
LDF	La Druitiere	24.18	312	eP	P	23 40 12.8	-3.5
	comp=Z,8.7nm,0.7s						
FLN	La Foliniere	24.46	312	eP	P	23 40 15.6	-3.3
	comp=Z,17nm,0.7s						
FLN				eR			
	comp=Z,111nm,17.5s						
GRR	Gorron	24.55	311	eP	P	23 40 16.0	-3.7
	comp=Z,40nm,1.1s						
GEYT	Alibeck	24.92	75	P	P	23 40 21.5	-1.8
	comp=Z,2.5nm,0.8s,baz=331,slow=5.8,SNR=5.2						
ESDC	Sonseca Array	25.07	289	P	P	23 40 23.0	-1.6
	comp=Z,1.5nm,0.6s,baz=82,slow=9.9,SNR=14						
ROSF	Rostrenen	26.04	310	eP	P	23 40 30.4	-2.8
FINES	FINESS Array B	26.25	359	i P	P	23 40 40.0	+5.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	26.25	359	P	P	23 40 34.0	-0.9
	comp=Z,1.4nm,0.5s,baz=162,slow=12,SNR=9.1						
FINES				LR	LR	23 50 40.8	
	comp=Z,73nm,20.9s,baz=184,slow=36						
MDT	Midelt	26.42	274	P	P	23 40 36.6	-0.4
	comp=Z,1.9nm,0.8s,baz=85,slow=7.7,SNR=4.3						
MDT				LR	LR	23 53 43.4	
	comp=Z,34nm,20.4s,baz=94,slow=43						
HFS	Hagfors	26.42	345	P	P	23 40 36.1	-0.4
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS				MLR	MLR		
	comp=Z,94nm,18.8s						
HFS	Hagfors	26.42	345	P	P	23 40 36.1	-0.4
	comp=Z,1.8nm,0.6s,baz=121,slow=11,SNR=5.7						
HFS				LR	LR	23 52 06.0	
	comp=Z,94nm,18.8s,baz=164,slow=39						
KLMR	Klimovskoe	26.84	13	eP	P	23 40 41.0	+0.7
KLMR				pmax	pmax		
	comp=Z,26nm,2.2s						
KLMR	Klimovskoe	26.84	13	eP	P	23 40 41.0	+0.7
	comp=Z,26nm,2.2s						
KAF	Kangasniemi	26.92	359	eP	P	23 40 39.8	-1.2
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	Kangasniemi	26.92	359	ep	P	23 40 39.8	-1.2
	comp=Z,1.3nm,0.5s						
KAF	Kangasniemi	26.92	359	eP	P	23 40 39.8	-1.2
	comp=Z,1.0nm,0.5s						
AKTK	Aktyubinsk	26.99	46	P	P	23 40 40.8	-1.0
	comp=Z,2.0nm,0.7s						
AKTO	Aktyubinsk	26.99	46	P	P	23 40 40.8	-1.0
	comp=Z,2.0nm,0.7s,baz=229,slow=11,SNR=4.1						
AKTO				LR	LR	23 54 00.5	
	comp=Z,42nm,18.2s,baz=208,slow=42						
NOA	NORSAR Array B	27.79	343	P	P	23 40 49.1	+0.2
	comp=Z,0.7nm,0.8s,baz=147,slow=10,SNR=3.0						
NOA				LR	LR	23 52 13.9	
	comp=Z,18nm,19.7s,baz=150,slow=37						
JOF	Joensuu	27.84	4	eP	P	23 40 45.8	-3.4
JOF				pmax	pmax		
	comp=Z,1.0nm,0.6s						
JOF	Joensuu	27.84	4	ep	P	23 40 45.8	-3.4
	comp=Z,0.8nm,0.6s						
EKA	Eskdalemuir Ar	28.97	323	P	P	23 41 00.9	+1.5
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EKA	Eskdalemuir Ar	28.97	323	P	P	23 41 00.8	+1.5
	comp=Z,0.8nm,0.6s,baz=123,slow=10,SNR=3.9						
TORD	Torodi Ar. Bea	31.83	233	P	P	23 41 24.0	-1.0
	comp=Z,2.7nm,0.6s,baz=30,slow=8.4,SNR=34						
TORD				LR	LR	23 57 23.4	
	comp=Z,80nm,18.8s,baz=30,slow=42						
ARCES	ARCESS Array B	34.38	359	P	P	23 41 45.0	-1.8
	comp=Z,1.0nm,0.7s,baz=170,slow=8.1,SNR=7.8						
ARCES				PcP	PcP	23 44 22.2	-0.2
	comp=Z,3.3nm,0.9s,baz=198,slow=2.3,SNR=5.3						
ARCES				LR	LR	23 58 16.8	
	comp=Z,21nm,18.6s,baz=202,slow=41						
KMBO	Kilima Mbogo	37.37	163	LR	LR	23 56 38.4	
	comp=Z,57nm,20.7s,baz=226,slow=35						
DBIC	Dimbokro	40.93	234	P	P	23 42 41.1	-1.6
	comp=Z,2.5nm,1.0s,baz=27,slow=6.7,SNR=6.0						
DBIC				LR	LR	00 02 56.1	
	comp=Z,77nm,18.8s,baz=29,slow=41						
MKAR	Makanchi Array	42.34	57	P	P	23 42 53.5	-0.6
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	Makanchi Array	42.34	57	P	P	23 42 53.5	-0.6
	comp=Z,3.0nm,0.6s,baz=282,slow=6.6,SNR=34						
SPITS	Spitsbergen Ar	43.31	357	P	P	23 43 00.8	-0.7
SPITS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SPITS	Spitsbergen Ar	43.31	357	P	P	23 43 00.8	-0.7
	comp=Z,0.6nm,0.3s,baz=185,slow=14,SNR=11						
ZALV	Zalesovo Beam	43.76	46	P	P	23 43 04.1	-1.3
	comp=Z,2.2nm,0.6s,baz=255,slow=11,SNR=6.1						
ZALV				LR	LR	00 03 23.3	
	comp=Z,33nm,18.0s,baz=30,slow=39						
DANN	Dangsing	48.02	82	eP	P	23 43 39.8	0.0
	comp=Z,27nm,0.7s						
KOLN	Koldanda	48.12	82	eP	P	23 43 40.0	-0.4
	comp=Z,5.8nm,0.5s						
GKN	Gorkha	48.87	82	eP	P	23 43 45.7	-0.4
	comp=Z,7.3nm,0.5s						
HVS	Khovu-Aksy	49.34	50	eP	P	23 43 48.8	-0.6
HVS				pmax	pmax		
	comp=Z,11nm,0.8s						
HVS	Khovu-Aksy	49.34	50	eP	P	23 43 48.8	-0.6
	comp=Z,11nm,0.8s						
DMN	Daman	49.41	82	eP	P	23 43 50.1	-0.3
	comp=Z,13nm,0.6s						
PKIN	Phulchoki	49.65	82	eP	P	23 43 51.3	-1.0
PKI	Pulchoki	49.67	82	eP	P	23 43 51.9	-0.6
GUN	Gumba	49.91	81	eP	P	23 43 53.5	-0.8
JIRN	Jiri	50.26	81	eP	P	23 43 56.5	-0.5
RAMN	Ramite	50.89	82	eP	P	23 44 00.4	-1.2
TAPN	Taplejung	51.62	81	eP	P	23 44 05.5	-1.7
TLY	Talaya	55.33	47	eP	P	23 44 34.8	+1.0
TLY				e		23 44 43.9	
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TLY	Talaya	55.33	47	LR	LR	00 10 49.2	
	comp=Z,46nm,18.2s,baz=336,slow=39						
TLY	Talaya	55.33	47	eP	P	23 44 34.8	+1.0
	comp=Z,4.0nm,0.9s						
ZAK	Zakamensk	55.45	49	eP	P	23 44 28.5	-6.2
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SONM	Songino Array	58.15	51	P	P	23 44 53.8	-0.2
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	Songino Array	58.15	51	P	P	23 44 53.8	-0.2
	comp=Z,1.4nm,0.7s,baz=284,slow=8.2,SNR=22						
ULN	Ulaanbaatar	58.56	51	eP	P	23 44 57.0	+0.1
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	Ulaanbaatar	58.56	51	eP	P	23 44 57.0	+0.1
	comp=Z,2.0nm,1.0s						
BOD	Bodaibo	59.37	38	eP	P	23 45 04.1	+2.0
BOD	Bodaibo	59.37	38	eP	P	23 45 04.1	+2.0
TIXI	Tiksi	60.52	21	eP	P	23 45 12.2	+2.4
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TIXI	Tiksi	60.52	21	eP	P	23 45 12.2	+2.4
	comp=Z,2.0nm,1.0s						
SCHQ	Schefferville	64.21	320	P	P	23 45 35.0	+0.1
	comp=Z,2.9nm,0.7s,baz=92,slow=5.1,SNR=5.8						
CMAR	Chiang Mai Arr	64.90	84	i P	P	23 45 42.2	+2.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	64.90	84	P	P	23 45 39.4	-0.5
	comp=Z,0.9nm,0.3s,baz=298,slow=7.6,SNR=9.7						
YAK	Yakutsk	64.98	31	LR	LR	00 17 15.9	
	comp=Z,41nm,18.3s,baz=24,slow=39						
BILL	Bilibino	72.58	15	eP	P	23 46 30.8	+3.8
BILL				pmax	pmax		
	comp=Z,2.0nm,1.7s						
USRK	Ussuriysk Ar.	75.61	46	P	P	23 46 44.2	-0.9
	comp=Z,3.0nm,0.5s,baz=287,slow=2.8,SNR=4.2						
KSRS	Korea Array	76.91	53	P	P	23 46 50.8	-1.8
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSRS				MLR	MLR		
	comp=Z,30nm,19.1s						
KSRS	Korea Array	76.91	53	P	P	23 46 50.8	-1.8
	comp=Z,1.1nm,0.7s,baz=319,slow=6.3,SNR=3.0						
KSRS				LR	LR	00 23 20.8	
	comp=Z,30nm,19.1s,baz=348,slow=38						
YKA	Yellowknife Ar	77.89	343	P	P	23 46 55.9	-1.7
	comp=Z,0.3nm,0.7s,baz=32,slow=5.4,SNR=7.3						

*CSEM **27** 23:37:14.6, 38.18N×26.15E, h25km, MD3.3*
ATH 27 23:37:14.6, 38.18N×26.15E, h25km, MD3.3/4, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	Chios island	0.22	340	ePB	Pb	23 37 20.8	+0.1
CHOS				eSB	Sb	23 37 24.7	-0.1
CHOS	Chios island	0.22	340	ePb	Pb	23 37 20.8	+0.1
CHOS				eSb	Sb	23 37 24.7	-0.1
SMG	Samos	0.72	131	ePN	Pb	23 37 28.8	+0.3
SMG				eSN	Sn	23 37 39.3	-0.1
SMG	Samos	0.72	131	ePn	Pb	23 37 28.8	+0.3
SMG				eSn	Sn	23 37 39.3	-0.1
SIGR	SIGRI	1.05	347	ePN	Pb	23 37 35.6	+1.4
SIGR				eSN	Sn	23 37 49.6	+1.9
SIGR	SIGRI	1.05	347	ePn	Pb	23 37 35.6	+1.4
SIGR				eSn	Sn	23 37 49.6	+1.9
PRK	Paraskevi	1.07	5	ePN	Pb	23 37 35.3	+0.9
PRK				eSN	Sn	23 37 50.1	+2.1
PRK	Paraskevi	1.07	5	ePn	Pb	23 37 35.3	+0.9
PRK				eSn	Sn	23 37 50.1	+2.1
APE	Apeiranthos	1.21	204	ePN	Pb	23 37 37.9	+0.9
APE	Apeiranthos	1.21	204	ePn	Pb	23 37 37.9	+0.9
LIA	Limnos Island	1.87	337	ePN	Pb	23 37 47.3	-0.8
LIA	Limnos Island	1.87	337	ePn	Pb	23 37 47.3	-0.8
SMTH	Samothraki Isl	2.34	348	ePN	Pn	23 37 53.5	+2.0
SMTH	Samothraki Isl	2.34	348	ePn	Pn	23 37 53.5	+2.0

*IDC **27** 23:50:17.2±0.6, 4.78S×80.82W, h36km±4km, mb4.1/16, mb1 4.2/17, mb1mx4.1/27, mbtmp4.3/17, ML4.6/2, MS3.9/20, Ms1 3.9/20, ms1mx3.7/38, Error ellipse: s-maj=21.8km s-min=11.0km az=62.0*
*ISCJB **27** 23:50:18.4±1.0, 4.77S±0.04×80.69W±0.06, h60km±9km, mb4.7/62, MS3.8/16, Error ellipse: s-maj=10.8km s-min=5.2km az=146.5*
*NEIC **27** 23:50:18.6±0.5, 4.76S×80.73W, h50km±5km, mb4.9/50, Error ellipse: s-maj=7.6km s-min=4.1km az=53.0*
NEIC Felt [III] at Chulucanas and Piura, Peru.
*BJI **27** 23:50:19.2, 4.90S×80.70W, h35km, mB4.9/2, Ms5.3/3, Ms7 5.0/2*
ISC 27 23:50:17.7±0.5, 4.74S±0.06×80.76W±0.08, h41km±4km, h40km; pP-P, n175, σ1§43/175, mb4.8/62, MS3.9/16, 20C-24D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	3.35	135	Pn	Pn	23 51 09.5	+1.6
	91nm,0.3s,baz=341,slow=6.6,SNR=245						
ATAH				Sn	Sn	23 51 49.0	+2.4
	191nm,0.3s,baz=320,slow=18,SNR=8.3						
ATAH				LR	LR	23 52 37.4	
	comp=Z,3μm,19.7s,baz=275,slow=42						
OTAV	Otavalo	5.46	25	ePn	Pn	23 51 39.7	+2.7
PAYG	Puerto Ayora	10.33	293	ePn	Pn	23 52 45.7	+2.2
ROSC	El Rosal	11.49	34	LR	LR	23 57 54.7	
	comp=Z,554nm,19.8s,baz=216,slow=40						
ROSC	El Rosal	11.49	34	ePn	Pn	23 53 00.1	+0.3
ARE	Arequipa	14.78	143	eP	Pn	23 53 45.0	+0.6
JTS	JuntasAbangare	15.50	344	Pn	P	23 53 56.5	-1.1
	0.3nm,0.3s,baz=328,slow=23,SNR=4.6						
JTS				LR	LR	23 59 00.6	
	comp=Z,336nm,19.5s,baz=150,slow=34						
JTS	JuntasAbangare	15.50	344	ePn	P	23 53 56.5	-1.1
	33nm,1.2s						
JTS				ePcP	PcP	23 59 00.6	+5.5
SDV	Santo Domingo	16.89	37	ePn	Pn	23 54 10.9	-0.5
	26nm,1.0s						
LPAZ	La Paz	16.89	134	Pn	Pn	23 54 11.6	-0.3
	0.6nm,0.3s,baz=348,slow=6.1,SNR=25						
LPAZ				LR	LR	00 00 52.4	
	comp=Z,482nm,19.5s,baz=298,slow=38						
LPAZ	La Paz	16.89	134	ePn	Pn	23 54 11.6	-0.3
	19nm,0.9s						
SAML	Samuel	17.94	104	ePn	Pn	23 54 23.2	-1.1
	15nm,0.8s						
LVC	Limon Verde	21.14	148	eP	P	23 54 59.8	+0.1
	24nm,0.9s						
PTGA	Pitinga	21.14	80	P	P	23 54 59.8	+0.2
	19nm,0.8s,baz=262,slow=12,SNR=17						
PTGA				LR	LR	00 04 06.9	
	comp=Z,543nm,19.7s,baz=262,slow=39						
PTGA	Pitinga	21.14	80	eP	P	23 54 59.8	+0.2
	21nm,0.9s						
APG	El Apazote	21.85	334	P	P	23 55 06.1	-1.1
	1.3nm,0.5s,baz=200,slow=15,SNR=2.6						
APG				LR	LR	00 02 04.0	
	comp=Z,239nm,20.8s,baz=170,slow=32						
PCRV	Puerto La Cruz	21.85	47	LR	LR	00 04 44.3	
	comp=Z,438nm,18.6s,slow=40						
SIV	San Ignacio	22.34	121	P	P	23 55 11.9	-0.4
	9.1nm,0.7s,baz=290,slow=9.8,SNR=19						
SIV				LR	LR	00 04 31.5	
	comp=Z,966nm,18.9s,baz=312,slow=38						
CMIG	Matias Romero	25.79	328	LR	LR	00 04 10.5	
	comp=Z,133nm,20.8s,baz=180,slow=32						
TEIG	Tepich	25.89	344	LR	LR	00 04 53.1	
	comp=Z,218nm,21.5s,baz=127,slow=34						
SJG	San Juan	26.89	32	P	P	23 55 56.3	+1.3
	25nm,0.9s,baz=248,slow=5.4,SNR=5.9						
SJG				LR	LR	00 07 45.9	
	comp=Z,279nm,20.9s,baz=270,slow=39						
SJG	San Juan	26.89	32	eP	P	23 55 55.1	0.0
	37nm,1.2s						
CPD	Cerro la Pandu	26.96	33	eP	P	23 55 55.5	-0.2
	18nm,0.9s						
CBYP	Canovanas	27.18	32	eP	P	23 55 58.2	+0.4
	22nm,0.8s						
CFAA	Coronel Fontan	29.20	158	P	P	23 56 15.5	-0.1
	0.7nm,0.8s,baz=340,slow=6.7,SNR=11						
BDFB	Brasilia	33.95	111	P	P	23 56 57.5	-0.1
	11nm,1.2s,baz=283,slow=9.7,SNR=7.6						
BDFB				LR	LR	00 12 00.5	
	comp=Z,165nm,18.1s,baz=274,slow=38						
BDFB	Brasilia	33.95	111	eP	P	23 56 56.1	-1.5
RPN	Rapa Nui	35.19	228	LR	LR	00 07 44.2	
	comp=Z,213nm,18.2s,baz=14,slow=30						
PLCA	Paso Flores	36.99	167	P	P	23 57 23.3	-0.1
	6.5nm,0.6s,baz=339,slow=9.5,SNR=18						
PLCA	Paso Flores	36.99	167	eP	P	23 57 22.9	-0.5
	25nm,1.3s						
TRQA	Tornquist	37.32	155	eP	P	23 57 24.7	-1.5
	16nm,1.0s						
CPCT	Cooper Cave	40.13	355	eP	P	23 57 48.2	-1.5
TKL	Tuckaleechee C	40.28	356	P	P	23 57 51.2	+0.2
	4.2nm,0.8s,baz=180,slow=11,SNR=5.6						
TKL				LR	LR	00 15 10.7	
	comp=Z,121nm,21.3s,baz=205,slow=37						
TKL	Tuckaleechee C	40.28	356	eP	P	23 57 50.6	-0.4
TXAR	Lajitas Array	40.39	328	pP	pP	23 58 03.5	-0.1
	0.5nm,0.8s,baz=108,slow=2.8,SNR=4.1						
TXAR				PcP	PcP	23 59 56.4	+1.6
	0.9nm,0.8s,baz=150,slow=5.8,SNR=5.4						
TXAR				pPcP		00 00 06.9	
	1.5nm,0.8s,baz=149,slow=5.8,SNR=8.1						
LTX	Lajitas	40.40	328	epP	pP	23 58 03.5	-0.1
LTX				ePcP	PcP	23 59 56.4	+1.6
TUL1	Leonard	42.82	342	eP	P	23 58 11.9	+0.1
	18nm,0.9s						
V34A	Guthrie	43.31	340	eP	P	23 58 16.8	+1.0
	26nm,0.9s						
MSTX	Muleshoe	43.76	333	eP	P	23 58 18.4	-1.1
	20nm,1.4s						
U34A	Anderson Ranch	43.87	340	eP	P	23 58 19.9	-0.3
	29nm,1.0s						
ANMO	Albuquerque	46.30	330	P	P	23 58 42.2	+2.4
	1.4nm,0.7s,baz=136,slow=8.0,SNR=5.9						
ANMO	Albuquerque	46.30	330	eP	P	23 58 40.2	+0.4
	7.7nm,1.0s						
T25A	Trinidad	47.14	334	eP	P	23 58 47.1	+0.7
	11nm,1.0s						
Q29A	Oakley	47.27	338	⇓P	P	23 58 46.4	-0.8
	baz=48,SNR=12						
SCIA	State Center	47.79	347	eP	P	23 58 51.8	+0.7
	21nm,0.9s						
ACCN	Adirondack Com	48.33	7	eP	P	23 58 55.0	-0.3
	216nm,2.5s						
LONY	Lake Ozonia	49.45	6	eP	P	23 59 03.9	+0.1
	17nm,1.1s						
P23A	Jefferson	49.62	334	⇑P	P	23 59 09.1	+3.5
	baz=50,SNR=5.1						
SMCO	Snowmass	49.96	333	eP	P	23 59 10.0	+1.7
	7.5nm,1.3s						
PV05	Paradox Valley	50.07	331	eP	P	23 59 07.8	-1.2
ECSD	EROS Data Cent	50.33	345	eP	P	23 59 10.7	+0.2
	61nm,2.5s						
O22A	Kremmling	50.58	334	⇑P	P	23 59 15.7	+2.9
	baz=51,SNR=5.7						
SPMN	Marine on St.	50.90	349	eP	P	23 59 16.1	+1.3
USHA	Ushuaia	50.93	171	P	P	23 59 14.9	+0.1
	7.8nm,0.9s,baz=331,slow=10						
KNB	Kanab	51.18	327	eP	P	23 59 17.9	+0.7
	10nm,1.3s						
O20A	White River Ci	51.31	333	eP	P	23 59 17.2	-0.9
	87nm,2.5s						
SRU	San Rafael Swe	51.57	330	eP	P	23 59 20.8	+0.6
	13nm,1.4s						
CCUT	Cedar City	51.87	327	eP	P	23 59 22.6	+0.1
	5.7nm,1.1s						
MVU	Marysvale	51.96	329	eP	P	23 59 22.6	-0.6
	3.4nm,0.9s						
GSC	Goldstone, Bar	52.27	323	eP	P	23 59 24.8	-0.6
K21A	Alcova	52.92	336	⇑P	P	23 59 32.3	+2.1
	baz=53						
DAU	Daniels Canyon	52.94	331	eP	P	23 59 29.8	-0.6
TPNV	Topopah Spring	53.06	324	⇓P	P	23 59 34.0	+2.8
	baz=53						
J22A	Midwest	53.27	337	⇓P	P	23 59 35.2	+2.6
	baz=54						
EYMN	Ely	53.31	351	eP	P	23 59 33.5	+0.9
	15nm,1.1s						
DUG	Dugway, Tooele	53.54	330	⇑P	P	23 59 38.3	+3.6
	baz=54,SNR=6.0						
DUG	Dugway, Tooele	53.54	330	eP	P	23 59 34.3	-0.3
	8.1nm,1.0s						
J21A	Lysite	53.60	336	⇓P	P	23 59 37.8	+2.7
	baz=54,SNR=5.0						
R11A	Troy Canyon, C	53.66	326	⇓P	P	23 59 38.5	+2.8
	baz=54						
R11A	Troy Canyon, C	53.66	326	eP	P	23 59 34.9	-0.7
	4.6nm,1.1s						
I22A	9 Mile Ranch,	53.67	337	⇓P	P	23 59 38.3	+2.7
	baz=54						
H24A	Dirks Ranch, A	53.68	339	⇑P	P	23 59 38.5	+2.9
	baz=54						
J20A	Shoshoni	53.86	336	⇑P	P	23 59 39.6	+2.7
	baz=54						
I21A	Big Trails, Te	53.92	336	⇓P	P	23 59 40.0	+2.5
	baz=54						
HWUT	Hardware Ranch	54.01	332	eP	P	23 59 39.5	+1.4
	17nm,0.9s						
BW06	Boulder Array	54.01	334	eP	P	23 59 39.0	+0.8
PD31	Pinedale Array	54.01	334	eP	P	23 59 39.5	+1.3
PD31				epP	pP	23 59 49.8	-0.2
PD31				eSS	SKiKP	00 10 59.9	+12
PDAR	Pinedale Array	54.01	334	P	P	23 59 39.5	+1.3
	1.1nm,0.8s,baz=134,slow=9.0,SNR=8.5						
PDAR				pP	pP	23 59 49.8	-0.2
	4.1nm,0.9s,baz=133,slow=8.0,SNR=14						
D30A	Buchanan	54.02	345	⇑P	P	23 59 41.4	+3.6
	baz=54						
J19A	Crowheart	54.20	335	⇑P	P	23 59 41.9	+2.5
	baz=54,SNR=5.2						
SPUT	South Promonto	54.20	331	eP	P	23 59 39.6	+0.1
	87nm,2.8s						
TPH	Tonopah	54.40	325	eP	P	23 59 40.9	-0.1
	11nm,1.3s						
AGMN	Agassiz Nation	54.45	348	⇑P	P	23 59 42.9	+2.0
	baz=55,SNR=6.5						
AGMN	Agassiz Nation	54.45	348	eP	P	23 59 41.5	+0.5
	23nm,0.9s						
H21A	Big Horn, Sher	54.51	337	⇑P	P	23 59 43.3	+1.7
	baz=55						
AHID	Auburn Hatcher	54.70	333	eP	P	23 59 43.7	+0.5
	5.8nm,0.9s						
HVU	Hansel Valley	54.72	331	eP	P	23 59 44.1	+0.9
	5.3nm,0.9s						
G22A	Birney	54.72	338	⇓P	P	23 59 45.6	+2.4
	baz=55						
H20A	Greybull	54.77	336	⇓P	P	23 59 45.6	+2.1
	baz=55						
I19A	Meeteetse	54.80	335	⇑P	P	23 59 47.1	+3.3
	baz=55						
F23A	Volborg	54.83	339	⇓P	P	23 59 46.2	+2.4
	baz=55						
MDND	Maddock	54.92	345	⇓P	P	23 59 47.3	+2.8
	baz=55						
ELK	Elko	55.19	328	eP	P	23 59 47.5	+0.7
	7.1nm,1.2s						
RKT	Rikitea	55.35	245	eLR	LR	00 15 38.8	
	454nm,38.5s						
RKT	Rikitea	55.35	245	eT	T	00 58 42.6	
	5.4nm,0.3s						
G20A	Bridger	55.46	337	⇓P	P	23 59 50.6	+2.1
	baz=56						
C26A	Wahner Farm, P	55.60	343	⇑P	P	23 59 52.5	+3.1
	baz=56						
A30A	Hoffart Farm,	55.61	346	⇓P	P	23 59 51.4	+2.0
	baz=56,SNR=9.8						
A29A	Manning Farm,	55.82	345	⇑P	P	23 59 54.8	+3.9
	baz=56,SNR=6.0						
F19A	Roth Farm, Mol	56.27	337	⇓P	P	23 59 56.7	+2.5
	baz=56						
ULM	Lac du Bonnet	56.31	348	P	P	23 59 54.4	+0.1
	1.3nm,0.4s,baz=135,slow=10.0,SNR=3.8						
ULM				pP	pP	00 00 05.0	-1.1
	20nm,0.9s,baz=158,slow=7.4,SNR=21						
D22A	Cohagen	56.33	339	⇑P	P	23 59 57.1	+2.5
	baz=57,SNR=6.4						
D21A	La Casta Ranch	56.55	339	⇓P	P	23 59 59.2	+3.1
	baz=57						
C23A	Lambert	56.55	340	⇓P	P	23 59 59.3	+3.1
	baz=57						

E09A	Wood Farm, Sta	60.82	331	eP	P	00 00 26.0	+0.1
WALA	Waterton Lakes	60.85	336	eP	P	00 00 27.1	+1.0
144nm,2.7s							
I05D	Terrebonne, OR	60.92	328	⇓P	P	00 00 29.6	+3.0
baz=61							
I04A	Tendick Farm,	61.14	327	⇓P	P	00 00 29.8	+1.6
baz=61							
I03D	Drain, OR	61.59	326	⇑P	P	00 00 33.4	+2.3
baz=62							
NEW	Newport	61.63	333	⇓P	P	00 00 33.4	+2.1
baz=62							
FCC	Fort Churchill	64.19	352	eP	P	00 00 47.8	-0.2
30nm,1.1s							
PPT	Papeete	68.40	253	LR	LR	00 23 26.4	
comp=Z,102nm,20.9s,baz=2.5,slow=29							
PPT2	Papeete2	68.40	253	eLR	LR	00 21 44.7	
133nm,26.5s							
TBI	Tubuai	68.59	247	eT	T	01 15 14.3	
4.0nm,0.3s							
YKA	Yellowknife Ar	71.84	344	P	P	00 01 36.1	+0.1
0.3nm,0.7s,baz=132,slow=6.9,SNR=8.7							
YKA				pP	pP	00 01 46.9	-1.3
2.1nm,1.0s,baz=138,slow=6.4,SNR=12							
YKB5	Yellowknife Ar	71.84	344	eP	P	00 01 35.7	-0.4
LIC	Lamto	76.39	82	eP	P	00 02 01.8	-1.8
49nm,1.8s							
TIC	Toumodi	76.44	82	eP	P	00 02 04.4	+0.5
4.0nm,0.2s							
DBIC	Dimbokro	76.61	82	P	P	00 02 05.5	+0.6
5.2nm,0.7s,baz=249,slow=7.0,SNR=10							
DBIC				LR	LR	00 35 54.8	
comp=Z,87nm,18.0s,baz=268,slow=36							
DBIC	Dimbokro	76.61	82	eP	P	00 02 03.6	-1.2
33nm,1.8s							
KIC	Kosan Boka	76.69	82	eP	P	00 02 05.9	+0.6
16nm,0.8s							
VNA3	Neumayer Olymp	79.50	162	P	P	00 02 19.5	-0.4
VNA1	Neumayer--Stat	79.79	161	P	P	00 02 21.1	-0.2
VNA2	Neumayer--Watz	80.14	161	P	P	00 02 22.6	-0.6
SNAA	Sanae	81.73	162	P	P	00 02 31.2	-0.6
SUMG	Summit	81.73	12	iP	P	00 02 33.1	+1.0
4.9nm,0.9s							
SUMG	Summit	81.73	12	eP	P	00 02 32.2	0.0
154nm,3.0s							
ESDC	Sonseca Array	82.91	49	P	P	00 02 39.6	+1.1
1.3nm,0.6s,baz=260,slow=4.9,SNR=16							
ES19	SONSECA Array	82.96	49	eP	P	00 02 39.4	+0.6
TOA0	Torodi Ar. Sit	83.75	76	eP	P	00 02 42.1	-1.2
TORD	Torodi Ar. Bea	83.75	76	P	P	00 02 43.4	0.0
2.8nm,0.5s,baz=283,slow=6.1,SNR=41							
TORD				LR	LR	00 39 14.8	
comp=Z,102nm,20.6s,baz=265,slow=35							
ILAR	Eielson Array	84.33	337	P	P	00 02 44.9	-0.4
0.7nm,1.0s,baz=151,slow=3.9,SNR=3.5							
ILAR				LR	LR	00 42 50.9	
comp=Z,52nm,18.2s,baz=152,slow=37							
ILB	Eielson Array	84.33	337	eP	P	00 02 44.9	-0.4
DAG	Danmarks Havn	88.42	12	iP	P	00 03 05.5	+0.5
3.1nm,0.8s							
NOA	NORSAR Array B	95.07	29	LR	LR	00 47 24.2	
comp=Z,16nm,18.5s,baz=15,slow=36							
GERES	GERESS Array B	96.48	42	LR	LR	00 45 32.0	
comp=Z,23nm,20.3s,baz=279,slow=34							
ZALV	Zalesovo Beam	129.55	11	PKP	PKPdf	00 09 21.5	-0.7
1.3nm,0.4s,baz=333,slow=1.7,SNR=12							
KURBB	Kurchatov Arra	131.08	17	PKP	PKPdf	00 09 25.5	+0.3
2.9nm,0.9s,baz=334,slow=2.6,SNR=24							
MKAR	Makanchi Array	135.62	17	PKP	PKPdf	00 09 33.6	-0.3
1.4nm,0.8s,baz=352,slow=2.5,SNR=13							
MKAR				pPKP	pPKPdf	00 09 44.8	-2.0
0.9nm,0.8s,baz=323,slow=1.8,SNR=5.4							
ASAR	Alice Springs	135.96	229	PKhKP	PKPpre	00 09 25.8	
0.3nm,0.7s,baz=153,slow=2.8,SNR=5.3							
ASAR				PKP	PKPdf	00 09 34.8	-0.5
1.8nm,0.8s,baz=112,slow=2.1,SNR=13							
ASAR				pPKP	pPKPdf	00 09 46.4	-1.8
1.3nm,0.9s,baz=120,slow=2.1,SNR=5.7							
SONM	Songino Array	136.63	353	PKP	PKPdf	00 09 35.6	-0.3
7.7nm,1.4s,baz=1.1,slow=2.7,SNR=6.7							
SONM				pPKP	pPKPdf	00 09 46.7	-2.1
0.8nm,0.8s,baz=42,slow=0.9,SNR=5.0							
WRA	Warramunga Arr	137.67	233	PKP	PKPdf	00 09 37.6	-0.9
2.2nm,0.8s,baz=116,slow=2.2,SNR=13							
WRA				pPKP	pPKPdf	00 09 49.9	-1.6
2.1nm,0.9s,baz=118,slow=1.7,SNR=6.0							
KSRS	Korea Array	138.20	325	PKP	PKPdf	00 09 37.5	-1.5
0.9nm,0.5s,baz=33,slow=3.1,SNR=4.9							
KSH	Kashi	139.49	28	ePKP	PKPdf	00 09 42.3	+0.9
KSH				PKS	PKSdf	00 13 18.3	+0.7
KSH				PPMZ			
100nm,3.1s							
KSH				LN			
400nm,7.9s							
KSH				LE			
280nm,6.5s							
KSH				LZ			
120nm,5.1s							
WMQ	Urumqi	139.77	13	ePKP	PKPdf	00 09 42.5	+0.8
WMQ				sPKP		00 09 57.0	
WMQ				LN			
66nm,17.0s							
WMQ				LE			
34nm,18.0s							
HHC	Hu-ho-hao-te	142.38	345	ePKP	PKPdf	00 09 47.3	+0.7
HHC				PKS	PKSdf	00 13 21.5	-1.0
HHC				SKS	SKSdf	00 16 51.8	-1.7
HHC				SKKS	SKKSac	00 19 44.3	+0.6
HHC				PPMZ			
24nm,5.2s							
HHC				LN			
190nm,19.0s							
HHC				LE			
170nm,19.2s							
HHC				LZ			
140nm,19.4s							
GTA	Gaotai	145.48	359	PKPbc	PKPdf	00 09 52.0	-0.1
NJ2	Nanjing	147.20	328	ePKPbc	PKPdf	00 09 53.8	-1.2
LZH	Lanzhou	148.52	353	⇓PKPbc	PKPbc	00 10 02.0	+1.1
LZH				pPKP	pPKPdf	00 10 13.3	+3.1
LZH				sPKP		00 10 16.5	
XAN	Xi'an	149.49	344	PKPbc	PKPbc	00 10 03.0	-0.3
XAN				pPKP	pPKPdf	00 10 14.0	+2.3
CD2	Chengdu	153.62	351	ePKPbc	PKPdf	00 10 05.5	+0.4
CMAR	Chiang Mai Arr	166.36	1	PKP	PKPdf	00 10 18.4	-1.2
0.5nm,0.4s,baz=306,slow=2.1,SNR=5.6							
CMAR				PKPab	PKPab	00 11 20.9	+0.1
0.9nm,0.7s,baz=344,slow=4.8,SNR=4.2							
CMAR				pPKPab	pPKPab	00 11 31.9	-1.5
1.2nm,0.7s,baz=335,slow=4.3,SNR=1.9							

WEL 27 23:53:53.3±0.5, 36°39S×176°89E, h226km±7km, ML3.6/11, 2C-1D, Error ellipse: s-maj=8.9km s-min=6.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	1.54	152	PN	Pn	23 54 29.9	+0.3
HAZ				SN	S	23 54 57.9	-0.1
MXZ	Matakaoa Point	1.63	136	PN	Pn	23 54 30.7	+0.3
MXZ				SN	S	23 54 59.9	+0.5
URZ	Urewera	1.87	175	PN	Pn	23 54 33.0	+0.5
WMGZ	Waiomatatini S	1.88	140	PN	Pn	23 54 33.0	+0.4
TWGZ	Tauwhareparae	1.98	154	⇑PN	Pn	23 54 34.4	+0.7
TWGZ				SN	S	23 55 04.7	-0.5
PUZ	Puketiti	2.00	147	⇑PN	Pn	23 54 33.8	0.0
PUZ				SN	S	23 55 03.5	-2.1
MWZ	Matawai	2.01	165	PN	Pn	23 54 34.3	+0.4
MWZ				SN	S	23 55 04.8	-0.8
TKGZ	Te Karaka	2.18	160	PN	Pn	23 54 35.6	+0.1
CNGZ	Carnagh Statio	2.34	154	⇓PN	Pn	23 54 37.3	+0.2
SNGZ	Shannon Statio	2.41	172	PN	Pn	23 54 38.0	+0.1
RIGZ	Rimuhau	2.41	163	PN	Pn	23 54 37.9	0.0
RAHZ	Arahi	2.53	176	PN	Pn	23 54 39.4	+0.3
BKZ	Black Stump Fm	2.79	186	PN	Pn	23 54 41.5	-0.5
ARHZ	Aropaoanui	2.87	178	PN	Pn	23 54 42.6	-0.2
FWVZ	Far West T-bar	3.05	200	PN	Pn	23 54 45.4	+0.3
MCHZ	McNeill Hill	3.05	183	PN	Pn	23 54 44.9	+0.1
BHHZ	Black Hill Sta	3.16	192	PN	Pn	23 54 45.6	-0.6
PXZ	Pawanui	3.63	180	PN	Pn	23 54 50.1	-1.5
PXZ				eSN	S	23 55 32.6	-4.9
TSZ	Takapari Road	3.73	191	PN	Pn	23 54 51.4	-1.5
MRZ	Mangatainoka R	4.38	193	PN	Pn	23 54 58.2	-2.4
HOWZ	Holdsworth Sta	4.63	193	PN	Pn	23 55 01.6	-2.0
KIW	Kapiti Island	4.72	199	AML	AML	23 55 04.9	
CAW	Cannon Point	4.92	196	AML	AML	23 55 05.3	
KHZ	Kahutara	6.55	202	PN	Pn	23 55 25.0	-2.9
OXZ	Oxford	7.86	207	PN	Pn	23 55 41.5	-3.2

*IDC **27** 23:56:47.7±2.3, 17°29S×75°39W, h0km, mb4.0/3, mb1 4.1/5, mb1mx3.8/40, mbtmp4.1/5, ML3.9/2, MS3.2/1, Ms1 3.2/1, ms1mx2.8/32, Error ellipse: s-maj=61.6km s-min=33.9km az=38.0*

ISC 27 23:56:48.4±1.6, 17°3S±0°2×75°5W±0°2, h10km, n13, σ1§47/12, mb4.0/3, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	Pisagua	5.57	115	eP	Pb	23 58 24.3	-1.5
MNMC	Minimini	5.87	109	eP	Pb	23 58 25.9	-5.2
HMBC	Humberstone	6.06	120	eP	Pb	23 58 33.5	-0.7
PATCX	Punta Patache	6.13	126	eP	Pb	23 58 37.2	+1.8
PB01	IPOC Station P	6.77	124	eP	Pb	23 58 45.2	-1.1
PB07	IPOC Station P	6.87	131	eP	Pb	23 58 50.8	+2.8
LPAZ	La Paz	7.10	83	Pn	Pn	23 58 34.2	+1.3
1.0nm,0.3s,baz=334,slow=8.9,SNR=17							
PB09	IPOC Station P	7.38	128	eP	Pb	23 58 56.7	-0.1
ATAH	Atahualpa	10.49	344	Pn	Pn	23 59 20.3	+1.0
0.8nm,0.3s,baz=150,slow=8.1,SNR=3.4							
ATAH				Sn	Sn	00 01 16.3	-0.9
0.7nm,0.3s,baz=0.0,slow=20,SNR=2.7							
ROSC	El Rosal	22.03	3	P	P	00 01 44.3	+0.6
10nm,0.7s,baz=135,slow=7.1,SNR=8.6							
ROSC				LR	LR	00 10 17.4	
comp=Z,60nm,19.1s,baz=78,slow=37							
TORD	Torodi Ar. Bea	81.95	74	P	P	00 09 08.3	-0.7
1.1nm,0.8s,baz=256,slow=5.3,SNR=5.3							
YKA	Yellowknife Ar	85.27	343	P	P	00 09 25.6	+0.7
0.6nm,0.9s,baz=138,slow=5.1,SNR=7.1							
SONM	Songino Array	149.50	358	PKPbc	PKPab	00 16 40.2	-2.7
0.6nm,0.8s,baz=333,slow=1.9,SNR=4.8							

*ISCJB **28** 00:03:03.2±0.7, 37°38N±0°09×134°83E±0°10, h378km, mb2.8/2, Error ellipse: s-maj=14.2km s-min=6.9km az=142.0*
*JMA **28** 00:03:03.6±0.3, 37°24N×134°92E, h385km±3km, M3.0*
*IDC **28** 00:03:04.4±1.7, 37°28N×135°01E, h371km±16km, mb2.7/2, mb1 2.9/5, mb1mx2.6/46, mbtmp3.5/5, Error ellipse: s-maj=53.1km s-min=17.1km az=118.0*

ISC 28 00:03:03.8±1.1, 37°33N±0°10×134°89E±0°10, h378km, n17, σ1§88/23, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	Yasaka	1.70	174	P	Pn	00 03 56.0	+0.1
JWT	Wachi	2.08	168	P	Pn	00 03 58.5	+0.2
JHS	Saijyo	2.73	212	P	Pn	00 04 03.1	-0.1
JSD	Sado	2.76	74	P	Pn	00 04 04.0	+0.8
MAT	Matsushiro	2.77	105	P	Pn	00 04 03.6	+0.2
MAT				eS	S	00 04 46.2	-5.2
MJAR	Matsushiro Arr	2.77	105	P	Pn	00 04 04.0	+0.6
1.0nm,0.3s,baz=283,slow=9.9,SNR=17							
JHK	Hiroka	3.29	90	P	Pn	00 04 08.3	+0.6
JAI	Aioi	3.54	186	P	Pn	00 04 09.9	-0.3
JAG	Ashikaga	3.76	102	P	Pn	00 04 13.5	+1.3
JAG				eS	S	00 05 07.7	+0.2
JMM	Marumori	4.72	82	P	Pn	00 04 22.1	+0.5
JMM				eS	S	00 05 25.4	+0.6
JFK	Kawauchi	4.76	88	P	Pn	00 04 22.2	0.0
JFK				S	S	00 05 23.0	-2.9
JRG	Rokugo	4.96	64	P	Pn	00 04 25.1	+0.9
JMK	Ichinoseki	5.24	70	P	Pn	00 04 28.2	+1.0
JMK				S	S	00 05 34.1	-0.9
JNU	Nakatsue	5.33	219	P	Pn	00 04 28.6	+0.2
0.5nm,0.3s,baz=352,slow=7.1,SNR=3.8							
ASAJ	Asahikawa	8.95	38	P	P	00 05 10.2	0.0
1.4nm,0.3s,baz=222,slow=11,SNR=6.4							
ASAJ				S	S	00 06 47.4	-5.0
0.4nm,0.3s,baz=221,slow=20,SNR=1.9							
ILAR	Eielson Array	52.03	32	P	P	00 11 37.6	+1.9
0.3nm,0.8s,baz=280,slow=5.4,SNR=4.4							
WRA	Warramunga Arr	56.96	181	P	P	00 12 11.6	+0.4
0.3nm,0.4s,baz=359,slow=7.6,SNR=6.4							

*IDC **28** 00:03:54.0±0.4, 32°58N×104°60W, h0km, mb4.1/15, mb1 4.3/25, mb1mx4.1/40, mbtmp4.1/25, ML4.2/8, MS3.5/9, Ms1 3.5/9, ms1mx3.1/45, Error ellipse: s-maj=10.6km s-min=5.5km az=61.0*
*ISCJB **28** 00:03:54.6±0.7, 32°49N±0°02×104°60W±0°01, h10km±5km, mb4.2/22, MS3.4/3, Error ellipse: s-maj=3.0km s-min=1.8km az=21.8*
*NEIC **28** 00:03:55.1±0.3, 32°44N×104°50W, h4km, mb4.3/25, MN4.4, MW4.1, Error ellipse: s-maj=5.8km s-min=3.0km az=17.0, Moment Tensor Solution. s47 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.22; $M_{\theta\theta}$0.14; $M_{\phi\phi}$1.08; $M_{r\theta}$1.10; $M_{\theta\phi}$0.84; $M_{r\phi}$0.35; Best double couple: $M_0$1.80000×10^{15} NP1:ϕ_s5.00000°, δ35.00000°, λ-135.00000°. NP2: ϕ_s236.00000°, δ66.00000°, λ-64.00000°. Principal axes: T 1.8400, Plg17.0000°, Azm306.0000°; N 0.0000, Plg23.0000°, Azm44.0000°; P -1.8400, Plg59.0000°, Azm184.0000°;*
NEIC Felt [III] at Artesia, Carlsbad and Dexter; [II] at Lake Arthur, Loving and Roswell. Also felt at Alto, Cloudcroft, Hagerman and Hope. Felt at Levelland, Texas.

ISC 28 00:03:54.9±0.9, 32°52N±0°02×104°59W±0°02, h5km±6km, n278, σ1§19/290, mb4.4/23, MS3.4/3, 27C-37D, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPRX	Cap Rock	0.79	50	ePg	Pg	00 04 09.6	-0.5
228A	UT Block 9, Go	1.73	103	⇑P	Pn	00 04 26.5	+0.8
228A				⇓Sb	Sg	00 04 50.7	+0.1
228A	UT Block 9, Go	1.73	103	iP	Pn	00 04 26.0	+0.3
128A	Castleberry Fa	1.78	86	⇑P	Pn	00 04 26.8	+0.5
128A				Sb	Sg	00 04 51.7	-0.2
128A	Castleberry Fa	1.78	86	iP	Pn	00 04 26.9	+0.5
Z28A	Tucker Farm, M	2.00	67	P	Pn	00 04 30.1	+0.7
Z28A				Sb	Sb	00 04 57.9	+0.8
Z28A	Tucker Farm, M	2.00	67	iP	Pn	00 04 30.1	+0.7
MSTX	Muleshoe	2.10	46	P	Pn	00 04 31.1	+0.3
MSTX				Sb	Sb	00 04 60.0	+0.1
MSTX	Muleshoe	2.10	46	ePn	Pn	00 04 31.3	+0.6
MSTX				eSn	Sb	00 04 59.0	-0.9
129A	Stewart Farms,	2.30	87	P	Pn	00 04 34.5	+1.0
129A				Sb	Sb	00 05 07.1	+1.5
129A	Stewart Farms,	2.30	87	iP	Pn	00 04 34.7	+1.2
BNM	Barren Site	2.36	314	ePn	Pn	00 04 34.3	-0.2
BNM				eSn	Sn	00 05 04.8	+0.9
Y28A	McKinney Farm,	2.40	54	⇓P	Pn	00 04 35.4	+0.5
Y28A				Sb	Sb	00 05 09.0	+0.5
229A	Bryant Ranch,	2.42	102	⇓P	Pn	00 04 36.2	+1.2
229A				Sb	Sb	00 05 10.3	+1.3
229A	Bryant Ranch,	2.42	102	iP	Pn	00 04 36.4	+1.4
329A	Wagon Wheel Ra	2.44	114	⇑P	Pn	00 04 36.7	+1.2
329A				Sb	Sg	00 05 11.8	-1.5
329A	Wagon Wheel Ra	2.44	114	iP	Pn	00 04 36.7	+1.2
LPM	Los Pinos Moun	2.47	317	ePn	Pn	00 04 36.1	+0.1
LPM				eSn	Sn	00 05 07.9	+1.2
Y22D	IRIS PASSCAL I	2.50	309	⇑P	Pn	00 04 36.7	+0.4
Y22D	IRIS PASSCAL I	2.50	309	iP	Pn	00 04 36.9	+0.7
Z29A	Hungry Hill Ra	2.53	72	⇑P	Pn	00 04 37.1	+0.4
Z29A				Sb	Sb	00 05 13.3	+1.0
LENM	Lemitar	2.59	310	ePn	Pn	00 04 37.1	-0.4
LENM				eSn	Sn	00 05 07.0	-2.4
W26A	Owens Ranch, T	2.65	15	⇓P	Pn	00 04 39.0	+0.6
baz=2.6,SNR=557							
W26A	Owens Ranch, T	2.65	15	iP	Pn	00 04 39.9	+1.5
W25A	X Bar L Ranch,	2.69	2	⇑P	Pn	00 04 39.4	+0.5
baz=2.7							
W25A	X Bar L Ranch,	2.69	2	iP	Pn	00 04 41.1	+2.2
121A	Cookes Peak, D	2.70	271	⇓P	Pn	00 04 38.8	-0.3
baz=2.7							
121A	Cookes Peak, D	2.70	271	iP	Pn	00 04 38.8	-0.3
W24A	Lazy 6 Ranch,	2.77	346	P	Pn	00 04 41.1	+1.0
baz=2.7							
W24A	Lazy 6 Ranch,	2.77	346	iP	Pn	00 04 41.1	+1.0
Y29A	Porterfield Fa	2.79	61	⇑P	Pn	00 04 40.8	+0.6
baz=2.7,SNR=110							
X28A	Dimmitt	2.82	44	⇓P	Pn	00 04 40.7	0.0
baz=2.8,SNR=102							
X28A				Sb	Sb	00 05 21.3	+0.6
baz=2.8							
X28A	Dimmitt	2.82	44	iP	Pn	00 04 39.9	-0.7
LAZ	Ladron	2.84	312	ePn	Pn	00 04 41.2	+0.1
LAZ				eSn	Sn	00 05 14.9	-0.9
ANMO	Albuquerque	2.88	328	Pn	Pn	00 04 42.0	+0.4
61nm,0.3s,baz=144,slow=15,SNR=120							
ANMO				Pg	Pb	00 04 45.1	-1.7
302nm,0.3s,baz=149,slow=17,SNR=606							
ANMO				Lg	Lg	00 05 20.9	
752nm,0.3s,baz=308,slow=7.8,SNR=27							
ANMO				LR	LR	00 05 58.3	
comp=Z,714nm,19.6s,baz=180,slow=44							
ANMO	Albuquerque	2.88	328	ePn	Pn	00 04 42.0	+0.4
ANMO				eSn	Sn	00 05 18.6	+1.9
429A	Davenport Ranc	2.97	129	P	Pn	00 04 43.7	+1.0
baz=3.0							
429A				Sb	Sg	00 05 28.4	-2.1
baz=3.0							
429A	Davenport Ranc	2.97	129	iP	Pn	00 04 43.8	+1.0
Z30A	Sanderson Ranc	3.01	74	⇓P	Pn	00 04 43.5	+0.3
baz=2.9,SNR=153							
Z30A				Sb	Sb	00 05 26.5	+0.5
baz=2.9							
230A	Sterling City	3.01	101	P	Pn	00 04 44.0	+0.8
baz=3.0							
230A				Sb	Sb	00 05 27.9	+1.9
baz=3.0							
130A	Snyder	3.06	88	⇓P	Pn	00 04 44.9	+1.0
baz=3.0,SNR=55							
130A				Sb	Sb	00 05 28.8	+1.3
baz=3.0							
X29A	Tulia	3.08	51	⇑P	Pn	00 04 44.6	+0.3
baz=3.0,SNR=41							
X29A				Sb	Sb	00 05 29.1	+1.0
baz=3.0							
330A	Mertzon	3.10	110	⇓P	Pn	00 04 45.5	+1.0
baz=3.1,SNR=436							
330A				⇑S	Sn	00 05 23.7	+1.7
baz=3.1							
529A	Stev Forest Ra	3.13	139	P	Pn	00 04 46.2	+1.3
baz=3.1							
529A				Sb	Sb	00 05 32.6	+3.1
baz=3.1							
V24A	Rampart Ranch,	3.25	350	⇑P	Pn	00 04 47.6	+0.9
baz=3.2							
V24A				Sb	Sb	00 05 32.9	-0.2
baz=3.2							
LTX	Lajitas	3.27	166	ePn	Pn	00 04 49.3	+2.4
LTX				ePg	Pb	00 04 54.5	+1.0
LTX				eSg	Sg	00 05 38.4	-1.7
TX31	Lajitas Ar. Si	3.27	166	ePn	Pn	00 04 49.3	+2.4
TX31				eSn	Sn	00 05 28.8	+2.6
TXAR	Lajitas Array	3.27	166	Pn	Pn	00 04 49.3	+2.4
22nm,0.3s,baz=346,slow=12,SNR=337							
TXAR				Pg	Pb	00 04 54.5	+1.0
150nm,0.3s,baz=350,slow=15,SNR=107							
TXAR				Lg	Lg	00 05 38.4	
392nm,0.3s,baz=322,slow=48,SNR=8.6							
V25A	Rancho No Teng	3.31	360	⇑P	Pn	00 04 48.2	+0.7
baz=3.3							
V25A				Sb	Sb	00 05 34.4	-0.5
baz=3.3							
V26A	Tequesquite Ra	3.33	11	⇑P	Pn	00 04 48.3	+0.5
baz=3.3,SNR=98							
V26A				⇑S	Sn	00 05 28.6	+0.8
baz=3.3							
430A	Baggett Ranch,	3.34	120	P	Pn	00 04 48.7	+0.9
baz=3.3,SNR=131							
W28A	Vega	3.37	35	⇓P	Pn	00 04 48.0	-0.3
baz=3.3							
Y30A	Stafford Cattl	3.38	65	⇓P	Pn	00 04 49.2	+0.9
baz=3.3,SNR=46							
AMTX	Amarillo	3.38	45	⇓P	Pn	00 04 48.6	+0.2
baz=3.3							
AMTX	Amarillo	3.38	45	ePn	Pn	00 04 48.5	+0.2
AMTX				eSn	Sn	00 05 31.4	+2.5
V23A	Ortiz Mt. (NFS	3.48	338	P	Pn	00 04 51.6	+1.7
baz=3.5							
V27A	Dan Oppiter Fa	3.54	24	⇑P	Pn	00 04 51.3	+0.7
baz=3.5,SNR=54							
131A	Roby	3.55	86	P	Pn	00 04 51.6	+1.0
baz=3.5,SNR=23							
W29A	Amarillo	3.56	43	⇓P	Pn	00 04 50.8	-0.1
baz=3.5,SNR=21							
530A	J-C Ranch, Com	3.65	130	P	Pn	00 04 53.1	+1.1
baz=3.6							
X30A	Coker Ranch, T	3.65	57	P	Pn	00 04 52.6	+0.6
baz=3.6,SNR=113							
231A	Bronte	3.67	98	⇓P	Pn	00 04 52.9	+0.7
baz=3.6,SNR=33							
231A				Sb	Sb	00 05 47.5	+2.6
baz=3.6							
331A	San Angelo	3.74	108	P	Pn	00 04 54.1	+0.8
baz=3.7,SNR=108							
331A				S	Sn	00 05 38.0	+0.3
baz=3.7							
V28A	Channing	3.77	31	⇑P	Pn	00 04 53.9	+0.2
baz=3.7							
Z31A	Sharp Cattle R	3.82	77	⇑P	Pn	00 04 54.9	+0.6
baz=3.8,SNR=47							
431A	Sonora	3.86	117	P	Pn	00 04 55.8	+0.9
baz=3.8,SNR=78							
U25A	Circle Dot Ran	3.87	2	P	Pn	00 04 56.0	+0.7
baz=3.8							
V22A	San Miguel Ran	3.89	331	P	Pn	00 04 57.6	+2.1
baz=3.9							
Y31A	Rekieta Farm,	3.90	67	P	Pn	00 04 56.3	+0.9
baz=3.8,SNR=41							
U24A	Moreno Valley	3.92	352	P	Pn	00 04 57.9	+1.9
baz=3.9							
U26A	Atchley Ranch,	3.93	10	⇑P	Pn	00 04 56.6	+0.6
baz=3.9,SNR=137							
U23A	El Rito	4.03	341	P	Pn	00 04 59.0	+1.6
baz=4.0							
319A	Douglas	4.15	255	⇓P	Pn	00 04 59.4	+0.4
baz=4.2							
U27A	Thompson Grove	4.16	20	⇑P	Pn	00 04 59.5

	baz=4.6						
T25A	Trinidad	4.61	2	⇓P		Pn	00 05 06.3 +0.9
	baz=4.6						
T25A	Trinidad	4.61	2	ePn		Pn	00 05 07.6 +2.2
631A	Perdido Creek	4.63	131	⇑P		Pn	00 05 05.7 +0.2
	baz=4.6						
532A	Rocksprings	4.66	120	P		Pn	00 05 06.6 +0.6
	baz=4.6,SNR=118						
W31A	Holland Ranch,	4.69	54	⇓P		Pn	00 05 07.2 +0.9
	baz=4.6,SNR=6.4						
T26A	Comanche Natio	4.71	10	⇑P		Pn	00 05 07.5 +0.7
	baz=4.7,SNR=9.9						
T27A	Campo	4.78	18	⇓P		Pn	00 05 08.5 +0.8
	baz=4.7,SNR=29						
133A	Hamilton Ranch	4.79	87	⇓P		Pn	00 05 08.2 +0.5
	baz=4.7,SNR=19						
X32A	Elmer	4.82	65	P		Pn	00 05 09.1 +1.0
	baz=4.7,SNR=15						
233A	Rising Star	4.84	94	P		Pn	00 05 08.7 +0.3
	baz=4.8,SNR=66						
X18A	Snowflake	4.91	296	⇓P		Pn	00 05 10.2 +0.8
	baz=4.9						
333A	Richland Sprin	4.91	103	⇓P		Pn	00 05 09.2 -0.1
	baz=4.9,SNR=39						
433A	Art	5.00	109	P		Pn	00 05 10.8 +0.1
	baz=5.0,SNR=83						
W18A	Petrified Fore	5.01	303	⇓P		Pn	00 05 12.0 +1.2
	baz=5.0						
W18A	Petrified Fore	5.01	303	ePn		Pn	00 05 12.1 +1.2
T28A	Walsh	5.02	23	⇑P		Pn	00 05 11.7 +0.8
	baz=5.0,SNR=34						
632A	Uvalde	5.10	125	⇑P		Pn	00 05 13.3 +1.4
	baz=5.1,SNR=61						
S25A	Robets Cordova	5.13	1	⇓P		Pn	00 05 13.9 +1.4
	baz=5.1						
W32A	Sentinel	5.15	58	⇑P		Pn	00 05 13.0 +0.4
	baz=5.1,SNR=120						
U30A	WK&E Inc. Balk	5.15	38	⇓P		Pn	00 05 13.4 +0.7
	baz=5.1						
S26A	Kim	5.17	10	⇓P		Pn	00 05 14.0 +1.0
	baz=5.1,SNR=17						
Y33A	Hilltop Ranch,	5.21	72	⇓P		Pn	00 05 13.8 +0.3
	baz=5.1,SNR=16						
TUC	Tucson	5.25	269	ePn		Pn	00 05 13.6 -0.4
WMOK	Wichita Mounta	5.32	64	ePn		Pn	00 05 14.9 -0.1
WMOK				ePg		Pg	00 05 35.0 -1.8
WMOK				eSn		Sn	00 06 17.5 +0.8
WMOK				eSg		Sb	00 06 39.2 +6.6
T29A	Hugoton	5.36	29	⇓P		Pn	00 05 15.8 +0.3
	baz=5.3,SNR=6.8						
U31A	Nine Bar Ranch	5.48	44	P		Pn	00 05 17.8 +0.6
	baz=5.4,SNR=11						
134A	White-Moore Ra	5.49	88	P		Pn	00 05 17.6 +0.3
	baz=5.4,SNR=15						
S28A	Manter	5.52	23	⇓P		Pn	00 05 18.0 +0.2
	baz=5.5,SNR=7.3						
334A	Lometa	5.53	101	P		Pn	00 05 18.5 +0.7
	baz=5.5,SNR=38						
S22A	4UR Ranch, Cre	5.53	341	ePn		Pn	00 05 21.2 +3.2
T30A	Plains	5.62	35	⇑P		Pn	00 05 19.1 0.0
	baz=5.6,SNR=6.7						
434A	Burnet	5.65	106	P		Pn	00 05 19.7 +0.3
	baz=5.6,SNR=31						
MVCO	Mesa Verde	5.68	327	ePn		Pn	00 05 22.9 +2.8
W33A	Caddo, Fort Co	5.73	61	⇓P		Pn	00 05 21.6 +1.0
	baz=5.7,SNR=10						
534A	Blanco	5.79	114	P		Pn	00 05 21.5 +0.1
	baz=5.8,SNR=34						
R27A	Eads	5.94	14	P		Pn	00 05 24.5 +1.0
	baz=5.9,SNR=17						
WHTX	Lake Whitney,	6.06	93	ePn		Pn	00 05 25.1 0.0
R28A	Tribune	6.24	21	⇑P		Pn	00 05 27.8 +0.1
	baz=6.2,SNR=14						
W34A	Bridge Creek,	6.28	63	ePn		Pn	00 05 28.4 +0.2
WUAZ	Wupatki	6.38	300	ePn		Pn	00 05 31.0 +1.4
PV01	Paradox Valley	6.48	331	ePn		Pn	00 05 34.1 +3.1
PV05	Paradox Valley	6.66	328	ePn		Pn	00 05 37.1 +3.5
KSCO	Kaye Shedlock'	6.67	13	ePn		Pn	00 05 33.9 +0.3
V34A	Guthrie	6.72	59	P		Pn	00 05 34.1 -0.2
	baz=6.7,SNR=9.2						
V34A	Guthrie	6.72	59	ePn		Pn	00 05 33.8 -0.5
PV10	Paradox Valley	6.88	329	ePn		Pn	00 05 38.7 +2.1
SMCO	Snowmass	6.92	344	ePn		Pn	00 05 41.0 +3.7
214A	Organ Pipe Nat	6.99	268	⇓P		Pn	00 05 38.6 +0.6
	baz=7.0						
214A	Organ Pipe Nat	6.99	268	ePn		Pn	00 05 38.1 +0.1
	63nm,0.4s						
U34A	Anderson Ranch	7.01	54	⇓P		Pn	00 05 38.2 0.0
	baz=6.9,SNR=6.6						
U34A	Anderson Ranch	7.01	54	ePn		Pn	00 05 37.4 -0.8
PV09	Paradox Valley	7.02	329	ePn		Pn	00 05 41.2 +2.6
Z14A	Wintersburg	7.08	279	⇓P		Pn	00 05 39.6 +0.5
	baz=7.1						
Y14A	Wickenburg	7.20	284	⇑P		Pn	00 05 41.4 +0.6
	baz=7.2						
ISCO	Idaho Springs	7.31	354	ePn		Pn	00 05 46.6 +4.0
S33A	Kaszmaul Farm,	7.40	45	⇓P		Pn	00 05 43.2 -0.3
	baz=7.3,SNR=8.0						
HKT	Hockley	7.92	107	ePn		Pn	00 05 50.2 -0.4
HKT				eLg		Lg	00 08 14.1
TUL1	Leonard	8.03	63	ePn		Pn	00 05 50.9 -1.3
KNB	Kanab	8.12	306	ePn		Pn	00 05 56.9 +3.2
O20A	White River Ci	8.15	340	ePn		Pn	00 05 59.0 +5.0
SRU	San Rafael Swe	8.15	325	ePn		Pn	00 05 54.7 +0.7
N23A	Red Feather La	8.43	353	ePn		Pn	00 06 04.3 +6.4
NATX	Nacogdoches	8.45	92	ePn		Pn	00 05 58.6 +0.7
MVU	Marysvale	8.62	316	ePn		Pn	00 06 02.7 +2.3
TMUT	Trail Mountain	8.63	323	ePn		Pn	00 06 01.7 +0.9
GLA	Glamis	8.64	276	ePn		Pn	00 06 00.3 -0.3
OGNE	Ogallala	8.65	13	ePn		Pn	00 06 01.4 +0.6
OGNE				eLg		Lg	00 08 22.1
CCUT	Cedar City	8.77	307	ePn		Pn	00 06 05.2 +2.7
ARUT	Antelope Range	8.95	308	ePn		Pn	00 06 08.2 +3.2
	4μm,1.3s						
LDFC	Landfair	9.12	289	ePn		Pn	00 06 09.5 +2.2
KSU1	Kansas State U	9.22	42	ePn		Pn	00 06 09.0 +0.5
MIAR	Mount Ida	9.41	75	ePn		Pn	00 06 10.2 -0.9
SHPR	Sheep Range	9.59	297	ePn		Pn	00 06 17.7 +4.0
PFO	Pinyon Flats O	10.02	279	Pn		Pn	00 06 19.7 +0.1
	1.2nm,0.3s,baz=90,slow=11,SNR=21						
PFO				Sn		Sn	00 08 10.3 -2.1
	0.3nm,0.3s,baz=356,slow=15,SNR=1.7						
PFO				Lg		Lg	00 09 09.4
	0.2nm,0.3s,baz=264,slow=15,SNR=2.9						
PFO				LR		LR	00 10 14.5
	comp=Z,158nm,21.1s,baz=132,slow=38						
DUG	Dugway, Tooele	10.13	321	ePn		Pn	00 06 24.5 +3.4
K22A	Casper	10.23	352	ePn		Pn	00 06 27.3 +4.8
BGNE	Belgrade	10.25	28	ePn		Pn	00 06 21.8 -0.9
BGNE				eSn		Sn	00 08 17.1 -0.9
BGNE				eLg		Lg	00 09 17.1
UALR	University of	10.45	74	ePn		Pn	00 06 23.9 -1.4
GSC	Goldstone, Bar	10.53	289	ePn		Pn	00 06 27.5 +1.0
TPNV	Topopah Spring	10.56	298	ePn		Pn	00 06 32.0 +5.0
HWUT	Hardware Ranch	10.64	330	ePn		Pn	00 06 32.1 +4.0
R11A	Troy Canyon, C	10.69	306	ePn		Pn	00 06 34.0 +5.3
BW06	Boulder Array	10.96	340	ePn		Pn	00 06 37.1 +4.6
PD31	Pinedale Array	10.96	340	ePn		Pn	00 06 35.4 +2.9
PDAR	Pinedale Array	10.96	340	Pn		Pn	00 06 35.4 +2.9
	0.1nm,0.3s,baz=158,slow=12,SNR=17						
PDAR				Lg		Lg	00 09 34.5
	0.2nm,0.3s,baz=213,slow=19,SNR=3.0						
PDAR				LR		LR	00 10 59.9
	comp=Z,204nm,20.1s,baz=182,slow=39						
HVU	Hansel Valley	11.31	327	ePn		Pn	00 06 39.7 +2.4
DAC	Darwin (Calif)	11.38	293	ePn		Pn	00 06 39.3 +1.1
MWC	Mount Wilson	11.39	282	ePn		Pn	00 06 39.6 +1.2
AHID	Auburn Hatcher	11.45	335	ePn		Pn	00 06 42.8 +3.5
RSSD	Black Hills	11.59	2	ePn		Pn	00 06 43.0 +1.9
TPH	Tonopah	11.71	302	ePn		Pn	00 06 45.9 +3.1
ELK	Elko	11.85	317	Pn		Pn	00 06 47.9 +3.2
	0.1nm,0.3s,baz=171,slow=4.6,SNR=11						
ELK				Lg		Lg	00 10 03.4
	0.1nm,0.3s,baz=358,slow=2.6,SNR=3.9						
ELK				LR		LR	00 11 40.0
	comp=Z,298nm,18.9s,baz=180,slow=40						
ELK	Elko	11.85	317	ePn		Pn	00 06 47.0 +2.3
REDW	Red Top Meadow	11.89	337	ePn		Pn	00 06 48.3 +3.0
TPAW	Teton Pass	12.04	337	ePn		Pn	00 06 49.2 +1.9
FXWY	Fox Creek	12.20	337	ePn		Pn	00 06 51.6 +2.1
IMW	Indian Meadow	12.40	338	ePn		Pn	00 06 55.6 +3.3
ECSD	EROS Data Cent	12.82	27	ePn		Pn	00 06 56.1 -1.7
BMN	Battle Mountai	12.86	311	ePn		Pn	00 07 01.1 +2.6
RLMT	Red Lodge	13.10	345	ePn		Pn	00 07 04.8 +3.1
HLID	Hailey	13.46	328	ePn		Pn	00 07 08.2 +1.6
WAKR	Walker	13.48	300	ePn		Pn	00 07 07.0 0.0
SIUC	Southern Illin	13.60	63	ePn		Pn	00 07 05.6 -2.8
MCMT	McKenzie Canyo	13.87	335	ePn		Pn	00 07 15.8 +3.5
MFID	Camas Ranch	14.02	324	ePn		Pn	00 07 17.9 +3.7
CMB	Columbia Colle	14.03	297	ePn		Pn	00 07 18.5 +4.2
BOZ	Bozeman (W)	14.20	339	ePn		Pn	00 07 19.1 +2.4
DLMT	Dillon	14.25	336	ePn		Pn	00 07 19.8 +2.4
WVT	Waverly	14.31	71	ePn		Pn	00 07 18.1 +0.1
LRM	Limekiln Ridge	14.61	338	ePn		Pn	00 07 24.8 +2.4
OLIL	Olney	14.76	61	ePn		Pn	00 07 21.3 -3.0
LRAL	Lakeview Retre	14.81	83	ePn		Pn	00 07 20.6 -4.4
USIN	University of	14.85	64	ePn		Pn	00 07 23.4 -2.1
WVOR	Wild Horse Val	14.89	316	ePn		Pn	00 07 29.1 +2.9
JFWS	Jewell Farm	15.35	43	ePn		Pn	00 07 28.6 -3.6
	25nm,0.6s						
MOD	Modoc Plateau	15.62	311	ePn		Pn	00 07 36.0 +0.3
	22nm,1.3s						
SPMN	Marine on St.	15.63	32	ePn		Pn	00 07 35.5 -0.3
	22nm,1.1s						
BMO	Blue Mountains	15.79	325	ePn		Pn	00 07 39.3 +1.2
	6.1nm,0.8s						
CHMT	Chamberlain Mo	15.83	338	ePn		P	00 07 41.4 -1.1
WCI	Wyandotte Cave	15.96	64	ePn		Pn	00 07 37.7 -2.5
	18nm,0.6s						
EGMT	Eagleton	15.97	347	ePn		P	00 07 42.5 -1.4
	14nm,0.9s						
MSO	Missoula	15.98	336	ePn		P	00 07 44.0 -0.1
	6.3nm,0.8s						
BLO	Bloomington	16.07	61	ePn		Pn	00 07 38.4 -3.1
SFIN	Lafayette	16.09	56	ePn		P	00 07 43.8 -1.4
	18nm,0.7s						
SLMT	Seeley Lake	16.20	338	ePn		Pn	00 07 43.5 +0.3
K05A	Summer Lake	16.43	313	ePn		P	00 07 50.3 +1.2
	30nm,1.5s						
F10A	Beach Ranch, E	16.59	328	ePn		P	00 07 52.1 +1.3
	8.4nm,0.7s						
SWMT	Swartz Lake	16.60	337	ePn		Pn	00 07 48.6 +0.3
JTMT	Jette	16.90	337	ePn		Pn	00 07 52.8 +0.6
AGMN	Agassiz Nation	17.08	20	ePn		P	00 07 56.6 +0.5
	110nm,2.8s						
YBH	Yreka Blue Hor	17.10	308	Pn		P	00 07 57.0 +0.5
	0.1nm,0.3s,baz=121,slow=12,SNR=4.1						
YBH				LR		LR	00 15 03.5
	comp=Z,208nm,19.3s,baz=62,slow=39						
YBH	Yreka Blue Hor	17.10	308	ePn		P	00 07 56.1 -0.4
	78nm,2.5s						
E09A	Wood Farm, Sta	17.42	327	ePn		P	00 08 01.5 +1.7
TKL	Tuckaleechee C	17.52	74	P		Pn	00 07 59.3 -0.5
	0.5nm,0.3s,baz=226,slow=8.6,SNR=7.1						
TKL				S		S	00 11 22.8 -0.6
	0.4nm,0.3s,baz=7.2,slow=20,SNR=2.1						
TKL				Lg		Lg	00 13 00.6
	0.5nm,0.3s,baz=346,slow=19,SNR=1.8						
TKL	Tuckaleechee C	17.52	74	ePn		Pn	00 07 59.6 -0.2
CMIG	Matias Romero	17.69	148	P		P	00 08 02.8 -0.2
	0.2nm,0.3s,baz=330,slow=9.8,SNR=3.5						
G06A	Carlson Farm,	17.77	320	ePn		Pn	00 08 02.5 -0.5
COWI	Conover	18.03	37	ePn		P	00 08 07.9 +1.2
	9.8nm,0.9s						
D08A	Wollman Farm,	18.18	327	ePn		P	00 08 09.0 +0.7
	88nm,2.5s						
H04A	Detroit Lake	18.30	317	ePn		P	00 08 11.4 +1.7
	28nm,1.4s						
EYMN	Ely	18.32	29	ePn		Pn	00 08 09.2 -0.5
	5.3nm,0.8s						
NEW	Newport	18.36	333	P		P	00 08 11.6 +1.3
	0.3nm,0.3s,baz=150,slow=14,SNR=13						
NEW				LR		LR	00 14 41.9
	comp=Z,110nm,21.8s,baz=185,slow=35						
NEW	Newport	18.36	333	ePn		P	00 08 10.7 +0.5
	7.5nm,0.8s						
C09A	Chrisman Ranch	18.46	330	eP		Pn	00 08 12.3 +0.9
	10nm,0.8s						
ULM	Lac du Bonnet	18.86	18	P		P	00 08 15.3 -0.3
	0.3nm,0.3s,baz=196,slow=12,SNR=8.2						
ULM				Lg		Lg	00 13 37.2
	0.4nm,0.3s,baz=103,slow=19,SNR=5.3						
TEIG	Tepich	19.03	126	P		P	00 08 17.8 0.0
	2.0nm,0.3s,baz=310,slow=6.8,SNR=8.1						
TEIG				S		S	00 11 54.8 +0.6
	0.7nm,0.3s,baz=123,slow=20,SNR=1.5						
TEIG	Tepich	19.03	126	eP		Pn	00 08 18.1 -0.3
	25nm,0.8s						
AAM	Ann Arbor	19.24	54	eP		P	00 08 20.2 +0.3
	17nm,0.7s						
B08A	Colville Reser	19.34	329	eP		Pn	00 08 22.6 +0.5
	14nm,1.3s						
ALLY	Alegheny Colle	21.46	58	eP		P	00 08 43.8 -0.3
	19nm,0.8s						
APG	El Apazote	21.66	140	P		P	00 08 42.8 -3.8
	6.2nm,0.7s,baz=311,slow=7.2,SNR=4.7						
APG				LR		LR	00 18 52.5
	comp=Z,68nm,18.3s,baz=335,slow=41						
FFC	Flin Flon	22.27	4	eP		P	00 08 53.0 +0.3
	79nm,2.5s						
SADO	Sadowa	23.23	51	P		P	00 09 00.8 -2.0
	7.5nm,0.9s,baz=284,slow=8.1,SNR=5.1						
SADO				Lg		Lg	00 16 00.5
	20nm,1.1s,baz=337,slow=18,SNR=2.3						
SADO				LR		LR	00 17 52.3
	comp=Z,151nm,20.4s,baz=232,slow=36						
YKA	Yellowknife Ar	30.67	351	P		P	00 10 09.4 -0.6
	0.7nm,0.8s,baz=157,slow=7.6,SNR=8.6						
YKA				PcP		PcP	00 13 06.4 -1.5
	0.3nm,0.6s,baz=158,slow=3.2,SNR=6.3						
YKB5	Yellowknife Ar	30.67	351	eP		P	00 10 10.2 +0.2
SCHQ	Schefferville	34.63	39	P		P	00 10 43.8 -1.0
	4.1nm,0.8s,baz=229,slow=11,SNR=3.5						
SCHQ				LR		LR	00 26 06.1
	comp=Z,94nm,19.7s,baz=276,slow=38						
SCHQ	Schefferville	34.63	39	eP		P	00 10 44.5 -0.3
	150nm,2.3s						
SDV	Santo Domingo	39.23	119	eP		P	00 11 24.0 -0.6
	11nm,0.9s						
OTAV	Otavalo	40.48	137	eP		P	00 11 35.6 +0.4
	20nm,1.8s						
ILAR	Eielson Array	41.31	334	P		P	00 11 42.2 +1.2
	0.8nm,0.9s,baz=98,slow=8.3,SNR=7.0						
ILAR				PcP		PcP	00 13 38.9 -0.6
	0.5nm,0.8s,baz=73,slow=1.7,SNR=4.3						
ILB	Eielson Array	41.31	334	eP		P	00 11 42.0 +1.0
SIV	San Ignacio	63.72	132	P		P	00 14 26.4 -1.3
	2.7nm,0.7s,baz=323,slow=6.8,SNR=5.1						
SEY	Seymchan	67.13	331	P		P	00 14 49.3 +0.2
	1.0nm,0.3s,baz=144,slow=14,SNR=3.0						
PEA2	Petropavlovsk-	68.99	320	eP		P	00 15 01.5 +0.4
PETK	Petropavlovsk-	68.99	320	P		P	00 15 01.5 +0.4
	1.9nm,0.8s,baz=88,slow=10,SNR=3.5						
ARA0	ARCESS Array S	71.97	16	eP		P	00 15 18.4 -0.6
ARCES	ARCESS Array B	71.97	16	P		P	00 15 18.4 -0.6
	3.1nm,0.8s,baz=327,slow=6.5,SNR=4.3						
NB200	NORSAR Array S	73.24	27	eP		P	00 15 26.0 -0.7
NOA	NORSAR Array B	73.24	27	P		P	00 15 26.0 -0.7
	1.0nm,0.8s,baz=310,slow=6.3,SNR=2.8						
HFS	Hagfors	74.76	27	P		P	00 15 35.0 -0.6
	4.2nm,1.0s,baz=330,slow=8.3,SNR=3.2						
ESDC	Sonseca Array	77.29	51	P		P	00 15 49.4 -1.1
	0.4nm,0.7s,baz=314,slow=8.7,SNR=3.5						
KAF	Kangasniemi	77.75	21	ep		P	00 15 51.2 -1.3
	3.3nm,0.6s						
FIA0	FINESS Array S	78.19	22	eP		P	00 15 54.4 -0.5
FINES	FINESS Array B	78.19	22	P		P	00 15 54.4 -0.5
	5.7nm,0.8s,baz=318,slow=2.6,SNR=10						
JOF	Joensuu	78.58	19	ep		P	00 15 55.3 -1.8
	1.7nm,0.7s						
PLCA	Paso Flores	79.38	154	P		P	00 16 01.9 +0.2
	0.9nm,0.7s,baz=2.6,slow=12,SNR=3.9						
FUORN	Ofenpass-Fuorn	81.78	39	eP		P	00 16 14.9 -0.1
	171nm,3.0s						
GEC2	GERESS Array S	82.11	36	eP		P	00 16 16.3 -0.2
GERES	GERESS Array B	82.11	36	P		P	00 16 16.3 -0.2
	0.5nm,0.7s,baz=318,slow=7.1,SNR=3.8						
KURK	Kurchatov	97.08	358	eP		P	00 17 26.9 -0.9
KURBB	Kurchatov Arra	97.17	358	P		P	00 17 26.9 -1.3
	0.4nm,1.0s,baz=16,slow=4.5,SNR=2.5						
HHC	Hu-ho-hao-te	99.72	333	eP		Pdif	00 17 39.3 -0.8
VNDA	Vanda	122.25	195	PKP		PKPdf	00 22 49.3 -0.4
	0.3nm,0.4s,baz=135,slow=4.3,SNR=3.3						
QSPA	South Pole Qui	122.37	180	PKP		PKPdf	00 22 50.0 -0.3
	1.5nm,0.6s,baz=189,slow=1.0,SNR=14						
CMAR	Chiang Mai Arr	124.53	333	PKP		PKPdf	00 22 55.0 -0.9
	0.7nm,0.4s,baz=322,slow=5.7,SNR=4.7						
WRA	Warramunga Arr	126.27	268	PKP		PKPdf	00 22 57.3 -1.8
	0.7nm,1.0s,baz=60,slow=2.1,SNR=3.8						
ASAR	Alice Springs	128.20	264	PKP		PKPdf	00 23 03.5 +0.8
	0.3nm,0.9s,baz=81,slow=2.9,SNR=2.9						

*IDC **28** 00:05:53.9±1.4, 34°.26S×73°.42W, h0km, mb4.2/3, mb1 4.0/6, mb1mx3.9/16, mbtmp4.0/6, ML3.5/3, Error ellipse: s-maj=44.7km s-min=24.0km az=108.0*
*ISCJB **28** 00:05:56.7±0.9, 34°.27S±0°.04×73°.35W±0°.08, h33km, mb4.1/3, Error ellipse: s-maj=9.5km s-min=6.0km az=179.1*
*GUC **28** 00:05:56.0±0.5, 34°.29S×73°.42W, h47km±999km, ML4.1*
ISC 28 00:05:58.8±1.1, 34°.29S±0°.05×73°.3W±0°.1, h35km, n16, σ1$09/19, mb4.2/3, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	1.78	129	⇑iP	Pn	00 06 25.5	-1.6
TALC				iS	Sn	00 06 48.0	-0.5
TALC				AML	AML	00 06 48.8	
	comp=E,3μm,0.1s						
NICH	Los Niches	1.88	113	iP	Pn	00 06 27.3	-1.0
NICH				iS	Sn	00 06 50.7	-0.1
NICH				AML	AML	00 06 54.1	
	comp=N,2μm,0.4s						
LNCH	Linares	2.11	138	eP	Pn	00 06 29.9	-1.6
LNCH				iS	Sn	00 06 55.7	-0.8
LNCH				AML	AML	00 06 58.0	
	comp=N,1μm,0.3s						
RCDM	Rinconada Maip	2.25	70	⇑iP	Pn	00 06 32.3	-1.2
RCDM				iS	Sn	00 06 59.4	-0.7
CMCH	Combarbala	3.68	33	⇓iP	Pn	00 06 51.4	-1.8
CMCH				iS	Sn	00 07 33.9	-1.5
CFAA	Coronel Fontan	5.05	59	Pn	Pn	00 07 12.7	+0.6
	comp=N,0.5nm,0.3s,baz=218,slow=7.7,SNR=56						
CFAA				Sn	Sn	00 08 10.7	+1.4
	comp=N,0.5nm,0.3s,baz=354,slow=19,SNR=9.4						
PLCA	Paso Flores	6.80	162	Pn	Pn	00 07 35.5	-0.6
	comp=N,0.5nm,0.3s,baz=327,slow=13,SNR=9.7						
LPAZ	La Paz	18.53	16	P	Pn	00 10 13.2	0.0
	comp=N,0.0nm,0.3s,baz=186,slow=8.9,SNR=5.5						
QSPA	South Pole Qui	55.95	180	P	P	00 15 34.2	+1.0
	comp=N,2.2nm,1.0s,baz=140,slow=5.4,SNR=4.6						
DBIC	Dimbokro	76.29	72	P	P	00 17 44.6	+0.4
	comp=N,2.7nm,0.8s,baz=219,slow=7.9,SNR=3.5						
TORD	Torodi Ar. Bea	85.32	71	P	P	00 18 33.3	+0.8
	comp=N,0.9nm,0.7s,baz=273,slow=3.6,SNR=6.2						
H11S2	WAKE ISLAND Hyl	24.69	270	T	T	02 41 36.6	
	baz=106,SNR=3.2						
H11S1	WAKE ISLAND Hyl	24.71	270	T	T	02 41 36.7	
	baz=106						
H11S3	WAKE ISLAND Hyl	24.71	270	T	T	02 41 36.9	
	baz=106						
ZALV	Zalesovo Beam	155.04	31	PKPbc	PKPdf	00 25 57.2	+10
	comp=N,0.4nm,0.3s,baz=226,slow=3.9,SNR=3.8						
ZALV				PKPab	PKPab	00 26 12.3	+0.4
	comp=N,0.4nm,0.3s,baz=328,slow=7.0,SNR=3.1						
SONM	Songino Array	166.47	1	PKPab	PKPab	00 27 01.8	-0.2
	comp=N,0.3nm,0.3s,baz=259,slow=4.8,SNR=5.6						

*IDC **28** 00:19:55.4±0.6, 56°.87S×147°.60E, h0km, mb4.6/9, mb1 4.7/9, mb1mx4.7/12, mbtmp4.6/9, MS3.7/7, Ms1 3.8/7, ms1mx3.5/17, Error ellipse: s-maj=29.4km s-min=16.9km az=86.0*
*ISCJB **28** 00:19:56.5±4.8, 56°.87S±0°.04×147°.4E±0°.1, h13km±31km, mb4.9/25, MS3.7/7, Error ellipse: s-maj=13.5km s-min=7.3km az=176.7*
*BJI **28** 00:19:56.0, 57°.01S×148°.18E, h10km, mB5.5/7, mb5.4/9, Ms5.2/6, Ms7 4.7/6*
*NEIC **28** 00:19:57.4±1.8, 56°.90S×147°.58E, h11km±3km, mb5.0/22, Error ellipse: s-maj=15.8km s-min=7.5km az=146.0*
ISC 28 00:19:59.2±0.6, 56°.96S±0°.06×147°.8E±0°.1, h22km±5km, n124, σ1$60/135, mb4.9/25, MS3.7/7, 12C-15D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	Tasmania Unive	14.07	358	ePn	Pn	00 23 18.4	+1.4
MOO	Moorlands	14.54	358	⇓P	Pn	00 23 25.9	+2.5
	baz=15						
WHZ	Wether Hill Ro	16.66	57	ePn	P	00 23 53.7	+0.4
	113nm,1.6s						
TOO	Toolangi	19.46	354	⇓P	P	00 24 23.8	-0.5
	baz=20,SNR=8.5						
CASY	Casey	19.72	227	eP	P	00 24 27.1	+0.3
	80nm,1.8s						
MILA	Mila	19.93	3	⇑P	P	00 24 28.8

DZM LR LR 00 39 17.2
comp=Z,164nm,18.4s,baz=212,slow=31
MAW Mawson 37.71 219 LR LR 00 41 16.4
comp=Z,196nm,19.1s,baz=71,slow=34
WRA Warramunga Arr 38.30 339 P **P 00 27 16.0 -2.0**
15nm,0.7s,baz=166,slow=7.6,SNR=144
WRA PcP **PcP 00 29 30.0 -1.7**
3.5nm,0.8s,baz=175,slow=2.7,SNR=11
WRA LR LR 00 41 14.8
comp=Z,70nm,21.3s,baz=215,slow=34
WRAB Tennant Creek 38.31 339 P **P 00 27 16.2 -1.9**
224nm,0.7s,SNR=28
WRAB Tennant Creek 38.31 339 *e*P **P 00 27 16.5 -1.6**
MBWA Marble Bar 41.30 318 *e*P **P 00 27 40.8 -2.2**
29nm,0.8s
FITZ Fitzroy Crossi 42.20 328 ⇑P **P 00 27 49.0 -1.3**
baz=43
COEN Coen 43.06 353 ⇓P **P 00 27 56.7 -0.6**
baz=44
KNRA Kununurra 43.67 333 P **P 00 28 00.8 -1.4**
baz=44,SNR=7.6
KDU Kakadu 45.73 339 P **P 00 28 17.2 -1.4**
baz=46,SNR=3.9
MTN Manton Dam 45.85 337 ⇓P **P 00 28 18.0 -1.6**
baz=46
PMG Port Moresby 47.44 359 LR LR 00 47 10.3
comp=Z,99nm,18.1s,baz=184,slow=34
SNAA Sanae 50.02 192 P **P 00 28 53.2 +1.9**
SOEI Soe 50.52 329 *e*P **P 00 28 56.3 +0.5**
16nm,0.8s
VNA3 Neumayer Olymp 51.10 189 P **P 00 28 59.9 +0.5**
VNA2 Neumayer--Watz 51.20 190 P **P 00 29 00.6 +0.4**
baz=43,slow=8.6
VNA1 Neumayer--Stat 51.55 190 P **P 00 29 04.6 +1.9**
FAKI Fak Fak 55.30 341 P **P 00 29 30.6 -0.3**
baz=56,SNR=3.2
LUWI Luwuk 59.26 330 *e*P **P 00 29 57.8 -1.0**
59nm,1.1s
SBUM Sibu 65.83 320 *e*P **P 00 30 42.3 -0.5**
13nm,1.0s
IPM Ipoh 72.01 310 *e*P **P 00 31 19.7 -1.5**
8.9nm,0.7s
KULM Kulim 72.90 310 *e*P **P 00 31 24.9 -1.5**
13nm,0.7s
H08S2 Diego Garcia H 75.65 278 T T 01 54 22.5
baz=147,slow=76
H08S1 Diego Carcia H 75.66 278 T T 01 54 23.4
baz=147,slow=76
H08S3 Diego Garcia H 75.67 278 T T 01 54 30.8
baz=147,slow=76
PLCA Paso Flores 77.44 151 P **P 00 31 51.7 -0.8**
2.5nm,1.1s,baz=235,slow=9.4,SNR=2.9
PLCA Paso Flores 77.44 151 *e*P **P 00 31 51.5 -1.0**
62nm,2.4s
H08N1 Diego Carcia H 77.53 278 T T 01 56 51.5
baz=133,slow=74,SNR=69
H08N3 Diego Garcia H 77.54 278 T T 01 56 54.5
baz=133,slow=74
H08N2 Diego Garcia H 77.55 278 T T 01 56 54.6
baz=133
CM01 Chiang Mai Arr 85.45 314 *e*P **P 00 32 34.2 -0.7**
CM31 Chiang Mai Arr 85.50 314 *e*P **P 00 32 34.7 -0.4**
CMAR Chiang Mai Arr 85.50 314 P **P 00 32 34.7 -0.4**
1.0nm,0.3s,baz=178,slow=4.7,SNR=10
CMAR LR LR 01 08 10.8
comp=Z,30nm,21.1s,baz=186,slow=34
CHTO Chiang Mai 85.82 314 *e*P **P 00 32 36.0 -0.7**
7.1nm,1.1s
GYA Guiyang 90.06 324 *e*P **P 00 32 59.0 +2.0**
GYA PP **PP 00 36 34.5 +3.7**
GYA SKS **SKSac 00 43 28.3 +1.9**
GYA S **ScS 00 43 51.8 -0.9**
GYA SS **SS 00 49 53.0 +4.7**
GYA PMZ
20nm,1.0s
GYA PMZ
120nm,5.0s
GYA LN
540nm,19.3s
GYA LE
490nm,20.0s
GYA LZ
570nm,18.2s
KMI Kunming 90.16 320 P P 00 33 04.3 +6.7
KMI PMZ
8.0nm,0.5s
NJ2 Nanjing 92.00 336 *e*P **P 00 33 06.0 +0.3**
NJ2 PMZ
60nm,0.7s
MJAR Matsushiro Arr 93.50 352 P **P 00 33 12.6 +0.1**
0.9nm,0.6s,baz=188,slow=5.6,SNR=4.6
MAJO Matsushiro 93.50 352 *e*P **P 00 33 12.6 +0.1**
72nm,2.0s
CD2 Chengdu 95.13 323 *e*P **P 00 33 22.3 +2.1**
CD2 sP **sP 00 33 29.3 -0.7**
CD2 PP **PP 00 37 14.5 +3.9**
CD2 SKS **SKSac 00 43 52.8 -1.4**
CD2 S **ScS 00 44 34.3 -0.3**
CD2 SS **SS 00 51 05.3 +4.5**
CD2 PMZ
100nm,7.1s
CD2 LE
170nm,11.9s
CD2 LZ
160nm,11.9s
LZH Lanzhou 99.87 325 *e*P **Pdif 00 33 43.0 +1.4**
LZH pP **pP 00 33 48.0 -0.9**
LZH sP **sP 00 33 52.0 +0.6**
HHC Hu-ho-hao-te 102.13 333 *e*P **Pdif 00 33 53.0 +1.5**
HHC PP **PKiKP 00 38 10.5 -3.1**
HHC S **Sdif 00 45 28.0 -4.6**
HHC SS **SS 00 52 40.5 +1.6**
HHC PMZ
150nm,4.3s
HHC LN
170nm,18.5s
HHC LE
150nm,16.0s
HHC LZ
160nm,14.8s
CN2 Changchun 102.14 344 *e*P **Pdif 00 33 55.3 +4.0**
CN2 PMZ
10.0nm,0.6s
SONA0 Songino Array 109.97 332 *e*PKiKP **PKiKP 00 38 25.6 -2.3**
SONM Songino Array 109.97 332 PKiKP **PKiKP 00 38 25.5 -2.3**
0.3nm,0.8s,baz=132,slow=2.1,SNR=2.7
WMQ Urumqi 112.33 317 *e*PKP **PKiKP 00 38 31.3 -1.1**
KSH Kashi 113.47 307 *e*PKP **PKiKP 00 38 38.0 +3.2**
KSH PP PP 00 39 34.3 +7.2
KSH PKS **PKSdf 00 42 13.0 +1.5**
KSH SKS **SKSdf 00 45 48.3 +3.0**
KSH SKKS **SKKSac 00 46 26.3 -0.4**
KSH SS **SS 00 55 14.8 +2.2**
KSH PPMZ
140nm,3.6s
KSH LN
110nm,3.9s
KSH LE
88nm,5.9s
KSH LZ
58nm,5.4s
MK32 Makanchi Array 116.88 315 *e*PKPdf **PKPdf 00 38 39.4 -1.6**
MKAR Makanchi Array 116.88 315 PKP **PKPdf 00 38 39.4 -1.6**
0.4nm,0.5s,baz=151,slow=2.6,SNR=6.9
ZALV Zalesovo Beam 121.86 322 PKP **PKPdf 00 38 48.0 -2.3**
0.4nm,0.3s,baz=48,slow=2.2,SNR=3.6
ZAA1 Zalesovo Array 121.87 322 *e*PKPdf **PKPdf 00 38 48.0 -2.3**
TOA0 Torodi Ar. Sit 129.22 224 *e*PKPdf **PKPdf 00 39 05.2 -0.4**
TORD Torodi Ar. Bea 129.22 224 PKP **PKPdf 00 39 05.2 -0.4**
1.6nm,1.1s,baz=98,slow=1.3,SNR=4.8
ILAR Eielson Array 131.12 31 PKP **PKPdf 00 39 07.5 -0.1**
0.7nm,0.7s,baz=265,slow=2.9,SNR=8.5
ILB Eielson Array 131.12 31 *e*PKPdf **PKPdf 00 39 07.5 -0.1**
YKA Yellowknife Ar 140.75 47 PKhKP PKPpre 00 39 19.9
0.4nm,0.6s,baz=235,slow=3.1,SNR=8.7
AKASG Malin Array Be 144.34 287 PKP **PKPab 00 39 29.6 -0.8**
0.4nm,0.3s,baz=94,slow=2.8,SNR=8.5
AKBB Malin Array Si 144.34 287 *e*PKPdf **PKPab 00 39 29.6 -0.8**
KEST Kesra 145.10 250 PKPbc **PKPdf 00 39 34.8 +0.5**
6.2nm,0.9s,baz=230,slow=2.9,SNR=11
KEST Kesra 145.10 250 *e*PKPbc **PKPdf 00 39 34.1 -0.1**
KOLS Kolonicke sedl 147.04 280 *e*PKP **PKPdf 00 39 37.0 0.0**
CRVS Cervenica-Dubn 147.46 279 *e*PKP **PKPbc 00 39 40.1 -0.2**
STHS Stebnicka Huta 147.87 280 *e* **PKPdf 00 39 35.7 -2.7**
STHS Stebnicka Huta 147.87 280 *e*PKP **PKPdf 00 39 38.9 +0.5**
VYHS Vyhne 148.65 276 *e*PKP **PKPbc 00 39 42.2 -1.3**

JOF Joensuu 148.85 308 *e*pkp **PKPdf 00 39 41.0 +1.5**
ARSA Arzberg 149.73 272 ⇑*r*pPKPdf **PKPbc 00 39 45.6 -0.6**
7.6nm,1.3s
KRLC Kraliky 150.65 278 ⇑*e*PKP **PKPbc 00 39 48.3 -0.1**
FIA0 FINESS Array S 150.72 303 *e*PKPbc **PKPbc 00 39 47.4 -0.7**
FINES FINESS Array B 150.72 303 PKPbc **PKPbc 00 39 47.4 -0.7**
13nm,0.7s,baz=111,slow=4.3,SNR=40
KAF Kangasniemi 150.82 305 *e*pkp **PKPbc 00 39 46.8 -1.5**
KBA Koelnbreinsper 150.82 270 ⇑*r*pPKPdf **PKPbc 00 39 47.5 -1.6**
7.1nm,1.3s
TREC Trest 150.93 275 ⇑*e*PKP **PKPbc 00 39 48.4 -0.6**
DPC Dobruska-Polom 151.05 278 ⇑*e*PKP **PKPbc 00 39 48.7 -0.6**
DPC *e*pPKP **pPKPdf 00 39 52.4 +1.5**
GEC2 GERESS Array S 151.65 273 *e*PKPbc **PKPbc 00 39 49.6 -1.3**
GERES GERESS Array B 151.65 273 PKPbc **PKPbc 00 39 49.6 -1.3**
2.7nm,1.0s,baz=126,slow=1.8,SNR=7.0
KHC Kasperske Hory 151.88 274 ⇑*e*PKP **PKPbc 00 39 51.5 +0.3**
KHC *e*PKPAB **PKPab 00 40 00.1 -0.5**
KEV Kevo 151.89 321 *e*pkp **PKPbc 00 39 48.6 -1.9**
FETA Feichten 152.22 268 ⇓*i*sPKPdf **PKPbc 00 39 51.0 -1.2**
9.1nm,1.1s
ARA0 ARCESS Array S 152.40 320 *e*PKPbc **PKPbc 00 39 51.0 -0.8**
ARCES ARCESS Array B 152.40 320 PKPbc **PKPbc 00 39 51.0 -0.8**
4.5nm,0.6s,baz=116,slow=2.8,SNR=32
ESDC Sonseca Array 154.77 239 PKPbc **PKPbc 00 39 57.7 -0.2**
0.1nm,0.4s,baz=129,slow=1.6,SNR=7.5
ESDC PKPab **PKPab 00 40 13.0 -0.1**
0.3nm,0.6s,baz=155,slow=3.8,SNR=4.4

GUC 28 00:32:41.6±0.5, 35.57S×72.71W, h15km±5km, ML3.5, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TALC	**Talca**	**0.89**	**79**	*i* P		Pb	00 32 57.3	-1.5
TALC				*i* S		Sb	00 33 09.7	-0.8
TALC				AML		AML	00 33 12.5	
	comp=E,3μm,0.3s							
LNCH	**Linares**	**0.94**	**107**	⇑*i* P		Pb	00 32 58.3	-1.4
LNCH				*i* S		Sb	00 33 11.1	-0.9
LNCH				AML		AML	00 33 16.0	
	comp=N,2μm,0.3s							
CCSP	**San Pedro de C**	**1.31**	**194**	*i* P		Pn	00 33 04.5	-1.0
CCSP				*i* S		Sb	00 33 21.1	-1.6
NICH	**Los Niches**	**1.33**	**65**	⇑*i* P		Pn	00 33 04.7	-1.0
NICH				*i* S		Sn	00 33 22.0	-1.2
NICH				AML		AML	00 33 29.6	
	comp=E,3μm,0.5s							

NNC 28 00:51:36.2±9.9, 37.85N×74.49E, h0km, mb3.7, mpv3.4, 6C-2D, Error ellipse: s-maj=87.9km s-min=37.3km az=145.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DZET	**Dzherino**	**4.56**	**284**	⇑Pn		Pn	00 52 46.2	-0.4
DZET				⇓Sn		Sn	00 53 40.2	-0.2
TKM2	**Tokmak 2**	**5.14**	**9**	⇓Pn		Pn	00 52 56.3	+1.5
	2.8nm,0.3s							
TKM2				⇑Sn		Sn	00 53 56.1	+1.2
	12nm,1.1s							
KK31	**Karatay Array**	**6.07**	**331**	Pn		Pn	00 53 07.2	0.0
	0.8nm,0.3s,baz=133,slow=13,SNR=25							
KK31				⇑Sn		Sn	00 54 19.0	+1.7
	2.3nm,0.5s,baz=138,slow=22							
AB31	**Akbulak array**	**15.50**	**322**	⇑Pn		Pn	00 55 16.1	+0.1
	0.7nm,0.7s,baz=128,slow=12,SNR=6.1							
AB31				⇑Sn		Sn	00 58 00.2	-8.3
	0.3nm,0.7s							
AKTO	**Aktyubinsk**	**17.22**	**322**	⇑Pn		Pn	00 55 35.8	-2.2
	1.4nm,0.7s							

*ISCJB **28** 00:56:58.7±0.9, 16.8S×0.2×177.3W±0.2, h350km, mb3.4/6, Error ellipse: s-maj=37.6km s-min=17.7km az=145.9*
*IDC **28** 00:57:01.7±7.7, 16.72S×177.39W, h366km±75km, mb3.2/6, mb1 3.6/7, mb1mx3.3/18, mbtmp4.0/7, Error ellipse: s-maj=35.9km s-min=28.4km az=136.0*

ISC 28 00:56:59.8±0.8, 16.7S±0.2×177.3W±0.2, h350km, n10, σ1°11/11, mb3.3/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.24**	**248**	P		**P**	**01 00 29.4**	**+1.3**
	0.3nm,0.3s,baz=72,slow=19,SNR=3.0							
WRA	**Warramunga Arr**	**45.91**	**258**	P		**P**	**01 04 48.0**	**-1.1**
	1.1nm,0.7s,baz=93,slow=6.8,SNR=13							
ASAR	**Alice Springs**	**46.16**	**253**	P		**P**	**01 04 50.6**	**-0.3**
	8.2nm,0.6s,baz=88,slow=8.1,SNR=135							
ASAR				PcP		**PcP**	**01 06 20.6**	**+0.1**
	0.2nm,0.4s,baz=115,slow=3.5,SNR=2.7							
VNDA	**Vanda**	**61.70**	**185**	P		**P**	**01 06 41.7**	**+0.4**
	0.4nm,0.6s,baz=359,slow=6.3,SNR=4.7							
TXAR	**Lajitas Array**	**84.46**	**57**	P		**P**	**01 08 54.5**	**+0.2**
	0.5nm,0.8s,baz=207,slow=5.7,SNR=5.4							
ILAR	**Eielson Array**	**84.51**	**13**	P		**P**	**01 08 53.3**	**-0.3**
	0.5nm,0.5s,baz=230,slow=5.9,SNR=6.5							
YKA	**Yellowknife Ar**	**92.82**	**24**	P		**P**	**01 09 33.8**	**+1.0**
	0.2nm,0.7s,baz=247,slow=5.4,SNR=3.7							
ARCES	**ARCESS Array B**	**125.35**	**350**	PKP		**PKPdf**	**01 15 19.2**	**+0.4**
	3.6nm,1.0s,baz=1.3,slow=5.5,SNR=3.5							
BRTR	**Keskin Array B**	**144.70**	**317**	PKP		PKPbc	01 15 56.2	+0.7
	0.7nm,0.7s,baz=104,slow=3.0,SNR=5.5							
TORD	**Torodi Ar. Bea**	**176.30**	**164**	PKP		**PKPdf**	**01 16 27.0**	**-2.3**
	0.3nm,0.8s,baz=270,slow=1.4,SNR=2.1							
TORD				PKPab		**PKPab**	**01 18 11.7**	**-0.2**
	0.3nm,0.7s,baz=196,slow=3.9,SNR=2.3							

*MOS **28** 01:08:20.3±0.8, 10.02S×78.13W, h34km, mb5.5/59, Error ellipse: s-maj=8.8km s-min=5.1km az=107.6*
*GCMT **28** 01:08:24.8±0.2, 10.30S×78.04W, h77km±1km, MW5.2/99, Moment Tensor Solution. s97,c132; s99,c162; Duration: 1s0 Moment tensor: Scale 1016Nm; Mrr6.27±.14; Mθθ-0.61±.17; Mφφ-5.66±.21; Mrθ-1.86±.10; Mrφ2.35±.13; Mθφ3.57±.14; Best double couple: M0 7.58400×1016 NP1φs335.00000°, δ61.00000°, λ87.00000°. NP2φs162.00000°, δ29.00000°, λ96.00000°. Principal axes: T 7.4380, Plg74.0000°, Azm237.0000°; N 0.2930, Plg3.0000°, Azm337.0000°; P -7.7310, Plg16.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 01:08:24.9±0.1, 10.15S×78.06W, mb5.4/196 Error ellipse: s-maj=4.4km s-min=2.7km az=55.0*
NEIC Felt [III] at Chimbote, Huaraz, Huarmey and Trujillo; [II] at Barranca, Chiclayo and Lima. Also felt at Cerro de Pasco, Chosica, Huanuco, Piura, Santa Maria, Sullana, Supe Puerto and Talara.
*BJI **28** 01:08:25.0, 9.40S×78.02W, h66km, mB5.4/22, Ms5.4/20, Ms7 5.2/23*
*ISCJB **28** 01:08:25.3±0.8, 10.12S±0.03×78.06W±0.03, h81km±7km, mb5.2/244, Error ellipse: s-maj=6.0km s-min=3.6km az=139.9*
*IDC **28** 01:08:25.1±0.5, 10.08S×78.11W, h66km±3km, mb4.7/28, mb1 4.8/30, mb1mx4.8/33, mbtmp5.0/30, MS4.2/26, Ms1 4.2/26, ms1mx4.2/35, Error ellipse: s-maj=14.2km s-min=9.3km az=68.0*

ISC 28 01:08:25.2±0.3, 10.18S±0.04×78.06W±0.05, h70km±2km, h70km:pP-P, n1031, σ0.96/1171, mb5.3/243, 231C-220D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.05**	**354**	P		**Pn**	**01 09 14.2**	**+2.7**
	236nm,0.3s,baz=152,slow=3.2,SNR=745							
ATAH				S		**Sn**	**01 09 47.1**	**+0.1**
	322nm,0.3s,baz=175,slow=17,SNR=6.4							
ATAH				LR		LR	01 10 34.0	
	comp=Z,5μm,21.0s,baz=211,slow=44							
ARE	**Arequipa**	**8.93**	**135**	*e*P		**Pn**	**01 10 34.0**	**+2.2**
ARE	**Arequipa**	**8.93**	**135**	*e*P		**Pn**	**01 10 34.0**	**+2.2**
OTAV	**Otavalo**	**10.36**	**358**	*e*Pn		**Pn**	**01 10 53.2**	**+1.7**
OTAV				*e*Sn		Sn	01 12 37.8	-8.4
LPAZ	**La Paz**	**11.41**	**123**	*e*P		**Pn**	**01 11 06.0**	**+0.1**
LPAZ	**La Paz**	**11.41**	**123**	P		**Pn**	**01 11 06.3**	**+0.3**
	4.3nm,0.3s,baz=320,slow=12,SNR=33							
LPAZ	**La Paz**	**11.41**	**123**	*e*Pn		**Pn**	**01 11 06.0**	**+0.1**
SAML	**Samuel**	**14.72**	**86**	*e*Pn		**Pn**	**01 11 48.1**	**-1.6**
SAML				*e*Sn		**Sn**	**01 14 28.8**	**-3.1**

LVC Limon Verde 15.15 146 *e*Pn **Pn 01 11 56.6 +1.1**
124nm,1.2s
ROSC El Rosal 15.39 14 P **P 01 12 00.7 -1.3**
1.0nm,0.3s,baz=192,slow=3.2,SNR=14
ROSC S **Sn 01 14 51.0 +2.2**
0.5nm,0.3s,baz=51,slow=19,SNR=2.6
ROSC LR LR 01 18 53.1
comp=Z,927nm,20.1s,baz=195,slow=41
ROSC El Rosal 15.39 14 *e*P **P 01 12 01.8 -0.2**
ROSC S **Sn 01 14 51.0 +2.2**
SIV San Ignacio 17.52 111 P **P 01 12 26.5 +1.3**
1.7nm,0.3s,baz=300,slow=12,SNR=47
SIV LR LR 01 19 42.9
comp=Z,2μm,19.6s,baz=300,slow=38
BCIP Isla Barro Col 19.30 355 *e*P **P 01 12 44.3 -0.4**
98nm,1.2s
BCIP *e*Pn **Pn 01 12 49.2 +2.8**
LCO Las Campanas 19.96 161 *e*P **Pn 01 12 53.4 -0.9**
64nm,1.0s
PTGA Pitinga 20.29 64 P **P 01 12 56.3 +0.8**
75nm,1.0s,baz=242,slow=12,SNR=33
PTGA LR LR 01 21 32.2
comp=Z,3μm,18.8s,baz=260,slow=39
PTGA Pitinga 20.29 64 *e*P **P 01 12 55.3 -0.2**
165nm,0.9s
PTGA *e*S **S 01 16 38.3 -1.1**
SDV Santo Domingo 20.33 22 *e*P **P 01 12 55.8 -0.3**
131nm,1.1s
JTS JuntasAbangare 21.46 341 *c i*P **P 01 13 09.8 +1.7**
JTS pmax pmax
comp=Z,70nm,1.7s
JTS JuntasAbangare 21.46 341 P **P 01 13 07.2 -0.9**
comp=Z,21nm,0.9s,baz=207,slow=2.4,SNR=11
JTS JuntasAbangare 21.46 341 *e*P **P 01 13 09.5 +1.4**
comp=Z,57nm,1.0s
CFAA Coronel Fontan 23.18 158 P **P 01 13 26.8 +0.7**
comp=Z,2.1nm,0.8s,baz=341,slow=8.6,SNR=32
CFAA PcP **PcP 01 17 12.8 +0.5**
comp=Z,0.5nm,0.8s,baz=350,slow=6.7,SNR=2.6
CFAA LR LR 01 21 45.0
comp=Z,23nm,20.3s,baz=306,slow=34
PCRV Puerto La Cruz 24.23 34 LR LR 01 24 31.8
comp=Z,3μm,19.5s,baz=206,slow=40
APG El Apazote 27.88 334 P P 01 14 03.9 -5.0
comp=Z,16nm,1.0s,baz=137,slow=6.8,SNR=20
BBGH Gun Hill 29.57 39 *e*P **P 01 14 22.7 -1.0**
comp=Z,824nm,1.4s
SDDR Presa de Saban 29.74 13 *e*P **P 01 14 25.0 -0.2**
comp=Z,74nm,1.0s
BDFB Brasilia 29.76 104 P **P 01 14 26.1 +0.5**
comp=Z,15nm,0.9s,baz=264,slow=12,SNR=18
BDFB LR LR 01 27 13.6
comp=Z,2μm,19.5s,baz=272,slow=38
CELP Cerrillos 30.28 22 *e*P **P 01 14 30.4 +0.5**
LRS Lares 30.38 21 *e*P **P 01 14 30.8 -0.1**
SMN1 Samana, DR 30.44 17 *e*P **P 01 14 31.9 +0.6**
SMN1 *e*pP **pP 01 14 49.1 +1.0**
SMN1 *e*sP **sP 01 14 59.9 +3.6**
SJG San Juan 30.47 23 *e*P **P 01 14 31.5 -0.1**
SJG *e* 01 17 29.5
SJG pmax pmax
comp=Z,84nm,0.8s
SJG San Juan 30.47 23 LR LR 01 28 25.6
comp=Z,608nm,21.7s,baz=270,slow=40
SJG San Juan 30.47 23 *e*P **P 01 14 31.5 -0.1**
comp=Z,84nm,0.8s
SJG *e*PcP **PcP 01 17 29.5 -0.1**
HUMP Col San Antoni 30.62 23 *e*pP pP 01 14 51.3 +1.7
MTP Monte Pirata 30.69 24 *e*P **P 01 14 33.7 +0.2**
comp=Z,15nm,0.9s
CBYP Canovanas 30.73 23 *e*P **P 01 14 33.6 -0.3**
comp=Z,52nm,0.7s
PLCA Paso Flores 31.14 169 *e*P **P 01 14 38.3 +0.8**
PLCA 01 17 32.1
PLCA pmax pmax
comp=Z,38nm,1.4s
PLCA Paso Flores 31.14 169 P **P 01 14 37.8 +0.4**
comp=Z,8.6nm,1.0s,baz=346,slow=10,SNR=12
PLCA PcP **PcP 01 17 32.0 +0.9**
comp=Z,5.1nm,0.8s,baz=342,slow=2.9,SNR=4.8
PLCA LR LR 01 25 07.2
comp=Z,304nm,20.5s,baz=354,slow=32
PLCA Paso Flores 31.14 169 *e*P **P 01 14 38.3 +0.8**
comp=Z,38nm,1.4s
PLCA PcP **PcP 01 17 32.0 +0.9**
STVI Saint Thomas 31.16 25 *e*P **P 01 14 36.5 -1.2**
comp=Z,64nm,0.8s
TRQA Tornquist 31.29 155 *e*P **P 01 14 38.3 -0.4**
comp=Z,33nm,1.3s
CMIG Matias Romero 31.80 328 P **P 01 14 43.9 +0.6**
comp=Z,3.8nm,0.6s,baz=128,slow=6.6,SNR=13
CMIG PcP **PcP 01 17 33.2 0.0**
comp=Z,3.2nm,0.8s,baz=182,slow=4.2,SNR=4.0
CMIG LR LR 01 26 02.8
comp=Z,93nm,18.7s,baz=182,slow=33
TEIG Tepich 31.85 342 P **P 01 14 43.5 -0.2**
comp=Z,12nm,0.6s,baz=132,slow=3.4,SNR=12
TEIG PcP **PcP 01 17 32.6 -0.7**
comp=Z,5.3nm,0.7s,baz=161,slow=14,SNR=3.0
TEIG LR LR 01 26 50.5
comp=Z,175nm,19.5s,baz=121,slow=35
TEIG Tepich 31.85 342 *e*P **P 01 14 43.0 -0.7**
comp=Z,158nm,2.0s
TEIG PcP **PcP 01 17 32.6 -0.7**
RPN Rapa Nui 33.95 236 P **P 01 15 02.6 +0.5**
comp=Z,81nm,0.9s,baz=117,slow=5.7,SNR=4.1
035Z Hargill 41.29 332 ⇓P **P 01 16 05.7 +1.7**
baz=42
035A Encino 41.71 333 ⇓P **P 01 16 09.2 +1.8**
baz=42,SNR=5.2
BRAL Brewton 41.86 348 *e*P **P 01 16 09.6 +1.1**
comp=Z,84nm,0.8s
RCBR Riachuelo 41.95 87 *e*P **P 01 16 09.9 +0.3**
comp=Z,27nm,0.9s
RCBR *e*pP **pP 01 16 27.4 +0.5**
034A Hebbronville 42.09 332 ⇑P **P 01 16 12.5 +2.0**
baz=42,SNR=14
934A Benavides 42.47 333 ⇑P **P 01 16 15.6 +2.1**
baz=43,SNR=10
835A Beeville 42.76 334 ⇑P **P 01 16 16.8 +0.9**
baz=43,SNR=7.2
933A Laredo 42.83 332 ⇓P **P 01 16 17.9 +1.4**
baz=43,SNR=21
834A Tilden 42.94 333 ⇑P **P 01 16 18.8 +1.5**
baz=43,SNR=17
735A Kenedy 43.24 334 ⇑P **P 01 16 20.7 +0.9**
baz=43,SNR=8.4
HKT Hockley 43.42 337 *e*P **P 01 16 20.9 -0.2**
HKT *e* 01 18 08.6
HKT pmax pmax
comp=Z,124nm,1.6s
HKT Hockley 43.42 337 *e*P **P 01 16 20.9 -0.2**
comp=Z,124nm,1.6s
HKT *e*PcP **PcP 01 18 08.6 +0.2**
636A Smothers Creek 43.48 336 ⇓P **P 01 16 22.9 +1.2**
baz=44,SNR=18
833A Chaparral WMA, 43.49 332 ⇓P **P 01 16 22.3 +0.5**
baz=44,SNR=12
538A Harpers Horsep 43.53 338 ⇑P **P 01 16 23.7 +1.6**
baz=44
734A La Parita Cree 43.56 334 ⇑P **P 01 16 23.8 +1.5**
baz=44,SNR=11
GOGA Godfrey 43.66 353 *e*P **P 01 16 21.6 -1.5**
GOGA pmax pmax
comp=Z,81nm,1.8s
GOGA Godfrey 43.66 353 *e*P **P 01 16 21.6 -1.5**
comp=Z,80nm,1.8s
635A Leesville 43.69 335 ⇑P **P 01 16 24.3 +0.9**
baz=44,SNR=7.0
537A Green Hill Far 43.72 337 ⇓P **P 01 16 25.5 +1.9**
baz=44
832A Faith Ranch, C 43.72 332 ⇑P **P 01 16 24.5 +0.8**
baz=44,SNR=16
733A Divot King Ran 43.78 333 ⇑P **P 01 16 25.0 +0.9**
baz=44,SNR=17
LRAL Lakeview Retre 43.81 349 *e*P **P 01 16 23.2 -1.1**
comp=Z,39nm,0.9s
VBMS Vicksburg 43.81 345 *e*P **P 01 16 25.3 +1.0**
comp=Z,265nm,1.5s
634A China Grove, S 43.93 334 ⇑P **P 01 16 26.5 +1.2**
baz=44
438A Sam Houston St 44.00 338 ⇑P **P 01 16 27.5 +1.6**
baz=44
536A Bastrop 44.01 336 ⇑P **P 01 16 27.3 +1.3**
baz=44,SNR=6.0
340A Bronson 44.06 340 ⇑P **P 01 16 27.4 +1.1**
baz=44

732A Laxson Ranch, 44.10 332 ⇓P P 01 16 28.1 +1.4
baz=44,SNR=25
535A Dale 44.17 335 ⇓P P 01 16 28.5 +1.2
baz=44
339A Huntington 44.21 340 ⇑P P 01 16 29.4 +1.9
baz=44
437A Phantom Ranch, 44.32 338 ⇓P P 01 16 29.9 +1.5
baz=44
633A Saathoff Ranch 44.36 333 ⇑P P 01 16 29.9 +1.2
baz=44,SNR=29
EFI East Falkland 44.48 162 eP P 01 16 30.7 +1.3
EFI pmax pmax
comp=Z,172nm,1.2s
338A Crockett 44.49 339 ⇓P P 01 16 31.4 +1.6
baz=45,SNR=12
436A Wall Ranch, Ga 44.52 337 ⇓P P 01 16 31.3 +1.3
baz=45,SNR=11
534A Blanco 44.55 334 ⇑P P 01 16 30.9 +0.6
baz=45,SNR=29
NATX Nacogdoches 44.63 340 eP P 01 16 27.8 -3.0
comp=Z,304nm,1.3s
337A Centerville 44.66 338 ⇑P P 01 16 32.9 +1.7
baz=45,SNR=6.9
632A Uvalde 44.67 333 ⇑P P 01 16 32.4 +1.1
baz=45,SNR=65
239A Gary 44.80 340 ⇓P P 01 16 33.6 +1.4
baz=45
533A Kerrville 44.83 334 ⇑P P 01 16 33.7 +1.1
baz=45,SNR=33
435B Jarrell 44.84 336 ⇑P P 01 16 34.1 +1.5
baz=45,SNR=6.7
631A Perdido Creek 44.96 332 ⇑P P 01 16 34.4 +0.8
baz=45,SNR=79
238A Jacksonville 45.01 339 ⇓P P 01 16 35.8 +1.9
baz=45
336A Riesel 45.09 337 ⇓P P 01 16 35.8 +1.3
baz=45,SNR=5.2
434A Burnet 45.15 335 ⇑P P 01 16 35.8 +0.8
baz=45,SNR=20
KMSC Kings Mountain 45.18 356 ⇑P P 01 16 35.6 +0.4
baz=45,SNR=8.3
KMSC Kings Mountain 45.18 356 eP P 01 16 34.4 -0.9
comp=Z,27nm,0.9s
USHA Ushuaia 45.19 172 P P 01 16 36.3 +1.3
comp=Z,26nm,0.9s,baz=25,slow=3.3,SNR=7.7
335A Moody 45.22 336 ⇓P P 01 16 36.3 +0.8
baz=45,SNR=8.2
237A Washetta, Mont 45.25 339 ⇓P P 01 16 37.5 +1.6
baz=45
532A Rocksprings 45.26 333 ⇓P P 01 16 36.9 +0.9
baz=45,SNR=30
433A Art 45.44 334 ⇑P P 01 16 37.9 +0.5
baz=46,SNR=11
JCT Junction City 45.51 333 eP P 01 16 38.3 +0.3
JCT e 01 18 15.8
JCT pmax pmax
comp=Z,37nm,1.2s
JCT Junction City 45.51 333 ⇑P P 01 16 38.6 +0.6
baz=46,SNR=9.0
JCT Junction City 45.51 333 eP P 01 16 38.3 +0.3
comp=Z,37nm,1.2s
JCT ePcP PcP 01 18 15.8 0.0
531A Rocksprings 45.58 332 ⇓P P 01 16 39.4 +0.9
baz=46,SNR=71
334A Lometa 45.59 336 ⇓P P 01 16 39.1 +0.6
baz=46,SNR=15
138A Matatall Enter 45.60 340 ⇓P P 01 16 40.1 +1.6
baz=46
OXF Oxford 45.73 347 eP P 01 16 38.9 -0.7
OXF pmax pmax
comp=Z,106nm,1.3s
OXF Oxford 45.73 347 eP P 01 16 38.9 -0.7
comp=Z,106nm,1.3s
137A Heron Place, G 45.77 339 ⇓P P 01 16 41.6 +1.7
baz=46
CPCT Cooper Cave 45.79 353 eP P 01 16 42.2 +2.2
CPCT ePcP PcP 01 18 16.0 -0.5
432A Menard 45.85 334 ⇓P P 01 16 41.0 +0.4
baz=46,SNR=14
WHTX Lake Whitney, 45.86 337 ⇓P P 01 16 41.1 +0.5
baz=46
WHTX Lake Whitney, 45.86 337 eP P 01 16 41.0 +0.4
comp=Z,34nm,1.0s
333A Richland Sprin 45.89 335 ⇑P P 01 16 41.2 +0.3
baz=46,SNR=18
TKL Tuckaleechee C 45.91 354 eP P 01 16 39.5 -1.4
TKL Tuckaleechee C 45.91 354 P P 01 16 40.1 -0.9
comp=Z,19nm,1.0s,baz=156,slow=10,SNR=10
TKL Tuckaleechee C 45.91 354 eP P 01 16 39.5 -1.4
530A J-C Ranch, Com 45.93 332 ⇓P P 01 16 42.0 +0.7
baz=46
431A Sonora 46.05 333 ⇑P P 01 16 42.9 +0.7
baz=46,SNR=33
234A Clairette 46.14 336 ⇓P P 01 16 43.6 +0.7
baz=46,SNR=15
332A Millersview 46.26 334 ⇑P P 01 16 44.5 +0.7
baz=46,SNR=36
529A Stev Forest Ra 46.33 331 ⇑P P 01 16 45.6 +1.1
baz=46,SNR=80
135A Vickery Place, 46.34 337 ⇑P P 01 16 45.2 +0.8
baz=46
TXAR Lajitas Array 46.41 329 P P 01 16 45.2 +0.1
comp=Z,23nm,0.8s,baz=149,slow=9.2,SNR=176
TXAR PcP PcP 01 18 19.2 +0.2
comp=Z,4.5nm,0.7s,baz=146,slow=5.2,SNR=5.6
LPIG La Paz 46.41 318 LR LR 01 33 20.1
comp=Z,84nm,18.6s,baz=186,slow=32
430A Baggett Ranch, 46.42 332 ⇑P P 01 16 45.9 +0.8
baz=47,SNR=33
233A Rising Star 46.46 335 ⇓P P 01 16 46.1 +0.7
baz=47,SNR=10.0
331A San Angelo 46.50 333 ⇑P P 01 16 46.2 +0.5
baz=47,SNR=32
429A Davenport Ranc 46.59 331 ⇑P P 01 16 47.0 +0.5
baz=47,SNR=30
134A White-Moore Ra 46.62 337 ⇑P P 01 16 47.3 +0.8
baz=47,SNR=19
232A Coleman 46.66 335 ⇑P P 01 16 47.6 +0.7
baz=47,SNR=48
UALR University of 46.72 344 eP P 01 16 47.5 +0.2
comp=Z,118nm,0.8s
UALR ePcP PcP 01 18 19.1 -0.7
TZTN Tazewell 46.76 354 eP P 01 16 47.1 -0.6
comp=Z,28nm,1.2s
MIAR Mount Ida 46.85 342 eP P 01 16 48.7 +0.3
MIAR pmax pmax
comp=Z,53nm,0.9s
MIAR Mount Ida 46.85 342 eP P 01 16 48.7 +0.3
comp=Z,53nm,0.9s
330A Mertzon 46.91 333 ⇑P P 01 16 49.6 +0.6
baz=47,SNR=24
WVT Waverly 46.98 349 eP P 01 16 47.7 -1.6
WVT pmax pmax
comp=Z,43nm,1.2s
WVT Waverly 46.98 349 eP P 01 16 47.7 -1.6
comp=Z,43nm,1.2s
Z35A Perchaven, San 46.98 338 ⇑P P 01 16 50.1 +0.8
baz=47,SNR=7.4
133A Hamilton Ranch 46.98 336 ⇓P P 01 16 49.8 +0.4
baz=47,SNR=14
231A Bronte 46.98 334 ⇑P P 01 16 49.8 +0.3
baz=47,SNR=14
HBAR Harrisburg 47.02 346 eP P 01 16 49.0 -0.7
VWCC Virginia Weste 47.21 358 eP P 01 16 50.3 -0.8
Z34A Collier Ranch, 47.26 337 ⇑P P 01 16 52.4 +0.8
baz=48
GNAR Gosnell 47.27 347 eP P 01 16 51.1 -0.4
comp=Z,3μm,1.3s
ABTX Abilene, Hawle 47.29 335 ⇑P P 01 16 52.2 +0.3
baz=48,SNR=26
ABTX Abilene, Hawle 47.29 335 eP P 01 16 52.5 +0.6
comp=Z,101nm,1.0s
230A Sterling City 47.29 333 ⇑P P 01 16 52.4 +0.5
baz=48,SNR=12
329A Wagon Wheel Ra 47.35 332 ⇓P P 01 16 53.0 +0.6
baz=48,SNR=46
Z33A Whitaker Ranch 47.52 336 ⇓P P 01 16 54.2 +0.6
baz=48,SNR=26
JSRW J. Sargeant Re 47.62 0 eP P 01 16 54.0 -0.3
131A Roby 47.65 334 ⇓P P 01 16 55.2 +0.5
baz=48,SNR=9.8
229A Bryant Ranch, 47.68 332 ⇓P P 01 16 55.4 +0.5
baz=48,SNR=14
Y34A Reagan Ranch, 47.72 338 ⇓P P 01 16 55.8 +0.7
baz=48,SNR=7.9
Z32A Haskell 47.82 336 ⇓P P 01 16 56.9 +1.0
baz=48,SNR=22
130A Snyder 47.83 334 ⇓P P 01 16 56.5 +0.4
baz=48,SNR=8.8
PARMO Parma 47.88 347 eP P 01 16 55.8 -0.4
Z31A Sharp Cattle R 48.10 335 ⇓P P 01 16 59.2 +1.1
baz=48,SNR=57
PBMO Poplar Bluff 48.14 347 eP P 01 16 57.6 -0.7
comp=Z,51nm,0.9s
228A UT Block 9, Go 48.16 332 ⇑P P 01 16 59.4 +0.7
baz=48,SNR=19
129A Stewart Farms, 48.26 333 ⇑P P 01 17 00.0 +0.6
baz=48,SNR=18
X34A Smith Ranch, M 48.32 338 ⇑P P 01 17 00.8 +1.0
baz=48,SNR=15
Y32A R-V Farms, Ver 48.41 336 ⇑P P 01 17 01.2 +0.8
baz=49,SNR=17
Z30A Sanderson Ranc 48.49 334 ⇑P P 01 17 01.6 +0.4
baz=49,SNR=60
128A Castleberry Fa 48.53 332 ⇑P P 01 17 01.7 +0.2
baz=49,SNR=36
Y31A Rekieta Farm, 48.71 335 ⇓P P 01 17 03.6 +0.8
baz=49,SNR=45
X32A Elmer 48.72 337 ⇓P P 01 17 03.2 +0.4
baz=49,SNR=16
Z29A Hungry Hill Ra 48.72 333 ⇑P P 01 17 03.4 +0.4
baz=49,SNR=34
USIN University of 48.73 350 eP P 01 17 01.9 -1.0
comp=Z,81nm,1.2s
USIN ePcP PcP 01 18 26.0 -1.0
WCI Wyandotte Cave 48.77 351 eP P 01 17 01.0 -2.2
WCI e 01 18 25.9
WCI pmax pmax
comp=Z,42nm,1.3s
WCI Wyandotte Cave 48.77 351 eP P 01 17 01.0 -2.2
comp=Z,42nm,1.3s
WCI ePcP PcP 01 18 25.9 -1.3
SIUC Southern Illin 48.78 348 eP P 01 17 02.5 -0.7
comp=Z,79nm,0.9s
SIUC ePcP PcP 01 18 26.6 -0.5
WMOK Wichita Mounta 48.80 337 eP P 01 17 03.2 -0.3
WMOK e 01 18 27.3
WMOK pmax pmax
comp=Z,70nm,1.8s
WMOK Wichita Mounta 48.80 337 eP P 01 17 03.1 -0.3
comp=Z,70nm,1.8s
WMOK ePcP PcP 01 18 27.3 0.0
TUL1 Leonard 48.80 341 ⇑P P 01 17 04.1 +0.7
baz=49,SNR=16
TUL1 Leonard 48.80 341 eP P 01 17 03.2 -0.3
comp=Z,72nm,1.0s
TUL1 ePcP PcP 01 18 26.9 -0.4
W34A Bridge Creek, 48.87 338 ⇑P P 01 17 04.4 +0.3
baz=49
W34A Bridge Creek, 48.87 338 eP P 01 17 04.3 +0.3
comp=Z,97nm,1.7s
Y30A Stafford Cattl 48.90 335 ⇑P P 01 17 04.8 +0.5
baz=49,SNR=16
V35A Meyer Ranch, C 49.02 340 ⇓P P 01 17 05.8 +0.7
baz=49,SNR=6.2
Z28A Tucker Farm, M 49.05 333 ⇑P P 01 17 05.8 +0.3
baz=49,SNR=16
W33A Caddo, Fort Co 49.05 338 ⇑P P 01 17 06.4 +1.0
baz=49
X31A McDonald Ranch 49.18 336 ⇓P P 01 17 06.9 +0.5
baz=49,SNR=21
MNTX Cornudas Mount 49.18 329 eP P 01 17 06.1 -0.3
comp=Z,34nm,1.0s
Y29A Porterfield Fa 49.22 334 ⇑P P 01 17 07.1 +0.4
baz=49,SNR=25
V34A Guthrie 49.32 339 ⇓P P 01 17 08.2 +0.9
baz=50
V34A Guthrie 49.32 339 eP P 01 17 07.0 -0.4
comp=Z,35nm,1.1s
V34A ePcP PcP 01 18 29.4 +0.2
W32A Sentinel 49.32 337 ⇑P P 01 17 07.9 +0.4
baz=50,SNR=22
X30A Coker Ranch, T 49.38 335 ⇑P P 01 17 08.4 +0.5
baz=50,SNR=13
Y28A McKinney Farm, 49.51 333 ⇑P P 01 17 09.4 +0.4
baz=50,SNR=13
OLIL Olney 49.55 350 eP P 01 17 07.8 -1.3
comp=Z,30nm,0.8s
OLIL epP pP 01 17 24.7 -2.1
OLIL esP sP 01 17 33.1 -1.6
OLIL ePcP PcP 01 18 29.2 -0.8
V33A Lossen Ranch, 49.58 338 ⇓P P 01 17 09.8 +0.5
baz=50,SNR=7.1
W31A Holland Ranch, 49.65 336 ⇓P P 01 17 10.1 +0.1
baz=50,SNR=5.6
BLO Bloomington 49.73 351 eP P 01 17 09.1 -1.3
BLO pmax pmax
comp=Z,83nm,1.6s
BLO Bloomington 49.73 351 eP P 01 17 09.1 -1.3
comp=Z,83nm,1.6s
X29A Tulia 49.73 334 ⇓P P 01 17 10.9 +0.3
baz=50,SNR=10.0
V32A Arapaho 49.77 338 ⇓P P 01 17 11.5 +0.7
baz=50,SNR=5.0
MSTX Muleshoe 49.80 333 ⇓P P 01 17 11.5 +0.3
baz=50,SNR=17
MSTX Muleshoe 49.80 333 eP P 01 17 11.2 0.0
comp=Z,70nm,1.0s
U34A Anderson Ranch 49.87 339 ⇑P P 01 17 12.0 +0.5
baz=50
U34A Anderson Ranch 49.87 339 eP P 01 17 11.7 +0.2
comp=Z,42nm,1.1s
SLM Saint Louis 49.88 348 eP P 01 17 11.0 -0.6
SLM Saint Louis 49.88 348 eP P 01 17 11.0 -0.6
W30A Crocket Farms 49.90 336 ⇓P P 01 17 12.9 +1.0
baz=50
MVL Millersville 49.95 2 eP P 01 17 13.1 +1.0
comp=Z,54nm,1.3s
X28A Dimmitt 50.01 334 ⇑P P 01 17 13.1 +0.4
baz=50
U33A Lingo Farm, Me 50.06 339 ⇓P P 01 17 13.8 +0.7
baz=50
AMTX Amarillo 50.09 335 ⇓P P 01 17 13.7 +0.2
baz=50
AMTX Amarillo 50.09 335 eP P 01 17 13.6 +0.2
comp=Z,138nm,2.0s
V31A Spring Creek L 50.12 337 ⇓P P 01 17 14.4 +0.9
baz=50,SNR=8.2
W29A Amarillo 50.28 335 ⇓P P 01 17 15.0 +0.2
baz=50
U32A Winter Ranch, 50.34 338 ⇓P P 01 17 15.6 +0.5
baz=50
ACSO Alum Creek Sta 50.37 355 eP P 01 17 14.3 -0.9
comp=Z,41nm,0.8s
S36A Lake Cedric, C 50.41 342 ⇓P P 01 17 15.8 +0.2
baz=51,SNR=19
V30A Spur Ranch, Mi 50.45 336 ⇑P P 01 17 17.1 +1.1
baz=51
SSPA Standing Stone 50.56 0 eP P 01 17 17.1 +0.4
comp=Z,61nm,1.3s
W28A Vega 50.64 334 ⇑P P 01 17 18.1 +0.6
baz=51
U31A Nine Bar Ranch 50.65 337 ⇓P P 01 17 18.0 +0.5
baz=51
T33A Patterson Ranc 50.69 339 ⇓P P 01 17 18.2 +0.4
baz=51
S34A Willow Spring 50.87 340 ⇑P P 01 17 19.4 +0.3
baz=51,SNR=7.8
V29A Stinnett 50.88 335 ⇓P P 01 17 19.6 +0.3
baz=51
SFIN Lafayette 51.00 351 ⇓P P 01 17 19.5 -0.5
baz=51,SNR=8.2
SFIN Lafayette 51.00 351 eP P 01 17 18.4 -1.5
comp=Z,128nm,1.4s
SFIN epP pP 01 17 35.4 -2.4
319A Douglas 51.02 325 ⇑P P 01 17 21.0 +0.6
baz=51,SNR=34
T32A Huddler Ranch, 51.02 339 ⇑P P 01 17 20.7 +0.4
baz=51,SNR=8.1
V28A Channing 51.06 335 ⇓P P 01 17 21.0 +0.3
baz=51,SNR=6.1
S33A Kaszmaul Farm, 51.07 340 ⇓P P 01 17 21.2 +0.6
baz=51
121A Cookes Peak, D 51.09 327 ⇓P P 01 17 22.3 +1.3
baz=51,SNR=36
121A Cookes Peak, D 51.09 327 eP P 01 17 21.8 +0.8
comp=Z,51nm,0.8s
U30A WK&E Inc. Balk 51.10 337 ⇑P P 01 17 21.4 +0.5
baz=51
W26A Owens Ranch, T 51.18 333 ⇓P P 01 17 22.0 +0.4
baz=51,SNR=7.3
T31A Randall Ranch, 51.23 338 ⇓P P 01 17 22.2 +0.5
baz=51
U29A Oasis Ranch, S 51.27 336 ⇑P P 01 17 22.7 +0.5
baz=52
V27A Dan Oppiter Fa 51.33 334 ⇓P P 01 17 23.1 +0.4
baz=52
S32A Newby Ranch, P 51.49 339 ⇓P P 01 17 24.2 +0.5
baz=52
KSPA Keystone Colle 51.52 2 eP P 01 17 24.8 +0.9
comp=Z,54nm,1.1s
W25A X Bar L Ranch, 51.60 332 ⇓P P 01 17 25.1 +0.3
baz=52,SNR=23
U28A Mallet 51.60 335 ⇓P P 01 17 25.0 +0.3
baz=52,SNR=5.7
S31A Mullinville 51.62 338 ⇓P P 01 17 25.3 +0.5
baz=52,SNR=7.4
R33A Olander Ranch, 51.71 340 ⇑P P 01 17 25.8 +0.4
baz=52,SNR=7.2
V26A Tequesquite Ra 51.78 333 ⇑P P 01 17 26.5 +0.5
baz=52,SNR=26
U27A Thompson Grove 51.89 335 ⇓P P 01 17 27.2 +0.3
baz=52,SNR=11
T29A Hugoton 51.90 336 ⇑P P 01 17 27.1 +0.2
baz=52,SNR=11
LENM Lemitar 51.95 329 eP P 01 17 28.0 +0.5
KSU1 Kansas State U 51.98 342 ⇑P P 01 17 27.8 +0.5
baz=52
KSU1 Kansas State U 51.98 342 eP P 01 17 26.3 -1.1
comp=Z,38nm,1.1s
S30A Montezuma 52.00 337 ⇓P P 01 17 28.0 +0.4
baz=52,SNR=6.4
W24A Lazy 6 Ranch, 52.03 331 ⇓P P 01 17 28.4 +0.3
baz=52,SNR=17
R32A Long Quarter, 52.06 339 ⇓P P 01 17 28.4 +0.4
baz=52,SNR=9.4
ERPA Erie 52.07 358 eP P 01 17 27.4 -0.5
comp=Z,34nm,0.9s
BINY Binghamton 52.16 2 eP P 01 17 28.5 -0.2
comp=Z,56nm,0.8s
V25A Rancho No Teng 52.19 333 ⇑P P 01 17 29.5 +0.4
baz=52,SNR=46
T28A Walsh 52.19 336 ⇑P P 01 17 29.1 0.0
baz=52
LAZ Ladron 52.22 329 eP P 01 17 29.9 +0.4
comp=Z,18nm,1.0s
R31A Burdett 52.23 339 ⇑P P 01 17 29.5 +0.2
baz=52,SNR=11
S29A Ulysses 52.23 337 ⇓P P 01 17 29.8 +0.5
baz=52,SNR=10.0
U26A Atchley Ranch, 52.26 334 ⇑P P 01 17 30.1 +0.4
baz=52,SNR=10
Q33A Connelly Farm, 52.28 341 ⇓P P 01 17 29.8 +0.2
baz=52
ANMO Albuquerque 52.32 330 ceP P 01 17 30.6 +0.4
ANMO pmax pmax
comp=Z,296nm,1.8s
ANMO Albuquerque 52.32 330 P P 01 17 30.8 +0.6
comp=Z,41nm,1.2s,baz=152,slow=11,SNR=13
ANMO Albuquerque 52.32 330 eP P 01 17 30.6 +0.4
comp=Z,46nm,1.1s
T27A Campo 52.39 335 ⇓P P 01 17 30.6 0.0
baz=53,SNR=12
V24A Rampart Ranch, 52.39 332 ⇑P P 01 17 30.9 +0.2
baz=53,SNR=21
AAM Ann Arbor 52.48 355 eP P 01 17 30.3 -0.6
AAM pmax pmax
comp=Z,28nm,1.1s
AAM Ann Arbor 52.48 355 eP P 01 17 30.3 -0.6
comp=Z,28nm,1.1s
R30A Dighton 52.49 338 ⇓P P 01 17 31.7 +0.4
baz=53,SNR=15
S28A Manter 52.51 336 ⇑P P 01 17 31.5 +0.1
baz=53,SNR=17
Q32A Meitler Ranch, 52.52 340 ⇑P P 01 17 31.6 +0.2
baz=53,SNR=5.1
U25A Circle Dot Ran 52.56 333 ⇓P P 01 17 32.3 +0.4
baz=53,SNR=12
TUC Tucson 52.56 325 eP P 01 17 32.0 +0.1
TUC e 01 18 40.7
TUC pmax pmax
comp=Z,22nm,0.7s
TUC Tucson 52.56 325 eP P 01 17 32.0 +0.1
comp=Z,22nm,0.7s
TUC ePcP PcP 01 18 40.7 -0.7
P33A Williams Farm, 52.63 341 ⇓P P 01 17 33.0 +0.8
baz=53
Q31A Ellis 52.82 339 ⇑P P 01 17 34.1 +0.5
baz=53,SNR=5.6
V23A Ortiz Mt. (NFS 52.83 331 ⇓P P 01 17 34.6 +0.5
baz=53,SNR=13
T26A Comanche Natio 52.85 334 ⇓P P 01 17 34.5 +0.4
baz=53,SNR=8.6
R29A Marienthal 52.94 337 ⇑P P 01 17 34.8 +0.3
baz=53,SNR=6.2
U24A Moreno Valley 52.96 332 ⇑P P 01 17 35.6 +0.6
baz=53,SNR=6.7
Q30A Quinter 53.09 338 ⇑P P 01 17 36.1 +0.4
baz=53,SNR=6.2
P32A Huiting Farm, 53.10 340 ⇓P P 01 17 35.8 +0.1
baz=53
R28A Tribune 53.13 337 ⇑P P 01 17 36.5 +0.6
baz=53,SNR=8.8
T25A Trinidad 53.18 334 ⇑P P 01 17 37.2 +0.7
baz=53,SNR=9.7
T25A Trinidad 53.18 334 eP P 01 17 37.0 +0.4
comp=Z,57nm,1.4s
T25A epP pP 01 17 54.6 +0.2
S26A Kim 53.18 335 ⇓P P 01 17 37.3 +0.9
baz=53,SNR=39
P31A Stockton 53.27 339 ⇓P P 01 17 37.2 +0.3
baz=54,SNR=11
Q29A Oakley 53.29 338 ⇑P P 01 17 37.5 +0.4
baz=54
U23A El Rito 53.31 332 ⇑P P 01 17 38.2 +0.7
baz=54,SNR=19
V22A San Miguel Ran 53.32 331 ⇑P P 01 17 38.6 +1.0
baz=54,SNR=43
ACCN Adirondack Com 53.46 4 eP P 01 17 38.3 +0.1
comp=Z,29nm,1.0s
R27A Eads 53.47 336 ⇓P P 01 17 38.5 0.0
baz=54,SNR=6.8
214A Organ Pipe Nat 53.48 323 ⇑P P 01 17 39.5 +0.9
baz=54,SNR=25
214A Organ Pipe Nat 53.48 323 eP P 01 17 39.0 +0.4
comp=Z,88nm,1.1s
T24B San Luis 53.54 333 ⇓P P 01 17 39.8 +0.5
baz=54,SNR=5.9
O32A Brockman Farm, 53.57 341 ⇓P P 01 17 39.1 0.0
baz=54
P30A Selden 53.60 339 ⇓P P 01 17 39.7 +0.3
baz=54,SNR=7.5
S25A Robets Cordova 53.62 334 ⇓P P 01 17 40.3 +0.5
baz=54,SNR=14
U22A Llaves 53.66 331 ⇓P P 01 17 41.5 +1.3
baz=54,SNR=22
SCIA State Center 53.67 346 eP P 01 17 38.6 -1.2
comp=Z,67nm,0.8s
R26A Arlington 53.75 335 ⇑P P 01 17 40.8 +0.3
baz=54,SNR=16
Q28A Sharon Springs 53.76 337 ⇑P P 01 17 40.7 +0.1
baz=54,SNR=5.4
X18A Snowflake 53.77 327 ⇓P P 01 17 42.1 +1.2
baz=54,SNR=14
O31A Woolen Ranch, 53.82 340 ⇓P P 01 17 41.2 +0.3
baz=54
T23A Casias Ranch, 53.82 332 ⇓P P 01 17 41.9 +0.6
baz=54,SNR=7.0
P29A Atwood 53.90 338 ⇓P P 01 17 41.8 +0.2
baz=54,SNR=6.6
S24A Houchin Ranch, 53.95 333 ⇑P P 01 17 42.6 +0.4
baz=54,SNR=11
R25A Fountain Ranch 53.97 334 ⇓P P 01 17 42.7 +0.5
baz=54
JFWS Jewell Farm 54.00 349 eP P 01 17 41.0 -1.2
JFWS pmax pmax
comp=Z,19nm,0.6s
JFWS Jewell Farm 54.00 349 eP P 01 17 41.0 -1.2
comp=Z,19nm,0.6s
KSCO Kaye Shedlock' 54.02 336 ⇑P P 01 17 42.9 +0.3
baz=54
KSCO Kaye Shedlock' 54.02 336 eP P 01 17 42.7 +0.1
comp=Z,25nm,0.9s
N32A Stulken Farm, 54.03 341 ⇓P P 01 17 43.0 +0.5
baz=54
O30A MW Ranch, Wils 54.09 339 ⇑P P 01 17 43.2 +0.2
baz=54
MDV Middlebury 54.10 4 eP P 01 17 43.5 +0.7
W18A Petrified Fore 54.11 328 ⇑P P 01 17 44.4 +1.1
baz=54,SNR=21
W18A Petrified Fore 54.11 328 eP P 01 17 44.3 +0.9
comp=Z,125nm,1.1s
W18A epP pP 01 18 01.4 +0.1

SDCO	Great Sand Dun	54.16 333	⇓P	P	01 17 44.3 +0.5
	baz=54,SNR=36				
SDCO	Great Sand Dun	54.16 333	eP	P	01 17 44.0 +0.2
	comp=Z,20nm,0.8s				
P28A	Saint Francis	54.18 337	⇓P	P	01 17 44.0 +0.4
	baz=54				
Q26A	Hugo	54.31 336	⇓P	P	01 17 45.2 +0.5
	baz=54,SNR=6.3				
O29A	4D Ranch, Culb	54.31 339	⇓P	P	01 17 45.1 +0.6
	baz=54,SNR=5.3				
R24A	Sanders Place,	54.39 334	⇑P	P	01 17 46.1 +0.7
	baz=55,SNR=8.1				
P27A	Ficken Ranch,	54.48 337	⇑P	P	01 17 46.5 +0.7
	baz=55				
X16A	Lo Mia Camp, P	54.50 326	⇑P	P	01 17 47.4 +1.2
	baz=55,SNR=38				
PTN	Potsdam (NY)	54.56 3	eP	P	01 17 46.4 +0.2
PTN			pmax	pmax	
	comp=Z,38nm,1.0s				
PTN	Potsdam (NY)	54.56 3	eP	P	01 17 46.4 +0.2
	comp=Z,38nm,1.0s				
BGNE	Belgrade	54.57 342	⇑P	P	01 17 46.9 +0.6
	baz=55				
BGNE	Belgrade	54.57 342	eP	P	01 17 46.1 -0.2
	comp=Z,138nm,1.3s				
Z14A	Wintersburg	54.57 324	⇓P	P	01 17 47.4 +0.9
	baz=55,SNR=12				
Q25A	Bedland, Calha	54.60 335	⇓P	P	01 17 47.0 +0.2
	baz=55,SNR=5.2				
113A	Mohawk Valley,	54.63 323	⇓P	P	01 17 47.6 +0.7
	baz=55,SNR=14				
LONY	Lake Ozonia	54.63 3	eP	P	01 17 47.0 +0.2
	comp=Z,40nm,1.3s				
N30A	Hueftle Ranch,	54.66 340	⇑P	P	01 17 47.6 +0.6
	baz=55				
O28A	Krutsinger Ran	54.67 338	⇑P	P	01 17 47.7 +0.5
	baz=55,SNR=5.6				
R23A	Moffat	54.67 333	⇓P	P	01 17 48.1 +0.6
	baz=55,SNR=8.0				
SADO	Sadowa	54.70 359	P	P	01 17 45.8 -1.4
	comp=Z,30nm,0.9s,baz=206,slow=5.8,SNR=17				
S22A	4UR Ranch, Cre	54.76 332	⇓P	P	01 17 48.7 +0.6
	baz=55,SNR=9.4				
S22A	4UR Ranch, Cre	54.76 332	eP	P	01 17 48.3 +0.1
M31A	Lambtecht Ranc	54.77 341	⇓P	P	01 17 49.0 +1.1
	baz=55				
P26A	Davis Ranch, A	54.78 336	⇓P	P	01 17 48.5 +0.4
	baz=55,SNR=11				
N29A	Votaw Ranch, W	54.86 339	⇑P	P	01 17 49.5 +0.9
	baz=55				
HOPE	Hope Point	54.96 152	eP	P	01 17 50.0 +1.0
	comp=Z,45nm,1.3s				
O27A	Beecher Island	54.99 337	⇓P	P	01 17 50.6 +1.1
	baz=55				
WVL	Waterville	55.02 7	eP	P	01 17 50.9 +1.5
	comp=Z,38nm,0.9s				
Q24A	Divide	55.02 334	⇓P	P	01 17 50.5 +0.5
	baz=55,SNR=8.9				
Q24A	Divide	55.02 334	eP	P	01 17 50.5 +0.5
	comp=Z,20nm,1.1s				
Q24A			ePP	pP	01 18 08.6 +0.6
Y14A	Wickenburg	55.02 324	⇑P	P	01 17 50.7 +0.9
	baz=55,SNR=9.7				
N28A	Pribbeno Ranch	55.07 338	⇑P	P	01 17 50.5 +0.4
	baz=55				
P25A	Willow Gulch B	55.07 335	⇑P	P	01 17 50.8 +0.6
	baz=55,SNR=8.0				
MVCO	Mesa Verde	55.12 330	⇓P	P	01 17 51.3 +0.6
	baz=55,SNR=5.4				
MVCO	Mesa Verde	55.12 330	eP	P	01 17 51.2 +0.6
	comp=Z,79nm,2.0s				
Q23A	Hartsel	55.27 334	⇓P	P	01 17 52.5 +0.7
	baz=56				
WUAZ	Wupatki	55.28 327	⇓P	P	01 17 52.5 +0.7
	baz=56,SNR=22				
WUAZ	Wupatki	55.28 327	eP	P	01 17 52.6 +0.8
	comp=Z,53nm,1.0s				
O26A	Horse Wrangler	55.35 337	⇑P	P	01 17 53.0 +0.8
	baz=56				
P24A	Kohler Place,	55.38 335	⇑P	P	01 17 53.2 +0.8
	baz=56				
PMSA	Palmer Station	55.39 173	P	P	01 17 53.7 +1.9
	comp=Z,16nm,0.8s,baz=339,slow=23,SNR=5.6				
PMSA	Palmer Station	55.39 173	eP	P	01 17 51.9 0.0
	comp=Z,87nm,1.2s				
M29A	Burnside Ranch	55.44 339	⇓P	P	01 17 54.0 +1.3
	baz=56				
GLA	Glamis	55.46 322	eP	P	01 17 53.6 +0.6
GLA	Glamis	55.46 322	⇓P	P	01 17 53.5 +0.5
	baz=56,SNR=6.8				
GLA	Glamis	55.46 322	eP	P	01 17 53.6 +0.6
OGNE	Ogallala	55.48 338	⇓P	P	01 17 54.0 +1.0
	baz=56				
L31A	Butterfield Fa	55.48 341	⇑P	P	01 17 53.9 +1.0
	baz=56,SNR=7.2				
N27A	Anderson Farm,	55.54 338	⇑P	P	01 17 54.0 +0.5
	baz=56				
L30A	Spencer Herefo	55.56 340	⇑P	P	01 17 54.1 +0.6
	baz=56				
O25A	Wiggins	55.56 336	⇓P	P	01 17 54.6 +0.9
	baz=56				
M28A	Bar X Bar Ranc	55.63 339	⇑P	P	01 17 54.6 +0.5
	baz=56				
P23A	Jefferson	55.66 334	⇑P	P	01 17 55.7 +1.1
	baz=56,SNR=11				
RKT	Rikitea	55.72 249	eLR	LR	01 33 55.6
	comp=Z,655nm,32.2s,baz=84				
RKT	Rikitea	55.72 249	eT	T	02 17 23.3
	comp=Z,12nm,0.3s				
PKME	Peaks-Kenny Pk	55.75 7	eP	P	01 17 55.0 +0.3
	comp=Z,21nm,1.0s				
Y12C	Blythe	55.77 323	⇓P	P	01 17 56.0 +0.9
	baz=56				
N26A	Koester Ranch,	55.82 337	⇓P	P	01 17 56.1 +0.6
	baz=56				
PV01	Paradox Valley	55.89 331	eP	P	01 17 56.4 +0.2
	comp=Z,4μm,1.1s				
L29A	Maesberg Ranch	55.91 340	⇓P	P	01 17 56.7 +0.6
	baz=56,SNR=6.9				
ISCO	Idaho Springs	55.92 335	eP	P	01 17 56.5 +0.1
ISCO			e		01 18 54.4
ISCO			pmax	pmax	
	comp=Z,11nm,0.9s				
ISCO	Idaho Springs	55.92 335	⇑P	P	01 17 57.0 +0.5
	baz=56,SNR=12				
ISCO	Idaho Springs	55.92 335	eP	P	01 17 56.5 +0.1
	comp=Z,11nm,0.9s				
ISCO			ePcP	PcP	01 18 54.4 0.0
PDMCI	Parker Dam,Lak	55.94 324	⇑P	P	01 17 57.4 +1.1
	baz=56				
O24A	Longmont	55.96 335	⇓P	P	01 17 57.4 +0.8
	baz=56,SNR=5.7				
SWSC	Sam W. Stewart	55.97 322	⇓P	P	01 17 57.4 +0.9
	baz=56				
SMCO	Snowmass	55.99 333	eP	P	01 17 57.5 +0.3
	comp=Z,13nm,0.9s				
M27A	Reverse DX Ran	56.12 338	⇑P	P	01 17 58.4 +0.9
	baz=56				
N25A	Grover	56.15 336	⇓P	P	01 17 59.2 +1.3
	baz=56				
K30A	Basset	56.18 341	⇑P	P	01 17 58.4 +0.5
	baz=56,SNR=6.6				
P22A	Eagle	56.24 333	⇓P	P	01 17 59.0 +0.4
	baz=56,SNR=12				
ECSD	EROS Data Cent	56.25 344	⇑P	P	01 17 58.1 -0.3
	baz=56,SNR=22				
ECSD	EROS Data Cent	56.25 344	eP	P	01 17 57.4 -1.0
	comp=Z,40nm,1.1s				
BC3	Big Chuckawall	56.26 322	⇓P	P	01 17 59.4 +0.6
	baz=56,SNR=7.3				
MONP	Monument Peak,	56.32 321	⇑P	P	01 17 59.6 +0.3
	baz=56				
M26A	McRoberts Ranc	56.34 337	⇓P	P	01 17 59.8 +0.6
	baz=56				
W13A	Hualapai Mount	56.36 325	⇓P	P	01 18 00.8 +1.2
	baz=56,SNR=46				
O23A	Lake Granby, G	56.39 335	⇓P	P	01 18 00.3 +0.5
	baz=57,SNR=25				
IRM	Iron Mountain	56.43 323	⇓P	P	01 18 00.8 +1.0
	baz=57,SNR=25				
U15A	North Rim	56.46 327	⇓P	P	01 18 01.3 +0.9
	baz=57,SNR=23				
N24A	Carr	56.48 336	⇓P	P	01 18 01.0 +0.7
	baz=57				
K29A	Lazy Trails An	56.48 340	⇑P	P	01 18 01.1 +1.0
	baz=57				
NEE2	Needles Airpor	56.55 324	⇓P	P	01 18 02.1 +1.4
	baz=57				
L27A	T5 Ranch, Ells	56.57 339	⇑P	P	01 18 01.2 +0.4
	baz=57				
O22A	Kremmling	56.62 334	⇓P	P	01 18 01.6 +0.2
	baz=57,SNR=13				
M25A	Palm-Egli Farm	56.66 337	⇑P	P	01 18 02.2 +0.6
	baz=57				
J30A	Dallas	56.73 341	⇓P	P	01 18 01.6 -0.2
	baz=57,SNR=16				
SPMN	Marine on St.	56.73 348	⇓P	P	01 18 01.3 -0.4
	baz=57,SNR=13				
SPMN	Marine on St.	56.73 348	eP	P	01 18 00.9 -0.8
	comp=Z,46nm,0.7s				
SPMN			ePcP	PcP	01 18 56.0 -1.0
K28A	Ten Mile Ranch	56.79 340	⇓P	P	01 18 03.4 +1.1
	baz=57				
L26A	Underwood Farm	56.81 338	⇓P	P	01 18 02.9 +0.4
	baz=57				
BELC	Belle Mtn. Jos	56.82 322	⇑P	P	01 18 03.5 +0.7
	baz=57,SNR=8.7				
PFO	Pinyon Flats O	56.83 322	P	P	01 18 03.5 +0.7
	comp=Z,129nm,0.7s,SNR=5.2				
PFO	Pinyon Flats O	56.83 322	eP	P	01 18 03.1 +0.2
PFO			pmax	pmax	
	comp=Z,16nm,0.9s				
PFO	Pinyon Flats O	56.83 322	⇓P	P	01 18 03.7 +0.9
	baz=57,SNR=7.8				
PFO	Pinyon Flats O	56.83 322	eP	P	01 18 03.1 +0.2
	comp=Z,16nm,0.9s				
N23A	Red Feather La	56.97 335	⇓P	P	01 18 04.3 +0.5
	baz=57,SNR=5.9				
N23A	Red Feather La	56.97 335	eP	P	01 18 04.1 +0.3
	comp=Z,66nm,2.1s				
M24A	Cheyenne	56.99 336	⇑P	P	01 18 04.4 +0.5
	baz=57,SNR=5.8				
LDFC	Landfair	57.05 324	eP	P	01 18 05.6 +1.3
	comp=Z,17nm,0.5s				
J29A	Okreek	57.06 341	⇑P	P	01 18 04.4 +0.2
	baz=57,SNR=24				
K27A	Flueckinger Fa	57.09 339	⇑P	P	01 18 05.0 +0.5
	baz=57,SNR=7.6				
N22A	Wattenberg Ran	57.11 335	⇓P	P	01 18 05.6 +0.8
	baz=57,SNR=7.3				
GMRC	Granite Mounta	57.16 323	⇑P	P	01 18 06.1 +0.9
	baz=57,SNR=20				
I30A	Oacoma	57.24 342	⇓P	P	01 18 05.7 +0.3
	baz=57				
L25A	Engebretsen Ra	57.25 337	⇑P	P	01 18 06.2 +0.6
	baz=57				
MURC	Murrieta	57.28 321	⇑P	P	01 18 06.0 +0.1
	baz=57				
O20A	White River Ci	57.34 333	⇑P	P	01 18 06.9 +0.5
	baz=58,SNR=13				
O20A	White River Ci	57.34 333	eP	P	01 18 06.5 +0.1
	comp=Z,27nm,1.1s				
O20A			ePcP	PcP	01 18 59.2 -0.6
M23A	Laramie	57.36 336	⇓P	P	01 18 06.7 +0.2
	baz=58,SNR=11				
J28A	Allard Ranch,	57.38 340	⇓P	P	01 18 06.9 +0.5
	baz=58,SNR=5.2				
K26A	Motz Farm, Whi	57.43 338	⇑P	P	01 18 07.0 +0.2
	baz=58,SNR=7.5				
J27A	Elkhorn Farm,	57.49 339	⇑P	P	01 18 07.9 +0.7
	baz=58,SNR=10				
BBRC	Big Bear Solar	57.56 322	⇑P	P	01 18 08.4 +0.4
	baz=58				
BRSD	Miller	57.57 342	⇑P	P	01 18 07.9 +0.1
	baz=58				
BRSD	Miller	57.57 342	eP	P	01 18 06.2 -1.5
	comp=Z,80nm,0.8s				
HEC	Hector,Ludlow	57.59 323	⇑P	P	01 18 09.1 +1.0
	baz=58,SNR=12				
SRU	San Rafael Swe	57.60 330	eP	P	01 18 08.5 +0.3
SRU			e		01 18 59.8
SRU			pmax	pmax	
	comp=Z,69nm,1.8s				
SRU	San Rafael Swe	57.60 330	eP	P	01 18 08.5 +0.3
	comp=Z,69nm,1.8s				
SRU			ePcP	PcP	01 18 59.8 -1.0
K25A	Mack Ranch, Ha	57.60 338	⇓P	P	01 18 08.9 +0.8
	baz=58				
I29A	Vivian Onida	57.61 341	⇑P	P	01 18 08.0 0.0
	baz=58,SNR=11				
M22A	Cedar Creek Ra	57.66 335	⇓P	P	01 18 09.0 +0.3
	baz=58				
TUQ	Turquoise Moun	57.77 324	⇑P	P	01 18 10.4 +0.9
	baz=58,SNR=11				
CCUT	Cedar City	57.86 327	eP	P	01 18 11.5 +1.3
	comp=Z,25nm,1.0s				
CCUT			ePcP	PcP	01 19 01.9 0.0
I28A	Midland	57.87 340	⇓P	P	01 18 10.1 +0.3
	baz=58,SNR=8.3				
L23A	Garrett	57.89 336	⇓P	P	01 18 10.7 +0.4
	baz=58,SNR=5.8				
CIS	Catalina Islan	57.90 320	⇓P	P	01 18 10.5 +0.2
	baz=58				
N20A	Spence Gulch,	57.91 333	⇓P	P	01 18 11.1 +0.6
	baz=58,SNR=11				
J26A	Sides Ranch, S	57.92 339	⇑P	P	01 18 11.1 +0.8
	baz=58,SNR=26				
MVU	Marysvale	57.98 329	eP	P	01 18 11.6 +0.6
	comp=Z,49nm,1.5s				
MVU			ePcP	PcP	01 19 02.6 +0.2
BFSC	Mount Baldy Ra	57.99 321	⇓P	P	01 18 11.2 +0.2
	baz=58				
RRX	Edison Barstow	58.03 322	⇑P	P	01 18 12.3 +1.2
	baz=58				
FMP	Fort Macarthur	58.03 321	⇑P	P	01 18 12.3 +1.2
	baz=58				
K24A	Anderson Ranch	58.06 337	⇓P	P	01 18 12.0 +0.7
	baz=58,SNR=5.2				
TMUT	Trail Mountain	58.08 330	eP	P	01 18 11.5 -0.3
	comp=Z,10nm,0.7s				
TMUT			ePcP	PcP	01 19 02.5 -0.4
ARUT	Antelope Range	58.08 327	eP	P	01 18 12.5 +0.9
ARUT			e		01 19 02.5
ARUT	Antelope Range	58.08 327	eP	P	01 18 12.4 +0.9
	comp=Z,1μm,1.5s				
ARUT			ePcP	PcP	01 19 02.5 -0.2
SHPR	Sheep Range	58.09 325	eP	P	01 18 12.5 +0.8
L22A	Ellis Ranch, M	58.12 335	⇑P	P	01 18 12.3 +0.4
	baz=58,SNR=8.5				
H29A	Onida	58.12 342	⇓P	P	01 18 11.6 0.0
	baz=58				
GSC	Goldstone, Bar	58.20 323	eP	P	01 18 13.3 +0.9
GSC			pmax	pmax	
	comp=Z,31nm,1.0s				
GSC	Goldstone, Bar	58.20 323	⇑P	P	01 18 13.5 +1.2
	baz=58,SNR=14				
GSC	Goldstone, Bar	58.20 323	eP	P	01 18 13.3 +0.9
	comp=Z,31nm,1.0s				
I27A	Quinn	58.23 340	⇑P	P	01 18 13.0 +0.6
	baz=58,SNR=16				
MWC	Mount Wilson	58.23 321	eP	P	01 18 13.7 +1.0
MWC			pmax	pmax	
	comp=Z,88nm,1.5s				
MWC	Mount Wilson	58.23 321	eP	P	01 18 13.7 +1.0
	comp=Z,88nm,1.5s				
J25A	Sunshine Ranch	58.25 338	⇓P	P	01 18 13.0 +0.4
	baz=58,SNR=8.0				
G30A	Faulkton	58.25 343	⇑P	P	01 18 12.6 +0.2
	baz=58,SNR=14				
PASC	Pasadena Art C	58.27 321	eP	P	01 18 12.8 0.0
	comp=Z,20nm,1.0s				
SHOC	Shoshone, Teco	58.30 324	⇑P	P	01 18 13.7 +0.7
	baz=58,SNR=10				
K23A	Bowen Ranch, D	58.40 336	⇑P	P	01 18 14.5 +0.8
	baz=59				
DECC	Green Verdugo	58.41 321	⇓P	P	01 18 14.9 +1.1
	baz=59,SNR=7.0				
H28A	Mission Ridge	58.42 341	⇑P	P	01 18 14.2 +0.6
	baz=59,SNR=10				
I26A	New Underwood	58.47 339	⇓P	P	01 18 14.5 +0.5
	baz=59,SNR=6.4				
J24A	Dixon Ranch, L	58.52 337	⇓P	P	01 18 14.7 +0.3
	baz=59,SNR=6.3				
G29A	Hoven	58.54 342	⇑P	P	01 18 15.0 +0.5
	baz=59				
EDW2	Edwards Air Fo	58.62 322	⇑P	P	01 18 15.8 +0.5
	baz=59,SNR=31				
K22A	Casper	58.67 336	⇑P	P	01 18 16.0 +0.3
	baz=59,SNR=9.2				
K22A	Casper	58.67 336	eP	P	01 18 15.1 -0.5
	comp=Z,18nm,0.8s				
H27A	Howes	58.73 340	⇑P	P	01 18 16.4 +0.5
	baz=59				
G28A	Parade	58.75 341	⇑P	P	01 18 16.4 +0.5
	baz=59				
I25A	Rochford	58.77 339	⇑P	P	01 18 17.0 +0.7
	baz=59,SNR=33				
MPU	Maple Canyon	58.84 330	eP	P	01 18 17.4 +0.5
	comp=Z,12nm,1.0s				
LRMC	Laurel Mtn Rad	58.85 323	⇑P	P	01 18 18.0 +1.1
	baz=59,SNR=9.3				
OSI	Osito Audit: C	58.90 321	⇓P	P	01 18 17.9 +0.7
	baz=59				
J23A	Dilts Ranch, B	58.92 337	⇓P	P	01 18 17.8 +0.4
	baz=59				
H26A	Fairpoint	58.95 340	⇑P	P	01 18 17.7 +0.3
	baz=59				
K21A	Alcova	58.96 335	⇑P	P	01 18 18.3 +0.6
	baz=59,SNR=11				
I24A	Kuemmerle Ranc	58.96 338	⇓P	P	01 18 18.3 +0.7
	baz=59,SNR=5.2				
DAU	Daniels Canyon	58.96 331	eP	P	01 18 18.3 +0.4
DAU	Daniels Canyon	58.96 331	eP	P	01 18 18.3 +0.4
RSSD	Black Hills	58.97 338	eP	P	01 18 16.7 -1.0
RSSD			pmax	pmax	
	comp=Z,37nm,1.3s				
RSSD	Black Hills	58.97 338	eP	P	01 18 16.6 -1.0
	comp=Z,37nm,1.3s				
NLU	North Lily Min	59.01 330	eP	P	01 18 18.9 +0.8
	comp=Z,38nm,1.8s				
TPNV	Topopah Spring	59.02 325	eP	P	01 18 18.9 +0.7
TPNV			pmax	pmax	
	comp=Z,194nm,2.5s				
TPNV	Topopah Spring	59.02 325	⇓P	P	01 18 18.7 +0.5
	baz=59,SNR=14				
TPNV	Topopah Spring	59.02 325	eP	P	01 18 18.9 +0.7
	comp=Z,194nm,2.5s				
FURC	Furnace Creek,	59.04 324	⇑P	P	01 18 19.0 +1.0
	baz=59,SNR=8.7				
BSC	Santa Cruz Isl	59.06 320	⇑P	P	01 18 18.7 +0.3
	baz=59				
EYMN	Ely	59.09 350	eP	P	01 18 17.1 -1.1
	comp=Z,26nm,1.0s				
F29A	Eureka	59.09 342	⇓P	P	01 18 18.4 +0.1
	baz=59,SNR=5.7				
MPMC	Manual Prospec	59.12 323	⇑P	P	01 18 19.6 +0.7
	baz=59,SNR=18				
H25A	Fruitdale	59.24 339	⇓P	P	01 18 19.9 +0.5
	baz=59,SNR=14				
J22A	Midwest	59.29 336	⇑P	P	01 18 20.2 +0.3
	baz=60,SNR=15				
ARVC	Arvin	59.30 321	⇑P	P	01 18 20.5 +0.5
	baz=60				
DAC	Darwin (Calif)	59.33 323	eP	P	01 18 20.8 +0.4
DAC			e		01 19 07.8
DAC			pmax	pmax	
	comp=Z,11nm,0.9s				
DAC	Darwin (Calif)	59.33 323	eP	P	01 18 20.8 +0.4
	comp=Z,11nm,0.9s				
DAC			ePcP	PcP	01 19 07.8 +0.1
G27A	Dupree	59.34 341	⇓P	P	01 18 20.6 +0.5
	baz=60				
I23A	Meade Ranch, G	59.36 337	⇓P	P	01 18 20.9 +0.6
	baz=60				
F28A	McLaughlin	59.40 342	⇓P	P	01 18 20.6 +0.2
	baz=60,SNR=7.8				
E30A	Jud	59.44 343	⇑P	P	01 18 21.2 +0.6
	baz=60,SNR=12				
ISA	Isabella, Lake	59.44 322	eP	P	01 18 21.4 +0.4
ISA			pmax	pmax	
	comp=Z,94nm,1.9s				
ISA	Isabella, Lake	59.44 322	⇓P	P	01 18 21.9 +0.9
	baz=60,SNR=11				
ISA	Isabella, Lake	59.44 322	eP	P	01 18 21.4 +0.4
	comp=Z,94nm,1.9s				
G26A	Maurine	59.49 340	⇓P	P	01 18 21.1 0.0
	baz=60,SNR=20				
DUG	Dugway, Tooele	59.56 330	eP	P	01 18 22.4 +0.6
DUG			pmax	pmax	
	comp=Z,25nm,0.8s				
DUG	Dugway, Tooele	59.56 330	⇓P	P	01 18 22.5 +0.8
	baz=60,SNR=39				
DUG	Dugway, Tooele	59.56 330	eP	P	01 18 22.4 +0.6
	comp=Z,24nm,0.8s				
TCUT	Toone Canyon	59.59 331	eP	P	01 18 22.0 -0.1
	comp=Z,29nm,0.6s				
TCUT			ePcP	PcP	01 19 08.6 -0.1
J21A	Lysite	59.63 335	⇓P	P	01 18 22.6 +0.4
	baz=60,SNR=16				
R11A	Troy Canyon, C	59.65 326	⇑P	P	01 18 23.0 +0.5
	baz=60,SNR=20				
R11A	Troy Canyon, C	59.65 326	eP	P	01 18 23.3 +0.8
	comp=Z,14nm,0.8s				
R11A			ePcP	PcP	01 19 08.3 -0.7
G25A	Newell	59.68 339	⇓P	P	01 18 23.0 +0.6
	baz=60				
H24A	Dirks Ranch, A	59.70 338	⇓P	P	01 18 22.5 -0.1
	baz=60,SNR=16				
I22A	9 Mile Ranch,	59.70 337	⇑P	P	01 18 22.7 +0.1
	baz=60,SNR=12				
GRAC	Grapevine Rang	59.70 324	⇑P	P	01 18 23.4 +0.7
	baz=60				
E29A	Napoleon	59.71 343	⇑P	P	01 18 22.7 +0.2
	baz=60				
PKM	Mcpherson Peak	59.76 321	⇓P	P	01 18 23.1 -0.3
	baz=60,SNR=9.9				
F27A	Lemmon	59.81 341	⇓P	P	01 18 23.6 +0.3
	baz=60,SNR=18				
H23A	Clabaugh Cattl	59.85 338	⇑P	P	01 18 23.9 +0.3
	baz=60				
J20A	Shoshoni	59.90 335	⇓P	P	01 18 24.3 +0.3
	baz=60,SNR=14				
VES	Vestal, Richgr	59.93 322	⇑P	P	01 18 24.5 +0.3
	baz=60,SNR=15				
D30A	Buchanan	59.95 344	⇓P	P	01 18 24.3 +0.2
	baz=60,SNR=21				
I21A	Big Trails, Te	59.95 336	⇓P	P	01 18 24.3 -0.1
	baz=60,SNR=17				
F26A	Lodgepole	60.00 340	⇓P	P	01 18 24.8 +0.2
	baz=60,SNR=16				
E28A	Huff	60.02 342	⇑P	P	01 18 24.9 +0.2
	baz=60,SNR=10.0				
HWUT	Hardware Ranch	60.04 331	eP	P	01 18 24.7 -0.4
	comp=Z,97nm,1.1s				
HWUT			ePcP	PcP	01 19 09.9 -0.6
BW06	Boulder Array	60.05 334	eP	P	01 18 24.2 -1.0
	comp=Z,16nm,0.8s				
BW06			ePcP	PcP	01 19 09.4 -1.1
PDAR	Pinedale Array	60.05 334	P	P	01 18 24.3 -0.9
	comp=Z,8.0nm,0.9s,baz=144,slow=8.6,SNR=43				
PDAR			PcP	PcP	01 19 09.5 -1.0
	comp=Z,10nm,0.7s,baz=127,slow=6.4,SNR=10				
D29A	Pettibone, Tap	60.14 343	⇓P	P	01 18 25.6 +0.1
	baz=60,SNR=5.4				
SMMC	Simmler	60.14 321	⇓P	P	01 18 25.8 +0.1
	baz=60,SNR=6.8				
G24A	Alzada	60.15 339	⇑P	P	01 18 26.0 +0.4
	baz=60,SNR=11				
E27A	Carson	60.16 341	⇓P	P	01 18 26.0 +0.3
	baz=60,SNR=11				
BGU	Big Grassy Mou	60.22 330	eP	P	01 18 26.5 +0.2
	comp=Z,5.9nm,0.9s				
J19A	Crowheart	60.23 334	⇑P	P	01 18 26.4 0.0
	baz=60,SNR=16				
SPUT	South Promonto	60.23 331	eP	P	01 18 26.0 -0.4
	comp=Z,15nm,1.0s				
SPUT			ePcP	PcP	01 19 10.3 -0.9
H22A	Clearmont	60.24 337	⇑P	P	01 18 26.1 -0.2
	baz=60,SNR=6.6				
TIN	Tinemaha, Big	60.24 324	⇓P	P	01 18 26.8 +0.4
	baz=60				
AGMN	Agassiz Nation	60.32 346	⇑P	P	01 18 26.6 0.0
	baz=60,SNR=46				
AGMN	Agassiz Nation	60.32 346	eP	P	01 18 26.4 -0.3
	comp=Z,72nm,0.6s				
F25A	Bowman	60.33 340	⇓P	P	01 18 27.2 +0.3
	baz=60,SNR=7.0				
RCTC	Rector, Farmer	60.34 322	⇑P	P	01 18 27.1 +0.1
	baz=60				
TPH	Tonopah	60.36 325	eP	P	01 18 28.1 +0.7
TPH			pmax	pmax	
	comp=Z,20nm,0.8s				
TPH	Tonopah	60.36 325	eP	P	01 18 28.1 +0.7
	comp=Z,20nm,0.8s				
G23A	Biddle	60.39 338	⇑P	P	01 18 27.3 0.0
	baz=61,SNR=9.7				
C30A	Mose, Pekin	60.42 344	⇓P	P	01 18 27.5 +0.2
	baz=61,SNR=11				
E26A	Carlson Angus	60.48 341	⇓P	P	01 18 27.9 +0.1
	baz=61,SNR=12				
H21A	Big Horn, Sher	60.53 337	⇑P	P	01 18 27.9 -0.4
	baz=61,SNR=6.6				
D28A	Regan	60.54 343	⇑P	P	01 18 28.3 +0.1
	baz=61,SNR=9.3				

F24A **Ekalaka** 60.60 339 ⇑P P 01 18 28.6 -0.1
baz=61,SNR=21
MTUM **Tungsten Hills** 60.63 324 eP P 01 18 30.1 +0.8
AHID **Auburn Hatcher** 60.73 333 eP P 01 18 28.9 -0.9
comp=Z,25nm,1.0s
AHID ePcP PcP 01 19 13.8 +0.5
G22A **Birney** 60.74 337 ⇓P P 01 18 29.4 -0.3
baz=61,SNR=13
HVU **Hansel Valley** 60.75 331 eP P 01 18 29.8 -0.1
HVU e 01 19 12.4
HVU pmax pmax
comp=Z,22nm,0.9s
HVU **Hansel Valley** 60.75 331 eP P 01 18 29.8 -0.1
comp=Z,22nm,0.9s
HVU ePcP PcP 01 19 12.4 -0.8
D27A **Center** 60.75 342 ⇓P P 01 18 29.8 +0.1
baz=61
H20A **Greybull** 60.80 336 ⇑P P 01 18 29.7 -0.4
baz=61,SNR=18
E25A **Miller Ranch,** 60.82 340 ⇓P P 01 18 30.2 0.0
baz=61
I19A **Meeteetse** 60.83 335 ⇓P P 01 18 30.7 +0.2
baz=61,SNR=6.5
F23A **Volborg** 60.84 338 ⇑P P 01 18 30.1 -0.3
baz=61,SNR=8.9
MDND **Maddock** 60.86 344 ⇑P P 01 18 30.6 +0.2
baz=61
C28A **Hausauer Farms** 60.96 343 ⇑P P 01 18 31.7 +0.6
baz=61
D26A **Manning** 60.97 341 ⇓P P 01 18 31.5 +0.4
baz=61,SNR=6.0
MLAC **Mammoth, Mammo** 60.98 324 ⇓P P 01 18 32.6 +0.9
baz=61,SNR=8.2
B30A **Myrvik Farm, E** 61.07 345 ⇓P P 01 18 32.0 +0.3
baz=61,SNR=44
REDW **Red Top Meadow** 61.09 333 eP P 01 18 32.0 -0.3
comp=Z,17nm,0.9s
G21A **Lodge Grass** 61.10 337 ⇓P P 01 18 32.0 -0.2
baz=61,SNR=19
E24A **Baker** 61.18 340 ⇑P P 01 18 32.7 +0.1
baz=61,SNR=7.2
LOHW **Long Hollow** 61.18 334 eP P 01 18 32.5 -0.3
comp=Z,8.6nm,0.8s
ELK **Elko** 61.20 328 eP P 01 18 33.5 +0.4
ELK e*PP pP 01 18 49.3 -2.1
ELK pmax pmax
comp=Z,90nm,2.1s
ELK **Elko** 61.20 328 eP P 01 18 33.5 +0.4
comp=Z,90nm,2.1s
ELK epP pP 01 18 49.3 -2.1
F22A **Rosebud** 61.20 338 ⇑P P 01 18 32.8 0.0
baz=61,SNR=7.5
TPAW **Teton Pass** 61.24 333 eP P 01 18 32.6 -0.7
comp=Z,20nm,1.3s
C27A **Sayler Ranch,** 61.29 342 ⇑P P 01 18 33.7 +0.4
baz=62
H19A **Powell** 61.35 335 ⇓P P 01 18 34.2 +0.3
baz=62
B29A **Wagenman Farm,** 61.35 344 ⇓P P 01 18 34.3 +0.6
baz=62,SNR=30
D25A **Fairfield** 61.36 341 ⇓P P 01 18 34.5 +0.7
baz=62,SNR=17
FXWY **Fox Creek** 61.39 333 eP P 01 18 34.0 -0.3
comp=Z,19nm,1.4s
I17A **Pilgrim Ck.** 61.41 334 ⇓P P 01 18 35.1 +0.6
baz=62,SNR=8.3
E23A **Ismay** 61.47 339 ⇓P P 01 18 35.0 +0.5
baz=62
G20A **Bridger** 61.49 336 ⇓P P 01 18 35.1 +0.3
baz=62,SNR=9.8
A30A **Hoffart Farm,** 61.51 345 ⇑P P 01 18 35.5 +0.7
baz=62,SNR=30
IMW **Indian Meadow** 61.55 333 eP P 01 18 35.3 -0.1
comp=Z,10nm,0.6s
F21A **Absaloka Mine,** 61.56 337 ⇑P P 01 18 35.9 +0.6
baz=62
C26A **Wahner Farm, P** 61.57 342 ⇑P P 01 18 35.6 +0.5
baz=62,SNR=9.9
FLWY **Flagg Ranch** 61.60 334 eP P 01 18 35.8 +0.2
comp=Z,33nm,0.9s
B28A **Dugan Ranch, T** 61.62 343 ⇓P P 01 18 35.9 +0.4
baz=62,SNR=8.6
H18A **Shoshone NF, C** 61.63 335 ⇓P P 01 18 35.7 -0.2
baz=62,SNR=15
E22A **Miles City** 61.65 338 ⇓P P 01 18 35.6 -0.2
baz=62,SNR=6.0
D24A **Glendive** 61.66 340 ⇓P P 01 18 36.5 +0.6
baz=62,SNR=13
A29A **Manning Farm,** 61.74 344 ⇑P P 01 18 36.4 +0.1
baz=62,SNR=34
H17A **Grant Village** 61.79 334 ⇑P P 01 18 37.0 -0.1
baz=62,SNR=7.0
H17A **Grant Village** 61.79 334 eP P 01 18 36.9 -0.1
comp=Z,63nm,1.9s
C25A **Freed Ranch, W** 61.83 341 ⇓P P 01 18 37.5 +0.6
baz=62,SNR=6.4
B27A **Peters Farms,** 61.84 343 ⇑P P 01 18 37.5 +0.6
baz=62
DRLN **Deer Lake** 61.88 15 eP P 01 18 37.7 +0.5
DRLN epP pP 01 18 55.7 +0.2
WAKR **Walker** 61.92 324 eP P 01 18 38.9 +0.9
F20A **Billings** 61.94 337 ⇑P P 01 18 38.3 +0.5
baz=62
YFT **Old Faithful** 61.95 334 eP P 01 18 39.7 +1.6
comp=Z,17nm,0.9s
LAO **LASA Array** 61.96 338 eP P 01 18 37.5 -0.4
comp=Z,40nm,1.3s
LAO ePcP PcP 01 19 16.7 -1.2
A28A **Rude Farm, Bot** 62.01 344 ⇑P P 01 18 38.9 +0.7
baz=62,SNR=5.5
D23A **Lindsay** 62.02 339 ⇓P P 01 18 38.9 +0.7
baz=62,SNR=12
BMN **Battle Mountai** 62.02 327 eP P 01 18 39.3 +0.8
BMN e*PP pP 01 18 56.4 -0.4
BMN pmax pmax
comp=Z,16nm,1.0s
BMN **Battle Mountai** 62.02 327 eP P 01 18 39.3 +0.8
comp=Z,16nm,1.0s
BMN epP pP 01 18 56.4 -0.4
C24A **Savage** 62.06 340 ⇓P P 01 18 39.1 +0.7
baz=62,SNR=11
B26A **Jensen Ranch,** 62.10 342 ⇑P P 01 18 39.1 +0.4
baz=62,SNR=5.7
E21A **Keefer Ranch,** 62.15 338 ⇑P P 01 18 39.7 +0.6
baz=62
ULM **Lac du Bonnet** 62.16 347 eP P 01 18 38.4 -0.6
ULM **Lac du Bonnet** 62.16 347 P P 01 18 38.3 -0.7
comp=Z,61nm,0.6s,baz=160,slow=6.8,SNR=151
CMB **Columbia Colle** 62.16 323 eP P 01 18 39.7 +0.3
CMB pmax pmax
comp=Z,16nm,1.0s
CMB **Columbia Colle** 62.16 323 eP P 01 18 39.7 +0.3
comp=Z,16nm,1.0s
B25A **Knox Farm, Ray** 62.30 341 ⇓P P 01 18 40.7 +0.6
baz=62,SNR=6.4
F19A **Roth Farm, Mol** 62.30 336 ⇑P P 01 18 40.3 +0.1
baz=62,SNR=36
A27A **Ledoux Ranch,** 62.32 343 ⇓P P 01 18 41.0 +0.8
baz=62
D22A **Cohagen** 62.34 339 ⇑P P 01 18 41.1 +0.8
baz=62,SNR=29
A26A **Wade Farm, Ken** 62.51 342 ⇓P P 01 18 41.9 +0.4
baz=63,SNR=13
QLMT **Earthquake Lak** 62.51 334 eP P 01 18 42.2 +0.4
E20A **Meyer Farm, Mu** 62.52 337 ⇑P P 01 18 42.2 +0.6
baz=63
GCMT **Greycliff** 62.54 336 eP P 01 18 41.6 -0.2
comp=Z,32nm,1.1s
C23A **Lambert** 62.55 340 ⇑P P 01 18 42.4 +0.6
baz=63,SNR=9.4
D21A **La Casta Ranch** 62.56 338 ⇑P P 01 18 42.7 +0.8
baz=63,SNR=23
E19A **Rath Farm, Rou** 62.74 337 ⇑P P 01 18 43.4 +0.3
baz=63,SNR=25
C22A **Vida** 62.74 339 ⇑P P 01 18 43.6 +0.5
baz=63
A25A **Svangstu Ranch** 62.87 342 ⇑P P 01 18 44.4 +0.6
baz=63,SNR=11
HLID **Hailey** 62.89 331 ⇑P P 01 18 44.5 +0.3
baz=63,SNR=21
HLID **Hailey** 62.89 331 eP P 01 18 44.6 +0.3
comp=Z,11nm,0.8s
D20A **Manuel Ranch,** 63.01 337 ⇓P P 01 18 45.3 +0.5
baz=63,SNR=27
B23A **Brockton** 63.06 340 ⇓P P 01 18 46.0 +0.9
baz=63,SNR=24
MCMT **McKenzie Canyo** 63.13 333 eP P 01 18 46.0 +0.1
comp=Z,14nm,1.3s
A24A **Westby** 63.14 341 ⇑P P 01 18 46.3 +0.7
baz=63,SNR=19
C21A **Desert Coulee** 63.24 339 ⇓P P 01 18 46.8 +0.4
baz=63,SNR=16
BOZ **Bozeman (W)** 63.24 334 eP P 01 18 46.7 +0.2
BOZ pmax pmax
comp=Z,62nm,1.7s
BOZ **Bozeman (W)** 63.24 334 eP P 01 18 46.7 +0.2
comp=Z,62nm,1.7s
B22A **Reddig Ranch S** 63.26 339 ⇓P P 01 18 47.1 +0.6
baz=64
D19A **Cripps Ranch,** 63.35 337 ⇑P P 01 18 47.6 +0.5
baz=64
DLMT **Dillon** 63.44 333 eP P 01 18 48.4 +0.5
comp=Z,14nm,1.0s
A23A **Redstone** 63.45 341 ⇑P P 01 18 48.5 +0.8
baz=64
MFID **Camas Ranch** 63.46 330 eP P 01 18 48.5 +0.5
comp=Z,48nm,1.2s
C20A **Veseth Ranch,** 63.48 338 ⇓P P 01 18 48.2 +0.3
baz=64,SNR=11
OHCM **Honcut** 63.67 323 eP P 01 18 50.0 +0.8
LRM **Limekiln Ridge** 63.73 334 eP P 01 18 49.5 -0.4
LRM epP pP 01 19 15.6 +7.3
A22A **Carney Farms,** 63.82 340 ⇓P P 01 18 51.0 +0.8
baz=64,SNR=17
C19A **Slack Wire Ran** 63.89 337 ⇑P P 01 18 51.1 +0.5
baz=64,SNR=24
B20A **Solberg Farm,** 64.09 338 ⇑P P 01 18 52.2 +0.3
baz=64,SNR=11
A21A **Bergtoll Ranch** 64.17 339 ⇑P P 01 18 52.9 +0.5
baz=64,SNR=13
HRY **Holter Researc** 64.17 335 eP P 01 18 52.7 +0.1
WVOR **Wild Horse Val** 64.19 328 eP P 01 18 52.5 -0.3
WVOR pmax pmax
comp=Z,31nm,1.3s
WVOR **Wild Horse Val** 64.19 328 eP P 01 18 52.5 -0.3
comp=Z,31nm,1.3s
EGMT **Eagleton** 64.40 337 ⇓P P 01 18 54.3 +0.3
baz=65,SNR=13
EGMT **Eagleton** 64.40 337 eP P 01 18 52.8 -1.2
comp=Z,24nm,0.9s
A20A **Cobblestone Ra** 64.43 339 ⇑P P 01 18 54.4 +0.2
baz=65,SNR=7.1
B19A **Brinkman Farms** 64.45 338 ⇓P P 01 18 54.6 +0.4
baz=65
MOD **Modoc Plateau** 64.71 326 eP P 01 18 56.8 +0.5
comp=Z,96nm,1.4s
A19A **Klindworth Far** 64.77 338 ⇓P P 01 18 56.8 +0.4
baz=65,SNR=20
CHMT **Chamberlain Mo** 64.94 334 eP P 01 18 56.5 -1.2
WDC **Whiskeytown Da** 65.09 324 eP P 01 18 56.9 -1.7
WDC pmax pmax
comp=Z,14nm,1.0s
WDC **Whiskeytown Da** 65.09 324 eP P 01 18 56.9 -1.7
comp=Z,14nm,1.0s
KCPM **Cahto Peak** 65.13 323 eP P 01 18 59.7 +0.7
comp=Z,74nm,1.4s
KIPM **Iron Peak** 65.15 323 eP P 01 18 59.7 +0.5
comp=Z,165nm,1.7s
MSO **Missoula** 65.17 334 ⇑P P 01 18 59.5 +0.4
baz=65,SNR=20
MSO **Missoula** 65.17 334 eP P 01 18 59.5 +0.4
comp=Z,56nm,1.4s
BMO **Blue Mountains** 65.24 330 eP P 01 18 59.0 -0.6
comp=Z,59nm,2.5s
SLMT **Seeley Lake** 65.29 334 eP P 01 18 59.6 -0.3
N02D **Trinity Center** 65.44 324 ⇓P P 01 19 00.9 -0.1
baz=66
SCHQ **Schefferville** 65.45 7 P P 01 19 00.3 -0.3
comp=Z,11nm,0.8s,baz=210,slow=6.3,SNR=18
SCHQ LR LR 01 49 52.8
comp=Z,140nm,18.8s,baz=209,slow=38
SCHQ **Schefferville** 65.45 7 eP P 01 19 00.4 -0.3
SCHQ epP pP 01 19 17.9 -1.1
M04C **Macdoel** 65.48 325 ⇓P P 01 19 01.7 +0.5
baz=66,SNR=13
KMRM **Mail Ridge** 65.55 323 eP P 01 19 03.2 +1.6
comp=Z,61nm,1.1s
K05A **Summer Lake** 65.59 327 eP P 01 19 03.3 +1.3
comp=Z,96nm,1.3s
SWMT **Swartz Lake** 65.72 334 eP P 01 19 02.0 -0.6
I07A **Izee** 65.79 328 eP P 01 19 03.8 +0.6
comp=Z,63nm,1.4s
M02C **Callahan** 65.80 324 ⇑P P 01 19 03.3 +0.1
baz=66,SNR=10.0
YBH **Yreka Blue Hor** 65.94 325 eP P 01 19 03.3 -0.8
YBH e*PP pP 01 19 21.2 -1.4
YBH pmax pmax
comp=Z,26nm,1.0s
YBH **Yreka Blue Hor** 65.94 325 eP P 01 19 03.3 -0.8
comp=Z,26nm,1.0s
YBH epP pP 01 19 21.2 -1.4
KHMM **Horse Mountain** 65.97 324 eP P 01 19 04.7 +0.2
comp=Z,48nm,1.0s
K04D **Chiloquin, OR** 65.99 326 ⇓P P 01 19 05.1 +0.6
baz=66,SNR=6.0
YBMT **Yellow Bay** 66.00 334 eP P 01 19 04.8 +0.4
F10A **Beach Ranch, E** 66.02 331 eP P 01 19 05.0 +0.4
JTMT **Jette** 66.02 334 eP P 01 19 04.2 -0.3
J05D **Fort Rock, OR** 66.16 327 ⇑P P 01 19 06.4 +0.9
baz=66,SNR=16
BLMT **Blacktail Moun** 66.26 334 eP P 01 19 06.8 +0.6
PINOR **Pine Mountain** 66.32 328 eP P 01 19 07.3 +1.0
comp=Z,18nm,0.8s
BSMT **Bassoo Peak** 66.32 334 eP P 01 19 07.2 +0.6
G08A **Pilot Rock** 66.37 330 eP P 01 19 07.2 +0.4
comp=Z,44nm,1.7s
J04D **Umpqua Nationa** 66.60 326 ⇓P P 01 19 09.1 +0.7
baz=67,SNR=5.7
L02D **Cave Junction,** 66.72 325 ⇑P P 01 19 09.6 +0.6
baz=67,SNR=7.8
E09A **Wood Farm, Sta** 66.85 331 eP P 01 19 10.0 +0.3
comp=Z,31nm,1.4s
WALA **Waterton Lakes** 66.89 335 eP P 01 19 09.4 -0.6
I05D **Terrebonne, OR** 66.92 328 ⇑P P 01 19 11.0 +0.7
baz=67,SNR=12
I04A **Tendick Farm,** 67.13 327 ⇑P P 01 19 11.8 +0.2
baz=67,SNR=8.4
G06A **Carlson Farm,** 67.17 329 eP P 01 19 13.2 +1.3
HAWA **Hanford** 67.43 330 eP P 01 19 14.1 +0.7
comp=Z,11nm,0.8s
BROR **Big Rock Looko** 67.47 327 P P 01 19 13.6 -0.1
G05D **Wamic, OR** 67.53 328 ⇓P P 01 19 14.5 +0.4
baz=68,SNR=6.8
SNIWA **Snively Ranch** 67.55 330 P P 01 19 15.2 +1.1
I03D **Drain, OR** 67.58 326 ⇑P P 01 19 14.8 +0.5
baz=68,SNR=5.2
H04A **Detroit Lake** 67.61 328 eP P 01 19 14.6 0.0
comp=Z,46nm,1.3s
VFP **Flag Point** 67.66 328 P P 01 19 15.8 +0.7
NEW **Newport** 67.66 333 eP P 01 19 14.9 0.0
NEW pmax pmax
comp=Z,112nm,1.9s
NEW **Newport** 67.66 333 ⇓P P 01 19 15.6 +0.7
baz=68,SNR=17
NEW **Newport** 67.66 333 eP P 01 19 14.9 0.0
comp=Z,112nm,1.9s
FFC **Flin Flon** 67.73 345 P P 01 19 14.0 -1.1
comp=Z,124nm,0.8s,SNR=7.6
FFC **Flin Flon** 67.73 345 eP P 01 19 14.7 -0.4
FFC **Flin Flon** 67.73 345 eP P 01 19 14.7 -0.4
VAH **Vaihoa** 67.81 258 eP P 01 19 17.2 +0.8
comp=Z,67nm,1.2s
C09A **Chrisman Ranch** 67.85 332 eP P 01 19 17.2 +1.2
comp=Z,12nm,0.8s
C09A epP PcP 01 19 42.0 -0.1
MEH **Mehetia** 68.03 255 eP P 01 19 18.6 +0.8
comp=Z,16nm,1.1s
PMOR **Pomariorio Ree** 68.09 258 eP P 01 19 19.2 +1.0
comp=Z,121nm,1.0s
COR **Corvallis** 68.14 327 eP P 01 19 19.1 +1.3
COR pmax pmax
comp=Z,161nm,1.4s
COR **Corvallis** 68.14 327 eP P 01 19 19.1 +1.3
comp=Z,160nm,1.4s
SAW **Saint Andrews** 68.30 331 P P 01 19 19.5 +0.6
WTV **Waterville** 68.56 331 P P 01 19 21.4 +0.9
F04A **Amboy** 68.57 328 eP P 01 19 20.8 +0.3
comp=Z,89nm,1.4s
LTY **Liberty** 68.60 330 eP P 01 19 21.6 +0.8
comp=Z,66nm,1.7s
ETW **Entiat** 68.68 331 P P 01 19 22.0 +0.6
B08A **Colville Reser** 68.74 332 eP P 01 19 21.6 -0.1
comp=Z,81nm,1.8s
LON **Longmire** 68.81 329 eP P 01 19 22.1 0.0
LON pmax pmax
comp=Z,7.0nm,0.8s
LON **Longmire** 68.81 329 eP P 01 19 22.1 0.0
comp=Z,6.6nm,0.8s
TBI **Tubuai** 69.04 249 eS S 01 28 23.4 -0.6
comp=Z,162nm,28.5s
TBI **Tubuai** 69.04 249 eLR LR 01 40 04.5
comp=Z,627nm,30.8s
TBI **Tubuai** 69.04 249 eT T 02 34 01.5
comp=Z,14nm,0.3s
TVO **Taravao** 69.16 255 eP P 01 19 26.1 +1.2
comp=Z,13nm,1.0s
D05A **Enumclaw** 69.20 330 eP P 01 19 25.1 +0.7
comp=Z,93nm,1.4s
TIAR **Tiarei** 69.27 255 eP P 01 19 26.5 +1.0
comp=Z,23nm,1.3s
PAE **Paea** 69.48 255 eP P 01 19 28.0 +1.2
comp=Z,18nm,1.3s
PPT2 **Papeete2** 69.49 255 eP P 01 19 28.2 +1.3
comp=Z,54nm,1.2s
PPT2 eS S 01 28 29.7 0.0
comp=Z,198nm,27.5s
PPT2 **Papeete2** 69.49 255 eLR LR 01 40 17.4
comp=Z,1μm,26.8s,baz=98
PPT **Papeete** 69.49 255 P P 01 19 26.8 -0.1
comp=Z,26nm,0.7s,baz=172,slow=2.5,SNR=4.0
PPT LR LR 01 42 07.9
comp=Z,355nm,20.5s,baz=104,slow=29
E03A **Lebam** 69.57 328 eP P 01 19 27.9 +1.2
comp=Z,62nm,1.2s
JCW **Jim Creek** 69.86 330 P P 01 19 28.2 -0.3
B06A **Marblemount** 69.87 331 eP P 01 19 28.7 +0.2
comp=Z,24nm,0.8s
FCC **Fort Churchill** 69.93 351 eP P 01 19 28.3 -0.3
FCC **Fort Churchill** 69.93 351 eP P 01 19 28.3 -0.3
NLWA **Neilton Lookou** 70.28 329 eP P 01 19 31.8 +0.6
comp=Z,74nm,1.3s
A05A **Maple Falls** 70.49 331 eP P 01 19 32.8 +0.5
comp=Z,194nm,1.8s
VDB **Vedder Mountai** 70.52 331 P P 01 19 32.6 +0.1
PGC **Sidney** 70.91 330 eP P 01 19 36.1 +1.3
VNA3 **Neumayer Olymp** 73.53 162 P P 01 19 51.8 +1.5
VNA1 **Neumayer--Stat** 73.80 161 P P 01 19 53.4 +1.6
FRB **Frobisher Bay** 74.07 4 P P 01 19 52.9 -0.4
comp=Z,14nm,0.8s,baz=195,slow=5.6,SNR=19
VNA2 **Neumayer--Watz** 74.16 161 P P 01 19 54.6 +0.7
LIC **Lamto** 74.53 81 eP P 01 19 58.1 +1.0
comp=Z,54nm,1.1s,baz=260
LIC epP pP 01 20 15.1 -0.8
LIC eR
comp=Z,696nm,20.0s
LIC **Lamto** 74.53 81 eP P 01 19 58.0 +1.0
comp=Z,117nm,1.5s
LIC **Lamto** 74.53 81 eP P 01 19 58.1 +1.0
comp=Z,54nm,1.1s
LIC epP pP 01 20 15.1 -0.8
TIC **Toumodi** 74.63 80 eP P 01 19 58.6 +0.9
comp=Z,52nm,0.9s
DBIC **Dimbokro** 74.79 80 eP P 01 19 59.9 +1.3
DBIC *PP *PP 01 20 17.0
DBIC e*PP *PP 01 20 17.7
DBIC pmax pmax
comp=Z,76nm,1.3s
DBIC **Dimbokro** 74.79 80 P P 01 19 59.8 +1.3
comp=Z,25nm,0.7s,baz=236,slow=6.2,SNR=54
DBIC pP pP 01 20 16.9 -0.5
comp=Z,22nm,0.7s,baz=245,slow=6.2,SNR=7.5
DBIC LR LR 01 51 26.0
comp=Z,316nm,19.0s,baz=244,slow=34
DBIC **Dimbokro** 74.79 80 eP P 01 19 59.9 +1.3
comp=Z,76nm,1.3s
DBIC pP pP 01 20 16.9 -0.5
DBIC epP pP 01 20 17.7 +0.3
KIC **Kosan Boka** 74.84 81 eP P 01 19 59.9 +1.0
comp=Z,93nm,0.8s
SNAA **Sanae** 75.75 162 P P 01 20 03.9 +0.7
SNAA **Sanae** 75.75 162 c iP P 01 20 03.8 +0.7
SNAA pmax pmax
comp=Z,37nm,1.0s
SNAA **Sanae** 75.75 162 eP P 01 20 03.9 +0.7
comp=Z,29nm,0.8s
SNAA epP pP 01 20 21.7 -0.4
YKA **Yellowknife Ar** 77.78 344 P P 01 20 14.0 -0.4
comp=Z,15nm,0.7s,baz=142,slow=6.1,SNR=240
SFJD **Kangerlussuaq** 79.52 11 P P 01 20 23.5 -0.5
comp=Z,5.7nm,0.6s,baz=174,slow=12,SNR=3.4
QSPA **South Pole Qui** 79.94 180 LR LR 01 51 25.6
comp=Z,131nm,18.6s,baz=186,slow=32
QSPA **South Pole Qui** 79.94 180 eP P 01 20 27.4 +0.8
comp=Z,96nm,1.1s
MORF **Marmelete** 80.21 49 eP P 01 20 30.7 +2.2
MORF AMb AMB 01 20 35.5
comp=Z,38nm,1.6s
MORF **Marmelete** 80.21 49 eP P 01 20 30.8 +2.4
comp=Z,45nm,1.5s
MORF epP pP 01 20 48.9 +1.5
MORF **Marmelete** 80.21 49 eP P 01 20 30.6 +2.2
DLBC **Dease Lake** 80.23 335 eP P 01 20 28.8 +0.7
PTEO **Sao Teotonio** 80.24 49 epP pP 01 20 49.1 +1.6
NVL **N'lazarevskaya** 80.43 160 eP P 01 20 27.8 -1.1
NVL pmax pmax
comp=Z,26nm,1.0s
PNCL **Nicolau / Gran** 80.58 49 eP P 01 20 32.3 +2.0
comp=Z,33nm,1.1s
PNCL epP pP 01 20 50.3 +0.9
MESJ **Messejana** 80.71 49 eP P 01 20 33.3 +2.3
MESJ AMb AMB 01 20 35.5
comp=Z,33nm,1.6s
MESJ **Messejana** 80.71 49 eP P 01 20 33.2 +2.2
comp=Z,29nm,1.2s
MESJ epP pP 01 20 50.9 +0.8
MESJ **Messejana** 80.71 49 eP P 01 20 33.3 +2.3
PBDV **Barranco-do-Ve** 80.72 50 epP pP 01 20 51.8 +1.6
PCVE **Castro Verde** 80.78 49 eP P 01 20 33.7 +2.3
comp=Z,5.9nm,1.6s
PCVE epP pP 01 20 51.9 +1.5
PVAQ **Vaqueiros** 80.94 49 eP P 01 20 34.1 +1.9
comp=Z,20nm,1.5s
PVAQ epP pP 01 20 52.5 +1.2
EVOP **Sao Brissos** 81.03 48 ⇑ iP P 01 20 34.2 +1.5
EVOP e*PP pP 01 20 52.3 +0.6
EVOP pmax pmax
comp=Z,42nm,1.1s
EVOP **Sao Brissos** 81.03 48 ⇑ iP P 01 20 34.2 +1.5
comp=Z,42nm,1.1s
EVOP epP pP 01 20 52.3 +0.6
EVO **Evora** 81.11 48 ⇑ iP P 01 20 34.2 +1.1
comp=Z,42nm,1.1s
EVO epP pP 01 20 52.3 +0.1
EVO eR
comp=Z,223nm,20.5s
EVO **Evora** 81.11 48 eP P 01 20 34.7 +1.6
comp=Z,23nm,1.9s
EVO epP pP 01 20 52.8 +0.6
PMTG **Montargil** 81.14 48 eP P 01 20 34.7 +1.4
comp=Z,26nm,1.9s
PMTG epP pP 01 20 52.9 +0.5
PTOM **Tomar** 81.20 47 eP P 01 20 31.9 -1.7
comp=Z,47nm,2.2s
PTOM epP pP 01 20 53.4 +0.7
PCAS **Casmilo, Conde** 81.30 47 epP pP 01 20 53.4 +0.2
PESTR **Estremoz** 81.54 48 eP P 01 20 37.7 +2.3
comp=Z,22nm,2.1s
PESTR epP pP 01 20 55.7 +1.2
PTO **Porto** 81.61 46 eP P 01 20 36.9 +1.2
comp=Z,41nm,1.9s
PTO epP pP 01 20 55.5 +0.7
MDT **Midelt** 81.87 55 LR LR 01 53 52.5
comp=Z,388nm,21.8s,slow=33
PCBR **Castelo Branco** 81.95 47 eP P 01 20 38.9 +1.3
comp=Z,24nm,2.0s
PCBR pP pP 01 20 56.2 -0.5
PVIS **Viseu** 81.96 46 eP P 01 20 38.6 +0.9
comp=Z,36nm,1.7s
PVIS epP pP 01 20 56.4 -0.4
MTE **Manteigas** 82.10 47 eP P 01 20 39.5 +1.1
comp=Z,47nm,1.8s
MTE epP pP 01 20 57.4 -0.1
POLO **Lamas de Olo** 82.27 46 eP P 01 20 39.8 +0.5
comp=Z,18nm,2.0s
POLO epP pP 01 20 58.4 0.0
PVRL **Vila Real** 82.29 46 eP P 01 20 40.8 +1.4
comp=Z,39nm,1.4s
PVRL epP pP 01 20 58.7 +0.3
TORD **Torodi Ar. Bea** 82.48 75 P P 01 20 41.3 +0.5
comp=Z,15nm,1.0s,baz=262,slow=4.3,SNR=61

TORD pP **pP** **01 20 59.2 -0.7**
comp=Z,15nm,0.9s,baz=297,slow=5.9,SNR=9.0
TORD PKKPbc **PKKPbc** **01 39 06.7 0.0**
comp=Z,0.7nm,0.7s,baz=58,slow=3.0,SNR=5.6
TORD LR LR 01 57 11.9
comp=Z,316nm,20.3s,baz=260,slow=36
MVO Moncorvo 82.73 46 *e*P **P** **01 20 43.0 +1.3**
comp=Z,55nm,1.8s
MVO *e*pP **pP** **01 21 01.2 +0.4**
PBRG Braganca 83.16 46 *e*P **P** **01 20 45.1 +1.2**
comp=Z,47nm,1.6s
PBRG *e*pP **pP** **01 21 03.3 +0.3**
PAB San Pablo 84.14 48 *e*P **P** **01 20 50.0 +1.0**
PAB *e**PP **pP** **01 21 08.7 +0.6**
PAB pmax pmax
comp=Z,35nm,1.2s
PAB San Pablo 84.14 48 *e*P **P** **01 20 50.0 +1.0**
comp=Z,36nm,1.2s
PAB *e*pP **pP** **01 21 08.7 +0.6**
ESDC Sonseca Array 84.46 48 P **P** **01 20 51.6 +1.0**
comp=Z,4.4nm,0.9s,baz=263,slow=4.5,SNR=16
ESDC pP **pP** **01 21 09.0 -0.8**
comp=Z,7.6nm,0.9s,baz=261,slow=5.1,SNR=10
ESDC LR LR 01 56 44.9
comp=Z,124nm,19.4s,baz=285,slow=34
SBA Scott Base 85.25 191 *e*P **P** **01 20 55.0 +1.3**
SBA pmax pmax
comp=Z,29nm,1.4s
SBA Scott Base 85.25 191 *e*P **P** **01 20 55.0 +1.3**
comp=Z,29nm,1.4s
RES Resolute Bay 85.35 356 *e*P **P** **01 20 53.5 -0.7**
RES *e**PP **pP** **01 21 11.6 -1.7**
RES pmax pmax
comp=Z,19nm,1.1s
RES Resolute Bay 85.35 356 P **P** **01 20 53.8 -0.4**
comp=Z,13nm,1.0s,baz=184,slow=7.2,SNR=26
RES LR LR 02 00 23.3
comp=Z,82nm,19.2s,baz=179,slow=37
RES Resolute Bay 85.35 356 *e*P **P** **01 20 53.5 -0.7**
comp=Z,19nm,1.1s
RES *e*pP **pP** **01 21 11.6 -1.7**
VNDA Vanda 86.33 191 *e*P **P** **01 21 00.7 +1.6**
VNDA pmax pmax
comp=Z,12nm,1.1s
VNDA Vanda 86.33 191 P **P** **01 21 00.3 +1.1**
comp=Z,6.2nm,0.9s,baz=138,slow=4.2,SNR=26
VNDA LR LR 01 50 49.0
comp=Z,143nm,21.9s,baz=118,slow=29
VNDA Vanda 86.33 191 *e*P **P** **01 21 00.7 +1.6**
comp=Z,12nm,1.1s
SUMG Summit 86.50 11 *e*P **P** **01 21 00.6 +0.2**
SUMG *e**PP **pP** **01 21 19.2 -0.5**
SUMG pmax pmax
comp=Z,56nm,0.9s
SUMG Summit 86.50 11 *i* P **P** **01 21 00.9 +0.5**
comp=Z,41nm,0.8s
SUMG *i* 01 21 19.0
SUMG Summit 86.50 11 *e*P **P** **01 21 00.6 +0.2**
comp=Z,56nm,0.9s
SUMG *e*pP **pP** **01 21 19.2 -0.5**
DAWY Dawson 87.14 337 *e*P **P** **01 21 03.0 -0.3**
SJPF Ste Jean 87.44 46 *e*P **P** **01 21 05.7 +0.5**
comp=Z,96nm,1.5s
SJPF Ste Jean 87.44 46 *e*P **P** **01 21 05.7 +0.5**
SJPF pmax pmax
comp=Z,96nm,1.5s
SJPF Ste Jean 87.44 46 *e*P **P** **01 21 05.7 +0.5**
comp=Z,96nm,1.5s
QUIF Quistinic 87.56 41 *e*P **P** **01 21 05.3 -0.2**
QUIF Quistinic 87.56 41 *e*P **P** **01 21 05.3 -0.2**
QUIF Quistinic 87.56 41 *e*P **P** **01 21 05.3 -0.2**
BMRM Bremner River 87.83 333 *e*P **P** **01 21 07.1 +0.5**
comp=Z,52nm,1.3s
SGMF Saint Gilles 88.05 40 *e*P **P** **01 21 08.1 +0.2**
comp=Z,140nm,1.6s
SGMF Saint Gilles 88.05 40 *e*P **P** **01 21 08.1 +0.2**
SGMF pmax pmax
comp=Z,141nm,1.6s
SGMF Saint Gilles 88.05 40 *e*P **P** **01 21 08.1 +0.2**
comp=Z,140nm,1.6s
TAM Tamanrasset 88.06 67 *e*P **P** **01 21 09.7 +1.0**
TAM *e**PP **pP** **01 21 28.3 +0.3**
TAM pmax pmax
comp=Z,10.0nm,1.1s
TAM Tamanrasset 88.06 67 *e*P **P** **01 21 09.7 +1.0**
comp=Z,10nm,1.1s
TAM *e*pP **pP** **01 21 28.3 +0.3**
EGAK Eagle 88.16 338 *e*P **P** **01 21 07.5 -0.5**
comp=Z,84nm,1.1s
DIV Divide 88.42 333 *e*P **P** **01 21 08.5 -0.9**
comp=Z,27nm,0.8s
EPF Esparros 88.52 46 *e*P **P** **01 21 11.0 +0.7**
EPF Esparros 88.52 46 *e*P **P** **01 21 11.0 +0.7**
EPF Esparros 88.52 46 *e*P **P** **01 21 11.0 +0.7**
DOT Dot Lake 88.77 336 *e*P **P** **01 21 10.3 -0.7**
comp=Z,42nm,0.9s
DOT *e*pP **pP** **01 21 27.5 -2.8**
PAX Paxson 89.05 335 *e*P **P** **01 21 11.7 -0.7**
PAX *e**PP **pP** **01 21 29.6 -2.1**
PAX pmax pmax
comp=Z,76nm,1.0s
PAX Paxson 89.05 335 *e*P **P** **01 21 11.7 -0.7**
comp=Z,76nm,1.0s
PAX *e*pP **pP** **01 21 29.6 -2.1**
PAX *e*sP **sP** **01 21 42.3 +3.0**
MFF Saint Martin d 89.14 42 *e*P **P** **01 21 13.0 -0.1**
comp=Z,51nm,1.1s
MFF Saint Martin d 89.14 42 *e*P **P** **01 21 13.0 -0.1**
MFF pmax pmax
comp=Z,51nm,1.1s
MFF Saint Martin d 89.14 42 *e*P **P** **01 21 13.0 -0.1**
comp=Z,51nm,1.1s
GRR Gorron 89.17 41 *e*P **P** **01 21 12.8 -0.4**
GRR Gorron 89.17 41 *e*P **P** **01 21 12.8 -0.4**
GRR Gorron 89.17 41 *e*P **P** **01 21 12.8 -0.4**
LFF La Frestale 89.30 44 *e*P **P** **01 21 13.9 0.0**
comp=Z,31nm,0.9s
LFF La Frestale 89.30 44 *e*P **P** **01 21 13.9 0.0**
LFF pmax pmax
comp=Z,31nm,0.9s
LFF La Frestale 89.30 44 *e*P **P** **01 21 13.9 0.0**
comp=Z,31nm,0.9s
FLN La Foliniere 89.52 40 *e*P **P** **01 21 14.7 -0.1**
comp=Z,66nm,1.1s
FLN *e*pP **pP** **01 21 33.0 -1.1**
FLN *e*R
comp=Z,216nm,22.5s
FLN La Foliniere 89.52 40 *e*P **P** **01 21 14.7 -0.1**
FLN *e**PP **pP** **01 21 33.0 -1.1**
FLN pmax pmax
comp=Z,66nm,1.1s
FLN La Foliniere 89.52 40 *e*P **P** **01 21 14.7 -0.1**
comp=Z,66nm,1.1s
FLN *e*pP **pP** **01 21 33.0 -1.1**
LDF La Druitiere 89.70 40 *e*P **P** **01 21 15.4 -0.2**
LDF *e*pP **pP** **01 21 33.6 -1.4**
LDF La Druitiere 89.70 40 *e*P **P** **01 21 15.4 -0.2**
LDF *e**PP **pP** **01 21 33.6 -1.4**
LDF La Druitiere 89.70 40 *e*P **P** **01 21 15.4 -0.2**
LDF *e*pP **pP** **01 21 33.6 -1.4**
EKA Eskdalemuir Ar 89.86 33 P **P** **01 21 16.6 +0.3**
comp=Z,4.8nm,0.8s,baz=248,slow=4.4,SNR=7.5
EKA pP **pP** **01 21 34.4 -1.2**
comp=Z,5.5nm,0.7s,baz=242,slow=5.4,SNR=7.2
RJF Les Rejaudoux 89.93 44 *e*P **P** **01 21 16.4 -0.4**
RJF *e*pP **pP** **01 21 34.8 -1.3**
RJF *e*R
comp=Z,215nm,19.8s
RJF Les Rejaudoux 89.93 44 *e*P **P** **01 21 16.4 -0.4**
RJF *e**PP **pP** **01 21 34.8 -1.3**
RJF Les Rejaudoux 89.93 44 *e*P **P** **01 21 16.4 -0.4**
RJF *e*pP **pP** **01 21 34.8 -1.3**
MTLF Montolieu 89.93 46 *e*P **P** **01 21 16.7 -0.2**
MTLF *e*pP **pP** **01 21 34.9 -1.3**
MTLF Montolieu 89.93 46 *e*P **P** **01 21 16.7 -0.2**
MTLF *e**PP **pP** **01 21 34.9 -1.3**
MTLF Montolieu 89.93 46 *e*P **P** **01 21 16.7 -0.2**
MTLF *e*pP **pP** **01 21 34.9 -1.3**
SYO Syowa Base 90.05 161⇑ *e*P **P** **01 21 15.2 -1.7**
SYO Syowa Base 90.05 161⇑ *e*pP pP 01 21 34.0 -2.2
CAF Calviac 90.21 44 *e*P **P** **01 21 18.0 -0.2**
CAF *e*pP **pP** **01 21 36.2 -1.3**
CAF Calviac 90.21 44 *e*P **P** **01 21 18.0 -0.2**
CAF *e**PP **pP** **01 21 36.2 -1.3**
CAF Calviac 90.21 44 *e*P **P** **01 21 18.0 -0.2**
CAF *e*pP **pP** **01 21 36.2 -1.3**
ILAR Eielson Array 90.36 336 P **P** **01 21 17.6 -0.8**
comp=Z,11nm,0.9s,baz=151,slow=3.1,SNR=77
ILAR pP **pP** **01 21 36.2 -1.5**
comp=Z,6.0nm,0.9s,baz=150,slow=4.5,SNR=6.3
ILAR PP **PP** **01 24 53.7 +0.2**
comp=Z,0.7nm,0.8s,baz=84,slow=5.8,SNR=4.3
ILAR LR LR 02 04 02.8
comp=Z,38nm,21.8s,baz=148,slow=37
KDAK Kodiak Island 90.44 329 *c*eP **P** **01 21 18.6 -0.2**
TCF Toulx Ste Croi 90.64 43 *e*P **P** **01 21 20.5 +0.4**
TCF *e*pP **pP** **01 21 37.8 -1.7**
TCF Toulx Ste Croi 90.64 43 *e*P **P** **01 21 20.5 +0.4**
TCF *e**PP **pP** **01 21 37.8 -1.7**
TCF Toulx Ste Croi 90.64 43 *e*P **P** **01 21 20.5 +0.4**
TCF *e*pP **pP** **01 21 37.8 -1.7**
COLA College 90.78 336 *e*P **P** **01 21 19.9 -0.4**
COLA *e**PP **pP** **01 21 38.3 -1.3**
COLA pmax pmax
comp=Z,60nm,1.0s
COLA College 90.78 336 *e*P **P** **01 21 19.9 -0.4**
comp=Z,60nm,1.0s
COLA *e*pP **pP** **01 21 38.3 -1.3**
COLA *e*sP **sP** **01 21 50.5 +3.3**
MCK McKinley 90.79 335 *e*P **P** **01 21 19.3 -1.1**
MCK pmax pmax
comp=Z,30nm,1.1s
MCK McKinley 90.79 335 *e*P **P** **01 21 19.3 -1.1**
comp=Z,30nm,1.1s
BGF Bois d'Agland 91.13 43 *e*P **P** **01 21 22.3 -0.1**
BGF *e*pP **pP** **01 21 40.4 -1.3**
BGF Bois d'Agland 91.13 43 *e*P **P** **01 21 22.3 -0.1**
BGF *e**PP **pP** **01 21 40.4 -1.3**
BGF Bois d'Agland 91.13 43 *e*P **P** **01 21 22.3 -0.1**
BGF *e*pP **pP** **01 21 40.4 -1.3**
HYF Humbligny 91.16 42 *e*P **P** **01 21 22.6 +0.1**
HYF Humbligny 91.16 42 *e*P **P** **01 21 22.6 +0.1**
TRF Thorofare Moun 91.25 335 *e*P **P** **01 21 22.1 -0.6**
comp=Z,20nm,0.8s
LASF Ste Croix 91.26 46 *e*P **P** **01 21 23.5 +0.4**
comp=Z,84nm,1.6s
LASF Ste Croix 91.26 46 *e*P **P** **01 21 23.5 +0.4**
comp=Z,84nm,1.6s
RSO Redoubt South 91.36 331 *e*P **P** **01 21 23.1 -0.3**
AVF Avril sur Loir 91.52 43 *e*P **P** **01 21 24.5 +0.3**
comp=Z,65nm,1.9s
AVF *e*pP **pP** **01 21 41.9 -1.6**
AVF Avril sur Loir 91.52 43 *e*P **P** **01 21 24.5 +0.3**
AVF *e**PP **pP** **01 21 41.9 -1.6**
AVF pmax pmax
comp=Z,65nm,1.9s
AVF Avril sur Loir 91.52 43 *e*P **P** **01 21 24.5 +0.3**
comp=Z,65nm,1.9s
AVF *e*pP **pP** **01 21 41.9 -1.6**
KTH Kantishna Hill 91.56 335 *e*P **P** **01 21 23.0 -1.0**
comp=Z,28nm,1.0s
SMF Signal de Mont 91.82 43 *e*P **P** **01 21 25.2 -0.4**
SMF *e*pP **pP** **01 21 43.3 -1.6**
SMF Signal de Mont 91.82 43 *e*P **P** **01 21 25.2 -0.4**
SMF *e**PP **pP** **01 21 43.3 -1.6**
SMF Signal de Mont 91.82 43 *e*P **P** **01 21 25.2 -0.4**
SMF *e*pP **pP** **01 21 43.3 -1.6**
PPLA Purkeypile 91.88 334 *e*P **P** **01 21 24.6 -1.1**
comp=Z,28nm,0.8s
PPLA *e*pP **pP** **01 21 45.9 +0.9**
VIVF Saint-Julien-l 92.00 45 *e*P **P** **01 21 26.9 +0.4**
VIVF Saint-Julien-l 92.00 45 *e*P **P** **01 21 26.9 +0.4**
VIVF Saint-Julien-l 92.00 45 *e*P **P** **01 21 26.9 +0.4**
CAST Castle Rocks 92.00 334 *e*P **P** **01 21 25.3 -0.8**
comp=Z,50nm,0.8s
COLD Coldfoot 92.54 338 *e*P **P** **01 21 28.9 +0.4**
comp=Z,20nm,1.2s
SVW2 Sparrevohn 92.88 332 *e*P **P** **01 21 29.2 -0.9**
comp=Z,55nm,1.7s
LMR La Mourre 92.99 47 *e*P **P** **01 21 31.7 +0.7**
LMR La Mourre 92.99 47 *e*P **P** **01 21 31.7 +0.7**
LMR La Mourre 92.99 47 *e*P **P** **01 21 31.7 +0.7**
JMIC Jan Mayen 93.05 18 LR LR 02 02 48.8
comp=Z,67nm,19.6s,baz=72,slow=35
FRF La Foret Royal 93.13 46 *e*P **P** **01 21 32.4 +0.7**
comp=Z,116nm,1.6s
FRF La Foret Royal 93.13 46 *e*P **P** **01 21 32.4 +0.7**
FRF La Foret Royal 93.13 46 *e*P **P** **01 21 32.4 +0.7**
comp=Z,116nm,1.6s
DAG Danmarks Havn 93.18 11 *i* P **P** **01 21 30.7 -0.5**
DAG *e* 01 21 48.7
DAG pmax pmax
comp=Z,5.0nm,1.0s
DAG Danmarks Havn 93.18 11 *i* P **P** **01 21 30.7 -0.5**
comp=Z,4.6nm,1.0s
DAG *e* 01 21 48.7
GIVF Givet 93.20 40 *e*P **P** **01 21 31.8 0.0**
GIVF *e*pP **pP** **01 21 50.2 -1.0**
GIVF Givet 93.20 40 *e*P **P** **01 21 31.8 0.0**
GIVF *e**PP **pP** **01 21 50.2 -1.0**
GIVF Givet 93.20 40 *e*P **P** **01 21 31.8 0.0**
GIVF *e*pP **pP** **01 21 50.2 -1.0**
IM04 Indian Mountai 93.49 337 *e*P **P** **01 21 31.9 -0.9**
KEST Kesra 93.78 55 LR LR 02 02 55.0
comp=Z,111nm,20.7s,baz=266,slow=35
WLF Walferdange 93.95 40 *e*P **P** **01 21 35.2 -0.1**
WLF pmax pmax
comp=Z,18nm,1.2s
WLF Walferdange 93.95 40 *e*P **P** **01 21 35.2 -0.1**
comp=Z,18nm,1.2s
HINF Hinteralfeld 94.06 42 *e*P **P** **01 21 35.6 -0.4**
HINF Hinteralfeld 94.06 42 *e*P **P** **01 21 35.6 -0.4**
HINF Hinteralfeld 94.06 42 *e*P **P** **01 21 35.6 -0.4**
CDF Champ du Feu 94.45 42 *e*P **P** **01 21 37.4 -0.4**
comp=Z,11nm,1.1s
CDF *e*pP **pP** **01 21 55.6 -1.5**
CDF Champ du Feu 94.45 42 *e*P **P** **01 21 37.4 -0.4**
CDF *e**PP **pP** **01 21 55.6 -1.5**
CDF pmax pmax
comp=Z,11nm,1.0s
CDF Champ du Feu 94.45 42 *e*P **P** **01 21 37.4 -0.4**
comp=Z,11nm,1.0s
CDF *e*pP **pP** **01 21 55.6 -1.5**
AQU L'Aquila 97.84 48 *e*P **P** **01 21 52.6 -0.7**
AQU pmax pmax
comp=Z,15nm,0.9s
AQU L'Aquila 97.84 48 *e*P **P** **01 21 52.5 -0.7**
comp=Z,15nm,0.9s
LBTB Lobatse 97.87 117 *e*P **P** **01 21 53.7 -0.2**
LBTB pmax pmax
comp=Z,7.0nm,1.0s
LBTB Lobatse 97.87 117 *e*P **P** **01 21 53.7 -0.2**
comp=Z,7.5nm,1.0s
NOA NORSAR Array B 98.47 29 LR LR 02 03 08.6
comp=Z,59nm,21.6s,baz=255,slow=33
CLL Collm 98.52 39 *e*SP SP 01 34 44.0 +0.1
CLL *e*PPS PPS 01 35 30.0
CLL LmV 02 04 00.0
comp=Z,100nm,20.1s
CLL LmH 03 27 00.0
comp=Z,200nm,21.7s
CLL LmV 03 35 00.0
comp=Z,200nm,19.6s
CLL Lm MLR 04 10 00.0
comp=Z,200nm,21.4s
CLL LV 04 18 00.0
comp=Z,100nm,18.4s
GERES GERESS Array B 98.73 42 P Pdif 01 21 57.7 +0.5
comp=Z,0.5nm,0.7s,baz=208,slow=5.4,SNR=4.3
GERES pP pP 01 22 15.4 -1.1
comp=Z,0.8nm,0.9s,baz=225,slow=1.7,SNR=4.0
GERES PKKPbc **PKKPbc** **01 38 25.7 -1.3**
comp=Z,0.5nm,0.7s,baz=88,slow=3.2,SNR=6.4
GERES LR LR 01 59 38.7
comp=Z,72nm,21.7s,baz=260,slow=31
HFS Hagfors 99.62 30 LR LR 02 04 10.3
comp=Z,93nm,20.5s,baz=264,slow=34
TIP Timpagrande 100.06 52 *e*P **Pdif** **01 22 03.2 -0.1**
comp=Z,18nm,1.4s
VYHS Vyhne 102.11 42 *e*P **Pdif** **01 22 17.6 +5.5**
VYHS Vyhne 102.11 42 *e* **Pdif** **01 22 17.6 +5.5**
STHS Stebnicka Huta 103.70 42 *e*P **Pdif** **01 22 21.7 +2.5**
STHS Stebnicka Huta 103.70 42 PDIF **Pdif** **01 22 21.7 +2.5**
ARCES ARCESS Array B 104.22 21 Pdiff **Pdif** **01 22 20.7 -0.3**
comp=Z,2.8nm,0.9s,baz=332,slow=4.8,SNR=4.3
FINES FINESS Array B 105.64 29 PKKPbc PKKPbc 01 38 04.1 -2.9
comp=Z,1.0nm,0.6s,baz=180,slow=3.2,SNR=5.3
APA Apatity 107.48 22 *e*P Pdif 01 22 48.0 +12
BRTR Keskin Array B 113.11 51 *c i*PKIKP **PKiKP** **01 26 55.0 -0.1**
BRTR pmax pmax
comp=Z,1.0nm,1.0s
BRTR Keskin Array B 113.11 51 PKiKP **PKiKP** **01 26 55.2 +0.1**
comp=Z,1.1nm,1.0s,baz=222,slow=1.7,SNR=6.5
BRTR PKKPbc **PKKPbc** **01 37 41.6 -0.9**
comp=Z,1.0nm,1.0s,baz=139,slow=8.2,SNR=5.5
KMBO Kilima Mbogo 114.67 96 *e*PKIKP PKPdf 01 26 56.5 -2.5
KMBO Kilima Mbogo 114.67 96 *e*PKIKP PKPdf 01 26 56.5 -2.5
ANN Anapa 115.15 45 *i*PKIKP **PKPdf** **01 27 02.7 +4.0**
ANN pmax pmax
comp=Z,31nm,1.8s
SEY Seymchan 116.30 337 PKP **PKPdf** **01 27 00.1 -0.2**
comp=Z,3.4nm,0.7s,baz=100,slow=3.4,SNR=14
TIXI Tiksi 116.40 351⇑ *i*PKIKP **PKPdf** **01 26 59.8 -0.5**
TIXI pmax pmax
comp=Z,6.0nm,2.5s
H11N3 WAKE ISLAND Hyl 116.83 287 T T 03 33 53.9
baz=93,slow=74,SNR=10
H11N2 WAKE ISLAND Hyl 116.84 287 T T 03 33 54.7
baz=93,slow=74,SNR=12
H11N1 WAKE ISLAND Hyl 116.85 287 T T 03 33 57.6
baz=93,slow=74,SNR=10
H11S2 WAKE ISLAND Hyl 116.98 286 T T 03 34 03.4
baz=94,SNR=33
H11S1 WAKE ISLAND Hyl 116.99 286 T T 03 34 03.8
baz=94,SNR=12
H11S3 WAKE ISLAND Hyl 117.00 286 T T 03 34 04.8
baz=94,SNR=16
PETK Petropavlovsk- 118.30 326 PKP **PKPdf** **01 27 04.2 -0.3**
comp=Z,2.2nm,0.7s,baz=78,slow=6.8,SNR=3.8
GOF Gofitskoye 118.97 44 *e*PKIKP **PKPdf** **01 27 05.9 -0.1**
KIV Kislovodsk 119.01 45 *i*PKIKP **PKPdf** **01 27 05.9 -0.4**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 119.01 45 *e*PKPdf **PKPdf** **01 27 04.9 -1.4**
KBZ Khabaz 119.21 45 PKP **PKPdf** **01 27 07.0 +0.5**
comp=Z,5.6nm,0.9s,baz=211,slow=12,SNR=6.2
KBZ pPKP **pPKPdf** **01 27 26.0 -0.6**
comp=Z,4.9nm,0.8s,baz=263,slow=0.7,SNR=4.3
ARU Arti 122.92 27 *i*PKIKP **PKPdf** **01 27 13.2 -0.1**
ARU 01 28 49.8
ARU 01 34 05.4
ARU Arti 122.92 27 *e*PKPdf **PKPdf** **01 27 13.2 -0.1**
YAK Yakutsk 124.45 345 PKP **PKPdf** **01 27 15.5 -0.5**
comp=Z,13nm,0.6s,baz=290,slow=1.4,SNR=4.1
RAYN Ar Rayn 124.70 68 *e*PKPdf **PKPdf** **01 27 17.9 +0.2**
AKTO Aktyubinsk 126.05 33 PKIKP **PKPdf** **01 27 20.0 +0.5**
AKTO Aktyubinsk 126.05 33 PKP **PKPdf** **01 27 20.0 +0.5**
comp=Z,6.2nm,0.8s,baz=319,slow=2.6,SNR=26
AKTO pPKP **pPKPdf** **01 27 38.8 -0.8**
comp=Z,3.6nm,0.7s,baz=251,slow=3.8,SNR=6.3
CTAO Charters Tower 127.02 235 *e*PKIKP **PKPdf** **01 27 22.3 0.0**
CTAO Charters Tower 127.02 235 *e*PKPdf **PKPdf** **01 27 22.3 0.0**
ABKAR Akbulak array 127.74 34 *e*PKPdf **PKPdf** **01 27 23.0 +0.3**
YSS Yuzh-Sakhalins 129.67 324⇑ *i*PKIKP **PKPdf** **01 27 26.0 -0.5**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 129.67 324 *e*PKPdf **PKPdf** **01 27 26.0 -0.5**
PMG Port Moresby 130.98 248 *e*PKIKP **PKPdf** **01 27 29.8 -0.1**
PMG Port Moresby 130.98 248 *e*PKPdf **PKPdf** **01 27 29.8 -0.1**
BOD Bodaibo 131.57 351 *e*PKIKP **PKPdf** **01 27 28.8 -0.9**
BOD pmax pmax
comp=Z,5.0nm,0.1s
GEYT Alibeck 132.00 47 PKP **PKPdf** **01 27 32.0 +0.8**
comp=Z,3.7nm,1.0s,baz=259,slow=3.0,SNR=10
GEYT pPKP **pPKPdf** **01 27 50.9 -0.4**
comp=Z,1.7nm,0.6s,baz=248,slow=1.6,SNR=3.3
FORT Forrest 132.17 211 *e*PKPdf **PKPdf** **01 27 31.0 -0.7**
COEN Coen 132.58 240 *e*PKPdf **PKPdf** **01 27 33.4 +0.5**
HABR Khabarovsk 132.83 330 *e*PKIKP **PKPdf** **01 27 31.2 -1.2**
HABR *e*PPP PPP 01 32 49.7
HABR *e* 01 34 35.2
HABR *e*SS SS 01 47 33.7 +0.4
HABR SSS SSS 01 52 29.4
HABR pmax pmax
comp=Z,8.0nm,0.9s
NVS Novosibirsk 133.05 15 *e*PKIKP **PKPdf** **01 27 31.3 -1.3**
NVS *e* 01 29 57.7
KLR Kul'dur 133.84 333 *e*PKIKP PKPdf 01 27 26.9 -7.4
AS31 Alice Springs 134.08 223 *e*PKPdf **PKPdf** **01 27 34.9 -0.7**
ASAR Alice Springs 134.08 223 PKhKP PKPpre 01 27 19.8
comp=Z,0.5nm,0.7s,baz=129,slow=2.5,SNR=4.7
ASAR PKP **PKPdf** **01 27 35.7 +0.1**
comp=Z,6.9nm,0.8s,baz=122,slow=2.0,SNR=46
ZALV Zalesovo Beam 134.25 14 PKP **PKPdf** **01 27 34.8 -0.1**
comp=Z,12nm,0.8s,baz=277,slow=2.4,SNR=42
KURK Kurchatov 135.26 21 *e*PKIKP **PKPdf** **01 27 37.1 +0.2**
KURK Kurchatov 135.26 21 *e*PKPdf **PKPdf** **01 27 37.1 +0.2**
WRAB Tennant Creek 136.25 227 *c i*PKIKP **PKPdf** **01 27 40.5 +0.8**
WRAB Tennant Creek 136.25 227 *e*PKPdf **PKPdf** **01 27 39.5 -0.2**
WRA Warramunga Arr 136.26 227 PKhKP PKPpre 01 27 25.8
comp=Z,0.4nm,0.7s,baz=139,slow=2.9,SNR=4.7
WRA PKP **PKPdf** **01 27 39.7 0.0**
comp=Z,24nm,0.9s,baz=129,slow=1.6,SNR=66
WRA pPKP pPKPdf 01 27 59.3 -0.6
comp=Z,9.4nm,0.7s,baz=125,slow=2.0,SNR=6.4
USRK Ussuriysk Ar. 137.30 328 PKhKP PKPpre 01 27 29.1
comp=Z,1.3nm,0.7s,baz=38,slow=3.2,SNR=4.6
USRK PKP **PKPdf** **01 27 41.3 +0.4**
comp=Z,11nm,1.0s,baz=339,slow=1.0,SNR=14
USRK SKPbc **SKPbc** **01 31 07.8 -0.5**
comp=Z,0.5nm,0.5s,baz=167,slow=3.3,SNR=4.0
MJAR Matsushiro Arr 138.02 315 PKhKP PKPpre 01 27 31.0
comp=Z,1.2nm,0.7s,baz=137,slow=2.1,SNR=4.4
MJAR PKP **PKPdf** **01 27 42.1 -0.4**
comp=Z,5.5nm,0.9s,baz=61,slow=1.0,SNR=14
MAJO Matsushiro 138.02 315 *e*PKIKP **PKPdf** **01 27 41.9 -0.6**
MAJO Matsushiro 138.02 315 *e*PKPdf **PKPdf** **01 27 41.9 -0.6**
MAT Matsushiro 138.02 315 PKP **PKPdf** **01 27 41.9 -0.6**
TLY Talaya 138.60 358 *e*PKIKP **PKPdf** **01 27 38.4 -4.7**
TLY *i* 01 27 44.6
TLY pmax pmax
comp=Z,6.0nm,1.4s
TLY MLR MLR
comp=Z,93nm,20.0s
MOY Mondy 138.63 1 *e*PKIKP **PKPdf** **01 27 44.5 +1.2**
EKS2 Erkin-Say 139.36 32 *e*PKIKP **PKPdf** **01 27 45.6 +0.7**
EKS2 Erkin-Say 139.36 32 *e*PKPdf **PKPdf** **01 27 45.6 +0.7**
AAK Ala-Archa 139.75 32 *c i*PKIKP **PKPdf** **01 27 45.9 +0.2**
AAK pmax pmax
comp=Z,79nm,2.5s
AAK Ala-Archa 139.75 32 *e*PKPdf **PKPdf** **01 27 46.5 +0.8**
MKAR Makanchi Array 139.87 21 PKhKP PKPpre 01 27 36.9
comp=Z,0.6nm,0.6s,baz=2.0,slow=2.3,SNR=6.8
MKAR PKP **PKPdf** **01 27 45.7 +0.1**
comp=Z,4.4nm,0.8s,baz=352,slow=2.4,SNR=26
ZAK Zakamensk 139.91 359 *e*PKHKP PKPpre 01 27 37.0
ZAK *e* 01 30 41.3
ZAK pmax pmax
comp=Z,5.0nm,1.5s
CN2 Changchun 140.79 333 *e*PKP **PKPdf** **01 27 46.3 -1.0**
KBL Kabul 141.40 46 *e*PKIKP **PKPdf** **01 27 49.3 +0.3**
KBL Kabul 141.40 46 *e*PKPdf **PKPdf** **01 27 49.3 +0.3**
ULN Ulaanbaatar 142.19 354 *e*PKHKP PKPpre 01 27 45.3
ULN Ulaanbaatar 142.19 354 *e*PKPpre PKPpre 01 27 45.3
SONM Songino Array 142.28 355 PKhKP PKPpre 01 27 45.9
comp=Z,6.8nm,0.8s,baz=333,slow=2.5,SNR=58
SONM PP **PP** **01 30 52.0 -4.0**
comp=Z,3.3nm,1.2s,baz=31,slow=3.4,SNR=2.7
KSH Kashi 142.74 34 *e*PKP **PKPdf** **01 27 50.8 -0.3**
KSH sPKP 01 28 15.0
KSH PP **PP** **01 30 59.0 -0.5**
KSH PKS **PKSdf** **01 31 26.8 -0.2**
KSH SKS **SKSdf** **01 34 55.8 +0.7**
KSH PPMZ
comp=Z,140nm,4.2s
KSH LN
comp=Z,290nm,5.1s
KSH LE
comp=Z,270nm,8.8s
KSH LZ
comp=Z,280nm,3.8s
KSRS Korea Array 144.16 323 PKP PKPbc 01 27 51.5 -0.1
comp=Z,58nm,0.7s,baz=56,slow=3.6,SNR=144
KSAR Wonju Array Be 144.19 323 PKIKP **PKPab** **01 27 51.5 +0.2**
KSAR Wonju Array Be 144.19 323 PKP **PKPab** **01 27 51.5 +0.2**
WMQ Urumqi 144.28 18 PKP PKPbc 01 27 52.0 0.0
WMQ pPKP pPKPdf 01 28 10.8 -2.9
WMQ sPKP 01 28 19.0
WMQ PP **PP** **01 31 11.0 +2.9**
WMQ PKS **PKSdf** **01 31 26.3 -2.9**
WMQ SKS **SKSdf** **01 34 52.0 -5.1**
WMQ SKKS **SKKSac** **01 37 52.5 -2.9**
WMQ PPMZ
comp=Z,95nm,5.0s

WMQ				LN			
	comp=Z,76nm,29.0s						
WMQ				LE			
	comp=Z,130nm,27.0s						
WMQ				LZ			
	comp=Z,120nm,29.0s						
MBWA	**Marble Bar**	**144.28**	**209**	*e*PKPdf	**PKPab**	**01 27 51.8**	**-0.3**
MBWA				*ep*PKPdf	**pPKPdf**	**01 28 11.8**	**-2.5**
JNU	**Nakatsue**	**144.94**	**315**	PKP	**PKPab**	**01 27 52.8**	**-1.5**
	comp=Z,49nm,0.8s,baz=357,slow=3.3,SNR=21						
DL2	**Dalian**	**146.41**	**332**	PKPbc	**PKPdf**	**01 27 57.8**	**+0.5**
DL2				PP	**PP**	**01 31 21.0**	**0.0**
BJI	**Beijing**	**147.69**	**339**	PKPbc	**PKPdf**	**01 27 59.0**	**-0.4**
BJI				SS	SS	01 50 24.3	-2.1
BJI				LN			
	comp=Z,160nm,27.2s						
BJI				LE			
	comp=Z,140nm,26.4s						
BJI				LZ			
	comp=Z,40nm,21.7s						
BHK	**Bhakra**	**148.28**	**44**	*ex*	**PKPab**	**01 28 07.2**	**-0.1**
HHC	**Hu-ho-hao-te**	**148.29**	**346**	*e*PKPbc	**PKPdf**	**01 28 01.3**	**+0.8**
HHC				pPKP	**pPKPdf**	**01 28 22.3**	**+1.6**
HHC				PP	**PP**	**01 31 36.3**	**+4.5**
HHC				SKKS		01 38 14.5	
HHC				SS	**SS**	**01 50 31.3**	**-2.0**
HHC				PPMZ			
	comp=Z,150nm,5.6s						
HHC				LN			
	comp=Z,300nm,18.5s						
HHC				LE			
	comp=Z,280nm,17.3s						
HHC				LZ			
	comp=Z,320nm,18.5s						
BTO	**Baotou**	**148.87**	**348**	*e*PKPbc	**PKPbc**	**01 28 04.5**	**-0.9**
SOEI	**Soe**	**150.24**	**229**	*e*PKPdf	**PKPdf**	**01 28 05.0**	**+0.5**
SOEI				*e*PKPbc	**PKiKP**	**01 28 10.4**	**0.0**
TIA	**Tai'an**	**150.65**	**334**	PKPbc	**PKPdf**	**01 28 05.0**	**+0.7**
TIA				PPMZ			
	comp=Z,160nm,5.0s						
TIA				LN			
	comp=Z,270nm,22.1s						
TIA				LE			
	comp=Z,470nm,19.1s						
TIA				LZ			
	comp=Z,320nm,20.5s						
GTA	**Gaotai**	**150.83**	**3**	⇑PKPbc	**PKPdf**	**01 28 05.3**	**+0.7**
GTA				PPMZ			
	comp=Z,42nm,7.8s						
GTA				LN			
	comp=Z,120nm,19.5s						
GTA				LE			
	comp=Z,140nm,19.9s						
GTA				LZ			
	comp=Z,140nm,19.9s						
POO	**Poona**	**151.58**	**70**	⇓*i*P	**PKPdf**	**01 28 06.0**	**-0.2**
	comp=Z,20nm,1.0s						
MMRI	**Maumere**	**152.47**	**228**	*e*PKPbc	**PKPbc**	**01 28 13.3**	**-1.3**
LZH	**Lanzhou**	**154.15**	**356**	*e*PKPbc	**PKPbc**	**01 28 19.0**	**+1.1**
LZH				pPKP	**PKPab**	**01 28 32.0**	**+0.4**
LZH				sPKP		01 28 37.3	
LZH				*e*PP	PP	01 32 20.0	+15
PYUN	**Piuthan**	**154.80**	**42**	*e*P	**PKPdf**	**01 28 11.1**	**+0.2**
DANN	**Dangsing**	**155.14**	**41**	*e*P	**PKPdf**	**01 28 11.9**	**+0.4**
XAN	**Xi'an**	**155.41**	**346**	PKPbc	**PKPdf**	**01 28 11.5**	**+0.2**
KOLN	**Koldanda**	**155.43**	**42**	*e*P	**PKPdf**	**01 28 11.6**	**-0.1**
GKN	**Gorkha**	**155.94**	**40**	*e*P	**PKPdf**	**01 28 12.5**	**+0.1**
HYB	**Hyderabad**	**156.19**	**70**	*i* PKP	**PKPdf**	**01 28 12.0**	**-0.8**
KKN	**Kakani**	**156.49**	**40**	*e*P	**PKPdf**	**01 28 13.0**	**-0.2**
DMN	**Daman**	**156.51**	**40**	*e*P	**PKPdf**	**01 28 13.2**	**0.0**
PKIN	**Phulchoki**	**156.72**	**40**	*e*P	**PKPdf**	**01 28 13.2**	**-0.3**
PKI	**Pulchoki**	**156.73**	**40**	*e*P	**PKPdf**	**01 28 13.1**	**-0.5**
GUN	**Gumba**	**156.78**	**38**	*e*P	**PKPdf**	**01 28 13.4**	**-0.3**
JIRN	**Jiri**	**157.15**	**38**	*e*P	**PKPdf**	**01 28 13.7**	**-0.5**
RAMN	**Ramite**	**157.91**	**39**	*e*P	**PKPdf**	**01 28 15.1**	**+0.1**
	comp=Z,64nm,1.2s						
LSA	**Lhasa**	**158.12**	**26**	*e*PKIKP	**PKPdf**	**01 28 16.0**	**+0.5**
LSA	**Lhasa**	**158.12**	**26**	*e*PKPdf	**PKPdf**	**01 28 16.0**	**+0.5**
TAPN	**Taplejung**	**158.28**	**36**	*e*P	**PKPdf**	**01 28 15.5**	**0.0**
ODAN	**Odare**	**158.46**	**38**	*e*P	**PKPdf**	**01 28 15.5**	**-0.2**
CD2	**Chengdu**	**159.31**	**356**	*e*PKP	**PKPdf**	**01 28 16.3**	**0.0**
CD2				pPKP	**pPKPdf**	**01 28 37.3**	**+0.8**
CD2				sPKP		01 28 45.3	
CD2				PKPab	**PKPab**	**01 28 53.5**	**-0.2**
CD2				PKS	**PKSdf**	**01 31 48.0**	**-2.0**
CD2				PP	**PP**	**01 32 34.0**	**+0.4**
CD2				SKKS		01 39 16.5	
CD2				LN			
	comp=Z,150nm,17.8s						
CD2				LE			
	comp=Z,220nm,15.5s						
CD2				LZ			
	comp=Z,150nm,16.6s						
GYA	**Guiyang**	**163.21**	**345**	PKP	**PKPdf**	**01 28 19.0**	**-1.7**
GYA				pPKP	**pPKPdf**	**01 28 38.5**	**-2.4**
GYA				PKPab	**PKPab**	**01 29 11.0**	**+0.1**
GYA				PKS	**PKSdf**	**01 31 50.8**	**-3.1**
GYA				PP	**PP**	**01 32 57.3**	**+2.6**
GYA				SKKS		01 39 37.3	
GYA				PPMZ			
	comp=Z,140nm,8.0s						
GYA				LN			
	comp=Z,180nm,23.8s						
GYA				LE			
	comp=Z,150nm,24.0s						
GYA				LZ			
	comp=Z,170nm,22.2s						
KMI	**Kunming**	**165.12**	**357**	PKP	**PKPdf**	**01 28 20.5**	**-2.0**
KMI				LN			
	comp=Z,210nm,17.0s						
KMI				LE			
	comp=Z,280nm,17.9s						
KMI				LZ			
	comp=Z,290nm,28.4s						
QIZ	**Qiongzhong**	**168.35**	**320**	PKP	**PKPdf**	**01 28 23.5**	**-1.3**
QIZ				PP	**PP**	**01 33 22.5**	**+0.4**
QIZ				LZ			
	comp=Z,450nm,22.7s						
CHTO	**Chiang Mai**	**170.94**	**18**	*e*PKIKP	**PKPdf**	**01 28 26.4**	**0.0**
CHTO				*e*		01 29 44.3	
CHTO	**Chiang Mai**	**170.94**	**18**	*e*PKPdf	**PKPdf**	**01 28 26.4**	**0.0**
CHTO				*e*PKPab	**PKPab**	**01 29 44.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**171.28**	**19**	PKP	**PKPdf**	**01 28 26.8**	**+0.2**
	comp=Z,7.0nm,1.1s,baz=286,slow=1.8,SNR=23						
CMAR				pPKP	**pPKPdf**	**01 28 46.0**	**-0.9**
	comp=Z,4.3nm,1.0s,baz=287,slow=2.0,SNR=4.4						
CMAR				PKPab	**PKPab**	**01 29 45.8**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=332,slow=5.9,SNR=7.0						
CMAR				PP	**PP**	**01 33 37.0**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=335,slow=4.0,SNR=4.2						
DLV	**T Lat**	**173.34**	**286**	*e*PKPdf	**PKPdf**	**01 28 27.3**	**-0.5**
IPM	**Ipoh**	**174.26**	**171**	*e*PKPdf	**PKPdf**	**01 28 27.2**	**-0.8**
KULM	**Kulim**	**174.97**	**165**	*e*PKPdf	**PKPdf**	**01 28 27.2**	**-0.9**
KULM				*e*PKPab	**PKPab**	**01 30 00.2**	**-2.8**

*JMA **28** 01:15:56.9±0.4, 43°.57N×147°.59E, h12km, M3.3*
*SKHL **28** 01:15:59.4±1.3, 43°.84N×147°.63E, h35km, mb4.4/2*
ISC 28 01:15:57.7±2.8, 43°.8N±0°.1×147°.8E±0°.1, h35km, n9, σ1§28/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.68**	**280**	*e*P	**Pn**	**01 16 10.5**	**-0.3**
SHO				*e*S	**Sn**	**01 16 18.8**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**1.40**	**282**	*e*P	**Pn**	**01 16 20.6**	**-0.1**
YUK				AMB	AMB	01 16 21.9	
	118nm,0.2s						
YUK				*e*S	**Sn**	**01 16 39.2**	**+1.3**
YUK				A	A	01 16 39.5	
	402nm,0.3s						
YUK				A	A	01 16 39.5	
	274nm,0.3s						
KUR	**Kuril'sk**	**1.47**	**3**	*e*P	**Pn**	**01 16 22.5**	**+0.8**
KUR				AMB	AMB	01 16 24.2	
	52nm,0.2s						
KUR				*e*S	**Sn**	**01 16 38.2**	**-1.6**
KUR				A	A	01 16 40.5	
	162nm,0.2s						
NEM2	**Nemuro 2**	**1.52**	**256**	P	**Pn**	**01 16 21.8**	**-0.5**
NEM2				*e*S	**Sn**	**01 16 39.2**	**-1.6**
JRA	**Rausu**	**1.92**	**276**	P	**Pn**	**01 16 28.3**	**+0.5**
JNK	**Nakash**	**2.21**	**266**	P	**Pn**	**01 16 32.3**	**+0.4**
JTKR	**Abashiri--Toko**	**2.79**	**276**	P	**Pn**	**01 16 41.8**	**+1.9**
JAR	**Ashorobuto**	**2.94**	**262**	P	**Pn**	**01 16 43.1**	**+1.2**
JCH	**Churui**	**3.41**	**252**	P	**Pn**	**01 16 49.3**	**+0.9**

*ISCJB **28** 01:31:02.8±1.4, 26°.8S±0°.3×67°.6E±0°.3, h10km, mb3.5/7, Error ellipse: s-maj=53.6km s-min=23.7km az=29.2*
*IDC **28** 01:31:03.2±1.7, 26°.73S×67°.56E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/23, mbtmp3.6/7, Error ellipse: s-maj=65.2km s-min=29.7km az=28.0*
ISC 28 01:31:04.7±1.6, 26.8S±0.4×67.6E±0.3, h10km, n14, σ0§87/8, mb3.6/7, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**19.58**	**15**	T	T	01 55 38.6	
	baz=194,slow=76						
H08S2	**Diego Garcia H**	**19.59**	**15**	T	T	01 55 38.7	
	baz=194,slow=76						
H08S3	**Diego Garcia H**	**19.60**	**15**	T	T	01 55 40.1	
	baz=194,slow=76						
H01W2	**Cape Leeuwin H**	**40.52**	**113**	T	T	02 21 35.9	
	baz=268,slow=75,SNR=65						
H01W3	**Cape Leeuwin H**	**40.52**	**113**	T	T	02 21 36.1	
	baz=268,slow=75,SNR=56						
H01W1	**Cape Leeuwin H**	**40.54**	**113**	T	T	02 21 37.2	
	baz=268,slow=75,SNR=60						
ASAR	**Alice Springs**	**59.50**	**103**	P	**P**	**01 41 09.1**	**+0.7**
	0.4nm,0.8s,baz=246,slow=7.0,SNR=2.9						
WRA	**Warramunga Arr**	**61.10**	**99**	P	**P**	**01 41 18.9**	**-0.5**
	0.6nm,0.9s,baz=251,slow=6.5,SNR=3.4						
BRTR	**Keskin Array B**	**73.31**	**333**	P	**P**	**01 42 37.1**	**+0.5**
	0.5nm,0.7s,baz=167,slow=7.2,SNR=4.3						
MKAR	**Makanchi Array**	**74.42**	**10**	P	**P**	**01 42 41.6**	**-1.2**
	0.2nm,0.6s,baz=217,slow=6.9,SNR=2.4						
TORD	**Torodi Ar. Bea**	**75.22**	**293**	P	**P**	**01 42 48.0**	**0.0**
	0.5nm,0.8s,baz=116,slow=5.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**81.75**	**10**	P	**P**	**01 43 23.4**	**+0.2**
	0.3nm,0.3s,baz=191,slow=1.5,SNR=3.0						
SONM	**Songino Array**	**82.06**	**25**	P	**P**	**01 43 25.8**	**+0.7**
	0.2nm,0.5s,baz=208,slow=4.9,SNR=3.3						
YKA	**Yellowknife Ar**	**144.24**	**2**	PKP	**PKPdf**	**01 50 39.3**	**-1.0**
	0.3nm,1.0s,baz=322,slow=4.0,SNR=3.8						

*ISCJB **28** 01:51:02.6±0.7, 21°.34S±0°.05×68°.5W±0°.1, h126km±10km, mb3.8/2, Error ellipse: s-maj=17.0km s-min=8.1km az=172.6*
*GUC **28** 01:51:04.1±0.4, 21°.37S×68°.73W, h132km±3km, ML3.8*
*IDC **28** 01:51:17.6±7.0, 20°.31S×67°.93W, h208km±46km, mb3.5/2, mb1 3.4/5, mb1mx3.1/18, mbtmp3.9/5, Error ellipse: s-maj=93.1km s-min=23.4km az=15.0*
ISC 28 01:51:02.5±0.9, 21°.31S±0°.06×68°.34W±0°.09, h110km±10km, n15, σ1§44/21, 9C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.97**	**240**	⇑*i*P	**Pn**	**01 51 24.9**	**+1.4**
PB09				*i* S	**Sn**	**01 51 40.3**	**+0.9**
PB09				AML	AML	01 51 41.7	
	comp=N,7μm,0.4s						
PB01	**IPOC Station P**	**1.10**	**284**	⇑*i*P	**Pn**	**01 51 25.7**	**+0.9**
PB01				*i* S	**Sn**	**01 51 41.9**	**+0.1**
PB01				AML	AML	01 51 42.7	
	comp=N,3μm,0.2s						
PB04	**IPOC Station P**	**1.43**	**228**	⇑*i*P	Pn	01 51 34.4	+6.0
PB04				*i* S	Sn	01 51 57.5	+9.4
PB04				AML	AML	01 51 58.9	
	comp=E,505nm,0.2s						
PB07	**IPOC Station P**	**1.50**	**254**	⇑*i*P	**Pn**	**01 51 29.3**	**-0.1**
PB07				*i* S	**Sn**	**01 51 47.9**	**-2.0**
PB07				AML	AML	01 51 49.6	
	comp=E,2μm,0.3s						
PATCX	**Punta Patache**	**1.76**	**286**	⇑*i*P	**Pn**	**01 51 32.5**	**-0.1**
PATCX				*i* S	**Sn**	**01 51 53.9**	**-1.6**
PATCX				AML	AML	01 51 56.8	
	comp=N,1μm,0.3s						
HMBC	**Humberstone**	**1.77**	**305**	⇑*i*P	**Pn**	**01 51 33.1**	**+0.3**
HMBC				*i* S	**Sn**	**01 51 55.3**	**-0.6**
HMBC				AML	AML	01 51 58.0	
	comp=E,1μm,0.3s						
PB06	**IPOC Station P**	**1.80**	**219**	⇑*i*P	**Pn**	**01 51 33.3**	**+0.2**
PB06				*i* S	**Sn**	**01 51 55.4**	**-1.1**
PB06				AML	AML	01 51 56.0	
	comp=E,2μm,0.3s						
PSGC	**Pisagua**	**2.39**	**315**	⇑*i*P	**Pn**	**01 51 40.2**	**-0.4**
PSGC				*i* S	**Sn**	**01 52 08.1**	**-1.7**
PSGC				AML	AML	01 52 10.1	
	comp=N,355nm,0.3s						
MNMC	**Minimini**	**2.47**	**331**	⇑*i*P	**Pn**	**01 51 43.5**	**+1.7**
MNMC				*i* S	**Sn**	**01 52 13.7**	**+1.8**
MNMC				AML	AML	01 52 15.8	
	comp=E,659nm,0.4s						
LPAZ	**La Paz**	**5.00**	**2**	P	Pn	01 52 21.1	+5.2
	comp=E,0.5nm,0.3s,baz=213,slow=6.5,SNR=11						
SIV	**San Ignacio**	**8.69**	**54**	P	**Pn**	**01 53 06.7**	**+1.3**
	comp=E,0.8nm,0.3s,baz=255,slow=14,SNR=17						
SIV				S	**Sn**	**01 54 38.3**	**-3.4**
	comp=E,0.1nm,0.3s,baz=317,slow=20,SNR=2.4						
BDFB	**Brasilia**	**20.08**	**77**	P	Pn	01 55 29.7	-0.8
	comp=E,1.1nm,0.3s,baz=260,slow=8.1,SNR=10						
TORD	**Torodi Ar. Bea**	**76.79**	**70**	P	**P**	**02 02 43.0**	**+0.3**
	comp=E,1.4nm,0.7s,baz=257,slow=5.5,SNR=20						
YKA	**Yellowknife Ar**	**91.19**	**340**	P	**P**	**02 03 54.6**	**-0.1**
	comp=E,0.3nm,0.5s,baz=135,slow=4.6,SNR=11						
MKAR	**Makanchi Array**	**145.17**	**36**	PKP	**PKPab**	**02 10 28.3**	**+1.1**
	comp=E,0.2nm,0.7s,baz=328,slow=3.4,SNR=2.6						

*IDC **28** 02:00:07.6±5.0, 36°.58N×70°.96E, h65km±34km, mb3.4/3, mb1 3.5/10, mb1mx3.2/44, mbtmp3.6/10, ML3.4/7, Error ellipse: s-maj=61.7km s-min=23.5km az=142.0*
*ISCJB **28** 02:00:08.2±1.0, 36°.70N±0°.08×70°.90E±0°.07, h88km, mb3.6/3, Error ellipse: s-maj=11.5km s-min=7.7km az=179.9*
*NNC **28** 02:00:11.4±4.4, 37°.19N×70°.88E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=36.8km s-min=18.6km az=177.0*
ISC 28 02:00:09.8±1.3, 36°.8N±0°.1×70°.82E±0°.08, h88km, n22, σ1§49/29, mb3.4/3, 6C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.58**	**323**	⇑Pn	**Pn**	**02 00 51.3**	**+1.7**
DZET				⇑Sn	**Sn**	**02 01 21.2**	**+0.9**
AML	**Almayashu**	**5.80**	**22**	P	**Pn**	**02 01 34.7**	**+1.1**
	SNR=41						
UCH	**Uchtor**	**6.15**	**26**	P	**Pn**	**02 01 39.5**	**+1.0**
	SNR=7.3						
EKS2	**Erkin-Say**	**6.31**	**20**	P	**Pn**	**02 01 42.0**	**+1.7**
	SNR=11						
KZA	**Kyzart**	**6.31**	**32**	P	**Pn**	**02 01 40.8**	**+0.2**
	SNR=7.8						
KK31	**Karatay Array**	**6.33**	**358**	Pn	**Pn**	**02 01 41.4**	**+0.9**
	1.7nm,0.3s,baz=174,slow=11,SNR=19						
KK31				⇓Sn	**Sn**	**02 02 49.6**	**-1.7**
	1.9nm,0.5s,baz=186,slow=24						
KK31				⇓Lg	Lg	02 03 21.7	
	6.7nm,0.7s,baz=177,slow=29,SNR=9.2						
AAK	**Ala-Archa**	**6.50**	**25**	⇓Pn	**Pn**	**02 01 43.8**	**+0.8**
	4.7nm,0.5s						
AAK				⇓Sn	**Sn**	**02 02 54.1**	**-1.6**
	6.5nm,0.7s						
AAK	**Ala-Archa**	**6.50**	**25**	P	**Pn**	**02 01 43.9**	**+1.0**
	SNR=6.7						
AAK	**Ala-Archa**	**6.50**	**25**	P	**Pn**	**02 01 43.9**	**+1.0**
	1.5nm,0.3s,baz=164,slow=5.6,SNR=21						
AAK				S	**Sn**	**02 02 56.8**	**+1.1**
	0.6nm,0.3s,baz=324,slow=23,SNR=7.8						
TKM2	**Tokmak 2**	**7.16**	**29**	⇓Pn	**Pn**	**02 01 51.5**	**-0.4**
GEYT	**Alibeck**	**10.18**	**280**	P	**Pn**	**02 02 32.5**	**-0.5**
	0.4nm,0.3s,baz=114,slow=9.9,SNR=4.1						
GEYT				S	**Sn**	**02 04 21.9**	**-3.4**
	0.8nm,0.3s,baz=116,slow=13,SNR=2.9						
MK31	**Makanchi Array**	**13.16**	**37**	⇑Pn	**Pn**	**02 03 11.6**	**-1.4**
	3.0nm,1.4s,baz=209,slow=13,SNR=4.4						
MKAR	**Manchi Array**	**13.16**	**37**	P	**Pn**	**02 03 12.4**	**-0.7**
	0.0nm,0.3s,baz=210,slow=14,SNR=5.9						
AB31	**Akbulak array**	**14.78**	**331**	Pn	**Pn**	**02 03 33.2**	**-0.9**
	0.3nm,0.3s,baz=144,slow=12,SNR=37						
AB31				⇑Sn	**Sn**	**02 06 18.1**	**+1.4**
	0.3nm,0.6s,baz=207,slow=11,SNR=5.4						
KURBB	**Kurchatov Arra**	**14.92**	**19**	P	**P**	**02 03 37.8**	**-1.5**
	0.0nm,0.3s,baz=209,slow=10,SNR=5.2						
BVAR	**Borovoye Array**	**16.26**	**359**	P	**P**	**02 03 56.0**	**+1.9**
	0.4nm,0.3s,baz=178,slow=10,SNR=4.1						
AKTO	**Aktyubinsk**	**16.48**	**330**	⇑Pn	**P**	**02 03 57.7**	**+1.2**
	3.3nm,0.9s						
AKTO				⇑Sn	**Sn**	**02 06 55.8**	**-1.9**
	0.4nm,0.8s						
AKTO	**Aktyubinsk**	**16.48**	**330**	P	**P**	**02 03 55.5**	**-1.0**
	0.3nm,0.3s,baz=149,slow=13,SNR=11						
ZALV	**Zalesovo Beam**	**19.73**	**25**	P	**P**	**02 04 31.6**	**-0.6**
	0.5nm,0.3s,baz=208,slow=9.8,SNR=5.8						
ARCES	**ARCESS Array B**	**40.84**	**338**	P	**P**	**02 07 45.0**	**+2.6**
	4.3nm,0.9s,baz=343,slow=7.9,SNR=5.4						
NOA	**NORSAR Array B**	**44.08**	**323**	P	**P**	**02 08 10.3**	**+1.6**
	0.4nm,0.7s,baz=98,slow=7.8,SNR=1.4						
TORD	**Torodi Ar. Bea**	**65.58**	**268**	P	**P**	**02 10 45.4**	**+0.9**
	0.2nm,0.5s,baz=40,slow=6.2,SNR=1.8						
TORD				pP	pP	02 11 00.6	-6.2
	0.1nm,0.3s,baz=63,slow=6.9,SNR=1.8						
TORD				sP	sP	02 11 07.0	-10
	0.3nm,0.4s,baz=60,slow=7.1,SNR=2.5						

*IDC **28** 02:02:16.0±2.4, 6°.39S×129°.31E, h0km, mb3.2/1, mb1 3.8/3, mb1mx3.4/36, mbtmp3.6/3, ML3.9/2, Error ellipse: s-maj=151.7km s-min=33.3km az=68.0*
*ISCJB **28** 02:02:17.4±1.2, 6°.40S±0°.05×129°.7E±0°.1, h35km, mb3.1/1, Error ellipse: s-maj=17.8km s-min=6.7km az=6.9*
ISC 28 02:02:20.2±2.8, 6°.4S±0°.1×129°.7E±0°.3, h35km, n8, σ2§53/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.28**	**36**	S	**Sn**	**02 04 10.9**	**-0.8**
	baz=3.9,SNR=4.6						
MTN	**Manton Dam**	**6.54**	**168**	P	Pn	02 04 02.1	+8.1
	baz=6.4,SNR=18						
MTN				S	**Sn**	**02 05 09.5**	**+2.0**
	baz=6.4,SNR=8.0						
KDU	**Kakadu**	**6.80**	**157**	P	Pn	02 04 04.6	+7.0
	baz=6.5,SNR=98						
KDU				S	**Sn**	**02 05 14.7**	**+0.8**
	baz=6.5,SNR=5.2						
KNRA	**Kununurra**	**9.26**	**186**	P	Pn	02 04 38.3	+7.0
	baz=9.4,SNR=11						
KNRA				S	**Sn**	**02 06 13.5**	**-0.8**
	baz=9.4,SNR=9.5						
WSI	**Waingapu**	**9.88**	**250**	S	Sn	02 06 26.1	-3.4
	baz=11,SNR=5.9						
WRA	**Warramunga Arr**	**14.18**	**162**	Pn	**Pn**	**02 05 39.2**	**+0.6**
	0.5nm,0.3s,baz=343,slow=14,SNR=4.7						
WRA				Sn	Sn	02 08 07.0	-7.9
	0.4nm,0.3s,baz=331,slow=22,SNR=3.2						
ASAR	**Alice Springs**	**17.63**	**167**	P	**P**	**02 06 25.2**	**+1.4**
	0.4nm,0.3s,baz=339,slow=9.2,SNR=7.0						
ASAR				S	**Sn**	**02 09 34.4**	**-4.2**
	0.2nm,0.3s,baz=347,slow=25,SNR=3.2						
MKAR	**Makanchi Array**	**67.58**	**327**	P	P	02 13 13.0	-0.3
	0.1nm,0.5s,baz=122,slow=7.0,SNR=2.0						

*IDC **28** 02:07:23.0±0.7, 15°.37S×175°.43W, h0km, mb4.3/8, mb1 4.6/9, mb1mx4.3/31, mbtmp4.3/9, ML3.7/1, MS4.5/24, Ms1 4.5/24, ms1mx4.5/28, Error ellipse: s-maj=34.9km s-min=19.5km az=136.0*
*NEIC **28** 02:07:24.6±0.3, 15°.39S×175°.50W, h10km, mb5.0/42, Error ellipse: s-maj=14.0km s-min=6.8km az=149.0*
*GCMT **28** 02:07:24.6±0.2, 15°.26S×175°.03W, h12km, MW5.2/109, Moment Tensor Solution. s62,c94; s109,c184; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.30±.13; $M_{\theta\theta}$5.45±.14; $M_{\phi\phi}$-4.16±.12; $M_{r\theta}$0.75±.34; $M_{\theta\phi}$5.01±.11; $M_{\phi r}$-0.34±.31; Best double couple: $M_0$6.99600×10^{16} NP1:ϕ_s292.00000°, δ88.00000°, λ-7.00000°. NP2: ϕ_s22.00000°, δ83.00000°, λ-178.00000°. Principal axes: T 7.6210, Plg4.0000°, Azm337.0000°; N -1.2600, Plg82.0000°, Azm94.0000°; P -6.3710, Plg7.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **28** 02:07:26.2±0.3, 15°.51S±0°.08×175°.40W±0°.05, h32km, mb4.8/49, MS4.6/24 Error ellipse: s-maj=12.8km s-min=5.6km az=157.0*
*BJI **28** 02:07:27.1, 15°.71S×175°.66W, h33km, mB5.4/20, mb5.1/25, Ms5.3/20, Ms7 4.9/20*
*MOS **28** 02:07:27.2±1.5, 15°.48S×175°.49W, h33km, mb5.2/22, Error ellipse: s-maj=16.0km s-min=10.8km az=50.2*
ISC 28 02:07:28.2±0.5, 15°.55S±0°.08×175°.39W±0°.07, h35km±1km, n256, σ1§32/245, mb4.9/48, MS4.5/24, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.85**	**65**	*e*P	Pn	02 08 13.4	-12
AFI	**Afiamalu**	**3.85**	**65**	*e*Pn	Pn	02 08 13.4	-12
MSVF	**Nonsavu**	**6.66**	**250**	Pn	Pn	02 09 11.0	+7.3
	202nm,1.1s,SNR=6.3						
MSVF	**Nonsavu**	**6.66**	**250**	*e*P	Pn	02 09 10.6	+6.9
MSVF				pmax	pmax		
	comp=Z,68nm,1.3s						
MSVF	**Nonsavu**	**6.66**	**250**	*e*Pn	Pn	02 09 10.6	+6.9
	comp=Z,68nm,1.3s						
RAO	**Raoul Island**	**13.84**	**189**	LR	LR	02 15 17.0	
	comp=Z,4μm,18.9s,baz=359,slow=34						
DZM	**Mont Dzumac**	**18.38**	**247**	P	**Pn**	**02 11 41.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=76,slow=12,SNR=6.5						
DZM				LR	LR	02 17 43.1	
	comp=Z,3μm,20.3s,baz=46,slow=34						
DZM	**Mont Dzumac**	**18.38**	**247**	*e*P	**Pn**	**02 11 41.5**	**+1.0**
	comp=Z,45nm,1.0s						
URZ	**Urewera**	**23.58**	**195**	LR	LR	02 21 24.1	
	comp=Z,2μm,18.7s,baz=24,slow=35						
PAE	**Paea**	**24.81**	**99**	*e*T	T	02 37 49.5	
	comp=Z,3.0nm,0.3s						
PPT	**Papeete**	**24.82**	**98**	LR	LR	02 19 44.9	
	comp=Z,397nm,20.6s,baz=270,slow=30					

COEN	Coen	40.06	267	eP	P	02 14 59.2	-1.4
	comp=Z,108nm,1.0s						
WRAB	Tennant Creek	47.94	257	eP	P	02 16 03.4	-0.4
WRAB				pmax	pmax		
	comp=Z,27nm,1.7s						
WRAB	Tennant Creek	47.94	257	eP	P	02 16 03.2	-0.6
	comp=Z,19nm,1.2s						
WRA	Warramunga Arr	47.95	257	P	P	02 16 03.1	-0.8
	comp=Z,3.7nm,1.1s,baz=84,slow=6.8,SNR=11						
WRA				LR	LR	02 34 25.0	
	comp=Z,230nm,21.1s,baz=100,slow=34						
AS31	Alice Springs	48.24	252	eP	P	02 16 06.1	-0.1
ASAR	Alice Springs	48.24	252	P	P	02 16 06.0	-0.1
	comp=Z,4.7nm,0.7s,baz=86,slow=8.1,SNR=44						
ASAR				LR	LR	02 34 33.6	
	comp=Z,1μm,21.7s,baz=80,slow=34						
SOEI	Soe	59.01	268	eP	P	02 17 23.7	-1.6
	comp=Z,28nm,0.9s						
JCJ	Chichijima	59.10	315	LR	LR	02 39 03.1	
	comp=Z,744nm,19.1s,baz=116,slow=32						
BATI	Baumata	59.50	267	LR	LR	02 41 47.8	
	comp=Z,388nm,19.9s,slow=35						
MBWA	Marble Bar	61.48	254	eP	P	02 17 41.0	-0.9
	comp=Z,11nm,1.1s						
NWAO	Narrogin (SRO)	62.88	241	LR	LR	02 43 24.4	
	comp=Z,780nm,21.6s,slow=34						
SBA	Scott Base	62.96	184	eP	P	02 17 52.4	+1.5
SBA				pmax	pmax		
	comp=Z,26nm,1.4s						
SBA	Scott Base	62.96	184	eP	P	02 17 52.4	+1.5
	comp=Z,26nm,1.4s						
VNDA	Vanda	63.04	185	eP	P	02 17 52.8	+1.4
VNDA				pmax	pmax		
	comp=Z,18nm,1.4s						
VNDA	Vanda	63.04	185	P	P	02 17 52.4	+0.9
	comp=Z,4.8nm,1.0s,baz=14,slow=6.1,SNR=11						
VNDA				LR	LR	02 44 35.0	
	comp=Z,154nm,18.1s,baz=26,slow=35						
VNDA	Vanda	63.04	185	eP	P	02 17 52.8	+1.4
	comp=Z,18nm,1.4s						
MJAR	Matsushiro Arr	67.83	321	LR	LR	02 42 28.2	
	comp=Z,366nm,21.9s,baz=105,slow=31						
MAJO	Matsushiro	67.83	321	eP	P	02 18 21.5	-1.5
MAJO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MAJO	Matsushiro	67.83	321	eP	P	02 18 21.5	-1.5
	comp=Z,7.9nm,1.0s						
KKM	Kota Kinabalu	71.03	282	eP	P	02 18 42.8	-0.6
	comp=Z,27nm,1.1s						
PETK	Petropavlovsk-	72.20	343	P	P	02 18 48.2	-1.2
	comp=Z,6.0nm,0.9s,baz=127,slow=9.4,SNR=6.0						
PETK				LR	LR	02 44 21.8	
	comp=Z,340nm,21.8s,baz=159,slow=31						
YSS	Yuzh-Sakhalins	72.68	331	eP	P	02 18 48.0	-4.4
YSS				e		02 19 05.0	
ARVC	Arvin	73.57	45	P	P	02 19 00.9	+2.9
	baz=74						
VES	Vestal, Richgr	73.78	45	P	P	02 19 00.3	+1.1
	baz=74						
EDW2	Edwards Air Fo	74.02	46	P	P	02 18 59.9	-0.8
	baz=74						
ISA	Isabella, Lake	74.10	45	eP	P	02 18 59.5	-1.7
ISA				pmax	pmax		
	comp=Z,18nm,1.3s						
ISA	Isabella, Lake	74.10	45	P	P	02 19 00.4	-0.8
	baz=74						
ISA	Isabella, Lake	74.10	45	eP	P	02 18 59.5	-1.7
	comp=Z,18nm,1.3s						
CMB	Columbia Colle	74.15	42	eP	P	02 19 00.8	-0.6
CMB				pmax	pmax		
	comp=Z,15nm,1.3s						
CMB	Columbia Colle	74.15	42	eP	P	02 19 00.8	-0.6
	comp=Z,15nm,1.3s						
WDC	Whiskeytown Da	74.29	39	eP	P	02 19 06.2	+4.2
WDC				e*PP	pP	02 19 14.3	+1.4
WDC				pmax	pmax		
	comp=Z,34nm,1.6s						
WDC	Whiskeytown Da	74.29	39	eP	P	02 19 06.2	+4.2
	comp=Z,34nm,1.6s						
WDC				epP	pP	02 19 14.3	+1.4
QSPA	South Pole Qui	74.50	180	eP	P	02 19 04.9	+1.8
	comp=Z,16nm,1.1s						
LRMC	Laurel Mtn Rad	74.54	46	P	P	02 19 03.2	-0.6
	baz=75						
OHAK	Old Harbor	74.79	12	eP	P	02 19 05.8	+1.2
	comp=Z,123nm,1.6s						
YBH	Yreka Blue Hor	74.88	38	eP	P	02 19 06.9	+1.3
YBH				pmax	pmax		
	comp=Z,17nm,1.1s						
YBH	Yreka Blue Hor	74.88	38	eP	P	02 19 06.9	+1.3
	comp=Z,17nm,1.1s						
KSRS	Korea Array	74.93	316	LR	LR	02 49 07.3	
	comp=Z,241nm,19.1s,baz=126,slow=34						
MLAC	Mammoth, Mammo	74.94	43	P	P	02 19 05.2	-1.0
	baz=75						
BELC	Belle Mtn. Jos	74.96	48	P	P	02 19 06.1	-0.2
	baz=75						
MTUM	Tungsten Hills	74.96	44	eP	P	02 19 07.4	+1.1
MPMC	Manual Prospec	74.99	45	P	P	02 19 05.4	-1.1
	baz=75						
WAKR	Walker	75.03	42	eP	P	02 19 05.0	-1.7
GSC	Goldstone, Bar	75.06	46	eP	P	02 19 06.0	-0.8
GSC	Goldstone, Bar	75.06	46	P	P	02 19 05.8	-1.0
	baz=75						
GSC	Goldstone, Bar	75.06	46	eP	P	02 19 06.0	-0.8
HEC	Hector,Ludlow	75.15	47	P	P	02 19 06.2	-1.1
	baz=75						
BC3	Big Chuckawall	75.17	48	P	P	02 19 07.2	-0.3
	baz=75						
GMRC	Granite Mounta	75.60	47	P	P	02 19 09.1	-0.8
	baz=76						
IRM	Iron Mountain	75.64	48	P	P	02 19 09.4	-0.7
	baz=76						
SHOC	Shoshone, Teco	75.74	46	P	P	02 19 10.3	-0.3
	baz=76						
TUQ	Turquoise Moun	75.75	47	P	P	02 19 10.0	-0.8
	baz=76						
Y12C	Blythe	75.89	49	P	P	02 19 10.2	-1.2
	baz=76						
TPH	Tonopah	76.25	44	eP	P	02 19 13.3	-0.4
TPH				pmax	pmax		
	comp=Z,34nm,1.5s						
TPH	Tonopah	76.25	44	eP	P	02 19 13.3	-0.4
	comp=Z,34nm,1.5s						
TPNV	Topopah Spring	76.31	45	eP	P	02 19 15.3	+1.3
TPNV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TPNV	Topopah Spring	76.31	45	P	P	02 19 13.2	-0.8
	baz=76						
TPNV	Topopah Spring	76.31	45	eP	P	02 19 15.3	+1.3
	comp=Z,9.2nm,1.0s						
USRK	Ussuriysk Ar.	76.36	324	LR	LR	02 46 32.2	
	comp=Z,922nm,22.0s,baz=128,slow=31						
PDMCI	Parker Dam,Lak	76.44	48	P	P	02 19 13.4	-1.2
	baz=77						
K05A	Summer Lake	76.56	38	eP	P	02 19 19.6	+4.3
	comp=Z,55nm,1.7s						
J05D	Fort Rock, OR	76.69	37	P	P	02 19 15.8	-0.2
	baz=77						
SHPR	Sheep Range	76.83	46	eP	P	02 19 15.2	-1.7
W13A	Hualapai Mount	77.02	48	P	P	02 19 17.5	-0.6
	baz=77						
Y14A	Wickenburg	77.09	49	P	P	02 19 17.5	-0.8
	baz=77						
R11A	Troy Canyon, C	77.49	44	P	P	02 19 19.9	-0.7
	baz=78						
R11A	Troy Canyon, C	77.49	44	eP	P	02 19 21.4	+0.7
WVOR	Wild Horse Val	77.75	39	eP	P	02 19 22.4	+0.5
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WVOR	Wild Horse Val	77.75	39	eP	P	02 19 22.4	+0.5
	comp=Z,8.9nm,1.1s						
TUC	Tucson	77.97	51	eP	P	02 19 23.3	0.0
TUC				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TUC	Tucson	77.97	51	eP	P	02 19 23.3	0.0
	comp=Z,8.7nm,1.2s						
MDJ	Mudanjiang	77.98	323	P	P	02 19 24.5	+1.5
MDJ				pP	pP	02 19 34.0	+0.2
MDJ				sP	sP	02 19 37.8	0.0
MDJ				PP	PP	02 22 19.3	-0.3
MDJ				S	S	02 29 19.0	+4.8
MDJ				SS	SS	02 34 17.5	+1.3
MDJ				PMZ			
	comp=Z,11nm,1.0s						
MDJ				PMZ			
	comp=Z,82nm,5.0s						
MDJ				LN			
	comp=Z,340nm,22.9s						
MDJ				LE			
	comp=Z,390nm,24.6s						
MDJ				LZ			
	comp=Z,690nm,23.5s						
LON	Longmire	78.45	34	eP	P	02 19 26.5	+0.8
LON				pmax	pmax		
	comp=Z,18nm,1.4s						
LON	Longmire	78.45	34	eP	P	02 19 26.4	+0.8
	comp=Z,18nm,1.4s						
X16A	Lo Mia Camp, P	78.45	49	P	P	02 19 25.3	-0.8
	baz=79						
CCUT	Cedar City	78.59	46	eP	P	02 19 27.6	+0.8
NJ2	Nanjing	78.73	308	eP	P	02 19 29.5	+2.1
NJ2				pP	pP	02 19 37.8	-0.5
NJ2				S	S	02 29 24.5	+1.8
NJ2				sS	SKKSac	02 29 42.5	+1.0
NJ2				PMZ			
	comp=Z,40nm,1.0s						
NJ2				PMZ			
	comp=Z,340nm,4.8s						
NJ2				LN			
	comp=Z,2μm,37.9s						
NJ2				LE			
	comp=Z,1μm,29.1s						
NJ2				LZ			
	comp=Z,870nm,28.1s						
U15A	North Rim	78.80	47	P	P	02 19 27.7	-0.4
	baz=79						
WUAZ	Wupatki	79.02	48	P	P	02 19 29.2	+0.1
	baz=79						
WUAZ	Wupatki	79.02	48	eP	P	02 19 29.9	+0.7
	comp=Z,19nm,1.4s						
BMO	Blue Mountains	79.90	38	eP	P	02 19 35.9	+2.3
CN2	Changchun	79.98	321	eP	P	02 19 33.3	-0.6
CN2				eS	S	02 29 34.0	-1.5
CN2				PMZ			
	comp=Z,100nm,0.6s						
CN2				PMZ			
	comp=Z,200nm,5.0s						
CN2				LN			
	comp=Z,300nm,14.0s						
CN2				LE			
	comp=Z,300nm,14.0s						
CN2				LZ			
	comp=Z,300nm,16.0s						
MFID	Camas Ranch	80.01	40	eP	P	02 19 36.6	+2.3
DLV	T Lat	80.13	285	eP	P	02 19 34.2	-1.4
DUG	Dugway, Tooele	80.28	44	eP	P	02 19 37.1	+1.2
DUG	Dugway, Tooele	80.28	44	P	P	02 19 35.3	-0.6
	baz=80						
DUG	Dugway, Tooele	80.28	44	eP	P	02 19 37.1	+1.2
121A	Cookes Peak, D	80.34	52	P	P	02 19 35.3	-1.1
	baz=80						
B08A	Colville Reser	80.76	34	eP	P	02 19 37.7	-0.4
	comp=Z,39nm,1.8s						
HLID	Hailey	80.96	40	P	P	02 19 39.1	-0.3
	baz=81						
HLID	Hailey	80.96	40	eP	P	02 19 40.5	+1.0
QIZ	Qiongzhong	81.19	293	P	P	02 19 41.5	+0.5
QIZ				S	S	02 29 49.3	+0.2
QIZ				LE			
	comp=Z,140nm,23.4s						
QIZ				LZ			
	comp=Z,310nm,15.6s						
WHN	Wuhan	81.60	305	P	P	02 19 44.8	+1.9
WHN				LZ			
	comp=Z,540nm,17.9s						
MCK	McKinley	81.64	12	eP	P	02 19 43.8	+1.4
MCK				pmax	pmax		
	comp=Z,18nm,1.2s						
MCK	McKinley	81.64	12	eP	P	02 19 43.8	+1.4
	comp=Z,18nm,1.2s						
PV01	Paradox Valley	82.22	47	eP	P	02 19 45.6	-0.7
TXAR	Lajitas Array	82.29	57	P	P	02 19 45.7	-1.0
	comp=Z,1.4nm,0.8s,baz=229,slow=5.8,SNR=6.9						
TXAR				LR	LR	02 50 05.3	
	comp=Z,191nm,18.2s,baz=0.0,slow=31						
ANMO	Albuquerque	82.37	51	eP	P	02 19 49.5	+2.4
ANMO				pmax	pmax		
	comp=Z,38nm,1.7s						
MCMT	McKenzie Canyo	82.58	40	eP	P	02 19 47.6	-0.5
	comp=Z,3.7nm,1.1s						
U22A	Llaves	82.68	49	P	P	02 19 48.5	-0.3
	baz=83						
COLA	College	82.87	11	eP	P	02 19 50.6	+1.8
COLA				pmax	pmax		
	comp=Z,24nm,1.2s						
COLA	College	82.87	11	eP	P	02 19 48.8	0.0
	comp=Z,9.4nm,0.9s						
V23A	Ortiz Mt. (NFS	82.91	50	P	P	02 19 49.1	-0.8
	baz=83						
ILAR	Eielson Array	82.97	12	P	P	02 19 47.4	-1.9
	comp=Z,0.4nm,0.5s,baz=216,slow=5.7,SNR=7.9						
ILAR				LR	LR	02 48 59.1	
	comp=Z,257nm,21.5s,baz=210,slow=30						
BSMT	Bassoo Peak	83.00	36	eP	P	02 19 47.9	-2.3
	comp=Z,6.8nm,1.3s						
U23A	El Rito	83.14	49	P	P	02 19 50.7	-0.5
	baz=83						
W24A	Lazy 6 Ranch,	83.26	51	P	P	02 19 50.8	-1.0
	baz=83						
S22A	4UR Ranch, Cre	83.28	48	P	P	02 19 50.9	-1.0
	baz=83						
LRM	Limekiln Ridge	83.32	39	eP	P	02 19 53.8	+1.9
	comp=Z,43nm,1.0s						
O20A	White River Ci	83.34	45	P	P	02 19 51.7	-0.4
	baz=84						
QLMT	Earthquake Lak	83.45	40	eP	P	02 19 53.0	+0.5
	comp=Z,0.3nm,0.2s						
I17A	Pilgrim Ck.	83.55	41	P	P	02 19 52.7	-0.3
	baz=84						
V24A	Rampart Ranch,	83.57	50	P	P	02 19 53.4	0.0
	baz=84						
N20A	Spence Gulch,	83.64	45	P	P	02 19 53.5	-0.1
	baz=84						
PDAR	Pinedale Array	83.66	43	P	P	02 19 54.3	+0.7
	comp=Z,2.8nm,0.9s,baz=215,slow=3.9,SNR=16						
PDAR				LR	LR	02 52 52.8	
	comp=Z,161nm,19.6s,baz=260,slow=33						
H17A	Grant Village	83.78	41	P	P	02 19 55.1	+0.8
	baz=84						
W25A	X Bar L Ranch,	83.97	51	P	P	02 19 54.2	-1.1
	baz=84						
V25A	Rancho No Teng	84.11	50	P	P	02 19 55.2	-0.8
	baz=84						
HRY	Holter Researc	84.14	38	eP	P	02 19 55.8	-0.1
	comp=Z,10nm,1.0s						
BJI	Beijing	84.19	314	P	P	02 19 57.3	+1.2
BJI				S	S	02 30 21.3	+2.4
BJI				PMZ			
	comp=Z,12nm,0.6s						
BJI				PMZ			
	comp=Z,120nm,4.4s						
BJI				LN			
	comp=Z,190nm,19.5s						
BJI				LE			
	comp=Z,270nm,20.4s						
BJI				LZ			
	comp=Z,250nm,26.6s						
429A	Davenport Ranc	84.20	56	P	P	02 19 55.7	-0.8
	baz=84						
J19A	Crowheart	84.22	42	P	P	02 19 56.6	+0.1
	baz=84						
BILL	Bilibino	84.41	353	⇑iP	P	02 19 54.8	-1.8
BILL				i		02 31 39.9	
BILL				pmax	pmax		
	comp=Z,10.0nm,1.5s						
BILL	Bilibino	84.41	353	eP	P	02 19 54.0	-2.7
	comp=Z,4.7nm,0.9s						
128A	Castleberry Fa	84.47	54	P	P	02 19 56.8	-1.1
	baz=85						
O22A	Kremmling	84.52	46	P	P	02 19 57.7	-0.5
	baz=85						
MSTX	Muleshoe	84.77	53	eP	P	02 19 56.0	-3.4
	comp=Z,3.8nm,0.8s						
T25A	Trinidad	84.78	49	P	P	02 19 59.0	-0.5
	baz=85						
Z28A	Tucker Farm, M	84.80	54	P	P	02 19 59.2	-0.4
	baz=85						
631A	Perdido Creek	84.82	58	P	P	02 19 58.2	-1.4
	baz=85						
J20A	Shoshoni	84.89	43	P	P	02 19 58.7	-1.1
	baz=85						
H19A	Powell	84.91	41	P	P	02 19 58.6	-1.3
	baz=85						
O23A	Lake Granby, G	84.97	46	P	P	02 19 59.9	-0.6
	baz=85						
S25A	Robets Cordova	84.97	49	P	P	02 20 02.4	+1.9
	baz=85						
GCMT	Greycliff	85.01	40	eP	P	02 19 59.8	-0.6
	comp=Z,7.7nm,1.3s						
IPM	Ipoh	85.03	276	eP	P	02 20 00.5	-0.5
	comp=Z,13nm,1.0s						
531A	Rocksprings	85.11	57	P	P	02 19 58.8	-2.4
	baz=85						
I20A	Worland	85.13	42	P	P	02 19 59.2	-1.7
	baz=85						
N23A	Red Feather La	85.24	45	P	P	02 20 03.4	+1.6
	baz=85						
J21A	Lysite	85.30	43	P	P	02 20 01.4	-0.5
	baz=85						
F19A	Roth Farm, Mol	85.48	40	P	P	02 20 01.0	-1.7
	baz=86						
KULM	Kulim	85.61	277	eP	P	02 20 02.9	-1.0
	comp=Z,10nm,0.9s						
532A	Rocksprings	85.62	57	P	P	02 20 02.7	-0.9
	baz=86						
Z30A	Sanderson Ranc	85.78	54	P	P	02 20 03.6	-0.8
	baz=86						
E19A	Rath Farm, Rou	85.86	40	P	P	02 20 04.7	+0.2
	baz=86						
J22A	Midwest	85.96	43	P	P	02 20 04.1	-1.1
	baz=86						
432A	Menard	85.97	57	P	P	02 20 04.0	-1.4
	baz=86						
D19A	Cripps Ranch,	86.13	39	P	P	02 20 04.5	-1.3
	baz=86						
HIA	Hailar	86.17	324	eP	P	02 20 06.9	+1.0
HIA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
C19A	Slack Wire Ran	86.29	38	P	P	02 20 04.8	-1.8
	baz=86						
GYA	Guiyang	86.43	299	P	P	02 20 08.0	+0.2
GYA				pP	pP	02 20 19.8	+1.1
GYA				PP	PP	02 23 31.5	+1.8
GYA				SKS	SKSac	02 30 28.0	-4.1
GYA				S	SKKSac	02 30 38.5	-1.6
GYA				sS	sS	02 30 58.5	-1.5
GYA				SS	SS	02 36 22.8	0.0
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,120nm,5.3s						
GYA				LN			
	comp=Z,540nm,19.8s						
GYA				LE			
	comp=Z,470nm,20.0s						
GYA				LZ			
	comp=Z,520nm,18.2s						
433A	Art	86.50	57	P	P	02 20 05.8	-2.1
	baz=87						
ABTX	Abilene, Hawle	86.71	55	eP	P	02 20 07.6	-1.4
	comp=Z,34nm,1.2s						
534A	Blanco	86.75	58	P	P	02 20 07.5	-1.7
	baz=87						
A19A	Klindworth Far	87.03	37	P	P	02 20 09.1	-1.0
	baz=87						
MAW	Mawson	87.04	199	LR	LR	02 56 48.1	
	comp=Z,128nm,21.1s,baz=80,slow=34						
Z32A	Haskell	87.08	54	P	P	02 20 10.0	-0.7
	baz=87						
334A	Lometa	87.38	57	P	P	02 20 11.3	-0.9
	baz=88						
A20A	Cobblestone Ra	87.49	38	P	P	02 20 11.9	-0.5
	baz=88						
HHC	Hu-ho-hao-te	87.73	313	eP	P	02 20 14.8	+1.0
HHC				sP	sP	02 20 29.8	+1.1
HHC				PP	PP	02 23 41.0	+1.1
HHC				S	S	02 30 54.0	+0.2
HHC				SS	SS	02 36 42.3	+1.0
HHC				PMZ			
	comp=Z,81nm,1.7s						
HHC				LN			
	comp=Z,300nm,14.3s						
HHC				LE			
	comp=Z,380nm,14.4s						
HHC				LZ			
	comp=Z,360nm,17.3s						
WHTX	Lake Whitney,	88.23	56	eP	P	02 20 15.6	-0.7
	comp=Z,20nm,0.6s						
KMI	Kunming	89.37	296	P	P	02 20 22.3	+0.3
KMI				pP	pP	02 20 34.0	+1.0
KMI				S	S	02 31 07.0	-3.2
KMI				PMZ			
	comp=Z,5.0nm,0.7s						
KMI				LN			
	comp=Z,210nm,18.6s						
KMI				LE			
	comp=Z,220nm,20.2s						
KMI				LZ			
	comp=Z,150nm,17.8s						
CD2	Chengdu	90.26	302	eP	P	02 20 23.5	-2.3
CD2				sP	sP	02 20 40.0	-0.8
CD2				SKS	SKSac	02 30 51.3	-3.5
CD2				S	S	02 31 14.0	-3.9
CD2				sS	sS	02 31 31.0	-5.1
CD2				SS	SS	02 37 15.8	-2.5
CD2				PMZ			
	comp=Z,10.0nm,0.6s						
CD2				PMZ			
	comp=Z,160nm,5.3s						
CD2				LN			
	comp=Z,270nm,16.6s						
CD2				LE			
	comp=Z,330nm,16.6s						
CD2				LZ			
	comp=Z,380nm,15.5s						
PLCA	Paso Flores	90.83	133	eP	P	02 20 27.7	-0.8
PLCA				pmax	pmax		
	comp=Z,13nm,1.6s						
PLCA	Paso Flores	90.83	133	LR	LR	02 53 00.1	
	comp=Z,247nm,20.5s,baz=268,slow=30						
PLCA	Paso Flores	90.83	133	eP	P	02 20 27.7	-0.8
	comp=Z,13nm,1.6s						
CMAR	Chiang Mai Arr	90.85	289	LR	LR	02 56 34.7	
	comp=Z,131nm,21.1s,baz=101,slow=32						
YKA	Yellowknife Ar	91.00	24	P	P	02 20 29.2	+0.8
	comp=Z,1.3nm,0.9s,baz=237,slow=4.2,SNR=5.7						
LZH	Lanzhou	91.78	307	eP	P	02 20 31.0	-1.9
LZH				pP	pP	02 20 43.3	-0.6
LZH				sP	sP	02 20 49.3	+1.4
LZH				PMZ			
	comp=Z,15nm,1.0s						
SNAA	Sanae	92.85	178	eP	P	02 20 37.7	+0.6
SNAA				pmax	pmax		
	comp=Z,16nm,1.6s						
SNAA	Sanae	92.85	178	eP	P	02 20 37.7	+0.6
	comp=Z,16nm,1.6s						
SONM	Songino Array	93.68	319	LR	LR	02 58 03.0	
	comp=Z,190nm,21.7s,baz=130,slow=32						
TIXI	Tiksi	94.63	345	eP	P	02 20 47.4	+2.4
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ULM	Lac du Bonnet	95.25	39	LR	LR	03 02 26.2	
	comp=Z,136nm,18.2s,baz=278,slow=35						
BCIP	Isla Barro Col	97.71	83	eP	Pdif	02 21 02.3	+1.9
	comp=Z,29nm,1.1s						
KSH	Kashi	114.02	307	ePKP	PKPdf	02 26 05.3	+1.1
KSH				sPKP		02 26 19.0	
KSH				PP	PP	02 27 00.8	+2.0
KSH				PKS	PKSdf	02 29 42.3	+1.4
KSH				SKS	SKSdf	02 33 15.8	+1.8
KSH				SKKS	SKKSac	02 33 57.5	-0.6
KSH				SS	SS	02 42 51.5	+4.5
KSH				PPMZ			
	comp=Z,160nm,3.9s						
KSH				LN			
	comp=Z,240nm,4.2s						
KSH				LE			
	comp=Z,190nm,4.1s						
KSH				LZ			
	comp=Z,210nm,4.3s						
OBN	Obninsk	133.46	335	ePKIKP	PKPdf	02 26 38.0	-2.6
OBN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
LBTB	Lobatse	134.79	207	ePKIKP	PKPdf	02 26 44.7	+0.4
LBTB	Lobatse	134.79	207	ePKPdf	PKPdf	02 26 44.7	+0.4
KIV	Kislovodsk	137.07	319	i PKIKP	PKPdf	02 26 49.5	+1.6
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIV				MLR	MLR		

comp=Z,211nm,21.0s
STHS Stebnicka Huta 143.60 342 *e*PKIKP **PKPdf 02 26 59.9 +0.5**
STHS Stebnicka Huta 143.60 342 *e*PKP **PKPdf 02 26 59.9 +0.5**
KOLS Kolonicke sedl 143.70 340 *e*PKIKP **PKPdf 02 27 01.5 +1.9**
KOLS Kolonicke sedl 143.70 340 *e*PKP **PKPdf 02 27 01.5 +1.9**
KMBO Kilima Mbogo 143.74 246 *e*PKIKP **PKPdf 02 27 00.5 -0.6**
KMBO Kilima Mbogo 143.74 246 PKP **PKPdf 02 27 00.8 -0.3**
comp=Z,0.4nm,0.3s,baz=145,slow=4.9,SNR=3.6
KMBO Kilima Mbogo 143.74 246 *e*PKPdf **PKPdf 02 27 00.5 -0.6**
UPC Upice 143.93 348 *e*PKIKP **PKPdf 02 27 00.2 +0.2**
UPC Upice 143.93 348 *e*PKP **PKPdf 02 27 00.2 +0.2**
DPC Dobruska-Polom 144.01 347 *e*PKIKP PKPbc 02 26 59.0 +0.9
DPC *e* 02 27 04.7
DPC *e* 02 27 09.9
DPC Dobruska-Polom 144.01 347 *e*PKP PKPbc 02 26 59.0 +0.9
DPC *ep*PKP **PKiKP 02 27 04.7 +1.0**
DPC *ex* x 02 27 09.9
MORC Moravsky Berou 144.28 346 *e*PKIKP **PKPdf 02 27 00.5 -0.2**
MORC Moravsky Berou 144.28 346 *e*PKPdf **PKPdf 02 27 00.5 -0.2**
PRU Pruhonice 144.71 349 *e*PKIKP **PKPab 02 26 59.1 -1.0**
PRU *e* 02 27 13.9
PRU Pruhonice 144.71 349 *e*PKP **PKPab 02 26 59.1 -1.0**
PRU *ex* x 02 27 13.9
BRTR Keskin Array B 145.04 319 PKP **PKPbc 02 27 01.2 -0.6**
comp=Z,4.0nm,0.8s,baz=108,slow=2.7,SNR=18
VYHS Vyhne 145.12 343 *e*PKIKP **PKPbc 02 27 01.4 -0.2**
VYHS Vyhne 145.12 343 *e*PKP **PKPbc 02 27 01.4 -0.2**
TREC Trest 145.19 348 AMS AMS 03 29 40.0
comp=Z,300nm,18.7s
PSZ Piszkesteto 145.34 342 *e*PKIKP **PKPbc 02 27 01.8 -0.6**
PSZ Piszkesteto 145.34 342 *e*PKPbc **PKPbc 02 27 01.8 -0.6**
ANTO Ankara 145.48 320 *e*PKIKP **PKPab 02 27 03.3 -0.1**
ANTO Ankara 145.48 320 *e*PKPbc **PKPab 02 27 03.3 -0.1**
KHC Kasperske Hory 145.71 350 *e*PKP2 **PKPdf 02 27 02.5 -0.6**
KHC Kasperske Hory 145.71 350 *e*PKP **PKPdf 02 27 02.6 -0.6**
KHC *ep*PKP **PKPab 02 27 05.1 +1.2**
KHC *ex* x 02 27 16.7
KHC *ex* x 02 27 27.2
KHC Kasperske Hory 145.71 350 *e*PKPbc **PKPdf 02 27 02.5 -0.6**
WLF Walferdange 145.95 358 PKP **PKPab 02 27 04.5 -0.2**
WLF Walferdange 145.95 358 *e*PKP2 **PKPab 02 27 05.7 +1.0**
WLF Walferdange 145.95 358 *e*PKPbc **PKPab 02 27 05.7 +1.0**
GERES GERESS Array B 145.97 349 PKPbc **PKPdf 02 27 03.5 -0.2**
comp=Z,1.8nm,1.0s,baz=90,slow=1.3,SNR=8.2
CONA Conrad Observa 146.40 346⇑*is*PKPbc **PKiKP 02 27 09.1 +0.4**
comp=Z,14nm,1.8s
BFO Black Forest 147.16 355 *e*PKP2 **PKPdf 02 27 06.4 +0.8**
BFO Black Forest 147.16 355 *e*PKPbc **PKPdf 02 27 06.4 +0.8**
CSS Prodhromos 147.80 312 *e*PKPbc **PKPbc 02 27 10.7 +0.7**
DAVOX Davos/Dischmat 148.55 353 PKPbc **PKPbc 02 27 11.5 -0.3**
comp=Z,1.7nm,0.7s,baz=20,slow=12,SNR=3.0
BNI Bardonecchia 150.53 357 *e*PKIKP **PKPdf 02 27 10.6 -0.7**
BNI *e* 02 27 16.3
BNI Bardonecchia 150.53 357 *e*PKPdf **PKPdf 02 27 10.6 -0.7**
BNI *e*PKPbc **PKPbc 02 27 16.3 -0.4**
TIP Timpagrande 154.16 338 *e*PKPab **PKPab 02 27 36.8 -1.8**
ESDC Sonseca Array 154.82 16 PKPbc **PKPbc 02 27 29.8 +3.5**
comp=Z,0.4nm,0.7s,baz=352,slow=1.6,SNR=3.1
DBIC Dimbokro 167.19 132 *e*PKIKP **PKPdf 02 27 30.1 -1.4**
DBIC *e* 02 28 35.7
DBIC Dimbokro 167.19 132 *e*PKPdf **PKPdf 02 27 30.1 -1.4**
DBIC *e*PKPab **PKPab 02 28 35.7 -0.2**
TORD Torodi Ar. Bea 176.30 130 PKP **PKPdf 02 27 36.7 +0.9**
comp=Z,0.6nm,1.0s,baz=248,slow=1.9,SNR=2.9
TORD PP PP 02 33 14.7 +6.0
comp=Z,1.8nm,1.2s,baz=209,slow=4.8,SNR=4.6

IDC 28 02:10:01.1±2.0, 34°.75S×73°.87W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/21, mbtmp3.8/3, ML4.2/1, Error ellipse: s-maj=82.5km s-min=36.9km az=59.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.53**	**157**	Pn	Pn	02 11 38.4	0.0
	1.1nm,0.3s,baz=317,slow=11,SNR=3.1						
PLCA				Sn	Sn	02 13 01.0	+7.3
	0.3nm,0.3s,baz=226,slow=22,SNR=1.3						
TXAR	**Lajitas Array**	**69.67**	**332**	P	P	02 21 12.6	0.0
	0.4nm,0.5s,baz=155,slow=7.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**85.89**	**71**	P	P	02 22 43.0	-0.1
	0.7nm,1.1s,baz=260,slow=4.2,SNR=3.8						
MKAR	**Makanchi Array**	**158.40**	**49**	PKPab	PKPab	02 30 34.4	-0.2
	0.3nm,0.6s,baz=304,slow=4.7,SNR=5.7						

GUC 28 02:15:47.1±0.3, 34°.71S×72°.48W, h32km±3km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.98**	**135**	*e*P	Pb	02 16 05.5	0.0
TALC				*e*S	Sb	02 16 19.5	+1.4
NICH	**Los Niches**	**1.07**	**106**	*e*P	Pb	02 16 07.2	+0.1
NICH				*e*S	Sb	02 16 22.0	+1.2
LNCH	**Linares**	**1.34**	**148**	*e*P	Pb	02 16 11.2	-0.5
LNCH				*e*S	Sb	02 16 29.6	+0.9
COCH	**Cobquecura**	**1.44**	**190**	*e*P	Pb	02 16 12.5	-0.8
COCH				*e*S	Sb	02 16 32.2	+0.9
CLCH	**Cerro Calan**	**2.08**	**52**	*e*P	Pb	02 16 22.8	-1.6
CLCH				*e*S	Sb	02 16 49.8	-0.1
CLCH				IAML		02 16 58.1	
	comp=E,640nm,1.4s						
ROCH	**El Roble**	**2.12**	**36**	*e*P	Pb	02 16 23.7	-1.6
ROCH				*e*S	Sb	02 16 51.4	0.0
ROCH				IAML		02 17 05.8	
	comp=N,412nm,0.4s						

IDC 28 02:38:55.1±2.3, 6°.47S×129°.35E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.4/27, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=146.1km s-min=32.0km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.24**	**161**	Pn	Pn	02 42 17.8	-0.4
	0.2nm,0.3s,baz=343,slow=13,SNR=12						
WRA				Sn	Sn	02 44 42.8	-14
	0.2nm,0.3s,baz=162,slow=19,SNR=5.8						
ASAR	**Alice Springs**	**17.65**	**166**	P	Pn	02 43 02.9	+0.3
	0.1nm,0.3s,baz=349,slow=12,SNR=9.4						
MKAR	**Makanchi Array**	**67.43**	**327**	P	P	02 49 52.6	0.0
	0.2nm,0.3s,baz=120,slow=6.5,SNR=4.5						

NNC 28 02:42:02.4±15.0, 37°.43N×70°.71E, h0km, mb3.5, mpv3.1, 2C-3D, Error ellipse: s-maj=169.2km s-min=59.0km az=156.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.02**	**313**	⇑P	Pn	02 42 38.7	+0.9
KK31	**Karatay Array**	**5.67**	**359**	⇓P	Pn	02 43 27.8	-0.1
	0.5nm,0.3s,baz=186,slow=14,SNR=6.8						
KK31				⇓S	Sn	02 44 37.5	+3.9
	1.5nm,0.4s,baz=185,slow=24,SNR=5.8						
AAK	**Ala-Archa**	**5.95**	**28**	⇑P	Pn	02 43 29.2	-2.7
	1.7nm,0.5s						
AAK				⇓S	Sn	02 44 41.1	+0.1

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*IDC **28** 02:43:45.3±1.3, 49°.84N×158°.03E, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.4/34, mbtmp3.5/6, ML3.3/2, Error ellipse: s-maj=42.2km s-min=25.4km az=115.0*
*KRSC **28** 02:43:49.6±2.1, 50°.22N×157°.18E, h48km±18km, ML4.0*
*MOS **28** 02:43:49.7±1.4, 50°.09N×157°.44E, h39km, mb4.0/1, Error ellipse: s-maj=25.5km s-min=10.2km az=76.3*
*ISCJB **28** 02:43:51.2±0.6, 50°.21N±0°.04×157°.10E±0°.09, h41km, mb3.4/4, Error ellipse: s-maj=9.5km s-min=4.3km az=29.8*
*SKHL **28** 02:43:53.7±0.3, 50°.33N×156°.92E, h33km±2km, mb4.7/1*
ISC 28 02:43:50.7±1.2, 50°.14N±0°.09×157°.00E±0°.06, h41km, n43, σ1°32/50, mb3.4/4, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.79**	**314**	⇑*i*PN	**Pn**	**02 44 05.5**	**+0.2**
SKR				pmax	pmax		
	comp=N,230nm,0.5s						
SKR				pmax	pmax		
	comp=E,390nm,0.5s						
SKR				pmax	pmax		
	comp=Z,770nm,0.5s						
SKR	**Severo-Kuril's**	**0.79**	**314**	P	**Pn**	**02 44 06.0**	**+0.7**
SKR				S	**Sn**	**02 44 15.6**	**-0.3**
SKR	**Severo-Kuril's**	**0.79**	**314**	*e*P	**Pn**	**02 44 05.5**	**+0.2**
SKR				AMB	AMB	02 44 05.9	
	comp=Z,770nm,0.5s						
SKR				*e*S	**Sn**	**02 44 14.3**	**-1.6**
SKR				A	A	02 44 15.5	
	comp=Z,6μm,0.2s						
SKR				A	A	02 44 15.5	
	comp=Z,4μm,0.2s						
PAU	**Pauzhetka**	**1.34**	**355**	*e*P	**Pn**	**02 44 13.0**	**+0.1**
PAU				*e*S	**Sn**	**02 44 27.3**	**-2.2**
MIPR	**Malaya Ipel'ka**	**2.15**	**356**	P	**Pn**	**02 44 24.0**	**0.0**
ASAK	**Asacha**	**2.32**	**14**	P	**Pn**	**02 44 26.4**	**0.0**
ASAK				S	**Sn**	**02 44 53.1**	**-0.7**
MTVR	**Mutnovka**	**2.46**	**17**	P	**Pn**	**02 44 29.0**	**+0.5**
MTVR				S	**Sn**	**02 44 55.9**	**-1.5**
RUS	**Russkaya**	**2.49**	**22**	PN	**Pn**	**02 44 28.6**	**0.0**
RUS				S	**Sn**	**02 44 55.2**	**-2.5**
RUS	**Russkaya**	**2.49**	**22**	P	**Pn**	**02 44 28.6**	**0.0**
RUS				S	**Sn**	**02 44 55.2**	**-2.5**
APC	**Apacha**	**2.80**	**2**	P	**Pn**	**02 44 32.8**	**-0.1**
APC				S	**Sn**	**02 45 05.6**	**+0.3**
PETK	**Petropavlovsk-**	**3.01**	**8**	PN	**Pn**	**02 44 36.8**	**+1.0**
PETK						02 45 15.5	
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				smax	smax		
	comp=N,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.01**	**8**	Pn	**Pn**	**02 44 36.8**	**+1.0**
	comp=N,3.1nm,0.3s,baz=183,slow=15,SNR=34						
PETK				Sn	**Sn**	**02 45 15.5**	**+4.9**
	comp=N,2.1nm,0.3s,baz=146,slow=22,SNR=3.8						
PET	**Petropavlovsk**	**3.07**	**19**	*e*PN	**Pn**	**02 44 37.6**	**+1.0**
PET				*e*S	**Sn**	**02 45 11.8**	**-0.3**
PET				smax	smax		
	comp=E,204nm,0.6s						
PET				smax	smax		
	comp=N,149nm,0.4s						
PET	**Petropavlovsk**	**3.07**	**19**	P	**Pn**	**02 44 37.3**	**+0.7**
PET				S	**Sn**	**02 45 11.0**	**-1.1**
PET	**Petropavlovsk**	**3.07**	**19**	*e*P	**Pn**	**02 44 37.8**	**+1.2**
PET				*e*S	**Sn**	**02 45 11.2**	**-0.9**
UGLR	**Uglovaya**	**3.28**	**20**	P	**Pn**	**02 44 41.0**	**+1.4**
UGLR				S	**Sn**	**02 45 18.3**	**+0.9**
AVH	**Avacha**	**3.32**	**18**	P	**Pn**	**02 44 41.8**	**+1.7**
AVH				S	**Sn**	**02 45 18.6**	**+0.4**
KOK	**Koryaka**	**3.32**	**17**	P	**Pn**	**02 44 42.3**	**+2.1**
KOK				S	**Sn**	**02 45 20.0**	**+1.6**
SMAR	**Somma**	**3.33**	**19**	P	**Pn**	**02 44 41.8**	**+1.4**
SMAR				S	**Sn**	**02 45 19.6**	**+0.9**
KRER	**Koryakskii**	**3.35**	**18**	P	**Pn**	**02 44 42.3**	**+1.6**
KRER				S	**Sn**	**02 45 19.9**	**+0.5**
SDLR	**Sedlovina**	**3.36**	**20**	P	**Pn**	**02 44 41.5**	**+0.8**
SDLR				S	**Sn**	**02 45 18.7**	**-0.7**
KRX	**Arik**	**3.39**	**17**	P	**Pn**	**02 44 42.7**	**+1.6**
GNL	**Ganaly**	**3.61**	**9**	P	**Pn**	**02 44 45.6**	**+1.4**
MKZ	**Mys Kozlova**	**5.29**	**31**	PN	**Pn**	**02 45 06.7**	**-0.4**
MKZ	**Mys Kozlova**	**5.29**	**31**	P	**Pn**	**02 45 06.7**	**-0.4**
TUMR	**Tumrok**	**5.50**	**19**	P	**Pn**	**02 45 08.5**	**-1.6**
KBTR	**Krutoberegovo**	**7.01**	**28**	PN	**Pn**	**02 45 30.8**	**+0.1**
KBTR	**Krutoberegovo**	**7.01**	**28**	P	**Pn**	**02 45 30.8**	**+0.1**
SHO	**Shikotan**	**9.35**	**232**	*e*P	Pn	02 46 09.4	+6.6
ASAJ	**Asahikawa**	**11.50**	**244**	PN	Pn	02 46 39.1	+6.9
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**11.50**	**244**	Pn	Pn	02 46 39.1	+6.9
	comp=Z,0.5nm,0.3s,baz=93,slow=15,SNR=5.1						
ERM	**Erimo**	**12.57**	**235**	*e*PN	Pn	02 46 52.2	+5.4
H11N2	**WAKE ISLAND Hy**	**31.34**	**162**	T	T	03 23 53.4	
	baz=348,slow=76,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**31.36**	**162**	T	T	03 23 54.5	
	baz=348,slow=76,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**31.36**	**162**	T	T	03 23 54.6	
	baz=348,slow=76,SNR=9.3						
H11S1	**WAKE ISLAND Hy**	**32.50**	**163**	T	T	03 25 13.1	
	baz=348,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**32.51**	**163**	T	T	03 25 13.9	
	baz=348,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	**32.51**	**163**	T	T	03 25 14.5	
	baz=348,slow=76,SNR=19						
YKA	**Yellowknife Ar**	**46.66**	**40**	P	**P**	**02 52 14.1**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=295,slow=7.3,SNR=4.6						
MKAR	**Makanchi Array**	**47.72**	**296**	P	P	02 52 29.0	+5.9
	comp=Z,0.2nm,0.6s,baz=56,slow=8.9,SNR=2.3						
WRA	**Warramunga Arr**	**72.59**	**202**	P	**P**	**02 55 14.0**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=21,slow=6.6,SNR=1.1						
ASAR	**Alice Springs**	**76.28**	**202**	P	**P**	**02 55 35.2**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**76.28**	**202**	P	**P**	**02 55 35.2**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=18,slow=6.8,SNR=2.9						

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*IDC **28** 02:50:59.2±0.8, 15°.40S×175°.28W, h0km, mb4.0/10, mb1 4.3/11, mb1mx4.1/36, mbtmp4.1/11, ML3.7/1, MS4.4/29, Ms1 4.4/29, ms1mx4.4/31, Error ellipse: s-maj=35.2km s-min=19.7km az=138.0*
*GCMT **28** 02:51:00.9±0.2, 15°.26S×175°.01W, h12km, MW5.1/102, Moment Tensor Solution. s56,c71; s102,c164; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.93±.12; $M_{\theta\theta}$3.81±.13; $M_{\phi\phi}$-2.88±.11; $M_{r\theta}$1.23±.32; $M_{\theta\phi}$3.83±.10; $M_{\phi r}$-0.58±.29; Best double couple: $M_0$5.28300×10^{16} NP1:φs290.00000°, δ85.00000°, λ-16.00000°. NP2: φs21.00000°, δ74.00000°, λ-175.00000°. Principal axes: T 5.6690, Plg8.0000°, Azm336.0000°; N -0.7730, Plg73.0000°, Azm93.0000°; P -4.8960, Plg15.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 02:51:00.9±0.4, 15°.33S×175°.42W, h10km, mb4.6/3 Error ellipse: s-maj=20.9km s-min=9.1km az=142.0*
*ISCJB **28** 02:51:02.7±0.7, 15°.45±0°.2×175°.5W±0°.1, h33km, mb4.1/11, MS4.5/27, Error ellipse: s-maj=30.1km s-min=12.6km az=143.9*
ISC 28 02:51:04.6±0.8, 15°.3S±0°.2×175°.5W±0°.2, h35km, n63, σ0°68/21, mb4.1/11, MS4.5/27, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.82**	**69**	*e*Pn	Pn	02 51 50.9	-10
RAO	**Raoul Island**	**14.07**	**189**	LR	LR	02 58 53.4	
	comp=Z,3μm,19.1s,baz=5,0,slow=34						
DZM	**Mont Dzumac**	**18.41**	**246**	P	**P**	**02 55 15.9**	**-1.1**
	0.2nm,0.3s,baz=52,slow=17,SNR=2.5						
DZM				LR	LR	03 01 19.5	
	comp=Z,2μm,20.2s,baz=57,slow=34						
DZM	**Mont Dzumac**	**18.41**	**246**	*e*P	**P**	**02 55 15.5**	**-1.6**
	54nm,1.4s						
URZ	**Urewera**	**23.79**	**195**	LR	LR	03 05 00.5	
	comp=Z,2μm,18.7s,baz=24,slow=35						
HNR	**Honiara**	**24.71**	**281**	LR	LR	03 04 43.4	
	comp=Z,1μm,19.7s,baz=118,slow=33						
PAE	**Paea**	**24.92**	**99**	*e*T	T	03 21 24.7	
	3.4nm,0.3s						
PPT	**Papeete**	**24.92**	**99**	LR	LR	03 03 11.4	
	comp=Z,572nm,21.9s,baz=269,slow=30						
PPT2	**Papeete2**	**24.92**	**99**	*e*LQ	LQ	03 01 14.5	
	3μm,25.8s						
PPT2				*e*LR	LR	03 02 18.4	
	1μm,25.2s,baz=263						
PPT2	**Papeete2**	**24.92**	**99**	*e*T	T	03 21 25.3	
	5.4nm,0.4s						
TIAR	**Tiarei**	**25.14**	**99**	*e*T	T	03 21 39.8	
	4.3nm,0.4s						
TVO	**Taravao**	**25.23**	**99**	*e*T	T	03 21 48.0	
	2.1nm,0.3s						
TBI	**Tubuai**	**25.77**	**112**	*e*LQ	LQ	03 01 37.5	
	4μm,27.8s						
TBI				*e*LR	LR	03 02 46.7	
	562nm,28.0s						
TBI	**Tubuai**	**25.77**	**112**	*e*T	T	03 22 35.0	
	12nm,0.3s						
PMOR	**Pomariorio Ree**	**26.60**	**93**	*e*T	T	03 23 28.4	
	5.0nm,0.3s						
VAH	**Vaihoa**	**26.84**	**94**	*e*T	T	03 23 45.7	
	7.6nm,0.3s						
TAOE	**Nuku Hiva Isla**	**35.08**	**84**	*e*T	T	03 34 00.2	
	145nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**37.90**	**332**	T	T	03 38 58.1	
	baz=149,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hy**	**37.91**	**332**	T	T	03 39 06.1	
	baz=149,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**37.92**	**332**	T	T	03 39 06.5	
	baz=149,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**38.88**	**333**	T	T	03 40 01.9	
	baz=151,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**38.89**	**333**	T	T	03 40 10.0	
	baz=151,slow=76,SNR=31						
H11N2	**WAKE ISLAND Hy**	**38.90**	**333**	T	T	03 40 03.2	
	baz=151,slow=76,SNR=34						
RKT	**Rikitea**	**38.91**	**108**	*e*LQ	LQ	03 07 03.7	
	495nm,26.5s						
RKT				*e*LR	LR	03 08 50.1	
	543nm,27.5s						
RKT	**Rikitea**	**38.91**	**108**	*e*T	T	03 38 56.9	
	4.2nm,0.3s						
WRA	**Warramunga Arr**	**47.93**	**257**	P	**P**	**02 59 40.7**	**+0.6**
	2.3nm,1.0s,baz=88,slow=7.0,SNR=7.3						
WRA				LR	LR	03 17 50.9	
	comp=Z,351nm,21.3s,baz=95,slow=34						
AS31	**Alice Springs**	**48.25**	**252**	*e*P	**P**	**02 59 42.9**	**+0.4**
ASAR	**Alice Springs**	**48.25**	**252**	P	**P**	**02 59 42.8**	**+0.2**
	3.1nm,0.7s,baz=86,slow=7.8,SNR=21						
ASAR				LR	LR	03 18 10.5	
	comp=Z,1μm,21.9s,baz=79,slow=34						
JCJ	**Chichijima**	**58.88**	**315**	LR	LR	03 22 29.4	
	comp=Z,630nm,19.2s,slow=32						
MBWA	**Marble Bar**	**61.48**	**254**	*e*P	**P**	**03 01 18.8**	**+0.5**
	11nm,1.1s						
RPN	**Rapa Nui**	**62.15**	**113**	LR	LR	03 20 58.6	
	comp=Z,188nm,18.9s,baz=262,slow=29						
VNDA	**Vanda**	**63.28**	**185**	P	**P**	**03 01 29.9**	**+0.6**
	4.4nm,1.1s,baz=23,slow=4.6,SNR=7.1						
VNDA				LR	LR	03 26 35.3	
	comp=Z,120nm,19.6s,baz=21,slow=34						
VNDA	**Vanda**	**63.28**	**185**	*e*P	**P**	**03 01 29.2**	**-0.1**
	1.7nm,1.0s						
MJAR	**Matsushiro Arr**	**67.60**	**321**	LR	LR	03 26 05.1	
	comp=Z,280nm,21.9s,baz=125,slow=31						
PETK	**Petropavlovsk-**	**71.95**	**343**	P	**P**	**03 02 23.9**	**-0.4**
	3.4nm,0.8s,baz=109,slow=8.0,SNR=3.6						
PETK				LR	LR	03 27 58.8	
	comp=Z,271nm,21.6s,baz=150,slow=31						
PFO	**Pinyon Flats O**	**74.32**	**48**	LR	LR	03 27 22.7	
	comp=Z,307nm,20.7s,baz=245,slow=29						
KSRS	**Korea Array**	**74.71**	**316**	LR	LR	03 32 24.7	
	comp=Z,210nm,19.4s,baz=131,slow=33						
YBH	**Yreka Blue Hor**	**74.73**	**38**	LR	LR	03 27 33.4	
	comp=Z,135nm,20.1s,baz=240,slow=29						
USRK	**Ussuriysk Ar.**	**76.13**	**324**	LR	LR	03 30 20.1	
	comp=Z,724nm,21.7s,baz=126,slow=31						
SEY	**Seymchan**	**81.93**	**346**	P	**P**	**03 03 20.4**	**+0.2**
	0.6nm,0.3s,baz=164,slow=9.0,SNR=4.8						
TXAR	**Lajitas Array**	**82.21**	**57**	P	**P**	**03 03 21.6**	**-1.0**
	2.0nm,1.1s,baz=219,slow=9.2,SNR=5.0						
TXAR				LR	LR	03 31 46.7	
	comp=Z,206nm,21.7s,baz=0.0,slow=30						
ANMO	**Albuquerque**	**82.27**	**51**	P	**P**	**03 03 23.8**	**+0.8**
	0.5nm,0.8s,baz=212,slow=5.5,SNR=4.9						
ILAR	**Eielson Array**	**82.75**	**12**	P	**P**	**03 03 24.3**	**-0.2**
	0.3nm,0.6s,baz=225,slow=5.0,SNR=5.2						
ILAR				LR	LR	03 32 25.0	
	comp=Z,206nm,21.7s,baz=207,slow=30						
PDAR	**Pinedale Array**	**83.53**	**43**	P	**P**	**03 03 28.9**	**-0.4**
	1.6nm,1.1s,baz=222,slow=2.0,SNR=5.7						
PDAR				LR	LR	03 34 28.3	
	comp=Z,140nm,19.5s,baz=270,slow=31						
PMSA	**Palmer Station**	**85.06**	**156**	LR	LR	03 33 11.4	
	comp=Z,195nm,21.1s,baz=324,slow=30						
USHA	**Ushuaia**	**87.11**	**146**	LR	LR	03 33 07.1	
	comp=Z,239nm,21.7s,baz=201,slow=29						
MAW	**Mawson**	**87.24**	**199**	LR	LR	03 40 13.4	
	comp=Z,139nm,20.2s,baz=82,slow=34						
YAK	**Yakutsk**	**88.25**	**337**	LR	LR	03 40 46.0	
	comp=Z,119nm,18.8s,baz=114,slow=34						
CMAR	**Chiang Mai Arr**	**90.70**	**289**	LR	LR	03 40 22.5	
	comp=Z,79nm,21.4s,baz=110,slow=33						
YKA	**Yellowknife Ar**	**90.81**	**24**	P	**P**	**03 04 04.2**	**+0.4**
	0.5nm,0.8s,baz=240,slow=4.2,SNR=5.2						
PLCA	**Paso Flores**	**91.04**	**133**	LR	LR	03 36 36.3	
	comp=Z,191nm,19.9s,baz=273,slow=30						
SONM	**Songino Array**	**93.46**	**319**	LR	LR	03 41 39.9	
	comp=Z,167nm,21.7s,baz=138,slow=32						
ATAH	**Atahualpa**	**94.90**	**99**	LR	LR	03 37 11.9	
	comp=Z,244nm,21.7s,baz=248,slow=29						
ULM	**Lac du Bonnet**	**95.11**	**39**	LR	LR	03 40 52.8	
	comp=Z,140nm,18.5s,baz=228,slow=32						
TLY	**Talaya**	**96.33**	**322**	LR	LR	03 43 45.2	
	comp=Z,314nm,21.1s,baz=102,slow=33						
ABKAR	**Akbulak array**	**123.86**	**319**	*e*PKPdf	**PKPdf**	**03 09 59.3**	**+0.4**
KIS	**Kishinev**	**142.50**	**332**	*e*		03 20 28.0	
KIS				LRM	MLR	03 26 50.0	
	400nm,22.0s						
DPC	**Dobruska-Polom**	**143.76**	**347**	*ex*	x	03 10 58.4	
BRTR	**Keskin Array B**	**144.81**	**319**	PKPbc	**PKPdf**	**03 10 39.0**	**+0.6**
	1.9nm,0.7s,baz=134,slow=3.6,SNR=14						
PSZ	**Piszkesteto**	**145.09**	**342**	*e*PKPbc	**PKPdf**	**03 10 38.9**	**+0.4**
KHC	**Kasperske Hory**	**145.46**	**350**	*e*PKPbc	**PKPbc**	**03 10 39.1**	**0.0**
KHC				*ex*	x	03 10 57.7	
KHC	**Kasperske Hory**	**145.46**	**350**	*e*PKPbc	**PKPab**	**03 10 39.2**	**0.0**
GERES	**GERESS Array B**	**145.72**	**349**	PKPbc	**PKPab**	**03 10 41.1**	**+0.8**
	1.0nm,1.0s,baz=1.8,slow=4.3,SNR=3.8						

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*IDC **28** 03:12:59.1±1.9, 20°.11S×69°.90W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/25, mbtmp3.8/5, ML3.9/2, MS4.3/1, Ms1 4.3/1, ms1mx2.7/20, Error ellipse: s-maj=58.0km s-min=36.3km az=180.0*
*ISCJB **28** 03:13:07.2±0.5, 19°.35S±0°.04×69°.84W±0°.08, h66km±5km,

TORD	**Torodi Ar. Bea**	**77.45**	**71**	P	**P**	**03 24 57.1**	**-1.2**
	comp=E,0.5nm,0.5s,baz=254,slow=5.2,SNR=14						
YKA	**Yellowknife Ar**	**88.89**	**341**	P	**P**	**03 25 57.2**	**+1.1**
	comp=E,0.2nm,0.5s,baz=134,slow=4.6,SNR=5.0						
MKAR	**Makanchi Array**	**144.36**	**33**	PKPbc	**PKPdf**	**03 32 38.8**	**+0.5**
	comp=E,0.2nm,0.6s,baz=243,slow=0.3,SNR=2.7						
SONM	**Songino Array**	**151.42**	**5**	PKPbc	**PKPbc**	**03 32 57.5**	**+1.4**
	comp=E,0.4nm,0.5s,baz=319,slow=2.3,SNR=4.2						

MEX 28 03:20:35.0±0.7, 16°.93N×99°.46W, h28km±36km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.78**	**279**	*i* P	Pb	03 20 47.3	-2.7
CAIG				*i* S	Sb	03 20 57.7	-2.6
MEIG	**Mezcala**	**1.00**	**351**	*i* P	Pn	03 20 50.4	-3.0
MEIG				*i* S	Sn	03 21 03.3	-3.4
TLIG	**Tlapa**	**1.06**	**53**	*i* P	Pn	03 20 52.2	-2.0
TLIG				*e*S	Sn	03 21 05.7	-2.6
PLIG	**Platanillo**	**1.46**	**358**	*i* P	Pn	03 20 58.0	-1.6
PLIG				*e*S	Sn	03 21 14.7	-3.2
ARIG	**Puente Sto Nin**	**1.59**	**328**	*i* P	Pn	03 20 59.6	-1.8
ARIG				*e*S	Sn	03 21 18.2	-2.8

GUC 28 04:00:11.0±0.4, 35°.15S×72°.02W, h50km±4km, ML3.6, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.40**	**128**	*e*P	Pn	04 00 21.4	+0.3
TALC				*e*S	Sn	04 00 29.2	+0.8
COCH	**Cobquecura**	**1.16**	**212⇑**	*e*P	Pn	04 00 31.3	+0.4
COCH				*e*S	Sn	04 00 46.6	+1.0
LNV	**Longovilo**	**1.30**	**23⇑**	*e*P	Pn	04 00 33.2	+0.5
CACH	**El Canelo**	**1.56**	**49**	*e*P	Pn	04 00 37.3	+0.7
CACH				*e*S	Sn	04 00 57.3	+1.5
CHCH	**Chadas Angostu**	**1.66**	**43**	*e*P	Pn	04 00 38.4	+0.6
CLCH	**Cerro Calan**	**2.14**	**36**	*e*P	Pn	04 00 45.2	+0.8
CLCH				*e*S	Sn	04 01 10.6	+0.8
CLCH				IAML		04 01 18.3	
	comp=E,391nm,0.2s						
PEL	**Peldehue**	**2.29**	**29**	*e*P	Pn	04 00 47.2	+0.8
PEL				*e*S	Sn	04 01 14.5	+1.1
PEL				IAML		04 01 26.4	
	comp=N,521nm,0.3s						
ROCH	**El Roble**	**2.33**	**211⇑**	*e*P	Pn	04 00 47.9	+0.7
ROCH				*e*S	Sn	04 01 15.8	+0.9
ROCH				IAML		04 01 24.7	
	comp=N,474nm,0.5s						

*ISCJB **28** 04:01:49.6±1.0, 67°.56N±0°.03×33°.7E±0°.1, h0km, Error ellipse: s-maj=8.2km s-min=4.7km az=2.3*
*HEL **28** 04:01:50.6±0.5, 67°.63N×34°.01E, h0km, ML2.3, Explosion*
*CSEM **28** 04:01:51.6±0.7, 67°.57N×33°.63E, h1km, ML2.7, Error ellipse: s-maj=13.6km s-min=7.2km az=90.0, Mining explosion.*
*KOLA **28** 04:01:52.0, 67°.66N×33°.82E, h0km*
*NAO **28** 04:01:52.4±1.3, 67°.66N×33°.69E, ML2.7*
*IDC **28** 04:01:52.3±1.6, 67°.76N×33°.83E, h0km, mb1 3.4/6, mb1mx3.1/47, mbtmp3.3/6, ML2.8/6, Error ellipse: s-maj=17.0km s-min=8.8km az=80.0*

ISC 28 04:01:49.1±1.6, 67°.57N±0°.04×34°.02E±0°.08, h0km, n42, σ1§45/74, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.24**	**271**	P	**Pg**	**04 01 55.3**	**+1.7**
APA				S	**Sg**	**04 01 57.7**	**+1.0**
APA0	**Apatity Array**	**0.40**	**276**	Pg	**Pg**	**04 01 55.1**	**-1.6**
APA0				Lg	Lg	04 01 57.1	
APA0				Pg	**Pg**	**04 01 57.5**	**+0.8**
	baz=78,slow=16						
APA0				Lg	Lg	04 02 01.5	
	baz=81,slow=28						
APA0				Rg	Rg	04 02 02.8	
	baz=80,slow=37						
APA0	**Apatity Array**	**0.40**	**276**	Pg	**Pg**	**04 01 55.1**	**-1.6**
APA0				Lg	Lg	04 01 57.1	
APA0				Pg	**Pg**	**04 01 57.5**	**+0.8**
	baz=78,slow=16						
APA0				Lg	Lg	04 02 01.5	
	baz=81,slow=28						
APA0				Rg	Rg	04 02 02.8	
	baz=80,slow=37						
APA0	**Apatity Array**	**0.40**	**276**	Pg	**Pg**	**04 01 57.5**	**+0.8**
	SNR=91						
APA0	**Apatity Array**	**0.40**	**276**	P	**Pg**	**04 01 57.7**	**+1.0**
APA0				S	**Sg**	**04 02 01.9**	**+0.1**
VRF	**Varrio**	**1.70**	**278**	PG	**Pn**	**04 02 20.3**	**+0.3**
	baz=90						
VRF				SG	**Sn**	**04 02 41.0**	**-1.3**
VRF	**Varrio**	**1.70**	**278**	Pg	**Pn**	**04 02 20.2**	**+0.3**
VRF				Sg	**Sn**	**04 02 41.0**	**-1.3**
KU6	**Riekki**	**2.25**	**228**	PG	**Pb**	**04 02 31.0**	**+0.3**
KU6				SG	**Sg**	**04 03 01.4**	**0.0**
KU6	**Riekki**	**2.25**	**228**	Pg	**Pb**	**04 02 30.9**	**+0.3**
KU6				Sg	**Sg**	**04 03 01.4**	**0.0**
MSF	**Maaselka**	**2.58**	**232**	PB	**Pb**	**04 02 36.3**	**0.0**
MSF				SG	**Sg**	**04 03 11.9**	**-0.1**
MSF	**Maaselka**	**2.58**	**232**	Pb	**Pb**	**04 02 36.3**	**0.0**
MSF				Sg	**Sg**	**04 03 11.9**	**-0.1**
SGF	**Sodankyl**	**2.88**	**271**	PN	**Sn**	**04 02 37.5**	**+1.2**
SGF				SN	**Sn**	**04 03 12.3**	**+0.7**
SGF				MSG		04 03 12.3	
	comp=Z,7.7nm,0.3s						
SGF	**Sodankyl**	**2.88**	**271**	Pn	**Pn**	**04 02 37.5**	**+1.2**
SGF				Sn	**Sn**	**04 03 12.3**	**+0.7**
RNF	**Rovaniemi**	**3.28**	**257**	PN	**Pn**	**04 02 43.5**	**+1.9**
RNF				SN	**Sn**	**04 03 22.3**	**+1.0**
RNF				MSG		04 03 22.3	
	comp=Z,10nm,0.3s						
RNF	**Rovaniemi**	**3.28**	**257**	Pn	**Pn**	**04 02 43.5**	**+1.9**
RNF				Sn	**Sn**	**04 03 22.3**	**+1.0**
KEV	**Kevo**	**3.38**	**314**	PN	**Pn**	**04 02 43.9**	**+0.9**
KEV				SN	**Sn**	**04 03 22.8**	**-0.9**
KEV	**Kevo**	**3.38**	**314**	Pn	**Pn**	**04 02 43.9**	**+0.9**
KEV				Sn	**Sn**	**04 03 22.8**	**-0.9**
ARA0	**ARCESS Array S**	**3.70**	**306**	Pn	**Pn**	**04 02 48.2**	**+0.8**
	baz=123,slow=16						
ARA0				Pg	**Pb**	**04 02 56.0**	**+0.8**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**04 03 29.7**	**-2.0**
	baz=118,slow=28						
ARA0				Lg	Lg	04 03 41.1	
	baz=109,slow=37						
ARA0	**ARCESS Array S**	**3.70**	**306**	Pn	**Pn**	**04 02 48.2**	**+0.8**
	baz=123,slow=16						
ARA0				Pg	**Pb**	**04 02 56.0**	**+0.8**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**04 03 29.7**	**-2.0**
	baz=118,slow=28						
ARA0				Lg	Lg	04 03 41.1	
	baz=109,slow=37						
ARA0	**ARCESS Array S**	**3.70**	**306**	Pn	**Pn**	**04 02 48.2**	**+0.8**
	SNR=50						
ARA0	**ARCESS Array S**	**3.70**	**306**	Pg	**Pb**	**04 02 56.0**	**+0.8**
	SNR=0.9						
ARA0				Sn	**Sn**	**04 03 29.7**	**-2.0**
	SNR=50						
ARA0				Lg	Lg	04 03 41.1	
ARCES	**ARCESS Array B**	**3.70**	**306**	Pn	**Pn**	**04 02 48.1**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=122,slow=14,SNR=237						
ARCES				Pg	**Pb**	**04 02 56.6**	**+1.4**
	comp=Z,1.4nm,0.3s,baz=116,slow=16,SNR=13						
ARCES				Sn	**Sn**	**04 03 29.3**	**-2.4**
	comp=Z,2.3nm,0.3s,baz=121,slow=26,SNR=11						
ARCES				Lg	Lg	04 03 41.1	
	comp=Z,7.5nm,0.3s,baz=110,slow=30,SNR=9.2						
ARE0	**ARCESS Array S**	**3.70**	**306**	SN	**Sn**	**04 03 29.7**	**-2.0**
ARE0	**ARCESS Array S**	**3.70**	**306**	Sn	**Sn**	**04 03 29.7**	**-2.0**
HEF	**Hetta**	**3.99**	**287**	PN	**Pn**	**04 02 52.0**	**+0.6**
HEF	**Hetta**	**3.99**	**287**	Pn	**Pn**	**04 02 52.0**	**+0.6**
OUL	**Oulu**	**4.12**	**237**	PB	**Pb**	**04 03 01.0**	**-1.3**
OUL				SG	**Sg**	**04 04 00.5**	**-0.7**
OUL				MSG		04 04 00.5	
	comp=Z,5.4nm,0.3s						
OUL	**Oulu**	**4.12**	**237**	Pb	**Pb**	**04 03 01.0**	**-1.3**
OUL				Sg	**Sg**	**04 04 00.4**	**-0.7**
KALU	**Kalix**	**4.57**	**253**	PN	**Pn**	**04 03 01.2**	**+1.8**
	baz=59						
KALU	**Kalix**	**4.57**	**253**	Pn	**Pn**	**04 03 01.1**	**+1.8**
LANU	**Lannavaara**	**4.59**	**282**	PN	**Pn**	**04 02 59.9**	**+0.2**
LANU				SG	**Sb**	**04 04 08.2**	**+2.1**
LANU	**Lannavaara**	**4.59**	**282**	Pn	**Pn**	**04 02 59.8**	**+0.2**
ERTU	**Ertsjaerv**	**4.74**	**263**	PN	**Pn**	**04 03 02.5**	**+0.7**
ERTU				SN	**Sn**	**04 03 55.6**	**-1.7**
ERTU	**Ertsjaerv**	**4.74**	**263**	Pn	**Pn**	**04 03 02.4**	**+0.7**
ERTU				Sn	**Sn**	**04 03 55.6**	**-1.7**
FIA0	**FINESS Array S**	**7.03**	**213**	Pn	**Pn**	**04 03 35.8**	**+2.6**
	baz=20,slow=14						
FIA0				Sn	**Sn**	**04 04 53.2**	**-0.5**
	baz=19,slow=28						
FIA0				Lg	Lg	04 05 27.6	
	baz=34,slow=28						
FIA0	**FINESS Array S**	**7.03**	**213**	Pn	**Pn**	**04 03 35.8**	**+2.6**
	baz=20,slow=14						
FIA0				Sn	**Sn**	**04 04 53.2**	**-0.5**
	baz=19,slow=28						
FIA0				Lg	Lg	04 05 27.6	
	baz=34,slow=28						
FIA0	**FINESS Array S**	**7.03**	**213**	Pn	**Pn**	**04 03 35.8**	**+2.6**
	SNR=50						
FIA0				Sn	**Sn**	**04 04 53.2**	**-0.5**
	SNR=50						
FINES	**FINESS Array B**	**7.03**	**213**	Pn	**Pn**	**04 03 36.0**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=5.5						
FINES				Sn	**Sn**	**04 04 53.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=30,slow=22,SNR=6.7						
FINES				Lg	Lg	04 05 27.5	
	comp=Z,1.4nm,0.3s,baz=30,slow=25,SNR=14						
HFS	**Hagfors**	**11.60**	**240**	Pn	**Pn**	**04 04 35.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=36,slow=20,SNR=1.7						
HFS				Sn	**Sn**	**04 06 40.7**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=50,slow=25,SNR=3.5						
HFS				Lg	Lg	04 07 51.1	
	comp=Z,0.1nm,0.3s,baz=48,slow=26,SNR=2.6						
SPITS	**Spitsbergen Ar**	**11.77**	**342**	Pn	Pn	04 04 33.5	-4.5
	baz=140,slow=18,SNR=7.8						
NOA	**NORSAR Array B**	**11.80**	**247**	Pn	**Pn**	**04 04 38.1**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=50,slow=11,SNR=1.3						
NOA				Lg	Lg	04 08 00.3	
	comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=5.0						
AKASG	**Malin Array Be**	**17.09**	**190**	Pn	**Pn**	**04 05 46.5**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=10,slow=13,SNR=3.1						

*ATH **28** 04:05:06.4, 37°.84N×19°.92E, h5km, MD3.4/6*
*ISCJB **28** 04:05:09.1±1.0, 38°.11N±0°.05×20°.06E±0°.05, h5km±6km, mb3.5/4, Error ellipse: s-maj=8.7km s-min=4.3km az=33.3*
*CSEM **28** 04:05:09.7±0.3, 37°.96N×20°.16E, h2km, ML3.3, Ms3.5, Error ellipse: s-maj=6.1km s-min=3.0km az=23.0*
*IDC **28** 04:05:10.9±1.5, 38°.24N×20°.12E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.3/42, mbtmp3.5/6, ML3.4/2, Error ellipse: s-maj=30.6km s-min=20.2km az=68.0*
*THE **28** 04:05:11.0, 37°.95N×20°.21E, h5km±1km, ML3.3/4, Error ellipse: s-maj=2.3km s-min=1.4km az=54.0*

ISC 28 04:05:09.6±1.6, 37°.97N±0°.05×20°.08E±0°.05, h9km±9km, n65, σ1§51/92, mb3.5/4, 2C-1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.45**	**62**	P	**Pg**	**04 05 17.9**	**-0.5**
VLS				S	**Sg**	**04 05 23.6**	**-0.8**
VLS	**Valsamata**	**0.45**	**62**	*e*PG	**Pg**	**04 05 18.1**	**-0.3**
VLS	**Valsamata**	**0.45**	**62**	P	**Pg**	**04 05 17.9**	**-0.5**
VLS				S	**Sg**	**04 05 23.6**	**-0.8**
KFL	**Anninata**	**0.57**	**75**	P	**Pg**	**04 05 20.1**	**-0.6**
KFL				S	**Sg**	**04 05 26.6**	**-1.7**
KFL	**Anninata**	**0.57**	**75**	P	**Pg**	**04 05 20.1**	**-0.6**
KFL				S	**Sg**	**04 05 26.6**	**-1.7**
LKD2	**Lefkada island**	**0.94**	**29**	P	**Pg**	**04 05 27.5**	**-0.1**
LKD2				S	**Sn**	**04 05 42.8**	**+0.2**
LKD2	**Lefkada island**	**0.94**	**29**	*e*PB	**Pg**	**04 05 27.6**	**-0.1**
LKD2				*e*SB	**Sn**	**04 05 44.2**	**+1.6**
LKD2	**Lefkada island**	**0.94**	**29**	*e*Pb	**Pg**	**04 05 27.6**	**-0.1**
LKD2				*e*Sb	**Sn**	**04 05 44.2**	**+1.6**
PDO	**Prodromos**	**1.07**	**54**	P	**Pg**	**04 05 29.3**	**-0.9**
PDO				S	**Sb**	**04 05 44.8**	**+0.3**
PDO	**Prodromos**	**1.07**	**54**	*e*PN	**Pg**	**04 05 29.4**	**-0.8**
PDO	**Prodromos**	**1.07**	**54**	P	**Pg**	**04 05 29.3**	**-0.9**
PDO				S	**Sb**	**04 05 44.8**	**+0.3**
RLS	**Riolos of Patr**	**1.10**	**85**	P	**Pg**	**04 05 29.7**	**-0.9**
RLS	**Riolos of Patr**	**1.10**	**85**	*e*PG	**Pg**	**04 05 29.7**	**-0.9**
RLS	**Riolos of Patr**	**1.10**	**85**	P	**Pg**	**04 05 29.7**	**-0.9**
AMT	**Artemida-Makis**	**1.36**	**108**	P	**Pn**	**04 05 34.8**	**0.0**
AMT				S	**Sg**	**04 05 53.4**	**+0.1**
AMT	**Artemida-Makis**	**1.36**	**108**	*e*PB	**Pn**	**04 05 34.9**	**+0.1**
AMT	**Artemida-Makis**	**1.36**	**108**	*e*Pb	**Pn**	**04 05 34.9**	**+0.1**
AMT				S	**Sg**	**04 05 53.4**	**+0.1**
DSL	**Palaion Diasel**	**1.41**	**34**	P	**Pn**	**04 05 35.7**	**+0.2**
DSL				S	**Sg**	**04 05 55.4**	**+0.4**
DSL	**Palaion Diasel**	**1.41**	**34**	*e*PG	**Pb**	**04 05 36.0**	**-0.1**
DSL	**Palaion Diasel**	**1.41**	**34**	P	**Pn**	**04 05 35.7**	**+0.2**
DSL	**Palaion Diasel**	**1.41**	**34**	*e*Pg	**Pb**	**04 05 36.0**	**-0.1**
DSL				S	**Sg**	**04 05 55.4**	**+0.4**
EFP	**Efpalio**	**1.51**	**72**	P	**Pn**	**04 05 36.5**	**-0.3**
EFP				S	**Sn**	**04 05 56.0**	**-0.6**
EFP	**Efpalio**	**1.51**	**72**	*e*PG	**Pn**	**04 05 37.1**	**+0.3**
EFP	**Efpalio**	**1.51**	**72**	P	**Pn**	**04 05 36.5**	**-0.3**
EFP	**Efpalio**	**1.51**	**72**	*e*Pg	**Pn**	**04 05 37.1**	**+0.3**
EFP				S	**Sn**	**04 05 56.0**	**-0.6**
KLV	**Kalavryta, Ach**	**1.64**	**87**	P	**Pn**	**04 05 38.8**	**+0.2**
KLV	**Kalavryta, Ach**	**1.64**	**87**	*e*PG	**Pn**	**04 05 39.2**	**+0.6**
KLV				*e*SN	**Sg**	**04 06 04.3**	**+2.1**
KLV	**Kalavryta, Ach**	**1.64**	**87**	P	**Pn**	**04 05 38.8**	**+0.2**
KLV	**Kalavryta, Ach**	**1.64**	**87**	*e*Pg	**Pn**	**04 05 39.2**	**+0.6**
KLV				*e*Sn	**Sg**	**04 06 04.3**	**+2.1**
EVR	**Evrytania**	**1.66**	**54**	*e*PN	**Pg**	**04 05 42.0**	**+0.7**
EVR	**Evrytania**	**1.66**	**54**	*e*Pn	**Pg**	**04 05 42.0**	**+0.7**
ITM	**Ithomi**	**1.66**	**118**	*e*PN	**Pb**	**04 05 40.1**	**-0.3**
ITM	**Ithomi**	**1.66**	**118**	*e*Pn	**Pb**	**04 05 40.1**	**-0.3**
KEK	**Kerkira**	**1.76**	**353**	P	**Pb**	**04 05 41.9**	**-0.2**
KEK				S	**Sb**	**04 06 05.2**	**+0.9**
KEK	**Kerkira**	**1.76**	**353**	*e*PN	**Pb**	**04 05 41.8**	**-0.3**
KEK	**Kerkira**	**1.76**	**353**	*e*Pn	**Pb**	**04 05 41.8**	**-0.3**
KEK				S	**Sb**	**04 06 05.2**	**+0.9**
GUR	**Goura**	**1.79**	**90**	*e*PG	**Pb**	**04 05 42.0**	**-0.6**
GUR	**Goura**	**1.79**	**90**	*e*Pg	**Pb**	**04 05 42.0**	**-0.6**
AGG	**Agios Georgios**	**2.06**	**58**	*e*PG	**Pb**	**04 05 47.8**	**+0.7**
AGG	**Agios Georgios**	**2.06**	**58**	*e*Pg	**Pb**	**04 05 47.8**	**+0.7**
IDI	**Anoyia**	**4.70**	**123**	Pn	Pn	04 06 25.6	+4.9
	0.3nm,0.3s,baz=248,slow=20,SNR=2.1						
IDI				Sn	**Sn**	**04 07 15.5**	**+0.1**
	1.4nm,0.3s,baz=343,slow=12,SNR=2.8						
STON	**Ston**	**5.23**	**340**	*e*Pn	**Pn**	**04 06 29.0**	**+1.1**
STON				Sn	**Sn**	**04 07 25.6**	**-2.7**
UDBI	**Udbina**	**7.32**	**335**	*e*Pn	**Pn**	**04 06 58.9**	**+2.1**
UDBI				Sn	**Sn**	**04 08 17.6**	**-2.3**
UDBI	**Udbina**	**7.32**	**335**	*e*Pn	**Pn**	**04 06 58.8**	**+2.1**
NVLJ	**Novalja**	**7.67**	**331**	*e*Pn	**Pn**	**04 07 02.2**	**+0.7**
NVLJ				Sn	**Sn**	**04 08 25.5**	**-2.9**
NVLJ	**Novalja**	**7.67**	**331**	*e*Pn	**Pn**	**04 07 02.1**	**+0.7**
BOJS	**Bojanci**	**8.35**	**336**	*i* Pn	**Pn**	**04 07 12.6**	**+1.8**
BOJS				*i* Sn	**Sn**	**04 08 43.9**	**-1.4**
BOJS	**Bojanci**	**8.35**	**336**	*i* Pn	**Pn**	**04 07 12.6**	**+1.8**
CRES	**Cresnjev**	**8.58**	**338**	*i* Pn	**Pn**	**04 07 14.9**	**+1.0**
CRES				*e*Sn	**Sn**	**04 08 47.2**	**-3.6**
CRES	**Cresnjev**	**8.58**	**338**	*i* Pn	**Pn**	**04 07 14.9**	**+1.0**
MLR	**Muntele Rosu**	**8.70**	**28**	Pn	Pn	04 07 20.9	+5.2
	0.0nm,0.3s,baz=99,slow=19,SNR=2.1						
JAVS	**Javornik**	**9.10**	**332**	*i* Pn	**Pn**	**04 07 23.7**	**+2.5**
JAVS				*i* Sn	**Sn**	**04 09 01.3**	**-2.5**
JAVS	**Javornik**	**9.10**	**332**	*i* Pn	**Pn**	**04 07 23.7**	**+2.5**
PERS	**Pernice**	**9.41**	**339**	*i* Pn	**Pn**	**04 07 26.7**	**+1.3**
PERS				*i* Sn	**Sn**	**04 09 06.3**	**-5.0**
PERS	**Pernice**	**9.41**	**339**	*i* Pn	**Pn**	**04 07 26.7**	**+1.3**
SOKA	**Soboth**	**9.47**	**338**	⇑*i* Pn	**Pn**	**04 07 26.8**	**+0.5**
SOKA				⇓*i* Sn	**Sn**	**04 09 09.0**	**-3.9**
	1.9nm,0.7s						
SOKA	**Soboth**	**9.47**	**338**	Pn	**Pn**	**04 07 26.8**	**+0.5**
MOA	**Molln**	**10.76**	**339**	⇑*i* Pn	**Pn**	**04 07 45.3**	**+1.5**
MOA	**Molln**	**10.76**	**339**	Pn	**Pn**	**04 07 45.3**	**+1.5**
DAVOX	**Davos/Dischmat**	**11.59**	**323**	Pn	**Pn**	**04 07 58.3**	**+3.0**
	0.1nm,0.3s,baz=156,slow=19,SNR=1.0						
DAVOX				Sn	**Sn**	**04 10 04.4**	**-0.6**
	0.1nm,0.3s,baz=332,slow=18,SNR=2.0						
GERES	**GERESS Array B**	**11.82**	**339**	Pn	**Pn**	**04 07 59.0**	**+0.6**
	0.2nm,0.3s,baz=161,slow=14,SNR=5.6						
GERES				Sn	**Sn**	**04 10 04.7**	**-5.7**
	0.1nm,0.3s,baz=161,slow=25,SNR=3.0						
FINES	**FINESS Array B**	**23.80**	**7**	P	**P**	**04 10 23.9**	**+1.4**
	1.5nm,0.9s,baz=186,slow=11,SNR=2.2						
TORD	**Torodi Ar. Bea**	**29.65**	**218**	P	P	04 11 20.2	+4.6
	0.4nm,0.9s,baz=33,slow=9.2,SNR=3.0						
MKAR	**Makanchi Array**	**45.71**	**58**	P	**P**	**04 13 31.3**	**+0.4**
	0.3nm,0.5s,baz=271,slow=7.7,SNR=3.3						
ZALV	**Zalesovo Beam**	**46.09**	**48**	P	**P**	**04 13 34.2**	**+0.4**
	0.6nm,0.3s,baz=270,slow=8.8,SNR=1.9						

*IDC **28** 04:07:55.7±1.5, 0°.82S×123°.61E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/37, mbtmp3.3/4, MS3.8/1, Ms1 3.8/1, ms1mx2.8/15, Error ellipse: s-maj=69.1km s-min=24.6km az=73.0*
*DJA **28** 04:08:10.3±0.5, 0°N±5°×12°4E±°, h112km±6km, M4.2/18, mb4.3/8, mB4.8/4, MLv4.2/18, Mw(mB)4.1/4*

ISC 28 04:07:56.6±0.8, 0°.80S±0°.05×123°.71E±0°.04, h10km, n19, σ1§33/16, mb3.3/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.39**	**11**	P	Pg	04 08 27.1	+3.8
KMSI				S	**Sg**	**04 08 43.5**	**+2.2**
APSI	**Ampana**	**2.06**	**267**	P	Pg	04 08 46.9	+11
MRSI	**Marisa**	**2.17**	**306**	P	**Pg**	**04 08 39.1**	**+0.8**
MRSI				S	**Sb**	**04 09 02.3**	**-0.8**
KDI	**Kendari**	**3.32**	**199**	P	Pg	04 09 14.1	+14
LBMI	**Labuha**	**3.80**	**88**	P	**Pg**	**04 09 09.7**	**+0.3**
LBMI				S	**Sg**	**04 09 57.1**	**-1.6**
PCI	**Palu**	**3.87**	**268**	P	**Pg**	**04 09 08.9**	**-2.0**
MPSI	**Mapaga**	**3.97**	**286**	P	**Pb**	**04 09 05.5**	**-1.3**
NLAI	**Namlea**	**4.17**	**126**	P	Pg	04 09 22.5	+5.9
TTSI	**Tana Toraja**	**4.48**	**240**	P	**Pg**	**04 09 23.8**	**+1.2**
	55nm,0.7s,1μm0.3nm						
TTSI				S	**Sg**	**04 10 21.8**	**+1.1**
	55nm,0.7s,1μm0.3nm						
BBSI	**Bau Bau**	**4.80**	**194**	P	Pg	04 09 34.4	+5.8
	82nm,0.9s,0.3nm						
SGSI	**Sangihe**	**4.81**	**22**	P	**Pn**	**04 09 07.8**	**-1.4**
SPSI	**Sidrap Palu**	**5.04**	**231**	P	**Pg**	**04 09 33.0**	**-0.2**
	32nm,0.7s,2μm0.1nm						
BNSI	**Bone**	**5.08**	**225**	P	**Pg**	**04 09 34.5**	**+0.6**
	22nm,0.6s,0.1nm						
MSAI	**Masohi**	**5.80**	**116**	P	Pb	04 09 42.6	+4.7
	6.0nm,0.6s,964nm0.1nm						
JAY	**Jayapura**	**17.07**	**96**	LR	LR	04 19 59.6	
	comp=Z,299nm,18.2s,baz=196,slow=42						
WRA	**Warramunga Arr**	**21.69**	**152**	P	**P**	**04 12 47.8**	**-0.1**
	0.4nm,0.9s,baz=332,slow=10,SNR=1.6						
ASAR	**Alice Springs**	**24.79**	**157**	P	**P**	**04 13 20.5**	**+1.5**
	0.2nm,0.6s,baz=334,slow=8.2,SNR=1.8						
MJAR	**Matsuhiro Arr**	**39.52**	**18**	P	**P**	**04 15 29.1**	**+1.4**
	1.5nm,0.7s,baz=190,slow=8.8,SNR=6.6						
MKAR	**Makanchi Array**	**59.66**	**328**	P	**P**	**04 18 01.2**	**+0.1**
	0.2nm,0.4s,baz=124,slow=8.6,SNR=5.0						

*IDC **28** 04:10:16.9±0.8, 6°.84S×154°.76E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.2/27, mbtmp4.2/11, ML2.7/1, MS3.5/6, Ms1 3.5/6, ms1mx3.2/21, Error ellipse: s-maj=27.8km s-min=19.5km az=129.0*
*ISCJB **28** 04:10:21.5±0.5, 6°.95S±0°.09×154°.76E±0°.08, h39km, mb4.3/18, MS3.4/4, Error ellipse: s-maj=16.0km s-min=7.6km az=138.3*
*NEIC **28** 04:10:29.2±2.4, 6°.91S×154°.54E, h95km±20km, mb4.3/9, Error ellipse: s-maj=20.8km s-min=13.3km az=105.0*

ISC 28 04:10:22.7±0.6, 6°.9S±0°.1×154°.81E±0°.10, h39km, n51, σ1§41/51, mb4.3/18, MS3.4/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.69**	**117**	LR	LR	04 14 09.3	
	comp=Z,611nm,19.9s,baz=287,slow=40						
PMG	**Port Moresby**	**7.98**	**251**	P	**Pn**	**04 12 14.8**	**-1.4**
	0.5nm,0.3s,baz=31,slow=11,SNR=2.5						
PMG				Sn	**Sn**	**04 13 45.9**	**+0.6**
	0.8nm,0.3s,baz=140,slow=12,SNR=2.9						
PMG				LR	LR	04 15 32.0	
	comp=Z,299nm,18.7s,baz=37,slow=40						
PMG	**Port Moresby**	**7.98**	**251**	*e*Pn	**Pn**	**04 12 18.6**	**+2.

OTAV	Otavalo	126.47	95	ePKPdf	PKPdf	04 29 22.8	-0.5
GERES	GERESS Array B	126.84	329	PKP	PKPdf	04 29 22.8	+0.3
	1.0nm,0.7s,baz=59,slow=0.8,SNR=12						
AQU	L'Aquila	130.91	322	ePKPdf	PKPdf	04 29 28.1	-2.2
LPAZ	La Paz	131.68	119	ePKPdf	PKPdf	04 29 34.2	+1.0
TAM	Tamanrasset	146.46	301	ePKPbc	PKPbc	04 30 01.4	+0.7
MDT	Midelt	147.86	326	PKPbc	PKPbc	04 30 04.2	-0.2
	2.3nm,1.0s,baz=99,slow=5.6,SNR=4.0						
BDFB	Brasilia	148.21	135	PKPbc	PKPbc	04 30 05.5	-0.2
	3.0nm,0.6s,baz=10,slow=1.9,SNR=6.7						
TORD	Torodi Ar. Bea	152.81	285	PKPbc	PKPbc	04 30 15.1	-1.5
	3.0nm,0.8s,baz=3.2,slow=2.8,SNR=18						

SKHL ***28*** *04:10:28.8±0.5, 44°.72N×149°.06E, h35km, mb4.5/3*
JMA ***28*** *04:10:30.2±0.4, 44°.86N×148°.23E, h114km, M3.7*

ISC 28 04:10:25.8±4.0, 45°.1N±0°.2×148°.4E±0°.2, h136km±18km, n12, σ2s03/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.44	291	eP	Pn	04 10 45.5	+0.4
KUR				AMB	AMB	04 10 45.7	
	95nm,0.3s						
KUR				eS	Sn	04 10 57.7	-2.0
KUR				A	A	04 11 02.1	
	459nm,0.6s						
KUR				A	A	04 11 02.1	
	297nm,0.6s						
SHO	Shikotan	1.67	224	eP	Pn	04 10 57.2	+1.1
SHO				AMB	AMB	04 11 00.6	
	146nm,0.6s						
SHO				eS	Sn	04 11 18.9	-0.4
SHO				A	A	04 11 24.7	
	398nm,0.2s						
YUK	Yuzh-Kuril'sk	2.12	241	eP	Pn	04 11 02.9	+1.5
YUK				AMB	AMB	04 11 07.2	
	98nm,0.1s						
YUK				eS	Sn	04 11 32.2	+3.4
YUK				A	A	04 11 36.5	
	275nm,0.2s						
YUK				A	A	04 11 36.5	
	194nm,0.2s						
NEM2	Nemuro 2	2.59	230	P	Pn	04 11 08.1	+0.8
NEM2				eS	Sn	04 11 37.3	-1.9
JRA	Rausu	2.63	246	P	Pn	04 11 09.3	+1.5
JAK	Akkeshi	3.41	234	P	Pn	04 11 19.0	+1.2
JTKR	Abashiri--Toko	3.43	253	P	Pn	04 11 19.5	+1.5
JAR	Ashorobuto	3.80	244	P	Pn	04 11 25.6	+2.6
JCH	Churui	4.42	238	P	Pn	04 11 32.5	+1.3
JCH				eS	Sn	04 12 20.4	-1.6
JNBK	Urakawa-nobuka	4.99	238	P	Pn	04 11 39.3	+0.6
JNBK				eS	Sn	04 12 33.0	-2.4
JKB	Kayabe	6.26	242	P	Pn	04 11 56.4	+0.6
JKB				eS	Sn	04 13 02.3	-3.8
JOT	Ohata	6.54	238	P	Pn	04 12 00.0	+0.5

DJA 28 04:16:31.6±0.4, 9°S±3°×11°9E±°, h11km±4km, M3.6/7, MLv3.6/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.84	153	P	Pg	04 16 47.0	-0.9
WBSI				S	Sg	04 16 58.9	-0.1
WSI	Waingapu	1.50	121	P	Pn	04 16 57.6	-0.8
BKSI	Bulukumba	3.72	18	P	Pn	04 17 29.0	0.0
BKSI				S	Sn	04 18 14.2	+1.4
DNP	Denpasar	3.75	273	P	Pn	04 17 29.2	-0.3
SRBI	Singaraja	3.83	282	P	Pn	04 17 30.3	-0.2

GUC 28 04:37:09.9±0.4, 36°.21S×73°.52W, h16km±3km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.60	82	eP	Pb	04 37 21.9	0.0
COCH				eS	Sb	04 37 31.1	+1.1
CCSP	San Pedro de C	0.71	152	eP	Pb	04 37 24.0	+0.1
CCSP				eS	Sn	04 37 34.6	-1.2
CCSP				IAML		04 37 38.1	
	comp=E,6μm,0.3s						
LNCH	Linares	1.60	77	eP	Pb	04 37 38.5	-0.5
LNCH				eS	Sg	04 38 00.6	-0.8
TALC	Talca	1.73	63	eP	Pb	04 37 41.1	-0.2
TALC				eS	Sg	04 38 04.5	-1.3

KRSC ***28*** *05:02:24.8±0.5, 55°.17N×160°.35E, h-2km±4km, ML4.0*
ISCJB ***28*** *05:02:25.8±0.6, 55°.16N±0°.02×160°.37E±0°.05, h1km±4km, mb3.6/8, MS3.2/1, Error ellipse: s-maj=5.4km s-min=2.5km az=15.0*
IDC ***28*** *05:02:25.5±1.1, 55°.23N×160°.40E, h0km, mb3.3/5, mb1 3.5/7, mb1mx3.4/28, mbtmp3.4/7, ML3.0/2, MS3.2/2, Ms1 3.3/2, ms1mx2.7/25, Error ellipse: s-maj=28.8km s-min=17.6km az=4.0*
MOS ***28*** *05:02:25.1±0.9, 55°.22N×160°.45E, h8km, mb4.1/3, Error ellipse: s-maj=16.3km s-min=8.4km az=93.2*

ISC 28 05:02:25.0±0.9, 55°.14N±0°.02×160°.32E±0°.03, h6km±6km, n64, σ1s23/81, mb3.8/8, 3C-1D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	Kizimen	0.04	207	i P	Pg	05 02 26.7	+0.2
TUMR	Tumrok	0.17	324	i P	Pg	05 02 28.8	+0.3
KMNR	Kamenistaya	0.61	356	i P	Pg	05 02 36.8	-0.1
KMNR				i S	Sb	05 02 47.2	+0.1
BZMR	Bezymyannaya	0.80	7	P	Pb	05 02 40.4	-1.0
BZMR				S	Sn	05 02 52.8	-2.4
KIRR	Kirishev	0.81	1	eP	Pg	05 02 40.2	-0.4
KIRR				eS	Sn	05 02 53.6	-1.9
BZGR	Bezymyannyi-Gr	0.83	15	P	Pb	05 02 40.9	-0.9
KPT	Kopyto	0.83	356	P	Pb	05 02 41.3	-0.5
KPT				S	Sn	05 02 54.0	-1.8
BZWR	Bezymyannyi-We	0.83	7	P	Pb	05 02 41.3	-0.6
BZWR				S	Sn	05 02 53.7	-2.2
ZLN	Zelenaya	0.92	17	P	Pn	05 02 43.2	-1.3
ZLN				S	Sn	05 02 57.4	-0.6
KOZ	Kozyrevsk	0.95	345	P	Pn	05 02 44.3	-0.6
KOZ				S	Sn	05 02 57.9	-0.8
KOZR	Kozyr	0.95	346	PN	Pn	05 02 44.3	-0.6
KOZR				S	Sn	05 02 57.9	-1.0
LGNR	Loginova	0.96	12	S	Sn	05 02 59.9	+0.5
CIRR	Tsirk	1.00	14	S	Sn	05 03 00.5	+0.3
MKZ	Mys Kozlova	1.00	125	PN	Pg	05 02 43.6	-0.7
MKZ				S	Sn	05 02 58.8	-1.2
MKZ	Mys Kozlova	1.00	125	P	Pg	05 02 43.6	-0.7
MKZ				S	Sn	05 02 58.8	-1.2
KRSR	Krestovskiy	1.08	7	P	Pn	05 02 45.8	-1.0
KRSR				S	Sn	05 03 02.0	-0.2
KLY	Klyuchi	1.19	9	PN	Pg	05 02 48.0	+0.2
KLY				S	Sn	05 03 06.5	+2.0
KLY	Klyuchi	1.19	9	eP	Pg	05 02 48.0	+0.2
KLY				eS	Sn	05 03 06.4	+2.0
ESO	Esso	1.21	311	PN	Pn	05 02 46.6	-1.8
ESO				S	Sg	05 03 03.7	-0.2
ESO	Esso	1.21	311	P	Pn	05 02 46.6	-1.8
ESO				S	Sg	05 03 03.7	-0.2
SRDR	Sredinnyy	1.22	344	P	Pb	05 02 47.2	-1.4
SRDR				S	Sn	05 03 05.2	-0.4
BDR	Baidarnaya	1.51	19	P	Pg	05 02 53.4	-0.6
BDR				S	Sg	05 03 15.1	+1.5
SMKR	Semkarok	1.58	24	eP	Pg	05 02 54.5	-0.8
SMKR				S	Sg	05 03 16.8	+1.0
SRKR	Sorokina	1.59	17	P	Pb	05 02 54.2	-0.6
SRKR				S	Sg	05 03 16.3	+0.3
KBTR	Krutoberegovo	1.77	52	PN	Pn	05 02 55.5	-0.6
KBTR				S	Sg	05 03 20.0	-1.9
KBTR	Krutoberegovo	1.77	52	eP	Pn	05 02 55.5	-0.6
KBTR				eS	Sg	05 03 20.0	-1.9
GNL	Ganaly	2.01	225	eP	Pb	05 03 01.0	-1.0
KRX	Arik	2.04	209	eP	Pb	05 03 02.4	-0.1
SDLR	Sedlovina	2.05	205	eP	Pb	05 03 02.0	-0.7
SDLR				S	Sg	05 03 30.5	-0.4
KRER	Koryakskii	2.06	207	P	Pb	05 03 03.3	+0.4
SMAR	Somma	2.09	206	eP	Pb	05 03 03.3	0.0
SMAR				S	Sb	05 03 31.3	+1.8
AVH	Avacha	2.10	207	P	Pb	05 03 03.5	0.0
KOK	Koryaka	2.10	209	P	Pb	05 03 04.0	+0.4
UGLR	Uglovaya	2.13	205	P	Pb	05 03 03.8	-0.2
PET	Petropavlovsk	2.34	206	ePN	Pg	05 03 09.5	-0.3
PET				eS	Sb	05 03 36.3	-0.3
PET				smax	smax		
	comp=N,134nm,0.7s						
PET				smax	smax		
	comp=E,125nm,0.8s						
PET	Petropavlovsk	2.34	206	P	Pb	05 03 08.3	+0.8
I44RU	PETROPAVLOVSK-	2.56	218	i		05 18 20.0	
	baz=34,slow=340,SNR=0.5						
PETK	Petropavlovsk-	2.56	218	PN	Pb	05 03 09.9	-1.4
PETK						05 03 49.0	
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK	Petropavlovsk-	2.56	218	Pn	Pb	05 03 09.9	-1.4
	comp=N,5.0nm,0.3s,baz=55,slow=19,SNR=17						
PETK				Sn	Sg	05 03 49.0	+1.9
	comp=N,1.4nm,0.3s,baz=68,slow=20,SNR=3.6						
APC	Apacha	2.90	221	P	Pb	05 03 14.3	-2.8
RUS	Russkaya	2.92	202	PN	Pb	05 03 14.7	-2.7
RUS				S	Sb	05 03 53.3	-0.1
RUS	Russkaya	2.92	202	P	Pb	05 03 14.7	-2.7
RUS				S	Sb	05 03 53.2	-0.1
MTVR	Mutnovka	2.95	206	P	Pb	05 03 17.1	-1.0
ASAK	Asacha	3.12	208	P	Pb	05 03 19.5	-1.3
MIPR	Malaya Ipel'ka	3.57	218	P	Pb	05 03 25.3	-3.2
PALN	Palana	3.96	357	P	Pb	05 03 35.7	+0.6
OSSR	Ossora	4.38	19	P	Pn	05 03 35.3	+3.4
FX1	Attu Island--F	7.90	101	PN	Pn	05 04 21.6	+1.4
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	Attu Island--F	7.90	101	Pn	Pn	05 04 21.6	+1.4
	comp=Z,1.1nm,0.3s,baz=3.8,slow=15,SNR=2.3						
YUK	Yuzh-Kuril'sk	14.51	226	eP	Pn	05 05 46.3	-4.4
ASAJ	Asahikawa	15.87	233	LR	LR	05 12 16.5	
	comp=Z,83nm,19.5s,baz=140,slow=37						
YAK	Yakutsk	17.26	306⇑	eP	P	05 06 27.0	-0.8
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TIXI	Tiksi	21.29	333⇓	eP	P	05 07 14.0	+2.2
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BOD	Bodaibo	25.33	295	eP	P	05 07 53.0	+0.9
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ILAR	Eielson Array	27.31	48	P	P	05 08 11.5	+1.6
	comp=Z,0.2nm,0.5s,baz=263,slow=7.1,SNR=2.4						
TLY	Talaya	33.17	288⇑	eP	P	05 09 01.3	-0.6
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	Songino Array	33.61	280	P	P	05 09 08.1	+2.2
	comp=Z,0.3nm,0.8s,baz=71,slow=8.1,SNR=2.9						
YKA	Yellowknife Ar	41.58	44	P	P	05 10 12.3	-0.6
	comp=Z,0.1nm,0.3s,baz=300,slow=7.9,SNR=1.5						
MKAR	Makanchi Array	47.41	294	eP	P	05 11 02.4	+2.6
MKAR	Makanchi Array	47.41	294	P	P	05 10 59.8	0.0
	comp=Z,0.3nm,0.6s,baz=51,slow=7.3,SNR=5.2						
FINES	FINESS Array B	58.29	336	P	P	05 12 22.1	+2.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	58.29	336	P	P	05 12 22.1	+2.2
	comp=Z,1.3nm,0.9s,baz=69,slow=4.6,SNR=3.4						
CMAR	Chiang Mai Arr	58.76	257	LR	LR	05 40 45.9	
	comp=Z,16nm,19.2s,baz=25,slow=39						
BORG	Borgarnes	60.43	1	i P	P	05 12 40.8	+6.2

DJA 28 05:08:03.0±0.5, 10°S±6°×12°1E±°, h78km±4km, M3.9/11, mb4.3/3, MLv3.7/11, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	Baing, Sumba	0.15	19	P	Pn	05 08 15.0	+0.6
BASI				S	Sn	05 08 26.5	+3.8
WSI	Waingapu	0.72	342	P	Pn	05 08 18.9	+0.1
WSI				S	Sn	05 08 31.1	+0.6
WBSI	Waikabubak, Su	1.33	302	P	Pn	05 08 25.4	-0.7
WBSI				S	Sn	05 08 37.7	-5.8
EDFI	Ende, Flores	1.97	36	P	Pn	05 08 34.6	0.0
EDFI				S	Sn	05 08 59.2	+0.6
BATI	Baumata	3.09	87	P	Pn	05 08 50.3	+0.7
BATI				S	Sn	05 09 26.5	+1.0
TWSI	Taliwang, Sumb	3.94	294	P	Pn	05 09 01.4	+0.2
BKSI	Bulukumba	5.02	355	P	Pn	05 09 15.8	-0.1
	8.5nm,1.2s,0.1nm						
BKSI				S	Sn	05 10 13.0	+0.4
	8.5nm,1.2s,0.1nm						
BBSI	Bau Bau	5.25	23	P	Pn	05 09 19.0	0.0
	78nm,0.9s,0.2nm						

IDC 28 05:12:05.3±6.7, 5°.18S×151°.08E, h219km±42km, mb3.3/2, mb1 3.5/3, mb1mx3.0/32, mbtmp3.8/3, Error ellipse: s-maj=126.6km s-min=48.6km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.73	223	P	Pn	05 13 29.5	+0.1
	1.6nm,0.3s,baz=48,slow=12,SNR=2.5						
PMG				S	S	05 14 36.7	+0.6
	3.0nm,0.3s,baz=256,slow=23,SNR=3.6						
WRA	Warramunga Arr	21.93	227	P	P	05 16 41.2	-0.2
	2.2nm,0.3s,baz=52,slow=9.6,SNR=14						
ASAR	Alice Springs	24.74	220	P	P	05 17 07.6	+0.7
	0.9nm,0.6s,baz=53,slow=9.5,SNR=9.0						
TORD	Torodi Ar. Bea	148.79	287	PKPbc	PKPbc	05 31 26.9	-1.0
	0.2nm,0.5s,baz=91,slow=2.3,SNR=5.2						

ISCJB ***28*** *05:16:10.8±0.7, 6°.91N±0°.07×73°.10W±0°.09, h166km, mb3.1/1, Error ellipse: s-maj=13.8km s-min=6.3km az=34.9*
FUNV ***28*** *05:16:11.9, 6°.81N×73°.13W, h170km, MW2.9*
IDC ***28*** *05:16:14.7±6.1, 6°.73N×73°.61W, h182km±32km, mb2.7/1, mb1 3.1/2, mb1mx2.6/34, mbtmp3.3/2, MS2.4/1, Ms1 2.4/1, ms1mx2.0/10, Error ellipse: s-maj=221.3km s-min=42.7km az=95.0*

ISC 28 05:16:11.4±1.1, 6°.88N±0°.07×73°.08W±0°.09, h166km, n14, σ0s94/18, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.24	38	eP	Pn	05 16 40.5	+0.4
CAPV				eS	Sn	05 17 02.5	+0.5
ROSC	El Rosal	2.37	212	P	Pn	05 16 52.4	+0.2
	14nm,0.3s,baz=105,slow=18,SNR=94						
ROSC				S	Sn	05 17 22.0	-1.7
	47nm,0.3s,baz=106,slow=20,SNR=8.9						
VIGV	El Vigia	2.58	41	eP	Pn	05 16 54.9	+0.5
VIGV				eS	Sn	05 17 27.1	-0.6
SOCV	Socops	2.61	58	eP	Pn	05 16 54.8	+0.2
SOCV				eS	Sn	05 17 26.9	-1.3
ELOV	Elorza	3.57	88	eP	Pn	05 17 06.8	+0.2
VIRV	Villa del Rosa	3.66	10	eP	Pn	05 17 08.1	+0.3
VIRV				eS	Sn	05 17 49.6	-2.2
CURV	Curarigua	4.38	45	eP	Pn	05 17 17.4	+0.3
DABV	Dabajuro	4.68	31	eP	Pn	05 17 21.4	+0.4
BAUV	El Baul	5.39	67	eP	Pn	05 17 30.6	+0.3
MAPV	Macapo	5.43	57	eP	Pn	05 17 30.4	-0.5
MONV	Montecano	5.90	31	eP	Pn	05 17 36.4	-0.6
SJG	San Juan	13.05	31	LR	LR	05 26 11.0	
	comp=Z,16nm,18.8s,baz=90,slow=44						
YKA	Yellowknife Ar	63.22	340	P	P	05 26 23.1	+1.3
	0.2nm,0.6s,baz=132,slow=6.9,SNR=6.5						
WRA	Warramunga Arr	150.40	241	PKPbc	PKPbc	05 35 43.9	-0.3
	0.4nm,0.7s,baz=109,slow=2.5,SNR=4.7						

IDC ***28*** *05:22:17.3±4.5, 16°.55N×101°.53W, h0km, mb3.5/3, mb1 3.8/7, mb1mx3.6/35, mbtmp3.5/7, ML3.5/4, MS3.3/4, Ms1 3.3/4, ms1mx3.0/18, Error ellipse: s-maj=98.5km s-min=27.9km az=30.0*
ISCJB ***28*** *05:22:24.3±0.8, 17°.26N±0°.05×101°.23W±0°.04, h29km±6km, mb3.5/3, MS3.8/2, Error ellipse: s-maj=9.6km s-min=4.8km az=21.6*
MEX ***28*** *05:22:26.0±0.6, 17°.27N×101°.23W, h7km±7km, MD4.1*

ISC 28 05:22:24.0±2.1, 17°.23N±0°.07×101°.20W±0°.04, h18km±11km, n20, σ1s48/27, mb3.6/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.45	326	eP	Pb	05 22 33.8	+0.4
ZIIG				i S	Sg	05 22 38.8	-0.6
CAIG	El Cayaco	0.91	101	i P	Pb	05 22 41.0	-0.2
CAIG				i S	Sb	05 22 53.9	+0.8
ARIG	Puente Sto Nin	1.33	38	eP	Pn	05 22 47.3	-0.4
ARIG				eS	Sn	05 23 03.3	-1.6
MEIG	Mezcala	1.66	65	eP	Pn	05 22 52.6	+0.3
MEIG				eS	Sn	05 23 13.0	-0.3
PLIG	Platanillo	1.99	54	eP	Pn	05 22 56.9	0.0
PLIG				i S	Sn	05 23 21.5	0.0
MMIG	Aquila	2.30	298	eP	Pn	05 23 01.4	+0.3
MMIG				i S	Sn	05 23 26.8	-2.1
MOIG	Morelia	2.44	0	eP	Pn	05 23 03.4	+0.2
MOIG				i S	Sn	05 23 30.9	-1.8
TLIG	Tlapa	2.54	82	eP	Pn	05 23 05.1	+0.6
TLIG				i S	Sn	05 23 34.8	-0.3
YAIG	Yautepec	2.60	51	eP	Pn	05 23 06.3	+0.9
YAIG				eS	Sn	05 23 36.2	-0.4
PNIG	Pinotepa	3.06	105	eP	Pn	05 23 12.1	+0.5
PNIG				i S	Sn	05 23 48.8	+1.1
CMIG	Matias Romero	6.04	90	Pn	Pn	05 23 54.1	+1.5
	0.4nm,0.3s,baz=267,slow=13,SNR=8.3						
CMIG				Sn	Sn	05 24 56.5	-4.8
	1.5nm,0.3s,baz=321,slow=8.8,SNR=5.1						
CMIG				Lg	Lg	05 25 28.5	
	3.3nm,0.3s,baz=18,slow=3.8,SNR=6.9						
CMIG				LR	LR	05 26 35.6	
	comp=Z,88nm,20.1s,baz=216,slow=40						
H06E1	SOCORRO T-PHAS	9.38	281	T	T	05 34 22.0	
	SNR=22						
APG	El Apazote	10.55	101	Pn	Pn	05 24 52.0	-2.7
	0.3nm,0.3s,baz=326,slow=17,SNR=10.0						
TXAR	Lajitas Array	12.26	350	Pn	P	05 25 25.5	-4.7
	0.2nm,0.3s,baz=165,slow=11,SNR=2.8						
TXAR				LR	LR	05 30 37.3	
	comp=Z,80nm,19.4s,baz=0.0,slow=39						
ANMO	Albuquerque	18.26	346	P	P	05 26 37.8	+0.9
	0.1nm,0.3s,baz=137,slow=12,SNR=5.4						
PDAR	Pinedale Array	26.43	346	P	P	05 28 00.9	+0.8
	0.4nm,0.8s,baz=172,slow=8.0,SNR=2.3						
RPN	Rapa Nui	44.79	190	LR	LR	05 43 14.6	
	comp=Z,116nm,19.7s,baz=230,slow=28						
YKA	Yellowknife Ar	46.18	351	P	P	05 30 48.3	+0.8
	0.8nm,0.7s,baz=158,slow=7.0,SNR=18						
ILAR	Eielson Arrar	56.49	338	P	P	05 32 04.7	0.0
	0.7nm,1.1s,baz=148,slow=5.3,SNR=3.2						
BDFB	Brasilia	61.78	119	LR	LR	05 59 58.2	
	comp=Z,50nm,18.2s,baz=298,slow=37						

GUC 28 05:32:47.2±0.3, 34°.81S×72°.09W, h31km±1km, ML3.8, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.69	148⇓	eP	Pb	05 33 00.0	-0.8
TALC				eS	Sb	05 33 10.1	0.0
NICH	Los Niches	0.73	105⇑	eP	Pn	05 33 00.8	-0.5
NICH				eS	Sb	05 33 11.2	0.0
LNCH	Linares	1.11	159⇑	eP	Pn	05 33 06.7	+0.1
LNCH				eS	Sb	05 33 21.5	-0.4
COCH	Cobquecura	1.44	203⇓	eP	Pn	05 33 11.9	+0.8
COCH				eS	Sb	05 33 30.7	-0.5
TACH	Talagante	1.50	40	eP	Pn	05 33 13.0	+1.0
RCDM	Rinconada Maip	1.69	39⇓	eP	Pn	05 33 16.1	+1.4
RCDM				eS	Sb	05 33 37.8	-0.9
RCDM				IAML		05 33 43.9	
	comp=N,796nm,0.4s						
SAN	Santiago	1.80	41⇑	eP	Pb	05 33 17.9	-1.6
SAN				eS	Sb	05 33 41.2	-0.6
CLCH	Cerro Calan	1.91	43⇑	eP	Pb	05 33 19.7	-1.8
CLCH				eS	Sb	05 33 44.3	-0.8
CLCH				IAML		05 33 54.7	
	comp=N,1μm,0.7s						
PEL	Peldehue	2.03	35⇓	eP	Pb	05 33 21.6	-2.0
PEL				eS	Sb	05 33 47.5	-0.9
PEL				IAML		05 33 57.7	
	comp=E,2μm,0.7s						
ROCH	El Roble	2.04	26⇓	eP	Pb	05 33 21.9	-2.0
ROCH				eS	Sb	05 33 48.3	-0.9
ROCH				IAML		05 33 54.4	
	comp=N,1μm,2.5s						

IDC 28 05:38:40.2±3.0, 31°.92S×177°.75W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.8/24, mbtmp3.9/3, ML3.1/1, Error ellipse: s-maj=71.0km s-min=36.8km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.60	212	Pn	Pn	05 40 32.6	+0.4
	0.3nm,0.3s,baz=220,slow=14,SNR=2.2						
URZ				Sn	Sn	05 41 57.2	-1.8
	1.0nm,0.3s,baz=315,slow=22,SNR=3.0						
ASAR	Alice Springs	43.26	268	P	P	05 46 43.7	0.0
	1.1nm,0.5s,baz=108,slow=7.2,SNR=22						
WRA	Warramunga Arr	44.38	274	P	P	05 46 52.8	0.0
	0.7nm,0.4s,baz=113,slow=7.9,SNR=13						
FINES	FINESS Array B	146.64	339	PKPbc	PKPdf	05 58 22.1	+0.6
	1.5nm,0.7s,baz=66,slow=4.6,SNR=7.7						

IDC 28 05:38:41.7±2.9, 2°.86S×140°.73E, h0km, mb3.2/2, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=130.7km s-min=8.8km az=92.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	0.35	357	Pn	Pg	05 38 48.3	-0.1
	516nm,0.3s,baz=212,slow=8.7,SNR=223						
JAY				Pg	Pb	05 38 48.9	-1.9
	516nm,0.3s,baz=228,slow=8.3,SNR=237						
JAY				Lg	Lg	05 38 52.5	
	540nm,0.3s,baz=137,slow=23,SNR=32						
WRA	Warramunga Arr	18.09	200	P	Pn	05 42 54.2	-0.4
	0.3nm,0.3s,baz=24,slow=12,SNR=23						
ASAR	Alice Springs	21.71	197	P	P	05 43 33.8	-0.8
	0.5nm,0.5s,baz=28,slow=11,SNR=8.8						
H11S3	WAKE ISLAND Hy	33.22	49	T	T	06 20 13.2	
	baz=231,slow=74,SNR=20						
H11S2	WAKE ISLAND Hy	33.24	49	T	T	06 20 13.6	
	baz=231,slow=74,SNR=17						
H11S1	WAKE ISLAND Hy	33.24	49	T	T	06 20 13.5	
	baz=231,slow=74,SNR=14						
H11N1	WAKE ISLAND Hy	34.12	48	T	T	06 21 22.6	
	baz=229,slow=75,SNR=8.1						
H11N2	WAKE ISLAND Hy	34.13	48	T	T	06 21 23.5	
	baz=229,slow=75,SNR=6.6						
H11N3	WAKE ISLAND Hy	34.13	48	T	T	06 21 23.7	
	baz=229,slow=75,SNR=4.0

21nm,0.3s,baz=294,slow=10,SNR=4.6
KNRA Kununurra 9.62 118 P Pn 06 12 30.9 +3.4
baz=8.9,SNR=7.8
KNRA Kununurra 9.62 118 P **Sn 06 14 14.3 -0.1**
baz=7.0,SNR=3.5
MTN Manton Dam 11.06 99 P **Pn 06 12 50.0 +2.6**
baz=10,SNR=6.6
MTN Manton Dam 11.06 99 P **Sn 06 14 46.4 -3.5**
baz=9.4,SNR=6.3
KDU Kakadu 12.35 98 P **Pn 06 13 07.5 +2.5**
baz=12,SNR=4.9
KDU S **Sn 06 15 16.2 -5.2**
baz=12,SNR=4.1
GIRL Giralia 12.50 205 P Pn 06 13 11.7 +4.8
baz=12,SNR=4.5
MEEK Meekatharra 15.28 184 P **P 06 13 48.9 -0.2**
baz=15,SNR=6.0
MEEK S Sn 06 16 25.0 -7.9
baz=15,SNR=17
WRKA Warakurna 15.78 151 P **P 06 13 54.3 -0.4**
baz=15,SNR=9.9
WRKA S **Sn 06 16 41.9 -3.1**
baz=15,SNR=5.6
WRA Warramunga Arr 16.30 123 Pn **Pn 06 13 58.6 +0.7**
0.6nm,0.3s,baz=292,slow=13,SNR=26
WRA Sn Sn 06 16 46.4 -11
0.6nm,0.3s,baz=295,slow=27,SNR=10
ASAR Alice Springs 18.10 135 P **P 06 14 24.2 +3.7**
0.6nm,0.3s,baz=312,slow=13,SNR=54
ASAR S **Sn 06 17 34.5 -6.8**
0.3nm,0.3s,baz=319,slow=26,SNR=6.6
PSI Prapat 25.17 303 LR LR 06 25 05.3
comp=Z,25nm,20.7s,baz=122,slow=36
H08S2 Diego Garcia H 46.89 270 T T 07 09 11.4
baz=97,slow=75,SNR=8.5
H08S3 Diego Garcia H 46.90 270 T T 07 09 12.1
baz=97,slow=75,SNR=7.8
H08S1 Diego Garcia H 46.91 270 T T 07 09 09.6
baz=97,slow=75,SNR=6.8
SONM Songino Array 60.12 350 P P 06 20 20.2 +4.7
0.2nm,0.5s,baz=168,slow=8.0,SNR=2.4
MKAR Makanchi Array 66.93 333 P **P 06 21 03.4 +3.0**
0.2nm,0.3s,baz=134,slow=6.2,SNR=3.5
ZALV Zalesovo Beam 71.53 339 P P 06 21 32.6 +3.9
0.5nm,0.3s,baz=116,slow=3.4,SNR=2.8

MEX 28 07:13:34.3±0.6, 20°.45N×106°.10W, h20km±58km, MD4.2, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANIG	**Ahuacatlan**	**1.59**	**68**	*i* P	Pn	07 13 59.1	-2.5
ANIG				*e*S	Sn	07 14 17.8	-3.9
R15V		**2.37**	**122**	*i* P	Pn	07 14 08.8	-3.3
R15V				*e*S	Sn	07 14 37.2	-3.5
EZ5V		**2.54**	**112**	*i* P	Pn	07 14 13.0	-1.7
EZ5V				*e*S	Sn	07 14 41.9	-3.5
MAIG	**Mazatlaan**	**2.74**	**354**	*i* P	Pn	07 14 18.5	+1.4
MAIG				*e*S	Sn	07 14 50.1	+0.5
MMIG	**Aquila**	**3.38**	**129**	*i* P	Pn	07 14 23.7	-2.2
MMIG				*e*S	Sn	07 15 02.3	-3.2

*ISCJB **28** 07:16:15.4±0.2, 18°.41N±0°.04×72°.88W±0°.02, h6km, mb4.1/22, MS3.6/22, Error ellipse: s-maj=5.6km s-min=3.0km az=1.1*
*IDC **28** 07:16:15.8±0.5, 18°.44N×72°.91W, h0km, mb4.1/17, mb1 4.3/23, mb1mx4.1/40, mbtmp4.1/23, ML3.7/6, MS3.6/26, Ms1 3.6/26, ms1mx3.5/42, Error ellipse: s-maj=17.9km s-min=13.0km az=57.0*
*NEIC **28** 07:16:17.5±0.3, 18°.44N×72°.88W, h10km, mb4.2/4, Error ellipse: s-maj=5.2km s-min=3.9km az=195.0*
NEIC Felt at Petionville.
*JSN **28** 07:16:18.5±1.6, 18°.63N×72°.95W, h0km±999km, MD5.1*
ISC 28 07:16:17.0±0.4, 18°.46N±0°.05×72°.90W±0.03, h6km, n77, σ1°14/72, mb4.2/22, MS3.6/22, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGNH	**LØogne**	**0.28**	**78**	*e*Pg	**Pg**	**07 16 21.7**	**-0.8**
WSYH	**La Gonave Hosp**	**0.38**	**5**	P	**Pg**	**07 16 23.6**	**-0.8**
JAKH	**Jacmel**	**0.42**	**121**	*e*Pg	**Pg**	**07 16 25.1**	**+0.1**
PAPH	**Port-au-Prince**	**0.57**	**83**	P	**Pg**	**07 16 27.0**	**-1.0**
SDDR	**Presa de Saban**	**1.61**	**71**	*e*Pn	**Pn**	**07 16 45.6**	**-0.4**
SDDR				*e*Sn	**Sg**	**07 17 08.6**	**-0.3**
GTBY	**Guantanamo Bay**	**2.56**	**305**	*e*Pn	**Pn**	**07 16 57.7**	**-1.3**
CMJ	**Castle Mountai**	**3.32**	**265**	*i* P	**Pn**	**07 17 11.0**	**+1.5**
GRTK	**Grand Turk**	**3.46**	**28**	*e*Pn	**Pn**	**07 17 11.2**	**-0.3**
SMN1	**Samana, DR**	**3.51**	**77**	*e*Pn	**Pn**	**07 17 13.2**	**+1.1**
GWJ	**Greenwich**	**3.66**	**265**	*i* P	**Pn**	**07 17 14.5**	**+0.2**
HOJ	**Hope**	**3.69**	**264**	*i* P	**Pn**	**07 17 15.3**	**+0.7**
STH	**Stony Hill**	**3.74**	**265**	*i* P	**Pn**	**07 17 14.8**	**-0.5**
BBJ	**Bamboo Saint A**	**4.15**	**270**	*i* P	**Pn**	**07 17 21.6**	**+0.6**
PCDR	**Punta Cana, DR**	**4.28**	**89**	*e*Pn	**Pn**	**07 17 24.4**	**+1.6**
PCDR				*e*Sg	**Sg**	**07 18 34.7**	**+0.1**
CVJ	**Coleyville**	**4.41**	**268**	*i* P	**Pn**	**07 17 24.6**	**0.0**
MTDJ	**Mount Denham**	**4.41**	**268**	*e*Pn	**Pn**	**07 17 24.6**	**0.0**
MCJ	**Malvern**	**4.58**	**264**	*i* P	**Pn**	**07 17 28.4**	**+1.4**
MBJ	**Montego Bay**	**4.72**	**270**	*i* S	**Sn**	**07 18 21.8**	**-2.1**
CRPR	**Cabo Rojo, PR**	**5.52**	**94**	*e*Pn	**Pn**	**07 17 39.2**	**-0.5**
	69nm,0.8s						
LSP	**Las Mesas**	**5.53**	**92**	*e*Pn	**Pn**	**07 17 40.1**	**+0.2**
LRS	**Lares**	**5.75**	**91**	*e*Pn	**Pn**	**07 17 42.9**	**-0.1**
AOPR	**Arecibo Observ**	**5.83**	**90**	*e*Pn	Pn	07 17 50.5	+6.4
OBIP	**Obispado Ponce**	**5.99**	**93**	*e*Pn	**Pn**	**07 17 46.2**	**0.0**
	29nm,0.6s						
OBIP				*e*Sg	Sg	07 19 22.9	-6.6
CELP	**Cerrillos**	**6.01**	**93**	*e*Pn	**Pn**	**07 17 46.2**	**-0.4**
CELP				*e*Sg	**Sg**	**07 19 28.5**	**-1.7**
SJG	**San Juan**	**6.42**	**92**	Pn	**Pn**	**07 17 53.1**	**+1.0**
	0.0nm,0.3s,baz=234,slow=18,SNR=4.5						
SJG				Sn	**Sn**	**07 19 05.3**	**-0.5**
	0.1nm,0.3s,baz=252,slow=16,SNR=1.4						
SJG				LR	LR	07 19 42.5	
	comp=Z,93nm,20.1s,baz=270,slow=32						
SJG	**San Juan**	**6.42**	**92**	*e*Pn	**Pn**	**07 17 51.1**	**-1.0**
	57nm,0.8s						
SJG				*e*Sn	**Sn**	**07 19 04.2**	**-1.5**
SJG				Sn	Sn	07 19 05.3	-0.5
CBYP	**Canovanas**	**6.69**	**90**	*e*Pn	**Pn**	**07 17 55.5**	**-0.3**
	26nm,0.6s						
CBYP				*e*Sn	**Sn**	**07 19 11.6**	**-0.9**
HUMP	**Col San Antoni**	**6.70**	**92**	*e*Pn	**Pn**	**07 17 59.2**	**+3.2**
MTP	**Monte Pirata**	**6.99**	**92**	*e*Pn	**Pn**	**07 18 00.1**	**+0.2**
	29nm,0.7s						
MTP				*e*Sn	**Sn**	**07 19 23.2**	**+3.5**
SDV	**Santo Domingo**	**9.76**	**167**	*e*Pn	**Pn**	**07 18 38.0**	**-0.2**
PCRV	**Puerto La Cruz**	**11.48**	**135**	Pn	**Pn**	**07 19 02.1**	**+0.5**
	4.3nm,0.3s,baz=297,slow=3.9,SNR=38						
PCRV				Sn	Sn	07 21 02.4	-7.8
	1.2nm,0.3s,baz=293,slow=21,SNR=3.1						
PCRV				LR	LR	07 23 52.6	
	comp=Z,204nm,18.5s,baz=323,slow=40						
ROSC	**El Rosal**	**13.59**	**186**	Pn	**Pn**	**07 19 31.6**	**+0.9**
	1.3nm,0.3s,baz=82,slow=17,SNR=8.7						
JTS	**JuntasAbangare**	**14.22**	**237**	Pn	**Pn**	**07 19 37.5**	**-1.5**
	0.2nm,0.3s,baz=326,slow=7.3,SNR=2.0						
TEIG	**Tepich**	**14.62**	**279**	Pn	**Pn**	**07 19 45.2**	**+0.6**
	1.9nm,0.3s,baz=73,slow=1.8,SNR=15						
APG	**El Apazote**	**17.17**	**261**	P	**Pn**	**07 20 18.0**	**0.0**
	0.2nm,0.3s,baz=102,slow=23,SNR=5.5						
APG				LR	LR	07 27 26.3	
	comp=Z,113nm,19.7s,baz=88,slow=39						
OTAV	**Otavalo**	**18.91**	**197**	*e*P	**P**	**07 20 39.0**	**0.0**
	10nm,1.0s						
TKL	**Tuckaleechee C**	**19.66**	**333**	P	**Pn**	**07 20 48.7**	**+0.7**
	0.1nm,0.3s,baz=133,slow=14,SNR=2.4						
TKL				LR	LR	07 28 42.3	
	comp=Z,231nm,19.6s,baz=144,slow=38						
CBN	**Corbin Frederi**	**20.06**	**350**	*e*P	Pn	07 20 52.4	-0.3
	24nm,0.6s						
WVT	**Waverly**	**22.00**	**326**	*e*P	**P**	**07 21 12.8**	**+0.9**
	9.1nm,0.8s						
PTGA	**Pitinga**	**22.91**	**145**	P	**P**	**07 21 22.3**	**+0.5**
	4.9nm,0.8s,baz=340,slow=12,SNR=8.4						
PTGA				LR	LR	07 30 49.1	
	comp=Z,128nm,18.0s,baz=333,slow=38						
ATAH	**Atahualpa**	**26.00**	**193**	LR	LR	07 33 47.8	
	comp=Z,170nm,20.9s,baz=7.6,slow=40						
SADO	**Sadowa**	**26.75**	**350**	LR	LR	07 32 16.9	
	comp=Z,179nm,21.3s,baz=175,slow=36						
SAML	**Samuel**	**28.87**	**160**	*e*P	**P**	**07 22 15.3**	**-1.3**
	3.5nm,0.9s						
TXAR	**Lajitas Array**	**30.06**	**297**	P	**P**	**07 22 26.1**	**-1.1**
	1.2nm,0.9s,baz=122,slow=12,SNR=4.5						
LPAZ	**La Paz**	**34.84**	**172**	P	**P**	**07 23 10.4**	**+0.7**
	1.0nm,0.8s,baz=306,slow=9.7,SNR=4.7						
LPAZ				LR	LR	07 38 25.7	
	comp=Z,280nm,20.9s,baz=1.5,slow=38						
SCHQ	**Schefferville**	**36.61**	**6**	P	**P**	**07 23 25.6**	**+1.7**
	3.7nm,0.9s,baz=153,slow=5.8,SNR=3.9						
SCHQ				LR	LR	07 37 30.9	
	comp=Z,122nm,20.4s,baz=258,slow=35						
ULM	**Lac du Bonnet**	**36.65**	**335**	P	**P**	**07 23 26.7**	**+2.4**
	4.2nm,0.9s,baz=143,slow=7.7,SNR=7.6						
ULM				LR	LR	07 39 33.3	
	comp=Z,101nm,18.7s,baz=200,slow=38						
PDAR	**Pinedale Array**	**39.32**	**316**	P	**P**	**07 23 47.1**	**-0.1**
	0.6nm,0.7s,baz=122,slow=12,SNR=6.0						
PDAR				PcP	**PcP**	**07 25 57.4**	**+1.5**
	0.6nm,0.8s,baz=145,slow=5.4,SNR=4.4						
PDAR				LR	LR	07 41 36.3	
	comp=Z,150nm,18.2s,baz=118,slow=39						
BDFB	**Brasilia**	**41.81**	**143**	P	**P**	**07 24 07.5**	**-0.4**
	5.2nm,0.8s,baz=299,slow=14,SNR=13						
BDFB				LR	LR	07 42 35.0	
	comp=Z,103nm,18.3s,baz=296,slow=38						
CFAA	**Coronel Fontan**	**49.97**	**175**	LR	LR	07 47 15.9	
	comp=Z,7.2nm,19.4s,baz=7.0,slow=37						
YKA	**Yellowknife Ar**	**52.58**	**337**	P	**P**	**07 25 30.1**	**-1.1**
	1.2nm,0.7s,baz=124,slow=7.2,SNR=22						
DLBC	**Dease Lake**	**57.41**	**328**	P	**P**	**07 26 06.8**	**+0.4**
	7.5nm,0.8s,baz=115,slow=3.9,SNR=7.8						
SUMG	**Summit**	**57.60**	**12**	*i* P	P	07 26 12.3	+4.5
	5.7nm,1.0s						
PLCA	**Paso Flores**	**58.92**	**178**	P	**P**	**07 26 16.4**	**-0.6**
	1.7nm,0.9s,baz=8.8,slow=3.7,SNR=4.9						
ESDC	**Sonseca Array**	**62.39**	**54**	P	**P**	**07 26 40.5**	**-0.4**
	1.0nm,0.7s,baz=281,slow=6.8,SNR=4.6						
DAG	**Danmarks Havn**	**64.28**	**12**	*i* P	**P**	**07 26 53.3**	**+0.6**
	3.0nm,0.9s						
ILAR	**Eielson Array**	**66.64**	**333**	P	**P**	**07 27 07.5**	**-0.7**
	1.2nm,0.9s,baz=98,slow=4.6,SNR=7.7						
ILAR				LR	LR	07 57 08.5	
	comp=Z,102nm,18.4s,baz=142,slow=37						
DBIC	**Dimbokro**	**67.11**	**90**	LR	LR	07 56 21.5	
	comp=Z,25nm,18.0s,baz=318,slow=36						
NOA	**NORSAR Array B**	**71.20**	**31**	LR	LR	07 54 32.6	
	comp=Z,34nm,20.4s,baz=285,slow=32						
TORD	**Torodi Ar. Bea**	**71.53**	**82**	P	**P**	**07 27 37.5**	**-1.9**
	0.9nm,0.8s,baz=287,slow=6.4,SNR=5.8						
TORD				LR	LR	07 56 10.5	
	comp=Z,31nm,21.3s,baz=15,slow=34						
DAVOX	**Davos/Dischmat**	**71.90**	**46**	LR	LR	07 53 25.3	
	comp=Z,78nm,19.4s,baz=260,slow=31						
HFS	**Hagfors**	**72.50**	**32**	LR	LR	07 52 57.5	
	comp=Z,36nm,22.0s,baz=264,slow=30						
KEST	**Kesra**	**73.31**	**57**	LR	LR	07 53 50.2	
	comp=Z,16nm,20.6s,baz=264,slow=31						
GERES	**GERESS Array B**	**74.13**	**43**	P	**P**	**07 27 54.2**	**-0.2**
	2.7nm,0.8s,baz=273,slow=4.7,SNR=9.1						
GERES				LR	LR	07 55 07.5	
	comp=Z,94nm,21.7s,baz=264,slow=31						
ARCES	**ARCESS Array B**	**75.77**	**21**	P	**P**	**07 28 03.3**	**-0.1**
	2.6nm,0.9s,baz=350,slow=4.9,SNR=6.6						
ARCES				LR	LR	07 56 27.8	
	comp=Z,49nm,21.6s,baz=246,slow=32						
VYHS	**Vyhne**	**77.53**	**43**	*e*sP	P	07 28 17.3	+3.5
VYHS				*e*PP	PP	07 31 17.0	+8.8
FINES	**FINESS Array B**	**78.18**	**29**	P	**P**	**07 28 18.5**	**+1.4**
	1.5nm,0.8s,baz=270,slow=6.9,SNR=2.7						
FINES				LR	LR	07 59 34.3	
	comp=Z,39nm,21.1s,baz=339,slow=33						
STHS	**Stebnicka Huta**	**78.84**	**42**	*e*sP	P	07 28 26.0	+5.0
CRVS	**Cervenica-Dubn**	**79.11**	**42**	*e*P	**P**	**07 28 23.1**	**+0.6**
KOLS	**Kolonicke sedl**	**79.62**	**42**	*e*P	**P**	**07 28 26.6**	**+1.3**
KOLS				*e*PP	**PP**	**07 31 27.0**	**+1.4**
MLR	**Muntele Rosu**	**83.05**	**44**	LR	LR	08 02 35.5	
	comp=Z,13nm,19.4s,baz=284,slow=34						
AKASG	**Malin Array Be**	**83.33**	**39**	LR	LR	08 02 00.8	
	comp=Z,54nm,21.1s,baz=0.0,slow=33						
IDI	**Anoyia**	**85.66**	**54**	LR	LR	08 02 12.2	
	comp=Z,17nm,21.1s,baz=82,slow=32						
BRTR	**Keskin Array B**	**90.46**	**48**	P	**P**	**07 29 20.1**	**0.0**
	0.5nm,0.7s,baz=278,slow=5.4,SNR=2.9						
SEY	**Seymchan**	**91.48**	**341**	P	**P**	**07 29 24.4**	**+0.3**
	0.8nm,0.5s,baz=68,slow=11,SNR=1.6						
WRA	**Warramunga Arr**	**154.25**	**262**	PKP	**PKPdf**	**07 36 09.3**	**-1.4**
	1.0nm,0.8s,baz=83,slow=2.1,SNR=3.1						
WRA				PKPbc	**PKPbc**	**07 36 16.4**	**-2.6**
	1.5nm,0.8s,baz=89,slow=1.9,SNR=5.5						
ASAR	**Alice Springs**	**154.48**	**254**	PKPbc	**PKPbc**	**07 36 19.5**	**+0.1**
	0.4nm,0.8s,baz=87,slow=2.6,SNR=2.8						

*ATH **28** 07:27:51.3, 37°.94N×20°.08E, h5km±4km, MD3.5/23*
*CSEM **28** 07:27:51.6±0.4, 37°.95N×20°.09E, h2km, ML3.4, Error ellipse: s-maj=7.4km s-min=5.1km az=54.0*
*THE **28** 07:27:53.2, 38°.00N×20°.18E, h0km±2km, ML3.4/4, Error ellipse: s-maj=2.1km s-min=1.0km az=229.0*
ISC 28 07:27:50.4±1.4, 37°.93N±0°.03×20°.02E±0°.04, h1km±10km, n80, σ1°06/129, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.52**	**61**	P	**Pg**	**07 28 00.1**	**-0.1**
VLS				S	**Sg**	**07 28 05.8**	**-1.1**
VLS	**Valsamata**	**0.52**	**61**	*e*PG	**Pg**	**07 28 00.3**	**+0.1**
VLS	**Valsamata**	**0.52**	**61**	*e*Pg	**Pg**	**07 28 00.3**	**+0.1**
VLS				S	**Sg**	**07 28 05.8**	**-1.1**
KFL	**Anninata**	**0.64**	**73**	P	**Pg**	**07 28 02.2**	**-0.3**
KFL				S	**Sg**	**07 28 09.9**	**-0.9**
KFL	**Anninata**	**0.64**	**73**	P	**Pg**	**07 28 02.2**	**-0.3**
KFL				S	**Sg**	**07 28 09.9**	**-0.9**
LKD2	**Lefkada island**	**0.99**	**30**	P	**Pg**	**07 28 09.4**	**0.0**
LKD2				S	**Sb**	**07 28 23.3**	**-0.7**
LKD2	**Lefkada island**	**0.99**	**30**	*e*PG	**Pg**	**07 28 09.4**	**0.0**
LKD2	**Lefkada island**	**0.99**	**30**	P	**Pg**	**07 28 09.4**	**0.0**
LKD2				S	**Sb**	**07 28 23.3**	**-0.7**
PDO	**Prodromos**	**1.14**	**54**	P	**Pg**	**07 28 11.4**	**-0.7**
PDO				S	**Sg**	**07 28 25.8**	**-1.1**
PDO	**Prodromos**	**1.14**	**54**	*e*PG	**Pg**	**07 28 11.8**	**-0.3**
PDO				*e*SB	**Sb**	**07 28 26.9**	**-1.2**
PDO	**Prodromos**	**1.14**	**54**	P	**Pg**	**07 28 11.4**	**-0.7**
PDO	**Prodromos**	**1.14**	**54**	*e*Pg	**Pg**	**07 28 11.8**	**-0.3**
PDO				S	**Sg**	**07 28 25.8**	**-1.1**
PDO				*e*Sb	**Sb**	**07 28 26.9**	**-1.2**
RLS	**Riolos of Patr**	**1.15**	**83**	P	**Pg**	**07 28 11.9**	**-0.5**
RLS				S	**Sb**	**07 28 27.2**	**-1.4**
RLS	**Riolos of Patr**	**1.15**	**83**	*e*PG	**Pg**	**07 28 12.0**	**-0.5**
RLS				*e*SB	**Sb**	**07 28 27.4**	**-1.1**
RLS	**Riolos of Patr**	**1.15**	**83**	*e*Pg	**Pg**	**07 28 12.0**	**-0.5**
RLS				*e*Sb	**Sb**	**07 28 27.4**	**-1.1**
AMT	**Artemida-Makis**	**1.40**	**106**	P	**Pg**	**07 28 17.8**	**+0.6**
AMT				S	**Sn**	**07 28 37.0**	**+0.8**
AMT	**Artemida-Makis**	**1.40**	**106**	*e*PB	**Pn**	**07 28 16.9**	**-0.2**
AMT				*e*SB	**Sn**	**07 28 39.3**	**+3.1**
AMT	**Artemida-Makis**	**1.40**	**106**	*e*Pb	**Pn**	**07 28 16.9**	**-0.2**
AMT	**Artemida-Makis**	**1.40**	**106**	P	**Pg**	**07 28 17.8**	**+0.6**
AMT				S	**Sn**	**07 28 37.0**	**+0.8**
AMT				*e*Sb	**Sn**	**07 28 39.3**	**+3.1**
DSL	**Palaion Diasel**	**1.47**	**35**	P	**Pn**	**07 28 17.9**	**-0.1**
DSL				S	**Sg**	**07 28 39.0**	**+1.4**
DSL	**Palaion Diasel**	**1.47**	**35**	*e*PB	**Pb**	**07 28 18.7**	**+0.2**
DSL				*e*SB	**Sg**	**07 28 39.3**	**+1.7**
DSL	**Palaion Diasel**	**1.47**	**35**	P	**Pn**	**07 28 17.9**	**-0.1**
DSL	**Palaion Diasel**	**1.47**	**35**	*e*Pb	**Pb**	**07 28 18.7**	**+0.2**
DSL				S	**Sg**	**07 28 39.0**	**+1.4**
EFP	**Efpalio**	**1.57**	**71**	P	**Pn**	**07 28 18.8**	**-0.6**
EFP				S	**Sg**	**07 28 40.8**	**0.0**
EFP	**Efpalio**	**1.57**	**71**	*e*PG	**Pn**	**07 28 19.3**	**-0.1**
EFP				*e*SB	**Sg**	**07 28 42.4**	**+1.6**
EFP	**Efpalio**	**1.57**	**71**	P	**Pn**	**07 28 18.8**	**-0.6**
EFP	**Efpalio**	**1.57**	**71**	*e*Pg	**Pn**	**07 28 19.3**	**-0.1**
EFP				S	**Sg**	**07 28 40.8**	**0.0**
EFP				*e*Sb	**Sg**	**07 28 42.4**	**+1.6**
IGT	**Igoumenitsa**	**1.62**	**9**	*e*PB	**Pb**	**07 28 21.5**	**+0.5**
IGT	**Igoumenitsa**	**1.62**	**9**	*e*Pb	**Pb**	**07 28 21.5**	**+0.5**
KLV	**Kalavryta, Ach**	**1.69**	**86**	*e*PG	**Pn**	**07 28 21.5**	**+0.4**
KLV				*e*SB	**Sg**	**07 28 44.2**	**-0.5**
KLV	**Kalavryta, Ach**	**1.69**	**86**	*e*Pg	**Pn**	**07 28 21.5**	**+0.4**
KLV				*e*Sb	**Sg**	**07 28 44.2**	**-0.5**
ITM	**Ithomi**	**1.69**	**116**	P	**Pb**	**07 28 22.3**	**0.0**
ITM				S	**Sg**	**07 28 45.2**	**+0.4**
ITM	**Ithomi**	**1.69**	**116**	*e*PB	**Pg**	**07 28 23.0**	**+0.2**
ITM				*e*SB	**Sg**	**07 28 44.8**	**0.0**
ITM	**Ithomi**	**1.69**	**116**	P	**Pb**	**07 28 22.3**	**0.0**
ITM	**Ithomi**	**1.69**	**116**	*e*Pb	**Pg**	**07 28 23.0**	**+0.2**
ITM				*e*Sb	**Sg**	**07 28 44.8**	**0.0**
ITM				S	**Sg**	**07 28 45.2**	**+0.4**
EVR	**Evrytania**	**1.72**	**54**	*e*PB	**Pg**	**07 28 23.8**	**+0.5**
EVR				*e*SB	**Sg**	**07 28 45.9**	**+0.3**
EVR	**Evrytania**	**1.72**	**54**	*e*Pb	**Pg**	**07 28 23.8**	**+0.5**
EVR				*e*Sb	**Sg**	**07 28 45.9**	**+0.3**
PYL	**PYLOS**	**1.72**	**126**	*e*PB	**Pg**	**07 28 23.6**	**+0.3**
PYL	**PYLOS**	**1.72**	**126**	*e*Pb	**Pg**	**07 28 23.6**	**+0.3**
KALE	**Kalithea**	**1.74**	**74**	*e*PG	**Pb**	**07 28 22.4**	**-0.7**
KALE				*e*SB	**Sg**	**07 28 46.8**	**+0.7**
KALE	**Kalithea**	**1.74**	**74**	*e*Pg	**Pb**	**07 28 22.4**	**-0.7**
KALE				*e*Sb	**Sg**	**07 28 46.8**	**+0.7**
KEK	**Kerkira**	**1.79**	**355**	P	**Pb**	**07 28 24.0**	**+0.1**
KEK				S	**Sg**	**07 28 48.2**	**+0.4**
KEK	**Kerkira**	**1.79**	**355**	*e*PG	**Pb**	**07 28 24.0**	**+0.1**
KEK	**Kerkira**	**1.79**	**355**	P	**Pb**	**07 28 24.0**	**+0.1**
KEK				S	**Sg**	**07 28 48.2**	**+0.4**
GUR	**Goura**	**1.84**	**89**	*e*PG	**Pb**	**07 28 23.9**	**-1.0**
GUR				*e*SN	**Sg**	**07 28 50.7**	**+1.2**
GUR	**Goura**	**1.84**	**89**	*e*Pg	**Pb**	**07 28 23.9**	**-1.0**
GUR				*e*Sn	**Sg**	**07 28 50.7**	**+1.2**
JAN	**Janina**	**1.84**	**20**	*e*PN	**Pg**	**07 28 26.6**	**+0.9**
JAN				*e*SN	**Sg**	**07 28 50.6**	**+1.0**
JAN	**Janina**	**1.84**	**20**	*e*Pn	**Pg**	**07 28 26.6**	**+0.9**
JAN				*e*Sn	**Sg**	**07 28 50.6**	**+1.0**
MAKR	**Makrakomi, Fth**	**1.98**	**56**	*e*PN	**Pb**	**07 28 27.5**	**+0.3**
MAKR				*e*SN	**Sg**	**07 28 54.1**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.98**	**56**	*e*Pn	**Pb**	**07 28 27.5**	**+0.3**
MAKR				*e*Sn	**Sg**	**07 28 54.1**	**+0.1**
AGG	**Agios Georgios**	**2.12**	**58**	*e*PG	**Pg**	**07 28 31.1**	**+0.1**
AGG	**Agios Georgios**	**2.12**	**58**	*e*Pg	**Pg**	**07 28 31.1**	**+0.1**
AXAR	**Agios Charalam**	**2.24**	**67**	*e*PG	**Pb**	**07 28 32.0**	**+0.4**
AXAR	**Agios Charalam**	**2.24**	**67**	*e*Pg	**Pb**	**07 28 32.0**	**+0.4**
THL	**Klokotos Trika**	**2.26**	**43**	*e*PG	**Pg**	**07 28 33.4**	**-0.3**
THL				*e*SB	**Sg**	**07 29 04.1**	**+1.1**
THL	**Klokotos Trika**	**2.26**	**43**	*e*Pg	**Pg**	**07 28 33.4**	**-0.3**
THL				*e*Sb	**Sg**	**07 29 04.1**	**+1.1**
LTK	**Loutraki**	**2.33**	**87**	*e*PG	**Pb**	**07 28 33.6**	**+0.4**
LTK	**Loutraki**	**2.33**	**87**	*e*Pg	**Pb**	**07 28 33.6**	**+0.4**
LKR	**Lokris**	**2.46**	**72**	*e*PN	**Pb**	**07 28 34.7**	**-0.6**
LKR	**Lokris**	**2.46**	**72**	*e*Pn	**Pb**	**07 28 34.7**	**-0.6**
VLI	**Veliai**	**2.62**	**117**	*e*PN	**Pb**	**07 28 36.7**	**-1.5**
VLI	**Veliai**	**2.62**	**117**	*e*Pn	**Pb**	**07 28 36.7**	**-1.5**
SMIA	**Simia**	**2.68**	**68**	*e*PB	**Pn**	**07 28 35.8**	**+1.1**
SMIA	**Simia**	**2.68**	**68**	*e*Pb	**Pn**	**07 28 35.8**	**+1.1**
XOR	**Xorichti**	**2.87**	**59**	*e*PB	**Pn**	**07 28 38.8**	**+1.5**
XOR	**Xorichti**	**2.87**	**59**	*e*Pb	**Pn**	**07 28 38.8**	**+1.5**
LIT	**Litokhoron**	**2.90**	**41**	*e*PN	**Pb**	**07 28 41.5**	**-1.4**
LIT	**Litokhoron**	**2.90**	**41**	*e*Pn	**Pb**	**07 28 41.5**	**-1.4**
MRKA	**Markates**	**2.91**	**74**	*e*PG	**Pb**	**07 28 43.2**	**+0.1**
MRKA	**Markates**	**2.91**	**74**	*e*Pg	**Pb**	**07 28 43.2**	**+0.1**
FNA	**Florina**	**3.04**	**20**	*e*PB	**Pn**	**07 28 41.2**	**+1.6**
FNA	**Florina**	**3.04**	**20**	*e*Pb	**Pn**	**07 28 41.2**	**+1.6**
PTL	**Penteli**	**3.04**	**87**	*e*PN	**Pb**	**07 28 43.5**	**-1.8**
PTL	**Penteli**	**3.04**	**87**	*e*Pn	**Pb**	**07 28 43.5**	**-1.8**
STON	**Ston**	**5.24**	**341**	*e*Pn	**Pn**	**07 29 10.2**	**+0.4**
STON				Sn	**Sn**	**07 30 08.2**	**-2.7**
STON	**Ston**	**5.24**	**341**	*e*Pn	**Pn**	**07 29 10.2**	**+0.4**
STON				Sn	**Sn**	**07 30 08.2**	**-2.7**
NVLJ	**Novalja**	**7.67**	**331**	*i* Pn	**Pn**	**07 29 44.1**	**+0.8**
NVLJ				Sn	**Sn**	**07 31 07.1**	**-3.7

Ms1 3.2/7, ms1mx2.9/56, Error ellipse: s-maj=45.9km s-min=17.1km az=172.0

ISC 28 07:55:27.0±0.9, **51°.2N**±0°.1×**179°.66E**±0°.05, **h52**km, **n33**, σ1**§43**/29, **mb4.0**/9, **MS3.5**/5, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.28**	**309**	P	Pn	07 55 33.1	-3.1
AMKA				S	**Sn**	**07 55 39.0**	**-3.8**
CESW	**Semis' Southwe**	**0.70**	**355**	P	**Pn**	**07 55 39.5**	**-1.4**
CERAA	**Semis' Rag'd T**	**0.71**	**1**	P	**Pn**	**07 55 39.6**	**-1.3**
CETU	**Semis' Tuman**	**0.77**	**353**	P	**Pn**	**07 55 40.7**	**-1.1**
CEAP	**Semis' Anvil P**	**0.81**	**357**	P	**Pn**	**07 55 41.4**	**-0.7**
LSSE	**Little Sitkin**	**1.00**	**318**	P	**Pn**	**07 55 44.3**	**-0.4**
LSPA	**Little Sitkin**	**1.01**	**319**	P	**Pn**	**07 55 45.0**	**0.0**
LSPA				S	**Sn**	**07 56 00.2**	**+1.9**
LSNW	**Little Sitkin**	**1.05**	**318**	P	**Pn**	**07 55 44.8**	**-0.6**
ADK	**Adak**	**2.38**	**72**	P	**Pn**	**07 56 02.7**	**-0.8**
ADK				S	**Sn**	**07 56 33.7**	**+2.1**
SMY	**Shemya**	**3.76**	**296**	P	**Pn**	**07 56 23.8**	**+1.4**
FX1	**Attu Island--F**	**4.35**	**295**	P	**Pn**	**07 56 31.5**	**+1.1**
	12nm,0.3s,baz=173,slow=3.2,SNR=31						
FX1				S	Sn	07 57 29.3	+10
	13nm,0.3s,baz=169,slow=22,SNR=7.5						
FX1				LR	LR	07 57 47.2	
	comp=Z,95nm,20.7s,baz=154,slow=32						
NIKH	**Nikolski High**	**7.30**	**71**	P	**Pn**	**07 57 11.1**	**+0.2**
SPIA	**Saint Paul Isl**	**8.41**	**41**	P	**Pn**	**07 57 28.0**	**+1.9**
PETK	**Petropavlovsk-**	**13.61**	**287**	LR	LR	08 03 56.3	
	comp=Z,43nm,20.8s,baz=85,slow=37						
SEY	**Seymchan**	**18.74**	**319**	P	**Pn**	**07 59 44.8**	**+2.8**
	0.0nm,0.3s,baz=107,slow=14,SNR=1.5						
ILAR	**Eielson Array**	**21.99**	**39**	P	**P**	**08 00 15.6**	**-0.7**
	0.3nm,0.4s,baz=242,slow=9.3,SNR=6.8						
ASAJ	**Asahikawa**	**25.73**	**269**	LR	LR	08 08 51.0	
	comp=Z,50nm,21.6s,baz=154,slow=31						
H11N2	**WAKE ISLAND Hy**	**32.98**	**202**	T	T	08 37 12.2	
	baz=20,slow=76,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**32.99**	**202**	T	T	08 37 00.5	
	baz=20,slow=76,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**33.00**	**202**	T	T	08 37 07.7	
	baz=20,slow=76,SNR=9.7						
YKA	**Yellowknife Ar**	**36.05**	**46**	P	**P**	**08 02 22.3**	**-0.6**
	1.0nm,0.5s,baz=280,slow=7.9,SNR=26						
YKA				pP	**pP**	**08 02 36.9**	**+0.5**
	0.6nm,0.7s,baz=281,slow=8.0,SNR=4.6						
RES	**Resolute Bay**	**40.30**	**24**	LR	LR	08 21 54.5	
	comp=Z,31nm,19.6s,baz=90,slow=40						
SONM	**Songino Array**	**45.86**	**296**	P	**P**	**08 03 45.0**	**+1.1**
	1.1nm,0.9s,baz=64,slow=7.5,SNR=8.6						
SONM				PcP	**PcP**	**08 05 21.4**	**+1.0**
	0.2nm,0.8s,baz=66,slow=2.9,SNR=3.8						
PDAR	**Pinedale Array**	**47.28**	**71**	P	**P**	**08 03 55.5**	**+0.2**
	1.8nm,0.7s,baz=304,slow=3.7,SNR=16						
SFJD	**Kangerlussuaq**	**56.17**	**21**	LR	LR	08 32 24.6	
	comp=Z,40nm,18.3s,baz=258,slow=40						
ARCES	**ARCESS Array B**	**58.10**	**350**	P	**P**	**08 05 12.4**	**-2.0**
	3.6nm,0.9s,baz=24,slow=6.6,SNR=9.0						
MKAR	**Makanchi Array**	**59.38**	**308**	P	**P**	**08 05 23.3**	**-0.4**
	0.6nm,0.5s,baz=51,slow=6.2,SNR=12						
NB2	**NORSAR Subarra**	**67.73**	**354**	P	**P**	**08 06 17.8**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=6.4,slow=6.2						
NOA	**NORSAR Array B**	**67.73**	**354**	P	**P**	**08 06 18.2**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=2.9,slow=5.4,SNR=8.3						
CMAR	**Chiang Mai Arr**	**70.06**	**275**	P	**P**	**08 06 34.4**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=32,slow=6.2,SNR=4.1						
AKASG	**Malin Array Be**	**75.41**	**341**	P	**P**	**08 07 04.1**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=21,slow=6.4,SNR=4.0						
AKASG				LR	LR	08 44 24.6	
	comp=Z,29nm,18.3s,baz=320,slow=39						
GEYT	**Alibeck**	**77.55**	**316**	LR	LR	08 43 50.7	
	comp=Z,46nm,18.8s,baz=315,slow=38						
TORD	**Torodi Ar. Bea**	**115.90**	**358**	PKP	**PKPdf**	**08 14 03.8**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=302,slow=1.6,SNR=2.6						

*IDC **28** 07:59:53.7±9.0, 3°.13S×130°.26E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/21, mbtmp3.4/3, ML2.8/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/20, Error ellipse: s-maj=753.9km s-min=28.7km az=71.0*

*ISCJB **28** 07:59:59.5±0.9, 3°.90S±0°.07×128°.8E±0°.1, h32km, mb3.5/1, MS3.5/1, Error ellipse: s-maj=17.9km s-min=9.3km az=8.7*

*DJA **28** 08:00:00.2±1.6, 4°.S±14°.×12°.9E±°, h10km, M3.0/3, MLv3.0/3*

ISC 28 07:59:59.5±1.4, **3°.9S**±0°.1×**128°.8E**±0°.1, **h32**km, **n6**, σ0**§27**/5, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.58**	**10**	P	**Pn**	**08 00 11.8**	**+0.2**
MSAI				S	**Sb**	**08 00 19.2**	**-0.3**
NLAI	**Namlea**	**1.85**	**291**	P	**Pn**	**08 00 29.1**	**+0.1**
WRA	**Warramunga Arr**	**16.81**	**162**	P	**P**	**08 03 54.4**	**-0.1**
	0.0nm,0.3s,baz=340,slow=13,SNR=2.8						
ASAR	**Alice Springs**	**20.23**	**166**	P	Pn	08 04 36.3	+2.0
	1.0nm,0.6s,baz=347,slow=11,SNR=16						
USRK	**Ussuriysk Ar.**	**47.99**	**3**	LR	LR	08 27 12.4	
	comp=Z,57nm,20.9s,baz=354,slow=35						
MKAR	**Makanchi Array**	**65.03**	**327**	P	**P**	**08 10 36.7**	**0.0**
	0.4nm,0.8s,baz=113,slow=8.2,SNR=5.2						

*IDC **28** 08:02:48.4±2.9, 33°.79S×178°.88W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/29, mbtmp3.8/3, ML4.0/1, Error ellipse: s-maj=68.2km s-min=35.3km az=119.0*

*ISCJB **28** 08:02:50.8±2.1, 33°.9S±0°.1×178°.7W±0°.3, h37km, mb3.5/2, Error ellipse: s-maj=42.4km s-min=10.3km az=17.7*

ISC 28 08:02:53.1±2.5, **33°.8S**±0°.2×**178°.8W**±0°.4, **h37**km, **n9**, σ0**§73**/14, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**4.81**	**214**	PN	**Pn**	**08 04 03.2**	**+0.3**
HAZ				eSN	**Sn**	**08 04 58.3**	**+0.9**
PUZ	**Puketiti**	**4.87**	**208**	ePN	**Pn**	**08 04 04.1**	**+0.3**
PUZ				SN	**Sn**	**08 04 59.3**	**+0.3**
MWZ	**Matawai**	**5.40**	**212**	PN	**Pn**	**08 04 11.4**	**+0.3**
MWZ				SN	**Sn**	**08 05 12.1**	**+0.1**
URZ	**Urewera**	**5.53**	**216**	Pn	**Pn**	**08 04 11.9**	**-0.9**
	4.2nm,0.3s,baz=279,slow=4.5,SNR=22						
URZ				Sn	**Sn**	**08 05 15.5**	**+0.3**
	4.2nm,0.3s,baz=297,slow=5.3,SNR=8.8						
RIGZ	**Rimuhau**	**5.61**	**209**	PN	**Pn**	**08 04 13.3**	**-0.7**
RIGZ				SN	**Sn**	**08 05 17.0**	**-0.3**
BKZ	**Black Stump Fm**	**6.55**	**214**	ePN	**Pn**	**08 04 25.3**	**-1.6**
ASAR	**Alice Springs**	**42.37**	**271**	P	**P**	**08 10 44.5**	**+0.6**
	0.4nm,0.5s,baz=110,slow=7.8,SNR=9.3						
WRA	**Warramunga Arr**	**43.66**	**276**	P	**P**	**08 10 54.0**	**-0.4**
	0.8nm,0.5s,baz=117,slow=7.7,SNR=18						
FINES	**FINESS Array B**	**148.07**	**338**	PKPbc	**PKPbc**	**08 22 34.2**	**+0.3**
	0.6nm,0.5s,baz=46,slow=3.2,SNR=9.2						

CASC 28 08:21:15.0±1.6, **11°.76N**×**87°.00W**, **h34**km±12km, **MD4.0**, **1C**, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.71**	**332**	eP	Pn	08 21 41.9	-0.8
CNCH				eS	Sn	08 22 04.8	+1.3
GBS2	**Las Lilas**	**1.77**	**121**	i P	Pn	08 21 43.4	+0.1
GBS2				i S	Sn	08 22 05.7	+1.0
BUEV	**Buena Vista**	**1.83**	**121**	i P	Pn	08 21 44.0	-0.2
BUEV				i S	Sn	08 22 07.4	+1.1
LIM1	**Limonal**	**2.01**	**121**	i P	Pn	08 21 45.1	-1.6
VSM	**San Miguel**	**2.07**	**323**	eP	Pn	08 21 47.8	0.0
JCR	**Jicaral**	**2.65**	**135**	eP	Pn	08 21 56.4	+0.9
JCR				eS	Sn	08 22 21.6	-5.0
LFRS	**El Faro**	**2.73**	**313**	eP	Pn	08 21 57.0	+0.3
LFRS				eS	Sn	08 22 28.7	0.0
LBRS	**Las Brisas**	**2.80**	**315**	eP	Pn	08 21 58.0	+0.4
BOQS	**Boqueron**	**2.97**	**312**	eP	Pn	08 22 00.9	+0.9
CGA2	**Cerro Gallo 2**	**3.03**	**125**	eP	Pn	08 22 00.1	-0.7
CGA2				eS	Sn	08 22 35.9	-0.2
SBLS	**San Blas**	**3.29**	**309**	eP	Pn	08 22 04.9	+0.5
SBLS				eS	Sn	08 22 44.2	+1.6
RTR	**El Retiro**	**3.34**	**310**	eP	Pn	08 22 05.7	+0.6
RBDL	**Robledal**	**3.51**	**312**	eP	Pn	08 22 07.6	+0.2
URSC	**Urasca**	**3.70**	**121**	eP	Pn	08 22 11.9	+1.9
URSC				eS	Sn	08 22 53.0	+0.4
BUS	**Buena Vista**	**3.87**	**124**	eP	Pn	08 22 12.4	-0.3
BUS				eS	Sn	08 22 55.5	-1.8

IDC 28 08:23:57.0±2.5, **7°.96S**×**118°.79E**, **h0**km, **mb2.9**/2, **mb1 3.2**/3, **mb1mx3.1**/34, **mbtmp3.1**/3, **ML3.2**/1, **Error ellipse: s-maj=228.1km s-min=26.2km az=52.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.20**	**130**	P	P	08 28 22.9	+0.1
	0.1nm,0.3s,baz=304,slow=12,SNR=7.1						
ASAR	**Alice Springs**	**21.31**	**139**	P	P	08 28 45.6	0.0
	0.1nm,0.3s,baz=316,slow=9.1,SNR=8.0						
MKAR	**Makanchi Array**	**63.44**	**333**	P	P	08 34 28.7	0.0
	0.1nm,0.4s,baz=123,slow=5.3,SNR=2.8						

*IDC **28** 08:35:15.6±0.6, 8°.22S×111°.36E, h0km, mb4.3/12, mb1 4.4/12, mb1mx4.1/34, mbtmp4.3/12, MS2.9/3, Ms1 3.0/3, ms1mx2.6/38, Error ellipse: s-maj=29.9km s-min=15.0km az=65.0*

*ISCJB **28** 08:35:26.6±0.3, 8°.55S±0°.04×111°.42E±0°.02, h110km±4km, mb4.2/15, Error ellipse: s-maj=6.8km s-min=3.7km az=8.3*

*DJA **28** 08:35:27.8±0.2, 9°.S±3°.×11°.1E±°, h55km±6km, M4.9/35, mb4.9/12, mB5.5/6, MLv4.9/35, Mw(mB)4.9/6*

*NEIC **28** 08:35:27.9±0.8, 8°.43S×111°.38E, h103km±8km, mb4.5/4, Error ellipse: s-maj=11.7km s-min=8.0km az=220.0*

NEIC Felt [III] at Pacitan.

ISC 28 08:35:27.5±0.8, **8°.51S**±0°.06×**111°.42E**±0°.04, **h95**km±8km, **n76**, σ1**§30**/77, **mb4.2**/15, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.40**	**323**	P	**Pn**	**08 35 41.8**	**-0.3**
PCJI				S	Sn	08 35 42.6	-10
PWJI	**Pagerwojo**	**0.62**	**38**	P	**Pn**	**08 35 42.4**	**-1.3**
WOJI	**Wonogiri, Jawa**	**0.83**	**324**	P	**Pn**	**08 35 45.7**	**-0.1**
NGJI	**Ngawi**	**1.14**	**2**	P	**Pn**	**08 35 50.0**	**+0.8**
TBJI	**Tambak Boyo**	**1.73**	**14**	P	**Pn**	**08 35 58.0**	**+1.5**
GRJI	**Gresik**	**1.90**	**34**	P	**Pn**	**08 35 59.4**	**+0.8**
GRJI				S	**Sn**	**08 36 24.1**	**+1.7**
GMJI	**Gumukmas**	**2.02**	**83**	P	**Pn**	**08 35 59.6**	**-0.5**
GMJI				S	**Sn**	**08 36 25.4**	**+0.4**
UWJI	**Ujung Watu**	**2.13**	**347**	P	**Pn**	**08 36 03.6**	**+2.0**
BLJI	**Banyuglugur**	**2.28**	**71**	P	**Pn**	**08 36 03.8**	**+0.2**
BLJI				S	**Sn**	**08 36 31.8**	**+0.5**
KPJI	**Karang Pucung**	**2.73**	**295**	P	**Pn**	**08 36 10.6**	**+1.1**
ABJI	**Asem Bagus**	**2.88**	**76**	P	**Pn**	**08 36 11.6**	**+0.1**
KMMI	**Kalianget**	**2.91**	**60**	P	**Pn**	**08 36 12.4**	**+0.4**
KMMI				S	**Sn**	**08 36 47.1**	**+0.9**
BWJI	**Bawean**	**2.91**	**25**	P	**Pn**	**08 36 14.0**	**+2.0**
CMJI	**Cimerak**	**3.03**	**284**	P	**Pn**	**08 36 14.3**	**+0.8**
CMJI				S	**Sn**	**08 36 50.9**	**+1.9**
CISI	**Cisompet, Garu**	**3.69**	**285**	ePn	**Pn**	**08 36 23.1**	**+0.6**
CISI				eSn	**Sn**	**08 37 05.5**	**+0.3**
IGBI	**Denpasar**	**3.70**	**95**	P	**Pn**	**08 36 22.3**	**-0.2**
JCJI	**Jatiwangi**	**3.71**	**303**	P	**Pn**	**08 36 22.6**	**-0.2**
DNP	**Denpasar**	**3.75**	**93**	P	**Pn**	**08 36 23.6**	**+0.3**
SRBI	**Singaraja**	**3.78**	**84**	P	**Pn**	**08 36 24.1**	**+0.5**
LEM	**Lembang**	**4.12**	**294**	P	**Pn**	**08 36 30.0**	**+1.5**
LEM	**Lembang**	**4.12**	**294**	P	**Pn**	**08 36 30.8**	**+2.3**
	baz=4.3,SNR=17						
CNJI	**Cibinong**	**4.41**	**285**	P	**Pn**	**08 36 32.9**	**+0.6**
PBKI	**Pangkalan Bun**	**5.77**	**2**	P	**Pn**	**08 36 53.4**	**+2.6**
	306nm,1.1s,1.1nm						
XMI	**Christmas Isla**	**5.97**	**251**	P	**Pn**	**08 36 52.7**	**-0.7**
	baz=6.0,SNR=31						
XMI				S	Sn	08 37 51.3	-9.2
	baz=6.0,SNR=12						
CGJI	**Cibinong**	**5.98**	**288**	P	**Pn**	**08 36 55.0**	**+1.4**
	230nm,0.6s,5μm1.2nm						
XMIS	**Christmas Isla**	**6.02**	**251**	P	**Pn**	**08 36 53.0**	**-1.0**
	baz=6.1,SNR=81						
XMIS				S	Sn	08 37 51.8	-10
	baz=6.1,SNR=11						
XMIS	**Christmas Isla**	**6.02**	**251**	ePn	**Pn**	**08 36 53.1**	**-1.0**
	466nm,0.3s						
XMIS				eSn	Sn	08 37 51.1	-11
BBKI	**Banjar Baru**	**6.06**	**34**	P	**Pn**	**08 36 56.6**	**+1.9**
	71nm,0.7s,4μm0.5nm						
TPI	**Tanjungpandan**	**6.83**	**327**	P	**Pn**	**08 37 07.0**	**+1.8**
	60nm,1.1s,0.2nm						
KLI	**Kotabumi**	**7.46**	**299**	P	Pn	08 37 22.3	+8.6
KASI	**Kota Agung**	**7.48**	**293**	P	**Pn**	**08 37 16.3**	**+2.3**
	87nm,0.9s,986nm0.4nm						
WBSI	**Waikabubak, Su**	**7.95**	**99**	P	**Pn**	**08 37 19.0**	**-1.5**
	68nm,0.8s,4μm0.6nm						
LWLI	**Liwa**	**8.09**	**295**	P	Pn	08 37 32.9	+10
MDSI	**Maura Dua**	**8.23**	**299**	P	Pn	08 37 28.6	+4.4
STKI	**Sintang**	**8.52**	**0**	P	Pn	08 37 32.3	+4.1
	45nm,0.5s,1.5nm						
KAPI	**Kappang**	**8.97**	**68**	ePn	**Pn**	**08 37 35.4**	**+1.1**
MNAI	**Manna**	**9.37**	**296**	ePn	**Pn**	**08 37 39.7**	**0.0**
KSM	**Kuching**	**9.98**	**354**	ePn	**Pn**	**08 37 48.0**	**0.0**
EDFI	**Ende, Flores**	**10.16**	**92**	P	**Pn**	**08 37 48.6**	**-2.0**
	34nm,0.6s						
BATI	**Baumata**	**12.20**	**99**	P	**Pn**	**08 38 16.1**	**-2.0**
	22nm,0.6s						
GIRL	**Giralia**	**14.31**	**169**	P	**Pn**	**08 38 45.0**	**-0.7**
	baz=14,SNR=23						
GIRL				S	Sn	08 41 13.4	-10
	baz=14,SNR=6.7						
MBWA	**Marble Bar**	**14.91**	**148**	ePn	**Pn**	**08 38 52.3**	**-1.2**
	28nm,0.6s						
IPM	**Ipoh**	**16.55**	**321**	eP	**Pn**	**08 39 13.6**	**-0.4**
	5.0nm,0.7s						
KNRA	**Kununurra**	**18.38**	**114**	P	**Pn**	**08 39 36.5**	**+0.3**
	baz=18,SNR=9.0						
MEEK	**Meekatharra**	**19.28**	**160**	P	**Pn**	**08 39 47.8**	**+1.0**
	baz=19,SNR=35						
MEEK				S	S	08 43 08.7	-9.5
	baz=19,SNR=8.4						
MTN	**Manton Dam**	**19.84**	**104**	P	**P**	**08 39 52.1**	**+1.1**
	baz=20,SNR=15						
KDU	**Kakadu**	**21.10**	**103**	P	P	08 39 56.1	-8.5
	baz=21,SNR=4.1						
WRKA	**Warakurna**	**23.00**	**138**	P	**P**	**08 40 25.8**	**+1.3**
	baz=23,SNR=14						
WRA	**Warramunga Arr**	**24.92**	**120**	P	**P**	**08 40 43.0**	**+1.0**
	11nm,1.0s,baz=295,slow=11,SNR=67						
WRA				PcP	**PcP**	**08 44 15.5**	**+0.1**
	0.6nm,0.3s,baz=298,slow=4.0,SNR=7.6						
WRA				LR	LR	08 51 42.2	
	comp=Z,30nm,18.4s,baz=225,slow=39						
WRAB	**Tennant Creek**	**24.92**	**120**	eP	**P**	**08 40 42.5**	**+0.5**
	15nm,0.8s						
WRAB				ePcP	**PcP**	**08 44 16.1**	**+0.7**
ASAR	**Alice Springs**	**26.28**	**128**	P	**P**	**08 40 55.5**	**+1.2**
	4.4nm,0.5s,baz=304,slow=8.4,SNR=93						
ASAR				PcP	**PcP**	**08 44 19.4**	**+0.9**
	1.4nm,0.4s,baz=303,slow=2.1,SNR=8.5						
ASAR				LR	LR	08 50 37.6	
	comp=Z,33nm,20.4s,baz=244,slow=35						
AS31	**Alice Springs**	**26.28**	**128**	P	**P**	**08 40 54.4**	**+0.2**
AS31				ePcP	**PcP**	**08 44 19.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**29.49**	**335**	LR	LR	08 53 13.0	
	comp=Z,13nm,18.7s,baz=160,slow=37						
QIS	**Mount Isa**	**29.74**	**117**	P	**P**	**08 41 26.6**	**+1.5**
	baz=30,SNR=3.8						
QLP	**Quilpie**	**35.92**	**124**	P	**P**	**08 42 21.3**	**+2.4**
	baz=36,SNR=11						
H08S2	**Diego Garcia H**	**38.54**	**268**	T	T	09 23 59.2	
	baz=34,slow=75,SNR=9.5						
H08S3	**Diego Garcia H**	**38.55**	**268**	T	T	09 24 06.8	
	baz=94,slow=75,SNR=9.8						
H08S1	**Diego Carcia H**	**38.56**	**268**	T	T	09 24 00.7	
	baz=94,slow=75,SNR=8.7						
MJAR	**Matsushiro Arr**	**51.40**	**28**	P	P	08 44 19.4	-3.4
	0.8nm,0.5s,baz=202,slow=9.5,SNR=6.5						
USRK	**Ussuriysk Ar.**	**55.67**	**18**	P	**P**	**08 44 52.0**	**-1.8**
	2.7nm,0.7s,baz=233,slow=5.6,SNR=4.8						
ULN	**Ulaanbaatar**	**56.26**	**356**	eP	**P**	**08 44 57.6**	**-0.6**
	1.3nm,0.5s						
SONM	**Songino Array**	**56.27**	**356**	P	**P**	**08 44 57.4**	**-0.9**
	2.0nm,0.8s,baz=176,slow=8.2,SNR=16						
SONM				PcP	**PcP**	**08 45 53.7**	**-0.9**
	0.5nm,0.6s,baz=174,slow=4.1,SNR=5.5						
MKAR	**Makanchi Array**	**60.87**	**337**	P	**P**	**08 45 28.3**	**-1.7**
	3.1nm,0.3s,baz=152,slow=7.4,SNR=82						
KURBB	**Kurchatov Arra**	**65.44**	**338**	P	**P**	**08 45 58.3**	**-1.8**
	1.8nm,0.6s,baz=156,slow=5.6,SNR=9.7						
KURK	**Kurchatov**	**65.48**	**338**	P	**P**	**08 45 58.3**	**-2.0**
ZALV	**Zalesovo Beam**	**66.16**	**343**	P	**P**	**08 46 02.7**	**-1.9**
	2.1nm,0.3s,baz=151,slow=4.7,SNR=6.7						
PETK	**Petropavlovsk-**	**72.85**	**27**	P	**P**	**08 46 44.9**	**-1.0**
	1.8nm,0.5s,baz=210,slow=4.2,SNR=9.1						
ABKAR	**Akbulak array**	**72.99**	**328**	eP	**P**	**08 46 45.2**	**-1.5**
	5.2nm,0.6s						
VNDA	**Vanda**	**73.71**	**170**	P	**P**	**08 46 53.0**	**+2.4**
	1.0nm,0.4s,baz=313,slow=5.7,SNR=12						
AKTO	**Aktyubinsk**	**74.69**	**328**	P	**P**	**08 46 54.6**	**-2.1**
	1.2nm,0.4s,baz=134,slow=2.8,SNR=7.2						
BRTR	**Keskin Array B**	**86.11**	**311**	P	**P**	**08 47 58.7**	**+0.4**
	0.3nm,0.4s,baz=166,slow=7.6,SNR=5.1						
YKA	**Yellowknife Ar**	**116.69**	**22**	PKP	**PKPdf**	**08 53 59.8**	**-0.5**
	0.1nm,0.4s,baz=322,slow=0.5,SNR=8.9						
WVT	**Waverly**	**147.38**	**30**	ePKPdf	**PKPbc**	**08 55 00.8**	**+0.1**
BDFB	**Brasilia**	**148.52**	**220**	PKPbc	**PKPbc**	**08 55 05.5**	**+1.0**
	2.2nm,0.6s,baz=134,slow=4.5,SNR=5.3						
TKL	**Tuckaleechee C**	**149.62**	**25**	PKPbc	**PKPbc**	**08 55 05.9**	**-0.6**
	5.4nm,1.0s,baz=105,slow=3.3,SNR=7.1						
LPAZ	**La Paz**	**155.36**	**181**	PKPab	**PKPab**	**08 55 38.6**	**+1.6**
	1.0nm,0.4s,baz=30,slow=2.1,SNR=6.7						

*IDC **28** 08:38:20.8±1.6, 34°.68S×73°.32W, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.6/28, mbtmp3.5/5, ML3.9/2, MS2.9/4, Ms1 2.9/4, ms1mx2.8/22, Error ellipse: s-maj=35.5km s-min=30.7km az=85.0*

*ISCJB **28** 08:38:28.1±1.2, 34°.81S±0°.05×72°.5W±0°.1, h49km±17km, mb3.5/2, MS3.1/2, Error ellipse: s-maj=18.1km s-min=5.8km az=19.9*

*GUC **28** 08:38:28.0±0.3, 34°.79S×72°.49W, h38km±2km, ML4.2*

ISC 28 08:38:29.4±1.6, **34°.83S**±0°.06×**72°.4W**±0°.1, **h47**km±21km, **n13**, σ1**§07**/15, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.87**	**131**	eP	**Pn**	**08 38 44.4**	**-0.9**
TALC				eS	**Sn**	**08 38 57.0**	**+0.1**
LNCH	**Linares**	**1.23**	**146**	eP	**Pn**	**08 38 49.6**	**-0.5**
LNCH				eS	**Sn**	**08 39 06.0**	**+0.5**
CCSP	**San Pedro de C**	**2.09**	**195**	eP	**Pn**	**08 39 01.4**	**-0.5**
CCSP				eS	**Sn**	**08 39 26.7**	**+0.1**
CCSP				IAML		08 39 38.1	
	comp=N,2μm,0.6s						
CLCH	**Cerro Calan**	**2.13**	**48**	eP	**Pn**	**08 39 02.0**	**-0.5**
CLCH				eS	**Sn**	**08 39 27.9**	**+0.1**
ROCH	**El Roble**	**2.20**	**33**	eS	**Sn**	**08 39 29.9**	**+0.2**
ROCH				IAML		08 39 40.7	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**2.22**	**41**	eP	**Pn**	**08 39 03.3**	**-0.5**
PEL				eS	**Sn**	**08 39 30.0**	**-0.1**
PEL				IAML		08 39 39.7	
	comp=N,3μm,1.4s						
CFAA	**Coronel Fontan**	**4.76**	**49**	Pn	**Pn**	**08 39 41.1**	**+2.5**
	comp=N,0.2nm,0.3s,baz=236,slow=13,SNR=7.0						
CFAA				Sn	Sn	08 40 43.2	+11
	comp=N,0.6nm,0.3s,baz=226,slow=9.2,SNR=5.3						
CFAA				LR	LR	08 41 42.8	
	comp=N,38nm,19.1s,baz=213,slow=38						
PLCA	**Paso Flores**	**6.08**	**166**	Pn	**Pn**	**08 39 58.4**	**+1.6**
	comp=N,2.2nm,0.3s,baz=340,slow=12,SNR=40						
PLCA				LR	LR	08 41 46.5	
	comp=N,78nm,18.1s,baz=154,slow=32						
LPAZ	**La Paz**	**18.86**	**13**	P	**P**	**08 42 45.1**	**-1.2**
	comp=N,0.0nm,0.3s,baz=207,slow=8.6,SNR=2.1						
USHA	**Ushuaia**	**20.20**	**173**	LR	LR	08 49 54.2	
	comp=N,108nm,20.6s,baz=122,slow=34						
SIV	**San Ignacio**	**21.35**	**31**	LR	LR	08 52 18.8	
	comp=N,53nm,19.1s,baz=205,slow=39						
TXAR	**Lajitas Array**	**70.30**	**331**	P	P	08 49 33.3	-4.7
	comp=N,0.4nm,0.8s,baz=148,slow=10,SNR=2.7						
TORD	**Torodi Ar. Bea**	**84.80**	**70**	P	**P**	**08 50 59.6**	**+0.5**
	comp=N,0.5nm,0.8s,baz=224,slow=6.0,SNR=3.1						

*IDC **28** 08:49:46.5±0.9, 25°.66N×90°.17E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.6/40, mbtmp3.7/10, Error ellipse: s-maj=44.0km s-min=17.6km az=55.0*

*ISCJB **28** 08:49:50.2±0.6, 25°.7N±0°.1×90°.36E±0°.05, h33km, mb3.7/10, Error ellipse: s-maj=18.8km s-min=4.2km az=16.6*

*DMN **28** 08:49:50.3±0.4, 25°.48N×90°.43E

PPT2	Papeete2	23.41	100	eLQ	LQ	09 10 45.8
	628nm,28.8s					
PPT2				eLR	LR	09 11 51.0
	442nm,24.5s,baz=257					
PPT2	Papeete2	23.41	100	eT	T	09 29 17.4
	7.0nm,0.3s					
TIAR	Tiarei	23.62	100	eT	T	09 29 32.6
	3.9nm,0.3s					
TVO	Taravao	23.73	100	eT	T	09 29 40.6
	3.4nm,0.3s					
TBI	Tubuai	24.46	114	eLQ	LQ	09 11 15.2
	370nm,28.5s					
TBI				eLR	LR	09 12 11.6
	552nm,26.8s,baz=293					
TBI	Tubuai	24.46	114	eT	T	09 30 53.1
	17nm,0.3s					
URZ	Urewera	24.62	197	P	P	09 06 38.3 +0.2
	6.3nm,0.7s,baz=63,slow=9.0,SNR=3.4					
URZ	Urewera	24.62	197	eP	P	09 06 40.2 +2.0
	63nm,1.6s					
PMOR	Pomariorio Ree	25.03	94	eT	T	09 31 10.6
	5.6nm,0.3s					
VAH	Vaihoa	25.27	94	eT	T	09 31 29.2
	8.2nm,0.3s					
HNR	Honiara	26.22	279	LR	LR	09 15 48.0
	comp=Z,222nm,18.0s,baz=120,slow=33					
TAOE	Nuku Hiva Isla	33.45	84	eT	T	09 41 32.6
	74nm,0.2s					
RKT	Rikitea	37.52	109	eLR	LR	09 18 09.9
	310nm,28.8s,baz=287					
RKT	Rikitea	37.52	109	eT	T	09 47 04.1
	5.1nm,0.3s					
H11S2	WAKE ISLAND Hy	38.34	329	T	T	09 50 00.0
	baz=149,slow=76,SNR=62					
H11S3	WAKE ISLAND Hy	38.35	329	T	T	09 49 55.1
	baz=149,slow=76,SNR=33					
H11S1	WAKE ISLAND Hy	38.35	329	T	T	09 49 42.4
	baz=149,slow=76,SNR=39					
H11N3	WAKE ISLAND Hy	39.28	331	T	T	09 51 24.5
	baz=150,slow=76,SNR=14					
H11N1	WAKE ISLAND Hy	39.29	331	T	T	09 51 20.4
	baz=150,slow=76,SNR=15					
H11N2	WAKE ISLAND Hy	39.30	331	T	T	09 51 20.5
	baz=150,slow=76,SNR=16					
TAU	Tasmania Unive	43.43	222	eP	P	09 09 19.6 -0.9
	30nm,1.1s					
JAY	Jayapura	46.51	281	LR	LR	09 27 51.1
	comp=Z,120nm,19.3s,baz=52,slow=34					
WB2	Warramunga Arr	49.57	256	eP	P	09 10 09.2 +0.1
WRAB	Tennant Creek	49.58	256	eP	P	09 10 09.7 +0.6
	16nm,1.4s					
WRA	Warramunga Arr	49.59	256	P	P	09 10 09.8 +0.6
	2.1nm,0.8s,baz=97,slow=7.8,SNR=41					
WRA				LR	LR	09 28 22.1
	comp=Z,98nm,21.6s,baz=190,slow=33					
AS31	Alice Springs	49.90	252	eP	P	09 10 11.8 +0.2
ASAR	Alice Springs	49.90	252	P	P	09 10 11.3 -0.3
	9.1nm,0.7s,baz=86,slow=8.2,SNR=97					
ASAR				LR	LR	09 29 39.3
	comp=Z,203nm,20.9s,baz=92,slow=34					
JCJ	Chichijima	59.73	314	LR	LR	09 33 36.9
	comp=Z,88nm,18.5s,baz=114,slow=32					
BATI	Baumata	61.06	266	LR	LR	09 36 02.7
	comp=Z,126nm,19.7s,baz=140,slow=34					
VNDA	Vanda	63.84	186	P	P	09 11 49.7 +0.3
	1.2nm,0.8s,baz=9.3,slow=7.9,SNR=6.0					
VNDA	Vanda	63.84	186	eP	P	09 11 50.3 +0.9
	3.8nm,1.3s					
MJAR	Matsushiro Arr	68.31	320	LR	LR	09 36 46.6
	comp=Z,70nm,21.8s,baz=120,slow=31					
TPH	Tonopah	74.73	43	eP	P	09 12 58.3 +0.6
	1.8nm,0.8s					
QSPA	South Pole Qui	75.14	180	eP	P	09 12 58.5 -1.1
	11nm,1.1s					
KSRS	Korea Array	75.53	316	LR	LR	09 40 23.0
	comp=Z,34nm,20.9s,baz=99,slow=31					
USRK	Ussuriysk Ar.	76.75	323	LR	LR	09 43 20.5
	comp=Z,68nm,18.6s,baz=103,slow=33					
PV10	Paradox Valley	80.44	46	eP	P	09 13 32.0 +2.3
	49nm,0.6s					
TXAR	Lajitas Array	80.66	56	P	P	09 13 30.8 0.0
	0.7nm,0.8s,baz=216,slow=6.2,SNR=6.1					
TXAR				LR	LR	09 44 46.4
	comp=Z,42nm,18.1s,baz=0.0,slow=32					
MCK	McKinley	80.70	11	eP	P	09 13 30.5 +0.3
	8.0nm,0.9s					
ANMO	Albuquerque	80.78	50	LR	LR	09 43 45.3
	comp=Z,46nm,20.5s,baz=290,slow=32					
ANMO	Albuquerque	80.78	50	eP	P	09 13 31.4 -0.1
	1.2nm,0.7s					
MCMT	McKenzie Canyo	81.11	39	eP	P	09 13 35.0 +1.9
	0.9nm,0.8s					
SEY	Seymchan	81.94	345	P	P	09 13 36.7 0.0
	0.6nm,0.3s,baz=225,slow=19,SNR=4.4					
COLA	College	81.94	11	eP	P	09 13 36.1 -0.5
	5.0nm,0.8s					
CHMT	Chamberlain Mo	81.96	37	eP	P	09 13 38.6 +1.1
	6.1nm,1.6s					
ILAR	Eielson Array	82.03	11	P	P	09 13 37.0 -0.2
	0.9nm,0.6s,baz=233,slow=6.5,SNR=16					
PDAR	Pinedale Array	82.15	42	P	P	09 13 39.0 +0.3
	0.9nm,0.7s,baz=230,slow=2.9,SNR=6.8					
ABTX	Abilene, Hawle	85.09	55	eP	P	09 13 52.2 -1.5
	17nm,1.3s					
INK	Inuvik	87.88	14	P	P	09 14 06.6 +0.2
	0.5nm,0.6s,baz=198,slow=20,SNR=4.5					
YKA	Yellowknife Ar	89.79	24	P	P	09 14 14.5 -1.0
	0.4nm,0.7s,baz=241,slow=4.6,SNR=9.7					
JTS	JuntasAbangare	91.50	80	LR	LR	09 45 09.4
	comp=Z,57nm,19.6s,baz=260,slow=29					
CMAR	Chiang Mai Arr	92.09	288	LR	LR	09 50 48.1
	comp=Z,46nm,21.8s,baz=74,slow=32					
ATAH	Atahualpa	93.37	98	LR	LR	09 46 20.9
	comp=Z,86nm,18.7s,baz=252,slow=29					
SONM	Songino Array	94.21	318	LR	LR	09 51 53.5
	comp=Z,36nm,21.7s,baz=122,slow=32					
ARCES	ARCESS Array B	124.06	352	PKP	PKPdf	09 20 14.1 -1.1
	4.8nm,0.9s,baz=337,slow=4.4,SNR=4.7					
CLL	Collm	143.27	353	ePKiKP	PKiKP	09 20 55.0 +0.2
DPC	Dobruska-Polom	143.70	349	ePKP	PKPdf	09 20 51.8 -0.6
DPC				ex	x	09 20 56.5
KHC	Kasperske Hory	145.33	351	ePKP	PKPab	09 20 55.4 +0.2
KHC	Kasperske Hory	145.33	351	ePKPdf	PKPbc	09 20 55.2 +0.1
BRTR	Keskin Array B	145.53	321	PKPbc	PKPab	09 20 57.4 +0.9
	2.6nm,0.8s,baz=133,slow=3.2,SNR=15					
GERES	GERESS Array B	145.59	351	PKPbc	PKPab	09 20 56.5 +0.3
	1.0nm,0.7s,baz=29,slow=3.0,SNR=6.7					

*IDC **28** 09:12:03.3±0.8, 12°.82N×125°.10E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/43, mbtmp3.8/10, MS3.1/1, Ms1 3.3/1, ms1mx2.5/40, Error ellipse: s-maj=51.3km s-min=17.1km az=74.0*
*ISCJB **28** 09:12:04.5±0.5, 12°.98N±0°.03×125°.06E±0°.05, h10km, mb3.7/10, MS2.9/1, Error ellipse: s-maj=7.3km s-min=5.0km az=1.0*
*MAN **28** 09:12:05, 12°.95N×125°.00E, h11km, mb4.5, ML3.3, MS3.2*
ISC 28 09:12:05.5±0.7, 12°.93N±0°.05×124°.95E±0°.07, h10km, n21, σ1°.16/23, mb3.8/10, 4C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Cataraman	0.51	214	eP	Pb	09 12 16.9	+0.3
CNP				eS	Sb	09 12 24.4	+0.5
PVCP	Virac	1.02	310	⇑iP	Pg	09 12 25.0	-0.2
PVCP				i S	Sb	09 12 39.4	+0.6
PLP	Palo	1.76	179	⇓eP	Pn	09 12 36.5	+0.4
PLP				eS	Sn	09 12 58.8	+0.3
RCP	Roxas	2.55	238	⇑eP	Pn	09 12 47.7	+0.7
RCP				eS	Sb	09 13 21.3	-1.7
GQP	Guinayangan	2.62	292	⇑eP	Pn	09 12 47.4	-0.6
MSLP	Maasin	2.78	182	eP	Pn	09 12 51.5	+1.3
OTRP	Odiongan	2.92	259	eP	Pn	09 12 53.7	+1.7
SCPH	Surigao	3.18	170	⇑eP	Pn	09 12 57.1	+1.5
GUIM	Jordan	3.26	226	eP	Pn	09 12 57.5	+0.7
CGP	Cagayan de Oro	4.46	183	⇓eP	Pn	09 13 16.8	+3.5
KSRS	Korea Array	24.56	6	P	P	09 17 26.6	+1.1
	1.8nm,0.9s,baz=183,slow=12,SNR=5.0						
CMAR	Chiang Mai Arr	25.62	286	LR	LR	09 27 21.2	
	comp=Z,38nm,18.6s,baz=143,slow=36						
WRA	Warramunga Arr	33.95	164	P	P	09 18 46.6	-2.7
	1.1nm,0.7s,baz=347,slow=9.0,SNR=14						
ASAR	Alice Springs	37.41	166	P	P	09 19 17.9	-1.1
	2.5nm,0.6s,baz=348,slow=6.9,SNR=54						
SONM	Songino Array	38.09	340	P	P	09 19 25.9	+1.3
	0.5nm,0.7s,baz=148,slow=9.2,SNR=5.0						
MKAR	Makanchi Array	49.14	322	P	P	09 20 55.0	+1.4
	0.3nm,0.9s,baz=150,slow=12,SNR=2.4						
ZALV	Zalesovo Beam	51.68	331	P	P	09 21 12.2	-0.4
	0.6nm,0.3s,baz=108,slow=14,SNR=2.6						
ILAR	Eielson Array	77.62	26	P	P	09 24 01.0	-0.9
	0.5nm,0.9s,baz=240,slow=6.1,SNR=4.1						
ARCES	ARCESS Array B	81.26	339	P	P	09 24 21.9	+0.2
	3.3nm,1.1s,baz=64,slow=8.1,SNR=2.5						
FINES	FINESS Array B	82.95	331	P	P	09 24 29.9	-0.6
	1.0nm,0.8s,baz=101,slow=7.2,SNR=3.2						
YKA	Yellowknife Ar	91.86	24	P	P	09 25 13.4	-0.4
	0.1nm,0.6s,baz=300,slow=4.2,SNR=3.8						

*IDC **28** 09:26:11.8±1.4, 35°.14N×27°.19E, h0km, mb3.3/4, mb1 3.3/6, mb1mx3.2/50, mbtmp3.2/6, ML2.7/1, MS3.7/1, Ms1 3.7/1, ms1mx2.2/31, Error ellipse: s-maj=39.7km s-min=16.9km az=160.0*
*ISCJB **28** 09:26:12.7±0.9, 35°.25N±0°.03×27°.17E±0°.03, h4km±6km, mb3.3/4, MS3.7/1, Error ellipse: s-maj=5.8km s-min=3.2km az=158.0*
*ATH **28** 09:26:13.9, 35°.33N×27°.16E, h20km±1km, MD3.4/12*
*THE **28** 09:26:14.4, 35°.31N×27°.16E, h0km±2km, ML3.1/4, Error ellipse: s-maj=4.5km s-min=1.7km az=146.0*
*CSEM **28** 09:26:14.2±0.2, 35°.31N×27°.14E, h2km, MD3.4, Error ellipse: s-maj=6.7km s-min=3.3km az=167.0*
*ISK **28** 09:26:15.3, 35°.42N×27°.26E, h11km, ML3.0*
*DDA **28** 09:26:16.9, 35°.29N×27°.28E, h20km, MD3.1*
ISC 28 09:26:14.3±1.1, 35°.30N±0°.03×27°.14E±0°.02, h9km±7km, n104, σ0°.99/134, mb3.4/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.25	3	P	Pg	09 26 18.8	-0.6
KARP				S	Sg	09 26 23.4	+0.6
KARP	Karpathos	0.25	3	ePB	Pg	09 26 18.9	-0.5
KARP				eSB	Sg	09 26 23.6	+0.8
KARP	Karpathos	0.25	3	ePb	Pg	09 26 18.9	-0.5
KARP				S	Sg	09 26 23.4	+0.6
ZKR	Zakros	0.78	257	ePN	Pg	09 26 27.6	-1.7
ZKR				eSN	Sb	09 26 41.2	+0.5
ZKR	Zakros	0.78	257	ePn	Pg	09 26 27.6	-1.7
ARG	Arkhangelos	1.22	41	P	Pb	09 26 36.1	-1.3
ARG				S	Sn	09 26 54.4	+0.4
ARG	Arkhangelos	1.22	41	ePN	Pb	09 26 35.9	-1.5
ARG				eSN	Sn	09 26 53.9	-0.1
ARG	Arkhangelos	1.22	41	P	Pb	09 26 36.1	-1.3
ARG				eSn	Sn	09 26 53.9	-0.1
ARG				S	Sn	09 26 54.4	+0.4
NPS	Neapolis	1.25	269	P	Pn	09 26 37.0	-1.0
NPS				S	Sn	09 26 56.3	+1.4
NPS	Neapolis	1.25	269	ePN	Pn	09 26 37.2	-0.8
NPS				eSN	Sb	09 26 54.9	+0.6
NPS	Neapolis	1.25	269	P	Pn	09 26 37.0	-1.0
NPS				eSn	Sb	09 26 54.9	+0.6
NPS				S	Sn	09 26 56.3	+1.4
NIS1	Nisyros Isl.	1.30	1	P	Pg	09 26 39.5	+0.2
NIS1				S	Sn	09 26 57.8	+1.6
NIS1	Nisyros Isl.	1.30	1	ePN	Pn	09 26 38.4	-0.2
NIS1				eSN	Sb	09 26 55.3	-0.5
NIS1	Nisyros Isl.	1.30	1	ePN	Pn	09 26 38.3	-0.3
NIS1				eSN	Sb	09 26 55.0	-0.7
NIS1	Nisyros Isl.	1.30	1	ePn	Pn	09 26 38.4	-0.2
NIS1	Nisyros Isl.	1.30	1	P	Pg	09 26 39.5	+0.2
NIS1				eSn	Sb	09 26 55.0	-0.7
LAST	Lasithi	1.37	265	P	Pn	09 26 39.2	-0.4
LAST	Lasithi	1.37	265	ePN	Pn	09 26 39.4	-0.2
LAST				eSN	Sg	09 26 59.8	+1.4
LAST	Lasithi	1.37	265	ePn	Pn	09 26 39.4	-0.2
LAST				eSn	Sg	09 26 59.8	+1.4
SANT	Santorini	1.74	309	P	Pn	09 26 45.4	+0.8
SANT				S	Sb	09 27 08.5	+0.2
SANT	Santorini	1.74	309	ePN	Pb	09 26 46.0	-0.4
SANT	Santorini	1.74	309	P	Pn	09 26 45.4	+0.8
SANT	Santorini	1.74	309	ePn	Pb	09 26 46.0	-0.4
SANT				S	Sb	09 27 08.5	+0.2
THR1	Thera Island	1.74	309	ePN	Pb	09 26 46.7	+0.3
THR1	Thera Island	1.74	309	ePn	Pb	09 26 46.7	+0.3
BODT	Bodrum	1.77	4	ePN	Pn	09 26 44.7	-0.3
BODT	Bodrum	1.77	4	ePn	Pn	09 26 44.7	-0.3
BDRM	Kayabasi	1.78	8	i P	Pn	09 26 45.8	+0.6
BDRM				i S	Sg	09 27 11.7	+0.2
BDRM	Kayabasi	1.78	8	i P	Pn	09 26 45.8	+0.6
BDRM				i S	Sg	09 27 11.7	+0.2
IDI	Anoyia	1.84	270	Pn	Pn	09 26 45.6	-0.6
	4.4nm,0.3s,baz=74,slow=16,SNR=32						
IDI				Sn	Sb	09 27 12.3	+1.0
	18nm,0.3s,baz=337,slow=15,SNR=5.1						
IDI				LR	LR	09 27 51.1	
	comp=Z,90nm,19.8s,baz=51,slow=53						
SIVA	Sivas	1.93	262	ePN	Pn	09 26 48.7	+1.4
SIVA	Sivas	1.93	262	ePn	Pn	09 26 48.7	+1.4
DALY	Dalyan (Mu¨la	1.95	38	ePN	Pn	09 26 46.6	-0.9
DALY	Dalyan (Mu¨la	1.95	38	ePn	Pn	09 26 46.6	-0.9
YER	Yerkesik	2.05	26	ePN	Pn	09 26 49.4	+0.4
YER	Yerkesik	2.05	26	ePn	Pn	09 26 49.4	+0.4
FETY	Fethiye	2.06	49	ePN	Pn	09 26 49.1	0.0
FETY	Fethiye	2.06	49	ePn	Pn	09 26 49.1	0.0
APE	Apeiranthos	2.20	324	P	Pn	09 26 50.9	-0.1
APE				S	Sn	09 27 18.5	+0.2
APE	Apeiranthos	2.20	324	ePN	Pn	09 26 51.9	+0.9
APE	Apeiranthos	2.20	324	ePB	Pn	09 26 50.7	-0.3
APE				eSN	Sn	09 27 19.0	+0.7
APE	Apeiranthos	2.20	324	P	Pn	09 26 50.9	-0.1
APE	Apeiranthos	2.20	324	ePn	Pn	09 26 51.9	+0.9
APE				S	Sn	09 27 18.5	+0.2
APE				eSn	Sn	09 27 19.0	+0.7
AKAS	Kas	2.21	64	i P	Pn	09 26 50.5	-0.7
AKAS				i S	Sb	09 27 21.6	-0.3
AKAS	Kas	2.21	64	i P	Pn	09 26 50.5	-0.7
AKAS				i S	Sb	09 27 21.6	-0.3
VAM	Vamos	2.41	273	ePB	Pn	09 26 56.2	+2.4
SMG	Samos	2.42	354	ePN	Pn	09 26 54.4	+0.4
SMG	Samos	2.42	354	ePn	Pn	09 26 54.4	+0.4
KARN	Karanos	2.64	273	ePN	Pn	09 26 57.6	+0.6
KARN	Karanos	2.64	273	ePn	Pn	09 26 57.6	+0.6
AYDB	Zeytinkoy-Aydi	2.71	13	ePN	Pn	09 26 58.2	+0.1
AYDB	Zeytinkoy-Aydi	2.71	13	ePn	Pn	09 26 58.2	+0.1
GOLH	Golhisar	2.75	45	i P	Pn	09 26 59.5	+0.9
GOLH	Golhisar	2.75	45	i P	Pn	09 26 59.5	+0.9
GOLH				i S	Sb	09 27 38.7	+1.3
DNZL	Cakiroluk	2.84	32	i P	Pn	09 27 02.4	+2.5
DNZL	Cakiroluk	2.84	32	i P	Pn	09 27 02.4	+2.5
DNZL				i S	Sg	09 27 47.3	+1.9
DENT	Denizli	2.88	31	ePN	Pn	09 27 00.1	-0.4
DENT	Denizli	2.88	31	ePn	Pn	09 27 00.0	-0.4
BLCB	Balcova	3.08	359	ePN	Pn	09 27 03.8	+0.7
BLCB	Balcova	3.08	359	ePn	Pn	09 27 03.8	+0.7
CHOS	Chios island	3.20	345	ePN	Pn	09 27 05.8	+1.0
CHOS	Chios island	3.20	345	ePN	Pn	09 27 05.0	+0.2
CHOS	Chios island	3.20	345	ePn	Pn	09 27 05.0	+0.2
KULA	Kula-Manisa	3.43	20	ePN	Pn	09 27 08.2	+0.2
KULA	Kula-Manisa	3.43	20	ePn	Pn	09 27 08.2	+0.2
KYTH	Kithira	3.48	288	ePN	Pn	09 27 08.8	+0.2
KYTH	Kithira	3.48	288	ePn	Pn	09 27 08.8	+0.2
BCK	Bucak	3.52	51	ePN	Pn	09 27 09.7	+0.6
BCK	Bucak	3.52	51	ePn	Pn	09 27 09.7	+0.6
KHL	Karahalli	3.57	32	ePN	Pn	09 27 10.4	+0.5
KHL	Karahalli	3.57	32	ePn	Pn	09 27 10.4	+0.5
AKS	Akhisar	3.61	8	ePN	Pn	09 27 11.2	+0.8
AKS	Akhisar	3.61	8	ePn	Pn	09 27 11.2	+0.8
VLI	Veliai	3.69	294	ePN	Pn	09 27 11.5	0.0
VLI	Veliai	3.69	294	ePn	Pn	09 27 11.5	0.0
ISP	Isparta	3.71	46	ePN	Pn	09 27 13.0	+1.2
ISP	Isparta	3.71	46	ePn	Pn	09 27 13.0	+1.2
PTL	Penteli	3.81	317	ePN	Pn	09 27 14.6	+1.5
PTL	Penteli	3.81	317	ePn	Pn	09 27 14.6	+1.5
PRK	Paraskevi	4.00	350	ePN	Pn	09 27 17.0	+1.3
PRK	Paraskevi	4.00	350	ePn	Pn	09 27 17.0	+1.3
ALT	Altintas	4.43	31	ePN	Pn	09 27 22.0	+0.2
ALT	Altintas	4.43	31	ePn	Pn	09 27 22.0	+0.2
KONT	Konya--Tatoy	4.96	56	ePN	Pn	09 27 30.1	+1.2
KONT	Konya--Tatoy	4.96	56	ePn	Pn	09 27 30.1	+1.2
CSS	Prodhromos	5.08	92	ePN	Pn	09 27 32.5	+1.9
CSS	Prodhromos	5.08	92	ePn	Pn	09 27 32.5	+1.9
LADK	Ladik-KONYA	5.09	54	ePN	Pn	09 27 31.9	+1.1
LADK	Ladik-KONYA	5.09	54	ePn	Pn	09 27 31.9	+1.1
KIZT	Kizilcal	5.21	45	ePN	Pn	09 27 33.1	+0.7
KIZT	Kizilcal	5.21	45	ePn	Pn	09 27 33.1	+0.7
LFK	Lefkose	5.22	88	ePN	Pn	09 27 34.4	+1.8
LFK	Lefkose	5.22	88	ePn	Pn	09 27 34.4	+1.8
AGG	Agios Georgios	5.35	315	ePN	Pn	09 27 35.4	+1.2
AGG	Agios Georgios	5.35	315	ePn	Pn	09 27 35.4	+1.2
ANTO	Ankara	6.40	43	ePN	Pn	09 27 51.2	+2.5
ANTO	Ankara	6.40	43	ePn	Pn	09 27 51.2	+2.5
BRTR	Keskin Array B	6.79	48	Pn	Pn	09 27 54.6	+0.4
	0.1nm,0.3s,baz=210,slow=11,SNR=2.9						
AKASG	Malin Array Be	15.47	5	Pn	Pn	09 29 52.2	-0.3
	baz=193,slow=12,SNR=2.9						
ESDC	Sonseca Array	25.00	289	P	P	09 31 37.5	-0.8
	0.1nm,0.3s,baz=77,slow=9.2,SNR=3.2						
TORD	Torodi Ar. Bea	31.84	233	P	P	09 32 37.5	-2.0
	0.3nm,0.4s,baz=34,slow=8.4,SNR=5.6						
JMIC	Jan Mayen	40.42	343	LR	LR	09 51 29.4	
	comp=Z,94nm,18.3s,baz=70,slow=37						
MKAR	Makanchi Array	42.34	57	P	P	09 34 08.0	-0.5
	0.4nm,0.6s,baz=280,slow=7.5,SNR=6.5						
SONM	Songino Array	58.14	51	P	P	09 36 08.4	+0.1
	0.3nm,0.6s,baz=287,slow=7.5,SNR=4.9						

KRSC 28 09:29:53.5±1.3, 50°.99N×157°.21E, h152km±11km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.76	246	P	Pn	09 30 17.6	+1.1
SKR				S	Sn	09 30 35.0	+1.0
MIPR	Malaya Ipel'ka	1.32	348	P	Pn	09 30 21.9	+0.6
MTVR	Mutnovka	1.61	22	P	Pn	09 30 25.9	+1.4
MTVR				S	Sn	09 30 49.5	+1.1
RUS	Russkaya	1.66	29	P	Pn	09 30 25.7	+0.9
RUS				S	Sn	09 30 49.2	+0.3
APC	Apacha	1.94	359	P	Pn	09 30 28.3	+0.4
UGLR	Uglovaya	2.44	24	P	Pn	09 30 36.3	+2.3
AVH	Avacha	2.46	22	P	Pn	09 30 36.7	+2.4
KOK	Koryaka	2.47	20	P	Pn	09 30 36.7	+2.4
SMAR	Somma	2.48	23	P	Pn	09 30 36.6	+2.0
KRER	Koryakskii	2.50	22	P	Pn	09 30 37.0	+2.1
SDLR	Sedlovina	2.51	24	P	Pn	09 30 36.6	+1.7
KRX	Arik	2.53	20	P	Pn	09 30 37.2	+2.0
GNL	Ganaly	2.75	9	P	Pn	09 30 39.0	+1.2
MKZ	Mys Kozlova	4.50	36	P	Pn	09 31 01.0	+0.8
TUMR	Tumrok	4.65	21	P	Pn	09 31 04.9	+2.6
KBTR	Krutoberegovo	6.20	30	P	Pn	09 31 23.5	+0.8

IDC 28 09:31:07.8±1.2, 18°.74N×122°.74E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/59, mbtmp3.3/4, Error ellipse: s-maj=77.3km s-min=25.2km az=69.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.09	163	P	P	09 38 44.5	-0.8
	0.3nm,0.8s,baz=346,slow=9.0,SNR=4.7						
MKAR	Makanchi Array	43.32	319	P	P	09 39 11.2	-0.4
	0.1nm,0.5s,baz=99,slow=8.9,SNR=2.3						
ASAR	Alice Springs	43.53	165	P	P	09 39 13.9	+0.5
	0.2nm,0.5s,baz=347,slow=6.6,SNR=5.1						
YKA	Yellowknife Ar	87.40	23	P	P	09 43 57.0	+0.3
	0.1nm,0.5s,baz=306,slow=4.8,SNR=4.9						

*ISCJB **28** 09:34:24.6±0.5, 35°.22S±0°.04×72°.61W±0°.05, h18km, mb4.0/10, MS2.8/1, Error ellipse: s-maj=6.6km s-min=5.5km az=37.6*
*NEIC **28** 09:34:27.0, 35°.32S×72°.43W, h37km, mb4.3/3, After GUC.*
NEIC Felt [III] at Talca and [II] at Curico and San Fernando.
*IDC **28** 09:34:27.7±0.9, 35°.25S×72°.50W, h30km±5km, mb3.8/8, mb1 3.9/10, mb1mx3.8/29, mbtmp3.9/10, ML4.2/2, MS3.0/3, Ms1 3.1/3, ms1mx2.9/20, Error ellipse: s-maj=25.6km s-min=18.7km az=84.0*
*GUC **28** 09:34:27.9±0.6, 35°.32S×72°.44W, h37km±8km, ML4.7*
ISC 28 09:34:26.6±0.6, 35°.26S±0°.05×72°.53W±0°.06, h18km, n22, σ1°.36/29, mb4.1/10, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.75	101	⇓iP	Pb	09 34 40.6	-0.5
TALC				i S	Sb	09 34 50.1	-0.9
TALC				AML	AML	09 34 51.1	
	comp=E,125μm,0.5s						
LNCH	Linares	0.96	128	⇑iP	Pb	09 34 44.1	-0.6
LNCH				i S	Sb	09 34 56.0	-1.0
LNCH				AML	AML	09 34 57.7	
	comp=N,49μm,0.2s						
NICH	Los Niches	1.10	77	⇓iP	Pb	09 34 46.5	-0.6
NICH				i S	Sb	09 35 00.8	-0.3
NICH				AML	AML	09 35 05.2	
	comp=N,34μm,0.5s						
CCSP	San Pedro de C	1.65	196	ePi P	Pn	09 34 55.1	+0.5
CCSP				eS	Sn	09 35 15.6	+0.3
CLCH	Cerro Calan	2.49	42	ePi P	Pn	09 35 07.3	+1.0
CLCH				AML	AML	09 35 57.8	
	comp=E,4μm,0.8s						
CFAA	Coronel Fontan

WAKR	**Walker**	**2.67**	**96**	*e*Pn	Pn	09 40 12.8	+1.2
YBH	**Yreka Blue Hor**	**2.92**	**2**	*e*Pn	Pn	09 40 16.5	+1.6
MOD	**Modoc Plateau**	**3.64**	**31**	*e*Pn	Pn	09 40 27.6	+2.7
TPH	**Tonopah**	**4.46**	**98**	*e*Pn	Pn	09 40 37.8	+1.6

IDC 28 09:45:45.2±3.5, 0°63N×124°42E, h138km±24km, mb3.0/3, mb1 3.1/3, mb1mx2.9/27, mbtmp3.3/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/11, Error ellipse: s-maj=276.7km s-min=20.2km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.64**	**155**	P	P	09 50 35.2	+0.4
	0.6nm,0.5s,baz=337,slow=9.6,SNR=15						
WRA				ScP	ScP	09 57 48.3	+0.3
	0.4nm,0.5s,baz=325,slow=2.6,SNR=9.3						
PSI	**Prapat**	**25.57**	**275**	LR	LR	10 02 02.6	
	comp=Z,40nm,19.4s,slow=38						
ASAR	**Alice Springs**	**25.85**	**160**	P	P	09 51 02.9	-1.2
	0.2nm,0.7s,baz=334,slow=8.5,SNR=5.2						
ASAR				ScP	ScP	09 57 57.1	+0.3
	0.5nm,0.6s,baz=343,slow=2.8,SNR=8.1						
MKAR	**Makanchi Array**	**58.84**	**327**	P	P	09 55 29.3	0.0
	0.3nm,0.4s,baz=126,slow=8.2,SNR=9.0						

DDA 28 10:03:57.6, 39°81N×42°94E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.23**	**170**	*e*Pg	Pg	10 04 07.9	+5.4
AGRB				*e*SG	Sg	10 04 14.1	+8.2
EATA	**Eleskirt**	**0.35**	**279**	*i* P	Pg	10 04 05.1	+0.2
EATA				*i* S	Sg	10 04 09.7	-0.2
TUTA	**Tutak**	**0.42**	**194**	*i* P	Pg	10 04 05.6	-0.5
TUTA				*i* S	Sg	10 04 12.2	+0.4
EKAR	**Karacoban**	**0.87**	**231**	*i* P	Pg	10 04 15.0	+0.3
EKAR				*i* S	Sb	10 04 27.3	-0.3

*ISCJB **28** 10:06:05.6±1.1, 43°36N±0°05×139°28E±0°06, h19km±9km, mb3.5/2, Error ellipse: s-maj=7.8km s-min=6.6km az=24.2*
*JMA **28** 10:06:07.3±0.1, 43°35N×139°39E, h30km±2km, M3.1*
*IDC **28** 10:06:07.2±1.4, 44°08N×139°13E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.3/43, mbtmp3.5/4, ML2.7/3, Error ellipse: s-maj=41.4km s-min=20.1km az=168.0*

ISC 28 10:06:05.5±1.6, 43°34N±0°05×139°30E±0°05, h9km±11km, n15, σ0°90/21, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.86**	**89**	P	**Pg**	**10 06 22.0**	**+0.1**
JSK				*e*S	**Sg**	**10 06 32.1**	**-1.0**
JSH	**Shimam**	**0.88**	**142**	P	**Pg**	**10 06 22.8**	**+0.3**
JSH				*e*S	**Sg**	**10 06 33.8**	**-0.1**
JOSM	**Okushiri--Mats**	**1.26**	**174**	P	**Pn**	**10 06 28.9**	**-0.3**
JYM2	**Yakumo 2**	**1.45**	**147**	P	**Pn**	**10 06 32.0**	**+0.1**
JYM2				*e*S	**Sn**	**10 06 49.8**	**-1.2**
JNB	**Noboribetsu**	**1.54**	**124**	P	**Pn**	**10 06 32.7**	**-0.4**
JNB				*e*S	**Sn**	**10 06 51.1**	**-2.1**
JEW	**Eniwo**	**1.65**	**107**	P	**Pn**	**10 06 34.8**	**+0.2**
JHR	**Hokuryu**	**1.81**	**76**	P	**Pn**	**10 06 36.7**	**0.0**
JHR				*e*S	**Sn**	**10 06 58.4**	**-1.4**
JYG	**Yagishiri**	**1.88**	**54**	P	**Pn**	**10 06 37.6**	**-0.1**
JKB	**Kayabe**	**1.93**	**138**	P	**Pn**	**10 06 38.5**	**+0.1**
JSR	**Shiriuchi**	**1.99**	**155**	P	**Pn**	**10 06 40.1**	**+0.9**
JSR				*e*S	**Sn**	**10 07 03.9**	**-0.3**
ASAJ	**Asahikawa**	**2.51**	**71**	Pn	**Pn**	**10 06 47.1**	**+0.7**
	1.3nm,0.3s,baz=239,slow=16,SNR=12						
ASAJ				Sn	**Sb**	**10 07 22.4**	**+0.7**
	2.6nm,0.3s,baz=65,slow=13,SNR=4.0						
USRK	**Ussuriysk Ar.**	**5.37**	**282**	Pn	**Pn**	**10 07 24.9**	**-0.7**
	0.6nm,0.3s,baz=86,slow=14,SNR=9.1						
USRK				Sn	**Sn**	**10 08 26.8**	**-0.7**
	1.0nm,0.3s,baz=91,slow=24,SNR=8.9						
KSRS	**Korea Array**	**10.48**	**240**	Pn	Pn	10 08 41.1	+5.3
	0.2nm,0.3s,baz=50,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**63.13**	**185**	P	P	10 16 42.2	+8.8
	0.4nm,0.7s,baz=359,slow=6.7,SNR=4.9						
PDAR	**Pinedale Array**	**74.40**	**45**	P	**P**	**10 17 45.2**	**+1.3**
	0.4nm,0.7s,baz=293,slow=4.8,SNR=3.7						

IDC 28 10:16:51.6±1.8, 9°15S×127°75E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/33, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=152.3km s-min=27.5km az=61.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.48**	**150**	Pn	Pn	10 19 50.4	-0.3
	0.1nm,0.3s,baz=329,slow=13,SNR=8.8						
WRA				Sn	Sn	10 22 13.9	+3.3
	0.1nm,0.3s,baz=328,slow=22,SNR=4.9						
ASAR	**Alice Springs**	**15.59**	**159**	Pn	Pn	10 20 32.2	-0.7
	0.1nm,0.3s,baz=340,slow=12,SNR=10						
MKAR	**Makanchi Array**	**68.83**	**328**	P	P	10 27 57.9	+0.1
	0.4nm,1.0s,baz=119,slow=6.4,SNR=3.3						

*IDC **28** 10:20:48.1±0.8, 17°18N×147°82E, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.7/41, mbtmp3.8/7, Error ellipse: s-maj=34.2km s-min=19.4km az=107.0*
*ISCJB **28** 10:20:50.9±0.9, 17°2N±0°1×147°9E±0°3, h33km, mb3.9/7, Error ellipse: s-maj=40.1km s-min=19.6km az=13.5*

ISC 28 10:20:53.4±0.9, 17°2N±0°2×147°8E±0°3, h35km, n8, σ1°25/8, mb3.9/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.16**	**200**	P	**P**	**10 28 17.4**	**-0.5**
	1.7nm,0.5s,baz=16,slow=8.7,SNR=28						
ASAR	**Alice Springs**	**42.77**	**199**	P	**P**	**10 28 47.4**	**-0.4**
	0.6nm,0.5s,baz=16,slow=6.7,SNR=27						
MKAR	**Makanchi Array**	**60.96**	**314**	P	**P**	**10 31 04.2**	**+1.1**
	1.6nm,1.0s,baz=101,slow=13,SNR=9.0						
KURBB	**Kurchatov Arra**	**63.79**	**318**	P	**P**	**10 31 21.7**	**-0.2**
	0.3nm,0.3s,baz=89,slow=7.4,SNR=6.2						
ILAR	**Eielson Array**	**64.16**	**26**	P	**P**	**10 31 22.8**	**-1.4**
	0.5nm,0.4s,baz=251,slow=5.9,SNR=19						
YKA	**Yellowknife Ar**	**78.42**	**28**	P	**P**	**10 32 49.4**	**-0.9**
	0.7nm,0.6s,baz=284,slow=5.8,SNR=16						
PDAR	**Pinedale Array**	**87.48**	**46**	P	**P**	**10 33 39.4**	**+1.4**
	0.2nm,0.4s,baz=163,slow=1.8,SNR=4.3						
LPAZ	**La Paz**	**145.62**	**94**	PKPbc	**PKPab**	**10 40 31.5**	**+1.2**
	1.9nm,0.4s,baz=340,slow=3.4,SNR=14						

IDC 28 10:21:12.7±2.2, 48°94S×108°68E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/29, mbtmp3.9/4, MS3.4/3, Ms1 3.4/3, ms1mx3.0/22, Error ellipse: s-maj=91.8km s-min=22.8km az=109.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.60**	**18**	T	T	10 39 36.7	
	baz=194,slow=74,SNR=44						
H01W1	**Cape Leeuwin H**	**14.61**	**18**	T	T	10 39 38.4	
	baz=194,slow=74,SNR=48						
H01W3	**Cape Leeuwin H**	**14.62**	**18**	T	T	10 39 39.2	
	baz=194,slow=74,SNR=46						
MAW	**Mawson**	**29.47**	**214**	LR	LR	10 36 43.2	
	comp=Z,90nm,21.6s,baz=252,slow=32						
ASAR	**Alice Springs**	**32.12**	**47**	P	P	10 27 42.0	+0.4
	2.1nm,0.7s,baz=210,slow=8.1,SNR=27						
ASAR				LR	LR	10 39 00.3	
	comp=Z,40nm,18.8s,baz=223,slow=33						
VNDA	**Vanda**	**34.93**	**162**	P	P	10 28 05.5	-0.1
	0.3nm,0.6s,baz=301,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**35.51**	**45**	P	P	10 28 11.6	+0.4
	3.9nm,0.8s,baz=208,slow=8.1,SNR=16						
QSPA	**South Pole Qui**	**41.19**	**180**	P	P	10 28 59.6	+0.9
	1.2nm,0.8s,baz=260,slow=3.3,SNR=4.4						
JAY	**Jayapura**	**53.76**	**41**	LR	LR	10 52 23.8	
	comp=Z,59nm,20.0s,baz=40,slow=35						
TXAR	**Lajitas Array**	**148.52**	**117**	PKPbc	PKPbc	10 40 59.6	-1.7
	0.7nm,0.8s,baz=198,slow=7.9,SNR=6.0						
YKA	**Yellowknife Ar**	**152.72**	**44**	PKPbc	PKPbc	10 41 08.9	-1.1
	0.5nm,0.7s,baz=294,slow=2.1,SNR=10						

*TIR **28** 10:30:02.4±0.7, 41°78N×19°36E, h14km±48km, ML2.6*
*BEO **28** 10:30:08.8±0.9, 42°00N×19°34E, h13km±5km, ML1.7/5*

CSEM 28 10:30:03.3±0.6, 41°81N×19°34E, h2km, ML1.7, 2D, Error ellipse: s-maj=10.4km s-min=5.4km az=32.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.48**	**61**	*i* PG	Pg	10 30 12.6	0.0
PUK				*i* SG	Sg	10 30 19.6	+0.7
PUK	**Puka**	**0.48**	**61**	*i* Pg	Pg	10 30 12.6	0.0
	SNR=98						
PUK				*i* Sg	Sg	10 30 19.6	+0.7
	SNR=98						
PDG	**Podgorica**	**0.62**	**355**	*e*Pg	Pb	10 30 17.8	+0.9
PDG				*e*Sg	Sb	10 30 25.0	-1.0
BCI	**Bajram Curri**	**0.78**	**44**	*i* PG	Pg	10 30 17.8	-0.5
BCI				*i* SG	Sb	10 30 30.2	-0.5
BCI	**Bajram Curri**	**0.78**	**44**	*i* Pg	Pg	10 30 17.8	-0.5
	SNR=95						
BCI				*i* Sg	Sb	10 30 30.2	-0.5
	SNR=95						
PHP	**Peshkopia**	**0.84**	**98**	*i* PG	Pg	10 30 18.9	-0.5
PHP				*i* SG	Sg	10 30 30.7	+0.3
PHP	**Peshkopia**	**0.84**	**98**	*i* Pg	Pg	10 30 18.9	-0.6
	SNR=94						
PHP				*i* Sg	Sg	10 30 30.7	+0.3
	SNR=94						
TREB	**Trebinje**	**1.16**	**321**	⇓*i*Pg	Pb	10 30 26.2	+0.1
TREB				*e*Sg	Sn	10 30 42.4	-0.7
TREB	**Trebinje**	**1.16**	**321**	⇓*i*Pg	Pb	10 30 26.2	+0.1
TREB				*e*Sg	Sn	10 30 42.4	-0.7
SJES	**Sjenica**	**1.52**	**18**	*e*Pg	Pb	10 30 32.4	0.0
SJES				*e*Sg	Sn	10 30 52.0	-0.2
SJES	**Sjenica**	**1.52**	**18**	*e*Pg	Pb	10 30 32.4	0.0
SJES				*e*Sg	Sn	10 30 52.0	-0.2
IVAS	**Ivanjica**	**1.86**	**19**	*e*Pg	Pg	10 30 38.9	-0.2
IVAS				*e*Sg	Sg	10 31 02.7	-0.7
IVAS	**Ivanjica**	**1.86**	**19**	*e*Pg	Pg	10 30 38.9	-0.2
IVAS				*e*Sg	Sg	10 31 02.7	-0.7
SELS	**Selova**	**1.93**	**43**	*e*Pg	Pg	10 30 40.7	+0.4
SELS	**Selova**	**1.93**	**43**	*e*Pg	Pg	10 30 40.7	+0.4
BBLS	**Lazići**	**2.05**	**1**	*e*Pg	Pb	10 30 41.7	+0.3
BBLS				*e*Sg	Sb	10 31 06.9	-0.6
BBLS	**Lazići**	**2.05**	**1**	*e*Pg	Pb	10 30 41.7	+0.3
BBLS				*e*Sg	Sb	10 31 06.9	-0.6
VTS	**Vitosha**	**2.98**	**74**	*e*Sn	Sn	10 31 30.2	+1.9
VTS	**Vitosha**	**2.98**	**74**	*e*Sn	Sn	10 31 30.2	+1.9

*IDC **28** 10:37:30.5±2.6, 46°43S×165°88E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.6/21, mbtmp3.4/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/11, Error ellipse: s-maj=193.3km s-min=54.8km az=32.0*
*ISCJB **28** 10:37:31.1±0.9, 46°34S±0°08×165°98E±0°08, h13km, mb3.3/2, Error ellipse: s-maj=12.1km s-min=7.4km az=9.5*
*NEIC **28** 10:37:35.2, 46°34S×166°20E, h17km, ML4.1(WEL), After WEL.*
*WEL **28** 10:37:35.4±0.5, 46°32S×166°20E, h21km±1km, ML4.1/11, Error ellipse: s-maj=4.4km s-min=2.6km az=90.0*

ISC 28 10:37:32.6±1.1, 46°37S±0°07×166°10E±0°07, h13km, n40, σ1°07/42, 2C-5D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.45**	**64**	⇓P*	**Pb**	**10 37 43.4**	**+1.0**
PYZ				S*	**Sb**	**10 37 47.8**	**-1.1**
PYZ	**Puysegur Point**	**0.45**	**64**	⇓P*	**Pb**	**10 37 43.4**	**+1.0**
PYZ				S*	**Sb**	**10 37 48.0**	**-1.0**
WHZ	**Wether Hill Ro**	**1.37**	**70**	⇓PN	**Pn**	**10 37 57.5**	**+0.2**
WHZ				SN	**Sb**	**10 38 14.6**	**-0.7**
WHZ				AML	AML	10 38 19.9	
WHZ	**Wether Hill Ro**	**1.37**	**70**	⇓Pn	**Pn**	**10 37 57.5**	**+0.2**
WHZ				Sn	**Sb**	**10 38 14.6**	**-0.7**
APZ	**The Paps**	**1.38**	**110**	⇓PN	**Pn**	**10 37 58.1**	**+0.5**
APZ				SN	**Sn**	**10 38 15.8**	**0.0**
APZ				AML	AML	10 38 26.8	
APZ	**The Paps**	**1.38**	**110**	Pn	**Pn**	**10 37 58.1**	**+0.5**
APZ				Sn	**Sn**	**10 38 16.0**	**+0.2**
MLZ	**Mavora Lakes**	**1.77**	**56**	⇑PN	**Pn**	**10 38 03.2**	**+0.3**
MLZ				AML	AML	10 38 30.1	
MLZ				AML	AML	10 38 35.4	
MLZ	**Mavora Lakes**	**1.77**	**56**	Pn	**Pn**	**10 38 03.3**	**+0.3**
SYZ	**Scrubby Hill**	**2.10**	**96**	PN	**Pn**	**10 38 08.4**	**+0.9**
SYZ				AML	AML	10 38 43.1	
SYZ				AML	AML	10 38 43.2	
SYZ				AML	AML	10 38 48.5	
SYZ				AML	AML	10 38 48.5	
SYZ	**Scrubby Hill**	**2.10**	**96**	Pn	**Pn**	**10 38 08.4**	**+0.9**
MSZ	**Milford Sound**	**2.12**	**38**	*e*PN	**Pn**	**10 38 07.9**	**+0.2**
MSZ				AML	AML	10 38 51.7	
MSZ				AML	AML	10 38 51.7	
MSZ				AML	AML	10 38 51.9	
MSZ				AML	AML	10 38 51.9	
MSZ	**Milford Sound**	**2.12**	**38**	Pn	**Pn**	**10 38 07.9**	**+0.2**
TUZ	**Tuapeka**	**2.49**	**82**	PN	**Pn**	**10 38 13.8**	**+1.1**
TUZ	**Tuapeka**	**2.49**	**82**	Pn	**Pn**	**10 38 13.8**	**+1.1**
EAZ	**Earnscleugh**	**2.51**	**64**	PN	**Pn**	**10 38 13.9**	**+0.8**
EAZ				AML	AML	10 38 49.7	
EAZ				AML	AML	10 38 49.7	
EAZ				AML	AML	10 38 59.6	
EAZ				AML	AML	10 38 59.6	
EAZ	**Earnscleugh**	**2.51**	**64**	Pn	**Pn**	**10 38 14.5**	**+1.4**
WKZ	**Wanaka**	**2.56**	**54**	PN	**Pn**	**10 38 15.5**	**+1.7**
WKZ				AML	AML	10 38 51.7	
WKZ				AML	AML	10 38 52.8	
WKZ				AML	AML	10 38 54.2	
WKZ				AML	AML	10 39 02.1	
WKZ	**Wanaka**	**2.56**	**54**	Pn	**Pn**	**10 38 15.5**	**+1.7**
JCZ	**Jackson Bay**	**2.96**	**40**	*e*PN	**Pn**	**10 38 20.9**	**+1.5**
JCZ				AML	AML	10 39 10.6	
JCZ				AML	AML	10 39 12.1	
JCZ	**Jackson Bay**	**2.96**	**40**	Pn	**Pn**	**10 38 21.2**	**+1.8**
ODZ	**Otahua Downs**	**3.44**	**69**	⇑PN	**Pn**	**10 38 25.6**	**-0.3**
ODZ	**Otahua Downs**	**3.44**	**69**	Pn	**Pn**	**10 38 25.6**	**-0.3**
LBZ	**Lake Benmore**	**3.49**	**57**	PN	**Pn**	**10 38 26.4**	**-0.2**
LBZ				AML	AML	10 39 12.0	
LBZ				AML	AML	10 39 26.2	
LBZ	**Lake Benmore**	**3.49**	**57**	Pn	**Pn**	**10 38 26.4**	**-0.2**
FOZ	**Fox Glacier**	**3.78**	**44**	*e*PN	**Pn**	**10 38 33.1**	**+2.5**
FOZ				AML	AML	10 39 38.4	
FOZ				AML	AML	10 39 51.0	
FOZ	**Fox Glacier**	**3.78**	**44**	Pn	**Pn**	**10 38 33.1**	**+2.5**
RPZ	**Rata Peaks**	**4.40**	**55**	PN	**Pn**	**10 38 37.7**	**-1.3**
RPZ				AML	AML	10 39 57.5	
RPZ				AML	AML	10 40 05.8	
RPZ	**Rata Peaks**	**4.40**	**55**	Pn	**Pn**	**10 38 37.8**	**-1.3**
OXZ	**Oxford**	**5.20**	**56**	*e*PN	**Pn**	**10 38 49.0**	**-1.0**
LTZ	**Lake Taylor**	**5.68**	**53**	PN	**Pn**	**10 38 56.6**	**-0.1**
LTZ	**Lake Taylor**	**5.68**	**53**	Pn	**Pn**	**10 38 56.6**	**-0.1**
DSZ	**Denniston Nort**	**6.18**	**44**	PN	**Pn**	**10 39 03.4**	**-0.2**
URZ	**Urewera**	**11.48**	**49**	LR	LR	10 45 19.7	
	comp=Z,81nm,19.5s,baz=216,slow=40						
ASAR	**Alice Springs**	**34.39**	**300**	P	**P**	**10 44 19.0**	**-0.5**
	0.2nm,0.6s,baz=133,slow=7.3,SNR=7.3						
WRA	**Warramunga Arr**	**37.02**	**305**	P	**P**	**10 44 40.2**	**-1.8**
	0.3nm,0.6s,baz=138,slow=7.9,SNR=6.6						
H08S2	**Diego Garcia H**	**87.01**	**262**	T	T	12 26 14.9	
	baz=136,slow=76,SNR=49						
H08S1	**Diego Garcia H**	**87.03**	**262**	T	T	12 26 10.2	
	baz=136,slow=76,SNR=29						
H08S3	**Diego Garcia H**	**87.03**	**262**	T	T	12 26 16.3	
	baz=136,slow=76,SNR=43						
TORD	**Torodi Ar. Bea**	**144.37**	**207**	PKP	**PKPab**	**10 57 07.3**	**+0.5**
	0.1nm,0.4s,baz=178,slow=2.4,SNR=3.3						
ARCES	**ARCESS Array B**	**149.72**	**334**	PKPbc	**PKPbc**	**10 57 20.9**	**+0.1**
	1.5nm,0.9s,baz=45,slow=3.6,SNR=4.3						

*IDC **28** 10:48:43.0±1.3, 25°69N×90°41E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/32, mbtmp3.7/7, Error ellipse: s-maj=64.7km s-min=18.9km az=61.0*
*ISCJB **28** 10:48:45.6±1.2, 25°7N±0°2×90°4E±0°3, h33km, mb3.7/7, Error ellipse: s-maj=48.9km s-min=17.9km az=151.4*

ISC 28 10:48:48.2±1.6, 25°7N±0°3×90°5E±0°4, h35km, n7, σ0°81/7, mb3.7/7, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**22.00**	**345**	P	**P**	**10 53 40.5**	**+1.1**
	1.3nm,0.5s,baz=160,slow=11,SNR=20						
SONM	**Songino Array**	**25.39**	**26**	P	**P**	**10 54 12.1**	**-0.3**
	0.3nm,0.4s,baz=206,slow=8.5,SNR=4.1						
KURBB	**Kurchatov Arra**	**26.49**	**343**	P	**P**	**10 54 22.3**	**+0.2**
	0.4nm,0.6s,baz=157,slow=10.0,SNR=5.6						
FINES	**FINESS Array B**	**55.52**	**328**	P	**P**	**10 58 19.1**	**-0.5**
	1.3nm,1.0s,baz=106,slow=11,SNR=3.6						
ARCES	**ARCESS Array B**	**57.42**	**338**	P	**P**	**10 58 32.5**	**-0.5**
	3.4nm,1.0s,baz=103,slow=6.7,SNR=5.2						
WRA	**Warramunga Arr**	**62.28**	**133**	P	**P**	**10 59 06.6**	**-0.5**
	0.7nm,0.7s,baz=323,slow=7.2,SNR=8.0						
ASAR	**Alice Springs**	**64.66**	**136**	P	**P**	**10 59 23.6**	**+0.8**
	0.5nm,0.7s,baz=320,slow=6.8,SNR=8.3						

*IDC **28** 10:59:21.6±2.8, 36°38N×71°20E, h198km±25km, mb3.1/6, mb1 3.2/11, mb1mx3.0/36, mbtmp3.6/11, Error ellipse: s-maj=22.3km s-min=17.3km az=178.0*
*ISCJB **28** 10:59:22.2±0.5, 36°54N±0°04×70°97E±0°07, h188km, mb3.3/7, Error ellipse: s-maj=8.3km s-min=4.6km az=153.5*
*NNC **28** 10:59:28.8±1.8, 36°97N×71°01E, h223km, mb2.4, mpv3.5, Error ellipse: s-maj=16.1km s-min=8.4km az=164.0*

ISC 28 10:59:22.8±0.8, 36°59N±0°07×71°06E±0°07, h188km, n34, σ1°71/37, mb3.3/7, 4C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.83**	**322**	⇓P	Pn	11 00 14.8	+4.9
DZET				⇓S	**Sn**	**11 00 50.2**	**+3.4**
AML	**Almayashu**	**5.90**	**19**	P	**Pn**	**11 00 51.7**	**+2.8**
	SNR=47						
UCH	**Uchtor**	**6.24**	**24**	P	**Pn**	**11 00 56.2**	**+2.8**
	SNR=13						
KZA	**Kyzart**	**6.38**	**29**	P	**Pn**	**11 00 57.4**	**+2.3**
	SNR=9.2						
EKS2	**Erkin-Say**	**6.42**	**18**	P	**Pn**	**11 00 58.2**	**+2.7**
	SNR=9.6						
KK31	**Karatay Array**	**6.52**	**356**	⇑P	**Pn**	**11 00 59.2**	**+2.5**
	0.7nm,0.2s,baz=185,slow=15,SNR=37						
KK31				⇑S	**Sn**	**11 02 09.9**	**-1.0**
	4.6nm,0.3s,baz=182,slow=23,SNR=16						
AAK	**Ala-Archa**	**6.60**	**23**	⇓P	**Pn**	**11 01 00.3**	**+2.4**
	1.5nm,0.4s						
AAK				⇑S	**Sn**	**11 02 12.6**	**-0.3**
	14nm,0.7s						
AAK	**Ala-Archa**	**6.60**	**23**	P	**Pn**	**11 01 00.2**	**+2.4**
	1.0nm,0.3s,baz=168,slow=7.4,SNR=12						
AAK				S	**Sn**	**11 02 14.0**	**+1.1**
	1.1nm,0.3s,baz=207,slow=5.8,SNR=4.8						
TKM2	**Tokmak 2**	**7.23**	**28**	⇓P	**Pn**	**11 01 08.2**	**+2.1**
	4.5nm,0.7s						
TKM2				⇓S	**Sn**	**11 02 27.6**	**-0.3**
	4.2nm,1.4s						
TKM2	**Tokmak 2**	**7.23**	**28**	P	**Pn**	**11 01 08.6**	**+2.5**
	SNR=6.8						
GEYT	**Alibeck**	**10.40**	**281**	P	**Pn**	**11 01 48.1**	**+0.7**
	0.5nm,0.3s,baz=81,slow=19,SNR=3.2						
MK31	**Makanchi Array**	**13.20**	**36**	⇑P	**Pn**	**11 02 22.0**	**-1.0**
	0.8nm,0.8s,baz=209,slow=12,SNR=8.1						
MKAR	**Makanchi Array**	**13.20**	**36**	P	**Pn**	**11 02 22.5**	**-0.6**
	0.1nm,0.3s,baz=214,slow=15,SNR=7.9						
DANN	**Dangsing**	**13.50**	**124**	*e*P	**Pn**	**11 02 27.2**	**-0.1**
	9.2nm,0.4s						
KOLN	**Koldanda**	**13.78**	**126**	*e*P	**Pn**	**11 02 31.9**	**+1.2**
	7.3nm,0.2s						
GKN	**Gorkha**	**14.31**	**123**	*e*P	**Pn**	**11 02 37.6**	**+0.3**
	17nm,0.4s						
DMN	**Daman**	**14.88**	**123**	*e*P	**Pn**	**11 02 45.2**	**+0.8**
	15nm,0.5s						
KKN	**Kakani**	**14.88**	**122**	*e*P	**Pn**	**11 02 44.4**	**0.0**
	15nm,0.5s						
AB31	**Akbulak array**	**15.03**	**331**	⇓P	**Pn**	**11 02 44.7**	**-1.0**
	0.7nm,0.7s						
AB31				⇓S	**Sn**	**11 05 30.4**	**-3.2**
	0.4nm,0.6s						
PKIN	**Phulchoki**	**15.10**	**122**	*e*P	**Pn**	**11 02 47.3**	**+0.2**
	11nm,0.4s						
PKI	**Pulchoki**	**15.11**	**122**	*e*P	**P**	**11 02 48.4**	**+0.3**
	5.9nm,0.2s						
GUN	**Gumba**	**15.22**	**120**	*e*P	**Pn**	**11 02 48.8**	**+0.1**
	6.2nm,0.3s						
JIRN	**Jiri**	**15.59**	**121**	*e*P	**Pn**	**11 02 53.3**	**+0.1**
	14nm,0.5s						
RAMN	**Ramite**	**16.32**	**122**	*e*P	**Pn**	**11 03 04.0**	**+2.1**
	5.6nm,0.3s						
AKTO	**Aktyubinsk**	**16.73**	**330**	P	**Pn**	**11 03 07.0**	**+0.7**
	0.2nm,0.3s,baz=141,slow=11,SNR=4.2						
TAPN	**Taplejung**	**16.85**	**118**	*e*P	**Pn**	**11 03 09.0**	**+0.8**
ZALV	**Zalesovo Beam**	**19.82**	**25**	P	**P**	**11 03 37.5**	**-1.3**
	0.2nm,0.3s,baz=232,slow=11,SNR=3.2						
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**11 06 17.2**	**-0.4**
	0.4nm,0.3s,baz=123,slow=8.7,SNR=6.8						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**11 06 47.6**	**0.0**
	1.9nm,0.8s,baz=116,slow=8.5,SNR=8.0						
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	**11 07 13.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=96,slow=7.9						
TORD	**Torodi Ar. Bea**	**65.76**	**269**	P	**P**	**11 09

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.02**	**110**	⇑*iP*	**Pg**	**11 21 08.7**	**0.0**
TALC				*i* S	**Sb**	**11 21 23.1**	**+0.1**
COCH	**Cobquecura**	**1.08**	**179**	⇑*iP*	**Pb**	**11 21 09.5**	**-0.8**
COCH				*i* S	**Sg**	**11 21 24.0**	**+0.3**
LNCH	**Linares**	**1.26**	**129**	⇓*iP*	**Pn**	**11 21 13.0**	**-0.5**
LNCH				*i* S	**Sn**	**11 21 30.6**	**-0.3**
NICH	**Los Niches**	**1.29**	**88**	⇓*iP*	**Pn**	**11 21 13.2**	**-0.7**
NICH				*i* S	**Sg**	**11 21 31.0**	**+0.3**
CCSP	**San Pedro de C**	**1.81**	**188**	*eP*	**Pn**	**11 21 21.0**	**0.0**
CCSP				*i* S	**Sn**	**11 21 44.4**	**+0.1**
CCSP				AML	AML	11 21 53.9	
	comp=N,6μm,0.6s						
SJCH	**San Jose de Ma**	**2.47**	**56**	*e*P9	**Pn**	**11 21 31.5**	**+1.3**
SJCH				*i* S	**Sb**	**11 22 02.4**	**-2.4**
CLCH	**Cerro Calan**	**2.50**	**49**	AML	AML	11 22 26.2	
	comp=N,3μm,0.6s						
ROCH	**El Roble**	**2.55**	**36**	*e*P	**Pn**	**11 21 31.6**	**+0.1**
ROCH				*e*S	**Sn**	**11 22 03.3**	**+0.2**
ROCH				AML	AML	11 22 25.5	
	comp=E,2μm,0.5s						
PEL	**Peldehue**	**2.59**	**43**	*e*P1	**Pn**	**11 21 31.8**	**0.0**
PEL				AML	AML	11 22 26.6	
	comp=N,2μm,0.5s						
CFAA	**Coronel Fontan**	**5.14**	**49**	Pn	**Pn**	**11 22 08.3**	**+1.4**
	comp=N,0.2nm,0.3s,baz=222,slow=12,SNR=8.9						
CFAA				LR	LR	11 24 15.0	
	comp=N,18nm,18.7s,baz=234,slow=40						
PLCA	**Paso Flores**	**5.94**	**163**	Pn	**Pn**	**11 22 18.8**	**+0.8**
	comp=N,3.0nm,0.3s,baz=328,slow=11,SNR=20						
PLCA	**Paso Flores**	**5.94**	**163**	*e*Pn	**Pn**	**11 22 18.7**	**+0.8**
	comp=N,223nm,0.3s						
LCO	**Las Campanas**	**6.28**	**17**	*e*Pn	**Pn**	**11 22 21.2**	**-1.6**
	comp=N,17nm,0.6s						
TRQA	**Tornquist**	**9.21**	**112**	*e*Pn	**Pn**	**11 23 04.2**	**+1.5**
	comp=N,5.8nm,0.6s						
LPAZ	**La Paz**	**19.15**	**14**	P	**Pn**	**11 25 15.3**	**+0.5**
	comp=N,0.1nm,0.3s,baz=192,slow=9.0,SNR=4.6						
LPAZ	**La Paz**	**19.15**	**14**	*e*Pn	**Pn**	**11 25 16.4**	**+1.5**
	comp=N,5.6nm,1.0s						
SIV	**San Ignacio**	**21.70**	**32**	P	**P**	**11 25 41.4**	**+0.3**
	comp=N,2.3nm,0.8s,baz=216,slow=8.4,SNR=4.6						
SIV				LR	LR	11 35 58.9	
	comp=N,90nm,18.5s,baz=227,slow=42						
PMSA	**Palmer Station**	**30.22**	**173**	LR	LR	11 38 45.6	
	comp=N,124nm,18.3s,baz=158,slow=36						
QSPA	**South Pole Qui**	**55.19**	**180**	*e*P	P	11 30 26.4	+3.7
	comp=N,3.8nm,0.9s						
TXAR	**Lajitas Array**	**70.35**	**332**	P	**P**	**11 32 04.3**	**+0.3**
	comp=N,0.8nm,0.7s,baz=152,slow=7.5,SNR=6.2						
WVT	**Waverly**	**72.19**	**347**	*e*P	**P**	**11 32 15.2**	**+0.3**
	comp=N,4.1nm,1.0s						
ANMO	**Albuquerque**	**76.41**	**332**	*e*P	**P**	**11 32 40.2**	**+0.4**
	comp=N,1.5nm,0.9s						
ECSD	**EROS Data Cent**	**81.36**	**343**	*e*P	**P**	**11 33 05.8**	**-0.7**
	comp=N,2.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**85.16**	**70**	P	**P**	**11 33 26.6**	**-0.2**
	comp=N,0.3nm,0.7s,baz=241,slow=5.9,SNR=5.9						

*IDC **28** 11:48:17.0±1.2, 34°.57S×72°.47W, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.6/21, mbtmp3.4/5, ML3.5/3, MS1.9/1, Ms1 1.9/1, ms1mx1.9/15, Error ellipse: s-maj=41.4km s-min=29.1km az=90.0*
*ISCJB **28** 11:48:20.2±1.5, 34°.62S±0°.04×72°.10W±0°.10, h25km±11km, mb3.4/2, Error ellipse: s-maj=14.4km s-min=5.2km az=20.5*
*GUC **28** 11:48:21.1±0.5, 34°.65S×71°.99W, h48km±3km, ML3.9*
ISC 28 11:48:20.3±1.8, 34°.65S±0°.06×72°.11W±0°.07, h24km±15km, n15, σ0°.94/23, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.81**	**116**	*e*P	**Pb**	**11 48 35.2**	**-0.4**
NICH				*e*S	**Sb**	**11 48 45.5**	**-0.6**
TALC	**Talca**	**0.85**	**153**	⇑*e*P	**Pb**	**11 48 36.4**	**+0.1**
TALC				*e*S	**Sb**	**11 48 47.9**	**+0.7**
LNCH	**Linares**	**1.27**	**161**	*e*P	**Pn**	**11 48 42.7**	**+0.2**
LNCH				*e*S	**Sb**	**11 48 59.4**	**-0.1**
COCH	**Cobquecura**	**1.58**	**200**	⇑*e*P	**Pb**	**11 48 48.2**	**-0.6**
COCH				*e*S	**Sb**	**11 49 08.5**	**+0.1**
SJCH	**San Jose de Ma**	**1.77**	**56**	⇓*e*P	**Pn**	**11 48 49.2**	**-0.2**
SJCH				*e*S4	**Sn**	**11 49 10.2**	**-1.0**
CLCH	**Cerro Calan**	**1.81**	**47**	*e*P	**Pn**	**11 48 50.4**	**+0.4**
CLCH				*e*S	**Sn**	**11 49 12.2**	**0.0**
CLCH				IAML		11 49 18.3	
	comp=E,2μm,0.2s						
CLCH				⇑*e*		11 49 21.5	
ROCH	**El Roble**	**1.90**	**29**	*e*P	**Pn**	**11 48 52.3**	**+0.8**
ROCH				*e*S	**Sn**	**11 49 15.7**	**+0.9**
PEL	**Peldehue**	**1.91**	**39**	⇑*e*P	**Pn**	**11 48 51.4**	**0.0**
PEL				*e*S	**Sn**	**11 49 14.8**	**+0.1**
PEL				IAML		11 49 20.7	
	comp=N,2μm,1.4s						
CFAA	**Coronel Fontan**	**4.44**	**48**	Pn	**Pn**	**11 49 28.7**	**+2.5**
	comp=N,0.2nm,0.3s,baz=224,slow=12,SNR=10						
CFAA				Lg	Lg	11 50 36.1	
	comp=N,0.5nm,0.3s,baz=312,slow=22,SNR=7.7						
CFAA				LR	LR	11 51 20.1	
	comp=N,13nm,20.4s,baz=226,slow=40						
PLCA	**Paso Flores**	**6.20**	**169**	Pn	**Pn**	**11 49 52.5**	**+2.1**
	comp=N,0.6nm,0.3s,baz=330,slow=11,SNR=13						
PLCA				Lg	Lg	11 51 33.6	
	comp=N,0.5nm,0.3s,baz=74,slow=20,SNR=3.6						
LPAZ	**La Paz**	**18.63**	**12**	P	**P**	**11 52 36.4**	**-0.5**
	comp=N,0.1nm,0.3s,baz=192,slow=5.6,SNR=5.4						
TXAR	**Lajitas Array**	**70.27**	**331**	P	**P**	**11 59 30.9**	**-0.7**
	comp=N,0.1nm,0.4s,baz=140,slow=7.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**84.48**	**70**	P	**P**	**12 00 52.3**	**+0.8**
	comp=N,0.5nm,0.7s,baz=233,slow=0.2,SNR=4.2						
WRA	**Warramunga Arr**	**120.17**	**209**	PKP	**PKPdf**	**12 07 09.6**	**-0.1**
	comp=N,0.2nm,0.4s,baz=155,slow=1.7,SNR=4.9						
BVAR	**Borovoye Array**	**147.79**	**44**	PKPbc	**PKPab**	**12 08 04.2**	**-0.9**
	comp=N,0.5nm,0.5s,baz=264,slow=1.4,SNR=4.2						

IDC 28 12:03:22.6±2.7, 0°.58S×133°.20E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/27, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=140.3km s-min=26.1km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.28**	**177**	P	P	12 07 49.3	+0.2
	0.1nm,0.3s,baz=356,slow=12,SNR=5.1						
WRA				S	Sn	12 11 16.4	-11
	0.1nm,0.3s,baz=359,slow=22,SNR=3.2						
ASAR	**Alice Springs**	**22.96**	**178**	P	P	12 08 28.9	0.0
	0.8nm,0.5s,baz=357,slow=12,SNR=11						
H11N1	**WAKE ISLAND Hy**	**38.70**	**57**	T	T	12 51 57.9	
	baz=243,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**38.71**	**57**	T	T	12 51 56.7	
	baz=243,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**38.72**	**57**	T	T	12 51 56.7	
	baz=243,slow=75,SNR=9.6						
MKAR	**Makanchi Array**	**64.79**	**324**	P	P	12 14 03.1	-0.1
	0.1nm,0.5s,baz=117,slow=7.5,SNR=2.9						

*KRNET **28** 12:11:34.8±0.1, 39°.51N×73°.47E, h2km, mb3.4*
ISC 28 12:11:29.8±5.2, 39°.2N±0°.2×73°.3E±0°.1, h29km, n4, σ2°.23/7, 3C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.41**	**343**	*e*P	**Pb**	**12 11 57.0**	**+1.4**
	baz=333						
OHH				*e*S	**Sb**	**12 12 13.0**	**-0.2**
	baz=333						
ARSB	**Arslanbob**	**2.16**	**353**	*e*P	**Pb**	**12 12 10.3**	**+1.9**
	baz=348						
ARSB				*e*S	**Sb**	**12 12 36.2**	**+1.4**
	baz=348						
AAK	**Ala-Archa**	**3.57**	**14**	⇓Pn	**Pb**	**12 12 32.7**	**+0.4**
	2.9nm,1.1s						
AAK				⇑Sn	**Sb**	**12 13 12.2**	**-3.0**
	2.3nm,0.8s						
KK31	**Karatay Array**	**4.46**	**332**	⇑Pg	**Pb**	**12 12 45.7**	**-1.8**
	1.1nm,0.8s,baz=154,slow=16						
KK31				⇑Lg	Lg	12 13 34.9	
	1.2nm,0.7s,baz=162,slow=28,SNR=5.1						

*IDC **28** 12:15:04.3±8.9, 24°.29S×179°.81E, h556km±74km, mb3.1/6, mb1 3.3/7, mb1mx3.1/17, mbtmp4.0/7, Error ellipse: s-maj=104.1km s-min=33.3km az=133.0*
ISC 28 12:14:57.0±2.3, 24°.7S±0°.5×179°.6W±0°.3, h500km, n12, σ1°.05/12, mb3.4/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.04**	**279**	P	**P**	**12 17 48.2**	**+1.5**
	0.4nm,0.3s,baz=49,slow=19,SNR=3.3						
CTA	**Charters Tower**	**31.81**	**271**	P	**P**	**12 20 40.2**	**+0.1**
	3.3nm,0.4s,baz=94,slow=11,SNR=15						
ASAR	**Alice Springs**	**42.23**	**261**	P	**P**	**12 22 05.8**	**-0.1**
	0.3nm,0.3s,baz=92,slow=7.5,SNR=20						
WRA	**Warramunga Arr**	**42.68**	**267**	P	**P**	**12 22 08.5**	**-1.0**
	1.2nm,0.3s,baz=96,slow=8.3,SNR=54						
KDU	**Kakadu**	**46.69**	**276**	P	**P**	**12 22 38.9**	**-1.6**
	baz=45,SNR=3.9						
WRKA	**Warakurna**	**46.99**	**258**	P	**P**	**12 22 42.5**	**-0.2**
	baz=45,SNR=8.6						
KNRA	**Kununurra**	**49.01**	**270**	P	**P**	**12 22 57.4**	**-0.5**
	baz=47,SNR=7.8						
KSRS	**Korea Array**	**79.05**	**320**	P	**P**	**12 26 08.6**	**-0.3**
	0.8nm,0.7s,baz=157,slow=7.1,SNR=3.7						
PETK	**Petropavlovsk-**	**79.93**	**346**	P	**P**	**12 26 11.9**	**-1.3**
	1.7nm,0.8s,baz=122,slow=6.6,SNR=3.8						
ILAR	**Eielson Array**	**92.71**	**13**	P	**P**	**12 27 16.0**	**+1.4**
	0.2nm,0.8s,baz=221,slow=5.2,SNR=3.8						
AKASG	**Malin Array Be**	**145.80**	**327**	PKPbc	**PKPdf**	**12 33 38.7**	**+0.7**
	0.7nm,0.5s,baz=44,slow=4.2,SNR=5.4						
BRTR	**Keskin Array B**	**148.30**	**306**	PKPbc	**PKPbc**	**12 33 46.6**	**-0.3**
	0.4nm,0.5s,baz=70,slow=2.7,SNR=2.6						

DJA 28 12:22:41.7±0.5, 8°.S±12°×10°.9E±°, h74km±9km, M3.6/9, MLv3.6/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.49**	**307**	P	Pn	12 22 55.5	+0.7
KPJI	**Karang Pucung**	**0.75**	**7**	P	Pn	12 23 03.2	+5.7
KPJI				S	Sn	12 23 10.9	+1.8
LEM	**Lembang**	**1.74**	**316**	P	Pn	12 23 10.0	-0.2
CNJI	**Cibinong**	**1.86**	**294**	P	Pn	12 23 12.0	+0.4
CNJI				S	Sn	12 23 36.1	+1.8
PCJI	**Pacitan**	**2.32**	**93**	P	Pn	12 23 18.4	+0.7
PCJI				S	Sn	12 23 45.5	+0.2
NGJI	**Ngawi**	**2.69**	**75**	P	Pn	12 23 15.4	-7.4
PWJI	**Pagerwojo**	**2.94**	**89**	P	Pn	12 23 26.6	+0.5
PWJI				S	Sn	12 24 01.0	+0.7
CGJI	**Cibinong**	**3.44**	**295**	P	Pn	12 23 33.4	+0.4
CGJI				S	Sn	12 24 13.7	+1.0
GMJI	**Gumukmas**	**4.56**	**93**	P	Pn	12 23 49.0	+0.7

*CRAAG **28** 12:24:09.6, 36°.46N×5°.14E, MI3.3*
*ISCJB **28** 12:24:10.5±0.4, 36°.87N±0°.04×5°.00E±0°.04, h10km, Error ellipse: s-maj=5.7km s-min=3.4km az=34.0*
*MDD **28** 12:24:11.1±0.5, 36°.58N×4°.97E, h0km, mb4.2/15, Error ellipse: s-maj=10.3km s-min=3.9km az=33.0, PRXIMO*
*CSEM **28** 12:24:11.8±0.3, 36°.79N×5°.12E, h10km, ML3.3, Error ellipse: s-maj=9.0km s-min=5.2km az=31.0*
*LDG **28** 12:24:12.6±0.3, 36°.71N×4°.87E, h30km, Ml3.2/9, Error ellipse: s-maj=5.9km s-min=4.2km az=10.0*
ISC 28 12:24:09.6±0.8, 36°.69N±0°.04×5°.04E±0°.04, h10km, n110, σ1°.88/137, 1C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.69**	**101**	P	**Pb**	**12 24 24.1**	**+0.4**
DFRA	**Djebel Bou Aff**	**0.69**	**101**	P	**Pb**	**12 24 24.1**	**+0.4**
DFRA	**Djebel Bou Aff**	**0.69**	**101**	P	**Pb**	**12 24 24.1**	**+0.4**
CKHR	**Kef el Ahmar**	**0.77**	**150**	P	**Pg**	**12 24 22.9**	**-1.5**
CKHR	**Kef el Ahmar**	**0.77**	**150**	P	**Pg**	**12 24 22.9**	**-1.5**
CKHR	**Kef el Ahmar**	**0.77**	**150**	P	**Pg**	**12 24 22.9**	**-1.5**
CASM	**Ain Smara**	**1.24**	**110**	P	**Pg**	**12 24 34.0**	**+0.5**
CASM	**Ain Smara**	**1.24**	**110**	P	**Pg**	**12 24 34.0**	**+0.5**
CASM	**Ain Smara**	**1.24**	**110**	P	**Pg**	**12 24 34.0**	**+0.5**
CTEI	**Djebel Teioual**	**1.27**	**119**	P	**Pg**	**12 24 34.6**	**+0.7**
CTEI	**Djebel Teioual**	**1.27**	**119**	P	**Pg**	**12 24 34.6**	**+0.7**
CTEI	**Djebel Teioual**	**1.27**	**119**	P	**Pg**	**12 24 34.6**	**+0.7**
CKFL	**Kef-Lekhel**	**1.38**	**101**	P	**Pg**	**12 24 37.3**	**+1.2**
CKFL	**Kef-Lekhel**	**1.38**	**101**	P	**Pg**	**12 24 37.3**	**+1.2**
CKFL	**Kef-Lekhel**	**1.38**	**101**	P	**Pg**	**12 24 37.3**	**+1.2**
CAEH	**'Ain El Ouahch**	**1.46**	**86**	P	**Pg**	**12 24 38.1**	**+0.6**
CAEH	**'Ain El Ouahch**	**1.46**	**86**	P	**Pg**	**12 24 38.1**	**+0.6**
CAEH	**'Ain El Ouahch**	**1.46**	**86**	P	**Pg**	**12 24 38.1**	**+0.6**
CMAH	**Djebel Manchou**	**1.91**	**91**	P	**Pg**	**12 24 46.2**	**-0.1**
CMAH	**Djebel Manchou**	**1.91**	**91**	P	**Pg**	**12 24 46.2**	**-0.1**
CMAH	**Djebel Manchou**	**1.91**	**91**	P	**Pg**	**12 24 46.2**	**-0.1**
ETOS	**Mallorca**	**3.54**	**331**	P	**Pn**	**12 25 06.6**	**+1.9**
	28nm,0.3s,SNR=18						
ETOS				S	**Sn**	**12 25 46.2**	**-0.4**
	5.1nm,0.1s,SNR=4.9						
ETOS	**Mallorca**	**3.54**	**331**	P	**Pn**	**12 25 06.6**	**+1.9**
	28nm,0.3s,SNR=18						
ETOS				S	**Sn**	**12 25 46.2**	**-0.4**
	5.1nm,0.1s,SNR=4.9						
EIBI	**Ibiza**	**3.75**	**310**	P	**Pn**	**12 25 09.6**	**+2.1**
	4.6nm,0.2s,SNR=13						
EIBI				S	**Sn**	**12 25 50.4**	**-1.2**
	9.2nm,0.2s						
EIBI	**Ibiza**	**3.75**	**310**	P	**Pn**	**12 25 09.6**	**+2.1**
	4.6nm,0.2s,SNR=13						
EIBI				S	**Sn**	**12 25 50.4**	**-1.2**
	9.2nm,0.2s						
EBEN	**Beniarda**	**4.64**	**297**	P	**Pn**	**12 25 20.9**	**+1.2**
	0.2nm,0.2s,SNR=8.5						
EBEN				S	**Sn**	**12 26 12.3**	**-1.4**
	1.0nm,0.2s						
EBEN	**Beniarda**	**4.64**	**297**	P	**Pn**	**12 25 20.9**	**+1.2**
	0.2nm,0.2s,SNR=8.5						
EBEN				S	**Sn**	**12 26 12.3**	**-1.4**
	1.0nm,0.2s						
EMUR	**La Murta**	**5.14**	**285**	P	**Pn**	**12 25 28.0**	**+1.3**
	4.3nm,0.5s,SNR=7.9						
EMUR				S	**Sn**	**12 26 25.8**	**-0.3**
	1.0nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**5.14**	**285**	P	**Pn**	**12 25 28.0**	**+1.3**
	4.3nm,0.5s,SNR=7.9						
EMUR				S	**Sn**	**12 26 25.8**	**-0.3**
	1.0nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**5.46**	**339**	P	**Pn**	**12 25 32.6**	**+1.6**
	4.7nm,0.3s,SNR=10						
CFON				S	**Sn**	**12 26 32.9**	**-1.0**
	6.2nm,0.3s,SNR=6.7						
CFON	**Fontmartina**	**5.46**	**339**	P	**Pn**	**12 25 32.6**	**+1.6**
	4.7nm,0.3s,SNR=10						
CFON				S	**Sn**	**12 26 32.9**	**-1.0**
	6.2nm,0.3s,SNR=6.7						
ETOB	**Tobarra**	**5.58**	**292**	P	**Pn**	**12 25 35.1**	**+2.3**
	0.7nm,0.4s,SNR=9.7						
ETOB				S	**Sn**	**12 26 34.0**	**-3.0**
	3.2nm,0.4s,SNR=6.5						
ETOB	**Tobarra**	**5.58**	**292**	P	**Pn**	**12 25 35.1**	**+2.3**
	0.7nm,0.4s,SNR=9.7						
ETOB				S	**Sn**	**12 26 34.0**	**-3.0**
	3.2nm,0.4s,SNR=6.5						
EPOB	**Poblet**	**5.59**	**328**	P	**Pn**	**12 25 34.7**	**+1.9**
	1.3nm,0.2s,SNR=10						
EPOB				S	**Sn**	**12 26 34.2**	**-3.0**
	2.8nm,0.2s,SNR=8.4						
EPOB	**Poblet**	**5.59**	**328**	P	**Pn**	**12 25 34.7**	**+1.9**
	1.3nm,0.2s,SNR=10						
EPOB				S	**Sn**	**12 26 34.2**	**-3.0**
	2.8nm,0.2s,SNR=8.4						
ERTA	**Horta de San J**	**5.63**	**321**	S	**Sn**	**12 26 36.2**	**-1.9**
	1.4nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**5.63**	**321**	S	**Sn**	**12 26 36.2**	**-1.9**
	1.4nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.67**	**312**	P	**Pn**	**12 25 36.0**	**+1.9**
	3.7nm,0.3s,SNR=11						
EMOS				S	**Sn**	**12 26 37.6**	**-1.8**
	0.9nm,0.2s						
EMOS	**Mosqueruela**	**5.67**	**312**	P	**Pn**	**12 25 36.0**	**+1.9**
	3.7nm,0.3s,SNR=11						
EMOS				S	**Sn**	**12 26 37.6**	**-1.8**
	0.9nm,0.2s						
EMIR	**Miracle**	**5.89**	**334**	⇑P	Pn	12 25 40.0	+3.0
	0.3nm,0.5s,SNR=18						
EMIR				S	**Sn**	**12 26 43.7**	**-0.9**
	8.9nm,0.3s,SNR=6.5						
EMIR	**Miracle**	**5.89**	**334**	P	Pn	12 25 40.0	+3.0
	0.3nm,0.5s,SNR=18						
EMIR				S	**Sn**	**12 26 43.7**	**-0.9**
	8.9nm,0.3s,SNR=6.5						
EJON	**La Jonquera**	**5.99**	**345**	P	**Pn**	**12 25 39.5**	**+1.2**
	2.5nm,0.2s,SNR=9.8						
EJON				S	**Sn**	**12 26 46.4**	**-0.6**
	2.4nm,0.2s						
EJON	**La Jonquera**	**5.99**	**345**	P	**Pn**	**12 25 39.5**	**+1.2**
	2.5nm,0.2s,SNR=9.8						
EJON				S	**Sn**	**12 26 46.4**	**-0.6**
	2.4nm,0.2s						
SJAF	**Saint Jean de**	**6.03**	**345**	P	**Pn**	**12 25 40.0**	**+1.2**
	3.9nm,0.2s,SNR=7.9						
SJAF				S	**Sn**	**12 26 47.8**	**-0.1**
	5.6nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**6.03**	**345**	P	**Pn**	**12 25 40.0**	**+1.2**
	3.9nm,0.2s,SNR=7.9						
SJAF				S	**Sn**	**12 26 47.8**	**-0.1**
	5.6nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**6.21**	**286**	P	**Pn**	**12 25 44.0**	**+2.6**
	2.1nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**6.21**	**286**	P	**Pn**	**12 25 44.0**	**+2.6**
	2.1nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**6.25**	**339**	P	**Pn**	**12 25 44.8**	**+2.8**
	2.3nm,0.3s,SNR=12						
CLLI				S	**Sn**	**12 26 51.8**	**-1.8**
	0.7nm,0.3s						
CLLI	**Llivia**	**6.25**	**339**	P	**Pn**	**12 25 44.8**	**+2.8**
	2.3nm,0.3s,SNR=12						
CLLI				S	**Sn**	**12 26 51.8**	**-1.8**
	0.7nm,0.3s						
EBER	**Berja**	**6.37**	**274**	P	**Pn**	**12 25 44.1**	**+0.5**
	0.3nm,0.2s,SNR=5.6						
EBER				S	**Sn**	**12 26 54.3**	**-2.2**
	1.0nm,0.3s						
EBER	**Berja**	**6.37**	**274**	P	**Pn**	**12 25 44.1**	**+0.5**
	0.3nm,0.2s,SNR=5.6						
EBER				S	**Sn**	**12 26 54.3**	**-2.2**
	1.0nm,0.3s						
CSOR	**Sort**	**6.43**	**333**	P	Pn	12 25 47.5	+3.0
	1.2nm,0.3s,SNR=13						
CSOR				S	**Sn**	**12 26 57.8**	**-0.3**
	3.1nm,0.5s						
CSOR	**Sort**	**6.43**	**333**	P	Pn	12 25 47.5	+3.0
	1.2nm,0.3s,SNR=13						
CSOR				S	**Sn**	**12 26 57.8**	**-0.3**
	3.1nm,0.5s						
EQES	**Quesada**	**6.57**	**282**	P	**Pn**	**12 25 48.9**	**+2.6**
	1.9nm,0.4s,SNR=5.1						
EQES				S	**Sn**	**12 27 00.9**	**-0.4**
	0.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.57**	**282**	P	**Pn**	**12 25 48.9**	**+2.6**
	1.9nm,0.4s,SNR=5.1						
EQES				S	**Sn**	**12 27 00.9**	**-0.4**
	0.7nm,0.2s,SNR=7.9						
PGF	**Pioggiola**	**6.60**	**26**	*e*Pn	**Pn**	**12 25 46.8**	**0.0**
PGF				*e*Sn	**Sn**	**12 26 57.5**	**-4.7**
PGF	**Pioggiola**	**6.60**	**26**	*e*Pn	**Pn**	**12 25 46.8**	**0.0**
PGF				*e*Sn	**Sn**	**12 26 57.5**	**-4.7**
LMR	**La Mourre**	**6.74**	**9**	*e*Pn	**Pn**	**12 25 48.8**	**+0.3**
LMR				*e*Sn	**Sn**	**12 26 59.6**	**-5.7**
	3.2nm,0.2s						
LMR	**La Mourre**	**6.74**	**9**	*e*Pn	**Pn**	**12 25 48.8**	**+0.3**
FRF	**La Foret Royal**	**6.98**	**10**	*e*Pn	**Pn**	**12 25 52.3**	**+0.5**
FRF				*e*Sn	**Sn**	**12 27 05.4**	**-5.8**
	1.7nm,0.2s						
FRF	**La Foret Royal**	**6.98**	**10**	*e*Pn	**Pn**	**12 25 52.3**	**+0.5**
MTLF	**Montolieu**	**6.99**	**343**	*e*P	**Pn**	**12 25 53.7**	**+1.7**
MTLF				*e*Sn	Sn	12 27 04.2	-7.4
	1.4nm,0.3s						
MTLF	**Montolieu**	**6.99**	**343**	*e*P	**Pn**	**12 25 53.7**	**+1.7**
SMRF	**Simiane la Rot**	**7.29**	**3**	*e*Pn	**Pn**	**12 25 56.2**	**0.0**
SMRF				*e*Sn	Sn	12 27 12.5	-6.6
	0.8nm,0.3s						
SMRF	**Simiane la Rot**	**7.29**	**3**	*e*Pn	**Pn**	**12 25 56.2**	**0.0**
EPF	**Esparros**	**7.29**	**332**	*e*P	Pn	12 25 59.5	+3.2
EPF				*e*Sn	Sn	12 27 11.4	-7.7
	2.1nm,0.3s						
EPF	**Esparros**	**7.29**	**332**	*e*P	Pn	12 25 59.5	+3.2
SBF	**Sospel**	**7.40**	**14**	*e*Pn	**Pn**	**12 25 55.9**	**-1.8**
SBF				*e*Sn	Sn	12 27 15.2	-6.5
	3.9nm,0.3s						
SBF	**Sospel**	**7.40**	**14**	*e*Pn	**Pn**	**12 25 55.9**	**-1.8**
LASF	**Ste Croix**	**7.44**	**353**	*e*Pn	**Pn**	**12 25 56.8**	**-1.4**
LASF				*e*Sn	Sn	12 27 15.5	-7.1
	1.4nm,0.2s						
LASF	**Ste Croix**	**7.44**	**353**	*e*Pn	**Pn**	**12 25 56.8**	**-1.4**
ETSF	**Etsaut**	**7.55**	**327**	*e*P	**Pn**	**12 26 02.5**	**+2.7**
ETSF				*e*Sn	Sn	12 27 16.8	-8.7
	4.0nm,0.4s						
ETSF	**Etsaut**	**7.55**	**327**	P	**Pn**	**12 26 02.5**	**+2.7**
ETSF	**Etsaut**	**7.55**	**327**	*e*P	**Pn**	**12

CCSP AML AML 12 29 02.1
comp=E,50μm,0.4s
COCH Cobquecura 0.62 56⇓iP Pb 12 28 56.9 -0.4
COCH i S Sn 12 29 07.0 -0.1
LNCH Linares 1.60 67 eP1 Pn 12 29 12.3 +0.7
LNCH i S Sb 12 29 34.8 +1.0
TALC Talca 1.81 54⇑iP Pn 12 29 15.2 +0.8
TALC i S Sb 12 29 40.0 +0.3
NICH Los Niches 2.31 51 eS Sb 12 29 54.1 -0.1
PLCA Paso Flores 4.81 153 Pn **Pn 12 29 55.7 0.0**
comp=E,3.0nm,0.3s,baz=330,slow=12,SNR=123
PLCA Lg Lg 12 31 13.7
comp=E,5.2nm,0.3s,baz=49,slow=17,SNR=5.0
PLCA Paso Flores 4.81 153 ePn **Pn 12 29 56.3 +0.6**
PLCA Lg Lg 12 31 13.7
CFAA Coronel Fontan 6.49 43 Pn **Pn 12 30 18.2 -0.6**
comp=E,0.4nm,0.3s,baz=211,slow=13,SNR=19
CFAA Sn **Sn 12 31 32.1 0.0**
comp=E,0.1nm,0.3s,baz=131,slow=20,SNR=1.9
CFAA Lg Lg 12 31 53.9
comp=E,0.2nm,0.3s,baz=279,slow=19,SNR=3.2
CFAA LR LR 12 33 00.5
comp=E,40nm,18.6s,baz=230,slow=40
LCO Las Campanas 7.79 18 ePn **Pn 12 30 35.9 -1.0**
TRQA Tornquist 9.26 103 ePn **Pn 12 30 58.1 +1.3**
comp=E,10nm,0.9s
LPAZ La Paz 20.65 15 P Pn 12 33 24.6 -1.1
comp=E,1.4nm,0.7s,baz=186,slow=6.1,SNR=4.4
LPAZ La Paz 20.65 15 eP Pn 12 33 24.6 -1.1
comp=E,3.2nm,1.0s
SIV San Ignacio 23.18 32 P **P 12 33 49.6 -0.1**
comp=E,2.3nm,0.8s,baz=232,slow=11,SNR=6.4
SIV LR LR 12 44 29.3
comp=E,138nm,18.2s,baz=216,slow=41
BDFB Brasilia 30.68 54 LR LR 12 48 24.7
comp=E,114nm,18.1s,baz=214,slow=39
QSPA South Pole Qui 53.76 180 eP **P 12 38 05.4 +0.6**
comp=E,17nm,1.7s
TXAR Lajitas Array 71.37 332 P **P 12 40 03.3 +0.7**
comp=E,0.1nm,0.5s,baz=149,slow=9.1,SNR=2.5
WVT Waverly 73.47 348 eP **P 12 40 14.6 -0.2**
comp=E,2.9nm,0.9s
DBIC Dimbokro 77.04 72 P **P 12 40 34.7 -1.2**
comp=E,3.0nm,0.8s,baz=189,slow=3.8,SNR=4.5
ECSD EROS Data Cent 82.57 343 eP **P 12 41 06.2 +1.0**
comp=E,2.2nm,0.8s
PDAR Pinedale Array 85.48 334 P **P 12 41 20.8 +0.5**
comp=E,0.5nm,1.0s,baz=130,slow=8.4,SNR=3.3
TORD Torodi Ar. Bea 86.11 71 P **P 12 41 23.4 -0.4**
comp=E,0.7nm,0.7s,baz=238,slow=3.7,SNR=4.9
MKAR Makanchi Array 159.21 53 PKPab **PKPab 12 49 16.8 -0.8**
comp=E,0.4nm,0.7s,baz=274,slow=3.2,SNR=4.2

IDC 28 12:40:07.6±2.1, 2°.07N×127°.60E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=137.8km s-min=27.2km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.85**	**163**	P	P	P	12 45 13.2	+0.4
0.9nm,0.5s,baz=343,slow=11,SNR=15								
ASAR	**Alice Springs**	**26.31**	**167**	P	P	P	12 45 44.4	-0.8
0.3nm,0.9s,baz=342,slow=11,SNR=3.4								
MKAR	**Makanchi Array**	**59.40**	**325**	P	P	P	12 50 12.2	+0.2
0.1nm,0.5s,baz=117,slow=7.9,SNR=4.0								

GUC 28 13:16:41.4±0.8, 34°.78S×71°.80W, h39km±10km, ML3.9, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.52**	**116**	⇓iP		Pn	13 16 52.3	-0.1
NICH				i S		Sn	13 17 00.9	+0.7
NICH				AML		AML	13 17 02.5	
comp=E,12μm,0.4s								
TALC	**Talca**	**0.64**	**167**	⇓iP		Pn	13 16 54.2	+0.2
TALC				i S		Sn	13 17 03.2	+0.2
TALC				AML		AML	13 17 05.1	
comp=N,12μm,0.1s								
LNCH	**Linares**	**1.08**	**171**	⇑iP		Pn	13 17 01.1	+1.1
LNCH				i S		Sn	13 17 15.4	+1.5
CLCH	**Cerro Calan**	**1.73**	**38**	eP		Pn	13 17 10.1	+0.9
CLCH				i S		Sn	13 17 32.5	+2.5
CLCH				AML		AML	13 17 36.7	
comp=N,3μm,0.6s								
YECH	**El Yeso**	**1.81**	**53**	⇑iP		Pn	13 17 11.5	+1.1
YECH				AML		AML	13 17 44.8	
comp=E,2μm,0.5s								

NNC 28 13:17:40.1±6.8, 36°.72N×70°.19E, h186km, mb2.4, mpv3.5, 4C-2D, Error ellipse: s-maj=57.3km s-min=55.0km az=18.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.34**	**333**	⇑P		Pn	13 18 21.1	-0.4
DZET				⇑S		Sn	13 18 54.9	+1.1
KK31	**Karatay Array**	**6.38**	**2**	⇑P		Pn	13 19 11.3	-0.8
1.5nm,0.3s,baz=179,slow=13,SNR=22								
KK31				⇓S		Sn	13 20 23.6	-1.2
baz=188,slow=25								
AB31	**Akbulak array**	**14.58**	**332**	⇓P		P	13 20 58.3	-0.7
0.1nm,0.3s,baz=156,slow=12,SNR=6.4								
AB31				⇑S		S	13 23 41.5	+0.2
0.3nm,0.6s								

*IDC **28** 13:19:51.3±1.7, 5°.43N×93°.47E, h0km, mb3.8/6, mb1 3.8/8, mb1mx3.6/27, mbtmp3.7/8, ML3.4/2, Error ellipse: s-maj=59.4km s-min=19.0km az=55.0*
*ISCJB **28** 13:19:54.5±1.2, 5°.6N±0°.1×93°.7E±0°.1, h29km, mb3.7/6, Error ellipse: s-maj=28.1km s-min=9.2km az=135.8*
ISC 28 13:19:56.3±1.4, 5°.6N±0°.2×93°.6E±0°.2, h29km, n11, σ1§03/9, mb3.8/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.95**	**117**	Pn		**Pn**	**13 21 24.0**	**+1.3**
0.7nm,0.3s,baz=291,slow=3.2,SNR=3.6								
PSI				Sn		**Sn**	**13 22 28.9**	**-1.1**
1.2nm,0.3s,baz=350,slow=17,SNR=3.7								
CMAR	**Chiang Mai Arr**	**13.80**	**22**	Pn		**Pn**	**13 23 09.5**	**-0.7**
0.1nm,0.3s,baz=231,slow=14,SNR=3.2								
H08S3	**Diego Garcia H**	**24.85**	**238**	T		T	13 50 41.3	
baz=58,slow=76,SNR=401								
H08S2	**Diego Garcia H**	**24.85**	**238**	T		T	13 50 39.3	
baz=58,slow=76,SNR=421								
H08S1	**Diego Carcia H**	**24.87**	**238**	T		T	13 50 37.7	
baz=58,slow=76,SNR=388								
MKAR	**Makanchi Array**	**42.21**	**348**	P		**P**	**13 27 47.1**	**+0.4**
0.9nm,0.7s,baz=167,slow=8.4,SNR=11								
SONM	**Songino Array**	**43.49**	**12**	P		**P**	**13 27 58.3**	**+1.1**
0.1nm,0.4s,baz=198,slow=6.6,SNR=5.4								
GEYT	**Alibeck**	**45.59**	**320**	P		**P**	**13 28 13.3**	**-0.8**
1.3nm,0.6s,baz=145,slow=5.3,SNR=3.2								
WRA	**Warramunga Arr**	**47.38**	**124**	P		**P**	**13 28 27.7**	**-0.6**
1.7nm,0.7s,baz=301,slow=9.1,SNR=11								
ZALV	**Zalesovo Beam**	**48.75**	**353**	P		**P**	**13 28 38.6**	**+0.3**
0.7nm,0.3s,baz=190,slow=7.0,SNR=2.9								
ASAR	**Alice Springs**	**48.87**	**128**	P		**P**	**13 28 39.2**	**-0.6**
0.6nm,0.8s,baz=300,slow=7.9,SNR=8.2								

*ISCJB **28** 13:24:50.5±0.9, 3°.61S±0°.08×135°.41E±0°.08, h22km, mb3.8/3, Error ellipse: s-maj=12.6km s-min=9.5km az=43.2*
*IDC **28** 13:24:50.4±1.2, 3°.30S×135°.52E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/19, mbtmp3.9/6, ML3.2/2, Error ellipse: s-maj=32.3km s-min=25.5km az=38.0*
ISC 28 13:24:51.7±1.0, 3.76S±0.09×135.34E±0.10, h22km, n7, σ1§45/9, mb4.0/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**5.50**	**77**	Pn		**Pn**	**13 26 11.6**	**-0.8**
1.6nm,0.3s,baz=270,slow=20,SNR=10								
JAY				Sn		**Sn**	**13 27 14.2**	**-0.7**
1.1nm,0.3s,baz=261,slow=19,SNR=3.0								
PMG	**Port Moresby**	**13.01**	**116**	Pn		**Pn**	**13 27 57.6**	**+2.3**
0.4nm,0.3s,baz=318,slow=15,SNR=2.3								
WRA	**Warramunga Arr**	**16.11**	**183**	Pn		**P**	**13 28 39.4**	**-0.7**
0.3nm,0.3s,baz=4.1,slow=13,SNR=14								
WRA				Sn		**Sn**	**13 31 34.8**	**-0.4**
0.2nm,0.3s,baz=3.3,slow=24,SNR=5.3								
ASAR	**Alice Springs**	**19.84**	**184**	P		Pn	13 29 28.2	+5.4
4.5nm,0.7s,baz=6.4,slow=11,SNR=66								
ASAR				S		**S**	**13 33 02.9**	**-0.8**
0.8nm,0.8s,baz=4.0,slow=28,SNR=3.3								
SONM	**Songino Array**	**57.30**	**337**	P		**P**	**13 34 38.2**	**+0.3**
0.2nm,0.5s,baz=158,slow=7.0,SNR=2.5								
MKAR	**Makanchi Array**	**68.61**	**324**	P		**P**	**13 35 54.5**	**+1.4**
0.7nm,0.5s,baz=119,slow=7.2,SNR=9.3								
ILAR	**Eielson Array**	**88.18**	**25**	P		**P**	**13 37 39.0**	**-1.7**
0.4nm,0.4s,baz=262,slow=4.4,SNR=11								

MAN 28 13:34:40, 12°.45N×120°.39E, h14km, mb4.4, ML3.3, MS3.2, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BUSP	**Coron**	**0.48**	**202**	eP		Pb	13 34 50.2	-0.1
BUSP				eS		Sb	13 34 58.3	+1.0
PGP	**Puerto Galera**	**1.18**	**28**	⇓iP		Pn	13 35 00.4	-1.8
PGP				i S		Sb	13 35 15.5	-2.0
LUBP	**Lubang**	**1.28**	**354**	eP		Pn	13 35 01.9	-1.6
LUBP				eS		Sn	13 35 20.5	0.0
ENPP	**El Nido**	**1.56**	**217**	eP		Pn	13 35 07.7	+0.4
OTRP	**Odiongan**	**1.60**	**93**	eP		Pn	13 35 07.8	-0.1
CUYO	**Cuyo Island**	**1.71**	**159**	eP		Pn	13 35 08.1	-1.3

*IDC **28** 13:45:10.7±1.7, 7°.48S×126°.24E, h0km, mb3.8/2, mb1 4.2/5, mb1mx3.8/19, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=52.1km s-min=25.7km az=70.0*
*ISCJB **28** 13:45:13.2±0.8, 7°.63S±0°.07×126°.26E±0°.07, h33km, mb4.1/4, Error ellipse: s-maj=10.4km s-min=8.8km az=135.2*
*NEIC **28** 13:45:15.4±0.9, 7°.65S×126°.10E, h35km, mb4.5/2, Error ellipse: s-maj=17.4km s-min=10.2km az=47.0*
ISC 28 13:45:15.4±0.9, 7°.69S±0°.08×126°.3E±0°.1, h35km, n14, σ1§59/15, mb4.0/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.87**	**224**	eP		**Pn**	**13 45 58.5**	**-0.4**
BATI	**Baumata**	**3.61**	**226**	Pn		**Pn**	**13 46 09.0**	**0.0**
12nm,0.3s,baz=49,slow=20,SNR=17								
BATI				Sn		**Sn**	**13 46 51.5**	**+1.1**
13nm,0.3s,baz=308,slow=23,SNR=11								
MMRI	**Maumere**	**4.13**	**257**	eP		Pn	13 46 12.0	-4.1
KAPI	**Kappang**	**7.04**	**292**	eP		Pn	13 46 51.7	-4.3
FITZ	**Fitzroy Crossi**	**10.37**	**184**	eP		**Pn**	**13 47 42.1**	**+0.4**
WRAB	**Tennant Creek**	**14.45**	**148**	eP		**Pn**	**13 48 38.5**	**+0.9**
WRA	**Warramunga Arr**	**14.46**	**148**	Pn		**Pn**	**13 48 38.9**	**+1.2**
0.3nm,0.3s,baz=328,slow=13,SNR=21								
WRA				Sn		**Sn**	**13 51 14.9**	**-1.8**
0.2nm,0.3s,baz=332,slow=22,SNR=5.8								
WB2	**Warramunga Arr**	**14.46**	**148**	eP		**Pn**	**13 48 38.1**	**+0.4**
AS31	**Alice Springs**	**17.48**	**156**	eP		**P**	**13 49 19.7**	**+2.2**
ASAR	**Alice Springs**	**17.48**	**156**	P		**P**	**13 49 19.9**	**+2.4**
0.8nm,0.3s,baz=338,slow=13,SNR=90								
ASAR				S		**Sn**	**13 52 28.0**	**-2.2**
0.1nm,0.3s,baz=322,slow=18,SNR=4.5								
CMAR	**Chiang Mai Arr**	**37.47**	**314**	P		**P**	**13 52 24.9**	**-1.0**
0.5nm,0.4s,baz=141,slow=6.6,SNR=6.1								
MKAR	**Makanchi Array**	**66.85**	**329**	P		**P**	**13 56 03.0**	**-0.9**
0.9nm,0.6s,baz=133,slow=6.5,SNR=13								
SBA	**Scott Base**	**73.16**	**172**	eP		**P**	**13 56 40.3**	**-1.7**
12nm,0.6s								
TIXI	**Tiksi**	**79.19**	**1**	eP		**P**	**13 57 17.9**	**+1.6**
0.9nm,0.6s								

MAN 28 13:48:36, 17°.73N×120°.74E, h21km, mb3.8, ML2.6, MS2.2, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.09**	**196**	eP		Pb	13 49 41.4	+1.4
ABRA				eS		Sb	13 48 43.5	+0.8
SIPP	**Brgy, Tapao**	**0.33**	**306**	⇓iP		Pn	13 48 45.0	-0.6
SIPP				eS		Sn	13 48 53.6	+1.9
APYP	**Conner**	**0.50**	**75**	eP		Pb	13 48 46.8	+0.7
PIP	**Pasuquin**	**0.60**	**349**	⇓iP		Pn	13 48 50.0	+0.6
PIP				i S		Sb	13 48 54.6	-1.5
BALP	**Baler**	**2.14**	**158**	eP		Pn	13 49 12.1	+1.6

MEX 28 13:56:01.7±1.0, 17°.12N×101°.31W, h17km±999km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.00**	**94**	iP		Pb	13 56 17.5	-3.1
CAIG				eS		Sb	13 56 29.1	-4.5
ARIG	**Puente Sto Nin**	**1.48**	**38**	iP		Pn	13 56 24.1	-3.5
ARIG				eS		Sn	13 56 41.0	-5.5
MEIG	**Mezcala**	**1.80**	**63**	iP		Pn	13 56 28.7	-3.5
MEIG				eS		Sn	13 56 50.7	-4.0
PLIG	**Platanillo**	**2.14**	**53**	iP		Pn	13 56 34.7	-2.1
PLIG				eS		Sn	13 56 59.6	-3.5
TLIG	**Tlapa**	**2.66**	**80**	iP		Pn	13 56 41.5	-2.5
TLIG				i S		Sn	13 57 12.8	-3.1

IDC 28 13:58:16.4±4.3, 24°.22N×142°.20E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/23, mbtmp3.5/3, Error ellipse: s-maj=178.8km s-min=32.7km az=72.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.56**	**191**	P		P	14 06 30.4	+0.2
1.6nm,0.5s,baz=7.0,slow=8.4,SNR=11								
WRA				PcP		PcP	14 08 13.0	-0.4
0.2nm,0.4s,baz=3.0,slow=3.2,SNR=5.6								
ASAR	**Alice Springs**	**48.28**	**190**	P		P	14 06 59.0	-0.5
0.4nm,0.6s,baz=14,slow=12,SNR=6.0								
MKAR	**Makanchi Array**	**52.34**	**311**	P		P	14 07 30.1	0.0
0.1nm,0.5s,baz=90,slow=9.3,SNR=4.3								

*IDC **28** 13:58:13.2±1.7, 7°.50S×126°.19E, h0km, mb3.5/2, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=41.9km s-min=25.1km az=80.0*
*ISCJB **28** 13:58:15.3±1.0, 7°.56S±0°.07×126°.32E±0°.08, h33km, mb3.5/2, Error ellipse: s-maj=12.4km s-min=8.6km az=143.6*
ISC 28 13:58:17.6±1.2, 7°.60S±0°.09×126°.3E±0°.1, h35km, n9, σ2§61/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.66**	**225**	Pn		**Pn**	**13 59 11.2**	**-0.6**
7.1nm,0.3s,baz=279,slow=19,SNR=7.5								
BATI				Sn		**Sn**	**13 59 55.1**	**+1.2**
4.6nm,0.3s,baz=118,slow=23,SNR=6.7								
MTN	**Manton Dam**	**7.07**	**138**	P		Pn	14 00 07.6	+9.0
baz=8.9,SNR=10								
KNRA	**Kununurra**	**8.39**	**163**	P		Pn	14 00 20.5	+3.7
baz=10.0,SNR=8.0								
KNRA				S		**Sn**	**14 01 54.5**	**+4.2**
baz=10.0,SNR=4.0								
FITZ	**Fitzroy Crossi**	**10.46**	**183**	P		**Pn**	**14 00 46.1**	**+1.0**
baz=12,SNR=8.8								
FITZ				S		**Sn**	**14 02 38.8**	**-2.4**
baz=12,SNR=4.7								
WRA	**Warramunga Arr**	**14.55**	**148**	Pn		**Pn**	**14 01 40.1**	**-1.0**
0.2nm,0.3s,baz=333,slow=8.6,SNR=8.8								
WRA				Sn		**Sn**	**14 04 19.6**	**-1.6**
0.2nm,0.3s,baz=322,slow=24,SNR=6.2								
WRKA	**Warakurna**	**17.45**	**174**	P		**P**	**14 02 22.2**	**+2.8**
baz=19,SNR=3.8								
ASAR	**Alice Springs**	**17.57**	**156**	P		**P**	**14 02 22.9**	**+2.2**
0.4nm,0.3s,baz=335,slow=12,SNR=52								
ASAR				S		**Sn**	**14 05 30.4**	**-4.3**
0.1nm,0.3s,baz=320,slow=18,SNR=4.6								
CMAR	**Chiang Mai Arr**	**37.39**	**314**	P		**P**	**14 05 26.9**	**-0.5**
0.3nm,0.5s,baz=134,slow=6.5,SNR=3.5								
MKAR	**Makanchi Array**	**66.76**	**329**	P		**P**	**14 09 05.7**	**+0.2**
0.4nm,0.6s,baz=125,slow=8.1,SNR=8.8								

IDC 28 14:03:01.9±8.0, 21°.59S×175°.62W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/28, mbtmp3.9/3, Error ellipse: s-maj=326.0km s-min=53.9km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.44**	**257**	P		P	14 11 30.2	-0.7
1.6nm,0.9s,baz=87,slow=9.0,SNR=12								
WRA	**Warramunga Arr**	**46.66**	**263**	P		P	14 11 32.2	-0.4
1.4nm,0.8s,baz=97,slow=8.5,SNR=10								
CMAR	**Chiang Mai Arr**	**92.57**	**289**	P		P	14 16 16.9	+1.0
0.7nm,0.7s,baz=98,slow=2.7,SNR=5.9								
AKASG	**Malin Array Be**	**145.03**	**332**	PKPbc		PKPbc	14 22 39.6	-0.8
0.5nm,0.4s,baz=38,slow=4.0,SNR=8.0								

IDC 28 14:04:18.3±3.5, 5°.71S×152°.66E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/18, mbtmp3.2/3, ML2.4/1, Error ellipse: s-maj=155.8km s-min=47.1km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.57**	**236**	Pn		Pn	14 05 56.7	+0.4
0.5nm,0.3s,baz=54,slow=8.7,SNR=2.8								
PMG				Sn		Sn	14 07 06.9	-5.1
0.6nm,0.3s,baz=318,slow=16,SNR=2.7								
WRA	**Warramunga Arr**	**22.75**	**230**	P		P	14 09 22.4	0.0
0.4nm,0.8s,baz=54,slow=9.8,SNR=3.4								
ASAR	**Alice Springs**	**25.39**	**223**	P		P	14 09 47.1	-0.5
0.3nm,0.7s,baz=55,slow=8.9,SNR=5.1								
TORD	**Torodi Ar. Bea**	**150.44**	**287**	PKPbc		PKPbc	14 24 13.0	0.0
0.7nm,1.1s,baz=75,slow=2.4,SNR=4.0								

*ISCJB **28** 14:06:45.6±0.9, 55°.1S±0°.1×28°.0W±0°.2, h10km, mb4.1/4, Error ellipse: s-maj=21.7km s-min=17.9km az=29.6*
*IDC **28** 14:06:46.8±1.1, 55°.19S×27°.30W, h0km, mb4.1/3, mb1 4.1/3, mb1mx3.8/13, mbtmp4.1/3, Error ellipse: s-maj=52.7km s-min=36.0km az=113.0*
*NEIC **28** 14:06:47.5±0.7, 55°.07S×27°.97W, h10km, mb4.0/2, Error ellipse: s-maj=19.5km s-min=16.6km az=223.0*
ISC 28 14:06:47.5±0.8, 55°.1S±0°.2×28°.0W±0°.1, h10km, n9, σ1§20/9, mb4.0/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.00**	**275**	eP		**Pn**	**14 08 01.8**	**-0.7**
20nm,0.6s								
SNAA	**Sanae**	**19.84**	**157**	eP		**P**	**14 11 17.0**	**-1.2**
8.1nm,1.2s								
QSPA	**South Pole Qui**	**35.20**	**180**	eP		**P**	**14 13 42.5**	**+1.0**
1.3nm,0.5s								
VNDA	**Vanda**	**47.55**	**183**	P		**P**	**14 15 22.8**	**+0.4**
1.0nm,0.7s,baz=178,slow=6.5,SNR=3.0								
TORD	**Torodi Ar. Bea**	**72.42**	**30**	P		**P**	**14 18 14.9**	**+1.2**
0.8nm,0.6s,baz=198,slow=6.3,SNR=7.4								
KMBO	**Kilima Mbogo**	**75.11**	**70**	P		**P**	**14 18 28.8**	**-1.3**
1.5nm,0.3s,baz=189,slow=17,SNR=6.1								
INK	**Inuvik**	**144.74**	**322**	PKPbc		**PKPdf**	**14 26 22.6**	**-0.2**
0.4nm,0.5s,baz=36,slow=32,SNR=6.0								
ILAR	**Eielson Array**	**149.11**	**313**	PKPbc		**PKPbc**	**14 26 35.8**	**+1.3**
1.0nm,0.7s,baz=110,slow=2.1,SNR=12								
SONM	**Songino Array**	**151.11**	**85**	PKPbc		**PKPbc**	**14 26 39.1**	**-0.9**
0.2nm,0.4s,baz=266,slow=3.9,SNR=2.4								

IDC 28 14:13:13.5±11.0, 2°.71S×139°.46E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=514.0km s-min=31.4km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.84**	**196**	P		Pn	14 17 15.8	-7.6
0.2nm,0.3s,baz=8.5,slow=13,SNR=12								
ASAR	**Alice Springs**	**21.52**	**194**	P		P	14 18 04.2	-0.1
3.0nm,0.9s,baz=7.6,slow=11,SNR=28								
SONM	**Songino Array**	**58.04**	**334**	P		P	14 23 07.6	-0.8
0.2nm,0.5s,baz=159,slow=6.0,SNR=2.8								
MKAR	**Makanchi Array**	**70.24**	**322**	P		P	14 24 29.3	+0.7
0.2nm,0.7s,baz=103,slow=4.6,SNR=3.4								

*PGC **28** 14:26:49.6±0.9, 51°.22N×130°.90W, h10km, ML4.4/15, Mw4.5, 218km Wsw of Bella Bella, Bc Queen Charlotte Islands Region*
*NEIC **28** 14:26:49.6, 51°.22N×130°.90W, h10km, mb4.1/9, MW4.5(OTT), After OTT.*
*IDC **28** 14:26:51.3±1.0, 51°.38N×130°.40W, h0km, mb3.7/12, mb1 3.9/19, mb1mx3.8/35, mbtmp3.7/19, ML3.5/6, MS3.5/13, Ms1 3.5/13, ms1mx3.3/37, Error ellipse: s-maj=18.7km s-min=10.8km az=47.0*
ISC 28 14:26:50.3±4.0, 51°.35N±0°.05×130°.66W±0°.05, h6km±26km, n120, σ1§85/103, mb4.0/16, MS3.5/8, 6C-15D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.40**	**332**	⇓Pn		**Pn**	**14 27 13.8**	**-2.5**
BNB	**Barry Inlet**	**1.40**	**332**	⇓Pn		**Pn**	**14 27 13.8**	**-2.5**
HOLB	**Holberg**	**1.75**	**113**	⇓Pn		**Pn**	**14 27 19.2**	**-1.9**
HOLB				⇓Sn		**Sn**	**14 27 41.3**	**-2.4**
HOLB	**Holberg**	**1.75**	**113**	⇓Pn		**Pn**	**14 27 19.2**	**-1.9**
HOLB				Sn		**Sn**	**14 27 41.3**	**-2.4**
BBB	**Bella Bella**	**1.79**	**61**	⇑Pn		**Pn**	**14 27 19.9**	**-1.8**
BBB				⇑Sn		**Sb**	**14 27 44.3**	**-1.8**
BBB	**Bella Bella**	**1.79**	**61**	Pn		**Pn**	**14 27 19.6**	**-2.1**
91nm,0.3s,baz=256,slow=6.8,SNR=451								
BBB				Sn		**Sn**	**14 27 43.8**	**-0.9**
175nm,0.3s,baz=290,slow=20,SNR=4.8								
BBB				LR		LR	14 28 07.5	
comp=Z,1μm,18.1s,baz=236,slow=47								
BBB	**Bella Bella**	**1.79**	**61**	⇑Pn		**Pn**	**14 27 19.9**	**-1.8**
BBB				Sn		**Sb**	**14 27 44.3**	**-1.8**
MOBC	**Moresby Island**	**1.97**	**336**	⇓Pn		**Pn**	**14 27 22.0**	**-2.1**
MOBC	**Moresby Island**	**1.97**	**336**	⇓Pn		**Pn**	**14 27 22.0**	**-2.1**
PHC	**Port Hardy**	**2.14**	**106**	⇓Pn		**Pn**	**14 27 23.9**	**-2.5**
PHC				⇑Sn		**Sn**	**14 27 51.5**	**-1.7**
PHC	**Port Hardy**	**2.14**	**106**	⇓Pn		**Pn**	**14 27 23.9**	**-2.5**
PHC				Sn		**Sn**	**14 27 51.5**	**-1.7**
DIB	**Dawson Inlet,**	**2.16**	**330**	⇑Pn		**Pn**	**14 27 24.5**	**-2.3**
DIB				⇓Sn		**Sn**	**14 27 50.4**	**-3.5**
DIB	**Dawson Inlet,**	**2.16**	**330**	⇑Pn		**Pn**	**14 27 24.5**	**-2.3**
DIB				Sn		**Sn**	**14 27 50.4**	**-3.5**
H02S1	**DAWSON INLET T**	**2.16**	**330**	Pn		**Pn**	**14 27 24.1**	**-2.7**
H02S1				Sn		**Sb**	**14

NEW LR LR 14 32 55.8
comp=Z,203nm,18.6s,baz=290,slow=40
HLID Hailey 13.45 119 P **Pn 14 30 03.4 +1.7**
baz=14
MCMT McKenzie Canyo 13.56 112 P Pn 14 30 06.4 +3.2
EGMT Eagleton 13.93 96 P P 14 30 11.9 -4.5
baz=14
EGMT Eagleton 13.93 96 *eP* P 14 30 11.2 -5.2
YKA Yellowknife Ar 14.14 32 Pn **Pn 14 30 08.0 -2.9**
0.3nm,0.3s,baz=218,slow=13,SNR=20
A19A Klindworth Far 14.26 91 P P 14 30 16.2 -3.8
baz=14
QLMT Earthquake Lak 14.39 109 P P 14 30 18.4 -3.3
YMR Madison River 14.76 109 *eP* **P 14 30 27.0 +1.2**
13nm,0.9s
A20A Cobblestone Ra 14.78 91 P **P 14 30 23.9 -2.0**
baz=15
D19A Cripps Ranch, 14.81 98 P **P 14 30 23.4 -2.8**
baz=15
B20A Solberg Farm, 14.87 92 P **P 14 30 24.0 -2.7**
baz=15
ELK Elko 15.04 129 Pn **P 14 30 25.7 -3.2**
0.1nm,0.3s,baz=108,slow=20,SNR=2.5
ELK LR LR 14 36 39.1
comp=Z,250nm,19.5s,baz=359,slow=39
C20A Veseth Ranch, 15.14 95 P **P 14 30 27.0 -2.8**
baz=15
E19A Rath Farm, Rou 15.17 100 P **P 14 30 28.0 -2.2**
baz=15
D20A Manuel Ranch, 15.30 97 P **P 14 30 28.5 -3.1**
baz=15
E20A Meyer Farm, Mu 15.56 99 P **P 14 30 32.4 -2.1**
baz=16
F20A Billings 15.87 102 P **P 14 30 36.8 -1.2**
baz=16
ILAR Eielson Array 15.88 334 Pn **P 14 30 39.2 +1.4**
0.0nm,0.3s,baz=145,slow=9.8,SNR=9.5
ILAR LR LR 14 36 24.4
comp=Z,289nm,19.8s,baz=148,slow=36
I19A Meeteetse 16.28 108 P **P 14 30 41.9 -0.8**
baz=16
D22A Cohagen 16.50 95 P **P 14 30 44.5 -0.4**
baz=17
DUG Dugway, Tooele 16.67 125 *eP* **P 14 30 50.0 +3.1**
6.4nm,1.0s
J19A Crowheart 16.70 111 P **P 14 30 46.9 -0.3**
baz=17
BW06 Boulder Array 16.70 113 *eP* **P 14 30 48.2 +0.8**
8.6nm,1.0s
PDAR Pinedale Array 16.70 113 Pn **P 14 30 46.8 -0.6**
0.1nm,0.3s,baz=308,slow=7.3,SNR=11
PDAR LR LR 14 37 11.1
comp=Z,116nm,21.0s,baz=324,slow=37
INK Inuvik 17.07 356 P **P 14 30 52.6 +1.6**
baz=180,slow=20
D23A Lindsay 17.10 94 P **P 14 30 50.3 -1.2**
baz=17
J20A Shoshoni 17.21 109 P **P 14 30 53.4 +0.5**
baz=17
FFC Flin Flon 17.52 68 *eP* **P 14 30 56.4 +0.3**
7.9nm,0.8s
J21A Lysite 17.60 108 P **P 14 30 57.1 -0.1**
baz=18
E24A Baker 17.91 95 P P 14 31 06.4 +5.9
baz=18
K21A Alcova 18.13 110 P **P 14 31 03.9 +0.8**
baz=18
F24A Ekalaka 18.14 97 P **Pn 14 31 01.6 -1.2**
baz=18
G24A Alzada 18.40 99 P Pn 14 31 10.6 +4.7
baz=18
K22A Casper 18.55 109 P **Pn 14 31 09.1 +1.2**
baz=19
N20A Spence Gulch, 18.69 116 P **Pn 14 31 11.5 +1.9**
baz=19
F25A Bowman 18.72 96 P **Pn 14 31 10.4 +0.6**
baz=19
C26A Wahner Farm, P 18.80 90 P **Pn 14 31 11.4 +0.8**
baz=19
O20A White River Ci 19.17 117 *eP* **Pn 14 31 16.4 +1.0**
13nm,1.0s
RSSD Black Hills 19.24 102 *eP* **Pn 14 31 14.7 -1.5**
3.7nm,0.8s
I25A Rochford 19.48 102 P **Pn 14 31 20.4 +1.4**
baz=20
O22A Kremmling 20.11 114 P Pn 14 31 26.9 +0.1
baz=20
A29A Manning Farm, 20.21 85 P Pn 14 31 28.0 +0.4
baz=20
J26A Sides Ranch, S 20.26 103 P Pn 14 31 29.3 +1.0
baz=20
M24A Cheyenne 20.28 109 P Pn 14 31 29.6 +1.0
baz=20
B29A Wagenman Farm, 20.29 86 P Pn 14 31 28.8 +0.3
baz=20
PV01 Paradox Valley 20.41 122 P **P 14 31 27.5 -0.7**
O23A Lake Granby, G 20.44 113 P Pn 14 31 31.0 +0.4
baz=20
PFO Pinyon Flats O 20.53 144 LR LR 14 39 26.2
comp=Z,97nm,21.4s,baz=334,slow=37
A30A Hoffart Farm, 20.79 84 P Pn 14 31 33.2 -1.1
baz=21
B30A Myrvik Farm, E 20.94 85 P Pn 14 31 35.1 -0.9
baz=21
P23A Jefferson 21.04 115 P **P 14 31 36.9 +1.8**
baz=21
C30A Mose, Pekin 21.11 87 P **P 14 31 37.6 +2.2**
baz=21
MVCO Mesa Verde 21.14 123 *eP* **P 14 31 37.4 +1.4**
42nm,1.8s
D30A Buchanan 21.17 89 P **P 14 31 37.9 +1.9**
baz=21
H29A Onida 21.36 96 P **P 14 31 39.5 +1.5**
baz=21
S22A 4UR Ranch, Cre 21.63 120 P **P 14 31 42.0 +0.6**
baz=22
ULM Lac du Bonnet 21.90 79 P **P 14 31 45.0 +1.3**
4.3nm,0.8s,baz=287,slow=9.7,SNR=5.9
ULM LR LR 14 39 17.1
comp=Z,144nm,18.1s,baz=10,slow=34
AGMN Agassiz Nation 22.53 84 *eP* **P 14 31 52.5 +1.9**
7.1nm,0.9s
ANMO Albuquerque 23.93 124 P **P 14 32 06.5 +1.4**
0.2nm,0.3s,baz=348,slow=19,SNR=2.3
ANMO LR LR 14 42 56.0
comp=Z,30nm,20.1s,baz=330,slow=40
ECSD EROS Data Cent 24.04 95 *eP* **P 14 32 07.0 +1.1**
15nm,1.4s
EYMN Ely 25.38 82 *eP* P 14 32 21.5 +3.5
13nm,0.8s
RES Resolute Bay 27.61 20 P **P 14 32 39.8 +2.0**
0.8nm,0.3s,baz=355,slow=11,SNR=2.0
RES LR LR 14 43 48.1
comp=Z,160nm,18.0s,baz=236,slow=37
TXAR Lajitas Array 29.82 127 P **P 14 32 58.0 -0.1**
0.5nm,0.9s,baz=338,slow=6.8,SNR=3.2
SCHQ Schefferville 37.31 59 LR LR 14 49 24.7
comp=Z,207nm,21.5s,baz=273,slow=36
SEY Seymchan 40.76 317 P P 14 34 34.8 +3.2
1.0nm,0.6s,baz=76,slow=10,SNR=6.9
PETK Petropavlovsk- 42.22 302 LR LR 14 49 39.3
comp=Z,31nm,21.7s,baz=49,slow=32
H11N2 WAKE ISLAND Hy 57.67 261 T T 15 39 21.5
baz=40,slow=75,SNR=433
H11N3 WAKE ISLAND Hy 57.68 261 T T 15 39 22.1
baz=40,slow=75,SNR=502
H11N1 WAKE ISLAND Hy 57.69 261 T T 15 39 22.1
baz=40,slow=75,SNR=286
H11S1 WAKE ISLAND Hy 58.72 260 T T 15 40 51.7
baz=48,slow=76,SNR=24
H11S2 WAKE ISLAND Hy 58.73 260 T T 15 40 51.1
baz=48,slow=76,SNR=16
H11S3 WAKE ISLAND Hy 58.73 260 T T 15 40 52.2
baz=48,slow=76,SNR=13
NOA NORSAR Array B 63.88 20 P P 14 37 26.3 +3.1
0.3nm,0.6s,baz=331,slow=7.5,SNR=2.5
FINES FINESS Array B 66.03 12 P **P 14 37 38.2 +1.1**
1.0nm,0.8s,baz=337,slow=5.6,SNR=3.4
FINES LR LR 15 06 25.5
comp=Z,29nm,19.9s,baz=4.0,slow=36
SONM Songino Array 69.77 323 LR LR 15 11 46.7
comp=Z,34nm,20.1s,baz=6.5,slow=39
ZALV Zalesovo Beam 70.95 339 P P 14 38 09.9 +1.9
0.6nm,0.3s,baz=58,slow=8.7,SNR=2.8
GERES GERESS Array B 75.64 23 P P 14 38 38.3 +2.4
0.4nm,0.5s,baz=326,slow=5.9,SNR=3.8
AKASG Malin Array Be 76.90 13 P **P 14 38 43.9 +1.0**
1.6nm,0.6s,baz=346,slow=5.2,SNR=3.6

ESDC Sonseca Array 78.11 39 P **P 14 38 50.2 +0.3**
0.1nm,0.3s,baz=321,slow=4.8,SNR=2.5
MKAR Makanchi Array 78.20 338 P **P 14 38 51.6 +1.3**
0.3nm,0.8s,baz=31,slow=3.7,SNR=2.9

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*IDC **28** 14:28:46.2±0.9, 22°.87S×68°.72W, h0km, mb4.2/8, mb1 4.2/10, mb1mx4.0/19, mbtmp4.1/10, ML3.5/2, MS4.3/1, Ms1 4.3/1, ms1mx3.1/23, Error ellipse: s-maj=24.5km s-min=21.9km az=154.0*
*ISCJB **28** 14:28:59.8±0.6, 22°.17S±0°.05×68°.53W±0°.08, h106km±6km, mb4.0/7, Error ellipse: s-maj=12.9km s-min=8.5km az=164.2*
*NEIC **28** 14:29:00.3±0.9, 22°.33S×68°.41W, h98km±8km, mb4.2/2, Error ellipse: s-maj=15.7km s-min=13.3km az=115.0*
*GUC **28** 14:29:01.8±0.4, 22°.18S×68°.83W, h112km±3km, ML4.0*
ISC 28 14:29:01.0±0.7, 22°.25S±0°.06×68°.66W±0°.08, h108km±7km, n28, σ1°27/29, mb4.1/7, C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.43**	**212**	*eP*			**Pn**	**14 29 17.9**	**+0.3**
LVC				*eS*			**Sn**	**14 29 29.3**	**-0.7**
PB09	**IPOC Station P**	**0.70**	**310**	⇑*iP*			**Pn**	**14 29 19.8**	**+0.5**
PB09				*i* S			**Sn**	**14 29 33.2**	**0.0**
PB04	**IPOC Station P**	**0.76**	**268**	⇑*iP*			Pn	14 29 26.4	+6.7
PB04				*i* S			Sn	14 29 45.1	+11
PB06	**IPOC Station P**	**0.96**	**241**	⇑*iP*			**Pn**	**14 29 22.2**	**+0.5**
PB06				*i* S			**Sn**	**14 29 38.1**	**+0.7**
PB06					IAML			14 29 38.4	
	comp=N,6μm,0.5s								
PB07	**IPOC Station P**	**1.25**	**294**	⇑*iP*			**Pn**	**14 29 25.0**	**+0.1**
PB07				*eS*			**Sn**	**14 29 42.1**	**-0.9**
PB07					IAML			14 29 43.8	
	comp=E,3μm,0.3s								
PB01	**IPOC Station P**	**1.42**	**327**	⇑*iP*			**Pn**	**14 29 26.8**	**-0.1**
PB01				*i* S			**Sn**	**14 29 45.9**	**-0.6**
PB01					IAML			14 29 47.6	
	comp=E,3μm,0.4s								
PATCX	**Punta Patache**	**1.98**	**315**	⇑*iP*			**Pn**	**14 29 33.4**	**-0.3**
PATCX				*eS*			**Sn**	**14 29 57.7**	**-1.1**
PATCX					IAML			14 30 02.5	
	comp=E,1μm,0.4s								
PB10	**IPOC Station P**	**2.15**	**234**		IAML			14 30 18.7	
	comp=N,2μm,0.4s								
HMBC	**Humberstone**	**2.27**	**330**	⇑*iP*			**Pn**	**14 29 36.6**	**-0.8**
HMBC				*eS*			**Sn**	**14 30 03.7**	**-1.6**
PSGC	**Pisagua**	**2.97**	**332**		IAML			14 30 23.8	
	comp=E,349nm,0.4s								
LPAZ	**La Paz**	**5.95**	**5**	Pn			**Pn**	**14 30 26.7**	**-0.5**
	comp=E,0.2nm,0.3s,baz=232,slow=3.7,SNR=3.7								
LPAZ					LR		LR	14 34 02.5	
	comp=E,56nm,18.8s,baz=192,slow=48								
LPAZ	**La Paz**	**5.95**	**5**	*eP*			**Pn**	**14 30 26.8**	**-0.4**
	comp=E,10.0nm,0.8s								
LCO	**Las Campanas**	**6.98**	**195**	Pn			Pn	14 30 28.1	-13
SIV	**San Ignacio**	**9.49**	**50**	Pn			Pn	14 31 11.1	-3.7
	comp=E,1.4nm,0.3s,baz=251,slow=12,SNR=27								
SIV					Sn		**Sn**	**14 33 02.6**	**+2.8**
	comp=E,0.3nm,0.3s,baz=289,slow=18,SNR=3.0								
TRQA	**Tornquist**	**16.78**	**161**	*eP*			**Pn**	**14 32 45.6**	**-3.7**
	comp=E,4.1nm,0.7s								
BDFB	**Brasilia**	**20.59**	**75**	P			**P**	**14 33 30.3**	**-1.3**
	comp=E,3.4nm,0.6s,baz=223,slow=14,SNR=6.2								
RCBR	**Riachuelo**	**35.60**	**68**	P			**P**	**14 35 48.0**	**-0.5**
	comp=E,8.2nm,0.7s,baz=229,slow=9.5,SNR=11								
RCBR	**Riachuelo**	**35.60**	**68**	*eP*			**P**	**14 35 48.0**	**-0.5**
	comp=E,6.0nm,0.6s								
PMSA	**Palmer Station**	**42.62**	**177**	P			P	14 36 38.1	-8.1
	comp=E,21nm,0.7s,baz=32,slow=18,SNR=4.9								
TEIG	**Tepich**	**46.35**	**334**	LR			LR	14 56 44.8	
	comp=E,409nm,21.9s,baz=200,slow=36								
TXAR	**Lajitas Array**	**61.37**	**325**	P			**P**	**14 39 06.7**	**+1.1**
	comp=E,0.3nm,0.7s,baz=142,slow=10,SNR=2.4								
ANMO	**Albuquerque**	**67.24**	**327**	P			**P**	**14 39 45.3**	**+1.3**
	comp=E,1.0nm,0.8s,baz=152,slow=8.4,SNR=4.5								
DBIC	**Dimbokro**	**68.73**	**73**	P			**P**	**14 39 53.4**	**-0.1**
	comp=E,2.0nm,0.7s,baz=235,slow=7.2,SNR=3.2								
PDAR	**Pinedale Array**	**74.87**	**330**	P			**P**	**14 40 31.5**	**+1.6**
	comp=E,0.3nm,0.7s,baz=152,slow=4.1,SNR=2.3								
TORD	**Torodi Ar. Bea**	**77.39**	**70**	P			**P**	**14 40 44.4**	**-0.1**
	comp=E,1.5nm,0.4s,baz=261,slow=5.4,SNR=22								
ASAR	**Alice Springs**	**129.36**	**207**	PKP			**PKPdf**	**14 47 57.5**	**0.0**
	comp=E,0.7nm,1.1s,baz=116,slow=1.3,SNR=3.9								
WRA	**Warramunga Arr**	**132.43**	**210**	PKP			**PKPdf**	**14 48 03.3**	**-0.1**
	comp=E,0.5nm,1.1s,baz=165,slow=1.7,SNR=5.2								
MKAR	**Makanchi Array**	**146.10**	**37**	PKPbc			**PKPab**	**14 48 31.1**	**+1.9**
	comp=E,0.2nm,0.6s,baz=321,slow=3.9,SNR=3.8								

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*IDC **28** 14:32:49.6±1.0, 14°.42N×92°.02W, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.7/25, mbtmp3.7/8, ML3.8/3, MS3.3/3, Ms1 3.3/3, ms1mx2.9/30, Error ellipse: s-maj=19.0km s-min=13.0km az=6.0*
*MEX **28** 14:32:50.2±0.4, 13°.84N×92°.28W, h10km, MD4.5*
*NEIC **28** 14:32:54.8±1.3, 14°.38N×92°.01W, h36km±13km, MD4.5(MEX), Error ellipse: s-maj=19.2km s-min=11.7km az=217.0*
*CASC **28** 14:32:54.1±1.0, 13°.80N×91°.79W, h0km±9km, MD3.9*
ISC 28 14:32:49.9±2.1, 14°.19N±0°.06×92°.16W±0°.05, h5km±12km, n36, σ1°33/45, mb3.7/6, 1, D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.52**	**76**	⇓*eP*			**Pn**	**14 33 06.1**	**+2.2**
THIG		**0.72**	**351**	*i P*			**Pn**	**14 33 07.2**	**+0.5**
THIG				*eS*			**Sn**	**14 33 21.0**	**+2.8**
THIG		**0.72**	**351**	*i P*			**Pn**	**14 33 07.2**	**+0.5**
THIG				*eS*			**Sn**	**14 33 21.0**	**+2.8**
PCG	**Pacaya**	**1.51**	**82**	*eP*			**Pn**	**14 33 18.7**	**+0.8**
PCG				*eS*			**Sn**	**14 33 37.8**	**-0.2**
NBG	**Las Nubes**	**1.80**	**77**	*eP*			**Pb**	**14 33 23.9**	**+0.5**
PCIG		**1.82**	**326**	*i P*			**Pn**	**14 33 21.9**	**0.0**
PCIG				*eS*			**Sn**	**14 33 45.4**	**0.0**
PCIG		**1.82**	**326**	*i P*			**Pn**	**14 33 21.9**	**0.0**
PCIG				*eS*			**Sn**	**14 33 45.4**	**0.0**
APG	**El Apazote**	**1.83**	**63**	Pn			Pn	14 33 19.3	-2.8
	23nm,0.3s,baz=241,slow=13,SNR=8.3								
APG					Lg		Lg	14 33 41.3	
	71nm,0.3s,baz=132,slow=12,SNR=6.1								
APG					LR		LR	14 33 44.2	
	comp=Z,106nm,20.8s,baz=186,slow=34								
CCIG	**Comitan**	**2.08**	**0**	*eP*			**Pb**	**14 33 27.9**	**-0.3**
CCIG				*eS*			**Sg**	**14 33 56.0**	**-0.8**
CCIG	**Comitan**	**2.08**	**0**	*i P*			**Pg**	**14 33 30.2**	**+0.4**
CCIG				*eS*			**Sg**	**14 33 56.0**	**-0.8**
RBDL	**Robledal**	**2.40**	**91**	*eP*			**Pn**	**14 33 29.6**	**-0.3**
RBDL				*eS*			**Sn**	**14 33 58.9**	**-0.9**
RTR	**El Retiro**	**2.45**	**96**	*eP*			**Pn**	**14 33 30.9**	**+0.2**
SBLS	**San Blas**	**2.48**	**98**	*eP*			**Pn**	**14 33 30.5**	**-0.7**
SNJE	**San Jose**	**2.49**	**97**	*eP*			**Pn**	**14 33 31.1**	**-0.2**
MRL	**Marmol**	**2.54**	**70**	*eP*			**Pn**	**14 33 34.2**	**+2.4**
BOQS	**Boqueron**	**2.83**	**99**	*eP*			**Pn**	**14 33 36.0**	**+0.1**
LBRS	**Las Brisas**	**3.05**	**98**	*eP*			**Pn**	**14 33 38.6**	**-0.2**
LFRS	**El Faro**	**3.06**	**100**	*eP*			**Pn**	**14 33 38.3**	**-0.7**
CMIG	**Matias Romero**	**3.90**	**318**	*i P*			**Pn**	**14 33 51.2**	**+0.8**
CMIG				*eS*			**Sn**	**14 34 36.6**	**-0.1**
CMIG	**Matias Romero**	**3.90**	**318**	Pn			**Pn**	**14 33 51.3**	**+0.8**
	2.5nm,0.3s,baz=131,slow=9.5,SNR=45								
CMIG					Sn		**Sn**	**14 34 36.0**	**-0.8**
	22nm,0.3s,baz=252,slow=22,SNR=6.1								
CMIG					Lg		Lg	14 34 49.8	
	44nm,0.3s,baz=246,slow=20,SNR=7.7								
CMIG	**Matias Romero**	**3.90**	**318**	Pn			**Pn**	**14 33 51.3**	**+0.8**
CMIG					Sn		**Sn**	**14 34 36.0**	**-0.8**
CMIG				*eS*			**Sn**	**14 34 36.6**	**-0.1**
CMIG					Lg		Lg	14 34 49.8	
TEIG	**Tepich**	**7.05**	**31**	Pn			**Pn**	**14 34 35.4**	**+1.5**
	17nm,0.3s,baz=215,slow=2.8,SNR=50								
TEIG					Sn		**Sn**	**14 35 52.1**	**-2.3**
	1.5nm,0.3s,baz=292,slow=19,SNR=3.0								
TEIG					LR		LR	14 37 59.3	
	comp=Z,274nm,18.7s,baz=138,slow=46								
JTS	**JuntasAbangare**	**8.03**	**118**	Pn			**Pn**	**14 34 48.8**	**+1.4**
	1.2nm,0.3s,baz=322,slow=18,SNR=5.5								
TXAR	**Lajitas Array**	**18.46**	**327**	P			**Pn**	**14 37 07.5**	**+0.8**
	0.1nm,0.3s,baz=148,slow=9.8,SNR=7.3								
H06E1	**SOCORRO T-PHASE**	**18.57**	**287**	T			T	14 56 05.3	
	SNR=5.4								
LPIG	**La Paz**	**19.76**	**303**	LR			LR	14 45 29.1	
	comp=Z,31nm,21.0s,baz=30,slow=38								
TKL	**Tuckaleechee C**	**22.67**	**18**	P			**P**	**14 37 49.3**	**-2.8**
	1.1nm,0.5s,baz=202,slow=5.4,SNR=2.4								

ANMO Albuquerque 24.36 331 P **P 14 38 08.6 -0.6**
1.1nm,0.6s,baz=110,slow=12,SNR=3.2
ELK Elko 33.25 327 P **P 14 39 28.9 +0.5**
0.6nm,0.5s,baz=90,slow=20,SNR=2.9
RPN Rapa Nui 44.33 202 P **P 14 41 02.8 +1.8**
89nm,0.5s,baz=82,slow=3.8,SNR=5.6
YKA Yellowknife Ar 50.81 347 P **P 14 41 49.1 -1.9**
1.1nm,0.6s,baz=148,slow=7.6,SNR=4.4
FRB Frobisher Bay 52.16 13 LR LR 15 06 03.6
comp=Z,75nm,21.4s,baz=189,slow=38
ILAR Eielson Array 62.61 337 P **P 14 43 13.9 -1.0**
0.3nm,0.6s,baz=175,slow=4.7,SNR=8.0
WRA Warramunga Arr 135.29 256 PKP **PKPdf 14 52 14.5 +2.8**
0.4nm,0.9s,baz=86,slow=3.3,SNR=2.8
ASAR Alice Springs 135.59 251 PKP **PKPdf 14 52 13.5 +1.4**
0.2nm,0.7s,baz=98,slow=2.8,SNR=3.3
CMAR Chiang Mai Arr 145.77 341 PKPbc **PKPdf 14 52 29.1 -1.4**
0.7nm,0.6s,baz=326,slow=3.3,SNR=7.0

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*IDC **28** 14:36:28.6±0.6, 36°.15S×73°.55W, h0km, mb4.4/13, mb1 4.5/16, mb1mx4.4/22, mbtmp4.4/16, ML4.0/3, MS4.6/11, Ms1 4.6/11, ms1mx4.3/22, Error ellipse: s-maj=21.7km s-min=13.2km az=84.0*
*GUC **28** 14:36:28.7±0.6, 36°.09S×73°.78W, h31km±4km, ML4.9*
*BJI **28** 14:36:32.4, 36°.20S×73°.50W, h35km, mB5.1/7, Ms5.2/6, Ms7 5.1/9*
*NEIC **28** 14:36:34.3±0.3, 36°.14S×73°.45W, h35km, mb5.0/14, ML5.3(GUC), Error ellipse: s-maj=10.2km s-min=7.1km az=71.0*
NEIC Felt [IV] at Concepcion and Talcahuano; [III] at Angol and Renaico; [II] at Cauquenes. Also felt at Chiguayante.
*ISCJB **28** 14:36:34.1±0.2, 36°.17S±0°.03×73°.25W±0°.06, h33km, mb4.7/29, MS4.6/11, Error ellipse: s-maj=6.7km s-min=4.0km az=158.1*
*GCMT **28** 14:36:34.3±0.2, 36°.16S×73°.92W, h12km, MW5.2/78, Moment Tensor Solution. s47,c65; s78,c117; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mm3.84±.10; Mθθ0.35±.09; Mφφ-4.19±.10; Mrθ-0.36±.33; Mrφ-0.36±.09; Mθφ-6.37±.27; Best double couple: M0=7.54600×10^16 NP1:φs183.00000°, δ74.00000°, λ89.00000°. NP2: φs6.00000°, δ16.00000°, λ92.00000°. Principal axes: T 7.3580, Plg61.0000°, Azm92.0000°; N 0.3750, Plg1.0000°, Azm184.0000°; P -7.7350, Plg29.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 28 14:36:34.8±0.4, 36°.21S±0°.04×73°.48W±0°.07, h35km, n348, σ1°68/344, mb4.7/29, MS4.7/11, 126C-137D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.56**	**82**	⇓*iP*			**Pn**	**14 36 43.2**	**-3.1**
COCH				*i* S			**Sn**	**14 36 54.1**	**-0.2**
CCSP	**San Pedro de C**	**0.70**	**155**	⇑*iP*			**Pn**	**14 36 45.4**	**-2.8**
CCSP				*i* S			**Sn**	**14 36 58.2**	**+0.4**
CCSP					AML		AML	14 37 02.5	
	comp=E,79μm,0.5s								
TALC	**Talca**	**1.70**	**62**	⇓*iP*			**Pn**	**14 37 00.3**	**-1.7**
TALC				*i* S4			**Sn**	**14 37 27.5**	**+5.0**
AGCH	**Angol**	**1.72**	**159**	*eP*			**Pn**	**14 37 00.3**	**-1.8**
AGCH				*eS*			**Sn**	**14 37 25.1**	**+2.2**
NICH	**Los Niches**	**2.19**	**57**	*eP*1			**Pn**	**14 37 07.0**	**-1.7**
PLCA	**Paso Flores**	**5.07**	**154**	Pn			**Pn**	**14 37 48.4**	**+0.1**
	comp=E,2.7nm,0.3s,baz=339,slow=12,SNR=22								
PLCA					Lg		Lg	14 39 10.8	
	comp=E,8.2nm,0.3s,baz=12,slow=6.8,SNR=4.2								
PLCA	**Paso Flores**	**5.07**	**154**	*eP*			**Pn**	**14 37 48.3**	**+0.1**
	comp=E,11nm,0.8s								
PLCA					Lg		Lg	14 39 10.8	
CFAA	**Coronel Fontan**	**6.33**	**45**	Pn			**Pn**	**14 38 02.5**	**-3.0**
	comp=E,1.3nm,0.3s,baz=226,slow=12,SNR=21								
CFAA					Sn		**Sn**	**14 39 16.5**	**-0.2**
	comp=E,1.6nm,0.3s,baz=209,slow=16,SNR=3.5								
CFAA					Lg		Lg	14 39 39.9	
	comp=E,0.6nm,0.3s,baz=308,slow=18,SNR=3.9								
LCO	**Las Campanas**	**7.55**	**19**	*eP*			Pn	14 38 17.3	-5.3
	comp=E,20nm,0.5s								
TRQA	**Tornquist**	**9.36**	**105**	*eP*			**Pn**	**14 38 48.2**	**+0.9**
	comp=E,79nm,1.4s								
USHA	**Ushuaia**	**18.95**	**171**	P			**Pn**	**14 40 53.1**	**-0.4**
	comp=E,0.3nm,0.3s,baz=357,slow=19,SNR=2.8								
LPAZ	**La Paz**	**20.40**	**15**	P			**P**	**14 41 09.2**	**-0.2**
	comp=E,12nm,0.7s,baz=186,slow=9.6,SNR=16								
LPAZ	**La Paz**	**20.40**	**15**	*eP*			**P**	**14 41 09.7**	**+0.3**
SIV	**San Ignacio**	**22.97**	**32**	P			**P**	**14 41 34.1**	**-2.1**
	comp=E,6.6nm,0.8s,baz=232,slow=11,SNR=7.0								
SIV					LR		LR	14 52 19.8	
	comp=E,4μm,19.6s,baz=223,slow=41								
ATAH	**Atahualpa**	**29.29**	**350**	LR			LR	14 52 18.1	
	comp=E,554nm,20.0s,baz=179,slow=32								
BDFB	**Brasilia**	**30.56**	**55**	P			**P**	**14 42 44.1**	**-1.2**
	comp=E,3.1nm,0.8s,baz=236,slow=9.7,SNR=4.3								
BDFB					LR		LR	14 56 05.2	
	comp=E,1μm,18.9s,baz=222,slow=38								
RPN	**Rapa Nui**	**31.69**	**276**	LR			LR	14 52 08.7	
	comp=E,1μm,18.0s,baz=97,slow=30								
OTAV	**Otavalo**	**36.55**	**352**	*eP*			**P**	**14 43 36.7**	**-1.1**
	comp=E,21nm,1.4s								
PTGA	**Pitinga**	**37.46**	**23**	P			**P**	**14 43 43.5**	**-1.4**
	comp=E,4.3nm,0.7s,baz=182,slow=12,SNR=6.7								
PTGA	**Pitinga**	**37.46**	**23**	*eP*			**P**	**14 43 43.9**	**-1.1**
RCBR	**Riachuelo**	**45.81**	**58**	LR			LR	15 03 02.1	
	comp=E,1μm,18.4s,baz=202,slow=35								
JTS	**JuntasAbangare**	**47.50**	**345**	LR			LR	15 01 58.5	
	comp=E,303nm,18.8s,baz=150,slow=32								
VNA3	**Neumayer Olymp**	**47.78**	**157**	P			**P**	**14 45 10.0**	**+1.9**
VNA1	**Neumayer--Stat**	**48.12**	**156**	P			**P**	**14 45 11.7**	**+1.0**
VNA2	**Neumayer--Watz**	**48.45**	**156**	P			**P**	**14 45 13.9**	**+0.6**
SNAA	**Sanae**	**50.00**	**157**	P			**P**	**14 45 24.2**	**-1.0**
SNAA	**Sanae**	**50.00**	**157**	P			**P**	**14 45 24.7**	**-0.5**
	comp=E,3.3nm,0.9s,baz=283,slow=4.4,SNR=8.1								
SNAA	**Sanae**	**50.00**	**157**	*eP*			**P**	**14 45 25.4**	**+0.2**
QSPA	**South Pole Qui**	**54.03**	**180**	P			**P**	**14 45 55.3**	**-0.1**
	comp=E,7.1nm,0.9s,baz=283,slow=1.2,SNR=15								
QSPA	**South Pole Qui**	**54.03**	**180**	*eP*			**P**	**14 45 55.5**	**+0.1**
RKT	**Rikitea**	**54.20**	**266**	*eS*			**S**	**14 53 30.1**	**-1.8**
	comp=E,366nm,27.8s								
RKT				*e*LR			LR	15 01 36.4	
	comp=E,666nm,30.2s,baz=126								
RKT	**Rikitea**	**54.20**	**266**	*e*T			T	15 44 06.6	
	comp=E,1.2nm,0.2s								
CMIG	**Matias Romero**	**56.75**	**335**	LR			LR	15 06 45.5	
	comp=E,216nm,18.0s,baz=154,slow=32								
TBI	**Tubuai**	**65.68**	**258**	*eS*			**S**	**14 55 57.7**	**-1.9**
	comp=E,841nm,27.5s								
TBI	**Tubuai**	**65.68**	**258**	*e*LR			LR	15 06 57.5	
	comp=E,963nm,27.5s,baz=125								
034A	**Hebbronville**	**67.27**	**336**	⇑P			**P**	**14 47 27.5**	**+1.7**
	baz=68								

baz=71
532A **Rocksprings** 70.50 336 ⇓P P 14 47 47.0 +1.1
baz=71,SNR=7.4
434A **Burnet** 70.62 338 ⇑P P 14 47 48.3 +1.8
baz=71
239A **Gary** 70.66 341 ⇓P P 14 47 48.2 +1.5
baz=71
531A **Rocksprings** 70.75 335 ⇑P P 14 47 48.3 +0.9
baz=71
JCT **Junction City** 70.80 336 ⇓P P 14 47 48.1 +0.5
baz=71
JCT **Junction City** 70.80 336 eP P 14 47 47.2 -0.4
comp=E,4.0nm,0.3s
335A **Moody** 70.80 338 ⇓P P 14 47 48.8 +1.3
baz=71
433A **Art** 70.82 337 ⇓P P 14 47 49.5 +1.8
baz=71
238A **Jacksonville** 70.82 341 ⇑P P 14 47 50.2 +2.6
baz=71
237A **Washetta, Mont** 71.01 340 ⇑P P 14 47 50.3 +1.5
baz=71
530A **J-C Ranch, Com** 71.01 335 ⇓P P 14 47 50.0 +1.1
baz=71,SNR=7.9
334A **Lometa** 71.09 338 ⇑P P 14 47 50.3 +0.9
baz=71
TXAR **Lajitas Array** 71.11 332 P P 14 47 47.5 -2.1
comp=E,3.5nm,0.7s,baz=156,slow=8.4,SNR=25
TXAR LR LR 15 14 18.9
comp=E,400nm,18.8s,baz=0.0,slow=32
432A **Menard** 71.16 336 ⇓P P 14 47 50.8 +1.0
baz=71
431A **Sonora** 71.25 335 ⇑P P 14 47 51.5 +1.1
baz=72
529A **Stev Forest Ra** 71.30 334 ⇑P P 14 47 51.9 +1.2
baz=72
333A **Richland Sprin** 71.31 337 ⇑P P 14 47 52.4 +1.7
baz=72
KMSC **Kings Mountain** 71.36 353 ⇑P P 14 47 52.0 +1.2
baz=72
138A **Matatall Enter** 71.44 341 ⇑P P 14 47 52.9 +1.5
baz=72
WHTX **Lake Whitney,** 71.47 339 ⇑P P 14 47 52.9 +1.3
baz=72
137A **Heron Place, G** 71.56 340 ⇓P P 14 47 53.1 +1.1
baz=72
430A **Baggett Ranch,** 71.56 335 ⇓P P 14 47 52.1 -0.2
baz=72,SNR=5.8
332A **Millersview** 71.61 336 ⇑P P 14 47 53.1 +0.6
baz=72
429A **Davenport Ranc** 71.64 334 ⇓P P 14 47 53.5 +0.8
baz=72
234A **Clairette** 71.68 338 ⇓P P 14 47 54.2 +1.3
baz=72
331A **San Angelo** 71.76 336 ⇓P P 14 47 54.0 +0.5
baz=72
233A **Rising Star** 71.93 337 ⇑P P 14 47 55.3 +0.9
baz=72
232A **Coleman** 72.05 337 ⇑P P 14 47 55.6 +0.5
baz=72
330A **Mertzon** 72.10 335 ⇑P P 14 47 55.9 +0.4
baz=72
134A **White-Moore Ra** 72.20 338 ⇑P P 14 47 57.7 +1.7
baz=72
231A **Bronte** 72.30 336 ⇓P P 14 47 57.3 +0.6
baz=73
329A **Wagon Wheel Ra** 72.45 335 ⇓P P 14 47 58.4 +0.8
baz=73
133A **Hamilton Ranch** 72.48 338 ⇑P P 14 47 58.6 +0.9
baz=73
230A **Sterling City** 72.52 336 ⇓P P 14 47 59.6 +1.6
baz=73
Z35A **Perchaven, San** 72.66 339 ⇓P P 14 47 59.7 +1.0
baz=73
ABTX **Abilene, Hawle** 72.72 337 ⇓P P 14 48 00.2 +1.1
baz=73
ABTX **Abilene, Hawle** 72.72 337 eP P 14 47 58.3 -0.9
comp=E,27nm,1.2s
229A **Bryant Ranch,** 72.83 335 ⇓P P 14 48 01.3 +1.4
baz=73
Z34A **Collier Ranch,** 72.89 339 ⇓P P 14 48 01.9 +1.8
baz=73
131A **Roby** 73.01 336 ⇑P P 14 48 02.3 +1.5
baz=73
Z33A **Whitaker Ranch** 73.07 338 ⇑P P 14 48 02.1 +1.0
baz=73
130A **Snyder** 73.12 336 ⇑P P 14 48 02.7 +1.2
baz=73
WVT **Waverly** 73.20 348 P P 14 48 01.0 -0.8
comp=E,29nm,1.3s
228A **UT Block 9, Go** 73.24 334 ⇑P P 14 48 03.5 +1.2
baz=74
Z32A **Haskell** 73.30 337 ⇑P P 14 48 03.5 +0.9
baz=74
Y34A **Reagan Ranch,** 73.39 339 ⇓P P 14 48 03.8 +0.7
baz=74
129A **Stewart Farms,** 73.46 335 ⇓P P 14 48 04.2 +0.6
baz=74
Z31A **Sharp Cattle R** 73.52 337 ⇓P P 14 48 04.8 +0.9
baz=74
128A **Castleberry Fa** 73.66 335 ⇓P P 14 48 05.8 +1.1
baz=74
Y33A **Hilltop Ranch,** 73.70 338 ⇓P P 14 48 05.7 +0.8
baz=74
Z30A **Sanderson Ranc** 73.81 336 ⇑P P 14 48 06.1 +0.6
baz=74
Y32A **R-V Farms, Ver** 73.94 338 ⇓P P 14 48 07.2 +1.0
baz=74
Z29A **Hungry Hill Ra** 73.98 336 ⇓P P 14 48 07.2 +0.6
baz=74
Y31A **Rekieta Farm,** 74.16 337 ⇓P P 14 48 08.2 +0.6
baz=74
Y29A **Porterfield Fa** 74.52 336 ⇑P P 14 48 10.5 +0.8
baz=75
TUL1 **Leonard** 74.70 341 ⇓P P 14 48 12.0 +1.4
baz=75
TUL1 **Leonard** 74.70 341 eP P 14 48 09.6 -1.0
comp=E,22nm,1.0s
W33A **Caddo, Fort Co** 74.72 339 ⇑P P 14 48 11.6 +0.9
baz=75
V35A **Meyer Ranch, C** 74.83 340 ⇓P P 14 48 12.8 +1.4
baz=75
W32A **Sentinel** 74.92 338 ⇓P P 14 48 12.9 +1.0
baz=75
MSTX **Muleshoe** 74.98 335 ⇑P P 14 48 13.1 +0.6
baz=75
MSTX **Muleshoe** 74.98 335 eP P 14 48 10.9 -1.5
comp=E,5.5nm,0.8s
X29A **Tulia** 75.06 336 ⇑P P 14 48 13.5 +0.7
baz=75
V34A **Guthrie** 75.09 340 ⇓P P 14 48 13.3 +0.4
baz=75
319A **Douglas** 75.15 329 ⇓P P 14 48 14.5 +1.0
baz=75
V33A **Lossen Ranch,** 75.29 339 ⇑P P 14 48 14.7 +0.6
baz=76
AMTX **Amarillo** 75.46 336 ⇑P P 14 48 16.0 +0.9
baz=76
121A **Cookes Peak, D** 75.55 331 ⇑P P 14 48 17.0 +1.1
baz=76
U34A **Anderson Ranch** 75.66 340 ⇓P P 14 48 17.5 +1.4
baz=76
W29A **Amarillo** 75.66 336 ⇓P P 14 48 17.3 +1.0
baz=76
U33A **Lingo Farm, Me** 75.81 340 ⇑P P 14 48 17.9 +0.9
baz=76
U32A **Winter Ranch,** 76.02 339 ⇑P P 14 48 19.0 +0.8
baz=76
W26A **Owens Ranch, T** 76.34 335 ⇓P P 14 48 20.9 +0.6
baz=77
LIC **Lamto** 76.58 72 eP P 14 48 21.3 -0.6
comp=E,27nm,1.3s
W25A **X Bar L Ranch,** 76.70 334 ⇓P P 14 48 22.9 +0.7
baz=77
T32A **Huddler Ranch,** 76.74 339 ⇓P P 14 48 24.3 +2.0
baz=77
TIC **Toumodi** 76.85 72 eP P 14 48 24.3 +0.8
comp=E,11nm,0.2s
S33A **Kaszmaul Farm,** 76.87 340 ⇓P P 14 48 23.9 +0.9
baz=77
KIC **Kosan Boka** 76.89 72 eP P 14 48 23.7 0.0
comp=E,62nm,1.5s
V26A **Tequesquite Ra** 76.99 335 ⇑P P 14 48 24.5 +0.6
baz=77
DBIC **Dimbokro** 77.00 72 P P 14 48 24.0 -0.3
comp=E,2.6nm,0.6s,baz=206,slow=6.3,SNR=6.8
W24A **Lazy 6 Ranch,** 77.03 334 ⇑P P 14 48 24.6 +0.4
baz=77
214A **Organ Pipe Nat** 77.18 326 ⇓P P 14 48 26.7 +1.8
baz=77
ANMO **Albuquerque** 77.18 333 P P 14 48 24.9 -0.1
comp=E,4.6nm,0.9s,baz=170,slow=8.6,SNR=12
S32A **Newby Ranch, P** 77.23 340 ⇓P P 14 48 27.1 +2.1
baz=78
SFIN **Lafayette** 77.24 349 ⇓P P 14 48 27.0 +2.0
baz=78
U27A **Thompson Grove** 77.24 336 ⇓P P 14 48 27.1 +1.8
baz=78
S31A **Mullinville** 77.31 339 ⇑P P 14 48 28.0 +2.5
baz=78
V25A **Rancho No Teng** 77.31 334 ⇑P P 14 48 26.5 +0.7
baz=78,SNR=8.1
V24A **Rampart Ranch,** 77.44 334 ⇓P P 14 48 28.3 +1.7
baz=78
U26A **Atchley Ranch,** 77.52 335 ⇓P P 14 48 28.5 +1.6
baz=78
R33A **Olander Ranch,** 77.53 340 ⇓P P 14 48 28.8 +2.1
baz=78
S30A **Montezuma** 77.62 338 ⇑P P 14 48 28.5 +1.3
baz=78
T28A **Walsh** 77.65 337 ⇑P P 14 48 28.9 +1.5
baz=78
U25A **Circle Dot Ran** 77.75 335 ⇑P P 14 48 30.1 +1.9
baz=78,SNR=5.2
T27A **Campo** 77.79 336 ⇓P P 14 48 30.0 +1.7
baz=78
V23A **Ortiz Mt. (NFS** 77.79 333 ⇓P P 14 48 29.8 +1.4
baz=78
S29A **Ulysses** 77.80 338 ⇓P P 14 48 29.8 +1.5
baz=78
R32A **Long Quarter,** 77.84 340 ⇑P P 14 48 29.8 +1.4
baz=78
KSU1 **Kansas State U** 77.92 342 ⇓P P 14 48 31.0 +2.2
baz=78
R31A **Burdett** 77.94 339 ⇑P P 14 48 30.2 +1.2
baz=78
S28A **Manter** 78.01 337 ⇓P P 14 48 31.0 +1.6
baz=78
U24A **Moreno Valley** 78.06 334 ⇓P P 14 48 31.1 +1.0
baz=78
R30A **Dighton** 78.16 339 ⇑P P 14 48 31.4 +1.1
baz=78
X18A **Snowflake** 78.17 330 ⇓P P 14 48 32.0 +1.5
baz=78
T26A **Comanche Natio** 78.17 336 ⇑P P 14 48 32.0 +1.5
baz=78
V22A **San Miguel Ran** 78.20 333 ⇑P P 14 48 32.4 +1.6
baz=78
U23A **El Rito** 78.31 334 ⇓P P 14 48 32.7 +1.4
baz=79
Q32A **Meitler Ranch,** 78.33 340 ⇓P P 14 48 32.5 +1.4
baz=79
T25A **Trinidad** 78.42 335 ⇓P P 14 48 32.9 +1.0
baz=79,SNR=12
S26A **Kim** 78.54 336 ⇑P P 14 48 33.9 +1.4
baz=79
Q31A **Ellis** 78.57 340 ⇓P P 14 48 33.6 +1.1
baz=79
W18A **Petrified Fore** 78.59 330 ⇓P P 14 48 34.3 +1.4
baz=79
U22A **Llaves** 78.60 333 ⇓P P 14 48 34.4 +1.4
baz=79
R28A **Tribune** 78.67 338 ⇑P P 14 48 34.3 +1.1
baz=79
T24B **San Luis** 78.68 334 ⇓P P 14 48 35.0 +1.5
baz=79
X16A **Lo Mia Camp, P** 78.69 329 ⇑P P 14 48 34.4 +1.0
baz=79
Q30A **Quinter** 78.78 339 ⇓P P 14 48 35.2 +1.5
baz=79
S25A **Robets Cordova** 78.90 335 ⇓P P 14 48 35.9 +1.4
baz=79
Q29A **Oakley** 78.92 338 ⇑P P 14 48 36.6 +2.2
baz=79
R27A **Eads** 78.93 337 ⇑P P 14 48 35.4 +0.8
baz=79
Y14A **Wickenburg** 78.94 327 ⇑P P 14 48 36.8 +2.1
baz=79
S24A **Houchin Ranch,** 79.14 335 ⇑P P 14 48 37.6 +1.6
baz=79,SNR=7.9
R26A **Arlington** 79.15 336 ⇓P P 14 48 37.3 +1.5
baz=79
P30A **Selden** 79.32 339 ⇑P P 14 48 38.5 +1.9
baz=80
SDCO **Great Sand Dun** 79.34 335 ⇑P P 14 48 38.4 +1.4
baz=80
O32A **Brockman Farm,** 79.44 341 ⇓P P 14 48 39.3 +2.1
baz=80
KSCO **Kaye Shedlock'** 79.54 337 ⇑P P 14 48 40.0 +2.1
baz=80
P29A **Atwood** 79.57 339 ⇓P P 14 48 39.3 +1.4
baz=80
WUAZ **Wupatki** 79.60 329 ⇓P P 14 48 40.1 +1.8
baz=80
O31A **Woolen Ranch,** 79.62 340 ⇓P P 14 48 40.1 +1.9
baz=80
R24A **Sanders Place,** 79.64 335 ⇑P P 14 48 39.7 +1.2
baz=80
Q26A **Hugo** 79.74 337 ⇑P P 14 48 40.2 +1.2
baz=80
P28A **Saint Francis** 79.79 338 ⇑P P 14 48 40.7 +1.5
baz=80
BC3 **Big Chuckawall** 79.80 325 ⇑P P 14 48 40.8 +1.4
baz=80
S22A **4UR Ranch, Cre** 79.81 334 ⇓P P 14 48 40.8 +1.2
baz=80
R23A **Moffat** 79.85 335 ⇑P P 14 48 40.3 +0.5
baz=80
O30A **MW Ranch, Wils** 79.85 340 ⇑P P 14 48 41.8 +2.3
baz=80
MVCO **Mesa Verde** 79.94 332 ⇓P P 14 48 41.2 +1.0
baz=80
Q25A **Bedland, Calha** 79.97 336 ⇓P P 14 48 42.1 +1.8
baz=80
O29A **4D Ranch, Culb** 80.01 339 ⇑P P 14 48 42.7 +2.4
baz=80
P27A **Ficken Ranch,** 80.02 338 ⇑P P 14 48 42.7 +2.3
baz=80
IRM **Iron Mountain** 80.08 326 ⇓P P 14 48 42.7 +1.9
baz=80
N31A **Bailey Ranch,** 80.15 341 ⇑P P 14 48 43.0 +2.0
baz=80
PFO **Pinyon Flats O** 80.23 325 P P 14 48 41.1 -0.6
comp=E,5.0nm,0.9s,baz=87,slow=3.1,SNR=6.3
PFO **Pinyon Flats O** 80.23 325 ⇑P P 14 48 43.5 +1.7
baz=80
P26A **Davis Ranch, A** 80.27 337 ⇑P P 14 48 43.8 +1.9
baz=81
O28A **Krutsinger Ran** 80.30 338 ⇑P P 14 48 44.2 +2.2
baz=81
W13A **Hualapai Mount** 80.31 327 ⇓P P 14 48 43.8 +1.5
baz=81
Q24A **Divide** 80.31 335 ⇑P P 14 48 44.1 +1.8
baz=81
BELC **Belle Mtn. Jos** 80.34 325 ⇑P P 14 48 44.1 +1.7
baz=81
P25A **Willow Gulch B** 80.48 336 ⇓P P 14 48 45.3 +2.2
baz=81
MURC **Murrieta** 80.57 324 ⇑P P 14 48 45.2 +1.7
baz=81
O27A **Beecher Island** 80.57 338 ⇑P P 14 48 45.7 +2.3
baz=81
N29A **Votaw Ranch, W** 80.61 339 ⇓P P 14 48 45.6 +2.1
baz=81
M31A **Lambtecht Ranc** 80.64 341 ⇓P P 14 48 45.7 +2.0
baz=81
U15A **North Rim** 80.76 329 ⇓P P 14 48 46.2 +1.4
baz=81
GMRC **Granite Mounta** 80.83 326 ⇑P P 14 48 46.7 +1.7
baz=81
P23A **Jefferson** 80.92 335 ⇑P P 14 48 47.8 +2.2
baz=81
HEC **Hector,Ludlow** 81.18 326 ⇓P P 14 48 48.4 +1.6
baz=81
ISCO **Idaho Springs** 81.22 336 ⇑P P 14 48 48.3 +1.1
baz=82
L31A **Butterfield Fa** 81.38 341 ⇑P P 14 48 49.3 +1.7
baz=82
P22A **Eagle** 81.43 335 ⇑P P 14 48 49.6 +1.5
baz=82
TUQ **Turquoise Moun** 81.50 326 ⇓P P 14 48 50.1 +1.6
baz=82
O23A **Lake Granby, G** 81.69 335 ⇑P P 14 48 51.5 +1.9
baz=82
L29A **Maesberg Ranch** 81.72 340 ⇓P P 14 48 50.7 +1.2
baz=82
GSC **Goldstone, Bar** 81.79 325 ⇓P P 14 48 51.6 +1.6
baz=82
O22A **Kremmling** 81.86 335 ⇓P P 14 48 51.7 +1.1
baz=82
M26A **McRoberts Ranc** 81.94 338 ⇑P P 14 48 52.5 +1.8
baz=82
EDW2 **Edwards Air Fo** 81.99 324 ⇑P P 14 48 52.0 +0.9
baz=82
SHOC **Shoshone, Teco** 82.04 326 ⇓P P 14 48 54.2 +2.9
baz=82
SHPR **Sheep Range** 82.05 327 eP P 14 48 51.9 +0.5
comp=E,11nm,1.3s
K30A **Basset** 82.05 341 ⇓P P 14 48 53.0 +1.9
baz=82
BSC **Santa Cruz Isl** 82.06 323 ⇑P P 14 48 52.4 +1.1
baz=82
ECSD **EROS Data Cent** 82.30 343 ⇓P P 14 48 53.8 +1.5
baz=83
ECSD **EROS Data Cent** 82.30 343 eP P 14 48 50.8 -1.6
comp=E,57nm,1.6s
K29A **Lazy Trails An** 82.32 340 ⇑P P 14 48 55.0 +2.4
baz=83
LRMC **Laurel Mtn Rad** 82.34 325 ⇑P P 14 48 54.0 +1.1
baz=83
N22A **Wattenberg Ran** 82.40 335 ⇓P P 14 48 54.8 +1.4
baz=83
O20A **White River Ci** 82.43 334 ⇓P P 14 48 54.9 +1.6
baz=83
L26A **Underwood Farm** 82.44 338 ⇑P P 14 48 55.3 +2.0
baz=83
SBC **Santa Barbara** 82.46 323 ⇑P P 14 48 55.0 +1.6
baz=83
M24A **Cheyenne** 82.47 337 ⇓P P 14 48 55.9 +2.3
baz=83
K28A **Ten Mile Ranch** 82.57 340 ⇓P P 14 48 56.1 +2.3
baz=83
J30A **Dallas** 82.63 341 ⇓P P 14 48 56.4 +2.3
baz=83
MPMC **Manual Prospec** 82.73 325 ⇓P P 14 48 56.0 +1.0
baz=83
M23A **Laramie** 82.76 336 ⇓P P 14 48 57.0 +1.9
baz=83
K27A **Flueckinger Fa** 82.81 339 ⇓P P 14 48 57.3 +2.1
baz=83
ISA **Isabella, Lake** 82.86 325 ⇑P P 14 48 56.9 +1.4
baz=83
PKM **Mcpherson Peak** 82.88 323 ⇓P P 14 48 57.3 +1.4
baz=83
TPNV **Topopah Spring** 82.90 327 ⇑P P 14 48 57.5 +1.6
baz=83
J29A **Okreek** 82.92 341 ⇓P P 14 48 58.2 +2.5
baz=83
M22A **Cedar Creek Ra** 82.99 336 ⇑P P 14 48 58.2 +1.9
baz=83
N20A **Spence Gulch,** 83.06 334 ⇓P P 14 48 58.5 +1.8
baz=83
K26A **Motz Farm, Whi** 83.08 338 ⇓P P 14 48 58.8 +2.3
baz=83
I30A **Oacoma** 83.16 341 ⇓P P 14 48 59.4 +2.6
baz=84
J28A **Allard Ranch,** 83.19 340 ⇓P P 14 48 59.5 +2.5
baz=84
K25A **Mack Ranch, Ha** 83.21 338 ⇓P P 14 48 59.9 +2.7
baz=84
J27A **Elkhorn Farm,** 83.25 339 ⇑P P 14 49 00.1 +2.7
baz=84
VES **Vestal, Richgr** 83.29 324 ⇓P P 14 48 59.7 +2.0
baz=84
L22A **Ellis Ranch, M** 83.50 336 ⇑P P 14 49 00.6 +1.7
baz=84
I28A **Midland** 83.70 340 ⇑P P 14 49 01.8 +2.1
baz=84
R11A **Troy Canyon, C** 83.78 328 ⇑P P 14 49 02.2 +1.8
baz=84
DAU **Daniels Canyon** 83.78 332 eP P 14 48 59.6 -0.9
comp=E,18nm,1.4s
K23A **Bowen Ranch, D** 83.88 337 ⇑P P 14 49 02.6 +1.9
baz=84
J25A **Sunshine Ranch** 83.90 338 ⇓P P 14 49 02.5 +1.7
baz=84
I27A **Quinn** 84.01 340 ⇑P P 14 49 03.6 +2.4
baz=84
H29A **Onida** 84.03 341 ⇑P P 14 49 03.5 +2.2
baz=84
K22A **Casper** 84.08 336 ⇑P P 14 49 03.9 +2.1
baz=84
J24A **Dixon Ranch, L** 84.10 338 ⇑P P 14 49 04.0 +2.2
baz=84
DUG **Dugway, Tooele** 84.20 331 ⇓P P 14 49 04.2 +1.8
baz=84
DUG **Dugway, Tooele** 84.20 331 eP P 14 49 02.0 -0.4
comp=E,12nm,1.3s
I26A **New Underwood** 84.21 339 ⇓P P 14 49 04.5 +2.2
baz=84
G30A **Faulkton** 84.23 342 ⇑P P 14 49 04.7 +2.4
baz=84
TPH **Tonopah** 84.27 327 eP P 14 49 03.3 +0.4
comp=E,11nm,1.1s
H28A **Mission Ridge** 84.29 341 ⇓P P 14 49 04.8 +2.1
baz=85
K21A **Alcova** 84.31 336 ⇓P P 14 49 04.8 +1.8
baz=85
MLAC **Mammoth, Mammo** 84.63 325 ⇓P P 14 49 05.6 +0.9
baz=85
J21A **Lysite** 85.01 336 ⇓P P 14 49 07.8 +1.3
baz=85
G27A **Dupree** 85.19 340 ⇓P P 14 49 09.3 +2.2
baz=86
BW06 **Boulder Array** 85.22 334 eP P 14 49 06.4 -1.2
comp=E,7.2nm,1.3s
PDAR **Pinedale Array** 85.22 334 P P 14 49 06.5 -1.1
comp=E,2.2nm,1.0s,baz=129,slow=5.9,SNR=9.7
J20A **Shoshoni** 85.22 335 ⇓P P 14 49 09.2 +1.7
baz=86
G25A **Newell** 85.43 339 ⇑P P 14 49 09.9 +1.5
baz=86
F27A **Lemmon** 85.67 340 ⇓P P 14 49 10.4 +0.9
baz=86
H22A **Clearmont** 85.77 337 ⇑P P 14 49 11.5 +1.4
baz=86
TORD **Torodi Ar. Bea** 86.06 71 P P 14 49 11.2 -0.9
comp=E,1.2nm,0.8s,baz=233,slow=5.3,SNR=5.9
I19A **Meeteetse** 86.14 335 ⇓P P 14 49 13.4 +1.3
baz=86
H20A **Greybull** 86.20 336 ⇑P P 14 49 13.7 +1.4
baz=86
C30A **Mose, Pekin** 86.48 343 ⇓P P 14 49 15.7 +2.3
baz=87
D28A **Regan** 86.51 342 ⇑P P 14 49 15.7 +2.1
baz=87
I17A **Pilgrim Ck.** 86.58 334 ⇓P P 14 49 15.3 +1.0
baz=87
G21A **Lodge Grass** 86.60 337 ⇓P P 14 49 16.1 +1.8
baz=87
E25A **Miller Ranch,** 86.62 340 ⇑P P 14 49 16.2 +2.0
baz=87
D27A **Center** 86.67 341 ⇑P P 14 49 16.3 +1.9
baz=87
H19A **Powell** 86.69 335 ⇑P P 14 49 16.6 +1.8
baz=87
F22A **Rosebud** 86.80 338 ⇓P P 14 49 16.8 +1.6
baz=87
D26A **Manning** 86.84 341 ⇓P P 14 49 16.7 +1.5
baz=87,SNR=6.5
MDND **Maddock** 86.88 343 ⇓P P 14 49 17.3 +1.9
baz=87
G20A **Bridger** 86.92 336 ⇓P P 14 49 17.9 +2.0
baz=87
H18A **Shoshone NF, C** 86.93 335 ⇑P P 14 49 18.0 +2.0
baz=87
E24A **Baker** 86.93 339 ⇓P P 14 49 17.7 +1.9
baz=87
B30A **Myrvik Farm, E** 87.15 344 ⇓P P 14 49 18.6 +1.9
baz=87,SNR=9.3
D25A **Fairfield** 87.19 340 ⇑P P 14 49 18.5 +1.5
baz=88
C27A **Sayler Ranch,** 87.23 341 ⇑P P 14 49 19.3 +2.2
baz=88
E22A **Miles City** 87.30 338 ⇑P P 14 49 19.4 +1.8
baz=88
B29A **Wagenman Farm,** 87.40 343 ⇑P P 14 49 20.0 +2.1
baz=88
D24A **Glendive** 87.44 339 ⇑P P 14 49 20.7 +2.5
baz=88
C26A **Wahner Farm, P** 87.49 341 ⇓P P 14 49 20.5 +2.1
baz=88
A30A **Hoffart Farm,** 87.60 344 ⇑P P 14 49 20.3 +1.5
baz=88,SNR=5.6
B28A **Dugan Ranch, T** 87.63 342 ⇓P P 14 49 21.4 +2.4
baz=88

C25A	Freed Ranch, W	87.69	340	⇓P	P	14 49 21.9 +2.5
	baz=88					
HLID	Hailey	87.69	332	⇑P	P	14 49 20.9 +1.3
	baz=88					
E21A	Keefer Ranch,	87.74	338	⇓P	P	14 49 21.7 +2.1
	baz=88					
D23A	Lindsay	87.75	339	⇓P	P	14 49 21.8 +2.2
	baz=88					
A29A	Manning Farm,	87.80	343	⇑P	P	14 49 22.0 +2.2
	baz=88					
B27A	Peters Farms,	87.81	342	⇑P	P	14 49 22.0 +2.1
	baz=88					
C24A	Savage	87.85	340	⇓P	P	14 49 22.7 +2.6
	baz=88					
D22A	Cohagen	88.01	338	⇑P	P	14 49 23.1 +2.2
	baz=88					
A28A	Rude Farm, Bot	88.03	343	⇑P	P	14 49 23.1 +2.2
	baz=88					
MCMT	McKenzie Canyo	88.19	333	*e*P	P	14 49 22.0 -0.1
	comp=E,3.3nm,1.0s					
E19A	Rath Farm, Rou	88.21	336	⇑P	P	14 49 23.6 +1.7
	baz=88					
C23A	Lambert	88.31	339	⇓P	P	14 49 24.1 +1.8
	baz=89					
ULM	Lac du Bonnet	88.33	346	P	P	14 49 20.5 -1.8
	comp=E,4.8nm,0.8s,baz=183,slow=4.4,SNR=8.0					
A26A	Wade Farm, Ken	88.46	342	⇓P	P	14 49 24.6 +1.7
	baz=89					
LRM	Limekiln Ridge	88.90	334	*e*P	P	14 49 25.5 +0.1
	comp=E,80nm,1.7s					
C19A	Slack Wire Ran	89.42	337	⇑P	P	14 49 29.5 +1.9
	baz=90					
M02C	Callahan	89.50	325	⇓P	P	14 49 29.4 +1.3
	baz=90					
A22A	Carney Farms,	89.60	339	⇑P	P	14 49 29.5 +1.2
	baz=90					
A21A	Bergtoll Ranch	89.89	339	⇓P	P	14 49 31.6 +1.9
	baz=90					
ESDC	Sonseca Array	98.95	47	LR	LR	15 33 46.6
	comp=E,283nm,19.4s,baz=250,slow=35					
DZM	Mont Dzumac	98.99	234	LR	LR	15 26 23.0
	comp=E,157nm,20.4s,baz=158,slow=30					
YKA	Yellowknife Ar	103.77	342	Pdiff	Pdif	14 50 33.1 +0.9
	comp=E,0.1nm,0.6s,baz=137,slow=3.7,SNR=2.6					
ASAR	Alice Springs	115.07	208	PKP	PKPdf	14 55 10.3 -2.3
	comp=E,0.4nm,0.9s,baz=134,slow=2.1,SNR=3.3					
VYHS	Vyhne	117.44	48	*e*	PKPdf	14 55 11.2 -5.0
WRA	Warramunga Arr	118.27	210	PKP	PKPdf	14 55 16.4 -2.4
	comp=E,0.4nm,0.7s,baz=162,slow=1.4,SNR=3.7					
STHS	Stebnicka Huta	119.26	48	*e*PKP	PKPdf	14 55 17.1 -2.6
H11S2	WAKE ISLAND Hyl	124.55	268	T	T	17 12 20.2
	baz=116,slow=74,SNR=6.2					
H11S1	WAKE ISLAND Hyl	124.56	268	T	T	17 12 21.8
	baz=116,slow=74					
H11S3	WAKE ISLAND Hyl	124.56	268	T	T	17 12 23.0
	baz=116					
H11N3	WAKE ISLAND Hyl	125.01	270	T	T	17 12 46.7
	baz=120					
H11N1	WAKE ISLAND Hyl	125.03	270	T	T	17 12 47.3
	baz=120					
H11N2	WAKE ISLAND Hyl	125.03	270	T	T	17 12 47.8
	baz=120					
HYB	Hyderabad	148.97	120	*i* PKP	PKPbc	14 56 18.0 -1.5
YAK	Yakutsk	150.37	338	*e*PKPbc	PKPbc	14 56 21.2 -0.3
KSH	Kashi	155.71	73	*e*PKP	PKPdf	14 56 24.0 -0.9
KSH				sPKP		14 56 37.3
KSH				PKS	PKSdf	14 59 58.0 -1.0
KSH				PP	PP	15 00 29.0 0.0
KSH				SKS	SKSdf	15 03 28.0 -0.6
KSH				PPMZ		
	comp=E,120nm,7.2s					
KSH				LN		
	comp=E,52nm,6.7s					
KSH				LE		
	comp=E,45nm,4.4s					
KSH				LZ		
	comp=E,120nm,5.5s					
ZALV	Zalesovo Beam	156.72	34	PKPab	PKPab	14 56 54.9 -0.2
	comp=E,1.7nm,0.6s,baz=306,slow=5.3,SNR=5.0					
MKAR	Makanchi Array	159.07	52	PKP	PKPdf	14 56 28.7 0.0
	comp=E,0.5nm,0.7s,baz=320,slow=3.2,SNR=4.4					
QIZ	Qiongzhong	162.64	191	PKP	PKPdf	14 56 30.8 -2.6
QIZ				PP	PP	15 01 06.5 +1.5
QIZ				SS	SS	15 21 26.3 +1.9
QIZ				LZ		
	comp=E,270nm,16.3s					
WMQ	Urumqi	163.71	56	*e*PKPbc	PKPdf	14 56 38.8 +5.0
WMQ				pPKP	pPKPdf	14 56 49.5 +4.2
WMQ				PKPab	PKPab	14 57 26.8 +0.7
WMQ				PKS	PKSdf	15 00 10.5 +3.8
WMQ				PP	PP	15 01 20.3 +8.4
WMQ				SKS	SKSdf	15 03 38.0 +2.5
SONM	Songino Array	168.38	0	PKPab	PKPab	14 57 46.7 +0.2
	comp=E,0.9nm,0.9s,baz=337,slow=5.0,SNR=5.6					
KMI	Kunming	168.48	163	PKP	PKPdf	14 56 35.5 -2.9
KMI				PP	PP	15 01 38.5 +2.8
KMI				PPMZ		
	comp=E,78nm,3.6s					
KMI				LZ		
	comp=E,53nm,35.8s					
HHC	Hu-ho-hao-te	173.91	321	*e*PKP	PKPdf	14 56 40.5 0.0
HHC				sPKP		14 56 56.5
HHC				PP	PP	15 02 05.0 +1.9
HHC				SKKS		15 08 49.3
HHC				PPMZ		
	comp=E,110nm,5.7s					
HHC				LN		
	comp=E,410nm,12.8s					
HHC				LE		
	comp=E,270nm,14.3s					
HHC				LZ		
	comp=E,380nm,16.2s					
CD2	Chengdu	174.23	156	*e*PKP	PKPdf	14 56 40.8 0.0
LZH	Lanzhou	177.83	92	*e*PKP	PKPdf	14 56 40.5 -1.1
LZH				pPKP	pPKPdf	14 56 49.3 -3.8
LZH				sPKP		14 56 54.0

PGC 28 14:40:17.1±1.0, 51°23N×130°65W, h10km, ML2.9/6, Mw3.6, 4D, 202km Wsw of Bella Bella, Bc Queen Charlotte Islands Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	Barry Inlet	1.51	334	⇑Sn	Sn	14 41 00.3	-3.7
BBB	Bella Bella	1.84	58	⇓Pn	Pn	14 40 45.8	-3.0
BBB				⇓Sn	Sn	14 41 08.5	-3.6
MOBC	Moresby Island	2.08	338	⇑Sn	Sn	14 41 14.0	-4.1
PHC	Port Hardy	2.10	103	⇑Pn	Pn	14 40 49.9	-2.5
PHC				⇓Sn	Sn	14 41 14.5	-4.0
MAYB	Maynard	2.36	109	⇑Pn	Pn	14 40 54.0	-2.1
WOSB	Woss	2.81	111	⇓Pn	Pn	14 41 01.2	-1.0

*MDD **28** 14:45:23.4±3.3, 32°27N×7°71W, h0km, mb3.9/2, Error ellipse: s-maj=46.1km s-min=27.2km az=102.0, PRXIMO*
*INMG **28** 14:45:24.9±0.9, 32°27N×8°18W, h16km±8km, ML2.3, Error ellipse: s-maj=11.5km s-min=6.2km az=135.0*
*CSEM **28** 14:45:27.3±0.4, 32°55N×7°72W, h10km, mb3.9, Error ellipse: s-maj=13.7km s-min=7.4km az=95.0*
ISC 28 14:45:27.4±4.3, 32°6N±0°2×7°7W±0°1, h10km, n32, σ0s60/53, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	Mijas	4.67	30	S	Sn	14 47 33.0	+0.8
	6.8nm,0.7s,SNR=7.9						
EMIJ	Mijas	4.67	30	S	Sn	14 47 33.0	+0.8
	6.8nm,0.7s,SNR=7.9						
PBDV	Barranco-do-Ve	4.68	358	*e*Pn	Pn	14 46 38.3	+0.2
PBDV	Barranco-do-Ve	4.68	358	P	Pn	14 46 38.3	+0.2
PBDV	Barranco-do-Ve	4.68	358	P	Pn	14 46 38.3	+0.2
MORF	Marmelete	4.80	351	*e*Pn	Pn	14 46 39.5	-0.4
MORF				*e*Sn	Sn	14 47 35.5	-0.1
MORF				A	A	14 47 42.5	
	2.3nm,0.7s						
MORF	Marmelete	4.80	351	P	Pn	14 46 39.5	-0.4
MORF				S	Sn	14 47 35.5	-0.1
	2.3nm,0.7s						
MORF	Marmelete	4.80	351	P	Pn	14 46 39.5	-0.4
MORF				S	Sn	14 47 35.5	-0.1
	2.3nm,0.7s						
PVAQ	Vaqueiros	4.83	360	*e*Pn	Pn	14 46 40.0	-0.2
PVAQ				*e*Sn	Sn	14 47 37.0	+0.7
PVAQ				A	A	14 47 40.3	
	2.7nm,0.5s						
PVAQ	Vaqueiros	4.83	360	P	Pn	14 46 40.0	-0.2
PVAQ				S	Sn	14 47 37.0	+0.7
	2.7nm,0.5s						
PVAQ	Vaqueiros	4.83	360	P	Pn	14 46 40.0	-0.2
PVAQ				S	Sn	14 47 37.0	+0.7
	2.7nm,0.5s						
EGRO	El Granado	4.97	2	P	Pn	14 46 42.7	+0.6
	1.2nm,0.2s,SNR=7.9						
EGRO				S	Sn	14 47 40.8	+1.2
	2.0nm,0.3s,SNR=7.9						
EGRO	El Granado	4.97	2	P	Pn	14 46 42.7	+0.6
	1.2nm,0.2s,SNR=7.9						
EGRO				S	Sn	14 47 40.8	+1.2
	2.0nm,0.3s,SNR=7.9						
PCVE	Castro Verde	5.07	357	*e*Pn	Pn	14 46 43.5	0.0
PCVE				*e*Sn	Sn	14 47 42.2	+0.1
PCVE				A	A	14 47 49.0	
	0.2nm,0.5s						
PCVE	Castro Verde	5.07	357	P	Pn	14 46 43.5	0.0
PCVE				S	Sn	14 47 42.2	+0.1
	0.2nm,0.5s						
PCVE	Castro Verde	5.07	357	P	Pn	14 46 43.5	0.0
PCVE				S	Sn	14 47 42.2	+0.1
	0.2nm,0.5s						
EMIN	Mina Concepcio	5.26	9	P	Pn	14 46 45.5	-0.7
	1.1nm,0.2s,SNR=7.9						
EMIN				S	Sn	14 47 45.3	-1.6
	0.2nm,0.2s,SNR=6.0						
EMIN	Mina Concepcio	5.26	9	P	Pn	14 46 45.5	-0.7
	1.1nm,0.2s,SNR=7.9						
EMIN				S	Sn	14 47 45.3	-1.6
	0.2nm,0.2s,SNR=6.0						
MESJ	Messejana	5.29	355	*e*Pn	Pn	14 46 46.4	-0.1
MESJ				*e*Sn	Sn	14 47 47.4	0.0
MESJ	Messejana	5.29	355	P	Pn	14 46 46.4	-0.1
MESJ				S	Sn	14 47 47.4	0.0
MESJ	Messejana	5.29	355	P	Pn	14 46 46.4	-0.1
MESJ				S	Sn	14 47 47.4	0.0
PNCL	Nicolau / Gran	5.58	353	*e*Pn	Pn	14 46 50.5	0.0
PNCL				*e*Sn	Sn	14 47 54.4	-0.3
PNCL	Nicolau / Gran	5.58	353	*e*Pn	Pn	14 46 50.5	0.0
PNCL				*e*Sn	Sn	14 47 54.4	-0.3
PBAR	Barrancos	5.63	5	*e*Pn	Pn	14 46 51.5	+0.3
PBAR				*e*Sn	Sn	14 47 56.2	+0.3
PBAR				A	A	14 47 59.4	
	2.6nm,0.4s						
PBAR	Barrancos	5.63	5	P	Pn	14 46 51.5	+0.3
PBAR				S	Sn	14 47 56.2	+0.3
	2.6nm,0.4s						
PBAR	Barrancos	5.63	5	P	Pn	14 46 51.5	+0.3
PBAR				S	Sn	14 47 56.2	+0.3
	2.6nm,0.4s						
ECAB	El Cabril	5.81	18	S	Sn	14 47 58.4	-1.9
	1.4nm,0.4s,SNR=7.9						
EVO	Evora	5.96	358	*e*Sn	Sn	14 48 04.2	0.0
EVO	Evora	5.96	358	S	Sn	14 48 04.2	0.0
EVO	Evora	5.96	358	S	Sn	14 48 04.2	0.0
PMTG	Montargil	6.51	356	*e*Pn	Pn	14 47 03.4	+0.1
PMTG	Montargil	6.51	356	*e*Pn	Pn	14 47 03.4	+0.1

*IDC **28** 14:46:43.3±1.1, 38°30S×72°94W, h0km, mb3.9/5, mb1 3.9/7, mb1mx3.7/32, mbtmp3.7/7, ML3.4/2, MS4.0/2, Ms1 4.0/2, ms1mx3.3/22, Error ellipse: s-maj=33.2km s-min=15.7km az=75.0*
*ISCJB **28** 14:46:48.0±0.7, 38°41S±0°04×73°2W±0°2, h50km±7km, mb4.0/7, MS4.1/2, Error ellipse: s-maj=22.0km s-min=5.8km az=5.5*
*GUC **28** 14:46:48.3±0.3, 38°43S×73°19W, h47km±4km, ML4.1*
*NEIC **28** 14:46:51.6±1.9, 38°25S×72°58W, h58km±15km, mb4.2/2, Error ellipse: s-maj=27.3km s-min=9.8km az=88.0*
ISC 28 14:46:48.6±1.4, 38°38S±0°05×73°2W±0°1, h40km±13km, n21, σ1s28/24, mb4.0/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	Angol	0.68	33	*e*P	Pn	14 47 02.1	+0.3
AGCH				*e*S	Sn	14 47 12.4	+1.1
VLCH	Valdivia	1.42	182	*e*P	Pn	14 47 10.9	-1.0
VLCH				*e*S	Sn	14 47 28.5	-0.9
CCSP	San Pedro de C	1.54	2	*e*P	Pn	14 47 13.9	+0.4
CCSP				*e*S	Sn	14 47 33.4	+1.2
CCSP				IAML		14 47 43.8	
	comp=E,5μm,0.5s						
COCH	Cobquecura	2.27	8	*e*P	Pn	14 47 24.2	+0.6
COCH				*e*S	Sn	14 47 51.3	+1.0
LNCH	Linares	2.83	27	*e*P	Pn	14 47 31.7	+0.5
LNCH				*e*S	Sn	14 48 04.7	+0.7
PLCA	Paso Flores	3.10	140	Pn	Pn	14 47 35.1	+0.1
	comp=E,1.8nm,0.3s,baz=309,slow=9.5,SNR=36						
PLCA				Lg	Lg	14 48 20.1	
	comp=E,12nm,0.3s,baz=230,slow=19,SNR=5.7						
PLCA	Paso Flores	3.10	140	*e*P	Pn	14 47 37.1	+2.1
PLCA				Lg	Lg	14 48 20.1	
CFAA	Coronel Fontan	7.88	32	Pn	Pn	14 48 38.2	-2.5
	comp=E,0.2nm,0.3s,baz=198,slow=14,SNR=2.0						
CFAA				Sn	Sn	14 50 05.6	-3.0
	comp=E,0.2nm,0.3s,baz=216,slow=18,SNR=2.0						
TRQA	Tornquist	8.81	91	P	Pn	14 48 49.1	-4.3
LPAZ	La Paz	22.45	13	P	P	14 51 44.3	-0.6
	comp=E,1.1nm,0.8s,baz=177,slow=13,SNR=1.7						
SAML	Samuel	30.66	20	P	P	14 52 59.5	+0.3
	comp=E,3.0nm,1.1s						
PTGA	Pitinga	39.39	21	P	P	14 54 13.0	-1.5
	comp=E,2.0nm,0.6s,baz=223,slow=10,SNR=4.6						
SNAA	Sanae	47.91	156	*e*P	P	14 55 23.1	+0.6
	comp=E,4.6nm,0.9s						
QSPA	South Pole Qui	51.86	180	P	P	14 55 53.6	+1.0
	comp=E,3.6nm,1.0s,baz=114,slow=2.0,SNR=5.5						
TEIG	Tepich	60.00	344	LR	LR	15 16 06.7	
	comp=E,144nm,19.9s,baz=198,slow=29						
TXAR	Lajitas Array	73.15	332	P	P	14 58 16.2	+1.3
	comp=E,0.6nm,0.6s,baz=151,slow=8.5,SNR=7.6						
PFO	Pinyon Flats O	82.14	325	LR	LR	15 27 32.7	
	comp=E,75nm,18.6s,baz=144,slow=30						
TORD	Torodi Ar. Bea	86.55	70	P	P	14 59 27.0	-0.7
	comp=E,0.7nm,0.9s,baz=210,slow=5.2,SNR=2.8						
GERES	GERESS Array B	115.84	47	PKP	PKPdf	15 05 26.4	+0.1
	comp=E,0.3nm,0.6s,baz=222,slow=1.3,SNR=3.0						
ABKAR	Akbulak array	144.99	56	*e*PKPdf	PKPab	15 06 20.3	0.0
MKAR	Makanchi Array	160.13	57	PKPab	PKPab	15 07 22.7	-0.7
	comp=E,0.4nm,0.6s,baz=281,slow=2.9,SNR=3.6						

PGC 28 14:47:38.9±1.3, 51°24N×130°79W, h10km, ML3.0/7, Mw3.6, 8D, 209km Wsw of Bella Bella, Bc Queen Charlotte Islands Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	Barry Inlet	1.46	336	⇓Pn	Pn	14 48 03.6	-1.9
BNB				⇓Sn	Sn	14 48 21.1	-3.6
HOLB	Holberg	1.78	109	⇑Sn	Sn	14 48 29.9	-2.6
BBB	Bella Bella	1.91	59	⇑Pn	Pn	14 48 08.7	-2.8
BBB				⇓Sn	Sn	14 48 32.1	-3.5
MOBC	Moresby Island	2.04	340	⇑Sn	Sn	14 48 34.6	-4.3
PHC	Port Hardy	2.19	103	⇓Pn	Pn	14 48 12.8	-2.4
PHC				⇑Sn	Sn	14 48 37.8	-4.5
DIB	Dawson Inlet,	2.22	333	⇓Pn	Pn	14 48 14.1	-1.7
DIB				⇓Sn	Sn	14 48 38.9	-4.4
MAYB	Maynard	2.44	109	⇑Pn	Pn	14 48 17.7	-1.3
TLCB	Telegraph Cove	2.60	104	⇓Pn	Pn	14 48 20.2	-0.7
WOSB	Woss	2.89	110	⇓Pn	Pn	14 48 24.3	-0.8

*IDC **28** 14:52:31.6±0.5, 36°06S×73°48W, h0km, mb4.2/17, mb1 4.3/19, mb1mx4.2/35, mbtmp4.2/19, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.8/16, Error ellipse: s-maj=21.6km s-min=13.8km az=90.0*
*ISCJB **28** 14:52:33.0±1.4, 36°06S±0°06×73°70W±0°07, h21km±10km, mb4.3/21, Error ellipse: s-maj=10.9km s-min=7.4km az=139.6*
*GUC **28** 14:52:34.3±0.7, 36°10S×73°66W, h23km±4km, ML4.5*
*NEIC **28** 14:52:35.9±3.2, 36°04S×73°31W, h29km±22km, mb4.6/7, Error ellipse: s-maj=15.5km s-min=7.1km az=85.0*
ISC 28 14:52:32.5±2.1, 36°04S±0°05×73°54W±0°07, h8km±12km, n45, σ0s88/49, mb4.4/21, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.62	99	⇑*i*P	Pn	14 52 47.4	-0.1
COCH				*i* S	Sn	14 52 57.3	-0.3
CCSP	San Pedro de C	0.88	157	⇑*i*P	Pb	14 52 49.9	0.0
CCSP				*i* S	Sb	14 53 01.7	-0.1
CCSP				AML	AML	14 53 06.7	
	comp=N,33μm,0.4s						
LNCH	Linares	1.59	84	⇓*i*P	Pb	14 53 02.3	+0.2
LNCH				*i* S	Sg	14 53 24.4	+0.9
TALC	Talca	1.68	68	⇑*i*P	Pg	14 53 04.6	-0.1
TALC				*i* S	Sg	14 53 27.6	+1.1
NICH	Los Niches	2.15	62	*e*P	Pb	14 53 12.0	+0.3
NICH				*e*S	Sg	14 53 41.1	-0.6
FCH	Farellones	3.81	46	*e*P1	Pn	14 53 35.9	+4.2
PLCA	Paso Flores	5.24	154	Pn	Pn	14 53 52.1	+0.9
	comp=N,1.1nm,0.3s,baz=334,slow=11,SNR=16						
PLCA				Lg	Lg	14 55 12.2	
	comp=N,3.1nm,0.3s,baz=300,slow=15,SNR=4.2						
PLCA	Paso Flores	5.24	154	*e*P	Pn	14 53 52.5	+1.3
PLCA				Lg	Lg	14 55 12.2	
CFAA	Coronel Fontan	6.25	46	Pn	Pn	14 54 05.6	+0.6
	comp=N,0.5nm,0.3s,baz=220,slow=2.9,SNR=20						
CFAA				Sn	Sn	14 55 17.6	+1.0
	comp=N,1.2nm,0.3s,baz=274,slow=19,SNR=6.4						
CFAA				Lg	Lg	14 55 40.7	
	comp=N,0.5nm,0.3s,baz=216,slow=19,SNR=6.3						
CFAA				LR	LR	14 57 03.0	
	comp=N,86nm,20.1s,baz=230,slow=44						
LCO	Las Campanas	7.41	20	*e*Pn	Pn	14 54 19.4	-1.7
	comp=N,54nm,1.1s						
TRQA	Tornquist	9.46	106	*e*P	Pn	14 54 46.7	-2.4
	comp=N,16nm,0.8s						
LPAZ	La Paz	20.25	15	P	Pn	14 57 11.0	-0.1
	comp=N,4.4nm,0.7s,baz=194,slow=7.8,SNR=13						
LPAZ	La Paz	20.25	15	*e*P	Pn	14 57 10.4	-0.7
	comp=N,5.1nm,0.7s						
SIV	San Ignacio	22.85	32	P	P	14 57 36.0	-0.4
	comp=N,5.8nm,0.8s,baz=223,slow=12,SNR=17						
BDFB	Brasilia	30.51	55	P	P	14 58 46.3	0.0
	comp=N,3.1nm,0.8s,baz=194,slow=7.7,SNR=4.6						
PTGA	Pitinga	37.33	23	*e*P	P	14 59 44.2	-1.2
	comp=N,4.5nm,0.5s						
SDV	Santo Domingo	44.77	4	*e*P	P	15 00 46.6	-0.3
SNAA	Sanae	50.18	157	P	P	15 01 28.4	+0.2
	comp=N,3.0nm,1.0s,baz=269,slow=6.3,SNR=5.7						
SNAA				PcP	PcP	15 02 47.1	-0.3
	comp=N,0.6nm,0.5s,baz=259,slow=10,SNR=4.1						
SNAA	Sanae	50.18	157	*e*P	P	15 01 27.1	-1.1
SNAA				PcP	PcP	15 02 47.1	-0.3
QSPA	South Pole Qui	54.20	180	P	P	15 01 58.9	+0.6
	comp=N,5.7nm,0.8s,baz=151,slow=1.3,SNR=17						
QSPA	South Pole Qui	54.20	180	*e*P	P	15 01 58.7	+0.3
	comp=N,6.8nm,0.9s						
TEIG	Tepich	57.67	344	P	P	15 02 23.9	+0.5
	comp=N,8.4nm,0.9s,baz=224,slow=15,SNR=4.1						
VNDA	Vanda	61.86	192	P	P	15 02 51.8	+0.2
	comp=N,0.3nm,0.4s,baz=143,slow=5.7,SNR=6.2						
JCT	Junction City	70.62	336	*e*P	P	15 03 49.2	+0.8
	comp=N,7.8nm,0.8s						
TXAR	Lajitas Array	70.94	332	P	P	15 03 51.2	+0.8
	comp=N,2.3nm,0.6s,baz=153,slow=8.6,SNR=24						
TKL	Tuckaleechee C	71.97	351	P	P	15 03 55.7	-0.6
	comp=N,3.5nm,0.8s,baz=165,slow=9.7,SNR=2.8						
WVT	Waverly	73.02	348	*e*P	P	15 04 02.6	0.0
	comp=N,11nm,1.4s						
DBIC	Dimbokro	76.99	72	P	P	15 04 26.2	+0.1
	comp=N,3.9nm,1.0s,baz=213,slow=6.5,SNR=3.2						
ANMO	Albuquerque	77.00	333	P	P	15 04 27.2	+1.4
	comp=N,2.3nm,0.8s,baz=149,slow=6.0,SNR=6.7						
PFO	Pinyon Flats O	80.06	325	P	P	15 04 44.5	+1.8
	comp=N,1.8nm,0.8s,baz=155,slow=2.9,SNR=3.5						
SADO	Sadowa	80.59	356	P	P	15 04 44.8	-0.4
	comp=N,3.5nm,0.8s,baz=227,slow=5.6,SNR=3.2						
SHPR	Sheep Range	81.88	327	*e*P	P	15 04 54.2	+1.8
	comp=N,1.2nm,0.6s						
ECSD	EROS Data Cent	82.13	343	*e*P	P	15 04 53.4	+0.1
	comp=N,9.2nm,1.0s						
PDAR	Pinedale Array	85.04	334	P	P	15 05 09.6	+1.0
	comp=N,1.1nm,1.0s,baz=150,slow=6.3,SNR=4.8						
ELK	Elko	85.47	330	P	P	15 05 12.0	+1.2
	comp=N,0.7nm,0.5s,baz=144,slow=4.7,SNR=6.2						
TORD	Torodi Ar. Bea	86.05	71	P	P	15 05 13.8	-0.2
	comp=N,0.9nm,0.9s,baz=242,slow=3.8,SNR=4.2						
ULM	Lac du Bonnet	88.16	346	P	P	15 05 23.1	-0.2
	comp=N,2.6nm,0.9s,baz=157,slow=2.3,SNR=4.0						
WRA	Warramunga Arr	118.38	210	PKP	PKPdf	15 11 20.1	-1.0
	comp=N,0.5nm,0.8s,baz=156,slow=1.6,SNR=3.3						
SEY	Seymchan	141.15	328	PKhKP	PKPpre	15 11 58.8	
	comp=N,0.3nm,0.3s,baz=41,slow=19,SNR=3.9						
TIXI	Tiksi	142.46	349	*e*PKPpre	PKPpre	15 11 59.5	
ABKAR	Akbulak array	143.90	54	*e*PKPpre	PKPpre	15 12 05.4	
ASAJ	Asahikawa	151.38	298	PKPbc	PKPbc	15 12 26.5	0.0
	comp=N,3.8nm,0.9s,baz=53,slow=20,SNR=2.7						
ZALV	Zalesovo Beam	156.60	33	PKP	PKPdf	15 12 26.9	-0.6
	comp=N,0.9nm,0.6s,baz=298,slow=3.2,SNR=4.5						
ZALV				PKPab	PKPab	15 12 57.5	+1.0
	comp=N,0.5nm,0.3s,baz=297,slow=6.5,SNR=4.7						
MKAR	Makanchi Array	159.01	52	PKP	PKPdf	15 12 30.2	-0.5
	comp=N,0.5nm,0.8s,baz=258,slow=3.6,SNR=5.6						
MKAR				PKPab	PKPab	15 13 07.2	-0.1
	comp=N,0.4nm,0.7s,baz=310,slow=3.8,SNR=3.2						
SONM	Songino Array	168.21	0	PKPab	PKPab	15 13 48.2	+0.6
	comp=N,0.1nm,0.5s,baz=336,slow=1.7,SNR=3.8						

PGC 28 14:56:00.0±4.5, 51°28N×130°84W, h10km, ML3.2/9, Mw3.9, 11D, 211km Wsw of Bella Bella, Bc Queen Charlotte Islands Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	Barry Inlet	1.42	337	⇓Sn	Sn	14 56 41.5	-3.2
HOLB	Holberg	1.83	109	⇓Pn	Pn	14 56 28.6	-2.8
HOLB				⇓Sn	Sn	14 56 51.4	-3.3
BBB	Bella Bella	1.92	61	⇓Pn	Pn	14 56 30.0	-2.7
BBB				⇓Sn	Sn	14 56 52.6

baz=0.9
J22A Midwest 0.93 261 ⇑P Pg 14 56 57.2 -0.9
baz=0.9,SNR=235
J22A ⇑S Sg 14 57 09.7 -0.4
baz=0.9
I22A 9 Mile Ranch, 0.98 290 P Pg 14 56 58.2 -0.7
baz=1.0,SNR=419
H23A Clabaugh Cattl 1.01 352 ⇓P Pg 14 56 58.6 -0.8
baz=1.0,SNR=32
RSSD Black Hills 1.02 56 *e*Pg Pg 14 56 59.1 -0.5
RSSD *e*Sg Sg 14 57 12.0 -0.8
J25A Sunshine Ranch 1.04 99 ⇑P Pg 14 57 00.6 +0.5
baz=1.0,SNR=48
I25A Rochford 1.17 67 ⇑P Pg 14 57 02.1 -0.4
baz=1.2
I25A ⇑S Sb 14 57 20.0 +0.9
baz=1.2
H24A Dirks Ranch, A 1.27 22 ⇓P Pg 14 57 03.4 -1.2
baz=1.3
H22A Clearmont 1.32 322 ⇓P Pg 14 57 04.6 -0.7
baz=1.3,SNR=218
K22A Casper 1.32 227 ⇓P Pg 14 57 04.5 -1.1
baz=1.3,SNR=125
K22A ⇑S Sn 14 57 24.4 -0.2
baz=1.3
K22A Casper 1.32 227 *e*Pg Pg 14 57 04.1 -1.5
K25A Mack Ranch, Ha 1.37 134 ⇓P Pb 14 57 06.9 +0.2
baz=1.4,SNR=331
L23A Garrett 1.49 194 P Pn 14 57 07.5 -0.9
baz=1.5,SNR=181
L23A ⇓S Sn 14 57 28.9 +0.1
baz=1.5
I21A Big Trails, Te 1.53 280 ⇑P Pn 14 57 07.5 -1.4
baz=1.5,SNR=431
I21A ⇓S Sg 14 57 28.6 -0.6
baz=1.5
L24A Wheatland 1.54 172 P Pn 14 57 08.7 -0.3
baz=1.5,SNR=22
L24A ⇓S Sn 14 57 31.0 +1.3
baz=1.5
H25A Fruitdale 1.57 47 ⇑P Pn 14 57 09.4 0.0
baz=1.6,SNR=43
H25A ⇑S Sg 14 57 31.2 +0.5
baz=1.6
J26A Sides Ranch, S 1.58 98 P Pn 14 57 09.7 +0.2
baz=1.6,SNR=31
J26A ⇑S Sg 14 57 31.9 +1.1
baz=1.6
J21A Lysite 1.64 263 P Pn 14 57 09.5 -0.9
baz=1.6,SNR=412
J21A ⇑S Sn 14 57 31.7 -0.6
baz=1.6
G23A Biddle 1.64 356 ⇓P Pn 14 57 10.0 -0.4
baz=1.6,SNR=156
L25A Engebretsen Ra 1.68 146 ⇑Pb Pg 14 57 12.4 0.0
baz=1.7,SNR=56
H21A Big Horn, Sher 1.69 310 P Pn 14 57 10.9 -0.2
baz=1.7,SNR=79
K26A Motz Farm, Whi 1.72 119 ⇓P Pb 14 57 12.6 -0.1
baz=1.7,SNR=22
I26A New Underwood 1.77 74 ⇓P Pn 14 57 12.5 +0.4
baz=1.8,SNR=11
L22A Ellis Ranch, M 1.78 211 ⇓P Pn 14 57 12.1 -0.2
baz=1.8,SNR=6.9
G22A Birney 1.82 335 ⇑P Pn 14 57 12.9 0.0
baz=1.8,SNR=60
G24A Alzada 1.85 18 ⇑P Pn 14 57 13.7 +0.5
baz=1.8,SNR=27
G25A Newell 2.08 38 ⇓P Pn 14 57 17.4 +1.1
baz=2.1,SNR=53
M24A Cheyenne 2.12 172 P Pb 14 57 18.5 -1.0
baz=2.1,SNR=38
I20A Worland 2.15 281 ⇓P Pn 14 57 17.7 +0.4
baz=2.1,SNR=201
F23A Volborg 2.16 356 ⇑P Pn 14 57 17.1 -0.4
baz=2.2,SNR=22
G21A Lodge Grass 2.19 320 ⇓P Pn 14 57 17.9 0.0
baz=2.2,SNR=69
H20A Greybull 2.21 296 ⇓P Pn 14 57 18.0 -0.2
baz=2.2,SNR=72
F22A Rosebud 2.34 342 ⇓P Pn 14 57 19.4 -0.5
baz=2.3,SNR=40
I27A Quinn 2.34 77 ⇓P Pn 14 57 19.9 -0.1
baz=2.3,SNR=22
K27A Flueckinger Fa 2.34 111 ⇓P Pb 14 57 21.9 -1.4
baz=2.3,SNR=38
G26A Maurine 2.55 46 P Pn 14 57 24.6 +1.8
baz=2.5,SNR=33
F21A Absaloka Mine, 2.64 330 ⇓P Pn 14 57 23.3 -0.7
baz=2.6,SNR=8.7
F25A Bowman 2.67 27 P Pn 14 57 25.8 +1.3
baz=2.7,SNR=17
G20A Bridger 2.71 309 ⇑P Pn 14 57 24.4 -0.7
baz=2.7,SNR=29
N23A Red Feather La 2.72 192 P Pn 14 57 26.8 +1.4
baz=2.7,SNR=31
E23A Ismay 2.93 359 P Pn 14 57 28.1 0.0
baz=2.9,SNR=11
F20A Billings 3.06 318 P Pn 14 57 29.1 -0.8
baz=3.1,SNR=30
E24A Baker 3.06 12 ⇑P Pn 14 57 30.2 +0.3
baz=3.1,SNR=10
LAO LASA Array 3.20 347 *e*Pn Pn 14 57 32.2 +0.4
E25A Miller Ranch, 3.21 23 ⇑P Pn 14 57 32.9 +1.1
baz=3.2,SNR=9.0
PDAR Pinedale Array 3.28 257 Pn Pn 14 57 33.2 +0.3
2.1nm,0.3s,baz=79,slow=17,SNR=41
PDAR Lg Lg 14 58 17.2
8.3nm,0.3s,baz=77,slow=33,SNR=10
BW06 Boulder Array 3.28 257 *e*Pn Pn 14 57 33.2 +0.2
BW06 Sn Sn 14 58 14.3 +1.5
RLMT Red Lodge 3.30 300 *e*Pn Pn 14 57 33.1 -0.1
H18A Shoshone NF, C 3.39 291 P Pn 14 57 34.6 0.0
baz=3.4,SNR=26
F19A Roth Farm, Mol 3.51 312 P Pn 14 57 36.0 0.0
baz=3.5,SNR=89
OGNE Ogallala 3.53 137 *e*Pn Pn 14 57 37.5 +1.3
OGNE *e*Pg Pg 14 57 45.5 -2.2
OGNE *e*Sg Sg 14 58 34.7 +1.3
D23A Lindsay 3.61 0 ⇓P Pn 14 57 37.8 +0.4
baz=3.6,SNR=18
ISCO Idaho Springs 3.77 185 ⇓P Pn 14 57 41.3 +1.4
baz=3.8,SNR=7.2
ISCO Idaho Springs 3.77 185 *e*Pn Pn 14 57 41.0 +1.1
GCMT Greycliff 3.88 307 *e*Pn Pn 14 57 41.0 -0.1
H17A Grant Village 3.96 284 *e*Pn Pn 14 57 43.9 +1.5
YNR Norris Junctio 4.10 288 Pg Pb 14 57 53.5 +0.2
O20A White River Ci 4.11 214 *e*Pn Pn 14 57 44.3 -0.1
P25A Willow Gulch B 4.12 169 ⇑P Pn 14 57 45.6 +1.0
baz=4.1,SNR=7.2
YFT Old Faithful 4.15 284 *e*Pg Pb 14 57 55.7 +1.5
C23A Lambert 4.24 0 ⇓P Pn 14 57 46.6 +0.6
baz=4.2,SNR=20
P26A Davis Ranch, A 4.24 160 ⇑P Pn 14 57 47.1 +0.9
baz=4.2,SNR=22
YMR Madison River 4.29 287 Pn Pn 14 57 47.7 +0.9
AHID Auburn Hatcher 4.38 262 Pn Pn 14 57 49.0 +0.9
AHID *e*Pg Pb 14 58 00.5 +2.4
P27A Ficken Ranch, 4.47 153 ⇑P Pn 14 57 49.9 +0.7
baz=4.5,SNR=8.6
QLMT Earthquake Lak 4.64 288 *e*Pn Pn 14 57 53.5 +1.8
QLMT *e*Pg Pb 14 58 03.6 +1.0
Q25A Bedland, Calha 4.70 171 ⇑P Pn 14 57 53.0 +0.4
baz=4.7,SNR=11
Q26A Hugo 4.81 164 ⇓P Pn 14 57 54.7 +0.7
baz=4.8,SNR=12
KSCO Kaye Shedlock' 4.95 156 *e*Pn Pn 14 57 55.5 -0.4
KSCO *e*Pg Pg 14 58 14.0 -1.0
KSCO *e*Sg Sg 14 59 16.7 -2.5
C19A Slack Wire Ran 4.96 329 ⇑P Pn 14 57 55.8 -0.2
baz=5.0,SNR=14
TCUT Toone Canyon 5.20 244 *e*Pn Pn 14 58 01.2 +1.7
27nm,0.5s
R26A Arlington 5.43 165 P Pn 14 58 03.0 +0.6
baz=5.4,SNR=31
R25A Fountain Ranch 5.46 172 ⇑P Pn 14 58 03.4 +0.5
baz=5.5
EGMT Eagleton 5.47 326 *e*Pn Pn 14 58 01.3 -1.7
19nm,0.8s
DAU Daniels Canyon 5.49 237 *e*Pn Pn 14 58 04.2 +0.7
0.4nm,0.4s
LRM Limekiln Ridge 5.63 296 *e*Pn Pn 14 58 06.1 +0.8
34nm,0.6s
MCMT McKenzie Canyo 5.63 286 Pn Pn 14 58 06.7 +1.3
1.5nm,0.6s
HRY Holter Researc 5.64 306 *e*Pn Pn 14 58 03.9 -1.4
11nm,0.5s
R28A Tribune 5.82 153 ⇓P Pn 14 58 08.2 +0.4
baz=5.8,SNR=6.8
SRU San Rafael Swe 5.98 224 *e*Pn Pn 14 58 09.9 -0.2
7.2nm,0.5s
PV01 Paradox Valley 5.99 206 *e*Pn Pn 14 58 11.8 +1.5
547nm,0.7s
S26A Kim 6.08 167 ⇑P Pn 14 58 11.9 +0.5
baz=6.1,SNR=8.2
TMUT Trail Mountain 6.20 229 *e*Pn Pn 14 58 13.5 +0.2
16nm,0.9s
CHMT Chamberlain Mo 6.59 303 *e*Pn Pn 14 58 18.2 -0.2
0.9nm,0.4s
DUG Dugway, Tooele 6.59 242 *e*Pn Pn 14 58 18.9 +0.4
2.9nm,0.7s
HLID Hailey 6.68 273 *e*Pn Pn 14 58 20.8 +1.1
3.7nm,0.8s
ELK Elko 7.96 253 Pn Pn 14 58 36.6 -0.7
0.1nm,0.3s,baz=90,slow=20,SNR=3.1
I10CA LAC DU BONNET 9.14 40 *i* 15 52 00.0
baz=220,slow=323,SNR=0.9
ULM Lac du Bonnet 9.24 40 Pn Pn 14 58 50.9 -3.8
0.2nm,0.3s,baz=226,slow=11,SNR=2.9
YKA Yellowknife Ar 19.74 347 P P 15 01 11.2 0.0
0.0nm,0.3s,baz=159,slow=11,SNR=3.7

GUC 28 15:14:00.3±0.5, 36.°15S×73.°59W, h16km±4km, ML3.5, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.65	88	⇓*e*P		Pg	15 14 13.0	0.0
COCH				*e*S		Sb	15 14 23.0	+1.1
CCSP	San Pedro de C	0.79	151	*e*P		Pg	15 14 15.9	+0.2
CCSP				*e*S		Sn	15 14 27.4	-0.9
CCSP				IAML			15 14 31.1	
comp=E,4μm,0.5s								
LNCH	Linares	1.64	80	*e*P		Pb	15 14 29.7	-0.4
LNCH				*e*S		Sg	15 14 52.0	-1.1
TALC	Talca	1.76	65	⇑*e*P		Pb	15 14 31.5	-0.6
TALC				*e*S		Sg	15 14 55.7	-1.2

IDC 28 15:36:18.6±1.7, 15.°51S×173.°54W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/29, mbtmp4.0/4, Error ellipse: s-maj=57.6km s-min=29.7km az=121.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	24.12	198	P		P	15 41 36.0	-0.2
2.1nm,0.4s,baz=37,slow=14,SNR=3.5								
H11S2	WAKE ISLAND Hy	38.98	329	T		T	16 24 17.2	
baz=146,slow=76,SNR=7.6								
H11S3	WAKE ISLAND Hy	39.00	329	T		T	16 24 17.2	
baz=146,slow=76,SNR=8.2								
H11S1	WAKE ISLAND Hy	39.00	329	T		T	16 24 17.7	
baz=146,slow=76,SNR=5.2								
H11N3	WAKE ISLAND Hy	39.94	331	T		T	16 25 24.6	
baz=146,slow=75,SNR=5.2								
H11N1	WAKE ISLAND Hy	39.94	331	T		T	16 25 26.3	
baz=146,slow=75,SNR=5.3								
H11N2	WAKE ISLAND Hy	39.95	331	T		T	16 25 26.0	
baz=146,slow=75,SNR=5.3								
WRA	Warramunga Arr	49.69	257	P		P	15 45 12.6	-0.2
0.4nm,0.5s,baz=91,slow=6.8,SNR=17								
ASAR	Alice Springs	49.95	252	P		P	15 45 14.9	+0.1
2.0nm,0.6s,baz=86,slow=7.8,SNR=44								
ILAR	Eielson Array	82.57	11	P		P	15 48 43.4	+0.3
1.3nm,1.2s,baz=224,slow=7.6,SNR=3.8								
BRTR	Keskin Array B	146.15	321	PKPbc		PKPdf	15 56 00.0	-0.4
0.7nm,0.8s,baz=42,slow=2.3,SNR=3.8								

*IDC **28** 15:46:05.3±0.8, 11.°85N×86.°26W, h0km, mb4.0/8, mb1 4.1/11, mb1mx3.9/24, mbtmp4.0/11, ML3.6/3, MS4.0/23, Ms1 4.0/23, ms1mx3.9/40, Error ellipse: s-maj=33.1km s-min=11.1km az=53.0*
*NEIC **28** 15:46:08.0±0.5, 11.°91N×86.°24W, h10km, mb4.6/16, Error ellipse: s-maj=22.0km s-min=7.9km az=58.0*
NEIC Felt at Managua.
*CASC **28** 15:46:07.1±3.0, 11.°48N×86.°60W, h0km±11km, MD4.3*
ISC 28 15:46:08.7±0.5, 11.°80N±0.°08×86.°3W±0.°1, h10km, n173, σ1§48/148, mb4.4/22, MS4.0/19, 50C-50D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.47	323	⇑*i*P		Pn	15 46 21.8	+0.2
HUEN		0.55	13	*e*P		Pn	15 46 27.2	+4.6
HUEN				*e*S		Sb	15 46 40.1	+12
CNGN	Cerro Negro	0.79	331	⇑*e*P		Pn	15 46 27.1	+1.0
CNGN				*e*S		Sn	15 46 42.1	+4.1
GB1A	Borinquen Arri	1.32	138	*i* P		Pn	15 46 31.1	-2.2
BUEV	Buena Vista	1.33	139	*i* P		Pn	15 46 30.9	-2.5
LAPC	Finca la Perla	1.34	140	*i* P		Pn	15 46 30.8	-2.6
GPS2	Hotel Rinc'‡n	1.40	138	*i* P		Pn	15 46 32.7	-1.7
GPS2				*i* S		Sg	15 46 58.0	+4.2
LIM1	Limonal	1.51	137	*i* P		Pn	15 46 33.6	-2.2
MESS	Mesas	1.52	134	*i* P		Pn	15 46 34.9	-1.1
COLC	Colonia	1.56	136	*i* P		Pn	15 46 35.9	-0.7
CUI	Cuipilapa	1.59	135	*i* P		Pn	15 46 35.6	-1.4
JTS	JuntasAbangare	2.00	139	Pn		Pn	15 46 41.4	-1.2
45nm,0.3s,baz=316,slow=18,SNR=161								
JTS				Lg		Lg	15 47 09.0	
59nm,0.3s,baz=315,slow=20,SNR=11								
JTS				LR		LR	15 47 18.0	
comp=Z,1μm,18.2s,baz=298,slow=36								
CNCH	Conchagua	2.09	315	*e*P		Pn	15 46 43.9	-0.1
JCR	Jicaral	2.27	149	*e*P		Pn	15 46 45.8	-0.5
JCR				*e*S		Sn	15 47 16.4	+2.0
BLLM	Bellamira	2.50	311	*e*P		Pn	15 46 49.5	0.0
VSM	San Miguel	2.51	310	*e*P		Pn	15 46 49.6	-0.3
CGA2	Cerro Gallo 2	2.53	134	*e*P		Pn	15 46 50.6	+0.6
CAHU	Cacacuatique	2.70	317	*e*P		Pn	15 46 53.1	+0.7
URSC	Urasca	3.16	128	*e*P		Pn	15 46 59.0	+0.3
LFRS	El Faro	3.24	304	*e*P		Pn	15 46 59.0	-0.8
BUS	Buena Vista	3.35	132	*e*P		Pn	15 47 01.4	-0.2
SBLS	San Blas	3.82	302	*e*P		Pn	15 47 07.3	-0.6
ACR	Cerro Adams	4.39	135	*e*P		Pn	15 47 17.6	+2.0
APG	El Apazote	5.15	309	Pn		Pn	15 47 22.6	-3.6
0.6nm,0.3s,baz=144,slow=18,SNR=5.2								
APG				Lg		Lg	15 48 49.4	
0.4nm,0.3s,baz=204,slow=20,SNR=1.5								
TEIG	Tepich	8.59	347	LR		LR	15 51 53.1	
comp=Z,1μm,19.9s,baz=134,slow=41								
TEIG	Tepich	8.59	347	Pn		Pn	15 47 59.8	-13
CMIG	Matias Romero	9.83	303	Pn		Pn	15 48 29.2	-1.1
0.7nm,0.3s,baz=114,slow=8.2,SNR=11								
CMIG				LR		LR	15 52 43.7	
comp=Z,843nm,18.7s,baz=133,slow=40								
ROSC	El Rosal	13.70	119	LR		LR	15 54 37.8	
comp=Z,716nm,20.0s,baz=358,slow=37								
OTAV	Otavalo	13.88	145	P		Pn	15 49 28.0	+1.9
SDV	Santo Domingo	15.68	99	*e*P		Pn	15 49 41.7	-8.5
035A	Encino	18.70	325	⇓P		Pn	15 50 31.8	+4.1
baz=19								
034A	Hebbronville	19.13	324	⇓P		Pn	15 50 35.5	+2.6
baz=19,SNR=6.3								
934A	Benavides	19.45	326	⇑P		Pn	15 50 38.4	+1.6
baz=20								
TIGA	Tifton	19.70	7	P		Pn	15 50 42.4	+2.7
108nm,1.4s								
834A	Tilden	19.88	327	⇓P		Pn	15 50 42.7	+0.9
baz=20								
933A	Laredo	19.89	324	⇑P		Pn	15 50 42.6	+0.6
baz=20								
HKT	Hockley	20.11	335	P		P	15 50 42.4	-0.3
21nm,1.1s								
636A	Smothers Creek	20.24	332	⇓P		Pn	15 50 46.8	+0.7
baz=20								
ATAH	Atahualpa	20.39	157	P		P	15 50 44.9	-1.4
3.6nm,0.6s,baz=0.0,slow=6.1,SNR=2.9								
ATAH				LR		LR	15 57 56.0	
comp=Z,833nm,18.8s,baz=311,slow=35								
537A	Green Hill Far	20.43	334	⇑P		Pn	15 50 51.3	+3.0
baz=20								
635A	Leesville	20.50	330	⇓P		Pn	15 50 50.5	+1.3
baz=20								
832A	Faith Ranch, C	20.80	324	⇑P		Pn	15 50 52.9	+0.2
baz=21,SNR=8.1								
732A	Laxson Ranch,	21.13	325	⇑P		P	15 50 56.3	+2.5
baz=21,SNR=11								
534A	Blanco	21.37	330	⇑P		P	15 50 58.5	+2.0
baz=21,SNR=7.5								
632A	Uvalde	21.63	327	⇑P		P	15 51 01.5	+2.3
baz=22,SNR=6.7								
533A	Kerrville	21.69	329	⇓P		P	15 51 01.6	+1.7
baz=22								
336A	Riesel	21.79	335	⇓P		P	15 51 04.6	+3.7
baz=22								
335A	Moody	21.94	334	⇑P		P	15 51 05.2	+2.7
baz=22								
631A	Perdido Creek	21.99	325	⇓P		P	15 51 05.6	+2.5
baz=22,SNR=12								
532A	Rocksprings	22.18	327	⇓P		P	15 51 06.5	+1.3
baz=22								
433A	Art	22.27	330	⇓P		P	15 51 07.4	+1.3
baz=22,SNR=8.4								
334A	Lometa	22.35	332	⇓P		P	15 51 08.5	+1.6
baz=22,SNR=7.1								
JCT	Junction City	22.41	328	⇓P		P	15 51 08.8	+1.2
baz=22								
JCT	Junction City	22.41	328	*e*P		P	15 51 08.4	+0.8
5.4nm,0.6s								
531A	Rocksprings	22.55	326	⇓P		P	15 51 09.7	+0.5
baz=23								
333A	Richland Sprin	22.69	331	⇓P		P	15 51 11.7	+1.1
baz=23,SNR=12								
432A	Menard	22.72	329	⇓P		P	15 51 11.5	+0.5
baz=23								
234A	Clairette	22.87	333	⇓P		P	15 51 13.8	+1.3
baz=23,SNR=5.1								
530A	J-C Ranch, Com	22.98	325	⇓P		P	15 51 14.6	+0.9
baz=23,SNR=15								
431A	Sonora	22.99	327	⇑P		P	15 51 14.7	+0.9
baz=23,SNR=9.8								
135A	Vickery Place,	23.04	335	⇓P		P	15 51 16.6	+2.3
baz=23								
332A	Millersview	23.10	330	⇑P		P	15 51 15.5	+0.6
baz=23,SNR=14								
233A	Rising Star	23.23	332	⇓P		P	15 51 16.9	+0.8
baz=23,SNR=5.5								
331A	San Angelo	23.39	328	⇑P		P	15 51 17.8	-0.1
baz=23,SNR=17								
430A	Baggett Ranch,	23.41	326	⇑P		P	15 51 18.0	-0.1
baz=23								
232A	Coleman	23.47	330	⇓P		P	15 51 18.7	+0.1
baz=24,SNR=11								
529A	Stev Forest Ra	23.47	323	⇑P		P	15 51 18.8	+0.1
baz=24								
MIAR	Mount Ida	23.59	345	*e*P		P	15 51 17.9	-1.8
429A	Davenport Ranc	23.65	325	⇑P		P	15 51 20.6	+0.1
baz=24,SNR=14								
Z35A	Perchaven, San	23.66	337	⇓P		P	15 51 22.8	+2.4
baz=24								
133A	Hamilton Ranch	23.73	333	⇓P		P	15 51 21.9	+0.8
baz=24								
TXAR	Lajitas Array	23.79	320	P		P	15 51 21.6	-0.3
16nm,0.7s,baz=137,slow=9.5,SNR=107								
TXAR				LR		LR	16 01 39.6	
comp=Z,104nm,18.8s,baz=0.0,slow=39								
330A	Mertzon	23.86	327	⇑P		P	15 51 21.9	-0.5
baz=24								
TKL	Tuckaleechee C	23.86	5	P		P	15 51 22.9	+0.6
5.2nm,0.8s,baz=188,slow=15,SNR=2.7								
TKL				LR		LR	16 01 20.4	
comp=Z,370nm,18.7s,baz=142,slow=38								
TKL	Tuckaleechee C	23.86	5	*e*P		P	15 51 19.6	-2.7
ABTX	Abilene, Hawle	24.08	331	⇓P		P	15 51 24.4	0.0
baz=24,SNR=5.7								
ABTX	Abilene, Hawle	24.08	331	*e*P		P	15 51 23.7	-0.8
19nm,0.9s								
230A	Sterling City	24.20	328	⇑P		P	15 51 25.7	0.0
baz=24								
Z33A	Whitaker Ranch	24.24	334	⇑P		P	15 51 26.5	+0.6
baz=24,SNR=5.3								
329A	Wagon Wheel Ra	24.36	326	⇑P		P	15 51 26.9	-0.2
baz=24,SNR=15								
Z32A	Haskell	24.57	333	⇓P		P	15 51 29.7	+0.7
baz=25,SNR=12								
229A	Bryant Ranch,	24.63	327	⇑P		P	15 51 29.6	0.0
baz=25								
130A	Snyder	24.69	329	⇓P		P	15 51 30.4	+0.3
baz=25								
Y33A	Hilltop Ranch,	24.80	335	⇑P		P	15 51 31.3	+0.3
baz=25								
Z31A	Sharp Cattle R	24.89	332	⇓P		P	15 51 32.8	+1.0
baz=25,SNR=5.9								
X34A	Smith Ranch, M	25.00	337	⇑P		P	15 51 35.9	+3.0
baz=25								
228A	UT Block 9, Go	25.17	326	⇑P		P	15 51 34.4	-0.1
baz=25,SNR=7.8								
129A	Stewart Farms,	25.18	328	⇓P		P	15 51 34.3	-0.2
baz=25								
X33A	Lawton	25.21	336	⇓P		P	15 51 35.5	+0.7
baz=25,SNR=6.2								
Z30A	Sanderson Ranc	25.33	330	⇑P		P	15 51 35.5	-0.4
baz=25								
Y31A	Rekieta Farm,	25.48	332	⇑P		P	15 51 37.7	+0.5
baz=26								
WMOK	Wichita Mounta	25.50	336	*e*P		P	15 51 38.3	+1.0
23nm,1.1s								
128A	Castleberry Fa	25.50	327	⇑P		P	15 51 37.0	-0.5
baz=26,SNR=10								
W34A	Bridge Creek,	25.55	338	*e*P		P	15 51 36.3	-1.4
13nm,0.6s								
Z29A	Hungry Hill Ra	25.60	329	⇓P		P	15 51 37.9	-0.4
baz=26,SNR=8.6								
Y30A	Stafford Cattl	25.70	331	⇓P		P	15 51 39.6	+0.3
baz=26								
X31A	McDonald Ranch	25.91	333	⇑P		P	15 51 41.9	+0.8
baz=26								
Z28A	Tucker Farm, M	25.97	328	⇓P		P	15 51 41.3	-0.4
baz=26,SNR=5.9								
V34A	Guthrie	25.99	339	P		P	15 51 39.6	-2.1
9.7nm,0.6s								
X30A	Coker Ranch, T	26.16	332	⇓P		P	15 51 43.8	+0.4
baz=26								
V33A	Lossen Ranch,	26.26	338	⇑P		P	15 51 46.7	+2.5
baz=26								
V32A	Arapaho	26.46	336	⇑P		P	15 51 48.4	+2.3
baz=26								
U34A	Anderson Ranch	26.54	339	⇓P		P	15 51 50.8	+4.1
baz=27								
X29A	Tulia	26.55	331	⇑P		P	15 51 47.0	0.0
baz=27								
MSTX	Muleshoe	26.70	328	⇑P		P	15 51 48.3	-0.1
baz=27,SNR=6.9								
MSTX	Muleshoe	26.70	328	*e*P		P	15 51 47.2	-1.1
21nm,1.0s								
X28A	Dimmitt	26.85	330	⇓P		P	15 51 49.7	0.0
baz=27								
AMTX	Amarillo	26.89	331	*e*P		P	15 51 50.8	+0.7
9.3nm,0.6s								
121A	Cookes Peak, D	28.55	320	⇑P		P	15 52 05.9	+0.9
baz=29								
V26A	Tequesquite Ra	28.65	329	⇓P		P	15 52 06.0	+0.2
baz=29								
U27A	Thompson Grove	28.68	331	⇑P		P	15 52 06.5	+0.4
baz=29								
PTGA	Pitinga	28.97	114	LR		LR	16 04 40.5	
comp=Z,357nm,18.1s,baz=1.0,slow=38								
W24A	Lazy 6 Ranch,	29.04	326	⇓P		P	15 52 09.3	-0.1
baz=29								
U26A	Atchley Ranch,	29.10	330	⇑P		P	15 52 10.1	+0.1
baz=29								
V25A	Rancho No Teng	29.10	328	⇓P		P	15 52 09.7	-0.2
baz=29								
V24A	Rampart Ranch,	29.36	327	⇓P		P	15 52 12.1	-0.1
baz=29								
ANMO	Albuquerque	29.43	325	P		P	15 52 11.4	-1.4
3.6nm,0.9s,baz=155,slow=8.1,SNR=11								
ANMO				LR		LR	16 06 02.6	
comp=Z,162nm,18.4s,baz=211,slow=41								
U25A	Circle Dot Ran	29.43	329	⇑P		P	15 52 13.3	+0.5
baz=30								
R28A	Tribune	29.84	335	⇓P		P	15 52 17.5	+1.2
baz=30								
V23A	Ortiz Mt. (NFS	29.86	326	⇓P		P	15 52 16.5	-0.2
baz=30								
S26A	Kim	29.96	332	⇑P		P	15 52 17.9	+0.4
baz=30								
T25A	Trinidad	30.02	330	⇑P		P	15 52 18.2	+0.1
baz=30								
U23A	El Rito	30.30	327	⇑P		P	15 52 20.8	+0.2
baz=30,SNR=12								
V22A	San Miguel Ran	30.38	326	⇓P		P	15 52 21.4	+0.1
baz=30								
Q28A	Sharon Springs	30.46	336	⇓P		P	15 52 23.7	+2.0
baz=30								
U22A	Llaves	30.69	326	⇑P		P	15 52 24.6	+0.5
baz=31								
T23A	Casias Ranch,	30.75	328	⇑P		P	15 52 25.3	+0.7

baz=31
S24A Houchin Ranch, 30.80 330 ⇑P P 15 52 25.4 +0.3
baz=31
SDCO Great Sand Dun 31.03 330 ⇓P P 15 52 27.2 +0.2
baz=31
X18A Snowflake 31.22 320 ⇑P P 15 52 28.7 0.0
baz=31
W18A Petrified Fore 31.48 321 ⇓P P 15 52 31.8 +0.9
baz=32
R23A Moffat 31.54 330 ⇓P P 15 52 32.0 +0.5
baz=32
S22A 4UR Ranch, Cre 31.70 328 ⇓P P 15 52 34.0 +1.0
baz=32,SNR=5.8
X16A Lo Mia Camp, P 32.10 319 ⇑P P 15 52 37.3 +0.8
baz=32,SNR=5.7
MVCO Mesa Verde 32.20 326 ⇓P P 15 52 37.1 -0.3
baz=32
MVCO Mesa Verde 32.20 326 *eP* P 15 52 36.8 -0.6
4.6nm,0.9s
P23A Jefferson 32.47 331 ⇑P P 15 52 40.8 +0.9
baz=32
WUAZ Wupatki 32.75 320 ⇑P P 15 52 43.2 +1.1
baz=33
WUAZ Wupatki 32.75 320 *eP* P 15 52 41.2 -0.8
12nm,1.1s
P22A Eagle 33.09 330 ⇓P P 15 52 45.8 +0.8
baz=33
LPAZ La Paz 33.20 147 LR LR 16 07 05.2
comp=Z,272nm,18.2s,baz=318,slow=38
SADO Sadowa 33.42 9 P P 15 52 46.7 -0.9
2.1nm,0.7s,baz=174,slow=16,SNR=2.4
O22A Kremmling 33.43 331 ⇑P P 15 52 48.4 +0.3
baz=33
U15A North Rim 33.90 321 ⇑P P 15 52 52.9 +0.7
baz=34
N20A Spence Gulch, 34.77 330 ⇓P P 15 53 00.5 +0.8
baz=35
DAU Daniels Canyon 36.00 327 *eP* P 15 53 10.3 0.0
8.6nm,1.1s
J20A Shoshoni 36.66 333 ⇑P P 15 53 17.6 +1.9
baz=37
DUG Dugway, Tooele 36.70 325 ⇑P P 15 53 16.9 +0.8
baz=37
TPNV Topopah Spring 36.74 318 ⇓P P 15 53 18.1 +1.5
baz=37
PDAR Pinedale Array 36.88 331 P P 15 53 16.1 -1.6
0.8nm,0.5s,baz=128,slow=10,SNR=8.8
PDAR LR LR 16 11 05.6
comp=Z,145nm,19.1s,baz=134,slow=41
AGMN Agassiz Nation 37.25 349 P P 15 53 17.8 -2.7
6.7nm,0.8s
ULM Lac du Bonnet 39.13 350 P P 15 53 33.4 -2.9
2.0nm,0.4s,baz=176,slow=10.0,SNR=7.0
ULM LR LR 16 12 59.7
comp=Z,158nm,19.3s,baz=174,slow=41
MCMT McKenzie Canyo 40.00 330 *eP* P 15 53 44.0 +0.1
1.3nm,0.7s
SCHQ Schefferville 45.58 16 P P 15 54 26.6 -2.3
1.4nm,0.4s,baz=220,slow=5.8,SNR=11
SCHQ LR LR 16 14 11.3
comp=Z,348nm,19.0s,baz=228,slow=37
BDFB Brasilia 46.69 125 LR LR 16 15 17.5
comp=Z,208nm,19.4s,baz=281,slow=38
YKA Yellowknife Ar 54.53 344 P P 15 55 33.7 -2.9
0.2nm,0.5s,baz=144,slow=7.3,SNR=7.8
TRQA Tornquist 54.58 156 *eP* P 15 55 38.1 +0.7
3.7nm,0.6s
RKT Rikitea 58.94 234 *eT* T 16 59 16.0
1.6nm,0.3s
ILAR Eielson Array 67.06 336 P P 15 56 59.2 -2.8
0.3nm,0.6s,baz=136,slow=4.8,SNR=14
ILAR LR LR 16 29 49.3
comp=Z,162nm,18.8s,baz=140,slow=39
PPT Papeete 68.96 246 LR LR 16 19 33.4
comp=Z,96nm,18.8s,baz=74,slow=29
PPT2 Papeete2 68.97 246 *e*LR LR 16 18 25.7
105nm,23.2s
TBI Tubuai 70.96 240 *e*LR LR 16 19 25.7
88nm,24.8s
NOA NORSAR Array B 83.38 29 LR LR 16 32 46.3
comp=Z,52nm,20.5s,baz=260,slow=34
ARCES ARCESS Array B 86.43 19 LR LR 16 37 34.5
comp=Z,82nm,18.5s,baz=357,slow=36
GERES GERESS Array B 87.69 41 LR LR 16 35 38.4
comp=Z,145nm,18.5s,baz=269,slow=34
KEST Kesra 87.72 54 LR LR 16 37 22.3
comp=Z,14nm,18.2s,baz=262,slow=35
FINES FINESS Array B 90.05 26 LR LR 16 37 34.5
comp=Z,95nm,19.3s,baz=259,slow=34
PETK Petropavlovsk- 95.54 327 LR LR 16 46 02.8
comp=Z,48nm,18.7s,baz=359,slow=38
AKASG Malin Array Be 96.40 35 LR LR 16 40 29.1
comp=Z,94nm,20.3s,baz=260,slow=34
ASAR Alice Springs 140.06 247 PKhKP PKPpre 16 05 27.8
0.4nm,0.7s,baz=115,slow=3.7,SNR=6.2
ASAR PKP **PKPdf** 16 05 35.9 -2.5
1.2nm,0.8s,baz=89,slow=2.1,SNR=11
WRA Warramunga Arr 140.16 253 PKhKP PKPpre 16 05 29.6
1.1nm,1.0s,baz=92,slow=2.7,SNR=4.2
WRA PKP **PKPdf** 16 05 36.7 -1.9
1.7nm,0.8s,baz=92,slow=2.5,SNR=19
CMAR Chiang Mai Arr 149.49 350 PKPbc **PKPdf** 16 05 57.1 +2.4
0.9nm,1.1s,baz=305,slow=2.9,SNR=5.4
NWAO Narrogin (SRO) 149.87 222 PKPbc **PKPdf** 16 05 57.4 +2.4
7.2nm,0.9s,baz=46,slow=4.6,SNR=3.9

GUC 28 15:53:21.1±0.5,35°.47S×73°.36W,h32km±5km,ML3.6,2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.81**	**145**	*eP*		Pn	15 53 35.5	-0.8
COCH				*eS*		Sn	15 53 46.5	-0.7
CCSP	**San Pedro de C**	**1.39**	**172**	*eS*		Sn	15 54 01.9	+0.3
CCSP				IAML			15 54 11.7	
comp=E,3μm,0.3s								
TALC	**Talca**	**1.41**	**88**	*eP*		Pn	15 53 44.0	-0.5
TALC				*eS*		Sn	15 54 02.0	0.0
LNCH	**Linares**	**1.48**	**105**	⇑*eP*		Pn	15 53 45.9	+0.4
LNCH				*eS*		Sn	15 54 04.3	+0.6
NICH	**Los Niches**	**1.80**	**76**	⇑*eP*		Pn	15 53 50.9	+1.0
NICH				*eS*		Sn	15 54 13.6	+1.9
CLCH	**Cerro Calan**	**3.11**	**49**	*eP*9		Pn	15 54 08.7	+0.6
CLCH				*eS*		Sn	15 54 45.1	+0.8
ROCH	**El Roble**	**3.16**	**39**	*eP*		Pn	15 54 09.8	+0.9
ROCH				*eS*		Sn	15 54 47.0	+1.3
PEL	**Peldehue**	**3.20**	**44**	*eP*		Pn	15 54 10.5	+1.3
FCH	**Farellones**	**3.31**	**51**	*eP*4		Pn	15 54 10.7	-0.5
FCH				*eS*		Sn	15 54 51.1	+1.4

PGC 28 15:57:03.0±7.7,51°.39N×130°.73W,h10km,ML2.9/4, Mw3.5,4D,198km Wsw of Bella Bella, Bc Queen Charlotte Islands Region,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**1.81**	**63**	⇓Pn		Pn	15 57 32.3	-1.9
BBB				⇑Sn		Sn	15 57 53.1	-4.0
PHC	**Port Hardy**	**2.19**	**107**	⇓Pn		Pn	15 57 37.9	-1.5
PHC				⇓Sn		Sn	15 58 02.9	-3.7
MAYB	**Maynard**	**2.46**	**112**	⇑Pn		Pn	15 57 41.8	-1.6
WOSB	**Woss**	**2.91**	**113**	⇓Pn		Pn	15 57 47.7	-1.9

*NEIC **28** 16:05:36.6,61°.69N×151°.34W,h5km,ML3.2(AEIC),After AEIC.*
*IDC **28** 16:05:37.7±1.5,61°.78N×151°.83W,h0km,mb3.6/3, mb1 3.7/5,mb1mx3.3/42,mbtmp3.5/5,ML2.9/2,Error ellipse: s-maj=26.6km s-min=18.2km az=136.0*
ISC 28 16:05:36.6±1.3,61°.70N±0°.02×151°.37W±0°.03,h0km±10km, n56,σ1§10/61,mb3.8/3,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.29**	**346**	P		**Pg**	**16 05 42.0**	**-0.2**
SKT				S		**Sg**	**16 05 46.5**	**+0.5**
STLK	**Strandline Lak**	**0.30**	**228**	P		**Pg**	**16 05 42.8**	**+0.6**
SUA	**Susitna One**	**0.38**	**127**	P		**Pg**	**16 05 43.6**	**-0.3**
SUA				S		**Sg**	**16 05 49.2**	**+0.5**
CKN	**Chakachatna No**	**0.61**	**220**	P		**Pg**	**16 05 48.8**	**+0.5**
SPBG	**Spurr Blockage**	**0.65**	**228**	P		**Pg**	**16 05 49.0**	**+0.1**
CKL	**Chakachamna La**	**0.68**	**223**	P		**Pg**	**16 05 49.7**	**+0.1**
FIB	**Fire Island**	**0.78**	**132**	P		**Pg**	**16 05 51.6**	**+0.1**
CUT	**Chulitna**	**0.88**	**36**	P		**Pg**	**16 05 52.5**	**-0.9**
RC01	**Rabbit Creek A**	**0.99**	**127**	P		**Pg**	**16 05 54.6**	**-1.0**
RC01				S		**Sg**	**16 06 08.2**	**-0.2**
PMR	**Palmer**	**1.08**	**95**	P		**Pg**	**16 05 55.5**	**-1.6**
PPLA	**Purkeypile**	**1.26**	**343**	*eP*		**Pg**	**16 06 00.3**	**-0.5**
PPLA				*eS*		**Sb**	**16 06 17.8**	**-0.3**
DFR	**Drift River**	**1.28**	**210**	P		**Pg**	**16 05 59.8**	**-1.3**
SLKM	**Skilak Lake**	**1.32**	**154**	P		**Pg**	**16 05 60.0**	**-1.8**
RDN	**Redoubt North**	**1.36**	**210**	P		**Pg**	**16 06 01.1**	**-1.6**
NCT	**North Crescent**	**1.37**	**214**	P		**Pg**	**16 06 01.4**	**-1.3**
RDWB	**Redoubt West**	**1.41**	**211**	P		**Pn**	**16 06 01.8**	**-1.7**
RSO	**Redoubt South**	**1.41**	**209**	*eP*		**Pn**	**16 06 01.9**	**-1.7**
CAST	**Castle Rocks**	**1.76**	**350**	P		**Pn**	**16 06 08.4**	**+0.1**
CAST				S		**Sb**	**16 06 31.9**	**-0.4**
TRF	**Thorofare Moun**	**1.83**	**15**	*eP*		**Pn**	**16 06 08.8**	**-0.6**
SEW	**Seward**	**1.85**	**149**	P		**Pn**	**16 06 08.8**	**-0.7**
KTH	**Kantishna Hill**	**1.88**	**6**	*eP*		**Pn**	**16 06 09.7**	**-0.2**
SCM	**Sheep Creek Mo**	**1.93**	**84**	P		**Pn**	**16 06 10.1**	**-0.6**
BRLK	**Bradley Lake**	**1.95**	**173**	P		**Pn**	**16 06 10.6**	**-0.3**
HOM	**Homer**	**2.05**	**184**	P		**Pn**	**16 06 12.3**	**+0.1**
HOM				S		**Sb**	**16 06 40.5**	**-0.1**
RND	**Reindeer**	**2.08**	**33**	P		**Pn**	**16 06 11.9**	**-0.7**
SVW2	**Sparrevohn**	**2.11**	**255**	P		**Pn**	**16 06 12.6**	**-0.5**
GLI	**Glacier Island**	**2.22**	**110**	P		**Pn**	**16 06 15.0**	**+0.4**
OPT	**Oil Point**	**2.24**	**205**	P		**Pn**	**16 06 16.1**	**+1.2**
DHY	**Denali Highway**	**2.32**	**52**	P		**Pn**	**16 06 15.6**	**-0.5**
MCK	**McKinley**	**2.33**	**28**	P		**Pn**	**16 06 16.0**	**-0.2**
JPK	**Jack Peak**	**2.39**	**104**	P		**Pn**	**16 06 17.1**	**+0.2**
TT01	**Tatalina**	**2.49**	**301**	P		**Pn**	**16 06 17.8**	**-0.4**
VLZ	**Valdez**	**2.49**	**101**	P		**Pn**	**16 06 18.8**	**+0.6**
AUP	**Augustine Pinn**	**2.55**	**204**	P		**Pn**	**16 06 20.2**	**+1.0**
KLU	**Klutina**	**2.62**	**92**	P		**Pn**	**16 06 20.4**	**+0.3**
BWN	**Browne**	**2.63**	**19**	P		**Pn**	**16 06 20.5**	**+0.2**
HIN	**Hinchinbrook I**	**2.70**	**117**	P		**Pn**	**16 06 21.1**	**-0.2**
DIV	**Divide**	**2.75**	**99**	*eP*		**Pn**	**16 06 22.1**	**+0.1**
PS11	**TAPS Pump St11**	**2.82**	**80**	P		**Pn**	**16 06 24.6**	**+1.8**
HARP	**HAARP**	**3.01**	**74**	P		**Pn**	**16 06 27.5**	**+2.0**
PAX	**Paxson**	**3.04**	**62**	P		**Pn**	**16 06 27.8**	**+1.9**
PS10	**TAPS Pump St10**	**3.12**	**54**	P		**Pn**	**16 06 29.4**	**+2.5**
WRH	**Wood River Hil**	**3.16**	**27**	P		**Pn**	**16 06 26.7**	**-0.8**
DDM	**Donnelly Dome**	**3.29**	**48**	P		**Pn**	**16 06 30.9**	**+1.5**
BMRM	**Bremner River**	**3.34**	**100**	*eP*		**Pn**	**16 06 32.0**	**+2.0**
COLA	**College**	**3.56**	**25**	*eP*		**Pn**	**16 06 32.1**	**-0.9**
ILAR	**Eielson Array**	**3.69**	**31**	Pn		**Pn**	**16 06 33.9**	**-0.9**
1.9nm,0.3s,baz=218,slow=15,SNR=83								
ILAR				Sn		**Sn**	**16 07 16.3**	**-2.7**
3.5nm,0.3s,baz=219,slow=25,SNR=19								
DOT	**Dot Lake**	**3.90**	**57**	*eP*		**Pn**	**16 06 39.1**	**+1.5**
EGAK	**Eagle**	**5.55**	**52**	*eP*		**Pn**	**16 07 01.8**	**+1.5**
6.7nm,0.6s								
COLD	**Coldfoot**	**5.58**	**5**	*eP*		**Pn**	**16 07 00.8**	**+0.2**
2.7nm,0.4s								
DAWY	**Dawson**	**5.97**	**61**	*eP*		Pn	16 07 09.4	+3.3
TNA	**Tin City**	**8.31**	**305**	*eP*		**Pn**	**16 07 38.9**	**+0.8**
YKA	**Yellowknife Ar**	**17.08**	**71**	P		**P**	**16 09 38.3**	**+0.1**
0.0nm,0.3s,baz=282,slow=1.2,SNR=4.8								
PDAR	**Pinedale Array**	**31.09**	**108**	P		P	16 11 59.9	+3.4
0.2nm,0.4s,baz=4.3,slow=3.6,SNR=2.7								
MKAR	**Makanchi Array**	**63.59**	**322**	P		**P**	**16 16 07.0**	**-1.6**
0.3nm,0.5s,baz=39,slow=6.6,SNR=5.0								
GEYT	**Alibeck**	**77.87**	**337**	P		**P**	**16 17 37.1**	**+1.4**
0.6nm,0.5s,baz=31,slow=6.7,SNR=2.6								

*ISCJB **28** 16:07:55.0±0.9,6°.79S±0°.09×146°.1E±0°.1,h170km, mb3.2/3,Error ellipse: s-maj=15.8km s-min=10.3km az=148.5*
*IDC **28** 16:07:55.0±3.5,6°.77S×146°.10E,h158km±42km,mb3.1/4, mb1 3.3/6,mb1mx3.1/25,mbtmp3.6/6,MS2.9/1,Ms1 2.9/1, ms1mx2.5/8,Error ellipse: s-maj=45.9km s-min=28.1km az=138.0*
ISC 28 16:07:55.8±1.1,6°.82S±0°.10×146°.1E±0°.1,h170km,n16, σ1§30/16,mb3.3/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.76**	**159**	P		**Pn**	**16 08 40.4**	**-0.7**
27nm,0.3s,baz=8.1,slow=7.1,SNR=122								
PMG				S		**Sn**	**16 09 16.2**	**0.0**
30nm,0.3s,baz=60,slow=20,SNR=9.5								
PMG	**Port Moresby**	**2.76**	**159**	P		**Pn**	**16 08 40.3**	**-0.7**
baz=5.6,SNR=72								
PMG				S		**Sn**	**16 09 16.4**	**+0.2**
baz=5.6,SNR=6.1								
COEN	**Coen**	**7.67**	**202**	P		**Pn**	**16 09 46.6**	**+1.9**
baz=11,SNR=18								
HNR	**Honiara**	**13.91**	**102**	LR		LR	16 15 44.4	
comp=Z,40nm,18.0s,baz=82,slow=34								
KDU	**Kakadu**	**14.68**	**246**	P		**Pn**	**16 11 13.4**	**-1.9**
baz=17,SNR=8.6								
MTN	**Manton Dam**	**15.95**	**247**	P		**Pn**	**16 11 29.1**	**-1.9**
baz=19,SNR=3.4								
MTN				S		Sn	16 14 40.7	+11
baz=19,SNR=7.2								
WRA	**Warramunga Arr**	**17.36**	**220**	P		**P**	**16 11 46.9**	**+0.1**
0.2nm,0.3s,baz=37,slow=11,SNR=16								
KNRA	**Kununurra**	**19.17**	**241**	P		**P**	**16 12 04.7**	**-1.7**
baz=22,SNR=5.1								
QLP	**Quilpie**	**19.73**	**185**	P		**Pn**	**16 12 15.9**	**+0.1**
baz=23,SNR=4.4								
ASAR	**Alice Springs**	**20.46**	**214**	P		**P**	**16 12 21.1**	**+0.8**
1.2nm,0.7s,baz=49,slow=8.5,SNR=21								
FITZ	**Fitzroy Crossi**	**22.91**	**239**	P		**P**	**16 12 46.3**	**+1.2**
baz=26,SNR=4.8								
WRKA	**Warakurna**	**24.89**	**221**	P		**P**	**16 13 05.2**	**+2.1**
baz=28,SNR=5.2								
CMAR	**Chiang Mai Arr**	**52.90**	**299**	P		**P**	**16 16 54.8**	**+0.1**
0.4nm,0.7s,baz=120,slow=5.6,SNR=5.2								
MKAR	**Makanchi Array**	**77.59**	**321**	P		**P**	**16 19 33.1**	**0.0**
0.4nm,0.7s,baz=108,slow=4.7,SNR=4.1								
ILAR	**Eielson Array**	**86.57**	**23**	P		**P**	**16 20 20.3**	**+0.8**
0.5nm,1.0s,baz=231,slow=5.7,SNR=3.7								
TORD	**Torodi Ar. Bea**	**144.46**	**283**	PKP		PKPbc	16 27 11.8	0.0
0.2nm,0.5s,baz=60,slow=2.3,SNR=3.0								

IDC 28 16:16:08.9±1.9,0°.60S×128°.09E,h0km,mb2.9/3, mb1 3.2/3,mb1mx3.1/31,mbtmp3.0/3,Error ellipse: s-maj=128.1km s-min=26.0km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.18**	**163**	P		P	16 20 44.3	-0.9
0.1nm,0.3s,baz=342,slow=11,SNR=6.3								
ASAR	**Alice Springs**	**23.61**	**167**	P		P	16 21 22.6	+0.8
0.3nm,0.5s,baz=348,slow=12,SNR=5.3								
MKAR	**Makanchi Array**	**61.87**	**326**	P		P	16 26 30.0	-0.1
0.1nm,0.5s,baz=134,slow=6.2,SNR=2.8								

*KRNET **28** 16:27:28.8±0.1,42°.18N×79°.74E,h3km,mb4.1*
*NNC **28** 16:27:30.1±1.3,42°.35N×79°.76E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=9.9km s-min=5.6km az=110.0*
ISC 28 16:27:30.0±2.7,42°.4N±0°.1×79°.75E±0°.09,h3km±13km,n21, σ1§62/23,7C-16D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**0.99**	**349**	⇓P		**Pg**	**16 27 49.0**	**0.0**
PDGK				⇓S		**Sn**	**16 28 03.5**	**-1.8**
ANVS	**Anan'yevo**	**1.60**	**286**	⇓*i*P		**Pb**	**16 27 59.8**	**-0.5**
baz=292								
ANVS				⇓*e*S		**Sg**	**16 28 23.2**	**+1.8**
baz=292								
KNDC	**Almaty**	**2.22**	**294**	⇓Pg		**Pb**	**16 28 10.2**	**-0.7**
90nm,0.6s								
KNDC				⇓Lg		Lg	16 28 40.6	
103nm,0.6s								
ULHL	**Ulahol**	**2.61**	**269**	P		**Pb**	**16 28 15.1**	**-2.4**
SNR=83								
ULHL	**Ulahol**	**2.61**	**269**	⇓*i*P		**Pn**	**16 28 14.8**	**+1.6**
baz=273								
ULHL				⇓*i*S		**Sb**	**16 28 50.1**	**+0.1**
baz=273								
BOOM	**Boomskoye usch**	**2.83**	**274**	*eP*		**Pn**	**16 28 18.0**	**+1.8**
baz=277								
BOOM				*eS*		**Sb**	**16 28 54.4**	**-1.8**
baz=277								
NRN	**Naryn**	**2.95**	**253**	⇓*i*P		**Pn**	**16 28 18.6**	**+0.6**
baz=256								
NRN				⇓*e*S		**Sn**	**16 28 54.6**	**+0.5**
baz=256								
TKM2	**Tokmak 2**	**3.12**	**282**	⇑Pn		**Pn**	**16 28 22.5**	**+2.2**
11nm,0.4s								
TKM2				⇑Lg		Lg	16 29 06.5	
96nm,0.6s								
TKM2	**Tokmak 2**	**3.12**	**282**	P		**Pn**	**16 28 22.6**	**+2.4**
SNR=21								
KZA	**Kyzart**	**3.36**	**267**	P		Pn	16 28 26.8	+3.1
SNR=7.8								
KBK	**Karagaybulak**	**3.56**	**276**	P		Pn	16 28 28.9	+2.6
SNR=16								
UCH	**Uchtor**	**3.89**	**270**	P		Pn	16 28 34.2	+3.1
SNR=6.8								
AAK	**Ala-Archa**	**3.90**	**276**	⇑Pn		**Pn**	**16 28 33.0**	**+2.0**
9.8nm,0.6s								
AAK				⇓Lg		Lg	16 29 29.8	
25nm,0.6s								
AAK	**Ala-Archa**	**3.90**	**276**	P		**Pn**	**16 28 33.0**	**+2.0**
SNR=5.6								
EKS2	**Erkin-Say**	**4.43**	**276**	P		**Pg**	**16 28 53.7**	**-1.1**
SNR=23								
AML	**Almayashu**	**4.50**	**269**	P		**Pb**	**16 28 48.9**	**-1.0**
SNR=16								
MK31	**Makanchi Array**	**4.79**	**21**	⇓Pn		**Pn**	**16 28 44.6**	**+1.5**
0.6nm,0.2s,baz=201,slow=14,SNR=270								
MK31				⇓Sn		**Sn**	**16 29 38.8**	**-0.3**
2.3nm,0.3s								
MK31				⇓Lg		Lg	16 29 58.4	
12nm,0.7s,baz=203,slow=28,SNR=5.6								
KK31	**Karatay Array**	**6.85**	**279**	⇓Pg		Pb	16 29 33.3	+3.7
0.8nm,0.4s,baz=92,slow=16								
KK31				⇑Lg		Lg	16 31 04.3	
5.3nm,0.5s,baz=92,slow=29								
OTUK	**Ortayu**	**7.87**	**321**	Pn		**Pn**	**16 29 26.8**	**+1.4**
OTUK				Lg		Lg	16 31 38.1	
KURBB	**Kurchatov Arra**	**8.31**	**355**	⇑Pn		**Pn**	**16 29 32.3**	**+1.0**
0.3nm,0.3s								
KURBB				⇑Lg		Lg	16 31 55.0	
20nm,0.7s								
KURK	**Kurchatov**	**8.40**	**355**	⇓Pn		**Pn**	**16 29 33.2**	**+0.7**
1.3nm,0.9s								
KURK				⇑Lg		Lg	16 31 56.0	
5.7nm,0.9s								

IDC 28 16:44:05.0±3.6,18°.33N×105°.25W,h0km,mb3.4/2, mb1 3.8/3,mb1mx3.6/20,mbtmp3.4/3,ML3.9/1,MS3.4/2, Ms1 3.4/2,ms1mx3.0/17,Error ellipse: s-maj=180.4km s-min=42.9km az=99.0,Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**11.05**	**7**	Pn		Pn	16 46 47.4	+2.9
0.2nm,0.3s,baz=196,slow=13,SNR=13								
TXAR				LR		LR	16 50 44.7	
comp=Z,103nm,19.1s,baz=0.0,slow=36								
YKA	**Yellowknife Ar**	**44.60**	**354**	P		P	16 52 17.7	-1.0
0.1nm,0.4s,baz=168,slow=7.7,SNR=3.8								
ILAR	**Eielson Array**	**54.08**	**339**	P		P	16 53 31.4	+0.1
0.6nm,0.7s,baz=144,slow=6.4,SNR=9.2								
RES	**Resolute Bay**	**56.66**	**3**	LR		LR	17 20 47.4	
comp=Z,75nm,20.6s,baz=98,slow=39								
WRA	**Warramunga Arr**	**123.94**	**258**	PKP		PKPdf	17 03 05.9	-0.1
0.7nm,0.9s,baz=82,slow=2.6,SNR=3.1								

GUC 28 17:02:16.9±0.3,35°.67S×73°.55W,h39km±3km,ML4.0,1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.78**	**127**	⇓*eP*		Pn	17 02 30.8	-0.5
COCH				*eS*		Sn	17 02 41.5	-0.2
TALC	**Talca**	**1.59**	**81**	*eP*9		Pn	17 02 40.2	-2.2
TALC				*eS*		Sn	17 03 00.0	-1.7
LNCH	**Linares**	**1.60**	**97**	*eP*4		Pn	17 02 42.8	+0.2
LNCH				*eS*		Sn	17 03 03.1	+1.1
NICH	**Los Niches**	**2.01**	**71**	*eP*		Pn	17 02 48.9	+0.6
NICH				*eS*		Sn	17 03 13.4	+1.2
CLCH	**Cerro Calan**	**3.36**	**49**	*eP*		Pn	17 03 07.7	+0.7
CLCH				*eS*		Sn	17 03 46.6	+0.8
CLCH				IAML			17 04 05.5	
comp=E,294nm,2.6s								
ROCH	**El Roble**	**3.41**	**39**	*eP*4		Pn	17 03 06.6	-1.3
ROCH				*eS*		Sn	17 03 48.2	+0.9
ROCH				IAML			17 04 13.0	
comp=N,154nm,0.5s								
PEL	**Peldehue**	**3.46**	**44**	*eP*		Pn	17 03 09.1	+0.8
PEL				*eS*		Sn	17 03 48.5	+0.5
PEL				IAML			17 04 04.8	
comp=E,323nm,1.3s								
FCH	**Farellones**	**3.56**	**50**	*eS*		Sn	17 03 52.3	+1.0
FCH				IAML			17 04 12.4	
comp=N,106nm,0.6s								

*ISCJB **28** 17:05:59.8±0.7,27°.94S±0°.04×71°.10W±0°.09,h38km, mb3.5/4,Error ellipse: s-maj=12.0km s-min=5.3km az=6.0*
*GUC **28** 17:05:59.6±0.5,28°.03S×71°.01W,h36km±4km,ML3.9*
*IDC **28** 17:06:01.8±0.9,27°.80S×70°.87W,h37km±6km,mb3.4/4, mb1 3.6/6,mb1mx3.5/29,mbtmp3.6/6,ML3.4/2,MS2.0/1, Ms1 2.0/1,ms1mx2.0/15,Error ellipse: s-maj=32.2km s-min=23.6km az=54.0*
ISC 28 17:06:00.9±0.7,27°.91S±0°.04×71°.08W±0°.10,h38km,n14, σ1§63/23,mb3.6/4,1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.72**	**157**	*eP*		**Pn**	**17 06 12.1**	**-2.6**
VACH				*eS*		**Sn**	**17 06 21.4**	**-3.0**
CPCH	**Copiapo**	**0.85**	**50**	⇓*eP*		**Pn**	**17 06 16.8**	**+0.4**
CPCH				*eS*		**Sn**	**17 06 29.3**	**+1.7**
LSCH	**La Serena**	**2.00**	**184**	*eP*		**Pn**	**17 06 31.6**	**-0.5**
LSCH				*eS*		**Sn**	**17 06 56.0**	**+0.2**
LSCH				IAML			17 06 59.7	
comp=E,1μm,0.2s								
CMCH	**Combarbala**	**3.25**	**179**	*eP*		**Pn**	**17 06 49.7**	**+0.2**
CMCH				*eS*		**Sn**	**17 07 27.7**	**+0.7**
CFAA	**Coronel Fontan**	**4.43**	**147**	Pn		**Pn**	**17 07 06.4**	**+0.7**
comp=E,1.4nm,0.3s,baz=328,slow=12,SNR=43								
CFAA				Sn		**Sn**	**17 07 56.6**	**+0.5**
comp=E,0.9nm,0.3s,baz=348,slow=11,SNR=3.8								
CFAA				LR		LR	17 09 01.6	
comp=E,19nm,20.8s,baz=311,slow=41								
CEN1	**Los Morros**	**4.57**	**10**	*eP*9		Pn	17 07 03.9	-3.8
CEN1				*eS*		**Sn**	**17 07 55.4**	**-4.1**
LPAZ	**La Paz**	**11.88**	**14**	Pn		**Pn**	**17 08 47.2**	**-1.2**
comp=E,0.1nm,0.3s,baz=209,slow

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LPIG	La Paz	1.52	281	*i* P		Pn	17 23 14.3	-6.7
	baz=112,slow=16							
LPIG				*e*S		Sn	17 23 31.1	-9.0
LPIG	La Paz	1.52	281		Pn	Pn	17 23 14.7	-6.3
	49nm,0.3s,baz=75,slow=6.4,SNR=19							
MAIG	Mazatlaan	2.16	107	*i* P		Pb	17 23 36.1	+2.7
MAIG				*i* S		Sb	17 24 08.3	+8.5
HSIG		5.56	339	*i* P		Pn	17 24 18.8	+2.3
TXAR	Lajitas Array	7.08	38		Pn	Pn	17 24 35.9	-1.6
	0.4nm,0.3s,baz=207,slow=15,SNR=8.7							
TXAR					Sn	Sn	17 25 54.7	-2.7
	0.2nm,0.3s,baz=221,slow=24,SNR=2.6							
MNTX	Cornudas Mount	8.36	20	*e*Pn		Pn	17 24 53.6	-1.4
TUC	Tucson	8.65	348	*e*Pn		Pn	17 24 59.9	+0.8
631A	Perdido Creek	9.13	51	⇑P		Pn	17 25 05.9	+0.4
	baz=9.2							
833A	Chaparral WMA,	9.46	60	⇓P		Pn	17 25 10.0	-0.1
	baz=9.5							
430A	Baggett Ranch,	9.57	42	⇑P		Pn	17 25 12.3	+0.6
	baz=9.6							
531A	Rocksprings	9.60	47	⇑P		Pn	17 25 12.6	+0.5
	baz=9.7							
329A	Wagon Wheel Ra	9.66	36	⇑P		Pn	17 25 13.6	+0.7
	baz=9.7							
733A	Divot King Ran	9.72	58	⇓P		Pn	17 25 13.5	-0.2
	baz=9.7							
632A	Uvalde	9.75	53	⇓P		Pn	17 25 14.4	+0.3
	baz=9.8							
113A	Mohawk Valley,	9.97	334	⇑P		Pn	17 25 18.4	+1.4
	baz=10							
532A	Rocksprings	10.02	49	⇑P		Pn	17 25 18.6	+0.8
	baz=10							
330A	Mertzon	10.05	40	⇑P		Pn	17 25 18.6	+0.4
	baz=10							
834A	Tilden	10.06	63	⇓P		Pn	17 25 18.4	+0.1
	baz=10							
633A	Saathoff Ranch	10.17	55	⇑P		Pn	17 25 20.2	+0.3
	baz=10							
JCT	Junction City	10.30	48	⇓P		Pn	17 25 23.7	+2.0
	baz=10							
128A	Castleberry Fa	10.31	31	⇓P		Pn	17 25 23.7	+1.8
	baz=10							
331A	San Angelo	10.44	43	⇑P		Pn	17 25 25.8	+2.3
	baz=10							
432A	Menard	10.56	46	⇓P		Pn	17 25 26.3	+1.1
	baz=11							
129A	Stewart Farms,	10.62	33	⇓P		Pn	17 25 27.4	+1.4
	baz=11							
GLA	Glamis	10.66	331	⇑P		Pn	17 25 27.9	+1.3
	baz=11							
835A	Beeville	10.71	63	⇑P		Pn	17 25 27.4	+0.2
	baz=11							
X18A	Snowflake	10.72	354	⇑P		Pn	17 25 30.0	+2.5
	baz=11							
X16A	Lo Mia Camp, P	10.82	348	⇑P		Pn	17 25 30.5	+1.5
	baz=11							
936A	North Padre Is	10.86	68	⇓P		Pn	17 25 28.8	-0.4
	baz=11							
332A	Millersview	10.92	44	⇑P		Pn	17 25 30.9	+0.8
	baz=11							
Z28A	Tucker Farm, M	10.92	29	⇑P		Pn	17 25 31.1	+1.0
	baz=11							
231A	Bronte	10.94	41	⇑P		Pn	17 25 31.4	+1.0
	baz=11							
735A	Kenedy	10.95	60	⇑P		Pn	17 25 30.5	0.0
	baz=11							
433A	Art	10.96	49	⇑P		Pn	17 25 31.2	+0.6
	baz=11							
534A	Blanco	10.99	54	⇓P		Pn	17 25 31.4	+0.3
	baz=11							
130A	Snyder	11.06	36	⇓P		Pn	17 25 33.4	+1.4
	baz=11							
635A	Leesville	11.21	58	⇓P		Pn	17 25 34.3	+0.2
	baz=11							
Z29A	Hungry Hill Ra	11.21	32	⇑P		Pn	17 25 35.2	+1.1
	baz=11							
ANMO	Albuquerque	11.24	9		Pn	Pn	17 25 35.1	+0.4
	0.0nm,0.3s,baz=212,slow=11,SNR=2.3							
232A	Coleman	11.32	43	⇑P		Pn	17 25 36.2	+0.6
	baz=11							
MSTX	Muleshoe	11.34	26	⇑P		Pn	17 25 37.4	+1.4
	baz=12							
333A	Richland Sprin	11.38	47	⇑P		Pn	17 25 36.9	+0.5
	baz=11							
BC3	Big Chuckawall	11.45	330	⇑P		Pn	17 25 38.5	+1.0
	baz=12							
PDMCI	Parker Dam,Lak	11.47	337	⇓P		Pn	17 25 40.0	+2.4
	baz=12							
Y28A	McKinney Farm,	11.51	28	⇑P		Pn	17 25 39.5	+1.3
	baz=12							
Z30A	Sanderson Ranc	11.52	33	⇓P		Pn	17 25 39.6	+1.4
	baz=12,SNR=6.3							
434A	Burnet	11.57	51	⇓P		Pn	17 25 40.0	+1.0
	baz=12							
535A	Dale	11.67	56	⇑P		Pn	17 25 40.5	+0.2
	baz=12							
W24A	Lazy 6 Ranch,	11.69	13	⇑P		Pn	17 25 42.2	+1.4
	baz=12							
IRM	Iron Mountain	11.75	333	⇑P		Pn	17 25 43.4	+2.0
	baz=12,SNR=8.1							
636A	Smothers Creek	11.81	59	⇓P		Pn	17 25 43.4	+1.1
	baz=12							
WUAZ	Wupatki	11.88	349	⇑P		Pn	17 25 44.8	+1.4
	baz=12							
WUAZ	Wupatki	11.88	349	*e*Pn		Pn	17 25 43.6	+0.2
334A	Lometa	11.89	49	⇑P		Pn	17 25 43.6	+0.2
	baz=12							
PFO	Pinyon Flats O	11.89	327		Pn	Pn	17 25 45.9	+2.4
	0.2nm,0.3s,baz=171,slow=7.5,SNR=3.9							
PFO					LR	LR	17 28 59.1	
	comp=Z,56nm,19.5s,baz=128,slow=31							
PFO	Pinyon Flats O	11.89	327	⇓P		Pn	17 25 44.3	+0.8
	baz=12							
W25A	X Bar L Ranch,	11.92	17	⇓P		Pn	17 25 45.2	+1.3
	baz=12							
BELC	Belle Mtn. Jos	11.99	329	⇑P		Pn	17 25 45.6	+0.7
	baz=12							
W26A	Owens Ranch, T	12.00	20	⇓P		Pn	17 25 46.3	+1.3
	baz=12							
Z31A	Sharp Cattle R	12.06	36	⇑P		Pn	17 25 46.7	+1.1
	baz=12							
V23A	Ortiz Mt. (NFS	12.07	10	⇓P		Pn	17 25 47.9	+1.9
	baz=12							
536A	Bastrop	12.07	56	⇓P		Pn	17 25 45.9	0.0
	baz=12							
W13A	Hualapai Mount	12.11	339	⇓P		Pn	17 25 47.6	+1.0
	baz=12							
V22A	San Miguel Ran	12.14	7	⇑P		Pn	17 25 48.4	+1.4
	baz=12							
X29A	Tulia	12.20	28	⇑P		Pn	17 25 49.1	+1.4
	baz=12							
V24A	Rampart Ranch,	12.22	13	⇓P		Pn	17 25 49.5	+1.4
	baz=12							
133A	Hamilton Ranch	12.26	42	⇓P		Pn	17 25 49.7	+1.2
	baz=12							
234A	Clairette	12.37	46	⇑P		Pn	17 25 50.4	+0.5
	baz=12							
Z32A	Haskell	12.42	38	⇓P		Pn	17 25 51.7	+1.1
	baz=12							
335A	Moody	12.43	51	⇑P		Pn	17 25 51.3	+0.6
	baz=12							
V25A	Rancho No Teng	12.47	15	⇓P		Pn	17 25 53.3	+1.8
	baz=13							
Y31A	Rekieta Farm,	12.49	34	⇓P		Pn	17 25 53.1	+1.5
	baz=13							
GMRC	Granite Mounta	12.49	332	⇓P		Pn	17 25 53.2	+1.5
	baz=13							
X30A	Coker Ranch, T	12.58	31	⇑P		Pn	17 25 53.9	+1.1
	baz=13							
AMTX	Amarillo	12.58	27	⇓P		Pn	17 25 54.0	+1.0
	baz=13							
SCI	San Clemente I	12.59	319	⇑P		Pn	17 25 53.4	+0.5
	baz=13							
U22A	Llaves	12.60	7	⇑P		Pn	17 25 55.0	+1.7
	baz=13							
U23A	El Rito	12.64	9	⇓P		Pn	17 25 55.5	+1.6
	baz=13							
537A	Green Hill Far	12.65	58	⇑P		Pn	17 25 54.2	+0.5
	baz=13							
V26A	Tequesquite Ra	12.65	18	⇓P		Pn	17 25 55.3	+1.4
	baz=13							
738A	Farr-Stevens R	12.70	64	⇓P		Pn	17 25 54.2	-0.2
	baz=13							
CIS	Catalina Islan	12.80	320	⇓P		Pn	17 25 56.1	+0.3
	baz=13							
WHTX	Lake Whitney,	12.81	48	⇓P		Pn	17 25 56.6	+0.6
	baz=13							
Z33A	Whitaker Ranch	12.82	40	⇑P		Pn	17 25 56.9	+0.8
	baz=13							
HEC	Hector,Ludlow	12.83	330	⇓P		Pn	17 25 57.1	+0.8
	baz=13							
U24A	Moreno Valley	12.88	12	⇓P		Pn	17 25 57.9	+0.8
	baz=13							
336A	Riesel	12.90	52	⇑P		Pn	17 25 56.9	-0.3
	baz=13							
U15A	North Rim	12.94	347	⇓P		Pn	17 25 59.4	+1.4
	baz=13							
U25A	Circle Dot Ran	13.06	15	⇓P		Pn	17 26 01.1	+1.6
	baz=13							
X31A	McDonald Ranch	13.16	33	⇓P		Pn	17 26 02.3	+1.6
	baz=13							
TUQ	Turquoise Moun	13.17	333	⇓P		Pn	17 26 02.5	+1.6
	baz=13							
U26A	Atchley Ranch,	13.22	18	⇓P		Pn	17 26 04.4	+2.6
	baz=13							
MVCO	Mesa Verde	13.34	1	⇑P		Pn	17 26 05.0	+1.7
	baz=14							
Z34A	Collier Ranch,	13.39	42	⇓P		Pn	17 26 04.8	+0.9
	baz=14							
GSC	Goldstone, Bar	13.44	330	⇑P		Pn	17 26 06.0	+1.5
	baz=14							
U27A	Thompson Grove	13.53	21	⇑P		Pn	17 26 07.9	+2.1
	baz=14							
EDW2	Edwards Air Fo	13.68	326	⇓P		Pn	17 26 09.2	+1.4
	baz=14							
T25A	Trinidad	13.76	14	⇓P		Pn	17 26 11.3	+2.2
	baz=14							
T25A	Trinidad	13.76	14	*e*Pn		Pn	17 26 10.4	+1.3
SHPR	Sheep Range	13.82	338	*e*Pn		Pn	17 26 09.7	-0.1
W32A	Sentinel	13.92	34	⇓P		Pn	17 26 12.6	+1.5
	baz=14							
S22A	4UR Ranch, Cre	13.96	6	⇓P		Pn	17 26 15.2	+3.3
	baz=14							
LRMC	Laurel Mtn Rad	14.00	328	⇑P		Pn	17 26 14.4	+2.2
	baz=14							
T26A	Comanche Natio	14.00	17	⇓P		Pn	17 26 15.8	+3.5
	baz=14							
S24A	Houchin Ranch,	14.08	11	⇑P		Pn	17 26 15.5	+1.9
	baz=14							
SDCO	Great Sand Dun	14.13	10	⇓P		P	17 26 19.7	-2.0
	baz=14,SNR=6.3							
V31A	Spring Creek L	14.15	31	⇑P		Pn	17 26 16.3	+2.0
	baz=14							
CCUT	Cedar City	14.26	345	*e*Pn		Pn	17 26 16.8	+0.9
X34A	Smith Ranch, M	14.30	39	⇓P		Pn	17 26 20.5	+4.3
	baz=14							
W33A	Caddo, Fort Co	14.35	36	⇓P		Pn	17 26 19.3	+2.4
	baz=14							
MPMC	Manual Prospec	14.38	330	⇑P		Pn	17 26 18.7	+1.1
	baz=14							
T28A	Walsh	14.40	22	⇓P		Pn	17 26 19.2	+1.5
	baz=14							
U30A	WK&E Inc. Balk	14.42	27	⇑P		Pn	17 26 19.6	+1.6
	baz=14							
S26A	Kim	14.45	17	⇓P		Pn	17 26 20.7	+2.2
	baz=15							
V32A	Arapaho	14.49	33	⇑P		Pn	17 26 21.3	+2.4
	baz=15							
CMIG	Matias Romero	14.55	115		Pn	P	17 26 24.8	-1.3
	0.2nm,0.3s,baz=274,slow=14,SNR=2.2							
CMIG					LR	LR	17 32 13.6	
	comp=Z,145nm,21.8s,baz=339,slow=39							
DAC	Darwin (Calif)	14.60	330	*e*Pn		Pn	17 26 20.4	-0.2
TPNV	Topopah Spring	14.61	335	⇓P		Pn	17 26 23.1	+2.4
	baz=15							
TPNV	Topopah Spring	14.61	335	*e*Pn		Pn	17 26 19.6	-1.1
S28A	Manter	14.89	21	⇑P		Pn	17 26 27.6	+3.2
	baz=15							
MVU	Marysvale	14.94	349	*e*Pn		Pn	17 26 26.1	+0.9
	13nm,1.5s							
VES	Vestal, Richgr	14.98	325	⇑P		Pn	17 26 26.7	+1.2
	baz=15							
SRU	San Rafael Swe	15.32	355	*e*Pn		Pn	17 26 31.7	+1.6
	7.9nm,1.2s							
R28A	Tribune	15.61	20	⇑P		P	17 26 36.7	-1.2
	baz=16,SNR=7.2							
R11A	Troy Canyon, C	15.63	339	⇑P		P	17 26 36.5	-1.7
	baz=16							
R11A	Troy Canyon, C	15.63	339	*e*Pn		Pn	17 26 34.8	+0.6
	15nm,1.5s							
Q26A	Hugo	15.67	15	⇑P		P	17 26 37.5	-1.1
	baz=16							
P23A	Jefferson	15.68	8	⇑P		P	17 26 37.7	-1.3
	baz=16							
V35A	Meyer Ranch, C	15.70	38	⇓P		Pn	17 26 37.2	+2.3
	baz=16							
P22A	Eagle	15.80	5	⇑P		Pn	17 26 38.5	+2.1
	baz=16							
TPH	Tonopah	15.97	335	*e*Pn		Pn	17 26 38.9	+0.3
	25nm,1.4s							
KSCO	Kaye Shedlock'	15.98	17	⇓P		Pn	17 26 40.9	+2.2
	baz=16							
R30A	Dighton	16.09	24	⇑P		Pn	17 26 42.3	+2.2
	baz=16							
P25A	Willow Gulch B	16.09	13	⇓P		P	17 26 42.4	-0.9
	baz=16							
ISCO	Idaho Springs	16.13	9	⇓P		P	17 26 44.0	+0.1
	baz=16							
ISCO	Idaho Springs	16.13	9		Pn	Pn	17 26 38.9	-1.9
	15nm,1.4s							
Q28A	Sharon Springs	16.26	19	⇓P		P	17 26 44.8	-0.3
	baz=16							
O20A	White River Ci	16.26	1	⇑P		P	17 26 45.4	+0.2
	baz=16							
O20A	White River Ci	16.26	1	*e*Pn		Pn	17 26 43.0	+0.7
	17nm,1.1s							
P26A	Davis Ranch, A	16.32	15	⇑P		P	17 26 45.6	-0.3
	baz=16							
MPU	Maple Canyon	16.33	352	*e*Pn		Pn	17 26 43.2	0.0
	9.2nm,1.0s							
Q29A	Oakley	16.38	22	⇑P		P	17 26 45.8	-0.6
	baz=16							
O22A	Kremmling	16.38	6	⇑P		P	17 26 47.2	+0.4
	baz=16,SNR=7.4							
R31A	Burdett	16.39	26	⇑P		P	17 26 47.0	+0.5
	baz=16							
S33A	Kaszmaul Farm,	16.48	31	⇓P		P	17 26 48.6	+1.0
	baz=17							
O23A	Lake Granby, G	16.50	7	⇓P		P	17 26 49.1	+1.1
	baz=17							
DAU	Daniels Canyon	16.68	353	*e*Pn		Pn	17 26 41.3	-6.4
O25A	Wiggins	16.68	12	⇓P		P	17 26 50.2	+0.3
	baz=17							
DUG	Dugway, Tooele	16.69	349	⇑P		P	17 26 49.9	0.0
	baz=17							
DUG	Dugway, Tooele	16.69	349	*e*Pn		Pn	17 26 46.8	-0.9
	11nm,1.1s							
Q30A	Quinter	16.72	23	⇓P		P	17 26 50.3	+0.1
	baz=17							
P28A	Saint Francis	16.75	19	⇓P		P	17 26 52.2	+1.6
	baz=17							
R32A	Long Quarter,	16.84	28	⇓P		P	17 26 53.0	+1.4
	baz=17							
MIAR	Mount Ida	16.94	48	*e*Pn		Pn	17 26 49.5	-1.3
N20A	Spence Gulch,	16.96	1	⇓P		P	17 26 54.4	+1.3
	baz=17							
N22A	Wattenberg Ran	17.03	6	⇓P		P	17 26 55.2	+1.4
	baz=17							
P29A	Atwood	17.04	21	⇓P		P	17 26 56.9	+3.2
	baz=17							
Q31A	Ellis	17.06	25	⇓P		P	17 26 56.2	+2.3
	baz=17							
R33A	Olander Ranch,	17.07	30	⇑P		P	17 26 56.2	+2.2
	baz=17							
N23A	Red Feather La	17.17	7	⇓P		P	17 26 56.6	+1.2
	baz=17							
N24A	Carr	17.25	10	⇑P		P	17 26 57.3	+1.2
	baz=17							
TCUT	Toone Canyon	17.39	353	*e*Pn		Pn	17 26 53.9	-2.8
	23nm,1.3s							
BGU	Big Grassy Mou	17.44	349	*e*Pn		Pn	17 26 54.9	-2.2
	5.8nm,1.4s							
M22A	Cedar Creek Ra	17.61	5	⇑P		P	17 27 00.8	+0.5
	baz=18							
N27A	Anderson Farm,	17.70	15	⇑P		Pn	17 27 01.1	+0.8
	baz=18							
Q33A	Connelly Farm,	17.70	29	⇓P		P	17 27 01.3	+0.3
	baz=18							
ELK	Elko	17.75	343		P	P	17 27 02.0	+0.3
	0.1nm,0.3s,baz=167,slow=13,SNR=6.2							
ELK					LR	LR	17 34 07.4	
	comp=Z,114nm,20.9s,baz=42,slow=38							
ELK	Elko	17.75	343	*e*Pn		Pn	17 27 01.0	0.0
	38nm,2.5s							
M23A	Laramie	17.76	7	⇑P		P	17 27 02.7	+0.8
	baz=18							
S36A	Lake Cedric, C	17.81	36	⇑P		Pn	17 27 02.4	+0.8
	baz=18							
N28A	Pribbeno Ranch	17.84	18	⇓P		P	17 27 04.0	+1.3
	baz=18							
O30A	MW Ranch, Wils	17.85	22	⇓P		P	17 27 03.9	+1.3
	baz=18							
M24A	Cheyenne	17.88	9	⇑P		P	17 27 03.8	+0.6
	baz=18							
HWUT	Hardware Ranch	17.89	353	*e*Pn		P	17 27 03.5	+0.2
	16nm,1.3s							
P32A	Huiting Farm,	17.90	26	⇓P		P	17 27 03.8	+0.5
	baz=18							
HVU	Hansel Valley	18.23	350	*e*Pn		Pn	17 27 07.3	+0.6
	12nm,1.0s							
L22A	Ellis Ranch, M	18.25	5	⇑P		Pn	17 27 07.8	+0.7
	baz=18							
KSU1	Kansas State U	18.35	31	⇑P		P	17 27 08.4	+0.4
	baz=18							
L23A	Garrett	18.40	7	⇑P		Pn	17 27 09.8	+0.8
	baz=19							
K21A	Alcova	18.79	3	⇓P		Pn	17 27 14.0	+0.2
	baz=19							
K22A	Casper	18.86	5	⇑P		Pn	17 27 15.1	+0.6
	baz=19							
K22A	Casper	18.86	5	*e*P		P	17 27 12.5	-1.4
	50nm,1.5s							
PDAR	Pinedale Array	18.90	358		P	P	17 27 14.7	+0.3
	0.1nm,0.3s,baz=172,slow=11,SNR=29							
K23A	Bowen Ranch, D	19.04	7	⇑P		Pn	17 27 17.5	+0.8
	baz=19							
L28A	Connealy Angus	19.08	16	⇓P		Pn	17 27 17.7	+0.6
	baz=19							
K24A	Anderson Ranch	19.11	9	⇓P		Pn	17 27 18.3	+0.7
	baz=19							
M30A	Dale-Ortello V	19.13	21	⇓P		Pn	17 27 17.9	+0.2
	baz=19							
K26A	Motz Farm, Whi	19.36	12	⇑P		Pn	17 27 20.9	+0.4
	baz=20							
L29A	Maesberg Ranch	19.42	19	⇓P		Pn	17 27 21.3	+0.1
	baz=20							
J20A	Shoshoni	19.48	1	⇑P		Pn	17 27 22.3	+0.4
	baz=20,SNR=8.0							
J21A	Lysite	19.49	3	⇓P		Pn	17 27 23.0	+0.9
	baz=20							
REDW	Red Top Meadow	19.57	355	*e*P		P	17 27 21.9	+0.2
	20nm,1.4s							
BGNE	Belgrade	19.61	24	⇑P		Pn	17 27 23.8	+0.4
	baz=20							
J22A	Midwest	19.62	5	⇓P		Pn	17 27 24.0	+0.4
	baz=20							
J23A	Dilts Ranch, B	19.69	7	⇓P		Pn	17 27 25.7	+1.2
	baz=20							
TPAW	Teton Pass	19.70	355	*e*P		P	17 27 23.9	+0.7
	45nm,2.0s							
J24A	Dixon Ranch, L	19.73	9	⇓P		Pn	17 27 25.7	+0.8
	baz=20							
LOHW	Long Hollow	19.80	356	*e*P		P	17 27 24.3	+0.1
	79nm,2.5s							
FXWY	Fox Creek	19.85	355	*e*P		P	17 27 25.1	+0.3
	12nm,1.2s							
J25A	Sunshine Ranch	19.92	10	⇓P		Pn	17 27 28.1	+1.0
	baz=20							
I21A	Big Trails, Te	19.96	3	⇑P		Pn	17 27 28.6	+0.8
	baz=20							
J26A	Sides Ranch, S	19.97	12	⇓P		Pn	17 27 28.8	+1.0
	baz=20							
L31A	Butterfield Fa	20.04	22	⇑P		Pn	17 27 29.9	+1.4
	baz=20							
I20A	Worland	20.07	1	⇓P		Pn	17 27 30.2	+1.2
	baz=20,SNR=8.6							
I22A	9 Mile Ranch,	20.09	5	⇑P		P	17 27 28.6	+1.3
	baz=20							
I17A	Pilgrim Ck.	20.10	356	⇓P		Pn	17 27 29.7	+0.2
	baz=20,SNR=10.0							
IMW	Indian Meadow	20.10	355	*e*P		P	17 27 27.7	+0.1
	47nm,1.9s							
J27A	Elkhorn Farm,	20.14	14	⇑P		Pn	17 27 30.4	+0.6
	baz=20							
I19A	Meeteetse	20.16	359	⇑P		Pn	17 27 30.6	+0.5
	baz=20							
K30A	Basset	20.24	20	⇑P		Pn	17 27 31.6	+0.7
	baz=20							
HLID	Hailey	20.24	348	⇑P		Pn	17 27 30.8	-0.3
	baz=20							
HLID	Hailey	20.24	348	*e*P		P	17 27 29.4	+0.4
	10.0nm,1.3s							
J28A	Allard Ranch,	20.48	16	⇑P		Pn	17 27 34.1	+0.4
	baz=21							
I25A	Rochford	20.54	10	⇓P		Pn	17 27 35.2	+0.6
	baz=21							
H17A	Grant Village	20.57	356	⇓P		Pn	17 27 35.7	+0.6
	baz=21							
H17A	Grant Village	20.57	356	*e*P		P	17 27 32.2	-0.5
	12nm,1.1s							
H20A	Greybull	20.61	1	⇓P		Pn	17 27 35.7	+0.3
	baz=21							
J29A	Okreek	20.70	17	⇓P		Pn	17 27 35.8	-0.5
	baz=21							
I26A	New Underwood	20.71	12	⇑P		Pn	17 27 36.6	+0.2
	baz=21							
H19A	Powell	20.79	359	⇑P		P	17 27 36.2	+1.3
	baz=21,SNR=7.2							
H18A	Shoshone NF, C	20.81	358	⇓P		Pn	17 27 36.8	-1.0
	baz=21							
J30A	Dallas	20.87	19	⇑P		P	17 27 38.7	+3.1
	baz=21							
I27A	Quinn	20.91	13	⇑P		P	17 27 39.0	+3.0
	baz=21							
H24A	Dirks Ranch, A	21.14	8	⇓P		P	17 27 40.2	+1.6
	baz=21							
H25A	Fruitdale	21.15	10	⇑P		P	17 27 41.2	+2.5
	baz=21							
MCMT	McKenzie Canyo	21.22	352	*e*P		P	17 27 39.6	-0.1
	5.0nm,1.1s							
H26A	Fairpoint	21.29	12	⇓P		P	17 27 42.5	+2.3
	baz=21							
G20A	Bridger	21.34	1	⇑P		P	17 27 41.9	+1.1
	baz=22							
YBH	Yreka Blue Hor	21.35	330		LR	LR	17 35 24.6	
	comp=Z,48nm,20.5s,baz=126,slow=35							
G21A	Lodge Grass	21.38	3	⇓P		P	17 27 42.5	+1.3
	baz=22							
G22A	Birney	21.43	5	⇑P		P	17 27 42.8	+1.1
	baz=22,SNR=7.7							
H27A	Howes	21.44	13

baz=23
F29A Eureka 23.09 16 ⇓P P 17 27 59.9 +0.6
baz=23
E26A Carlson Angus 23.14 11 ⇑P P 17 28 00.6 +0.8
baz=23
I03D Drain, OR 23.20 332 ⇓P P 17 28 01.1 +0.6
baz=23
D20A Manuel Ranch, 23.22 1 ⇓P P 17 28 01.9 +1.3
baz=23
D21A La Casta Ranch 23.23 3 ⇑P P 17 28 02.0 +1.3
baz=23
E27A Carson 23.27 13 ⇑P P 17 28 02.4 +1.3
baz=23
D19A Cripps Ranch, 23.29 360 ⇑P P 17 28 02.5 +1.2
baz=24,SNR=7.4
MSO Missoula 23.34 351 ⇑P P 17 28 02.6 +0.7
baz=24
D22A Cohagen 23.36 4 ⇓P P 17 28 02.8 +0.8
baz=24,SNR=8.0
D23A Lindsay 23.46 6 ⇓P P 17 28 03.6 +0.6
baz=24
E28A Huff 23.59 14 ⇑P P 17 28 05.4 +1.2
baz=24
D26A Manning 23.68 11 ⇓P P 17 28 05.8 +0.6
baz=24
G05D Wamic, OR 23.71 337 ⇑P P 17 28 06.1 +0.7
baz=24
C20A Veseth Ranch, 23.84 1 ⇓P P 17 28 07.6 +1.0
baz=24
C19A Slack Wire Ran 23.86 359 ⇓P P 17 28 07.8 +0.9
baz=24
C24A Savage 23.89 7 ⇓P P 17 28 08.4 +1.2
baz=24
D27A Center 23.92 12 ⇓P P 17 28 08.3 +0.9
baz=24
E30A Jud 23.95 17 ⇓P P 17 28 08.5 +0.8
baz=24
C22A Vida 23.97 5 ⇑P P 17 28 08.8 +0.9
baz=24
C21A Desert Coulee 23.98 3 ⇑P P 17 28 09.0 +1.0
baz=24
C23A Lambert 24.08 6 ⇓P P 17 28 10.6 +1.6
baz=24
EGMT Eagleton 24.16 358 ⇓P P 17 28 11.0 +1.3
baz=24
EGMT Eagleton 24.16 358 *eP* **P 17 28 10.4 +0.7**
15nm,1.1s
D28A Regan 24.20 14 ⇑P P 17 28 11.1 +1.0
baz=24
C25A Freed Ranch, W 24.22 9 ⇑P P 17 28 11.1 +0.9
baz=24
D29A Pettibone, Tap 24.30 15 ⇑P P 17 28 11.6 +0.7
baz=24
G03D McMinnville, O 24.41 334 ⇓P P 17 28 12.8 +0.9
baz=25
C27A Sayler Ranch, 24.51 12 ⇓P P 17 28 13.3 +0.4
baz=25
C26A Wahner Farm, P 24.51 11 ⇓P P 17 28 13.4 +0.5
baz=25
SFIN Lafayette 24.52 43 ⇓P P 17 28 13.6 +0.6
baz=25
TKL Tuckaleechee C 24.55 56 P P 17 28 13.3 0.0
5.0nm,0.9s,baz=206,slow=11,SNR=3.1
B20A Solberg Farm, 24.57 1 ⇓P P 17 28 14.1 +0.7
baz=25
B19A Brinkman Farms 24.58 360 ⇓P P 17 28 13.9 +0.4
baz=25
B23A Brockton 24.76 6 ⇓P P 17 28 15.9 +0.8
baz=25
A20A Cobblestone Ra 25.01 1 ⇓P P 17 28 18.3 +1.0
baz=25,SNR=10
MDND Maddock 25.03 15 ⇓P P 17 28 19.1 +1.5
baz=25
MDND Maddock 25.03 15 *eP* **P 17 28 18.3 +0.7**
4.2nm,0.9s
F04D Rainier, OR 25.04 336 ⇓P P 17 28 18.8 +1.2
baz=25
A19A Klindworth Far 25.05 360 ⇑P P 17 28 19.0 +1.2
baz=25,SNR=6.7
A21A Bergtoll Ranch 25.15 3 ⇓P P 17 28 19.3 +0.7
baz=25
C30A Mose, Pekin 25.17 16 ⇑P P 17 28 19.8 +1.0
baz=25,SNR=5.5
A22A Carney Farms, 25.21 4 ⇓P P 17 28 20.1 +0.9
baz=25
LTY Liberty 25.27 341 *eP* **P 17 28 19.7 -0.1**
6.3nm,0.6s
NEW Newport 25.29 347 LR LR 17 38 36.9
comp=Z,126nm,21.6s,baz=230,slow=37
NEW Newport 25.29 347 ⇑P P 17 28 20.5 +0.6
baz=26
A24A Westby 25.32 7 ⇓P P 17 28 22.0 +1.9
baz=26
B28A Dugan Ranch, T 25.44 13 ⇑P P 17 28 22.3 +1.1
baz=26
A26A Wade Farm, Ken 25.56 10 ⇑P P 17 28 23.3 +1.0
baz=26
B29A Wagenman Farm, 25.67 14 ⇑P P 17 28 24.0 +0.7
baz=26
B30A Myrvik Farm, E 25.90 16 ⇓P P 17 28 26.0 +0.6
baz=26
A29A Manning Farm, 26.13 14 ⇑P P 17 28 28.1 +0.7
baz=26
A30A Hoffart Farm, 26.36 16 ⇑P P 17 28 29.9 +0.3
baz=26
AGMN Agassiz Nation 26.45 19 *eP* **P 17 28 31.3 +0.9**
16nm,1.4s
ULM Lac du Bonnet 28.20 18 P P 17 28 45.9 -0.1
1.0nm,0.4s,baz=207,slow=9.2,SNR=3.0
SADO Sadowa 31.84 42 LR LR 17 42 47.4
comp=Z,114nm,19.6s,baz=230,slow=38
YKA Yellowknife Ar 38.86 356 P P 17 30 16.7 -1.6
0.8nm,0.9s,baz=154,slow=8.3,SNR=5.1
ILAR Eielson Array 47.83 339 P P 17 31 30.8 0.0
0.7nm,0.7s,baz=153,slow=6.2,SNR=7.2
TRF Thorofare Moun 48.20 336 *eP* **P 17 31 32.6 -1.3**
5.7nm,0.8s
AFI Afiamalu 72.17 245 *eP* **P 17 34 17.0 -1.7**
320nm,0.5s
SEY Seymchan 73.02 332 P P 17 34 22.4 -0.5
0.5nm,0.3s,baz=67,slow=5.7,SNR=4.9
WRA Warramunga Arr 121.82 261 PKP **PKPdf 17 41 47.6 -0.6**
0.4nm,0.8s,baz=78,slow=3.4,SNR=3.3

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*ISCJB **28** 17:25:44.2±0.7,51°.4N±0°.1×178°.65E±0°.05,h69km±4km, mb3.6/8,Error ellipse: s-maj=16.9km s-min=5.3km az=6.1*
*NEIC **28** 17:25:45.2,51°.46N×178°.67E,h49km,ML3.8(AEIC),After AEIC.*
*IDC **28** 17:25:47.9±3.5,51°.70N×178°.56E,h85km±25km,mb3.3/8, mb1 3.6/9,mb1mx3.2/42,mbtmp3.7/9,Error ellipse: s-maj=58.2km s-min=18.7km az=8.0*
ISC 28 17:25:45.1±1.1,51°.5N±0°.1×178°.66E±0°.05,h63km±8km, n40,σ1§46/40,mb3.6/8,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.41**	**101**	P	**Pn**	**17 25 55.6**	**-0.8**
AMKA				S	**Sn**	**17 26 03.9**	**-0.7**
LSSE	**Little Sitkin**	**0.48**	**353**	P	**Pn**	**17 25 56.6**	**-0.5**
LSPA	**Little Sitkin**	**0.50**	**354**	P	**Pn**	**17 25 56.8**	**-0.5**
CESW	**Semis' Southwe**	**0.71**	**51**	P	**Pn**	**17 25 59.4**	**-0.3**
CETU	**Semis' Tuman**	**0.72**	**45**	P	**Pn**	**17 25 59.8**	**0.0**
CERAA	**Semis' Rag'd T**	**0.78**	**54**	P	**Pn**	**17 26 00.2**	**-0.2**
CEAP	**Semis' Anvil P**	**0.79**	**46**	P	**Pn**	**17 26 00.5**	**-0.1**
CEAP				S	**Sn**	**17 26 12.2**	**+0.2**
ADK	**Adak**	**2.93**	**80**	P	**Pn**	**17 26 29.7**	**+0.5**
ADK				S	**Sn**	**17 27 04.2**	**+1.0**
SMY	**Shemya**	**3.09**	**296**	P	**Pn**	**17 26 33.0**	**+1.6**
SMY				S	**Sn**	**17 27 08.9**	**+1.8**
FX1	**Attu Island--F**	**3.67**	**295**	P	**Pn**	**17 26 39.6**	**+0.2**
26nm,0.3s,baz=176,slow=5.5,SNR=49
FX1				S	**Sn**	**17 27 21.3**	**-0.1**
17nm,0.3s,baz=336,slow=20,SNR=4.1
FX1	**Attu Island--F**	**3.67**	**295**	P	**Pn**	**17 26 41.4**	**+2.0**
FX1				S	**Sn**	**17 27 24.4**	**+3.0**
KOFP	**Korovin Flat P**	**4.56**	**77**	P	**Pn**	**17 26 53.8**	**+2.2**
NIKH	**Nikolski High**	**7.82**	**74**	P	**Pn**	**17 27 08.1**	**+2.0**
SPIA	**Saint Paul Isl**	**8.64**	**44**	P	**Pn**	**17 27 49.9**	**+2.6**
MREP	**Makushin Rep't**	**9.18**	**69**	P	**Pn**	**17 27 57.9**	**+3.2**
UNV	**Unalaska Valle**	**9.33**	**69**	P	**Pn**	**17 27 58.9**	**+2.2**
AKRB	**Akutan Reef Bi**	**9.63**	**68**	P	**Pn**	**17 28 03.3**	**+2.5**
AKGG	**Akutan Green G**	**9.69**	**68**	P	**Pn**	**17 28 04.1**	**+2.5**
H11N2	**WAKE ISLAND Hy**	**32.99**	**201**	T	T	18 07 22.4
baz=11,slow=76,SNR=8.7
H11N3	**WAKE ISLAND Hy**	**33.00**	**201**	T	T	18 07 27.0
baz=11,slow=76,SNR=6.8
H11N1	**WAKE ISLAND Hy**	**33.01**	**201**	T	T	18 07 21.8
baz=11,slow=76,SNR=8.7
H11S1	**WAKE ISLAND Hy**	**34.22**	**200**	T	T	18 08 53.5
baz=9.1,slow=74
H11S3	**WAKE ISLAND Hy**	**34.23**	**200**	T	T	18 09 07.7
baz=9.1
H11S2	**WAKE ISLAND Hy**	**34.23**	**200**	T	T	18 08 54.5
baz=9.1,slow=74
YKA	**Yellowknife Ar**	**36.32**	**46**	P	**P**	**17 32 42.3**	**0.0**
0.1nm,0.4s,baz=282,slow=8.9,SNR=3.6
SONM	**Songino Array**	**45.18**	**295**	P	**P**	**17 33 56.0**	**+0.4**
0.7nm,0.7s,baz=68,slow=8.4,SNR=5.9
PDAR	**Pinedale Array**	**47.79**	**71**	P	**P**	**17 34 16.0**	**-0.2**
0.4nm,0.7s,baz=302,slow=3.7,SNR=3.6
ARCES	**ARCESS Array B**	**57.73**	**349**	P	**P**	**17 35 27.5**	**-1.2**
7.3nm,1.1s,baz=32,slow=8.6,SNR=3.6
MKAR	**Makanchi Array**	**58.73**	**307**	P	**P**	**17 35 34.4**	**-1.7**
0.4nm,0.5s,baz=42,slow=5.3,SNR=12
TXAR	**Lajitas Array**	**60.21**	**79**	P	**P**	**17 35 46.9**	**+0.3**
0.2nm,0.5s,baz=296,slow=4.2,SNR=3.6
FINES	**FINESS Array B**	**65.34**	**346**	P	**P**	**17 36 18.2**	**-1.8**
1.6nm,0.9s,baz=51,slow=9.3,SNR=3.3
GUN	**Gumba**	**70.34**	**290**	*eP*	**P**	**17 36 53.0**	**+0.5**
5.4nm,0.4s
JIRN	**Jiri**	**70.35**	**290**	*eP*	**P**	**17 36 53.0**	**+0.4**
6.8nm,0.5s
RAMN	**Ramite**	**70.64**	**289**	*eP*	**P**	**17 36 54.5**	**+0.3**
5.8nm,0.4s
KKN	**Kakani**	**70.79**	**291**	*eP*	**P**	**17 36 55.4**	**+0.4**
4.3nm,0.5s
PKI	**Pulchoki**	**70.87**	**290**	*eP*	**P**	**17 36 55.1**	**-0.6**
PKIN	**Phulchoki**	**70.88**	**290**	*eP*	**P**	**17 36 55.8**	**+0.1**
4.1nm,0.5s
GKN	**Gorkha**	**71.00**	**291**	*eP*	**P**	**17 36 56.5**	**+0.2**
5.1nm,0.6s
DANN	**Dangsing**	**71.25**	**292**	*eP*	**P**	**17 36 58.3**	**+0.3**
5.8nm,0.7s
AKASG	**Malin Array Be**	**74.96**	**340**	P	**P**	**17 37 17.7**	**-1.3**
0.3nm,0.4s,baz=17,slow=5.9,SNR=4.4

KRSC 28 17:47:09.0±3.0,49°.69N×157°.11E,h45km±18km,ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.18**	**328**	*eP*	Pn	17 47 28.3	-0.8
SKR				*eS*	Sn	17 47 42.9	-1.1
MIPR	**Malaya Ipel'ka**	**2.60**	**355**	*eP*	Pn	17 47 50.6	+2.0
MTVR	**Mutnovka**	**2.88**	**13**	*eP*	Pn	17 47 56.4	+3.9
MTVR				*eS*	Sn	17 48 31.4	+5.4
RUS	**Russkaya**	**2.89**	**17**	*eP*	Pn	17 47 55.7	+3.3
RUS				*eS*	Sn	17 48 30.0	+4.1
UGLR	**Uglovaya**	**3.68**	**16**	*eP*	Pn	17 48 08.1	+4.6
AVH	**Avacha**	**3.72**	**15**	*eP*	Pn	17 48 08.7	+4.7
KOK	**Koryaka**	**3.73**	**14**	*eP*	Pn	17 48 09.1	+4.9
SMAR	**Somma**	**3.73**	**16**	*eP*	Pn	17 48 08.3	+4.0
SDLR	**Sedlovina**	**3.76**	**16**	*eP*	Pn	17 48 08.0	+3.4
KRER	**Koryakskii**	**3.76**	**15**	*eP*	Pn	17 48 09.3	+4.6
KRX	**Arik**	**3.80**	**14**	*eP*	Pn	17 48 09.7	+4.5
GNL	**Ganaly**	**4.05**	**7**	*eP*	Pn	17 48 12.9	+4.4
MKZ	**Mys Kozlova**	**5.64**	**28**	*eP*	Pn	17 48 33.3	+3.1
TUMR	**Tumrok**	**5.90**	**17**	*eP*	Pn	17 48 40.1	+6.1
KBTR	**Krutoberegovo**	**7.38**	**26**	*eP*	Pn	17 48 57.1	+3.0

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*ISCJB **28** 17:50:32.7±0.6,21°.33S±0°.07×66°.76W±0°.04,h207km, mb3.9/11,Error ellipse: s-maj=10.2km s-min=4.8km az=164.7*
*GUC **28** 17:50:36.5±0.5,21°.38S×67°.31W,h231km±8km,ML4.6*
*IDC **28** 17:50:39.1±1.7,21°.01S×66°.54W,h243km±13km,mb3.7/10, mb1 3.7/14,mb1mx3.6/31,mbtmp4.2/14,Error ellipse: s-maj=19.6km s-min=13.4km az=27.0*
ISC 28 17:50:34.2±0.6,21°.31S±0°.07×66°.79W±0°.06,h207km,n30, σ1§33/39,mb4.0/11,2C-7D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**2.33**	**258⇑**	*eP*	**Pn**	**17 51 17.9**	**+0.9**
PB09				*eS*	**S**	**17 51 48.6**	**-1.1**
PB09				IAML		17 51 58.9
comp=E,2μm,0.5s
PB01	**IPOC Station P**	**2.53**	**276⇓**	*eP*	**Pn**	**17 51 19.6**	**+0.6**
PB01				*eS*	**S**	**17 51 52.5**	**-0.9**
PB01				IAML		17 51 56.2
comp=N,829nm,0.5s
PB04	**IPOC Station P**	**2.68**	**249⇓**	*eP*	Pn	17 51 28.1	+7.6
PB04				*eS*	S	17 52 06.7	+10
PB04				IAML		17 52 10.6
comp=N,537nm,0.1s
PB07	**IPOC Station P**	**2.91**	**261⇑**	*eP*	**Pn**	**17 51 23.7**	**+0.3**
PB07				*eS*	**S**	**17 51 59.6**	**-1.8**
PB07				IAML		17 52 01.5
comp=N,1μm,0.4s
PB06	**IPOC Station P**	**2.93**	**241⇓**	*eP*	**Pn**	**17 51 24.2**	**+0.6**
PB06				*eS*	**S**	**17 52 00.5**	**-1.3**
PB06				IAML		17 52 03.3
comp=E,901nm,0.1s
HMBC	**Humberstone**	**3.08**	**289⇓**	*eP*	**Pn**	**17 51 26.1**	**+0.9**
HMBC				*eS*	**S**	**17 52 03.5**	**-1.2**
HMBC				IAML		17 52 06.8
comp=N,1μm,0.4s
PATCX	**Punta Patache**	**3.18**	**278⇓**	*eP*	**Pn**	**17 51 26.4**	**0.0**
PATCX				*eS*	**S**	**17 52 04.9**	**-1.8**
PATCX				IAML		17 52 09.3
comp=E,1μm,0.5s
PATCX				IAML		17 52 09.3
comp=E,1μm,0.5s
MNMC	**Minimini**	**3.41**	**309⇓**	*eP*	**Pn**	**17 51 31.2**	**+1.8**
MNMC				*eS*	**S**	**17 52 12.9**	**+0.7**
MNMC				IAML		17 52 17.8
comp=E,1μm,0.5s
PSGC	**Pisagua**	**3.56**	**298**	*eP9*	**Pn**	**17 51 32.0**	**+1.0**
PSGC				*eS*	**S**	**17 52 14.6**	**-0.4**
PSGC				IAML		17 52 16.2
comp=E,632nm,0.5s
CEN1	**Los Morros**	**3.78**	**236⇓**	*eP*	Pn	17 51 36.4	+2.8
CEN1				*eS4*	**S**	**17 52 22.8**	**+3.0**
ANCH	**Antofagasta**	**4.10**	**234**	*eP4*	Pn	17 51 33.6	-3.9
ANCH				*eS4*	S	17 52 19.8	-7.0
LPAZ	**La Paz**	**5.15**	**345**	P	**Pn**	**17 51 54.5**	**+3.1**
comp=E,9.4nm,0.3s,baz=135,slow=6.5,SNR=60
LPAZ				S	**S**	**17 52 55.3**	**+3.3**
comp=E,1.0nm,0.3s,baz=300,slow=17,SNR=7.6
SIV	**San Ignacio**	**7.57**	**47**	P	**Pn**	**17 52 22.5**	**+0.4**
comp=E,9.7nm,0.3s,baz=238,slow=13,SNR=115
SIV				S	**S**	**17 53 46.0**	**-1.8**
comp=E,1.2nm,0.3s,baz=303,slow=17,SNR=2.7
CFAA	**Coronel Fontan**	**10.34**	**187**	P	**P**	**17 53 06.5**	**+1.6**
comp=E,0.2nm,0.3s,baz=358,slow=10,SNR=19
BDFB	**Brasilia**	**18.67**	**76**	P	**P**	**17 54 35.0**	**-2.1**
comp=E,0.8nm,0.3s,baz=266,slow=7.3,SNR=5.6
APG	**El Apazote**	**42.92**	**325**	P	P	17 58 09.6	-3.5
comp=E,5.2nm,0.5s,baz=139,slow=7.0,SNR=11
TEIG	**Tepich**	**46.32**	**332**	P	**P**	**17 58 39.6**	**0.0**
comp=E,6.8nm,0.7s,baz=67,slow=7.7,SNR=3.3
CMIG	**Matias Romero**	**47.06**	**322**	P	**P**	**17 58 46.2**	**+0.8**
comp=E,2.5nm,0.5s,baz=129,slow=6.5,SNR=6.9
TXAR	**Lajitas Array**	**61.63**	**323**	P	**P**	**18 00 29.6**	**-0.6**
comp=E,0.3nm,0.5s,baz=141,slow=8.9,SNR=4.4
DBIC	**Dimbokro**	**66.79**	**72**	P	**P**	**18 01 03.0**	**-1.0**
comp=E,2.9nm,0.7s,baz=223,slow=9.3,SNR=4.5
PDAR	**Pinedale Array**	**74.95**	**329**	P	**P**	**18 01 53.1**	**+0.3**
comp=E,0.6nm,0.5s,baz=125,slow=9.1,SNR=8.2
TORD	**Torodi Ar. Bea**	**75.43**	**69**	P	**P**	**18 01 55.0**	**-0.8**
comp=E,4.4nm,0.5s,baz=257,slow=5.4,SNR=53
ULM	**Lac du Bonnet**	**75.75**	**341**	P	**P**	**18 01 56.3**	**-0.6**
comp=E,2.5nm,0.5s,baz=156,slow=6.3,SNR=7.1
SCHQ	**Schefferville**	**75.83**	**360**	P	**P**	**18 01 56.5**	**-0.7**
comp=E,1.7nm,0.6s,baz=160,slow=6.5,SNR=4.5
ESDC	**Sonseca Array**	**84.32**	**44**	P	**P**	**18 02 43.5**	**+0.4**
comp=E,0.5nm,0.6s,baz=238,slow=5.3,SNR=5.5
YKA	**Yellowknife Ar**	**91.68**	**340**	P	**P**	**18 03 17.8**	**+0.4**
comp=E,1.0nm,0.7s,baz=128,slow=4.6,SNR=30
WRA	**Warramunga Arr**	**134.09**	**208**	PKP	**PKPdf**	**18 09 27.9**	**+0.1**
comp=E,0.3nm,0.9s,baz=151,slow=1.9,SNR=5.5
ZALV	**Zalesovo Beam**	**140.92**	**26**	PKP	**PKPdf**	**18 09 38.8**	**-0.4**
comp=E,1.0nm,0.5s,baz=220,slow=3.9,SNR=4.2
MKAR	**Makanchi Array**	**144.30**	**37**	PKP	**PKPdf**	**18 09 44.9**	**-0.7**
comp=E,4.1nm,0.8s,baz=345,slow=2.5,SNR=35
SONM	**Songino Array**	**152.97**	**10**	PKP	**PKPdf**	**18 10 00.1**	**+0.5**
comp=E,0.2nm,0.4s,baz=66,slow=3.5,SNR=3.6
SONM				PKPbc	**PKiKP**	**18 10 07.5**	**+0.3**
comp=E,0.7nm,0.4s,baz=269,slow=1.7,SNR=9.1
SONM				PKPab	**PKPab**	**18 10 18.3**	**-0.7**
comp=E,0.3nm,0.5s,baz=27,slow=1.8,SNR=3.7

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*NIED **28** 17:55:00,36°.90N×141°.70E,h32km,Mw3.7 Best double couple: M0:4.45000×10^14 NP1:φ0=274.00000°,δ6.00000°, λ167.00000° NP2:φ0=17.00000°,δ89.00000°,λ85.00000°.*
*JMA **28** 17:55:10.0±0.2,36°.90N×141°.66E,h50km±3km,M3.9*
*IDC **28** 17:55:11.3±2.7,36°.81N×141°.91E,h49km±22km,mb3.2/7, mb1 3.5/11,mb1mx3.3/49,mbtmp3.5/11,ML3.1/4,MS2.9/4, Ms1 2.9/4,ms1mx2.7/20,Error ellipse: s-maj=26.2km s-min=13.3km az=134.0*
ISC 28 17:55:08.0±3.3,36°.88N±0°.05×141°.77E±0°.06,h17km±20km, n30,σ1§42/37,mb3.6/8,5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.81**	**286**	⇓P	**Pb**	**17 55 24.0**	**+0.3**
ONAJ				S	**Sb**	**17 55 33.1**	**-1.2**
JFK	**Kawauchi**	**0.86**	**304**	P	**Pb**	**17 55 24.7**	**+0.1**
JFK				*eS*	**Sb**	**17 55 35.1**	**-0.8**
JHO	**Hitachi**	**1.00**	**255**	⇓P	**Pb**	**17 55 26.5**	**-0.4**
JHO				S	**Sb**	**17 55 39.2**	**-0.6**
JMM	**Marumori**	**1.25**	**322**	⇓P	**Pn**	**17 55 30.5**	**-0.3**
JMM				S	**Sb**	**17 55 45.6**	**-1.5**
JFT	**Otama**	**1.31**	**300**	⇓P	**Pn**	**17 55 32.2**	**+0.6**
JFT				*eS*	**Sn**	**17 55 48.0**	**-0.7**
JIO	**Ouri**	**1.60**	**348**	⇓P	**Pn**	**17 55 35.5**	**-0.1**
JIO				S	**Sn**	**17 55 54.7**	**-1.3**
JOU	**Okura**	**1.72**	**330**	P	**Pn**	**17 55 38.0**	**+0.7**
JOU				S	**Sn**	**17 55 58.8**	**-0.1**
JFY	**Yanaizu**	**1.73**	**288**	P	**Pb**	**17 55 38.9**	**-0.5**
JFY				*eS*	**Sn**	**17 55 59.5**	**+0.4**
JYS	**Shiratake**	**1.90**	**315**	P	**Pb**	**17 55 41.9**	**-0.4**
JYS				*eS*	**Sn**	**17 56 04.3**	**+0.9**
JAG	**Ashikaga**	**1.92**	**257**	P	**Pn**	**17 55 40.2**	**+0.3**
JAG				S	**Sn**	**17 56 02.7**	**-1.0**
JKT	**Katashina**	**2.02**	**268**	P	**Pb**	**17 55 43.6**	**-0.8**
JKT				*eS*	**Sn**	**17 56 08.0**	**+1.5**
MJAR	**Matsushiro Arr**	**2.88**	**264**	P	**Pn**	**17 55 54.8**	**+1.6**
13nm,0.3s,baz=92,slow=15,SNR=124
MJAR				S	**Sn**	**17 56 30.9**	**+3.4**
11nm,0.3s,baz=97,slow=18,SNR=6.4
MJAR				LR	LR	17 57 19.9
comp=Z,190nm,19.6s,baz=80,slow=44
MAT	**Matsushiro**	**2.88**	**264**	P	**Pn**	**17 55 55.2**	**+2.0**
MAT				S	**Sn**	**17 56 29.5**	**+2.0**
ASAJ	**Asahikawa**	**7.25**	**5**	P	**Pn**	**17 56 55.7**	**+2.4**
0.3nm,0.3s,baz=221,slow=15,SNR=6.8
ASAJ				S	**Sn**	**17 58 18.9**	**+3.7**
0.5nm,0.3s,baz=110,slow=15,SNR=2.7
ASAJ				LR	LR	18 00 22.7
comp=Z,40nm,20.1s,baz=173,slow=42
USRK	**Ussuriysk Ar.**	**10.43**	**318**	P	Pn	17 57 40.5	+3.8
0.3nm,0.3s,baz=127,slow=14,SNR=8.1
KSRS	**Korea Array**	**11.06**	**277**	P	**Pn**	**17 57 47.3**	**+1.8**
0.1nm,0.3s,baz=96,slow=14,SNR=3.6
KSRS				LR	LR	18 01 58.2
comp=Z,65nm,18.4s,baz=97,slow=36
H11N2	**WAKE ISLAND Hy**	**27.83**	**121**	T	T	18 30 08.8
baz=313,slow=75,SNR=30
H11N1	**WAKE ISLAND Hy**	**27.83**	**121**	T	T	18 30 11.3
baz=313,slow=75,SNR=27
H11N3	**WAKE ISLAND Hy**	**27.84**	**121**	T	T	18 30 08.6
baz=313,slow=75,SNR=18
SONM	**Songino Array**	**28.11**	**304**	P	**P**	**18 00 58.9**	**-0.1**
0.7nm,0.7s,baz=111,slow=9.6,SNR=5.2
H11S1	**WAKE ISLAND Hy**	**28.54**	**123**	T	T	18 31 12.9
baz=317,SNR=17
H11S3	**WAKE ISLAND Hy**	**28.54**	**123**	T	T	18 31 13.3
baz=317,slow=74,SNR=14
H11S2	**WAKE ISLAND Hy**	**28.55**	**123**	T	T	18 31 20.7
baz=317,slow=74,SNR=9.7
CMAR	**Chiang Mai Arr**	**41.73**	**256**	P	**P**	**18 02 55.4**	**-1.0**
0.1nm,0.5s,baz=60,slow=7.4,SNR=3.0
ZALV	**Zalesovo Beam**	**42.23**	**313**	P	**P**	**18 03 00.3**	**+0.3**
0.6nm,0.3s,baz=90,slow=12,SNR=2.8
MKAR	**Makanchi Array**	**44.44**	**302**	P	**P**	**18 03 19.1**	**+1.0**
0.6nm,0.8s,baz=89,slow=7.4,SNR=4.9
MKAR				LR	LR	18 20 50.0
comp=Z,23nm,18.4s,baz=342,slow=34
KURBB	**Kurchatov Arra**	**46.32**	**308**	P	**P**	**18 03 33.5**	**+0.7**
3.2nm,0.2s,baz=85,slow=8.0,SNR=6.0
ILAR	**Eielson Array**	**49.47**	**32**	P	**P**	**18 03 56.9**	**-0.1**
0.5nm,0.8s,baz=259,slow=7.0,SNR=5.3
WRA	**Warramunga Arr**	**56.95**	**188**	P	**P**	**18 04 52.1**	**-0.4**
0.4nm,0.5s,baz=5.4,slow=7.1,SNR=6.3
YKA	**Yellowknife Ar**	**63.80**	**30**	P	**P**	**18 05 36.7**	**-2.1**
0.1nm,0.6s,baz=293,slow=6.6,SNR=3.6

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*IDC **28** 17:58:37.6±2.0,8°.15S×117°.85E,h0km,mb3.5/3, mb1 3.8/5,mb1mx3.5/34,mbtmp3.7/5,ML3.8/2,Error ellipse: s-maj=81.9km s-min=20.2km az=48.0*
*DJA **28** 17:58:39.6±0.2,8°S±3°×11°8E±°,h10km,M4.1/21,mb4.3/3, MLv4.0/21*
*ISCJB **28** 17:58:40.6±0.4,8°.09S±0°.05×117°.91E±0°.03,h33km, mb3.6/3,Error ellipse: s-maj=6.9km s-min=4.8km az=11.3*
ISC 28 17:58:42.1±0.8,8°.12S±0°.05×117°.90E±0°.04,h35km,n26, σ1§76/28,mb3.5/3,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.11**	**136**	P	**Pn**	**17 59 16.4**	**+1.4**
SRBI	**Singaraja**	**2.66**	**271**	P	**Pn**	**17 59 23.1**	**+0.6**
IGBI	**Denpasar**	**2.81**	**256**	P	**Pn**	**17 59 24.8**	**+0.2**
WSI	**Waingapu**	**2.83**	**123**	P	**Pn**	**17 59 25.5**	**+0.7**
WSI	**Waingapu**	**2.83**	**123**	P	**Pn**	**17 59 25.2**	**+0.5**
baz=2.8,SNR=11
BKSI	**Bulukumba**	**3.55**	**39**	P	**Pn**	**17 59 34.0**	**-0.8**
BKSI				S	**Sn**	**18 00 14.8**	**-0.7**
ABJI	**Asem Bagus**	**3.65**	**275**	P	**Pn**	**17 59 36.6**	**+0.5**
JAGI	**Jajag, Banyuwa**	**3.73**	**264**	P	**Pn**	**17 59 37.0**	**-0.2**
JAGI	**Jajag, Banyuwa**	**3.73**	**264**	P	**Pn**	**17 59 36.9**	**-0.2**
baz=3.8,SNR=7.7
EDFI	**Ende, Flores**	**3.80**	**100**	P	**Pn**	**17 59 38.9**	**+0.6**
KMMI	**Kalianget**	**4.04**	**285**	P	**Pn**	**17 59 42.4**	**+0.9**
BNSI	**Bone**	**4.30**	**31**	P	**Pn**	**17 59 45.9**	**+0.8**
GMJI	**Gumukmas**	**4.41**	**268**	P	**Pn**	**17 59 46.9**	**+0.3**
SPSI	**Sidrap Palu**	**4.53**	**24**	P	**Pn**	**17 59 47.3**	**-0.9**
GRJI	**Gresik**	**5.51**	**282**	P	**Pn**	**18 00 01.3**	**-0.4**
BBKI	**Banjar Baru**	**5.54**	**326**	P	**Pn**	**18 00 03.0**	**+0.9**
43nm,0.9s,0.2nm
BATI	**Baumata**	**6.06**	**110**	P	**Pn**	**18 00 11.3**	**+2.0**
BATI	**Baumata**	**6.06**	**110**	Pn	**Pn**	**18 00 09.3**	**0.0**
2.8nm,0.3s,baz=286,slow=10,SNR=4.7
BATI				Sn	**Sn**	**18 01 21.3**	**+3.9**
baz=338,slow=18,SNR=2.1
KNRA	**Kununurra**	**13.01**	**126**	P	**Pn**	**18 01 43.6**	**-1.0**
baz=13,SNR=5.1
MTN	**Manton Dam**	**13.83**	**111**	P	**Pn**	**18 01 53.6**	**-2.2**
baz=14,SNR=6.1
MTN				S	Sn	18 04 10.8	-17
baz=14,SNR=3.5
MEEK	**Meekatharra**	**18.43**	**178**	S	**Sn**	**18 06 13.4**	**-6.5**
baz=19,SNR=5.5
WRKA	**Warakurna**	**19.53**	**151**	P	**Pn**	**18 03 08.7**	**+0.5**
baz=20,SNR=9.4
WRA	**Warramunga Arr**	**19.79**	**128**	P	**P**	**18 03 09.4**	**-0.1**
0.3nm,0.3s,baz=304,slow=13,SNR=16
ASAR	**Alice Springs**	**21.78**	**137**	P

n29, σ0°98/30, mb3.6/7, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.76**	**287**	||P	**Pn**	**18 15 46.2**	**-0.6**
JFK	**Kawauchi**	**0.82**	**306**	||P	**Pb**	**18 15 46.9**	**+0.4**
JFK					*e*S	**Sb**	**18 15 58.1**	**+0.6**
JHO	**Hitachi**	**0.95**	**254**	P		**Pg**	**18 15 48.7**	**0.0**
JHO					*e*S	**Sb**	**18 16 01.4**	**+0.2**
JMM	**Marumori**	**1.23**	**324**	||P	**Pn**	**18 15 52.8**	**-0.3**
JMM					*e*S	**Sb**	**18 16 07.7**	**-1.3**
JFT	**Otama**	**1.27**	**301**	||P	**Pg**	**18 15 54.4**	**-0.3**
JFT				S		**Sb**	**18 16 10.2**	**-0.1**
JIO	**Ouri**	**1.60**	**350**	||P	**Pn**	**18 15 57.7**	**-0.6**
JFY	**Yanaizu**	**1.68**	**289**	P		**Pb**	**18 16 00.8**	**-0.4**
JFY					*e*S	**Sb**	**18 16 22.2**	**-0.1**
JOU	**Okura**	**1.70**	**331**	P		**Pn**	**18 16 00.1**	**+0.4**
JOU					*e*S	**Sn**	**18 16 21.4**	**+0.1**
JAG	**Ashikaga**	**1.87**	**257**	P		**Pn**	**18 16 02.5**	**+0.5**
JAG					*e*S	**Sn**	**18 16 25.5**	**+0.1**
JYS	**Shiratake**	**1.87**	**316**	P		**Pb**	**18 16 04.2**	**-0.1**
MJAR	**Matsushiro Arr**	**2.83**	**264**	Pn		**Pn**	**18 16 17.1**	**+1.8**
	10nm,0.3s,baz=91,slow=15,SNR=112							
MJAR					Sn	**Sb**	**18 16 54.9**	**-0.3**
	11nm,0.3s,baz=87,slow=24,SNR=5.8							
MJAR					LR	LR	18 17 42.3	
	comp=Z,124nm,19.0s,baz=95,slow=46							
MAT	**Matsushiro**	**2.83**	**264**	P		**Pn**	**18 16 17.3**	**+2.0**
MAT					S	**Sb**	**18 16 53.4**	**-1.9**
ASAJ	**Asahikawa**	**7.26**	**5**	Pn		**Pn**	**18 17 17.9**	**+1.8**
	0.5nm,0.3s,baz=206,slow=20,SNR=6.7							
ASAJ					Sn	**Sn**	**18 18 38.8**	**+0.4**
	0.3nm,0.3s,baz=280,slow=18,SNR=3.4							
USRK	**Ussuriysk Ar.**	**10.39**	**318**	Pn		Pn	18 18 02.8	+3.8
	0.2nm,0.3s,baz=130,slow=15,SNR=7.2							
KSRS	**Korea Array**	**11.02**	**277**	Pn		Pn	18 18 11.1	+3.5
	0.0nm,0.3s,baz=90,slow=15,SNR=2.5							
KSRS					LR	LR	18 22 00.3	
	comp=Z,58nm,19.1s,baz=89,slow=35							
H11N2	**WAKE ISLAND Hy**	**27.87**	**121**	T		T	18 50 38.1	
	baz=313,slow=75,SNR=30							
H11N1	**WAKE ISLAND Hy**	**27.88**	**121**	T		T	18 50 39.2	
	baz=313,slow=75,SNR=32							
H11N3	**WAKE ISLAND Hy**	**27.89**	**121**	T		T	18 50 41.8	
	baz=313,slow=75,SNR=23							
SONM	**Songino Array**	**28.07**	**304**	P		**P**	**18 21 22.3**	**+0.8**
	0.6nm,0.5s,baz=98,slow=9.1,SNR=4.9							
H11S1	**WAKE ISLAND Hy**	**28.58**	**123**	T		T	18 51 43.3	
	baz=315,slow=76,SNR=18							
H11S3	**WAKE ISLAND Hy**	**28.58**	**123**	T		T	18 51 37.2	
	baz=315,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**28.59**	**123**	T		T	18 51 42.6	
	baz=315,slow=76,SNR=14							
CMAR	**Chiang Mai Arr**	**41.69**	**256**	P		**P**	**18 23 18.0**	**-0.9**
	0.3nm,0.7s,baz=64,slow=8.2,SNR=3.4							
ZALV	**Zalesovo Beam**	**42.19**	**313**	P		**P**	**18 23 23.3**	**+0.7**
	0.4nm,0.3s,baz=120,slow=8.5,SNR=2.4							
MKAR	**Makanchi Array**	**44.40**	**302**	P		**P**	**18 23 41.7**	**+1.1**
	0.4nm,0.7s,baz=81,slow=7.6,SNR=4.2							
ILAR	**Eielson Array**	**49.50**	**32**	P		**P**	**18 24 20.1**	**-0.1**
	0.5nm,0.8s,baz=258,slow=5.8,SNR=5.0							
WRA	**Warramunga Arr**	**56.94**	**188**	P		**P**	**18 25 14.1**	**-1.2**
	0.4nm,0.5s,baz=6.0,slow=7.4,SNR=11							
ASAR	**Alice Springs**	**60.67**	**188**	P		**P**	**18 25 39.8**	**-1.4**
	0.3nm,0.8s,baz=15,slow=7.7,SNR=3.9							
DZM	**Mont Dzumac**	**63.11**	**154**	LR		LR	18 51 38.3	
	comp=Z,17nm,19.2s,baz=204,slow=34							

IDC 28 18:27:58.0±5.7, 23°.95N×109°.13W, h0km, mb3.2/1, mb1 3.5/3, mb1mx3.4/22, mbtmp3.0/3, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.9/7, Error ellipse: s-maj=95.2km s-min=34.3km az=151.0, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**7.25**	**41**	Pn		Pn	18 29 48.3	+2.9
	0.1nm,0.3s,baz=219,slow=17,SNR=5.4							
TXAR					Lg	Lg	18 31 45.0	
	0.6nm,0.3s,baz=216,slow=32,SNR=5.8							
TXAR					LR	LR	18 32 40.0	
	comp=Z,136nm,19.1s,baz=0.0,slow=39							
PDAR	**Pinedale Array**	**18.77**	**359**	P		P	18 32 18.2	-0.7
	0.1nm,0.3s,baz=180,slow=11,SNR=4.5							
YKA	**Yellowknife Ar**	**38.70**	**356**	P		P	18 35 22.9	-0.4
	1.0nm,1.1s,baz=183,slow=7.8,SNR=5.8							

IDC 28 18:30:00.7±7.6, 7°.06S×153°.71E, h53km±60km, mb3.4/6, mb1 3.6/7, mb1mx3.4/19, mbtmp3.7/7, ML3.0/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/13, Error ellipse: s-maj=58.3km s-min=32.5km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.89**	**250**	P		Pn	18 31 39.6	+0.4
	1.6nm,0.3s,baz=23,slow=7.7,SNR=8.9							
PMG					S	Sn	18 32 57.6	+1.2
	1.4nm,0.3s,baz=238,slow=19,SNR=3.4							
PMG					LR	LR	18 33 51.0	
	comp=Z,73nm,20.2s,baz=44,slow=33							
WRA	**Warramunga Arr**	**22.74**	**234**	P		P	18 34 57.7	-0.9
	1.3nm,1.1s,baz=58,slow=11,SNR=4.1							
ASAR	**Alice Springs**	**25.19**	**227**	P		P	18 35 21.9	+0.3
	1.4nm,0.8s,baz=56,slow=9.5,SNR=13							
BATI	**Baumata**	**29.87**	**262**	LR		LR	18 48 15.4	
	comp=Z,41nm,19.2s,baz=304,slow=37							
SONM	**Songino Array**	**68.71**	**328**	P		P	18 40 59.3	+0.3
	0.6nm,0.8s,baz=134,slow=8.5,SNR=4.5							
MKAR	**Makanchi Array**	**82.62**	**319**	P		P	18 42 18.7	+0.3
	0.2nm,0.4s,baz=116,slow=6.6,SNR=2.7							
ZALV	**Zalesovo Beam**	**83.53**	**326**	P		P	18 42 22.1	-0.8
	0.4nm,0.3s,baz=99,slow=7.7,SNR=2.4							
ILAR	**Eielson Array**	**83.91**	**22**	P		P	18 42 24.8	+0.1
	0.2nm,0.6s,baz=239,slow=5.4,SNR=4.1							
TORD	**Torodi Ar. Bea**	**151.81**	**285**	PKPbc		PKPbc	18 49 50.9	+0.2
	0.4nm,0.9s,baz=34,slow=2.2,SNR=4.5							

IDC 28 18:49:44.9±11.0, 20°.42S×176°.80W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/25, mbtmp3.9/4, Error ellipse: s-maj=288.7km s-min=33.7km az=35.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.61**	**264**	P		P	18 56 40.8	+4.8
	3.0nm,0.5s,baz=100,slow=7.9,SNR=9.8							
ASAR	**Alice Springs**	**45.63**	**256**	P		P	18 58 06.2	-1.3
	0.3nm,0.4s,baz=97,slow=7.6,SNR=12							
WRA	**Warramunga Arr**	**45.72**	**262**	P		P	18 58 09.2	+0.9
	0.9nm,0.5s,baz=97,slow=8.3,SNR=29							
VNDA	**Vanda**	**58.09**	**185**	P		P	18 59 40.0	+0.4
	0.7nm,0.3s,baz=357,slow=4.2,SNR=11							
QSPA	**South Pole Qui**	**69.65**	**180**	P		P	19 00 55.7	-0.4
	1.6nm,1.1s,baz=351,slow=9.1,SNR=4.5							

*ISCJB **28** 18:51:08.0±0.3, 22°.62S±0°.04×66°.04W±0°.07, h251km, mb4.4/40, Error ellipse: s-maj=8.9km s-min=6.0km az=172.8*

*NEIC **28** 18:51:10.4±0.3, 22°.65S×66°.19W, mb4.5/27, Error ellipse: s-maj=11.5km s-min=7.6km az=92.0*

*IDC **28** 18:51:11.4±0.7, 22°.48S×65°.98W, h260km±5km, mb4.1/17, mb1 4.1/20, mb1mx4.1/29, mbtmp4.7/20, Error ellipse: s-maj=14.0km s-min=9.6km az=59.0*

ISC 28 18:51:09.7±0.4, 22°.61S±0°.06×66°.09W±0°.08, h251km, n73, σ1°25/85, mb4.5/40, 1C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.60**	**269**	*e*Pn		**Pn**	**18 51 58.8**	**+0.4**
LVC				*e*Sn		**S**	**18 52 38.3**	**+1.5**
LPAZ	**La Paz**	**6.58**	**343**	P		**Pn**	**18 52 46.5**	**+0.7**
	6.1nm,0.3s,baz=131,slow=6.2,SNR=129							
LPAZ					S	**S**	**18 54 00.3**	**-2.4**
	2.5nm,0.3s,baz=16,slow=14,SNR=15							
LPAZ	**La Paz**	**6.58**	**343**	*e*Pn		**Pn**	**18 52 46.5**	**+0.7**
LPAZ				*e*Sn		**S**	**18 53 59.1**	**-3.5**
LPAZ				S		S	18 54 00.3	-2.8
LCO	**Las Campanas**	**7.60**	**212**	*e*Pn		**Pn**	**18 52 55.6**	**-2.6**
ARE	**Arequipa**	**7.96**	**319**	↑*i*P		**Pn**	**18 53 00.7**	**-2.2**
ARE				*i*S		S	18 54 25.6	-8.3
SIV	**San Ignacio**	**8.11**	**37**	P		**Pn**	**18 53 04.5**	**-0.1**
	5.2nm,0.3s,baz=233,slow=10,SNR=56							
SIV				S		S	18 54 25.6	-12
	0.3nm,0.3s,baz=238,slow=16,SNR=4.6							
CFAA	**Coronel Fontan**	**9.16**	**192**	P		**Pn**	**18 53 15.6**	**-2.1**
	0.4nm,0.3s,baz=15,slow=8.4,SNR=139							
SAML	**Samuel**	**13.87**	**12**	*e*Pn		**Pn**	**18 54 15.8**	**-0.5**
	4.1nm,0.6s							
TRQA	**Tornquist**	**15.79**	**168**	*e*Pn		**P**	**18 54 34.0**	**-4.2**
	8.4nm,1.0s							
BDFB	**Brasilia**	**18.43**	**71**	P		**P**	**18 55 07.8**	**+0.7**
	2.4nm,0.3s,baz=242,slow=12,SNR=62							
PLCA	**Paso Flores**	**18.45**	**191**	*e*P		**P**	**18 55 04.7**	**-2.4**
	21nm,0.9s							
PTGA	**Pitinga**	**22.55**	**16**	P		**P**	**18 55 49.4**	**+0.6**
	2.5nm,0.3s,baz=195,slow=11,SNR=8.9							
PCRV	**Puerto La Cruz**	**32.62**	**3**	P		**P**	**18 57 17.8**	**-0.5**
	11nm,0.8s,baz=197,slow=6.4,SNR=5.9							
RCBR	**Riachuelo**	**33.57**	**65**	*e*P		P	18 57 23.7	-2.9
	18nm,0.7s							
JTS	**JuntasAbangare**	**37.56**	**329**	P		**P**	**18 58 01.8**	**+1.5**
	3.1nm,0.5s,baz=246,slow=18,SNR=3.3							
APG	**El Apazote**	**44.35**	**325**	P		P	18 58 51.8	-4.0
	4.6nm,0.5s,baz=216,slow=2.7,SNR=9.7							
TEIG	**Tepich**	**47.77**	**331**	P		**P**	**18 59 22.2**	**+0.2**
	5.1nm,0.4s,baz=80,slow=1.5,SNR=13							
CMIG	**Matias Romero**	**48.48**	**322**	P		**P**	**18 59 28.2**	**+0.7**
	5.2nm,0.7s,baz=116,slow=5.7,SNR=14							
VNA3	**Neumayer Olymp**	**58.19**	**162**	P		**P**	**19 00 38.5**	**+1.3**
VNA1	**Neumayer--Stat**	**58.37**	**161**	P		**P**	**19 00 39.2**	**+0.8**
VNA2	**Neumayer--Watz**	**58.74**	**161**	P		**P**	**19 00 41.5**	**+0.4**
	baz=295,slow=6.8							
TKL	**Tuckaleechee C**	**60.32**	**343**	P		**P**	**19 00 51.9**	**-0.4**
	9.0nm,0.7s,baz=167,slow=8.3,SNR=14							
CPCT	**Cooper Cave**	**60.33**	**343**	*e*P		P	19 00 56.0	+3.7
SNAA	**Sanae**	**60.38**	**161**	P		**P**	**19 00 53.4**	**+1.1**
JCT	**Junction City**	**61.92**	**327**	*e*P		**P**	**19 01 02.0**	**-1.0**
	8.3nm,0.6s							
WVT	**Waverly**	**61.94**	**340**	*e*P		**P**	**19 01 01.2**	**-1.8**
	25nm,0.8s							
TXAR	**Lajitas Array**	**63.05**	**323**	P		**P**	**19 01 11.2**	**+0.5**
	1.1nm,0.6s,baz=150,slow=8.0,SNR=16							
PBMO	**Poplar Bluff**	**63.38**	**338**	*e*P		**P**	**19 01 12.2**	**-0.3**
	38nm,1.0s							
WCI	**Wyandotte Cave**	**63.42**	**342**	*e*P		**P**	**19 01 11.3**	**-1.5**
	10.0nm,0.6s							
ACSO	**Alum Creek Sta**	**64.47**	**346**	*e*P		**P**	**19 01 19.2**	**-0.3**
	15nm,0.8s							
MNTX	**Cornudas Mount**	**65.81**	**324**	*e*P		**P**	**19 01 27.5**	**-0.8**
U34A	**Anderson Ranch**	**65.81**	**333**	*e*P		**P**	**19 01 27.9**	**-0.4**
	24nm,0.8s							
DBIC	**Dimbokro**	**66.57**	**72**	P		**P**	**19 01 32.7**	**-0.8**
	5.8nm,0.5s,baz=210,slow=7.0,SNR=13							
DBIC					pP	**pP**	**19 02 32.6**	**+1.9**
	2.6nm,0.8s,baz=270,slow=4.8,SNR=2.4							
DBIC	**Dimbokro**	**66.57**	**72**	*e*P		P	19 01 29.3	-4.2
	7.7nm,0.8s							
QSPA	**South Pole Qui**	**67.59**	**180**	P		**P**	**19 01 40.1**	**+0.9**
	10.0nm,0.8s,baz=26,slow=0.3,SNR=41							
KSU1	**Kansas State U**	**67.71**	**335**	*e*P		**P**	**19 01 40.1**	**-0.1**
	20nm,0.9s							
SADO	**Sadowa**	**68.11**	**350**	P		**P**	**19 01 42.0**	**-0.4**
	4.3nm,0.5s,baz=186,slow=6.0,SNR=7.6							
SADO					pP	**pP**	**19 02 42.3**	**+2.3**
	3.3nm,0.7s,baz=227,slow=11,SNR=2.3							
ANMO	**Albuquerque**	**68.88**	**325**	P		**P**	**19 01 47.9**	**+0.3**
	3.5nm,0.8s,baz=127,slow=6.6,SNR=8.8							
ANMO	**Albuquerque**	**68.88**	**325**	*e*P		**P**	**19 01 47.1**	**-0.6**
	8.4nm,1.2s							
JFWS	**Jewell Farm**	**68.90**	**341**	*e*P		**P**	**19 01 44.7**	**-2.7**
	14nm,0.7s							
SDCO	**Great Sand Dun**	**70.55**	**328**	*e*P		**P**	**19 01 57.8**	**-0.1**
	7.1nm,0.8s							
WUAZ	**Wupatki**	**71.98**	**322**	*e*P		**P**	**19 02 05.9**	**-0.5**
	5.8nm,0.8s							
SMCO	**Snowmass**	**72.39**	**328**	*e*P		**P**	**19 02 09.5**	**+0.5**
	14nm,0.9s							
MVU	**Marysvale**	**74.60**	**324**	*e*P		**P**	**19 02 22.1**	**+0.4**
	5.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**75.29**	**69**	P		**P**	**19 02 24.8**	**-1.0**
	11nm,0.4s,baz=255,slow=5.7,SNR=162							
TORD					pP	**pP**	**19 03 25.9**	**+1.4**
	7.1nm,0.8s,baz=252,slow=5.6,SNR=7.8							
AGMN	**Agassiz Nation**	**75.46**	**340**	*e*P		**P**	**19 02 23.7**	**-2.3**
	11nm,0.9s							
TPNV	**Topopah Spring**	**75.79**	**321**	*e*P		**P**	**19 02 28.6**	**+0.2**
	5.8nm,0.7s							
VNDA	**Vanda**	**76.20**	**190**	P		**P**	**19 02 31.7**	**+1.8**
	2.1nm,0.9s,baz=114,slow=5.8,SNR=8.9							
R11A	**Troy Canyon, C**	**76.37**	**322**	*e*P		**P**	**19 02 31.5**	**-0.1**
	10nm,1.5s							
SCHQ	**Schefferville**	**77.13**	**360**	P		**P**	**19 02 35.3**	**0.0**
	5.3nm,0.7s,baz=194,slow=6.6,SNR=9.5							
ULM	**Lac du Bonnet**	**77.19**	**341**	P		**P**	**19 02 35.5**	**-0.1**
	9.4nm,0.6s,baz=159,slow=5.7,SNR=19							
ULM	**Lac du Bonnet**	**77.19**	**341**	*e*P		**P**	**19 02 35.3**	**-0.3**
ELK	**Elko**	**77.84**	**324**	*e*P		**P**	**19 02 39.8**	**0.0**
	3.5nm,0.8s							
HLID	**Hailey**	**79.39**	**326**	*e*P		**P**	**19 02 49.5**	**+1.4**
	10nm,0.8s							
MCMT	**McKenzie Canyo**	**79.52**	**328**	*e*P		**P**	**19 02 49.1**	**+0.3**
	1.0nm,0.4s							
BMO	**Blue Mountains**	**81.78**	**326**	*e*P		**P**	**19 03 00.1**	**-0.5**
	12nm,1.4s							
FFC	**Flin Flon**	**82.94**	**340**	*e*P		**P**	**19 03 05.8**	**-0.4**
	15nm,1.4s							
C09A	**Chrisman Ranch**	**84.28**	**328**	*e*P		**P**	**19 03 13.3**	**+0.1**
	7.7nm,0.7s							
FCC	**Fort Churchill**	**84.32**	**346**	*e*P		**P**	**19 03 11.8**	**-1.3**
ESDC	**Sonseca Array**	**84.82**	**43**	P		**P**	**19 03 17.1**	**+0.9**
	3.1nm,1.0s,baz=243,slow=5.2,SNR=12							
YKA	**Yellowknife Ar**	**93.12**	**340**	P		**P**	**19 03 55.1**	**+0.5**
	4.4nm,0.6s,baz=129,slow=4.5,SNR=117							
YKA					pP	**pP**	**19 04 58.2**	**+2.7**
	0.7nm,0.6s,baz=126,slow=4.6,SNR=4.4							
ASAR	**Alice Springs**	**130.06**	**204**	PKP		**PKPdf**	**19 09 50.5**	**+0.1**
	3.6nm,0.8s,baz=132,slow=1.8,SNR=50							
ASAR					SKPbc	**SKPbc**	**19 12 48.7**	**-0.6**
	0.7nm,0.6s,baz=139,slow=4.0,SNR=5.3							
WRA	**Warramunga Arr**	**133.24**	**207**	PKhKP		PKPpre	19 09 43.9	
	0.2nm,0.7s,baz=231,slow=1.5,SNR=4.5							
WRA					PKP	**PKPdf**	**19 09 56.9**	**+0.4**
	1.9nm,0.4s,baz=166,slow=1.7,SNR=38							
WRA					SKPbc	**SKPbc**	**19 13 00.7**	**0.0**
	1.2nm,0.8s,baz=158,slow=2.9,SNR=6.5							
PETK	**Petropavlovsk-**	**135.00**	**324**	PKP		**PKPdf**	**19 09 59.6**	**+1.0**
	3.1nm,0.4s,baz=39,slow=2.8,SNR=4.1							
ZALV	**Zalesovo Beam**	**141.78**	**28**	PKhKP		PKPpre	19 10 06.1	
	2.5nm,0.6s,baz=304,slow=3.4,SNR=7.8							
ZALV					PKP	**PKPdf**	**19 10 10.9**	**-0.1**
	2.8nm,0.6s,baz=269,slow=3.2,SNR=7.7							
ZALV					pPKP	pPKPdf	19 11 18.7	+3.7
	1.0nm,0.6s,baz=345,slow=4.6,SNR=2.2							
ZALV					SKPbc	**SKiKP**	**19 13 25.3**	**-0.7**
	0.9nm,0.5s,baz=294,slow=3.5,SNR=4.4							
PALK	**Pallekele**	**144.60**	**110**	PKP		**PKPdf**	**19 10 17.3**	**0.0**
	3.0nm,0.4s,baz=242,slow=3.1,SNR=3.7							
MKAR	**Makanchi Array**	**144.93**	**39**	PKP		**PKPab**	**19 10 17.5**	**+0.6**
	9.9nm,0.7s,baz=309,slow=4.4,SNR=116							
MKAR					SKPbc	**SKiKP**	**19 13 33.4**	**+0.6**
	1.3nm,1.0s,baz=302,slow=2.7,SNR=4.5							
HYB	**Hyderabad**	**146.43**	**92**	*i* PKP		**PKPdf**	**19 10 20.0**	**-0.3**
CISI	**Cisompet, Garu**	**149.43**	**168**	*e*PKPbc		**PKPbc**	**19 10 28.1**	**-1.9**
USRK	**Ussuriysk Ar.**	**153.82**	**330**	PKPbc		**PKPbc**	**19 10 39.8**	**+0.8**
	2.8nm,0.7s,baz=158,slow=1.8,SNR=6.3							
USRK					PKPab	**PKPab**	**19 10 52.5**	**-0.6**
	0.4nm,0.5s,baz=167,slow=17,SNR=2.9							
SONM	**Songino Array**	**154.12**	**12**	PKP		**PKPdf**	**19 10 32.7**	**+1.2**
	1.4nm,0.8s,baz=257,slow=1.6,SNR=12							
SONM					PKPbc	**PKiKP**	**19 10 40.5**	**+0.7**
	0.9nm,0.4s,baz=295,slow=1.4,SNR=18							
SONM					PKPab	**PKPab**	**19 10 54.7**	**+0.2**
	1.2nm,0.6s,baz=326,slow=3.3,SNR=7.4							
MJAR	**Matsushiro Arr**	**154.80**	**309**	PKPbc		**PKPbc**	**19 10 41.9**	**+0.5**
	1.6nm,0.7s,baz=82,slow=2.0,SNR=6.1							
MJAR					PKPab	**PKPab**	**19 10 58.3**	**+0.7**
	1.2nm,0.8s,baz=88,slow=4.4,SNR=3.9							
CMAR	**Chiang Mai Arr**	**165.39**	**104**	PKP		**PKPdf**	**19 10 45.5**	**+0.8**
	0.2nm,0.6s,baz=267,slow=2.0,SNR=6.2							
CMAR					PKPab	**PKPab**	**19 11 44.7**	**+0.3**
	0.3nm,0.7s,baz=255,slow=6.5,SNR=3.0							

*IDC **28** 18:51:09.8±18.0, 23°.73S×179°.66W, h468km±179km, mb3.5/5, mb1 3.7/5, mb1mx3.2/23, mbtmp4.4/5, Error ellipse: s-maj=116.4km s-min=24.3km az=57.0*

ISC 28 18:51:18.6±3.0, 24°.25±0°.5×179°.8E±0°.4, h536km, n7, σ0°68/6, mb4.0/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.29**	**271**	P		**P**	**18 56 55.5**	**+0.4**
	6.5nm,0.5s,baz=90,slow=11,SNR=14							
ASAR	**Alice Springs**	**41.80**	**261**	P		**P**	**18 58 21.6**	**0.0**
	4.3nm,0.8s,baz=97,slow=7.4,SNR=36							
WRA	**Warramunga Arr**	**42.20**	**267**	P		**P**	**18 58 24.0**	**-0.8**
	5.0nm,0.7s,baz=103,slow=8.1,SNR=36							
QSPA	**South Pole Qui**	**65.87**	**180**	P		**P**	**19 01 11.4**	**+0.3**
	2.2nm,0.7s,baz=22,slow=1.3,SNR=13							
CMAR	**Chiang Mai Arr**	**89.45**	**290**	P		**P**	**19 03 19.1**	**+0.2**
	0.5nm,0.8s,baz=117,slow=3.4,SNR=4.2							
AKASG	**Malin Array Be**	**145.13**	**327**	PKPbc		PKPbc	19 09 51.8	-3.9
	0.2nm,0.4s,baz=36,slow=4.0,SNR=6.3							
TORD	**Torodi Ar. Bea**	**168.85**	**190**	PKPab		**PKPab**	**19 11 38.5**	**-0.7**
	0.3nm,0.7s,baz=182,slow=3.9,SNR=3.5							

IDC 28 18:52:32.7±1.4, 25°.99S×177°.37W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/22, mbtmp3.7/2, Error ellipse: s-maj=59.8km s-min=43.1km az=179.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.08**	**262**	P		P	19 00 42.6	-0.2
	0.5nm,0.5s,baz=99,slow=7.9,SNR=6.7							
WRA	**Warramunga Arr**	**44.67**	**267**	P		P	19 00 47.5	-0.1
	0.5nm,0.5s,baz=103,slow=8.3,SNR=7.0							
NB2	**NORSAR Subarra**	**144.47**	**353**	PKP		PKPbc	19 12 09.5	+0.5
	comp=Z,0.8nm,0.7s,baz=12,slow=4.1							
NOA	**NORSAR Array B**	**144.47**	**353**	PKP		PKPbc	19 12 09.7	+0.7
	comp=Z,1.8nm,0.8s,baz=17,slow=2.5,SNR=4.6							
AKASG	**Malin Array Be**	**148.01**	**327**	PKPbc		PKPbc	19 12 19.3	-0.5
	comp=Z,0.8nm,0.5s,baz=42,slow=4.3,SNR=6.2							
BRTR	**Keskin Array B**	**150.73**	**306**	PKPbc		PKPbc	19 12 26.6	-0.6
	comp=Z,0.8nm,0.7s,baz=126,slow=3.1,SNR=3.5							
BRTR				PKPab		PKPab	19 12 33.9	-0.3
	comp=Z,0.6nm,0.6s,baz=52,slow=2.4,SNR=2.9							
TORD	**Torodi Ar. Bea**	**167.20**	**176**	PKPab		PKPab	19 13 45.1	-0.3
	comp=Z,0.3nm,0.7s,baz=194,slow=3.2,SNR=3.3							

SIGU 28 19:00:43.6, 44°.53N×37°.41E, h20km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ANN	**Anapa**	**0.27**	**3**	*e*Pg			19 00 52.2	
	baz=348							
ANN				Pgm			19 00 52.4	
	baz=348							
ANN				*e*Sg			19 00 58.3	
	baz=348							
ANN				Sgm			19 00 59.1	
	baz=348							
ANN				Sgm			19 00 59.2	
	baz=348							
SUDU	**Sudak**	**1.76**	**283**	*e*Sn			19 01 38.7	
	baz=282							
SUDU				Snm			19 01 39.4	
	baz=282							
SUDU				Snm			19 01 39.4	
	baz=282							

MEX 28 19:06:48.6±0.4, 16°.61N×99°.67W, h16km±16km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.72**	**307**	*i* P		Pg	19 06 59.9	-2.8
CAIG				*e*S		Sg	19 07 09.2	-3.2
TLIG	**Tlapa**	**1.42**	**48**	*i* P		Pn	19 07 10.5	-3.5
TLIG				*e*S		Sn	19 07 26.3	-6.1
**PL

comp=E,0.8nm,0.3s,baz=232,slow=25,SNR=4.4
CMAR LR LR 19 25 05.5
comp=E,21nm,18.7s,baz=285,slow=45
SUKH Sukhothai 7.84 60 P **Pn 19 21 12.2 -1.9**
comp=E,7.9nm,0.6s,comp=E,101nmcomp=E,0.0nm
CHTO Chiang Mai 8.04 49 P **Pn 19 21 19.0 +2.2**
comp=E,62nm,0.9s,comp=E,0.2nm
CMMT Chiang Mai 8.04 49 P **Pn 19 21 18.9 +2.0**
comp=E,14nm,0.7s,comp=E,0.0nm
KRAB Krabi 8.43 129 P **Pb 19 21 46.2 -0.9**
PBKT Sadao Pong 8.65 69 P **Pn 19 21 24.6 -0.6**
comp=E,12nm,0.7s,comp=E,0.1nm
VIS Vishakhapatnam 9.79 296 *i* P **Pn 19 21 43.2 +2.5**
VIS *i* S **Sn 19 23 24.4 -5.4**
VIS *i* S **Sn 19 23 24.6 -5.1**
VIS *ex* x 19 23 29.2
comp=N,45nm,0.3s
VIS *ex* x 19 23 31.0
comp=E,52nm,0.5s
ODAN Odare 14.06 341 *eP* **Pn 19 22 39.7 +0.3**
comp=E,11nm,0.4s
RAMN Ramite 14.41 338 *eP* **Pn 19 22 44.6 +0.3**
comp=E,15nm,0.4s
TAPN Taplejung 14.42 342 *eP* **Pn 19 22 44.7 +0.3**
comp=E,7.3nm,0.4s
JIRN Jiri 15.21 338 *eP* **Pn 19 22 55.7 +0.7**
comp=E,15nm,0.8s
PKI Pulchoki 15.43 335 *eP* **Pn 19 22 57.7 -0.2**
comp=E,12nm,0.5s
PKIN Phulchoki 15.44 335 *eP* **Pn 19 22 58.4 +0.4**
comp=E,13nm,0.5s
GUN Gumba 15.55 337 *eP* **Pn 19 23 00.9 +1.4**
DMN Daman 15.59 335 *eP* **Pn 19 23 00.6 +0.7**
comp=E,14nm,0.5s
KKN Kakani 15.68 335 *eP* **Pn 19 23 02.0 +1.0**
TRD Trivandrum 16.11 253 *eP* **Pn 19 23 04.0 -2.5**
GKN Gorkha 16.13 334 *eP* **Pn 19 23 07.6 +0.8**
comp=E,16nm,0.4s
KOLN Koldanda 16.40 331 *eP* **P 19 23 12.0 -0.8**
comp=E,23nm,0.5s
DANN Dangsing 16.82 332 *eP* **P 19 23 16.8 -0.7**
comp=E,17nm,0.6s
H08S3 Diego Garcia H 29.00 225 T T 19 55 21.0
baz=43,slow=76,SNR=12
H08S2 Diego Garcia H 29.01 225 T T 19 55 19.2
baz=43,slow=76,SNR=13
H08S1 Diego Garcia H 29.02 225 T T 19 55 18.8
baz=43,slow=76,SNR=11
AAK Ala-Archa 32.88 335 P **P 19 25 56.4 +2.9**
comp=E,18nm,0.9s,baz=37,slow=17,SNR=4.5
MKAR Makanchi Array 34.21 347 P **P 19 26 06.1 +1.2**
comp=E,0.6nm,0.6s,baz=160,slow=7.8,SNR=7.5
SONM Songino Array 36.04 16 P **P 19 26 21.1 +0.3**
comp=E,0.6nm,0.6s,baz=192,slow=8.8,SNR=5.9
KURBB Kurchatov Arra 38.66 346 P **P 19 26 43.1 +0.3**
comp=E,1.2nm,0.7s,baz=163,slow=7.7,SNR=9.1
KSRS Korea Array 39.43 46 P **P 19 26 47.5 -2.0**
comp=E,1.0nm,0.6s,baz=245,slow=9.4,SNR=4.8
ZALV Zalesovo Beam 40.73 353 P **P 19 27 01.0 +1.1**
comp=E,1.5nm,0.6s,baz=178,slow=8.7,SNR=7.9
BVAR Borovoye Array 43.11 341 P **P 19 27 22.1 +2.6**
comp=E,1.7nm,0.8s,baz=157,slow=10.0,SNR=4.4
WRA Warramunga Arr 52.92 128 P **P 19 28 33.8 -2.0**
comp=E,0.8nm,0.5s,baz=303,slow=10.0,SNR=22
ASAR Alice Springs 54.83 132 P **P 19 28 48.4 -1.4**
comp=E,0.6nm,0.5s,baz=307,slow=7.0,SNR=12
BRTR Keskin Array B 57.60 309 P **P 19 29 11.0 +1.5**
comp=E,0.4nm,0.7s,baz=98,slow=5.9,SNR=2.2
GERES GERESS Array B 72.57 317 P **P 19 30 47.7 +1.1**
comp=E,0.3nm,0.5s,baz=80,slow=7.3,SNR=5.7
TORD Torodi Ar. Bea 87.79 283 P **P 19 32 11.2 +2.2**
comp=E,0.2nm,0.6s,baz=72,slow=6.2,SNR=2.7
ILAR Eielson Array 90.06 22 P **P 19 32 18.9 +0.2**
comp=E,0.2nm,0.6s,baz=308,slow=4.5,SNR=3.8

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*BJI **28** 19:23:16.2, 37°.53N×74°.74E, h7km, mb3.7/3, ML3.5/6*
*ISCJB **28** 19:23:17.5±0.9, 37°.41N±0°.07×74°.48E±0°.06, h50km, mb3.3/5, MS3.0/1, Error ellipse: s-maj=10.0km s-min=6.9km az=159.6*
*NNC **28** 19:23:18.6±3.0, 37°.65N×74°.53E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=27.2km s-min=12.1km az=153.0*
*IDC **28** 19:23:25.1±4.0, 37°.93N×74°.26E, h94km±30km, mb3.1/5, mb1 3.3/11, mb1mx3.1/37, mbtmp3.6/11, MS2.6/3, Ms1 2.6/3, ms1mx2.4/20, Error ellipse: s-maj=37.5km s-min=18.0km az=168.0*

ISC 28 19:23:18.4±1.2, 37°.5N±0°.1×74°.37E±0°.07, h50km, n32, σ2°36°/32, mb3.2/5, 7C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.42**	**31**	Pg	Pn	19 23 47.0	-8.6
KSH				Sg	Sn	19 24 09.3	-15
KSH				SMN			
	870nm,0.9s						
KSH				SME			
	610nm,0.7s						
DZET	**Dzherino**	**4.58**	**289**	⇓Pn	Pn	19 24 29.4	+4.2
DZET				⇑Sn	Sn	19 25 25.9	+8.8
KZA	**Kyzart**	**4.67**	**8**	P	**Pn**	**19 24 29.1**	**+2.4**
	SNR=26						
AML	**Almayashu**	**4.71**	**354**	P	**Pn**	**19 24 29.2**	**+2.1**
	SNR=17						
UCH	**Uchtor**	**4.78**	**1**	P	**Pn**	**19 24 30.6**	**+2.5**
	SNR=24						
AAK	**Ala-Archa**	**5.18**	**1**	⇓Pn	**Pn**	**19 24 35.9**	**+2.5**
	9.6nm,0.9s						
AAK				⇓Pg		19 24 49.4	
	22nm,0.9s						
AAK				⇑Lg	Lg	19 25 55.0	
	26nm,0.9s						
AAK	**Ala-Archa**	**5.18**	**1**	P	Pn	19 24 40.5	+7.0
	SNR=6.5						
AAK	**Ala-Archa**	**5.18**	**1**	P	**Pn**	**19 24 35.7**	**+2.3**
	0.6nm,0.3s,baz=179,slow=15,SNR=15						
AAK				LR	LR	19 25 58.2	
	comp=Z,11nm,20.4s,baz=70,slow=32						
KBK	**Karagaybulak**	**5.22**	**5**	P	Pn	19 24 37.6	+3.6
	SNR=12						
EKS2	**Erkin-Say**	**5.23**	**355**	P	**Pn**	**19 24 36.8**	**+2.7**
	SNR=9.6						
TKM2	**Tokmak 2**	**5.55**	**9**	⇑Pn	**Pn**	**19 24 40.8**	**+2.3**
	7.4nm,0.3s						
TKM2				⇓Sn	**Sn**	**19 25 43.5**	**+2.4**
	13nm,0.6s						
TKM2	**Tokmak 2**	**5.55**	**9**	P	**Pn**	**19 24 41.5**	**+2.9**
	SNR=12						
KK31	**Karatay Array**	**6.37**	**334**	Pn	**Pn**	**19 24 51.6**	**+2.0**
	6.8nm,0.7s,baz=140,slow=13,SNR=69						
KK31				Sn	**Sn**	**19 26 05.4**	**+4.3**
	baz=148,slow=21						
PDGK	**Podgornoye**	**7.05**	**32**	⇑Pn	**Pn**	**19 25 00.4**	**+1.5**
PDGK				⇑Sn	**Sn**	**19 26 17.9**	**+0.3**
MK31	**Makanchi Array**	**11.03**	**30**	P	**Pn**	**19 25 54.4**	**+1.0**
	1.6nm,1.1s,baz=181,slow=12,SNR=7.6						
MKAR	**Makanchi Array**	**11.03**	**30**	P	**Pn**	**19 25 53.5**	**+0.1**
	0.1nm,0.3s,baz=225,slow=15,SNR=9.3						
MKAR				LR	LR	19 30 30.3	
	comp=Z,59nm,18.2s,baz=195,slow=40						
WMQ	**Urumqi**	**11.95**	**54**	*eP*	**Pn**	**19 26 06.0**	**0.0**
WMQ				PMZ			
	2.0nm,1.0s						
GEYT	**Alibeck**	**12.89**	**277**	P	P	19 26 24.0	-4.3
	0.2nm,0.3s,baz=103,slow=13,SNR=3.8						
GEYT				S	**Sn**	**19 28 42.0**	**+1.3**
	0.5nm,0.3s,baz=142,slow=18,SNR=6.5						
KURBB	**Kurchatov Arra**	**13.50**	**11**	P	**Pn**	**19 26 25.4**	**-1.7**
	0.0nm,0.3s,baz=200,slow=12,SNR=6.9						
AB31	**Akbulak array**	**15.76**	**323**	⇓P	**Pn**	**19 26 55.3**	**-1.5**
	2.5nm,0.7s,baz=133,slow=13,SNR=31						
AB31				⇑S	**Sn**	**19 29 45.5**	**-4.8**
	1.6nm,0.6s,baz=126,slow=23,SNR=7.3						
BVA0	**Borovoye Array**	**15.82**	**351**	P	**P**	**19 27 01.3**	**+0.6**
	0.2nm,0.7s,baz=162,slow=9.7,SNR=16						
BVAR	**Borovoye Array**	**15.82**	**351**	P	**P**	**19 27 00.8**	**+0.1**
	0.3nm,0.3s,baz=162,slow=10,SNR=12						
AKTO	**Aktyubinsk**	**17.48**	**323**	⇓P	**P**	**19 27 19.8**	**+0.8**
	6.2nm,1.2s						
AKTO				⇑S	**Sn**	**19 30 28.0**	**-3.9**
	2.3nm,0.8s						
AKTO	**Aktyubinsk**	**17.48**	**323**	P	**Pn**	**19 27 18.2**	**-0.1**
	0.2nm,0.3s,baz=129,slow=12,SNR=13						
AKTO				S	**Sn**	**19 30 27.0**	**-4.9**
	0.2nm,0.3s,baz=165,slow=24,SNR=6.1						
ZALV	**Zalesovo Beam**	**18.01**	**20**	P	**P**	**19 27 22.9**	**-1.9**
	0.2nm,0.3s,baz=207,slow=12,SNR=9.0						
GTA	**Gaotai**	**20.01**	**77**	*eP*	Pn	19 27 50.8	+1.7
GTA				pP	pP	19 27 58.8	+0.3
GTA				sP	sP	19 28 02.0	-2.8
GTA				PMZ			
	2.0nm,1.2s						
SONM	**Songino Array**	**25.57**	**56**	P	**P**	**19 28 43.5**	**+0.8**
	0.7nm,0.8s,baz=251,slow=8.2,SNR=6.1						
AKASG	**Malin Array Be**	**34.49**	**307**	P	**P**	**19 29 59.6**	**-1.7**
	0.1nm,0.3s,baz=84,slow=5.1,SNR=2.9						
PSI	**Prapat**	**41.20**	**141**	LR	LR	19 50 52.2	
	comp=Z,20nm,19.0s,baz=184,slow=40						
ARCES	**ARCESS Array B**	**41.33**	**336**	P	**P**	**19 30 57.5**	**-1.2**
	1.7nm,0.8s,baz=116,slow=8.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**68.43**	**270**	P	**P**	**19 34 16.7**	**+1.4**
	0.2nm,0.4s,baz=46,slow=5.5,SNR=7.8						
YKA	**Yellowknife Ar**	**80.14**	**4**	P	**P**	**19 35 22.4**	**-0.2**
	0.2nm,0.7s,baz=346,slow=5.5,SNR=5.4						

GUC 28 19:32:33.0±0.6, 33°.96S×72°.05W, h108km±20km, ML3.7, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.24**	**147**	⇓*iP*	Pn	19 32 56.5	-0.2
NICH				*i* S	Sn	19 33 14.3	-0.3
ROCH	**El Roble**	**1.31**	**42**	⇑*iP*	Pn	19 32 57.5	-0.2
ROCH				*i* S	Sn	19 33 16.9	+0.5
ROCH				IAML		19 33 19.5	
	comp=N,1μm,0.4s						
PEL	**Peldehue**	**1.40**	**55**	⇑*iP*	Pn	19 32 58.5	0.0
PEL				*i* S	Sn	19 33 17.5	-0.4
PEL				IAML		19 33 26.1	
	comp=E,2μm,1.2s						
TALC	**Talca**	**1.48**	**167**	⇑*iP*	Pn	19 32 59.5	+0.1
TALC				*i* S	Sn	19 33 18.9	-0.5

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*ISCJB **28** 19:58:07.5±0.2, 67°.86N±0°.03×156°.31W±0°.09, h10km, mb4.1/19, MS3.9/3, Error ellipse: s-maj=6.3km s-min=3.3km az=136.8*
*NEIC **28** 19:58:09.7, 67°.84N×156°.35W, h20km, mb4.2/1, ML4.2(AEIC), After AEIC.*
*IDC **28** 19:58:09.6±0.7, 68°.20N×156°.60W, h0km, mb4.1/17, mb1 4.3/20, mb1mx4.1/44, mbtmp4.1/20, ML4.2/3, MS3.4/3, Ms1 3.4/3, ms1mx2.8/56, Error ellipse: s-maj=23.0km s-min=12.0km az=33.0*

ISC 28 19:58:09.2±0.5, 67°.87N±0°.06×156°.43W±0°.05, h10km, n77, σ1°16°/79, mb4.1/19, MS3.6/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IM3	**Indian Mountai**	**2.17**	**150**	P	**Pn**	**19 58 44.5**	**-0.8**
PS05	**TAPS Pump Stn5**	**2.47**	**113**	P	**Pn**	**19 58 48.7**	**-0.7**
PS05				S	**Sb**	**19 59 22.4**	**-1.7**
COLD	**Coldfoot**	**2.48**	**102**	P	**Pn**	**19 58 48.9**	**-0.6**
COLD				S	**Sn**	**19 59 22.2**	**+2.4**
GCSA	**Galena City Sc**	**3.14**	**184**	P	**Pn**	**19 58 55.8**	**-2.9**
PS06	**TAPS Pump Stn6**	**3.33**	**124**	P	**Pn**	**19 59 00.6**	**-0.6**
MLY	**Manley**	**3.65**	**139**	P	**Pn**	**19 59 05.2**	**-0.5**
MLY				S	**Sn**	**19 59 49.2**	**+0.4**
PS01	**TAPS Pump Stn**	**3.69**	**46**	P	**Pn**	**19 59 06.9**	**+0.8**
CHUM	**Lake Minchumin**	**4.35**	**155**	P	**Pn**	**19 59 15.1**	**-0.1**
MDM	**Murphy Dome**	**4.40**	**128**	P	**Pn**	**19 59 15.2**	**-0.8**
BM3	**Burnt Mountain**	**4.54**	**90**	P	**Pn**	**19 59 16.6**	**-1.2**
FYU	**Fort Yukon**	**4.54**	**102**	P	**Pn**	**19 59 18.7**	**+0.8**
COLA	**College**	**4.58**	**127**	P	**Pn**	**19 59 18.5**	**+0.2**
BWN	**Browne**	**4.67**	**139**	P	**Pn**	**19 59 20.2**	**+0.5**
CCB	**Clear Creek Bu**	**4.75**	**129**	P	**Pn**	**19 59 19.7**	**-1.1**
WRH	**Wood River Hil**	**4.80**	**131**	P	**Pn**	**19 59 20.4**	**-1.0**
CAST	**Castle Rocks**	**4.82**	**156**	P	**Pn**	**19 59 21.9**	**+0.2**
KTH	**Kantishna Hill**	**4.89**	**150**	P	**Pn**	**19 59 22.7**	**-0.1**
ILAR	**Eielson Array**	**4.94**	**125**	Pn	**Pn**	**19 59 22.9**	**-0.5**
	4.9nm,0.3s,baz=309,slow=13,SNR=356						
ILAR				Sn	**Sn**	**20 00 19.3**	**-1.3**
	12nm,0.3s,baz=311,slow=21,SNR=5.9						
ILAR				Lg	Lg	20 00 43.6	
	15nm,0.3s,baz=315,slow=31,SNR=6.1						
ILAR				LR	LR	20 01 40.8	
	comp=Z,194nm,18.4s,baz=318,slow=41						
IL1	**Eielson Array**	**4.95**	**125**	P	**Pn**	**19 59 22.4**	**-1.0**
TT01	**Tatalina**	**4.99**	**178**	P	**Pn**	**19 59 23.8**	**-0.2**
TRF	**Thorofare Moun**	**5.11**	**147**	P	**Pn**	**19 59 25.9**	**+0.1**
TNA	**Tin City**	**5.12**	**248**	P	**Pn**	**19 59 24.6**	**-1.2**
MCK	**McKinley**	**5.17**	**140**	P	**Pn**	**19 59 26.4**	**-0.1**
PPLA	**Purkeypile**	**5.30**	**158**	P	**Pn**	**19 59 28.8**	**+0.3**
RND	**Reindeer**	**5.47**	**141**	P	**Pn**	**19 59 30.7**	**+0.1**
DDM	**Donnelly Dome**	**5.96**	**128**	P	**Pn**	**19 59 36.9**	**-0.6**
SKT	**Skwentna**	**6.27**	**158**	P	**Pn**	**19 59 41.9**	**+0.3**
SCRK	**Sand Creek**	**6.41**	**122**	P	**Pn**	**19 59 43.2**	**-0.4**
DOT	**Dot Lake**	**6.62**	**124**	P	**Pn**	**19 59 45.5**	**-0.9**
STLK	**Strandline Lak**	**6.69**	**161**	P	**Pn**	**19 59 47.8**	**+0.3**
PAX	**Paxson**	**6.71**	**132**	P	**Pn**	**19 59 47.9**	**+0.3**
SVW2	**Sparrevohn**	**6.81**	**177**	P	**Pn**	**19 59 49.3**	**+0.2**
BGL	**Barrier Glacie**	**6.86**	**163**	P	**Pn**	**19 59 50.4**	**+0.6**
EGAK	**Eagle**	**6.88**	**110**	*e*Pn	**Pn**	**19 59 47.3**	**-2.6**
	19nm,0.6s						
EGAK				*e*Sn	**Sn**	**20 01 05.5**	**-2.7**
RC01	**Rabbit Creek A**	**7.39**	**154**	*e*Pn	**Pn**	**19 59 57.1**	**+0.1**
	15nm,0.6s						
RC01				*e*Sn	**Sn**	**20 01 17.6**	**-3.2**
RSO	**Redoubt South**	**7.61**	**166**	*e*Pn	**Pn**	**20 00 01.6**	**+1.5**
	17μm,0.3s						
BCA3	**Beaver Creek A**	**7.76**	**121**	P	**Pn**	**20 00 01.0**	**-1.0**
DAWY	**Dawson**	**7.92**	**111**	P	**Pn**	**20 00 04.2**	**-0.1**
BILL	**Bilibino**	**13.87**	**288**	*e*Pn	**Pn**	**20 01 24.8**	**-0.7**
	7.7nm,0.6s						
DLBC	**Dease Lake**	**15.07**	**116**	Pn	**Pn**	**20 01 44.5**	**+2.5**
	0.7nm,0.3s,baz=316,slow=11,SNR=9.7						
YKA	**Yellowknife Ar**	**18.06**	**87**	P	**Pn**	**20 02 16.4**	**-3.4**
	0.3nm,0.3s,baz=305,slow=12,SNR=26						
RES	**Resolute Bay**	**19.92**	**43**	P	**P**	**20 02 39.2**	**-1.3**
	0.3nm,0.3s,baz=286,slow=13,SNR=9.7						
BBB	**Bella Bella**	**20.84**	**125**	LR	LR	20 11 40.3	
	comp=Z,264nm,18.2s,baz=256,slow=38						
SEY	**Seymchan**	**21.32**	**281**	P	**P**	**20 02 57.0**	**+1.2**
	9.6nm,0.6s,baz=72,slow=6.6,SNR=45						
TIXI	**Tiksi**	**24.57**	**313**	*eP*	**P**	**20 03 29.1**	**+0.5**
	3.5nm,0.6s						
FRB	**Frobisher Bay**	**33.37**	**54**	P	P	20 04 52.2	+5.2
	0.8nm,0.3s,baz=329,slow=8.0,SNR=5.2						
FRB				LR	LR	20 21 23.0	
	comp=Z,34nm,18.0s,baz=329,slow=42						
ELK	**Elko**	**35.08**	**119**	P	P	20 05 07.0	+4.6
	1.5nm,0.8s,baz=348,slow=8.9,SNR=5.5						
PDAR	**Pinedale Array**	**35.23**	**111**	P	P	20 05 08.1	+4.5
	2.1nm,0.6s,baz=348,slow=6.7,SNR=6.9						
SCHQ	**Schefferville**	**40.85**	**62**	P	**P**	**20 05 52.8**	**+2.2**
	3.0nm,0.7s,baz=315,slow=5.7,SNR=5.1						
ARCES	**ARCESS Array B**	**42.85**	**359**	P	**P**	**20 06 06.1**	**-0.6**
	3.6nm,0.8s,baz=354,slow=8.2,SNR=3.1						
ARCES				PcP	**PcP**	**20 07 57.0**	**-0.4**
	2.6nm,0.8s,baz=340,slow=3.2,SNR=9.9						
ANMO	**Albuquerque**	**43.29**	**113**	P	P	20 06 15.2	+4.2
	2.3nm,1.0s,baz=334,slow=12,SNR=3.9						
SONM	**Songino Array**	**49.31**	**298**	P	**P**	**20 06 59.5**	**+1.5**
	3.9nm,0.7s,baz=28,slow=6.2,SNR=30						
TXAR	**Lajitas Array**	**49.36**	**114**	P	**P**	**20 07 01.4**	**+2.9**
	1.9nm,0.7s,baz=338,slow=6.0,SNR=20						
ZALV	**Zalesovo Beam**	**50.30**	**318**	P	**P**	**20 07 04.9**	**-0.4**
	3.7nm,0.4s,baz=11,slow=7.6,SNR=16						
FINES	**FINESS Array B**	**50.97**	**358**	P	**P**	**20 07 09.6**	**-0.6**
	1.5nm,0.8s,baz=357,slow=9.5,SNR=5.5						
NOA	**NORSAR Array B**	**51.07**	**8**	P	**P**	**20 07 11.0**	**-0.1**
	1.1nm,0.9s,baz=350,slow=5.3,SNR=2.6						
MKAR	**Makanchi Array**	**57.50**	**316**	P	**P**	**20 07 57.3**	**-0.8**
	1.6nm,0.5s,baz=24,slow=7.5,SNR=34						
MKAR				PP	**PP**	**20 10 04.0**	**-1.1**
	0.4nm,0.7s,baz=46,slow=6.9,SNR=3.5						
AKASG	**Malin Array Be**	**61.67**	**356**	P	**P**	**20 08 26.3**	**-0.4**
	2.8nm,0.4s,baz=1.7,slow=6.6,SNR=45						
DPC	**Dobruska-Polom**	**61.98**	**5**	*eP*	**P**	**20 08 29.0**	**+0.2**
KHC	**Kasperske Hory**	**63.08**	**7**	*eP*	**P**	**20 08 36.5**	**+0.3**
GERES	**GERESS Array B**	**63.37**	**7**	P	**P**	**20 08 38.1**	**0.0**
	0.7nm,0.7s,baz=357,slow=5.3,SNR=9.3						
ESDC	**Sonseca Array**	**70.78**	**22**	P	**P**	**20 09 24.7**	**-0.6**
	0.6nm,0.7s,baz=352,slow=6.2,SNR=5.9						
BRTR	**Keskin Array B**	**72.46**	**352**	P	**P**	**20 09 35.8**	**+0.2**
	1.6nm,0.9s,baz=35,slow=4.5,SNR=5.8						
TAPN	**Taplejung**	**73.98**	**304**	*eP*	**P**	**20 09 45.3**	**+0.4**
	14nm,0.6s						
GUN	**Gumba**	**74.03**	**305**	*eP*	**P**	**20 09 45.9**	**+0.7**
	22nm,1.2s						
JIRN	**Jiri**	**74.17**	**305**	*eP*	**P**	**20 09 46.8**	**+0.7**
	6.5nm,0.6s						
DANN	**Dangsing**	**74.27**	**307**	*eP*	**P**	**20 09 47.0**	**+0.5**
	9.2nm,0.5s						
GKN	**Gorkha**	**74.33**	**307**	*eP*	**P**	**20 09 47.1**	**+0.4**
	10nm,0.6s						
KKN	**Kakani**	**74.33**	**306**	*eP*	**P**	**20 09 47.0**	**+0.2**
	4.8nm,0.6s						
PKIN	**Phulchoki**	**74.49**	**306**	*eP*	**P**	**20 09 47.9**	**+0.1**
	6.3nm,1.0s						
PKI	**Pulchoki**	**74.49**	**306**	*eP*	**P**	**20 09 48.1**	**+0.2**
ODAN	**Odare**	**74.54**	**304**	*eP*	**P**	**20 09 48.7**	**+0.6**
	8.7nm,0.7s						
DMN	**Daman**	**74.55**	**306**	*eP*	**P**	**20 09 48.6**	**+0.4**
	7.0nm,0.5s						
RAMN	**Ramite**	**74.70**	**304**	*eP*	**P**	**20 09 49.4**	**+0.4**
	7.1nm,0.6s						
KOLN	**Koldanda**	**74.86**	**307**	*eP*	**P**	**20 09 50.1**	**+0.2**
	6.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**78.44**	**290**	P	**P**	**20 10 10.2**	**+0.2**
	2.0nm,0.6s,baz=1.0,slow=6.5,SNR=30						
PMG	**Port Moresby**	**86.76**	**235**	LR	LR	20 42 09.5	
	comp=Z,679nm,21.6s,baz=152,slow=30						

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*IDC **28** 20:01:03.8±0.4, 55°.23S×128°.51W, h0km, mb4.5/9, mb1 4.7/9, mb1mx4.5/24, mbtmp4.5/9, MS4.8/15, Ms1 4.8/15, ms1mx4.8/16, Error ellipse: s-maj=20.1km s-min=16.2km az=157.0*
*ISCJB **28** 20:01:04.8±0.3, 55°.33S±0°.06×128°.2W±0°.1, h10km, mb4.7/21, MS5.0/137, Error ellipse: s-maj=12.6km s-min=8.4km az=21.8*
*GCMT **28** 20:01:05.6±0.1, 55°.38S×128°.83W, h19km, MW5.7/122, Moment Tensor Solution. s114,c213; s122,c330; Duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.64±.04; $M_{\theta\theta}$3.38±.05; $M_{\phi\phi}$-2.74±.04; $M_{r\theta}$-0.64±.10; $M_{\theta\phi}$3.35±.04; $M_{r\phi}$0.06±.10; Best double couple: $M_0$4.58000×10^{17} NP1:ϕ_s291.00000°, δ89.00000°, λ8.00000°. NP2:ϕ_s201.00000°, δ82.00000°, λ179.00000°. Principal axes: T 4.9150, Plg6.0000°, Azm156.0000°; N -0.6650, Plg82.0000°, Azm295.0000°; P -4.2450, Plg5.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **28** 20:01:05.6±0.2, 55°.14S×128°.37W, h10km, mb5.1/13, MS5.2/120, MW5.6 Error ellipse: s-maj=12.8km s-min=8.2km az=150.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.38; $M_{\theta\theta}$2.51; $M_{\phi\phi}$-2.13; $M_{r\theta}$-0.84; $M_{\theta\phi}$2.13; $M_{r\phi}$-0.51; Best double couple: $M_0$3.30000×10^{17} NP1:ϕ_s203.00000°, δ83.00000°, λ167.00000°. NP2:ϕ_s295.00000°, δ77.00000°, λ7.00000°. Principal axes: T 3.5800, Plg13.0000°, Azm158.0000°; N -0.6100, Plg75.0000°, Azm355.0000°; P -2.9700, Plg4.0000°, Azm249.0000°;*
*AWI **28** 20:01:08.5, 55°.38S×128°.17W*

ISC 28 20:01:06.5±0.3, 54°.98S±0°.08×127°.99W±0°.08, h10km, n316, σ1°80/182, mb4.9/21, MS5.2/138, 3C-1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCN	**Pitcairn Islan**	**29.92**	**356**	PFAKE		20 07 30.0	+16
PTCN				LR	LR		
	comp=Z,7μm,20.0s						
SBA	**Scott Base**	**31.82**	**201**	P	**P**	**20 07 29.2**	**-1.5**
	comp=Z,32nm,1.4s						
SBA				LR	LR		
	comp=Z,3μm,22.0s						
PMSA	**Palmer Station**	**32.13**	**134**	LR	LR	20 17 01.7	
	comp=Z,2μm,19.0s,baz=302,slow=30						
PMSA	**Palmer Station**	**32.13**	**134**	PFAKE		20 07 50.0	+16
PMSA				LR	LR		
	comp=Z,5μm,22.0s						
RKT	**Rikitea**	**32.25**	**348**	*e*S	**S**	**20 12 44.4**	**-3.7**
	comp=Z,928nm,29.5s						
RKT				*e*LQ	LQ	20 14 37.9	
	comp=Z,3μm,32.5s						
RKT				*e*LR	LR	20 16 00.7	
	comp=Z,13μm,29.2s,baz=172						
RKT	**Rikitea**	**32.25**	**348**	*e*T	T	20 41 18.4	
	comp=Z,42nm,0.2s						
VNDA	**Vanda**	**32.84**	**202**	P	P	20 07 36.0	-3.7
	comp=Z,2.7nm,1.0s,baz=79,slow=8.9,SNR=5.6						
VNDA				LR	LR	20 17 47.7	
	comp=Z,1μm,18.6s,baz=82,slow=31						
VNDA	**Vanda**	**32.84**	**202**	*e*P	**P**	**20 07 37.3**	**-2.5**
	comp=Z,19nm,1.4s						
USHA	**Ushuaia**	**33.33**	**115**	LR	LR	20 18 15.0	
	comp=Z,2μm,19.0s,baz=229,slow=31						
QSPA	**South Pole Qui**	**35.19**	**180**	P	**P**	**20 07 58.3**	**-2.2**
	comp=Z,15nm,1.0s,baz=90,slow=6.6,SNR=18						
QSPA	**South Pole Qui**	**35.19**	**180**	*e*P	**P**	**20 07 59.0**	**-1.4**
	comp=Z,31nm,1.3s						
QSPA				LR	LR		
	comp=Z,6μm,19.0s						
TBI	**Tubuai**	**35.41**	**325**	*e*S	**S**	**20 13 33.3**	**-3.8**
	comp=Z,929nm,30.0s						
TBI				*e*LR	LR	20 17 30.3	
	comp=Z,10μm,26.8s,baz=164						
TBI	**Tubuai**	**35.41**	**325**	*e*T	T	20 45 04.4	
	comp=Z,197nm,0.3s						
SNZO	**South Karori**	**39.47**	**266**	PFAKE		20 08 50.0	+13
SNZO				LR	LR		
	comp=Z,3μm,20.0s			

HOPE LR LR
comp=Z,1μm,20.0s
CASY Casey 51.28 206 *e*P P 20 10 06.4 -3.5
comp=Z,38nm,1.4s
CASY LR LR
comp=Z,1μm,19.0s
TAU Tasmania Unive 53.59 245 PFAKE 20 10 40.0 +13
TAU LR LR
comp=Z,3μm,19.0s
LVC Limon Verde 54.12 78 *e*P **P 20 10 32.3 +0.5**
comp=Z,35nm,1.2s
LVC LR LR
comp=Z,261nm,20.0s
MAW Mawson 57.46 185 LR LR 20 33 16.2
comp=Z,1μm,21.3s,baz=166,slow=34
CAN Canberra 58.15 253 PFAKE 20 11 10.0 +10
CAN LR LR
comp=Z,2μm,20.0s
DZM Mont Dzumac 58.24 277 LR LR 20 29 54.4
comp=Z,889nm,20.9s,baz=128,slow=30
LPAZ La Paz 59.62 74 P **P 20 11 11.1 -0.3**
comp=Z,4.6nm,0.9s,baz=191,slow=3.1,SNR=21
LPAZ LR LR 20 31 32.2
comp=Z,140nm,20.8s,baz=220,slow=30
LPAZ La Paz 59.62 74 *e*P **P 20 11 11.8 +0.5**
comp=Z,36nm,1.3s
PAYG Puerto Ayora 62.25 44 PFAKE 20 11 40.0 +12
PAYG LR LR
comp=Z,997nm,19.0s
BBOO Buckleboo 67.02 245 *e*P **P 20 11 56.9 -2.6**
OTAV Otavalo 68.24 55 *e*P **P 20 12 09.0 +1.1**
comp=Z,19nm,1.4s
OTAV LR LR
comp=Z,705nm,22.0s
SAML Samuel 68.36 74 *e*P **P 20 12 08.3 +0.2**
comp=Z,10nm,0.8s
SAML LR LR
comp=Z,259nm,19.0s
CTA Charters Tower 71.39 262 LR LR 20 38 21.3
comp=Z,916nm,20.6s,baz=136,slow=32
CTAO Charters Tower 71.39 262 PFAKE 20 12 40.0 +13
CTAO LR LR
comp=Z,1μm,20.0s
BDFB Brasilia 71.60 91 P **P 20 12 30.1 +1.9**
comp=Z,4.0nm,0.7s,baz=159,slow=5.3,SNR=6.3
BDFB LR LR 20 42 00.9
comp=Z,961nm,18.7s,baz=206,slow=34
HNR Honiara 72.05 279 LR LR 20 39 51.2
comp=Z,298nm,18.7s,baz=136,slow=32
HNR Honiara 72.05 279 PFAKE 20 12 40.0 +9.3
HNR LR LR
comp=Z,76nm,20.0s
TARA Tarawa 73.93 297 PFAKE 20 12 50.0 +8.2
TARA LR LR
comp=Z,2μm,21.0s
JTS JuntasAbangare 74.36 44 PFAKE 20 13 00.0 +16
JTS LR LR
comp=Z,827nm,21.0s
H06S1 SOCORRO T 74.85 17 T T 21 35 38.7
SNR=14
PAF Port-aux-Franc 74.92 192 S **SKiKP 20 22 11.0 -0.1**
PAF SS SS 20 26 55.0 -16
PAF L L 20 32 00.0
PAF R 20 37 00.0
AS31 Alice Springs 75.43 250 *e*P **P 20 12 48.3 -2.3**
ASAR Alice Springs 75.43 250 P P 20 12 46.2 -4.3
comp=Z,10nm,0.9s,baz=144,slow=4.9,SNR=34
ASAR LR LR 20 41 30.5
comp=Z,2μm,19.4s,baz=144,slow=32
BCIP Isla Barro Col 75.50 49 PFAKE 20 13 00.0 +9.2
BCIP LR LR
comp=Z,668nm,19.0s
H01W1 Cape Leeuwin H 75.88 229 T T 21 36 24.7
baz=147,slow=76
H01W2 Cape Leeuwin H 75.89 229 T T 21 36 25.1
baz=147,slow=76
H01W3 Cape Leeuwin H 75.90 229 T T 21 36 27.5
baz=147,slow=76
NWAO Narrogin (SRO) 76.18 232 PFAKE 20 13 00.0 +5.3
NWAO LR LR
comp=Z,1.0nm,20.0s
APG El Apazote 76.61 37 P **P 20 12 55.1 -2.3**
comp=Z,3.4nm,0.7s,baz=191,slow=5.2,SNR=5.3
PTGA Pitinga 76.93 72 *e*P **P 20 12 59.9 +0.8**
comp=Z,11nm,1.1s
POHA Pohakuloa 78.07 334 PFAKE 20 13 20.0 +15
POHA LR LR
comp=Z,3μm,19.0s
WB2 Warramunga Arr 78.18 252 *e*P **P 20 13 06.0 -0.1**
WRA Warramunga Arr 78.19 252 P P 20 13 01.7 -4.5
comp=Z,7.5nm,0.9s,baz=143,slow=5.1,SNR=27
WRAB Tennant Creek 78.19 252 P **P 20 13 05.0 -1.2**
comp=Z,144nm,0.8s,SNR=6.5
WRAB Tennant Creek 78.19 252 *e*P **P 20 13 05.6 -0.6**
comp=Z,20nm,0.8s
WRAB LR LR
comp=Z,1μm,20.0s
PMG Port Moresby 79.42 269 PFAKE 20 13 20.0 +7.1
PMG LR LR
comp=Z,1μm,19.0s
SDV Santo Domingo 79.52 58 PFAKE 20 13 30.0 +16
SDV LR LR
comp=Z,491nm,20.0s
TEIG Tepich 82.21 37 PFAKE 20 13 40.0 +12
TEIG LR LR
comp=Z,523nm,21.0s
MTDJ Mount Denham 84.56 47 PFAKE 20 13 50.0 +10
MTDJ LR LR
comp=Z,360nm,19.0s
MBWA Marble Bar 84.88 240 PFAKE 20 13 50.0 +8.5
MBWA LR LR
comp=Z,990nm,21.0s
RCBR Riachuelo 86.47 95 PFAKE 20 14 00.0 +10
RCBR LR LR
comp=Z,571nm,22.0s
TXAR Lajitas Array 86.54 21 P **P 20 13 51.2 +1.8**
comp=Z,2.0nm,1.0s,baz=192,slow=7.5,SNR=12
GRGR Grenville 86.81 64 PFAKE 20 14 00.0 +9.0
GRGR LR LR
comp=Z,491nm,21.0s
GTBY Guantanamo Bay 87.11 49 PFAKE 20 14 00.0 +7.7
GTBY LR LR
comp=Z,245nm,19.0s
633A Saathoff Ranch 87.67 25 P **P 20 13 56.3 +1.5**
baz=88
530A J-C Ranch, Com 87.83 23 P **P 20 13 57.5 +1.9**
baz=88
SDDR Presa de Saban 87.98 52 PFAKE 20 14 10.0 +13
SDDR LR LR
comp=Z,296nm,21.0s
531A Rocksprings 88.03 24 P **P 20 13 57.0 +0.4**
baz=89
532A Rocksprings 88.14 24 P **P 20 13 57.9 +0.8**
baz=89
429A Davenport Ranc 88.17 22 P **P 20 13 58.9 +1.7**
baz=89
TUC Tucson 88.19 15 *e*P **P 20 13 58.3 +1.0**
comp=Z,12nm,1.4s
CIS Catalina Islan 88.42 8 P **P 20 13 60.0 +1.7**
baz=89
JCT Junction City 88.50 24 PFAKE 20 14 10.0 +11
JCT LR LR
comp=Z,406nm,22.0s
431A Sonora 88.51 23 P **P 20 14 00.2 +1.4**
baz=89
JAY Jayapura 88.71 267 LR LR 20 48 05.3
comp=Z,297nm,21.8s,slow=32
BBGH Gun Hill 88.75 65 PFAKE 20 14 10.0 +10
BBGH LR LR
comp=Z,892nm,22.0s
PFO Pinyon Flats O 88.79 10 P P 20 14 04.4 +4.2
comp=Z,2.0nm,0.8s,baz=95,slow=1.3,SNR=4.2
PFO Pinyon Flats O 88.79 10 P P 20 14 04.4 +4.2
PFO LR LR
comp=Z,2μm,22.0s
SUR Sutherland 88.95 154 PFAKE 20 14 10.0 +8.6
SUR LR LR
comp=Z,939nm,19.0s
329A Wagon Wheel Ra 88.98 22 P **P 20 14 02.3 +1.3**
baz=90
330A Mertzon 89.08 23 P **P 20 14 02.8 +1.3**
baz=90
BELC Belle Mtn. Jos 89.22 10 P **P 20 14 02.5 +0.3**
baz=90
FDF Fort de France 89.26 63 PFAKE 20 14 10.0 +7.3
FDF LR LR
comp=Z,750nm,22.0s

128A Castleberry Fa 89.97 21 P **P 20 14 07.1 +1.5**
baz=90
GRTK Grand Turk 90.25 51 PFAKE 20 14 20.0 +13
GRTK LR LR
comp=Z,513nm,19.0s
X18A Snowflake 90.49 15 P **P 20 14 09.9 +1.8**
baz=91
ISA Isabella, Lake 90.65 8 P **P 20 14 10.4 +1.7**
baz=91
Z32A Haskell 91.29 24 P **P 20 14 13.6 +1.9**
baz=92
ANWB Willy Bob 91.42 61 PFAKE 20 14 20.0 +7.4
ANWB LR LR
comp=Z,680nm,22.0s
ANMO Albuquerque 91.46 18 P **P 20 14 14.2 +1.6**
comp=Z,1.7nm,0.9s,baz=188,slow=6.7,SNR=4.0
ANMO Albuquerque 91.46 18 P **P 20 14 14.2 +1.6**
ANMO LR LR
comp=Z,539nm,22.0s
H11S2 WAKE ISLAND Hy 91.67 300 T T 21 55 25.4
baz=152
H11S3 WAKE ISLAND Hy 91.68 300 T T 21 55 23.5
baz=152
H11S1 WAKE ISLAND Hy 91.69 300 T T 21 55 24.0
baz=152
Y31A Rekieta Farm, 91.74 23 P **P 20 14 15.4 +1.7**
baz=92
X28A Dimmitt 91.86 21 P **P 20 14 16.2 +1.8**
baz=92
TPNV Topopah Spring 92.12 9 P **P 20 14 17.7 +2.1**
baz=93
X32A Elmer 92.40 23 P **P 20 14 18.3 +1.5**
baz=93
BRAL Brewton 92.58 34 PFAKE 20 14 30.0 +12
BRAL LR LR
comp=Z,547nm,21.0s
H11N3 WAKE ISLAND Hy 92.61 301 T T 21 56 37.6
baz=146,slow=75
H11N1 WAKE ISLAND Hy 92.61 301 T T 21 56 35.6
baz=146,slow=75
H11N2 WAKE ISLAND Hy 92.62 301 T T 21 56 35.7
baz=146,slow=75
V25A Rancho No Teng 92.66 19 P **P 20 14 19.5 +1.2**
baz=93
V26A Tequesquite Ra 92.78 19 P **P 20 14 20.3 +1.6**
baz=93
MVCO Mesa Verde 93.34 15 PFAKE 20 14 30.0 +8.6
MVCO LR LR
comp=Z,835nm,20.0s
MIAR Mount Ida 93.94 28 PFAKE 20 14 40.0 +16
MIAR LR LR
comp=Z,496nm,20.0s
DUG Dugway, Tooele 95.69 12 PFAKE 20 14 40.0 +8.0
DUG LR LR
comp=Z,1μm,20.0s
GOGA Godfrey 95.98 36 PFAKE 20 14 40.0 +6.8
GOGA LR LR
comp=Z,283nm,20.0s
ISCO Idaho Springs 96.34 17 PFAKE 20 14 50.0 +15
ISCO LR LR
comp=Z,1μm,19.0s
HWUT Hardware Ranch 97.24 12 PFAKE 20 14 50.0 +11
HWUT LR LR
comp=Z,1μm,19.0s
KSU1 Kansas State U 97.49 24 PFAKE 20 14 50.0 +10
KSU1 LR LR
comp=Z,338nm,19.0s
OGNE Ogallala 98.10 20 PFAKE 20 14 50.0 +7.2
OGNE LR LR
comp=Z,935nm,21.0s
KAPI Kappang 98.43 249 PFAKE 20 14 50.0 +5.1
KAPI LR LR
comp=Z,2μm,22.0s
AHID Auburn Hatcher 98.44 12 PFAKE 20 15 00.0 +16
AHID LR LR
comp=Z,1μm,21.0s
BW06 Boulder Array 98.64 14 PFAKE 20 15 00.0 +15
BW06 LR LR
comp=Z,1μm,20.0s
HLID Hailey 98.85 10 PFAKE 20 15 00.0 +14
HLID LR LR
comp=Z,625nm,19.0s
CNNC Cliffs of the 99.60 40 PFAKE 20 15 00.0 +11
CNNC LR LR
comp=Z,2μm,19.0s
BMO Blue Mountains 99.88 8 PFAKE 20 15 00.0 +9.4
BMO LR LR
comp=Z,873nm,20.0s
TSUM Tsumeb 100.49 147 PFAKE 20 15 00.0 +5.7
TSUM LR LR
comp=Z,818nm,22.0s
SCIA State Center 100.97 26 PFAKE 20 15 10.0 +15
SCIA LR LR
comp=Z,269nm,19.0s
RLMT Red Lodge 100.99 13 PFAKE 20 15 10.0 +14
RLMT LR LR
comp=Z,2μm,21.0s
BOZ Bozeman (W) 101.21 12 PFAKE 20 15 10.0 +13
BOZ LR LR
comp=Z,1μm,22.0s
ECSD EROS Data Cent 101.90 23 PFAKE 20 15 10.0 +10
ECSD LR LR
comp=Z,581nm,20.0s
CBN Corbin Frederi 102.42 39 PFAKE 20 15 10.0 +8.0
CBN LR LR
comp=Z,444nm,21.0s
LAO LASA Array 102.96 15 PFAKE 20 15 20.0 +16
LAO LR LR
comp=Z,702nm,20.0s
NEW Newport 103.28 7 PFAKE 20 15 20.0 +14
NEW LR LR
comp=Z,884nm,19.0s
EGMT Eagleton 103.78 12 PFAKE 20 15 20.0 +12
EGMT LR LR
comp=Z,606nm,19.0s
ERPA Erie 105.01 35 PFAKE 20 19 40.0
ERPA LR LR
comp=Z,256nm,19.0s
DAV Davao City (W) 105.17 261 PFAKE 20 15 20.0 +5.1
DAV LR LR
comp=Z,735nm,22.0s
COWI Conover 105.94 27 PFAKE 20 19 40.0
COWI LR LR
comp=Z,612nm,22.0s
ABPO Ambohimpanom 106.19 175 PFAKE 20 19 40.0
ABPO LR LR
comp=Z,2μm,22.0s
AGMN Agassiz Nation 106.40 22 PFAKE 20 19 40.0
AGMN LR LR
comp=Z,794nm,20.0s
EYMN Ely 107.06 25 PFAKE 20 19 40.0
EYMN LR LR
comp=Z,415nm,20.0s
LSZ Lusaka 107.15 156 PFAKE 20 19 40.0
LSZ LR LR
comp=Z,841nm,20.0s
NCB Newcomb 108.62 38 PFAKE 20 19 50.0
NCB LR LR
comp=Z,749nm,20.0s
KSM Kuching 108.89 244 PFAKE 20 19 50.0
KSM LR LR
comp=Z,712nm,21.0s
KKM Kota Kinabalu 109.57 252 PFAKE 20 19 50.0
KKM LR LR
comp=Z,870nm,20.0s
LBNH Lisbon 109.69 39 PFAKE 20 19 50.0
LBNH LR LR
comp=Z,431nm,19.0s
SACV Santiago Islan 110.37 93 PFAKE 20 19 50.0
SACV LR LR
comp=Z,629nm,19.0s
FFC Flin Flon 111.42 16 PFAKE 20 19 50.0
FFC LR LR
comp=Z,2μm,22.0s
PKME Peaks-Kenny Pk 111.53 40 PFAKE 20 19 50.0
PKME LR LR
comp=Z,1μm,21.0s
ADK Adak 113.92 329 PFAKE 20 20 00.0
ADK LR LR
comp=Z,3μm,19.0s
KDAK Kodiak Island 114.16 346 PFAKE 20 20 00.0 +15
KDAK LR LR
comp=Z,2μm,19.0s
MSKU Masuku 115.34 137 PFAKE 20 20 00.0 +12
MSKU LR LR
comp=Z,2.0nm,22.0s

YKA Yellowknife Ar 117.61 7 PKP **PKPdf 20 19 51.0 -0.1**
comp=Z,0.2nm,0.7s,baz=173,slow=2.6,SNR=5.2
YKA PKKPbc **PKKPab 20 30 15.5 +2.2**
comp=Z,0.1nm,0.5s,baz=356,slow=3.6,SNR=4.6
EGAK Eagle 119.86 354 PFAKE 20 20 10.0 +15
EGAK LR LR
comp=Z,2μm,21.0s
ILAR Eielson Array 120.31 351 PKP **PKPdf 20 19 55.4 -1.0**
comp=Z,2.4nm,0.6s,baz=209,slow=2.1,SNR=25
MSEY Mahe Island 120.48 184 PFAKE 20 20 10.0 +12
MSEY LR LR
comp=Z,763nm,21.0s
COLA College 120.50 350 PFAKE 20 20 10.0 +13
COLA LR LR
comp=Z,1μm,22.0s
MJAR Matsushiro Arr 121.01 290 PKP **PKPdf 20 19 57.5 -1.1**
comp=Z,1.1nm,0.8s,baz=186,slow=2.3,SNR=3.2
MAJO Matsushiro 121.02 290 PFAKE 20 20 10.0 +11
MAJO LR LR
comp=Z,466nm,22.0s
YHNB Yeheng 121.60 268 PFAKE 20 20 10.0 +10
YHNB LR LR
comp=Z,668nm,20.0s
ERM Erimo 122.44 298 PFAKE 20 20 10.0 +8.9
ERM LR LR
comp=Z,547nm,20.0s
KMBO Kilima Mbogo 122.77 162 PFAKE 20 20 10.0 +6.9
KMBO LR LR
comp=Z,556nm,19.0s
TORD Torodi Ar. Bea 122.90 117 PKP **PKPdf 20 20 02.6 -0.3**
comp=Z,0.7nm,0.6s,baz=214,slow=1.5,SNR=13
TORD PKKPbc **PKKPab 20 29 56.8 +1.2**
comp=Z,0.3nm,0.8s,baz=24,slow=3.4,SNR=4.3
PET Petropavlovsk 123.47 316 PFAKE 20 20 10.0 +7.3
PET LR LR
comp=Z,1μm,20.0s
QIZ Qiongzhong 123.72 254 PFAKE 20 20 10.0 +5.7
QIZ LR LR
comp=Z,362nm,19.0s
PETK Petropavlovsk- 123.92 316 PKP **PKPdf 20 20 02.9 -0.7**
comp=Z,5.1nm,0.8s,baz=104,slow=6.3,SNR=6.7
INCN Inchon 128.08 283 PFAKE 20 20 20.0 +7.9
INCN LR LR
comp=Z,270nm,19.0s
CMAR Chiang Mai Arr 129.11 243 PKP **PKPdf 20 20 12.8 -1.8**
comp=Z,0.4nm,0.7s,baz=203,slow=2.1,SNR=6.3
CHTO Chiang Mai 129.40 244 PFAKE 20 20 30.0 +15
CHTO LR LR
comp=Z,366nm,22.0s
MDJ Mudanjiang 131.34 292 PKP **PKPdf 20 20 20.5 +2.5**
MDJ PP **PP 20 22 38.5 +1.3**
MDJ SS SS 20 40 16.0 +5.9
MDJ PPMZ
comp=Z,120nm,6.4s
MDJ LN
comp=Z,200nm,28.2s
MDJ LE
comp=Z,260nm,28.9s
MDJ LZ
comp=Z,410nm,26.9s
MDJ Mudanjiang 131.34 292 PFAKE 20 20 30.0 +12
MDJ LR LR
comp=Z,240nm,19.0s
GYA Guiyang 131.38 257 *e*Pdif **Pdif 20 17 11.8 +0.5**
GYA PKP **PKPdf 20 20 19.5 +0.6**
GYA PP **PP 20 22 42.0 +4.4**
GYA PKS **PKSdf 20 23 55.5 0.0**
GYA SKKS 20 29 32.3
GYA SS **SS 20 40 12.0 +1.2**
GYA PPMZ
comp=Z,130nm,7.9s
GYA LN
comp=Z,160nm,21.4s
GYA LE
comp=Z,150nm,22.0s
GYA LZ
comp=Z,170nm,20.6s
KMI Kunming 132.51 252 PKP **PKPdf 20 20 22.3 +1.1**
KMI PP PP 20 22 51.5 +6.5
KMI PPMZ
comp=Z,190nm,6.2s
KMI LZ
comp=Z,240nm,24.4s
ENH Enshi 132.69 263 PFAKE 20 20 30.0 +8.9
ENH LR LR
comp=Z,149nm,19.0s
SEY Seymchan 132.78 322 PKP **PKPdf 20 20 19.2 -1.0**
comp=Z,0.8nm,0.9s,baz=72,slow=1.4,SNR=2.8
TAM Tamanrasset 132.92 114 PFAKE 20 20 30.0 +8.1
TAM LR LR
comp=Z,449nm,21.0s
RTC Rabat Centre 134.61 92 PFAKE 20 20 40.0 +15
RTC LR LR
comp=Z,358nm,20.0s
MTE Manteigas 138.64 85 PFAKE 20 20 40.0 +8.1
MTE LR LR
comp=Z,433nm,19.0s
HHC Hu-ho-hao-te 138.94 275 *e*PKP **PKPdf 20 20 34.0 +1.5**
HHC PP PP 20 23 33.8 +8.4
HHC SKS **SKSdf 20 27 38.8 -4.0**
HHC SKKS **SKKSac 20 30 19.5 +0.7**
HHC PPMZ
comp=Z,79nm,7.5s
HHC LN
comp=Z,300nm,19.6s
HHC LE
comp=Z,330nm,20.2s
HHC LZ
comp=Z,490nm,19.4s
HIA Hailar 139.51 291 PFAKE 20 20 40.0 +6.8
HIA LR LR
comp=Z,347nm,21.0s
PAB San Pablo 139.91 89 PFAKE 20 20 50.0 +16
PAB LR LR
comp=Z,372nm,19.0s
LZH Lanzhou 140.15 264 *e*PKP **PKPdf 20 20 36.5 +1.5**
LZH sPKP 20 20 41.8
LZH PP **PP 20 23 37.0 +4.1**
LZH *e*SKKS 20 30 25.0
LZH PPMZ
comp=Z,210nm,5.3s
LZH LN
comp=Z,230nm,16.6s
LZH LE
comp=Z,270nm,15.8s
LZH LZ
comp=Z,340nm,19.0s
ESDC Sonseca Array 140.22 89 PKP **PKPdf 20 20 33.2 -1.6**
comp=Z,0.2nm,0.5s,baz=254,slow=1.1,SNR=3.7
LSA Lhasa 142.35 244 PFAKE 20 20 50.0 +10
LSA LR LR
comp=Z,345nm,20.0s
ETSF Etsaut 144.26 87 *e*PKIKP PKPbc 20 20 41.3 +1.1
comp=Z,30nm,1.1s
ETSF Etsaut 144.26 87 *e*PKPdf PKPbc 20 20 41.3 +1.1
REYF Montagne du Re 144.46 87 *e*P **PKPdf 20 20 44.1 +1.8**
LABF Labassere 144.72 88 *e*P **PKPdf 20 20 46.0 +3.3**
TIXI Tiksi 144.75 328 *e*PKPdf **PKPab 20 20 38.7 -2.0**
TIXI LR LR
comp=Z,564nm,22.0s
GTA Gaotai 144.75 264 *e*PKP **PKPab 20 20 39.8 -2.1**
GTA pPKP **PKPdf 20 20 44.5 +1.5**
GTA sPKP 20 20 46.8
GTA LN
comp=Z,400nm,19.0s
GTA LE
comp=Z,270nm,19.5s
GTA LZ
comp=Z,140nm,17.1s
EPF Esparros 144.86 88 *e*PKIKP PKPbc 20 20 42.9 +0.8
comp=Z,21nm,0.9s
EPF Esparros 144.86 88 *e*PKPdf PKPbc 20 20 42.9 +0.8
MELF Melles 145.00 89 *e*P **PKPdf 20 20 45.3 +2.1**
KEST Kesra 145.08 106 PKPbc **PKPbc 20 20 43.4 +0.3**
comp=Z,1.5nm,0.7s,baz=313,slow=3.9,SNR=4.4
KEST Kesra 145.08 106 PKPbc **PKPbc 20 20 43.4 +0.3**
KEST *e*PKPdf **PKiKP 20 20 46.7 -0.8**
ULN Ulaanbaatar 145.75 281 PFAKE 20 20 50.0 +4.7
ULN LR LR
comp=Z,339nm,21.0s
SONM Songino Array 146.10 281 PKPbc **PKPdf 20 20 44.3 -0.7**
comp=Z,6.4nm,0.9s,baz=139,slow=3.5,SNR=25
MTLF Montolieu 146.13 89 *e*PKIKP **PKPdf 20 20 43.9 -1.1**
comp=Z,16nm,1.0s
MTLF Montolieu 146.13 89 *e*PKPdf **PKPdf 20 20 43.9 -1.1**

RJF Les Rejaudoux 146.90 86 *e*PKIKP **PKPdf 20 20 45.7 -0.6**
comp=Z,112nm,1.8s
RJF *e*R
comp=Z,584nm,22.0s
RJF Les Rejaudoux 146.90 86 *e*PKPdf **PKPdf 20 20 45.7 -0.6**
CAF Calviac 146.99 87 *e*PKIKP **PKPdf 20 20 46.5 0.0**
comp=Z,62nm,1.6s
CAF Calviac 146.99 87 *e*PKPdf **PKPdf 20 20 46.5 0.0**
LASF Ste Croix 147.52 89 *e*PKIKP **PKPdf 20 20 46.9 -0.5**
comp=Z,13nm,0.9s
LASF Ste Croix 147.52 89 *e*PKPdf **PKPdf 20 20 46.9 -0.5**
VSL Villasalto 147.75 101 PFAKE 20 21 00.0 +6.8
VSL LR LR
comp=Z,304nm,19.0s
TCF Toulx Ste Croi 147.86 85 *e*PKIKP **PKPdf 20 20 47.6 -0.3**
comp=Z,35nm,1.4s
TCF Toulx Ste Croi 147.86 85 *e*PKPdf **PKPdf 20 20 47.6 -0.3**
WDD Wield Dalam 148.01 111 PFAKE 20 21 00.0 +5.7
WDD LR LR
comp=Z,483nm,20.0s
RAYN Ar Rayn 148.21 169 *e*PKPbc **PKPbc 20 20 54.2 +1.8**
BGF Bois d'Agland 148.38 85 *e*PKIKP **PKPdf 20 20 47.6 -1.1**
comp=Z,36nm,1.2s
BGF Bois d'Agland 148.38 85 *e*PKPdf **PKPdf 20 20 47.6 -1.1**
SMRF Simiane la Rot 148.45 91 *e*PKIKP **PKPdf 20 20 47.3 -1.6**
comp=Z,88nm,1.6s
SMRF Simiane la Rot 148.45 91 *e*PKPdf **PKPdf 20 20 47.3 -1.6**
VIVF Saint-Julien-l 148.46 89 *e*PKIKP **PKPdf 20 20 48.2 -0.7**
comp=Z,9.3nm,0.7s
VIVF Saint-Julien-l 148.46 89 *e*PKPdf **PKPdf 20 20 48.2 -0.7**
CLTB Caltabellotta 148.56 107 PFAKE 20 21 00.0 +3.4
CLTB LR LR
comp=Z,237nm,20.0s
SSB Saint Sauveur 148.63 88 PFAKE 20 21 00.0 +3.4
SSB LR LR
comp=Z,407nm,19.0s
AVF Avril sur Loir 148.79 85 *e*PKIKP **PKPdf 20 20 49.4 +0.1**
comp=Z,26nm,1.3s
AVF Avril sur Loir 148.79 85 *e*PKPdf **PKPdf 20 20 49.4 +0.1**
FRF La Foret Royal 148.82 92 *e*PKIKP **PKPdf 20 20 48.0 -1.5**
comp=Z,44nm,1.1s
FRF La Foret Royal 148.82 92 *e*PKPdf **PKPdf 20 20 48.0 -1.5**
SMF Signal de Mont 149.00 85 *e*PKIKP **PKPdf 20 20 50.5 +0.8**
comp=Z,34nm,1.3s
SMF Signal de Mont 149.00 85 *e*PKPdf **PKPdf 20 20 50.5 +0.8**
SSF Saint Saulge 149.03 84 *e*PKIKP **PKPdf 20 20 48.6 -1.1**
comp=Z,56nm,1.7s
SSF Saint Saulge 149.03 84 *e*PKPdf **PKPdf 20 20 48.6 -1.1**
ORIF Oris-en-Rattie 149.19 90 *e*PKIKP **PKPdf 20 20 49.9 -0.3**
ORIF *e*R
comp=Z,379nm,21.8s
ORIF Oris-en-Rattie 149.19 90 *e*PKPdf **PKPdf 20 20 49.9 -0.3**
LOR Lormes 149.34 84 *e*PKIKP **PKPdf 20 20 49.6 -0.6**
comp=Z,38nm,1.2s
LOR *e*R
comp=Z,453nm,22.0s
LOR Lormes 149.34 84 *e*PKPdf **PKPdf 20 20 49.6 -0.6**
TLY Talaya 149.57 285 *e*PKPbc **PKPbc 20 20 57.5 +2.4**
TLY LR LR
comp=Z,408nm,21.0s
MBDF Montbardon 149.59 91 *e*PKIKP **PKPdf 20 20 50.4 -0.5**
comp=Z,62nm,1.6s
MBDF Montbardon 149.59 91 *e*PKPdf **PKPdf 20 20 50.4 -0.5**
BNI Bardonecchia 149.73 90 PFAKE 20 21 00.0 -1.2
BNI LR LR
comp=Z,634nm,19.0s
LPG La Plagne 150.03 89 *e*PKIKP **PKPdf 20 20 50.9 -0.8**
comp=Z,18nm,0.9s
LPG La Plagne 150.03 89 *e*PKPdf **PKPdf 20 20 50.9 -0.8**
LPL La Plagne 150.03 89 *e*PKIKP **PKPdf 20 20 50.8 -0.8**
comp=Z,41nm,1.4s
LPL La Plagne 150.03 89 *e*PKPdf **PKPdf 20 20 50.8 -0.8**
CABF La Chapelle 150.27 87 *e*PKIKP **PKPdf 20 20 51.2 -0.6**
comp=Z,70nm,1.4s
CABF La Chapelle 150.27 87 *e*PKPdf **PKPdf 20 20 51.2 -0.6**
CEL Celeste 150.51 109 PFAKE 20 21 00.0 +2.2
CEL LR LR
comp=Z,547nm,20.0s
SFTF Sexfontaines 150.52 84 *e*PKIKP **PKPdf 20 20 51.8 -0.2**
SFTF Sexfontaines 150.52 84 *e*PKPdf **PKPdf 20 20 51.8 -0.2**
MEZF Maizieres J'vi 150.68 83 *e*PKIKP **PKPdf 20 20 52.2 0.0**
comp=Z,90nm,1.6s
MEZF Maizieres J'vi 150.68 83 *e*PKPdf **PKPdf 20 20 52.2 0.0**
BAIF Baives 150.96 80 *e*PKIKP **PKPdf 20 20 52.3 -0.3**
comp=Z,44nm,1.2s
BAIF Baives 150.96 80 *e*PKPdf **PKPdf 20 20 52.3 -0.3**
PAGF Fort de Pagny 151.09 83 *e*PKIKP **PKPdf 20 20 52.0 -0.9**
PAGF Fort de Pagny 151.09 83 *e*PKPdf **PKPdf 20 20 52.0 -0.9**
HAU Haudompre 151.16 85 *e*PKIKP **PKPdf 20 20 52.4 -0.7**
comp=Z,29nm,1.2s
HAU *e*R
comp=Z,389nm,22.8s
HAU Haudompre 151.16 85 *e*PKPdf **PKPdf 20 20 52.4 -0.7**
VLC Villacollemand 151.33 95 PFAKE 20 21 00.0 +0.5
VLC LR LR
comp=Z,450nm,19.0s
HINF Hinteralfeld 151.36 86 *e*PKIKP **PKPdf 20 20 52.7 -0.7**
comp=Z,30nm,1.1s
HINF Hinteralfeld 151.36 86 *e*PKPdf **PKPdf 20 20 52.7 -0.7**
TIP Timpagrande 151.64 109 PFAKE 20 21 00.0 -0.4
TIP LR LR
comp=Z,248nm,20.0s
CUC Castrocucco 151.70 107 PFAKE 20 21 00.0 -0.5
CUC LR LR
comp=Z,566nm,20.0s
ECH Echery 151.74 85 *e*PKPbc **PKPbc 20 21 04.9 +4.6**
ECH LR LR
comp=Z,379nm,19.0s
WLF Walferdange 151.88 82 PFAKE 20 21 00.0 -0.5
WLF LR LR
comp=Z,624nm,20.0s
EIL Elat 151.89 147 PKPbc **PKPbc 20 21 00.7 -0.5**
comp=Z,3.3nm,0.8s,baz=270,slow=5.1,SNR=2.9
EIL PKPab **PKPab 20 21 07.8 -2.5**
comp=Z,5.9nm,1.1s,baz=258,slow=5.6,SNR=5.3
CDF Champ du Feu 151.91 85 *e*PKIKP **PKPdf 20 20 53.8 -0.5**
comp=Z,17nm,1.1s
CDF Champ du Feu 151.91 85 *e*PKPdf **PKPdf 20 20 53.8 -0.5**
AQU L'Aquila 151.93 101 PFAKE 20 21 10.0 -0.3
AQU LR LR
comp=Z,601nm,22.0s
TUE Stuetta 152.07 90 *e*PKPdf **PKPbc 20 20 59.1 -2.3**
TUE *e*PKPab **PKPab 20 21 15.8 +4.8**
TUE LR LR
comp=Z,529nm,21.0s
BFO Black Forest 152.47 86 PFAKE 20 21 10.0 -2.4
BFO LR LR
comp=Z,383nm,20.0s
KBS Kingsbay 152.50 16 PFAKE 20 21 00.0 -1.1
KBS LR LR
comp=Z,816nm,21.0s
DAVOX Davos/Dischmat 152.54 90 PKPbc **PKPbc 20 21 01.4 -0.9**
baz=268,slow=3.3
DAVOX PKPab **PKPab 20 21 12.5 -0.5**
comp=Z,12nm,0.8s,baz=147,slow=3.1,SNR=6.8
FETA Feichten 153.16 90⇓ *i*PKiKP **PKiKP 20 21 04.8 +1.0**
comp=Z,17nm,1.2s
SPITS Spitsbergen Ar 153.66 16 PKPbc **PKPbc 20 21 02.4 -1.3**
comp=Z,6.1nm,0.8s,baz=132,slow=2.4,SNR=4.6
SPITS PKPab **PKPab 20 21 15.1 -1.5**
comp=Z,12nm,1.0s,baz=324,slow=5.2,SNR=3.9
WTTA Wattenberg 153.82 90⇑ *i*PKPbc **PKPbc 20 21 04.8 -0.3**
comp=Z,10nm,1.1s
SANT Santorini 153.98 125 PFAKE 20 21 10.0 +4.4
SANT LR LR
comp=Z,449nm,20.0s
WMQ Urumqi 154.52 259 *e*PKPbc **PKPdf 20 21 01.8 +3.6**
WMQ PKPab **PKPab 20 21 25.0 +3.8**
WMQ PKS **PKSdf 20 24 34.8 +2.5**
WMQ PP PP 20 25 02.8 +5.6
WMQ SKS **SKSdf 20 28 05.8 +1.2**
WMQ SKKS **SKKSac 20 31 50.5 +4.2**
WMQ SS **SS 20 44 41.5 +3.6**
WMQ PPMZ
comp=Z,190nm,5.0s
WMQ LN
comp=Z,350nm,24.0s
WMQ LE
comp=Z,280nm,24.0s
WMQ LZ
comp=Z,340nm,27.0s
GRF Grafenberg Arr 154.80 85 *e*PKP **PKPbc 20 21 06.8 -0.1**
GRF *e*L L 21 34 08.9
comp=Z,401nm,22.0s
OBKA Obir 155.09 94⇑ *i*sPKPdf sPKPdf 20 21 04.0 +0.5
comp=Z,10nm,1.1s
SOKA Soboth 155.46 94⇑ *i*PKPdf **PKPdf 20 21 00.4 +1.0**
comp=Z,6.9nm,1.2s
GERES GERESS Array B 155.82 89 PKP **PKPdf 20 20 58.5 -1.3**
comp=Z,0.8nm,0.7s,baz=262,slow=0.9,SNR=7.9
GERES PKPab **PKPab 20 21 25.2 -1.4**
comp=Z,1.2nm,0.8s,baz=169,slow=2.7,SNR=4.3
KHC Kasperske Hory 155.89 88 *e*PKPdf **PKPdf 20 20 55.5 -4.3**
KHC *e*pPKP **pPKPdf 20 21 05.6 +2.3**
KHC *e*x x 20 21 13.9
KHC *e*PKPAB **PKPab 20 21 22.5 -4.4**
CSS Prodhromos 156.15 139 PFAKE 20 21 10.0 +9.4
CSS LR LR
comp=Z,166nm,19.0s
CLL Collm 156.53 83 *e*PKPdf **PKPdf 20 21 00.0 -0.5**
comp=Z,5.0nm,1.3s
CLL *e*PKPbc PKPab 20 21 14.0 -16
comp=Z,13nm,1.4s
CLL *e*SS SS 20 45 04.0 +4.5
CLL *e*SSS SSS 20 51 06.0
CLL *e*PSSrev 20 54 04.0
CLL *e*SSSS 20 55 12.0
PRU Pruhonice 156.84 87 *e*PKPDF **PKPdf 20 21 00.3 -0.7**
PRU *e*pPKP **pPKPdf 20 21 07.6 +3.2**
PRU *e*x x 20 21 15.8
BRG Berggiesshubel 156.89 84 *e*P PKPdf 20 21 08.1 +7.1
comp=Z,3.5nm,1.0s
TREC Trest 157.06 89 *e*PKPDF PKPdf 20 21 07.0 +5.7
TREC *e*x x 20 21 13.8
PVCC Panska Ves 157.10 86 *e*PKPDF PKPdf 20 21 07.7 +6.4
ISP Isparta 157.48 131 PFAKE 20 21 10.0 +7.7
ISP LR LR
comp=Z,378nm,20.0s
KSH Kashi 157.72 236 *e*PKP **PKPdf 20 21 03.5 +0.9**
KSH sPKP 20 21 08.3
KSH PKS **PKSdf 20 24 37.5 +1.1**
KSH PP **PP 20 25 13.5 -1.2**
KSH SKS **SKSdf 20 28 10.0 +1.7**
KSH SKKS **SKKSac 20 32 07.5 +3.9**
KSH SS **SS 20 45 13.0 +1.0**
KSH PPMZ
comp=Z,57nm,4.8s
KSH LN
comp=Z,59nm,5.4s
KSH LE
comp=Z,77nm,5.0s
KSH LZ
comp=Z,260nm,16.3s
DPC Dobruska-Polom 158.03 87 *e*PKPDF **PKPdf 20 21 00.9 -1.6**
DPC *e*pPKP **pPKPdf 20 21 09.0 +3.0**
DPC *e*x x 20 21 21.3
DPC *e*PKPAB **PKPab 20 21 39.6 +3.5**
OKC Ostrava-Krasne 158.85 90 *e*PKPDF **PKPdf 20 21 06.1 +2.7**
PSZ Piszkesteto 158.91 96 PFAKE 20 21 10.0 +6.3
PSZ LR LR
comp=Z,431nm,19.0s
MKAR Makanchi Array 159.35 259 PKP **PKPdf 20 21 01.8 -2.5**
comp=Z,0.2nm,0.7s,baz=113,slow=2.6,SNR=2.5
MKAR PKPab **PKPab 20 21 38.9 -3.0**
comp=Z,0.8nm,0.8s,baz=108,slow=4.0,SNR=5.1
ANTO Ankara 160.16 132 PFAKE 20 21 20.0 +15
ANTO LR LR
comp=Z,504nm,19.0s
BRTR Keskin Array B 160.40 134 PKP **PKPdf 20 21 04.8 -1.0**
comp=Z,0.4nm,0.7s,baz=288,slow=0.6,SNR=2.7
BRTR PKPab **PKPab 20 21 45.8 -1.0**
comp=Z,1.0nm,0.7s,baz=175,slow=6.2,SNR=4.0
TKM2 Tokmak 2 160.48 242 PFAKE 20 21 20.0 +14
TKM2 LR LR
comp=Z,593nm,20.0s
AAK Ala-Archa 160.82 239 PFAKE 20 21 20.0 +14
AAK LR LR
comp=Z,390nm,21.0s
ZALV Zalesovo Beam 161.00 280 PKPab **PKPab 20 21 46.4 -2.5**
comp=Z,2.9nm,0.8s,baz=141,slow=3.2,SNR=6.8
EKS2 Erkin-Say 161.19 238 PFAKE 20 21 20.0 +13
EKS2 LR LR
comp=Z,395nm,20.0s
KWP Kalwaria Pacla 161.38 95 PFAKE 20 21 20.0 +14
KWP LR LR
comp=Z,705nm,20.0s
KEV Kevo 161.42 28 PFAKE 20 21 20.0 +14
KEV LR LR
comp=Z,729nm,21.0s
GEYT Alibeck 162.44 196 PKPab **PKPab 20 21 53.0 -2.6**
comp=Z,1.8nm,0.8s,baz=215,slow=4.8,SNR=4.5
KURK Kurchatov 163.42 266 PFAKE 20 21 20.0 +12
KURK LR LR
comp=Z,383nm,21.0s
GNI Garni 164.38 159 PFAKE 20 21 20.0 +10
GNI LR LR
comp=Z,656nm,20.0s
LVZ Lovozero 164.71 25 PFAKE 20 21 20.0 +11
LVZ LR LR
comp=Z,921nm,19.0s
KIEV Kiev 165.59 98 PFAKE 20 21 20.0 +10
KIEV LR LR
comp=Z,911nm,22.0s
AKASG Malin Array Be 165.60 98 PKP **PKPdf 20 21 08.8 -1.4**
comp=Z,0.3nm,0.6s,baz=212,slow=0.4,SNR=3.8
AKASG PKPab **PKPab 20 22 09.2 +0.1**
comp=Z,0.4nm,0.6s,baz=254,slow=3.5,SNR=3.1
KIV Kislovodsk 167.42 147 PFAKE 20 21 20.0 +8.0
KIV LR LR
comp=Z,780nm,20.0s
BVAR Borovoye Array 169.01 267 PKPab **PKPab 20 22 21.4 -2.8**
comp=Z,1.6nm,0.9s,baz=129,slow=4.0,SNR=6.7
OBN Obninsk 171.13 83 PFAKE 20 21 20.0 +6.3
OBN LR LR
comp=Z,1μm,22.0s
ARU Arti 176.02 294 PFAKE 20 21 30.0 +14
ARU LR LR
comp=Z,720nm,21.0s

*ISCJB **28** 20:03:28.1±0.6, 55°.1S±0°.1×128°.8W±0°.2, h10km, mb4.4/15, Error ellipse: s-maj=16.6km s-min=12.9km az=142.2*
*IDC **28** 20:03:28.4±0.5, 55°.10S×128°.75W, h0km, mb4.4/12, mb1 4.5/12, mb1mx4.3/29, mbtmp4.4/12, Error ellipse: s-maj=24.3km s-min=16.5km az=154.0*
*NEIC **28** 20:03:29.7±0.3, 55°.03S×128°.83W, h10km, mb4.5/2, Error ellipse: s-maj=12.9km s-min=9.3km az=160.0*
ISC 28 20:03:29.9±0.6, 55°.0S±0°.1×128°.8W±0°.1, h10km, n60, σ0s82/52, mb4.4/15, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**32.43**	**134**	P	**P**	**20 10 01.6**	**+2.2**
47nm,1.1s,baz=247,slow=7.7,SNR=4.8							
VNDA	**Vanda**	**32.61**	**202**	P	**P**	**20 10 02.5**	**+1.4**
2.4nm,1.0s,baz=102,slow=6.6,SNR=3.7							
VNDA	**Vanda**	**32.61**	**202**	*e*P	**P**	**20 10 01.2**	**+0.1**
1.2nm,0.8s							
QSPA	**South Pole Qui**	**35.13**	**180**	P	**P**	**20 10 23.5**	**+0.3**
6.6nm,0.9s,baz=107,slow=3.6,SNR=5.3							
VNA3	**Neumayer Olymp**	**46.91**	**157**	P	**P**	**20 11 58.6**	**-1.2**
VNA2	**Neumayer--Watz**	**47.65**	**158**	P	**P**	**20 12 04.7**	**-0.8**
baz=217,slow=7.8							
VNA1	**Neumayer--Stat**	**47.66**	**157**	P	**P**	**20 12 04.7**	**-0.9**
SNAA	**Sanae**	**48.02**	**160**	P	**P**	**20 12 07.1**	**-1.4**
SNAA	**Sanae**	**48.02**	**160**	P	**P**	**20 12 07.2**	**-1.4**
1.1nm,0.6s,baz=227,slow=7.7,SNR=8.9							
CFAA	**Coronel Fontan**	**48.10**	**87**	P	**P**	**20 12 09.1**	**-0.6**
1.1nm,1.1s,baz=216,slow=7.5,SNR=5.3							
LPAZ	**La Paz**	**60.08**	**75**	P	**P**	**20 13 38.9**	**+1.0**
14nm,1.1s,baz=190,slow=4.9,SNR=6.7							
LPAZ	**La Paz**	**60.08**	**75**	*e*P	**P**	**20 13 38.4**	**+0.6**
SIV	**San Ignacio**	**64.30**	**81**	P	**P**	**20 14 05.7**	**+0.2**
5.6nm,0.7s,baz=231,slow=6.2,SNR=9.0							
SAML	**Samuel**	**68.83**	**75**	*e*P	**P**	**20 14 32.7**	**-1.7**
3.1nm,0.5s							
BDFB	**Brasilia**	**72.06**	**92**	P	**P**	**20 14 53.7**	**-0.6**
2.8nm,0.9s,baz=212,slow=4.6,SNR=5.2							
ASAR	**Alice Springs**	**74.97**	**250**	P	**P**	**20 15 10.6**	**-0.7**
3.3nm,0.9s,baz=144,slow=6.8,SNR=5.4							
H06E1	**SOCORRO T-PHAS**	**75.09**	**18**	T	T	21 38 05.5	
SNR=5.1							
H01W1	**Cape Leeuwin H**	**75.49**	**229**	T	T	21 38 47.6	
baz=147,slow=76,SNR=47							
H01W2	**Cape Leeuwin H**	**75.50**	**229**	T	T	21 38 47.9	
baz=147,slow=76,SNR=43							
H01W3	**Cape Leeuwin H**	**75.51**	**229**	T	T	21 38 48.8	
baz=147,slow=76,SNR=52							
PTGA	**Pitinga**	**77.40**	**73**	P	**P**	**20 15 24.2**	**-0.9**
6.7nm,0.8s,baz=244,slow=5.2,SNR=6.7							
WB2	**Warramunga Arr**	**77.72**	**253**	*e*P	**P**	**20 15 26.3**	**-0.6**
WRA	**Warramunga Arr**	**77.73**	**253**	P	**P**	**20 15 26.2**	**-0.8**
3.0nm,0.9s,baz=142,slow=5.3,SNR=5.1							
WRAB	**Tennant Creek**	**77.73**	**253**	P	**P**	**20 15 26.6**	**-0.4**
2.0nm,0.7s							
TEIG	**Tepich**	**82.54**	**38**	P	**P**	**20 15 53.4**	**+0.8**
8.6nm,0.8s,baz=260,slow=5.5,SNR=4.1							
TXAR	**Lajitas Array**	**86.76**	**22**	P	**P**	**20 16 15.5**	**+1.6**
0.6nm,0.8s,baz=194,slow=7.2,SNR=4.7							
H11N3	**WAKE ISLAND Hy**	**92.24**	**302**	T	T	21 59 02.2	
baz=147,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hy**	**92.25**	**302**	T	T	21 59 02.8	
baz=147,slow=76,SNR=14							
H11N2	**WAKE ISLAND Hy**	**92.26**	**302**	T	T	21 59 03.6	
baz=147,slow=76,SNR=12							
ILAR	**Eielson Array**	**120.29**	**351**	PKP	**PKPdf**	**20 22 19.8**	**+0.1**
1.0nm,0.6s,baz=206,slow=2.2,SNR=8.5							
TORD	**Torodi Ar. Bea**	**123.29**	**118**	PKP	**PKPdf**	**20 22 26.1**	**-0.8**
0.5nm,0.6s,baz=209,slow=1.4,SNR=6.6							
CMAR	**Chiang Mai Arr**	**128.66**	**244**	PKP	**PKPdf**	**20 22 38.7**	**+1.6**
0.6nm,0.9s,baz=159,slow=2.8,SNR=4.1							
ESDC	**Sonseca Array**	**140.69**	**90**	PKP	**PKPdf**	**20 22 58.2**	**-0.8**
0.5nm,0.7s,baz=256,slow=1.2,SNR=4.7							
SJPF	**Ste Jean**	**144.48**	**87**	*e*PKIKP	PKPbc	20 23 04.6	+0.4
SJPF	**Ste Jean**	**144.48**	**87**	*e*PKPdf	PKPbc	20 23 04.6	+0.4
TIXI	**Tiksi**	**144.55**	**328**	*e*PKPdf	PKPbc	20 23 03.5	0.0
ETSF	**Etsaut**	**144.73**	**88**	*e*PKIKP	**PKPdf**	**20 23 06.0**	**-0.1**
16nm,0.8s							
ETSF	**Etsaut**	**144.73**	**88**	*e*PKPdf	**PKPdf**	**20 23 06.0**	**-0.1**
EPF	**Esparros**	**145.32**	**89**	*e*PKIKP	**PKPab**	**20 23 07.5**	**+0.4**
17nm,0.8s							
EPF	**Esparros**	**145.32**	**89**	*e*PKPdf	**PKPab**	**20 23 07.5**	**+0.4**
KEST	**Kesra**	**145.51**	**107**	PKPbc	**PKPab**	**20 23 08.0**	**-0.1**
2.4nm,0.9s,baz=252,slow=6.4,SNR=4.3							
SONM	**Songino Array**	**145.66**	**281**	PKPbc	**PKPab**	**20 23 08.3**	**0.0**
3.8nm,0.6s,baz=135,slow=3.4,SNR=9.8							
MTLF	**Montolieu**	**146.60**	**90**	*e*PKIKP	**PKPdf**	**20 23 08.3**	**-0.9**
26nm,1.3s							
MTLF	**Montolieu**	**146.60**	**90**	*e*PKPdf	**PKPdf**	**20 23 08.3**	**-0.9**
RJF	**Les Rejaudoux**	**147.37**	**86**	*e*PKIKP	**PKPdf**	**20 23 10.2**	**-0.2**
25nm,1.0s							
RJF	**Les Rejaudoux**	**147.37**	**86**	*e*PKPdf	**PKPdf**	**20 23 10.2**	**-0.2**
LASF	**Ste Croix**	**147.99**	**90**	*e*PKIKP	**PKPdf**	**20 23 11.4**	**-0.1**
22nm,1.2s							
LASF	**Ste Croix**	**147.99**	**90**	*e*PKPdf	**PKPdf**	**20 23 11.4**	**-0.1**
TCF	**Toulx Ste Croi**	**148.33**	**85**	*e*PKIKP	**PKPdf**	**20 23 11.9**	**-0.1**
30nm,1.3s							
TCF	**Toulx Ste Croi**	**148.33**	**85**	*e*PKPdf	**PKPdf**	**20 23 11.9**	**-0.1**
MBDF	**Montbardon**	**150.05**	**91**	*e*PKIKP	**PKPdf**	**20 23 14.9**	**-0.1**
18nm,1.0s							
MBDF	**Montbardon**	**150.05**	**91**	*e*PKPdf	**PKPdf**	**20 23 14.9**	**-0.1**
LPG	**La Plagne**	**150.49**	**90**	*e*PKIKP	**PKPdf**	**20 23 16.1**	**+0.3**
7.0nm,0.7s							
LPG	**La Plagne**	**150.49**	**90**	*e*PKPdf	**PKPdf**	**20 23 16.1**	**+0.3**
DAVOX	**Davos/Dischmat**	**153.01**	**90**	PKPbc	**PKPbc**	**20 23 27.1**	**+0.4**
3.5nm,1.0s,baz=211,slow=5.9,SNR=3.8							
DAVOX				PKPab	**PKPab**	**20 23 38.0**	**-0.3**
4.9nm,0.7s,baz=232,slow=2.5,SNR=5.4							
GERES	**GERESS Array B**	**156.28**	**89**	PKP	**PKPdf**	**20 23 22.9**	**-0.8**
0.9nm,0.8s,baz=180,slow=1.8,SNR=3.8							
GERES				PKPbc	PKPbc	20 23 33.7	
0.7nm,0.8s,baz=252,slow=2.5,SNR=3.7							
GERES				PKPab	**PKPab**	**20 23 51.8**	**-0.3**
1.0nm,0.7s,baz=199,slow=2.4,SNR=4.7							
NOA	**NORSAR Array B**	**158.28**	**58**	PKPab	**PKPab**	**20 23 59.2**	**-1.0**
1.4nm,0.8s,baz=269,slow=3.9,SNR=4.0							
MKAR	**Makanchi Array**	**158.88**	**260**	PKPab	**PKPab**	**20 24 02.7**	**-0.6**
0.6nm,0.8s,baz=106,slow=4.9,SNR=4.8							
ZALV	**Zalesovo Beam**	**160.55**	**281**	PKPab	**PKPab**	**20 24 09.7**	**-0.5**
1.4nm,0.6s,baz=87,slow=5.1,SNR=4.7							
BRTR	**Keskin Array B**	**160.69**	**135**	PKPab	**PKPab**	**20 24 11.2**	**-0.2**
0.9nm,0.8s,baz=185,slow=3.7,SNR=2.8							

*SJA **28** 20:14:33.6±1.0, 29°.29S×68°.42W, h10km±4km, ML4.2*
*ISCJB **28** 20:14:35.8±0.4, 29°.20S±0°.03×68°.58W±0°.05, h35km, mb4.1/10, MS4.3/2, Error ellipse: s-maj=6.6km s-min=4.4km az=166.0*
*NEIC **28** 20:14:37.0±0.8, 29°.32S×68°.48W, h46km±8km, mb4.3/3, MD4.2(SJA), Error ellipse: s-maj=14.6km s-min=8.1km az=77.0*
NEIC Felt [III] at Villa Union.
*IDC **28** 20:14:39.4±2.0, 29°.29S×68°.42W, h62km±19km, mb3.9/9, mb1 4.0/11, mb1mx3.7/31, mbtmp4.1/11, MS4.4/2, Ms1 4.4/2, ms1mx3.3/28, Error ellipse: s-maj=26.2km s-min=14.1km az=80.0*
ISC 28 20:14:36.5±0.5, 29°.27S±0°.04×68°.49W±0°.04, h35km, n39, σ1s92/45, mb4.1/10, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGUA	**GUANDACOL**	**0.22**	**181**	*e*P	Pn	20 14 38.6	-5.1
ACLC	**CERRO LA CRUZ**	**1.35**	**97**	*e*P	**Pn**	**20 14 57.9**	**-1.2**
ACLC				*e*P	**Pn**	**20 14 57.9**	**-1.2**
AVFE	**Valle Fertil**	**1.66**	**147**	*e*P4		20 15 01.8	
AVFE				*e*S	**Sn**	**20 15 25.6**	**+2.4**
AVFE				AML	AML	20 15 27.8	
comp=Z,3μm,0.5s							
AMOG	**MOGNA**	**1.67**	**180**	*e*P	**Pn**	**20 15 04.6**	**+1.3**
AMOG				*e*S	**Sn**	**20 15 28.0**	**+4.4**
LCO	**Las Campanas**	**1.95**	**277**	*e*Pn	**Pn**	**20 15 06.9**	**-0.5**
LCO				*e*Sn	**Sn**	**20 15 34.6**	**+3.8**
APLL	**PUNTA DE LOS L**	**2.04**	**124**	*e*P	**Pn**	**20 15 09.6**	**+1.2**
APLL				*e*S	**Sn**	**20 15 35.7**	**+3.0**
RTLL	**Cerro Villicun**	**2.06**	**180**	*e*P	**Pn**	**20 15 09.3**	**+0.6**
SJA	**San Juan**	**2.25**	**182**	*e*P	**Pn**	**20 15 13.4**	**+2.0**
CFAA	**Coronel Fontan**	**2.34**	**175**	P	**Pn**	**20 15 14.0**	**+1.4**
comp=Z,14nm,0.3s,baz=351,slow=14,SNR=141							
CFAA				S	**Sn**	**20 15 43.6**	**+3.4**
comp=Z,48nm,0.3s,baz=254,slow=16,SNR=49							
CFAA	**Coronel Fontan**	**2.34**	**175**	*e*P	**Pn**	**20 15 14.0**	**+1.4**
CFAA				*e*S	**Sn**	**20 15 44.1**	**+3.9**
ACHE	**Chepes**	**2.47**	**141**	*e*P	**Pn**	**20 15 16.1**	**+1.7**
CYA	**Choya**	**2.50**	**71**	*e*P	**Pn**	**20 15 16.3**	**+1.6**
CYA				*e*S	**Sn**	**20 15 47.2**	**+3.3**
CYA				AML	AML	20 15 56.7	
comp=N,1μm,0.6s							
AHML	**Horco Molle**	**3.73**	**49**	*e*P	**Pn**	**20 15 33.5**	**+1.9**
TCA	**Tanti**	**3.95**	**122**	*e*P4		20 15 34.6	
LVC	**Limon Verde**	**6.63**	**357**	*e*Pn	**Pn**	**20 16 13.6**	**+1.8**
comp=N,28nm,0.6s							
LVC				*e*Sn	**Sn**	**20 17 29.0**	**+2.7**
TRQA	**Tornquist**	**10.31**	**150**	*e*Pn	**Pn**	**20 16 59.9**	**-2.0**
comp=N,7.0nm,0.6s							
LPAZ	**La Paz**	**12.92**	**2**	P	**Pn**	**20 17 40.7**	**+2.5**
comp=N,0.1nm,0.3s,baz=232,slow=15,SNR=2.7							
SAML	**Samuel**	**20.82**	**15**	*e*P	**P**	**20 19 13.2**	**-1.9**
comp=N,3.8nm,1.0s							
PTGA	**Pitinga**	**29.52**	**18**	LR	LR	20 32 55.7	
comp=N,236nm,20.0s,baz=88,slow=37							
TEIG	**Tepich**	**52.78**	**336**	P	**P**	**20 23 48.3**	**+0.1**
comp=N,7.0nm,0.7s,baz=16,slow=6.3,SNR=5.4							
SNAA	**Sanae**	**54.88**	**159**	P	**P**	**20 24 02.1**	**-1.1**
comp=N,1.0nm,0.9s,baz=268,slow=9.4,SNR=9.9							
TXAR	**Lajitas Array**	**67.26**	**327**	P	**P**	**20 25 28.7**	**+1.1**
comp=N,0.5nm,0.6s,baz=160,slow=8.2,SNR=7.5							
VNDA	**Vanda**	**69.31**	**190**	P	**P**	**20 25 40.2**	**+0.5**
comp=N,0.9nm,0.9s,baz=98,slow=5.9,SNR=4.2							
MSTX	**Muleshoe**	**70.76**	**330**	P	**P**	**20 25 47.6**	**-1.7**
comp=N,5.1nm,1.0s							
DBIC	**Dimbokro**	**70.77**	**70**	P	**P**	**20 25 49.2**	**-0.4**
comp=N,2.8nm,0.7s,baz=211,slow=6.4,SNR=6.7							
DBIC	**Dimbokro**	**70.77**	**70**	*e*P	**P**	**20 25 48.8**	**-0.9**
comp=N,4.9nm,0.7s							
TSUM	**Tsumeb**	**77.55**	**105**	LR	LR	20

comp=N,8.4nm,0.9s,baz=153,slow=2.3,SNR=4.4
MKAR Makanchi Array 151.32 44 PKPbc **PKPbc 20 34 25.9 -0.3**
comp=N,4.5nm,0.6s,baz=307,slow=2.5,SNR=57
MKAR PKPab **PKPab 20 34 33.1 -1.3**
comp=N,4.2nm,0.7s,baz=305,slow=2.7,SNR=20
SONM Songino Array 161.04 11 PKP **PKPdf 20 34 31.9 -1.1**
comp=N,0.3nm,0.9s,baz=333,slow=1.4,SNR=3.2
SONM PKPab **PKPab 20 35 16.0 0.0**
comp=N,0.2nm,0.6s,baz=2.1,slow=3.5,SNR=2.7

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*NIED **28** 20:34:00,28.°80N×128.°20E,h5km,Mw4.1 Best double couple: M0=1.69000×10^15 NP1:φs=54.00000°,δ63.00000°, λ-158.00000°. NP2:φs=314.00000°,δ71.00000°, λ-29.00000°.*
*JMA **28** 20:34:39.1±0.2,28.°83N×128.°20E,h14km±3km,M3.5*
*ISCJB **28** 20:34:40.4±1.1,28.°81N±0.°03×128.°23E±0.°05,h22km±8km, mb3.6/8,MS4.2/1,Error ellipse: s-maj=7.9km s-min=4.5km az=17.6*
*IDC **28** 20:34:44.3±1.9,28.°75N×128.°33E,h44km±21km,mb3.4/7, mb1 3.6/10,mb1mx3.4/40,mbtmp3.7/10,ML3.0/3,MS3.5/4, Ms1 3.5/4,ms1mx3.2/34,Error ellipse: s-maj=29.9km s-min=14.8km az=82.0*
ISC 28 20:34:43.3±2.1,28.°76N±0.°04×128.°35E±0.°07,h32km±16km, n26,σ1°06/33,mb3.6/8,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.84**	**62**	P	**Pn**	**20 34 56.6**	**-2.3**
JTAJ				S	**Sb**	**20 35 09.3**	**-1.1**
JAMN	**Amaminishikomi**	**0.89**	**125**	P	**Pn**	**20 34 58.6**	**-0.9**
JAMN				S	**Sb**	**20 35 12.6**	**+0.9**
JTK	**Tokunoshima**	**1.10**	**151**	P	**Pn**	**20 35 01.2**	**-1.3**
JTK				eS	**Sn**	**20 35 17.5**	**+0.8**
JAM	**Amami Oshima**	**1.15**	**107**	P	**Pn**	**20 35 02.5**	**-0.7**
JAM				S	**Sb**	**20 35 19.2**	**-0.1**
JOKE	**Okinoerabujima**	**1.41**	**172**	P	**Pn**	**20 35 05.9**	**-0.8**
JOKE				S	**Sn**	**20 35 25.1**	**+0.9**
JZK	**Kikaishima**	**1.49**	**107**	eS	**Sb**	**20 35 29.2**	**+0.2**
JNN	**Nakanoshima**	**1.71**	**51**	P	**Pn**	**20 35 10.3**	**-0.6**
JNN				S	**Sn**	**20 35 32.3**	**+0.6**
JIH	**Iheya**	**1.75**	**191**	P	**Pn**	**20 35 10.8**	**-0.6**
JIH				S	**Sn**	**20 35 33.0**	**+0.3**
JOW	**Kunigami**	**1.92**	**182**	P	**Pn**	**20 35 13.5**	**-0.3**
JOW	**Kunigami**	**1.92**	**182**	P	**Pn**	**20 35 13.6**	**-0.3**
2.1nm,0.3s,baz=109,slow=25,SNR=25							
JNTH	**Nagotoyohara**	**2.25**	**188**	P	**Pn**	**20 35 17.9**	**-0.4**
JYAK	**Yakushimahirau**	**2.39**	**51**	P	**Pn**	**20 35 19.6**	**-0.6**
JYAK				S	**Sn**	**20 35 49.7**	**+1.4**
JJT2	**Tamagusuku 2**	**2.67**	**192**	P	**Pn**	**20 35 23.4**	**-0.6**
JJT2				eS	**Sn**	**20 35 56.5**	**+1.3**
JNU	**Nakatsue**	**4.86**	**26**	P	**Pn**	**20 35 56.8**	**+2.6**
0.7nm,0.3s,baz=192,slow=6.1,SNR=11							
JNU				LR	LR	20 37 57.7	
comp=Z,404nm,19.7s,baz=206,slow=40							
KSRS	**Korea Array**	**8.68**	**358**	P	**Pn**	**20 36 47.8**	**+1.2**
0.1nm,0.3s,baz=181,slow=15,SNR=4.8							
KSRS				LR	LR	20 40 11.8	
comp=Z,200nm,19.6s,baz=178,slow=38							
MJAR	**Matsushiro Arr**	**11.36**	**44**	P	**Pn**	**20 37 22.8**	**-0.5**
0.1nm,0.3s,baz=239,slow=15,SNR=5.9							
USRK	**Ussuriysk Ar.**	**15.68**	**10**	P	**P**	**20 38 26.5**	**+1.0**
baz=200,slow=11,SNR=8.3							
USRK				LR	LR	20 44 11.3	
comp=Z,91nm,18.1s,baz=167,slow=36							
SONM	**Songino Array**	**25.53**	**324**	P	**P**	**20 40 09.4**	**+0.3**
1.9nm,1.1s,baz=127,slow=3.9,SNR=9.9							
CMAR	**Chiang Mai Arr**	**28.76**	**256**	P	P	20 40 42.6	+4.4
0.4nm,0.8s,baz=68,slow=7.5,SNR=4.1							
MKAR	**Makanchi Array**	**39.97**	**310**	P	**P**	**20 42 13.1**	**-1.8**
0.6nm,0.8s,baz=96,slow=11,SNR=4.8							
ZALV	**Zalesovo Beam**	**40.33**	**321**	P	**P**	**20 42 17.6**	**0.0**
0.7nm,0.5s,baz=98,slow=11,SNR=3.5							
FX1	**Attu Island--F**	**40.69**	**41**	LR	LR	20 58 52.9	
comp=Z,324nm,21.4s,baz=147,slow=36							
KURBB	**Kurchatov Arra**	**43.13**	**315**	P	**P**	**20 42 40.3**	**-0.3**
1.0nm,0.6s,baz=98,slow=8.6,SNR=7.5							
WRA	**Warramunga Arr**	**48.76**	**173**	P	**P**	**20 43 25.7**	**+0.5**
1.0nm,0.9s,baz=355,slow=8.4,SNR=7.1							
ASAR	**Alice Springs**	**52.40**	**174**	P	**P**	**20 43 52.2**	**-0.5**
0.6nm,0.8s,baz=357,slow=8.6,SNR=5.0							
YKA	**Yellowknife Ar**	**76.19**	**25**	P	**P**	**20 46 27.1**	**-0.9**
0.7nm,1.0s,baz=307,slow=5.1,SNR=6.0							

IDC 28 20:46:48.5±2.9,31.°45S×176.°67W,h0km,mb3.6/2, mb1 3.9/4,mb1mx3.7/36,mbtmp3.8/4,ML3.9/2,Error ellipse: s-maj=64.7km s-min=29.4km az=107.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.44**	**333**	Pn	Pn	20 47 31.3	+1.7
78nm,0.3s,baz=94,slow=19,SNR=4.1							
RAO				Sn	Sn	20 47 47.7	-13
162nm,0.3s,baz=62,slow=17,SNR=6.6							
URZ	**Urewera**	**8.50**	**215**	Pn	Pn	20 48 54.7	+1.9
0.4nm,0.3s,baz=117,slow=4.5,SNR=5.8							
URZ				Sn	Sn	20 50 31.2	+1.8
0.6nm,0.3s,baz=208,slow=18,SNR=5.9							
ASAR	**Alice Springs**	**44.20**	**267**	P	P	20 54 58.6	-0.9
0.4nm,0.7s,baz=102,slow=6.8,SNR=4.3							
WRA	**Warramunga Arr**	**45.28**	**272**	P	P	20 55 07.6	-0.6
0.4nm,0.3s,baz=111,slow=8.1,SNR=5.5							
FINES	**FINESS Array B**	**146.52**	**340**	PKPbc	PKPdf	21 06 30.0	+0.5
0.9nm,0.6s,baz=87,slow=4.7,SNR=8.5							

MAN 28 21:01:57,13.°66N×120.°41E,h32km,mb4.5,ML3.4,MS3.3, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.18**	**296**	*eP*	Pn	21 02 04.7	+1.2
PGP	**Puerto Galera**	**0.55**	**106**	*eP*	Pn	21 02 09.4	+0.8
PGP				*i* S	Sn	21 02 18.0	+1.2
SJMP	**San Jose**	**1.37**	**150**	*eP*	Pn	21 02 20.9	+0.9
SJMP				eS	Sn	21 02 37.8	+0.7
BUSP	**Coron**	**1.66**	**187**	*eP*	Pn	21 02 22.7	-1.1

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*SZGRF **28** 21:12:33.5,23.°49S×178.°87W,h33km,South of Fiji Islands*
*ISCJB **28** 21:13:39.2±0.2,21.°97S±0.°05×179.°47W±0.°04,h592km, mb4.8/74,Error ellipse: s-maj=7.0km s-min=4.7km az=165.5*
*IDC **28** 21:13:40.5±0.8,22.°01S×179.°49W,h593km±8km,mb4.0/27, mb1 4.1/30,mb1mx4.0/34,mbtmp4.9/30,Error ellipse: s-maj=9.5km s-min=8.8km az=175.0*
*NEIC **28** 21:13:40.6±0.5,22.°03S×179.°43W,h601km±5km,mb4.9/27, Error ellipse: s-maj=7.8km s-min=6.4km az=155.0*
*MOS **28** 21:13:42.8±1.1,21.°85S×179.°76W,h598km,mb5.1/7, Error ellipse: s-maj=12.4km s-min=10.4km az=42.6*
ISC 28 21:13:40.0±0.3,22.°03S±0.°06×179.°46W±0.°06,h592km, n406,σ1°02/446,mb4.9/74,54C-51D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.87**	**331**	*eP*	**P**	**21 15 13.2**	**+1.6**
MSVF	**Nonsavu**	**4.87**	**331**	*eP*	**P**	**21 15 13.2**	**+1.6**
RAO	**Raoul Island**	**7.33**	**169**	P	**P**	**21 15 32.7**	**+0.2**
82nm,0.3s,baz=38,slow=19,SNR=2.4							
RAO				S	**S**	**21 17 06.2**	**+1.3**
22nm,0.3s,baz=300,slow=20,SNR=2.5							
NIUE	**Niue**	**9.40**	**74**	P	**P**	**21 15 52.9**	**+0.2**
baz=9.2,SNR=3.2							
DZM	**Mont Dzumac**	**13.07**	**267**	P	**P**	**21 16 29.6**	**-0.1**
0.9nm,0.3s,baz=90,slow=17,SNR=6.5							
URZ	**Urewera**	**16.45**	**190**	P	**P**	**21 17 00.7**	**-0.9**
1.5nm,0.3s,baz=273,slow=3.4,SNR=7.4							
URZ				S	**S**	**21 19 40.0**	**-5.7**
1.1nm,0.3s,baz=42,slow=23,SNR=14							
EIDS	**Eidsvold**	**27.15**	**257**	P	**P**	**21 18 38.4**	**+0.8**
baz=27,SNR=7.0							
EIDS	**Eidsvold**	**27.15**	**257**	*eP*	**P**	**21 18 38.6**	**+1.1**
46nm,1.4s							
ARMA	**Armidale**	**27.19**	**246**	P	**P**	**21 18 39.9**	**+1.9**
baz=27,SNR=21							
ARMA	**Armidale**	**27.19**	**246**	*eP*	**P**	**21 18 39.9**	**+1.9**
24nm,0.7s							
TBI	**Tubuai**	**27.69**	**99**	*eP*	**P**	**21 18 43.5**	**+1.2**
83nm,0.8s							
MGCD	**Mangrove Creek**	**28.26**	**240**	P	**P**	**21 18 49.1**	**+2.0**
baz=28,SNR=10							
PAE	**Paea**	**28.42**	**87**	*eP*	**P**	**21 18 48.8**	**+0.2**
24nm,1.7s							
PPT2	**Papeete2**	**28.44**	**86**	*eP*	**P**	**21 18 49.3**	**+0.4**
52nm,1.2s							
PPT	**Papeete**	**28.44**	**86**	P	**P**	**21 18 49.8**	**+0.9**
41nm,0.7s,baz=355,slow=5.5,SNR=7.6							
TIAR	**Tiarei**	**28.66**	**86**	*eP*	**P**	**21 18 51.2**	**+0.4**
14nm,0.8s							
TVO	**Taravao**	**28.69**	**87**	*eP*	**P**	**21 18 51.4**	**+0.3**
14nm,0.7s							
RMQ	**Roma**	**29.27**	**255**	P	**P**	**21 18 57.6**	**+1.6**
baz=29,SNR=19							
MEH	**Mehetia**	**29.77**	**88**	*eP*	**P**	**21 19 00.6**	**+0.2**
24nm,1.0s							
CNB	**Canberra Magne**	**30.25**	**237**	P	**P**	**21 19 06.0**	**+1.7**
baz=30,SNR=13							
PMOR	**Pomariorio Ree**	**30.70**	**82**	*eP*	**P**	**21 19 08.6**	**+0.3**
120nm,1.1s							
VAH	**Vaihoa**	**30.87**	**83**	*eP*	**P**	**21 19 09.9**	**+0.1**
67nm,0.8s							
CTA	**Charters Tower**	**32.01**	**267**	P	**P**	**21 19 20.2**	**+0.7**
23nm,0.5s,baz=90,slow=11,SNR=44							
CTA				PcP	**PcP**	**21 21 51.5**	**+0.6**
7.1nm,0.6s,baz=263,slow=3.4,SNR=4.3							
CTA				ScP	**ScP**	**21 24 40.1**	**+1.1**
11nm,0.9s,baz=72,slow=2.6,SNR=4.3							
CTA	**Charters Tower**	**32.01**	**267**	⇑P	**P**	**21 19 20.3**	**+0.8**
baz=32							
CTAO	**Charters Tower**	**32.01**	**267**	*eP*	**P**	**21 19 20.2**	**+0.7**
CTAO				pmax	pmax		
comp=Z,29nm,0.5s							
CTAO	**Charters Tower**	**32.01**	**267**	*eP*	**P**	**21 19 20.2**	**+0.7**
comp=Z,29nm,0.5s							
CMSA	**Cobar Meteorol**	**32.40**	**246**	P	**P**	**21 19 23.5**	**+0.9**
baz=32,SNR=59							
TOO	**Toiangi**	**33.90**	**235**	P	**P**	**21 19 36.2**	**+1.0**
baz=34,SNR=11							
PMG	**Port Moresby**	**34.40**	**286**	P	**P**	**21 19 39.8**	**+0.2**
comp=Z,62nm,0.7s,baz=120,slow=5.7,SNR=12							
PMG	**Port Moresby**	**34.40**	**286**	P	**P**	**21 19 40.0**	**+0.4**
baz=34,SNR=3.8							
ASAR	**Alice Springs**	**42.86**	**259**	P	**P**	**21 20 48.1**	**+0.4**
comp=Z,54nm,0.8s,baz=97,slow=8.5,SNR=50							
ASAR				PcP	**PcP**	**21 22 24.0**	**-0.9**
comp=Z,9.7nm,0.7s,baz=103,slow=4.2,SNR=8.0							
ASAR				ScP	**ScP**	**21 25 22.2**	**+2.1**
comp=Z,1.8nm,0.6s,baz=106,slow=4.0,SNR=4.2							
ASAR				S	**S**	**21 26 28.4**	**-2.1**
comp=Z,11nm,1.0s,baz=97,slow=15,SNR=18							
WRAB	**Tennant Creek**	**43.05**	**264**	*eP*	**P**	**21 20 48.8**	**-0.4**
WRAB				pmax	pmax		
comp=Z,54nm,0.9s							
WRAB	**Tennant Creek**	**43.05**	**264**	*eP*	**P**	**21 20 48.8**	**-0.4**
comp=Z,54nm,0.9s							
WRA	**Warramunga Arr**	**43.06**	**264**	P	**P**	**21 20 48.8**	**-0.4**
comp=Z,40nm,0.8s,baz=101,slow=8.4,SNR=78							
WRA				ScP	**ScP**	**21 25 23.1**	**+2.1**
comp=Z,7.7nm,1.0s,baz=90,slow=4.1,SNR=9.9							
JAY	**Jayapura**	**43.27**	**291**	P	**P**	**21 20 51.1**	**+0.1**
comp=Z,58nm,0.6s,baz=143,slow=3.0,SNR=24							
KDU	**Kakadu**	**46.64**	**273**	P	**P**	**21 21 16.3**	**-0.3**
baz=47,SNR=27							
FORT	**Forrest**	**47.45**	**248**	P	**P**	**21 21 22.4**	**-0.1**
baz=48,SNR=12							
WRKA	**Warakurna**	**47.75**	**256**	P	**P**	**21 21 25.0**	**+0.1**
baz=48,SNR=28							
MTN	**Manton Dam**	**47.84**	**272**	P	**P**	**21 21 25.2**	**-0.4**
baz=48,SNR=11							
KNRA	**Kununurra**	**49.22**	**268**	P	**P**	**21 21 35.9**	**+0.2**
baz=49,SNR=15							
FAKI	**Fak Fak**	**50.55**	**285**	P	**P**	**21 21 45.2**	**-0.3**
baz=51,SNR=7.2							
KMBL	**Kambalda**	**52.70**	**247**	P	**P**	**21 22 00.5**	**-0.2**
baz=53,SNR=6.3							
SOEI	**Soe**	**55.20**	**273**	P	**P**	**21 22 20.2**	**+1.6**
baz=55,SNR=24							
SOEI	**Soe**	**55.20**	**273**	*eP*	**P**	**21 22 20.3**	**+1.6**
comp=Z,142nm,0.7s							
BATI	**Baumata**	**55.61**	**273**	P	**P**	**21 22 22.9**	**+1.5**
comp=Z,89nm,0.6s,baz=144,slow=2.1,SNR=25							
MEEK	**Meekatharra**	**56.14**	**252**	P	**P**	**21 22 24.1**	**-0.8**
baz=56,SNR=14							
MBWA	**Marble Bar**	**56.20**	**259**	*eP*	**P**	**21 22 25.0**	**-0.3**
comp=Z,50nm,0.7s							
VNDA	**Vanda**	**56.28**	**185**	P	**P**	**21 22 26.7**	**+1.8**
comp=Z,1.5nm,0.6s,baz=0.2,slow=4.4,SNR=8.6							
NWAO	**Narrogin (SRO)**	**56.47**	**244**	P	**P**	**21 22 27.2**	**+0.2**
comp=Z,9.9nm,0.7s,baz=65,slow=3.9,SNR=6.7							
NWAO	**Narrogin (SRO)**	**56.47**	**244**	P	**P**	**21 22 27.3**	**+0.3**
baz=57,SNR=5.4							
RKGY	**Rocky Gully**	**56.52**	**242**	P	**P**	**21 22 28.0**	**+0.6**
baz=57,SNR=4.5							
BLDU	**Ballidu**	**57.20**	**247**	P	**P**	**21 22 31.8**	**-0.2**
baz=57,SNR=30							
MORW	**Morawa**	**58.00**	**249**	P	**P**	**21 22 37.4**	**-0.1**
baz=58,SNR=5.7							
LUWI	**Luwuk**	**59.90**	**282**	P	**P**	**21 22 50.6**	**+0.3**
baz=60,SNR=5.3							
LUWI	**Luwuk**	**59.90**	**282**	*eP*	**P**	**21 22 50.6**	**+0.3**
comp=Z,2μm,0.6s							
GIRL	**Giralia**	**60.84**	**256**	P	**P**	**21 22 57.7**	**+1.3**
baz=61,SNR=5.5							
CBIJ	**Chichi jima**	**61.33**	**321**	P	**P**	**21 22 59.4**	**0.0**
JCJ	**Chichijima**	**61.33**	**321**	P	**P**	**21 22 59.4**	**0.0**
comp=Z,54nm,0.6s,baz=270,slow=20							
TOLI	**Toli-Toli**	**62.60**	**283**	*eP*	**P**	**21 23 09.7**	**+1.7**
comp=Z,521nm,0.8s							
JAGI	**Jajag, Banyuwa**	**65.02**	**271**	P	**P**	**21 23 22.1**	**-1.3**
baz=65,SNR=8.3							
JAGI	**Jajag, Banyuwa**	**65.02**	**271**	*eP*	**P**	**21 23 22.0**	**-1.3**
comp=Z,64nm,1.0s							
QSPA	**South Pole Qui**	**68.05**	**180**	P	**P**	**21 23 41.6**	**+0.3**
comp=Z,6.3nm,0.7s,baz=22,slow=0.3,SNR=17							
QSPA	**South Pole Qui**	**68.05**	**180**	*eP*	**P**	**21 23 41.8**	**+0.6**
comp=Z,55nm,2.1s							
UGM	**Wanagama**	**68.58**	**270**	P	**P**	**21 23 45.1**	**-0.2**
baz=69,SNR=13							
UGM	**Wanagama**	**68.58**	**270**	*eP*	**P**	**21 23 45.3**	**0.0**
comp=Z,69nm,0.5s							
JOW	**Kunigami**	**70.12**	**311**	P	**P**	**21 23 54.8**	**+0.7**
comp=Z,6.5nm,0.9s,baz=172,slow=4.7,SNR=4.9							
MJAR	**Matsushiro Arr**	**70.65**	**325**	P	**P**	**21 23 57.0**	**0.0**
MJAR	**Matsushiro Arr**	**70.65**	**325**	P	**P**	**21 23 57.0**	**0.0**
comp=Z,12nm,0.7s,baz=160,slow=5.9,SNR=28							
MAJO	**Matsushiro**	**70.65**	**325**	*eP*	**P**	**21 23 57.2**	**+0.2**
MAJO				pmax	pmax		
comp=Z,16nm,0.7s							
MAJO	**Matsushiro**	**70.65**	**325**	*eP*	**P**	**21 23 57.2**	**+0.2**
comp=Z,16nm,0.7s							
MAT	**Matsushiro**	**70.65**	**325**	P	**P**	**21 23 56.9**	**-0.1**
baz=71,SNR=5.1							
CISI	**Cisompet, Garu**	**71.22**	**269**	P	**P**	**21 23 59.8**	**-1.1**
CISI	**Cisompet, Garu**	**71.22**	**269**	*eP*	**P**	**21 23 59.9**	**-1.1**
comp=Z,40nm,0.5s							
LEM	**Lembang**	**71.66**	**270**	P	**P**	**21 24 04.2**	**+0.5**
baz=72,SNR=7.9							
XMI	**Christmas Isla**	**72.20**	**266**	P	**P**	**21 24 07.0**	**+0.4**
baz=72,SNR=3.6							
KSM	**Kuching**	**72.29**	**279**	P	**P**	**21 24 07.5**	**+0.4**
baz=72,SNR=12							
JNU	**Nakatsue**	**72.47**	**318**	P	**P**	**21 24 08.0**	**+0.3**
comp=Z,10nm,0.8s,baz=199,slow=2.7,SNR=5.6							
NACB	**Ninganchiao**	**73.42**	**305**	*eP*	**P**	**21 24 12.3**	**-0.9**
SSLB	**Suanglung**	**73.69**	**305**	*eP*	**P**	**21 24 13.5**	**-1.4**
comp=Z,38nm,0.7s							
ASAJ	**Asahikawa**	**74.43**	**333**	P	**P**	**21 24 20.3**	**+1.8**
comp=Z,16nm,0.7s,baz=216,slow=5.7,SNR=11							
ASAJ	**Asahikawa**	**74.43**	**333**	*eP*	**P**	**21 24 18.8**	**+0.2**
comp=Z,8.1nm,0.8s							
FX1	**Attu Island--F**	**74.87**	**355**	*eP*	**P**	**21 24 19.2**	**-1.5**
FX1	**Attu Island--F**	**74.87**	**355**	*eP*	**P**	**21 24 19.2**	**-1.5**
KSRS	**Korea Array**	**77.14**	**320**	P	**P**	**21 24 34.5**	**+1.0**
comp=Z,5.0nm,0.9s,baz=135,slow=5.6,SNR=13							
KSAR	**Wonju Array Be**	**77.16**	**320**	P	**P**	**21 24 34.6**	**+0.9**
KSAR	**Wonju Array Be**	**77.16**	**320**	P	**P**	**21 24 34.5**	**+0.9**
PETK	**Petropavlovsk-**	**77.41**	**346**	P	**P**	**21 24 34.8**	**+0.1**
comp=Z,27nm,0.7s,baz=137,slow=7.7,SNR=24							
USRK	**Ussuriysk Ar.**	**79.47**	**327**	P	**P**	**21 24 46.6**	**+0.7**
comp=Z,13nm,0.9s,baz=133,slow=3.5,SNR=14							
MDJ	**Mudanjiang**	**81.00**	**326**	*eP*	**P**	**21 24 54.3**	**+0.5**
comp=Z,17nm,1.0s							
IPM	**Ipoh**	**81.98**	**278**	*eP*	**P**	**21 25 00.0**	**+0.4**
comp=Z,32nm,0.7s							
PSI	**Prapat**	**83.28**	**276**	P	**P**	**21 25 04.9**	**-1.3**
comp=Z,12nm,0.8s,baz=124,slow=1.0,SNR=12							
GSI	**Gunungsitoli**	**83.96**	**274**	*eP*	**P**	**21 25 10.3**	**+0.9**
comp=Z,52nm,1.1s							
TUC	**Tucson**	**84.99**	**52**	*eP*	**P**	**21 25 15.0**	**+0.8**
TUC				pmax	pmax		
comp=Z,32nm,2.4s							
TUC	**Tucson**	**84.99**	**52**	*eP*	**P**	**21 25 15.0**	**+0.8**
comp=Z,32nm,2.4s							
SURA	**Surathani**	**85.08**	**282**	P	**P**	**21 25 17.7**	**+2.9**
comp=Z,118nm,1.2s							
KHON	**Khomkaen**	**85.11**	**290**	P	**P**	**21 25 16.4**	**+1.5**
comp=Z,24nm,0.8s							
NAYO	**Nakonayok**	**85.60**	**287**	P	**P**	**21 25 19.3**	**+2.0**
comp=Z,49nm,1.3s							
GAMB	**Gambell**	**85.73**	**3**	*eP*	**P**	**21 25 17.6**	**+0.9**
comp=Z,7.7nm,0.9s							
RC01	**Rabbit Creek A**	**86.24**	**14**	*eP*	**P**	**21 25 18.4**	**-0.9**
BBB	**Bella Bella**	**86.39**	**29**	P	**P**	**21 25 20.7**	**+0.6**
baz=192,slow=9.3							
PBKT	**Sadao Pong**	**86.82**	**289**	P	**P**	**21 25 24.9**	**+1.9**
comp=Z,18nm,1.1s							
BMRM	**Bremner River**	**87.37**	**16**	*eP*	**P**	**21 25 23.8**	**-0.9**
SEY	**Seymchan**	**87.56**	**348**	P	**P**	**21 25 25.3**	**-0.1**
comp=Z,8.7nm,0.7s,baz=140,slow=4.4,SNR=14							
SRDT	**SRDT**	**87.57**	**286**	P	**P**	**21 25 28.8**	**+2.2**
comp=Z,58nm,1.0s							
UTTA	**Uttaradit**	**87.66**	**290**	P	**P**	**21 25 28.7**	**+1.8**
comp=Z,3.9nm,1.0s							
TNA	**Tin City**	**87.76**	**5**	*eP*	**P**	**21 25 27.0**	**+0.8**
comp=Z,5.0nm,0.8s							
UTHA	**Uthaitani**	**87.76**	**288**	P	**P**	**21 25 29.8**	**+2.4**
comp=Z,6.7nm,1.2s							
CAST	**Castle Rocks**	**87.84**	**12**	*eP*	**P**	**21 25 25.7**	**-1.1**
comp=Z,12nm,0.8s							
KTH	**Kantishna Hill**	**88.19**	**12**	*eP*	**P**	**21 25 27.4**	**-1.0**
comp=Z,11nm,0.8s							
TRF	**Thorofare Moun**	**88.23**	**13**	*eP*	**P**	**21 25 28.2**	**-0.5**
comp=Z,26nm,0.7s							
SUKH	**Sukhothai**	**88.36**	**289**	P	**P**	**21 25 32.0**	**+1.8**
comp=Z,6.9nm,0.9s							
MNTX	**Cornudas Mount**	**88.74**	**55**	*eP*	**P**	**21 25 33.2**	**+1.5**
comp=Z,2.7nm,0.8s							
MCK	**McKinley**	**88.76**	**13**	*eP*	**P**	**21 25 30.7**	**-0.3**
MCK				pmax	pmax		
comp=Z,12nm,0.9s							
MCK	**McKinley**	**88.76**	**13**	*eP*	**P**	**21 25 30.7**	**-0.3**
comp=Z,12nm,0.9s							
LAMP	**Lampang**	**88.77**	**290**	P	**P**	**21 25 34.0**	**+1.9**
comp=Z,18nm,0.8s							
CRAI	**Chiangrai**	**88.81**	**292**	P	**P**	**21 25 30.8**	**-1.5**
comp=Z,103nm,0.9s							
TXAR	**Lajitas Array**	**89.02**	**58**	P	**P**	**21 25 34.6**	**+1.5**
comp=Z,2.4nm,0.8s,baz=211,slow=6.0,SNR=20							
TXAR				pP	**pP**	**21 27 45.2**	**+4.1**
comp=Z,0.1nm,0.6s,baz=240,slow=7.1,SNR=4.3							
TXAR				PKKPbc	**PKKPbc**	**21 43 08.1**	**+0.1**
comp=Z,0.2nm,0.4s,baz=60,slow=5.4,SNR=4.1							
CMAR	**Chiang Mai Arr**	**89.35**	**290**	P	**P**	**21 25 36.5**	**+1.8**
comp=Z,17nm,0.8s,baz=135,slow=3.3,SNR=71							
NEW	**Newport**	**89.41**	**36**	P	**P**	**21 25 35.6**	**+1.1**
comp=Z,0.6nm,0.4s,baz=80,slow=6.1,SNR=2.0							
CMMT	**Chiang Mai**	**89.48**	**290**	P	**P**	**21 25 36.7**	**+1.3**
comp=Z,44nm,0.8s							
CHTO	**Chiang Mai**	**89.49**	**290**	*eP*	**P**	**21 25 36.6**	**+1.1**
CHTO				pmax	pmax		
comp=Z,23nm,0.8s							
CHTO	**Chiang Mai**	**89.49**	**290**	P	**P**	**21 25 36.8**	**+1.4**
comp=Z,153nm,0.9s							
CHTO	**Chiang Mai**	**89.49**	**290**	*eP*	**P**	**21 25 36.5**	**+1.1**
comp=Z,23nm,0.8s							
CMAI	**Chiengmai2**	**89.84**	**291**	P	**P**	**21 25 38.6**	**+1.3**
comp=Z,20nm,1.1s							
COLA	**College**	**89.99**	**13**	*eP*	**P**	**21 25 36.1**	**-0.5**
COLA				pmax	pmax		
comp=Z,9.0nm,0.7s							
COLA	**College**	**89.99**	**13**	*eP*	**P**	**21 25 36.1**	**-0.5**
comp=Z,8.7nm,0.7s							
ILAR	**Eielson Array**	**90.10**	**13**	P	**P**	**21 25 36.2**	**-1.0**
comp=Z,2.1nm,0.7s,baz=220,slow=4.4,SNR=32							
MHMT	**Maesarieng**	**90.12**	**289**	P	**P**	**21 25 40.7**	**+2.3**
BILL	**Bilibino**	**90.42**	**355**	*i* P	**P**	**21 25 38.7**	**+0.1**
BILL				pmax	pmax		
comp=Z,14nm,1.1s							
PDAR	**Pinedale Array**	**91.00**	**44**	P	**P**	**21 25 41.1**	**-1.1**
comp=Z,0.3nm,0.6s,baz=224,slow=3.8,SNR=3.3							
YAK	**Yakutsk**	**93.02**	**

NB2 NORSAR Subarra 140.31 352 PKP PKPdf 21 31 55.0 -7.0
comp=Z,1.5nm,0.7s,baz=16,slow=3.2
NOA NORSAR Array B 140.31 352 PKP **PKPdf 21 32 03.9 +1.9**
comp=Z,1.7nm,0.6s,baz=14,slow=3.9,SNR=5.4
NOA SKPbc **SKPbc 21 34 42.5 -0.5**
comp=Z,1.6nm,0.7s,baz=14,slow=4.4,SNR=4.8
HFS Hagfors 140.81 350 PKhKP PKPpre 21 31 56.2
comp=Z,7.2nm,0.4s,baz=64,slow=3.4,SNR=91
HFS SKPbc **SKPbc 21 34 43.9 -0.4**
comp=Z,4.7nm,0.8s,baz=78,slow=2.1,SNR=5.6
IDID Didziasalis 141.43 336 *e*P **PKPdf 21 31 59.2 -4.8**
IDID AMB AMB 21 31 59.8
comp=Z,6.0nm,1.0s
ISAL Salakas 141.46 337 *e*P **PKPdf 21 32 00.1 -4.0**
ISAL AMB AMB 21 32 02.3
comp=Z,9.8nm,1.5s
BNGL BINGOL 141.51 305 *i* P **PKPdf 21 32 01.7 -3.3**
IIGN Ignalina 141.60 337 *e*P **PKPdf 21 31 60.0 -4.4**
IIGN AMB AMB 21 32 00.6
comp=Z,4.0nm,0.6s
KOPT Kop Dagi 141.72 307 *i* P **PKPdf 21 32 02.7 -2.7**
KBSD Kabsdagh 142.41 302 *e*P **PKPdf 21 32 03.0 -3.4**
MZRK Al-Mazaregh 142.56 301 *e*P **PKPdf 21 32 04.5 -2.2**
KELT Kelkit 142.60 308 *i* P **PKPdf 21 32 05.4 -1.5**
HCB Kahramanmara¯ 142.84 303 *i* P PKPdf 21 32 12.6 +5.4
SFNV Sufian 142.87 302 *e*P **PKPdf 21 32 04.9 -2.4**
GRSN GIRESUNGRSN 143.07 309 *i* P PKPab 21 32 05.2 -0.2
ELZG Elazig 143.26 305 *i* P **PKPdf 21 32 07.8 -0.2**
KEMA Kemaliye 143.42 307 *i* P **PKPdf 21 32 08.3 0.0**
MNKR ALMNKUR 143.63 301 *e*P PKPbc 21 32 06.2 -1.5
AKASG Malin Array Be 143.65 329 PKP PKPbc 21 32 06.2 -1.0
comp=Z,18nm,0.4s,baz=40,slow=4.3,SNR=126
AKASG SKPbc **SKPbc 21 34 51.2 -0.3**
comp=Z,2.2nm,0.6s,baz=47,slow=2.6,SNR=14
KIEV Kiev 143.66 329 *e*PKHKP PKPbc 21 32 05.9 -1.3
KIEV Kiev 143.66 329 *e*PKPdf PKPbc 21 32 05.8 -1.3
MALT Malatya 143.73 305 ⇓PKIKP **PKPdf 21 32 08.9 +0.1**
MALT Malatya 143.73 305 ⇓*i*P **PKPdf 21 32 08.9 +0.1**
SUW Suwalki 143.75 337 ⇓*e*PKHKP PKPbc 21 32 07.0 -0.4
SUW Suwalki 143.75 337 *e*P PKPbc 21 32 06.9 -0.5
SUW Suwalki 143.75 337 *e*PKPdf PKPbc 21 32 07.0 -0.3
KSRV Kasrt alli 143.86 301 *e*P PKPab 21 32 08.6 0.0
TOKA Tokat 144.56 309 *i* P **PKPab 21 32 11.1 -0.1**
GZT Gaziantep 144.64 304 *i* P **PKPab 21 32 11.7 0.0**
HAVZ Havza 144.83 311 *i* P **PKPab 21 32 11.8 -0.3**
MUD Monsted U'grnd 145.03 352 *i* PKHKP **PKPbc 21 32 10.9 -0.3**
MUD Monsted U'grnd 145.03 352 *i* P **PKPbc 21 32 10.9 -0.3**
KUZU Kuzuini 145.17 303 *i* P **PKPab 21 32 13.1 -0.6**
COP Copenhagen 145.24 348 *e*PKIKP **PKPbc 21 32 11.7 -0.1**
COP Copenhagen 145.24 348 *i* P **PKPbc 21 32 11.7 -0.1**
BSD Bornholm Skovb 145.25 346 *i* PKIKP **PKPbc 21 32 11.5 -0.4**
BSD Bornholm Skovb 145.25 346 *i* P **PKPbc 21 32 11.5 -0.4**
BOYT Boyabat 145.26 312 *i* P **PKPab 21 32 13.4 -0.4**
ZALF Zalf 145.75 296 *e*P **PKPdf 21 32 12.1 -0.3**
KFRA Kufra 145.76 301 *e*P **PKPdf 21 32 09.2 -3.1**
BTCH Batrach 145.84 302 *e*P **PKPdf 21 32 13.1 +0.6**
WRDH Warideh 146.00 301 *e*P **PKPdf 21 32 13.1 +0.4**
YAYL Yayladag 146.11 302 *i* P **PKPdf 21 32 13.9 +0.9**
BIDA Albida 146.18 300 *e*P **PKPdf 21 32 13.5 +0.4**
HAWK Haweek 146.22 300 *e*P **PKPbc 21 32 14.3 -1.1**
MARH Ras Al Marh 146.26 299 *e*P **PKPbc 21 32 15.4 -0.5**
SALA Sala 146.29 296 *e*P **PKPdf 21 32 13.6 +0.2**
GKP Gorka Klasztor 146.30 342 *e*PKIKP **PKPbc 21 32 14.8 -0.1**
GKP Gorka Klasztor 146.30 342 *e*P **PKPbc 21 32 14.8 -0.1**
BEL Belsk 146.36 337 ⇓*e*PKIKP **PKPbc 21 32 15.5 +0.4**
BEL Belsk 146.36 337 *e*P **PKPbc 21 32 15.5 +0.4**
EKA Eskdalemuir Ar 146.63 4 PKIKP **PKPbc 21 32 15.0 -0.7**
EKA Eskdalemuir Ar 146.63 4 PKPbc **PKPbc 21 32 15.0 -0.7**
comp=Z,4.6nm,0.6s,baz=14,slow=3.4,SNR=30
LVV L'vov 146.65 332 *i* PKIKP **PKPbc 21 32 15.1 -0.9**
GULE Gulek 146.80 305 *i* P **PKPbc 21 32 17.6 +0.6**
BRTR Keskin Array B 146.81 310 PKPbc **PKPbc 21 32 16.4 -0.5**
comp=Z,10nm,0.7s,baz=135,slow=4.6,SNR=50
BRTR SKPbc **SKiKP 21 35 00.1 +0.6**
comp=Z,1.0nm,0.8s,baz=45,slow=6.5,SNR=3.5
LEOM Leova 146.85 324 ⇑PKIKP **PKPbc 21 32 16.5 -0.1**
LEOM Leova 146.85 324 ⇑*i*P **PKPbc 21 32 16.5 -0.1**
BBAL Bala 147.24 310 *i* P **PKPbc 21 32 18.1 0.0**
BSEG Bad Segeberg 147.29 349 *e*PKPbc **PKPbc 21 32 17.6 +0.1**
BSEG *e*PKPab **PKPab 21 32 21.0 -0.3**
TLCR 147.30 322 ⇑PKIKP **PKPbc 21 32 18.0 +0.2**
TLCR 147.30 322 ⇑*i*P **PKPbc 21 32 18.0 +0.2**
MMAI Mount Meron Ar 147.34 297 PKPbc **PKPbc 21 32 18.9 +0.5**
comp=Z,20nm,0.5s,baz=78,slow=7.8,SNR=51
ANTO Ankara 147.35 310 *e*PKIKP **PKPbc 21 32 18.2 -0.1**
ANTO Ankara 147.35 310 *e*PKPbc **PKPbc 21 32 18.2 -0.1**
KWP Kalwaria Pacla 147.35 333 *e*PKIKP **PKPbc 21 32 16.5 -1.4**
KWP Kalwaria Pacla 147.35 333 *e*P **PKPbc 21 32 17.9 0.0**
KWP Kalwaria Pacla 147.35 333 *e*PKPbc **PKPbc 21 32 16.5 -1.4**
BCAM Yenicaga 147.47 312 *i* P **PKPbc 21 32 18.3 -0.3**
BURAR Bucovina Array 147.67 328 ⇓PKIKP **PKPbc 21 32 19.3 +0.4**
BURAR Bucovina Array 147.67 328 ⇓*i*P **PKPbc 21 32 19.3 +0.4**
TESR Tescani 147.68 325 ⇓*i*P **PKPbc 21 32 18.6 -0.2**
CFR Carcaliu 147.69 322 ⇓PKIKP **PKPbc 21 32 18.6 -0.2**
CFR Carcaliu 147.69 322 ⇓*i*P **PKPbc 21 32 18.6 -0.2**
PETR Petresti 147.87 324 ⇑*i*P **PKPbc 21 32 25.3 +1.3**
TIRR Tirgusor 147.96 321 ⇑PKIKP **PKPbc 21 32 19.6 +0.1**
TIRR Tirgusor 147.96 321 ⇑*i*P **PKPbc 21 32 19.6 +0.1**
OJC Ojcow 148.04 336 *e*PKIKP **PKPbc 21 32 19.5 -0.1**
OJC Ojcow 148.04 336 *e*PX **PKPbc 21 32 19.5 -0.1**
VRI Vrincioaia 148.05 324 ⇑PKIKP **PKPbc 21 32 19.7 -0.1**
VRI Vrincioaia 148.05 324 ⇑*i*P **PKPbc 21 32 19.7 -0.1**
KOLS Kolonicke sedl 148.07 332 *e*PKP2 **PKPab 21 32 23.3 -1.5**
KOLS Kolonicke sedl 148.07 332 *e*PKP **PKPbc 21 32 19.9 +0.2**
TLB Topalu 148.10 321 ⇓PKIKP **PKPbc 21 32 19.9 0.0**
TLB Topalu 148.10 321 ⇓*i*P **PKPbc 21 32 19.9 0.0**
PLOR Plostina 148.10 324 ⇑PKIKP **PKPbc 21 32 19.7 -0.2**
PLOR Plostina 148.10 324 ⇑*i*P **PKPbc 21 32 19.7 -0.2**
STHS Stebnicka Huta 148.13 334 *e*PKHKP **PKPbc 21 32 20.4 +0.5**
STHS Stebnicka Huta 148.13 334 *e*PKP **PKPbc 21 32 20.3 +0.4**
EIL Elat 148.19 291 PKPbc **PKPbc 21 32 20.8 +0.2**
comp=Z,15nm,0.7s,baz=86,slow=1.0,SNR=21
MANR Mangalia 148.22 320 ⇑*i*P **PKPbc 21 32 20.9 +0.7**
AYK Aydincik 148.25 304 *i* P **PKPdf 21 32 12.8 -3.4**
UZH Uzhgorod 148.29 332 ⇓*i*PKHKP **PKPbc 21 32 20.5 +0.3**
UZH *e* 21 32 29.3
KDHN Kadinhani 148.36 308 *i* P **PKPbc 21 32 20.6 -0.3**
ERMK Ermenek 148.41 305 *i* P **PKPbc 21 32 21.4 +0.2**
CRVS Cervenica-Dubn 148.44 333 *e*PKP **PKPbc 21 32 21.0 +0.4**
BMR Baia Mare 148.46 330 ⇓PKHKP **PKPbc 21 32 21.2 +0.5**
BMR Baia Mare 148.46 330 ⇓*i*P **PKPbc 21 32 21.2 +0.5**
NIE Niedzica 148.50 335 *e*PKHKP **PKPbc 21 32 21.4 +0.6**
NIE Niedzica 148.50 335 *e*PX **PKPbc 21 32 21.4 +0.6**
PGOR Pogoanele 148.51 323 ⇓*i*P **PKPbc 21 32 21.3 +0.4**
PSN Preselentsi 148.53 320 ⇓PKHKP **PKPbc 21 32 21.1 +0.1**
PSN Preselentsi 148.53 320 ⇓*i*P **PKPbc 21 32 21.1 +0.1**
TRPA Tarpa 148.56 331 ⇑*i*P **PKPbc 21 32 21.0 +0.1**
TRPA Tarpa 148.56 331 ⇓*e* **PKPbc 21 32 20.6 -0.3**
CSS Prodhromos 148.58 301 *e*PKPbc **PKPbc 21 32 21.2 -0.3**
ISR Istrita 148.62 323 ⇑PKHKP **PKPbc 21 32 21.4 +0.1**
ISR Istrita 148.62 323 ⇑*i*P **PKPbc 21 32 21.4 +0.1**
DOPR Dopca 148.70 326 ⇓*i*P **PKPbc 21 32 22.0 +0.6**
NRDL Niedersach Rie 148.70 349 *e*PKPbc **PKPbc 21 32 21.0 0.0**
KSP Ksiaz 148.71 341 ⇓*i*PKHKP **PKPbc 21 32 21.6 +0.4**
KSP *e* 21 32 27.7
KSP Ksiaz 148.71 341 *e*P **PKPbc 21 32 21.6 +0.4**
MLR Muntele Rosu 148.71 324 ⇓PKHKP **PKPbc 21 32 21.2 -0.4**
MLR Muntele Rosu 148.71 324 ⇓*i*P **PKPbc 21 32 21.2 -0.4**
SECR 148.94 324 ⇓*i*P **PKPbc 21 32 21.9 -0.1**
OKC Ostrava-Krasne 148.96 338 *e*PKHKP **PKPbc 21 32 22.0 +0.2**
OKC *e* 21 32 28.9
OKC Ostrava-Krasne 148.96 338 ⇑*e*PKP **PKPbc 21 32 22.0 +0.2**
OKC *e*PKPAB **PKPab 21 32 28.9 +0.5**
BORA Eskisehir 148.98 312 *i* P **PKPbc 21 32 22.2 -0.2**
SULR 149.06 323 ⇑*i*P **PKPbc 21 32 22.3 +0.1**
UPC Upice 149.09 341 *e*PKHKP **PKPbc 21 32 22.5 +0.3**
UPC *e* 21 32 29.4
UPC Upice 149.09 341 ⇑*e*PKP **PKPbc 21 32 22.5 +0.3**
UPC *e*PKPAB **PKPab 21 32 29.4 +0.5**
CJR Cluj-Napoca 149.09 328 ⇑PKHKP **PKPbc 21 32 22.5 +0.1**
CJR Cluj-Napoca 149.09 328 ⇑*i*P **PKPbc 21 32 22.5 +0.1**
MDB Medias 149.10 327 ⇓PKHKP **PKPbc 21 32 23.1 +0.8**
MDB Medias 149.10 327 ⇓*i*P **PKPbc 21 32 23.1 +0.8**
DPC Dobruska-Polom 149.13 340 *e*PKHKP **PKPbc 21 32 22.7 +0.4**
DPC Dobruska-Polom 149.13 340 ⇑*i*PKP **PKPbc 21 32 22.9 +0.6**
DPC *e*PKPAB **PKPab 21 32 30.0 +0.8**
DPC Dobruska-Polom 149.13 340 *e*PKPdf **PKPbc 21 32 22.7 +0.4**
CLL Collm 149.20 345 ⇓*i*PKHKP **PKPbc 21 32 22.4 0.0**
CLL *i* 21 32 29.3
CLL pmax pmax
comp=Z,45nm,0.9s
CLL pmax pmax
comp=Z,20nm,0.7s
CLL Collm 149.20 345 *e*PKPbc **PKPbc 21 32 22.4 0.0**
CLL *e*PKPab **PKPab 21 32 28.9 -0.4**
CLL Collm 149.20 345 ⇓*i*PKPbc **PKPbc 21 32 22.4 0.0**
comp=Z,45nm,0.9s
CLL *i* PKiKP **PKiKP 21 32 24.2 +1.0**
CLL ⇑*i*PKPab **PKPab 21 32 29.3 0.0**
comp=Z,20nm,0.7s
MORC Moravsky Berou 149.22 338 *e*PKHKP **PKPbc 21 32 22.3 -0.2**
MORC Moravsky Berou 149.22 338 ⇓*i*P **PKPbc 21 32 23.0 +0.5**
MORC Moravsky Berou 149.22 338 *e*PKPbc **PKPbc 21 32 22.3 -0.2**
VOIR 149.23 325 ⇑PKHKP **PKPbc 21 32 22.7 -0.1**
VOIR 149.23 325 ⇑*i*P **PKPbc 21 32 22.7 -0.1**
IBBN Ibbenburen 149.26 351 *e*PKPbc **PKPbc 21 32 22.4 -0.1**
CLZ Clausthal 149.28 348 *e*PKPbc **PKPbc 21 32 22.8 +0.2**
BRG Berggiesshubel 149.36 343 *i* PKP **PKPbc 21 32 22.9 +0.1**
comp=Z,35nm,0.8s
BRG *i* **PKPab 21 32 30.4 +0.3**
comp=Z,14nm,0.7s
BRG Berggiesshubel 149.36 343 *i* PKHKP **PKPbc 21 32 22.9 +0.1**
BRG *i* 21 32 30.4
BRG pmax pmax
comp=Z,35nm,0.8s
BRG pmax pmax
comp=Z,14nm,0.7s
BRG Berggiesshubel 149.36 343 *e*PKPbc **PKPbc 21 32 22.9 +0.1**
BRG *e*PKPab **PKPab 21 32 30.1 +0.1**
MTUR Matau 149.36 325 ⇑PKHKP **PKPbc 21 32 24.2 +1.1**
MTUR Matau 149.36 325 ⇑*i*P **PKPbc 21 32 24.2 +1.1**
ARR Arges 149.49 325 ⇓*i*P **PKPbc 21 32 24.4 +1.0**
PVCC Panska Ves 149.50 342 *e*PKHKP **PKPbc 21 32 23.5 +0.4**
PVCC *e* 21 32 31.2
PVCC Panska Ves 149.50 342 ⇑*e*PKP **PKPbc 21 32 23.5 +0.4**
PVCC *e*PKPAB **PKPab 21 32 31.2 +0.6**
WTSB Winterswijk 149.72 352 *e*PKP **PKPbc 21 32 23.0 -0.5**
comp=Z,48nm,0.7s
ISP Isparta 149.78 308 *e*PKHKP **PKPbc 21 32 22.9 -1.5**
ISP Isparta 149.78 308 ⇑*i*P **PKPbc 21 32 23.1 -1.3**
ISP Isparta 149.78 308 *e*PKPbc **PKPbc 21 32 22.9 -1.5**
VYHS Vyhne 149.82 335 *e*PKHKP **PKPbc 21 32 23.8 -0.2**
VYHS *e* 21 32 32.6
VYHS Vyhne 149.82 335 *e*PKP **PKPbc 21 32 23.8 -0.2**
VYHS *e* 21 32 32.6
HUMR Humele 149.86 324 ⇓*i*P **PKPbc 21 32 23.6 -0.6**
PSZ Piszkesteto 149.86 334 *e*PKHKP **PKPbc 21 32 23.9 -0.2**
PSZ Piszkesteto 149.86 334 ⇑*i*P **PKPbc 21 32 24.3 +0.1**
PSZ Piszkesteto 149.86 334 ⇓*e*PKIKP **PKPbc 21 32 23.9 -0.2**
PSZ Piszkesteto 149.86 334 *e*PKPdf **PKPbc 21 32 23.9 -0.2**
LOT Lotru 149.89 326 ⇑*i*P **PKPbc 21 32 23.8 -0.6**
VRAC Vranov 149.94 339 ⇑PKHKP **PKPbc 21 32 24.8 +0.6**
VRAC Vranov 149.94 339 ⇑*i*P **PKPbc 21 32 24.8 +0.6**
PRA Prague 149.95 342 *e*PKHKP **PKPbc 21 32 24.5 +0.3**
PRA Prague 149.95 342 ⇑*e*PKP **PKPbc 21 32 24.5 +0.3**
PRU Pruhonice 149.99 342 *e*PKHKP **PKPbc 21 32 24.4 +0.1**
PRU *e* 21 32 32.9
PRU Pruhonice 149.99 342 ⇑*e*PKP **PKPbc 21 32 24.4 +0.1**
PRU *e*PKPAB **PKPab 21 32 32.9 +0.2**
DEV Deva 150.02 328 ⇓PKHKP **PKPbc 21 32 24.5 0.0**
DEV Deva 150.02 328 ⇓*i*P **PKPbc 21 32 24.5 0.0**
MOX Moxa 150.15 346 *e*PKPbc **PKPbc 21 32 24.5 -0.1**
MOX *e*PKPab **PKPab 21 32 33.2 -0.1**
TANN Tannenbergstha 150.16 345 *e*PKPbc **PKPbc 21 32 24.8 0.0**
JMB Yambol 150.19 319 ⇑PKHKP **PKPbc 21 32 27.6 +2.6**
JMB Yambol 150.19 319 ⇑*i*P **PKPbc 21 32 27.6 +2.6**
KORT Korkueli 150.22 307 *i* P **PKPbc 21 32 25.3 -0.1**
TREC Trest 150.32 340 *e*PKIKP **PKPbc 21 32 24.9 -0.2**
TREC *e* 21 32 34.3
TREC Trest 150.32 340 ⇑*e*PKP **PKPbc 21 32 24.9 -0.2**
TREC *e*PKPAB **PKPab 21 32 34.3 +0.2**
UBBA Unterbreizbach 150.32 348 *e*PKPbc **PKPbc 21 32 24.5 -0.4**
GZR Gura Zlata 150.43 327 ⇑PKIKP **PKPbc 21 32 25.4 -0.2**
GZR Gura Zlata 150.43 327 ⇑*i*P **PKPbc 21 32 25.4 -0.2**
SRE Strehaia 150.72 326 ⇓PKIKP **PKPbc 21 32 26.8 +0.6**
SRE Strehaia 150.72 326 ⇓*i*P **PKPbc 21 32 26.8 +0.6**
ROTZ Rotzenmuhle 150.82 344 *e*PKPbc **PKPbc 21 32 26.3 +0.1**
BZS Buzias 150.84 329 ⇓PKIKP **PKPbc 21 32 26.1 -0.3**
BZS Buzias 150.84 329 ⇓*i*P **PKPbc 21 32 26.1 -0.3**
PKSG 150.89 335 ⇓*e* **PKPbc 21 32 26.0 -0.4**
CSKK Cs¯‡kako 150.96 335 ⇓ **PKPbc 21 32 26.2 -0.4**
HGN Heimansgroeve 151.01 353 *e*PKP **PKPbc 21 32 26.3 -0.3**
PKS6 Bocsa 151.03 332 ⇓*e* **PKPbc 21 32 26.9 +0.1**
KHC Kasperske Hory 151.03 342 *e*PKIKP **PKPbc 21 32 26.5 -0.3**
KHC *e* 21 32 36.9
KHC Kasperske Hory 151.03 342 ⇑*e*PKP **PKPbc 21 32 26.6 -0.3**
KHC *e*PKPAB **PKPab 21 32 37.0 -0.2**
KHC Kasperske Hory 151.03 342 *e*PKPbc **PKPbc 21 32 26.4 -0.3**
KHC *e*PKPab **PKPab 21 32 36.9 -0.3**
GRF Grafenberg Arr 151.13 346 *e*PKPab **PKPab 21 32 37.7 +0.2**
GRFO Grafenberg 151.13 346 *e*PKPab **PKPab 21 32 38.1 +0.6**
UCC Uccle 151.13 355 PPKiKP **PKPbc 21 32 26.9 +0.1**
PKST T¯'s 151.14 335 ⇓*e* **PKPbc 21 32 26.4 -0.6**
MEM Membach 151.15 353 PPKiKP **PKPbc 21 32 26.8 -0.2**
MEM Membach 151.15 353 *e*PKIKP **PKPbc 21 32 27.1 +0.2**
MEM Membach 151.15 353 *e*PKPdf **PKPbc 21 32 27.1 +0.2**
WET Wettzell 151.22 343 *e*PKPbc **PKPbc 21 32 27.0 -0.2**
WET *e*PKPab **PKPab 21 32 38.1 +0.2**
BANR Banloc 151.24 329 ⇓*i*P **PKPbc 21 32 27.7 +0.4**
GEC2 GERESS Array S 151.26 342 *e*PKPbc **PKPbc 21 32 27.0 -0.3**
GERES GERESS Array B 151.26 342 PKP **PKPdf 21 32 21.0 +0.3**
comp=Z,0.5nm,0.7s,baz=325,slow=1.6,SNR=5.5
GERES PKPbc **PKPbc 21 32 27.1 -0.3**
comp=Z,4.3nm,0.4s,baz=21,slow=1.9,SNR=61
GERES PKPab **PKPab 21 32 38.1 -0.1**
comp=Z,2.0nm,0.5s,baz=27,slow=3.8,SNR=9.1
PKS2 Kecel 151.27 333 ⇓*e* **PKPbc 21 32 27.4 +0.1**
SOP Sopron 151.34 337 ⇓*e* **PKPbc 21 32 27.5 +0.1**
KDZ Kurdzhali 151.37 319 ⇓PKIKP **PKPbc 21 32 27.3 -0.4**
KDZ Kurdzhali 151.37 319 ⇓*i*P **PKPbc 21 32 27.3 -0.4**
CONA Conrad Observa 151.38 338 ⇑*i*PKiKP **PKPbc 21 32 27.4 -0.3**
comp=Z,13nm,0.7s
BCLA Clavier 151.42 354 E **PKPab 21 32 38.2 -0.4**
SNF Seneffe 151.42 355 PPKiKP **PKPbc 21 32 27.5 0.0**
SNF E **PKPab 21 32 38.5 -0.2**
DOU Dourbes 151.81 354 PPKiKP **PKPbc 21 32 28.5 +0.1**
MOA Molln 151.97 340 ⇓*i*PKPbc **PKPbc 21 32 28.4 -0.5**
comp=Z,3.4nm,0.6s
WLF Walferdange 152.06 352 *e*PKPbc **PKPbc 21 32 29.3 +0.3**
VTS Vitosha 152.09 323 ⇓PKIKP **PKPbc 21 32 29.4 -0.1**
VTS Vitosha 152.09 323 ⇓*i*P **PKPbc 21 32 29.4 -0.1**
STU Stuttgart 152.43 348 *e*PKPbc **PKPbc 21 32 29.9 +0.1**
RJOB Jochberg 152.52 342 *e*PKPab **PKPab 21 32 44.0 +0.5**
FUR Furstenfeldbru 152.53 344 *e*PKPab **PKPab 21 32 43.6 +0.1**
SOKA Soboth 152.74 338 *i* PKPbc **PKPbc 21 32 29.7 -1.0**
comp=Z,2.6nm,0.5s,SNR=4.9
SOKA ⇑*i*PKPab **PKPab 21 32 44.6 +0.1**
comp=Z,4.7nm,0.7s
KBA Koelnbreinsper 152.95 341 *i* PKPbc **PKPbc 21 32 30.1 -1.1**
comp=Z,3.7nm,0.5s,SNR=6.9
KBA ⇑*i*PKPab **PKPab 21 32 46.2 +0.7**
comp=Z,9.4nm,0.6s
OBKA Obir 153.06 338 ⇑*i*PKiKP **PKiKP 21 32 32.3 +0.9**
comp=Z,2.8nm,0.6s
OBKA ⇑*i*PKPab **PKPab 21 32 45.9 0.0**
comp=Z,4.3nm,0.6s
WATA Walderalm 153.22 343 ⇑*i*PKPbc **PKPbc 21 32 30.9 -0.8**
comp=Z,4.1nm,0.4s
WATA ⇑*i*PKPab **PKPab 21 32 46.6 0.0**
comp=Z,5.4nm,0.5s
MYKA Terra Mystica 153.25 340 ⇓*i*PKPbc **PKPbc 21 32 30.6 -1.2**
comp=Z,4.0nm,0.5s
MYKA ⇑*i*PKPab **PKPab 21 32 46.3 -0.3**
comp=Z,7.7nm,0.6s
WTTA Wattenberg 153.27 343 *i* PKPbc **PKPbc 21 32 31.4 -0.5**
comp=Z,6.7nm,0.4s,SNR=8.1
WTTA ⇑*i*PKPab **PKPab 21 32 47.4 +0.5**
comp=Z,14nm,0.5s
MOTA Moosalm 153.34 344 ⇑*i*PKPbc **PKPbc 21 32 31.5 -0.6**
comp=Z,2.3nm,0.5s
MOTA ⇓*e*PKPab **PKPab 21 32 46.9 -0.3**
comp=Z,13nm,1.0s
ABTA Abfaltersbach 153.50 341 ⇑*i*PKPbc **PKPbc 21 32 30.8 -1.5**
comp=Z,5.4nm,0.5s,SNR=7.8
ABTA ⇑*i*PKPab **PKPab 21 32 47.4 -0.3**
comp=Z,9.8nm,0.6s
CRNS Crni Vrh 153.53 338 *i* PKP **PKPbc 21 32 31.6 -0.7**
FETA Feichten 153.74 344 ⇑*i*PKPdf **PKPdf 21 32 24.2 -0.2**
comp=Z,4.8nm,0.8s
DAVOX Davos/Dischmat 154.17 345 PKP **PKPdf 21 32 24.9 -0.3**
comp=Z,2.5nm,0.8s,baz=51,slow=6.5,SNR=4.4
DAVOX PKPbc **PKPbc 21 32 33.7 -0.2**
comp=Z,4.4nm,0.5s,baz=198,slow=3.2,SNR=15
DAVOX PKPab **PKPab 21 32 51.1 +0.3**
comp=Z,9.0nm,0.6s,baz=6.3,slow=2.3,SNR=13
FUORN Ofenpass-Fuorn 154.23 344 *e*PKPab **PKPab 21 32 51.8 +0.7**
IDI Anoyia 154.96 307 PKPbc **PKPbc 21 32 36.0 +0.2**
comp=Z,9.9nm,0.8s,baz=6.3,slow=9.2,SNR=3.4
IDI PKPab **PKPab 21 32 53.5 -0.9**
comp=Z,23nm,1.1s,baz=72,slow=17,SNR=4.8
SENIN Lac Senin/Sane 155.11 349 *e*PKPab **PKPab 21 32 54.9 +0.1**
ESDC Sonseca Array 161.99 11 PKP **PKPdf 21 32 34.0 -0.5**
comp=Z,0.6nm,0.6s,baz=357,slow=3.1,SNR=5.7
ESDC PKPab **PKPab 21 33 24.6 -0.2**
comp=Z,0.7nm,0.6s,baz=345,slow=4.7,SNR=9.1
DBIC Dimbokro 163.87 160 PKP **PKPdf 21 32 36.2 -0.7**
comp=Z,1.3nm,0.6s,baz=160,slow=3.8,SNR=3.5
DBIC PKPab **PKPab 21 33 34.4 +0.8**
comp=Z,1.2nm,0.6s,baz=190,slow=12,SNR=2.4
KEST Kesra 164.33 333 PKPab **PKPab 21 33 35.6 +0.3**
comp=Z,1.9nm,0.8s,baz=262,slow=6.5,SNR=6.1
MDT Midelt 168.32 22 PKP **PKPdf 21 32 40.5 +0.4**
comp=Z,3.0nm,1.0s,baz=58,slow=3.1,SNR=5.5
MDT PKPab **PKPab 21 33 53.5 +0.5**
comp=Z,2.1nm,0.9s,baz=338,slow=5.0,SNR=4.7
TORD Torodi Ar. Bea 171.10 187 PKPab **PKPab 21 34 05.6 +0.2**
comp=Z,0.4nm,0.7s,baz=174,slow=4.7,SNR=3.7

BJI ***28*** *21:13:36.0,6˙38S×123˙07E,h27km,mB5.1/42,mb4.8/53, Ms4.6/40,Ms7 4.3/40*
IDC ***28*** *21:13:39.8±0.5,5˙65S×122˙72E,h0km,mb4.5/26, mb1 4.5/27,mb1mx4.5/32,mbtmp4.5/27,ML3.8/1,MS4.0/10, Ms1 4.0/10,ms1mx3.7/41,Error ellipse: s-maj=16.4km s-min=13.4km az=79.0*
ISCJB ***28*** *21:13:42.8±0.4,5˙61S±0˙02×122˙92E±0˙03,h33km±4km, mb4.8/60,MS3.9/7,Error ellipse: s-maj=5.0km s-min=3.7km az=155.8*
DJA ***28*** *21:13:43.8±0.2,6˙S±2˙×12˙3E±˙,h10km,M4.9/37, mB5.4/22,mb5.1/37,MLv5.2/28,Mw(mB)4.8/22*
MOS ***28*** *21:13:44.4±1.0,5˙62S×122˙98E,h33km,mb5.1/15,Error ellipse: s-maj=15.6km s-min=6.7km az=118.2*
KLM ***28*** *21:13:45.0,5˙64S×122˙92E,h38km,mb5.1,ML5.0,MS6.1*
NEIC ***28*** *21:13:45.5±0.7,5˙61S×122˙73E,h37km±6km,mb5.1/26, Error ellipse: s-maj=6.6km s-min=4.6km az=56.0*
NEIC Felt [III] at Baubau.
ISC 28 21:13:45.9±0.4,5˙66S±0˙04×122˙84E±0˙04,h45km±2km, n288,σ1°54/340,mb4.8/60,MS3.9/7,26C-35D,Sulawesi

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**0.32**	**303**	P	Pn	21 13 46.7	-8.1
BBSI				S	Sn	21 13 52.7	-8.3
BSSI	**Bau Bau, Buton**	**2.38**	**258**	P	Pn	21 14 18.9	-3.7
BSSI				S	**Sn**	**21 14 47.4**	**-3.2**
BKSI	**Bulukumba**	**2.73**	**277**	P	Pn	21 14 24.0	-3.2
BKSI				S	**Sn**	**21 15 02.4**	**+3.4**
BNSI	**Bone**	**3.00**	**295**	P	**Pn**	**21 14 27.9**	**-3.1**
BNSI				S	**Sn**	**21 15 07.3**	**+1.6**
MMRI	**Maumere**	**3.02**	**191**	*e*Pn	**Pn**	**21 14 28.8**	**-2.4**
KAPI	**Kappang**	**3.14**	**282**	Pn	**Pn**	**21 14 30.1**	**-2.8**
	6μm,0.6s,SNR=65						
KAPI	**Kappang**	**3.14**	**282**	*e*Pn	**Pn**	**21 14 30.1**	**-2.8**
EDFI	**Ende, Flores**	**3.27**	**200**	P	**Pn**	**21 14 33.5**	**-1.4**
SPSI	**Sidrap Palu**	**3.49**	**299**	P	**Pn**	**21 14 35.1**	**-2.7**
SPSI				S	**Sn**	**21 15 19.2**	**+1.3**
TTSI	**Tana Toraja**	**3.98**	**311**	P	**Pn**	**21 14 43.0**	**-1.4**
SOEI	**Soe**	**4.31**	**161**	P	**Pn**	**21 14 51.3**	**+2.2**
	baz=4.4,SNR=33						
SOEI	**Soe**	**4.31**	**161**	*e*Pn	**Pn**	**21 14 51.1**	**+2.0**
BATI	**Baumata**	**4.59**	**170**	P	**Pn**	**21 14 55.6**	**+2.7**
BATI	**Baumata**	**4.59**	**170**	Pn	**Pn**	**21 14 56.0**	**+3.1**
	36nm,0.3s,baz=7.9,slow=1.9,SNR=69						
BATI				LR	LR	21 16 42.1	
	comp=Z,3μm,21.9s,baz=56,slow=39						
LUWI	**Luwuk**	**4.59**	**359**	P	**Pn**	**21 14 51.0**	**-1.8**
	baz=4.5,SNR=115						
LUWI	**Luwuk**	**4.59**	**359**	*e*Pn	**Pn**	**21 14 51.1**	**-1.8**
WSI	**Waingapu**	**4.71**	**212**	P	**Pn**	**21 14 55.3**	**+0.8**
WSI	**Waingapu**	**4.71**	**212**	⇓P	**Pn**	**21 14 55.0**	**+0.5**
	baz=4.9,SNR=5.5						
APSI	**Ampana**	**4.87**	**346**	P	**Pn**	**21 14 54.6**	**-2.1**
APSI				S	**Sn**	**21 15 51.2**	**-0.6**
NLAI	**Namlea**	**4.88**	**61**	P	Pn	21 15 02.0	+5.1
BASI	**Baing, Sumba**	**5.05**	**206**	P	**Pn**	**21 15 00.2**	**+1.0**
	412nm,1.2s,7μm3.0nm						
WBSI	**Waikabubak, Su**	**5.23**	**221**	P	**Pn**	**21 14 59.5**	**-2.2**
	273nm,0.8s,4μm1.2nm						
PCI	**Palu**	**5.59**	**328**	P	**Pn**	**21 15 06.1**	**-0.6**
	201nm,0.9s,7μm2.6nm						
MRSI	**Marisa**	**6.16**	**352**	P	**Pn**	**21 15 12.2**	**-2.3**
	352nm,0.6s,3μm

WRA S Sn 21 21 05.4 -9.3
comp=Z,0.8nm,0.3s,baz=324,slow=23,SNR=4.8
WRA LR LR 21 25 39.1
comp=Z,439nm,18.9s,baz=315,slow=40
WB2 Warramunga Arr 18.08 143 *e*P **P 21 17 51.0 -2.9**
JAY Jayapura 18.09 81 P **Pn 21 17 55.9 +1.7**
comp=Z,0.3nm,0.3s,baz=266,slow=19,SNR=2.7
JAY LR LR 21 26 42.3
comp=Z,306nm,18.3s,baz=280,slow=43
KASI Kota Agung 18.26 270 P **Pn 21 17 59.9 +3.8**
MDSI Maura Dua 18.62 273 P **Pn 21 18 04.2 +3.6**
LWLI Liwa 18.71 271 P Pn 21 18 19.0 +17
LHSI Lahat 19.34 275 P **Pn 21 18 10.2 +1.1**
comp=Z,111nm,1.6s,comp=Z,2μm
TPRI Tanjung Pinang 19.42 289 P **Pn 21 18 14.8 +4.7**
MYKOM Kota Tinggi 20.36 291 ⇓P Pn 21 18 20.3 -1.0
MYKOM Kota Tinggi 20.36 291 *e*P **P 21 18 19.6 +0.7**
comp=Z,51nm,1.0s
AS14 Alice Springs 20.82 150 ⇓P **P 21 18 24.7 +0.8**
baz=21
AS14 ⇓P **P 21 18 24.7 +0.8**
baz=21
AS14 ⇓P **P 21 18 24.7 +0.8**
baz=21
AS14 ⇓P **P 21 18 24.7 +0.8**
baz=21
AS14 ⇓P **P 21 18 24.7 +0.8**
baz=21
AS14 ⇓P **P 21 18 24.7 +0.8**
baz=21
AS14 ⇓P **P 21 18 24.7 +0.8**
baz=21
AS14 ⇓P **P 21 18 24.7 +0.8**
baz=21
AS14 ⇓P **P 21 18 24.7 +0.8**
baz=21
AS31 Alice Springs 20.83 150 *e*P **P 21 18 24.7 +0.7**
ASAR Alice Springs 20.83 150 P **P 21 18 24.9 +0.9**
comp=Z,71nm,0.9s,baz=320,slow=9.1,SNR=121
AS07 Alice Springs 20.86 150 ⇓P **P 21 18 25.7 +1.3**
baz=21
AS07 ⇓P **P 21 18 25.7 +1.3**
baz=21
AS07 ⇓P **P 21 18 25.7 +1.3**
baz=21
AS07 ⇓P **P 21 18 25.7 +1.3**
baz=21
AS07 ⇓P **P 21 18 25.7 +1.3**
baz=21
AS07 ⇓P **P 21 18 25.7 +1.3**
baz=21
AS07 ⇓P **P 21 18 25.7 +1.3**
baz=21
AS07 ⇓P **P 21 18 25.7 +1.3**
baz=21
AS07 ⇓P **P 21 18 25.7 +1.3**
baz=21
KGM Kluang 20.93 291 ⇓P **P 21 18 26.1 +1.0**
COEN Coen 21.65 114 ⇑P **P 21 18 32.3 -0.5**
baz=22,SNR=8.3
COEN Coen 21.65 114 *e*P **P 21 18 33.7 +0.9**
comp=Z,349nm,1.0s
QIS Mount Isa 22.01 134 ⇑P **P 21 18 36.5 -0.1**
baz=22,SNR=23
KTGM Kuala Trenggan 22.50 299 ⇑P **P 21 18 42.0 +0.1**
BKNI Bangkinang 22.56 285 *e*P **P 21 18 41.5 -1.1**
comp=Z,144nm,1.0s
PDSI Padang 22.83 281 P **P 21 18 45.4 0.0**
comp=Z,62nm,1.2s,comp=Z,890nm
FRIM Kepong 22.96 292 ⇓P **P 21 18 47.3 +0.6**
IPM Ipoh 24.00 294 ⇓P **P 21 18 57.6 +0.8**
IPM Ipoh 24.00 294 *e*P **P 21 18 57.0 +0.2**
comp=Z,44nm,0.9s
MNSI Mandailing Nat 24.10 285 P **P 21 18 57.9 +0.3**
comp=Z,65nm,1.0s,comp=Z,1μm
PMG Port Moresby 24.39 100 *de*P **P 21 19 01.7 +1.3**
PMG pmax pmax
comp=Z,71nm,1.2s
PMG Port Moresby 24.39 100 P **P 21 19 01.6 +1.3**
comp=Z,44nm,1.1s,baz=301,slow=5.9,SNR=4.7
PMG LR LR 21 31 12.7
comp=Z,352nm,18.0s,baz=279,slow=43
PMG Port Moresby 24.39 100 *e*P **P 21 19 02.3 +2.0**
KULM Kulim 24.68 296 ⇑P **P 21 19 03.5 +0.6**
KULM Kulim 24.68 296 *e*P **P 21 19 02.8 -0.2**
comp=Z,72nm,1.1s
PSI Prapat 25.32 289 P **P 21 19 08.4 -0.5**
comp=Z,180nm,1.2s,baz=124,slow=6.4,SNR=49
PSI LR LR 21 28 31.7
comp=Z,639nm,21.0s,baz=122,slow=35
FORT Forrest 25.46 170 ⇓P **P 21 19 10.2 +0.4**
baz=26
FORT Forrest 25.46 170 *e*P **P 21 19 10.3 +0.4**
comp=Z,54nm,0.7s
TSI Tuntungan 25.90 290 P P 21 19 22.9 +8.9
GSI Gunungsitoli 26.16 285 *e*P **P 21 19 16.0 -0.5**
comp=Z,32nm,0.8s
KCSI Kotacane, Aceh 26.65 289 P **P 21 19 21.0 +0.2**
comp=Z,48nm,1.4s,comp=Z,650nm
CTA Charters Tower 26.90 124 LR LR 21 31 53.8
comp=Z,306nm,19.2s,baz=260,slow=40
NWAO Narrogin (SRO) 27.63 190 P **P 21 19 29.6 +0.2**
comp=Z,11nm,0.9s,baz=60,slow=10,SNR=3.5
NWAO LR LR 21 31 41.3
comp=Z,210nm,19.1s,baz=106,slow=39
QIZ Qiongzhong 27.68 333 P **P 21 19 30.5 +0.6**
QIZ S **S 21 24 10.5 +1.4**
QIZ sS **sS 21 24 31.0 +1.9**
QIZ LE
comp=Z,190nm,14.7s
QIZ LZ
comp=Z,290nm,16.8s
LHMI Lhok Sumawe 28.02 292 P P 21 19 37.1 +4.0
comp=Z,106nm,1.1s
LHMI Lhok Sumawe 28.02 292 *e*P **P 21 19 31.9 -1.2**
comp=Z,108nm,1.1s
BBOO Buckleboo 29.69 157 ⇓P **P 21 19 47.7 0.0**
baz=30,SNR=5.8
PBKT Sadao Pong 30.92 316 P P 21 20 02.2 +3.5
comp=Z,7.9nm,0.9s
UTHA Uthaitani 31.33 313 P P 21 20 07.1 +4.8
comp=Z,2.9nm,1.2s
UTTA Uttaradit 32.02 317 P P 21 20 12.4 +4.0
comp=Z,2.3nm,1.4s
CMAR Chiang Mai Arr 33.61 316 P **P 21 20 22.4 0.0**
comp=Z,3.9nm,0.7s,baz=144,slow=7.1,SNR=41
CMAR PcP **PcP 21 23 03.5 +1.4**
comp=Z,2.5nm,0.9s,baz=176,slow=2.9,SNR=9.5
CMAR LR LR 21 35 48.3
comp=Z,238nm,18.6s,baz=147,slow=40
CMMT Chiang Mai 33.85 316 P **P 21 20 24.6 +0.1**
comp=Z,16nm,1.8s
CHTO Chiang Mai 33.85 316 *e*P **P 21 20 24.7 +0.2**
CHTO pmax pmax
comp=Z,10.0nm,1.1s
CHTO Chiang Mai 33.85 316 P **P 21 20 24.7 +0.2**
comp=Z,55nm,1.9s
CHTO Chiang Mai 33.85 316 *e*P **P 21 20 24.7 +0.2**
comp=Z,9.8nm,1.1s
MHMT Maesarieng 34.13 314 P P 21 20 32.4 +5.5
comp=Z,4.3nm,1.2s,comp=Z,117nm
GYA Guiyang 35.57 335 ⇑*i*P **P 21 20 42.0 +2.7**
GYA pP **pP 21 20 52.5 +1.1**
GYA PP **PP 21 22 02.3 +1.5**
GYA S **S 21 26 15.5 +3.1**
GYA sS **sS 21 26 33.0 +0.5**
GYA ScP **ScP 21 26 50.0 -0.2**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,130nm,5.0s
GYA LN
comp=Z,560nm,17.4s
GYA LE
comp=Z,480nm,18.0s
GYA LZ
comp=Z,570nm,17.6s
KMI Kunming 36.31 328 P **P 21 20 44.0 -1.8**
KMI sP **sP 21 20 59.5 -3.7**
KMI PP **PnPn 21 22 08.5 -0.3**
KMI S **S 21 26 21.5 -2.4**
KMI PMZ
comp=Z,9.0nm,1.0s
KMI LN
comp=Z,230nm,21.3s
KMI LE
comp=Z,350nm,13.9s
KMI LZ
comp=Z,240nm,22.4s
WHN Wuhan 36.91 348 P **P 21 20 52.3 +1.8**
HNR Honiara 36.96 98 LR LR 21 38 09.5
comp=Z,149nm,18.5s,baz=288,slow=40
NJ2 Nanjing 37.69 354 *e*P **P 21 20 56.3 -0.9**
NJ2 pP **pP 21 21 09.5 +0.2**
NJ2 PMZ
comp=Z,30nm,0.8s
NJ2 PMZ
comp=Z,380nm,6.8s
NJ2 LN
comp=Z,420nm,23.7s
NJ2 LE
comp=Z,1μm,24.4s
NJ2 LZ
comp=Z,1μm,25.4s
JNU Nakatsue 39.32 11 P **P 21 21 10.7 -0.2**
comp=Z,13nm,1.1s,baz=106,slow=7.4,SNR=2.8
CD2 Chengdu 40.69 334 *e*P **P 21 21 22.0 -0.3**
CD2 pP **pP 21 21 33.3 -1.2**
CD2 PP **PP 21 22 57.5 +0.7**
CD2 PcP **PcP 21 23 24.3 +0.9**
CD2 S **S 21 27 26.5 -3.0**
CD2 ScS **ScS 21 31 20.0 -4.2**
CD2 PMZ
comp=Z,20nm,0.8s
CD2 PMZ
comp=Z,230nm,9.5s
CD2 LE
comp=Z,220nm,16.6s
CD2 LZ
comp=Z,230nm,17.8s
TIA Tai'an 41.99 353 ⇓P **P 21 21 33.0 +0.1**
TIA PMZ
comp=Z,20nm,2.0s
KSAR Wonju Array Be 43.14 6 P **P 21 21 41.5 -0.6**
KSAR Wonju Array Be 43.14 6 P **P 21 21 41.5 -0.6**
KSRS Korea Array 43.15 6 P **P 21 21 41.5 -0.7**
comp=Z,1.6nm,0.8s,baz=180,slow=5.2,SNR=7.4
MJAR Matsushiro Arr 44.38 18 P **P 21 21 51.0 -1.1**
comp=Z,4.0nm,1.1s,baz=186,slow=8.7,SNR=6.5
DZM Mont Dzumac 45.17 116 LR LR 21 41 05.1
comp=Z,154nm,20.6s,baz=187,slow=36
LZH Lanzhou 45.19 338 *e*P **P 21 21 59.3 +0.5**
LZH pP **pP 21 22 10.8 -0.4**
LZH *e*S **S 21 28 36.0 +0.3**
LZH sS **sS 21 28 57.0 +0.7**
LZH PMZ
comp=Z,15nm,1.1s
LZH PMZ
comp=Z,89nm,4.1s
LZH LN
comp=Z,230nm,13.6s
LZ LE
comp=Z,270nm,12.8s
LZ LZ
comp=Z,380nm,15.0s
BJI Beijing 45.89 353 P **P 21 22 05.5 +1.5**
BJI S **S 21 28 45.3 +0.1**
BJI PMZ
comp=Z,22nm,0.9s
BJI PMZ
comp=Z,170nm,5.1s
BJI LN
comp=Z,250nm,14.6s
BJI LE
comp=Z,150nm,15.2s
BJI LZ
comp=Z,130nm,25.6s
LSA Lhasa 46.49 321 *e*P **P 21 22 08.9 -0.6**
LSA Lhasa 46.49 321 *e*P **P 21 22 08.9 -0.6**
comp=Z,65nm,1.4s
ODAN Odare 47.14 315 *e*P **P 21 22 14.0 -0.4**
comp=Z,192nm,1.6s
TAPN Taplejung 47.22 316 *e*P **P 21 22 14.8 -0.3**
comp=Z,59nm,1.0s
HHC Hu-ho-hao-te 47.43 348 *e*P **P 21 22 17.5 +1.3**
HHC S **S 21 29 09.5 +2.0**
HHC SS **SS 21 32 36.0 +0.1**
HHC PMZ
comp=Z,23nm,0.8s
HHC PMZ
comp=Z,140nm,4.4s
HHC LN
comp=Z,290nm,16.0s
HHC LE
comp=Z,290nm,16.0s
HHC LZ
comp=Z,260nm,13.7s
RAMN Ramite 47.75 315 *e*P **P 21 22 19.0 -0.2**
comp=Z,149nm,1.3s
JIRN Jiri 48.47 315 *e*P **P 21 22 24.3 -0.6**
comp=Z,44nm,1.0s
GUN Gumba 48.84 315 *e*P **P 21 22 27.2 -0.5**
comp=Z,153nm,1.4s
PKI Pulchoki 48.97 314 *e*P **P 21 22 27.8 -0.9**
PKIN Phulchoki 48.99 314 *e*P **P 21 22 28.1 -0.6**
KKN Kakani 49.20 314 *e*P **P 21 22 29.7 -0.5**
comp=Z,56nm,1.1s
DMN Daman 49.21 314 *e*P **P 21 22 29.9 -0.5**
comp=Z,67nm,1.2s
HYB Hyderabad 49.38 299 *i*P **P 21 22 29.5 -2.1**
GTA Gaotai 49.64 337 ⇑P **P 21 22 34.0 +0.7**
GTA pP **pP 21 22 46.5 +0.7**
GTA sP **sP 21 22 51.5 +0.5**
GTA PcP **PcP 21 23 55.0 +0.8**
GTA S **S 21 29 40.8 +2.0**
GTA sS **sS 21 30 00.5 +0.9**
GTA SS **SS 21 33 10.0 -1.8**
GTA PMZ
comp=Z,16nm,1.5s
GTA PMZ
comp=Z,180nm,5.0s
GTA LN
comp=Z,310nm,17.6s
GTA LE
comp=Z,330nm,19.5s
GTA LZ
comp=Z,230nm,19.5s
GKN Gorkha 49.78 314 *e*P **P 21 22 34.0 -0.6**
comp=Z,64nm,1.1s
USRK Ussuriysk Ar. 50.31 9 P **P 21 22 37.9 -0.3**
comp=Z,12nm,0.8s,baz=188,slow=7.2,SNR=33
KOLN Koldanda 50.39 313 *e*P **P 21 22 38.7 -0.6**
comp=Z,32nm,0.9s
MDJ Mudanjiang 50.41 6 P **P 21 22 38.8 -0.1**
MDJ pP **pP 21 22 50.3 -1.1**
MDJ sP **sP 21 22 55.0 -1.6**
MDJ PcP **PcP 21 23 56.8 0.0**
MDJ PP **PP 21 24 33.0 -2.0**
MDJ S **S 21 29 50.0 +0.8**
MDJ sS **sS 21 30 09.3 -0.7**
MDJ SS **SS 21 33 25.0 +1.3**
MDJ PMZ
comp=Z,14nm,1.0s
MDJ PMZ
comp=Z,95nm,6.0s
MDJ LN
comp=Z,160nm,19.3s
MDJ LE
comp=Z,210nm,21.6s
MDJ LZ
comp=Z,230nm,17.4s
MDJ Mudanjiang 50.41 6 *e*P **P 21 22 38.7 -0.2**
comp=Z,22nm,1.0s
DANN Dangsing 50.61 314 *e*P **P 21 22 40.3 -0.7**
comp=Z,86nm,1.0s
ASAJ Asahikawa 52.66 18 P **P 21 22 56.4 +0.7**
comp=Z,12nm,0.8s,baz=225,slow=5.7,SNR=10
ULN Ulaanbaatar 55.08 347 *c i*P **P 21 23 13.8 +0.3**
ULN pmax pmax
comp=Z,21nm,1.7s
ULN Ulaanbaatar 55.08 347 *e*P **P 21 23 13.9 +0.3**
comp=Z,86nm,2.3s
SONM Songino Array 55.20 347 P **P 21 23 14.6 +0.2**
comp=Z,3.0nm,0.7s,baz=161,slow=7.3,SNR=31
YSS Yuzh-Sakhalins 55.28 16 *e*P **P 21 23 14.6 -0.1**
ZAK Zakamensk 58.33 345 *e*P **P 21 23 34.9 -1.5**
ZAK pmax pmax
comp=Z,4.0nm,1.6s
WMQ Urumqi 58.57 331 P **P 21 23 38.3 0.0**
WMQ pP **pP 21 23 50.8 -0.2**
WMQ PcP **PcP 21 24 29.3 +1.1**
WMQ S **S 21 31 36.8 -2.3**
WMQ sS **sS 21 31 59.5 -0.9**
WMQ ScS **ScS 21 33 21.0 -3.5**
WMQ SS **SS 21 35 34.0 +1.4**
WMQ PMZ
comp=Z,19nm,1.0s
WMQ PMZ
comp=Z,200nm,5.2s
WMQ LN
comp=Z,180nm,24.0s
WMQ LE
comp=Z,100nm,22.0s
WMQ LZ
comp=Z,280nm,22.0s
TLY Talaya 59.44 346 *e*P **P 21 23 44.6 +0.6**
TLY pmax pmax
comp=Z,6.0nm,0.8s
TLY Talaya 59.44 346 *e*P **P 21 23 44.6 +0.6**
comp=Z,7.9nm,1.1s
MOY Mondy 60.09 344 *e*P **P 21 23 49.4 +0.8**
HVS Khovu-Aksy 61.86 340 *d i*P **P 21 24 01.0 +0.3**
KSH Kashi 62.34 320 ⇑*i*P **P 21 24 04.3 +0.1**
KSH pP **pP 21 24 16.3 -0.7**
KSH PP **PP 21 26 23.3 +1.5**
KSH S **S 21 32 23.0 -4.7**
KSH ScS **SKSac 21 33 46.5 -6.5**
KSH PMZ
comp=Z,9.0nm,0.9s
KSH PMZ
comp=Z,160nm,6.9s
KSH LN
comp=Z,68nm,4.8s
KSH LE
comp=Z,84nm,5.2s
KSH LZ
comp=Z,270nm,14.0s
MKAR Makanchi Array 63.36 330 P **P 21 24 10.8 +0.2**
comp=Z,6.9nm,0.8s,baz=133,slow=8.4,SNR=73
BOD Bodaibo 63.67 355 *e*P **P 21 24 11.8 -0.6**
KZA Kyzart 64.26 322 P **P 21 24 17.7 +0.5**
SNR=12
KBL Kabul 64.54 312 *e*P **P 21 24 18.3 -0.6**
KBL pmax pmax
comp=Z,26nm,0.9s
KBL Kabul 64.54 312 ⇓P **P 21 24 18.5 -0.4**
baz=65,SNR=12
KBL Kabul 64.54 312 *e*P **P 21 24 18.3 -0.6**
comp=Z,26nm,0.9s
TKM2 Tokmak 2 64.55 323 P **P 21 24 19.1 +0.3**
SNR=8.8
TKM2 Tokmak 2 64.55 323 *e*P **P 21 24 19.1 +0.3**
TKM2 Tokmak 2 64.55 323 *e*P **P 21 24 19.1 +0.3**
comp=Z,72nm,2.1s
KBK Karagaybulak 64.78 323 P **P 21 24 20.8 +0.6**
SNR=9.0
UCH Uchtor 64.80 322 P **P 21 24 21.2 +0.5**
SNR=7.9
AAK Ala-Archa 65.04 323 P **P 21 24 22.6 +0.7**
comp=Z,53nm,0.9s,SNR=8.8
AAK Ala-Archa 65.04 323 P **P 21 24 22.5 +0.5**
SNR=8.9
AAK Ala-Archa 65.04 323 *c i*P **P 21 24 22.2 +0.3**
AAK pmax pmax
comp=Z,73nm,2.5s
AAK Ala-Archa 65.04 323 P **P 21 24 22.3 +0.4**
comp=Z,4.9nm,0.8s,baz=113,slow=5.7,SNR=23
AAK Ala-Archa 65.04 323 *e*P **P 21 24 22.2 +0.3**
comp=Z,114nm,2.5s
FRU Bishkek 65.08 323 *e*P **P 21 24 22.0 0.0**
FRU *e* 21 24 56.0
FRU pmax pmax
comp=Z,30nm,2.0s
AML Almayashu 65.24 322 P **P 21 24 23.9 +0.3**
SNR=14
USP Ospenovka 65.40 323 P **P 21 24 24.2 +0.1**
SNR=7.8
EKS2 Erkin-Say 65.49 322 P **P 21 24 25.3 +0.5**
SNR=10
EKS2 Erkin-Say 65.49 322 *e*P **P 21 24 25.3 +0.5**
EKS2 Erkin-Say 65.49 322 *e*P **P 21 24 25.3 +0.5**
comp=Z,87nm,2.5s
PETK Petropavlovsk- 65.53 22 P **P 21 24 26.1 +1.4**
comp=Z,2.7nm,0.8s,baz=179,slow=5.8,SNR=3.4
ZALV Zalesovo Beam 67.39 337 P **P 21 24 35.7 -0.9**
comp=Z,7.8nm,1.0s,baz=134,slow=4.3,SNR=24
YAK Yakutsk 67.70 3 *e*P **P 21 24 37.0 -1.3**
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK Yakutsk 67.70 3 *e*P **P 21 24 38.0 -0.3**
comp=E,20nm,0.7s
KKAR Karatay Array 67.75 321 *e*P **P 21 24 39.5 +0.5**
KKAR Karatay Array 67.75 321 *e*P **P 21 24 39.5 +0.5**
KURK Kurchatov 67.80 331 *e*P **P 21 24 39.0 -0.2**
KURK Kurchatov 67.80 331 *e*P **P 21 24 39.0 -0.2**
comp=E,56nm,2.1s
NVS Novosibirsk 68.68 337 ⇑*i*P **P 21 24 42.6 -2.0**
NVS pmax pmax
comp=N,23nm,1.8s
NVS pmax pmax
comp=E,18nm,1.8s
NVS pmax pmax
comp=Z,38nm,1.8s
SEY Seymchan 72.00 14 P **P 21 25 05.7 +0.9**
comp=Z,6.8nm,1.0s,baz=206,slow=4.4,SNR=17
BRVK Borovoye 73.32 330 P **P 21 25 12.7 -0.1**
comp=Z,125nm,1.2s,SNR=25
GEYT Alibeck 73.97 312 P **P 21 25 17.2 +0.2**
comp=Z,5.7nm,1.0s,baz=116,slow=3.4,SNR=19
OPO Ambohidratompo 74.64 252 P **P 21 25 21.7 +0.3**
comp=Z,4.8nm,0.8s,baz=115,slow=5.2,SNR=5.7
VNDA Vanda 74.70 172 *e*P **P 21 25 21.5 +1.0**
VNDA pmax pmax
comp=Z,11nm,1.2s
VNDA Vanda 74.70 172 P **P 21 25 21.0 +0.5**
comp=Z,1.8nm,0.6s,baz=314,slow=5.1,SNR=6.7
VNDA Vanda 74.70 172 *e*P **P 21 25 21.4 +1.0**
comp=Z,11nm,1.2s
ABKAR Akbulak array 77.11 323 *e*P **P 21 25 34.7 0.0**
TIXI Tiksi 77.26 2 ⇓*e*P **P 21 25 34.3 -0.7**
TIXI pmax pmax
comp=Z,17nm,2.5s
TIXI Tiksi 77.26 2 *e*P **P 21 25 34.5 -0.6**
AKTO Aktyubinsk 78.73 324 P **P 21 25 43.5 -0.2**
comp=Z,6.1nm,1.0s,baz=99,slow=6.6,SNR=13
SVE Sverdlovsk 80.02 330 ⇑*i*P **P 21 25 50.3 -0.2**
SVE pmax pmax
comp=Z,29nm,1.8s
RAYN Ar Rayn 80.71 295 *e*P **P 21 25 54.8 -0.3**
comp=Z,9.0nm,1.1s
ARU Arti 80.88 330 P **P 21 25 54.1 -1.1**
comp=Z,54nm,1.0s,SNR=6.4
ARU Arti 80.88 330 *d i*P **P 21 25 53.9 -1.2**
ARU S **S 21 36 00.2 -0.1**
ARU pmax pmax
comp=Z,12nm,1.0s
ARU Arti 80.88 330 *e*P **P 21 25 54.0 -1.2**
comp=Z,12nm,1.1s
SYO Syowa Base 82.32 201 ⇓*e*X **P 21 26 01.4 -1.2**
QSPA South Pole Qui 84.31 180 P **P 21 26 12.8 -0.2**
comp=Z,6.0nm,0.9s,baz=282,slow=3.3,SNR=4.2
GNI Garni 84.58 311 P **P 21 26 14.2 -0.8**
comp=Z,1.0nm,0.5s,baz=310,slow=10,SNR=3.4
KMBO Kilima Mbogo 85.50 269 *ce*P **P 21 26 21.0 +0.7**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 85.50 269 P **P 21 26 18.8 -1.4**
comp=Z,1.8nm,0.8s,baz=61,slow=5.4,SNR=7.6
KMBO Kilima Mbogo 85.50 269 *e*P **P 21 26 20.9 +0.7**
comp=Z,11nm,1.3s
ZEI Tsey 85.74 314 *e*P **P 21 26 19.9 -0.9**
ZEI pmax pmax
comp=Z,10.0nm,1.4s
MOS Moscow 91.94 326 *e*P P 21 27 02.3 +13
BRTR Keskin Array B 92.96 309 *ce*P **P 21 26 53.9 -1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 92.96 309 P **P 21 26 53.9 -1.1**
comp=Z,1.0nm,0.8s,baz=126,slow=6.3,SNR=5.2
LSZ Lusaka 92.99 254 P **P 21 26 55.1 -0.4**
comp=Z,1.7nm,0.3s,baz=48,slow=10,SNR=3.7
ILAR Eielson Array 95.20 25 P **P 21 27 04.1 -0.3**
comp=Z,0.3nm,0.8s,baz=238,slow=5.6,SNR=2.8
AKASG Malin Array Be 96.63 320 P **P 21 27 09.6 -1.6**
comp=Z,0.2nm,0.3s,baz=82,slow=2.9,SNR=4.3

KIEV	Kiev	96.64	320⇑	*e*P		P	21 27 11.6	+0.3
UZH	Uzhgorod	101.20	318	*e*P		Pdif	21 27 35.5	+3.8
VYHS	Vyhne	103.50	318	*e*P		Pdif	21 27 45.8	+3.8
VYHS	Vyhne	103.50	318	PDIF		Pdif	21 27 45.8	+3.8
YKA	Yellowknife Ar	109.60	25	PKiKP		PKiKP	21 32 11.0	-0.5
	comp=Z,0.4nm,0.8s,baz=310,slow=2.2,SNR=7.2							
YKA				PKKPbc		PKKPbc	21 43 16.0	-2.4
	comp=Z,0.8nm,1.1s,baz=112,slow=3.1,SNR=4.5							
YKA				PKKP		PKKPdf	21 43 35.8	+1.7
	comp=Z,0.2nm,0.7s,baz=125,slow=5.3,SNR=2.7							
DUG	Dugway, Tooele	119.54	47	P		PKPdf	21 32 32.6	+1.2
	baz=120							
FXWY	Fox Creek	119.57	42	*e*PKPdf		PKPdf	21 32 32.9	+1.4
W13A	Hualapai Mount	120.25	53	P		PKPdf	21 32 34.3	+1.3
	baz=120							
C21A	Desert Coulee	120.27	37	P		PKPdf	21 32 33.5	+1.1
	baz=120							
A22A	Carney Farms,	120.39	35	P		PKPdf	21 32 33.7	+1.0
	baz=120							
PDAR	Pinedale Array	120.89	43	PKP		PKPdf	21 32 34.5	+0.5
	comp=Z,0.9nm,0.8s,baz=242,slow=1.9,SNR=4.2							
C22A	Vida	121.02	36	P		PKPdf	21 32 35.2	+1.3
	baz=121							
U15A	North Rim	121.12	51	P		PKPdf	21 32 36.4	+1.7
	baz=121							
D22A	Cohagen	121.14	37	P		PKPdf	21 32 35.6	+1.5
	baz=121							
B23A	Brockton	121.19	35	P		PKPdf	21 32 35.0	+0.9
	baz=121							
H20A	Greybull	121.22	40	P		PKPdf	21 32 35.1	+0.7
	baz=121							
FRB	Frobisher Bay	121.44	6	PKP		PKPdf	21 32 33.8	-0.3
	comp=Z,0.9nm,0.7s,baz=350,slow=12,SNR=3.7							
TORD	Torodi Ar. Bea	121.57	282	PKP		PKPdf	21 32 35.9	+0.1
	comp=Z,2.9nm,0.8s,baz=48,slow=2.2,SNR=18							
D23A	Lindsay	121.70	37	P		PKPdf	21 32 36.4	+1.2
	baz=122							
C24A	Savage	121.99	36	P		PKPdf	21 32 36.6	+0.9
	baz=122							
WUAZ	Wupatki	122.10	51	P		PKPdf	21 32 37.9	+1.4
	baz=122							
N20A	Spence Gulch,	122.55	44	P		PKPdf	21 32 38.7	+1.4
	baz=122							
A26A	Wade Farm, Ken	122.62	34	P		PKPdf	21 32 38.0	+1.1
	baz=123							
J22A	Midwest	122.67	41	P		PKPdf	21 32 38.1	+0.7
	baz=123							
D25A	Fairfield	122.83	36	P		PKPdf	21 32 38.8	+1.4
	baz=123							
O20A	White River Ci	122.83	45	P		PKPdf	21 32 38.8	+1.0
	baz=123							
O20A	White River Ci	122.83	45	*e*PKPdf		PKPdf	21 32 39.2	+1.4
E26A	Carlson Angus	123.68	36	P		PKPdf	21 32 39.8	+0.7
	baz=124							
MVCO	Mesa Verde	123.74	49	P		PKPdf	21 32 41.1	+1.4
	baz=124							
D27A	Center	123.89	35	P		PKPdf	21 32 40.7	+1.3
	baz=124							
A29A	Manning Farm,	124.12	32	P		PKPdf	21 32 40.7	+0.9
	baz=124							
I25A	Rochford	124.15	39	P		PKPdf	21 32 40.5	+0.3
	baz=124							
E27A	Carson	124.23	36	P		PKPdf	21 32 40.9	+0.8
	baz=124							
F27A	Lemmon	124.26	37	P		PKPdf	21 32 41.0	+0.8
	baz=124							
B29A	Wagenman Farm,	124.32	33	P		PKPdf	21 32 40.9	+0.7
	baz=124							
MDND	Maddock	124.55	33	P		PKPdf	21 32 41.3	+0.7
	baz=124							
G27A	Dupree	124.57	37	P		PKPdf	21 32 41.3	+0.5
	baz=124							
A30A	Hoffart Farm,	124.60	32	P		PKPdf	21 32 41.2	+0.6
	baz=125							
S22A	4UR Ranch, Cre	124.77	47	P		PKPdf	21 32 42.2	+0.5
	baz=125							
S22A	4UR Ranch, Cre	124.77	47	*e*PKPdf		PKPdf	21 32 43.8	+2.1
ISCO	Idaho Springs	124.82	45	P		PKPdf	21 32 42.6	+0.8
	baz=125							
B30A	Myrvik Farm, E	124.88	32	P		PKPdf	21 32 41.9	+0.6
	baz=125							
ULM	Lac du Bonnet	125.00	29	PKP		PKPdf	21 32 40.3	-1.0
	comp=Z,1.6nm,0.7s,baz=264,slow=5.0,SNR=4.9							
C30A	Mose, Pekin	125.25	33	P		PKPdf	21 32 42.6	+0.6
	baz=125							
G28A	Parade	125.34	37	P		PKPdf	21 32 42.9	+0.7
	baz=125							
F29A	Eureka	125.57	36	P		PKPdf	21 32 43.4	+0.8
	baz=126							
SDCO	Great Sand Dun	125.74	47	P		PKPdf	21 32 44.9	+1.4
	baz=126							
I28A	Midland	125.76	38	P		PKPdf	21 32 43.7	+0.7
	baz=126							
P25A	Willow Gulch B	125.95	44	P		PKPdf	21 32 45.1	+1.3
	baz=126							
ANMO	Albuquerque	126.09	50	⇓*i*PKIKP		PKPdf	21 32 45.9	+1.7
ANMO	Albuquerque	126.09	50	PKP		PKPdf	21 32 45.1	+0.9
	comp=Z,2.0nm,0.9s,baz=256,slow=5.6,SNR=5.2							
ANMO	Albuquerque	126.09	50	PKP		PKPdf	21 32 45.1	+0.9
ANMO				*e*PKPdf		PKiKP	21 32 45.6	+0.9
G30A	Faulkton	126.36	36	P		PKPdf	21 32 44.8	+0.6
	baz=126							
N27A	Anderson Farm,	126.47	42	P		PKPdf	21 32 45.9	+1.3
	baz=126							
P26A	Davis Ranch, A	126.50	44	P		PKPdf	21 32 45.6	+0.8
	baz=126							
Q26A	Hugo	126.66	45	P		PKPdf	21 32 46.1	+1.0
	baz=127							
V24A	Rampart Ranch,	126.70	49	P		PKPdf	21 32 47.2	+1.8
	baz=127							
V25A	Rancho No Teng	127.15	49	P		PKPdf	21 32 47.9	+1.7
	baz=127							
DBIC	Dimbokro	128.01	274	PKP		PKPdf	21 32 48.7	+0.5
	comp=Z,4.8nm,1.0s,baz=142,slow=3.3,SNR=3.7							
MNTX	Cornudas Mount	128.06	54	*e*PKPdf		PKPdf	21 32 50.0	+2.2
ECSD	EROS Data Cent	128.65	36	P		PKPdf	21 32 48.4	-0.1
	baz=129							
ECSD	EROS Data Cent	128.65	36	*e*PKPdf		PKPdf	21 32 48.9	+0.3
TXAR	Lajitas Array	130.23	56	PKIKP		PKPdf	21 32 54.0	+1.9
TXAR	Lajitas Array	130.23	56	PKP		PKPdf	21 32 54.0	+1.9
	comp=Z,0.9nm,0.8s,baz=222,slow=1.7,SNR=7.3							
JCT	Junction City	132.96	53	*e*PKIKP		PKPdf	21 32 59.0	+1.8
JCT	Junction City	132.96	53	*e*PKPdf		PKPdf	21 32 59.0	+1.8
PAPH	Port-au-Prince	160.47	48	*e*PKPdf		PKPdf	21 33 47.3	+5.6

CSEM ***28*** *21:18:26.6±0.2, 38°.15N×26°.51E, h5km, MD2.5, Error ellipse: s-maj=6.9km s-min=4.3km az=2.0*
ISK ***28*** *21:18:26.3, 38°.21N×26°.49E, h6km, MD2.3*
ATH ***28*** *21:18:29.0, 38°.19N×26°.17E, h21km±2km, MD2.5/3*
DDA ***28*** *21:18:29.4, 38°.18N×26°.22E, h7km, MD2.6*
ISC 28 21:18:28.8±1.0,**38°.18N**±0°.04×**26°.48E**±0°.03,**h28**km±6km,
n20,σ2°**48**/30,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEY	**¨zmir**	**0.06**	**19**	*i* P	**Pb**	**21 18 34.2**	**+0.6**
ZEY				*i* S	**Sb**	**21 18 37.8**	**+0.9**
URLA	**Izmir**	**0.20**	**27**	*i* P	**Pn**	**21 18 36.5**	**+0.5**
URLA				*i* S	**Sb**	**21 18 42.1**	**+3.1**
URLA	**Izmir**	**0.20**	**27**	*i* P	**Pn**	**21 18 36.5**	**+0.5**
URLA				*i* S	**Sb**	**21 18 42.1**	**+3.1**
CHOS	**Chios island**	**0.39**	**302**	*e*PG	**Pb**	**21 18 35.1**	**-2.3**
CHOS				*e*SG	**Sb**	**21 18 39.5**	**-3.9**
CHOS	**Chios island**	**0.39**	**302**	*e*PB	**Pb**	**21 18 34.7**	**-2.7**
CHOS				*e*SB	**Sb**	**21 18 38.6**	**-4.8**
CHOS	**Chios island**	**0.39**	**302**	*e*Pb	**Pb**	**21 18 34.7**	**-2.7**
CHOS	**Chios island**	**0.39**	**302**	*e*Pg	**Pb**	**21 18 35.1**	**-2.3**
BLCB	**Balcova**	**0.49**	**65**	*e*PG	**Pb**	**21 18 35.9**	**-3.0**
BLCB				*e*SG	**Sb**	**21 18 43.0**	**-2.8**
BLCB	**Balcova**	**0.49**	**65**	*e*Pg	**Pb**	**21 18 35.9**	**-3.0**
BLCB				*e*Sg	**Sb**	**21 18 43.0**	**-2.8**
SMG	**Samos**	**0.55**	**149**	*e*PN	**Pn**	**21 18 42.6**	**+1.9**
SMG				*e*SN	**Sn**	**21 18 53.3**	**+4.3**
IZM	**Izmir**	**0.66**	**70**	*e*PG	**Pb**	**21 18 39.4**	**-2.3**
IZM	**Izmir**	**0.66**	**70**	*e*Pg	**Pb**	**21 18 39.4**	**-2.3**
PRK	**Paraskevi**	**1.08**	**351**	*e*PN	**Pb**	**21 18 49.3**	**+0.5**
PRK				*e*SN	**Sb**	**21 19 04.0**	**+1.6**
PRK	**Paraskevi**	**1.08**	**351**	*e*Pn	**Pb**	**21 18 49.3**	**+0.5**
PRK				*e*Sn	**Sb**	**21 19 04.0**	**+1.6**
SIGR	**SIGRI**	**1.14**	**335**	*e*PN	**Pb**	**21 18 49.8**	**0.0**
SIGR	**SIGRI**	**1.14**	**335**	*e*Pn	**Pb**	**21 18 49.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.14**	**101**	*e*PN	**Pn**	**21 18 48.0**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**1.14**	**101**	*e*Pn	**Pn**	**21 18 48.0**	**-1.0**
APE	**Apeiranthos**	**1.34**	**214**	*e*PN	**Pb**	**21 18 52.5**	**-0.7**
APE	**Apeiranthos**	**1.34**	**214**	*e*Pn	**Pb**	**21 18 52.5**	**-0.7**

BEO ***28*** *21:20:58.9±1.8, 39°.25N×22°.02E, h14km±6km, ML3.4/1*
SKO ***28*** *21:20:58.6, 39°.26N×22°.10E, h6km, M3.2, ML3.7*
ISCJB ***28*** *21:20:58.7±0.6, 39°.40N±0°.01×22°.03E±0°.02, h9km±4km, mb3.4/8, Error ellipse: s-maj=2.4km s-min=2.0km az=160.2*
ATH ***28*** *21:20:59.3, 39°.38N×22°.01E, h29km, MD3.4/41, ML3.3*
CSEM ***28*** *21:20:59.4±0.1, 39°.39N×22°.08E, h10km, MD3.4, Error ellipse: s-maj=3.0km s-min=2.3km az=70.0*
IDC ***28*** *21:21:03.6±2.0, 39°.22N×22°.21E, h39km±21km, mb3.2/9, mb1 3.4/16, mb1mx3.3/33, mbtmp3.4/16, ML3.1/6, Error ellipse: s-maj=17.6km s-min=16.0km az=172.0*
TIR ***28*** *21:21:13.2±5.7, 39°.39N×21°.98E, h11km±111km, ML3.6*
ISC 28 21:21:00.3±0.9,**39°.38N**±0°.01×**22°.01E**±0°.02,**h13**km±7km,
n199,σ1°**14**/272,**mb3.4**/8,**4C-6D**,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THL	**Klokotos Trika**	**0.18**	**0**	*e*PB	**Pb**	**21 21 06.7**	**+1.2**
THL				*e*SB	**Sb**	**21 21 10.4**	**+1.5**
THL	**Klokotos Trika**	**0.18**	**0**	*e*Pb	**Pb**	**21 21 06.7**	**+1.2**
THL				*e*Sb	**Sb**	**21 21 10.4**	**+1.5**
MAKR	**Makrakomi, Fth**	**0.38**	**166**	*e*PB	**Pg**	**21 21 08.1**	**+0.2**
MAKR				*e*SB	**Sb**	**21 21 14.4**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.38**	**166**	*e*Pb	**Pg**	**21 21 08.1**	**+0.2**
MAKR				*e*Sb	**Sb**	**21 21 14.4**	**-0.2**
AGG	**Agios Georgios**	**0.44**	**146**	*e*PB	**Pg**	**21 21 09.1**	**+0.2**
AGG				*e*SB	**Sb**	**21 21 16.6**	**+0.4**
AGG	**Agios Georgios**	**0.44**	**146**	*e*Pb	**Pg**	**21 21 09.1**	**+0.2**
AGG				*e*Sb	**Sb**	**21 21 16.6**	**+0.4**
EVR	**Evrytania**	**0.49**	**199**	*e*PB	**Pg**	**21 21 09.6**	**-0.4**
EVR				*e*SB	**Sg**	**21 21 16.7**	**+0.1**
EVR	**Evrytania**	**0.49**	**199**	*e*Pb	**Pg**	**21 21 09.6**	**-0.4**
EVR				*e*Sb	**Sg**	**21 21 16.7**	**+0.1**
DSL	**Palaion Diasel**	**0.76**	**251**	*e*PB	**Pg**	**21 21 13.2**	**-1.7**
DSL				*e*SN	**Sg**	**21 21 24.5**	**-0.3**
AXAR	**Agios Charalam**	**0.79**	**141**	*e*PN	**Pg**	**21 21 14.9**	**-0.8**
AXAR				*e*SN	**Sb**	**21 21 26.4**	**-0.1**
AXAR	**Agios Charalam**	**0.79**	**141**	*e*Pn	**Pg**	**21 21 14.9**	**-0.8**
AXAR				*e*Sn	**Sb**	**21 21 26.4**	**-0.1**
LIT	**Litokhoron**	**0.81**	**27**	*e*PN	**Pg**	**21 21 15.4**	**-0.5**
LIT				*e*SN	**Sb**	**21 21 27.5**	**+0.6**
LIT	**Litokhoron**	**0.81**	**27**	*e*Pn	**Pg**	**21 21 15.4**	**-0.5**
LIT				*e*Sn	**Sb**	**21 21 27.5**	**+0.6**
XOR	**Xorichti**	**0.91**	**91**	*e*PN	**Pg**	**21 21 17.3**	**-0.6**
XOR				*e*SN	**Sn**	**21 21 31.1**	**-0.7**
XOR	**Xorichti**	**0.91**	**91**	*e*Pn	**Pg**	**21 21 17.3**	**-0.6**
XOR				*e*Sn	**Sn**	**21 21 31.1**	**-0.7**
JAN	**Janina**	**0.94**	**287**	*e*PB	**Pg**	**21 21 16.9**	**-1.6**
JAN				*e*SN	**Sg**	**21 21 30.2**	**-0.6**
JAN	**Janina**	**0.94**	**287**	*e*Pb	**Pg**	**21 21 16.9**	**-1.6**
NEO	**Neokhori**	**0.94**	**94**	*e*PN	**Pg**	**21 21 18.1**	**-0.4**
NEO				*e*SN	**Sb**	**21 21 30.8**	**0.0**
NEO	**Neokhori**	**0.94**	**94**	*e*Pn	**Pg**	**21 21 18.1**	**-0.4**
NEO				*e*Sn	**Sb**	**21 21 30.8**	**0.0**
KZN	**Kozani**	**0.94**	**349**	*e*PN	**Pg**	**21 21 17.2**	**-1.3**
KZN				*e*SN	**Sb**	**21 21 31.7**	**+0.8**
KZN	**Kozani**	**0.94**	**349**	*e*Pn	**Pg**	**21 21 17.2**	**-1.3**
KZN				*e*Sn	**Sb**	**21 21 31.7**	**+0.8**
EFP	**Efpalio**	**0.96**	**185**	*e*PN	**Pb**	**21 21 17.8**	**-0.9**
EFP				*e*SN	**Sg**	**21 21 31.0**	**-0.3**
EFP	**Efpalio**	**0.96**	**185**	*e*Pn	**Pb**	**21 21 17.8**	**-0.9**
EFP				*e*Sn	**Sg**	**21 21 31.0**	**-0.3**
KALE	**Kalithea**	**0.99**	**174**	*e*PN	**Pg**	**21 21 19.5**	**0.0**
KALE				*e*SN	**Sg**	**21 21 32.9**	**+0.4**
KALE	**Kalithea**	**0.99**	**174**	*e*Pn	**Pg**	**21 21 19.5**	**0.0**
KALE				*e*Sn	**Sg**	**21 21 32.9**	**+0.4**
PDO	**Prodromos**	**1.02**	**220**	*e*PN	**Pb**	**21 21 19.2**	**-0.5**
PDO				*e*SN	**Sb**	**21 21 32.5**	**-0.4**
PDO	**Prodromos**	**1.02**	**220**	*e*Pn	**Pb**	**21 21 19.2**	**-0.5**
PDO				*e*Sn	**Sb**	**21 21 32.5**	**-0.4**
SMIA	**Simia**	**1.06**	**118**	*e*PN	**Pb**	**21 21 20.2**	**-0.2**
SMIA				*e*SB	**Sb**	**21 21 33.1**	**-1.0**
SMIA	**Simia**	**1.06**	**118**	*e*Pn	**Pb**	**21 21 20.2**	**-0.2**
SMIA				*e*Sb	**Sb**	**21 21 33.1**	**-1.0**
LKR	**Lokris**	**1.06**	**133**	*e*PN	**Pb**	**21 21 20.0**	**-0.4**
LKR				*e*SN	**Sn**	**21 21 35.0**	**-0.3**
LKR	**Lokris**	**1.06**	**133**	*e*Pn	**Pb**	**21 21 20.0**	**-0.4**
LKR				*e*Sn	**Sn**	**21 21 35.0**	**-0.3**
SKIA	**Skiathos**	**1.15**	**100**	*e*PN	**Pb**	**21 21 21.2**	**-0.7**
SKIA				*e*SB	**Sb**	**21 21 35.7**	**-1.0**
SKIA	**Skiathos**	**1.15**	**100**	*e*Pn	**Pb**	**21 21 21.2**	**-0.7**
SKIA				*e*Sb	**Sb**	**21 21 35.7**	**-1.0**
LKD2	**Lefkada island**	**1.21**	**241**	*e*PN	**Pn**	**21 21 22.3**	**-0.6**
LKD2				*e*SN	**Sb**	**21 21 38.1**	**-0.5**
LKD2	**Lefkada island**	**1.21**	**241**	*e*Pn	**Pn**	**21 21 22.3**	**-0.6**
LKD2				*e*Sn	**Sb**	**21 21 38.1**	**-0.5**
NEST	**Nestorio**	**1.27**	**325**	*e*PN	**Pn**	**21 21 22.9**	**-0.9**
NEST				*e*SN	**Sb**	**21 21 39.6**	**-0.8**
NEST	**Nestorio**	**1.27**	**325**	*e*Pn	**Pn**	**21 21 22.9**	**-0.9**
NEST				*e*Sn	**Sb**	**21 21 39.6**	**-0.8**
IGT	**Igoumenitsa**	**1.31**	**277**	*e*PN	**Pn**	**21 21 24.6**	**+0.4**
IGT				*e*SN	**Sb**	**21 21 41.7**	**+0.3**
IGT	**Igoumenitsa**	**1.31**	**277**	*e*Pn	**Pn**	**21 21 24.6**	**+0.4**
IGT				*e*Sn	**Sb**	**21 21 41.7**	**+0.3**
KLV	**Kalavryta, Ach**	**1.34**	**175**	*e*PN	**Pn**	**21 21 24.6**	**-0.1**
KLV				*e*SN	**Sn**	**21 21 43.0**	**+0.6**
KLV	**Kalavryta, Ach**	**1.34**	**175**	*e*Pn	**Pn**	**21 21 24.6**	**-0.1**
KLV				*e*Sn	**Sn**	**21 21 43.0**	**+0.6**
RLS	**Riolos of Patr**	**1.39**	**198**	*e*PN	**Pb**	**21 21 25.9**	**-0.2**
RLS				*e*SN	**Sg**	**21 21 44.6**	**-0.5**
RLS	**Riolos of Patr**	**1.39**	**198**	*e*Pn	**Pb**	**21 21 25.9**	**-0.2**
RLS				*e*Sn	**Sg**	**21 21 44.6**	**-0.5**
PAIG	**Paliouri**	**1.40**	**67**	*e*PB	**Pn**	**21 21 23.9**	**-1.5**
PAIG				*e*SB	**Sn**	**21 21 42.1**	**-1.6**
PAIG	**Paliouri**	**1.40**	**67**	*e*Pb	**Pn**	**21 21 23.9**	**-1.5**
PAIG				*e*Sb	**Sn**	**21 21 42.1**	**-1.6**
MRKA	**Markates**	**1.40**	**118**	*e*PN	**Pn**	**21 21 24.9**	**-0.6**
MRKA				*e*SB	**Sn**	**21 21 42.4**	**-1.4**
MRKA	**Markates**	**1.40**	**118**	*e*Pn	**Pn**	**21 21 24.9**	**-0.6**
MRKA				*e*Sb	**Sn**	**21 21 42.4**	**-1.4**
THE	**Thessaloniki**	**1.45**	**30**	*e*PB	**Pn**	**21 21 24.1**	**-2.0**
THE	**Thessaloniki**	**1.45**	**30**	*e*Pb	**Pn**	**21 21 24.1**	**-2.0**
AOS	**Alonnisos**	**1.46**	**98**	*e*PN	**Pn**	**21 21 25.2**	**-1.1**
AOS	**Alonnisos**	**1.46**	**98**	*e*Pn	**Pn**	**21 21 25.2**	**-1.1**
GUR	**Goura**	**1.47**	**170**	*e*PN	**Pn**	**21 21 26.1**	**-0.4**
GUR	**Goura**	**1.47**	**170**	*e*Pn	**Pn**	**21 21 26.1**	**-0.4**
HORT	**Hortiatis**	**1.47**	**34**	*e*PN	**Pn**	**21 21 25.8**	**-0.7**
HORT				*e*SN	**Sb**	**21 21 46.4**	**+0.2**
HORT	**Hortiatis**	**1.47**	**34**	*e*Pn	**Pn**	**21 21 25.8**	**-0.7**
HORT				*e*Sn	**Sb**	**21 21 46.4**	**+0.2**
PLG	**Polygyros**	**1.48**	**48**	*e*PB	**Pn**	**21 21 25.3**	**-1.3**
PLG				*e*SB	**Sn**	**21 21 43.6**	**-2.2**
PLG	**Polygyros**	**1.48**	**48**	*e*Pb	**Pn**	**21 21 25.3**	**-1.3**
PLG				*e*Sb	**Sn**	**21 21 43.6**	**-2.2**
FNA	**Florina**	**1.48**	**341**	*e*PN	**Pn**	**21 21 26.3**	**-0.4**
FNA				*e*SN	**Sb**	**21 21 46.5**	**+0.1**
FNA	**Florina**	**1.48**	**341**	*e*Pn	**Pn**	**21 21 26.3**	**-0.4**
FNA				*e*Sn	**Sb**	**21 21 46.5**	**+0.1**
LTK	**Loutraki**	**1.55**	**151**	*e*PN	**Pn**	**21 21 26.8**	**-0.7**
LTK				*e*SN	**Sb**	**21 21 47.9**	**-0.4**
LTK	**Loutraki**	**1.55**	**151**	*e*Pn	**Pn**	**21 21 26.8**	**-0.7**
LTK				*e*Sn	**Sb**	**21 21 47.9**	**-0.4**
KBN	**Korca**	**1.56**	**323**	*i* PG	**Pb**	**21 21 28.6**	**-0.4**
KBN	**Korca**	**1.56**	**323**	*i* Pg	**Pb**	**21 21 28.6**	**-0.4**
GRG	**Griva**	**1.60**	**11**	*e*PN	**Pn**	**21 21 27.9**	**-0.4**
GRG				*e*SN	**Sb**	**21 21 49.7**	**-0.1**
GRG	**Griva**	**1.60**	**11**	*e*Pn	**Pn**	**21 21 27.9**	**-0.4**
GRG				*e*Sn	**Sb**	**21 21 49.7**	**-0.1**
SRN	**Sarande**	**1.63**	**288**	*i* SN	**Pb**	**21 21 30.5**	**+0.3**
SRN				*i* SN	**Sg**	**21 21 53.1**	**+0.3**
VLS	**Valsamata**	**1.64**	**223**	*e*PN	**Pn**	**21 21 29.3**	**+0.5**
VLS	**Valsamata**	**1.64**	**223**	*e*Pn	**Pn**	**21 21 29.3**	**+0.5**
KEK	**Kerkira**	**1.74**	**282**	*e*PN	**Pb**	**21 21 31.5**	**-0.6**
KEK	**Kerkira**	**1.74**	**282**	*e*Pn	**Pb**	**21 21 31.5**	**-0.6**
SOH	**Sokhos**	**1.77**	**35**	*e*PB	**Pn**	**21 21 29.7**	**-0.9**
SOH				*e*SN	**Sn**	**21 21 52.3**	**-0.6**
SOH	**Sokhos**	**1.77**	**35**	*e*Pb	**Pn**	**21 21 29.7**	**-0.9**
SOH				*e*Sn	**Sn**	**21 21 52.3**	**-0.6**
OUR	**Ouranopolis**	**1.79**	**57**	*e*PB	**Pn**	**21 21 30.0**	**-0.8**
OUR				*e*SN	**Sn**	**21 21 52.0**	**-1.3**
OUR	**Ouranopolis**	**1.79**	**57**	*e*Pb	**Pn**	**21 21 30.0**	**-0.8**
OUR				*e*Sn	**Sn**	**21 21 52.0**	**-1.3**
AMT	**Artemida-Makis**	**1.86**	**187**	*e*PB	**Pb**	**21 21 34.2**	**+0.1**
AMT	**Artemida-Makis**	**1.86**	**187**	*e*Pb	**Pb**	**21 21 34.2**	**+0.1**
KNT	**Kendrikon**	**1.90**	**21**	*e*PB	**Pn**	**21 21 32.4**	**0.0**
KNT	**Kendrikon**	**1.90**	**21**	*e*Pb	**Pn**	**21 21 32.4**	**0.0**
ATH	**Athens Observa**	**1.94**	**136**	*e*PB	**Pn**	**21 21 32.5**	**-0.3**
ATH				*e*SN	**Sn**	**21 21 55.9**	**-1.1**
ATH	**Athens Observa**	**1.94**	**136**	*e*Pb	**Pn**	**21 21 32.5**	**-0.3**
ATH				*e*Sn	**Sn**	**21 21 55.9**	**-1.1**
OHR	**Ohrid**	**1.96**	**332**	*i* Pn	**Pn**	**21 21 34.4**	**+1.2**
OHR				*e*Sg	**Sg**	**21 22 02.7**	**-0.7**
OHR				*e*Lg	Lg	21 22 06.8	
	comp=E,496nm,0.7s						
OHR				*e*Lg	Lg	21 22 08.0	
	comp=N,338nm,0.5s						
OHR	**Ohrid**	**1.96**	**332**	*i* Pn	**Pn**	**21 21 34.4**	**+1.2**
OHR				*e*Lg	Lg	21 22 08.0	
	comp=N,338nm,0.5s						
PTL	**Penteli**	**1.97**	**132**	*e*PB	**Pn**	**21 21 33.0**	**-0.3**
PTL				*e*SN	**Sn**	**21 21 55.8**	**-2.0**
PTL	**Penteli**	**1.97**	**132**	*e*Pb	**Pn**	**21 21 33.0**	**-0.3**
PTL				*e*Sn	**Sn**	**21 21 55.8**	**-2.0**
VAY	**Valandovo**	**1.98**	**12**	*e*Pn	**Pn**	**21 21 34.1**	**+0.6**
VAY	**Valandovo**	**1.98**	**12**	*i* Pn	**Pn**	**21 21 34.6**	**+1.1**
VAY				*e*Sg	**Sg**	**21 22 07.4**	**+3.4**
VAY				*e*Lg	Lg	21 22 07.9	
	comp=E,290nm,0.6s						
VAY				*e*Lg	Lg	21 22 09.8	
	comp=N,934nm,1.5s						
VAY	**Valandovo**	**1.98**	**12**	*e*Pn	**Pn**	**21 21 34.1**	**+0.6**
VAY				*e*Lg	Lg	21 22 09.7	
	comp=N,934nm,1.5s						
DID	**Didima**	**2.10**	**152**	*e*PN	**Pn**	**21 21 34.7**	**-0.5**
DID	**Didima**	**2.10**	**152**	*e*Pn	**Pn**	**21 21 34.7**	**-0.5**
SRS	**Serrai**	**2.11**	**34**	*e*PN	**Pn**	**21 21 34.5**	**-0.8**
SRS	**Serrai**	**2.11**	**34**	*e*Pn	**Pn**	**21 21 34.5**	**-0.8**
ITM	**Ithomi**	**2.20**	**182**	*e*PB	**Pb**	**21 21 38.4**	**-1.5**
ITM	**Ithomi**	**2.20**	**182**	*e*Pb	**Pb**	**21 21 38.4**	**-1.5**
NVR	**Nevrokopi**	**2.42**	**35**	*e*PN	**Pn**	**21 21 39.0**	**-0.5**
NVR				*e*SN	**Sn**	**21 22 07.8**	**-1.2**
NVR	**Nevrokopi**	**2.42**	**35**	*e*Pn	**Pn**	**21 21 39.0**	**-0.5**
NVR				*e*Sn	**Sn**	**21 22 07.8**	**-1.2**
PYL	**PYLOS**	**2.49**	**185**	*e*PB	**Pn**	**21 21 42.1**	**+1.6**
PYL	**PYLOS**	**2.49**	**185**	*e*Pb	**Pn**	**21 21 42.1**	**+1.6**
LIA	**Limnos Island**	**2.50**	**77**	*e*PN	**Pn**	**21 21 39.5**	**-1.1**
LIA	**Limnos Island**	**2.50**	**77**	*e*Pn	**Pn**	**21 21 39.5**	**-1.1**
KAVA	**Kavala**	**2.50**	**49**	*e*PN	**Pn**	**21 21 39.3**	**-1.3**
KAVA	**Kavala**	**2.50**	**49**	*e*Pn	**Pn**	**21 21 39.3**	**-1.3**
PHP	**Peshkopia**	**2.59**	**333**	*i* PN	**Pn**	**21 21 43.1**	**+1.2**
PHP	**Peshkopia**	**2.59**	**333**	*i* Pn	**Pn**	**21 21

comp=Z,6.2nm,1.4s,SNR=2.7
NOA NORSAR Array B 22.70 346 P **P 21 26 02.9 +1.6**
comp=Z,0.4nm,0.7s,baz=160,slow=10,SNR=3.6
EKA Eskdalemuir Ar 23.16 322 P **P 21 26 08.3 +2.2**
comp=Z,2.5nm,0.9s,baz=112,slow=9.3,SNR=3.4
TORD Torodi Ar. Bea 31.70 220 P **P 21 27 22.3 -1.3**
comp=Z,0.3nm,0.6s,baz=33,slow=8.8,SNR=7.0
MKAR Makanchi Array 43.68 60 P **P 21 29 04.1 -0.6**
comp=Z,0.4nm,0.6s,baz=288,slow=7.2,SNR=6.5
ZALV Zalesovo Beam 44.02 49 P **P 21 29 07.2 0.0**
comp=Z,0.6nm,0.3s,baz=285,slow=8.1,SNR=2.1
YKA Yellowknife Ar 72.65 340 P **P 21 32 29.2 +2.1**
comp=Z,0.1nm,0.7s,baz=38,slow=6.3,SNR=3.4

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*ISCJB **28** 21:22:11.7±0.3, 1°.43N±0°.03×124°.52E±0°.03, h258km±3km, mb4.5/78, Error ellipse: s-maj=5.8km s-min=3.6km az=140.4*
*BJI **28** 21:22:12.8, 0°.90N×124°.65E, h313km, mB4.5/27, mb4.3/44*
*IDC **28** 21:22:13.0±1.4, 1°.41N×124°.43E, h255km±13km, mb4.1/26, mb1 4.1/27, mb1mx4.1/31, mbtmp4.7/27, Error ellipse: s-maj=11.4km s-min=8.1km az=76.0*
*DJA **28** 21:22:13.3±0.3, 1°N±4°×12°5E±°, h244km±2km, M4.8/32, mB5.2/3, mb4.8/32, MLv4.8/12, Mw(mB)4.5/3*
*MOS **28** 21:22:14.6±0.9, 1°.44N×124°.50E, h290km, mb4.7/18, Error ellipse: s-maj=12.9km s-min=6.6km az=115.9*
*NEIC **28** 21:22:17.5±0.8, 1°.41N×124°.51E, h305km±9km, mb4.5/22, Error ellipse: s-maj=7.2km s-min=4.6km az=59.0*
ISC 28 21:22:13.2±0.6, 1°.36N±0°.04×124°.50E±0°.04, h257km±5km, n204, σ1§42/223, mb4.6/77, 5C-7D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.94**	**214**	P	**Pn**	**21 22 48.2**	**-0.5**
KMSI				S	**S**	**21 23 15.7**	**-1.0**
KMSI	**Cibinong**	**0.94**	**214**	P	**Pn**	**21 22 47.6**	**-1.1**
KMSI				S	**S**	**21 23 15.6**	**-1.1**
GTOI	**Gorontalo**	**1.66**	**244**	P	**Pn**	**21 22 53.1**	**-0.3**
GTOI	**Gorontalo**	**1.66**	**244**	P	**Pn**	**21 22 52.9**	**-0.5**
MRSI	**Marisa**	**2.71**	**251**	P	**Pn**	**21 23 03.2**	**+0.1**
MRSI				S	**S**	**21 23 42.1**	**-0.5**
MRSI	**Marisa**	**2.71**	**251**	P	**Pn**	**21 23 02.8**	**-0.3**
MRSI				S	**S**	**21 23 40.8**	**-1.8**
LUWI	**Luwuk**	**2.95**	**216**	P	**Pn**	**21 23 04.0**	**-1.6**
	baz=3.1,SNR=60						
LUWI				S	**S**	**21 23 42.0**	**-5.2**
	baz=3.1,SNR=9.7						
LBMI	**Labuha**	**3.60**	**124**	P	**Pn**	**21 23 11.4**	**-1.3**
LBMI				S	**S**	**21 23 56.8**	**-3.2**
LBMI	**Labuha**	**3.60**	**124**	P	**Pn**	**21 23 11.6**	**-1.1**
LBMI				S	**S**	**21 23 57.2**	**-2.8**
APSI	**Ampana**	**3.64**	**232**	P	**Pn**	**21 23 12.9**	**-0.3**
APSI				S	**S**	**21 23 57.6**	**-3.3**
APSI	**Ampana**	**3.64**	**232**	P	**Pn**	**21 23 12.5**	**-0.7**
NLAI	**Namlea**	**5.26**	**150**	P	**Pn**	**21 23 31.7**	**-0.7**
	141nm,0.7s,4μm1.6nm						
NLAI				S	**S**	**21 24 32.5**	**-3.2**
	141nm,0.7s,4μm1.6nm						
NLAI	**Namlea**	**5.26**	**150**	P	**Pn**	**21 23 32.4**	**0.0**
	141nm,0.7s,1.6nm						
NLAI				S	**S**	**21 24 32.3**	**-3.4**
	141nm,0.7s,1.6nm						
TTSI	**Tana Toraja**	**6.41**	**227**	P	**Pn**	**21 23 48.2**	**+1.6**
	159nm,0.7s,0.5nm						
TTSI	**Tana Toraja**	**6.41**	**227**	P	**Pn**	**21 23 47.4**	**+0.8**
	159nm,0.7s,0.5nm						
MSAI	**Masohi**	**6.44**	**137**	P	**Pn**	**21 23 48.5**	**+1.5**
	30nm,1.0s,0.2nm						
MSAI	**Masohi**	**6.44**	**137**	P	**Pn**	**21 23 48.3**	**+1.3**
	30nm,1.0s,0.2nm						
MSAI				S	**S**	**21 25 02.3**	**+0.1**
	30nm,1.0s,0.2nm						
SPSI	**Sidrap Palu**	**7.10**	**222**	P	**Pn**	**21 23 54.9**	**-0.3**
	56nm,0.7s,0.2nm						
FAKI	**Fak Fak**	**8.84**	**119**	P	**Pn**	**21 24 17.1**	**0.0**
	baz=8.8,SNR=5.7						
MMRI	**Maumere**	**10.19**	**193**	*e*Pn	**P**	**21 24 39.3**	**0.0**
SOEI	**Soe**	**11.05**	**181**	P	**P**	**21 24 51.4**	**+2.4**
	baz=11,SNR=11						
SOEI				S	S	21 27 02.4	+13
	baz=11,SNR=5.6						
SOEI	**Soe**	**11.05**	**181**	*e*Pn	**P**	**21 24 49.1**	**+0.1**
SOEI				*e*S	S	21 26 55.1	+6.3
BATI	**Baumata**	**11.52**	**184**	P	**P**	**21 24 55.8**	**+1.6**
	95nm,0.8s						
BATI	**Baumata**	**11.52**	**184**	P	**P**	**21 24 56.4**	**+2.2**
BATI	**Baumata**	**11.52**	**184**	P	**P**	**21 24 56.1**	**+2.0**
	28nm,0.3s,baz=337,slow=1.8,SNR=33						
BATI				S	S	21 27 08.5	+8.8
	6.8nm,0.3s,baz=108,slow=21,SNR=8.9						
WSI	**Waingapu**	**11.73**	**201**	P	Pn	21 24 47.4	-6.0
	baz=12,SNR=3.2						
SBUM	**Sibu**	**12.32**	**275**	*e*P	**P**	**21 25 04.9**	**+1.8**
KSM	**Kuching**	**14.19**	**271**	P	**P**	**21 25 25.1**	**+1.3**
	baz=14,SNR=5.8						
KSM	**Kuching**	**14.19**	**271**	*e*P	**P**	**21 25 24.6**	**+0.7**
JAGI	**Jajag, Banyuwa**	**14.21**	**226**	P	P	21 25 28.0	+4.0
	baz=14,SNR=5.1						
MTN	**Manton Dam**	**15.57**	**155**	P	**P**	**21 25 39.7**	**+0.7**
	baz=16,SNR=11						
KDU	**Kakadu**	**16.04**	**151**	P	**P**	**21 25 45.0**	**+0.9**
	baz=16,SNR=23						
JAY	**Jayapura**	**16.65**	**103**	P	**P**	**21 25 52.2**	**+1.3**
	1.9nm,0.3s,baz=186,slow=5.3,SNR=7.2						
KNRA	**Kununurra**	**17.45**	**166**	P	**P**	**21 26 00.3**	**+0.8**
	baz=18,SNR=45						
CISI	**Cisompet, Garu**	**18.86**	**242**	P	**Pn**	**21 26 18.3**	**-0.5**
	baz=19,SNR=3.3						
CISI				S	**S**	**21 29 33.0**	**-2.5**
	baz=19,SNR=4.1						
CGJI	**Cibinong**	**20.38**	**247**	P	**P**	**21 26 28.3**	**-2.7**
	37nm,0.6s						
CGJI	**Cibinong**	**20.38**	**247**	P	**P**	**21 26 30.0**	**-1.0**
	37nm,0.6s						
JMBI	**JAMBI**	**21.07**	**262**	P	**P**	**21 26 40.5**	**+2.4**
	171nm,0.6s						
KASI	**Kota Agung**	**21.12**	**251**	P	**P**	**21 26 40.0**	**+1.4**
	32nm,0.7s						
KASI	**Kota Agung**	**21.12**	**251**	P	**P**	**21 26 41.2**	**+2.6**
	32nm,0.7s						
MDSI	**Maura Dua**	**21.12**	**254**	P	**P**	**21 26 38.4**	**-0.2**
	22nm,0.9s						
MDSI	**Maura Dua**	**21.12**	**254**	P	**P**	**21 26 40.8**	**+2.2**
	22nm,1.4s						
LWLI	**Liwa**	**21.38**	**253**	P	**P**	**21 26 42.8**	**+1.5**
	45nm,0.7s						
LWLI	**Liwa**	**21.38**	**253**	P	**P**	**21 26 44.8**	**+3.5**
	76nm,0.8s						
TPUB	**Ta-pu**	**22.13**	**351**	*e*P	**P**	**21 26 46.4**	**-1.4**
	89nm,0.7s						
MNAI	**Manna**	**22.27**	**255**	P	**P**	**21 26 50.1**	**+0.8**
	baz=22,SNR=3.2						
SSLB	**Suanglung**	**22.56**	**351**	*e*P	**P**	**21 26 52.8**	**+1.0**
	244nm,2.5s						
MBWA	**Marble Bar**	**22.86**	**192**	*e*P	**P**	**21 26 54.5**	**-0.1**
	17nm,0.6s						
WRAB	**Tennant Creek**	**23.26**	**156**	*d i*P	**P**	**21 26 58.4**	**+0.1**
WRAB	**Tennant Creek**	**23.26**	**156**	*e*P	**P**	**21 26 58.4**	**+0.1**
	129nm,0.5s						
WRAB				*e*S	**S**	**21 30 47.3**	**-3.7**
WRA	**Warramunga Arr**	**23.27**	**156**	P	**P**	**21 26 58.3**	**0.0**
	76nm,0.4s,baz=336,slow=10,SNR=312						
WRA				S	**S**	**21 30 48.8**	**-2.3**
	3.1nm,0.7s,baz=337,slow=16,SNR=5.0						
WB2	**Warramunga Arr**	**23.27**	**156**	*e*P	**P**	**21 26 58.2**	**-0.1**
WB2				*e*S	**S**	**21 30 48.1**	**-3.1**
IPM	**Ipoh**	**23.65**	**278**	*e*P	**P**	**21 27 01.8**	**-0.1**
	21nm,0.7s						
COEN	**Coen**	**23.96**	**130**	P	**P**	**21 27 05.1**	**+0.5**
	baz=24,SNR=26						
COEN	**Coen**	**23.96**	**130**	*e*P	**P**	**21 27 04.8**	**+0.1**
	158nm,0.8s						
CHBT	**CHBT**	**24.71**	**298**	P	**P**	**21 27 12.0**	**+0.6**
	45nm,1.1s						
PMG	**Port Moresby**	**24.97**	**116**	⇑*i*P	**P**	**21 27 14.5**	**+0.7**
PMG				pmax	pmax		
	comp=Z,29nm,0.8s						
PMG	**Port Moresby**	**24.97**	**116**	P	**P**	**21 27 14.6**	**+0.8**
	comp=Z,21nm,0.8s,baz=296,slow=13,SNR=9.5						
PMG	**Port Moresby**	**24.97**	**116**	*e*P	**P**	**21 27 14.8**	**+1.0**
	comp=Z,29nm,0.9s						
PSI	**Prapat**	**25.60**	**274**	P	**P**	**21 27 19.4**	**-0.3**
	comp=Z,15nm,0.8s,baz=96,slow=5.5,SNR=14						
KHON	**Khomkaen**	**26.03**	**306**	P	**P**	**21 27 24.4**	**+1.2**
	comp=Z,14nm,0.8s,comp=Z,1μm						
NAYO	**Nakonayok**	**26.28**	**300**	P	**P**	**21 27 25.9**	**+0.4**
	comp=Z,69nm,1.8s,comp=Z,5μm						
QIS	**Mount Isa**	**26.33**	**147**	P	**P**	**21 27 26.8**	**+0.8**
	baz=26,SNR=26						
WRKA	**Warakurna**	**26.50**	**172**	P	**P**	**21 27 28.4**	**+1.0**
	baz=27,SNR=30						
AS31	**Alice Springs**	**26.50**	**160**	*e*P	**P**	**21 27 27.9**	**+0.4**
ASAR	**Alice Springs**	**26.51**	**160**	P	**P**	**21 27 27.9**	**+0.4**
	comp=Z,20nm,0.6s,baz=340,slow=7.3,SNR=113						
ASAR				PcP	**PcP**	**21 30 45.6**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=349,slow=2.5,SNR=4.5						
ASAR				S	**S**	**21 31 40.9**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=348,slow=20,SNR=6.4						
ASAR				ScP	**ScP**	**21 34 01.4**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=348,slow=2.8,SNR=9.5						
PBKT	**Sadao Pong**	**27.66**	**304**	P	**P**	**21 27 38.2**	**+0.4**
	comp=Z,12nm,1.0s						
MEEK	**Meekatharra**	**28.41**	**191**	P	**P**	**21 27 44.5**	**+0.2**
	baz=29,SNR=15						
UTHA	**Uthaitani**	**28.46**	**301**	P	**P**	**21 27 44.9**	**+0.1**
	comp=Z,11nm,0.7s,comp=Z,86nm						
UTTA	**Uttaradit**	**28.61**	**306**	P	**P**	**21 27 46.6**	**+0.4**
	comp=Z,4.7nm,0.8s,comp=Z,41nm						
SUKH	**Sukhothai**	**29.23**	**305**	P	**P**	**21 27 52.0**	**+0.4**
	comp=Z,12nm,0.8s,comp=Z,91nm						
LAMP	**Lampang**	**29.77**	**307**	P	**P**	**21 27 58.2**	**+1.8**
	comp=Z,4.4nm,0.9s						
CRAI	**Chiangrai**	**30.13**	**310**	P	**P**	**21 27 57.6**	**-2.0**
	comp=Z,112nm,0.8s,comp=Z,5μm						
GYA	**Guiyang**	**30.28**	**327**	*e*P	**P**	**21 28 03.0**	**+2.1**
GYA				pP	pP	21 29 03.3	+12
GYA				sP	sP	21 29 39.5	+18
GYA				ScP	ScP	21 34 05.0	-7.5
GYA				ScS	ScS	21 38 01.8	-7.3
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**30.29**	**306**	P	**P**	**21 28 01.1**	**+0.2**
	comp=Z,4.3nm,0.8s,baz=136,slow=8.2,SNR=22						
CMAR				PcP	**PcP**	**21 30 55.2**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=171,slow=2.0,SNR=4.8						
CMMT	**Chiang Mai**	**30.47**	**306**	P	**P**	**21 28 02.8**	**+0.2**
	comp=Z,26nm,1.2s						
CHTO	**Chiang Mai**	**30.47**	**306**	*e*P	**P**	**21 28 02.7**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,14nm,0.9s						
CHTO	**Chiang Mai**	**30.47**	**306**	P	**P**	**21 28 02.8**	**+0.2**
	comp=Z,67nm,1.3s						
CHTO	**Chiang Mai**	**30.47**	**306**	*e*P	**P**	**21 28 02.7**	**+0.2**
	comp=Z,14nm,0.9s						
MHMT	**Maesarieng**	**30.98**	**304**	P	**P**	**21 28 07.3**	**+0.3**
	comp=Z,14nm,0.9s						
NJ2	**Nanjing**	**30.99**	**351**	*e*P	**P**	**21 28 07.3**	**+0.4**
NJ2				PMZ			
	comp=Z,30nm,0.9s						
MORW	**Morawa**	**31.32**	**194**	P	**P**	**21 28 10.2**	**+0.4**
	baz=32,SNR=5.5						
KMI	**Kunming**	**31.61**	**320**	P	**P**	**21 28 14.5**	**+1.8**
KMI				pP	pP	21 29 16.5	+13
KMI				PP	**PP**	**21 29 35.5**	**+5.5**
KMI				S	S	21 32 57.0	-5.6
KMI				PMZ			
	comp=Z,5.0nm,1.1s						
KMI				PMZ			
	comp=Z,110nm,5.7s						
KMI				LN			
	comp=Z,230nm,13.5s						
KMI				LE			
	comp=Z,350nm,12.7s						
KMI				LZ			
	comp=Z,240nm,15.5s						
FORT	**Forrest**	**32.14**	**174**	P	**P**	**21 28 17.7**	**+0.7**
	baz=32,SNR=22						
FORT	**Forrest**	**32.14**	**174**	*e*P	**P**	**21 28 17.1**	**+0.2**
	comp=Z,54nm,0.6s						
KMBL	**Kambalda**	**32.65**	**184**	P	**P**	**21 28 21.8**	**+0.5**
	baz=33,SNR=18						
BLDU	**Balidu**	**32.66**	**193**	P	**P**	**21 28 21.5**	**0.0**
	baz=33,SNR=20						
QLP	**Quilpie**	**33.68**	**147**	P	**P**	**21 28 31.2**	**+0.9**
	baz=34,SNR=11						
NWAO	**Narrogin (SRO)**	**34.79**	**191**	P	**P**	**21 28 40.5**	**+0.7**
	comp=Z,6.7nm,0.4s,baz=61,slow=6.4,SNR=16						
NWAO	**Narrogin (SRO)**	**34.79**	**191**	P	**P**	**21 28 40.5**	**+0.7**
	baz=35,SNR=9.6						
CD2	**Chengdu**	**35.35**	**328**	*e*P	**P**	**21 28 46.0**	**+1.4**
CD2				PMZ			
	comp=Z,10.0nm,0.8s						
BBOO	**Buckleboo**	**35.70**	**163**	P	**P**	**21 28 48.0**	**+0.5**
	baz=36,SNR=12						
BBOO	**Buckleboo**	**35.70**	**163**	*e*P	**P**	**21 28 47.9**	**+0.5**
	comp=Z,357nm,0.7s						
KSAR	**Wonju Array Be**	**36.04**	**5**	P	**P**	**21 28 50.7**	**+0.4**
KSAR	**Wonju Array Be**	**36.04**	**5**	P	**P**	**21 28 50.7**	**+0.4**
KSAR				ScP	**ScP**	**21 34 32.2**	**0.0**
KSRS	**Korea Array**	**36.05**	**5**	P	**P**	**21 28 50.7**	**+0.3**
	comp=Z,4.3nm,0.8s,baz=180,slow=11,SNR=11						
KSRS				ScP	**ScP**	**21 34 32.2**	**0.0**
	comp=Z,1.2nm,0.5s,baz=173,slow=3.6,SNR=5.7						
RMQ	**Roma**	**36.25**	**141**	P	**P**	**21 28 53.1**	**+0.8**
	baz=36,SNR=4.4						
MAJO	**Matsushiro**	**37.23**	**18**	⇑*i*P	**P**	**21 29 00.1**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,166nm,2.5s						
MAJO	**Matsushiro**	**37.23**	**18**	*e*P	**P**	**21 28 60.0**	**-0.4**
	comp=Z,6.7nm,0.6s						
MAT	**Matsushiro**	**37.23**	**18**	P	**P**	**21 28 59.6**	**-0.8**
MJAR	**Matsushiro Arr**	**37.23**	**18**	P	**P**	**21 28 59.2**	**-1.2**
	comp=Z,6.1nm,0.8s,baz=196,slow=9.3,SNR=21						
MJAR				ScP	**ScP**	**21 34 37.5**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=186,slow=4.0,SNR=4.1						
CMSA	**Cobar Meteorol**	**38.41**	**150**	P	**P**	**21 29 11.9**	**+1.7**
	baz=39,SNR=45						
LZH	**Lanzhou**	**39.51**	**333**	⇑P	**P**	**21 29 20.3**	**+0.8**
LZH				pP	pP	21 30 25.3	+13
LZH				sP	sP	21 31 00.5	+19
LZH				PMZ			
	comp=Z,16nm,1.2s						
LZH				PMZ			
	comp=Z,150nm,5.8s						
ARMA	**Armidale**	**40.83**	**143**	P	**P**	**21 29 32.5**	**+2.2**
	baz=41,SNR=14						
ARMA	**Armidale**	**40.83**	**143**	*e*P	**P**	**21 29 31.7**	**+1.5**
	comp=Z,15nm,0.7s						
HHC	**Hu-ho-hao-te**	**41.02**	**345**	*e*P	**P**	**21 29 32.8**	**+1.1**
HHC				sP	sP	21 31 07.5	+13
HHC				S	S	21 35 19.0	-5.4
HHC				sS	sS	21 37 16.3	+17
HHC				PMZ			
	comp=Z,24nm,0.9s						
HHC				PMZ			
	comp=Z,130nm,4.7s						
YNG	**Young**	**41.97**	**150**	P	**P**	**21 29 41.8**	**+2.4**
	baz=42,SNR=8.3						
LSA	**Lhasa**	**42.42**	**315**	*e*P	**P**	**21 29 43.2**	**-0.4**
LSA				*e*		21 31 30.4	
LSA				pmax	pmax		
	comp=Z,16nm,0.6s						
LSA	**Lhasa**	**42.42**	**315**	*e*P	**P**	**21 29 43.2**	**-0.4**
	comp=Z,16nm,0.6s						
LSA				*e*PcP	**PP**	**21 31 30.4**	**+2.6**
MGCD	**Mangrove Creek**	**42.57**	**146**	P	P	21 29 47.2	+3.0
	baz=43,SNR=10						
CAN	**Canberra**	**43.09**	**150**	*e*P	**P**	**21 29 48.5**	**+0.2**
CAN				pmax	pmax		
	comp=Z,47nm,0.9s						
CAN	**Canberra**	**43.09**	**150**	*e*P	**P**	**21 29 48.5**	**+0.2**
	comp=Z,47nm,0.9s						
USRK	**Ussuriysk Ar.**	**43.17**	**8**	P	**P**	**21 29 49.3**	**+0.5**
	comp=Z,5.9nm,0.4s,baz=194,slow=7.2,SNR=21						
CNB	**Canberra Magne**	**43.26**	**150**	P	**P**	**21 29 52.1**	**+2.4**
	baz=44,SNR=10						
TOO	**Toolangi**	**43.34**	**156**	P	**P**	**21 29 52.7**	**+2.4**
	baz=44,SNR=9.5						
TAPN	**Taplejung**	**43.71**	**310**	*e*P	**P**	**21 29 52.9**	**-0.8**
ODAN	**Odare**	**43.71**	**309**	*e*P	**P**	**21 29 53.1**	**-0.6**
	comp=Z,21nm,0.7s						
PALK	**Pallekele**	**44.05**	**279**	P	**P**	**21 29 55.8**	**-0.5**
	comp=Z,8.1nm,0.7s,baz=102,slow=6.4,SNR=7.8						
GTA	**Gaotai**	**44.06**	**332**	*e*P	**P**	**21 29 56.0**	**-0.1**
GTA				pP	pP	21 31 02.3	+12
GTA				sP	sP	21 31 37.5	+18
GTA				S	S	21 36 04.5	-4.3
GTA				sS	sS	21 38 00.0	+16
GTA				SS	**ScS**	**21 39 23.8**	**-2.9**
GTA				PMZ			
	comp=Z,8.0nm,1.3s						
GTA				PMZ			
	comp=Z,170nm,5.2s						
RAMN	**Ramite**	**44.38**	**308**	*e*P	**P**	**21 29 58.6**	**-0.4**
	comp=Z,52nm,1.0s						
JIRN	**Jiri**	**45.03**	**309**	*e*P	**P**	**21 30 03.3**	**-1.0**
	comp=Z,34nm,0.9s						
GUN	**Gumba**	**45.40**	**309**	*e*P	**P**	**21 30 05.9**	**-1.2**
ASAJ	**Asahikawa**	**45.51**	**18**	P	**P**	**21 30 07.0**	**-0.2**
	comp=Z,3.9nm,0.6s,baz=248,slow=8.6,SNR=4.6						
PKI	**Pulchoki**	**45.60**	**308**	*e*P	**P**	**21 30 08.1**	**-0.6**
PKIN	**Phulchoki**	**45.61**	**308**	*e*P	**P**	**21 30 08.0**	**-0.7**
	comp=Z,7.5nm,0.6s						
KKN	**Kakani**	**45.80**	**309**	*e*P	**P**	**21 30 09.2**	**-0.9**
DMN	**Daman**	**45.86**	**308**	*e*P	**P**	**21 30 09.9**	**-0.7**
	comp=Z,34nm,0.9s						
GKN	**Gorkha**	**46.41**	**309**	*e*P	**P**	**21 30 13.5**	**-1.2**
	comp=Z,36nm,1.0s						
KOLN	**Koldanda**	**47.12**	**308**	*e*P	**P**	**21 30 19.7**	**-0.6**
	comp=Z,68nm,0.7s						
DANN	**Dangsing**	**47.25**	**308**	*e*P	**P**	**21 30 20.7**	**-0.7**
	comp=Z,81nm,0.8s						
HABR	**Khabarovsk**	**47.80**	**9**	*e*P	**P**	**21 30 23.2**	**-1.7**
HABR				*e*		21 31 46.4	
HABR				*e*		21 32 18.1	
HABR				*e*		21 39 43.1	
HABR				*e*SS	SS	21 40 32.2	-1.6
HABR				pmax	pmax		
	comp=Z,16nm,1.8s						
HABR				MLR	MLR		
	comp=Z,85nm,18.0s						
HYB	**Hyderabad**	**47.88**	**292**	*i* P	P	21 30 24.0	-2.1
HIA	**Hailar**	**47.90**	**356**	*e*P	**P**	**21 30 25.4**	**-0.3**
HIA				pmax	pmax		
	comp=Z,14nm,0.8s						
HIA	**Hailar**	**47.90**	**356**	*e*P	**P**	**21 30 25.4**	**-0.3**
	comp=Z,14nm,0.8s						
KLR	**Kul'dur**	**48.09**	**6**	*e*P	P	21 30 22.7	-4.4
ULN	**Ulaanbaatar**	**48.73**	**344**	⇓*e*P	**P**	**21 30 31.8**	**-0.4**
ULN				pmax	pmax		
	comp=Z,16nm,1.0s						
ULN	**Ulaanbaatar**	**48.73**	**344**	*e*P	**P**	**21 30 31.4**	**-0.7**
	comp=Z,11nm,0.7s						
SONM	**Songino Array**	**48.88**	**344**	P	**P**	**21 30 32.6**	**-0.6**
	comp=Z,11nm,0.7s,baz=161,slow=7.9,SNR=50						
SONM				PcP	**PcP**	**21 31 52.8**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=180,slow=4.9,SNR=2.6						
SONM				ScP	**ScP**	**21 35 23.2**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=159,slow=4.2,SNR=6.2						
TLY	**Talaya**	**53.12**	**344**	*e*P	**P**	**21 31 05.2**	**+0.7**
TLY				pmax	pmax		
	comp=Z,13nm,0.9s						
TLY	**Talaya**	**53.12**	**344**	*e*P	**P**	**21 31 03.0**	**-1.6**
	comp=Z,13nm,0.9s						
WMQ	**Urumqi**	**53.44**	**327**	P	**P**	**21 31 07.0**	**-0.1**
WMQ				PcP	**PcP**	**21 32 08.8**	**-1.8**
WMQ				pP	pP	21 32 10.5	+7.4
WMQ				sP	sP	21 32 48.0	+16
WMQ				PP	**PP**	**21 33 13.3**	**+2.8**
WMQ				S	S	21 38 13.0	-6.2
WMQ				sS	sS	21 40 11.5	+13
WMQ				PMZ			
	comp=Z,13nm,1.3s						
WMQ				PMZ			
	comp=Z,140nm,3.9s						
MOY	**Mondy**	**53.88**	**342**	*e*P	**P**	**21 31 09.9**	**-0.3**
HVS	**Khovu-Aksy**	**55.99**	**337**	*d i*P	**P**	**21 31 24.8**	**-0.4**
HVS				pmax	pmax		
	comp=Z,133nm,1.0s						
BOD	**Bodaibo**	**56.91**	**353**	*e*P	**P**	**21 31 31.1**	**-0.3**
BOD				pmax	pmax		
	comp=Z,20nm,0.8s						
KSH	**Kashi**	**58.19**	**317**	P	**P**	**21 31 42.0**	**+1.1**
KSH				pP	pP	21 32 51.0	+13
KSH				PP	**PP**	**21 33 57.0**	**+4.1**
KSH				S	S	21 39 14.0	-8.1
KSH				ScS	ScS	21 40 52.3	-12
KSH				sS	sS	21 41 15.0	+12
KSH				PMZ			
	comp=Z,7.0nm,1.1s						
KSH				PMZ			
	comp=Z,78nm,5.2s						
KSH				LN			
	comp=Z,110nm,5.8s						
KSH				LE			
	comp=Z,74nm,5.6s						
KSH				LZ			
	comp=Z,170nm,18.7s						
MKAR	**Makanchi Array**	**58.27**	**327**	P	**P**	**21 31 40.1**	**-1.0**
	comp=Z,9.1nm,0.6s,baz=125,slow=7.5,SNR=59						
MKAR				PcP	**PcP**	**21 32 29.0**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=124,slow=4.7,SNR=6.4						
MKAR				ScP	**ScP**	**21 36 03.6**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=116,slow=4.8,SNR=5.3						
PETK	**Petropavlovsk-**	**58.45**	**23**	P	**P**	**21 31 43.0**	**+0.8**
PETK	**Petropavlovsk-**	**58.45**	**23**	P	**P**	**21 31 43.0**	**+0.8**
	comp=Z,4.4nm,0.7s,baz=188,slow=6.6,SNR=5.1						
KZA	**Kyzart**	**59.90**	**319**	P	**P**	**21 31 52.9**	**+0.1**
	SNR=12						
TKM2	**Tokmak 2**	**60.09**	**320**	P	**P**	**21 31 53.3**	**-0.5**
	SNR=9.7						
TKM2	**Tokmak 2**	**60.09**	**320**	*e*P	**P**	**21 31 53.5**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,15nm,1.3s						
TKM2	**Tokmak 2**	**60.09**	**320**	*e*P	**P**	**21 31 53.5**	**-0.4**
	comp=Z,15nm,1.3s						
KBK	**Karagaybulak**	**60.37**	**320**	P	**P**	**21 31 57.8**	**+2.0**
	SNR=6.1						
UCH	**Uchtor**	**60.45**	**319**	P	**P**	**21 31 56.3**	**-0.3**
	SNR=16						
YAK	**Yakutsk**	**60.65**	**3**	*e

ARU SS **SS** **21 47 52.5 +4.1**
ARU pmax pmax
comp=Z,15nm,1.7s
ARU Arti 75.76 328 *e*P P 21 33 28.6 -2.0
comp=Z,8.0nm,0.9s
OPO Ambohidratompo 78.42 251 P **P** **21 33 45.5 -0.9**
comp=Z,8.5nm,0.7s,baz=58,slow=4.6,SNR=15
RAYN Ar Rayn 79.37 294 *e*P P 21 33 49.6 -1.7
comp=Z,16nm,0.8s
VNDA Vanda 81.38 172 P **P** **21 34 01.6 +0.8**
comp=Z,1.1nm,0.5s,baz=315,slow=6.8,SNR=16
ZEI Tsey 82.17 313 *e*P **P** **21 34 04.5 -1.4**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 82.99 314 P **P** **21 34 11.3 +1.5**
comp=Z,2.1nm,0.8s,baz=99,slow=6.9,SNR=4.3
PRGR Permogore 83.52 332 *e*P P 21 34 08.4 -3.7
PRGR pmax pmax
comp=Z,23nm,0.9s
VSR Storozhevoye 86.02 321 *e*P P 21 34 22.8 -2.0
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,8.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
KLMR Klimovskoe 86.37 331 *e*P P 21 34 18.6 -7.6
KLMR pmax pmax
comp=Z,25nm,2.0s
ANN Anapa 86.96 315 *e*P **P** **21 34 28.0 -1.5**
ANN pmax pmax
comp=Z,61nm,1.5s
KMBO Kilima Mbogo 87.28 269 P **P** **21 34 32.6 +0.6**
comp=Z,5.3nm,0.8s,baz=66,slow=5.4,SNR=16
OBN Obninsk 87.71 325⇓ *e*P **P** **21 34 31.7 -1.0**
OBN pmax pmax
comp=Z,47nm,1.7s
ILAR Eielson Array 88.18 25 P **P** **21 34 33.6 -1.2**
comp=Z,0.3nm,0.7s,baz=278,slow=5.6,SNR=3.9
EIL Elat 88.94 299 P **P** **21 34 39.4 +0.2**
comp=Z,4.1nm,0.8s,baz=169,slow=5.2
BRTR Keskin Array B 89.81 310 P **P** **21 34 42.5 -0.7**
comp=Z,1.8nm,0.8s,baz=113,slow=4.7,SNR=5.1
ARCES ARCESS Array B 91.88 340 P **P** **21 34 50.5 -1.5**
comp=Z,3.3nm,0.8s,baz=82,slow=5.9,SNR=5.4
KIEV Kiev 92.32 321⇑ *e*P P 21 34 51.7 -2.6
FINES FINESS Array B 92.85 332 P P 21 34 54.6 -1.9
comp=Z,1.6nm,0.6s,baz=58,slow=5.7,SNR=5.2
CRVS Cervenica-Dubn 97.53 320 *e*P Pdif 21 35 19.8 +1.6
CRVS Cervenica-Dubn 97.53 320 PDIF Pdif 21 35 19.8 +1.6
HFS Hagfors 99.05 332 P **Pdif** **21 35 22.7 -1.9**
comp=Z,0.6nm,0.4s,baz=14,slow=6.4,SNR=4.1
VYHS Vyhne 99.32 320 *e*P **Pdif** **21 35 28.1 +1.9**
VYHS Vyhne 99.32 320 PDIF **Pdif** **21 35 28.1 +1.9**
TORD Torodi Ar. Bea 121.49 286 PKP **PKPdf** **21 40 36.7 -0.4**
comp=Z,0.9nm,0.8s,baz=92,slow=1.7,SNR=7.3
SCHQ Schefferville 123.22 8 PKP **PKPdf** **21 40 38.8 -0.6**
comp=Z,4.7nm,1.1s,baz=38,slow=5.9,SNR=4.4

ISCJB ***28*** *21:26:30.2±0.5, 38°.01S±0°.04×73°.70W±0°.09, h18km, mb4.5/20, Error ellipse: s-maj=10.1km s-min=5.5km az=177.0*
NEIC ***28*** *21:26:31.4±3.0, 38°.05S×73°.78W, h17km±18km, mb4.6/9, Error ellipse: s-maj=12.3km s-min=5.6km az=83.0*
IDC ***28*** *21:26:32.6±0.7, 38°.06S×73°.76W, h22km±3km, mb4.1/12, mb1 4.1/14, mb1mx4.0/31, mbtmp4.2/14, ML3.2/2, MS3.3/1, Ms1 3.3/1, ms1mx3.2/24, Error ellipse: s-maj=18.9km s-min=14.8km az=95.0*

ISC 28 21:26:31.8±0.5, 38°.06S±0°.06×73°.80W±0°.10, h18km, n47, σ0s99/57, mb4.6/20, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.67**	**138**	*e*P	**Pn**	**21 27 26.7**	**-1.0**
PLCA				*e*Sn	**Sn**	**21 28 09.9**	**-0.7**
CFAA	**Coronel Fontan**	**7.90**	**37**	Pn	**Pn**	**21 28 25.2**	**-0.6**
	0.3nm,0.3s,baz=330,slow=3.8,SNR=15						
CFAA				Sn	**Sn**	**21 29 55.6**	**+0.8**
	0.3nm,0.3s,baz=61,slow=19,SNR=4.2						
CFAA				Lg	Lg	21 30 40.3	
	0.2nm,0.3s,baz=265,slow=13,SNR=3.7						
CFAA				LR	LR	21 31 37.5	
	comp=Z,186nm,18.7s,baz=224,slow=39						
TRQA	**Tornquist**	**9.33**	**94**	*e*Pn	**Pn**	**21 28 46.1**	**+0.8**
	24nm,0.8s						
LCO	**Las Campanas**	**9.39**	**17**	*e*Pn	**Pn**	**21 28 45.2**	**-1.2**
	24nm,0.3s						
LCO				*e*Sn	**Sn**	**21 30 29.9**	**-1.8**
LVC	**Limon Verde**	**15.96**	**17**	*e*Pn	**Pn**	**21 30 15.1**	**-0.6**
USHA	**Ushuaia**	**17.17**	**169**	Pn	**Pn**	**21 30 31.0**	**+0.4**
	0.1nm,0.3s,baz=352,slow=14,SNR=3.3						
LPAZ	**La Paz**	**22.26**	**15**	P	**P**	**21 31 30.8**	**+2.3**
	5.7nm,1.0s,baz=178,slow=6.7,SNR=16						
LPAZ	**La Paz**	**22.26**	**15**	*e*P	**P**	**21 31 28.8**	**+0.3**
	2.6nm,0.4s						
SIV	**San Ignacio**	**24.68**	**30**	P	**P**	**21 31 50.8**	**-1.0**
	1.7nm,0.7s,baz=240,slow=15,SNR=4.2						
SAML	**Samuel**	**30.53**	**21**	*e*P	**P**	**21 32 43.6**	**-0.5**
	6.7nm,1.4s						
BDFB	**Brasilia**	**31.87**	**53**	P	**P**	**21 32 55.8**	**-0.4**
	2.7nm,0.7s,baz=190,slow=2.8,SNR=4.1						
OTAV	**Otavalo**	**38.35**	**352**	*e*P	**P**	**21 33 51.9**	**-0.5**
	20nm,1.4s						
VNA3	**Neumayer Olymp**	**46.19**	**156**	P	**P**	**21 34 55.4**	**+0.4**
SDV	**Santo Domingo**	**46.80**	**4**	*e*P	**P**	**21 35 00.2**	**-0.4**
	11nm,1.1s						
VNA2	**Neumayer--Watz**	**46.87**	**156**	P	**P**	**21 35 00.4**	**0.0**
	baz=298,slow=7.8						
SNAA	**Sanae**	**48.41**	**156**	P	**P**	**21 35 11.9**	**-0.6**
SNAA	**Sanae**	**48.41**	**156**	P	**P**	**21 35 11.7**	**-0.7**
	3.4nm,1.0s,baz=270,slow=6.0,SNR=6.2						
SNAA	**Sanae**	**48.41**	**156**	*e*P	**P**	**21 35 11.4**	**-1.0**
	37nm,1.5s						
QSPA	**South Pole Qui**	**52.18**	**180**	P	**P**	**21 35 40.7**	**-0.4**
	4.8nm,1.0s,baz=132,slow=5.2,SNR=6.2						
QSPA	**South Pole Qui**	**52.18**	**180**	*e*P	**P**	**21 35 41.1**	**-0.1**
	4.4nm,0.8s						
TXAR	**Lajitas Array**	**72.63**	**333**	P	**P**	**21 37 59.2**	**+1.0**
	0.6nm,0.7s,baz=152,slow=8.6,SNR=7.6						
TXAR				pP	**pP**	**21 38 05.5**	**+1.4**
	2.0nm,0.6s,baz=150,slow=8.3,SNR=16						
SUR	**Sutherland**	**74.13**	**119**	P	**P**	**21 38 08.1**	**+0.7**
	6.8nm,0.9s,baz=127,slow=7.8,SNR=2.8						
WMOK	**Wichita Mounta**	**76.05**	**339**	*e*P	**P**	**21 38 17.9**	**0.0**
	5.6nm,1.0s						
LIC	**Lamto**	**77.41**	**72**	*e*P	**P**	**21 38 26.6**	**+0.5**
	49nm,1.1s						
TIC	**Toumodi**	**77.69**	**71**	*e*P	**P**	**21 38 28.2**	**+0.5**
	10nm,0.2s						
KIC	**Kosan Boka**	**77.71**	**72**	*e*P	**P**	**21 38 28.3**	**+0.5**
	31nm,1.0s						
DBIC	**Dimbokro**	**77.83**	**72**	P	**P**	**21 38 29.1**	**+0.7**
	4.6nm,0.8s,baz=278,slow=8.5,SNR=6.3						
DBIC				pP	**pP**	**21 38 36.2**	**+1.8**
	8.4nm,0.7s,baz=214,slow=5.0,SNR=9.2						
DBIC	**Dimbokro**	**77.83**	**72**	*e*P	**P**	**21 38 28.0**	**-0.4**
	16nm,1.0s						
DBIC				pP	**pP**	**21 38 36.2**	**+1.8**
ANMO	**Albuquerque**	**78.70**	**333**	P	**P**	**21 38 34.0**	**+1.0**
	0.7nm,0.6s,baz=122,slow=6.5,SNR=4.0						
ANMO	**Albuquerque**	**78.70**	**333**	*e*P	**P**	**21 38 33.4**	**+0.4**
	5.1nm,1.3s						
URZ	**Urewera**	**79.90**	**229**	P	**P**	**21 38 39.5**	**0.0**
	8.3nm,1.0s,baz=191,slow=5.2,SNR=2.0						
LBTB	**Lobatse**	**81.88**	**115**	P	**P**	**21 38 50.4**	**-0.1**
	3.5nm,0.7s,baz=252,slow=4.0,SNR=9.1						
LBTB				pP	**pP**	**21 38 57.4**	**+1.0**
	4.5nm,0.8s,baz=245,slow=6.0,SNR=4.5						
PDAR	**Pinedale Array**	**86.77**	**334**	P	**P**	**21 39 13.9**	**-0.9**
	0.3nm,0.6s,baz=139,slow=5.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**86.92**	**71**	P	**P**	**21 39 15.9**	**0.0**
	1.2nm,0.6s,baz=217,slow=5.2,SNR=14						
TORD				pP	**pP**	**21 39 23.5**	**+1.6**
	1.7nm,0.7s,baz=193,slow=0.9,SNR=9.3						
ESDC	**Sonseca Array**	**100.39**	**47**	P	**Pdif**	**21 40 16.8**	**-0.6**
	0.2nm,0.6s,baz=212,slow=5.7,SNR=2.7						
OPO	**Ambohidratompo**	**101.02**	**124**	P	**Pdif**	**21 40 18.9**	**-2.1**
	2.8nm,0.9s,baz=92,slow=1.9,SNR=3.0						
GERES	**GERESS Array B**	**115.99**	**47**	pPKP	PKPdf	21 45 19.1	+6.0
	0.4nm,0.7s,baz=270,slow=1.9,SNR=2.9						
BRTR	**Keskin Array B**	**124.98**	**64**	PKP	**PKPdf**	**21 45 30.0**	**-0.8**
	0.4nm,0.6s,baz=229,slow=6.7,SNR=2.7						
AKASG	**Malin Array Be**	**125.94**	**50**	PKP	**PKPdf**	**21 45 31.4**	**-0.6**
	0.1nm,0.3s,baz=260,slow=1.7,SNR=3.5						
FINES	**FINESS Array B**	**127.12**	**36**	PKP	**PKPdf**	**21 45 33.8**	**-0.1**
	1.3nm,0.9s,baz=356,slow=9.8,SNR=2.7						
GEYT	**Alibeck**	**142.45**	**75**	PKhKP	PKPpre	21 45 58.8	
	0.8nm,0.6s,baz=270,slow=4.4,SNR=3.5						
ABKAR	**Akbulak array**	**145.23**	**56**	*e*PKPbc	**PKPbc**	**21 46 07.2**	**-0.3**
MJAR	**Matsushiro Arr**	**154.55**	**277**	PKP	**PKPdf**	**21 46 24.1**	**+1.2**
	0.9nm,0.8s,baz=231,slow=3.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**158.38**	**36**	PKP	**PKPdf**	**21 46 27.9**	**+0.7**
	0.3nm,0.3s,baz=32,slow=11,SNR=2.4						
ZALV				PKPab	**PKPab**	**21 47 02.4**	**+0.5**
	0.7nm,0.6s,baz=270,slow=5.5,SNR=5.5						
ZALV				pPKPab	**pPKPab**	**21 47 09.7**	**+1.8**
	2.3nm,0.9s,baz=297,slow=4.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**159.46**	**160**	PKPab	**PKPab**	**21 47 06.2**	**-1.2**
	0.2nm,0.5s,baz=206,slow=5.9,SNR=4.1						
MKAR	**Makanchi Array**	**160.37**	**56**	PKP	**PKPdf**	**21 46 29.2**	**-0.6**
	0.7nm,1.1s,baz=29,slow=3.3,SNR=3.5						
MKAR				PKPab	**PKPab**	**21 47 10.8**	**-0.1**
	1.5nm,0.7s,baz=294,slow=4.5,SNR=16						
SONM	**Songino Array**	**170.23**	**359**	PKPab	**PKPab**	**21 47 52.2**	**-1.9**
	0.4nm,0.8s,baz=163,slow=1.5,SNR=2.4						
SONM				pPKPab	**pPKPab**	**21 48 01.2**	**+1.0**
	0.6nm,0.8s,baz=250,slow=3.0,SNR=3.3						

IDC 28 21:28:15.5±9.8, 5°.57S×154°.62E, h361km±89km, mb3.0/5, mb1 3.2/5, mb1mx3.0/17, mbtmp3.7/5, Error ellipse: s-maj=71.4km s-min=29.6km az=102.0,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.35**	**232**	P	P	21 33 02.2	-0.1
	0.6nm,0.3s,baz=54,slow=9.4,SNR=7.6						
WRA				PcP	PcP	21 36 31.5	+0.7
	0.4nm,0.8s,baz=56,slow=2.9,SNR=4.3						
ASAR	**Alice Springs**	**26.86**	**226**	P	P	21 33 24.4	-0.2
	0.6nm,0.3s,baz=55,slow=9.1,SNR=7.9						
SONM	**Songino Array**	**67.95**	**327**	P	P	21 38 37.0	+0.5
	0.3nm,0.4s,baz=111,slow=7.9,SNR=6.8						
MKAR	**Makanchi Array**	**82.10**	**319**	P	P	21 39 56.1	-0.4
	0.4nm,0.6s,baz=104,slow=6.0,SNR=4.7						
ILAR	**Eielson Array**	**82.20**	**22**	P	P	21 39 56.4	-0.2
	0.2nm,0.5s,baz=245,slow=5.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**152.27**	**288**	PKPbc	PKPbc	21 47 28.7	-1.3
	0.1nm,0.4s,baz=48,slow=1.1,SNR=7.2						

NEIC 28 21:30:29.1±1.1, 15°.91S×74°.48W, h35km, mb4.1/3, ML3.9(ARE), Error ellipse: s-maj=24.0km s-min=17.1km az=213.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.93**	**101**	*e*P	Pn	21 31 12.0	-1.6
ARE				*e*S	Sn	21 31 43.0	-4.8
LPAZ	**La Paz**	**6.12**	**94**	*e*Pn	Pn	21 31 58.8	+1.0
LVC	**Limon Verde**	**8.49**	**143**	*e*Pn	Pn	21 32 30.3	+0.3
TRQA	**Tornquist**	**24.66**	**156**	P	P	21 35 47.0	+0.4
	6.1nm,1.0s						
ANMO	**Albuquerque**	**58.99**	**330**	*e*P	P	21 40 25.7	+0.1
	0.6nm,0.5s						
SNAA	**Sanae**	**69.25**	**161**	*e*P	P	21 41 31.5	-0.7
	1.9nm,0.9s						

IDC ***28*** *21:32:25.5±0.8, 14°.26N×93°.27E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.5/26, mbtmp3.6/9, ML3.6/1, Error ellipse: s-maj=41.4km s-min=18.9km az=46.0*

ISC 28 21:32:30.5±0.9, 14°.5N±0°.1×93°.16E±0°.07, h35km, n21, σ2s41/21, mb3.6/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.83**	**54**	Pn	**Pn**	**21 34 08.6**	**+0.3**
	0.3nm,0.3s,baz=238,slow=15,SNR=11						
CMAR				Sn	**Sn**	**21 35 21.0**	**-3.9**
	0.2nm,0.3s,baz=243,slow=25,SNR=4.2						
VIS	**Vishakhapatnam**	**9.99**	**290**	*i* P	Pn	21 34 54.8	+3.1
VIS				*i* S	**Sn**	**21 36 37.9**	**-4.8**
VIS				*i* S	**Sn**	**21 36 38.7**	**-4.0**
VIS				*ex*	x	21 36 41.1	
	comp=E,16nm,0.3s						
VIS				*ex*	x	21 36 42.1	
	comp=N,35nm,0.4s						
ODAN	**Odare**	**13.47**	**337**	*e*P	**Pn**	**21 35 41.3**	**+1.8**
	comp=N,9.8nm,0.4s						
TAPN	**Taplejung**	**13.81**	**339**	*e*P	**Pn**	**21 35 46.0**	**+1.9**
RAMN	**Ramite**	**13.87**	**335**	*e*P	**Pn**	**21 35 46.9**	**+2.0**
JIRN	**Jiri**	**14.66**	**335**	*e*P	**Pn**	**21 35 57.8**	**+2.0**
PKI	**Pulchoki**	**14.92**	**332**	*e*P	**Pn**	**21 36 01.1**	**+1.8**
PKIN	**Phulchoki**	**14.93**	**332**	*e*P	**P**	**21 36 01.8**	**-2.8**
GKN	**Gorkha**	**15.64**	**331**	*e*P	**P**	**21 36 10.2**	**-2.2**
KOLN	**Koldanda**	**15.96**	**328**	*e*P	**P**	**21 36 16.5**	**+0.5**
H08S3	**Diego Garcia H**	**30.03**	**224**	T	T	22 10 33.3	
	baz=43						
H08S2	**Diego Garcia H**	**30.04**	**224**	T	T	22 10 32.0	
	baz=43,slow=74						
H08S1	**Diego Garcia H**	**30.05**	**224**	T	T	22 10 35.1	
	baz=43,slow=74						
MKAR	**Makanchi Array**	**33.51**	**346**	P	**P**	**21 39 09.2**	**+2.5**
	comp=N,0.2nm,0.5s,baz=159,slow=9.0,SNR=2.8						
GEYT	**Alibeck**	**38.83**	**314**	P	P	21 39 55.3	+2.9
	comp=N,0.4nm,0.4s,baz=154,slow=8.0,SNR=2.6						
WRA	**Warramunga Arr**	**52.99**	**129**	P	**P**	**21 41 42.5**	**-1.7**
	comp=N,0.7nm,0.9s,baz=315,slow=8.1,SNR=5.5						
WRA				PcP	**PcP**	**21 42 52.5**	**-0.1**
	comp=N,0.5nm,0.5s,baz=322,slow=3.0,SNR=14						
ASAR	**Alice Springs**	**54.97**	**133**	P	**P**	**21 41 57.1**	**-1.5**
	comp=N,0.2nm,0.4s,baz=312,slow=7.3,SNR=3.9						
ASAR				PcP	**PcP**	**21 43 00.1**	**-0.1**
	comp=N,0.3nm,0.5s,baz=308,slow=3.6,SNR=5.2						
FINES	**FINESS Array B**	**66.50**	**331**	P	**P**	**21 43 17.1**	**+0.6**
	comp=N,1.0nm,0.6s,baz=106,slow=7.4,SNR=6.7						
GERES	**GERESS Array B**	**72.35**	**317**	P	**P**	**21 43 54.6**	**+1.6**
	comp=N,0.6nm,0.7s,baz=90,slow=6.7,SNR=5.9						
NOA	**NORSAR Array B**	**73.58**	**330**	P	**P**	**21 44 00.3**	**+0.3**
	comp=N,0.5nm,0.7s,baz=94,slow=5.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**88.17**	**283**	P	**P**	**21 45 20.7**	**+2.1**
	comp=N,0.5nm,0.7s,baz=93,slow=3.5,SNR=4.4						

IDC ***28*** *21:38:28.6±0.3, 35°.40S×73°.11W, h0km, mb4.9/28, mb1 4.9/30, mb1mx4.9/30, mbtmp4.9/30, ML4.4/2, MS5.7/17, Ms1 5.7/17, ms1mx5.6/22, Error ellipse: s-maj=15.2km s-min=11.1km az=92.0*
NEIC ***28*** *21:38:28.0, 35°.39S×73°.39W, h30km, mb5.5/130, MS5.8/190, MW6.0, ML5.9(GUC), Moment Tensor Solution. s20 Moment tensor: Scale 10^18 Nm; Mrr0.70; Mθθ0.43; Mφφ-1.13; Mrθ0.02; Mθφ-0.17; Mφr-0.67; Best double couple: M0 1.20000×10^18 NP1:φs177.00000°, δ64.00000°, λ80.00000°. NP2:φs20.00000°, δ28.00000°, λ110.00000°. Principal axes: T 0.9300, Plg69.0000°, Azm65.0000°; N 0.4300, Plg9.0000°, Azm182.0000°; P -1.3600, Plg17.0000°, Azm275.0000°; After GUC.*
NEIC Felt [IV] at Chiguayante, Constitucion and Longavi; [III] at Chillan, Concepcion, Cauquenes, Curico, Licanten, Linares, Parral, Retiro and Talca; [II] at Pencahue and Santiago. Also felt at Angol, Graneros, Penco, Puente Alto, Rengo, San Clemente, San Vicente and Talcahuano.
GUC ***28*** *21:38:28.6±0.6, 35°.39S×73°.39W, h30km±6km, ML5.9, MS5.8*
GCMT ***28*** *21:38:28.0±0.1, 35°.56S×73°.44W, h12km, MW6.0/124, Moment Tensor Solution. s115,c220; s124,c365; Duration: 2s3 Moment tensor: Scale 10^18 Nm; Mrr0.51±.01; Mθθ0.02±.00; Mφφ-0.53±.01; Mrθ-0.06±.01; Mθφ-0.16±.00; Mφr-0.96±.01; Best double couple: M0 1.10700×10^18 NP1:φs185.00000°, δ75.00000°, λ84.00000°. NP2:φs28.00000°, δ16.00000°, λ112.00000°. Principal axes: T 1.0840, Plg59.0000°, Azm87.0000°; N 0.0460, Plg6.0000°, Azm186.0000°; P -1.1300, Plg30.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***28*** *21:38:31.4±0.1, 35°.39S±0°.03×73°.03W±0°.03, h24km, mb5.3/157, MS5.8/224 Error ellipse: s-maj=4.2km s-min=3.8km az=139.2*
MOS ***28*** *21:38:33.6±1.4, 35°.31S×73°.43W, h33km, mb5.6/56, MS5.8/45, Error ellipse: s-maj=17.8km s-min=7.8km az=98.5*
BJI ***28*** *21:38:33.4, 35°.44S×72°.86W, h29km, mB5.8/44, Ms6.1/56, Ms7 6.0/57*

ISC 28 21:38:33.0±0.4, 35°.44S±0°.03×73°.13W±0°.04, h27km±2km, h27km: pP-P, n1115, σ1s61/1064, mb5.5/156, MS5.8/224, 239C-198D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.22**	**88**	*e*P	**Pn**	**21 38 53.0**	**-1.2**
TALC				*e*S	**Sb**	**21 39 11.8**	**+1.1**
LNCH	**Linares**	**1.31**	**109**	*e*P	**Pn**	**21 38 54.9**	**-0.5**
LNCH				*i* S	**Sb**	**21 39 14.4**	**+1.2**
LNCH				AML	AML	21 39 22.9	
	comp=N,179μm,0.6s						
CCSP	**San Pedro de C**	**1.40**	**179**	*e*P	**Pn**	**21 38 54.0**	**-2.7**
CCSP				*e*S	**Sn**	**21 39 12.7**	**-1.6**
NICH	**Los Niches**	**1.61**	**75**	*e*P	**Pn**	**21 38 59.0**	**-0.6**
NICH				*e*S4	**Sn**	**21 39 24.5**	**+5.0**
NICH				AML	AML	21 39 35.8	
	comp=N,216μm,0.6s						
RCDM	**Rinconada Maip**	**2.73**	**45**	*e*P	**Pn**	**21 39 13.2**	**-1.8**
FSR	**Penalolen**	**2.91**	**48**	*e*P4	Pn	21 39 21.8	+4.3
CLCH	**Cerro Calan**	**2.96**	**47**	*e*P4	**Pn**	**21 39 18.1**	**-0.1**
CLCH				AML	AML	21 40 19.0	
	comp=E,50μm,0.7s						
ROCH	**El Roble**	**3.02**	**36**	*e*P	**Pn**	**21 39 17.2**	**-2.0**
ROCH				AML	AML	21 40 24.3	
	comp=E,29μm,0.8s						
YECH	**El Yeso**	**3.07**	**56**⇑	*e*P	**Pn**	**21 39 19.7**	**-0.3**
YECH				*e*S4	Sn	21 40 03.5	+7.5
YECH				AML	AML	21 40 19.6	
	comp=E,13μm,0.5s						
FCH	**Farellones**	**3.15**	**49**	*e*P9	Pn	21 39 17.6	-3.5
FCH				*e*S	**Sn**	**21 39 56.6**	**-1.4**
VLCH	**Valdivia**	**4.36**	**181**	*e*P1	**Pn**	**21 39 34.2**	**-3.1**
CMCH	**Combarbala**	**4.61**	**23**	*e*P	**Pn**	**21 39 38.1**	**-2.9**
OSCH	**Osorno**	**5.13**	**180**	*e*P1	**Pn**	**21 39 45.8**	**-2.1**
CFAA	**Coronel Fontan**	**5.59**	**48**	Pn	**Pn**	**21 39 53.5**	**-1.0**
	comp=E,3.2nm,0.3s,baz=231,slow=15,SNR=122						
CFAA				Sn	**Sn**	**21 40 57.9**	**0.0**
	comp=E,2.8nm,0.3s,baz=223,slow=17,SNR=3.1						
CFAA				Lg	Lg	21 41 19.8	
	comp=E,4.4nm,0.3s,baz=116,slow=23,SNR=7.4						
CFAA				LR	LR	21 42 14.3	
	comp=E,12μm,18.8s,baz=234,slow=41						
PLCA	**Paso Flores**	**5.66**	**160**	*e*P	**Pn**	**21 39 52.2**	**-3.1**
PLCA				*e*		21 40 58.0	
PLCA	**Paso Flores**	**5.66**	**160**	*e*Pn	**Pn**	**21 39 52.2**	**-3.1**
PLCA				*e*Sn	**Sn**	**21 40 58.0**	**-1.5**
LCO	**Las Campanas**	**6.73**	**18**	*e*P4	Pn	21 40 06.7	-3.5
LCO	**Las Campanas**	**6.73**	**18**	*e*Pn	Pn	21 40 06.0	-4.3
CPCH	**Copiapo**	**8.40**	**17**	*e*P4	Pn	21 40 27.9	-5.0
TRQA	**Tornquist**	**9.32**	**110**	*e*Pn	Pn	21 40 42.1	-3.4
TRQA				*e*Sn	**Sn**	**21 42 32.9**	**+3.5**
COYC	**Coyhaique**	**10.15**	**176**	*e*P4	**Pn**	**21 40 56.5**	**-0.3**
COYC				AMS	AMS	21 45 05.9	
	comp=E,123μm,18.4s						
CHRN	**Cochrane**	**11.70**	**179**	*e*P4	**Pn**	**21 41 18.7**	**+0.8**
LVC	**Limon Verde**	**13.30**	**17**	*e*Pn	Pn	21 41 35.5	-4.7
LVC				*e*Sn	Sn	21 44 00.6	-6.8
EFI	**East Falkland**	**19.49**	**151**	P	**Pn**	**21 42 58.9**	**-0.1**
	comp=E,838nm,0.6s,SNR=10						
EFI	**East Falkland**	**19.49**	**151**⇓	*i* P	**P**	**21 42 58.3**	**+0.6**
EFI				pmax	pmax		
	comp=Z,211nm,1.0s						
EFI				MLR	MLR		
	comp=Z,98μm,17.0s						
EFI	**East Falkland**	**19.49**	**151**	*e*P	**P**	**21 42 58.3**	**+0.6**
	comp=Z,154nm,0.9s						
LPAZ	**La Paz**	**19.59**	**14**	*e*P	P	21 42 53.8	-5.9
LPAZ				pmax	pmax		
	comp=Z,126nm,1.0s						
LPAZ	**La Paz**	**19.59**	**14**	P	**P**	**21 43 00.2**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=191,slow=6.9,SNR=27						
LPAZ	**La Paz**	**19.59**	**14**	*e*Pn	P	21 42 53.8	-5.9
	comp=Z,126nm,1.0s						
USHA	**Ushuaia**	**19.66**	**172**	P	**Pn**	**21 43 01.9**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=325,slow=7.0,SNR=23						
USHA				LR	LR	21 51 26.6	
	comp=Z,29μm,18.0s,baz=328,slow=40						
SIV	**San Ignacio**	**22.17**	**32**	P	**P**	**21 43 25.4**	**-1.5**
	comp=Z,33nm,0.7s,baz=229,slow=10,SNR=56						
SIV				LR	LR	21 53 49.0	
	comp=Z,78μm,18.2s,baz=229,slow=42						
SAML	**Samuel**	**27.89**	**21**	*e*P	**P**	**21 44 18.0**	**-2.6**
	comp=Z,422nm,2.4s						
SAML				*e*S	**S**	**21 48 57.9**	**-4.7**
SAML				LR	LR		
	comp=Z,9μm,22.0s						
ATAH	**Atahualpa**	**28.58**	**349**	P	**P**	**21 44 26.4**	**-0.9**
	comp=Z,7.4nm,0.7s,baz=170,slow=12,SNR=7.3						
ATAH				LR	LR	21 53 35.9	
	comp=Z,8μm,19.9s,baz=188,slow=32						
PMSA	**Palmer Station**	**29.88**	**172**	LR	LR	21 56 49.7	
	comp=Z,34μm,18.3s,baz=342,slow=37						
BDFB	**Brasilia**	**29.89**	**55**	P	**P**	**21 44 37.0**	**-1.5**
	comp=Z,52nm,1.0s,baz=226,slow=8.4,SNR=37						
BDFB				LR	LR	21 58 14.7	
	comp=Z,43μm,18.7s,baz=224,slow=40						
HOPE	**Hope Point**	**31.59**	**138**	PFAKE		21 45 00.0	+7.0
HOPE				LR	LR		
	comp=Z,15μm,19.0s						
OTAV	**Otavalo**	**35.84**	**351**	*e*P	P	21 45 25.3	-5.5
	comp=Z,125nm,1.4s						
OTAV				LR	LR	

comp=Z,236nm,1.1s
SNAA LR LR
comp=Z,10μm,19.0s
ZAM Aeronautique 51.04 15 *e*P **P 21 47 31.5 -1.3**
MVM Montagne Vaucl 51.05 15 *e*P **P 21 47 31.8 -1.1**
LPMF Morne Lapointe 51.06 15 *e*P P 21 47 38.8 +5.9
FDF Fort de France 51.17 15 *e*P **P 21 47 32.9 -0.9**
FDF pmax pmax
comp=Z,166nm,0.8s
FDF Fort de France 51.17 15 *e*P **P 21 47 32.9 -0.9**
FDF Fort de France 51.17 15 *e*P **P 21 47 32.9 -0.9**
comp=Z,166nm,0.8s
BVM Bellevue 51.19 15 *e*P P 21 47 39.8 +5.8
APG El Apazote 52.79 339 P P 21 47 40.6 -5.5
comp=Z,22nm,0.9s,baz=163,slow=9.4,SNR=16
JAKH Jacmel 53.38 1 PFAKE 21 48 00.0 +10
JAKH LR LR
comp=Z,6μm,20.9s
CRPR Cabo Rojo, PR 53.46 7 *e*P **P 21 47 50.0 -0.6**
comp=Z,64nm,0.9s
CRPR LR LR
comp=Z,4μm,19.4s
CDVI St. Croix 53.49 10 PFAKE 21 48 00.0 +9.1
CDVI LR LR
comp=Z,10μm,19.4s
SEUS St. Eustatius 53.52 12 PFAKE 21 48 00.0 +8.9
SEUS LR LR
comp=Z,14μm,18.0s
MTDJ Mount Denham 53.53 355 PFAKE 21 48 00.0 +8.6
MTDJ LR LR
comp=Z,5μm,22.0s
OBIP Obispado Ponce 53.55 8 *e*P **P 21 47 51.0 -0.3**
comp=Z,79nm,0.9s
CELP Cerrillos 53.58 8 *e*P **P 21 47 51.1 -0.5**
LGNH LOogne 53.66 1 PFAKE 21 48 00.0 +7.9
LGNH LR LR
comp=Z,4μm,20.4s
MPR Mayaguez 53.66 7 PFAKE 21 48 00.0 +7.9
MPR LR LR
comp=Z,4μm,19.3s
MTP Monte Pirata 53.73 9 PFAKE 21 48 00.0 +7.4
MTP LR LR
comp=Z,15μm,18.6s
HUMP Col San Antoni 53.73 9 PFAKE 21 48 00.0 +7.3
HUMP LR LR
comp=Z,14μm,19.5s
LRS Lares 53.77 7 *e*P **P 21 47 52.1 -0.9**
AOPR Arecibo Observ 53.83 8 PFAKE 21 48 00.0 +6.5
AOPR LR LR
comp=Z,7μm,21.1s
AGP Aguadilla 53.85 7 PFAKE 21 48 00.0 +6.4
AGP LR LR
comp=Z,8μm,19.5s
CBYP Canovanas 53.86 9 *e*P **P 21 47 54.6 +0.9**
comp=Z,89nm,1.1s
CBYP LR LR
comp=Z,13μm,19.4s
ANWB Willy Bob 53.90 13 *e*P **P 21 47 53.3 -0.6**
comp=Z,128nm,0.8s
ANWB LR LR
comp=Z,8μm,18.0s
SMRT St. Maarten 54.05 12 PFAKE 21 48 00.0 +5.0
SMRT LR LR
comp=Z,9μm,18.4s
STVI Saint Thomas 54.05 10 PFAKE 21 48 00.0 +5.0
STVI LR LR
comp=Z,12μm,18.1s
SMN1 Samana, DR 54.45 4 *e*P P 21 47 53.0 -5.0
RKT Rikitea 54.54 265 *e*S **S 21 55 34.7 -1.8**
comp=Z,4μm,26.2s
RKT *e*SS **SS 21 59 19.5 +0.4**
comp=Z,1μm,29.8s
RKT *e*LR LR 22 03 43.0
comp=Z,8μm,29.2s,baz=123
RKT Rikitea 54.54 265 *e*T T 22 46 28.0
comp=Z,1.6nm,0.2s
QSPA South Pole Qui 54.80 180 P **P 21 48 00.7 +0.6**
comp=Z,41nm,1.0s,baz=133,slow=4.5,SNR=37
QSPA LR LR 22 09 54.7
comp=Z,6μm,19.6s,baz=162,slow=34
QSPA South Pole Qui 54.80 180 *e*P **P 21 48 00.8 +0.6**
comp=Z,152nm,1.0s
GTBY Guantanamo Bay 55.09 358 PFAKE 21 48 10.0 +7.4
GTBY LR LR
comp=Z,4μm,19.0s
NVL N'lazarevskaya 55.36 156 *e*P **P 21 48 03.5 -0.5**
NVL *e*S **S 21 55 42.4 -3.8**
NVL *e* 21 57 50.9
NVL *e*SS **SS 21 59 28.0 -2.2**
NVL *e*SSS SSS 22 01 34.3
NVL pmax pmax
comp=Z,75nm,0.9s
NVL MLR MLR
comp=Z,3μm,14.0s
CMIG Matias Romero 56.17 335 P **P 21 48 09.9 -0.5**
comp=Z,12nm,1.1s,baz=135,slow=5.3,SNR=9.1
GRTK Grand Turk 56.67 2 PFAKE 21 48 20.0 +6.2
GRTK LR LR
comp=Z,4μm,19.0s
TEIG Tepich 57.20 343 *e*P **P 21 48 17.2 -0.3**
comp=Z,80nm,1.0s
TEIG LR LR
comp=Z,3μm,20.0s
SBA Scott Base 61.48 192 *e*P **P 21 48 48.3 +1.7**
SBA pmax pmax
comp=Z,36nm,1.1s
SBA MLR MLR
comp=Z,6μm,18.0s
SBA Scott Base 61.48 192 *e*P **P 21 48 48.3 +1.7**
comp=Z,36nm,1.1s
SBA LR LR
comp=Z,6μm,18.0s
VNDA Vanda 62.52 192 *e*P **P 21 48 54.9 +1.4**
VNDA pmax pmax
comp=Z,28nm,1.1s
VNDA MLR MLR
comp=Z,6μm,18.0s
VNDA Vanda 62.52 192 P **P 21 48 54.4 +0.9**
comp=Z,3.1nm,0.9s,baz=128,slow=5.7,SNR=9.5
VNDA Vanda 62.52 192 *e*P **P 21 48 54.9 +1.4**
comp=Z,28nm,1.1s
VNDA LR LR
comp=Z,6μm,18.0s
SYO Syowa Base 64.86 158⇑ *e*P P 21 49 01.8 -7.2
SYO Syowa Base 64.86 158⇑ /X **P 21 49 08.0 -1.0**
TBI Tubuai 66.12 258 *e*P **P 21 49 19.7 +1.7**
comp=Z,77nm,1.0s
TBI *e*S **S 21 58 04.1 -0.8**
comp=Z,11μm,27.5s
TBI Tubuai 66.12 258 *e*LR LR 22 09 22.4
comp=Z,13μm,27.5s,baz=120
TBI Tubuai 66.12 258 *e*T T 23 00 57.9
comp=Z,4.3nm,0.3s
034A Hebbronville 66.69 335 ⇓P **P 21 49 21.9 +0.5**
baz=67
934A Benavides 67.13 336 ⇑P **P 21 49 25.3 +1.1**
baz=67
TIGA Tifton 67.25 350 ⇓P **P 21 49 25.8 +1.1**
baz=68
BRAL Brewton 67.39 347 PFAKE 21 49 30.0 +4.4
BRAL LR LR
comp=Z,3μm,20.3s
933A Laredo 67.40 335 ⇓P **P 21 49 26.9 +1.1**
baz=68
835A Beeville 67.54 336 ⇑P **P 21 49 27.8 +1.2**
baz=68
834A Tilden 67.63 336 ⇑P **P 21 49 28.1 +0.9**
baz=68
MEH Mehetia 67.78 263 *e*T T 23 03 00.5
comp=Z,36nm,0.2s
735A Kenedy 68.06 337 ⇑P **P 21 49 30.8 +0.9**
baz=68
833A Chaparral WMA, 68.09 335 ⇑P **P 21 49 30.9 +0.7**
baz=68,SNR=8.7
832A Faith Ranch, C 68.26 335 ⇓P **P 21 49 32.4 +1.1**
baz=68,SNR=10
734A La Parita Cree 68.29 336 ⇑P **P 21 49 33.0 +1.6**
baz=68
636A Smothers Creek 68.40 338 ⇑P **P 21 49 33.0 +0.9**
baz=69
733A Divot King Ran 68.42 335 ⇓P **P 21 49 33.1 +0.9**
baz=69
HKT Hockley 68.47 339 *e*P **P 21 49 32.5 +0.1**
HKT pmax pmax
comp=Z,78nm,1.7s
HKT Hockley 68.47 339 *e*P **P 21 49 32.5 +0.1**
comp=Z,78nm,1.7s

NHSC New Hope 68.51 354 PFAKE 21 49 40.0 +7.4
NHSC LR LR
comp=Z,6μm,22.0s
635A Leesville 68.54 337 ⇓P **P 21 49 34.3 +1.4**
baz=69
538A Harpers Horsep 68.62 339 ⇑P **P 21 49 35.6 +2.2**
baz=69
732A Laxson Ranch, 68.67 335 ⇓P **P 21 49 35.2 +1.4**
baz=69,SNR=6.7
634A China Grove, S 68.72 336 ⇑P **P 21 49 34.8 +0.8**
baz=69
537A Green Hill Far 68.73 339 ⇓P **P 21 49 35.1 +1.0**
baz=69
TVO Taravao 68.79 263 *e*T T 23 04 16.3
comp=Z,1.8nm,0.2s
536A Bastrop 68.96 338 ⇓P **P 21 49 36.6 +1.1**
baz=69
TIAR Tiarei 68.98 263 *e*P **P 21 49 38.6 +2.5**
comp=Z,16nm,1.0s
TIAR Tiarei 68.98 263 *e*T T 23 04 30.7
comp=Z,7.5nm,0.2s
633A Saathoff Ranch 69.06 336 ⇓P **P 21 49 37.4 +1.2**
baz=69
535A Dale 69.07 337 ⇓P **P 21 49 37.3 +1.1**
baz=69
438A Sam Houston St 69.11 339 ⇑P **P 21 49 38.4 +1.9**
baz=69
PAE Paea 69.12 263 *e*P **P 21 49 39.0 +2.1**
comp=Z,7.0nm,0.9s
PAE Paea 69.12 263 *e*T T 23 04 41.0
comp=Z,1.1nm,0.3s
PPT2 Papeete2 69.15 263 *e*P **P 21 49 39.3 +2.0**
comp=Z,77nm,1.1s
PPT2 *e*S **S 21 58 40.2 -1.3**
comp=Z,9μm,26.2s
PPT2 Papeete2 69.15 263 *e*LR LR 22 10 38.2
comp=Z,14μm,26.0s,baz=119
PPT2 Papeete2 69.15 263 *e*T T 23 04 43.0
comp=Z,2.3nm,0.3s
PPT Papeete 69.16 263 P **P 21 49 37.6 +0.3**
comp=Z,41nm,1.0s,baz=176,slow=3.2,SNR=3.1
PPT LR LR 22 12 10.6
comp=Z,5μm,18.5s,baz=118,slow=29
GOGA Godfrey 69.17 351 *e*P **P 21 49 35.6 -1.2**
GOGA pmax pmax
comp=Z,264nm,2.3s
GOGA MLR MLR
comp=Z,3μm,20.0s
GOGA Godfrey 69.17 351 *e*P **P 21 49 35.6 -1.2**
comp=Z,264nm,2.3s
GOGA LR LR
comp=Z,3μm,20.0s
340A Bronson 69.31 341 ⇓P **P 21 49 38.7 +1.1**
baz=70
632A Uvalde 69.31 335 ⇓P **P 21 49 38.3 +0.5**
baz=70,SNR=8.3
LRAL Lakeview Retre 69.35 348 *e*P **P 21 49 37.8 -0.1**
comp=Z,170nm,2.1s
LRAL LR LR
comp=Z,3μm,20.0s
534A Blanco 69.36 337 ⇑P **P 21 49 38.6 +0.6**
baz=70
437A Phantom Ranch, 69.38 339 ⇑P **P 21 49 39.1 +1.0**
baz=70
339A Huntington 69.41 340 ⇓P **P 21 49 39.5 +1.2**
baz=70
631A Perdido Creek 69.50 335 ⇓P **P 21 49 39.5 +0.5**
baz=70,SNR=5.8
436A Wall Ranch, Ga 69.52 338 ⇑P **P 21 49 39.7 +0.7**
baz=70
533A Kerrville 69.58 336 ⇓P **P 21 49 40.2 +0.7**
baz=70
338A Crockett 69.64 340 ⇓P **P 21 49 41.2 +1.5**
baz=70
337A Centerville 69.77 339 ⇓P **P 21 49 41.5 +1.0**
baz=70
435B Jarrell 69.78 338 ⇑P **P 21 49 41.7 +1.1**
baz=70
532A Rocksprings 69.92 335 ⇓P **P 21 49 42.3 +0.7**
baz=70,SNR=14
434A Burnet 70.02 337 ⇑P **P 21 49 42.6 +0.5**
baz=70,SNR=12
239A Gary 70.03 341 ⇓P **P 21 49 42.6 +0.5**
baz=70
336A Riesel 70.11 339 ⇑P **P 21 49 43.2 +0.6**
baz=70
531A Rocksprings 70.18 335 ⇑P **P 21 49 44.0 +0.8**
baz=70,SNR=11
335A Moody 70.19 338 ⇑P **P 21 49 43.5 +0.4**
baz=70
JCT Junction City 70.21 336 *e*P **P 21 49 43.2 -0.1**
JCT pmax pmax
comp=Z,80nm,1.1s
JCT MLR MLR
comp=Z,2μm,21.0s
JCT Junction City 70.21 336 ⇑P **P 21 49 43.3 -0.1**
baz=70,SNR=7.5
JCT Junction City 70.21 336 *e*P **P 21 49 43.2 -0.1**
comp=Z,80nm,1.1s
JCT LR LR
comp=Z,2μm,21.0s
433A Art 70.23 336 ⇓P **P 21 49 43.6 +0.2**
baz=70
237A Washetta, Mont 70.39 340 ⇑P **P 21 49 45.0 +0.7**
baz=71
530A J-C Ranch, Com 70.44 334 ⇓P **P 21 49 45.6 +0.8**
baz=71,SNR=16
CNNC Cliffs of the 70.46 356 PFAKE 21 49 50.0 +5.4
CNNC LR LR
comp=Z,2μm,20.0s
334A Lometa 70.49 337 ⇓P **P 21 49 45.6 +0.6**
baz=71,SNR=5.4
TX31 Lajitas Ar. Si 70.57 332 *e*P **P 21 49 44.9 -0.7**
TXAR Lajitas Array 70.57 332 P **P 21 49 45.5 -0.1**
comp=Z,4.0nm,0.5s,baz=152,slow=8.7,SNR=49
TXAR LR LR 22 16 05.7
comp=Z,5μm,18.1s,baz=0.0,slow=32
432A Menard 70.57 336 ⇑P **P 21 49 46.2 +0.7**
baz=71
KMSC Kings Mountain 70.64 353 ⇓P **P 21 49 46.8 +1.0**
baz=71
KMSC Kings Mountain 70.64 353 *e*P **P 21 49 45.8 +0.1**
comp=Z,28nm,0.8s
KMSC LR LR
comp=Z,6μm,21.5s
431A Sonora 70.67 335 ⇑P **P 21 49 47.0 +0.8**
baz=71
333A Richland Sprin 70.72 337 ⇓P **P 21 49 46.1 -0.3**
baz=71,SNR=8.2
529A Stev Forest Ra 70.73 333 ⇑P **P 21 49 46.6 0.0**
baz=71,SNR=18
138A Matatall Enter 70.81 340 ⇑P **P 21 49 47.3 +0.5**
baz=71
WHTX Lake Whitney, 70.86 338 ⇓P **P 21 49 48.1 +0.9**
baz=71
WHTX Lake Whitney, 70.86 338 *e*P P 21 49 40.9 -6.3
comp=Z,80nm,1.1s
137A Heron Place, G 70.93 340 ⇑P **P 21 49 48.2 +0.6**
baz=71
430A Baggett Ranch, 70.98 335 ⇑P **P 21 49 48.7 +0.7**
baz=71,SNR=11
332A Millersview 71.02 336 ⇑P **P 21 49 48.7 +0.4**
baz=71,SNR=6.7
429A Davenport Ranc 71.07 334 ⇑P **P 21 49 48.9 +0.3**
baz=71,SNR=10
234A Clairette 71.08 338 ⇓P **P 21 49 49.4 +0.8**
baz=71,SNR=5.9
331A San Angelo 71.18 335 ⇑P **P 21 49 49.1 -0.2**
baz=71,SNR=8.3
OXF Oxford 71.24 346 *e*P **P 21 49 49.5 +0.1**
OXF pmax pmax
comp=Z,89nm,1.0s
OXF Oxford 71.24 346 *e*P **P 21 49 49.5 +0.1**
comp=Z,89nm,1.0s
SWET Sewanee 71.30 349 *e*P **P 21 49 49.7 -0.1**
CPCT Cooper Cave 71.32 350 *e*P P 21 49 53.2 +3.3
233A Rising Star 71.33 337 ⇓P **P 21 49 50.6 +0.5**
baz=72,SNR=5.4
135A Vickery Place, 71.37 339 ⇑P **P 21 49 50.6 +0.3**
baz=72
TKL Tuckaleechee C 71.43 351 *e*P **P 21 49 50.1 -0.5**
TKL Tuckaleechee C 71.43 351 P **P 21 49 49.7 -0.9**
comp=Z,8.9nm,0.8s,baz=164,slow=7.3,SNR=7.3
TKL Tuckaleechee C 71.43 351 *e*P **P 21 49 50.1 -0.5**
232A Coleman 71.45 336 ⇑P **P 21 49 51.2 +0.3**
baz=72
330A Mertzon 71.53 335 ⇑P **P 21 49 51.6 +0.2**
baz=72,SNR=6.4

134A White-Moore Ra 71.59 338 ⇓P **P 21 49 52.0 +0.4**
baz=72
231A Bronte 71.72 336 ⇓P **P 21 49 52.5 0.0**
baz=72,SNR=9.6
329A Wagon Wheel Ra 71.88 334 ⇑P **P 21 49 54.3 +0.8**
baz=72,SNR=8.3
133A Hamilton Ranch 71.88 337 ⇑P **P 21 49 53.3 -0.1**
baz=72,SNR=8.3
230A Sterling City 71.94 335 ⇓P **P 21 49 54.1 +0.3**
baz=72
Z35A Perchaven, San 72.05 339 ⇑P **P 21 49 54.8 +0.4**
baz=72
MAW Mawson 72.05 164 *e*P **P 21 49 56.7 +2.7**
MAW pmax pmax
comp=Z,24nm,1.2s
MAW Mawson 72.05 164 P **P 21 49 52.7 -1.4**
comp=Z,27nm,0.9s,baz=246,slow=11,SNR=4.4
MAW LR LR 22 22 35.2
comp=Z,14μm,18.4s,baz=230,slow=37
MAW Mawson 72.05 164 *e*P **P 21 49 56.6 +2.7**
comp=Z,24nm,1.2s
ABTX Abilene, Hawle 72.13 337 ⇑P **P 21 49 55.4 +0.5**
baz=72,SNR=6.9
ABTX Abilene, Hawle 72.13 337 *e*P **P 21 49 54.6 -0.3**
comp=Z,66nm,1.0s
ABTX LR LR
comp=Z,2μm,18.8s
MIAR Mount Ida 72.20 342 *e*P **P 21 49 55.3 +0.1**
MIAR Mount Ida 72.20 342 *e*P **P 21 49 55.3 +0.1**
229A Bryant Ranch, 72.26 335 ⇑P **P 21 49 56.4 +0.7**
baz=72
TZTN Tazewell 72.27 351 *e*P **P 21 49 57.9 +2.2**
comp=Z,138nm,1.8s
TZTN LR LR
comp=Z,4μm,20.3s
Z34A Collier Ranch, 72.28 338 ⇓P **P 21 49 56.5 +0.7**
baz=72
131A Roby 72.42 336 ⇓P **P 21 49 57.3 +0.6**
baz=73
Z33A Whitaker Ranch 72.47 338 ⇑P **P 21 49 57.4 +0.5**
baz=73
WVT Waverly 72.51 348 *e*P **P 21 49 55.8 -1.2**
WVT pmax pmax
comp=Z,99nm,1.0s
WVT Waverly 72.51 348 *e*P **P 21 49 55.8 -1.2**
comp=Z,99nm,1.0s
130A Snyder 72.54 336 ⇑P **P 21 49 57.8 +0.4**
baz=73
HALT Halls 72.58 346 *e*P P 21 49 51.7 -5.7
VWCC Virginia Weste 72.60 354 *e*P **P 21 49 57.9 +0.4**
VWCC *e*pP **pP 21 50 04.6 -1.6**
228A UT Block 9, Go 72.67 334 ⇑P **P 21 49 59.0 +0.8**
baz=73,SNR=6.4
Z32A Haskell 72.71 337 ⇓P **P 21 49 59.0 +0.7**
baz=73,SNR=10
Y34A Reagan Ranch, 72.78 339 ⇑P **P 21 49 59.0 +0.3**
baz=73
129A Stewart Farms, 72.88 335 ⇑P **P 21 49 59.4 -0.1**
baz=73
JSRW J. Sargeant Re 72.90 356 *e*P **P 21 49 59.9 +0.6**
Z31A Sharp Cattle R 72.93 337 ⇑P **P 21 50 00.2 +0.5**
baz=73,SNR=9.5
128A Castleberry Fa 73.09 334 ⇓P **P 21 50 01.0 +0.4**
baz=73,SNR=7.7
Y33A Hilltop Ranch, 73.09 338 ⇑P **P 21 50 01.6 +1.0**
baz=73
Z30A Sanderson Ranc 73.23 336 ⇓P **P 21 50 01.4 0.0**
baz=73,SNR=7.8
Y32A R-V Farms, Ver 73.34 337 ⇑P **P 21 50 02.9 +0.8**
baz=74
Z29A Hungry Hill Ra 73.40 335 ⇑P **P 21 50 02.7 +0.2**
baz=74,SNR=5.8
X34A Smith Ranch, M 73.41 339 ⇓P **P 21 50 03.4 +1.0**
baz=74
X33A Lawton 73.55 338 ⇑P **P 21 50 03.8 +0.6**
baz=74
Y31A Rekieta Farm, 73.56 337 ⇓P **P 21 50 03.9 +0.5**
baz=74
Z28A Tucker Farm, M 73.66 335 ⇓P **P 21 50 04.3 +0.2**
baz=74,SNR=6.4
X32A Elmer 73.68 338 ⇑P **P 21 50 04.6 +0.6**
baz=74
Y30A Stafford Cattl 73.69 336 ⇓P **P 21 50 04.8 +0.6**
baz=74
WMOK Wichita Mounta 73.81 338 *e*P **P 21 50 04.0 -0.8**
WMOK pmax pmax
comp=Z,35nm,1.3s
WMOK Wichita Mounta 73.81 338 *e*P **P 21 50 04.0 -0.8**
comp=Z,35nm,1.3s
Y29A Porterfield Fa 73.93 336 ⇓P **P 21 50 05.7 +0.1**
baz=74
W34A Bridge Creek, 73.98 339 ⇓P **P 21 50 06.4 +0.6**
baz=74
W34A Bridge Creek, 73.98 339 *e*P **P 21 50 05.2 -0.5**
comp=Z,77nm,1.3s
TUL1 Leonard 74.06 341 ⇑P **P 21 50 07.0 +0.8**
baz=74
TUL1 Leonard 74.06 341 *e*P **P 21 50 05.5 -0.7**
comp=Z,45nm,0.9s
X31A McDonald Ranch 74.09 337 ⇓P **P 21 50 06.4 -0.1**
baz=74
W33A Caddo, Fort Co 74.11 339 ⇓P **P 21 50 07.2 +0.7**
baz=74,SNR=6.0
Y28A McKinney Farm, 74.17 335 ⇓P **P 21 50 07.7 +0.7**
baz=74
X30A Coker Ranch, T 74.20 336 ⇓P **P 21 50 07.3 +0.2**
baz=74
V35A Meyer Ranch, C 74.21 340 ⇑P **P 21 50 07.4 +0.4**
baz=74,SNR=6.1
USIN University of 74.27 348 *e*P **P 21 50 06.5 -0.9**
comp=Z,74nm,0.9s
USIN LR LR
comp=Z,3μm,19.9s
SIUC Southern Illin 74.30 347 *e*P **P 21 50 06.6 -1.0**
comp=Z,45nm,0.9s
WCI Wyandotte Cave 74.31 349 *e*P **P 21 50 10.1 +2.5**
WCI pmax pmax
comp=Z,18nm,1.0s
WCI MLR MLR
comp=Z,3μm,20.0s
WCI Wyandotte Cave 74.31 349 *e*P **P 21 50 10.1 +2.5**
comp=Z,18nm,1.0s
WCI LR LR
comp=Z,3μm,20.0s
W32A Sentinel 74.31 338 ⇓P **P 21 50 07.8 +0.1**
baz=74,SNR=12
MSTX Muleshoe 74.41 335 ⇓P **P 21 50 08.5 +0.1**
baz=75
MSTX Muleshoe 74.41 335 *e*P **P 21 50 07.9 -0.6**
comp=Z,38nm,1.0s
MSTX LR LR
comp=Z,1μm,18.7s
X29A Tulia 74.48 336 ⇑P **P 21 50 09.2 +0.4**
baz=75
W31A Holland Ranch, 74.59 337 ⇓P **P 21 50 09.4 +0.1**
baz=75
319A Douglas 74.64 328 ⇓P **P 21 50 10.4 +0.6**
baz=75
V33A Lossen Ranch, 74.67 339 ⇓P **P 21 50 10.6 +0.8**
baz=75,SNR=6.2
X28A Dimmitt 74.71 335 ⇑P **P 21 50 11.1 +1.0**
baz=75
V32A Arapaho 74.81 338 ⇑P **P 21 50 12.0 +1.5**
baz=75
AMTX Amarillo 74.87 336 ⇑P **P 21 50 12.2 +1.2**
baz=75
AMTX Amarillo 74.87 336 *e*P **P 21 50 10.9 -0.2**
comp=Z,76nm,1.1s
AMTX LR LR
comp=Z,2μm,20.0s
SUR Sutherland 74.92 119 P **P 21 50 13.4 +1.6**
comp=Z,254nm,1.3s,SNR=5.7
SUR Sutherland 74.92 119 *e*P **P 21 50 13.4 +1.6**
comp=Z,90nm,1.3s
SUR LR LR
comp=Z,8μm,20.0s
121A Cookes Peak, D 75.02 330 ⇓P **P 21 50 12.8 +0.7**
baz=75
121A Cookes Peak, D 75.02 330 *e*P P 21 50 06.7 -5.4
comp=Z,42nm,1.0s
U34A Anderson Ranch 75.03 340 ⇑P **P 21 50 12.5 +0.7**
baz=75,SNR=5.6
U34A Anderson Ranch 75.03 340 *e*P **P 21 50 11.9 +0.1**
U34A *e*pP **pP 21 50 18.6 -2.0**
U34A LR LR
comp=Z,1μm,21.0s
W29A Amarillo 75.08 336 ⇑P **P 21 50 12.5 +0.3**
baz=75,SNR=8.1

OLIL	Olney	75.09 348	eP	P	21 50 14.5 +2.4
	comp=Z,35nm,1.1s				
V31A	Spring Creek L	75.10 338	⇓P	P	21 50 13.4 +1.1
	baz=75,SNR=5.6				
DRV	Dumont d'Urvil	75.10 193	S	SKiKP	21 59 16.0 -17
DRV			S	S	21 59 25.0 -23
DRV			SS	SS	22 04 19.0 -17
DRV			L	L	22 09 00.0
DRV			L	L	22 10 00.0
DRV			R		22 15 00.0
DRV			R		22 15 00.0
MVL	Millersville	75.13 357	eP	P	21 50 12.8 +0.5
	comp=Z,73nm,1.3s				
U33A	Lingo Farm, Me	75.19 339	⇑P	P	21 50 14.0 +1.2
	baz=75				
BLO	Bloomington	75.27 349	eP	P	21 50 11.8 -1.3
BLO			pmax	pmax	
	comp=Z,44nm,1.0s				
BLO	Bloomington	75.27 349	eP	P	21 50 11.8 -1.3
	comp=Z,44nm,1.0s				
V30A	Spur Ranch, Mi	75.35 337	⇓P	P	21 50 14.9 +1.1
	baz=76				
W28A	Vega	75.39 336	⇑P	P	21 50 15.5 +1.4
	baz=76				
RAR	Rarotonga	75.39 254	PFAKE		21 50 20.0 +5.6
RAR			LR	LR	
	comp=Z,4μm,20.0s				
U32A	Winter Ranch,	75.40 339	⇓P	P	21 50 14.8 +0.7
	baz=76				
U31A	Nine Bar Ranch	75.65 338	⇓P	P	21 50 16.6 +1.1
	baz=76				
S36A	Lake Cedric, C	75.72 342	⇓P	P	21 50 16.6 +0.9
	baz=76				
V29A	Stinnett	75.72 337	⇓P	P	21 50 16.2 +0.3
	baz=76				
W26A	Owens Ranch, T	75.77 334	⇑P	P	21 50 17.1 +0.8
	baz=76				
SSPA	Standing Stone	75.83 356	eP	P	21 50 15.7 -0.6
	comp=Z,59nm,1.4s				
SSPA			LR	LR	
	comp=Z,3μm,18.0s				
T33A	Patterson Ranc	75.84 340	⇑P	P	21 50 17.1 +0.6
	baz=76				
V28A	Channing	75.84 336	⇓P	P	21 50 17.6 +1.0
	baz=76				
ACSO	Alum Creek Sta	75.85 352	eP	P	21 50 15.4 -1.0
	comp=Z,64nm,0.8s				
ACSO			LR	LR	
	comp=Z,3μm,21.0s				
BNM	Barren Site	75.99 332	eP	P	21 50 18.3 +0.6
BNM			epP	pP	21 50 26.1 -0.3
U30A	WK&E Inc. Balk	76.05 337	⇑P	P	21 50 18.8 +1.1
	baz=76				
V27A	Dan Oppiter Fa	76.05 335	⇓P	P	21 50 19.0 +1.1
	baz=76				
PAL	Palisades	76.08 359	PFAKE		21 50 20.0 +2.3
PAL			LR	LR	
	comp=Z,3μm,21.0s				
TUC	Tucson	76.09 328	eP	P	21 50 18.6 +0.5
TUC			pmax	pmax	
	comp=Z,34nm,1.2s				
TUC			MLR	MLR	
	comp=Z,3μm,18.0s				
TUC	Tucson	76.09 328	eP	P	21 50 18.6 +0.5
	comp=Z,34nm,1.2s				
TUC			LR	LR	
	comp=Z,3μm,18.0s				
S34A	Willow Spring	76.10 341	⇓P	P	21 50 18.6 +0.7
	baz=76				
T32A	Huddler Ranch,	76.12 339	⇑P	P	21 50 18.9 +0.8
	baz=76				
LPM	Los Pinos Moun	76.13 332	eP	P	21 50 19.0 +0.5
LPM			epP	pP	21 50 26.2 -1.0
W25A	X Bar L Ranch,	76.13 334	⇑P	P	21 50 18.5 +0.2
	baz=76,SNR=5.8				
LENM	Lemitar	76.14 332	eP	P	21 50 19.2 +0.8
LENM			epP	pP	21 50 27.1 -0.1
ODNJ	Ogdensburg	76.16 359	eP	P	21 50 20.5 +2.3
	comp=Z,26nm,1.0s				
ODNJ			LR	LR	
	comp=Z,4μm,19.1s				
U29A	Oasis Ranch, S	76.17 337	⇓P	P	21 50 19.5 +1.1
	baz=76				
S33A	Kaszmaul Farm,	76.25 340	⇓P	P	21 50 19.7 +0.9
	baz=76				
T31A	Randall Ranch,	76.27 338	⇓P	P	21 50 19.8 +0.9
	baz=76				
YLE	Yale	76.38 0	eP	P	21 50 19.9 +0.5
	comp=Z,91nm,0.9s				
YLE			LR	LR	
	comp=Z,3μm,20.0s				
LAZ	Ladron	76.41 332	eP	P	21 50 20.8 +0.7
LAZ			epP	pP	21 50 28.8 0.0
U28A	Mallet	76.42 336	⇑P	P	21 50 20.5 +0.6
	baz=77				
V26A	Tequesquite Ra	76.42 335	⇓P	P	21 50 20.4 +0.5
	baz=77,SNR=6.8				
W24A	Lazy 6 Ranch,	76.47 333	⇑P	P	21 50 20.9 +0.5
	baz=77,SNR=6.5				
DBIC	Dimbokro	76.49 72	eP	P	21 50 20.8 +0.1
DBIC			pmax	pmax	
	comp=Z,138nm,1.1s				
DBIC	Dimbokro	76.49 72	P	P	21 50 20.7 0.0
	comp=Z,39nm,1.0s,baz=205,slow=5.5,SNR=60				
DBIC			LR	LR	22 21 29.6
	comp=Z,5μm,21.1s,baz=213,slow=34				
DBIC	Dimbokro	76.49 72	eP	P	21 50 20.8 +0.1
	comp=Z,138nm,1.1s				
T30A	Plains	76.49 338	⇓P	P	21 50 20.3 +0.1
	baz=77				
SFIN	Lafayette	76.54 349	⇑P	P	21 50 21.4 +1.1
	baz=77				
S32A	Newby Ranch, P	76.61 339	⇑P	P	21 50 21.3 +0.5
	baz=77				
ANMO	Albuquerque	76.63 332	d iP	P	21 50 21.3 +0.1
ANMO			pmax	pmax	
	comp=Z,49nm,1.2s				
ANMO	Albuquerque	76.63 332	P	P	21 50 21.8 +0.5
	comp=Z,6.3nm,1.1s,baz=156,slow=8.9,SNR=12				
ANMO	Albuquerque	76.63 332	eP	P	21 50 21.6 +0.4
	comp=Z,38nm,1.2s				
ANMO			LR	LR	
	comp=Z,4μm,19.0s				
U27A	Thompson Grove	76.65 336	⇑P	P	21 50 21.2 -0.1
	baz=77				
KSPA	Keystone Colle	76.66 358	PFAKE		21 50 30.0 +9.0
KSPA			LR	LR	
	comp=Z,4μm,18.6s				
214A	Organ Pipe Nat	76.70 326	⇓P	P	21 50 21.5 +0.1
	baz=77				
214A	Organ Pipe Nat	76.70 326	eP	P	21 50 15.1 -6.4
	comp=Z,33nm,1.2s				
S31A	Mullinville	76.70 339	⇑P	P	21 50 22.0 +0.6
	baz=77				
V25A	Rancho No Teng	76.75 334	⇓P	P	21 50 21.7 -0.2
	baz=77,SNR=7.2				
T29A	Hugoton	76.82 337	⇑P	P	21 50 22.1 -0.1
	baz=77				
V24A	Rampart Ranch,	76.88 334	⇑P	P	21 50 22.9 +0.2
	baz=77				
R33A	Olander Ranch,	76.91 340	⇑P	P	21 50 22.4 -0.1
	baz=77				
U26A	Atchley Ranch,	76.94 335	⇑P	P	21 50 23.9 +0.9
	baz=77				
ALLY	Alegheny Colle	76.99 355	eP	P	21 50 22.5 -0.3
	comp=Z,53nm,1.1s				
ALLY			LR	LR	
	comp=Z,4μm,20.6s				
S30A	Montezuma	77.01 338	⇓P	P	21 50 23.3 +0.1
	baz=77,SNR=5.8				
T28A	Walsh	77.05 337	⇑P	P	21 50 23.6 +0.2
	baz=77,SNR=12				
U25A	Circle Dot Ran	77.18 335	⇑P	P	21 50 24.9 +0.6
	baz=77,SNR=7.2				
S29A	Ulysses	77.19 338	⇓P	P	21 50 24.9 +0.7
	baz=77,SNR=5.1				
T27A	Campo	77.20 336	⇓P	P	21 50 24.9 +0.6
	baz=77,SNR=6.2				
R32A	Long Quarter,	77.22 340	⇑P	P	21 50 24.5 +0.2
	baz=77				
V23A	Ortiz Mt. (NFS	77.23 333	⇑P	P	21 50 25.2 +0.5
	baz=77				
KSU1	Kansas State U	77.28 341	⇑P	P	21 50 25.4 +0.9
	baz=78				
R31A	Burdett	77.33 339	⇑P	P	21 50 25.5 +0.6
	baz=78				
QUA2	Belchertown	77.35 1	eP	P	21 50 26.0 +1.1
	comp=Z,45nm,0.9s				
QUA2			LR	LR	
	comp=Z,3μm,19.8s				
S28A	Manter	77.41 337	⇑P	P	21 50 26.2 +0.8
	baz=78,SNR=6.3				
WIN	Windhoek	77.45 109	i P	P	21 50 26.3 -0.1
WIN			PKP		22 00 23.6
U24A	Moreno Valley	77.49 334	⇓P	P	21 50 26.2 0.0
	baz=78				
Q33A	Connelly Farm,	77.51 341	⇑P	P	21 50 26.8 +1.0
	baz=78				
HRV	Adam Dziewonsk	77.59 1	eP	P	21 50 27.6 +1.5
HRV			pmax	pmax	
	comp=Z,46nm,0.9s				
HRV			MLR	MLR	
	comp=Z,3μm,21.0s				
HRV	Adam Dziewonsk	77.59 1	eP	P	21 50 27.6 +1.5
	comp=Z,46nm,0.9s				
HRV			LR	LR	
	comp=Z,3μm,21.0s				
X18A	Snowflake	77.65 330	⇑P	P	21 50 27.8 +0.9
	baz=78				
V22A	San Miguel Ran	77.65 332	⇑P	P	21 50 27.8 +0.8
	baz=78,SNR=9.8				
Q32A	Meitler Ranch,	77.70 340	⇑P	P	21 50 27.9 +1.0
	baz=78				
U23A	El Rito	77.75 333	⇓P	P	21 50 27.8 +0.2
	baz=78				
MIR	Mirnyy	77.77 174	eP	P	21 50 27.0 -0.1
MIR			e		21 53 35.0
MIR			ePPP	PPP	21 55 16.0
MIR			eS	S	22 00 20.0 +2.6
MIR			ePS	PnS	22 00 56.0 -3.2
MIR			eSS	SS	22 05 30.0 +14
MIR			eSSS	SSS	22 08 38.0
MIR			pmax	pmax	
	comp=Z,91nm,2.0s				
MIR			pmax	pmax	
	comp=Z,700nm,5.0s				
MIR			MLR	MLR	
	comp=N,8μm,18.0s				
MIR			MLR	MLR	
	comp=E,6μm,18.0s				
MIR			MLR	MLR	
	comp=Z,11μm,18.0s				
TRY	Troy	77.80 360	eP	P	21 50 28.2 +0.9
	comp=Z,65nm,1.0s				
TRY			LR	LR	
	comp=Z,3μm,20.1s				
113A	Mohawk Valley,	77.81 326	⇓P	P	21 50 28.1 +0.4
	baz=78				
S27A	Las Animas	77.82 336	⇑P	P	21 50 28.4 +0.6
	baz=78				
T25A	Trinidad	77.84 335	⇓P	P	21 50 28.7 +0.7
	baz=78,SNR=15				
T25A	Trinidad	77.84 335	eP	P	21 50 28.6 +0.6
	comp=Z,70nm,1.0s				
T25A			LR	LR	
	comp=Z,3μm,20.0s				
P33A	Williams Farm,	77.88 341	⇑P	P	21 50 28.5 +0.5
	baz=78				
R29A	Marienthal	77.94 338	⇑P	P	21 50 28.4 +0.1
	baz=78				
Z14A	Wintersburg	77.94 327	⇓P	P	21 50 28.5 +0.1
	baz=78				
Q31A	Ellis	77.95 339	⇓P	P	21 50 29.4 +1.1
	baz=78				
S26A	Kim	77.96 336	⇑P	P	21 50 29.2 +0.7
	baz=78,SNR=12				
AAM	Ann Arbor	77.97 352	eP	P	21 50 29.7 +1.4
AAM			pmax	pmax	
	comp=Z,59nm,1.3s				
AAM			MLR	MLR	
	comp=Z,4μm,20.0s				
AAM	Ann Arbor	77.97 352	eP	P	21 50 29.7 +1.4
	comp=Z,58nm,1.3s				
AAM			LR	LR	
	comp=Z,4μm,20.0s				
U22A	Llaves	78.04 333	⇑P	P	21 50 30.4 +1.2
	baz=78,SNR=6.1				
W18A	Petrified Fore	78.07 330	⇓P	P	21 50 29.0 -0.3
	baz=78				
W18A	Petrified Fore	78.07 330	eP	P	21 50 30.6 +1.3
	comp=Z,85nm,1.3s				
W18A			LR	LR	
	comp=Z,3μm,18.5s				
R28A	Tribune	78.07 337	⇑P	P	21 50 29.5 +0.3
	baz=78				
T24B	San Luis	78.11 334	⇑P	P	21 50 30.2 +0.6
	baz=78				
Q30A	Quinter	78.17 339	⇑P	P	21 50 29.9 +0.3
	baz=78,SNR=7.7				
X16A	Lo Mia Camp, P	78.18 328	⇓P	P	21 50 30.2 +0.3
	baz=78				
P32A	Huiting Farm,	78.31 340	⇑P	P	21 50 30.8 +0.5
	baz=78				
Q29A	Oakley	78.32 338	⇓P	P	21 50 31.3 +0.8
	baz=78				
S25A	Robets Cordova	78.32 335	⇓P	P	21 50 30.8 +0.2
	baz=78,SNR=8.7				
T23A	Casias Ranch,	78.33 334	⇑P	P	21 50 31.5 +0.8
	baz=78				
R27A	Eads	78.34 337	⇑P	P	21 50 31.2 +0.6
	baz=78,SNR=5.6				
GRM	Grahamstown	78.40 123	i P	P	21 50 31.9 +0.6
P31A	Stockton	78.43 340	⇓P	P	21 50 31.8 +0.8
	baz=79				
ACCN	Adirondack Com	78.45 360	eP	P	21 50 31.4 +0.5
	comp=Z,32nm,0.9s				
ACCN			LR	LR	
	comp=Z,3μm,19.2s				
Y14A	Wickenburg	78.45 327	⇓P	P	21 50 31.8 +0.5
	baz=79				
GLA	Glamis	78.54 325	⇑P	P	21 50 32.2 +0.5
	baz=79				
R26A	Arlington	78.56 336	⇑P	P	21 50 32.9 +1.0
	baz=79,SNR=5.1				
CASY	Casey	78.56 182	eP	P	21 50 32.0 +0.5
	comp=Z,39nm,1.0s				
CASY			LR	LR	
	comp=Z,10μm,19.0s				
S24A	Houchin Ranch,	78.57 335	⇓P	P	21 50 33.4 +1.2
	baz=79,SNR=9.3				
P30A	Seven	78.70 339	⇑P	P	21 50 33.0 +0.4
	baz=79				
R25A	Fountain Ranch	78.71 335	⇓P	P	21 50 33.1 +0.4
	baz=79				
Q28A	Sharon Springs	78.74 338	⇑P	P	21 50 33.9 +1.1
	baz=79,SNR=5.0				
SDCO	Great Sand Dun	78.77 334	⇑P	P	21 50 33.5 +0.3
	baz=79				
HNH	Hanover	78.78 1	eP	P	21 50 33.8 +1.1
	comp=Z,34nm,0.9s				
HNH			LR	LR	
	comp=Z,2μm,20.1s				
O32A	Brockman Farm,	78.81 341	⇑P	P	21 50 33.4 +0.4
	baz=79				
SWSC	Sam W. Stewart	78.90 324	⇓P	P	21 50 33.9 +0.2
	baz=79				
KSCO	Kaye Shedlock'	78.94 337	⇓P	P	21 50 35.6 +1.6
	baz=79				
KSCO	Kaye Shedlock'	78.94 337	eP	P	21 50 35.0 +1.1
	comp=Z,80nm,1.3s				
P29A	Atwood	78.96 338	⇓P	P	21 50 35.1 +1.2
	baz=79				
O31A	Woolen Ranch,	79.00 340	⇓P	P	21 50 35.4 +1.2
	baz=79				
NCB	Newcomb	79.04 359	eP	P	21 50 28.3 -5.9
	comp=Z,21nm,0.9s				
NCB			LR	LR	
	comp=Z,3μm,19.0s				
R24A	Sanders Place,	79.06 335	⇓P	P	21 50 35.8 +1.0
	baz=79,SNR=12				
MDV	Middlebury	79.07 360	eP	P	21 50 34.6 +0.3
WUAZ	Wupatki	79.09 329	⇑P	P	21 50 35.9 +1.0
	baz=79				
WUAZ	Wupatki	79.09 329	eP	P	21 50 35.6 +0.8
	comp=Z,41nm,1.1s				
WUAZ			LR	LR	
	comp=Z,4μm,19.0s				
BAR	Barrett	79.11 324	eP	P	21 50 27.9 -7.0
	comp=Z,87nm,1.2s				
BAR			LR	LR	
	comp=Z,3μm,19.3s				
Q26A	Hugo	79.15 336	⇑P	P	21 50 36.4 +1.3
	baz=79,SNR=5.3				
MONP	Monument Peak,	79.16 324	⇑P	P	21 50 36.2 +0.8
	baz=79				
P28A	Saint Francis	79.18 338	⇓P	P	21 50 36.5 +1.3
	baz=79				
O30A	MW Ranch, Wils	79.23 339	⇓P	P	21 50 36.3 +0.9
	baz=80				
S22A	4UR Ranch, Cre	79.25 333	⇓P	P	21 50 36.7 +0.9
	baz=79,SNR=7.1				
S22A	4UR Ranch, Cre	79.25 333	eP	P	21 50 36.3 +0.5
	comp=Z,60nm,1.6s				
S22A			LR	LR	
	comp=Z,4μm,18.0s				
PDMCI	Parker Dam,Lak	79.27 326	⇑P	P	21 50 36.6 +0.9
	baz=79				
R23A	Moffat	79.28 334	⇑P	P	21 50 36.8 +0.8
	baz=80				
N32A	Stulken Farm,	79.29 341	⇑P	P	21 50 37.1 +1.4
	baz=80				
LBNH	Lisbon	79.31 1	eP	P	21 50 35.9 +0.2
LBNH			pmax	pmax	
	comp=Z,41nm,0.9s				
LBNH			MLR	MLR	
	comp=Z,2μm,20.0s				
LBNH	Lisbon	79.31 1	eP	P	21 50 35.9 +0.2
	comp=Z,41nm,0.9s				
LBNH			LR	LR	
	comp=Z,2μm,20.0s				
BC3	Big Chuckawall	79.33 325	⇓P	P	21 50 37.5 +1.3
	baz=80				
Q25A	Bedland, Calha	79.39 336	⇓P	P	21 50 37.8 +1.3
	baz=80				
MVCO	Mesa Verde	79.40 332	⇑P	P	21 50 37.2 +0.6
	baz=80,SNR=6.1				
MVCO	Mesa Verde	79.40 332	eP	P	21 50 36.5 -0.1
	comp=Z,33nm,1.1s				
MVCO			LR	LR	
	comp=Z,7μm,19.0s				
P27A	Ficken Ranch,	79.42 337	⇓P	P	21 50 37.8 +1.2
	baz=80				
JFWS	Jewell Farm	79.53 347	eP	P	21 50 36.2 -0.7
JFWS			pmax	pmax	
	comp=Z,42nm,0.9s				
JFWS			MLR	MLR	
	comp=Z,3μm,20.0s				
JFWS	Jewell Farm	79.53 347	eP	P	21 50 36.2 -0.7
	comp=Z,42nm,0.9s				
JFWS			LR	LR	
	comp=Z,3μm,20.0s				
IRM	Iron Mountain	79.61 326	⇓P	P	21 50 38.8 +1.2
	baz=80				
P26A	Davis Ranch, A	79.67 337	⇑P	P	21 50 39.0 +1.0
	baz=80				
TSUM	Tsumeb	79.68 106	eP	P	21 50 39.6 +1.0
	comp=Z,93nm,1.4s				
TSUM			LR	LR	
	comp=Z,7μm,18.0s				
O28A	Krutsinger Ran	79.69 338	⇑P	P	21 50 39.4 +1.4
	baz=80				
LONY	Lake Ozonia	79.70 359	eP	P	21 50 38.0 +0.2
	comp=Z,45nm,0.9s				
LONY			LR	LR	
	comp=Z,3μm,19.0s				
KUK	Kukurantumi	79.70 75	i P	P	21 50 37.9 -0.6
KUK			PKP		22 00 50.7
Q24A	Divide	79.73 335	⇓P	P	21 50 39.1 +0.6
	baz=80,SNR=7.6				
Q24A	Divide	79.73 335	PFAKE		21 50 40.0 +1.5
Q24A			LR	LR	
	comp=Z,2μm,18.9s				
PFO	Pinyon Flats O	79.77 324	P	P	21 50 39.3 +0.8
	comp=Z,154nm,1.1s,SNR=5.2				
PFO	Pinyon Flats O	79.77 324	eP	P	21 50 39.6 +1.0
PFO			pmax	pmax	
	comp=Z,35nm,1.1s				
PFO			MLR	MLR	
	comp=Z,4μm,18.6s				
PFO	Pinyon Flats O	79.77 324	P	P	21 50 38.5 0.0
	comp=Z,5.9nm,0.9s,baz=66,slow=3.6,SNR=8.6				
PFO	Pinyon Flats O	79.77 324	⇓P	P	21 50 39.4 +0.8
	baz=80				
PFO	Pinyon Flats O	79.77 324	eP	P	21 50 39.6 +1.0
	comp=Z,35nm,1.1s				
PFO			LR	LR	
	comp=Z,4μm,18.6s				
W13A	Hualapai Mount	79.82 327	⇓P	P	21 50 39.7 +0.8
	baz=80				
BGNE	Belgrade	79.85 341	⇑P	P	21 50 39.2 +0.5
	baz=80				
BGNE	Belgrade	79.85 341	eP	P	21 50 42.5 +3.7
	comp=Z,114nm,1.3s				
BELC	Belle Mtn. Jos	79.87 325	⇑P	P	21 50 39.9 +0.8
	baz=80				
P25A	Willow Gulch B	79.90 336	⇑P	P	21 50 40.5 +1.2
	baz=80,SNR=5.3				
O27A	Beecher Island	79.97 338	⇑P	P	21 50 40.1 +0.6
	baz=80				
M31A	Lambtecht Ranc	80.01 341	⇓P	P	21 50 41.0 +1.4
	baz=80				
SADO	Sadowa	80.02 356	P	P	21 50 38.5 -0.9
	comp=Z,7.1nm,0.7s,baz=196,slow=4.4,SNR=7.0				
MURC	Murrieta	80.11 324	⇓P	P	21 50 41.2 +0.9
	baz=80				
N28A	Pribbeno Ranch	80.14 338	⇓P	P	21 50 41.5 +1.1
	baz=80				
PV01	Paradox Valley	80.23 332	eP	P	21 50 41.6 +0.4
U15A	North Rim	80.25 329	⇑P	P	21 50 42.4 +1.0
	baz=80,SNR=9.5				
P23A	Jefferson	80.34 335	⇓P	P	21 50 42.7 +0.9
	baz=80				
LDFC	Landfair	80.35 326	eP	P	21 50 35.0 -6.6
	comp=Z,38nm,1.2s				
LDFC			LR	LR	
	comp=Z,2μm,19.5s				
GMRC	Granite Mounta	80.36 326	⇓P	P	21 50 43.0 +1.3
	baz=80,SNR=6.7				
PV05	Paradox Valley	80.39 332	eP	P	21 50 42.1 +0.2
PKME	Peaks-Kenny Pk	80.41 3	PFAKE		21 50 50.0 +8.5
PKME			LR	LR	
	comp=Z,3μm,20.7s				
OGNE	Ogallala	80.52 338	eP	P	21 50 35.8 -6.6
	comp=Z,77nm,1.4s				
N27A	Anderson Farm,	80.55 338	⇑P	P	21 50 43.8 +1.2
	baz=81				
SMCO	Snowmass	80.57 334	eP	P	21 50 43.8 +0.7
	comp=Z,83nm,1.3s				
SMCO			LR	LR	
	comp=Z,4μm,18.5s				
M29A	Burnside Ranch	80.59 339	⇓P	P	21 50 44.2 +1.5
	baz=81				
PV10	Paradox Valley	80.62 332	eP	P	21 50 43.2 0.0
ISCO	Idaho Springs	80.64 335	eP	P	21 50 43.6 +0.2
ISCO			pmax	pmax	
	comp=Z,18nm,1.0s				
ISCO			MLR	MLR	
	comp=Z,2μm,19.9s				
ISCO	Idaho Springs	80.64 335	⇓P	P	21 50 44.4 +1.1
	baz=81				
ISCO	Idaho Springs	80.64 335	eP	P	21 50 43.6 +0.2
	comp=Z,18nm,1.0s				
ISCO			LR	LR	
	comp=Z,2μm,19.9s				
HEC	Hector,Ludlow	80.71 325	⇓P	P	21 50 44.9 +1.3
	baz=81				
M28A	Bar X Bar Ranc	80.74 339	⇓P	P	21 50 44.6 +1.0
	baz=81				
L31A	Butterfield Fa	80.75 341	⇓P	P	21 50 45.3 +1.7
	baz=81				
PV09	Paradox Valley	80.77 332	eP	P	21 50 44.5 +0.5
L30A	Spencer Herefo	80.78 340	⇓P	P	21 50 45.1 +1.4
	baz=81				
BFSC	Mount Baldy Ra	80.86 324	⇓P	P	21 50 45.3 +0.9
	baz=81				
P22A	Eagle	80.86 334	⇑P	P	21 50 45.4 +1.0
	baz=81				
KNB	Kanab	80.98 329	eP	P	21 50 46.0 +0.9
KNB			pmax	pmax	
	comp=Z,43nm,1.0s				
KNB	Kanab	80.98 329	eP	P	21 50 46.0 +0.9
	comp=Z,43nm,1.0s				
BFZ	Birch Farm	81.02 226	PFAKE		21 50 50.0 +4.7
BFZ			LR	LR	
	comp=Z,4μm,18.0s				
TUQ	Turquoise Moun	81.02 326	⇓P	P	21 50 45.8 +0.5
	baz=81,SNR=9.5				
MWC	Mount Wilson	81.04 324	eP	P	21 50 38.1 -7.3
MWC			pmax	pmax	
	comp=Z,32nm,1.3s				
MWC	Mount Wilson	81.04 324	eP	P	21 50 38.1 -7.3
	comp=Z,32nm,1.3s				
L29A	Maesberg Ranch	81.10 340	⇓P	P	21 50 46.5 +1.0

	baz=81					
O23A	Lake Granby, G	81.11 335	⇑P	P	21 50 46.8	+0.9
	baz=81					
O22A	Kremmling	81.29 335	⇑P	P	21 50 48.0	+1.2
	baz=82,SNR=6.1					
GSC	Goldstone, Bar	81.32 325	eP	P	21 50 47.6	+0.8
GSC			pmax	pmax		
	comp=Z,17nm,1.0s					
GSC	Goldstone, Bar	81.32 325	⇓P	P	21 50 47.8	+1.0
	baz=82					
GSC	Goldstone, Bar	81.32 325	eP	P	21 50 47.6	+0.8
	comp=Z,17nm,1.0s					
N24A	Carr	81.32 336	⇑P	P	21 50 48.2	+1.4
	baz=82					
M26A	McRoberts Ranc	81.34 338	⇑P	P	21 50 48.0	+1.2
	baz=82					
K30A	Basset	81.42 341	⇓P	P	21 50 48.1	+0.9
	baz=82					
SNZO	South Karori	81.52 225	PFAKE		21 50 50.0	+2.1
SNZO			LR	LR		
	comp=Z,4μm,20.0s					
EDW2	Edwards Air Fo	81.53 324	⇑P	P	21 50 48.7	+0.7
	baz=82					
SHPR	Sheep Range	81.56 327	eP	P	21 50 49.1	+0.9
M25A	Palm-Egli Farm	81.60 337	⇑P	P	21 50 49.2	+1.0
	baz=82					
BSC	Santa Cruz Isl	81.62 322	⇑P	P	21 50 49.8	+1.5
	baz=82					
L27A	T5 Ranch, Ells	81.65 338	⇓P	P	21 50 49.8	+1.4
	baz=82					
ECSD	EROS Data Cent	81.65 343	⇓P	P	21 50 49.1	+0.9
	baz=82					
ECSD	EROS Data Cent	81.65 343	eP	P	21 50 47.7	-0.6
	comp=Z,39nm,0.8s					
ECSD			LR	LR		
	comp=Z,2μm,20.0s					
CCUT	Cedar City	81.66 329	eP	P	21 50 50.0	+1.2
	comp=Z,32nm,1.2s					
OSI	Osito Audit: C	81.67 323	⇓P	P	21 50 49.5	+0.9
	baz=82					
K29A	Lazy Trails An	81.70 340	⇑P	P	21 50 49.8	+1.2
	baz=82					
N23A	Red Feather La	81.73 335	⇑P	P	21 50 50.1	+1.0
	baz=82,SNR=6.8					
N23A	Red Feather La	81.73 335	eP	P	21 50 49.9	+0.8
	comp=Z,36nm,1.1s					
N22A	Wattenberg Ran	81.83 335	⇓P	P	21 50 50.7	+1.1
	baz=82,SNR=5.2					
BKZ	Black Stump Fm	81.83 227	PFAKE		21 51 00.0	+10
BKZ			LR	LR		
	comp=Z,7μm,19.0s					
SRU	San Rafael Swe	81.84 331	eP	P	21 50 44.1	-5.5
SRU			pmax	pmax		
	comp=Z,23nm,1.0s					
SRU			MLR	MLR		
	comp=Z,3μm,20.4s					
SRU	San Rafael Swe	81.84 331	eP	P	21 50 44.1	-5.5
	comp=Z,23nm,1.0s					
SRU			LR	LR		
	comp=Z,3μm,20.4s					
O20A	White River Ci	81.87 334	⇓P	P	21 50 50.9	+1.1
	baz=82					
O20A	White River Ci	81.87 334	eP	P	21 50 50.0	+0.2
	comp=Z,38nm,1.2s					
LRMC	Laurel Mtn Rad	81.88 325	⇓P	P	21 50 50.6	+0.8
	baz=82					
M24A	Cheyenne	81.88 336	⇑P	P	21 50 50.7	+0.9
	baz=82					
PHWY	Pilot Hill	81.94 336	eP	P	21 50 50.3	+0.1
	comp=Z,21nm,0.9s					
K28A	Ten Mile Ranch	81.95 339	⇓P	P	21 50 50.7	+0.7
	baz=82					
MVU	Marysvale	81.99 330	eP	P	21 50 51.1	+0.7
	comp=Z,32nm,1.4s					
J30A	Dallas	82.00 341	⇓P	P	21 50 50.8	+0.7
	baz=82					
URZ	Urewera	82.03 228	LR	LR	22 19 10.8	
	comp=Z,4μm,20.3s,baz=142,slow=30					
WHZ	Wether Hill Ro	82.11 218	PFAKE		21 51 00.0	+9.1
WHZ			LR	LR		
	comp=Z,4μm,20.0s					
M23A	Laramie	82.17 336	⇑P	P	21 50 52.1	+0.7
	baz=82					
L25A	Engebretsen Ra	82.22 337	⇓P	P	21 50 52.5	+1.0
	baz=82					
SPMN	Marine on St.	82.24 346	eP	P	21 50 50.7	-0.6
	comp=Z,20nm,0.9s					
SPMN			LR	LR		
	comp=Z,4μm,19.5s					
MPMC	Manual Prospec	82.26 325	⇑P	P	21 50 52.7	+0.9
	baz=82					
TMUT	Trail Mountain	82.26 331	eP	P	21 50 53.2	+1.3
	comp=Z,31nm,1.0s					
TMUT			LR	LR		
	comp=Z,4μm,19.0s					
J29A	Okreek	82.30 340	⇑P	P	21 50 52.2	+0.5
	baz=82,SNR=6.4					
FURC	Furnace Creek,	82.30 326	⇑P	P	21 50 52.1	+0.3
	baz=82					
ISA	Isabella, Lake	82.40 324	eP	P	21 50 53.2	+0.7
ISA			pmax	pmax		
	comp=Z,26nm,1.3s					
ISA	Isabella, Lake	82.40 324	⇓P	P	21 50 53.8	+1.3
	baz=82					
ISA	Isabella, Lake	82.40 324	eP	P	21 50 53.2	+0.7
	comp=Z,26nm,1.3s					
M22A	Cedar Creek Ra	82.41 335	⇑P	P	21 50 53.6	+1.0
	baz=83					
TPNV	Topopah Spring	82.42 326	eP	P	21 50 54.4	+1.7
TPNV			pmax	pmax		
	comp=Z,31nm,1.4s					
TPNV			MLR	MLR		
	comp=Z,3μm,20.0s					
TPNV	Topopah Spring	82.42 326	⇑P	P	21 50 53.6	+1.0
	baz=83					
TPNV	Topopah Spring	82.42 326	eP	P	21 50 54.4	+1.7
	comp=Z,31nm,1.4s					
TPNV			LR	LR		
	comp=Z,3μm,20.0s					
PKM	Mcpherson Peak	82.44 323	⇑P	P	21 50 53.3	+0.5
	baz=82					
COWI	Conover	82.44 349	PFAKE		21 51 00.0	+7.6
COWI			LR	LR		
	comp=Z,3μm,21.5s					
DAC	Darwin (Calif)	82.48 325	eP	P	21 50 53.7	+0.7
DAC			pmax	pmax		
	comp=Z,16nm,0.9s					
DAC			MLR	MLR		
	comp=Z,2μm,19.0s					
DAC	Darwin (Calif)	82.48 325	eP	P	21 50 53.7	+0.7
	comp=Z,16nm,0.9s					
DAC			LR	LR		
	comp=Z,2μm,19.0s					
N20A	Spence Gulch,	82.49 334	⇑P	P	21 50 54.3	+1.3
	baz=83					
LBTB	Lobatse	82.51 115	eP	P	21 50 51.5	-2.1
LBTB			pmax	pmax		
	comp=Z,117nm,1.2s					
LBTB	Lobatse	82.51 115	eP	P	21 50 51.5	-2.1
	comp=Z,117nm,1.2s					
I30A	Oacoma	82.53 341	⇓P	P	21 50 53.8	+1.0
	baz=83					
J28A	Allard Ranch,	82.57 340	⇑P	P	21 50 54.3	+1.2
	baz=83					
K25A	Mack Ranch, Ha	82.61 338	⇓P	P	21 50 54.6	+1.2
	baz=83					
J27A	Elkhorn Farm,	82.63 339	⇑P	P	21 50 54.8	+1.3
	baz=83					
L23A	Garrett	82.75 336	⇓P	P	21 50 55.0	+0.7
	baz=83					
SMMC	Simmler	82.86 323	⇓P	P	21 50 56.1	+1.3
	baz=83					
I29A	Vivian Onida	82.86 341	⇑P	P	21 50 55.9	+1.3
	baz=83					
BRSD	Miller	82.90 342	eP	P	21 50 56.4	+1.6
	comp=Z,46nm,0.9s					
J26A	Sides Ranch, S	83.00 338	⇑P	P	21 50 56.5	+1.1
	baz=83					
MPU	Maple Canyon	83.05 331	eP	P	21 50 56.3	+0.4
	comp=Z,50nm,1.2s					
I28A	Midland	83.08 340	⇓P	P	21 50 57.0	+1.2
	baz=83					
NLU	North Lily Min	83.17 331	eP	P	21 50 57.1	+0.5
	comp=Z,35nm,1.3s					
DAU	Daniels Canyon	83.24 332	eP	P	21 50 50.7	-6.3
DAU			pmax	pmax		
	comp=Z,58nm,1.4s					
DAU	Daniels Canyon	83.24 332	eP	P	21 50 50.7	-6.3
	comp=Z,58nm,1.4s					
R11A	Troy Canyon, C	83.28 328	⇓P	P	21 50 58.4	+1.3
	baz=83,SNR=9.8					
R11A	Troy Canyon, C	83.28 328	eP	P	21 50 58.0	+0.8
R11A			LR	LR		
	comp=Z,30nm,1.3s					
	comp=Z,2μm,18.0s					
J25A	Sunshine Ranch	83.29 338	⇑P	P	21 50 58.0	+1.1
	baz=84					
K23A	Bowen Ranch, D	83.29 337	⇑P	P	21 50 58.2	+1.1
	baz=84					
I27A	Quinn	83.39 339	⇑P	P	21 50 59.0	+1.6
	baz=84					
H29A	Onida	83.40 341	⇓P	P	21 50 58.3	+1.0
	baz=84					
TIN	Tinemaha, Big	83.41 325	⇓P	P	21 50 59.3	+1.6
	baz=84					
K22A	Casper	83.50 336	⇑P	P	21 50 59.1	+0.9
	baz=84					
K22A	Casper	83.50 336	eP	P	21 50 58.2	+0.1
	comp=Z,281nm,2.1s					
J24A	Dixon Ranch, L	83.50 337	⇓P	P	21 50 59.1	+1.0
	baz=84					
G30A	Faulkton	83.59 342	⇑P	P	21 50 59.6	+1.3
	baz=84					
I26A	New Underwood	83.59 339	⇑P	P	21 51 00.5	+2.0
	baz=84					
DUG	Dugway, Tooele	83.67 331	eP	P	21 50 59.0	0.0
DUG			pmax	pmax		
	comp=Z,63nm,1.3s					
DUG			MLR	MLR		
	comp=Z,5μm,18.0s					
DUG	Dugway, Tooele	83.67 331	⇑P	P	21 50 59.9	+0.8
	baz=84					
DUG	Dugway, Tooele	83.67 331	eP	P	21 50 59.0	0.0
	comp=Z,63nm,1.3s					
DUG			LR	LR		
	comp=Z,5μm,18.0s					
CTU	Camp Tracy	83.68 331	PFAKE		21 51 00.0	+0.9
CTU			LR	LR		
	comp=Z,854μm,19.0s					
K21A	Alcova	83.73 335	⇑P	P	21 50 59.8	+0.4
	baz=84					
TPH	Tonopah	83.78 326	eP	P	21 51 00.5	+0.8
TPH			pmax	pmax		
	comp=Z,43nm,1.1s					
TPH			MLR	MLR		
	comp=Z,3μm,18.0s					
TPH	Tonopah	83.78 326	eP	P	21 51 00.5	+0.8
	comp=Z,43nm,1.1s					
TPH			LR	LR		
	comp=Z,3μm,18.0s					
I25A	Rochford	83.84 338	⇓P	P	21 51 00.2	+0.4
	baz=84,SNR=6.8					
G29A	Hoven	83.85 341	⇑P	P	21 50 59.9	+0.2
	baz=84					
TCUT	Toone Canyon	83.91 332	eP	P	21 51 01.2	+0.9
	comp=Z,88nm,1.4s					
TCUT			eS	S	22 01 20.0	-2.3
TCUT			LR	LR		
	comp=Z,3μm,20.5s					
H27A	Howes	83.92 340	⇑P	P	21 51 00.2	+0.2
	baz=84					
I24A	Kuemmerle Ranc	83.97 338	⇓P	P	21 51 00.9	+0.5
	baz=84					
G28A	Parade	84.00 341	⇓P	P	21 51 01.1	+0.6
	baz=84					
RSSD	Black Hills	84.03 338	eP	P	21 51 00.6	-0.3
RSSD			pmax	pmax		
	comp=Z,17nm,1.0s					
RSSD	Black Hills	84.03 338	eP	P	21 51 00.6	-0.3
	comp=Z,17nm,1.0s					
J22A	Midwest	84.16 336	⇓P	P	21 51 01.4	-0.1
	baz=84					
MLAC	Mammoth, Mammo	84.16 325	⇑P	P	21 51 01.9	+0.2
	baz=84					
H25A	Fruitdale	84.35 339	⇑P	P	21 51 03.0	+0.7
	baz=85					
RAO	Raoul Island	84.35 238	LR	LR	22 23 15.1	
	comp=Z,1μm,18.6s,baz=122,slow=32					
BGU	Big Grassy Mou	84.38 331	eP	P	21 51 02.5	-0.1
	comp=Z,20nm,1.4s					
BGU			LR	LR		
	comp=Z,1μm,19.1s					
HWUT	Hardware Ranch	84.39 332	eP	P	21 51 02.6	-0.1
	comp=Z,64nm,1.1s					
HWUT			LR	LR		
	comp=Z,4μm,19.0s					
F29A	Eureka	84.42 342	⇑P	P	21 51 02.9	+0.4
	baz=85,SNR=5.3					
J21A	Lysite	84.42 336	⇑P	P	21 51 03.6	+0.7
	baz=85					
SPUT	South Promonto	84.48 331	eP	P	21 51 03.7	+0.6
	comp=Z,43nm,1.1s					
SPUT			LR	LR		
	comp=Z,4μm,18.0s					
G27A	Dupree	84.56 340	⇓P	P	21 51 03.5	+0.2
	baz=85					
I22A	9 Mile Ranch,	84.59 336	⇑P	P	21 51 04.3	+0.7
	baz=85					
EYMN	Ely	84.62 348	eP	P	21 51 03.1	-0.5
	comp=Z,32nm,1.0s					
EYMN			LR	LR		
	comp=Z,2μm,21.0s					
J20A	Shoshoni	84.65 335	⇑P	P	21 51 05.3	+1.4
	baz=85,SNR=6.8					
BW06	Boulder Array	84.65 334	eP	P	21 51 02.7	-1.3
BW06			LR	LR		
	comp=Z,4μm,18.0s					
PDAR	Pinedale Array	84.65 334	P	P	21 51 03.2	-0.8
	comp=Z,0.9nm,0.5s,baz=153,slow=4.9,SNR=9.5					
PDAR			PKKPbc	PKKPbc	22 09 13.9	-1.4
	comp=Z,0.4nm,0.6s,baz=336,slow=2.0,SNR=3.3					
PDAR			LR	LR	22 25 04.4	
	comp=Z,3μm,18.3s,baz=152,slow=33					
CRZF	Crozet Islands	84.66 145	P	P	21 50 46.0	-18
CRZF	Crozet Islands	84.66 145	S	S	22 01 09.0	-21
CRZF			SS	SS	22 06 44.0	-16
CRZF			R		22 17 00.0	
CRZF	Crozet Islands	84.66 145	P	P	21 50 46.0	-18
CRZF	Crozet Islands	84.66 145	S	S	22 01 09.0	-21
G26A	Maurine	84.67 340	⇑P	P	21 51 04.5	+0.6
	baz=85					
F28A	McLaughlin	84.69 341	⇓P	P	21 51 04.8	+0.9
	baz=85					
H24A	Dirks Ranch, A	84.75 338	⇑P	P	21 51 04.5	+0.2
	baz=85					
I21A	Big Trails, Te	84.79 336	⇑P	P	21 51 04.2	-0.4
	baz=85,SNR=8.3					
E30A	Jud	84.81 342	⇓P	P	21 51 05.0	+0.5
	baz=85					
G25A	Newell	84.82 339	⇓P	P	21 51 05.3	+0.7
	baz=85					
J19A	Crowheart	84.91 335	⇑P	P	21 51 06.1	+0.9
	baz=85					
HVU	Hansel Valley	85.00 331	eP	P	21 51 05.6	-0.2
HVU			pmax	pmax		
	comp=Z,29nm,1.0s					
HVU			MLR	MLR		
	comp=Z,7μm,19.5s					
HVU	Hansel Valley	85.00 331	eP	P	21 51 05.6	-0.2
	comp=Z,29nm,1.0s					
HVU			LR	LR		
	comp=Z,7μm,19.5s					
F27A	Lemmon	85.04 340	⇑P	P	21 51 05.9	+0.2
	baz=85,SNR=5.6					
ELK	Elko	85.13 329	eP	P	21 51 06.7	+0.2
ELK			pmax	pmax		
	comp=Z,29nm,1.5s					
ELK			MLR	MLR		
	comp=Z,1μm,20.5s					
ELK	Elko	85.13 329	P	P	21 51 06.7	+0.2
	comp=Z,1.2nm,0.6s,baz=180,slow=5.1,SNR=5.4					
ELK	Elko	85.13 329	eP	P	21 51 06.7	+0.2
	comp=Z,29nm,1.5s					
ELK			LR	LR		
	comp=Z,1μm,20.5s					
WAKR	Walker	85.14 325	eP	P	21 51 07.8	+1.2
H22A	Clearmont	85.17 337	⇓P	P	21 51 06.3	-0.2
	baz=85					
I20A	Worland	85.19 335	⇑P	P	21 51 07.4	+0.8
	baz=85					
F26A	Lodgepole	85.20 340	⇑P	P	21 51 07.7	+1.2
	baz=85					
AHID	Auburn Hatcher	85.21 333	eP	P	21 51 03.0	-3.8
	comp=Z,65nm,1.5s					
AHID			LR	LR		
	comp=Z,4μm,19.0s					
CMB	Columbia Colle	85.22 324	eP	P	21 51 07.3	+0.5
CMB			pmax	pmax		
	comp=Z,26nm,1.3s					
CMB	Columbia Colle	85.22 324	eP	P	21 51 07.3	+0.5
	comp=Z,26nm,1.3s					
G24A	Alzada	85.23 338	⇑P	P	21 51 07.1	+0.3
	baz=86					
D30A	Buchanan	85.34 343	⇓P	P	21 51 07.2	+0.1
	baz=86,SNR=8.0					
G23A	Biddle	85.42 338	⇑P	P	21 51 08.3	+0.6
	baz=86					
H21A	Big Horn, Sher	85.43 336	⇑P	P	21 51 08.6	+0.8
	baz=86					
DRLN	Deer Lake	85.46 10	eP	P	21 51 08.0	+0.3
	comp=Z,78nm,0.8s					
DRLN			LR	LR		
	comp=Z,5μm,18.1s					
F25A	Bowman	85.49 339	⇑P	P	21 51 08.8	+0.8
	baz=86					
D29A	Pettibone, Tap	85.50 342	⇑P	P	21 51 09.1	+1.1
	baz=86					
TOA0	Torodi Ar. Sit	85.54 71	eP	P	21 51 07.8	-1.1
TORD	Torodi Ar. Bea	85.54 71	P	P	21 51 08.2	-0.7
	comp=Z,19nm,0.9s,baz=247,slow=4.5,SNR=47					
TORD			LR	LR	22 27 23.6	
	comp=Z,6μm,19.7s,baz=230,slow=34					
H20A	Greybull	85.62 336	⇑P	P	21 51 09.3	+0.6
	baz=86					
REDW	Red Top Meadow	85.64 333	eP	P	21 51 08.9	-0.1
	comp=Z,27nm,1.1s					
REDW			LR	LR		
	comp=Z,4μm,18.6s					
SNOW	Snow King Moun	85.69 334	PFAKE		21 51 10.0	+0.7
SNOW			LR	LR		
	comp=Z,4μm,18.4s					
F24A	Ekalaka	85.71 339	⇓P	P	21 51 09.6	+0.5
	baz=86					
E26A	Carlson Angus	85.71 340	⇑P	P	21 51 09.8	+0.7
	baz=86					
G22A	Birney	85.71 337	⇓P	P	21 51 09.6	+0.4
	baz=86					
TPAW	Teton Pass	85.78 333	eP	P	21 51 13.4	+3.6
	comp=Z,29nm,1.0s					
AGMN	Agassiz Nation	85.80 345	⇑P	P	21 51 09.0	-0.4
	baz=86,SNR=8.1					
AGMN	Agassiz Nation	85.80 345	eP	P	21 51 08.7	-0.7
	comp=Z,24nm,0.8s					
AGMN			LR	LR		
	comp=Z,4μm,18.0s					
C30A	Mose, Pekin	85.83 343	⇓P	P	21 51 09.8	+0.3
	baz=86,SNR=10					
D28A	Regan	85.87 342	⇓P	P	21 51 10.6	+0.8
	baz=86					
F23A	Volborg	85.89 338	⇑P	P	21 51 09.3	-0.7
	baz=86,SNR=7.6					
FXWY	Fox Creek	85.94 333	PFAKE		21 51 20.0	+9.5
FXWY			LR	LR		
	comp=Z,3μm,18.2s					
E25A	Miller Ranch,	86.00 340	⇑P	P	21 51 11.4	+0.9
	baz=86					
G21A	Lodge Grass	86.01 337	⇑P	P	21 51 11.4	+0.7
	baz=86					
D27A	Center	86.04 341	⇓P	P	21 51 11.3	+0.6
	baz=86					
H19A	Powell	86.12 335	⇓P	P	21 51 11.6	+0.3
	baz=86					
F22A	Rosebud	86.20 337	⇑P	P	21 51 12.0	+0.5
	baz=86					
FLWY	Flagg Ranch	86.20 334	PFAKE		21 51 20.0	+8.2
FLWY			LR	LR		
	comp=Z,5μm,18.2s					
D26A	Manning	86.22 340	⇓P	P	21 51 12.4	+0.9
	baz=86,SNR=7.0					
MDND	Maddock	86.24 342	⇑P	P	21 51 12.7	+1.1
	baz=86					
MDND	Maddock	86.24 342	eP	P	21 51 11.0	-0.5
	comp=Z,95nm,1.8s					
E24A	Baker	86.32 339	⇑P	P	21 51 12.9	+0.8
	baz=86					
G20A	Bridger	86.34 336	⇓P	P	21 51 12.8	+0.5
	baz=86					
H18A	Shoshone NF, C	86.36 335	⇓P	P	21 51 13.5	+1.0
	baz=87					
B30A	Myrvik Farm, E	86.49 344	⇓P	P	21 51 13.4	+0.6
	baz=87,SNR=8.5					
F21A	Absaloka Mine,	86.52 337	⇑P	P	21 51 14.0	+0.9
	baz=87					
XMAS	Kiritimati	86.54 275	PFAKE		21 51 20.0	+6.1
XMAS			LR	LR		
	comp=Z,5μm,18.0s					
E23A	Ismay	86.56 338	⇓P	P	21 51 13.9	+0.7
	baz=87					
D25A	Fairfield	86.57 340	⇑P	P	21 51 14.0	+0.7
	baz=87					
C27A	Sayler Ranch,	86.59 341	⇓P	P	21 51 13.7	+0.3
	baz=87,SNR=6.2					
E22A	Miles City	86.70 338	⇑P	P	21 51 14.1	+0.2
	baz=87					
B29A	Wagenman Farm,	86.75 343	⇑P	P	21 51 14.3	+0.2
	baz=87,SNR=9.2					
D24A	Glendive	86.83 339	⇓P	P	21 51 14.8	+0.3
	baz=87,SNR=6.0					
F20A	Billings	86.83 336	⇑P	P	21 51 15.1	+0.4
	baz=87					
C26A	Wahner Farm, P	86.85 341	⇓P	P	21 51 14.5	-0.1
	baz=87					
A30A	Hoffart Farm,	86.95 344	⇓P	P	21 51 14.7	-0.3
	baz=87,SNR=8.6					
B28A	Dugan Ranch, T	86.98 342	⇓P	P	21 51 15.7	+0.5
	baz=87					
C25A	Freed Ranch, W	87.07 340	⇑P	P	21 51 16.1	+0.4
	baz=87					
D23A	Lindsay	87.14 339	⇓P	P	21 51 16.6	+0.5
	baz=87,SNR=8.9					
F19A	Roth Farm, Mol	87.14 336	⇓P	P	21 51 16.2	+0.1
	baz=87					
E21A	Keefer Ranch,	87.14 337	⇑P	P	21 51 16.9	+0.8
	baz=87					
A29A	Manning Farm,	87.15 343	⇑P	P	21 51 15.9	-0.1
	baz=87,SNR=19					
HLID	Hailey	87.16 331	⇑P	P	21 51 16.7	+0.3
	baz=87					
HLID	Hailey	87.16 331	eP	P	21 51 17.0	+0.6
	comp=Z,21nm,1.3s					
HLID			LR	LR		
	comp=Z,3μm,20.0s					
B27A	Peters Farms,	87.17 342	⇓P	P	21 51 17.5	+1.4
	baz=87					
C24A	Savage	87.23 339	⇑P	P	21 51 17.0	+0.6
	baz=88,SNR=16					
A28A	Rude Farm, Bot	87.39 342	⇑P	P	21 51 17.4	+0.2
	baz=88,SNR=6.0					
B26A	Jensen Ranch,	87.40 341	⇓P	P	21 51 18.4	+1.2
	baz=88					
E20A	Meyer Farm, Mu	87.44 337	⇓P	P	21 51 17.6	0.0
	baz=88,SNR=5.9					
B25A	Knox Farm, Ray	87.55 340	⇓P	P	21 51 18.4	+0.4
	baz=88					
D21A	La Casta Ranch	87.58 338	⇑P	P	21 51 18.7	+0.5
	baz=88					
MFID	Camas Ranch	87.60 330	eP	P	21 51 18.6	+0.2
	comp=Z,76nm,1.9s					
E19A	Rath Farm, Rou	87.62 336	⇑P	P	21 51 18.4	0.0
	baz=88					
MCMT	McKenzie Canyo	87.63 333	eP	P	21 51 19.2	+0.5
ULM	Lac du Bonnet	87.66 346	eP	P	21 51 17.3	-1.1
ULM			pmax	pmax		
	comp=Z,61nm,1.4s					
ULM			MLR	MLR		
	comp=Z,2μm,18.7s					
ULM	Lac du Bonnet	87.66 346	P	P	21 51 16.9	-1.5
	comp=Z,11nm,0.8s,baz=173,slow=4.6,SNR=14					
ULM	Lac du Bonnet	87.66 346	eP	P	21 51 17.3	-1.1
	comp=Z,61nm,1.4s					
ULM			LR	LR		
	comp=Z,2μm,18.7s					
A27A	Ledoux Ranch,	87.67 342	⇑P	P	21 51 19.0	+0.5
	baz=88					
C23A	Lambert	87.70 339	⇑P	P	21 51 18.9	+0.2
	baz=88,SNR=8.3					
A26A	Wade Farm, Ken	87.82 341	⇑P	P	21 51 19.4	+0.2
	baz=88					
C22A	Vida	87.85 339	⇑P	P	21 51 19.4	-0.1
	baz=88					
D20A	Manuel Ranch,	87.97 337	⇑P	P	21 51 20.6	+0.6
	baz=88					
DLMT	Dillon	87.99 333	PFAKE		21 51 30.0	+10
DLMT			LR	LR		

comp=Z,3μm,19.8s
A25A Svangstu Ranch 88.15 341 ⇑P P 21 51 21.5 +0.7
baz=88
B23A Brockton 88.24 339 ⇑P P 21 51 22.4 +1.1
baz=88
ITZ Itezhi-Tezhi 88.24 108 *i P* **P 21 51 22.6 +0.4**
WDC Whiskeytown Da 88.25 325 *eP* **P 21 51 21.3 -0.2**
WDC pmax pmax
comp=Z,40nm,1.5s
WDC Whiskeytown Da 88.25 325 *eP* **P 21 51 21.3 -0.2**
comp=Z,40nm,1.5s
MOD Modoc Plateau 88.27 327 *eP* **P 21 51 22.1 +0.4**
comp=Z,38nm,1.0s
D19A Cripps Ranch, 88.27 336 ⇑P P 21 51 22.1 +0.6
baz=88
C21A Desert Coulee 88.29 338 ⇓P P 21 51 22.0 +0.5
baz=88
LRM Limekiln Ridge 88.33 334 *eP* **P 21 51 22.4 +0.3**
LRM *epP* **pP 21 51 30.9 0.0**
A24A Westby 88.38 340 ⇓P P 21 51 22.3 +0.4
baz=89
B22A Reddig Ranch S 88.38 339 ⇑P P 21 51 22.5 +0.5
baz=89
C20A Veseth Ranch, 88.47 337 ⇓P P 21 51 22.4 0.0
baz=89
N02D Trinity Center 88.64 325 ⇑P P 21 51 23.6 +0.2
baz=89
C19A Slack Wire Ran 88.83 337 ⇓P P 21 51 24.8 +0.7
baz=89
AFI Afiamalu 88.93 254 PFAKE 21 51 30.0 +4.5
AFI LR LR
comp=Z,6μm,19.0s
A22A Carney Farms, 88.98 339 ⇓P P 21 51 25.4 +0.7
baz=89
M02C Callahan 89.03 325 ⇓P P 21 51 25.5 +0.2
baz=89
K05A Summer Lake 89.19 327 *eP* **P 21 51 27.1 +1.0**
YBH Yreka Blue Hor 89.23 325 P **P 21 51 26.8 +0.7**
YBH *e*PP **pP 21 51 35.0 -0.1**
YBH MLR MLR
comp=Z,2μm,19.2s
YBH Yreka Blue Hor 89.23 325 P **P 21 51 26.8 +0.7**
comp=Z,2.3nm,0.7s,baz=270,slow=2.0,SNR=3.8
YBH Yreka Blue Hor 89.23 325 P **P 21 51 26.8 +0.7**
YBH *ep*P **pP 21 51 35.0 -0.1**
YBH LR LR
comp=Z,2μm,19.2s
A21A Bergtoll Ranch 89.28 339 ⇓P P 21 51 26.4 +0.2
baz=90
EGMT Eagleton 89.31 336 PFAKE 21 51 30.0 +3.6
EGMT LR LR
comp=Z,2μm,18.0s
B19A Brinkman Farms 89.43 337 ⇑P P 21 51 27.3 +0.5
baz=90
A20A Cobblestone Ra 89.48 338 ⇓P P 21 51 27.6 +0.5
baz=90
PAF Port-aux-Franc 89.52 157 P P 21 51 18.0 -10
PAF Port-aux-Franc 89.52 157 S S 22 02 05.0 -11
PAF SS SS 22 08 01.0 -10
PAF L L 22 16 00.0
PAF R 22 22 00.0
PAF Port-aux-Franc 89.52 157 P P 21 51 11.0 -17
PAF PP PP 21 54 35.0 -23
PAF S SKSac 22 01 39.0 -17
PAF L L 22 16 00.0
PAF R 22 22 00.0
I07A Izee 89.67 329 *eP* **P 21 51 29.4 +1.2**
comp=Z,50nm,1.5s
MSO Missoula 89.73 333 ⇑P P 21 51 29.0 +0.6
baz=90
MSO Missoula 89.73 333 *eP* **P 21 51 30.2 +1.8**
comp=Z,22nm,1.5s
A19A Klindworth Far 89.78 337 ⇑P P 21 51 29.4 +0.9
baz=90
L02D Cave Junction, 89.98 325 ⇓P P 21 51 30.2 +0.6
baz=90
HUMO Hull Mountain 90.03 326 PFAKE 21 51 30.0 +0.2
HUMO LR LR
comp=Z,2μm,18.8s
SCHQ Schefferville 90.07 4 P **P 21 51 28.6 -1.0**
comp=Z,3.5nm,0.7s,baz=200,slow=5.2,SNR=7.3
SCHQ Schefferville 90.07 4 *eP* **P 21 51 29.2 -0.4**
comp=Z,264nm,2.7s
SCHQ LR LR
comp=Z,4μm,19.1s
LSZ Lusaka 90.20 109 *eP* **P 21 51 28.9 -2.6**
LSZ pmax pmax
comp=Z,67nm,1.7s
LSZ Lusaka 90.20 109 *eP* **P 21 51 28.9 -2.6**
comp=Z,67nm,1.7s
I03D Drain, OR 91.06 326 ⇓P P 21 51 35.8 +1.3
baz=91
HAWA Hanford 91.54 330 *eP* **P 21 51 37.8 +1.1**
comp=Z,49nm,1.7s
NEW Newport 92.12 332 P **P 21 51 38.6 -0.8**
comp=Z,1.4nm,0.8s,baz=222,slow=1.7,SNR=2.6
C09A Chrisman Ranch 92.18 331 *eP* **P 21 51 40.1 +0.5**
comp=Z,51nm,1.7s
RTC Rabat Centre 92.76 50 PFAKE 21 51 50.0 +7.4
RTC LR LR
comp=Z,5μm,19.0s
FFC Flin Flon 93.17 344 *eP* P 21 51 50.8 +6.8
FFC MLR MLR
comp=Z,3μm,18.0s
FFC Flin Flon 93.17 344 *ep*P P 21 51 50.8 +6.8
FFC *e*PKiKP **PKiKP 21 56 31.6 +0.9**
FFC LR LR
comp=Z,3μm,18.0s
PFVI Vila Bisbo 93.67 46 *e*PP PP 21 55 28.2 -4.3
PFVI *e*SKS SKSac 22 02 28.4 +9.1
MORF Marmelete 93.89 46 *eP* **P 21 51 48.2 +0.4**
MORF AMb AMB 21 51 52.8
comp=Z,39nm,1.6s
MORF *e*PP **PP 21 55 33.5 -0.8**
MORF Marmelete 93.89 46 *e*SKS SKSac 22 02 28.9 +8.3
MORF Marmelete 93.89 46 *eP* **P 21 51 48.2 +0.4**
MORF *e* 21 55 33.4
TAM Tamanrasset 94.25 65 *eP* P 21 51 46.5 -3.5
TAM pmax pmax
comp=Z,13nm,1.2s
TAM Tamanrasset 94.25 65 *eP* P 21 51 46.5 -3.5
comp=Z,13nm,1.2s
PBDV Barranco-do-Ve 94.27 47 *e*PP PP 21 55 36.6 -0.6
PBDV *e*SKS **SKSac 22 02 29.5 +6.8**
PCVE Castro Verde 94.47 46 *e*PP PP 21 55 37.3 -1.4
PCVE *e*SKS **SKSac 22 02 30.5 +6.9**
MESJ Messejana 94.50 46 *eP* **P 21 51 50.7 +0.2**
MESJ AMb AMB 21 51 51.0
comp=Z,31nm,1.7s
MESJ *e*PP **PP 21 55 38.1 -0.8**
MESJ Messejana 94.50 46 *eP* **P 21 51 50.7 +0.2**
MESJ *e* 21 55 38.1
PNCL Nicolau / Gran 94.50 46 *e*PP PP 21 55 36.7 -2.2
PNCL *e*SKS **SKSac 22 02 30.3 +6.5**
PVAQ Vaqueiros 94.51 47 *e*PP PP 21 55 41.4 +2.4
PVAQ *e*SKS SKSac 22 02 32.9 +9.1
PVAQ Vaqueiros 94.51 47 *e*LQ LQ 22 21 30.5
PVAQ *e*LR LR 22 26 32.5
comp=Z,6μm,20.0s
LIS Lisbon 94.55 45 *eP* **P 21 51 50.9 +0.2**
LIS AMb AMB 21 51 51.5
comp=Z,47nm,1.2s
LIS *e*PP **PP 21 55 38.3 -1.0**
LIS Lisbon 94.55 45 *eP* **P 21 51 50.9 +0.2**
comp=Z,47nm,1.2s
LIS Lisbon 94.55 45 *eP* **P 21 51 50.9 +0.2**
LIS *e* 21 55 38.3
PMAFR Mafra 94.64 45 *e*PP PP 21 55 43.9 +3.9
PMAFR *e*SKS SKSac 22 02 35.7 +11
PMTG Montargil 95.32 45 *eP* **P 21 51 55.8 +1.5**
comp=Z,24nm,1.5s
PMTG Montargil 95.32 45 *e*SKS SKSac 22 02 36.8 +8.7
PBAR Barrancos 95.42 46 *eP* **P 21 51 57.3 +2.5**
comp=Z,47nm,1.5s
PBAR Barrancos 95.42 46 *e*PP PP 21 55 40.0 -6.1
PBAR *e*SKS **SKSac 22 02 27.1 -1.6**
FCC Fort Churchill 95.47 349 *eP* **P 21 51 54.0 -0.4**
FCC pmax pmax
comp=Z,13nm,0.8s
FCC MLR MLR
comp=Z,4μm,18.0s
FCC Fort Churchill 95.47 349 *eP* **P 21 51 54.0 -0.4**
comp=Z,13nm,0.8s
FCC *e*PKiKP **PKiKP 21 56 34.9 +0.4**
FCC LR LR
comp=Z,4μm,18.0s
PESTR Estremoz 95.56 46 *e*PP PP 21 55 46.7 -0.5
PESTR *e*SKS **SKSac 22 02 22.3 -7.1**
PCAS Casmilo, Conde 95.82 44 *e*SKS **SKSac 22 02 25.4 -5.4**
PMRV Marv??o 96.04 45 *eP* **P 21 51 58.8 +1.2**
comp=Z,24nm,1.8s
PMRV Marv??o 96.04 45 *e*PP PP 21 55 52.2 +1.3
PMRV *e*SKS SKSac 22 02 43.0 +11
PMRV Marv??o 96.04 45 *e*LQ LQ 22 22 48.3
PMRV *e*LR LR 22 27 26.0
comp=Z,4μm,20.0s
MTE Manteigas 96.60 44 *e*SKS **SKSac 22 02 41.4 +6.5**
MTE Manteigas 96.60 44 *e*LQ LQ 22 23 05.0
MTE *e*LR LR 22 30 00.3
comp=Z,6μm,20.0s
PGAV Gavieira, Arco 97.23 43 *e*PP PP 21 56 03.3 +3.1
PGAV *e*SKS SKSac 22 02 48.3 +10
PGAV Gavieira, Arco 97.23 43 *e*LQ LQ 22 22 41.2
PGAV *e*LR LR 22 29 50.9
comp=Z,8μm,20.0s
MVO Moncorvo 97.40 44 *eP* Pdif 21 52 04.1 +0.2
comp=Z,25nm,1.6s
MVO Moncorvo 97.40 44 *e*PP PP 21 56 04.2 +2.8
MVO *e*SKS SKSac 22 02 48.9 +10
MVO Moncorvo 97.40 44 *e*LQ LQ 22 23 28.1
MVO *e*LR LR 22 30 19.7
comp=Z,7μm,18.0s
PAB San Pablo 97.91 47 *eP* Pdif 21 52 09.5 +3.3
PAB pmax pmax
comp=Z,15nm,1.4s
PAB San Pablo 97.91 47 *eP* Pdif 21 52 09.5 +3.4
comp=Z,15nm,1.4s
PBRG Braganca 97.98 44 *e*SKS SKSac 22 02 52.3 +10
ESDC Sonseca Array 98.22 47 P **P 21 52 07.4 -0.1**
comp=Z,1.9nm,0.9s,baz=249,slow=3.7,SNR=6.6
ESDC LR LR 22 35 36.3
comp=Z,5μm,18.7s,baz=230,slow=35
ES19 SONSECA Array 98.27 47 *eP* **P 21 52 07.5 -0.3**
DZM Mont Dzumac 99.67 234 LR LR 22 26 55.2
comp=Z,1μm,21.7s,baz=182,slow=29
DODT Dodoma, Tanzan 101.59 106 *i P* **Pdif 21 52 29.3 +6.0**
DODT PKP PKiKP 21 56 41.3 -5.8
DODT *i* PKP 22 05 50.5
ABPO Ambohimpanom 101.74 124 PFAKE 21 52 30.0 +6.0
ABPO LR LR
comp=Z,4μm,20.0s
ARMA Armidale 102.13 218 PFAKE 21 52 30.0 +4.6
ARMA LR LR
comp=Z,2μm,19.6s
AIS Amsterdam Isla 102.23 157 Pdif **Pdif 21 52 18.0 -7.6**
AIS PP PP 21 56 23.0 -14
AIS SP SP 22 05 53.0 +14
AIS R 22 23 00.0
YKA Yellowknife Ar 103.13 342 Pdiff **Pdif 21 52 28.3 -0.4**
comp=Z,1.0nm,0.8s,baz=142,slow=4.1,SNR=10.0
YKA PKKPbc **PKKPbc 22 08 24.0 -2.2**
comp=Z,0.3nm,0.7s,baz=324,slow=3.7,SNR=3.9
YKA PKKP **PKKPdf 22 08 34.3 -0.6**
comp=Z,0.3nm,0.7s,baz=339,slow=3.9,SNR=4.5
YKB5 Yellowknife Ar 103.13 342 *e*Pdif **Pdif 21 52 31.3 +2.6**
DYA Yadsworthy 104.97 38 PFAKE 21 57 00.0
DYA LR LR
comp=Z,6μm,18.1s
DSB Dublin 105.53 35 PFAKE 21 57 00.0
DSB LR LR
comp=Z,5μm,18.0s
VSL Villasalto 106.46 53 PFAKE 21 57 00.0
VSL LR LR
comp=Z,6μm,20.0s
EIDS Eidsvold 106.47 221 PFAKE 21 57 00.0
EIDS LR LR
comp=Z,2μm,19.3s
BBOO Buckleboo 106.80 205 PFAKE 21 57 00.0
BBOO LR LR
comp=Z,16μm,21.5s
BNI Bardonecchia 107.74 47 PFAKE 21 57 00.0
BNI LR LR
comp=Z,7μm,20.0s
CLTB Caltabellotta 108.01 56 PFAKE 21 57 00.0
CLTB LR LR
comp=Z,8μm,18.0s
WDD Wield Dalam 108.03 59 PFAKE 21 57 00.0
WDD LR LR
comp=Z,14μm,19.0s
ESK Eskdalemuir 108.27 34 PFAKE 21 57 00.0
ESK LR LR
comp=Z,6μm,18.0s
EDI Edinburgh 108.63 34 PFAKE 21 57 00.0
EDI LR LR
comp=Z,4μm,19.1s
VLC Villacollemand 109.53 49 PFAKE 21 57 10.0
VLC LR LR
comp=Z,3μm,19.0s
WLF Walferdange 109.88 43 PFAKE 21 57 10.0
WLF LR LR
comp=Z,5μm,19.0s
TUE Stuetta 110.08 47 PFAKE 21 57 10.0
TUE LR LR
comp=Z,4μm,20.0s
TARA Tarawa 110.18 257 PFAKE 21 57 10.0
TARA LR LR
comp=Z,2μm,18.0s
CEL Celeste 110.18 57 PFAKE 21 57 10.0
CEL LR LR
comp=Z,13μm,19.0s
SUMG Summit 110.37 11 PFAKE 21 57 10.0
SUMG LR LR
comp=Z,4μm,20.0s
BFO Black Forest 110.42 45 PFAKE 21 57 10.0
BFO LR LR
comp=Z,3μm,21.0s
AQU L'Aquila 110.54 52 PFAKE 21 57 10.0
AQU LR LR
comp=Z,4μm,20.0s
DAVOX Davos/Dischmat 110.55 47 PKiKP **PKiKP 21 57 02.6 -0.1**
comp=Z,1.0nm,0.5s,baz=230,slow=12,SNR=3.7
FUORN Ofenpass-Fuorn 110.70 47 PFAKE 21 57 10.0
FUORN LR LR
comp=Z,6μm,20.6s
CUC Castrocucco 110.98 55 PFAKE 21 57 10.0
CUC LR LR
comp=Z,4μm,19.0s
STU Stuttgart 111.14 45 PFAKE 21 57 10.0
STU LR LR
comp=Z,4μm,21.0s
FETA Feichten 111.17 47 ⇑*i*pPKiKP **PKiKP 21 57 04.5 +0.7**
comp=Z,6.4nm,1.3s
FORT Forrest 111.18 199 PFAKE 21 57 10.0
FORT LR LR
comp=Z,5μm,20.4s
TIP Timpagrande 111.22 56 PFAKE 21 57 10.0
TIP LR LR
comp=Z,5μm,19.0s
TRI Trieste 112.39 49 PFAKE 21 57 10.0
TRI LR LR
comp=Z,3μm,18.1s
GRFO Grafenberg 112.75 44 PFAKE 21 57 10.0
GRFO LR LR
comp=Z,4μm,19.0s
FURI Furi 112.86 95 PFAKE 21 57 10.0
FURI LR LR
comp=Z,5μm,19.0s
HNR Honiara 112.96 239 PFAKE 21 57 10.0
HNR LR LR
comp=Z,2μm,19.0s
EGAK Eagle 113.00 334 PFAKE 21 57 10.0
EGAK LR LR
comp=Z,2μm,18.0s
CTAO Charters Tower 113.34 221 PFAKE 21 57 10.0
CTAO LR LR
comp=Z,2μm,19.0s
SOKA Soboth 113.61 49 ⇓*i*PKiKP **PKiKP 21 57 04.8 -3.6**
comp=Z,3.5nm,1.0s
GEC2 GERESS Array S 113.80 46 *e*PKIKP **PKiKP 21 57 09.0 +0.3**
GEC2 GERESS Array S 113.80 46 *e*PKiKP **PKiKP 21 57 09.0 +0.3**
GERES GERESS Array B 113.80 46 PKiKP **PKiKP 21 57 08.8 +0.2**
comp=Z,3.1nm,0.9s,baz=222,slow=1.3,SNR=16
KHC Kasperske Hory 113.86 46 *e*PKIKP **PKiKP 21 57 10.7 +2.0**
KHC *e* 21 57 18.6
KHC *e* 22 03 52.5
KHC *e*SP SP 22 07 37.2 +1.3
KHC *e* 22 08 51.1
KHC *e*SS **SS 22 13 44.6 -5.8**
KHC MLR MLR
comp=Z,4μm,16.6s
KHC Kasperske Hory 113.86 46 *e*PKP **PKiKP 21 57 10.7 +2.0**
KHC *es*PKP 21 57 18.6
KHC *eP*P **PP 21 58 00.3 -2.6**
KHC *e*SKS **SKSac 22 03 52.5 0.0**
KHC *e*SKKS **SKKSac 22 05 04.6 +2.6**
KHC *e*XS 22 05 50.5
KHC *e*SP **SP 22 07 37.2 +1.3**
KHC *ex* x 22 08 51.1
KHC *e*SS **SS 22 13 44.6 -5.8**
KHC AMS AMS 22 49 50.0
comp=Z,4μm,16.6s
SML Sawmill 114.14 330 PFAKE 21 57 20.0 +11
SML LR LR
comp=Z,500nm,20.3s
RC01 Rabbit Creek A 114.37 329 PFAKE 21 57 20.0 +11
RC01 LR LR
comp=Z,2μm,20.1s
CLL Collm 114.51 43 *e*PKIKP PKPdf 21 57 12.0 +2.2
CLL *e* 21 58 06.0
CLL *e* 22 03 52.0
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL MLR MLR
comp=Z,6μm,20.4s
CLL Collm 114.51 43 *e*(PKiKP) PKPdf 21 57 12.0 +2.2
comp=Z,7.0nm,1.2s
CLL *i* sPKiKP sPKiKP 21 57 19.9 -2.2
CLL *eP*P **PP 21 58 06.0 -1.4**
CLL *e*SKSac **SKSac 22 03 52.0 -2.8**
CLL *e*SKKSac SKKSac 22 05 14.0 +7.8
CLL *e*Sdif **Sdif 22 05 55.0 +6.5**
CLL *eP*S **PS 22 07 46.0 +0.6**
CLL *e*PPS PPS 22 09 03.0
CLL *e*SS **SS 22 14 01.0 +2.3**
CLL *e*SSS SSS 22 18 12.0
CLL *e* 22 25 18.0
CLL Lm MLR 22 45 00.0
comp=N,2μm,20.5s
CLL Lm MLR 22 45 00.0
comp=E,4μm,20.9s
CLL Lm MLR 22 45 00.0
comp=Z,6μm,20.4s
CLL Collm 114.51 43 PFAKE 21 57 20.0 +10
CLL LR LR
comp=Z,7μm,20.0s
PRU Pruhonice 114.80 45 *e*PP **PP 21 58 06.8 -2.7**
PRU *e*SKS **SKSac 22 03 59.7 +3.7**
PRU *ex* x 22 05 12.4
PRU *e*XS x 22 05 59.1
PRU *e*SP **SP 22 07 45.9 +1.5**
PRU *ex* x 22 09 04.9
PRU *e*SS **SS 22 14 01.6 -1.1**
PRU AMS AMS 22 55 40.0
comp=Z,3μm,18.8s
BRG Berggiesshubel 114.84 44 PP **PKiKP 21 57 10.8 +0.4**
comp=Z,5.4nm,1.1s
BRG SKS **SKSac 22 03 55.0 -1.2**
BRG PS **SP 22 07 49.0 +4.3**
BRG SS **SS 22 14 01.0 -2.2**
TREC Trest 115.05 46 *e*PKIKP **PKPdf 21 57 13.5 +2.5**
TREC *e* 21 57 18.7
TREC *e*SP SP 22 07 46.4 -0.4
TREC *e* 22 09 09.4
TREC MLR MLR
comp=Z,3μm,18.2s
TREC Trest 115.05 46 *e*PKP **PKPdf 21 57 13.5 +2.5**
TREC *ep*PKP PKiKP 21 57 18.7 +7.7
TREC *e*SP SP 22 07 46.4 -0.4
TREC *ex* x 22 09 09.4
TREC AMS AMS 22 53 40.0
comp=Z,3μm,18.2s
PVCC Panska Ves 115.05 45 *e*PKIKP **PKPdf 21 57 13.6 +2.7**
PVCC *e* 21 57 19.3
PVCC *e* 21 58 09.7
PVCC *e*SP SP 22 07 48.9 +2.2
PVCC MLR MLR
comp=Z,5μm,21.4s
PVCC Panska Ves 115.05 45 *e*PKP **PKPdf 21 57 13.6 +2.7**
PVCC *ep*PKP PKiKP 21 57 19.3 +8.4
PVCC *eP*P **PP 21 58 09.7 -1.6**
PVCC *e*SP SP 22 07 48.9 +2.2
PVCC AMS AMS 22 43 50.0
comp=Z,5μm,21.4s
IL1 Eielson Array 115.07 333 *e*PKiKP **PKPdf 21 57 09.5 -1.0**
IL1 *eP*P PP 21 58 20.6 +10
ILAR Eielson Array 115.07 333 PKP **PKPdf 21 57 10.6 +0.1**
comp=Z,1.0nm,0.8s,baz=205,slow=2.6,SNR=9.1
ILAR PP **PP 21 58 09.5 -1.5**
comp=Z,1.4nm,1.1s,baz=119,slow=3.2,SNR=5.0
ILAR PKKPbc **PKKPbc 22 07 46.0 -1.7**
comp=Z,0.9nm,1.1s,baz=224,slow=5.0,SNR=3.3
RUE Ruedersdorf 115.45 43 PFAKE 21 57 20.0 +8.5
RUE LR LR
comp=Z,4μm,18.0s
COLA College 115.48 333 PFAKE 21 57 20.0 +8.8
COLA LR LR
comp=Z,2μm,19.0s
VRAC Vranov 115.71 47 ⇑PKIKP **PKPdf 21 57 14.4 +2.2**
VRAC Vranov 115.71 47 ⇑*i*P **PKPdf 21 57 14.4 +2.2**
TRF Thorofare Moun 115.73 331 PFAKE 21 57 20.0 +8.0
TRF LR LR
comp=Z,2μm,19.7s
AS01 Alice Springs 115.86 208 *e*PKPdf **PKPdf 21 57 11.9 -1.6**
AS01 *e*PKKPbc **PKKPbc 22 07 44.5 +0.3**
UPC Upice 115.88 45 *e*PKIKP **PKPdf 21 57 12.3 -0.2**
UPC Upice 115.88 45 *e*PKP **PKPdf 21 57 12.3 -0.2**
ASAR Alice Springs 115.88 208 PKP **PKPdf 21 57 12.3 -1.2**
comp=Z,2.3nm,0.9s,baz=130,slow=1.6,SNR=14
ASAR PKKPbc **PKKPbc 22 07 42.2 -1.8**
comp=Z,0.8nm,0.6s,baz=338,slow=3.0,SNR=10
ASAR PKKPab **PKKPab 22 07 51.1 -1.3**
comp=Z,2.1nm,0.6s,baz=333,slow=2.8,SNR=13
DPC Dobruska-Polom 115.99 45 *e*PKP **PKPdf 21 57 13.3 +0.5**
DPC *ep*PKP **pPKiKP 21 57 20.8 -1.1**
DPC *eP*P **PP 21 58 15.7 -2.2**
DPC *e*SKS **SKSac 22 04 04.3 +3.6**
DPC *e*SKKS **SKKSac 22 05 19.5 +3.1**
DPC *e*S **Sdif 22 06 04.8 +3.7**
DPC *e*PS **PS 22 07 58.7 -0.4**
DPC *ex* x 22 09 22.0
DPC *e*SS **SS 22 14 20.9 +2.5**
DPC AMS AMS 22 51 20.0
DPC Dobruska-Polom 115.99 45 *e*PKPdf **PKPdf 21 57 15.9 +3.1**
DPC LR LR
comp=Z,17μm,18.0s
SANT Santorini 116.06 63 PFAKE 21 57 20.0 +6.7
SANT LR LR
comp=Z,3μm,20.0s
MORC Moravsky Berou 116.47 46 ⇑PKIKP **PKPdf 21 57 16.8 +3.1**
MORC Moravsky Berou 116.47 46 ⇑*i*P **PKPdf 21 57 16.8 +3.1**
VYHS Vyhne 116.72 48 *e*PKP **PKPdf 21 57 16.7 +2.5**
OKC Ostrava-Krasne 116.85 47 *e*PKIKP **PKPdf 21 57 15.2 +0.8**
OKC *e* 21 57 22.5
OKC *e*SP SP 22 08 12.9 +10
OKC *e* 22 09 31.8
OKC *e*SS **SS 22 14 27.7 -1.8**
OKC MLR MLR
comp=Z,3μm,19.0s
OKC Ostrava-Krasne 116.85 47 *e*PKP **PKPdf 21 57 15.2 +0.8**
OKC *ep*PKP pPKPdf 21 57 22.5 -1.0
OKC *eP*P PP 21 58 16.8 -7.1
OKC *e*S **Sdif 22 06 11.1 +2.9**
OKC *ex* x 22 08 12.9
OKC *ex* x 22 09 31.8
OKC *e*SS **SS 22 14 27.7 -1.8**
OKC AMS AMS 22 50 20.0
comp=Z,3μm,19.0s
VTS Vitosha 117.12 56 ⇑PKIKP **PKPdf 21 57 16.0 +0.7**
VTS Vitosha 117.12 56 ⇑*i*P **PKPdf 21 57 16.0 +0.7**
PSZ Piszkesteto 117.14 49 PFAKE 21 57 20.0 +4.9
PSZ LR LR
comp=Z,4μm,20.0s
BZS Buzias 117.30 52 ⇑PKIKP **PKPdf 21 57 15.9 +0.5**
BZS Buzias 117.30 52 ⇑*i*P **PKPdf 21 57 15.9 +0.5**
COLD Coldfoot 117.43 335 PFAKE 21 57 20.0 +5.0
COLD LR LR
comp=Z,2μm,18.5s
NB2 NORSAR Subarra117.72 33 PKPdf **PKPdf 21 57 15.4 -0.4**
comp=Z,7.7nm,1.2s,baz=248,slow=1.9
NB2 NORSAR Subarra117.72 33 PKPdf **PKPdf 21 57 15.4 -0.4**
baz=248,slow=1.9
NOA NORSAR Array B117.72 33 PKP **PKPdf 21 57 14.9 -0.9**
comp=Z,2.0nm,0.8s,baz=253,slow=2.3,SNR=4.8

NOA PKKPbc **PKKPbc** **22 07 39.0 +0.7**
comp=Z,1.1nm,0.9s,baz=77,slow=3.9,SNR=2.6
OJC Ojcow 117.98 47 *e*PKIKP **PKPdf** **21 57 19.4 +2.8**
OJC Ojcow 117.98 47 *e*PKPdf **PKPdf** **21 57 19.4 +2.8**
DRGR 118.46 51 ⇓*i*PKIKP **PKPdf** **21 57 17.9 +0.2**
DRGR 118.46 51 ⇓*i*P **PKPdf** **21 57 17.9 +0.2**
HFS Hagfors 118.50 35 PKP **PKPdf** **21 57 16.8 -0.4**
comp=Z,2.9nm,0.8s,baz=184,slow=6.7,SNR=7.6
HFS PKKPbc **PKKPab** **22 07 33.6 -1.2**
comp=Z,0.6nm,0.5s,baz=109,slow=7.9,SNR=3.6
TRPA Tarpa 118.86 50 ⇑*i*P **PKPdf** **21 57 18.8 +0.5**
UZH Uzhgorod 118.89 49 *e*PKIKP **PKPdf** **21 57 22.7 +4.4**
UZH *i* 21 58 37.9
UZH *i* 22 08 27.1
KOLS Kolonicke sedl 118.99 49 *e*PKIKP **PKPdf** **21 57 20.9 +2.4**
KOLS Kolonicke sedl 118.99 49 *e*PKP **PKPdf** **21 57 20.9 +2.4**
HUMR Humele 119.06 54 ⇓*i*P **PKPdf** **21 57 18.5 -0.3**
WRA Warramunga Arr 119.07 210 PKP **PKPdf** **21 57 18.5 -1.2**
comp=Z,4.7nm,0.8s,baz=158,slow=1.7,SNR=24
WRA PKKPbc **PKKPbc** **22 07 32.8 +0.1**
comp=Z,1.0nm,0.7s,baz=339,slow=4.1,SNR=7.1
ARR Arges 119.16 53 ⇑*i*P **PKPdf** **21 57 19.4 +0.3**
JMB Yambol 119.36 57 ⇑*i*PKIKP **PKPdf** **21 57 22.1 +2.7**
JMB Yambol 119.36 57 ⇑*i*P **PKPdf** **21 57 22.1 +2.7**
VOIR 119.45 53 ⇓*i*PKIKP **PKPdf** **21 57 20.2 +0.6**
VOIR 119.45 53 ⇓*i*P **PKPdf** **21 57 20.2 +0.6**
KWP Kalwaria Pacla 119.51 48 *e*PKIKP **PKPdf** **21 57 14.5 -5.0**
KWP Kalwaria Pacla 119.51 48 *e*PKP **PKPdf** **21 57 18.8 -0.7**
KWP Kalwaria Pacla 119.51 48 *e*PKPdf **PKPdf** **21 57 14.5 -5.0**
COEN Coen 120.03 222 PFAKE 21 57 30.0 +8.3
COEN LR LR
comp=Z,18μm,20.6s
MLR Muntele Rosu 120.06 53 ⇑PKIKP **PKPdf** **21 57 19.0 -1.9**
MLR Muntele Rosu 120.06 53 ⇑*i*P **PKPdf** **21 57 19.0 -1.9**
MLR Muntele Rosu 120.06 53 PKP **PKPdf** **21 57 19.8 -1.1**
comp=Z,0.7nm,0.5s,baz=161,slow=5.9,SNR=4.3
EIL Elat 120.32 73 PKP **PKPdf** **21 57 21.2 -0.5**
comp=Z,1.5nm,0.4s
BUR04 Bucovina Ar. S 120.35 51 *e*PKPdf **PKPdf** **21 57 21.6 +0.2**
BURAR Bucovina Array 120.35 51 ⇓PKIKP **PKPdf** **21 57 23.0 +1.7**
BURAR Bucovina Array 120.35 51 ⇓*i*P **PKPdf** **21 57 23.0 +1.7**
PLOR Plostina 120.65 53 ⇓PKIKP **PKPdf** **21 57 24.1 +2.2**
PLOR Plostina 120.65 53 ⇓*i*P **PKPdf** **21 57 24.1 +2.2**
VRI Vrincioaia 120.70 53 ⇑PKIKP **PKPdf** **21 57 23.7 +1.7**
VRI Vrincioaia 120.70 53 ⇑*i*P **PKPdf** **21 57 23.7 +1.7**
TLB Topalu 121.12 55 ⇑PKIKP **PKPdf** **21 57 23.8 +1.1**
TLB Topalu 121.12 55 ⇑*i*P **PKPdf** **21 57 23.8 +1.1**
SUW Suwalki 121.26 43 *e*PKIKP **PKPdf** **21 57 22.1 -0.6**
SUW Suwalki 121.26 43 *e*PKP **PKPdf** **21 57 22.0 -0.6**
SUW Suwalki 121.26 43 *e*PKPdf **PKPdf** **21 57 22.8 +0.1**
SUW LR LR
comp=Z,4μm,20.0s
CSS Prodhromos 121.29 67 PFAKE 21 57 30.0 +6.6
CSS LR LR
comp=Z,600nm,20.0s
TIRR Tirgusor 121.33 55 PFAKE 21 57 30.0 +6.9
TIRR LR LR
comp=Z,4μm,19.0s
CFR Carcaliu 121.39 54 ⇑PKIKP **PKPdf** **21 57 23.4 +0.2**
CFR Carcaliu 121.39 54 ⇑*i*P **PKPdf** **21 57 23.4 +0.2**
PMG Port Moresby 121.39 228 PFAKE 21 57 30.0 +5.7
PMG LR LR
comp=Z,2μm,22.0s
KIS Kishinev 122.45 53 *e*PKIKP **PKPdf** **21 57 27.0 +1.8**
KIS *e* 21 57 33.0
KIS *e*PPP PPP 22 01 50.0
KIS *e*PS **PS** **22 09 05.0 +7.8**
KIS MLR MLR
comp=E,3μm,19.0s
KIS MLR MLR
comp=Z,5μm,19.0s
KIS MLR MLR
comp=Z,5μm,20.0s
KIS Kishinev 122.45 53 *e*PKP **PKPdf** **21 57 27.0 +1.8**
KIS Kishinev 122.45 53 *e*PP PP 21 59 00.0 -2.5
KIS Kishinev 122.45 53 *e*PPP PPP 22 01 50.0
KIS *e*SKKS 22 05 55.0
KIS Kishinev 122.45 53 *e*PPS PPS 22 11 08.0
KIS LRM MLR 22 53 00.0
comp=Z,5μm,20.0s
BR231 Keskin MP Arra 122.73 62 *e*PKPpre PKPpre 21 57 18.3
ANTO Ankara 122.75 62 PFAKE 21 57 30.0 +3.8
ANTO LR LR
comp=Z,2μm,20.0s
BRTR Keskin Array B 123.31 62 PKP **PKPdf** **21 57 27.4 +0.1**
comp=Z,3.0nm,0.9s,baz=192,slow=3.7,SNR=12
IIGN Ignalina 123.34 42 *e*P **PKPdf** **21 57 27.0 +0.3**
IIGN AMB AMB 21 57 35.7
comp=Z,7.8nm,1.3s
NACGM Naroch 123.53 43 *e*PKP **PKPdf** **21 57 27.0 0.0**
IDID Didziasalis 123.62 43 *e*P **PKPdf** **21 57 27.3 +0.2**
IDID AMB AMB 21 57 41.1
comp=Z,6.7nm,1.2s
AK11 Malin Array Si 123.78 48 *e*PKPdf **PKPdf** **21 57 26.6 -1.0**
KIEV Kiev 123.81 48*c i*PKIKP **PKPdf** **21 57 26.2 -1.5**
KIEV Kiev 123.81 48 *e*PKPdf **PKPdf** **21 57 25.6 -2.1**
KIEV LR LR
comp=Z,3μm,20.0s
AKASG Malin Array Be 123.82 48 PKP **PKPdf** **21 57 27.1 -0.7**
comp=Z,8.0nm,0.8s,baz=265,slow=2.7,SNR=20
MNK Minsk 124.02 44 *e*PKIKP **PKPdf** **21 57 26.0 -2.0**
MNK *e*PS **PS** **22 09 18.0 +7.1**
MNK MLR MLR
comp=Z,7μm,20.0s
MNK MLR MLR
comp=E,3μm,20.0s
MNK MLR MLR
comp=Z,6μm,20.0s
MICGM Minsk 124.04 44 *e*PKP **PKPdf** **21 57 26.0 -2.0**
SPITS Spitsbergen Ar 124.29 14 PKP **PKPdf** **21 57 28.2 +0.2**
comp=Z,10nm,1.0s,baz=164,slow=4.3,SNR=7.7
VSU Vasula 124.38 39*de*PKIKP **PKPdf** **21 57 28.1 -0.4**
VSU MLR MLR
comp=Z,10μm,18.0s
FINES FINESS Array B 124.68 35 PKP **PKPdf** **21 57 29.1 0.0**
comp=Z,4.0nm,0.7s,baz=186,slow=1.9,SNR=14
GAMB Gambell 124.84 328 *e*PKPdf **PKPdf** **21 57 30.6 +1.3**
GAMB *e*PP **PP** **21 59 21.4 +3.4**
GAMB LR LR
comp=Z,1μm,20.0s
KAF Kangasniemi 124.92 34 *e*PKIKP **PKPdf** **21 57 28.2 -1.3**
KAF Kangasniemi 124.92 34 *e*pkp **PKPdf** **21 57 28.2 -1.3**
ARCES ARCESS Array B 125.70 25 PKP **PKPdf** **21 57 30.9 +0.1**
comp=Z,3.0nm,0.6s,baz=263,slow=4.2,SNR=15
RAYN Ar Rayn 126.03 85 *e*PKPdf **PKPdf** **21 57 33.9 +0.9**
RAYN LR LR
comp=Z,4μm,18.0s
KEV Kevo 126.24 25 *e*PKIKP **PKPdf** **21 57 33.9 +2.1**
KEV Kevo 126.24 25 *e*pkp **PKPdf** **21 57 33.9 +2.1**
MALT Malatya 126.33 65 ⇑PKIKP **PKPdf** **21 57 34.3 +1.2**
MALT Malatya 126.33 65 ⇑*i*P **PKPdf** **21 57 34.3 +1.2**
DGAR Diego Garcia 126.44 136 PFAKE 21 57 40.0 +6.0
DGAR LR LR
comp=Z,3μm,20.0s
JOF Joensuu 127.33 34 *e*PKIKP **PKPdf** **21 57 34.1 0.0**
JOF Joensuu 127.33 34 *e*pkp **PKPdf** **21 57 34.1 0.0**
ANN Anapa 127.56 57 *i*PKIKP **PKPdf** **21 57 34.5 -0.6**
ANN *e* 22 04 36.3
ANN *e*PS **PS** **22 09 48.8 +6.5**
ANN *e*SS SS 22 16 47.0 +0.9
ANN pmax pmax
comp=Z,30nm,1.4s
APA Apatity 128.48 28 ⇓*i*PKIKP PKPdf 21 57 43.0 +6.9
APA *i* 21 59 53.0
APA *i* 22 04 34.0
APA *i* 22 09 44.0
APA *i*PS **PS** **22 09 54.0 +4.4**
APA *i*SS SS 22 17 04.0 +7.7
APA MLR MLR
comp=Z,3μm,21.0s
SOC Sochi 128.82 59 *i*PKIKP **PKPdf** **21 57 39.2 +1.7**
SOC *i* 21 59 43.1
SOC *e*PS **PS** **22 09 46.7 -6.7**
SOC *e*SS SS 22 17 02.6 +0.7
SOC pmax pmax
comp=Z,14nm,0.6s
SOC MLR MLR
comp=Z,1μm,20.0s
OBN Obninsk 129.09 44 ⇓*i*PKIKP **PKPdf** **21 57 37.1 -0.5**
OBN *i* 21 57 44.8
OBN *i* 21 59 54.4
OBN *e*SS SS 22 17 08.5 +4.0
OBN pmax pmax
comp=Z,33nm,1.5s
OBN MLR MLR
comp=Z,3μm,21.0s
OBN Obninsk 129.09 44 PKP **PKPdf** **21 57 37.0 -0.7**
comp=Z,7.8nm,0.6s,baz=210,slow=6.0,SNR=6.2
OBN Obninsk 129.09 44 *e*PKPdf **PKPdf** **21 57 38.2 +0.5**
OBN LR LR
comp=Z,3μm,20.0s
MOS Moscow 129.77 43 *e*PKIKP **PKPdf** **21 57 37.7 -1.2**
MOS *e* 21 59 51.8
MOS pmax pmax
comp=Z,25nm,0.9s
MOS MLR MLR
comp=E,4μm,22.0s
MOS MLR MLR
comp=Z,4μm,22.0s
MOS MLR MLR
comp=N,800nm,16.0s
VSR Storozhevoye 130.06 49 *e*PKIKP **PKPdf** **21 57 38.1 -1.5**
VSR *e* 21 59 52.2
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=E,4.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,3.0nm,0.8s
VSR pmax pmax
comp=Z,7.0nm,0.8s
VSR MLR MLR
comp=E,3μm,24.0s
VSR MLR MLR
comp=Z,5μm,24.0s
VSR MLR MLR
comp=N,620nm,20.0s
TMCR Tamitsa 130.40 32 *e*PKIKP **PKPdf** **21 57 40.2 +0.4**
TMCR pmax pmax
comp=Z,37nm,1.3s
KIV Kislovodsk 131.00 59 *i*PKIKP **PKPdf** **21 57 41.0 -0.8**
KIV *e*PS **PS** **22 10 07.8 -4.8**
KIV *e*SS SS 22 17 24.6 -4.4
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,2μm,21.0s
KIV Kislovodsk 131.00 59 *e*PKPdf **PKPdf** **21 57 42.1 +0.3**
KIV LR LR
comp=Z,2μm,21.0s
SAUI Saumlaki 131.05 213 PFAKE 21 57 50.0 +7.3
SAUI LR LR
comp=Z,3μm,18.0s
KLMR Klimovskoe 131.09 37 *e*PKIKP **PKPdf** **21 57 39.5 -1.8**
KLMR pmax pmax
comp=Z,95nm,1.3s
KBZ Khabaz 131.10 60 PKP **PKPdf** **21 57 42.0 +0.2**
comp=Z,2.1nm,1.0s,baz=236,slow=7.3,SNR=3.6
GNI Garni 131.55 65 ⇑*i*PKIKP **PKPdf** **21 57 41.9 -1.2**
GNI MLR MLR
comp=Z,2μm,21.0s
GNI Garni 131.55 65 PKP **PKPdf** **21 57 43.7 +0.7**
comp=Z,1.5nm,0.6s,baz=218,slow=12,SNR=3.9
GNI Garni 131.55 65 PKP **PKPdf** **21 57 43.7 +0.7**
GNI *ep*PKPdf **pPKPdf** **21 57 51.6 -0.6**
GNI LR LR
comp=Z,2μm,20.0s
VRHR Novokhopersk 131.58 50 *e*PKIKP **PKPdf** **21 57 40.0 -2.5**
VRHR pmax pmax
comp=N,9.0nm,0.9s
VRHR pmax pmax
comp=E,7.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR MLR MLR
comp=N,370nm,23.0s
VRHR MLR MLR
comp=E,2μm,23.0s
VRHR MLR MLR
comp=Z,3μm,23.0s
BATI Baumata 131.91 202 PKP **PKPdf** **21 57 45.5 +1.2**
comp=Z,7.5nm,0.4s,baz=112,slow=5.4,SNR=4.1
SOEI Soe 132.14 203 PFAKE 21 57 50.0 +5.0
SOEI LR LR
comp=Z,4μm,19.0s
BILL Bilibino 133.73 333 ⇑*e*PKIKP **PKPdf** **21 57 45.9 -0.2**
BILL *i* 21 57 54.5
BILL *e* 22 00 19.7
BILL *i*SS SS 22 18 06.6 +6.3
BILL pmax pmax
comp=Z,14nm,1.4s
BILL Bilibino 133.73 333 *e*PKPdf **PKPdf** **21 57 46.4 +0.3**
BILL LR LR
comp=Z,1μm,19.0s
MMRI Maumere 133.82 201 PFAKE 21 57 50.0 +2.0
MMRI LR LR
comp=Z,2μm,20.0s
PRGR Permogore 134.01 36 *e*PKIKP **PKPdf** **21 57 42.2 -4.5**
PRGR pmax pmax
comp=Z,42nm,1.0s
MAK Makhachkala 134.22 62 *i*PKIKP **PKPdf** **21 57 47.7 0.0**
MAK *e* 22 04 54.8
XMIS Christmas Isla 134.31 178 PFAKE 21 58 00.0 +11
XMIS LR LR
comp=Z,7μm,18.5s
FAKI Fak Fak 135.04 217 PFAKE 21 58 00.0 +10
FAKI LR LR
comp=Z,1μm,18.0s
UGM Wanagama 136.74 185 PFAKE 21 58 00.0 +6.5
UGM LR LR
comp=Z,4μm,19.0s
CISI Cisompet, Garu 137.23 181 PKP **PKPdf** **21 57 53.5 -0.9**
CISI Cisompet, Garu 137.23 181 PKP **PKPdf** **21 57 55.9 +1.5**
CISI Cisompet, Garu 137.23 181 *e*PKPdf **PKPdf** **21 57 56.7 +2.3**
CISI LR LR
comp=Z,2μm,20.0s
KAPI Kappang 137.98 199 *ep*PKPdf **pPKPdf** **21 58 05.4 +0.6**
KAPI LR LR
comp=Z,2μm,20.0s
SOKR Solikamsk 139.78 37 ⇑*i*PKIKP **PKPdf** **21 57 57.7 +0.3**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
PET Petropavlovsk 139.93 313 *e*P **Pdif** **21 55 22.2 +10**
PET *i* 21 57 59.0
PET *e* 22 01 03.7
PET pmax pmax
comp=Z,200nm,16.4s
PET pmax pmax
comp=Z,400nm,17.4s
PET MLR MLR
comp=Z,2μm,19.0s
MNAI Manna 140.24 174 PFAKE 21 58 10.0 +10
MNAI LR LR
comp=Z,4μm,20.0s
PEA0 Petropavlovsk- 140.49 313 *e*PKPdf **PKPdf** **21 58 00.5 +1.5**
PETK Petropavlovsk- 140.49 313 PKhKP PKPpre 21 57 55.5
comp=Z,2.8nm,0.9s,baz=161,slow=5.8,SNR=3.5
PETK PKP **PKPdf** **21 57 59.7 +0.6**
comp=Z,9.1nm,0.8s,baz=114,slow=3.5,SNR=6.9
LUWI Luwuk 140.78 206 PKP **PKPdf** **21 58 02.8 +2.0**
SEY Seymchan 140.81 329 PKhKP PKPpre 21 57 52.5
comp=Z,2.0nm,0.6s,baz=258,slow=3.4,SNR=7.6
SEY PKP **PKPdf** **21 57 58.8 -0.5**
comp=Z,5.5nm,0.8s,baz=146,slow=5.2,SNR=11
GEYT Alibeck 141.17 72 PKhKP PKPpre 21 57 53.8
comp=Z,2.6nm,0.9s,baz=266,slow=4.0,SNR=6.8
GEYT PKP **PKPdf** **21 58 01.7 +0.9**
comp=Z,2.7nm,0.7s,baz=291,slow=4.6,SNR=7.9
ARU Arti 141.42 42 *i*PKIKP **PKPdf** **21 58 02.1 +1.5**
ARU 22 01 01.5
ARU Arti 141.42 42 *e*PKPpre PKPpre 21 57 54.6
ARU LR LR
comp=Z,5μm,20.0s
PMBI Palembang 141.78 177 PFAKE 21 58 10.0 +7.4
PMBI LR LR
comp=Z,2μm,19.7s
TIXI Tiksi 141.94 349*ce*PKIKP **PKPdf** **21 58 00.3 -0.8**
TIXI Tiksi 141.94 349 *e*PKPpre PKPpre 21 57 56.9
TIXI LR LR
comp=Z,2μm,19.0s
AKTO Aktyubinsk 141.94 51 PKhKP PKPpre 21 57 57.5
comp=Z,2.9nm,0.8s,baz=147,slow=2.8,SNR=8.6
SVE Sverdlovsk 142.44 41 *i*PKIKP **PKPdf** **21 57 59.6 -2.8**
SVE pmax pmax
comp=Z,22nm,1.3s
SVE MLR MLR
comp=Z,4μm,19.0s
SVE MLR MLR
comp=E,2μm,19.0s
MPSI Mapaga 143.03 202 PKP PKPab 21 58 00.3 +0.3
PALK Pallekele 143.09 133 PKhKP PKPpre 21 58 01.5
comp=E,8.4nm,0.9s,baz=183,slow=5.6,SNR=5.5
ABKAR Abkulak array 143.27 53 *e*PKPpre PKPpre 21 58 00.6
STKI Sintang 144.54 188 PKP **PKPab** **21 58 05.0 -0.9**
STKI Sintang 144.54 188 PKP PKPbc 21 58 06.5 +0.4
BKNI Bangkinang 144.64 170 PKP **PKPab** **21 58 04.6 -1.6**
BKNI Bangkinang 144.64 170 *e*PKPdf **PKPab** **21 58 03.2 -3.1**
BKNI LR LR
comp=Z,4μm,19.1s
MNSI Mandailing Nat 144.87 167 PKP **PKPab** **21 58 06.9 -0.1**
GSI Gunungsitoli 144.95 164 PKP PKPbc 21 58 07.4 0.0
GSI Gunungsitoli 144.95 164 *e*PKPbc **PKPdf** **21 58 08.3 +0.1**
GSI LR LR
comp=Z,5μm,20.0s
KSM Kuching 146.05 186 ⇓P **PKPab** **21 58 11.5 +0.1**
KSM Kuching 146.05 186 *e*PKPdf **PKPab** **21 58 12.5 +1.0**
POO Poona 146.30 111 *ex* **PKPab** **21 58 11.0 -1.3**
MYKOM Kota Tinggi 146.40 175 ⇑P **PKPdf** **21 58 10.9 +0.2**
PSI Prapat 146.70 165 PKP **PKPdf** **21 58 10.1 -1.2**
comp=Z,37nm,0.9s,baz=182,slow=10,SNR=9.9
PSI PKPbc **PKPbc** **21 58 12.6 -0.4**
comp=Z,34nm,0.8s,baz=164,slow=5.5,SNR=16
SBUM Sibu 146.80 190 *e*PKPdf **PKPab** **21 58 14.7 +0.4**
KCSI Kotacane, Aceh 147.14 163 PKP **PKPbc** **21 58 13.0 -1.1**
TSM Tawau 147.38 201 ⇓P **PKPab** **21 58 16.3 -0.3**
BTM Bintulu 147.41 192 ⇓P **PKPdf** **21 58 11.6 -0.8**
KUR Kuril'sk 147.56 300 *i*PKP2 PKPab 21 58 22.9 +6.4
KUR MLR MLR
comp=Z,374nm,19.0s
LHMI Lhok Sumawe 148.57 161 PKP **PKPbc** **21 58 17.7 -0.2**
LHMI Lhok Sumawe 148.57 161 *e*PKPbc **PKPbc** **21 58 18.4 +0.5**
IPM Ipoh 148.72 169 *e*PKPdf **PKPbc** **21 58 16.6 -1.7**
BVAR Borovoye Array 148.94 44 PKP **PKPdf** **21 58 13.9 +0.3**
comp=Z,5.5nm,0.7s,baz=280,slow=2.5,SNR=18
BVAR PKPbc **PKPbc** **21 58 17.9 +0.2**
comp=Z,18nm,0.6s,baz=279,slow=1.6,SNR=21
YUK Yuzh-Kuril'sk 149.05 298*d i*PKIKP **PKPdf** **21 58 13.4 -0.7**
YUK *i* 22 01 53.9
YUK *i*PPP PPP 22 05 12.4
YUK *i*SS SS 22 21 00.0 -0.2
YUK *i*SSS SSS 22 26 38.9
HYB Hyderabad 149.09 118 *i*PKP **PKPdf** **21 58 17.0 +2.0**
HYB *e*PP **PP** **22 01 52.0 +1.7**
KBL Kabul 149.12 81 *e*PKPdf **PKPbc** **21 58 17.8 -1.2**
KULM Kulim 149.45 168 *e*PKPbc **PKPbc** **21 58 19.8 -0.4**
YAK Yakutsk 149.76 339*c i*PKP2 **PKPbc** **21 58 18.7 -0.7**
YAK *e* 22 01 59.9
YAK *i*PPP PPP 22 05 12.5
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=N,28nm,4.6s
YAK pmax pmax
comp=E,16nm,4.1s
YAK pmax pmax
comp=Z,718nm,6.7s
YAK Yakutsk 149.76 339 PKP **PKPdf** **21 58 14.2 -0.4**
comp=Z,5.9nm,0.3s,baz=124,slow=1.7,SNR=1.9
YAK PKPbc **PKPbc** **21 58 19.2 -0.2**
comp=Z,62nm,0.7s,baz=265,slow=1.1,SNR=9.5
YAK Yakutsk 149.76 339 *e*PKPbc **PKPbc** **21 58 18.3 -1.0**
YSS Yuzh-Sakhalins 150.90 304 *i*PKIKP **PKPdf** **21 58 16.0 -0.9**
YSS *e* 22 05 20.0
YSS Yuzh-Sakhalins 150.90 304 *e*PKPbc **PKPbc** **21 58 25.5 +2.9**
KKAR Karatay Array 151.00 64 *e*PKIKP **PKPbc** **21 58 22.9 -0.1**
KKAR Karatay Array 151.00 64 *e*PKPbc **PKPbc** **21 58 22.9 -0.1**
AJM Ajmer 151.06 99 *ex* **PKPbc** **21 58 23.0 -0.7**
ASAJ Asahikawa 151.39 299 PKPbc **PKPbc** **21 58 23.4 -0.4**
comp=Z,16nm,0.8s,baz=198,slow=3.2,SNR=5.3
ASAJ Asahikawa 151.39 299 *e*PKPbc **PKPbc** **21 58 23.3 -0.6**
NGP Nagpur 151.78 113 *e*P PKPdf 21 58 13.5 -5.5
KRAB Krabi 152.01 164 P **PKPbc** **21 58 28.4 +2.3**
comp=Z,81nm,0.8s
KHET Khetri 152.66 97 *e*P PKPdf 21 58 13.3 -6.8
KUDL Kundal 153.24 97 *e*P PKPdf 21 58 14.2 -6.8
EKS2 Erkin-Say 153.43 64 *e*PKIKP **PKPdf** **21 58 23.5 +2.5**
EKS2 Erkin-Say 153.43 64 *e*PKPdf **PKPdf** **21 58 23.5 +2.5**
RTK Rohtak 153.52 95 *e*P PKPdf 21 58 15.6 -5.8
SONA Sohna 153.76 97 *e*P PKPdf 21 58 15.8 -6.0
BHGR Bahadurgarh 153.82 96 *e*P **PKPdf** **21 58 19.0 -2.8**
AYAN Aya Nagar 153.89 97 *e*P **PKPdf** **21 58 16.9 -5.0**
AAK Ala-Archa 153.96 64 *e*PKIKP **PKPdf** **21 58 22.7 +0.9**
AAK *e* 21 58 24.9
AAK *e* 21 58 30.7
AAK 22 02 19.7
AAK Ala-Archa 153.96 64 PKP **PKPdf** **21 58 22.8 +0.9**
comp=Z,1.9nm,0.8s,baz=203,slow=6.0,SNR=7.4
AAK PKPbc **PKiKP** **21 58 30.1 +0.2**
comp=Z,16nm,1.0s,baz=189,slow=3.0,SNR=18
AAK PP **PP** **22 02 19.7 +1.3**
comp=Z,3.7nm,0.9s,baz=309,slow=4.8,SNR=2.5
AAK Ala-Archa 153.96 64 *e*PKPdf **PKPdf** **21 58 22.7 +0.9**
AAK *e*PKPdf **PKPbc** **21 58 24.9 -5.0**
AAK *e*PKPbc **PKiKP** **21 58 30.7 +0.8**
AAK PP **PP** **22 02 19.7 +1.3**
FRU Bishkek 154.03 64 ⇓*i*PKIKP **PKPbc** **21 58 30.0 +0.2**
FRU pmax pmax
comp=Z,110nm,2.2s
AGRA Agra 154.04 100 *e*P **PKPdf** **21 58 18.1 -4.0**
NDI New Delhi 154.04 97 *ex* **PKPbc** **21 58 29.0 -1.2**
NDI *e*PP **PP** **22 02 14.0 -5.0**
BISR Bishrakh 154.18 97 *e*P PKPdf 21 58 15.6 -6.7
KKR Kurukshetra 154.18 94 *e*P PKPdf 21 58 16.0 -6.3
BHK Bhakra 154.32 90 *ex* **PKPab** **21 58 50.0 +5.0**
ASOR Ausora 154.52 97 *e*P PKPdf 21 58 17.4 -5.3
KURBB Kurchatov Arra 154.53 45 PKP **PKPdf** **21 58 22.5 +0.4**
comp=Z,4.7nm,1.0s,baz=310,slow=2.2,SNR=14
KURBB PKPbc **PKiKP** **21 58 31.0 +0.4**
comp=Z,9.7nm,0.9s,baz=310,slow=3.1,SNR=24
KURBB PP **PP** **22 02 22.6 +1.8**
comp=Z,2.2nm,1.0s,baz=302,slow=5.7,SNR=5.2
KURK Kurchatov 154.54 44 *e*PKIKP **PKPdf** **21 58 22.4 +0.3**
KURK 21 58 31.0
KURK 22 02 22.6
KURK Kurchatov 154.54 44 *e*PKPdf **PKPdf** **21 58 22.4 +0.3**
KURK PKPbc **PKiKP** **21 58 31.0 +0.4**
KURK PP **PP** **22 02 22.6 +1.8**
NVS Novosibirsk 154.63 33 ⇑*i*PKIKP **PKPdf** **21 58 19.9 -2.2**
NVS pmax pmax
comp=N,6.0nm,1.7s
NVS pmax pmax
comp=E,21nm,1.7s
NVS pmax pmax
comp=Z,86nm,1.7s
MJAR Matsushiro Arr 154.68 282 PKPbc **PKPbc** **21 58 29.4 -1.9**
comp=Z,0.6nm,0.5s,baz=191,slow=2.5,SNR=3.3
MJAR PKPab **PKPab** **21 58 47.1 +0.8**
comp=Z,1.5nm,0.9s,baz=104,slow=10,SNR=4.1
MAT Matsushiro 154.68 282 PKP **PKPdf** **21 58 20.4 -2.4**
TKM2 Tokmak 2 154.74 63 *e*PKIKP **PKPdf** **21 58 25.2 +2.2**
TKM2 Tokmak 2 154.74 63 *e*PKPdf **PKPdf** **21 58 25.2 +2.2**
SDNR Sundarnagar 154.79 90 *ex* **PKPab** **21 58 49.0 +2.0**
SMLA Simla 154.84 91 *i*P PKPdf 21 58 16.9 -6.3
KSH Kashi 155.21 71 ⇑*i*PKPbc **PKPdf** **21 58 23.5 -0.1**
KSH sPKP 21 58 33.0
KSH PKS **PKSdf** **22 01 57.8 0.0**
KSH PP **PP** **22 02 23.5 -2.0**
KSH SKS **SKSdf** **22 05 29.0 +0.7**
KSH PPMZ
comp=Z,870nm,5.4s
KSH LN
comp=Z,920nm,19.3s
KSH LE
comp=Z,850nm,17.8s
KSH LZ
comp=Z,2μm,20.1s
CLNS Chul'man 155.37 336 *e*PKIKP **PKPdf** **21 58 24.6 +1.5**
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=Z,17nm,1.3s
HABR Khabarovsk 155.49 311 *e*PKIKP **PKPdf** **21 58 22.4 -1.1**
HABR *e* 21 58 33.2
HABR 21 58 49.5

HABR e 22 05 26.0
HABR eSS SS 22 22 11.8 +1.4
HABR eSSS SSS 22 28 08.3
HABR pmax pmax
comp=Z,12nm,1.8s
KALG Kalgarh 155.60 96 eP **PKPdf 21 58 19.9 -4.3**
ZAA0 Zalesovo Array 155.92 33 ePKPdf **PKPdf 21 58 22.4 -1.5**
ZALV Zalesovo Beam 155.92 33 PKP **PKPdf 21 58 24.0 +0.1**
comp=Z,12nm,0.9s,baz=287,slow=2.5,SNR=21
ZALV PKPab **PKPab 21 58 51.9 +0.9**
comp=Z,15nm,0.6s,baz=305,slow=4.8,SNR=8.0
BOD Bodaibo 157.11 350 ePKIKP **PKPdf 21 58 23.1 -2.2**
BOD pmax pmax
comp=Z,8.0nm,0.1s
KLR Kul'dur 157.15 315 ePKIKP **PKPdf 21 58 20.5 -5.2**
MKAR Makanchi Array 158.38 51 PKP **PKPdf 21 58 27.4 +0.1**
comp=Z,4.9nm,0.9s,baz=318,slow=1.6,SNR=24
MKAR PKPab **PKPab 21 59 02.0 +0.1**
comp=Z,6.6nm,0.9s,baz=274,slow=4.2,SNR=9.1
MK01 Makanchi Array 158.39 51 ePKPdf **PKPdf 21 58 26.8 -0.6**
KOLN Koldanda 158.79 105 eP **PKPdf 21 58 27.1 -1.5**
KOLN Koldanda 158.79 105 eP **PP 22 02 45.3 -0.1**
DANN Dangsing 159.17 103 eP **PKPdf 21 58 27.8 -1.4**
DANN Dangsing 159.17 103 eP **PP 22 02 47.9 +0.3**
GKN Gorkha 159.71 105 eP **PKPdf 21 58 28.4 -1.2**
GKN Gorkha 159.71 105 eP **PP 22 02 48.9 -1.5**
comp=Z,362nm,2.1s
DMN Daman 159.90 107 eP **PKPdf 21 58 28.9 -1.1**
DMN Daman 159.90 107 eP **PP 22 02 49.3 -2.2**
comp=Z,77nm,1.5s
PKIN Phulchoki 160.11 107 eP **PP 22 02 51.6 -1.0**
PKI Pulchoki 160.11 107 eP **PKPdf 21 58 29.1 -1.2**
comp=Z,47nm,1.4s
PKI Pulchoki 160.11 107 eP **PP 22 02 51.6 -1.1**
KKN Kakani 160.12 107 eP **PKPdf 21 58 29.0 -1.2**
KKN Kakani 160.12 107 eP **PP 22 02 50.5 -2.1**
comp=Z,151nm,1.9s
MDJ Mudanjiang 160.39 305 PKP **PKPdf 21 58 30.5 +0.9**
MDJ PP **PP 22 02 54.8 +1.4**
MDJ SS SS 22 23 06.5 +3.5
MDJ PPMZ
comp=Z,490nm,8.4s
MDJ LN
comp=Z,460nm,25.6s
MDJ LE
comp=Z,770nm,28.4s
MDJ LZ
comp=Z,1μm,23.7s
PBKT Sadao Pong 160.48 163 P PKPdf 21 58 42.5 +12
comp=Z,26nm,1.4s
GUN Gumba 160.64 107 eP **PKPdf 21 58 30.3 -0.6**
GUN Gumba 160.64 107 eP **PP 22 02 53.6 -2.0**
comp=Z,169nm,1.8s
RAMN Ramite 160.73 110 eP **PKPdf 21 58 30.7 -0.2**
comp=Z,171nm,1.9s
RAMN Ramite 160.73 110 eP **PP 22 02 54.1 -1.8**
JIRN Jiri 160.76 108 eP **PKPdf 21 58 30.1 -1.0**
comp=Z,28nm,1.1s
JIRN Jiri 160.76 108 eP **PP 22 02 53.6 -2.7**
MHMT Maesarieng 161.06 153 P PKPab 21 59 27.2 +13
ODAN Odare 161.28 112 eP **PKPdf 21 58 31.0 -0.5**
ODAN Odare 161.28 112 eP **PP 22 02 55.6 -3.2**
CM01 Chiang Mai Arr 161.65 155 ePKPdf **PKPdf 21 58 30.6 -1.2**
CMAR Chiang Mai Arr 161.68 155 PKP **PKPdf 21 58 31.9 0.0**
comp=Z,3.0nm,0.9s,baz=246,slow=2.4,SNR=15
CMAR PKPab **PKPab 21 59 17.4 +0.5**
comp=Z,6.1nm,1.1s,baz=221,slow=4.4,SNR=6.8
TAPN Taplejung 161.78 111 eP **PKPdf 21 58 31.4 -0.7**
CHTO Chiang Mai 162.01 155 ePKIKP **PKPdf 21 58 33.8 +1.7**
CHTO e 21 59 17.7
CHTO Chiang Mai 162.01 155 P **PKPab 21 59 19.9 +1.6**
comp=Z,123nm,1.1s
CHTO Chiang Mai 162.01 155 ePKPdf **PKPdf 21 58 33.8 +1.7**
CHTO ePKPab **PKPab 21 59 17.7 -0.5**
CMMT Chiang Mai 162.01 155 P **PKPab 21 59 19.9 +1.6**
comp=Z,77nm,1.2s
KSRS Korea Array 162.94 283 PKP **PKPdf 21 58 31.2 -1.3**
comp=Z,1.0nm,0.7s,baz=353,slow=0.4,SNR=6.6
KSRS PKPab **PKPab 21 59 23.5 +1.4**
comp=Z,3.3nm,0.8s,baz=93,slow=4.5,SNR=8.5
KS01 Wonju Array Si 162.97 283 ePKPab **PKPab 21 59 23.4 +1.1**
KS01 epPKPab **pPKPab 21 59 31.6 +0.5**
KSAR Wonju Array Be 162.97 283 PKIKP **PKPdf 21 58 31.2 -1.3**
KSAR Wonju Array Be 162.97 283 PKP **PKPdf 21 58 31.2 -1.3**
KSAR PKPab **PKPab 21 59 23.5 +1.2**
WMQ Urumqi 163.05 55 ePKP **PKPdf 21 58 32.0 -0.5**
WMQ sPKP 21 58 44.8
WMQ PKPab **PKPab 21 59 23.5 +1.0**
WMQ PKS **PKSdf 22 02 04.0 -1.5**
WMQ PP **PP 22 03 09.0 +1.3**
WMQ SKS **SKSdf 22 05 31.8 -3.4**
WMQ SKKS **SKKSac 22 09 51.8 -1.8**
WMQ SS **SS 22 23 27.0 -3.9**
WMQ PPMZ
comp=Z,1μm,12.0s
WMQ LN
comp=Z,2μm,20.0s
WMQ LE
comp=Z,2μm,21.0s
WMQ LZ
comp=Z,2μm,20.0s
IRK Irkutsk 163.10 6 ePKP2 **PKPab 21 59 21.8 -0.4**
IRK pmax pmax
comp=Z,61nm,1.8s
MOY Mondy 163.24 13 ePKIKP **PKPdf 21 58 32.1 -0.4**
MOY pmax pmax
comp=Z,68nm,2.9s
QIZ Qiongzhong 163.44 190 PKP **PKPdf 21 58 33.5 0.0**
QIZ PP **PP 22 03 11.8 +3.3**
QIZ SS SS 22 23 35.5 +2.8
QIZ LN
comp=Z,2μm,18.6s
QIZ LZ
comp=Z,3μm,20.1s
CN2 Changchun 163.46 306 ePKP **PKPdf 21 58 28.3 -4.5**
CN2 ePP **PP 22 03 10.5 +0.8**
CN2 SS SS 22 23 35.8 +0.9
CN2 LN
comp=Z,1μm,17.0s
CN2 LE
comp=Z,1μm,17.0s
CN2 LZ
comp=Z,600nm,19.0s
TLY Talaya 163.60 7 *i* PKIKP **PKPdf 21 58 31.3 -1.4**
TLY *e* 22 03 10.8
TLY *e* 22 16 53.1
TLY eSS SS 22 23 32.4 -2.0
TLY pmax pmax
comp=Z,6.0nm,1.1s
SHL Shillong 163.78 123 ePKP3 PKPdf 21 58 25.0 -8.9
SHL *ex* x 22 03 15.0
ZAK Zakamensk 164.84 9 ePKIKP **PKPdf 21 58 36.3 +2.3**
ZAK *e* 21 59 29.8
ZAK pmax pmax
comp=Z,12nm,1.3s
QZH Quanzhou 165.45 227 PKP **PKPdf 21 58 31.3 -3.8**
QZH PP **PP 22 03 22.5 +2.6**
QZH LN
comp=Z,4μm,19.2s
QZH LE
comp=Z,2μm,11.5s
QZH LZ
comp=Z,4μm,24.7s
LSA Lhasa 165.56 109 ePKIKP **PKPdf 21 58 36.5 +0.7**
LSA *e* 22 03 23.2
LSA Lhasa 165.56 109 ePKPdf **PKPdf 21 58 36.5 +0.7**
LSA ePP **PP 22 03 23.2 +1.4**
SLVN Son La 165.71 169 epPKPab pPKPab 21 59 44.8 +1.4
GZH Guangzhou 166.46 206 PKP **PKPdf 21 58 41.0 +5.0**
GZH LN
comp=Z,2μm,20.4s
GZH LE
comp=Z,2μm,19.0s
SSE Sheshan 167.26 254 PKP **PKPdf 21 58 35.8 -0.6**
SSE PP **PP 22 03 30.0 0.0**
SSE SS SS 22 24 14.0 -0.6
SSE PPMZ
comp=Z,630nm,10.3s
SSE LN
comp=Z,820nm,19.6s
SSE LE
comp=Z,770nm,19.6s
SSE LZ
comp=Z,2μm,19.4s

ULN Ulaanbaatar 167.58 359 ePKIKP **PKPdf 21 58 35.3 -1.0**
ULN *e* 21 59 42.9
ULN Ulaanbaatar 167.58 359 ePKPdf **PKPdf 21 58 35.3 -1.0**
ULN ePKPab **PKPab 21 59 42.9 +0.6**
SONA1 Songino Array 167.60 1 ePKPdf **PKPdf 21 58 35.3 -1.0**
SONA1 ePKPab **PKPab 21 59 42.5 +0.2**
SONA1 ePP **PP 22 03 30.9 +0.6**
SONM Songino Array 167.61 2 PKP **PKPdf 21 58 36.8 +0.5**
comp=Z,1.2nm,0.8s,baz=146,slow=2.9,SNR=7.3
SONM PKPab **PKPab 21 59 42.8 +0.4**
comp=Z,4.2nm,0.9s,baz=333,slow=3.3,SNR=6.8
SONM PP **PP 22 03 29.8 -0.5**
comp=Z,1.2nm,0.7s,baz=316,slow=1.4,SNR=4.2
KMI Kunming 169.12 160 PKP **PKPdf 21 58 38.8 +0.7**
KMI pPKP **pPKPdf 21 58 46.0 -1.3**
KMI sPKP 21 58 49.0
NJ2 Nanjing 169.47 255 ePKP **PKPdf 21 58 37.5 -0.3**
NJ2 pPKP **pPKPdf 21 58 49.0 +2.0**
NJ2 PP **PP 22 03 42.0 +0.8**
NJ2 SKKS 22 10 30.5
NJ2 SS **SS 22 24 40.0 +3.3**
NJ2 LN
comp=Z,2μm,19.9s
NJ2 LE
comp=Z,2μm,16.0s
NJ2 LZ
comp=Z,2μm,15.6s
GYA Guiyang 171.04 179 *i* PKP **PKPdf 21 58 40.8 +1.7**
GYA PKPab **PKPab 22 00 00.8 +2.8**
GYA PKS **PKSdf 22 02 10.3 -1.3**
GYA PP **PP 22 03 51.5 +3.9**
GYA SKKS 22 10 35.8
GYA SS **SS 22 24 52.5 +2.9**
GYA PPMZ
comp=Z,160nm,8.0s
GYA LN
comp=Z,220nm,24.4s
GYA LE
comp=Z,180nm,25.0s
BJI Beijing 171.32 305 PKP **PKPdf 21 58 39.3 +0.7**
BJI SS SS 22 24 56.5 +2.3
BJI LN
comp=Z,740nm,24.5s
BJI LE
comp=Z,810nm,26.4s
BJI LZ
comp=Z,2μm,30.1s
TIA Tai'an 171.64 278 PKP **PKPdf 21 58 38.3 -0.6**
TIA PP **PP 22 03 56.0 +3.8**
TIA PPMZ
comp=Z,1μm,7.9s
TIA LN
comp=Z,2μm,19.6s
TIA LE
comp=Z,2μm,19.4s
TIA LZ
comp=Z,3μm,20.0s
WHN Wuhan 172.05 234 PKP PKPdf 21 58 34.0 -5.2
WHN PP **PP 22 03 53.5 -0.1**
WHN SS SS 22 25 04.3 +3.0
WHN LN
comp=Z,9μm,22.6s
WHN LE
comp=Z,1μm,13.6s
WHN LZ
comp=Z,6μm,19.4s
GTA Gaotai 173.13 53 ⇑PKP **PKPdf 21 58 39.3 -0.3**
GTA pPKP **pPKPdf 21 58 47.0 -1.8**
GTA sPKP 21 58 50.0
GTA PKPab **PKPab 22 00 09.5 +2.3**
GTA PP **PP 22 04 00.0 +0.9**
GTA SKS **SKSdf 22 05 36.5 -4.5**
GTA SKKS **SKKSac 22 10 41.5 -2.2**
GTA SS **SS 22 25 07.0 -5.1**
GTA PPMZ
comp=Z,1μm,6.9s
GTA LN
comp=Z,2μm,18.5s
GTA LE
comp=Z,2μm,19.0s
GTA LZ
comp=Z,3μm,20.9s
HHC Hu-ho-hao-te 173.46 327 ePKP **PKPdf 21 58 36.5 -3.2**
HHC sPKP 21 58 52.5
HHC PP **PP 22 04 00.5 +0.4**
HHC PPMZ
comp=Z,1μm,6.1s
HHC LN
comp=Z,5μm,16.4s
HHC LE
comp=Z,1μm,17.7s
HHC LZ
comp=Z,3μm,18.0s
CD2 Chengdu 174.78 149 PKP **PKPdf 21 58 40.3 -0.1**
CD2 pPKP **pPKPdf 21 58 51.0 +1.5**
CD2 PKPab **PKPab 22 00 15.5 +1.0**
CD2 PKS **PKSdf 22 02 11.5 -1.1**
CD2 PP **PP 22 04 04.3 -2.0**
CD2 SKS **SKSdf 22 05 42.8 +1.1**
CD2 SKKS **SKKSac 22 10 54.5 +3.1**
CD2 SS **SS 22 25 23.8 -2.8**
CD2 PPMZ
comp=Z,1μm,11.2s
CD2 LN
comp=Z,3μm,20.2s
CD2 LE
comp=Z,2μm,19.0s
CD2 LZ
comp=Z,3μm,21.4s
TIY Taiyuan 174.98 299 ePKP **PKPdf 21 58 41.3 +1.1**
TIY PKPab PKPab 22 00 22.5 +7.0
TIY PP **PP 22 04 10.0 +1.7**
TIY SKKS 22 10 52.8
TIY PPMZ
comp=Z,610nm,4.8s
TIY LN
comp=Z,2μm,16.9s
TIY LE
comp=Z,870nm,16.1s
TIY LZ
comp=Z,2μm,20.5s
LZH Lanzhou 177.45 74 ePKP **PKPdf 21 58 42.5 +1.5**
LZH pPKP **pPKPdf 21 58 49.5 -0.6**
LZH sPKP 21 58 52.3
LZH PP **PP 22 04 22.0 +1.6**
LZH SKKS 22 11 04.3
LZH SS **SS 22 25 49.0 -5.6**
LZH LN
comp=Z,2μm,18.7s
LZH LE
comp=Z,2μm,16.4s
LZH LZ
comp=Z,3μm,18.3s
XAN Xi'an 177.81 231 PKP **PKPdf 21 58 40.5 -0.4**
XAN PP **PP 22 04 22.0 +0.7**
XAN SKS **SKSdf 22 05 39.3 -2.7**
XAN SKKS **SKKSac 22 11 06.3 +0.5**
XAN SS **SS 22 25 54.5 -2.1**
XAN LN
comp=Z,2μm,18.5s
XAN LE
comp=Z,460nm,18.1s
XAN LZ
comp=Z,790nm,19.7s

*ISCJB **28** 21:40:19.2±0.5, 22°.37S±0°.08×179°.40W±0°.08, h579km, mb4.5/21, Error ellipse: s-maj=12.5km s-min=6.6km az=43.8*
*NEIC **28** 21:40:20.6±1.0, 22°.39S×179°.30W, h588km±9km, mb4.9/8, Error ellipse: s-maj=19.3km s-min=10.0km az=152.0*
*IDC **28** 21:40:20.7±1.8, 22°.34S×179°.38W, h582km±14km, mb3.8/14, mb1 4.0/16, mb1mx3.9/22, mbtmp4.8/16, Error ellipse: s-maj=26.8km s-min=17.1km az=145.0*
ISC 28 21:40:19.5±0.6, 22°.46S±0°.09×179°.27W±0°.09, h579km, n75, σ1.9 26/84, mb4.6/21, 14C-11D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.09**	**41**	eP	**P**	**21 42 48.8**	**-0.3**
AFI				eS	**S**	**21 44 50.8**	**-1.3**
DZM	**Mont Dzumac**	**13.23**	**269**	P	**P**	**21 43 13.0**	**+2.1**
	4.0nm,0.3s,baz=118,slow=20,SNR=31						
DZM	**Mont Dzumac**	**13.23**	**269**	eP	P	21 43 14.2	+3.2
	23nm,0.5s						
URZ	**Urewera**	**16.05**	**190**	P	**P**	**21 43 38.9**	**+0.8**
	5.1nm,0.3s,baz=282,slow=3.7,SNR=22						
URZ				S	**S**	**21 46 16.7**	**-3.2**
	1.4nm,0.3s,baz=171,slow=18,SNR=10						
URZ	**Urewera**	**16.05**	**190**	eP	**P**	**21 43 38.5**	**+0.4**
	29nm,0.8s						
URZ				S	**S**	**21 46 16.7**	**-3.2**
ARMA	**Armidale**	**27.18**	**247**	P	**P**	**21 45 20.4**	**+2.3**
	baz=27,SNR=49						
ARMA	**Armidale**	**27.18**	**247**	eP	**P**	**21 45 19.8**	**+1.8**
	27nm,0.8s						
EIDS	**Eidsvold**	**27.23**	**258**	P	**P**	**21 45 19.3**	**+0.9**
	baz=27,SNR=8.6						
MGCD	**Mangrove Creek**	**28.20**	**241**	P	**P**	**21 45 29.5**	**+2.7**
	baz=28,SNR=14						
RMQ	**Roma**	**29.33**	**256**	P	**P**	**21 45 38.6**	**+1.9**
	baz=29,SNR=24						
CNB	**Canberra Magne**	**30.16**	**238**	⇑P	**P**	**21 45 46.2**	**+2.4**
	baz=30,SNR=10						
CAN	**Canberra**	**30.45**	**238**	⇑P	**P**	**21 45 48.6**	**+2.3**
	baz=30						
YNG	**Young**	**30.66**	**240**	⇑P	**P**	**21 45 49.8**	**+1.8**
	baz=31						
MILA	**Mila**	**30.86**	**235**	⇓P	**P**	**21 45 52.0**	**+2.3**
	baz=31						
CTA	**Charters Tower**	**32.17**	**268**	P	**P**	**21 46 01.6**	**+0.5**
	38nm,0.4s,baz=91,slow=10,SNR=70						
CTA	**Charters Tower**	**32.17**	**268**	⇓P	**P**	**21 46 01.6**	**+0.6**
	baz=32						
CTAO	**Charters Tower**	**32.17**	**268**	eP	**P**	**21 46 01.2**	**+0.1**
CMSA	**Cobar Meteorol**	**32.38**	**246**	P	**P**	**21 46 04.1**	**+1.4**
	baz=32,SNR=53						
QLP	**Quilpie**	**33.38**	**255**	⇓P	**P**	**21 46 11.9**	**+0.7**
	baz=33,SNR=36						
PMG	**Port Moresby**	**34.69**	**287**	P	**P**	**21 46 22.0**	**-0.3**
	baz=34,SNR=7.1						
PMG	**Port Moresby**	**34.69**	**287**	eP	**P**	**21 46 21.4**	**-0.8**
	53nm,0.9s						
COEN	**Coen**	**36.58**	**277**	⇑P	**P**	**21 46 38.2**	**+0.4**
	baz=36,SNR=10						
QIS	**Mount Isa**	**38.22**	**265**	⇑P	**P**	**21 46 50.8**	**-0.4**
	baz=38,SNR=3.9						
AS17	**Alice Springs**	**42.87**	**259**	⇓P	**P**	**21 47 28.3**	**+0.3**
	baz=43						
AS16	**Alice Springs**	**42.93**	**259**	⇓P	**P**	**21 47 28.8**	**+0.3**
	baz=43						
AS31	**Alice Springs**	**42.95**	**259**	eP	**P**	**21 47 28.8**	**+0.1**
ASAR	**Alice Springs**	**42.95**	**259**	P	**P**	**21 47 28.9**	**+0.2**
	37nm,0.7s,baz=100,slow=7.6,SNR=298						
ASAR				PcP	**PcP**	**21 49 05.5**	**-0.5**
	1.7nm,0.6s,baz=101,slow=4.8,SNR=3.1						
ASAR				ScP	**ScP**	**21 52 01.5**	**-0.9**
	0.9nm,0.8s,baz=99,slow=4.2,SNR=4.4						
ASAR				S	**S**	**21 53 08.2**	**-4.7**
	1.3nm,0.9s,baz=91,slow=17,SNR=6.5						
WR0	**Warramunga Arr**	**43.00**	**264**	⇑P	**P**	**21 47 28.6**	**-0.6**
	baz=43						
WB2	**Warramunga Arr**	**43.18**	**264**	⇓P	**P**	**21 47 30.1**	**-0.4**
	baz=43						
WB2	**Warramunga Arr**	**43.18**	**264**	eP	**P**	**21 47 30.0**	**-0.6**
WRAB	**Tennant Creek**	**43.18**	**264**	eP	**P**	**21 47 29.6**	**-1.0**
	43nm,0.8s						
WC4	**Warramunga Arr**	**43.19**	**264**	⇑P	**P**	**21 47 30.2**	**-0.3**
	baz=43						
WRA	**Warramunga Arr**	**43.19**	**264**	P	**P**	**21 47 30.1**	**-0.5**
	19nm,0.4s,baz=94,slow=8.3,SNR=916						
WRA				ScP	**ScP**	**21 52 04.5**	**+1.1**
	3.3nm,0.9s,baz=98,slow=4.3,SNR=8.6						
JAY	**Jayapura**	**43.59**	**291**	P	**P**	**21 47 33.1**	**-0.7**
	40nm,0.8s,baz=119,slow=5.1,SNR=10						
KDU	**Kakadu**	**46.84**	**274**	⇑P	**P**	**21 47 58.0**	**-0.6**
	baz=47,SNR=29						
MTN	**Manton Dam**	**48.03**	**273**	P	**P**	**21 48 06.6**	**-0.8**
	baz=48,SNR=12						
SOEI	**Soe**	**55.41**	**274**	⇓P	**P**	**21 49 00.5**	**-0.1**
	baz=55,SNR=16						
SOEI	**Soe**	**55.41**	**274**	eP	**P**	**21 49 01.2**	**+0.6**
	62nm,0.6s						
BATI	**Baumata**	**55.81**	**273**	P	**P**	**21 49 04.4**	**+1.2**
	43nm,0.6s,baz=211,slow=1.8,SNR=22						
MEEK	**Meekatharra**	**56.17**	**252**	⇑P	**P**	**21 49 05.3**	**-0.3**
	baz=56,SNR=17						
MBWA	**Marble Bar**	**56.29**	**259**	eP	**P**	**21 49 06.0**	**-0.5**
	27nm,0.9s						
NWAO	**Narrogin (SRO)**	**56.44**	**245**	⇓P	**P**	**21 49 08.0**	**+0.6**
	baz=56,SNR=7.0						
BLDU	**Ballidu**	**57.19**	**247**	⇓P	**P**	**21 49 12.6**	**+0.2**
	baz=57,SNR=30						
MORW	**Morawa**	**58.00**	**249**	⇓P	**P**	**21 49 18.4**	**+0.4**
	baz=58,SNR=5.3						
UGM	**Wanagamma**	**68.76**	**270**	⇑P	**P**	**21 50 26.4**	**-0.5**
	baz=69,SNR=5.8						
KKM	**Kota Kinabalu**	**69.14**	**286**	⇑P	**P**	**21 50 29.0**	**-0.2**
	baz=69						
MJAR	**Matsushiro Arr**	**71.10**	**325**	P	**P**	**21 50 39.1**	**-1.2**
	1.3nm,0.7s,baz=167,slow=6.0,SNR=9.2						
LEM	**Lembang**	**71.84**	**270**	⇑P	**P**	**21 50 45.7**	**+0.5**
	baz=72						
XMI	**Christmas Isla**	**72.34**	**266**	⇓P	**P**	**21 50 48.3**	**+0.3**
	baz=72						
KSM	**Kuching**	**72.53**	**279**	⇑P	**P**	**21 50 49.1**	**+0.1**
	baz=72						
KSRS	**Korea Array**	**77.59**	**320**	P	**P**	**21 51 17.2**	**+0.6**
	0.8nm,0.4s,baz=134,slow=5.2,SNR=4.1						
KSAR	**Wonju Array Be**	**77.60**	**319**	P	**P**	**21 51 17.2**	**+0.5**
PETK	**Petropavlovsk-**	**77.87**	**346**	P	**P**	**21 51 17.4**	**-0.4**
	3.2nm,0.6s,baz=146,slow=8.8,SNR=4.7						
USRK	**Ussuriysk Ar.**	**79.93**	**327**	P	**P**	**21 51 29.9**	**+1.0**
	2.5nm,0.8s,baz=135,slow=5.6,SNR=5.3						
PSI	**Prapat**	**83.50**	**276**	P	**P**	**21 51 46.2**	**-1.7**
	4.6nm,0.7s,baz=151,slow=6.1,SNR=4.2						
GSI	**Gunungsitoli**	**84.16**	**274**	⇑P	**P**	**21 51 49.7**	**-1.4**
	baz=84						
ARUT	**Antelope Range**	**86.09**	**46**	eP	**P**	**21 51 58.7**	**-1.3**
	601nm,1.4s						
SEY	**Seymchan**	**88.02**	**347**	P	**P**	**21 52 08.7**	**+0.4**
	0.8nm,0.3s,baz=128,slow=19,SNR=4.0						
TXAR	**Lajitas Array**	**89.11**	**58**	P	**P**	**21 52 16.6**	**+2.3**
	1.7nm,0.8s,baz=218,slow=5.7,SNR=1.8						
CMAR	**Chiang Mai Arr**	**89.66**	**290**	P	**P**	**21 52 18.6**	**+1.7**
	5.1nm,0.8s,baz=134,slow=3.3,SNR=38						
CMAR				PP	**PP**	**21 55 59.2**	**-0.7**
	0.4nm,0.8s,baz=123,slow=5.8,SNR=4.3						
CHTO	**Chiang Mai**	**89.80**	**290**	eP	**P**	**21 52 17.1**	**-0.5**
	7.0nm,0.8s						
ILAR	**Eielson Array**	**90.49**	**13**	P	**P**	**21 52 20.2**	**+0.5**
	0.3nm,0.7s,baz=210,slow=5.2,SNR=2.5						
MKAR	**Makanchi Array**	**111.67**	**313**	PKiKP	**PKiKP**	**21 57 48.8**	**-0.2**
	0.1nm,0.5s,baz=126,slow=2.5,SNR=5.0						
KURBB	**Kurchatov Arra**	**114.67**	**317**	PKP	PKPdf	21 57 53.2	-1.2
	0.2nm,0.4s,baz=90,slow=1.8,SNR=7.3						
BVAR	**Borovoye Array**	**119.80**	**319**	PKP	**PKPdf**	**21 58 04.1**	**-0.2**
	0.6nm,0.4s,baz=133,slow=2.0,SNR=9.8						
ARCES	**ARCESS Array B**	**130.62**	**349**	PKP	**PKPdf**	**21 58 25.2**	**+0.7**
	2.7nm,0.9s,baz=46,slow=2.6,SNR=2.1						
ARCES				SKPbc	**SKPbc**	**22 00 54.4**	**-0.6**
	2.9nm,0.8s,baz=38,slow=6.2,SNR=3.6						
FINES	**FINESS Array B**	**137.29**	**342**	PKP	**PKPdf**	**21 58 37.0**	**-0.2**
	1.1nm,0.8s,baz=117,slow=4.8,SNR=2.3						
FINES				SKPbc	**SKPbc**	**22 01 15.9**	**-0.6**
	1.1nm,0.8s,baz=60,slow=3.4,SNR=4.9						
NOA	**NORSAR Array B**	**140.77**	**352**	SKPbc	**SKPbc**	**22 01 24.8**	**-1.4**
	0.9nm,0.8s,baz=14,slow=4.2,SNR=3.9						
HFS	**Hagfors**	**141.27**	**350**	PKhKP	PKPpre	21 58 39.3	
	1.2nm,0.3s,baz=81,slow=3.6,SNR=11						
AKASG	**Malin Array Be**	**144.11**	**329**	PKP	PKPbc	21 58 48.7	-0.6
	2.0nm,0.4s,baz=44,slow=4.1,SNR=27						
AKASG				SKPbc	**SKPbc**	**22 01 33.7**	**-0.8**
	1.5nm,0.8s,baz=41,slow=2.9,SNR=7.4						
EKA	**Eskdalemuir Ar**	**147.05**	**4**	PKPbc	**PKPbc**	**21 58 58.0**	**+0.4**
	1.0nm,0.7s,baz=341,slow=1.5,SNR=4.2						
BRTR	**Keskin Array B**	**147.22**	**309**	PKPbc	**PKPbc**	**21 58 58.9**	**0.0**
	1.6nm,0.6s,baz=139,slow=7.4,SNR=4.9						
BRTR				PKPab	**PKPab**	**21 59 02.4**	**-0.2**
	1.5nm,0.5s,baz=108,slow=2.6,SNR=10						
MMAI	**Mount Meron Ar**	**147.69**	**297**	PKPbc	**PKPbc**	**21 59 01.3**	**+1.2**
	2.2nm,0.4s,baz=71,slow=8.0,SNR=13						
EIL	**Elat**	**148.51**	**290**	PKPbc	**PKPbc**	**21 59 03.1**	**+0.9**
	2.7nm,0.7s,baz=90,slow=8.1,SNR=3.3						
GERES	**GERESS Array B**	**151.72**	**342**	PKPbc	**PKPbc**	**21 59 10.1**	**+0.9**
	0.4nm,0.6s,baz=20,slow=3.1,SNR=2.8						
GERES				PKPab	**PKPab**	**21 59 20.7**	**-0.2**
	0.3nm,0.5s,baz=52,slow=3.8,SNR=2.7						

*GUC **28** 21:43:10.6±0.6, 35°.46S×73°.30W, h31km±5km, ML5.8*

*ISCJB **28** 21:43:11.8±1.1, 35°.44S×0°.03×73°.11W×0°.05, h22km±8km, mb5.3/116, MS5.7/150, Error ellipse: s-maj=6.7km s-min=4.6km az=14.1*
*IDC **28** 21:43:13.3±0.4, 35°.44S×73°.09W, h25km±2km, mb4.8/25, mb1 4.8/28, mb1mx4.8/28, mbtmp4.9/28, ML4.6/3, Error ellipse: s-maj=14.5km s-min=10.4km az=91.0*
*MOS **28** 21:43:13.3±1.1, 35°.45S×72°.84W, h33km, mb5.6/40, MS5.7/24, Error ellipse: s-maj=22.0km s-min=7.2km az=103.4*
*GCMT **28** 21:43:13.6±0.3, 35°.45S×73°.44W, h17km±1km, MW5.6/85, Moment Tensor Solution. s43,c53; s85,c139; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.76±.12; $M_{\theta\theta}$0.01±.05; $M_{\phi\phi}$-1.77±.09; $M_{r\theta}$-0.56±.18; $M_{\theta\phi}$-0.28±.04; $M_{\phi r}$-2.83±.36; Best double couple: $M_0$3.39400×10^{17} NP1:ϕ_s191.00000°, δ74.00000°, λ91.00000°. NP2: ϕ_s7.00000°, δ16.00000°, λ86.00000°. Principal axes: T 3.3680, Plg61.0000°, Azm102.0000°; N 0.0520, Plg1.0000°, Azm11.0000°; P -3.4200, Plg29.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **28** 21:43:13.6±0.4, 35°.41S×72°.90W, h22km±2km, mb5.5/98, MS5.8/145 Error ellipse: s-maj=8.3km s-min=5.1km az=74.0*
NEIC Felt [III] at Concepcion and [II] at Santiago. Also felt at Colina, Rengo, Talca, Talcahuano and Vina del Mar.
*BJI **28** 21:43:18.1, 35°.30S×72°.80W, h35km, mB5.6/19, Ms6.0/24, Ms7 5.9/23*
ISC 28 21:43:13.2±0.3, 35°.47S±0°.03×73°.12W±0°.05, h24km±1km, h23km:pP-P, n732, σ1s21/701, mb5.5/118, MS5.8/150, 23C-18D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
COCH	**Cobquecura**	**0.71**	**158**	⇓*i*	*i*	**Pb**	**21 43 25.3**	**-1.7**
COCH					*i*	**Sb**	**21 43 36.3**	**-0.1**
TALC	**Talca**	**1.22**	**87**	⇑*i*	*i*	**Pn**	**21 43 33.9**	**-0.8**
TALC					*i*	**Sb**	**21 43 51.8**	**+1.0**
LNCH	**Linares**	**1.30**	**107**	⇓*i*	*i*	**Pn**	**21 43 35.6**	**-0.2**
LNCH					*i*	**Sb**	**21 43 53.9**	**+0.8**
CCSP	**San Pedro de C**	**1.37**	**179**	*e*	*P*	**Pn**	**21 43 34.3**	**-2.6**
CCSP				*e*	*S*	**Sn**	**21 43 52.6**	**-1.7**
CCSP					AML	AML	21 43 58.3	
	comp=E,67μm,0.5s							
NICH	**Los Niches**	**1.62**	**74**	⇑*i*	*P*	**Pn**	**21 43 40.6**	**+0.4**
NICH					*i*	**Sb**	**21 44 02.6**	**+0.2**
RCDM	**Rinconada Maip**	**2.75**	**45**	*e*	P1	**Pn**	**21 43 55.0**	**-0.9**
CLCH	**Cerro Calan**	**2.97**	**47**	*e*	*P*	**Pn**	**21 43 58.4**	**-0.5**
CLCH					AML	AML	21 44 58.3	
	comp=N,46μm,0.7s							
CLCH					AML	AML	21 44 58.9	
	comp=N,54μm,0.8s							
ROCH	**El Roble**	**3.04**	**36**	*e*	P1	**Pn**	**21 43 59.4**	**-0.7**
ROCH				*e*	*S*	**Sn**	**21 44 36.6**	**+0.7**
ROCH					AML	AML	21 44 59.7	
	comp=N,20μm,0.4s							
PEL	**Peldehue**	**3.07**	**42**	*e*	*P*	**Pn**	**21 44 00.1**	**-0.2**
PEL					AML	AML	21 45 01.9	
	comp=N,34μm,1.0s							
FCH	**Farellones**	**3.17**	**48**		AML	AML	21 45 04.7	
	comp=E,10μm,0.6s							
CFAA	**Coronel Fontan**	**5.61**	**48**		Pn	**Pn**	**21 44 35.5**	**+0.3**
	comp=E,5.9nm,0.3s,baz=17,slow=3.1,SNR=18							
CFAA					Sn	**Sn**	**21 45 39.6**	**+0.7**
	comp=E,5.1nm,0.3s,baz=241,slow=16,SNR=3.0							
CFAA					Lg	Lg	21 46 01.0	
	comp=E,6.9nm,0.3s,baz=316,slow=23,SNR=4.1							
PLCA	**Paso Flores**	**5.63**	**160**	*e*	*P*	**Pn**	**21 44 35.2**	**-0.3**
PLCA					pmax	pmax		
	comp=Z,556nm,0.8s							
PLCA	**Paso Flores**	**5.63**	**160**	*e*	Pn	**Pn**	**21 44 35.2**	**-0.3**
	comp=Z,556nm,0.8s							
LCO	**Las Campanas**	**6.76**	**18**	*e*	Pn	**Pn**	**21 44 49.4**	**-1.7**
EFI	**East Falkland**	**19.47**	**151**	⇓*e*	*P*	**Pn**	**21 47 39.1**	**-0.2**
EFI					pmax	pmax		
	comp=Z,189nm,1.1s							
EFI	**East Falkland**	**19.47**	**151**	*e*	*P*	**Pn**	**21 47 39.8**	**+0.4**
	comp=Z,136nm,0.9s							
LPAZ	**La Paz**	**19.62**	**14**	*e*	*P*	**P**	**21 47 40.3**	**-0.3**
LPAZ					pmax	pmax		
	comp=Z,62nm,0.7s							
LPAZ	**La Paz**	**19.62**	**14**		P	**Pn**	**21 47 41.5**	**-0.4**
	comp=Z,3.8nm,0.3s,baz=177,slow=6.0,SNR=23							
LPAZ	**La Paz**	**19.62**	**14**	*e*	*P*	**P**	**21 47 40.3**	**-0.3**
	comp=Z,62nm,0.7s							
USHA	**Ushuaia**	**19.64**	**172**		P	**Pn**	**21 47 41.3**	**0.0**
	comp=Z,0.8nm,0.3s,baz=334,slow=6.4,SNR=14							
SIV	**San Ignacio**	**22.19**	**32**		P	**P**	**21 48 06.2**	**-1.6**
	comp=Z,52nm,0.7s,baz=213,slow=8.8,SNR=31							
SAML	**Samuel**	**27.92**	**21**		PFAKE		21 49 10.0	+8.5
SAML					LR	LR		
	comp=Z,17μm,18.0s							
PMSA	**Palmer Station**	**29.85**	**172**		PFAKE		21 49 30.0	+12
PMSA					LR	LR		
	comp=Z,31μm,19.0s							
BDFB	**Brasilia**	**29.90**	**55**		P	**P**	**21 49 18.1**	**-1.3**
	comp=Z,18nm,0.7s,baz=222,slow=14,SNR=5.3							
HOPE	**Hope Point**	**31.57**	**138**		PFAKE		21 49 50.0	+16
HOPE					LR	LR		
	comp=Z,9μm,20.0s							
OTAV	**Otavalo**	**35.87**	**351**	*e*	*P*	**P**	**21 50 11.8**	**0.0**
OTAV					LR	LR		
	comp=Z,7μm,21.0s							
PTGA	**Pitinga**	**36.67**	**22**		P	**P**	**21 50 17.5**	**-0.6**
	comp=Z,41nm,0.5s,baz=211,slow=11,SNR=30							
PTGA	**Pitinga**	**36.67**	**22**	*e*	*P*	**P**	**21 50 17.5**	**-0.6**
	comp=Z,80nm,0.7s							
PTGA					LR	LR		
	comp=Z,13μm,21.0s							
ROSC	**El Rosal**	**40.13**	**358**		P	P	21 50 50.9	+3.2
	comp=Z,13nm,0.6s,baz=108,slow=2.5,SNR=7.1							
ROSC	**El Rosal**	**40.13**	**358**	*e*	*P*	**P**	**21 50 48.8**	**+1.2**
SDV	**Santo Domingo**	**44.18**	**4**	*e*	*P*	**P**	**21 51 19.3**	**-1.1**
	comp=Z,50nm,0.8s							
SDV					LR	LR		
	comp=Z,17μm,19.0s							
BCIP	**Isla Barro Col**	**44.84**	**351**		PFAKE		21 51 40.0	+14
BCIP					LR	LR		
	comp=Z,5μm,20.0s							
RCBR	**Riachuelo**	**45.17**	**58**		P	**P**	**21 51 28.3**	**0.0**
	comp=Z,10nm,0.5s,baz=214,slow=11,SNR=16							
RCBR	**Riachuelo**	**45.17**	**58**	*e*	*P*	**P**	**21 51 28.4**	**+0.1**
	comp=Z,34nm,0.6s							
RCBR					LR	LR		
	comp=Z,15μm,20.0s							
PCRV	**Puerto La Cruz**	**46.10**	**12**		P	**P**	**21 51 34.7**	**-0.9**
	comp=Z,26nm,0.9s,baz=157,slow=11,SNR=3.6							
PCRV					pP	**pP**	**21 51 43.1**	**+0.2**
	comp=Z,30nm,0.6s,baz=160,slow=6.3,SNR=5.3							
JTS	**JuntasAbangare**	**46.87**	**344**	⇓*e*	*P*	**P**	**21 51 41.5**	**0.0**
JTS					pmax	pmax		
	comp=Z,24nm,1.2s							
JTS	**JuntasAbangare**	**46.87**	**344**		PFAKE		21 51 50.0	+8.5
JTS					LR	LR		
	comp=Z,4μm,22.0s							
TRIS	**Tristan da Cun**	**48.31**	**111**		PFAKE		21 52 00.0	+7.4
TRIS					LR	LR		
	comp=Z,9μm,20.0s							
VNA3	**Neumayer Olymp**	**48.35**	**157**		P	**P**	**21 51 53.5**	**+1.1**
GRGR	**Grenville**	**48.57**	**15**	*e*	*P*	**P**	**21 51 54.6**	**-0.1**
GRGR				*e*	*sP*	**sP**	**21 52 02.1**	**-2.8**
GRGR					LR	LR		
	comp=Z,12μm,20.0s							
VNA1	**Neumayer--Stat**	**48.68**	**156**		P	**P**	**21 51 56.3**	**+1.3**
VNA2	**Neumayer--Watz**	**49.02**	**157**		P	**P**	**21 51 58.6**	**+1.0**
FCV	**Fort Charlotte**	**49.65**	**15**	*e*		**P**	**21 52 03.8**	**+0.9**
SVV	**Soufriere Volc**	**49.81**	**15**	*e*		**P**	**21 52 05.3**	**+1.1**
BBGH	**Gun Hill**	**50.02**	**17**		PFAKE		21 52 20.0	+14
BBGH					LR	LR		
	comp=Z,22μm,22.0s							
SNAA	**Sanae**	**50.57**	**157**		P	**P**	**21 52 09.6**	**+0.1**
SNAA	**Sanae**	**50.57**	**157**	*c*	*i P*	**P**	**21 52 09.5**	**0.0**
SNAA					pmax	pmax		
	comp=Z,145nm,1.0s							
SNAA	**Sanae**	**50.57**	**157**		P	**P**	**21 52 09.5**	**0.0**
	comp=Z,49nm,0.9s,baz=281,slow=6.5,SNR=33							
SNAA	**Sanae**	**50.57**	**157**	*e*	*P*	**P**	**21 52 09.4**	**-0.1**
	comp=Z,117nm,0.9s							
MVM	**Montagne Vaucl**	**51.08**	**15**	*e*	*P*	**P**	**21 52 12.9**	**-0.9**
FDF	**Fort de France**	**51.20**	**15**	*e*	*P*	**P**	**21 52 12.7**	**-2.0**
FDF					pmax	pmax		
	comp=Z,119nm,0.6s							
FDF					MLR	MLR		
	comp=Z,13μm,19.0s							
FDF	**Fort de France**	**51.20**	**15**	*e*	*P*	**P**	**21 52 13.5**	**-1.2**
FDF	**Fort de France**	**51.20**	**15**	*e*	*P*	**P**	**21 52 12.7**	**-2.0**
	comp=Z,119nm,0.6s							
FDF					LR	LR		
	comp=Z,13μm,19.0s							
BVM	**Bellevue**	**51.22**	**15**	*e*	*P*	**P**	**21 52 14.1**	**-0.8**
APG	**El Apazote**	**52.82**	**339**		P	P	21 52 21.7	-5.3
	comp=Z,7.5nm,0.7s,baz=136,slow=19,SNR=5.4							
CRPR	**Cabo Rojo, PR**	**53.49**	**7**	*e*	*P*	**P**	**21 52 31.2**	**-0.4**
	comp=Z,44nm,0.8s							
MTDJ	**Mount Denham**	**53.56**	**355**		PFAKE		21 52 40.0	+7.7
MTDJ					LR	LR		
	comp=Z,5μm,22.0s							
OBIP	**Obispado Ponce**	**53.58**	**8**	*e*	*P*	**P**	**21 52 30.4**	**-1.8**
	comp=Z,87nm,1.0s							
CELP	**Cerrillos**	**53.61**	**8**	*e*	*P*	**P**	**21 52 31.6**	**-0.9**
HUMP	**Col San Antoni**	**53.76**	**9**	*e*	*P*	**P**	**21 52 32.9**	**-0.7**
	comp=Z,203nm,2.3s							
LRS	**Lares**	**53.80**	**7**	*e*	*P*	**P**	**21 52 33.1**	**-0.8**
CBYP	**Canovanas**	**53.89**	**9**	*e*	*P*	**P**	**21 52 34.2**	**-0.4**
	comp=Z,35nm,0.7s							
ANWB	**Willy Bob**	**53.93**	**13**	*e*	*P*	**P**	**21 52 32.7**	**-2.1**
	comp=Z,85nm,0.6s							
ANWB					LR	LR		
	comp=Z,7μm,19.0s							
SDDR	**Presa de Saban**	**54.18**	**2**	*e*	*P*	**P**	**21 52 36.7**	**0.0**
	comp=Z,12nm,0.8s							
SDDR					LR	LR		
	comp=Z,8μm,19.0s							
RKT	**Rikitea**	**54.54**	**265**	*e*	LR	LR	22 08 24.9	
	comp=Z,2μm,28.0s							
RKT	**Rikitea**	**54.54**	**265**	*e*	T	T	22 51 08.9	
	comp=Z,1.6nm,0.3s							
QSPA	**South Pole Qui**	**54.77**	**180**		P	**P**	**21 52 41.4**	**+0.7**
	comp=Z,37nm,1.0s,baz=134,slow=4.4,SNR=12							
QSPA	**South Pole Qui**	**54.77**	**180**	*e*	*P*	**P**	**21 52 41.8**	**+1.1**
	comp=Z,71nm,1.0s							
QSPA					LR	LR		
	comp=Z,6μm,19.0s							
GTBY	**Guantanamo Bay**	**55.12**	**358**		PFAKE		21 53 00.0	+17
GTBY					LR	LR		
	comp=Z,4μm,19.0s							
NVL	**N'lazarevskaya**	**55.33**	**156**	*e*	*P*	**P**	**21 52 43.5**	**-1.0**
NVL				*e*	*S*	S	22 00 14.7	-12
NVL					pmax	pmax		
	comp=Z,44nm,0.9s							
NVL					MLR	MLR		
	comp=Z,5μm,14.0s							
GRTK	**Grand Turk**	**56.70**	**2**		PFAKE		21 53 10.0	+15
GRTK					LR	LR		
	comp=Z,4μm,19.0s							
TEIG	**Tepich**	**57.22**	**343**	*e*	*P*	**P**	**21 52 58.6**	**+0.1**
	comp=Z,52nm,0.7s							
TEIG					LR	LR		
	comp=Z,3μm,20.0s							
ASCN	**Ascension**	**60.10**	**78**		PFAKE		21 53 30.0	+11
ASCN					LR	LR		
	comp=Z,7μm,19.0s							
SBA	**Scott Base**	**61.46**	**192**		PFAKE		21 53 40.0	+13
SBA					LR	LR		
	comp=Z,5μm,19.0s							
VNDA	**Vanda**	**62.49**	**192**	*e*	*P*	**P**	**21 53 35.5**	**+1.5**
VNDA					pmax	pmax		
	comp=Z,11nm,0.9s							
VNDA	**Vanda**	**62.49**	**192**		P	**P**	**21 53 35.6**	**+1.6**
	comp=Z,2.3nm,1.0s,baz=103,slow=7.7,SNR=3.3							
VNDA	**Vanda**	**62.49**	**192**	*e*	*P*	**P**	**21 53 35.5**	**+1.5**
	comp=Z,11nm,0.9s							
SHEL	**Horse Pasture**	**62.62**	**91**		PFAKE		21 53 50.0	+14
SHEL					LR	LR		
	comp=Z,7μm,19.0s							
SYO	**Syowa Base**	**64.83**	**158**	⇓*e*	*P*	**P**	**21 53 48.2**	**-1.4**
SYO	**Syowa Base**	**64.83**	**158**	⇓*e*	*sP*	sP	21 54 05.0	+5.0
TBI	**Tubuai**	**66.12**	**258**	*e*	LR	LR	22 14 03.6	
	comp=Z,3μm,27.2s							
034A	**Hebbronville**	**66.72**	**335**		P	**P**	**21 54 03.4**	**+1.2**
	baz=67							
BRAL	**Brewton**	**67.41**	**347**		PFAKE		21 54 20.0	+13
BRAL					LR	LR		
	comp=Z,3μm,20.0s							
834A	**Tilden**	**67.65**	**336**		P	**P**	**21 54 09.2**	**+1.1**
	baz=68							
MEH	**Mehetia**	**67.78**	**263**	*e*	T	T	23 07 40.6	
	comp=Z,31nm,0.2s							
BBSR	**BB Station**	**67.95**	**8**		PFAKE		21 54 20.0	+10
BBSR					LR	LR		
	comp=Z,2μm,20.0s							
833A	**Chaparral WMA,**	**68.12**	**335**		P	**P**	**21 54 12.4**	**+1.4**
	baz=68							
832A	**Faith Ranch, C**	**68.29**	**335**		P	**P**	**21 54 13.3**	**+1.2**
	baz=69							
734A	**La Parita Cree**	**68.32**	**336**		P	**P**	**21 54 13.1**	**+0.8**
	baz=69							
636A	**Smothers Creek**	**68.43**	**338**		P	**P**	**21 54 14.1**	**+1.1**
	baz=69							
HKT	**Hockley**	**68.50**	**339**	*e*	*P*	**P**	**21 54 14.2**	**+0.9**
HKT					pmax	pmax		
	comp=Z,380nm,3.0s							
HKT	**Hockley**	**68.50**	**339**	*e*	*P*	**P**	**21 54 14.2**	**+0.9**
	comp=Z,380nm,3.0s							
NHSC	**New Hope**	**68.54**	**354**		PFAKE		21 54 30.0	+16
NHSC					LR	LR		
	comp=Z,6μm,22.0s							
SACV	**Santiago Islan**	**68.66**	**52**		PFAKE		21 54 30.0	+15
SACV					LR	LR		
	comp=Z,8μm,19.0s							
732A	**Laxson Ranch,**	**68.69**	**335**		P	**P**	**21 54 15.4**	**+0.7**
	baz=69							
TVO	**Taravao**	**68.79**	**263**	*e*	T	T	23 08 56.7	
	comp=Z,1.5nm,0.2s							
LPIG	**La Paz**	**68.92**	**324**		P	**P**	**21 54 14.6**	**-1.5**
	comp=Z,25nm,0.3s,baz=118,slow=1.2,SNR=4.7							
TIAR	**Tiarei**	**68.98**	**263**	*e*	T	T	23 09 10.9	
	comp=Z,3.8nm,0.2s							
633A	**Saathoff Ranch**	**69.09**	**336**		P	**P**	**21 54 17.5**	**+0.4**
	baz=69							
PAE	**Paea**	**69.12**	**263**	*e*	T	T	23 09 20.8	
	comp=Z,0.7nm,0.3s							
PPT2	**Papeete2**	**69.15**	**263**	*e*	LR	LR	22 15 18.7	
	comp=Z,3μm,26.0s							
PPT	**Papeete**	**69.16**	**263**		P	**P**	**21 54 17.5**	**-0.5**
	comp=Z,24nm,0.8s,baz=183,slow=10,SNR=3.5							
GOGA	**Godfrey**	**69.20**	**351**	*e*	*P*	**P**	**21 54 20.1**	**+2.4**
GOGA					pmax	pmax		
	comp=Z,67nm,1.5s							
GOGA					MLR	MLR		
	comp=Z,3μm,20.0s							
GOGA	**Godfrey**	**69.20**	**351**	*e*	*P*	**P**	**21 54 20.1**	**+2.4**
	comp=Z,67nm,1.5s							
GOGA					LR	LR		
	comp=Z,3μm,20.0s							
632A	**Uvalde**	**69.34**	**335**		P	**P**	**21 54 19.4**	**+0.7**
	baz=70							
LRAL	**Lakeview Retre**	**69.38**	**348**	*e*	*P*	**P**	**21 54 19.4**	**+0.6**
	comp=Z,216nm,2.6s							
533A	**Kerrville**	**69.61**	**336**		P	**P**	**21 54 20.4**	**+0.1**
	baz=70							
337A	**Centerville**	**69.79**	**339**		P	**P**	**21 54 21.9**	**+0.5**
	baz=70							
532A	**Rocksprings**	**69.95**	**335**		P	**P**	**21 54 22.7**	**+0.2**
	baz=70							
434A	**Burnet**	**70.05**	**337**		P	**P**	**21 54 22.8**	**-0.3**
	baz=70							
531A	**Rocksprings**	**70.20**	**335**		P	**P**	**21 54 24.2**	**+0.2**
	baz=70							
335A	**Moody**	**70.22**	**338**		P	**P**	**21 54 22.9**	**-1.1**
	baz=71							
JCT	**Junction City**	**70.24**	**336**	*e*	*P*	**P**	**21 54 24.7**	**+0.5**
JCT					pmax	pmax		
	comp=Z,32nm,0.8s							
JCT					MLR	MLR		
	comp=Z,2μm,21.0s							
JCT	**Junction City**	**70.24**	**336**		P	**P**	**21 54 24.4**	**+0.2**
	baz=71							
JCT	**Junction City**	**70.24**	**336**	*e*	*P*	**P**	**21 54 24.7**	**+0.5**
	comp=Z,32nm,0.8s							
JCT					LR	LR		
	comp=Z,2μm,21.0s							
433A	**Art**	**70.26**	**336**		P	**P**	**21 54 24.2**	**-0.1**
	baz=71							
530A	**J-C Ranch, Com**	**70.47**	**334**		P	**P**	**21 54 26.0**	**+0.3**
	baz=71							
CNNC	**Cliffs of the**	**70.49**	**356**		PFAKE		21 54 40.0	+14
CNNC					LR	LR		
	comp=Z,3μm,19.0s							
334A	**Lometa**	**70.52**	**337**		P	**P**	**21 54 25.5**	**-0.4**
	baz=71							
TXAR	**Lajitas Array**	**70.59**	**332**		P	**P**	**21 54 26.7**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=155,slow=7.8,SNR=11							
TX31	**Lajitas Ar. Si**	**70.59**	**332**	*e*	*P*	**P**	**21 54 26.4**	**-0.1**
KMSC	**Kings Mountain**	**70.67**	**353**		P	**P**	**21 54 25.8**	**-0.9**
	baz=71							
KMSC	**Kings Mountain**	**70.67**	**353**	*e*	*P*	**P**	**21 54 26.6**	**-0.1**
KMSC				*e*	*pP*	**pP**	**21 54 33.8**	**-0.5**
431A	**Sonora**	**70.70**	**335**		P	**P**	**21 54 26.7**	**-0.3**
	baz=71							
333A	**Richland Sprin**	**70.75**	**337**		P	**P**	**21 54 26.9**	**-0.4**
	baz=71							
529A	**Stev Forest Ra**	**70.76**	**333**		P	**P**	**21 54 28.9**	**+1.4**
	baz=71							
WHTX	**Lake Whitney,**	**70.89**	**338**	*e*	*P*	**P**	**21 54 28.5**	**+0.5**
	comp=Z,50nm,0.8s							
WHTX				*e*	*PcP*	**PcP**	**21 54 44.2**	**-4.3**
430A	**Baggett Ranch,**	**71.01**	**335**		P	**P**	**21 54 28.8**	**-0.2**
	baz=71							
332A	**Millersview**	**71.05**	**336**		P	**P**	**21 54 28.7**	**-0.4**
	baz=71							
429A	**Davenport Ranc**	**71.10**	**334**		P	**P**	**21 54 29.9**	**+0.4**
	baz=71							
234A	**Clairette**	**71.11**	**338**		P	**P**	**21 54 29.6**	**+0.2**
	baz=71							
331A	**San Angelo**	**71.21**	**335**		P	**P**	**21 54 29.3**	**-0.8**
	baz=72							
OXF	**Oxford**	**71.26**	**346**	*e*	*P*	**P**	**21 54 31.7**	**+1.4**
OXF					pmax	pmax		
	comp=Z,59nm,0.8s							
OXF	**Oxford**	**71.26**	**346**	*e*	*P*	**P**	**21 54 31.7**	**+1.4**
	comp=Z,58nm,0.8s							
CPCT	**Cooper Cave**	**71.35**	**350**	*e*	*P*	**P**	**21 54 32.7**	**+1.9**
TKL	**Tuckaleechee C**	**71.46**	**351**		P	**P**	**21 54 30.9**	**-0.5**
	comp=Z,13nm,0.8s,baz=161,slow=6.1,SNR=11							
TKL					pP	**pP**	**21 54 38.5**	**-0.6**
	comp=Z,19nm,0.8s,baz=170,slow=7.2,SNR=10							
232A	**Coleman**	**71.48**	**336**		P	**P**	**21 54 31.5**	**-0.3**
	baz=72							
330A	**Mertzon**	**71.56**	**335**		P	**P**	**21 54 31.9**	**-0.3**
	baz=72							
231A	**Bronte**	**71.75**	**336**		P	**P**	**21 54 33.0**	**-0.4**
	baz=72							
329A	**Wagon Wheel Ra**	**71.91**	**334**		P	**P**	**21 54 34.5**	**+0.1**
	baz=72							
133A	**Hamilton Ranch**	**71.91**	**337**		P	**P**	**21 54 34.5**	**+0.2**
	baz=72							
MAW	**Mawson**	**72.03**	**164**	*e*	*P*	**P**	**21 54 36.4**	**+1.8**
MAW				*e*			21 54 42.2	
MAW	**Mawson**	**72.03**	**164**		P	**P**	**21 54 34.7**	**+0.1**
	comp=Z,24nm,0.9s,baz=225,slow=4.3,SNR=3.1							
MAW					pP	**pP**	**21 54 42.3**	**0.0**
	comp=Z,89nm,1.0s,baz=238,slow=9.0,SNR=7.3							
MAW	**Mawson**	**72.03**	**164**	*e*	*P*	**P**	**21 54 36.4**	**+1.8**
MAW				*e*	*PcP*	**pP**	**21 54 42.2**	**0.0**
Z35A	**Perchaven, San**	**72.08**	**339**		P	**P**	**21 54 35.5**	**+0.2**
	baz=72							
ABTX	**Abilene, Hawle**	**72.16**	**337**		P	**P**	**21 54 36.0**	**+0.3**
	baz=72							
ABTX	**Abilene, Hawle**	**72.16**	**337**	*e*	*P*	**P**	**21 54 36.5**	**+0.8**
	comp=Z,43nm,0.8s							
MIAR	**Mount Ida**	**72.23**	**342**	*e*	*P*	**P**	**21 54 36.5**	**+0.4**
MIAR					pmax	pmax		
	comp=Z,73nm,1.9s							
MIAR					MLR	MLR		
	comp=Z,2μm,21.0s							
MIAR	**Mount Ida**	**72.23**	**342**	*e*	*P*	**P**	**21 54 36.5**	**+0.4**
	comp=Z,74nm,1.9s							
MIAR					LR	LR		
	comp=Z,2μm,21.0s							
229A	**Bryant Ranch,**	**72.29**	**335**		P	**P**	**21 54 36.9**	**+0.3**
	baz=73							
TZTN	**Tazewell**	**72.30**	**351**	*e*	*P*	**P**	**21 54 37.5**	**+1.0**
	comp=Z,123nm,1.8s							
Z34A	**Collier Ranch,**	**72.31**	**338**		P	**P**	**21 54 36.9**	**+0.2**
	baz=73							
131A	**Roby**	**72.45**	**336**		P	**P**	**21 54 37.4**	**-0.1**
	baz=73							
Z33A	**Whitaker Ranch**	**72.49**	**338**		P	**P**	**21 54 37.7**	**0.0**
	baz=73							
WVT	**Waverly**	**72.54**	**348**	*e*	*P*	**P**	**21 54 37.4**	**-0.5**
WVT					pmax	pmax		
	comp=Z,74nm,0.8s							
WVT	**Waverly**	**72.54**	**348**	*e*	*P*	**P**	**21 54 37.4**	**-0.5**
	comp=Z,74nm,0.8s							
VWCC	**Virginia Weste**	**72.63**	**354**	*e*	*P*	**P**	**21 54 39.0**	**+0.6**
VWCC				*e*	*PcP*	**pP**	**21 54 45.8**	**-0.3**
BLA	**Blacksburg**	**72.63**	**354**	*e*	*P*	**P**	**21 54 38.6**	**+0.1**
BLA					pmax	pmax		
	comp=Z,21nm,0.8s							
BLA					MLR	MLR		
	comp=Z,2μm,21.0s							
BLA	**Blacksburg**	**72.63**	**354**	*e*	*P*	**P**	**21 54 38.6**	**+0.1**
	comp=Z,21nm,0.8s							
BLA					LR	LR		
	comp=Z,2μm,21.0s							
228A	**UT Block 9, Go**	**72.70**	**334**		P	**P**	**21 54 39.2**	**+0.1**
	baz=73							
Z32A	**Haskell**	**72.73**	**337**		P	**P**	**21 54 39.2**	**0.0**
	baz=73							
Y34A	**Reagan Ranch,**	**72.81**	**339**		P	**P**	**21 54 39.8**	**+0.2**
	baz=73							
JSRW	**J. Sargeant Re**	**72.93**	**356**	*e*	*pP*	pP	21 54 48.1	+0.3
Z31A	**Sharp Cattle R**	**72.96**	**337**		P	**P**	**21 54 40.6**	**0.0**
	baz=73							
128A	**Castleberry Fa**	**73.12**	**334**		P	**P**	**21 54 41.7**	**+0.2**
	baz=74							
Y33A	**Hilltop Ranch,**	**73.12**	**338**		P	**P**	**21 54 41.7**	**+0.2**
	baz=74							
Z30A	**Sanderson Ranc**	**73.

121A	Cookes Peak, D	75.05 330	P	P	21 54 54.1 +1.1
	baz=75				
121A	Cookes Peak, D	75.05 330	eP	P	21 54 53.4 +0.4
W29A	Amarillo	75.10 336	P	P	21 54 54.0 +0.9
	baz=76				
V31A	Spring Creek L	75.13 338	P	P	21 54 54.4 +1.2
	baz=76				
U33A	Lingo Farm, Me	75.22 339	P	P	21 54 54.6 +0.9
	baz=76				
BLO	Bloomington	75.30 349	eP	P	21 54 55.1 +1.1
BLO			pmax	pmax	
	comp=Z,23nm,0.8s				
BLO	Bloomington	75.30 349	eP	P	21 54 55.1 +1.1
	comp=Z,23nm,0.8s				
RAR	Rarotonga	75.39 254	PFAKE		21 55 10.0 +15
RAR			LR	LR	
	comp=Z,2.0nm,20.0s				
SLM	Saint Louis	75.42 346	eP	P	21 54 56.5 +1.8
SLM			e		21 55 09.9
SLM			pmax	pmax	
	comp=Z,62nm,0.9s				
SLM	Saint Louis	75.42 346	eP	P	21 54 56.5 +1.8
	comp=Z,62nm,0.9s				
SLM			ePcP	PcP	21 55 09.9 +2.1
U32A	Winter Ranch,	75.43 339	P	P	21 54 55.5 +0.6
	baz=76				
LUPA	Lehigh Univers	75.72 358	eP	P	21 54 59.4 +3.0
	comp=Z,5.4nm,0.9s				
SSPA	Standing Stone	75.86 356	eP	P	21 54 57.1 -0.1
	comp=Z,25nm,0.9s				
V28A	Channing	75.87 336	P	P	21 54 58.2 +0.6
	baz=76				
ACSO	Alum Creek Sta	75.88 352	eP	P	21 54 56.8 -0.5
	comp=Z,68nm,0.8s				
ACSO			LR	LR	
	comp=Z,3μm,21.0s				
BNM	Barren Site	76.02 332	eP	P	21 54 59.6 +1.1
BNM			esP	sP	21 55 07.6 -1.4
U30A	WK&E Inc. Balk	76.07 337	P	P	21 54 59.2 +0.6
	baz=76				
LIC	Lamto	76.08 72	eP	P	21 54 58.7 -0.4
	comp=Z,163nm,0.8s				
TUC	Tucson	76.12 328	eP	P	21 55 00.6 +1.6
TUC			pmax	pmax	
	comp=Z,77nm,2.1s				
TUC	Tucson	76.12 328	eP	P	21 55 00.6 +1.6
	comp=Z,77nm,2.1s				
T32A	Huddler Ranch,	76.15 339	P	P	21 54 59.1 +0.1
	baz=76				
LPM	Los Pinos Moun	76.16 332	eP	P	21 55 00.9 +1.6
ODNJ	Ogdensburg	76.19 359	eP	P	21 55 00.5 +1.5
	comp=Z,32nm,0.9s				
S33A	Kaszmaul Farm,	76.27 340	P	P	21 55 00.3 +0.6
	baz=77				
TIC	Toumodi	76.35 72	eP	P	21 55 00.4 -0.3
	comp=Z,119nm,0.8s				
KIC	Kosan Boka	76.39 72	eP	P	21 55 01.0 +0.1
	comp=Z,216nm,0.8s				
LAZ	Ladron	76.43 332	eP	P	21 55 01.5 +0.6
DBIC	Dimbokro	76.49 72	eP	P	21 55 02.0 +0.5
DBIC			*PP	pP	21 55 08.8 -0.3
DBIC			pmax	pmax	
	comp=Z,79nm,0.7s				
DBIC	Dimbokro	76.49 72	P	P	21 55 01.5 +0.1
	comp=Z,47nm,0.9s,baz=208,slow=5.7,SNR=30				
DBIC			pP	pP	21 55 08.8 -0.3
	comp=Z,85nm,0.7s,baz=212,slow=5.9,SNR=26				
DBIC	Dimbokro	76.49 72	eP	P	21 55 01.9 +0.5
	comp=Z,79nm,0.7s				
DBIC			pP	pP	21 55 08.8 -0.3
W24A	Lazy 6 Ranch,	76.50 333	P	P	21 55 02.0 +0.8
	baz=77				
S32A	Newby Ranch, P	76.64 339	P	P	21 55 02.4 +0.7
	baz=77				
ANMO	Albuquerque	76.65 332	eP	P	21 55 03.1 +1.0
ANMO			pmax	pmax	
	comp=Z,38nm,1.2s				
ANMO	Albuquerque	76.65 332	P	P	21 55 02.9 +0.8
	comp=Z,5.1nm,1.0s,baz=171,slow=6.7,SNR=4.5				
ANMO	Albuquerque	76.65 332	eP	P	21 55 03.6 +1.5
	comp=Z,14nm,1.0s				
ANMO			LR	LR	
	comp=Z,4μm,19.0s				
U27A	Thompson Grove	76.68 336	P	P	21 55 03.1 +0.9
	baz=77				
214A	Organ Pipe Nat	76.72 326	eP	P	21 55 02.8 +0.4
	comp=Z,43nm,1.7s				
V25A	Rancho No Teng	76.77 334	P	P	21 55 03.3 +0.5
	baz=77				
T29A	Hugoton	76.85 337	P	P	21 55 03.7 +0.7
	baz=77				
R33A	Olander Ranch,	76.94 340	P	P	21 55 04.3 +0.9
	baz=77				
BRYW	Bryant College	77.03 1	esP	sP	21 55 12.7 -1.6
T28A	Walsh	77.08 337	P	P	21 55 04.5 +0.2
	baz=77				
U25A	Circle Dot Ran	77.20 335	P	P	21 55 06.1 +0.9
	baz=78				
S29A	Ulysses	77.22 338	P	P	21 55 05.3 +0.2
	baz=78				
T27A	Campo	77.23 336	P	P	21 55 05.4 +0.2
	baz=78				
R32A	Long Quarter,	77.25 340	P	P	21 55 04.9 -0.2
	baz=78				
KSU1	Kansas State U	77.31 341	P	P	21 55 05.2 -0.3
	baz=78				
KSU1	Kansas State U	77.31 341	PFAKE		21 55 20.0 +15
KSU1			LR	LR	
	comp=Z,2μm,20.0s				
BINY	Binghamton	77.34 358	eP	P	21 55 07.4 +1.8
	comp=Z,30nm,0.9s				
BINY			LR	LR	
	comp=Z,5μm,19.0s				
R31A	Burdett	77.36 339	P	P	21 55 05.6 -0.2
	baz=78				
QUA2	Belchertown	77.38 1	eP	P	21 55 06.2 +0.5
QUA2			epP	pP	21 55 12.6 -0.8
S28A	Manter	77.44 337	P	P	21 55 06.8 +0.4
	baz=78				
ERPA	Erie	77.47 355	PFAKE		21 55 20.0 +14
ERPA			LR	LR	
	comp=Z,3μm,19.0s				
R30A	Dighton	77.58 338	P	P	21 55 07.8 +0.7
	baz=78				
HRV	Adam Dziewonsk	77.61 1	eP	P	21 55 09.5 +2.5
HRV			pmax	pmax	
	comp=Z,52nm,0.9s				
HRV	Adam Dziewonsk	77.61 1	eP	P	21 55 09.5 +2.5
	comp=Z,52nm,0.9s				
V22A	San Miguel Ran	77.68 332	P	P	21 55 09.3 +1.4
	baz=78				
Q32A	Meitler Ranch,	77.73 340	P	P	21 55 08.4 +0.6
	baz=78				
TRY	Troy	77.83 360	eP	P	21 55 09.5 +1.2
TRY			esP	sP	21 55 17.1 -1.6
T25A	Trinidad	77.87 335	P	P	21 55 09.7 +0.8
	baz=78				
T25A	Trinidad	77.87 335	eP	P	21 55 09.9 +1.0
	comp=Z,262nm,2.0s				
R29A	Marienthal	77.97 338	P	P	21 55 10.3 +1.1
	baz=78				
S26A	Kim	77.98 336	P	P	21 55 10.3 +0.9
	baz=78				
AAM	Ann Arbor	78.00 352	eP	P	21 55 09.4 +0.3
AAM			pmax	pmax	
	comp=Z,132nm,1.1s				
AAM			MLR	MLR	
	comp=Z,4μm,20.0s				
AAM	Ann Arbor	78.00 352	eP	P	21 55 09.4 +0.3
	comp=Z,132nm,1.1s				
AAM			LR	LR	
	comp=Z,4μm,20.0s				
W18A	Petrified Fore	78.09 330	eP	P	21 55 12.0 +1.9
	comp=Z,530nm,3.0s				
R28A	Tribune	78.10 337	P	P	21 55 10.7 +0.7
	baz=78				
T24B	San Luis	78.14 334	P	P	21 55 12.0 +1.5
	baz=78				
Q30A	Quinter	78.20 339	P	P	21 55 11.2 +0.7
	baz=78				
X16A	Lo Mia Camp, P	78.20 328	P	P	21 55 11.8 +1.0
	baz=79				
Q29A	Oakley	78.35 338	P	P	21 55 11.6 +0.3
	baz=79				
S25A	Robets Cordova	78.35 335	P	P	21 55 12.3 +0.8
	baz=79				
R27A	Eads	78.36 337	P	P	21 55 11.5 0.0
	baz=79				
P31A	Stockton	78.46 340	P	P	21 55 11.5 -0.4
	baz=79				
Y14A	Wickenburg	78.48 327	P	P	21 55 12.5 +0.4
	baz=79				
ACCN	Adirondack Com	78.48 360	eP	P	21 55 12.7 +0.9
	comp=Z,30nm,0.9s				
CASY	Casey	78.54 182	eP	P	21 55 13.0 +0.9
	comp=Z,36nm,0.6s				
CASY			LR	LR	
	comp=Z,11μm,19.0s				
GLA	Glamis	78.57 325	eP	P	21 55 14.4 +1.8
GLA	Glamis	78.57 325	P	P	21 55 13.5 +0.9
	baz=79				
GLA	Glamis	78.57 325	eP	P	21 55 14.4 +1.8
R26A	Arlington	78.59 336	P	P	21 55 13.2 +0.5
	baz=79				
S24A	Houchin Ranch,	78.60 335	P	P	21 55 14.4 +1.4
	baz=79				
Q28A	Sharon Springs	78.77 338	P	P	21 55 13.6 -0.1
	baz=79				
SDCO	Great Sand Dun	78.79 334	P	P	21 55 15.2 +1.1
	baz=79				
HNH	Hanover	78.80 1	eP	P	21 55 14.6 +1.0
HNH			esP	sP	21 55 22.6 -1.4
KSCO	Kaye Shedlock'	78.97 337	eP	P	21 55 16.3 +1.5
KSCO			esP	sP	21 55 24.1 -1.2
P29A	Atwood	78.99 338	P	P	21 55 15.8 +0.9
	baz=79				
O31A	Woolen Ranch,	79.03 340	P	P	21 55 14.9 -0.1
	baz=79				
NCB	Newcomb	79.07 359	eP	P	21 55 15.1 0.0
	comp=Z,22nm,0.8s				
NCB			LR	LR	
	comp=Z,3μm,19.0s				
R24A	Sanders Place,	79.09 335	P	P	21 55 16.9 +1.3
	baz=79				
MDV	Middlebury	79.09 360	eP	P	21 55 15.5 +0.3
WUAZ	Wupatki	79.11 329	P	P	21 55 17.1 +1.4
	baz=80				
WUAZ	Wupatki	79.11 329	eP	P	21 55 16.4 +0.6
SCIA	State Center	79.17 345	PFAKE		21 55 30.0 +14
SCIA			LR	LR	
	comp=Z,2μm,19.0s				
Q26A	Hugo	79.18 336	P	P	21 55 17.3 +1.3
	baz=80				
P28A	Saint Francis	79.21 338	P	P	21 55 16.1 +0.1
	baz=80				
O30A	MW Ranch, Wils	79.26 339	P	P	21 55 16.9 +0.7
	baz=80				
S22A	4UR Ranch, Cre	79.27 333	P	P	21 55 18.1 +1.4
	baz=80				
S22A	4UR Ranch, Cre	79.27 333	eP	P	21 55 18.3 +1.6
	comp=Z,18nm,1.1s				
R23A	Moffat	79.31 334	P	P	21 55 17.5 +0.6
	baz=80				
LBNH	Lisbon	79.34 1	eP	P	21 55 17.7 +1.2
LBNH			e		21 55 25.0
LBNH			MLR	MLR	
	comp=Z,2μm,20.0s				
LBNH	Lisbon	79.34 1	eP	P	21 55 17.7 +1.2
LBNH			ePcP	PcP	21 55 25.0 +0.4
LBNH			LR	LR	
	comp=Z,2μm,20.0s				
BC3	Big Chuckawall	79.36 325	P	P	21 55 18.4 +1.4
	baz=80				
MVCO	Mesa Verde	79.42 332	P	P	21 55 18.0 +0.5
	baz=80				
MVCO	Mesa Verde	79.42 332	eP	P	21 55 18.2 +0.7
	comp=Z,20nm,1.0s				
MVCO			LR	LR	
	comp=Z,7μm,19.0s				
JFWS	Jewell Farm	79.56 347	eP	P	21 55 20.3 +2.5
JFWS			pmax	pmax	
	comp=Z,28nm,0.8s				
JFWS			MLR	MLR	
	comp=Z,3μm,20.0s				
JFWS	Jewell Farm	79.56 347	eP	P	21 55 20.3 +2.5
	comp=Z,28nm,0.8s				
JFWS			LR	LR	
	comp=Z,3μm,20.0s				
IRM	Iron Mountain	79.64 326	P	P	21 55 19.4 +0.9
	baz=80				
TSUM	Tsumeb	79.67 106	eP	P	21 55 20.1 +0.8
TSUM			LR	LR	
	comp=Z,6μm,19.0s				
P26A	Davis Ranch, A	79.70 337	P	P	21 55 19.6 +0.8
	baz=80				
O28A	Krutsinger Ran	79.72 338	P	P	21 55 18.9 +0.1
	baz=80				
LONY	Lake Ozonia	79.72 359	eP	P	21 55 18.9 +0.2
LONY			ePcP	pP	21 55 26.9 +0.6
LONY			LR	LR	
	comp=Z,3μm,19.0s				
Q24A	Divide	79.76 335	P	P	21 55 19.7 +0.4
	baz=80				
Q24A	Divide	79.76 335	eP	P	21 55 20.8 +1.4
	comp=Z,153nm,1.9s				
PFO	Pinyon Flats O	79.79 324	eP	P	21 55 21.5 +2.1
PFO			pmax	pmax	
	comp=Z,300nm,3.0s				
PFO			MLR	MLR	
	comp=Z,4μm,19.0s				
PFO	Pinyon Flats O	79.79 324	P	P	21 55 20.7 +1.2
	comp=Z,5.2nm,0.8s,baz=148,slow=5.6,SNR=4.9				
PFO	Pinyon Flats O	79.79 324	P	P	21 55 21.3 +1.9
	baz=80				
PFO	Pinyon Flats O	79.79 324	eP	P	21 55 21.5 +2.1
	comp=Z,300nm,3.0s				
PFO			LR	LR	
	comp=Z,4μm,19.0s				
W13A	Hualapai Mount	79.85 327	P	P	21 55 21.3 +1.5
	baz=80				
BELC	Belle Mtn. Jos	79.90 325	P	P	21 55 21.8 +1.8
	baz=80				
P25A	Willow Gulch B	79.92 336	P	P	21 55 21.8 +1.8
	baz=80				
SADO	Sadowa	80.05 356	P	P	21 55 20.1 -0.3
	comp=Z,12nm,0.8s,baz=169,slow=2.9,SNR=9.2				
SADO			pP	PcP	21 55 27.7 0.0
	comp=Z,28nm,0.8s,baz=211,slow=4.3,SNR=13				
PV01	Paradox Valley	80.26 332	eP	P	21 55 23.5 +1.5
U15A	North Rim	80.28 329	P	P	21 55 24.0 +1.8
	baz=81				
LDFC	Landfair	80.38 326	eP	P	21 55 24.8 +2.3
GMRC	Granite Mounta	80.38 326	P	P	21 55 23.3 +0.7
	baz=81				
PV05	Paradox Valley	80.41 332	eP	P	21 55 24.0 +1.2
PKME	Peaks-Kenny Pk	80.43 3	PFAKE		21 55 30.0 +7.6
PKME			LR	LR	
	comp=Z,4μm,22.0s				
OGNE	Ogallala	80.55 338	eP	P	21 55 23.8 +0.5
	comp=Z,14nm,0.8s				
OGNE			LR	LR	
	comp=Z,2μm,20.0s				
N27A	Anderson Farm,	80.58 338	P	P	21 55 24.3 +0.8
	baz=81				
SMCO	Snowmass	80.59 334	eP	P	21 55 25.1 +1.1
	comp=Z,144nm,2.1s				
ISCO	Idaho Springs	80.67 335	eP	P	21 55 25.6 +1.3
ISCO			pmax	pmax	
	comp=Z,14nm,1.1s				
ISCO			MLR	MLR	
	comp=Z,2μm,19.0s				
ISCO	Idaho Springs	80.67 335	eP	P	21 55 25.6 +1.3
	comp=Z,14nm,1.1s				
ISCO			LR	LR	
	comp=Z,2μm,19.0s				
PV09	Paradox Valley	80.79 332	eP	P	21 55 26.8 +1.8
BFSC	Mount Baldy Ra	80.88 324	P	P	21 55 26.5 +1.2
	baz=81				
P22A	Eagle	80.89 334	P	P	21 55 26.6 +1.3
	baz=81				
KNB	Kanab	81.00 329	eP	P	21 55 27.3 +1.4
KNB			pmax	pmax	
	comp=Z,187nm,2.4s				
KNB	Kanab	81.00 329	eP	P	21 55 27.3 +1.4
	comp=Z,187nm,2.4s				
TUQ	Turquoise Moun	81.05 326	P	P	21 55 26.6 +0.4
	baz=81				
O23A	Lake Granby, G	81.14 335	P	P	21 55 27.4 +0.7
	baz=82				
O22A	Kremmling	81.31 335	P	P	21 55 28.6 +0.9
	baz=82				
GSC	Goldstone, Bar	81.34 325	eP	P	21 55 29.6 +1.9
GSC			pmax	pmax	
	comp=Z,85nm,2.1s				
GSC	Goldstone, Bar	81.34 325	eP	P	21 55 29.6 +1.9
	comp=Z,85nm,2.1s				
K30A	Basset	81.45 341	P	P	21 55 28.6 +0.6
	baz=82				
SNZO	South Karori	81.50 225	PFAKE		21 55 40.0 +11
SNZO			LR	LR	
	comp=Z,3μm,19.0s				
EDW2	Edwards Air Fo	81.56 324	P	P	21 55 29.6 +0.8
	baz=82				
SHPR	Sheep Range	81.59 327	eP	P	21 55 30.6 +1.5
BSC	Santa Cruz Isl	81.65 322	P	P	21 55 29.1 -0.1
	baz=82				
ECSD	EROS Data Cent	81.68 343	P	P	21 55 29.1 -0.1
	baz=82				
ECSD	EROS Data Cent	81.68 343	eP	P	21 55 29.0 -0.1
	comp=Z,53nm,0.9s				
ECSD			LR	LR	
	comp=Z,2μm,20.0s				
CCUT	Cedar City	81.68 329	eP	P	21 55 31.3 +1.7
	comp=Z,307nm,2.7s				
N23A	Red Feather La	81.76 335	P	P	21 55 30.4 +0.4
	baz=82				
N23A	Red Feather La	81.76 335	eP	P	21 55 31.2 +1.2
	comp=Z,114nm,2.1s				
SRU	San Rafael Swe	81.86 331	eP	P	21 55 31.9 +1.5
SRU			pmax	pmax	
	comp=Z,12nm,0.8s				
SRU	San Rafael Swe	81.86 331	eP	P	21 55 31.9 +1.5
	comp=Z,12nm,0.8s				
O20A	White River Ci	81.89 334	P	P	21 55 31.5 +0.8
	baz=82				
O20A	White River Ci	81.89 334	eP	P	21 55 32.2 +1.6
	comp=Z,133nm,2.1s				
LRMC	Laurel Mtn Rad	81.90 325	P	P	21 55 32.4 +1.7
	baz=82				
PHWY	Pilot Hill	81.96 336	eP	P	21 55 31.8 +0.7
	comp=Z,22nm,1.1s				
MVU	Marysvale	82.01 330	eP	P	21 55 33.0 +1.7
	comp=Z,138nm,2.5s				
SPMN	Marine on St.	82.27 346	eP	P	21 55 31.5 -0.7
	comp=Z,20nm,0.7s				
MPMC	Manual Prospec	82.28 325	P	P	21 55 34.3 +1.5
	baz=83				
TMUT	Trail Mountain	82.29 331	eP	P	21 55 34.6 +1.8
	comp=Z,44nm,0.7s				
J29A	Okreek	82.33 340	P	P	21 55 32.7 +0.1
	baz=83				
ISA	Isabella, Lake	82.42 324	eP	P	21 55 35.4 +2.0
ISA			pmax	pmax	
	comp=Z,11nm,0.9s				
ISA	Isabella, Lake	82.42 324	P	P	21 55 35.3 +1.9
	baz=83				
ISA	Isabella, Lake	82.42 324	eP	P	21 55 35.4 +2.0
	comp=Z,11nm,0.9s				
M22A	Cedar Creek Ra	82.44 335	P	P	21 55 34.7 +1.2
	baz=83				
TPNV	Topopah Spring	82.44 326	eP	P	21 55 35.6 +2.0
TPNV			pmax	pmax	
	comp=Z,115nm,2.3s				
TPNV	Topopah Spring	82.44 326	P	P	21 55 35.5 +2.0
	baz=83				
TPNV	Topopah Spring	82.44 326	eP	P	21 55 35.6 +2.0
	comp=Z,115nm,2.3s				
PKM	Mcpherson Peak	82.46 323	P	P	21 55 35.6 +1.9
	baz=83				
COWI	Conover	82.47 349	PFAKE		21 55 50.0 +17
COWI			LR	LR	
	comp=Z,2μm,20.0s				
DAC	Darwin (Calif)	82.51 325	eP	P	21 55 35.7 +1.8
DAC			pmax	pmax	
	comp=Z,119nm,2.3s				
DAC	Darwin (Calif)	82.51 325	eP	P	21 55 35.7 +1.8
	comp=Z,119nm,2.3s				
DAC			ePKiKP	PKiKP	22 01 00.1 +5.4
I30A	Oacoma	82.56 341	P	P	21 55 33.7 0.0
	baz=83				
J28A	Allard Ranch,	82.59 340	P	P	21 55 34.4 +0.4
	baz=83				
BRSD	Miller	82.92 342	eP	P	21 55 36.4 +0.8
BRSD			ePcP	pP	21 55 51.2 +7.8
J26A	Sides Ranch, S	83.03 338	P	P	21 55 37.5 +1.3
	baz=83				
MPU	Maple Canyon	83.08 331	eP	P	21 55 38.6 +1.8
	comp=Z,220nm,2.5s				
I28A	Midland	83.11 340	P	P	21 55 37.3 +0.6
	baz=84				
NLU	North Lily Min	83.20 331	eP	P	21 55 39.0 +1.6
NLU			esP	sP	21 55 47.4 -0.6
DAU	Daniels Canyon	83.27 332	eP	P	21 55 41.9 +4.0
DAU	Daniels Canyon	83.27 332	eP	P	21 55 41.9 +4.0
R11A	Troy Canyon, C	83.31 328	P	P	21 55 39.7 +1.8
	baz=84				
R11A	Troy Canyon, C	83.31 328	eP	P	21 55 39.9 +1.9
	comp=Z,93nm,2.1s				
J25A	Sunshine Ranch	83.32 338	P	P	21 55 39.0 +1.2
	baz=84				
K23A	Bowen Ranch, D	83.32 337	P	P	21 55 38.9 +1.0
	baz=84				
I27A	Quinn	83.42 339	P	P	21 55 38.6 +0.4
	baz=84				
H29A	Onida	83.42 341	P	P	21 55 38.3 +0.1
	baz=84				
K22A	Casper	83.52 336	eP	P	21 55 42.6 +3.6
	comp=Z,211nm,2.3s				
DUG	Dugway, Tooele	83.70 331	eP	P	21 55 40.8 +0.9
DUG			pmax	pmax	
	comp=Z,88nm,1.8s				
DUG			MLR	MLR	
	comp=Z,2μm,21.0s				
DUG	Dugway, Tooele	83.70 331	P	P	21 55 41.4 +1.5
	baz=84				
DUG	Dugway, Tooele	83.70 331	eP	P	21 55 40.8 +0.9
	comp=Z,88nm,1.8s				
DUG			LR	LR	
	comp=Z,2μm,21.0s				
K21A	Alcova	83.75 335	P	P	21 55 41.0 +0.8
	baz=84				
I25A	Rochford	83.87 338	P	P	21 55 41.5 +0.8
	baz=84				
TCUT	Toone Canyon	83.94 332	eP	P	21 55 38.8 -2.4
G28A	Parade	84.03 341	P	P	21 55 41.3 -0.1
	baz=84				
RSSD	Black Hills	84.05 338	eP	P	21 55 42.3 +0.6
RSSD			pmax	pmax	
	comp=Z,13nm,0.8s				
RSSD	Black Hills	84.05 338	eP	P	21 55 42.3 +0.6
	comp=Z,13nm,0.8s				
RAO	Raoul Island	84.34 238	PFAKE		21 56 00.0 +17
RAO			LR	LR	
	comp=Z,3μm,19.0s				
HWUT	Hardware Ranch	84.42 332	eP	P	21 55 43.8 +0.3
	comp=Z,35nm,1.1s				
HWUT			LR	LR	
	comp=Z,4μm,19.0s				
F29A	Eureka	84.44 342	P	P	21 55 43.2 -0.2
	baz=85				
SPUT	South Promonto	84.50 331	eP	P	21 55 45.1 +1.1
	comp=Z,252nm,2.5s				
G27A	Dupree	84.59 340	P	P	21 55 43.9 -0.3
	baz=85				
CRZF	Crozet Islands	84.64 145	S	S	22 06 08.0 -2.4
EYMN	Ely	84.65 348	PFAKE		21 56 00.0 +16
EYMN			LR	LR	
	comp=Z,2μm,21.0s				
J20A	Shoshoni	84.67 335	P	P	21 55 45.8 +1.0
	baz=85				
BW06	Boulder Array	84.68 334	eP	P	21 55 45.3 +0.4
	comp=Z,88nm,2.2s				
BW06			LR	LR	
	comp=Z,4μm,19.0s				
PDAR	Pinedale Array	84.68 334	P	P	21 55 45.5 +0.6
	comp=Z,1.2nm,0.9s,baz=144,slow=7.8,SNR=4.0				
PDAR			PKKPbc	PKKPbc	22 13 53.9 -2.2
	comp=Z,0.5nm,0.8s,baz=320,slow=3.5,SNR=3.8				
F28A	McLaughlin	84.71 341	P	P	21 55 44.8 0.0
	baz=85				
H24A	Dirks Ranch, A	84.78 338	P	P	21 55 45.1 -0.1
	baz=85				
I21A	Big Trails, Te	84.81 336	P	P	21 55 45.1 -0.4
	baz=85				
E30A	Jud	84.84 342	P	P	21 55 45.5 +0.1
	baz=85				
G25A	Newell	84.84 339	P	P	21 55 45.4 -0.1
	baz=85				
HVU	Hansel Valley	85.03 331	eP	P	21 55 45.6 -1.0
HVU	Hansel Valley	85.03 331	eP	P	21 55 45.6 -1.0
F27A	Lemmon	85.07 340	P	P	21 55 46.6 0.0

baz=85
ELK Elko 85.16 329 P **P 21 55 48.1 +0.7**
ELK e*SP **sP 21 55 57.0 -0.9**
ELK Elko 85.16 329 P **P 21 55 48.0 +0.7**
comp=Z,1.6nm,0.7s,baz=192,slow=3.9,SNR=4.4
ELK pP **pP 21 55 56.1 +0.9**
comp=Z,5.1nm,0.8s,baz=165,slow=1.1,SNR=8.6
ELK Elko 85.16 329 P **P 21 55 48.0 +0.7**
ELK esP **sP 21 55 57.0 -0.9**
WAKR Walker 85.17 325 eP **P 21 55 49.7 +2.2**
I20A Worland 85.22 335 P **P 21 55 47.5 +0.1**
baz=86
AHID Auburn Hatcher 85.24 333 eP **P 21 55 48.4 +0.7**
comp=Z,18nm,1.3s
AHID LR LR
comp=Z,4μm,19.0s
CMB Columbia Colle 85.24 324 eP **P 21 55 49.5 +1.8**
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB Columbia Colle 85.24 324 eP **P 21 55 49.5 +1.8**
comp=Z,7.8nm,1.0s
G24A Alzada 85.26 338 P **P 21 55 47.7 +0.1**
baz=86
D30A Buchanan 85.37 343 P **P 21 55 48.2 +0.3**
baz=86
G23A Biddle 85.44 338 P **P 21 55 48.7 +0.1**
baz=86
DRLN Deer Lake 85.49 10 eP **P 21 55 48.8 +0.3**
comp=Z,70nm,0.8s
F25A Bowman 85.52 339 P **P 21 55 47.9 -1.0**
baz=86
D29A Pettibone, Tap 85.53 342 P **P 21 55 48.3 -0.5**
baz=86
TOA0 Torodi Ar. Sit 85.55 71 eP **P 21 55 49.5 -0.1**
TORD Torodi Ar. Bea 85.55 71 P **P 21 55 49.4 -0.2**
comp=Z,17nm,0.8s,baz=245,slow=3.8,SNR=18
TORD PP **PP 21 59 07.3 -1.3**
comp=Z,2.0nm,0.8s,baz=214,slow=9.6,SNR=2.8
TORD PKKPbc **PKKPbc 22 13 49.1 -2.9**
comp=Z,0.3nm,0.9s,baz=60,slow=3.5,SNR=2.3
H20A Greybull 85.65 336 P **P 21 55 49.1 -0.5**
baz=86
E26A Carlson Angus 85.74 340 P **P 21 55 49.8 -0.1**
baz=86
LOHW Long Hollow 85.79 334 eP **P 21 55 53.1 +2.6**
comp=Z,14nm,1.2s
TPAW Teton Pass 85.81 333 eP **P 21 55 52.0 +1.4**
comp=Z,77nm,1.9s
AGMN Agassiz Nation 85.83 345 P **P 21 55 49.4 -0.9**
baz=86
AGMN Agassiz Nation 85.83 345 eP **P 21 55 49.9 -0.4**
AGMN esP **sP 21 55 58.7 -2.1**
AGMN LR LR
comp=Z,3μm,19.0s
C30A Mose, Pekin 85.86 343 P **P 21 55 50.3 -0.1**
baz=86
D28A Regan 85.90 342 P **P 21 55 50.4 -0.2**
baz=86
G21A Lodge Grass 86.04 337 P **P 21 55 51.4 -0.1**
baz=86
H19A Powell 86.14 335 P **P 21 55 52.5 +0.4**
baz=86
IMW Indian Meadow 86.16 334 eP **P 21 55 53.2 +0.9**
comp=Z,96nm,2.0s
FLWY Flagg Ranch 86.23 334 eP **P 21 55 53.8 +1.2**
comp=Z,35nm,1.3s
F22A Rosebud 86.23 337 P **P 21 55 52.5 +0.1**
baz=87
D26A Manning 86.24 340 P **P 21 55 52.4 0.0**
baz=87
MDND Maddock 86.26 342 eP P 21 55 55.8 +3.4
comp=Z,52nm,1.5s
H18A Shoshone NF, C 86.38 335 P **P 21 55 53.1 -0.3**
baz=87
MSKU Masuku 86.39 89 eP **P 21 55 55.7 +1.8**
comp=Z,36nm,0.8s
MSKU LR LR
comp=Z,3.0nm,22.0s
B30A Myrvik Farm, E 86.52 343 P **P 21 55 53.6 -0.1**
baz=87
LKWY Lake 86.54 334 PFAKE 21 56 10.0 +16
LKWY LR LR
comp=Z,4μm,21.0s
YFT Old Faithful 86.60 334 eP **P 21 55 54.3 -0.2**
comp=Z,291nm,1.2s
C27A Sayler Ranch, 86.62 341 P **P 21 55 54.3 +0.1**
baz=87
RLMT Red Lodge 86.64 335 eP **P 21 55 55.2 +0.6**
comp=Z,93nm,2.0s
RLMT LR LR
comp=Z,2μm,22.0s
B29A Wagenman Farm, 86.78 343 P **P 21 55 54.1 -0.8**
baz=87
D24A Glendive 86.85 339 P **P 21 55 55.9 +0.5**
baz=87
C26A Wahner Farm, P 86.88 341 P **P 21 55 55.4 -0.1**
baz=87
A30A Hoffart Farm, 86.98 344 P **P 21 55 55.1 -0.8**
baz=87
B28A Dugan Ranch, T 87.01 342 P **P 21 55 56.0 -0.1**
baz=87
LAO LASA Array 87.03 338 PFAKE 21 56 10.0 +14
LAO LR LR
comp=Z,1μm,20.0s
D23A Lindsay 87.16 339 P **P 21 55 57.1 +0.2**
baz=88
F19A Roth Farm, Mol 87.17 336 P **P 21 55 56.1 -0.9**
baz=88
A29A Manning Farm, 87.18 343 P **P 21 55 56.5 -0.3**
baz=88
HLID Hailey 87.18 331 P **P 21 55 58.1 +0.9**
baz=88
HLID Hailey 87.18 331 eP **P 21 55 58.7 +1.5**
comp=Z,28nm,1.4s
HLID LR LR
comp=Z,3μm,20.0s
C24A Savage 87.26 339 P **P 21 55 57.2 -0.1**
baz=88
A28A Rude Farm, Bot 87.41 342 P **P 21 55 58.0 -0.1**
baz=88
B26A Jensen Ranch, 87.42 341 P **P 21 55 57.4 -0.7**
baz=88
D22A Cohagen 87.44 338 P **P 21 55 58.0 -0.2**
baz=88
E20A Meyer Farm, Mu 87.47 337 P **P 21 55 58.7 +0.2**
baz=88
E19A Rath Farm, Rou 87.65 336 P **P 21 55 58.9 -0.4**
baz=88
MCMT McKenzie Canyo 87.66 333 eP **P 21 56 00.6 +1.0**
ULM Lac du Bonnet 87.69 346 eP **P 21 55 58.7 -0.5**
ULM *PP **pP 21 56 07.1 0.0**
ULM pmax pmax
comp=Z,30nm,0.8s
ULM Lac du Bonnet 87.69 346 P **P 21 55 58.8 -0.5**
comp=Z,14nm,0.7s,baz=184,slow=3.3,SNR=14
ULM pP **pP 21 56 07.0 0.0**
comp=Z,32nm,0.8s,baz=184,slow=3.0,SNR=18
ULM Lac du Bonnet 87.69 346 eP **P 21 55 58.7 -0.5**
comp=Z,30nm,0.8s
ULM pP **pP 21 56 07.0 0.0**
A27A Ledoux Ranch, 87.70 342 P **P 21 55 59.5 +0.1**
baz=88
C23A Lambert 87.72 339 P **P 21 55 59.6 +0.1**
baz=88
A26A Wade Farm, Ken 87.85 341 P **P 21 56 00.7 +0.6**
baz=88
BOZ Bozeman (W) 87.92 334 ePKiKP **PKiKP 22 01 01.9 -1.2**
BOZ LR LR
comp=Z,4μm,19.0s
D20A Manuel Ranch, 87.99 337 P **P 21 56 00.8 -0.1**
baz=88
A25A Svangstu Ranch 88.17 341 P **P 21 56 02.2 +0.5**
baz=88
WDC Whiskeytown Da 88.27 325 eP **P 21 56 02.8 +0.5**
WDC pmax pmax
comp=Z,8.0nm,0.8s
WDC Whiskeytown Da 88.27 325 eP **P 21 56 02.8 +0.5**
comp=Z,8.4nm,0.8s
MOD Modoc Plateau 88.29 327 eP **P 21 56 04.1 +1.5**
comp=Z,19nm,0.8s
B22A Reddig Ranch S 88.41 339 P **P 21 56 03.2 +0.4**
baz=89
AFI Afiamalu 88.93 254 PFAKE 21 56 20.0 +14
AFI LR LR
comp=Z,6μm,19.0s
A22A Carney Farms, 89.01 339 P **P 21 56 06.0 +0.3**
baz=89

YBH Yreka Blue Hor 89.25 325 P **P 21 56 07.8 +0.8**
comp=Z,1.4nm,0.8s,baz=143,slow=5.1,SNR=2.1
EGMT Eagleton 89.34 336 PFAKE 21 56 20.0 +13
EGMT LR LR
comp=Z,1μm,22.0s
BMO Blue Mountains 89.41 330 PFAKE 21 56 20.0 +12
BMO LR LR
comp=Z,3μm,20.0s
PAF Port-aux-Franc 89.49 157 PFAKE 21 56 20.0 +12
PAF LR LR
comp=Z,8μm,19.0s
SCHQ Schefferville 90.10 4 P **P 21 56 09.9 -0.7**
comp=Z,3.0nm,0.7s,baz=209,slow=4.1,SNR=5.4
SCHQ Schefferville 90.10 4 P **P 21 56 09.9 -0.7**
SCHQ epP **pP 21 56 17.9 -0.4**
LSZ Lusaka 90.19 109 eP **P 21 56 14.2 +2.0**
LSZ pmax pmax
comp=Z,127nm,2.5s
LSZ MLR MLR
comp=Z,8μm,20.0s
LSZ Lusaka 90.19 109 eP **P 21 56 14.2 +2.0**
comp=Z,128nm,2.5s
LSZ LR LR
comp=Z,8μm,20.0s
HAWA Hanford 91.57 330 PFAKE 21 56 30.0 +12
HAWA LR LR
comp=Z,4μm,19.0s
NEW Newport 92.15 332 P **P 21 56 20.8 +0.5**
NEW MLR MLR
comp=Z,2μm,19.0s
NEW Newport 92.15 332 P **P 21 56 20.8 +0.5**
comp=Z,2.1nm,0.7s,baz=238,slow=5.5,SNR=3.9
NEW Newport 92.15 332 P **P 21 56 20.8 +0.5**
NEW LR LR
comp=Z,2μm,19.0s
RTC Rabat Centre 92.78 50 PFAKE 21 56 30.0 +6.5
RTC LR LR
comp=Z,5μm,19.0s
FFC Flin Flon 93.20 344 PFAKE 21 56 40.0 +15
FFC LR LR
comp=Z,2μm,20.0s
TAU Tasmania Unive 93.70 209 PFAKE 21 56 40.0 +12
TAU LR LR
comp=Z,3μm,20.0s
NLWA Neilton Lookou 94.18 328 PFAKE 21 56 40.0 +10
NLWA LR LR
comp=Z,2μm,19.0s
TAM Tamanrasset 94.26 65 eP **P 21 56 29.7 -1.1**
TAM MLR MLR
comp=Z,5μm,20.0s
TAM Tamanrasset 94.26 65 eP **P 21 56 29.7 -1.1**
TAM LR LR
comp=Z,5μm,20.0s
MSVF Nonsavu 94.37 245 PFAKE 21 56 40.0 +8.6
MSVF LR LR
comp=Z,3μm,20.0s
POHA Pohakuloa 95.31 290 PFAKE 21 56 50.0 +14
POHA LR LR
comp=Z,2μm,19.0s
MTE Manteigas 96.62 44 PFAKE 21 56 50.0 +9.0
MTE LR LR
comp=Z,7μm,19.0s
PAB San Pablo 97.92 47 PFAKE 21 57 00.0 +13
PAB LR LR
comp=Z,6μm,20.0s
ESDC Sonseca Array 98.23 47 P **P 21 56 47.9 -0.4**
comp=Z,1.4nm,0.8s,baz=243,slow=3.7,SNR=6.0
ES19 SONSECA Array 98.29 47 eP **P 21 56 48.2 -0.3**
CAN Canberra 99.36 214 PFAKE 21 57 10.0 +16
CAN LR LR
comp=Z,3μm,19.0s
ABPO Ambohimpanom 101.72 124 PFAKE 21 57 20.0 +15
ABPO LR LR
comp=Z,4μm,20.0s
YKA Yellowknife Ar 103.16 342 PKKPbc PKKPbc 22 13 04.4 -2.5
comp=Z,0.3nm,1.0s,baz=321,slow=3.5,SNR=2.6
SFJD Kangerlussuaq 103.58 9 PFAKE 21 57 20.0 +8.7
SFJD LR LR
comp=Z,3μm,19.0s
RER Riviere de l'E 105.71 131 PFAKE 22 01 50.0
RER LR LR
comp=Z,3μm,20.0s
KMBO Kilima Mbogo 105.83 103 PKiKP **PKiKP 22 01 34.7 -1.1**
comp=Z,1.1nm,0.8s,baz=243,slow=4.5,SNR=2.4
KMBO Kilima Mbogo 105.83 103 PKiKP **PKiKP 22 01 34.7 -1.1**
KMBO LR LR
comp=Z,4μm,19.0s
VSL Villasalto 106.47 53 PFAKE 22 01 50.0
VSL LR LR
comp=Z,6μm,20.0s
SSB Saint Sauveur 106.62 46 PFAKE 22 01 50.0
SSB LR LR
comp=Z,4μm,19.0s
BNI Bardonecchia 107.76 47 PFAKE 22 01 50.0
BNI LR LR
comp=Z,8μm,20.0s
BORG Borgarnes 107.78 21 PFAKE 22 01 50.0
BORG LR LR
comp=Z,3μm,20.0s
CLTB Caltabellotta 108.02 56 PFAKE 22 01 50.0
CLTB LR LR
comp=Z,6μm,20.0s
WDD Wield Dalam 108.04 59 PFAKE 22 01 50.0
WDD LR LR
comp=Z,14μm,19.0s
ESK Eskdalemuir 108.29 34 PFAKE 22 01 50.0
ESK LR LR
comp=Z,4μm,19.0s
VLC Villacollemand 109.55 49 PFAKE 22 01 50.0
VLC LR LR
comp=Z,3μm,19.0s
ECH Echery 109.71 44 PFAKE 22 01 50.0
ECH LR LR
comp=Z,4μm,21.0s
WLF Walferdange 109.90 43 PFAKE 22 01 50.0
WLF LR LR
comp=Z,5μm,19.0s
TUE Stuetta 110.09 47 PFAKE 22 01 50.0
TUE LR LR
comp=Z,4μm,20.0s
TARA Tarawa 110.17 257 PFAKE 22 02 00.0
TARA LR LR
comp=Z,2μm,20.0s
CEL Celeste 110.19 57 PFAKE 22 01 50.0
CEL LR LR
comp=Z,13μm,19.0s
BFO Black Forest 110.44 45 PFAKE 22 02 00.0
BFO LR LR
comp=Z,3μm,21.0s
AQU L'Aquila 110.55 52 PFAKE 22 02 00.0
AQU LR LR
comp=Z,4μm,20.0s
DAVOX Davos/Dischmat 110.57 47 PKiKP **PKiKP 22 01 42.6 -0.9**
comp=Z,0.7nm,0.5s,baz=142,slow=12,SNR=2.9
CUC Castrocucco 110.99 55 PFAKE 22 02 00.0
CUC LR LR
comp=Z,4μm,19.0s
TIP Timpagrande 111.23 56 PFAKE 22 02 00.0
TIP LR LR
comp=Z,5μm,19.0s
NWAO Narrogin (SRO) 111.27 189 PFAKE 22 02 00.0
NWAO LR LR
comp=Z,1.0nm,20.0s
KBA Koelnbreinsper 112.79 48⇑ *i*pPKiKP pPKiKP 22 01 55.7 0.0
comp=Z,5.5nm,1.0s
HNR Honiara 112.94 239 PFAKE 22 02 00.0
HNR LR LR
comp=Z,92nm,21.0s
EGAK Eagle 113.03 334 PFAKE 22 02 00.0
EGAK LR LR
comp=Z,2μm,19.0s
CTAO Charters Tower 113.32 220 PFAKE 22 02 00.0
CTAO LR LR
comp=Z,2μm,19.0s
GEC2 GERESS Array S 113.82 46 *e*PKIKP **PKiKP 22 01 49.5 0.0**
GEC2 GERESS Array S 113.82 46 *e*PKiKP **PKiKP 22 01 49.5 0.0**
GERES GERESS Array B 113.82 46 PKiKP **PKiKP 22 01 49.2 -0.3**
comp=Z,2.1nm,0.8s,baz=204,slow=2.2,SNR=13
GERES PKKP PKKPdf 22 12 48.5 -6.5
comp=Z,1.1nm,0.9s,baz=45,slow=5.8,SNR=5.1
KHC Kasperske Hory 113.88 46 *e*PKIKP **PKiKP 22 01 51.1 +1.6**
KHC *e* 22 01 56.5
KHC Kasperske Hory 113.88 46 *e*PKP **PKiKP 22 01 51.1 +1.6**
KHC *ep*PKP **pPKiKP 22 01 56.5 -1.0**
KDAK Kodiak Island 114.07 325 PFAKE 22 02 00.0 +11

KDAK LR LR
comp=Z,2μm,21.0s
CLL Collm 114.52 44 *e*PKIKP PKPdf 22 01 51.0 +0.4
CLL *i* 22 01 58.3
CLL pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 114.52 44 *e*PKiKP **PKiKP 22 01 51.0 +0.4**
comp=Z,3.0nm,0.9s
CLL *i* pPKiKP **pPKiKP 22 01 58.3 -0.3**
comp=Z,8.0nm,1.3s
CLL *e*PP **PP 22 02 48.0 -0.2**
BRG Berggiesshubel 114.86 44 *e*PKP PKPdf 22 01 51.8 +0.5
comp=Z,3.3nm,0.9s
BRG Berggiesshubel 114.86 44 *e*PKIKP PKPdf 22 01 51.8 +0.5
BRG pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 115.09 333 PKP **PKPdf 22 01 51.6 +0.3**
comp=Z,1.0nm,0.8s,baz=253,slow=0.6,SNR=4.7
ILAR PKKPbc **PKKPbc 22 12 25.7 -2.6**
comp=Z,0.5nm,0.9s,baz=292,slow=5.5,SNR=3.5
ILAR PKKPab **PKKPab 22 12 30.8 +0.6**
comp=Z,0.4nm,0.7s,baz=308,slow=4.4,SNR=4.3
COLA College 115.50 333 PFAKE 22 02 00.0 +8.0
COLA LR LR
comp=Z,2μm,19.0s
ASAR Alice Springs 115.86 208 PKP **PKPdf 22 01 52.6 -1.7**
comp=Z,0.9nm,0.7s,baz=128,slow=2.0,SNR=6.4
ASAR PKKPbc **PKKPbc 22 12 24.6 -0.3**
comp=Z,0.7nm,0.8s,baz=341,slow=3.0,SNR=4.8
ASAR PKKPab **PKKPab 22 12 31.4 -1.9**
comp=Z,1.5nm,0.7s,baz=336,slow=3.0,SNR=8.9
DPC Dobruska-Polom 116.01 45 *e*PKIKP **PKPdf 22 01 54.2 +0.6**
DPC *e* 22 02 00.6
DPC Dobruska-Polom 116.01 45 *e*PKP **PKPdf 22 01 54.2 +0.6**
DPC *ep*PKP pPKPdf 22 02 00.6 -1.0
DPC Dobruska-Polom 116.01 45 *e*PKPdf **PKPdf 22 01 54.2 +0.6**
SANT Santorini 116.06 63 PFAKE 22 02 10.0 +16
SANT LR LR
comp=Z,3μm,20.0s
KONO Kongsberg 116.43 34 PFAKE 22 02 10.0 +16
KONO LR LR
comp=Z,4μm,20.0s
MORC Moravsky Berou 116.49 46⇓ PKIKP **PKPdf 22 01 54.2 -0.3**
MORC Moravsky Berou 116.49 46⇓ *i*P **PKPdf 22 01 54.2 -0.3**
VYHS Vyhne 116.74 48 *e*PKIKP **PKPdf 22 01 54.9 -0.1**
VYHS Vyhne 116.74 48 *e*PKP **PKPdf 22 01 54.9 -0.1**
OKC Ostrava-Krasne 116.87 47 *e*PKIKP **PKPdf 22 01 55.2 0.0**
OKC *e* 22 02 00.8
OKC Ostrava-Krasne 116.87 47 *e*PKP **PKPdf 22 01 55.2 0.0**
OKC *ep*PKP pPKPdf 22 02 00.8 -2.4
PSZ Piszkesteto 117.15 49 PFAKE 22 02 10.0 +14
PSZ LR LR
comp=Z,4μm,20.0s
BZS Buzias 117.31 52⇑ PKIKP **PKPdf 22 01 56.4 +0.2**
BZS Buzias 117.31 52⇑ *i*P **PKPdf 22 01 56.3 +0.1**
MSEY Mahe Island 117.44 119 PFAKE 22 02 10.0 +12
MSEY LR LR
comp=Z,3μm,20.0s
NB2 NORSAR Subarra117.74 33 PKPdf PKPpre 22 01 42.7
comp=Z,5.4nm,1.2s,baz=248,slow=1.9
NB2 NORSAR Subarra117.74 33 PKPdf PKPpre 22 01 42.7
baz=248,slow=1.9
NOA NORSAR Array B 117.74 33 PKP **PKPdf 22 01 56.1 -0.5**
comp=Z,1.2nm,0.7s,baz=253,slow=2.2,SNR=6.2
NOA PKKPab **PKKPbc 22 12 22.3 +3.3**
comp=Z,0.5nm,0.8s,baz=75,slow=12,SNR=2.6
GZR Gura Zlata 117.97 53⇑ PKIKP **PKPdf 22 01 57.6 +0.1**
GZR Gura Zlata 117.97 53⇑ *i*P **PKPdf 22 01 57.6 +0.1**
DRGR 118.47 51⇓ PKIKP **PKPdf 22 01 58.5 0.0**
DRGR 118.47 51⇓ *i*P **PKPdf 22 01 58.5 0.0**
CRVS Cervenica-Dubn 118.50 48 *e*PKIKP **PKPdf 22 02 00.0 +1.6**
CRVS Cervenica-Dubn 118.50 48 *e*PKP **PKPdf 22 02 00.0 +1.6**
HFS Hagfors 118.52 35 PKP **PKPdf 22 01 56.5 -1.5**
comp=Z,4.0nm,0.8s,baz=90,slow=1.5,SNR=5.1
UZH Uzhgorod 118.91 49 *e*PKIKP **PKPdf 22 02 03.0 +3.9**
KOLS Kolonicke sedl 119.01 49 *e*PKIKP **PKPdf 22 01 59.2 -0.1**
KOLS *e* 22 02 07.9
KOLS Kolonicke sedl 119.01 49 *e*PKP **PKPdf 22 01 59.2 -0.1**
KOLS *e* 22 02 07.9
WRA Warramunga Arr 119.05 210 PKP **PKPdf 22 01 58.9 -1.5**
comp=Z,1.3nm,0.7s,baz=166,slow=1.4,SNR=9.3
WRA PKKPbc **PKKPbc 22 12 13.5 0.0**
comp=Z,0.9nm,0.9s,baz=339,slow=4.2,SNR=3.2
WRA PKKPab **PKKPab 22 12 21.6 +2.5**
comp=Z,1.6nm,0.9s,baz=343,slow=3.8,SNR=4.6
WRAB Tennant Creek 119.05 210 PFAKE 22 02 10.0 +10
WRAB LR LR
comp=Z,5μm,19.0s
HUMR Humele 119.08 54⇓ *i*P **PKPdf 22 01 59.4 -0.2**
ARR Arges 119.17 53⇓ *i*P **PKPdf 22 01 59.3 -0.5**
JMB Yambol 119.37 57⇑ PKIKP **PKPdf 22 02 02.4 +2.2**
JMB Yambol 119.37 57⇑ *i*P **PKPdf 22 02 02.4 +2.2**
KWP Kalwaria Pacla 119.53 48 *e*PKIKP **PKPdf 22 02 00.5 +0.1**
KWP Kalwaria Pacla 119.53 48 *e*PKP **PKPdf 22 02 00.4 +0.1**
KWP Kalwaria Pacla 119.53 48 *e*PKPdf **PKPdf 22 02 00.0 -0.3**
KWP LR LR
comp=Z,3μm,19.0s
MLR Muntele Rosu 120.07 53 PKP **PKPdf 22 02 01.4 -0.3**
comp=Z,0.6nm,0.7s,baz=132,slow=12,SNR=3.0
EIL Elat 120.33 73 PKP **PKPdf 22 02 03.1 +0.7**
comp=Z,2.7nm,0.9s,baz=239,slow=5.9,SNR=3.1
EIL pPKP **pPKPdf 22 02 09.7 -0.8**
comp=Z,6.4nm,1.0s,baz=18,slow=3.2,SNR=4.1
ISP Isparta 120.35 63 PFAKE 22 02 10.0 +7.6
ISP LR LR
comp=Z,3μm,22.0s
BUR04 Bucovina Ar. S 120.36 51 *e*PKPdf **PKPdf 22 02 02.1 0.0**
BURAR Bucovina Array 120.36 51⇑ PKIKP **PKPdf 22 02 03.3 +1.2**
BURAR Bucovina Array 120.36 51⇑ *i*P **PKPdf 22 02 03.3 +1.2**
PLOR Plostina 120.66 53⇑ PKIKP **PKPdf 22 02 00.6 -2.1**
PLOR Plostina 120.66 53⇑ *i*P **PKPdf 22 02 00.6 -2.1**
VRI Vrincioaia 120.72 53⇓ PKIKP **PKPdf 22 02 01.9 -0.8**
VRI Vrincioaia 120.72 53⇓ *i*P **PKPdf 22 02 01.9 -0.8**
TESR Tescani 120.89 52⇓ *i*P **PKPdf 22 02 02.6 -0.4**
CVD Cernavoda 121.03 55⇑ *i*P PKPdf 22 02 17.7 +14
TLB Topalu 121.14 55⇑ PKIKP **PKPdf 22 02 03.6 +0.1**
TLB Topalu 121.14 55⇑ *i*P **PKPdf 22 02 03.6 +0.1**
SUW Suwalki 121.28 43 *e*PKIKP **PKPdf 22 02 02.9 -0.6**
SUW Suwalki 121.28 43 *e*PKP **PKPdf 22 02 03.4 -0.1**
SUW Suwalki 121.28 43 *e*PKPdf **PKPdf 22 02 02.9 -0.6**
CSS Prodhromos 121.29 67 PFAKE 22 02 20.0 +16
CSS LR LR
comp=Z,552nm,20.0s
PMG Port Moresby 121.38 228 PFAKE 22 02 20.0 +15
PMG LR LR
comp=Z,2μm,21.0s
CFR Carcaliu 121.41 54⇑ PKIKP **PKPdf 22 02 04.0 0.0**
CFR Carcaliu 121.41 54⇑ *i*P **PKPdf 22 02 04.0 0.0**
MBWA Marble Bar 122.38 194 PFAKE 22 02 20.0 +13
MBWA LR LR
comp=Z,3μm,19.0s
BR231 Keskin MP Arra 122.74 62 *e*PKPdf **PKPdf 22 02 07.3 +0.4**
ANTO Ankara 122.76 62 PFAKE 22 02 20.0 +13
ANTO LR LR
comp=Z,3μm,20.0s
BRTR Keskin Array B 123.32 62 PKP **PKPdf 22 02 06.9 -1.3**
comp=Z,2.5nm,0.8s,baz=192,slow=3.9,SNR=9.0
BRTR PP **PP 22 03 51.6 +2.1**
comp=Z,1.3nm,0.9s,baz=235,slow=6.5,SNR=2.7
BRTR PKKPbc **PKKPab 22 11 55.4 -1.0**
comp=Z,0.3nm,0.7s,baz=88,slow=4.1,SNR=2.7
NACGM Naroch 123.55 43 *e* **PKPdf 22 02 06.0 -1.8**
KBS Kingsbay 123.59 13 PFAKE 22 02 20.0 +13
KBS LR LR
comp=Z,1μm,19.0s
AK11 Malin Array Si 123.80 48 *e*PKPdf **PKPdf 22 02 07.8 -0.6**
KIEV Kiev 123.83 48⇑ *e*PKIKP **PKPdf 22 02 07.6 -0.9**
KIEV Kiev 123.83 48 *e*PKPdf **PKPdf 22 02 07.8 -0.7**
KIEV LR LR
comp=Z,3μm,20.0s
AKASG Malin Array Be 123.84 48 PKP **PKPdf 22 02 07.1 -1.5**
comp=Z,5.4nm,0.8s,baz=262,slow=2.7,SNR=25
AKASG PP **PP 22 03 48.3 -4.1**
comp=Z,1.2nm,0.7s,baz=252,slow=6.8,SNR=4.1
SPITS Spitsbergen Ar 124.32 14 PKP **PKPdf 22 02 08.1 -0.7**
comp=Z,7.3nm,1.0s,baz=188,slow=4.2,SNR=3.9
VSU Vasula 124.39 39 *de*PKIKP **PKPdf 22 02 08.8 -0.5**
FINES FINESS Array B 124.70 35 PKP **PKPdf 22 02 09.5 -0.3**
comp=Z,4.4nm,0.8s,baz=66,slow=2.3,SNR=11
ADK Adak 124.89 313 PFAKE 22 02 20.0 +10
ADK LR LR
comp=Z,1μm,19.0s
KAF Kangasniemi 124.94 34 *e*PKIKP **PKPdf 22 02 08.7 -1.6**
KAF Kangasniemi 124.94 34 *e*pkp **PKPdf 22 02 08.7 -1.6**

ARCES	**ARCESS Array B**	**125.72**	**25**	PKP	**PKPdf**	**22 02 10.9**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=242,slow=2.6,SNR=6.2						
ARCES				PP	**PP**	**22 04 03.3**	**-1.2**
	comp=Z,3.2nm,1.0s,baz=290,slow=6.6,SNR=7.2						
RAYN	**Ar Rayn**	**126.03**	**85**	*e*PKPdf	**PKPdf**	**22 02 14.1**	**+0.4**
KEV	**Kevo**	**126.27**	**25**	PFAKE		22 02 20.0	+7.4
KEV				LR	LR		
	comp=Z,2μm,21.0s						
DGAR	**Diego Garcia**	**126.42**	**136**	PFAKE		22 02 30.0	+15
DGAR				LR	LR		
	comp=Z,3μm,20.0s						
JOF	**Joensuu**	**127.36**	**34**	*e*PKIKP	**PKPdf**	**22 02 14.3**	**-0.6**
JOF	**Joensuu**	**127.36**	**34**	*e*pkp	**PKPdf**	**22 02 14.3**	**-0.6**
APA	**Apatity**	**128.50**	**28**	⇓*i*PKIKP	**PKPdf**	**22 02 17.2**	**+0.3**
LVZ	**Lovozero**	**128.98**	**28**	PFAKE		22 02 30.0	+12
LVZ				LR	LR		
	comp=Z,3μm,21.0s						
OBN	**Obninsk**	**129.11**	**44**	⇓*e*PKIKP	**PKPdf**	**22 02 20.1**	**+1.7**
OBN				*i*		22 02 26.8	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
OBN	**Obninsk**	**129.11**	**44**	PFAKE		22 02 30.0	+12
OBN				LR	LR		
	comp=Z,3μm,21.0s						
VSR	**Storozhevoye**	**130.08**	**50**	*e*PKIKP	**PKPdf**	**22 02 20.2**	**-0.2**
VSR				pmax	pmax		
	comp=N,6.0nm,1.0s						
VSR				pmax	pmax		
	comp=E,9.0nm,1.0s						
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TMCR	**Tamitsa**	**130.42**	**32**	*e*PKIKP	PKPdf	22 02 28.7	+8.1
TMCR				pmax	pmax		
	comp=Z,51nm,1.2s						
KIV	**Kislovodsk**	**131.01**	**60**	*e*PKIKP	**PKPdf**	**22 02 23.6**	**+1.0**
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
KIV	**Kislovodsk**	**131.01**	**60**	*e*pPKPdf	**pPKPdf**	**22 02 30.6**	**0.0**
KIV				LR	LR		
	comp=Z,2μm,20.0s						
KBZ	**Khabaz**	**131.11**	**60**	PKP	**PKPdf**	**22 02 23.4**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=175,slow=2.8,SNR=2.6						
KLMR	**Klimovskoe**	**131.11**	**37**	*e*PKIKP	PKPdf	22 02 29.1	+7.0
KLMR				pmax	pmax		
	comp=Z,51nm,1.1s						
GNI	**Garni**	**131.56**	**65**	⇑*e*PKIKP	**PKPdf**	**22 02 23.8**	**-0.1**
GNI	**Garni**	**131.56**	**65**	PFAKE		22 02 40.0	+16
GNI				LR	LR		
	comp=Z,2μm,20.0s						
VRHR	**Novokhopersk**	**131.59**	**50**	*e*PKIKP	**PKPdf**	**22 02 24.2**	**+0.9**
VRHR				pmax	pmax		
	comp=N,20nm,0.9s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
COCO	**West Island**	**131.66**	**167**	PFAKE		22 02 40.0	+15
COCO				LR	LR		
	comp=Z,4μm,21.0s						
BILL	**Bilibino**	**133.75**	**333**	⇑*i*PKIKP	**PKPdf**	**22 02 29.0**	**+2.1**
BILL				pmax	pmax		
	comp=Z,11nm,1.1s						
BILL	**Bilibino**	**133.75**	**333**	PFAKE		22 02 40.0	+13
BILL				LR	LR		
	comp=Z,1μm,19.0s						
PRGR	**Permogore**	**134.03**	**36**	*e*PKIKP	**PKPdf**	**22 02 27.0**	**-0.5**
PRGR				pmax	pmax		
	comp=Z,31nm,0.8s						
KAPI	**Kappang**	**137.95**	**199**	PFAKE		22 02 50.0	+14
KAPI				LR	LR		
	comp=Z,2μm,20.0s						
PET	**Petropavlovsk**	**139.95**	**312**	PFAKE		22 02 50.0	+11
PET				LR	LR		
	comp=Z,2μm,19.0s						
PETK	**Petropavlovsk-**	**140.51**	**313**	PKP	**PKPdf**	**22 02 39.8**	**0.0**
	comp=Z,3.4nm,0.8s,baz=272,slow=1.1,SNR=7.3						
SEY	**Seymchan**	**140.84**	**329**	PKP	**PKPdf**	**22 02 39.5**	**-0.5**
	comp=Z,6.9nm,0.2s,baz=351,slow=10,SNR=7.6						
GEYT	**Alibeck**	**141.18**	**72**	PKP	**PKPdf**	**22 02 41.6**	**0.0**
	comp=Z,4.0nm,0.8s,baz=225,slow=1.9,SNR=4.4						
ARU	**Arti**	**141.44**	**42**	*i* PKIKP	**PKPdf**	**22 02 42.8**	**+1.4**
ARU						22 05 43.5	
ARU	**Arti**	**141.44**	**42**	*e*PKPpre	PKPpre	22 02 35.8	
ARU				LR	LR		
	comp=Z,5μm,20.0s						
AKTO	**Aktyubinsk**	**141.96**	**51**	PKHKP	PKPpre	22 02 37.0	
AKTO	**Aktyubinsk**	**141.96**	**51**	PKhKP	PKPpre	22 02 37.0	
	comp=Z,4.8nm,0.8s,baz=319,slow=2.6,SNR=6.4						
TIXI	**Tiksi**	**141.97**	**349**	*e*PKIKP	**PKPdf**	**22 02 44.1**	**+2.2**
TIXI				MLR	MLR		
	comp=Z,2μm,19.0s						
TIXI	**Tiksi**	**141.97**	**349**	*e*PKPdf	**PKPdf**	**22 02 44.1**	**+2.2**
TIXI				LR	LR		
	comp=Z,2μm,19.0s						
PALK	**Pallekele**	**143.07**	**133**	PKhKP	PKPpre	22 02 41.8	
	comp=Z,12nm,1.0s,baz=228,slow=3.5,SNR=3.7						
ABKAR	**Akbulak array**	**143.28**	**53**	*e*PKPpre	PKPpre	22 02 41.3	
BKNI	**Bangkinang**	**144.62**	**170**	*e*PKPdf	**PKPab**	**22 02 45.8**	**-1.1**
GSI	**Gunungsitoli**	**144.92**	**164**	*e*PKPbc	**PKPab**	**22 02 47.9**	**-0.2**
KSM	**Kuching**	**146.03**	**186**	*e*PKPdf	**PKPab**	**22 02 53.1**	**+1.1**
KSM				LR	LR		
	comp=Z,2μm,20.0s						
MYKOM	**Kota Tinggi**	**146.37**	**175**	*e*pPKPdf	pPKPdf	22 02 59.8	+0.4
PSI	**Prapat**	**146.67**	**165**	PKPbc	**PKPdf**	**22 02 52.8**	**+0.8**
	comp=Z,25nm,0.8s,baz=206,slow=3.0,SNR=15						
PSI				pPKPbc	pPKPbc	22 03 00.5	-1.0
	comp=Z,44nm,0.9s,baz=233,slow=2.7,SNR=12						
SBUM	**Sibu**	**146.77**	**190**	*e*PKPdf	**PKPab**	**22 02 55.4**	**+0.4**
DAV	**Davao City (W)**	**146.93**	**216**	PFAKE		22 03 00.0	+4.4
DAV				LR	LR		
	comp=Z,1μm,20.0s						
LHMI	**Lhok Sumawe**	**148.54**	**161**	*e*PKPdf	**PKPbc**	**22 02 58.1**	**-0.4**
IPM	**Ipoh**	**148.69**	**169**	*e*PKPdf	**PKPbc**	**22 02 58.5**	**-0.4**
BVAR	**Borovoye Array**	**148.96**	**44**	PKP	**PKPdf**	**22 02 55.1**	**+0.6**
	comp=Z,22nm,0.7s,baz=288,slow=1.4,SNR=20						
BVAR				PKPbc	**PKPbc**	**22 02 58.9**	**+0.5**
	comp=Z,22nm,0.7s,baz=304,slow=4.0,SNR=40						
BVAR				pPKPbc	**pPKPbc**	**22 03 07.1**	**+0.6**
	comp=Z,24nm,0.7s,baz=290,slow=2.5,SNR=13						
HYB	**Hyderabad**	**149.08**	**118**	*i* PKP	**PKPbc**	**22 02 59.0**	**-0.9**
KBL	**Kabul**	**149.12**	**81**	*e*PKP2	**PKPbc**	**22 03 01.3**	**+1.5**
KBL	**Kabul**	**149.12**	**81**	*e*PKPbc	**PKPbc**	**22 03 01.3**	**+1.5**
KULM	**Kulim**	**149.42**	**168**	*e*PKPdf	**PKPbc**	**22 02 59.2**	**-1.6**
KULM				LR	LR		
	comp=Z,4μm,21.0s						
KKM	**Kota Kinabalu**	**149.48**	**199**	PFAKE		22 03 10.0	+4.2
KKM				LR	LR		
	comp=Z,1μm,20.0s						
YAK	**Yakutsk**	**149.79**	**339**	*e*PKHKP	**PKPbc**	**22 02 58.6**	**-1.6**
YAK				*e*		22 06 36.9	
YAK				*e*SS	SS	22 26 35.4	+48
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,24nm,1.1s						
YAK				pmax	pmax		
	comp=E,45nm,2.6s						
YAK	**Yakutsk**	**149.79**	**339**	PKPbc	**PKPbc**	**22 02 59.9**	**-0.3**
	comp=E,34nm,0.6s,baz=287,slow=0.3,SNR=7.1						
YAK				pPKPbc	**pPKPbc**	**22 03 08.4**	**+0.2**
	comp=E,88nm,0.6s,baz=18,slow=0.6,SNR=8.7						
YAK	**Yakutsk**	**149.79**	**339**	*e*PKPdf	**PKPbc**	**22 02 58.9**	**-1.3**
YAK				pPKPbc	**pPKPbc**	**22 03 08.4**	**+0.2**
YSS	**Yuzh-Sakhalins**	**150.92**	**304**	*i* PKIKP	**PKPbc**	**22 03 06.0**	**+2.6**
YSS	**Yuzh-Sakhalins**	**150.92**	**304**	*e*PKPbc	**PKPbc**	**22 03 05.7**	**+2.3**
KKAR	**Karatay Array**	**151.01**	**64**	*e*PKIKP	**PKPbc**	**22 03 03.7**	**-0.1**
KKAR	**Karatay Array**	**151.01**	**64**	*e*PKPbc	**PKPbc**	**22 03 03.6**	**-0.1**
ERM	**Erimo**	**151.11**	**294**	*e*PKIKP	**PKPbc**	**22 03 07.1**	**+3.1**
ERM				MLR	MLR		
	comp=Z,2μm,19.0s						
ERM	**Erimo**	**151.11**	**294**	*e*PKPbc	**PKPbc**	**22 03 07.1**	**+3.1**
ERM				LR	LR		
	comp=Z,2μm,19.0s						
ASAJ	**Asahikawa**	**151.41**	**299**	PKPbc	**PKPbc**	**22 03 03.0**	**-1.6**
	comp=Z,12nm,0.8s,baz=180,slow=3.0,SNR=2.7						
ASAJ	**Asahikawa**	**151.41**	**299**	*e*PKPbc	**PKPbc**	**22 03 07.0**	**+2.4**
EKS2	**Erkin-Say**	**153.44**	**64**	*e*PKIKP	**PKPbc**	**22 03 10.0**	**+0.6**
EKS2				MLR	MLR		
	comp=Z,2μm,21.0s						
EKS2	**Erkin-Say**	**153.44**	**64**	*e*PKPbc	**PKPbc**	**22 03 10.0**	**+0.6**
EKS2				LR	LR		
	comp=Z,2μm,21.0s						
AAK	**Ala-Archa**	**153.97**	**64**	*e*PKIKP	**PKPbc**	**22 03 11.6**	**+1.0**
AAK						22 03 23.9	
AAK						22 06 58.2	
AAK				MLR	MLR		
	comp=Z,4μm,19.0s						
AAK	**Ala-Archa**	**153.97**	**64**	PKPbc	**PKPbc**	**22 03 09.6**	**-1.1**
	comp=Z,12nm,0.8s,baz=224,slow=4.2,SNR=7.7						
AAK				PKPab	**PKPab**	**22 03 23.9**	**-0.1**
	comp=Z,6.6nm,0.6s,baz=244,slow=3.1,SNR=11						
AAK				PP	**PP**	**22 06 58.2**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=246,slow=4.7,SNR=2.8						
AAK	**Ala-Archa**	**153.97**	**64**	*e*PKPbc	**PKPbc**	**22 03 11.6**	**+1.0**
AAK				PKPab	**PKPab**	**22 03 23.9**	**-0.1**
AAK				PP	**PP**	**22 06 58.2**	**-1.0**
AAK				LR	LR		
	comp=Z,4μm,19.0s						
KURBB	**Kurchatov Arra**	**154.54**	**45**	PKP	**PKPdf**	**22 03 03.0**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=288,slow=1.8,SNR=4.2						
KURBB				PKPbc	**PKPbc**	**22 03 10.8**	**-0.5**
	comp=Z,12nm,0.8s,baz=301,slow=2.7,SNR=16						
KURBB				pPKPbc	**pPKPbc**	**22 03 19.9**	**+0.5**
	comp=Z,13nm,0.8s,baz=305,slow=2.8,SNR=9.5						
KURBB				PP	**PP**	**22 07 03.9**	**+2.2**
	comp=Z,1.5nm,0.8s,baz=283,slow=4.8,SNR=4.9						
KURK	**Kurchatov**	**154.56**	**44**	PKIKP	**PKPdf**	**22 03 03.0**	**+0.1**
KURK				*e*		22 03 11.4	
KURK						22 07 03.9	
KURK				MLR	MLR		
	comp=Z,1μm,19.0s						
KURK	**Kurchatov**	**154.56**	**44**	PKP	**PKPdf**	**22 03 03.0**	**+0.1**
KURK				*e*PKPbc	**PKiKP**	**22 03 11.4**	**+0.1**
KURK				pPKPbc	**pPKPbc**	**22 03 19.9**	**+0.5**
KURK				PP	**PP**	**22 07 03.9**	**+2.2**
KURK				LR	LR		
	comp=Z,1μm,19.0s						
NVS	**Novosibirsk**	**154.66**	**33**	*e*PKIKP	**PKPbc**	**22 03 08.5**	**-2.9**
NVS				*i*		22 07 12.4	
NVS				pmax	pmax		
	comp=Z,36nm,1.2s						
NVS				pmax	pmax		
	comp=N,4.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,12nm,1.4s						
MJAR	**Matsushiro Arr**	**154.68**	**282**	PKP	**PKPdf**	**22 03 02.5**	**-1.1**
	comp=E,0.3nm,0.3s,baz=138,slow=4.5,SNR=2.8						
MJAR				PKPbc	**PKPbc**	**22 03 11.5**	**-0.7**
	comp=E,1.5nm,0.8s,baz=136,slow=2.1,SNR=4.1						
MAJO	**Matsushiro**	**154.69**	**282**	PFAKE		22 03 20.0	-7.1
MAJO				LR	LR		
	comp=Z,1μm,20.0s						
TKM2	**Tokmak 2**	**154.75**	**63**	*e*PKIKP	**PKPbc**	**22 03 12.7**	**+0.4**
TKM2				MLR	MLR		
	comp=Z,3μm,19.0s						
TKM2	**Tokmak 2**	**154.75**	**63**	*e*PKPbc	**PKPbc**	**22 03 12.7**	**+0.4**
TKM2				LR	LR		
	comp=Z,3μm,19.0s						
KSH	**Kashi**	**155.21**	**71**	*e*PKPbc	**PKPdf**	**22 03 05.0**	**+0.6**
KSH				sPKP		22 03 18.0	
KSH				PKS	**PKSdf**	**22 06 39.0**	**+0.5**
KSH				PP	**PP**	**22 07 04.0**	**-2.3**
KSH				SKS	**SKSdf**	**22 10 09.3**	**-0.1**
KSH				SKKS	**SKKSac**	**22 13 54.3**	**+0.1**
KSH				SS	**SS**	**22 26 44.5**	**-5.3**
KSH				PPMZ			
	comp=Z,570nm,7.1s						
KSH				LN			
	comp=Z,240nm,8.1s						
KSH				LE			
	comp=Z,160nm,7.7s						
KSH				LZ			
	comp=Z,480nm,17.3s						
ZALV	**Zalesovo Beam**	**155.94**	**33**	PKP	**PKPdf**	**22 03 04.3**	**-0.3**
	comp=Z,7.4nm,0.8s,baz=316,slow=2.2,SNR=6.9						
ZALV				PKPab	**PKPab**	**22 03 32.2**	**+0.4**
	comp=Z,18nm,0.8s,baz=306,slow=4.8,SNR=6.4						
MKAR	**Makanchi Array**	**158.39**	**51**	PKP	**PKPdf**	**22 03 08.5**	**+0.4**
	comp=Z,5.4nm,1.0s,baz=90,slow=1.3,SNR=3.6						
MKAR				PKPab	**PKPab**	**22 03 42.3**	**-0.5**
	comp=Z,6.6nm,0.8s,baz=284,slow=3.5,SNR=6.0						
MKAR				PP	**PP**	**22 07 23.8**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=308,slow=7.0,SNR=2.4						
MDJ	**Mudanjiang**	**160.41**	**305**	PFAKE		22 03 20.0	+10
MDJ				LR	LR		
	comp=Z,2μm,19.0s						
CMAR	**Chiang Mai Arr**	**161.65**	**155**	PKP	**PKPdf**	**22 03 12.4**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=231,slow=3.6,SNR=5.6						
CMAR				PKPab	**PKPab**	**22 03 55.4**	**-2.0**
	comp=Z,2.8nm,0.8s,baz=234,slow=4.3,SNR=5.2						
CHTO	**Chiang Mai**	**161.98**	**155**	*e*PKIKP	PKPdf	22 03 20.5	+7.6
CHTO				*e*		22 03 58.3	
CHTO				MLR	MLR		
	comp=Z,2μm,20.0s						
CHTO	**Chiang Mai**	**161.98**	**155**	*e*PKPdf	PKPdf	22 03 20.5	+7.6
CHTO				*e*PKPab	**PKPab**	**22 03 58.3**	**-0.6**
CHTO				LR	LR		
	comp=Z,2μm,20.0s						
KSRS	**Korea Array**	**162.95**	**283**	PKP	**PKPdf**	**22 03 11.3**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=302,slow=1.7,SNR=2.9						
KSRS				pPKP	**pPKPdf**	**22 03 21.8**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=214,slow=1.0,SNR=3.5						
KSRS				PKPab	**PKPab**	**22 04 03.5**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=107,slow=3.8,SNR=4.9						
KSAR	**Wonju Array Be**	**162.98**	**283**	PKIKP	**PKPdf**	**22 03 11.3**	**-2.0**
KSAR						22 03 21.8	
KSAR						22 04 03.5	
KSAR	**Wonju Array Be**	**162.98**	**283**	PKP	**PKPdf**	**22 03 11.3**	**-2.0**
KSAR				pPKP	**pPKPdf**	**22 03 21.8**	**+0.4**
KSAR				PKPab	**PKPab**	**22 04 03.5**	**+0.4**
WMQ	**Urumqi**	**163.06**	**55**	*e*PKP	**PKPdf**	**22 03 14.0**	**+0.7**
WMQ				pPKP	**pPKPdf**	**22 03 24.0**	**+2.7**
WMQ				PKPab	**PKPab**	**22 04 04.3**	**+1.0**
WMQ				PKS	**PKSdf**	**22 06 46.0**	**-0.3**
WMQ				PP	**PP**	**22 07 50.3**	**+1.8**
WMQ				SKS	**SKSdf**	**22 10 13.5**	**-2.9**
WMQ				SKKS	**SKKSac**	**22 14 33.3**	**-1.5**
WMQ				SS	**SS**	**22 28 07.8**	**-4.3**
WMQ				PPMZ			
	comp=Z,190nm,7.2s						
WMQ				LN			
	comp=Z,1μm,18.0s						
WMQ				LE			
	comp=Z,2μm,20.0s						
WMQ				LZ			
	comp=Z,2μm,21.0s						
MOY	**Mondy**	**163.27**	**13**	*e*PKIKP	**PKPdf**	**22 03 15.6**	**+2.3**
HIA	**Hailar**	**163.29**	**330**	PFAKE		22 03 20.0	+6.7
HIA				LR	LR		
	comp=Z,2μm,20.0s						
QIZ	**Qiongzhong**	**163.41**	**190**	PKP	**PKPdf**	**22 03 15.0**	**+0.7**
QIZ				PP	**PP**	**22 07 52.8**	**+3.7**
QIZ				SS	SS	22 28 19.3	+5.8
QIZ				LN			
	comp=Z,1μm,17.1s						
QIZ				LZ			
	comp=Z,2μm,17.6s						
QIZ	**Qiongzhong**	**163.41**	**190**	PFAKE		22 03 30.0	+16
QIZ				LR	LR		
	comp=Z,3μm,20.0s						
YHNB	**Yeheng**	**163.49**	**233**	PFAKE		22 03 30.0	+16
YHNB				LR	LR		
	comp=Z,2μm,20.0s						
TATO	**Taipei**	**163.62**	**234**	PFAKE		22 03 30.0	+16
TATO				LR	LR		
	comp=Z,2μm,20.0s						
TLY	**Talaya**	**163.63**	**7**	PKIKP	**PKPdf**	**22 03 11.9**	**-1.6**
TLY				MLR	MLR		
	comp=Z,3μm,21.0s						
TLY	**Talaya**	**163.63**	**7**	PKP	**PKPdf**	**22 03 11.9**	**-1.6**
	comp=Z,2.7nm,0.5s,baz=338,slow=7.5,SNR=2.2						
TLY	**Talaya**	**163.63**	**7**	PKP	**PKPdf**	**22 03 11.9**	**-1.6**
TLY				LR	LR		
	comp=Z,3μm,21.0s						
INCN	**Inchon**	**163.98**	**283**	PFAKE		22 03 30.0	+16
INCN				LR	LR		
	comp=Z,2μm,21.0s						
ZAK	**Zakamensk**	**164.87**	**9**	*e*PKIKP	**PKPdf**	**22 03 17.7**	**+2.9**
ZAK				*e*		22 04 09.8	
ZAK				*e*		22 08 05.2	
ZAK				pmax	pmax		
	comp=Z,7.0nm,2.3s						
LSA	**Lhasa**	**165.55**	**109**	PFAKE		22 03 30.0	+14
LSA				LR	LR		
	comp=Z,3μm,22.0s						
ULN	**Ulaanbaatar**	**167.61**	**359**	PFAKE		22 03 30.0	+13
ULN				LR	LR		
	comp=Z,3μm,20.0s						
SONM	**Songino Array**	**167.64**	**2**	PKP	**PKPdf**	**22 03 16.7**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=256,slow=2.4,SNR=2.9						
SONM				PKPab	**PKPab**	**22 04 23.8**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=345,slow=4.2,SNR=6.3						
SONM				PP	**PP**	**22 08 10.6**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=343,slow=4.5,SNR=2.8						
KMI	**Kunming**	**169.09**	**160**	PKP	**PKPdf**	**22 03 18.3**	**-0.6**
KMI				pPKP	**pPKPdf**	**22 03 30.5**	**+3.6**
KMI				PP	**PP**	**22 08 23.5**	**+4.6**
KMI				LN			
	comp=Z,1μm,17.8s						
KMI				LE			
	comp=Z,1μm,16.8s						
KMI				LZ			
	comp=Z,2μm,15.9s						
NJ2	**Nanjing**	**169.46**	**255**	*e*PKP	**PKPdf**	**22 03 20.0**	**+1.4**
NJ2				pPKP	**pPKPdf**	**22 03 29.3**	**+2.7**
NJ2				sPKP		22 03 34.0	
NJ2				PKPab	**PKPab**	**22 04 34.0**	**+2.2**
NJ2				PP	PP	22 08 27.5	+5.6
NJ2				SKKS		22 15 10.5	
NJ2				LN			
	comp=Z,4μm,23.8s						
NJ2				LE			
	comp=Z,3μm,22.8s						
NJ2				LZ			
	comp=Z,3μm,22.3s						
GYA	**Guiyang**	**171.02**	**179**	PKP	**PKPdf**	**22 03 20.5**	**+0.7**
GYA				pPKP	**pPKPdf**	**22 03 31.8**	**+3.9**
GYA				SKKS		22 15 15.5	
GYA				SS	**SS**	**22 29 32.3**	**+1.9**
GYA				PPMZ			
	comp=Z,140nm,8.2s						
GTA	**Gaotai**	**173.14**	**53**	*e*PKP	**PKPdf**	**22 03 20.5**	**+0.1**
GTA				pPKP	**pPKPdf**	**22 03 31.5**	**+3.1**
GTA				sPKP		22 03 35.3	
GTA				PKPab	**PKPab**	**22 04 48.8**	**+0.8**
GTA				PP	**PP**	**22 08 40.0**	**+0.1**
GTA				SKS	**SKSdf**	**22 10 18.8**	**-3.4**
GTA				SKKS	**SKKSac**	**22 15 22.5**	**-2.4**
GTA				SS	SS	22 29 46.0	-7.3
GTA				PPMZ			
	comp=Z,890nm,6.4s						
GTA				LN			
	comp=Z,1μm,19.5s						
GTA				LE			
	comp=Z,2μm,18.5s						
GTA				LZ			
	comp=Z,3μm,20.4s						
HHC	**Hu-ho-hao-te**	**173.48**	**327**	*e*PKP	**PKPdf**	**22 03 20.8**	**+0.4**
HHC				pPKP	**pPKPdf**	**22 03 29.5**	**+1.0**
HHC				PP	**PP**	**22 08 42.0**	**+1.1**
HHC				PPMZ			
	comp=Z,480nm,9.3s						
HHC				LN			
	comp=Z,880nm,15.9s						
HHC				LE			
	comp=Z,2μm,18.2s						
HHC				LZ			
	comp=Z,1μm,18.1s						
ENH	**Enshi**	**174.37**	**204**	PFAKE		22 03 30.0	+9.0
ENH				LR	LR		
	comp=Z,2μm,21.0s						
CD2	**Chengdu**	**174.76**	**149**	*e*PKP	**PKPdf**	**22 03 22.3**	**+1.2**
LZH	**Lanzhou**	**177.46**	**75**	*e*PKP	**PKPdf**	**22 03 21.0**	**-0.7**
LZH				pPKP	**pPKPdf**	**22 03 33.3**	**+3.5**
LZH				sPKP		22 03 38.5	
LZH				PP	**PP**	**22 09 02.0**	**+0.8**
LZH				*e*SKKS		22 15 40.5	
LZH				SS	SS	22 30 27.5	-8.2
LZH				PPMZ			
	comp=Z,570nm,8.9s						
LZH				LN			
	comp=Z,980nm,18.7s						
LZH				LE			
	comp=Z,950nm,17.4s						
LZH				LZ			
	comp=Z,1μm,18.2s						

JMA 28 22:02:57.5±0.2, 25°.98N×128°.80E, h34km, M3.1, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.88**	**308**	P	Pn	22 03 13.4	-0.1
JNTH				*e*S	Sn	22 03 25.3	+0.2
JJT2	**Tamagusuku 2**	**0.96**	**280**	*e*S	Sn	22 03 27.2	+0.2
JOW	**Kunigami**	**0.97**	**331**	P	Pn	22 03 15.1	+0.3
JOW	**Kunigami**	**0.97**	**331**	*e*PKPdf	Pn	22 03 15.0	+0.3
JIH	**Iheya**	**1.29**	**325**	P	Pn	22 03 20.0	+0.9
JIH				*e*S	Sn	22 03 34.9	-0.3
JOKE	**Okinoerabujima**	**1.39**	**352**	P	Pn	22 03 21.5	+1.0
JOKE				*e*S	Sn	22 03 38.0	+0.2
JAGN	**Aguni-jima**	**1.52**	**294**	P	Pn	22 03 23.7	+1.4
JTK	**Tokunoshima**	**1.80**	**4**	P	Pn	22 03 27.3	+1.1
JKE	**Kume jima 2**	**1.84**	**281**	P	Pn	22 03 27.2	+0.5
JMZ	**Minamidaito 2**	**2.19**	**94**	P	Pn	22 03 32.8	+1.4
JMZ				*e*S	Sn	22 03 56.7	-0.6
JAMN	**Amaminishikomi**	**2.28**	**8**	P	Pn	22 03 34.0	+1.3
JAMN				*e*S	Sn	22 04 00.6	+1.0
JAM	**Amami Oshima**	**2.53**	**16**	P	Pn	22 03 37.1	+1.0

NEIC ***28*** *22:11:23.1, 18°.56N×66°.93W, h12km, MD3.5(RSPR), After RSPR.*
NEIC Felt at Aguada, Guaynabo, Isabela and Mayaguez.

RSPR 28 22:11:23.1, 18°.56N×66°.93W, h12km, MD3.5/19, 24C-14D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.19**	**241**	⇓*e*P	Pg	22 11 27.6	+0.2
AGPR				*e*S	Sg	22 11 31.1	+0.8
AGPR	**Aguadilla, PR**	**0.19**	**241**	⇓*e*P	Pg	22 11 27.6	+0.2
AGPR	**Aguadilla, PR**	**0.19**	**241**	*e*S	Sg	22 11 31.1	+0.8
AOPR	**Arecibo Observ**	**0.27**	**142**	⇑*e*P	Pg	22 11 28.8	-0.

HUMP	**Col San Antoni**	**1.11 112**	⇓*e*P	Pb		22 11 42.1	-2.2
HUMP			*e*S	Sb		22 11 55.5	-3.2
HUMP	**Col San Antoni**	**1.11 112**	⇓*e*P	Pb		22 11 42.1	-2.2
HUMP	**Col San Antoni**	**1.11 112**	*e*S	Sb		22 11 55.5	-3.2
PCDR	**Punta Cana, DR**	**1.38 268**	*e*Pn	Pn		22 11 46.3	-1.9
PCDR			*e*Sn	Sn		22 12 05.4	-1.0
MTP	**Monte Pirata**	**1.39 109**	⇑*e*P	Pn		22 11 46.1	-2.3
MTP			*e*S	Sn		22 12 03.4	-3.3
MTP	**Monte Pirata**	**1.39 109**	⇑*e*P	Pn		22 11 46.1	-2.3
MTP	**Monte Pirata**	**1.39 109**	*e*S	Sn		22 12 03.4	-3.3
STVI	**Saint Thomas**	**1.89 96**	⇑*e*P	Pn		22 11 52.8	-2.5
STVI			*e*S	Sn		22 12 15.6	-3.5
STVI	**Saint Thomas**	**1.89 96**	⇑*e*P	Pn		22 11 52.8	-2.5
STVI	**Saint Thomas**	**1.89 96**	*e*S	Sn		22 12 15.6	-3.5
TBVI	**Tortola**	**2.20 93**	⇓*e*P	Pn		22 11 56.9	-2.6
TBVI			*e*S	Sn		22 12 22.6	-4.1
TBVI	**Tortola**	**2.20 93**	⇓*e*P	Pn		22 11 56.9	-2.6
TBVI			*e*S	Sn		22 12 22.6	-4.1
CDVI	**St. Croix**	**2.21 111**	*e*Pn	Pn		22 11 59.5	-0.2
CDVI			*e*Sn	Sn		22 12 26.2	-0.8
SMN1	**Samana, DR**	**2.30 286**	*e*Pn	Pn		22 12 01.2	+0.2
SMN1			*e*Sn	Sn		22 12 29.2	-0.2
ABVI	**Anegada Island**	**2.47 86**	⇓*e*P	Pn		22 12 01.1	-2.2
ABVI			*e*S	Sn		22 12 29.8	-3.6
ABV	**Anegada**	**2.47 86**	⇓*e*P	Pn		22 12 01.1	-2.2
ABV	**Anegada**	**2.47 86**	*e*S	Sn		22 12 29.8	-3.6
SDDR	**Presa de Saban**	**4.15 276**	*e*Pn	Pn		22 12 26.7	+0.3
SDDR			*e*Sn	Sn		22 13 14.6	-0.5

IDC 28 22:11:43.3±1.7, 33°92S×178°84W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.8/22, mbtmp4.0/3, ML4.0/1, Error ellipse: s-maj=58.0km s-min=29.5km az=133.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.43**	**216**	Pn	Pn	22 13 05.7	+0.2
	5.3nm,0.3s,baz=255,slow=1.3,SNR=28						
URZ				Sn	Sn	22 14 08.2	-0.5
	6.2nm,0.3s,baz=168,slow=19,SNR=9.7						
ASAR	**Alice Springs**	**42.34**	**271**	P	P	22 19 39.4	+0.2
	1.7nm,0.8s,baz=115,slow=7.7,SNR=8.1						
WRA	**Warramunga Arr**	**43.64**	**276**	P	P	22 19 49.5	-0.3
	1.4nm,0.8s,baz=117,slow=7.5,SNR=12						
FINES	**FINESS Array B**	**148.16**	**337**	PKPbc	PKPbc	22 31 29.4	-0.8
	1.9nm,0.7s,baz=72,slow=4.5,SNR=11						
NOA	**NORSAR Array B**	**152.09**	**350**	PKPbc	PKPbc	22 31 39.5	-0.4
	0.7nm,0.8s,baz=15,slow=3.2,SNR=2.9						
AKASG	**Malin Array Be**	**153.55**	**318**	PKPbc	PKPbc	22 31 43.7	+0.4
	0.4nm,0.6s,baz=66,slow=1.7,SNR=3.3						
AKASG				PKPab	PKPab	22 31 55.3	-0.5
	0.1nm,0.3s,baz=55,slow=4.8,SNR=3.1						

*CSEM **28** 22:23:35.3±1.2, 37°87N×38°26E, h2km, MD2.8, Error ellipse: s-maj=32.3km s-min=14.9km az=117.0*
*DDA **28** 22:23:37.6, 38°04N×38°20E, h7km, MD2.8*

ISK 28 22:23:37.5, 37°99N×38°29E, h14km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.34**	**18**	*e*PG	Pg	22 23 44.9	+0.3
MALT				*e*SG	Sb	22 23 50.3	-0.6
MALT	**Malatya**	**0.34**	**18**	*e*Pg	Pg	22 23 44.9	+0.3
MALT				*e*Sg	Sb	22 23 50.3	-0.6
AKCD	**Akcadag**	**0.42**	**316**	*i* P	Pg	22 23 44.3	-1.9
AKCD				*i* S	Sg	22 23 49.8	-2.2
AKCD	**Akcadag**	**0.42**	**316**	*i* P	Pg	22 23 44.3	-1.8
AKCD				*i* S	Sg	22 23 49.8	-2.2
GZT	**Gaziantep**	**0.86**	**222**	*i* P	Pn	22 23 55.8	+0.4
GZT				*i* S	Sn	22 24 08.6	+0.8
DARE	**Darende-Malaty**	**0.86**	**313**	*e*PG	Pb	22 23 54.6	+0.2
DARE	**Darende-Malaty**	**0.86**	**313**	*e*Pg	Pb	22 23 54.6	+0.2
KMRS	**Kahramanmaras**	**1.21**	**247**	*e*PN	Pb	22 24 00.5	+0.3
KMRS	**Kahramanmaras**	**1.21**	**247**	*e*Pn	Pg	22 24 00.5	-0.3
ILIC	**ilic-Erzincan**	**1.48**	**8**	*e*PN	Pn	22 24 04.1	+0.3
ILIC	**ilic-Erzincan**	**1.48**	**8**	*e*Pn	Pn	22 24 04.1	+0.3

MAN 28 22:30:19, 13°42N×121°28E, h8km, mb4.1, ML2.9, MS2.6, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.33**	**285**	⇓*e*P	Pg	22 30 26.3	+0.7
PGP				*i* S	Sb	22 30 31.9	-0.8
LUBP	**Lubang**	**1.05**	**287**	*e*P	Pg	22 30 38.7	-0.5
LUBP				*e*S	Sg	22 30 51.6	-1.3
GQP	**Guinayangan**	**1.23**	**67**	⇑*e*P	Pn	22 30 41.7	-0.8
GQP				*e*		22 30 59.5	
OTRP	**Odiongan**	**1.27**	**145**	*e*P	Pn	22 30 42.3	-0.9
BUSP	**Coron**	**1.76**	**217**	*e*P	Pb	22 30 51.1	-0.4
BUSP				*e*S	Sn	22 31 12.8	+0.4

*IDC **28** 22:32:24.9±0.8, 1°56S×150°90E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/28, mbtmp3.8/9, MS4.6/1, Ms1 4.6/1, ms1mx3.6/25, Error ellipse: s-maj=29.3km s-min=19.9km az=100.0*
*ISCJB **28** 22:32:28.2±0.7, 1°6S±0°1×150°9E±0°2, h33km, mb3.7/9, MS4.5/1, Error ellipse: s-maj=23.4km s-min=16.0km az=9.3*

ISC 28 22:32:30.2±0.9, 1°6S±0°2×150°9E±0°2, h35km, n17, σ0°38/10, mb3.9/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.38**	**220**	P	P	22 37 45.3	-0.1
	0.6nm,0.4s,baz=44,slow=9.8,SNR=9.5						
H11S3	**WAKE ISLAND Hy**	**25.30**	**37**	T	T	23 04 26.8	
	baz=220,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**25.31**	**37**	T	T	23 04 27.5	
	baz=220,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**25.32**	**37**	T	T	23 04 30.9	
	baz=220,slow=76,SNR=31						
DZM	**Mont Dzumac**	**25.36**	**144**	P	P	22 37 54.2	-0.1
	11nm,0.9s,baz=330,slow=20,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**26.37**	**36**	T	T	23 05 46.3	
	baz=218,slow=76,SNR=31						
H11N3	**WAKE ISLAND Hy**	**26.38**	**36**	T	T	23 05 49.5	
	baz=218,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**26.39**	**36**	T	T	23 05 59.0	
	baz=218,slow=76,SNR=40						
ASAR	**Alice Springs**	**27.42**	**216**	P	P	22 38 13.2	+0.2
	0.3nm,0.6s,baz=48,slow=8.3,SNR=3.0						
MJAR	**Matsushiro Arr**	**39.74**	**344**	LR	LR	22 54 30.9	
	comp=Z,821nm,21.2s,baz=90,slow=33						
PETK	**Petropavlovsk-**	**54.81**	**5**	P	P	22 41 56.9	+0.3
	0.7nm,0.5s,baz=178,slow=10,SNR=3.2						
CMAR	**Chiang Mai Arr**	**54.82**	**294**	P	P	22 41 57.4	+0.1
	0.5nm,0.3s,baz=93,slow=4.8,SNR=4.8						
MKAR	**Makanchi Array**	**76.68**	**319**	P	P	22 44 17.9	+0.1
	0.4nm,0.6s,baz=90,slow=7.4,SNR=6.4						
ZALV	**Zalesovo Beam**	**77.45**	**326**	P	P	22 44 21.4	-0.5
	0.3nm,0.3s,baz=108,slow=4.7,SNR=2.7						
ILAR	**Eielson Array**	**79.95**	**23**	P	P	22 44 34.9	-0.5
	1.1nm,0.7s,baz=247,slow=5.4,SNR=12						
YKA	**Yellowknife Ar**	**93.50**	**28**	P	P	22 45 42.7	+0.5
	0.2nm,0.7s,baz=274,slow=4.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**147.42**	**292**	PKPbc	PKPbc	22 52 11.5	-0.1
	0.3nm,0.9s,baz=48,slow=2.3,SNR=2.6						

WEL 28 23:52:12.0±0.4, 38°01S×176°22E, h170km±4km, ML3.6/13, 3C-1D, Error ellipse: s-maj=2.7km s-min=2.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**1.08**	**108**	PN	Pn	23 52 39.6	+0.2
RAHZ	**Arahi**	**1.13**	**143**	PN	Pn	23 52 40.1	+0.3
RAHZ				SN	Sn	23 53 00.4	-0.9
SNGZ	**Shannon Statio**	**1.17**	**131**	PN	Pn	23 52 40.3	+0.2
SNGZ				SN	Sn	23 53 00.5	-1.4
BKZ	**Black Stump Fm**	**1.17**	**170**	⇑PN	Pn	23 52 39.9	-0.3
HAZ	**Te Kaha**	**1.26**	**79**	PN	Pn	23 52 40.7	-0.2
WHHZ	**Waihua**	**1.33**	**143**	PN	Pn	23 52 41.7	+0.3
TUVZ	**Tukino**	**1.33**	**199**	PN	Pn	23 52 41.8	+0.1
TUVZ				SN	Sn	23 53 05.1	+0.4
FWVZ	**Far West T-bar**	**1.35**	**203**	PN	Pn	23 52 41.8	-0.1
TRVZ	**Turoa**	**1.39**	**202**	PN	Pn	23 52 42.4	0.0
RIGZ	**Rimuhau**	**1.40**	**120**	*e*PN	Pn	23 52 42.5	+0.3
WNVZ	**Wahianoa**	**1.40**	**200**	PN	Pn	23 52 42.3	0.0
MCHZ	**McNeill Hill**	**1.48**	**165**	PN	Pn	23 52 43.3	+0.4
BHHZ	**Black Hill Sta**	**1.48**	**185**	⇑PN	Pn	23 52 42.6	-0.4
MTVZ	**Mangateitei**	**1.49**	**203**	PN	Pn	23 52 43.2	+0.1
KNZ	**Kokohu**	**1.52**	**132**	PN	Pn	23 52 43.2	-0.1
PRGZ	**Paritu Road**	**1.59**	**125**	PN	Pn	23 52 43.9	-0.2
KRHZ	**Kereru**	**1.63**	**176**	PN	Pn	23 52 44.1	-0.3
CNGZ	**Carnagh Statio**	**1.64**	**107**	*e*PN	Pn	23 52 45.0	+0.5
MHGZ	**Mahia Peninsul**	**1.75**	**131**	PN	Pn	23 52 45.7	+0.1
KAHZ	**Kahuranaki**	**1.85**	**164**	PN	Pn	23 52 46.7	-0.1
PNHZ	**Pukenui**	**1.90**	**180**	PN	Pn	23 52 46.7	-0.6
TSZ	**Takapari Road**	**2.05**	**186**	⇓PN	Pn	23 52 48.3	-0.7
PXZ	**Pawanui**	**2.08**	**166**	PN	Pn	23 52 48.8	-0.4
PXZ				AML	AML	23 53 36.9	
POWZ	**Post Office Ro**	**2.40**	**188**	PN	Pn	23 52 51.7	-1.2
PRWZ	**Pori Road**	**2.55**	**184**	PN	Pn	23 52 53.6	-1.0
MRZ	**Mangatainoka R**	**2.69**	**190**	⇑PN	Pn	23 52 54.8	-1.6
TIWZ	**Tintock**	**2.77**	**185**	PN	Pn	23 52 55.9	-1.5
HOWZ	**Holdsworth Sta**	**2.93**	**190**	PN	Pn	23 52 57.3	-2.1
KIW	**Kapiti Island**	**3.02**	**199**	PN	Pn	23 52 58.5	-1.9
TMWZ	**Te Maipa**	**3.10**	**185**	PN	Pn	23 52 59.4	-2.0
CAW	**Cannon Point**	**3.22**	**196**	PN	Pn	23 53 00.9	-2.0
PAWZ	**Paruwai Farm**	**3.42**	**190**	PN	Pn	23 53 02.8	-2.5
MSWZ	**Moikau Station**	**3.48**	**192**	PN	Pn	23 53 03.5	-2.6
TCW	**Tory Channel**	**3.53**	**205**	PN	Pn	23 53 04.5	-2.2
TUWZ	**Tuamarina**	**3.84**	**206**	AML	AML	23 53 54.0	
KHZ	**Kahutara**	**4.85**	**204**	AML	AML	23 54 24.6	

*ISCJB **29** 00:17:44.9±1.1, 21°96S±0°07×68°0W±0°2, h117km, mb3.4/2, Error ellipse: s-maj=29.2km s-min=10.6km az=179.9*
*IDC **29** 00:17:45.8±2.5, 21°93S×68°10W, h107km±20km, mb3.3/2, mb1 3.4/4, mb1mx3.1/24, mbtmp3.6/4, Error ellipse: s-maj=41.9km s-min=19.9km az=87.0*

ISC 29 00:17:46.2±1.1, 21°95S±0°09×68°0W±0°2, h117km, n6, σ1°01/7, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.63**	**359**	P	Pn	00 19 09.0	+0.7
	0.4nm,0.3s,baz=158,slow=6.9,SNR=7.6						
LPAZ				S	Sn	00 20 11.2	-1.0
	0.1nm,0.3s,baz=74,slow=18,SNR=2.3						
SIV	**San Ignacio**	**8.84**	**49**	P	Pn	00 19 51.0	-0.3
	2.0nm,0.3s,baz=247,slow=14,SNR=17						
CFAA	**Coronel Fontan**	**9.62**	**181**	P	Pn	00 20 01.1	-0.4
	0.0nm,0.3s,baz=12,slow=19,SNR=3.1						
TORD	**Torodi Ar. Bea**	**76.72**	**70**	P	P	00 29 26.1	+0.9
	0.4nm,0.4s,baz=255,slow=5.7,SNR=19						
YKA	**Yellowknife Ar**	**91.89**	**340**	P	P	00 30 40.0	-0.8
	0.1nm,0.5s,baz=134,slow=4.0,SNR=4.9						
MKAR	**Makanchi Array**	**145.50**	**37**	PKPbc	PKPab	00 37 12.1	+0.9
	0.1nm,0.5s,baz=301,slow=3.0,SNR=2.9						

KRSC 29 00:19:24.2±2.9, 48°99N×156°86E, h6km±2km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.76**	**344**	P	Pn	00 19 54.2	-1.0
SKR				S	Sn	00 20 16.0	-1.9
MTVR	**Mutnovka**	**3.59**	**13**	P	Pb	00 20 24.9	-3.4
MTVR				S	Sb	00 21 09.7	-2.6
RUS	**Russkaya**	**3.60**	**16**	P	Pn	00 20 23.8	+3.3
RUS				S	Sb	00 21 08.1	-4.1
UGLR	**Uglovaya**	**4.40**	**16**	P	Pn	00 20 36.4	+4.8
AVH	**Avacha**	**4.44**	**15**	P	Pn	00 20 36.3	+4.2
KOK	**Koryaka**	**4.45**	**14**	P	Pn	00 20 36.5	+4.2
SMAR	**Somma**	**4.45**	**15**	P	Pn	00 20 35.0	+2.6
SDLR	**Sedlovina**	**4.48**	**16**	P	Pn	00 20 36.4	+3.7
KRER	**Koryakskii**	**4.48**	**15**	P	Pn	00 20 37.4	+4.6
KRX	**Arik**	**4.51**	**14**	P	Pn	00 20 35.8	+2.5
GNL	**Ganaly**	**4.76**	**8**	P	Pn	00 20 41.3	+4.7
MKZ	**Mys Kozlova**	**6.34**	**27**	P	Pn	00 21 02.0	+4.0
KBTR	**Krutoberegovo**	**8.08**	**24**	P	Pn	00 21 27.8	+5.8

MAN 29 00:23:46, 13°72N×120°42E, h34km, mb3.7, ML2.5, MS2.0, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.17**	**275**	*e*P	Pb	00 23 54.6	+2.2
LUBP				*e*S	Sb	00 23 59.3	+2.5
PGP	**Puerto Galera**	**0.56**	**113**	⇑*i*P	Pb	00 23 59.6	+1.9
PGP				*i* S	Sn	00 24 07.9	+2.1
SJMP	**San Jose**	**1.43**	**151**	*e*P	Pb	00 24 11.6	-0.4
SJMP				*e*S	Sn	00 24 28.1	+1.0

PGC 29 00:31:53.5±6.1, 51°34N×130°47W, h10km, ML2.9/3, Mw3.5, 185km Wsw of Bella Bella, Bc Queen Charlotte Islands Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**1.69**	**59**	⇑Pn	Pn	00 32 21.0	-2.0
BBB				⇑Sn	Sn	00 32 40.7	-3.9
PHC	**Port Hardy**	**2.02**	**107**	⇑Pn	Pn	00 32 25.2	-2.3
PHC				⇑Sn	Sn	00 32 49.0	-3.8
WOSB	**Woss**	**2.74**	**114**	⇑Pn	Pn	00 32 36.1	-1.5

DJA 29 00:40:59.4±0.6, 8°S±3°×107°E±°, h27km±6km, M3.9/12, MLv3.9/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.90**	**357**	P	Pn	00 41 15.6	-0.6
CNJI				S	Sn	00 41 28.2	-0.1
CISI	**Cisompet, Garu**	**0.91**	**45**	P	Pn	00 41 15.9	-0.6
CISI				S	Sb	00 41 28.3	-0.2
CMJI	**Cimerak**	**1.33**	**72**	P	Pn	00 41 22.2	-0.1
CMJI				S	Sb	00 41 39.9	-0.6
LEM	**Lembang**	**1.44**	**18**	P	Pn	00 41 23.9	-0.1
LEM				S	Sn	00 41 42.8	+0.6
KPJI	**Karang Pucung**	**1.95**	**64**	P	Pn	00 41 30.8	0.0
KPJI				S	Sn	00 41 55.3	+0.9
TNG	**Tangerang**	**2.09**	**346**	P	Pn	00 41 32.2	-0.5
TNG	**Tangerang**	**2.09**	**346**	P	Pn	00 41 33.2	+0.5
CGJI	**Cibinong**	**2.16**	**317**	P	Pn	00 41 33.8	+0.2
CGJI				S	Sn	00 42 00.8	+1.3
UGM	**Wanagama**	**3.33**	**85**	P	Pn	00 41 49.7	-0.1
UGM				S	Sn	00 42 11.2	-17

IDC 29 00:45:39.2±2.4, 4°01S×149°35E, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/27, mbtmp3.8/3, MS3.5/5, Ms1 3.5/5, ms1mx3.2/21, Error ellipse: s-maj=180.3km s-min=29.5km az=121.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.78**	**202**	LR	LR	00 49 01.1	
	comp=Z,193nm,18.1s,baz=22,slow=35						
WRA	**Warramunga Arr**	**21.56**	**222**	P	P	00 50 28.8	-1.6
	4.8nm,1.0s,baz=41,slow=10.0,SNR=11						
WRA				LR	LR	00 59 51.4	
	comp=Z,150nm,19.1s,baz=35,slow=40						
ASAR	**Alice Springs**	**24.58**	**216**	P	P	00 51 01.9	+0.8
	1.7nm,0.8s,baz=51,slow=7.5,SNR=9.6						
ASAR				LR	LR	01 01 19.8	
	comp=Z,224nm,20.4s,baz=42,slow=38						
BATI	**Baumata**	**26.21**	**255**	LR	LR	01 03 37.1	
	comp=Z,117nm,20.0s,baz=107,slow=41						
H11S3	**WAKE ISLAND Hy**	**28.14**	**37**	T	T	01 21 12.7	
	baz=222,slow=76,SNR=302						
H11S2	**WAKE ISLAND Hy**	**28.15**	**37**	T	T	01 21 11.7	
	baz=222,slow=76,SNR=239						
H11S1	**WAKE ISLAND Hy**	**28.16**	**37**	T	T	01 21 12.5	
	baz=222,slow=76,SNR=268						
H11N1	**WAKE ISLAND Hy**	**29.21**	**36**	T	T	01 22 28.9	
	baz=221,slow=76,SNR=57						
H11N3	**WAKE ISLAND Hy**	**29.23**	**36**	T	T	01 22 30.1	
	baz=221,slow=76,SNR=159						
H11N2	**WAKE ISLAND Hy**	**29.23**	**36**	T	T	01 22 28.8	
	baz=221,slow=76,SNR=203						
PETK	**Petropavlovsk-**	**57.35**	**6**	LR	LR	01 14 07.5	
	comp=Z,44nm,20.1s,baz=196,slow=30						
ILAR	**Eielson Array**	**82.75**	**23**	P	P	00 58 04.2	-0.6
	0.7nm,1.0s,baz=254,slow=5.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**146.79**	**288**	PKPbc	PKPbc	01 05 24.4	+0.1
	1.1nm,0.8s,baz=64,slow=3.7,SNR=7.5						

MEX 29 00:51:53.6±0.4, 17°11N×101°26W, h3km±5km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.54**	**339**	*i* P	Pg	00 52 03.5	-0.4
ZIIG				*e*S	Sg	00 52 11.2	+0.3
CAIG	**El Cayaco**	**0.95**	**93**	*i* P	Pg	00 52 09.6	-2.3
CAIG				*e*S	Sg	00 52 21.8	-2.5
ARIG	**Puente Sto Nin**	**1.46**	**36**	*i* P	Pn	00 52 17.0	-3.8
ARIG				*e*S	Sb	00 52 34.7	-5.6
MEIG	**Mezcala**	**1.76**	**62**	*i* P	Pn	00 52 22.2	-2.9
MEIG				*e*S	Sn	00 52 43.3	-4.9
PLIG	**Platanillo**	**2.11**	**52**	*i* P	Pn	00 52 26.6	-3.3
PLIG				*e*S	Sn	00 52 52.4	-4.3
MMIG	**Aquila**	**2.31**	**301**	*i* P	Pn	00 52 29.3	-3.3
MMIG				*e*S	Sn	00 52 57.4	-4.1
TLIG	**Tlapa**	**2.61**	**80**	*i* P	Pn	00 52 34.0	-2.9
TLIG				*e*S	Sn	00 53 05.6	-3.6

KRSC 29 00:59:32.6±1.9, 51°58N×161°66E, h62km±39km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.12**	**295**	P	Pn	01 00 07.5	+1.8
RUS				S	Sn	01 00 32.2	+1.3
MTVR	**Mutnovka**	**2.33**	**294**	P	Pn	01 00 10.6	+1.9
MTVR				S	Sn	01 00 37.2	+0.9
PET	**Petropavlovsk**	**2.34**	**309**	S	Sn	01 00 38.6	+2.3
UGLR	**Uglovaya**	**2.38**	**314**	P	Pn	01 00 12.5	+3.1
UGLR				S	Sn	01 00 41.3	+3.8
SDLR	**Sedlovina**	**2.40**	**316**	P	Pn	01 00 12.6	+2.9
SDLR				S	Sn	01 00 41.4	+3.3
SMAR	**Somma**	**2.43**	**315**	P	Pn	01 00 13.0	+2.9
AVH	**Avacha**	**2.46**	**314**	P	Pn	01 00 13.6	+3.2
ASAK	**Asacha**	**2.46**	**290**	P	Pn	01 00 13.0	+2.6
ASAK				S	Sn	01 00 41.5	+2.1
KRER	**Koryakskii**	**2.48**	**315**	P	Pn	01 00 12.5	+1.7
KRER				S	Sn	01 00 41.3	+1.2
KOK	**Koryaka**	**2.52**	**314**	P	Pn	01 00 14.3	+3.0
KOK				S	Sn	01 00 44.0	+3.1
KRX	**Arik**	**2.56**	**315**	P	Pn	01 00 14.6	+2.7
KRX				S	Sn	01 00 44.4	+2.4
MKZ	**Mys Kozlova**	**2.98**	**1**	P	Pn	01 00 20.1	+2.8
MKZ				S	Sn	01 00 54.2	+2.4
APC	**Apacha**	**3.07**	**298**	P	Pn	01 00 22.1	+3.4
APC				S	Sn	01 00 58.2	+4.0
GNL	**Ganaly**	**3.10**	**315**	P	Pn	01 00 23.2	+4.0
GNL				S	Sn	01 00 59.6	+4.5
MIPR	**Malaya Ipel'ka**	**3.11**	**285**	P	Pn	01 00 21.9	+2.7
MIPR				S	Sn	01 00 56.8	+1.6
TUMR	**Tumrok**	**3.81**	**347**	P	Pn	01 00 33.8	+4.8
BKI	**Bering**	**4.45**	**34**	S	Sn	01 01 28.3	+0.4
KBTR	**Krutoberegovo**	**4.68**	**8**	P	Pn	01 00 44.2	+3.5

*CSEM **29** 01:08:22.0, 39°25N×23°98E, h4km, MD2.9*

ATH 29 01:08:22.0, 39°25N×23°98E, h4km, MD2.9/9, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.11**	**224**	*e*PG	Pg	01 08 24.0	-0.3
AOS				*e*SG	Sg	01 08 26.4	+0.6
AOS	**Alonnisos**	**0.11**	**224**	*e*PG	Pg	01 08 24.0	-0.3
AOS				*e*SG	Sg	01 08 26.4	+0.6
AOS	**Alonnisos**	**0.11**	**224**	*e*Pg	Pg	01 08 24.0	-0.3
AOS				*e*Sg	Sg	01 08 26.4	+0.6
SKIA	**Skiathos**	**0.41**	**258**	*e*PG	Pg	01 08 29.3	-0.6
SKIA				*e*SB	Sg	01 08 35.1	-0.2
SKIA	**Skiathos**	**0.41**	**258**	*e*PG	Pg	01 08 29.3	-0.6
SKIA				*e*SG	Sg	01 08 35.1	-0.2
SKIA	**Skiathos**	**0.41**	**258**	*e*Pg	Pg	01 08 29.3	-0.6
SKIA				*e*Sg	Sg	01 08 35.1	-0.2
NEO	**Neokhori**	**0.59**	**276**	*e*PB	Pg	01 08 34.0	+0.6
NEO				*e*SB	Sg	01 08 41.5	+0.4
NEO	**Neokhori**	**0.59**	**276**	*e*PG	Pg	01 08 34.0	+0.6
NEO				*e*SG	Sg	01 08 41.5	+0.4
NEO	**Neokhori**	**0.59**	**276**	*e*Pg	Pg	01 08 34.0	+0.6
NEO				*e*Sg	Sg	01 08 41.5	+0.4
XOR	**Xorichti**	**0.62**	**281**	*e*PB	Pb	01 08 34.8	-0.7
XOR				*e*SB	Sg	01 08 42.6	+0.4
XOR	**Xorichti**	**0.62**	**281**	*e*PB	Pb	01 08 34.8	-0.7
XOR				*e*SG	Sg	01 08 42.6	+0.4
XOR	**Xorichti**	**0.62**	**281**	*e*Pb	Pb	01 08 34.8	-0.7
XOR				*e*Sg	Sg	01 08 42.6	+0.4
MRKA	**Markates**	**0.62**	**210**	*e*PG	Pg	01 08 33.8	-0.2
MRKA				*e*SB	Sg	01 08 42.5	+0.3
MRKA	**Markates**	**0.62**	**210**	*e*PG	Pg	01 08 33.8	-0.2
MRKA				*e*S

CHCP	Chirah Chowk	3.71	139	⇓P		Pn	01 27 51.1	+2.6
THW	Thamme Wali	3.86	162	⇓P		Pn	01 27 52.1	+1.7
THW				S		S	01 28 37.0	-0.2
DLH	Dalhousie	6.09	129	*e*S		S	01 29 27.0	-1.7
AML	Almayashu	6.21	24	P		Pn	01 28 21.2	+0.9
	SNR=112							
MNAS	Manas	6.22	15	⇑P		Pn	01 28 21.4	+1.1
	12nm,0.5s							
MNAS				⇑S		S	01 29 30.1	-1.6
	55nm,0.6s							
UCH	Uchtor	6.58	28	P		Pn	01 28 26.6	+1.3
	SNR=46							
KK31	Karatay Array	6.61	1	⇑P		Pn	01 28 25.8	+0.6
	5.5nm,0.5s,baz=195,slow=14,SNR=153							
KK31				⇑S		S	01 29 37.4	-3.2
	5.9nm,0.4s,baz=193,slow=18,SNR=7.0							
EKS2	Erkin-Say	6.71	22	P		Pn	01 28 28.1	+1.4
	SNR=34							
KZA	Kyzart	6.76	33	P		Pn	01 28 28.5	+1.0
	SNR=22							
AAK	Ala-Archa	6.93	26	⇓P		Pn	01 28 30.8	+1.4
	9.4nm,0.5s							
AAK				⇓S		S	01 29 47.4	-0.9
	36nm,0.7s							
AAK	Ala-Archa	6.93	26	P		Pn	01 28 31.0	+1.5
	SNR=22							
AAK	Ala-Archa	6.93	26	P		Pn	01 28 30.6	+1.2
	5.4nm,0.3s,baz=154,slow=4.6,SNR=57							
AAK				S		S	01 29 47.8	-0.5
	3.6nm,0.3s,baz=304,slow=22,SNR=22							
KBK	Karagaybulak	7.12	29	P		Pn	01 28 33.6	+1.7
	SNR=13							
CHMS	Chumysh	7.34	26	P		Pn	01 28 36.0	+1.3
	SNR=6.3							
ULHL	Ulahol	7.35	37	P		Pn	01 28 36.6	+1.7
	SNR=12							
SDNR	Sundarnagar	7.42	130	*ex*		Pn	01 28 29.5	-6.4
SDNR				*ex*		S	01 29 55.0	-4.9
TKM2	Tokmak 2	7.60	31	⇓P		Pn	01 28 39.1	+0.9
	11nm,0.7s							
TKM2				⇓S		S	01 30 02.9	-1.3
	12nm,0.8s							
TKM2	Tokmak 2	7.60	31	P		Pn	01 28 39.6	+1.4
	SNR=12							
SMLA	Simla	7.80	131	*i* P		Pn	01 28 41.5	+0.7
SMLA				*i* S		S	01 30 05.6	-3.3
SMLA				AML		AML	01 30 11.7	
	comp=E,83nm,0.7s							
SMLA				AML		AML	01 30 12.9	
	comp=N,94nm,0.8s							
KHET	Khetri	9.58	150	*e*P		Pn	01 29 03.9	0.0
KHET				*e*S		S	01 30 44.9	-6.4
KHET				AML		AML	01 30 51.4	
	comp=E,107nm,0.0s							
KHET				AML		AML	01 30 51.8	
	comp=N,96nm,0.1s							
PDGK	Podgornoye	9.80	43	⇑P		Pn	01 29 07.8	+1.3
	comp=N,3.0nm,0.9s							
KUDL	Kundal	9.81	146	*e*P		Pn	01 29 05.9	-0.9
KUDL				*e*S		S	01 30 49.6	-7.2
GEYT	Alibeck	9.85	282	P		Pn	01 29 06.3	-1.1
	comp=N,0.6nm,0.3s,baz=104,slow=12,SNR=9.3							
SONA	Sohna	10.00	143	*e*P		Pn	01 29 08.8	-0.5
SONA				*e*S		S	01 30 53.4	-7.8
SONA				AML		AML	01 30 58.0	
	comp=N,14nm,0.3s							
SONA				AML		AML	01 30 59.3	
	comp=E,19nm,0.4s							
AGRA	Agra	11.27	143	*e*S		S	01 31 24.8	-6.0
AGRA				AML		AML	01 31 29.4	
	comp=E,70nm,0.3s							
AGRA				AML		AML	01 31 29.7	
	comp=N,57nm,0.5s							
MK31	Makanchi Array	13.62	37	⇓P		Pn	01 29 55.4	+0.4
	comp=N,2.2nm,1.1s,baz=232,slow=12,SNR=15							
MKAR	Makanchi Array	13.62	37	P		Pn	01 29 55.7	+0.6
	comp=N,0.2nm,0.3s,baz=235,slow=12,SNR=13							
DANN	Dangsing	13.93	122	*e*P		Pn	01 29 59.0	-0.4
	comp=N,11nm,0.4s							
KOLN	Koldanda	14.20	124	*e*P		Pn	01 30 02.2	-0.3
	comp=N,5.7nm,0.3s							
GKN	Gorkha	14.75	121	*e*P		P	01 30 10.3	+0.1
	comp=N,22nm,0.4s							
AB31	Akbulak array	14.84	333	⇓P		Pn	01 30 09.1	-0.9
	comp=N,2.1nm,0.4s							
AB31				⇑S		S	01 32 50.6	-3.8
	comp=N,1.1nm,0.6s							
KURBB	Kurchatov Arra	15.31	20	⇑P		Pn	01 30 15.7	0.0
	comp=N,3.9nm,0.8s							
KURBB	Kurchatov Arra	15.31	20	P		P	01 30 15.9	0.0
	comp=N,0.2nm,0.3s,baz=210,slow=10,SNR=6.5							
KKN	Kakani	15.33	120	*e*P		P	01 30 17.1	+0.5
	comp=N,18nm,0.5s							
KURK	Kurchatov	15.42	20	⇑P		Pn	01 30 16.9	-0.1
	comp=N,1.5nm,1.0s							
PKIN	Phulchoki	15.54	121	*e*P		Pn	01 30 19.5	+0.5
	comp=N,7.9nm,0.3s							
PKI	Pulchoki	15.56	121	*e*P		Pn	01 30 19.4	+0.2
	comp=N,20nm,0.6s							
GUN	Gumba	15.68	119	*e*P		Pn	01 30 21.7	+1.0
	comp=N,17nm,0.7s							
JIRN	Jiri	16.05	119	*e*P		Pn	01 30 25.9	+0.7
	comp=N,26nm,0.6s							
AKTO	Aktyubinsk	16.53	331	⇑P		Pn	01 30 30.3	0.0
	comp=N,6.1nm,0.8s							
AKTO				⇑S		S	01 33 28.7	-3.1
	comp=N,3.6nm,1.1s							
AKTO	Aktyubinsk	16.53	331	P		Pn	01 30 30.4	+0.1
	comp=N,0.9nm,0.3s,baz=130,slow=10,SNR=14							
BVA0	Borovoye Array	16.54	0	⇑P		Pn	01 30 31.4	+1.0
	comp=N,2.4nm,0.4s,baz=155,slow=9.5,SNR=41							
BVA0				⇑S		S	01 33 33.2	+1.3
	comp=N,2.7nm,1.2s,baz=162,slow=22,SNR=3.6							
BVAR	Borovoye Array	16.54	0	P		Pn	01 30 30.9	+0.5
	comp=N,1.2nm,0.3s,baz=155,slow=11,SNR=32							
RAMN	Ramite	16.77	120	*e*P		Pn	01 30 33.4	-0.3
	comp=N,20nm,0.6s							
TAPN	Taplejung	17.32	117	*e*P		Pn	01 30 39.8	-0.4
ZALV	Zalesovo Beam	20.15	25	P		P	01 31 09.5	+1.0
	comp=N,1.1nm,0.3s,baz=212,slow=9.5,SNR=6.1							
GNI	Garni	20.39	288	P		P	01 31 13.0	+1.6
	comp=N,0.8nm,0.3s,baz=50,slow=17,SNR=3.2							
SONM	Songino Array	28.78	55	P		P	01 32 31.4	+2.4
	comp=N,0.4nm,0.5s,baz=275,slow=8.5,SNR=3.2							
FINES	FINESS Array B	37.20	326	P		P	01 33 42.3	+1.0
	comp=N,1.1nm,0.8s,baz=123,slow=15,SNR=5.1							
ARCES	ARCESS Array B	40.95	338	P		P	01 34 13.4	+1.1
	comp=N,3.5nm,0.8s,baz=106,slow=7.0,SNR=7.8							
GERES	GERESS Array B	42.50	305	LR		LR	01 56 55.6	
	comp=N,48nm,18.4s,baz=314,slow=42							
NOA	NORSAR Array B	44.07	323	P		P	01 34 37.2	-0.3
	comp=N,0.6nm,0.6s,baz=98,slow=7.8,SNR=3.4							
KMBO	Kilima Mbogo	48.43	227	P		P	01 35 12.9	+0.7
	comp=N,1.2nm,0.5s,baz=46,slow=10,SNR=5.3							
TORD	Torodi Ar. Bea	65.18	268	P		P	01 37 08.0	-1.7
	comp=N,0.3nm,0.3s,baz=46,slow=6.0,SNR=9.8							
FX1	Attu Island--F	68.75	39	P		P	01 37 32.2	+0.6
	comp=N,9.2nm,0.8s,baz=108,slow=19,SNR=3.3							
INK	Inuvik	74.00	9	P		P	01 38 03.7	+1.0
	comp=N,0.8nm,0.6s,baz=17,slow=19,SNR=3.1							
YKA	Yellowknife Ar	81.28	2	P		P	01 38 43.4	+0.4
	comp=N,0.5nm,0.7s,baz=351,slow=5.6,SNR=11							
WRA	Warramunga Arr	82.44	121	P		P	01 38 48.2	-1.5
	comp=N,0.6nm,0.6s,baz=324,slow=5.2,SNR=8.2							
ASAR	Alice Springs	84.69	124	P		P	01 38 59.5	-1.6
	comp=N,0.5nm,0.7s,baz=315,slow=5.8,SNR=5.7							

NIED ***29*** *01:29:00,36˚.10N×139˚.90E,h50km,Mw4.2 Best double couple: M₀2.64000×10¹⁵ NP1:φ₀=268.00000°,δ20.00000°, λ125.00000°. NP2:φ₀=52.00000°,δ74.00000°,λ78.00000°.*
MOS ***29*** *01:29:24.8±1.0,36˚.03N×139˚.85E,h53km,mb4.7/25, Error ellipse: s-maj=10.0km s-min=5.8km az=119.0*
ISCJB ***29*** *01:29:25.1±0.4,36˚.02N±0˚.03×139˚.92E±0˚.04,h57km±2km, mb4.4/50,MS3.4/8, Error ellipse: s-maj=5.8km s-min=4.5km az=31.8*
JMA ***29*** *01:29:26.5±0.1,36˚.04N×139˚.88E,h43km±1km,M4.3 Broadband fault plane solution: P waves. NP1: φ₀=46.00000°,δ64.00000°,λ84.00000°. NP2:φ₀=241.00000°, δ26.00000°,λ103.00000°. Principal axes: T Plg70.0000°, Azm303.0000°; N Plg6.0000°, Azm49.0000°; P Plg19.0000°, Azm141.0000°;*
JMA Felt III J1.
NEIC ***29*** *01:29:26.8±0.6,36˚.00N×139˚.82E,h56km±4km,mb4.7/13, MW4.2(NIED) Error ellipse: s-maj=6.3km s-min=5.6km az=99.0*
NEIC Felt at Kawaguchi, Narita, Tokyo, Tsukuba and Yokohama. Recorded [3 JMA] in Ibaraki, Saitama and Tochigi; [2 JMA] in Chiba, Fukushima, Gumma, Kanagawa and Tokyo; [1 JMA] in Yamanashi.
BJI ***29*** *01:29:27.1,36˚.10N×139.70E,h60km,mB4.6/4,mb4.5/12, Ms4.2/3,Ms7 4.0/3*
IDC ***29*** *01:29:29.0±1.6,35˚.99N×139˚.75E,h75km±12km,mb3.9/19, mb1 4.1/21,mb1mx4.0/33,mbtmp4.2/21,MS3.3/11, Ms1 3.3/11,ms1mx3.1/38, Error ellipse: s-maj=15.6km s-min=14.4km az=123.0*
ISC 29 01:29:26.4±0.7,36˚.06N±0˚.04×139˚.81E±0˚.04,h49km±6km, n156,σ1°11/162,mb4.4/50,MS3.5/8,8C-10D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.36	61	⇑P	Pn	01 29 35.2	-0.8
JYT				S	Sn	01 29 41.3	-1.5
TOK	Tokyo	0.37	186	⇑P	Pn	01 29 36.6	+0.6
JAG	Ashikaga	0.47	322	⇓P	Pn	01 29 37.8	+0.6
JAG				S	Sn	01 29 45.8	+0.9
JHU	Hanno	0.47	245	⇓P	Pn	01 29 37.3	0.0
JHU				S	Sn	01 29 45.2	+0.2
JRY	Ryogami san	0.74	267	⇓P	Pn	01 29 41.2	+0.6
JRY				S	Sn	01 29 51.6	+0.7
JKT	Katashina	0.84	328	⇓P	Pn	01 29 42.6	+0.5
JKT				S	Sn	01 29 54.8	+1.3
I30JP	ISUMI INFRASON	0.85	151	P	Pn	01 29 43.4	+1.3
I30JP				S	Sn	01 29 58.8	+5.2
JOD2	Odawara 2	0.98	217	⇓P	Pn	01 29 44.0	+0.1
JOD2				*e*S	Sn	01 29 56.9	+0.2
JYN	Shimob	1.17	242	⇑P	Pn	01 29 47.7	+1.3
MJAR	Matsushiro Arr	1.38	291	P	Pn	01 29 50.3	+1.0
	100nm,0.3s,baz=92,slow=14,SNR=894						
MJAR				S	Sn	01 30 09.5	+3.1
	94nm,0.3s,baz=124,slow=18,SNR=8.3						
MJAR				LR	LR	01 30 37.3	
	comp=Z,640nm,20.0s,baz=120,slow=52						
MAJO	Matsushiro	1.38	291	*d i* P	Pn	01 29 50.6	+1.3
MAJO	Matsushiro	1.38	291	*e*Pn	Pn	01 29 50.7	+1.4
MAT	Matsushiro	1.38	291	P	Pn	01 29 50.6	+1.3
MAT				S	Sn	01 30 08.9	+2.5
JHJ2	Mitsune	2.94	180	*e*Pn	Pn	01 30 09.6	-1.0
JHJ2				*e*S	Sn	01 30 41.7	-2.8
ERM	Erimo	6.50	23	⇑*e*P	Pn	01 31 00.2	+0.9
ERM	Erimo	6.50	23	*e*Pn	Pn	01 31 00.0	+0.7
	14nm,0.6s						
ERM				*e*S	Sn	01 32 14.9	+2.8
JNU	Nakatsue	7.92	251	P	Pn	01 31 24.8	+5.8
	0.5nm,0.3s,baz=86,slow=14,SNR=2.6						
JNU				LR	LR	01 34 55.8	
	comp=Z,171nm,19.1s,baz=16,slow=42						
ASAJ	Asahikawa	8.33	14	P	Pn	01 31 26.5	+2.0
ASAJ				S	Sn	01 32 58.0	+0.8
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,89nm,19.5s						
ASAJ	Asahikawa	8.33	14	P	Pn	01 31 26.4	+2.0
	comp=Z,1.7nm,0.3s,baz=230,slow=3.8,SNR=7.9						
ASAJ				S	Sn	01 32 58.0	+0.8
	comp=Z,0.5nm,0.3s,baz=236,slow=18,SNR=1.7						
ASAJ				LR	LR	01 35 00.3	
	comp=Z,89nm,19.5s,baz=285,slow=39						
ASAJ	Asahikawa	8.33	14	*e*Pn	Pn	01 31 24.6	+0.1
	comp=Z,3.6nm,0.6s						
ASAJ				*e*S	Sn	01 32 57.7	+0.6
KSRS	Korea Array	9.64	282	P	Pn	01 31 44.5	+2.0
	comp=Z,0.6nm,0.3s,baz=96,slow=14,SNR=9.1						
KSRS				LR	LR	01 35 23.6	
	comp=Z,153nm,21.4s,baz=73,slow=37						
KSAR	Wonju Array Be	9.67	282	P	Pn	01 31 44.5	+1.6
KSAR	Wonju Array Be	9.67	282	P	Pn	01 31 44.5	+1.6
USRK	Ussuriysk Ar.	10.10	326	P	Pn	01 31 54.1	+5.5
	comp=Z,0.4nm,0.3s,baz=140,slow=13,SNR=23						
YSS	Yuzh-Sakhalins	11.11	11	*e*P	Pn	01 32 02.0	-0.5
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
MDJ	Mudanjiang	11.56	321	P	Pn	01 32 13.8	+5.1
MDJ				PMZ			
	comp=Z,12nm,0.8s						
MDJ				PMZ			
	comp=Z,99nm,4.9s						
HABR	Khabarovsk	12.90	346	P	Pn	01 32 24.4	-2.4
HABR				*e*S	Sn	01 34 44.3	-4.5
HABR				pmax	pmax		
	comp=Z,26nm,1.6s						
HABR				MLR	MLR		
	comp=Z,103nm,21.0s						
TIA	Tai'an	18.32	277	⇓P	Pn	01 33 39.3	+2.4
YAK	Yakutsk	26.77	349	*e*P	P	01 35 01.9	+0.6
YAK				pmax	pmax		
	comp=Z,19nm,0.8s						
ULN	Ulaanbaatar	26.86	306	⇑*e*P	P	01 35 03.2	+0.7
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	Songino Array	27.29	306	P	P	01 35 05.3	-1.0
	comp=Z,0.9nm,0.6s,baz=94,slow=8.5,SNR=5.8						
SONM				LR	LR	01 45 18.6	
	comp=Z,37nm,18.4s,baz=63,slow=35						
BOD	Bodaibo	27.70	330	*e*P	P	01 35 08.9	-0.8
BOD				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SEY	Seymchan	28.01	12	P	P	01 35 13.0	+0.6
SEY	Seymchan	28.01	12	P	P	01 35 13.0	+0.6
	comp=Z,1.8nm,0.8s,baz=196,slow=6.5,SNR=9.9						
H11N2	WAKE ISLAND Hy	28.81	117	T	T	02 05 40.0	
	baz=312,slow=75,SNR=52						
H11N1	WAKE ISLAND Hy	28.81	117	T	T	02 05 36.9	
	baz=312,slow=75,SNR=54						
H11N3	WAKE ISLAND Hy	28.82	117	T	T	02 05 37.8	
	baz=312,slow=75,SNR=44						
H11S1	WAKE ISLAND Hy	29.46	119	T	T	02 06 21.2	
	baz=314,slow=76,SNR=77						
H11S3	WAKE ISLAND Hy	29.46	119	T	T	02 06 21.1	
	baz=314,slow=76,SNR=42						
H11S2	WAKE ISLAND Hy	29.48	119	T	T	02 06 22.4	
	baz=314,slow=76,SNR=40						
BILL	Bilibino	35.33	17	*e*P	P	01 36 17.4	+0.8
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TIXI	Tiksi	36.12	354	⇓*e*P	P	01 36 22.7	-0.5
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	Chiang Mai Arr	40.00	255	LR	LR	01 54 38.7	
	comp=Z,19nm,18.5s,baz=185,slow=38						
ZALV	Zalesovo Beam	41.63	313	P	P	01 37 09.8	+0.3
	comp=Z,11nm,0.6s,baz=92,slow=6.1,SNR=42						
ZALV				PcP	PcP	01 39 05.0	-0.6
	comp=Z,1.8nm,0.5s,baz=154,slow=3.2,SNR=4.7						
NVS	Novosibirsk	42.59	314	*i* P	P	01 37 16.1	-1.3
MK31	Makanchi Array	43.55	303	P	P	01 37 25.1	-0.2
MK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	Makanchi Array	43.55	303	P	P	01 37 25.2	-0.1
	comp=Z,2.0nm,0.5s,baz=88,slow=9.7,SNR=32						
MKAR				LR	LR	01 54 45.1	
	comp=Z,42nm,21.8s,baz=12,slow=35						
TAPN	Taplejung	44.72	274	*e*P	P	01 37 35.0	-0.2
	comp=Z,5.8nm,0.4s						
ODAN	Odare	45.18	274	*e*P	P	01 37 38.5	-0.3
KURK	Kurchatov	45.52	309	*e*P	P	01 37 40.5	-0.4
KURK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KURK	Kurchatov	45.52	309	*e*P	P	01 37 40.5	-0.4
	comp=Z,7.6nm,0.7s						
RAMN	Ramite	45.78	274	*e*P	P	01 37 43.3	-0.3
	comp=Z,21nm,0.8s						
JIRN	Jiri	45.82	275	*e*P	P	01 37 44.1	+0.1
	comp=Z,18nm,0.7s						
GUN	Gumba	45.97	276	*e*P	P	01 37 45.1	0.0
	comp=Z,9.4nm,0.7s						
PDGK	Podgornoye	46.10	298	P	P	01 37 45.2	-0.3
GKN	Gorkha	46.93	276	*e*P	P	01 37 52.4	-0.1
	comp=Z,37nm,0.8s						
DANN	Dangsing	47.49	277	*e*P	P	01 37 57.3	+0.3
	comp=Z,55nm,0.7s						
KOLN	Koldanda	47.86	277	*e*P	P	01 37 59.8	0.0
PYUN	Piuthan	48.21	277	*e*P	P	01 38 02.6	+0.1
	comp=Z,58nm,0.4s						
TKM2	Tokmak 2	48.96	299	P	P	01 38 09.0	+1.0
	SNR=9.0						
TKM2	Tokmak 2	48.96	299	P	P	01 38 08.5	+0.4
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TKM2	Tokmak 2	48.96	299	*e*P	P	01 38 08.5	+0.4
	comp=Z,5.5nm,0.6s						
KZA	Kyzart	49.43	298	P	P	01 38 13.3	+1.4
	SNR=12						
KZA	Kyzart	49.43	298	*i* P	P	01 38 13.3	+1.4
KBK	Karagaybulak	49.49	299	P	P	01 38 12.7	+0.6
	SNR=14						
KBK	Karagaybulak	49.49	299	*i* P	P	01 38 12.6	+0.6
USP	Ospenovka	49.65	299	P	P	01 38 13.5	+0.3
	SNR=5.0						
USP	Ospenovka	49.65	299	*i* P	P	01 38 13.4	+0.3
AAK	Ala-Archa	49.82	299	*ce*P	P	01 38 14.6	+0.1
AAK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AAK	Ala-Archa	49.82	299	*e*P	P	01 38 14.7	+0.1
UCH	Uchtor	49.92	298	P	P	01 38 16.0	+0.3
	SNR=5.2						
UCH	Uchtor	49.92	298	*i* P	P	01 38 15.9	+0.3
BVA0	Borovoye Array	50.28	313	*i* P	P	01 38 17.3	-0.4
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AML	Almayashu	50.53	298	P	P	01 38 21.3	+1.1
	SNR=43						
AML	Almayashu	50.53	298	*i* P	P	01 38 21.3	+1.1
ILAR	Eielson Array	51.01	32	P	P	01 38 23.6	+0.5
	comp=Z,2.2nm,0.8s,baz=274,slow=6.5,SNR=18						
MNAS	Manas	51.27	299	P	P	01 38 25.0	-0.5
KK31	Karatay Array	52.50	300	*i* P	P	01 38 34.1	-0.4
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	Karatay Array	52.50	300	*e*P	P	01 38 34.5	0.0
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KKAR	Karatay Array	52.50	300	*e*P	P	01 38 34.5	0.0
	comp=Z,4.6nm,0.7s						
DZET	Dzherino	55.11	296	P	P	01 38 53.4	-0.3
INK	Inuvik	55.84	27	P	P	01 38 59.2	+0.8
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	Inuvik	55.84	27	P	P	01 38 59.2	+0.8
	comp=Z,2.0nm,0.6s,baz=200,slow=30,SNR=11						
INK	Inuvik	55.84	27	*e*P	P	01 38 59.1	+0.8
	comp=Z,3.2nm,1.0s						
WRAB	Tennant Creek	55.92	186	*e*P	P	01 38 58.4	-1.0
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRAB	Tennant Creek	55.92	186	*e*P	P	01 38 58.4	-1.0
	comp=Z,4.0nm,0.8s						
WRA	Warramunga Arr	55.93	186	P	P	01 38 58.1	-1.4
	comp=Z,2.9nm,0.6s,baz=1.6,slow=7.6,SNR=52						
ARU	Arti	56.24	319	*c i* P	P	01 39 01.2	-0.2
ARU				*PP	pP	01 39 15.6	+0.7
ARU						01 39 56.5	
ARU						01 41 03.2	
ARU				S	S	01 46 47.1	-0.2
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ARU	Arti	56.24	319	*e*P	P	01 39 01.4	0.0
	comp=Z,6.3nm,0.4s						
AB31	Akbulak array	57.58	310	P	P	01 39 10.4	-0.6
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AKTO	Aktyubinsk	58.37	312	P	P	01 39 15.9	-0.6
AKTO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ASAR	Alice Springs	59.66	186	P	P	01 39 25.6	-0.1
	comp=Z,1.0nm,0.6s,baz=13,slow=9.8,SNR=11						
GEYT	Alibeck	63.17	299	P	P	01 39 49.5	+0.1
	comp=Z,2.9nm,0.8s,baz=70,slow=4.9,SNR=8.5						
RES	Resolute Bay	63.87	14	*e*P	P	01 39 53.4	+0.1
RES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
RES	Resolute Bay	63.87	14	*e*P	P	01 39 53.4	+0.1
	comp=Z,1.3nm,0.5s						
KEV	Kevo	63.90	339	*e*P	P	01 39 53.3	-0.3
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KEV	Kevo	63.90	339	*e*p	P	01 39 53.3	-0.3
	comp=Z,0.5nm,0.4s						
ARCES	ARCESS Array B	64.45	339	*e*P	P	01 39 57.0	-0.3
ARCES	ARCESS Array B	64.45	339	P	P	01 39 57.3	+0.1
	comp=Z,25nm,1.3s,baz=55,slow=6.5,SNR=10						
ARCES				LR	LR	02 11 40.7	
	comp=Z,30nm,18.9s,baz=37,slow=39						
YKA	Yellowknife Ar	65.30	29	P	P	01 40 03.0	+0.2
YKA	Yellowknife Ar	65.30	29	P	P	01 40 03.0	+0.2
	comp=Z,1.1nm,0.7s,baz=303,slow=6.7,SNR=16						
YKA	Yellowknife Ar	65.30	29	P	P	01 40 03.0	+0.2
JOF	Joensuu	66.21	332	*e*P	P	01 40 07.4	-1.3
JOF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
JOF	Joensuu	66.21	332	*e*p	P	01 40 07.4	-1.3
	comp=Z,2.2nm,0.6s						
DAG	Danmarks Havn	66.63	355	*i* P	P	01 40 11.1	-0.1
DAG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DAG	Danmarks Havn	66.63	355	*i* P	P	01 40 11.1	-0.1
	comp=Z,2.2nm,0.8s						
OBN	Obninsk	68.10	323	*e*P	P	01 40 21.1	+0.3
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KAF	Kangasniemi	68.58	332	*e*P	P	01 40 21.4	-2.3
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KAF	Kangasniemi	68.58	332	*e*p	P	01 40 21.4	-2.3
	comp=Z,2.2nm,0.6s						
FINES	FINESS Array B	69.07	332	P	P	01 40 26.5	-0.2
	comp=Z,3.7nm,0.7s,baz=75,slow=5.2,SNR=20						
FINES				LR	LR	02 11 55.6	
	comp=Z,27nm,18.9s,baz=260,slow=37						
KBZ

PAGF	Fort de Pagny	86.36	331	eP	P	01 42 02.2 -1.0
	comp=Z,3.5nm,0.9s					
PAGF	Fort de Pagny	86.36	331	eP	P	01 42 02.2 -1.0
	comp=Z,3.5nm,0.9s					
HAU	Haudompre	86.57	331	eP	P	01 42 03.3 -1.0
	comp=Z,6.5nm,0.7s					
HAU	Haudompre	86.57	331	eP	P	01 42 03.3 -1.0
HAU				pmax	pmax	
	comp=Z,7.0nm,0.7s					
HAU	Haudompre	86.57	331	eP	P	01 42 03.3 -1.0
	comp=Z,6.5nm,0.7s					
AVF	Avril sur Loir	88.73	332	eP	P	01 42 14.1 -0.5
AVF	Avril sur Loir	88.73	332	eP	P	01 42 14.1 -0.5
AVF	Avril sur Loir	88.73	332	eP	P	01 42 14.1 -0.5
GRR	Gorron	88.91	335	eP	P	01 42 14.4 -1.0
	comp=Z,26nm,1.1s					
GRR	Gorron	88.91	335	eP	P	01 42 14.4 -1.0
GRR				pmax	pmax	
	comp=Z,26nm,1.1s					
GRR	Gorron	88.91	335	eP	P	01 42 14.4 -1.0
	comp=Z,26nm,1.1s					
MBDF	Montbardon	89.04	329	eP	P	01 42 15.1 -1.2
	comp=Z,8.0nm,0.8s					
MBDF	Montbardon	89.04	329	eP	P	01 42 15.1 -1.2
MBDF				pmax	pmax	
	comp=Z,8.0nm,0.8s					
MBDF	Montbardon	89.04	329	eP	P	01 42 15.1 -1.2
	comp=Z,8.0nm,0.8s					
TXAR	Lajitas Array	91.74	51	P	P	01 42 29.8 +0.7
	comp=Z,0.8nm,0.5s,baz=296,slow=2.4,SNR=19					
TORD	Torodi Ar. Bea	117.08	313	PKP	PKPdf	01 48 05.2 -1.3
	comp=Z,0.2nm,0.5s,baz=13,slow=1.6,SNR=4.2					
QSPA	South Pole Qui	125.80	180	ePKPdf	PKPdf	01 48 22.0 +0.3
SAML	Samuel	145.85	43	ePKPdf	PKPbc	01 49 00.5 -0.3
LPAZ	La Paz	148.30	59	PKPbc	PKPbc	01 49 08.4 0.0
	comp=Z,1.3nm,0.6s,baz=299,slow=2.2,SNR=8.9					
LVC	Limon Verde	151.72	70	ePKPbc	PKPbc	01 49 15.0 -1.2

IDC 29 01:45:42.2±22.0, 23°.02S×179°.68E, h684km±288km, mb3.1/4, mb1 3.4/4, mb1mx2.9/31, mbtmp4.3/4, Error ellipse: s-maj=255.7km s-min=73.6km az=148.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	31.19	269	P	P	01 51 10.3	+0.1
	5.6nm,0.4s,baz=96,slow=12,SNR=8.6						
ASAR	Alice Springs	41.90	260	P	P	01 52 36.8	-0.2
	2.3nm,0.7s,baz=95,slow=6.9,SNR=22						
WRA	Warramunga Arr	42.18	265	P	P	01 52 39.3	+0.1
	2.8nm,0.3s,baz=102,slow=8.3,SNR=120						
TXAR	Lajitas Array	90.22	58	P	P	01 57 33.0	0.0
	0.3nm,0.7s,baz=218,slow=5.6,SNR=3.9						

*ISK **29** 01:50:31.4, 38°.16N×26°.26E, h13km, MD2.2*
*DDA **29** 01:50:35.4, 38°.18N×26°.43E, h3km, MD2.8*
CSEM 29 01:50:31.0±0.1, 38°.09N×26°.22E, h8km, MD2.2, Error ellipse: s-maj=2.0km s-min=1.0km az=27.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEY	¯zmir	0.27	56	*i* P	Pg	01 50 36.3	-0.1
ZEY				*i* S	Sg	01 50 39.8	-0.2
CHOS	Chios island	0.33	336	*e*PG	Pg	01 50 37.5	0.0
CHOS				*e*SG	Sg	01 50 42.0	+0.1
CHOS	Chios island	0.33	336	*e*Pg	Pg	01 50 37.5	0.0
CHOS				*e*Sg	Sg	01 50 42.0	+0.1
URLA	Izmir	0.40	47	*i* P	Pg	01 50 35.9	-3.0
URLA				*i* S	Sg	01 50 44.0	-0.2
URLA	Izmir	0.40	47	*i* P	Pg	01 50 35.9	-3.0
URLA				*i* S	Sg	01 50 44.0	-0.2
BLCB	Balcova	0.71	65	*e*PG	Pg	01 50 44.7	0.0
BLCB				*e*SG	Sg	01 50 54.2	+0.2
BLCB	Balcova	0.71	65	*e*Pg	Pg	01 50 44.7	0.0
BLCB				*e*Sg	Sg	01 50 54.2	+0.2
IZM	Izmir	0.88	69	*e*PG	Pg	01 50 47.9	0.0
IZM	Izmir	0.88	69	*e*Pg	Pg	01 50 47.9	0.0
AYDB	Zeytinkoy-Aydi	1.33	96	*e*PN	Pn	01 50 56.0	+0.1
AYDB	Zeytinkoy-Aydi	1.33	96	*e*Pn	Pn	01 50 56.0	+0.1

GUC 29 01:54:34.8±0.4, 33°.90S×72°.59W, h6km±6km, ML3.6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	Rinconada Maip	1.55	75	*e*P	Pb	01 55 03.8	-0.1
ROCH	El Roble	1.61	55	*e*P	Pb	01 55 05.5	+0.2
ROCH				*e*S	Sg	01 55 28.6	+1.3
ROCH				IAML		01 55 39.2	
	comp=N,1μm,0.5s						
TALC	Talca	1.69	152	*e*P	Pb	01 55 06.2	0.0
TALC				*e*S	Sg	01 55 29.8	+0.6
PEL	Peldehue	1.76	65	*e*P	Pb	01 55 07.4	-0.2
CLCH	Cerro Calan	1.79	74	*e*P	Pb	01 55 07.8	-0.3
CLCH				*e*S	Sg	01 55 32.9	+0.4
FCH	Farellones	2.00	74	*e*P	Pb	01 55 11.7	-0.4
FCH				*e*S	Sg	01 55 40.4	+0.3

*ISCJB **29** 02:03:10.5±0.4, 1°.18S±0°.02×78°.34W±0°.07, h11km±4km, mb3.5/2, MS3.0/1, Error ellipse: s-maj=11.7km s-min=3.3km az=5.8*
*IGQ **29** 02:03:10±0.1, 1°.16S×78°.35W, h2km±7km, Mb4.4, Error ellipse: s-maj=1.4km s-min=0.5km az=9.7*
*IDC **29** 02:03:11.4±1.5, 1°.05S×78°.61W, h0km, mb3.5/1, mb1 4.1/5, mb1mx3.7/29, mbtmp4.0/5, ML3.6/4, MS3.0/3, Ms1 3.0/3, ms1mx2.7/26, Error ellipse: s-maj=43.9km s-min=20.9km az=95.0*
ISC 29 02:03:10.0±1.3, 1°.16S±0°.02×78°.28W±0°.05, h2km±12km, n46, σ1°.32/42, 10C-13D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	Pisayambo	0.14	313	⇑P	Pg	02 03 14.7	+1.7
BRUN	Tungurahua Vol	0.29	207	⇑P	Pg	02 03 15.3	-0.4
BULB	Ulba Tungurahu	0.31	205	⇑P	Pg	02 03 16.6	+0.6
RETU	Refugio	0.34	210	⇓P	Pg	02 03 16.1	-0.4
BBIL	Ulba Tungurahu	0.36	216	⇑P	Pg	02 03 16.1	-0.8
BPAT	Tungurahua Vol	0.38	204	⇑P	Pg	02 03 18.0	+0.6
PAT1	Patacocha	0.38	205	⇓P	Pg	02 03 18.0	+0.5
BMAS	Trigal station	0.40	210	⇑P	Pg	02 03 17.8	+0.1
BMAS	Trigal station	0.40	210	⇑S	Sg	02 03 22.4	-0.5
BMOR	Cotopaxi Volca	0.46	337	⇓P	Pg	02 03 19.9	+1.0
MOV1	Cotopaxi Vol s	0.47	340	P	Pg	02 03 19.9	+0.8
IGUA	Igualata	0.49	227	⇑P	Pg	02 03 19.9	+0.4
BTAM	Cotopaxi Volca	0.49	346	⇓P	Pg	02 03 20.5	+0.9
COV1	Cotopaxi Volc	0.50	353	P	Pg	02 03 20.1	+0.4
BREF	Cotopaxi Volca	0.51	342	⇓P	Pg	02 03 20.1	+0.2
BVC2	Cotopaxi Volca	0.51	345	⇓P	Pg	02 03 21.0	+1.0
VC1	Cotopaxi 1	0.53	347	⇓P	Pg	02 03 20.3	+0.1
CAMI	Rancho Maria	0.53	335	⇓P	Pg	02 03 20.2	0.0
NAS2	Nasa	0.54	340	P	Pg	02 03 21.8	+1.3
PAST	Pastocalle	0.59	322	⇑P	Pg	02 03 22.7	+1.3
RIOE	Riobamba	0.69	211	⇑P	Pg	02 03 22.2	-1.0
ANTI	Antisana	0.71	10	⇓P	Pg	02 03 24.6	+0.8
JUA2	San Juan 2	0.99	341	P	Pg	02 03 29.6	+0.5
GGP	Refugio Guagua	1.03	342	P	Pg	02 03 29.2	-0.5
TERV	Terraza Guagua	1.03	342	P	Pg	02 03 29.4	-0.4
PINO	Pino	1.05	342	P	Pg	02 03 30.7	+0.5
MACE	Macas	1.09	176	P	Pb	02 03 31.6	-0.3
CAYR	Refugio Cayamb	1.20	13	P	Pb	02 03 33.3	-0.6
CHAR	Charly	1.23	30	P	Pg	02 03 34.4	+0.8
ANGU	Angureal	1.23	13	P	Pg	02 03 34.4	+0.8
LAV4	Lava4-Reventad	1.24	32	⇓S	Sb	02 03 46.0	-5.0
LAV4	Lava4-Reventad	1.24	32	⇓P	Pg	02 03 34.4	+0.5
CAYA	Cayambe	1.25	13	P	Pn	02 03 34.2	-1.0
CONE	Cono NE Rev Vo	1.25	31	⇓P	Pg	02 03 35.8	+1.6
OTAV	Otavalo	1.40	353	⇓P	Pn	02 03 35.4	-1.6
PECV	Mancha de Ca P	1.81	282	P	Pg	02 03 46.8	+2.0
MAG1	Magdalena	1.84	306	P	Pb	02 03 43.2	-1.3
LITE	Lita	1.96	358	P	Pb	02 03 45.1	-1.4
ATAH	Atahualpa	5.94	181	Pn	Pn	02 04 44.2	+4.7
	3.6nm,0.3s,baz=9.0,slow=4.8,SNR=18						
ATAH				Sn	Sb	02 05 58.4	-8.0
	1.4nm,0.3s,baz=162,slow=18,SNR=5.2						
ROSC	El Rosal	7.16	33	Pn	Pn	02 04 58.0	+1.7
	2.5nm,0.3s,baz=101,slow=15,SNR=6.2						
ROSC				Lg	Lg	02 07 04.4	
	1.4nm,0.3s,baz=90,slow=23,SNR=3.9						
NNA	Nana	10.85	173	Pn	Pn	02 05 49.0	+2.3
	3.1nm,0.3s,baz=325,slow=11,SNR=5.6						
NNA				Sn	Sn	02 07 50.3	+1.4
	1.1nm,0.3s,baz=242,slow=15,SNR=2.8						
JTS	JuntasAbangare	13.17	330	LR	LR	02 09 37.6	
	comp=Z,35nm,19.9s,baz=178,slow=30						
LPAZ	La Paz	18.06	147	P	P	02 07 27.6	+4.1
	0.1nm,0.3s,baz=328,slow=11,SNR=3.7						
PTGA	Pitinga	18.32	89	LR	LR	02 14 53.4	
	comp=Z,72nm,19.2s,baz=92,slow=38						
SIV	San Ignacio	22.47	132	P	P	02 08 20.1	+9.1
	1.9nm,0.7s,baz=317,slow=5.5,SNR=3.5						
SIV				LR	LR	02 17 57.0	
	comp=Z,52nm,18.2s,baz=341,slow=39						
YKA	Yellowknife Ar	69.13	343	P	P	02 14 18.1	+0.5
	0.3nm,0.7s,baz=137,slow=5.9,SNR=8.4						

*ISCJB **29** 02:27:09.2±0.6, 28°.00S±0°.10×178°.2W±0°.2, h200km, mb3.7/10, Error ellipse: s-maj=20.7km s-min=11.6km az=157.7*
*IDC **29** 02:27:09.6±0.8, 27°.92S×178°.21W, h190km±8km, mb3.7/10, mb1 3.9/10, mb1mx3.7/25, mbtmp4.1/10, Error ellipse: s-maj=19.4km s-min=17.7km az=33.0*
ISC 29 02:27:10.1±0.6, 28°.0S±0°.1×178°.1W±0°.2, h200km, n30, σ1°.19/29, mb3.9/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.29	172	P	Pn	02 27 42.4	+0.4
	432nm,0.3s,baz=94,slow=23,SNR=18						
RAO				S	Sn	02 28 05.2	-1.7
	618nm,0.3s,baz=88,slow=22,SNR=12						
URZ	Urewera	11.00	200	P	Pn	02 29 36.2	-5.9
	0.4nm,0.3s,baz=315,slow=20,SNR=2.2						
URZ				S	Sn	02 31 32.5	-12
	5.2nm,0.3s,baz=128,slow=20,SNR=12						
CTA	Charters Tower	33.37	276	P	P	02 33 30.1	+0.5
	2.6nm,0.5s,baz=102,slow=16,SNR=4.7						
ASAR	Alice Springs	43.17	264	P	P	02 34 50.8	-0.7
	1.4nm,0.6s,baz=97,slow=7.0,SNR=18						
WRA	Warramunga Arr	43.94	270	P	P	02 34 56.5	-1.0
	2.4nm,0.6s,baz=106,slow=7.6,SNR=22						
VNDA	Vanda	50.49	186	P	P	02 35 48.5	+1.3
	1.6nm,0.6s,baz=6.9,slow=7.6,SNR=19						
MJAR	Matsushiro Arr	76.19	325	P	P	02 38 36.2	-0.1
	3.2nm,0.6s,baz=167,slow=6.4,SNR=7.4						
SNAA	Sanae	80.58	178	P	P	02 38 59.9	+0.1
VNA3	Neumayer Olymp	80.72	176	P	P	02 39 00.4	-0.2
VNA2	Neumayer--Watz	81.16	177	P	P	02 39 03.3	+0.4
	baz=182,slow=2.6						
KSRS	Korea Array	82.43	320	P	P	02 39 11.1	+1.2
	0.7nm,0.3s,baz=138,slow=5.9,SNR=4.9						
PETK	Petropavlovsk-	83.44	346	P	P	02 39 14.6	-0.1
	1.2nm,0.5s,baz=125,slow=8.3,SNR=4.6						
USRK	Ussuriysk Ar.	85.08	326	P	P	02 39 24.6	+1.5
	3.1nm,0.8s,baz=174,slow=1.9,SNR=6.1						
TXAR	Lajitas Array	91.18	57	P	P	02 39 53.2	+0.5
	0.2nm,0.6s,baz=210,slow=7.0,SNR=3.1						
ILAR	Eielson Array	95.60	13	P	P	02 40 11.3	-0.6
	0.2nm,0.7s,baz=249,slow=4.0,SNR=4.8						
YKA	Yellowknife Ar	103.31	25	PKKPbc	PKKPbc	02 56 40.1	-2.3
	0.4nm,0.8s,baz=40,slow=2.7,SNR=6.2						
MKAR	Makanchi Array	116.11	311	PKP	PKPdf	02 45 28.2	-1.0
	0.2nm,0.5s,baz=108,slow=4.0,SNR=3.9						
KURBB	Kurchatov Arra	119.32	315	PKP	PKPdf	02 45 34.9	-0.3
	0.5nm,0.2s,baz=105,slow=2.1,SNR=4.6						
BVAR	Borovoye Array	124.58	317	PKP	PKPdf	02 45 44.7	-0.5
	0.7nm,0.5s,baz=121,slow=1.2,SNR=5.4						
ARCES	ARCESS Array B	136.20	348	PKP	PKPdf	02 46 07.7	+0.9
	2.5nm,0.6s,baz=29,slow=2.8,SNR=10						
JOF	Joensuu	140.12	339	epkp	PKPdf	02 46 15.8	+1.7
KAF	Kangasniemi	142.22	341	epkp	PKPdf	02 46 13.8	-4.1
FINES	FINESS Array B	142.83	341	PKhKP	PKPpre	02 46 15.1	
	1.4nm,0.5s,baz=68,slow=2.7,SNR=18						
NB2	NORSAR Subarra	146.34	352	PKP	PKPbc	02 46 26.0	-0.7
	comp=Z,2.6nm,0.5s,baz=14,slow=2.9						
NOA	NORSAR Array B	146.34	352	PKPbc	PKPbc	02 46 25.8	-0.9
	comp=Z,0.7nm,0.5s,baz=59,slow=1.5,SNR=19						
AKASG	Malin Array Be	149.28	325	PKPbc	PKPbc	02 46 34.3	-0.4
	comp=Z,1.4nm,0.5s,baz=42,slow=2.9,SNR=18						
MMAI	Mount Meron Ar	150.75	288	PKPbc	PKPbc	02 46 40.4	+1.4
	comp=Z,19nm,0.8s,baz=65,slow=4.0,SNR=15						
EIL	Elat	151.02	281	PKPbc	PKPbc	02 46 40.5	+0.9
	comp=Z,12nm,0.9s,baz=306,slow=2.2,SNR=14						
BRTR	Keskin Array B	151.27	302	PKPbc	PKPbc	02 46 39.9	-0.2
	comp=Z,1.4nm,0.6s,baz=144,slow=4.9,SNR=9.4						
TORD	Torodi Ar. Bea	165.25	179	PKP	PKPdf	02 46 51.4	+0.3
	comp=Z,0.6nm,0.9s,baz=161,slow=0.4,SNR=3.0						
TORD				PKPab	PKPab	02 47 49.3	-0.1
	comp=Z,1.2nm,0.7s,baz=167,slow=4.3,SNR=17						

*ISCJB **29** 02:30:04.4±0.6, 11°.59N±0°.08×140°.7E±0°.2, h43km, mb4.2/15, MS3.3/7, Error ellipse: s-maj=32.8km s-min=11.9km az=175.9*
*IDC **29** 02:30:07.8±6.8, 11°.55N×140°.70E, h56km±61km, mb3.8/12, mb1 4.0/13, mb1mx3.7/38, mbtmp4.2/13, ML4.5/1, MS3.3/7, Ms1 3.3/7, ms1mx3.0/41, Error ellipse: s-maj=34.9km s-min=19.3km az=70.0*
ISC 29 02:30:06.3±0.7, 11°.6N±0°.1×140°.7E±0°.3, h43km, n21, σ1°.34/18, mb4.3/15, MS3.3/7, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	14.04	180	P	Pn	02 33 23.7	+0.9
	2.4nm,0.3s,baz=7.1,slow=9.2,SNR=15						
PMG	Port Moresby	21.85	163	LR	LR	02 43 06.5	
	comp=Z,75nm,18.2s,baz=224,slow=36						
MJAR	Matsushiro Arr	24.92	355	LR	LR	02 43 47.8	
	comp=Z,22nm,21.4s,baz=50,slow=33						
KSRS	Korea Array	28.17	338	LR	LR	02 45 51.5	
	comp=Z,59nm,20.4s,baz=180,slow=33						
WRA	Warramunga Arr	31.98	191	P	P	02 36 27.1	-1.4
	0.5nm,0.5s,baz=9.3,slow=9.6,SNR=3.3						
WRA				LR	LR	02 49 24.2	
	comp=Z,66nm,20.1s,baz=230,slow=36						
ASAR	Alice Springs	35.69	191	P	P	02 37 00.5	-0.3
	0.4nm,0.7s,baz=18,slow=12,SNR=3.5						
SONM	Songino Array	46.12	328	P	P	02 38 27.9	+1.4
	0.6nm,0.6s,baz=139,slow=6.7,SNR=4.6						
SONM				PcP	PcP	02 40 01.4	-0.7
	0.5nm,0.6s,baz=149,slow=4.0,SNR=3.3						
SONM				LR	LR	02 58 37.6	
	comp=Z,63nm,20.1s,baz=44,slow=37						
MKAR	Makanchi Array	60.13	318	P	P	02 40 10.5	+0.9
	1.8nm,0.6s,baz=95,slow=8.7,SNR=21						
ZALV	Zalesovo Beam	60.91	326	P	P	02 40 14.8	+0.1
	1.6nm,0.4s,baz=110,slow=7.3,SNR=6.3						
ZALV				LR	LR	03 08 49.3	
	comp=Z,30nm,18.6s,baz=70,slow=38						
BVAR	Borovoye Array	68.97	322	P	P	02 41 07.7	+0.6
	4.0nm,0.6s,baz=101,slow=7.7,SNR=20						
ILAR	Eielson Array	72.08	25	P	P	02 41 25.6	-0.3
	0.7nm,0.8s,baz=237,slow=6.5,SNR=5.4						
GEYT	Alibeck	77.15	306	P	P	02 41 56.3	+0.5
	3.6nm,0.9s,baz=298,slow=3.2,SNR=5.7						
YKA	Yellowknife Ar	86.45	27	P	P	02 42 44.8	+0.6
	1.1nm,0.5s,baz=290,slow=5.2,SNR=22						
KEV	Kevo	87.11	341	*ep*	P	02 42 46.2	-1.0
	0.4nm,0.3s						
RES	Resolute Bay	87.37	13	P	P	02 42 48.5	0.0
	0.9nm,0.7s,baz=278,slow=4.0,SNR=4.3						
ARCES	ARCESS Array B	87.67	341	P	P	02 42 49.4	-0.6
	2.5nm,0.7s,baz=46,slow=5.9,SNR=7.2						
JOF	Joensuu	88.34	334	*ep*	P	02 42 50.5	-2.8
	1.7nm,0.7s						
KAF	Kangasniemi	90.78	335	*ep*	P	02 43 02.1	-2.6
	3.0nm,0.7s						
FINES	FINESS Array B	91.19	334	P	P	02 43 04.8	-1.7
	2.8nm,0.6s,baz=86,slow=4.5,SNR=15						
NOA	NORSAR Array B	97.38	338	LR	LR	03 31 14.7	
	comp=Z,16nm,18.2s,baz=140,slow=38						
LPAZ	La Paz	151.65	103	PKPbc	PKPbc	02 49 58.6	+0.8
	2.9nm,0.5s,baz=315,slow=2.0,SNR=19						

WEL 29 02:33:36.3±0.3, 36°.95S×176°.34E, h234km±3km, ML3.8/12, 1C-4D, Error ellipse: s-maj=4.8km s-min=4.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	1.40	125	PN	Pn	02 34 12.3	+0.1
URZ	Urewera	1.44	155	⇓PN	Pn	02 34 12.7	+0.2
URZ				SN	S	02 34 40.7	-0.3
TWGZ	Tauwhareparae	1.79	134	PN	Pn	02 34 15.8	+0.4
TWGZ				SN	S	02 34 46.0	-0.2
WMGZ	Waiomatatini S	1.87	118	PN	Pn	02 34 16.2	+0.1
WMGZ				SN	S	02 34 47.0	-0.3
PUZ	Puketiti	1.89	127	PN	Pn	02 34 16.0	-0.4
PUZ				SN	S	02 34 45.6	-2.3
SNGZ	Shannon Statio	1.99	157	PN	Pn	02 34 17.3	0.0
RAHZ	Arahi	2.05	164	PN	Pn	02 34 18.0	+0.2
RIGZ	Rimuhau	2.08	148	PN	Pn	02 34 17.9	-0.3
CNGZ	Carnagh Statio	2.13	137	PN	Pn	02 34 18.3	-0.2
BKZ	Black Stump Fm	2.22	177	PN	Pn	02 34 18.9	-0.6
WHHZ	Waihua	2.24	162	PN	Pn	02 34 19.3	-0.3
KNZ	Kokohu	2.32	153	PN	Pn	02 34 19.4	-1.0
ARHZ	Aropaoanui	2.37	168	PN	Pn	02 34 20.5	-0.4
TUVZ	Tukino	2.38	193	⇓PN	Pn	02 34 21.8	+0.6
TRVZ	Turoa	2.43	195	PN	Pn	02 34 22.3	+0.5
WNVZ	Wahianoa	2.45	194	PN	Pn	02 34 22.2	+0.2
MCHZ	McNeill Hill	2.51	174	PN	Pn	02 34 22.0	-0.4
MTVZ	Mangateitei	2.53	195	PN	Pn	02 34 22.9	+0.3
BHHZ	Black Hill Sta	2.54	185	⇑PN	Pn	02 34 22.3	-0.6
KRHZ	Kereru	2.69	179	⇓PN	Pn	02 34 23.3	-1.1
KAHZ	Kahuranaki	2.87	172	PN	Pn	02 34 25.0	-1.3
PNHZ	Pukenui	2.96	182	PN	Pn	02 34 25.7	-1.6
PXZ	Pawanui	3.10	173	PN	Pn	02 34 27.2	-1.7
WPHZ	Waipukurau	3.11	179	PN	Pn	02 34 27.8	-1.1
TSZ	Takapari Road	3.12	185	PN	Pn	02 34 27.6	-1.4
POWZ	Post Office Ro	3.47	187	PN	Pn	02 34 31.4	-1.6
PRWZ	Pori Road	3.61	184	PN	Pn	02 34 33.0	-1.7
BFZ	Birch Farm	3.73	181	PN	Pn	02 34 33.4	-2.6
MRZ	Mangatainoka R	3.75	189	PN	Pn	02 34 33.6	-2.7
TIWZ	Tintock	3.84	185	PN	Pn	02 34 35.4	-2.0
HOWZ	Holdsworth Sta	4.00	189	PN	Pn	02 34 36.4	-2.8
KIW	Kapiti Island	4.06	195	PN	Pn	02 34 37.4	-2.6
MTW	Mount Morrison	4.25	189	PN	Pn	02 34 38.8	-3.5
CAW	Cannon Point	4.27	193	PN	Pn	02 34 39.8	-2.7
DUWZ	D'Urville Isla	4.29	205	PN	Pn	02 34 40.3	-2.4
TCW	Tory Channel	4.55	200	PN	Pn	02 34 43.1	-2.8
PLWZ	Palliser	4.69	190	PN	Pn	02 34 43.8	-3.9
TUWZ	Tuamarina	4.85	202	PN	Pn	02 34 46.6	-2.9
QRZ	Quartz Range	4.88	216	PN	Pn	02 34 47.2	-2.8
THZ	Tophouse	5.50	208	PN	Pn	02 34 55.0	-2.7
KHZ	Kahutara	5.87	201	⇓PN	Pn	02 34 59.0	-3.3

*IDC **29** 02:36:57.8±2.4, 33°.58S×71°.65W, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.6/17, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=79.3km s-min=50.1km az=39.0*
*GUC **29** 02:37:01.7±0.5, 33°.88S×71°.97W, h40km±5km, ML3.4*
*ISCJB **29** 02:37:02.4±1.7, 33°.88S±0°.06×72°.0W±0°.2, h53km±18km, mb3.6/2, Error ellipse: s-maj=26.0km s-min=6.1km az=17.5*
ISC 29 02:37:03.1±2.0, 33°.89S±0°.07×72°.0W±0°.2, h44km±20km, n12, σ0°.85/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	Rinconada Maip	1.04	68	*e*P	Pn	02 37 20.5	-0.9
RCDM				*e*S	Sn	02 37 34.6	-0.2
ROCH	El Roble	1.21	41	*e*P1	Pn	02 37 23.3	-0.6
ROCH				*e*S	Sn	02 37 40.0	+0.8
ROCH				IAML		02 37 47.3	
	comp=N,1μm,0.6s						
NICH	Los Niches	1.27	152	*e*P	Pn	02 37 23.8	-0.6
NICH				*e*S	Sn	02 37 41.0	+0.8
CLCH	Cerro Calan	1.29	68	*e*P	Pn	02 37 24.6	-0.1
CLCH				*e*S	Sn	02 37 41.6	+0.7
CLCH				IAML		02 37 52.7	
	comp=N,1μm,0.7s						
PEL	Peldehue	1.30	56	*e*P	Pn	02 37 24.6	-0.3
PEL				*e*S	Sn	02 37 42.0	+0.9
FCH	Farellones	1.50	69	IAML		02 37 47.5	
	comp=E,876nm,0.3s						
TALC	Talca	1.53	170	*e*P9	Pn	02 37 26.6	-1.4
TALC				*e*S	Sn	02 37 46.5	-0.2
LNCH	Linares	1.98	171	*e*P	Pn	02 37 34.6	+0.5
LNCH				*e*S	Sn	02 37 59.3	+1.6
LPAZ	La Paz	17.86	12	P	Pn	02 41 04.1	-4.9
	comp=E,0.1nm,0.3s,baz=172,slow=7.1,SNR=2.4						
TXAR	Lajitas Array	69.67	331	P	P	02 48 08.4	+0.2
	comp=E,0.2nm,0.6s,baz=150,slow=9.3,SNR=5.5						
TORD	Torodi Ar. Bea	84.11	70	P	P	02 49 29.1	-0.6
	comp=E,0.7nm,0.7s,baz=243,slow=3.9,SNR=6.3						
KURBB	Kurchatov Arra	152.74	43	PKPbc	PKPbc	02 56 55.1	+0.5
	comp=E,0.1nm,0

ARCES	**ARCESS Array B**	**58.56**	**350**	LR	LR	03 30 29.2	
	comp=E,56nm,19.1s,baz=131,slow=39						
WRA	**Warramunga Arr**	**88.20**	**111**	P	**P**	**03 05 10.2**	**-0.7**
	comp=E,0.5nm,0.8s,baz=296,slow=3.9,SNR=3.4						
ASAR	**Alice Springs**	**88.76**	**115**	P	**P**	**03 05 12.2**	**-1.2**
	comp=E,0.4nm,0.5s,baz=320,slow=5.1,SNR=4.1						

IDC 29 03:00:57.5±12.0, 3°.63S×131°.21E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/25, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=969.4km s-min=29.0km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.50**	**170**	Pn	Pn	03 04 49.5	-1.1
	0.0nm,0.3s,baz=341,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**20.09**	**173**	P	P	03 05 33.4	+0.4
	0.3nm,0.5s,baz=350,slow=9.7,SNR=3.8						
MKAR	**Makanchi Array**	**66.11**	**326**	P	P	03 11 46.6	0.0
	0.1nm,0.5s,baz=116,slow=6.5,SNR=3.6						

*IDC **29** 03:07:33.2±0.6, 37°.13S×73°.75W, h0km, mb4.6/10, mb1 4.6/11, mb1mx4.5/19, mbtmp4.6/11, ML3.4/2, MS4.2/12, Ms1 4.1/12, ms1mx4.0/24, Error ellipse: s-maj=25.1km s-min=14.8km az=107.0*

*GUC **29** 03:07:33.5±0.5, 37°.20S×74°.15W, h19km±2km, ML4.9*

*ISCJB **29** 03:07:34.9±0.3, 37°.30S±0°.03×73°.77W±0°.05, h14km, mb4.7/41, MS4.3/11, Error ellipse: s-maj=6.3km s-min=4.3km az=9.0*

*MOS **29** 03:07:38.3±1.6, 37°.11S×73°.32W, h33km, mb5.0/17, Error ellipse: s-maj=25.4km s-min=10.7km az=104.2*

*NEIC **29** 03:07:39.5±1.5, 37°.14S×73°.46W, h35km±13km, mb4.8/28, Error ellipse: s-maj=17.9km s-min=8.4km az=80.0*

*BJI **29** 03:07:42.7, 37°.00S×73°.30W, h35km, mB5.0/6, Ms5.2/4, Ms7 4.8/4*

ISC 29 03:07:35.9±0.3, 37°.19S±0°.04×73°.61W±0°.06, h14km, n137, σ1°.83/144, mb4.7/41, MS4.3/11, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.53**	**50**	*e*P	**Pn**	**03 07 49.2**	**+0.1**
CCSP				*e*S	**Sn**	**03 08 01.0**	**+3.1**
CCSP				IAML		03 08 06.6	
	comp=N,83μm,0.3s						
AGCH	**Angol**	**0.96**	**131**	*e*P	**Pn**	**03 07 55.5**	**+0.5**
AGCH				*e*S	**Sn**	**03 08 11.8**	**+3.4**
COCH	**Cobquecura**	**1.25**	**32**	*e*P1	**Pn**	**03 07 58.5**	**-0.4**
COCH				*e*S	**Sg**	**03 08 18.3**	**+2.1**
LNCH	**Linares**	**2.10**	**51**	*e*P	**Pb**	**03 08 12.8**	**-1.0**
LNCH				*e*S	**Sg**	**03 08 43.0**	**-0.6**
TALC	**Talca**	**2.40**	**42**	*e*P	**Pb**	**03 08 16.7**	**-2.2**
TALC				*e*S	**Sb**	**03 08 49.3**	**+1.0**
VLCH	**Valdivia**	**2.63**	**174**	*e*P	**Pn**	**03 08 16.4**	**-1.5**
VLCH				*e*S4	**Sn**	**03 08 45.7**	**-3.9**
NICH	**Los Niches**	**2.91**	**42**	*e*P	**Pn**	**03 08 23.7**	**+1.8**
NICH				*e*S	**Sb**	**03 09 02.2**	**-1.0**
OSCH	**Osorno**	**3.40**	**174**	*e*P	**Pn**	**03 08 26.8**	**-1.8**
OSCH				*e*S4	**Sn**	**03 09 06.3**	**-2.4**
PLCA	**Paso Flores**	**4.27**	**147**	*e*P	**Pn**	**03 08 41.8**	**+1.2**
PLCA				*e*S	**Sn**	**03 09 29.8**	**-0.4**
PLCA	**Paso Flores**	**4.27**	**147**	*e*Pn	**Pn**	**03 08 41.8**	**+1.2**
PLCA				*e*S	**Sn**	**03 09 29.8**	**-0.4**
CFAA	**Coronel Fontan**	**7.12**	**40**	Pn	**Pn**	**03 09 19.4**	**-0.4**
	comp=N,0.5nm,0.3s,baz=203,slow=8.0,SNR=24						
CFAA				Sn	**Sn**	**03 10 40.8**	**+0.2**
	comp=N,0.5nm,0.3s,baz=152,slow=18,SNR=2.5						
CFAA				LR	LR	03 12 46.2	
	comp=N,170nm,18.7s,baz=223,slow=44						
LCO	**Las Campanas**	**8.51**	**17**	*e*Pn	**Pn**	**03 09 36.4**	**-2.7**
LCO				*e*S	**Sn**	**03 11 14.3**	**-0.8**
TRQA	**Tornquist**	**9.27**	**99**	*e*Pn	**Pn**	**03 09 52.0**	**+2.8**
LVC	**Limon Verde**	**15.09**	**17**	*e*Pn	**Pn**	**03 11 07.7**	**-1.2**
USHA	**Ushuaia**	**18.00**	**170**	P	**P**	**03 11 46.8**	**+0.8**
	comp=N,0.2nm,0.3s,baz=308,slow=7.7,SNR=3.5						
USHA				LR	LR	03 18 39.3	
	comp=N,737nm,20.3s,baz=317,slow=37						
EFI	**East Falkland**	**18.19**	**148**	*c i*P	**P**	**03 11 49.6**	**+1.5**
EFI				pmax	pmax		
	comp=Z,418nm,1.2s						
EFI	**East Falkland**	**18.19**	**148**	*e*Pn	**P**	**03 11 49.2**	**+1.1**
	comp=Z,128nm,1.0s						
LPAZ	**La Paz**	**21.38**	**15**	*e*P	**P**	**03 12 25.1**	**+1.3**
LPAZ				pmax	pmax		
	comp=Z,37nm,0.7s						
LPAZ	**La Paz**	**21.38**	**15**	P	**P**	**03 12 25.0**	**+1.3**
	comp=Z,53nm,1.1s,baz=180,slow=7.9,SNR=49						
LPAZ	**La Paz**	**21.38**	**15**	*e*Pn	**P**	**03 12 25.1**	**+1.3**
	comp=Z,37nm,0.7s						
SIV	**San Ignacio**	**23.86**	**31**	P	**P**	**03 12 49.1**	**+0.1**
	comp=Z,20nm,1.0s,baz=229,slow=11,SNR=22						
SIV				LR	LR	03 24 05.6	
	comp=Z,1μm,18.5s,baz=222,slow=42						
PMSA	**Palmer Station**	**28.20**	**171**	LR	LR	03 25 35.8	
	comp=Z,438nm,18.5s,baz=346,slow=38						
SAML	**Samuel**	**29.66**	**21**	*e*P	**P**	**03 13 40.8**	**-0.4**
	comp=Z,4.6nm,1.0s						
ATAH	**Atahualpa**	**30.23**	**351**	LR	LR	03 24 00.5	
	comp=Z,167nm,19.9s,baz=184,slow=33						
BDFB	**Brasilia**	**31.23**	**53**	*e*P	**P**	**03 13 54.1**	**-1.1**
BDFB	**Brasilia**	**31.23**	**53**	P	**P**	**03 13 54.8**	**-0.4**
	comp=Z,13nm,0.9s,baz=211,slow=7.4,SNR=16						
BDFB				LR	LR	03 27 57.9	
	comp=Z,1μm,18.1s,baz=224,slow=39						
BDFB	**Brasilia**	**31.23**	**53**	*e*P	**P**	**03 13 54.1**	**-1.1**
OTAV	**Otavalo**	**37.51**	**352**	*e*P	P	03 14 46.0	-4.0
	comp=Z,16nm,1.2s						
PTGA	**Pitinga**	**38.41**	**22**	*e*P	**P**	**03 14 55.9**	**-1.1**
	comp=Z,114nm,2.3s						
ROSC	**El Rosal**	**41.83**	**359**	P	**P**	**03 15 28.5**	**+2.6**
	comp=Z,2.7nm,0.4s,baz=90,slow=20,SNR=3.8						
ROSC	**El Rosal**	**41.83**	**359**	*e*P	**P**	**03 15 26.7**	**+0.8**
SDV	**Santo Domingo**	**45.92**	**4**	*e*P	**P**	**03 15 57.5**	**-0.9**
	comp=Z,7.6nm,1.0s						
RCBR	**Riachuelo**	**46.43**	**57**	P	**P**	**03 16 03.3**	**+0.8**
	comp=Z,7.0nm,0.8s,baz=211,slow=8.3,SNR=4.0						
VNA3	**Neumayer Olymp**	**46.92**	**157**	P	**P**	**03 16 06.2**	**+0.5**
VNA2	**Neumayer--Watz**	**47.60**	**156**	P	**P**	**03 16 11.5**	**+0.6**
SNAA	**Sanae**	**49.15**	**157**	P	**P**	**03 16 23.2**	**+0.3**
SNAA	**Sanae**	**49.15**	**157**	P	**P**	**03 16 23.0**	**+0.1**
SNAA	**Sanae**	**49.15**	**157**	P	**P**	**03 16 23.0**	**+0.1**
	comp=Z,8.0nm,0.9s,baz=288,slow=9.4,SNR=16						
QSPA	**South Pole Qui**	**53.05**	**180**	P	**P**	**03 16 52.3**	**-0.1**
	comp=Z,7.1nm,1.0s,baz=155,slow=4.9,SNR=10						
NVL	**N'lazarevskaya**	**53.92**	**156**	*e*P	**P**	**03 16 57.1**	**-1.4**
NVL				pmax	pmax		
	comp=Z,9.0nm,0.6s						
RKT	**Rikitea**	**54.03**	**267**	*e*LR	LR	03 32 46.3	
	comp=Z,500nm,30.5s						
RKT	**Rikitea**	**54.03**	**267**	*e*T	T	04 14 53.6	
	comp=Z,1.4nm,0.2s						
VNDA	**Vanda**	**60.73**	**192**	*e*P	P	03 17 51.6	+5.2
VNDA				pmax	pmax		
	comp=Z,15nm,1.7s						
VNDA	**Vanda**	**60.73**	**192**	P	**P**	**03 17 47.7**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=115,slow=7.0,SNR=2.3						
VNDA	**Vanda**	**60.73**	**192**	*e*P	P	03 17 51.6	+5.2
	comp=Z,15nm,1.7s						
TBI	**Tubuai**	**65.38**	**259**	*e*LR	LR	03 37 58.2	
	comp=Z,239nm,25.5s						
TBI	**Tubuai**	**65.38**	**259**	*e*T	T	04 29 12.0	
	comp=Z,3.4nm,0.3s						
MEH	**Mehetia**	**67.20**	**264**	*e*T	T	04 31 23.3	
	comp=Z,21nm,0.2s						
TVO	**Taravao**	**68.20**	**264**	*e*T	T	04 32 38.2	
	comp=Z,0.8nm,0.3s						
TIAR	**Tiarei**	**68.39**	**264**	*e*T	T	04 32 52.7	
	comp=Z,2.7nm,0.3s						
PPT2	**Papeete2**	**68.56**	**264**	*e*S	**S**	**03 27 45.0**	**+4.2**
	comp=Z,83nm,22.8s						
PPT2	**Papeete2**	**68.56**	**264**	*e*LR	LR	03 39 23.6	
	comp=Z,296nm,24.2s						
PPT	**Papeete**	**68.57**	**264**	LR	LR	03 41 10.5	
	comp=Z,165nm,18.0s,baz=128,slow=30						
LPIG	**La Paz**	**70.08**	**324**	LR	LR	03 43 47.7	
	comp=Z,128nm,19.4s,baz=173,slow=31						
MAW	**Mawson**	**70.49**	**164**	LR	LR	03 51 19.4	
	comp=Z,247nm,18.3s,baz=236,slow=37						
JCT	**Junction City**	**71.65**	**336**	*e*P	**P**	**03 18 57.9**	**+0.9**
JCT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
JCT	**Junction City**	**71.65**	**336**	*e*P	**P**	**03 18 57.9**	**+0.9**
	comp=Z,7.5nm,0.8s						
TXAR	**Lajitas Array**	**71.93**	**333**	P	**P**	**03 18 58.3**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=157,slow=8.9,SNR=16						
TXAR				LR	LR	03 45 38.4	
	comp=Z,80nm,19.0s,baz=0.0,slow=32						
WVT	**Waverly**	**74.13**	**348**	*e*P	**P**	**03 19 10.8**	**-0.8**
WVT				pmax	pmax		
	comp=Z,14nm,1.1s						
WVT	**Waverly**	**74.13**	**348**	*e*P	**P**	**03 19 10.8**	**-0.8**
	comp=Z,14nm,1.1s						
MNTX	**Cornudas Mount**	**74.69**	**332**	*e*P	**P**	**03 19 17.6**	**+2.6**
	comp=Z,2.4nm,0.9s						
AMTX	**Amarillo**	**76.31**	**337**	*e*P	**P**	**03 19 24.6**	**+0.3**
	comp=Z,18nm,1.3s						
CASY	**Casey**	**76.81**	**182**	*e*P	P	03 19 33.4	+6.7
	comp=Z,12nm,0.8s						
LIC	**Lamto**	**76.99**	**72**	*e*P	**P**	**03 19 28.9**	**+0.3**
	comp=Z,52nm,0.9s						
TIC	**Toumodi**	**77.27**	**71**	*e*P	**P**	**03 19 30.4**	**+0.3**
	comp=Z,34nm,1.0s						
KIC	**Kosan Boka**	**77.30**	**72**	*e*P	**P**	**03 19 30.8**	**+0.5**
	comp=Z,56nm,0.9s						
DBIC	**Dimbokro**	**77.41**	**72**	*e*P	**P**	**03 19 31.3**	**+0.4**
DBIC				pmax	pmax		
	comp=Z,25nm,0.9s						
DBIC	**Dimbokro**	**77.41**	**72**	P	**P**	**03 19 31.5**	**+0.6**
	comp=Z,18nm,0.8s,baz=203,slow=6.2,SNR=25						
DBIC				LR	LR	03 51 59.8	
	comp=Z,165nm,18.1s,baz=188,slow=34						
DBIC	**Dimbokro**	**77.41**	**72**	*e*P	**P**	**03 19 31.3**	**+0.4**
	comp=Z,25nm,0.9s						
ANMO	**Albuquerque**	**78.00**	**333**	‖*e*P	**P**	**03 19 35.1**	**+1.2**
ANMO				pmax	pmax		
	comp=Z,11nm,1.2s						
ANMO	**Albuquerque**	**78.00**	**333**	*e*P	**P**	**03 19 35.3**	**+1.4**
	comp=Z,5.1nm,1.0s						
T25A	**Trinidad**	**79.26**	**335**	*e*P	**P**	**03 19 42.4**	**+1.5**
	comp=Z,11nm,1.0s						
TSUM	**Tsumeb**	**79.57**	**106**	*e*P	**P**	**03 19 44.0**	**+1.0**
	comp=Z,11nm,1.3s						
SDCO	**Great Sand Dun**	**80.18**	**335**	*e*P	**P**	**03 19 48.3**	**+2.4**
	comp=Z,8.3nm,1.5s						
S22A	**4UR Ranch, Cre**	**80.64**	**334**	*e*P	**P**	**03 19 50.7**	**+2.3**
	comp=Z,6.5nm,1.4s						
SMCO	**Snowmass**	**81.97**	**334**	*e*P	**P**	**03 19 57.4**	**+1.8**
	comp=Z,12nm,1.3s						
CCUT	**Cedar City**	**82.95**	**329**	*e*P	**P**	**03 20 03.0**	**+2.5**
	comp=Z,73nm,2.9s						
SRU	**San Rafael Swe**	**83.19**	**332**	*e*P	**P**	**03 20 02.6**	**+0.9**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SRU	**San Rafael Swe**	**83.19**	**332**	*e*P	**P**	**03 20 02.6**	**+0.9**
	comp=Z,3.1nm,0.8s						
ECSD	**EROS Data Cent**	**83.21**	**343**	*e*P	**P**	**03 20 01.1**	**-0.3**
	comp=Z,9.7nm,0.8s						
HWUT	**Hardware Ranch**	**85.75**	**332**	*e*P	**P**	**03 20 15.3**	**+0.8**
	comp=Z,4.4nm,0.9s						
PDAR	**Pinedale Array**	**86.05**	**334**	P	**P**	**03 20 16.6**	**+0.6**
	comp=Z,3.1nm,1.0s,baz=150,slow=3.3,SNR=4.7						
HVU	**Hansel Valley**	**86.35**	**332**	*e*P	**P**	**03 20 20.6**	**+3.1**
HVU				pmax	pmax		
	comp=Z,20nm,1.7s						
HVU	**Hansel Valley**	**86.35**	**332**	*e*P	**P**	**03 20 20.6**	**+3.1**
	comp=Z,20nm,1.7s						
ELK	**Elko**	**86.43**	**330**	*e*P	**P**	**03 20 20.1**	**+2.1**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ELK	**Elko**	**86.43**	**330**	*e*P	**P**	**03 20 20.1**	**+2.1**
	comp=Z,2.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**86.49**	**71**	P	**P**	**03 20 18.3**	**-0.3**
	comp=Z,4.7nm,0.9s,baz=218,slow=5.1,SNR=31						
TORD				LR	LR	03 57 24.8	
	comp=Z,120nm,18.4s,baz=240,slow=35						
AGMN	**Agassiz Nation**	**87.39**	**345**	*e*P	**P**	**03 20 23.0**	**+0.8**
	comp=Z,5.5nm,0.6s						
IMW	**Indian Meadow**	**87.52**	**334**	*e*P	**P**	**03 20 25.0**	**+1.7**
	comp=Z,5.7nm,1.1s						
ULM	**Lac du Bonnet**	**89.25**	**346**	P	**P**	**03 20 29.4**	**-1.5**
	comp=Z,2.4nm,0.8s,baz=128,slow=4.5,SNR=3.8						
LSZ	**Lusaka**	**90.00**	**109**	*e*P	**P**	**03 20 37.1**	**+1.5**
LSZ				pmax	pmax		
	comp=Z,5.0nm,1.4s						
LSZ	**Lusaka**	**90.00**	**109**	*e*P	**P**	**03 20 37.1**	**+1.5**
	comp=Z,5.5nm,1.4s						
ASAR	**Alice Springs**	**114.15**	**208**	PKP	PKPdf	03 26 13.2	-2.2
	comp=Z,0.2nm,0.6s,baz=126,slow=2.4,SNR=3.6						
KDAK	**Kodiak Island**	**115.24**	**324**	*i* PKIKP	**PKPdf**	**03 26 17.6**	**+1.5**
GERES	**GERESS Array B**	**115.29**	**47**	PKP	**PKPdf**	**03 26 14.4**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=151,slow=4.3,SNR=4.4						
CLL	**Collm**	**116.04**	**44**	*e*PS	PS	03 37 00.0	-4.2
WRA	**Warramunga Arr**	**117.36**	**210**	PKP	**PKPdf**	**03 26 19.7**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=159,slow=1.5,SNR=7.4						
VYHS	**Vyhne**	**118.17**	**49**	*e*PKIKP	**PKPdf**	**03 26 22.0**	**-0.1**
VYHS	**Vyhne**	**118.17**	**49**	*e*PKP	**PKPdf**	**03 26 21.9**	**-0.1**
BRTR	**Keskin Array B**	**124.46**	**63**	PKP	**PKPdf**	**03 26 33.8**	**-0.9**
	comp=Z,2.1nm,0.9s,baz=192,slow=3.4,SNR=6.3						
KIEV	**Kiev**	**125.25**	**49**	‖*e*PKIKP	**PKPdf**	**03 26 40.0**	**+4.5**
AKASG	**Malin Array Be**	**125.26**	**49**	PKP	**PKPdf**	**03 26 34.2**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=262,slow=2.0,SNR=5.6						
AKASG				PP	**PP**	**03 28 22.2**	**-4.1**
	comp=Z,0.6nm,0.6s,baz=253,slow=6.3,SNR=8.6						
OBN	**Obninsk**	**130.61**	**45**	*ce*PKIKP	**PKPdf**	**03 26 49.6**	**+4.0**
OBN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
OBN				MLR	MLR		
	comp=Z,94nm,19.0s						
KIV	**Kislovodsk**	**132.21**	**61**	*i* PKIKP	**PKPdf**	**03 26 50.0**	**+0.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BILL	**Bilibino**	**135.10**	**333**	*e*PKIKP	**PKPdf**	**03 26 54.7**	**+0.9**
BILL				*e*		03 29 31.2	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
PRGR	**Permogore**	**135.65**	**37**	PKIKP	**PKPdf**	**03 26 52.3**	**-2.6**
PRGR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GEYT	**Alibeck**	**142.07**	**74**	PKhKP	PKPpre	03 27 01.2	
	comp=Z,1.8nm,0.6s,baz=272,slow=4.2,SNR=3.4						
SEY	**Seymchan**	**142.09**	**328**	PKP	**PKPdf**	**03 27 06.4**	**-0.3**
	comp=Z,1.1nm,0.2s,baz=143,slow=13,SNR=3.8						
ARU	**Arti**	**142.97**	**43**	*i* PKIKP	**PKPdf**	**03 27 04.6**	**-3.8**
AKTO	**Aktyubinsk**	**143.32**	**53**	PKHKP	PKPpre	03 27 02.4	
AKTO				pmax	pmax		
	comp=Z,11nm,1.4s						
TIXI	**Tiksi**	**143.57**	**348**	‖*e*PKIKP	**PKPdf**	**03 27 11.4**	**+2.3**
AB31	**Akbulak array**	**144.61**	**55**	*i* PKIKP	**PKPab**	**03 27 09.5**	**-0.7**
AB31				pmax	pmax		
	comp=Z,15nm,0.8s						
ABKAR	**Akbulak array**	**144.61**	**55**	*e*PKPdf	**PKPab**	**03 27 10.1**	**-0.1**
PSI	**Prapat**	**145.10**	**167**	PKPbc	**PKPbc**	**03 27 11.8**	**-1.2**
	comp=Z,29nm,0.9s,baz=182,slow=3.4,SNR=21						
HYB	**Hyderabad**	**148.57**	**121**	*i* PKP	**PKPdf**	**03 27 21.0**	**+1.8**
BVA0	**Borovoye Array**	**150.45**	**46**	*i* PKIKP	**PKPbc**	**03 27 26.7**	**+0.3**
BVA0				pmax	pmax		
	comp=Z,19nm,1.2s						
DZET	**Dzherino**	**150.49**	**75**	PKIKP	**PKPbc**	**03 27 26.6**	**-0.6**
KK31	**Karatay Array**	**152.10**	**67**	*i* PKIKP	**PKPbc**	**03 27 29.8**	**-0.8**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
EKS2	**Erkin-Say**	**154.50**	**67**	*e*PKIKP	**PKPdf**	**03 27 28.6**	**+1.0**
EKS2				*e*		03 27 35.2	
EKS2	**Erkin-Say**	**154.50**	**67**	*e*PKPdf	**PKPdf**	**03 27 28.6**	**+1.0**
EKS2				*e*PKPbc	**PKPbc**	**03 27 35.2**	**-0.8**
AAK	**Ala-Archa**	**155.03**	**67**	*e*PKIKP	**PKPdf**	**03 27 28.6**	**+0.2**
AAK				*e*		03 27 36.1	
AAK	**Ala-Archa**	**155.03**	**67**	*e*PKPdf	**PKPdf**	**03 27 28.6**	**+0.2**
AAK				*e*PKPbc		03 27 36.1	
TKM2	**Tokmak 2**	**155.83**	**67**	PKIKP	PKPdf	03 27 35.3	+5.8
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KSH	**Kashi**	**156.09**	**75**	*e*PKP	**PKPdf**	**03 27 31.8**	**+1.9**
KSH				sPKP		03 27 45.5	
KSH				PKS	**PKSdf**	**03 31 05.8**	**+1.9**
KSH				PP	**PP**	**03 31 33.8**	**-1.7**
KSH				SKS	**SKSdf**	**03 34 36.0**	**+0.2**
KSH				SKKS	**SKKSac**	**03 38 24.0**	**-0.3**
KSH				SS	**SS**	**03 51 18.5**	**-6.1**
KSH				PPMZ			
	comp=Z,91nm,4.2s						
KSH				LN			
	comp=Z,32nm,4.6s						
KSH				LE			
	comp=Z,17nm,4.8s						
KSH				LZ			
	comp=Z,110nm,6.6s						
ZALV	**Zalesovo Beam**	**157.59**	**35**	PKP	**PKPdf**	**03 27 29.8**	**-1.3**
	comp=Z,2.4nm,0.8s,baz=264,slow=3.0,SNR=10						
ZALV				PKPab	**PKPab**	**03 28 02.8**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=302,slow=5.2,SNR=4.7						
BOD	**Bodaibo**	**158.75**	**349**	*e*PKIKP	PKPdf	03 27 50.1	+18
BOD				pmax	pmax		
	comp=Z,4.0nm,0.1s						
MK31	**Makanchi Array**	**159.75**	**54**	*i* PKIKP	**PKPdf**	**03 27 33.0**	**-1.0**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**159.75**	**54**	PKP	**PKPdf**	**03 27 32.4**	**-1.7**
	comp=Z,1.0nm,0.9s,baz=288,slow=1.2,SNR=7.1						
MKAR				PKPab	**PKPab**	**03 28 12.2**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=306,slow=2.9,SNR=7.3						
MKAR				PP	**PP**	**03 31 54.2**	**-0.8**
	comp=Z,1.5nm,1.1s,baz=289,slow=3.7,SNR=5.0						
CN2	**Changchun**	**164.08**	**300**	*e*PKP	**PKPdf**	**03 27 41.0**	**+2.5**
WMQ	**Urumqi**	**164.33**	**59**	*e*PKP	**PKPdf**	**03 27 40.0**	**+1.2**
WMQ				pPKP	pPKPdf	03 27 51.0	+7.4
WMQ				PKPab	**PKPab**	**03 28 34.0**	**+0.8**
WMQ				PKS	**PKSdf**	**03 31 11.8**	**+0.1**
WMQ				PP	**PP**	**03 32 21.5**	**+1.9**
WMQ				SKS	**SKSdf**	**03 34 39.3**	**-3.4**
WMQ				SKKS	**SKKSac**	**03 39 03.8**	**-2.9**
WMQ				SS	**SS**	**03 52 44.5**	**-6.2**
WMQ				PPMZ			
	comp=Z,61nm,5.0s						
WMQ				LN			
	comp=Z,55nm,21.0s						
WMQ				LE			
	comp=Z,17nm,19.0s						
WMQ				LZ			
	comp=Z,62nm,20.0s						
ZAK	**Zakamensk**	**166.62**	**9**	*e*PKP2	**PKPab**	**03 28 42.3**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KMI	**Kunming**	**167.57**	**164**	PKP	**PKPdf**	**03 27 43.3**	**+1.1**
NJ2	**Nanjing**	**168.52**	**247**	*e*PKP	**PKPdf**	**03 27 45.5**	**+3.2**
SONM	**Songino Array**	**169.36**	**360**	PKPab	**PKPab**	**03 28 54.4**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=11,slow=1.5,SNR=3.0						
HHC	**Hu-ho-hao-te**	**174.56**	**314**	*e*PKP	**PKPdf**	**03 27 48.0**	**+2.8**
HHC				pPKP	pPKPdf	03 27 58.8	+8.8
HHC				sPKP		03 28 02.5	
HHC				PP	PP	03 33 16.5	+5.6
HHC				SKS	**SKSdf**	**03 34 46.0**	**-1.8**
HHC				SS	**SS**	**03 54 31.0**	**-0.9**
HHC				PPMZ			
	comp=Z,130nm,10.0s						
HHC				LN			
	comp=Z,190nm,18.7s						
HHC				LE			
	comp=Z,460nm,18.7s						
HHC				LZ			
	comp=Z,73nm,17.4s						
XAN	**Xi'an**	**176.24**	**214**	PKP	**PKPdf**	**03 27 47.0**	**+1.3**
LZH	**Lanzhou**	**177.68**	**118**	*e*PKP	**PKPdf**	**03 27 49.0**	**+2.9**
LZH				pPKP	pPKPdf	03 27 59.8	+8.9
LZH				sPKP		03 28 04.3	

BJI 29 03:18:57.5, 27°.60N×97°.61E, h5km, ML3.8/5, Myanmar-India border region

*ISCJB **29** 03:22:31.3±0.9, 51°.2N±0°.1×178°.50W±0°.04, h56km±6km, mb3.9/15, MS3.2/4, Error ellipse: s-maj=18.0km s-min=4.1km az=177.7*

*NEIC **29** 03:22:32.1±1.0, 51°.23N×178°.55W, h46km±8km, mb4.2/6, ML3.8(AEIC), Error ellipse: s-maj=23.5km s-min=4.8km az=178.0*

*IDC **29** 03:22:33.6±3.8, 51°.44N×178°.62W, h64km±33km, mb3.5/11, mb1 3.7/12, mb1mx3.5/42, mbtmp3.8/12, ML3.0/1, MS3.1/5, Ms1 3.1/5, ms1mx2.8/31, Error ellipse: s-maj=29.1km s-min=18.0km az=175.0*

ISC 29 03:22:31.9±1.6, 51°.2N±0°.1×178°.54W±0°.03, h51km±12km, n55, σ1°.19/56, mb3.8/15, MS3.2/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERAA	**Semis' Rag'd T**	**1.33**	**304**	P	**Pn**	**03 22 53.7**	**-0.4**
CERAA				S	**Sn**	**03 23 11.6**	**+0.9**
ADK	**Adak**	**1.36**	**58**	*e*Pn	**Pn**	**03 22 52.6**	**-1.8**
ADK				S	**Sn**	**03 23 11.1**	**-0.2**
AMKA	**Amchitka**	**1.37**	**279**	*e*Pn	**Pn**	**03 22 53.3**	**-1.3**
AMKA				*e*S	**Sn**	**03 23 09.1**	**-2.6**
CESW	**Semis' Southwe**	**1.39**	**302**	P	**Pn**	**03 22 54.4**	**-0.5**
CESW				S	**Sn**	**03 23 12.0**	**-0.1**
CEAP	**Semis' Anvil P**	**1.44**	**306**	P	**Pn**	**03 22 55.4**	**-0.1**
CETU	**Semis' Tuman**	**1.46**	**304**	P	**

TAPN Taplejung 71.43 291 *eP* **P 03 33 48.5 +1.3**
comp=Z,22nm,0.9s
ODAN Odare 71.99 290 *eP* **P 03 33 51.6 +1.2**
GUN Gumba 72.08 292 *eP* **P 03 33 52.6 +1.5**
comp=Z,48nm,0.4s
JIRN Jiri 72.09 292 *eP* **P 03 33 52.6 +1.4**
comp=Z,29nm,0.6s
RAMN Ramite 72.38 291 *eP* **P 03 33 54.0 +1.2**
comp=Z,38nm,0.8s
KKN Kakani 72.52 293 *eP* **P 03 33 54.9 +1.3**
comp=Z,15nm,0.5s
PKI Pulchoki 72.61 292 *eP* **P 03 33 55.3 +1.0**
comp=Z,11nm,0.6s
AKASG Malin Array Be 75.79 342 P **P 03 34 11.2 -0.8**
comp=Z,0.4nm,0.4s,baz=20,slow=6.5,SNR=3.4
GERES GERESS Array B 79.81 352 LR LR 04 12 27.6
comp=Z,49nm,21.4s,baz=263,slow=38
BRTR Keskin Array B 85.20 336 P **P 03 35 02.0 -0.8**
comp=Z,0.9nm,0.8s,baz=44,slow=7.3,SNR=4.5
ASAR Alice Springs 85.45 223 P **P 03 35 04.5 +0.7**
comp=Z,0.4nm,0.8s,baz=17,slow=6.1,SNR=3.8
TORD Torodi Ar. Bea 115.95 360 PKP **PKPdf 03 41 08.5 -0.6**
comp=Z,0.3nm,1.0s,baz=353,slow=2.4,SNR=5.9
LBTB Lobatse 147.99 316 *e*PKPbc **PKPbc 03 42 12.6 +1.1**
LBTB *e*PKPab **PKPab 03 42 15.4 +1.1**

DJA 29 03:29:32.6±0.7, 1°N±6°×12°0E±°, h10km, M3.6/9, mb3.5/1, MLv3.7/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.90**	**219**	P	Pg	03 29 48.2	-1.7
MPSI				S	Sg	03 29 59.2	-2.4
MRSI	**Marisa**	**1.58**	**111**	P	Pn	03 29 58.9	-1.8
MRSI				S	Sn	03 30 19.1	-2.2
PCI	**Palu**	**2.03**	**198**	P	Pn	03 30 06.9	0.0
APSI	**Ampana**	**2.27**	**148**	P	Pn	03 30 10.1	-0.1
LUWI	**Luwuk**	**3.10**	**132**	P	Pn	03 30 21.5	-0.1
LUWI				S	Sn	03 31 00.1	+1.3
TTSI	**Tana Toraja**	**4.11**	**189**	P	Pn	03 30 35.4	-0.1
SPSI	**Sidrap Palu**	**5.02**	**188**	P	Pn	03 30 47.9	-0.1

NNC ***29*** *03:55:45.4±1.5, 36°.76N×71°.15E, h129km, ℓ31km, mb2.8, mpv3.6, Error ellipse: s-maj=17.0km s-min=12.0km az=124.0*
ISC 29 03:55:44.4±3.5, 36°.7N±0°.2×71°.2E±0°.1, h100km, n11, σ0s87/14, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.84**	**319**	⇑P	**Pn**	**03 56 28.4**	**+0.3**
DZET	6.6nm,0.2s			⇑S	**Sn**	**03 57 03.0**	**+1.2**
AML	**Almayashu**	**5.79**	**19**	P	**Pn**	**03 57 08.5**	**+0.4**
SNR=44							
MNAS	**Manas**	**5.90**	**9**	⇑P	**Pn**	**03 57 10.2**	**+0.8**
MNAS	2.1nm,0.4s			⇓S	**Sn**	**03 58 15.8**	**+0.2**
UCH	**Uchtor**	**6.11**	**24**	P	**Pn**	**03 57 13.0**	**+0.4**
SNR=5.5							
EKS2	**Erkin-Say**	**6.31**	**18**	P	**Pn**	**03 57 16.5**	**+1.6**
SNR=11							
KK31	**Karatay Array**	**6.45**	**355**	⇑P	**Pn**	**03 57 17.1**	**+0.4**
KK31	1.1nm,0.2s,baz=181,slow=13,SNR=31			⇓S	**Sn**	**03 58 27.7**	**-1.1**
AAK	**Ala-Archa**	**6.47**	**22**	⇓P	**Pn**	**03 57 17.5**	**+0.2**
2.5nm,0.5s							
AAK	**Ala-Archa**	**6.47**	**22**	P	**Pn**	**03 57 18.0**	**+0.7**
SNR=5.5							
TKM2	**Tokmak 2**	**7.10**	**27**	⇑P	**Pn**	**03 57 25.9**	**+0.1**
2.5nm,0.6s							
TKM2	**Tokmak 2**	**7.10**	**27**	P	**Pn**	**03 57 26.1**	**+0.4**
SNR=5.1							
AB31	**Akbulak array**	**15.02**	**330**	P	**Pn**	**03 59 10.1**	**-1.0**
0.6nm,0.7s,baz=166,slow=13,SNR=12							

ISCJB ***29*** *04:05:05.6±1.2, 17°.6S±0°.3×178°.8W±0°.2, h550km, mb3.7/10, Error ellipse: s-maj=46.2km s-min=15.7km az=148.5*
IDC ***29*** *04:05:05.3±5.2, 17°.68S×178°.64W, h538km±57km, mb3.3/9, mb1 3.6/10, mb1mx3.3/26, mbtmp4.1/10, Error ellipse: s-maj=42.6km s-min=24.4km az=145.0*
ISC 29 04:05:05.8±1.3, 17°.8S±0°.3×178°.7W±0°.2, h550km, n14, σ0s94/14, mb3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.61**	**251**	P	**P**	**04 08 10.3**	**-1.2**
0.4nm,0.3s,baz=84,slow=10,SNR=3.5							
WRA	**Warramunga Arr**	**44.39**	**259**	P	**P**	**04 12 28.7**	**+0.5**
2.9nm,0.4s,baz=93,slow=7.8,SNR=81							
ASAR	**Alice Springs**	**44.56**	**254**	P	**P**	**04 12 30.6**	**+1.1**
37nm,0.6s,baz=88,slow=8.3,SNR=398							
MJAR	**Matsushiro Arr**	**67.63**	**323**	P	**P**	**04 15 08.4**	**+0.1**
0.9nm,0.3s,baz=170,slow=7.5,SNR=4.3							
PETK	**Petropavlovsk-**	**73.47**	**345**	P	**P**	**04 15 43.3**	**+0.9**
1.8nm,0.7s,baz=137,slow=11,SNR=2.7							
SEY	**Seymchan**	**83.58**	**347**	P	**P**	**04 16 35.9**	**-0.1**
1.7nm,0.6s,baz=252,slow=22,SNR=9.9							
ILAR	**Eielson Array**	**85.81**	**13**	P	**P**	**04 16 45.9**	**-1.0**
0.4nm,0.5s,baz=223,slow=5.1,SNR=5.3							
TXAR	**Lajitas Array**	**86.15**	**58**	P	**P**	**04 16 50.8**	**+1.4**
0.6nm,0.7s,baz=221,slow=5.9,SNR=9.0							
PDAR	**Pinedale Array**	**87.44**	**44**	P	**P**	**04 16 55.3**	**-0.1**
0.6nm,0.7s,baz=212,slow=4.8,SNR=4.3							
CMAR	**Chiang Mai Arr**	**88.58**	**290**	P	**P**	**04 17 01.8**	**+0.9**
0.7nm,0.3s,baz=114,slow=2.3,SNR=5.1							
YKA	**Yellowknife Ar**	**94.32**	**25**	P	**P**	**04 17 25.1**	**-1.2**
0.1nm,0.6s,baz=234,slow=5.3,SNR=2.8							
ARCES	**ARCESS Array B**	**126.12**	**350**	PKP	**PKPdf**	**04 23 04.7**	**-0.6**
4.5nm,1.0s,baz=349,slow=0.9,SNR=3.2							
BRTR	**Keskin Array B**	**144.49**	**315**	PKP	**PKPdf**	**04 23 39.7**	**-0.6**
2.1nm,0.9s,baz=122,slow=1.1,SNR=9.0							
GERES	**GERESS Array B**	**147.40**	**345**	PKPbc	**PKPbc**	**04 23 48.2**	**0.0**
1.0nm,0.5s,baz=45,slow=3.1,SNR=9.2							

GUC 29 04:08:03.3±0.4, 35°.56S×73°.35W, h32km±3km, ML4.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.73**	**142**	*e*P	Pb	04 08 17.6	0.0
COCH				*e*S	Sn	04 08 28.5	+1.0
CCSP	**San Pedro de C**	**1.30**	**171**	*e*P	Pb	04 08 26.6	-0.5
CCSP				*e*S	Sb	04 08 44.4	+0.9
CCSP				IAML		04 08 49.0	
	comp=E,3μm,0.5s						
TALC	**Talca**	**1.41**	**84**	*e*P	Pb	04 08 28.5	-0.5
TALC				*e*S	Sb	04 08 47.4	+0.8
LNCH	**Linares**	**1.45**	**102**	*e*P	Pb	04 08 29.2	-0.5
LNCH				*e*S	Sb	04 08 48.7	+0.8
NICH	**Los Niches**	**1.82**	**73**	*e*P	Pb	04 08 35.0	-1.0
NICH				*e*S	Sb	04 08 58.8	+0.4
CLCH	**Cerro Calan**	**3.17**	**48**	*e*P	Pn	04 08 54.0	+2.9
CLCH				*e*S	Sb	04 09 32.8	-4.5
CLCH				IAML		04 09 58.0	
	comp=E,506nm,0.7s						
ROCH	**El Roble**	**3.22**	**38**	*e*P4	Pn	04 08 54.2	+2.1
ROCH				*e*S	Sn	04 09 34.4	+4.8
ROCH				IAML		04 10 04.9	
	comp=N,226nm,0.8s						
PEL	**Peldehue**	**3.26**	**43**	*e*P	Pn	04 08 55.2	+2.8
PEL				*e*S	Sn	04 09 34.7	+4.5
PEL				IAML		04 09 55.6	
	comp=E,389nm,0.7s						

IDC ***29*** *04:22:27.7±1.5, 20°.32S×70°.56W, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.8/18, mbtmp4.0/6, ML3.9/2, MS2.9/3, Ms1 2.9/3, ms1mx2.7/18, Error ellipse: s-maj=44.1km s-min=28.7km az=8.0*
ISCJB ***29*** *04:22:34.6±0.9, 20°.00S±0°.04×70°.66W±0°.10, h61km±8km, mb3.9/4, Error ellipse: s-maj=15.0km s-min=6.8km az=174.9*
GUC ***29*** *04:22:34.9±0.5, 20°.02S×70°.62W, h52km±6km, ML3.8*
ISC 29 04:22:35.0±1.1, 20°.05S±0°.04×70°.66W±0°.09, h51km±11km, n26, σ1s37/28, mb3.9/4, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.68**	**49**	*e*P	**Pn**	**04 22 48.3**	**-0.4**
PSGC				*e*S	**Sn**	**04 22 58.2**	**-0.3**
PSGC				IAML		04 22 59.3	
	comp=N,6μm,0.5s						
HMBC	**Humberstone**	**0.76**	**108**	*e*P4	**Pn**	**04 22 50.6**	**+0.8**
HMBC				*e*S	**Sn**	**04 23 01.1**	**+0.6**
PATCX	**Punta Patache**	**0.90**	**148**	*e*P	**Pn**	**04 22 52.1**	**+0.5**
PATCX				*e*S	**Sn**	**04 23 04.8**	**+1.0**
MNMC	**Minimini**	**1.36**	**48**	*e*P	**Pn**	**04 22 57.9**	**0.0**
MNMC				*e*S	**Sn**	**04 23 15.1**	**+0.2**
MNMC				IAML		04 23 16.7	
	comp=E,6μm,0.5s						
PB01	**IPOC Station P**	**1.48**	**132**	*e*P	**Pn**	**04 23 00.2**	**+0.8**
PB01				*e*S	**Sn**	**04 23 18.8**	**+1.1**
PB07	**IPOC Station P**	**1.82**	**157**	*e*P	**Pn**	**04 23 05.3**	**+1.2**
PB07				*e*S4	**Sn**	**04 23 26.5**	**+0.4**
PB09	**IPOC Station P**	**2.19**	**143**	*e*P	**Pn**	**04 23 10.0**	**+0.9**
PB09				*e*S	**Sn**	**04 23 36.8**	**+1.7**
PB04	**IPOC Station P**	**2.46**	**154**	*e*P4	**Pn**	**04 23 11.6**	**-1.2**
PB04				*e*S4	**Sn**	**04 23 37.3**	**-4.3**
PB04				IAML		04 23 42.5	
	comp=N,576nm,0.4s						
PB06	**IPOC Station P**	**2.83**	**159**	*e*P4	**Pn**	**04 23 18.3**	**+0.3**
PB06				*e*S4	**Sn**	**04 23 49.1**	**-1.8**
PB06				IAML		04 23 54.6	
	comp=N,335nm,0.8s						
PB10	**IPOC Station P**	**3.45**	**178**	*e*P4	**Pn**	**04 23 26.2**	**-0.1**
LPAZ	**La Paz**	**4.45**	**33**	Pn	Pn	04 23 44.0	+3.5
	comp=N,1.3nm,0.3s,baz=244,slow=5.3,SNR=39						
LPAZ				LR	LR	04 25 43.8	
	comp=N,99nm,20.1s,baz=178,slow=42						
SIV	**San Ignacio**	**9.97**	**68**	Pn	**Pn**	**04 24 54.4**	**-1.4**
	comp=N,1.1nm,0.3s,baz=262,slow=15,SNR=14						
SIV				LR	LR	04 29 25.9	
	comp=N,70nm,20.7s,baz=262,slow=42						
NNA	**Nana**	**9.98**	**323**	Pn	**Pn**	**04 24 56.0**	**+0.1**
	comp=N,1.3nm,0.3s,baz=192,slow=14,SNR=3.5						
PTGA	**Pitinga**	**21.87**	**30**	P	**P**	**04 27 24.7**	**+1.1**
	comp=N,3.6nm,0.6s,baz=192,slow=20,SNR=12						
BDFB	**Brasilia**	**21.99**	**82**	P	**P**	**04 27 22.7**	**-2.4**
	comp=N,1.7nm,0.5s,baz=252,slow=9.8,SNR=7.8						
BDFB				LR	LR	04 36 01.3	
	comp=N,43nm,18.4s,baz=279,slow=37						
TORD	**Torodi Ar. Bea**	**78.43**	**71**	P	**P**	**04 34 30.1**	**-0.8**
	comp=N,2.6nm,0.7s,baz=252,slow=5.4,SNR=66						
YKA	**Yellowknife Ar**	**89.29**	**341**	P	**P**	**04 35 25.9**	**+0.7**
	comp=N,0.2nm,0.6s,baz=140,slow=4.3,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**126.06**	**279**	T	T	07 01 01.0	
	baz=101,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**126.06**	**279**	T	T	07 01 00.0	
	baz=101,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**126.07**	**279**	T	T	07 00 56.1	
	baz=101,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**126.10**	**280**	T	T	07 01 03.2	
	baz=101,slow=75,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**126.12**	**280**	T	T	07 01 00.9	
	baz=101,slow=75,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**126.12**	**280**	T	T	07 00 59.7	
	baz=101,slow=75,SNR=3.4						
WRA	**Warramunga Arr**	**133.32**	**213**	PKP	**PKPdf**	**04 41 47.3**	**+1.1**
	comp=N,0.3nm,0.7s,baz=142,slow=1.8,SNR=2.9						
MKAR	**Makanchi Array**	**145.38**	**33**	PKPbc	**PKPab**	**04 42 08.0**	**+0.6**
	comp=N,2.0nm,0.8s,baz=319,slow=4.9,SNR=20						
SONM	**Songino Array**	**152.18**	**4**	PKPbc	**PKPbc**	**04 42 25.9**	**+0.8**
	comp=N,0.6nm,0.6s,baz=300,slow=0.2,SNR=4.2						

GUC 29 04:30:22.3±0.5, 33°.53S×72°.09W, h32km±4km, ML3.6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.06**	**58**	*e*P	Pn	04 30 41.6	+0.3
ROCH				*e*S	Sb	04 30 56.2	-0.1
RCDM	**Rinconada Maip**	**1.07**	**88**	*e*P4	Pn	04 30 41.0	-0.1
RCDM				*e*S4	Sn	04 30 52.7	-2.3
PEL	**Peldehue**	**1.24**	**72**	*e*P	Pn	04 30 44.1	+0.7
PEL				*e*S	Sb	04 31 00.6	-0.3
PEL				IAML		04 31 07.5	
	comp=N,2μm,0.6s						
CLCH	**Cerro Calan**	**1.30**	**84**	*e*P	Pn	04 30 45.1	+0.7
CLCH				*e*S	Sb	04 31 02.7	-0.1
FSR	**Penalolen**	**1.30**	**88**	*e*P	Pn	04 30 45.3	+0.9
FSR				*e*S	Sb	04 31 02.6	-0.3
NICH	**Los Niches**	**1.63**	**154**	*e*P	Pn	04 30 50.2	+1.4
NICH				*e*S	Sb	04 31 11.2	-0.8
LNCH	**Linares**	**2.34**	**170**	*e*P	Pn	04 31 00.8	+2.2
LNCH				*e*S	Sb	04 31 29.5	-2.9

ISCJB ***29*** *04:58:48.5±0.9, 41°.53N±0°.09×144°.1E±0°.1, h27km, mb3.5/7, Error ellipse: s-maj=13.7km s-min=12.1km az=37.1*
JMA ***29*** *04:58:48.5±0.5, 41°.53N×144°.10E, h26km±2km, M3.3*
IDC ***29*** *04:58:54.3±3.2, 41°.42N×143°.96E, h64km±27km, mb3.3/6, mb1 3.4/8, mb1mx3.3/42, mbtmp3.5/8, ML3.1/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/20, Error ellipse: s-maj=33.0km s-min=27.9km az=172.0*
ISC 29 04:58:50.5±1.0, 41°.65N±0°.08×144°.01E±0°.10, h27km, n24, σ0s62/15, mb3.6/7, 2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.73**	**300**	P	**Pb**	**04 59 04.1**	**-0.6**
JCH	**Churui**	**1.08**	**334**	⇓P	**Pn**	**04 59 09.7**	**-0.1**
JNBK	**Urakawa-nobuka**	**1.13**	**304**	P	**Pb**	**04 59 11.2**	**-0.2**
JAK	**Akkeshi**	**1.44**	**21**	P	**Pn**	**04 59 14.2**	**-0.6**
JAR	**Asahorobuto**	**1.66**	**354**	⇓P	**Pn**	**04 59 17.2**	**-0.6**
JBT2	**Biratori 2**	**1.66**	**313**	P	**Pb**	**04 59 19.4**	**-1.0**
ASAJ	**Asahikawa**	**2.67**	**338**	P	**Pb**	**04 59 38.4**	**+0.7**
2.0nm,0.3s,baz=201,slow=10,SNR=9.3							
MJAR	**Matsushiro Arr**	**6.81**	**223**	P	**Pn**	**05 00 28.4**	**-0.3**
0.4nm,0.3s,baz=37,slow=12,SNR=4.7							
USRK	**Ussuriysk Ar.**	**9.18**	**290**	LR	LR	05 04 54.9	
comp=Z,86nm,21.7s,baz=113,slow=39							
JCJ	**Chichijima**	**14.60**	**186**	LR	LR	05 09 59.5	
comp=Z,135nm,20.2s,baz=226,slow=46							
SONM	**Songino Array**	**27.22**	**296**	P	**P**	**05 04 33.2**	**+1.0**
0.3nm,0.3s,baz=105,slow=11,SNR=3.8							
H11N2	**WAKE ISLAND Hy**	**29.24**	**131**	T	T	05 35 18.9	
baz=324,slow=75,SNR=110							
H11N1	**WAKE ISLAND Hy**	**29.25**	**131**	T	T	05 35 17.9	
baz=324,slow=75,SNR=90							
H11N3	**WAKE ISLAND Hy**	**29.26**	**131**	T	T	05 35 15.4	
baz=324,slow=75,SNR=87							
H11S1	**WAKE ISLAND Hy**	**30.12**	**133**	T	T	05 36 23.5	
baz=326,slow=76,SNR=104							
H11S3	**WAKE ISLAND Hy**	**30.12**	**133**	T	T	05 36 28.0	
baz=326,slow=76,SNR=128							
H11S2	**WAKE ISLAND Hy**	**30.13**	**133**	T	T	05 36 29.4	
baz=326,slow=76,SNR=93							
ZALV	**Zalesovo Beam**	**40.45**	**309**	P	P	05 06 30.6	+4.2
0.5nm,0.3s,baz=79,slow=7.5,SNR=4.1							
MKAR	**Makanchi Array**	**43.53**	**299**	P	**P**	**05 06 52.1**	**+0.5**
0.5nm,0.8s,baz=82,slow=10,SNR=4.6							
FINES	**FINESS Array B**	**65.67**	**332**	P	**P**	**05 09 32.5**	**+0.6**
1.0nm,0.8s,baz=35,slow=5.1,SNR=3.1							
AKASG	**Malin Array Be**	**71.87**	**323**	P	**P**	**05 10 10.4**	**-0.3**
0.1nm,0.3s,baz=46,slow=5.3,SNR=3.8							
PDAR	**Pinedale Array**	**73.03**	**48**	P	**P**	**05 10 17.7**	**-0.5**
0.4nm,0.6s,baz=333,slow=1.7,SNR=4.3							
TXAR	**Lajitas Array**	**85.75**	**54**	P	**P**	**05 11 27.6**	**+0.1**
0.3nm,0.7s,baz=291,slow=2.4,SNR=4.1							
SIV	**San Ignacio**	**146.52**	**48**	PKPbc	**PKPab**	**05 18 30.5**	**-0.1**
1.9nm,0.7s,baz=319,slow=2.1,SNR=3.5							

IDC ***29*** *05:00:56.9±0.7, 0°.75N×97°.38E, h20km±3km, mb4.1/16, mb1 4.2/18, mb1mx4.1/37, mbtmp4.2/18, ML4.2/2, MS3.7/13, Ms1 3.7/13, ms1mx3.5/39, Error ellipse: s-maj=21.3km s-min=13.9km az=45.0*
NEIC ***29*** *05:00:57.6±0.4, 0°.80N×97°.42E, mb4.3/12, Error ellipse: s-maj=8.8km s-min=5.7km az=221.0*
BJI ***29*** *05:00:58.4, 0°.82N×97°.89E, h36km, mB4.9/23, mb4.7/30, Ms4.5/16, Ms7 4.1/13*
ISCJB ***29*** *05:00:58.6±0.7, 0°.82N±0°.04×97°.48E±0°.05, h41km±6km, mb4.4/36, MS3.8/12, Error ellipse: s-maj=9.8km s-min=4.9km az=143.4*
DJA ***29*** *05:00:59.8±0.4, 1°N±3°×9°8E±°, h10km, M4.7/15, mb4.9/10, mB5.2/7, MLv4.7/15, Mw(mB)4.6/7*

KLM ***29*** *05:01:07.8, 0°.91N×98°.23E, h46km, mb4.4, ML4.3, MS5.7*
ISC 29 05:00:58.1±0.6, 0°.78N±0°.06×97°.50E±0°.06, h27km±2km, h26km: pP-P, n116, σ1s63/110, mb4.3/30, MS3.7/12, 4C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**2.00**	**324**	P	**Pb**	**05 01 32.9**	**-0.9**
SNSI				S	**Sb**	**05 01 58.2**	**-0.1**
MNSI	**Mandailing Nat**	**2.08**	**90**	P	**Pn**	**05 01 32.9**	**+1.6**
MNSI				S	**Sb**	**05 01 59.0**	**-1.7**
PSI	**Prapat**	**2.46**	**35**	Pn	**Pn**	**05 01 35.9**	**-0.8**
8.9nm,0.3s,baz=174,slow=4.6,SNR=30							
TPTI		**2.48**	**353**	P	**Pn**	**05 01 35.2**	**-1.7**
TPTI				S	**Sn**	**05 02 07.8**	**+1.5**
KCSI	**Kotacane, Aceh**	**2.74**	**6**	P	**Pn**	**05 01 39.8**	**-0.6**
TSI	**Tuntungan**	**2.91**	**22**	P	**Pn**	**05 01 43.8**	**+1.1**
PDSI	**Padang**	**3.41**	**120**	P	Pn	05 01 53.2	+3.6
BKNI	**Bangkinang**	**3.57**	**97**	P	Pb	05 01 57.4	-3.2
BKNI	**Bangkinang**	**3.57**	**97**	*e*Pn	**Pn**	**05 01 54.9**	**+3.0**
SDSI	**Sungai Dareh**	**4.28**	**113**	P	**Pn**	**05 02 04.8**	**+3.2**
LHMI	**Lhok Sumawe**	**4.45**	**353**	P	**Pn**	**05 02 05.5**	**+1.5**
LHMI	**Lhok Sumawe**	**4.45**	**353**	*e*Pn	**Pn**	**05 02 03.9**	**0.0**
IPM	**Ipoh**	**5.09**	**44**	*e*Pn	**Pn**	**05 02 14.3**	**+1.5**
KULM	**Kulim**	**5.47**	**35**	⇑P	**Pn**	**05 02 19.0**	**+0.9**
KULM	**Kulim**	**5.47**	**35**	*e*Pn	**Pn**	**05 02 18.4**	**+0.3**
MYKOM	**Kota Tinggi**	**6.43**	**81**	⇓P	**Pn**	**05 02 29.8**	**-1.3**
MYKOM	**Kota Tinggi**	**6.43**	**81**	*e*Pn	**Pn**	**05 02 32.5**	**+1.3**
KTGM	**Kuala Trenggan**	**7.22**	**51**	⇑P	**Pn**	**05 02 42.5**	**+0.5**
MNAI	**Manna**	**7.47**	**133**	P	Pn	05 02 49.1	+3.6
280nm,1.4s,5μm1.4nm							
MNAI	**Manna**	**7.47**	**133**	*e*Pn	**Pn**	**05 02 47.3**	**+1.8**
147nm,0.4s							
MNAI				*e*Sn	**Sn**	**05 04 08.4**	**-1.0**
LHSI	**Lahat**	**7.56**	**127**	P	**Pn**	**05 02 49.8**	**+3.1**
113nm,1.0s,1μm0.3nm							
MDSI	**Maura Dua**	**8.48**	**128**	P	**Pn**	**05 02 59.9**	**+0.6**
45nm,0.6s,554nm							
LWLI	**Liwa**	**8.72**	**131**	P	Pn	05 03 07.3	+4.5
115nm,0.6s,11μm							
KASI	**Kota Agung**	**9.38**	**132**	P	**Pn**	**05 03 12.2**	**+0.5**
TPI	**Tanjungpandan**	**10.74**	**109**	P	**Pn**	**05 03 33.5**	**+3.1**
17nm,1.0s							
KSM	**Kuching**	**12.83**	**87**	⇓P	**Pn**	**05 03 57.1**	**-1.8**
KPJI	**Karang Pucung**	**13.97**	**125**	P	P	05 04 19.2	-3.0
SBUM	**Sibu**	**14.81**	**83**	⇑P	**Pn**	**05 04 23.0**	**-3.0**
SBUM	**Sibu**	**14.81**	**83**	*e*Pn	**P**	**05 04 29.2**	**-2.4**
CMAR	**Chiang Mai Arr**	**17.62**	**5**	Pn	**Pn**	**05 05 00.8**	**-1.2**
1.0nm,0.3s,baz=194,slow=12,SNR=17							
CMAR				LR	LR	05 12 36.8	
comp=Z,299nm,18.3s,baz=196,slow=40							
PALK	**Pallekele**	**17.94**	**291**	P	**P**	**05 05 07.2**	**+0.8**
baz=124,slow=11,SNR=2.7							
CHTO	**Chiang Mai**	**17.98**	**4**	*e*Pn	**Pn**	**05 05 06.2**	**-0.1**
5.5nm,0.7s							
KKM	**Kota Kinabalu**	**19.40**	**74**	⇓P	**P**	**05 05 19.8**	**-2.6**
SDKM	**Sandakan**	**20.25**	**76**	⇑P	Pn	05 05 33.1	-0.7
SLVN	**Son La**	**21.36**	**17**	*e*P	**P**	**05 05 42.8**	**-0.9**
14nm,0.9s							
SLVN				*e*S	**S**	**05 09 38.2**	**-1.6**
MPSI	**Mapaga**	**22.40**	**91**	P	sP	05 06 06.6	+1.0
MRSI	**Marisa**	**24.44**	**91**	P	**P**	**05 06 15.7**	**+0.7**
LUWI	**Luwuk**	**25.34**	**94**	*e*P	**P**	**05 06 23.5**	**+0.4**
277nm,1.8s							
H08S2	**Diego Garcia H**	**26.30**	**251**	T	T	05 33 34.9	
baz=72,slow=75							
H08S3	**Diego Garcia H**	**26.31**	**251**	T	T	05 33 35.0	
baz=72,slow=75,SNR=8331							
H08S1	**Diego Carcia H**	**26.32**	**251**	T	T	05 33 36.1	
baz=72,slow=75							
GYA	**Guiyang**	**27.01**	**18**	*e*P	**P**	**05 06 40.0**	**+1.7**
GYA				PMZ			
10.0nm,0.8s							
ODAN	**Odare**	**27.69**	**340**	*e*P	**P**	**05 06 46.5**	**+2.0**
31nm,0.7s							
TAPN	**Taplejung**	**28.04**	**341**	*e*P	**P**	**05 06 48.5**	**+0.8**
35nm,0.8s							
RAMN	**Ramite**	**28.05**	**339**	*e*P	**P**	**05 06 49.5**	**+1.8**
31nm,0.9s							
BATI	**Baumata**	**28.23**	**113**	LR	LR	05 20 19.6	
comp=Z,440nm,19.4s,baz=292,slow=41							
JIRN	**Jiri**	**28.84**	**339**	*e*P	**P**	**05 06 55.5**	**+0.6**
31nm,0.7s							
PKI	**Pulchoki**	**29.05**	**337**	*e*P	**P**	**05 06 57.5**	**+0.8**
13nm,0.6s							
GUN	**Gumba**	**29.18**	**339**	*e*P	**P**	**05 06 58.5**	**+0.6**
33nm,0.6s							
LSA	**Lhasa**	**29.39**	**349**	*e*P	**P**	**05 07 00.6**	**+0.8**
13nm,0.9s							
FITZ	**Fitzroy Crossi**	**33.44**	**126**	*e*P	**P**	**05 07 35.2**	**0.0**
1.7nm,0.6s							
XAN	**Xi'an**	**34.77**	**17**	P	**P**	**05 07 45.3**	**-1.3**
XAN				S	**S**	**05 13 15.0**	**-0.6**
XAN				PMZ			
5.0nm,0.7s							
XAN				LN			
210nm,14.7s							
XAN				LE			
69nm,13.5s							
XAN				LZ			
100nm,13.9s							
LZH	**Lanzhou**	**35.62**	**9**	*e*P	**P**	**05 07 52.5**	**

WMQ					LE				
	120nm,25.0s								
WMQ					LZ				
	64nm,23.0s								
JNU	**Nakatsue**	**44.92**	**41**	P		**P**		**05 09 11.2**	**+0.2**
	6.7nm,0.6s,baz=85,slow=1.9,SNR=6.5								
KSAR	**Wonju Array Be**	**45.99**	**34**	P		**P**		**05 09 19.4**	**+0.2**
KSRS	**Korea Array**	**46.02**	**34**	P		**P**		**05 09 19.4**	**-0.1**
	6.9nm,0.7s,baz=218,slow=9.1,SNR=25								
KSRS					LR	LR		05 30 18.4	
	comp=Z,92nm,18.0s,baz=210,slow=38								
TKM2	**Tokmak 2**	**46.32**	**338**	*e*P		**P**		**05 09 22.6**	**+0.6**
	11nm,1.3s								
TKM2				*e*pP		**pP**		**05 09 28.8**	**-1.3**
AAK	**Ala-Archa**	**46.50**	**337**	*e*P		**P**		**05 09 24.4**	**+1.1**
	3.7nm,1.0s								
AAK				*e*pP		**pP**		**05 09 30.9**	**-0.6**
EKS2	**Erkin-Say**	**46.81**	**336**	*e*P		**P**		**05 09 26.9**	**+1.1**
	3.9nm,0.6s								
SONM	**Songino Array**	**47.50**	**8**	P		**P**		**05 09 31.0**	**-0.1**
	2.1nm,0.7s,baz=191,slow=9.6,SNR=16								
SONM				pP		**pP**		**05 09 37.5**	**-1.7**
	3.3nm,0.6s,baz=190,slow=9.5,SNR=17								
SONM				PcP		**PcP**		**05 11 01.5**	**+0.5**
	0.6nm,0.7s,baz=199,slow=4.0,SNR=2.4								
SONM				pPcP				05 11 08.1	
	1.7nm,0.8s,baz=186,slow=3.5,SNR=3.6								
MKAR	**Makanchi Array**	**47.72**	**346**	P		**P**		**05 09 32.5**	**-0.1**
	4.1nm,0.6s,baz=155,slow=7.7,SNR=65								
MKAR				pP		**pP**		**05 09 39.4**	**-1.4**
	7.3nm,0.6s,baz=155,slow=8.0,SNR=24								
MKAR				LR		LR		05 34 09.8	
	comp=Z,30nm,18.7s,baz=162,slow=42								
KKAR	**Karatay Array**	**48.56**	**334**	*e*P		**P**		**05 09 40.6**	**+1.4**
	0.7nm,0.5s								
KKAR				*e*pP		**pP**		**05 09 46.6**	**-0.8**
CN2	**Changchun**	**49.54**	**26**	*e*P		**P**		**05 09 49.8**	**+3.1**
TLY	**Talaya**	**50.98**	**5**	P		**P**		**05 09 57.9**	**+0.4**
	1.4nm,0.5s,baz=266,slow=5.0,SNR=3.5								
GEYT	**Alibeck**	**51.72**	**320**	LR		LR		05 34 21.3	
	comp=Z,56nm,19.5s,baz=115,slow=39								
MJAR	**Matsushiro Arr**	**51.80**	**42**	P		**P**		**05 10 03.4**	**-0.5**
	1.4nm,0.7s,baz=244,slow=6.0,SNR=4.1								
MJAR				LR		LR		05 34 11.6	
	comp=Z,49nm,18.0s,baz=225,slow=38								
KURK	**Kurchatov**	**52.27**	**345**	*e*P		**P**		**05 10 07.2**	**+0.1**
	4.3nm,1.0s								
KURK				*e*pP		**pP**		**05 10 13.5**	**-1.9**
USRK	**Ussuriysk Ar.**	**52.98**	**31**	P		**P**		**05 10 13.1**	**+0.7**
	5.5nm,0.8s,baz=225,slow=5.1,SNR=11								
ZALV	**Zalesovo Beam**	**54.02**	**351**	P		**P**		**05 10 19.6**	**-0.3**
	5.9nm,0.6s,baz=177,slow=6.8,SNR=27								
ZALV				pP		**pP**		**05 10 26.0**	**-2.1**
	11nm,0.6s,baz=177,slow=6.7,SNR=18								
ZALV				LR		LR		05 38 31.0	
	comp=Z,56nm,18.3s,baz=46,slow=42								
BVAR	**Borovoye Array**	**56.74**	**341**	LR		LR		05 37 39.0	
	comp=Z,57nm,20.6s,baz=142,slow=39								
ABKAR	**Akbulak array**	**58.02**	**332**	*e*P		**P**		**05 10 47.9**	**-0.7**
	1.4nm,0.7s								
ABKAR				*e*pP		**pP**		**05 10 54.4**	**-2.6**
ASAJ	**Asahikawa**	**58.82**	**37**	LR		LR		05 37 15.5	
	comp=Z,68nm,19.1s,slow=37								
KBZ	**Khabaz**	**64.58**	**319**	P		**P**		**05 11 32.5**	**-0.6**
	1.8nm,0.8s,baz=90,slow=5.1,SNR=3.5								
YAK	**Yakutsk**	**65.74**	**16**	LR		LR		05 41 36.0	
	comp=Z,52nm,21.3s,baz=241,slow=37								
BRTR	**Keskin Array B**	**69.61**	**312**	P		**P**		**05 12 04.8**	**-0.7**
	0.9nm,0.8s,baz=115,slow=6.8,SNR=4.2								
BRTR				pP		**pP**		**05 12 11.0**	**-2.9**
	1.9nm,0.7s,baz=137,slow=6.4,SNR=8.8								
DZM	**Mont Dzumac**	**70.84**	**114**	LR		LR		05 45 59.5	
	comp=Z,69nm,19.5s,baz=296,slow=38								
MAW	**Mawson**	**72.37**	**193**	LR		LR		05 40 04.1	
	comp=Z,83nm,18.0s,baz=272,slow=32								
TIXI	**Tiksi**	**73.55**	**10**	*e*P		**P**		**05 12 27.7**	**-0.6**
	3.4nm,0.6s								
SEY	**Seymchan**	**74.03**	**23**	P		**P**		**05 12 31.1**	**-0.2**
	0.7nm,0.4s,baz=278,slow=6.4,SNR=9.1								
SEY				pP		**pP**		**05 12 37.8**	**-2.0**
	1.9nm,0.6s,baz=17,slow=20,SNR=4.1								
AKASG	**Malin Array Be**	**75.77**	**322**	P		**P**		**05 12 40.7**	**-0.9**
	0.5nm,0.5s,baz=94,slow=4.7,SNR=12								
AKASG				pP		**pP**		**05 12 47.2**	**-2.9**
	1.2nm,0.5s,baz=89,slow=5.1,SNR=6.5								
KOLS	**Kolonicke sedl**	**79.73**	**320**	*e*pP		pP		05 13 10.7	-1.6
STHS	**Stebnicka Huta**	**80.48**	**320**	*e*pP		pP		05 13 15.1	-1.3
FINES	**FINESS Array B**	**80.51**	**332**	P		**P**		**05 13 07.2**	**-0.4**
	0.9nm,0.6s,baz=107,slow=6.6,SNR=5.7								
FINES				pP		**PcP**		**05 13 13.7**	**-0.8**
	1.6nm,0.6s,baz=113,slow=5.0,SNR=3.3								
VYHS	**Vyhne**	**81.90**	**319**	*e*pP		pP		05 13 20.6	-3.4
ARCES	**ARCESS Array B**	**83.03**	**340**	P		**P**		**05 13 20.8**	**0.0**
	5.6nm,1.0s,baz=100,slow=6.3,SNR=3.9								
DPC	**Dobruska-Polom**	**83.76**	**320**	*e*P		**P**		**05 13 27.5**	**+2.5**
DPC				*e*pP		**PcP**		**05 13 30.8**	**+1.7**
MOA	**Molln**	**84.87**	**318**	⇓*i*P		**P**		**05 13 30.8**	**0.0**
	3.3nm,0.9s								
GERES	**GERESS Array B**	**85.32**	**319**	pP		pP		05 13 40.1	-1.6
	1.2nm,0.7s,baz=104,slow=5.6,SNR=5.2								
VNDA	**Vanda**	**85.36**	**169**	LR		LR		05 46 10.7	
	comp=Z,46nm,19.1s,baz=284,slow=32								
KHC	**Kasperske Hory**	**85.42**	**319**	*e*P		P		05 13 39.3	+5.8
NB2	**NORSAR Subarra**	**87.52**	**331**	P		P		05 13 49.6	+6.1
	comp=Z,0.2nm,0.7s,baz=96,slow=5.6								
NOA	**NORSAR Array B**	**87.52**	**331**	pP		pP		05 13 49.3	-2.8
	comp=Z,1.6nm,0.8s,baz=95,slow=5.0,SNR=3.6								
CDF	**Champ du Feu**	**89.57**	**318**	*e*P		pP		05 13 59.6	-2.6
LPG	**La Plagne**	**89.97**	**315**	*e*P		pP		05 14 02.2	-2.2
	comp=Z,6.4nm,0.9s								
LPL	**La Plagne**	**89.99**	**315**	*e*P		pP		05 14 02.1	-2.3
	comp=Z,9.0nm,0.9s								
FRF	**La Foret Royal**	**90.09**	**313**	*e*P		pP		05 14 02.4	-2.2
SMRF	**Simiane la Rot**	**90.85**	**314**	*e*P		pP		05 14 07.2	-1.0
	comp=Z,23nm,1.1s								
SFTF	**Sexfontaines**	**91.07**	**318**	*e*P		pP		05 14 06.8	-2.3
LOR	**Lormes**	**91.91**	**317**	*e*P		pP		05 14 10.8	-2.3
	comp=Z,6.3nm,0.7s								
SMF	**Signal de Mont**	**91.96**	**317**	*e*P		pP		05 14 10.9	-2.4
	comp=Z,4.6nm,0.7s								
SSF	**Saint Saulge**	**92.16**	**317**	*e*P		pP		05 14 12.4	-1.8
AVF	**Avril sur Loir**	**92.28**	**317**	*e*P		pP		05 14 12.6	-2.1
	comp=Z,11nm,1.0s								
H09N1	**TRISTAN DA CUN**	**106.21**	**232**	T		T		07 14 39.7	
	SNR=3.4								
PLCA	**Paso Flores**	**138.78**	**194**	*e*PKPdf		**PKPdf**		**05 20 22.1**	**-0.3**
TXAR	**Lajitas Array**	**143.86**	**32**	PKP		PKPbc		05 20 30.2	+0.6
	comp=Z,0.5nm,0.8s,baz=190,slow=2.1,SNR=5.2								
TXAR				pPKP		**PKiKP**		**05 20 37.9**	**+2.5**
	comp=Z,0.5nm,0.6s,baz=180,slow=1.0,SNR=3.3								

*CASC **29** 05:14:07.5±3.6,8.°95N×84.°11W,h0km±9km,MD4.3*
*IDC **29** 05:14:07.1±2.9,9.°49N×83.°80W,h0km,mb3.7/6,mb1 3.9/7, mb1mx3.6/41,mbtmp3.7/7,ML3.0/1,MS3.2/4,Ms1 3.2/4, ms1mx2.8/30,Error ellipse: s-maj=77.4km s-min=25.5km az=21.0*

ISC 29 05:14:06.8±1.7,8.°96N±0.°07×84.°16W±0.°04,h8km±9km,n37, σ1§69/40,mb3.7/7,MS3.3/3,5C-2D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.71**	**34**	⇓*i*P	**Pb**	**05 14 22.4**	**+0.6**
BUS				*e*S	**Sb**	**05 14 29.9**	**-2.0**
URSC	**Urasca**	**0.95**	**24**	⇓*i*P	**Pn**	**05 14 26.2**	**-0.4**
SJS	**Escuela Geolog**	**0.98**	**6**	⇑*e*P	**Pn**	**05 14 26.8**	**-0.2**
SJS				*e*S	**Sn**	**05 14 42.7**	**+1.6**
CGA2	**Cerro Gallo 2**	**1.09**	**344**	⇑*e*P	**Pb**	**05 14 28.2**	**+0.2**
JCR	**Jicaral**	**1.29**	**313**	⇑*e*P	**Pg**	**05 14 29.6**	**-1.9**
JCR				*e*S	**Sn**	**05 14 54.1**	**+5.5**
BRU2	**Volcan**	**1.46**	**96**	⇑*i*P	**Pn**	**05 14 34.5**	**+0.8**
BRU2				*e*S	**Sb**	**05 14 54.3**	**+1.0**
TBS2		**1.50**	**96**	*e*P	**Pg**	**05 14 36.0**	**+0.4**
TBS2				*e*S	**Sn**	**05 14 57.3**	**+3.3**
JTS	**JuntasAbangare**	**1.53**	**330**	*e*P	**Pn**	**05 14 34.3**	**-0.3**
JTS	**JuntasAbangare**	**1.53**	**330**	Pn	**Pn**	**05 14 34.0**	**-0.5**
	42nm,0.3s,baz=12,slow=8.3,SNR=208						
JTS				Sn	**Sn**	**05 14 56.9**	**+2.2**
	149nm,0.3s,baz=286,slow=19,SNR=10						
BRU	**Baru**	**1.59**	**95**	⇑*i*P	**Pn**	**05 14 36.8**	**+1.1**
CEDE	**Laguna Cede¯–o**	**1.61**	**341**	*i* P	**Pg**	**05 14 38.5**	**+0.8**
CNI	**Changuinola**	**1.69**	**74**	*e*P	**Pg**	**05 14 39.0**	**-0.2**
CNI				*e*S	**Sg**	**05 14 59.9**	**-1.2**
AMAS	**Alto Masis**	**1.83**	**334**	*i* P	**Pg**	**05 14 41.6**	**-0.4**
PTEN	**Parque Tenorio**	**1.92**	**335**	*i* P	**Pg**	**05 14 43.6**	**-0.1**
PTEN				*i* S	**Sg**	**05 15 12.8**	**+4.1**
CUI	**Cuipilapa**	**1.95**	**330**	*i* P	**Pn**	**05 14 40.8**	**+0.5**
COLC	**Colonia**	**1.98**	**329**	*i* P	**Pb**	**05 14 42.5**	**-0.6**
HORNC	**Hornillas**	**2.01**	**330**	*i* P	**Pn**	**05 14 42.1**	**+1.0**
GUAB	**Guayabo de Bag**	**2.03**	**329**	*i* P	**Pb**	**05 14 44.3**	**+0.3**
LIM1	**Limonal**	**2.03**	**328**	*i* P	**Pn**	**05 14 42.7**	**+1.3**
GPS2	**Hotel Rinc¯‡n**	**2.13**	**327**	*i* P	**Pn**	**05 14 44.0**	**+1.2**
GPS2				*i* S	**Sg**	**05 15 15.4**	**0.0**
BUEV	**Buena Vista**	**2.20**	**326**	*i* P	**Pn**	**05 14 45.0**	**+1.3**
GB1A	**Borinquen Arri**	**2.21**	**327**	*i* P	**Pn**	**05 14 45.2**	**+1.3**
GBS2	**Las Lilas**	**2.26**	**326**	*i* P	**Pg**	**05 14 49.1**	**-0.9**
ZANG	**Zanguenga, Cho**	**4.24**	**90**	*e*P	**Pn**	**05 15 13.6**	**+1.8**
BCIP	**Isla Barro Col**	**4.28**	**87**	*e*P	**Pn**	**05 15 11.5**	**-0.7**
APG	**El Apazote**	**8.61**	**315**	Pn	**Pn**	**05 16 10.6**	**-1.4**
	0.2nm,0.3s,baz=149,slow=23,SNR=4.8						
APG				LR	LR	05 19 59.4	
	comp=Z,134nm,18.5s,baz=92,slow=41						
CMIG	**Matias Romero**	**13.20**	**309**	Pn	Pn	05 17 19.9	+5.2
	0.2nm,0.3s,baz=108,slow=16,SNR=3.4						
TXAR	**Lajitas Array**	**27.30**	**321**	P	**P**	**05 19 53.4**	**+1.2**
	0.4nm,0.9s,baz=132,slow=8.6,SNR=3.7						
LPAZ	**La Paz**	**29.68**	**148**	LR	LR	05 33 20.2	
	comp=Z,65nm,18.3s,baz=318,slow=38						
PDAR	**Pinedale Array**	**40.37**	**331**	LR	LR	05 39 19.2	
	comp=Z,12nm,19.2s,baz=124,slow=38						
ULM	**Lac du Bonnet**	**42.30**	**349**	P	**P**	**05 21 59.0**	**-1.8**
	1.5nm,0.5s,baz=159,slow=10,SNR=4.3						
SCHQ	**Schefferville**	**47.79**	**13**	P	P	05 22 41.4	-3.2
	2.9nm,0.8s,baz=249,slow=12,SNR=3.4						
YKA	**Yellowknife Ar**	**57.82**	**344**	P	**P**	**05 23 57.1**	**-1.4**
	0.4nm,0.7s,baz=139,slow=6.8,SNR=9.4						
SUMG	**Summit**	**69.18**	**13**	*i* P	P	05 25 18.3	+4.3
	6.2nm,1.0s						
ILAR	**Eielson Array**	**70.50**	**336**	P	**P**	**05 25 20.5**	**-1.3**
	0.3nm,0.7s,baz=119,slow=3.7,SNR=5.7						
DBIC	**Dimbokro**	**78.47**	**85**	LR	LR	06 03 26.1	
	comp=Z,17nm,18.0s,baz=110,slow=38						
TORD	**Torodi Ar. Bea**	**84.00**	**78**	P	**P**	**05 26 38.0**	**-0.6**
	0.4nm,0.8s,baz=284,slow=4.5,SNR=3.3						

*ATH **29** 05:17:02.2,34.°10N×26.°15E,h13km±4km,MD3.4/7*
*IDC **29** 05:17:02.6±1.5,34.°17N×26.°27E,h0km,mb3.8/4, mb1 3.8/5,mb1mx3.4/52,mbtmp3.7/5,ML3.9/1,Error ellipse: s-maj=31.7km s-min=23.7km az=160.0*
*CSEM **29** 05:17:03.5±0.8,34.°21N×26.°18E,h2km,MD3.4,Error ellipse: s-maj=19.4km s-min=9.4km az=2.0*
*ISCJB **29** 05:17:04.2±0.8,34.°14N±0.°06×26.°21E±0.°07,h26km, mb3.7/4,Error ellipse: s-maj=8.8km s-min=7.2km az=34.7*

ISC 29 05:17:06.0±1.1,34.°24N±0.°08×26.°23E±0.°04,h26km,n26, σ1§50/32,mb3.8/4,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.88**	**359**	*e*PG	**Pb**	**05 17 21.2**	**-1.4**
ZKR				*e*SB	**Sn**	**05 17 36.0**	**+1.5**
ZKR	**Zakros**	**0.88**	**359**	*e*Pg	**Pb**	**05 17 21.2**	**-1.4**
LAST	**Lasithi**	**1.11**	**326**	*e*PB	**Pn**	**05 17 25.0**	**-0.9**
LAST				*e*SB	**Sb**	**05 17 41.2**	**+0.5**
LAST	**Lasithi**	**1.11**	**326**	*e*Pb	**Pn**	**05 17 25.0**	**-0.9**
LAST				*e*Sb	**Sb**	**05 17 41.2**	**+0.5**
NPS	**Neapolis**	**1.14**	**334**	*e*PB	**Pn**	**05 17 25.4**	**-0.9**
NPS				*e*SB	**Sb**	**05 17 41.4**	**-0.1**
NPS	**Neapolis**	**1.14**	**334**	*e*Pb	**Pn**	**05 17 25.4**	**-0.9**
NPS				*e*Sb	**Sb**	**05 17 41.4**	**-0.1**
SIVA	**Sivas**	**1.41**	**304**	*e*PB	**Pn**	**05 17 30.1**	**+0.2**
SIVA	**Sivas**	**1.41**	**304**	*e*Pb	**Pn**	**05 17 30.1**	**+0.2**
KARP	**Karpathos**	**1.51**	**30**	*e*PB	**Pb**	**05 17 33.2**	**-0.2**
KARP	**Karpathos**	**1.51**	**30**	*e*Pb	**Pb**	**05 17 33.2**	**-0.2**
IDI	**Anoyia**	**1.52**	**314**	Pn	**Pb**	**05 17 32.5**	**-1.1**
	4.9nm,0.3s,baz=133,slow=11,SNR=29						
IDI				LR	LR	05 18 23.5	
	comp=Z,72nm,20.9s,baz=74,slow=51						
KARN	**Karanos**	**2.23**	**302**	*e*PN	**Pn**	**05 17 41.9**	**+0.6**
KARN	**Karanos**	**2.23**	**302**	*e*Pn	**Pn**	**05 17 41.9**	**+0.6**
KYTH	**Kithira**	**3.31**	**309**	*e*PN	**Pn**	**05 17 56.5**	**+0.3**
KYTH	**Kithira**	**3.31**	**309**	*e*Pn	**Pn**	**05 17 56.5**	**+0.3**
AKAS	**Kas**	**3.41**	**53**	*i* P	**Pn**	**05 17 56.9**	**-0.6**
AKAS	**Kas**	**3.41**	**53**	*i* P	**Pn**	**05 17 56.9**	**-0.6**
AKAS				*i* S	**Sn**	**05 18 31.6**	**-5.6**
AYDN	**Tasoluk**	**3.67**	**21**	*i* P	**Pn**	**05 18 03.4**	**+2.3**
AYDN	**Tasoluk**	**3.67**	**21**	*i* P	**Pn**	**05 18 03.4**	**+2.3**
GOLH	**Golhisar**	**4.04**	**41**	*i* P	**Pn**	**05 18 08.2**	**+2.0**
GOLH	**Golhisar**	**4.04**	**41**	*i* P	**Pn**	**05 18 08.2**	**+2.0**
GOLH				*i* S	Sn	05 18 43.6	-9.1
AKASG	**Malin Array Be**	**16.60**	**7**	Pn	**Pn**	**05 20 57.4**	**+0.6**
	0.5nm,0.3s,baz=193,slow=11,SNR=3.6						
EKA	**Eskdalemuir Ar**	**29.30**	**325**	P	**P**	**05 23 06.5**	**+0.5**
	1.9nm,1.0s,baz=108,slow=10,SNR=3.7						
TORD	**Torodi Ar. Bea**	**30.60**	**233**	P	**P**	**05 23 18.2**	**+0.3**
	0.3nm,0.6s,baz=32,slow=7.8,SNR=5.7						
MKAR	**Makanchi Array**	**43.55**	**56**	P	**P**	**05 25 08.7**	**+1.1**
	0.9nm,0.6s,baz=278,slow=6.5,SNR=15						
ZALV	**Zalesovo Beam**	**45.01**	**46**	P	**P**	**05 25 18.9**	**-0.2**
	0.8nm,0.4s,baz=260,slow=8.9,SNR=4.1						

GUC 29 05:30:25.8±0.5,34.°37S×72.°12W,h21km±7km,ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.96**	**131**	*e*P	Pb	05 30 42.5	-1.3
NICH				*e*S	Sb	05 30 54.9	-1.3
TALC	**Talca**	**1.10**	**159**	*e*P	Pn	05 30 44.6	-1.3
TALC				*e*S	Sb	05 30 58.7	-1.3
IHA	**Instituto Hidr**	**1.40**	**17**	*e*P	Pn	05 30 49.5	-0.6
LNCH	**Linares**	**1.53**	**164**	*e*P	Pn	05 30 51.1	-0.8
LNCH				*e*S	Sn	05 31 11.0	-0.2
FSR	**Penalolen**	**1.59**	**56**	*e*P9	Pb	05 30 54.0	-0.7
FSR				*e*S	Sb	05 31 14.3	-0.1
CLCH	**Cerro Calan**	**1.64**	**54**	*e*P1	Pn	05 30 53.6	+0.2
CLCH				*e*S	Sn	05 31 14.2	+0.2
CLCH				IAML		05 31 27.6	
	comp=N,1μm,0.8s						
ROCH	**El Roble**	**1.68**	**34**	*e*P	Pn	05 30 53.8	-0.4
ROCH				*e*S	Sn	05 31 15.5	+0.3
ROCH				IAML		05 31 21.2	
	comp=E,892nm,0.6s						
PEL	**Peldehue**	**1.71**	**45**	*e*P	Pn	05 30 54.1	-0.4
PEL				*e*S	Sn	05 31 15.9	+0.2

*MOS **29** 05:32:23.7±0.6,48.°45N×155.°89E,h19km,mb4.4/1,Error ellipse: s-maj=48.2km s-min=6.9km az=76.7*
*KRSC **29** 05:32:26.1±1.9,48.°77N×156.°44E,h15km±7km,ML4.3*
*ISCJB **29** 05:32:28.8±1.3,48.°78N±0.°08×155.°9E±0.°3,h35km, mb3.2/3,Error ellipse: s-maj=27.8km s-min=9.5km az=16.9*
*SKHL **29** 05:32:29.8±0.1,49.°05N×154.°67E,h55km±2km,mb4.4/1*
*IDC **29** 05:32:45.9±6.9,50.°00N×156.°51E,h0km,mb3.2/3, mb1 3.6/4,mb1mx3.3/47,mbtmp3.2/4,ML2.3/1,MS2.1/1, Ms1 2.1/1,ms1mx2.0/20,Error ellipse: s-maj=145.5km s-min=61.9km az=75.0*

ISC 29 05:32:27.6±1.5,48.°7N±0.°1×155.°6E±0.°2,h35km,n41, σ1§26/44,mb3.2/3,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.04**	**9**	*e*PN	Pn	05 32 57.5	-2.0
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**2.04**	**9**	P	**Pn**	**05 32 58.4**	**-1.0**
SKR				S	**Sn**	**05 33 21.0**	**-2.7**
SKR	**Severo-Kuril's**	**2.04**	**9**	*e*P	**Pn**	**05 32 58.5**	**-1.0**
SKR				AMB	AMB	05 32 59.9	
	comp=Z,178nm,0.5s						
SKR				*e*S	Sn	05 33 20.0	-3.7
SKR				A	A	05 33 24.9	
	comp=Z,860nm,0.2s						
PAU	**Pauzhetka**	**2.91**	**15**	*e*P	**Pn**	**05 33 12.0**	**+0.7**
PAU				*e*S	**Sn**	**05 33 43.6**	**-1.4**
PAU				A	A	05 33 52.1	
	comp=Z,1μm,0.4s						
MTVR	**Mutnovka**	**4.16**	**22**	P	**Pn**	**05 33 29.3**	**+0.7**
MTVR				S	**Sn**	**05 34 15.5**	**-0.5**
RUS	**Russkaya**	**4.20**	**25**	PN	**Pn**	**05 33 28.9**	**-0.1**
RUS	**Russkaya**	**4.20**	**25**	P	**Pn**	**05 33 28.9**	**-0.1**
RUS				S	**Sn**	**05 34 14.6**	**-2.2**
APC	**Apacha**	**4.37**	**12**	PN	**Pn**	**05 33 33.0**	**+1.5**
APC	**Apacha**	**4.37**	**12**	P	**Pn**	**05 33 33.0**	**+1.5**
APC				S	**Sn**	**05 34 22.8**	**+1.7**
PETK	**Petropavlovsk-**	**4.64**	**16**	Pn	**Pn**	**05 33 36.6**	**+1.5**
	comp=Z,1.9nm,0.3s,baz=191,slow=15,SNR=5.6						
PETK				Sn	Sn	05 34 35.5	+7.9
	comp=Z,0.4nm,0.3s,baz=226,slow=27,SNR=2.5						
PETK				LR	LR	05 35 13.1	
	comp=Z,28nm,18.3s,baz=281,slow=46						
PET	**Petropavlovsk**	**4.77**	**23**	*e*PN	**Pn**	**05 33 37.5**	**+0.7**
PET	**Petropavlovsk**	**4.77**	**23**	S	**Sn**	**05 34 30.4**	**-0.4**
PET	**Petropavlovsk**	**4.77**	**23**	*e*P	**Pn**	**05 33 38.9**	**+2.1**
PET				*e*S	**Sn**	**05 34 30.8**	**0.0**
PET				A	A	05 34 42.5	
	comp=Z,1μm,0.6s						
UGLR	**Uglovaya**	**4.98**	**23**	P	**Pn**	**05 33 41.1**	**+1.2**
AVH	**Avacha**	**5.01**	**22**	PN	**Pn**	**05 33 41.6**	**+1.4**
AVH	**Avacha**	**5.01**	**22**	P	**Pn**	**05 33 41.6**	**+1.4**
AVH				S	**Sn**	**05 34 37.2**	**+0.3**
KOK	**Koryaka**	**5.01**	**21**	PN	**Pn**	**05 33 41.7**	**+1.4**
KOK	**Koryaka**	**5.01**	**21**	P	**Pn**	**05 33 41.7**	**+1.4**
KOK				S	**Sn**	**05 34 37.2**	**+0.3**
SMAR	**Somma**	**5.02**	**22**	PN	**Pn**	**05 33 42.3**	**+1.7**
SMAR	**Somma**	**5.02**	**22**	P	**Pn**	**05 33 42.3**	**+1.7**
KRER	**Koryakskii**	**5.04**	**22**	P	**Pn**	**05 33 42.7**	**+1.8**
KRER				S	**Sn**	**05 34 38.9**	**+0.9**
SDLR	**Sedlovina**	**5.06**	**23**	PN	**Pn**	**05 33 41.6**	**+0.7**
SDLR	**Sedlovina**	**5.06**	**23**	P	**Pn**	**05 33 41.6**	**+0.7**
SDLR				S	**Sn**	**05 34 37.3**	**-0.8**
KRX	**Arik**	**5.07**	**21**	P	**Pn**	**05 33 42.9**	**+1.7**
KRX				S	**Sn**	**05 34 39.1**	**+0.6**
GNL	**Ganaly**	**5.24**	**15**	PN	**Pn**	**05 33 44.3**	**+0.8**
GNL	**Ganaly**	**5.24**	**15**	P	**Pn**	**05 33 44.3**	**+0.8**
MKZ	**Mys Kozlova**	**7.01**	**30**	PN	**Pn**	**05 34 07.4**	**-0.3**
MKZ	**Mys Kozlova**	**7.01**	**30**	P	**Pn**	**05 34 07.4**	**-0.3**
TUMR	**Tumrok**	**7.19**	**21**	PN	**Pn**	**05 34 12.0**	**+1.8**
TUMR	**Tumrok**	**7.19**	**21**	P	**Pn**	**05 34 12.0**	**+1.8**
SHO	**Shikotan**	**7.75**	**235**	*e*PN	**Pn**	**05 34 17.7**	**-0.2**
SHO	**Shikotan**	**7.75**	**235**	*e*P	**Pn**	**05 34 17.7**	**-0.2**
KBTR	**Krutoberegovo**	**8.73**	**27**	PN	**Pn**	**05 34 30.9**	**-0.4**
KBTR	**Krutoberegovo**	**8.73**	**27**	P	**Pn**	**05 34 30.9**	**-0.4**
BKI	**Bering**	**9.14**	**40**	S	Sn	05 36 13.0	-5.3
H11S1	**WAKE ISLAND Hy**	**31.39**	**160**	T	T	06 12 26.7	
	baz=350,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**31.40**	**160**	T	T	06 13 10.1	
	baz=350,SNR=35						
H11S2	**WAKE ISLAND Hy**	**31.41**	**160**	T	T	06 12 29.3	
	baz=350,slow=76,SNR=21						
ILAR	**Eielson Array**	**33.99**	**40**	P	P	05 39 18.1	+11
	comp=Z,0.2nm,0.7s,baz=264,slow=5.5,SNR=5.1						
YKA	**Yellowknife Ar**	**48.37**	**38**	P	P	05 41 19.0	+14
	comp=Z,0.2nm,0.6s,baz=300,slow=7.4,SNR=4.6						
TXAR	**Lajitas Array**	**75.09**	**63**	P	P	05 44 22.8	+17
	comp=

ARCES PKP **PKiKP** **05 56 34.5 -0.8**
4.9nm,0.7s,baz=83,slow=3.5,SNR=12
ARCES SKPbc **SKPbc** **05 59 32.9 +0.3**
5.4nm,0.9s,baz=81,slow=10.0,SNR=4.0
JOF Joensuu 141.86 338 *e*pkp **PKPdf** **05 56 34.8 -5.1**
KBZ Khabaz 144.02 304 PKP **PKPdf** **05 56 43.5 -0.8**
4.7nm,0.9s,baz=137,slow=2.1,SNR=6.4
KAF Kangasniemi 144.03 340 *e*pkp PKPab 05 56 40.5 -1.9
FINES FINESS Array B 144.62 339 PKP PKPbc 05 56 43.7 -0.8
20nm,0.5s,baz=71,slow=3.1,SNR=148
NB2 NORSAR Subarra148.45 350 PKP **PKPbc** **05 56 54.8 -0.5**
comp=Z,6.2nm,0.6s,baz=14,slow=2.7
NOA NORSAR Array B 148.45 350 PKPbc **PKPbc** **05 56 55.0 -0.3**
comp=Z,5.8nm,0.6s,baz=16,slow=4.2,SNR=25
AKASG Malin Array Be 150.46 322 PKPbc **PKPbc** **05 57 00.4 0.0**
comp=Z,9.7nm,0.6s,baz=48,slow=2.8,SNR=55
BRTR Keskin Array B 151.46 298 PKPbc **PKPbc** **05 57 03.8 +0.4**
comp=Z,1.9nm,0.5s,baz=147,slow=4.6,SNR=9.7
BRTR PKPab **PKPab** **05 57 13.2 0.0**
comp=Z,1.5nm,0.7s,baz=115,slow=5.6,SNR=4.6
TORD Torodi Ar. Bea 162.90 184 PKP **PKPdf** **05 57 12.6 +1.0**
comp=Z,0.4nm,0.6s,baz=254,slow=0.8,SNR=3.8
TORD PKPab **PKPab** **05 58 05.2 +2.4**
comp=Z,1.8nm,0.5s,baz=180,slow=3.3,SNR=13

*ISCJB **29** 05:39:20.5±1.0, 14°.27N±0°.08×92°.28W±0°.07, h62km, Error ellipse: s-maj=14.5km s-min=4.9km az=39.4*
*MEX **29** 05:39:22.5±0.5, 14°.27N×92°.28W, h64km±10km, MD3.9*
*CASC **29** 05:39:26.1±1.7, 13°.91N×91°.68W, h0km±12km, MD3.7*
ISC 29 05:39:21.6±1.8, 14°.3N±0°.1×92°.24W±0°.09, h62km, n12, σ0s63/17, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.59**	**89**	⇓*e*P		**Pn**		**05 39 35.7**	**+1.1**
THIG		**0.60**	**358**	*i* P		**Pn**		**05 39 34.7**	**-0.1**
THIG				*i* S		**Sn**		**05 39 44.8**	**+0.4**
PCG	**Pacaya**	**1.59**	**87**	*e*P		**Pn**		**05 39 48.3**	**+0.6**
PCG				*e*S		**Sn**		**05 40 06.1**	**-1.4**
PCIG		**1.68**	**326**	*i* P		**Pn**		**05 39 49.0**	**+0.2**
PCIG				*i* S		**Sn**		**05 40 08.4**	**-0.9**
CCIG	**Comitan**	**1.97**	**3**	*e*P		**Pn**		**05 39 53.0**	**+0.2**
CCIG				*i* S		**Sn**		**05 40 16.8**	**+0.2**
RBDL	**Robledal**	**2.49**	**94**	*e*P		**Pn**		**05 39 59.9**	**+0.1**
RTR	**El Retiro**	**2.55**	**99**	*e*P		**Pn**		**05 40 00.8**	**0.0**
SBLS	**San Blas**	**2.58**	**100**	*e*P		**Pn**		**05 40 01.9**	**+0.7**
SNJE	**San Jose**	**2.59**	**99**	*e*P		**Pn**		**05 40 01.6**	**+0.2**
LFRS	**El Faro**	**3.16**	**102**	*e*P		**Pn**		**05 40 09.5**	**+0.5**
CMIG	**Matias Romero**	**3.76**	**318**	*e*P		**Pn**		**05 40 17.3**	**+0.2**
CMIG				*i* S		**Sn**		**05 41 00.3**	**+0.1**
VSM	**San Miguel**	**3.95**	**102**	*e*P		**Pn**		**05 40 19.4**	**-0.6**

*BJI **29** 05:39:23.5, 17°.23N×125°.58E, h10km, mB4.8/25, mb4.5/39, Ms4.2/26, Ms7 4.1/26*
*IDC **29** 05:39:45.0±0.7, 17°.93N×122°.43E, h0km, mb4.2/18, mb1 4.3/19, mb1mx4.2/41, mbtmp4.2/19, MS3.6/17, Ms1 3.7/17, ms1mx3.4/34, Error ellipse: s-maj=23.6km s-min=16.2km az=69.0*
*ISCJB **29** 05:39:46.5±1.3, 18°.01N±0°.02×122°.52E±0°.03, h15km±8km, mb4.3/30, MS3.6/17, Error ellipse: s-maj=5.6km s-min=3.8km az=18.9*
*NEIC **29** 05:39:46.9±0.4, 17°.94N×122°.50E, h10km, mb4.5/11, Error ellipse: s-maj=10.2km s-min=5.8km az=96.0*
NEIC Felt [V PIVS] at Gonzaga; [IV PIVS] at Santa Ana; [III PIVS] at Aparri, Baggao, Callao and Penablanca; [II PIVS] at Tuguegarao; [I PIVS] at Lal-lo.
*MAN **29** 05:39:48, 18°.09N×122°.35E, h15km, mb5.6, ML4.6, MS4.6*
MAN INTENSITY V - GONZAGA CAGAYAN; INTENSITY IV - STA ANA CAGAYAN; INTENSITY III - CALLAO PENABLANCA CAGAYAN; BAGGAO & APARRI CAGAYAN.
*BKK **29** 05:39:49.3±1.0, 18°N±7°×12°2E±1°2, h10km, M4.3/13, mB4.1/1, mb4.3/13, Mw(mB)3.2/1*
*DJA **29** 05:39:55.3±0.6, 18°N±5°×12°2E±1°1, h10km, M4.6/11, mB5.1/3, mb4.7/11, Mw(mB)4.5/3*
ISC 29 05:39:50.0±0.6, 18°.03N±0°.03×122°.37E±0°.05, h26km±3km, n105, σ2s11/106, mb4.3/30, MS3.7/17, 5C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.38**	**305**	*e*P		**Pb**		**05 39 56.5**	**-1.7**
SGCP				*e*S		**Sb**		**05 40 03.2**	**-0.6**
CVP	**Callao Caves**	**0.61**	**239**	⇓*i*P		**Pb**		**05 39 59.8**	**-2.3**
CVP				*i* S		**Sb**		**05 40 08.1**	**-2.3**
APYP	**Conner**	**1.08**	**262**	*e*P		**Pn**		**05 40 07.5**	**-2.1**
APYP				*e*S		**Sb**		**05 40 25.5**	**+1.7**
ABRA	**Dolores**	**1.62**	**257**	*e*P		**Pn**		**05 40 16.2**	**-0.8**
ABRA				*e*S		**Sb**		**05 40 39.8**	**+0.4**
PIP	**Pasuquin**	**1.69**	**280**	⇑*i*P		**Pn**		**05 40 17.1**	**-0.8**
PIP				*e*S		**Sn**		**05 40 38.9**	**+0.2**
SIPP	**Brgy, Tapao**	**1.82**	**267**	⇑*i*P		Pn		05 40 16.1	-3.6
SIPP				*e*S		Sn		05 40 36.9	-5.1
BCPH	**Baguio City Da**	**2.37**	**227**	⇑*i*P		**Pn**		**05 40 28.8**	**+1.5**
BCPH				*i* S		**Sn**		**05 40 57.8**	**+2.2**
BALP	**Baler**	**2.40**	**199**	*e*P		**Pn**		**05 40 28.2**	**+0.6**
PCPH	**Palayan**	**2.74**	**207**	⇑*e*P		**Pn**		**05 40 33.3**	**+1.0**
PCPH				*e*S		**Sn**		**05 41 06.4**	**+1.9**
BOLP	**Bolinao**	**2.86**	**236**	*e*P		**Pn**		**05 40 35.6**	**+1.6**
SCZP	**Santa Cruz**	**3.25**	**227**	*e*P		**Pn**		**05 40 40.0**	**+0.7**
GQP	**Guinayangan**	**4.10**	**179**	⇓*e*P		Pn		05 40 46.5	-4.5
GQP				*e*S		**Sn**		**05 41 37.2**	**-0.9**
PVCP	**Virac**	**4.73**	**158**	*e*P		**Pn**		**05 40 59.5**	**-0.2**
TWG	**Pinlang**	**4.92**	**346**	*e*Pn		**Pn**		**05 41 02.2**	**-0.2**
TWG	242nm,0.6s			*e*Sn		**Sn**		**05 42 00.3**	**+1.7**
YULB	**Yu-li**	**5.43**	**350**	*e*Pn		**Pn**		**05 41 09.6**	**+0.2**
YULB	20nm,0.4s			*e*Sn		**Sn**		**05 42 12.4**	**+1.3**
SSLB	**Suanglung**	**5.88**	**347**	*e*Pn		**Pn**		**05 41 16.4**	**+0.8**
SSLB				*e*Sn		**Sn**		**05 42 25.8**	**+3.5**
YHNB	**Yeheng**	**6.68**	**352**	*e*Pn		**Pn**		**05 41 28.1**	**+1.6**
YHNB	30nm,0.5s			*e*Sn		**Sn**		**05 42 46.5**	**+4.7**
JOW	**Kunigami**	**10.32**	**31**	Pn		**Pn**		**05 42 16.2**	**-0.3**
QIZ	baz=205,slow=12 **Qiongzhong**	**11.93**	**277**	P		Pn		05 42 58.8	+20
QIZ				S		Sn		05 45 50.3	+60
QIZ	20nm,1.1s			PMZ					
QIZ	140nm,3.8s			PMZ					
QIZ	440nm,14.7s			LZ					
NJ2	**Nanjing**	**14.32**	**348**	*e*P		**Pn**		**05 43 08.5**	**-2.6**
NJ2				S		**S**		**05 46 04.0**	**-5.0**
NJ2	60nm,1.0s			PMZ					
NJ2	370nm,9.4s			LN					
NJ2	540nm,15.3s			LE					
NJ2	350nm,12.5s			LZ					
WHN	**Wuhan**	**14.44**	**331**	P		**P**		**05 43 21.5**	**+2.2**
WHN				S		S		05 46 21.5	+10
WHN	680nm,3.5s			LN					
WHN	790nm,4.8s			LE					
WHN	960nm,15.8s			LZ					
GYA	**Guiyang**	**16.77**	**303**	*e*P		P		05 44 01.0	+16
GYA	10.0nm,0.7s			PMZ					
GTOI	**Gorontalo**	**17.29**	**178**	P		**P**		**05 43 55.1**	**+4.0**
SBUM	33nm,1.0s,592nm **Sibu**	**18.40**	**214**	*e*P		**Pn**		**05 44 03.4**	**-0.1**
TIA	10nm,1.0s **Tai'an**	**18.70**	**347**	⇑P		**Pn**		**05 44 08.8**	**+1.8**
KHON	**Khomkaen**	**18.75**	**268**	P		**Pn**		**05 44 11.4**	**+3.7**
APSI	14nm,1.2s **Ampana**	**18.83**	**182**	P		Pn		05 44 16.5	+7.8
LUWI	40nm,1.1s,541nm **Luwuk**	**18.95**	**179**	P		Pn		05 44 19.3	+9.2
KMI	41nm,1.3s,3μm **Kunming**	**19.56**	**295**	P		Pn		05 44 30.0	+12
KMI	15nm,0.8s			PMZ					
KSAR	**Wonju Array Be**	**19.94**	**13**	P		**P**		**05 44 20.1**	**0.0**
KSRS	**Korea Array**	**19.96**	**13**	P		**P**		**05 44 20.1**	**-0.2**
XAN	1.3nm,0.4s,baz=193,slow=10,SNR=4.1 **Xi'an**	**19.98**	**326**	P		Pn		05 44 22.0	-0.3
XAN	10.0nm,1.3s			PMZ					
XAN	260nm,18.8s			LN					
XAN	95nm,16.2s			LE					
XAN	120nm,14.6s			LZ					
KSM	**Kuching**	**20.27**	**217**	*e*P		**P**		**05 44 24.2**	**+0.4**
NAYO	27nm,1.1s **Nakonayok**	**20.55**	**263**	P		Pn		05 44 28.5	-0.6
UTTA	13nm,1.0s **Uttaradit**	**20.77**	**273**	P		**P**		**05 44 30.4**	**+1.3**
CD2	3.3nm,0.9s **Chengdu**	**21.21**	**311**	⇓*i*P		**P**		**05 44 35.8**	**+1.9**
CD2				sP		**sP**		**05 44 45.0**	**+0.8**
CD2				S		Sn		05 48 51.8	+16
CD2				SS		SnSn		05 49 41.0	+50
CD2	80nm,0.8s			PMZ					
CD2	180nm,6.0s			PMZ					
CD2	510nm,14.3s			LN					
CD2	470nm,16.6s			LE					
CD2	420nm,13.1s			LZ					
UTHA	**Uthaitani**	**22.08**	**267**	P		**P**		**05 44 44.9**	**+1.6**
CMMT	9.6nm,0.9s,86nm **Chiang Mai**	**22.23**	**276**	P		**P**		**05 44 45.6**	**+0.6**
CHTO	30nm,1.1s **Chiang Mai**	**22.24**	**276**	P		**P**		**05 44 45.7**	**+0.7**
CMAR	105nm,1.2s **Chiang Mai Arr**	**22.25**	**275**	P		**P**		**05 44 45.9**	**+0.7**
CMAR	16nm,1.0s,baz=78,slow=9.4,SNR=64			LR		LR		05 53 18.7	
BJI	comp=Z,92nm,19.2s,baz=62,slow=36 **Beijing**	**22.58**	**348**	P		P		05 44 42.0	-6.5
BJI	6.0nm,0.9s			PMZ					
BJI	77nm,4.1s			LN					
BJI	200nm,15.1s			LE					
BJI	190nm,13.6s			LZ					
KHLT	110nm,17.6s **Khaolaem Dam**	**23.03**	**265**	P		**P**		**05 44 54.0**	**+0.6**
MJAR	6.2nm,1.4s **Matsushiro Arr**	**23.14**	**34**	LR		LR		05 54 48.6	
SURA	comp=Z,37nm,18.4s,baz=240,slow=39 **Surathani**	**23.77**	**251**	P		P		05 45 17.6	+17
LZH	**Lanzhou**	**24.33**	**321**	*e*P		**P**		**05 45 08.8**	**+2.8**
LZH				pP		**pP**		**05 45 14.0**	**+0.5**
LZH				sP		**sP**		**05 45 17.3**	**+0.6**
LZH	190nm,1.8s			PMZ					
LZH	210nm,4.4s			PMZ					
LZH	880nm,16.4s			LN					
LZH	580nm,16.6s			LE					
LZH	320nm,17.7s			LZ					
HHC	**Hu-ho-hao-te**	**24.57**	**340**	*e*P		**P**		**05 45 04.0**	**-4.0**
HHC				pP		pP		05 45 08.0	-7.6
HHC				sP		sP		05 45 11.0	-7.7
HHC				PP		**PnPn**		**05 45 46.0**	**+6.3**
HHC				S		**S**		**05 49 33.3**	**+5.7**
HHC				sS		**sS**		**05 49 40.5**	**+0.6**
HHC				SS		SnSn		05 50 41.0	+27
HHC	40nm,1.1s			PMZ					
HHC	170nm,8.3s			PMZ					
HHC	700nm,15.1s			LN					
HHC	350nm,14.5s			LE					
HHC	550nm,14.5s			LZ					
CN2	**Changchun**	**25.83**	**5**	*e*P		P		05 45 02.0	-17
CN2				*e*sP		sP		05 45 09.0	-21
CN2				*e*S		S		05 49 30.3	-17
CN2	10.0nm,0.6s			PMZ					
CN2	100nm,3.0s			PMZ					
CN2	200nm,15.0s			LN					
CN2	300nm,15.0s			LE					
CN2	300nm,16.0s			LZ					
JAY	**Jayapura**	**27.26**	**137**	LR		LR		05 56 00.8	
BATI	comp=Z,130nm,19.3s,baz=19,slow=36 **Baumata**	**28.08**	**177**	LR		LR		05 58 56.4	
GTA	comp=Z,79nm,18.8s,baz=8.5,slow=41 **Gaotai**	**28.93**	**322**	*e*P		**P**		**05 45 49.0**	**+1.8**
GTA	5.0nm,0.8s			PMZ					
ULN	**Ulaanbaatar**	**32.29**	**341**	*e*P		**P**		**05 46 16.9**	**0.0**
SONM	3.2nm,0.9s **Songino Array**	**32.48**	**340**	P		**P**		**05 46 18.7**	**+0.2**
SONM	1.4nm,0.6s,baz=161,slow=10,SNR=8.5			LR		LR		06 00 39.8	
TAPN	comp=Z,240nm,19.5s,baz=116,slow=38 **Taplejung**	**33.20**	**293**	*e*P		**P**		**05 46 25.0**	**-0.3**
ODAN	10.0nm,0.5s **Odare**	**33.42**	**292**	*e*P		**P**		**05 46 27.0**	**-0.1**
RAMN	18nm,0.4s **Ramite**	**34.13**	**292**	*e*P		**P**		**05 46 33.5**	**+0.2**
JIRN	32nm,0.6s **Jiri**	**34.59**	**293**	*e*P		**P**		**05 46 37.4**	**0.0**
GUN	9.9nm,0.5s **Gumba**	**34.89**	**293**	*e*P		**P**		**05 46 39.9**	**-0.1**
PKI	48nm,1.0s **Pulchoki**	**35.26**	**292**	*e*P		**P**		**05 46 42.3**	**-0.9**
PKIN	25nm,1.1s **Phulchoki**	**35.27**	**292**	*e*P		**P**		**05 46 43.2**	**0.0**
KKN	**Kakani**	**35.40**	**293**	*e*P		**P**		**05 46 43.9**	**-0.4**
DMN	10nm,0.4s **Daman**	**35.53**	**292**	*e*P		**P**		**05 46 44.6**	**-0.8**
TLY	43nm,1.2s **Talaya**	**36.70**	**340**	P		**P**		**05 46 54.7**	**-0.1**
TLY	2.0nm,0.5s,baz=164,slow=5.5,SNR=5.5			LR		LR		06 03 26.8	
WMQ	comp=Z,187nm,18.7s,baz=158,slow=39 **Urumqi**	**38.87**	**319**	P		**P**		**05 47 14.0**	**+0.7**
WMQ				pP		**pP**		**05 47 17.5**	**-3.5**
WMQ				PP		PnPn		05 48 52.8	+7.9
WMQ				S		S		05 53 27.5	+18
WMQ				sS		sS		05 53 35.0	+12
WMQ				SS		SS		05 56 26.5	+25
WMQ				ScS		**ScS**		**05 57 15.5**	**-6.2**
WMQ	11nm,1.7s			PMZ					
WMQ	100nm,4.0s			PMZ					
WMQ	48nm,19.0s			LN					
WMQ	65nm,17.0s			LE					
WMQ	81nm,17.0s			LZ					
WRA	**Warramunga Arr**	**39.52**	**162**	P		**P**		**05 47 16.2**	**-2.7**
H11S3	1.4nm,0.5s,baz=342,slow=9.2,SNR=7.8 **WAKE ISLAND Hy 42.01**	**82**		T		T		06 32 43.3	
H11S1	baz=276,slow=75,SNR=2549 **WAKE ISLAND Hy 42.02**	**82**		T		T		06 32 40.2	
H11S2	baz=276,slow=75,SNR=934 **WAKE ISLAND Hy 42.03**	**82**		T		T		06 32 40.7	
H11N1	baz=276,slow=75,SNR=1062 **WAKE ISLAND Hy 42.07**	**80**		T		T		06 32 46.2	
H11N2	baz=275,slow=75,SNR=944 **WAKE ISLAND Hy 42.08**	**80**		T		T		06 32 45.8	
H11N3	baz=275,slow=75,SNR=782 **WAKE ISLAND Hy 42.09**	**80**		T		T		06 32 47.5	
ASAR	baz=275,slow=75,SNR=725 **Alice Springs**	**42.94**	**164**	P		**P**		**05 47 45.1**	**-1.8**
	1.9nm,0.6s,baz=347,slow=6.8,SNR=26								
ASAR	comp=Z,56nm,18.2s,baz=353,slow=37			LR		LR		06 05 56.5	
MKAR	**Makanchi Array**	**43.64**	**320**	P		**P**		**05 47 52.9**	**+0.4**
MKAR	1.6nm,0.3s,baz=111,slow=7.7,SNR=56			LR		LR		06 08 17.6	
MKAR	comp=Z,51nm,18.1s,baz=122,slow=39 **Makanchi Array**	**43.64**	**320**	*e*P		**P**		**05 47 53.0**	**+0.5**
KSH	**Kashi**	**45.37**	**308**	P		**P**		**05 48 09.3**	**+2.8**
KSH				sP		**sP**		**05 48 16.3**	**-1.1**
KSH				PP		PP		05 50 02.3	+10
KSH				S		S		05 55 04.5	+18
KSH				ScS		**ScS**		**05 57 55.5**	**-6.3**
KSH				SS		**SnSn**		**05 58 29.8**	**-7.5**
KSH	6.0nm,0.8s			PMZ					
KSH	73nm,5.1s			PMZ					
KSH	68nm,4.9s			LN					
KSH	54nm,4.5s			LE					
KSH	130nm,5.8s			LZ					
ULHL	**Ulahol**	**45.92**	**312**	P		**P**		**05 48 12.0**	**+1.1**
ZALV	SNR=11 **Zalesovo Beam**	**46.05**	**330**	P		**P**		**05 48 10.2**	**-1.3**
ZALV	0.6nm,0.4s,baz=115,slow=10.0,SNR=3.7			LR		LR		06 08 26.4	
TKM2	comp=Z,79nm,18.0s,baz=203,slow=37 **Tokmak 2**	**46.58**	**313**	P		**P**		**05 48 16.8**	**+0.7**
TKM2	SNR=6.4 **Tokmak 2**	**46.58**	**313**	*e*P		**P**		**05 48 16.5**	**+0.4**
KZA	11nm,1.4s **Kyzart**	**46.58**	**311**	P		**P**		**05 48 18.0**	**+1.7**
UCH	SNR=17 **Uchtor**	**47.15**	**311**	P		**P**		**05 48 22.4**	**+1.6**
AAK	SNR=17 **Ala-Archa**	**47.27**	**312**	*e*P		**P**		**05 48 22.7**	**+1.2**
KURK	5.7nm,1.3s **Kurchatov**	**47.59**	**323**	*e*P		**P**		**05 48 23.5**	**-0.1**
AML	5.9nm,1.2s **Almayashu**	**47.71**	**311**	P		**P**		**05 48 26.2**	**+1.1**
EKS2	SNR=17 **Erkin-Say**	**47.79**	**312**	*e*P		**P**		**05 48 26.6**	**+1.2**
KKAR	8.8nm,1.3s **Karatay Array**	**50.22**	**311**	*e*P		**P**		**05 48 44.3**	**+0.3**
BVAR	1.8nm,0.5s **Borovoye Array**	**53.19**	**324**	LR		LR		06 13 18.9	
ABKAR	comp=Z,56nm,18.8s,baz=106,slow=38 **Akbulak array**	**58.60**	**317**	*e*P		**P**		**05 49 44.5**	**-0.3**
GEYT	1.2nm,0.4s **Alibeck**	**58.99**	**304**	P		**P**		**05 49 46.9**	**-0.8**
KBZ	9.5nm,0.9s,baz=108,slow=4.8,SNR=14 **Khabaz**	**70.25**	**311**	P		**P**		**05 51 01.2**	**+0.1**
KBZ	14nm,1.1s,baz=81,slow=4.5,SNR=10			LR		LR		06 24 28.3	
KIV	comp=Z,55nm,20.5s,baz=111,slow=38 **Kislovodsk**	**70.38**	**311**	*e*P		**P**		**05 51 02.5**	**+0.5**
RAYN	28nm,1.0s **Ar Rayn**	**71.31**	**289**	*e*P		**P**		**05 51 07.8**	**-0.1**
ILAR	25nm,1.3s **Eielson Array**	**74.18**	**26**	P		**P**		**05 51 24.1**	**-0.1**
ARCES	0.5nm,0.8s,baz=273,slow=4.6,SNR=5.7 **ARCESS Array B**	**75.65**	**339**	P		**P**		**05 51 32.2**	**-0.4**
ARCES	2.2nm,0.7s,baz=70,slow=7.9,SNR=5.3			LR		LR		06 29 30.3	
FINES	comp=Z,48nm,18.2s,baz=48,slow=39 **FINESS Array B**	**77.31**	**331**	P		**P**		**05 51 41.6**	**-0.5**
FINES	1.7nm,0.6s,baz=46,slow=5.5,SNR=6.7			LR		LR		06 29 43.4	
BRTR	comp=Z,52nm,19.3s,baz=78,slow=39 **Keskin Array B**	**77.76**	**308**	P		**P**		**05 51 44.9**	**-0.4**
BRTR	0.9nm,0.5s,baz=46,slow=3.6,SNR=6.8			LR		LR		06 29 56.6	
AKASG	comp=Z,22nm,21.9s,baz=74,slow=39 **Malin Array Be**	**78.22**	**320**	P		**P**		**05 51 46.0**	**-1.4**
AKASG	0.6nm,0.5s,baz=65,slow=5.7,SNR=9.8			LR		LR		06 28 16.9	
CRVS	comp=Z,33nm,19.6s,baz=280,slow=37 **Cervenica-Dubn**	**83.55**	**319**	*e*P		**P**		**05 52 15.6**	**-0.3**
NB2	**NORSAR Subarra**	**84.17**	**333**	P		**P**		**05 52 17.4**	**-1.5**
NOA	comp=Z,1.3nm,0.7s,baz=63,slow=5.3 **NORSAR Array B**	**84.17**	**333**	P		**P**		**05 52 17.8**	**-1.1**
NOA	comp=Z,4.4nm,1.0s,baz=64,slow=5.1,SNR=8.2			LR		LR		06 33 00.8	
VYHS	comp=Z,101nm,20.0s,baz=75,slow=38 **Vyhne**	**85.32**	**320**	*e*P		**P**		**05 52 25.1**	**+0.2**
KMBO	**Kilima Mbogo**	**85.70**	**267**	P		**P**		**05 52 28.0**	**+0.3**
DPC	comp=Z,1.2nm,0.6s,baz=47,slow=12,SNR=3.8 **Dobruska-Polom**	**86.12**	**322**	*e*P		**P**		**05 52 30.2**	**+1.3**
YKA	**Yellowknife Ar**	**88.19**	**23**	P		**P**		**05 52 38.5**	**0.0**
GERES	comp=Z,0.5nm,0.7s,baz=306,slow=4.6,SNR=8.9 **GERESS Array B**	**88.30**	**321**	LR		LR		06 37 15.8	
TXAR	comp=Z,60nm,19.8s,baz=290,slow=39 **Lajitas Array**	**115.27**	**44**	PKP		**PKPdf**		**05 58 29.0**	**-1.0**
	comp=Z,0.1nm,0.7s,baz=343,slow=2.8,SNR=2.9								

GUC 29 05:46:08.3±0.4, 36°.38S×73°.51W, h9km±2km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.57**	**145**	*e*P		Pg		05 46 18.8	-0.6
CCSP				*e*S		Sg		05 46 26.3	-0.5
CCSP				IAML				05 46 28.3	
COCH	comp=N,6μm,0.3s **Cobquecura**	**0.63**	**68**	*e*P		Pg		05 46 19.8	-0.8
COCH				*e*S		Sg		05 46 28.4	-0.4
LNCH	**Linares**	**1.63**	**72**	*e*P1		Pn		05 46 35.5	-1.7
LNCH				*e*S		Sn		05 46 56.7	-1.7
TALC	**Talca**	**1.81**	**58**	*e*P		Pn		05 46 38.5	-1.1
TALC				*e*S		Sn		05 47 01.8	-0.9

*ISCJB **29** 05:59:46.7±0.8, 12°.20N±0°.06×125°.94E±0°.08, h36km, mb3.8/7, MS2.7/1, Error ellipse: s-maj=11.8km s-min=8.7km az=170.2*
*MAN **29** 05:59:47, 12°.18N×125°.59E, h111km, mb4.8, ML3.7, MS3.7*
*IDC **29** 05:59:59.5±10.0, 12°.09N×125°.76E, h138km±100km, mb3.4/7, mb1 3.5/7, mb1mx3.2/40, mbtmp3.8/7, MS2.9/1, Ms1 2.9/1, ms1mx2.4/22, Error ellipse: s-maj=133.2km s-min=19.1km az=69.0*
ISC 29 05:59:48.4±0.9, 12°.21N±0°.07×125°.9E±0°.1, h36km, n11, σ1s37/12, mb3.9/7, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.22**	**284**	*e*P		**Pn**		**06 00 07.8**	**-1.0**
CNP				*e*S		**Sn**		**06 00 25.4**	**+1.3**
PVCP	**Virac**	**2.17**	**310**	⇑*e*P		**Pn**		**06 00 20.8**	**-1.2**
PVCP				*e*S		Sn		06 01 03.3	+16
MSLP	**Maasin**	**2.29**	**206**	*e*P		**Pn**		**06 00 24.0**	**+0.3**
MSLP				*e*S		**Sn**		**06 00 50.1**	**-0.6**
KSRS	**Korea Array**	**25.20**	**4**	LR		LR		06 16 08.9	
ASAR	comp=Z,26nm,19.7s,baz=86,slow=38 **Alice Springs**	**36.52**	**168**	P		**P**		**06 06 50.9**	**+0.2**
SONM	0.2nm,0.3s,baz=346,slow=7.7,SNR=4.2 **Songino Array**	**39.07**	**339**	P		**P**		**06 07 13.0**	**+0.9**
MKAR	0.2nm,0.3s,baz=140,slow=9.7,SNR=2.3 **Makanchi Array**	**50.26**	**322**	P		**P**		**06 08 42.5**	**+1.3**
KURBB	0.7nm,0.6s,baz=109,slow=8.4,SNR=7.4 **Kurchatov Arra**	**54.27**	**325**	P		**P**		**06 09 12.0**	**+1.2**
ARCES	0.8nm,0.6s,baz=126,slow=7.1,SNR=8.5 **ARCESS Array B**	**82.25**	**340**	P		**P**		**06 12 06.8**	**+1.1**
AKASG	2.0nm,0.8s,baz=62,slow=8.4,SNR=3.7 **Malin Array Be**	**84.82**	**321**	P		**P**		**06 12 16.9**	**-2.4**
VNDA	0.3nm,0.4s,baz=53,slow=5.5,SNR=3.5 **Vanda**	**91.89**	**173**	P		**P**		**06 12 51.4**	**-1.0**
	0.5nm,0.4s,baz=320,slow=4.0,SNR=6.4								

*IDC **29** 06:03:13.0±2.0, 13°.15N×51°.39E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.6/43, mbtmp3.9/9, MS4.0/2, Ms1 4.0/2, ms1mx2.8/37, Error ellipse: s-maj=45.0km s-min=27.3km az=173.0*
ISC 29 06:03:19.9±1.9, 14°.0N±0°.3×51°.2E±0°.1, h10km, n16, σ1s70/11, mb3.8/9, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.13**	**283**	*i* P		**Pn**		**06 03 54.6**	**-0.9**
MUKL				*i* S		**Sn**		**06 04 22.0**	**0.0**
MUKL				AML		AML		06 04 23.8	

comp=N,515nm,0.3s
TRBA At Turbah 6.91 264 *i* P **Pn 06 05 04.1 +2.7**
TRBA *e* 06 05 04.2
baz=90,slow=4.8
GEYT Alibeck 24.61 13 P **P 06 08 42.6 +2.2**
comp=N,4.0nm,0.6s,baz=201,slow=7.9,SNR=7.8
H08N2 Diego Garcia H 28.20 134 T T 06 38 09.3
baz=313,slow=76,SNR=11
H08N3 Diego Garcia H 28.21 135 T T 06 38 11.4
baz=313,slow=76,SNR=2.6
H08N1 Diego Garcia H 28.22 134 T T 06 38 11.6
baz=313,slow=76,SNR=1.8
AKASG Malin Array Be 40.70 339 P **P 06 11 01.2 +0.7**
comp=N,0.1nm,0.3s,baz=130,slow=11,SNR=3.1
MKAR Makanchi Array 41.78 32 P **P 06 11 09.4 -0.1**
comp=N,0.7nm,0.6s,baz=217,slow=8.8,SNR=9.6
BVAR Borovoye Array 41.81 17 P **P 06 11 10.5 +0.9**
comp=N,1.1nm,0.6s,baz=201,slow=7.9,SNR=7.0
KURBB Kurchatov Arra 42.73 26 P **P 06 11 17.5 +0.4**
comp=N,1.4nm,0.8s,baz=225,slow=8.2,SNR=12
CMAR Chiang Mai Arr 45.98 78 P P 06 11 37.3 -6.3
comp=N,1.2nm,0.3s,baz=277,slow=9.1,SNR=8.8
ZALV Zalesovo Beam 47.80 26 P **P 06 11 56.2 -1.2**
comp=N,1.8nm,0.6s,baz=240,slow=7.6,SNR=9.1
TORD Torodi Ar. Bea 48.04 275 P **P 06 11 57.1 -2.7**
comp=N,0.5nm,0.7s,baz=84,slow=7.1,SNR=4.1
TLY Talaya 56.19 36 LR LR 06 42 01.4
comp=N,82nm,18.0s,baz=280,slow=41
SONM Songino Array 56.58 42 P **P 06 13 02.3 -0.7**
comp=N,1.6nm,0.9s,baz=245,slow=7.0,SNR=10
JCJ Chichijima 84.62 64 LR LR 06 52 26.5
comp=N,129nm,20.4s,baz=213,slow=35

*IDC **29** 06:14:45.0±1.6, 6°.25N×125°.61E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/36, mbtmp3.8/5, Error ellipse: s-maj=165.6km s-min=21.0km az=67.0*
*ISCJB **29** 06:14:51.5±0.8, 6°.33N±0°.06×126°.28E±0°.08, h68km, mb3.7/5, Error ellipse: s-maj=11.9km s-min=7.9km az=19.5*
*MAN **29** 06:14:52, 6°.43N×126°.50E, h46km, mb4.7, ML3.6, MS3.6*
ISC 29 06:14:52.7±1.1, 6°.36N±0°.08×126°.27E±0°.10, h68km, n10, σ1§01/13, mb3.7/5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.58**	**359**	*e*P	**Pn**	**06 15 04.9**	**-1.4**
MATI				*e*S	**Sn**	**06 15 15.4**	**-0.8**
GSPH	**General Santos**	**1.34**	**258**	⇓*e*P	**Pn**	**06 15 14.9**	**-0.7**
GSPH				*e*S	**Sn**	**06 15 32.0**	**-0.8**
BIPH	**Bislig**	**1.82**	**3**	⇑*i*P	**Pn**	**06 15 22.6**	**+0.7**
BIPH				*i*S	**Sn**	**06 15 44.2**	**+0.3**
BUKP	**Musuan**	**1.93**	**322**	*e*P	**Pn**	**06 15 24.0**	**+0.6**
PAGZ	**Pagadian**	**3.22**	**298**	*e*P	**Pn**	**06 15 42.4**	**+1.4**
WRA	**Warramunga Arr**	**27.32**	**163**	P	**P**	**06 20 32.3**	**+0.9**
0.3nm,0.3s,baz=339,slow=10,SNR=6.0							
ASAR	**Alice Springs**	**30.76**	**166**	P	**P**	**06 21 03.2**	**+1.4**
0.4nm,0.4s,baz=339,slow=6.8,SNR=9.6							
MKAR	**Makanchi Array**	**55.16**	**324**	P	**P**	**06 24 18.1**	**-0.2**
0.3nm,0.4s,baz=120,slow=7.3,SNR=11							
KURBB	**Kurchatov Arra**	**59.30**	**327**	P	**P**	**06 24 46.5**	**-0.9**
0.3nm,0.5s,baz=131,slow=6.8,SNR=5.1							
ARCES	**ARCESS Array B**	**87.84**	**340**	P	**P**	**06 27 33.8**	**-0.5**
6.2nm,1.0s,baz=86,slow=5.5,SNR=3.8							

*ISCJB **29** 06:18:22.5±0.7, 6°.86N±0°.07×72°.99W±0°.07, h167km±8km, mb3.1/2, Error ellipse: s-maj=14.6km s-min=7.3km az=136.0*
*FUNV **29** 06:18:23.8, 6°.88N×73°.13W, h170km, MW3.5*
*IDC **29** 06:18:24.8±4.0, 6°.65N×73°.17W, h176km±27km, mb2.8/2, mb1 3.2/3, mb1mx2.9/20, mbtmp3.3/3, Error ellipse: s-maj=74.4km s-min=28.0km az=84.0*
ISC 29 06:18:23.4±0.9, 6°.86N±0°.07×73°.01W±0°.07, h161km±9km, n16, σ1§55/23, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.21**	**35**	⇓*i*P	**Pn**	**06 18 52.2**	**+0.9**
CAPV				*e*S	**Sn**	**06 19 13.3**	**+0.6**
ROSC	**El Rosal**	**2.39**	**213**	P	**Pn**	**06 19 04.0**	**-0.1**
7.1nm,0.3s,baz=278,slow=22,SNR=19							
ROSC				S	**Sn**	**06 19 33.4**	**-2.2**
6.6nm,0.3s,baz=103,slow=13,SNR=11							
VIGV	**El Vigia**	**2.55**	**40**	*e*P	**Pn**	**06 19 06.6**	**+0.8**
VIGV				*e*S	**Sn**	**06 19 38.5**	**0.0**
SOCV	**Socops**	**2.56**	**56**	*e*P	**Pn**	**06 19 06.3**	**+0.5**
SOCV				*e*S	**Sn**	**06 19 38.6**	**0.0**
ELOV	**Elorza**	**3.50**	**88**	*e*P	**Pn**	**06 19 18.4**	**+0.8**
ELOV				*e*S	**Sn**	**06 19 59.8**	**+0.1**
VIRV	**Villa del Rosa**	**3.67**	**9**	*e*P	**Pn**	**06 19 19.0**	**-0.7**
QARV	**Quebrada Arrib**	**4.13**	**36**	*e*P	**Pn**	**06 19 26.6**	**+0.8**
SANV	**Sanarito**	**4.32**	**52**	*e*P	**Pn**	**06 19 28.5**	**+0.2**
SANV				*e*S	**Sn**	**06 20 16.3**	**-2.6**
CURV	**Curarigua**	**4.35**	**44**	*e*P	**Pn**	**06 19 28.8**	**+0.3**
CURV				*e*S	**Sn**	**06 20 16.7**	**-2.7**
DABV	**Dabajuro**	**4.67**	**30**	*e*P	**Pn**	**06 19 32.3**	**-0.4**
BAUV	**El Baul**	**5.34**	**67**	*e*S	**Sn**	**06 20 38.6**	**-4.0**
MAPV	**Macapo**	**5.38**	**56**	*e*P	**Pn**	**06 19 42.3**	**+0.2**
TXAR	**Lajitas Array**	**36.52**	**312**	P	**P**	**06 25 14.0**	**+0.3**
0.2nm,0.7s,baz=134,slow=10,SNR=3.3							
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**06 28 34.9**	**+0.3**
0.3nm,0.5s,baz=133,slow=6.6,SNR=12							
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	**PKPdf**	**06 37 51.9**	**+2.4**
0.2nm,0.5s,baz=123,slow=3.4,SNR=4.1							
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc	**PKPbc**	**06 37 56.1**	**-0.9**
0.7nm,1.0s,baz=108,slow=2.6,SNR=5.0							

IGQ 29 06:28:32±0.1, 1°.14S×78°.38W, h2km, Mb4.0, 5C-1D, Error ellipse: s-maj=4.5km s-min=0.6km az=14.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRUN	**Tungurahua Vol**	**0.28**	**187**	⇑P	Pg	06 28 38.2	+0.2
BULB	**Ulba Tungurahu**	**0.30**	**186**	⇑P	Pg	06 28 38.4	+0.1
BULB	**Ulba Tungurahu**	**0.30**	**186**	⇑S	Sg	06 28 43.6	+1.1
BBIL	**Ulba Tungurahu**	**0.33**	**199**	⇓P	Pg	06 28 39.8	+1.0
BPAT	**Tungurahua Vol**	**0.37**	**189**	⇑P	Pb	06 28 40.8	-1.1
BMAS	**Trigal station**	**0.38**	**196**	⇑P	Pg	06 28 40.7	+0.9
BMOR	**Cotopaxi Volca**	**0.41**	**349**	P	Pb	06 28 41.9	-0.9
BTAM	**Cotopaxi Volca**	**0.46**	**358**	P	Pg	06 28 41.4	-0.1
BREF	**Cotopaxi Volca**	**0.47**	**352**	P	Pg	06 28 42.0	+0.2
BVC2	**Cotopaxi Volca**	**0.48**	**356**	P	Pb	06 28 42.9	-1.0

*IDC **29** 06:47:41.8±2.3, 36°.34S×73°.05W, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.5/23, mbtmp3.4/5, ML2.8/1, Error ellipse: s-maj=53.0km s-min=37.0km az=147.0*
*GUC **29** 06:47:44.5±0.4, 36°.67S×72°.77W, h36km±1km, ML4.2*
ISC 29 06:47:42.8±3.2, 36°.66S±0°.05×72°.70W±0°.06, h14km±22km, n11, σ1§28/18, mb3.6/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.38**	**240**	*e*P	**Pb**	**06 47 52.4**	**+1.1**
CCSP				*e*S	**Sb**	**06 47 58.1**	**+1.1**
CCSP				IAML		06 48 00.4	
comp=N,37μm,0.5s							
COCH	**Cobquecura**	**0.53**	**353**	*e*P	**Pn**	**06 47 55.0**	**-0.9**
COCH				*e*S	**Sn**	**06 48 02.8**	**-1.9**
AGCH	**Angol**	**1.15**	**180**	*e*P	**Pn**	**06 48 03.6**	**-0.8**
AGCH				*e*S4	**Sb**	**06 48 17.3**	**-1.9**
LNCH	**Linares**	**1.20**	**48**	*e*P	**Pb**	**06 48 05.7**	**+0.3**
LNCH				*e*S	**Sn**	**06 48 21.9**	**+0.5**
TALC	**Talca**	**1.53**	**35**	*e*P	**Pb**	**06 48 10.4**	**-0.5**
TALC				*e*S	**Sb**	**06 48 30.4**	**+0.3**
NICH	**Los Niches**	**2.04**	**36**	*e*P	**Pn**	**06 48 17.7**	**+0.9**
NICH				*e*S	**Sn**	**06 48 43.2**	**+1.2**
CFAA	**Coronel Fontan**	**6.25**	**38**	Pn	**Pn**	**06 49 14.6**	**-0.1**
comp=N,0.2nm,0.3s,baz=207,slow=17,SNR=30							
CFAA				Sn	**Sn**	**06 50 25.8**	**-0.2**
comp=N,0.2nm,0.3s,baz=285,slow=20,SNR=2.2							
LPAZ	**La Paz**	**20.69**	**13**	P	**P**	**06 52 22.9**	**-0.3**
comp=N,0.7nm,0.8s,baz=227,slow=7.8,SNR=2.6							
SIV	**San Ignacio**	**23.03**	**30**	P	**P**	**06 52 46.6**	**-1.1**
comp=N,1.8nm,0.5s,baz=224,slow=8.4,SNR=4.6							
TXAR	**Lajitas Array**	**71.80**	**332**	P	**P**	**06 59 03.5**	**-1.4**
comp=N,0.3nm,0.6s,baz=157,slow=8.7,SNR=6.5							
TORD	**Torodi Ar. Bea**	**85.62**	**70**	P	**P**	**07 00 23.5**	**+2.3**
comp=N,0.1nm,0.4s,baz=243,slow=6.3,SNR=4.4							

NNC 29 07:15:07.0±1.6, 48°.95N×68°.57E, h0km, mb3.5, mpv3.1, 8C-3D, Error ellipse: s-maj=15.6km s-min=13.1km az=34.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.60**	**104**	Pn	Pn	07 15 51.5	+1.1
OTUK				Sn	Sb	07 16 25.0	-2.2
BVA0	**Borovoye Array**	**4.24**	**15**	⇓Pg	Pb	07 16 23.9	+1.4
1.5nm,0.5s,baz=188,slow=17,SNR=7.5							
BVA0				⇓Lg	Lg	07 17 19.9	
3.6nm,0.6s,baz=192,slow=27							
AB31	**Akbulak array**	**5.67**	**276**	Pn	Pn	07 16 33.8	+1.3
AB31				⇑Lg	Lg	07 18 05.5	
2.5nm,0.8s							
KK31	**Karatay Array**	**6.00**	**166**	⇑Sn	Sn	07 17 45.5	-1.1
0.8nm,0.5s,baz=0.0,slow=0.1,SNR=4.8							
KK31				⇓Lg	Lg	07 18 19.5	
1.3nm,0.6s,baz=278,slow=36,SNR=3.5							
KURBB	**Kurchatov Arra**	**6.67**	**72**	⇑Pn	Pn	07 16 45.6	-0.5
5.0nm,1.3s,baz=265,slow=12							
KURBB				⇑Lg	Lg	07 18 39.2	
5.2nm,0.6s							
KURK	**Kurchatov**	**6.74**	**71**	⇑Pn	Pn	07 16 44.4	-2.7
0.7nm,0.7s							
KURK				⇑Lg	Lg	07 18 41.8	
1.5nm,0.8s							
AKTO	**Aktyubinsk**	**7.00**	**286**	⇑Lg	Lg	07 18 49.1	
2.5nm,0.9s							
MK31	**Makanchi Array**	**9.47**	**98**	⇑Lg	Lg	07 20 05.6	
1.6nm,0.8s							

*IDC **29** 07:17:57.2±0.7, 56°.00N×164°.56E, h0km, mb3.8/8, mb1 4.2/11, mb1mx3.9/38, mbtmp3.9/11, ML3.8/3, MS2.9/3, Ms1 2.9/3, ms1mx2.6/39, Error ellipse: s-maj=19.3km s-min=10.7km az=8.0*
*MOS **29** 07:17:57.1±0.7, 55°.92N×164°.60E, h9km, mb4.4/3, Error ellipse: s-maj=12.1km s-min=10.7km az=60.7*
*KRSC **29** 07:17:59.2±1.5, 55°.90N×164°.47E, h57km±22km, ML4.5*
ISC 29 07:17:58.4±2.8, 55°.92N±0°.04×164°.46E±0°.03, h10km±19km, n70, σ1§71/101, mb3.8/8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.97**	**288**	PN	**Pb**	**07 18 17.0**	**-0.2**
KBTR				S	**Sb**	**07 18 27.4**	**-2.6**
KBTR	**Krutoberegovo**	**0.97**	**288**	*i* P	**Pb**	**07 18 17.0**	**-0.2**
KBTR				*e*S	**Sb**	**07 18 27.4**	**-2.6**
KBG	**Krutoberegovo**	**1.04**	**290**	PN	**Pb**	**07 18 18.3**	**-0.2**
KBG				S	**Sb**	**07 18 31.2**	**-1.0**
KBG	**Krutoberegovo**	**1.04**	**290**	*e*P	**Pb**	**07 18 18.2**	**-0.2**
KBG				*e*S	**Sb**	**07 18 31.2**	**-1.0**
BKI	**Bering**	**1.12**	**129**	PN	**Pb**	**07 18 19.5**	**-0.3**
BKI				S	**Sb**	**07 18 33.3**	**-1.0**
BKI	**Bering**	**1.12**	**129**	*i* P	**Pb**	**07 18 19.5**	**-0.3**
BKI				*i* S	**Sb**	**07 18 33.3**	**-1.0**
SMKR	**Semkarok**	**1.80**	**293**	*i* P	**Pn**	**07 18 30.5**	**+1.0**
SMKR				*i* S	**Sn**	**07 18 52.2**	**-0.2**
BDR	**Baidarnaya**	**1.93**	**291**	*e*P	**Pb**	**07 18 33.1**	**-0.6**
BDR				*e*S	**Sb**	**07 18 57.1**	**-0.7**
SRKR	**Sorokina**	**1.98**	**293**	*i* P	**Pn**	**07 18 33.3**	**+1.3**
SRKR				*e*S	**Sn**	**07 18 56.6**	**-0.3**
ZLN	**Zelenaya**	**2.06**	**274**	*e*P	**Pb**	**07 18 35.5**	**-0.4**
ZLN				*e*S	**Sb**	**07 19 01.3**	**-0.3**
MKZ	**Mys Kozlova**	**2.08**	**230**	PN	**Pn**	**07 18 33.9**	**+0.7**
MKZ				S	**Sn**	**07 18 57.9**	**-1.2**
MKZ	**Mys Kozlova**	**2.08**	**230**	*i* P	**Pn**	**07 18 33.9**	**+0.7**
MKZ				*e*S	**Sn**	**07 18 57.9**	**-1.2**
BZGR	**Bezymyannyi-Gr**	**2.12**	**272**	P	**Pn**	**07 18 35.1**	**+1.1**
BZGR				S	**Sn**	**07 18 59.1**	**-1.3**
KLY	**Klyuchi**	**2.17**	**282**	PN	**Pn**	**07 18 34.7**	**+0.2**
KLY				S	**Sn**	**07 18 59.4**	**-2.0**
KLY	**Klyuchi**	**2.17**	**282**	*i* P	**Pn**	**07 18 34.7**	**+0.2**
KLY				*i* S	**Sn**	**07 18 59.4**	**-2.0**
KRSR	**Krestovskiy**	**2.21**	**279**	P	**Pn**	**07 18 36.0**	**+0.9**
KRSR				*e*S	**Sn**	**07 19 01.4**	**-1.1**
BZWR	**Bezymyannyi-We**	**2.23**	**273**	*e*P	**Pn**	**07 18 36.7**	**+1.1**
BZWR				*e*S	**Sn**	**07 19 02.6**	**-0.6**
BZMR	**Bezymyannaya**	**2.23**	**272**	*e*P	**Pn**	**07 18 36.6**	**+1.0**
BZMR				S	**Sn**	**07 19 02.0**	**-1.3**
KIRR	**Kirishev**	**2.32**	**273**	*i* P	**Pn**	**07 18 38.8**	**+2.1**
KIRR				*e*S	**Sn**	**07 19 05.6**	**+0.3**
KPT	**Kopyto**	**2.38**	**273**	*e*P	**Pn**	**07 18 39.7**	**+2.1**
KPT				*e*S	**Sn**	**07 19 07.8**	**+0.9**
KMNR	**Kamenistaya**	**2.39**	**268**	*i* P	**Pb**	**07 18 40.3**	**-1.2**
KMNR				*e*S	**Sn**	**07 19 07.4**	**+0.4**
KZV	**Kizimen**	**2.50**	**253**	*e*P	**Pn**	**07 18 41.6**	**+2.3**
TUMR	**Tumrok**	**2.53**	**257**	*i* P	**Pb**	**07 18 42.2**	**-1.7**
TUMR				*e*S	**Sn**	**07 19 11.7**	**+1.2**
KOZR	**Kozyr**	**2.57**	**275**	PN	**Pb**	**07 18 42.9**	**-1.7**
KOZR				S	**Sb**	**07 19 13.9**	**-2.3**
KOZ	**Kozyrevsk**	**2.58**	**275**	*e*P	**Pb**	**07 18 42.9**	**-1.9**
KOZ				*e*S	**Sb**	**07 19 13.9**	**-2.6**
SRDR	**Sredinnyy**	**2.69**	**281**	*i* P	**Pn**	**07 18 44.2**	**+2.5**
SRDR				*e*S	**Sn**	**07 19 14.7**	**+0.4**
ESO	**Esso**	**3.24**	**273**	PN	**Pn**	**07 18 51.4**	**+2.1**
ESO	**Esso**	**3.24**	**273**	*e*P	**Pn**	**07 18 51.4**	**+2.1**
KII	**Karymskiy**	**3.45**	**239**	*e*P	**Pn**	**07 18 54.1**	**+1.9**
KII				*e*S	**Sn**	**07 19 32.8**	**-0.3**
PALN	**Palana**	**4.00**	**325**	*e*P	**Pn**	**07 19 01.3**	**+1.6**
SDLR	**Sedlovina**	**4.18**	**233**	*i* P	**Pn**	**07 19 04.6**	**+2.3**
SDLR				*e*S	**Sn**	**07 19 50.9**	**-0.4**
KRER	**Koryakskii**	**4.23**	**234**	*i* P	**Pn**	**07 19 05.4**	**+2.4**
KRER				*e*S	**Sn**	**07 19 51.6**	**-0.9**
SMAR	**Somma**	**4.23**	**233**	*i* P	**Pn**	**07 19 05.5**	**+2.4**
KRX	**Arik**	**4.24**	**235**	*i* P	**Pn**	**07 19 05.4**	**+2.3**
KRX				*e*S	**Sn**	**07 19 52.4**	**-0.3**
UGLR	**Uglovaya**	**4.26**	**233**	*i* P	**Pn**	**07 19 05.7**	**+2.4**
AVH	**Avacha**	**4.26**	**234**	*i* P	**Pn**	**07 19 05.8**	**+2.5**
AVH				*e*S	**Sn**	**07 19 53.2**	**+0.1**
KOK	**Koryaka**	**4.29**	**235**	*i* P	**Pn**	**07 19 06.3**	**+2.6**
KOK				*e*S	**Sn**	**07 19 53.6**	**-0.2**
GNL	**Ganaly**	**4.38**	**242**	*i* P	**Pn**	**07 19 07.6**	**+2.6**
PET	**Petropavlovsk**	**4.46**	**232**	*e*PN	**Pn**	**07 19 08.1**	**+2.1**
PET				pmax	pmax		
comp=Z,94nm,0.6s							
PET				MLR	MLR		
comp=Z,100nm,13.0s							
PET	**Petropavlovsk**	**4.46**	**232**	*e*P	**Pn**	**07 19 08.2**	**+2.2**
PET				*e*S	**Sn**	**07 19 56.5**	**-1.3**
TILK	**Tilichiki**	**4.63**	**10**	*e*P	**Pn**	**07 19 09.7**	**+1.4**
TILK				*e*S	**Sn**	**07 19 58.9**	**-3.1**
PETK	**Petropavlovsk-**	**4.84**	**237**	Pn	**Pn**	**07 19 13.7**	**+2.5**
comp=Z,6.6nm,0.3s,baz=75,slow=16,SNR=19							
PETK				Sn	**Sn**	**07 20 10.1**	**+2.7**
comp=Z,1.4nm,0.3s,baz=82,slow=22,SNR=2.9							
RUS	**Russkaya**	**4.94**	**227**	PN	**Pn**	**07 19 14.0**	**+1.4**
RUS	**Russkaya**	**4.94**	**227**	*i* P	**Pn**	**07 19 14.0**	**+1.4**
RUS				*e*S	**Sn**	**07 20 06.2**	**-3.4**
MTVR	**Mutnovka**	**5.04**	**230**	*e*P	**Pn**	**07 19 16.6**	**+2.5**
MTVR				*e*S	**Sn**	**07 20 11.5**	**-0.9**
APC	**Apacha**	**5.21**	**238**	*e*P	**Pn**	**07 19 19.5**	**+3.2**
MIPR	**Malaya Ipel'ka**	**5.82**	**234**	P	**Pn**	**07 19 27.8**	**+3.2**
FX1	**Attu Island--F**	**5.92**	**117**	Pn	**Pn**	**07 19 25.0**	**-1.1**
comp=Z,2.0nm,0.3s,baz=330,slow=5.9,SNR=23							
FX1				Sn	**Sn**	**07 20 29.4**	**-4.5**
comp=Z,6.4nm,0.3s,baz=338,slow=21,SNR=6.4							
SKR	**Severo-Kuril's**	**7.24**	**227**	*e*PN	**Pn**	**07 19 44.6**	**+0.4**
SKR	**Severo-Kuril's**	**7.24**	**227**	*e*P	**Pn**	**07 19 45.9**	**+1.7**
SKR				*e*S	**Sn**	**07 21 03.3**	**-3.0**
SEY	**Seymchan**	**9.33**	**324**	Pn	**Pn**	**07 20 15.3**	**+2.5**
comp=Z,0.1nm,0.3s,baz=132,slow=15,SNR=5.6							
ASAJ	**Asahikawa**	**18.26**	**239**	P	**P**	**07 22 12.1**	**+0.2**
comp=Z,3.1nm,0.3s,baz=47,slow=4.9,SNR=30							
ASAJ				LR	LR	07 28 48.3	
comp=Z,46nm,19.9s,baz=30,slow=36							
ILAR	**Eielson Array**	**25.03**	**50**	P	**P**	**07 23 21.5**	**-0.7**
comp=Z,1.2nm,0.8s,baz=258,slow=8.9,SNR=15							
MJAR	**Matsushiro Arr**	**26.29**	**234**	P	**P**	**07 23 35.6**	**+1.7**
MJAR				pmax	pmax		
comp=Z,3.0nm,0.5s							
MJAR				MLR	MLR		
comp=Z,19nm,20.3s							
MJAR	**Matsushiro Arr**	**26.29**	**234**	P	**P**	**07 23 35.6**	**+1.7**
comp=Z,3.1nm,0.5s,baz=28,slow=8.1,SNR=7.1							
MJAR				LR	LR	07 35 31.8	
comp=Z,19nm,20.3s,baz=45,slow=40							
KSRS	**Korea Array**	**30.63**	**248**	LR	LR	07 37 48.5	
comp=Z,25nm,18.6s,baz=30,slow=39							
SONM	**Songino Array**	**35.77**	**282**	P	**P**	**07 24 58.0**	**+0.6**
SONM				pmax	pmax		
comp=Z,1.0nm,0.5s							
SONM	**Songino Array**	**35.77**	**282**	P	**P**	**07 24 58.0**	**+0.6**
comp=Z,0.9nm,0.5s,baz=56,slow=7.9,SNR=4.2							
H11N2	**WAKE ISLAND Hy**	**36.17**	**176**	T	T	08 02 55.7	
baz=358,slow=76,SNR=1746							
H11N3	**WAKE ISLAND Hy**	**36.19**	**176**	T	T	08 02 59.1	
baz=358,slow=76,SNR=982							
H11N1	**WAKE ISLAND Hy**	**36.19**	**176**	T	T	08 02 57.0	
baz=358,slow=76,SNR=1283							
H11S1	**WAKE ISLAND Hy**	**37.38**	**176**	T	T	08 04 22.6	
baz=358,slow=76,SNR=26							
H11S3	**WAKE ISLAND Hy**	**37.40**	**177**	T	T	08 04 23.9	
baz=358,slow=76,SNR=14							
H11S2	**WAKE ISLAND Hy**	**37.40**	**176**	T	T	08 04 28.6	
baz=358,slow=76,SNR=25							
YKA	**Yellowknife Ar**	**39.36**	**46**	P	**P**	**07 25 27.1**	**-0.3**
comp=Z,0.3nm,0.4s,baz=299,slow=8.1,SNR=9.2							
MKAR	**Makanchi Array**	**49.22**	**296**	P	**P**	**07 26 45.6**	**-1.0**
comp=Z,0.3nm,0.4s,baz=56,slow=6.3,SNR=13							
PDAR	**Pinedale Array**	**53.97**	**65**	P	**P**	**07 27 22.0**	**-0.4**
comp=Z,0.4nm,0.7s,baz=336,slow=3.3,SNR=4.0							
CMAR	**Chiang Mai Arr**	**61.22**	**260**	P	**P**	**07 28 14.4**	**+1.0**
CMAR				pmax	pmax		
comp=Z,3.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**61.22**	**260**	P	**P**	**07 28 14.4**	**+1.0**
comp=Z,3.0nm,0.7s,baz=19,slow=6.8,SNR=9.9							
TXAR	**Lajitas Array**	**67.25**	**71**	P	**P**	**07 28 53.4**	**+0.5**
comp=Z,0.6nm,0.6s,baz=299,slow=4.1,SNR=9.3							

*ISCJB **29** 07:24:00.5±0.5, 6°.85N±0°.05×72°.94W±0°.05, h165km±5km, mb3.6/8, Error ellipse: s-maj=10.1km s-min=6.0km az=143.5*
*FUNV **29** 07:24:00.5, 6°.79N×73°.18W, h164km, MW4.0*
*IDC **29** 07:24:00.9±1.1, 6°.70N×72°.94W, h160km±12km, mb3.4/9, mb1 3.6/11, mb1mx3.4/26, mbtmp3.9/11, MS2.2/1, Ms1 2.2/1, ms1mx2.0/23, Error ellipse: s-maj=16.2km s-min=13.7km az=152.0*
ISC 29 07:24:01.0±0.8, 6°.84N±0°.07×73°.00W±0°.06, h159km±7km, n27, σ1§30/40, mb3.5/8, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**34**	⇓*i*P	**Pn**	**07 24 29.5**	**+0.6**
CAPV				*e*S	**Sn**	**07 24 50.9**	**+0.6**
ROSC	**El Rosal**	**2.37**	**214**	P	**Pn**	**07 24 41.2**	**-0.2**
74nm,0.3s,baz=296,slow=5.2,SNR=99							
ROSC				S	**Sn**	**07 25 11.3**	**-1.3**
101nm,0.3s,baz=90,slow=19,SNR=14							
ROSC				LR	LR	07 25 27.9	
comp=Z,49nm,19.7s,baz=177,slow=38							
SOCV	**Socops**	**2.57**	**56**	*e*P	**Pn**	**07 24 43.8**	**+0.3**
SOCV				*e*S	**Sn**	**07 25 15.7**	**-0.5**
VIGV	**El Vigia**	**2.57**	**39**	*e*P	**Pn**	**07 24 44.1**	**+0.7**
VIGV				*e*S	**Sn**	**07 25 16.4**	**+0.1**
ELOV	**Elorza**	**3.50**	**87**	*e*P	**Pn**	**07 24 55.8**	**+0.8**
ELOV				*e*S	**Sn**	**07 25 37.2**	**+0.2**
VIRV	**Villa del Rosa**	**3.69**	**9**	*e*P	**Pn**	**07 24 56.5**	**-1.0**
QARV	**Quebrada Arrib**	**4.15**	**36**	⇓*e*P	**Pn**	**07 25 04.1**	**+0.6**
QARV				*e*S	**Sn**	**07 25 50.9**	**-1.4**
SANV	**Sanarito**	**4.33**	**52**	*e*P	**Pn**	**07 25 05.9**	**-0.1**
SANV				*e*S	**Sn**	**07 25 54.0**	**-2.6**
CURV	**Curarigua**	**4.36**	**43**	*e*P	**Pn**	**07 25 06.4**	**+0.2**
CURV				*e*S	**Sn**	**07 25 54.2**	**-3.0**
SIQV	**Siquisique**	**4.93**	**40**	*e*P	**Pn**	**07 25 13.7**	**0.0**
SIQV				*e*S	**Sn**	**07 26 08.4**	**-2.1**
BAUV	**El Baul**	**5.34**	**67**	*e*P	**Pn**	**07 25 18.9**	**-0.2**
BAUV				*e*S	**Sn**	**07 26 17.3**	**-2.8**
MAPV	**Macapo**	**5.39**	**56**	*e*P	**Pn**	**07 25 19.8**	**+0.1**
MAPV				*e*S	**Sn**	**07 26 19.0**	**-2.4**
PCRV	**Puerto La Cruz**	**8.91**	**68**	P	**Pn**	**07 26 08.0**	**+1.4**
1.1nm,0.3s,baz=293,slow=1.8,SNR=10							
PCRV				S	**Sn**	**07 27 45.8**	**0.0**
0.5nm,0.3s,baz=342,slow=3.2,SNR=3.7							
JTS	**JuntasAbangare**	**12.30**	**287**	P	**P**	**07 26 54.9**	**-1.9**
0.6nm,0.3s,

comp=Z,28nm,20.8s,baz=140,slow=32
BDFB Brasilia 117.87 117 PKP **PKPdf 07 43 42.5 -1.6**
17nm,1.1s,baz=288,slow=6.4,SNR=2.7
AKASG Malin Array Be 140.46 337 PKP **PKPdf 07 44 23.7 -2.0**
0.2nm,0.3s,baz=56,slow=1.7,SNR=2.1
BRTR Keskin Array B 146.23 321 PKPbc **PKPab 07 44 39.9 +1.6**
1.4nm,0.8s,baz=114,slow=3.0,SNR=4.9
TORD Torodi Ar. Bea 174.75 117 PKP **PKPdf 07 45 08.6 +1.3**
0.7nm,1.1s,baz=242,slow=3.1,SNR=2.9

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*MOS **29** 07:35:04.5±0.9, 34°.80S×71°.65W, h33km, mb5.5/35, Error ellipse: s-maj=17.6km s-min=7.0km az=100.5*
*BJI **29** 07:35:04.1, 34°.34S×72°.13W, h35km, mB5.3/25, Ms5.4/18, Ms7 5.0/19*
*GCMT **29** 07:35:06.0±0.2, 34°.92S×72°.01W, h53km±1km, MW5.3/94, Moment Tensor Solution. s81,c120; s94,c146; Duration: 1s1 Moment tensor: Scale 10^17^Nm; Mrr0.70±.02; Mθθ0.16±.02; Mφφ-0.86±.02; Mrθ0.15±.01; Mθφ-0.26±.02; Mφr-0.70±.02; Best double couple: M0=1.09000×10^17^ NP1:φs175.00000°, δ67.00000°, λ71.00000°. NP2:φs36.00000°, δ29.00000°, λ127.00000°. Principal axes: T 1.0270, Plg63.0000°, Azm54.0000°; N 0.1260, Plg17.0000°, Azm182.0000°; P -1.1530, Plg20.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **29** 07:35:06.0, 34°.88S×71°.94W, h34km, mb5.3/151, MW5.4, ML5.8(GUC), Moment Tensor Solution. s5 Moment tensor: Scale 10^17^Nm; Mrr0.23; Mθθ-0.67; Mφφ0.44; Mrθ-0.30; Mθφ-0.31; Mφr-1.45; Best double couple: M0=1.60000×10^17^ NP1:φs201.00000°, δ88.00000°, λ67.00000°. NP2:φs106.00000°, δ23.00000°, λ174.00000°. Principal axes: T 1.7900, Plg42.0000°, Azm89.0000°; N -0.4000, Plg22.0000°, Azm201.0000°; P -1.3800, Plg38.0000°, Azm311.0000°; After GUC.*
NEIC Felt [VI] at Constitucion, Curico, Hualane, Licanten, Rio Claro, Romeral, San Javier and Talca; [V] at Cauquenes, Chanco, Linares, Maipo, Parral and Retiro; [IV] at Cordillera, Machali, Melipilla, Puente Alto, Rancagua, San Fernando and Santiago; [III] at Chacabuco, Chillán, Navidad and Pichilemu; [II] at Concepcion, Paredones, Quillota, San Antonio and Valparaiso. Also felt at Colina, Graneros, Llaillay, Quilpue, Rengo, San Bernardo, San Vicente, Talagante and Vina del Mar. Felt at Mendoza, Argentina.
*GUC **29** 07:35:06.0±0.7, 34°.88S×71°.94W, h34km±3km, ML5.8*
*ISCJB **29** 07:35:06.9±0.3, 34°.88S±0°.02×71°.61W±0°.05, h58km±3km, mb5.2/168, MS4.7/103, Error ellipse: s-maj=6.7km s-min=3.9km az=171.9*
*IDC **29** 07:35:07.1±0.6, 34°.86S×71°.60W, h47km±5km, mb4.9/22, mb1 4.9/23, mb1mx4.9/27, mbtmp5.2/23, MS4.4/13, Ms1 4.4/13, ms1mx4.4/17, Error ellipse: s-maj=17.7km s-min=10.1km az=85.0*

ISC 29 07:35:06.5±0.4, 34°.93S±0°.03×71°.80W±0°.05, h45km±3km, h45km:pP-P, n948, σ1°01/953, mb5.2/169, MS4.8/103, 229C-227D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.47**	**99**	⇓*i*P	**Pn**	**07 35 17.8**	**+0.6**
NICH				*i* S	**Sn**	**07 35 26.2**	**+1.5**
NICH				AML	AML	07 35 26.9	
	comp=N,1060μm,0.4s						
TALC	**Talca**	**0.48**	**164**	⇓*i*P	**Pn**	**07 35 17.8**	**+0.5**
TALC				*i* S	**Sn**	**07 35 26.2**	**+1.3**
LNCH	**Linares**	**0.93**	**170**	⇓*i*P	**Pn**	**07 35 23.9**	**+0.7**
LNCH				*i* S	**Sn**	**07 35 37.5**	**+2.1**
LNV	**Longovilo**	**1.03**	**18**	⇓*i*P	**Pn**	**07 35 24.5**	**-0.1**
CACH	**El Canelo**	**1.28**	**51**	⇓*i*P	**Pn**	**07 35 28.7**	**+0.6**
RCDM	**Rinconada Maip**	**1.66**	**30**	*e*P	**Pn**	**07 35 34.0**	**+0.8**
RCDM				*e*S	**Sn**	**07 35 55.8**	**+2.5**
RCDM				AML	AML	07 35 59.1	
	comp=E,73μm,0.8s						
FSR	**Penalolen**	**1.79**	**36**	*e*P9	**Pn**	**07 35 37.0**	**+2.0**
FSR				*e*S	**Sn**	**07 36 00.3**	**+3.6**
CLCH	**Cerro Calan**	**1.86**	**35**	⇑*i*P	**Pn**	**07 35 36.9**	**+0.9**
CLCH				*i* S	**Sn**	**07 36 01.3**	**+3.1**
CLCH				AML	AML	07 36 03.7	
	comp=N,319μm,0.6s						
YECH	**El Yeso**	**1.90**	**49**	⇓*i*P	**Pn**	**07 35 39.2**	**+2.4**
YECH				*e*S	**Sn**	**07 36 04.1**	**+4.4**
YECH				AML	AML	07 36 08.5	
	comp=N,92μm,0.4s						
IHA	**Instituto Hidr**	**1.91**	**4**	*e*P1	**Pn**	**07 35 36.7**	**+0.1**
ROCH	**El Roble**	**2.06**	**19**	*e*P1	**Pn**	**07 35 39.6**	**+0.7**
ROCH				AML	AML	07 36 11.2	
	comp=E,105μm,0.5s						
CCSP	**San Pedro de C**	**2.18**	**209**	*e*P1	**Pn**	**07 35 41.1**	**+0.7**
CFAA	**Coronel Fontan**	**4.46**	**43**	P	**Pn**	**07 36 12.6**	**+0.8**
	comp=E,14nm,0.3s,baz=254,slow=2.4,SNR=617						
CFAA				S	Sn	07 37 09.1	+6.7
	comp=E,51nm,0.3s,baz=81,slow=7.0,SNR=18						
CFAA				LR	LR	07 38 08.5	
	comp=E,1μm,21.6s,baz=227,slow=42						
PLCA	**Paso Flores**	**5.87**	**171**	*e*P	**Pn**	**07 36 32.7**	**+1.6**
PLCA				*e*		07 37 37.2	
PLCA	**Paso Flores**	**5.87**	**171**	*e*Pn	**Pn**	**07 36 32.7**	**+1.6**
PLCA				*e*Sn	**Sn**	**07 37 37.2**	**+0.1**
LCO	**Las Campanas**	**5.98**	**9**	*e*Pn	**Pn**	**07 36 31.5**	**-1.3**
LCO				*e*Sn	**Sn**	**07 37 41.2**	**+1.2**
TRQA	**Tornquist**	**8.50**	**114**	*e*Pn	**Pn**	**07 37 07.8**	**+0.8**
TRQA				*e*Sn	**Sn**	**07 38 46.1**	**+4.5**
COYC	**Coyhaique**	**10.63**	**181**	AMS	AMS	07 41 26.3	
	comp=Z,4μm,21.4s						
LVC	**Limon Verde**	**12.53**	**12**	*e*Pn	**Pn**	**07 38 00.4**	**-2.1**
LVC				*e*Sn	**Sn**	**07 40 22.7**	**+1.9**
ARE	**Arequipa**	**18.40**	**1**	*e*P	**Pn**	**07 39 19.0**	**+0.4**
ARE	**Arequipa**	**18.40**	**1**	*e*P	**Pn**	**07 39 19.0**	**+0.4**
LPAZ	**La Paz**	**18.86**	**11**	*e*P	**Pn**	**07 39 24.3**	**-0.1**
LPAZ				pmax	pmax		
	comp=Z,127nm,0.9s						
LPAZ	**La Paz**	**18.86**	**11**	P	**P**	**07 39 24.1**	**+0.6**
	comp=Z,3.3nm,0.3s,baz=180,slow=6.4,SNR=266						
LPAZ	**La Paz**	**18.86**	**11**	*e*P	**Pn**	**07 39 24.3**	**-0.1**
	comp=Z,127nm,0.9s						
EFI	**East Falkland**	**19.43**	**154**	*e*P	**P**	**07 39 27.6**	**-1.4**
EFI				pmax	pmax		
	comp=Z,201nm,1.1s						
EFI	**East Falkland**	**19.43**	**154**	*e*P	**P**	**07 39 28.5**	**-0.4**
	comp=Z,96nm,0.6s						
USHA	**Ushuaia**	**20.04**	**174**	P	Pn	07 39 36.5	-1.0
	comp=Z,33nm,0.7s,baz=340,slow=9.4,SNR=19						
SIV	**San Ignacio**	**21.17**	**30**	P	**P**	**07 39 47.1**	**-1.1**
	comp=Z,246nm,0.8s,baz=222,slow=11,SNR=366						
SIV				LR	LR	07 49 21.6	
	comp=Z,2μm,18.9s,baz=214,slow=41						
NNA	**Nana**	**23.30**	**347**	*e*P	**P**	**07 40 10.8**	**+0.2**
NNA				pmax	pmax		
	comp=Z,41nm,0.8s						
NNA	**Nana**	**23.30**	**347**	P	**P**	**07 40 10.8**	**+0.2**
	comp=Z,22nm,0.7s,baz=195,slow=11,SNR=9.3						
NNA				LR	LR	07 47 09.2	
	comp=Z,574nm,21.7s,baz=160,slow=31						
NNA	**Nana**	**23.30**	**347**	*e*P	**P**	**07 40 10.8**	**+0.2**
	comp=Z,41nm,0.8s						
SAML	**Samuel**	**27.04**	**19**	*e*P	**P**	**07 40 43.5**	**-1.1**
	comp=Z,25nm,1.1s						
SAML				LR	LR		
	comp=Z,2μm,20.0s						
ATAH	**Atahualpa**	**28.32**	**346**	P	**P**	**07 40 58.5**	**+1.9**
	comp=Z,6.2nm,0.9s,baz=238,slow=4.7,SNR=3.7						
ATAH				LR	LR	07 50 33.8	
	comp=Z,453nm,20.6s,baz=199,slow=33						
BDFB	**Brasilia**	**28.71**	**54**	P	**P**	**07 40 57.8**	**-1.9**
	comp=Z,68nm,0.8s,baz=219,slow=7.4,SNR=73						
BDFB				LR	LR	07 53 32.3	
	comp=Z,3μm,21.3s,baz=224,slow=39						
PMSA	**Palmer Station**	**30.24**	**173**	P	**P**	**07 41 14.0**	**+1.4**
	comp=Z,32nm,0.9s,baz=198,slow=20,SNR=1.9						
PMSA	**Palmer Station**	**30.24**	**173**	P	**P**	**07 41 14.0**	**+1.4**
PMSA				LR	LR		
	comp=Z,2μm,21.0s						
HOPE	**Hope Point**	**31.25**	**139**	PFAKE		07 41 40.0	+18
HOPE				LR	LR		
	comp=Z,691nm,21.0s						
OTAV	**Otavalo**	**35.54**	**349**	*e*P	**P**	**07 42 01.2**	**+1.3**
	comp=Z,28nm,1.1s						
OTAV				*e*PcP	**PcP**	**07 44 29.3**	**+0.9**
OTAV				LR	LR		
	comp=Z,290nm,22.0s						
PTGA	**Pitinga**	**35.77**	**21**	P	**P**	**07 42 00.4**	**-1.0**
	comp=Z,165nm,0.8s,baz=204,slow=9.9,SNR=215						
PTGA	**Pitinga**	**35.77**	**21**	*e*P	**P**	**07 42 00.5**	**-1.0**
	comp=Z,170nm,0.9s						
PAYG	**Puerto Ayora**	**38.20**	**329**	PFAKE		07 42 30.0	+7.9
PAYG				LR	LR		
	comp=Z,911nm,19.0s						
ROSC	**El Rosal**	**39.65**	**356**	P	**P**	**07 42 34.6**	**0.0**
	comp=Z,18nm,0.5s,baz=160,slow=2.2,SNR=14						
ROSC	**El Rosal**	**39.65**	**356**	*e*P	**P**	**07 42 37.7**	**+3.2**
SDV	**Santo Domingo**	**43.59**	**2**	*e*P	**P**	**07 43 05.7**	**-0.9**
	comp=Z,57nm,1.0s						
SDV				*e*PcP	**PcP**	**07 44 53.1**	**-0.5**
SDV				LR	LR		
	comp=Z,538nm,20.0s						
RCBR	**Riachuelo**	**43.97**	**57**	P	**P**	**07 43 08.8**	**-0.7**
	comp=Z,21nm,0.6s,baz=214,slow=8.3,SNR=23						
RCBR				PcP	**PcP**	**07 44 53.9**	**-0.9**
	comp=Z,34nm,1.1s,baz=214,slow=4.2,SNR=1.6						
RCBR	**Riachuelo**	**43.97**	**57**	*e*P	**P**	**07 43 08.9**	**-0.7**
	comp=Z,45nm,1.0s						
RCBR				PcP	**PcP**	**07 44 53.9**	**-0.9**
RCBR				LR	LR		
	comp=Z,2μm,19.0s						
BCIP	**Isla Barro Col**	**44.52**	**349**	PFAKE		07 43 30.0	+16
BCIP				LR	LR		
	comp=Z,311nm,21.0s						
PCRV	**Puerto La Cruz**	**45.37**	**10**	P	**P**	**07 43 20.1**	**-0.5**
	comp=Z,59nm,0.9s,baz=185,slow=2.7,SNR=17						
JTS	**JuntasAbangare**	**46.67**	**342**	*c i*P	**P**	**07 43 30.1**	**-0.7**
JTS				pmax	pmax		
	comp=Z,26nm,1.3s						
JTS	**JuntasAbangare**	**46.67**	**342**	P	**P**	**07 43 32.0**	**+1.2**
	comp=Z,7.6nm,0.9s,baz=161,slow=1.7,SNR=6.1						
JTS	**JuntasAbangare**	**46.67**	**342**	*e*P	**P**	**07 43 31.6**	**+0.8**
	comp=Z,62nm,1.7s						
JTS				LR	LR		
	comp=Z,307nm,21.0s						
GRGR	**Grenville**	**47.79**	**13**	*e*P	**P**	**07 43 38.7**	**-0.8**
	comp=Z,255nm,0.9s						
GRGR				LR	LR		
	comp=Z,812nm,20.0s						
VNA3	**Neumayer Olymp**	**48.42**	**158**	P	**P**	**07 43 44.1**	**+0.3**
VNA1	**Neumayer--Stat**	**48.74**	**157**	P	**P**	**07 43 47.2**	**+1.0**
VNA2	**Neumayer--Watz**	**49.08**	**157**	P	**P**	**07 43 49.3**	**+0.5**
	baz=285,slow=8.9						
BBGH	**Gun Hill**	**49.20**	**16**	PFAKE		07 44 00.0	+10
BBGH				LR	LR		
	comp=Z,1μm,22.0s						
FDF	**Fort de France**	**50.42**	**13**	*e*P	**P**	**07 43 58.2**	**-1.4**
FDF				pmax	pmax		
	comp=Z,130nm,0.9s						
FDF				MLR	MLR		
	comp=Z,765nm,19.0s						
FDF	**Fort de France**	**50.42**	**13**	*e*P	**P**	**07 43 58.2**	**-1.4**
	comp=Z,130nm,0.9s						
FDF				LR	LR		
	comp=Z,765nm,19.0s						
SNAA	**Sanae**	**50.65**	**158**	P	**P**	**07 44 01.0**	**+0.2**
SNAA	**Sanae**	**50.65**	**158**	*e*P	**P**	**07 44 01.0**	**+0.2**
SNAA	**Sanae**	**50.65**	**158**	P	**P**	**07 44 01.2**	**+0.3**
	comp=Z,17nm,0.9s,baz=288,slow=6.7,SNR=44						
APG	**El Apazote**	**52.73**	**337**	P	P	07 44 12.4	-4.8
	comp=Z,13nm,0.8s,baz=165,slow=4.6,SNR=10						
ICMP	**Isla Caja de M**	**52.77**	**6**	*e*P	**P**	**07 44 15.9**	**-1.1**
CRPR	**Cabo Rojo, PR**	**52.84**	**6**	*e*P	**P**	**07 44 16.5**	**-1.0**
	comp=Z,80nm,0.9s						
SABA	**Saba**	**52.89**	**10**	*e*P	**P**	**07 44 17.0**	**-1.0**
	comp=Z,149nm,0.9s						
OBIP	**Obispado Ponce**	**52.91**	**6**	*e*P	**P**	**07 44 16.9**	**-1.3**
	comp=Z,110nm,0.9s						
CELP	**Cerrillos**	**52.95**	**6**	*e*P	**P**	**07 44 17.4**	**-1.0**
LSP	**Las Mesas**	**53.01**	**6**	*e*P	**P**	**07 44 18.1**	**-0.8**
MTP	**Monte Pirata**	**53.07**	**7**	*e*P	**P**	**07 44 17.4**	**-1.9**
	comp=Z,54nm,1.1s						
LRS	**Lares**	**53.14**	**6**	*e*P	**P**	**07 44 18.2**	**-1.6**
MTDJ	**Mount Denham**	**53.15**	**353**	PFAKE		07 44 30.0	+10
MTDJ				LR	LR		
	comp=Z,259nm,20.0s						
ANWB	**Willy Bob**	**53.17**	**12**	*e*P	**P**	**07 44 17.9**	**-2.2**
	comp=Z,184nm,0.6s						
ANWB				LR	LR		
	comp=Z,613nm,19.0s						
AOPR	**Arecibo Observ**	**53.20**	**6**	*e*P	**P**	**07 44 18.5**	**-1.8**
	comp=Z,43nm,0.9s						
STVI	**Saint Thomas**	**53.39**	**8**	*e*P	**P**	**07 44 20.1**	**-1.5**
	comp=Z,37nm,0.8s						
SDDR	**Presa de Saban**	**53.62**	**1**	*e*P	**P**	**07 44 22.3**	**-1.0**
	comp=Z,36nm,1.2s						
SDDR				LR	LR		
	comp=Z,374nm,22.0s						
SMN1	**Samana, DR**	**53.88**	**3**	*e*P	**P**	**07 44 24.2**	**-1.1**
GTBY	**Guantanamo Bay**	**54.65**	**356**	PFAKE		07 44 40.0	+9.2
GTBY				LR	LR		
	comp=Z,329nm,19.0s						
NVL	**N'lazarevskaya**	**55.39**	**156**	⇓*i*P	**P**	**07 44 34.8**	**-0.8**
NVL				pmax	pmax		
	comp=Z,38nm,0.8s						
RKT	**Rikitea**	**55.67**	**264**	*e*S	**S**	**07 52 20.3**	**-1.3**
	comp=Z,270nm,33.8s						
RKT				*e*LR	LR	08 00 49.9	
	comp=Z,919nm,30.2s,baz=119						
RKT	**Rikitea**	**55.67**	**264**	*e*T	T	08 44 11.1	
	comp=Z,0.9nm,0.2s						
GRTK	**Grand Turk**	**56.14**	**1**	PFAKE		07 44 50.0	+8.5
GRTK				LR	LR		
	comp=Z,339nm,20.0s						
TEIG	**Tepich**	**57.05**	**341**	P	**P**	**07 44 48.1**	**+0.2**
	comp=Z,30nm,0.6s,baz=349,slow=3.3,SNR=33						
TEIG	**Tepich**	**57.05**	**341**	*e*P	**P**	**07 44 48.2**	**+0.2**
	comp=Z,36nm,0.8s						
TEIG				LR	LR		
	comp=Z,397nm,22.0s						
SHEL	**Horse Pasture**	**61.54**	**90**	PFAKE		07 45 30.0	+11
SHEL				LR	LR		
	comp=Z,366nm,20.0s						
SBA	**Scott Base**	**62.20**	**192**	*e*P	**P**	**07 45 25.4**	**+2.6**
SBA				pmax	pmax		
	comp=Z,21nm,1.2s						
SBA	**Scott Base**	**62.20**	**192**	*e*P	**P**	**07 45 25.4**	**+2.6**
	comp=Z,22nm,1.2s						
VNDA	**Vanda**	**63.23**	**191**	*e*P	**P**	**07 45 31.7**	**+2.0**
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VNDA	**Vanda**	**63.23**	**191**	P	**P**	**07 45 31.9**	**+2.2**
	comp=Z,4.9nm,0.8s,baz=132,slow=3.7,SNR=20						
VNDA				PKPPKP	P'P'df	08 14 26.3	-7.0
	comp=Z,1.6nm,0.9s,baz=312,slow=3.1,SNR=4.4						
VNDA	**Vanda**	**63.23**	**191**	*e*P	**P**	**07 45 31.7**	**+2.0**
	comp=Z,10.0nm,1.0s						
VNDA				P'P'		08 14 26.3	
SYO	**Syowa Base**	**64.93**	**158**	⇑*e*P	P	07 45 34.0	-6.9
SYO	**Syowa Base**	**64.93**	**158**	⇓*e*P	**P**	**07 45 39.4**	**-1.5**
035Z	**Hargill**	**65.94**	**334**	⇑P	**P**	**07 45 49.3**	**+1.4**
	baz=66						
035A	**Encino**	**66.38**	**334**	⇑P	**P**	**07 45 51.8**	**+1.1**
	baz=67,SNR=5.8						
034A	**Hebbronville**	**66.70**	**334**	⇓P	**P**	**07 45 54.2**	**+1.4**
	baz=67,SNR=6.3						
TBI	**Tubuai**	**67.30**	**257**	*e*S	**S**	**07 54 50.4**	**+1.5**
	comp=Z,257nm,28.5s						
TBI	**Tubuai**	**67.30**	**257**	*e*LR	LR	08 06 26.6	
	comp=Z,2μm,29.0s,baz=120						
933A	**Laredo**	**67.42**	**334**	⇓P	**P**	**07 45 58.7**	**+1.4**
	baz=68						
835A	**Beeville**	**67.52**	**335**	⇓P	**P**	**07 45 59.8**	**+1.9**
	baz=68						
834A	**Tilden**	**67.62**	**335**	⇑P	**P**	**07 46 00.4**	**+1.7**
	baz=68,SNR=11						
735A	**Kenedy**	**68.03**	**335**	⇑P	**P**	**07 46 02.6**	**+1.4**
	baz=68,SNR=8.5						
833A	**Chaparral WMA,**	**68.11**	**334**	⇓P	**P**	**07 46 02.9**	**+1.2**
	baz=68,SNR=16						
832A	**Faith Ranch, C**	**68.28**	**333**	⇑P	**P**	**07 46 03.7**	**+0.9**
	baz=68,SNR=13						
734A	**La Parita Cree**	**68.29**	**335**	⇓P	**P**	**07 46 03.9**	**+1.1**
	baz=68						
636A	**Smothers Creek**	**68.36**	**336**	⇓P	**P**	**07 46 04.3**	**+1.1**
	baz=69,SNR=11						
HKT	**Hockley**	**68.40**	**338**	*e*P	**P**	**07 46 03.8**	**+0.5**
HKT				pmax	pmax		
	comp=Z,38nm,1.7s						
HKT	**Hockley**	**68.40**	**338**	*e*P	**P**	**07 46 03.8**	**+0.5**
	comp=Z,38nm,1.7s						
733A	**Divot King Ran**	**68.43**	**334**	⇑P	**P**	**07 46 04.9**	**+1.2**
	baz=69						
635A	**Leesville**	**68.51**	**336**	⇓P	**P**	**07 46 05.1**	**+1.0**
	baz=69						
538A	**Harpers Horsep**	**68.55**	**338**	⇑P	**P**	**07 46 05.6**	**+1.2**
	baz=69						
537A	**Green Hill Far**	**68.67**	**337**	⇓P	**P**	**07 46 06.6**	**+1.5**
	baz=69						
732A	**Laxson Ranch,**	**68.68**	**334**	⇑P	**P**	**07 46 06.1**	**+0.9**
	baz=69,SNR=28						
634A	**China Grove, S**	**68.70**	**335**	⇓P	**P**	**07 46 06.8**	**+1.5**
	baz=69						
GOGA	**Godfrey**	**68.86**	**350**	PFAKE		07 46 20.0	+14
GOGA				LR	LR		
	comp=Z,321nm,22.0s						
536A	**Bastrop**	**68.91**	**337**	⇓P	**P**	**07 46 07.8**	**+1.1**
	baz=69						
MEH	**Mehetia**	**68.92**	**262**	*e*T	T	09 00 44.8	
	comp=Z,20nm,0.2s						
535A	**Dale**	**69.03**	**336**	⇑P	**P**	**07 46 07.9**	**+0.5**
	baz=69,SNR=5.2						
438A	**Sam Houston St**	**69.04**	**338**	⇓P	**P**	**07 46 08.5**	**+1.1**
	baz=69						
633A	**Saathoff Ranch**	**69.06**	**335**	⇓P	**P**	**07 46 08.4**	**+0.8**
	baz=69,SNR=11						
VBMS	**Vicksburg**	**69.08**	**343**	*e*P	**P**	**07 46 08.6**	**+1.0**
	comp=Z,44nm,0.8s						
LRAL	**Lakeview Retre**	**69.10**	**346**	*e*P	**P**	**07 46 07.6**	**-0.1**
	comp=Z,18nm,1.1s						
340A	**Bronson**	**69.20**	**340**	⇑P	**P**	**07 46 09.5**	**+1.1**
	baz=69						
339A	**Huntington**	**69.31**	**339**	⇑P	**P**	**07 46 09.9**	**+0.8**
	baz=70						
632A	**Uvalde**	**69.32**	**334**	⇓P	**P**	**07 46 10.0**	**+0.8**
	baz=70,SNR=18						
534A	**Blanco**	**69.34**	**335**	⇓P	**P**	**07 46 09.9**	**+0.6**
	baz=70						
JSC	**Jenkinsville**	**69.42**	**352**	*e*P	pP	07 46 18.4	-4.4
JSC	**Jenkinsville**	**69.42**	**352**	*e*pP	pP	07 46 18.4	-4.4
631A	**Perdido Creek**	**69.52**	**333**	⇓P	**P**	**07 46 11.5**	**+1.0**
	baz=70,SNR=11						
338A	**Crockett**	**69.55**	**339**	⇓P	**P**	**07 46 11.7**	**+1.1**
	baz=70,SNR=8.7						
533A	**Kerrville**	**69.57**	**335**	⇓P	**P**	**07 46 11.5**	**+0.7**
	baz=70,SNR=5.2						
337A	**Centerville**	**69.69**	**338**	⇑P	**P**	**07 46 12.6**	**+1.1**
	baz=70,SNR=7.6						
435B	**Jarrell**	**69.73**	**336**	⇑P	**P**	**07 46 12.5**	**+0.8**
	baz=70						
239A	**Gary**	**69.93**	**340**	P	**P**	**07 46 13.5**	**+0.7**
	baz=70						
532A	**Rocksprings**	**69.93**	**334**	⇓P	**P**	**07 46 13.8**	**+0.8**
	baz=70,SNR=23						
TVO	**Taravao**	**69.94**	**262**	*e*T	T	09 02 00.5	
	comp=Z,0.8nm,0.2s						
434A	**Burnet**	**69.99**	**336**	⇓P	**P**	**07 46 14.1**	**+0.7**
	baz=70,SNR=22						
CNNC	**Cliffs of the**	**70.04**	**355**	*e*P	**P**	**07 46 13.5**	**0.0**
	comp=Z,94nm,1.0s						
CNNC				LR	LR		
	comp=Z,515nm,21.0s						
336A	**Riesel**	**70.05**	**337**	⇓P	**P**	**07 46 14.5**	**+0.9**
	baz=70						
238A	**Jacksonville**	**70.10**	**339**	⇑P	**P**	**07 46 14.9**	**+1.0**
	baz=70						
TIAR	**Tiarei**	**70.13**	**262**	*e*T	T	09 02 14.7	
	comp=Z,2.9nm,0.2s						
335A	**Moody**	**70.14**	**337**	⇑P	**P**	**07 46 14.9**	**+0.7**
	baz=70						
531A	**Rocksprings**	**70.19**	**334**	⇓P	**P**	**07 46 15.8**	**+1.2**
	baz=70,SNR=21						
JCT	**Junction City**	**70.21**	**334**	*e*P	**P**	**07 46 14.7**	**0.0**
JCT				pmax	pmax		
	comp=Z,34nm,1.0s						
JCT				MLR	MLR		
	comp=Z,211nm,19.0s						
JCT	**Junction City**	**70.21**	**334**	⇓P	**P**	**07 46 15.5**	**+0.8**
	baz=70,SNR=20						
JCT	**Junction City**	**70.21**	**334**	*e*P	**P**	**07 46 14.7**	**0.0**
	comp=Z,34nm,1.0s						
JCT				LR	LR		
	comp=Z,211nm,19.0s						
433A	**Art**	**70.21**	**335**	⇓P	**P**	**07 46 15.1**	**+0.5**
	baz=70,SNR=22						
KMSC	**Kings Mountain**	**70.28**	**352**	⇑P	**P**	**07 46 15.3**	**+0.3**
	baz=71						
KMSC	**Kings Mountain**	**70.28**	**352**	*e*P	**P**	**07 46 14.7**	**-0.2**
	comp=Z,31nm,0.9s						
PPT2	**Papeete2**	**70.30**	**262**	*e*S	**S**	**07 55 24.2**	**-0.6**
	comp=Z,306nm,27.8s						
PPT2	**Papeete2**	**70.30**	**262**	*e*LR	LR	08 07 42.0	
	comp=Z,2μm,27.8s,baz=123						
237A	**Washetta, Mont**	**70.30**	**338**	⇓P	**P**	**07 46 16.3**	**+1.1**
	baz=70,SNR=6.5						
PPT	**Papeete**	**70.31**	**262**	LR	LR	08 09 46.4	
	comp=Z,376nm,18.4s,baz=130,slow=30						
334A	**Lometa**	**70.45**	**336**	⇑P	**P**	**07 46 16.7**	**+0.5**
	baz=71,SNR=24						
530A	**J-C Ranch, Com**	**70.47**	**333**	⇑P	**P**	**07 46 17.5**	**+1.2**
	baz=71,SNR=16						
432A	**Menard**	**70.57**	**335**	⇓P	**P**	**07 46 17.4**	**+0.5**
	baz=71,SNR=9.5						
TXAR	**Lajitas Array**	**70.64**	**331**	P	**P**	**07 46 17.9**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=154,slow=8.0,SNR=46						
TXAR				pP	**pP**	**07 46 31.1**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=156,slow=9.2,SNR=7.6						
TXAR				LR	LR	08 13 18.0	
	comp=Z,337nm,18.0s,baz=0.0,slow=32						
TXAR				PKP2ab		08 14 10.9	
	comp=Z,0.5nm,1.0s,baz=226,slow=2.4,SNR=3.4						
431A	**Sonora**	**70.68**	**334**	⇑P	**P**	**07 46 18.1**	**+0.5**
	baz=71,SNR=18						
333A	**Richland Sprin**	**70.70**	**336**	⇓P	**P**	**07 46 18.1**	**+0.5**
	baz=71,SNR=14						
138A	**Matatall Enter**	**70.71**	**339**	⇑P	**P**	**07 46 18.7**	**+1.1**
	baz=71						
529A	**Stev For

baz=72,SNR=11
MAW **Mawson** 72.23 163 P P 07 46 27.1 +0.6
comp=Z,56nm,0.8s,baz=222,slow=6.9,SNR=8.6
MAW LR LR 08 18 07.5
comp=Z,574nm,21.2s,baz=233,slow=36
WVT **Waverly** 72.26 346 eP P 07 46 26.4 -0.5
WVT pmax pmax
comp=Z,105nm,0.7s
WVT **Waverly** 72.26 346 eP P 07 46 26.4 -0.5
comp=Z,105nm,0.7s
229A **Bryant Ranch,** 72.28 333 ⇓P P 07 46 27.5 +0.3
baz=72
ELIM **Elim** 72.31 120 eP P 07 46 27.4 -0.1
ELIM AMB AMB 07 46 28.9
comp=Z,48nm,2.2s
ELIM **Elim** 72.31 120 P P 07 46 27.4 -0.1
comp=Z,48nm,2.2s
131A **Roby** 72.41 335 ⇑P P 07 46 28.4 +0.5
baz=73,SNR=5.3
Z33A **Whitaker Ranch** 72.42 337 ⇓P P 07 46 28.4 +0.5
baz=73,SNR=20
JSRW **J. Sargeant Re** 72.48 355 eP P 07 46 28.5 +0.4
130A **Snyder** 72.54 334 ⇓P P 07 46 29.0 +0.3
baz=73
UTMT **University of** 72.67 346 eP P 07 46 21.4 -8.0
comp=Z,149nm,1.0s
Z32A **Haskell** 72.68 336 ⇓P P 07 46 30.0 +0.5
baz=73,SNR=23
228A **UT Block 9, Go** 72.71 333 ⇑P P 07 46 30.0 +0.2
baz=73,SNR=10
Y34A **Reagan Ranch,** 72.72 338 ⇓P P 07 46 29.9 +0.2
baz=73,SNR=10
129A **Stewart Farms,** 72.90 334 ⇓P P 07 46 30.9 +0.1
baz=73,SNR=6.4
Z31A **Sharp Cattle R** 72.91 335 ⇑P P 07 46 31.4 +0.5
baz=73,SNR=16
Y33A **Hilltop Ranch,** 73.04 337 ⇓P P 07 46 32.2 +0.6
baz=73,SNR=14
KOMG **Komaggas** 73.09 115 eP P 07 46 32.4 +0.1
KOMG AMB AMB 07 46 51.1
comp=Z,59nm,1.4s
KOMG **Komaggas** 73.09 115 P P 07 46 32.4 +0.1
comp=Z,59nm,1.4s
128A **Castleberry Fa** 73.12 333 ⇓P P 07 46 32.5 +0.3
baz=73,SNR=13
PARMO **Parma** 73.17 345 eP P 07 46 32.6 +0.3
Z30A **Sanderson Ranc** 73.23 335 ⇓P P 07 46 32.8 0.0
baz=74,SNR=13
Y32A **R-V Farms, Ver** 73.30 336 ⇑P P 07 46 33.5 +0.4
baz=74,SNR=12
X34A **Smith Ranch, M** 73.34 338 ⇑P P 07 46 33.7 +0.3
baz=74,SNR=12
Z29A **Hungry Hill Ra** 73.41 334 ⇑P P 07 46 33.8 -0.1
baz=74,SNR=16
MNTX **Cornudas Mount** 73.42 331 eP P 07 46 33.3 -0.6
comp=Z,7.1nm,0.8s
PBMO **Poplar Bluff** 73.43 344 eP P 07 46 33.6 -0.1
comp=Z,54nm,1.1s
PBMO epP pP 07 46 47.1 +0.2
GDL2 **Guadalupe Moun** 73.46 332 eP P 07 46 35.1 +0.9
X33A **Lawton** 73.49 337 ⇓P P 07 46 34.0 -0.2
baz=74,SNR=7.6
Y31A **Rekieta Farm,** 73.54 336 ⇑P P 07 46 35.0 +0.4
baz=74,SNR=8.4
X32A **Elmer** 73.63 337 ⇑P P 07 46 35.3 +0.2
baz=74,SNR=8.7
Z28A **Tucker Farm, M** 73.68 334 ⇓P P 07 46 36.0 +0.5
baz=74,SNR=6.5
Y30A **Stafford Cattl** 73.68 335 ⇑P P 07 46 36.0 +0.5
baz=74
WMOK **Wichita Mounta** 73.76 337 eP P 07 46 35.5 -0.3
WMOK pmax pmax
comp=Z,15nm,1.1s
WMOK **Wichita Mounta** 73.76 337 eP P 07 46 35.5 -0.3
comp=Z,15nm,1.1s
W34A **Bridge Creek,** 73.91 338 ⇓P P 07 46 36.9 +0.2
baz=74,SNR=5.7
W34A **Bridge Creek,** 73.91 338 eP P 07 46 36.5 -0.2
comp=Z,22nm,0.8s
Y29A **Porterfield Fa** 73.94 334 ⇑P P 07 46 37.3 +0.3
baz=74,SNR=9.7
TUL1 **Leonard** 73.95 340 ⇑P P 07 46 36.8 -0.1
baz=74
TUL1 **Leonard** 73.95 340 eP P 07 46 36.9 0.0
comp=Z,31nm,0.8s
CPRX **Cap Rock** 74.00 332 eP P 07 46 38.2 +0.8
comp=Z,3.6nm,0.8s
USIN **University of** 74.01 347 eP P 07 46 36.1 -1.1
comp=Z,62nm,0.9s
WCI **Wyandotte Cave** 74.03 348 eP P 07 46 36.4 -0.9
WCI pmax pmax
comp=Z,16nm,0.9s
WCI **Wyandotte Cave** 74.03 348 eP P 07 46 36.4 -0.9
comp=Z,16nm,0.9s
W33A **Caddo, Fort Co** 74.04 338 ⇓P P 07 46 38.5 +1.0
baz=74,SNR=22
X31A **McDonald Ranch** 74.06 336 ⇓P P 07 46 37.9 +0.3
baz=74,SNR=18
SIUC **Southern Illin** 74.07 346 eP P 07 46 36.9 -0.6
comp=Z,34nm,0.9s
V35A **Meyer Ranch, C** 74.11 339 ⇓P P 07 46 37.7 -0.1
baz=74,SNR=13
Y28A **McKinney Farm,** 74.19 334 ⇓P P 07 46 39.4 +1.0
baz=74
X30A **Coker Ranch, T** 74.19 335 ⇓P P 07 46 38.5 +0.1
baz=74
SUR **Sutherland** 74.21 119 eP P 07 46 40.2 +1.2
SUR LR LR
comp=Z,54nm,0.8s
comp=Z,577nm,20.0s
W32A **Sentinel** 74.27 337 ⇑P P 07 46 38.9 +0.1
baz=74,SNR=31
V34A **Guthrie** 74.38 339 ⇑P P 07 46 40.3 +0.9
baz=75
V34A **Guthrie** 74.38 339 eP P 07 46 39.7 +0.2
comp=Z,28nm,0.8s
MSTX **Muleshoe** 74.43 334 ⇑P P 07 46 40.2 +0.3
baz=75,SNR=7.7
MSTX **Muleshoe** 74.43 334 eP P 07 46 39.8 -0.1
comp=Z,31nm,1.0s
X29A **Tulia** 74.47 335 ⇑P P 07 46 40.2 +0.1
baz=75,SNR=6.6
W31A **Holland Ranch,** 74.55 336 ⇑P P 07 46 40.7 +0.3
baz=75,SNR=6.8
V33A **Lossen Ranch,** 74.60 338 ⇑P P 07 46 41.2 +0.5
baz=75,SNR=18
MVL **Millersville** 74.68 356 eP P 07 46 41.6 +0.6
comp=Z,439nm,3.0s
X28A **Dimmitt** 74.72 334 ⇓P P 07 46 41.7 +0.2
baz=75
V32A **Arapaho** 74.75 337 P P 07 46 42.0 +0.4
baz=75
W30A **Crocket Farms** 74.76 336 ⇓P P 07 46 43.2 +1.5
baz=75
319A **Douglas** 74.79 327 ⇑P P 07 46 43.7 +1.7
baz=75
OLIL **Olney** 74.84 347 eP P 07 46 41.2 -0.8
comp=Z,56nm,1.3s
AMTX **Amarillo** 74.86 335 ⇓P P 07 46 42.9 +0.6
baz=75
AMTX **Amarillo** 74.86 335 eP P 07 46 42.7 +0.3
comp=Z,64nm,1.4s
LIC **Lamto** 74.88 71 eP P 07 46 42.4 -0.5
comp=Z,131nm,0.7s
U34A **Anderson Ranch** 74.95 339 ⇓P P 07 46 43.4 +0.7
baz=75,SNR=12
U34A **Anderson Ranch** 74.95 339 eP P 07 46 42.9 +0.2
comp=Z,34nm,0.9s
BLO **Bloomington** 74.98 348 eP P 07 46 42.3 -0.5
BLO pmax pmax
comp=Z,148nm,1.8s
BLO **Bloomington** 74.98 348 eP P 07 46 42.3 -0.5
comp=Z,148nm,1.8s
V31A **Spring Creek L** 75.05 337 ⇑P P 07 46 44.6 +1.2
baz=75,SNR=8.1
W29A **Amarillo** 75.07 335 ⇑P P 07 46 44.0 +0.5
baz=75,SNR=7.1
U33A **Lingo Farm, Me** 75.12 338 ⇓P P 07 46 43.7 0.0
baz=75,SNR=8.6
121A **Cookes Peak, D** 75.14 329 ⇑P P 07 46 45.3 +1.2
baz=75,SNR=8.6
121A **Cookes Peak, D** 75.14 329 eP P 07 46 45.5 +1.4
comp=Z,20nm,1.0s
TIC **Toumodi** 75.15 71 eP P 07 46 44.0 -0.4
comp=Z,118nm,1.0s
SLM **Saint Louis** 75.17 345 eP P 07 46 43.5 -0.4
SLM pmax pmax
comp=Z,66nm,0.9s
SLM **Saint Louis** 75.17 345 eP P 07 46 43.5 -0.4
comp=Z,66nm,0.9s
KIC **Kosan Boka** 75.19 71 eP P 07 46 44.4 -0.2
comp=Z,309nm,0.9s
DBIC **Dimbokro** 75.29 71 ⇑iP P 07 46 44.8 -0.4
DBIC **Dimbokro** 75.29 71 eP P 07 46 44.9 -0.3
DBIC pmax pmax
comp=Z,106nm,0.8s
DBIC **Dimbokro** 75.29 71 P P 07 46 45.0 -0.3
comp=Z,90nm,0.8s,baz=207,slow=6.2,SNR=122
DBIC LR LR 08 17 03.9
comp=Z,389nm,20.8s,baz=218,slow=34
DBIC **Dimbokro** 75.29 71 eP P 07 46 44.9 -0.3
comp=Z,106nm,0.8s
V30A **Spur Ranch, Mi** 75.32 336 ⇓P P 07 46 46.2 +1.3
baz=76
U32A **Winter Ranch,** 75.34 338 ⇓P P 07 46 45.6 +0.6
baz=76,SNR=8.0
W28A **Vega** 75.39 335 ⇓P P 07 46 47.0 +1.6
baz=76
ACSO **Alum Creek Sta** 75.50 351 eP P 07 46 45.2 -0.6
comp=Z,83nm,0.8s
ACSO LR LR
comp=Z,367nm,21.0s
S36A **Lake Cedric, C** 75.59 341 ⇓P P 07 46 46.4 +0.1
baz=76,SNR=12
U31A **Nine Bar Ranch** 75.60 337 ⇑P P 07 46 47.4 +0.8
baz=76
V29A **Stinnett** 75.70 335 ⇑P P 07 46 47.8 +0.6
baz=76
T33A **Patterson Ranc** 75.76 338 ⇓P P 07 46 48.2 +0.9
baz=76
W26A **Owens Ranch, T** 75.80 333 ⇑P P 07 46 48.5 +0.8
baz=76
V28A **Channing** 75.84 335 ⇑P P 07 46 48.9 +0.9
baz=76,SNR=5.5
S34A **Willow Spring** 76.00 340 ⇓P P 07 46 48.9 +0.3
baz=76
U30A **WK&E Inc. Balk** 76.01 336 ⇓P P 07 46 49.3 +0.5
baz=76,SNR=6.7
T32A **Huddler Ranch,** 76.05 338 ⇑P P 07 46 49.8 +0.7
baz=76,SNR=5.2
V27A **Dan Oppiter Fa** 76.06 334 ⇑P P 07 46 50.1 +0.9
baz=76
Y22D **IRIS PASSCAL I** 76.12 331 ⇑P P 07 46 50.5 +0.8
baz=76
U29A **Oasis Ranch, S** 76.14 336 ⇓P P 07 46 50.8 +1.2
baz=76
S33A **Kaszmaul Farm,** 76.16 339 ⇓P P 07 46 50.2 +0.6
baz=76,SNR=5.3
W25A **X Bar L Ranch,** 76.17 333 ⇓P P 07 46 50.3 +0.4
baz=76,SNR=8.8
LPM **Los Pinos Moun** 76.21 331 eP P 07 46 51.5 +1.3
T31A **Randall Ranch,** 76.21 337 ⇓P P 07 46 50.6 +0.6
baz=76
LENM **Lemitar** 76.22 331 eP P 07 46 52.1 +1.8
comp=Z,7.7nm,1.1s
SFIN **Lafayette** 76.26 348 ⇑P P 07 46 49.1 -0.9
baz=76
SFIN **Lafayette** 76.26 348 eP P 07 46 49.1 -0.9
comp=Z,23nm,0.9s
TUC **Tucson** 76.26 327 eP P 07 46 51.1 +0.7
TUC pmax pmax
comp=Z,21nm,1.4s
TUC MLR MLR
comp=Z,295nm,19.0s
TUC **Tucson** 76.26 327 eP P 07 46 51.1 +0.7
comp=Z,21nm,1.4s
TUC LR LR
comp=Z,295nm,19.0s
U28A **Mallet** 76.40 335 ⇑P P 07 46 51.0 -0.2
baz=77
V26A **Tequesquite Ra** 76.43 334 ⇑P P 07 46 51.0 -0.3
baz=77,SNR=8.0
T30A **Plas** 76.44 337 ⇓P P 07 46 51.2 -0.1
baz=77
LAZ **Ladron** 76.49 331 eP P 07 46 53.4 +1.6
comp=Z,6.5nm,1.1s
W24A **Lazy 6 Ranch,** 76.52 332 ⇓P P 07 46 51.8 -0.2
baz=77,SNR=7.5
S32A **Newby Ranch, P** 76.54 338 ⇑P P 07 46 51.7 -0.1
baz=77,SNR=5.1
WIN **Windhoek** 76.58 108 eP P 07 46 53.0 +0.2
WIN AMB AMB 07 46 53.7
comp=Z,27nm,1.1s
WIN **Windhoek** 76.58 108 P P 07 46 53.0 +0.2
WIN pmax pmax
comp=Z,27nm,1.1s
WIN **Windhoek** 76.58 108 P P 07 46 53.0 +0.2
comp=Z,27nm,1.1s
ALLY **Alegheny Colle** 76.60 354 eP P 07 46 51.9 -0.1
comp=Z,34nm,0.8s
U27A **Thompson Grove** 76.65 335 ⇑P P 07 46 52.7 +0.2
baz=77,SNR=7.4
ANMO **Albuquerque** 76.69 331 eP P 07 46 53.3 +0.3
ANMO pmax pmax
comp=Z,45nm,1.2s
ANMO **Albuquerque** 76.69 331 eP P 07 46 53.9 +0.9
comp=Z,16nm,1.2s
ANMO LR LR
comp=Z,482nm,22.0s
V25A **Rancho No Teng** 76.78 333 ⇑P P 07 46 53.4 0.0
baz=77,SNR=11
T29A **Hooton** 76.79 336 ⇑P P 07 46 53.8 +0.5
baz=77
R33A **Olander Ranch,** 76.81 339 ⇓P P 07 46 53.0 -0.3
baz=77,SNR=6.1
BINY **Binghamton** 76.86 357 eP P 07 46 53.6 +0.2
comp=Z,13nm,0.9s
214A **Organ Pipe Nat** 76.89 325 ⇓P P 07 46 54.2 +0.3
baz=77
V24A **Rampart Ranch,** 76.92 333 ⇓P P 07 46 54.6 +0.3
baz=77
U26A **Atchley Ranch,** 76.95 334 ⇓P P 07 46 54.3 0.0
baz=77,SNR=7.8
S30A **Montezuma** 76.96 337 ⇓P P 07 46 54.1 -0.1
baz=77
T28A **Walsh** 77.03 336 ⇓P P 07 46 54.6 0.0
baz=77,SNR=14
ERPA **Erie** 77.05 354 eP P 07 46 54.2 -0.3
comp=Z,28nm,1.0s
R32A **Long Quarter,** 77.13 339 ⇓P P 07 46 55.3 +0.2
baz=77,SNR=14
S29A **Ulysses** 77.15 336 ⇑P P 07 46 55.9 +0.6
baz=77,SNR=12
KSU1 **Kansas State U** 77.16 340 ⇑P P 07 46 55.2 -0.1
baz=77
KSU1 **Kansas State U** 77.16 340 eP P 07 46 54.9 -0.3
comp=Z,22nm,0.9s
KSU1 LR LR
comp=Z,305nm,19.0s
T27A **Campo** 77.19 335 ⇑P P 07 46 56.0 +0.4
baz=77,SNR=8.6
U25A **Circle Dot Ran** 77.20 334 ⇓P P 07 46 56.5 +0.7
baz=77,SNR=12
R31A **Burdett** 77.26 338 ⇑P P 07 46 56.4 +0.5
baz=78,SNR=7.6
V23A **Ortiz Mt. (NFS** 77.29 332 ⇓P P 07 46 56.6 +0.3
baz=78
TRY **Troy** 77.31 359 eP P 07 46 56.6 +0.7
comp=Z,61nm,1.0s
S28A **Manter** 77.39 336 ⇓P P 07 46 56.9 +0.2
baz=78,SNR=20
Q33A **Connelly Farm,** 77.41 339 ⇑P P 07 46 56.8 +0.2
baz=78
R30A **Dighton** 77.49 337 ⇑P P 07 46 57.2 0.0
baz=78
U24A **Moreno Valley** 77.53 333 ⇓P P 07 46 57.9 +0.2
baz=78,SNR=5.9
T26A **Comanche Natio** 77.60 334 ⇑P P 07 46 58.3 +0.3
baz=78,SNR=12
Q32A **Meitler Ranch,** 77.61 339 ⇓P P 07 46 57.8 +0.1
baz=78,SNR=11
AAM **Ann Arbor** 77.63 351 eP P 07 46 57.3 -0.4
AAM pmax pmax
comp=Z,123nm,1.9s
AAM **Ann Arbor** 77.63 351 eP P 07 46 57.3 -0.4
comp=Z,123nm,1.9s
V22A **San Miguel Ran** 77.72 331 ⇑P P 07 46 58.9 +0.2
baz=78,SNR=17
GRM **Grahamstown** 77.75 122 eP P 07 46 58.9 -0.1
GRM AMB AMB 07 46 59.6
comp=Z,113nm,1.2s
GRM **Grahamstown** 77.75 122 P P 07 46 58.9 -0.1
GRM pmax pmax
comp=Z,113nm,1.2s
GRM **Grahamstown** 77.75 122 P P 07 46 58.9 -0.1
comp=Z,113nm,1.2s
X18A **Snowflake** 77.77 329 ⇑P P 07 46 59.8 +0.8
baz=78
P33A **Williams Farm,** 77.78 340 ⇓P P 07 46 59.1 +0.4
baz=78
U23A **El Rito** 77.81 332 ⇓P P 07 46 59.6 +0.4
baz=78,SNR=9.0
T25A **Trinidad** 77.86 334 ⇑P P 07 46 59.9 +0.4
baz=78,SNR=29
T25A **Trinidad** 77.86 334 eP P 07 47 00.5 +1.1
comp=Z,60nm,1.0s
Q31A **Ellis** 77.88 338 ⇓P P 07 47 00.1 +0.8
baz=78
R29A **Marienthal** 77.89 337 ⇓P P 07 47 00.2 +0.7
baz=78
S26A **Kim** 77.95 335 ⇑P P 07 47 00.5 +0.7
baz=78,SNR=20
ACCN **Adirondack Com** 77.96 359 eP P 07 46 59.8 +0.2
comp=Z,165nm,2.2s
113A **Mohawk Valley,** 78.02 325 ⇓P P 07 47 01.2 +1.1
baz=78
R28A **Tribune** 78.04 336 ⇓P P 07 47 00.5 +0.2
baz=78,SNR=15
U22A **Llaves** 78.10 332 ⇓P P 07 47 01.3 +0.4
baz=78,SNR=7.2
Q30A **Quinter** 78.11 338 ⇑P P 07 47 01.0 +0.4
baz=78,SNR=16
Z14A **Wintersburg** 78.13 326 ⇑P P 07 47 01.6 +0.8
baz=78
T24B **San Luis** 78.14 333 ⇑P P 07 47 01.6 +0.5
baz=78,SNR=9.6
W18A **Petrified Fore** 78.19 329 ⇓P P 07 47 01.9 +0.6
baz=78
P32A **Huiting Farm,** 78.21 339 ⇑P P 07 47 01.6 +0.6
baz=78,SNR=6.4
Q29A **Oakley** 78.27 337 ⇑P P 07 47 01.9 +0.4
baz=78,SNR=8.3
HNH **Hanover** 78.27 360 eP P 07 47 02.4 +1.1
comp=Z,39nm,1.0s
R27A **Eads** 78.32 336 ⇑P P 07 47 02.4 +0.6
baz=79,SNR=18
X16A **Lo Mia Camp, P** 78.33 327 ⇑P P 07 47 02.8 +0.7
baz=78,SNR=17
S25A **Robets Cordova** 78.33 334 ⇓P P 07 47 02.7 +0.7
baz=79,SNR=9.5
P31A **Stockton** 78.35 339 ⇓P P 07 47 02.0 +0.2
baz=79,SNR=11
T23A **Casias Ranch,** 78.37 333 ⇑P P 07 47 02.7 +0.4
baz=79
HVD **Gariep Dam** 78.53 119 eP P 07 47 03.6 +0.1
HVD AMB AMB 07 47 04.5
comp=Z,122nm,1.1s
HVD **Gariep Dam** 78.53 119 P P 07 47 03.6 +0.1
HVD pmax pmax
comp=Z,122nm,1.1s
HVD **Gariep Dam** 78.53 119 P P 07 47 03.6 +0.1
comp=Z,122nm,1.1s
R26A **Arlington** 78.55 335 ⇓P P 07 47 04.1 +0.9
baz=79,SNR=12
NCB **Newcomb** 78.56 358 PFAKE 07 47 10.0 +7.1
NCB LR LR
comp=Z,475nm,21.0s
MDV **Middlebury** 78.57 359 eP P 07 47 03.2 +0.3
S24A **Houchin Ranch,** 78.59 334 ⇑P P 07 47 04.7 +1.1
baz=79,SNR=14
Y14A **Wickenburg** 78.63 326 ⇓P P 07 47 05.0 +1.4
baz=79,SNR=5.8
P30A **Selden** 78.63 338 ⇓P P 07 47 04.0 +0.5
baz=79
Q28A **Sharon Springs** 78.70 337 ⇑P P 07 47 04.6 +0.7
baz=79,SNR=6.0
O32A **Brockman Farm,** 78.71 340 ⇑P P 07 47 04.1 +0.3
baz=79
R25A **Fountain Ranch** 78.71 334 ⇓P P 07 47 04.7 +0.7
baz=79
TSUM **Tsumeb** 78.77 106 eP P 07 47 05.0 +0.1
TSUM LR LR
comp=Z,61nm,1.1s
comp=Z,474nm,21.0s
SDCO **Great Sand Dun** 78.79 333 ⇑P P 07 47 05.3 +0.6
baz=79,SNR=8.0
SDCO **Great Sand Dun** 78.79 333 eP P 07 47 05.4 +0.6
comp=Z,8.3nm,0.9s
P29A **Atwood** 78.90 337 ⇑P P 07 47 05.7 +0.8
baz=79,SNR=11
O31A **Woolen Ranch,** 78.91 339 ⇓P P 07 47 05.5 +0.5
baz=79,SNR=6.6
KSCO **Kaye Shedlock'** 78.91 336 ⇑P P 07 47 06.1 +0.9
baz=79
KSCO **Kaye Shedlock'** 78.91 336 eP P 07 47 06.0 +0.9
comp=Z,31nm,1.0s
S23A **Nye Farm, Mont** 78.94 333 ⇑P P 07 47 06.5 +1.0
baz=79
SCIA **State Center** 78.95 344 eP P 07 47 05.2 +0.1
comp=Z,33nm,1.0s
R24A **Sanders Place,** 79.08 334 ⇓P P 07 47 07.4 +1.2
baz=79,SNR=20
CASY **Casey** 79.09 181 eP P 07 47 07.0 +1.3
comp=Z,22nm,0.9s
CASY LR LR
comp=Z,468nm,19.0s
P28A **Saint Francis** 79.14 337 ⇓P P 07 47 07.3 +1.0
baz=79,SNR=6.4
Q26A **Hugo** 79.14 335 ⇓P P 07 47 07.2 +0.8
baz=79,SNR=6.7
O30A **MW Ranch, Wils** 79.16 338 ⇑P P 07 47 07.1 +0.8
baz=79,SNR=6.3
N32A **Stulken Farm,** 79.18 340 ⇓P P 07 47 07.1 +0.7
baz=79
LONY **Lake Ozonia** 79.22 358 eP P 07 47 06.4 -0.1
comp=Z,37nm,1.0s
WUAZ **Wupatki** 79.23 328 ⇓P P 07 47 08.1 +1.1
baz=79,SNR=5.6
WUAZ **Wupatki** 79.23 328 eP P 07 47 08.6 +1.6
comp=Z,19nm,1.2s
JFWS **Jewell Farm** 79.29 346 eP P 07 47 06.5 -0.4
JFWS pmax pmax
comp=Z,33nm,0.9s
JFWS MLR MLR
comp=Z,494nm,21.0s
JFWS **Jewell Farm** 79.29 346 eP P 07 47 06.5 -0.4
comp=Z,33nm,0.9s
JFWS LR LR
comp=Z,494nm,21.0s
S22A **4UR Ranch, Cre** 79.29 332 ⇑P P 07 47 08.3 +0.9
baz=80,SNR=9.7
S22A **4UR Ranch, Cre** 79.29 332 eP P 07 47 08.3 +0.9
comp=Z,10nm,0.9s
R23A **Moffat** 79.31 333 ⇑P P 07 47 08.0 +0.5
baz=80
O29A **4D Ranch, Culb** 79.33 338 ⇑P P 07 47 08.6 +1.3
baz=80
Q25A **Bedland, Calha** 79.38 335 ⇑P P 07 47 08.2 +0.5
baz=80,SNR=7.6
P27A **Ficken Ranch,** 79.39 336 ⇑P P 07 47 08.6 +0.9
baz=80
MONP **Monument Peak,** 79.40 323 ⇓P P 07 47 09.0 +0.9
baz=80
N31A **Bailey Ranch,** 79.42 339 ⇑P P 07 47 08.9 +1.2
baz=80
PDMCI **Parker Dam,Lak** 79.46 325 ⇑P P 07 47 09.1 +1.1
baz=80
MVCO **Mesa Verde** 79.47 331 ⇑P P 07 47 09.0 +0.7
baz=80,SNR=7.9
MVCO **Mesa Verde** 79.47 331 eP P 07 47 09.2 +0.8
comp=Z,20nm,1.1s
MVCO LR LR
comp=Z,425nm,20.0s
BC3 **Big Chuckawall** 79.55 324 ⇓P P 07 47 09.7 +1.1
baz=80,SNR=9.8
O28A **Krutsinger Ran** 79.64 337 ⇓P P 07 47 10.0 +1.0
baz=80
P26A **Davis Ranch, A** 79.65 336 ⇑P P 07 47 09.9 +0.8
baz=80,SNR=6.9
N30A **Hueftle Ranch,** 79.73 339 ⇓P P 07 47 10.2 +0.8
baz=80
BGNE **Belgrade** 79.74 340 ⇓P P 07 47 10.0 +0.6
baz=80
BGNE **Belgrade** 79.74 340 eP P 07 47 09.9 +0.5
comp=Z,69nm,1.1s
109C **Camp Elliot, M** 79.74 323 ⇓P P 07 47 09.9 +0.3
baz=80
Q24A **Divide** 79.75 334 ⇓P P 07 47 10.6 +0.7
baz=80,SNR=6.0
Q24A **Divide** 79.75 334 eP P 07 47 10.9 +1.1
comp=Z,18nm,0.9s
IRM **Iron Mountain** 79.82 325 ⇓P P 07 47 11.3 +1.2
baz=80,SNR=5.5
PKME **Peaks-Kenny Pk** 79.86 2 PFAKE 07 47 20.0 +10

PKME LR LR
comp=Z,293nm,19.0s
P25A Willow Gulch B 79.89 335 ⇑P P 07 47 11.9 +1.4
baz=80,SNR=14
M31A Lambtecht Ranc 79.91 340 ⇓P P 07 47 11.3 +0.9
baz=80,SNR=9.3
N29A Votaw Ranch, W 79.92 338 ⇑P P 07 47 11.3 +0.9
baz=80
O27A Beecher Island 79.93 337 ⇓P P 07 47 11.8 +1.2
baz=80,SNR=5.5
Q23A Hartsel 79.94 334 ⇓P P 07 47 11.5 +0.6
baz=80
PFO Pinyon Flats O 80.00 323 *eP* **P 07 47 13.0 +1.8**
PFO pmax pmax
comp=Z,18nm,1.1s
PFO MLR MLR
comp=Z,506nm,22.0s
PFO Pinyon Flats O 80.00 323 ⇓P P 07 47 12.3 +1.2
baz=80,SNR=8.4
PFO Pinyon Flats O 80.00 323 *eP* **P 07 47 13.0 +1.8**
comp=Z,18nm,1.1s
PFO LR LR
comp=Z,506nm,22.0s
W13A Hualapai Mount 80.00 326 ⇓P P 07 47 12.5 +1.3
baz=80,SNR=6.5
NEE2 Needles Airpor 80.06 325 ⇓P P 07 47 12.8 +1.5
baz=80
N28A Pribbeno Ranch 80.08 337 ⇑P P 07 47 12.1 +0.7
baz=80
BELC Belle Mtn. Jos 80.09 324 ⇑P P 07 47 13.3 +1.6
baz=80
P24A Kohler Place, 80.15 335 ⇓P P 07 47 13.6 +1.7
baz=80
O26A Horse Wrangler 80.25 336 ⇑P P 07 47 13.5 +1.2
baz=80,SNR=6.0
PV01 Paradox Valley 80.30 331 *eP* **P 07 47 14.0 +1.2**
comp=Z,990nm,1.1s
M30A Dale-Ortello V 80.35 339 ⇑P P 07 47 13.5 +0.8
baz=81,SNR=5.9
P23A Jefferson 80.36 334 ⇑P P 07 47 13.9 +0.7
baz=81
MURC Murrieta 80.36 323 ⇑P P 07 47 13.8 +0.9
baz=80
U15A North Rim 80.39 328 ⇓P P 07 47 14.5 +1.1
baz=81,SNR=9.8
O25A Wiggins 80.41 335 ⇓P P 07 47 14.0 +0.8
baz=81,SNR=6.9
OGNE Ogallala 80.47 337 P 07 47 14.3 +0.9
baz=81
OGNE Ogallala 80.47 337 PFAKE 07 47 30.0 +17
OGNE LR LR
comp=Z,256nm,22.0s
N27A Anderson Farm, 80.50 337 ⇓P P 07 47 14.5 +0.8
baz=81
M29A Burnside Ranch 80.51 338 ⇓P P 07 47 14.4 +0.8
baz=81
LDFC Landfair 80.55 325 *eP* **P 07 47 15.9 +1.8**
comp=Z,11nm,1.0s
GMRC Granite Mounta 80.57 325 ⇓P P 07 47 15.0 +0.8
baz=81,SNR=8.1
SMCO Snowmass 80.60 333 *eP* **P 07 47 16.1 +1.5**
comp=Z,25nm,1.0s
L31A Butterfield Fa 80.64 340 ⇓P P 07 47 15.2 +0.9
baz=81,SNR=17
ISCO Idaho Springs 80.65 334 ⇓P P 07 47 15.5 +0.7
baz=81,SNR=6.4
M28A Bar X Bar Ranc 80.67 338 ⇑P P 07 47 15.5 +1.0
baz=81
L30A Spencer Herefo 80.68 339 ⇑P P 07 47 15.5 +1.0
baz=81,SNR=5.9
O24A Longmont 80.75 335 ⇑P P 07 47 16.0 +0.9
baz=81
N26A Koester Ranch, 80.75 336 ⇓P P 07 47 16.1 +1.1
baz=81
BBRC Big Bear Solar 80.75 324 ⇓P P 07 47 16.1 +0.8
baz=81
CIS Catalina Islan 80.81 322 ⇓P P 07 47 16.6 +1.3
baz=81
P22A Eagle 80.89 333 ⇓P P 07 47 16.7 +0.8
baz=81
HEC Hector,Ludlow 80.93 324 ⇓P P 07 47 17.4 +1.3
baz=81
FMP Fort Macarthur 80.99 322 ⇓P P 07 47 17.2 +0.9
baz=81
L29A Maesberg Ranch 81.01 339 ⇑P P 07 47 17.3 +1.0
baz=81,SNR=5.7
BFSC Mount Baldy Ra 81.10 323 ⇑P P 07 47 18.5 +1.5
baz=81,SNR=5.6
M27A Reverse DX Ran 81.11 337 ⇑P P 07 47 17.7 +0.8
baz=81
O23A Lake Granby, G 81.12 334 ⇑P P 07 47 18.5 +1.2
baz=81,SNR=13
RUDU RUNDU 81.17 106 *eP* **P 07 47 18.6 +0.7**
RUDU AMB AMB 07 47 19.3
comp=Z,118nm,1.0s
RUDU RUNDU 81.17 106 P P 07 47 18.6 +0.7
comp=Z,118nm,1.0s
TUQ Turquoise Moun 81.22 325 ⇑P P 07 47 19.3 +1.6
baz=81
L28A Connealy Angus 81.27 338 ⇓P P 07 47 19.0 +1.2
baz=82
RRX Edison Barstow 81.29 324 ⇓P P 07 47 18.9 +1.0
baz=82
N24A Carr 81.31 335 ⇓P P 07 47 18.9 +0.9
baz=82
O22A Kremmling 81.31 334 ⇑P P 07 47 18.9 +0.7
baz=82,SNR=10
K30A Basset 81.32 340 ⇓P P 07 47 18.7 +0.8
baz=82,SNR=8.5
SEK Senekal 81.35 118 *eP* **P 07 47 18.5 -0.2**
SEK AMB AMB 07 47 19.3
comp=Z,115nm,1.0s
SEK Senekal 81.35 118 P P 07 47 18.5 -0.2
comp=Z,115nm,1.0s
KSD Kokstad 81.35 121 *eP* **P 07 47 19.2 +0.5**
KSD AMB AMB 07 47 20.6
comp=Z,13nm,1.4s
KSD Kokstad 81.35 121 P P 07 47 19.2 +0.5
comp=Z,13nm,1.4s
DECC Green Verdugo 81.44 323 ⇑P P 07 47 20.4 +1.7
baz=82
ECSD EROS Data Cent 81.50 342 ⇓P P 07 47 19.0 +0.2
baz=82,SNR=37
GSC Goldstone, Bar 81.54 324 *eP* **P 07 47 21.0 +1.7**
GSC pmax pmax
comp=Z,7.0nm,0.9s
GSC Goldstone, Bar 81.54 324 ⇑P P 07 47 20.7 +1.4
baz=82
GSC Goldstone, Bar 81.54 324 *eP* **P 07 47 21.0 +1.7**
comp=Z,7.4nm,0.9s
M25A Palm-Egli Farm 81.57 336 ⇓P P 07 47 20.5 +1.1
baz=82
K29A Lazy Trails An 81.60 339 ⇑P P 07 47 20.1 +0.6
baz=82,SNR=8.6
N23A Red Feather La 81.74 335 ⇓P P 07 47 21.2 +0.8
baz=82
N23A Red Feather La 81.74 335 *eP* **P 07 47 21.5 +1.1**
comp=Z,13nm,0.8s
SHPR Sheep Range 81.74 326 *eP* **P 07 47 22.1 +1.7**
EDW2 Edwards Air Fo 81.77 323 ⇓P P 07 47 21.7 +1.2
baz=82
L26A Underwood Farm 81.79 337 ⇓P P 07 47 21.2 +0.7
baz=82
CCUT Cedar City 81.80 328 *eP* **P 07 47 22.5 +1.7**
comp=Z,16nm,1.0s
N22A Wattenberg Ran 81.84 334 ⇓P P 07 47 22.1 +1.1
baz=82,SNR=6.1
M24A Cheyenne 81.86 336 ⇑P P 07 47 21.8 +0.9
baz=82
K28A Ten Mile Ranch 81.87 338 ⇑P P 07 47 21.8 +1.0
baz=82
J30A Dallas 81.89 340 ⇑P P 07 47 21.3 +0.4
baz=82,SNR=7.0
BSC Santa Cruz Isl 81.90 322 ⇑P P 07 47 22.0 +0.9
baz=82
O20A White River Ci 81.91 333 ⇑P P 07 47 22.1 +0.9
baz=82
O20A White River Ci 81.91 333 *eP* **P 07 47 22.2 +0.9**
comp=Z,17nm,1.1s
O20A *ep*P **pP 07 47 38.4 +3.8**
SRU San Rafael Swe 81.92 331 *eP* **P 07 47 22.1 +0.8**
SRU pmax pmax
comp=Z,14nm,0.9s
SRU San Rafael Swe 81.92 331 *eP* **P 07 47 22.1 +0.8**
comp=Z,14nm,0.9s
PHWY Pilot Hill 81.93 335 *eP* **P 07 47 21.9 +0.5**
comp=Z,16nm,0.9s
PRYS Parys 81.95 117 *eP* **P 07 47 21.4 -0.5**
PRYS AMB AMB 07 47 22.0
comp=Z,23nm,1.2s
PRYS Parys 81.95 117 P **P 07 47 21.4 -0.5**
comp=Z,23nm,1.2s
SPMN Marine on St. 82.03 345 ⇓P P 07 47 21.0 -0.5
baz=82,SNR=8.1
SPMN Marine on St. 82.03 345 *eP* **P 07 47 20.6 -0.8**
comp=Z,20nm,0.9s
ARUT Antelope Range 82.03 328 *eP* **P 07 47 23.6 +1.6**
ARUT Antelope Range 82.03 328 *eP* **P 07 47 23.6 +1.6**
comp=Z,192nm,1.1s
MVU Marysvale 82.10 329 *eP* **P 07 47 23.8 +1.4**
comp=Z,14nm,1.0s
K27A Flueckinger Fa 82.13 338 ⇓P P 07 47 23.2 +1.0
baz=82
M23A Laramie 82.17 335 ⇓P P 07 47 23.3 +0.7
baz=82
L25A Engebretsen Ra 82.19 336 ⇓P P 07 47 23.3 +0.7
baz=82
J29A Okreek 82.20 339 ⇓P P 07 47 23.1 +0.6
baz=82,SNR=29
KSR Koster 82.22 116 *eP* **P 07 47 22.8 -0.6**
KSR AMB AMB 07 47 23.7
comp=Z,36nm,1.3s
KSR Koster 82.22 116 P P 07 47 22.8 -0.6
comp=Z,36nm,1.3s
WDLM Western Deep L 82.28 117 *eP* **P 07 47 22.2 -1.6**
WDLM AMB AMB 07 47 24.6
comp=Z,37nm,3.5s
SBC Santa Barbara 82.29 322 ⇑P P 07 47 23.8 +0.7
baz=82
TMUT Trail Mountain 82.36 330 *eP* **P 07 47 24.9 +1.1**
comp=Z,152nm,2.6s
ARVC Arvin 82.39 323 ⇓P P 07 47 24.2 +0.5
baz=83
L24A Wheatland 82.41 336 ⇓P P 07 47 24.5 +0.8
baz=83
I30A Oacoma 82.41 340 ⇓P P 07 47 23.5 0.0
baz=83,SNR=11
M22A Cedar Creek Ra 82.42 334 ⇓P P 07 47 24.4 +0.4
baz=83
K26A Motz Farm, Whi 82.42 337 ⇓P P 07 47 24.7 +1.0
baz=83
MPMC Manual Prospec 82.48 324 ⇓P P 07 47 25.1 +0.8
baz=83
J28A Allard Ranch, 82.48 339 ⇓P P 07 47 24.6 +0.6
baz=83,SNR=13
FURC Furnace Creek, 82.51 325 ⇑P P 07 47 25.4 +1.2
baz=83
N20A Spence Gulch, 82.53 333 ⇑P P 07 47 25.4 +0.9
baz=83
J27A Elkhorn Farm, 82.56 338 ⇑P P 07 47 25.2 +0.7
baz=83,SNR=16
K25A Mack Ranch, Ha 82.56 337 ⇓P P 07 47 25.5 +0.9
baz=83
TPNV Topopah Spring 82.61 326 *eP* **P 07 47 26.8 +1.9**
TPNV pmax pmax
comp=Z,20nm,1.3s
TPNV Topopah Spring 82.61 326 ⇓P P 07 47 26.2 +1.2
baz=83
TPNV Topopah Spring 82.61 326 *eP* **P 07 47 26.8 +1.9**
comp=Z,20nm,1.3s
ISA Isabella, Lake 82.64 323 *eP* **P 07 47 26.8 +1.8**
ISA pmax pmax
comp=Z,11nm,1.0s
ISA Isabella, Lake 82.64 323 ⇑P P 07 47 26.5 +1.5
baz=83,SNR=7.0
ISA Isabella, Lake 82.64 323 *eP* **P 07 47 26.8 +1.8**
comp=Z,11nm,1.0s
DAC Darwin (Calif) 82.70 324 *eP* **P 07 47 26.7 +1.2**
DAC pmax pmax
comp=Z,11nm,1.0s
DAC Darwin (Calif) 82.70 324 *eP* **P 07 47 26.7 +1.2**
comp=Z,11nm,1.0s
PKM Mcpherson Peak 82.70 322 ⇑P P 07 47 26.1 +0.6
baz=83
L23A Garrett 82.73 335 ⇑P P 07 47 26.0 +0.4
baz=83
I29A Vivian Onida 82.76 340 ⇑P P 07 47 25.5 +0.2
baz=83,SNR=6.7
BRSD Miller 82.77 341 ⇓P P 07 47 25.5 +0.1
baz=83
L22A Ellis Ranch, M 82.91 335 ⇓P P 07 47 26.7 +0.2
baz=83
ERPM east rand prop 82.93 117 *eP* **P 07 47 26.7 -0.4**
ERPM AMB AMB 07 47 27.7
comp=Z,47nm,1.5s
ERPM east rand prop 82.93 117 P P 07 47 26.7 -0.4
comp=Z,47nm,1.5s
J26A Sides Ranch, S 82.94 338 ⇑P P 07 47 27.7 +1.2
baz=83,SNR=5.9
K24A Anderson Ranch 82.97 336 ⇑P P 07 47 27.6 +0.9
baz=83,SNR=7.7
I28A Midland 82.99 339 ⇑P P 07 47 27.1 +0.5
baz=83,SNR=19
VES Vestal, Richgr 83.08 323 ⇓P P 07 47 28.3 +1.1
baz=83
SMMC Simmler 83.12 322 ⇑P P 07 47 28.8 +1.4
baz=83
MPU Maple Canyon 83.14 330 *eP* **P 07 47 28.0 +0.3**
comp=Z,14nm,1.0s
GRAC Grapevine Rang 83.17 325 ⇓P P 07 47 29.1 +1.3
baz=83
J25A Sunshine Ranch 83.24 337 ⇑P P 07 47 28.6 +0.6
baz=84,SNR=9.9
NLU North Lily Min 83.27 330 *eP* **P 07 47 27.8 -0.5**
K23A Bowen Ranch, D 83.27 336 ⇓P P 07 47 29.7 +1.4
baz=84
H29A Onida 83.28 340 ⇓P P 07 47 28.3 +0.2
baz=84,SNR=7.7
I27A Quinn 83.31 339 ⇓P P 07 47 28.8 +0.5
baz=84,SNR=6.7
SLR Silverton 83.31 117 *eP* **P 07 47 28.5 -0.6**
SLR AMB AMB 07 47 29.6
comp=Z,79nm,3.9s
SLR AMS AMS 08 22 59.9
comp=Z,377nm,5.6s
SLR Silverton 83.31 117 P **P 07 47 28.5 -0.6**
SLR Silverton 83.31 117 P **P 07 47 28.5 -0.6**
comp=Z,79nm,3.9s
DAU Daniels Canyon 83.33 331 *eP* **P 07 47 29.8 +1.0**
DAU Daniels Canyon 83.33 331 *eP* **P 07 47 29.8 +1.0**
R11A Troy Canyon, C 83.45 327 ⇑P P 07 47 30.0 +0.7
baz=84
R11A Troy Canyon, C 83.45 327 *eP* **P 07 47 30.4 +1.2**
comp=Z,15nm,1.0s
G30A Faulkton 83.46 341 ⇑P P 07 47 30.1 +1.2
baz=84
J24A Dixon Ranch, L 83.47 337 ⇓P P 07 47 30.1 +0.9
baz=84,SNR=5.8
K22A Casper 83.49 335 ⇑P P 07 47 29.9 +0.5
baz=84,SNR=6.7
K22A Casper 83.49 335 *eP* **P 07 47 30.1 +0.8**
comp=Z,134nm,2.0s
I26A New Underwood 83.52 338 ⇓P P 07 47 30.1 +0.7
baz=84
RCTC Rector, Farmer 83.53 323 ⇓P P 07 47 30.0 +0.6
baz=84
H28A Mission Ridge 83.56 339 ⇑P P 07 47 29.9 +0.4
baz=84,SNR=12
TIN Tinemaha, Big 83.63 324 ⇑P P 07 47 31.3 +1.2
baz=84
G29A Hoven 83.73 340 ⇑P P 07 47 30.6 +0.3
baz=84
K21A Alcova 83.73 334 ⇑P P 07 47 31.0 +0.3
baz=84
DUG Dugway, Tooele 83.78 330 *eP* **P 07 47 31.2 +0.3**
DUG pmax pmax
comp=Z,23nm,1.1s
DUG Dugway, Tooele 83.78 330 ⇑P P 07 47 31.3 +0.3
baz=84
DUG Dugway, Tooele 83.78 330 *eP* **P 07 47 31.2 +0.3**
comp=Z,23nm,1.1s
I25A Rochford 83.78 337 ⇑P P 07 47 31.1 +0.2
baz=84,SNR=11
J23A Dilts Ranch, B 83.83 336 ⇑P P 07 47 32.2 +1.2
baz=84
H27A Howes 83.83 339 ⇓P P 07 47 31.3 +0.4
baz=84,SNR=11
G28A Parade 83.90 340 ⇑P P 07 47 31.4 +0.1
baz=84,SNR=17
I24A Kuemmerle Ranc 83.93 337 ⇓P P 07 47 31.9 +0.4
baz=84
RSSD Black Hills 83.97 337 *eP* **P 07 47 31.6 -0.3**
RSSD pmax pmax
comp=Z,11nm,0.8s
RSSD Black Hills 83.97 337 *eP* **P 07 47 31.6 -0.3**
comp=Z,11nm,0.8s
TPH Tonopah 83.97 326 *eP* **P 07 47 33.1 +1.1**
TPH pmax pmax
comp=Z,16nm,1.0s
TPH Tonopah 83.97 326 *eP* **P 07 47 33.1 +1.1**
comp=Z,16nm,1.0s
TCUT Toone Canyon 83.98 331 *eP* **P 07 47 32.8 +0.7**
comp=Z,33nm,1.2s
H26A Fairpoint 84.03 338 ⇑P P 07 47 33.2 +1.3
baz=84
F30A Leola 84.08 341 ⇓P P 07 47 33.0 +0.9
baz=84
J22A Midwest 84.15 335 ⇑P P 07 47 32.8 +0.1
baz=84
H25A Fruitdale 84.28 338 ⇓P P 07 47 33.9 +0.6
baz=84,SNR=6.6
I23A Meade Ranch, G 84.29 336 ⇓P P 07 47 33.7 +0.3
baz=84
F29A Eureka 84.29 341 ⇑P P 07 47 33.5 +0.3
baz=85
TORD Torodi Ar. Bea 84.34 70 P P 07 47 33.7 -0.5
comp=Z,98nm,0.9s,baz=254,slow=4.3,SNR=362
TORD LR LR 08 25 22.4
comp=Z,412nm,18.1s,baz=245,slow=36
EYMN Ely 84.37 347 *eP* **P 07 47 33.1 -0.4**
comp=Z,13nm,0.9s
MLAC Mammoth, Mammo 84.38 324 ⇓P P 07 47 34.6 +0.5
baz=85
J21A Lysite 84.42 335 ⇑P P 07 47 34.7 +0.6
baz=85
HWUT Hardware Ranch 84.46 331 *eP* **P 07 47 34.0 -0.4**
comp=Z,13nm,0.6s
HWUT LR LR
comp=Z,420nm,19.0s
G27A Dupree 84.47 339 ⇑P P 07 47 34.5 +0.4
baz=85,SNR=7.7
BGU Big Grassy Mou 84.48 330 *eP* **P 07 47 34.7 +0.2**
comp=Z,8.2nm,1.3s
SPUT South Promonto 84.56 330 *eP* **P 07 47 35.5 +0.6**
comp=Z,27nm,1.1s
F28A McLaughlin 84.57 340 ⇑P P 07 47 35.0 +0.4
baz=85
I22A 9 Mile Ranch, 84.57 336 ⇓P P 07 47 35.1 +0.3
baz=85,SNR=10
G26A Maurine 84.59 339 ⇑P P 07 47 35.0 +0.3
baz=85,SNR=12
J20A Shoshoni 84.66 334 ⇑P P 07 47 35.8 +0.5
baz=85,SNR=19
E30A Jud 84.67 342 ⇑P P 07 47 36.5 +1.4
baz=85
PDAR Pinedale Array 84.68 333 P P 07 47 35.2 -0.3
comp=Z,3.4nm,0.7s,baz=164,slow=5.6,SNR=27
PDAR PKKP **PKKPbc 08 05 44.6 -1.9**
comp=Z,1.2nm,0.7s,baz=81,slow=1.7,SNR=11
PDAR PKPPKP P'P'df 08 13 56.0 +9.0
comp=Z,0.5nm,0.8s,baz=90,slow=1.5,SNR=3.9
PDAR LR LR 08 22 16.3
comp=Z,224nm,19.0s,baz=152,slow=33
H24A Dirks Ranch, A 84.70 337 ⇓P P 07 47 36.1 +0.8
baz=85,SNR=10
G25A Newell 84.74 338 ⇓P P 07 47 36.1 +0.5
baz=85,SNR=15
DRLN Deer Lake 84.78 9 *eP* **P 07 47 35.2 -0.3**
I21A Big Trails, Te 84.78 335 ⇓P P 07 47 36.2 +0.3
baz=85,SNR=17
H23A Clabaugh Cattl 84.80 337 ⇓P P 07 47 36.6 +0.7
baz=85
E29A Napoleon 84.92 341 ⇓P P 07 47 36.6 +0.2
baz=85
J19A Crowheart 84.93 334 ⇓P P 07 47 36.5 -0.2
baz=85,SNR=15
F27A Lemmon 84.94 339 ⇓P P 07 47 36.9 +0.4
baz=85,SNR=20
HVU Hansel Valley 85.09 331 *eP* **P 07 47 37.7 +0.2**
HVU pmax pmax
comp=Z,30nm,1.1s
HVU Hansel Valley 85.09 331 *eP* **P 07 47 37.7 +0.2**
comp=Z,30nm,1.1s
F26A Lodgepole 85.11 339 ⇑P P 07 47 37.7 +0.3
baz=85,SNR=5.3
H22A Clearmont 85.15 336 ⇑P P 07 47 37.7 0.0
baz=85,SNR=6.8
G24A Alzada 85.17 338 ⇓P P 07 47 38.3 +0.6
baz=85
D30A Buchanan 85.19 342 ⇑P P 07 47 38.0 +0.3
baz=86,SNR=10.0
I20A Worland 85.19 335 ⇓P P 07 47 38.2 +0.3
baz=85,SNR=26
E28A Huff 85.21 340 ⇑P P 07 47 38.2 +0.4
baz=86
ELK Elko 85.26 328 *eP* **P 07 47 39.4 +0.9**
ELK pmax pmax
comp=Z,11nm,0.8s
ELK Elko 85.26 328 *eP* **P 07 47 39.4 +0.9**
comp=Z,11nm,0.8s
AHID Auburn Hatcher 85.27 332 PFAKE 07 47 50.0 +12
AHID LR LR
comp=Z,447nm,19.0s
E27A Carson 85.32 340 ⇓P P 07 47 39.0 +0.6
baz=86,SNR=5.9
WAKR Walker 85.36 324 *eP* **P 07 47 40.3 +1.3**
D29A Pettibone, Tap 85.36 341 ⇑P P 07 47 38.8 +0.3
baz=86
G23A Biddle 85.37 337 ⇑P P 07 47 38.8 +0.1
baz=86
H21A Big Horn, Sher 85.41 336 ⇓P P 07 47 39.2 +0.2
baz=86,SNR=12
F25A Bowman 85.42 338 ⇑P P 07 47 39.0 +0.1
baz=86,SNR=5.7
CMB Columbia Colle 85.45 324 *eP* **P 07 47 40.4 +1.1**
CMB pmax pmax
comp=Z,10.0nm,1.2s
CMB Columbia Colle 85.45 324 *eP* **P 07 47 40.4 +1.1**
comp=Z,10nm,1.2s
RAO Raoul Island 85.54 237 PFAKE 07 47 50.0 +10
RAO LR LR
comp=Z,1μm,19.0s
I19A Meeteetse 85.58 334 ⇓P P 07 47 40.0 +0.1
baz=86,SNR=6.3
AGMN Agassiz Nation 85.61 344 ⇑P P 07 47 39.7 +0.1
baz=86,SNR=9.8
AGMN Agassiz Nation 85.61 344 *eP* **P 07 47 39.3 -0.4**
comp=Z,12nm,0.8s
AGMN LR LR
comp=Z,273nm,20.0s
E26A Carlson Angus 85.61 339 ⇑P P 07 47 40.1 +0.2
baz=86
H20A Greybull 85.61 335 ⇑P P 07 47 39.9 -0.1
baz=86,SNR=26
F24A Ekalaka 85.65 338 ⇑P P 07 47 41.3 +1.2
baz=86,SNR=7.9
C30A Mose, Pekin 85.67 342 ⇑P P 07 47 40.5 +0.4
baz=86,SNR=9.6
G22A Birney 85.68 336 ⇑P P 07 47 41.3 +1.0
baz=86
REDW Red Top Meadow 85.68 333 *eP* **P 07 47 40.9 +0.4**
comp=Z,11nm,0.9s
D28A Regan 85.74 341 ⇓P P 07 47 41.0 +0.5
baz=86
LOHW Long Hollow 85.80 333 *eP* **P 07 47 41.0 -0.1**
comp=Z,9.7nm,0.9s
TPAW Teton Pass 85.83 333 *eP* **P 07 47 41.4 +0.1**
comp=Z,12nm,0.9s
F23A Volborg 85.84 337 ⇑P P 07 47 41.4 +0.4
baz=86,SNR=7.9
E25A Miller Ranch, 85.92 339 ⇑P P 07 47 41.6 +0.2
baz=86
D27A Center 85.93 340 ⇓P P 07 47 42.3 +0.9
baz=86
FXWY Fox Creek 85.98 333 *eP* **P 07 47 42.4 +0.4**
comp=Z,5.1nm,0.8s
G21A Lodge Grass 85.99 336 ⇓P P 07 47 42.4 +0.6
baz=86,SNR=10
I17A Pilgrim Ck. 86.05 333 ⇓P P 07 47 43.0 +0.7
baz=86,SNR=13
MDND Maddock 86.09 342 ⇑P P 07 47 42.7 +0.5
baz=86,SNR=5.3
MDND Maddock 86.09 342 *eP* **P 07 47 42.6 +0.5**
comp=Z,56nm,1.8s
D26A Manning 86.11 340 ⇑P P 07 47 43.2 +0.9
baz=86
H19A Powell 86.12 334 ⇓P P 07 47 43.2 +0.6
baz=86,SNR=14
F22A Rosebud 86.16 337 ⇓P P 07 47 42.8 +0.2
baz=86,SNR=14
IMW Indian Meadow 86.17 333 *eP* **P 07 47 43.4 +0.4**
comp=Z,15nm,0.9s
C28A Hausauer Farms 86.17 341 ⇓P P 07 47 43.1 +0.5
baz=86

FLWY	**Flagg Ranch**	86.24	333	*e*P		**P**	07 47 44.1	+0.9
	comp=Z,17nm,0.8s							
E24A	**Baker**	86.25	338	⇑P		**P**	07 47 43.1	+0.1
	baz=86,SNR=6.1							
B30A	**Myrvik Farm, E**	86.33	343	⇑P		**P**	07 47 43.5	+0.2
	baz=87,SNR=12							
G20A	**Bridger**	86.33	335	⇓P		**P**	07 47 43.4	-0.1
	baz=87,SNR=17							
H18A	**Shoshone NF, C**	86.37	334	⇑P		**P**	07 47 43.6	-0.2
	baz=87,SNR=18							
H17A	**Grant Village**	86.46	333	⇓P		**P**	07 47 44.7	+0.4
	baz=87							
H17A	**Grant Village**	86.46	333	*e*P		**P**	07 47 45.7	+1.3
	comp=Z,14nm,1.4s							
C27A	**Sayler Ranch,**	86.47	340	⇑P		**P**	07 47 44.2	+0.1
	baz=87,SNR=8.1							
D25A	**Fairfield**	86.48	339	⇑P		**P**	07 47 44.5	+0.4
	baz=87,SNR=12							
F21A	**Absaloka Mine,**	86.49	336	⇓P		**P**	07 47 44.4	+0.2
	baz=87							
E23A	**Ismay**	86.50	338	⇓P		**P**	07 47 44.3	+0.1
	baz=87							
LKWY	**Lake**	86.54	333	PFAKE			07 48 00.0	+15
LKWY				LR	LR			
	comp=Z,297nm,21.0s							
MSNA	**Messina**	86.58	115	*e*P		**P**	07 47 45.6	+0.2
MSNA				AMB	AMB		07 47 46.5	
	comp=Z,60nm,1.2s							
MSNA	**Messina**	86.58	115	P		**P**	07 47 45.6	+0.2
	comp=Z,60nm,1.2s							
B29A	**Wagenman Farm,**	86.60	342	⇓P		**P**	07 47 44.9	+0.3
	baz=87							
YFT	**Old Faithful**	86.61	333	*e*P		**P**	07 47 44.9	-0.1
	comp=Z,17nm,1.0s							
RLMT	**Red Lodge**	86.61	334	PFAKE			07 48 00.0	+15
RLMT				LR	LR			
	comp=Z,975nm,19.0s							
E22A	**Miles City**	86.65	337	⇑P		**P**	07 47 44.8	-0.1
	baz=87,SNR=11							
C26A	**Wahner Farm, P**	86.74	340	⇑P		**P**	07 47 46.1	+0.8
	baz=87,SNR=7.8							
D24A	**Glendive**	86.75	338	⇑P		**P**	07 47 45.9	+0.5
	baz=87,SNR=9.1							
A30A	**Hoffart Farm,**	86.78	343	⇑P		**P**	07 47 45.9	+0.4
	baz=87							
F20A	**Billings**	86.81	335	⇑P		**P**	07 47 46.4	+0.6
	baz=87							
YMR	**Madison River**	86.84	333	*e*P		**P**	07 47 46.8	+0.7
	comp=Z,25nm,0.9s							
B28A	**Dugan Ranch, T**	86.84	341	⇓P		**P**	07 47 46.0	+0.2
	baz=87,SNR=9.1							
LAO	**LASA Array**	86.96	337	*e*P		**P**	07 47 46.4	-0.1
	comp=Z,38nm,1.2s							
C25A	**Freed Ranch, W**	86.97	339	⇑P		**P**	07 47 47.2	+0.8
	baz=87							
A29A	**Manning Farm,**	86.99	342	⇑P		**P**	07 47 46.5	-0.1
	baz=87,SNR=12							
OHCM	**Honcut**	87.00	324	*e*P		**P**	07 47 48.1	+1.4
B27A	**Peters Farms,**	87.04	341	⇑P		**P**	07 47 47.2	+0.4
	baz=87							
D23A	**Lindsay**	87.07	338	⇓P		**P**	07 47 47.5	+0.5
	baz=87,SNR=34							
E21A	**Keefer Ranch,**	87.10	336	⇓P		**P**	07 47 47.4	+0.2
	baz=87							
F19A	**Roth Farm, Mol**	87.13	335	⇑P		**P**	07 47 47.6	+0.2
	baz=87							
C24A	**Savage**	87.15	339	⇓P		**P**	07 47 48.0	+0.6
	baz=87,SNR=9.6							
QLMT	**Earthquake Lak**	87.15	333	*e*P		**P**	07 47 48.5	+0.8
A28A	**Rude Farm, Bot**	87.24	342	⇑P		**P**	07 47 48.1	+0.4
	baz=88							
HLID	**Hailey**	87.25	330	⇑P		**P**	07 47 48.8	+0.7
	baz=88,SNR=12							
HLID	**Hailey**	87.25	330	*e*P		**P**	07 47 49.2	+1.1
	comp=Z,14nm,1.0s							
B26A	**Jensen Ranch,**	87.28	340	⇑P		**P**	07 47 48.6	+0.6
	baz=88							
D22A	**Cohagen**	87.35	337	⇓P		**P**	07 47 49.0	+0.7
	baz=88,SNR=15							
E20A	**Meyer Farm, Mu**	87.42	336	⇓P		**P**	07 47 49.3	+0.5
	baz=88,SNR=22							
B25A	**Knox Farm, Ray**	87.45	340	⇑P		**P**	07 47 49.6	+0.9
	baz=88							
ULM	**Lac du Bonnet**	87.45	345	P		**P**	07 47 47.8	-0.8
	comp=Z,15nm,1.0s,baz=160,slow=4.0,SNR=19							
ULM				PKKP		**PKKPdf**	08 05 35.5	+0.9
	comp=Z,0.9nm,0.4s,baz=358,slow=7.0,SNR=3.5							
A27A	**Ledoux Ranch,**	87.54	341	⇓P		**P**	07 47 49.8	+0.7
	baz=88							
D21A	**La Casta Ranch**	87.54	337	⇓P		**P**	07 47 49.7	+0.4
	baz=88,SNR=8.9							
E19A	**Rath Farm, Rou**	87.61	335	⇑P		**P**	07 47 50.4	+0.7
	baz=88,SNR=16							
C23A	**Lambert**	87.62	338	⇑P		**P**	07 47 50.1	+0.4
	baz=88,SNR=14							
MCMT	**McKenzie Canyo**	87.69	332	*e*P		**P**	07 47 51.1	+0.9
	comp=Z,7.8nm,1.1s							
A26A	**Wade Farm, Ken**	87.70	341	⇑P		**P**	07 47 50.3	+0.4
	baz=88							
MFID	**Camas Ranch**	87.70	330	*e*P		**P**	07 47 51.0	+0.8
	comp=Z,9.5nm,0.9s							
C22A	**Vida**	87.79	338	P		**P**	07 47 50.5	+0.1
	baz=88							
BOZ	**Bozeman (W)**	87.92	333	PFAKE			07 48 00.0	+8.7
BOZ				LR	LR			
	comp=Z,523nm,19.0s							
D20A	**Manuel Ranch,**	87.94	336	⇓P		**P**	07 47 51.5	+0.3
	baz=88,SNR=15							
A25A	**Svangstu Ranch**	88.04	340	⇓P		**P**	07 47 51.8	+0.2
	baz=88							
DLMT	**Dillon**	88.04	333	*e*P		**P**	07 47 52.8	+1.0
	comp=Z,15nm,1.2s							
B23A	**Brockton**	88.16	339	⇓P		**P**	07 47 52.4	+0.2
	baz=88,SNR=6.6							
C21A	**Desert Coulee**	88.24	337	⇑P		**P**	07 47 52.8	+0.2
	baz=88,SNR=9.8							
D19A	**Cripps Ranch,**	88.25	336	⇓P		**P**	07 47 52.9	+0.3
	baz=88,SNR=7.3							
A24A	**Westby**	88.28	339	⇓P		**P**	07 47 53.5	+0.7
	baz=88							
B22A	**Reddig Ranch S**	88.32	338	⇓P		**P**	07 47 53.4	+0.5
	baz=89							
LRM	**Limekiln Ridge**	88.37	333	*e*P		**P**	07 47 54.3	+0.8
	comp=Z,54nm,0.9s							
C20A	**Veseth Ranch,**	88.44	336	⇑P		**P**	07 47 54.2	+0.7
	baz=89,SNR=9.8							
MOD	**Modoc Plateau**	88.45	326	*e*P		**P**	07 47 55.1	+1.2
	comp=Z,13nm,0.8s							
WDC	**Whiskeytown Da**	88.47	324	*e*P		**P**	07 47 54.0	+0.2
WDC	**Whiskeytown Da**	88.47	324	*e*P		**P**	07 47 54.0	+0.2
	comp=Z,281nm,2.9s							
A23A	**Redstone**	88.56	339	⇓P		**P**	07 47 54.4	+0.4
	baz=89							
B21A	**Ellsworth Farm**	88.75	337	P		**P**	07 47 55.2	+0.2
	baz=89							
C19A	**Slack Wire Ran**	88.80	336	⇑P		**P**	07 47 55.6	+0.3
	baz=89							
N02D	**Trinity Center**	88.86	324	⇓P		**P**	07 47 56.1	+0.4
	baz=89							
HRY	**Holter Researc**	88.90	334	*e*P		**P**	07 47 56.2	+0.4
	comp=Z,1.6nm,0.3s							
A22A	**Carney Farms,**	88.91	338	⇑P		**P**	07 47 55.9	+0.2
	baz=89,SNR=11							
M04C	**Macdoel**	89.07	325	⇓P		**P**	07 47 56.8	+0.1
	baz=89							
B20A	**Solberg Farm,**	89.08	337	⇓P		**P**	07 47 56.6	+0.1
	baz=89,SNR=12							
A21A	**Bergtoll Ranch**	89.22	338	⇑P		**P**	07 47 56.5	-0.6
	baz=90							
M02C	**Callahan**	89.25	324	⇓P		**P**	07 47 57.5	0.0
	baz=89							
EGMT	**Eagleton**	89.29	336	⇑P		**P**	07 47 57.6	0.0
	baz=90							
LSZ	**Lusaka**	89.33	108	*e*P		**P**	07 47 59.7	+1.0
LSZ				pmax	pmax			
	comp=Z,39nm,1.0s							
LSZ				MLR	MLR			
	comp=Z,506nm,21.0s							
LSZ	**Lusaka**	89.33	108	*e*P		**P**	07 47 59.7	+1.0
	comp=Z,39nm,1.0s							
LSZ				LR	LR			
	comp=Z,506nm,21.0s							
K05A	**Summer Lake**	89.37	326	*e*P		**P**	07 47 59.8	+1.6
	comp=Z,52nm,1.3s							
B19A	**Brinkman Farms**	89.39	336	⇑P		**P**	07 47 58.0	0.0
	baz=90,SNR=9.0							
A20A	**Cobblestone Ra**	89.43	337	⇓P		**P**	07 47 58.3	+0.1
	baz=90,SNR=12							

BMO	**Blue Mountains**	89.49	330	*e*P		**P**	07 47 60.0	+1.3
	comp=Z,30nm,1.8s							
BMO				LR	LR			
	comp=Z,225nm,21.0s							
SCHQ	**Schefferville**	89.51	3	P		**P**	07 47 57.2	-1.1
	comp=Z,8.4nm,1.0s,baz=182,slow=5.9,SNR=5.5							
SCHQ				LR	LR		08 31 24.7	
	comp=Z,67nm,19.1s,baz=190,slow=38							
SCHQ	**Schefferville**	89.51	3	*e*P		**P**	07 47 57.6	-0.6
CHMT	**Chamberlain Mo**	89.59	333	*e*P		**P**	07 48 00.1	+1.0
	comp=Z,5.9nm,1.3s							
K04D	**Chiloquin, OR**	89.68	326	⇑P		**P**	07 47 59.7	+0.1
	baz=90							
A19A	**Klindworth Far**	89.74	337	⇑P		**P**	07 48 00.1	+0.4
	baz=90,SNR=6.9							
MSO	**Missoula**	89.78	333	⇑P		**P**	07 48 00.2	+0.2
	baz=90							
I07A	**Izee**	89.81	328	*e*P		**P**	07 48 01.6	+1.4
	comp=Z,118nm,2.4s							
J05D	**Fort Rock, OR**	89.96	326	⇑P		**P**	07 48 01.6	+0.7
	baz=90							
L02D	**Cave Junction,**	90.20	324	⇑P		**P**	07 48 02.8	+1.0
	baz=90							
F10A	**Beach Ranch, E**	90.37	330	*e*P		P	07 48 06.9	+4.2
	comp=Z,142nm,2.8s							
I05D	**Terrebonne, OR**	90.83	327	⇑P		**P**	07 48 05.7	+0.9
	baz=91							
I04A	**Tendick Farm,**	90.89	326	⇑P		**P**	07 48 05.5	+0.4
	baz=91							
I03D	**Drain, OR**	91.25	325	⇓P		**P**	07 48 08.3	+1.6
	baz=91							
G05D	**Wamic, OR**	91.52	327	⇓P		**P**	07 48 07.6	-0.4
	baz=92							
RTC	**Rabat Centre**	91.61	49	PFAKE			07 48 20.0	+11
RTC				LR	LR			
	comp=Z,606nm,20.0s							
WALA	**Waterton Lakes**	91.63	334	*e*P		**P**	07 48 08.9	+0.4
C09A	**Chrisman Ranch**	92.27	331	*e*P		**P**	07 48 11.9	+0.6
	comp=Z,8.6nm,0.8s							
G03D	**McMinnville, O**	92.37	326	⇓P		**P**	07 48 13.3	+1.5
	baz=93							
F04D	**Rainier, OR**	92.93	327	⇓P		**P**	07 48 15.7	+1.3
	baz=93							
FFC	**Flin Flon**	93.00	343	PFAKE			07 48 30.0	+15
FFC				LR	LR			
	comp=Z,165nm,19.0s							
TAM	**Tamanrasset**	93.05	64	*e*P		**P**	07 48 15.6	-0.1
TAM				pmax	pmax			
	comp=Z,20nm,1.0s							
TAM				MLR	MLR			
	comp=Z,351nm,20.0s							
TAM	**Tamanrasset**	93.05	64	*e*P		**P**	07 48 15.6	-0.1
	comp=Z,20nm,1.0s							
TAM				LR	LR			
	comp=Z,351nm,20.0s							
FCC	**Fort Churchill**	95.18	349	*e*P		**P**	07 48 24.4	0.0
FCC	**Fort Churchill**	95.18	349	*e*P		**P**	07 48 24.4	0.0
MTE	**Manteigas**	95.48	44	PFAKE			07 48 40.0	+14
MTE				LR	LR			
	comp=Z,249nm,21.0s							
PAB	**San Pablo**	96.77	46	PFAKE			07 48 40.0	+7.7
PAB				LR	LR			
	comp=Z,156nm,20.0s							
ESDC	**Sonseca Array**	97.08	46	P		**P**	07 48 33.0	-0.6
	comp=Z,0.3nm,0.4s,baz=240,slow=4.3,SNR=6.1							
ESDC				LR	LR		08 31 04.6	
	comp=Z,145nm,20.8s,baz=235,slow=35							
ABPO	**Ambohimpanom**	101.10	123	PFAKE			07 49 00.0	+7.6
ABPO				LR	LR			
	comp=Z,233nm,21.0s							
YKA	**Yellowknife Ar**	103.00	341	P		**Pdif**	07 48 58.7	-0.7
	comp=Z,0.7nm,0.8s,baz=140,slow=4.4,SNR=12							
YKA				PKKPbc		**PKKPbc**	08 04 55.0	-2.9
	comp=Z,0.3nm,0.5s,baz=324,slow=3.1,SNR=8.0							
YKA				PKKP		**PKKPdf**	08 05 09.1	+2.8
	comp=Z,0.2nm,0.5s,baz=322,slow=3.5,SNR=7.2							
KMBO	**Kilima Mbogo**	104.89	102	PFAKE			07 53 40.0	
KMBO				LR	LR			
	comp=Z,314nm,22.0s							
VSL	**Villasalto**	105.28	52	PFAKE			07 53 40.0	
VSL				LR	LR			
	comp=Z,509nm,21.0s							
SSB	**Saint Sauveur**	105.47	45	PFAKE			07 53 40.0	
SSB				LR	LR			
	comp=Z,322nm,21.0s							
CLTB	**Caltabellotta**	106.82	56	PFAKE			07 53 40.0	
CLTB				LR	LR			
	comp=Z,485nm,19.0s							
WDD	**Wield Dalam**	106.84	58	PFAKE			07 53 40.0	
WDD				LR	LR			
	comp=Z,1µm,21.0s							
VLC	**Villacollemand**	108.38	49	PFAKE			07 53 40.0	
VLC				LR	LR			
	comp=Z,280nm,22.0s							
ECH	**Echery**	108.57	44	PFAKE			07 53 40.0	
ECH				LR	LR			
	comp=Z,355nm,21.0s							
WLF	**Walferdange**	108.77	42	PFAKE			07 53 40.0	
WLF				LR	LR			
	comp=Z,481nm,21.0s							
TUE	**Stuetta**	108.94	46	PFAKE			07 53 40.0	
TUE				LR	LR			
	comp=Z,586nm,21.0s							
CEL	**Celeste**	108.99	56	PFAKE			07 53 40.0	
CEL				LR	LR			
	comp=Z,911nm,20.0s							
BFO	**Black Forest**	109.30	44	PFAKE			07 53 40.0	
BFO				LR	LR			
	comp=Z,539nm,21.0s							
AQU	**L'Aquila**	109.37	52	PFAKE			07 53 40.0	
AQU				LR	LR			
	comp=Z,335nm,20.0s							
CUC	**Castrocucco**	109.79	55	PFAKE			07 53 50.0	
CUC				LR	LR			
	comp=Z,328nm,20.0s							
TIP	**Timpagrande**	110.03	56	PFAKE			07 53 50.0	
TIP				LR	LR			
	comp=Z,465nm,21.0s							
TARA	**Tarawa**	111.36	256	PFAKE			07 53 50.0	
TARA				LR	LR			
	comp=Z,952nm,19.0s							
GERES	**GERESS Array B**	112.67	46	PKiKP		**PKiKP**	07 53 37.4	-0.3
	comp=Z,1.0nm,0.7s,baz=225,slow=1.3,SNR=6.5							
CLL	**Collm**	113.39	43	*e*PKIKP		**PKiKP**	07 53 39.0	+0.2
CLL	**Collm**	113.39	43	*e*PKiKP		**PKiKP**	07 53 39.0	+0.2
CLL				*e*PP		PP	07 54 42.0	+11
CLL				*e*PS		PKKPbc	08 04 18.0	-6.4
CLL				*e*PPS		PPS	08 05 30.0	
CLL				*e*SS		SS	08 10 42.0	+28
CLL				*e*SSS		SSS	08 14 30.0	
CLL				*e*			08 16 00.0	
PVCC	**Panska Ves**	113.93	44	AMS		AMS	08 44 30.0	
	comp=Z,400nm,18.5s							
CTAO	**Charters Tower**	114.42	220	PFAKE			07 53 50.0	+8.0
CTAO				LR	LR			
	comp=Z,143nm,20.0s							
SANT	**Santorini**	114.86	62	PFAKE			07 53 50.0	+7.8
SANT				LR	LR			
	comp=Z,348nm,22.0s							
DPC	**Dobruska-Polom**	114.86	45	*e*PKIKP		PKPdf	07 53 41.5	-0.3
DPC	**Dobruska-Polom**	114.86	45	*e*PKP		PKPdf	07 53 41.5	-0.3
ILAR	**Eielson Array**	115.11	333	PKP		**PKPdf**	07 53 40.8	-1.0
	comp=Z,1.4nm,0.9s,baz=205,slow=2.3,SNR=12							
ILAR				PKKPbc		**PKKPbc**	08 04 16.6	-2.2
	comp=Z,0.5nm,0.8s,baz=312,slow=4.1,SNR=4.4							
COLA	**College**	115.53	333	*i* PKIKP		**PKPdf**	07 53 42.3	-0.2
VYHS	**Vyhne**	115.57	48	*e*PKIKP		**PKPdf**	07 53 42.6	-0.6
VYHS				*e*			07 53 59.2	
VYHS	**Vyhne**	115.57	48	*e*PKP		**PKPdf**	07 53 42.6	-0.6
VYHS				*e*			07 53 59.2	
PSZ	**Piszkesteto**	115.98	48	⇑*i*P		PKPdf	07 53 54.2	+10
PSZ	**Piszkesteto**	115.98	48	PFAKE			07 54 00.0	+16
PSZ				LR	LR			
	comp=Z,297nm,21.0s							
ASAR	**Alice Springs**	116.83	206	PKKPbc		PKKPbc	08 04 12.0	0.0
	comp=Z,0.9nm,0.5s,baz=342,slow=3.3,SNR=8.4							
TRPA	**Tarpa**	117.70	49	⇑*i*P		**PKPdf**	07 53 47.2	0.0
KOLS	**Kolonicke sedl**	117.84	48	*e*PKIKP		**PKPdf**	07 53 47.9	+0.4
KOLS	**Kolonicke sedl**	117.84	48	*e*PKP		**PKPdf**	07 53 47.9	+0.4
ARR	**Arges**	117.98	52	⇑*i*P		PKPdf	07 54 04.4	+16
KWP	**Kalwaria Pacla**	118.36	47	*e*PKIKP		**PKPdf**	07 53 48.7	+0.2
KWP				MLR	MLR			
	comp=Z,233nm,19.0s							
KWP	**Kalwaria Pacla**	118.36	47	*e*PKPdf		**PKPdf**	07 53 48.7	+0.2
KWP				LR	LR			
	comp=Z,233nm,19.0s							

ISP	**Isparta**	119.14	62	PFAKE			07 54 00.0	+9.5
ISP				LR	LR			
	comp=Z,342nm,22.0s							
BURAR	**Bucovina Array**	119.19	50	⇑*i*P		**PKPdf**	07 53 50.4	+0.1
VRI	**Vrincioaia**	119.53	53	⇑*i*P		**PKPdf**	07 53 50.0	-0.9
WRAB	**Tennant Creek**	120.05	209	PFAKE			07 54 10.0	+17
WRAB				LR	LR			
	comp=Z,345nm,20.0s							
CSS	**Prodhromos**	120.08	66	PFAKE			07 54 00.0	+7.7
CSS				LR	LR			
	comp=Z,53nm,21.0s							
TIRR	**Tirgusor**	120.14	55	⇑*i*P		**PKPdf**	07 53 51.3	-0.7
CFR	**Carcaliu**	120.21	54	⇑*i*P		**PKPdf**	07 53 52.0	-0.1
ANTO	**Ankara**	121.55	61	PFAKE			07 54 10.0	+15
ANTO				LR	LR			
	comp=Z,286nm,21.0s							
BRTR	**Keskin Array B**	122.11	61	PKP		**PKPdf**	07 53 55.8	-0.5
	comp=Z,6.8nm,0.8s,baz=186,slow=3.2,SNR=30							
BRTR				pPKP		**pPKPdf**	07 54 09.8	-0.4
	comp=Z,2.3nm,0.7s,baz=188,slow=3.3,SNR=5.3							
PMG	**Port Moresby**	122.54	227	PFAKE			07 54 10.0	+12
PMG				LR	LR			
	comp=Z,346nm,22.0s							
KIEV	**Kiev**	122.66	48	*e*PKIKP		**PKPdf**	07 53 54.6	-2.1
KIEV				MLR	MLR			
	comp=Z,226nm,22.0s							
KIEV	**Kiev**	122.66	48	*e*PKPdf		**PKPdf**	07 53 54.6	-2.1
KIEV				LR	LR			
	comp=Z,226nm,22.0s							
AKASG	**Malin Array Be**	122.67	48	PKP		**PKPdf**	07 53 55.5	-1.2
	comp=Z,4.5nm,0.7s,baz=263,slow=2.7,SNR=13							
AKASG				pPKP		**pPKPdf**	07 54 09.6	-1.0
	comp=Z,2.3nm,0.6s,baz=261,slow=2.7,SNR=3.4							
MBWA	**Marble Bar**	123.15	193	PFAKE			07 54 10.0	+11
MBWA				LR	LR			
	comp=Z,201nm,20.0s							
VSU	**Vasula**	123.30	38	*i* PKIKP		**PKPdf**	07 53 56.8	-0.8
FINES	**FINESS Array B**	123.64	35	PKP		**PKPdf**	07 53 57.7	-0.5
	comp=Z,3.2nm,0.9s,baz=67,slow=5.0,SNR=5.9							
ARCES	**ARCESS Array B**	124.78	25	PKP		**PKPdf**	07 53 59.9	-0.4
	comp=Z,4.6nm,0.9s,baz=318,slow=7.1,SNR=4.4							
RAYN	**Ar Rayn**	124.90	84	*e*PKPdf		**PKPdf**	07 54 02.4	+0.5
MALT	**Malatya**	125.13	64	⇑*i*P		**PKPdf**	07 54 02.4	+0.4
H11S2	**WAKE ISLAND Hyl**	125.95	268	T		T	10 12 44.3	
	baz=112							
H11S1	**WAKE ISLAND Hyl**	125.96	268	T		T	10 12 34.0	
	baz=112							
H11S3	**WAKE ISLAND Hyl**	125.97	268	T		T	10 12 41.1	
	baz=112							
ANN	**Anapa**	126.37	57	*i* PKIKP		**PKPdf**	07 54 02.7	-1.3
ANN				pmax	pmax			
	comp=Z,63nm,1.2s							
H11N3	**WAKE ISLAND Hyl**	126.39	270	T		T	10 13 14.1	
	baz=115,slow=78,SNR=13							
H11N1	**WAKE ISLAND Hyl**	126.40	270	T		T	10 13 15.1	
	baz=115,slow=78,SNR=31							
H11N2	**WAKE ISLAND Hyl**	126.40	270	T		T	10 13 12.9	
	baz=115,slow=78,SNR=14							
OBN	**Obninsk**	127.97	44	*e*PKIKP		**PKPdf**	07 54 06.9	+0.2
OBN				pmax	pmax			
	comp=Z,18nm,1.2s							
OBN				MLR	MLR			
	comp=Z,201nm,22.0s							
OBN	**Obninsk**	127.97	44	PFAKE			07 54 20.0	+13
OBN				LR	LR			
	comp=Z,234nm,20.0s							
KIV	**Kislovodsk**	129.81	59	*i* PKIKP		**PKPdf**	07 54 10.5	-0.2
KIV				pmax	pmax			
	comp=Z,31nm,1.0s							
KIV				MLR	MLR			
	comp=Z,119nm,20.0s							
KIV	**Kislovodsk**	129.81	59	*e*PKPdf		**PKPdf**	07 54 10.9	+0.2
KIV				LR	LR			
	comp=Z,106nm,20.0s							
KBZ	**Khabaz**	129.90	59	PKP		**PKPdf**	07 54 10.8	+0.1
	comp=Z,9.0nm,1.0s,baz=243,slow=2.5,SNR=8.6							
GNI	**Garni**	130.35	64	*i* PKIKP		**PKPdf**	07 54 12.3	+0.3
GNI				pmax	pmax			
	comp=Z,21nm,1.2s							
GNI	**Garni**	130.35	64	PKP		**PKPdf**	07 54 12.5	+0.6
	comp=Z,3.8nm,0.3s,baz=253,slow=20,SNR=4.8							
GNI	**Garni**	130.35	64	PKP		**PKPdf**	07 54 12.6	+0.6
GNI				LR	LR			
	comp=Z,148nm,19.0s							
ZEI	**Tsey**	130.40	61	*i* PKIKP		**PKPdf**	07 54 11.4	-0.6
ZEI				pmax	pmax			
	comp=Z,19nm,1.4s							
BILL	**Bilibino**	133.76	334	*e*PKIKP		**PKPdf**	07 54 17.7	+0.4
BILL				pmax	pmax			
	comp=Z,11nm,1.6s							
BILL	**Bilibino**	133.76	334	PFAKE			07 54 30.0	+13
BILL				LR	LR			
	comp=Z,854nm,19.0s							
KAPI	**Kappang**	138.80	198	PFAKE			07 54 40.0	+12
KAPI				LR	LR			
	comp=Z,197nm,21.0s							
GEYT	**Alibeck**	139.98	71	PKhKP		PKPpre	07 54 20.8	
	comp=Z,1.4nm,0.4s,baz=145,slow=5.3,SNR=2.3							
GEYT				PKP		**PKPdf**	07 54 28.2	-1.7
	comp=Z,5.5nm,0.7s,baz=225,slow=1.9,SNR=7.9							
GEYT				PP		**PP**	07 57 25.5	-2.0
	comp=Z,1.6

comp=Z,139nm,19.0s
OTUK Ortayu 150.35 52 PKIKP **PKPdf 07 54 47.6 +0.4**
MNAS Manas 151.30 64 PKIKP **PKPdf 07 54 48.7 -0.4**
YSS Yuzh-Sakhalins 151.50 305 ⇑*i*PKIKP **PKPbc 07 54 55.0 -0.2**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS Yuzh-Sakhalins 151.50 305 *e*PKPdf **PKPdf 07 54 48.9 -0.1**
YSS *e*PKPbc **PKPbc 07 54 55.1 -0.1**
YSS *e*PKPab **PKPab 07 55 03.4 -0.4**
KHET Khetri 151.63 95 *e*P **PKPdf 07 54 51.0 +1.2**
ERM Erimo 151.88 295 *c i*PKIKP **PKPbc 07 54 58.8 +2.6**
ERM pmax pmax
comp=Z,44nm,1.2s
ERM Erimo 151.88 295 PFAKE 07 55 00.0 +3.8
ERM LR LR
comp=Z,144nm,22.0s
ASAJ Asahikawa 152.10 300 *e*PKPdf **PKPdf 07 54 49.2 -0.8**
ASAJ *e*PKPbc **PKPbc 07 54 56.8 +0.2**
KRAB Krabi 152.16 161 PKP **PKPbc 07 54 57.2 -0.5**
AML Almayashu 152.20 65 P **PKPdf 07 54 51.6 +0.9**
SNR=8.3
KUDL Kundal 152.21 95 *e*P **PKPdf 07 54 50.3 -0.3**
KUDL AMB AMB 07 54 57.7
comp=Z,106nm,0.7s
EKS2 Erkin-Say 152.23 64 P **PKPbc 07 54 57.8 +0.6**
SNR=17
EKS2 Erkin-Say 152.23 64 *e*PKIKP **PKPdf 07 54 50.7 +0.3**
EKS2 *e* 07 54 57.6
EKS2 MLR MLR
comp=Z,195nm,19.0s
EKS2 Erkin-Say 152.23 64 *e*PKPdf **PKPdf 07 54 50.7 +0.3**
EKS2 *e*PKPbc **PKiKP 07 54 57.6 +0.1**
EKS2 LR LR
comp=Z,195nm,19.0s
USP Ospenovka 152.70 62 P **PKPbc 07 54 58.5 +0.4**
SNR=14
SONA Sohna 152.74 95 *e*P **PKPdf 07 54 50.6 -0.8**
AAK Ala-Archa 152.76 63 P **PKPbc 07 54 59.2 +0.8**
SNR=8.5
AAK Ala-Archa 152.76 63 PKIKP **PKPdf 07 54 50.7 -0.6**
AAK *e* 07 54 58.6
AAK 07 54 58.7
AAK 07 58 39.9
AAK MLR MLR
comp=Z,180nm,20.0s
AAK Ala-Archa 152.76 63 PKP **PKPdf 07 54 50.7 -0.6**
comp=Z,4.1nm,0.8s,baz=224,slow=2.7,SNR=8.8
AAK PKPbc **PKiKP 07 54 58.7 0.0**
comp=Z,79nm,0.8s,baz=169,slow=1.9,SNR=138
AAK PP **PP 07 58 39.9 -3.1**
comp=Z,6.5nm,1.0s,baz=225,slow=5.1,SNR=4.0
AAK Ala-Archa 152.76 63 PKP **PKPdf 07 54 50.7 -0.6**
AAK *e*PKPdf **PKPdf 07 54 51.6 +0.3**
AAK *e*PKPbc **PKiKP 07 54 58.6 0.0**
AAK PKPbc **PKiKP 07 54 58.7 0.0**
AAK *e*PKPab **PKPab 07 55 13.3 +3.9**
AAK PP **PP 07 58 39.9 -3.1**
AAK LR LR
comp=Z,180nm,20.0s
BHGR Bahadurgarh 152.78 94 *e*P **PKPdf 07 54 50.8 -0.7**
UCH Uchtor 152.80 64 P **PKPbc 07 54 59.9 +0.9**
SNR=18
FRU Bishkek 152.83 63 *e*PKIKP **PKPbc 07 54 58.0 -0.4**
FRU *e* 07 58 40.0
FRU pmax pmax
comp=Z,100nm,1.4s
AYAN Aya Nagar 152.86 95 *e*P **PKPdf 07 54 49.0 -2.5**
CHMS Chumysh 152.91 63 P **PKPbc 07 54 58.8 +0.2**
SNR=11
NDI New Delhi 153.01 95 *e*P **PKPdf 07 54 52.5 +0.7**
AGRA Agra 153.04 98 *e*P **PKPdf 07 54 52.9 +1.0**
KBK Karagaybulak 153.09 63 P **PKPbc 07 54 59.7 +0.5**
SNR=13
BISR Bishrakh 153.15 95 *ex* PKPdf 07 54 43.9 -8.1
BHK Bhakra 153.22 88 *ex* **PKPbc 07 55 01.8 +2.2**
KZA Kyzart 153.36 65 P **PKPbc 07 55 00.8 +0.7**
SNR=18
KURBB Kurchatov Arra 153.40 45 PKP **PKPdf 07 54 50.9 -0.8**
comp=Z,3.2nm,0.2s,baz=301,slow=2.2,SNR=12
KURBB PKPbc **PKPbc 07 54 58.9 -0.4**
comp=Z,13nm,0.7s,baz=298,slow=2.8,SNR=42
KURBB PKPab **PKPab 07 55 11.5 -0.1**
comp=Z,16nm,1.0s,baz=292,slow=4.2,SNR=8.7
KURBB PP **PP 07 58 44.8 -1.0**
comp=Z,2.6nm,0.8s,baz=285,slow=6.1,SNR=6.2
KURK Kurchatov 153.41 45 PKIKP **PKPdf 07 54 50.9 -0.8**
KURK 07 54 58.9
KURK 07 55 11.5
KURK 07 58 44.8
KURK MLR MLR
comp=Z,109nm,22.0s
KURK Kurchatov 153.41 45 PKP **PKPdf 07 54 50.9 -0.8**
KURK PKPbc **PKPbc 07 54 58.9 -0.4**
KURK PKPab **PKPab 07 55 11.5 -0.2**
KURK PP **PP 07 58 44.8 -1.1**
KURK LR LR
comp=Z,109nm,22.0s
ASOR Ausora 153.49 95 *ex* PKPab 07 55 19.6 +6.9
TKM2 Tokmak 2 153.53 63 P **PKPbc 07 55 00.6 +0.4**
SNR=8.3
TKM2 Tokmak 2 153.53 63 PKIKP **PKPdf 07 54 52.3 -0.1**
TKM2 pmax pmax
comp=Z,27nm,0.7s
TKM2 Tokmak 2 153.53 63 *e*PKPdf **PKPdf 07 54 52.1 -0.4**
TKM2 LR LR
comp=Z,149nm,20.0s
NVS Novosibirsk 153.62 33 ⇑*i*PKIKP **PKPdf 07 54 48.7 -3.1**
NVS pmax pmax
comp=Z,50nm,1.6s
NVS pmax pmax
comp=N,4.0nm,1.2s
NVS pmax pmax
comp=E,10.0nm,1.2s
KSH Kashi 154.01 70 PKPbc **PKPdf 07 54 53.0 -0.1**
KSH sPKP 07 55 06.5
KSH PKS **PKSdf 07 58 27.5 +0.1**
KSH PP **PP 07 58 46.5 -3.6**
KSH SKS **SKSdf 08 01 58.0 +1.7**
KSH SKKS **SKKSac 08 05 38.0 +1.9**
KSH SS **SS 08 18 22.5 -2.9**
KSH PPMZ
comp=E,130nm,3.4s
KSH LN
comp=E,81nm,5.2s
KSH LE
comp=E,39nm,4.3s
KSH LZ
comp=E,140nm,7.2s
ULHL Ulahol 154.08 64 P **PKPbc 07 55 01.8 +0.4**
SNR=12
ZALV Zalesovo Beam 154.90 34 PKP **PKPdf 07 54 52.5 -1.2**
comp=E,4.0nm,0.9s,baz=253,slow=4.5,SNR=14
ZALV PKPbc **PKPbc 07 55 01.6 -0.8**
comp=E,12nm,1.0s,baz=300,slow=2.9,SNR=17
ZALV pPKP **pPKPdf 07 55 07.8 +0.1**
comp=E,5.3nm,0.4s,baz=298,slow=3.2,SNR=9.6
ZALV PKPab **PKPab 07 55 16.6 -1.3**
comp=E,18nm,0.8s,baz=318,slow=2.3,SNR=6.6
PDGK Podgornoye 156.29 61 PKIKP **PKPdf 07 54 56.3 +0.4**
BOD Bodaibo 156.78 352 *e*PKIKP **PKPdf 07 54 55.9 -0.2**
BOD *e* 07 55 08.2
BOD pmax pmax
comp=Z,19nm,0.9s
MK31 Makanchi Array 157.21 51 PKIKP **PKPdf 07 54 57.0 0.0**
MK31 pmax pmax
comp=Z,16nm,0.9s
MKAR Makanchi Array 157.21 51 PKP **PKPdf 07 54 56.4 -0.7**
comp=Z,2.3nm,0.9s,baz=282,slow=2.2,SNR=15
MKAR pPKP **pPKPdf 07 55 11.8 +0.8**
comp=Z,6.9nm,0.9s,baz=278,slow=2.2,SNR=14
MKAR PKPab **PKPab 07 55 27.1 -1.1**
comp=Z,12nm,0.8s,baz=257,slow=2.0,SNR=16
MKAR PP **PP 07 59 04.3 -3.1**
comp=Z,4.8nm,1.1s,baz=264,slow=1.2,SNR=4.7
DMN Daman 158.98 104 *e*P **PKPab 07 55 36.3 -0.4**
comp=Z,146nm,0.9s
KKN Kakani 159.20 104 *e*P **PKPab 07 55 37.2 -0.4**
comp=Z,56nm,0.9s
PKIN Phulchoki 159.20 104 *e*P **PKPab 07 55 36.9 -0.7**
comp=Z,49nm,0.9s
PKI Pulchoki 159.20 104 *e*P **PKPab 07 55 37.0 -0.7**
comp=Z,131nm,1.0s
GUN Gumba 159.73 104 *e*P **PKPab 07 55 39.5 -0.5**
comp=Z,136nm,1.0s
RAMN Ramite 159.86 107 *e*P **PKPab 07 55 40.4 -0.1**
comp=Z,151nm,0.9s
JIRN Jiri 159.86 105 *e*P **PKPab 07 55 40.3 -0.4**
comp=Z,148nm,0.9s
ODAN Odare 160.43 109 *e*P **PKPab 07 55 42.6 -0.4**
comp=Z,132nm,0.9s
TAPN Taplejung 160.92 108 *e*P **PKPab 07 55 44.7 -0.5**
comp=Z,85nm,1.1s
MDJ Mudanjiang 160.97 307 PFAKE 07 55 10.0 +8.5
MDJ LR LR
comp=Z,222nm,22.0s
CMAR Chiang Mai Arr 161.64 151 PKP **PKPdf 07 55 03.1 +0.2**
comp=Z,2.4nm,0.6s,baz=239,slow=2.5,SNR=11
CMAR pPKP **pPKPdf 07 55 17.6 +0.6**
comp=Z,1.6nm,0.4s,baz=248,slow=2.4,SNR=3.8
CMAR PKPab **PKPab 07 55 47.3 -0.6**
comp=Z,5.4nm,0.9s,baz=219,slow=5.1,SNR=10.0
WMQ Urumqi 161.87 55 PKP **PKPdf 07 55 02.8 +0.3**
WMQ sPKP 07 55 17.0
WMQ PKPab **PKPab 07 55 48.8 +0.2**
WMQ PKS **PKSdf 07 58 34.8 -0.9**
WMQ PP **PP 07 59 34.8 +2.1**
WMQ SKS **SKSdf 08 02 02.8 -0.9**
WMQ SKKS **SKKSac 08 06 17.8 +0.8**
WMQ SS **SS 08 19 46.5 -1.8**
WMQ PPMZ
comp=Z,200nm,5.4s
WMQ LN
comp=Z,160nm,29.0s
WMQ LE
comp=Z,120nm,27.0s
WMQ LZ
comp=Z,260nm,26.0s
CHTO Chiang Mai 161.96 151 PFAKE 07 55 10.0 +6.7
CHTO LR LR
comp=Z,179nm,21.0s
MOY Mondy 162.49 15 *e*PKP2 **PKPab 07 55 51.2 +0.3**
TLY Talaya 162.94 10 *i* PKIKP **PKPdf 07 55 02.4 -0.9**
TLY pmax pmax
comp=Z,5.0nm,1.5s
TLY Talaya 162.94 10 PKPab **PKPab 07 55 51.9 -0.9**
comp=Z,2.9nm,0.6s,baz=316,slow=3.0,SNR=12
TLY Talaya 162.94 10 PKPab **PKPab 07 55 51.9 -0.9**
TLY LR LR
comp=Z,178nm,21.0s
HIA Hailar 163.34 333 PFAKE 07 55 20.0 +16
HIA LR LR
comp=Z,168nm,19.0s
KSRS Korea Array 163.88 285 PKP **PKPdf 07 55 04.2 -0.3**
comp=Z,0.5nm,0.3s,baz=54,slow=2.1,SNR=4.2
KSRS PKPab **PKPab 07 55 58.1 +0.6**
comp=Z,0.5nm,0.3s,baz=100,slow=1.4,SNR=2.7
KSAR Wonju Array Be 163.91 285 PKIKP **PKPdf 07 55 04.2 -0.4**
KSAR 07 55 58.2
KSAR Wonju Array Be 163.91 285 PKP **PKPdf 07 55 04.2 -0.4**
KSAR PKPab **PKPab 07 55 58.1 +0.5**
CN2 Changchun 164.01 309 *e*PKP **PKPdf 07 55 05.0 +0.5**
CN2 *ep*PKP **pPKPdf 07 55 15.0 -3.5**
CN2 LN
comp=Z,300nm,20.0s
CN2 LE
comp=Z,500nm,20.0s
CN2 LZ
comp=Z,600nm,22.0s
QIZ Qiongzhong 164.09 186 PKP **PKPdf 07 55 06.8 +1.5**
QIZ LZ
comp=Z,45nm,34.4s
ZAK Zakamensk 164.15 12 *e*PKP2 **PKPab 07 55 57.5 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,1.6s
LSA Lhasa 164.67 105 PFAKE 07 55 20.0 +14
LSA LR LR
comp=Z,258nm,22.0s
INCN Inchon 164.90 285 PFAKE 07 55 20.0 +14
INCN LR LR
comp=Z,198nm,22.0s
SONM Songino Array 167.04 5 PKP **PKPdf 07 55 06.4 -0.7**
comp=Z,0.6nm,0.7s,baz=270,slow=0.6,SNR=3.4
SONM PKPab **PKPab 07 56 11.3 +0.2**
comp=Z,5.3nm,0.9s,baz=347,slow=3.8,SNR=16
SONM PP **PP 07 59 56.2 -2.6**
comp=Z,1.4nm,1.0s,baz=0.0,slow=1.5,SNR=4.5
ULN Ulaanbaatar 167.05 3 PFAKE 07 55 20.0 +13
ULN LR LR
comp=Z,246nm,19.0s
KMI Kunming 169.14 153 PKP **PKPdf 07 55 09.5 +0.2**
KMI PP **PP 08 00 12.5 +2.6**
KMI SS SS 08 21 03.5 +2.2
KMI PPMZ
comp=Z,180nm,3.6s
KMI LZ
comp=Z,180nm,25.1s
NJ2 Nanjing 170.65 255 *e*PKP **PKPdf 07 55 10.3 +0.6**
NJ2 LN
comp=Z,320nm,20.4s
NJ2 LE
comp=Z,370nm,20.7s
NJ2 LZ
comp=Z,310nm,21.1s
GYA Guiyang 171.45 171 PKP **PKPdf 07 55 10.3 -0.1**
GYA pPKP **pPKPdf 07 55 21.8 -2.7**
GYA PKPab **PKPab 07 56 33.0 +1.9**
GYA PKS **PKSdf 07 58 41.5 -1.5**
GYA PP **PP 08 00 26.0 +5.1**
GYA SKKS 08 07 07.0
GYA SS **SS 08 21 26.5 +3.2**
GYA PPMZ
comp=Z,140nm,8.5s
GYA LN
comp=Z,150nm,24.0s
GYA LE
comp=Z,130nm,25.6s
GYA LZ
comp=Z,160nm,22.0s
BJT Baijiatuau 171.89 311 PFAKE 07 55 20.0 +10
BJT LR LR
comp=Z,187nm,20.0s
GTA Gaotai 171.95 54 *e*PKP **PKPdf 07 55 10.8 +0.5**
GTA pPKP **pPKPdf 07 55 21.0 -3.3**
GTA sPKP 07 55 25.0
GTA PKPab **PKPab 07 56 33.5 +0.2**
GTA PP **PP 08 00 22.8 -1.8**
GTA SKS **SKSdf 08 02 09.5 -0.5**
GTA SKKS **SKKSac 08 07 05.5 -2.0**
GTA PPMZ
comp=Z,250nm,6.9s
GTA LN
comp=Z,120nm,20.0s
GTA LE
comp=Z,160nm,20.4s
GTA LZ
comp=Z,150nm,20.0s
HHC Hu-ho-hao-te 173.52 337 *e*PKP **PKPdf 07 55 11.5 +0.6**
HHC pPKP **pPKPdf 07 55 22.5 -2.4**
HHC sPKP 07 55 26.0
HHC PP **PP 08 00 35.0 +3.6**
HHC SKS **SKSdf 08 02 09.5 -0.9**
HHC PPMZ
comp=Z,120nm,9.4s
HHC LN
comp=Z,320nm,17.4s
HHC LE
comp=Z,290nm,18.5s
HHC LZ
comp=Z,190nm,19.9s
CD2 Chengdu 174.52 136 *e*PKP **PKPdf 07 55 11.5 +0.1**
CD2 sPKP 07 55 29.5
CD2 PKPab **PKPab 07 56 44.8 +0.1**
CD2 PP **PP 08 00 38.5 +1.7**
CD2 SKS **SKSdf 08 02 09.0 -2.0**
CD2 SKKS **SKKSac 08 07 21.0 +1.2**
CD2 PPMZ
comp=Z,110nm,8.2s
CD2 LN
comp=Z,290nm,12.0s
CD2 LZ
comp=Z,160nm,12.0s
ENH Enshi 175.23 193 PFAKE 07 55 20.0 +8.3
ENH LR LR
comp=Z,131nm,19.0s
LZH Lanzhou 176.26 71 *e*PKP **PKPdf 07 55 13.0 +1.1**
LZH pPKP **pPKPdf 07 55 24.0 -1.9**
LZH sPKP 07 55 29.8
LZH PP **PP 08 00 48.0 +2.0**
LZH *e*SKKS 08 07 28.0
LZH *e*SS **SS 08 22 11.0 -1.8**
LZH PPMZ
comp=Z,270nm,8.1s
XAN Xi'an 178.93 214 PKP **PKPdf 07 55 12.5 +0.3**

IDC ***29*** *07:45:50.7±4.0, 6°.64S×130°.13E, h96km±39km, mb3.8/7, mb1 4.0/10, mb1mx3.8/35, mbtmp4.2/10, Error ellipse: s-maj=39.0km s-min=21.5km az=64.0*
NEIC ***29*** *07:45:53.7±1.0, 6°.77S×129°.98E, h129km±11km, mb4.4/3, Error ellipse: s-maj=12.7km s-min=9.4km az=65.0*
ISCJB ***29*** *07:45:54.4±0.4, 6°.85S±0°.04×129°.99E±0°.05, h150km, mb3.9/10, Error ellipse: s-maj=7.0km s-min=4.9km az=147.9*
DJA ***29*** *07:45:57.7±0.3, 7°.S±3°×13°.0E±°, h118km±7km, M4.7/15, mB5.3/8, mb4.7/15, MLv4.7/9, Mw(mB)4.7/8*
ISC 29 07:45:55.6±0.6, 6°.96S±0°.06×129°.90E±0°.06, h150km, n40, σ1°.63/39, mb4.0/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.72**	**126**	P	**Pn**		**07 46 28.9**	**+1.4**
MSAI	**Masohi**	**3.71**	**345**	P	**Pn**		**07 46 51.6**	**-0.6**
NLAI	**Namlea**	**4.63**	**323**	P	Pn		07 47 08.2	+4.1
FAKI	**Fak Fak**	**4.64**	**30**	P	**Pn**		**07 47 06.4**	**+2.1**
FAKI	**Fak Fak**	**4.64**	**30**	*e*Pn	Pn		07 46 59.2	-5.1
FAKI				*e*Sn	Sn		07 47 42.6	-15
SOEI	**Soe**	**6.23**	**243**	P	**Pn**		**07 47 26.9**	**+1.4**
	144nm,0.9s,1μm1.3nm							
SOEI	**Soe**	**6.23**	**243**	*e*Pn	**Pn**		**07 47 26.6**	**+1.2**
	122nm,0.8s							
SOEI				*e*Sn	**Sn**		**07 48 37.7**	**+1.8**
SANI	**Sanana**	**6.24**	**321**	P	**Pn**		**07 47 25.0**	**-0.6**
	38nm,1.1s,0.1nm							
BATI	**Baumata**	**6.96**	**242**	P	**Pn**		**07 47 36.5**	**+1.3**
	74nm,0.8s,1μm0.6nm							
BATI	**Baumata**	**6.96**	**242**	P	**Pn**		**07 47 36.2**	**+1.0**
	38nm,0.3s,baz=120,slow=2.0,SNR=15							
BATI				S	**Sn**		**07 48 50.9**	**-2.5**
	41nm,0.3s,baz=104,slow=22,SNR=18							
EDFI	**Ende, Flores**	**8.33**	**257**	P	**Pn**		**07 47 54.9**	**+1.4**
	39nm,0.7s							
WSI	**Waingapu**	**9.88**	**254**	P	**Pn**		**07 48 13.8**	**-0.2**
	1μm,0.6s							
APSI	**Ampana**	**10.19**	**306**	P	Pn		07 48 21.2	+3.0
WBSI	**Waikabubak, Su**	**10.74**	**255**	P	**Pn**		**07 48 25.0**	**-0.4**
	54nm,0.8s,745nm							
MRSI	**Marisa**	**10.85**	**313**	P	**Pn**		**07 48 27.6**	**+0.8**
	49nm,1.0s,826nm							
JAY	**Jayapura**	**11.63**	**68**	P	P		07 48 53.6	+9.1
WRAB	**Tennant Creek**	**13.60**	**162**	*e*Pn	**Pn**		**07 49 01.4**	**-1.2**
	16nm,0.8s							
WRAB				*e*Sn	Sn		07 51 26.1	-7.1
WRA	**Warramunga Arr**	**13.61**	**162**	P	**Pn**		**07 49 01.1**	**-1.5**
	2.4nm,0.3s,baz=335,slow=14,SNR=55							
WRA				S	Sn		07 51 26.4	-7.0
	6.4nm,0.3s,baz=331,slow=22,SNR=14							
WB2	**Warramunga Arr**	**13.61**	**162**	*e*Pn	**Pn**		**07 49 02.9**	**+0.2**
WB2				*e*Sn	Sn		07 51 26.1	-7.3
COEN	**Coen**	**14.79**	**119**	*e*Pn	**Pn**		**07 49 19.0**	**+1.6**
	93nm,0.7s							
COEN				*e*Sn	Sn		07 51 52.3	-9.5
BBKI	**Banjar Baru**	**15.39**	**282**	P	**P**		**07 49 26.9**	**+0.6**
	118nm,1.0s,8μm							
KMMI	**Kalianget**	**15.82**	**269**	P	**P**		**07 49 33.0**	**+2.1**
	32nm,0.9s							
BLJI	**Banyuglugur**	**16.19**	**266**	P	**P**		**07 49 36.5**	**+1.4**
	73nm,0.6s,2μm							
AS31	**Alice Springs**	**17.05**	**167**	*e*P	**Pn**		**07 49 47.0**	**+1.8**
AS31				*e*S	**S**		**07 52 51.1**	**-3.7**
ASAR	**Alice Springs**	**17.05**	**167**	P	**Pn**		**07 49 46.2**	**+1.0**
	1.4nm,0.3s,baz=340,slow=9.9,SNR=60							
ASAR				S	**S**		**07 52 50.7**	**-4.1**
	1.5nm,0.3s,baz=342,slow=26,SNR=6.9							
PWJI	**Pagerwojo**	**17.98**	**265**	P	**Pn**		**07 49 57.5**	**+1.3**
	12nm,0.8s							
CTA	**Charters Tower**	**20.54**	**131**	P	**P**		**07 50 24.3**	**+1.9**
	6.4nm,0.7s,baz=281,slow=11,SNR=6.0							
CNJI	**Cibinong**	**22.60**	**268**	P	**P**		**07 50 44.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**39.63**	**310**	P	**P**		**07 53 11.9**	**-0.9**
	1.4nm,0.7s,baz=133,slow=6.9,SNR=5.2							
MJAR	**Matsushiro Arr**	**43.97**	**10**	P	**P**		**07 53 45.0**	**-2.9**
	0.8nm,0.6s,baz=186,slow=10,SNR=4.5							
USRK	**Ussuriysk Ar.**	**50.95**	**2**	P	**P**		**07 54 40.1**	**-1.6**
	1.6nm,0.5s,baz=186,slow=5.8,SNR=4.5							
SONM	**Songino Array**	**58.37**	**342**	P	**P**		**07 55 35.1**	**-0.1**
	0.4nm,0.4s,baz=170,slow=6.4,SNR=3.2							
TLY	**Talaya**	**62.60**	**342**	*e*P	P		07 55 53.2	-11
	6.1nm,1.0s							
MKAR	**Makanchi Array**	**68.14**	**327**	P	**P**		**07 56 39.8**	**+0.4**
	1.1nm,0.3s,baz=120,slow=7.3,SNR=16							
KURBB	**Kurchatov Arra**	**72.42**	**329**	P	**P**		**07 57 05.4**	**0.0**
	1.5nm,0.5s,baz=123,slow=4.8,SNR=4.5							
KURK	**Kurchatov**	**72.43**	**329**	P	**P**		**07 57 05.4**	**0.0**
ABKAR	**Akbulak array**	**82.41**	**322**	*e*P	**P**		**07 58 00.1**	**-0.9**
	1.0nm,0.6s							
AKTO	**Aktyubinsk**	**83.98**	**322**	P	**P**		**07 58 09.0**	**+0.1**
	1.8nm,0.8s,baz=144,slow=8.7,SNR=3.1							
RAYN	**Ar Rayn**	**87.64**	**294**	*e*P	**P**		**07 58 28.1**	**+0.5**
	4.2nm,0.6s							
LPAZ	**La Paz**	**150.81**	**142**	PKPbc	**PKPbc**		**08 05 34.2**	**+2.1**
	1.0nm,0.4s,baz=90,slow=2.0,SNR=14							

IDC 29 08:26:40.2±3.6, 3°.84S×152°.15E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/21, mbtmp3.4/2, MS3.8/1, Ms1 3.8/1, ms1mx3.1/9, Error ellipse: s-maj=159.9km s-min=45.1km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.62**	**226**	P	P	P	08 31 53.3	+0.1
	1.2nm,0.6s,baz=51,slow=9.7,SNR=15							
ASAR	**Alice Springs**	**26.44**	**220**	P	P	P	08 32 19.4	+0.3
	0.2nm,0.6s,baz=51,slow=9.1,SNR=3.5							
USRK	**Ussuriysk Ar.**	**51.14**	**341**	LR	LR		08 53 04.8	
	comp=Z,106nm,21.1s,baz=47,slow=31							
TORD	**Torodi Ar. Bea**	**149.39**	**289**	PKPbc	PKPbc		08 46 31.6	-0.8
	0.4nm,0.5s,baz=70,slow=1.8,SNR=11							

WEL 29 08:27:39.7±0.4, 37°.18S×176°.35E, h195km±4km, ML3.9/14, 5C-2D, Error ellipse: s-maj=4.8km s-min=3.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.24**	**151**	⇑PN	Pn		08 28 10.9	+0.3
URZ				SN	Sn		08 28 34.7	-0.2
URZ				AML	AML		08 28 36.3	
HAZ	**Te Kaha**	**1.28**	**117**	PN	Pn		08 28 11.0	0.0
MWZ	**Matawai**	**1.49**	**141**	PN	Pn		08 28 12.9	+0.1
MWZ				SN	Sn		08 28 37.1	-1.6
MWZ				AML	AML		08 28 39.7	
MXZ	**Matakaoa Point**	**1.60**	**105**	PN	Pn		08 28 14.1	+0.2
MXZ				SN	Sn		08 28 40.7	+0.3
MXZ				AML	AML		08 28 42.5	
TWGZ	**Tauwhareparae**	**1.63**	**128**	PN	Pn		08 28 14.7	+0.5
TWGZ				SN	Sn		08 28 41.3	+0.1
TKGZ	**Te Karaka**	**1.73**	**137**	⇑PN	Pn		08 28 14.9	-0.1
PUZ	**Puketiti**	**1.76**	**121**	⇓PN	Pn		08 28 15.1	-0.3
PUZ				SN	Sn		08 28 41.6	-1.5
PUZ				AML	AML		08 28 44.2	
WMGZ	**Waiomatatini S**	**1.76**	**112**	PN	Pn		08 28 15.6	+0.2
SNGZ	**Shannon Statio**	**1.78**	**154**	PN	Pn		08 28 15.6	0.0
RAHZ	**Arahi**	**1.83**	**162**	PN	Pn		08 28 16.4	+0.3
RIGZ	**Rimuhau**	**1.89**	**144**	PN	Pn		08 28 16.7	0.0
CNGZ	**Carnagh Statio**	**1.97**	**132**	PN	Pn		08 28 17.7	+0.3
BKZ	**Black Stump Fm**	**1.99**	**177**	⇓PN	Pn		08 28 17.2	-0.5
BKZ				AML	AML		08 28 47.8	
BKZ				AML	AML		08 28 49.5	
WHHZ	**Waihua**	**2.02**	**160**	PN	Pn		08 28 17.8	-0.1
KNZ	**Kokohu**	**2.12**	**151**	⇑PN	Pn		08 28 18.3	-0.7
ARHZ	**Aropaoanui**	**2.14**	**166**	PN	Pn		08 28 19.2	-0.1
TUVZ	**Tukino**	**2.16**	**195**	PN	Pn		08 28 20.0	+0.3
FWVZ	**Far West T-bar**	**2.17**	**197**	PN	Pn		08 28 20.6	+0.7
TRVZ	**Turoa**	**2.21**	**196**	PN	Pn		08 28 20.7	+0.4
WNVZ	**Wahianoa**	**2.23**	**195**	PN	Pn		08 28 20.4	0.0
MCHZ	**McNeill Hill**	**2.28**	**173**	⇑PN	Pn		08 28 20.7	-0.1
MTVZ	**Mangateitei**	**2.31**	**197**	PN	Pn		08 28 21.3	+0.1
BHHZ	**Black Hill Sta**	**2.32**	**186**	PN	Pn		08 28 20.6	-0.7
MHGZ	**Mahia Peninsul**	**2.32**	**149**	PN	Pn		08 28 20.3	-0.9
KRHZ	**Kereru**	**2.46**	**180**	PN	Pn		08 28 22.0	-0.9
CKHZ	**Cape Kidnapper**	**2.54**	**167**	PN	Pn		08 28 23.0	-0.7

KAHZ	Kahuranaki	2.65 171	PN	Pn	08 28 24.0	-1.0
PNHZ	Pukenui	2.74 182	PN	Pn	08 28 24.7	-1.2
WAZ	Wanganui	2.79 202	PN	Pn	08 28 26.8	+0.3
PXZ	Pawanui	2.88 172	PN	Pn	08 28 26.1	-1.4
PXZ			AML	AML	08 29 05.0	
PXZ			AML	AML	08 29 05.0	
PXZ			AML	AML	08 29 05.7	
PXZ			AML	AML	08 29 05.7	
WPHZ	Waipukurau	2.89 179	PN	Pn	08 28 26.2	-1.4
TSZ	Takapari Road	2.90 186	PN	Pn	08 28 26.3	-1.5
PRHZ	Porangahau	3.10 176	PN	Pn	08 28 28.3	-1.8
DVHZ	Dannevirke	3.12 183	PN	Pn	08 28 28.6	-1.9
POWZ	Post Office Ro	3.24 188	PN	Pn	08 28 30.1	-1.8
ANWZ	Angora Road	3.28 178	PN	Pn	08 28 30.5	-1.8
PRWZ	Pori Road	3.39 185	PN	Pn	08 28 31.3	-2.4
BFZ	Birch Farm	3.50 181	PN	Pn	08 28 32.7	-2.3
MRZ	Mangatainoka R	3.53 190	⇑PN	Pn	08 28 32.7	-2.8
MRZ			AML	AML	08 29 17.5	
MRZ			AML	AML	08 29 18.6	
TIWZ	Tintock	3.61 186	PN	Pn	08 28 34.1	-2.4
TIWZ			AML	AML	08 29 20.2	
HOWZ	Holdsworth Sta	3.77 190	PN	Pn	08 28 35.5	-3.0
KIW	Kapiti Island	3.85 197	PN	Pn	08 28 36.5	-2.8
MTW	Mount Morrison	4.03 189	AML	AML	08 29 28.4	
CAW	Cannon Point	4.05 194	PN	Pn	08 28 38.7	-3.1
CAW			AML	AML	08 29 31.2	
CAW			AML	AML	08 29 31.6	
PAWZ	Paruwai Farm	4.26 189	AML	AML	08 29 32.0	
MSWZ	Moikau Station	4.32 191	PN	Pn	08 28 41.5	-3.7
MSWZ			AML	AML	08 29 31.8	
MSWZ			AML	AML	08 29 32.3	
TCW	Tory Channel	4.34 201	PN	Pn	08 28 42.5	-3.0
TCW			AML	AML	08 29 34.0	
TCW			AML	AML	08 29 37.2	
PLWZ	Palliser	4.47 191	PN	Pn	08 28 44.2	-3.0
TUWZ	Tuamarina	4.64 203	PN	Pn	08 28 46.2	-3.0
TUWZ			AML	AML	08 29 40.6	
TUWZ			AML	AML	08 29 43.3	
NNZ	Nelson	4.65 209	PN	Pn	08 28 46.3	-3.1
QRZ	Quartz Range	4.71 218	PN	Pn	08 28 47.5	-2.6
BSWZ	Blackbirch Sta	4.92 202	PN	Pn	08 28 50.2	-2.7
THZ	Tophouse	5.30 209	PN	Pn	08 28 54.5	-3.4
DSZ	Denniston Nort	5.76 216	PN	Pn	08 28 59.9	-3.9
LTZ	Lake Taylor	6.42 208	PN	Pn	08 29 08.2	-4.0
OXZ	Oxford	6.97 207	PN	Pn	08 29 14.3	-5.1
MQZ	McQueen's Vall	7.11 202	PN	Pn	08 29 15.7	-5.4
ODZ	Otahua Downs	8.96 207	PN	Pn	08 29 41.0	-4.4

GUC 29 08:39:35.5±0.4, 34°.35S×72°.10W, h75km±9km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.97	132		eP	Pn	08 39 53.7	-0.2
NICH					eS	Sn	08 40 07.6	0.0
TALC	Talca	1.11	160		eS	Sn	08 40 10.5	-0.3
CLCH	Cerro Calan	1.61	54		eP	Pn	08 40 02.2	0.0
CLCH					eS	Sn	08 40 22.3	-0.1
CLCH					IAML		08 40 28.5	
	comp=E,701nm,0.6s							
SJCH	San Jose de Ma	1.61	65		eP	Pn	08 40 02.1	-0.1
SJCH					eS	Sn	08 40 22.2	-0.3
ROCH	El Roble	1.65	34		eP	Pn	08 40 03.0	+0.1
ROCH					eS	Sn	08 40 23.6	-0.1
ROCH					IAML		08 40 31.2	
	comp=N,566nm,1.3s							
PEL	Peldehue	1.69	45		eP	Pn	08 40 03.0	-0.2
PEL					eS	Sn	08 40 24.1	0.0
PEL					IAML		08 40 31.9	
	comp=E,950nm,0.5s							

IDC 29 08:40:19.3±3.5, 0°.93S×16°.03W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/23, mbtmp3.7/3, MS3.5/2, Ms1 3.6/2, ms1mx2.9/32, Error ellipse: s-maj=118.6km s-min=70.0km az=129.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	7.02	167		T	T	08 49 20.6	
	baz=348,slow=74,SNR=49							
H10N3	ASCENSION HYDR	7.03	168		T	T	08 49 19.6	
	baz=348,slow=74,SNR=59							
H10N1	ASCENSION HYDR	7.04	167		T	T	08 49 20.4	
	baz=348,slow=74,SNR=88							
H10S1	ASCENSION HYDR	8.07	170		T	T	08 50 38.1	
	baz=350,slow=74,SNR=47							
H10S3	ASCENSION HYDR	8.08	170		T	T	08 50 38.7	
	baz=350,slow=74,SNR=63							
H10S2	ASCENSION HYDR	8.09	170		T	T	08 50 38.0	
	baz=350,slow=74,SNR=61							
TORD	Torodi Ar. Bea	22.46	51		P	P	08 45 19.6	-0.8
	1.4nm,1.2s,baz=233,slow=9.4,SNR=3.8							
LPAZ	La Paz	53.53	250		LR	LR	09 11 05.6	
	comp=Z,34nm,18.3s,baz=80,slow=34							
GERES	GERESS Array B	55.85	23		P	P	08 49 58.2	-0.5
	0.2nm,0.2s,baz=204,slow=6.5,SNR=3.0							
BRTR	Keskin Array B	60.74	42		P	P	08 50 34.1	+0.9
	0.5nm,0.8s,baz=238,slow=4.9,SNR=2.9							
FRB	Frobisher Bay	75.16	339		LR	LR	09 18 03.4	
	comp=Z,37nm,18.5s,baz=350,slow=30							
WRA	Warramunga Arr	144.30	127		PKP	PKPbc	08 59 57.2	+0.5
	0.5nm,0.8s,baz=238,slow=2.5,SNR=5.0							

*IDC **29** 09:01:17.1±2.3, 53°.42N×87°.71E, h0km, mb1 3.6/3, mb1mx3.3/29, mbtmp3.6/3, ML3.5/3, Error ellipse: s-maj=20.5km s-min=12.6km az=63.0*
*NNC **29** 09:01:21.9±2.4, 53°.43N×87°.38E, h14km±12km, mb3.7, mpv3.4, Error ellipse: s-maj=16.1km s-min=12.1km az=40.0*

ISC 29 09:01:20.4±3.7, 53°.6N±0°.1×87°.7E±0°.2, h35km, n10, σ0s66/14, 7C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.74	283	i			09 14 16.1	
	baz=109,slow=342							
ZALV	Zalesovo Beam	1.74	283		Pn	Pn	09 01 48.1	+0.1
	13nm,0.3s,baz=104,slow=15,SNR=130							
ZALV					Lg	Lg	09 02 13.4	
	27nm,0.3s,baz=101,slow=28,SNR=20							
KURK	Kurchatov	6.27	246		⇑Pn	Pn	09 02 50.7	+0.4
	1.4nm,0.6s							
KURK					⇑Sn	Sn	09 04 01.0	+0.3
	1.7nm,0.5s							
KURK					⇑Lg	Lg	09 04 36.0	
	7.9nm,0.6s							
KURBB	Kurchatov Arra	6.37	246		⇑Pn	Pn	09 02 52.3	+0.7
	5.5nm,0.3s							
KURBB					⇓Sn	Sn	09 04 02.9	-0.2
	14nm,0.5s							
KURBB					⇓Lg	Lg	09 04 35.2	
	23nm,0.6s							
KURBB	Kurchatov Arra	6.37	246		Pn	Pn	09 02 51.6	0.0
	0.7nm,0.3s,baz=63,slow=14,SNR=18							
KURBB					Sn	Sn	09 04 03.6	+0.5
	0.4nm,0.3s,baz=66,slow=28,SNR=10							
KURBB					Lg	Lg	09 04 37.6	
	0.3nm,0.3s,baz=64,slow=32,SNR=6.4							
MK31	Makanchi Array	7.63	209		⇓Pn	Pn	09 03 09.4	+0.5
	0.2nm,0.2s,baz=27,slow=12,SNR=63							
MK31					⇑Sn	Sn	09 04 34.2	+0.1
	3.1nm,0.8s,baz=27,slow=26,SNR=3.7							
MK31					⇑Lg	Lg	09 05 15.5	
	17nm,1.1s,baz=35,slow=30,SNR=6.3							
MKAR	Makanchi Array	7.63	209		Pn	Pn	09 03 08.8	-0.1
	0.9nm,0.3s,baz=27,slow=13,SNR=63							
MKAR					Sn	Sn	09 04 33.3	-0.8
	0.4nm,0.3s,baz=27,slow=27,SNR=9.5							
MKAR					Lg	Lg	09 05 15.9	
	0.5nm,0.3s,baz=31,slow=31,SNR=6.0							
BVA0	Borovoye Array	10.37	274		⇑Sn	Sn	09 05 41.8	+0.5
	2.4nm,0.4s,baz=75,slow=26,SNR=7.3							
BVAR	Borovoye Array	10.37	274		Pn	Pn	09 03 46.8	+0.4
	0.4nm,0.3s,baz=82,slow=15,SNR=5.1							
BVAR					Sn	Sn	09 05 39.7	-1.6
	1.6nm,0.3s,baz=75,slow=25,SNR=10							
SONM	Songino Array	13.17	108		Lg	Lg	09 08 08.9	
	baz=308,slow=24,SNR=5.9							

DJA 29 09:19:14.0±0.4, 3°.S±3°×11°.9E±°, h10km, M3.8/7, MLv3.8/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.73	122		P	Pg	09 19 25.9	-2.2
TTSI					S	Sb	09 19 38.3	-0.5
SPSI	Sidrap Palu	1.42	156		P	Pn	09 19 38.1	-1.7
BNSI	Bone	1.95	152		P	Pn	09 19 47.1	-0.1
BKSI	Bulukumba	2.80	161		P	Pn	09 19 59.0	+0.1
MPSI	Mapaga	3.06	13		P	Pn	09 20 03.4	+1.0

IDC 29 09:19:33.3±2.4, 6°.79S×130°.89E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=132.3km s-min=32.4km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.50	166		Pn	Pn	09 22 46.5	+0.3
	0.3nm,0.3s,baz=349,slow=14,SNR=20							
WRA					Sn	Sn	09 25 09.0	-8.2
	0.4nm,0.3s,baz=343,slow=23,SNR=8.5							
ASAR	Alice Springs	17.03	171		P	Pn	09 23 32.8	-0.3
	0.2nm,0.3s,baz=350,slow=10,SNR=12							
ASAR					S	Sn	09 26 35.0	-8.2
	0.1nm,0.3s,baz=357,slow=27,SNR=4.5							
MKAR	Makanchi Array	68.54	326		P	P	09 30 37.8	0.0
	0.2nm,0.4s,baz=114,slow=7.0,SNR=5.1							

DJA 29 09:22:36.3±0.4, 3°.S±3°×11°.9E±°, h10km, M3.9/8, MLv3.9/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.72	121		P	Pg	09 22 48.7	-1.6
TTSI					S	Sg	09 22 58.9	-0.8
SPSI	Sidrap Palu	1.41	156		P	Pn	09 23 00.8	-1.2
PCI	Palu	1.86	20		P	Pn	09 23 08.4	+0.1
BNSI	Bone	1.94	152		P	Pn	09 23 09.6	+0.2
BKSI	Bulukumba	2.79	161		P	Pn	09 23 21.4	+0.3
MPSI	Mapaga	3.07	13		P	Pn	09 23 25.0	+0.1

*IDC **29** 09:28:11.5±2.5, 20°.20S×174°.02E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.9/16, mbtmp3.9/5, ML2.8/1, MS3.5/13, Ms1 3.5/13, ms1mx3.4/22, Error ellipse: s-maj=135.2km s-min=31.2km az=158.0*
*ISCJB **29** 09:28:15.0±2.0, 20°.4S±0°.9×174°.0E±0°.4, h33km, mb4.0/4, MS3.5/11, Error ellipse: s-maj=132.0km s-min=20.5km az=160.5*

ISC 29 09:28:16.7±2.2, 20°.3S±0°.9×174°.0E±0°.4, h35km, n16, σ0s21/6, mb3.9/4, MS3.5/11, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.28	254		Pn	Pn	09 30 00.9	+0.1
	0.2nm,0.3s,baz=66,slow=19,SNR=2.2							
HNR	Honiara	17.33	306		LR	LR	09 37 52.7	
	comp=Z,128nm,19.8s,baz=138,slow=34							
URZ	Urewera	18.12	172		LR	LR	09 37 52.8	
	comp=Z,63nm,18.1s,baz=7.0,slow=32							
PMG	Port Moresby	28.07	289		LR	LR	09 43 57.2	
	comp=Z,77nm,21.0s,baz=23,slow=34							
PPT	Papeete	34.51	92		LR	LR	09 48 31.4	
	comp=Z,50nm,18.4s,baz=263,slow=35							
WRA	Warramunga Arr	37.19	263		P	P	09 35 24.9	+0.1
	2.0nm,1.0s,baz=99,slow=8.5,SNR=5.4							
WRA					LR	LR	09 50 33.9	
	comp=Z,88nm,20.3s,baz=65,slow=36							
ASAR	Alice Springs	37.26	257		P	P	09 35 25.2	-0.3
	1.4nm,0.8s,baz=86,slow=9.0,SNR=17							
ASAR					LR	LR	09 49 56.2	
	comp=Z,174nm,20.3s,baz=92,slow=35							
VNDA	Vanda	57.60	183		LR	LR	09 59 43.1	
	comp=Z,48nm,19.4s,baz=1.0,slow=33							
MJAR	Matsushiro Arr	65.86	329		LR	LR	10 04 02.8	
	comp=Z,12nm,20.7s,baz=165,slow=33							
KSRS	Korea Array	71.97	323		LR	LR	10 05 57.0	
	comp=Z,12nm,19.4s,baz=185,slow=32							
PETK	Petropavlovsk-	74.43	350		LR	LR	10 09 56.4	
	comp=Z,19nm,19.1s,baz=150,slow=34							
CMAR	Chiang Mai Arr	83.04	292		P	P	09 40 38.9	-0.1
	0.9nm,0.2s,baz=132,slow=2.6,SNR=3.5							
ILAR	Eielson Array	89.94	16		LR	LR	10 18 14.0	
	comp=Z,44nm,18.8s,baz=214,slow=33							
TXAR	Lajitas Array	93.35	60		P	P	09 41 28.7	+0.1
	0.2nm,0.7s,baz=224,slow=3.8,SNR=2.6							
TXAR					LR	LR	10 15 09.5	
	comp=Z,45nm,21.6s,baz=0.0,slow=30							
PDAR	Pinedale Array	94.06	46		LR	LR	10 16 38.3	
	comp=Z,52nm,18.9s,baz=286,slow=31							
GERES	GERESS Array B	147.41	336		PKPbc	PKPbc	09 47 57.0	+0.1
	0.3nm,0.2s,baz=64,slow=4.5,SNR=3.1							

*IDC **29** 09:36:01.7±1.7, 37°.01N×74°.55E, h0km, mb3.2/3, mb1 3.3/8, mb1mx3.3/38, mbtmp3.3/8, ML3.2/5, Error ellipse: s-maj=36.7km s-min=22.2km az=133.0*
*ISCJB **29** 09:36:06.3±1.2, 37°.43N±0°.08×74°.63E±0°.07, h10km, mb3.0/3, Error ellipse: s-maj=11.7km s-min=8.5km az=172.5*
*NNC **29** 09:36:10.0±1.3, 37°.61N×74°.43E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=11.2km s-min=5.6km az=143.0*

ISC 29 09:36:06.2±1.7, 37°.3N±0°.1×74°.68E±0°.08, h10km, n22, σ1s51/25, mb3.1/3, 10C-8D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KZA	Kyzart	4.82	5		P	Pn	09 37 20.5	+1.3
	SNR=18							
DZET	Dzherino	4.87	290		⇑Pn	Pn	09 37 19.2	-0.3
	3.5nm,0.6s							
DZET					⇓Pg	Pb	09 37 32.7	+1.2
	6.8nm,0.5s							
DZET					⇓Sn	Sn	09 38 15.9	-0.1
	20nm,0.4s							
DZET					⇓Lg	Lg	09 38 35.3	
	38nm,1.1s							
AML	Almayashu	4.91	351		P	Pn	09 37 21.8	+1.4
	SNR=22							
UCH	Uchtor	4.95	359		P	Pn	09 37 22.7	+1.7
	SNR=25							
AAK	Ala-Archa	5.36	359		⇓Pn	Pn	09 37 27.0	+0.7
	2.7nm,0.6s							
AAK					⇑Pg	Pb	09 37 41.8	+1.8
	13nm,0.7s							
AAK					⇓Lg	Lg	09 38 49.6	
	11nm,1.0s							
AAK	Ala-Archa	5.36	359		Pn	Pn	09 37 29.5	+3.2
	0.4nm,0.3s,baz=176,slow=14,SNR=7.4							
EKS2	Erkin-Say	5.43	353		P	Pn	09 37 31.4	+4.1
	SNR=5.2							
MNAS	Manas	5.47	343		⇓Pn	Pn	09 37 28.0	+0.1
	2.5nm,0.4s							
MNAS					⇑Sn	Sn	09 38 28.8	-2.1
	6.3nm,0.6s							
MNAS					⇓Lg	Lg	09 38 51.0	
	8.0nm,0.9s							
TKM2	Tokmak 2	5.69	7		⇑Pn	Pn	09 37 32.3	+1.4
	6.8nm,0.4s							
TKM2					⇑Sn	Sn	09 38 34.4	-1.9
	10.0nm,0.6s							
TKM2					⇓Lg	Lg	09 38 58.9	
	8.8nm,0.7s							
TKM2	Tokmak 2	5.69	7		P	Pn	09 37 32.8	+1.9
	SNR=23							
KK31	Karatay Array	6.64	333		⇑Pn	Pn	09 37 44.3	+0.5
	0.8nm,0.3s,baz=138,slow=12,SNR=5.7							
KK31					⇑Sn	Sn	09 38 57.2	-2.3
	4.0nm,0.6s,baz=149,slow=22,SNR=4.2							
MKAR	Makanchi Array	11.06	28		Pn	Pn	09 38 45.5	+1.1
	0.1nm,0.3s,baz=213,slow=14,SNR=4.5							
MKAR					Lg	Lg	09 42 02.8	
	0.0nm,0.3s,baz=209,slow=26,SNR=3.3							
KURBB	Kurchatov Arra	13.63	10		Pn	Pn	09 39 18.5	-0.9
	0.1nm,0.3s,baz=194,slow=11,SNR=3.5							
BVA0	Borovoye Array	16.04	351		⇑Pn	Pn	09 39 53.7	+2.1
	2.4nm,0.8s,baz=152,slow=10.0,SNR=5.7							
BVAR	Borovoye Array	16.04	351		Pn	Pn	09 39 50.4	-1.2
	0.3nm,0.3s,baz=157,slow=15,SNR=3.1							
AB31	Akbulak array	16.05	323		⇑Pn	Pn	09 39 53.6	+1.8
	0.6nm,0.6s,baz=130,slow=12,SNR=8.2							
AKTO	Aktyubinsk	17.76	323		⇑P	Pn	09 40 14.1	+0.7
	1.6nm,0.8s							
AKTO	Aktyubinsk	17.76	323		P	Pn	09 40 13.4	0.0
	0.2nm,0.3s,baz=130,slow=20,SNR=4.3							
ZALV	Zalesovo Beam	18.09	20		P	Pn	09 40 14.8	-2.6
	0.2nm,0.3s,baz=212,slow=12,SNR=5.3							
SONM	Songino Array	25.47	55		P	P	09 41 33.9	-0.5
	0.4nm,0.8s,baz=265,slow=9.2,SNR=2.4							
TORD	Torodi Ar. Bea	68.67	271		P	P	09 47 06.0	-4.1
	0.1nm,0.4s,baz=54,slow=5.6,SNR=2.6							
YKA	Yellowknife Ar	80.30	4		P	P	09 48 16.2	-0.7
	0.1nm,0.5s,baz=352,slow=5.6,SNR=3.7							

*IDC **29** 09:37:56.6±0.7, 11°.32N×86°.36W, h0km, mb4.0/12, mb1 4.2/14, mb1mx4.0/25, mbtmp4.0/14, ML3.3/2, MS3.5/6, Ms1 3.5/6, ms1mx3.0/33, Error ellipse: s-maj=34.3km s-min=13.1km az=53.0*
*NEIC **29** 09:37:59.6±0.4, 11°.22N×86°.40W, h20km, mb4.5/16, Error ellipse: s-maj=17.4km s-min=6.6km az=52.0*
*ISCJB **29** 09:38:00.1±0.4, 11°.21N±0°.07×86°.42W±0°.07, h31km, mb4.2/27, MS3.5/6, Error ellipse: s-maj=13.7km s-min=3.0km az=43.8*
*CASC **29** 09:38:02.0±5.6, 11°.25N×86°.32W, h33km±81km, MD4.3*

ISC 29 09:38:00.9±0.6, 11°.13N±0°.08×86°.35W±0°.09, h31km, n127, σ1s27/127, mb4.4/27, MS3.5/6, 10C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GBS2	Las Lilas	0.93	108	i	P	Pb	09 38 19.8	+1.4
LAPC	Finca la Perla	0.97	112	i	P	Pb	09 38 19.8	+0.7
BUEV	Buena Vista	0.98	110	i	P	Pb	09 38 20.5	+1.1
BUEV					i S	Sn	09 38 28.2	-3.3
GB1A	Borinquen Arri	0.98	108	i	P	Pb	09 38 20.8	+1.4
GPS2	Hotel Rinc˜‡n	1.05	111	i	P	Pb	09 38 21.4	+0.9
GPS2					i S	Sn	09 38 29.7	-3.5
COPN	Copaltepe	1.07	347	eP		Pb	09 38 22.7	+1.8
A495	El Viejo	1.14	130	i	P	Pn	09 38 20.1	-0.6
LIM1	Limonal	1.16	112	i	P	Pb	09 38 22.7	+0.3
GUAB	Guayabo de Bag	1.18	111	i	P	Pn	09 38 18.6	-2.7
HUEN		1.21	8	eP		Pb	09 38 28.5	+5.3
COLC	Colonia	1.22	112	i	P	Pb	09 38 23.4	0.0
A494	Palo Verde	1.25	128	i	P	Pn	09 38 22.7	+0.5
CUI	Cuipilapa	1.25	112	i	P	Pb	09 38 24.0	0.0
PTEN	Parque Tenorio	1.40	107	i	P	Pb	09 38 26.6	+0.2
CNGN	Cerro Negro	1.40	346	eS		Sn	09 38 37.4	-4.5
JTS	JuntasAbangare	1.61	121		Pn	Pn	09 38 27.4	+0.2
	14nm,0.3s,baz=310,slow=14,SNR=68							
JTS					LR	LR	09 38 48.8	
	comp=Z,170nm,18.6s,baz=300,slow=30							
JCR	Jicaral	1.76	136	eP		Pn	09 38 27.3	-2.0
JCR					eS	Sn	09 38 47.4	-3.3
CGA2	Cerro Gallo 2	2.16	121	eP		Pn	09 38 36.0	+1.1
SJS	Escuela Geolog	2.55	117	eP		Pn	09 38 43.4	+3.2
CNCH	Conchagua	2.58	326	eP		Pn	09 38 41.4	+0.8
URSC	Urasca	2.84	117	⇓eP		Pn	09 38 47.4	+3.2
BLLM	Bellamira	2.95	321	eP		Pn	09 38 46.7	+1.0
BUS	Buena Vista	2.99	121	eP		Pn	09 38 47.6	+1.1
LFRS	El Faro	3.63	313	eP		Pn	09 38 54.9	-0.2
ACR	Cerro Adams	3.98	128	eP		Pn	09 38 59.3	-0.6
APG	El Apazote	5.56	314	Pn		Pn	09 39 17.7	-4.0
	0.3nm,0.3s,baz=144,slow=14,SNR=5.3							
CMIG	Matias Romero	10.18	307	Pn		Pn	09 40 22.8	-2.1
	0.6nm,0.3s,baz=124,slow=11,SNR=10							
035Z	Hargill	18.84	326	⇑P		Pn	09 42 19.8	+0.8
	baz=19							
936A	North Padre Is	19.20	329	⇑P		P	09 42 22.6	+0.3
	baz=19							
034A	Hebbronville	19.65	325	⇑P		Pn	09 42 28.7	-0.1
	baz=20,SNR=5.7							
933A	Laredo	20.40	325	P		Pn	09 42 36.6	-1.1
	baz=20							
834A	Tilden	20.41	328	P		P	09 42 36.3	+0.8
	baz=20							
HKT	Hockley	20.70	336	eP		P	09 42 37.6	-1.0
	22nm,1.3s							
636A	Smothers Creek	20.81	333	P		Pn	09 42 41.0	-1.3
	baz=21							
537A	Green Hill Far	21.01	335	P		P	09 42 42.7	+0.7
	baz=21							
833A	Chaparral WMA,	21.02	326	P		P	09 42 41.9	-0.2
	baz=21							
438A	Sam Houston St	21.28	338	P		P	09 42 46.5	+1.6
	baz=21							
832A	Faith Ranch, C	21.31	325	⇑P		P	09 42 46.1	+0.8
	baz=21,SNR=5.3							
GOGA	Godfrey	22.33	6	eP		P	09 43 00.0	+3.9
	17nm,0.9s							
631A	Perdido Creek	22.52	326	P		P	09 42 58.7	+0.6
	baz=22							
532A	Rocksprings	22.72	328	P		P	09 43 00.9	+0.5
	baz=23							
433A	Art	22.83	331	P		P	09 43 02.0	+0.6
	baz=23							
334A	Lometa	22.92	333	P		P	09 43 03.3	+0.9
	baz=23							
WHTX	Lake Whitney,	23.16	335	eP		P	09 43 04.4	-0.3
	7.9nm,0.8s							
333A	Richland Sprin	23.25	332	P		P	09 43 05.6	-0.2
	baz=23							
530A	J-C Ranch, Com	23.50	326	P		P	09 43 08.1	-0.2
	baz=24							
431A	Sonora	23.53	328	P		P	09 43 08.8	+0.2
	baz=24							
332A	Millersview	23.66	330	⇑P		P	09 43 09.8	0.0
	baz=24,SNR=5.7							
233A	Rising Star	23.80	333	P		P	09 43 10.9	-0.1
	baz=24							
134A	White-Moore Ra	23.92	335	P		P	09 43 12.3	+0.1
	baz=24							
232A	Coleman	24.03	331	⇓P		P	09 43 12.7	-0.5
	baz=24,SNR=5.6							
429A	Davenport Ranc	24.18	326	⇑P		P	09 43 16.7	+2.0
	baz=24,SNR=6.8							
Z35A	Perchaven, San	24.26	337	⇓P		P	09 43 15.8	+0.5
	baz=24							
TXAR	Lajitas Array	24.27	321	P		P	09 43 15.1	-0.5
	3.4nm,0.7s,baz=134,slow=10,SNR=37							
TXAR					PcP	PcP	09 46 56.6	+1.4
	1.8nm,0.8s,baz=137,slow=4.8,SNR=15							
KMSC	Kings Mountain	24.33	10	P		P	09 43 17.9	+2.0
	ba

baz=27
Y29A Porterfield Fa 26.62 331 P **P 09 43 36.7 0.0**
baz=27
X30A Coker Ranch, T 26.73 333 ⇑P **P 09 43 36.7 -1.0**
baz=27,SNR=6.7
Y28A McKinney Farm, 26.94 330 P **P 09 43 39.9 +0.2**
baz=27
WCI Wyandotte Cave 26.98 0 *e*P **P 09 43 41.0 +1.1**
13nm,0.9s
MSTX Muleshoe 27.25 329 P **P 09 43 42.0 -0.4**
baz=27
MSTX Muleshoe 27.25 329 *e*P **P 09 43 41.2 -1.2**
5.7nm,0.9s
AMTX Amarillo 27.46 332 P **P 09 43 45.1 +0.8**
baz=27
AMTX Amarillo 27.46 332 *e*P **P 09 43 44.5 +0.2**
13nm,1.2s
S36A Lake Cedric, C 27.75 344 P **P 09 43 47.1 +0.3**
baz=28
PTGA Pitinga 28.75 113 LR LR 09 56 50.4
comp=Z,89nm,18.7s,baz=304,slow=39
SFIN Lafayette 29.14 359 P **P 09 43 59.4 +0.3**
baz=29
ANMO Albuquerque 29.95 326 P **P 09 44 05.2 -1.5**
1.0nm,0.8s,baz=143,slow=6.3,SNR=4.8
U25A Circle Dot Ran 29.99 330 P **P 09 44 05.1 -1.9**
baz=30
P32A Huiting Farm, 30.39 341 P **P 09 44 10.1 -0.2**
baz=30
SAML Samuel 30.48 130 *e*P **P 09 44 10.5 -0.7**
4.8nm,0.9s
U23A El Rito 30.84 328 ⇓P **P 09 44 12.6 -1.9**
baz=31,SNR=5.8
ERPA Erie 31.37 9 *e*P **P 09 44 18.8 0.0**
14nm,0.7s
LPAZ La Paz 32.67 146 P **P 09 44 33.4 +2.2**
0.5nm,0.7s,baz=7.1,slow=8.1,SNR=2.9
ECSD EROS Data Cent 33.68 347 P **P 09 44 37.7 -1.3**
baz=34
ECSD EROS Data Cent 33.68 347 *e*P **P 09 44 38.0 -1.0**
9.5nm,1.4s
SADO Sadowa 34.09 9 P **P 09 44 42.0 -0.6**
8.6nm,0.8s,baz=207,slow=9.0,SNR=7.2
J29A Okreek 34.37 342 P **P 09 44 44.5 -0.6**
baz=34
SPMN Marine on St. 34.42 352 P **P 09 44 44.4 -1.0**
baz=34
SPMN Marine on St. 34.42 352 *e*P **P 09 44 45.3 -0.2**
9.3nm,0.9s
H27A Howes 36.02 341 P **P 09 44 59.1 -0.3**
baz=36
SIV San Ignacio 36.77 137 P **P 09 45 07.7 +1.7**
2.7nm,0.9s,baz=325,slow=8.2,SNR=5.5
PDAR Pinedale Array 37.44 331 P **P 09 45 10.7 -1.0**
0.7nm,0.9s,baz=128,slow=8.4,SNR=4.4
PDAR PcP **PcP 09 47 29.7 -0.3**
0.3nm,0.5s,baz=138,slow=5.6,SNR=4.2
AGMN Agassiz Nation 37.90 350 P **P 09 45 14.1 -1.1**
baz=38
AGMN Agassiz Nation 37.90 350 *e*P **P 09 45 14.3 -0.8**
5.9nm,0.9s
REDW Red Top Meadow 38.51 331 *e*P **P 09 45 21.9 +1.3**
47nm,2.5s
A29A Manning Farm, 39.18 347 P **P 09 45 25.4 -0.5**
baz=39
ULM Lac du Bonnet 39.79 350 P **P 09 45 29.2 -1.7**
2.2nm,0.7s,baz=180,slow=10,SNR=5.4
ULM PcP **PcP 09 47 36.9 +0.2**
1.6nm,0.6s,baz=187,slow=2.5,SNR=3.3
E20A Meyer Farm, Mu 39.81 336 P **P 09 45 31.1 -0.1**
baz=40
C22A Vida 40.02 339 P **P 09 45 32.5 -0.5**
baz=40
C19A Slack Wire Ran 41.18 337 P **P 09 45 42.1 -0.5**
baz=41
A20A Cobblestone Ra 41.71 339 P **P 09 45 45.6 -1.3**
baz=42
B19A Brinkman Farms 41.73 337 P **P 09 45 46.0 -1.1**
baz=42
SCHQ Schefferville 46.24 16 P **P 09 46 22.2 -0.9**
4.8nm,0.7s,baz=227,slow=7.4,SNR=12
SCHQ PcP **PcP 09 47 57.6 -0.7**
2.0nm,0.8s,baz=248,slow=5.4,SNR=4.6
SCHQ LR LR 10 06 51.1
comp=Z,87nm,19.4s,baz=12,slow=38
BDFB Brasilia 46.35 124 P **P 09 46 25.1 +0.5**
2.6nm,0.6s,baz=297,slow=9.8,SNR=5.5
BDFB LR LR 10 06 28.6
comp=Z,86nm,19.6s,baz=278,slow=37
YKA Yellowknife Ar 55.16 344 P **P 09 47 29.0 -1.2**
1.0nm,0.9s,baz=138,slow=7.2,SNR=13
YKA PcP **PcP 09 48 31.5 +0.4**
0.3nm,0.6s,baz=149,slow=4.2,SNR=5.5
ILAR Eielson Array 67.66 336 P **P 09 48 53.2 -1.4**
0.9nm,0.9s,baz=117,slow=4.9,SNR=8.2
NOA NORSAR Array B 83.99 29 LR LR 10 28 02.0
comp=Z,14nm,18.1s,baz=210,slow=36
DAVOX Davos/Dischmat 86.21 43 LR LR 10 26 29.2
comp=Z,23nm,19.0s,baz=260,slow=34
SONM Songino Array 120.21 350 PKP **PKPdf 09 56 49.2 0.0**
0.2nm,0.4s,baz=333,slow=1.6,SNR=3.3
GEYT Alibeck 120.94 32 PKP **PKPdf 09 56 51.3 +0.6**
1.1nm,0.3s,baz=117,slow=2.3,SNR=2.3
KSRS Korea Array 121.96 328 PKP **PKPdf 09 56 53.4 +0.8**
2.2nm,0.6s,baz=20,slow=1.5,SNR=9.9
KSAR Wonju Array Be 121.99 328 PKP **PKPdf 09 56 53.4 +0.7**
ASAR Alice Springs 139.76 247 PKP **PKPdf 09 57 28.4 +1.8**
0.6nm,0.6s,baz=96,slow=1.9,SNR=11
WRA Warramunga Arr 139.92 252 PKP **PKPdf 09 57 29.0 +2.0**
0.7nm,0.5s,baz=92,slow=2.4,SNR=13
CMAR Chiang Mai Arr 150.14 350 PKPbc **PKPbc 09 57 48.4 -1.2**
1.4nm,0.3s,baz=339,slow=3.1,SNR=8.7

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*ISCJB **29** 09:53:56.4±0.8, 13°.1S±0°.2×72°.6W±0°.1, h33km, mb3.4/3, MS3.6/1, Error ellipse: s-maj=30.4km s-min=7.3km az=26.3*
*IDC **29** 09:53:59.8±2.0, 13°.75S×72°.93W, h69km±58km, mb3.2/3, mb1 3.7/5, mb1mx3.5/18, mbtmp3.7/5, ML4.0/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/14, Error ellipse: s-maj=216.3km s-min=11.3km az=27.0*
ISC 29 09:53:58.3±0.9, 13°.1S±0°.2×72°.6W±0°.1, h35km, n7, σ1§17/8, mb3.4/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.27**	**284**	P	**Pn**	**09 55 00.1**	**-0.7**
	20nm,0.3s,baz=128,slow=14,SNR=19						
NNA				S	**Sn**	**09 55 50.0**	**+0.5**
	12nm,0.3s,baz=200,slow=22,SNR=7.6						
LPAZ	**La Paz**	**5.39**	**127**	P	**Pn**	**09 55 18.2**	**+1.4**
	2.6nm,0.3s,baz=304,slow=7.9,SNR=96						
LPAZ				S	**Sn**	**09 56 16.6**	**-1.3**
	baz=199,slow=17,SNR=1.8						
TKL	**Tuckaleechee C**	**49.61**	**348**	LR	LR	10 25 30.7	
	comp=Z,67nm,21.1s,baz=324,slow=38						
TXAR	**Lajitas Array**	**51.73**	**325**	P	**P**	**10 03 03.1**	**+0.5**
	0.5nm,0.5s,baz=151,slow=8.8,SNR=17						
TORD	**Torodi Ar. Bea**	**78.12**	**73**	P	**P**	**10 05 54.1**	**-0.3**
	0.2nm,0.6s,baz=263,slow=4.6,SNR=2.1						
YKA	**Yellowknife Ar**	**82.12**	**342**	P	**P**	**10 06 15.4**	**+0.4**
	0.3nm,0.9s,baz=139,slow=5.4,SNR=6.2						
SONM	**Songino Array**	**145.34**	**1**	PKPbc	**PKPbc**	**10 13 31.3**	**-1.3**
	0.9nm,0.6s,baz=348,slow=3.1,SNR=4.6						

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*TIF **29** 10:05:19.5, 41°.31N×44°.41E, h16km±1km*
*ISCJB **29** 10:05:20.3±1.0, 41°.28N±0°.05×44°.40E±0°.07, h8km±9km, Error ellipse: s-maj=8.6km s-min=8.0km az=138.2*
*DDA **29** 10:05:22.9, 39°.45N×42°.88E, h18km, MD2.6*
ISC 29 10:05:19.4±1.2, 41°.27N±0°.07×44°.45E±0°.06, h14km±7km, n6, σ0§32/12, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZR	**Kazreti**	**0.11**	**348**	P	**Pg**	**10 05 22.9**	**+0.1**
KZR				S	**Sg**	**10 05 25.0**	**-0.1**
TBLG	**Delisi**	**0.51**	**25**	P	**Pb**	**10 05 30.1**	**-0.1**
TBLG				S	**Sb**	**10 05 37.4**	**0.0**
DGRG	**David-gareji**	**0.72**	**75**	P	**Pn**	**10 05 35.1**	**-0.1**
DGRG				S	**Sn**	**10 05 46.4**	**+0.4**
DIGO	**Kars**	**1.18**	**224**	*i* P	**Pn**	**10 05 41.3**	**-0.4**
DIGO				*i* S	**Sb**	**10 05 56.7**	**-0.2**
ONI	**Oni**	**1.51**	**331**	P	**Pb**	**10 05 46.9**	**-0.4**
ONI				S	**Sb**	**10 06 06.5**	**+0.2**
ARTV	**Artvin**	**1.90**	**268**	*i* P	**Pb**	**10 05 54.4**	**+0.4**
ARTV				*i* S	**Sb**	**10 06 17.9**	**+0.3**

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*IDC **29** 10:15:00.7±3.5, 10°.09N×83°.06W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/21, Error ellipse: s-maj=79.6km s-min=37.3km az=162.0*
ISC 29 10:15:03.9±2.0, 10°.0N±0°.3×83°.4W±0°.1, h20km, n8, σ1§87/8, mb3.5/3, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.60**	**281**	Pn	**Pb**	**10 15 34.9**	**+2.1**
	baz=79,slow=14						
JTS				Sn	**Sn**	**10 15 48.6**	**-2.7**
	210nm,0.3s,baz=52,slow=19,SNR=7.8						
JTS				LR	LR	10 15 55.1	
	comp=Z,62nm,21.5s,baz=4.0,slow=29						
CMIG	**Matias Romero**	**13.25**	**303**	Pn	**Pn**	**10 18 11.2**	**+0.2**
	0.3nm,0.3s,baz=125,slow=13,SNR=5.0						
BBB	**Bella Bella**	**55.50**	**328**	LR	LR	10 49 57.2	
	comp=Z,32nm,18.6s,baz=102,slow=38						
YKA	**Yellowknife Ar**	**57.08**	**343**	P	**P**	**10 24 47.7**	**-0.7**
	0.4nm,0.8s,baz=132,slow=7.7,SNR=9.0						
RES	**Resolute Bay**	**65.01**	**357**	P	**P**	**10 25 42.6**	**+0.5**
	0.5nm,0.7s,baz=193,slow=11,SNR=3.3						
ILAR	**Eielson Array**	**69.89**	**336**	P	**P**	**10 26 13.2**	**0.0**
	0.2nm,0.6s,baz=101,slow=4.9,SNR=4.2						
ASAR	**Alice Springs**	**141.96**	**244**	PKP	**PKPdf**	**10 34 36.2**	**+0.9**
	0.2nm,0.5s,baz=104,slow=1.9,SNR=4.4						
WRA	**Warramunga Arr**	**142.34**	**250**	PKP	**PKPdf**	**10 34 34.0**	**-2.1**
	0.6nm,0.9s,baz=98,slow=3.3,SNR=4.0						

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*AZER **29** 10:25:38.3±4.0, 35°.51N×50°.94E, h4km, Error ellipse: s-maj=63.6km s-min=26.0km az=67.0*
*THR **29** 10:25:42.9±1.7, 35°.58N×49°.49E, h46km, ML3.6*
*TEH **29** 10:25:44.5, 35°.60N×49°.50E, h4km, ML3.9*
*CSEM **29** 10:25:44.3±0.3, 35°.62N×49°.53E, h2km, ML3.9, Error ellipse: s-maj=9.2km s-min=5.2km az=39.0*
*ISCJB **29** 10:25:45.4±0.5, 35°.66N±0°.03×49°.59E±0°.04, h10km, Error ellipse: s-maj=5.6km s-min=3.6km az=41.2*
ISC 29 10:25:44.6±0.8, 35°.61N±0°.03×49°.54E±0°.03, h10km, n62, σ1§59/67, 6C-7D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**0.38**	**122**	*e*Pg	**Pg**	**10 25 51.2**	**-1.0**
IRAZ				*e*Sg	**Sg**	**10 25 57.1**	**-0.1**
IRAZ				*e*		10 26 01.0	
	comp=Z,4μm,0.1s						
IRAZ	**Razeghan**	**0.38**	**122**	*e*Pg	**Pg**	**10 25 51.2**	**-1.0**
IRAZ				*e*Sg	**Sg**	**10 25 57.1**	**-0.1**
IMHD	**Mahdasht**	**0.93**	**85**	*e*Pg	**Pg**	**10 26 01.5**	**-1.0**
IMHD				*e*Sg	**Sg**	**10 26 14.8**	**+0.3**
IMHD				*e*		10 26 22.2	
	comp=Z,55μm,0.1s						
IMHD	**Mahdasht**	**0.93**	**85**	*e*Pg	**Pg**	**10 26 01.5**	**-1.0**
IMHD				*e*Sg	**Sg**	**10 26 14.8**	**+0.3**
IGZV	**Ghazvin**	**0.95**	**35**	*e*Pg	**Pg**	**10 26 01.7**	**-1.4**
IGZV				*e*Sg	**Sg**	**10 26 15.0**	**-0.5**
IGZV				*e*		10 26 15.9	
	comp=Z,42μm,0.2s						
IGZV	**Ghazvin**	**0.95**	**35**	*e*Pg	**Pg**	**10 26 01.7**	**-1.4**
IGZV				*e*Sg	**Sg**	**10 26 15.0**	**-0.5**
ASAO	**Ashtian**	**1.13**	**159**	*e*Pg	**Pb**	**10 26 05.2**	**-1.2**
ASAO	**Ashtian**	**1.13**	**159**	*e*Pg	**Pb**	**10 26 05.2**	**-1.2**
IR3	**Iran Long-Peri**	**1.22**	**96**	*e*Pg	**Pn**	**10 26 06.6**	**-1.2**
IR3	**Iran Long-Peri**	**1.22**	**96**	*e*Pg	**Pn**	**10 26 06.6**	**-1.2**
ZNJK	**Zanjan**	**1.27**	**327**	*e*Pg	**Pn**	**10 26 06.5**	**-2.1**
ZNJK	**Zanjan**	**1.27**	**327**	*e*Pg	**Pn**	**10 26 06.5**	**-2.1**
CHTH	**Charan**	**1.33**	**76**	*e*Pg	**Pn**	**10 26 08.8**	**-0.7**
CHTH				*e*Sg	**Sn**	**10 26 27.6**	**+0.2**
CHTH				AML	AML	10 26 28.8	
	comp=E,904nm,0.4s						
CHTH	**Charan**	**1.33**	**76**	*e*Pg	**Pn**	**10 26 08.8**	**-0.7**
CHTH				*e*Sg	**Sn**	**10 26 27.6**	**+0.2**
	comp=E,904nm,0.4s						
IBZA	**Bozab**	**1.78**	**231**	*e*	**Sg**	**10 26 44.3**	**+2.3**
	comp=Z,9μm,0.2s						
IAFJ	**Afjeh**	**1.79**	**81**	*e*Pn	**Pb**	**10 26 16.8**	**-0.9**
IAFJ				*e*		10 26 50.5	
	comp=Z,347nm,0.0s						
IAFJ	**Afjeh**	**1.79**	**81**	*e*Pn	**Pb**	**10 26 16.8**	**-0.9**
SNGE	**Sanandaj**	**1.86**	**255**	*e*Pg	**Pn**	**10 26 16.4**	**-0.4**
SNGE	**Sanandaj**	**1.86**	**255**	*e*Pg	**Pn**	**10 26 16.4**	**-0.4**
IVRN	**Varamin**	**1.89**	**108**	*e*Pn	**Pb**	**10 26 18.1**	**-1.2**
IVRN				*e*		10 26 50.5	
	comp=Z,10μm,0.1s						
IVRN	**Varamin**	**1.89**	**108**	*e*Pn	**Pb**	**10 26 18.1**	**-1.2**
KHMZ	**Khomeyn**	**1.89**	**169**	*e*Pg	**Pn**	**10 26 15.9**	**-1.4**
KHMZ				AML	AML	10 26 45.6	
	comp=E,448nm,0.4s						
KHMZ				AML	AML	10 26 46.1	
	comp=N,420nm,0.4s						
KHMZ	**Khomeyn**	**1.89**	**169**	*e*Pg	**Pn**	**10 26 15.9**	**-1.4**
	comp=N,420nm,0.4s						
DAMV	**Damavand**	**1.98**	**89**	*e*Pg	**Pn**	**10 26 18.7**	**+0.2**
DAMV	**Damavand**	**1.98**	**89**	*e*Pg	**Pn**	**10 26 18.7**	**+0.2**
IDMV	**Damavand**	**2.03**	**90**	*e*Pn	**Pn**	**10 26 20.2**	**+0.9**
IDMV				*e*		10 26 51.9	
	comp=Z,16μm,0.1s						
IDMV	**Damavand**	**2.03**	**90**	*e*Pn	**Pn**	**10 26 20.2**	**+0.9**
IPRN	**Peran**	**2.36**	**74**	*e*Pn	**Pb**	**10 26 25.6**	**-1.8**
IPRN				*e*		10 27 02.2	
	comp=Z,9μm,0.2s						
QAM	**Ghamsar**	**2.42**	**139**	*e*Pn	**Pb**	**10 26 26.1**	**-2.2**
QAM				*e*		10 27 03.0	
	comp=Z,10μm,0.2s						
IFIR	**Firoozkooh**	**2.62**	**88**	*e*Pn	**Pn**	**10 26 29.0**	**+1.7**
IFIR				*e*		10 27 14.1	
	comp=Z,6μm,0.1s						
IFIR	**Firoozkooh**	**2.62**	**88**	*e*Pn	**Pn**	**10 26 29.0**	**+1.7**
ISRB	**Sarab**	**2.68**	**326**	*e*Pn	**Pn**	**10 26 28.8**	**+0.8**
ISRB				*e*		10 27 15.4	
	comp=Z,2μm,0.2s						
ISRB	**Sarab**	**2.68**	**326**	*e*Pn	**Pn**	**10 26 28.8**	**+0.8**
IALA	**Alasht**	**2.70**	**79**	*e*	Sg	10 27 22.3	+11
	comp=Z,3μm,0.2s						
ILAS	**Lasjerd**	**2.80**	**94**	*e*Pn	**Pb**	**10 26 33.8**	**-1.1**
ILAS				*e*		10 27 14.3	
	comp=Z,4μm,0.2s						
IKLH	**Kolahrood**	**2.84**	**143**	*e*Pn	**Pb**	**10 26 34.1**	**-1.4**
IKLH				*e*		10 27 15.9	
	comp=N,4μm,0.1s						
IBST	**Bostanabad**	**2.98**	**315**	*e*Pn	**Pn**	**10 26 32.2**	**0.0**
IBST				*e*		10 27 31.9	
	comp=N,1μm,0.3s						
IBST	**Bostanabad**	**2.98**	**315**	*e*Pn	**Pn**	**10 26 32.2**	**0.0**
ISHM	**Shahmirzad**	**3.06**	**85**	*e*Pn	**Pn**	**10 26 35.7**	**+2.3**
ISHM				*e*		10 27 32.2	
	comp=Z,5μm,0.2s						
ISHM	**Shahmirzad**	**3.06**	**85**	*e*Pn	**Pn**	**10 26 35.7**	**+2.3**
IPIR	**Pirpir**	**3.12**	**159**	*e*Pn	**Pn**	**10 26 36.6**	**+2.3**
IPIR				*e*		10 27 35.0	
	comp=Z,2μm,0.3s						
IPIR	**Pirpir**	**3.12**	**159**	*e*Pn	**Pn**	**10 26 36.6**	**+2.3**
LKRN	**Lenkeran, Azer**	**3.16**	**349**	⇑P	**Pn**	**10 26 35.3**	**+0.9**
LKRN				⇓S	**Sb**	**10 27 18.8**	**-0.5**
LKRN	**Lenkeran, Azer**	**3.16**	**349**	P	**Pn**	**10 26 35.3**	**+0.9**
LRK	**Lerik**	**3.18**	**343**	⇓P	**Pn**	**10 26 35.2**	**+0.3**
LRK				⇑S	**Sb**	**10 27 21.8**	**+1.6**
LRK	**Lerik**	**3.18**	**343**	P	**Pn**	**10 26 35.2**	**+0.3**
IHRS	**Heris**	**3.37**	**324**	*e*Pn	**Pn**	**10 26 37.9**	**+0.4**
IHRS				*e*		10 27 30.4	
	comp=N,2μm,0.2s						
IHRS	**Heris**	**3.37**	**324**	*e*Pn	**Pn**	**10 26 37.9**	**+0.4**
IZEF	**Zefreh**	**3.56**	**139**	*e*Pn	Pb	10 26 43.9	-4.0
IZEF				*e*		10 26 46.6	
	comp=Z,652nm,0.2s						
IANJ	**Anjilo**	**3.57**	**91**	*e*Pn	**Pn**	**10 26 41.7**	**+1.3**
IANJ				*e*		10 27 44.6	
	comp=Z,1μm,0.1s						
IANJ	**Anjilo**	**3.57**	**91**	*e*Pn	**Pn**	**10 26 41.7**	**+1.3**
IGLO	**Ghaloghah**	**3.59**	**74**	*e*Pn	**Pn**	**10 26 43.4**	**+2.7**
IGLO				*e*		10 27 50.9	
	comp=Z,3μm,0.3s						
GLBA	**Clilabad**	**3.74**	**346**	⇓P	**Pn**	**10 26 42.8**	**+0.4**
GLBA				⇓S	**Sg**	**10 27 40.3**	**-4.5**
GLBA	**Clilabad**	**3.74**	**346**	P	**Pn**	**10 26 42.8**	**+0.4**
IMRD	**Marand**	**4.36**	**317**	*e*Pn	Pn	10 26 55.4	+4.3
IMRD				*e*		10 27 16.1	
	comp=Z,641nm,0.3s						
NAX	**Nakhchivan**	**4.80**	**319**	⇓P	Pb	10 27 04.7	-4.2
NAX				⇑S	**Sb**	**10 28 09.9**	**+3.1**
PQL	**Pirkuli**	**5.23**	**352**	⇑S	**Sn**	**10 28 07.3**	**+3.9**
PQL	**Pirkuli**	**5.23**	**352**	S	**Sn**	**10 28 07.3**	**+3.9**
GANJ	**Ganja**	**5.63**	**334**	⇓P	Pn	10 27 11.1	+2.6
GANJ	**Ganja**	**5.63**	**334**	P	Pn	10 27 11.1	+2.6
QZX	**Qazax, Azerbai**	**6.35**	**330**	⇑S	Sb	10 28 43.5	-7.8
ZKTA	**Zakatala**	**6.44**	**340**	⇓P	**Pn**	**10 27 21.8**	**+2.3**
ZKTA				⇑S	Sn	10 28 41.5	+8.4

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*ISCJB **29** 10:26:10.9±1.0, 37°.10N±0°.05×27°.90E±0°.05, h12km, Error ellipse: s-maj=7.9km s-min=5.6km az=168.6*
*CSEM **29** 10:26:10.9±0.6, 37°.07N×27°.92E, h2km, MD2.6, Error ellipse: s-maj=12.8km s-min=9.2km az=159.0*
*DDA **29** 10:26:13.1, 37°.31N×27°.62E, h7km, MD2.6*
ISC 29 10:26:10.4±1.3, 37°.11N±0°.08×27°.90E±0°.04, h12km, n8, σ0§42/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.30**	**86**	*e*PG	**Pg**	**10 26 16.7**	**0.0**
YER				*e*SG	**Sb**	**10 26 22.4**	**-0.4**
YER	**Yerkesik**	**0.30**	**86**	*e*Pg	**Pg**	**10 26 16.7**	**0.0**
BDRM	**Kayabasi**	**0.37**	**263**	*i* P	**Pg**	**10 26 17.9**	**+0.1**
BDRM				*i* S	**Sb**	**10 26 24.3**	**-0.4**
BDRM	**Kayabasi**	**0.37**	**263**	*i* P	**Pg**	**10 26 17.9**	**+0.1**
BDRM				*i* S	**Sb**	**10 26 24.3**	**-0.4**
AYDN	**Tasoluk**	**0.55**	**358**	*i* P	**Pb**	**10 26 21.7**	**-0.3**
AYDN				*i* S	**Sg**	**10 26 28.3**	**-0.1**
AYDN	**Tasoluk**	**0.55**	**358**	*i* P	**Pb**	**10 26 21.7**	**-0.3**
AYDN				*i* S	**Sg**	**10 26 28.3**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.83**	**359**	*e*PG	**Pn**	**10 26 28.9**	**+0.8**
AYDB				*e*SG	**Sn**	**10 26 40.1**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.83**	**359**	*e*Pg	**Pn**	**10 26 28.9**	**+0.8**
AYDB				*e*Sg	**Sn**	**10 26 40.1**	**-0.3**

MAN 29 10:36:21, 13°.55N×121°.22E, h16km, mb4.6, ML3.5, MS3.4, 4C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.26**	**260**	⇑*e*P	Pb	10 36 27.6	+0.2
PGP				*i* S	Sn	10 36 33.9	-2.1
TGY	**Tagaytay City**	**0.61**	**334**	⇑*e*P	Pn	10 36 34.5	-0.7
TGY				*i* S	Sn	10 36 45.5	+0.7
LUBP	**Lubang**	**0.96**	**281**	*e*P	Pg	10 36 39.5	-0.2
SJMP	**San Jose**	**1.08**	**185**	*e*P	Pn	10 36 41.6	0.0
SJMP				*e*S	Sn	10 36 57.5	+1.2
GQP	**Guinayangan**	**1.25**	**73**	⇑*e*P	Pn	10 36 42.2	-1.6
GQP				*e*S	Sn	10 37 00.7	+0.5
AUQP	**San Andres**	**1.44**	**99**	*e*P	Pn	10 36 45.7	-0.7
BUSP	**Coron**	**1.83**	**213**	*e*P	Pn	10 36 52.4	+0.6
PCPH	**Palayan**	**2.01**	**357**	⇑*e*P	Pn	10 36 55.3	+1.1
BALP	**Baler**	**2.21**	**9**	*e*P	Pb	10 36 59.6	-1.0

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*ISCJB **29** 10:57:40.9±0.8, 0°.6N±0°.3×27°.3W±0°.2, h10km, mb3.8/6, MS3.4/15, Error ellipse: s-maj=43.7km s-min=12.3km az=149.8*
*IDC **29** 10:57:41.3±0.9, 0°.75N×27°.28W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/23, mbtmp4.0/7, ML4.4/1, MS3.4/17, Ms1 3.4/17, ms1mx3.2/42, Error ellipse: s-maj=54.0km s-min=18.7km az=152.0*
ISC 29 10:57:42.7±0.8, 0°.7N±0°.3×27°.3W±0°.2, h10km, n27, σ0§67/8, mb4.0/6, MS3.4/15, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.77**	**233**	Pn	**Pn**	**11 00 16.4**	**-0.7**
	2.5nm,0.3s,baz=38,slow=11,SNR=31						
RCBR				Sn	Sn	11 02 08.0	-10
	0.5nm,0.3s,baz=11,slow=16,SNR=2.7						
RCBR				LR	LR	11 03 26.9	
	comp=Z,340nm,21.1s,baz=34,slow=32						
H10N3	**ASCENSION HYDR**	**15.27**	**124**	T	T	11 16 60.0	
	baz=303,slow=74,SNR=35						
H10N2	**ASCENSION HYDR**	**15.28**	**124**	T	T	11 17 00.2	
	baz=303,slow=74,SNR=38						
H10N1	**ASCENSION HYDR**	**15.29**	**124**	T	T	11 17 01.6	
	baz=303,slow=74,SNR=33						
H10S3	**ASCENSION HYDR**	**15.77**	**128**	T	T	11 17 49.9	
	baz=307,slow=74,SNR=83						
H10S1	**ASCENSION HYDR**	**15.78**	**127**	T	T	11 17 49.1	
	baz=307,slow=74,SNR=117						
H10S2	**ASCENSION HYDR**	**15.79**	**128**	T	T	11 17 50.1	
	baz=307,slow=74,SNR=80						
BBTS	**Babate**	**17.49**	**37**	LR	LR	11 06 40.8	
	comp=Z,172nm,20.1s,baz=170,slow=31						
DBIC	**Dimbokro**	**23.13**	**75**	P	**P**	**11 02 49.5**	**+0.2**
	5.0nm,1.1s,baz=265,slow=9.2,SNR=2.8						
BDFB	**Brasilia**	**26.13**	**231**	P	**P**	**11 03 18.4**	**+1.0**
	3.4nm,0.8s,baz=61,slow=8.5,SNR=4.1						
BDFB				LR	LR	11 12 38.9	
	comp=Z,160nm,19.6s,baz=76,slow=34						
TORD	**Torodi Ar. Bea**	**31.25**	**65**	P	**P**	**11 04 02.4**	**-0.5**
	3.3nm,0.9s,baz=258,slow=9.4,SNR=12						
TORD				LR	LR	11 15 51.5	
	comp=Z,95nm,18.5s,baz=190,slow=35						
MDT	**Midelt**	**38.44**	**31**	LR	LR	11 19 42.7	
	comp=Z,40nm,18.8s,baz=142,slow=34						
LPAZ	**La Paz**	**43.70**	**245**	P	**P**	**11 05 48.9**	**-0.2**
	1.5nm,0.8s,baz=34,slow=4.1,SNR=5.4						
LPAZ				LR	LR	11 23 46.4	
	comp=Z,71nm,18.4s,baz=50,slow=36						
TSUM	**Tsumeb**	**48.22**	**117**	LR	LR	11 22 51.3	
	comp=Z,30nm,19.9s,baz=324,slow=31						
KEST	**Kesra**	**48.72**	**40**	LR	LR	11 29 42.6	
	comp=Z,20nm,18.2s,baz=273,slow=40						
SUR	**Sutherland**	**56.00**	**131**	LR	LR	11 27 11.6	
	comp=Z,81nm,20.6s,baz=86,slow=32						
LBTB	**Lobatse**	**57.12**	**121**	LR	LR	11 26 48.4	
	comp=Z,34nm,21.0s,baz=302,slow=31						
IDI	**Anoyia**	**59.44**	**49**	LR	LR	11 34 16.8	
	comp=Z,32nm,20.1s,baz=274,slow=37						
GERES	**GERESS Array B**	**59.51**	**30**	LR	LR	11 31 25.5	
	comp=Z,13nm,18.1s,baz=266,slow=34						
EIL	**Elat**	**65.71**	**58**	LR	LR	11 36 35.6	
	comp=Z,48nm,18.9s,baz=266,slow=36						
HFS	**Hagfors**	**67.18**	**21**	LR	LR	11 33 56.1	
	comp=Z,17nm,22.0s,baz

couple: M_o1.67000×10^{14} NP1:ϕ_s347.00000°, δ50.00000°, λ41.00000°. NP2:ϕ_s228.00000°, δ60.00000°, λ133.00000°.
*ISCJB **29** 11:18:02.0±0.6, 34.°16N±0.°04×135.°13E±0.°04, h11km, mb3.4/3, Error ellipse: s-maj=5.8km s-min=4.8km az=31.9*
*IDC **29** 11:18:01.2±1.1, 33.°99N×135.°25E, h^0km, mb3.5/3, mb1 3.5/6, mb1mx3.3/28, mbtmp3.4/6, ML3.1/3, Error ellipse: s-maj=22.1km s-min=13.9km az=147.0*
*JMA **29** 11:18:02.6, 34.°20N×135.°16E, h^6km±1^{km}, M3.6 Broadband fault plane solution: P waves. NP1: ϕ_s343.00000°, δ83.00000°, λ43.00000°. NP2: ϕ_s246.00000°, δ47.00000°, λ170.00000°. Principal axes: T Plg35.0000°, Azm214.0000°; N Plg46.0000°, Azm351.0000°; P Plg23.0000°, Azm107.0000°;*
JMA Felt III J1.

ISC 29 11:18:02.4±0.8, 34.°11N±0.°05×135.°14E±0.°03, h11km, n11, σ1§69/18, mb3.3/3, 1C-3D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.31**	**145**	⇓P	**Pb**	**11 18 10.3**	**+0.3**
JWM				S	**Sb**	**11 18 15.4**	**+0.3**
JAJ2	**Tsuna**	**0.38**	**326**	⇓P	**Pg**	**11 18 09.0**	**-0.9**
JAJ2				S	**Sg**	**11 18 13.6**	**-1.4**
JWY	**Kouya**	**0.39**	**73**	⇓P	**Pg**	**11 18 09.3**	**-0.9**
JWY				S	**Sg**	**11 18 14.7**	**-0.7**
JHE	**Heguri**	**0.71**	**39**	⇑P	**Pg**	**11 18 14.8**	**-1.3**
JHE				S	**Sg**	**11 18 23.3**	**-2.2**
MAT	**Matsushiro**	**3.49**	**45**	P	**Pn**	**11 18 57.6**	**+0.9**
MAT				S	**Sn**	**11 19 40.9**	**+2.9**
MJAR	**Matsushiro Arr**	**3.49**	**45**	Pn	**Pn**	**11 18 57.3**	**+0.5**
	1.1nm,0.3s,baz=234,slow=14,SNR=11						
MJAR				Pg	**Pg**	**11 19 06.5**	**-2.9**
	2.4nm,0.3s,baz=221,slow=16,SNR=18						
MJAR				Lg	Lg	11 19 51.9	
	1.1nm,0.3s,baz=225,slow=24,SNR=6.7						
JNU	**Nakatsue**	**3.69**	**256**	Pn	**Pn**	**11 19 00.2**	**+0.8**
	1.8nm,0.3s,baz=75,slow=4.4,SNR=43						
JNU				Pg	**Pg**	**11 19 10.5**	**-2.6**
	6.5nm,0.3s,baz=79,slow=16,SNR=20						
JNU				Lg	Lg	11 19 59.5	
	2.3nm,0.3s,baz=72,slow=19,SNR=2.4						
KSRS	**Korea Array**	**6.75**	**302**	Pn	**Pn**	**11 19 43.4**	**+2.0**
	0.5nm,0.3s,baz=116,slow=14,SNR=6.1						
SONM	**Songino Array**	**25.50**	**311**	P	**P**	**11 23 32.6**	**+1.8**
	0.5nm,0.7s,baz=108,slow=9.3,SNR=4.6						
WRA	**Warramunga Arr**	**53.75**	**181**	P	**P**	**11 27 24.5**	**-0.3**
	0.8nm,0.8s,baz=355,slow=7.9,SNR=8.7						
ASAR	**Alice Springs**	**57.46**	**181**	P	**P**	**11 27 50.9**	**-0.5**
	0.3nm,0.9s,baz=12,slow=12,SNR=4.1						

IDC 29 11:24:16.1±2.1, 32.°75S×179.°97E, h^0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/15, mbtmp3.8/4, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/25, Error ellipse: s-maj=53.0km s-min=31.3km az=57.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.97**	**202**	Pn	Pn	11 25 47.6	+1.9
	0.9nm,0.3s,baz=34,slow=18,SNR=6.4						
URZ				Sn	Sn	11 26 60.0	+5.1
	baz=48,slow=15,SNR=2.5						
ASAR	**Alice Springs**	**41.33**	**271**	P	P	11 32 03.7	-0.1
	0.9nm,0.6s,baz=110,slow=7.5,SNR=14						
WRA	**Warramunga Arr**	**42.53**	**276**	P	P	11 32 13.0	-0.7
	1.7nm,0.8s,baz=114,slow=7.8,SNR=14						
WRA				LR	LR	11 50 09.6	
	comp=Z,42nm,18.2s,baz=280,slow=36						
QSPA	**South Pole Qui**	**57.36**	**180**	P	P	11 34 05.1	-0.9
	2.5nm,1.1s,baz=48,slow=6.2,SNR=9.0						
FINES	**FINESS Array B**	**146.70**	**337**	PKPbc	PKPab	11 43 59.7	-0.5
	0.5nm,0.6s,baz=46,slow=4.0,SNR=3.3						

GUC 29 11:37:30.1±0.4, 35.°64S×72.°90W, $h11^{km}$±4km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.50**	**169**	*e*P	Pg	11 37 39.4	-0.5
COCH				*e*S	Sg	11 37 46.2	-0.2
TALC	**Talca**	**1.06**	**77**	*e*P	Pb	11 37 48.3	-2.2
TALC				*e*S	Sb	11 38 02.4	-2.0
LNV	**Longovilo**	**2.08**	**37**	*e*P	Pn	11 38 04.7	-0.3
LNV				*e*S	Sn	11 38 31.0	+0.1
CACH	**El Canelo**	**2.43**	**52**	*e*P	Pn	11 38 10.4	+0.5
CACH				*e*S	Sn	11 38 41.4	+1.6
CHCH	**Chadas Angostu**	**2.52**	**48**	*e*P	Pn	11 38 11.4	+0.3
CHCH				*e*S	Sn	11 38 42.9	+1.1
CLCH	**Cerro Calan**	**2.97**	**42**	*e*P	Pn	11 38 17.5	+0.2
CLCH				*e*S	Sn	11 38 53.7	+0.7
CLCH				IAML		11 39 09.5	
	comp=E,261nm,0.5s						
PEL	**Peldehue**	**3.10**	**37**	*e*P	Pn	11 38 19.2	+0.2
PEL				*e*S	Sn	11 38 56.7	+0.7
PEL				IAML		11 39 06.5	
	comp=E,233nm,0.6s						

*IDC **29** 11:38:07.9±1.1, 51.°29N×130.°40W, h^0km, mb3.7/8, mb1 3.8/14, mb1mx3.7/33, mbtmp3.6/14, ML3.6/5, MS3.7/24, Ms1 3.7/24, ms1mx3.5/42, Error ellipse: s-maj=15.9km s-min=11.1km az=70.0*
*NEIC **29** 11:38:07.7, 51.°26N×130.°83W, $h10^{km}$, mb4.2/25, MW4.7(OTT), After OTT.*
*PGC **29** 11:38:07.7±1.8, 51.°26N×130.°83W, $h10^{km}$, ML4.4/13, Mw4.7, 211km Wsw of Bella Bella, Bc Queen Charlotte Islands Region*
*ISCJB **29** 11:38:12.1±0.3, 51.°77N±0.°03×130.°24W±0.°05, $h10^{km}$, mb4.0/20, MS3.7/20, Error ellipse: s-maj=5.0km s-min=3.5km az=148.6*

ISC 29 11:38:13.2±0.5, 51.°61N±0.°05×130.°27W±0.°05, $h10^{km}$, n414, σ1§40/342, mb4.2/21, MS3.7/20, 142C-158D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.33**	**317**	Pn	Pn	11 38 31.8	-6.1
BNB	**Barry Inlet**	**1.33**	**317**	Pn	Pn	11 38 31.8	-6.1
BBB	**Bella Bella**	**1.46**	**66**	⇑Pn	**Pn**	**11 38 37.3**	**-2.1**
BBB				⇑Sn	**Sg**	**11 39 01.1**	**+1.1**
BBB	**Bella Bella**	**1.46**	**66**	Pn	**Pn**	**11 38 37.1**	**-2.4**
	78nm,0.3s,baz=253,slow=6.1,SNR=293						
BBB				LR	LR	11 38 54.2	
	comp=Z,280nm,21.2s,baz=248,slow=28						
BBB				Sn	**Sg**	**11 39 00.7**	**+0.8**
	568nm,0.3s,baz=173,slow=21,SNR=15						
BBB	**Bella Bella**	**1.46**	**66**	⇑Pn	**Pn**	**11 38 37.3**	**-2.1**
BBB				Sn	**Sg**	**11 39 01.1**	**+1.1**
HOLB	**Holberg**	**1.66**	**125**	⇑Pn	Pn	11 38 36.6	-5.7
HOLB				⇓Sn	**Sn**	**11 38 59.8**	**-4.0**
HOLB	**Holberg**	**1.66**	**125**	⇑Pn	Pn	11 38 36.6	-5.7
HOLB				Sn	**Sn**	**11 38 59.8**	**-4.0**
MOBC	**Moresby Island**	**1.85**	**327**	Pn	Pn	11 38 39.7	-5.3
MOBC				⇑Sn	**Sn**	**11 39 04.9**	**-3.7**
MOBC	**Moresby Island**	**1.85**	**327**	Pn	Pn	11 38 39.7	-5.3
MOBC				Sn	**Sn**	**11 39 04.9**	**-3.7**
PHC	**Port Hardy**	**2.00**	**116**	Pn	Pn	11 38 41.6	-5.4
PHC	**Port Hardy**	**2.00**	**116**	Pn	Pn	11 38 41.6	-5.4
DIB	**Dawson Inlet,**	**2.09**	**321**	⇓Pn	Pn	11 38 42.2	-6.0
DIB	**Dawson Inlet,**	**2.09**	**321**	⇓Pn	Pn	11 38 42.2	-6.0
BPBC	**Brooks Peninsu**	**2.15**	**132**	⇓Pn	Pn	11 38 42.5	-6.6
BPBC	**Brooks Peninsu**	**2.15**	**132**	⇓Pn	Pn	11 38 42.5	-6.6
VIB	**Van Inlet**	**2.15**	**321**	⇓Pn	Pn	11 38 43.0	-6.2
VIB	**Van Inlet**	**2.15**	**321**	⇓Pn	Pn	11 38 43.0	-6.2
MAYB	**Maynard**	**2.30**	**120**	⇑Pn	Pn	11 38 46.2	-5.0
MAYB	**Maynard**	**2.30**	**120**	⇑Pn	Pn	11 38 46.2	-5.0
BCBC	**Bella Coola**	**2.31**	**69**	⇓Pn	**Pn**	**11 38 51.0**	**-0.2**
TLCB	**Telegraph Cove**	**2.42**	**115**	⇓Pn	Pn	11 38 48.7	-3.9
FHRB	**Fair Harbour**	**2.54**	**127**	⇑Pn	Pn	11 38 50.3	-4.0
EDB	**Eliza Dome**	**2.65**	**130**	⇑Pn	Pn	11 38 50.9	-5.0
EDB	**Eliza Dome**	**2.65**	**130**	⇑Pn	Pn	11 38 50.9	-5.0
RUBB	**Prince Rupert**	**2.72**	**0**	⇑Pn	**Pn**	**11 38 54.7**	**-2.1**
RUBB	**Prince Rupert**	**2.72**	**0**	⇑Pn	**Pn**	**11 38 54.7**	**-2.1**
WOSB	**Woss**	**2.76**	**120**	⇑Pn	Pn	11 38 53.1	-4.4
WOSB	**Woss**	**2.76**	**120**	⇑Pn	Pn	11 38 53.1	-4.4
NDB	**Naden**	**2.85**	**326**	⇑Pn	Pn	11 38 53.3	-5.4
NDB	**Naden**	**2.85**	**326**	Pn	Pn	11 38 53.3	-5.4
GDR	**Gold River**	**3.26**	**123**	⇑Pn	Pn	11 39 00.1	-4.1
GDR	**Gold River**	**3.26**	**123**	⇑Pn	Pn	11 39 00.1	-4.1
BTB	**Buttle Lake**	**3.71**	**123**	⇓Pn	Pn	11 39 06.2	-4.4
BTB	**Buttle Lake**	**3.71**	**123**	⇓Pn	Pn	11 39 06.2	-4.4
CRAG	**Craig**	**4.22**	**337**	*e*Pn	Pn	11 39 13.4	-4.1
WRAK	**Wrangell Islan**	**4.97**	**347**	*e*Pn	**Pn**	**11 39 26.3**	**-1.5**
DLBC	**Dease Lake**	**6.84**	**1**	Pn	**Pn**	**11 39 54.3**	**+0.7**
	0.7nm,0.3s,baz=218,slow=12,SNR=22						
DLBC				Sn	**Sn**	**11 41 15.6**	**+4.1**
	0.3nm,0.3s,baz=176,slow=19,SNR=2.8						
DLBC				Lg	Lg	11 41 45.8	
	3.6nm,0.3s,baz=270,slow=20,SNR=3.5						
DLBC				LR	LR	11 42 52.9	
	comp=Z,412nm,21.0s,baz=228,slow=40						
DLBC	**Dease Lake**	**6.84**	**1**	*e*Pn	**Pn**	**11 39 54.2**	**+0.6**
LON	**Longmire**	**7.37**	**128**	*e*Pn	**Pn**	**11 39 58.4**	**-2.5**
LTY	**Liberty**	**7.62**	**121**	*e*Pn	**Pn**	**11 40 05.3**	**+1.0**
NEW	**Newport**	**9.12**	**106**	Pn	**Pn**	**11 40 24.5**	**-0.2**
	0.2nm,0.3s,baz=348,slow=4.7,SNR=4.5						
NEW				Lg	Lg	11 42 52.8	
	0.2nm,0.3s,baz=13,slow=18,SNR=4.8						
NEW				LR	LR	11 44 13.6	
	comp=Z,432nm,19.2s,baz=289,slow=40						
E09A	**Wood Farm, Sta**	**9.45**	**118**	*e*Pn	**Pn**	**11 40 28.8**	**-0.4**
F10A	**Beach Ranch, E**	**10.29**	**118**	*e*Pn	**Pn**	**11 40 40.5**	**-0.3**
YBH	**Yreka Blue Hor**	**11.16**	**149**	Pn	Pn	11 40 47.7	-5.0
	0.0nm,0.3s,baz=350,slow=17,SNR=2.6						
YBH				LR	LR	11 44 28.3	
	comp=Z,396nm,20.9s,baz=335,slow=35						
CHMT	**Chamberlain Mo**	**12.06**	**106**	*e*Pn	**Pn**	**11 41 04.8**	**-0.4**
MFID	**Camas Ranch**	**12.73**	**124**	*e*Pn	**Pn**	**11 41 13.0**	**-1.3**
LRM	**Limekiln Ridge**	**13.10**	**109**	*e*Pn	**Pn**	**11 41 18.6**	**-0.8**
MCMT	**McKenzie Canyo**	**13.44**	**114**	*e*Pn	**Pn**	**11 41 22.7**	**-1.2**
	3.9nm,0.9s						
EGMT	**Eagleton**	**13.72**	**97**	⇓P	**Pn**	**11 41 27.1**	**-0.5**
	baz=14,SNR=5.2						
EGMT	**Eagleton**	**13.72**	**97**	Pn	**Pn**	**11 41 27.9**	**+0.3**
YKA	**Yellowknife Ar**	**13.79**	**32**	Pn	**Pn**	**11 41 26.0**	**-2.5**
	0.3nm,0.3s,baz=222,slow=12,SNR=24						
YKA				Lg	Lg	11 45 27.0	
	0.1nm,0.3s,baz=222,slow=29,SNR=3.3						
A19A	**Klindworth Far**	**14.02**	**93**	⇓P	**Pn**	**11 41 31.3**	**-0.5**
	baz=14,SNR=11						
B19A	**Brinkman Farms**	**14.06**	**95**	⇑P	**Pn**	**11 41 32.6**	**+0.4**
	baz=14						
C19A	**Slack Wire Ran**	**14.27**	**97**	⇓P	**Pn**	**11 41 34.2**	**-0.9**
	baz=14						
A20A	**Cobblestone Ra**	**14.55**	**92**	⇓P	**Pn**	**11 41 38.1**	**-0.8**
	baz=15						
D19A	**Cripps Ranch,**	**14.61**	**99**	⇓P	**Pn**	**11 41 40.1**	**+0.3**
	baz=15,SNR=7.2						
YMR	**Madison River**	**14.62**	**111**	*e*Pn	**Pn**	**11 41 41.2**	**+1.1**
GCMT	**Greycliff**	**14.78**	**105**	*e*Pn	**Pn**	**11 41 40.2**	**-2.0**
	13nm,0.9s						
C20A	**Veseth Ranch,**	**14.92**	**96**	⇑P	**Pn**	**11 41 43.8**	**-0.3**
	baz=15						
E19A	**Rath Farm, Rou**	**14.98**	**102**	⇓P	**Pn**	**11 41 44.6**	**-0.3**
	baz=15						
H17A	**Grant Village**	**15.00**	**111**	⇑P	**Pn**	**11 41 45.6**	**+0.3**
	baz=15						
H17A	**Grant Village**	**15.00**	**111**	*e*Pn	**Pn**	**11 41 44.8**	**-0.6**
LKWY	**Lake**	**15.01**	**110**	*e*Pn	**Pn**	**11 41 46.7**	**+1.3**
	16nm,0.9s						
ELK	**Elko**	**15.02**	**130**	Pn	**Pn**	**11 41 43.9**	**-1.7**
	baz=3.1,slow=10,SNR=3.0						
ELK				LR	LR	11 47 38.8	
	comp=Z,402nm,18.8s,baz=0.5,slow=38						
ELK	**Elko**	**15.02**	**130**	*e*Pn	**Pn**	**11 41 45.4**	**-0.1**
D20A	**Manuel Ranch,**	**15.10**	**99**	⇑P	**Pn**	**11 41 46.6**	**+0.2**
	baz=15						
FLWY	**Flagg Ranch**	**15.12**	**112**	*e*Pn	**Pn**	**11 41 48.9**	**+2.1**
A21A	**Bergtoll Ranch**	**15.13**	**91**	⇓P	**Pn**	**11 41 46.6**	**-0.3**
	baz=15						
F19A	**Roth Farm, Mol**	**15.18**	**104**	⇑P	**Pn**	**11 41 48.2**	**+0.7**
	baz=15						
FXWY	**Fox Creek**	**15.20**	**114**	*e*Pn	**Pn**	**11 41 49.2**	**+1.3**
I17A	**Pilgrim Ck.**	**15.28**	**112**	⇓P	**Pn**	**11 41 49.0**	**0.0**
	baz=15						
TPAW	**Teton Pass**	**15.33**	**114**	*e*Pn	**Pn**	**11 41 50.6**	**+0.9**
E20A	**Meyer Farm, Mu**	**15.37**	**101**	⇑P	**Pn**	**11 41 51.4**	**+1.4**
	baz=16						
RLMT	**Red Lodge**	**15.37**	**107**	*e*Pn	**Pn**	**11 41 52.2**	**+2.0**
	12nm,1.0s						
H18A	**Shoshone NF, C**	**15.38**	**109**	⇓P	**Pn**	**11 41 50.9**	**+0.6**
	baz=16						
C21A	**Desert Coulee**	**15.44**	**95**	⇓P	**Pn**	**11 41 51.8**	**+0.9**
	baz=16						
LOHW	**Long Hollow**	**15.46**	**113**	*e*Pn	**Pn**	**11 41 53.4**	**+2.0**
HVU	**Hansel Valley**	**15.48**	**123**	*e*Pn	**Pn**	**11 41 51.2**	**-0.4**
F20A	**Billings**	**15.69**	**103**	⇑P	**Pn**	**11 41 55.0**	**+0.7**
	baz=16						
AHID	**Auburn Hatcher**	**15.71**	**117**	*e*Pn	**Pn**	**11 41 53.5**	**-1.2**
	13nm,1.1s						
ILAR	**Eielson Array**	**15.76**	**333**	Pn	**Pn**	**11 41 55.5**	**+0.6**
	0.0nm,0.3s,baz=148,slow=11,SNR=9.0						
ILAR				LR	LR	11 47 42.6	
	comp=Z,373nm,20.4s,baz=148,slow=36						
A22A	**Carney Farms,**	**15.76**	**90**	⇑P	**Pn**	**11 41 56.4**	**+1.3**
	baz=16						
H19A	**Powell**	**15.78**	**108**	⇓P	**Pn**	**11 41 57.1**	**+1.6**
	baz=16						
G20A	**Bridger**	**15.95**	**105**	⇓P	**Pn**	**11 41 58.6**	**+1.0**
	baz=16						
B22A	**Reddig Ranch S**	**15.95**	**92**	⇑P	**Pn**	**11 41 58.7**	**+1.2**
	baz=16						
E21A	**Keefer Ranch,**	**15.99**	**99**	⇑P	**Pn**	**11 41 59.0**	**+0.9**
	baz=16						
I19A	**Meeteetse**	**16.14**	**110**	⇓P	**Pn**	**11 42 00.9**	**+0.8**
	baz=16,SNR=12						
HWUT	**Hardware Ranch**	**16.24**	**121**	*e*Pn	**Pn**	**11 41 58.7**	**-2.8**
	11nm,1.0s						
D22A	**Cohagen**	**16.28**	**96**	⇓P	**Pn**	**11 42 03.0**	**+1.2**
	baz=16,SNR=14						
F21A	**Absaloka Mine,**	**16.30**	**102**	⇓P	**Pn**	**11 42 03.0**	**+0.8**
	baz=16						
A23A	**Redstone**	**16.42**	**89**	⇓P	**Pn**	**11 42 04.6**	**+1.1**
	baz=17						
H20A	**Greybull**	**16.47**	**107**	⇓P	**Pn**	**11 42 04.8**	**+0.5**
	baz=17						
B23A	**Brockton**	**16.52**	**91**	⇑P	**Pn**	**11 42 05.2**	**+0.4**
	baz=17,SNR=11						
G21A	**Lodge Grass**	**16.55**	**104**	⇑P	**Pn**	**11 42 05.4**	**+0.1**
	baz=17						
J19A	**Crowheart**	**16.56**	**112**	⇓P	**Pn**	**11 42 06.3**	**+0.8**
	baz=17						
BW06	**Boulder Array**	**16.58**	**114**	*e*Pn	**Pn**	**11 42 05.0**	**-0.8**
	14nm,1.0s						
PDAR	**Pinedale Array**	**16.58**	**114**	Pn	Pn	11 42 01.0	-4.8
	0.1nm,0.3s,baz=312,slow=8.3,SNR=3.5						
PDAR				LR	LR	11 48 35.4	
	comp=Z,207nm,19.0s,baz=320,slow=38						
DUG	**Dugway, Tooele**	**16.62**	**127**	⇓P	**P**	**11 42 08.4**	**-0.3**
	baz=17,SNR=8.7						
DUG	**Dugway, Tooele**	**16.62**	**127**	*e*Pn	**Pn**	**11 42 05.8**	**-0.5**
C23A	**Lambert**	**16.64**	**93**	⇑P	**Pn**	**11 42 07.0**	**+0.7**
	baz=17						
I20A	**Worland**	**16.70**	**109**	⇑P	**P**	**11 42 08.7**	**-0.8**
	baz=17						
R11A	**Troy Canyon, C**	**16.80**	**136**	⇓P	**P**	**11 42 10.9**	**+0.1**
	baz=17						
F22A	**Rosebud**	**16.86**	**101**	⇓P	**P**	**11 42 10.6**	**-0.6**
	baz=17						
D23A	**Lindsay**	**16.88**	**95**	⇓P	**P**	**11 42 10.6**	**-0.9**
	baz=17						
A24A	**Westby**	**16.98**	**89**	⇑P	**P**	**11 42 11.4**	**-1.1**
	baz=17						
J20A	**Shoshoni**	**17.07**	**110**	⇓P	**P**	**11 42 13.5**	**-0.2**
	baz=17,SNR=8.1						
E23A	**Ismay**	**17.11**	**98**	⇓P	**P**	**11 42 13.8**	**-0.2**
	baz=17						
G22A	**Birney**	**17.11**	**103**	⇑P	**P**	**11 42 14.0**	**0.0**
	baz=17						
FFC	**Flin Flon**	**17.20**	**68**	*e*Pn	**Pn**	**11 42 12.9**	**-0.3**
	20nm,1.2s						
C24A	**Savage**	**17.22**	**94**	⇓P	**P**	**11 42 15.0**	**-0.1**
	baz=18						
GRAC	**Grapevine Rang**	**17.24**	**143**	⇑P	**P**	**11 42 16.8**	**+1.3**
	baz=17						
I21A	**Big Trails, Te**	**17.27**	**108**	⇑P	**P**	**11 42 16.1**	**+0.2**
	baz=17						
H22A	**Clearmont**	**17.40**	**104**	⇑P	**P**	**11 42 17.6**	**+0.3**
	baz=18						
F23A	**Volborg**	**17.41**	**100**	⇑P	**P**	**11 42 17.4**	**+0.1**
	baz=18						
D24A	**Glendive**	**17.45**	**95**	⇑P	**P**	**11 42 18.1**	**+0.4**
	baz=18						
J21A	**Lysite**	**17.45**	**109**	⇓P	**P**	**11 42 18.4**	**+0.4**
	baz=18,SNR=5.9						
A25A	**Svangstu Ranch**	**17.53**	**88**	⇑P	**P**	**11 42 18.7**	**+0.1**
	baz=18						
G23A	**Biddle**	**17.67**	**101**	⇓P	**P**	**11 42 20.8**	**+0.6**
	baz=18						
E24A	**Baker**	**17.70**	**96**	⇑P	**P**	**11 42 21.5**	**+1.0**
	baz=18						
I22A	**9 Mile Ranch,**	**17.71**	**106**	⇓P	**P**	**11 42 22.1**	**+1.5**
	baz=18,SNR=7.4						
TPNV	**Topopah Spring**	**17.72**	**140**	⇓P	**P**	**11 42 22.6**	**+1.7**
	baz=18						
B25A	**Knox Farm, Ray**	**17.73**	**90**	⇑P	**P**	**11 42 22.0**	**+1.2**
	baz=18						
C25A	**Freed Ranch, W**	**17.88**	**92**	⇓P	**P**	**11 42 23.1**	**+0.7**
	baz=18						
SMMC	**Simmler**	**17.89**	**152**	⇑P	**P**	**11 42 24.9**	**+2.2**
	baz=18						
FURC	**Furnace Creek,**	**17.90**	**143**	⇓P	**P**	**11 42 24.9**	**+2.3**
	baz=18						
F24A	**Ekalaka**	**17.94**	**99**	⇑P	**P**	**11 42 24.2**	**+1.1**
	baz=18,SNR=12						
J22A	**Midwest**	**17.98**	**108**	⇓P	**P**	**11 42 24.7**	**+0.9**
	baz=18,SNR=7.2						
H23A	**Clabaugh Cattl**	**17.99**	**103**	⇓P	**P**	**11 42 24.3**	**+0.5**
	baz=18						
K21A	**Alcova**	**17.99**	**111**	⇑P	**P**	**11 42 24.6**	**+0.6**
	baz=18,SNR=6.7						
MPMC	**Manual Prospec**	**18.03**	**145**	⇓P	**P**	**11 42 25.7**	**+1.4**
	baz=18						
ISA	**Isabella, Lake**	**18.05**	**147**	⇓P	**P**	**11 42 26.4**	**+2.0**
	baz=18						
D25A	**Fairfield**	**18.06**	**94**	⇓P	**P**	**11 42 24.8**	**+0.4**
	baz=18						
G24A	**Alzada**	**18.20**	**100**	⇑P	**P**	**11 42 26.6**	**+0.4**
	baz=18						
A26A	**Wade Farm, Ken**	**18.21**	**87**	⇑P	**P**	**11 42 26.5**	**+0.5**
	baz=18						
B26A	**Jensen Ranch,**	**18.27**	**89**	⇓P	**P**	**11 42 27.3**	**+0.5**
	baz=19						
E25A	**Miller Ranch,**	**18.29**	**96**	⇑P	**P**	**11 42 27.9**	**+1.0**
	baz=18						
PKM	**Mcpherson Peak**	**18.33**	**152**	⇓P	**P**	**11 42 29.4**	**+1.8**
	baz=18						
K22A	**Casper**	**18.41**	**110**	⇑P	**Pn**	**11 42 29.0**	**+0.5**
	baz=19,SNR=9.4						
K22A	**Casper**	**18.41**	**110**	*e*P	**P**	**11 42 26.0**	**-2.5**
	22nm,1.0s						
H24A	**Dirks Ranch, A**	**18.41**	**102**	⇑P	**Pn**	**11 42 29.2**	**+0.7**
	baz=19						
ARVC	**Arvin**	**18.42**	**149**	⇓P	**Pn**	**11 42 30.3**	**+1.9**
	baz=18						
F25A	**Bowman**	**18.51**	**97**	⇑P	**Pn**	**11 42 30.1**	**+0.5**
	baz=19						
J23A	**Dilts Ranch, B**	**18.54**	**107**	⇑P	**Pn**	**11 42 30.6**	**+0.5**
	baz=19						
C26A	**Wahner Farm, P**	**18.55**	**91**	⇓P	**Pn**	**11 42 30.6**	**+0.5**
	baz=19						
N20A	**Spence Gulch,**	**18.58**	**117**	⇓P	**Pn**	**11 42 31.1**	**+0.5**
	baz=19,SNR=9.9						
SRU	**San Rafael Swe**	**18.60**	**125**	*e*Pn	**P**	**11 42 29.6**	**-1.1**
	9.2nm,1.0s						
SHOC	**Shoshone, Teco**	**18.62**	**142**	⇓P	**Pn**	**11 42 32.3**	**+1.4**
	baz=19						
D26A	**Manning**	**18.66**	**93**	⇑P	**Pn**	**11 42 31.4**	**0.0**
	baz=19						
SBC	**Santa Barbara**	**18.78**	**152**	⇓P	**Pn**	**11 42 34.7**	**+1.8**
	baz=19						
I24A	**Kuemmerle Ranc**	**18.84**	**104**	⇓P	**Pn**	**11 42 34.0**	**+0.3**
	baz=19						
L22A	**Ellis Ranch, M**	**18.84**	**111**	⇓P	**Pn**	**11 42 33.9**	**+0.1**
	baz=19						
B27A	**Peters Farms,**	**18.86**	**88**	⇑P	**Pn**	**11 42 33.8**	**0.0**
	baz=19						
E26A	**Carlson Angus**	**18.88**	**95**	⇓P	**Pn**	**11 42 34.1**	**0.0**
	baz=19						
G25A	**Newell**	**18.89**	**99**	⇑P	**Pn**	**11 42 34.5**	**+0.4**
	baz=19,SNR=5.2						
OSI	**Osito Audit: C**	**18.92**	**149**	⇓P	**Pn**	**11 42 36.4**	**+1.7**
	baz=19						
GSC	**Goldstone, Bar**	**18.96**	**144**	⇑P	**Pn**	**11 42 36.4**	**+1.3**
	baz=19						
C27A	**Sayler Ranch,**	**18.97**	**91**	⇓P	**Pn**	**11 42 35.1**	**0.0**
	baz=19						
F26A	**Lodgepole**	**19.03**	**97**	⇓P	**Pn**	**11 42 36.0**	**+0.1**
	baz=19						
RSSD	**Black Hills**	**19.06**	**103**	*e*P	**P**	**11 42 32.5**

PV01	Paradox Valley	20.34 123	eP	P	11 42 50.5 +0.7
K26A	Motz Farm, Whi	20.37 105	⇓P	Pn	11 42 51.4 -0.5
	baz=21				
BELC	Belle Mtn. Jos	20.41 144	⇓P	Pn	11 42 52.6 +0.1
	baz=20				
D29A	Pettibone, Tap	20.42 91	⇓P	Pn	11 42 51.4 -0.9
	baz=21				
SMCO	Snowmass	20.44 118	ePn	P	11 42 50.7 -0.2
	6.8nm,0.9s				
G28A	Parade	20.49 97	⇑P	Pn	11 42 52.5 -0.7
	baz=21				
N24A	Carr	20.51 112	⇑P	Pn	11 42 52.9 -0.8
	baz=21				
A30A	Hoffart Farm,	20.52 85	⇓P	Pn	11 42 52.5 -1.0
	baz=21				
IRM	Iron Mountain	20.59 142	⇓P	Pn	11 42 53.9 -0.6
	baz=20				
E29A	Napoleon	20.59 92	⇑P	P	11 42 53.1 +0.9
	baz=21				
PFO	Pinyon Flats O	20.60 145	LR	LR	11 50 43.8
	comp=Z,134nm,20.9s,baz=336,slow=37				
PFO	Pinyon Flats O	20.60 145	⇑P	Pn	11 42 54.2 -0.5
	baz=20				
M25A	Palm-Egli Farm	20.61 109	⇑P	Pn	11 42 53.7 -1.1
	baz=21				
B30A	Myrvik Farm, E	20.67 86	⇑P	P	11 42 53.5 +0.5
	baz=21,SNR=6.4				
J27A	Elkhorn Farm,	20.77 103	⇑P	P	11 42 55.2 +1.1
	baz=21				
ISCO	Idaho Springs	20.77 115	⇓P	P	11 42 55.4 +0.9
	baz=21,SNR=5.7				
ISCO	Idaho Springs	20.77 115	ePn	Pn	11 42 58.2 +1.3
	4.7nm,0.9s				
F29A	Eureka	20.80 94	⇑P	P	11 42 55.2 +0.8
	baz=21				
L26A	Underwood Farm	20.82 107	⇓P	P	11 42 55.4 +0.7
	baz=21				
C30A	Mose, Pekin	20.86 88	⇑P	P	11 42 55.5 +0.5
	baz=21				
O24A	Longmont	20.86 114	⇑P	Pn	11 42 56.9 -0.8
	baz=21				
PDMCI	Parker Dam,Lak	20.86 140	⇓P	Pn	11 42 57.5 -0.1
	baz=21				
I28A	Midland	20.87 100	⇓P	Pn	11 42 56.7 -1.0
	baz=21				
D30A	Buchanan	20.92 90	⇓P	Pn	11 42 57.0 -1.3
	baz=21				
BC3	Big Chuckawall	20.92 143	⇓P	Pn	11 42 57.9 -0.5
	baz=21				
K27A	Flueckinger Fa	20.93 104	⇓P	P	11 42 57.1 +1.2
	baz=21				
P23A	Jefferson	20.93 116	⇓P	P	11 42 57.1 +0.9
	baz=21				
N25A	Grover	20.98 111	⇑P	P	11 42 57.4 +0.9
	baz=21				
WUAZ	Wupatki	21.03 133	⇓P	P	11 42 58.7 +1.6
	baz=21				
WUAZ	Wupatki	21.03 133	eP	P	11 42 54.8 -2.3
	52nm,2.2s				
109C	Camp Elliot, M	21.04 148	⇓P	P	11 42 59.4 +2.4
	baz=21				
G29A	Hoven	21.05 96	⇓P	P	11 42 57.7 +0.7
	baz=21				
E30A	Jud	21.08 92	⇑P	P	11 42 58.0 +0.6
	baz=21				
MVCO	Mesa Verde	21.08 125	⇑P	P	11 42 58.6 +0.9
	baz=21				
MVCO	Mesa Verde	21.08 125	eP	P	11 42 55.6 -2.2
	139nm,3.0s				
M26A	McRoberts Ranc	21.12 108	⇓P	P	11 42 59.1 +1.0
	baz=21				
J28A	Allard Ranch,	21.14 101	⇓P	P	11 42 58.8 +0.7
	baz=21				
H29A	Onida	21.14 97	⇓P	P	11 42 58.7 +0.6
	baz=21				
L27A	T5 Ranch, Ells	21.25 106	⇓P	P	11 43 00.4 +1.0
	baz=21				
Q23A	Hartsel	21.26 117	⇓P	P	11 43 00.9 +1.1
	baz=21				
MONP	Monument Peak,	21.27 146	⇑P	P	11 43 01.5 +1.8
	baz=21				
F30A	Leola	21.30 93	⇓P	P	11 43 00.7 +0.9
	baz=22				
P24A	Kohler Place,	21.36 115	⇓P	P	11 43 02.3 +1.6
	baz=22				
I29A	Vivian Onida	21.40 99	⇑P	P	11 43 02.1 +1.2
	baz=22				
O25A	Wiggins	21.41 112	⇑P	P	11 43 02.5 +1.3
	baz=22				
SWSC	Sam W. Stewart	21.44 145	⇑P	P	11 43 03.2 +1.9
	baz=21				
K28A	Ten Mile Ranch	21.46 103	⇓P	P	11 43 02.5 +0.9
	baz=22				
N26A	Koester Ranch,	21.48 110	⇑P	P	11 43 03.2 +1.4
	baz=22				
M27A	Reverse DX Ran	21.54 107	⇓P	P	11 43 03.4 +1.0
	baz=22				
S22A	4UR Ranch, Cre	21.55 121	⇓P	P	11 43 03.9 +1.0
	baz=22				
S22A	4UR Ranch, Cre	21.55 121	eP	P	11 43 01.9 -1.0
	8.3nm,1.1s				
G30A	Faulkton	21.56 95	⇑P	P	11 43 03.3 +0.7
	baz=22				
Q24A	Divide	21.60 116	⇑P	P	11 43 04.5 +1.1
	baz=22				
ULM	Lac du Bonnet	21.61 80	P	P	11 43 00.2 -2.8
	3.7nm,0.8s,baz=282,slow=12,SNR=4.7				
ULM			LR	LR	11 51 53.6
	comp=Z,174nm,21.2s,baz=301,slow=38				
ULM	Lac du Bonnet	21.61 80	eP	P	11 43 03.0 -0.1
FCC	Fort Churchill	21.64 57	eP	P	11 43 02.1 -1.2
	0.7nm,1.1s				
Y14A	Wickenburg	21.64 138	⇑P	P	11 43 05.6 +2.0
	baz=22				
GLA	Glamis	21.70 143	⇑P	P	11 43 06.3 +2.2
	baz=22				
J29A	Okreek	21.71 100	⇑P	P	11 43 05.3 +1.1
	baz=22				
L28A	Connealy Angus	21.77 105	⇑P	P	11 43 06.0 +1.0
	baz=22				
R23A	Moffat	21.77 118	⇑P	P	11 43 06.7 +1.4
	baz=22				
P25A	Willow Gulch B	21.79 113	⇓P	P	11 43 06.7 +1.5
	baz=22				
N27A	Anderson Farm,	21.89 109	⇑P	P	11 43 07.4 +1.1
	baz=22				
X16A	Lo Mia Camp, P	21.91 134	⇑P	P	11 43 08.8 +2.2
	baz=22				
I30A	Oacoma	21.99 98	⇓P	P	11 43 08.7 +1.4
	baz=22				
BRSD	Miller	22.01 97	⇑P	P	11 43 09.0 +1.6
	baz=22				
S23A	Nye Farm, Mont	22.03 120	⇑P	P	11 43 09.7 +1.8
	baz=22				
K29A	Lazy Trails An	22.07 102	⇑P	P	11 43 09.6 +1.5
	baz=22				
OGNE	Ogallala	22.11 108	⇓P	P	11 43 10.2 +1.7
	baz=22				
W18A	Petrified Fore	22.12 130	⇓P	P	11 43 10.5 +1.7
	baz=22				
R24A	Sanders Place,	22.14 117	⇓P	P	11 43 10.2 +1.1
	baz=22				
Q25A	Bedland, Calha	22.15 115	⇓P	P	11 43 10.6 +1.5
	baz=22				
Z14A	Wintersburg	22.17 139	⇑P	P	11 43 11.5 +2.4
	baz=22				
M28A	Bar X Bar Ranc	22.22 106	⇓P	P	11 43 11.4 +1.6
	baz=22				
P26A	Davis Ranch, A	22.23 112	⇑P	P	11 43 11.6 +1.6
	baz=22				
AGMN	Agassiz Nation	22.26 85	⇑P	P	11 43 11.1 +1.0
	baz=23				
AGMN	Agassiz Nation	22.26 85	eP	P	11 43 09.6 -0.5
	11nm,1.0s				
J30A	Dallas	22.26 100	⇓P	P	11 43 11.0 +0.9
	baz=22				
SDCO	Great Sand Dun	22.27 119	⇑P	P	11 43 11.8 +1.2
	baz=22				
SDCO	Great Sand Dun	22.27 119	eP	P	11 43 11.2 +0.6
	11nm,1.2s				
O27A	Beecher Island	22.32 110	⇑P	P	11 43 12.1 +1.2
	baz=22				
113A	Mohawk Valley,	22.36 141	⇓P	P	11 43 13.2 +2.1
	baz=22				
L29A	Maesberg Ranch	22.37 104	⇓P	P	11 43 12.1 +0.8
	baz=23				
X18A	Snowflake	22.50 131	⇑P	P	11 43 14.4 +1.5
	baz=22				
T23A	Casias Ranch,	22.50 121	⇑P	P	11 43 14.2 +1.1
	baz=23				
S24A	Houchin Ranch,	22.51 119	⇑P	P	11 43 14.2 +1.0
	baz=23				
K30A	Basset	22.55 101	⇓P	P	11 43 13.5 +0.3
	baz=23				
Q26A	Hugo	22.55 114	⇑P	P	11 43 14.6 +1.1
	baz=23				
N28A	Pribbeno Ranch	22.56 108	⇑P	P	11 43 14.2 +0.8
	baz=23				
U22A	Llaves	22.57 123	⇓P	P	11 43 14.6 +0.9
	baz=23				
M29A	Burnside Ranch	22.61 105	⇓P	P	11 43 14.7 +0.9
	baz=23				
R25A	Fountain Ranch	22.66 116	⇓P	P	11 43 15.5 +1.0
	baz=23				
P27A	Ficken Ranch,	22.67 111	⇓P	P	11 43 15.6 +0.9
	baz=23				
O28A	Krutsinger Ran	22.77 109	⇑P	P	11 43 16.7 +1.0
	baz=23				
T24B	San Luis	22.84 120	⇓P	P	11 43 18.1 +1.5
	baz=23				
L30A	Spencer Herefo	22.89 103	⇑P	P	11 43 17.5 +0.6
	baz=23				
V22A	San Miguel Ran	22.89 124	⇑P	P	11 43 18.0 +0.9
	baz=23				
U23A	El Rito	22.95 122	⇓P	P	11 43 18.5 +0.8
	baz=23				
KSCO	Kaye Shedlock'	23.01 112	⇓P	P	11 43 18.9 +0.8
	baz=23				
KSCO	Kaye Shedlock'	23.01 112	eP	P	11 43 14.1 -4.0
	13nm,0.9s				
R26A	Arlington	23.02 115	⇓P	P	11 43 19.4 +1.1
	baz=23				
P28A	Saint Francis	23.14 110	⇑P	P	11 43 20.5 +0.9
	baz=23				
L31A	Butterfield Fa	23.30 101	⇓P	P	11 43 21.7 +0.7
	baz=24				
T25A	Trinidad	23.31 118	⇑P	P	11 43 22.5 +1.1
	baz=23				
U24A	Moreno Valley	23.38 121	⇑P	P	11 43 23.0 +0.8
	baz=24				
V23A	Ortiz Mt. (NFS	23.40 123	⇑P	P	11 43 23.1 +0.8
	baz=24				
R27A	Eads	23.40 114	⇓P	P	11 43 22.5 +0.4
	baz=24				
Q28A	Sharon Springs	23.43 111	⇑P	P	11 43 23.1 +0.6
	baz=24				
S26A	Kim	23.49 116	⇓P	P	11 43 23.3 +0.3
	baz=24				
P29A	Atwood	23.61 109	⇓P	P	11 43 24.6 +0.5
	baz=24				
TNA	Tin City	23.61 321	eP	P	11 43 17.1 -6.7
	36nm,2.2s				
M31A	Lambtecht Ranc	23.70 103	⇑P	P	11 43 26.0 +1.0
	baz=24				
O30A	MW Ranch, Wils	23.76 107	⇑P	P	11 43 26.6 +1.0
	baz=24				
ECSD	EROS Data Cent	23.83 96	⇓P	P	11 43 26.7 +0.6
	baz=24				
ECSD	EROS Data Cent	23.83 96	eP	P	11 43 26.3 +0.1
	10nm,1.1s				
U25A	Circle Dot Ran	23.85 120	⇑P	P	11 43 27.1 +0.4
	baz=24				
ANMO	Albuquerque	23.88 125	P	P	11 43 22.2 -4.7
	0.2nm,0.6s,baz=329,slow=9.9,SNR=2.0				
ANMO			LR	LR	11 53 15.3
	comp=Z,114nm,18.1s,baz=330,slow=38				
V24A	Rampart Ranch,	23.89 122	⇑P	P	11 43 27.7 +0.5
	baz=24				
R28A	Tribune	23.93 112	⇑P	P	11 43 28.2 +0.9
	baz=24				
Q29A	Oakley	24.05 110	⇑P	P	11 43 28.7 +0.3
	baz=24				
P30A	Selden	24.05 108	⇑P	P	11 43 28.4 +0.1
	baz=24				
V25A	Rancho No Teng	24.16 121	⇑P	P	11 43 30.6 +1.0
	baz=24				
O31A	Woolen Ranch,	24.21 106	⇑P	P	11 43 30.3 +0.5
	baz=24				
W24A	Lazy 6 Ranch,	24.21 123	⇓P	P	11 43 31.2 +1.1
	baz=24				
U26A	Atchley Ranch,	24.22 119	⇑P	P	11 43 30.7 +0.6
	baz=24				
T27A	Campo	24.30 116	⇑P	P	11 43 30.7 -0.1
	baz=24				
S28A	Manter	24.40 114	⇑P	P	11 43 31.7 +0.1
	baz=24				
Q30A	Quinter	24.43 109	⇓P	P	11 43 32.1 +0.2
	baz=25				
P31A	Stockton	24.58 107	⇑P	P	11 43 34.1 +0.9
	baz=25				
T28A	Walsh	24.60 115	⇓P	P	11 43 34.1 +0.6
	baz=25				
V26A	Tequesquite Ra	24.64 120	⇓P	P	11 43 34.5 +0.6
	baz=25				
U27A	Thompson Grove	24.71 117	⇓P	P	11 43 35.5 +1.0
	baz=25				
W25A	X Bar L Ranch,	24.71 121	⇓P	P	11 43 36.1 +1.6
	baz=25				
O32A	Brockman Farm,	24.78 105	⇑P	P	11 43 36.1 +1.2
	baz=25				
S29A	Ulysses	24.82 113	⇑P	P	11 43 36.4 +1.0
	baz=25				
R30A	Dighton	24.86 111	⇓P	P	11 43 36.2 +0.5
	baz=25				
Q31A	Ellis	24.90 108	⇓P	P	11 43 36.9 +0.8
	baz=25				
P32A	Huiting Farm,	24.98 106	⇑P	P	11 43 38.1 +1.4
	baz=25				
EYMN	Ely	25.10 83	eP	P	11 43 38.6 +0.8
	27nm,0.9s				
121A	Cookes Peak, D	25.16 131	⇓P	P	11 43 39.3 +0.6
	baz=25				
R31A	Burdett	25.29 110	⇓P	P	11 43 40.1 +0.4
	baz=25				
Q32A	Meitler Ranch,	25.41 107	⇓P	P	11 43 41.3 +0.6
	baz=26				
V28A	Channing	25.53 117	⇓P	P	11 43 43.0 +1.2
	baz=26				
T30A	Plains	25.55 113	⇓P	P	11 43 43.0 +1.0
	baz=26				
U29A	Oasis Ranch, S	25.55 115	⇑P	P	11 43 43.3 +1.2
	baz=26				
R32A	Long Quarter,	25.69 108	⇑P	P	11 43 44.7 +1.5
	baz=26				
S31A	Mullinville	25.77 111	⇓P	P	11 43 45.5 +1.5
	baz=26				
V29A	Stinnett	25.83 116	⇑P	P	11 43 46.2 +1.6
	baz=26				
Q33A	Connelly Farm,	25.84 106	⇓P	P	11 43 46.1 +1.6
	baz=26				
U30A	WK&E Inc. Balk	25.85 114	⇓P	P	11 43 46.3 +1.5
	baz=26				
W28A	Vega	25.90 118	⇓P	P	11 43 46.9 +1.7
	baz=26				
T31A	Randall Ranch,	26.01 112	⇓P	P	11 43 47.6 +1.4
	baz=26				
S32A	Newby Ranch, P	26.04 110	⇓P	P	11 43 48.0 +1.6
	baz=26				
R33A	Olander Ranch,	26.19 108	⇑P	P	11 43 49.0 +1.2
	baz=26				
W29A	Amarillo	26.31 118	⇓P	P	11 43 50.3 +1.3
	baz=26				
V30A	Spur Ranch, Mi	26.38 115	⇓P	P	11 43 50.9 +1.3
	baz=26				
U31A	Nine Bar Ranch	26.42 113	⇓P	P	11 43 51.4 +1.5
	baz=27				
X28A	Dimmitt	26.45 119	⇑P	P	11 43 51.7 +1.4
	baz=26				
AMTX	Amarillo	26.46 118	⇑P	P	11 43 52.4 +2.0
	baz=27				
KSU1	Kansas State U	26.50 105	⇑P	P	11 43 51.8 +1.2
	baz=27				
MSTX	Muleshoe	26.56 121	⇑P	P	11 43 53.9 +2.6
	baz=27				
X29A	Tulia	26.78 119	⇓P	P	11 43 54.9 +1.7
	baz=27				
V31A	Spring Creek L	26.85 114	⇓P	P	11 43 55.5 +1.8
	baz=27				
T33A	Patterson Ranc	26.86 110	⇓P	P	11 43 55.5 +1.7
	baz=27				
W30A	Crocket Farms	26.86 116	⇑P	P	11 43 55.0 +1.2
	baz=27				
S34A	Willow Spring	27.11 108	⇓P	P	11 43 57.2 +1.2
	baz=27				
X30A	Coker Ranch, T	27.23 118	⇑P	P	11 43 59.0 +1.7
	baz=27				
Y29A	Porterfield Fa	27.24 119	⇑P	P	11 43 59.4 +2.1
	baz=27				
RES	Resolute Bay	27.28 20	P	P	11 43 56.2 -0.9
	0.7nm,0.6s,baz=223,slow=14,SNR=5.4				
RES			LR	LR	11 54 13.4
	comp=Z,145nm,19.4s,baz=260,slow=35				
Z28A	Tucker Farm, M	27.29 121	⇑P	P	11 43 59.8 +2.0
	baz=27				
X31A	McDonald Ranch	27.60 116	⇑P	P	11 44 02.2 +1.8
	baz=28				
W32A	Sentinel	27.65 114	⇑P	P	11 44 02.9 +1.9
	baz=28				
Z29A	Hungry Hill Ra	27.67 120	⇓P	P	11 44 03.0 +1.8
	baz=28				
V33A	Lossen Ranch,	27.70 112	⇑P	P	11 44 03.0 +1.6
	baz=28				
WMOK	Wichita Mounta	28.19 114	eP	P	11 44 04.5 -1.3
	4.8nm,0.9s				
TXAR	Lajitas Array	29.79 128	P	P	11 44 14.5 -5.6
	0.3nm,0.9s,baz=338,slow=6.8,SNR=2.4				
TXAR			LR	LR	11 57 12.9
	comp=Z,132nm,19.3s,baz=0.0,slow=39				
SCHQ	Schefferville	36.97 59	LR	LR	12 01 00.7
	comp=Z,315nm,21.4s,baz=340,slow=37				
PETK	Petropavlovsk-	42.29 302	LR	LR	12 01 25.7
	comp=Z,47nm,19.8s,baz=76,slow=33				
BORG	Borgarnes	51.73 31	LR	LR	12 09 46.2
	comp=Z,74nm,18.7s,baz=95,slow=36				
ARCES	ARCESS Array B	57.87 10	LR	LR	12 12 55.8
	comp=Z,42nm,21.9s,baz=40,slow=36				
H11N2	WAKE ISLAND Hy	57.95 261	T	T	12 50 40.3
	baz=40,slow=76,SNR=828				
H11N3	WAKE ISLAND Hy	57.96 261	T	T	12 50 40.4
	baz=40,slow=76,SNR=570				
H11N1	WAKE ISLAND Hy	57.97 261	T	T	12 50 41.6
	baz=40,slow=76,SNR=389				
H11S1	WAKE ISLAND Hy	59.00 261	T	T	12 52 12.7
	baz=49,slow=75,SNR=22				
H11S2	WAKE ISLAND Hy	59.01 261	T	T	12 52 10.3
	baz=49,slow=75,SNR=20				
H11S3	WAKE ISLAND Hy	59.02 261	T	T	12 52 13.6
	baz=49,slow=75,SNR=15				
NOA	NORSAR Array B	63.55 20	LR	LR	12 15 42.2
	comp=Z,35nm,18.6s,baz=325,slow=35				
CN2	Changchun	64.67 309	eP	P	11 48 51.5 +0.6
FINES	FINESS Array B	65.72 12	P	P	11 48 56.2 -1.2
	5.8nm,1.2s,baz=0.0,slow=7.6,SNR=2.4				
FINES			LR	LR	12 17 54.7
	comp=Z,49nm,19.2s,baz=332,slow=36				
TLY	Talaya	67.47 327	LR	LR	12 20 19.0
	comp=Z,55nm,19.9s,baz=1.5,slow=37				
PMOR	Pomariorio Ree	68.09 198	eT	T	13 02 46.9
	12nm,0.3s				
VAH	Vaihoa	68.26 198	eT	T	13 02 59.9
	6.1nm,0.4s				
SONM	Songino Array	69.71 323	LR	LR	12 20 27.3
	comp=Z,60nm,18.4s,baz=24,slow=36				
TIAR	Tiarei	70.86 199	eT	T	13 06 14.5
	3.8nm,0.3s				
PPT	Papeete	70.92 199	LR	LR	12 16 47.6
	comp=Z,27nm,18.3s,baz=128,slow=33				
PPT2	Papeete2	70.94 199	eLR	LR	12 11 00.8
	73nm,25.2s				
PPT2	Papeete2	70.94 199	eT	T	13 06 20.4
	3.8nm,0.3s				
PAE	Paea	71.01 199	eT	T	13 06 24.5
	1.1nm,0.3s				
TVO	Taravao	71.06 199	eT	T	13 06 29.4
	1.4nm,0.4s				
HHC	Hu-ho-hao-te	73.38 316	eP	P	11 49 45.0 -0.2
HHC			pP	pP	11 49 49.8 +1.4
HHC			sP	sP	11 49 52.0 +2.4
HHC			PP	PP	11 52 29.8 +1.8
HHC			S	S	11 59 10.3 -3.7
HHC			sS	sS	11 59 18.0 -1.4
HHC	Hu-ho-hao-te	73.38 316	SS	SS	12 03 53.3 -1.8
HHC			pmax	pmax	
	comp=Z,27nm,0.9s				
HHC			pmax	pmax	
	comp=Z,62nm,6.2s				
HHC			LR	LR	
	comp=N,160nm,16.9s				
HHC			LR	LR	
	comp=E,210nm,14.9s				
HHC			LR	LR	
	comp=Z,140nm,16.2s				
RKT	Rikitea	74.52 184	eT	T	13 10 56.3
	comp=Z,2.4nm,0.3s				
GERES	GERESS Array B	75.30 24	LR	LR	12 22 46.9
	comp=Z,34nm,21.1s,baz=266,slow=35				
TBI	Tubuai	76.52 198	eT	T	13 13 18.8
	comp=Z,4.8nm,0.3s				
AKASG	Malin Array Be	76.59 13	P	P	11 50 02.0 -1.4
	comp=Z,0.8nm,0.5s,baz=343,slow=5.1,SNR=3.1				
ESDC	Sonseca Array	77.75 40	P	P	11 50 07.8 -2.4
	comp=Z,0.2nm,0.3s,baz=330,slow=7.4,SNR=3.0				
MKAR	Makanchi Array	78.06 338	P	P	11 50 10.6 -1.2
	comp=Z,0.3nm,0.7s,baz=19,slow=4.2,SNR=3.0				
MKAR			LR	LR	12 30 04.3
	comp=Z,53nm,19.1s,baz=10.0,slow=40				
WMQ	Urumqi	79.42 333	eP	P	11 50 21.0 +1.7
WMQ			pP	pP	11 50 25.3 +2.7
WMQ			PP	PP	11 53 22.8 +4.1
WMQ			S	S	12 00 20.0 -0.2
WMQ	Urumqi	79.42 333	sS	S	12 00 29.0 +8.8
WMQ	Urumqi	79.42 333	SKS	SKSac	12 00 31.8 -3.8
WMQ	Urumqi	79.42 333	SS	SS	12 05 32.0 +6.0
WMQ			pmax	pmax	
	comp=Z,4.0nm,1.2s				
WMQ			pmax	pmax	
	comp=Z,130nm,4.0s				
WMQ			LR	LR	
	comp=N,54nm,19.0s				
WMQ			LR	LR	
	comp=E,77nm,20.0s				
WMQ			LR	LR	
	comp=Z,34nm,19.0s				
LPAZ	La Paz	86.45 122	LR	LR	12 33 07.5
	comp=Z,31nm,18.0s,baz=344,slow=38				
CMAR	Chiang Mai Arr	98.08 313	LR	LR	12 37 25.7
	comp=Z,26nm,18.1s,baz=157,slow=36				

*IDC **29** 11:45:58.6±6.8, 35°.48S×178°.32E, h181km±40km, mb3.3/3, mb1 3.5/4, mb1mx3.3/14, mbtmp3.8/4, Error ellipse: s-maj=82.7km s-min=21.8km az=48.0*

*WEL **29** 11:46:02.5±0.4, 35°.82S×178°.03E, h209km±5km, ML4.3/12, Error ellipse: s-maj=8.1km s-min=5.9km az=90.0*

ISC 29 11:46:04.7±1.6, 36°.2S±0°.2×178°.1E±0°.1, h240km±10km, n67, σ0°94/71, mb3.4/3, 2C-6D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.34	173	⇓PN	Pn	11 46 39.4	-1.3
MXZ				SN	S	11 47 06.6	-2.7
MXZ				AML	AML	11 47 07.7	
HAZ	Te Kaha	1.54	189	⇓PN	Pn	11 46 41.3	-1.0
HAZ				SN	S	11 47 11.1	-0.9
WMGZ	Waiomatatini S	1.61	171	PN	Pn	11 46 42.1	-0.7
WMGZ				SN	S	11 47 12.2	-0.7
PUZ	Puketiti	1.84	176	PN	Pn	11 46 44.0	-0.9
PUZ				SN	S	11 47 15.7	-0.8
PUZ				AML	AML	11 47 17.1	
TWGZ	Tauwhareparae	1.95	183	PN	Pn	11 46 46.1	+0.2
MWZ	Matawai	2.15	192	PN	Pn	11 46 47.9	+0.1
MWZ				AML	AML	11 47 28.4	
MWZ				AML	AML	11 47 28.4	
MWZ				AML	AML	11 47 29.9	
URZ	Urewera	2.17	201	⇓PN	Pn	11 46 47.8	0.0
URZ				AML	AML	11 47 25.5	
URZ				AML	AML	11 47 25.7	
URZ	Urewera	2.17	201	P	Pn	11 46 47.6	-0.3
	20nm,0.3s,baz=11,slow=5.2,SNR=378						
URZ				S	S	11 47 23.9	+1.9
	24nm,0.3s,baz=76,slow=19,SNR=36						
TKGZ	Te Karaka	2.21	185	⇓PN	Pn	11 46 48.3	+0.1
TKGZ				SN	S	11 47 23.9	+1.2
CNGZ	Carnagh Statio	2.25	178	PN	Pn	11 46 49.0	+0.3
RIGZ	Rimuhau	2.49	186	⇓PN	Pn	11 46 51.2	+0.1
SNGZ	Shannon Statio	2.62	193	PN	Pn	11 46 53.2	+0.8
RAHZ	Arahi	2.80	196	PN	Pn	11 46 55.1	+0.8
KNZ	Kokohu	2.81	187	PN	Pn	11 46 54.3	0.0
WHHZ	Waihua	2.92	193	PN	Pn	11 46 56.6	+1.0
ARHZ	Aropaoanui	3.15	196	PN	Pn	11 46 59.1	+1.0

BKZ	Black Stump Fm	3.20	203	PN		Pn	11 46 59.2	+0.4
BKZ				AML	AML		11 47 47.4	
MCHZ	McNeill Hill	3.40	199	⇑PN		Pn	11 47 02.0	+1.1
HIZ	Hauiti	3.44	228	PN		Pn	11 47 04.1	+2.6
TUVZ	Tukino	3.60	212	PN		Pn	11 47 04.3	+0.9
BHHZ	Black Hill Sta	3.63	206	PN		Pn	11 47 03.9	+0.2
FWVZ	Far West T-bar	3.63	213	⇓PN		Pn	11 47 04.7	+0.9
TRVZ	Turoa	3.67	213	PN		Pn	11 47 05.0	+0.7
KRHZ	Kereru	3.67	201	PN		Pn	11 47 04.2	+0.1
WNVZ	Wahianoa	3.67	212	PN		Pn	11 47 05.0	+0.7
MOVZ	Moawhango	3.68	210	PN		Pn	11 47 04.3	+0.1
KAHZ	Kahuranaki	3.69	195	PN		Pn	11 47 04.9	+0.6
MTVZ	Mangateitei	3.77	213	PN		Pn	11 47 06.6	+1.2
PXZ	Pawanui	3.92	194	PN		Pn	11 47 07.1	+0.1
PXZ				AML	AML		11 48 02.5	
PXZ				AML	AML		11 48 02.5	
PXZ				AML	AML		11 48 03.7	
PXZ				AML	AML		11 48 03.8	
PNHZ	Pukenui	3.97	202	PN		Pn	11 47 07.8	+0.2
WPHZ	Waipukurau	4.05	198	PN		Pn	11 47 08.6	+0.1
PRHZ	Porangahau	4.19	195	⇑PN		Pn	11 47 10.6	+0.4
WAZ	Wanganui	4.29	214	PN		Pn	11 47 12.3	+0.9
DVHZ	Dannevirke	4.34	200	PN		Pn	11 47 11.7	-0.3
ANWZ	Angora Road	4.41	196	PN		Pn	11 47 13.1	+0.2
POWZ	Post Office Ro	4.54	203	PN		Pn	11 47 14.6	+0.2
PRWZ	Pori Road	4.63	200	PN		Pn	11 47 15.6	+0.1
BFZ	Birch Farm	4.68	198	PN		Pn	11 47 15.8	-0.2
MRZ	Mangatainoka R	4.85	203	PN		Pn	11 47 17.5	-0.7
MRZ				AML	AML		11 48 19.9	
MRZ				AML	AML		11 48 20.5	
TIWZ	Tintock	4.86	200	PN		Pn	11 47 18.3	-0.1
TIWZ				AML	AML		11 48 22.4	
TIWZ				AML	AML		11 48 22.6	
HOWZ	Holdsworth Sta	5.08	203	PN		Pn	11 47 20.5	-0.6
TMWZ	Te Maipa	5.17	199	PN		Pn	11 47 21.7	-0.5
KIWZ	Kapiti Island	5.26	207	PN		Pn	11 47 22.6	-0.6
CAWZ	Cannon Point	5.42	205	PN		Pn	11 47 24.3	-0.9
CAW				AML	AML		11 48 33.1	
TRWZ	Traveller	5.49	199	PN		Pn	11 47 25.4	-0.8
PAWZ	Paruwai Farm	5.55	201	PN		Pn	11 47 25.9	-1.0
PAWZ				AML	AML		11 48 36.1	
DUWZ	D'Urville Isla	5.62	214	PN		Pn	11 47 27.1	-0.6
MSWZ	Moikau Station	5.63	202	PN		Pn	11 47 26.7	-1.2
WEL	Wellington	5.68	206	PN		Pn	11 47 28.0	-0.4
BHW	Baring Head	5.75	205	PN		Pn	11 47 28.3	-1.0
PLWZ	Palliser	5.78	202	PN		Pn	11 47 28.8	-0.9
TCW	Tory Channel	5.80	210	PN		Pn	11 47 28.9	-1.1
TCW				AML	AML		11 48 41.4	
TCW				AML	AML		11 48 41.6	
TUWZ	Tuamarina	6.12	211	PN		Pn	11 47 32.8	-1.2
TUWZ				AML	AML		11 48 48.2	
TUWZ				AML	AML		11 48 49.7	
NNZ	Nelson	6.20	215	PN		Pn	11 47 33.7	-1.3
QRZ	Quartz Range	6.33	222	PN		Pn	11 47 35.2	-1.5
BSWZ	Blackbirch Sta	6.39	210	PN		Pn	11 47 36.8	-0.6
THZ	Tophouse	6.85	215	PN		Pn	11 47 42.1	-1.1
KHZ	Kahutara	7.12	208	PN		Pn	11 47 45.6	-0.9
DSZ	Denniston Nort	7.37	220	PN		Pn	11 47 48.7	-1.2
LTZ	Lake Taylor	7.94	213	PN		Pn	11 47 56.0	-1.1
OXZ	Oxford	8.48	211	PN		Pn	11 48 02.2	-1.7
MQZ	McQueen's Vall	8.56	208	PN		Pn	11 48 02.7	-2.1
ODZ	Otahua Downs	10.46	210	PN		Pn	11 48 28.8	-0.3
ASAR	Alice Springs	39.97	276	P		P	11 53 16.5	+0.3
	0.7nm,0.9s,baz=115,slow=7.6,SNR=14							
WRA	Warramunga Arr	41.50	281	P		P	11 53 28.5	-0.2
	0.8nm,0.4s,baz=119,slow=7.7,SNR=31							
QSPA	South Pole Qui	53.89	180	P		P	11 55 08.9	+5.8
	0.8nm,0.6s,baz=143,slow=10,SNR=5.4							
TORD	Torodi Ar. Bea	156.79	189	PKPab		PKPab	12 06 04.4	+2.1
	0.3nm,0.5s,baz=176,slow=3.3,SNR=4.0							

KRSC 29 11:55:18.7±1.8, 50°.58N×156°.94E, h47km±17km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.53	282	*i* P	Pn	11 55 30.4	+0.2
SKR				*i* S	Sn	11 55 39.1	+0.7
MIPR	Malaya Ipel'ka	1.70	356	*e*P	Pn	11 55 48.0	+2.0
MTVR	Mutnovka	2.06	22	*e*P	Pn	11 55 54.0	+3.0
MTVR				*e*S	Sn	11 56 19.5	+3.9
RUS	Russkaya	2.10	27	*e*P	Pn	11 55 53.6	+2.2
RUS				*e*S	Sn	11 56 18.5	+2.2
UGLR	Uglovaya	2.88	23	P	Pn	11 56 05.8	+3.6
AVH	Avacha	2.91	22	*e*P	Pn	11 56 06.8	+4.2
KOK	Koryaka	2.91	20	*e*P	Pn	11 56 06.3	+3.6
SMAR	Somma	2.92	23	*e*P	Pn	11 56 07.0	+4.0
KRER	Koryakskii	2.95	22	*e*P	Pn	11 56 07.3	+4.0
SDLR	Sedlovina	2.96	23	*e*P	Pn	11 56 05.9	+2.6
KRX	Arik	2.98	20	*e*P	Pn	11 56 07.8	+4.2
NLC	Nalytchevo	2.99	29	S	Sn	11 56 39.6	+1.4
GNL	Ganaly	3.18	11	*e*P	Pn	11 56 09.7	+3.3
MKZ	Mys Kozlova	4.94	34	P	Pn	11 56 33.3	+3.0
KBTR	Krutoberegovo	6.64	30	P	Pn	11 56 57.4	+3.8

ISCJB ***29*** *11:57:23.9±0.9, 25°.09S±0°.09×179°.6E±0°.2, h507km, mb3.7/8, Error ellipse: s-maj=19.2km s-min=12.1km az=170.7*
IDC ***29*** *11:57:24.8±2.6, 25°.03S×179°.63E, h504km±30km, mb3.3/8, mb1 3.5/9, mb1mx3.4/17, mbtmp4.2/9, Error ellipse: s-maj=20.7km s-min=15.1km az=35.0*

ISC 29 11:57:24.9±1.0, 25°.2S±0°.1×179°.7E±0°.1, h507km, n10, σ1°15/12, mb3.6/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	13.24	189	P	P	12 00 15.8	-0.6
	2.6nm,0.3s,baz=318,slow=1.3,SNR=17						
URZ				S	S	12 02 36.0	-1.7
	0.6nm,0.3s,baz=70,slow=22,SNR=5.8						
CTA	Charters Tower	31.18	272	P	P	12 03 02.8	+0.6
	7.9nm,0.4s,baz=96,slow=10,SNR=24						
ASAR	Alice Springs	41.53	262	P	P	12 04 27.9	+0.1
	0.6nm,0.3s,baz=92,slow=7.5,SNR=25						
ASAR				S	S	12 10 07.1	+0.4
	0.3nm,0.8s,baz=102,slow=15,SNR=3.1						
WRA	Warramunga Arr	42.02	268	P	P	12 04 31.3	-0.3
	1.2nm,0.3s,baz=99,slow=6.8,SNR=84						
VNDA	Vanda	53.10	185	P	P	12 05 55.6	+1.6
	0.5nm,0.5s,baz=2.1,slow=6.2,SNR=5.7						
QSPA	South Pole Qui	64.93	180	P	P	12 07 15.1	+1.3
	2.3nm,0.6s,baz=279,slow=1.3,SNR=21						
MJAR	Matsushiro Arr	72.75	326	P	P	12 07 59.8	-1.5
	1.7nm,0.8s,baz=155,slow=6.7,SNR=3.7						
KSRS	Korea Array	79.01	320	P	P	12 08 35.6	-0.3
	0.9nm,0.7s,baz=133,slow=5.1,SNR=4.5						
TXAR	Lajitas Array	91.37	58	P	P	12 09 36.6	-0.1
	0.4nm,0.8s,baz=211,slow=6.7,SNR=4.8						
TORD	Torodi Ar. Bea	167.90	190	PKPab	PKPab	12 17 42.8	-1.2
	0.4nm,0.8s,baz=171,slow=3.0,SNR=2.9						

ISCJB ***29*** *12:05:49.3±0.4, 63°.60N±0°.03×144°.70E±0°.07, h10km, mb3.4/8, Error ellipse: s-maj=5.5km s-min=3.1km az=138.9*
IDC ***29*** *12:05:50.0±0.8, 63°.53N×144°.52E, h0km, mb3.5/8, mb1 3.9/11, mb1mx3.7/41, mbtmp3.7/11, ML3.6/3, Error ellipse: s-maj=23.2km s-min=11.6km az=169.0*
YARS ***29*** *12:05:50.0±0.3, 63°.61N±0°.02×144°.43E±0°.02, h10km, MSV3.6*
NERS ***29*** *12:05:50.0, 63°.61N×144°.44E, h7km*

ISC 29 12:05:50.1±0.6, 63°.60N±0°.03×144°.35E±0°.03, h10km, n33, σ2°.43/46, mb3.4/8, 2D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKR	Artyk	0.68	30	*e*Pg	Pg	12 06 01.1	-2.2
	530nm,0.3s						
ATKR				*e*Sg	Sg	12 06 09.7	-2.5
	3μm,0.3s						
ATKR	Artyk	0.68	30	*e*P	Pg	12 06 01.1	-2.2
ATKR				Pm		12 06 01.1	
	comp=Z,530nm,0.3s						
ATKR				*e*S	Sg	12 06 09.7	-2.5
ATKR				Sm		12 06 09.7	
	comp=E,58nm,0.3s,comp=N,3μm,0.3s						
UNR	Ust'-Nera	1.09	334	*e*Pg	Pn	12 06 12.4	+0.9
UNR				*e*Sg	Sn	12 06 26.9	+0.2
UNR	Ust'-Nera	1.09	334	*e*P	Pn	12 06 12.4	+0.9
UNR				*e*S	Sn	12 06 27.1	+0.4
SUUS	Susuman	1.92	114	*e*P	Pb	12 06 24.3	-0.9
SUUS				⇓*i*Pg	Pg	12 06 25.7	-1.2
SUUS				Pgmax		12 06 26.1	
	comp=N,100nm,0.2s						
SUUS				*e*Sg	Sb	12 06 49.3	+0.2
SUUS				Sgmax		12 06 50.8	
	comp=N,4μm,0.3s						
SUUS				Sgmax		12 06 50.8	
	comp=N,3μm,0.3s						
OCHR	Omchak	2.53	138	⇓*i*P	Pb	12 06 33.5	-2.2
OCHR				*e*Pg	Pg	12 06 37.5	-1.1
OCHR				Pgmax		12 06 38.6	
	comp=N,210nm,0.2s						
OCHR				*e*Sg	Sg	12 07 09.9	-1.5
OCHR				Sgmax		12 07 11.9	
	comp=N,750nm,0.2s						
OCHR				Sgmax		12 07 11.9	
	comp=N,350nm,0.2s						
MOMR	Moma	2.92	351	*e*P	Pn	12 06 37.6	+1.0
MOMR				*e*Pg	Pg	12 06 44.2	-1.8
	comp=N,110nm,0.7s						
MOMR				*e*Sg	Sg	12 07 21.8	-2.0
	comp=N,390nm,0.8s						
MOMR	Moma	2.92	351	*e*P		12 06 37.6	
MOMR				*e*P	Pg	12 06 44.2	-1.8
MOMR				Pm		12 06 44.2	
	comp=Z,110nm,0.7s						
MOMR				*e*S	Sg	12 07 21.8	-2.0
MOMR				Sm		12 07 21.8	
	comp=E,395nm,0.8s						
SEY	Seymchan	3.69	97	*e*P	Pn	12 06 48.4	+1.2
SEY				*e*		12 06 56.7	
SEY				Pgmax		12 06 56.8	
	comp=E,10.0nm,0.3s						
SEY				*e*S	Sn	12 07 30.9	+0.2
SEY				*e*Sg	Sg	12 07 44.7	-3.9
SEY				Sgmax		12 07 48.0	
	comp=E,180nm,0.3s						
SEY	Seymchan	3.69	97	Pn	Pn	12 06 46.1	-1.0
	comp=E,2.3nm,0.3s,baz=332,slow=22,SNR=84						
SEY				Lg	Lg	12 07 43.0	
	comp=E,43nm,0.3s,baz=151,slow=9.1,SNR=13						
TLAR	Talaya	4.49	120	*e*P	Pn	12 06 59.2	+1.0
TLAR				*e*Pg	Pg	12 07 14.7	-1.4
TLAR				*e*Sg	Sb	12 08 07.4	+4.2
TLAR				Sgmax		12 08 14.1	
	comp=E,500nm,0.4s						
MGD	Magadan 1	4.67	137	*e*P	Pn	12 07 02.0	+1.3
MGD				Pgmax		12 07 10.5	
	comp=E,60nm,0.3s						
MGD				*e*		12 07 19.0	
MGD				*e*S	Sn	12 07 51.7	-3.2
MGD				*e*Sg	Sb	12 08 12.5	+4.1
MGD				Sgmax		12 08 12.6	
	comp=E,370nm,0.3s						
MGD				Sgmax		12 08 12.6	
	comp=E,560nm,0.3s						
OMS	Omsukchan	5.31	97	*e*Sg	Sg	12 08 36.2	-4.2
DEPR	Deputatskiy	6.08	345	*e*Pg	Pb	12 07 40.1	+4.1
DEPR				*e*Sg	Sg	12 09 01.2	-3.9
	comp=E,70nm,0.8s						
DEPR	Deputatskiy	6.08	345	*e*P	Pb	12 07 40.1	+4.1
DEPR				Pm		12 07 40.1	
	comp=Z,6.0nm,0.6s						
DEPR				*e*S	Sg	12 08 58.6	-6.5
DEPR				Sm		12 08 58.6	
	comp=N,78nm,0.8s						
YAK	Yakutsk	6.90	263	*e*P	Pn	12 07 33.2	+2.1
YAK				*e*S	Sn	12 08 51.1	+1.5
YAK				*e*Sg	Sg	12 09 28.0	-3.4
	comp=N,100nm,0.9s						
YAK	Yakutsk	6.90	263	Pn	Pn	12 07 33.3	+2.1
	comp=N,0.0nm,0.3s,baz=253,slow=1.5,SNR=8.0						
YAK				Lg	Lg	12 09 29.1	
	comp=N,0.0nm,0.3s,baz=207,slow=18,SNR=4.2						
YAK	Yakutsk	6.90	263	*e*P		12 07 33.2	
YAK				*e*S		12 08 51.1	
YAK				*e*S	Sg	12 09 28.0	-3.4
YAK				Sm		12 09 28.0	
	comp=N,108nm,0.9s						
CGD	Chagda	8.22	240	*e*P	Pn	12 07 53.5	+4.3
CGD				*e*Sg	Sg	12 10 10.3	-3.2
	comp=N,70nm,0.5s						
CGD	Chagda	8.22	240	*e*P		12 07 53.5	
CGD				*e*S	Sg	12 10 07.6	-5.9
CGD				Sm		12 10 07.6	
	comp=N,74nm,0.5s						
TIXI	Tiksi	9.96	331	*e*P	Pn	12 08 16.6	+3.5
TIXI				*e*Sg	Sn	12 11 02.9	+58
	comp=N,10.0nm,1.1s						
TIXI	Tiksi	9.96	331	*e*P		12 08 16.6	
TIXI				*e*S	Sn	12 10 59.7	+55
TIXI				Sm		12 10 59.7	
	comp=N,11nm,0.1s						
CLNS	Chul'man	11.77	244	*e*Sg		12 12 00.8	
	comp=N,20nm,0.8s						
CLNS	Chul'man	11.77	244	*e*S		12 11 57.0	
CLNS				Sm		12 11 57.0	
	comp=E,26nm,0.8s						
ASAJ	Asahikawa	19.55	184	P	Pn	12 10 18.8	-0.1
	comp=E,1.2nm,0.3s,baz=14,slow=6.8,SNR=30						
SONM	Songino Array	26.04	251	P	P	12 11 26.5	+3.2
	comp=E,0.5nm,0.7s,baz=36,slow=8.4,SNR=4.7						
MJAR	Matsushiro Arr	27.35	191	P	P	12 11 37.9	+2.8
	comp=E,1.6nm,0.8s,baz=3.3,slow=10,SNR=3.7						
ILAR	Eielson Array	28.65	56	P	P	12 11 46.5	+0.1
	comp=E,0.3nm,0.7s,baz=296,slow=9.9,SNR=7.9						
MKAR	Makanchi Array	37.45	273	P	P	12 13 05.7	+2.4
	comp=E,0.4nm,0.8s,baz=60,slow=7.2,SNR=4.0						
YKA	Yellowknife Ar	41.19	44	P	P	12 13 35.9	+1.7
	comp=E,0.1nm,0.5s,baz=315,slow=7.8,SNR=4.8						
PDAR	Pinedale Array	59.07	56	P		12 15 53.0	+2.6
	comp=E,0.6nm,0.5s,baz=354,slow=1.9,SNR=5.9						
WRA	Warramunga Arr	83.63	189	P	P	12 18 18.6	+0.2
	comp=E,0.7nm,0.9s,baz=5.5,slow=5.7,SNR=4.1						
ASAR	Alice Springs	87.36	190	P	P	12 18 36.5	-0.4
	comp=E,0.2nm,0.8s,baz=7.6,slow=4.1,SNR=3.1						

NIED ***29*** *12:19:00, 36°.80N×141°.60E, h35km, Mw3.7 Best double couple: M0:3.45000×10^14 NP1:φ=190.00000°, δ=18.00000°, λ=66.00000°. NP2:φ=35.00000°, δ=74.00000°, λ=98.00000°.*
JMA ***29*** *12:19:54.0±0.2, 36°.80N×141°.63E, h52km±3km, M3.7*
IDC ***29*** *12:19:57.7±1.3, 37°.49N×140°.97E, h0km, mb3.5/6, mb1 3.5/8, mb1mx3.4/31, mbtmp3.5/8, ML3.3/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/31, Error ellipse: s-maj=31.2km s-min=20.2km az=82.0*

ISC 29 12:19:52.8±3.5, 36°.85N±0°.08×141°.69E±0°.09, h11km±22km, n21, σ0°.85/24, mb3.5/6, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.76	289	⇓P	Pb	12 20 08.1	+0.1
ONAJ				*e*S	Sb	12 20 18.1	-0.2
JFK	Kawauchi	0.83	308	P	Pb	12 20 09.3	+0.1
JHO	Hitachi	0.94	255	P	Pb	12 20 09.9	-1.0
JMM	Marumori	1.24	325	⇓P	Pn	12 20 15.5	-0.5
JFT	Otama	1.27	302	⇓P	Pn	12 20 16.7	+0.3
JFT				*e*S	Sn	12 20 32.9	-0.6
JIO	Ouri	1.62	350	⇓P	Pn	12 20 21.0	-0.2
JIO				*e*S	Sn	12 20 40.6	-1.5
JFY	Yanaizu	1.68	290	P	Pn	12 20 22.4	+0.3
JFY				*e*S	Sn	12 20 43.2	-0.5
JOU	Okura	1.72	332	P	Pn	12 20 23.5	+0.9
JOU				*e*S	Sn	12 20 44.8	+0.3
JAG	Ashikaga	1.85	257	⇑P	Pn	12 20 23.6	-0.8
JYS	Shirataka	1.88	317	P	Pn	12 20 26.3	+1.5
JKT	Katashina	1.96	268	P	Pn	12 20 26.4	+0.4
MJAR	Matsushiro Arr	2.82	265	Pn	Pn	12 20 38.4	+0.6
	5.5nm,0.3s,baz=88,slow=14,SNR=45						
MJAR				Sn	Sn	12 21 10.3	-1.3
	3.8nm,0.3s,baz=41,slow=10.0,SNR=6.7						
MAT	Matsuhiro	2.82	265	P	Pn	12 20 38.6	+0.9
MAT				S	Sn	12 21 12.5	+0.8
ASAJ	Asahikawa	7.29	5	Pn	Pn	12 21 39.6	+0.5
	0.7nm,0.3s,baz=200,slow=17,SNR=8.6						
KSRS	Korea Array	11.01	277	LR	LR	12 26 19.7	
	comp=Z,38nm,19.9s,baz=94,slow=37						
SONM	Songino Array	28.07	304	P	P	12 25 44.3	0.0
	0.4nm,0.5s,baz=96,slow=8.6,SNR=5.2						
ZALV	Zalesovo Beam	42.20	313	P	P	12 27 45.0	-0.3
	0.5nm,0.5s,baz=90,slow=7.2,SNR=3.2						
MKAR	Makanchi Array	44.41	302	P	P	12 28 02.2	-1.1
	0.5nm,0.8s,baz=91,slow=11,SNR=5.1						
WRA	Warramunga Arr	56.91	188	P		12 29 48.0	+10
	0.3nm,0.5s,baz=5.8,slow=7.6,SNR=4.6						
ASAR	Alice Springs	60.64	188	P		12 30 14.7	+11
	0.3nm,0.8s,baz=26,slow=11,SNR=3.4						
AKASG	Malin Array Be	74.58	322	P	P	12 31 32.8	+1.3
	0.7nm,0.5s,baz=44,slow=5.4,SNR=6.5						

IDC ***29*** *12:31:13.0±2.0, 50°.00N×177°.24W, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.7/45, mbtmp3.7/13, ML3.0/2, Error ellipse: s-maj=53.8km s-min=15.7km az=6.0*
NEIC ***29*** *12:31:17.7, 50°.33N×177°.46W, h31km, ML3.6(AEIC), After AEIC.*

ISC 29 12:31:19.0±4.0, 50°.3N±0°.1×177°.44W±0°.06, h31km±29km, n22, σ0°.98/26, mb3.8/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	1.68	16	P	Pn	12 31 44.9	-1.4
ADK				S	Sn	12 32 05.7	-1.0
AMKA	Amchitka	2.34	299	P	Pn	12 31 53.6	-1.8
AMKA				S	Sn	12 32 20.1	-2.9
CERAA	Semis' Rag'd T	2.44	313	P	Pn	12 31 56.4	-0.3
CERAA				S	Sn	12 32 26.8	+1.3
CESW	Semis' Southwe	2.49	312	P	Pn	12 31 56.9	-0.5
CESW				S	Sn	12 32 27.1	+0.4
KOKL	Mount Kliuchef	2.89	44	P	Pn	12 32 02.7	-0.2
KOKL				S	Sn	12 32 36.5	-0.1
KOFP	Korovin Flat P	2.90	45	P	Pn	12 32 02.8	-0.3
LSPA	Little Sitkin	3.02	305	P	Pn	12 32 03.7	-1.0
LSPA				S	Sn	12 32 38.9	-0.9
NIKH	Nikolski High	5.99	60	P	Pn	12 32 44.9	-0.6
FX1	Attu Island--F	6.41	298	Pn	Pn	12 32 51.8	+0.6
	1.5nm,0.3s,baz=194,slow=3.5,SNR=6.2						
FX1				Sn	Sn	12 33 58.5	-4.7
	0.5nm,0.3s,baz=135,slow=14,SNR=3.5						
FX1	Attu Island--F	6.41	298	P	Pn	12 32 51.2	0.0
PETK	Petropavlovsk-	15.65	290	Pn	Pn	12 34 58.4	+1.3
	0.1nm,0.3s,baz=98,slow=16,SNR=4.7						
SEY	Seymchan	20.64	319	P	P	12 35 56.1	+0.5
	1.0nm,0.7s,baz=121,slow=11,SNR=11						
ILAR	Eielson Array	21.60	36	P	P	12 36 05.9	0.0
	0.4nm,0.3s,baz=240,slow=9.5,SNR=23						
YKA	Yellowknife Ar	35.38	46	P	P	12 38 12.4	+1.0
	0.5nm,0.6s,baz=278,slow=7.6,SNR=11						
PDAR	Pinedale Array	45.83	72	P		12 39 34.9	-3.3
	0.4nm,0.3s,baz=298,slow=3.2,SNR=3.8						
SONM	Songino Array	47.92	298	P	P	12 39 54.4	+0.1
	0.2nm,0.7s,baz=53,slow=8.1,SNR=2.5						
TXAR	Lajitas Array	57.97	81	P	P	12 41 08.0	-0.7
	0.3nm,0.8s,baz=289,slow=3.8,SNR=4.3						
ARCES	ARCESS Array B	59.32	351	P	P	12 41 16.7	-0.6
	3.0nm,0.8s,baz=30,slow=7.4,SNR=3.9						
KURBB	Kurchatov Arra	60.51	315	P	P	12 41 25.7	0.0
	1.2nm,0.6s,baz=44,slow=6.4,SNR=7.0						
BVAR	Borovoye Array	62.29	321	P	P	12 41 37.9	+0.1
	1.9nm,0.6s,baz=45,slow=6.3,SNR=5.9						
NOA	NORSAR Array B	68.82	355	P	P	12 42 20.1	+0.3
	0.6nm,0.7s,baz=8.0,slow=6.5,SNR=3.1						
AKASG	Malin Array Be	76.86	343	P	P	12 43 07.8	+0.2
	0.7nm,0.6s,baz=20,slow=5.5,SNR=3.0						

ISCJB ***29*** *12:34:27.0±0.4, 36°.24N±0°.03×70°.79E±0°.06, h110km, mb3.6/10, Error ellipse: s-maj=7.7km s-min=3.1km az=149.4*
IDC ***29*** *12:34:28.0±2.9, 36°.13N×70°.78E, h113km±26km, mb3.4/10, mb1 3.7/15, mb1mx3.4/43, mbtmp4.0/15, Error ellipse: s-maj=21.8km s-min=15.3km az=31.0*
NNC ***29*** *12:34:35.7±2.0, 36°.88N×70°.74E, h156km±18km, mb3.6, mpv4.5, Error ellipse: s-maj=19.0km s-min=11.3km az=159.0*

ISC 29 12:34:27.7±0.5, 36°.23N±0°.05×70°.77E±0°.06, h110km, n62, σ2°.04/73, mb3.6/10, 13C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	3.00	330	⇑P	Pn	12 35 15.7	+1.9
	189nm,0.5s						
DZET				⇓S	Sn	12 35 49.0	-0.2
	144nm,0.3s						
CHCP	Chirah Chowk	3.29	141	P	Pn	12 35 22.1	+4.5
DLH	Dalhousie	5.66	129	*e*P	Pn	12 35 52.0	+2.3
DLH				*e*S	Sn	12 36 54.0	+0.5
DHRM	DHARAMSHALA	6.06	129	*e*P	Pn	12 35 57.1	+1.9
DHRM				*e*S	Sn	12 37 03.5	+0.2
DHRM				AML	AML	12 37 06.5	
	comp=N,547nm,0.2s						
DHRM				AML	AML	12 37 06.8	
	comp=E,803nm,0.2s						
AML	Almayashu	6.31	20	P	Pn	12 35 58.9	+0.2
	SNR=162						
MNAS	Manas	6.39	12	⇑P	Pn	12 35 59.6	+0.2
	comp=E,14nm,0.5s						
MNAS				⇑S	Sn	12 37 05.0	-5.9
	comp=E,34nm,0.4s						
UCH	Uchtor	6.65	25	P	Pn	12 36 04.5	+1.2
	SNR=17						
BHK	Bhakra	6.72	134	*ex*	x	12 37 23.0	
KZA	Kyzart	6.80	29	P	Pn	12 36 07.2	+2.0
	SNR=22						
EKS2	Erkin-Say	6.83	19	P	Pn	12 36 06.0	+0.6
	SNR=18						
KK31	Karatay Array	6.87	358	⇑P	Pn	12 36 05.9	+0.2
	comp=E,24nm,0.3s,baz=193,slow=21,SNR=222						
KK31				⇓S	Sn	12 37 16.9

AJM				*i* x		Sn	12 38 38.0 -7.3
AGRA	**Agra**	**10.85**	**144**	*e*S		**Sn**	**12 38 55.0 -4.3**
AGRA				AML		AML	12 39 11.6
	comp=N,89nm,0.4s						
AGRA				AML		AML	12 39 14.5
	comp=E,75nm,0.1s						
OTUK	**Ortayu**	**12.06**	**5**	P		**Pn**	**12 37 14.1 -1.7**
MK31	**Makanchi Array**	**13.62**	**36**	⇓P		**Pn**	**12 37 37.5 +1.3**
	comp=E,3.0nm,0.6s						
MKAR	**Makanchi Array**	**13.62**	**36**	P		**Pn**	**12 37 37.4 +1.2**
	comp=E,0.4nm,0.3s,baz=222,slow=14,SNR=63						
BHPL	**Bhopal**	**14.17**	**154**	*e*P		**P**	**12 37 49.9 +2.2**
BHPL				*e*x		Sn	12 40 12.4 -7.5
DMN	**Daman**	**14.89**	**121**	*e*P		**Pn**	**12 37 52.5 -0.4**
	comp=E,28nm,0.4s						
KKN	**Kakani**	**14.90**	**120**	*e*P		**Pn**	**12 37 52.1 -0.8**
	comp=E,24nm,0.4s						
PKIN	**Phulchoki**	**15.11**	**121**	*e*P		**Pn**	**12 37 55.7 0.0**
	comp=E,23nm,0.3s						
PKI	**Pulchoki**	**15.13**	**121**	*e*P		**Pn**	**12 37 55.7 -0.2**
	comp=E,37nm,0.4s						
AB31	**Akbulak array**	**15.23**	**332**	⇑P		**Pn**	**12 37 56.5 -0.2**
	comp=E,2.7nm,0.3s						
AB31				⇑S		Sn	12 40 33.3 -12
	comp=E,5.0nm,0.7s,baz=152,slow=22,SNR=7.6						
GUN	**Gumba**	**15.25**	**119**	*e*P		**Pn**	**12 37 56.4 -1.1**
	comp=E,17nm,0.3s						
KURBB	**Kurchatov Arra**	**15.44**	**19**	⇑P		**Pn**	**12 37 56.8 -2.4**
	comp=E,10.0nm,0.7s						
KURBB	**Kurchatov Arra**	**15.44**	**19**	P		**Pn**	**12 37 56.9 -2.3**
	comp=E,0.3nm,0.3s,baz=207,slow=10,SNR=34						
KURK	**Kurchatov**	**15.54**	**19**	⇓P		**Pn**	**12 37 58.7 -1.9**
	comp=E,8.9nm,1.7s						
JIRN	**Jiri**	**15.62**	**119**	*e*P		**Pn**	**12 38 01.8 -0.3**
	comp=E,62nm,0.4s						
RAMN	**Ramite**	**16.34**	**120**	*e*P		**Pn**	**12 38 10.8 -0.1**
	comp=E,26nm,0.4s						
BVA0	**Borovoye Array**	**16.79**	**359**	⇓P		**Pn**	**12 38 15.4 -0.6**
	comp=E,4.9nm,0.8s,baz=167,slow=11,SNR=15						
BVAR	**Borovoye Array**	**16.79**	**359**	P		**Pn**	**12 38 15.9 -0.1**
	comp=E,0.9nm,0.3s,baz=156,slow=11,SNR=13						
TAPN	**Taplejung**	**16.89**	**117**	*e*P		**P**	**12 38 18.1 +0.1**
	comp=E,18nm,0.3s						
AKTO	**Aktyubinsk**	**16.92**	**331**	⇓P		**P**	**12 38 19.1 +1.3**
	comp=E,16nm,0.8s						
AKTO				⇑S		Sn	12 41 15.1 -11
	comp=E,10.0nm,1.0s						
AKTO	**Aktyubinsk**	**16.92**	**331**	P		**P**	**12 38 19.4 +1.6**
	comp=E,0.7nm,0.3s,baz=130,slow=9.3,SNR=60						
AKTO				S		Sn	12 41 14.3 -11
	comp=E,0.3nm,0.3s,baz=330,slow=20,SNR=3.8						
ODAN	**Odare**	**16.95**	**119**	*e*P		**P**	**12 38 18.4 -0.2**
	comp=E,20nm,0.5s						
ZALV	**Zalesovo Beam**	**20.23**	**25**	P		**P**	**12 38 54.0 +0.1**
	comp=E,36nm,0.5s,baz=220,slow=11,SNR=144						
SONM	**Songino Array**	**28.64**	**55**	P		**P**	**12 40 15.7 +1.8**
	comp=E,0.4nm,0.5s,baz=264,slow=9.5,SNR=5.3						
CMAR	**Chiang Mai Arr**	**30.49**	**118**	P		**P**	**12 40 30.8 +0.3**
	comp=E,0.7nm,0.6s,baz=298,slow=8.9,SNR=6.1						
FINES	**FINESS Array B**	**37.60**	**326**	P		**P**	**12 41 32.5 +1.2**
	comp=E,1.2nm,0.7s,baz=132,slow=5.7,SNR=5.2						
ARCES	**ARCESS Array B**	**41.32**	**338**	P		**P**	**12 42 03.2 +1.1**
	comp=E,3.4nm,0.9s,baz=112,slow=8.2,SNR=13						
NB2	**NORSAR Subarra**	**44.48**	**323**	P		**P**	**12 42 28.3 +0.6**
	comp=Z,0.5nm,0.3s,baz=99,slow=7.9						
NOA	**NORSAR Array B**	**44.48**	**323**	P		**P**	**12 42 28.5 +0.8**
	comp=Z,0.7nm,0.5s,baz=98,slow=7.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**65.52**	**269**	P		**P**	**12 44 58.9 -0.7**
	comp=Z,0.3nm,0.6s,baz=47,slow=6.0,SNR=4.7						
ILAR	**Eielson Array**	**75.09**	**16**	P		**P**	**12 45 57.3 +0.2**
	comp=Z,0.4nm,0.9s,baz=304,slow=5.3,SNR=4.2						
YKA	**Yellowknife Ar**	**81.52**	**3**	P		**P**	**12 46 33.0 +0.5**
	comp=Z,0.5nm,0.6s,baz=325,slow=5.0,SNR=16						
WRA	**Warramunga Arr**	**82.01**	**122**	P		**P**	**12 46 35.0 -0.7**
	comp=Z,0.5nm,0.6s,baz=325,slow=5.0,SNR=16						
ASAR	**Alice Springs**	**84.26**	**125**	P		**P**	**12 46 46.6 -0.7**
	comp=Z,0.7nm,0.9s,baz=308,slow=4.9,SNR=8.9						

*IDC **29** 12:38:15.6±1.1,53.°19S×22.°57E,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.8/28,mbtmp3.9/4,MS3.8/18, Ms1 3.8/18,ms1mx3.7/26,Error ellipse: s-maj=55.6km s-min=29.7km az=58.0*

*ISCJB **29** 12:38:16.1±0.8,53.°0S±0.°1×22.°7E±0.°4,h10km,mb3.8/4, MS3.9/18,Error ellipse: s-maj=32.7km s-min=14.9km az=15.5*

ISC 29 12:38:17.7±0.9,53.°1S±0.°1×22.°8E±0.°3,h10km,n29, σ0.°90/10,mb3.9/4,MS3.8/18,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.74**	**355**	LR	LR	12 49 05.2	
	comp=Z,457nm,19.7s,baz=207,slow=31						
SNAA	**Sanae**	**21.77**	**202**	P	**P**	**12 43 08.8**	**-0.3**
VNA2	**Neumayer--Watz**	**22.38**	**206**	P	**P**	**12 43 15.2**	**-0.5**
	baz=38,slow=12						
VNA1	**Neumayer--Stat**	**22.45**	**207**	P	**P**	**12 43 17.9**	**+1.6**
MAW	**Mawson**	**24.01**	**143**	LR	LR	12 50 55.9	
	comp=Z,194nm,21.6s,baz=250,slow=32						
LBTB	**Lobatse**	**28.11**	**5**	P	**P**	**12 44 10.3**	**+0.7**
	2.0nm,0.7s,baz=173,slow=7.3,SNR=3.0						
LBTB				LR	LR	12 53 20.8	
	comp=Z,419nm,21.9s,baz=196,slow=32						
VNDA	**Vanda**	**47.21**	**169**	LR	LR	13 06 18.3	
	comp=Z,257nm,20.2s,baz=202,slow=36						
KMBO	**Kilima Mbogo**	**53.16**	**18**	LR	LR	13 09 27.8	
	comp=Z,168nm,18.9s,baz=118,slow=35						
H10S2	**ASCENSION HYDR**	**53.36**	**312**	T	T	13 45 22.4	
	baz=153						
H10S3	**ASCENSION HYDR**	**53.38**	**312**	T	T	13 45 25.2	
	baz=153						
H10S1	**ASCENSION HYDR**	**53.38**	**312**	T	T	13 45 26.0	
	baz=153						
RCBR	**Riachuelo**	**66.89**	**292**	LR	LR	13 10 38.9	
	comp=Z,62nm,19.9s,baz=124,slow=29						
TORD	**Torodi Ar. Bea**	**68.40**	**338**	P	**P**	**12 49 19.1**	**-0.4**
	1.0nm,0.8s,baz=184,slow=6.5,SNR=5.3						
TORD				LR	LR	13 14 57.6	
	comp=Z,51nm,19.8s,baz=245,slow=32						
SIV	**San Ignacio**	**73.71**	**265**	LR	LR	13 17 32.7	
	comp=Z,50nm,18.7s,baz=220,slow=32						
LPAZ	**La Paz**	**77.69**	**259**	LR	LR	13 24 27.3	
	comp=Z,23nm,18.2s,baz=133,slow=36						
ASAR	**Alice Springs**	**83.17**	**121**	P	**P**	**12 50 44.7**	**+0.6**
	0.6nm,0.9s,baz=204,slow=4.4,SNR=5.1						
ASAR				LR	LR	13 19 54.7	
	comp=Z,46nm,21.7s,baz=172,slow=30						
NNA	**Nana**	**86.22**	**255**	LR	LR	13 26 19.0	
	comp=Z,40nm,18.8s,baz=166,slow=34						
WRA	**Warramunga Arr**	**86.46**	**119**	P	**P**	**12 50 59.6**	**-1.0**
	0.5nm,0.7s,baz=207,slow=3.7,SNR=4.4						
KEST	**Kesra**	**89.21**	**349**	LR	LR	13 32 14.4	
	comp=Z,27nm,19.6s,baz=259,slow=36						
RPN	**Rapa Nui**	**89.93**	**221**	LR	LR	13 20 58.5	
	comp=Z,112nm,20.6s,baz=112,slow=28						
ATAH	**Atahualpa**	**91.00**	**257**	LR	LR	13 28 56.5	
	comp=Z,62nm,21.1s,baz=173,slow=34						
BRTR	**Keskin Array B**	**92.91**	**8**	LR	LR	13 32 48.6	
	comp=Z,26nm,20.6s,baz=170,slow=35						
GEYT	**Alibeck**	**95.69**	**27**	LR	LR	13 34 51.1	
	comp=Z,26nm,18.6s,baz=210,slow=35						
CMAR	**Chiang Mai Arr**	**96.55**	**68**	LR	LR	13 27 09.9	
	comp=Z,49nm,20.9s,baz=179,slow=30						
KBZ	**Khabaz**	**97.97**	**15**	LR	LR	13 38 14.6	
	comp=Z,43nm,18.4s,baz=194,slow=37						
TBI	**Tubuai**	**103.60**	**187**	*e*LR	LR	13 26 19.3	
	97nm,35.0s						
PPT2	**Papeete2**	**109.31**	**188**	*e*LR	LR	13 28 52.9	
	73nm,22.8s						
PDAR	**Pinedale Array**	**147.01**	**271**	PKPbc	**PKPdf**	**12 57 58.4**	**+0.3**
	1.2nm,0.8s,baz=130,slow=3.9,SNR=4.7						
YKA	**Yellowknife Ar**	**155.85**	**310**	PKP	**PKPdf**	**12 58 10.5**	**0.0**
	0.2nm,0.8s,baz=60,slow=2.0,SNR=3.2						
YKA				PKPbc	PKPbc	12 58 18.1	
	0.3nm,0.7s,baz=84,slow=2.6,SNR=4.3						
YKA				PKPab	**PKPab**	**12 58 36.6**	**-0.9**
	0.4nm,0.7s,baz=92,slow=4.9,SNR=7.5						

*ISCJB **29** 12:41:23.5±0.6,24.°04S±0.°05×67.°02W±0.°06,h181km, mb3.5/5,Error ellipse: s-maj=8.4km s-min=6.3km az=43.7*

*IDC **29** 12:41:23.2±1.6,24.°08S×66.°98W,h165km±16km,mb3.4/5, mb1 3.7/9,mb1mx3.5/30,mbtmp4.0/9,Error ellipse: s-maj=21.1km s-min=13.7km az=87.0*

*GUC **29** 12:41:27.4±0.4,23.°72S×67.°70W,h249km±8km,ML4.5*

ISC 29 12:41:24.2±0.7,24.°08S±0.°06×67.°07W±0.°07,h181km,n19, σ1.°89/28,mb3.5/5,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.67**	**300**	*e*P	**Pn**	**12 42 11.4**	**+2.3**
PB06				*e*S	**Sn**	**12 42 45.0**	**+1.0**
PB06				IAML		12 42 47.4	
	comp=E,1μm,0.1s						
PB04	**IPOC Station P**	**2.86**	**309**	*e*P	Pn	12 42 18.5	+7.3
PB04				*e*S	Sn	12 42 56.9	+9.1
PB04				IAML		12 43 01.6	
	comp=N,695nm,0.3s						
ANCH	**Antofagasta**	**3.08**	**277**	*e*P9	**Pn**	**12 42 11.6**	**-2.2**
ANCH				*e*S	**Sn**	**12 42 48.6**	**-3.9**
PB10	**IPOC Station P**	**3.24**	**279**	*e*P	**Pn**	**12 42 17.7**	**+1.9**
PB10				*e*S	**Sn**	**12 42 55.8**	**-0.3**
PB10				IAML		12 42 59.0	
	comp=E,786nm,0.2s						
PB07	**IPOC Station P**	**3.50**	**312**	*e*P	**Pn**	**12 42 20.6**	**+1.4**
PB07				*e*S	**Sn**	**12 43 00.6**	**-1.4**
PB01	**IPOC Station P**	**3.76**	**323**	*e*P	**Pn**	**12 42 23.3**	**+1.0**
PB01				*e*S	**Sn**	**12 43 06.5**	**-1.4**
PB01				IAML		12 43 07.9	
	comp=E,577nm,0.2s						
PATCX	**Punta Patache**	**4.32**	**318**	*e*P1	**Pn**	**12 42 29.6**	**+0.2**
PATCX				*e*S	**Sn**	**12 43 17.7**	**-2.9**
HMBC	**Humberstone**	**4.59**	**325**	*e*P4	**Pn**	**12 42 32.7**	**-0.4**
HMBC				*e*S4	**Sn**	**12 43 24.1**	**-3.0**
MNMC	**Minimini**	**5.46**	**334**	*e*P4	**Pn**	**12 42 44.4**	**0.0**
MNMC				*e*S4	**Sn**	**12 43 45.1**	**-2.3**
CFAA	**Coronel Fontan**	**7.57**	**188**	P	**Pn**	**12 43 12.1**	**+0.4**
	comp=E,0.4nm,0.3s,baz=15,slow=5.3,SNR=17						
CFAA				S	**Sn**	**12 44 33.9**	**-3.1**
	comp=E,0.4nm,0.3s,baz=154,slow=16,SNR=6.9						
LPAZ	**La Paz**	**7.81**	**353**	P	**Pn**	**12 43 16.5**	**+0.8**
	comp=E,4.8nm,0.3s,baz=143,slow=7.9,SNR=88						
LPAZ				S	**Sn**	**12 44 41.0**	**-2.9**
	comp=E,0.2nm,0.3s,baz=291,slow=16,SNR=3.7						
SIV	**San Ignacio**	**9.82**	**36**	P	**Pn**	**12 43 39.8**	**-1.7**
	comp=E,2.0nm,0.3s,baz=226,slow=14,SNR=23						
BDFB	**Brasilia**	**19.78**	**68**	P	**P**	**12 45 41.0**	**+0.2**
	comp=E,1.3nm,0.3s,baz=240,slow=10,SNR=17						
TXAR	**Lajitas Array**	**63.70**	**325**	P	**P**	**12 51 37.8**	**+1.2**
	comp=E,0.2nm,0.7s,baz=156,slow=6.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.66**	**69**	P	**P**	**12 52 55.0**	**-0.5**
	comp=E,0.3nm,0.4s,baz=269,slow=7.3,SNR=18						
ULM	**Lac du Bonnet**	**78.28**	**342**	P	**P**	**12 53 04.1**	**+0.4**
	comp=E,1.3nm,0.5s,baz=126,slow=4.8,SNR=4.0						
LBTB	**Lobatse**	**82.42**	**114**	P	**P**	**12 53 27.6**	**+1.0**
	comp=E,1.5nm,0.6s,baz=246,slow=3.3,SNR=3.0						
YKA	**Yellowknife Ar**	**94.18**	**340**	P	**P**	**12 54 22.6**	**+0.8**
	comp=E,0.2nm,0.5s,baz=133,slow=4.4,SNR=8.5						
WRA	**Warramunga Arr**	**131.53**	**207**	PKP	**PKPdf**	**13 00 17.8**	**+1.8**
	comp=E,0.4nm,0.9s,baz=150,slow=1.9,SNR=4.7						

*IDC **29** 13:13:49.6±1.1,34.°14S×72.°32W,h0km,mb4.1/5, mb1 4.3/6,mb1mx4.1/23,mbtmp4.1/6,ML3.3/2,MS3.5/1, Ms1 3.5/1,ms1mx3.0/21,Error ellipse: s-maj=35.7km s-min=20.9km az=153.0*

*ISCJB **29** 13:13:51.2±0.7,33.°96S±0.°07×72.°5W±0.°1,h17km,mb4.1/6, MS3.3/1,Error ellipse: s-maj=12.3km s-min=9.4km az=18.3*

*NEIC **29** 13:13:53.5±4.4,33.°91S×72.°42W,h19km±27km,mb4.1/3, Error ellipse: s-maj=19.4km s-min=9.0km az=86.0*

ISC 29 13:13:52.9±0.8,33.°92S±0.°09×72.°5W±0.°1,h17km,n18, σ0.°92/20,mb4.3/6,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.27**	**58**	Pn	**Pn**	**13 14 56.8**	**-0.5**
	0.2nm,0.3s,baz=225,slow=11,SNR=12						
CFAA				Sn	**Sn**	**13 15 47.4**	**+0.7**
	0.6nm,0.3s,baz=257,slow=19,SNR=3.2						
CFAA				Lg	Lg	13 16 05.5	
	0.9nm,0.3s,baz=314,slow=11,SNR=3.1						
LCO	**Las Campanas**	**5.13**	**18**	*e*Pn	**Pn**	**13 15 07.8**	**-1.4**
	28nm,0.6s						
PLCA	**Paso Flores**	**6.98**	**168**	*e*Pn	**Pn**	**13 15 33.6**	**-0.9**
TRQA	**Tornquist**	**9.47**	**119**	P	**Pn**	**13 16 09.7**	**+1.1**
	7.1nm,0.8s						
LPAZ	**La Paz**	**17.99**	**14**	P	**P**	**13 18 04.0**	**+0.5**
	0.2nm,0.3s,baz=190,slow=8.5,SNR=8.8						
LPAZ	**La Paz**	**17.99**	**14**	*e*P	**P**	**13 18 03.9**	**+0.5**
	3.3nm,0.7s						
SIV	**San Ignacio**	**20.61**	**33**	P	**P**	**13 18 30.9**	**-0.6**
	3.4nm,0.9s,baz=232,slow=13,SNR=7.4						
SIV				LR	LR	13 27 55.8	
	comp=Z,138nm,20.2s,baz=234,slow=41						
SAML	**Samuel**	**26.29**	**21**	*e*P	**P**	**13 19 27.4**	**-0.3**
	4.9nm,1.1s						
SNAA	**Sanae**	**51.80**	**158**	*e*P	**P**	**13 23 00.7**	**+1.1**
JCT	**Junction City**	**69.05**	**335**	*e*P	**P**	**13 24 58.8**	**+1.1**
	4.0nm,0.6s						
TXAR	**Lajitas Array**	**69.48**	**331**	P	**P**	**13 25 01.7**	**+1.2**
	2.1nm,0.7s,baz=154,slow=8.5,SNR=25						
DBIC	**Dimbokro**	**75.52**	**72**	P	**P**	**13 25 35.3**	**-1.4**
	2.3nm,0.8s,baz=267,slow=17,SNR=2.9						
PDAR	**Pinedale Array**	**83.52**	**333**	P	**P**	**13 26 20.6**	**+0.7**
	0.6nm,0.7s,baz=183,slow=2.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**84.54**	**70**	P	**P**	**13 26 24.7**	**-0.8**
	1.3nm,0.8s,baz=241,slow=4.6,SNR=8.9						
WRA	**Warramunga Arr**	**120.64**	**210**	PKP	**PKPdf**	**13 32 43.4**	**-1.0**
	0.4nm,1.0s,baz=159,slow=1.7,SNR=3.6						
AAK	**Ala-Archa**	**152.81**	**62**	*e*PKPbc	**PKPbc**	**13 33 49.6**	**+0.5**
ZALV	**Zalesovo Beam**	**154.36**	**32**	PKPbc	**PKPbc**	**13 33 52.2**	**+0.4**
	1.3nm,0.7s,baz=304,slow=3.1,SNR=6.2						
ZALV				PKPab	**PKPab**	**13 34 06.0**	**0.0**
	0.9nm,0.7s,baz=177,slow=2.8,SNR=3.8						
MKAR	**Makanchi Array**	**157.00**	**48**	PKPab	**PKPab**	**13 34 17.3**	**-0.3**
	0.5nm,0.7s,baz=289,slow=3.7,SNR=4.0						

CASC 29 13:40:30.2±1.6,11.°29N×85.°67W,h170km±9km,MD3.8,1C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS2	**Las Lilas**	**0.49**	**154**	*i* P	Pn	13 40 54.2	+0.3
GBS2				*i* S	Sn	13 41 12.8	+0.6
GB1A	**Borinquen Arri**	**0.54**	**150**	*i* P	Pn	13 40 54.8	+0.6
GBS3	**Finca Las Im¨¡**	**0.54**	**157**	*i* P	Pn	13 40 54.3	+0.1
GBS3				*i* S	Sn	13 41 13.1	+0.5
BUEV	**Buena Vista**	**0.55**	**152**	*i* P	Pn	13 40 54.5	+0.2
LAPC	**Finca la Perla**	**0.56**	**155**	*i* P	Pn	13 40 54.2	0.0
GPS1	**Guardaparques**	**0.60**	**148**	*i* P	Pn	13 40 54.9	+0.3
LIM1	**Limonal**	**0.71**	**145**	*i* P	Pn	13 40 55.4	+0.3
LIM1				*i* S	Sn	13 41 14.3	+0.1
CUI	**Cuipilapa**	**0.80**	**141**	*i* P	Pn	13 40 56.3	+0.7
CUI				*i* S	Sn	13 41 16.1	+0.9
PTEN	**Parque Tenorio**	**0.88**	**130**	*i* P	Pn	13 40 56.6	+0.5
JCR	**Jicaral**	**1.53**	**159⇑**	*e*P	Pn	13 41 02.2	+0.4
JCR				*e*S	Sn	13 41 23.1	-3.1
CGA2	**Cerro Gallo 2**	**1.73**	**137**	*e*P	Pn	13 41 04.5	+0.5
CGA2				*e*S	Sn	13 41 30.3	+0.3
URSC	**Urasca**	**2.35**	**128**	*e*P	Pn	13 41 13.1	+2.2
URSC				*e*S	Sn	13 41 43.7	+1.3
BUS	**Buena Vista**	**2.55**	**132**	*e*P	Pn	13 41 14.4	+0.9
BUS				*e*S	Sn	13 41 48.9	+1.7
LFRS	**El Faro**	**4.04**	**305**	*e*P	Pn	13 41 32.5	+0.7
LFRS				*e*S	Sn	13 42 09.6	-10
SBLS	**San Blas**	**4.62**	**304**	*e*P	Pn	13 41 39.4	+0.1

*ISCJB **29** 13:47:12.5±0.3,0.°33N±0.°04×122.°13E±0.°04,h185km±3km, mb4.1/19,Error ellipse: s-maj=7.9km s-min=6.3km az=138.0*

*NEIC **29** 13:47:13.3±0.7,0.°32N×122.°19E,h183km±6km,mb4.2/5, Error ellipse: s-maj=15.7km s-min=6.5km az=59.0*

*IDC **29** 13:47:14.4±2.8,0.°25N×122.°16E,h194km±25km,mb3.8/14, mb1 3.9/14,mb1mx3.6/50,mbtmp4.3/14,Error ellipse: s-maj=33.6km s-min=10.3km az=63.0*

*DJA **29** 13:47:14.6±0.5,0.°N±3.°×12.°2E±.°,h164km±4km,M4.5/15, mb4.8/2,mB4.8/2,MLv4.5/6,MLv4.4/15,Mw(mB)4.0/2*

ISC 29 13:47:13.3±0.6,0.°34N±0.°05×122.°09E±0.°05,h180km±5km, n50,σ1.°11/60,mb4.1/19,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.21**	**312**	P	**Pn**	**13 47 37.0**	**-0.2**
MRSI				S	**Sn**	**13 47 55.8**	**+0.1**
GTOI	**Gorontalo**	**0.96**	**72**	P	**Pn**	**13 47 40.7**	**0.0**
APSI	**Ampana**	**1.32**	**200**	P	**Pn**	**13 47 44.2**	**+0.6**
APSI				S	**Sn**	**13 48 07.6**	**+0.4**
TOLI	**Toli-Toli**	**1.51**	**301**	*e*Pn	**Pn**	**13 47 45.5**	**+0.1**
TOLI				*e*Sn	**Sn**	**13 48 08.6**	**-1.7**
LUWI	**Luwuk**	**1.53**	**154**	P	**Pn**	**13 47 45.9**	**+0.3**
LUWI				S	**Sn**	**13 48 10.1**	**-0.5**
LUWI	**Luwuk**	**1.53**	**154**	*e*Pn	**Pn**	**13 47 45.5**	**-0.1**
LUWI				*e*Sn	**Sn**	**13 48 09.2**	**-1.4**
KMSI	**Cibinong**	**1.90**	**83**	P	**Pn**	**13 47 50.7**	**+1.4**
KMSI				S	**Sn**	**13 48 18.0**	**+0.8**
MPSI	**Mapaga**	**2.20**	**270**	P	**Pn**	**13 47 52.0**	**-0.5**
MPSI				S	**Sn**	**13 48 22.5**	**-0.4**
PCI	**Palu**	**2.57**	**241**	P	**Pn**	**13 47 57.1**	**+0.2**
TTSI	**Tana Toraja**	**4.06**	**214**	P	**Pn**	**13 48 16.3**	**+1.1**
SGKI	**Sangatta, Kali**	**4.57**	**259**	P	**Pn**	**13 48 21.6**	**-0.1**
SPSI	**Sidrap Palu**	**4.87**	**209**	P	**Pn**	**13 48 26.5**	**+1.0**
BNSI	**Bone**	**5.11**	**203**	P	**Pn**	**13 48 29.6**	**+0.9**
	209nm,0.8s,2μm0.7nm						
KAPI	**Kappang**	**5.81**	**204**	*e*P	**Pn**	**13 48 38.9**	**+1.1**
	219nm,0.9s						
BKSI	**Bulukumba**	**5.96**	**199**	P	**Pn**	**13 48 41.2**	**+1.4**
KKM	**Kota Kinabalu**	**8.16**	**314**	*e*P	Pn	13 49 19.3	+10
KKM				*e*S	Sn	13 50 48.4	+8.0
JAGI	**Jajag, Banyuwa**	**11.80**	**222**	P	P	13 50 05.8	+3.8
KSM	**Kuching**	**11.84**	**276**	*e*Pn	**Pn**	**13 49 57.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**18.65**	**169**	*e*P	**P**	**13 51 17.3**	**-0.3**
WRAB	**Tennant Creek**	**23.45**	**150**	*e*P	**P**	**13 52 06.2**	**-0.4**
	9.9nm,0.6s						
WRA	**Warramunga Arr**	**23.46**	**150**	P	**P**	**13 52 05.6**	**-1.0**
	14nm,0.6s,baz=326,slow=11,SNR=105						
WRA				PcP	**PcP**	**13 55 46.7**	**-0.9**
	0.5nm,0.5s,baz=323,slow=2.2,SNR=8.0						
WB2	**Warramunga Arr**	**23.46**	**150**	*e*P	**P**	**13 52 06.1**	**-0.5**
AS31	**Alice Springs**	**26.48**	**155**	*e*P	**P**	**13 52 33.0**	**-1.0**
ASAR	**Alice Springs**	**26.48**	**155**	P	**P**	**13 52 33.5**	**-0.4**
	3.1nm,0.6s,baz=345,slow=14,SNR=71						
ASAR				PcP	**PcP**	**13 55 53.8**	**-0.5**
	1.4nm,0.5s,baz=346,slow=2.2,SNR=24						
ASAR				ScP	**ScP**	**13 59 15.7**	**-1.7**
	0.3nm,0.5s,baz=340,slow=3.0,SNR=10						
CMAR	**Chiang Mai Arr**	**29.00**	**310**	P	**P**	**13 52 59.1**	**+2.7**
	1.4nm,0.7s,baz=133,slow=7.3,SNR=12						
CHTO	**Chiang Mai**	**29.21**	**310**	*e*P	**P**	**13 53 00.5**	**+2.2**
	5.3nm,1.1s						
ODAN	**Odare**	**42.52**	**311**	*e*P	**P**	**13 54 53.2**	**+1.7**
TAPN	**Taplejung**	**42.55**	**312**	*e*P	**P**	**13 54 53.4**	**+1.6**
	9.6nm,0.5s						
RAMN	**Ramite**	**43.16**	**311**	*e*P	**P**	**13 54 58.6**	**+1.9**
	34nm,0.7s						
JIRN	**Jiri**	**43.85**	**311**	*e*P	**P**	**13 55 04.0**	**+1.7**
	18nm,0.4s						
GUN	**Gumba**	**44.22**	**311**	*e*P	**P**	**13 55 06.8**	**+1.6**
	20nm,0.4s						
PKI	**Pulchoki**	**44.39**	**311**	*e*P	**P**	**13 55 07.7**	**+1.2**
KKN	**Kakani**	**44.60**	**311**	*e*P	**P**	**13 55 09.6**	**+1.5**
DMN	**Daman**	**44.64**	**311**	*e*P	**P**	**13 55 09.8**	**+1.4**
ULN	**Ulaanbaatar**	**49.11**	**347**	P	**P**	**13 55 42.8**	**+0.2**
	5.5nm,0.9s						
SONM	**Songino Array**	**49.24**	**346**	P	**P**	**13 55 44.6**	**+1.0**
	4.8nm,0.9s,baz=162,slow=8.8,SNR=39						
SONM				PcP	**PcP**	**13 57 03.1**	**-0.6**
	1.1nm,0.9s,baz=148,slow=3.8,SNR=4.5						
MKAR	**Makanchi Array**	**57.85**	**329**	P	**P**	**13 56 47.0**	**+0.9**
	4.2nm,0.6s,baz=124,slow=9.1,SNR=40						
MKAR				PcP	**PcP**	**13 57 36.1**	**-0.4**
	1.2nm,0.7s,baz=137,slow=6.1,SNR=5.6						
AAK	**Ala-Archa**	**59.90**	**321**	P	**P**	**13 57 01.8**	**+1.3**
	1.6nm,0.5s,baz=125,slow=6.4,SNR=9.4						
KBL	**Kabul**	**60.03**	**310**

LNCH				eS	Sg	14 11 04.3	-0.2
NICH	**Los Niches**	**0.92**	**71**	eP	Pg	14 10 55.5	-1.6
NICH				eS	Sg	14 11 08.1	-0.9
LNV	**Longovilo**	**1.53**	**28**	eP	Pn	14 11 05.3	-1.7
CCSP	**San Pedro de C**	**1.67**	**203**	eP	Pn	14 11 07.5	-1.5
CCSP				eS	Sn	14 11 29.1	-1.6
CACH	**El Canelo**	**1.83**	**50**	eP	Pn	14 11 10.4	-1.0
CHCH	**Chadas Angostu**	**1.92**	**45**	eP	Pn	14 11 11.9	-0.6
CLCH	**Cerro Calan**	**2.39**	**38**	eP	Pn	14 11 19.3	+0.2
CLCH				eS	Sn	14 11 49.8	+1.1
CLCH				IAML		14 11 58.9	
	comp=N,906nm,0.6s						
PEL	**Peldehue**	**2.53**	**32**	eP	Pn	14 11 21.2	+0.2
PEL				eS	Sn	14 11 53.0	+0.9
PEL				IAML		14 12 04.7	
	comp=N,988nm,0.5s						
FCH	**Farellones**	**2.57**	**40**	eP4	Pn	14 11 21.8	-0.1
FCH				eS4	Sn	14 11 48.5	-5.2

*IDC **29** 14:59:22.4±1.7, 1°.11N×97°.06E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.6/29, mbtmp3.6/8, ML3.4/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/30, Error ellipse: s-maj=47.1km s-min=20.7km az=62.0*

*ISCJB **29** 14:59:24.2±1.3, 1°.2N±0°.1×97°.1E±0°.2, h25km, mb3.7/6, MS3.1/1, Error ellipse: s-maj=27.9km s-min=16.0km az=156.9*

ISC 29 14:59:25.1±1.3, 1°.1N±0°.1×96°.9E±0°.1, h25km, n14, σ1ˢ45/9, mb3.8/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.64**	**49**	**Pn**	**Pn**	**15 00 04.5**	**-1.7**
	3.0nm,0.3s,baz=215,slow=4.8,SNR=8.9						
PSI				Sn	**Sb**	**15 00 45.9**	**+1.9**
	3.0nm,0.3s,baz=223,slow=19,SNR=4.0						
PSI				LR	LR	15 01 03.9	
	comp=Z,80nm,19.1s,baz=334,slow=42						
CMAR	**Chiang Mai Arr**	**17.40**	**6**	P	**Pn**	**15 03 24.8**	**-1.6**
	0.1nm,0.3s,baz=196,slow=11,SNR=8.0						
H08S2	**Diego Garcia H**	**25.85**	**250**	T	T	15 31 54.3	
	baz=71,slow=75,SNR=916						
H08S3	**Diego Garcia H**	**25.86**	**250**	T	T	15 31 54.5	
	baz=71,slow=75,SNR=663						
H08S1	**Diego Carcia H**	**25.87**	**250**	T	T	15 31 55.5	
	baz=71,slow=75,SNR=820						
H01W3	**Cape Leeuwin H**	**39.23**	**157**	T	T	15 48 28.2	
	baz=333,slow=76,SNR=3.3						
H01W2	**Cape Leeuwin H**	**39.24**	**157**	T	T	15 48 23.5	
	baz=333,slow=76,SNR=5.7						
H01W1	**Cape Leeuwin H**	**39.24**	**157**	T	T	15 48 30.6	
	baz=333,slow=76,SNR=3.8						
WRA	**Warramunga Arr**	**42.20**	**122**	P	**P**	**15 07 16.1**	**-0.2**
	0.4nm,0.5s,baz=302,slow=9.0,SNR=6.5						
ASAR	**Alice Springs**	**43.54**	**127**	P	**P**	**15 07 27.8**	**+0.7**
	0.2nm,0.4s,baz=297,slow=7.7,SNR=9.8						
KSRS	**Korea Array**	**46.12**	**35**	P	**P**	**15 07 47.0**	**-0.4**
	1.5nm,1.0s,baz=221,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**47.31**	**346**	P	**P**	**15 07 58.1**	**+1.4**
	0.7nm,0.5s,baz=162,slow=9.5,SNR=17						
SONM	**Songino Array**	**47.31**	**9**	P	**P**	**15 07 57.1**	**+0.4**
	0.5nm,0.6s,baz=188,slow=7.8,SNR=4.7						
ZALV	**Zalesovo Beam**	**53.65**	**351**	P	**P**	**15 08 45.2**	**+0.9**
	1.1nm,0.5s,baz=173,slow=6.0,SNR=7.6						
ZALV				LR	LR	15 36 16.9	
	comp=Z,16nm,18.6s,baz=256,slow=41						

*SKHL **29** 15:10:07.1±0.8, 47°.15N×152°.63E, h81km±8km, mb5.0/3, msh5.1/3*

ISC 29 15:09:58.7±2.8, 46°.3N±0°.2×153°.8E±0°.2, h35km, n15, σ2ˢ88/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.27**	**258**	eP	**Pn**	**15 11 04.2**	**+3.1**
KUR				AMB	AMB	15 11 05.2	
	36nm,0.3s						
KUR				eS	**Sn**	**15 11 46.4**	**-3.3**
KUR				A	A	15 11 53.3	
	91nm,0.6s						
KUR				A	A	15 11 53.3	
	39nm,0.6s						
SKR	**Severo-Kuril's**	**4.70**	**18**	eP	**Pn**	**15 11 09.0**	**+2.0**
SKR				AMB	AMB	15 11 11.5	
	60nm,0.5s						
SKR				eS	**Sn**	**15 11 56.0**	**-4.2**
SKR				A	A	15 12 04.5	
	88nm,0.5s						
SHO	**Shikotan**	**5.47**	**247**	eP	Pn	15 11 23.2	+5.5
SHO				eS	**Sn**	**15 12 20.5**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**6.03**	**251**	eP	**Pn**	**15 11 28.4**	**+3.1**
YUK				AMB	AMB	15 11 29.4	
	53nm,0.2s						
YUK				eS	**Sn**	**15 12 35.2**	**+2.1**
YUK				A	A	15 12 54.6	
	56nm,0.7s						
YUK				A	A	15 12 54.6	
	78nm,0.7s						
NEM2	**Nemuro 2**	**6.41**	**246**	P	**Pn**	**15 11 31.7**	**+1.2**
NEM2				eS	**Sn**	**15 12 38.0**	**-4.4**
JRA	**Rausu**	**6.56**	**252**	P	**Pn**	**15 11 35.4**	**+2.9**
JNK	**Nakash**	**6.97**	**251**	P	**Pn**	**15 11 40.7**	**+2.5**
JNK				eS	**Sn**	**15 12 54.0**	**-2.2**
JAK	**Akkeshi**	**7.26**	**247**	P	**Pn**	**15 11 43.3**	**+1.2**
JAK				eS	**Sn**	**15 12 58.3**	**-5.0**
JTKR	**Abashiri--Toko**	**7.36**	**256**	P	**Pn**	**15 11 46.2**	**+2.7**
JAR	**Ashorobuto**	**7.72**	**251**	P	**Pn**	**15 11 51.1**	**+2.6**
JAR				eS	**Sn**	**15 13 12.1**	**-2.5**
JKK2	**Kamakawa 2**	**8.17**	**257**	P	**Pn**	**15 11 57.5**	**+2.8**
JCH	**Churui**	**8.30**	**248**	P	**Pn**	**15 11 57.9**	**+1.4**
JCH				eS	Sn	15 13 22.5	-6.4
JNB	**Noboribetsu**	**9.88**	**252**	P	**Pn**	**15 12 19.7**	**+1.5**
JKB	**Kayabe**	**10.16**	**249**	P	**Pn**	**15 12 22.8**	**+0.8**
JANG	**Nango**	**10.70**	**241**	P	**Pn**	**15 12 29.0**	**-0.3**

IDC 29 15:13:41.5±2.9, 23°.96S×66°.47W, h167km±42km, mb3.0/1, mb1 2.8/3, mb1mx2.8/29, mbtmp3.3/3, Error ellipse: s-maj=92.7km s-min=20.1km az=88.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.77**	**191**	P	Pn	15 15 31.6	-0.2
	0.1nm,0.3s,baz=354,slow=4.2,SNR=15						
LPAZ	**La Paz**	**7.79**	**348**	P	Pn	15 15 33.9	+0.9
	0.2nm,0.3s,baz=157,slow=9.1,SNR=6.2						
LPAZ				S	Sn	15 16 59.6	-1.2
	0.1nm,0.3s,baz=93,slow=9.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**76.10**	**69**	P	P	15 25 11.2	-0.1
	0.2nm,0.4s,baz=258,slow=6.2,SNR=6.2						
ZALV	**Zalesovo Beam**	**143.13**	**28**	PKP	PKPbc	15 32 52.4	-0.2
	0.4nm,0.6s,baz=315,slow=0.9,SNR=2.7						
MKAR	**Makanchi Array**	**146.18**	**40**	PKPbc	PKPbc	15 33 02.0	-0.2
	0.2nm,0.5s,baz=316,slow=3.3,SNR=5.0						

*DDA **29** 15:36:31.8, 39°.29N×38°.48E, h28km, MD2.6*

*ISCJB **29** 15:36:33.1±0.8, 39°.32N±0°.04×38°.35E±0°.06, h11km±5km, Error ellipse: s-maj=7.9km s-min=6.6km az=138.9*

*ISK **29** 15:36:33.0, 39°.30N×38°.36E, h10km, MD2.7*

*CSEM **29** 15:36:33.0±0.4, 39°.32N×38°.33E, h6km±3km, MD2.6, Error ellipse: s-maj=8.4km s-min=7.7km az=105.0*

ISC 29 15:36:33.7±1.0, 39°.33N±0°.03×38°.38E±0°.04, h17km±5km, n18, σ1ˢ17/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.11**	**126**	i P	**Pg**	**15 36 36.4**	**-1.0**
KEMA				i S	**Sg**	**15 36 40.1**	**+0.3**
KEMA	**Kemaliye**	**0.11**	**126**	i P	**Pg**	**15 36 36.4**	**-1.0**
KEMA				i S	**Sg**	**15 36 40.1**	**+0.3**
ILIC	**ilic-Erzincan**	**0.19**	**51**	ePG	**Pg**	**15 36 38.3**	**-0.1**
ILIC				eSG	**Sg**	**15 36 41.5**	**0.0**
ILIC	**ilic-Erzincan**	**0.19**	**51**	ePg	**Pg**	**15 36 38.3**	**-0.1**
ILIC				eSg	**Sg**	**15 36 41.6**	**0.0**
EZC	**Erzincan**	**0.86**	**61**	ePn	**Pn**	**15 36 53.9**	**+2.7**
SUSE	**Susehri**	**0.88**	**351**	i P	**Pg**	**15 36 49.1**	**-1.8**
SUSE				i S	**Sg**	**15 37 03.0**	**+0.4**
SUSE	**Susehri**	**0.88**	**351**	i P	**Pg**	**15 36 49.1**	**-1.8**
SUSE				i S	**Sg**	**15 37 03.0**	**+0.4**
PTK	**Pertek**	**0.90**	**119**	ePg	**Pg**	**15 36 50.6**	**-0.7**
PTK				eSG	**Sn**	**15 37 04.3**	**-0.3**
PTK	**Pertek**	**0.90**	**119**	ePg	**Pg**	**15 36 50.6**	**-0.7**
PTK				eSg	**Sn**	**15 37 04.3**	**-0.3**
DARE	**Darende-Malaty**	**1.03**	**223**	ePG	**Pg**	**15 36 52.3**	**-1.4**
DARE	**Darende-Malaty**	**1.03**	**223**	ePg	**Pg**	**15 36 52.3**	**-1.4**
KELT	**Kelkit**	**1.06**	**39**	i S	**Sg**	**15 37 06.1**	**-2.0**
KELT	**Kelkit**	**1.06**	**39**	i P	Pb	15 36 50.8	-2.9
KELT				i S	**Sg**	**15 37 06.1**	**-2.0**
ERZN	**Erzincan**	**1.07**	**76**	ePN	**Pb**	**15 36 53.9**	**+0.1**
SVSK	**Karacayir**	**1.22**	**299**	ePN	**Pg**	**15 36 57.2**	**+0.1**
SVSK	**Karacayir**	**1.22**	**299**	ePn	**Pg**	**15 36 57.2**	**+0.1**
BAYT	**Ayd¯–ntepe-Bay**	**1.72**	**51**	ePN	**Pn**	**15 37 03.8**	**+0.7**
BAYT	**Ayd¯–ntepe-Bay**	**1.72**	**51**	ePn	**Pn**	**15 37 03.8**	**+0.7**

DDA 29 15:36:35.1, 38°.20N×38°.24E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.86**	**78**	ePN	Pn	15 36 55.6	+1.8
SVRC	**Sivrice-ELAZID**	**0.86**	**78**	ePn	Pn	15 36 55.6	+1.7
GZT	**Gaziantep**	**1.00**	**213**	i P	Pg	15 36 53.6	-0.8
GZT				i S	Sn	15 37 10.4	+0.2
HCB	**Kahramanmara¯**	**1.57**	**122**	i P	Pn	15 37 01.4	-2.0
HCB				i S	Sn	15 37 19.7	-4.4

*IDC **29** 15:50:00.2±1.2, 28°.04N×52°.22E, h0km, mb3.8/7, mb1 3.8/8, mb1mx3.5/32, mbtmp3.7/8, ML3.5/1, Error ellipse: s-maj=29.2km s-min=25.8km az=155.0*

*ISCJB **29** 15:50:02.6±1.0, 28°.1N±0°.2×52°.2E±0°.2, h26km, mb3.7/7, Error ellipse: s-maj=24.2km s-min=19.5km az=41.3*

ISC 29 15:50:04.2±1.2, 28°.0N±0°.2×52°.2E±0°.2, h26km, n8, σ1ˢ00/8, mb3.8/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**11.04**	**25**	Pn	**Pn**	**15 52 41.4**	**+0.8**
	0.3nm,0.3s,baz=164,slow=16,SNR=2.8						
MKAR	**Makanchi Array**	**30.10**	**43**	P	**P**	**15 56 11.9**	**+0.3**
	0.2nm,0.7s,baz=232,slow=7.5,SNR=3.9						
ZALV	**Zalesovo Beam**	**35.19**	**34**	P	**P**	**15 56 55.8**	**-0.2**
	0.3nm,0.3s,baz=227,slow=9.6,SNR=2.8						
NOA	**NORSAR Array B**	**42.83**	**332**	P	**P**	**15 57 58.5**	**-1.3**
	1.0nm,1.0s,baz=135,slow=9.4,SNR=2.9						
ARCES	**ARCESS Array B**	**44.31**	**347**	P	**P**	**15 58 11.5**	**-0.1**
	3.5nm,1.0s,baz=141,slow=7.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**49.19**	**263**	P	**P**	**15 58 51.6**	**+1.1**
	0.7nm,0.5s,baz=63,slow=7.6,SNR=9.9						
WRA	**Warramunga Arr**	**92.59**	**111**	P	**P**	**16 03 12.8**	**-1.1**
	0.4nm,0.9s,baz=318,slow=4.2,SNR=2.6						
ASAR	**Alice Springs**	**94.02**	**115**	P	**P**	**16 03 20.6**	**+0.2**
	0.5nm,1.0s,baz=296,slow=4.9,SNR=3.5						

*IDC **29** 16:04:09.7±10.0, 0°.91N×124°.12E, h116km±97km, mb3.6/5, mb1 3.8/5, mb1mx3.3/35, mbtmp4.0/5, Error ellipse: s-maj=123.0km s-min=17.3km az=67.0*

*ISCJB **29** 16:04:18.2±0.6, 0°.81N±0°.08×124°.16E±0°.06, h218km, mb3.7/5, Error ellipse: s-maj=11.5km s-min=8.5km az=162.4*

*DJA **29** 16:04:22.2±0.5, 1°.N±4°×12°.4E±°, h184km±6km, M3.8/8, MLv3.7/7, MLv3.8/8*

ISC 29 16:04:19.2±0.9, 0°.68N±0°.09×124°.25E±0°.06, h218km, n11, σ1ˢ82/17, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.28**	**249**	P	**Pn**	**16 04 47.7**	**-0.1**
KMSI				S	**S**	**16 05 07.7**	**-2.4**
LUWI	**Luwuk**	**2.26**	**221**	P	**Pn**	**16 05 02.0**	**+0.3**
LUWI				S	**S**	**16 05 32.9**	**-1.8**
MRSI	**Marisa**	**2.31**	**265**	P	**Pn**	**16 05 03.4**	**+1.1**
MRSI				S	**S**	**16 05 34.1**	**-1.5**
APSI	**Ampana**	**3.04**	**239**	P	**Pn**	**16 05 10.8**	**+0.5**
APSI				S	**S**	**16 05 49.8**	**-0.2**
TNTI	**Ternate**	**3.12**	**88**	P	**Pn**	**16 05 12.5**	**+1.3**
SANI	**Sanana**	**3.22**	**147**	P	**Pn**	**16 05 12.7**	**+0.3**
SANI				S	**S**	**16 05 50.2**	**-3.7**
WRA	**Warramunga Arr**	**22.76**	**155**	P	**P**	**16 09 05.2**	**+2.3**
	4.7nm,0.4s,baz=334,slow=11,SNR=79						
ASAR	**Alice Springs**	**25.95**	**159**	P	**P**	**16 09 34.4**	**+2.5**
	0.4nm,0.4s,baz=339,slow=10,SNR=26						
ASAR				PcP	**PcP**	**16 12 56.3**	**+1.7**
	0.2nm,0.4s,baz=346,slow=2.0,SNR=4.4						
SONM	**Songino Array**	**49.46**	**344**	P	**P**	**16 12 46.9**	**-0.6**
	1.0nm,0.5s,baz=159,slow=8.6,SNR=13						
MKAR	**Makanchi Array**	**58.70**	**327**	P	**P**	**16 13 53.6**	**-0.5**
	1.3nm,0.5s,baz=126,slow=6.8,SNR=29						
ZALV	**Zalesovo Beam**	**62.22**	**335**	P	**P**	**16 14 15.9**	**-1.7**
	0.8nm,0.7s,baz=140,slow=4.8,SNR=4.5						

IDC 29 16:20:09.3±20.0, 19°.46S×178°.84W, h650km±262km, mb3.0/5, mb1 3.3/5, mb1mx3.0/28, mbtmp4.1/5, Error ellipse: s-maj=202.2km s-min=74.6km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.82**	**263**	P	P	16 25 53.0	+0.5
	5.1nm,0.7s,baz=100,slow=8.2,SNR=5.9						
WRA	**Warramunga Arr**	**43.97**	**261**	P	P	16 27 22.1	+0.1
	1.1nm,0.3s,baz=96,slow=7.5,SNR=45						
ASAR	**Alice Springs**	**44.00**	**256**	P	P	16 27 21.9	-0.3
	2.1nm,0.5s,baz=90,slow=7.9,SNR=65						
TXAR	**Lajitas Array**	**87.17**	**58**	P	P	16 31 48.6	-0.2
	0.3nm,0.7s,baz=219,slow=6.9,SNR=3.6						
PDAR	**Pinedale Array**	**88.75**	**44**	P	P	16 31 56.3	+0.2
	0.3nm,0.5s,baz=224,slow=5.0,SNR=2.9						

*ATH **29** 16:27:54.0, 39°.97N×19°.96E, h29km, MD3.0/3*

ISC 29 16:27:53.6±2.1, 40°.0N±0°.1×19°.9E±0°.1, h26km±8km, n5, σ0ˢ71/8, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.14**	**139**	P	**Pb**	**16 27 57.8**	**-0.9**
SRN				S	**Sb**	**16 28 03.0**	**+0.9**
KEK	**Kerkira**	**0.28**	**193**	P	**Pb**	**16 28 00.0**	**-0.4**
KEK				S	**Sn**	**16 28 07.2**	**-0.2**
KEK	**Kerkira**	**0.28**	**193**	ePB	**Pb**	**16 28 00.7**	**+0.3**
KEK				eSB	**Sn**	**16 28 07.3**	**-0.2**
IGT	**Igoumenitsa**	**0.57**	**142**	ePN	**Pb**	**16 28 04.9**	**-0.1**
FNA	**Florina**	**1.39**	**55**	ePN	**Pb**	**16 28 19.0**	**0.0**

*MAN **29** 16:31:43, 16°.30N×121°.33E, h17km, mb4.8, ML3.7, MS3.7*

*ISCJB **29** 16:31:44.2±0.5, 16°.28N±0°.03×121°.41E±0°.04, h39km±5km, mb3.9/17, MS2.8/3, Error ellipse: s-maj=6.7km s-min=5.4km az=175.4*

*IDC **29** 16:31:49.1±3.8, 16°.38N×121°.58E, h70km±36km, mb3.6/17, mb1 3.6/18, mb1mx3.5/50, mbtmp3.9/18, MS2.9/3, Ms1 3.0/3, ms1mx2.7/26, Error ellipse: s-maj=27.6km s-min=14.6km az=69.0*

ISC 29 16:31:44.5±1.1, 16°.28N±0°.03×121°.41E±0°.04, h28km±9km, n35, σ1ˢ31/41, mb3.9/17, MS2.8/3, 4C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.56**	**163**	eP	**Pb**	**16 31 54.9**	**-0.8**
BALP				eS	**Sb**	**16 32 03.5**	**+0.1**
PCPH	**Palayan**	**0.77**	**203⇑**	eP	**Pn**	**16 31 58.4**	**-1.1**
PCPH				i S	**Sb**	**16 32 09.3**	**-0.2**
BCPH	**Baguio City Da**	**0.80**	**278⇑**	iP	**Pn**	**16 31 58.0**	**-2.0**
BCPH				i S	**Sb**	**16 32 09.2**	**-1.3**
BOLP	**Bolinao**	**1.44**	**274**	eP	**Pn**	**16 32 09.7**	**+1.0**
BOLP				eS	**Sn**	**16 32 24.8**	**-1.9**
CVP	**Callao Caves**	**1.47**	**16**	eP	**Pn**	**16 32 08.3**	**-0.9**
CVP				eS	**Sn**	**16 32 26.2**	**-1.3**
ABRA	**Dolores**	**1.52**	**334**	eP	**Pn**	**16 32 10.0**	**+0.2**
SCZP	**Santa Cruz**	**1.52**	**251**	eP	**Pn**	**16 32 09.5**	**-0.4**
SCZP				eS	**Sn**	**16 32 28.4**	**-0.4**
APYP	**Conner**	**1.58**	**354**	eP	**Pn**	**16 32 10.5**	**-0.2**
SIPP	**Brgy, Tapao**	**1.87**	**331⇓**	iP	**Pb**	**16 32 17.5**	**-0.6**
SIPP				eS	**Sb**	**16 32 43.9**	**+2.9**
SGCP	**Mt. Cagua**	**2.05**	**17**	eP	**Pn**	**16 32 16.9**	**-0.2**
PIP	**Pasuquin**	**2.17**	**340⇑**	iP	**Pn**	**16 32 19.9**	**+1.1**
PIP				eS	**Sb**	**16 32 51.0**	**+1.3**
TGY	**Tagaytay City**	**2.21**	**192⇓**	eP	**Pb**	**16 32 24.5**	**+0.7**
TGY				eS	**Sb**	**16 32 53.8**	**+3.0**
GQP	**Guinayangan**	**2.56**	**157⇓**	eP	**Pn**	**16 32 26.2**	**+2.1**
GQP				eS	**Sb**	**16 32 58.6**	**-2.3**
PVCP	**Virac**	**3.76**	**135⇓**	eP	**Pn**	**16 32 40.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**21.55**	**279**	P	**P**	**16 36 35.0**	**+3.1**
	0.6nm,0.6s,baz=94,slow=7.9,SNR=4.8						
CMAR				LR	LR	16 45 15.3	
	comp=Z,39nm,19.1s,baz=79,slow=37						
KSRS	**Korea Array**	**21.87**	**14**	P	**P**	**16 36 33.9**	**-1.1**
	1.8nm,0.7s,baz=194,slow=12,SNR=9.7						
MJAR	**Matsushiro Arr**	**25.10**	**33**	LR	LR	16 48 21.1	
	comp=Z,14nm,18.2s,baz=255,slow=40						
SONM	**Songino Array**	**33.82**	**342**	P	**P**	**16 38 24.6**	**+0.2**
	0.6nm,0.5s,baz=156,slow=10,SNR=4.4						
SONM				LR	LR	16 53 16.9	
	comp=Z,37nm,18.8s,baz=154,slow=38						
WRA	**Warramunga Arr**	**38.17**	**160**	P	**P**	**16 39 01.6**	**-0.2**
	4.5nm,0.9s,baz=340,slow=9.2,SNR=9.5						
ASAR	**Alice Springs**	**41.53**	**163**	P	**P**	**16 39 30.4**	**+0.8**
	0.8nm,0.6s,baz=346,slow=7.1,SNR=21						
H11S3	**WAKE ISLAND Hy**	**43.18**	**80**	T	T	17 25 49.0	
	baz=273,slow=74,SNR=32						
H11S1	**WAKE ISLAND Hy**	**43.19**	**80**	T	T	17 25 47.0	
	baz=273,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy**	**43.20**	**80**	T	T	17 25 51.1	
	baz=273,slow=74,SNR=18						
MKAR	**Makanchi Array**	**44.41**	**322**	P	**P**	**16 39 53.2**	**+0.5**
	0.4nm,0.7s,baz=114,slow=11,SNR=5.0						
ZALV	**Zalesovo Beam**	**47.12**	**331**	P	**P**	**16 40 12.7**	**-1.2**
	0.4nm,0.5s,baz=128,slow=9.3,SNR=2.3						
BVAR	**Borovoye Array**	**54.06**	**325**	P	**P**	**16 41 06.2**	**-0.2**
	0.8nm,0.7s,baz=114,slow=9.6,SNR=7.5						
GEYT	**Alibeck**	**59.21**	**305**	P	**P**	**16 41 44.5**	**+1.1**
	0.6nm,0.5s,baz=84,slow=4.6,SNR=4.2						
AKTO	**Aktyubinsk**	**60.71**	**319**	P	**P**	**16 41 53.5**	**+0.2**
	0.6nm,0.5s,baz=75,slow=9.1,SNR=5.3						
SPITS	**Spitsbergen Ar**	**77.22**	**348**	P	**P**	**16 43 35.1**	**-0.4**
	4.0nm,0.8s,baz=62,slow=5.7,SNR=4.8						
FINES	**FINESS Array B**	**78.38**	**331**	P	**P**	**16 43 41.7**	**-0.5**
	1.1nm,0.5s,baz=60,slow=5.3,SNR=10						
AKASG	**Malin Array Be**	**78.95**	**320**	P	**P**	**16 43 44.8**	**-0.8**
	0.8nm,0.9s,baz=62,slow=4.4,SNR=5.9						
HFS	**Hagfors**	**84.56**	**331**	P	**P**	**16 44 14.2**	**-0.8**
	1.0nm,0.7s,baz=72,slow=9.5,SNR=3.7						
NOA	**NORSAR Array B**	**85.30**	**333**	P	**P**	**16 44 17.7**	**-1.0**
	1.0nm,0.8s,baz=65,slow=5.0,SNR=3.2						
IDI	**Anoyia**	**85.93**	**305**	P	**P**	**16 44 22.6**	**+0.2**
	8.9nm,1.0s,baz=265,slow=8.2,SNR=6.6						
YKA	**Yellowknife Ar**	**90.15**	**23**	P	**P**	**16 44 41.8**	**-0.1**
	0.3nm,0.8s,baz=307,slow=4.5,SNR=4.9						

JMA 29 16:34:02.6, 28°.25N×130°.43E, h40km±1km, M2.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.41**	**279**	P	Pn	16 34 12.1	-0.1
JZK				S	Sn	16 34 18.9	0.0
JAM	**Amami Oshima**	**0.74**	**283**	P	Pn	16 34 16.8	+0.2
JAM				S	Sn	16 34 26.9	+0.1
JAMN	**Amaminishikomi**	**1.11**	**270**	P	Pn	16 34 22.1	+0.5
JAMN				S	Sn	16 34 36.0	+0.3
JTK	**Tokunoshima**	**1.39**	**251**	P	Pn	16 34 26.2	+0.7
JTK				eS	Sn	16 34 43.3	+0.7
JTAJ	**Takarajima**	**1.40**	**310**	P	Pn	16 34 26.3	+0.6
JTAJ				S	Sn	16 34 43.5	+0.5
JOKE	**Okinoerabujima**	**1.87**	**242**	P	Pn	16 34 33.2	+1.1
JOKE				S	Sn	16 34 55.2	+0.7
JYAK	**Yakushimahirau**	**1.98**	**2**	eS	Sn	16 34 59.3	+2.0
JOW	**Kunigami**	**2.38**	**234**	P	Pn	16 34 39.7	+0.6
JOW				eS	Sn	16 35 07.4	+0.3
JOW	**Kunigami**	**2.38**	**234**	P	Pn	16 34 39.4	+0.3
	baz=287,slow=19						
JIH	**Iheya**	**2.50**	**242**	P	Pn	16 34 41.6	+0.9
JIH				eS	Sn	16 35 09.0	-1.0

GUC 29 16:34:27.4±0.5, 33°.94S×72°.34W, h35km±2km, ML3.9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.35**	**71**	eP	Pn	16 34 50.0	+0.2
RCDM				eS	Sn	16 35 06.9	+0.4
NICH	**Los Niches**	**1.40**	**140**	eP	Pn	16 34 51.1	+0.7
NICH				eS	Sn	16 35 08.9	+1.1
ROCH	**El Roble**	**1.47**	**49**	eP	Pn	16 34 52.5	+0.8
ROCH				eS	Sn	16 35 11.5	+1.7
ROCH				IAML		16 35 21.8	
	comp=N,3μm,0.8s						
TALC	**Talca**	**1.57**	**159**	eP	Pn	16 34 53.4	+0.7
TALC				eS	Sn	16 35 13.7	+1.9
LACH	**Col Las Americ**	**1.58**	**73**	eP	Pn	16 34 54.1	+1.1
LACH				eS	Sn	16 35 14.1	+1.8
PEL	**Peldehue**	**1.59**	**61**	eP	Pn	16 34 53.8	+0.7
PEL				eS	Sn	16 35 14.2	+1.8
CLCH	**Cerro Calan**	**1.59**	**71**	eP	Pn	16 34 53.9	+0.7
CLCH				eS	Sn	16 35 14.4	+1.8
CLCH				IAML		16 35 24.7	
	comp=N,3μm,0.5s						
SJCH	**San Jose de Ma**	**1.68**	**80**	eP	Pn	16 34 55.3	+0.

LPAZ LR LR 16 49 27.2
comp=E,57nm,18.9s,baz=172,slow=40
LPAZ La Paz 18.49 12 *eP* **Pn 16 41 30.0 +0.5**
comp=E,3.2nm,0.7s
SIV San Ignacio 20.88 31 P **P 16 41 54.7 -0.2**
comp=E,1.8nm,0.6s,baz=225,slow=12,SNR=4.8
SAML Samuel 26.70 20 *eP* **P 16 42 50.6 -1.2**
comp=E,3.0nm,0.7s
PTGA Pitinga 35.44 21 *eP* **P 16 44 08.3 -0.5**
comp=E,4.0nm,0.8s
SNAA Sanae 51.05 158 P **P 16 46 15.3 +1.0**
TXAR Lajitas Array 70.25 331 P **P 16 48 26.5 +0.8**
comp=E,1.1nm,0.5s,baz=158,slow=9.4,SNR=24
BOSA Boshof 79.73 118 P **P 16 49 20.1 -0.6**
comp=E,2.1nm,0.7s,baz=185,slow=8.9,SNR=3.1
PDAR Pinedale Array 84.29 333 P **P 16 49 44.4 +0.1**
comp=E,0.6nm,0.7s,baz=147,slow=8.3,SNR=5.0
TORD Torodi Ar. Bea 84.30 70 P **P 16 49 44.1 -0.6**
comp=E,1.6nm,0.7s,baz=281,slow=6.0,SNR=18
WRA Warramunga Arr 120.34 209 PKP **PKPdf 16 56 03.4 -0.9**
comp=E,0.2nm,0.3s,baz=153,slow=1.8,SNR=6.6
BVAR Borovoye Array 147.60 44 PKPbc **PKPbc 16 56 56.4 +0.1**
comp=E,1.1nm,0.5s,baz=309,slow=4.7,SNR=7.3
KURBB Kurchatov Arra 153.19 44 PKPbc **PKPbc 16 57 09.9 +0.2**
comp=E,0.6nm,0.5s,baz=310,slow=3.2,SNR=8.0
KURK Kurchatov 153.20 44 PKPbc **PKPbc 16 57 09.9 +0.2**
ZALV Zalesovo Beam 154.62 33 PKPbc **PKPbc 16 57 10.8 -1.9**
comp=E,0.6nm,0.6s,baz=289,slow=4.4,SNR=4.2
ZALV PKPab **PKPab 16 57 27.8 +0.3**
comp=E,0.5nm,0.5s,baz=308,slow=4.9,SNR=3.2

*IDC **29** 16:46:45.9±1.0,34°.47N×26°.19E,h0km,mb4.0/11, mb1 3.8/7,mb1mx3.7/42,mbtmp3.8/17,ML3.4/6,MS2.1/1, Ms1 2.1/1,ms1mx1.9/38,Error ellipse: s-maj=21.5km s-min=15.0km az=4.0*
*ATH **29** 16:46:47.2,34°.24N×26°.14E,h16km±2km,MD3.3/7*
*CSEM **29** 16:46:48.9±0.3,34°.45N×26°.28E,h20km,MD3.3,Error ellipse: s-maj=9.7km s-min=7.2km az=54.0*
*ISCJB **29** 16:46:48.2±0.3,34°.34N±0°.03×26°.21E±0°.04,h32km, mb3.9/11,Error ellipse: s-maj=4.5km s-min=3.8km az=137.4*
*HLW **29** 16:46:50.5,34°.41N×26°.18E,h31km±21km,Md3.3,Ml3.0*
*ISK **29** 16:46:59.4,35°.36N×26°.29E,h53km,ML3.1*
ISC 29 16:46:49.1±0.6,34°.36N±0°.04×26°.13E±0°.03,h32km,n99,σ1º62/100,mb3.9/11,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.76**	**6**	*e*PN	**Pb**	**16 47 04.0**	**0.0**
ZKR	**Zakros**	**0.76**	**6**	*e*Pn	**Pb**	**16 47 04.0**	**0.0**
LAST	**Lasithi**	**0.96**	**327**	*e*PN	**Pb**	**16 47 07.2**	**-0.3**
LAST				*e*SN	**Sb**	**16 47 22.8**	**+2.9**
LAST	**Lasithi**	**0.96**	**327**	*e*Pn	**Pb**	**16 47 07.2**	**-0.3**
LAST				*e*Sn	**Sb**	**16 47 22.8**	**+2.9**
NPS	**Neapolis**	**1.00**	**335**	*e*PN	**Pb**	**16 47 07.7**	**-0.3**
NPS	**Neapolis**	**1.00**	**335**	*e*Pn	**Pb**	**16 47 07.7**	**-0.3**
SIVA	**Sivas**	**1.27**	**302**	*e*PN	**Pb**	**16 47 13.1**	**+0.6**
SIVA	**Sivas**	**1.27**	**302**	*e*Pn	**Pb**	**16 47 13.1**	**+0.6**
IDI	**Anoyia**	**1.38**	**313**	Pn	**Pb**	**16 47 14.1**	**-0.3**
	9.9nm,0.3s,baz=131,slow=12,SNR=66						
IDI				Sn	**Sn**	**16 47 29.7**	**+0.2**
	17nm,0.3s,baz=313,slow=18,SNR=18						
KARP	**Karpathos**	**1.46**	**35**	*e*PN	**Pb**	**16 47 16.6**	**+0.8**
KARP	**Karpathos**	**1.46**	**35**	*e*Pn	**Pb**	**16 47 16.6**	**+0.8**
VAM	**Vamos**	**1.90**	**304**	*e*PN	**Pb**	**16 47 21.9**	**-1.3**
VAM	**Vamos**	**1.90**	**304**	*e*Pn	**Pb**	**16 47 21.9**	**-1.3**
THR1	**Thera Island**	**2.08**	**345**	*e*PN	**Pn**	**16 47 22.8**	**+0.9**
THR1	**Thera Island**	**2.08**	**345**	*e*Pn	**Pn**	**16 47 22.8**	**+0.9**
SANT	**Santorini**	**2.08**	**345**	*e*PB	**Pb**	**16 47 25.1**	**-1.2**
SANT	**Santorini**	**2.08**	**345**	*e*Pb	**Pb**	**16 47 25.1**	**-1.2**
KARN	**Karanos**	**2.10**	**300**	*e*PN	**Pb**	**16 47 24.9**	**-1.6**
KARN	**Karanos**	**2.10**	**300**	*e*Pn	**Pb**	**16 47 24.9**	**-1.6**
NIS1	**Nisyros Isl.**	**2.40**	**21**	*e*PN	**Pn**	**16 47 24.0**	**-2.3**
NIS1	**Nisyros Isl.**	**2.40**	**21**	*e*PB	**Pb**	**16 47 30.3**	**-1.4**
NIS1	**Nisyros Isl.**	**2.40**	**21**	*e*Pn	**Pn**	**16 47 24.0**	**-2.3**
NIS1	**Nisyros Isl.**	**2.40**	**21**	*e*Pb	**Pb**	**16 47 30.3**	**-1.4**
ARG	**Arkhangelos**	**2.47**	**41**	*e*PN	**Pb**	**16 47 30.4**	**-2.5**
ARG	**Arkhangelos**	**2.47**	**41**	*e*Pn	**Pb**	**16 47 30.4**	**-2.5**
APE	**Apeiranthos**	**2.75**	**350**	*e*PN	**Pn**	**16 47 29.4**	**-1.6**
APE	**Apeiranthos**	**2.75**	**350**	*e*PN	**Pb**	**16 47 34.6**	**-3.1**
APE	**Apeiranthos**	**2.75**	**350**	*e*Pn	**Pn**	**16 47 29.5**	**-1.6**
ANKY	**Antikythira Is**	**2.77**	**304**	*e*PB	**Pb**	**16 47 34.9**	**-3.0**
ANKY	**Antikythira Is**	**2.77**	**304**	*e*Pb	**Pb**	**16 47 34.9**	**-3.0**
BODT	**Bodrum**	**2.87**	**19**	*e*PN	**Pn**	**16 47 30.4**	**-2.3**
BODT	**Bodrum**	**2.87**	**19**	*e*Pn	**Pn**	**16 47 30.4**	**-2.3**
BDRM	**Kayabasi**	**2.91**	**21**	*i* P	**Pn**	**16 47 35.2**	**+2.0**
SLUM		**2.96**	**195**	P	**Pn**	**16 47 34.7**	**+0.8**
	baz=196						
DALY	**Dalyan (Mu¨la**	**3.20**	**39**	*e*PN	**Pn**	**16 47 37.8**	**+0.5**
DALY	**Dalyan (Mu¨la**	**3.20**	**39**	*e*Pn	**Pn**	**16 47 37.8**	**+0.5**
YER	**Yerkesik**	**3.28**	**32**	*e*PN	**Pn**	**16 47 37.3**	**-1.1**
YER				*e*SN	Sn	16 48 05.5	-11
YER	**Yerkesik**	**3.28**	**32**	*e*Pn	**Pn**	**16 47 37.3**	**-1.1**
YER				*e*Sn	Sn	16 48 05.5	-11
FETY	**Fethiye**	**3.31**	**46**	*e*PN	**Pn**	**16 47 40.4**	**+1.6**
FETY	**Fethiye**	**3.31**	**46**	*e*Pn	**Pn**	**16 47 40.4**	**+1.6**
HMAT	**Matruh**	**3.35**	**166**	P	**Pn**	**16 47 40.3**	**+1.0**
HMAT				S	**Sn**	**16 48 17.5**	**-0.6**
HMAT	**Matruh**	**3.35**	**166**	P	**Pn**	**16 47 40.3**	**+1.0**
	baz=166						
HMAT				AMP		16 48 00.0	
	comp=E,60μm,0.9s,logA/T=4.8,baz=166						
HMAT				S	**Sn**	**16 48 17.5**	**-0.6**
	baz=166						
SMG	**Samos**	**3.40**	**10**	*e*PN	Pb	16 47 43.3	-5.3
SMG	**Samos**	**3.40**	**10**	*e*Pn	Pb	16 47 43.3	-5.3
AKAS	**Kas**	**3.41**	**56**	*i* P	**Pn**	**16 47 42.1**	**+2.0**
AKAS				*i* S	**Sn**	**16 48 21.7**	**+2.2**
AYDN	**Tasoluk**	**3.59**	**23**	*i* P	Pb	16 47 46.3	-5.7
AYDB	**Zeytinkoy-Aydi**	**3.86**	**21**	*e*PN	**Pn**	**16 47 44.8**	**-1.6**
AYDB	**Zeytinkoy-Aydi**	**3.86**	**21**	*e*Pn	**Pn**	**16 47 44.8**	**-1.6**
ELL	**Elmali**	**3.90**	**51**	*e*PN	Pn	16 47 49.9	+3.0
ELL	**Elmali**	**3.90**	**51**	*e*Pn	Pn	16 47 49.9	+3.0
GOLH	**Golhisar**	**4.01**	**43**	*i* P	Pn	16 47 51.5	+3.1
GOLH				*i* S	Sb	16 48 39.2	-7.9
DNZL	**Cakiroluk**	**4.08**	**35**	*i* P	Pn	16 47 51.8	+2.2
IZM	**Izmir**	**4.14**	**12**	*e*PN	**Pn**	**16 47 47.5**	**-2.6**
IZM	**Izmir**	**4.14**	**12**	*e*Pn	**Pn**	**16 47 47.5**	**-2.6**
KULA	**Kula-Manisa**	**4.62**	**25**	*e*PN	**Pn**	**16 47 55.9**	**-1.0**
KULA	**Kula-Manisa**	**4.62**	**25**	*e*Pn	**Pn**	**16 47 55.9**	**-1.0**
AKS	**Akhisar**	**4.71**	**16**	*e*PN	**Pn**	**16 47 55.7**	**-2.3**
AKS	**Akhisar**	**4.71**	**16**	*e*Pn	**Pn**	**16 47 55.7**	**-2.3**
BCK	**Bucak**	**4.76**	**48**	*e*PN	**Pn**	**16 48 00.9**	**+2.1**
BCK	**Bucak**	**4.76**	**48**	*e*Pn	**Pn**	**16 48 00.9**	**+2.1**
KHL	**Karahalli**	**4.81**	**34**	*e*PN	**Pn**	**16 47 59.2**	**-0.3**
KHL	**Karahalli**	**4.81**	**34**	*e*Pn	**Pn**	**16 47 59.2**	**-0.3**
SIGR	**SIGRI**	**4.85**	**357**	*e*PN	**Pn**	**16 47 58.5**	**-1.4**
SIGR	**SIGRI**	**4.85**	**357**	*e*Pn	**Pn**	**16 47 58.5**	**-1.4**
SHUT	**Suhut-Afyon**	**5.50**	**39**	*e*PN	**Pn**	**16 48 09.8**	**+0.9**
SHUT	**Suhut-Afyon**	**5.50**	**39**	*e*Pn	**Pn**	**16 48 09.8**	**+0.9**
ERMK	**Ermenek**	**5.99**	**66**	*i* P	Pn	16 48 18.8	+3.2
ERMK				*i* S	**Sn**	**16 49 24.7**	**+1.5**
LPK	**Lapseki**	**6.03**	**5**	*e*PN	**Pn**	**16 48 15.3**	**-0.8**
LPK	**Lapseki**	**6.03**	**5**	*e*Pn	**Pn**	**16 48 15.3**	**-0.8**
GELI	**Tayfur-Gelibol**	**6.04**	**3**	*e*PN	**Pn**	**16 48 14.8**	**-1.4**
GELI	**Tayfur-Gelibol**	**6.04**	**3**	*e*Pn	**Pn**	**16 48 14.8**	**-1.4**
KRBG	**Karabiga-Canak**	**6.10**	**8**	*e*PN	**Pn**	**16 48 15.6**	**-1.4**
KRBG	**Karabiga-Canak**	**6.10**	**8**	*e*Pn	**Pn**	**16 48 15.6**	**-1.4**
ALN	**Alexandroupoli**	**6.53**	**359**	*e*PN	**Pn**	**16 48 21.5**	**-1.4**
ALN	**Alexandroupoli**	**6.53**	**359**	*e*Pn	**Pn**	**16 48 21.5**	**-1.4**
GLL	**Jalalah**	**6.72**	**134**	P	**Pn**	**16 48 25.6**	**-0.1**
GLL	**Jalalah**	**6.72**	**134**	P	**Pn**	**16 48 25.6**	**-0.1**
	baz=134						
AMAG	**Maghara**	**7.03**	**120**	P	**Pn**	**16 48 29.9**	**-0.1**
AMAG	**Maghara**	**7.03**	**120**	P	**Pn**	**16 48 29.9**	**-0.1**
	baz=120						
SUZ		**7.25**	**127**	P	**Pn**	**16 48 33.3**	**+0.4**
SUZ		**7.25**	**127**	P	**Pn**	**16 48 33.3**	**+0.4**
	baz=127						
MMAI	**Mount Meron Ar**	**7.84**	**97**	Pn	**Pn**	**16 48 40.4**	**-0.7**
	comp=E,2.3nm,0.3s,baz=258,slow=12,SNR=9.6						
MMAI				Sn	**Sn**	**16 50 07.1**	**-1.8**
	comp=E,2.9nm,0.3s,baz=285,slow=26,SNR=7.5						
BRTR	**Keskin Array B**	**8.05**	**46**	Pn	**Pn**	**16 48 45.3**	**+1.4**
	comp=E,0.1nm,0.3s,baz=230,slow=13,SNR=3.3						
BRTR				Sn	**Sn**	**16 50 15.3**	**+1.5**
	comp=E,0.1nm,0.3s,baz=227,slow=23,SNR=2.3						
EIL	**Elat**	**8.83**	**120**	Pn	**Pn**	**16 48 55.6**	**+1.1**
	comp=E,0.3nm,0.3s,baz=258,slow=1.4,SNR=6.5						
EIL				Sn	**Sn**	**16 50 27.7**	**-5.2**
	comp=E,1.0nm,0.3s,baz=259,slow=23,SNR=4.5						

MLR	**Muntele Rosu**	**11.12**	**359**	LR	LR	16 54 05.2	
	comp=E,11nm,21.2s,baz=188,slow=40						
KBZ	**Khabaz**	**16.02**	**49**	Pn	**Pn**	**16 50 32.6**	**+0.7**
	comp=E,0.0nm,0.3s,baz=11,slow=10,SNR=2.2						
AKASG	**Malin Array Be**	**16.49**	**7**	Pn	**Pn**	**16 50 34.4**	**-3.5**
	comp=E,0.2nm,0.3s,baz=201,slow=10,SNR=5.3						
GERES	**GERESS Array B**	**17.17**	**331**	P	**P**	**16 50 47.3**	**-0.6**
	comp=E,0.2nm,0.3s,baz=147,slow=13,SNR=4.4						
GEYT	**Alibeck**	**26.01**	**73**	P	**P**	**16 52 18.1**	**-1.1**
	comp=E,0.9nm,0.5s,baz=268,slow=8.7,SNR=3.4						
HFS	**Hagfors**	**27.04**	**346**	P	**P**	**16 52 28.2**	**-0.1**
	comp=E,1.3nm,0.6s,baz=134,slow=15,SNR=4.1						
FINES	**FINESS Array B**	**27.11**	**360**	P	**P**	**16 52 27.7**	**-1.1**
	comp=E,0.6nm,0.4s,baz=163,slow=12,SNR=6.9						
TORD	**Torodi Ar. Bea**	**30.61**	**232**	P	**P**	**16 53 02.1**	**+1.8**
	comp=E,0.4nm,0.6s,baz=24,slow=8.4,SNR=3.9						
ARCES	**ARCESS Array B**	**35.23**	**360**	P	**P**	**16 53 39.5**	**-0.7**
	comp=E,1.9nm,0.8s,baz=196,slow=8.4,SNR=6.8						
KURBB	**Kurchatov Arra**	**41.01**	**50**	P	**P**	**16 54 30.9**	**+1.8**
	comp=E,0.9nm,0.4s,baz=278,slow=8.7,SNR=14						
MKAR	**Makanchi Array**	**43.56**	**56**	P	**P**	**16 54 51.5**	**+1.6**
	comp=E,2.6nm,0.6s,baz=278,slow=7.0,SNR=41						
ZALV	**Zalesovo Beam**	**44.99**	**46**	P	**P**	**16 55 02.1**	**+0.8**
	comp=E,2.2nm,0.4s,baz=265,slow=8.7,SNR=14						
SONM	**Songino Array**	**59.38**	**51**	P	**P**	**16 56 49.7**	**+1.3**
	comp=E,0.6nm,0.5s,baz=283,slow=7.6,SNR=7.1						
SCHQ	**Scheferville**	**64.31**	**320**	P	**P**	**16 57 22.2**	**+0.9**
	comp=E,1.5nm,0.6s,baz=41,slow=7.9,SNR=6.2						
KSRS	**Korea Array**	**78.14**	**53**	P	**P**	**16 58 46.9**	**+1.7**
	comp=E,0.5nm,0.5s,baz=311,slow=5.2,SNR=3.1						

IDC 29 16:47:01.7±7.0,20°.33S×169°.30E,h91km±54km,mb3.6/3, mb1 3.9/5,mb1mx3.5/18,mbtmp4.0/5,ML4.1/2,Error ellipse: s-maj=62.4km s-min=29.1km az=23.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.18**	**236**	P	Pn	16 47 49.5	-0.3
	18nm,0.3s,baz=98,slow=9.5,SNR=394						
DZM				S	Sn	16 48 27.4	+0.6
	76nm,0.3s,baz=114,slow=20,SNR=17						
URZ	**Urewera**	**19.11**	**161**	P	P	16 51 16.9	-0.4
	0.6nm,0.3s,baz=222,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**32.79**	**264**	P	P	16 53 25.8	-0.7
	0.4nm,0.4s,baz=91,slow=8.5,SNR=13						
ASAR	**Alice Springs**	**32.94**	**258**	P	P	16 53 27.1	-0.8
	2.2nm,0.7s,baz=83,slow=9.2,SNR=50						
CMAR	**Chiang Mai Arr**	**79.00**	**294**	P	P	16 58 57.5	+1.3
	0.6nm,0.7s,baz=108,slow=3.8,SNR=5.1						

*ISCJB **29** 17:32:36.8±0.6,50°.17N±0°.05×19°.07E±0°.03,h0km,Error ellipse: s-maj=7.0km s-min=3.0km az=4.8*
*CSEM **29** 17:32:37.8±0.5,50°.16N×19°.10E,h2km,ML2.5/4,Error ellipse: s-maj=13.3km s-min=5.0km az=14.0*
*PRU **29** 17:32:38.9,50°.11N×19°.09E,h0km*
ISC 29 17:32:38.6±0.8,50°.07N±0°.03×19°.11E±0°.02,h0km,n23,σ0º89/39,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.23**	**340**	*e*Pg	**Pg**	**17 32 44.9**	**+1.9**
CHZP				*e*Sg	**Sg**	**17 32 47.2**	**+1.1**
OJC	**Ojcow**	**0.47**	**71**	*e*Pg	**Pg**	**17 32 46.5**	**-1.0**
OJC				*e*Sg	**Sg**	**17 32 52.2**	**-1.3**
OKC	**Ostrava-Krasne**	**0.67**	**250**	*e*PG	**Pg**	**17 32 50.9**	**-0.4**
OKC				*e*SG	**Sg**	**17 33 00.7**	**+0.7**
	comp=Z,6.4nm,0.2s						
OKC	**Ostrava-Krasne**	**0.67**	**250**	Pg	**Pg**	**17 32 50.9**	**-0.4**
OKC				Sg	**Sg**	**17 33 00.7**	**+0.7**
	6.4nm,0.2s						
LANS	**Liptovska Anna**	**0.95**	**166**	*e*Pn	**Pg**	**17 32 57.9**	**+1.1**
LANS				*e*Sn	**Sb**	**17 33 11.2**	**+0.1**
MORC	**Moravsky Berou**	**1.06**	**254**	*e*Pg	**Pb**	**17 32 59.7**	**-0.1**
MORC				*e*Sg	**Sb**	**17 33 14.4**	**+0.2**
KRLC	**Kraliky**	**1.50**	**271**	*e*PG	**Pn**	**17 33 05.6**	**-1.2**
KRLC				*e*SG	**Sb**	**17 33 26.4**	**-0.6**
KRLC	**Kraliky**	**1.50**	**271**	Pg	**Pn**	**17 33 05.6**	**-1.2**
KRLC				Sg	**Sb**	**17 33 26.4**	**-0.6**
STHS	**Stebnicka Huta**	**1.53**	**115**	*e*Pn	**Pb**	**17 33 07.9**	**+0.1**
STHS				*e*Sn	**Sn**	**17 33 28.4**	**+0.6**
STHS	**Stebnicka Huta**	**1.53**	**115**	*e*PN	**Pb**	**17 33 07.9**	**+0.1**
STHS				*e*SN	**Sn**	**17 33 28.4**	**+0.6**
STHS				*e*LG	Lg	17 33 44.0	
VYHS	**Vyhne**	**1.59**	**187**	*e*Pn	**Pn**	**17 33 07.9**	**-0.1**
VYHS				*e*Sn	**Sn**	**17 33 29.3**	**+0.1**
VYHS	**Vyhne**	**1.59**	**187**	*e*PN	**Pn**	**17 33 07.9**	**-0.1**
VYHS				*e*SN	**Sn**	**17 33 29.3**	**+0.1**
VYHS				*e*LG	Lg	17 33 31.1	
VRAC	**Vranov**	**1.81**	**246**	*e*Pn	**Pn**	**17 33 11.6**	**+0.6**
VRAC				*e*Sg	**Sg**	**17 33 37.2**	**+0.6**
DPC	**Dobruska-Polom**	**1.81**	**280**	*e*PG	**Pn**	**17 33 11.0**	**-0.1**
DPC				*e*SG	**Sg**	**17 33 36.0**	**-0.8**
DPC	**Dobruska-Polom**	**1.81**	**280**	Pg	**Pn**	**17 33 11.0**	**-0.1**
DPC				Sg	**Sg**	**17 33 36.0**	**-0.8**
UPC	**Upice**	**2.04**	**284**	*e*SG	**Sg**	**17 33 43.1**	**-0.9**
	comp=Z,1.0nm,0.1s						
UPC	**Upice**	**2.04**	**284**	Sg	**Sg**	**17 33 43.1**	**-0.9**
	1.0nm,0.1s						
PRU	**Pruhonice**	**2.95**	**270**	*e*SG	**Sg**	**17 34 12.2**	**-1.1**
	comp=Z,2.2nm,0.4s						
PRU	**Pruhonice**	**2.95**	**270**	Sg	**Sg**	**17 34 12.2**	**-1.1**
	2.2nm,0.4s						
PVCC	**Panska Ves**	**2.95**	**281**	*e*SG	**Sg**	**17 34 12.0**	**-1.3**
	comp=Z,4.4nm,0.2s						
PVCC	**Panska Ves**	**2.95**	**281**	Sg	**Sg**	**17 34 12.0**	**-1.3**
	4.4nm,0.2s						
KHC	**Kasperske Hory**	**3.72**	**257**	*e*PG	**Pb**	**17 33 46.5**	**+1.3**
KHC				*e*SG	**Sg**	**17 34 36.9**	**-1.2**
KHC	**Kasperske Hory**	**3.72**	**257**	Sg	**Sg**	**17 34 36.9**	**-1.2**

*NIED **29** 17:35:00,43°.20N×138°.60E,h11km,Mw4.3 Best double couple: M=2.70000×10^15 NP1:φ=214.00000°,δ32.00000°, λ123.00000°. NP2:φ=357.00000°,δ64.00000°,λ71.00000°.*
*ISCJB **29** 17:35:47.7±0.2,43°.16N±0°.03×138°.54E±0°.03,h10km, mb4.3/41,MS3.3/12,Error ellipse: s-maj=3.8km s-min=2.7km az=25.5*
*IDC **29** 17:35:48.1±0.6,43°.25N×138°.45E,h0km,mb4.0/20, mb1 4.2/26,mb1mx4.1/42,mbtmp4.0/26,ML3.7/4,MS3.3/16, Ms1 3.3/16,ms1mx3.1/43,Error ellipse: s-maj=15.3km s-min=12.9km az=139.0*
*JMA **29** 17:35:49.4±0.2,43°.18N×138°.61E,h21km±4km,M4.5*
*MOS **29** 17:35:51.6±1.6,43°.10N×138°.59E,h44km,mb5.1/13,Error ellipse: s-maj=10.0km s-min=6.8km az=95.0*
*NEIC **29** 17:35:51.5±1.4,43°.24N×138°.49E,h21km±10km,mb4.9/11, MW4.2(NIED),Error ellipse: s-maj=6.7km s-min=5.0km az=135.0*
*SZGRF **29** 17:36:22.0,45°.17N×131°.22E,h33km,mb4.6, Priamurye-Northeastern China border region*
ISC 29 17:35:49.6±3.8,43°.16N±0°.04×138°.59E±0°.04,h13km±24km, n121,σ1º08/132,mb4.5/41,MS3.3/12,13C-2D,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSH	**Shimam**	**1.19**	**115**	P	**Pn**	**17 36 10.6**	**-1.3**
JSH				*e*S	**Sb**	**17 36 25.8**	**-1.5**
JOSM	**Okushiri--Mats**	**1.26**	**148**	P	**Pn**	**17 36 11.8**	**-1.1**
JOSM				*e*S	**Sb**	**17 36 27.5**	**-1.9**
JSK	**Shakotan**	**1.39**	**82**	P	**Pn**	**17 36 13.3**	**-1.4**
JYM2	**Yakumo 2**	**1.68**	**128**	P	**Pn**	**17 36 18.0**	**-0.6**
JYM2				*e*S	**Sn**	**17 36 38.8**	**-1.2**
JNB	**Noboribetsu**	**1.93**	**110**	P	**Pn**	**17 36 21.8**	**-0.3**
JNB				*e*S	**Sn**	**17 36 46.0**	**-0.2**
JSR	**Shiriuchi**	**2.12**	**140**	P	**Pn**	**17 36 24.8**	**+0.1**
JSR				*e*S	**Sn**	**17 36 50.6**	**-0.3**
JEW	**Eniwo**	**2.12**	**98**	P	**Pn**	**17 36 25.0**	**+0.2**
JKB	**Kayabe**	**2.21**	**124**	P	**Pn**	**17 36 25.8**	**-0.1**
JHR	**Hokuryu**	**2.36**	**75**	P	**Pn**	**17 36 27.9**	**-0.1**
JYG	**Yagishiri**	**2.41**	**57**	P	**Pn**	**17 36 27.9**	**-0.8**
JYG				*e*S	**Sn**	**17 36 55.9**	**-2.2**
JOT	**Ohata**	**2.55**	**133**	P	**Pn**	**17 36 31.0**	**+0.4**
JOT				*e*S	**Sn**	**17 37 01.5**	**0.0**
JSS	**Shosan**	**2.67**	**61**	P	**Pn**	**17 36 32.3**	**+0.1**
JAB	**Ashibetsu**	**2.67**	**81**	P	**Pn**	**17 36 32.6**	**+0.3**
JIW	**Iwasaki**	**2.78**	**157**	P	**Pn**	**17 36 33.5**	**-0.3**
JIW				*e*S	**Sn**	**17 37 05.6**	**-1.5**
JRR	**Rishiri**	**2.78**	**44**	P	**Pn**	**17 36 33.8**	**0.0**

JBT2	**Biratori 2**	**2.80**	**97**	P	**Pn**	**17 36 34.9**	**+0.9**
ASAJ	**Asahikawa**	**3.06**	**71**	P	**Pn**	**17 36 38.1**	**+0.4**
ASAJ				Sn		17 37 14.5	
ASAJ				pmax	pmax		
	comp=Z,17nm,0.3s						
ASAJ				smax	smax		
	comp=N,17nm,0.3s						
ASAJ	**Asahikawa**	**3.06**	**71**	Pn	**Pn**	**17 36 38.0**	**+0.4**
	comp=N,17nm,0.3s,baz=225,slow=10,SNR=522						
ASAJ				Sn	**Sn**	**17 37 14.5**	**+0.4**
	comp=N,17nm,0.3s,baz=194,slow=22,SNR=8.9						
ERM	**Erimo**	**3.56**	**107**	*e*P	**Pn**	**17 36 41.9**	**-2.6**
ERM	**Erimo**	**3.56**	**107**	*e*P	**Pn**	**17 36 41.9**	**-2.6**
YSS	**Yuzh-Sakhalins**	**4.80**	**36**	⇑*i* P	**Pn**	**17 37 03.0**	**+1.4**
YSS				*e*S	**Sn**	**17 37 54.8**	**-2.2**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS				smax	smax		
	comp=N,110nm,0.7s						
YSS				smax	smax		
	comp=E,70nm,0.8s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
YSS				MLR	MLR		
	comp=N,1μm,12.0s						
YSS				MLR	MLR		
	comp=E,900nm,13.0s						
YSS	**Yuzh-Sakhalins**	**4.80**	**36**	*e*P	**Pn**	**17 37 03.2**	**+1.7**
USRK	**Ussuriysk Ar.**	**4.90**	**284**	Pn	**Pn**	**17 37 01.4**	**-1.4**
	comp=E,1.7nm,0.3s,baz=94,slow=14,SNR=27						
USRK				Sn	**Sn**	**17 37 56.0**	**-3.4**
	comp=E,4.1nm,0.3s,baz=104,slow=17,SNR=8.0						
USRK				LR	LR	17 38 49.2	
	comp=E,463nm,20.1s,baz=90,slow=38						
VLA	**Vladivostok**	**4.91**	**272**	⇓*e*P	**Pn**	**17 37 02.7**	**-0.2**
VLA				S	**Sn**	**17 37 56.5**	**-3.0**
VLA				pmax	pmax		
	comp=Z,21nm,0.8s						
MAJO	**Matsushiro**	**6.62**	**183**	*e*P	**Pn**	**17 37 28.5**	**+2.0**
MAJO	**Matsushiro**	**6.62**	**183**	*e*P	**Pn**	**17 37 28.5**	**+2.0**
MAT	**Matsushiro**	**6.62**	**183**	P	Pn	17 37 31.3	+4.7
MAT				S	**Sn**	**17 38 39.8**	**-2.0**
MJAR	**Matsushiro Arr**	**6.62**	**183**	Pn	**Pn**	**17 37 29.5**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=359,slow=10,SNR=2.9						
MJAR				LR	LR	17 39 59.6	
	comp=Z,163nm,18.2s,baz=355,slow=37						
MDJ	**Mudanjiang**	**6.66**	**286**	*e*P	**Pn**	**17 37 27.1**	**0.0**
	comp=Z,12nm,0.6s						
KLR	**Kul'dur**	**7.70**	**324**	*e*P	Pn	17 37 47.2	+5.9
KLR				*e*		17 39 21.2	
KLR				MLR	MLR		
	comp=N,600nm,11.0s						
KLR				MLR	MLR		
	comp=Z,2μm,11.0s						
KSRS	**Korea Array**	**9.94**	**239**	P	**Pn**	**17 38 12.5**	**+0.5**
KSRS						17 40 06.2	
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**9.94**	**239**	Pn	**Pn**	**17 38 12.5**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=49,slow=14,SNR=5.1						
KSRS				Sn	**Sn**	**17 40 06.2**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=46,slow=25,SNR=3.3						
**

comp=Z,7.0nm,0.8s
PDAR Pinedale Array 74.90 45 P P 17 47 31.4 +1.2
comp=Z,2.4nm,0.8s,baz=306,slow=1.6,SNR=19
ULM Lac du Bonnet 75.55 33 P P 17 47 33.9 +0.4
comp=Z,5.6nm,0.6s,baz=321,slow=8.1,SNR=15
GERES GERESS Array B 76.39 326 P P 17 47 38.8 +0.3
comp=Z,1.1nm,0.7s,baz=42,slow=4.2,SNR=8.7
GRF Grafenberg Arr 76.71 328 *eP* **P 17 47 41.5 +1.3**
comp=Z,5.0nm,0.9s
SOKA Soboth 77.53 324⇑*iP* **P 17 47 45.7 +0.7**
comp=Z,4.5nm,1.0s
OBKA Obir 77.87 324⇑*iP* **P 17 47 46.9 +0.1**
comp=Z,3.5nm,0.7s
MOTA Moosalm 78.64 327⇑*iP* **P 17 47 51.3 +0.1**
comp=Z,4.6nm,0.8s
DAVA Damuels 79.18 327⇓*iP* **P 17 47 55.1 +1.0**
comp=Z,9.6nm,0.9s
CDF Champ du Feu 79.25 329 *eP* **P 17 47 54.9 +0.5**
comp=Z,16nm,1.0s
CDF Champ du Feu 79.25 329 *eP* **P 17 47 54.9 +0.5**
CDF pmax pmax
comp=Z,16nm,1.0s
CDF Champ du Feu 79.25 329 *eP* **P 17 47 54.9 +0.5**
comp=Z,16nm,1.0s
HINF Hinterlalfeld 79.91 329 *eP* **P 17 47 58.0 +0.1**
HINF Hinterlalfeld 79.91 329 *eP* **P 17 47 58.0 +0.1**
HINF Hinterlalfeld 79.91 329 *eP* **P 17 47 58.0 +0.1**
LOR Lormes 81.46 331 *eP* **P 17 48 06.4 +0.1**
LOR Lormes 81.46 331 *eP* **P 17 48 06.4 +0.1**
LOR Lormes 81.46 331 *eP* **P 17 48 06.4 +0.1**
LPL La Plagne 81.87 328⇑*iP* **P 17 48 09.4 +0.7**
comp=Z,12nm,0.9s
LPL La Plagne 81.87 328⇑*iP* **P 17 48 09.4 +0.7**
LPL pmax pmax
comp=Z,12nm,0.9s
LPL La Plagne 81.87 328⇑*iP* **P 17 48 09.4 +0.7**
comp=Z,12nm,0.9s
LPG La Plagne 81.88 328⇑*iP* **P 17 48 09.6 +0.8**
comp=Z,9.0nm,0.8s
LPG La Plagne 81.88 328⇑*iP* **P 17 48 09.6 +0.8**
LPG pmax pmax
comp=Z,9.0nm,0.8s
LPG La Plagne 81.88 328⇑*iP* **P 17 48 09.6 +0.8**
comp=Z,9.0nm,0.8s
SMF Signal de Mont 82.00 330 *eP* **P 17 48 09.4 +0.3**
SMF Signal de Mont 82.00 330 *eP* **P 17 48 09.4 +0.3**
SMF Signal de Mont 82.00 330 *eP* **P 17 48 09.4 +0.3**
AVF Avril sur Loir 82.05 331 *eP* **P 17 48 09.6 +0.3**
comp=Z,11nm,0.9s
AVF Avril sur Loir 82.05 331 *eP* **P 17 48 09.6 +0.3**
AVF pmax pmax
comp=Z,11nm,0.9s
AVF Avril sur Loir 82.05 331 *eP* **P 17 48 09.6 +0.3**
comp=Z,11nm,0.9s
MBDF Montbardon 82.51 328 *eP* **P 17 48 12.0 0.0**
comp=Z,9.1nm,0.8s
MBDF Montbardon 82.51 328 *eP* **P 17 48 12.0 0.0**
MBDF pmax pmax
comp=Z,9.0nm,0.8s
MBDF Montbardon 82.51 328 *eP* **P 17 48 12.0 0.0**
comp=Z,9.1nm,0.8s
ORIF Oris-en-Rattie 82.70 328 *eP* **P 17 48 13.5 +0.6**
comp=Z,3.8nm,0.6s
ORIF Oris-en-Rattie 82.70 328 *eP* **P 17 48 13.5 +0.6**
ORIF pmax pmax
comp=Z,4.0nm,0.6s
ORIF Oris-en-Rattie 82.70 328 *eP* **P 17 48 13.5 +0.6**
comp=Z,3.8nm,0.6s
LASF Ste Croix 84.18 329 *eP* **P 17 48 21.7 +1.3**
LASF Ste Croix 84.18 329 *eP* **P 17 48 21.7 +1.3**
EPF Esparros 86.38 331 *eP* **P 17 48 31.9 +0.4**
comp=Z,5.5nm,0.8s
EPF Esparros 86.38 331 *eP* **P 17 48 31.9 +0.4**
EPF pmax pmax
comp=Z,6.0nm,0.8s
EPF Esparros 86.38 331 *eP* **P 17 48 31.9 +0.4**
comp=Z,5.5nm,0.8s
ETSF Etsaut 86.81 331⇑*iP* **P 17 48 35.0 +1.4**
comp=Z,9.7nm,0.8s
ETSF Etsaut 86.81 331⇑*iP* **P 17 48 35.0 +1.4**
ETSF pmax pmax
comp=Z,10.0nm,0.8s
ETSF Etsaut 86.81 331⇑*iP* **P 17 48 35.0 +1.4**
comp=Z,9.7nm,0.8s
SJPF Ste Jean 86.86 332 *eP* **P 17 48 34.0 +0.2**
comp=Z,37nm,1.4s
SJPF Ste Jean 86.86 332 *eP* **P 17 48 34.0 +0.2**
SJPF pmax pmax
comp=Z,37nm,1.4s
SJPF Ste Jean 86.86 332 *eP* **P 17 48 34.0 +0.2**
comp=Z,37nm,1.4s
SJPF Ste Jean 86.86 332 *eP* **P 17 48 34.0 +0.2**
comp=Z,37nm,1.4s
TXAR Lajitas Array 88.01 51 P P 17 48 40.4 +0.8
comp=Z,0.3nm,0.6s,baz=288,slow=3.1,SNR=5.3
SNAA Sanae 145.85 201 P PKPab 17 55 28.0 +0.2
VNA2 Neumayer--Watz 147.47 200 P PKPbc 17 55 32.9 +0.9
baz=76,slow=2.0
VNA3 Neumayer Olymp 147.81 199 P PKPbc 17 55 33.0 +0.1

*SZGRF **29** 17:37:18.6, 17.°46S×177.°56W, h33km, Fiji Islands region*
*ISCJB **29** 17:38:13.9±0.6, 18.°4S±0.°1×178.°3W±0.°1, h557km,*
mb3.9/14, Error ellipse: s-maj=18.9km s-min=13.5km
az=36.6
*IDC **29** 17:38:13.7±2.6, 18.°34S×178.°23W, h541km±30km,*
mb3.6/15, mb1 3.8/15, mb1mx3.6/27, mbtmp4.4/15, Error
ellipse: s-maj=17.2km s-min=13.1km az=131.0
ISC 29 17:38:14.9±0.6, 18.°4S±0.°1×178.°2W±0.°1, h557km, n77,
σ0$86/79, mb4.0/14, 18C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.24**	**191**	P	**P**	**17 42 10.6**	**-2.0**
	7.5nm,0.3s,baz=278,slow=3.1,SNR=20						
WRA	**Warramunga Arr**	**44.72**	**260**	P	**P**	**17 45 39.1**	**-0.2**
	2.0nm,0.4s,baz=92,slow=7.7,SNR=94						
WRA				PcP	**PcP**	**17 47 09.7**	**0.0**
	0.6nm,0.3s,baz=91,slow=3.7,SNR=6.2						
ASAR	**Alice Springs**	**44.84**	**255**	P	**P**	**17 45 40.9**	**+0.6**
	13nm,0.5s,baz=89,slow=8.9,SNR=555						
ASAR				PcP	**PcP**	**17 47 10.3**	**+0.2**
	1.2nm,0.4s,baz=105,slow=3.8,SNR=10						
ASAR				S	**S**	**17 51 36.8**	**-0.9**
	0.8nm,0.9s,baz=90,slow=15,SNR=4.6						
VNDA	**Vanda**	**60.01**	**185**	P	**P**	**17 47 29.3**	**+1.6**
	1.1nm,0.8s,baz=0.8,slow=8.0,SNR=5.8						
MJAR	**Matsushiro Arr**	**68.37**	**323**	P	**P**	**17 48 20.4**	**-0.9**
	3.2nm,0.6s,baz=152,slow=5.9,SNR=12						
ASAJ	**Asahikawa**	**71.76**	**331**	P	**P**	**17 48 42.0**	**+0.8**
	4.3nm,0.7s,baz=230,slow=5.8,SNR=5.5						
PETK	**Petropavlovsk-**	**74.16**	**345**	P	**P**	**17 48 54.0**	**-0.8**
	3.8nm,0.6s,baz=125,slow=7.5,SNR=11						
KSRS	**Korea Array**	**75.16**	**318**	P	**P**	**17 49 01.8**	**+1.1**
	0.5nm,0.5s,baz=123,slow=5.8,SNR=3.9						
SEY	**Seymchan**	**84.25**	**347**	P	**P**	**17 49 47.2**	**-0.6**
	3.5nm,0.5s,baz=152,slow=4.2,SNR=20						
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**17 49 59.0**	**+1.4**
	3.2nm,0.7s,baz=221,slow=6.1,SNR=32						
ILAR	**Eielson Array**	**86.29**	**13**	P	**P**	**17 49 56.2**	**-1.4**
	1.2nm,0.4s,baz=220,slow=5.0,SNR=18						
PDAR	**Pinedale Array**	**87.56**	**43**	P	**P**	**17 50 04.5**	**+0.1**
	1.6nm,0.7s,baz=215,slow=2.5,SNR=12						
CMAR	**Chiang Mai Arr**	**89.20**	**290**	P	**P**	**17 50 13.4**	**+1.1**
	1.2nm,0.9s,baz=106,slow=3.1,SNR=7.9						
SONM	**Songino Array**	**94.01**	**319**	P	**P**	**17 50 34.8**	**+0.9**
	0.4nm,0.6s,baz=156,slow=4.6,SNR=4.2						
YKA	**Yellowknife Ar**	**94.67**	**25**	P	**P**	**17 50 35.6**	**-0.7**
	0.7nm,0.8s,baz=241,slow=4.0,SNR=8.0						
MKAR	**Makanchi Array**	**109.58**	**314**	PKiKP	**PKiKP**	**17 55 41.5**	**-1.1**
	0.3nm,0.5s,baz=126,slow=1.8,SNR=11						
ARCES	**ARCESS Array B**	**126.79**	**350**	PKP	**PKPdf**	**17 56 14.3**	**-0.7**
	3.4nm,0.8s,baz=47,slow=1.4,SNR=6.5						
FINES	**FINESS Array B**	**133.67**	**344**	PKP	**PKPdf**	**17 56 27.2**	**-0.9**
	1.0nm,0.6s,baz=27,slow=4.7,SNR=4.6						
AKASG	**Malin Array Be**	**141.04**	**332**	PKhKP	PKPpre	17 56 35.5	
	1.0nm,0.5s,baz=41,slow=4.3,SNR=4.9						
AKASG				PKP	**PKPdf**	**17 56 42.3**	**+0.3**
	0.2nm,0.3s,baz=35,slow=2.3,SNR=2.6						
BSEG	**Bad Segeberg**	**143.89**	**351**	*e*PKPbc	PKPbc	17 56 45.9	-0.2
TLCR		**145.04**	**326**⇑	*iP*	**PKPab**	**17 56 50.3**	**-0.7**
BURAR	**Bucovina Array**	**145.09**	**332**⇑	*iP*	**PKPab**	**17 56 51.2**	**-0.1**
BRTR	**Keskin Array B**	**145.22**	**314**	PKPbc	**PKPbc**	**17 56 50.5**	**-0.5**
	2.4nm,0.7s,baz=133,slow=4.8,SNR=11						
TESR	**Tescani**	**145.24**	**329**⇑	*iP*	**PKPbc**	**17 56 49.9**	**-0.7**
NRDL	**Niedersach Rie**	**145.32**	**351**	*e*PKPbc	**PKPbc**	**17 56 50.3**	**-0.2**
CFR	**Carcaliu**	**145.41**	**326**⇑	*iP*	**PKPdf**	**17 56 49.9**	**+0.1**
PETR	**Petresti**	**145.50**	**328**⇑	*iP*	**PKPab**	**17 56 55.5**	**+2.7**
VRI	**Vrincioaia**	**145.66**	**329**⇑	*iP*	**PKPbc**	**17 56 52.1**	**+0.3**
PLOR	**Plostina**	**145.71**	**329**⇑	*iP*	**PKPbc**	**17 56 51.8**	**-0.2**
TRPA	**Tarpa**	**145.83**	**335**⇓	*iP*	**PKPbc**	**17 56 52.2**	**0.0**
CLZ	**Clausthal**	**145.91**	**350**	*e*PKPbc	**PKPbc**	**17 56 52.4**	**0.0**
CLL	**Collm**	**145.94**	**347**	*e*PKPbc	**PKPbc**	**17 56 52.4**	**0.0**
CLL	**Collm**	**145.94**	**347**⇓	*i*PKP	**PKPbc**	**17 56 52.6**	**+0.2**
	comp=Z,14nm,0.6s						
CLL				*i*		17 56 54.0	
	comp=Z,6.0nm,0.8s						
OKC	**Ostrava-Krasne**	**145.96**	**341**	*e*PKP	**PKPbc**	**17 56 52.4**	**-0.1**
UPC	**Upice**	**145.97**	**344**	*e*PKP	**PKPbc**	**17 56 52.9**	**+0.3**
UPC				*ex*	x	17 56 55.0	
DPC	**Dobruska-Polom**	**146.03**	**343**	*e*PKP	**PKPbc**	**17 56 53.0**	**+0.2**
DPC				*ex*	x	17 56 55.4	
BRG	**Berggiesshubel**	**146.15**	**346**	*i* PKP	**PKPbc**	**17 56 53.1**	**+0.1**
	comp=Z,7.3nm,0.6s						
BRG	**Berggiesshubel**	**146.15**	**346**	*e*PKPbc	**PKPbc**	**17 56 52.8**	**-0.2**
KRLC	**Kraliky**	**146.15**	**343**	*e*PKP	**PKPbc**	**17 56 52.5**	**-0.6**
KRLC				*ex*	x	17 56 55.5	
MORC	**Moravsky Berou**	**146.19**	**342**⇓	*iP*	**PKPbc**	**17 56 53.6**	**+0.3**
DOPR	**Dopca**	**146.24**	**330**⇑	*iP*	**PKPbc**	**17 56 54.3**	**+0.8**
MSAB	**Monastry St. A**	**146.30**	**325**⇑	*iP*	**PKPab**	**17 56 56.4**	**+0.4**
MLR	**Muntele Rosu**	**146.31**	**329**⇓	*iP*	**PKPbc**	**17 56 53.6**	**-0.2**
PVCC	**Panska Ves**	**146.32**	**345**	*e*PKP	**PKPbc**	**17 56 53.6**	**+0.1**
MMAI	**Mount Meron Ar**	**146.53**	**302**	PKPbc	**PKPbc**	**17 56 55.2**	**+0.5**
	comp=Z,3.1nm,0.5s,baz=70,slow=7.2,SNR=14						
SULR		**146.73**	**327**⇓	*iP*	**PKPdf**	**17 56 51.8**	**-0.2**
PRA	**Prague**	**146.78**	**345**	*e*PKP	**PKPbc**	**17 56 55.1**	**+0.4**
VOIR		**146.78**	**329**⇓	*iP*	**PKPbc**	**17 56 55.0**	**0.0**
DRGR		**146.82**	**333**⇑	*iP*	**PKPbc**	**17 56 55.5**	**+0.4**
PRU	**Pruhonice**	**146.83**	**345**	*e*PKP	**PKPbc**	**17 56 54.6**	**-0.3**
PRU				*ex*	x	17 56 57.7	
MOX	**Moxa**	**146.85**	**349**	*e*PKPbc	**PKPbc**	**17 56 55.0**	**+0.1**
TANN	**Tannenbergstha**	**146.90**	**347**	*e*PKPbc	**PKPbc**	**17 56 55.4**	**+0.2**
UBBA	**Unterbreizbach**	**146.96**	**350**	*e*PKPbc	**PKPbc**	**17 56 55.1**	**0.0**
TNR	**Turnu Rosu**	**147.00**	**330**⇑	*iP*	**PKPab**	**17 57 02.7**	**+3.9**
ARR	**Arges**	**147.03**	**330**⇑	*iP*	**PKPbc**	**17 56 56.9**	**+1.2**
TREC	**Trest**	**147.22**	**343**	*e*PKP	**PKPbc**	**17 56 55.6**	**-0.4**
TREC				*ex*	x	17 56 59.4	
LOT	**Lotru**	**147.38**	**331**⇑	*iP*	**PKPbc**	**17 56 57.7**	**+1.0**
HUMR	**Humele**	**147.48**	**328**⇑	*iP*	**PKPdf**	**17 56 51.6**	**-1.7**
ROTZ	**Rotzenmuhle**	**147.57**	**347**	*e*PKPbc	**PKPbc**	**17 56 57.3**	**+0.4**
TNS	**Taurus Mts**	**147.77**	**352**	*e*PKPbc	**PKPbc**	**17 56 57.4**	**0.0**
KHC	**Kasperske Hory**	**147.86**	**345**	*e*PKP	**PKPbc**	**17 56 57.3**	**-0.4**
KHC				*ex*	x	17 57 01.4	
GZR	**Gura Zlata**	**147.88**	**332**⇑	*iP*	**PKPbc**	**17 56 57.7**	**-0.2**
GEC2	**GERESS Array S**	**148.09**	**345**	*e*PKPbc	**PKPbc**	**17 56 58.4**	**+0.1**
GERES	**GERESS Array B**	**148.09**	**345**	PKPbc	**PKPbc**	**17 56 58.3**	**0.0**
	comp=Z,2.6nm,0.5s,baz=21,slow=3.1,SNR=24						
BZS	**Buzias**	**148.22**	**333**⇓	*iP*	**PKPbc**	**17 56 58.7**	**+0.1**
CONA	**Conrad Observa**	**148.35**	**342**⇓	*i*PKPbc	**PKPbc**	**17 56 59.4**	**+0.4**
	comp=Z,4.3nm,0.8s						
WLF	**Walferdange**	**148.57**	**355**	*e*PKPbc	**PKPbc**	**17 57 00.0**	**+0.6**
KDZ	**Kurdzhali**	**149.24**	**324**⇑	*iP*	**PKPbc**	**17 57 01.4**	**+0.1**
SOKA	**Soboth**	**149.72**	**342**⇑	*i*PKPbc	**PKPbc**	**17 57 01.8**	**-0.6**
	comp=Z,2.5nm,0.8s						
VTS	**Vitosha**	**149.76**	**328**⇓	*iP*	**PKPbc**	**17 57 02.7**	**0.0**
WTTA	**Wattenberg**	**150.06**	**346**⇓	*i*PKPbc	**PKPbc**	**17 57 03.2**	**0.0**
	comp=Z,7.8nm,0.5s						
MMB	**Musomiste**	**150.21**	**326**⇓	*iP*	**PKPbc**	**17 57 03.3**	**-0.3**
ABTA	**Abfaltersbach**	**150.34**	**345**⇑	*i*PKPbc	**PKPbc**	**17 57 03.2**	**-0.6**
	comp=Z,8.3nm,0.6s						
LJU	**Ljubljana**	**150.44**	**342**	*i* PKPbc	**PKPbc**	**17 57 04.1**	**+0.1**
CRNS	**Crni Vrh**	**150.49**	**342**	*i* PKPbc	**PKPbc**	**17 57 03.8**	**-0.3**
BOJS	**Bojanci**	**150.71**	**340**	*i* PKPbc	**PKPbc**	**17 57 05.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**174.81**	**179**	PKP	**PKPdf**	**17 57 21.3**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=8.2,slow=0.5,SNR=2.7						

*NIED **29** 17:41:00, 28.°20N×130.°40E, h23km, Mw3.9 Best double*
couple: M0 7.53000×10^14 NP1:φ=17.00000°, δ=30.00000°,
λ=57.00000°. NP2:φ=235.00000°, δ=65.00000°, λ=108.00000°.
*JMA **29** 17:41:57.4±0.1, 28.°21N×130.°41E, h40km±1km, M3.5*
*ISCJB **29** 17:41:58.3±0.6, 28.°23N±0.°03×130.°33E±0.°05, h45km±6km,*
mb3.3/7, MS3.1/1, Error ellipse: s-maj=8.3km s-min=4.0km
az=26.1
*IDC **29** 17:42:00.7±2.0, 28.°36N×130.°15E, h42km±17km, mb3.2/7,*
mb1 3.4/8, mb1mx3.3/39, mbtmp3.5/8, ML2.7/2, MS3.5/2,
Ms1 3.5/2, ms1mx2.7/15, Error ellipse: s-maj=25.0km
s-min=9.0km az=111.0
ISC 29 17:41:58.7±2.4, 28.°24N±0.°04×130.°30E±0.°05, h31km±18km,
n27, σ0$83/40, mb3.4/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.30**	**284**	P	**Pn**	**17 42 06.6**	**-0.4**
JZK				S	**Sn**	**17 42 13.6**	**+1.3**
JAM	**Amami Oshima**	**0.63**	**286**	P	**Pn**	**17 42 11.4**	**-0.2**
JAM				S	**Sn**	**17 42 21.0**	**+0.4**
JAMN	**Amaminishikomi**	**0.99**	**270**	P	**Pn**	**17 42 16.4**	**-0.1**
JAMN				S	**Sn**	**17 42 29.6**	**+0.1**
JTK	**Tokunoshima**	**1.27**	**249**	P	**Pn**	**17 42 21.2**	**+0.8**
JTK				S	**Sb**	**17 42 37.8**	**-0.4**
JTAJ	**Takarajima**	**1.32**	**314**	P	**Pn**	**17 42 20.9**	**-0.2**
JTAJ				S	**Sn**	**17 42 38.1**	**+0.4**
JNN	**Nakanoshima**	**1.64**	**347**	P	**Pn**	**17 42 25.6**	**+0.2**
JOKE	**Okinoerabujima**	**1.76**	**241**	P	**Pn**	**17 42 27.7**	**+0.5**
JOKE				S	**Sn**	**17 42 50.1**	**+1.5**
JYAK	**Yakushimahirau**	**2.00**	**5**	P	**Pn**	**17 42 30.9**	**+0.5**
JYAK				S	**Sn**	**17 42 54.3**	**0.0**
JKC	**Kuchinoerabu**	**2.21**	**358**	P	**Pn**	**17 42 34.5**	**+1.1**
JKC				S	**Sn**	**17 42 59.5**	**-0.2**
JOW	**Kunigami**	**2.28**	**232**	P	**Pn**	**17 42 34.6**	**+0.3**
JOW				S	**Sn**	**17 43 02.0**	**+0.6**
JOW	**Kunigami**	**2.28**	**232**	P	**Pn**	**17 42 34.7**	**+0.4**
	1.0nm,0.3s,baz=131,slow=26,SNR=46						
JOW				S	**Sn**	**17 43 02.5**	**+1.2**
	0.9nm,0.3s,baz=110,slow=24,SNR=11						
JIH	**Iheya**	**2.39**	**240**	P	**Pn**	**17 42 36.0**	**+0.2**
JIH				S	**Sn**	**17 43 03.9**	**-0.2**
JTN	**Tanegashima 3**	**2.48**	**14**	P	**Pn**	**17 42 37.7**	**+0.7**
JTN				S	**Sn**	**17 43 07.1**	**+0.9**
JMZ	**Minamidaito 2**	**2.55**	**161**	S	**Sn**	**17 43 06.2**	**-1.8**
JNTH	**Nagotoyohara**	**2.65**	**230**	P	**Pn**	**17 42 39.8**	**+0.4**
JNTH				S	**Sn**	**17 43 10.1**	**-0.4**
JJT2	**Tamagusuku 2**	**3.09**	**228**	P	**Pn**	**17 42 46.2**	**+0.8**
JAGN	**Aguni-jima**	**3.18**	**239**	S	**Sn**	**17 43 23.1**	**-0.3**
JKE	**Kume jima 2**	**3.66**	**239**	P	**Pn**	**17 42 53.4**	**+0.1**
JNU	**Nakatsue**	**4.89**	**6**	P	**Pn**	**17 43 11.3**	**+1.1**
	1.3nm,0.3s,baz=200,slow=7.4,SNR=16						
JNU				S	**Sn**	**17 44 04.8**	**-1.0**
	5.4nm,0.3s,baz=77,slow=22,SNR=17						
JCJ	**Chichijima**	**10.60**	**93**	LR	LR	17 47 37.4	
	comp=Z,481nm,18.5s,baz=268,slow=31						
SONM	**Songino Array**	**26.96**	**323**	P	**P**	**17 47 37.2**	**-0.5**
	0.2nm,0.6s,baz=123,slow=11,SNR=2.4						
SONM				LR	LR	17 59 52.2	
	comp=Z,51nm,18.4s,baz=141,slow=40						
MKAR	**Makanchi Array**	**41.62**	**310**	P	**P**	**17 49 43.1**	**-0.9**
	0.1nm,0.6s,baz=103,slow=8.3,SNR=2.5						
ZALV	**Zalesovo Beam**	**41.81**	**321**	P		**17 49 44.0**	**-1.4**
	0.4nm,0.5s,baz=120,slow=5.2,SNR=2.5						
WRA	**Warramunga Arr**	**48.06**	**175**	P	**P**	**17 50 36.4**	**+0.9**
	0.8nm,0.7s,baz=352,slow=7.8,SNR=4.6						
ASAR	**Alice Springs**	**51.73**	**176**	P	**P**	**17 51 05.1**	**+1.9**
	0.4nm,0.9s,baz=341,slow=7.9,SNR=3.9						
FINES	**FINESS Array B**	**72.02**	**331**	P	**P**	**17 53 19.1**	**-0.3**
	0.7nm,0.7s,baz=65,slow=6.6,SNR=3.4						
BRTR	**Keskin Array B**	**77.25**	**308**	P	**P**	**17 53 49.9**	**-0.4**
	0.3nm,0.4s,baz=66,slow=6.4,SNR=2.7						

*DDA **29** 17:43:48.0, 40.°38N×27.°07E, h7km, MD2.2*
*ISK **29** 17:43:48.5, 40.°42N×27.°10E, h8km, MD2.5*
*CSEM **29** 17:43:48.8±0.1, 40.°42N×27.°10E, h10km, MD2.5, Error*
ellipse: s-maj=4.1km s-min=2.2km az=11.0
ISC 29 17:43:48.8±0.9, 40.°39N±0.°03×27.°10E±0.°02, h13km±7km,
n31, σ0$48/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.15**	**89**	*e*PG	**Pg**	**17 43 52.3**	**-0.3**
KRBG				*e*SG	**Sg**	**17 43 54.8**	**-0.3**
KRBG	**Karabiga-Canak**	**0.15**	**89**	*e*Pg	**Pg**	**17 43 52.3**	**-0.3**
KRBG				*e*Sg	**Sg**	**17 43 54.8**	**-0.3**
LPK	**Lapseki**	**0.26**	**266**	*e*PG	**Pg**	**17 43 54.3**	**0.0**
LPK				*e*SG	**Sg**	**17 43 58.4**	**+0.5**
LPK	**Lapseki**	**0.26**	**266**	*e*Pg	**Pg**	**17 43 54.3**	**0.0**
LPK				*e*Sg	**Sg**	**17 43 58.4**	**+0.5**
RKY	**Sarkoy-Tekirda**	**0.30**	**12**	*e*PG	**Pg**	**17 43 54.6**	**-0.5**
RKY	**Sarkoy-Tekirda**	**0.30**	**12**	*e*Pg	**Pg**	**17 43 54.6**	**-0.5**
SART	**Tekirdag**	**0.30**	**12**	*i* P	**Pg**	**17 43 54.9**	**-0.2**
SART	**Tekirdag**	**0.30**	**12**	*i* P	**Pg**	**17 43 54.9**	**-0.2**
SART				*i* S	**Sg**	**17 43 59.4**	**0.0**
MRMT	**Marmara Adasi**	**0.44**	**61**	*e*PG	**Pg**	**17 43 56.8**	**-0.7**
MRMT	**Marmara Adasi**	**0.44**	**61**	*e*Pg	**Pg**	**17 43 56.8**	**-0.7**
GELI	**Tayfur-Gelibol**	**0.47**	**271**	*e*PG	**Pg**	**17 43 58.0**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.47**	**271**	*e*Pg	**Pg**	**17 43 58.1**	**-0.1**
ERIK	**Erikli-Kesan**	**0.53**	**302**	*e*PG	**Pg**	**17 43 59.0**	**-0.2**
ERIK	**Erikli-Kesan**	**0.53**	**302**	*e*Pg	**Pg**	**17 43 59.0**	**-0.2**
EDC	**Edincik**	**0.59**	**94**	*e*PG	**Pg**	**17 44 00.3**	**0.0**
EDC	**Edincik**	**0.59**	**94**	*e*Pg	**Pg**	**17 44 00.3**	**0.0**
ALN	**Alexandroupoli**	**0.94**	**303**	*e*PG	**Pb**	**17 44 07.1**	**0.0**
ALN	**Alexandroupoli**	**0.94**	**303**	*e*Pg	**Pb**	**17 44 07.1**	**0.0**
BALB	**Balikesir**	**0.96**	**141**	*e*PG	**Pb**	**17 44 07.7**	**+0.3**
BALB	**Balikesir**	**0.96**	**141**	*e*Pg	**Pb**	**17 44 07.7**	**+0.3**
BOZC	**Bozcaada**	**0.97**	**236**	*i* P	**Pg**	**17 44 05.5**	**-2.1**
BOZC				*i* S	**Sg**	**17 44 20.1**	**-0.1**
KCTX	**Karacabey (Bur**	**0.97**	**97**	*e*PG	**Pg**	**17 44 07.3**	**-0.3**
KCTX	**Karacabey (Bur**	**0.97**	**97**	*e*Pg	**Pg**	**17 44 07.3**	**-0.3**
DURS	**Dursunbey**	**1.32**	**126**	*i* P	**Pn**	**17 44 13.4**	**+0.3**
DURS				*i* S	**Sg**	**17 44 31.7**	**+0.3**
DURS	**Dursunbey**	**1.32**	**126**	*i* P	**Pn**	**17 44 13.4**	**+0.3**
DURS				*i* S	**Sg**	**17 44 31.7**	**+0.3**
ARMT	**Armutlu**	**1.36**	**82**	*e*PN	**Pb**	**17 44 14.3**	**+0.2**
ARMT	**Armutlu**	**1.36**	**82**	*e*Pn	**Pb**	**17 44 14.3**	**+0.2**
CTKS	**Kestanelik-??a**	**1.36**	**51**	*e*PN	**Pb**	**17 44 14.2**	**0.0**
CTKS	**Kestanelik-??a**	**1.36**	**51**	*e*Pn	**Pb**	**17 44 14.2**	**0.0**
MDNY	**Mudanya-Bursa**	**1.37**	**90**	*e*PN	**Pg**	**17 44 14.7**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.37**	**90**	*e*Pn	**Pg**	**17 44 14.7**	**-0.4**

IDC 29 17:48:28.3±4.4, 6.°33S×129.°24E, h400km±55km, mb2.6/2,
mb1 2.8/4, mb1mx2.6/36, mbtmp3.5/4, Error ellipse:
s-maj=88.5km s-min=15.3km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.41**	**160**	P	P	17 51 34.2	-0.3
	0.4nm,0.3s,baz=340,slow=11,SNR=25						
WRA				S	S	17 54 08.9	+0.4
	0.2nm,0.3s,baz=339,slow=21,SNR=8.3						
ASAR	**Alice Springs**	**17.81**	**166**	P	P	17 52 10.8	-0.1
	0.2nm,0.3s,baz=344,slow=11,SNR=33						
ASAR				S	S	17 55 16.4	+1.1
	0.2nm,0.3s,baz=346,slow=23,SNR=9.0						
SONM	**Songino Array**	**57.57**	**342**	P	P	17 57 38.5	+0.5
	0.2nm,0.8s,baz=147,slow=5.6,SNR=2.4						
MKAR	**Makanchi Array**	**67.25**	**327**	P	P	17 58 40.6	-0.7
	0.3nm,0.5s,baz=116,slow=7.7,SNR=4.9						

*KRNET **29** 18:03:52.0±0.1, 42.°06N×78.°90E, h12km, mb3.8*
*NNC **29** 18:03:53.4±2.1, 42.°15N×78.°98E, h0km, mb3.1, mpv2.9,*
Error ellipse: s-maj=16.4km s-min=5.8km az=150.0
*ISCJB **29** 18:03:54.2±1.3, 42.°13N±0.°08×79.°06E±0.°08, h10km, Error*
ellipse: s-maj=13.4km s-min=5.3km az=146.0
ISC 29 18:03:53.6±1.9, 42.°16N±0.°10×78.°87E±0.°07, h10km, n16,
σ1$79/21, 8C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**1.09**	**305**⇓	*i*P	**Pb**	**18 04 13.7**	**-1.0**
	baz=309						
PDGK	**Podgornoye**	**1.25**	**21**	⇑P	**Pn**	**18 04 16.1**	**-1.1**
	3.6nm,0.5s						
PDGK				⇓S

SMLA *eS* **Sn** **18 33 30.8 -2.8**
SMLA AML AML 18 34 25.5
comp=N,279nm,0.4s
SMLA AML AML 18 34 26.0
comp=E,232nm,0.8s
AYAN Aya Nagar 6.59 99 *eP* **Pn** **18 32 20.5 +0.2**
AYAN *ex* x 18 33 32.9
SONA Sohna 6.61 101 *eP* **Pn** **18 32 20.3 -0.2**
SONA *eS* **Sn** **18 33 30.7 -4.2**
SONA AML AML 18 34 26.9
comp=E,145nm,0.7s
SONA AML AML 18 34 27.8
comp=N,132nm,0.7s
NDI New Delhi 6.63 98 *eP* **Pn** **18 32 21.0 +0.2**
NDI *ex* **Sn** **18 33 39.0 +3.6**
AGRA Agra 7.66 107 *eP* **Pn** **18 32 33.8 -1.0**
AGRA *ex* x 18 33 50.2
AGRA AML AML 18 35 04.0
comp=N,169nm,0.8s
AGRA AML AML 18 35 08.8
comp=E,284nm,0.6s
DZET Dzherino 9.05 356 ⇑Pn **Pn** **18 32 54.6 +0.6**
comp=E,12nm,0.9s
DZET ⇑Sn **Sn** **18 34 34.2 -0.8**
comp=E,21nm,0.7s
DZET Dzherino 9.05 356 P **Pn** **18 32 54.6 +0.6**
DZET S **Sn** **18 34 35.1 +0.1**
DZET pmax pmax
comp=Z,6.0nm,0.4s
DZET smax smax
comp=N,12nm,0.5s
LGTI Lohaghat 9.16 89 *eP* **Pn** **18 32 56.4 +1.0**
LGTI *ex* x 18 34 36.9
SFK Sufi-Kurgan 10.68 16 P **Pn** **18 33 17.3 +0.8**
SFK S **Sn** **18 35 17.4 +2.2**
SFK pmax pmax
comp=Z,19nm,0.5s
SFK smax smax
comp=N,18nm,0.9s
NGP Nagpur 12.01 133 *ex* **Sn** **18 35 48.3 +0.7**
NGP *ex* x 18 36 36.1
GEYT Alibeck 12.62 313 Pn **Pn** **18 33 43.0 +0.1**
comp=N,0.1nm,0.3s,baz=105,slow=17,SNR=2.4
GEYT LR LR 18 39 39.4
comp=N,202nm,18.1s,baz=140,slow=43
AML Almayashu 12.75 13 P **Pn** **18 33 44.1 -0.8**
SNR=36
MNAS Manas 12.89 9 ⇓Pn **Pn** **18 33 45.5 -1.2**
MNAS ⇑Sn Sn 18 36 02.9 -6.3
comp=N,6.9nm,0.4s
comp=N,15nm,1.2s
MNAS Manas 12.89 9 P **Pn** **18 33 45.4 -1.2**
MNAS pmax pmax
comp=Z,7.0nm,0.4s
UCH Uchtor 13.02 16 P **Pn** **18 33 47.6 -1.1**
SNR=40
KZA Kyzart 13.07 18 P **Pn** **18 33 48.0 -1.4**
SNR=23
EKS2 Erkin-Say 13.28 13 P **Pn** **18 33 52.0 +0.1**
SNR=13
EKS2 Erkin-Say 13.28 13 *eP* **Pn** **18 33 50.8 -1.1**
EKS2 pmax pmax
comp=Z,6.0nm,0.6s
EKS2 Erkin-Say 13.28 13 *eP* **Pn** **18 33 50.8 -1.1**
comp=Z,6.4nm,0.6s
KK31 Karatay Array 13.33 2 Pn **Pn** **18 33 51.5 -0.9**
comp=Z,3.8nm,0.5s,baz=188,slow=14,SNR=54
KK31 ⇑Sn **Sn** **18 36 16.4 -3.3**
comp=Z,3.1nm,0.5s
KK31 Karatay Array 13.33 2 P **Pn** **18 33 51.5 -0.9**
KK31 S **Sn** **18 36 16.3 -3.3**
KK31 pmax pmax
comp=Z,3.0nm,0.3s
KK31 smax smax
comp=N,7.0nm,0.7s
KKAR Karatay Array 13.33 2 *eP* **Pn** **18 33 51.2 -1.3**
KKAR pmax pmax
comp=Z,6.0nm,0.4s
KKAR Karatay Array 13.33 2 *eP* **Pn** **18 33 51.1 -1.3**
comp=Z,6.1nm,0.4s
AAK Ala-Archa 13.40 15 ⇑Pn **Pn** **18 33 52.7 -0.9**
comp=Z,13nm,0.6s
AAK ⇑Sn **Sn** **18 36 19.0 -2.7**
comp=Z,16nm,1.3s
AAK Ala-Archa 13.40 15 P **Pn** **18 33 53.0 -0.6**
SNR=37
AAK Ala-Archa 13.40 15 P **Pn** **18 33 52.7 -0.9**
AAK pmax pmax
comp=Z,13nm,0.6s
AAK Ala-Archa 13.40 15 Pn **Pn** **18 33 52.9 -0.6**
comp=Z,3.7nm,0.3s,baz=182,slow=6.6,SNR=84
AAK Sn **Sn** **18 36 18.8 -2.8**
comp=Z,0.1nm,0.3s,baz=356,slow=19,SNR=4.3
AAK Ala-Archa 13.40 15 *eP* **Pn** **18 33 52.3 -1.4**
AAK Sn **Sn** **18 36 18.8 -2.8**
ULHL Ulahol 13.52 21 P **Pn** **18 33 55.9 +0.7**
SNR=8.4
KBK Karagaybulak 13.53 17 P P 18 33 59.4 -4.8
SNR=13
DMN Daman 13.67 95 *eP* **Pn** **18 33 57.1 -0.3**
comp=Z,26nm,0.5s
KKN Kakani 13.78 94 *eP* **Pn** **18 33 56.8 -2.1**
comp=Z,35nm,0.5s
CHMS Chumysh 13.81 16 P **Pn** **18 33 57.9 -1.1**
SNR=12
PKIN Phulchoki 13.93 95 *eP* **Pn** **18 33 58.3 -2.6**
comp=Z,19nm,0.4s
PKI Pulchoki 13.94 95 *eP* **Pn** **18 33 58.4 -2.8**
comp=Z,20nm,0.5s
TKM2 Tokmak 2 13.95 18 ⇑Pn **Pn** **18 34 00.1 -1.0**
TKM2 comp=Z,7.4nm,0.8s ⇓Sn Sn 18 36 28.4 -6.7
comp=Z,5.9nm,1.1s
TKM2 Tokmak 2 13.95 18 P **Pn** **18 33 60.0 -1.1**
SNR=14
TKM2 Tokmak 2 13.95 18 P **Pn** **18 34 00.1 -1.0**
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 13.95 18 *eP* **Pn** **18 33 59.7 -1.4**
comp=Z,4.9nm,0.4s
GUN Gumba 14.28 93 *eP* Pn 18 34 02.4 -3.4
comp=Z,71nm,0.6s
JIRN Jiri 14.60 94 *eP* **Pn** **18 34 07.8 -2.4**
comp=Z,25nm,0.5s
KNDC Almaty 14.62 21 ⇓P **Pn** **18 34 09.5 -0.6**
comp=Z,16nm,0.7s
PDGK Podgornoye 15.63 27 ⇑P **Pn** **18 34 21.7 -1.7**
comp=Z,13nm,0.7s
PDGK Podgornoye 15.63 27 P **Pn** **18 34 21.6 -1.7**
PDGK pmax pmax
comp=Z,13nm,0.7s
ODAN Odare 15.82 96 *eP* **Pn** **18 34 25.9 -0.3**
comp=Z,10nm,0.4s
TAPN Taplejung 15.98 94 *eP* **Pn** **18 34 26.9 -1.4**
comp=Z,5.6nm,0.3s
OTUK Ortayu 18.56 5 ⇓P **Pn** **18 34 59.5 -0.7**
comp=Z,4.6nm,1.2s
OTUK Ortayu 18.56 5 P **Pn** **18 34 59.4 -0.7**
OTUK pmax pmax
comp=Z,3.0nm,0.7s
LSA Lhasa 18.61 85 *eP* **Pn** **18 35 03.1 +1.9**
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA Lhasa 18.61 85 *eP* **Pn** **18 35 03.1 +1.9**
comp=Z,6.3nm,0.8s
MK31 Makanchi Array 19.61 26 P **Pn** **18 35 11.7 -1.1**
comp=Z,9.2nm,0.8s,baz=202,slow=11,SNR=63
MK31 Makanchi Array 19.61 26 *eP* **Pn** **18 35 11.6 -1.1**
MK31 pmax pmax
comp=Z,9.0nm,0.9s
MKAR Makanchi Array 19.61 26 P **Pn** **18 35 11.8 -0.9**
comp=Z,0.7nm,0.3s,baz=203,slow=11,SNR=53
MKAR LR LR 18 44 00.8
comp=Z,31nm,19.1s,baz=200,slow=41
AB31 Akbulak array 20.85 342 ⇓P Pn 18 35 25.8 -1.3
comp=Z,2.7nm,0.7s,baz=140,slow=11,SNR=42
ABKAR Akbulak array 20.85 342 *eP* Pn 18 35 25.4 -1.8
comp=Z,2.3nm,0.6s
KURBB Kurchatov Arra 21.86 15 ⇓P **P** **18 35 35.1 -0.3**
comp=Z,15nm,0.7s
KURBB Kurchatov Arra 21.86 15 P **P** **18 35 35.5 +0.1**
comp=Z,15nm,0.9s,baz=208,slow=9.6,SNR=56
KURK Kurchatov 21.97 15 ⇑P **P** **18 35 35.9 -0.7**
comp=Z,8.7nm,0.8s
KURK Kurchatov 21.97 15 *eP* **P** **18 35 36.6 0.0**
KURK pmax pmax
comp=Z,11nm,0.9s
KURK Kurchatov 21.97 15 *eP* **P** **18 35 36.6 0.0**
comp=Z,11nm,0.9s
AKTO Aktyubinsk 22.45 340 ⇓P P 18 35 46.9 +5.1
comp=Z,6.9nm,0.9s
AKTO Aktyubinsk 22.45 340 P P 18 35 46.6 +4.8
comp=Z,3.0nm,0.7s,baz=156,slow=15,SNR=12
AKTO LR LR 18 45 34.2
comp=Z,56nm,21.6s,baz=154,slow=40
RAYN Ar Rayn 22.51 260 *eP* **P** **18 35 43.0 +0.3**
comp=Z,10nm,0.8s
GNI Garni 22.88 304 P **P** **18 35 49.3 +2.7**
comp=Z,1.3nm,0.3s,baz=194,slow=10,SNR=4.2
BVA0 Borovoye Array 23.25 1 P **P** **18 35 50.3 +0.3**
BVA0 pmax pmax
comp=Z,5.0nm,0.7s
BVAR Borovoye Array 23.25 1 P **P** **18 35 50.6 +0.6**
comp=Z,3.1nm,0.5s,baz=177,slow=8.7,SNR=22
BVAR LR LR 18 44 44.7
comp=Z,22nm,19.0s,baz=192,slow=36
PALK Pallekele 24.64 153 LR LR 18 45 04.9
comp=Z,128nm,20.7s,baz=321,slow=35
KBZ Khabaz 25.49 310 P **P** **18 36 11.8 +0.9**
comp=Z,2.1nm,0.8s,baz=76,slow=10,SNR=4.5
ZALV Zalesovo Beam 26.54 20 P **P** **18 36 21.1 +0.8**
comp=Z,3.7nm,0.5s,baz=216,slow=9.1,SNR=25
ZALV LR LR 18 48 10.1
comp=Z,24nm,19.3s,baz=282,slow=39
NVS Novosibirsk 26.88 17 *eP* **P** **18 36 22.2 -1.1**
CHTO Chiang Mai 28.70 106 *eP* **P** **18 36 39.9 -0.1**
CHTO pmax pmax
comp=Z,5.0nm,0.6s
CHTO Chiang Mai 28.70 106 *eP* **P** **18 36 39.9 -0.1**
comp=Z,4.9nm,0.6s
CMAR Chiang Mai Arr 28.86 106 P **P** **18 36 42.2 +0.8**
comp=Z,2.7nm,0.7s,baz=289,slow=10,SNR=29
CMAR LR LR 18 51 02.4
comp=Z,38nm,20.1s,baz=264,slow=42
MMAI Mount Meron Ar 29.41 285 LR LR 18 50 18.8
comp=Z,54nm,20.9s,baz=125,slow=40
EIL Elat 30.14 279 LR LR 18 49 52.0
comp=Z,49nm,19.3s,baz=80,slow=38
BRTR Keskin Array B 31.10 298 P **P** **18 37 01.7 +0.5**
comp=Z,0.8nm,0.7s,baz=107,slow=10,SNR=5.1
BRTR LR LR 18 50 27.0
comp=Z,24nm,21.9s,baz=124,slow=38
SONM Songino Array 33.40 47 P P 18 37 23.4 +2.1
comp=Z,1.6nm,0.7s,baz=252,slow=8.7,SNR=15
AKASG Malin Array Be 36.72 316 P **P** **18 37 49.9 +0.3**
comp=Z,0.9nm,0.5s,baz=101,slow=6.9,SNR=5.8
AKASG LR LR 18 56 38.4
comp=Z,35nm,18.8s,baz=295,slow=42
FINES FINESS Array B 42.66 331 P **P** **18 38 39.2 +0.4**
comp=Z,1.0nm,0.6s,baz=104,slow=8.0,SNR=5.5
FINES LR LR 19 00 41.8
comp=Z,81nm,18.5s,baz=88,slow=42
ARCES ARCESS Array B 47.04 340 P **P** **18 39 14.9 +1.2**
comp=Z,2.2nm,0.7s,baz=125,slow=6.4,SNR=12
ARCES LR LR 19 00 07.9
comp=Z,34nm,21.9s,baz=168,slow=38
HFS Hagfors 47.88 326 P **P** **18 39 20.6 +0.3**
comp=Z,1.9nm,0.5s,baz=132,slow=8.9,SNR=16
HFS LR LR 19 00 27.4
comp=Z,50nm,20.2s,baz=94,slow=37
KSAR Wonju Array Be 48.38 65 P **P** **18 39 25.4 +0.8**
KSAR Wonju Array Be 48.38 65 P **P** **18 39 25.4 +0.8**
KSRS Korea Array 48.41 65 P **P** **18 39 25.4 +0.6**
KSRS pmax pmax
comp=Z,3.0nm,0.6s
KSRS Korea Array 48.41 65 P **P** **18 39 25.4 +0.6**
comp=Z,3.0nm,0.6s,baz=271,slow=8.4,SNR=15
NB2 NORSAR Subarra 49.27 327 P **P** **18 39 30.8 -0.3**
comp=Z,0.9nm,0.6s,baz=104,slow=7.9
NOA NORSAR Array B 49.27 327 P **P** **18 39 30.8 -0.3**
comp=Z,1.1nm,0.6s,baz=104,slow=7.7,SNR=6.1
NOA LR LR 19 04 45.5
comp=Z,36nm,18.2s,baz=100,slow=42
KEST Kesra 50.45 293 P **P** **18 39 41.0 +0.5**
comp=Z,1.0nm,0.5s,baz=341,slow=1.5,SNR=7.2
MJAR Matsushiro Arr 56.66 64 P **P** **18 40 26.9 +1.0**
comp=Z,1.9nm,1.0s,baz=304,slow=8.9,SNR=4.3
ESDC Sonseca Array 59.84 301 P **P** **18 40 47.5 -0.7**
comp=Z,0.5nm,0.5s,baz=70,slow=6.7,SNR=4.6
TORD Torodi Ar. Bea 64.63 271 P **P** **18 41 20.3 -0.3**
comp=Z,0.8nm,0.4s,baz=55,slow=5.8,SNR=20
BOSA Boshof 71.93 220 P **P** **18 42 06.4 +0.4**
comp=Z,3.8nm,0.7s,baz=54,slow=3.2,SNR=7.7
DBIC Dimbokro 73.35 268 P **P** **18 42 15.8 +1.0**
comp=Z,1.3nm,0.5s,baz=14,slow=11,SNR=3.9
WRA Warramunga Arr 79.44 120 P **P** **18 42 49.5 +0.4**
comp=Z,3.2nm,0.8s,baz=322,slow=5.1,SNR=59
WB2 Warramunga Arr 79.45 120 *eP* **P** **18 42 49.5 +0.3**
ASAR Alice Springs 81.36 123 P **P** **18 42 59.8 +0.3**
comp=Z,2.0nm,0.6s,baz=306,slow=5.5,SNR=61
AS31 Alice Springs 81.36 123 *eP* **P** **18 42 59.5 0.0**
ILAR Eielson Array 81.54 15 P **P** **18 42 59.9 +0.1**
comp=Z,0.8nm,0.7s,baz=319,slow=4.1,SNR=8.9
SCHQ Schefferville 87.85 337 LR LR 19 24 59.5
comp=Z,50nm,18.6s,baz=49,slow=37
YKA Yellowknife Ar 88.00 2 P **P** **18 43 33.1 +0.8**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 88.00 2 P **P** **18 43 33.1 +0.8**
comp=Z,2.1nm,0.7s,baz=348,slow=5.0,SNR=30

BJI ***29*** *18:41:22.0,20°.66N×145°.14E,h20km,mB4.8/13,mb4.7/25, Ms4.8/5,Ms7 4.7/5*
ISCJB ***29*** *18:41:38.9±0.3,21°.20N±0°.03×144°.57E±0°.06,h114km, mb4.7/77,Error ellipse: s-maj=8.0km s-min=4.2km az=3.0*
NEIC ***29*** *18:41:43.9±1.2,21°.20N×144°.49E,h147km±10km, mb4.6/21,Error ellipse: s-maj=8.9km s-min=6.0km az=98.0*
IDC ***29*** *18:41:44.8±2.1,21°.22N×144°.45E,h154km±18km, mb4.1/26,mb1 4.2/29,mb1mx4.1/42,mbtmp4.5/29,MS2.5/1, Ms1 2.5/1,ms1mx2.2/39,Error ellipse: s-maj=14.5km s-min=10.2km az=91.0*
MOS ***29*** *18:41:44.2±1.1,21°.25N×144°.39E,h160km,mb4.6/21, Error ellipse: s-maj=13.8km s-min=6.6km az=117.0*
ISC 29 18:41:40.0±0.4,21°.17N±0°.05×144°.64E±0°.08,h114km, n157,σ1§24/167,mb4.7/76,6C-1D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.31**	**340**	P	**Pn**	**18 43 12.3**	**+1.8**
CBIJ				S	**Sn**	**18 44 20.2**	**-1.1**
JCJ	**Chichijima**	**6.31**	**340**	P	**Pn**	**18 43 12.3**	**+1.8**
	68nm,0.3s,baz=295,slow=21,SNR=14						
JCJ				S	**Sn**	**18 44 20.2**	**-1.1**
	114nm,0.3s,baz=135,slow=23,SNR=11						
JOW	**Kunigami**	**15.98**	**294**	P	**P**	**18 45 19.3**	**-0.3**
	0.2nm,0.3s,baz=115,slow=21,SNR=6.4						
MJAR	**Matsushiro Arr**	**16.31**	**341**	P	**P**	**18 45 23.2**	**0.0**
	1.6nm,0.3s,baz=159,slow=10,SNR=23						
MJAR				S	**Sn**	**18 48 22.4**	**-1.0**
	0.3nm,0.3s,baz=162,slow=26,SNR=3.7						
MJAR				LR	LR	18 51 08.4	
	comp=Z,19nm,21.0s,baz=125,slow=35						
MAJO	**Matsushiro**	**16.31**	**341**	*eP*	**P**	**18 45 23.0**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,14nm,0.7s						
MAJO	**Matsushiro**	**16.31**	**341**	*eP*	**P**	**18 45 23.0**	**-0.2**
	comp=Z,14nm,0.7s						
MAT	**Matsushiro**	**16.31**	**341**	P	**P**	**18 45 23.8**	**+0.6**
MAT				S	**Sn**	**18 48 25.0**	**+1.6**
JNU	**Nakatsue**	**17.06**	**317**	P	**Pn**	**18 45 33.5**	**+1.9**
	comp=Z,1.4nm,0.3s,baz=118,slow=1.9,SNR=13						
YHNB	**Yeheng**	**21.70**	**284**	*eP*	**P**	**18 46 22.5**	**+0.5**
KSRS	**Korea Array**	**21.75**	**322**	P	**P**	**18 46 22.1**	**-0.3**
	comp=Z,17nm,0.8s,baz=148,slow=8.7,SNR=65						
KSRS				ScP	**ScP**	**18 53 41.0**	**-4.2**
	comp=Z,1.6nm,0.9s,baz=130,slow=3.9,SNR=5.0						
KSAR	**Wonju Array Be**	**21.77**	**322**	P	**P**	**18 46 22.1**	**-0.4**
KSAR	**Wonju Array Be**	**21.77**	**322**	P	**P**	**18 46 22.1**	**-0.4**
KSAR				ScP	**ScP**	**18 53 41.0**	**-4.3**
SSLB	**Suanglung**	**22.04**	**281**	*eP*	**P**	**18 46 25.4**	**-0.1**
	comp=Z,16nm,0.7s						
ASAJ	**Asahikawa**	**22.94**	**356**	P	**P**	**18 46 36.9**	**+2.5**
	comp=Z,7.4nm,0.8s,baz=99,slow=10,SNR=12						
USRK	**Ussuriysk Ar.**	**25.25**	**338**	P	**P**	**18 46 56.2**	**+0.8**
	comp=Z,3.7nm,0.6s,baz=128,slow=6.9,SNR=9.0						
LBMI	**Labuha**	**27.40**	**220**	P	**P**	**18 47 16.3**	**+1.3**
HABR	**Khabarovsk**	**28.31**	**346**	*eP*	P	18 47 19.5	-3.2
HABR				*e*		18 48 08.5	
HABR				*e*PPP	PPP	18 48 17.2	
HABR				*e*		18 50 32.1	
HABR				*e*S	**S**	**18 52 03.5**	**+2.9**
HABR				*e*SSS	SSS	18 53 38.2	
HABR				pmax	pmax		
	comp=Z,32nm,1.5s						
GTOI	**Gorontalo**	**29.37**	**229**	P	**P**	**18 47 33.8**	**+1.3**
	comp=Z,46nm,0.8s						
SANI	**Sanana**	**29.43**	**221**	P	**P**	**18 47 33.1**	**+0.1**
	comp=Z,16nm,0.6s						
KLR	**Kul'dur**	**29.82**	**343**	*eP*	**P**	**18 47 33.2**	**-3.0**
MRSI	**Marisa**	**30.24**	**230**	P	**P**	**18 47 41.2**	**+1.0**
	comp=Z,54nm,0.7s,comp=Z,423nm						
LUWI	**Luwuk**	**30.74**	**227**	P	**P**	**18 47 45.6**	**+1.0**
	comp=Z,57nm,0.9s,comp=Z,2μm						
APSI	**Ampana**	**31.42**	**229**	P	**P**	**18 47 51.1**	**+0.6**
	comp=Z,69nm,0.7s,comp=Z,782nm						
MPSI	**Mapaga**	**31.82**	**233**	P	**P**	**18 47 55.6**	**+1.5**
PCI	**Palu**	**32.70**	**231**	P	**P**	**18 48 02.3**	**+0.5**
	comp=Z,39nm,0.8s						
QIZ	**Qiongzhong**	**32.71**	**272**	P	P	18 47 50.8	-11
QIZ				S	**S**	**18 53 13.5**	**+3.3**
PETK	**Petropavlovsk-**	**33.43**	**14**	P	**P**	**18 48 10.2**	**+2.5**
	comp=Z,2.2nm,0.9s,baz=202,slow=8.1,SNR=3.6						
TTSI	**Tana Toraja**	**34.21**	**228**	P	**P**	**18 48 16.3**	**+1.4**
SPSI	**Sidrap Palu**	**34.91**	**227**	P	**P**	**18 48 21.9**	**+1.0**
	comp=Z,70nm,0.9s,comp=Z,726nm						
BNSI	**Bone**	**34.99**	**226**	P	**P**	**18 48 24.3**	**+2.7**
	comp=Z,49nm,0.8s						
KAPI	**Kappang**	**35.68**	**226**	*eP*	**P**	**18 48 28.6**	**+1.0**
	comp=Z,99nm,1.0s						
SOEI	**Soe**	**36.68**	**215**	*eP*	**P**	**18 48 34.6**	**-1.5**
	comp=Z,10.0nm,0.6s						
BATI	**Baumata**	**37.38**	**215**	P	**P**	**18 48 42.0**	**0.0**
	comp=Z,24nm,1.1s						
STKI	**Sintang**	**38.58**	**241**	P	**P**	**18 48 52.9**	**+0.8**
	comp=Z,73nm,0.7s,comp=Z,3μm						
WSI	**Waingapu**	**38.88**	**220**	P	**P**	**18 48 55.3**	**+0.8**
	comp=Z,118nm,0.6s,comp=Z,2μm						
WBSI	**Waikabubak, Su**	**39.41**	**221**	P	**P**	**18 48 59.0**	**0.0**
	comp=Z,421nm,0.7s,comp=Z,67μm						
PBKI	**Pangkalan Bun**	**40.07**	**238**	P	**P**	**18 49 05.3**	**+0.9**
	comp=Z,185nm,0.7s,comp=Z,2μm						
ULN	**Ulaanbaatar**	**40.23**	**321**	*c iP*	**P**	**18 49 05.4**	**-0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULN	**Ulaanbaatar**	**40.23**	**321**	*eP*	**P**	**18 49 05.3**	**-0.2**
	comp=Z,2.8nm,0.6s						
SONM	**Songino Array**	**40.61**	**320**	P	**P**	**18 49 08.4**	**-0.2**
	comp=Z,4.7nm,0.5s,baz=130,slow=8.2,SNR=71						
SONM				PcP	**PcP**	**18 51 07.7**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=112,slow=2.8,SNR=3.8						
CTA	**Charters Tower**	**41.04**	**178**	P	**P**	**18 49 12.8**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=342,slow=7.1,SNR=5.1						
CRAI	**Chiangrai**	**41.32**	**277**	P	**P**	**18 49 13.4**	**-1.3**
	comp=Z,148nm,1.4s,comp=Z,9μm						
UTTA	**Uttaradit**	**41.61**	**273**	P	**P**	**18 49 18.0**	**+0.9**
	comp=Z,3.4nm,0.9s						
SEY	**Seymchan**	**42.07**	**5**	P	**P**	**18 49 22.0**	**+1.8**
SEY	**Seymchan**	**42.07**	**5**	P	**P**	**18 49 21.9**	**+1.8**
	comp=Z,1.1nm,0.5s,baz=190,slow=8.6,SNR=18						
WRAB	**Tennant Creek**	**42.08**	**195**	*ceP*	**P**	**18 49 21.3**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,173nm,2.5s						
WRAB	**Tennant Creek**	**42.08**	**195**	*eP*	**P**	**18 49 21.4**	**+0.7**
	comp=Z,37nm,0.8s						
WB2	**Warramunga Arr**	**42.08**	**195**	*eP*	**P**	**18 49 21.6**	**+0.8**
WRA	**Warramunga Arr**	**42.09**	**195**	P	**P**	**18 49 21.8**	**+0.9**
	comp=Z,11nm,0.3s,baz=14,slow=8.7,SNR=264						
WRA				PcP	**PcP**	**18 51 13.8**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=6.7,slow=3.3,SNR=4.0						
YAK	**Yakutsk**	**42.12**	**350**	*eP*	**P**	**18 49 20.7**	**+0.1**
YAK				pmax	pmax		
	comp=Z,16nm,0.8s						
GTA	**Gaotai**	**42.28**	**306**	*eP*	**P**	**18 49 22.0**	**-0.5**
GTA				pP	pP	18 49 26.3	-22
GTA				sP	sP	18 49 29.5	-32
GTA				PMZ			
	comp=Z,4.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**42.97**	**275**	P	**P**	**18 49 28.7**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=78,slow=6.1,SNR=33						
CMAR				PcP	**PcP**	**18 51 17.1**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=77,slow=1.7,SNR=13						
UTHA	**Uthaitani**	**43.15**	**270**	P	**P**	**18 49 31.2**	**+1.6**
	comp=Z,4.1nm,0.7s,comp=Z,56nm						
FITZ	**Fitzroy Crossi**	**43.24**	**207**	*eP*	**P**	**18 49 30.7**	**+0.5**
	comp=Z,13nm,0.9s						
PWJI	**Pagerwojo**	**43.38**	**231**	P	**P**	**18 49 31.6**	**+0.2**
	comp=Z,41nm,0.8s						
ZAK	**Zakamensk**	**43.59**	**322**	⇑*iP*	**P**	**18 49 32.4**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AS31	**Alice Springs**	**45.78**	**194**	*eP*	**P**	**18 49 50.6**	**+0.3**
ASAR	**Alice Springs**	**45.78**	**194**	P	**P**	**18 49 50.8**	**+0.4**
	comp=Z,9.0nm,0.6s,baz=10.0,slow=7.2,SNR=143						
LSA	**Lhasa**	**48.69**	**291**	*eP*	**P**	**18 50 14.4**	**+0.8**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LSA	**Lhasa**	**48.69**	**291**	*eP*	**P**	**18 50 14.3**	**+0.8**
	comp=Z,5.9nm,0.6s						
GSI	**Gunungsitoli**	**49.93**	**253**	*eP*	**P**	**18 50 22.9**	**+0.3**
	comp=Z,34nm,0.4s						
TAPN	**Taplejung**	**51.90**	**289**	*eP*	**P**	**18 50 37.2**	**-0.3**
	comp=Z,12nm,0.4s						
WMQ	**Urumqi**	**51.96**	**310**	P	**P**	**18 50 38.0**	**+0.5**
WMQ				PMZ			
	comp=Z,18nm,1.0s						
WMQ				PMZ			
	comp=Z,57nm,3.7s						
ODAN	**Odare**	**52.24**	**288**	*eP*	**P**	**18 50 39.3**	**-0.7**
	comp=Z,16nm,0.7s						
RAMN	**Ramite**	**52.93**	**288**	*eP*	**P**	**18 50 44.5**	**-0.6**
JIRN	**Jiri**	**53.20**	**289**	*eP*	**P**	**18 50 47.0**	**-0.2**
	comp=Z,20nm,0.5s						
GUN	**Gumba**	**53.45**	**290**	*eP*	**P**	**18 50 48.5**	**-0.5**
	comp=Z,16nm,0.4s						
PKI	**Pulchoki**	**53.90**	**289**	*eP*	**P**	**18 50 52.0**	**-0.3**
PKIN	**Phulchoki**	**53.91**	**289**	*eP*	**P**	**18 50 52.1**	**-0.2**
	comp=Z,3.3nm,0.2s						
KKN	**Kakani**	**53.99**	**290**	*eP*	**P**	**18 50 52.4**	**-0.4**
	comp=Z,6.6nm,0.4s						
DMN	**Daman**	**54.16**	**289**	*eP*	**P**	**18 50 53.5**	**-0.6**
	comp=Z,7.5nm,0.4s						
ZALV	**Zalesovo Beam**	**55.46**	**322**	P	**P**	**18 51 01.7**	**-1.0**
	comp=Z,7.3nm,0.5s,baz=108,slow=7.8,SNR=33						
ZALV				PcP	**PcP**	**18 52 00.1**	**-1.4**
	comp=Z,4.4nm,0.4s,baz=124,slow=3.6,SNR=11						
MKAR	**Makanchi Array**	**56.05**	**313**	P	**P**	**18 51 06.9**	**-0.2**
	comp=Z,6.8nm,0.6s,baz=88,slow=8.4,SNR=102						
MKAR				PcP	**PcP**	**18 52 02.9**	**-1.1**
	comp=Z,2.1nm,0.4s,baz=72,slow=4.1,SNR=7.9						
NVS	**Novosibirsk**	**56.55**	**323**	*eP*	**P**	**18 51 08.5**	**-1.9**
NVS				pmax	pmax		
	comp=E,2.0nm,0.4s						
NVS				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KURK	**Kurchatov**	**58.78**	**317**	*eP*	**P**	**18 51 25.4**	**-0.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KURK	**Kurchatov**	**58.78**	**317**	*eP*	**P**	**18 51 25.4**	**-0.7**
	comp=Z,4.8nm,0.3s						
ULHL	**Ulahol**	**60.29**	**307**	P	**P**	**18 51 37.5**	**+0.6**
	SNR=5.7						
ULHL	**Ulahol**	**60.29**	**307**	*i* P	**P**	**18 51 37.5**	**+0.6**
KSH	**Kashi**	**60.65**	**304**	P	**P**	**18 51 41.8**	**+2.5**
KSH				pP	pP	18 51 51.0	-16
KSH				PP	**PP**	**18 53 56.0**	**+1.9**
KSH				S	S	18 59 54.0	+7.0
KSH				sS	sS	19 00 09.8	-25
KSH				PMZ			
	comp=Z,5.0nm,0.8s						
KSH				PMZ			
	comp=Z,87nm,6.8s						
KSH				LN			
	comp=Z,140nm,4.5s						
KSH				LE			
	comp=Z,69nm,5.0s						
KSH				LZ			
	comp=Z,190nm,5.3s						
TKM2	**Tokmak 2**	**60.74**	**308**	P	**P**	**18 51 40.3**	**+0.4**
	SNR=26						
TKM2	**Tokmak 2**	**60.74**	**308**	*i* P	**P**	**18 51 40.3**	**+0.4**
TKM2	**Tokmak 2**	**60.74**	**308**	*eP*	**P**	**18 51 40.0**	**0.0**
	comp=Z,11nm,0.5s						
KZA	**Kyzart**	**61.03**	**307**	P	**P**	**18 51 43.5**	**+1.2**
	SNR=36						
KZA	**Kyzart**	**61.03**	**307**	*i* P	**P**

	SNR=13						
KBK	**Karagaybulak**	**61.23**	**308**	*i* P	**P**	**18 51 43.7**	**+0.5**
AAK	**Ala-Archa**	**61.56**	**308**	P	**P**	**18 51 45.6**	**+0.1**
	SNR=8.0						
AAK	**Ala-Archa**	**61.56**	**308⇑**	*i* P	**P**	**18 51 45.6**	**+0.1**
AAK				pmax	pmax		
	comp=Z,21nm,1.4s						
AAK	**Ala-Archa**	**61.56**	**308**	P	**P**	**18 51 45.6**	**+0.1**
	comp=Z,4.5nm,0.4s,baz=109,slow=5.7,SNR=38						
UCH	**Uchtor**	**61.57**	**307**	P	**P**	**18 51 46.6**	**+0.7**
	SNR=18						
UCH	**Uchtor**	**61.57**	**307**	*i* P	**P**	**18 51 46.6**	**+0.7**
ILAR	**Eielson Array**	**61.89**	**27**	P	**P**	**18 51 46.8**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=260,slow=5.0,SNR=18						
EKS2	**Erkin-Say**	**62.09**	**308**	P	**P**	**18 51 49.3**	**+0.3**
	SNR=8.2						
EKS2	**Erkin-Say**	**62.09**	**308**	*i* P	**P**	**18 51 49.2**	**+0.3**
EKS2	**Erkin-Say**	**62.09**	**308**	*e*P	**P**	**18 51 48.6**	**-0.4**
	comp=Z,8.5nm,1.2s						
AML	**Almayashu**	**62.19**	**307**	P	**P**	**18 51 50.8**	**+0.9**
	SNR=14						
AML	**Almayashu**	**62.19**	**307**	*i* P	**P**	**18 51 50.8**	**+0.9**
KKAR	**Karatay Array**	**64.44**	**309**	*e*P	**P**	**18 52 04.1**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,17nm,0.8s						
KKAR	**Karatay Array**	**64.44**	**309**	*e*P	**P**	**18 52 04.1**	**-0.3**
	comp=Z,17nm,0.8s						
KBL	**Kabul**	**66.78**	**300**	*e*P	**P**	**18 52 19.2**	**-0.5**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KBL	**Kabul**	**66.78**	**300**	*e*P	**P**	**18 52 19.2**	**-0.5**
	comp=Z,5.8nm,0.7s						
SVE	**Sverdlovsk**	**69.30**	**324**	*e*P	**P**	**18 52 34.6**	**-0.2**
SVE				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARU	**Arti**	**70.49**	**324***c*	*i* P	**P**	**18 52 41.0**	**-1.0**
ARU						18 55 21.5	
ARU				SS	SS	19 06 14.0	-4.8
ARU				pmax	pmax		
	comp=Z,12nm,1.7s						
ARU	**Arti**	**70.49**	**324**	*e*P	**P**	**18 52 41.1**	**-1.0**
	comp=Z,5.6nm,0.4s						
ABKAR	**Akbulak array**	**70.87**	**316**	*e*P	**P**	**18 52 43.6**	**-0.9**
	comp=Z,7.5nm,0.4s						
AKTO	**Aktyubinsk**	**71.87**	**318**	P	**P**	**18 52 49.4**	**-1.1**
	comp=Z,3.0nm,0.6s,baz=96,slow=6.7,SNR=15						
GEYT	**Alibeck**	**74.66**	**305**	P	**P**	**18 53 06.9**	**-0.3**
	comp=Z,8.4nm,0.8s,baz=75,slow=1.7,SNR=22						
YKA	**Yellowknife Ar**	**76.28**	**28**	P	**P**	**18 53 16.7**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=291,slow=5.4,SNR=28						
KEV	**Kevo**	**79.28**	**342**	*e*P	**P**	**18 53 31.2**	**-1.2**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KEV	**Kevo**	**79.28**	**342**	*e*p	**P**	**18 53 31.2**	**-1.2**
	comp=Z,1.9nm,0.4s						
ARCES	**ARCESS Array B**	**79.84**	**342**	P	**P**	**18 53 35.0**	**-0.5**
ARCES	**ARCESS Array B**	**79.84**	**342**	P	**P**	**18 53 35.0**	**-0.5**
	comp=Z,12nm,0.6s,baz=71,slow=7.9,SNR=47						
JOF	**Joensuu**	**81.37**	**335**	*e*P	**P**	**18 53 42.1**	**-1.6**
JOF				pmax	pmax		
	comp=Z,10.0nm,0.4s						
JOF	**Joensuu**	**81.37**	**335**	*e*p	**P**	**18 53 42.1**	**-1.6**
	comp=Z,9.6nm,0.4s						
VRHR	**Novokhopersk**	**81.60**	**322**	*e*P	**P**	**18 53 43.1**	**-2.1**
VRHR				pmax	pmax		
	comp=N,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
MFID	**Camas Ranch**	**82.34**	**46**	*e*P	**P**	**18 53 50.7**	**+1.3**
	comp=E,3.3nm,0.7s						
OBN	**Obninsk**	**82.67**	**327⇓**	*e*P	**P**	**18 53 50.1**	**-0.6**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,15nm,12.0s						
VSR	**Storozhevoye**	**82.96**	**322**	*e*P	**P**	**18 53 50.8**	**-1.5**
VSR				pmax	pmax		
	comp=Z,20nm,0.7s						
VSR				pmax	pmax		
	comp=N,8.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VORD	**Divnogorie**	**82.99**	**322**	*e*P	**P**	**18 53 50.3**	**-2.1**
VORD				pmax	pmax		
	comp=N,10.0nm,0.7s						
VORD				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.6s						
ZEI	**Tsey**	**83.40**	**313**	*e*P	**P**	**18 53 53.7**	**-1.3**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KBZ	**Khabaz**	**83.71**	**314**	P	**P**	**18 53 56.9**	**+0.7**
	comp=Z,7.1nm,0.8s,baz=131,slow=2.7,SNR=14						
KAF	**Kangasniemi**	**83.76**	**335**	*e*P	**P**	**18 53 53.5**	**-2.7**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KAF	**Kangasniemi**	**83.76**	**335**	*e*p	**P**	**18 53 53.5**	**-2.7**
	comp=Z,6.1nm,0.5s						
GNI	**Garni**	**83.82**	**311**	*i* P	**P**	**18 53 57.6**	**+0.4**
GNI				pmax	pmax		
	comp=Z,12nm,1.3s						
FINES	**FINESS Array B**	**84.23**	**335**	P	**P**	**18 53 56.9**	**-1.6**
	comp=Z,11nm,0.4s,baz=89,slow=4.4,SNR=244						
FFC	**Flin Flon**	**85.55**	**32**	*e*P	**P**	**18 54 05.6**	**+0.3**
FFC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FFC	**Flin Flon**	**85.55**	**32**	*e*P	**P**	**18 54 05.6**	**+0.3**
	comp=Z,5.7nm,0.8s						
DUG	**Dugway, Tooele**	**85.67**	**49**	*e*P	**P**	**18 54 07.5**	**+1.1**
DUG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DUG	**Dugway, Tooele**	**85.67**	**49**	*e*P	**P**	**18 54 07.5**	**+1.1**
	comp=Z,4.1nm,0.8s						
SUMG	**Summit**	**86.47**	**1**	*e*P	**P**	**18 54 10.5**	**+0.5**
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SUMG	**Summit**	**86.47**	**1**	*i* P	**P**	**18 54 10.5**	**+0.5**
	comp=Z,4.1nm,0.8s						
DAU	**Daniels Canyon**	**86.66**	**48**	*e*P	**P**	**18 54 12.7**	**+1.2**
DAU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DAU	**Daniels Canyon**	**86.66**	**48**	*e*P	**P**	**18 54 12.7**	**+1.2**
	comp=Z,2.9nm,0.7s						
PDAR	**Pinedale Array**	**86.80**	**45**	P	**P**	**18 54 12.9**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=213,slow=1.6,SNR=8.9						
AKASG	**Malin Array Be**	**88.72**	**325**	P	**P**	**18 54 18.3**	**-2.4**
	comp=Z,0.8nm,0.4s,baz=52,slow=4.8,SNR=15						
RAYN	**Ar Rayn**	**89.63**	**295**	*e*P	**P**	**18 54 24.4**	**-1.2**
	comp=Z,5.0nm,0.8s						
HFS	**Hagfors**	**89.73**	**338**	P	**P**	**18 54 23.1**	**-2.1**
	comp=Z,1.3nm,0.4s,baz=90,slow=4.4,SNR=19						
NB2	**NORSAR Subarra**	**89.92**	**339**	P	**P**	**18 54 24.1**	**-2.0**
	comp=Z,1.7nm,0.7s,baz=43,slow=5.1						
NOA	**NORSAR Array B**	**89.92**	**339**	P	**P**	**18 54 24.4**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=54,slow=6.7,SNR=7.2						
BRTR	**Keskin Array B**	**91.69**	**314**	P	**P**	**18 54 33.1**	**-1.8**
	comp=Z,1.6nm,0.8s,baz=49,slow=3.9,SNR=8.5						
ANMO	**Albuquerque**	**92.50**	**51***c*	*e*P	**P**	**18 54 40.8**	**+1.9**
ANMO				pmax	pmax		
	comp=Z,29nm,2.5s						
STHS	**Stebnicka Huta**	**93.64**	**327**	*e*P	P	18 54 52.8	+9.2
STHS	**Stebnicka Huta**	**93.64**	**327**	*e*	P	18 54 52.8	+9.2
DPC	**Dobruska-Polom**	**95.45**	**330**	*e*P	**P**	**18 54 51.1**	**-0.8**
DPC	**Dobruska-Polom**	**95.45**	**330**	*e*P	**P**	**18 54 51.1**	**-0.8**
CLL	**Collm**	**96.30**	**332**	*i* P	**P**	**18 54 53.8**	**-1.8**
TXAR	**Lajitas Array**	**97.25**	**55**	P	Pdif	18 55 01.7	+1.1
	comp=Z,0.1nm,0.3s,baz=260,slow=5.4,SNR=3.1						
LSZ	**Lusaka**	**119.69**	**264**	*e*PKIKP	**PKPdf**	**19 00 17.3**	**-0.2**
LSZ	**Lusaka**	**119.69**	**264**	*e*P	**PKPdf**	**19 00 17.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**130.12**	**310**	PKP	**PKPdf**	**19 00 36.5**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=35,slow=1.1,SNR=28						
DBIC	**Dimbokro**	**139.23**	**309**	PKIKP	**PKPdf**	**19 00 54.0**	**-0.5**
DBIC	**Dimbokro**	**139.23**	**309**	PKP	**PKPdf**	**19 00 54.0**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=130,slow=5.0,SNR=4.5						
LCO	**Las Campanas**	**147.15**	**111**	*e*PKPbc	**PKPbc**	**19 01 11.4**	**+0.7**
LPAZ	**La Paz**	**148.62**	**87**	*e*PKIKP	**PKPdf**	**19 01 11.7**	**+0.2**
LPAZ						19 01 16.4	
LPAZ	**La Paz**	**148.62**	**87**	PKPbc	**PKPbc**	**19 01 16.4**	**+1.1**
	comp=Z,5.5nm,0.5s,baz=1.6,slow=2.5,SNR=19						
LPAZ	**La Paz**	**148.62**	**87**	*e*PKPdf	**PKPdf**	**19 01 11.7**	**+0.2**
LPAZ				PKPbc	**PKPbc**	**19 01 16.4**	**+1.1**
SAML	**Samuel**	**150.57**	**70**	*e*PKPbc	**PKPbc**	**19 01 19.0**	**-0.4**

CSEM ***29*** *19:52:49.3, 42°.63N×13°.31E, h8km, MD1.9/8*
ROM 29 19:52:49.3±0.1, 42°.63N×13°.31E, h8km, Md1.9/8, Ml1.4/2, Error ellipse: s-maj=1.2km s-min=0.7km az=68.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.02**	**78**	Pg	Pg	18 52 51.2	+0.3
SMA1				Sg	Sg	18 52 52.2	+0.2
	2μm,0.2s						
TERO	**Teramo**	**0.21**	**91**	Pg	Pg	18 52 54.1	+0.4
TERO				Sg	Sg	18 52 57.8	+1.1
	111nm,0.1s						
TERO	**Teramo**	**0.21**	**91**	Pg	Pg	18 52 54.1	+0.4
TERO				Sg	Sg	18 52 57.8	+1.1
	111nm,0.1s						
NRCA	**Norcia**	**0.25**	**325**	Pg	Pg	18 52 55.3	+0.8
NRCA				Sg	Sb	18 52 59.5	-1.5
	12nm,0.2s						
NRCA	**Norcia**	**0.25**	**325**	Pg	Pg	18 52 55.3	+0.8
NRCA				Sg	Sb	18 52 59.5	-1.5
	12nm,0.2s						
T0104	**Madonna delle**	**0.27**	**176**	Pg	Pg	18 52 55.3	+0.6
T0104				Sg	Sb	18 53 00.0	-1.3
T0106	**Roio Piano**	**0.32**	**171**	Pg	Pg	18 52 56.4	+0.5
T0106				Sg	Sb	18 53 02.3	-0.8
	30nm,0.9s						
FAGN	**Fagnano**	**0.41**	**151**	Pg	Pb	18 52 58.3	-0.7
FAGN				Sg	Sb	18 53 05.8	+0.3
FAGN	**Fagnano**	**0.41**	**151**	Pg	Pb	18 52 58.3	-0.7
FAGN				Sg	Sb	18 53 05.8	+0.3
FDMO	**Fiordimonte**	**0.44**	**338**	Pg	Pg	18 52 58.7	+0.7
FDMO				Sg	Sb	18 53 05.6	-0.7
FDMO	**Fiordimonte**	**0.44**	**338**	Pg	Pg	18 52 58.7	+0.7
FDMO				Sg	Sb	18 53 05.6	-0.7
MNS	**Montasola**	**0.53**	**243**	Pg	Pg	18 53 00.0	+0.4
MNS				Sg	Sb	18 53 07.9	-0.8
MNS	**Montasola**	**0.53**	**243**	Pg	Pg	18 53 00.0	+0.4
MNS				Sg	Sb	18 53 07.9	-0.8

DJA ***29*** *19:02:55.9±0.7, 1°.N±5°.×9°.7E±°, h174km±10km, M3.9/13, mb3.9/6, mB5.0/1, MLv4.0/13, Mw(mB)4.3/1*
IDC ***29*** *19:02:57.9±1.4, 0°.03N×97°.61E, h0km, mb4.2/9, mb1 4.2/11, mb1mx3.9/33, mbtmp4.1/11, ML3.9/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/39, Error ellipse: s-maj=43.8km s-min=16.5km az=57.0*
ISCJB ***29*** *19:02:59.9±0.8, 0°.12N±0°.08×97°.58E±0°.09, h25km, mb4.2/11, MS3.4/1, Error ellipse: s-maj=15.2km s-min=8.1km az=146.0*
NEIC ***29*** *19:03:03.1±0.6, 0°.12N×97°.64E, h35km, mb4.1/2, Error ellipse: s-maj=12.6km s-min=7.3km az=63.0*
ISC 29 19:03:01.7±1.0, 0°.07N±0°.09×97°.74E±0°.09, h25km, n33, σ1.9 53/28, mb4.1/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.24**	**353**	P	**Pn**	**19 03 21.8**	**-1.6**
GSI				S	**Sb**	**19 03 44.3**	**+4.3**
GSI	**Gunungsitoli**	**1.24**	**353**	*e*P	**Pn**	**19 03 22.5**	**-1.0**
PDSI	**Padang**	**2.89**	**110**	P	**Pb**	**19 03 50.4**	**-2.2**
PSI	**Prapat**	**2.96**	**24**	Pn	**Pn**	**19 03 46.5**	**-0.8**
	5.3nm,0.3s,baz=238,slow=2.4,SNR=8.3						
BKNI	**Bangkinang**	**3.31**	**86**	P	**Pn**	**19 03 52.8**	**+0.8**
BKNI				S	**Sb**	**19 04 39.2**	**-0.5**
BKNI	**Bangkinang**	**3.31**	**86**	P	**Pn**	**19 03 54.9**	**+2.9**
SDSI	**Sungai Dareh**	**3.82**	**105**	P	**Pn**	**19 04 01.5**	**+2.5**
SDSI				S	**Sb**	**19 04 54.1**	**-0.3**
IPM	**Ipoh**	**5.48**	**37**	*e*P	**Pn**	**19 04 23.1**	**+1.3**
	14nm,0.7s						
KULM	**Kulim**	**5.95**	**29**	*e*P	**Pn**	**19 04 28.4**	**+0.2**
	18nm,0.9s						
TPRI	**Tanjung Pinang**	**6.84**	**83**	P	**Pn**	**19 04 38.0**	**-2.5**
LEM	**Lembang**	**12.00**	**125**	LR	LR	19 10 39.2	
	comp=Z,103nm,21.0s,baz=25,slow=38						
CMAR	**Chiang Mai Arr**	**18.31**	**4**	P	**P**	**19 07 12.7**	**-1.4**
	0.4nm,0.3s,baz=192,slow=12,SNR=7.9						
H08S2	**Diego Garcia H**	**26.31**	**253**	T	T	19 35 47.5	
	baz=74,slow=75,SNR=2116						
H08S3	**Diego Garcia H**	**26.31**	**253**	T	T	19 35 49.2	
	baz=74,slow=75,SNR=2574						
H08S1	**Diego Garcia H**	**26.33**	**253**	T	T	19 35 50.3	
	baz=74,slow=75,SNR=2971						
LSA	**Lhasa**	**30.13**	**349**	*e*P	**P**	**19 09 09.2**	**-1.0**
	1.6nm,0.5s						
H01W3	**Cape Leeuwin H**	**38.00**	**158**	T	T	19 50 45.3	
	baz=333,slow=76,SNR=8.6						
H01W2	**Cape Leeuwin H**	**38.01**	**158**	T	T	19 50 46.4	
	baz=333,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	**38.02**	**158**	T	T	19 50 47.8	
	baz=333,slow=76,SNR=12						
WRA	**Warramunga Arr**	**40.99**	**121**	P	**P**	**19 10 43.3**	**+0.3**
	1.9nm,0.8s,baz=304,slow=8.8,SNR=18						
WRAB	**Tennant Creek**	**40.99**	**121**	*e*P	**P**	**19 10 43.7**	**+0.7**
	2.8nm,0.6s						
ASAR	**Alice Springs**	**42.29**	**126**	P	**P**	**19 10 54.5**	**+0.9**
	2.3nm,0.7s,baz=298,slow=8.1,SNR=46						
AS31	**Alice Springs**	**42.29**	**126**	*e*P	**P**	**19 10 54.3**	**+0.7**
KSAR	**Wonju Array Be**	**46.45**	**33**	P	**P**	**19 11 26.9**	**+0.3**
KSRS	**Korea Array**	**46.48**	**33**	P	**P**	**19 11 26.9**	**+0.1**
	1.7nm,0.7s,baz=221,slow=9.6,SNR=7.3						
SONM	**Songino Array**	**48.17**	**8**	P	**P**	**19 11 40.8**	**+0.8**
	2.0nm,0.8s,baz=188,slow=8.5,SNR=18						
SONM				LR	LR	19 34 30.7	
	comp=Z,39nm,20.0s,baz=181,slow=39						
MKAR	**Makanchi Array**	**48.46**	**346**	P	**P**	**19 11 42.7**	**+0.5**
	3.0nm,0.5s,baz=159,slow=9.2,SNR=65						
PMG	**Port Moresby**	**50.08**	**102**	P	**P**	**19 11 56.0**	**+0.9**
	5.3nm,0.8s,baz=350,slow=11,SNR=3.4						
KURBB	**Kurchatov Arra**	**52.96**	**345**	P	**P**	**19 12 16.1**	**+0.2**
	1.5nm,0.7s,baz=166,slow=7.1,SNR=15						
KURK	**Kurchatov**	**53.02**	**345**	*e*P	**P**	**19 12 16.6**	**+0.2**
ZALV	**Zalesovo Beam**	**54.76**	**351**	P	**P**	**19 12 29.4**	**+0.3**
	6.0nm,0.7s,baz=182,slow=6.6,SNR=35						
FINES	**FINESS Array B**	**81.25**	**333**	P	**P**	**19 15 14.8**	**-0.6**
	0.5nm,0.6s,baz=120,slow=6.8,SNR=3.9						
TXAR	**Lajitas Array**	**144.33**	**33**	PKP	PKPbc	19 22 35.4	+0.6
	0.4nm,0.6s,baz=243,slow=0.8,SNR=5.6						

ISCJB ***29*** *19:17:53.5±0.2, 62°.23N±0°.02×150°.23W±0°.05, h68km±5km, mb3.3/2, Error ellipse: s-maj=3.6km s-min=3.0km az=1.2*
NEIC ***29*** *19:17:55.1, 62°.20N×150°.29W, h56km, ML3.2(AEIC), After AEIC.*
IDC ***29*** *19:17:56.3±6.1, 62°.40N×150°.26W, h77km±59km, mb3.1/2, mb1 3.3/5, mb1mx3.0/52, mbtmp3.3/5, ML3.0/3, Error ellipse: s-maj=48.1km s-min=24.3km az=32.0*
ISC 29 19:17:54.5±0.9, 62°.23N±0°.03×150°.26W±0°.03, h59km±7km, n83, σ0.8 80/99, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRAP	**Trapper Creek**	**0.11**	**5**	P	**Pn**	**19 18 03.3**	**-0.2**
TRAP				S	**Sn**	**19 18 10.5**	**+0.6**
SKT	**Skwentna**	**0.65**	**248**	P	**Pn**	**19 18 07.4**	**-0.7**
SKT				S	**Sn**	**19 18 17.6**	**-0.3**
SUA	**Susitna One**	**0.80**	**197**	P	**Pn**	**19 18 09.5**	**-0.5**
SUA				S	**Sn**	**19 18 21.2**	**-0.2**
HUR	**Hurricane**	**0.81**	**21**	P	**Pn**	**19 18 10.4**	**+0.3**
PMR	**Palmer**	**0.83**	**139**	P	**Pn**	**19 18 09.8**	**-0.5**
PMR				S	**Sn**	**19 18 22.1**	**+0.2**
STLK	**Strandline Lak**	**1.04**	**226**	P	**Pn**	**19 18 12.4**	**-0.8**
STLK				S	**Sn**	**19 18 26.6**	**-0.3**
FIB	**Fire Island**	**1.06**	**178**	P	**Pn**	**19 18 13.9**	**+0.6**
PPLA	**Purkeypile**	**1.12**	**308**	P	**Pn**	**19 18 13.9**	**-0.3**
PPLA				S	**Sn**	**19 18 28.5**	**-0.3**
RC01	**Rabbit Creek A**	**1.17**	**167**	*e*P	**Pn**	**19 18 13.8**	**-0.9**
RC01				P	**Pn**	**19 18 14.2**	**-0.5**
TRF	**Thorofare Moun**	**1.23**	**359**	P	**Pn**	**19 18 15.9**	**+0.2**
TRF				S	**Sn**	**19 18 32.0**	**+0.5**
RND	**Reindeer**	**1.35**	**28**	P	**Pn**	**19 18 17.4**	**+0.1**
RND				S	**Sn**	**19 18 34.1**	**-0.2**
CKN	**Chakachatna No**	**1.36**	**223**	P	**Pn**	**19 18 17.4**	**+0.1**
KTH	**Kantishna Hill**	**1.37**	**348**	P	**Pn**	**19 18 17.9**	**+0.4**
KTH				S	**Sn**	**19 18 35.4**	**+0.7**
SPBG	**Spurr Blockage**	**1.39**	**227**	P	**Pn**	**19 18 18.2**	**+0.4**
BGL	**Barrier Glacie**	**1.40**	**227**	P	**Pn**	**19 18 18.0**	**+0.1**
CKL	**Chakachamna La**	**1.43**	**225**	P	**Pn**	**19 18 18.5**	**+0.2**
SCM	**Sheep Creek Mo**	**1.44**	**105**	P	**Pn**	**19 18 18.7**	**+0.3**
SCM				S	**Sn**	**19 18 39.3**	**+3.0**
CAST	**Castle Rocks**	**1.46**	**326**	P	**Pn**	**19 18 18.6**	**-0.1**
CAST				S	**Sn**	**19 18 36.9**	**+0.1**
DHY	**Denali Highway**	**1.58**	**56**	P	**Pn**	**19 18 20.6**	**+0.1**
MCK	**McKinley**	**1.63**	**21**	P	**Pn**	**19 18 21.5**	**+0.5**
SLKM	**Skilak Lake**	**1.72**	**179**	P	**Pn**	**19 18 21.7**	**-0.5**
CHUM	**Lake Minchumin**	**1.91**	**332**	P	**Pn**	**19 18 24.9**	**+0.2**
CHUM				S	**Sn**	**19 18 47.2**	**-0.4**
BWN	**Browne**	**1.99**	**10**	P	**Pn**	**19 18 26.3**	**+0.5**
DFR	**Drift River**	**2.01**	**216**	P	**Pn**	**19 18 26.4**	**+0.2**
GLI	**Glacier Island**	**2.03**	**130**	P	**Pn**	**19 18 26.1**	**-0.3**
NCT	**North Crescent**	**2.10**	**219**	P	**Pn**	**19 18 28.0**	**+0.5**
JPK	**Jack Peak**	**2.11**	**122**	P	**Pn**	**19 18 27.2**	**-0.2**
RSO	**Redoubt South**	**2.14**	**215**	*e*P	**Pn**	**19 18 28.3**	**+0.3**
RDWB	**Redoubt West**	**2.14**	**217**	P	**Pn**	**19 18 28.5**	**+0.5**
SEW	**Seward**	**2.17**	**169**	P	**Pn**	**19 18 28.5**	**+0.3**
SEW				*e*P	**Pn**	**19 18 29.2**	**+1.1**
VLZ	**Valdez**	**2.17**	**119**	P	**Pn**	**19 18 27.7**	**-0.5**
KLU	**Klutina**	**2.19**	**108**	P	**Pn**	**19 18 28.1**	**-0.4**
PS11	**TAPS Pump St11**	**2.25**	**92**	P	**Pn**	**19 18 30.7**	**+1.3**
PAX	**Paxson**	**2.34**	**69**	P	**Pn**	**19 18 31.9**	**+1.3**
PS10	**TAPS Pump St10**	**2.39**	**58**	P	**Pn**	**19 18 32.1**	**+0.8**
HARP	**HAARP**	**2.39**	**83**	P	**Pn**	**19 18 32.5**	**+1.1**
DIV	**Divide**	**2.41**	**115**	*e*P	**Pn**	**19 18 30.7**	**-0.8**
WRH	**Wood River Hil**	**2.46**	**23**	P	**Pn**	**19 18 32.4**	**+0.2**
BRLK	**Bradley Lake**	**2.49**	**187**	P	**Pn**	**19 18 34.1**	**+1.4**
HIN	**Hinchinbrook I**	**2.58**	**134**	P	**Pn**	**19 18 33.3**	**-0.6**
ILW	**Iliamna West**	**2.58**	**214**	P	**Pn**	**19 18 35.7**	**+1.7**
HDA	**Harding Lake**	**2.65**	**33**	P	**Pn**	**19 18 35.2**	**+0.4**
CCB	**Clear Creek Bu**	**2.67**	**23**	P	**Pn**	**19 18 35.1**	**0.0**
EYAK	**Cordova Ski Ar**	**2.75**	**126**	P	**Pn**	**19 18 35.8**	**-0.3**
TT01	**Tatalina**	**2.75**	**287**	P	**Pn**	**19 18 35.3**	**-0.9**
SVW2	**Sparrevohn**	**2.78**	**248**	P	**Pn**	**19 18 35.9**	**-0.7**
PS08	**TAPS Pump Stn8**	**2.80**	**32**	P	**Pn**	**19 18 37.1**	**+0.3**
MLY	**Manley**	**2.83**	**356**	P	**Pn**	**19 18 37.2**	**0.0**
COLA	**College**	**2.87**	**21**	P	**Pn**	**19 18 38.1**	**+0.4**
MDM	**Murphy Dome**	**2.89**	**17**	P	**Pn**	**19 18 38.3**	**+0.2**
OPT	**Oil Point**	**2.96**	**211**	P	**Pn**	**19 18 41.2**	**+2.1**
IL1	**Eielson Array**	**2.97**	**29**	P	**Pn**	**19 18 39.1**	**0.0**
ILAR	**Eielson Array**	**2.97**	**29**	P	**Pn**	**19 18 39.3**	**+0.1**
	3.5nm,0.3s,baz=213,slow=14,SNR=77						
ILAR				S	**Sn**	**19 19 11.9**	**-1.6**
	6.0nm,0.3s,baz=218,slow=22,SNR=21						
BMRM	**Bremner River**	**2.98**	**112**	P	**Pn**	**19 18 38.5**	**-0.9**
GOAT	**Goat Mountain**	**3.13**	**119**	P	**Pn**	**19 18 40.4**	**-1.1**
GLB	**Gilahina Butte**	**3.16**	**102**	P	**Pn**	**19 18 41.6**	**-0.2**
DOT	**Dot Lake**	**3.17**	**61**	P	**Pn**	**19 18 43.1**	**+1.1**
AUP	**Augustine Pinn**	**3.26**	**210**	P	**Pn**	**19 18 45.6**	**+2.3**
SCRK	**Sand Creek**	**3.35**	**56**	P	**Pn**	**19 18 45.1**	**+0.7**
VRDI	**Verde Repeater**	**3.39**	**104**	P	**Pn**	**19 18 44.5**	**-0.6**
MCARA	**McCarthy VSAT**	**3.54**	**101**	P	**Pn**	**19 18 47.0**	**+0.1**
PS06	**TAPS Pump Stn6**	**3.65**	**3**	P	**Pn**	**19 18 48.9**	**+0.4**
KHIT	**Khitrov Hills**	**3.82**	**115**	P	**Pn**	**19 18 50.4**	**-0.5**
PTPK	**Patty Peak**	**3.86**	**102**	P	**Pn**	**19 18 51.3**	**-0.2**
BALM	**Baldy**	**3.96**	**104**	P	**Pn**	**19 18 52.1**	**-0.7**
KIAG	**Kiagna River**	**4.00**	**106**	P	**Pn**	**19 18 52.6**	**-0.8**
BCA3	**Beaver Creek A**	**4.00**	**74**	P	**Pn**	**19 18 53.6**	**+0.3**
IM3	**Indian Mountai**	**4.07**	**339**	P	**Pn**	**19 18 54.2**	**0.0**
ISLE	**Juniper Island**	**4.14**	**110**	P	**Pn**	**19 18 54.3**	**-1.0**
BARK	**Barkley Ridge**	**4.17**	**113**	P	**Pn**	**19 18 55.2**	**-0.5**
BARN	**Barnard Glacie**	**4.27**	**102**	P	**Pn**	**19 18 56.9**	**-0.2**
GRNC	**Granite Creek**	**4.35**	**106**	P	**Pn**	**19 18 57.4**	**-0.8**
PS05	**TAPS Pump Stn5**	**4.61**	**358**	P	**Pn**	**19 19 02.7**	**+1.1**
TABL	**Table Mountain**	**4.74**	**108**	P	**Pn**	**19 19 03.2**	**-0.4**
EGAK	**Eagle**	**4.81**	**54**

VNDA Vanda 64.05 191 LR LR 20 14 26.6
comp=Z,42nm,21.1s,baz=152,slow=32
TBI Tubuai 67.12 257 *e*LR LR 20 11 59.3
160nm,28.8s
TXAR Lajitas Array 69.65 331 P **P** **19 51 42.6 +0.5**
0.3nm,0.6s,baz=134,slow=8.9,SNR=4.6
TXAR LR LR 20 17 52.1
comp=Z,118nm,18.1s,baz=0.0,slow=32
PPT2 Papeete2 70.03 262 *e*LR LR 20 13 11.0
95nm,28.8s
PPT Papeete 70.04 262 LR LR 20 14 07.5
comp=Z,66nm,19.6s,baz=5.0,slow=29
MAW Mawson 73.22 164 LR LR 20 26 24.0
comp=Z,109nm,18.4s,baz=238,slow=38
DBIC Dimbokro 75.38 71 P **P** **19 52 15.6 -0.8**
2.0nm,0.6s,baz=196,slow=6.9,SNR=4.9
DBIC LR LR 20 23 44.1
comp=Z,83nm,19.2s,baz=192,slow=34
DBIC Dimbokro 75.38 71 *e*P **P** **19 52 16.4 -0.1**
3.6nm,0.9s
BOSA Boshof 80.24 118 P **P** **19 52 43.6 0.0**
2.6nm,0.9s,baz=236,slow=13,SNR=5.1
BOSA Boshof 80.24 118 *e*P **P** **19 52 43.0 -0.6**
3.3nm,0.9s
PDAR Pinedale Array 83.69 333 P **P** **19 53 03.2 +1.9**
0.3nm,0.6s,baz=149,slow=4.2,SNR=3.0
TORD Torodi Ar. Bea 84.41 70 P **P** **19 53 05.2 -0.1**
4.6nm,0.8s,baz=254,slow=4.1,SNR=26
TORD LR LR 20 29 55.4
comp=Z,102nm,18.8s,baz=160,slow=35
ASAR Alice Springs 117.46 207 PKP **PKPdf** **19 59 18.8 +0.1**
0.5nm,1.0s,baz=115,slow=1.5,SNR=2.6
WRA Warramunga Arr 120.65 209 PKP **PKPdf** **19 59 24.1 -0.9**
0.7nm,0.8s,baz=152,slow=1.9,SNR=5.1
BRTR Keskin Array B 122.02 61 PKP **PKPdf** **19 59 26.8 -0.2**
0.6nm,0.7s,baz=194,slow=4.5,SNR=4.2
AKASG Malin Array Be 122.35 48 PKP **PKPdf** **19 59 25.9 -1.2**
0.7nm,0.6s,baz=262,slow=2.8,SNR=9.0
ABKAR Akbulak array 141.85 52 *e*PKPpre PKPpre 19 59 57.4
EKS2 Erkin-Say 152.16 62 *e*PKPbc **PKPbc** **20 00 28.5 +0.5**
AAK Ala-Archa 152.69 62 *e*PKPbc **PKPbc** **20 00 29.7 +0.4**
KURK Kurchatov 153.03 43 *e*PKPbc **PKPbc** **20 00 29.3 -0.2**
ZALV Zalesovo Beam 154.35 32 PKP **PKPdf** **20 00 23.6 -0.3**
1.2nm,0.7s,baz=256,slow=3.1,SNR=6.6
ZALV PKPbc **PKiKP** **20 00 32.6 +0.4**
6.3nm,0.7s,baz=305,slow=3.2,SNR=28
ZALV PKPab **PKPab** **20 00 47.2 +0.8**
3.9nm,0.7s,baz=300,slow=4.4,SNR=8.4
MKAR Makanchi Array 156.93 49 PKP **PKPdf** **20 00 27.1 -0.6**
0.6nm,0.8s,baz=0.0,slow=0.4,SNR=5.3
MKAR PKPab **PKPab** **20 00 57.3 -0.5**
1.3nm,0.7s,baz=301,slow=5.2,SNR=12
CMAR Chiang Mai Arr 162.63 151 PKP **PKPdf** **20 00 35.1 +0.2**
0.4nm,0.7s,baz=279,slow=2.7,SNR=4.3
SONM Songino Array 166.16 4 PKP **PKPdf** **20 00 36.6 -0.8**
0.5nm,0.8s,baz=270,slow=0.7,SNR=3.7
SONM PKPab **PKPab** **20 01 38.6 +0.5**
0.6nm,0.9s,baz=318,slow=4.6,SNR=4.8

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*ISCJB **29** 19:42:03.5±0.6, 22.°40S±0.°09×179.°5W±0.°1, h579km, mb4.0/11, Error ellipse: s-maj=14.2km s-min=11.4km az=5.8*
*IDC **29** 19:42:04.9±1.8, 22.°12S×179.°57W, h582km±18km, mb3.5/11, mb1 3.7/12, mb1mx3.4/32, mbtmp4.4/12, Error ellipse: s-maj=17.2km s-min=14.9km az=45.0*
ISC 29 19:42:04.1±0.5, 22.°4S±0.°1×179.°5W±0.°1, h579km, n54, σ1§16/60, mb3.9/11, 11C-10D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.03 269**		P	**P**	**19 44 54.7**	**+1.1**
	1.2nm,0.3s,baz=240,slow=15,SNR=9.4						
URZ	**Urewera**	**16.12 190**		P	**P**	**19 45 22.1**	**-1.3**
	2.6nm,0.3s,baz=281,slow=3.1,SNR=12						
URZ				S	**S**	**19 48 00.8**	**-4.9**
	1.3nm,0.3s,baz=150,slow=19,SNR=7.2						
CTA	**Charters Tower**	**31.98 268**		P	**P**	**19 47 44.3**	**+0.3**
	6.7nm,0.3s,baz=93,slow=11,SNR=22						
PMG	**Port Moresby**	**34.47 287**		P	**P**	**19 48 04.6**	**-0.4**
	18nm,0.8s,baz=80,slow=4.3						
ASAR	**Alice Springs**	**42.77 259**		P	**P**	**19 49 11.8**	**-0.1**
	2.5nm,0.7s,baz=90,slow=8.3,SNR=41						
ASAR				PcP	**PcP**	**19 50 49.9**	**-0.1**
	1.1nm,0.6s,baz=104,slow=3.9,SNR=8.2						
WRA	**Warramunga Arr**	**43.00 264**		P	**P**	**19 49 13.1**	**-0.7**
	2.4nm,0.3s,baz=99,slow=8.8,SNR=98						
VNDA	**Vanda**	**55.95 185**		P	**P**	**19 50 50.4**	**+2.7**
	2.5nm,0.7s,baz=356,slow=7.8,SNR=24						
QSPA	**South Pole Qui**	**67.72 180**		P	**P**	**19 52 06.4**	**+2.0**
	14nm,0.8s,baz=347,slow=3.3,SNR=16						
NVAR	**Mina Array Bea**	**83.32 44**		P	**P**	**19 53 30.8**	**-0.4**
	1.1nm,0.7s,baz=221,slow=8.1,SNR=4.9						
SNAA	**Sanae**	**86.20 179**		P	**P**	**19 53 44.4**	**-0.1**
VNA3	**Neumayer Olymp**	**86.38 177**		P	**P**	**19 53 45.2**	**-0.2**
TXAR	**Lajitas Array**	**89.22 58**		P	**P**	**19 54 01.0**	**+1.6**
	1.7nm,0.9s,baz=219,slow=5.8,SNR=12						
CMAR	**Chiang Mai Arr**	**89.44 290**		P	**P**	**19 54 01.6**	**+1.1**
	1.0nm,0.8s,baz=144,slow=3.3,SNR=8.3						
CMAR				PKKPbc	**PKKPbc**	**20 11 31.7**	**-0.2**
	0.4nm,0.6s,baz=275,slow=4.1,SNR=4.1						
ILAR	**Eielson Array**	**90.43 13**		P	**P**	**19 54 02.5**	**-1.5**
	0.3nm,0.7s,baz=210,slow=5.2,SNR=3.3						
PDAR	**Pinedale Array**	**91.26 44**		P	**P**	**19 54 08.9**	**+0.2**
	1.1nm,0.9s,baz=194,slow=5.5,SNR=5.4						
MKAR	**Makanchi Array**	**111.45 313**		PKiKP	**PKiKP**	**19 59 32.1**	**-1.0**
	0.3nm,0.5s,baz=96,slow=1.4,SNR=8.3						
MKAR				PKKPbc	**PKKPbc**	**20 10 30.1**	**-0.4**
	0.5nm,0.7s,baz=262,slow=3.6,SNR=4.9						
ARCES	**ARCESS Array B**	**130.47 349**		PKP	**PKPdf**	**20 00 07.8**	**-1.0**
	3.3nm,0.9s,baz=61,slow=1.1,SNR=7.8						
FINES	**FINESS Array B**	**137.13 342**		PKP	**PKPdf**	**20 00 21.7**	**+0.3**
	0.5nm,0.5s,baz=144,slow=2.3,SNR=4.4						
FINES				SKPbc	**SKPbc**	**20 03 00.4**	**-0.3**
	1.3nm,0.8s,baz=46,slow=4.0,SNR=3.2						
NOA	**NORSAR Array B**	**140.63 352**		SKPbc	**SKPbc**	**20 03 07.1**	**-3.3**
	1.7nm,0.9s,baz=15,slow=4.4,SNR=3.7						
AKASG	**Malin Array Be**	**143.91 329**		PKP	PKPbc	20 00 31.9	-1.5
	1.2nm,0.4s,baz=40,slow=4.1,SNR=16						
AKASG				SKPbc	**SKPbc**	**20 03 17.8**	**-0.8**
	0.7nm,0.7s,baz=38,slow=2.2,SNR=5.3						
BRTR	**Keskin Array B**	**147.00 309**		PKPbc	**PKPdf**	**20 00 42.1**	**+2.3**
	1.4nm,0.7s,baz=134,slow=4.8,SNR=7.9						
TLCR		**147.54 321**	⇑	*i*P	**PKPbc**	**20 00 43.7**	**-0.1**
ANTO	**Ankara**	**147.54 310**	⇑	*i*P	**PKPbc**	**20 00 44.6**	**+0.4**
CFR	**Carcaliu**	**147.94 322**	⇓	*i*P	**PKPbc**	**20 00 44.6**	**-0.2**
TESR	**Tescani**	**147.94 325**	⇓	*i*P	**PKPbc**	**20 00 44.5**	**-0.3**
BURAR	**Bucovina Array**	**147.94 328**	⇓	*i*P	**PKPbc**	**20 00 46.1**	**+1.2**
MSAB	**Monastry St. A**	**148.75 320**	⇑	*i*P	**PKPbc**	**20 00 47.3**	**+0.4**
PSN	**Preselentsi**	**148.77 319**	⇑	*i*P	**PKPbc**	**20 00 46.8**	**-0.2**
TRPA	**Tarpa**	**148.83 331**	⇓	*i*P	**PKPbc**	**20 00 46.8**	**-0.2**
DOPR	**Dopca**	**148.96 325**	⇑	*i*P	**PKPbc**	**20 00 47.7**	**+0.3**
MLR	**Muntele Rosu**	**148.97 324**	⇓	*i*P	**PKPbc**	**20 00 47.6**	**0.0**
OKC	**Ostrava-Krasne**	**149.25 337**	*e*	PKPdf	**PKPbc**	**20 00 47.8**	**-0.1**
UPC	**Upice**	**149.39 340**	*e*	PKPdf	**PKPbc**	**20 00 48.2**	**-0.1**
DPC	**Dobruska-Polom**	**149.43 340**	*e*	PKPdf	**PKPbc**	**20 00 48.7**	**+0.3**
DPC			*ex*		x	20 00 53.4	
VOIR		**149.48 325**	⇑	*i*P	**PKPbc**	**20 00 48.7**	**-0.1**
CLL	**Collm**	**149.51 344**	⇑	*i*PKP	**PKPbc**	**20 00 48.2**	**-0.3**
	comp=Z,10.0nm,0.7s						
CLL			*e*			20 00 55.0	
MORC	**Moravsky Berou**	**149.51 338**	⇓	*i*P	**PKPbc**	**20 00 48.0**	**-0.7**
KRLC	**Kraliky**	**149.52 339**	*e*	PKPdf	**PKPbc**	**20 00 48.8**	**+0.1**
BRG	**Berggiesshubel**	**149.66 343**	*i*	PKP	**PKPbc**	**20 00 49.0**	**+0.1**
	comp=Z,8.5nm,0.7s						
DRGR		**149.73 329**	⇓	*i*P	**PKPbc**	**20 00 49.3**	**0.0**
ARR	**Arges**	**149.75 325**	⇓	*i*P	**PKPbc**	**20 00 50.6**	**+1.2**
PVCC	**Panska Ves**	**149.80 342**	*e*	PKPdf	**PKPbc**	**20 00 49.5**	**+0.3**
PVCC			*ex*		x	20 00 52.6	
GOLR		**149.92 324**	⇑	*i*P	**PKPab**	**20 00 56.4**	**-1.5**
HUMR	**Humele**	**150.11 324**	⇓	*i*P	**PKPbc**	**20 00 49.7**	**-0.4**
LOT	**Lotru**	**150.15 326**	⇑	*i*P	PKPdf	20 00 37.7	-6.9
VRAC	**Vranov**	**150.24 339**	⇓	*i*P	**PKPbc**	**20 00 50.2**	**-0.1**
PRU	**Pruhonice**	**150.29 342**	*e*	PKPdf	**PKPbc**	**20 00 50.2**	**-0.2**
TREC	**Trest**	**150.61 340**	*e*	PKPdf	**PKPbc**	**20 00 51.1**	**-0.1**
GZR	**Gura Zlata**	**150.69 327**	⇑	*i*P	**PKPbc**	**20 00 51.1**	**-0.5**
BZS	**Buzias**	**151.11 328**	⇓	*i*P	**PKPbc**	**20 00 52.2**	**-0.2**
KHC	**Kasperske Hory**	**151.34 342**	*e*	PKPdf	**PKPbc**	**20 00 52.5**	**-0.4**
GERES	**GERESS Array B**	**151.56 342**		PKPbc	**PKPbc**	**20 00 53.2**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=21,slow=1.5,SNR=12						
DBIC	**Dimbokro**	**163.57 161**		PKP	**PKPdf**	**20 01 01.4**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=160,slow=3.9,SNR=5.8						
DBIC				PKPab	**PKPab**	**20 01 58.7**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=170,slow=7.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**170.77 187**		PKP	**PKPdf**	**20 01 05.8**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=250,slow=0.9,SNR=5.9						
TORD				PKPab	**PKPab**	**20 02 29.4**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=174,slow=4.1,SNR=9.3						

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*NIED **29** 19:42:00, 43.°20N×138.°60E, h5km, Mw3.5 Best double couple: M0=1.72000×10^14 NP1:φs=39.00000°, δ=52.00000°, λ=142.00000°. NP2:φs=155.00000°, δ=61.00000°, λ=45.00000°.*
JMA 29 19:42:34.2±0.2, 43.°20N×138.°57E, h28km±5km, M3.5, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSH	**Shimam**	**1.22 117**		P	Pn	19 42 55.5	+0.2
JSH				*e*S	Sn	19 43 10.7	-0.2
JOSM	**Okushiri--Mats**	**1.30 149**		P	Pn	19 42 56.8	+0.3
JOSM				*e*S	Sn	19 43 13.0	+0.1
JSK	**Shakotan**	**1.40 83**		P	Pn	19 42 58.3	+0.5
JSK				*e*S	Sn	19 43 15.9	+0.5
JYM2	**Yakumo 2**	**1.71 129**		P	Pn	19 43 03.1	+0.9
JYM2				*e*S	Sn	19 43 23.8	+0.7
JNB	**Noboribetsu**	**1.96 111**		P	Pn	19 43 06.7	+1.2
JNB				*e*S	Sn	19 43 30.9	+1.8
JEW	**Eniwo**	**2.14 99**		P	Pn	19 43 10.1	+2.0
JSR	**Shiriuchi**	**2.16 140**		P	Pn	19 43 09.6	+1.3
JSR				*e*S	Sn	19 43 35.8	+1.7
JKB	**Kayabe**	**2.24 125**		P	Pn	19 43 10.4	+1.0
JHR	**Hokuryu**	**2.36 76**		P	Pn	19 43 12.7	+1.6
JHR				*e*S	Sb	19 43 42.6	-2.1
JYG	**Yagishiri**	**2.40 58**		P	Pn	19 43 12.7	+1.1
JOT	**Ohata**	**2.58 134**		P	Pn	19 43 15.9	+1.8
JOT				*e*S	Sn	19 43 47.0	+2.4
JSS	**Shosan**	**2.66 62**		P	Pn	19 43 17.0	+1.8
JAB	**Ashibetsu**	**2.68 82**		P	Pn	19 43 17.5	+2.0
JKK2	**Kamakawa 2**	**3.11 76**		P	Pn	19 43 23.1	+1.7
JWK2	**Keihoku**	**3.19 47**		P	Pn	19 43 25.3	+2.8

IDC 29 19:46:27.6±2.0, 7.°12S×129.°45E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.4/29, mbtmp3.5/3, ML3.8/2, Error ellipse: s-maj=105.8km s-min=31.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.60 160**		Pn	Pn	19 49 40.9	-1.0
	0.6nm,0.3s,baz=338,slow=13,SNR=8.2						
WRA				Sn	Sn	19 52 02.9	-11
	1.0nm,0.3s,baz=332,slow=22,SNR=9.2						
ASAR	**Alice Springs**	**17.00 166**		Pn	Pn	19 50 27.9	+0.9
	0.3nm,0.3s,baz=348,slow=13,SNR=6.2						
ASAR				Sn	Sn	19 53 24.9	-12
	0.3nm,0.3s,baz=345,slow=24,SNR=7.3						
MKAR	**Makanchi Array**	**68.03 327**		P	P	19 57 28.9	0.0
	0.1nm,0.4s,baz=112,slow=7.4,SNR=3.8						

IDC 29 20:58:59.5±2.0, 9.°51S×119.°27E, h0km, mb3.8/4, mb1 3.6/6, mb1mx3.4/46, mbtmp3.5/6, ML3.3/2, Error ellipse: s-maj=134.3km s-min=23.6km az=51.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.87 127**		P	Pn	21 03 09.1	-0.6
	0.1nm,0.3s,baz=300,slow=14,SNR=7.9						
WRA				S	Sn	21 06 13.3	-16
	0.1nm,0.3s,baz=301,slow=26,SNR=4.5						
ASAR	**Alice Springs**	**19.84 137**		P	Pn	21 03 33.0	-0.7
	0.1nm,0.3s,baz=315,slow=14,SNR=6.6						
CMAR	**Chiang Mai Arr**	**34.28 324**		P	P	21 05 48.5	+0.8
	0.3nm,0.5s,baz=152,slow=6.9,SNR=4.4						
H08S2	**Diego Garcia H**	**46.27 268**		T	T	21 56 48.1	
	baz=100,slow=76,SNR=4.9						
H08S3	**Diego Garcia H**	**46.28 269**		T	T	21 56 52.3	
	baz=100						
H08S1	**Diego Carcia H**	**46.29 268**		T	T	21 56 52.1	
	baz=100,slow=76,SNR=4.7						
SONM	**Songino Array**	**58.23 350**		P	P	21 08 56.1	+0.4
	0.5nm,0.6s,baz=169,slow=8.2,SNR=6.2						
MKAR	**Makanchi Array**	**65.03 333**		P	P	21 09 41.2	-0.3
	0.9nm,0.6s,baz=152,slow=7.0,SNR=6.3						
KURBB	**Kurchatov Arra**	**69.54 334**		P	P	21 10 09.2	-0.8
	0.9nm,0.3s,baz=109,slow=7.1,SNR=3.0						

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*IDC **29** 21:02:15.3±0.6, 58.°87N×59.°19E, h0km, mb3.6/12, mb1 3.9/23, mb1mx3.7/56, mbtmp3.8/23, ML3.9/10, MS2.6/3, Ms1 2.7/3, ms1mx2.3/54, Error ellipse: s-maj=11.8km s-min=8.0km az=31.0*
*CSEM **29** 21:02:15.4±0.2, 58.°90N×59.°31E, h10km, mb4.2, Error ellipse: s-maj=9.6km s-min=5.7km az=38.0*
*NEIC **29** 21:02:15.7±0.5, 58.°87N×59.°21E, h10km, mb3.6/7, Error ellipse: s-maj=11.0km s-min=6.8km az=221.0*
NEIC Felt [V] at Kachkanar, Kos'ya, Medvedka, Pokap and Srednyaya Us'va; [IV] at Is, Novovil'venskiy, Promysla, Sarany and Teplaya Gora; [III] at Biser, Nizhnyaya Tura and Pavda.
*MOS **29** 21:02:15.2±2.1, 58.°86N×59.°29E, h20km, mb4.2/5, Error ellipse: s-maj=8.6km s-min=5.2km az=98.5*
MOS Felt (IV-V) at Kachkanar, Kos'ya, Medvedka, Pokap, Srednyaya Us'va; (IV) at Novovil'venskiy, Is, Verkh-Is; (III-IV) at Promysla, Sarany, Teplaya Gora; (III) at Biser, Nizhnyaya Tura; (II-III) at Pavda.
*ISCJB **29** 21:02:16.6±1.5, 58.°65N±0.°03×59.°27E±0.°06, h23km±12km, mb3.7/11, MS2.4/2, Error ellipse: s-maj=6.7km s-min=3.9km az=36.5*
*KOLA **29** 21:02:19.9, 57.°48N×55.°50E, h0km*
*NNC **29** 21:02:23.3±1.8, 58.°34N×59.°96E, h16km±13km, mb4.0, mpv4.1, Error ellipse: s-maj=14.7km s-min=8.2km az=150.0*
ISC 29 21:02:15.6±1.4, 58.°78N±0.°04×59.°17E±0.°05, h7km±9km, n194, σ1§96/189, mb3.8/12, 22C-30D, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PR1R	**Pomanovo**	**1.32 289**		P	**Pg**	**21 02 41.8**	**+0.9**
PR1R				S	**Sg**	**21 02 58.3**	**+0.2**
PR1R	**Pomanovo**	**1.32 289**		P	**Pg**	**21 02 41.8**	**+0.9**
PR1R				S	**Sg**	**21 02 58.3**	**+0.2**
SOKR	**Solikamsk**	**1.48 305**		P	**Pg**	**21 02 43.8**	**-0.1**
SOKR				S	**Sg**	**21 03 02.1**	**-0.9**
SOKR	**Solikamsk**	**1.48 305**		P	**Pg**	**21 02 43.8**	**-0.1**
SVE	**Sverdlovsk**	**2.11 158**		*e*P	**Pb**	**21 02 53.9**	**-0.2**
SVE				*e*S	**Sb**	**21 03 22.2**	**+1.8**
SVE				pmax	pmax		
	comp=Z,205nm,0.6s						
SVE	**Sverdlovsk**	**2.11 158**		*e*P	**Pb**	**21 02 53.9**	**-0.2**
	comp=Z,205nm,0.6s						
SVE				*e*S	**Sb**	**21 03 22.2**	**+1.8**
SVE	**Sverdlovsk**	**2.11 158**		P	**Pb**	**21 02 53.9**	**-0.2**
ARU	**Arti**	**2.38 188**		P	**Pn**	**21 02 56.4**	**+1.5**
ARU				S	**Sn**	**21 03 26.8**	**+2.6**
ARU	**Arti**	**2.38 188**		P	**Pn**	**21 02 56.4**	**+1.5**
ARU	**Arti**	**2.38 188**		*e*Pn	**Pn**	**21 02 57.1**	**+2.2**
ARU				*e*Sn	**Sn**	**21 03 26.2**	**+2.0**
ARU	**Arti**	**2.38 188**		*e*Pn	**Pn**	**21 02 57.1**	**+2.2**
ARU				*e*Sn	**Sn**	**21 03 26.2**	**+2.0**
PRGR	**Permogore**	**7.33 299**	⇓	*i*P	**Pn**	**21 04 03.7**	**+0.8**
PRGR				*e*		21 05 20.0	
PRGR				pmax	pmax		
	comp=Z,17nm,0.5s						
PRGR				smax	smax		
	comp=E,323nm,0.5s						
PRGR				smax	smax		
	comp=N,243nm,0.3s						
PRGR	**Permogore**	**7.33 299**		*i* P	**Pn**	**21 04 03.7**	**+0.8**
	comp=N,17nm,0.5s						
PRGR				*e*S	Sn	21 05 20.0	-6.1
	comp=N,243nm,0.3s						
ORR	**Orenburg**	**7.61 201**		P	**Pn**	**21 04 07.2**	**+0.5**
ORR				S	**Sn**	**21 05 30.4**	**-2.6**
ORR	**Orenburg**	**7.61 201**		P	**Pn**	**21 04 07.2**	**+0.5**
ORR				S	**Sn**	**21 05 30.4**	**-2.6**
AKTK	**Aktyubinsk**	**8.39 185**		P	**Pn**	**21 04 19.2**	**+1.8**
	comp=N,2.0nm,0.3s						
AKTK				S	**Sn**	**21 05 47.8**	**-4.4**
	comp=N,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**8.39 185**	⇑	Pn	**Pn**	**21 04 18.9**	**+1.6**
	comp=N,5.1nm,0.5s						
AKTO				⇓Sn	**Sn**	**21 05 49.1**	**-3.1**
	comp=N,23nm,0.8s						
AKTO				⇑Lg	Lg	21 06 35.2	
	comp=N,88nm,1.4s						
AKTO	**Aktyubinsk**	**8.39 185**		P	**Pn**	**21 04 19.2**	**+1.8**
AKTO						21 05 47.8	
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO				smax	smax		
	comp=N,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**8.39 185**		Pn	**Pn**	**21 04 19.2**	**+1.8**
	comp=N,1.8nm,0.3s,baz=349,slow=8.3,SNR=22						
AKTO				Sn	**Sn**	**21 05 47.8**	**-4.5**
	comp=N,2.2nm,0.3s,baz=50,slow=23,SNR=9.2						
AKTO				Lg	Lg	21 06 43.1	
	comp=N,2.3nm,0.3s,baz=273,slow=23,SNR=4.6						
AKTO	**Aktyubinsk**	**8.39 185**		Pn	**Pn**	**21 04 19.0**	**+1.6**
	comp=N,5.1nm,0.5s						
AKTO				Sn	**Sn**	**21 05 49.1**	**-3.1**
	comp=N,23nm,0.8s						
AKTO				Lg	Lg	21 06 35.2	
	comp=N,88nm,1.4s						
BVA0	**Borovoye Array**	**8.53 128**	⇓	Pn	**Pn**	**21 04 20.0**	**+0.6**
	comp=N,7.9nm,0.7s,baz=310,slow=14,SNR=67						
BVA0				⇓Sn	Sn	21 05 49.8	-6.0
	comp=N,12nm,0.4s,baz=316,slow=20,SNR=16						
BVA0				⇓Lg	Lg	21 06 37.3	
	comp=N,16nm,0.6s						
BVA0	**Borovoye Array**	**8.53 128**		P	**Pn**	**21 04 20.0**	**+0.6**
BVA0						21 05 49.8	
BVA0				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BVA0				smax	smax		
	comp=E,12nm,0.4s						
BVA0	**Borovoye Array**	**8.53 128**		Pn	**Pn**	**21 04 20.0**	**+0.6**
	comp=E,7.9nm,0.7s,SNR=67						
BVAR	**Borovoye Array**	**8.53 128**		P	**Pn**	**21 04 20.4**	**+1.0**
BVAR						21 05 49.0	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR				smax	smax		
	comp=N,4.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,54nm,21.5s						
BVAR	**Borovoye Array**	**8.53 128**		Pn	**Pn**	**21 04 20.4**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=319,slow=14,SNR=86						
BVAR				Sn	Sn	21 05 49.0	-6.8
	comp=Z,4.0nm,0.3s,baz=128,slow=19,SNR=6.8						
BVAR				LR	LR	21 07 57.9	
	comp=Z,54nm,21.5s,baz=308,slow=40						
AB31	**Akbulak array**	**9.55 177**	⇓	Pn	**Pn**	**21 04 34.3**	**+0.9**
	comp=Z,6.2nm,0.6s						
AB31				⇓Sn	**Sn**	**21 06 17.9**	**-2.9**
	comp=Z,13nm,0.7s						
AB31				⇓Lg	Lg	21 07 13.1	
	comp=Z,26nm,0.7s						
AB31	**Akbulak array**	**9.55 177**		P	**Pn**	**21 04 34.3**	**+0.9**
AB31						21 06 17.9	
AB31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AB31				smax	smax		
	comp=E,13nm,0.7s						
AB31	**Akbulak array**	**9.55 177**		Pn	**Pn**	**21 04 34.3**	**+0.9**
	comp=E,6.2nm,0.6s						
AB31				Sn	**Sn**	**21 06 17.9**	**-2.9**
	comp=E,13nm,0.7s						
AB31				Lg	Lg	21 07 13.1	
	comp=E,26nm,0.7s						
ABKAR	**Akbulak array**	**9.55 177**	*e*	Pn	**Pn**	**21 04 34.4**	**+1.0**
ABKAR			*e*	Sn	**Sn**	**21 06 18.8**	**-2.0**
ABKAR	**Akbulak array**	**9.55 177**	*e*	Pn	**Pn**	**21 04 34.4**	**+1.0**
ABKAR			*e*	Sn	**Sn**	**21 06 18.8**	**-2.0**
VRHR	**Novokhopersk**	**12.66 240**	*e*	P	Pn	21 05 11.0	-4.8
VRHR			*e*	S	Sn	21 07 43.8	+7.0
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=N,20nm,0.8s						
VRHR				smax	smax		
	comp=N,60nm,0.7s						
VRHR				smax	smax		
	comp=E,60nm,0.7s						
VRHR				smax	smax		
	comp=Z,10.0nm,0.7s						
OBN	**Obninsk**	**12.85 263**	*e*	P	**Pn**	**21 05 16.7**	**-1.7**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,51nm,17.0s						
OBN	**Obninsk**	**12.85 263**		Pn	**Pn**	**21 05 16.7**	**-1.7**
	comp=Z,2.1nm,0.3s,baz=276,slow=19,SNR=3.1						
OBN				Sn	Sn	21 07 34.1	-7.3
	comp=Z,3.9nm,0.3s,baz=15,slow=19,SNR=3.2						
OBN				Lg	Lg	21 08 53.3	
	comp=Z,2.2nm,0.3s,baz=104,slow=23,SNR=6.9						
OBN	**Obninsk**	**12.85 263**	*e*	P	**Pn**	**21 05 16.7**	**-1.7**
	comp=Z,51nm,17.0s						
OTUK	**Ortayu**	**13.11 138**	⇓	Pn	**Pn**	**21 05 21.0**	**-1.1**
	comp=Z,2.9nm,0.7s						
OTUK				⇑Sn	Sn	21 07 39.2	-8.8
	comp=Z,2.1nm,0.5s						
OTUK				⇓Lg	Lg	21 08 54.8	
	comp=Z,8.1nm,0.8s						
OTUK	**Ortayu**	**

comp=Z,1.0nm,0.3s
KAF Kangasniemi 16.45 296 *ep* **Pn 21 06 02.5 -4.0**
comp=Z,0.7nm,0.3s
FIA0 FINESS Array S 16.60 293 P **Pn 21 06 04.9 -3.5**
baz=96,slow=14
FIA0 Sn Sn 21 08 56.2 -17
baz=94,slow=22
FIA0 FINESS Array S 16.60 293 P **Pn 21 06 04.9 -3.5**
baz=96,slow=14
FIA0 Sn Sn 21 08 56.2 -17
baz=94,slow=22
FINES FINESS Array B 16.60 293 *e*P **Pn 21 06 05.0 -3.5**
FINES FINESS Array B 16.60 293 Pn Pn 21 06 03.4 -5.1
comp=Z,0.4nm,0.3s,baz=95,slow=12,SNR=18
FINES Sn Sn 21 08 57.2 -16
comp=Z,1.2nm,0.3s,baz=78,slow=22,SNR=7.1
GOF Gofitskoye 16.89 223 *e*P **P 21 06 16.4 +2.1**
GOF Gofitskoye 16.89 223 *e*P **P 21 06 16.4 +2.1**
KK31 Karatay Array 17.20 151 ⇑Pn **Pn 21 06 16.0 -0.2**
comp=Z,1.1nm,0.5s,baz=352,slow=15,SNR=9.6
KK31 ⇑Sn Sn 21 09 19.9 -7.7
comp=Z,0.4nm,0.4s
KK31 ⇓Lg Lg 21 11 11.9
comp=Z,2.7nm,0.8s
KK31 Karatay Array 17.20 151 P **Pn 21 06 16.0 -0.2**
KK31 pmax pmax
comp=Z,1.0nm,0.5s
KK31 Karatay Array 17.20 151 Pn **Pn 21 06 16.0 -0.2**
comp=Z,1.1nm,0.5s,SNR=9.6
KKAR Karatay Array 17.20 151 *e*Pn **Pn 21 06 14.2 -2.0**
comp=Z,1.8nm,0.6s
KKAR Karatay Array 17.20 151 *e*Pn **Pn 21 06 14.2 -2.0**
comp=Z,1.8nm,0.6s
KEV Kevo 17.50 322 *e*P **Pn 21 06 15.8 -3.9**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 17.50 322 *e*p **Pn 21 06 15.8 -3.9**
comp=Z,0.9nm,0.4s
KEV Kevo 17.50 322 *e*Pn **Pn 21 06 18.1 -1.6**
KEV Kevo 17.50 322 *e*Pn **Pn 21 06 18.1 -1.6**
KEV *e*Sn Sn 21 09 21.9 -12
ARA0 ARCESS Array S 17.91 321 P **Pn 21 06 22.4 -2.4**
baz=101,slow=14
ARA0 ARCESS Array S 17.91 321 P **Pn 21 06 22.4 -2.4**
baz=101,slow=14
ARA0 ARCESS Array S 17.91 321 P **Pn 21 06 22.4 -2.4**
SNR=2.7
ARCES ARCESS Array B 17.91 321 *e*P **P 21 06 24.9 -0.5**
ARCES pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 17.91 321 Pn **Pn 21 06 21.2 -3.5**
comp=Z,0.7nm,0.3s,baz=108,slow=13,SNR=15
ARCES ARCESS Array B 17.91 321 *e*P **P 21 06 24.9 -0.5**
comp=Z,1.0nm,0.3s
KIV Kislovodsk 17.98 222 *e*P **Pn 21 06 23.7 -2.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 18.11 221 P **Pn 21 06 24.5 -2.8**
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ Khabaz 18.11 221 Pn **Pn 21 06 24.4 -2.8**
comp=Z,0.6nm,0.3s,baz=13,slow=7.7,SNR=9.7
MK31 Makanchi Array 18.31 121 Pn **P 21 06 29.9 0.0**
comp=Z,3.7nm,0.8s,baz=316,slow=10,SNR=31
MK31 ⇓Sn Sn 21 09 46.0 -8.2
comp=Z,0.9nm,0.6s,baz=134,slow=7.7,SNR=4.6
MK31 Makanchi Array 18.31 121 P **P 21 06 30.0 0.0**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 18.31 121 Pn **P 21 06 30.0 0.0**
comp=Z,3.7nm,0.8s,SNR=31
MKAR Makanchi Array 18.31 121 Pn **Pn 21 06 28.1 -1.7**
comp=Z,0.3nm,0.3s,baz=314,slow=9.9,SNR=20
MNAS Manas 18.31 147 ⇓Pn **Pn 21 06 27.8 -2.2**
comp=Z,1.5nm,0.6s
MNAS ⇓Sn Sn 21 09 47.9 -6.7
comp=Z,1.2nm,0.6s
MNAS ⇓Lg Lg 21 11 46.0
comp=Z,91μm,0.0s
MNAS Manas 18.31 147 P **Pn 21 06 27.8 -2.2**
MNAS pmax pmax
comp=Z,2.0nm,0.6s
MNAS Manas 18.31 147 P **Pn 21 06 27.8 -2.2**
comp=Z,2.0nm,0.6s
EKS2 Erkin-Say 18.52 144 *e*P **Pn 21 06 33.2 +0.6**
comp=Z,2.3nm,0.6s
EKS2 Erkin-Say 18.52 144 *e*P **Pn 21 06 33.1 +0.6**
comp=Z,2.3nm,0.6s
ZEI Tsey 18.62 217 *e*P **P 21 06 30.1 -3.5**
ZEI pmax pmax
comp=Z,6.0nm,0.7s
ZEI Tsey 18.62 217 *e*P **P 21 06 30.1 -3.5**
comp=Z,6.0nm,0.7s
AAK Ala-Archa 18.77 143 ⇓*e*P **Pn 21 06 36.6 +0.9**
AAK pmax pmax
comp=Z,6.0nm,0.9s
AAK Ala-Archa 18.77 143 Pn **P 21 06 35.1 -0.2**
comp=Z,0.3nm,0.3s,baz=264,slow=5.2,SNR=12
AAK Ala-Archa 18.77 143 *e*P **Pn 21 06 36.4 +0.7**
comp=Z,1.9nm,0.6s
AAK Ala-Archa 18.77 143 *e*P **Pn 21 06 36.4 +0.7**
comp=Z,1.9nm,0.6s
TKM2 Tokmak 2 18.87 140 ⇑Pn **Pn 21 06 36.9 0.0**
comp=Z,2.0nm,0.8s
TKM2 ⇑Lg Lg 21 12 03.8
comp=Z,6.0nm,1.0s
TKM2 Tokmak 2 18.87 140 P **Pn 21 06 36.9 0.0**
TKM2 pmax pmax
comp=Z,2.0nm,0.7s
TKM2 Tokmak 2 18.87 140 Pn **Pn 21 06 36.9 0.0**
comp=Z,2.0nm,0.8s
TKM2 Tokmak 2 18.87 140 *e*P **P 21 06 36.7 +0.3**
comp=Z,2.1nm,0.7s
AKASG Malin Array Be 18.95 258 *e*P **P 21 06 34.5 -2.4**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 18.95 258 Pn **P** 21 06 30.8 -6.1
comp=Z,2.1nm,0.3s,baz=49,slow=10,SNR=21
KIEV Kiev 18.96 258 *e*P **P 21 06 35.6 -1.4**
comp=Z,4.2nm,0.6s
KIEV Kiev 18.96 258 *e*P **P 21 06 35.6 -1.4**
comp=Z,4.2nm,0.6s
PDGK Podgornoye 19.93 132 ⇑Pn **P 21 06 47.9 +0.3**
comp=Z,2.6nm,1.2s
PDGK Podgornoye 19.93 132 P **P 21 06 47.9 +0.3**
PDGK pmax pmax
comp=Z,3.0nm,1.2s
PDGK Podgornoye 19.93 132 P **P 21 06 47.9 +0.3**
comp=Z,3.0nm,1.2s
SUW Suwalki 20.31 272 *e*P **P 21 06 51.7 0.0**
comp=Z,30nm,0.9s
SUW Suwalki 20.31 272 *e*P **P 21 06 51.7 0.0**
comp=Z,30nm,0.9s
GNI Garni 20.79 213 P **P 21 06 58.1 +0.9**
GNI pmax pmax
comp=Z,6.0nm,0.7s
GNI Garni 20.79 213 P **P 21 06 58.1 +0.9**
comp=Z,5.6nm,0.7s,baz=214,slow=18,SNR=6.9
GNI Garni 20.79 213 *e*P **P 21 06 58.4 +1.2**
comp=Z,8.9nm,0.8s
GEYT Alibeck 20.87 182 P **P 21 06 58.9 +0.9**
comp=Z,1.2nm,0.8s,baz=10,slow=8.8,SNR=3.4
HVS Khovu-Aksy 21.05 96 *i* P **P 21 07 01.0 +1.1**
HVS pmax pmax
comp=Z,13nm,1.0s
HVS Khovu-Aksy 21.05 96 *i* P **P 21 07 01.0 +1.1**
comp=Z,13nm,1.0s
LEOM Leova 22.21 250 ⇓P **P 21 07 12.7 +0.4**
LEOM Leova 22.21 250 ⇓*i*P **P 21 07 12.7 +0.4**
LEOM Leova 22.21 250 P **P 21 07 12.7 +0.4**
PRAR RASCA 22.60 254 ⇓*i*P **P 21 07 19.7 +3.2**
HFS Hagfors 22.81 293 P **P 21 07 17.6 -0.9**
baz=74,slow=16
HFS Hagfors 22.81 293 P **P 21 07 17.6 -0.9**
baz=74,slow=16
HFS Hagfors 22.81 293 P **P 21 07 17.4 -1.1**
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 22.81 293 P **P 21 07 17.4 -1.1**
comp=Z,2.0nm,0.7s,baz=91,slow=12,SNR=13
HFS Hagfors 22.81 293 P **P 21 07 17.6 -0.9**
SNR=4.9
BURAR Bucovina Array 22.94 256 ⇑P **P 21 07 21.4 +1.3**
BURAR Bucovina Array 22.94 256 ⇑*i*P **P 21 07 21.4 +1.3**
TESR Tescani 22.97 252 ⇓*i*P P 21 07 25.5 +5.1
CFR Carcaliu 23.20 248 ⇑P P 21 07 28.0 +5.3
CFR Carcaliu 23.20 248 ⇑*i*P P 21 07 28.0 +5.3
VRI Vrincioaia 23.39 251 ⇓P **P 21 07 26.8 +2.2**
VRI Vrincioaia 23.39 251 ⇓*i*P **P 21 07 26.8 +2.2**
VRI Vrincioaia 23.39 251 P **P 21 07 26.8 +2.2**
PLOR Plostina 23.44 251 ⇑P **P 21 07 25.6 +0.4**
PLOR Plostina 23.44 251 ⇑*i*P **P 21 07 25.5 +0.4**
PLOR Plostina 23.44 251 P **P 21 07 25.6 +0.4**
KOLS Kolonicke sedl 23.59 262 *e*P **P 21 07 30.6 +4.0**
KOLS Kolonicke sedl 23.59 262 *e*P **P 21 07 30.6 +4.0**
TIRR Tirgusor 23.60 246 ⇑P P 21 07 33.7 +7.0
TIRR Tirgusor 23.60 246 ⇑*i*P P 21 07 33.7 +7.0
HARR Harsova 23.66 247 ⇓P P 21 07 33.4 +6.1
HARR Harsova 23.66 247 ⇓*i*P P 21 07 33.4 +6.1
NB2 NORSAR Subarra 23.73 296 P **P 21 07 28.1 +0.2**
baz=89,slow=12
NB2 NORSAR Subarra 23.73 296 P **P 21 07 27.3 -0.6**
comp=Z,1.5nm,0.6s,baz=74,slow=10
NB2 NORSAR Subarra 23.73 296 P **P 21 07 28.1 +0.2**
baz=89,slow=12
NB2 NORSAR Subarra 23.73 296 P **P 21 07 28.0 +0.2**
SNR=6.2
NOA NORSAR Array B 23.73 296 P **P 21 07 26.4 -1.5**
comp=Z,0.5nm,0.5s,baz=73,slow=10,SNR=5.2
NOA LR LR 21 16 50.3
comp=Z,24nm,18.3s,baz=300,slow=37
UZH Uzhgorod 23.77 261 *e*P **P 21 07 26.4 -1.9**
UZH *e* 21 07 33.0
UZH *e*S S 21 11 35.4 -8.3
UZH Uzhgorod 23.77 261 *e*P **P 21 07 26.4 -1.9**
STHS Stebnicka Huta 23.83 264 *e*P **P 21 07 31.8 +2.9**
STHS *e* 21 07 39.2
STHS Stebnicka Huta 23.83 264 *e*P **P 21 07 31.8 +2.9**
STHS Stebnicka Huta 23.83 264 *e*P **P 21 07 31.8 +2.9**
STHS *e* 21 07 39.2
SPA0 Spitsbergen Ar 23.93 340 P **P 21 07 31.7 +2.1**
baz=138,slow=14
SPA0 Spitsbergen Ar 23.93 340 P **P 21 07 31.7 +2.1**
baz=138,slow=14
SPITS Spitsbergen Ar 23.93 340 P **P 21 07 29.8 +0.2**
SPITS pmax pmax
comp=Z,3.0nm,0.8s
SPITS Spitsbergen Ar 23.93 340 P **P 21 07 29.8 +0.2**
comp=Z,3.0nm,0.8s,baz=164,slow=7.5,SNR=3.5
TRPA Tarpa 23.96 260 ⇓*i*P P 21 07 36.0 +5.8
ISR Istrita 24.02 250 ⇑P **P 21 07 33.5 +2.7**
ISR Istrita 24.02 250 ⇑*i*P **P 21 07 33.5 +2.7**
ISR Istrita 24.02 250 P **P 21 07 33.5 +2.7**
CRVS Cervenica-Dubn 24.03 262 *e*P **P 21 07 35.0 +4.2**
CRVS Cervenica-Dubn 24.03 262 *e*P **P 21 07 35.0 +4.2**
CRVS *e* 21 07 48.1
MLR Muntele Rosu 24.04 251 LR LR 21 17 00.5
comp=Z,6.2nm,18.7s,baz=58,slow=37
VOIR 24.52 252 ⇓P **P 21 07 37.8 +2.3**
VOIR 24.52 252 ⇓*i*P **P 21 07 37.8 +2.3**
VOIR 24.52 252 P **P 21 07 37.8 +2.3**
DRGR 24.76 257 ⇓P **P 21 07 39.6 +2.0**
DRGR 24.76 257 ⇓*i*P **P 21 07 39.6 +2.0**
DRGR 24.76 257 P **P 21 07 39.6 +2.0**
ARR Arges 24.78 252 ⇑*i*P **P 21 07 38.9 +1.1**
BRTR Keskin Array B 25.06 232 P **P 21 07 42.0 +1.6**
comp=Z,1.1nm,0.9s,baz=60,slow=7.5,SNR=4.6
VYHS Vyhne 25.64 264 *e*P P 21 07 55.3 +10
VYHS Vyhne 25.64 264 *e*sP sP 21 07 55.3 +6.6
KRLC Kraliky 25.75 269 *e*P P 21 07 53.0 +6.5
KRLC *e* 21 07 57.9
KRLC Kraliky 25.75 269 *e*pP P 21 07 53.0 +6.5
KRLC *ex* x 21 07 57.9
DPC Dobruska-Polom 25.83 270 *e*P P 21 07 52.9 +5.7
DPC *e* 21 08 00.5
DPC Dobruska-Polom 25.83 270 *e*pP P 21 07 52.9 +5.7
DPC *ex* x 21 08 00.5
KKN Kakani 35.87 138 *e*P **P 21 09 17.5 +1.4**
GUN Gumba 35.97 137 *e*P **P 21 09 18.7 +1.6**
comp=Z,6.1nm,0.5s
DMN Daman 35.98 139 *e*P **P 21 09 18.6 +1.5**
PKIN Phulchoki 36.11 138 *e*P **P 21 09 19.7 +1.5**
comp=Z,4.0nm,0.5s
PKI Pulchoki 36.12 138 *e*P **P 21 09 19.9 +1.5**
comp=Z,7.5nm,0.6s
JIRN Jiri 36.31 137 *e*P **P 21 09 21.9 +1.8**
comp=Z,26nm,0.5s
RAMN Ramite 37.11 137 *e*P **P 21 09 28.0 +1.3**
comp=Z,16nm,0.5s
TAPN Taplejung 37.14 135 *e*P **P 21 09 28.3 +1.2**
ODAN Odare 37.47 136 *e*P **P 21 09 31.6 +1.8**
comp=Z,13nm,0.5s
SEY Seymchan 41.78 43 P **P 21 10 06.0 +1.0**
SEY pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 41.78 43 P **P 21 10 06.0 +1.0**
comp=Z,0.5nm,0.3s,baz=22,slow=12,SNR=4.5
SEY Seymchan 41.78 43 P **P 21 10 06.0 +1.0**
comp=Z,1.0nm,0.3s
BILL Bilibino 42.84 32 *e*P P 21 10 08.2 -5.3
BILL pmax pmax
comp=Z,7.0nm,1.5s
ESDC Sonseca Array 43.58 273 P **P 21 10 20.3 +0.4**
comp=Z,0.3nm,0.5s,baz=31,slow=7.2,SNR=3.6
CMAR Chiang Mai Arr 49.56 127 P **P 21 11 07.7 +0.7**
comp=Z,0.5nm,1.0s,baz=331,slow=8.2,SNR=4.7
YKA Yellowknife Ar 58.96 357 P **P 21 12 14.4 -0.5**
comp=Z,0.2nm,0.6s,baz=359,slow=6.5,SNR=5.7
TORD Torodi Ar. Bea 62.24 248 P **P 21 12 38.0 +0.1**
comp=Z,0.7nm,0.6s,baz=3.4,slow=8.1,SNR=15
TORD Torodi Ar. Bea 62.24 248 P **P 21 12 38.0 +0.1**
NVAR Mina Array Bea 83.13 358 P **P 21 14 43.9 +1.9**
comp=Z,0.8nm,0.5s,baz=296,slow=2.9,SNR=2.7

WEL 29 21:16:44.8±0.4, 35°.59S×177°.84E, h243km±14km, ML3.5/3, Error ellipse: s-maj=13.4km s-min=9.0km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**2.16**	**181**	PN	Pn	21 17 28.1	0.0
HAZ				SN	S	21 18 02.3	-0.1
HAZ				SN		21 18 02.4	
PUZ	**Puketiti**	**2.50**	**172**	PN	Pn	21 17 31.7	+0.2
PUZ				SN	S	21 18 07.1	-1.4
URZ	**Urewera**	**2.73**	**192**	PN	Pn	21 17 34.1	+0.2
MWZ	**Matawai**	**2.75**	**185**	PN	Pn	21 17 34.3	+0.1
MWZ				SN	S	21 18 13.5	+0.2
CNGZ	**Carnagh Statio**	**2.91**	**174**	PN	Pn	21 17 36.1	+0.4
RIGZ	**Rimuhau**	**3.11**	**181**	PN	Pn	21 17 38.1	+0.1

*MOS **29** 21:18:06.7±1.1, 50°.68N×156°.22E, h151km, mb4.3/1, Error ellipse: s-maj=39.1km s-min=13.1km az=65.4*
*KRSC **29** 21:18:08.6±2.6, 50°.49N×157°.13E, h114km±33km, ML4.0*
*IDC **29** 21:18:11.6±4.2, 50°.99N×156°.13E, h170km±70km, mb3.1/3, mb1 3.2/4, mb1mx2.8/37, mbtmp3.5/4, Error ellipse: s-maj=94.4km s-min=55.6km az=70.0*
ISC 29 21:18:06.6±1.3, 50°.5N±0°.1×156°.6E±0°.1, h147km±7km, n30, σ1§80/44, mb3.6/3, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.36**	**299**	⇑*i*PN	**Pn**	**21 18 26.9**	**0.0**
SKR				*i* S	**Sn**	**21 18 40.6**	**-1.8**
SKR				pmax	pmax		
	comp=Z,170nm,0.5s						
SKR				pmax	pmax		
	comp=N,180nm,0.2s						
SKR				pmax	pmax		
	comp=E,90nm,0.2s						
SKR				smax	smax		
	comp=N,1μm,0.5s						
SKR				smax	smax		
	comp=E,650nm,0.5s						
SKR	**Severo-Kuril's**	**0.36**	**299**	*i* P	**Pn**	**21 18 28.0**	**+1.1**
SKR				*i* S	**Sn**	**21 18 41.9**	**-0.5**
MIPR	**Malaya Ipel'ka**	**1.77**	**3**	*e*P	**Pn**	**21 18 39.6**	**+0.8**
MIPR				*e*S	**Sn**	**21 19 02.1**	**-1.6**
ASAK	**Asacha**	**2.04**	**23**	*e*S	**Sn**	**21 19 10.3**	**+1.0**
MTVR	**Mutnovka**	**2.21**	**26**	*e*P	**Pn**	**21 18 46.1**	**+2.1**
MTVR				*e*S	**Sn**	**21 19 13.3**	**+0.4**
RUS	**Russkaya**	**2.26**	**31**	PN	**Pn**	**21 18 46.0**	**+1.5**
RUS				S	**Sn**	**21 19 13.1**	**-0.7**
RUS	**Russkaya**	**2.26**	**31**	*i* P	**Pn**	**21 18 46.0**	**+1.5**
RUS				*e*S	**Sn**	**21 19 13.1**	**-0.7**
APC	**Apacha**	**2.44**	**8**	*i* P	**Pn**	**21 18 47.8**	**+1.1**
PETK	**Petropavlovsk-**	**2.69**	**14**	PN	**Pn**	**21 18 50.7**	**+0.9**
PETK				S	**Sn**	**21 19 23.6**	**+0.3**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				smax	smax		
	comp=N,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**2.69**	**14**	P	**Pn**	**21 18 50.7**	**+0.9**
	comp=N,2.7nm,0.3s,baz=183,slow=13,SNR=24						
PETK				S	**Sn**	**21 19 23.6**	**+0.3**
	comp=N,2.0nm,0.3s,baz=173,slow=20,SNR=7.4						
PET	**Petropavlovsk**	**2.82**	**26**	PN	**Pn**	**21 18 53.0**	**+1.6**
PET				S	**Sn**	**21 19 24.8**	**-1.3**
PET	**Petropavlovsk**	**2.82**	**26**	P	**Pn**	**21 18 53.0**	**+1.6**
PET				*e*S	**Sn**	**21 19 24.8**	**-1.3**
UGLR	**Uglovaya**	**3.03**	**26**	*e*P	Pn	21 18 57.0	+2.8
UGLR				*e*S	**Sn**	**21 19 30.7**	**-0.4**
KOK	**Koryaka**	**3.06**	**23**	*e*P	Pn	21 18 57.5	+3.0
KOK				*e*S	**Sn**	**21 19 32.2**	**+0.5**
AVH	**Avacha**	**3.06**	**25**	*e*P	Pn	21 18 57.5	+3.0
SMAR	**Somma**	**3.07**	**25**	*e*P	**Pn**	**21 18 57.1**	**+2.2**
KRER	**Koryakskii**	**3.10**	**24**	*e*P	**Pn**	**21 18 57.7**	**+2.6**
KRER				*e*S	**Sn**	**21 19 30.6**	**-2.1**
SDLR	**Sedlovina**	**3.11**	**26**	*e*P	**Pn**	**21 18 57.4**	**+2.2**
SDLR				*e*S	**Sn**	**21 19 32.3**	**-0.6**
KRX	**Arik**	**3.12**	**23**	*e*P	**Pn**	**21 18 58.0**	**+2.6**
KRX				*e*S	**Sn**	**21 19 29.5**	**-3.7**
GNL	**Ganaly**	**3.29**	**14**	*e*P	**Pn**	**21 18 59.2**	**+1.6**
MKZ	**Mys Kozlova**	**5.12**	**36**	PN	**Pn**	**21 19 21.8**	**+0.5**
MKZ				S	**Sn**	**21 20 15.3**	**-4.3**
MKZ	**Mys Kozlova**	**5.12**	**36**	*e*P	**Pn**	**21 19 21.8**	**+0.5**
MKZ				*e*S	**Sn**	**21 20 15.3**	**-4.3**
TUMR	**Tumrok**	**5.24**	**23**	P	**Pn**	**21 19 25.3**	**+2.2**
KBTR	**Krutoberegovo**	**6.81**	**31**	PN	**Pn**	**21 19 44.7**	**+0.9**
KBTR	**Krutoberegovo**	**6.81**	**31**	*e*P	**Pn**	**21 19 44.7**	**+0.9**
BKI	**Bering**	**7.36**	**47**	PN	**Pn**	**21 19 52.8**	**+1.6**
BKI	**Bering**	**7.36**	**47**	*e*P	**Pn**	**21 19 52.8**	**+1.6**
BKI				*e*S	Sn	21 21 06.5	-6.8
SONM	**Songino Array**	**32.44**	**285**	P	**P**	**21 24 21.9**	**-0.7**
	comp=N,0.3nm,0.5s,baz=77,slow=8.0,SNR=4.9						
MKAR	**Makanchi Array**	**47.33**	**296**	P	**P**	**21 26 23.9**	**-1.4**
	comp=N,0.5nm,0.3s,baz=58,slow=6.6,SNR=18						
CMAR	**Chiang Mai Arr**	**55.51**	**257**	P	**P**	**21 27 28.1**	**+1.8**
	comp=N,0.6nm,0.7s,baz=32,slow=7.0,SNR=6.1						

*ISCJB **29** 21:27:11.7±0.3, 46°.99N×0°.01×120°.89W±0°.02, h14km±2km, Error ellipse: s-maj=2.3km s-min=1.7km az=21.2*
*PNSN **29** 21:27:12.0, 47°.00N×120°.96W, h2km, MD3.8, Fault plane solution: NP1:φ±286.00000°, δ40.00000°, NP2: φ±190.00000°, δ85.00000°, Principal axes: T Plg29.0000°, Azm249.0000°; P Plg37.0000°, Azm135.0000°;*
*NEIC **29** 21:27:12.1, 47°.00N×120°.96W, h4km, MD3.8(SEA), After SEA.*
NEIC Felt [II] at Cle Elum, Ellensburg, Moses Lake and North Bend. Also felt at Bellevue, Bellingham, Bremerton, Cashmere, Federal Way, Gig Harbor, Granite Falls, Monroe, Naches, Olympia, Orting, Packwood, Redmond, Renton, Ritzville, Seattle, Sultan, Vader and Wenatchee. Felt at Beaverton, Oregon.
*PGC **29** 21:27:12.0, 47°.00N×120°.96W, h4km, ML3.5/19, 123km Ese of Seattle, Wa Washington*
ISC 29 21:27:11.7±0.9, 47°.01N±0°.02×120°.94W±0°.01, h13km±7km, n150, σ1§12/189, 33C-79D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWW	**Teanaway**	**0.14**	**20**	⇑P	**Pg**	**21 27 15.7**	**+0.4**
EBG	**Ellensburg**	**0.27**	**112**	⇑P	**Pg**	**21 27 17.7**	**+0.3**
TBM	**Table Mountain**	**0.28**	**55**	⇑P	**Pg**	**21 27 18.1**	**+0.5**
NAC	**Naches**	**0.29**	**165**	⇓P	**Pg**	**21 27 17.9**	**+0.2**
LTY	**Liberty**	**0.31**	**36**	⇑P	**Pg**	**21 27 18.2**	**+0.1**
LTY				⇓S	**Sg**	**21 27 22.7**	**+0.4**
LTY	**Liberty**	**0.31**	**36**	P	**Pg**	**21 27 18.1**	**+0.1**
FMW	**Mount Fremont**	**0.51**	**261**	⇑P	**Pg**	**21 27 21.4**	**-0.3**
FMW	**Mount Fremont**	**0.51**	**261**	⇑P	**Pg**	**21 27 21.4**	**-0.3**
YA2	**Yakima**	**0.56**	**150**	⇓P	**Pg**	**21 27 22.7**	**+0.1**
RCS	**Mount Rainier-**	**0.56**	**256**	⇑P	**Pg**	**21 27 22.4**	**-0.3**
RCM	**Mount Rainier-**	**0.57**	**252**	⇑P	**Pg**	**21 27 22.6**	**-0.3**
GSM	**Grass Mountain**	**0.62**	**288**	P	**Pg**	**21 27 23.7**	**0.0**
MXC	**Moxie City**	**0.62**	**134**	⇓P	**Pg**	**21 27 23.6**	**-0.1**
VT2	**Vantage 2**	**0.64**	**94**	⇓P	**Pg**	**21 27 24.2**	**+0.1**
REMR	**Mount Rainier-**	**0.65**	**253**	⇑P	**Pg**	**21 27 23.8**	**-0.5**
LON	**Longmire**	**0.65**	**247**	⇑P	**Pg**	**21 27 23.6**	**-0.8**
LON				⇓S	**Sg**	**21 27 31.9**	**-1.2**
LON	**Longmire**	**0.65**	**247**	⇑P	**Pg**	**21 27 23.6**	**-0.8**
CDMR	**Cedar Moraine**	**0.69**	**307**	⇓P	**Pg**	**21 27 24.8**	**-0.3**
RVC	**Mount Rainier-**	**0.71**	**265**	⇑P	**Pg**	**21 27 24.9**	**-0.6**
D05A	**Enumclaw**	**0.74**	**284**	⇓P	**Pg**	**21 27 25.8**	**-0.2**
D05A				⇑S	**Sg**	**21 27 35.7**	**-0.1**
D05A	**Enumclaw**	**0.74**	**284**	⇑P	**Pg**	**21 27 25.6**	**-0.4**
BVW	**Beverly**	**0.75**	**105**	⇓P	**Pg**	**21 27 26.2**	**0.0**
SLFW	**Sugar Loaf**	**0.80**	**20**	⇓P	**Pg**	**21 27 26.9**	**-0.2**
ELW	**Echo Lake**	**0.80**	**308**	⇓P	**Pg**	**21 27 26.8**	**-0.4**
ELW				⇓S	**Sg**	**21 27 37.8**	**+0.1**
ELW	**Echo Lake**	**0.80**	**308**	⇑P	**Pg**	**21 27 27.0**	**-0.2**
BRVW	**Black Rock Val**	**0.84**	**129**	⇓P	**Pg**	**21 27 27.7**	**-0.1**
WRW	**Wenatchee Ridg**	**0.85**	**3**	⇓P	**Pg**	**21 27 27.5**	**-0.6**
C05A	**Tolt Reservoir**	**0.85**	**323**	⇓P	**Pg**	**21 27 27.4**	**-0.8**
C05A				⇑S	**Sg**	**21 27 38.5**	**-0.9**
C05A	**Tolt Reservoir**	**0.85**	**323**	⇓P	**Pg**	**21 27 27.4**	**-0.8**
MDW	**Midway**	**0.90**	**116**	⇓P	**Pg**	**21 27 28.6**	**-0.5**
GHW	**Garrison Hill**	**0.91**	**272**	⇑P	**Pg**	**21 27 28.4**	**-0.9**
ASR	**Mount Adams--S**	**0.97**	**208**	⇑P	**Pb**	**21 27 29.9**	**-0.5**
HTW	**Haystack Looko**	**0.97**	**325**	⇓P	**Pb**	**21 27 29.8**	**-0.7**
WAH2	**Wahluke Slope**	**0.97**	**105**	⇓P	**Pb**	**21 27 30.1**	**-0.3**
EPH	**Ephrata**	**0.98**	**69**	⇓P	**Pb**	**21 27 30.2**	**-0.2**
ALCT	**Alcott Element**	**0.98**	**311**	⇑P	**Pg**	**21 27 30.9**	**+0.3**
GBB	**Gable Butte**	**0.98**	**114**	⇓P	**Pb**	**21 27 30.2**	**-0.4**
FHE	**Frenchman Hill**	**0.99**	**93**	⇓P	**Pb**	**21 27 30.6**	**0.0**
LMW	**Ladd Mountain**	**0.99**	**250**	⇓P	**Pb**	**21 27 30.2**	**-0.5**
RHAZ	**Hazelwood Elem**	**1.00**	**302**	⇑P	**Pb**	**21 27 30.5**	**-0.3**
KOSW	**Kosmos**	**1.02**	**238**	⇓P	**Pb**	**21 27 30.4**	**-0.8**
SNIWA	**Snively Ranch**	**1.03**	**121**	⇓P	**Pb**	**21 27 31.1**	**-0.3**
MARYW	**Marymoor Park**	**1.04**	**309**	P	**Pb**	**21 27 31.5**	**+0.1**
SP2	**Seward Park 2**	**1.05**	**302**	⇑P	**Pn**	**21 27 32.2**	**+0.3**
GL2	**New Goldendale**	**1.05**	**176**	⇓P	**Pb**	**21 27 30.9**	**-0.9**
LOCW	**Locke Island**	**1.07**	**105**	⇓P	**Pb**	**21 27 32.0**	**-0.1**
CRF	**Corfu**	**1.08**	**99**	⇓P	**Pb**	**21 27 31.9**	**-0.2**
GBL	**Gable Mountain**	**1.09**	**112**	⇓P	**Pb**	**21 27 32.2**	**-0.2**
TDL	**Tradedollar La**	**1.10**	**234**	⇑P	**Pb**	**21 27 31.5**	**-1.1**
BLH	**Bald Hill**	**1.11**	**318**	⇓P	**Pb**	**21 27 32.4**	**-0.3**
RSW	**Rattlesnake Hi**	**1.11**	**123**	⇓P	**Pb**	**21 27 32.3**	**-0.5**
GPW	**Glacier Peak**	**1.12**	**353**	⇑P	**Pb**	**21 27 32.1**	**-0.8**
GPW	**Glacier Peak**	**1.12**	**353**	⇑P	**Pb**	**21 27 32.2**	**-0.8**
SOSW	**Source of Smit**	**1.13**	**228**	⇓P	**Pb**	**21 27 32.1**	**-1.0**
NLW	**Nelson Butte**	**1.14**	**21**	⇑P	**Pb**	**21 27 32.8**	**-0.5**
HAWA	**Hanford**	**1.15**	**122**	⇓P	**Pb**	**21 27 32.7**	**-0.6**
ESD	**East Dome**	**1.17**	**226**	⇑P	**Pn**	**21 27 32.9**	**-0.9**
MJ2	**May Junction 2**	**1.18**	**112**	⇓P	**Pn**	**21 27 33.4**	**-0.4**
PRW	**Prosser**	**1.18**	**132**	⇓P	**Pn**	**21 27 33.2**	**-0.6**
STD	**Studebaker Rid**	**1.18**	**229**	⇓P	**Pn**	**21 27 32.9**	**-1.0**
CDFW	**Cedar Flats**	**1.18**	**221**	⇓P	**Pn**	**21 27 33.1**	**-0.8**
GULW	**Guler Mountain**	**1.18**	**203**	⇑P	**Pn**	**21 27 34.0**	**0.0**
**ER

B06A	Marblemount	1.55	346	⇑P	Pb	21 27 39.7	-0.5
OD2	Odessa Site #2	1.56	75	⇓P	Pn	21 27 38.4	-0.7
HDW	Hoodsport	1.58	295	⇑P	Pn	21 27 39.2	-0.2
HDW	Hoodsport	1.58	295	⇑P	Pn	21 27 39.1	-0.2
CMW	Cultus Mountai	1.62	331	⇓P	Pb	21 27 41.2	-0.3
CMW	Cultus Mountai	1.62	331	⇓P	Pb	21 27 41.3	-0.3
VLL	Laurance Lake	1.63	199	⇑P	Pb	21 27 41.3	-0.3
SMW	South Mountain	1.67	282	⇑P	Pn	21 27 41.3	+0.6
BLN	Blyn Mountain	1.70	307	⇑P	Pn	21 27 41.2	+0.2
F04D	Rainier, OR	1.71	238	P	Pn	21 27 41.9	+0.8
	baz=1.7						
F04D				S	Sb	21 28 04.6	+0.4
	baz=1.7						
SVOH	Skagit Valley	1.72	319	⇑P	Pb	21 27 42.6	-0.4
B08A	Colville Reser	1.73	38	⇓P	Pn	21 27 41.0	-0.5
SQM	Sequim	1.78	307	⇑P	Pn	21 27 43.1	+1.0
G05D	Wamic, OR	1.79	189	P	Pn	21 27 43.2	+0.9
	baz=1.8						
G05D				S	Sb	21 28 06.9	+0.3
	baz=1.8						
E03A	Lebam	1.86	257	⇓P	Pn	21 27 43.9	+0.7
MBW	Mount Baker	1.89	340	⇓P	Pn	21 27 45.0	+1.2
WISH	Wishkah	1.94	274	⇓P	Pb	21 27 46.0	-0.8
C09A	Chrisman Ranch	1.97	65	⇓P	Pn	21 27 44.4	-0.4
NLWA	Neilton Lookou	2.04	282	*e*Pn	Pn	21 27 46.7	+1.0
NLWA				*e*Sn	Sn	21 28 12.1	+1.1
OSD	Olympics--Snow	2.05	294	⇑P	Pn	21 27 47.3	+1.4
A05A	Maple Falls	2.13	339	⇓P	Pb	21 27 49.3	-0.8
VGZ	Gonzales	2.14	312	⇑P	Pn	21 27 47.9	+1.0
VGZ				⇓S	Sb	21 28 15.3	-1.3
VDB	Vedder Mountai	2.16	339	⇓P	Pb	21 27 49.5	-1.2
VDB				⇑S	Sb	21 28 17.5	+0.1
STW	Striped Peak	2.17	303	⇓P	Pn	21 27 49.0	+1.5
SNB	Saturna Island	2.32	320	⇑P	Pb	21 27 51.5	-1.8
SNB				⇑S	Sn	21 28 19.8	+1.9
PGC	Sidney	2.36	315	⇑P	Pn	21 27 51.8	+1.8
PGC				⇑S	Sb	21 28 21.4	-1.5
PGC	Sidney	2.36	315	*e*Pn	Pn	21 27 50.8	+0.8
PGC				*e*Sn	Sn	21 28 18.8	0.0
HOPB	Hope	2.40	352	⇑P	Pb	21 27 54.2	-0.5
HOPB				⇑S	Sb	21 28 24.5	+0.4
G03D	McMinnville, O	2.42	223	P	Pn	21 27 51.9	+1.0
	baz=2.4						
G03D				Sb	Sb	21 28 25.6	+0.9
	baz=2.4						
HNB	Haney	2.52	335	⇑P	Pn	21 27 54.4	+2.1
HNB				⇓S	Sb	21 28 26.8	-0.7
LZB	Mount Lazard	2.52	311	P	Pn	21 27 53.6	+1.3
LZB				⇑S	Sn	21 28 24.8	+1.9
GOBB	Galiano Island	2.60	319	⇓P	Pb	21 27 56.0	-2.0
GOBB				⇑S	Sn	21 28 27.0	+2.2
BPCB	Bare Point	2.67	317	⇓P	Pb	21 27 57.1	-2.1
BPCB				⇑S	Sb	21 28 29.9	-2.0
I05D	Terrebonne, OR	2.69	186	P	Pn	21 27 55.4	+0.8
	baz=2.7						
I05D				Sb	Sb	21 28 32.6	+0.1
	baz=2.7						
PFB	Port Renfrew	2.83	305	⇓P	Pn	21 27 58.0	+1.4
PFB				⇑S	Sn	21 28 31.8	+1.2
NEW	Newport	2.87	63	P	Pn	21 27 56.3	-0.7
	baz=2.9						
NEW	Newport	2.87	63	*e*Pn	Pn	21 27 56.2	-0.9
NEW				*e*Sn	Sn	21 28 34.5	+3.0
BIB	Bowen Island	2.87	327	P	Pn	21 27 59.3	+2.2
BIB				⇓S	Sb	21 28 35.1	-2.6
YOUB	Youbou, Lake C	2.93	311	⇓P	Pn	21 27 59.2	+1.3
NLLB	Nanaimo Lost L	3.02	318	⇑P	Pn	21 28 01.5	+2.5
NLLB				⇓S	Sn	21 28 37.3	+2.3
WPB	Watts Point	3.05	331	⇑P	Pn	21 28 01.8	+2.2
WPB				⇓S	Sb	21 28 39.8	-3.1
GHNB	Nanoose	3.19	317	⇑S	Sn	21 28 41.2	+2.0
SHB	Sechelt	3.25	324	⇓P	Pn	21 28 04.2	+1.9
SHB				⇑S	Sb	21 28 45.4	-3.2
I04A	Tendick Farm,	3.38	198	Sb	Sb	21 28 56.0	+3.6
	baz=3.4						
WSLR	Whistler	3.38	338	⇑P	Pn	21 28 06.7	+2.5
WSLR				⇓S	Sn	21 28 46.5	+2.3
ALB	Alberni	3.45	312	⇓P	Pn	21 28 07.4	+2.4
TXB	Texada	3.56	320	⇓P	Pn	21 28 09.0	+2.4
LLLB	Lillooet	3.66	351	⇑P	Pn	21 28 09.4	+1.6
BSMT	Bassoo Peak	4.26	76	*e*Pn	Pn	21 28 15.1	-1.2
BSMT				*e*Sn	Sn	21 29 07.3	+1.4
JTMT	Jette	4.58	78	*e*Pn	Pn	21 28 19.9	-0.8
JTMT				*e*Sn	Sn	21 29 13.2	-0.6
SWMT	Swartz Lake	4.75	81	*e*Pn	Pn	21 28 23.3	+0.3
SWMT				*e*Sn	Sn	21 29 19.1	+1.1
YBMT	Yellow Bay	4.78	77	*e*Pn	Pn	21 28 23.1	-0.2
YBMT				*e*Sn	Sn	21 29 17.2	-1.5
DOWB	Downie Slide	4.78	18	⇓P	Pn	21 28 25.1	+1.7
MSO	Missoula	4.80	90	P	Pn	21 28 22.6	-1.1
	baz=4.8						
MSO				S	Sn	21 29 17.9	-1.3
	baz=4.8						
NCRB	Newcastle Ridg	4.80	317	⇑P	Pn	21 28 26.8	+3.1
WOSB	Woss	4.89	312	⇓P	Pn	21 28 27.8	+2.9
SLMT	Seeley Lake	5.08	85	*e*Pn	Pn	21 28 26.9	-0.8
	14nm,0.5s						
SLMT				*e*Sn	Sn	21 29 25.6	-0.7
MFID	Camas Ranch	5.09	133	*e*Pn	Pn	21 28 27.8	+0.1
	11nm,0.6s						
MFID				*e*Sn	Sn	21 29 27.6	+1.2
WALA	Waterton Lakes	5.14	64	⇑P	Pn	21 28 28.8	+0.4
WALA	Waterton Lakes	5.14	64	*e*Pn	Pn	21 28 28.8	+0.4
	0.3nm,0.5s						
WALA				*e*Sn	Sn	21 29 28.3	+0.8
LRM	Limekiln Ridge	5.99	98	*e*Pn	Pn	21 28 39.7	-0.4
	39nm,0.6s						
LRM				*e*Sn	Sn	21 29 48.7	+0.1
MCMT	McKenzie Canyo	6.05	108	*e*Pn	Pn	21 28 41.8	+0.8
	3.6nm,0.2s						
MCMT				*e*Sn	Sn	21 29 50.2	0.0

NIED ***29*** *21:30:00,43.°20N×138.°60E,h5km,Mw3.5 Best double couple: M₀2.32000×10¹⁴ NP1:φ₀51.00000°,δ52.00000°, λ146.00000°. NP2:φ₀164.00000°,δ64.00000°,λ44.00000°.*
IDC ***29*** *21:30:27.5±0.9,43.°20N×138.°49E,h0km,mb3.5/6, mb1 3.7/10,mb1mx3.5/47,mbtmp3.4/10,ML3.2/3,MS3.0/1, Ms1 3.0/1,ms1mx2.1/30,Error ellipse: s-maj=25.5km s-min=18.5km az=139.0*
JMA ***29*** *21:30:28.9±0.1,43.°20N×138.°56E,h31km,M3.9*
ISCJB ***29*** *21:30:29.8±0.5,43.°17N±0.°04×138.°54E±0.°05,h35km, mb3.5/6,MS2.8/1,Error ellipse: s-maj=5.5km s-min=4.8km az=5.4*

ISC 29 21:30:32.0±0.7,43.°15N±0.°05×138.°56E±0.°05,h35km,n26, σ1°42/33,mb3.7/6,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSH	Shimam	1.21	115	P	Pn	21 30 50.2	-2.1
JSH				*e*S	Sn	21 31 05.3	-2.1
JOSM	Okushiri--Mats	1.27	147	P	Pn	21 30 51.2	-2.0
JOSM				*e*S	Sn	21 31 07.6	-1.3
JSK	Shakotan	1.42	81	P	Pn	21 30 52.9	-2.3
JSK				*e*S	Sn	21 31 10.5	-2.1
JYM2	Yakumo 2	1.69	127	P	Pn	21 30 57.7	-1.3
JYM2				*e*S	Sn	21 31 18.5	-0.9
JNB	Noboribetsu	1.95	110	P	Pn	21 31 01.3	-1.3
JNB				*e*S	Sn	21 31 25.3	-0.5
JSR	Shiriuchi	2.13	139	P	Pn	21 31 04.2	-0.9
JKB	Kayabe	2.22	124	P	Pn	21 31 05.2	-1.1
JHR	Hokuryu	2.38	75	P	Pn	21 31 07.4	-1.1
JYG	Yagishiri	2.44	58	P	Pn	21 31 07.4	-1.9
JOT	Ohata	2.56	133	P	Pn	21 31 10.3	-0.7
JSS	Shosan	2.69	61	P	Pn	21 31 11.6	-1.2
JAB	Ashibetsu	2.70	81	P	Pn	21 31 11.7	-1.2
ASAJ	Asahikawa	3.08	70	Pn	Pn	21 31 17.6	-0.6
	9.0nm,0.3s,baz=254,slow=10,SNR=121						
ASAJ				Sn	Sn	21 31 53.9	0.0
	5.8nm,0.3s,baz=53,slow=33,SNR=7.9						
JKK2	Kamakawa 2	3.13	75	P	Pn	21 31 17.9	-1.0
JWK2	Keihoku	3.23	47	P	Pn	21 31 20.0	-0.2
JWK2				*e*S	Sn	21 31 55.8	-1.6
JSE	Soyaes	3.42	57	P	Pn	21 31 21.7	-1.0
USRK	Ussuriysk Ar.	4.88	285	Pn	Pn	21 31 41.5	-1.4
	1.0nm,0.3s,baz=93,slow=14,SNR=17						
USRK				Sn	Sn	21 32 35.5	-2.6
	1.4nm,0.3s,baz=95,slow=24,SNR=6.2						
MJAR	Matsushiro Arr	6.61	182	Pn	Pn	21 32 07.7	+1.0
	0.1nm,0.3s,baz=2.3,slow=12,SNR=2.9						
KSRS	Korea Array	9.92	239	Pn	Pn	21 32 52.8	+0.8
	baz=50,slow=15,SNR=2.7						
SONM	Songino Array	22.93	293	P	P	21 35 31.9	-1.1
	0.2nm,0.6s,baz=77,slow=6.5,SNR=2.7						
TLY	Talaya	24.92	302	LR	LR	21 46 15.7	
	comp=Z,29nm,18.3s,baz=37,slow=38						
ILAR	Eielson Array	45.63	35	P	P	21 38 49.4	+0.8
	0.2nm,0.7s,baz=248,slow=7.6,SNR=4.3						
YKA	Yellowknife Ar	59.66	31	P	P	21 40 32.1	-0.1
	0.4nm,0.5s,baz=304,slow=6.5,SNR=6.4						
WRA	Warramunga Arr	62.90	184	P	P	21 40 55.0	+0.4
	0.9nm,0.5s,baz=3.1,slow=7.2,SNR=27						
PDAR	Pinedale Array	74.92	45	P	P	21 42 11.1	+1.6
	0.8nm,0.8s,baz=217,slow=0.7,SNR=6.0						
TXAR	Lajitas Array	88.03	51	P	P	21 43 20.2	+1.3
	0.2nm,0.6s,baz=292,slow=2.4,SNR=2.4						

BJI ***29*** *21:38:27.2, 1.°90N×125.°00E,h173km,mB4.7/5,mb4.6/9*
ISCJB ***29*** *21:38:29.5±0.3, 1.°90N±0.°04×124.°93E±0.°05,h200km, mb4.3/16,Error ellipse: s-maj=7.1km s-min=5.2km az=18.2*
IDC ***29*** *21:38:29.8±2.5, 1.°90N×124.°68E,h179km±22km,mb4.0/12, mb1 4.0/12,mb1mx3.7/40,mbtmp4.4/12,Error ellipse: s-maj=29.2km s-min=9.6km az=75.0*
NEIC ***29*** *21:38:29.1±0.7, 1.°93N×124.°85E,h176km±8km,mb4.9/6, Error ellipse: s-maj=11.4km s-min=7.8km az=73.0*
DJA ***29*** *21:38:32.7±0.4,2°N±3°×12°5E±°,h115km±6km,M4.6/21, mb4.6/11,mB4.9/7,MLv4.8/17,MLv4.8/21,Mw(mB)4.2/7*

ISC 29 21:38:30.6±0.5,1.°84N±0.°05×125.°03E±0.°05,h200km,n46, σ2°15/49,mb4.3/16,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.64	220	P	Pn	21 39 01.1	-4.5
KMSI				S	Sn	21 39 23.8	-9.0
SGSI	Sangihe	1.90	15	P	Pn	21 39 06.0	-2.1
SGSI				S	Sn	21 39 32.4	-5.0
GTOI	Gorontalo	2.35	239	P	Pn	21 39 11.2	-1.7
TNTI	Ternate	2.56	114	P	Pn	21 39 13.4	-1.8
TNTI				S	Sn	21 39 44.5	-5.5
TNTI	Ternate	2.56	114	*e*Pn	Pn	21 39 13.7	-1.5
TNTI				*e*Sn	Sn	21 39 46.5	-3.5
MRSI	Marisa	3.38	246	P	Pn	21 39 23.5	-1.3
MRSI				S	Sn	21 40 02.7	-4.4
LBMI	Labuha	3.49	135	P	Pn	21 39 25.1	-1.0
LBMI				S	Sn	21 40 05.4	-4.2
LUWI	Luwuk	3.65	218	P	Pn	21 39 26.6	-1.5
LUWI	Luwuk	3.65	218	*e*Pn	Pn	21 39 26.0	-2.1
LUWI				*e*Sn	Sn	21 40 02.2	-11
SANI	Sanana	3.98	166	P	Pn	21 39 30.9	-1.3
TOLI	Toli-Toli	4.30	260	*e*Pn	Pn	21 39 32.1	-4.1
TOLI				*e*Sn	Sn	21 40 16.9	-11
APSI	Ampana	4.35	231	P	Pn	21 39 36.0	-0.8
MPSI	Mapaga	5.35	254	P	Pn	21 39 49.7	+0.2
	23nm,0.6s,409nm0.1nm						
PCI	Palu	5.87	242	P	Pn	21 39 55.7	-0.6
	164nm,0.8s,1μm0.5nm						
MSAI	Masohi	6.46	143	P	Pn	21 40 04.6	+0.7
	54nm,0.8s,2μm0.6nm0.6nm						
TTSI	Tana Toraja	7.12	227	P	Pn	21 40 12.8	+0.3
	67nm,1.1s,671nm0.3nm0.3nm						
BBSI	Bau Bau	7.68	199	P	Pn	21 40 20.1	+0.3
	54nm,1.1s,0.2nm						
SPSI	Sidrap Palu	7.81	222	P	Pn	21 40 21.4	0.0
	48nm,0.7s,602nm0.2nm						
BNSI	Bone	7.92	218	P	Pn	21 40 22.8	-0.1
	48nm,0.8s,0.1nm0.1nm						
KAPI	Kappang	8.61	218	*e*Pn	Pn	21 40 29.7	-2.3
	144nm,0.8s						
BKSI	Bulukumba	8.64	215	P	Pn	21 40 32.5	+0.2
	20nm,0.9s,0.1nm						
KBKI	Kotabaru	10.23	240	P	Pn	21 40 55.9	+3.0
MMRI	Maumere	10.77	195	P	P	21 41 16.2	+10
SOEI	Soe	11.54	184	*e*Pn	Pn	21 41 09.3	-0.6
	18nm,0.7s						
BATI	Baumata	12.05	186	P	P	21 41 19.4	-1.4
WRAB	Tennant Creek	23.49	158	*e*P	P	21 43 24.4	+1.8
	37nm,0.8s						
WRA	Warramunga Arr	23.50	158	P	P	21 43 24.6	+2.0
	25nm,0.5s,baz=333,slow=11,SNR=249						
WRA				S	S	21 47 28.8	+7.3
	7.1nm,0.9s,baz=332,slow=18,SNR=11						
WRA				ScP	ScP	21 50 25.9	+3.8
	0.5nm,0.5s,baz=339,slow=2.6,SNR=5.1						
WB2	Warramunga Arr	23.50	158	*e*P	P	21 43 24.7	+2.0
JOW	Kunigami	25.04	7	P	P	21 43 38.0	+1.4
	3.3nm,0.8s,baz=138,slow=4.4,SNR=4.4						
AS31	Alice Springs	26.78	162	*e*P	P	21 43 54.0	+1.7
ASAR	Alice Springs	26.78	162	P	P	21 43 54.8	+2.5
	4.0nm,0.4s,baz=343,slow=8.0,SNR=64						
ASAR				S	S	21 48 18.0	+4.5
	1.0nm,0.7s,baz=346,slow=18,SNR=4.7						
MJAR	Matsushiro Arr	36.62	18	P	P	21 45 18.1	+0.3
	5.0nm,0.8s,baz=193,slow=9.3,SNR=15						
USRK	Ussuriysk Ar.	42.63	7	P	P	21 46 08.4	+1.2
	10nm,0.8s,baz=191,slow=6.5,SNR=20						
MDJ	Mudanjiang	42.79	5	P	P	21 46 09.3	+0.8
MDJ				PMZ			
	7.0nm,0.8s						
MDJ				PMZ			
	96nm,4.8s						
GTA	Gaotai	43.89	332	*e*P	P	21 46 18.0	+0.4
GTA				PMZ			
	4.0nm,1.0s						
ASAJ	Asahikawa	44.89	18	P	P	21 46 27.4	+2.2
	11nm,0.5s,baz=237,slow=8.5,SNR=25						
SONM	Songino Array	48.57	343	P	P	21 46 54.9	+1.0
	1.8nm,0.8s,baz=157,slow=9.4,SNR=16						
MKAR	Makanchi Array	58.16	327	P	P	21 48 03.3	-0.3
	1.0nm,0.3s,baz=122,slow=7.5,SNR=40						
MKAR				PcP	PcP	21 48 53.5	+0.7
	1.2nm,0.6s,baz=116,slow=3.3,SNR=8.8						
YAK	Yakutsk	60.15	3	*e*P	P	21 48 17.6	+0.8
	50nm,0.7s						
ZALV	Zalesovo Beam	61.52	334	P	P	21 48 24.6	-1.6
	0.8nm,0.5s,baz=149,slow=7.0,SNR=5.9						
KURK	Kurchatov	62.44	329	*e*P	P	21 48 31.4	-1.1
	3.1nm,0.6s						
TIXI	Tiksi	69.75	1	*e*P	P	21 49 18.9	+0.4
	4.7nm,0.3s						
ABKAR	Akbulak array	72.55	321	*e*P	P	21 49 34.5	-1.3
VNDA	Vanda	81.78	172	P	P	21 50 29.8	+3.2
	0.6nm,0.5s,baz=317,slow=6.9,SNR=8.5						
ARCES	ARCESS Array B	91.62	340	P	P	21 51 14.6	-0.1
	3.9nm,1.0s,baz=89,slow=5.2,SNR=11						
FINES	FINESS Array B	92.68	332	P	P	21 51 19.0	-0.6
	1.7nm,0.8s,baz=72,slow=6.2,SNR=5.3						

CSEM ***29*** *21:43:12.6±0.4,38.°72N×28.°41E,h10km,MD2.5,Error ellipse: s-maj=22.2km s-min=2.8km az=92.0*
ISK ***29*** *21:43:14.1,38.°73N×27.°85E,h6km,MD2.4*

DDA 29 21:43:19.9,38.°03N×28.°61E,h7km,MD2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	Cakiroluk	0.48	135	*i* P	Pg	21 43 29.5	-0.1
DNZL				*i* S	Sg	21 43 36.7	+0.6
DNZL	Cakiroluk	0.48	135	*i* P	Pg	21 43 29.5	0.0
DNZL				*i* S	Sg	21 43 36.7	+0.6
KULA	Kula-Manisa	0.48	4	*e*PG	Pg	21 43 28.5	-1.0
KULA				*e*SG	Sg	21 43 36.8	+0.9
KULA	Kula-Manisa	0.48	4	*e*Pg	Pg	21 43 28.5	-1.0
KULA				*e*Sg	Sg	21 43 36.8	+0.9
AYDB	Zeytinkoy-Aydi	0.58	262	*e*PG	Pg	21 43 29.6	-1.8
AYDB				*e*SG	Sb	21 43 40.6	-0.5
AYDB	Zeytinkoy-Aydi	0.58	262	*e*Pg	Pg	21 43 29.6	-1.7
AYDB				*e*Sg	Sb	21 43 40.6	-0.5
AYDN	Tasoluk	0.69	238	*i* P	Pb	21 43 34.1	-0.3
AYDN				*i* S	Sb	21 43 44.9	+0.7
AYDN	Tasoluk	0.69	238	*i* P	Pb	21 43 34.1	-0.3
AYDN				*i* S	Sb	21 43 44.9	+0.7

ISCJB ***29*** *22:12:37.8±0.2,46.°78N±0.°03×93.°39E±0.°04,h10km, mb4.2/49,MS3.3/8,Error ellipse: s-maj=4.0km s-min=3.6km az=0.0*
IDC ***29*** *22:12:37.7±0.6,46.°75N×93.°46E,h0km,mb4.1/21, mb1 4.2/28,mb1mx4.1/46,mbtmp4.1/28,ML3.5/7,MS3.2/9, Ms1 3.2/9,ms1mx2.9/45,Error ellipse: s-maj=13.7km s-min=9.3km az=4.0*
NEIC ***29*** *22:12:40.9±1.4,46.°73N×93.°38E,h21km±10km,mb4.8/11, Error ellipse: s-maj=6.8km s-min=4.5km az=176.0*
BJI ***29*** *22:12:40.6,46.°78N×93.°52E,h29km,mB4.6/9,mb4.0/10, ML4.5/9,Ms4.1/6,Ms7 3.9/7*
MOS ***29*** *22:12:41.1±1.2,46.°72N×93.°36E,h35km,mb4.7/24,Error ellipse: s-maj=7.4km s-min=5.3km az=121.0*
ASRS ***29*** *22:12:43.6±1.3,47.°20N×93.°79E,h15km,Ms4.1/6*
NNC ***29*** *22:12:44.1±4.3,46.°89N×93.°22E,h43km±20km,mb4.3, mpv4.0,Error ellipse: s-maj=46.9km s-min=20.6km az=120.0*

ISC 29 22:12:39.2±0.4,46.°70N±0.°04×93.°40E±0.°04,h10km,n173, σ1°13/173,mb4.3/50,MS3.1/8,19C-8D,Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVS	Khovu-Aksy	4.45	2	*i* P	Pn	22 13 47.7	+0.9
WMQ	Urumqi	4.95	237	Pn	Pn	22 13 57.8	+4.1
WMQ				Sn	Sn	22 14 52.8	+1.8
WMQ				SMN			
	750nm,0.6s						
WMQ				SME			
	690nm,0.5s						
AKAR	Aktash	5.28	315	*e*P	Pn	22 14 00.6	+2.3
AKAR				*e*		22 15 00.7	
AKAR	Aktash	5.28	315	*e*Pn	Pn	22 14 00.6	+2.3
AKAR				*e*Pg	Pg	22 14 16.8	-3.5
AKAR				*e*Sn	Sn	22 15 00.7	+1.5
AKAR				*e*Sg	Sb	22 15 20.8	+5.7
CERR	Cheremushki	6.29	349	*i* P	Pb	22 14 29.4	+0.6
CERR	Cheremushki	6.29	349	*i* Pg	Pb	22 14 29.4	+0.6
CERR				*i* Sg	Sb	22 15 46.1	+2.0
ARTR	Artybash	6.49	324	*e*P	Pn	22 14 18.3	+3.6
ARTR				*e*		22 15 27.7	
ARTR	Artybash	6.49	324	*e*Pn	Pn	22 14 18.3	+3.6
ARTR				*e*Pg	Pg	22 14 39.7	-3.7
ARTR				*e*Sn	Sn	22 15 27.7	-1.0
ARTR				*e*Sg	Sb	22 15 57.9	+8.2
TASR	Tashtagol	7.04	332	*e*P	Pn	22 14 25.7	+3.4
TASR	Tashtagol	7.04	332	*e*Pn	Pn	22 14 25.7	+3.4
TASR				*e*Pg	Pb	22 14 46.4	+4.8
TASR				*e*Sg	Sg	22 16 17.5	-7.6
ZAK	Zakamensk	7.52	57	*e*P	Pn	22 14 28.7	-0.3
ZAK				pmax	pmax		
	comp=Z,33nm,0.6s						
MK31	Makanchi Array	7.63	275	Pn	Pn	22 14 31.6	+1.1
	comp=Z,1.8nm,0.3s,baz=93,slow=14,SNR=149						
MK31				⇓Pg	Pg	22 14 59.6	-5.7
	comp=Z,7.5nm,0.5s,baz=88,slow=16,SNR=4.8						
MK31				⇑Lg	Lg	22 16 41.6	
	comp=Z,46nm,0.6s,baz=74,slow=29,SNR=5.0						
MK31	Makanchi Array	7.63	275	*e*P	Pn	22 14 31.6	+1.1
MK31				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MKAR	Makanchi Array	7.63	275	Pn	Pn	22 14 31.7	+1.2
	comp=Z,1.3nm,0.3s,baz=93,slow=15,SNR=85						
MKAR				Lg	Lg	22 16 39.8	
	comp=Z,9.5nm,0.3s,baz=70,slow=30,SNR=7.5						
ELT	Yel'tsovka	8.03	328	*e*P	Pn	22 14 37.4	+1.6
ELT	Yel'tsovka	8.03	328	*e*Pn	Pn	22 14 37.4	+1.6
ELT				*e*Pg	Pg	22 15 05.8	-7.0
ELT				*e*Sg	Sg	22 16 45.2	-11
TLY	Talaya	8.36	50	Pn	Pn	22 14 41.7	+1.3
	comp=Z,0.0nm,0.3s,baz=260,slow=6.1,SNR=4.4						
TLY				Lg	Lg	22 16 57.6	
	comp=Z,0.1nm,0.3s,baz=357,slow=17,SNR=10						
TLY				LR	LR	22 17 53.7	
	comp=Z,89nm,19.8s,baz=236,slow=38						
GTA	Gaotai	8.66	145	*e*P	Pn	22 14 47.0	+2.3
GTA				S	Sn	22 16 19.3	-3.2
GTA				PMZ			
	comp=Z,5.0nm,1.0s						
GTA				PMZ			
	comp=Z,79nm,5.0s						
GTA				LN			
	comp=Z,700nm,8.6s						
GTA				LE			
	comp=Z,860nm,8.3s						
GTA				LZ			
	comp=Z,970nm,10.0s						
SONM	Songino Array	8.91	78	*e*P	Pn	22 14 52.3	+4.2
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	Songino Array	8.91	78	Pn	Pn	22 14 48.4	+0.3
	comp=Z,0.9nm,0.3s,baz=268,slow=14,SNR=11						
SONM				Lg	Lg	22 17 16.8	
	comp=Z,9.9nm,0.3s,baz=258,slow=30,SNR=12						
SONM				LR	LR	22 18 29.0	
	comp=Z,165nm,18.1s,baz=266,slow=40						
ZALV	Zalesovo Beam	9.09	326	*e*P	Pn	22 14 53.6	+3.2
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	Zalesovo Beam	9.09	326	Pn	Pn	22 14 49.9	-0.5
	comp=Z,0.8nm,0.3s,baz=146,slow=13,SNR=15						
ZALV				Sn	Sn	22 16 35.5	+2.7
	comp=Z,1.6nm,0.3s,baz=158,slow=21,SNR=4.4						
ZALV				Lg	Lg	22 17 21.9	
	comp=Z,2.2nm,0.3s,baz=134,slow=23,SNR=7.9						
ZALV				LR	LR	22 18 52.1	
	comp=Z,48nm,21.1s,baz=164,slow=41						
ULN	Ulaanbaatar	9.36	78	*e*P	Pn	22 14 57.6	+3.4
ULN				pmax	pmax		
	comp=

comp=Z,170nm,7.6s
KSH LE
comp=Z,250nm,7.3s
KSH LZ
comp=Z,200nm,7.8s
MNAS Manas 15.46 262 ⇓Pn **Pn 22 16 17.5 +0.1**
comp=Z,7.5nm,1.0s
BVA0 Borovoye Array 16.09 302 ⇓Pn **Pn 22 16 23.7 -1.7**
comp=Z,13nm,1.0s
BVAR Borovoye Array 16.09 302 Pn **Pn 22 16 23.1 -2.3**
comp=Z,1.2nm,0.3s,baz=110,slow=12,SNR=28
BVAR LR LR 22 22 53.4
comp=Z,132nm,18.8s,baz=92,slow=38
KK31 Karatay Array 16.60 266 ⇑Pn **Pn 22 16 32.2 +0.3**
comp=Z,2.8nm,0.7s
KK31 Karatay Array 16.60 266 *i*P **Pn 22 16 30.6 -1.3**
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 16.60 266 *e*P **Pn 22 16 30.9 -1.0**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 16.60 266 *e*Pn **Pn 22 16 30.9 -1.0**
comp=Z,2.8nm,0.6s
BOD Bodaibo 16.74 41 *e*P **P 22 16 35.7 -0.2**
BOD pmax pmax
comp=Z,15nm,0.9s
LSA Lhasa 17.06 187 *e*P **Pn 22 16 38.2 -0.1**
LSA pmax pmax
comp=Z,2.0nm,0.6s
LSA Lhasa 17.06 187 *e*Pn **Pn 22 16 38.2 -0.1**
comp=Z,1.9nm,0.6s
GUN Gumba 19.67 200 *e*P **Pn 22 17 11.3 +1.3**
comp=Z,33nm,0.9s
TAPN Taplejung 19.83 195 *e*P **Pn 22 17 11.1 -0.8**
comp=Z,11nm,0.6s
JIRN Jiri 19.84 199 *e*P **Pn 22 17 12.7 +0.6**
comp=Z,16nm,0.6s
KKN Kakani 19.93 202 *e*P **Pn 22 17 15.0 +2.0**
comp=Z,31nm,0.8s
PKIN Phulchoki 20.10 201 *e*P Pn 22 17 17.2 +2.0
comp=Z,13nm,0.7s
PKI Pulchoki 20.11 201 *e*P Pn 22 17 17.0 +1.7
comp=Z,33nm,0.8s
DMN Daman 20.15 202 *e*P Pn 22 17 17.8 +2.1
comp=Z,16nm,0.8s
ODAN Odare 20.36 196 *e*P Pn 22 17 17.6 -0.6
comp=Z,19nm,0.5s
RAMN Ramite 20.43 198 *e*P Pn 22 17 19.7 +0.6
comp=Z,17nm,0.5s
KBL Kabul 22.02 245 *e*P **P 22 17 33.1 -0.8**
KBL pmax pmax
comp=Z,16nm,1.0s
KBL Kabul 22.02 245 *e*P **P 22 17 33.1 -0.8**
comp=Z,16nm,1.0s
AB31 Akbulak array 22.44 289 P **P 22 17 37.6 -0.5**
comp=Z,2.7nm,0.5s,baz=89,slow=8.8,SNR=48
ABKAR Akbulak array 22.44 289 *e*P **P 22 17 37.5 -0.5**
comp=Z,3.8nm,0.5s
SVE Sverdlovsk 22.46 309⇑*e*P **P 22 17 38.5 +0.3**
SVE pmax pmax
comp=Z,53nm,1.4s
ARU Arti 23.50 307*d i*P **P 22 17 49.3 +0.3**
ARU PPP PPP 22 18 23.9
ARU S **S 22 22 00.7 -1.8**
ARU pmax pmax
comp=Z,36nm,1.2s
ARU Arti 23.50 307 *e*P **P 22 17 48.1 -0.9**
comp=Z,33nm,1.0s
AKTO Aktyubinsk 23.57 292 ⇑P **P 22 17 48.3 -1.4**
comp=Z,5.0nm,1.1s
AKTO Aktyubinsk 23.57 292 P **P 22 17 48.9 -0.9**
comp=Z,1.9nm,0.5s,baz=98,slow=12,SNR=8.9
AKTO LR LR 22 27 35.5
comp=Z,61nm,20.1s,baz=63,slow=38
NJ2 Nanjing 24.38 118 *e*P P 22 18 07.0 +10
NJ2 S S 22 22 28.3 +12
YAK Yakutsk 25.66 40 *e*P **P 22 18 08.1 -0.7**
YAK pmax pmax
comp=Z,12nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 25.66 40 P **P 22 18 07.6 -1.2**
comp=E,29nm,0.6s,baz=292,slow=0.4,SNR=6.0
YAK Yakutsk 25.66 40 *e*P **P 22 18 07.6 -1.2**
comp=E,26nm,0.8s
KSAR Wonju Array Be 27.03 97 P **P 22 18 21.2 -0.3**
KSAR Wonju Array Be 27.03 97 P **P 22 18 21.1 -0.3**
KSRS Korea Array 27.05 97 *e*P P 22 18 26.4 +4.8
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KSRS Korea Array 27.05 97 P **P 22 18 21.1 -0.5**
comp=Z,0.6nm,0.5s,baz=285,slow=10,SNR=3.3
KSRS LR LR 22 30 03.4
comp=Z,49nm,21.4s,baz=296,slow=39
GEYT Alibeck 27.33 264 P **P 22 18 24.9 +0.6**
comp=Z,1.6nm,0.7s,baz=46,slow=11,SNR=6.3
CMAR Chiang Mai Arr 28.53 169 P **P 22 18 36.9 +1.9**
comp=Z,0.6nm,0.3s,baz=359,slow=5.3,SNR=5.0
CMAR LR LR 22 31 19.2
comp=Z,33nm,19.5s,baz=188,slow=39
TIXI Tiksi 30.04 22*ce*P **P 22 18 47.4 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
PRGR Permogore 30.88 316 P **P 22 18 54.4 -1.0**
PRGR pmax pmax
comp=Z,8.0nm,1.0s
MAK Makhachkala 32.41 280 *e*P **P 22 19 07.6 -1.4**
MAK MLR MLR
comp=Z,290nm,14.0s
KIV Kislovodsk 35.26 284 *e*P **P 22 19 30.8 -3.2**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,25nm,16.0s
GNI Garni 35.47 277 *e*P **P 22 19 36.2 +0.3**
GNI pmax pmax
comp=Z,10.0nm,1.4s
OBN Obninsk 35.89 305⇑*e*P **P 22 19 40.2 +1.1**
OBN pmax pmax
comp=Z,12nm,1.1s
OBN MLR MLR
comp=Z,64nm,18.0s
SEY Seymchan 36.16 42 P **P 22 19 41.5 +0.2**
comp=Z,1.2nm,0.6s,baz=272,slow=8.4,SNR=4.8
JOF Joensuu 37.58 318 *e*P **P 22 19 53.3 -0.1**
JOF pmax pmax
comp=Z,7.0nm,0.6s
JOF Joensuu 37.58 318 *e*p **P 22 19 53.3 -0.1**
comp=Z,6.9nm,0.6s
KEV Kevo 39.10 330 *e*P **P 22 20 04.7 -1.4**
KEV pmax pmax
comp=Z,6.0nm,0.9s
KEV Kevo 39.10 330 *e*p **P 22 20 04.7 -1.4**
comp=Z,6.3nm,0.9s
ARCES ARCESS Array B 39.63 329 P **P 22 20 10.9 +0.4**
comp=Z,2.5nm,0.6s,baz=76,slow=9.2,SNR=17
ARCES LR LR 22 39 31.2
comp=Z,36nm,19.8s,baz=338,slow=41
KAF Kangasniemi 39.99 318 *e*P **P 22 20 12.9 -0.7**
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF Kangasniemi 39.99 318 *e*p **P 22 20 12.9 -0.7**
comp=Z,4.8nm,0.7s
FINES FINESS Array B 40.21 317 *e*P **P 22 20 15.8 +0.4**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES FINESS Array B 40.21 317 P **P 22 20 15.8 +0.4**
comp=Z,5.7nm,0.6s,baz=82,slow=8.7,SNR=33
AKASG Malin Array Be 41.36 300 P **P 22 20 25.6 +0.5**
comp=Z,1.5nm,0.6s,baz=60,slow=8.6,SNR=9.4
AKASG LR LR 22 37 59.9
comp=Z,89nm,18.9s,baz=265,slow=37
BILL Bilibino 41.55 33 *e*P **P 22 20 27.1 +0.7**
BILL *e* 22 22 06.8
BILL pmax pmax
comp=Z,2.0nm,1.2s
BRTR Keskin Array B 43.19 283 *e*P **P 22 20 41.8 +1.5**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 43.19 283 P **P 22 20 41.8 +1.5**
comp=Z,3.6nm,0.7s,baz=81,slow=7.0,SNR=16
RAYN Ar Rayn 44.65 256 *e*P **P 22 20 53.2 +1.2**
comp=Z,7.2nm,1.0s
KWP Kalwaria Pacla 45.64 301 *e*P **P 22 20 59.2 -0.5**
KWP pmax pmax
comp=Z,20nm,1.1s
KWP Kalwaria Pacla 45.64 301 *e*P **P 22 20 59.2 -0.5**
comp=Z,20nm,1.1s
KOLS Kolonicke sedl 46.20 300 *e*P **P 22 21 05.4 +1.4**
KOLS pmax pmax
comp=Z,4.0nm,1.3s
KOLS Kolonicke sedl 46.20 300 *e*P **P 22 21 05.4 +1.4**
UZH Uzhgorod 46.32 300 *e*P **P 22 21 04.5 -0.4**
UZH *e* 22 21 14.9
STHS Stebnicka Huta 46.60 301 *e*P **P 22 21 09.7 +2.5**
STHS pmax pmax
comp=Z,1.0nm,0.6s
STHS Stebnicka Huta 46.60 301 *e*P **P 22 21 09.7 +2.5**
NB2 NORSAR Subarra 47.21 319 P **P 22 21 11.5 -0.4**
comp=Z,2.2nm,0.6s,baz=67,slow=7.9
NOA NORSAR Array B 47.21 319 *e*P **P 22 21 11.3 -0.5**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 47.21 319 P **P 22 21 11.4 -0.5**
comp=Z,2.8nm,0.7s,baz=69,slow=9.0,SNR=21
VYHS Vyhne 48.43 301 *e*P **P 22 21 22.8 +1.4**
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 48.43 301 *e*P **P 22 21 22.8 +1.4**
KRLC Kraliky 48.90 304 *e*P **P 22 21 23.6 -1.4**
KRLC Kraliky 48.90 304 *e*P **P 22 21 23.6 -1.4**
DPC Dobruska-Polom 49.03 304 *e*P **P 22 21 27.4 +1.3**
DPC *e* 22 21 34.7
DPC Dobruska-Polom 49.03 304 *e*P **P 22 21 27.4 +1.3**
DPC *e*pP **pP 22 21 31.4 +2.2**
DPC *e*x x 22 21 34.7
UPC Upice 49.14 305 *e*P **P 22 21 27.9 +1.1**
UPC Upice 49.14 305 *e*P **P 22 21 27.9 +1.1**
UPC *e*pP **pP 22 21 31.4 +1.4**
CLL Collm 50.45 307 *e*P **P 22 21 37.0 +0.3**
CLL *e*S **S 22 28 51.0 +1.0**
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 50.45 307 *e*P **P 22 21 37.0 +0.3**
comp=Z,4.0nm,0.8s
CLL *e*PP **PP 22 23 33.0 +0.9**
CLL *e*S **S 22 28 51.0 +1.0**
CLL LmV 22 43 00.0
comp=Z,100nm,19.2s
CONA Conrad Observa 50.45 302⇑*i*pP **P 22 21 38.8 +1.8**
comp=Z,5.3nm,1.0s
GERES GERESS Array B 51.25 304 *e*P **P 22 21 44.6 +1.6**
GERES GERESS Array B 51.25 304 P **P 22 21 43.0 +0.7**
comp=Z,0.4nm,0.6s,baz=49,slow=6.2,SNR=4.5
SOKA Soboth 51.56 301⇑*i*P **P 22 21 46.1 +0.8**
comp=Z,3.9nm,1.0s
MOTA Moosalm 53.52 303⇑*i*P **P 22 22 00.6 +0.8**
comp=Z,3.2nm,0.8s
FETA Feichten 53.90 303⇑*i*P **P 22 22 03.5 +0.8**
comp=Z,3.6nm,0.9s
HAU Haudompre 55.85 306 *e*P **P 22 22 16.7 0.0**
HAU Haudompre 55.85 306 *e*P **P 22 22 16.7 0.0**
HAU Haudompre 55.85 306 *e*P **P 22 22 16.7 0.0**
SFTF Sexfontaines 56.47 307 *e*P **P 22 22 21.3 +0.3**
SFTF Sexfontaines 56.47 307 *e*P **P 22 22 21.3 +0.3**
CABF La Chapelle 56.79 305 *e*P **P 22 22 23.0 -0.4**
comp=Z,9.8nm,0.9s
CABF La Chapelle 56.79 305 *e*P **P 22 22 23.0 -0.4**
CABF pmax pmax
comp=Z,10.0nm,0.9s
CABF La Chapelle 56.79 305 *e*P **P 22 22 23.0 -0.4**
comp=Z,9.8nm,0.9s
LPG La Plagne 57.05 303 *e*P **P 22 22 26.3 +0.8**
comp=Z,11nm,1.0s
LPG La Plagne 57.05 303 *e*P **P 22 22 26.3 +0.8**
LPG pmax pmax
comp=Z,11nm,1.0s
LPG La Plagne 57.05 303 *e*P **P 22 22 26.3 +0.8**
comp=Z,11nm,1.0s
LPL La Plagne 57.05 303 *e*P **P 22 22 26.1 +0.7**
LPL La Plagne 57.05 303 *e*P **P 22 22 26.1 +0.7**
LPL La Plagne 57.05 303 *e*P **P 22 22 26.1 +0.7**
MBDF Montbardon 57.48 302 *e*P **P 22 22 28.0 -0.4**
comp=Z,12nm,0.9s
MBDF Montbardon 57.48 302 *e*P **P 22 22 28.0 -0.4**
MBDF pmax pmax
comp=Z,13nm,0.9s
MBDF Montbardon 57.48 302 *e*P **P 22 22 28.0 -0.4**
comp=Z,12nm,0.9s
LOR Lormes 57.66 306 *e*P **P 22 22 29.4 -0.1**
LOR Lormes 57.66 306 *e*P **P 22 22 29.4 -0.1**
LOR Lormes 57.66 306 *e*P **P 22 22 29.4 -0.1**
LDF La Druitiere 59.04 309 *e*P **P 22 22 38.6 -0.5**
LDF La Druitiere 59.04 309 *e*P **P 22 22 38.6 -0.5**
LDF La Druitiere 59.04 309 *e*P **P 22 22 38.6 -0.5**
FLN La Foliniere 59.13 310 *e*P **P 22 22 39.3 -0.4**
comp=Z,8.0nm,0.7s
FLN La Foliniere 59.13 310 *e*P **P 22 22 39.3 -0.4**
FLN pmax pmax
comp=Z,8.0nm,0.7s
FLN La Foliniere 59.13 310 *e*P **P 22 22 39.3 -0.4**
comp=Z,8.0nm,0.7s
TCF Toulx Ste Croi 59.15 306 *e*P **P 22 22 40.0 +0.1**
TCF Toulx Ste Croi 59.15 306 *e*P **P 22 22 40.0 +0.1**
TCF Toulx Ste Croi 59.15 306 *e*P **P 22 22 40.0 +0.1**
ILAR Eielson Array 59.39 26 *e*P **P 22 22 40.9 -0.3**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 59.39 26 P **P 22 22 41.0 -0.3**
comp=Z,1.0nm,0.8s,baz=294,slow=3.0,SNR=4.4
INK Inuvik 60.09 18 P **P 22 22 45.8 -0.1**
comp=Z,3.0nm,0.8s,baz=338,slow=9.1,SNR=11
ESDC Sonseca Array 66.85 304 P **P 22 23 32.0 +0.8**
comp=Z,1.3nm,0.9s,baz=46,slow=6.0,SNR=4.0
KMBO Kilima Mbogo 68.34 243 P **P 22 23 41.1 0.0**
comp=Z,0.8nm,0.5s,baz=44,slow=5.1,SNR=3.6
YKA Yellowknife Ar 68.88 14 P **P 22 23 43.2 -0.3**
comp=Z,1.4nm,0.8s,baz=337,slow=6.4,SNR=15
WRA Warramunga Arr 75.93 141 *e*P **P 22 24 26.3 +0.2**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 75.93 141 P **P 22 24 25.4 -0.7**
comp=Z,1.7nm,0.8s,baz=344,slow=6.1,SNR=7.7
SCHQ Schefferville 77.47 348 P **P 22 24 33.5 -1.0**
comp=Z,3.6nm,0.6s,baz=22,slow=3.5,SNR=14
FFC Flin Flon 78.11 9 *e*P **P 22 24 36.7 -1.3**
FFC pmax pmax
comp=Z,6.0nm,0.8s
FFC Flin Flon 78.11 9 *e*P **P 22 24 36.7 -1.3**
comp=Z,6.4nm,0.8s
ASAR Alice Springs 79.03 143 P **P 22 24 42.9 -0.5**
comp=Z,1.0nm,0.7s,baz=333,slow=6.2,SNR=9.4
TORD Torodi Ar. Bea 81.72 280 P **P 22 24 57.0 -1.2**
comp=Z,1.6nm,1.0s,baz=41,slow=4.3,SNR=7.4
ULM Lac du Bonnet 83.10 6 *e*P **P 22 25 03.8 -1.0**
ULM pmax pmax
comp=Z,2.0nm,0.7s
ULM Lac du Bonnet 83.10 6 P **P 22 25 03.8 -1.0**
comp=Z,2.1nm,0.7s,baz=358,slow=4.1,SNR=3.9
LPAZ La Paz 146.01 327 PKPbc **PKPdf 22 32 18.7 -0.7**
comp=Z,1.7nm,0.7s,baz=36,slow=3.5,SNR=4.9

*IDC **29** 22:17:03.4±2.6, 29.°95N×139.°79E, h375km±26km, mb3.1/9, mb1 3.2/10, mb1mx2.8/46, mbtmp3.8/10, Error ellipse: s-maj=40.7km s-min=13.2km az=77.0*
*ISCJB **29** 22:17:04.6±0.9, 29.°90N±0.°08×139.°6E±0.°3, h400km, mb3.3/9, Error ellipse: s-maj=34.6km s-min=10.7km az=1.9*
*JMA **29** 22:17:06.1±0.5, 29.°95N×139.°97E, h387km, M3.2*
ISC 29 22:17:05.6±1.1, 30.°0N±0.°1×139.°9E±0.°2, h400km, n14, σ1§14/14, mb3.4/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIE	**Ise**	**5.15**	**330**	P		**Pn**	**Pn**	**22 18 30.3**	**+1.2**
JAG	**Ashikaga**	**6.45**	**357**	P		**Pn**	**Pn**	**22 18 43.4**	**+0.4**
JAG				eS		S	S	22 20 00.3	-2.2
JHO	**Hitachi**	**6.65**	**5**	P		**P**	**P**	**22 18 46.9**	**+1.0**
MJAR	**Matsushiro Arr**	**6.70**	**349**	P		Pn	Pn	22 18 42.6	-3.2
	0.6nm,0.3s,baz=172,slow=11,SNR=7.2								
ZALV	**Zalesovo Beam**	**45.98**	**318**	P		**P**	**P**	**22 24 50.1**	**-0.5**
	0.5nm,0.5s,baz=97,slow=12,SNR=2.5								
MKAR	**Makanchi Array**	**47.08**	**308**	P		**P**	**P**	**22 24 58.0**	**-1.2**
	0.5nm,1.0s,baz=80,slow=9.8,SNR=3.6								
WRA	**Warramunga Arr**	**49.91**	**187**	P		**P**	**P**	**22 25 20.1**	**-0.6**
	0.4nm,0.4s,baz=2.2,slow=7.7,SNR=9.9								
ASAR	**Alice Springs**	**53.63**	**187**	P		**P**	**P**	**22 25 47.9**	**+0.1**
	0.3nm,0.6s,baz=358,slow=6.5,SNR=3.7								
BVAR	**Borovoye Array**	**54.55**	**316**	P		**P**	**P**	**22 25 53.8**	**-0.1**
	1.0nm,0.5s,baz=99,slow=7.4,SNR=11								
ARCES	**ARCESS Array B**	**70.15**	**340**	P		**P**	**P**	**22 27 37.5**	**+1.7**
	4.8nm,1.0s,baz=54,slow=7.0,SNR=5.8								
FINES	**FINESS Array B**	**74.47**	**333**	P		**P**	**P**	**22 28 01.8**	**+0.7**
	0.4nm,0.3s,baz=64,slow=4.4,SNR=6.0								
HFS	**Hagfors**	**79.97**	**336**	P		**P**	**P**	**22 28 30.5**	**-0.9**
	1.5nm,0.7s,baz=40,slow=11,SNR=4.9								
NOA	**NORSAR Array B**	**80.18**	**337**	P		**P**	**P**	**22 28 33.0**	**+0.5**
	0.5nm,0.7s,baz=52,slow=7.7,SNR=2.7								
LPAZ	**La Paz**	**150.98**	**68**	PKPbc		**PKPbc**	**PKPbc**	**22 36 12.7**	**-0.7**
	0.8nm,0.6s,baz=11,slow=4.0,SNR=3.9								

*ISCJB **29** 22:27:44.3±0.6, 58.°1N±0.°1×32.°2W±0.°1, h14km, mb3.7/18, MS3.4/10, Error ellipse: s-maj=16.2km s-min=8.6km az=8.1*
*IDC **29** 22:27:44.2±0.7, 58.°15N×32.°15W, h0km, mb3.7/18, mb1 3.9/20, mb1mx3.7/62, mbtmp3.7/20, ML2.1/1, MS3.5/13, Ms1 3.4/13, ms1mx3.1/48, Error ellipse: s-maj=23.8km s-min=11.8km az=7.0*
ISC 29 22:27:46.1±0.7, 58.°1N±0.°1×32.°18W±0.°08, h14km, n33, σ0§86/22, mb3.8/18, MS3.5/10, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.30**	**324**	LR			LR	22 34 39.2	
	comp=Z,245nm,18.5s,baz=98,slow=34								
SUMG	**Summit**	**14.80**	**353**	*i* P			**Pn**	**22 31 16.4**	**+1.4**
	3.0nm,0.9s								
FRB	**Frobisher Bay**	**18.38**	**303**	P			**P**	**22 32 00.6**	**+0.5**
	0.4nm,0.3s,baz=93,slow=11,SNR=14								
FRB				LR			LR	22 38 08.8	
	comp=Z,180nm,18.5s,baz=61,slow=34								
SCHQ	**Schefferville**	**19.29**	**275**	P			**Pn**	**22 32 11.2**	**-0.1**
	0.1nm,0.3s,baz=54,slow=18,SNR=2.0								
SCHQ				LR			LR	22 38 07.9	
	comp=Z,121nm,21.9s,baz=70,slow=32								
NOA	**NORSAR Array B**	**21.89**	**64**	P			**P**	**22 32 37.0**	**-1.3**
	2.1nm,1.0s,baz=280,slow=8.2,SNR=2.9								
ESDC	**Sonseca Array**	**25.82**	**123**	P			**P**	**22 33 18.1**	**+1.4**
	0.6nm,0.7s,baz=157,slow=27,SNR=4.2								
DAVOX	**Davos/Dischmat**	**27.56**	**96**	LR			LR	22 43 23.4	
	comp=Z,75nm,20.9s,baz=270,slow=34								
RES	**Resolute Bay**	**28.20**	**330**	LR			LR	22 44 56.6	
	comp=Z,54nm,18.8s,baz=268,slow=37								
FINES	**FINESS Array B**	**28.70**	**58**	P			**P**	**22 33 42.0**	**-0.2**
	1.3nm,0.8s,baz=288,slow=12,SNR=3.4								
VRAC	**Vranov**	**29.58**	**86**	LR			LR	22 45 28.1	
	comp=Z,71nm,19.2s,baz=326,slow=36								
AKASG	**Malin Array Be**	**35.37**	**75**	P			**P**	**22 34 39.6**	**-1.2**
	0.2nm,0.3s,baz=304,slow=8.7,SNR=4.0								
ULM	**Lac du Bonnet**	**36.81**	**286**	P			**P**	**22 34 52.6**	**-0.5**
	1.8nm,0.8s,baz=79,slow=6.0,SNR=3.7								
ULM				LR			LR	22 48 27.8	
	comp=Z,92nm,18.5s,baz=288,slow=34								
YKA	**Yellowknife Ar**	**38.49**	**312**	P			**P**	**22 35 06.4**	**-0.8**
	1.5nm,0.7s,baz=58,slow=9.3,SNR=24								
TKL	**Tuckaleechee C**	**40.49**	**259**	LR			LR	22 50 57.5	
	comp=Z,90nm,18.1s,baz=2.0,slow=34								
INK	**Inuvik**	**41.64**	**327**	P			**P**	**22 35 32.6**	**-0.5**
	0.9nm,0.5s,baz=20,slow=14,SNR=5.5								
BRTR	**Keskin Array B**	**45.00**	**84**	P			**P**	**22 36 01.8**	**+0.9**
	0.4nm,0.5s,baz=302,slow=8.3,SNR=3.0								
BRTR				LR			LR	22 55 36.3	
	comp=Z,22nm,20.6s,baz=291,slow=37								
ILAR	**Eielson Array**	**47.93**	**328**	P			**P**	**22 36 24.1**	**+0.7**
	2.0nm,0.9s,baz=34,slow=6.5,SNR=19								
PDAR	**Pinedale Array**	**48.81**	**287**	P			**P**	**22 36 30.0**	**-0.7**
	1.5nm,0.8s,baz=62,slow=7.6,SNR=11								
PDAR				LR			LR	22 55 43.1	
	comp=Z,49nm,21.1s,baz=358,slow=34								
AKTO	**Aktyubinsk**	**49.46**	**57**	P			**P**	**22 36 36.2**	**+0.8**
	0.6nm,0.6s,baz=350,slow=7.2,SNR=3.7								
TORD	**Torodi Ar. Bea**	**51.58**	**136**	P			**P**	**22 36 51.9**	**+0.2**
	1.6nm,1.0s,baz=331,slow=8.0,SNR=7.0								
BVAR	**Borovoye Array**	**52.76**	**48**	P			**P**	**22 37 00.3**	**+0.2**
	0.9nm,0.8s,baz=324,slow=7.3,SNR=5.0								
ANMO	**Albuquerque**	**53.04**	**278**	LR			LR	22 58 45.5	
	comp=Z,54nm,21.8s,baz=77,slow=35								
ELK	**Elko**	**53.17**	**290**	P			**P**	**22 37 04.6**	**+1.1**
	0.6nm,0.6s,baz=344,slow=6.0,SNR=3.7								
DBIC	**Dimbokro**	**55.47**	**146**	LR			LR	22 59 01.6	
	comp=Z,35nm,18.1s,baz=30,slow=34								
TXAR	**Lajitas Array**	**55.83**	**272**	P			**P**	**22 37 23.6**	**+0.1**
	0.6nm,0.9s,baz=27,slow=6.1,SNR=2.9								
KURBB	**Kurchatov Arra**	**57.78**	**45**	P			**P**	**22 37 35.7**	**-0.6**
	0.5nm,0.8s,baz=322,slow=7.2,SNR=4.5								
PFO	**Pinyon Flats O**	**59.28**	**285**	LR			LR	23 02 46.4	
	comp=Z,46nm,20.5s,baz=326,slow=36								
MKAR	**Makanchi Array**	**62.35**	**45**	P			**P**	**22 38 07.6**	**-0.1**
	0.3nm,0.3s,baz=338,slow=3.4,SNR=11								
H10S1	**ASCENSION HYDR**	**68.28**	**161**	T			T	23 52 42.9	
	baz=351,slow=75,SNR=10.0								
H10S3	**ASCENSION HYDR**	**68.29**	**161**	T			T	23 52 43.6	
	baz=351,slow=75,SNR=10								
H10S2	**ASCENSION HYDR**	**68.30**	**161**	T			T	23 52 44.5	
	baz=351,slow=75,SNR=8.2								
SONM	**Songino Array**	**69.07**	**29**	P			**P**	**22 38 50.2**	**-0.9**
	1.1nm,1.1s,baz=314,slow=6.1,SNR=5.3								
ASAR	**Alice Springs**	**144.22**	**22**	PKP		**PKPdf**	**PKPdf**	**22 47 20.5**	**-0.7**
	0.3nm,0.5s,baz=339,slow=2.4,SNR=3.6								

*ISCJB **29** 22:28:11.9±0.5, 27.°91N±0.°03×52.°81E±0.°06, h14km, mb3.8/12, Error ellipse: s-maj=8.4km s-min=4.0km az=156.6*
*IDC **29** 22:28:11.8±1.2, 28.°06N×52.°87E, h0km, mb3.8/11, mb1 3.8/13, mb1mx3.5/53, mbtmp3.7/13, ML3.2/2, Error ellipse: s-maj=28.5km s-min=17.8km az=140.0*
*TEH **29** 22:28:13.9, 27.°84N×52.°86E, h16km, ML3.5*
*CSEM **29** 22:28:14.5±0.3, 27.°92N×52.°77E, h19km, ML3.5, Error ellipse: s-maj=11.8km s-min=4.9km az=63.0*
*OMAN **29** 22:29:01.6±99.0, 26.°18N×56.°62E, h25km±92km, Error ellipse: s-maj=93.5km s-min=15.7km az=351.0*
ISC 29 22:28:13.5±0.7, 27.°93N±0.°04×52.°83E±0.°07, h14km, n45, σ1§12/53, mb3.8/12, 1C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ISRV	**Sarvestan**	**1.47**	**10**	*e*Pn			**Pn**	**22 28 40.6**	**+0.8**
ISRV				*e*				22 28 45.0	
	comp=Z,14μm,0.2s								
ISRV				*e*Sg			**Sg**	**22 29 02.1**	**+1.3**
ISRV	**Sarvestan**	**1.47**	**10**	*e*Pn			**Pn**	**22 28 40.6**	**+0.8**
ISRV				*e*Sg			**Sg**	**22 29 02.1**	**+1.3**
IPAR	**Pars**	**1.91**	**6**	*e*Pn			**Pn**	**22 28 47.0**	**+1.0**
IPAR				*e*				22 29 19.8	
	comp=Z,3μm,0.3s								
IPAR	**Pars**	**1.91**	**6**	*e*Pn			**Pn**	**22 28 47.0**	**+1.0**
IKAZ	**Kazeroun**	**2.04**	**335**	*e*Pn			**Pn**	**22 28 48.9**	**+1.2**
IKAZ				*e*Sg			**Sg**	**22 29 21.0**	**+1.9**
IKAZ				*e*				22 29 28.9	
	comp=Z,3μm,0.2s								
IKAZ	**Kazeroun**	**2.04**	**335**	*e*Pn			**Pn**	**22 28 48.9**	**+1.2**
IKAZ				*e*Sg			**Sg**	**22 29 21.0**	**+1.9**
BANOM	**Banah**	**3.69**	**122**	⇓P			**Pn**	**22 29 11.1**	**+1.0**
	SNR=14								
BANOM	**Banah**	**3.69**	**122**	P			**Pn**	**22 29 11.1**	**+1.0**
	SNR=14								
IMEH	**Mehriz**	**3.78**	**24**	*e*Pn			**Pn**	**22 29 12.7**	**+1.1**
IMEH				*e*				22 30 31.6	
	comp=Z,577nm,0.4s								
IMEH	**Mehriz**	**3.78**	**24**	*e*Pn			**Pn**	**22 29 12.7**	**+1.1**
ISAD	**Sadrabad**	**4.04**	**10**	*e*Pn			**Pn**	**22 29 16.7**	**+1.5**
ISAD	**Sadrabad**	**4.04**	**10**	*e*Pn			**Pn**	**22 29 16.7**	**+1.5**
HATD	**Hatta, Dubai**	**4.28**	**136**	⇓P			**Pn**	**22 29 20.1**	**+1.8**
HATD				⇓S			**Sn**	**22 30 07.6**	**-0.5**
HATD	**Hatta, Dubai**	**4.28**	**136**	P			**Pn**	**22 29 20.1**	**+1.8**
HATD				S			**Sn**	**22 30 07.6**	**-0.5**
ASHO	**Ashiyiah**	**4.34**	**137**	⇑P			**Pn**	**22 29 19.6**	**+0.4**
	SNR=11								
ASHO	**Ashiyiah**	**4.34**	**137**	P			**Pn**	**22 29 19.6**	**+0.4**
	SNR=11								
IBAF	**Bafgh**	**4.35**	**32**	*e*Pn			**Pn**	**22 29 20.1**	**+0.7**
IBAF	**Bafgh**	**4.35**	**32**	*e*Pn			**Pn**	**22 29 20.1**	**+0.7**
ICHK	**Chekchek**	**4.51**	**17**	*e*Pn			**Pn**	**22 29 22.8**	**+1.2**
ICHK				*e*				22 29 23.8	
	comp=Z,840nm,0.3s								
ICHK	**Chekchek**	**4.51**	**17**	*e*Pn			**Pn**	**22 29 22.8**	**+1.2**
IZEF	**Zefreh**	**4.97**	**355**	*e*Pn			**Pn**	**22 29 28.1**	**+0.2**
IZEF				*e*				22

IPIR	**Pirpir**	**5.02 341**	*e*Pn	**Pn**	**22 29 26.6**	**-2.2**
IPIR			*e*		22 30 33.1	
comp=Z,317nm,0.2s						
IKLH	**Kolahrood**	**5.48 349**	*e*Pn	**Pn**	**22 29 35.2**	**+0.3**
IKLH			*e*		22 29 40.0	
comp=Z,210nm,0.1s						
IKLH	**Kolahrood**	**5.48 349**	*e*Pn	**Pn**	**22 29 35.2**	**+0.3**
SMDO	**Samad**	**6.76 135**	P	**Pn**	**22 29 53.8**	**+1.3**
SNR=6.4						
WBK	**Wadi Bani Khal**	**7.68 132**	P	**Pn**	**22 30 04.6**	**-0.4**
SNR=6.1						
IDHR	**Dehrash**	**8.71 322**	*e*Pn	**Pn**	**22 30 19.4**	**+0.1**
IDHR			*e*		22 30 27.8	
comp=Z,167nm,0.1s						
IDHR	**Dehrash**	**8.71 322**	*e*Pn	**Pn**	**22 30 19.4**	**+0.1**
GEYT	**Alibeck**	**10.91 23**	Pn	**Pn**	**22 30 48.5**	**-0.8**
comp=Z,0.1nm,0.3s,baz=207,slow=13,SNR=3.0						
BRTR	**Keskin Array B**	**19.77 311**	P	**P**	**22 32 43.5**	**+0.1**
comp=Z,0.1nm,0.3s,baz=118,slow=12,SNR=3.1						
AKTO	**Aktyubinsk**	**22.82 9**	P	**P**	**22 33 15.3**	**-0.6**
comp=Z,0.5nm,0.4s,baz=166,slow=12,SNR=4.0						
IDI	**Anoyia**	**24.85 294**	P	**P**	**22 33 36.4**	**+0.8**
comp=Z,4.1nm,0.6s,baz=79,slow=11,SNR=5.6						
BVAR	**Borovoye Array**	**28.25 23**	P	**P**	**22 34 05.0**	**-1.0**
comp=Z,0.4nm,0.5s,baz=220,slow=7.9,SNR=5.8						
MKAR	**Makanchi Array**	**29.79 43**	P	**P**	**22 34 18.5**	**-1.3**
comp=Z,0.2nm,0.4s,baz=230,slow=8.5,SNR=5.8						
KURBB	**Kurchatov Arra**	**29.88 34**	P	**P**	**22 34 20.3**	**-0.3**
comp=Z,0.4nm,0.2s,baz=233,slow=8.8,SNR=10						
ZALV	**Zalesovo Beam**	**34.97 33**	P	**P**	**22 35 04.7**	**-0.3**
comp=Z,2.2nm,0.5s,baz=240,slow=9.4,SNR=13						
FINES	**FINESS Array B**	**37.97 339**	P	**P**	**22 35 29.4**	**-1.2**
comp=Z,0.7nm,0.4s,baz=154,slow=11,SNR=10						
HFS	**Hagfors**	**41.68 332**	P	**P**	**22 36 00.7**	**-0.7**
comp=Z,0.8nm,0.4s,baz=122,slow=7.7,SNR=9.7						
NB2	**NORSAR Subarra**	**43.20 332**	P	**P**	**22 36 12.8**	**-1.0**
comp=Z,0.6nm,0.6s,baz=121,slow=8.6						
NB2	**NORSAR Subarra**	**43.20 332**	P	**P**	**22 36 12.8**	**-1.0**
comp=Z,0.6nm,0.6s,SNR=3.7						
NOA	**NORSAR Array B**	**43.20 332**	P	**P**	**22 36 12.7**	**-1.2**
comp=Z,0.4nm,0.5s,baz=123,slow=12,SNR=3.5						
ARCES	**ARCESS Array B**	**44.55 347**	P	**P**	**22 36 25.2**	**+0.7**
comp=Z,2.6nm,1.0s,baz=142,slow=9.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**49.75 264**	P	**P**	**22 37 06.3**	**+0.5**
comp=Z,0.4nm,0.6s,baz=63,slow=8.0,SNR=5.8						
LBTB	**Lobatse**	**58.81 209**	P	**P**	**22 38 13.3**	**+1.6**
comp=Z,14nm,1.3s,baz=54,slow=5.9,SNR=5.0						

*TEH **29** 22:34:10.0, 35.°79N×52.°81E, h6km, ML3.6*
*ISCJB **29** 22:34:11.8±0.4, 35.°81N±0.°02×52.°77E±0.°02, h8km±3km, mb3.6/11, MS2.9/2, Error ellipse: s-maj=3.7km s-min=3.3km az=24.0*
*THR **29** 22:34:11.8±0.8, 35.°81N×52.°79E, h15km±9km, ML3.7*
*CSEM **29** 22:34:12.3±0.2, 35.°76N×52.°80E, h2km, ML3.6, Error ellipse: s-maj=4.5km s-min=3.7km az=59.0*
*IDC **29** 22:34:13.9±2.2, 35.°99N×52.°78E, h0km, mb3.6/9, mb1 3.7/13, mb1mx3.5/46, mbtmp3.7/13, ML3.6/3, MS2.9/4, Ms1 2.9/4, ms1mx2.5/31, Error ellipse: s-maj=39.1km s-min=16.2km az=177.0*
*AZER **29** 22:34:17.0±1.3, 35.°92N×52.°53E, h6km, Error ellipse: s-maj=22.8km s-min=12.0km az=42.0*
*NNC **29** 22:34:22.4±9.5, 36.°45N×52.°77E, h38km±73km, mb3.8, Error ellipse: s-maj=122.2km s-min=50.8km az=86.0*

ISC 29 22:34:12.4±1.0, 35.°78N±0.°02×52.°80E±0.°02, h5km±7km, n90, σ1°36/125, mb3.7/13, 17C-14D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IFIR	**Firoozkooh**	**0.14**	**194**	*e*Pg		**Pg**	**22 34 14.4**	**-1.0**
IFIR				*e*			22 34 19.3	
comp=Z,10μm,0.1s								
IFIR	**Firoozkooh**	**0.14**	**194**	*e*Pg		**Pg**	**22 34 14.4**	**-1.0**
IALA	**Alasht**	**0.30**	**2**	*e*Pg		**Pg**	**22 34 17.5**	**-1.0**
IALA				*e*Sg		**Sg**	**22 34 22.7**	**+0.2**
IALA				*e*			22 34 24.6	
comp=Z,22μm,0.2s								
IALA	**Alasht**	**0.30**	**2**	*e*Pg		**Pg**	**22 34 17.5**	**-1.0**
IALA				*e*Sg		**Sg**	**22 34 22.7**	**+0.2**
ISHM	**Shahmirzad**	**0.40**	**86**	*e*Pg		**Pg**	**22 34 19.5**	**-0.8**
ISHM				*e*Sg		**Sg**	**22 34 26.2**	**+0.5**
ISHM				*e*			22 34 27.4	
comp=Z,17μm,0.2s								
ISHM	**Shahmirzad**	**0.40**	**86**	*e*Pg		**Pg**	**22 34 19.5**	**-0.8**
ISHM				*e*Sg		**Sg**	**22 34 26.2**	**+0.5**
ILAS	**Lasjerd**	**0.42**	**161**	*e*Pg		**Pg**	**22 34 19.6**	**-1.0**
ILAS				*e*Sg		**Sg**	**22 34 26.3**	**+0.2**
ILAS				*e*			22 34 30.9	
comp=Z,60μm,0.2s								
ILAS	**Lasjerd**	**0.42**	**161**	*e*Pg		**Pg**	**22 34 19.6**	**-1.0**
ILAS				*e*Sg		**Sg**	**22 34 26.3**	**+0.2**
IPRN	**Peran**	**0.59**	**321**	*e*Pg		**Pg**	**22 34 23.1**	**-0.7**
IPRN				*e*Sg		**Sg**	**22 34 31.4**	**-0.2**
IPRN				*e*			22 34 33.6	
comp=Z,92μm,0.2s								
IDMV	**Damavand**	**0.65**	**252**	*e*Pg		**Pg**	**22 34 24.1**	**-0.9**
IDMV				*e*Sg		**Sb**	**22 34 35.0**	**-0.9**
IDMV				*e*			22 34 38.5	
comp=Z,36μm,0.1s								
IDMV	**Damavand**	**0.65**	**252**	*e*Pg		**Pg**	**22 34 24.1**	**-0.9**
IDMV				*e*Sg		**Sb**	**22 34 35.1**	**-0.9**
DAMV	**Damavand**	**0.69**	**258**	*e*Pg		**Pg**	**22 34 24.9**	**-0.8**
DAMV				*e*Sg		**Sg**	**22 34 35.2**	**+0.6**
DAMV	**Damavand**	**0.69**	**258**	*e*Pg		**Pg**	**22 34 24.9**	**-0.8**
DAMV				*e*Sg		**Sg**	**22 34 35.2**	**+0.6**
IANJ	**Anjilo**	**0.96**	**109**	*e*Pg		**Pg**	**22 34 29.1**	**-1.8**
IANJ				*e*			22 34 43.3	
comp=Z,34μm,0.1s								
IANJ	**Anjilo**	**0.96**	**109**	*e*Pg		**Pg**	**22 34 29.1**	**-1.8**
IGLO	**Ghaloghah**	**1.10**	**49**	*e*Pg		**Pg**	**22 34 32.4**	**-1.2**
IGLO				*e*			22 35 03.1	
comp=Z,37μm,0.5s								
IVRN	**Varamin**	**1.17**	**228**	*e*Pg		**Pg**	**22 34 33.7**	**-1.2**
IVRN				*e*			22 34 36.8	
comp=Z,17μm,0.1s								
IVRN				*e*Sg		**Sb**	**22 34 51.3**	**+0.6**
IVRN	**Varamin**	**1.17**	**228**	*e*Pg		**Pg**	**22 34 33.7**	**-1.2**
IVRN				*e*Sg		**Sb**	**22 34 51.3**	**+0.6**
CHTH	**Charan**	**1.36**	**276**	*e*Pg		**Pg**	**22 34 37.1**	**-1.5**
CHTH	**Charan**	**1.36**	**276**	*e*Pg		**Pg**	**22 34 37.1**	**-1.5**
IMHD	**Mahdasht**	**1.73**	**267**	*e*Pn		**Pn**	**22 34 49.6**	**+0.3**
IMHD				*e*			22 35 12.9	
comp=Z,7μm,0.2s								
IMHD	**Mahdasht**	**1.73**	**267**	*e*Pn		**Pn**	**22 34 43.6**	**+0.3**
GHVR	**GHOM**	**1.79**	**224**	*e*Pg		**Pb**	**22 34 45.5**	**-0.2**
GHVR				AML		AML	22 35 16.0	
comp=N,1μm,0.6s								
GHVR				AML		AML	22 35 17.4	
comp=E,1μm,0.8s								
GHVR	**GHOM**	**1.79**	**224**	*e*Pg		**Pb**	**22 34 45.5**	**-0.2**
comp=E,1μm,0.8s								
IGZV	**Ghazvin**	**2.17**	**287**	*e*Pn		**Pb**	**22 34 52.1**	**-0.3**
IGZV				*e*			22 35 31.6	
comp=Z,6μm,0.4s								
IGZV	**Ghazvin**	**2.17**	**287**	*e*Pn		**Pb**	**22 34 52.1**	**-0.3**
IRAZ	**Razeghan**	**2.37**	**262**	*e*Pn		**Pn**	**22 34 53.2**	**+1.1**
IRAZ				*e*			22 35 35.1	
comp=Z,5μm,0.2s								
IRAZ	**Razeghan**	**2.37**	**262**	*e*Pn		**Pn**	**22 34 53.2**	**+1.1**
ASAO	**Ashtian**	**2.58**	**242**	*e*Pn		**Pn**	**22 34 55.4**	**+0.3**
ASAO				AML		AML	22 35 37.2	
comp=N,254nm,0.5s								
ASAO				AML		AML	22 35 38.9	
comp=E,307nm,0.5s								
ASAO	**Ashtian**	**2.58**	**242**	*e*Pn		**Pn**	**22 34 55.4**	**+0.3**
comp=E,307nm,0.5s								
IKLH	**Kolahrood**	**2.65**	**203**	*e*Pn		**Pn**	**22 34 56.3**	**+0.2**
IKLH				*e*			22 35 37.5	
comp=Z,6μm,0.1s								
IKLH	**Kolahrood**	**2.65**	**203**	*e*Pn		**Pn**	**22 34 56.3**	**+0.2**
IZEF	**Zefreh**	**2.90**	**188**	*e*Pn		**Pn**	**22 35 00.2**	**+0.7**
IZEF				*e*			22 36 05.2	
comp=Z,2μm,0.2s								
IZEF	**Zefreh**	**2.90**	**188**	*e*Pn		**Pn**	**22 35 00.2**	**+0.7**
NASN	**Na'in**	**2.97**	**180**	*e*Pn		**Pn**	**22 35 01.0**	**+0.5**
NASN				AML		AML	22 35 59.9	
comp=N,82nm,0.5s								
NASN				AML		AML	22 36 02.9	
comp=E,96nm,0.6s								
NASN	**Na'in**	**2.97**	**180**	*e*Pn		**Pn**	**22 35 01.0**	**+0.5**
comp=E,96nm,0.6s								
TABS	**Tabas**	**4.15**	**120**	*e*Pn		**Pn**	**22 35 17.1**	**+0.6**
TABS				AML		AML	22 36 38.3	
comp=N,135nm,0.5s								
TABS				AML		AML	22 36 44.2	
comp=E,86nm,0.6s								
TABS	**Tabas**	**4.15**	**120**	*e*Pn		**Pn**	**22 35 17.1**	**+0.6**
comp=E,86nm,0.6s								
LKRN	**Lenkeran, Azer**	**4.34**	**314**	⇑P		**Pn**	**22 35 19.7**	**+0.7**
LKRN				⇓S		**Sn**	**22 36 09.9**	**0.0**
LKRN	**Lenkeran, Azer**	**4.34**	**314**	P		**Pn**	**22 35 19.7**	**+0.7**
LKRN				S		**Sn**	**22 36 09.9**	**0.0**
LRK	**Lerik**	**4.56**	**310**	⇓P		**Pn**	**22 35 23.0**	**+0.8**
LRK				⇓S		**Sn**	**22 36 15.1**	**-0.6**
LRK	**Lerik**	**4.56**	**310**	P		**Pn**	**22 35 23.0**	**+0.8**
LRK				S		**Sn**	**22 36 15.1**	**-0.6**
IMEH	**Mehriz**	**4.63**	**160**	*e*Pn		**Pn**	**22 35 24.1**	**+0.8**
IMEH				*e*			22 36 53.8	
comp=Z,558nm,0.4s								
IMEH	**Mehriz**	**4.63**	**160**	*e*Pn		**Pn**	**22 35 24.1**	**+0.8**
GEYT	**Alibeck**	**4.78**	**62**	Pn		**Pn**	**22 35 27.2**	**+2.2**
comp=Z,4.3nm,0.3s,baz=265,slow=10,SNR=51								
GEYT				LR		LR	22 37 33.8	
comp=Z,89nm,19.9s,baz=335,slow=43								
GLBA	**Cilalabad**	**4.92**	**316**	⇓P		**Pn**	**22 35 28.2**	**+1.2**
SNR=19								
GLBA				⇑S		**Sn**	**22 36 24.7**	**+0.5**
GLBA	**Cilalabad**	**4.92**	**316**	P		**Pn**	**22 35 28.2**	**+1.2**
SNR=19								
GLBA				S		**Sn**	**22 36 24.7**	**+0.5**
ALIB	**Äli-Bayra**	**5.14**	**325**	⇑P		**Pn**	**22 35 32.7**	**+2.7**
SNR=3.4								
ALIB	**Äli-Bayra**	**5.14**	**325**	P		**Pn**	**22 35 32.7**	**+2.7**
SNR=3.4								
PQL	**Pirkuli**	**5.99**	**328**	⇓P		**Pn**	**22 35 43.1**	**+1.2**
SNR=10								
PQL				⇓S		**Sn**	**22 36 51.4**	**+0.5**
PQL	**Pirkuli**	**5.99**	**328**	P		**Pn**	**22 35 43.1**	**+1.2**
SNR=10								
PQL				S		**Sn**	**22 36 51.4**	**+0.5**
SIZA	**Siyzn**	**6.11**	**331**	⇑P		**Pn**	**22 35 45.2**	**+1.8**
SNR=5.2								
SIZA				⇓S		**Sn**	**22 36 52.8**	**-0.9**
SIZA	**Siyzn**	**6.11**	**331**	P		**Pn**	**22 35 45.2**	**+1.8**
SNR=5.2								
SIZA				S		**Sn**	**22 36 52.8**	**-0.9**
IML	**Ismayilli**	**6.18**	**325**	⇓P		**Pn**	**22 35 44.8**	**+0.4**
IML				⇑S		**Sn**	**22 36 53.9**	**-1.5**
IML	**Ismayilli**	**6.18**	**325**	P		**Pn**	**22 35 44.8**	**+0.4**
IML				S		**Sn**	**22 36 53.9**	**-1.5**
BRDA	**Brd**	**6.30**	**317**	⇓P		**Pn**	**22 35 48.1**	**+2.2**
SNR=3.1								
BRDA				⇑S		**Sn**	**22 36 58.3**	**+0.1**
BRDA	**Brd**	**6.30**	**317**	P		**Pn**	**22 35 48.1**	**+2.2**
SNR=3.1								
BRDA				S		**Sn**	**22 36 58.3**	**+0.1**
QUBA	**Quba, Azerbaij**	**6.51**	**330**	⇑P		**Pn**	**22 35 50.5**	**+1.7**
SNR=4.7								
QUBA				⇑S		**Sn**	**22 37 02.3**	**-1.1**
QUBA	**Quba, Azerbaij**	**6.51**	**330**	P		**Pn**	**22 35 50.5**	**+1.7**
SNR=4.7								
QUBA				S		**Sn**	**22 37 02.3**	**-1.1**
SEKA	**Sheki**	**6.97**	**323**	⇓P		**Pn**	**22 35 55.8**	**+0.6**
SNR=13								
SEKA				⇑S		**Sn**	**22 37 13.3**	**-1.7**
SEKA	**Sheki**	**6.97**	**323**	P		**Pn**	**22 35 55.8**	**+0.6**
SNR=13								
SEKA				S		**Sn**	**22 37 13.3**	**-1.7**
GANJ	**Ganja**	**7.04**	**316**	⇑P		**Pn**	**22 35 56.8**	**+0.7**
SNR=8.8								
GANJ				⇓S		**Sn**	**22 37 14.8**	**-1.8**
GANJ	**Ganja**	**7.04**	**316**	P		**Pn**	**22 35 56.8**	**+0.7**
SNR=8.8								
GANJ				S		**Sn**	**22 37 14.8**	**-1.8**
ZKTA	**Zakatala**	**7.58**	**322**	⇑P		**Pn**	**22 36 04.7**	**+1.1**
SNR=8.3								
ZKTA				⇓S		**Sn**	**22 37 28.5**	**-1.4**
GNI	**Garni**	**7.71**	**307**	Pn		**Pn**	**22 36 07.4**	**+1.9**
comp=Z,0.2nm,0.3s,baz=263,slow=10,SNR=3.1								
QZX	**Qazax, Azerbai**	**7.86**	**314**	⇓P		**Pn**	**22 36 09.3**	**+2.0**
QZX				⇑S		**Sn**	**22 37 37.4**	**+0.8**
QZX	**Qazax, Azerbai**	**7.86**	**314**	P		**Pn**	**22 36 09.3**	**+2.0**
QZX				S		**Sn**	**22 37 37.4**	**+0.8**
AB31	**Akbulak array**	**14.45**	**19**	P		**Pn**	**22 37 35.1**	**-2.3**
comp=Z,1.3nm,0.6s,baz=208,slow=13,SNR=18								
AB31				⇓S		**Sn**	22 40 07.7	-10
comp=Z,1.3nm,0.5s,baz=203,slow=24,SNR=10								
MMAI	**Mount Meron Ar**	**14.62**	**264**	LR		LR	22 43 55.3	
comp=Z,38nm,20.2s,baz=0.0,slow=40								
AKTO	**Aktyubinsk**	**15.13**	**13**	⇑P		**Pn**	**22 37 42.5**	**-4.2**
comp=Z,2.7nm,0.6s								
AKTO				⇑S		Sn	22 40 24.0	-11
comp=Z,6.5nm,0.8s								
AKTO	**Aktyubinsk**	**15.13**	**13**	Pn		**Pn**	**22 37 42.6**	**-4.0**
comp=Z,0.3nm,0.3s,baz=168,slow=14,SNR=7.0								
AKTO				Sn		Sn	22 40 23.9	-11
comp=Z,0.3nm,0.3s,baz=85,slow=22,SNR=6.9								
KK31	**Karatay Array**	**15.50**	**56**	⇑P		**P**	**22 37 55.6**	**-0.6**
comp=Z,2.2nm,0.9s,baz=260,slow=10.0,SNR=4.5								
KK31	**Karatay Array**	**15.50**	**56**	P		**P**	**22 37 55.6**	**-0.6**
comp=Z,2.2nm,0.9s,SNR=4.5								
AAK	**Ala-Archa**	**18.13**	**61**	P		**P**	**22 38 26.3**	**+0.8**
comp=Z,0.1nm,0.3s,baz=243,slow=10,SNR=7.4								
BVA0	**Borovoye Array**	**21.24**	**30**	P		**P**	**22 39 01.2**	**+2.1**
comp=Z,5.6nm,1.1s,baz=216,slow=12,SNR=24								
BVA0	**Borovoye Array**	**21.24**	**30**	P		**P**	**22 39 01.2**	**+2.1**
comp=Z,5.6nm,1.1s,baz=216,SNR=24								
BVAR	**Borovoye Array**	**21.24**	**30**	P		**P**	**22 38 59.4**	**+0.4**
comp=Z,2.6nm,0.7s,baz=224,slow=8.3,SNR=18								
BVAR				S		**S**	**22 42 49.7**	**-5.7**
comp=Z,1.3nm,0.8s,baz=224,slow=21,SNR=5.7								
BVAR				LR		LR	22 48 50.4	
comp=Z,48nm,19.8s,baz=193,slow=42								
MLR	**Muntele Rosu**	**22.48**	**304**	P		**P**	**22 39 14.4**	**+1.8**
comp=Z,0.3nm,0.5s,baz=33,slow=7.2,SNR=2.2								
AKASG	**Malin Array Be**	**22.61**	**319**	P		**P**	**22 39 14.7**	**+1.0**
comp=Z,0.3nm,0.3s,baz=126,slow=9.2,SNR=4.2								
KURBB	**Kurchatov Arra**	**23.75**	**43**	P		**P**	**22 39 25.6**	**+0.1**
comp=Z,1.7nm,1.1s,baz=246,slow=9.8,SNR=6.0								
MK31	**Makanchi Array**	**24.60**	**54**	P		**P**	**22 39 34.9**	**+1.4**
comp=Z,1.1nm,0.6s,baz=246,slow=8.8,SNR=18								
MK31	**Makanchi Array**	**24.60**	**54**	P		**P**	**22 39 34.9**	**+1.4**
comp=Z,1.1nm,0.6s,baz=246,SNR=18								
MKAR	**Makanchi Array**	**24.60**	**54**	P		**P**	**22 39 35.1**	**+1.6**
comp=Z,1.2nm,0.6s,baz=249,slow=9.4,SNR=16								
ZALV	**Zalesovo Beam**	**28.72**	**41**	P		**P**	**22 40 10.8**	**+0.5**
comp=Z,0.4nm,0.4s,baz=240,slow=8.4,SNR=5.6								
FINES	**FINESS Array B**	**30.74**	**335**	LR		LR	22 53 55.0	
comp=Z,27nm,19.1s,baz=88,slow=39								
GERES	**GERESS Array B**	**31.36**	**307**	P		**P**	**22 40 34.7**	**+0.7**
comp=Z,1.5nm,0.8s,baz=105,slow=8.4,SNR=12								
WTTA	**Wattenberg**	**32.52**	**304**	⇑*i*pP		**P**	**22 40 45.0**	**+0.7**
comp=Z,10nm,1.4s								
FETA	**Feichten**	**33.12**	**303**	⇑*i*pP		**P**	**22 40 50.1**	**+0.6**
comp=Z,7.2nm,1.1s								
HFS	**Hagfors**	**34.94**	**327**	P		**P**	**22 41 05.4**	**+0.5**
comp=Z,1.5nm,0.7s,baz=138,slow=13,SNR=4.2								
NOA	**NORSAR Array B**	**36.44**	**327**	P		**P**	**22 41 18.9**	**+1.1**
comp=Z,0.7nm,0.7s,baz=115,slow=8.1,SNR=2.9								

*NEIC **29** 22:41:55.6, 15.°73N×94.°95W, h9km, MD4.1(MEX), After MEX.*

MEX 29 22:41:55.6±0.7, 15.°73N×94.°95W, h9km±7km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.11**	**272**	*i*P		Pg	22 42 13.9	-3.1
HUIG				*i*S		Sg	22 42 27.0	-4.5
HUIG	**Huatulco**	**1.11**	**272**	*i*P		Pg	22 42 13.9	-3.1
HUIG				*i*S		Sg	22 42 27.0	-4.5
CMIG	**Matias Romero**	**1.35**	**3**	*i*P		Pn	22 42 16.7	-4.0
CMIG				*i*S		Sb	22 42 33.6	-5.0
CMIG	**Matias Romero**	**1.35**	**3**	*i*P		Pn	22 42 16.7	-4.0
CMIG				*i*S		Sb	22 42 33.6	-5.0
PCIG		**1.67**	**91**	*i*P		Pn	22 42 21.5	-3.5
PCIG				*i*S		Sn	22 42 41.6	-5.1
PCIG		**1.67**	**91**	*i*P		Pn	22 42 21.5	-3.5
PCIG				*i*S		Sn	22 42 41.6	-5.1
VHO	**Vista Hermosa**	**2.17**	**308**	*e*P		Pn	22 42 29.4	-2.8
VHO				*i*S		Sn	22 42 54.8	-4.5
VHO	**Vista Hermosa**	**2.17**	**308**	*e*P		Pn	22 42 29.4	-2.8
VHO				*i*S		Sn	22 42 54.8	-4.5
CCIG	**Comitan**	**2.76**	**78**	*e*P		Pn	22 42 37.7	-2.7
CCIG				*e*S		Sn	22 43 10.5	-3.5
CCIG	**Comitan**	**2.76**	**78**	*e*P		Pn	22 42 37.7	-2.7
CCIG				*e*S		Sn	22 43 10.5	-3.5

*IDC **29** 22:51:48.9±10.0, 25.°71S×177.°04W, h84km±89km, mb3.8/3, mb1 3.9/4, mb1mx3.5/33, mbtmp4.1/4, ML3.7/1, Error ellipse: s-maj=57.7km s-min=46.5km az=168.0*
*ISCJB **29** 22:51:51.4±2.2, 25.°85S±0.°1×177.°0W±0.°4, h126km, mb3.9/3, Error ellipse: s-maj=52.9km s-min=13.1km az=7.3*

ISC 29 22:51:53.0±1.4, 25.°95S±0.°1×177.°0W±0.°3, h126km, n9, σ0°47/11, mb3.6/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.30**	**200**	P		**Pn**	**22 54 56.7**	**-0.1**
0.4nm,0.3s,baz=162,slow=20,SNR=5.7								
URZ				S		**Sn**	**22 57 23.5**	**0.0**
0.7nm,0.3s,baz=342,slow=20,SNR=6.1								
ASAR	**Alice Springs**	**44.41**	**262**	P		**P**	**22 59 51.6**	**+0.2**
0.6nm,0.4s,baz=91,slow=6.7,SNR=7.9								
WRA	**Warramunga Arr**	**44.99**	**267**	P		**P**	**22 59 55.9**	**-0.2**
1.1nm,0.8s,baz=104,slow=8.1,SNR=4.8								
PETK	**Petropavlovsk-**	**81.68**	**345**	P		**P**	**23 03 56.6**	**-0.2**
4.8nm,0.6s,baz=219,slow=8.7,SNR=11								
MKAR	**Makanchi Array**	**115.48**	**312**	PKP		**PKPdf**	**23 10 20.1**	**+0.3**
0.2nm,0.6s,baz=201,slow=1.9,SNR=4.0								
ARCES	**ARCESS Array B**	**134.35**	**349**	PKP		**PKPdf**	**23 10 55.6**	**+0.4**
3.0nm,0.9s,baz=32,slow=2.2,SNR=5.2								
FINES	**FINESS Array B**	**141.16**	**343**	PKhKP		PKPpre	23 11 01.3	
0.7nm,0.8s,baz=73,slow=6.4,SNR=4.6								
FINES				PKP		**PKiKP**	**23 11 10.1**	**-0.5**
0.7nm,0.6s,baz=105,slow=4.5,SNR=4.7								
AKASG	**Malin Array Be**	**148.09**	**328**	PKPbc		**PKPbc**	**23 11 23.0**	**-0.6**
0.8nm,0.4s,baz=42,slow=3.9,SNR=9.0								
BRTR	**Keskin Array B**	**150.93**	**306**	PKPbc		**PKPbc**	**23 11 32.0**	**+0.9**
0.7nm,0.5s,baz=140,slow=5.3,SNR=5.8								
BRTR				PKPab		**PKPab**	**23 11 39.0**	**0.0**
1.0nm,0.7s,baz=46,slow=5.3,SNR=4.5								

IDC 29 22:53:37.8±2.5, 6.°29S×127.°19E, h0km, mb3.2/1, mb1 4.1/3, mb1mx3.5/37, mbtmp3.8/3, ML4.1/2, Error ellipse: s-maj=318.6km s-min=30.7km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.25**	**154**	Pn		Pn	22 57 16.3	+1.7
0.5nm,0.3s,baz=332,slow=12,SNR=24								
ASAR	**Alice Springs**	**18.45**	**160**	P		Pn	22 57 54.0	-1.1
1.3nm,0.3s,baz=343,slow=11,SNR=52								
MKAR	**Makanchi Array**	**66.13**	**328**	P		P	23 04 27.0	0.0
0.1nm,0.4s,baz=132,slow=6.0,SNR=4.8								

IDC 29 23:20:05.9±2.0, 6.°78S×129.°06E, h0km, mb3.2/1, mb1 3.9/3, mb1mx3.5/23, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=114.9km s-min=31.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.05**	**159**	Pn		Pn	23 23 25.7	-0.8
0.5nm,0.3s,baz=338,slow=13,SNR=32								
WRA				Sn		Sn	23 25 50.2	-13
0.6nm,0.3s,baz=331,slow=22,SNR=7.0								
ASAR	**Alice Springs**	**17.43**	**165**	P		Pn	23 24 11.3	+0.6
0.4nm,0.3s,baz=347,slow=13,SNR=15								
ASAR				S		Sn	23 27 13.8	-12
0.2nm,0.3s,baz=94,slow=26,SNR=4.2								
MKAR	**Makanchi Array**	**67.53**	**327**	P		P	23 31 04.1	0.0
0.1nm,0.5s,baz=116,slow=6.8,SNR=3.9								

*ISCJB **29** 23:40:30.7±0.5, 35.°43S±0.°

S26A	**Kim**	77.94	336	P		**P**	23 52 29.1 -1.0
	baz=78						
R26A	**Arlington**	78.54	336	P		**P**	23 52 32.0 -1.4
	baz=79						
BOSA	**Boshof**	80.24	118	P		**P**	23 52 42.5 -0.7
	3.7nm,0.9s,baz=255,slow=5.8,SNR=4.6						
BOSA				pP		**PcP**	23 52 50.2 -0.1
	4.9nm,0.7s,baz=233,slow=4.1,SNR=4.6						
SMCO	**Snowmass**	80.54	334	*e*P		P	23 52 53.5 +8.8
	36nm,2.1s						
ECSD	**EROS Data Cent**	81.64	343	P		**P**	23 52 49.0 -0.9
	baz=82						
ECSD	**EROS Data Cent**	81.64	343	*e*P		P	23 52 54.7 +4.9
	15nm,0.8s						
TPH	**Tonopah**	83.75	327	*e*P		P	23 53 09.6 +8.3
	56nm,2.7s						
TORD	**Torodi Ar. Bea**	85.59	71	P		**P**	23 53 09.6 -1.2
	1.3nm,1.0s,baz=266,slow=2.9,SNR=6.1						
TORD				pP		**pP**	23 53 18.2 +1.7
	3.2nm,1.1s,baz=251,slow=4.5,SNR=6.0						
B30A	**Myrvik Farm, E**	86.48	344	P		**P**	23 53 13.6 -0.9
	baz=87						
ULM	**Lac du Bonnet**	87.65	346	P		**P**	23 53 18.3 -1.8
	1.3nm,0.7s,baz=193,slow=4.9,SNR=4.0						
ULM				pP		**pP**	23 53 26.5 +0.8
	4.7nm,0.8s,baz=151,slow=3.2,SNR=8.3						
ULM	**Lac du Bonnet**	87.65	346	*e*P		**P**	23 53 18.8 -1.2
	4.6nm,0.8s						
ULM				pP		**pP**	23 53 26.5 +0.8
SCHQ	**Schefferville**	90.07	4	P		**P**	23 53 29.6 -1.8
	2.8nm,0.9s,baz=123,slow=17,SNR=2.6						
SCHQ				pP		**pP**	23 53 37.8 +0.7
	4.2nm,0.9s,baz=233,slow=1.8,SNR=3.8						
MDT	**Midelt**	93.45	52	LR		LR	00 34 17.8
	comp=Z,57nm,20.0s,slow=34						
YKA	**Yellowknife Ar**	103.12	342	Pdiff		**Pdif**	23 54 32.2 +1.8
	0.2nm,0.9s,baz=138,slow=4.3,SNR=2.7						
WRA	**Warramunga Arr**	119.05	210	PKP		**PKPdf**	23 59 19.8 -1.7
	0.3nm,0.7s,baz=170,slow=1.4,SNR=3.5						
BRTR	**Keskin Array B**	123.35	62	PKP		**PKPdf**	23 59 30.4 +1.2
	0.2nm,0.5s,baz=253,slow=1.5,SNR=2.8						
AKASG	**Malin Array Be**	123.86	48	PKP		**PKPdf**	23 59 29.9 +0.3
	0.1nm,0.3s,baz=262,slow=1.0,SNR=2.8						
FINES	**FINESS Array B**	124.71	35	PKP		**PKPdf**	23 59 31.1 +0.2
	1.5nm,0.9s,baz=156,slow=7.0,SNR=2.9						
ZALV	**Zalesovo Beam**	155.95	33	PKP		**PKPdf**	00 00 24.3 -1.4
	0.5nm,0.6s,baz=356,slow=4.5,SNR=4.0						
ZALV				PKPbc		PKPbc	00 00 32.5
	2.2nm,0.8s,baz=286,slow=2.8,SNR=9.3						
ZALV				pPKPbc		pPKPbc	00 00 41.6 +0.6
	3.7nm,0.7s,baz=298,slow=3.2,SNR=9.1						
ZALV				PKPab		**PKPab**	00 00 52.5 -0.4
	1.0nm,0.5s,baz=324,slow=4.5,SNR=3.3						
ZALV				pPKPab		**pPKPab**	00 01 00.7 +2.2
	5.5nm,0.9s,baz=297,slow=6.5,SNR=6.1						
MKAR	**Makanchi Array**	158.41	51	PKP		**PKPdf**	00 00 28.5 -0.6
	0.3nm,0.9s,baz=5.7,slow=1.4,SNR=3.3						
MKAR				PKPab		**PKPab**	00 01 05.4 +1.6
	1.0nm,0.9s,baz=256,slow=5.0,SNR=4.5						
PKI	**Pulchoki**	160.16	107	*e*P		**PKPab**	00 01 12.1 -0.3
	18nm,0.9s						
GUN	**Gumba**	160.69	107	*e*P		**PKPab**	00 01 14.6 -0.1
	34nm,1.1s						
RAMN	**Ramite**	160.78	111	*e*P		**PKPab**	00 01 15.7 +0.8
	15nm,0.9s						
JIRN	**Jiri**	160.81	108	*e*P		**PKPab**	00 01 16.6 +1.3
	21nm,0.8s						
SONM	**Songino Array**	167.61	1	PKP		**PKPdf**	00 00 38.2 +0.1
	0.1nm,0.3s,baz=260,slow=2.5,SNR=2.4						
SONM				PKPab		**PKPab**	00 01 43.5 -0.5
	0.4nm,0.7s,baz=331,slow=4.3,SNR=4.4						

DJA 29 23:55:34.0±0.8, 9°S±6°×11°1E±°, h35km±6km, M3.5/9, MLv3.5/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	0.50	20	P	Pn	23 55 45.3	+0.6
PCJI				S	Sn	23 55 54.4	+2.2
WOJI	**Wonogiri, Jawa**	0.83	355	P	Pn	23 55 50.4	+1.2
WOJI				S	Sn	23 56 00.9	+0.6
UGM	**Wanagama**	0.89	328	P	Pn	23 55 50.1	0.0
UGM				S	Sn	23 56 02.4	+0.6
PWJI	**Pagerwojo**	1.02	51	P	Pn	23 55 50.7	-1.2
KPJI	**Karang Pucung**	2.44	303	P	Pn	23 56 11.7	+0.3
KPJI				S	Sn	23 56 42.0	+1.9
GMJI	**Gumukmas**	2.45	81	P	Pn	23 56 11.6	+0.1
GMJI				S	Sn	23 56 41.6	+1.4

*IDC **30** 00:01:04.2±0.8, 36°.21S×73°.57W, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.4/23, mbtmp4.5/11, ML3.1/1, MS3.9/4, Ms1 3.9/4, ms1mx3.4/22, Error ellipse: s-maj=26.9km s-min=20.5km az=98.0*
*NEIC **30** 00:01:06.5±3.6, 36°.18S×73°.61W, h17km±22km, mb4.6/9, Error ellipse: s-maj=14.5km s-min=6.2km az=84.0*
*GUC **30** 00:01:06.3±0.5, 36°.19S×73°.75W, h38km±3km, ML4.4*
*ISCJB **30** 00:01:07.4±0.5, 36°.14S±0°.04×73°.57W±0°.09, h33km, mb4.6/17, MS3.8/4, Error ellipse: s-maj=10.4km s-min=6.1km az=170.2*

ISC 30 00:01:09.0±0.5, 36°.19S±0°.05×73°.61W±0°.08, h35km, n48, σ0§92/45, mb4.6/17, MS3.7/4, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	0.67	85	⇓*i*P	Pn	00 01 20.9	-1.2
COCH				*i* S	Sn	00 01 32.0	+0.7
CCSP	**San Pedro de C**	0.77	148	⇓*i*P	Pn	00 01 21.9	-1.5
CCSP				*i* S	Sn	00 01 33.4	-0.3
CCSP				AML	AML	00 01 40.2	
	comp=E,25μm,0.3s						
TALC	**Talca**	1.79	64	*e*P1	Pn	00 01 37.3	-0.2
CLCH	**Cerro Calan**	3.77	43	⇑*i*P	Pn	00 02 04.2	-0.5
PEL	**Peldehue**	3.88	39	⇓*i*P	Pn	00 02 04.0	-2.3
PEL				*i* S1	Sn	00 02 49.6	-1.1
PLCA	**Paso Flores**	5.13	153	*e*Pn	Pn	00 02 22.7	-0.7
	comp=E,13nm,0.6s						
PLCA				*e*Sn	Sn	00 03 19.7	-1.8
CFAA	**Coronel Fontan**	6.39	46	Pn	Pn	00 02 40.1	-0.6
	comp=E,0.4nm,0.3s,baz=221,slow=12,SNR=45						
CFAA				Lg	Lg	00 04 15.9	
	baz=119,slow=19,SNR=2.8						
LCO	**Las Campanas**	7.57	20	*e*Pn	Pn	00 02 53.4	-3.7
TRQA	**Tornquist**	9.48	105	*e*Pn	Pn	00 03 22.4	-0.6
LVC	**Limon Verde**	14.13	18	*e*Pn	Pn	00 04 24.8	-2.2
LPAZ	**La Paz**	20.42	15	P	Pn	00 05 45.2	-1.0
	comp=E,17nm,1.2s,baz=147,slow=6.7,SNR=18						
LPAZ	**La Paz**	20.42	15	*e*P	P	00 05 43.5	-0.3
	comp=E,14nm,1.0s						
SIV	**San Ignacio**	23.01	32	P	P	00 06 10.8	-0.2
	comp=E,18nm,1.0s,baz=236,slow=13,SNR=30						
SIV				LR	LR	00 16 57.0	
	comp=E,536nm,19.3s,baz=223,slow=41						
SAML	**Samuel**	28.73	22	*e*P	P	00 07 02.6	-0.6
	comp=E,2.5nm,1.1s						
PMSA	**Palmer Station**	29.19	172	LR	LR	00 17 35.0	
	comp=E,120nm,18.4s,baz=357,slow=34						
ATAH	**Atahualpa**	29.25	350	LR	LR	00 16 45.9	
	comp=E,112nm,18.4s,baz=198,slow=32						
BDFB	**Brasilia**	30.64	55	P	P	00 07 20.4	+0.1
	comp=E,12nm,1.1s,baz=213,slow=10,SNR=8.9						
RPN	**Rapa Nui**	31.57	276	LR	LR	00 16 30.6	
	comp=E,250nm,18.1s,baz=88,slow=29						
PTGA	**Pitinga**	37.49	23	*e*P	P	00 08 19.3	-0.2
	comp=E,8.1nm,1.0s						
SDV	**Santo Domingo**	44.92	4	*e*P	P	00 09 20.7	0.0
	comp=E,5.6nm,0.8s						
VNA3	**Neumayer Olymp**	47.84	157	P	P	00 09 44.7	+1.8
VNA1	**Neumayer--Stat**	48.19	156	P	P	00 09 39.8	-5.7
VNA2	**Neumayer--Watz**	48.51	156	P	P	00 09 49.1	+1.1
	baz=278,slow=7.1						
SNAA	**Sanae**	50.06	157	P	P	00 10 01.2	+1.3
SNAA	**Sanae**	50.06	157	*e*P	P	00 10 00.1	+0.2
	comp=E,20nm,1.2s						
QSPA	**South Pole Qui**	54.05	180	P	P	00 10 30.9	+1.2
	comp=E,11nm,1.0s,baz=138,slow=3.8,SNR=16						
QSPA	**South Pole Qui**	54.05	180	*e*P	P	00 10 29.5	-0.2
	comp=E,14nm,1.1s						
TBI	**Tubuai**	65.58	258	*e*LR	LR	00 31 37.8	
	comp=E,155nm,30.0s						
TBI	**Tubuai**	65.58	258	*e*LR	LR	00 11 22.5	
	comp=E,91nm,27.0s						
PPT2	**Papeete2**	68.67	263	*e*S	S	00 21 09.3	-0.8
	comp=E,32nm,22.8s						
PPT2	**Papeete2**	68.67	263	*e*LR	LR	00 32 58.4	
	comp=E,193nm,26.5s						
PPT2	**Papeete2**	68.67	263	*e*LR	LR	00 12 39.0	
	comp=E,92nm,26.8s						
TXAR	**Lajitas Array**	71.04	332	P	P	00 12 24.5	+1.0
	comp=E,2.2nm,1.0s,baz=153,slow=9.0,SNR=14						
LIC	**Lamto**	76.69	72	*e*P	P	00 12 57.4	+0.6
	comp=E,26nm,1.1s						
TIC	**Toumodi**	76.96	72	*e*P	P	00 12 59.0	+0.7
	comp=E,2.4nm,0.2s						
KIC	**Kosan Boka**	76.99	72	*e*P	P	00 12 59.1	+0.6
	comp=E,22nm,1.0s						
DBIC	**Dimbokro**	77.10	72	P	P	00 12 59.7	+0.6
	comp=E,5.2nm,0.9s,baz=201,slow=8.6,SNR=6.1						
DBIC	**Dimbokro**	77.10	72	*e*P	P	00 12 59.1	0.0
	comp=E,5.8nm,0.9s						
BOSA	**Boshof**	80.19	118	P	P	00 13 16.2	0.0
	comp=E,8.4nm,1.0s,baz=208,slow=6.1,SNR=6.5						
BOSA	**Boshof**	80.19	118	*e*P	P	00 13 15.6	-0.6
	comp=E,7.2nm,0.9s						
CCUT	**Cedar City**	82.09	329	*e*P	P	00 13 25.9	-0.1
	comp=E,11nm,1.5s						
PDAR	**Pinedale Array**	85.15	334	P	P	00 13 42.5	+1.0
	comp=E,0.5nm,0.3s,baz=160,slow=5.8,SNR=6.5						
TORD	**Torodi Ar. Bea**	86.16	71	P	P	00 13 47.0	+0.1
	comp=E,3.7nm,1.1s,baz=218,slow=4.1,SNR=12						
ULM	**Lac du Bonnet**	88.29	346	P	P	00 13 56.1	-0.2
	comp=E,3.3nm,0.7s,baz=155,slow=2.7,SNR=7.4						
HYB	**Hyderabad**	149.08	120	*i* PKP	**PKPbc**	00 20 54.0	0.0
ZALV	**Zalesovo Beam**	156.76	33	PKP	**PKPdf**	00 21 00.1	+0.3
	comp=E,2.2nm,0.9s,baz=267,slow=2.8,SNR=8.5						
ZALV				PKPab	**PKPab**	00 21 30.7	+1.2
	comp=E,4.8nm,0.9s,baz=307,slow=5.2,SNR=12						
MKAR	**Makanchi Array**	159.15	52	PKP	**PKPdf**	00 21 03.3	+0.2
	comp=E,0.6nm,0.8s,baz=294,slow=1.2,SNR=6.0						
MKAR				PKPab	**PKPab**	00 21 40.5	+0.2
	comp=E,0.9nm,0.8s,baz=301,slow=3.8,SNR=6.6						
SONM	**Songino Array**	168.37	360	PKP	**PKPdf**	00 21 10.7	-1.0
	comp=E,1.5nm,1.2s,baz=113,slow=2.2,SNR=3.7						
SONM				PKPab	**PKPab**	00 22 21.0	+0.4
	comp=E,0.6nm,0.9s,baz=358,slow=4.3,SNR=4.1						

*NIED **30** 00:03:00, 25°.90N×128°.80E, h8km, Mw3.9 Best double couple: M0=9.19000×10^14 NP1:φ=217.00000°, δ36.00000°, λ-100.00000°. NP2:φ=50.00000°, δ55.00000°, λ-83.00000°.*
*ISCJB **30** 00:03:44.4±1.0, 25°.87N±0°.05×128°.73E±0°.04, h25km±7km, mb3.9/20, MS2.9/2, Error ellipse: s-maj=7.8km s-min=6.4km az=13.9*
*JMA **30** 00:03:45.2±0.2, 25°.90N×128°.75E, h34km, M3.6*
*IDC **30** 00:03:47.9±0.7, 25°.96N×128°.70E, h29km±5km, mb3.8/15, mb1 3.9/16, mb1mx3.9/31, mbtmp4.0/16, ML3.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/40, Error ellipse: s-maj=23.3km s-min=12.8km az=75.0*
*NEIC **30** 00:03:48.3±0.4, 25°.94N×128°.47E, h35km, mb4.2/4, Error ellipse: s-maj=10.3km s-min=7.8km az=110.0*

ISC 30 00:03:46.8±0.7, 25°.94N±0°.05×128.70E±0°.04, h28km±5km, n44, σ1§47/51, mb4.0/20, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	0.84	314	P	**Pb**	00 04 01.3	-1.4
JNTH				*e*S	**Sn**	00 04 13.4	-0.7
JJT2	**Tamagusuku 2**	0.88	283	P	**Pn**	00 04 02.3	-1.0
JJT2				S	**Sn**	00 04 14.3	-0.8
JOW	**Kunigami**	0.97	337	P	**Pn**	00 04 03.6	-0.9
JOW	**Kunigami**	0.97	337	Pn	**Pn**	00 04 03.7	-0.9
	16nm,0.3s,baz=150,slow=14,SNR=349						
JOW				Sn	**Sb**	00 04 12.9	-4.5
	25nm,0.3s,baz=169,slow=15,SNR=27						
JOW				LR	LR	00 04 31.2	
	comp=Z,50nm,18.1s,baz=144,slow=46						
JOW	**Kunigami**	0.97	337	*e*Pn	**Pn**	00 04 03.6	-0.9
JOW				*e*Sn	**Sn**	00 04 17.5	+0.1
JIH	**Iheya**	1.27	329	P	**Pn**	00 04 08.4	-0.3
JIH				*e*S	**Sb**	00 04 24.4	-1.7
JOKE	**Okinoerabujima**	1.42	356	P	**Pn**	00 04 10.3	-0.5
JAGN	**Aguni-jima**	1.46	297	P	**Pn**	00 04 10.8	-0.5
JAGN				*e*S	**Sb**	00 04 29.0	-2.4
JKE	**Kume jima 2**	1.76	283	P	**Pn**	00 04 14.3	-1.1
JTK	**Tokunoshima**	1.85	7	P	**Pn**	00 04 16.2	-0.6
JMZ	**Minamidaito 2**	2.28	92	P	**Pn**	00 04 20.6	-2.0
JMZ				S	**Sn**	00 04 45.9	-3.8
JAMN	**Amaminishikomi**	2.33	10	P	**Pn**	00 04 23.0	-0.3
JAM	**Amami Oshima**	2.59	18	P	**Pn**	00 04 26.4	-0.5
JTJ	**Tarama**	3.84	251	P	**Pn**	00 04 42.2	-1.8
JISG	**Ishigakijimahi**	4.19	252	P	**Pn**	00 04 46.5	-2.4
YOJ	**Yonaguni jima**	5.36	255	Pn	**Pn**	00 05 02.4	-2.5
NACB	**Ninganchiao**	6.67	256	*e*Pn	Pn	00 05 19.6	-3.5
JNU	**Nakatsue**	7.41	14	Pn	**Pn**	00 05 34.0	+0.9
	2.0nm,0.3s,baz=270,slow=4.9,SNR=9.6						
JNU	**Nakatsue**	7.41	14	*e*Pn	**Pn**	00 05 33.4	+0.3
ASAJ	**Asahikawa**	21.36	28	LR	LR	00 18 27.5	
	comp=Z,26nm,18.1s,baz=14,slow=41						
ULN	**Ulaanbaatar**	27.73	328	*e*P	P	00 09 32.8	-0.2
	1.2nm,0.8s						
SONM	**Songino Array**	28.02	327	P	P	00 09 37.8	+2.2
	2.3nm,0.4s,baz=134,slow=9.6,SNR=43						
TLY	**Talaya**	31.97	330	LR	LR	00 24 04.2	
	comp=Z,34nm,18.8s,baz=88,slow=38						
SEY	**Seymchan**	40.18	17	P	P	00 11 20.9	+0.6
	0.7nm,0.3s,baz=116,slow=18,SNR=4.0						
MKAR	**Makanchi Array**	42.04	312	P	P	00 11 35.9	-0.1
	0.8nm,0.6s,baz=93,slow=9.1,SNR=14						
ZALV	**Zalesovo Beam**	42.73	323	P	P	00 11 41.0	-0.4
	1.2nm,0.6s,baz=108,slow=9.5,SNR=5.8						
ZALV				pP	**pP**	00 11 52.2	+2.5
	0.9nm,0.6s,baz=106,slow=11,SNR=3.8						
KURK	**Kurchatov**	45.32	317	*e*P	P	00 12 01.2	-0.9
WRAB	**Tennant Creek**	45.93	173	*e*P	P	00 12 07.7	+0.4
	3.0nm,0.5s						
WRA	**Warramunga Arr**	45.94	173	P	P	00 12 07.8	+0.4
	2.7nm,0.6s,baz=354,slow=8.5,SNR=18						
WRA				pP	**pP**	00 12 17.2	+1.4
	2.6nm,0.9s,baz=353,slow=8.5,SNR=5.2						
TKM2	**Tokmak 2**	46.19	306	*e*P	P	00 12 09.2	-0.2
ASAR	**Alice Springs**	49.57	174	P	P	00 12 36.4	+0.9
	1.3nm,0.7s,baz=6.3,slow=9.3,SNR=16						
ASAR				pP	**pP**	00 12 45.5	+1.5
	0.6nm,0.5s,baz=1.6,slow=6.5,SNR=2.6						
KBL	**Kabul**	51.60	295	*e*P	P	00 12 51.1	-0.1
	2.6nm,0.6s						
ABKAR	**Abkulak array**	57.15	313	*e*P	P	00 13 30.3	-0.7
	0.9nm,0.5s						
GEYT	**Alibeck**	59.80	300	P	P	00 13 50.4	+0.7
	1.1nm,0.5s,baz=57,slow=5.3,SNR=4.8						
ILAR	**Eielson Array**	64.49	28	P	P	00 14 20.8	+0.1
	0.3nm,0.7s,baz=260,slow=5.5,SNR=4.3						
INK	**Inuvik**	68.99	23	P	P	00 14 50.8	+1.5
	0.4nm,0.5s,baz=298,slow=6.0,SNR=4.9						
KBZ	**Khabaz**	69.67	310	P	P	00 14 55.6	+1.7
	3.0nm,0.8s,baz=35,slow=2.0,SNR=8.6						
JOF	**Joensuu**	70.50	331	*e*p	P	00 14 55.4	-3.2
	1.1nm,0.8s						
FINES	**FINESS Array B**	73.32	331	P	P	00 15 16.3	+0.7
	1.1nm,0.5s,baz=74,slow=5.2,SNR=17						
AKASG	**Malin Array Be**	76.02	320	P	P	00 15 32.0	+0.6
	1.3nm,0.5s,baz=58,slow=6.6,SNR=13						
BRTR	**Keskin Array B**	77.54	308	P	P	00 15 41.5	+1.0
	0.9nm,0.7s,baz=57,slow=5.3,SNR=6.8						
YKA	**Yellowknife Ar**	78.61	25	P	P	00 15 47.0	+1.3
	0.3nm,0.6s,baz=302,slow=5.4,SNR=6.5						
YKA				pP	**pP**	00 15 55.2	+0.7
	0.5nm,0.8s,baz=308,slow=5.6,SNR=5.2						
NB2	**NORSAR Subarra**	79.76	334	P	P	00 15 52.3	+0.2
	comp=Z,0.9nm,0.6s,baz=53,slow=5.9						
NOA	**NORSAR Array B**	79.76	334	P	P	00 15 52.4	+0.3
	comp=Z,0.5nm,0.6s,baz=51,slow=5.5,SNR=3.7						

GUC 30 00:04:31.1±0.8, 34°.28S×71°.90W, h37km±8km, ML3.7, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	0.52	51	⇑*i*P	Pn	00 04 42.9	+0.9
LNV				*i* S1	Sn	00 04 50.4	+0.9
NICH	**Los Niches**	0.91	143	⇑*i*P	Pn	00 04 48.9	+1.6
NICH				*i* S	Sn	00 05 01.4	+2.2
NICH				AML	AML	00 05 08.9	
	comp=E,3μm,0.5s						
CACH	**El Canelo**	1.09	82	⇓*i*P	Pn	00 04 53.0	+3.0
CACH				*i* S1	Sg	00 05 09.0	
CHCH	**Chadas Angostu**	1.09	72	⇓*i*P	Pn	00 04 52.1	+2.3
TALC	**Talca**	1.14	169	⇑*i*P	Pn	00 04 51.7	+1.2
TALC				*i* S1	Sn	00 05 07.3	+2.5
TALC				AML	AML	00 05 08.0	
	comp=E,3μm,0.2s						
RCDM	**Rinconada Maip**	1.20	49	⇓*i*P	Pn	00 04 53.0	+1.7
RCDM				*i* S	Sn	00 05 09.4	+2.9
IHA	**Instituto Hidr**	1.27	10	*e*P1	Pn	00 04 53.5	+1.3
LNCH	**Linares**	1.58	171	⇑*i*P	Pn	00 04 59.0	+2.4
LNCH				*i* S	Sn	00 05 19.7	+3.8
LNCH				AML	AML	00 05 26.2	
	comp=E,2μm,0.6s						
YECH	**El Yeso**	1.63	68	AML	AML	00 05 27.1	

*IDC **30** 00:07:36.7±0.8, 36°.17S×73°.59W, h0km, mb4.3/10, mb1 4.3/11, mb1mx4.2/17, mbtmp4.2/11, ML3.4/1, MS4.1/7, Ms1 4.0/7, ms1mx3.9/15, Error ellipse: s-maj=27.6km s-min=20.3km az=107.0*
*ISCJB **30** 00:07:39.8±0.5, 36°.13S±0°.05×73°.61W±0°.08, h33km, mb4.3/13, MS4.2/7, Error ellipse: s-maj=8.9km s-min=6.7km az=11.4*
*GUC **30** 00:07:39.3±0.6, 36°.09S×73°.72W, h37km±5km, ML5.0*
*NEIC **30** 00:07:40.1±2.8, 36°.14S×73°.52W, h24km±18km, mb4.6/6, Error ellipse: s-maj=15.0km s-min=6.4km az=83.0*

ISC 30 00:07:41.5±0.6, 36°.13S±0°.06×73°.65W±0°.07, h35km, n41, σ1§12/43, mb4.4/13, MS4.1/7, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	0.70	90	⇓*i*P	**Pn**	00 07 53.1	-1.8
COCH				*i* S	**Sn**	00 08 04.4	0.0
COCH				IAML		00 08 08.0	
	comp=N,33μm,0.5s						
LNCH	**Linares**	1.69	81	*e*P1	**Pn**	00 08 08.5	0.0
LNCH				*i* S1	**Sn**	00 08 30.1	+1.2
LNCH				IAML		00 08 43.0	
	comp=E,9μm,0.6s						
TALC	**Talca**	1.80	66	⇓*i*P	**Pn**	00 08 09.8	-0.2
TALC				*i* S1	**Sn**	00 08 32.1	+0.5
TALC				IAML		00 08 47.5	
	comp=E,43μm,0.5s						
NICH	**Los Niches**	2.27	61	IAML		00 09 04.3	
	comp=E,16μm,1.2s						
CLCH	**Cerro Calan**	3.75	44	⇑*i*P	**Pn**	00 08 36.2	-0.7
PEL	**Peldehue**	3.86	40	⇓*i*P	**Pn**	00 08 37.6	-0.9
PEL				IAML		00 09 58.8	
	comp=N,114nm,1.0s						
PLCA	**Paso Flores**	5.20	153	*e*Pn	**Pn**	00 08 55.5	-1.3
	comp=N,114nm,0.3s						
PLCA				*e*Sn	**Sn**	00 09 53.5	-2.1
CFAA	**Coronel Fontan**	6.38	46	Pn	**Pn**	00 09 12.7	-0.4
	comp=N,0.7nm,0.3s,baz=212,slow=14,SNR=17						
CFAA				Sn	**Sn**	00 10 25.5	+0.8
	comp=N,1.0nm,0.3s,baz=216,slow=19,SNR=3.7						
CFAA				Lg	Lg	00 10 53.8	
	comp=N,0.2nm,0.3s,baz=74,slow=20,SNR=5.1						
LCO	**Las Campanas**	7.53	20	*e*Pn	**Pn**	00 09 27.5	-1.6
LCO				*e*Sn	**Sn**	00 10 49.2	-4.0
TRQA	**Tornquist**	9.52	105	*e*Pn	**Pn**	00 09 54.3	-1.8
LPAZ	**La Paz**	20.37	15	P	**P**	00 12 16.6	+0.9
	comp=N,3.9nm,0.7s,baz=196,slow=7.3,SNR=16						
LPAZ	**La Paz**	20.37	15	*e*P	**P**	00 12 16.0	+0.2
	comp=N,66nm,1.7s						
SIV	**San Ignacio**	22.98	32	P	**P**	00 12 43.1	0.0
	comp=N,15nm,1.1s,baz=228,slow=12,SNR=19						
SAML	**Samuel**	28.69	22	*e*P	**P**	00 13 34.7	-0.6
	comp=N,3.1nm,1.1s						
BDFB	**Brasilia**	30.63	55	P	**P**	00 13 52.5	-0.2
	comp=N,6.6nm,1.0s,baz=172,slow=7.1,SNR=8.0						
BDFB				LR	LR	00 25 44.2	
	comp=N,421nm,18.4s,baz=220,slow=36						
OTAV	**Otavalo**	36.46	352	*e*P	**P**	00 14 43.9	+0.2
	comp=N,7.0nm,1.3s						
PTGA	**Pitinga**	37.45	23	*e*P	**P**	00 14 49.8	-1.8
SDV	**Santo Domingo**	44.87	4	*e*P	**P**	00 15 53.1	+0.3
	comp=N,3.6nm,0.5s						
VNA3	**Neumayer Olymp**	47.90	157	P	**P**	00 16 15.9	+0.1
VNA1	**Neumayer--Stat**	48.25	156	P	P	00 16 21.9	+3.5
VNA2	**Neumayer--Watz**	48.58	156	P	**P**	00 16 22.2	+1.2
	baz=291,slow=9.4						
SNAA	**Sanae**	50.12	157	P	**P**	00 16 34.0	+1.0
SNAA	**Sanae**	50.12	157	*e*P	**P**	00 16 33.3	+0.4
	comp=N,62nm

mb3.4/2, Error ellipse: s-maj=18.0km s-min=7.4km az=135.5
JMA ***30*** *00:13:26.9±0.2, 35°.80N×140°.11E, h65km±2km, M2.8*
IDC ***30*** *00:13:26.8±5.9, 35°.93N×140°.34E, h71km±44km, mb3.2/2, mb1 3.4/2, mb1mx2.7/34, mbtmp3.5/2, Error ellipse: s-maj=63.8km s-min=31.4km az=60.0*
ISC 30 00:13:27.8±1.2, 35°.70N±0°.08×140°.08E±0°.09, h72km±8km, n16, σ0°86/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.26**	**267**	S	**Sn**	**00 13 47.6**	**+0.6**
JCN	**Nagara**	**0.30**	**160**	P	**Pn**	**00 13 38.9**	**-0.3**
JCN				S	**Sn**	**00 13 48.6**	**+1.1**
JAG	**Ashikaga**	**0.88**	**325**	P	**Pn**	**00 13 43.5**	**-1.5**
JOD2	**Odawara 2**	**0.92**	**242**	P	**Pn**	**00 13 44.8**	**-0.6**
JOD2				S	**Sn**	**00 13 57.6**	**-0.9**
BSO3	**Boso 3**	**0.96**	**158**	P	**Pn**	**00 13 44.9**	**-0.8**
BSO3				S	**Sn**	**00 13 59.7**	**+0.7**
JRY	**Ryogami san**	**1.01**	**289**	P	**Pn**	**00 13 46.3**	**-0.2**
MJAR	**Matsushiro Arr**	**1.73**	**300**	P	**Pn**	**00 13 56.0**	**0.0**
	14nm,0.3s,baz=103,slow=15,SNR=70						
MJAR				S	**Sn**	**00 14 17.9**	**+0.6**
	7.1nm,0.3s,baz=153,slow=16,SNR=10						
MAT	**Matsushiro**	**1.73**	**300**	P	**Pn**	**00 13 56.0**	**+0.1**
MAT				*e*S	**Sn**	**00 14 18.3**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**28.45**	**117**	T	T	00 49 04.0	
	baz=310						
H11N1	**WAKE ISLAND Hy**	**28.46**	**117**	T	T	00 48 58.2	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**28.47**	**117**	T	T	00 48 59.5	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**29.10**	**119**	T	T	00 49 28.9	
	baz=312						
H11S3	**WAKE ISLAND Hy**	**29.10**	**119**	T	T	00 49 21.3	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**29.11**	**119**	T	T	00 49 15.5	
	baz=312						
MKAR	**Makanchi Array**	**43.93**	**303**	P	**P**	**00 21 27.1**	**-0.3**
	0.5nm,0.7s,baz=90,slow=8.6,SNR=4.9						
WRA	**Warramunga Arr**	**55.60**	**187**	P	**P**	**00 22 56.7**	**+0.5**
	0.4nm,0.7s,baz=360,slow=7.5,SNR=8.0						

IDC ***30*** *00:23:54.0±1.2, 0°.15N×123°.37E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.4/4, Error ellipse: s-maj=137.7km s-min=20.8km az=65.0*
DJA ***30*** *00:23:57.3±0.7, 1°S±6°×12°3E±°, h226km±6km, M4.0/9, mb4.0/1, MLv4.0/9*
ISC 30 00:24:05.0±1.2, 0°.85S±0°.07×123°.05E±0°.06, h38km, n15, σ2°05/10, mb3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.40**	**268**	P	Pn	00 24 33.8	+5.8
APSI				S	Sn	00 25 03.6	+18
GTOI	**Gorontalo**	**1.48**	**359**	P	Pn	00 24 33.3	+4.2
KMSI	**Cibinong**	**1.70**	**33**	P	**Pn**	**00 24 32.1**	**0.0**
KMSI				S	**Sn**	**00 24 50.1**	**-2.5**
MRSI	**Marisa**	**1.72**	**320**	P	Pn	00 24 39.6	+7.1
MRSI				S	Sn	00 25 00.7	+7.5
SANI	**Sanana**	**3.17**	**112**	P	**Pn**	**00 24 50.3**	**-2.1**
SANI				S	**Sn**	**00 25 31.9**	**+2.9**
MPSI	**Mapaga**	**3.36**	**291**	P	**Pn**	**00 24 55.5**	**+0.5**
TTSI	**Tana Toraja**	**3.89**	**236**	P	**Pn**	**00 25 01.8**	**-0.5**
SPSI	**Sidrap Palu**	**4.50**	**227**	P	**Pn**	**00 25 09.1**	**-1.6**
BNSI	**Bone**	**4.59**	**220**	P	**Pn**	**00 25 10.0**	**-1.9**
NLAI	**Namlea**	**4.69**	**120**	P	Pn	00 25 09.0	-4.3
BKSI	**Bulukumba**	**5.31**	**213**	P	Pn	00 25 15.0	-6.9
WRA	**Warramunga Arr**	**21.96**	**150**	P	**P**	**00 28 56.8**	**+1.2**
	0.4nm,0.5s,baz=332,slow=10,SNR=9.5						
ASAR	**Alice Springs**	**25.00**	**156**	P	**P**	**00 29 27.0**	**+1.5**
	0.4nm,1.0s,baz=343,slow=16,SNR=2.9						
SONM	**Songino Array**	**50.62**	**346**	P	P	00 32 48.9	-11
	0.6nm,0.9s,baz=157,slow=8.6,SNR=4.3						
MKAR	**Makanchi Array**	**59.36**	**329**	P	P	00 33 52.9	-11
	0.9nm,0.8s,baz=123,slow=8.4,SNR=15						

IDC ***30*** *00:25:48.2±1.4, 34°.54N×25°.66E, h0km, mb3.6/4, mb1 3.5/7, mb1mx3.3/27, mbtmp3.4/7, ML3.9/3, Error ellipse: s-maj=25.6km s-min=17.7km az=15.0*
ISCJB ***30*** *00:25:50.5±0.8, 34°.49N±0°.03×25°.68E±0°.03, h26km±7km, mb3.5/4, Error ellipse: s-maj=4.5km s-min=3.8km az=30.7*
HLW ***30*** *00:25:51.5, 34°.77N×25°.70E, h32km±34km, Ml2.8*
ATH ***30*** *00:25:52.6, 34°.61N×25°.60E, h37km±2km, MD3.6/18*
CSEM ***30*** *00:25:53.2±0.7, 34°.62N×25°.66E, h20km, MD3.6, Error ellipse: s-maj=17.0km s-min=5.3km az=1.0*
ISK ***30*** *00:26:01.8, 35°.57N×26°.21E, h11km, MD3.5*
DDA ***30*** *00:26:22.2, 34°.96N×27°.28E, h26km, MD3.3*
ISC 30 00:25:52.6±1.2, 34°.55N±0°.04×25°.64E±0°.03, h27km±10km, n132, σ1°57/144, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.62**	**348**	*e*PN	**Pb**	**00 26 04.3**	**-0.7**
LAST				*e*SN	**Sb**	**00 26 13.8**	**+0.3**
LAST	**Lasithi**	**0.62**	**348**	*e*Pn	**Pb**	**00 26 04.3**	**-0.7**
LAST				*e*Sn	**Sb**	**00 26 13.8**	**+0.3**
NPS	**Neapolis**	**0.71**	**358**	*e*PN	**Pb**	**00 26 05.6**	**-0.8**
NPS				*e*SN	**Sb**	**00 26 15.5**	**-0.4**
NPS	**Neapolis**	**0.71**	**358**	*e*Pn	**Pb**	**00 26 05.6**	**-0.8**
NPS				*e*Sn	**Sb**	**00 26 15.5**	**-0.4**
ZKR	**Zakros**	**0.74**	**40**	*e*PN	**Pb**	**00 26 06.4**	**-0.4**
ZKR				*e*SN	**Sn**	**00 26 17.5**	**0.0**
ZKR	**Zakros**	**0.74**	**40**	*e*Pn	**Pb**	**00 26 06.4**	**-0.4**
ZKR				*e*Sn	**Sn**	**00 26 17.5**	**0.0**
SIVA	**Sivas**	**0.83**	**305**	*e*PN	**Pn**	**00 26 07.9**	**-0.5**
SIVA				*e*SN	**Sb**	**00 26 18.6**	**-0.5**
SIVA	**Sivas**	**0.83**	**305**	*e*Pn	**Pn**	**00 26 07.9**	**-0.5**
SIVA				*e*Sn	**Sb**	**00 26 18.6**	**-0.5**
IDI	**Anoyia**	**0.96**	**320**	Pn	**Pn**	**00 26 10.1**	**-0.2**
	11nm,0.3s,baz=140,slow=15,SNR=43						
IDI				Sn	**Sb**	**00 26 24.1**	**+1.1**
	44nm,0.3s,baz=87,slow=18,SNR=22						
VAM	**Vamos**	**1.46**	**306**	*e*PB	**Pn**	**00 26 17.2**	**+0.1**
VAM	**Vamos**	**1.46**	**306**	*e*Pb	**Pn**	**00 26 17.2**	**+0.1**
KARP	**Karpathos**	**1.59**	**51**	*e*PB	**Pb**	**00 26 20.9**	**-0.5**
KARP	**Karpathos**	**1.59**	**51**	*e*Pb	**Pb**	**00 26 20.9**	**-0.5**
KARN	**Karanos**	**1.65**	**301**	*e*PB	**Pn**	**00 26 21.5**	**+1.7**
KARN	**Karanos**	**1.65**	**301**	*e*Pb	**Pn**	**00 26 21.5**	**+1.7**
THR1	**Thera Island**	**1.82**	**355**	*e*PG	**Pn**	**00 26 21.5**	**-0.6**
THR1	**Thera Island**	**1.82**	**355**	*e*Pg	**Pn**	**00 26 21.5**	**-0.6**
SANT	**Santorini**	**1.82**	**355**	*e*PN	**Pn**	**00 26 22.5**	**+0.3**
SANT	**Santorini**	**1.82**	**355**	*e*Pn	**Pn**	**00 26 22.5**	**+0.3**
THR5	**Thira Island,**	**1.88**	**353**	*e*PN	**Pn**	**00 26 22.9**	**0.0**
THR5	**Thira Island,**	**1.88**	**353**	*e*Pn	**Pn**	**00 26 22.9**	**0.0**
ANKY	**Antikythira Is**	**2.32**	**305**	*e*PB	**Pn**	**00 26 30.5**	**+1.5**
ANKY	**Antikythira Is**	**2.32**	**305**	*e*Pb	**Pn**	**00 26 30.5**	**+1.5**
NIS1	**Nisyros Isl.**	**2.40**	**31**	*e*PN	Pn	00 26 26.5	-3.5
NIS1				*e*SN	Sn	00 26 44.3	-14
NIS1	**Nisyros Isl.**	**2.40**	**31**	*e*PN	**Pn**	**00 26 31.3**	**+1.2**
NIS1	**Nisyros Isl.**	**2.40**	**31**	*e*Pn	**Pn**	**00 26 31.3**	**+1.2**
NIS1				*e*Sn	Sn	00 26 44.3	-14
APE	**Apeiranthos**	**2.52**	**358**	*e*PN	**Pn**	**00 26 30.8**	**-0.9**
APE	**Apeiranthos**	**2.52**	**358**	*e*PN	**Pn**	**00 26 31.7**	**0.0**
APE	**Apeiranthos**	**2.52**	**358**	*e*Pn	**Pn**	**00 26 31.7**	**0.0**
ARG	**Arkhangelos**	**2.62**	**50**	*e*PN	**Pn**	**00 26 35.0**	**+1.9**
ARG	**Arkhangelos**	**2.62**	**50**	*e*Pn	**Pn**	**00 26 35.0**	**+1.9**
KYTH	**Kithira**	**2.74**	**310**	*e*PN	**Pn**	**00 26 36.0**	**+1.3**
KYTH	**Kithira**	**2.74**	**310**	*e*Pn	**Pn**	**00 26 36.0**	**+1.3**
BODT	**Bodrum**	**2.85**	**28**	*e*PN	Pn	00 26 32.7	-3.6
BODT	**Bodrum**	**2.85**	**28**	*e*Pn	Pn	00 26 32.7	-3.6
BDRM	**Kayabasi**	**2.91**	**30**	*i* P	**Pn**	**00 26 38.2**	**+1.2**
BDRM				*i* S	**Sb**	**00 27 24.2**	**+5.4**
BDRM	**Kayabasi**	**2.91**	**30**	*i* P	**Pn**	**00 26 38.2**	**+1.2**
BDRM				*i* S	**Sb**	**00 27 24.2**	**+5.4**
VLI	**Veliai**	**3.09**	**315**	*e*PN	**Pn**	**00 26 39.6**	**+0.1**
VLI	**Veliai**	**3.09**	**315**	*e*Pn	**Pn**	**00 26 39.6**	**+0.1**
SMG	**Samos**	**3.30**	**17**	*e*PN	**Pn**	**00 26 42.7**	**+0.3**
SMG	**Samos**	**3.30**	**17**	*e*Pn	**Pn**	**00 26 42.7**	**+0.3**
DALY	**Dalyan (Mu¨la**	**3.34**	**46**	*e*PN	**Pn**	**00 26 41.3**	**-1.6**
DALY	**Dalyan (Mu¨la**	**3.34**	**46**	*e*Pn	**Pn**	**00 26 41.3**	**-1.6**
YER	**Yerkesik**	**3.35**	**39**	*e*PN	**Pn**	**00 26 40.9**	**-2.3**
YER	**Yerkesik**	**3.35**	**39**	*e*Pn	**Pn**	**00 26 40.9**	**-2.3**
FETY	**Fethiye**	**3.49**	**52**	*e*PN	**Pn**	**00 26 44.5**	**-0.6**
FETY	**Fethiye**	**3.49**	**52**	*e*Pn	**Pn**	**00 26 44.5**	**-0.6**
AYDN	**Tasoluk**	**3.59**	**30**	*i* P	**Pn**	**00 26 49.0**	**+2.5**
AYDN	**Tasoluk**	**3.59**	**30**	*i* P	**Pn**	**00 26 49.0**	**+2.5**
AKAS	**Kas**	**3.65**	**61**	*i* P	**Pn**	**00 26 49.6**	**+2.3**
AKAS				*i* S	**Sn**	**00 27 28.8**	**-0.7**
AKAS	**Kas**	**3.65**	**61**	*i* P	**Pn**	**00 26 49.6**	**+2.3**
AKAS				*i* S	**Sn**	**00 27 28.8**	**-0.7**
HMAT	**Matruh**	**3.66**	**160**	S	**Sn**	**00 27 29.9**	**+0.3**
	baz=161						
HMAT				AMP		00 27 00.0	
	comp=N,30μm,0.3s,logA/T=5.0,baz=161						
PTL	**Penteli**	**3.77**	**338**	*e*PN	**Pn**	**00 26 49.2**	**+0.2**
PTL	**Penteli**	**3.77**	**338**	*e*Pn	**Pn**	**00 26 49.2**	**+0.2**
CHOS	**Chios island**	**3.84**	**5**	*e*PN	**Pn**	**00 26 48.0**	**-1.9**
CHOS	**Chios island**	**3.84**	**5**	*e*PN	**Pn**	**00 26 50.4**	**+0.4**
CHOS	**Chios island**	**3.84**	**5**	*e*Pn	**Pn**	**00 26 50.4**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**3.85**	**28**	*e*PN	**Pn**	**00 26 47.1**	**-2.9**
AYDB	**Zeytinkoy-Aydi**	**3.85**	**28**	*e*Pn	**Pn**	**00 26 47.2**	**-2.9**
PYL	**PYLOS**	**3.94**	**308**	*e*PN	**Pn**	**00 26 51.1**	**-0.1**
PYL	**PYLOS**	**3.94**	**308**	*e*Pn	**Pn**	**00 26 51.1**	**-0.1**
BLCB	**Balcova**	**3.99**	**16**	*e*PN	**Pn**	**00 26 49.1**	**-2.8**
BLCB	**Balcova**	**3.99**	**16**	*e*Pn	**Pn**	**00 26 49.1**	**-2.8**
ITM	**Ithomi**	**4.00**	**312**	*e*PN	**Pn**	**00 26 52.6**	**+0.6**
ITM	**Ithomi**	**4.00**	**312**	*e*Pn	**Pn**	**00 26 52.6**	**+0.6**
LTK	**Loutraki**	**4.08**	**329**	*e*PN	**Pn**	**00 26 53.3**	**+0.1**
LTK	**Loutraki**	**4.08**	**329**	*e*Pn	**Pn**	**00 26 53.3**	**+0.1**
ELL	**Elmali**	**4.11**	**57**	*e*PN	**Pn**	**00 26 53.8**	**+0.1**
ELL	**Elmali**	**4.11**	**57**	*e*Pn	**Pn**	**00 26 53.8**	**+0.1**
GOLH	**Golhisar**	**4.16**	**49**	*i* P	**Pn**	**00 26 56.1**	**+1.7**
GOLH				*i* S	**Sn**	**00 27 45.0**	**+2.8**
GOLH	**Golhisar**	**4.16**	**49**	*i* P	**Pn**	**00 26 56.1**	**+1.7**
GOLH				*i* S	**Sn**	**00 27 45.0**	**+2.8**
DNZL	**Cakiroluk**	**4.17**	**40**	*e*P	Pn	00 26 58.2	+3.6
DNZL	**Cakiroluk**	**4.17**	**40**	*e*P	Pn	00 26 58.2	+3.6
GUR	**Goura**	**4.30**	**323**	*e*PN	**Pn**	**00 26 56.5**	**+0.2**
GUR	**Goura**	**4.30**	**323**	*e*Pn	**Pn**	**00 26 56.5**	**+0.2**
AMT	**Artemida-Makis**	**4.36**	**314**	*e*PN	**Pn**	**00 26 58.9**	**+1.9**
AMT	**Artemida-Makis**	**4.36**	**314**	*e*Pn	**Pn**	**00 26 58.9**	**+1.9**
MRKA	**Markates**	**4.46**	**339**	*e*PN	**Pn**	**00 26 59.6**	**+1.2**
MRKA	**Markates**	**4.46**	**339**	*e*Pn	**Pn**	**00 26 59.6**	**+1.2**
KLV	**Kalavryta, Ach**	**4.48**	**322**	*e*PN	**Pn**	**00 26 59.3**	**+0.6**
KLV	**Kalavryta, Ach**	**4.48**	**322**	*e*Pn	**Pn**	**00 26 59.3**	**+0.6**
MANT	**Manisa**	**4.58**	**30**	*i* P	**Pn**	**00 27 01.5**	**+1.3**
MANT	**Manisa**	**4.58**	**30**	*i* P	**Pn**	**00 27 01.5**	**+1.3**
KULA	**Kula-Manisa**	**4.64**	**31**	*e*PN	**Pn**	**00 26 58.3**	**-2.7**
KULA	**Kula-Manisa**	**4.64**	**31**	*e*Pn	**Pn**	**00 26 58.3**	**-2.7**
SIGR	**SIGRI**	**4.66**	**2**	*e*PN	**Pn**	**00 27 00.1**	**-1.0**
SIGR	**SIGRI**	**4.66**	**2**	*e*Pn	**Pn**	**00 27 00.0**	**-1.0**
ANTB	**Antalya**	**4.70**	**59**	*e*PN	**Pn**	**00 27 02.3**	**+0.6**
ANTB	**Antalya**	**4.70**	**59**	*e*Pn	**Pn**	**00 27 02.3**	**+0.6**
PRK	**Paraskevi**	**4.71**	**6**	*e*PN	**Pn**	**00 27 02.8**	**+1.0**
PRK	**Paraskevi**	**4.71**	**6**	*e*Pn	**Pn**	**00 27 02.8**	**+1.0**
KALE	**Kalithea**	**4.76**	**325**	*e*PN	**Pn**	**00 27 05.4**	**+2.9**
KALE	**Kalithea**	**4.76**	**325**	*e*Pn	**Pn**	**00 27 05.4**	**+2.9**
AXAR	**Agios Charalam**	**4.84**	**331**	*e*PN	**Pn**	**00 27 04.3**	**+0.7**
AXAR	**Agios Charalam**	**4.84**	**331**	*e*Pn	**Pn**	**00 27 04.3**	**+0.7**
BCK	**Bucak**	**4.95**	**53**	*e*PN	**Pn**	**00 27 04.7**	**-0.5**
BCK	**Bucak**	**4.95**	**53**	*e*Pn	**Pn**	**00 27 04.7**	**-0.5**
AGG	**Agios Georgios**	**5.19**	**330**	*e*PN	**Pn**	**00 27 10.2**	**+1.7**
AGG	**Agios Georgios**	**5.19**	**330**	*e*Pn	**Pn**	**00 27 10.2**	**+1.7**
EZN	**Ezine**	**5.29**	**6**	*e*PN	**Pn**	**00 27 08.6**	**-1.2**
EZN	**Ezine**	**5.29**	**6**	*e*Pn	**Pn**	**00 27 08.6**	**-1.2**
SWA2		**5.29**	**182**	P	**Pn**	**00 27 10.4**	**+0.5**
	baz=183						
SWA2				S	**Sn**	**00 28 09.4**	**-0.5**
	baz=183						
EVR	**Evrytania**	**5.33**	**326**	*e*PN	**Pn**	**00 27 13.6**	**+3.1**
EVR	**Evrytania**	**5.33**	**326**	*e*Pn	**Pn**	**00 27 13.6**	**+3.1**
PDO	**Prodromos**	**5.40**	**320**	*e*PN	**Pn**	**00 27 14.0**	**+2.7**
PDO	**Prodromos**	**5.40**	**320**	*e*Pn	**Pn**	**00 27 14.0**	**+2.7**
VLS	**Valsamata**	**5.45**	**313**	*e*PN	**Pn**	**00 27 14.5**	**+2.5**
VLS	**Valsamata**	**5.45**	**313**	*e*Pn	**Pn**	**00 27 14.5**	**+2.5**
GDZ	**Gediz**	**5.48**	**33**	*i* P	**Pn**	**00 27 12.5**	**0.0**
GDZ	**Gediz**	**5.48**	**33**	*i* P	**Pn**	**00 27 12.5**	**0.0**
TVSB	**Tavsanli**	**5.77**	**31**	*e*PN	**Pn**	**00 27 14.5**	**-1.9**
TVSB	**Tavsanli**	**5.77**	**31**	*e*Pn	**Pn**	**00 27 14.5**	**-1.9**
LKD2	**Lefkada island**	**5.82**	**318**	*e*PN	**Pn**	**00 27 18.5**	**+1.4**
LKD2	**Lefkada island**	**5.82**	**318**	*e*Pn	**Pn**	**00 27 18.5**	**+1.4**
DSL	**Palaion Diasel**	**5.85**	**323**	*e*PN	**Pn**	**00 27 18.5**	**+1.0**
DSL	**Palaion Diasel**	**5.85**	**323**	*e*Pn	**Pn**	**00 27 18.5**	**+1.0**
ERMK	**Ermenek**	**6.28**	**69**	*i* P	Pn	00 27 26.2	+2.6
ERMK				*i* S	**Sn**	**00 28 35.3**	**+0.8**
ERMK	**Ermenek**	**6.28**	**69**	*i* P	Pn	00 27 26.2	+2.6
ERMK				*i* S	**Sn**	**00 28 35.3**	**+0.8**
NEST	**Nestorio**	**6.90**	**329**	*e*PN	**Pn**	**00 27 32.7**	**+0.8**
NEST	**Nestorio**	**6.90**	**329**	*e*Pn	**Pn**	**00 27 32.7**	**+0.8**
GLL	**Jalalah**	**7.15**	**132**	P	**Pn**	**00 27 33.5**	**-1.8**
	baz=133						
AMAG	**Maghara**	**7.48**	**119**	P	**Pn**	**00 27 38.1**	**-1.8**
	baz=121						
RSH		**7.69**	**116**	P	**Pn**	**00 27 41.2**	**-1.5**
	baz=117						
BRTR	**Keskin Array B**	**8.21**	**49**	Pn	**Pn**	**00 27 50.8**	**+0.7**
	comp=N,0.0nm,0.3s,baz=217,slow=14,SNR=2.7						
MMAI	**Mount Meron Ar**	**8.27**	**98**	Pn	**Pn**	**00 27 49.3**	**-1.5**
	comp=N,1.5nm,0.3s,baz=284,slow=12,SNR=22						
MMAI				Sn	**Sn**	**00 29 19.6**	**-3.8**
	comp=N,1.6nm,0.3s,baz=303,slow=16,SNR=3.8						
HDK1	**Dakhla**	**9.55**	**159**	P	**Pn**	**00 28 08.4**	**+0.1**
	baz=159						
KBZ	**Khabaz**	**16.20**	**50**	Pn	**P**	**00 29 40.1**	**-1.0**
	comp=N,0.3nm,0.3s,baz=229,slow=7.4,SNR=18						
AKASG	**Malin Array Be**	**16.35**	**8**	Pn	**Pn**	**00 29 39.7**	**-0.3**
	comp=N,0.6nm,0.3s,baz=196,slow=11,SNR=4.3						
TORD	**Torodi Ar. Bea**	**30.41**	**231**	P	**P**	**00 32 02.9**	**+0.3**
	comp=N,0.5nm,0.7s,baz=38,slow=8.7,SNR=3.8						
MKAR	**Makanchi Array**	**43.78**	**56**	P	**P**	**00 33 55.9**	**+0.2**
	comp=N,1.2nm,0.6s,baz=281,slow=7.2,SNR=15						
ZALV	**Zalesovo Beam**	**45.14**	**46**	P	**P**	**00 34 05.4**	**-1.0**
	comp=N,0.6nm,0.4s,baz=273,slow=11,SNR=4.0						
YKA	**Yellowknife Ar**	**78.15**	**342**	P	**P**	**00 37 47.4**	**-1.5**
	comp=N,0.1nm,0.5s,baz=37,slow=5.3,SNR=4.1						

NNC ***30*** *00:32:29.9±6.8, 37°.98N×72°.22E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=60.9km s-min=23.8km az=149.0*
ISC 30 00:32:27.8±3.4, 37°.7N±0°.2×72°.07E±0°.09, h10km, n9, σ1°61/12, 4C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.78**	**294**	⇑Pn	**Pn**	**00 33 11.8**	**-0.7**
DZET				⇓Sn	**Sb**	**00 33 53.4**	**+1.5**
AML	**Almayashu**	**4.60**	**15**	P	**Pn**	**00 33 38.5**	**+0.7**
	SNR=41						
MNAS	**Manas**	**4.80**	**4**	⇓Pn	**Pn**	**00 33 42.0**	**+1.8**
MNAS				⇓Sn	**Sn**	**00 34 33.8**	**-2.1**
UCH	**Uchtor**	**4.90**	**22**	P	**Pn**	**00 33 42.4**	**+0.5**
	SNR=8.5						
KZA	**Kyzart**	**5.01**	**28**	P	**Pn**	**00 33 43.1**	**-0.4**
	SNR=15						
EKS2	**Erkin-Say**	**5.13**	**14**	P	**Pn**	**00 33 46.0**	**+1.2**
	SNR=30						
AAK	**Ala-Archa**	**5.27**	**20**	⇓Pn	**Pn**	**00 33 47.5**	**+0.8**
	3.2nm,0.3s						
AAK				⇑Sn	Sn	00 34 43.9	-3.7
	5.4nm,0.8s						
AAK	**Ala-Archa**	**5.27**	**20**	P	**Pn**	**00 33 47.6**	**+0.9**
	SNR=15						
KK31	**Karatay Array**	**5.53**	**348**	⇑Pn	**Pn**	**00 33 52.0**	**+1.8**
	0.9nm,0.3s,baz=163,slow=10.0,SNR=21						
KK31				⇑Sn	**Sn**	**00 34 51.4**	**-2.5**
	2.4nm,0.4s,baz=168,slow=22,SNR=3.7						

IDC 30 00:34:55.5±6.5, 30°.06S×177°.39W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/14, mbtmp3.5/2, Error ellipse: s-maj=260.5km s-min=60.4km az=154.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.66**	**266**	P	P	00 43 01.7	-0.5
	0.2nm,0.5s,baz=126,slow=6.1,SNR=2.7						
WRA	**Warramunga Arr**	**44.62**	**271**	P	P	00 43 10.1	+0.1
	0.3nm,0.3s,baz=112,slow=8.0,SNR=9.1						
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPbc	00 54 32.4	-0.9
	0.8nm,0.6s,baz=40,slow=2.4,SNR=4.8						

CSEM ***30*** *00:35:02.0, 42°.42N×12°.93E, h10km, MD1.9/6*
ROM 30 00:35:02.0±0.1, 42°.42N×12°.93E, h10km±1km, Md1.9/6, Ml1.2/4, Error ellipse: s-maj=1.5km s-min=0.6km az=37.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNS	**Montasola**	**0.19**	**261**	Pg	Pg	00 35 06.8	+0.7
MNS				Sg	Sg	00 35 10.0	+1.1
	82nm,0.1s						
MNS	**Montasola**	**0.19**	**261**	Pg	Pg	00 35 06.8	+0.7
MNS				Sg	Sg	00 35 10.0	+1.1
	82nm,0.1s						
FIAM	**Fiamignano**	**0.20**	**137**	Pg	Pg	00 35 07.1	+0.7
FIAM				Sg	Sg	00 35 10.5	+1.2
	23nm,0.2s						
FIAM	**Fiamignano**	**0.20**	**137**	Pg	Pg	00 35 07.1	+0.7
FIAM				Sg	Sg	00 35 10.5	+1.2
	23nm,0.2s						
T0104	**Madonna delle**	**0.31**	**100**	Pg	Pg	00 35 08.9	+0.7
T0104				Sg	Sb	00 35 13.9	-0.9
T0106	**Roio Piano**	**0.35**	**108**	Pg	Pg	00 35 09.7	+0.5
T0106				Sg	Sg	00 35 15.0	+1.0
SMA1	**SAN MARTINO**	**0.37**	**54**	Pg	Pg	00 35 10.0	+0.5
SMA1				Sg	Sb	00 35 15.7	-1.0
	26nm,0.5s						
NRCA	**Norcia**	**0.44**	**18**	Pg	Pg	00 35 10.9	+0.1
NRCA				Sg	Sg	00 35 17.5	+0.8
	3.0nm,0.2s						
NRCA	**Norcia**	**0.44**	**18**	Pg	Pg	00 35 10.9	+0.1
NRCA				Sg	Sg	00 35 17.5	+0.8
	3.0nm,0.2s						
CESI	**CESI - Serrava**	**0.59**	**358**	Pg	Pg	00 35 13.7	+0.1
CESI				Sg	Sb	00 35 22.6	-0.5
	5.0nm,0.3s						
CESI	**CESI - Serrava**	**0.59**	**358**	Pg	Pg	00 35 13.7	+0.1
CESI				Sg	Sb	00 35 22.6	-0.5
	5.0nm,0.3s						

ISCJB ***30*** *00:39:58.3±0.5, 47°.59N±0°.07×152°.8E±0°.1, h117km, mb4.0/29, Error ellipse: s-maj=13.0km s-min=3.6km az=43.5*
SKHL ***30*** *00:39:58.7±0.3, 47°.26N×153°.31E, h127km±10km, mb5.1/3, msh5.8/3*
IDC ***30*** *00:39:59.9±0.9, 47°.67N×152°.83E, h118km±7km, mb3.6/19, mb1 3.8/25, mb1mx3.7/32, mbtmp4.0/25, MS2.3/1, Ms1 2.3/1, ms1mx2.1/32, Error ellipse: s-maj=20.4km s-min=11.0km az=151.0*
MOS ***30*** *00:39:59.3±1.1, 47°.66N×152°.81E, h127km, mb4.0/17, Error ellipse: s-maj=11.9km s-min=6.9km az=75.6*
ISC 30 00:39:59.6±0.6, 47°.63N±0°.08×152°.79E±0°.08, h117km, n127, σ1°35/131, mb4.2/29, 23C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.76**	**34**	*e*PN	**Pn**	**00 40 54.5**	**-1.2**
SKR				*e*S	**Sn**	**00 41 36.5**	**-2.7**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				pmax	pmax		
	comp=N,40nm,0.3s						
SKR				smax	smax		
	comp=E,200nm,0.3s						
SKR				smax	smax		
	comp=N,140nm,0.3s						
**S

KSRS Korea Array 20.87 250 *e*P **P 00 44 33.6 +1.4**
KSRS pmax pmax
comp=Z,8.0nm,0.8s
KSRS Korea Array 20.87 250 P **P 00 44 33.4 +1.2**
comp=Z,7.0nm,0.8s,baz=55,slow=9.8,SNR=23
BILL Bilibino 21.59 14 *e*P **P 00 44 40.7 +1.1**
BOD Bodaibo 25.27 308 *e*P **P 00 45 10.9 -3.7**
H11N2 WAKE ISLAND Hy 30.10 153 T T 01 17 46.2
baz=341,slow=76,SNR=338
H11N1 WAKE ISLAND Hy 30.11 153 T T 01 17 56.7
baz=341,slow=76,SNR=360
H11N3 WAKE ISLAND Hy 30.11 153 T T 01 17 56.2
baz=341,slow=76,SNR=293
SONM Songino Array 30.85 288 P **P 00 46 04.6 +0.1**
comp=Z,0.3nm,0.5s,baz=62,slow=7.9,SNR=4.2
H11S1 WAKE ISLAND Hy 31.19 154 T T 01 19 27.5
baz=342,slow=76,SNR=376
H11S3 WAKE ISLAND Hy 31.20 154 T T 01 19 07.3
baz=342,slow=76,SNR=417
H11S2 WAKE ISLAND Hy 31.21 154 T T 01 19 10.4
baz=342,slow=76,SNR=514
ILAR Eielson Array 36.00 39 *e*P **P 00 46 49.5 +0.6**
ILAR Eielson Array 36.00 39 P **P 00 46 49.2 +0.4**
comp=Z,0.3nm,0.6s,baz=264,slow=6.5,SNR=5.3
ILAR Eielson Array 36.00 39 *e*P **P 00 46 49.5 +0.6**
INK Inuvik 41.03 33 P **P 00 47 31.0 +0.2**
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 41.03 33 P **P 00 47 31.0 +0.2**
comp=Z,0.5nm,0.4s,baz=331,slow=4.5,SNR=5.3
ZALV Zalesovo Beam 41.93 305 *e*P **P 00 47 37.6 -0.7**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 41.93 305 P **P 00 47 37.6 -0.7**
comp=Z,3.4nm,0.5s,baz=60,slow=6.7,SNR=19
MKAR Makanchi Array 46.35 296 *e*P **P 00 48 13.2 -0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 46.35 296 P **P 00 48 13.0 -0.7**
comp=Z,1.3nm,0.8s,baz=68,slow=7.8,SNR=12
MKAR pP **pP 00 48 42.0 +1.3**
comp=Z,0.3nm,0.5s,baz=66,slow=7.6,SNR=2.6
MKAR Makanchi Array 46.35 296 *e*P **P 00 48 13.2 -0.5**
KURK Kurchatov 46.70 303 *i*P **P 00 48 15.8 -0.5**
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 46.70 303 *e*P **P 00 48 15.8 -0.5**
RES Resolute Bay 50.08 19 P **P 00 48 42.3 +0.5**
RES pmax pmax
comp=Z,1.0nm,0.6s
RES Resolute Bay 50.08 19 P **P 00 48 42.3 +0.5**
comp=Z,0.7nm,0.6s,baz=322,slow=7.7,SNR=6.7
YKA Yellowknife Ar 50.35 37 P **P 00 48 44.3 +0.2**
comp=Z,0.2nm,0.5s,baz=294,slow=7.0,SNR=4.5
YKA pP **pP 00 49 11.2 -0.3**
comp=Z,0.7nm,0.6s,baz=297,slow=7.1,SNR=9.5
YKA Yellowknife Ar 50.35 37 *e*P **P 00 48 45.5 +1.4**
CMAR Chiang Mai Arr 52.37 255 *e*P **P 00 49 01.1 +1.4**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 52.37 255 P **P 00 49 01.1 +1.4**
comp=Z,2.0nm,0.4s,baz=28,slow=7.4,SNR=8.9
TAPN Taplejung 53.84 272 *e*P **P 00 49 11.8 +1.1**
comp=Z,11nm,0.7s
ARU Arti 54.22 317*c i*P **P 00 49 12.1 -0.6**
ARU *PP **pP 00 49 39.6 -0.9**
ARU 00 51 16.1
ARU S **S 00 56 40.6 0.0**
ARU pmax pmax
comp=Z,7.0nm,1.2s
JIRN Jiri 54.67 274 *e*P **P 00 49 18.0 +1.2**
comp=Z,22nm,0.7s
GUN Gumba 54.71 274 *e*P **P 00 49 17.8 +0.7**
comp=Z,7.3nm,0.3s
RAMN Ramite 54.85 273 *e*P **P 00 49 18.7 +0.7**
comp=Z,39nm,0.6s
KKN Kakani 55.20 274 *e*P **P 00 49 22.1 +1.7**
PKI Pulchoki 55.25 274 *e*P **P 00 49 21.3 +0.3**
comp=Z,4.3nm,0.2s
DMN Daman 55.43 274 *e*P **P 00 49 23.5 +1.3**
ARCES ARCESS Array B 56.95 340 *e*P **P 00 49 33.8 +1.7**
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 56.95 340 P **P 00 49 31.5 -0.5**
comp=Z,0.9nm,0.6s,baz=27,slow=8.1,SNR=6.3
ARCES ARCESS Array B 56.95 340 *e*P **P 00 49 33.8 +1.7**
SUMG Summit 59.84 4 *i*P **P 00 49 53.4 +0.9**
comp=Z,4.9nm,0.8s
JOF Joensuu 60.45 333 *e*P **P 00 49 55.9 -0.4**
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 60.45 333 *e*p **P 00 49 55.9 -0.4**
comp=Z,1.5nm,0.5s
KAF Kangasniemi 62.56 335 *e*P **P 00 50 08.7 -1.8**
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 62.56 335 *e*p **P 00 50 08.7 -1.8**
comp=Z,1.5nm,0.6s
FINES FINESS Array B 63.16 334 *e*P **P 00 50 13.9 -0.5**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 63.16 334 P **P 00 50 13.7 -0.7**
comp=Z,2.7nm,0.4s,baz=41,slow=6.4,SNR=68
FINES FINESS Array B 63.16 334 *e*P **P 00 50 13.9 -0.5**
OBN Obninsk 64.47 325 *e*P **P 00 50 23.4 +0.3**
OBN pmax pmax
comp=Z,3.0nm,0.9s
GEYT Alibeck 65.97 300 P **P 00 50 33.3 0.0**
comp=Z,1.4nm,0.7s,baz=34,slow=5.4,SNR=4.9
NB2 NORSAR Subarra 67.33 341 P **P 00 50 41.7 +0.2**
comp=Z,1.2nm,0.6s,baz=26,slow=6.5
NOA NORSAR Array B 67.33 341 *e*P **P 00 50 41.6 +0.2**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 67.33 341 P **P 00 50 41.6 +0.2**
comp=Z,1.9nm,0.6s,baz=25,slow=6.6,SNR=12
KBZ Khabaz 70.10 314 P **P 00 50 59.0 +0.2**
KBZ pmax pmax
comp=Z,3.0nm,0.7s
KBZ Khabaz 70.10 314 P **P 00 50 59.0 +0.2**
comp=Z,2.8nm,0.7s,baz=51,slow=6.5,SNR=12
AKASG Malin Array Be 70.70 326 *e*P **P 00 51 01.6 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 70.70 326 P **P 00 51 01.6 -0.7**
comp=Z,1.2nm,0.3s,baz=34,slow=6.0,SNR=7.3
ASAR Alice Springs 72.97 198 P **P 00 51 16.2 0.0**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 72.97 198 P **P 00 51 16.1 0.0**
comp=Z,0.5nm,0.6s,baz=12,slow=6.1,SNR=4.6
ASAR Alice Springs 72.97 198 *e*P **P 00 51 17.1 +0.9**
BURAR Bucovina Array 74.74 326 ⇑P **P 00 51 26.5 0.0**
BURAR Bucovina Array 74.74 326 ⇑*i*P **P 00 51 26.5 0.0**
TESR Tescani 75.10 325 ⇑*i*P **P 00 51 28.6 +0.1**
CLL Collm 75.58 335 ⇑*i*P **P 00 51 31.1 +0.1**
CLL pmax pmax
comp=Z,6.0nm,0.6s
CLL Collm 75.58 335 ⇑*i*P **P 00 51 31.1 +0.1**
comp=Z,6.0nm,0.6s
VRI Vrincioaia 75.61 324 ⇑P **P 00 51 32.3 +1.0**
VRI Vrincioaia 75.61 324 ⇑*i*P **P 00 51 32.3 +1.0**
CFR Carcaliu 75.61 323 ⇓P **P 00 51 31.4 +0.1**
CFR Carcaliu 75.61 323 ⇓*i*P **P 00 51 31.4 +0.1**
MLR Muntele Rosu 76.22 325 ⇓P **P 00 51 35.5 +0.5**
MLR Muntele Rosu 76.22 325 ⇓*i*P **P 00 51 35.5 +0.5**
VOIR 76.62 325 ⇑P **P 00 51 37.8 +0.6**
VOIR 76.62 325 ⇑*i*P **P 00 51 37.8 +0.6**
MSAB Monastry St. A 76.63 323 ⇑*i*P **P 00 51 37.7 +0.6**
PSN Preselentsi 76.81 322 ⇑P **P 00 51 39.6 +1.4**
PSN Preselentsi 76.81 322 ⇑*i*P **P 00 51 39.6 +1.4**
ARR Arges 76.84 325 ⇑*i*P **P 00 51 40.2 +1.8**
TXAR Lajitas Array 77.25 61 P **P 00 51 40.5 -0.5**
comp=Z,0.4nm,0.6s,baz=296,slow=4.4,SNR=10
TXAR pP **pP 00 52 09.2 -1.3**
comp=Z,0.6nm,0.5s,baz=303,slow=4.2,SNR=6.3
TXAR Lajitas Array 77.25 61 *e*P **P 00 51 40.7 -0.3**
GERES GERESS Array B 77.57 334 *e*P **P 00 51 42.9 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 77.57 334 P **P 00 51 42.6 +0.1**
comp=Z,0.6nm,0.4s,baz=35,slow=5.7,SNR=7.8
GERES GERESS Array B 77.57 334 *e*P **P 00 51 42.9 +0.4**
BRTR Keskin Array B 77.60 316 *e*P **P 00 51 43.6 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 77.60 316 P **P 00 51 43.6 +0.7**
comp=Z,2.0nm,0.8s,baz=56,slow=3.9,SNR=11
CONA Conrad Observa 77.72 332 ⇑*i*P **P 00 51 44.3 +1.0**
comp=Z,2.7nm,0.7s
BZS Buzias 77.76 327 ⇑P **P 00 51 43.9 +0.5**
BZS Buzias 77.76 327 ⇑*i*P **P 00 51 43.9 +0.5**
MOA Molln 78.29 333 ⇑*i*P **P 00 51 47.1 +0.7**
comp=Z,4.6nm,1.2s
KBA Koelnbreinsper 79.26 333 ⇑*i*P **P 00 51 53.0 +1.2**
comp=Z,3.4nm,0.6s
WTTA Wattenberg 79.61 334 ⇑*i*P **P 00 51 54.4 +0.7**
comp=Z,2.5nm,0.4s
VTS Vitosha 79.73 325 S **P 00 51 55.3 +0.8**
MMB Musomiste 80.37 324 ⇑P **P 00 51 59.0 +1.2**
MMB Musomiste 80.37 324 ⇑*i*P **P 00 51 59.0 +1.2**

CSEM ***30*** *00:42:31.4, 42°.26N×13°.53E, h9km, MD1.8/6*
ROM 30 00:42:31.4±0.1, 42°.26N×13°.53E, h9km±1km, Md1.8/6, Ml1.2/3,3C, Error ellipse: s-maj=1.0km s-min=0.5km az=15.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.04**	**82**	⇑*i*Pg	Pg	00 42 33.6	+0.4
FAGN				Sg	Sg	00 42 34.8	+0.3
FAGN	**Fagnano**	**0.04**	**82**	⇑*i*Pg	Pg	00 42 33.6	+0.4
FAGN				Sg	Sg	00 42 34.8	+0.3
T0106	**Roio Piano**	**0.12**	**294**	⇑*i*Pg	Pg	00 42 34.7	+0.4
T0106				Sg	Sg	00 42 36.9	+0.6
	89nm,0.3s						
AQU	**L'Aquila**	**0.13**	**315**	Pg	Pg	00 42 34.9	+0.4
AQU				Sg	Sg	00 42 37.3	+0.7
	37nm,0.3s						
AQU	**L'Aquila**	**0.13**	**315**	Pg	Pg	00 42 34.9	+0.4
AQU				Sg	Sg	00 42 37.3	+0.7
	37nm,0.3s						
T0104	**Madonna delle**	**0.17**	**306**	Pg	Pg	00 42 35.7	+0.6
T0104				Sg	Sg	00 42 38.5	+0.8
PTQR	**Pietraquaria**	**0.26**	**202**	Pg	Pg	00 42 37.3	+0.6
	1.0nm,0.2s						
PTQR	**Pietraquaria**	**0.26**	**202**	Pg	Pg	00 42 37.3	+0.6
	1.0nm,0.2s						
VCEL	**Villa Celiera**	**0.27**	**60**	Pg	Pg	00 42 37.7	+0.7
VCEL				Sg	Sg	00 42 42.1	+1.4
	47nm,0.9s						
VCEL	**Villa Celiera**	**0.27**	**60**	Pg	Pg	00 42 37.7	+0.7
VCEL				Sg	Sg	00 42 42.1	+1.4
	47nm,0.9s						

SJA ***30*** *00:47:00.7±0.8, 32°.98S×68°.15W, h14km±3km, ML3.3*
GUC ***30*** *00:47:01.3±0.4, 32°.92S×68°.04W, h11km±6km, ML3.5*
ISC 30 00:47:00.1±1.7, 33°.01S±0°.06×68°.12W±0°.05, h12km±13km, n15, σ0§62/24, 3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	**Agrelo**	**0.60**	**263**	*e*P	**Pg**	**00 47 12.4**	**+0.6**
AAGR				*e*S	**Sb**	**00 47 21.2**	**+0.2**
ARCO	**CERRO ARCO**	**0.70**	**284**	*e*P	**Pb**	**00 47 14.4**	**0.0**
ARCO				*e*S	**Sb**	**00 47 24.7**	**+0.7**
ARCO				AML	AML	00 47 27.0	
	comp=Z,2μm,0.6s						
ASAL	**Salagasta**	**0.73**	**305**	*e*P	**Pb**	**00 47 14.9**	**0.0**
ASAL				*e*S	**Sb**	**00 47 24.9**	**0.0**
ACAN	**Cantantal**	**1.08**	**47**	*e*P	**Pb**	**00 47 21.1**	**+0.5**
ACAN				*e*S	**Sn**	**00 47 36.0**	**+0.1**
AUSP	**Uspallata**	**1.32**	**306**	*e*P	**Pb**	**00 47 25.2**	**+0.1**
AUSP				*e*S	**Sg**	**00 47 43.8**	**+0.9**
CFAA	**Coronel Fontan**	**1.40**	**356**	*e*P	**Pg**	**00 47 26.6**	**-0.4**
CFAA				*e*P	**Pg**	**00 47 26.6**	**-0.4**
CFAA				*e*S	**Sg**	**00 47 45.9**	**+0.6**
RTLS	**Leoncito**	**1.56**	**320**	*e*P	**Pb**	**00 47 29.5**	**+0.4**
RTLS				*e*S	**Sg**	**00 47 51.1**	**+0.6**
RTLL	**Cerro Villicun**	**1.70**	**350**	*e*P	**Pb**	**00 47 31.5**	**+0.2**
RTLL				*e*S	**Sg**	**00 47 54.2**	**-0.7**
FCH	**Farellones**	**1.85**	**260**	IAML		00 47 57.0	
	comp=E,528nm,0.4s						
CLCH	**Cerro Calan**	**2.06**	**259**	⇓*i*P	**Pb**	**00 47 37.9**	**+0.3**
CLCH				*i*S	**Sg**	**00 48 05.4**	**-1.0**
CLCH				IAML		00 48 08.9	
	comp=N,302nm,0.2s						
AMOG	**MOGNA**	**2.09**	**351**	*e*P	**Pb**	**00 47 37.1**	**-0.9**
AMOG				*e*S	**Sb**	**00 48 03.9**	**0.0**
PEL	**Peldehue**	**2.16**	**266**	⇓*i*P	**Pb**	**00 47 38.8**	**-0.3**
PEL				*i*S	**Sg**	**00 48 08.1**	**-1.4**
PEL				IAML		00 48 09.0	
	comp=E,526nm,0.3s						
CHCH	**Chadas Angostu**	**2.31**	**246**	*e*P1	Pn	00 47 41.8	+3.8
CHCH				*i*S1	Sn	00 48 12.6	+6.2
CACH	**El Canelo**	**2.34**	**241**	*i*P1	Pn	00 47 42.5	+3.9
CACH				*i*S1	Sn	00 48 13.7	+6.3
ROCH	**El Roble**	**2.43**	**270**	⇓*i*P	**Pb**	**00 47 43.6**	**-0.2**
ROCH				*i*S1	Sn	00 48 15.3	+5.8
ROCH				IAML		00 48 18.0	
	comp=N,453nm,0.4s						

TIF 30 00:49:37.5, 42°.52N×43°.58E, h9km±1km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.12**	**307**	P	Pg	00 49 40.8	+0.5
ONI				S	Sg	00 49 42.9	+0.6

CSEM ***30*** *00:49:54.3, 45°.84N×13°.97E, h0km, ML0.6*
LJU 30 00:49:54.3, 45°.84N×13°.97E, h16km, ML0.6, 4D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVS	**Javornik**	**0.08**	**53**	⇓*i*Pg	Pg	00 49 57.8	+0.1
JAVS				*i*Sg	Sg	00 50 00.1	+0.3
	comp=Z,12nm,0.1s						
JAVS	**Javornik**	**0.08**	**53**	⇓*i*Pg	Pg	00 49 57.8	+0.1
JAVS				*i*Sg	Sg	00 50 00.1	+0.2
	comp=Z,12nm,0.1s						
VOJS	**Vojsko**	**0.20**	**343**	⇓*i*Pg	Pg	00 49 59.1	0.0
VOJS				*i*Sg	Sg	00 50 02.7	+0.3
	comp=Z,6.0nm,0.2s						
VOJS	**Vojsko**	**0.20**	**343**	⇓*i*Pg	Pg	00 49 59.1	-0.1
VOJS				*i*Sg	Sg	00 50 02.7	+0.3
	comp=Z,6.0nm,0.2s						
SKDS	**Skadanscina**	**0.30**	**174**	*i*Sg	Sg	00 50 05.6	+0.5
SKDS	**Skadanscina**	**0.30**	**174**	*i*Sg	Sb	00 50 05.6	-0.5
CRNS	**Crni Vrh**	**0.31**	**41**	*i*Pg	Pg	00 50 01.0	0.0
CRNS				*i*Sg	Sg	00 50 06.0	+0.4
	comp=Z,2.0nm,0.1s						
CADS	**Cadrg**	**0.42**	**337**	*i*Sg	Sg	00 50 09.1	+0.5
CADS	**Cadrg**	**0.42**	**337**	*i*Sg	Sg	00 50 09.1	+0.4

DDA ***30*** *00:50:36.3, 38°.81N×40°.14E, h9km, MD3.1*
ISK ***30*** *00:50:36.6, 38°.82N×40°.18E, h4km, MD3.0*
CSEM ***30*** *00:50:37.0±0.1, 38°.81N×40°.17E, h2km, MD3.0, Error ellipse: s-maj=3.8km s-min=3.5km az=102.0*
ISC 30 00:50:37.0±1.2, 38°.81N±0°.02×40°.14E±0°.02, h3km±10km, n63, σ0§90/83, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bing¶‖**	**0.46**	**66**	*e*PG	**Pg**	**00 50 45.5**	**-0.5**
BNGB				*e*SG	**Sg**	**00 50 51.9**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.78**	**237**	*e*PG	**Pb**	**00 50 52.9**	**-0.4**
SVRC	**Sivrice-ELAZID**	**0.78**	**237**	*e*Pg	**Pb**	**00 50 52.9**	**-0.4**
BNGL	**BINGOL**	**0.81**	**79**	*i*P	**Pg**	**00 50 52.1**	**-0.4**
BNGL				*i*S	**Sn**	**00 51 07.6**	**-0.4**
ERZN	**Erzincan**	**0.84**	**338**	*e*PG	**Pg**	**00 50 52.5**	**-0.7**
DYBB	**Diyarbakir**	**0.85**	**180**	*e*PG	**Pb**	**00 50 53.9**	**-0.5**
DIYA	**Diyarbakir**	**0.88**	**181**	*i*P	**Pb**	**00 50 54.6**	**-0.3**
DIYA	**Diyarbakir**	**0.88**	**181**	*i*P	**Pb**	**00 50 54.6**	**-0.3**
DIYA				*i*S	**Sb**	**00 51 07.7**	**+0.6**
DIY	**Diyarbakir**	**0.91**	**176**	*e*Pg	**Pg**	**00 50 53.9**	**-0.6**
ELZG	**Elazig**	**0.95**	**252**	*i*P	**Pg**	**00 50 54.6**	**-0.7**
ELZG				*i*S	**Sn**	**00 51 12.0**	**+0.4**
ELZG	**Elazig**	**0.95**	**252**	*i*P	**Pg**	**00 50 54.6**	**-0.7**
ELZG				*i*S	**Sn**	**00 51 12.0**	**+0.4**
EUZM	**Uzumlu**	**0.96**	**339**	*i*P	**Pg**	**00 50 54.6**	**-0.9**
EUZM				*i*S	**Sb**	**00 51 08.8**	**-0.8**
EUZM	**Uzumlu**	**0.96**	**339**	*i*P	**Pg**	**00 50 54.6**	**-0.9**
EUZM				*i*S	**Sb**	**00 51 08.8**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.06**	**128**	*e*PG	**Pb**	**00 50 57.1**	**-0.9**
VRTB	**Varto-Mus**	**1.09**	**71**	*e*PG	**Pg**	**00 50 57.2**	**-0.7**
VRTB	**Varto-Mus**	**1.09**	**71**	*e*Pg	**Pg**	**00 50 57.2**	**-0.7**
BTMT	**Batman**	**1.23**	**120**	*e*PN	**Pb**	**00 51 00.2**	**-0.7**
BTMT	**Batman**	**1.23**	**120**	*e*Pn	**Pb**	**00 51 00.2**	**-0.7**
KOPT	**Kop Dagi**	**1.24**	**13**	*i*P	**Pg**	**00 51 00.3**	**-0.6**
KOPT				*i*S	**Sn**	**00 51 20.5**	**+1.5**
KOPT	**Kop Dagi**	**1.24**	**13**	*i*P	**Pg**	**00 51 00.3**	**-0.6**
KOPT				*i*S	**Sn**	**00 51 20.5**	**+1.5**
BEST	**Besiri**	**1.27**	**135**	*i*P	**Pg**	**00 51 01.0**	**-0.5**
BEST				*i*S	**Sn**	**00 51 18.5**	**-1.0**
KEMA	**Kemaliye**	**1.36**	**290**	*i*P	**Pn**	**00 51 02.8**	**-0.2**
KEMA				*i*S	**Sb**	**00 51 20.8**	**-0.2**
KEMA	**Kemaliye**	**1.36**	**290**	*i*P	**Pn**	**00 51 02.8**	**-0.2**
KEMA				*i*S	**Sb**	**00 51 20.8**	**-0.2**
MAZI	**Mazidag**	**1.36**	**170**	*e*PN	**Pg**	**00 51 03.0**	**-0.2**
MAZI	**Mazidag**	**1.36**	**170**	*e*Pn	**Pg**	**00 51 03.0**	**-0.2**
ILIC	**ilic-Erzincan**	**1.38**	**298**	*e*PN	**Pb**	**00 51 03.5**	**-0.1**
ILIC	**ilic-Erzincan**	**1.38**	**298**	*e*Pn	**Pb**	**00 51 03.5**	**-0.1**
MALT	**Malatya**	**1.43**	**250**	*e*PN	**Pb**	**00 51 04.5**	**+0.2**
MALT	**Malatya**	**1.43**	**250**	⇓*i*P	**Pn**	**00 51 02.4**	**-1.5**
MALT				S	**Sg**	**00 51 24.0**	**+1.1**
MALT	**Malatya**	**1.43**	**250**	⇓*i*P	**Pn**	**00 51 02.4**	**-1.5**
MALT	**Malatya**	**1.43**	**250**	*e*Pn	**Pb**	**00 51 04.5**	**+0.2**
EZM	**Erzurum**	**1.45**	**40**	*e*PN	**Pn**	**00 51 03.5**	**-0.9**
ERZM	**Erzurum**	**1.46**	**41**	*i*P	**Pn**	**00 51 03.9**	**-0.6**
ERZM				*i*S	**Sg**	**00 51 27.2**	**+3.4**
ERZM	**Erzurum**	**1.46**	**41**	*i*P	**Pn**	**00 51 03.9**	**-0.6**
ERZM				*i*S	**Sg**	**00 51 27.2**	**+3.4**
KELT	**Kelkit**	**1.50**	**333**	*i*P	**Pn**	**00 51 04.3**	**-0.8**
KELT				*i*S	**Sn**	**00 51 24.9**	**-0.5**
KELT	**Kelkit**	**1.50**	**333**	*i*P	**Pn**	**00 51 04.3**	**-0.8**
KELT				*i*S	**Sn**	**00 51 24.9**	**-0.5**
MARD	**Mardin**	**1.57**	**161**	*i*P	**Pn**	**00 51 05.3**	**-0.7**
MARD				*i*S	**Sb**	**00 51 26.6**	**-0.5**
BAYT	**Ayd¨–ntepe-Bay**	**1.59**	**0**	*e*PN	**Pb**	**00 51 06.5**	**-0.6**
BAYT	**Ayd¨–ntepe-Bay**	**1.59**	**0**	*e*Pn	**Pb**	**00 51 06.5**	**-0.6**
URFA	**Urfa**	**1.71**	**218**	*e*PN	**Pn**	**00 51 08.3**	**+0.5**
URFA	**Urfa**	**1.71**	**218**	*e*Pn	**Pn**	**00 51 08.3**	**+0.5**
GUMT	**Gumushane**	**1.73**	**343**	*e*PN	**Pn**	**00 51 08.2**	**+0.1**
GUMT	**Gumushane**	**1.73**	**343**	*e*Pn	**Pn**	**00 51 08.2**	**+0.1**
AKCD	**Akcadag**	**1.81**	**254**	*i*P	**Pb**	**00 51 10.8**	**-0.1**
AKCD	**Akcadag**	**1.81**	**254**	*i*P	**Pb**	**00 51 10.8**	**-0.1**
SUSE	**Susehri**	**2.05**	**314**	*i*P	**Pb**	**00 51 14.6**	**-0.4**
SUSE				*i*S	**Sg**	**00 51 42.3**	**-0.6**
SUSE	**Susehri**	**2.05**	**314**	*i*P	**Pb**	**00 51 14.6**	**-0.4**
SUSE				*i*S	**Sg**	**00 51 42.3**	**-0.6**
SIRT	**Sirnak**	**2.23**	**125**	*e*PN	**Pn**	**00 51 15.4**	**+0.4**
SIRT	**Sirnak**	**2.23**	**125**	*e*Pn	**Pn**	**00 51 15.4**	**+0.4**
AGRB	**Hanur-Agry**	**2.35**	**70**	*e*PN	**Pn**	**00 51 16.4**	**-0.3**
AGRB	**Hanur-Agry**	**2.35**	**70**	*e*Pn	**Pn**	**00 51 16.4**	**-0.3**
ESPY	**Espiye-Giresun**	**2.37**	**333**	*e*PN	**Pn**	**00 51 17.7**	**+0.9**
ESPY	**Espiye-Giresun**	**2.37**	**333**	*e*Pn	**Pn**	**00 51 17.7**	**+0.9**
SVSK	**Karacayir**	**2.67**	**296**	*e*PN	**Pn**	**00 51 22.6**	**+1.7**
SVSK	**Karacayir**	**2.67**	**296**	*e*Pn	**Pn**	**00 51 22.6**	**+1.7**
RSDY	**Resadiye-TOKAT**	**2.69**	**307**	*e*PN	**Pn**	**00 51 22.2**	**+1.0**
RSDY	**Resadiye-TOKAT**	**2.69**	**307**	*e*Pn	**Pn**	**00 51 22.2**	**+1.0**
KMRS	**Kahramanmaras**	**2.86**	**244**	*e*PN	**Pn**	**00 51 24.5**	**+0.9**
KMRS	**Kahramanmaras**	**2.86**	**244**	*e*Pn	**Pn**	**00 51 24.5**	**+0.9**
BCA	**Borcka**	**2.87**	**23**	*e*PN	**Pn**	**00 51 24.1**	**+0.4**
BCA	**Borcka**	**2.87**	**23**	*e*Pn	**Pn**	**00 51 24.1**	**+0.4**
CUKT	**Cukurca**	**3.15**	**118**	*e*PN	**Pn**	**00 51 28.0**	**+0.3**
CUKT	**Cukurca**	**3.15**	**118**	*e*Pn	**Pn**	**00 51 28.0**	**+0.3**

IDC ***30*** *00:54:59.4±2.9, 6°.50N×125°.78E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/24, mbtmp3.5/3, Error ellipse: s-maj=251.1km s-min=29.7km az=65.0*
ISCJB ***30*** *00:55:01.6±0.8, 6°.78N±0°.06×125°.97E±0°.09, h53km, mb3.5/3, Error ellipse: s-maj=12.1km s-min=8.3km az=0.0*
MAN ***30*** *00:55:02, 6°.90N×125°.99E, h25km, mb4.4, ML3.2, MS3.1*
ISC 30 00:55:02.7±1.2, 6.78N±0°.07×125°.98E±0°.08, h53km, n8, σ1§43/9, mb3.5/3, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.32**	**59**	*e*P	**Pn**	**00 55 10.6**	**-1.8**
GSPH	**General Santos**	**1.23**	**236**	⇑*i*P	**Pn**	**00 55 22.1**	**-1.6**
BUKP	**Musuan**	**1.42**	**320**	*e*P	**Pn**	**00 55 26.2**	**0.0**
BUKP				*e*S	**Sn**	**00 55 43.2**	**-0.7**
BIPH	**Bislig**	**1.45**	**15**	⇑*e*P	**Pn**	**00 55 26.0**	**-0.6**
BIPH				*e*S	**Sn**	**00 55 44.2**	**-0.2**
BUTP	**Butuan**	**2.20**	**351**	*e*P	**Pn**	**00 55 36.0**	**-1.0**
WRA	**Warramunga Arr**	**27.80**	**163**	P	**P**	**01 00 48.2**	**+1.1**
	1.2nm,1.0s,baz=342,slow=9.8,SNR=3.5						
ASAR	**Alice Springs**	**31.23**	**166**	P	**P**	**01 01 19.4**	**+1.9**
	0.3nm,0.3s,baz=338,slow=6.7,SNR=5.9						
MKAR	**Makanchi Array**	**54.65**	**324**	P	P	01 04 30.8	+4.6
	0.2nm,0.6s,baz=110,slow=8.0,SNR=3.2						

ISCJB ***30*** *01:01:24.8±0.6, 23°.41S±0°.05×69°.30W±0°.06, h93km, mb3.7/3, Error ellipse: s-maj=7.9km s-min=6.5km az=22.2*
GUC ***30*** *01:01:27.0±0.8, 23°.23S×69°.26W, h87km±10km, ML4.3*
IDC ***30*** *01:01:27.7±1.6, 23°.39S×68°.89W, h83km±6km, mb3.7/3, mb1 3.8/6, mb1mx3.5/19, mbtmp4.0/6, MS1.7/1, Ms1 1.7/1, ms1mx1.7/16, Error ellipse: s-maj=46.1km s-min=18.1km az=96.0*
ISC 30 01:01:26.1±0.8, 23°.36S±0°.07×69°.20W±0°.06, h93km, n11, σ1§68/18, mb3.8/3, 2C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.92**	**268**	⇓*i*P	**Pn**	**01 01 47.1**	**+1.8**
CEN1				*i*S	**Sn**	**01 02 03.3**	**+3.6**
CEN1				IAML		01 02 04.0	
	comp=E,8μm,0.9s						
SPCH	**San Pedro de A**	**1.02**	**64**	⇑*i*P	**Pn**	**01 01 48.1**	**+1.5**
SPCH				*i*S	**Sn**	**01 02 03.4**	**+1.5**
SPCH				IAML		01 02 04.3	
	comp=E,13μm,0.4s						
ANCH	**Antofagasta**	**1.16**	**254**	⇓*i*P	Pn	01

Solution. s69 Moment tensor: Scale 10^{17}Nm; M_{rr}3.74; $M_{\theta\theta}$-0.94; $M_{\phi\phi}$-2.80; $M_{r\theta}$-0.47; $M_{\phi\theta}$-1.12; $M_{\phi r}$-1.09; Best double couple: $M_0$3.70000×10^{17} NP1:ϕ_s205.00000°, δ54.00000°,λ89.00000°. NP2:ϕ_s26.00000°,δ36.00000°, λ91.00000°. Principal axes: T 3.9300, Plg80.0000°, Azm112.0000°; N -0.4200, Plg0.0000°, Azm204.0000°; P -3.5200, Plg9.0000°, Azm295.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.

NEIC *Felt [II] at Sapporo, Hokkaido. Also felt at Iwanai, Nanae and Otaru. Recorded [3 JMA] in southwestern Hokkaido and [1 JMA] in northern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.*

JMA ***30*** *01:02:51.1±0.2, 43.°19N×138.°58E, h25km±5km, M5.8*

JMA *Felt III J1.*

ISCJB ***30*** *01:02:53.1±0.1, 43.°26N±0.°01×138.°40E±0.°01, h27km, mb5.9/506, MS5.4/208, Error ellipse: s-maj=2.2km s-min=1.4km az=160.8*

MOS ***30*** *01:02:53.7±0.9, 43.°35N×138.°41E, h39km, mb6.0/122, MS5.4/72, Error ellipse: s-maj=6.1km s-min=5.2km az=87.1*

GCMT ***30*** *01:02:53.5±0.1, 43.°28N×138.°45E, h12km, MW5.8/130, Moment Tensor Solution. s115,c232; s130,c421; Duration: 1s8 Moment tensor: Scale 10^{17}Nm; M_{rr}5.07±.03; $M_{\theta\theta}$-0.51±.03; $M_{\phi\phi}$-4.57±.03; $M_{r\theta}$-0.23±.10; $M_{\phi\theta}$-1.67±.03; $M_{\phi r}$-1.15±.10; Best double couple: $M_0$5.25200×10^{17} NP1:ϕ_s198.00000°,δ51.00000°, λ88.00000°. NP2:ϕ_s22.00000°,δ39.00000°,λ93.00000°. Principal axes: T 5.2050, Plg83.0000°, Azm93.0000°; N 0.0860, Plg2.0000°, Azm199.0000°; P -5.2980, Plg6.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

SZGRF ***30*** *01:02:54.4, 43.°78N×139.°72E, h33km, mb6.5, MS5.5, Eastern Sea of Japan*

SKHL ***30*** *01:02:56.1±1.0, 43.°47N×138.°26E, h53km±3km, mb6.3/5, mbh6.3/4, Ms5.8/6, msh6.2/4*

ISC 30 01:02:54.6±0.3, 43.°28N±0.°03×138.°49E±0.°02, h30km±1km, h29km; pP-P, n2177, σ1º11/2297, mb6.0/510, MS5.4/213, 615C-250D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JSH	**Shimam**	**1.30**	**119**	⇓P	Pn	01 03 12.4	-4.4
JSH				*e*S	Sn	01 03 27.7	-5.5
JOSM	**Okushiri--Mats**	**1.40**	**149**	P	Pn	01 03 13.5	-4.6
JOSM				*e*S	Sn	01 03 29.4	-6.2
JSK	**Shakotan**	**1.45**	**87**	⇓P	Pn	01 03 15.1	-3.7
JSK				*e*S	**Sn**	**01 03 32.6**	**-4.1**
JYM2	**Yakumo 2**	**1.81**	**129**	P	Pn	01 03 20.0	-3.7
JNB	**Noboribetsu**	**2.04**	**113**	P	Pn	01 03 23.7	-3.2
JNB				*e*S	**Sn**	**01 03 47.2**	**-4.1**
JEW	**Eniwo**	**2.21**	**101**	⇓P	**Pn**	**01 03 26.7**	**-2.6**
TEY	**Ternei**	**2.22**	**323**	*e*P	**Pn**	**01 03 27.0**	**-2.4**
TEY				AMB	AMB	01 03 27.7	
	31μm,9.4s						
TEY				AMB	AMB	01 03 27.7	
	13μm,9.4s						
TEY				AMB	AMB	01 03 27.7	
	45μm,9.4s						
TEY				AMB	AMB	01 03 27.7	
	495nm,1.0s						
TEY				AMB	AMB	01 03 27.7	
	344nm,1.0s						
TEY				AMB	AMB	01 03 27.7	
	233nm,1.0s						
TEY				*e*rx	rx	01 04 32.0	
TEY				A	A	01 04 36.0	
	128μm,6.0s						
TEY				A	A	01 04 36.0	
	49μm,6.0s						
TEY				AMS	AMS	01 07 34.0	
	39μm,10.0s						
TEY				AMS	AMS	01 07 34.0	
	49μm,10.0s						
TEY				AMS	AMS	01 07 34.0	
	51μm,10.0s						
JSR	**Shiriuchi**	**2.26**	**140**	⇓P	Pn	01 03 26.5	-3.4
JKB	**Kayabe**	**2.33**	**126**	⇓P	Pn	01 03 27.9	-3.1
JHR	**Hokuryu**	**2.40**	**78**	⇓P	**Pn**	**01 03 29.6**	**-2.2**
JHR				*e*S	**Sn**	**01 03 59.1**	**-1.0**
JYG	**Yagishiri**	**2.41**	**61**	⇑P	**Pn**	**01 03 29.6**	**-2.4**
JYG				*e*S	**Sn**	**01 03 58.7**	**-1.8**
JSS	**Shosan**	**2.67**	**64**	P	**Pn**	**01 03 34.0**	**-1.6**
JSS				*e*S	**Sn**	**01 04 06.1**	**-0.9**
JOT	**Ohata**	**2.68**	**134**	P	Pn	01 03 32.6	-3.1
JAB	**Ashibetsu**	**2.73**	**84**	⇓P	**Pn**	**01 03 34.4**	**-2.0**
JRR	**Rishiri**	**2.75**	**47**	P	**Pn**	**01 03 35.8**	**-0.8**
JBT2	**Biratori 2**	**2.88**	**99**	⇓P	**Pn**	**01 03 36.6**	**-1.9**
JFR	**Furan**	**3.00**	**91**	P	**Pn**	**01 03 38.3**	**-1.8**
ASAJ	**Asahikawa**	**3.09**	**73**	P	**Pn**	**01 03 39.4**	**-2.0**
ASAJ						01 04 15.4	
ASAJ				pmax	pmax		
	comp=Z,677nm,0.3s						
ASAJ				smax	smax		
	comp=N,835nm,0.3s						
ASAJ	**Asahikawa**	**3.09**	**73**	Pn	**Pn**	**01 03 39.4**	**-2.0**
	comp=N,677nm,0.3s,baz=258,slow=12,SNR=1319						
ASAJ				Sn	**Sn**	**01 04 15.4**	**-1.8**
	comp=N,834nm,0.3s,baz=270,slow=20,SNR=15						
ASAJ				LR	LR	01 04 59.1	
	comp=N,70μm,18.9s,baz=270,slow=41						
ASAJ	**Asahikawa**	**3.09**	**73**	*e*Pn	**Pn**	**01 03 39.3**	**-2.0**
ASAJ				Sn	**Sn**	**01 04 15.4**	**-1.8**
ASAJ				*e*S	Sb	01 04 17.4	-8.7
JKK2	**Kamakawa 2**	**3.15**	**78**	⇓P	**Pn**	**01 03 40.1**	**-2.1**
JWK2	**Keihoku**	**3.18**	**49**	⇑P	**Pn**	**01 03 42.2**	**-0.4**
JWK2				*e*S	**Sn**	**01 04 19.3**	**-0.1**
JNBK	**Urakawa-nobuka**	**3.29**	**106**	⇓P	**Pn**	**01 03 42.1**	**-2.0**
ERM	**Erimo**	**3.67**	**109**	*ce*P	**Pn**	**01 03 48.7**	**-0.5**
ERM				pmax	pmax		
	comp=Z,743nm,1.2s						
ERM	**Erimo**	**3.67**	**109**	*e*Pn	**Pn**	**01 03 47.4**	**-1.8**
NEVR	**Nevel'sk**	**4.15**	**34**	*e*P	**Pn**	**01 03 56.6**	**+0.7**
NEVR				*e*S	**Sn**	**01 04 42.5**	**-0.8**
YSS	**Yuzh-Sakhalins**	**4.75**	**38α**	*i*P	**Pn**	**01 04 04.1**	**0.0**
YSS				*i* S	**Sn**	**01 04 57.0**	**-1.2**
YSS				pmax	pmax		
	comp=N,690nm,0.4s						
YSS				pmax	pmax		
	comp=Z,2μm,0.4s						
YSS				pmax	pmax		
	comp=E,1μm,0.5s						
YSS				pmax	pmax		
	comp=N,4μm,6.0s						
YSS				pmax	pmax		
	comp=E,2μm,6.0s						
YSS				pmax	pmax		
	comp=Z,4μm,6.0s						
YSS				smax	smax		
	comp=E,1μm,0.5s						
YSS				MLR	MLR		
	comp=N,58μm,10.0s						
YSS				MLR	MLR		
	comp=Z,50μm,10.0s						
YSS				MLR	MLR		
	comp=E,72μm,11.0s						
YSS				MLR	MLR		
	comp=Z,52μm,10.0s						
YSS	**Yuzh-Sakhalins**	**4.75**	**38**	*e*P	**Pn**	**01 04 05.1**	**+1.0**
YSS				AMB	AMB	01 04 05.7	
	comp=Z,690nm,0.4s						
YSS				AMB	AMB	01 04 05.7	
	comp=Z,1μm,0.4s						
YSS				AMB	AMB	01 04 05.7	
	comp=Z,2μm,0.4s						
YSS				AMB	AMB	01 04 10.0	
	comp=Z,4μm,6.0s						
YSS				AMB	AMB	01 04 10.0	
	comp=Z,2μm,6.0s						
YSS				AMB	AMB	01 04 10.0	
	comp=Z,4μm,6.0s						
YSS				*e*S	**Sn**	**01 04 57.0**	**-1.2**
YSS				A	A	01 04 59.1	
	comp=Z,1μm,0.5s						
YSS				AMS	AMS	01 06 48.0	
	comp=Z,58μm,10.0s						
YSS				AMS	AMS	01 06 48.0	
	comp=Z,72μm,10.0s						
YSS				AMS	AMS	01 06 48.0	
	comp=Z,50μm,10.0s						
YSS	**Yuzh-Sakhalins**	**4.75**	**38**	*e*Pn	**Pn**	**01 04 04.5**	**+0.3**
YSS				*e*S	Sn	01 04 51.6	-6.6
USRK	**Ussuriysk Ar.**	**4.80**	**283**	Pn	**Pn**	**01 04 03.3**	**-1.6**
	comp=Z,44nm,0.3s,baz=90,slow=13,SNR=273						
USRK				Sn	**Sn**	**01 04 59.4**	**-0.1**
	comp=Z,93nm,0.3s,baz=97,slow=26,SNR=6.2						
USRK				LR	LR	01 05 53.4	
	comp=Z,45μm,21.9s,baz=50,slow=39						
VLA	**Vladivostok**	**4.83**	**270**	*i*P	**Pn**	**01 04 04.0**	**-1.3**
VLA	**Vladivostok**	**4.83**	**270**	*e*P	**Pn**	**01 04 04.0**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**5.40**	**79**	*c i*P	Pn	01 04 16.5	+3.5
YUK				*i* S	Sb	01 05 24.1	-8.3
YUK				pmax	pmax		
	comp=N,359nm,0.9s						
YUK				pmax	pmax		
	comp=E,614nm,0.9s						
YUK				pmax	pmax		
	comp=Z,1μm,0.9s						
YUK				smax	smax		
	comp=E,983nm,0.6s						
YUK				smax	smax		
	comp=N,18nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.40**	**79**	*e*P	Pn	01 04 16.5	+3.5
YUK				AMB	AMB	01 04 25.1	
	comp=N,1μm,0.9s						
YUK				*e*rx	rx	01 05 24.1	
YUK				A	A	01 05 43.3	
	comp=N,983nm,0.6s						
HABR	**Khabarovsk**	**5.72**	**336**	*e*P	**Pn**	**01 04 16.9**	**-0.6**
HABR				*e*		01 05 20.6	
HABR				pmax	pmax		
	comp=Z,420nm,0.8s						
HABR				MLR	MLR		
	comp=E,73μm,9.0s						
HABR				MLR	MLR		
	comp=N,49μm,11.0s						
HABR				MLR	MLR		
	comp=Z,75μm,11.0s						
SHO	**Shikotan**	**6.08**	**82**	*e*P	Pn	01 04 25.9	+3.4
SHO				*e*S	**Sn**	**01 05 33.0**	**+2.0**
UGL	**Uglegorsk**	**6.30**	**22α**	*i P*	**Pn**	**01 04 25.8**	**+0.3**
UGL				*e*S	**Sn**	**01 05 34.0**	**-2.4**
UGL				pmax	pmax		
	comp=N,2μm,4.0s						
UGL				pmax	pmax		
	comp=Z,3μm,4.0s						
UGL				pmax	pmax		
	comp=E,450nm,1.0s						
UGL				pmax	pmax		
	comp=Z,720nm,0.8s						
UGL				smax	smax		
	comp=N,5μm,4.0s						
UGL				smax	smax		
	comp=E,5μm,2.0s						
UGL				MLR	MLR		
	comp=Z,47μm,13.0s						
UGL				MLR	MLR		
	comp=N,39μm,12.0s						
UGL				MLR	MLR		
	comp=E,40μm,14.0s						
UGL	**Uglegorsk**	**6.30**	**22**	*e*P	**Pn**	**01 04 25.8**	**+0.3**
UGL				AMB	AMB	01 04 28.0	
	comp=E,2μm,4.0s						
UGL				AMB	AMB	01 04 28.0	
	comp=E,456nm,4.0s						
UGL				AMB	AMB	01 04 28.0	
	comp=E,3μm,4.0s						
UGL				AMB	AMB	01 04 43.1	
	comp=E,720nm,0.8s						
UGL				*e*S	**Sn**	**01 05 34.0**	**-2.4**
UGL				A	A	01 05 41.0	
	comp=E,880nm,0.5s						
UGL				A	A	01 05 41.0	
	comp=E,350nm,0.5s						
UGL				A	A	01 05 41.0	
	comp=E,5μm,4.0s						
UGL				A	A	01 05 41.0	
	comp=E,5μm,4.0s						
UGL				AMS	AMS	01 07 40.0	
	comp=E,39μm,13.0s						
UGL				AMS	AMS	01 07 40.0	
	comp=E,40μm,13.0s						
UGL				AMS	AMS	01 07 40.0	
	comp=E,47μm,13.0s						
JSB	**Shiboa**	**6.40**	**170**	P	Pn	01 04 33.2	+6.3
JKT	**Katashina**	**6.53**	**175**	P	Pn	01 04 35.7	+6.9
MDJ	**Mudanjiang**	**6.56**	**285**	Pn	**Pn**	**01 04 28.5**	**-0.6**
MDJ				Sn	Sn	01 05 52.5	+10
MDJ				LN			
	comp=E,38μm,10.1s						
MDJ				LE			
	comp=E,51μm,12.4s						
MDJ				LZ			
	comp=E,80μm,11.2s						
MDJ	**Mudanjiang**	**6.56**	**285**	*e*Pn	**Pn**	**01 04 28.2**	**-0.9**
	comp=E,462nm,1.0s						
MDJ				*e*S	**Sb**	**01 06 08.3**	**+2.5**
JGK	**Kuni**	**6.71**	**179**	P	Pn	01 04 40.2	+9.0
MAJO	**Matsushiro**	**6.74**	**182**	*e*P	**Pn**	**01 04 33.3**	**+1.8**
MAJO				pmax	pmax		
	comp=Z,324nm,0.8s						
MAJO	**Matsushiro**	**6.74**	**182**	*e*P	Pn	01 04 36.1	+4.6
MAJO	**Matsushiro**	**6.74**	**182**	*e*Pn	**Pn**	**01 04 33.3**	**+1.8**
	comp=Z,324nm,0.8s						
MAT	**Matsushiro**	**6.74**	**182**	P	**Pn**	**01 04 33.0**	**+1.5**
MAT				S	Sn	01 05 42.1	-5.1
MJAR	**Matsushiro Arr**	**6.74**	**182**	Pn	**Pn**	**01 04 33.8**	**+2.3**
	comp=Z,1.3nm,0.3s,baz=358,slow=14,SNR=40						
MJAR				Sn	**Sn**	**01 05 42.5**	**-4.7**
	comp=Z,12nm,0.3s,baz=291,slow=26,SNR=8.1						
MJAR				LR	LR	01 06 42.4	
	comp=Z,8μm,18.5s,baz=25,slow=35						
KUR	**Kuril'sk**	**7.01**	**71**	⇑*i*P	Pn	01 04 39.7	+4.6
KUR				*i* S	Sn	01 06 03.2	+9.5
KUR				pmax	pmax		
	comp=N,92nm,0.9s						
KUR				pmax	pmax		
	comp=E,124nm,0.9s						
KUR				pmax	pmax		
	comp=Z,715nm,0.9s						
KUR				pmax	pmax		
	comp=Z,5μm,3.8s						
KUR				smax	smax		
	comp=N,39μm,5.7s						
KUR				smax	smax		
	comp=E,21μm,5.7s						
KUR				MLR	MLR		
	comp=N,58μm,11.0s						
KUR				MLR	MLR		
	comp=E,38μm,11.0s						
KUR				MLR	MLR		
	comp=Z,25μm,11.0s						
KUR	**Kuril'sk**	**7.01**	**71**	*e*P	Pn	01 04 39.7	+4.6
KUR				AMB	AMB	01 04 43.5	
	comp=Z,715nm,0.9s						
KUR				AMB	AMB	01 04 44.1	
	comp=Z,5μm,3.8s						
KUR				*e*rx	rx	01 06 03.2	
KUR				A	A	01 06 06.3	
	comp=Z,39μm,5.7s						
KUR				A	A	01 06 06.3	
	comp=Z,21μm,5.7s						
KUR				AMS	AMS	01 08 00.9	
	comp=Z,40μm,11.0s						
KUR				AMS	AMS	01 08 00.9	
	comp=Z,58μm,11.0s						
KUR				AMS	AMS	01 08 00.9	
	comp=Z,25μm,11.0s						
JRY	**Ryogami san**	**7.26**	**177**	P	Pn	01 04 44.4	+5.7
KLR	**Kul'dur**	**7.56**	**324**	*e*P	Pn	01 04 38.4	-4.4
JYN	**Shimob**	**7.77**	**180**	P	Pn	01 04 50.9	+5.1
JAO	**Obara**	**8.06**	**187**	S	Sb	01 06 38.3	-11
JYZW	**Yoshizawa**	**8.29**	**184**	P	Pn	01 04 58.1	+5.2
KSSKC	**Sokcho**	**9.06**	**240**	⇓P	**Pn**	**01 05 04.8**	**+1.5**
	SNR=16						
KSJMJ	**Jumunjin**	**9.16**	**237**	⇓P	**Pn**	**01 05 06.2**	**+1.5**
	SNR=8.7						
SEHB	**SEOHWA**	**9.24**	**241**	⇓P	**Pn**	**01 05 06.3**	**+0.5**
	SNR=9.5						
KSDGY	**Daegwallycong**	**9.33**	**237**	⇑P	**Pn**	**01 05 09.2**	**+2.1**
	SNR=6.1						
CN2	**Changchun**	**9.49**	**278**	*e*P	**Pn**	**01 05 11.0**	**+1.8**
CN2				*e*S	**Sn**	**01 07 00.5**	**+5.7**
CN2				PMZ			
	comp=Z,40nm,1.4s						
CN2				PMZ			
	comp=Z,1μm,10.0s						
CN2				LN			
	comp=Z,24μm,10.0s						
CN2				LE			
	comp=Z,75μm,10.0s						
CN2				LZ			
	comp=Z,83μm,12.0s						
KSIJA	**INJE**	**9.50**	**240**	⇓P	**Pn**	**01 05 11.2**	**+1.9**
	SNR=10.0						
KSTBA	**Taebaek**	**9.54**	**233**	⇑P	**Pn**	**01 05 12.1**	**+2.1**
	SNR=25						
KSYOW	**Yeongwol**	**9.80**	**235**	P	Pn	01 05 20.3	+6.8
	SNR=8.9						
KSCHC	**Chuncheon**	**9.81**	**240**	⇓P	**Pn**	**01 05 15.6**	**+2.0**
	SNR=16						
KSCWO	**Cheorwon**	**9.82**	**242**	⇓P	**Pn**	**01 05 15.1**	**+1.3**
	SNR=22						
KSWJU	**Wonju**	**9.90**	**237**	P	Pn	01 05 21.5	+6.7
	SNR=16						
KSRS	**Korea Array**	**9.94**	**238**	P	**Pn**	**01 05 17.3**	**+1.9**
KSRS				pmax	pmax		
	comp=Z,7.0nm,0.3s						
KSRS	**Korea Array**	**9.94**	**238**	Pn	**Pn**	**01 05 17.2**	**+1.9**
	comp=Z,6.8nm,0.3s,baz=52,slow=14,SNR=46						
KSPHA	**Pohang**	**9.97**	**228**	P	Pn	01 05 32.5	+17
	SNR=9.7						
KSAR	**Wonju Array Be**	**9.97**	**238**	P	**Pn**	**01 05 17.3**	**+1.4**
KSAR	**Wonju Array Be**	**9.97**	**238**	Pn	**Pn**	**01 05 17.2**	**+1.4**
KSDDC	**Dongducheon**	**10.22**	**242**	P	Pn	01 05 24.7	+5.5
	SNR=8.7						
YNCB	**YEONCHEON**	**10.23**	**243**	P	Pn	01 05 26.6	+7.3
	SNR=23						
KSCHJ	**Chungju**	**10.29**	**235**	P	Pn	01 05 27.4	+7.2
	SNR=5.2						
KSICN	**Icheon**	**10.36**	**238**	P	Pn	01 05 25.3	+4.1
	SNR=14						
KSMUS	**Musan**	**10.42**	**243**	P	Pn	01 05 27.4	+5.4
	SNR=19						
KSBON	**Boeun**	**10.64**	**234**	P	Pn	01 05 31.7	+6.7
	SNR=12						
OKH	**Okha**	**10.69**	**14**	⇑*i*P	**Pn**	**01 05 27.8**	**+2.3**
OKH				*e*S	Sn	01 07 36.4	+12
OKH				pmax	pmax		
	comp=Z,4μm,6.0s						
OKH				smax	smax		
	comp=N,5μm,7.5s						
OKH				smax	smax		
	comp=Z,39μm,10.0s						
OKH	**Okha**	**10.69**	**14**	*e*P	**Pn**	**01 05 27.8**	**+2.3**
OKH				AMB	AMB	01 05 32.2	
	comp=Z,3μm,10.0s						
OKH				AMB	AMB	01 05 32.2	
	comp=Z,4μm,10.0s						
OKH				*e*rx	rx	01 07 36.4	
OKH				A	A	01 07 42.0	
	comp=Z,5μm,7.5s						
OKH				A	A	01 07 42.0	
	comp=Z,4μm,7.5s						
OKH				AMS	AMS	01 11 08.4	
	comp=Z,34μm,11.0s						
OKH				AMS	AMS	01 11 08.4	
	comp=Z,27μm,11.0s						
OKH				AMS	AMS	01 11 08.4	
	comp=Z,39μm,11.0s						
KSGAH	**Ganghwa**	**10.73**	**243**	P	Pn	01 05 31.0	+4.8
	SNR=14						
KSCPR	**CHUPUNGNYEONG**	**10.73**	**232**	P	**Pn**	**01 05 29.0**	**+2.7**
	SNR=20						
INCN	**Inchon**	**10.74**	**241**	P	Pn	01 05 30.7	+4.3
	SNR=11						
INCN	**Inchon**	**10.74**	**241**	Pn	**Pn**	**01 05 25.9**	**-0.4**
	comp=Z,122nm,0.9s						
KSCEA	**Cheonan**	**10.76**	**237**	P	Pn	01 05 31.5	+4.9
	SNR=10						
TJN	**Taejon**	**10.98**	**235**	*i* P	**Pn**	**01 05 31.8**	**+2.1**
SNY	**Shenyang**	**11.10**	**268**	⇓P	**Pn**	**01 05 34.0**	**+2.8**
SNY				S	Sn	01 07 43.5	+9.2
SNY				PMZ			
	comp=Z,110nm,1.8s						
SNY				PMZ			
	comp=Z,4μm,11.4s						
SNY				LN			
	comp=Z,19μm,8.2s						
SNY				LE			
	comp=Z,39μm,9.5s						
SNY				LZ			
	comp=Z,36μm,12.6s						
KSJEO	**Jeonju**	**11.32**	**233**	P	Pn	01 05 42.6	+8.2
	SNR=11						
KSBAR	**Backryungdo**	**11.73**	**248**	P	Pn	01 05 44.7	+4.8
	SNR=9.0						
JNU	**Nakatsue**	**11.77**	**213**	Pn	**Pn**	**01 05 42.2**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=39,slow=13,SNR=4.2						
JNU				LR	LR	01 10 00.8	
	comp=Z,10μm,18.2s,baz=32,slow=37						
JNU	**Nakatsue**	**11.77**	**213**	*e*Pn	**Pn**	**01 05 41.1**	**+0.6**
	comp=Z,60nm,1.0s						
DL2	**Dalian**	**13.45**	**257**	⇓*i*P	**Pn**	**01 06 05.3**	**+2.0**
DL2				S	**Sn**	**01 08 35.5**	**+3.8**
DL2				PMZ			
	comp=Z,310nm,1.4s						
DL2				PMZ			
	comp=Z,1μm,6.9s						
DL2				LN			
	comp=Z,2μm,11.3s						
DL2				LE			
	comp=Z,1μm,10.5s						
SKR	**Severo-Kuril's**	**14.10**	**52**	*e*P	**Pn**	**01 06 13.6**	**+1.4**
SKR				pmax	pmax		
	comp=N,5μm,4.0s						
SKR				pmax	pmax		
	comp=Z,12μm,4.0s						
SKR				pmax	pmax		
	comp=E,9μm,6.0s						
SKR				pmax	pmax		
	comp=Z,2μm,1.4s						
SKR				pmax	pmax		
	comp=N,520nm,1.0s						
SKR				pmax	pmax		
	comp=E,380nm,1.0s						
SKR				MLR	MLR		
	comp=N,23μm,12.0s						
SKR				MLR	MLR		
	comp=E,13μm,12.0s						
SKR				MLR	MLR		
	comp=Z,39μm,12.0s						
SKR	**Severo-Kuril's**	**14.10**	**52**	*e*P	**Pn**	**01 06 11.2**	**-1.0**
SKR				AMB	AMB	01 06 18.0	
	comp=Z,5μm,4.0s						
SKR				AMB	AMB	01 06 18.0	
	comp=Z,9μm,4.0s						
SKR				AMB	AMB	01 06 18.0	
	comp=Z,12μm,4.0s						
SKR				AMB	AMB	01 06 18.0	
	comp=Z,520nm,1.4s						
SKR				AMB	AMB	01 06 18.0	
	comp=Z,380nm,1.4s						
SKR				AMB	AMB	01 06 18.0	
	comp=Z,2μm,1.4s						
SKR				*e*rx	rx	01 08 59.0	
SKR				A	A	01 09 04.0	
	comp=Z,10μm,8.0s						
SKR				A	A	01 09 04.0	
	comp=Z,5μm,8.0s						
SKR				AMS	AMS	01 10 48.0	
	comp=Z,13μm,20.0s						
SKR				AMS	AMS	01 10 48.0	
	comp=Z,9μm,20.0s						
HIA	**Hailar**	**14.27**	**301**	*e*P	**Pn**	**01 06 14.1**	**-0.4**
HIA				pmax	pmax		
	comp=Z,186nm,1.0s						
HIA	**Hailar**	**14.27**	**301**	*e*Pn	**Pn**	**01 06 14.1**	**-0.4**
	comp=Z,186nm,1.0s						
PAU	**Pauzhetka**	**14.84**	**50**	*e*P	**Pn**	**01 06 21.6**	**-0.5**
CLNS	**Chul'man**	**16.09**	**332**	*d i*P	**Pn**	**01 06 40.0**	**+1.5**
CLNS				pmax	pmax		
	comp=Z,122nm,0.9s						
CLNS				pmax	pmax		
	comp=N,68nm,0.8s						
CLNS				pmax	pmax		
	comp=E,44nm,1.1s						
CLNS				MLR	MLR		
	comp=N,27μm,11.0s						
CLNS				MLR	MLR		
	comp=E,14μm,11.0s						
CLNS				MLR	MLR		
	comp=Z,34μm,12.0s						

PETK	**Petropavlovsk-**	**16.09 46**	Pn	**P**	**01 06 40.7**	**-0.9**
	comp=Z,2.4nm,0.3s,baz=218,slow=7.0,SNR=141					
PETK			LR	LR	01 13 13.9	
	comp=Z,7μm,18.3s,baz=234,slow=39					
CBIJ	**Chichi jima**	**16.43 168**	*e*Pn	**Pn**	**01 06 43.5**	**+0.6**
	comp=Z,561nm,1.1s					
JCJ	**Chichijima**	**16.43 168**	Pn	**Pn**	**01 06 40.6**	**-2.3**
	baz=307,slow=10					
JCJ			LR	LR	01 12 40.1	
	comp=Z,4μm,20.5s,baz=354,slow=36					
PET	**Petropavlovsk**	**16.56 47**	*c iP*	**Pn**	**01 06 45.2**	**+0.8**
PET			*e*S	**Sn**	**01 09 51.7**	**+4.6**
PET			pmax	pmax		
	comp=Z,4μm,5.1s					
PET			pmax	pmax		
	comp=Z,4μm,7.1s					
PET			pmax	pmax		
	comp=Z,199nm,1.6s					
PET			MLR	MLR		
	comp=Z,12μm,13.0s					
PET			MLR	MLR		
	comp=Z,11μm,15.0s					
PET	**Petropavlovsk**	**16.56 47**	*e*P	**Pn**	**01 06 42.1**	**-2.3**
PET	**Petropavlovsk**	**16.56 47**	*e*Pn	**Pn**	**01 06 44.7**	**+0.3**
	comp=Z,298nm,1.3s					
BJI	**Beijing**	**16.98 267**	P	**P**	**01 06 51.0**	**-0.5**
BJI			S	**S**	**01 10 05.0**	**-2.0**
BJI			PMZ			
	comp=Z,150nm,1.4s					
BJI			PMZ			
	comp=Z,4μm,9.3s					
BJI			LN			
	comp=Z,32μm,11.6s					
BJI			LE			
	comp=Z,11μm,12.7s					
BJI			LZ			
	comp=Z,13μm,26.9s					
BJT	**Baijiatuau**	**16.99 267**	*e*P	**Pn**	**01 06 50.9**	**+0.9**
BJT			pmax	pmax		
	comp=Z,435nm,1.4s					
BJT	**Baijiatuau**	**16.99 267**	*e*Pn	**Pn**	**01 06 50.9**	**+0.9**
	comp=Z,436nm,1.4s					
TIA	**Tai'an**	**17.86 254**	⇓P	**P**	**01 07 02.8**	**+1.5**
TIA			PP	PnPn	01 07 19.0	+7.3
TIA			S	**S**	**01 10 31.8**	**+6.8**
TIA			PMZ			
	comp=Z,380nm,1.6s					
TIA			PMZ			
	comp=Z,14μm,5.9s					
TIA			LN			
	comp=Z,15μm,9.5s					
TIA			LE			
	comp=Z,33μm,12.2s					
TIA			LZ			
	comp=Z,24μm,11.6s					
SSE	**Sheshan**	**18.34 234**	P	**Pn**	**01 07 08.0**	**+1.3**
SSE			sP	**sP**	**01 07 20.0**	**+1.7**
SSE			S	**S**	**01 10 37.5**	**+2.9**
SSE			PMZ			
	comp=Z,180nm,1.3s					
SSE			PMZ			
	comp=Z,5μm,6.8s					
SSE			LN			
	comp=Z,10μm,10.6s					
SSE			LE			
	comp=Z,17μm,10.6s					
SSE			LZ			
	comp=Z,18μm,10.3s					
JOW	**Kunigami**	**18.40 210**	P	**P**	**01 07 04.8**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=7.1,slow=8.1,SNR=3.5					
CIT	**Chita**	**18.86 306**	*e*P	**Pn**	**01 07 14.0**	**+1.0**
CIT			pmax	pmax		
	comp=Z,3μm,2.6s					
NJ2	**Nanjing**	**19.12 241**	*e*P	**Pn**	**01 07 17.8**	**+1.7**
NJ2			S	**S**	**01 10 52.5**	**+2.4**
NJ2			PMZ			
	comp=Z,17μm,5.7s					
NJ2			LN			
	comp=Z,62μm,13.0s					
NJ2			LE			
	comp=Z,48μm,13.2s					
NJ2			LZ			
	comp=Z,48μm,13.0s					
YAK	**Yakutsk**	**19.49 347**	*c iP*	**P**	**01 07 19.4**	**+0.5**
YAK			*e*S	**S**	**01 10 56.1**	**-1.2**
YAK			pmax	pmax		
	comp=Z,456nm,0.9s					
YAK			pmax	pmax		
	comp=N,210nm,1.0s					
YAK			pmax	pmax		
	comp=E,45nm,0.9s					
YAK			smax	smax		
	comp=E,4μm,4.0s					
YAK			smax	smax		
	comp=N,4μm,3.0s					
YAK			MLR	MLR		
	comp=Z,16μm,12.0s					
YAK			MLR	MLR		
	comp=E,5μm,13.0s					
YAK			MLR	MLR		
	comp=N,12μm,13.0s					
YAK	**Yakutsk**	**19.49 347**	P	**P**	**01 07 18.9**	**-0.1**
	comp=N,0.1nm,0.3s,baz=161,slow=5.3,SNR=82					
YAK			LR	LR	01 15 43.3	
	comp=N,2μm,20.9s,baz=162,slow=40					
YAK	**Yakutsk**	**19.49 347**	*e*P	**P**	**01 07 19.5**	**+0.5**
YAK	**Yakutsk**	**19.49 347**	*e*P	**P**	**01 07 19.5**	**+0.5**
	comp=N,454nm,0.7s					
HHC	**Hu-ho-hao-te**	**20.11 272**	*e*P	Pn	01 07 27.5	-0.5
HHC			PP	**PnPn**	**01 07 47.3**	**+4.7**
HHC			S	Sn	01 11 16.5	+3.0
HHC			sS	sS	01 11 18.5	-4.5
HHC			PMZ			
	comp=N,260nm,1.5s					
HHC			PMZ			
	comp=N,11μm,8.5s					
HHC			LN			
	comp=N,66μm,11.6s					
HHC			LE			
	comp=N,27μm,12.6s					
HHC			LZ			
	comp=N,42μm,11.5s					
TIY	**Taiyuan**	**20.54 263**	*e*P	**P**	**01 07 32.0**	**+1.3**
TIY			PP	**PnPn**	**01 07 54.0**	**+5.5**
TIY			S	Sn	01 11 24.3	+0.4
TIY			SS	SnSn	01 11 55.0	+17
TIY			PMZ			
	comp=N,190nm,1.3s					
TIY			PMZ			
	comp=N,3μm,7.9s					
TIY			LN			
	comp=N,12μm,10.3s					
TIY			LE			
	comp=N,10μm,13.5s					
TIY			LZ			
	comp=N,6μm,9.3s					
BOD	**Bodaibo**	**21.13 322**	*e*P	**P**	**01 07 36.6**	**-0.2**
BOD			pmax	pmax		
	comp=Z,130nm,0.1s					
SEY	**Seymchan**	**21.29 18**	P	**P**	**01 07 38.5**	**+0.1**
	comp=Z,260nm,0.9s,baz=210,slow=10,SNR=440					
SEY	**Seymchan**	**21.29 18**	*e*P	**P**	**01 07 38.6**	**+0.2**
BTO	**Baotou**	**21.31 273**	*e*P	**P**	**01 07 39.5**	**+0.6**
BTO			S	**S**	**01 11 32.0**	**-2.1**
BTO			LN			
	comp=Z,15μm,14.3s					
BTO			LE			
	comp=Z,3μm,9.4s					
ULN	**Ulaanbaatar**	**22.39 293**	*ce*P	**P**	**01 07 50.5**	**-0.1**
ULN			pmax	pmax		
	comp=Z,118nm,1.7s					
ULN			MLR	MLR		
	comp=Z,16μm,13.0s					
ULN	**Ulaanbaatar**	**22.39 293**	P	**P**	**01 07 50.0**	**-0.5**
	SNR=120					
ULN	**Ulaanbaatar**	**22.39 293**	*e*P	**P**	**01 07 50.5**	**-0.1**
ULN	**Ulaanbaatar**	**22.39 293**	*e*P	**P**	**01 07 49.9**	**-0.7**
	comp=Z,324nm,1.4s					
ULN			*e*		01 11 45.5	
ULN			LR	LR		
	comp=Z,14μm,22.0s					
SONM	**Songino Array**	**22.84 293**	P	**P**	**01 07 54.5**	**-0.7**
	comp=Z,9.7nm,0.6s,baz=98,slow=8.3,SNR=60					
SONM			PcP	**PcP**	**01 11 46.2**	**+0.7**
	comp=Z,12nm,1.1s,baz=91,slow=1.1,SNR=4.5					
SONM			LR	LR	01 16 57.8	
	comp=Z,10μm,21.5s,baz=74,slow=37					
TATO	**Taipei**	**22.98 223**	*e*P	**P**	**01 07 55.3**	**-1.4**
	comp=Z,562nm,1.3s					
TATO			LR	LR		
	comp=Z,5μm,19.0s					
WHN	**Wuhan**	**23.02 244**	⇑P	**P**	**01 07 55.5**	**-1.6**
WHN			pP	**pP**	**01 08 04.3**	**-0.9**
WHN			S	**S**	**01 12 01.5**	**-4.3**
WHN			PMZ			
	comp=Z,970nm,2.0s					
WHN			LN			
	comp=Z,22μm,11.6s					
WHN			LE			
	comp=Z,26μm,11.0s					
WHN			LZ			
	comp=Z,29μm,11.6s					
YHNB	**Yeheng**	**23.29 223**	*e*P	**P**	**01 07 59.3**	**-0.7**
	comp=Z,410nm,1.9s					
YHNB			LR	LR		
	comp=Z,7μm,19.0s					
SSLB	**Suanglung**	**24.24 222**	*e*P	**P**	**01 08 07.6**	**-1.3**
	comp=Z,65nm,1.1s					
SSLB			*e*PcP	**PcP**	**01 11 49.3**	**+0.6**
YULB	**Yu-li**	**24.40 221**	*e*P	**P**	**01 08 09.1**	**-1.3**
	comp=Z,52nm,1.0s					
QZH	**Quanzhou**	**24.51 228**	P	P	01 08 07.0	-4.4
QZH			PMZ			
	comp=Z,600nm,1.6s					
QZH			PMZ			
	comp=Z,5μm,6.4s					
QZH			LN			
	comp=Z,15μm,13.4s					
QZH			LE			
	comp=Z,20μm,11.8s					
QZH			LZ			
	comp=Z,24μm,11.6s					
XAN	**Xi'an**	**24.76 258**	P	**P**	**01 08 12.5**	**-1.2**
XAN			S	S	01 12 44.0	+10
XAN			PMZ			
	comp=Z,45nm,2.0s					
XAN			PMZ			
	comp=Z,800nm,5.8s					
XAN			LN			
	comp=Z,6μm,11.3s					
XAN			LE			
	comp=Z,3μm,11.1s					
XAN			LZ			
	comp=Z,3μm,11.8s					
TLY	**Talaya**	**24.81 302**	P	**P**	**01 08 12.6**	**-1.3**
	comp=Z,198nm,0.8s,SNR=7.5					
TLY	**Talaya**	**24.81 302**	*c iP*	**P**	**01 08 12.4**	**-1.6**
TLY			*e*S	**S**	**01 12 35.4**	**+0.9**
TLY			pmax	pmax		
	comp=Z,95nm,1.5s					
TLY			MLR	MLR		
	comp=Z,14μm,14.0s					
TLY	**Talaya**	**24.81 302**	P	**P**	**01 08 13.2**	**-0.7**
	SNR=26					
TLY	**Talaya**	**24.81 302**	P	**P**	**01 08 12.3**	**-1.6**
	comp=Z,8.4nm,0.7s,baz=48,slow=4.9,SNR=11					
TLY			PcP	**PcP**	**01 11 49.8**	**+0.3**
	comp=Z,6.4nm,0.7s,baz=52,slow=4.3,SNR=3.9					
TLY			LR	LR	01 18 21.5	
	comp=Z,15μm,18.7s,baz=93,slow=38					
TLY	**Talaya**	**24.81 302**	*e*P	**P**	**01 08 12.7**	**-1.2**
TLY	**Talaya**	**24.81 302**	*e*P	**P**	**01 08 12.8**	**-1.2**
	comp=Z,74nm,1.1s					
TLY			*e*PcP	**PcP**	**01 11 50.8**	**+1.3**
FX1	**Attu Island--F**	**24.85 55**	P	**P**	**01 08 14.8**	**+0.6**
FX1			pmax	pmax		
	comp=Z,194nm,0.8s					
FX1			MLR	MLR		
	comp=Z,2μm,18.3s					
FX1	**Attu Island--F**	**24.85 55**	P	**P**	**01 08 14.8**	**+0.6**
	comp=Z,194nm,0.8s,baz=258,slow=7.0,SNR=44					
FX1			LR	LR	01 19 41.3	
	comp=Z,2μm,18.3s,baz=275,slow=41					
FX1	**Attu Island--F**	**24.85 55**	*e*P	**P**	**01 08 14.7**	**+0.4**
ZAK	**Zakamensk**	**24.94 299**	*e*P	**P**	**01 08 13.8**	**-1.4**
ZAK			*e*		01 09 09.0	
ZAK			pmax	pmax		
	comp=Z,36nm,1.3s					
TWG	**Pinlang**	**25.00 221**	*e*P	**P**	**01 08 14.9**	**-0.9**
	comp=Z,448nm,0.8s					
SMY	**Shemya**	**25.39 56**	*e*P	**P**	**01 08 19.2**	**+0.1**
SMY			pmax	pmax		
	comp=Z,311nm,1.2s					
SMY	**Shemya**	**25.39 56**	*e*P	**P**	**01 08 19.2**	**+0.1**
	comp=Z,311nm,1.2s					
MOY	**Mondy**	**26.45 302**	*e*P	**P**	**01 08 27.4**	**-1.5**
MOY			pmax	pmax		
	comp=Z,141nm,2.1s					
ENH	**Enshi**	**26.47 250**	*e*P	**P**	**01 08 28.0**	**-1.1**
	comp=Z,122nm,1.5s					
ENH			*e*ScP	**ScP**	**01 15 31.6**	**+0.3**
ENH			LR	LR		
	comp=Z,4μm,21.0s					
LZH	**Lanzhou**	**27.47 267**	*e*P	**P**	**01 08 38.0**	**-0.3**
LZH			S	**S**	**01 13 13.0**	**-4.2**
LZH			sS	**sS**	**01 13 28.5**	**-2.9**
LZH			PMZ			
	comp=Z,320nm,1.6s					
LZH			PMZ			
	comp=Z,1μm,4.6s					
LZH			LN			
	comp=Z,21μm,12.2s					
LZH			LE			
	comp=Z,14μm,11.3s					
LZH			LZ			
	comp=Z,16μm,13.8s					
AMKA	**Amchitka**	**28.51 59**	*e*P	**P**	**01 08 47.6**	**+0.5**
TIXI	**Tiksi**	**28.83 354**	*c iP*	**P**	**01 08 48.0**	**-1.8**
TIXI			pmax	pmax		
	comp=Z,77nm,1.4s					
TIXI			MLR	MLR		
	comp=Z,7μm,14.0s					
TIXI	**Tiksi**	**28.83 354**	*e*P	**P**	**01 08 47.9**	**-1.8**
TIXI			*e*PcP	**PcP**	**01 11 59.2**	**+0.6**
TIXI			LR	LR		
	comp=Z,5μm,20.0s					
BILL	**Bilibino**	**28.84 21**	*c iP*	**P**	**01 08 48.4**	**-1.5**
BILL			*e*		01 09 43.3	
BILL			*i*		01 11 59.9	
BILL			*i* SS	SS	01 15 01.4	-39
BILL			pmax	pmax		
	comp=Z,65nm,1.6s					
BILL			MLR	MLR		
	comp=Z,6μm,15.0s					
BILL	**Bilibino**	**28.84 21**	*e*P	**P**	**01 08 47.5**	**-2.4**
	comp=Z,6.6nm,0.5s					
BILL			LR	LR		
	comp=Z,5μm,21.0s					
GZH	**Guangzhou**	**28.94 234**	P	P	01 08 46.8	-4.4
GZH			LN			
	comp=Z,22μm,11.8s					
GZH			LE			
	comp=Z,25μm,11.4s					
HKC	**Hong Kong Obse**	**29.07 232**	P	**P**	**01 08 52.0**	**-0.3**
GTA	**Gaotai**	**29.12 276**	P	**P**	**01 08 52.3**	**-0.6**
GTA			pP	**pP**	**01 09 01.8**	**+0.3**
GTA			sP	**sP**	**01 09 05.5**	**+0.4**
GTA			PcP	**PcP**	**01 11 59.5**	**-0.6**
GTA			S	**S**	**01 13 43.5**	**+0.6**
GTA			sS	**sS**	**01 13 59.5**	**+2.3**
GTA			SS	SnSn	01 15 18.5	+10
GTA			PMZ			
	comp=Z,63nm,1.3s					
GTA			PMZ			
	comp=Z,890nm,6.7s					
GTA			LN			
	comp=Z,17μm,12.8s					
GTA			LE			
	comp=Z,12μm,12.6s					
GTA			LZ			
	comp=Z,12μm,13.3s					
SZP	**Santa**	**29.86 216**	*e*P	**P**	**01 08 59.2**	**-0.2**
	comp=Z,347nm,1.3s					
GUMO	**Guam**	**30.09 168**	*e*P	**P**	**01 09 01.9**	**+0.4**
GUMO			pmax	pmax		
	comp=Z,595nm,1.3s					
GUMO			MLR	MLR		
	comp=Z,3μm,21.0s					
GUMO	**Guam**	**30.09 168**	*e*P	**P**	**01 09 01.9**	**+0.4**
	comp=Z,69nm,1.3s					
GUMO			LR	LR		
	comp=Z,342nm,21.0s					
GYA	**Guiyang**	**30.80 247**	⇑ *iP*	**P**	**01 09 05.3**	**-2.5**
GYA			PP	**PnPn**	**01 10 07.8**	**-0.6**
GYA			PcP	**PcP**	**01 12 05.0**	**+0.4**
GYA			S	**S**	**01 14 04.5**	**-5.0**
GYA			ScP	**ScP**	**01 15 45.3**	**+0.3**
GYA			ScS	**ScS**	**01 19 42.0**	**0.0**
GYA			PMZ			
	comp=Z,30nm,1.0s					
GYA			PMZ			
	comp=Z,530nm,6.8s					
GYA			LN			
	comp=Z,4μm,11.5s					
GYA			LE			
	comp=Z,7μm,11.2s					
GYA			LZ			
	comp=Z,7μm,10.9s					
ADK	**Adak**	**31.00 58**	*e*P	**P**	**01 09 07.7**	**-1.5**
ADK			MLR	MLR		
	comp=Z,2μm,19.0s					
ADK	**Adak**	**31.00 58**	*e*P	**P**	**01 09 07.7**	**-1.5**
ADK			LR	LR		
	comp=Z,2μm,19.0s					
HVS	**Khovu-Aksy**	**31.02 301**	*c iP*	**P**	**01 09 08.1**	**-1.4**
HVS			pmax	pmax		
	comp=Z,115nm,1.6s					
HVS			MLR	MLR		
	comp=Z,43μm,17.0s					
WAKE	**Wake Island**	**33.65 126**	PFAKE		01 09 40.0	+7.3
WAKE			LR	LR		
	comp=Z,7μm,22.0s					
QIZ	**Qiongzhong**	**34.14 234**	P	**P**	**01 09 37.0**	**0.0**
QIZ			PP	**PP**	**01 10 54.5**	**0.0**
QIZ			S	**S**	**01 15 05.0**	**+3.7**
QIZ			PMZ			
	comp=Z,59nm,1.6s					
QIZ			PMZ			
	comp=Z,710nm,6.4s					
QIZ			LN			
	comp=Z,9μm,13.0s					
QIZ			LE			
	comp=Z,2μm,13.0s					
QIZ			LZ			
	comp=Z,11μm,15.2s					
KMI	**Kunming**	**34.34 250**	P	**P**	**01 09 37.5**	**-1.5**
KMI			pP	**pP**	**01 09 45.0**	**-2.7**
KMI			PP	**PP**	**01 10 56.5**	**-0.5**
KMI			S	**S**	**01 15 02.0**	**-2.8**
KMI			PMZ			
	comp=Z,79nm,1.7s					
KMI			PMZ			
	comp=Z,800nm,6.5s					
KMI			LN			
	comp=Z,8μm,11.6s					
KMI			LE			
	comp=Z,4μm,11.6s					
KMI			LZ			
	comp=Z,7μm,11.2s					
GAMB	**Gambell**	**34.77 37**	*e*P	**P**	**01 09 40.5**	**-1.5**
	comp=Z,30nm,1.2s					
GAMB			*e*PcP	**PcP**	**01 12 16.2**	**+1.4**
SLVN	**Son La**	**36.14 244**	*e*P	**P**	**01 09 53.1**	**-1.1**
	comp=Z,86nm,1.4s					
SLVN			*e*PP	**PnPn**	**01 11 15.5**	**-0.4**
ZALV	**Zalesovo Beam**	**36.22 306**	P	**P**	**01 09 52.9**	**-1.7**
	comp=Z,7.4nm,0.6s,baz=86,slow=7.6,SNR=32					
ZALV			PcP	**PcP**	**01 12 18.9**	**-0.4**
	comp=Z,33nm,0.8s,baz=89,slow=2.7,SNR=21					
ZALV			ScP	**ScP**	**01 16 07.0**	**+3.6**
	comp=Z,5.3nm,0.9s,baz=78,slow=2.1,SNR=4.3					
ZALV			LR	LR	01 25 34.9	
	comp=Z,8μm,21.6s,baz=70,slow=38					
WMQ	**Urumqi**	**36.35 289**	P	**P**	**01 09 54.8**	**-1.1**
WMQ			sP	**sP**	**01 10 07.8**	**-0.4**
WMQ			PP	**PP**	**01 11 20.0**	**+1.4**
WMQ			PcP	**PcP**	**01 12 20.8**	**+0.8**
WMQ			S	**S**	**01 15 31.5**	**-3.5**
WMQ			sS	**sS**	**01 15 47.5**	**-1.9**
WMQ			ScS	**ScS**	**01 20 07.5**	**-2.8**
WMQ			PMZ			
	comp=Z,29nm,1.6s					
WMQ			PMZ			
	comp=Z,890nm,5.4s					
WMQ			LN			
	comp=Z,11μm,12.0s					
WMQ			LE			
	comp=Z,25μm,11.0s					
WMQ			LZ			
	comp=Z,6μm,18.0s					
TNA	**Tin City**	**36.72 34**	*e*P	**P**	**01 09 56.6**	**-2.0**
	comp=Z,36nm,0.8s					
NVS	**Novosibirsk**	**37.06 308**	⇓*e*P	**P**	**01 09 59.4**	**-2.3**
NVS			*e*		01 11 29.3	
NVS			*e*		01 12 18.9	
NVS			*e*S	**S**	**01 15 41.8**	**-3.7**
NVS			pmax	pmax		
	comp=E,73nm,2.3s					
NVS			pmax	pmax		
	comp=E,106nm,2.1s					
NVS			pmax	pmax		
	comp=Z,190nm,2.1s					
NVS			smax	smax		
	comp=E,208nm,3.0s					
DAV	**Davao City (W)**	**37.81 201**	PFAKE		01 10 20.0	+12
DAV			LR	LR		
	comp=Z,2μm,19.0s					
MK31	**Makanchi Array**	**39.15 295**	*i* P	**P**	**01 10 17.2**	**-2.3**
MKAR	**Makanchi Array**	**39.15 295**	P	**P**	**01 10 17.6**	**-1.9**
	comp=Z,4.0nm,0.7s,baz=74,slow=8.9,SNR=39					
MKAR			PcP	**PcP**	**01 12 28.3**	**-0.2**
	comp=Z,22nm,1.1s,baz=51,slow=2.0,SNR=8.5					
MKAR			ScP	**S**	**01 16 17.0**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=92,slow=4.3,SNR=3.0					
MKAR			LR	LR	01 27 12.9	
	comp=Z,6μm,18.1s,baz=100,slow=37					
MKAR			P3KPbc		01 40 17.9	
	comp=Z,0.7nm,0.8s,baz=272,slow=4.2,SNR=6.5					
CRAI	**Chiangrai**	**39.26 246**	P	P	01 10 16.6	-4.0
	comp=Z,101nm,1.3s,comp=Z,30μm					
LSA	**Lhasa**	**39.89 266**	P	**P**	**01 10 26.3**	**0.0**
LSA			S	**S**	**01 16 26.0**	**-3.6**
LSA			SS	**SS**	**01 19 26.8**	**+0.4**
LSA			PMZ			
	comp=Z,60nm,1.7s					
LSA			PMZ			
	comp=Z,640nm,5.2s					
LSA			LN			
	comp=Z,23μm,13.0s					
LSA			LE			
	comp=Z,6μm,13.0s					
LSA			LZ			
	comp=Z,7μm,15.0s					
LSA	**Lhasa**	**39.89 266**	*e*P	**P**	**01 10 26.4**	**0.0**
LSA			pmax	pmax		
	comp=Z,192nm,1.6s					
LSA			MLR	MLR		
	comp=Z,8μm,20.0s					
LSA	**Lhasa**	**39.89 266**	*e*P	**P**	**01 10 26.4**	**0.0**
	comp=Z,192nm,1.6s					
LSA			LR	LR		
	comp=Z,8μm,20.0s					
CMAI	**Chiengmai2**	**40.35 247**	P	**P**	**01 10 29.4**	**-0.5**
	comp=Z,82nm,1.6s					
KHON	**Khomkaen**	**40.48 240**	P	**P**	**01 10 31.0**	**+0.2**
	comp=Z,33nm,1.5s,comp=Z,1μm					
KURK	**Kurchatov**	**40.51 302**	*e*P	**P**	**01 10 28.8**	**-1.8**
KURK			*e*		01 12 33.2	
KURK			pmax	pmax		
	comp=Z,13nm,1.1s					
KURK			MLR	MLR		
	comp=Z,3μm,22.0s					
KURK	**Kurchatov**	**40.51 302**	P	**P**	**01 10 29.2**	**-1.4**
	SNR=16					
KURK	**Kurchatov**	**40.51 302**	*e*P	**P**	**01 10 29.2**	**-1.4**
KURK	**Kurchatov**	**40.51 302**	*e*P	**P**	**01 10 28.8**	**-1.8**
	comp=Z,26nm,1.1s					
KURK			*e*PcP	**PcP**	**01 12 33.2**	**+0.5**
KURK			LR	LR		
	comp=Z,6μm,22.0s					
DLV	**T Lat**	**40.59 229**	*e*P	**P**	**01 10 33.4**	**+1.5**
UTTA	**Uttaradit**	**40.90 243**	P	**P**	**01 10 34.0**	**-0.2**
	comp=Z,15nm,1.2s,comp=Z,178nm					
KDM	**Kudat**	**40.93 214**	⇑P	**P**	**01 10 34.0**	**-0.4**
LAMP	**Lampang**	**40.95 245**	P	**P**	**01 10 34.9**	**+0.3**
	comp=Z,34nm,1.2s,comp=Z,325nm					
SGSI	**Sangihe**	**41.08 200**	P	P	01 10 43.7	+8.1
CMMT	**Chiang Mai**	**41.20 246**	P	**P**	**01 10 36.0**	**-0.7**
	comp=Z,201nm,1.2s,comp=Z,2μm					

CHTO	**Chiang Mai**	**41.20 246**	*e*P	**P**	**01 10 36.1 -0.6**
CHTO			pmax	pmax	
	comp=Z,194nm,1.5s				
CHTO			MLR	MLR	
	comp=Z,2μm,22.0s				
CHTO	**Chiang Mai**	**41.20 246**	P	**P**	**01 10 36.1 -0.6**
	SNR=43				
CHTO	**Chiang Mai**	**41.20 246**	P	**P**	**01 10 36.1 -0.6**
	comp=Z,412nm,1.6s,comp=Z,8μm				
CHTO	**Chiang Mai**	**41.20 246**	*e*P	**P**	**01 10 36.1 -0.6**
	comp=Z,194nm,1.5s				
CHTO			LR	LR	
	comp=Z,2μm,22.0s				
CMAR	**Chiang Mai Arr**	**41.46 246**	P	**P**	**01 10 38.3 -0.5**
	comp=Z,27nm,1.1s,baz=35,slow=6.9,SNR=74				
CMAR			PcP	**PcP**	**01 12 36.5 +0.3**
	comp=Z,8.5nm,1.0s,baz=21,slow=3.1,SNR=7.9				
CMAR			LR	LR	01 27 18.4
	comp=Z,792nm,18.4s,baz=49,slow=36				
CMAR			PKPPKP	P'P'df	01 42 40.6 -7.3
	comp=Z,0.7nm,0.3s,baz=276,slow=1.7,SNR=4.4				
PBKT	**Sadao Pong**	**41.49 242**	P	**P**	**01 10 38.5 -0.5**
	comp=Z,52nm,1.3s,comp=Z,2μm				
SDKM	**Sandakan**	**41.94 213**	⇑P	**P**	**01 10 43.8 +1.0**
KKM	**Kota Kinabalu**	**41.97 214**	*e*P	**P**	**01 10 42.6 -0.4**
	comp=Z,105nm,1.4s				
KKM			LR	LR	
	comp=Z,2μm,19.0s				
SVW2	**Sparrevohn**	**42.11 41**	*e*P	**P**	**01 10 44.3 +0.6**
PDGK	**Podgornoye**	**42.14 291**	P	**P**	**01 10 42.3 -1.8**
PDGK			pmax	pmax	
	comp=Z,29nm,1.2s				
IM04	**Indian Mountai**	**42.56 34**	*e*P	**P**	**01 10 45.5 -1.8**
TSM	**Tawau**	**42.91 211**	⇑P	**P**	**01 10 51.0 +0.4**
UMPA	**Umpang Tak**	**43.13 244**	P	**P**	**01 10 53.3 +0.9**
	comp=Z,36nm,0.7s,comp=Z,3μm				
UTHA	**Uthaitani**	**43.22 242**	P	**P**	**01 10 53.0 -0.1**
	comp=Z,17nm,1.2s,comp=Z,182nm				
CAST	**Castle Rocks**	**43.48 38**	*e*P	**P**	**01 10 54.9 +0.1**
PPLA	**Purkeypile**	**43.50 39**	*e*P	**P**	**01 10 55.4 +0.4**
PPLA			*e*PcP	**PcP**	**01 12 43.2 +0.7**
CHBT	**CHBT**	**43.53 237**	P	**P**	**01 10 55.7 +0.1**
	comp=Z,115nm,1.4s,comp=Z,4μm				
SII	**Sitkinak Islan**	**43.55 48**	*e*P	**P**	**01 10 56.4 +1.0**
RSO	**Redoubt South**	**43.57 42**	*e*P	**P**	**01 10 56.4 +0.7**
RSO			*e*PcP	**PcP**	**01 12 43.4 +0.5**
TAPN	**Taplejung**	**43.71 266**	*e*P	**P**	**01 10 56.9 -0.5**
	comp=Z,494nm,1.5s				
AAA	**Alma-Ata**	**43.89 292**	*e*P	P	01 10 47.7 -11
AAA			*e*S	S	01 17 17.1 -11
AAA			pmax	pmax	
	comp=Z,1μm,6.0s				
AAA			smax	smax	
	comp=N,2μm,14.3s				
AAA			MLR	MLR	
	comp=Z,13μm,10.0s				
OHAK	**Old Harbor**	**43.89 47**	*e*P	**P**	**01 10 57.8 -0.3**
COLD	**Coldfoot**	**43.91 32**	*e*P	**P**	**01 10 56.2 -2.0**
COLD			*e*PcP	**PcP**	**01 12 45.5 +1.8**
KTH	**Kantishna Hill**	**43.98 37**	*e*P	**P**	**01 10 58.3 -0.6**
	comp=Z,187nm,1.0s				
KDAK	**Kodiak Island**	**44.15 46**	*e*P	**P**	**01 11 01.2 +1.1**
KDAK			MLR	MLR	
	comp=Z,3μm,20.0s				
KDAK	**Kodiak Island**	**44.15 46**	*e*P	**P**	**01 11 00.8 +0.7**
KDAK	**Kodiak Island**	**44.15 46**	*e*P	**P**	**01 11 01.2 +1.1**
KDAK			LR	LR	
	comp=Z,3μm,20.0s				
ODAN	**Odare**	**44.22 265**	*e*P	**P**	**01 11 00.8 -0.6**
	comp=Z,659nm,1.5s				
TRF	**Thorofare Moun**	**44.28 38**	*e*P	**P**	**01 11 00.5 -0.8**
TRF			*e*		01 12 46.2
SRDT	**SRDT**	**44.33 242**	P	**P**	**01 11 02.0 0.0**
	comp=Z,167nm,1.6s,comp=Z,4μm				
KHLT	**Khaolaem Dam**	**44.34 243**	P	**P**	**01 11 02.4 +0.3**
	comp=Z,28nm,1.8s,comp=Z,684nm				
KMSI	**Cibinong**	**44.46 201**	P	**P**	**01 11 03.3 +0.3**
	comp=Z,444nm,1.1s				
JIRN	**Jiri**	**44.64 267**	*e*P	**P**	**01 11 04.0 -0.9**
	comp=Z,628nm,1.6s				
GTOI	**Gorontalo**	**44.66 202**	P	**P**	**01 11 03.8 -0.9**
	comp=Z,158nm,2.0s,comp=Z,5μm				
GUN	**Gumba**	**44.72 268**	*e*P	**P**	**01 11 04.8 -0.8**
	comp=Z,230nm,1.0s				
RAMN	**Ramite**	**44.75 266**	*e*P	**P**	**01 11 04.4 -1.2**
	comp=Z,363nm,1.4s				
RKPI	**Ransiki, Papua**	**44.76 186**	P	**P**	**01 11 05.9 +0.5**
	comp=Z,169nm,1.7s				
ULHL	**Ulahol**	**44.76 291**	P	**P**	**01 11 04.6 -0.9**
	SNR=16				
ULHL	**Ulahol**	**44.76 291**	*i* P	**P**	**01 11 04.6 -0.9**
LBMI	**Labuha**	**44.82 196**	P	P	01 11 14.0 +8.0
MCK	**McKinley**	**44.84 37**	*e*P	**P**	**01 11 05.1 -0.5**
MCK			*e*		01 12 47.4
MCK			pmax	pmax	
	comp=Z,73nm,1.0s				
MCK	**McKinley**	**44.84 37**	*e*P	**P**	**01 11 05.1 -0.5**
	comp=Z,72nm,1.0s				
MCK			*e*		01 12 47.4
BVA0	**Borovoye Array**	**44.85 307**	*i* P	**P**	**01 11 04.9 -1.0**
BVA0			pmax	pmax	
	comp=Z,60nm,1.5s				
BRVK	**Borovoye**	**44.91 307**	P	**P**	**01 11 05.5 -0.8**
	comp=Z,202nm,1.5s,SNR=20				
RC01	**Rabbit Creek A**	**44.92 41**	*e*P	**P**	**01 11 06.0 -0.3**
RC01			*e*PcP	**PcP**	**01 12 48.0 +0.7**
TKM2	**Tokmak 2**	**44.93 292**	P	**P**	**01 11 06.5 -0.4**
	SNR=61				
TKM2	**Tokmak 2**	**44.93 292**	P	**P**	**01 11 05.7 -1.2**
TKM2			pmax	pmax	
	comp=Z,85nm,1.5s				
TKM2	**Tokmak 2**	**44.93 292**	*e*P	**P**	**01 11 06.5 -0.4**
	comp=Z,63nm,1.1s				
TKM2			*e*PcP	**PcP**	**01 12 47.5 -0.4**
TKM2			LR	LR	
	comp=Z,6μm,21.0s				
SMPI	**Sarmi**	**45.07 180**	P	**P**	**01 11 09.3 +1.4**
	comp=Z,423nm,1.1s,comp=Z,6μm				
PMR	**Palmer**	**45.11 40**	*e*P	**P**	**01 11 07.2 -0.6**
PMR	**Palmer**	**45.11 40**	*e*P	**P**	**01 11 07.2 -0.6**
MRSI	**Marisa**	**45.12 204**	P	**P**	**01 11 08.4 +0.1**
	comp=Z,202nm,1.4s,comp=Z,3μm				
COLA	**College**	**45.13 35**	*c i* P	**P**	**01 11 07.2 -0.7**
COLA			pmax	pmax	
	comp=Z,861nm,1.1s				
COLA			MLR	MLR	
	comp=Z,16μm,15.0s				
COLA	**College**	**45.13 35**	*e*P	**P**	**01 11 07.2 -0.7**
COLA	**College**	**45.13 35**	*e*P	**P**	**01 11 07.2 -0.7**
	comp=Z,211nm,1.0s				
COLA			LR	LR	
	comp=Z,2μm,20.0s				
OTUK	**Ortayu**	**45.14 300**	P	**P**	**01 11 07.4 -0.8**
OTUK			pmax	pmax	
	comp=Z,20nm,1.1s				
KKN	**Kakani**	**45.23 268**	*e*P	**P**	**01 11 08.6 -0.8**
	comp=Z,687nm,1.7s				
SEW	**Seward**	**45.26 42**	*e*P	**P**	**01 11 08.7 -0.2**
	comp=Z,99nm,1.0s				
PKI	**Pulchoki**	**45.26 268**	*e*P	**P**	**01 11 08.5 -1.3**
	comp=Z,495nm,1.5s				
PKIN	**Phulchoki**	**45.27 268**	*e*P	**P**	**01 11 09.6 -0.2**
	comp=Z,220nm,1.2s				
DMN	**Daman**	**45.46 268**	*e*P	**P**	**01 11 10.6 -0.7**
	comp=Z,1μm,1.9s				
CHMS	**Chumysh**	**45.47 293**	P	**PcP**	**01 12 50.2 +0.7**
	SNR=10				
KBK	**Karagaybulak**	**45.48 292**	P	**P**	**01 11 10.7 -0.5**
	SNR=30				
KBK	**Karagaybulak**	**45.48 292**	*i* P	P	01 11 07.0 -4.2
KZA	**Kyzart**	**45.50 291**	P	**P**	**01 11 11.9 +0.2**
	SNR=30				
KZA	**Kyzart**	**45.50 291**	*i* P	**P**	**01 11 11.9 +0.2**
USP	**Ospenovka**	**45.54 293**	P	**P**	**01 11 10.8 -0.8**
	SNR=10				
USP	**Ospenovka**	**45.54 293**	*i* P	**P**	**01 11 10.7 -0.8**
ILAR	**Eielson Array**	**45.55 35**	P	**P**	**01 11 09.7 -1.6**
	comp=Z,53nm,0.9s,baz=280,slow=6.9,SNR=120				
ILAR			PcP	**PcP**	**01 12 48.5 -0.9**
	comp=Z,17nm,1.1s,baz=281,slow=4.5,SNR=6.9				
ILAR			LR	LR	01 31 42.2
	comp=Z,2μm,18.6s,baz=285,slow=38				
ILAR			PKP2ab		01 43 41.1
	comp=Z,1.3nm,1.2s,baz=100,slow=3.7,SNR=4.1				
FRU	**Bishkek**	**45.63 292**	*e*P	**P**	**01 11 12.0 -0.2**
FRU			*e*		01 11 20.0
FRU			*e*		01 12 50.0
FRU			*e*S	**S**	**01 17 54.0 +1.1**
FRU			pmax	pmax	
	comp=Z,120nm,2.0s				
FRU			smax	smax	
	comp=E,180nm,2.4s				
FRU			MLR	MLR	
	comp=N,7μm,18.0s				
JAY	**Jayapura**	**45.63 177**	P	**P**	**01 11 13.3 +0.9**
	comp=N,102nm,1.1s,comp=N,4μm				
GENI	**Genyem**	**45.69 178**	P	**P**	**01 11 14.3 +1.5**
	comp=N,368nm,1.1s,comp=N,5μm				
AAK	**Ala-Archa**	**45.79 292**	P	**P**	**01 11 12.8 -0.9**
	SNR=19				
AAK	**Ala-Archa**	**45.79 292**	P	**P**	**01 11 12.5 -1.2**
AAK			pmax	pmax	
	comp=Z,26nm,1.3s				
AAK	**Ala-Archa**	**45.79 292**	P	**P**	**01 11 13.1 -0.5**
	SNR=17				
AAK	**Ala-Archa**	**45.79 292**	*e*P	**P**	**01 11 12.5 -1.2**
AAK	**Ala-Archa**	**45.79 292**	*e*P	**P**	**01 11 12.6 -1.1**
	comp=Z,33nm,1.4s				
AAK			*e*PcP	**PcP**	**01 12 51.1 +0.3**
AAK			LR	LR	
	comp=Z,7μm,21.0s				
BTM	**Bintulu**	**45.85 217**	⇑P	**P**	**01 11 14.6 +0.5**
MPSI	**Mapaga**	**45.88 206**	P	**P**	**01 11 14.6 +0.3**
	comp=Z,101nm,1.8s,comp=Z,2μm				
UCH	**Uchtor**	**45.94 292**	P	**P**	**01 11 14.6 -0.7**
	SNR=16				
UCH	**Uchtor**	**45.94 292**	*i* P	**P**	**01 11 14.5 -0.7**
KSH	**Kashi**	**46.08 288**	P	**P**	**01 11 18.8 +2.8**
KSH			PcP	**PcP**	**01 12 53.8 +1.9**
KSH			PP	**PP**	**01 13 07.5 +3.4**
KSH			S	**S**	**01 18 04.8 +5.1**
KSH			ScS	**ScS**	**01 21 10.8 +1.4**
KSH			SS	**SS**	**01 21 23.0 -1.6**
KSH			PMZ		
	comp=Z,26nm,1.2s				
KSH			PMZ		
	comp=Z,370nm,4.5s				
KSH			LN		
	comp=Z,2μm,6.8s				
KSH			LE		
	comp=Z,3μm,7.2s				
KSH			LZ		
	comp=Z,4μm,14.2s				
EKS2	**Erkin-Say**	**46.27 293**	P	**P**	**01 11 16.4 -0.9**
	SNR=14				
EKS2	**Erkin-Say**	**46.27 293**	*e*P	**P**	**01 11 16.2 -1.1**
EKS2			*e*		01 12 53.0
EKS2			MLR	MLR	
	comp=Z,5μm,20.0s				
EKS2	**Erkin-Say**	**46.27 293**	*e*P	**P**	**01 11 16.2 -1.1**
EKS2			*e*PcP	**PcP**	**01 12 53.0 +0.6**
EKS2			LR	LR	
	comp=Z,5μm,20.0s				
LUWI	**Luwuk**	**46.33 202**	P	**P**	**01 11 15.9 -2.0**
	comp=Z,310nm,1.3s,comp=Z,4μm				
LUWI	**Luwuk**	**46.33 202**	*e*P	**P**	**01 11 16.1 -1.8**
	comp=Z,358nm,1.2s				
FAKI	**Fak Fak**	**46.33 189**	P	**P**	**01 11 18.1 +0.2**
	comp=Z,646nm,1.2s,comp=Z,8μm				
FAKI	**Fak Fak**	**46.33 189**	*e*P	**P**	**01 11 18.2 +0.2**
	comp=Z,521nm,1.1s				
SANI	**Sanana**	**46.51 197**	P	**P**	**01 11 18.1 -1.2**
	comp=Z,132nm,2.2s,comp=Z,5μm				
PAX	**Paxson**	**46.51 38**	*e*P	**P**	**01 11 18.1 -0.9**
PAX			*e*		01 12 54.0
PAX			pmax	pmax	
	comp=Z,34nm,1.1s				
PAX	**Paxson**	**46.51 38**	*e*P	**P**	**01 11 18.1 -0.9**
	comp=Z,34nm,1.1s				
PAX			*e*PcP	**PcP**	**01 12 54.0 +1.1**
APSI	**Ampana**	**46.52 204**	P	**P**	**01 11 18.5 -0.9**
	comp=Z,165nm,1.4s,comp=Z,3μm				
AML	**Almayashu**	**46.54 292**	P	**P**	**01 11 19.5 -0.3**
	SNR=25				
AML	**Almayashu**	**46.54 292**	*i* P	**P**	**01 11 19.5 -0.3**
DIV	**Divide**	**46.79 40**	*e*P	**P**	**01 11 21.4 +0.2**
	comp=Z,65nm,0.9s				
SBUM	**Sibu**	**46.90 217**	*e*P	**P**	**01 11 23.0 +0.6**
DOT	**Dot Lake**	**46.98 37**	*e*P	**P**	**01 11 21.2 -1.4**
	comp=Z,39nm,1.0s				
PCI	**Palu**	**47.07 206**	P	**P**	**01 11 23.3 -0.4**
	comp=Z,153nm,1.5s,comp=Z,2μm				
MNAS	**Manas**	**47.19 293**	P	**P**	**01 11 23.9 -0.7**
MNAS			pmax	pmax	
	comp=Z,41nm,1.2s				
MSAI	**Masohi**	**47.21 193**	P	**P**	**01 11 26.2 +1.5**
BMRM	**Bremner River**	**47.38 40**	*e*P	**P**	**01 11 25.8 0.0**
BMRM			*e*PcP	**PcP**	**01 12 57.2 +1.2**
NLAI	**Namlea**	**47.44 196**	P	**P**	**01 11 27.3 +0.8**
SFK	**Sufi-Kurgan**	**47.58 289**	P	**P**	**01 11 26.1 -1.6**
SFK			pmax	pmax	
	comp=Z,84nm,1.4s				
EGAK	**Eagle**	**47.95 35**	*e*P	**P**	**01 11 28.8 -1.3**
	comp=Z,222nm,1.0s				
EGAK			LR	LR	
	comp=Z,1μm,20.0s				
SURA	**Surathani**	**47.97 237**	P	**P**	**01 11 31.9 +1.2**
	comp=Z,150nm,0.7s,comp=Z,18μm				
LGTI	**Lohaghat**	**47.98 273**	*e*P	**P**	**01 11 31.7 +1.0**
BNDI	**Bandanaira**	**48.21 192**	P	**P**	**01 11 32.8 +0.3**
KK31	**Karatay Array**	**48.27 295**	*i* P	**P**	**01 11 31.3 -1.5**
KK31			pmax	pmax	
	comp=Z,19nm,0.9s				
KKAR	**Karatay Array**	**48.27 295**	*e*P	**P**	**01 11 31.5 -1.3**
KKAR			pmax	pmax	
	comp=Z,11nm,0.8s				
KKAR	**Karatay Array**	**48.27 295**	*e*P	**P**	**01 11 31.5 -1.3**
	comp=Z,11nm,0.8s				
KSM	**Kuching**	**48.63 219**	*e*P	**P**	**01 11 36.5 +0.7**
	comp=Z,218nm,1.1s				
KSM			LR	LR	
	comp=Z,708nm,20.0s				
MTKI	**Muara Teweh, K**	**48.85 212**	P	**P**	**01 11 40.4 +2.9**
KRAB	**Krabi**	**48.97 236**	P	**P**	**01 11 39.5 +1.1**
	comp=Z,93nm,1.2s				
KALG	**Kalgarh**	**49.04 274**	*ex*	P	01 11 45.1 +6.3
SVE	**Sverdlovsk**	**49.07 315**	*d i*P	**P**	**01 11 38.9 +0.2**
SVE			*e*		01 13 32.2
SVE			*e*PPP	PPP	01 14 22.8
SVE			*e*S	**S**	**01 18 40.0 -1.4**
SVE			pmax	pmax	
	comp=Z,193nm,1.5s				
SVE			pmax	pmax	
	comp=Z,406nm,11.1s				
SVE			MLR	MLR	
	comp=Z,25μm,13.0s				
SVE			MLR	MLR	
	comp=E,17μm,13.0s				
TTSI	**Tana Toraja**	**49.09 205**	P	**P**	**01 11 42.4 +3.1**
SMLA	**Simla**	**49.32 277**	*i* P	**P**	**01 11 40.3 -0.6**
SMLA			AMB	AMB	01 11 41.6
	comp=Z,238nm,0.3s				
STKI	**Sintang**	**49.35 217**	P	**P**	**01 11 42.7 +1.4**
	comp=Z,248nm,1.4s,comp=Z,29μm				
PKDT	**Phuket**	**49.75 237**	P	**P**	**01 11 45.2 +0.8**
	comp=Z,299nm,1.2s,comp=Z,3μm				
INK	**Inuvik**	**49.93 29**	*e*P	**P**	**01 11 44.3 -0.8**
INK			*e*		01 13 05.9
INK			pmax	pmax	
	comp=Z,95nm,0.9s				
INK	**Inuvik**	**49.93 29**	*e*P	**P**	**01 11 44.3 -0.8**
	comp=Z,94nm,0.9s				
INK			*e*PcP	**PcP**	**01 13 05.9 +1.0**
SPSI	**Sidrap Palu**	**49.98 205**	P	**P**	**01 11 45.0 -1.0**
	comp=Z,57nm,1.3s,comp=Z,2μm				
SOKR	**Solikamsk**	**50.08 319**	*c i*P	**P**	**01 11 46.1 -0.2**
SOKR					01 13 45.6
SOKR			S	**S**	**01 18 54.7 -0.5**
SOKR			SS	**SS**	**01 22 27.2 -0.7**
SOKR			pmax	pmax	
	comp=Z,170nm,1.5s				
SOKR			MLR	MLR	
	comp=Z,3μm,12.0s				
ASOR	**Ausora**	**50.17 274**	*e*P	**P**	**01 11 47.4 0.0**
KKR	**Kurukshetra**	**50.20 276**	*e*P	**P**	**01 11 46.8 -0.9**
KKR			AMB	AMB	01 11 46.9
	comp=Z,88nm,0.6s				
ARU	**Arti**	**50.29 315**	P	**P**	**01 11 47.3 -0.7**
	comp=Z,544nm,1.4s,SNR=34				
ARU	**Arti**	**50.29 315**	*c i*P	**P**	**01 11 47.4 -0.6**
ARU			*e*		01 13 06.0
ARU					01 13 46.0
ARU			PPP	PPP	01 14 38.5
ARU			S	**S**	**01 18 58.7 +0.3**
ARU					01 21 33.5
ARU			pmax	pmax	
	comp=Z,259nm,1.7s				
ARU			MLR	MLR	
	comp=Z,14μm,14.0s				
ARU	**Arti**	**50.29 315**	*e*P	**P**	**01 11 47.7 -0.3**
ARU	**Arti**	**50.29 315**	*e*P	**P**	**01 11 47.5 -0.5**
	comp=Z,175nm,1.3s				
ARU			*e*PcP	**PcP**	**01 13 06.9 +0.5**
ARU			LR	LR	
	comp=Z,10μm,20.0s				
BNSI	**Bone**	**50.29 204**	P	**P**	**01 11 48.6 +0.2**
	comp=Z,203nm,1.4s,comp=Z,5μm				
KULM	**Kulim**	**50.44 232**	*e*P	**P**	**01 11 50.0 +0.4**
	comp=Z,291nm,1.3s				
KULM			*e*PcP	**PcP**	**01 13 08.4 +0.8**
KULM			LR	LR	
	comp=Z,2μm,21.0s				
KBKI	**Kotabaru**	**50.55 209**	P	**P**	**01 11 51.5 +1.1**
NDI	**New Delhi**	**50.61 274**	*e*P	**P**	**01 11 50.5 -0.3**
NDI			*ex*	x	01 19 01.5
BBSI	**Bau Bau**	**50.64 201**	P	**P**	**01 11 51.8 +0.8**
HYT	**Haines Junctio**	**50.73 39**	*e*P	**P**	**01 11 52.8 +1.3**
	comp=Z,396nm,1.0s				
HYT			*e*PcP	**PcP**	**01 13 10.2 +1.9**
BHGR	**Bahadurgarh**	**50.81 275**	*e*P	**P**	**01 11 51.2 -1.1**
IPM	**Ipoh**	**50.89 231**	*e*P	**P**	**01 11 52.3 -0.7**
	comp=Z,172nm,1.4s				
AGRA	**Agra**	**50.90 272**	*e*P	**P**	**01 11 51.8 -1.2**
SONA	**Sohna**	**50.95 274**	*e*P	**P**	**01 11 52.1 -1.3**
KAPI	**Kappang**	**50.98 204**	P	**P**	**01 11 54.0 +0.4**
	SNR=81				
KAPI	**Kappang**	**50.98 204**	*e*P	**P**	**01 11 53.7 +0.1**
	comp=Z,652nm,1.5s				
KAPI			LR	LR	
	comp=Z,697nm,22.0s				
BKSI	**Bulukumba**	**51.16 204**	P	**P**	**01 11 54.6 -0.3**
	comp=Z,53nm,1.1s,comp=Z,2μm				
BBKI	**Banjar Baru**	**51.19 211**	P	**P**	**01 11 55.6 +0.4**
	comp=Z,376nm,1.7s,comp=Z,7μm				
DZET	**Dzherino**	**51.34 290**	P	**P**	**01 11 54.8 -1.6**
DZET			pmax	pmax	
	comp=Z,50nm,1.3s				
SAUI	**Saumlaki**	**51.44 189**	P	**P**	**01 11 59.8 +2.8**
SAUI	**Saumlaki**	**51.44 189**	*e*P	**P**	**01 11 58.6 +1.5**
KUDL	**Kundal**	**51.45 274**	*e*P	**P**	**01 11 55.5 -1.5**
PBKI	**Pangkalan Bun**	**51.76 215**	P	**P**	**01 12 01.9 +2.4**
TPRI	**Tanjung Pinang**	**51.94 225**	P	**P**	**01 12 01.2 +0.3**
KHET	**Khetri**	**51.98 275**	*e*P	**P**	**01 11 59.1 -2.0**
AB31	**Akbulak array**	**52.33 306**	*i* P	**P**	**01 12 03.2 -0.2**
AB31			pmax	pmax	
	comp=Z,134nm,1.1s				
ABKAR	**Akbulak array**	**52.33 306**	*e*P	**P**	**01 12 03.1 -0.4**
	comp=Z,153nm,1.2s				
LHMI	**Lhok Sumawe**	**52.69 236**	P	**P**	**01 12 09.1 +2.7**
LHMI	**Lhok Sumawe**	**52.69 236**	*e*P	**P**	**01 12 07.5 +1.1**
	comp=Z,379nm,1.5s				
AKTO	**Aktyubinsk**	**52.95 308**	P	**P**	**01 12 07.2 -0.8**
AKTO			pmax	pmax	
	comp=Z,118nm,1.5s				
PMG	**Port Moresby**	**53.03 169**	*c i*P	**P**	**01 12 08.8 0.0**
PMG			pmax	pmax	
	comp=Z,98nm,1.7s				
PMG	**Port Moresby**	**53.03 169**	*e*P	**P**	**01 12 08.6 -0.2**
	comp=Z,23nm,1.3s				
PMG			LR	LR	
	comp=Z,1μm,19.0s				
KBL	**Kabul**	**53.33 285**	*e*P	**P**	**01 12 09.7 -1.6**
KBL			*e*		01 13 18.9
KBL			pmax	pmax	
	comp=Z,80nm,1.5s				
KBL	**Kabul**	**53.33 285**	*e*P	**P**	**01 12 09.7 -1.6**
	comp=Z,80nm,1.5s				
KBL			*e*PcP	**PcP**	**01 13 18.9 +0.3**
HOPEN	**Hopen**	**53.44 344**	⇑*i*P	**P**	**01 12 10.6 -0.5**
HOPEN			IAmb	IAmb	01 12 11.5
	comp=Z,617nm,1.6s				
HOPEN			*e*S	**S**	**01 19 41.0 -0.1**
HOPEN			IVMs_BB	IVMs_BB	01 37 56.0
	comp=Z,4μm,12.3s				
PSI	**Prapat**	**53.46 232**	P	**P**	**01 12 11.7 -0.5**
	comp=Z,165nm,1.2s,baz=5.2,slow=5.0,SNR=58				
PSI			ScP	**ScP**	**01 17 16.5 +2.0**
	comp=Z,3.8nm,0.9s,baz=337,slow=7.7,SNR=5.6				
TPI	**Tanjungpandan**	**53.58 220**	P	**P**	**01 12 13.6 +0.6**
	comp=Z,144nm,1.4s,comp=Z,2μm				
MMRI	**Maumere**	**53.75 200**	P	**P**	**01 12 13.5 -0.6**
	comp=Z,257nm,1.7s,comp=Z,6μm				
MMRI	**Maumere**	**53.75 200**	*e*P	**P**	**01 12 13.1 -1.1**
	comp=Z,1μm,1.8s				
SPA0	**Spitsbergen Ar**	**53.96 348**	⇑*i*P	**P**	**01 12 14.0 -1.0**
SPA0			*e*S	**S**	**01 19 48.7 +0.5**
SPA0			IVMs_BB	IVMs_BB	01 37 53.4
	comp=Z,2μm,11.1s				
EDFI	**Ende, Flores**	**54.00 201**	P	**P**	**01 12 14.4 -1.7**
	comp=Z,103nm,1.9s,comp=Z,2μm				
TPTI	**Tapati**	**54.11 234**	P	**P**	**01 12 15.3 -1.6**
	comp=Z,17nm,1.4s				
KBS	**Kingsbay**	**54.11 349**	⇑*i*P	**P**	**01 12 15.4 -0.7**
KBS			*e*S	**S**	**01 19 50.0 -0.3**
KBS	**Kingsbay**	**54.11 349**	*e*P	**P**	**01 12 15.4 -0.7**
KBS			pmax	pmax	
	comp=Z,61nm,1.1s				
KBS			MLR	MLR	
	comp=Z,2μm,19.0s				
KBS	**Kingsbay**	**54.11 349**	*e*P	**P**	**01 12 15.4 -0.7**
	comp=Z,16nm,1.1s				
KBS			LR	LR	
	comp=Z,2μm,19.0s				
BKNI	**Bangkinang**	**54.30 228**	P	**P**	**01 12 19.1 +0.9**
	comp=Z,454nm,1.4s,comp=Z,5μm				
BKNI	**Bangkinang**	**54.30 228**	*e*P	**P**	**01 12 18.6 +0.4**
	comp=Z,762nm,1.4s				
SOEI	**Soe**	**54.35 197**	P	**P**	**01 12 17.8 -0.9**
	comp=Z,234nm,0.9s,comp=Z,5μm				
SOEI	**Soe**	**54.35 197**	*e*P	**P**	**01 12 17.4 -1.3**
	comp=Z,207nm,0.9s				
PRGR	**Permogore**	**54.35 324**	⇑*i*P	**P**	**01 12 17.7 -0.3**
PRGR			*PP	**pP**	**01 12 27.7 +0.6**
PRGR			*e*SP	**sP**	**01 12 31.8 +1.2**
PRGR			*e*		01 13 21.9
PRGR			*e*S	**S**	**01 19 52.9 -0.9**
PRGR			pmax	pmax	
	comp=Z,228nm,0.9s				
JMBI	**JAMBI**	**54.57 225**	P	P	01 12 24.7 +4.5
KMMI	**Kalianget**	**54.82 210**	P	P	01 12 18.7 -3.2
	comp=Z,126nm,1.6s,comp=Z,4μm				
HSP	**Hornsund**	**54.86 347**	*e*P	**P**	**01 12 21.1 -0.4**
HSPB	**Hornsund (broa**	**54.87 347**	⇓*i*P	**P**	**01 12 20.8 -0.8**
WRAK	**Wrangell Islan**	**54.98 43**	*e*P	**P**	**01 12 24.4 +1.7**
	comp=Z,338nm,1.5s				
WRAK			LR	LR	
	comp=Z,1μm,20.0s				
PMBI	**Palembang**	**55.11 223**	P	P	01 12 27.4 +3.3
SDSI	**Sungai Dareh**	**55.14 227**	P	**P**	**01 12 25.0 +0.7**
	comp=Z,239nm,1.5s				
DLBC	**Dease Lake**	**55.17 40**	*e*P	**P**	**01 12 26.1 +2.0**
	comp=Z,358nm,1.2s				
GRJI	**Gresik**	**55.26 212**	P	**P**	**01 12 25.3 +0.2**
	comp=Z,108nm,1.5s,comp=Z,1μm				
SRBI	**Singaraja**	**55.33 208**	P	**P**	**01 12 25.9 +0.3**
	comp=Z,215nm,1.8s,comp=Z,4μm				
TBJI	**Tambak Boyo**	**55.42 213**	P	**P**	**01 12 27.

APA			*i*			01 13 29.6	
APA			*i* S		**S**	**01 20 12.0**	**-4.9**
APA			*i*			01 22 20.0	
APA			pmax	pmax			
	comp=Z,65nm,1.0s						
APA			MLR	MLR			
	comp=Z,5μm,12.0s						
GMJI	**Gumukmas**	**56.14 210**	P		**P**	**01 12 30.4**	**-1.0**
	comp=Z,136nm,1.8s,comp=Z,3μm						
TMCR	**Tamitsa**	**56.22 329**	*e*P		**P**	**01 12 30.9**	**-0.5**
TMCR			*e*			01 14 37.2	
TMCR			pmax	pmax			
	comp=Z,199nm,1.5s						
HYB	**Hyderabad**	**56.46 262**	*i* P		**P**	**01 12 31.5**	**-2.4**
HYB			*e*PcP		**PcP**	**01 13 30.0**	**-0.6**
HYB			*e*S		**S**	**01 20 22.0**	**-1.2**
HYB			*e*SS		**SS**	**01 24 10.0**	**-0.6**
LHSI	**Lahat**	**56.51 223**	P		**P**	**01 12 35.2**	**+1.1**
	comp=Z,468nm,1.5s,comp=Z,7μm						
WOJI	**Wonogiri, Jawa**	**56.71 213**	P		**P**	**01 12 34.9**	**-0.6**
	comp=Z,121nm,1.6s,comp=Z,4μm						
KLI	**Kotabumi**	**56.75 221**	P		**P**	**01 12 36.9**	**+1.1**
MDSI	**Maura Dua**	**56.75 222**	P		**P**	**01 12 36.1**	**+0.3**
	comp=Z,228nm,1.6s,comp=Z,4μm						
KEV	**Kevo**	**56.82 337**	*e*P		**P**	**01 12 34.9**	**-0.7**
KEV			pmax	pmax			
	comp=Z,46nm,0.8s						
KEV			MLR	MLR			
	comp=Z,5μm,20.0s						
KEV	**Kevo**	**56.82 337**	*e*p		**P**	**01 12 34.0**	**-1.6**
	comp=Z,26nm,0.6s						
KEV	**Kevo**	**56.82 337**	*e*P		**P**	**01 12 34.9**	**-0.7**
	comp=Z,46nm,0.8s						
KEV			LR	LR			
	comp=Z,5μm,20.0s						
PCJI	**Pacitan**	**56.94 213**	P		P	01 12 45.1	+8.0
UGM	**Wanagama**	**56.94 214**	P		**P**	**01 12 36.6**	**-0.6**
	comp=Z,445nm,1.5s,comp=Z,6μm						
BLSI	**Bandar Lampung**	**57.00 221**	P		**P**	**01 12 38.2**	**+0.6**
	comp=Z,246nm,1.2s						
KPJI	**Karang Pucung**	**57.08 216**	P		**P**	**01 12 37.6**	**-0.5**
	comp=Z,119nm,1.4s,comp=Z,3μm						
COEN	**Coen**	**57.12 175**	*e*P		**P**	**01 12 38.2**	**-0.1**
	comp=Z,149nm,1.0s						
RES	**Resolute Bay**	**57.12 15**	*e*P		**P**	**01 12 36.0**	**-1.7**
RES			*e*			01 13 33.4	
RES			*e*			01 14 44.7	
RES			pmax	pmax			
	comp=Z,57nm,1.1s						
RES	**Resolute Bay**	**57.12 15**	*e*P		**P**	**01 12 36.0**	**-1.7**
	comp=Z,57nm,1.1s						
RES			*e*PcP		**PcP**	**01 13 33.4**	**+1.3**
RES			*e*PP		**PP**	**01 14 44.7**	**+0.4**
LEM	**Lembang**	**57.20 217**	P		**P**	**01 12 39.5**	**+0.3**
	comp=Z,210nm,1.7s,comp=Z,5μm						
LEM	**Lembang**	**57.20 217**	P		**P**	**01 12 38.6**	**-0.6**
	comp=Z,75nm,0.8s,baz=52,slow=6.3,SNR=18						
ARCES	**ARCESS Array B**	**57.37 337**	P		**P**	**01 12 38.9**	**-0.7**
	comp=Z,14nm,0.5s,baz=63,slow=9.4,SNR=111						
ARCES			PcP		**PcP**	**01 13 33.5**	**+0.3**
	comp=Z,16nm,0.8s,baz=61,slow=4.4,SNR=7.4						
ARE0	**ARCESS Array S**	**57.37 337**	⇑*i*P		**P**	**01 12 38.8**	**-0.8**
ARE0			*e*S		**S**	**01 20 32.6**	**-1.2**
ARE0			*e*SS		**SS**	**01 24 19.9**	**-2.8**
KASI	**Kota Agung**	**57.50 221**	P		**P**	**01 12 41.8**	**+0.7**
MDRS	**Chennai**	**58.13 257**	*e*x		**S**	**01 20 43.4**	**-1.7**
MDRS			*e*x		x	01 29 07.4	
MDRS			*e*x		x	01 57 43.4	
MDRS			*e*x		x	02 12 37.4	
KTK1	**Kautokeino**	**58.33 337**	*e*P		**P**	**01 12 46.5**	**+0.2**
IMYA	**Miami**	**58.55 292**	*e*P		**P**	**01 12 48.6**	**0.0**
GEYT	**Alibeck**	**59.02 295**	P		**P**	**01 12 51.0**	**-0.7**
	comp=Z,18nm,0.7s,baz=64,slow=3.1,SNR=88						
GEYT			LR	LR		01 40 07.3	
	comp=Z,6μm,18.5s,baz=55,slow=38						
TRO	**Tromso**	**59.09 339**	⇑*i*P		**P**	**01 12 50.7**	**-0.8**
TRO			*e*S		**S**	**01 20 54.3**	**-1.8**
POO	**Poona**	**59.17 267**	⇓*i*x		P	01 12 50.0	-2.9
	comp=Z,420nm,1.0s						
POO			*i* PCS		**PcS**	**01 17 42.0**	**-1.4**
IPAY	**Payeh**	**59.24 293**	*e*P		**P**	**01 12 52.9**	**-0.5**
DAG	**Danmarks Havn**	**59.35 354**	⇑*i*P		**P**	**01 12 52.0**	**-1.3**
	comp=Z,23nm,0.9s						
POHA	**Pohakuloa**	**59.36 91**	PFAKE			01 13 10.0	+16
POHA			LR	LR			
	comp=Z,3μm,22.0s						
IKRD	**Kardeh**	**59.39 293**	*e*P		P	01 12 50.3	-4.2
JOF	**Joensuu**	**59.43 329**	*e*P		**P**	**01 12 52.8**	**-1.2**
JOF			pmax	pmax			
	comp=Z,46nm,0.6s						
JOF	**Joensuu**	**59.43 329**	*e*p		**P**	**01 12 52.8**	**-1.2**
	comp=Z,46nm,0.6s						
ISHV	**Shirvan**	**59.51 294**	*e*P		**P**	**01 12 55.5**	**+0.2**
YKA	**Yellowknife Ar**	**59.57 31**	P		**P**	**01 12 54.6**	**-0.3**
	comp=Z,47nm,0.6s,baz=306,slow=6.6,SNR=999						
YKA			PcP		**PcP**	**01 13 42.8**	**+0.8**
	comp=Z,20nm,0.9s,baz=311,slow=3.6,SNR=6.7						
YKA			PKPPKP	P'P'df		01 42 23.3	-7.2
	comp=Z,1.6nm,1.0s,baz=132,slow=2.3,SNR=3.7						
YKA			P4KPbc			01 50 01.7	
	comp=Z,0.9nm,1.0s,baz=310,slow=4.4,SNR=8.4						
STEI	**Steigen**	**61.24 339**	*e*P		**P**	**01 13 06.0**	**-0.3**
LOF	**Lofoten**	**61.53 340**	*e*P		**P**	**01 13 07.4**	**-0.9**
VRHR	**Novokhopersk**	**61.63 315**	*e*P		P	01 13 04.7	-4.5
VRHR			*e*S		**S**	**01 21 27.3**	**-2.0**
VRHR			pmax	pmax			
	comp=Z,180nm,1.7s						
VRHR			pmax	pmax			
	comp=N,190nm,1.4s						
VRHR			pmax	pmax			
	comp=E,140nm,1.6s						
VRHR			smax	smax			
	comp=E,880nm,4.2s						
VRHR			smax	smax			
	comp=Z,590nm,4.6s						
VRHR			smax	smax			
	comp=N,760nm,4.1s						
VRHR			MLR	MLR			
	comp=N,3μm,14.0s						
VRHR			MLR	MLR			
	comp=Z,8μm,14.0s						
VRHR			MLR	MLR			
	comp=E,4μm,13.0s						
PUL	**Pulkovo**	**61.71 327**	*c i*P		**P**	**01 13 10.3**	**+0.7**
PUL			pmax	pmax			
	comp=Z,328nm,1.7s						
PUL			MLR	MLR			
	comp=Z,5μm,22.0s						
PUL	**Pulkovo**	**61.71 327**	*e*P		**P**	**01 13 10.3**	**+0.7**
KAF	**Kangasniemi**	**61.76 330**	*e*P		**P**	**01 13 09.1**	**-0.8**
KAF			pmax	pmax			
	comp=Z,56nm,0.5s						
KAF	**Kangasniemi**	**61.76 330**	*e*p		**P**	**01 13 09.1**	**-0.8**
	comp=Z,56nm,0.5s						
OBN	**Obninsk**	**61.81 320**	P		**P**	**01 13 10.0**	**-0.3**
	comp=Z,1μm,1.3s,SNR=26						
OBN	**Obninsk**	**61.81 320**	*c i*P		**P**	**01 13 09.9**	**-0.3**
OBN			*e*			01 13 51.7	
OBN			*e*			01 15 25.9	
OBN			*i* S		**S**	**01 21 32.1**	**+0.8**
OBN			*e*SS		**SS**	**01 25 36.6**	**+4.0**
OBN			pmax	pmax			
	comp=Z,481nm,1.7s						
OBN			MLR	MLR			
	comp=Z,6μm,15.0s						
OBN	**Obninsk**	**61.81 320**	*e*P		**P**	**01 13 09.9**	**-0.3**
OBN	**Obninsk**	**61.81 320**	*e*P		**P**	**01 13 09.9**	**-0.3**
	comp=Z,549nm,1.4s						
OBN			LR	LR			
	comp=Z,1μm,20.0s						
PALK	**Pallekele**	**61.83 252**	*e*P		**P**	**01 13 10.5**	**-0.6**
PALK			pmax	pmax			
	comp=Z,374nm,1.4s						
PALK	**Pallekele**	**61.83 252**	P		**P**	**01 13 11.1**	**0.0**
	SNR=19						
PALK	**Pallekele**	**61.83 252**	P		**P**	**01 13 10.3**	**-0.8**
	comp=Z,217nm,1.3s,baz=45,slow=5.6,SNR=35						
PALK	**Pallekele**	**61.83 252**	⇓*i*P		**P**	**01 13 10.6**	**-0.6**
	SNR=22						
PALK	**Pallekele**	**61.83 252**	*e*P		**P**	**01 13 10.5**	**-0.6**
	comp=Z,198nm,1.4s						
KULLO	**Kullorsuaq**	**61.96 5**	⇑*i*P		**P**	**01 13 09.8**	**-1.2**
	comp=Z,30nm,0.8s						
FINES	**FINESS Array B**	**62.27 330**	P		**P**	**01 13 12.5**	**-0.8**
	comp=Z,77nm,0.5s,baz=56,slow=7.2,SNR=709						
FINES			PcP		**PcP**	**01 13 51.5**	**-1.4**
	comp=Z,22nm,0.7s,baz=46,slow=4.0,SNR=5.8						
FINES			LR	LR		01 41 40.7	
	comp=Z,6μm,19.0s,baz=54,slow=37						
FINES			PKP2bc			01 42 26.7	
	comp=Z,4.2nm,1.1s,baz=251,slow=4.3,SNR=4.9						
VOR	**Voronezh**	**62.51 316**	*e*P		**P**	**01 13 14.0**	**-1.1**
VOR			pmax	pmax			
	comp=Z,500nm,1.6s						
IGLO	**Ghaloghah**	**62.66 295**	*e*P		**P**	**01 13 16.1**	**-0.5**
MOR8	**Moi Rana**	**62.74 338**	⇑*i*P		**P**	**01 13 14.3**	**-2.1**
MOR8			IAmb	IAmb		01 13 15.4	
	comp=Z,250nm,1.2s						
VSR	**Storozhevoye**	**62.83 316**	*e*P		P	01 13 13.8	-3.4
VSR			*e*S		**S**	**01 21 44.3**	**0.0**
VSR			pmax	pmax			
	comp=Z,220nm,1.6s						
VSR			pmax	pmax			
	comp=N,130nm,1.4s						
VSR			pmax	pmax			
	comp=E,430nm,1.7s						
VSR			smax	smax			
	comp=N,1μm,4.7s						
VSR			smax	smax			
	comp=Z,840nm,5.1s						
VSR			smax	smax			
	comp=E,1μm,4.9s						
VSR			MLR	MLR			
	comp=E,5μm,13.0s						
VSR			MLR	MLR			
	comp=Z,10μm,13.0s						
VSR			MLR	MLR			
	comp=N,4μm,12.0s						
KONS	**Konsvik**	**62.85 338**	*e*P		**P**	**01 13 15.8**	**-1.3**
VORD	**Divnogorie**	**62.91 315**	*e*P		P	01 13 14.1	-3.6
VORD			*e*S		**S**	**01 21 44.7**	**-0.7**
VORD			pmax	pmax			
	comp=Z,160nm,1.3s						
VORD			pmax	pmax			
	comp=N,70nm,1.2s						
VORD			pmax	pmax			
	comp=E,90nm,1.0s						
VORD			smax	smax			
	comp=E,1μm,4.6s						
VORD			smax	smax			
	comp=Z,520nm,4.5s						
VORD			smax	smax			
	comp=N,740nm,3.8s						
VORD			MLR	MLR			
	comp=N,4μm,12.0s						
VORD			MLR	MLR			
	comp=E,4μm,12.0s						
VORD			MLR	MLR			
	comp=Z,7μm,12.0s						
MAK	**Makhachkala**	**62.96 305**	*e*P		**P**	**01 13 18.3**	**+0.1**
MAK			*e*			01 13 55.6	
MAK			*e*			01 15 41.5	
MAK			*e*PPP		PPP	01 17 10.4	
MAK			*e*S		**S**	**01 21 46.6**	**+0.4**
MAK			*e*SS		**SS**	**01 25 52.5**	**+1.3**
MAK			*e*SSS		SSS	01 28 36.4	
MAK			pmax	pmax			
	comp=Z,18nm,0.3s						
STOK	**Stokkvaagen**	**63.01 338**	*e*P		**P**	**01 13 16.9**	**-1.2**
WRAB	**Tennant Creek**	**63.02 184**	*c i*P		**P**	**01 13 17.6**	**-1.1**
WRAB			pmax	pmax			
	comp=Z,516nm,1.2s						
WRAB	**Tennant Creek**	**63.02 184**	*e*P		**P**	**01 13 17.8**	**-0.9**
	comp=Z,227nm,1.3s						
WRAB			LR	LR			
	comp=Z,859nm,20.0s						
WB2	**Warramunga Arr**	**63.02 184**	*e*P		**P**	**01 13 17.9**	**-0.8**
WRA	**Warramunga Arr**	**63.02 184**	P		**P**	**01 13 17.6**	**-1.2**
	comp=Z,70nm,0.8s,baz=1.2,slow=7.0,SNR=114						
WRA			LR	LR		01 40 17.5	
	comp=Z,267nm,18.1s,baz=20,slow=36						
WRA			PKP2bc			01 42 26.9	
	comp=Z,12nm,1.0s,baz=193,slow=2.5,SNR=14						
IANJ	**Anjilo**	**63.20 294**	*e*P		**P**	**01 13 20.3**	**0.0**
ISHM	**Shahmirzad**	**63.41 295**	*e*P		**P**	**01 13 21.8**	**+0.1**
CTA	**Charters Tower**	**63.46 172**	P		**P**	**01 13 20.1**	**-1.5**
	comp=Z,26nm,1.1s,baz=6.9,slow=8.1,SNR=8.4						
CTAO	**Charters Tower**	**63.46 172**	*e*P		**P**	**01 13 20.9**	**-0.7**
CTAO			pmax	pmax			
	comp=Z,52nm,1.1s						
CTAO			MLR	MLR			
	comp=Z,586nm,19.0s						
CTAO	**Charters Tower**	**63.46 172**	*e*P		**P**	**01 13 20.9**	**-0.7**
	comp=Z,52nm,1.1s						
CTAO			LR	LR			
	comp=Z,586nm,19.0s						
TRD	**Trivandrum**	**63.60 256**	⇓*e*P		P	01 13 29.9	+7.1
TRD			*e*S		S	01 22 03.9	+9.1
PGC	**Sidney**	**63.67 47**	*e*P		**P**	**01 13 23.9**	**+1.0**
	comp=Z,82nm,0.6s						
IPRN	**Peran**	**63.79 296**	*e*P		**P**	**01 13 23.1**	**-0.9**
IFIR	**Firoozkooh**	**63.87 295**	*e*P		**P**	**01 13 25.5**	**+0.8**
ILAS	**Lasjerd**	**63.88 295**	*e*P		**P**	**01 13 25.1**	**+0.3**
VSU	**Vasula**	**63.97 327**	*c i*P		**P**	**01 13 24.6**	**0.0**
VSU			pmax	pmax			
	comp=Z,706nm,1.5s						
VSU			MLR	MLR			
	comp=Z,14μm,22.0s						
NLWA	**Neilton Lookou**	**64.19 48**	*e*P		**P**	**01 13 28.2**	**+1.8**
	comp=Z,480nm,1.2s						
NLWA			LR	LR			
	comp=Z,3μm,22.0s						
IBAF	**Bafgh**	**64.35 290**	*e*P		**P**	**01 13 27.0**	**-0.8**
GOF	**Gofitskoye**	**64.36 308**	*e*P		**P**	**01 13 27.2**	**-0.2**
GOF			*i* S		**S**	**01 22 08.4**	**+4.8**
GOF			pmax	pmax			
	comp=Z,220nm,1.3s						
GOF			smax	smax			
	comp=E,250nm,2.5s						
IDMV	**Damavand**	**64.38 296**	*e*P		**P**	**01 13 27.9**	**-0.2**
SUMG	**Summit**	**64.42 359**	*e*P		**P**	**01 13 27.8**	**-0.1**
SUMG			pmax	pmax			
	comp=Z,123nm,0.9s						
SUMG	**Summit**	**64.42 359**	⇑*i*P		**P**	**01 13 28.0**	**+0.1**
	comp=Z,111nm,0.9s						
SUMG	**Summit**	**64.42 359**	*e*P		**P**	**01 13 27.8**	**-0.1**
	comp=Z,123nm,0.9s						
NSS	**Namsos**	**64.66 337**	*e*P		**P**	**01 13 28.2**	**-0.8**
NSS			*e*S		**S**	**01 22 04.1**	**-2.6**
ICHK	**Chekchek**	**64.76 291**	*e*P		**P**	**01 13 29.8**	**-0.7**
JCW	**Jim Creek**	**64.76 47**	P		**P**	**01 13 31.3**	**+1.3**
IVRN	**Varamin**	**64.92 295**	*e*P		**P**	**01 13 30.8**	**-0.6**
IGZV	**Ghazvin**	**65.09 297**	*e*P		**P**	**01 13 32.6**	**0.0**
IMEH	**Mehriz**	**65.12 290**	*e*P		**P**	**01 13 31.8**	**-1.2**
DGRG	**David-gareji**	**65.13 304**	P		**P**	**01 13 32.9**	**+0.4**
ZEI	**Tsey**	**65.21 306**	*e*P		P	01 13 29.4	-3.9
ZEI			pmax	pmax			
	comp=Z,57nm,1.4s						
IMHD	**Mahdasht**	**65.21 296**	*e*P		**P**	**01 13 33.5**	**+0.2**
KIV	**Kislovodsk**	**65.22 308**	P		**P**	**01 13 33.8**	**+0.7**
	comp=Z,895nm,1.0s,SNR=33						
KIV	**Kislovodsk**	**65.22 308**	*c i*P		**P**	**01 13 33.9**	**+0.7**
KIV			*e*			01 14 06.1	
KIV			*e*PPP		PPP	01 17 29.2	
KIV			*e*S		**S**	**01 22 15.0**	**+0.6**
KIV			*e*SS		**SS**	**01 26 26.0**	**-0.6**
KIV			pmax	pmax			
	comp=Z,190nm,1.1s						
KIV			pmax	pmax			
	comp=Z,901nm,5.0s						
KIV	**Kislovodsk**	**65.22 308**	P		**P**	**01 13 34.2**	**+1.0**
	SNR=53						
KIV	**Kislovodsk**	**65.22 308**	*e*P		**P**	**01 13 33.9**	**+0.7**
KIV	**Kislovodsk**	**65.22 308**	⇓*i*P		**P**	**01 13 33.8**	**+0.7**
	SNR=48						
KIV	**Kislovodsk**	**65.22 308**	*e*P		**P**	**01 13 33.8**	**+0.7**
	comp=Z,312nm,1.3s						
KIV			LR	LR			
	comp=Z,3μm,19.0s						
KBZ	**Khabaz**	**65.23 307**	P		**P**	**01 13 32.9**	**-0.2**
	comp=Z,22nm,1.0s,baz=62,slow=6.6,SNR=38						
KBZ			LR	LR		01 44 22.7	
	comp=Z,4μm,19.2s,baz=34,slow=38						
TBLG	**Delisi**	**65.34 305**	*e*P		**P**	**01 13 35.5**	**+1.6**
TBLG	**Delisi**	**65.34 305**	P		**P**	**01 13 34.3**	**+0.4**
ISAD	**Sadrabad**	**65.44 291**	*e*P		**P**	**01 13 34.3**	**-0.8**
F04D	**Rainier, OR**	**65.45 49**	⇑P		**P**	**01 13 36.5**	**+2.0**
	baz=65,SNR=8.1						
WRW	**Wenatchee Ridg**	**65.52 47**	P		**P**	**01 13 36.1**	**+1.0**
ONI	**Oni**	**65.59 306**	P		**P**	**01 13 36.2**	**+0.7**
FMW	**Mount Fremont**	**65.67 48**	P		**P**	**01 13 37.4**	**+1.2**
RCS	**Mount Rainier-**	**65.67 48**	P		**P**	**01 13 37.9**	**+1.6**
LON	**Longmire**	**65.70 48**	*e*P		**P**	**01 13 37.1**	**+0.9**
LON			pmax	pmax			
	comp=Z,75nm,0.9s						
LON	**Longmire**	**65.70 48**	*e*P		**P**	**01 13 37.1**	**+0.9**
	comp=Z,75nm,0.9s						
IZEF	**Zefreh**	**65.77 293**	*e*P		**P**	**01 13 36.7**	**-0.5**
G03D	**McMinnville, O**	**65.84 50**	⇓P		**P**	**01 13 38.8**	**+1.8**
	baz=66,SNR=6.8						
IRAZ	**Razeghan**	**65.86 297**	*e*P		**P**	**01 13 37.1**	**-0.5**
IHRS	**Heris**	**65.97 301**	*e*P		**P**	**01 13 38.0**	**-0.3**
IKLH	**Kolahrood**	**66.02 294**	*e*P		**P**	**01 13 38.5**	**-0.2**
IDID	**Didziasalis**	**66.06 324**	*e*P		**P**	**01 13 38.7**	**+0.5**
IDID			AMB	AMB		01 13 39.6	
	comp=Z,92nm,1.1s						
WTV	**Waterville**	**66.11 46**	P		**P**	**01 13 39.4**	**+0.5**
MICGM	**Minsk**	**66.11 323**	⇑*i*P		**P**	**01 13 37.0**	**-1.6**
MNK	**Minsk**	**66.13 323**	⇑*i*P		**P**	**01 13 37.0**	**-1.8**
MNK			*e*PPP		PPP	01 17 40.0	
MNK			*e*S		**S**	**01 22 26.0**	**+1.0**
MNK			*e*SSS		SSS	01 29 40.0	
MNK			pmax	pmax			
	comp=Z,1μm,1.0s						
MNK			pmax	pmax			
	comp=E,1μm,2.0s						
MNK			pmax	pmax			
	comp=N,1μm,1.5s						
MNK			MLR	MLR			
	comp=E,9μm,12.0s						
MNK			MLR	MLR			
	comp=N,8μm,14.0s						
MNK			MLR	MLR			
	comp=Z,11μm,14.0s						
ISAL	**Salakas**	**66.15 325**	*e*P		**P**	**01 13 39.3**	**+0.5**
ISAL			AMB	AMB		01 13 40.2	
	comp=Z,116nm,1.0s						
IBND	**Bandar-abas**	**66.17 286**	*e*P		**P**	**01 13 38.5**	**-0.9**
ASR	**Mount Adams--S**	**66.19 48**	P		**P**	**01 13 40.8**	**+1.3**
COR	**Corvallis**	**66.20 51**	*e*P		**P**	**01 13 41.7**	**+2.3**
COR			pmax	pmax			
	comp=Z,449nm,1.1s						
COR	**Corvallis**	**66.20 51**	*e*P		**P**	**01 13 41.7**	**+2.3**
	comp=Z,449nm,1.1s						
IIGN	**Ignalina**	**66.25 325**	*e*P		**P**	**01 13 40.0**	**+0.5**
IIGN			AMB	AMB		01 13 41.0	
	comp=Z,118nm,1.0s						
GNI	**Garni**	**66.29 303**	*c i*P		**P**	**01 13 41.1**	**+0.9**
GNI			pmax	pmax			
	comp=Z,142nm,1.7s						
GNI			MLR	MLR			
	comp=Z,3μm,19.0s						
GNI	**Garni**	**66.29 303**	P		**P**	**01 13 41.7**	**+1.5**
	SNR=20						
GNI	**Garni**	**66.29 303**	⇓*i*P		**P**	**01 13 40.9**	**+0.7**
	SNR=29						
GNI	**Garni**	**66.29 303**	*e*P		**P**	**01 13 40.9**	**+0.7**
	comp=Z,170nm,1.5s						
GNI			LR	LR			
	comp=Z,3μm,19.0s						
CHVG	**Ch'k'valeri**	**66.32 307**	*e*P		**P**	**01 13 40.9**	**+0.7**
CHVG	**Ch'k'valeri**	**66.32 307**	P		**P**	**01 13 40.9**	**+0.7**
NACGM	**Naroch**	**66.32 324**	*e*P		**P**	**01 13 38.0**	**-1.9**
MBWA	**Marble Bar**	**66.41 199**	P		**P**	**01 13 40.9**	**+0.1**
	SNR=11						
MBWA	**Marble Bar**	**66.41 199**	*e*P		**P**	**01 13 40.5**	**-0.3**
	comp=Z,298nm,1.5s						
MBWA			LR	LR			
	comp=Z,755nm,21.0s						
IMRD	**Marand**	**66.57 302**	*e*P		**P**	**01 13 41.4**	**-0.6**
VLL	**Laurance Lake**	**66.57 49**	P		**P**	**01 13 43.4**	**+1.6**
I03D	**Drain, OR**	**66.73 51**	⇓P		**P**	**01 13 44.8**	**+2.0**
	baz=66,SNR=13						
AS31	**Alice Springs**	**66.75 185**	*e*P		**P**	**01 13 42.8**	**-0.2**
ASAR	**Alice Springs**	**66.75 185**	P		**P**	**01 13 42.8**	**-0.2**
	comp=Z,24nm,0.9s,baz=6.2,slow=5.7,SNR=101						
ASAR			PP	PP		01 16 00.0	-11
	comp=Z,4.2nm,0.9s,baz=358,slow=8.3,SNR=4.2						
ASAR			PKPPKP	**P'P'df**		**01 42 07.3**	**+1.3**
	comp=Z,2.1nm,1.0s,baz=186,slow=1.9,SNR=7.6						
ASAR			LR	LR		01 42 42.7	
	comp=Z,531nm,19.3s,baz=20,slow=36						
IPIR	**Pirpir**	**66.86 294**	*e*P		**P**	**01 13 42.3**	**-1.9**
G05D	**Wamic, OR**	**66.91 49**	⇑P		**P**	**01 13 45.4**	**+1.4**
	baz=67,SNR=10						
OD2	**Odessa Site #2**	**66.96 46**	P		**P**	**01 13 44.8**	**+0.6**
KARS	**Kars**	**67.01 305**	*e*P		**P**	**01 13 45.9**	**+1.1**
IAZR	**Azarshahr**	**67.02 301**	*e*P		**P**	**01 13 45.4**	**+0.3**
COCO	**West Island**	**67.04 225**	*i* P		**P**	**01 13 47.8**	**+2.9**
COCO	**West Island**	**67.04 225**	*e*P		**P**	**01 13 45.5**	**+0.6**
	comp=Z,232nm,1.1s						
RSW	**Rattlesnake Hi**	**67.12 47**	P		**P**	**01 13 46.6**	**+1.2**
IPAR	**Pars**	**67.13 290**	*e*P		**P**	**01 13 45.0**	**-1.0**
SOC	**Sochi**	**67.15 309**	*c i*P		**P**	**01 13 45.4**	**0.0**
SOC			*e**PP		**pP**	**01 13 53.2**	**-1.5**
SOC			*e*			01 14 11.8	
SOC			*i* S		**S**	**01 22 39.9**	**+2.2**
SOC			*i* S		S	01 22 40.6	+2.9
SOC			*e*			01 23 36.5	
SOC			*e*SS		**SS**	**01 26 52.1**	**-4.3**
SOC			pmax	pmax			
	comp=Z,111nm,1.2s						
SOC			pmax	pmax			
	comp=Z,984nm,3.5s						
SOC			MLR	MLR			
	comp=Z,3μm,11.0s						
HAWA	**Hanford**	**67.16 47**	*e*P		**P**	**01 13 46.5**	**+1.0**
	comp=Z,212nm,1.0s						
HAWA			*e*PcP		**PcP**	**01 14 14.5**	**+1.1**
I04A	**Tendick Farm,**	**67.20 51**	⇑P		**P**	**01 13 47.0**	**+1.2**
	baz=67,SNR=32						
NEW	**Newport**	**67.23 45**	*e*P		**P**	**01 13 46.6**	**+0.7**
NEW			pmax	pmax			
	comp=Z,187nm,1.1s						
NEW			MLR	MLR			
	comp=Z,1μm,20.0s						
NEW	**Newport**	**67.23 45**	⇓P		**P**	**01 13 46.7**	**+0.7**
	baz=67,SNR=64						
NEW	**Newport**	**67.23 45**	*e*P		**P**	**01 13 46.6**	**+0.7**
	comp=Z,187nm,1.1s						
NEW			LR	LR			
	comp=Z,1μm,20.0s						
BANOM	**Banah**	**67.27 285**	P		**P**	**01 13 46.7**	**+0.1**
	SNR=5.6						
BANOM	**Banah**	**67.27 285**	⇑*i*P		**P**	**01 13 45.7**	**-0.8**
	SNR=5.6						
BCA	**Borcka**	**67.37 306**	*e*P		**P**	**01 13 47.4**	**+0.4**
ISRV	**Sarvestan**	**67.37 290**	*e*P		**P**	**01 13 46.7**	**-0.8**
CLDR	**Caldiran**	**67.41 303**	*e*P		**P**	**01 13 48.3**	**+0.8**
WBK	**Wadi Bani Khal**	**67.43 280**	P		**P**

SMDO	Samad	67.81	281	P	P	01 13 51.1	+1.1
	SNR=38						
AKN	Aaknes	67.90	338	eP	P	01 13 52.2	+2.3
UOSS	Wadi Hilu	67.95	284	P	P	01 13 51.3	+0.5
	comp=E,708nm,1.3s,SNR=7.5						
IKAZ	Kazeroun	68.00	291	eP	P	01 13 50.5	-0.9
HOQ	Hoqain	68.01	282	P	P	01 13 51.3	+0.1
	SNR=48						
AKASG	Malin Array Be	68.04	320	P	P	01 13 50.5	-0.4
	comp=E,128nm,1.1s,baz=42,slow=6.5,SNR=368						
AKASG				PKPPKP	P'P'df	01 42 02.7	-13
	comp=E,0.2nm,0.3s,baz=231,slow=3.8,SNR=4.9						
AKASG				LR	LR	01 43 20.5	
	comp=E,1μm,20.5s,baz=35,slow=36						
KIEV	Kiev	68.05	320	eP	P	01 13 50.7	-0.3
KIEV				pmax	pmax		
	comp=Z,293nm,1.3s						
KIEV				MLR	MLR		
	comp=Z,3μm,20.0s						
KIEV	Kiev	68.05	320	eP	P	01 13 50.7	-0.3
	comp=Z,293nm,1.3s						
KIEV				LR	LR		
	comp=Z,3μm,20.0s						
VANB	Van	68.07	303	eP	P	01 13 52.4	+0.9
HATD	Hatta, Dubai	68.07	284	⇓iP	P	01 13 51.5	-0.1
	SNR=31						
J05D	Fort Rock, OR	68.18	51	⇑P	P	01 13 53.5	+1.3
	baz=68,SNR=37						
IKOM	Komasi	68.19	297	eP	P	01 13 51.8	-0.6
JMDO	Jabal Madar	68.20	281	P	P	01 13 53.1	+0.7
	SNR=30						
ASHO	Ashiyiah	68.21	284	P	P	01 13 53.0	+0.5
	SNR=23						
ASHO	Ashiyiah	68.21	284	iP	P	01 13 52.6	+0.1
	SNR=31						
KHMM	Horse Mountain	68.26	54	eP	P	01 13 54.2	+1.5
	comp=Z,222nm,1.3s						
NAZ	Nazwa, Dubai	68.30	284	⇑iP	P	01 13 52.4	-0.6
	SNR=8.9						
K04D	Chiloquin, OR	68.31	52	⇑P	P	01 13 54.4	+1.5
	baz=68,SNR=8.1						
YBH	Yreka Blue Hor	68.32	53	eP	P	01 13 54.4	+1.4
YBH				pmax	pmax		
	comp=Z,269nm,1.7s						
YBH	Yreka Blue Hor	68.32	53	eP	P	01 13 54.4	+1.4
	comp=Z,269nm,1.7s						
WALA	Waterton Lakes	68.33	42	eP	P	01 13 53.9	+0.9
	comp=Z,216nm,1.1s						
M02C	Callahan	68.45	53	⇓P	P	01 13 55.8	+2.1
	baz=68,SNR=15						
SUW	Suwalki	68.46	325	⇑eP	P	01 13 53.3	-0.2
SUW				eS	S	01 22 52.4	-0.6
SUW				MLR	MLR		
	comp=Z,4μm,19.5s						
SUW	Suwalki	68.46	325	eP	P	01 13 53.3	-0.2
SUW				epP	pP	01 13 54.3	-8.4
SUW				eS	S	01 22 52.3	-0.7
SUW				LMZ	LR	01 44 04.6	
SUW	Suwalki	68.46	325	eP	P	01 13 53.2	-0.2
	comp=Z,125nm,0.8s						
EZM	Erzurum	68.48	305	eP	P	01 13 55.7	+1.4
FAQ	Al Faqa, Dubai	68.50	284	⇓iP	P	01 13 53.8	-0.4
	SNR=7.2						
OSL	Oslo	68.59	335	eP	P	01 13 53.9	-0.2
IDHR	Dehrash	68.59	298	eP	P	01 13 53.8	-1.2
BSY	Bisya	68.61	281	P	P	01 13 55.7	+0.7
	SNR=48						
BSMT	Bassoo Peak	68.69	44	eP	P	01 13 56.5	+1.2
	comp=Z,385nm,1.7s						
IGHG	Ghaleghazi	68.70	297	eP	P	01 13 54.5	-1.2
ARQ	Araqi	68.73	282	P	P	01 13 56.7	+1.0
	SNR=34						
KTUT	Trabzon	68.75	307	eP	P	01 13 55.3	-0.3
ASUD	Al Ashush, Dub	68.77	284	iP	P	01 13 56.5	+0.6
	SNR=11						
CUKT	Cukurca	68.77	301	eP	P	01 13 55.9	0.0
M04C	Macdoel	68.79	52	⇓P	P	01 13 57.3	+1.3
	baz=69,SNR=33						
BLMT	Blacktail Moun	68.80	43	eP	P	01 13 56.7	+0.7
	comp=Z,308nm,1.1s						
N02D	Trinity Center	68.80	53	⇓P	P	01 13 57.3	+1.3
	baz=69,SNR=13						
VRTB	Varto-Mus	68.89	304	eP	P	01 13 58.1	+1.4
BAYT	Ayd¨–ntepe-Bay	68.90	306	eP	P	01 13 57.5	+0.7
FOO	Floro	68.91	338	eP	P	01 13 55.7	-0.5
FOO				eS	S	01 22 59.3	+1.3
HYA	Hoyanger	68.95	337	eP	P	01 13 56.3	-0.1
JTMT	Jette	69.01	44	eP	P	01 13 58.4	+1.1
	comp=Z,170nm,1.1s						
YBMT	Yellow Bay	69.07	43	eP	P	01 13 58.6	+1.0
	comp=Z,142nm,1.1s						
WDC	Whiskeytown Da	69.15	54	eP	P	01 13 58.9	+0.9
WDC				pmax	pmax		
	comp=Z,155nm,1.4s						
WDC	Whiskeytown Da	69.15	54	eP	P	01 13 58.9	+0.9
	comp=Z,154nm,1.4s						
KONO	Kongsberg	69.17	335	⇑iP	P	01 13 57.5	-0.2
KONO				eS	S	01 22 59.7	-1.5
KONO				IAMs_20	IAMs_20	01 45 58.8	
	comp=Z,3μm,19.4s						
KONO	Kongsberg	69.17	335	eP	P	01 13 57.6	-0.2
KONO				pmax	pmax		
	comp=Z,34nm,0.9s						
KONO				MLR	MLR		
	comp=Z,3μm,20.0s						
KONO	Kongsberg	69.17	335	eP	P	01 13 57.6	-0.2
	comp=Z,34nm,0.9s						
KONO				LR	LR		
	comp=Z,3μm,20.0s						
GUMT	Gumushane	69.25	306	eP	P	01 13 59.5	+0.7
EIDS	Eidsvold	69.29	168	eP	P	01 13 59.0	+0.1
	comp=Z,102nm,1.3s						
SWMT	Swartz Lake	69.31	44	eP	P	01 14 00.0	+0.9
	comp=Z,261nm,1.2s						
SIRT	Sirnak	69.34	302	eP	P	01 13 59.3	-0.1
BMO	Blue Mountains	69.34	47	eP	P	01 14 00.3	+1.0
	comp=Z,123nm,1.1s						
BMO				LR	LR		
	comp=Z,2μm,19.0s						
SIM	Simferopol'	69.38	313	ceP	P	01 13 59.2	-0.2
SIM				e		01 14 23.0	
SIM				e		01 16 28.0	
SIM				ePPP	PPP	01 18 17.0	
SIM				eS	S	01 23 07.0	+2.8
SIM				pmax	pmax		
	comp=Z,44nm,1.1s						
SIM				pmax	pmax		
	comp=Z,200nm,7.3s						
ESPY	Espiye-Giresun	69.40	307	eP	P	01 13 59.1	-0.5
FCC	Fort Churchill	69.40	26	eP	P	01 13 59.1	-0.2
FCC				pmax	pmax		
	comp=Z,11nm,1.1s						
FCC	Fort Churchill	69.40	26	eP	P	01 13 59.1	-0.2
	comp=Z,358nm,1.1s						
SUE	Sulen	69.43	338	eP	P	01 13 59.7	+0.3
BNGB	Bing ¶ll	69.47	304	eP	P	01 14 01.2	+1.0
MOD	Modoc Plateau	69.60	51	eP	P	01 14 01.7	+0.7
	comp=Z,162nm,1.3s						
FFC	Flin Flon	69.66	33	eP	P	01 14 01.4	+0.4
FFC				pmax	pmax		
	comp=Z,625nm,1.3s						
FFC				MLR	MLR		
	comp=Z,968nm,20.0s						
FFC	Flin Flon	69.66	33	eP	P	01 14 01.3	+0.4
FFC	Flin Flon	69.66	33	eP	P	01 14 01.4	+0.4
	comp=Z,567nm,1.3s						
FFC				LR	LR		
	comp=Z,891nm,20.0s						
ERZN	Erzincan	69.66	305	eP	P	01 14 02.3	+0.9
SVAN	Silvan-Diyarba	69.69	304	eP	P	01 14 02.3	+0.8
SLMT	Seeley Lake	69.75	44	eP	P	01 14 02.5	+0.7
	comp=Z,358nm,1.3s						
ASK	Askoy	69.79	337	eP	P	01 14 02.4	+0.8
RUND	Rundenannen	69.80	337	eP	P	01 14 01.4	-0.3
MSO	Missoula	69.80	44	⇓P	P	01 14 02.8	+0.7
	baz=70,SNR=103						
BER	Bergen	69.83	337	eP	P	01 14 02.2	+0.4
BER				eS	S	01 23 09.1	+0.1
BER				eSKSac	SKSac	01 23 58.0	-2.2
SFJD	Kangerlussuaq	69.83	4	eP	P	01 14 01.3	-0.5
SFJD				e		01 14 24.2	
SFJD				pmax	pmax		
	comp=Z,78nm,1.2s						
SFJD				MLR	MLR		
	comp=Z,872nm,20.0s						
SFJD	Kangerlussuaq	69.83	4	⇑iP	P	01 14 01.4	-0.4
	comp=Z,20nm,0.9s						
SFJD				i		01 14 24.8	
SFJD	Kangerlussuaq	69.83	4	eP	P	01 14 01.3	-0.5
	comp=Z,78nm,1.2s						
SFJD				ePcP	PcP	01 14 24.2	+0.1
SFJD				LR	LR		
	comp=Z,872nm,20.0s						
HOPS	Hopland Field	69.84	55	eP	P	01 14 02.8	+0.4
	comp=Z,46nm,1.3s						
ODD1	Odda	69.85	336	⇑iP	P	01 14 02.2	+0.2
XMAS	Kiritimati	69.91	107	PFAKE		01 14 10.0	+6.9
XMAS				LR	LR		
	comp=Z,7μm,20.0s						
CHMT	Chamberlain Mo	70.09	44	eP	P	01 14 04.4	+0.4
	comp=Z,69nm,1.1s						
WVOR	Wild Horse Val	70.19	50	PFAKE		01 14 20.0	+15
WVOR				LR	LR		
	comp=Z,1μm,22.0s						
BLS5	Blasjo	70.30	336	eP	P	01 14 05.7	+0.9
PTK	Pertek	70.31	305	eP	P	01 14 06.1	+0.7
ILIC	ilic-Erzincan	70.44	306	eP	P	01 14 11.4	+5.2
DYBB	Diyarbakir	70.46	304	eP	P	01 14 06.9	+0.7
RSDY	Resadiye-TOKAT	70.55	307	eP	P	01 14 07.3	+0.6
MAZI	Mazidag	70.59	303	eP	P	01 14 07.0	0.0
HOMB	Homborsund	70.61	335	⇑iP	P	01 14 06.4	-0.2
HOMB				IAmb	IAmb	01 14 07.4	
	comp=Z,100nm,0.9s						
HOMB				eS	S	01 23 16.8	-1.4
HOMB				IVMs_BB	IVMs_BB	01 48 57.0	
	comp=Z,2μm,11.4s						
SVRC	Sivrice-ELAZID	70.69	305	eP	P	01 14 08.7	+0.9
MSVF	Nonsavu	70.74	140	P	P	01 14 10.9	+2.9
	comp=Z,322nm,2.2s,SNR=5.1						
MSVF	Nonsavu	70.74	140	eP	P	01 14 08.7	+0.7
MSVF				pmax	pmax		
	comp=Z,301nm,1.9s						
MSVF				MLR	MLR		
	comp=Z,2μm,20.0s						
MSVF	Nonsavu	70.74	140	eP	P	01 14 08.7	+0.7
	comp=Z,301nm,1.9s						
MSVF				LR	LR		
	comp=Z,2μm,20.0s						
KIS	Kishinev	70.75	317	αiP	P	01 14 08.0	+0.3
KIS				e		01 18 25.0	
KIS				iS	S	01 23 20.0	-0.1
KIS				iPS	PnS	01 23 50.0	+0.1
KIS				pmax	pmax		
	comp=Z,500nm,2.0s						
KIS				pmax	pmax		
	comp=N,200nm,1.5s						
KIS				pmax	pmax		
	comp=E,300nm,1.8s						
KIS				pmax	pmax		
	comp=Z,2μm,4.5s						
KIS				pmax	pmax		
	comp=N,600nm,4.0s						
KIS				pmax	pmax		
	comp=E,800nm,4.0s						
KIS				smax	smax		
	comp=N,2μm,8.0s						
KIS				smax	smax		
	comp=E,2μm,10.0s						
KIS				MLR	MLR		
	comp=N,7μm,13.0s						
KIS				MLR	MLR		
	comp=Z,8μm,13.0s						
KIS				MLR	MLR		
	comp=E,5μm,14.0s						
KIS				MLR	MLR		
	comp=Z,8μm,14.0s						
KIS	Kishinev	70.75	317	⇓iP	P	01 14 08.6	+0.9
KIS	Kishinev	70.75	317	⇑iP	P	01 14 08.0	+0.3
	comp=Z,500nm,2.0s						
KIS	Kishinev	70.75	317	ePP	PP	01 17 00.0	+16
KIS				iS	S	01 23 20.0	-0.1
	comp=Z,2μm,8.0s						
KIS	Kishinev	70.75	317	iPS		01 23 50.0	
KIS				iSSS	SSS	01 31 30.0	
KIS				eLQ	LQ	01 39 18.0	
	comp=Z,4μm,18.0s						
KIS				LRM	MLR	01 47 40.0	
	comp=Z,8μm,14.0s						
KMY	Karmoy	70.83	337	eP	P	01 14 09.1	+1.1
KVT	Kavak	70.84	309	eP	P	01 14 09.4	+0.9
A19A	Klindworth Far	70.90	40	⇓P	P	01 14 09.7	+1.0
	baz=71,SNR=192						
BSD	Bornholm Skovb	70.91	330	⇑iP	P	01 14 08.3	-0.2
	comp=Z,129nm,0.9s						
DIKM	Dikmen	70.92	309	eP	P	01 14 08.8	-0.1
SNART	Snartemo	70.96	335	eP	P	01 14 09.1	+0.3
BEL	Belsk	71.03	324	⇑eP	P	01 14 10.5	+1.1
BEL				eS	S	01 23 26.8	+3.5
BEL				MLR	MLR		
	comp=Z,4μm,22.1s						
BEL	Belsk	71.03	324	eP	P	01 14 10.4	+1.1
BEL				epP	pP	01 14 11.9	-6.7
BEL				eS	S	01 23 26.7	+3.5
BEL				LMZ	LR	01 45 15.5	
SVSK	Karacayir	71.05	307	eP	P	01 14 10.6	+0.9
EGMT	Eagleton	71.06	41	⇑P	P	01 14 10.7	+1.0
	baz=71,SNR=86						
EGMT	Eagleton	71.06	41	eP	P	01 14 10.5	+0.7
	comp=Z,428nm,1.1s						
EGMT				LR	LR		
	comp=Z,1μm,19.0s						
LVV	L'vov	71.06	321	iP	P	01 14 10.1	+0.5
LVV				i		01 16 49.1	
LVV				iPPP	PPP	01 18 28.9	
LVV				iS	S	01 23 25.3	+1.6
LVV				iPS	PnS	01 23 58.1	+4.2
LVV				MLR	MLR		
	comp=E,6μm,13.0s						
LVV				MLR	MLR		
	comp=N,6μm,18.0s						
LVV				MLR	MLR		
	comp=Z,8μm,18.0s						
MFID	Camas Ranch	71.09	48	eP	P	01 14 11.0	+1.0
	comp=Z,254nm,1.2s						
B19A	Brinkman Farms	71.14	41	⇑P	P	01 14 11.1	+0.9
	baz=71,SNR=81						
B19A				⇓S	S	01 23 25.5	+0.7
	baz=71						
IAS	Iasi	71.23	318	⇑iP	P	01 14 11.9	+1.2
LRM	Limekiln Ridge	71.24	44	eP	P	01 14 11.9	+0.8
	comp=Z,2μm,1.2s						
MALT	Malatya	71.25	305	eP	P	01 14 12.3	+1.2
MALT	Malatya	71.25	305	⇑iP	P	01 14 12.1	+1.0
BYBT	Boyabat	71.31	310	eP	P	01 14 11.8	+0.5
A20A	Cobblestone Ra	71.32	40	⇑P	P	01 14 12.0	+0.7
	baz=71,SNR=59						
COP	Copenhagen	71.36	331	⇑iP	P	01 14 11.8	+0.5
	comp=Z,56nm,1.0s						
LEOM	Leova	71.39	317	eP	P	01 14 11.8	+0.1
LEOM	Leova	71.39	317	⇑iP	P	01 14 12.1	+0.5
BZK	Bozkurt	71.41	310	eP	P	01 14 12.2	+0.4
GKP	Gorka Klasztor	71.42	327	⇑eP	P	01 14 12.2	+0.5
GKP				eS	S	01 23 29.6	+1.9
GKP				MLR	MLR		
	comp=Z,6μm,17.7s						
GKP	Gorka Klasztor	71.42	327	eP	P	01 14 12.1	+0.4
GKP				epP	pP	01 14 13.2	-7.8
GKP				eS	S	01 23 29.6	+1.9
GKP				LMZ	LR	01 48 08.9	
SFNV	Sufian	71.46	303	iP	P	01 14 13.3	+1.0
MZRK	Al-Mazaregh	71.51	302	iP	P	01 14 12.4	-0.2
URFA	Urfa	71.59	304	eP	P	01 14 13.9	+0.8
B20A	Solberg Farm,	71.59	40	⇓P	P	01 14 13.6	+0.8
	baz=71,SNR=80						
C19A	Slack Wire Ran	71.60	41	⇓P	P	01 14 14.3	+1.4
	baz=71,SNR=100						
DARE	Darende-Malaty	71.65	306	eP	P	01 14 14.2	+0.7
A21A	Bergtoll Ranch	71.70	39	⇓P	P	01 14 14.6	+1.0
	baz=72,SNR=169						
LLD	Lille Linde	71.72	331	iP	P	01 14 13.7	+0.3
MCMT	McKenzie Canyo	71.72	45	eP	P	01 14 14.3	+0.3
	comp=Z,20nm,0.9s						
BOZ	Bozeman (W)	71.78	44	eP	P	01 14 15.3	+1.1
BOZ				pmax	pmax		
	comp=Z,351nm,1.5s						
BOZ				MLR	MLR		
	comp=Z,1μm,20.0s						
BOZ	Bozeman (W)	71.78	44	eP	P	01 14 15.3	+1.1
	comp=Z,309nm,1.5s						
BOZ				LR	LR		
	comp=Z,835nm,20.0s						
KWP	Kalwaria Pacla	71.79	322	eP	P	01 14 15.0	+1.0
KWP				pmax	pmax		
	comp=Z,707nm,1.4s						
KWP				MLR	MLR		
	comp=Z,3μm,20.0s						
KWP	Kalwaria Pacla	71.79	322	eP	P	01 14 15.1	+1.0
KWP				epP	pP	01 14 17.0	-6.3
KWP				eS	S	01 23 36.4	+4.2
KWP	Kalwaria Pacla	71.79	322	eP	P	01 14 14.9	+1.0
	comp=Z,707nm,1.4s						
KWP				LR	LR		
	comp=Z,3μm,20.0s						
MUD	Monsted U'grnd	71.86	333	⇑iP	P	01 14 14.9	+0.6
	comp=Z,89nm,0.9s						
RGN	Rugen	71.93	330	eP	P	01 14 15.6	+0.9
	comp=Z,505nm,1.2s						
TLCR		72.00	316	⇑iP	P	01 14 15.6	+0.3
B21A	Ellsworth Farm	72.06	40	⇓P	P	01 14 16.3	+0.5
	baz=72,SNR=68						
CMB	Columbia Colle	72.06	55	eP	P	01 14 16.7	+0.8
CMB				pmax	pmax		
	comp=Z,212nm,1.2s						
CMB	Columbia Colle	72.06	55	eP	P	01 14 16.7	+0.8
	comp=Z,212nm,1.2s						
BURAR	Bucovina Array	72.07	319	⇑iP	P	01 14 16.4	+0.5
D19A	Cripps Ranch,	72.08	41	⇑P	P	01 14 16.9	+1.0
	baz=72,SNR=9.0						
C20A	Veseth Ranch,	72.11	41	⇑P	P	01 14 17.1	+1.0
	baz=72,SNR=227						
TESR	Tescani	72.16	318	⇑iP	P	01 14 16.8	+0.5
A22A	Carney Farms,	72.17	39	⇓P	P	01 14 17.0	+0.6
	baz=72,SNR=215						
CORM	Corum	72.25	309	eP	P	01 14 18.1	+1.0
SAO	San Andreas Ge	72.26	56	eP	P	01 14 17.3	+0.3
SAO				pmax	pmax		
	comp=Z,106nm,1.4s						
SAO	San Andreas Ge	72.26	56	eP	P	01 14 17.3	+0.3
	comp=Z,27nm,1.4s						
BMN	Battle Mountai	72.31	51	eP	P	01 14 18.5	+1.0
BMN				pmax	pmax		
	comp=Z,178nm,1.3s						
BMN	Battle Mountai	72.31	51	eP	P	01 14 18.5	+1.0
	comp=Z,178nm,1.3s						
WAKR	Walker	72.32	54	eP	P	01 14 19.0	+1.4
	comp=Z,95nm,1.1s						
CFR	Carcaliu	72.35	316	⇓iP	P	01 14 17.7	+0.3
PETR	Petresti	72.42	317	⇑iP	P	01 14 19.4	+1.6
BNN	Bunyan	72.43	307	eP	P	01 14 18.6	+0.4
QLMT	Earthquake Lak	72.44	45	eP	P	01 14 19.5	+1.2
	comp=Z,11nm,1.2s						
C21A	Desert Coulee	72.46	40	⇑P	P	01 14 18.9	+0.8
	baz=72,SNR=38						
D20A	Manuel Ranch,	72.49	41	⇓P	P	01 14 19.3	+1.0
	baz=72,SNR=80						
KOLS	Kolonicke sedl	72.50	322	eP	P	01 14 18.9	+0.6
KOLS				pmax	pmax		
	comp=Z,123nm,1.4s						
KOLS	Kolonicke sedl	72.50	322	eP	P	01 14 18.9	+0.6
KOLS				eS	S	01 23 42.9	+2.6
KSRV	Kasrt alli	72.50	303	iP	P	01 14 19.2	+0.7
CANT	Cankiri	72.53	310	eP	P	01 14 19.6	+1.0
VRI	Vrincioaia	72.57	317	eP	P	01 14 20.5	+1.7
VRI	Vrincioaia	72.57	317	⇑iP	P	01 14 19.4	+0.6
STHS	Stebnicka Huta	72.61	323	eP	P	01 14 20.1	+1.2
STHS				pmax	pmax		
	comp=Z,183nm,1.4s						
STHS	Stebnicka Huta	72.61	323	eP	P	01 14 20.1	+1.2
E19A	Rath Farm, Rou	72.62	42	⇑P	P	01 14 20.1	+1.0
	baz=72,SNR=104						
PLOR	Plostina	72.62	317	⇑iP	P	01 14 19.9	+0.8
SAFT	Safranbolu	72.63	311	eP	P	01 14 20.4	+1.2
B22A	Reddig Ranch S	72.63	39	⇑P	P	01 14 19.7	+0.6
	baz=72,SNR=7.1						
OJC	Ojcow	72.64	324	⇑iP	P	01 14 19.8	+0.7
OJC				i *PP	pP	01 14 28.6	+0.2
OJC				eS	S	01 23 43.8	+1.9
OJC				MLR	MLR		
	comp=Z,7μm,17.2s						
OJC	Ojcow	72.64	324	iP	P	01 14 19.8	+0.7
OJC				ipP	pP	01 14 28.6	+0.2
OJC				eS	S	01 23 43.8	+1.9
OJC				L	L	01 49 05.0	
	comp=Z,7μm,17.2s						
A23A	Redstone	72.66	38	⇑P	P	01 14 20.1	+0.9
	baz=72,SNR=26						
GCMT	Greycliff	72.66	43	eP	P	01 14 21.0	+1.5
	comp=Z,221nm,1.2s						
KMRS	Kahramanmaras	72.70	305	eP	P	01 14 20.6	+0.9
TIRR	Tirgusor	72.71	315	eP	P	01 14 20.9	+1.4
TIRR	Tirgusor	72.71	315	eP	P	01 14 19.6	0.0
TIRR				pmax	pmax		
	comp=Z,31nm,1.2s						
TIRR	Tirgusor	72.71	315	⇓iP	P	01 14 20.7	+1.2
TIRR	Tirgusor	72.71	315	eP	P	01 14 19.6	0.0
	comp=Z,31nm,1.2s						
UZH	Uzhgorod	72.71	321	eP	P	01 14 18.7	-0.8
UZH				i		01 14 28.1	
UZH				e		01 14 38.5	
UZH				i		01 17 03.0	
UZH				e		01 18 44.0	
UZH				iS	S	01 23 41.7	-0.9
UZH				i		01 24 18.5	
UZH				MLR	MLR		
	comp=N,5μm,13.0s						
UZH				MLR	MLR		
	comp=E,8μm,13.0s						
UZH				MLR	MLR		
	comp=Z,6μm,13.0s						
HARR	Harsova	72.79	316	⇑iP	P	01 14 21.4	+1.4
YMR	Madison River	72.80	44	eP	P	01 14 21.7	+1.3
	comp=Z,204nm,1.2s						
BMR	Baia Mare	72.84	320	⇑iP	P	01 14 21.6	+1.3
CRVS	Cervenica-Dubn	72.89	322	eP	P	01 14 21.2	+0.6
CRVS				pmax	pmax		
	comp=Z,184nm,1.4s						
CRVS	Cervenica-Dubn	72.89	322	eP	P	01 14 21.2	+0.6
CRVS				eS	S	01 23 45.4	+0.7
YNR	Norris Junctio	72.91	44	eP	P	01 14 22.7	+1.6
	comp=Z,245nm,1.6s						
E20A	Meyer Farm, Mu	72.91	42	⇓P	P	01 14 22.1	+1.2
	baz=73,SNR=63						
TRPA	Tarpa	72.96	321	⇑iP	P	01 14 22.2	+1.3
TRPA	Tarpa	72.96	321	⇑eP	P	01 14 22.3	+1.3
B23A	Brockton	72.97	39	⇓P	P	01 14 22.0	+0.9
	baz=73,SNR=180						
F19A	Roth Farm, Mol	72.98	42	⇓P	P	01 14 22.3	+1.0
	baz=73,SNR=52						
YFT	Old Faithful	73.01	44	eP	P	01 14 24.2	+2.5
	comp=Z,173nm,1.0s						
NIE	Niedzica	73.01	323	⇑iP	P	01 14 22.7	+1.3
NIE				i *PP	pP	01 14 31.5	+0.8
NIE				eS	S	01 23 48.3	+2.1
NIE				MLR	MLR		
	comp=Z,5μm,17.1s						
NIE	Niedzica	73.01	323	iP	P	01 14 22.7	+1.3
NIE				ipP	pP	01 14 31.5	+0.8
NIE				eS	S	01 23 48.3	+2.1
NIE				L	L	01 49 38.0	
	comp=Z,5μm,17.1s						
D21A	La Casta Ranch	73.05	41	⇓P	P	01 14 22.4	+0.7
	baz=73,SNR=37						
A24A	Westby	73.08	38	⇑P	P	01 14 22.2	+0.5
	baz=73,SNR=63						
C22A	Vida	73.08	39	⇓P	P	01 14 22.2	+0.4
	baz=73,SNR=24						
BRTR	Keskin Array B	73.11	309	P	P	01 14 22.3	0.0
	comp=Z,6.8nm,0.7s,baz=65,slow=3.8,SNR=40						
PGOR	Pogoanele	73.12	316	⇓iP	P	01 14 23.5	+1.5
LKWY	Lake	73.16	44	eP	P	01 14 25.0	+2.4
LKWY				pmax	pmax		
	comp=Z,156nm,1.2s						
LKWY				MLR	MLR		
	comp=Z,2μm,21

baz=73,SNR=5.8
MSAB Monastry St. A 73.27 315⇑iP P 01 14 23.8 +0.9
RLMT Red Lodge 73.33 43 eP P 01 14 21.9 -1.7
comp=Z,240nm,1.3s
RLMT LR LR
comp=Z,1μm,20.0s
KOZT Kozan 73.35 306 eP P 01 14 24.1 +0.6
C23A Lambert 73.37 39 ⇓P P 01 14 24.5 +1.0
baz=73,SNR=97
PSN Preselentsi 73.37 315⇑iP P 01 14 24.5 +1.0
RUE Ruedersdorf 73.38 328 eP P 01 14 24.1 +0.7
comp=Z,574nm,1.3s
D22A Cohagen 73.38 40 ⇑P P 01 14 24.6 +1.0
baz=73,SNR=48
E21A Keefer Ranch, 73.39 41 ⇓P P 01 14 24.8 +1.1
baz=73,SNR=18
F20A Billings 73.40 42 ⇑P P 01 14 24.5 +0.7
baz=73,SNR=53
RAC Raciborz 73.43 325 eP P 01 14 25.1 +1.4
RAC eS SKiKP 01 23 53.5 +1.4
RAC MLR MLR
comp=Z,4μm,14.8s
H18A Shoshone NF, C 73.45 44 ⇓P P 01 14 25.3 +1.1
baz=73,SNR=48
A25A Svangstu Ranch 73.46 37 ⇑P P 01 14 25.0 +1.0
baz=73,SNR=105
SECR 73.49 317⇓iP P 01 14 25.7 +1.5
CJR Cluj-Napoca 73.49 319⇑iP P 01 14 25.5 +1.3
ANTO Ankara 73.50 309 eP P 01 14 25.2 +0.8
ANTO Ankara 73.50 309 eP P 01 14 24.8 +0.4
ANTO pmax pmax
comp=Z,90nm,1.4s
ANTO MLR MLR
comp=Z,1μm,20.0s
ANTO Ankara 73.50 309⇓iP P 01 14 25.6 +1.2
ANTO Ankara 73.50 309 P P 01 14 25.3 +0.9
SNR=11
ANTO Ankara 73.50 309 eP P 01 14 24.8 +0.4
comp=Z,90nm,1.4s
ANTO LR LR
comp=Z,1μm,20.0s
BSEG Bad Segeberg 73.50 331 eP P 01 14 24.2 +0.2
comp=Z,429nm,1.3s
LOD Lodumlu 73.50 309 eP P 01 14 25.2 +0.8
I17A Pilgrim Ck. 73.52 45 ⇑P P 01 14 26.6 +2.0
baz=73,SNR=76
AFSR Af´ar-Bala (A 73.62 309 eP P 01 14 25.9 +0.7
OKC Ostrava-Krasne 73.64 324⇑iP P 01 14 25.8 +0.8
OKC eS SKiKP 01 23 53.3 +0.9
OKC MLR MLR
comp=Z,4μm,12.1s
OKC Ostrava-Krasne 73.64 324⇑iP P 01 14 25.8 +0.8
OKC eS SKiKP 01 23 53.3 +0.9
OKC AMS AMS 01 50 10.0
comp=Z,4μm,12.1s
NIG Nigde 73.64 307 eP P 01 14 27.1 +1.5
KSP Ksiaz 73.65 326⇑iP P 01 14 25.9 +0.9
KSP eS S 01 23 54.5 +1.2
KSP MLR MLR
comp=Z,24μm,18.7s
KSP Ksiaz 73.65 326 eP P 01 14 26.1 +1.1
KSP eS S 01 23 55.0 +1.7
KSP LMZ LR 01 48 49.7
SULR 73.65 317⇑iP P 01 14 25.9 +0.8
LAO LASA Array 73.69 40 eP P 01 14 26.5 +1.1
comp=Z,597nm,1.5s
LAO LR LR
comp=Z,1μm,19.0s
VOIR 73.71 318⇑iP P 01 14 26.4 +0.8
CEYT Ceyhan 73.71 306 eP P 01 14 25.4 -0.3
G20A Bridger 73.79 43 ⇑P P 01 14 26.4 +0.3
baz=74,SNR=34
H19A Powell 73.80 43 ⇓P P 01 14 27.1 +0.9
baz=74,SNR=32
D23A Lindsay 73.82 40 ⇓P P 01 14 26.9 +0.7
baz=74,SNR=84
MTUR Matau 73.85 318⇑iP P 01 14 27.5 +1.1
DRGR 73.85 320⇑iP P 01 14 27.3 +0.9
F21A Absaloka Mine, 73.89 42 ⇓P P 01 14 27.5 +0.9
baz=74,SNR=18
RCTC Rector, Farmer 73.89 55 ⇑P P 01 14 27.2 +0.5
baz=74
TPH Tonopah 73.90 53 eP P 01 14 28.0 +1.0
TPH pmax pmax
comp=Z,236nm,1.2s
TPH Tonopah 73.90 53 eP P 01 14 27.9 +1.0
comp=Z,236nm,1.2s
C24A Savage 73.92 39 ⇑P P 01 14 27.6 +0.9
baz=74,SNR=11
B25A Knox Farm, Ray 73.94 38 ⇑P P 01 14 27.9 +1.1
baz=74,SNR=51
MORC Moravsky Berou 73.94 325 eP P 01 14 27.9 +1.1
MORC pmax pmax
comp=Z,436nm,1.3s
MORC Moravsky Berou 73.94 325⇑iP P 01 14 28.0 +1.1
MORC Moravsky Berou 73.94 325 eP P 01 14 27.9 +1.1
comp=Z,436nm,1.3s
KARA Karaisali 73.95 306 eP P 01 14 28.0 +0.9
ARR Arges 73.96 318⇑iP P 01 14 28.4 +1.4
A26A Wade Farm, Ken 73.97 37 ⇓P P 01 14 27.6 +0.6
baz=74,SNR=108
MDUB Mudurnu 73.98 311 eP P 01 14 27.8 +0.5
TIN Tinemaha, Big 74.00 54 ⇑P P 01 14 28.6 +1.2
baz=74,SNR=5.8
E22A Miles City 74.00 40 ⇓P P 01 14 27.9 +0.6
baz=74,SNR=45
DPC Dobruska-Polom 74.01 326⇑iP P 01 14 28.6 +1.4
DPC e 01 14 37.4
DPC eS S 01 23 58.5 +1.0
DPC Dobruska-Polom 74.01 326⇑iP P 01 14 28.6 +1.4
DPC epP pP 01 14 37.4 +0.8
DPC eS S 01 23 58.5 +1.0
DPC AMS AMS 01 51 10.0
UPC Upice 74.02 326⇑iP P 01 14 28.3 +1.1
UPC e 01 14 35.9
UPC Upice 74.02 326⇑iP P 01 14 28.3 +1.1
UPC epP pP 01 14 35.9 -0.6
KRLC Kraliky 74.03 325⇑iP P 01 14 28.5 +1.2
KRLC Kraliky 74.03 325⇑iP P 01 14 28.5 +1.2
AHID Auburn Hatcher 74.06 46 eP P 01 14 28.7 +0.8
comp=Z,148nm,1.2s
AHID LR LR
comp=Z,626nm,21.0s
SMMC Simmler 74.10 56 ⇓P P 01 14 29.0 +1.1
baz=74,SNR=6.4
PRD Provadia 74.11 315 iP P 01 14 28.6 +0.8
RBK Rabkut 74.12 279 P P 01 14 28.5 +0.1
SNR=20
SULT Sultanhani-AKS 74.22 308 eP P 01 14 29.3 +0.6
I19A Meeteetse 74.24 44 ⇓P P 01 14 30.1 +1.2
baz=74,SNR=45
E23A Ismay 74.26 40 ⇓P P 01 14 30.1 +1.4
baz=74,SNR=45
D24A Glendive 74.27 39 ⇓P P 01 14 29.9 +1.1
baz=74,SNR=62
A27A Ledoux Ranch, 74.27 36 P P 01 14 29.6 +0.9
baz=74
B26A Jensen Ranch, 74.27 37 ⇑P P 01 14 30.1 +1.3
baz=74,SNR=42
G21A Lodge Grass 74.28 42 ⇓P P 01 14 29.4 +0.5
baz=74,SNR=35
KFRA Kufra 74.28 304 iP P 01 14 28.6 -0.4
VES Vestal, Richgr 74.30 56 ⇑P P 01 14 32.0 +3.0
baz=74,SNR=46
BGU Big Grassy Mou 74.31 48 eP P 01 14 30.1 +0.8
comp=Z,235nm,1.8s
C25A Freed Ranch, W 74.31 38 ⇑P P 01 14 30.2 +1.2
baz=74,SNR=21
PSZ Piszkesteto 74.32 322 eP P 01 14 29.9 +0.8
PSZ pmax pmax
comp=Z,605nm,1.6s
PSZ MLR MLR
comp=Z,8μm,19.0s
PSZ Piszkesteto 74.32 322⇑iP P 01 14 30.3 +1.2
PSZ Piszkesteto 74.32 322⇑eP P 01 14 30.3 +1.2
PSZ Piszkesteto 74.32 322 eP P 01 14 29.9 +0.8
comp=Z,605nm,1.6s
PSZ LR LR
comp=Z,8μm,19.0s
SPNC Sapanca-Adapaz 74.32 311 eP P 01 14 29.1 0.0
WRDH Warideh 74.32 304 iP P 01 14 28.4 -0.9
FORT Forrest 74.32 189 eP P 01 14 29.1 +0.2
comp=Z,324nm,1.3s
ARMA Armidale 74.33 168 eP P 01 14 30.3 +1.2
comp=Z,267nm,1.5s

LOT Lotru 74.33 318 eP P 01 14 30.8 +1.5
LOT Lotru 74.33 318⇑iP P 01 14 29.8 +0.6
F22A Rosebud 74.34 41 ⇑P P 01 14 30.0 +0.7
baz=74,SNR=51
VYHS Vyhne 74.35 323 eP P 01 14 30.5 +1.3
VYHS pmax pmax
comp=Z,156nm,1.5s
VYHS Vyhne 74.35 323 eP P 01 14 30.5 +1.3
VYHS eS S 01 24 04.3 +3.0
SILT Sile 74.36 312 eP P 01 14 29.7 +0.4
SPUT South Promonto 74.36 48 eP P 01 14 30.6 +1.1
comp=Z,134nm,1.2s
GULT Gulveren 74.38 311 eP P 01 14 30.1 +0.5
HUMR Humele 74.39 317⇑iP P 01 14 29.9 +0.4
H20A Greybull 74.42 43 ⇑P P 01 14 30.3 +0.5
baz=74,SNR=27
MVH1 Achvaich 74.46 340⇑eP P 01 14 29.5 -0.1
PKM Mcpherson Peak 74.49 57 ⇑P P 01 14 31.6 +1.2
baz=74,SNR=25
SVRH Sivrihisar-ESK 74.50 310 eP P 01 14 30.1 -0.2
MERS Mersin 74.53 306 eP P 01 14 30.4 -0.1
MCD Coleburn Disti 74.53 340⇑eP P 01 14 29.7 -0.4
GRAC Grapevine Rang 74.54 54 ⇑P P 01 14 31.8 +1.3
baz=74,SNR=53
RABH Abou Rabah 74.55 303 iP P 01 14 27.5 -3.2
BRG Berggiesshubel 74.57 327⇑iP P 01 14 31.3 +0.9
comp=Z,220nm,1.1s
BRG S S 01 24 06.0 +2.4
BRG SS SS 01 28 51.0 +1.4
BRG Berggiesshubel 74.57 327⇑iP P 01 14 31.3 +0.9
BRG S S 01 24 06.0 +2.4
BRG SS SS 01 28 51.0 +1.4
BRG pmax pmax
comp=Z,220nm,1.2s
BRG MLR MLR
comp=N,5μm,13.6s
BRG MLR MLR
comp=E,3μm,14.0s
BRG MLR MLR
comp=Z,5μm,13.4s
BRG Berggiesshubel 74.57 327 eP P 01 14 30.5 +0.1
comp=Z,461nm,1.6s
BRG eS S 01 24 02.9 -0.7
HRT Hereke 74.57 312 eP P 01 14 30.5 -0.1
PVCC Panska Ves 74.59 327⇑iP P 01 14 31.8 +1.3
PVCC e 01 14 38.7
PVCC eS S 01 24 06.9 +3.1
PVCC MLR MLR
comp=Z,5μm,13.3s
PVCC Panska Ves 74.59 327⇑iP P 01 14 31.8 +1.3
PVCC epP pP 01 14 38.7 -1.1
PVCC eS S 01 24 06.9 +3.1
PVCC AMS AMS 01 50 20.0
comp=Z,5μm,13.3s
CLL Collm 74.59 328⇑iP P 01 14 31.1 +0.6
CLL eS S 01 24 04.0 +0.1
CLL pmax pmax
comp=Z,556nm,1.3s
CLL Collm 74.59 328 eP P 01 14 30.2 -0.3
comp=Z,560nm,1.3s
CLL eS S 01 24 03.7 -0.2
CLL Collm 74.59 328⇑iP P 01 14 31.1 +0.6
comp=Z,556nm,1.3s
CLL ePP PP 01 17 19.0 +2.3
CLL ePPP PPP 01 19 00.0
CLL eS S 01 24 04.0 +0.1
CLL eSS sS 01 24 19.0 -0.3
CLL eSKSac SKSac 01 24 35.0 -1.4
CLL eScS ScS 01 24 39.0 -0.6
CLL eSS SS 01 29 12.0 +22
CLL eSSS SSS 01 32 18.0
KLYT Kilyos 74.61 312 eP P 01 14 30.9 +0.1
HWUT Hardware Ranch 74.62 47 eP P 01 14 32.3 +1.1
comp=Z,252nm,1.1s
HWUT LR LR
comp=Z,830nm,20.0s
R11A Troy Canyon, C 74.66 52 ⇑P P 01 14 32.4 +1.0
baz=74,SNR=92
R11A Troy Canyon, C 74.66 52 eP P 01 14 32.1 +0.8
comp=Z,164nm,1.4s
B27A Peters Farms, 74.68 37 ⇑P P 01 14 31.7 +0.6
baz=74,SNR=10.0
E24A Baker 74.69 40 ⇓P P 01 14 32.0 +0.7
baz=74,SNR=33
KIZT Kizilcal 74.69 309 eP P 01 14 31.6 +0.2
MME1 Meikle Cairn 74.70 339⇑iP P 01 14 30.7 -0.3
VRAC Vranov 74.70 325⇑iP P 01 14 32.6 +1.4
D25A Fairfield 74.70 39 ⇑P P 01 14 32.1 +0.8
baz=74,SNR=35
BIDA Albida 74.70 304 iP P 01 14 30.2 -1.3
A28A Rude Farm, Bot 74.72 36 ⇓P P 01 14 32.1 +0.7
baz=74,SNR=71
G22A Birney 74.73 42 ⇑P P 01 14 32.1 +0.6
baz=74,SNR=50
ISK Istanbul-Kandi 74.73 312 P P 01 14 31.2 -0.3
ISK Istanbul-Kandi 74.73 312 eP P 01 14 31.7 +0.2
ISK Istanbul-Kandi 74.73 312 P P 01 14 31.2 -0.3
ISK Istanbul-Kandi 74.73 312 P P 01 14 31.2 -0.3
NRDL Niedersach Rie 74.73 330 eP P 01 14 31.3 +0.1
comp=Z,454nm,1.5s
NRDL eS S 01 24 06.5 +1.3
I20A Worland 74.74 43 ⇓P P 01 14 33.0 +1.3
baz=74,SNR=52
C26A Wahner Farm, P 74.75 37 ⇑P P 01 14 32.5 +1.0
baz=74,SNR=68
J19A Crowheart 74.76 44 ⇓P P 01 14 32.9 +1.0
baz=74,SNR=109
F23A Volborg 74.79 41 ⇑P P 01 14 32.6 +0.7
baz=74,SNR=137
ISA Isabella, Lake 74.79 55 eP P 01 14 32.0 0.0
ISA pmax pmax
comp=Z,95nm,1.3s
ISA Isabella, Lake 74.79 55 ⇓P P 01 14 31.9 -0.1
baz=75,SNR=26
ISA Isabella, Lake 74.79 55 eP P 01 14 32.0 0.0
comp=Z,95nm,1.3s
H21A Big Horn, Sher 74.79 42 ⇑P P 01 14 32.7 +0.7
baz=75,SNR=48
ADVT Abdulvahap 74.81 312 eP P 01 14 32.0 +0.1
BGKT Bogazkoy 74.81 313 eP P 01 14 31.4 -0.5
ZIMR 74.83 316⇑iP P 01 14 33.1 +1.1
GZR Gura Zlata 74.84 319⇑iP P 01 14 33.0 +0.8
SBC Santa Barbara 74.86 57 ⇑P P 01 14 33.5 +1.2
baz=75
CTYL Yal??k??y-??at 74.86 313 eP P 01 14 32.5 +0.3
BW06 Boulder Array 74.86 45 eP P 01 14 32.9 +0.4
comp=Z,242nm,1.1s
BW06 LR LR
comp=Z,929nm,19.0s
PDAR Pinedale Array 74.86 45 P P 01 14 33.1 +0.6
comp=Z,157nm,1.0s,baz=305,slow=1.3,SNR=492
PDAR LR LR 01 49 53.4
comp=Z,468nm,18.5s,baz=344,slow=38
ABTO Aybut 74.88 280 P P 01 14 32.7 0.0
SNR=66
LADK Ladik-KONYA 74.88 308 eP P 01 14 32.3 -0.2
DAC Darwin (Calif) 74.90 54 eP P 01 14 33.1 +0.3
DAC pmax pmax
comp=Z,119nm,1.3s
DAC Darwin (Calif) 74.90 54 eP P 01 14 33.1 +0.3
comp=Z,119nm,1.3s
CAVI Cavuskoy 74.91 311 eP P 01 14 32.7 +0.1
CTKS Kestanelik-??a 74.91 313 eP P 01 14 32.5 0.0
DRUM Mains of Drumt 74.93 339⇑eP P 01 14 32.1 -0.2
DRUM AMB AMB 01 14 33.5
comp=Z,156nm,1.6s
ARVC Arvin 74.93 56 ⇓P P 01 14 33.0 +0.2
baz=75,SNR=12
DUG Dugway, Tooele 74.94 49 eP P 01 14 34.1 +1.2
DUG pmax pmax
comp=Z,232nm,1.3s
DUG MLR MLR
comp=Z,1μm,19.0s
DUG Dugway, Tooele 74.94 49 ⇓P P 01 14 34.3 +1.4
baz=75,SNR=112
DUG Dugway, Tooele 74.94 49 eP P 01 14 34.0 +1.2
comp=Z,232nm,1.3s
DUG LR LR
comp=Z,1μm,19.0s
MDO Dochfour 74.94 340⇑eP P 01 14 31.9 -0.5
HAWK Haweek 74.98 303 iP P 01 14 31.4 -1.8
PRA Prague 75.00 326⇑iP P 01 14 34.3 +1.4
PRA eS S 01 24 07.6 -0.8
PRA MLR MLR
comp=Z,2μm,14.6s

PRA Prague 75.00 326⇑iP P 01 14 34.3 +1.4
PRA eS S 01 24 07.6 -0.8
PRA AMS AMS 01 50 30.0
comp=Z,2μm,14.6s
PRU Pruhonice 75.02 326⇑iP P 01 14 34.2 +1.2
PRU e 01 14 43.1
PRU eS S 01 24 09.1 +0.4
PRU MLR MLR
comp=Z,5μm,14.0s
PRU Pruhonice 75.02 326⇑iP P 01 14 34.2 +1.2
PRU epP pP 01 14 43.1 +0.8
PRU eS S 01 24 09.1 +0.4
PRU AMS AMS 01 50 30.0
comp=Z,5μm,14.0s
BUD Budapest 75.03 322⇑eP P 01 14 34.4 +1.3
B28A Dugan Ranch, T 75.03 36 ⇓P P 01 14 33.9 +0.8
baz=75,SNR=65
TCUT Toone Canyon 75.05 47 eP P 01 14 34.9 +1.2
comp=Z,206nm,1.1s
JMB Yambol 75.05 315 P P 01 14 36.4 +3.1
JMB Yambol 75.05 315 P P 01 14 36.4 +3.1
JMB Yambol 75.05 315⇑iP P 01 14 37.1 +3.8
JMB Yambol 75.05 315 iP P 01 14 37.3 +4.0
JMB Yambol 75.05 315 P P 01 14 36.4 +3.1
KONT Konya--Tatoy 75.06 308 eP P 01 14 33.9 +0.4
SLVT Silivri 75.07 313 eP P 01 14 34.0 +0.6
PKSN Nyarlorinc 75.09 321⇑eP P 01 14 34.9 +1.5
C27A Sayler Ranch, 75.09 37 ⇑P P 01 14 34.4 +0.9
baz=75,SNR=21
GEMT Gemlik 75.10 312 eP P 01 14 33.6 0.0
MPMC Manual Prospec 75.11 54 ⇓P P 01 14 34.7 +0.7
baz=75,SNR=78
KAC Achnashellach 75.11 341⇑iP P 01 14 33.7 +0.3
E25A Miller Ranch, 75.15 39 ⇑P P 01 14 34.8 +0.8
baz=75,SNR=22
F24A Ekalaka 75.15 40 ⇓P P 01 14 34.7 +0.7
baz=75,SNR=103
A29A Manning Farm, 75.15 35 ⇑P P 01 14 34.3 +0.5
baz=75,SNR=130
H22A Clearmont 75.15 42 ⇑P P 01 14 34.5 +0.4
baz=75,SNR=32
PHSR Pinarhisar 75.16 314 eP P 01 14 34.3 +0.3
CLZ Clausthal 75.16 330 eP P 01 14 34.2 +0.3
comp=Z,1μm,1.5s
CLZ eS S 01 24 10.8 +0.5
TREC Trest 75.17 325⇑iP P 01 14 35.0 +1.1
TREC e 01 14 43.0
TREC eS S 01 24 13.9 +3.5
TREC MLR MLR
comp=Z,6μm,11.8s
TREC Trest 75.17 325⇑iP P 01 14 35.0 +1.1
TREC epP pP 01 14 43.0 -0.3
TREC eS S 01 24 13.9 +3.5
TREC AMS AMS 01 52 30.0
comp=Z,6μm,11.8s
G23A Biddle 75.17 41 ⇓P P 01 14 34.6 +0.5
baz=75,SNR=36
ARMT Armutlu 75.19 312 eP P 01 14 34.0 -0.2
D26A Manning 75.19 38 ⇑P P 01 14 35.1 +1.0
baz=75,SNR=48
J20A Shoshoni 75.19 44 ⇑P P 01 14 35.0 +0.7
baz=75,SNR=55
FURC Furnace Creek, 75.20 54 ⇑P P 01 14 35.3 +1.1
baz=75,SNR=45
BSC Santa Cruz Isl 75.20 57 ⇓P P 01 14 35.1 +0.7
baz=75
TPNV Topopah Spring 75.23 53 ⇑P P 01 14 35.3 +0.6
baz=75,SNR=96
BZS Buzias 75.23 320 eP P 01 14 34.8 +0.5
BZS Buzias 75.23 320⇑iP P 01 14 34.8 +0.5
I21A Big Trails, Te 75.26 43 ⇑P P 01 14 35.5 +0.8
baz=75,SNR=269
PKS7 Kunszentmiklos 75.30 322⇑eP P 01 14 35.8 +1.2
MDNY Mudanya-Bursa 75.32 312 eP P 01 14 35.3 +0.4
KPL Plockton 75.34 341⇑eP P 01 14 35.0 +0.4
KPL AMB AMB 01 14 36.3
comp=Z,213nm,1.1s
OSI Osito Audit: C 75.34 56 ⇑P P 01 14 36.1 +0.9
baz=75
OSI Osito Audit: C 75.34 56 eP P 01 14 36.1 +0.9
comp=Z,32nm,1.4s
LRMC Laurel Mtn Rad 75.38 55 ⇓P P 01 14 36.0 +0.4
baz=75,SNR=8.7
PKSG 75.38 323⇑eP P 01 14 36.5 +1.4
CRLT Corlu 75.40 313 eP P 01 14 36.1 +0.8
KSB Sheil Bridge 75.40 341⇑iP P 01 14 35.2 +0.1
EDRB Edirne 75.41 314 P P 01 14 35.6 +0.2
EDRB Edirne 75.41 314 eP P 01 14 36.3 +0.9
EDRB Edirne 75.41 314 P P 01 14 35.6 +0.2
B29A Wagenman Farm, 75.45 36 ⇑P P 01 14 36.3 +0.7
baz=75,SNR=58
PKS6 Bocsa 75.45 321⇑eP P 01 14 36.4 +0.9
CSKK Cs¨ökako 75.46 323⇑eP P 01 14 36.9 +1.3
ULM Lac du Bonnet 75.48 33 P P 01 14 35.7 0.0
comp=Z,367nm,1.0s,baz=322,slow=6.3,SNR=470
ULM LR LR 01 50 53.1
comp=Z,1μm,18.5s,baz=325,slow=38
ZALF Zalf 75.48 302 iP P 01 14 32.0 -4.1
NLU North Lily Min 75.51 48 eP P 01 14 37.1 +0.8
comp=Z,111nm,1.1s
TANN Tannenbergstha 75.51 328 eP P 01 14 36.1 +0.2
comp=Z,290nm,1.6s
TANN eS S 01 24 14.4 +0.2
J21A Lysite 75.52 43 ⇑P P 01 14 36.9 +0.6
baz=75,SNR=34
A30A Hoffart Farm, 75.53 35 ⇑P P 01 14 36.3 +0.4
baz=75,SNR=62
D27A Center 75.54 38 ⇑P P 01 14 37.1 +1.0
baz=75,SNR=15
G24A Alzada 75.55 40 ⇓P P 01 14 36.3 +0.1
baz=75,SNR=24
F25A Bowman 75.55 40 ⇑P P 01 14 37.0 +0.7
baz=75,SNR=29
ALT Altintas 75.56 310 P P 01 14 36.1 -0.4
ALT Altintas 75.56 310 eP P 01 14 36.9 +0.4
ALT Altintas 75.56 310 P P 01 14 36.1 -0.4
C28A Hausauer Farms 75.58 37 ⇑P P 01 14 37.2 +0.9
baz=75,SNR=15
E26A Carlson Angus 75.60 39 ⇑P P 01 14 37.3 +0.8
baz=75,SNR=52
I22A 9 Mile Ranch, 75.60 43 ⇑P P 01 14 37.2 +0.6
baz=75,SNR=45
TKR Tekirdag 75.60 313 eP P 01 14 37.4 +0.9
EDW2 Edwards Air Fo 75.61 56 ⇓P P 01 14 37.4 +0.6
baz=75,SNR=70
DAU Daniels Canyon 75.63 48 eP P 01 14 38.4 +1.3
DAU pmax pmax
comp=Z,147nm,1.3s
DAU Daniels Canyon 75.63 48 eP P 01 14 38.4 +1.3
comp=Z,9.2nm,1.3s
BANR Banloc 75.63 320⇓iP P 01 14 37.8 +1.2
H23A Clabaugh Cattl 75.64 42 ⇓P P 01 14 37.0 +0.2
baz=75
PKST T¨s 75.64 323⇑eP P 01 14 37.5 +0.8
TVSB Tavsanli 75.64 311 eP P 01 14 37.6 +0.7
MOX Moxa 75.66 328 eP P 01 14 36.9 +0.2
comp=Z,385nm,1.4s
MOX eS S 01 24 14.9 -0.8
SHUT Suhut-Afyon 75.66 310 eP P 01 14 37.6 +0.5
KCTX Karacabey (Bur 75.67 312 eP P 01 14 37.0 0.0
MPU Maple Canyon 75.71 48 eP P 01 14 38.4 +1.0
comp=Z,207nm,1.2s
IBBN Ibbenburen 75.72 331 eP P 01 14 36.9 -0.1
comp=Z,883nm,1.5s
BBOO Buckleboo 75.76 182 eP P 01 14 37.4 +0.2
comp=Z,289nm,1.5s
MDND Maddock 75.82 36 ⇑P P 01 14 38.5 +0.8
baz=76,SNR=71
MDND Maddock 75.82 36 eP P 01 14 38.4 +0.8
comp=Z,784nm,1.1s
DECC Green Verdugo 75.83 56 ⇓P P 01 14 38.3 +0.3
baz=76,SNR=7.1
MRMT Marmara Adasi 75.85 313 eP P 01 14 38.7 +0.7
EDC Edincik 75.88 312 eP P 01 14 38.8 +0.6
B30A Myrvik Farm, E 75.90 35 ⇑P P 01 14 38.7 +0.6
baz=76,SNR=182
D28A Regan 75.90 37 ⇑P P 01 14 39.2 +1.0
baz=76,SNR=8.6
H24A Dirks Ranch, A 75.91 41 ⇓P P 01 14 38.8 +0.4
baz=76,SNR=62
SHOC Shoshone, Teco 75.93 54 ⇑P P 01 14 39.6 +1.0
baz=76,SNR=22
J22A Midwest 75.95 43 ⇑P P 01 14 39.4 +0.7
baz=76,SNR=80
SOP Sopron 75.96 324⇑eP P 01 14 40.1 +1.7

PASC	Pasadena Art C	75.97	56	eP	P	01 14 38.9	+0.1
	comp=Z,144nm,1.4s						
F26A	Lodgepole	75.97	39	⇑P	P	01 14 39.2	+0.6
	baz=76,SNR=33						
DST	Dursunbey	76.00	312	eP	P	01 14 38.7	-0.2
SALA	Sala	76.00	302	i P	P	01 14 33.7	-5.5
RKY	Sarkoy-Tekirda	76.01	313	eP	P	01 14 39.1	+0.1
BRBR	Barbar	76.01	303	i P	P	01 14 34.3	-4.9
GSC	Goldstone, Bar	76.03	55	⇑P	P	01 14 40.0	+0.8
	baz=76,SNR=66						
E27A	Carson	76.04	38	⇓P	P	01 14 39.8	+0.8
	baz=76,SNR=64						
I23A	Meade Ranch, G	76.05	42	⇑P	P	01 14 39.4	+0.2
	baz=76						
CONA	Conrad Observa	76.07	324	⇑iP	P	01 14 40.8	+1.6
	comp=Z,416nm,1.6s,SNR=141						
KHC	Kasperske Hory	76.08	326	⇑iP	P	01 14 40.0	+0.8
KHC				e		01 14 49.4	
KHC				eS	S	01 24 20.8	+0.2
KHC				MLR	MLR		
	comp=Z,6µm,11.7s						
KHC	Kasperske Hory	76.08	326	⇑iP	P	01 14 40.0	+0.8
KHC				epP	pP	01 14 49.4	+0.9
KHC				eS	S	01 24 20.8	+0.2
KHC				AMS	AMS	01 52 30.0	
	comp=Z,6µm,11.7s						
KHC	Kasperske Hory	76.08	326	eP	P	01 14 40.0	+0.8
	comp=Z,462nm,1.3s						
G25A	Newell	76.12	40	⇑P	P	01 14 39.8	+0.4
	baz=76,SNR=21						
ROTZ	Rotzenmuhle	76.12	327	eP	P	01 14 40.1	+0.7
	comp=Z,445nm,1.4s						
UBBA	Unterbreizbach	76.13	329	eP	P	01 14 39.3	+0.1
	comp=Z,273nm,1.3s						
UBBA				eS	S	01 24 21.8	+1.1
K21A	Alcova	76.14	44	⇓P	P	01 14 40.5	+0.7
	baz=76,SNR=107						
KRBG	Karabiga-Canak	76.16	313	eP	P	01 14 40.4	+0.7
PKSM	Moragy	76.16	322	⇑eP	P	01 14 39.9	+0.3
SHPR	Sheep Range	76.17	53	eP	P	01 14 41.2	+1.1
	comp=Z,215nm,1.3s						
ISP	Isparta	76.19	309	P	P	01 14 39.2	-0.9
ISP	Isparta	76.19	309	eP	P	01 14 41.0	+0.9
ISP	Isparta	76.19	309	P	P	01 14 39.2	-0.9
ISP				MLR	MLR		
	comp=Z,2µm,20.0s						
ISP	Isparta	76.19	309	P	P	01 14 39.2	-0.9
ISP				LR	LR		
	comp=Z,2µm,20.0s						
LFK	Lefkose	76.20	306	eP	P	01 14 38.7	-1.4
RRX	Edison Barstow	76.20	55	⇓P	P	01 14 41.2	+1.1
	baz=76,SNR=7.8						
FMP	Fort Macarthur	76.22	57	⇓P	P	01 14 40.6	+0.5
	baz=76						
PGB	Panagyurishte	76.23	316	i P	P	01 14 41.2	+1.0
BFSC	Mount Baldy Ra	76.24	56	⇑P	P	01 14 40.9	+0.4
	baz=76,SNR=31						
KDZ	Kurdzhali	76.25	315	⇑iP	P	01 14 41.4	+1.2
KDZ	Kurdzhali	76.25	315	i P	P	01 14 41.6	+1.4
F27A	Lemmon	76.25	39	⇓P	P	01 14 41.1	+0.9
	baz=76,SNR=60						
GEC2	GERESS Array S	76.26	326	eP	P	01 14 40.4	+0.2
	comp=Z,233nm,1.3s						
GEC2				eS	S	01 24 25.3	+2.7
GERES	GERESS Array B	76.26	326	P	P	01 14 40.8	+0.6
	comp=Z,23nm,0.7s,baz=48,slow=4.2,SNR=212						
GERES				PKKPbc	PKKPbc	01 33 53.5	+1.0
	comp=Z,0.3nm,0.7s,baz=260,slow=5.9,SNR=3.6						
GERES				PKPPKP	P'P'df	01 41 56.2	-5.7
	comp=Z,0.1nm,0.2s,baz=198,slow=1.3,SNR=4.6						
GERES				LR	LR	01 50 36.1	
	comp=Z,5µm,19.3s,baz=30,slow=38						
ARUT	Antelope Range	76.27	51	eP	P	01 14 41.5	+0.9
ARUT	Antelope Range	76.27	51	eP	P	01 14 41.5	+0.9
	comp=Z,77nm,1.2s						
PLD	Plovdiv	76.28	316	P	P	01 14 40.8	+0.4
PLD	Plovdiv	76.28	316	P	P	01 14 40.8	+0.4
PLD	Plovdiv	76.28	316	i P	P	01 14 41.1	+0.7
PLD	Plovdiv	76.28	316	P	P	01 14 40.8	+0.4
E28A	Huff	76.32	38	⇓P	P	01 14 41.0	+0.5
	baz=76,SNR=14						
WTSB	Winterswijk	76.34	332	eP	P	01 14 41.1	+0.6
	comp=Z,629nm,1.1s						
RAYN	Ar Rayn	76.34	289	eP	P	01 14 40.4	-0.7
	comp=Z,138nm,1.5s						
WET	Wettzell	76.35	327	eP	P	01 14 41.4	+0.7
	comp=Z,493nm,1.3s						
WET				eS	S	01 24 25.8	+2.3
CIS	Catalina Islan	76.36	57	⇑P	P	01 14 41.2	+0.2
	baz=76,SNR=7.1						
ERIK	Erikli-Kesan	76.37	313	eP	P	01 14 41.9	+1.0
BALB	Balikesir	76.38	312	eP	P	01 14 41.5	+0.6
BCK	Bucak	76.40	309	eP	P	01 14 40.6	-0.7
C30A	Mose, Pekin	76.41	36	⇑P	P	01 14 41.3	+0.2
	baz=76,SNR=54						
J23A	Dilts Ranch, B	76.42	42	⇓P	P	01 14 41.5	+0.2
	baz=76,SNR=11						
PGBU	Glenifferbraes	76.42	340	⇑eP	P	01 14 41.5	+0.6
PGBU				AMB	AMB	01 14 42.3	
	comp=Z,321nm,1.2s						
G26A	Maurine	76.42	39	⇓P	P	01 14 41.8	+0.6
	baz=76,SNR=81						
D29A	Pettibone, Tap	76.43	37	⇓P	P	01 14 41.4	+0.2
	baz=76,SNR=17						
TMUT	Trail Mountain	76.45	48	eP	P	01 14 42.7	+0.9
	comp=Z,171nm,1.2s						
MVU	Marysvale	76.45	50	eP	P	01 14 42.9	+1.1
	comp=Z,173nm,1.4s						
LPK	Lapseki	76.46	313	eP	P	01 14 42.1	+0.7
ALN	Alexandroupoli	76.46	314	P	P	01 14 41.0	-0.4
ALN	Alexandroupoli	76.46	314	eP	P	01 14 41.8	+0.5
ALN	Alexandroupoli	76.46	314	P	P	01 14 41.0	-0.4
ALN	Alexandroupoli	76.46	314	eP	P	01 14 42.0	+0.6
ALN	Alexandroupoli	76.46	314	P	P	01 14 41.0	-0.4
H25A	Fruitdale	76.46	40	⇓P	P	01 14 42.0	+0.6
	baz=76,SNR=26						
TUQ	Turquoise Moun	76.46	54	⇓P	P	01 14 42.9	+1.3
	baz=76,SNR=42						
CCUT	Cedar City	76.48	51	eP	P	01 14 43.0	+1.1
	comp=Z,102nm,1.3s						
K22A	Casper	76.49	43	⇑P	P	01 14 42.2	+0.4
	baz=76,SNR=33						
K22A	Casper	76.49	43	eP	P	01 14 41.7	-0.1
	comp=Z,233nm,1.4s						
TCHB	Talchebab	76.50	302	i P	P	01 14 37.1	-4.7
ENEZ	Enez	76.52	314	eP	P	01 14 42.5	+0.8
ESK	Eskdalemuir	76.53	339	⇑eP	P	01 14 41.7	+0.2
ESK				AMB	AMB	01 14 43.3	
	comp=Z,95nm,1.0s						
ESK				AMS	AMS	01 52 57.4	
	comp=Z,2µm,17.9s						
ESK	Eskdalemuir	76.53	339	eP	P	01 14 41.8	+0.2
ESK				pmax	pmax		
	comp=Z,201nm,0.8s						
ESK				MLR	MLR		
	comp=Z,2µm,20.0s						
ESK	Eskdalemuir	76.53	339	eP	P	01 14 41.8	+0.2
	comp=Z,56nm,0.8s						
ESK				LR	LR		
	comp=Z,2µm,20.0s						
I24A	Kuemmerle Ranc	76.53	42	⇓P	P	01 14 42.0	+0.1
	baz=76,SNR=28						
CSS	Prodhromos	76.54	305	P	P	01 14 40.5	-1.5
CSS	Prodhromos	76.54	305	eP	P	01 14 43.6	+1.6
CSS	Prodhromos	76.54	305	eP	P	01 14 41.0	-1.0
	comp=Z,5.5nm,0.7s						
CSS				LR	LR		
	comp=Z,418nm,22.0s						
RDO	Rodhopi	76.55	314	P	P	01 14 42.1	+0.2
RDO	Rodhopi	76.55	314	eP	P	01 14 42.7	+0.8
RDO	Rodhopi	76.55	314	P	P	01 14 42.1	+0.2
SCI	San Clemente I	76.56	57	⇓P	P	01 14 42.6	+0.5
	baz=76						
GRF	Grafenberg Arr	76.57	328	eP	P	01 14 42.6	+0.7
	comp=Z,1µm,1.4s						
GRF				eS	S	01 24 28.4	+2.6
GRF				eL	L	01 48 42.0	
	comp=Z,2µm,20.9s						
GRFO	Grafenberg	76.57	328	eP	P	01 14 43.2	+1.3
GRFO				pmax	pmax		
	comp=Z,741nm,1.3s						
GRFO	Grafenberg	76.57	328	eP	P	01 14 43.2	+1.3
	comp=Z,741nm,1.3s						
RZN	Rozhen	76.58	315	i P	P	01 14 43.4	+1.1
GELI	Tayfur-Gelibol	76.59	313	eP	P	01 14 43.0	+0.9
BUG	Bochum--Univer	76.61	331	eP	P	01 14 42.0	0.0
	comp=Z,938nm,1.4s						
BUG				eS	S	01 24 26.6	+0.5
RSSD	Black Hills	76.62	41	eP	P	01 14 42.7	+0.1
RSSD				pmax	pmax		
	comp=Z,242nm,1.3s						
RSSD	Black Hills	76.62	41	eP	P	01 14 42.7	+0.1
	comp=Z,242nm,1.3s						
HEC	Hector,Ludlow	76.64	55	⇑P	P	01 14 43.7	+1.1
	baz=76,SNR=32						
G27A	Dupree	76.67	39	⇓P	P	01 14 43.1	+0.5
	baz=76,SNR=41						
BBRC	Big Bear Solar	76.67	55	⇓P	P	01 14 43.3	+0.3
	baz=76						
VTS	Vitosha	76.69	317	P	P	01 14 43.1	+0.2
VTS	Vitosha	76.69	317	P	P	01 14 43.1	+0.2
VTS	Vitosha	76.69	317	⇑P	P	01 14 43.8	+0.9
VTS	Vitosha	76.69	317	i P	P	01 14 43.9	+1.0
VTS	Vitosha	76.69	317	P	P	01 14 43.1	+0.2
LEF	Lefka	76.69	306	eP	P	01 14 42.5	-0.3
ARSA	Arzberg	76.74	324	⇑iP	P	01 14 44.1	+1.2
	comp=Z,202nm,1.4s,SNR=67						
KULA	Kula-Manisa	76.75	311	P	P	01 14 43.1	-0.1
KULA	Kula-Manisa	76.75	311	eP	P	01 14 41.8	-1.4
KULA	Kula-Manisa	76.75	311	P	P	01 14 43.1	-0.1
D30A	Buchanan	76.76	36	⇓P	P	01 14 43.4	+0.4
	baz=76,SNR=190						
E29A	Napoleon	76.79	37	⇑P	P	01 14 43.4	+0.2
	baz=76,SNR=9.6						
MOA	Molln	76.81	325	i P	P	01 14 44.4	+1.1
	comp=Z,93nm,1.2s,SNR=33						
F28A	McLaughlin	76.83	38	⇑P	P	01 14 44.2	+0.7
	baz=77,SNR=47						
I25A	Rochford	76.85	41	⇑P	P	01 14 44.2	+0.5
	baz=77,SNR=89						
H26A	Fairpoint	76.85	40	⇑P	P	01 14 44.3	+0.6
	baz=77,SNR=14						
K23A	Bowen Ranch, D	76.86	43	⇑P	P	01 14 43.8	-0.1
	baz=77,SNR=14						
J24A	Dixon Ranch, L	76.91	42	⇓P	P	01 14 44.3	+0.2
	baz=77,SNR=17						
N20A	Spence Gulch,	76.92	46	⇑P	P	01 14 45.7	+1.3
	baz=77,SNR=139						
SRU	San Rafael Swe	76.95	48	eP	P	01 14 45.1	+0.6
SRU				e		01 17 38.7	
SRU				pmax	pmax		
	comp=Z,195nm,1.1s						
SRU	San Rafael Swe	76.95	48	eP	P	01 14 45.1	+0.6
	comp=Z,195nm,1.1s						
SRU				ePP	PP	01 17 38.7	+1.4
AKS	Akhisar	76.95	311	eP	P	01 14 44.1	-0.1
MURC	Murrieta	76.96	56	⇓P	P	01 14 44.9	+0.5
	baz=77,SNR=13						
L22A	Ellis Ranch, M	76.99	44	⇑P	P	01 14 45.4	+0.7
	baz=77,SNR=11						
MMLI	Mount Malkishu	77.00	302	eP	P	01 14 45.5	+0.9
AGMN	Agassiz Nation	77.03	34	⇓P	P	01 14 44.4	-0.2
	baz=77,SNR=81						
AGMN	Agassiz Nation	77.03	34	eP	P	01 14 44.3	-0.2
	comp=Z,206nm,1.1s						
AGMN				LR	LR		
	comp=Z,904nm,19.0s						
SMTH	Samothraki Isl	77.04	314	P	P	01 14 44.4	-0.3
SMTH	Samothraki Isl	77.04	314	P	P	01 14 44.4	-0.3
GMRC	Granite Mounta	77.07	54	⇑P	P	01 14 45.6	+0.5
	baz=77,SNR=56						
DENT	Denizli	77.08	310	eP	P	01 14 45.7	+0.7
EZN	Ezine	77.08	313	eP	P	01 14 45.6	+0.7
DIVS	Divibare	77.13	319	P	P	01 14 44.9	-0.4
KESW	Keswick, Cumbr	77.15	338	⇑eP	P	01 14 45.3	+0.3
KESW				AMB	AMB	01 14 46.7	
	comp=Z,455nm,1.2s						
MMB	Musomiste	77.16	316	⇑iP	P	01 14 46.4	+1.0
MMB	Musomiste	77.16	316	i P	P	01 14 46.4	+1.0
E30A	Jud	77.16	37	⇓P	P	01 14 45.8	+0.5
	baz=77,SNR=21						
H27A	Howes	77.17	40	⇑P	P	01 14 45.9	+0.5
	baz=77,SNR=75						
KAVA	Kavala	77.19	315	P	P	01 14 45.5	0.0
KAVA	Kavala	77.19	315	eP	P	01 14 46.3	+0.8
KAVA	Kavala	77.19	315	P	P	01 14 45.5	0.0
TNS	Taunus Mts	77.19	330	eP	P	01 14 45.6	+0.2
	comp=Z,546nm,1.4s						
TNS				eS	S	01 24 35.0	+2.3
I26A	New Underwood	77.25	40	⇑P	P	01 14 46.9	+1.0
	baz=77,SNR=20						
NVR	Nevrokopi	77.26	315	P	P	01 14 46.0	0.0
NVR	Nevrokopi	77.26	315	eP	P	01 14 46.7	+0.7
NVR	Nevrokopi	77.26	315	P	P	01 14 46.0	0.0
F29A	Eureka	77.27	38	⇑P	P	01 14 46.2	+0.2
	baz=77,SNR=38						
KKB	Krupnik	77.28	316	i P	P	01 14 47.3	+1.3
J25A	Sunshine Ranch	77.28	41	⇑P	P	01 14 46.2	+0.1
	baz=77,SNR=15						
K24A	Anderson Ranch	77.29	42	⇑P	P	01 14 45.9	-0.3
	baz=77						
HPK	Haverah Park	77.30	337	⇑eP	P	01 14 46.6	+0.8
HPK				AMB	AMB	01 14 47.5	
	comp=Z,416nm,1.0s						
HPK				AMS	AMS	01 52 48.2	
	comp=Z,2µm,17.2s						
L23A	Garrett	77.30	43	⇑P	P	01 14 46.4	-0.1
	baz=77,SNR=27						
LMK	Market Rasen	77.36	336	⇑eP	P	01 14 46.7	+0.5
LMK				AMB	AMB	01 14 47.8	
	comp=Z,490nm,1.4s						
LMK				AMS	AMS	01 51 25.0	
	comp=Z,3µm,24.5s						
G28A	Parade	77.36	39	⇓P	P	01 14 47.1	+0.6
	baz=77,SNR=47						
M22A	Cedar Creek Ra	77.37	44	⇑P	P	01 14 47.3	+0.4
	baz=77,SNR=60						
PERS	Pernice	77.39	324	i P	P	01 14 47.6	+0.9
PERS				i		01 14 55.4	
SOKA	Soboth	77.40	324	⇑iP	P	01 14 47.7	+1.0
	comp=Z,400nm,1.4s,SNR=152						
PFO	Pinyon Flats O	77.40	56	eP	P	01 14 47.1	+0.1
PFO				pmax	pmax		
	comp=Z,155nm,1.2s						
PFO				MLR	MLR		
	comp=Z,1µm,21.0s						
PFO	Pinyon Flats O	77.40	56	⇓P	P	01 14 47.4	+0.4
	baz=77,SNR=31						
PFO	Pinyon Flats O	77.40	56	eP	P	01 14 47.1	+0.1
	comp=Z,155nm,1.2s						
PFO				LR	LR		
	comp=Z,1µm,21.0s						
BELC	Belle Mtn. Jos	77.41	55	⇑P	P	01 14 47.3	+0.3
	baz=77,SNR=31						
O20A	White River Ci	77.44	46	⇓P	P	01 14 47.7	+0.5
	baz=77,SNR=51						
O20A	White River Ci	77.44	46	eP	P	01 14 47.6	+0.4
	comp=Z,184nm,1.2s						
109C	Camp Elliot, M	77.50	57	⇓P	P	01 14 47.9	+0.5
	baz=77,SNR=6.0						
RJOB	Jochberg	77.50	326	eP	P	01 14 48.0	+0.8
	comp=Z,281nm,1.2s						
RJOB				eS	S	01 24 38.6	+2.4
PRK	Paraskevi	77.53	313	P	P	01 14 47.0	-0.4
PRK	Paraskevi	77.53	313	P	P	01 14 47.0	-0.4
PRK	Paraskevi	77.53	313	eP	P	01 14 47.8	+0.4
PRK	Paraskevi	77.53	313	P	P	01 14 47.0	-0.4
SRS	Serrai	77.57	315	P	P	01 14 47.0	-0.7
SRS	Serrai	77.57	315	P	P	01 14 47.0	-0.7
SRS	Serrai	77.57	315	eP	P	01 14 48.1	+0.4
SRS	Serrai	77.57	315	P	P	01 14 47.0	-0.7
AYDB	Zeytinkoy-Aydi	77.58	311	eP	P	01 14 48.4	+0.5
IZM	Izmir	77.60	311	eP	P	01 14 48.6	+0.7
I27A	Quinn	77.61	40	⇓P	P	01 14 48.6	+0.7
	baz=77,SNR=31						
H28A	Mission Ridge	77.62	39	⇑P	P	01 14 48.7	+0.7
	baz=77,SNR=144						
F30A	Leola	77.63	37	⇑P	P	01 14 48.0	+0.1
	baz=77,SNR=12						
LIA	Limnos Island	77.64	314	P	P	01 14 48.0	0.0
LIA	Limnos Island	77.64	314	P	P	01 14 48.0	0.0
HGN	Heimansgroeve	77.64	331	eP	P	01 14 48.3	+0.4
	comp=Z,630nm,1.3s						
HGN				ePP	PP	01 17 41.8	-0.6
HGN				ePPP	PPP	01 19 35.9	
HGN				eS	S	01 24 20.0	-17
HGN				eSS	SS	01 30 21.8	+46
J26A	Sides Ranch, S	77.69	41	⇑P	P	01 14 49.0	+0.6
	baz=77,SNR=62						
NEE2	Needles Airpor	77.69	54	⇓P	P	01 14 49.0	+0.6
	baz=78,SNR=5.5						
BEBN	Eben Emael	77.70	332	P	P	01 14 48.8	+0.6
	comp=Z,144nm,1.4s						
G29A	Hoven	77.72	38	⇑P	P	01 14 48.9	+0.4
	baz=78,SNR=11						
LHO	Holmfirth	77.72	337	⇑iP	P	01 14 48.8	+0.5
BLCB	Balcova	77.73	312	eP	P	01 14 48.7	+0.1
L24A	Wheatland	77.73	43	⇑P	P	01 14 49.2	+0.5
	baz=78						
OBKA	Obir	77.74	324	i P	P	01 14 49.3	+0.7
	comp=Z,90nm,1.0s,SNR=34						
MEM	Membach	77.75	331	P	P	01 14 48.9	+0.5
	comp=Z,254nm,1.5s						
SISC	Sisak	77.75	322	P	P	01 14 49.4	+0.8
M23A	Laramie	77.76	44	⇑P	P	01 14 49.7	+0.7
	baz=78						
FUR	Furstenfeldbru	77.78	327	eP	P	01 14 49.3	+0.6
	comp=Z,954nm,1.4s						
SIGR	SIGRI	77.78	313	P	P	01 14 48.3	-0.5
SIGR	SIGRI	77.78	313	eP	P	01 14 49.9	+1.1
SIGR	SIGRI	77.78	313	P	P	01 14 48.3	-0.5
KBA	Koelnbreinsper	77.80	325	i P	P	01 14 50.1	+1.1
	comp=Z,302nm,1.1s,SNR=124						
IRM	Iron Mountain	77.80	54	⇑P	P	01 14 50.2	+1.0
	baz=78,SNR=64						
K25A	Mack Ranch, Ha	77.83	42	⇓P	P	01 14 49.7	+0.4
	baz=78,SNR=21						
FETY	Fethiye	77.84	309	eP	P	01 14 49.0	-0.3
U15A	North Rim	77.87	51	⇑P	P	01 14 50.9	+1.1
	baz=78,SNR=170						
N22A	Wattenberg Ran	77.88	45	⇑P	P	01 14 50.9	+1.2
	baz=78,SNR=74						
KBI1	Birley Grange	77.89	337	⇑iP	P	01 14 49.6	+0.5
W13A	Hualapai Mount	77.89	53	⇓P	P	01 14 50.6	+0.8
	baz=78						
KNT	Kendrikon	77.89	316	P	P	01 14 48.3	-1.2
KNT	Kendrikon	77.89	316	P	P	01 14 48.3	-1.2
KNT	Kendrikon	77.89	316	eP	P	01 14 50.1	+0.6
KNT	Kendrikon	77.89	316	P	P	01 14 48.3	-1.2
BAR	Barrett	77.91	56	eP	P	01 14 50.0	+0.2
	comp=Z,79nm,1.2s						
SOH	Sokhos	77.91	315	P	P	01 14 49.3	-0.3
SOH	Sokhos	77.91	315	P	P	01 14 49.3	-0.3
SOH	Sokhos	77.91	315	eP	P	01 14 48.5	-1.1
SOH	Sokhos	77.91	315	P	P	01 14 49.3	-0.3
MONP	Monument Peak,	77.92	56	⇑P	P	01 14 50.3	+0.3
	baz=78,SNR=25						
YER	Yerkesik	77.94	310	eP	P	01 14 50.6	+0.8
VAY	Valandovo	77.94	316	P	P	01 14 49.3	-0.4
VAY	Valandovo	77.94	316	P	P	01 14 49.3	-0.4
VAY	Valandovo	77.94	316	i P	P	01 14 50.6	+0.9
VAY	Valandovo	77.94	316	P	P	01 14 49.3	-0.4
OUR	Ouranopolis	77.95	315	P	P	01 14 49.9	+0.2
OUR	Ouranopolis	77.95	315	eP	P	01 14 50.3	+0.6
OUR	Ouranopolis	77.95	315	P	P	01 14 49.9	+0.2
OUR	Ouranopolis	77.95	315	eP	P	01 14 48.9	-0.8
OUR	Ouranopolis	77.95	315	P	P	01 14 49.9	+0.2
DALY	Dalyan (Mu`la	77.95	309	eP	P	01 14 50.1	+0.3
BC3	Big Chuckawall	77.97	55	⇓P	P	01 14 50.7	+0.6
	baz=78,SNR=41						
PLE	Pljevlja	78.00	319	⇑iP	P	01 14 51.2	+1.0
SKO	Skopje	78.03	317	P	P	01 14 50.4	+0.2
SKO	Skopje	78.03	317	P	P	01 14 50.4	+0.2
SKO	Skopje	78.03	317	i P	P	01 14 51.4	+1.3
SKO	Skopje	78.03	317	P	P	01 14 50.4	+0.2
MYKA	Terra Mystica	78.03	325	i P	P	01 14 50.6	+0.4
	comp=Z,220nm,1.3s,SNR=75						
H29A	Onida	78.03	39	⇑P	P	01 14 50.6	+0.4
	baz=78,SNR=82						
I28A	Midland	78.07	40	⇑P	P	01 14 50.9	+0.5
	baz=78,SNR=31						
N23A	Red Feather La	78.07	44	⇓P	P	01 14 51.7	+0.9
	baz=78,SNR=42						
DGAR	Diego Garcia	78.08	248	PFAKE		01 15 00.0	+9.2
DGAR				LR	LR		
	comp=Z,648nm,20.0s						
STU	Stuttgart	78.09	328	eP	P	01 14 51.4	+1.0
STU				pmax	pmax		
	comp=Z,466nm,1.2s						
STU	Stuttgart	78.09	328	eP	P	01 14 50.6	+0.2
	comp=Z,605nm,1.3s						
STU	Stuttgart	78.09	328	eP	P	01 14 51.4	+1.0
	comp=Z,466nm,1.2s						
K26A	Motz Farm, Whi	78.10	42	⇑P	P	01 14 51.2	+0.5
	baz=78,SNR=35						
IVA	Berane	78.11	319	⇑iP	P	01 14 51.5	+0.8
G30A	Faulkton	78.12	38	⇑P	P	01 14 51.1	+0.4
	baz=78,SNR=149						
L25A	Engebretsen Ra	78.13	42	⇓P	P	01 14 51.6	+0.7
	baz=78,SNR=10						
BCLA	Clavier	78.15	332	P	P	01 14 51.3	+0.6
	comp=Z,188nm,1.6s						
UCC	Uccle	78.16	332	P	P	01 14 51.3	+0.6
	comp=Z,444nm,1.8s						
VISS	Visnje	78.17	323	i P	P	01 14 51.3	+0.4
VISS				i		01 14 59.8	
PLG	Polygyros	78.19	315	P	P	01 14 51.2	0.0
PLG	Polygyros	78.19	315	P	P	01 14 51.2	0.0
PLG	Polygyros	78.19	315	eP	P	01 14 51.6	+0.4
PLG	Polygyros	78.19	315	P	P	01 14 51.2	0.0
HORT	Hortiatis	78.21	315	P	P	01 14 50.9	-0.4
HORT	Hortiatis	78.21	315	eP	P	01 14 51.6	+0.3
HORT	Hortiatis	78.21	315	P	P	01 14 50.9	-0.4
M24A	Cheyenne	78.22	43	⇑P	P	01 14 52.6	+1.1
	baz=78,SNR=80						
BOJS	Bojanci	78.22	323	i P	P	01 14 51.7	+0.5
STNC	Stoke	78.22	337	⇑eP	P	01 14 51.6	+0.6
STNC				AMB	AMB	01 14 52.8	
	comp=Z,285nm,1.5s						
STNC				AMS	AMS	01 54 29.8	
	comp=Z,2µm,12.6s						
J27A	Elkhorn Farm,	78.25	41	⇓P	P	01 14 52.6	+1.1
	baz=78,SNR=45						
THE	Thessaloniki	78.25	315	P	P	01 14 50.6	-0.8
THE	Thessaloniki	78.25	315	P	P	01

WLF eS S 01 24 48.2 +1.7
WLF Walferdange 78.48 331 eP P 01 14 53.5 +1.0
comp=Z,784nm,1.8s
WLF LR LR
comp=Z,5µm,19.0s
MOTA Moosalm 78.50 327⇑iP P 01 14 53.8 +0.9
comp=Z,545nm,1.4s,SNR=144
RETA Reutte 78.53 327 iP P 01 14 54.1 +1.2
comp=Z,430nm,1.4s,SNR=100
BODT Bodrum 78.53 310 eP P 01 14 53.7 +0.6
WME Myndd Eilian 78.53 338⇑eP P 01 14 53.2 +0.4
WPM1 Penmaenmawr 78.55 338⇑iP P 01 14 53.0 +0.2
K27A Flueckinger Fa 78.55 41 ⇓P P 01 14 53.8 +0.6
baz=78,SNR=16
NKY Niksic 78.58 319 eP P 01 14 53.3 -0.1
GIVF Givet 78.58 332⇑iP P 01 14 53.5 +0.4
comp=Z,955nm,1.4s
GIVF Givet 78.58 332⇑iP P 01 14 53.5 +0.4
GIVF pmax pmax
comp=Z,955nm,1.4s
GIVF Givet 78.58 332⇑iP P 01 14 53.5 +0.4
comp=Z,955nm,1.4s
O23A Lake Granby, G 78.59 45 ⇑P P 01 14 55.1 +1.4
baz=78,SNR=78
P22A Eagle 78.61 46 ⇑P P 01 14 54.6 +0.8
baz=78,SNR=126
M25A Palm-Egli Farm 78.62 43 ⇓P P 01 14 54.8 +1.1
baz=78,SNR=23
NKME Niksic 78.64 319⇑iP P 01 14 53.5 -0.1
L26A Underwood Farm 78.65 42 ⇓P P 01 14 54.4 +0.6
baz=78,SNR=5.7
WLF1 Llynfaes 78.66 338⇑eP P 01 14 53.4 0.0
WLF1 AMB AMB 01 14 54.7
comp=Z,197nm,1.4s
WLF1 AMS AMS 01 52 53.4
comp=Z,2µm,16.0s
N24A Carr 78.66 44 ⇓P P 01 14 55.2 +1.3
baz=78,SNR=30
DOU Dourbes 78.67 332 P P 01 14 54.0 +0.4
comp=Z,171nm,1.8s
ARG Arkhangelos 78.68 309 P P 01 14 52.2 -1.7
ARG Arkhangelos 78.68 309 P P 01 14 52.2 -1.7
ARG Arkhangelos 78.68 309 eP P 01 14 54.1 +0.2
ARG Arkhangelos 78.68 309 P P 01 14 52.2 -1.7
FOEL Foel Wylfa 78.68 337⇑eP P 01 14 54.4 +0.7
FOEL AMB AMB 01 14 55.4
comp=Z,505nm,1.1s
TRI Trieste 78.70 324 eP P 01 14 53.5 -0.3
TRI pmax pmax
comp=Z,273nm,1.4s
TRI Trieste 78.70 324 eP P 01 14 53.5 -0.3
comp=Z,273nm,1.4s
PV01 Paradox Valley 78.72 48 eP P 01 14 55.1 +0.8
comp=Z,14µm,1.2s
YLL Llanberis 78.73 338⇑eP P 01 14 54.4 +0.6
PUK Puka 78.73 318 iPG P 01 14 55.1 +0.9
PHP Peshkopia 78.73 318 P P 01 14 54.0 -0.2
PHP Peshkopia 78.73 318 P P 01 14 54.0 -0.2
PHP Peshkopia 78.73 318 P P 01 14 54.0 -0.2
PHP Peshkopia 78.73 318 iPG P 01 14 53.7 -0.5
YRC Rhoscolyn 78.74 338⇑eP P 01 14 53.4 -0.5
BRSD Miller 78.74 38 ⇓P P 01 14 54.5 +0.4
baz=78,SNR=31
BRSD Miller 78.74 38 eP P 01 14 54.5 +0.4
comp=Z,651nm,0.9s
PDG Podgorica 78.75 319 P P 01 14 54.5 +0.4
TTG Podgorica 78.75 319⇑iP P 01 14 54.6 +0.4
TTG Podgorica 78.75 319 P P 01 14 54.5 +0.4
TTG Podgorica 78.75 319 P P 01 14 54.5 +0.4
UDBI Udbina 78.75 322 P P 01 14 54.5 +0.3
GLA Glamis 78.77 55 ⇓P P 01 14 55.3 +0.8
baz=79,SNR=61
BFO Black Forest 78.79 329 P P 01 14 55.9 +1.6
comp=Z,2µm,1.3s
BFO Black Forest 78.79 329 eP P 01 14 54.8 +0.5
BFO pmax pmax
comp=Z,690nm,1.4s
BFO MLR MLR
comp=Z,2µm,21.0s
BFO Black Forest 78.79 329 eP P 01 14 54.4 +0.1
comp=Z,859nm,1.4s
BFO eS S 01 24 51.0 +1.1
BFO Black Forest 78.79 329 eP P 01 14 54.8 +0.5
comp=Z,690nm,1.4s
BFO LR LR
comp=Z,2µm,21.0s
STR Strasbourg 78.79 329⇑eP P 01 14 55.8 +1.6
CAN Canberra 78.81 171 eP P 01 14 55.2 +0.8
CAN pmax pmax
comp=Z,238nm,1.5s
CAN MLR MLR
comp=Z,754nm,20.0s
CAN Canberra 78.81 171 eP P 01 14 55.1 +0.8
comp=Z,238nm,1.5s
CAN LR LR
comp=Z,754nm,20.0s
BAIF Baives 78.83 332⇑iP P 01 14 54.9 +0.4
comp=Z,528nm,1.4s
BAIF Baives 78.83 332⇑iP P 01 14 54.9 +0.4
BAIF pmax pmax
comp=Z,528nm,1.4s
BAIF Baives 78.83 332⇑iP P 01 14 54.9 +0.4
comp=Z,528nm,1.4s
AOS Alonnisos 78.85 314 P P 01 14 54.0 -0.8
AOS Alonnisos 78.85 314 eP P 01 14 55.6 +0.8
AOS Alonnisos 78.85 314 eP P 01 14 54.9 +0.1
AOS Alonnisos 78.85 314 P P 01 14 54.0 -0.8
HRFI Mount Harif 78.88 301 eP P 01 14 56.0 +0.8
LIT Litokhoron 78.89 315 P P 01 14 54.3 -0.7
LIT Litokhoron 78.89 315 P P 01 14 54.3 -0.7
LIT Litokhoron 78.89 315 eP P 01 14 54.8 -0.2
LIT Litokhoron 78.89 315 P P 01 14 54.3 -0.7
FETA Feichten 78.92 327⇓iP P 01 14 56.2 +1.0
comp=Z,225nm,1.3s,SNR=72
J29A Okreek 78.92 39 ⇓P P 01 14 55.7 +0.6
baz=79,SNR=65
NIS1 Nisyros Isl. 78.93 310 P P 01 14 53.2 -2.1
NIS1 Nisyros Isl. 78.93 310 eP P 01 14 54.8 -0.5
NIS1 Nisyros Isl. 78.93 310 eP P 01 14 49.8 -5.5
NIS1 Nisyros Isl. 78.93 310 P P 01 14 53.2 -2.1
I30A Oacoma 78.94 39 ⇓P P 01 14 55.6 +0.4
baz=79,SNR=52
YRE Yr Eifl 78.94 338⇑iP P 01 14 55.5 +0.5
FNA Florina 78.95 316 P P 01 14 54.8 -0.5
FNA Florina 78.95 316 P P 01 14 54.8 -0.5
FNA Florina 78.95 316 eP P 01 14 55.7 +0.4
FNA Florina 78.95 316 P P 01 14 54.8 -0.5
K28A Ten Mile Ranch 78.96 40 ⇑P P 01 14 56.3 +0.8
baz=79,SNR=32
DRME Dracevica, Mon 78.97 319⇑iP P 01 14 56.0 +0.6
L27A T5 Ranch, Ells 78.99 41 ⇓P P 01 14 56.3 +0.7
baz=79
OHR Ohrid 78.99 317 iP P 01 14 55.0 -0.6
BUM Brajici-Budva 79.02 319⇑iP P 01 14 55.8 +0.1
DAVA Damuels 79.04 327⇓iP P 01 14 56.9 +1.0
comp=Z,440nm,1.3s,SNR=93
EYMN Ely 79.04 32 eP P 01 14 55.5 -0.2
comp=Z,280nm,1.1s
EYMN LR LR
comp=Z,908nm,21.0s
WUAZ Wupatki 79.04 51 ⇓P P 01 14 57.4 +1.3
baz=79,SNR=54
WUAZ Wupatki 79.04 51 eP P 01 14 57.1 +1.0
comp=Z,178nm,1.3s
WUAZ LR LR
comp=Z,739nm,20.0s
M26A McRoberts Ranc 79.05 42 ⇑P P 01 14 57.4 +1.4
baz=79,SNR=18
ISCO Idaho Springs 79.06 45 eP P 01 14 57.3 +1.0
ISCO pmax pmax
comp=Z,263nm,1.5s
ISCO MLR MLR
comp=Z,924nm,21.0s
ISCO Idaho Springs 79.06 45 ⇑P P 01 14 57.5 +1.2
baz=79,SNR=70
ISCO Idaho Springs 79.06 45 eP P 01 14 57.3 +1.0
comp=Z,264nm,1.5s
ISCO LR LR
comp=Z,924nm,21.0s
XOR Xorichti 79.07 314 P P 01 14 54.8 -1.2
XOR Xorichti 79.07 314 eP P 01 14 55.6 -0.4
XOR Xorichti 79.07 314 P P 01 14 54.8 -1.2
N25A Grover 79.07 43 ⇓P P 01 14 57.3 +1.1
baz=79,SNR=8.5
SKIA Skiathos 79.07 314 P P 01 14 55.8 -0.2

O24A Longmont 79.09 44 ⇓P P 01 14 57.7 +1.4
baz=79,SNR=40
NEO Neokhori 79.10 314 P P 01 14 55.0 -1.2
NEO Neokhori 79.10 314 eP P 01 14 55.9 -0.3
NEO Neokhori 79.10 314 P P 01 14 55.0 -1.2
HCY Herceg Novi 79.10 319⇑iP P 01 14 56.0 -0.1
KZN Kozani 79.10 316 P P 01 14 55.3 -0.9
KZN Kozani 79.10 316 P P 01 14 55.3 -0.9
KZN Kozani 79.10 316 eP P 01 14 55.0 -1.2
KZN Kozani 79.10 316 P P 01 14 55.3 -0.9
ULC Ulcinj 79.11 318⇑iP P 01 14 56.0 -0.2
CDF Champ du Feu 79.12 329⇑iP P 01 14 56.8 +0.6
comp=Z,1µm,1.4s
CDF Champ du Feu 79.12 329⇑iP P 01 14 56.8 +0.6
comp=Z,1µm,1.4s
CDF Champ du Feu 79.12 329⇑iP P 01 14 56.8 +0.6
comp=Z,1µm,1.4s
STEIN Stein am Rhein 79.12 328⇑iP P 01 14 56.8 +0.7
comp=Z,1µm,1.5s
NVLJ Novalja 79.12 323 P P 01 14 55.6 -0.5
STON Ston 79.15 320 P P 01 14 55.5 -0.8
EIL Elat 79.19 301 eP P 01 14 57.3 +0.5
SLE Schleitheim 79.19 328⇑iP P 01 14 57.1 +0.6
comp=Z,2µm,3.4s
WEIN Weingarten 79.19 328⇑iP P 01 14 57.0 +0.5
comp=Z,747nm,1.6s
TRULL Truellikon 79.21 328⇑iP P 01 14 57.3 +0.7
comp=Z,2µm,1.6s
DSB Dublin 79.22 339 eP P 01 14 57.1 +0.6
comp=Z,165nm,1.2s
Y14A Wickenburg 79.22 53 ⇓P P 01 14 57.8 +0.8
baz=79,SNR=47
P23A Jefferson 79.25 45 ⇑P P 01 14 58.9 +1.4
baz=79,SNR=48
WILA Wila 79.32 328⇑iP P 01 14 57.8 +0.5
comp=Z,2µm,3.5s
FLACH Flaach 79.32 328⇑iP P 01 14 57.8 +0.6
comp=Z,1µm,1.7s
ECH Echery 79.32 329 eP P 01 14 57.7 +0.5
ECH pmax pmax
comp=Z,419nm,1.3s
ECH MLR MLR
comp=Z,3µm,19.0s
ECH Echery 79.32 329⇑eP P 01 14 58.1 +0.9
ECH Echery 79.32 329 eP P 01 14 57.7 +0.5
comp=Z,419nm,1.3s
ECH LR LR
comp=Z,3µm,19.0s
MRKA Markates 79.35 314 P P 01 14 56.9 -0.6
MRKA Markates 79.35 314 eP P 01 14 57.6 +0.1
KBN Korca 79.36 317 P P 01 14 57.4 -0.2
KBN Korca 79.36 317 P P 01 14 57.4 -0.2
KBN Korca 79.36 317 P P 01 14 57.4 -0.2
J30A Dallas 79.37 39 ⇑P P 01 14 58.1 +0.5
baz=79,SNR=94
STRD Stroud 79.37 336⇑eP P 01 14 58.0 +0.6
STRD AMB AMB 01 14 59.6
comp=Z,1µm,1.4s
STRD AMS AMS 01 52 38.0
comp=Z,3µm,15.5s
M27A Reverse DX Ran 79.38 42 ⇑P P 01 14 58.6 +0.8
baz=79,SNR=12
NEST Nestorio 79.39 316 P P 01 14 57.4 -0.4
NEST Nestorio 79.39 316 eP P 01 14 58.1 +0.3
HMNX Herstmonceux 79.41 335⇑eP P 01 14 58.4 +0.8
HMNX AMB AMB 01 15 00.2
comp=Z,890nm,1.5s
HMNX AMS AMS 01 52 40.8
comp=Z,3µm,13.9s
K29A Lazy Trails An 79.42 40 ⇑P P 01 14 59.0 +1.1
baz=79,SNR=35
MCH1 Michaelchurch 79.42 337⇑eP P 01 14 57.5 -0.1
MCH1 AMB AMB 01 14 59.7
comp=Z,271nm,1.1s
MCH1 AMS AMS 01 54 15.7
comp=Z,2µm,17.3s
SMIA Simia 79.42 314 eP P 01 14 58.2 +0.3
MVCO Mesa Verde 79.43 48 ⇓P P 01 14 59.3 +1.0
baz=79,SNR=99
MVCO Mesa Verde 79.43 48 eP P 01 14 59.1 +0.8
comp=Z,257nm,1.2s
MVCO LR LR
comp=Z,764nm,20.0s
FUORN Ofenpass-Fuorn 79.43 327⇑iP P 01 14 58.7 +0.6
comp=Z,2µm,1.9s
L28A Connealy Angus 79.43 41 ⇑P P 01 14 58.7 +0.7
baz=79,SNR=5.7
PLONS Plons/SG 79.43 327⇑iP P 01 14 58.7 +0.8
comp=Z,1µm,1.9s
DAVOX Davos/Dischmat 79.45 327⇑iP P 01 14 59.0 +0.8
comp=Z,803nm,1.7s
ZUR Degenried 79.48 328⇑iP P 01 14 59.1 +1.0
comp=Z,1µm,2.8s
N26A Koester Ranch, 79.49 43 ⇑P P 01 14 59.2 +0.8
baz=79,SNR=24
SWN1 Swindon 79.50 336⇑eP P 01 14 59.1 +1.0
SWN1 AMB AMB 01 15 00.5
comp=Z,1µm,1.3s
SWN1 AMS AMS 01 52 42.0
comp=Z,3µm,17.1s
WOL Wolverton 79.50 336⇑eP P 01 14 58.2 +0.1
WOL AMB AMB 01 14 60.0
comp=Z,767nm,1.4s
WOL AMS AMS 01 50 39.2
comp=Z,3µm,19.6s
MONM Monmouth 79.50 337⇑eP P 01 14 58.3 +0.2
MONM AMB AMB 01 14 59.6
comp=Z,590nm,1.5s
MONM AMS AMS 01 55 19.3
comp=Z,2µm,13.0s
APE Apeiranthos 79.51 311 P P 01 14 57.1 -1.4
APE Apeiranthos 79.51 311 eP P 01 14 56.7 -1.7
APE Apeiranthos 79.51 311c iP P 01 14 57.7 -0.7
APE pmax pmax
comp=Z,68nm,1.6s
APE MLR MLR
comp=Z,2µm,19.0s
APE Apeiranthos 79.51 311 eP P 01 14 57.8 -0.7
APE Apeiranthos 79.51 311⇑iP P 01 14 58.3 -0.2
APE Apeiranthos 79.51 311 P P 01 14 57.1 -1.4
SULZ Cheisacher 79.53 328⇑iP P 01 14 59.3 +0.9
comp=Z,2µm,1.4s
THL Klokotos Trika 79.53 315 P P 01 14 57.4 -1.1
THL Klokotos Trika 79.53 315 eP P 01 14 59.3 +0.8
PAGF Fort de Pagny 79.57 330⇑iP P 01 14 59.4 +0.9
comp=Z,443nm,1.4s
PAGF Fort de Pagny 79.57 330⇑iP P 01 14 59.4 +0.9
comp=Z,443nm,1.4s
O25A Wiggins 79.58 44 ⇓P P 01 14 59.6 +0.7
baz=79,SNR=14
OLDB Oldbury-Upon-S 79.59 337⇑eP P 01 14 58.7 +0.2
OLDB AMB AMB 01 14 59.9
comp=Z,292nm,1.5s
OLDB AMS AMS 01 58 08.3
comp=Z,2µm,16.6s
113A Mohawk Valley, 79.60 55 ⇑P P 01 14 59.8 +0.8
baz=79,SNR=35
Q23A Hartsel 79.61 46 ⇓P P 01 15 00.4 +1.1
baz=79
LPW Lampeter 79.62 338⇑eP P 01 14 59.3 +0.6
LPW AMB AMB 01 15 00.2
comp=Z,360nm,1.1s
LPW AMS AMS 01 53 52.2
comp=Z,1µm,19.5s
P24A Kohler Place, 79.63 45 ⇓P P 01 15 00.4 +1.1
baz=79,SNR=22
MOF Molkenrain 79.63 329⇑eP P 01 14 59.8 +0.8
Z14A Wintersburg 79.67 54 ⇑P P 01 15 00.1 +0.8
baz=80,SNR=9.9
PTL Penteli 79.69 313 P P 01 14 57.4 -2.0
PTL Penteli 79.69 313 eP P 01 14 58.5 -0.9
PTL Penteli 79.69 313 P P 01 14 57.4 -2.0
BERNI Berninapass 79.69 327⇑iP P 01 15 00.4 +0.8
comp=Z,2µm,3.4s
LKR Lokris 79.70 314 P P 01 14 57.9 -1.5
LKR Lokris 79.70 314 eP P 01 14 58.8 -0.6
LKR Lokris 79.70 314 P P 01 14 57.9 -1.5
KARP Karpathos 79.70 309 P P 01 14 58.9 -0.6
KARP Karpathos 79.70 309 eP P 01 14 59.6 +0.1
KARP Karpathos 79.70 309 P P 01 14 58.9 -0.6
BATH Bath 79.72 336⇑eP P 01 14 59.6 +0.4
BATH AMB AMB 01 15 00.7
comp=Z,414nm,1.3s
LLS Linth-Limmern 79.74 327⇑iP P 01 15 00.5 +0.7
comp=Z,1µm,3.2s
THEF They Montfort 79.75 330⇑eP P 01 15 00.3 +0.8

HINF Hinteralfeld 79.77 329⇑iP P 01 15 00.0 +0.3
comp=Z,880nm,1.7s
HINF Hinteralfeld 79.77 329⇑iP P 01 15 00.0 +0.3
HINF pmax pmax
comp=Z,880nm,1.7s
HINF Hinteralfeld 79.77 329⇑iP P 01 15 00.0 +0.3
comp=Z,880nm,1.7s
AGG Agios Georgios 79.77 315 P P 01 14 58.7 -1.2
AGG Agios Georgios 79.77 315 P P 01 14 58.7 -1.2
AGG Agios Georgios 79.77 315 eP P 01 14 59.1 -0.8
AGG Agios Georgios 79.77 315 P P 01 14 58.7 -1.2
MUO Muotathal 79.79 328⇑iP P 01 15 00.6 +0.6
comp=Z,3µm,3.5s
ATHU Athens Univers 79.79 313 P P 01 14 58.2 -1.7
ATHU Athens Univers 79.79 313 P P 01 14 58.2 -1.7
X16A Lo Mia Camp, P 79.79 52 ⇓P P 01 15 01.8 +1.5
baz=80,SNR=102
AXAR Agios Charalam 79.79 314 P P 01 14 58.4 -1.5
AXAR Agios Charalam 79.79 314 eP P 01 14 59.5 -0.4
AXAR Agios Charalam 79.79 314 P P 01 14 58.4 -1.5
HAU Haudompre 79.80 330⇑iP P 01 15 00.2 +0.4
comp=Z,497nm,1.4s
HAU eR
comp=Z,3µm,18.0s
HAU Haudompre 79.80 330⇑iP P 01 15 00.2 +0.4
HAU pmax pmax
comp=Z,497nm,1.4s
HAU Haudompre 79.80 330⇑iP P 01 15 00.2 +0.4
comp=Z,497nm,1.4s
K30A Basset 79.81 40 ⇑P P 01 15 01.0 +1.0
baz=80,SNR=80
ATH Athens Observa 79.82 313 P P 01 14 58.9 -1.2
ATH Athens Observa 79.82 313 P P 01 14 58.9 -1.2
ATH Athens Observa 79.82 313 P P 01 14 58.9 -1.2
BALST Balsthal 79.85 328⇑iP P 01 15 01.3 +1.1
comp=Z,2µm,1.4s
N27A Anderson Farm, 79.85 42 ⇑P P 01 15 01.2 +0.8
baz=80,SNR=39
MEZF Maizieres J'vi 79.85 331⇑iP P 01 15 00.9 +0.8
comp=Z,2µm,1.4s
MEZF Maizieres J'vi 79.85 331⇑iP P 01 15 00.9 +0.8
comp=Z,2µm,1.4s
VDL Val di Lei 79.87 327⇑iP P 01 15 00.8 +0.4
L29A Maesberg Ranch 79.88 40 ⇑P P 01 15 00.8 +0.3
baz=80,SNR=15
MAKR Makrakomi, Fth 79.88 315 P P 01 14 59.5 -1.0
MAKR Makrakomi, Fth 79.88 315 eP P 01 15 00.3 -0.2
MAKR Makrakomi, Fth 79.88 315 P P 01 14 59.5 -1.0
O26A Horse Wrangler 79.89 43 ⇓P P 01 15 00.9 +0.3
baz=80,SNR=14
SCHQ Schefferville 79.90 15 P P 01 15 00.3 0.0
comp=Z,130nm,1.0s,baz=355,slow=5.7,SNR=63
SCHQ LR LR 01 54 01.6
comp=Z,2µm,18.3s,baz=356,slow=38
TUE Stuetta 79.92 327 eP P 01 15 01.5 +0.8
comp=Z,242nm,1.3s
TUE LR LR
comp=Z,4µm,19.0s
Q24A Divide 79.92 45 ⇑P P 01 15 01.6 +0.6
baz=80,SNR=44
S22A 4UR Ranch, Cre 79.94 47 ⇓P P 01 15 02.5 +1.4
baz=80,SNR=107
BNALP Bannalp 79.95 328⇑iP P 01 15 01.4 +0.6
comp=Z,2µm,3.2s
M28A Bar X Bar Ranc 79.97 41 ⇓P P 01 15 01.7 +0.7
baz=80,SNR=6.4
BOURR Bourrignon 79.98 329⇑iP P 01 15 01.5 +0.6
comp=Z,1µm,1.9s
OGNE Ogallala 79.99 42 ⇓P P 01 15 02.0 +1.0
baz=80,SNR=22
OGNE Ogallala 79.99 42 eP P 01 15 01.6 +0.5
comp=Z,446nm,1.2s
OGNE LR LR
comp=Z,1µm,20.0s
P25A Willow Gulch B 80.01 44 ⇑P P 01 15 02.2 +0.9
baz=80,SNR=27
SANT Santorini 80.05 311 P P 01 14 58.9 -2.5
SANT Santorini 80.05 311 P P 01 14 58.9 -2.5
SANT LR LR
comp=Z,1µm,20.0s
JAN Janina 80.06 316 P P 01 15 01.5 +0.1
JAN Janina 80.06 316 P P 01 15 01.5 +0.1
JAN Janina 80.06 316 eP P 01 15 02.0 +0.6
JAN Janina 80.06 316 P P 01 15 01.5 +0.1
SFTF Sexfontaines 80.11 330⇑iP P 01 15 02.0 +0.5
comp=Z,1µm,1.4s
SFTF Sexfontaines 80.11 330⇑iP P 01 15 02.0 +0.5
comp=Z,1µm,1.4s
EVR Evrytania 80.12 315 P P 01 14 58.9 -2.9
EVR Evrytania 80.12 315 eP P 01 15 01.8 0.0
EVR Evrytania 80.12 315 P P 01 14 58.9 -2.9
VLO Vlora 80.12 317 P P 01 15 02.8 +1.2
VLO Vlora 80.12 317 P P 01 15 02.8 +1.2
VLO Vlora 80.12 317 P P 01 15 02.8 +1.2
R23A Moffat 80.14 46 ⇑P P 01 15 03.6 +1.4
baz=80,SNR=72
HASLI Haslberg/Brie 80.15 328⇑iP P 01 15 02.5 +0.6
comp=Z,1µm,1.6s
LOMF Lomont 80.17 329⇑eP P 01 15 02.9 +1.0
LTK Loutraki 80.18 314 P P 01 15 00.5 -1.6
LTK Loutraki 80.18 314 eP P 01 14 57.3 -4.8
LTK Loutraki 80.18 314 P P 01 15 00.5 -1.6
FUSIO Fusio 80.20 327⇑iP P 01 15 02.9 +0.7
comp=Z,1µm,1.8s
M29A Burnside Ranch 80.26 41 ⇓P P 01 15 02.7 +0.2
baz=80,SNR=7.8
W18A Petrified Fore 80.26 51 ⇑P P 01 15 04.1 +1.4
baz=80,SNR=24
W18A Petrified Fore 80.26 51 eP P 01 15 03.7 +1.0
comp=Z,74nm,1.1s
SRN Sarande 80.32 317 P P 01 15 02.0 -0.7
SRN Sarande 80.32 317 P P 01 15 02.0 -0.7
DSL Palaion Diasel 80.33 316 P P 01 15 02.3 -0.5
DSL Palaion Diasel 80.33 316 eP P 01 15 02.8 0.0
DSL Palaion Diasel 80.33 316 P P 01 15 02.3 -0.5
L30A Spencer Herefo 80.33 40 ⇓P P 01 15 03.1 +0.2
baz=80,SNR=8.0
ECSD EROS Data Cent 80.34 37 ⇑P P 01 15 03.3 +0.5
baz=80,SNR=96
ECSD EROS Data Cent 80.34 37 eP P 01 15 02.7 -0.1
comp=Z,271nm,1.2s
ECSD LR LR
comp=Z,1µm,20.0s
KALE Kalithea 80.34 314 P P 01 15 01.8 -1.2
KALE Kalithea 80.34 314 eP P 01 15 02.0 -1.0
KALE Kalithea 80.34 314 P P 01 15 01.8 -1.2
O27A Beecher Island 80.35 43 ⇓P P 01 15 03.5 +0.4
baz=80,SNR=16
P26A Davis Ranch, A 80.39 44 ⇑P P 01 15 04.1 +0.8
baz=80,SNR=17
S23A Nye Farm, Mont 80.41 47 ⇓P P 01 15 05.2 +1.6
baz=80,SNR=5.4
IGT Igoumenitsa 80.41 316 P P 01 15 02.6 -0.7
IGT Igoumenitsa 80.41 316 P P 01 15 02.6 -0.7
IGT Igoumenitsa 80.41 316 eP P 01 15 03.3 0.0
IGT Igoumenitsa 80.41 316 P P 01 15 02.6 -0.7
Q25A Bedland, Calha 80.42 45 ⇑P P 01 15 04.1 +0.5
baz=80,SNR=62
N28A Pribbeno Ranch 80.43 42 ⇑P P 01 15 03.8 +0.3
baz=80,SNR=12
WIMIS Wimmis 80.43 328⇑iP P 01 15 03.6 +0.3
comp=Z,2µm,3.5s
EFP Efpalio 80.44 315 P P 01 15 02.0 -1.4
HEX Exmoor 80.48 337⇑eP P 01 15 03.8 +0.4
R24A Sanders Place, 80.48 46 ⇑P P 01 15 05.1 +1.1
baz=80,SNR=70
MUGIO Muggio 80.49 327⇑iP P 01 15 03.8 +0.2
comp=Z,978nm,1.4s
KEK Kerkira 80.55 317 P P 01 15 03.9 -0.1
KEK Kerkira 80.55 317 eP P 01 15 04.3 +0.3
KEK Kerkira 80.55 317 P P 01 15 03.9 -0.1
ZKR Zakros 80.55 310 P P 01 15 03.1 -1.0
ZKR Zakros 80.55 310 eP P 01 15 04.2 +0.1
ZKR Zakros 80.55 310 P P 01 15 03.1 -1.0
L31A Butterfield Fa 80.56 39 ⇓P P 01 15 04.7 +0.6
baz=80,SNR=73
X18A Snowflake 80.56 51 ⇓P P 01 15 05.8 +1.4
baz=80,SNR=65
M30A Dale-Ortello V 80.58 40 ⇑P P 01 15 04.2 0.0
baz=80
GUR Goura 80.58 314 P P 01 15 02.8 -1.5
GUR Goura 80.58 314 eP P 01 15 03.6 -0.7
GUR Goura 80.58 314 P P 01 15 02.8 -1.5
KLV Kalavryta, Ach 80.60 314 P P 01 15 02.6 -1.8
KLV Kalavryta, Ach 80.60 314 eP P 01 15 03.6 -0.8

KLV Kalavryta, Ach 80.60 314 P P 01 15 02.6 -1.8
TORNY Torny/Romont 80.60 329⇑ iP P 01 15 04.8 +0.6
comp=Z,2µm,3.4s
SDCO Great Sand Dun 80.64 46 ⇑P P 01 15 05.7 +0.8
baz=80,SNR=62
LKBD Leukerbad 80.66 328⇑ iP P 01 15 05.1 +0.4
comp=Z,650nm,1.3s
PDO Prodromos 80.68 315 P P 01 15 03.9 -0.8
PDO Prodromos 80.68 315 eP P 01 15 04.6 -0.1
HTL Hartland 80.74 337⇑ eP P 01 15 04.8 +0.1
HTL AMB AMB 01 15 06.4
comp=Z,240nm,1.3s
214A Organ Pipe Nat 80.74 55 ⇑P P 01 15 06.2 +1.0
baz=81,SNR=48
214A Organ Pipe Nat 80.74 55 eP P 01 15 05.8 +0.6
comp=Z,130nm,1.3s
O28A Krutsinger Ran 80.75 42 ⇓P P 01 15 05.2 +0.1
baz=80,SNR=15
SPMN Marine on St. 80.76 34 ⇑P P 01 15 05.0 -0.1
baz=80,SNR=30
SPMN Marine on St. 80.76 34 eP P 01 15 04.9 -0.1
comp=Z,186nm,1.3s
N29A Votaw Ranch, W 80.77 41 ⇑P P 01 15 05.4 +0.1
baz=80,SNR=17
NPS Neapolis 80.78 310 eP P 01 15 04.3 -1.0
P27A Ficken Ranch, 80.78 43 ⇑P P 01 15 05.6 +0.2
baz=80,SNR=6.3
Q26A Hugo 80.78 44 ⇑P P 01 15 05.9 +0.4
baz=80,SNR=11
SENIN Lac Senin/Sane 80.81 328⇑ iP P 01 15 06.4 +0.9
comp=Z,2µm,3.5s
MMK Mattmark 80.81 328⇑ iP P 01 15 06.1 +0.5
comp=Z,936nm,2.1s
LKD2 Lefkada island 80.81 316 P P 01 15 04.4 -1.0
LKD2 Lefkada island 80.81 316 eP P 01 15 05.3 -0.1
LKD2 Lefkada island 80.81 316 P P 01 15 04.4 -1.0
S24A Houchin Ranch, 80.87 46 ⇓P P 01 15 07.3 +1.1
baz=81,SNR=47
T23A Casias Ranch, 80.89 47 ⇑P P 01 15 07.5 +1.3
baz=81,SNR=27
DRO Drossia 80.90 314 P P 01 15 05.7 -0.2
LAST Lasithi 80.93 310 P P 01 15 04.9 -1.3
LAST Lasithi 80.93 310 eP P 01 15 06.5 +0.3
LAST Lasithi 80.93 310 P P 01 15 04.9 -1.3
U22A Llaves 80.93 48 ⇓P P 01 15 07.9 +1.5
baz=81,SNR=33
RLS Riolos of Patr 80.94 315 P P 01 15 06.2 +0.1
RLS Riolos of Patr 80.94 315 eP P 01 15 06.1 0.0
RLS Riolos of Patr 80.94 315 P P 01 15 06.2 +0.1
AIGLE Aigle 80.96 328⇑ iP P 01 15 06.5 +0.4
comp=Z,756nm,1.7s
GRYON Gryon 80.97 328⇑ iP P 01 15 06.8 +0.5
comp=Z,936nm,2.1s
R25A Fountain Ranch 80.98 45 ⇓P P 01 15 07.1 +0.6
baz=81,SNR=70
N30A Hueftle Ranch, 81.04 41 ⇑P P 01 15 06.8 +0.1
baz=81,SNR=6.5
GIMEL St. Georges / 81.06 329⇑ iP P 01 15 07.2 +0.5
comp=Z,2µm,4.5s
CABF La Chapelle 81.06 329⇑ iP P 01 15 07.3 +0.6
comp=Z,427nm,1.5s
CABF La Chapelle 81.06 329⇑ iP P 01 15 07.3 +0.6
CABF pmax pmax
comp=Z,427nm,1.5s
CABF La Chapelle 81.06 329⇑ iP P 01 15 07.3 +0.6
comp=Z,427nm,1.5s
DYA Yadsworthy 81.08 337⇑ eP P 01 15 06.5 -0.1
DYA AMB AMB 01 15 08.6
comp=Z,367nm,1.3s
DYA AMS AMS 01 59 12.2
comp=Z,2µm,16.4s
SALAN Lac Salanfe 81.12 328⇑ iP P 01 15 07.6 +0.4
comp=Z,1µm,4.0s
M31A Lambtecht Ranc 81.15 40 ⇓P P 01 15 07.5 +0.2
baz=81,SNR=22
VLI Veliai 81.17 313 P P 01 15 03.9 -3.4
VLI Veliai 81.17 313 eP P 01 15 02.0 -5.3
VLI Veliai 81.17 313 P P 01 15 03.9 -3.4
KSCO Kaye Shedlock' 81.17 44 ⇑P P 01 15 08.0 +0.6
baz=81,SNR=20
KSCO Kaye Shedlock' 81.17 44 eP P 01 15 07.9 +0.4
comp=Z,437nm,1.6s
P28A Saint Francis 81.18 43 ⇓P P 01 15 07.9 +0.5
baz=81,SNR=10
AMT Artemida-Makis 81.21 314 P P 01 15 06.7 -0.9
AMT Artemida-Makis 81.21 314 eP P 01 15 07.2 -0.4
EMV Vieux Emosson 81.21 328⇑ iP P 01 15 08.2 +0.5
comp=Z,1µm,3.6s
T24B San Luis 81.21 47 ⇓P P 01 15 09.6 +1.6
baz=81,SNR=32
O29A 4D Ranch, Culb 81.22 42 ⇑P P 01 15 08.0 +0.4
baz=81,SNR=18
V22A San Miguel Ran 81.25 48 ⇑P P 01 15 09.3 +1.2
baz=81,SNR=73
KFL Anninata 81.26 315 P P 01 15 07.5 -0.3
S25A Robets Cordova 81.26 46 ⇓P P 01 15 08.2 +0.1
baz=81,SNR=20
R26A Arlington 81.29 45 ⇑P P 01 15 08.6 +0.5
baz=81,SNR=142
VLS Valsamata 81.31 315 P P 01 15 07.5 -0.6
VLS Valsamata 81.31 315 P P 01 15 07.5 -0.6
VLS Valsamata 81.31 315 eP P 01 15 07.8 -0.3
VLS Valsamata 81.31 315 P P 01 15 07.5 -0.6
LOR Lormes 81.33 331⇑ iP P 01 15 08.3 +0.3
comp=Z,985nm,1.3s
LOR eR
comp=Z,4µm,22.0s
LOR Lormes 81.33 331⇑ iP P 01 15 08.3 +0.3
LOR Lormes 81.33 331⇑ iP P 01 15 08.3 +0.3
comp=Z,985nm,1.3s
U23A El Rito 81.33 48 ⇑P P 01 15 10.1 +1.6
baz=81,SNR=154
ITM Ithomi 81.36 314 P P 01 15 06.5 -1.9
ITM Ithomi 81.36 314 eP P 01 15 07.7 -0.7
ITM Ithomi 81.36 314 P P 01 15 06.5 -1.9
VAL Valentia 81.37 341 eP P 01 15 08.0 -0.1
VLC Villacollemand 81.38 325 eP P 01 15 09.0 +0.7
comp=Z,358nm,1.3s
VLC LR LR
comp=Z,3µm,20.0s
SIVA Sivas 81.40 311 P P 01 15 08.8 +0.2
SIVA Sivas 81.40 311 eP P 01 15 08.9 +0.3
SIVA Sivas 81.40 311 P P 01 15 08.8 +0.2
VAM Vamos 81.45 311 P P 01 15 06.2 -2.7
VAM Vamos 81.45 311 P P 01 15 06.2 -2.7
VAM Vamos 81.45 311 eP P 01 15 06.9 -2.0
VAM Vamos 81.45 311 P P 01 15 06.2 -2.7
COWI Conover 81.48 31 eP P 01 15 08.5 -0.3
comp=Z,194nm,1.3s
COWI LR LR
comp=Z,924nm,21.0s
BGNE Belgrade 81.48 39 ⇑P P 01 15 09.2 +0.2
baz=81,SNR=32
BGNE Belgrade 81.48 39 eP P 01 15 09.1 +0.1
comp=Z,546nm,1.2s
FLN La Foliniere 81.51 334⇑ iP P 01 15 09.1 +0.2
comp=Z,547nm,1.2s
FLN eR
comp=Z,3µm,17.0s
FLN La Foliniere 81.51 334⇑ iP P 01 15 09.1 +0.2
FLN pmax pmax
comp=Z,547nm,1.2s
FLN La Foliniere 81.51 334⇑ iP P 01 15 09.1 +0.2
comp=Z,547nm,1.2s
AQU L'Aquila 81.53 322 eP P 01 15 10.0 +0.8
comp=Z,494nm,1.4s
AQU LR LR
comp=Z,5µm,19.0s
Q28A Sharon Springs 81.53 43 ⇑P P 01 15 09.5 +0.1
baz=81,SNR=22
LDF La Druitiere 81.54 334⇑ iP P 01 15 09.3 +0.2
comp=Z,772nm,1.5s
LDF La Druitiere 81.54 334⇑ iP P 01 15 09.3 +0.2
LDF pmax pmax
comp=Z,772nm,1.5s
LDF La Druitiere 81.54 334⇑ iP P 01 15 09.3 +0.2
comp=Z,772nm,1.5s
O30A MW Ranch, Wils 81.54 41 ⇑P P 01 15 09.3 0.0
baz=81,SNR=34
P29A Atwood 81.56 42 ⇑P P 01 15 09.5 0.0
baz=81,SNR=19
N31A Bailey Ranch, 81.56 40 ⇓P P 01 15 09.6 +0.1
baz=81,SNR=9.1
ANKY Antikythira Is 81.61 312 P P 01 15 07.5 -2.2
ANKY Antikythira Is 81.61 312 eP P 01 15 12.1 +2.4
ANKY Antikythira Is 81.61 312 P P 01 15 07.5 -2.2

KARN Karanos 81.61 311 P P 01 15 08.3 -1.5
KARN Karanos 81.61 311 eP P 01 15 09.6 -0.2
KARN Karanos 81.61 311 P P 01 15 08.3 -1.5
SSF Saint Saulge 81.63 331⇑ iP P 01 15 10.0 +0.4
comp=Z,350nm,1.3s
SSF Saint Saulge 81.63 331⇑ iP P 01 15 10.0 +0.4
comp=Z,350nm,1.3s
R27A Eads 81.64 44 ⇑P P 01 15 10.3 +0.3
baz=81,SNR=53
JSA Saint Aubin 81.67 335⇑ eP P 01 15 10.3 +0.6
JSA AMB AMB 01 15 11.1
comp=Z,402nm,1.3s
JSA AMS AMS 01 53 49.3
comp=Z,3µm,17.1s
T25A Trinidad 81.67 46 ⇓P P 01 15 10.8 +0.5
baz=81,SNR=39
CCA1 Carnmenellis 81.67 337⇑ eP P 01 15 10.3 +0.5
CCA1 AMB AMB 01 15 11.2
comp=Z,292nm,1.5s
CCA1 AMS AMS 01 56 56.9
comp=Z,2µm,14.3s
PYL PYLOS 81.67 314 P P 01 15 08.3 -1.7
PYL PYLOS 81.67 314 eP P 01 15 09.4 -0.6
PYL PYLOS 81.67 314 P P 01 15 08.3 -1.7
TUC Tucson 81.69 53 eP P 01 15 10.8 +0.5
TUC pmax pmax
comp=Z,93nm,1.3s
TUC MLR MLR
comp=Z,1µm,20.0s
TUC Tucson 81.69 53 eP P 01 15 10.8 +0.5
comp=Z,93nm,1.3s
TUC LR LR
comp=Z,1µm,20.0s
LPL La Plagne 81.73 328⇑ iP P 01 15 11.3 +0.8
comp=Z,262nm,0.9s
LPL La Plagne 81.73 328⇑ iP P 01 15 11.3 +0.8
LPL pmax pmax
comp=Z,262nm,0.9s
LPL La Plagne 81.73 328⇑ iP P 01 15 11.3 +0.8
comp=Z,262nm,0.9s
LPG La Plagne 81.74 328⇑ iP P 01 15 11.4 +0.8
comp=Z,529nm,1.2s
LPG La Plagne 81.74 328⇑ iP P 01 15 11.4 +0.8
LPG pmax pmax
comp=Z,529nm,1.2s
LPG La Plagne 81.74 328⇑ iP P 01 15 11.4 +0.8
comp=Z,529nm,1.2s
HYF Humbligny 81.76 331⇑ iP P 01 15 11.0 +0.7
HYF Humbligny 81.76 331⇑ iP P 01 15 11.0 +0.7
U24A Moreno Valley 81.76 47 ⇓P P 01 15 12.4 +1.5
baz=82,SNR=53
V23A Ortiz Mt. (NFS 81.77 48 ⇑P P 01 15 12.8 +2.0
baz=82,SNR=62
S26A Kim 81.80 45 ⇓P P 01 15 10.9 +0.1
baz=82,SNR=30
SMF Signal de Mont 81.86 330⇑ iP P 01 15 11.3 +0.4
comp=Z,676nm,1.2s
SMF Signal de Mont 81.86 330⇑ iP P 01 15 11.3 +0.4
SMF pmax pmax
comp=Z,676nm,1.2s
SMF Signal de Mont 81.86 330⇑ iP P 01 15 11.3 +0.4
comp=Z,676nm,1.2s
O31A Woolen Ranch, 81.91 41 ⇓P P 01 15 10.9 -0.4
baz=82,SNR=10
AVF Avril sur Loir 81.91 331⇑ iP P 01 15 11.6 +0.5
comp=Z,1µm,1.3s
AVF Avril sur Loir 81.91 331⇑ iP P 01 15 11.6 +0.5
AVF Avril sur Loir 81.91 331⇑ iP P 01 15 11.6 +0.5
comp=Z,1µm,1.3s
N32A Stulken Farm, 81.92 40 ⇑P P 01 15 11.2 -0.1
baz=82,SNR=7.9
P30A Selden 81.94 42 ⇑P P 01 15 11.6 +0.1
baz=82,SNR=22
GRR Gorron 81.96 334⇑ iP P 01 15 11.7 +0.4
comp=Z,753nm,1.2s
GRR Gorron 81.96 334⇑ iP P 01 15 11.7 +0.4
GRR Gorron 81.96 334⇑ iP P 01 15 11.7 +0.4
comp=Z,753nm,1.2s
S27A Las Animas 82.04 45 ⇓P P 01 15 12.2 +0.1
baz=82
T26A Comanche Natio 82.07 45 ⇑P P 01 15 12.5 +0.1
baz=82,SNR=58
Q29A Oakley 82.09 43 ⇓P P 01 15 12.4 +0.1
baz=82,SNR=34
R28A Tribune 82.09 44 ⇓P P 01 15 12.4 +0.1
baz=82,SNR=15
BNI Bardonecchia 82.14 328 eP P 01 15 13.0 +0.5
BNI pmax pmax
comp=Z,96nm,1.0s
BNI MLR MLR
comp=Z,4µm,20.0s
BNI Bardonecchia 82.14 328 eP P 01 15 13.0 +0.5
comp=Z,96nm,1.0s
BNI LR LR
comp=Z,4µm,20.0s
ANMO Albuquerque 82.21 49c iP P 01 15 14.3 +1.1
ANMO pmax pmax
comp=Z,542nm,1.2s
ANMO Albuquerque 82.21 49 eP P 01 15 14.2 +1.1
comp=Z,139nm,1.2s
ANMO LR LR
comp=Z,595nm,21.0s
U25A Circle Dot Ran 82.23 46 ⇓P P 01 15 14.0 +0.8
baz=82,SNR=42
GDM Grand'Maison 82.23 328⇑ eP P 01 15 13.9 +0.9
V24A Rampart Ranch, 82.27 47 ⇑P P 01 15 15.1 +1.6
baz=82,SNR=81
CUC Castrocucco 82.28 319 eP P 01 15 12.8 -0.4
comp=Z,46nm,1.3s
CUC LR LR
comp=Z,2µm,19.0s
BGF Bois d'Agland 82.29 331⇑ iP P 01 15 13.7 +0.6
comp=Z,460nm,1.4s
BGF Bois d'Agland 82.29 331⇑ iP P 01 15 13.7 +0.6
BGF pmax pmax
comp=Z,460nm,1.4s
BGF Bois d'Agland 82.29 331⇑ iP P 01 15 13.7 +0.6
comp=Z,460nm,1.4s
O32A Brockman Farm, 82.33 40 ⇓P P 01 15 12.9 -0.5
baz=82,SNR=5.3
GRN Grenoble 82.34 328⇑ eP P 01 15 14.8 +1.3
R29A Marienthal 82.37 43 ⇑P P 01 15 13.7 0.0
baz=82,SNR=42
MBDF Montbardon 82.38 328⇑ iP P 01 15 13.9 +0.1
comp=Z,220nm,0.9s
MBDF Montbardon 82.38 328⇑ iP P 01 15 13.9 +0.1
MBDF pmax pmax
comp=Z,220nm,0.9s
MBDF Montbardon 82.38 328⇑ iP P 01 15 13.9 +0.1
comp=Z,220nm,0.9s
P31A Stockton 82.38 41 ⇑P P 01 15 13.8 0.0
baz=82,SNR=40
Q30A Quinter 82.39 42 ⇑P P 01 15 14.0 +0.1
baz=82,SNR=55
TIP Timpagrande 82.46 318 P P 01 15 14.2 0.0
TIP Timpagrande 82.46 318 eP P 01 15 14.5 +0.3
comp=Z,89nm,1.5s
TIP LR LR
comp=Z,2µm,21.0s
LENM Lemitar 82.50 50 eP P 01 15 15.8 +1.1
comp=Z,27nm,1.0s
PLDF La Plantade 82.52 330⇑ eP P 01 15 15.1 +0.7
V25A Rancho No Teng 82.54 47 ⇑P P 01 15 15.9 +1.0
baz=82,SNR=61
ORIF Oris-en-Rattie 82.56 328⇑ iP P 01 15 15.4 +0.7
comp=Z,644nm,1.5s
ORIF eR
comp=Z,4µm,21.5s
ORIF Oris-en-Rattie 82.56 328⇑ iP P 01 15 15.4 +0.7
ORIF pmax pmax
comp=Z,644nm,1.5s
ORIF Oris-en-Rattie 82.56 328⇑ iP P 01 15 15.4 +0.7
comp=Z,644nm,1.5s
SURF Saint Ours 82.57 327⇑ eP P 01 15 15.6 +0.8
U26A Atchley Ranch, 82.58 46 ⇓P P 01 15 15.3 +0.3
baz=82,SNR=35
LPM Los Pinos Moun 82.58 49 eP P 01 15 16.2 +1.2
comp=Z,53nm,1.1s
LPM ePP PP 01 18 27.1 +2.9
W24A Lazy 6 Ranch, 82.58 48 ⇓P P 01 15 16.7 +1.6
baz=82,SNR=75
Y22D IRIS PASSCAL I 82.60 50 ⇑P P 01 15 16.8 +1.6
baz=82
T27A Campo 82.61 45 ⇑P P 01 15 15.3 +0.2
baz=82,SNR=17
SGMF Saint Gilles 82.61 335⇑ iP P 01 15 15.5 +0.8
comp=Z,682nm,1.3s

SGMF Saint Gilles 82.61 335⇑ iP P 01 15 15.5 +0.8
SGMF pmax pmax
comp=Z,682nm,1.3s
SGMF Saint Gilles 82.61 335⇑ iP P 01 15 15.5 +0.8
comp=Z,682nm,1.3s
AGO Saint Agoulin 82.62 330⇑ eP P 01 15 15.8 +0.9
S28A Manter 82.63 44 ⇓P P 01 15 15.5 +0.4
baz=82,SNR=57
P32A Huiting Farm, 82.67 41 ⇓P P 01 15 14.9 -0.4
baz=82,SNR=47
TCF Toulx Ste Croi 82.75 331⇑ iP P 01 15 16.3 +0.8
comp=Z,583nm,1.4s
TCF Toulx Ste Croi 82.75 331⇑ iP P 01 15 16.3 +0.8
TCF pmax pmax
comp=Z,583nm,1.4s
TCF Toulx Ste Croi 82.75 331⇑ iP P 01 15 16.3 +0.8
comp=Z,583nm,1.4s
ROSF Rostrenen 82.76 335⇑ iP P 01 15 16.2 +0.7
comp=Z,797nm,1.3s
ROSF Rostrenen 82.76 335⇑ iP P 01 15 16.2 +0.7
ROSF pmax pmax
comp=Z,797nm,1.3s
ROSF Rostrenen 82.76 335⇑ iP P 01 15 16.2 +0.7
comp=Z,797nm,1.3s
SSB Saint Sauveur 82.77 329 eP P 01 15 16.1 +0.5
SSB pmax pmax
comp=Z,468nm,1.9s
SSB MLR MLR
comp=Z,2µm,20.0s
SSB Saint Sauveur 82.77 329 eP P 01 15 16.1 +0.5
comp=Z,468nm,1.9s
SSB LR LR
comp=Z,2µm,20.0s
Q31A Ellis 82.78 42 ⇓P P 01 15 15.6 -0.2
baz=82,SNR=12
SBF Sospel 82.83 327⇑ iP P 01 15 16.0 0.0
comp=Z,1µm,1.5s
SBF Sospel 82.83 327⇑ iP P 01 15 16.0 0.0
SBF Sospel 82.83 327⇑ iP P 01 15 16.0 0.0
comp=Z,1µm,1.5s
T28A Walsh 82.88 45 ⇑P P 01 15 16.5 +0.1
baz=83,SNR=12
R30A Dighton 82.90 43 ⇑P P 01 15 16.4 -0.1
baz=83,SNR=37
PYM Petit Puy Mans 82.93 330⇑ eP P 01 15 17.5 +1.0
S29A Ulysses 83.00 44 ⇑P P 01 15 17.3 +0.2
baz=83,SNR=26
V26A Tequesquite Ra 83.01 46 ⇑P P 01 15 17.7 +0.5
baz=83,SNR=65
U27A Thompson Grove 83.04 45 ⇓P P 01 15 17.6 +0.2
baz=83,SNR=41
VIVF Saint-Julien-I 83.08 329⇑ iP P 01 15 18.0 +0.8
comp=Z,760nm,1.5s
VIVF Saint-Julien-I 83.08 329⇑ iP P 01 15 18.0 +0.8
VIVF pmax pmax
comp=Z,760nm,1.5s
VIVF Saint-Julien-I 83.08 329⇑ iP P 01 15 18.0 +0.8
comp=Z,760nm,1.5s
W25A X Bar L Ranch, 83.09 47 ⇑P P 01 15 18.7 +1.1
baz=83,SNR=93
QUIF Quistinic 83.10 335⇑ iP P 01 15 17.8 +0.6
comp=Z,552nm,1.5s
QUIF Quistinic 83.10 335⇑ iP P 01 15 17.8 +0.6
QUIF pmax pmax
comp=Z,552nm,1.5s
QUIF Quistinic 83.10 335⇑ iP P 01 15 17.8 +0.6
comp=Z,552nm,1.5s
Q32A Meitler Ranch, 83.19 41 ⇓P P 01 15 18.0 0.0
baz=83,SNR=58
319A Douglas 83.24 53 ⇓P P 01 15 19.4 +1.0
baz=83,SNR=33
P33A Williams Farm, 83.25 40 ⇓P P 01 15 18.1 -0.1
baz=83,SNR=11
121A Cookes Peak, D 83.25 51 ⇑P P 01 15 19.9 +1.3
baz=83,SNR=112
121A Cookes Peak, D 83.25 51 eP P 01 15 19.9 +1.3
comp=Z,181nm,1.1s
T29A Hugoton 83.27 44 ⇑P P 01 15 18.6 +0.1
baz=83,SNR=8.5
R31A Burdett 83.27 42 ⇓P P 01 15 18.0 -0.4
baz=83,SNR=25
PGF Pioggiola 83.28 325⇑ iP P 01 15 18.5 +0.1
comp=Z,462nm,1.6s
PGF Pioggiola 83.28 325⇑ iP P 01 15 18.5 +0.1
PGF pmax pmax
comp=Z,462nm,1.6s
PGF Pioggiola 83.28 325⇑ iP P 01 15 18.5 +0.1
comp=Z,462nm,1.6s
LBL Lubilhac 83.28 330⇑ eP P 01 15 19.6 +1.2
MFF Saint Martin d 83.29 333⇑ iP P 01 15 19.1 +0.8
comp=Z,768nm,1.3s
MFF Saint Martin d 83.29 333⇑ iP P 01 15 19.1 +0.8
MFF pmax pmax
comp=Z,768nm,1.3s
MFF Saint Martin d 83.29 333⇑ iP P 01 15 19.1 +0.8
comp=Z,768nm,1.3s
SCIA State Center 83.29 36 eP P 01 15 19.0 +0.7
comp=Z,392nm,1.2s
SCIA LR LR
comp=Z,974nm,22.0s
S30A Montezuma 83.31 43 ⇑P P 01 15 18.9 +0.2
baz=83,SNR=45
U28A Mallet 83.39 45 ⇓P P 01 15 19.1 0.0
baz=83,SNR=17
FRF La Foret Royal 83.40 327⇑ iP P 01 15 19.0 +0.1
comp=Z,756nm,1.6s
FRF La Foret Royal 83.40 327⇑ iP P 01 15 19.0 +0.1
FRF pmax pmax
comp=Z,756nm,1.6s
FRF La Foret Royal 83.40 327⇑ iP P 01 15 19.0 +0.1
comp=Z,756nm,1.6s
SMRF Simiane la Rot 83.47 328⇑ iP P 01 15 20.1 +0.8
comp=Z,489nm,1.5s
SMRF Simiane la Rot 83.47 328⇑ iP P 01 15 20.1 +0.8
comp=Z,489nm,1.5s
Q33A Connelly Farm, 83.53 41 ⇑P P 01 15 19.7 0.0
baz=83,SNR=77
V27A Dan Oppiter Fa 83.54 46 ⇓P P 01 15 20.2 +0.2
baz=83,SNR=36
W26A Owens Ranch, T 83.56 47 ⇑P P 01 15 21.1 +1.1
baz=83,SNR=12
R32A Long Quarter, 83.56 42 ⇓P P 01 15 19.8 -0.1
baz=83,SNR=16
CEL Celeste 83.60 318 eP P 01 15 19.9 -0.2
comp=Z,233nm,1.2s
CEL LR LR
comp=Z,3µm,19.0s
LMR La Mourre 83.64 327⇑ iP P 01 15 20.4 +0.3
comp=Z,1µm,1.5s
LMR La Mourre 83.64 327⇑ iP P 01 15 20.4 +0.3
LMR pmax pmax
comp=Z,1µm,1.5s
LMR La Mourre 83.64 327⇑ iP P 01 15 20.4 +0.3
comp=Z,1µm,1.5s
JFWS Jewell Farm 83.70 34 eP P 01 15 19.8 -0.6
JFWS pmax pmax
comp=Z,141nm,1.2s
JFWS MLR MLR
comp=Z,1µm,19.0s
JFWS Jewell Farm 83.70 34 eP P 01 15 19.8 -0.6
comp=Z,140nm,1.2s
JFWS LR LR
comp=Z,1µm,19.0s
T30A Plains 83.73 44 ⇑P P 01 15 20.9 +0.1
baz=84,SNR=8.4
S31A Mullinville 83.81 43 ⇑P P 01 15 21.1 -0.1
baz=84,SNR=16
U29A Oasis Ranch, S 83.82 44 ⇑P P 01 15 21.3 0.0
baz=84
RJF Les Rejaudoux 83.85 331⇑ iP P 01 15 22.0 +0.8
comp=Z,471nm,1.5s
RJF eR
comp=Z,4µm,22.2s
RJF Les Rejaudoux 83.85 331⇑ iP P 01 15 22.0 +0.8
RJF pmax pmax
comp=Z,471nm,1.5s
RJF Les Rejaudoux 83.85 331⇑ iP P 01 15 22.0 +0.8
comp=Z,471nm,1.5s
V28A Channing 83.87 46 ⇓P P 01 15 21.8 +0.2
baz=84,SNR=15
CAF Calviac 83.98 331⇑ iP P 01 15 23.1 +1.2
comp=Z,760nm,1.5s
CAF Calviac 83.98 331⇑ iP P 01 15 23.1 +1.2
CAF pmax pmax
comp=Z,760nm,1.5s
CAF Calviac 83.98 331⇑ iP P 01 15 23.1 +1.2
comp=Z,760nm,1.5s

R33A	Olander Ranch,	84.00	41	⇑P	P	01 15 22.1	0.0
	baz=84,SNR=27						
S32A	Newby Ranch, P	84.02	42	⇓P	P	01 15 22.4	+0.1
	baz=84,SNR=7.2						
KSU1	Kansas State U	84.03	40	⇓P	P	01 15 22.2	0.0
	baz=84,SNR=14						
KSU1	Kansas State U	84.03	40	eP	P	01 15 22.0	-0.2
	comp=Z,233nm,1.1s						
KSU1				LR	LR		
	comp=Z,1μm,19.0s						
LASF	Ste Croix	84.05	329	⇑iP	P	01 15 23.2	+1.0
	comp=Z,685nm,1.6s						
LASF	Ste Croix	84.05	329	⇑iP	P	01 15 23.2	+1.0
	comp=Z,685nm,1.6s						
U30A	WK&E Inc. Balk	84.08	44	⇓P	P	01 15 22.8	+0.2
	baz=84,SNR=22						
T31A	Randall Ranch,	84.12	43	⇓P	P	01 15 23.1	+0.3
	baz=84,SNR=23						
V29A	Stinnett	84.14	45	⇓P	P	01 15 23.3	+0.4
	baz=84,SNR=9.7						
W28A	Vega	84.25	46	⇑P	P	01 15 24.2	+0.6
	baz=84,SNR=24						
T32A	Huddler Ranch,	84.43	43	⇑P	P	01 15 24.6	+0.3
	baz=84,SNR=24						
LFF	La Frestale	84.44	331	⇑iP	P	01 15 25.5	+1.4
	comp=Z,1μm,1.5s						
LFF	La Frestale	84.44	331	⇑iP	P	01 15 25.5	+1.4
LFF	La Frestale	84.44	331	⇑iP	P	01 15 25.5	+1.4
	comp=Z,1μm,1.5s						
S33A	Kaszmaul Farm,	84.56	42	⇓P	P	01 15 25.5	+0.5
	baz=84,SNR=26						
U31A	Nine Bar Ranch	84.61	44	⇓P	P	01 15 26.0	+0.8
	baz=84,SNR=6.6						
V30A	Spur Ranch, Mi	84.65	45	⇑P	P	01 15 26.0	+0.5
	baz=84,SNR=13						
W29A	Amarillo	84.65	46	⇑P	P	01 15 26.3	+0.7
	baz=84,SNR=22						
AMTX	Amarillo	84.82	46	⇓P	P	01 15 26.9	+0.5
	baz=85						
AMTX	Amarillo	84.82	46	eP	P	01 15 26.9	+0.5
	comp=Z,216nm,1.0s						
X28A	Dimmitt	84.83	46	⇓P	P	01 15 27.0	+0.5
	baz=85,SNR=11						
T33A	Patterson Ranc	84.85	42	⇓P	P	01 15 26.8	+0.4
	baz=85,SNR=20						
S34A	Willow Spring	84.91	41	⇓P	P	01 15 27.1	+0.4
	baz=85,SNR=21						
MSTX	Muleshoe	84.94	47	⇑P	P	01 15 27.1	0.0
	baz=85,SNR=19						
MSTX	Muleshoe	84.94	47	eP	P	01 15 27.0	0.0
	comp=Z,83nm,1.2s						
U32A	Winter Ranch,	85.02	43	⇑P	P	01 15 28.2	+0.9
	baz=85,SNR=19						
V31A	Spring Creek L	85.07	44	⇑P	P	01 15 28.9	+1.3
	baz=85,SNR=31						
X29A	Tulia	85.14	46	⇑P	P	01 15 28.8	+0.7
	baz=85,SNR=33						
W30A	Crocket Farms	85.16	45	⇑P	P	01 15 28.8	+0.8
	baz=85						
MNTX	Cornudas Mount	85.23	50	⇑P	P	01 15 29.4	+0.9
	baz=85,SNR=78						
Y28A	McKinney Farm,	85.27	47	⇑P	P	01 15 29.1	+0.4
	baz=85,SNR=20						
MTLF	Montolieu	85.29	330	⇑iP	P	01 15 29.6	+1.1
	comp=Z,587nm,1.6s						
MTLF	Montolieu	85.29	330	⇑iP	P	01 15 29.6	+1.1
MTLF				pmax	pmax		
	comp=Z,587nm,1.6s						
MTLF	Montolieu	85.29	330	⇑iP	P	01 15 29.6	+1.1
	comp=Z,587nm,1.6s						
U33A	Lingo Farm, Me	85.42	42	⇓P	P	01 15 29.8	+0.5
	baz=85,SNR=16						
CLTB	Caltabellotta	85.42	319	PFAKE		01 15 40.0	+11
CLTB				LR	LR		
	comp=Z,1μm,19.0s						
W31A	Holland Ranch,	85.48	44	⇑P	P	01 15 30.3	+0.7
	baz=85,SNR=49						
LRDF	Laroque-de-Fa	85.52	329	⇑eP	P	01 15 33.1	+3.5
V32A	Arapaho	85.52	44	⇓P	P	01 15 30.8	+1.0
	baz=85,SNR=21						
X30A	Coker Ranch, T	85.58	45	⇑P	P	01 15 30.6	+0.4
	baz=85,SNR=18						
S36A	Lake Cedric, C	85.61	40	⇑P	P	01 15 30.6	+0.4
	baz=85,SNR=59						
Y29A	Porterfield Fa	85.61	46	⇓P	P	01 15 30.8	+0.4
	baz=85,SNR=8.1						
VSL	Villasalto	85.63	323	eP	P	01 15 29.3	-1.0
VSL				LR	LR		
	comp=Z,2μm,20.0s						
Z28A	Tucker Farm, M	85.67	47	⇓P	P	01 15 31.1	+0.4
	baz=86,SNR=5.0						
U34A	Anderson Ranch	85.70	42	⇑P	P	01 15 31.7	+1.0
	baz=86,SNR=55						
U34A	Anderson Ranch	85.70	42	eP	P	01 15 31.4	+0.8
	comp=Z,408nm,1.1s						
SJAF	Saint Jean de	85.78	329	⇑eP	P	01 15 31.5	+0.6
V33A	Lossen Ranch,	85.82	43	⇑P	P	01 15 31.8	+0.5
	baz=86,SNR=22						
FILF	Fillols	85.83	329	⇑eP	P	01 15 32.5	+1.2
CARF	Carcanieres	85.87	329	⇑eP	P	01 15 32.5	+1.0
W32A	Sentinel	85.89	44	⇑P	P	01 15 32.7	+1.0
	baz=86,SNR=45						
X31A	McDonald Ranch	85.90	45	⇓P	P	01 15 32.4	+0.7
	baz=86,SNR=48						
Y30A	Stafford Cattl	86.00	46	⇑P	P	01 15 32.7	+0.4
	baz=86,SNR=7.5						
Z29A	Hungry Hill Ra	86.05	47	⇓P	P	01 15 33.2	+0.7
	baz=86,SNR=129						
128A	Castleberry Fa	86.13	48	⇑P	P	01 15 33.5	+0.5
	baz=86,SNR=33						
WDD	Wield Dalam	86.16	318	PFAKE		01 15 40.0	+7.1
WDD				LR	LR		
	comp=Z,1μm,19.0s						
VALF	Valcebollere	86.17	329	⇑eP	P	01 15 34.3	+1.2
TAU	Tasmania Unive	86.17	174	PFAKE		01 15 40.0	+7.6
TAU				LR	LR		
	comp=Z,1μm,19.0s						
V34A	Guthrie	86.19	42	⇑P	P	01 15 34.0	+0.9
	baz=86,SNR=71						
V34A	Guthrie	86.19	42	eP	P	01 15 33.9	+0.8
	comp=Z,345nm,1.1s						
MELF	Melles	86.23	330	⇑eP	P	01 15 33.8	+0.6
EPF	Esparros	86.24	331	⇑iP	P	01 15 33.8	+0.5
	comp=Z,402nm,1.4s						
EPF	Esparros	86.24	331	⇑iP	P	01 15 33.8	+0.5
EPF				pmax	pmax		
	comp=Z,403nm,1.4s						
EPF	Esparros	86.24	331	⇑iP	P	01 15 33.8	+0.5
	comp=Z,402nm,1.4s						
W33A	Caddo, Fort Co	86.26	44	⇑P	P	01 15 34.6	+1.2
	baz=86,SNR=35						
Y31A	Rekieta Farm,	86.27	45	⇑P	P	01 15 33.9	+0.3
	baz=86,SNR=21						
LABF	Labassere	86.32	331	⇑eP	P	01 15 34.2	+0.5
Z30A	Sanderson Ranc	86.34	46	⇑P	P	01 15 34.1	+0.2
	baz=86,SNR=33						
X32A	Elmer	86.42	44	⇑P	P	01 15 34.2	-0.1
	baz=86,SNR=51						
WMOK	Wichita Mounta	86.42	44	eP	P	01 15 34.6	+0.3
WMOK				pmax	pmax		
	comp=Z,141nm,1.2s						
WMOK				MLR	MLR		
	comp=Z,894nm,19.0s						
WMOK	Wichita Mounta	86.42	44	eP	P	01 15 34.6	+0.3
	comp=Z,141nm,1.2s						
WMOK				LR	LR		
	comp=Z,894nm,19.0s						
129A	Stewart Farms,	86.45	47	⇓P	P	01 15 34.7	+0.2
	baz=86,SNR=11						
228A	UT Block 9, Go	86.45	48	⇑P	P	01 15 35.1	+0.5
	baz=86,SNR=18						
REYF	Montagne du Re	86.47	331	⇑eP	P	01 15 35.1	+0.7
VIEF	Viey	86.48	331	⇑eP	P	01 15 36.3	+1.8
ORDF	Ordiarp	86.53	332	⇑eP	P	01 15 35.1	+0.5
W34A	Bridge Creek,	86.54	43	⇓P	P	01 15 35.6	+0.8
	baz=86,SNR=30						
W34A	Bridge Creek,	86.54	43	eP	P	01 15 35.1	+0.3
	comp=Z,274nm,1.2s						
ATE	Arette	86.56	331	⇑eP	P	01 15 35.4	+0.6
V35A	Meyer Ranch, C	86.58	42	⇑P	P	01 15 35.6	+0.6
	baz=86,SNR=22						
OSSF	Osses	86.61	332	⇑eP	P	01 15 35.5	+0.5
Y32A	R-V Farms, Ver	86.66	45	⇓P	P	01 15 35.8	+0.3
	baz=86,SNR=29						
ETSF	Etsaut	86.67	331	⇑iP	P	01 15 36.9	+1.5
	comp=Z,376nm,1.1s						
ETSF	Etsaut	86.67	331	⇑iP	P	01 15 36.9	+1.5
ETSF				pmax	pmax		
	comp=Z,376nm,1.1s						
ETSF	Etsaut	86.67	331	⇑iP	P	01 15 36.9	+1.5
	comp=Z,376nm,1.1s						
LARF	Larrau	86.70	332	eP	P	01 15 37.0	+1.5
SJPF	Ste Jean	86.72	332	⇑iP	P	01 15 36.1	+0.5
	comp=Z,98nm,0.9s						
SJPF	Ste Jean	86.72	332	⇑iP	P	01 15 36.1	+0.5
SJPF				pmax	pmax		
	comp=Z,98nm,0.9s						
SJPF	Ste Jean	86.72	332	⇑iP	P	01 15 36.1	+0.5
	comp=Z,98nm,0.9s						
X33A	Lawton	86.72	44	⇓P	P	01 15 36.2	+0.4
	baz=86,SNR=14						
AAM	Ann Arbor	86.77	30	eP	P	01 15 36.6	+0.8
AAM				pmax	pmax		
	comp=Z,266nm,1.4s						
AAM				MLR	MLR		
	comp=Z,841nm,19.0s						
AAM	Ann Arbor	86.77	30	eP	P	01 15 36.5	+0.8
	comp=Z,266nm,1.4s						
AAM				LR	LR		
	comp=Z,841nm,19.0s						
Z31A	Sharp Cattle R	86.83	46	⇑P	P	01 15 36.5	+0.2
	baz=87,SNR=28						
130A	Snyder	86.96	47	⇑P	P	01 15 37.1	+0.1
	baz=87,SNR=12						
TUL1	Leonard	86.97	41	⇑P	P	01 15 37.3	+0.4
	baz=87,SNR=47						
TUL1	Leonard	86.97	41	eP	P	01 15 37.4	+0.5
	comp=Z,239nm,1.2s						
229A	Bryant Ranch,	86.99	48	⇓P	P	01 15 37.7	+0.6
	baz=87,SNR=30						
X34A	Smith Ranch, M	87.01	43	⇑P	P	01 15 38.1	+0.9
	baz=87,SNR=38						
Y33A	Hilltop Ranch,	87.08	44	⇓P	P	01 15 37.6	+0.1
	baz=87,SNR=41						
SFIN	Lafayette	87.11	33	⇓P	P	01 15 37.9	+0.4
	baz=87,SNR=27						
SFIN	Lafayette	87.11	33	eP	P	01 15 37.5	0.0
	comp=Z,211nm,1.3s						
Z32A	Haskell	87.19	45	⇓P	P	01 15 38.4	+0.3
	baz=87						
131A	Roby	87.21	46	⇑P	P	01 15 38.4	+0.2
	baz=87,SNR=13						
329A	Wagon Wheel Ra	87.27	48	⇓P	P	01 15 39.1	+0.6
	baz=87,SNR=29						
SLM	Saint Louis	87.28	36	eP	P	01 15 38.6	+0.3
SLM				pmax	pmax		
	comp=Z,230nm,1.3s						
SLM	Saint Louis	87.28	36	eP	P	01 15 38.6	+0.3
	comp=Z,230nm,1.3s						
230A	Sterling City	87.43	47	⇓P	P	01 15 39.7	+0.4
	baz=87,SNR=34						
Y34A	Reagan Ranch,	87.56	44	⇑P	P	01 15 40.1	+0.3
	baz=87,SNR=17						
Z33A	Whitaker Ranch	87.57	45	⇑P	P	01 15 40.0	+0.1
	baz=87,SNR=17						
ABTX	Abilene, Hawle	87.64	46	⇓P	P	01 15 40.4	+0.2
	baz=87,SNR=16						
ABTX	Abilene, Hawle	87.64	46	eP	P	01 15 40.4	+0.2
	comp=Z,152nm,1.4s						
LONY	Lake Ozonia	87.64	23	eP	P	01 15 40.2	+0.2
LONY				LR	LR		
	comp=Z,66nm,1.4s						
LONY				LR	LR		
	comp=Z,1μm,20.0s						
330A	Mertzon	87.77	48	⇓P	P	01 15 41.1	+0.2
	baz=88,SNR=33						
231A	Bronte	87.82	47	⇓P	P	01 15 41.1	0.0
	baz=88,SNR=28						
Z34A	Collier Ranch,	87.94	44	⇑P	P	01 15 41.8	+0.2
	baz=88,SNR=20						
429A	Davenport Ranc	87.98	49	⇑P	P	01 15 41.7	-0.3
	baz=88,SNR=32						
TXAR	Lajitas Array	87.98	51	P	P	01 15 42.5	+0.5
	comp=Z,17nm,0.8s,baz=293,slow=2.3,SNR=110						
133A	Hamilton Ranch	88.03	45	⇓P	P	01 15 42.2	+0.1
	baz=88,SNR=14						
MSEY	Mahe Island	88.10	262	eP	P	01 15 43.2	+0.6
MSEY				pmax	pmax		
	comp=Z,212nm,1.8s						
MSEY				MLR	MLR		
	comp=Z,942nm,20.0s						
MSEY	Mahe Island	88.10	262	P	P	01 15 43.9	+1.2
	SNR=11						
MSEY	Mahe Island	88.10	262	⇓iP	P	01 15 42.6	0.0
	SNR=15						
MSEY	Mahe Island	88.10	262	eP	P	01 15 43.1	+0.6
	comp=Z,212nm,1.8s						
MSEY				LR	LR		
	comp=Z,942nm,20.0s						
529A	Stev Forest Ra	88.19	49	⇓P	P	01 15 43.3	+0.3
	baz=88,SNR=37						
232A	Coleman	88.21	46	⇓P	P	01 15 43.2	+0.2
	baz=88,SNR=48						
430A	Baggett Ranch,	88.22	48	⇑P	P	01 15 43.1	+0.1
	baz=88,SNR=52						
ERPA	Erie	88.22	28	eP	P	01 15 43.2	+0.5
	comp=Z,252nm,1.4s						
ERPA				LR	LR		
	comp=Z,1μm,19.0s						
331A	San Angelo	88.25	47	⇑P	P	01 15 43.1	0.0
	baz=88,SNR=22						
Z35A	Perchaven, San	88.31	44	⇓P	P	01 15 43.2	-0.2
	baz=88,SNR=34						
NCB	Newcomb	88.34	23	eP	P	01 15 43.3	0.0
	comp=Z,401nm,1.9s						
NCB				LR	LR		
	comp=Z,2μm,19.0s						
BLO	Bloomington	88.37	33	eP	P	01 15 44.0	+0.5
BLO				pmax	pmax		
	comp=Z,375nm,1.7s						
BLO	Bloomington	88.37	33	eP	P	01 15 44.0	+0.5
	comp=Z,336nm,1.7s						
PKME	Peaks-Kenny Pk	88.43	19	PFAKE		01 15 50.0	+6.3
PKME				LR	LR		
	comp=Z,1μm,20.0s						
134A	White-Moore Ra	88.49	45	⇑P	P	01 15 44.6	+0.3
	baz=88,SNR=19						
233A	Rising Star	88.50	46	⇑P	P	01 15 44.7	+0.3
	baz=88,SNR=29						
332A	Millersview	88.56	47	⇓P	P	01 15 45.1	+0.5
	baz=88,SNR=73						
ALLY	Alegheny Colle	88.58	28	eP	P	01 15 44.5	0.0
	comp=Z,500nm,1.4s						
MDV	Middlebury	88.60	22	eP	P	01 15 45.0	+0.4
431A	Sonora	88.64	48	⇑P	P	01 15 45.2	+0.2
	baz=88,SNR=38						
530A	J-C Ranch, Com	88.65	49	⇓P	P	01 15 45.7	+0.6
	baz=88,SNR=70						
PMOR	Pomariorio Ree	88.66	112	eP	P	01 15 46.1	+1.0
	comp=Z,208nm,1.5s						
LBNH	Lisbon	88.72	21	eP	P	01 15 46.1	+1.0
LBNH				pmax	pmax		
	comp=Z,32nm,1.0s						
LBNH				MLR	MLR		
	comp=Z,1μm,19.0s						
LBNH	Lisbon	88.72	21	eP	P	01 15 46.0	+1.0
	comp=Z,32nm,1.0s						
LBNH				LR	LR		
	comp=Z,1μm,19.0s						
KEST	Kesra	88.74	321	P	P	01 15 45.3	-0.2
	comp=Z,4.8nm,1.0s,baz=34,slow=5.9,SNR=14						
KEST				LR	LR	01 59 55.5	
	comp=Z,842nm,18.8s,baz=344,slow=39						
KEST	Kesra	88.74	321	eP	P	01 15 45.5	0.0
ACSO	Alum Creek Sta	88.82	30	eP	P	01 15 46.2	+0.6
	comp=Z,219nm,1.1s						
ACSO				LR	LR		
	comp=Z,985nm,19.0s						
135A	Vickery Place,	88.84	44	⇓P	P	01 15 46.2	+0.3
	baz=89,SNR=13						
234A	Clairette	88.91	45	⇓P	P	01 15 46.7	+0.5
	baz=89,SNR=40						
432A	Menard	88.92	47	⇓P	P	01 15 46.6	+0.2
	baz=89,SNR=37						
USIN	University of	88.93	35	eP	P	01 15 47.0	+0.8
	comp=Z,143nm,1.2s						
333A	Richland Sprin	89.00	46	⇓P	P	01 15 47.0	+0.3
	baz=89,SNR=62						
VAH	Vaihoa	89.01	112	eP	P	01 15 47.6	+0.9
	comp=Z,98nm,1.4s						
ACCN	Adirondack Com	89.03	23	eP	P	01 15 47.1	+0.5
	comp=Z,119nm,1.3s						
531A	Rocksprings	89.07	48	⇓P	P	01 15 47.3	+0.2
	baz=89,SNR=29						
PARMO	Parma	89.13	37	eP	P	01 15 48.1	+1.0
MIAR	Mount Ida	89.14	41	eP	P	01 15 47.7	+0.5
MIAR				pmax	pmax		
	comp=Z,134nm,1.0s						
MIAR				MLR	MLR		
	comp=Z,937nm,19.0s						
MIAR	Mount Ida	89.14	41	eP	P	01 15 47.7	+0.5
	comp=Z,134nm,1.0s						
MIAR				LR	LR		
	comp=Z,937nm,19.0s						
JCT	Junction City	89.23	47	eP	P	01 15 47.9	+0.1
JCT				pmax	pmax		
	comp=Z,243nm,1.4s						
JCT				MLR	MLR		
	comp=Z,759nm,20.0s						
JCT	Junction City	89.23	47	⇑P	P	01 15 47.9	+0.1
	baz=89,SNR=38						
JCT	Junction City	89.23	47	eP	P	01 15 47.9	+0.1
	comp=Z,243nm,1.4s						
JCT				LR	LR		
	comp=Z,759nm,20.0s						
WCI	Wyandotte Cave	89.27	34	eP	P	01 15 48.0	+0.2
WCI				pmax	pmax		
	comp=Z,218nm,1.4s						
WCI	Wyandotte Cave	89.27	34	eP	P	01 15 48.0	+0.2
	comp=Z,218nm,1.4s						
WHTX	Lake Whitney,	89.27	45	⇓P	P	01 15 48.4	+0.5
	baz=89,SNR=26						
WHTX	Lake Whitney,	89.27	45	eP	P	01 15 48.4	+0.5
	comp=Z,185nm,1.2s						
PPT	Papeete	89.36	115	P	P	01 15 49.3	+0.9
	comp=Z,36nm,0.9s,baz=355,slow=1.9,SNR=4.4						
PPT				LR	LR	01 49 57.7	
	comp=Z,2μm,20.4s,baz=316,slow=32						
PPT2	Papeete2	89.38	115	eP	P	01 15 49.8	+1.3
	comp=Z,94nm,1.5s						
PPT2	Papeete2	89.38	115	ePP	PP	01 19 15.9	-4.1
	comp=Z,130nm,25.5s						
PPT2				eSKSac	SKSac	01 26 17.0	+0.3
	comp=Z,778nm,24.5s						
PPT2				eS	S	01 26 36.2	-0.5
	comp=Z,2μm,26.2s						
PPT2	Papeete2	89.38	115	eLQ	LQ	01 40 30.9	
	comp=Z,1μm,25.5s						
PPT2				eLR	LR	01 43 55.1	
	comp=Z,10μm,34.8s,baz=316						
334A	Lometa	89.39	46	⇑P	P	01 15 48.7	+0.2
	baz=89,SNR=54						
433A	Art	89.39	47	⇑P	P	01 15 48.4	-0.2
	baz=89,SNR=26						
BINY	Binghamton	89.43	25	eP	P	01 15 48.6	+0.1
	comp=Z,87nm,1.2s						
BINY				LR	LR		
	comp=Z,1μm,20.0s						
532A	Rocksprings	89.45	48	⇑P	P	01 15 49.0	+0.2
	baz=89,SNR=94						
TIAR	Tiarei	89.51	115	eP	P	01 15 50.1	+1.0
	comp=Z,18nm,0.9s						
GNAR	Gosnell	89.60	37	eP	P	01 15 50.7	+1.3
	comp=Z,6μm,1.6s						
631A	Perdido Creek	89.64	48	⇓P	P	01 15 50.1	+0.4
	baz=89,SNR=96						
137A	Heron Place, G	89.65	43	⇓P	P	01 15 50.2	+0.6
	baz=89,SNR=5.4						
HBAR	Harrisburg	89.66	38	eP	P	01 15 50.9	+1.2
GLAT	Glass	89.67	37	eP	P	01 15 50.5	+0.8
PBRG	Braganca	89.70	335	eP	P	01 15 50.4	+0.6
	comp=Z,155nm,1.8s						
TVO	Taravao	89.73	115	eP	P	01 15 51.5	+1.4
	comp=Z,12nm,0.9s						
434A	Burnet	89.78	46	⇓P	P	01 15 50.2	-0.2
	baz=90,SNR=28						
335A	Moody	89.85	45	⇓P	P	01 15 51.0	+0.3
	baz=90,SNR=11						
138A	Matatall Enter	89.93	43	⇑P	P	01 15 52.0	+1.1
	baz=90,SNR=16						
HALT	Halls	89.95	37	eP	P	01 15 52.1	+1.1
533A	Kerrville	89.96	47	⇑P	P	01 15 51.4	+0.2
	baz=90,SNR=46						
632A	Uvalde	90.00	48	⇑P	P	01 15 52.0	+0.6
	baz=90,SNR=32						
PGAV	Gavieira, Arco	90.03	336	eP	P	01 15 52.3	+0.9
336A	Riesel	90.07	45	⇑P	P	01 15 52.1	+0.5
	baz=90						
237A	Washetta, Mont	90.10	44	⇑P	P	01 15 52.5	+0.7
	baz=90						
435B	Jarrell	90.16	46	⇓P	P	01 15 52.2	+0.1
	baz=90,SNR=6.3						
SSPA	Standing Stone	90.24	27	eP	P	01 15 52.9	+0.6
	comp=Z,400nm,1.6s						
534A	Blanco	90.29	47	⇑P	P	01 15 52.6	-0.2
	baz=90,SNR=36						
SNZO	South Karori	90.31	154	PFAKE		01 16 00.0	+7.8
SNZO				LR	LR		
	comp=Z,1μm,20.0s						
633A	Saathoff Ranch	90.36	47	⇑P	P	01 15 53.8	+0.7
	baz=90,SNR=46						
MVO	Moncorvo	90.38	335	eP	P	01 15 53.9	+0.9
	comp=Z,177nm,1.4s						
MVO	Moncorvo	90.38	335	eLQ	LQ	01 48 55.0	
MVO				eLR	LR	01 54 25.2	
	comp=Z,2μm,18.0s						
WVT	Waverly	90.42	36	eP	P	01 15 53.8	+0.6
WVT				pmax	pmax		
	comp=Z,166nm,1.3s						
WVT	Waverly	90.42	36	eP	P	01 15 53.8	+0.6
	comp=Z,166nm,1.3s						
POLO	Lamas de Olo	90.42	335	eP	P	01 15 54.3	+1.0
	comp=Z,129nm,1.5s						
HRV	Adam Dziewonsk	90.43	22	eP	P	01 15 53.7	+0.6
HRV				pmax	pmax		
	comp=Z,185nm,1.3s						
HRV	Adam Dziewonsk	90.43	22	eP	P	01 15 53.7	+0.6
	comp=Z,186nm,1.3s						
238A	Jacksonville	90.44	43	⇓P	P	01 15 54.7	+1.3
	baz=90,SNR=14						
PVRL	Vila Real	90.49	335	eP	P	01 15 54.3	+0.8
	comp=Z,181nm,1.7s						
732A	Laxson Ranch,	90.50	48	⇑P	P	01 15 54.5	+0.8
	baz=90,SNR=22						
436A	Wall Ranch, Ga	90.58	45	⇓P	P	01 15 54.8	+0.7
	baz=90,SNR=7.2						
MEH	Mehetia	90.58	114	eP	P	01 15 55.3	+1.2
	comp=Z,25nm,1.1s						
337A	Centerville	90.61	44	⇑P	P	01 15 55.6	+1.4
	baz=90						
ESDC	Sonseca Array	90.72	332	P	P	01 15 54.9	+0.3
	comp=Z,9.9nm,0.7s,baz=23,slow=3.5,SNR=33						
ESDC				LR	LR	02 01 40.1	
	comp=Z,1μm,18.1s,baz=30,slow=39						
239A	Gary	90.76	43	⇑P	P	01 15 55.9	+1.1
	baz=90,SNR=15						
535A	Dale	90.77	46	⇓P	P	01 15 55.4	+0.5
	baz=90,SNR=6.9						
832A	Faith Ranch, C	90.85	49	⇑P	P	01 15 56.1	+0.8
	baz=91,SNR=33						
634A	China Grove, S	90.87	47	⇑P	P	01 15 56.4	+1.0
	baz=91						
338A	Crockett	90.87	44	⇑P	P	01 15 56.9	+1.6
	baz=91,SNR=10						
NATX	Nacogdoches	90.87	43	eP	P	01 15 56.2	+0.8
	comp=Z,90nm,0.9s						
NATX				LR	LR		
	comp=Z,888nm,20.0s						
437A	Phantom Ranch,

635A	**Leesville**	**91.17**	**47**	⇓P		**P**	**01 15 58.0**	**+1.2**
	baz=91							
734A	**La Parita Cree**	**91.18**	**47**	⇑P		**P**	**01 15 57.9**	**+1.0**
	baz=91,SNR=5.2							
MTE	**Manteigas**	**91.23**	**335**	*e*P		**P**	**01 15 58.0**	**+1.0**
	comp=Z,136nm,1.6s							
MTE	**Manteigas**	**91.23**	**335**	*e*LQ		LQ	01 48 44.2	
MTE				*e*LR		LR	01 52 55.4	
	comp=Z,2μm,18.0s							
MTE	**Manteigas**	**91.23**	**335**	*e*P		**P**	**01 15 56.6**	**-0.4**
	comp=Z,141nm,1.4s							
MTE				LR		LR		
	comp=Z,3μm,19.0s							
BRNJ	**Basking Ridge**	**91.25**	**25**	*e*P		**P**	**01 15 58.6**	**+1.7**
	comp=Z,249nm,1.3s							
339A	**Huntington**	**91.27**	**43**	⇓P		**P**	**01 15 58.0**	**+0.8**
	baz=91,SNR=7.9							
438A	**Sam Houston St**	**91.28**	**44**	⇓P		**P**	**01 15 58.6**	**+1.3**
	baz=91,SNR=18							
537A	**Green Hill Far**	**91.38**	**45**	⇑P		**P**	**01 15 59.1**	**+1.3**
	baz=91							
636A	**Smothers Creek**	**91.47**	**46**	⇑P		**P**	**01 15 59.6**	**+1.4**
	baz=91,SNR=11							
340A	**Bronson**	**91.53**	**43**	⇑P		**P**	**01 15 59.2**	**+0.8**
	baz=91,SNR=8.4							
735A	**Kenedy**	**91.57**	**47**	⇑P		**P**	**01 16 00.2**	**+1.5**
	baz=91,SNR=12							
538A	**Harpers Horsep**	**91.69**	**44**	⇓P		**P**	**01 16 00.8**	**+1.6**
	baz=92							
HKT	**Hockley**	**91.73**	**45**	*e*P		**P**	**01 15 59.8**	**+0.5**
HKT				pmax		pmax		
	comp=Z,34nm,1.4s							
HKT	**Hockley**	**91.73**	**45**	*e*P		**P**	**01 15 59.8**	**+0.5**
	comp=Z,34nm,1.4s							
834A	**Tilden**	**91.75**	**48**	⇑P		**P**	**01 16 01.1**	**+1.6**
	baz=92,SNR=13							
933A	**Laredo**	**91.76**	**49**	⇓P		**P**	**01 16 01.0**	**+1.4**
	baz=92,SNR=12							
PCAS	**Casmilo, Conde**	**91.85**	**335**	*e*P		**P**	**01 15 59.9**	**+0.1**
	comp=Z,144nm,1.4s							
835A	**Beeville**	**92.01**	**47**	⇓P		**P**	**01 16 02.6**	**+1.9**
	baz=92,SNR=8.3							
PMRV	**Marv??o**	**92.07**	**334**	*e*P		**P**	**01 16 01.2**	**+0.4**
	comp=Z,150nm,1.6s							
PMRV	**Marv??o**	**92.07**	**334**	*e*LQ		LQ	01 46 23.6	
PMRV				*e*LR		LR	01 53 52.6	
	comp=Z,2μm,18.0s							
934A	**Benavides**	**92.18**	**48**	⇓P		**P**	**01 16 03.0**	**+1.5**
	baz=92,SNR=7.3							
PTOM	**Tomar**	**92.22**	**335**	*e*P		**P**	**01 16 02.4**	**+0.9**
	comp=Z,148nm,1.4s							
CPCT	**Cooper Cave**	**92.38**	**34**	*e*P		**P**	**01 16 05.5**	**+3.2**
BLA	**Blacksburg**	**92.42**	**30**	*e*P		**P**	**01 16 03.0**	**+0.5**
BLA				pmax		pmax		
	comp=Z,259nm,1.8s							
BLA				MLR		MLR		
	comp=Z,983nm,21.0s							
BLA	**Blacksburg**	**92.42**	**30**	*e*P		**P**	**01 16 03.0**	**+0.5**
	comp=Z,259nm,1.8s							
BLA				LR		LR		
	comp=Z,983nm,21.0s							
TKL	**Tuckaleechee C**	**92.50**	**33**	*e*P		**P**	**01 16 03.4**	**+0.5**
TKL	**Tuckaleechee C**	**92.50**	**33**	*e*P		**P**	**01 16 03.4**	**+0.5**
034A	**Hebbronville**	**92.51**	**49**	⇑P		**P**	**01 16 04.8**	**+1.8**
	baz=92,SNR=49							
CBN	**Corbin Frederi**	**92.61**	**28**	PFAKE			01 16 10.0	+6.7
CBN				LR		LR		
	comp=Z,1μm,19.0s							
PESTR	**Estremoz**	**92.65**	**334**	*e*P		**P**	**01 16 04.1**	**+0.6**
	comp=Z,107nm,1.7s							
PMTG	**Montargil**	**92.66**	**335**	*e*P		**P**	**01 16 04.1**	**+0.6**
	comp=Z,140nm,1.7s							
035A	**Encino**	**92.93**	**48**	⇑P		**P**	**01 16 06.5**	**+1.5**
	baz=93,SNR=8.3							
EVO	**Evora**	**93.09**	**334**	⇑*i*P		**P**	**01 16 06.0**	**+0.5**
	comp=Z,161nm,1.5s							
EVO				*e*R				
	comp=Z,4μm,22.5s							
EVO	**Evora**	**93.09**	**334**	*e*P		**P**	**01 16 06.0**	**+0.5**
	comp=Z,81nm,1.4s							
PBAR	**Barrancos**	**93.10**	**333**	*e*P		**P**	**01 16 06.2**	**+0.6**
	comp=Z,200nm,1.6s							
EVOP	**Sao Brissos**	**93.12**	**334**	⇑*i*P		**P**	**01 16 06.0**	**+0.3**
EVOP				pmax		pmax		
	comp=Z,161nm,1.5s							
EVOP	**Sao Brissos**	**93.12**	**334**	⇑*i*P		**P**	**01 16 06.0**	**+0.3**
	comp=Z,161nm,1.5s							
PACT	**Alcochete**	**93.13**	**335**	*e*P		**P**	**01 16 07.5**	**+1.8**
	comp=Z,469nm,1.6s							
035Z	**Hargill**	**93.32**	**49**	⇑P		**P**	**01 16 08.3**	**+1.5**
	baz=93,SNR=5.5							
LRAL	**Lakeview Retre**	**93.40**	**37**	*e*P		**P**	**01 16 06.2**	**-0.8**
	comp=Z,30nm,1.2s							
TBI	**Tubuai**	**93.57**	**119**	*e*P		**P**	**01 16 08.5**	**+0.7**
	comp=Z,66nm,1.2s							
TBI	**Tubuai**	**93.57**	**119**	*e*PP		PP	01 19 54.3	+1.3
	comp=Z,82nm,26.8s							
TBI				*e*SKSac		**SKSac**	**01 26 41.2**	**+1.1**
	comp=Z,385nm,23.2s							
TBI				*e*SP		**SP**	**01 28 28.1**	**+0.1**
	comp=Z,543nm,27.5s							
TBI				*e*SS		**SS**	**01 33 33.9**	**+1.1**
	comp=Z,382nm,30.8s							
TBI	**Tubuai**	**93.57**	**119**	*e*LR		LR	01 45 54.1	
	comp=Z,3μm,34.0s,baz=316							
PNCL	**Nicolau / Gran**	**93.63**	**335**	*e*P		**P**	**01 16 08.2**	**+0.2**
	comp=Z,98nm,1.8s							
MESJ	**Messejana**	**93.78**	**334**	*e*P		**P**	**01 16 09.1**	**+0.4**
MESJ				AMS		AMS	01 56 07.3	
	comp=E,4μm,18.8s							
MESJ	**Messejana**	**93.78**	**334**	*e*P		**P**	**01 16 09.5**	**+0.8**
	comp=E,147nm,1.4s							
MESJ	**Messejana**	**93.78**	**334**	*e*P		**P**	**01 16 09.1**	**+0.4**
KMSC	**Kings Mountain**	**93.91**	**32**	⇓P		**P**	**01 16 10.0**	**+0.7**
	baz=94,SNR=6.5							
KMSC	**Kings Mountain**	**93.91**	**32**	*e*P		**P**	**01 16 09.6**	**+0.2**
	comp=E,71nm,1.3s							
PCVE	**Castro Verde**	**93.92**	**334**	*e*P		**P**	**01 16 10.5**	**+1.2**
	comp=E,26nm,1.6s							
PVAQ	**Vaqueiros**	**94.02**	**334**	*e*P		**P**	**01 16 10.6**	**+0.8**
	comp=E,89nm,1.6s							
PVAQ	**Vaqueiros**	**94.02**	**334**	*e*LQ		LQ	01 47 03.7	
PVAQ				*e*LR		LR	01 54 39.4	
	comp=E,4μm,20.0s							
PTEO	**Sao Teotonio**	**94.21**	**334**	*e*P		**P**	**01 16 10.0**	**-0.7**
	comp=E,265nm,1.7s							
MORF	**Marmelete**	**94.41**	**334**	*e*P		**P**	**01 16 11.8**	**0.0**
MORF				AMS		AMS	01 56 14.9	
	comp=E,4μm,19.3s							
MORF	**Marmelete**	**94.41**	**334**	*e*P		**P**	**01 16 11.7**	**0.0**
GOGA	**Godfrey**	**94.58**	**34**	PFAKE			01 16 20.0	+7.6
GOGA				LR		LR		
	comp=Z,1μm,19.0s							
CNNC	**Cliffs of the**	**95.10**	**29**	PFAKE			01 16 30.0	+15
CNNC				LR		LR		
	comp=Z,1μm,19.0s							
BRAL	**Brewton**	**95.10**	**38**	*e*P		**P**	**01 16 16.0**	**+1.2**
	comp=Z,77nm,0.8s							
BRAL				LR		LR		
	comp=Z,1μm,20.0s							
TIGA	**Tifton**	**96.24**	**35**	⇑P		**P**	**01 16 21.1**	**+1.0**
	baz=96							
TIGA	**Tifton**	**96.24**	**35**	*e*P		**P**	**01 16 21.0**	**+1.0**
	comp=Z,21nm,0.8s							
RTC	**Rabat Centre**	**96.84**	**332**	PFAKE			01 16 30.0	+7.3
RTC				LR		LR		
	comp=Z,2μm,20.0s							
KMBO	**Kilima Mbogo**	**98.96**	**277**	P		**P**	**01 16 33.0**	**+0.1**
KMBO				pmax		pmax		
	comp=Z,16nm,1.2s							
KMBO	**Kilima Mbogo**	**98.96**	**277**	P		**P**	**01 16 33.0**	**+0.1**
	comp=Z,16nm,1.2s,baz=41,slow=6.0,SNR=30							
KMBO				LR		LR	02 03 34.4	
	comp=Z,589nm,19.6s,baz=33,slow=37							
KMBO	**Kilima Mbogo**	**98.96**	**277**	*e*P		Pdif	01 16 33.3	+0.4
	comp=Z,11nm,1.4s							
MAUS	**Longido**	**100.46**	**276**	*i* P		**PP**	**01 20 50.5**	**+4.3**
MAUS				PKP		**SP**	**01 29 42.7**	**-0.7**
TAM	**Tamanrasset**	**101.32**	**316**	*e*P		**Pdif**	**01 16 43.3**	**+0.1**
TAM				pmax		pmax		
	comp=Z,10.0nm,1.4s							
TAM				MLR		MLR		
	comp=Z,981nm,20.0s							
TAM	**Tamanrasset**	**101.32**	**316**	*e*Pdif		**Pdif**	**01 16 43.3**	**+0.1**
	comp=Z,10nm,1.4s							
TAM				LR		LR		
	comp=Z,981nm,20.0s							
BBSR	**BB Station**	**101.77**	**20**	PFAKE			01 17 00.0	+15
BBSR				LR		LR		
	comp=Z,734nm,19.0s							
RKT	**Rikitea**	**103.06**	**109**	*e*SKSac		**SKSac**	**01 27 30.8**	**+2.6**
	comp=Z,246nm,25.5s							
RKT				*e*SP		**SP**	**01 30 10.8**	**0.0**
	comp=Z,464nm,26.5s							
RKT				*e*SS		**SS**	**01 35 46.4**	**+0.3**
	comp=Z,674nm,32.8s							
RKT	**Rikitea**	**103.06**	**109**	*e*LR		LR	01 50 41.8	
	comp=Z,4μm,33.5s,baz=306							
DODT	**Dodoma, Tanzan**	**103.49**	**274**	*i* P		**PP**	**01 21 07.2**	**-1.8**
TEIG	**Tepich**	**103.59**	**45**	PFAKE			01 17 00.0	+6.9
TEIG				LR		LR		
	comp=Z,717nm,19.0s							
ABPO	**Ambohimpanom**	**103.68**	**257**	PFAKE			01 17 00.0	+6.4
ABPO				LR		LR		
	comp=Z,669nm,22.0s							
DRV	**Dumont d'Urvil**	**109.62**	**179**	PP		PP	01 21 26.0	-27
DRV				SP		SP	01 30 47.0	-30
DRV				SS		SS	01 37 04.0	-10
DRV				L		L	01 47 00.0	
DRV				R			01 53 00.0	
PAF	**Port-aux-Franc**	**109.88**	**220**	SS		SS	01 37 05.0	-13
PAF				R			01 55 00.0	
GRTK	**Grand Turk**	**110.00**	**29**	PFAKE			01 21 30.0	
GRTK				LR		LR		
	comp=Z,1μm,19.0s							
MTDJ	**Mount Denham**	**110.42**	**37**	PFAKE			01 21 30.0	
MTDJ				LR		LR		
	comp=Z,592nm,20.0s							
CASY	**Casey**	**111.33**	**192**	PFAKE			01 21 30.0	
CASY				LR		LR		
	comp=Z,787nm,19.0s							
TORD	**Torodi Ar. Bea**	**111.36**	**314**	Pdiff		**Pdif**	**01 17 28.7**	**+1.0**
	comp=Z,0.5nm,1.0s,baz=19,slow=5.0,SNR=2.4							
TORD				PKiKP		**PKiKP**	**01 21 24.7**	**-1.4**
	comp=Z,3.4nm,1.0s,baz=17,slow=1.4,SNR=12							
TORD				PP		PP	01 21 55.0	-11
	comp=Z,4.1nm,1.1s,baz=25,slow=6.6,SNR=4.5							
TORD				PKPPKP		**PKKPbc**	**01 32 18.9**	**-0.7**
	comp=Z,1.4nm,1.0s,baz=212,slow=2.4,SNR=13							
TORD				PKPPKP		P'P'df	01 40 45.0	-10
	comp=Z,1.4nm,1.2s,baz=243,slow=1.6,SNR=4.6							
SDDR	**Presa de Saban**	**112.27**	**31**	*e*PKPdf			01 21 27.6	
SDDR				LR		LR		
	comp=Z,1μm,21.0s							
JTS	**JuntasAbangare**	**113.61**	**48**	PFAKE			01 21 40.0	
JTS				LR		LR		
	comp=Z,514nm,22.0s							
LSZ	**Lusaka**	**115.05**	**272**	PFAKE			01 21 40.0	+6.8
LSZ				LR		LR		
	comp=Z,1μm,22.0s							
ANWB	**Willy Bob**	**116.55**	**22**	PFAKE			01 21 50.0	+14
ANWB				LR		LR		
	comp=Z,752nm,21.0s							
ITZ	**Itezhi-Tezhi**	**116.94**	**274**	*i* P		**PS**	**01 32 28.6**	**-0.9**
BCIP	**Isla Barro Col**	**117.23**	**44**	PFAKE			01 21 50.0	+13
BCIP				LR		LR		
	comp=Z,469nm,20.0s							
CRZF	**Crozet Islands**	**117.63**	**231**	PP		PKPdf	01 21 58.0	+21
CRZF				SP		SP	01 32 07.0	-24
CRZF				R			01 58 00.0	
KUK	**Kukurantumi**	**118.27**	**312**	*i* P		**PP**	**01 22 55.4**	**+0.8**
FDF	**Fort de France**	**119.53**	**22**	PFAKE			01 21 50.0	+8.2
FDF				LR		LR		
	comp=Z,442nm,19.0s							
SACV	**Santiago Islan**	**119.75**	**340**	PFAKE			01 21 50.0	+7.8
SACV				LR		LR		
	comp=Z,469nm,20.0s							
DBIC	**Dimbokro**	**120.21**	**317**	*e*PKIKP		**PKPdf**	**01 21 41.9**	**-1.2**
DBIC				*e*			01 23 04.9	
DBIC	**Dimbokro**	**120.21**	**317**	PKP		**PKPdf**	**01 21 42.4**	**-0.7**
	comp=Z,6.1nm,0.7s,baz=33,slow=3.9,SNR=13							
DBIC				PP		**PP**	**01 23 03.9**	**-3.9**
	comp=Z,13nm,1.1s,baz=15,slow=5.2,SNR=5.8							
DBIC				PKKPbc		**PKKPbc**	**01 31 50.9**	**+2.0**
	comp=Z,3.3nm,1.0s,baz=189,slow=7.4,SNR=3.3							
DBIC	**Dimbokro**	**120.21**	**317**	*e*PKPdf		**PKPdf**	**01 21 41.9**	**-1.2**
DBIC				PKP		**PKPdf**	**01 21 42.4**	**-0.7**
DBIC				PP		**PP**	**01 23 03.9**	**-3.9**
DBIC				*e*PP		PP	01 23 04.9	-2.9
DBIC				PKKPbc		**PKKPbc**	**01 31 50.9**	**+2.0**
TIC	**Toumodi**	**120.31**	**317**	*e*PKIKP		**PKPdf**	**01 21 42.5**	**-0.8**
	comp=Z,4.9nm,0.2s							
TIC	**Toumodi**	**120.31**	**317**	*e*P		PP	01 23 03.2	-5.3
	comp=Z,63nm,1.4s							
KIC	**Kosan Boka**	**120.42**	**316**	*e*PKIKP		**PKPdf**	**01 21 42.8**	**-0.7**
	comp=Z,70nm,1.3s							
KIC	**Kosan Boka**	**120.42**	**316**	*e*P		**PP**	**01 23 05.9**	**-3.4**
	comp=Z,155nm,1.7s							
LIC	**Lamto**	**120.68**	**317**	⇑*i*PKIKP		**PKPdf**	**01 21 43.4**	**-0.6**
	comp=Z,67nm,1.4s							
LIC				*e*R				
	comp=Z,1μm,20.0s							
LIC	**Lamto**	**120.68**	**317**	*e*PKIKP		**PKPdf**	**01 21 43.1**	**-0.9**
	comp=Z,60nm,1.4s							
LIC	**Lamto**	**120.68**	**317**	*e*P		PP	01 23 06.0	-5.0
	comp=Z,102nm,1.7s							
LIC	**Lamto**	**120.68**	**317**	⇑*i*PKPdf		**PKPdf**	**01 21 43.4**	**-0.6**
VNDA	**Vanda**	**121.39**	**174**	PKP		**PKPdf**	**01 21 43.2**	**-0.2**
	comp=Z,11nm,1.1s,baz=307,slow=3.8,SNR=29							
VNDA				PP		**PP**	**01 23 12.5**	**-3.3**
	comp=Z,7.3nm,1.2s,baz=322,slow=7.1,SNR=3.6							
VNDA				PKKPbc		**PKKPbc**	**01 31 45.9**	**+0.4**
	comp=Z,4.8nm,1.1s,baz=205,slow=2.6,SNR=9.4							
GRGR	**Grenville**	**121.86**	**23**	PFAKE			01 22 00.0	+14
GRGR				LR		LR		
	comp=Z,544nm,20.0s							
SBA	**Scott Base**	**122.10**	**173**	*e*PKIKP		**PKPdf**	**01 21 45.3**	**+0.6**
SBA	**Scott Base**	**122.10**	**173**	*e*PKPdf		**PKPdf**	**01 21 45.3**	**+0.6**
LBTB	**Lobatse**	**123.03**	**265**	*e*PKIKP		**PKPdf**	**01 21 48.1**	**-0.2**
LBTB	**Lobatse**	**123.03**	**265**	*e*PKPdf		**PKPdf**	**01 21 48.1**	**-0.2**
ROSC	**El Rosal**	**123.65**	**40**	PKP		**PKPdf**	**01 21 50.7**	**+0.5**
	comp=Z,5.9nm,0.4s,baz=298,slow=1.7,SNR=17							
ROSC				PP		**PP**	**01 23 31.4**	**-0.2**
	comp=Z,4.1nm,0.4s,baz=328,slow=3.1,SNR=8.4							
TSUM	**Tsumeb**	**125.30**	**277**	PFAKE			01 22 00.0	+7.2
TSUM				LR		LR		
	comp=Z,573nm,19.0s							
BOSA	**Boshof**	**125.37**	**262**	PKP		**PKPdf**	**01 21 52.3**	**-0.4**
	comp=Z,9.6nm,1.1s,baz=55,slow=3.2,SNR=5.8							
BOSA				PP		**PP**	**01 23 42.2**	**-1.6**
	comp=Z,8.4nm,1.1s,baz=36,slow=5.9,SNR=3.8							
OTAV	**Otavalo**	**125.51**	**48**	*e*PKPdf		**PKPdf**	**01 21 54.0**	**+0.1**
OTAV				*e*PP		**PP**	**01 23 47.4**	**+3.1**
OTAV				LR		LR		
	comp=Z,355nm,22.0s							
SUR	**Sutherland**	**130.63**	**261**	PFAKE			01 22 10.0	+7.3
SUR				LR		LR		
	comp=Z,1μm,19.0s							
PTGA	**Pitinga**	**134.53**	**26**	*e*PKPdf		**PKPdf**	**01 22 10.6**	**+0.2**
PTGA				*e*PP		**PP**	**01 24 40.8**	**-1.2**
PTGA				LR		LR		
	comp=Z,298nm,19.0s							
NNA	**Nana**	**136.38**	**55**	PFAKE			01 22 20.0	+6.2
NNA				LR		LR		
	comp=Z,578nm,21.0s							
ASCN	**Ascension**	**137.51**	**318**	PFAKE			01 22 30.0	+14
ASCN				LR		LR		
	comp=Z,2μm,19.0s							
SHEL	**Horse Pasture**	**139.18**	**301**	PFAKE			01 22 30.0	+11
SHEL				LR		LR		
	comp=Z,954nm,19.0s							
SAML	**Samuel**	**140.90**	**35**	*e*PKPpre		PKPpre	01 22 15.5	
SAML				*e*PKPdf		**PKPdf**	**01 22 22.6**	**+0.5**
SAML				*e*PP		**PP**	**01 25 17.7**	**-4.2**
SAML				LR		LR		
	comp=Z,555nm,20.0s							
NVL	**N'lazarevskaya**	**142.10**	**206**	*e*PKHKP		PKPpre	01 22 16.5	
RCBR	**Riachuelo**	**142.37**	**351**	PFAKE			01 22 40.0	+15
RCBR				LR		LR		
	comp=Z,646nm,22.0s							
LPAZ	**La Paz**	**144.82**	**48**	PKIKP		**PKPab**	**01 22 28.9**	**+0.3**
LPAZ				pmax		pmax		
	comp=Z,12nm,0.7s							
LPAZ	**La Paz**	**144.82**	**48**	PKP		**PKPab**	**01 22 28.9**	**+0.3**
	comp=Z,12nm,0.7s,baz=341,slow=3.6,SNR=32							
LPAZ	**La Paz**	**144.82**	**48**	*e*PKPdf		**PKPab**	**01 22 28.0**	**-0.6**
LPAZ				PKP		PKPbc	01 22 28.9	+0.2
SNAA	**Sanae**	**145.94**	**201**	P		**PP**	**01 25 51.7**	**-0.5**
SNAA	**Sanae**	**145.94**	**201**	*e*PKP2		**PKPdf**	**01 22 28.6**	**-0.6**
SNAA				*e*			01 25 50.4	
SNAA	**Sanae**	**145.94**	**201**	*e*PKPdf		**PKPdf**	**01 22 28.6**	**-0.6**
SNAA				*e*PP		**PP**	**01 25 50.4**	**-1.8**
VNA2	**Neumayer--Watz**	**147.56**	**200**	P		**PP**	**01 26 01.6**	**0.0**
VNA3	**Neumayer Olymp**	**147.90**	**199**	P		**PKPdf**	**01 22 32.5**	**0.0**
VNA3	**Neumayer Olymp**	**147.90**	**199**	P		**PP**	**01 26 02.5**	**-1.1**
VNA1	**Neumayer--Stat**	**147.96**	**200**	P		**PKPdf**	**01 22 33.2**	**+0.7**
VNA1	**Neumayer--Stat**	**147.96**	**200**	P		**PP**	**01 26 03.5**	**-0.4**
LVC	**Limon Verde**	**149.34**	**57**	*e*PKPdf		**PKPdf**	**01 22 38.0**	**+1.4**
LVC				*e*PKPbc		**PKiKP**	**01 22 42.2**	**0.0**
LVC				LR		LR		
	comp=Z,1μm,22.0s							
BDFB	**Brasilia**	**151.90**	**13**	PKP		**PKPdf**	**01 22 40.8**	**+0.2**
	comp=Z,29nm,1.2s,baz=335,slow=1.7,SNR=19							
BDFB				PKPbc		**PKPbc**	**01 22 47.4**	**+0.4**
	comp=Z,118nm,1.1s,baz=16,slow=2.9,SNR=56							
BDFB				PP		**PP**	**01 26 25.4**	**-1.2**
	comp=Z,20nm,1.1s,baz=339,slow=8.0,SNR=4.4							
LCO	**Las Campanas**	**152.62**	**68**	*e*PKPbc		**PKPbc**	**01 22 49.6**	**+1.0**
LCO				LR		LR		
	comp=Z,801nm,20.0s							
PLCA	**Paso Flores**	**158.31**	**93**	*e*PKIKP		**PKPdf**	**01 22 47.7**	**-0.8**
PLCA				*e*			01 23 23.6	
PLCA	**Paso Flores**	**158.31**	**93**	*e*PKPdf		**PKPdf**	**01 22 47.7**	**-0.8**
PLCA				*e*PKPab		**PKPab**	**01 23 23.6**	**+0.6**
TRQA	**Tornquist**	**163.62**	**78**	PFAKE			01 23 00.0	+5.7
TRQA				LR		LR		
	comp=Z,718nm,21.0s							
EFI	**East Falkland**	**166.03**	**133**	PFAKE			01 23 10.0	+14
EFI				LR		LR		
	comp=Z,1μm,21.0s							
HOPE	**Hope Point**	**168.51**	**195**	PFAKE			01 23 10.0	+13
HOPE				LR		LR		
	comp=Z,1μm,20.0s							

JMA 30 01:04:53.8±0.2, 43°.18N×138°.66E, h18km±4km, M3.9, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JSH	**Shimam**	**1.15**	**117**	P		Pn	01 05 14.7	-0.3
JSH				*e*S		Sb	01 05 29.1	-0.6
JSK	**Shakotan**	**1.34**	**82**	*e*S		Sn	01 05 34.9	0.0
JYM2	**Yakumo 2**	**1.65**	**130**	*e*S		Sn	01 05 42.8	+0.2
JNB	**Noboribetsu**	**1.89**	**111**	P		Pn	01 05 25.9	+0.8
JNB				*e*S		Sb	01 05 49.9	-1.1
JSR	**Shiriuchi**	**2.10**	**141**	*e*S		Sn	01 05 54.9	+1.2

JMA 30 01:06:53.2±0.2, 43°.21N×138°.73E, h16km, M3.5, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JSH	**Shimam**	**1.12**	**120**	P		Pb	01 07 13.6	-0.6
JSH				*e*S		Sb	01 07 28.4	-0.1
JSK	**Shakotan**	**1.28**	**83**	P		Pn	01 07 16.0	-0.4
JSK				*e*S		Sb	01 07 32.8	-0.4
JYM2	**Yakumo 2**	**1.63**	**132**	*e*S		Sn	01 07 41.6	-0.3
JSR	**Shiriuchi**	**2.09**	**143**	*e*S		Sn	01 07 53.8	+0.5
JHR	**Hokuryu**	**2.24**	**75**	P		Pn	01 07 30.7	+1.0
JHR				*e*S		Sb	01 07 59.4	-1.5

JMA 30 01:09:42.2±0.4, 43°.29N×138°.67E, h19km, M3.5, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JSH	**Shimam**	**1.20**	**122**	*e*S		Sb	01 10 18.5	-0.9
JSK	**Shakotan**	**1.32**	**87**	P		Pn	01 10 05.8	+0.2
JSK				*e*S		Sn	01 10 22.3	-0.3
JHR	**Hokuryu**	**2.27**	**77**	*e*S		Sb	01 10 48.7	-1.5
JSS	**Shosan**	**2.56**	**63**	*e*S		Sn	01 10 55.1	+1.9
JAB	**Ashibetsu**	**2.60**	**84**	*e*S		Sb	01 10 57.5	-2.2

IDC 30 01:34:23.8±6.3, 17°.88S×69°.02W, h160km±39km, mb3.1/2, mb1 3.3/2, mb1mx3.0/16, mbtmp3.5/2, Error ellipse: s-maj=84.4km s-min=57.4km az=16.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.79**	**28**	P		Pn	01 34 57.8	-0.4
	2.9nm,0.3s,baz=207,slow=6.2,SNR=147							
LPAZ				S		Sn	01 35 24.5	0.0
	0.8nm,0.3s,baz=79,slow=18,SNR=4.3							
TORD	**Torodi Ar. Bea**	**76.26**	**71**	P		P	01 45 55.2	-0.1
	0.2nm,0.5s,baz=252,slow=5.2,SNR=4.4							
YKA	**Yellowknife Ar**	**87.75**	**341**	P		P	01 46 53.9	-0.2
	0.2nm,0.5s,baz=133,slow=5.5,SNR=4.1							
MKAR	**Makanchi Array**	**142.72**	**33**	PKP		PKPdf	01 53 39.4	+1.4
	0.1nm,0.6s,baz=320,slow=4.3,SNR=2.4							

*ATH **30** 01:57:49.9, 38°.98N×21°.79E, h18km±1km, MD2.4/6*
*THE **30** 01:57:50.6, 39°.01N×21°.81E, h7km±1km, ML1.9/8, Error ellipse: s-maj=1.1km s-min=0.4km az=113.0*

**CSEM 30 01:57:50.3±0.1, 39°.02N×21°.78E, h5km, MD2.4, Error ellipse: s-maj=3.

LKD2				S	Sb	01 58 21.5	+0.5
RLS	**Riolos of Patr**	**0.99**	**195**	*e*PN	Pg	01 58 09.5	+0.2
RLS	**Riolos of Patr**	**0.99**	**195**	*e*Pn	Pg	01 58 09.5	+0.2
KLV	**Kalavryta, Ach**	**1.02**	**163**	P	Pg	01 58 09.2	-0.7
KLV				S	Sb	01 58 24.4	+0.2
KLV	**Kalavryta, Ach**	**1.02**	**163**	*e*PB	Pg	01 58 10.1	+0.2
KLV				*e*SB	Sb	01 58 25.0	+0.8
KLV	**Kalavryta, Ach**	**1.02**	**163**	P	Pg	01 58 09.2	-0.7
KLV				S	Sb	01 58 24.4	+0.2
KLV	**Kalavryta, Ach**	**1.02**	**163**	*e*Pb	Pg	01 58 10.1	+0.2
KLV				*e*Sb	Sb	01 58 25.0	+0.8
GUR	**Goura**	**1.17**	**158**	*e*PB	Pg	01 58 12.8	0.0
GUR	**Goura**	**1.17**	**158**	*e*Pb	Pg	01 58 12.8	0.0
KFL	**Anninata**	**1.20**	**221**	P	Pg	01 58 13.2	-0.1
KFL				S	Sn	01 58 30.2	-0.2
KFL	**Anninata**	**1.20**	**221**	P	Pg	01 58 13.2	-0.1
KFL				S	Sn	01 58 30.2	-0.2
VLS	**Valsamata**	**1.26**	**228**	*e*PB	Pg	01 58 14.4	-0.1
VLS	**Valsamata**	**1.26**	**228**	*e*Pb	Pg	01 58 14.4	-0.1

GUC 30 02:13:24.1±0.6, 36°.10S×73°.60W, h30km±4km, ML3.5, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.66**	**93**	⇓*i*P		Pb	02 13 36.6	-0.5
COCH				*i* S		Sb	02 13 46.0	-0.1
COCH				IAML			02 13 46.5	
	comp=E,4μm,0.6s							
CCSP	**San Pedro de C**	**0.84**	**152**	⇓*i*P		Pn	02 13 39.4	-0.4
CCSP				*i* S		Sb	02 13 50.7	-0.5
CCSP				IAML			02 13 51.9	
	comp=E,3μm,0.5s							
TALC	**Talca**	**1.75**	**67**	*e*P1		Pn	02 13 53.8	+1.5
TALC				*i* S		Sb	02 14 16.1	-1.0
CLCH	**Cerro Calan**	**3.69**	**44**	*e*P1		Pn	02 14 20.1	+0.8
PEL	**Peldehue**	**3.81**	**40**	*e*P9		Pn	02 14 21.2	+0.4
PEL				*i* S1		Sn	02 15 04.9	+0.4

*ISCJB **30** 02:28:12.7±0.5, 37°.84N±0°.04×72°.81E±0°.06, h127km, mb3.5/3, Error ellipse: s-maj=6.6km s-min=5.4km az=145.9*
*IDC **30** 02:28:13.6±4.3, 37°.91N×72°.78E, h112km±32km, mb3.2/3, mb1 3.4/9, mb1mx3.1/31, mbtmp3.8/9, Error ellipse: s-maj=49.7km s-min=24.1km az=138.0*
*NNC **30** 02:28:18.8±3.5, 38°.27N×72°.52E, h153km±50km, mb2.7, mpv3.5, Error ellipse: s-maj=34.8km s-min=13.2km az=142.0*

ISC 30 02:28:13.6±0.8, 37°.88N±0°.06×72°.78E±0°.06, h127km, n29, σ1s62/36, mb3.4/3, 5C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.24**	**288**	⇓P		**Pn**	**02 29 05.1**	**+1.8**
	11nm,0.3s							
DZET				⇑S		**Sn**	**02 29 42.4**	**+0.7**
	84nm,0.3s							
AML	**Almayashu**	**4.30**	**9**	P		**Pn**	**02 29 18.7**	**+1.1**
	SNR=25							
UCH	**Uchtor**	**4.54**	**17**	P		**Pn**	**02 29 22.0**	**+1.2**
	SNR=9.9							
KZA	**Kyzart**	**4.60**	**24**	P		**Pn**	**02 29 22.3**	**+0.7**
	SNR=11							
MNAS	**Manas**	**4.60**	**357**	⇑P		**Pn**	**02 29 22.7**	**+1.3**
	1.3nm,0.3s							
MNAS				⇓S		**Sn**	**02 30 11.9**	**-2.2**
	38nm,0.7s							
EKS2	**Erkin-Say**	**4.83**	**9**	P		**Pn**	**02 29 26.0**	**+1.5**
	SNR=14							
AAK	**Ala-Archa**	**4.92**	**15**	⇓P		**Pn**	**02 29 26.9**	**+1.2**
	3.5nm,0.3s							
AAK				⇓S		**Sn**	**02 30 20.1**	**-1.7**
	9.7nm,0.7s							
AAK	**Ala-Archa**	**4.92**	**15**	P		**Pn**	**02 29 27.2**	**+1.5**
	SNR=11							
AAK	**Ala-Archa**	**4.92**	**15**	P		**Pn**	**02 29 27.1**	**+1.5**
	2.4nm,0.3s,baz=141,slow=4.3,SNR=24							
AAK				S		**Sn**	**02 30 20.5**	**-1.4**
	2.2nm,0.3s,baz=334,slow=20,SNR=16							
ULHL	**Ulahol**	**5.10**	**30**	P		**Pn**	**02 29 28.9**	**+0.7**
	SNR=6.5							
TKM2	**Tokmak 2**	**5.47**	**22**	⇓P		**Pn**	**02 29 33.4**	**+0.3**
	1.3nm,0.5s							
TKM2				⇓S		**Sn**	**02 30 37.6**	**+2.5**
	2.9nm,0.6s							
KK31	**Karatay Array**	**5.49**	**342**	⇓P		**Pn**	**02 29 34.1**	**+0.9**
	7.8nm,0.4s,baz=157,slow=12							
KK31				⇑S		**Sn**	**02 30 31.1**	**-4.2**
	22nm,0.3s,baz=154,slow=23							
DLH	**Dalhousie**	**5.93**	**153**	*e*P		**Sn**	**02 30 46.0**	**-0.3**
MKAR	**Makanchi Array**	**11.34**	**35**	P		**Pn**	**02 30 51.9**	**+0.1**
	0.1nm,0.3s,baz=224,slow=13,SNR=10							
GEYT	**Alibeck**	**11.59**	**275**	P		**Pn**	**02 30 54.7**	**-0.4**
	1.3nm,0.3s,baz=85,slow=8.1,SNR=9.2							
GEYT				S		**Sn**	**02 32 58.7**	**-4.0**
	1.2nm,0.3s,baz=93,slow=20,SNR=5.8							
KURBB	**Kurchatov Arra**	**13.38**	**16**	P		**Pn**	**02 31 18.0**	**-0.3**
	0.0nm,0.3s,baz=209,slow=12,SNR=4.1							
KKN	**Kakani**	**14.54**	**130**	*e*P		**Pn**	**02 31 33.2**	**-0.3**
	15nm,0.5s							
AB31	**Akbulak array**	**14.66**	**325**	⇑P		**Pn**	**02 31 34.3**	**-0.3**
	1.0nm,0.3s,baz=132,slow=13,SNR=71							
AB31				⇑S		Sn	02 34 01.6	-15
	1.3nm,0.5s,baz=136,slow=23,SNR=7.0							
PKI	**Pulchoki**	**14.77**	**130**	*e*P		**Pn**	**02 31 36.5**	**-0.1**
GUN	**Gumba**	**14.82**	**128**	*e*P		**Pn**	**02 31 35.6**	**-1.5**
JIRN	**Jiri**	**15.19**	**128**	*e*P		**Pn**	**02 31 40.6**	**-1.2**
	14nm,0.4s							
RAMN	**Ramite**	**15.95**	**129**	*e*P		**Pn**	**02 31 49.0**	**-2.1**
	7.0nm,0.5s							
TAPN	**Taplejung**	**16.37**	**126**	*e*P		**Pn**	**02 31 55.8**	**-0.5**
	11nm,0.6s							
AKTO	**Aktyubinsk**	**16.38**	**325**	⇓P		**P**	**02 31 57.5**	**+1.0**
	1.5nm,0.4s							
AKTO	**Aktyubinsk**	**16.38**	**325**	P		**P**	**02 31 57.5**	**+1.0**
	0.9nm,0.3s,baz=122,slow=14,SNR=18							
AKTO				S		Sn	02 34 46.5	-12
	0.1nm,0.3s,baz=154,slow=16,SNR=3.8							
ZALV	**Zalesovo Beam**	**18.08**	**23**	P		**Pn**	**02 32 15.6**	**-0.8**
	0.2nm,0.3s,baz=216,slow=10,SNR=12							
FINES	**FINESS Array B**	**37.16**	**325**	P		**P**	**02 35 13.7**	**+2.0**
	1.6nm,0.9s,baz=107,slow=13,SNR=4.1							
NOA	**NORSAR Array B**	**44.15**	**322**	P		**P**	**02 36 10.4**	**+1.2**
	0.2nm,0.4s,baz=93,slow=7.6,SNR=2.6							
TORD	**Torodi Ar. Bea**	**67.16**	**269**	P		**P**	**02 38 55.5**	**+1.4**
	0.2nm,0.3s,baz=49,slow=6.0,SNR=10							

*IDC **30** 02:34:56.2±2.3, 35°.48S×71°.81W, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.6/16, mbtmp3.5/5, ML3.0/2, Error ellipse: s-maj=50.7km s-min=48.6km az=114.0*
*GUC **30** 02:35:02.7±0.7, 35°.09S×72°.09W, h32km±6km, ML4.0*
*ISCJB **30** 02:35:03.3±0.8, 35°.15S±0°.06×72°.0W±0°.1, h54km±10km, mb3.5/3, Error ellipse: s-maj=19.7km s-min=8.0km az=20.8*

ISC 30 02:35:03.8±1.1, 35°.17S±0°.05×71°.99W±0°.09, h47km±12km, n14, σ0s89/20, mb3.5/3, 3C-4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.38**	**128**	⇓*i*P		**Pn**	**02 35 13.0**	**-0.4**
TALC				*i* S		**Sn**	**02 35 20.2**	**0.0**
NICH	**Los Niches**	**0.65**	**76**	⇓*i*P		**Pn**	**02 35 16.2**	**-0.5**
NICH				*i* S		**Sn**	**02 35 26.2**	**+0.2**
LNCH	**Linares**	**0.75**	**155**	⇑*i*P		**Pn**	**02 35 18.9**	**+0.8**
LNCH				*i* S		**Sn**	**02 35 30.2**	**+1.7**
COCH	**Cobquecura**	**1.16**	**214**	⇓*i*P		**Pn**	**02 35 23.4**	**-0.2**
COCH				*i* S4		**Sn**	**02 35 38.1**	**-0.3**
RCDM	**Rinconada Maip**	**1.94**	**31**	⇓*i*P		**Pn**	**02 35 34.3**	**0.0**
RCDM				*i* S		**Sn**	**02 35 58.7**	**+1.2**
YECH	**El Yeso**	**2.18**	**47**	IAML			02 36 14.4	
	comp=N,1μm,0.5s							
PEL	**Peldehue**	**2.29**	**29**	⇑*i*P		**Pn**	**02 35 39.5**	**+0.4**
PEL				*i* S1		**Sn**	**02 36 07.1**	**+0.9**
PEL				IAML			02 36 18.9	
	comp=E,2μm,0.6s							
ROCH	**El Roble**	**2.33**	**21**	⇑*i*P		**Pn**	**02 35 39.7**	**-0.3**
ROCH				*i* S1		**Sn**	**02 36 08.3**	**+0.7**
ROCH				IAML			02 36 16.4	
	comp=E,1μm,0.4s							
CFAA	**Coronel Fontan**	**4.74**	**43**	Pn		**Pn**	**02 36 12.8**	**0.0**
	comp=E,0.3nm,0.3s,baz=217,slow=13,SNR=3.5							
CFAA				Lg		Lg	02 37 16.9	
	comp=E,1.3nm,0.3s,baz=97,slow=19,SNR=12							
LPAZ	**La Paz**	**19.11**	**11**	P		**Pn**	**02 39 24.6**	**-0.1**
	comp=E,0.0nm,0.3s,baz=170,slow=7.5,SNR=4.0							
SIV	**San Ignacio**	**21.45**	**30**	P		**P**	**02 39 47.0**	**-1.3**
	comp=E,1.5nm,0.6s,baz=213,slow=7.3,SNR=3.7							
TXAR	**Lajitas Array**	**70.77**	**331**	P		**P**	**02 46 16.8**	**+1.5**
	comp=E,0.1nm,0.3s,baz=163,slow=6.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	**84.57**	**70**	P		**P**	**02 47 31.8**	**-0.6**
	comp=E,0.6nm,0.7s,baz=246,slow=5.2,SNR=11							
MKAR	**Makanchi Array**	**157.48**	**51**	PKPab		**PKPab**	**02 55 25.2**	**-1.2**
	comp=E,0.1nm,0.5s,baz=308,slow=4.7,SNR=3.4							

*IDC **30** 03:03:23.1±0.6, 6°.38N×71°.95W, h0km, mb4.1/13, mb1 4.3/17, mb1mx4.1/25, mbtmp4.1/17, ML3.4/4, Error ellipse: s-maj=14.6km s-min=13.0km az=149.0*
*FUNV **30** 03:03:25.2, 6°.06N×72°.23W, h22km, MW4.1*
*ISCJB **30** 03:03:26.5±0.4, 6°.24N±0°.03×71°.97W±0°.04, h33km, mb4.0/13, Error ellipse: s-maj=6.3km s-min=4.5km az=14.0*
*NEIC **30** 03:03:27.2±1.8, 6°.30N×71°.96W, h28km±14km, mb4.2/2, Error ellipse: s-maj=8.2km s-min=6.7km az=107.0*

ISC 30 03:03:28.0±0.5, 6°.21N±0°.05×72°.00W±0°.05, h35km, n45, σ1s28/54, mb4.1/13, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.67**	**349**	⇑*e*P		**Pn**	**03 03 55.2**	**+0.1**
CAPV				*e*S		**Sn**	**03 04 15.8**	**+0.4**
SOCV	**Socops**	**2.35**	**29**	*e*P		**Pn**	**03 04 04.5**	**+0.3**
SOCV				*e*S		**Sn**	**03 04 34.9**	**+2.9**
ELOV	**Elorza**	**2.62**	**72**	*e*P		**Pn**	**03 04 09.0**	**+1.1**
ROSC	**El Rosal**	**2.68**	**240**	Pn		**Pn**	**03 04 09.5**	**+0.5**
	16nm,0.3s,baz=288,slow=20,SNR=26							
ROSC				Lg		Lg	03 04 55.1	
	22nm,0.3s,baz=76,slow=19,SNR=7.1							
VIGV	**El Vigia**	**2.69**	**14**	*e*P		**Pn**	**03 04 09.8**	**+0.9**
VIGV				*e*S		**Sn**	**03 04 42.0**	**+1.7**
SDV	**Santo Domingo**	**2.99**	**27**	*e*Pn		**Pn**	**03 04 13.3**	**+0.3**
SDV				*e*S		**Sn**	**03 04 51.9**	**+4.1**
SANV	**Sanarito**	**4.08**	**37**	*e*P		**Pn**	**03 04 28.6**	**+0.6**
QARV	**Quebrada Arrib**	**4.23**	**20**	*e*P		**Pn**	**03 04 31.1**	**+1.0**
VIRV	**Villa del Rosa**	**4.28**	**355**	*e*P		**Pn**	**03 04 29.3**	**-1.4**
VIRV				*e*S		**Sn**	**03 05 17.9**	**-1.6**
CURV	**Curarigua**	**4.29**	**28**	*e*P		**Pn**	**03 04 31.3**	**+0.5**
TEPV	**Terepaima**	**4.65**	**37**	*e*P		**Pn**	**03 04 36.3**	**+0.4**
BAUV	**El Baul**	**4.78**	**55**	*e*P		**Pn**	**03 04 37.1**	**-0.4**
DABV	**Dabajuro**	**4.87**	**16**	*e*P		**Pn**	**03 04 38.1**	**-0.7**
SIQV	**Siquisique**	**4.92**	**26**	*e*P		**Pn**	**03 04 39.9**	**+0.4**
MAPV	**Macapo**	**5.03**	**44**	*e*P		**Pn**	**03 04 41.6**	**+0.6**
TURV	**Turiamo**	**5.89**	**44**	*e*P		**Pn**	**03 04 52.7**	**-0.2**
MONV	**Montecano**	**6.05**	**19**	*e*P		**Pn**	**03 04 53.7**	**-1.3**
MERV	**Las Mercedes**	**6.41**	**62**	*e*P		**Pn**	**03 05 00.4**	**+0.4**
BIRV	**Birongo**	**7.08**	**53**	*e*P		**Pn**	**03 05 09.3**	**+0.1**
CUPV	**Cepira**	**7.24**	**58**	*e*P		**Pn**	**03 05 11.6**	**+0.1**
PCRV	**Puerto La Cruz**	**8.29**	**61**	*e*P		**Pn**	**03 05 25.7**	**-0.1**
PCRV	**Puerto La Cruz**	**8.29**	**61**	Pn		**Pn**	**03 05 24.2**	**-1.6**
	1.1nm,0.3s,baz=240,slow=8.1,SNR=6.5							
PCRV				Sn		**Sn**	**03 06 58.1**	**-0.2**
	3.4nm,0.3s,baz=300,slow=16,SNR=2.9							
PCRV				Lg		Lg	03 07 43.9	
	baz=164,slow=18,SNR=2.6							
OTAV	**Otavalo**	**8.75**	**228**	*e*Pn		**Pn**	**03 05 34.1**	**+1.5**
	6.7nm,0.8s							
SDDR	**Presa de Saban**	**12.71**	**3**	*e*Pn		**Pn**	**03 06 24.7**	**-1.7**
SDDR				*e*S		**Sn**	**03 08 46.7**	**-0.2**
PTGA	**Pitinga**	**13.85**	**119**	Pn		**Pn**	**03 06 40.1**	**-1.8**
	0.4nm,0.3s,baz=301,slow=16,SNR=3.4							
PTGA				Sn		**Sn**	**03 09 10.6**	**-4.0**
	1.5nm,0.3s,baz=345,slow=20,SNR=5.4							
PTGA				Lg		Lg	03 10 42.4	
	3.0nm,0.3s,baz=211,slow=20,SNR=6.5							
ATAH	**Atahualpa**	**14.71**	**206**	Pn		**Pn**	**03 06 54.8**	**+0.8**
	0.7nm,0.3s,baz=46,slow=6.5,SNR=4.6							
SAML	**Samuel**	**17.44**	**150**	*e*Pn		**Pn**	**03 07 28.5**	**-0.1**
	9.8nm,0.7s							
SAML				*e*S		Sn	03 10 32.7	-9.1
LPAZ	**La Paz**	**22.68**	**170**	P		**P**	**03 08 28.5**	**+1.2**
	9.6nm,0.7s,baz=342,slow=9.6,SNR=28							
LPAZ	**La Paz**	**22.68**	**170**	*e*P		**P**	**03 08 28.3**	**+1.1**
	9.0nm,0.7s							
SIV	**San Ignacio**	**24.57**	**154**	P		**P**	**03 08 46.9**	**+2.1**
	2.9nm,0.5s,baz=332,slow=11,SNR=8.9							
BDFB	**Brasilia**	**32.19**	**133**	P		**P**	**03 09 53.7**	**+0.7**
	1.4nm,0.6s,baz=283,slow=16,SNR=3.2							
TXAR	**Lajitas Array**	**37.70**	**311**	P		**P**	**03 10 40.0**	**-0.5**
	1.0nm,0.7s,baz=126,slow=9.1,SNR=12							
ULM	**Lac du Bonnet**	**48.24**	**340**	P		**P**	**03 12 04.3**	**-1.0**
	5.5nm,0.9s,baz=150,slow=8.0,SNR=11							
PDAR	**Pinedale Array**	**49.22**	**324**	P		**P**	**03 12 13.2**	**-0.1**
	1.1nm,0.8s,baz=125,slow=9.3,SNR=7.6							
YKA	**Yellowknife Ar**	**64.22**	**340**	P		**P**	**03 13 58.6**	**-0.5**
	3.2nm,0.7s,baz=130,slow=6.9,SNR=81							
DBIC	**Dimbokro**	**66.67**	**85**	P		**P**	**03 14 16.7**	**+0.8**
	2.3nm,0.8s,baz=248,slow=5.4,SNR=2.7							
TORD	**Torodi Ar. Bea**	**72.77**	**78**	P		**P**	**03 14 53.7**	**+0.2**
	0.7nm,1.0s,baz=286,slow=5.8,SNR=7.4							
ILAR	**Eielson Array**	**77.98**	**335**	P		**P**	**03 15 22.5**	**0.0**
	1.0nm,0.9s,baz=128,slow=4.1,SNR=8.7							
NB2	**NORSAR Subarra**	**81.31**	**29**	P		**P**	**03 15 41.2**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=268,slow=5.6							
NOA	**NORSAR Array B**	**81.31**	**29**	P		**P**	**03 15 41.8**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=267,slow=5.4,SNR=3.8							
GERES	**GERESS Array B**	**82.54**	**42**	P		**P**	**03 15 47.7**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=205,slow=2.1,SNR=3.0							
ARCES	**ARCESS Array B**	**86.85**	**20**	P		**P**	**03 16 08.1**	**-0.5**
	comp=Z,5.0nm,1.1s,baz=280,slow=5.0,SNR=4.6							
MKAR	**Makanchi Array**	**122.51**	**21**	PKP		**PKPdf**	**03 22 18.9**	**-1.1**
	comp=Z,0.1nm,0.5s,baz=302,slow=4.1,SNR=3.4							
ASAR	**Alice Springs**	**149.64**	**232**	PKPbc		**PKPbc**	**03 23 14.4**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=116,slow=3.4,SNR=9.9							
WRA	**Warramunga Arr**	**151.00**	**239**	PKP		**PKPdf**	**03 23 13.3**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=103,slow=2.2,SNR=8.8							
WRA				PKPbc		**PKPbc**	**03 23 17.5**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=112,slow=2.4,SNR=6.1							

GUC 30 03:39:58.7±0.8, 37°.23S×73°.79W, h16km±6km, ML4.0, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.67**	**55**	⇓*i*P		Pg	03 40 11.1	-0.8
CCSP				*i* S		Sg	03 40 19.3	-1.4
CCSP				IAML			03 40 22.3	
	comp=E,17μm,0.4s							
COCH	**Cobquecura**	**1.36**	**37**	*e*P		Pn	03 40 21.5	-1.5
COCH				*i* S		Sn	03 40 38.3	-2.4
PSCH	**Puerto Saavedr**	**1.59**	**169**	⇓*i*P		Pn	03 40 25.0	-1.2
PSCH				*i* S		Sn	03 40 45.2	-1.2
LNCH	**Linares**	**2.24**	**53**	⇑*i*P		Pn	03 40 35.4	+0.3
LNCH				*i* S		Sn	03 41 03.3	+1.0
VLCH	**Valdivia**	**2.60**	**171**	*i* P4		Pn	03 40 39.6	-0.5

*CSEM **30** 03:45:04.9±0.1, 38°.44N×33°.15E, h10km, MD2.9, Error ellipse: s-maj=3.3km s-min=2.6km az=134.0*

ISK 30 03:45:04.5, 38°.43N×33°.16E, h10km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SULT	**Sultanhani-AKS**	**0.36**	**130**	*e*PG		Pg	03 45 12.1	+0.2
SULT	**Sultanhani-AKS**	**0.36**	**130**	*e*Pg		Pg	03 45 12.1	+0.2
LADK	**Ladik-KONYA**	**0.67**	**250**	*e*PG		Pg	03 45 17.9	+0.3
LADK				*e*SG		Sb	03 45 27.6	-0.2
LADK	**Ladik-KONYA**	**0.67**	**250**	*e*Pg		Pg	03 45 17.9	+0.3
LADK				*e*Sg		Sb	03 45 27.6	-0.2
KONT	**Konya--Tatoy**	**0.80**	**233**	*e*PG		Pb	03 45 20.4	0.0
KONT				*e*SG		Sb	03 45 31.5	+0.2
KONT	**Konya--Tatoy**	**0.80**	**233**	*e*Pg		Pb	03 45 20.5	0.0
KONT				*e*Sg		Sb	03 45 31.5	+0.1
AFSR	**Afşar-Bala (A**	**1.01**	**356**	*e*PG		Pg	03 45 24.2	0.0
AFSR	**Afşar-Bala (A**	**1.01**	**356**	*e*Pg		Pg	03 45 24.2	0.0
KIZT	**Kizilcal**	**1.10**	**294**	*e*PN		Pg	03 45 25.8	0.0
KIZT	**Kizilcal**	**1.10**	**294**	*e*Pn		Pg	03 45 25.8	0.0
BBAL	**Bala**	**1.11**	**359**	*i* P		Pb	03 45 25.9	-0.1
BBAL				*i* S		Sn	03 45 44.9	+3.1
BBAL	**Bala**	**1.11**	**359**	*i* P		Pb	03 45 25.9	-0.1
BBAL				*i* S		Sn	03 45 44.9	+3.1
ANTO	**Ankara**	**1.46**	**349**	*e*PN		Pb	03 45 31.7	-0.2
ANTO	**Ankara**	**1.46**	**349**	*e*Pn		Pb	03 45 31.7	-0.2
LOD	**Lodumlu**	**1.49**	**348**	*e*PN		Pb	03 45 31.9	-0.4
LOD	**Lodumlu**	**1.49**	**348**	*e*Pn		Pb	03 45 31.9	-0.4
CDAG	**Cicekdag**	**1.52**	**38**	*i* P		Pn	03 45 32.4	+0.5
CDAG	**Cicekdag**	**1.52**	**38**	*i* P		Pn	03 45 32.4	+0.5
CDAG				*i* S		Sg	03 45 58.4	+4.7
SVRH	**Sivrihisar-ESK**	**1.63**	**309**	*e*PN		Pn	03 45 33.9	+0.5
SVRH	**Sivrihisar-ESK**	**1.63**	**309**	*e*Pn		Pn	03 45 33.9	+0.5
MERS	**Mersin**	**1.90**	**145**	*e*PN		Pn	03 45 37.8	+0.7
MERS	**Mersin**	**1.90**	**145**	*e*Pn		Pn	03 45 37.8	+0.7
SHUT	**Suhut-Afyon**	**2.05**	**274**	*e*PN		Pn	03 45 39.8	+0.6
SHUT	**Suhut-Afyon**	**2.05**	**274**	*e*Pn		Pn	03 45 39.8	+0.6
CORM	**Corum**	**2.08**	**33**	*e*PN		Pn	03 45 40.4	+0.7
CORM	**Corum**	**2.08**	**33**	*e*Pn		Pn	03 45 40.4	+0.7

*IDC **30** 03:56:48.5±0.9, 32°.46N×92°.66E, h0km, mb3.8/7, mb1 3.8/9, mb1mx3.5/40, mbtmp3.7/9, ML3.4/2, Error ellipse: s-maj=33.0km s-min=19.1km az=53.0*
*ISCJB **30** 03:56:51.6±0.9, 32°.6N±0°.1×92°.7E±0°.2, h33km, mb4.0/6, Error ellipse: s-maj=23.0km s-min=16.0km az=147.7*

ISC 30 03:56:53.8±1.1, 32°.6N±0°.2×92°.7E±0°.2, h35km, n9, σ0s99/8, mb4.0/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.28**	**334**	Pn		**Pn**	**04 00 39.3**	**-0.4**
	0.2nm,0.3s,baz=146,slow=14,SNR=7.9							
SONM	**Songino Array**	**18.44**	**30**	P		**Pn**	**04 01 06.0**	**-0.6**
	0.1nm,0.3s,baz=206,slow=13,SNR=4.7							
KURBB	**Kurchatov Arra**	**20.85**	**334**	P		Pn	04 01 33.1	-1.9
	1.6nm,0.8s,baz=136,slow=12,SNR=14							
SEY	**Seymchan**	**47.81**	**32**	P		**P**	**04 05 28.1**	**+0.6**
	0.9nm,0.3s,baz=0.0,slow=20,SNR=3.0							
AKASG	**Malin Array Be**	**49.21**	**311**	P		**P**	**04 05 38.3**	**-0.1**
	0.2nm,0.4s,baz=76,slow=6.6,SNR=3.3							
FINES	**FINESS Array B**	**50.88**	**325**	P		**P**	**04 05 51.4**	**+0.5**
	1.4nm,1.0s,baz=90,slow=7.5,SNR=3.8							
WRA	**Warramunga Arr**	**65.67**	**137**	P		**P**	**04 07 36.0**	**+1.2**
	0.5nm,0.3s,baz=326,slow=6.1,SNR=4.2							
ASAR	**Alice Springs**	**68.37**	**139**	P		**P**	**04 07 50.4**	**-1.5**
	0.8nm,0.8s,baz=328,slow=6.5,SNR=7.0							
TORD	**Torodi Ar. Bea**	**83.88**	**282**	P		**P**	**04 09 20.4**	**0.0**
	2.0nm,0.7s,baz=50,slow=4.4,SNR=40							

WEL 30 04:04:45.0±0.4, 35°.80S×178°.12E, h194km±5km, ML3.6/3, Error ellipse: s-maj=8.1km s-min=5.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.97**	**188**		PN	Pn	04 05 22.9	+0.2
HAZ					SN	Sn	04 05 52.4	+0.3
WMGZ	**Waiomatatini S**	**2.03**	**173**		PN	Pn	04 05 23.4	+0.1
PUZ	**Puketiti**	**2.27**	**177**		PN	Pn	04 05 25.4	-0.6
PUZ					SN	Sn	04 05 56.7	-1.3
URZ	**Urewera**	**2.58**	**198**		PN	Pn	04 05 29.6	+0.2
TKGZ	**Te Karaka**	**2.64**	**185**		PN	Pn	04 05 30.1	0.0
TKGZ					SN	Sn	04 06 05.8	+0.5
CNGZ	**Carnagh Statio**	**2.68**	**178**		PN	Pn	04 05 30.7	+0.2
RIGZ	**Rimuhau**	**2.91**	**185**		PN	Pn	04 05 33.0	-0.3
RIGZ					SN	Sn	04 06 12.0	+0.8
KNZ	**Kokohu**	**3.23**	**186**		PN	Pn	04 05 36.5	-0.5
ARHZ	**Aropaoanui**	**3.57**	**194**		PN	Pn	04 05 41.7	+0.6
**

ms1mx3.1/19, Error ellipse: s-maj=15.6km s-min=14.7km az=77.0

ISC 30 05:16:13.2±0.4, 31°.47S±0°.04×178°.55W±0°.07, h100km, n157, σ1§97/154, mb5.1/20, 4C-3D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.28**	**14**	*e*P	**Pn**	**05 16 49.3**	**-0.1**
RAO				S	**Sn**	**05 17 16.1**	**-0.9**
RAO	**Raoul Island**	**2.28**	**14**	P	**Pn**	**05 16 49.9**	**+0.6**
	256nm,0.3s,baz=149,slow=21,SNR=9.9						
RAO				S	**Sn**	**05 17 16.1**	**-0.9**
	2μm,0.3s,baz=73,slow=19,SNR=32						
RAO	**Raoul Island**	**2.28**	**14**	*e*Pn	**Pn**	**05 16 49.3**	**-0.1**
RAO				*e*Sn	**Sn**	**05 17 14.3**	**-2.7**
RAO				S	**Sn**	**05 17 16.1**	**-0.9**
MXZ	**Matakaoa Point**	**6.61**	**202**	PN	**Pn**	**05 17 48.5**	**+0.8**
MXZ				SN	**Sn**	**05 18 59.6**	**-1.9**
WMGZ	**Waiomatatini S**	**6.81**	**201**	PN	**Pn**	**05 17 50.8**	**+0.4**
WMGZ				SN	**Sn**	**05 19 06.2**	**-0.2**
HAZ	**Te Kaha**	**6.96**	**205**	PN	**Pn**	**05 17 53.1**	**+0.7**
PUZ	**Puketiti**	**7.09**	**201**	PN	**Pn**	**05 17 53.5**	**-0.8**
PUZ				SN	**Sn**	**05 19 11.2**	**-2.2**
CNGZ	**Carnagh Statio**	**7.49**	**200**	PN	**Pn**	**05 17 59.3**	**-0.3**
OPRZ	**Ohinepanea**	**7.53**	**211**	*e*PN	**Pn**	**05 18 01.6**	**+1.4**
TKGZ	**Te Karaka**	**7.55**	**202**	PN	**Pn**	**05 17 59.8**	**-0.7**
MWZ	**Matawai**	**7.57**	**204**	PN	**Pn**	**05 17 59.5**	**-1.3**
MWZ				SN	**Sn**	**05 19 25.5**	**+0.6**
URZ	**Urewera**	**7.66**	**207**	P	**Pn**	**05 18 01.4**	**-0.5**
	4.2nm,0.3s,baz=272,slow=4.4,SNR=39						
URZ				S	**Sn**	**05 19 25.1**	**-1.8**
	30nm,0.3s,baz=171,slow=23,SNR=9.1						
URZ	**Urewera**	**7.66**	**207**	PN	**Pn**	**05 18 01.3**	**-0.5**
URZ	**Urewera**	**7.66**	**207**	*e*Pn	**Pn**	**05 18 02.5**	**+0.6**
URZ				S	**Sn**	**05 19 25.1**	**-1.8**
RIGZ	**Rimuhau**	**7.83**	**202**	PN	**Pn**	**05 18 02.7**	**-1.5**
KNZ	**Kokohu**	**8.14**	**201**	PN	**Pn**	**05 18 06.9**	**-1.6**
MHGZ	**Mahia Peninsul**	**8.20**	**200**	PN	**Pn**	**05 18 07.8**	**-1.4**
WHHZ	**Waihua**	**8.34**	**203**	PN	**Pn**	**05 18 10.4**	**-0.7**
ARHZ	**Aropaoanui**	**8.58**	**204**	PN	**Pn**	**05 18 12.6**	**-1.9**
BKZ	**Black Stump Fm**	**8.68**	**206**	PN	**Pn**	**05 18 14.5**	**-1.4**
BKZ	**Black Stump Fm**	**8.68**	**206**	*e*Pn	Pn	05 18 18.8	+2.9
MCHZ	**McNeill Hill**	**8.85**	**205**	PN	**Pn**	**05 18 16.4**	**-1.7**
KAHZ	**Kahuranaki**	**9.10**	**203**	PN	**Pn**	**05 18 19.1**	**-2.5**
KRHZ	**Kereru**	**9.14**	**205**	PN	**Pn**	**05 18 19.5**	**-2.6**
PXZ	**Pawanui**	**9.32**	**202**	PN	Pn	05 18 21.3	-3.2
TSZ	**Takapari Road**	**9.66**	**206**	*e*PN	**Pn**	**05 18 26.1**	**-3.1**
BFZ	**Birch Farm**	**10.11**	**203**	PN	Pn	05 18 30.7	-4.6
MRZ	**Mangatainoka R**	**10.33**	**206**	PN	Pn	05 18 33.3	-5.0
MRZ				*e*SN	Sn	05 20 20.5	-12
KIW	**Kapiti Island**	**10.76**	**208**	*e*PN	Pn	05 18 39.1	-4.9
MTW	**Mount Morrison**	**10.79**	**205**	PN	Pn	05 18 39.4	-5.1
NNZ	**Nelson**	**11.70**	**211**	*e*PN	Pn	05 18 52.0	-4.7
NNZ				*e*SN	Sn	05 20 58.2	-7.0
QRZ	**Quartz Range**	**11.79**	**215**	*e*PN	Pn	05 18 54.2	-3.8
CTZ	**Chatham Island**	**12.34**	**173**	*e*PN	**Pn**	**05 19 07.5**	**+2.3**
THZ	**Tophouse**	**12.35**	**211**	PN	**Pn**	**05 19 02.8**	**-2.6**
DSZ	**Denniston Nort**	**12.85**	**214**	PN	**Pn**	**05 19 09.1**	**-2.9**
MSVF	**Nonsavu**	**14.02**	**347**	Pn	**Pn**	**05 19 28.6**	**+1.1**
	284nm,1.1s,SNR=5.5						
MSVF	**Nonsavu**	**14.02**	**347**	*e*P	**Pn**	**05 19 25.4**	**-2.1**
MSVF				pmax	pmax		
	comp=Z,64nm,1.1s						
MSVF	**Nonsavu**	**14.02**	**347**	*e*Pn	**Pn**	**05 19 25.4**	**-2.1**
	comp=Z,64nm,1.1s						
MQZ	**McQueen's Vall**	**14.05**	**207**	PN	Pn	05 19 22.3	-5.3
MQZ				*e*SN	Sn	05 21 48.3	-14
RPZ	**Rata Peaks**	**14.73**	**211**	*e*Pn	**P**	**05 19 39.9**	**+0.1**
ODZ	**Otahua Downs**	**15.97**	**209**	*e*Pn	**P**	**05 19 55.5**	**+2.0**
	comp=Z,472nm,2.8s						
DZM	**Mont Dzumac**	**16.33**	**301**	P	**P**	**05 19 56.9**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=98,slow=15,SNR=13						
ARMA	**Armidale**	**25.56**	**265**	*e*P	**P**	**05 21 36.3**	**+3.4**
	comp=Z,201nm,2.3s						
TBI	**Tubuai**	**27.00**	**80**	*e*LR	LR	05 28 24.9	
	comp=Z,264nm,37.2s						
TBI	**Tubuai**	**27.00**	**80**	*e*T	T	05 49 44.1	
	comp=Z,54nm,0.3s						
EIDS	**Eidsvold**	**27.34**	**275**	*e*P	**P**	**05 21 50.2**	**+1.4**
	comp=Z,54nm,1.5s						
PAE	**Paea**	**29.61**	**69**	*e*T	T	05 52 58.1	
	comp=Z,16nm,0.3s						
PPT2	**Papeete2**	**29.65**	**69**	*e*P	**P**	**05 22 10.1**	**+0.6**
	comp=Z,50nm,1.4s						
PPT2				*e*LR	LR	05 29 54.1	
	comp=Z,271nm,32.2s						
PPT2	**Papeete2**	**29.65**	**69**	*e*T	T	05 53 01.9	
	comp=Z,11nm,0.3s						
PPT	**Papeete**	**29.66**	**69**	LR	LR	05 31 47.5	
	comp=Z,42nm,19.7s,baz=227,slow=32						
TVO	**Taravao**	**29.81**	**70**	*e*T	T	05 53 13.0	
	comp=Z,3.8nm,0.4s						
TIAR	**Tiarei**	**29.85**	**69**	*e*T	T	05 53 16.3	
	comp=Z,3.5nm,0.3s						
MEH	**Mehetia**	**30.71**	**71**	*e*T	T	05 54 21.0	
	comp=Z,26nm,0.3s						
PMOR	**Pomariorio Ree**	**32.44**	**67**	*e*T	T	05 56 29.8	
	comp=Z,4.1nm,0.3s						
VAH	**Vaihoa**	**32.52**	**67**	*e*T	T	05 56 35.2	
	comp=Z,97nm,0.3s						
CTA	**Charters Tower**	**33.52**	**281**	P	**P**	**05 22 44.8**	**+1.4**
	comp=Z,71nm,0.7s,baz=106,slow=10,SNR=62						
CTAO	**Charters Tower**	**33.52**	**281**	*e*P	**P**	**05 22 43.8**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,116nm,1.0s						
CTAO	**Charters Tower**	**33.52**	**281**	*e*P	**P**	**05 22 43.8**	**+0.4**
	comp=Z,116nm,1.0s						
BBOO	**Buckleboo**	**38.23**	**256**	*e*P	**P**	**05 23 23.7**	**+0.2**
	comp=Z,650nm,1.1s						
COEN	**Coen**	**39.12**	**288**	*e*P	**P**	**05 23 32.2**	**+1.1**
	comp=Z,282nm,0.8s						
RKT	**Rikitea**	**39.40**	**89**	*e*T	T	06 05 14.6	
	comp=Z,1.8nm,0.3s						
AS31	**Alice Springs**	**42.59**	**268**	*e*P	**P**	**05 23 59.6**	**0.0**
ASAR	**Alice Springs**	**42.59**	**268**	P	**P**	**05 23 59.8**	**+0.2**
	comp=Z,48nm,0.6s,baz=105,slow=7.6,SNR=568						
ASAR				ScP	**ScP**	**05 29 28.6**	**-3.3**
	comp=Z,4.0nm,0.9s,baz=120,slow=4.2,SNR=9.7						
ASAR				S	**S**	**05 30 11.2**	**-3.9**
	comp=Z,0.8nm,0.8s,baz=106,slow=16,SNR=4.1						
ASAR				LR	LR	05 40 29.6	
	comp=Z,53nm,18.5s,baz=96,slow=34						
WB2	**Warramunga Arr**	**43.67**	**274**	*e*P	**P**	**05 24 07.7**	**-0.5**
WRAB	**Tennant Creek**	**43.67**	**274**	P	**P**	**05 24 08.4**	**+0.1**
	comp=Z,920nm,0.5s						
WRAB	**Tennant Creek**	**43.67**	**274**	⇑*i*P	**P**	**05 24 08.1**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,194nm,0.9s						
WRAB	**Tennant Creek**	**43.67**	**274**	*e*P	**P**	**05 24 08.0**	**-0.2**
WRA	**Warramunga Arr**	**43.68**	**274**	P	**P**	**05 24 08.4**	**+0.1**
	comp=Z,103nm,0.6s,baz=113,slow=7.8,SNR=181						
WRA				LR	LR	05 41 21.1	
	comp=Z,52nm,18.6s,baz=90,slow=34						
FORT	**Forrest**	**45.32**	**256**	*e*P	**P**	**05 24 20.9**	**-0.3**
	comp=Z,35nm,0.9s						
SBA	**Scott Base**	**46.94**	**184**	*e*P	P	05 24 38.9	+5.6
SBA	**Scott Base**	**46.94**	**184**	*e*P	P	05 24 38.9	+5.6
VNDA	**Vanda**	**46.99**	**186**	P	P	05 24 37.6	+4.0
	comp=Z,1.9nm,0.8s,baz=2.6,slow=7.3,SNR=8.2						
QSPA	**South Pole Qui**	**58.64**	**180**	P	P	05 26 03.1	+3.4
	comp=Z,22nm,0.6s,baz=34,slow=1.2,SNR=35						
SYO	**Syowa Base**	**75.97**	**193**	⇑*e*X	**P**	**05 27 48.2**	**-0.5**
SNAA	**Sanae**	**77.10**	**179**	P	**P**	**05 27 56.8**	**+1.6**
SNAA	**Sanae**	**77.10**	**179**	⇑*e*P	**P**	**05 27 57.2**	**+2.0**
SNAA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SNAA	**Sanae**	**77.10**	**179**	*e*P	**P**	**05 27 55.7**	**+0.5**
	comp=Z,17nm,1.1s						
VNA3	**Neumayer Olymp**	**77.27**	**176**	P	**P**	**05 27 57.6**	**+1.6**
VNA2	**Neumayer--Watz**	**77.70**	**177**	P	**P**	**05 28 00.1**	**+1.6**
	baz=185,slow=4.8						
NVL	**N'lazarevskaya**	**77.78**	**184**	*e*P	P	05 28 01.7	+2.8
NVL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
VNA1	**Neumayer--Stat**	**77.93**	**177**	P	**P**	**05 28 01.5**	**+1.9**
MJAR	**Matsushiro Arr**	**78.85**	**326**	LR	LR	05 58 00.4	
	comp=Z,11nm,21.6s,baz=40,slow=32						
MAJO	**Matsushiro**	**78.85**	**326**	*e*P	P	05 28 08.0	+2.8
ERM	**Erimo**	**81.18**	**332**	P	P	05 28 20.5	+3.0
ERM				pmax	pmax		
	comp=Z,34nm,1.4s						
KSRS	**Korea Array**	**84.86**	**320**	P	**P**	**05 28 34.0**	**-2.6**
	comp=Z,1.0nm,0.5s,baz=150,slow=5.2,SNR=4.4						
KSRS				LR	LR	06 02 20.0	
	comp=Z,13nm,19.7s,baz=135,slow=33						
KSAR	**Wonju Array Be**	**84.87**	**320**	P	**P**	**05 28 34.0**	**-2.6**
KSAR	**Wonju Array Be**	**84.87**	**320**	P	**P**	**05 28 34.0**	**-2.6**
QIZ	**Qiongzhong**	**85.03**	**296**	P	**P**	**05 28 40.5**	**+2.6**
QIZ				S	**S**	**05 39 01.0**	**+1.9**
YSS	**Yuzh-Sakhalins**	**85.50**	**335**	*e*P	**P**	**05 28 37.8**	**-1.7**
NJ2	**Nanjing**	**86.58**	**311**	*e*P	P	05 28 48.0	+2.7
NJ2				PMZ			
	comp=Z,30nm,0.7s						
PETK	**Petropavlovsk-**	**86.73**	**346**	P	**P**	**05 28 43.6**	**-1.9**
	comp=Z,2.5nm,0.6s,baz=118,slow=8.6,SNR=4.0						
PETK				LR	LR	06 04 03.3	
	comp=Z,12nm,18.6s,baz=89,slow=33						
EDW2	**Edwards Air Fo**	**87.16**	**46**	P	**P**	**05 28 49.0**	**+0.9**
	baz=87						
ISA	**Isabella, Lake**	**87.39**	**45**	P	**P**	**05 28 49.7**	**+0.5**
	baz=87						
BC3	**Big Chuckawall**	**87.94**	**48**	P	**P**	**05 28 52.6**	**+0.7**
	baz=88						
GLA	**Glamis**	**87.95**	**49**	P	**P**	**05 28 53.5**	**+1.5**
	baz=88						
GSC	**Goldstone, Bar**	**88.17**	**46**	P	**P**	**05 28 53.1**	**+0.2**
	baz=88						
IRM	**Iron Mountain**	**88.46**	**48**	P	**P**	**05 28 55.3**	**+1.0**
	baz=88						
214A	**Organ Pipe Nat**	**88.58**	**51**	P	**P**	**05 28 56.1**	**+1.2**
	baz=89						
PDMCI	**Parker Dam,Lak**	**89.19**	**48**	P	**P**	**05 28 59.1**	**+1.4**
	baz=89						
MDJ	**Mudanjiang**	**89.24**	**326**	P	P	05 29 02.0	+4.4
MDJ				PMZ			
	comp=Z,7.0nm,1.2s						
MDJ				PMZ			
	comp=Z,63nm,6.3s						
Z14A	**Wintersburg**	**89.37**	**50**	P	**P**	**05 29 00.4**	**+1.9**
	baz=89						
Y14A	**Wickenburg**	**89.69**	**49**	P	**P**	**05 29 01.4**	**+1.3**
	baz=90						
W13A	**Hualapai Mount**	**89.86**	**48**	P	**P**	**05 29 01.4**	**+0.4**
	baz=90						
TUC	**Tucson**	**90.15**	**52**	*e*P	**P**	**05 29 00.6**	**-1.7**
TUC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TUC	**Tucson**	**90.15**	**52**	*e*P	**P**	**05 29 00.6**	**-1.7**
	comp=Z,8.3nm,1.0s						
319A	**Douglas**	**90.60**	**53**	P	**P**	**05 29 06.2**	**+1.7**
	baz=91						
X16A	**Lo Mia Camp, P**	**91.00**	**50**	P	**P**	**05 29 07.2**	**+0.9**
	baz=91						
GYA	**Guiyang**	**91.67**	**300**	P	**P**	**05 29 12.0**	**+2.4**
GYA				pP	**pP**	**05 29 37.8**	**+1.9**
GYA				sP	**sP**	**05 29 46.5**	**0.0**
GYA				PP	**PP**	**05 32 54.0**	**+4.3**
GYA				SKS	**SKSac**	**05 39 35.3**	**+2.0**
GYA				S	**ScS**	**05 40 03.0**	**-1.4**
GYA				sS	**sS**	**05 40 44.0**	**-3.3**
GYA				SS	**SS**	**05 46 13.5**	**+1.7**
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,130nm,5.5s						
GYA				LN			
	comp=Z,580nm,19.7s						
GYA				LE			
	comp=Z,510nm,20.2s						
GYA				LZ			
	comp=Z,550nm,18.9s						
U15A	**North Rim**	**91.70**	**48**	P	**P**	**05 29 10.6**	**+1.0**
	baz=92						
BJI	**Beijing**	**93.35**	**316**	P	P	05 29 20.3	+3.5
BJI				PMZ			
	comp=Z,6.0nm,0.4s						
TXAR	**Lajitas Array**	**93.36**	**58**	P	**P**	**05 29 17.2**	**-0.1**
	comp=Z,1.2nm,1.1s,baz=197,slow=3.9,SNR=6.7						
TXAR				PKKPbc	**PKKPdf**	**05 46 21.7**	**-1.3**
	comp=Z,0.4nm,1.0s,baz=104,slow=4.0,SNR=3.9						
ANMO	**Albuquerque**	**94.61**	**52**	⇓P	P	05 29 26.9	+3.9
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**96.64**	**314**	*e*P	**P**	**05 29 34.0**	**+2.0**
HHC				pP	**pP**	**05 30 00.0**	**+1.6**
HHC				sP	**sP**	**05 30 10.5**	**+1.5**
HHC				PP	**PP**	**05 33 31.8**	**+3.6**
HHC				S	**S**	**05 40 43.3**	**-1.4**
HHC				sS	**sS**	**05 41 28.8**	**-1.6**
HHC				SS	**SS**	**05 47 23.5**	**+1.4**
HHC				PMZ			
	comp=Z,14nm,0.7s						
HHC				PMZ			
	comp=Z,230nm,8.7s						
HHC				LN			
	comp=Z,240nm,19.1s						
HHC				LE			
	comp=Z,660nm,18.7s						
LZH	**Lanzhou**	**98.98**	**307**	*e*P	**Pdif**	**05 29 43.8**	**+1.1**
LZH				pP	**pP**	**05 30 10.0**	**+0.9**
LZH				sP	**sP**	**05 30 20.5**	**+0.8**
LZH				PMZ			
	comp=Z,14nm,1.0s						
ILAR	**Eielson Array**	**99.07**	**13**	P	**Pdif**	**05 29 40.8**	**-1.4**
	comp=Z,0.6nm,1.0s,baz=215,slow=4.4,SNR=3.3						
BILL	**Bilibino**	**99.85**	**354**	⇓*e*P	**Pdif**	**05 29 48.9**	**+3.3**
BILL				*e*		05 33 50.9	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.3s						
YKA	**Yellowknife Ar**	**106.61**	**26**	PKiKP	**PKiKP**	**05 34 23.4**	**-2.3**
	comp=Z,0.1nm,0.5s,baz=232,slow=1.7,SNR=3.4						
YKA				PKKPbc	**PKKPbc**	**05 45 44.7**	**-2.5**
	comp=Z,0.3nm,0.6s,baz=38,slow=3.4,SNR=9.5						
WMQ	**Urumqi**	**113.51**	**308**	*e*PKP	**PKiKP**	**05 34 40.5**	**+1.1**
WMQ				sPKP		05 35 15.5	
BOSA	**Boshof**	**116.09**	**203**	PKP	**PKPdf**	**05 34 44.6**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=136,slow=1.4,SNR=3.9						
MKAR	**Makanchi Array**	**118.09**	**310**	PKP	**PKPdf**	**05 34 46.4**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=94,slow=1.2,SNR=7.9						
ZALV	**Zalesovo Beam**	**118.51**	**318**	PKP	**PKPdf**	**05 34 46.1**	**-2.5**
	comp=Z,0.7nm,0.6s,baz=90,slow=1.4,SNR=3.4						
KSH	**Kashi**	**120.37**	**300**	*e*PKP	**PKPdf**	**05 34 56.8**	**+4.0**
KSH				sPKP		05 35 28.0	
KSH				PP	**PP**	**05 36 24.5**	**+3.6**
KSH				PKS	**PKSdf**	**05 38 33.5**	**+3.9**
KSH				SKS	**SKSdf**	**05 42 01.5**	**+5.7**
KSH				SS	**SS**	**05 52 48.3**	**+6.2**
KSH				PPMZ			
	comp=Z,99nm,4.9s						
KSH				LN			
	comp=Z,70nm,4.7s						
KSH				LE			
	comp=Z,83nm,4.3s						
KSH				LZ			
	comp=Z,170nm,5.3s						
KKAR	**Karatay Array**	**125.26**	**303**	*e*PKIKP	**PKPdf**	**05 35 00.4**	**-1.6**
KKAR	**Karatay Array**	**125.26**	**303**	*e*PKPdf	**PKPdf**	**05 35 00.4**	**-1.6**
ARU	**Arti**	**133.61**	**320**	*i* PKIKP	**PKPdf**	**05 35 20.5**	**+3.1**
ARU						05 37 47.6	
ARU				SS	SS	05 55 19.1	-6.3
LVZ	**Lovozero**	**138.71**	**342**	*e*PKIKP	**PKPdf**	**05 35 30.5**	**+3.9**
ARCES	**ARCESS Array B**	**139.53**	**347**	PKhKP	PKPpre	05 35 20.1	
	comp=Z,3.3nm,0.9s,baz=11,slow=1.8,SNR=5.9						
JOF	**Joensuu**	**143.23**	**338**	*e*PKIKP	PKPab	05 35 30.5	-0.2
JOF				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JOF	**Joensuu**	**143.23**	**338**	*e*p	PKPab	05 35 30.5	-0.2
	comp=Z,1.2nm,0.5s						
VRHR	**Novokhopersk**	**144.57**	**315**	*e*PKIKP	PKPbc	05 35 36.0	-0.4
VRHR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,8.0nm,0.6s						
ZEI	**Tsey**	**144.66**	**301**	*i* PKIKP	**PKPab**	**05 35 36.1**	**-1.1**
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KBZ	**Khabaz**	**145.30**	**303**	PKPbc	**PKPdf**	**05 35 37.0**	**-1.9**
	comp=Z,3.4nm,0.7s,baz=244,slow=5.1,SNR=6.8						
KAF	**Kangasniemi**	**145.39**	**340**	*e*PKP2	**PKPdf**	**05 35 35.3**	**-3.2**
KAF				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KAF	**Kangasniemi**	**145.39**	**340**	*e*p	**PKPdf**	**05 35 35.3**	**-3.2**
	comp=Z,9.1nm,0.5s						
KIV	**Kislovodsk**	**145.42**	**303**	*i* PKIKP	**PKPdf**	**05 35 38.4**	**-0.9**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
OBN	**Obninsk**	**145.77**	**324**	*e*PKP2	**PKPdf**	**05 35 38.9**	**-0.5**
OBN				pmax	pmax		
	comp=Z,31nm,1.4s						
FINES	**FINESS Array B**	**145.98**	**339**	PKPbc	**PKPdf**	**05 35 38.6**	**-1.0**
	comp=Z,35nm,0.8s,baz=64,slow=3.2,SNR=87						
VSR	**Storozhevoye**	**146.00**	**317**	*e*PKIKP	**PKPdf**	**05 35 37.8**	**-2.1**
VSR				pmax	pmax		
	comp=Z,20nm,1.0s						
VSR				pmax	pmax		
	comp=N,8.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
NB2	**NORSAR Subarra**	**149.73**	**351**	PKP	**PKPbc**	**05 35 49.1**	**-1.5**
	comp=Z,6.4nm,0.6s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**149.73**	**351**	PKPbc	**PKPbc**	**05 35 49.2**	**-1.5**
	comp=Z,6.5nm,0.7s,baz=12,slow=4.1,SNR=26						
AKASG	**Malin Array Be**	**151.85**	**321**	PKPbc	**PKPbc**	**05 35 54.1**	**-1.7**
	comp=Z,7.2nm,0.8s,baz=52,slow=2.4,SNR=27						
KIEV	**Kiev**	**151.86**	**321**	*e*PKIKP	**PKPbc**	**05 35 53.8**	**-2.1**
KIEV	**Kiev**	**151.86**	**321**	*e*PKPbc	**PKPbc**	**05 35 53.8**	**-2.1**
BRTR	**Keskin Array B**	**152.67**	**297**	PKPbc	**PKPbc**	**05 35 56.4**	**-1.9**
	comp=Z,2.3nm,0.9s,baz=141,slow=3.5,SNR=7.7						
DBIC	**Dimbokro**	**154.63**	**165**	PKPab	**PKPab**	**05 36 18.1**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=153,slow=4.8,SNR=3.5						
STHS	**Stebnicka Huta**	**156.70**	**326**	*e*PKP2	**PKPab**	**05 36 25.0**	**-1.0**
STHS	**Stebnicka Huta**	**156.70**	**326**	*e*PKP	**PKPab**	**05 36 25.0**	**-1.0**
CRVS	**Cervenica-Dubn**	**156.94**	**325**	*e*PKP2	**PKPab**	**05 36 26.0**	**-1.1**
CRVS	**Cervenica-Dubn**	**156.94**	**325**	*e*PKP	**PKPab**	**05 36 26.0**	**-1.1**
CLL	**Collm**	**158.42**	**340**	*e*PKP2	PKPab	05 36 43.0	+10
CLL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CLL	**Collm**	**158.42**	**340**	*e*(P)	PKPab	05 36 43.0	+10
	comp=Z,5.0nm,0.8s						
VYHS	**Vyhne**	**158.48**	**327**	*e*PKP2	**PKPab**	**05 36 32.1**	**-1.7**
VYHS	**Vyhne**	**158.48**	**327**	*e*PKP	**PKPab**	**05 36 32.1**	**-1.7**
GERES	**GERESS Array B**	**160.32**	**335**	PKPab	**PKPab**	**05 36 36.9**	**-4.9**
	comp=Z,0.2nm,0.2s,baz=38,slow=5.0,SNR=2.7						
MOA	**Molln**	**160.94**	**333**	⇓*i* PKPab	**PKPab**	**05 36 43.8**	**-0.7**
	comp=Z,4.2nm,1.3s						
TORD	**Torodi Ar. Bea**	**161.76**	**181**	PKP	**PKPdf**	**05 36 03.0**	**-0.1**
	comp=Z,1.3nm,1.0s,baz=216,slow=1.4,SNR=6.8						
TORD				PKPab	**PKPab**	**05 36 49.5**	**+0.7**
	comp=Z,3.8nm,0.8s,baz=170,slow=4.2,SNR=15						
WTTA	**Wattenberg**	**162.40**	**337**	⇑*i* PKPab	**PKPab**	**05 36 48.2**	**-2.8**
	comp=Z,3.6nm,0.7s						

IDC 30 05:31:47.2±1.5, 0°.63N×128°.11E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/26, mbtmp3.8/4, Error ellipse: s-maj=132.8km s-min=21.9km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.33**	**164**	P	P	05 36 35.5	-0.5
	4.0nm,0.7s,baz=345,slow=11,SNR=12						
ASAR	**Alice Springs**	**24.79**	**167**	P	P	05 37 11.6	+0.4
	1.8nm,0.5s,baz=346,slow=10,SNR=20						
SONM	**Songino Array**	**50.66**	**341**	P	P	05 40 50.4	+1.9
	0.4nm,0.6s,baz=160,slow=8.8,SNR=3.6						
MKAR	**Makanchi Array**	**60.88**	**326**	P	P	05 42 00.2	-1.5
	0.5nm,0.6s,baz=118,slow=8.6,SNR=5.9						

IDC 30 05:50:08.4±31.0, 21°.06S×176°.60W, h366km±271km, mb3.8/3, mb1 4.1/3, mb1mx3.3/15, mbtmp4.5/3, Error ellipse: s-maj=181.2km s-min=116.1km az=123.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.67**	**257**	P	P	05 57 54.7	+0.3
	3.3nm,0.5s,baz=96,slow=7.3,SNR=44						
ASAR				PcP	PcP	05 59 25.4	-0.2
	0.6nm,0.6s,baz=102,slow=3.7,SNR=4.6						
WRA	**Warramunga Arr**	**45.82**	**262**	P	P	05 57 54.9	-0.7
	1.8nm,0.3s,baz=99,slow=8.0,SNR=14						
CMAR	**Chiang Mai Arr**	**91.53**	**289**	P	P	06 02 35.0	+0.1
	1.5nm,0.3s,baz=118,slow=3.0,SNR=7.3						
BVAR	**Borovoye Array**	**120.35**	**320**	PKP	PKPdf	06 08 16.1	-0.2
	0.6nm,0.4s,baz=109,slow=4.0,SNR=4.2						
AKASG	**Malin Array Be**	**144.13**	**332**	PKP	PKPab	06 08 58.9	-0.8
	0.2nm,0.3s,baz=41,slow=4.2,SNR=15						
BRTR	**Keskin Array B**	**148.18**	**313**	PKPbc	PKPbc	06 09 11.4	-0.6
	0.8nm,0.6s,baz=90,slow=4.2,SNR=5.0						
GERES	**GERESS Array B**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**288**	*i*		06 40 40.0	
	baz=106,slow=333,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.73**	**288**	Pg	Pn	06 30 17.5	-1.6
	0.7nm,0.3s,baz=106,slow=9.4,SNR=11						
ZALV				Lg	Lg	06 30 43.8	
	1.1nm,0.3s,baz=105,slow=32,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.27**	**247**	Pn	Pn	06 31 22.1	+0.6
	0.1nm,0.3s,baz=61,slow=13,SNR=2.9						
KURBB				Lg	Lg	06 33 06.4	
	0.0nm,0.3s,baz=64,slow=32,SNR=3.6						
MKAR	**Makanchi Array**	**7.49**	**209**	Pn	Pn	06 31 39.7	+1.4
	0.1nm,0.3s,baz=23,slow=14,SNR=7.0						
MKAR				Lg	Lg	06 33 44.4	
	0.0nm,0.3s,baz=23,slow=32,SNR=6.8						

IDC ***30*** *06:54:30.7±1.2, 36°.48S×73°.03W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.8/33, mbtmp3.7/5, ML2.9/1, MS3.4/3, Ms1 3.4/3, ms1mx3.1/21, Error ellipse: s-maj=43.6km s-min=31.8km az=123.0*
ISCJB ***30*** *06:54:34.7±1.7, 36°.31S±0°.06×73°.3W±0°.1, h33km±18km, mb3.9/3, MS3.6/2, Error ellipse: s-maj=22.1km s-min=6.0km az=24.5*
GUC ***30*** *06:54:35.2±0.4, 36°.33S×73°.16W, h34km±2km, ML4.4*
ISC 30 06:54:35.5±1.7, 36°.36S±0°.08×73°.1W±0°.1, h30km±12km, n18, σ0.95/23, mb3.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.48**	**180**	*i* P	**Pb**	**06 54 45.6**	**-0.1**
CCSP				*i* S	**Sb**	**06 54 53.6**	**+0.9**
CCSP				AML	AML	06 54 54.4	
	comp=E,49μm,0.4s						
LNCH	**Linares**	**1.32**	**68**	*i* P9	**Pn**	**06 54 58.0**	**+0.2**
LNCH				*i* S	**Sb**	**06 55 16.0**	**-0.3**
LNCH				AML	AML	06 55 17.8	
	comp=E,10μm,0.5s						
AGCH	**Angol**	**1.48**	**167**	*i* P	**Pb**	**06 55 01.6**	**-0.9**
AGCH				*i* S	**Sb**	**06 55 21.0**	**+0.1**
TALC	**Talca**	**1.53**	**52**	*e*P9	**Pn**	**06 55 00.7**	**-0.1**
TALC				*i* S	**Sn**	**06 55 20.7**	**+1.0**
NICH	**Los Niches**	**2.04**	**49**	*i* P	**Pn**	**06 55 08.8**	**+1.0**
NICH				*i* S	**Sn**	**06 55 34.3**	**+2.0**
NICH				AML	AML	06 55 53.8	
	comp=N,5μm,0.7s						
VLCH	**Valdivia**	**3.44**	**182**	*i* P9	**Pn**	**06 55 27.5**	**+0.5**
VLCH				*i* S	**Sn**	**06 56 07.7**	**+0.9**
CFAA	**Coronel Fontan**	**6.23**	**42**	Pn	**Pn**	**06 56 04.9**	**-0.5**
	comp=N,0.3nm,0.3s,baz=206,slow=12,SNR=11						
CFAA				Sn	**Sn**	**06 57 14.5**	**-1.2**
	comp=N,0.4nm,0.3s,baz=255,slow=12,SNR=3.1						
CFAA				LR	LR	06 58 42.9	
	comp=N,56nm,19.4s,baz=233,slow=40						
LPAZ	**La Paz**	**20.48**	**14**	P	Pn	06 59 12.7	-1.3
	comp=N,2.2nm,0.9s,baz=139,slow=4.0,SNR=5.4						
SIV	**San Ignacio**	**22.94**	**31**	P	**P**	**06 59 36.7**	**-0.6**
	comp=N,5.4nm,0.9s,baz=227,slow=14,SNR=19						
BDFB	**Brasilia**	**30.41**	**54**	LR	LR	07 14 05.4	
	comp=N,191nm,19.4s,baz=220,slow=39						
RPN	**Rapa Nui**	**32.00**	**276**	LR	LR	07 10 58.9	
	comp=N,101nm,19.1s,baz=135,slow=31						
TXAR	**Lajitas Array**	**71.39**	**332**	P	**P**	**07 05 53.5**	**+0.8**
	comp=N,0.8nm,0.6s,baz=152,slow=8.9,SNR=14						
TORD	**Torodi Ar. Bea**	**85.83**	**70**	P	**P**	**07 07 12.3**	**-0.1**
	comp=N,0.5nm,0.8s,baz=279,slow=4.3,SNR=3.9						
WRA	**Warramunga Arr**	**118.28**	**209**	PKP	**PKPdf**	**07 13 19.9**	**-0.3**
	comp=N,0.4nm,0.4s,baz=164,slow=1.3,SNR=3.9						
BVAR	**Borovoye Array**	**149.58**	**45**	PKPbc	**PKPbc**	**07 14 22.0**	**+0.7**
	comp=N,0.5nm,0.5s,baz=274,slow=2.2,SNR=4.7						
KURBB	**Kurchatov Arra**	**155.16**	**46**	PKPab	**PKPab**	**07 14 50.4**	**+0.5**
	comp=N,0.2nm,0.6s,baz=300,slow=3.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**156.68**	**34**	PKPab	**PKPab**	**07 14 54.2**	**-2.1**
	comp=N,0.3nm,0.4s,baz=319,slow=4.3,SNR=2.9						
MKAR	**Makanchi Array**	**158.93**	**53**	PKP	**PKPdf**	**07 14 29.9**	**-0.2**
	comp=N,0.4nm,0.9s,baz=318,slow=1.6,SNR=3.7						
MKAR				PKPab	**PKPab**	**07 15 06.5**	**+0.1**
	comp=N,0.4nm,0.7s,baz=337,slow=2.2,SNR=3.4						

GUC ***30*** *07:07:00.9±0.7, 35°.76S×73°.93W, h16km±6km, ML5.0*
IDC ***30*** *07:07:03.3±0.9, 35°.89S×73°.34W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/25, mbtmp4.1/9, ML3.6/1, MS4.2/8, Ms1 4.1/8, ms1mx3.9/21, Error ellipse: s-maj=36.0km s-min=21.1km az=107.0*
ISCJB ***30*** *07:07:07.1±0.7, 35°.81S±0°.05×73°.4W±0°.1, h33km, mb4.2/9, MS4.2/7, Error ellipse: s-maj=12.1km s-min=6.5km az=9.8*
NEIC ***30*** *07:07:08.7±0.7, 35°.73S×73°.40W, h35km, mb4.8/5, Error ellipse: s-maj=19.4km s-min=11.6km az=90.0*
ISC 30 07:07:08.5±0.7, 35°.84S±0°.06×73°.59W±0°.09, h35km, n41, σ1.42/37, mb4.2/9, MS4.2/7, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.07**	**159**	⇑*i*P	**Pn**	**07 07 24.9**	**-2.1**
CCSP				*i* S	**Sn**	**07 07 39.4**	**-1.2**
CCSP				AML	AML	07 07 46.2	
	comp=E,31μm,0.5s						
LNCH	**Linares**	**1.61**	**91**	⇑*i*P	**Pn**	**07 07 32.2**	**-2.2**
LNCH				*i* S	Sn	07 07 56.9	+2.9
LNCH				AML	AML	07 08 04.2	
	comp=N,19μm,0.6s						
TALC	**Talca**	**1.65**	**75**	*e*P	**Pn**	**07 07 33.1**	**-1.9**
TALC				*i* S	**Sn**	**07 07 57.5**	**+2.5**
TALC				AML	AML	07 08 01.1	
	comp=E,25μm,0.4s						
NICH	**Los Niches**	**2.10**	**67**	*i* P	**Pn**	**07 07 39.2**	**-1.9**
NICH				*i* S	**Sn**	**07 08 08.9**	**+2.9**
NICH				AML	AML	07 08 17.8	
	comp=E,21μm,0.8s						
CACH	**El Canelo**	**3.00**	**56**	⇑*i*P	**Pn**	**07 07 52.3**	**-1.3**
CHCH	**Chadas Angostu**	**3.07**	**53**	*i* P	**Pn**	**07 07 52.4**	**-2.2**
PLCA	**Paso Flores**	**5.43**	**155**	*e*Pn	**Pn**	**07 08 27.6**	**+0.6**
	comp=E,44nm,0.7s						
CFAA	**Coronel Fontan**	**6.14**	**48**	Pn	**Pn**	**07 08 34.1**	**-2.7**
	comp=E,1.6nm,0.3s,baz=225,slow=9.3,SNR=21						
CFAA				Lg	Lg	07 10 08.9	
	comp=E,0.2nm,0.3s,baz=310,slow=19,SNR=5.4						
LCO	**Las Campanas**	**7.24**	**20**	*e*Pn	Pn	07 08 47.4	-4.6
	comp=E,18nm,0.6s						
TRQA	**Tornquist**	**9.55**	**107**	*e*Pn	**Pn**	**07 09 23.3**	**-0.2**
	comp=E,24nm,1.0s						
USHA	**Ushuaia**	**19.32**	**171**	LR	LR	07 18 59.0	
	comp=E,869nm,19.5s,baz=322,slow=37						
LPAZ	**La Paz**	**20.07**	**15**	P	**P**	**07 11 39.4**	**-0.2**
	comp=E,3.2nm,0.9s,baz=172,slow=9.9,SNR=9.8						
LPAZ	**La Paz**	**20.07**	**15**	*e*P	Pn	07 11 41.0	-0.6
	comp=E,9.0nm,1.0s						
SIV	**San Ignacio**	**22.71**	**33**	P	**P**	**07 12 06.1**	**-1.2**
	comp=E,3.9nm,0.9s,baz=221,slow=16,SNR=12						
BDFB	**Brasilia**	**30.42**	**55**	P	**P**	**07 13 16.0**	**-1.8**
	comp=E,3.3nm,0.8s,baz=107,slow=1.2,SNR=5.8						
VNA3	**Neumayer Olymp**	**48.15**	**157**	P	**P**	**07 15 45.9**	**+1.2**
VNA1	**Neumayer--Stat**	**48.49**	**156**	P	**P**	**07 15 48.3**	**+1.0**
VNA2	**Neumayer--Watz**	**48.82**	**156**	P	**P**	**07 15 51.2**	**+1.3**
	baz=294,slow=9.4						
SNAA	**Sanae**	**50.37**	**157**	P	**P**	**07 16 02.9**	**+1.2**
SNAA	**Sanae**	**50.37**	**157**	*e*P	**P**	**07 16 02.3**	**+0.5**
	comp=E,15nm,1.1s						
RKT	**Rikitea**	**54.14**	**266**	*e*LR	LR	07 32 02.6	
	comp=E,354nm,35.5s						
QSPA	**South Pole Qui**	**54.40**	**180**	P	**P**	**07 16 31.6**	**-0.2**
	comp=E,5.1nm,0.8s,baz=148,slow=1.6,SNR=17						
QSPA	**South Pole Qui**	**54.40**	**180**	*e*P	**P**	**07 16 32.7**	**+1.0**
	comp=E,12nm,1.3s						
TBI	**Tubuai**	**65.67**	**258**	*e*LR	LR	07 37 24.9	
	comp=E,202nm,28.0s						
PPT2	**Papeete2**	**68.73**	**263**	*e*LR	LR	07 38 49.5	
	comp=E,248nm,26.0s						
PPT	**Papeete**	**68.74**	**263**	LR	LR	07 41 43.7	
	comp=E,97nm,19.1s,baz=113,slow=30						
TXAR	**Lajitas Array**	**70.75**	**332**	P	**P**	**07 18 22.4**	**+1.3**
	comp=E,0.2nm,0.5s,baz=147,slow=8.4,SNR=5.0						
TXAR				LR	LR	07 44 55.1	
	comp=E,126nm,19.0s,baz=0.0,slow=32						
MAW	**Mawson**	**71.77**	**164**	LR	LR	07 50 50.0	
	comp=E,272nm,18.2s,baz=238,slow=37						
DBIC	**Dimbokro**	**76.97**	**72**	P	**P**	**07 18 57.5**	**-0.4**
	comp=E,6.2nm,0.8s,baz=190,slow=6.2,SNR=4.9						
DBIC				LR	LR	07 49 48.9	
	comp=E,86nm,20.3s,baz=214,slow=33						
DBIC	**Dimbokro**	**76.97**	**72**	*e*P	**P**	**07 18 57.9**	**+0.1**
	comp=E,13nm,1.1s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**80.33**	**118**	P	**P**	**07 19 16.1**	**-0.4**
	comp=E,2.2nm,0.8s,baz=215,slow=8.6,SNR=3.2						
ECSD	**EROS Data Cent**	**81.93**	**343**	*e*P	**P**	**07 19 25.1**	**+0.9**
	comp=E,7.7nm,1.1s						
PDAR	**Pinedale Array**	**84.85**	**334**	LR	LR	07 54 01.3	
	comp=E,98nm,18.7s,baz=304,slow=33						
TORD	**Torodi Ar. Bea**	**86.02**	**71**	P	**P**	**07 19 44.9**	**-0.8**
	comp=E,1.6nm,1.0s,baz=235,slow=4.9,SNR=7.2						
TORD				LR	LR	07 55 35.4	
	comp=E,84nm,20.3s,baz=260,slow=34						
MDT	**Midelt**	**93.95**	**52**	LR	LR	08 03 06.6	
	comp=E,137nm,19.5s,slow=36						
ABKAR	**Akbulak array**	**143.81**	**54**	*e*PKPdf	PKPbc	07 26 37.3	+0.2
BVAR	**Borovoye Array**	**149.49**	**44**	PKPbc	**PKPdf**	**07 26 50.9**	**+2.0**
	comp=E,1.1nm,0.8s,baz=300,slow=3.3,SNR=6.4						
KURBB	**Kurchatov Arra**	**155.07**	**45**	PKP	**PKPdf**	**07 26 57.8**	**+0.6**
	comp=E,0.2nm,0.4s,baz=321,slow=2.9,SNR=4.2						
KURBB				PKPbc		07 27 06.0	
	comp=E,0.1nm,0.3s,baz=304,slow=2.7,SNR=4.6						
KURBB				PKPab	**PKPab**	**07 27 22.1**	**+0.2**
	comp=E,0.3nm,0.4s,baz=309,slow=4.2,SNR=3.6						
KURK	**Kurchatov**	**155.09**	**45**	PKP	**PKPdf**	**07 26 57.8**	**+0.6**
KURK				PKPbc		07 27 06.0	
KURK				PKPab	**PKPab**	**07 27 22.1**	**+0.2**
ZALV	**Zalesovo Beam**	**156.46**	**33**	PKP	**PKPdf**	**07 26 57.8**	**-1.1**
	comp=E,0.4nm,0.3s,baz=255,slow=4.0,SNR=4.6						
ZALV				PKPab	**PKPab**	**07 27 27.8**	**+0.1**
	comp=E,2.2nm,0.7s,baz=310,slow=5.6,SNR=7.0						
MKAR	**Makanchi Array**	**158.92**	**51**	PKP	**PKPdf**	**07 27 02.7**	**+0.4**
	comp=E,0.3nm,0.7s,baz=316,slow=3.3,SNR=4.5						
MKAR				PKPab	**PKPab**	**07 27 38.0**	**-0.6**
	comp=E,0.6nm,0.8s,baz=285,slow=4.6,SNR=4.1						

DJA 30 07:22:59.6±1.6, 3°.5S±6°.×13°.5E±°, h11km±11km, M3.7/3, MLv3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.99**	**329**	P	Pn	07 23 32.2	-1.0
RKPI				S	Sb	07 23 59.4	-1.2
FAKI	**Fak Fak**	**2.97**	**276**	P	Pn	07 23 46.7	-0.1
FAKI				S	Sn	07 24 23.4	+1.0
SMPI	**Sarmi**	**3.70**	**71**	P	Pn	07 23 57.4	+0.6
SMPI				S	Sn	07 24 42.0	+1.5

ISCJB ***30*** *08:08:55.9±1.4, 43°.16N±0°.04×138°.50E±0°.05, h18km±11km, mb3.6/4, Error ellipse: s-maj=7.0km s-min=6.1km az=19.3*
IDC ***30*** *08:08:55.7±1.1, 43°.20N×138°.53E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.2/45, mbtmp3.5/6, ML2.8/2, Error ellipse: s-maj=29.9km s-min=23.1km az=147.0*
JMA ***30*** *08:08:58.1±0.2, 43°.17N×138°.65E, h27km±4km, M3.6*
ISC 30 08:08:55.2±3.6, 43°.14N±0°.05×138°.54E±0°.04, h2km±23km, n17, σ1.27/26, mb3.8/4, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSH	**Shimam**	**1.22**	**114**	P	**Pb**	**08 09 18.4**	**-0.5**
JSH				*e*S	**Sb**	**08 09 33.0**	**-2.0**
JOSM	**Okushiri--Mats**	**1.26**	**146**	P	**Pn**	**08 09 19.7**	**-0.1**
JOSM				*e*S	**Sb**	**08 09 35.5**	**-0.9**
JSK	**Shakotan**	**1.43**	**81**	P	**Pn**	**08 09 21.3**	**-0.8**
JYM2	**Yakumo 2**	**1.70**	**126**	P	**Pn**	**08 09 26.0**	**+0.2**
JYM2				*e*S	**Sn**	**08 09 46.3**	**-1.7**
JNB	**Noboribetsu**	**1.96**	**109**	P	**Pn**	**08 09 29.6**	**+0.2**
JNB				*e*S	**Sn**	**08 09 53.3**	**-1.2**
JSR	**Shiriuchi**	**2.13**	**138**	P	**Pn**	**08 09 33.3**	**+1.6**
JSR				*e*S	**Sn**	**08 09 58.6**	**-0.1**
JHR	**Hokuryu**	**2.40**	**74**	P	**Pn**	**08 09 35.8**	**+0.4**
JYG	**Yagishiri**	**2.46**	**57**	*e*S	**Sn**	**08 10 04.6**	**-2.2**
JSS	**Shosan**	**2.71**	**61**	P	**Pn**	**08 09 40.7**	**+1.0**
JSS				*e*S	**Sn**	**08 10 11.2**	**-1.9**
JAB	**Ashibetsu**	**2.71**	**81**	P	**Pn**	**08 09 40.7**	**+0.9**
JIW	**Iwasaki**	**2.77**	**156**	P	**Pn**	**08 09 41.2**	**+0.6**
JIW				*e*S	**Sn**	**08 10 13.4**	**-1.2**
ASAJ	**Asahikawa**	**3.10**	**70**	Pn	**Pn**	**08 09 46.5**	**+1.3**
	2.3nm,0.3s,baz=250,slow=8.2,SNR=53						
ASAJ				Sn	**Sn**	**08 10 23.1**	**+0.4**
	3.7nm,0.3s,baz=53,slow=20,SNR=6.9						
USRK	**Ussuriysk Ar.**	**4.87**	**285**	Pn	**Pn**	**08 10 09.2**	**-0.2**
	0.5nm,0.3s,baz=94,slow=14,SNR=5.9						
USRK				Sn	**Sn**	**08 11 03.8**	**-2.5**
	1.0nm,0.3s,baz=93,slow=22,SNR=5.1						
YKA	**Yellowknife Ar**	**59.67**	**31**	P	**P**	**08 19 01.3**	**+0.8**
	0.1nm,0.6s,baz=308,slow=6.6,SNR=6.7						
FINES	**FINESS Array B**	**62.41**	**330**	P	**P**	**08 19 19.8**	**+0.7**
	0.9nm,0.8s,baz=60,slow=8.3,SNR=4.2						
WRA	**Warramunga Arr**	**62.89**	**184**	P	**P**	**08 19 23.9**	**+1.2**
	0.6nm,0.5s,baz=3.3,slow=7.2,SNR=12						
PDAR	**Pinedale Array**	**74.94**	**45**	P	**P**	**08 20 38.0**	**+0.1**
	0.4nm,0.9s,baz=335,slow=4.0,SNR=3.0						

GUC 30 08:12:56.7±0.6, 36°.98S×73°.07W, h17km±2km, ML4.1, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.14**	**346**	⇓*e*P	Pb	08 13 00.9	0.0
CCSP				*e*S	Sb	08 13 03.7	+0.1
CCSP				AML	AML	08 13 04.6	
	comp=E,54μm,0.4s						
AGCH	**Angol**	**0.88**	**161**	*e*P	Pb	08 13 13.0	-0.6
AGCH				*e*S	Sb	08 13 24.2	-0.9
LNCH	**Linares**	**1.63**	**47**	*e*P9	Pn	08 13 23.6	-1.1
LNCH				*e*S	Sn	08 13 44.5	-0.8
TALC	**Talca**	**1.96**	**37**	*e*P	Pn	08 13 29.1	0.0
TALC				*e*S	Sn	08 13 54.3	+1.0
NICH	**Los Niches**	**2.47**	**38**	*e*P	Pn	08 13 37.5	+1.2
NICH				*e*S	Sn	08 14 08.0	+2.0
VLCH	**Valdivia**	**2.83**	**183**	⇓*e*P	Pn	08 13 41.7	+0.6
VLCH				*e*S	Sn	08 14 16.5	+1.7
RCDM	**Rinconada Maip**	**3.94**	**29**	*e*P	Pn	08 13 57.3	+0.8
CLCH	**Cerro Calan**	**4.13**	**31**	*e*P9	Pn	08 13 58.7	-0.5
CLCH				*e*S	Sn	08 14 47.1	0.0
FCH	**Farellones**	**4.29**	**33**	*e*P	Pn	08 14 02.8	+1.1

ISCJB ***30*** *08:14:34.9±0.5, 36°.75N±0°.03×71°.57E±0°.06, h106km, mb3.3/5, Error ellipse: s-maj=7.1km s-min=4.7km az=162.9*
IDC ***30*** *08:14:35.8±3.6, 36°.72N×71°.62E, h110km±32km, mb3.2/5, mb1 3.5/12, mb1mx3.2/45, mbtmp3.8/12, Error ellipse: s-maj=31.3km s-min=19.6km az=164.0*
NNC ***30*** *08:14:42.8±2.9, 37°.32N×71°.37E, h157km±24km, mb3.4, mpv4.3, Error ellipse: s-maj=26.0km s-min=10.4km az=164.0*
ISC 30 08:14:35.5±0.6, 36°.80N±0°.05×71°.58E±0°.06, h106km, n35, σ1.76/40, mb3.3/5, 6C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.96**	**313**	⇑P	**Pn**	**08 15 24.0**	**+3.0**
	15nm,0.2s						
DZET				⇓S	**Sn**	**08 15 57.0**	**+1.0**
	112nm,0.2s						
SFK	**Sufi-Kurgan**	**3.55**	**25**	⇑P	Pn	08 15 32.4	+3.5
	21nm,0.3s						
SFK				⇓S	**Sn**	**08 16 11.5**	**+1.4**
	28nm,0.2s						
AML	**Almayashu**	**5.57**	**16**	P	**Pn**	**08 15 58.3**	**+2.0**
	SNR=216						
MNAS	**Manas**	**5.73**	**7**	⇓P	**Pn**	**08 16 00.2**	**+2.0**
	42nm,0.5s						
MNAS				⇑S	**Sn**	**08 16 59.6**	**-3.1**
	13nm,0.6s						
UCH	**Uchtor**	**5.88**	**22**	P	**Pn**	**08 16 02.4**	**+1.9**
	SNR=46						
DHRM	**DHARAMSHALA**	**5.97**	**138**	*e*P	Pn	08 16 05.9	+4.2
DHRM				*e*S	**Sn**	**08 17 08.9**	**0.0**
DHRM				AML	AML	08 17 11.3	
	comp=N,242nm,0.1s						
DHRM				AML	AML	08 17 13.6	
	comp=E,389nm,0.3s						
KZA	**Kyzart**	**5.99**	**27**	P	**Pn**	**08 16 03.5**	**+1.5**
	SNR=42						
EKS2	**Erkin-Say**	**6.10**	**15**	P	**Pn**	**08 16 05.3**	**+2.1**
	SNR=18						
AAK	**Ala-Archa**	**6.25**	**20**	P	**Pn**	**08 16 07.5**	**+2.2**
	SNR=32						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.25**	**20**	P	**Pn**	**08 16 07.5**	**+2.2**
	comp=E,11nm,0.3s,baz=177,slow=6.3,SNR=115						
AAK				S	**Sn**	**08 17 13.3**	**-1.9**
	comp=E,2.7nm,0.3s,baz=305,slow=17,SNR=12						
KK31	**Karatay Array**	**6.36**	**353**	⇓P	**Pn**	**08 16 08.3**	**+1.8**
	comp=E,20nm,0.5s,baz=176,slow=12,SNR=316						
KK31				S	**Sn**	**08 17 15.7**	**-1.9**
	comp=E,6.4nm,0.3s,baz=178,slow=23,SNR=12						
KBK	**Karagaybulak**	**6.40**	**23**	P	**Pn**	**08 16 10.2**	**+2.8**
	SNR=7.9						
CHMS	**Chumysh**	**6.66**	**20**	P	**Pn**	**08 16 12.6**	**+1.9**
	SNR=12						
USP	**Ospenovka**	**6.84**	**18**	P	**Pn**	**08 16 14.9**	**+1.8**
	SNR=5.4						
TKM2	**Tokmak 2**	**6.85**	**26**	⇑P	**Pn**	**08 16 15.5**	**+2.0**
	comp=E,14nm,0.6s						
TKM2				⇑S	**Sn**	**08 17 29.8**	**-0.2**
	comp=E,5.3nm,0.7s						
TKM2	**Tokmak 2**	**6.85**	**26**	P	**Pn**	**08 16 15.2**	**+1.7**
	SNR=26						
SMLA	**Simla**	**7.31**	**139**	*i* P	Pn	08 16 23.7	+4.1
SMLA				*i* S	**Sn**	**08 17 38.2**	**-2.7**
SMLA				*i* S	**Sn**	**08 17 38.7**	**-2.3**
SMLA				AML	AML	08 17 41.8	
	comp=E,103nm,0.7s						
SMLA				AML	AML	08 17 42.2	
	comp=N,129nm,0.7s						
JOSI	**Joshimath**	**9.10**	**131**	*e*P9	x	08 17 11.7	
JOSI				*e*S	Sn	08 18 40.5	+15
JOSI				AML	AML	08 18 49.4	
	comp=E,106nm,0.2s						
JOSI				AML	AML	08 18 51.0	
	comp=N,158nm,0.8s						
KHET	**Khetri**	**9.40**	**157**	*e*P	**Pn**	**08 16 49.1**	**+1.1**
KHET				*e*S	Sn	08 18 23.6	-8.2
KHET				AML	AML	08 18 29.8	
	comp=N,97nm,0.1s						
KHET				AML	AML	08 18 29.9	
	comp=E,102nm,0.2s						
KUDL	**Kundal**	**9.57**	**153**	*e*P	**Pn**	**08 16 50.9**	**+0.7**
KUDL				*e*S	Sn	08 18 27.3	-8.6
SONA	**Sohna**	**9.70**	**150**	*e*P	**Pn**	**08 16 54.0**	**+2.0**
SONA				*e*S	Sn	08 18 31.6	-7.5
SONA				AML	AML	08 18 37.3	
	comp=E,31nm,0.9s						
SONA				AML	AML	08 18 39.5	
	comp=N,16nm,0.7s						
GEYT	**Alibeck**	**10.78**	**280**	P	**Pn**	**08 17 07.2**	**+0.6**
	comp=N,0.9nm,0.3s,baz=121,slow=8.8,SNR=4.7						
GEYT				S	**Sn**	**08 19 02.2**	**-3.1**
	comp=N,1.7nm,0.3s,baz=231,slow=3.1,SNR=10.0						
AGRA	**Agra**	**10.95**	**149**	*e*S	Sn	08 19 01.6	-8.0
AGRA				AML	AML	08 19 09.3	
	comp=E,84nm,0.3s						
AGRA				AML	AML	08 19 09.6	
	comp=N,41nm,0.4s						
MKAR	**Makanchi Array**	**12.78**	**35**	P	**Pn**	**08 17 32.5**	**-0.7**
	comp=N,0.1nm,0.3s,baz=224,slow=15,SNR=5.1						
KURBB	**Kurchatov Arra**	**14.70**	**18**	P	**P**	**08 18 00.4**	**-0.8**
	comp=N,0.1nm,0.3s,baz=205,slow=10,SNR=8.4						
AB31	**Akbulak array**	**15.06**	**329**	P	**Pn**	**08 18 02.2**	**-0.3**
	comp=N,1.4nm,0.3s,baz=143,slow=13,SNR=100						
AB31				⇓S	Sn	08 20 35.9	-13
	comp=N,1.0nm,0.4s,baz=154,slow=22,SNR=6.8						
BVAR	**Borovoye Array**	**16.25**	**357**	P	**Pn**	**08 18 16.6**	**-0.8**
	comp=N,0.3nm,0.3s,baz=171,slow=10,SNR=7.4						
AKTO	**Aktyubinsk**	**16.77**	**329**	⇓P	**P**	**08 18 24.7**	**+0.6**
	comp=N,6.2nm,1.0s						
AKTO				⇑S	Sn	08 21 17.5	-12
	comp=N,3.6nm,0.8s						
AKTO	**Aktyubinsk**	**16.77**	**329**	P	**P**	**08 18 24.4**	**+0.3**
	comp=N,0.7nm,0.3s,baz=130,slow=8.6,SNR=9.3						
ZALV	**Zalesovo Beam**	**19.45**	**24**	P	**P**	**08 18 54.2**	**+0.7**
	comp=N,0.7nm,0.3s,baz=222,slow=9.5,SNR=19						
SONM	**Songino Array**	**27.78**	**56**	P	**P**	**08 20 15.3**	**+0.9**
	comp=N,0.7nm,0.5s,baz=256,slow=9.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**66.19**	**269**	P	**P**	**08 25 12.7**	**+0.6**
	comp=N,0.2nm,0.6s,baz=45,slow=4.3,SNR=2.7						
YKA	**Yellowknife Ar**	**80.93**	**3**	P	**P**	**08 26 37.8**	**+0.2**
	comp=N,0.2nm,0.5s,baz=351,slow=5.5,SNR=9.2						
WRA	**Warramunga Arr**	**81.75**	**122**	P	**P**	**08 26 41.4**	**-1.2**
	comp=N,0.2nm,0.4s,baz=306,slow=8.0,SNR=4.9						
ASAR	**Alice Springs**	**84.04**	**125**	P	**P**	**08 26 54.2**	**-0.1**
	comp=N,0.7nm,0.9s,baz=322,slow=4.2,SNR=4.6						

CSEM ***30*** *08:45:24.0, 33°.99N×25°.61E, h30km, MD3.6*
ATH ***30*** *08:45:24.0,

YKA Yellowknife Ar 78.64 342 P **P 08 57 24.5 +1.1**
0.1nm,0.7s,baz=57,slow=7.4,SNR=3.1

*IDC **30** 08:49:40.0±2.4,54°.28N×86°.63E,h0km,mb1 3.4/3, mb1mx2.9/53,mbtmp3.4/3,ML3.1/3,Error ellipse: s-maj=19.6km s-min=11.7km az=60.0*
*NNC **30** 08:49:40.9±2.3,54°.15N×86°.74E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=19.0km s-min=15.2km az=173.0*

ISC 30 08:49:40.2±4.3,54°.5N±0°.2×86°.9E±0°.2,h35km,n8,
σ1§66/12,3C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**246**	*i*		08 57 20.0	
	baz=72,slow=334,SNR=3.3						
ZALV	**Zalesovo Beam**	**1.32**	**246**	Pg	Pn	08 49 59.8	-2.3
	2.6nm,0.3s,baz=69,slow=16,SNR=44						
ZALV				Lg	Lg	08 50 17.4	
	4.8nm,0.3s,baz=74,slow=29,SNR=15						
KURK	**Kurchatov**	**6.29**	**236**	⇑Pn	**Pn**	**08 51 11.2**	**+0.9**
	1.8nm,0.6s						
KURK				⇓Sn	**Sn**	**08 52 22.5**	**+1.6**
	0.8nm,0.5s						
KURK				⇓Lg	Lg	08 52 55.7	
	1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**6.39**	**236**	⇑Pn	**Pn**	**08 51 12.7**	**+0.9**
	5.3nm,0.5s						
KURBB				⇓Sn	**Sn**	**08 52 24.1**	**+0.6**
	5.9nm,0.6s						
KURBB				⇓Lg	Lg	08 52 58.6	
	11nm,0.7s						
KURBB	**Kurchatov Arra**	**6.39**	**236**	Pn	**Pn**	**08 51 12.9**	**+1.1**
	0.3nm,0.3s,baz=54,slow=14,SNR=46						
KURBB				Sn	**Sn**	**08 52 24.3**	**+0.8**
	0.2nm,0.3s,baz=49,slow=25,SNR=4.8						
KURBB				Lg	Lg	08 52 54.2	
	0.1nm,0.3s,baz=49,slow=32,SNR=4.8						
MK31	**Makanchi Array**	**8.24**	**202**	⇓Pn	**Pn**	**08 51 37.7**	**+0.6**
	0.4nm,0.6s,baz=24,slow=10,SNR=7.9						
MK31				⇓Sn	**Sn**	**08 53 07.5**	**-1.5**
	0.7nm,0.5s,baz=200,slow=25,SNR=8.3						
MK31				⇑Lg	Lg	08 53 52.2	
	3.3nm,0.9s,baz=23,slow=31,SNR=5.2						
MKAR	**Makanchi Array**	**8.24**	**202**	Pn	**Pn**	**08 51 37.9**	**+0.7**
	0.2nm,0.3s,baz=26,slow=14,SNR=9.3						
MKAR				Sn	**Sn**	**08 53 08.0**	**-1.0**
	0.6nm,0.3s,baz=22,slow=25,SNR=15						
MKAR				Lg	Lg	08 53 52.4	
	0.1nm,0.3s,baz=21,slow=32,SNR=2.3						
BVAR	**Borovoye Array**	**9.87**	**268**	Pn	**Pn**	**08 52 00.9**	**+1.4**
	0.3nm,0.3s,baz=70,slow=15,SNR=6.0						
BVAR				Sn	**Sn**	**08 53 45.4**	**-3.5**
	0.3nm,0.3s,baz=78,slow=24,SNR=5.9						

IDC 30 09:05:49.6±2.0,54°.00N×86°.50E,h0km,mb1 3.3/3, mb1mx3.0/54,mbtmp3.3/3,ML3.0/3,Error ellipse: s-maj=17.3km s-min=10.4km az=68.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**268**	*i*		09 12 40.0	
	baz=88,slow=344,SNR=0.5						
ZALV	**Zalesovo Beam**	**0.99**	**268**	Pg	Pg	09 06 06.7	-2.0
	2.5nm,0.3s,baz=88,slow=16,SNR=26						
ZALV				Lg	Lg	09 06 22.4	
	4.1nm,0.3s,baz=88,slow=30,SNR=16						
KURBB	**Kurchatov Arra**	**5.95**	**239**	Pn	Pn	09 07 19.6	+0.8
	0.2nm,0.3s,baz=55,slow=13,SNR=24						
KURBB				Sn	Sn	09 08 27.8	+0.3
	0.0nm,0.3s,baz=52,slow=25,SNR=2.4						
KURBB				Lg	Lg	09 09 00.6	
	0.0nm,0.3s,baz=52,slow=33,SNR=3.6						
MKAR	**Makanchi Array**	**7.70**	**202**	Pn	Pn	09 07 43.9	+0.9
	0.5nm,0.3s,baz=26,slow=13,SNR=31						
MKAR				Sn	Sn	09 09 10.6	-0.3
	0.1nm,0.3s,baz=19,slow=26,SNR=4.2						
MKAR				Lg	Lg	09 09 55.3	
	0.1nm,0.3s,baz=18,slow=32,SNR=3.1						
BVAR	**Borovoye Array**	**9.65**	**271**	Pn	Pn	09 08 08.8	-0.8
	0.1nm,0.3s,baz=83,slow=14,SNR=2.4						
BVAR				Lg	Lg	09 10 52.9	
	0.2nm,0.3s,baz=113,slow=26,SNR=4.4						

*ISCJB **30** 09:14:06.8±0.3,31°.03N±0°.03×114°.11W±0°.03,h10km, mb4.1/16,MS4.0/6,Error ellipse: s-maj=4.8km s-min=2.9km az=20.7*
*IDC **30** 09:14:07.8±0.9,31°.05N×114°.06W,h0km,mb4.0/11, mb1 4.0/18,mb1mx3.9/53,mbtmp3.8/18,ML3.6/7,MS4.1/11, Ms1 4.1/11,ms1mx3.9/22,Error ellipse: s-maj=18.9km s-min=10.4km az=36.0*
*MEX **30** 09:14:08.4±0.3,31°.55N×113°.79W,h3km±12km,MD4.9*
*NEIC **30** 09:14:10.5±0.6,31°.28N×114°.05W,h10km,mb4.6/8,Error ellipse: s-maj=11.0km s-min=5.0km az=23.0*
NEIC Felt at Puerto Penasco, Sonora and at Tucson, Arizona.
*BJI **30** 09:14:15.9,31°.60N×114°.05W,h10km,mB4.8/1,mb4.6/2, Ms4.7/1,Ms7 4.4/2*
*ECX **30** 09:14:20.5±0.6,31°.35N×115°.15W,h8km,ML3.4*

ISC 30 09:14:08.5±0.6,30°.96N±0°.04×114°.17W±0°.03,h10km,n93,
σ1§90/96,mb4.1/16,MS3.9/6,2C,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.91**	**304**	*e*P	**Pg**	**09 14 23.4**	**-2.7**
SPX	**San Pedro Mart**	**1.11**	**275**	*e*P	**Pb**	**09 14 28.1**	**-2.0**
SPX				AML	AML	09 14 38.2	
	comp=E,2μm,0.6s						
SPX				⇑*e*		09 14 38.2	
SPX				AML	AML	09 14 39.6	
	comp=N,2μm,0.5s						
SPX				⇑*e*		09 14 39.6	
EMX	**El Mayor**	**1.38**	**319**	*e*P	Pn	09 14 28.9	-4.9
EMX				*e*S	Sb	09 14 37.6	-14
CPBX	**Cerro Prieto**	**1.75**	**327**	*e*P	**Pg**	**09 14 41.5**	**-0.6**
CPBX				*e*P	**Pg**	**09 14 41.5**	**-0.6**
RDX	**Rancho Dawling**	**1.80**	**303**	*e*P	**Pn**	**09 14 36.6**	**-3.1**
ZAX	**El Zacaton**	**1.88**	**288**	*e*P	Pn	09 14 37.5	-3.4
GLA	**Glamis**	**2.16**	**345**	*e*Pn	Pn	09 14 41.0	-3.7
GLA				*e*Sn	**Sn**	09 15 10.5	-1.1
ECNX	**Esteban Cantu**	**2.19**	**289**	*e*P	**Pn**	**09 14 42.3**	**-2.8**
PBX	**Punta Banda**	**2.32**	**290**	*e*P	**Pn**	**09 14 44.2**	**-2.6**
CBX	**Cerro Bola**	**2.52**	**303**	*e*P	**Pn**	**09 14 48.2**	**-1.4**
CBX	**Cerro Bola**	**2.52**	**303**	*e*P	**Pn**	**09 14 47.6**	**-2.0**
CBX	**Cerro Bola**	**2.52**	**303**	*e*P	**Pn**	**09 14 47.6**	**-2.0**
TUC	**Tucson**	**3.19**	**64**	*e*Pn	Pn	09 14 55.9	-2.9
TUC				*e*Sg	**Sg**	**09 15 48.8**	**-2.2**
PFO	**Pinyon Flats O**	**3.28**	**324**	Pn	**Pn**	**09 14 59.2**	**-0.8**
	comp=N,1.1nm,0.3s,baz=157,slow=12,SNR=9.2						
PFO				LR	LR	09 16 22.5	
	comp=N,8μm,19.0s,baz=150,slow=41						
PFO	**Pinyon Flats O**	**3.28**	**324**	*e*Pn	**Pn**	**09 14 59.4**	**-0.7**
PFO				*e*Sn	**Sn**	**09 15 38.2**	**-1.0**
HSIG		**3.40**	**124**	*e*P	**Pn**	**09 15 00.9**	**-0.7**
HSIG				*i* S	**Sn**	**09 15 42.8**	**+0.8**
HSIG		**3.40**	**124**	*e*P	**Pn**	**09 15 00.3**	**-1.3**
SRIG	**Santa Rosalia**	**4.00**	**155**	*i* P	Pb	09 15 14.7	-4.4
SRIG				*i* S	**Sb**	**09 16 04.7**	**-2.8**
LDFC	**Landfair**	**4.18**	**349**	Pn	**Pn**	**09 15 11.5**	**-1.1**
MWC	**Mount Wilson**	**4.62**	**316**	*e*Pn	**Pn**	**09 15 18.5**	**-0.2**
MWC				*e*Sn	**Sn**	**09 16 11.2**	**-1.3**
PASC	**Pasadena Art C**	**4.66**	**314**	*e*Pn	**Pn**	**09 15 20.3**	**+1.3**
GSC	**Goldstone, Bar**	**4.86**	**334**	*e*Pn	**Pn**	**09 15 19.6**	**-2.3**
WUAZ	**Wupatki**	**5.12**	**27**	*e*Pn	**Pn**	**09 15 23.9**	**-1.5**
WUAZ				*e*Pg	**Pg**	**09 15 46.9**	**+0.3**
WUAZ				*e*Sn	**Sn**	**09 16 25.8**	**+1.2**
OSI	**Osito Audit: C**	**5.29**	**315**	*e*Pg	**Pg**	**09 15 49.4**	**-0.5**
	comp=N,70nm,0.9s						
OSI				*e*Sg	**Sg**	**09 16 56.6**	**-1.8**
CGIG		**5.37**	**95**	*e*P	Pn	09 15 24.8	-4.1
CGIG				*i* S	Sn	09 16 22.9	-7.9
CGIG		**5.37**	**95**	*e*P	Pn	09 15 25.5	-3.4
SHPR	**Sheep Range**	**5.59**	**352**	*e*Pn	**Pn**	**09 15 30.3**	**-1.7**
121A	**Cookes Peak, D**	**5.66**	**72**	*e*Pn	**Pn**	**09 15 31.1**	**-1.9**
	comp=N,69nm,0.7s						
121A				*e*Sg	**Sg**	**09 17 05.4**	**-5.0**
ISA	**Isabella, Lake**	**5.92**	**324**	*e*Pn	**Pn**	**09 15 35.7**	**-0.6**
ISA				*e*Sg	**Sg**	**09 17 16.4**	**-2.0**
DAC	**Darwin (Calif)**	**6.03**	**333**	*e*Pn	**Pn**	**09 15 38.4**	**+0.5**
TPNV	**Topopah Spring**	**6.22**	**344**	*e*Pn	Pn	09 15 43.7	+3.1
CCUT	**Cedar City**	**6.61**	**6**	*e*Pn	**Pn**	**09 15 45.5**	**-0.5**
ARUT	**Antelope Range**	**6.84**	**5**	*e*Pn	**Pn**	**09 15 48.9**	**-0.2**
	comp=N,732nm,0.7s						
ARUT				*e*Sg	**Sg**	**09 17 45.5**	**-2.6**
LAZ	**Ladron**	**6.85**	**58**	*e*Pn	**Pn**	**09 15 47.5**	**-1.8**
	comp=N,894nm,1.7s						
LENM	**Lemitar**	**6.87**	**60**	*e*Pn	**Pn**	**09 15 47.2**	**-2.2**
LPM	**Los Pinos Moun**	**7.18**	**60**	*e*Pn	**Pn**	**09 15 51.6**	**-2.2**
LPM				*e*Sn	**Sn**	**09 17 15.3**	**-0.3**
LPM				*e*Sg	**Sg**	**09 17 60.0**	**+0.8**
R11A	**Troy Canyon, C**	**7.47**	**351**	*e*Pn	Pn	09 15 52.4	-5.3
R11A				*e*Sg	**Sg**	**09 18 09.9**	**+1.7**
MNTX	**Cornudas Mount**	**7.56**	**82**	*e*Pn	**Pn**	**09 15 57.9**	**-0.9**
ANMO	**Albuquerque**	**7.61**	**56**	Pn	**Pn**	**09 15 58.9**	**-0.8**
	comp=N,0.1nm,0.3s,baz=240,slow=13,SNR=8.8						
ANMO				Lg	Lg	09 18 05.8	
	comp=N,0.5nm,0.3s,baz=251,slow=4.4,SNR=4.0						
ANMO	**Albuquerque**	**7.61**	**56**	*e*Pn	**Pn**	**09 15 57.3**	**-2.3**
ANMO				Lg	Lg	09 18 05.8	
LPIG	**La Paz**	**7.64**	**152**	Pn	**Pn**	**09 16 01.3**	**+1.3**
	comp=N,0.6nm,0.3s,baz=7.4,slow=15,SNR=3.8						
LPIG				Lg	Lg	09 18 13.6	
	comp=N,2.5nm,0.3s,baz=155,slow=8.5,SNR=7.1						
LPIG				LR	LR	09 18 48.5	
	comp=N,3μm,20.6s,baz=336,slow=37						
MVU	**Marysvale**	**7.70**	**12**	*e*Pn	**Pn**	**09 16 02.0**	**+1.0**
MVCO	**Mesa Verde**	**7.81**	**35**	*e*Pn	**Pn**	**09 16 02.3**	**-0.2**
GDL2	**Guadalupe Moun**	**8.46**	**79**	*e*Pn	**Pn**	**09 16 12.7**	**+1.4**
HPIG		**8.46**	**116**	*e*P	**Pn**	**09 16 11.6**	**+0.2**
HPIG				*i* S	**Sn**	**09 17 45.4**	**-1.7**
HPIG		**8.46**	**116**	*e*P	**Pn**	**09 16 11.9**	**+0.5**
HPIG				*e*S	**Sg**	**09 18 38.9**	**-1.2**
PV01	**Paradox Valley**	**8.52**	**31**	*e*Pn	**Pn**	**09 16 12.3**	**+0.1**
SRU	**San Rafael Swe**	**8.67**	**19**	Pn	**Pn**	**09 16 13.4**	**-0.8**
TMUT	**Trail Mountain**	**8.67**	**15**	*e*Pn	**Pn**	**09 16 12.8**	**-1.5**
TXAR	**Lajitas Array**	**9.24**	**97**	Pn	**Pn**	**09 16 21.7**	**-0.3**
	comp=N,1.0nm,0.3s,baz=269,slow=15,SNR=42						
TXAR				Lg	Lg	09 18 58.2	
	comp=N,0.3nm,0.3s,baz=285,slow=31,SNR=3.5						
ELK	**Elko**	**9.80**	**355**	Pn	Pn	09 16 32.3	+2.5
	comp=N,0.1nm,0.3s,baz=170,slow=11,SNR=5.1						
ELK				Lg	Lg	09 19 19.5	
	comp=N,0.1nm,0.3s,baz=90,slow=20,SNR=2.5						
ELK				LR	LR	09 19 56.2	
	comp=N,464nm,19.7s,baz=182,slow=36						
SDCO	**Great Sand Dun**	**9.86**	**44**	*e*Pn	**Pn**	**09 16 32.0**	**+1.4**
MSTX	**Muleshoe**	**10.09**	**70**	*e*Pn	**Pn**	**09 16 33.6**	**0.0**
PDAR	**Pinedale Array**	**12.35**	**16**	Pn	**Pn**	**09 17 05.6**	**+1.0**
	comp=N,0.1nm,0.3s,baz=190,slow=15,SNR=3.0						
JCT	**Junction City**	**12.38**	**89**	*e*Pn	**Pn**	**09 17 04.6**	**-0.3**
JCT				*e*Lg	Lg	09 20 40.9	
MFID	**Camas Ranch**	**12.51**	**354**	*e*Pn	Pn	09 17 10.2	+3.6
YBH	**Yreka Blue Hor**	**12.76**	**330**	LR	LR	09 22 41.8	
	comp=N,847nm,18.6s,baz=151,slow=40						
TUL1	**Leonard**	**16.11**	**67**	*e*Pn	**Pn**	**09 17 52.3**	**-2.9**
	comp=N,6.5nm,0.8s						
SWMT	**Swartz Lake**	**16.53**	**0**	Pn	**P**	**09 18 01.2**	**-1.9**
LAO	**LASA Array**	**16.87**	**19**	*e*P	**P**	**09 18 06.4**	**-0.4**
	comp=N,83nm,1.5s						
BSMT	**Bassoo Peak**	**16.88**	**359**	*e*P	**P**	**09 18 06.3**	**-0.8**
NEW	**Newport**	**17.43**	**353**	P	**P**	**09 18 12.5**	**-0.5**
	comp=N,0.1nm,0.3s,baz=172,slow=5.5,SNR=5.9						
NEW				LR	LR	09 24 45.8	
	comp=N,249nm,18.7s,baz=174,slow=37						
ECSD	**EROS Data Cent**	**18.86**	**43**	*e*P	**Pn**	**09 18 28.6**	**-0.8**
	comp=N,22nm,1.4s						
AGMN	**Agassiz Nation**	**22.24**	**34**	*e*P	**P**	**09 19 05.0**	**-0.3**
	comp=N,89nm,2.3s						
CMIG	**Matias Romero**	**22.33**	**124**	P	**P**	**09 19 09.1**	**+2.6**
	comp=N,6.3nm,1.0s,baz=308,slow=15,SNR=2.9						
OLIL	**Olney**	**22.71**	**63**	*e*P	**P**	**09 19 13.6**	**+3.1**
	comp=N,315nm,2.8s						
ULM	**Lac du Bonnet**	**23.64**	**30**	P	**P**	**09 19 18.4**	**-1.4**
	comp=N,3.8nm,0.8s,baz=218,slow=9.2,SNR=7.0						
COWI	**Conover**	**24.60**	**45**	*e*P	**P**	**09 19 28.6**	**-0.2**
	comp=N,16nm,1.2s						
TEIG	**Tepich**	**25.62**	**108**	LR	LR	09 32 18.0	
	comp=N,329nm,19.3s,baz=132,slow=43						
TKL	**Tuckaleechee C**	**25.78**	**71**	LR	LR	09 30 14.4	
	comp=N,904nm,20.1s,baz=274,slow=38						
DLBC	**Dease Lake**	**29.54**	**343**	P	**P**	**09 20 13.3**	**+0.1**
	comp=N,2.7nm,0.8s,baz=165,slow=7.3,SNR=12						
SADO	**Sadowa**	**30.65**	**53**	LR	LR	09 31 45.0	
	comp=N,263nm,18.4s,baz=250,slow=35						
YKA	**Yellowknife Ar**	**31.55**	**360**	P	**P**	**09 20 29.8**	**-0.9**
	comp=N,0.3nm,0.7s,baz=179,slow=9.3,SNR=7.0						
ILAR	**Eielson Array**	**39.45**	**339**	P	**P**	**09 21 39.8**	**+1.3**
	comp=N,2.7nm,1.1s,baz=154,slow=6.4,SNR=5.3						
ROSC	**El Rosal**	**45.55**	**117**	LR	LR	09 43 00.7	
	comp=N,158nm,21.8s,baz=344,slow=38						
OTAV	**Otavalo**	**45.61**	**125**	*e*P	P	09 22 33.4	+3.6
	comp=N,29nm,1.9s						
PPT2	**Papeete2**	**59.06**	**220**	*e*LR	LR	09 41 39.8	
	comp=N,147nm,24.5s						
TBI	**Tubuai**	**63.72**	**216**	*e*LR	LR	09 43 32.5	
	comp=N,64nm,23.8s						
SEY	**Seymchan**	**64.44**	**330**	P	**P**	**09 24 45.4**	**+0.7**
	comp=N,0.4nm,0.3s,baz=86,slow=9.8,SNR=4.9						
NOA	**NORSAR Array B**	**78.17**	**24**	P	**P**	**09 26 09.5**	**+1.7**
	comp=N,1.1nm,1.0s,baz=312,slow=6.0,SNR=3.2						
HFS	**Hagfors**	**79.68**	**24**	P	**P**	**09 26 16.7**	**+0.6**
	comp=N,1.4nm,0.7s,baz=314,slow=6.2,SNR=3.4						
FINES	**FINESS Array B**	**82.44**	**18**	P	**P**	**09 26 31.0**	**+0.2**
	comp=N,1.9nm,0.9s,baz=329,slow=5.4,SNR=3.1						
USRK	**Ussuriysk Ar.**	**83.92**	**319**	P	**P**	**09 26 39.4**	**+0.7**
	comp=N,1.1nm,0.7s,baz=27,slow=6.6,SNR=3.9						
USRK				LR	LR	10 02 30.4	
	comp=N,48nm,19.6s,baz=28,slow=35						
MJAR	**Matsushiro Ar**	**84.61**	**310**	P	**P**	**09 26 42.8**	**+0.3**
	comp=N,1.5nm,0.7s,baz=57,slow=4.9,SNR=4.1						
MDJ	**Mudanjiang**	**85.01**	**320**	P	P	09 26 51.3	+7.0
MDJ				PMZ			
	comp=N,5.0nm,1.3s						
MDJ				PMZ			
	comp=N,47nm,5.2s						
KSRS	**Korea Array**	**90.57**	**315**	LR	LR	10 02 22.0	
	comp=N,60nm,19.3s,baz=56,slow=32						
AKASG	**Malin Array Be**	**92.49**	**22**	P	**P**	**09 27 19.6**	**-0.2**
	comp=N,0.1nm,0.3s,baz=320,slow=4.0,SNR=3.3						
HHC	**Hu-ho-hao-te**	**96.97**	**327**	*e*P	P	09 27 47.8	+7.2
HHC				PP	PP	09 31 44.0	+8.7
HHC				SKS	**SKSac**	**09 38 22.5**	**+4.4**
HHC				S	**S**	**09 39 04.0**	**+0.5**
HHC				sS	sS	09 39 12.3	+3.2
HHC				SS	**SS**	**09 45 41.0**	**+3.1**
HHC				LZ			
	comp=N,160nm,18.7s						
WMQ	**Urumqi**	**102.94**	**344**	*e*P	**Pdif**	**09 28 14.3**	**+7.1**
WMQ				PP	**PKiKP**	**09 32 29.5**	**+2.2**
WMQ				SKS	**SKSac**	**09 38 52.0**	**+4.7**
WMQ				S	**Sdif**	**09 39 54.0**	**+0.5**
WMQ				sS	sS	09 40 02.0	+2.4
WMQ				SS	**SS**	**09 47 04.5**	**+4.0**
WMQ				LN			
	comp=N,130nm,24.0s						
WMQ				LE			
	comp=N,120nm,28.0s						
WMQ				LZ			
	comp=N,110nm,25.0s						

*IDC **30** 09:15:28.4±2.0,31°.18N×114°.77W,h0km,mb4.0/7, mb1 4.3/8,mb1mx3.9/47,mbtmp4.0/8,ML4.2/1,Error ellipse: s-maj=60.5km s-min=19.2km az=26.0*
*ISCJB **30** 09:15:29.0±1.7,31°.3N±0°.3×114°.7W±0°.2,h10km,mb3.9/7, Error ellipse: s-maj=50.8km s-min=17.0km az=27.0*

ISC 30 09:15:30.7±1.9,31°.3N±0°.4×114°.8W±0°.2,h10km,n8,
σ1§46/8,mb4.1/7,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**9.78**	**99**	Pn	**Pn**	**09 17 52.5**	**+1.0**
	0.5nm,0.3s,baz=281,slow=13,SNR=3.7						
DLBC	**Dease Lake**	**29.08**	**343**	P	**P**	**09 21 33.1**	**+2.0**
	2.5nm,0.7s,baz=167,slow=9.9,SNR=4.9						
YKA	**Yellowknife Ar**	**31.21**	**0**	P	**P**	**09 21 48.4**	**-1.5**
	0.3nm,0.7s,baz=181,slow=8.7,SNR=5.3						
ILAR	**Eielson Array**	**38.95**	**339**	P	**P**	**09 22 57.3**	**+0.8**
	1.5nm,0.8s,baz=156,slow=7.2,SNR=5.2						
SEY	**Seymchan**	**63.89**	**329**	P	**P**	**09 26 03.6**	**+0.4**
	1.3nm,0.8s,baz=111,slow=8.1,SNR=4.6						
USRK	**Ussuriysk Ar.**	**83.34**	**318**	P	**P**	**09 27 57.5**	**-0.4**
	2.3nm,0.8s,baz=61,slow=9.3,SNR=6.3						
MJAR	**Matsushiro Arr**	**84.01**	**309**	P	**P**	**09 28 00.8**	**-0.8**
	2.1nm,0.8s,baz=68,slow=4.4,SNR=4.4						
ESDC	**Sonseca Array**	**84.60**	**46**	P	**P**	**09 28 03.1**	**-1.4**
	0.5nm,0.4s,baz=309,slow=4.1,SNR=3.0						

*ISCJB **30** 09:18:36.3±1.2,67°.79N±0°.04×33°.9E±0°.2,h0km,Error ellipse: s-maj=9.9km s-min=6.3km az=176.5*
*CSEM **30** 09:18:36.5±0.9,67°.92N×34°.07E,h1km,ML2.2,Error ellipse: s-maj=19.1km s-min=13.4km az=74.0,Mining explosion.*
*UPP **30** 09:18:37.8,67°.82N×34°.06E,h0km,ML1.8,Suspected Mining explosion.*
*HEL **30** 09:18:38.2,67°.75N×34°.00E,h0km,ML2.2,Explosion*
*IDC **30** 09:18:39.3±1.7,67°.72N×33°.81E,h0km,mb1 3.5/4, mb1mx3.1/51,mbtmp3.4/4,ML2.8/4,Error ellipse: s-maj=19.6km s-min=8.8km az=86.0*

ISC 30 09:18:37.7±1.9,67°.74N±0°.05×33°.94E±0°.09,h0km,n37,
σ1§04/63,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**1.65**	**272**	*e*PN	**Pn**	**09 19 08.3**	**+0.3**
	baz=82						
VRF				*e*SN	**Sg**	**09 19 30.7**	**+0.1**
VRF				MSG		09 19 30.7	
	comp=Z,24nm,0.2s						
VRF	**Varrio**	**1.65**	**272**	Pn	**Pn**	**09 19 08.2**	**+0.3**
VRF				Sn	**Sg**	**09 19 30.7**	**+0.1**
	comp=Z,24nm,0.2s						
KU6	**Riekki**	**2.35**	**225**	*e*P	**Pn**	**09 19 17.9**	**+0.5**
	baz=41						
KU6				*e*SB	**Sn**	**09 19 49.4**	**+2.5**
KU6	**Riekki**	**2.35**	**225**	P	**Pn**	**09 19 17.9**	**+0.5**
KU6				Sb	**Sn**	**09 19 49.4**	**+2.5**
MSF	**Maaselka**	**2.67**	**229**	*e*P	**Pn**	**09 19 22.7**	**+0.8**
MSF				MSG	**Sb**	**09 19 58.7**	**-0.8**
	comp=Z,5.3nm,0.3s						
MSF				*e*SB	**Sb**	**09 19 58.7**	**-0.8**
MSF	**Maaselka**	**2.67**	**229**	P	**Pn**	**09 19 22.7**	**+0.8**
SGF	**Sodankyl**	**2.86**	**268**	*e*P	**Pn**	**09 19 24.9**	**+0.4**
SGF				MSG	**Sb**	**09 20 05.7**	**+0.7**
	comp=Z,11nm,0.3s						
SGF				*e*SG	**Sb**	**09 20 05.7**	**+0.7**
SGF	**Sodankyl**	**2.86**	**268**	P	**Pn**	**09 19 24.8**	**+0.4**
KEV	**Kevo**	**3.24**	**312**	*e*PB	**Pn**	**09 19 31.2**	**+1.5**
KEV				*e*SB	**Sn**	**09 20 10.4**	**+1.5**
KEV				MSG		09 20 10.4	
	comp=Z,9.2nm,0.2s						
KEV	**Kevo**	**3.24**	**312**	Pb	**Pn**	**09 19 31.1**	**+1.5**
RNF	**Rovaniemi**	**3.29**	**254**	*e*P	**Pn**	**09 19 30.6**	**+0.1**
	baz=65						
RNF				*e*S	**Sn**	**09 20 11.7**	**+1.5**
RNF				MSG		09 20 11.7	
	comp=Z,6.7nm,0.2s						
RNF	**Rovaniemi**	**3.29**	**254**	P	**Pn**	**09 19 30.5**	**+0.1**
RNF				S	**Sn**	**09 20 11.7**	**+1.5**
	comp=Z,6.7nm,0.2s						
ARCES	**ARCESS Array B**	**3.58**	**304**	Pn	**Pn**	**09 19 35.4**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=120,slow=14,SNR=53						
ARCES				Sn	**Sn**	**09 20 17.7**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=122,slow=28,SNR=15						
ARCES				Lg	Lg	09 20 30.1	
	comp=Z,5.4nm,0.3s,baz=118,slow=31,SNR=14						
HEF	**Hetta**	**3.92**	**285**	*e*P	**Pn**	**09 19 39.5**	**+0.4**
HEF				*e*S	**Sn**	**09 20 26.5**	**+0.9**
HEF				MSG		09 20 26.5	
	comp=Z,3.0nm,0.2s						
HEF	**Hetta**	**3.92**	**285**	P	**Pn**	**09 19 39.4**	**+0.4**
HEF				S	**Sn**	**09 20 26.5**	**+0.9**
	comp=Z,3.0nm,0.2s						
OUL	**Oulu**	**4.19**	**234**	*e*P	**Pn**	**09 19 43.5**	**+0.8**
OUL	**Oulu**	**4.19**	**234**	P	**Pn**	**09 19 43.5**	**+0.8**
PAJU	**Pajala**	**4.25**	**265**	*e*P	**Pn**	**09 19 43.2**	**-0.3**
PAJU	**Pajala**	**4.25**	**265**	P	**Pn**	**09 19 43.2**	**-0.3**
PAJU	**Pajala**	**4.25**	**265**	P	**Pn**	**09 19 43.2**	**-0.3**
LANU	**Lannavaara**	**4.53**	**280**	*e*P	**Pn**	**09 19 47.1**	**-0.3**
LANU	**Lannavaara**	**4.53**	**280**	P	**Pn**	**09 19 47.1**	**-0.3**
ERTU	**Ertsjaerv**	**4.74**	**261**	*e*P	**Pn**	**09 19 50.0**	**-0.2**
ERTU				*e*S	**Sn**	**09 20 45.5**	**-0.2**
ERTU	**Ertsjaerv**	**4.74**	**261**	P	**Pn**	**09 19 50.0**	**-0.2**
ERTU				S	**Sn**	**09 20 45.5**	**-0.2**
**ERTU

IDC 30 09:34:11.8±3.4, 30°.92N×114°.03W, h0km, mb3.3/2, mb1 3.3/5, mb1mx3.3/34, mbtmp3.1/5, ML3.0/3, Error ellipse: s-maj=71.4km s-min=14.0km az=30.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	Pinyon Flats O	3.38	323	Pn	Pn	09 35 05.6	-0.4
	0.2nm,0.3s,baz=148,slow=9.5,SNR=2.6						
ANMO	Albuquerque	7.53	56	Pn	Pn	09 36 01.0	-2.1
	0.1nm,0.3s,baz=243,slow=6.8,SNR=2.3						
TXAR	Lajitas Array	9.12	97	Pn	Pn	09 36 25.7	+0.9
	0.2nm,0.3s,baz=273,slow=14,SNR=15						
ULM	Lac du Bonnet	23.61	30	P	P	09 39 26.0	+1.6
	0.5nm,0.3s,baz=203,slow=7.7,SNR=3.3						
YKA	Yellowknife Ar	31.59	359	P	P	09 40 35.3	-0.6
	0.2nm,0.9s,baz=181,slow=8.6,SNR=4.2						

*IDC **30** 09:35:39.4±2.2, 31°.06N×114°.06W, h0km, mb3.9/5, mb1 4.0/8, mb1mx3.8/33, mbtmp3.8/8, ML3.8/2, MS3.9/7, Ms1 3.9/7, ms1mx3.4/40, Error ellipse: s-maj=51.9km s-min=13.2km az=28.0*

*ISCJB **30** 09:35:40.0±0.8, 31°.02N±0°.07×114°.05W±0°.06, h10km, mb3.8/5, MS3.8/7, Error ellipse: s-maj=11.6km s-min=5.9km az=31.5*

*NEIC **30** 09:35:40.4±1.4, 30°.96N×114°.10W, h10km, mb4.2/5, Error ellipse: s-maj=22.3km s-min=7.4km az=22.0*

ISC 30 09:35:40.5±1.3, 31°.1N±0°.1×114°.05W±0°.08, h10km, n43, σ1§45/30, mb4.0/5, MS3.8/7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
214A	Organ Pipe Nat	1.39	49	ePn	Pn	09 36 04.4	-1.6
GLA	Glamis	2.10	342	ePn	Pn	09 36 14.0	-1.8
BAR	Barrett	2.76	307	ePn	Pn	09 36 24.2	-0.7
TUC	Tucson	3.05	65	Pn	Pn	09 36 30.1	+1.1
PFO	Pinyon Flats O	3.26	322	Pn	Pn	09 36 32.0	+0.2
	1.4nm,0.3s,baz=174,slow=9.2,SNR=3.9						
PFO	Pinyon Flats O	3.26	322	Pn	Pn	09 36 33.3	+1.4
MWC	Mount Wilson	4.63	314	ePg	Pg	09 37 08.7	-0.5
WUAZ	Wupatki	4.98	26	Pn	Pn	09 36 58.3	+2.7
W18A	Petrified Fore	5.44	41	ePn	Pn	09 37 02.4	+0.5
	214nm,1.2s						
SHPR	Sheep Range	5.52	351	ePn	Pb	09 37 15.2	-1.8
121A	Cookes Peak, D	5.54	73	ePn	Pn	09 37 03.2	0.0
DAC	Darwin (Calif)	5.99	331	Pn	Pn	09 37 11.3	+1.9
TPNV	Topopah Spring	6.16	343	ePn	Pn	09 37 19.4	+7.7
CCUT	Cedar City	6.51	5	ePn	Pn	09 37 18.7	+2.1
MTUM	Tungsten Hills	7.31	330	ePn	Pn	09 37 28.8	+1.2
R11A	Troy Canyon, C	7.39	351	ePn	Pn	09 37 33.3	+4.7
ANMO	Albuquerque	7.47	57	Pn	Pn	09 37 30.0	+0.3
	0.1nm,0.3s,baz=236,slow=14,SNR=3.1						
ANMO				Lg	Lg	09 39 39.4	
	0.1nm,0.3s,baz=324,slow=19,SNR=2.1						
TPH	Tonopah	7.48	340	ePn	Pn	09 37 34.8	+4.9
LPIG	La Paz	7.68	153	Pn	Pn	09 37 35.8	+3.4
	1.0nm,0.3s,baz=151,slow=4.8,SNR=4.2						
CMB	Columbia Colle	8.70	325	ePn	Pn	09 37 51.4	+4.8
TXAR	Lajitas Array	9.15	98	Pn	Pn	09 37 54.1	+1.3
	0.6nm,0.3s,baz=273,slow=14,SNR=13						
TXAR				Lg	Lg	09 40 30.9	
	0.3nm,0.3s,baz=267,slow=31,SNR=3.7						
ELK	Elko	9.72	355	Pn	Pn	09 38 05.7	+5.0
	0.1nm,0.3s,baz=163,slow=9.5,SNR=4.9						
MSTX	Muleshoe	9.96	70	ePn	Pn	09 38 10.2	+6.4
JCT	Junction City	12.27	89	ePn	Pn	09 38 35.3	-0.2
ABTX	Abilene, Hawle	12.35	79	ePn	Pn	09 38 40.6	+4.1
MFID	Camas Ranch	12.42	354	Pn	Pn	09 38 38.8	+1.3
WHTX	Lake Whitney,	14.19	82	ePn	P	09 39 06.5	-2.6
	22nm,1.0s						
HKT	Hockley	15.74	89	ePn	Pn	09 39 23.9	+1.5
	45nm,1.5s						
CHMT	Chamberlain Mo	15.85	2	eP	P	09 39 29.9	+2.2
	8.2nm,1.1s						
SWMT	Swartz Lake	16.43	0	eP	P	09 39 34.4	+0.3
	4.2nm,0.9s						
LAO	LASA Array	16.75	19	eP	P	09 39 39.6	+2.1
	29nm,1.2s						
YBMT	Yellow Bay	16.79	0	eP	Pn	09 39 36.8	+0.9
	21nm,0.6s						
NEW	Newport	17.35	353	P	P	09 39 45.4	+1.3
	0.1nm,0.3s,baz=180,slow=13,SNR=5.2						
CMIG	Matias Romero	22.30	124	LR	LR	09 49 51.3	
	comp=Z,486nm,18.7s,baz=296,slow=38						
ULM	Lac du Bonnet	23.51	30	P	P	09 40 51.1	+0.6
	5.5nm,1.1s,baz=241,slow=10.0,SNR=3.1						
TEIG	Tepich	25.56	109	LR	LR	09 52 28.2	
	comp=Z,71nm,20.0s,baz=106,slow=40						
TKL	Tuckaleechee C	25.65	72	LR	LR	09 51 45.9	
	comp=Z,269nm,21.1s,baz=270,slow=38						
APG	El Apazote	26.86	121	LR	LR	09 51 28.2	
	comp=Z,273nm,19.7s,baz=315,slow=35						
DLBC	Dease Lake	29.48	343	P	P	09 41 43.9	-0.7
	3.3nm,1.0s,baz=155,slow=9.2,SNR=2.4						
DLBC				LR	LR	09 54 49.9	
	comp=Z,489nm,19.8s,baz=162,slow=39						
YKA	Yellowknife Ar	31.45	360	P	P	09 42 01.2	-0.7
	0.2nm,0.6s,baz=178,slow=9.0,SNR=7.4						
ILAR	Eielson Array	39.39	339	P	P	09 43 11.2	+1.1
	1.5nm,1.1s,baz=155,slow=6.7,SNR=7.1						
ILAR				LR	LR	10 00 44.9	
	comp=Z,144nm,18.2s,baz=137,slow=38						
ROSC	El Rosal	45.50	117	LR	LR	10 04 50.8	
	comp=Z,61nm,19.0s,baz=281,slow=38						
USRK	Ussuriysk Ar.	83.92	319	P	P	09 48 10.8	+0.1
	2.3nm,0.9s,baz=54,slow=5.8,SNR=5.6						

*ISCJB **30** 09:42:33.5±2.4, 30°.9N±0°.3×114°.1W±0°.2, h10km, mb3.3/3, Error ellipse: s-maj=40.9km s-min=13.5km az=27.4*

*IDC **30** 09:42:33.7±2.1, 30°.85N×114°.16W, h0km, mb3.2/2, mb1 3.5/6, mb1mx3.4/33, mbtmp3.2/6, ML3.2/4, MS3.6/1, Ms1 3.6/1, ms1mx3.1/11, Error ellipse: s-maj=35.6km s-min=11.7km az=30.0*

ISC 30 09:42:34.5±1.9, 30°.8N±0°.2×114°.3W±0°.1, h10km, n7, σ1§29/6, mb3.4/3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	Pinyon Flats O	3.39	327	Pn	Pn	09 43 27.0	-0.6
	0.3nm,0.3s,baz=140,slow=16,SNR=3.1						
ANMO	Albuquerque	7.79	56	Pn	Pn	09 44 27.0	-1.1
	0.2nm,0.3s,baz=243,slow=13,SNR=5.5						
ANMO				Lg	Lg	09 46 36.7	
	0.1nm,0.3s,baz=166,slow=19,SNR=2.6						
ANMO				LR	LR	09 47 40.0	
	comp=Z,455nm,20.2s,baz=247,slow=40						
TXAR	Lajitas Array	9.30	96	Pn	Pn	09 44 48.9	+0.1
	0.5nm,0.3s,baz=273,slow=12,SNR=25						
TXAR				Lg	Lg	09 47 24.4	
	0.1nm,0.3s,baz=283,slow=32,SNR=3.7						
ELK	Elko	9.99	356	Pn	Pn	09 44 59.6	+1.2
	0.1nm,0.3s,baz=180,slow=11,SNR=2.3						
DLBC	Dease Lake	29.70	343	P	P	09 48 44.4	+3.9
	1.2nm,0.7s,baz=165,slow=12,SNR=3.2						
YKA	Yellowknife Ar	31.75	360	P	P	09 48 57.2	-1.2
	0.1nm,0.8s,baz=176,slow=7.9,SNR=4.5						
ILAR	Eielson Array	39.60	339	P	P	09 50 06.5	+0.8
	0.7nm,0.8s,baz=150,slow=7.3,SNR=8.0						

MEX 30 09:54:18.7±1.0, 16°.66N×100°.55W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.47	35	i P	Pg	09 54 26.7	-1.0
CAIG				i S	Sg	09 54 33.3	-0.6
ZIIG	Zihuatanejo	1.28	317	i P	Pn	09 54 39.0	-4.3
ZIIG				i S	Sg	09 54 55.2	-4.8
MEIG	Mezcala	1.54	35	eP	Pn	09 54 42.9	-4.0
MEIG				eS	Sn	09 55 02.8	-4.6
ARIG	Puente Sto Nin	1.62	7	eP	Pn	09 54 44.8	-3.2
ARIG				eS	Sn	09 55 05.2	-4.1
TLIG	Tlapa	2.10	64	eP	Pn	09 54 50.7	-4.0
TLIG				eS	Sn	09 55 17.4	-3.8

*IDC **30** 10:04:15.8±2.3, 53°.56N×87°.96E, h0km, mb1 3.9/3, mb1mx3.3/30, mbtmp3.9/3, ML3.6/3, Error ellipse: s-maj=20.4km s-min=13.1km az=64.0*

*NNC **30** 10:04:20.0±2.4, 53°.45N×87°.48E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=18.9km s-min=15.3km az=14.0*

ISC 30 10:04:19.1±3.8, 53°.7N±0°.1×87°.9E±0°.2, h35km, n9, σ0§80/13, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.85	279	i		10 17 00.0	
	baz=98,slow=340,SNR=3.5						
ZALV	Zalesovo Beam	1.85	279	Pn	Pn	10 04 48.6	+0.3
	14nm,0.3s,baz=100,slow=14,SNR=155						
ZALV				Lg	Lg	10 05 15.3	
	33nm,0.3s,baz=104,slow=26,SNR=28						
KURK	Kurchatov	6.44	246	⇑Pn	Pn	10 05 51.3	0.0
	4.5nm,0.7s						
KURK				⇑Sn	Sn	10 07 03.7	+0.2
	4.0nm,0.6s						
KURK				⇑Lg	Lg	10 07 32.3	
	15nm,0.7s						
KURBB	Kurchatov Arra	6.54	246	⇓Pn	Pn	10 05 52.8	+0.1
	13nm,0.5s						
KURBB				⇑Sn	Sn	10 07 05.0	-1.0
	18nm,0.6s						
KURBB				⇑Lg	Lg	10 07 37.4	
	58nm,0.7s						
KURBB	Kurchatov Arra	6.54	246	Pn	Pn	10 05 53.0	+0.4
	0.7nm,0.3s,baz=62,slow=14,SNR=61						
KURBB				Sn	Sn	10 07 07.8	+1.9
	0.3nm,0.3s,baz=63,slow=24,SNR=6.6						
KURBB				Lg	Lg	10 07 40.1	
	0.2nm,0.3s,baz=66,slow=30,SNR=4.7						
MK31	Makanchi Array	7.79	210	⇑Pn	Pn	10 06 10.0	+0.1
	2.3nm,0.6s,baz=28,slow=13,SNR=86						
MK31				⇑Sn	Sn	10 07 36.2	-0.7
	2.1nm,0.7s,baz=152,slow=50,SNR=5.2						
MK31				⇓Lg	Lg	10 08 18.2	
	9.3nm,0.7s,baz=36,slow=33,SNR=5.8						
MKAR	Makanchi Array	7.79	210	Pn	Pn	10 06 09.9	0.0
	1.1nm,0.3s,baz=27,slow=13,SNR=66						
MKAR				Sn	Sn	10 07 37.3	+0.5
	0.4nm,0.3s,baz=30,slow=18,SNR=5.5						
MKAR				Lg	Lg	10 08 18.5	
	0.5nm,0.3s,baz=24,slow=36,SNR=7.2						
TLY	Talaya	9.77	96	Lg	Lg	10 09 27.5	
	0.0nm,0.3s,baz=229,slow=19,SNR=7.6						
BVAR	Borovoye Array	10.50	273	Pn	Pn	10 06 47.0	+0.1
	0.9nm,0.3s,baz=78,slow=14,SNR=11						
BVAR				Sn	Sn	10 08 42.0	-1.0
	0.5nm,0.3s,baz=79,slow=24,SNR=4.2						

*IDC **30** 10:08:03.2±0.8, 38°.04S×73°.70W, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.3/23, mbtmp4.3/10, ML3.2/2, MS4.0/8, Ms1 4.0/8, ms1mx3.6/26, Error ellipse: s-maj=29.3km s-min=17.2km az=105.0*

*ISCJB **30** 10:08:04.3±0.5, 38°.00S±0°.04×73°.66W±0°.08, h18km, mb4.6/17, MS4.0/7, Error ellipse: s-maj=9.0km s-min=6.1km az=165.4*

*NEIC **30** 10:08:08.1±0.4, 37°.98S×73°.68W, h35km, mb4.7/7, Error ellipse: s-maj=12.9km s-min=6.8km az=83.0*

ISC 30 10:08:05.9±0.5, 38°.09S±0°.05×73°.76W±0°.07, h18km, n48, σ1§44/46, mb4.7/17, MS4.0/7, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	Angol	0.88	72	⇑iP	Pn	10 08 24.3	+0.9
AGCH				i S	Sn	10 08 38.5	+2.7
CCSP	San Pedro de C	1.35	23	⇑iP	Pb	10 08 30.8	+0.2
CCSP				i S	Sg	10 08 53.4	+3.9
PLCA	Paso Flores	3.62	138	ePn	Pn	10 09 02.4	+1.2
PLCA				Sn	Sn	10 09 43.1	-0.4
CFAA	Coronel Fontan	7.90	37	Pn	Pn	10 09 58.0	-1.9
	0.2nm,0.3s,baz=198,slow=12,SNR=7.7						
CFAA				Sn	Sn	10 11 28.5	-0.4
	0.2nm,0.3s,baz=198,slow=20,SNR=2.1						
CFAA				Lg	Lg	10 12 08.2	
	0.1nm,0.3s,baz=304,slow=15,SNR=3.9						
TRQA	Tornquist	9.29	93	ePn	Pn	10 10 17.9	-1.0
	23nm,0.8s						
TRQA				eSn	Sn	10 12 03.6	+0.6
LCO	Las Campanas	9.41	17	ePn	Pn	10 10 17.9	-2.9
	44nm,0.6s						
LVC	Limon Verde	15.98	16	ePn	Pn	10 11 47.8	-2.3
	13nm,1.0s						
USHA	Ushuaia	17.13	170	P	Pn	10 12 03.8	-0.5
	0.2nm,0.3s,baz=313,slow=12,SNR=2.2						
USHA				LR	LR	10 19 26.7	
	comp=Z,543nm,18.9s,baz=332,slow=40						
EFI	East Falkland	17.50	146	eP	P	10 12 10.6	+0.7
	68nm,1.1s						
LPAZ	La Paz	22.28	14	P	P	10 13 02.8	0.0
	11nm,1.0s,baz=172,slow=5.9,SNR=19						
SIV	San Ignacio	24.69	30	P	P	10 13 25.5	-0.5
	6.4nm,1.1s,baz=196,slow=7.4,SNR=6.9						
SIV				LR	LR	10 24 59.9	
	comp=Z,514nm,19.0s,baz=223,slow=41						
SAML	Samuel	30.54	21	eP	P	10 14 17.6	-0.8
	7.0nm,1.4s						
RPN	Rapa Nui	31.73	280	LR	LR	10 23 23.4	
	comp=Z,246nm,20.7s,baz=94,slow=29						
BDFB	Brasilia	31.86	52	P	P	10 14 29.8	-0.4
	2.1nm,0.7s,baz=224,slow=9.1,SNR=3.8						
BDFB				LR	LR	10 28 22.2	
	comp=Z,276nm,18.5s,baz=220,slow=38						
VNA3	Neumayer Olymp	46.14	156	P	P	10 16 34.5	+5.6
VNA1	Neumayer--Stat	46.50	155	P	P	10 16 37.6	+6.0
SDV	Santo Domingo	46.82	4	eP	P	10 16 33.8	-1.2
	26nm,1.5s						
VNA2	Neumayer--Watz	46.83	156	P	P	10 16 40.6	+6.4
	baz=285,slow=8.2						
SNAA	Sanae	48.36	156	P	P	10 16 52.7	+6.5
SNAA	Sanae	48.36	156	eP	P	10 16 47.0	+0.8
	11nm,1.3s						
QSPA	South Pole Qui	52.15	180	P	P	10 17 15.3	+0.2
	4.1nm,0.9s,baz=149,slow=6.2,SNR=9.1						
RKT	Rikitea	53.87	267	eLR	LR	10 33 12.1	
	218nm,27.0s						
TBI	Tubuai	65.09	259	eS	S	10 27 31.2	+3.7
	37nm,22.8s						
TBI	Tubuai	65.09	259	eLR	LR	10 38 21.5	
	133nm,26.0s						
PPT2	Papeete2	68.35	264	eS	S	10 28 12.5	+5.3
	83nm,23.2s						
PPT2	Papeete2	68.35	264	eLR	LR	10 39 51.6	
	145nm,26.5s						
TXAR	Lajitas Array	72.68	333	P	P	10 19 32.6	0.0
	1.3nm,0.8s,baz=151,slow=8.3,SNR=9.8						
SUR	Sutherland	74.08	119	LR	LR	10 48 54.9	
	comp=Z,85nm,19.0s,baz=228,slow=33						
TUL1	Leonard	76.41	342	eP	P	10 19 52.9	-1.2
	9.9nm,0.9s						
LIC	Lamto	77.38	72	eP	P	10 20 00.3	+0.2
	46nm,1.3s						
TIC	Toumodi	77.66	71	eP	P	10 20 02.0	+0.3
	10nm,0.2s						
KIC	Kosan Boka	77.69	72	eP	P	10 20 02.2	+0.4
	26nm,0.8s						
DBIC	Dimbokro	77.80	71	P	P	10 20 02.9	+0.5
	6.5nm,0.8s,baz=207,slow=3.6,SNR=6.6						
BOSA	Boshof	79.39	118	P	P	10 20 11.1	-0.1
	7.9nm,1.0s,baz=270,slow=7.4,SNR=6.5						
BOSA				LR	LR	10 52 20.6	
	comp=Z,61nm,18.3s,baz=209,slow=34						
TSUM	Tsumeb	79.43	106	LR	LR	10 51 42.9	
	comp=Z,96nm,18.2s,baz=153,slow=33						
ECSD	EROS Data Cent	84.04	344	eP	P	10 20 34.6	-0.4
	9.9nm,0.9s						
PDAR	Pinedale Array	86.81	334	P	P	10 20 48.3	-0.8
	0.3nm,0.3s,baz=160,slow=5.8,SNR=4.0						
TORD	Torodi Ar. Bea	86.89	71	P	P	10 20 49.4	-0.4
	2.6nm,0.8s,baz=239,slow=4.0,SNR=14						
TORD				LR	LR	10 57 60.0	
	comp=Z,33nm,18.5s,baz=285,slow=34						
BRTR	Keskin Array B	124.96	64	PKP	PKPdf	10 27 04.9	0.0
	0.5nm,0.8s,baz=158,slow=4.0,SNR=4.3						
AKASG	Malin Array Be	125.93	50	PKP	PKPdf	10 27 06.0	-0.1
	0.4nm,0.4s,baz=263,slow=3.6,SNR=5.0						
TIXI	Tiksi	144.43	348	ePKPdf	PKPab	10 27 36.8	-1.3
ABKAR	Akbulak array	145.21	56	ePKPbc	PKPbc	10 27 41.0	-0.6
BVAR	Borovoye Array	151.15	47	PKPbc	PKPbc	10 27 57.9	+0.5
	1.7nm,0.7s,baz=268,slow=3.9,SNR=9.4						
BVAR				PKPab	PKPab	10 28 04.6	-0.7
	1.5nm,0.7s,baz=300,slow=2.8,SNR=4.7						
AAK	Ala-Archa	155.47	69	ePKPdf	PKPdf	10 27 57.5	-0.8
AAK				ePKPbc	PKPbc	10 28 08.3	
AAK				ePKPab	PKPab	10 28 24.3	+0.3
KURBB	Kurchatov Arra	156.71	49	PKPab	PKPab	10 28 29.2	+0.3
	0.4nm,0.3s,baz=300,slow=5.4,SNR=6.3						
KURK	Kurchatov	156.73	48	PKPab	PKPab	10 28 29.2	+0.3
ZALV	Zalesovo Beam	158.39	36	PKP	PKPdf	10 28 00.6	-0.8
	0.6nm,0.6s,baz=325,slow=2.5,SNR=2.4						
ZALV				PKPab	PKPab	10 28 36.0	0.0
	1.8nm,0.7s,baz=305,slow=5.2,SNR=6.1						
MKAR	Makanchi Array	160.36	56	PKP	PKPdf	10 28 03.5	-0.5
	0.9nm,1.0s,baz=22,slow=1.3,SNR=4.8						
MKAR				PKPab	PKPab	10 28 44.4	-0.5
	1.6nm,0.8s,baz=281,slow=4.5,SNR=12						

*IDC **30** 10:17:19.9±2.3, 34°.94S×71°.92W, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.6/27, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=51.8km s-min=34.8km az=156.0*

*ISCJB **30** 10:17:23.5±1.5, 34°.58S±0°.06×71°.84W±0°.08, h21km±14km, mb3.6/2, Error ellipse: s-maj=12.6km s-min=8.5km az=33.2*

*GUC **30** 10:17:23.6±0.4, 34°.55S×71°.75W, h12km±2km, ML4.0*

ISC 30 10:17:22.9±1.4, 34°.61S±0°.03×71°.68W±0°.08, h13km±10km, n13, σ0§97/18, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.54	137	⇑iP	Pn	10 17 35.4	-1.0
NICH				i S	Sn	10 17 44.8	-0.7
TALC	Talca	0.79	177	⇑iP	Pb	10 17 38.4	-0.2
TALC				i S	Sb	10 17 49.9	+0.7
LNCH	Linares	1.24	177	⇓iP	Pg	10 17 46.4	-0.4
LNCH				i S	Sg	10 18 03.5	+0.6
SJCH	San Jose de Ma	1.46	49	⇑iP	Pn	10 17 49.1	-0.1
SJCH				i S	Sn	10 18 08.8	+0.5
SJCH				AML	AML	10 18 13.5	
	comp=E,2μm,0.3s						
FSR	Penalolen	1.48	41	i P9	Pg	10 17 51.4	+0.1
FSR				i S	Sg	10 18 11.1	+0.5
CLCH	Cerro Calan	1.54	39	AML	AML	10 18 18.1	
	comp=N,7μm,0.8s						
IHA	Instituto Hidr	1.58	1	i P	Pn	10 17 50.0	-0.7
IHA				i S	Sn	10 18 09.9	-1.1
YECH	El Yeso	1.63	55	i P9	Pn	10 17 51.7	+0.1
YECH				i S	Sn	10 18 13.8	+1.2
YECH				AML	AML	10 18 26.4	
	comp=N,2μm,0.2s						
CFAA	Coronel Fontan	4.16	45	Pn	Pn	10 18 30.6	+4.4
	comp=N,0.6nm,0.3s,baz=204,slow=14,SNR=11						
CFAA				Sn	Sb	10 19 23.9	-2.4
	comp=N,0.4nm,0.3s,baz=324,slow=16,SNR=4.2						
LPAZ	La Paz	18.52	11	P	Pn	10 21 40.9	+1.0
	comp=N,0.1nm,0.3s,baz=163,slow=18,SNR=2.9						
SIV	San Ignacio	20.84	30	P	Pn	10 22 08.6	+1.5
	comp=N,1.6nm,0.6s,baz=226,slow=13,SNR=4.3						
TXAR	Lajitas Array	70.41	331	P	P	10 28 37.3	+0.4
	comp=N,0.3nm,0.4s,baz=155,slow=8.3,SNR=14						
TORD	Torodi Ar. Bea	84.14	70	P	P	10 29 54.4	+0.2
	comp=N,0.5nm,0.9s,baz=241,slow=4.2,SNR=2.3						

*FUNV **30** 10:52:20.9, 10°.07N×60°.30W, h27km, MW3.1*

*ISCJB **30** 10:52:22.6±0.8, 10°.15N±0°.05×60°.61W±0°.05, h59km, mb3.6/6, Error ellipse: s-maj=8.0km s-min=4.9km az=138.1*

*IDC **30** 10:52:22.1±1.3, 10°.05N×60°.51W, h39km±7km, mb3.4/6, mb1 3.8/8, mb1mx3.5/39, mbtmp3.8/8, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/28, Error ellipse: s-maj=34.0km s-min=22.9km az=20.0*

*TRN **30** 10:52:27.1, 10°.43N×60°.70W, h43km, MD3.7*

ISC 30 10:52:22.6±0.8, 10°.08N±0°.06×60°.50W±0°.06, h59km, n29, σ2§00/42, mb3.6/6, 2C, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	Brigand Hill	0.69	306	⇑eP	Pn	10 52 38.2	+1.5
TBH				eS	Sn	10 52 44.3	-2.8
TRN	Trinidad (W)	1.06	302	eP	Pn	10 52 42.6	+1.2
TRN				eS	Sn	10 52 52.8	-2.5
BOT	Bacolet	1.10	349	eP	Pn	10 52 42.2	+0.3
BOT	Bacolet	1.10	349	e	Pn	10 52 47.3	+5.3
BOT				eS	Sn	10 52 53.4	-2.9
TPR	Prospect	1.13	346	eP	Pn	10 52 42.7	+0.3
TPR	Prospect	1.13	346	e	Pn	10 52 47.8	+5.3
TPR				eS	Sn	10 52 54.1	-3.1
TOSP	Speyside	1.21	358	eP	Pn	10 52 43.9	+0.5
TOSP				eS	Sn	10 52 57.1	-1.8
GRW	Mount Saint Ca	2.36	331	eP	Pn	10 53 00.2	+1.1
GRW	Mount Saint Ca	2.36	331	e	Pn	10 53 11.4	+12
GUNV	Guanoco	2.41	272	⇑iP	Pn	10 53 01.4	+1.7
GUNV				eS	Sn	10 53 29.9	+1.9
CRUV	Carupano	2.76	283	eP	Pn	10 53 03.7	-0.8
CRUV				eS	Sn	10 53 36.2	-0.4
SVB	Belmont	3.26	347	eP	Pn	10 53 12.3	+1.0
SVB				eS	Sn	10 53 45.2	-3.7
MCLT	Moule a Chique	3.63	353	eP	Pn	10 53 17.8	+1.3
MCLT				eS	Sn	10 53 55.2	-2.9
PCRV	Puerto La Cruz	4.08	272	eP	Pn	10 53 22.2	-0.3
PCRV				eS	Sn	10 54 07.6	-1.4
PCRV	Puerto La Cruz	4.08	272	Pn	Pn	10 53 22.3	-0.3
	1.8nm,0.3s,baz=55,slow=4.3,SNR=29						
PCRV				Sn	Sn	10 54 07.8	-1.3
	5.3nm,0.3s,baz=270,slow=17,SNR=10						
LUEV	Luepa	4.32	193	eP	Pn	10 53 24.2	-1.7
BIM	Bigot	4.45	353	eP	Pn	10 53 26.6	-1.0
FDF	Fort de France	4.67	352	eP	Pn	10 53 18.6	-12
CUPV	Cœpira	5.21	270	eP	Pn	10 53 38.5	+0.3
CUPV				eS	Sn	10 54 35.7	-1.3
BIRV	Birongo	5.70	274	eP	Pn	10 53 44.8	+0.1
BIRV				eS	Sn	10 54 47.4	-1.4
MERV	Las Mercedes

*NEIC **30** 11:12:16.1±0.6, 22°.44S×175°.38W, h35km, mb4.8/6, Error ellipse: s-maj=18.8km s-min=12.3km az=146.0*

ISC 30 11:12:15.3±0.6, 22°.8S±0°.1×175°.31W±0°.09, h33km, n50,
σ1§06/47, mb4.9/22, MS3.8/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.41**	**21**	*e*Pn	Pn	11 14 21.5	-7.2
AFI	265nm,0.7s			*e*Sn	**Sn**	**11 16 13.7**	**+0.3**
DZM	**Mont Dzumac**	**16.89**	**269**	Pn	**P**	**11 16 14.6**	**+3.5**
DZM	0.7nm,0.3s,baz=79,slow=17,SNR=11			LR	LR	11 21 35.3	
DZM	comp=Z,195nm,20.2s,baz=104,slow=33 **Mont Dzumac**	**16.89**	**269**	*e*Pn	**Pn**	**11 16 08.3**	**-1.0**
DZM	38nm,0.9s			*e*S	**S**	**11 19 24.0**	**-1.7**
TBI	**Tubuai**	**23.79**	**97**	*e*LQ	LQ	11 21 32.9	
TBI	435nm,26.8s			*e*LR	LR	11 22 54.3	
PAE	302nm,29.8s **Paea**	**24.66**	**83**	*e*T	T	11 42 30.9	
PPT2	5.1nm,0.3s **Papeete2**	**24.68**	**83**	*e*LQ	LQ	11 22 18.0	
PPT2	442nm,26.2s			*e*LR	LR	11 23 26.4	
PPT2	211nm,22.2s **Papeete2**	**24.68**	**83**	*e*T	T	11 42 33.5	
PPT	3.2nm,0.4s **Papeete**	**24.69**	**83**	LR	LR	11 25 38.1	
CTA	comp=Z,175nm,18.1s,baz=280,slow=33 **Charters Tower**	**35.81**	**267**	P	**P**	**11 19 11.5**	**-0.4**
CTAO	12nm,0.9s,baz=100,slow=9.8,SNR=9.8 **Charters Tower**	**35.81**	**267**	*e*P	**P**	**11 19 11.8**	**-0.1**
RKT	8.8nm,0.7s **Rikitea**	**37.07**	**99**	*e*LR	LR	11 28 53.0	
PMG	195nm,30.8s **Port Moresby**	**38.30**	**284**	P	**P**	**11 19 33.3**	**+0.3**
PMG	28nm,0.8s,baz=104,slow=6.1,SNR=9.1 **Port Moresby**	**38.30**	**284**	*e*P	**P**	**11 19 33.9**	**+0.8**
AS31	**Alice Springs**	**46.48**	**258**	*e*P	**P**	**11 20 38.0**	**-1.6**
ASAR	**Alice Springs**	**46.48**	**258**	P	**P**	**11 20 39.3**	**-0.3**
ASAR	23nm,0.9s,baz=93,slow=8.2,SNR=152			S	**S**	**11 27 25.2**	**-0.7**
ASAR	0.3nm,0.8s,baz=97,slow=14,SNR=4.1			LR	LR	11 40 24.2	
WB2	comp=Z,287nm,18.3s,baz=100,slow=36 **Warramunga Arr**	**46.79**	**264**	*e*P	**P**	**11 20 41.2**	**-0.9**
WRAB	**Tennant Creek**	**46.79**	**264**	*e*P	**P**	**11 20 40.9**	**-1.3**
WRA	16nm,1.0s **Warramunga Arr**	**46.80**	**264**	P	**P**	**11 20 41.4**	**-0.8**
WRA	11nm,0.8s,baz=94,slow=8.3,SNR=88			PcP	**PcP**	**11 22 16.5**	**+1.4**
WRA	0.9nm,0.9s,baz=94,slow=3.6,SNR=3.4			LR	LR	11 40 13.1	
JAY	comp=Z,143nm,18.7s,baz=90,slow=36 **Jayapura**	**47.13**	**289**	P	**P**	**11 20 44.1**	**-0.7**
VNDA	16nm,0.8s,baz=114,slow=12,SNR=4.5 **Vanda**	**55.92**	**186**	*e*P	P	11 21 54.8	+5.2
QSPA	1.2nm,0.7s **South Pole Qui**	**67.34**	**180**	P	**P**	**11 23 06.4**	**-0.6**
QSPA	2.3nm,0.7s,baz=308,slow=0.9,SNR=8.9 **South Pole Qui**	**67.34**	**180**	*e*P	**P**	**11 23 08.0**	**+1.1**
MJAR	**Matsushiro Arr**	**73.50**	**322**	P	**P**	**11 23 44.4**	**-0.4**
MJAR	4.2nm,0.7s,baz=158,slow=5.9,SNR=14			LR	LR	11 51 00.2	
LEM	comp=Z,255nm,21.8s,baz=165,slow=32 **Lembang**	**75.49**	**269**	LR	LR	11 58 03.7	
ASAJ	comp=Z,104nm,20.1s,baz=232,slow=36 **Asahikawa**	**76.89**	**330**	P	**P**	**11 24 05.1**	**+1.0**
YSS	20nm,0.9s,baz=204,slow=6.4,SNR=11 **Yuzh-Sakhalins**	**79.02**	**332**	*e*P	**P**	**11 24 17.1**	**+1.2**
PETK	26nm,1.0s **Petropavlovsk-**	**79.09**	**344**	P	**P**	**11 24 16.0**	**-0.1**
PETK	9.4nm,0.8s,baz=144,slow=8.3,SNR=11			LR	LR	12 01 30.7	
KSRS	comp=Z,27nm,18.3s,baz=134,slow=37 **Korea Array**	**80.22**	**318**	P	**P**	**11 24 23.5**	**+1.0**
KSRS	1.3nm,0.7s,baz=126,slow=6.2,SNR=4.1			LR	LR	11 57 46.9	
KSAR	comp=Z,44nm,18.6s,baz=156,slow=34 **Wonju Array Be**	**80.24**	**317**	P	**P**	**11 24 23.5**	**+0.9**
USRK	**Ussuriysk Ar.**	**82.22**	**325**	P	**P**	**11 24 34.4**	**+1.3**
MDJ	11nm,0.8s,baz=109,slow=4.4,SNR=17 **Mudanjiang**	**83.79**	**324**	*e*P	**P**	**11 24 40.1**	**-1.1**
TXAR	17nm,1.1s **Lajitas Array**	**86.19**	**56**	P	**P**	**11 24 53.1**	**-0.6**
WRAK	1.2nm,1.1s,baz=212,slow=4.4,SNR=6.6 **Wrangell Islan**	**86.80**	**22**	*e*P	**P**	**11 24 55.7**	**-0.2**
PDAR	28nm,0.6s **Pinedale Array**	**88.91**	**42**	P	**P**	**11 25 06.4**	**-0.2**
SEY	0.6nm,0.9s,baz=198,slow=0.6,SNR=3.2 **Seymchan**	**89.14**	**346**	P	**P**	**11 25 07.0**	**+0.1**
ILAR	6.9nm,1.0s,baz=152,slow=5.5,SNR=17 **Eielson Array**	**89.97**	**12**	P	**P**	**11 25 10.3**	**-0.5**
CMAR	1.1nm,1.0s,baz=215,slow=5.3,SNR=6.8 **Chiang Mai Arr**	**93.21**	**289**	P	**P**	**11 25 28.0**	**+1.1**
CMAR	6.0nm,0.9s,baz=128,slow=2.9,SNR=33			LR	LR	12 05 52.6	
CMAR	comp=Z,37nm,19.7s,baz=15,slow=35 **Chiang Mai Arr**	**93.21**	**289**	P	**P**	**11 25 28.0**	**+1.1**
YKA	**Yellowknife Ar**	**97.51**	**24**	P	**P**	**11 25 44.5**	**-1.0**
MKAR	0.2nm,0.7s,baz=238,slow=4.7,SNR=4.3 **Makanchi Array**	**114.55**	**312**	PKP	PKPdf	11 30 53.2	+1.2
KURK	0.4nm,0.6s,baz=75,slow=1.6,SNR=3.0 **Kurchatov**	**117.33**	**317**	PKP	**PKPdf**	**11 30 55.5**	**-1.7**
KURBB	**Kurchatov Arra**	**117.39**	**316**	PKP	**PKPdf**	**11 30 55.5**	**-1.8**
BVAR	0.4nm,0.4s,baz=84,slow=1.8,SNR=3.4 **Borovoye Array**	**122.40**	**319**	PKP	**PKPdf**	**11 31 06.3**	**-0.5**
SUW	0.9nm,0.9s,baz=98,slow=2.9,SNR=3.6 **Suwalki**	**145.80**	**341**	*e*PKPbc	**PKPdf**	**11 31 50.5**	**+0.2**
AKASG	**Malin Array Be**	**146.17**	**332**	PKPbc	**PKPdf**	**11 31 51.2**	**+0.3**
KIEV	4.2nm,0.7s,baz=39,slow=4.1,SNR=23 **Kiev**	**146.19**	**332**	*e*PKPdf	**PKPdf**	**11 31 51.5**	**+0.5**
BRTR	**Keskin Array B**	**150.19**	**311**	PKPbc	**PKPbc**	**11 32 03.1**	**-0.1**
BRTR	2.5nm,0.9s,baz=42,slow=2.3,SNR=10.0			PKPab	**PKPab**	**11 32 09.7**	**+0.3**
MMAI	3.6nm,0.9s,baz=43,slow=2.6,SNR=8.4 **Mount Meron Ar**	**151.08**	**297**	PKPbc	**PKPbc**	**11 32 06.4**	**+1.0**
MMAI	7.4nm,0.8s,baz=46,slow=2.8,SNR=5.3			PKPab	**PKPab**	**11 32 12.5**	**-0.7**
KHC	6.1nm,0.7s,baz=64,slow=7.5,SNR=5.4 **Kasperske Hory**	**152.74**	**347**	*e*PKPdf	**PKPdf**	**11 32 00.6**	**-0.9**
KHC				*e*PKPab	**PKPab**	**11 32 19.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**170.04**	**163**	PKPab	**PKPab**	**11 33 36.4**	**+0.9**
	0.9nm,0.8s,baz=209,slow=2.6,SNR=3.5						

*ISCJB **30** 11:13:08.3±0.5, 32°.39N±0°.04×92°.70E±0°.07, h10km, mb3.9/11, MS3.5/9, Error ellipse: s-maj=8.5km s-min=5.7km az=24.5*

*IDC **30** 11:13:09.0±0.8, 32°.49N×92°.82E, h0km, mb3.8/11, mb1 3.9/14, mb1mx3.6/54, mbtmp3.8/14, ML3.9/3, MS3.4/12, Ms1 3.5/12, ms1mx3.2/43, Error ellipse: s-maj=37.3km s-min=15.5km az=55.0*

*BJI **30** 11:13:11.8, 32°.35N×92°.75E, h14km, mb4.1/7, ML3.8/3, Ms4.0/5, Ms7 3.8/9*

ISC 30 11:13:10.3±0.6, 32°.45N±0°.06×92°.81E±0°.07, h10km, n23,
σ0§93/20, mb4.0/10, MS3.4/9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.09**	**208**	Pg	**Pb**	**11 14 06.3**	**+0.6**
LSA				Sg	**Sg**	**11 14 48.3**	**-1.4**
CD2	**Chengdu**	**9.46**	**96**	*e*P	**Pn**	**11 15 27.5**	**+0.8**
CD2				S	**Sn**	**11 17 10.5**	**-2.6**
CD2				PMZ			
	10.0nm,1.4s						
CD2				LZ			
	280nm,9.5s						
WMQ	**Urumqi**	**12.04**	**342**	*e*P	Pn	11 16 08.5	+6.5
WMQ				S	Sn	11 18 23.8	+7.5
WMQ				PMZ			
	4.0nm,1.1s						
WMQ				LN			
	240nm,19.0s						
WMQ				LE			
	170nm,18.0s						
WMQ				LZ			
	160nm,15.0s						
CMAR	**Chiang Mai Arr**	**14.99**	**157**	Pn	**Pn**	**11 16 42.8**	**+0.4**
	0.8nm,0.3s,baz=328,slow=9.9,SNR=2.6						
CMAR				LR	LR	11 23 10.2	
	comp=Z,105nm,18.1s,baz=336,slow=40						
MKAR	**Makanchi Array**	**16.43**	**334**	Pn	**Pn**	**11 17 00.2**	**-0.7**
	0.2nm,0.3s,baz=141,slow=14,SNR=8.4						
MKAR				LR	LR	11 23 30.9	
	comp=Z,58nm,18.8s,baz=148,slow=38						
HHC	**Hu-ho-hao-te**	**17.20**	**56**	*e*P	**P**	**11 17 13.0**	**+0.6**
HHC				PP	PnPn	11 17 28.5	+7.9
HHC				S	**Sn**	**11 20 23.0**	**+0.8**
HHC				SS	SnSn	11 20 45.0	+9.4
HHC				PMZ			
	28nm,0.9s						
HHC				LZ			
	640nm,10.3s						
AAK	**Ala-Archa**	**17.69**	**310**	P	**P**	**11 17 18.3**	**+0.5**
	0.1nm,0.3s,baz=116,slow=16,SNR=1.6						
AAK				LR	LR	11 25 24.6	
	comp=Z,124nm,20.9s,baz=70,slow=42						
KURBB	**Kurchatov Arra**	**21.00**	**334**	P	**P**	**11 17 53.3**	**-0.4**
	3.5nm,1.0s,baz=139,slow=12,SNR=20						
ZALV	**Zalesovo Beam**	**22.23**	**347**	P	**P**	**11 18 05.8**	**-1.1**
	1.8nm,0.9s,baz=150,slow=6.8,SNR=4.7						
BVAR	**Borovoye Array**	**26.14**	**328**	P	**P**	**11 18 45.0**	**+0.6**
	0.3nm,0.4s,baz=158,slow=12,SNR=2.5						
BVAR				LR	LR	11 29 45.4	
	comp=Z,57nm,19.9s,baz=137,slow=38						
PALK	**Pallekele**	**27.47**	**207**	LR	LR	11 30 04.0	
	comp=Z,109nm,19.0s,baz=234,slow=37						
GEYT	**Alibeck**	**28.76**	**291**	LR	LR	11 33 17.0	
	comp=Z,89nm,18.5s,baz=205,slow=42						
SEY	**Seymchan**	**47.88**	**32**	P	**P**	**11 21 47.9**	**-0.3**
	1.0nm,0.8s,baz=278,slow=5.8,SNR=5.8						
AKASG	**Malin Array Be**	**49.36**	**311**	P	**P**	**11 21 59.1**	**-0.6**
	0.3nm,0.4s,baz=76,slow=6.6,SNR=3.3						
AKASG				LR	LR	11 46 17.1	
	comp=Z,31nm,20.0s,baz=260,slow=40						
FINES	**FINESS Array B**	**51.03**	**325**	P	**P**	**11 22 12.7**	**+0.4**
	1.0nm,0.7s,baz=113,slow=11,SNR=4.0						
FINES				LR	LR	11 46 42.7	
	comp=Z,40nm,18.4s,baz=1.0,slow=40						
ARCES	**ARCESS Array B**	**52.07**	**336**	P	**P**	**11 22 19.8**	**-0.1**
	4.0nm,1.0s,baz=93,slow=8.2,SNR=2.6						
ARCES				LR	LR	11 44 43.4	
	comp=Z,35nm,18.6s,baz=226,slow=36						
HFS	**Hagfors**	**57.16**	**324**	P	**P**	**11 22 57.0**	**0.0**
	1.9nm,0.8s,baz=91,slow=5.8,SNR=4.5						
NOA	**NORSAR Array B**	**58.22**	**326**	LR	LR	11 49 57.8	
	comp=Z,23nm,18.9s,baz=80,slow=38						
GERES	**GERESS Array B**	**59.57**	**311**	LR	LR	11 51 48.6	
	comp=Z,51nm,18.2s,baz=80,slow=39						
WRA	**Warramunga Arr**	**65.52**	**137**	P	**P**	**11 23 54.8**	**+0.7**
	1.0nm,0.8s,baz=316,slow=6.6,SNR=5.7						
ASAR	**Alice Springs**	**68.22**	**140**	P	**P**	**11 24 11.7**	**+0.5**
	1.3nm,0.7s,baz=320,slow=5.7,SNR=12						
TORD	**Torodi Ar. Bea**	**83.99**	**282**	P	**P**	**11 25 41.2**	**-0.1**
	2.8nm,0.8s,baz=50,slow=4.4,SNR=16						
DBIC	**Dimbokro**	**92.89**	**280**	LR	LR	12 13 49.4	
	comp=Z,49nm,18.4s,baz=204,slow=39						

*IDC **30** 11:32:27.8±0.8, 35°.99S×73°.31W, h0km, mb3.9/6, mb1 4.1/7, mb1mx4.0/24, mbtmp3.9/7, ML3.0/1, MS3.6/9, Ms1 3.6/9, ms1mx3.4/25, Error ellipse: s-maj=35.3km s-min=20.6km az=110.0*

*GUC **30** 11:32:28.7±0.5, 36°.06S×73°.55W, h7km±10km, ML4.6*

*ISCJB **30** 11:32:31.1±0.5, 36°.03S±0°.04×73°.31W±0°.08, h33km, mb4.2/11, MS3.6/8, Error ellipse: s-maj=8.8km s-min=5.1km az=178.2*

*NEIC **30** 11:32:32.4±3.1, 36°.01S×73°.24W, h31km±21km, mb4.4/7, Error ellipse: s-maj=17.6km s-min=8.4km az=77.0*

ISC 30 11:32:32.4±0.6, 36°.06S±0°.05×73°.49W±0°.08, h35km, n38,
σ1§83/42, mb4.3/11, MS3.5/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.84**	**159**	*i* P	**Pn**	**11 32 45.1**	**-2.6**
CCSP				*i* S	**Sn**	**11 32 57.0**	**-1.9**
CCSP				AML	AML	11 32 58.8	
	comp=E,42μm,0.3s						
LNCH	**Linares**	**1.55**	**83**	*e*P	**Pn**	**11 32 56.5**	**-0.9**
LNCH				*i* S	**Sn**	**11 33 17.7**	**+1.5**
TALC	**Talca**	**1.65**	**67**	*i* P	**Pn**	**11 32 57.7**	**-1.0**
TALC				*i* S	**Sn**	**11 33 20.5**	**+1.8**
NICH	**Los Niches**	**2.12**	**61**	*i* P	**Pn**	**11 33 05.7**	**+0.4**
NICH				*i* S	**Sn**	**11 33 33.9**	**+3.4**
PLCA	**Paso Flores**	**5.21**	**155**	*e*Pn	**Pn**	**11 33 47.7**	**-0.2**
PLCA				*e*Sn	**Sn**	**11 34 48.0**	**+1.2**
CFAA	**Coronel Fontan**	**6.23**	**46**	Pn	**Pn**	**11 34 00.7**	**-1.1**
	comp=E,0.4nm,0.3s,baz=194,slow=12,SNR=19						
CFAA				Sn	**Sn**	**11 35 10.9**	**-0.9**
	comp=E,0.3nm,0.3s,baz=250,slow=15,SNR=4.2						
CFAA				LR	LR	11 36 47.9	
	comp=E,96nm,19.8s,baz=236,slow=43						
LCO	**Las Campanas**	**7.41**	**19**	*e*Pn	**Pn**	**11 34 16.2**	**-2.0**
	comp=E,8.7nm,0.4s						
LCO				*e*Sn	**Sn**	**11 35 35.5**	**-5.6**
TRQA	**Tornquist**	**9.41**	**106**	*e*Pn	**Pn**	**11 34 43.8**	**-1.7**
	comp=E,20nm,1.0s						
TRQA				*e*Sn	**Sn**	**11 36 27.5**	**-2.7**
LVC	**Limon Verde**	**13.97**	**18**	*e*Pn	**Pn**	**11 35 47.0**	**-1.1**
LVC				*e*Sn	**Sn**	**11 38 17.9**	**-4.3**
LPAZ	**La Paz**	**20.26**	**15**	P	**P**	**11 37 03.4**	**-2.0**
	comp=E,1.0nm,0.6s,baz=76,slow=8.3,SNR=1.4						
LPAZ	**La Paz**	**20.26**	**15**	*e*P	**P**	**11 37 04.5**	**-0.9**
	comp=E,1.5nm,0.6s						
SIV	**San Ignacio**	**22.84**	**32**	P	**P**	**11 37 30.5**	**-2.1**
	comp=E,4.6nm,1.1s,baz=210,slow=14,SNR=7.0						
SIV				LR	LR	11 48 10.0	
	comp=E,154nm,18.5s,baz=220,slow=42						
NNA	**Nana**	**24.15**	**352**	LR	LR	11 45 20.0	
	comp=E,125nm,18.4s,baz=186,slow=32						
ATAH	**Atahualpa**	**29.13**	**350**	LR	LR	11 48 23.0	
	comp=E,115nm,18.0s,baz=180,slow=33						
PMSA	**Palmer Station**	**29.31**	**172**	LR	LR	11 49 47.7	
	comp=E,236nm,19.0s,baz=326,slow=35						
BDFB	**Brasilia**	**30.48**	**55**	LR	LR	11 53 12.8	
	comp=E,67nm,20.4s,baz=265,slow=41						
PTGA	**Pitinga**	**37.32**	**23**	LR	LR	11 54 19.0	
	comp=E,54nm,18.8s,baz=190,slow=35						
PTGA	**Pitinga**	**37.32**	**23**	*e*P	**P**	**11 39 40.9**	**-0.5**
	comp=E,1.6nm,0.5s						
BCIP	**Isla Barro Col**	**45.38**	**351**	*e*P	**P**	**11 40 47.0**	**-0.4**
	comp=E,15nm,0.8s						
JTS	**JuntasAbangare**	**47.35**	**345**	*e*P	**P**	**11 41 04.6**	**+1.7**
	comp=E,2.7nm,0.4s						
VNA3	**Neumayer Olymp**	**47.92**	**157**	P	**P**	**11 41 07.8**	**+1.0**
VNA2	**Neumayer--Watz**	**48.60**	**156**	P	**P**	**11 41 12.8**	**+0.8**
	baz=287,slow=7.9						
SNAA	**Sanae**	**50.15**	**157**	P	**P**	**11 41 24.7**	**+0.8**
QSPA	**South Pole Qui**	**54.19**	**180**	P	**P**	**11 41 55.6**	**+1.5**
	comp=E,7.5nm,1.0s,baz=143,slow=5.9,SNR=18						
JCT	**Junction City**	**70.65**	**336**	*e*P	**P**	**11 43 46.1**	**+1.8**
	comp=E,2.6nm,0.6s						
TXAR	**Lajitas Array**	**70.97**	**332**	P	**P**	**11 43 47.9**	**+1.5**
	comp=E,0.6nm,0.5s,baz=157,slow=8.9,SNR=13						
MAW	**Mawson**	**71.55**	**164**	LR	LR	12 13 57.5	
	comp=E,111nm,20.2s,baz=240,slow=35						
DBIC	**Dimbokro**	**76.96**	**72**	*e*P	**P**	**11 44 22.1**	**+0.5**
	comp=E,6.6nm,1.0s						
LBTB	**Lobatse**	**82.51**	**115**	LR	LR	12 19 46.6	
	comp=E,52nm,18.1s,baz=191,slow=34						
TPH	**Tonopah**	**84.13**	**327**	*e*P	**P**	**11 45 01.9**	**+2.1**
	comp=E,2.5nm,1.2s						
NV11	**Mina Array Sit**	**84.84**	**326**	*e*P	**P**	**11 45 03.9**	**+0.6**
PDAR	**Pinedale Array**	**85.07**	**334**	P	**P**	**11 45 05.5**	**+1.0**
	comp=E,0.2nm,0.4s,baz=134,slow=2.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**86.02**	**71**	P	**P**	**11 45 09.3**	**-0.3**
	comp=E,2.6nm,1.2s,baz=225,slow=6.5,SNR=5.9						
WRA	**Warramunga Arr**	**118.39**	**210**	PKP	**PKPdf**	**11 51 16.5**	**-0.1**
	comp=E,1.1nm,1.0s,baz=166,slow=1.5,SNR=3.0						
ABKAR	**Akbulak array**	**143.87**	**54**	*e*PKPdf	**PKPdf**	**11 52 02.5**	**-0.9**
BVAR	**Borovoye Array**	**149.58**	**45**	PKPbc	**PKPbc**	**11 52 18.8**	**+1.4**
	comp=E,0.4nm,0.5s,baz=304,slow=2.8,SNR=2.5						
ZALV	**Zalesovo Beam**	**156.59**	**33**	PKP	**PKPdf**	**11 52 22.5**	**-0.5**
	comp=E,0.3nm,0.3s,baz=333,slow=0.3,SNR=4.6						
ZALV				PKPab	**PKPab**	**11 52 52.9**	**+0.7**
	comp=E,0.4nm,0.6s,baz=327,slow=7.9,SNR=3.5						
MKAR	**Makanchi Array**	**158.99**	**52**	PKP	**PKPdf**	**11 52 26.2**	**-0.1**
	comp=E,0.1nm,0.5s,baz=321,slow=1.7,SNR=3.8						
MKAR				PKPab	**PKPab**	**11 53 02.8**	**0.0**
	comp=E,0.8nm,1.1s,baz=284,slow=1.2,SNR=2.8						

*ISCJB **30** 11:36:20.4±0.4, 45°.71N±0°.03×81°.91E±0°.05, h5km, mb4.0/12, MS3.3/3, Error ellipse: s-maj=5.2km s-min=4.6km az=153.6*

*IDC **30** 11:36:20.7±0.9, 45°.67N×82°.06E, h0km, mb3.9/8, mb1 4.1/13, mb1mx3.9/45, mbtmp4.0/13, ML3.7/5, MS2.9/1, Ms1 2.9/1, ms1mx2.2/49, Error ellipse: s-maj=13.2km s-min=8.4km az=105.0*

*BJI **30** 11:36:21.8, 45°.69N×82°.10E, h10km, mb3.6/2, ML3.8/9*

*NNC **30** 11:36:21.8±0.8, 45°.75N×81°.91E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=11.2km s-min=3.3km az=117.0*

*MOS **30** 11:36:24.5±1.1, 45°.78N×81°.82E, h38km, mb4.2/7, Error ellipse: s-maj=11.6km s-min=7.7km az=95.3*

ISC 30 11:36:22.1±0.5, 45°.73N±0°.04×81°.92E±0°.05, h5km, n59,
σ1§45/71, mb4.0/12, MS3.3/3, 17C-14D,
Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.09**	**14**	⇑P	**Pg**	**11 36 42.7**	**-0.3**
MK31	53nm,0.3s,baz=266,slow=18,SNR=5246			⇓S	**Sg**	**11 36 57.0**	**-0.3**
MK31	83nm,0.3s,baz=190,slow=28,SNR=19 **Makanchi Array**	**1.09**	**14**	P	**Pg**	**11 36 42.8**	**-0.3**
MK31				S	**Sg**	**11 36 57.0**	**-0.3**
MK31				pmax	pmax		
	comp=Z,112nm,0.2s						
MK31				smax	smax		
	comp=N,199nm,0.2s						
MKAR	**Makanchi Array**	**1.09**	**14**	P	**Pg**	**11 36 43.0**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,81nm,0.3s						
MKAR	**Makanchi Array**	**1.09**	**14**	Pg	**Pg**	**11 36 43.0**	**-0.1**
	comp=Z,81nm,0.3s,baz=188,slow=18,SNR=3838						
MKAR				Lg	Lg	11 36 57.5	
	comp=Z,152nm,0.3s,baz=191,slow=28,SNR=25						
PDGK	**Podgornoye**	**2.97**	**217**	⇑Pn	**Pn**	**11 37 10.9**	**+1.0**
	comp=Z,7.9nm,0.4s						
PDGK				⇑Pg	**Pb**	**11 37 15.8**	**+0.4**
	comp=Z,105nm,0.5s						
PDGK				⇓Lg	Lg	11 37 53.7	
	comp=Z,1μm,0.5s						
PDGK	**Podgornoye**	**2.97**	**217**	PN	**Pn**	**11 37 10.8**	**+1.0**
PDGK				pmax	pmax		
	comp=Z,145nm,0.6s						
AAA	**Alma-Ata**	**4.32**	**237**	*e*PN	**Pb**	**11 37 40.1**	**+1.5**
AAA				pmax	pmax		
	comp=Z,174nm,0.3s						
KNDC	**Almaty**	**4.34**	**236**	⇑Pg	**Pb**	**11 37 40.3**	**+1.3**
KNDC				⇑Lg	Lg	11 38 37.2	
WMQ	**Urumqi**	**4.54**	**113**	Pn	**Pn**	**11 37 32.0**	**+0.5**
WMQ				Sn	**Sn**	**11 38 24.5**	**-0.2**
WMQ				SMN			
	comp=Z,120nm,0.5s						
WMQ				SME			
	comp=Z,140nm,0.5s						
TKM2	**Tokmak 2**	**5.33**	**240**	⇓Pn	**Pn**	**11 37 43.5**	**+0.9**
	comp=Z,2.5nm,0.5s						
TKM2				⇓Pg	Pb	11 37 59.5	+3.5
	comp=Z,12nm,0.4s						
TKM2				⇓Lg	Lg	11 39 08.9	
	comp=Z,48nm,0.5s						
TKM2	**Tokmak 2**	**5.33**	**240**	PN	**Pn**	**11 37 43.2**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,14nm,0.5s						
KURBB	**Kurchatov Arra**	**5.39**	**336**	⇓Pn	**Pn**	**11 37 44.7**	**+1.5**
	comp=Z,7.4nm,0.5s						
KURBB				⇑Pg	**Pg**	**11 38 02.2**	**-3.2**
	comp=Z,16nm,0.5s						
KURBB				⇓Sn	**Sn**	**11 38 50.0**	**+4.4**
	comp=Z,58nm,0.5s						
KURBB				⇓Lg	Lg	11 39 16.5	
	comp=Z,319nm,0.5s						
KURBB	**Kurchatov Arra**	**5.39**	**336**	Pn	**Pn**	**11 37 43.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=156,slow=14,SNR=21						
KURBB				Sn	**Sn**	**11 38 47.0**	**+1.4**
	comp=Z,2.5nm,0.3s,baz=155,slow=22,SNR=6.0						
KURBB				Lg	Lg	11 39 15.3	
	comp=Z,6.9nm,0.3s,baz=155,slow=30,SNR=14						
KURK	**Kurchatov**	**5.45**	**337**	⇑Pn	**Pn**	**11 37 44.9**	**+0.9**
	comp=Z,1.4nm,0.4s						
KURK				⇑Pg	**Pb**	**11 38 00.3**	**+2.6**
	comp=Z,5.8nm,0.4s						
KURK				⇑Sn	**Sn**	**11 38 47.0**	**0.0**
	comp=Z,11nm,0.5s						
KURK				⇑Lg	Lg	11 39 14.3	
	comp=Z,107nm,0.6s						
KURK	**Kurchatov**	**5.45**	**337**	PN	**Pn**	**11 37 44.8**	**+0.9**
KURK						11 38 46.6	
KURK				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KURK				smax	smax		
	comp=N,10.0nm,0.4s						
AAK	**Ala-Archa**	**6.17**	**242**	PN	**Pn**	**11 37 55.4**	**+1.4**
AAK				pmax	pmax		
	comp=Z,11nm,0.5s						
AAK	**Ala-Archa**	**6.17**	**242**	Pn	**Pn**	**11 37 56.0**	**+2.0**
	comp=Z,1.3nm,0.3s,baz=85,slow=6.8,SNR=26						
AAK				Lg	Lg	11 39 33.4	
	comp=Z,2.9nm,0.3s,baz=112,slow=19,SNR=9.6						
OTUK	**Ortayu**	**7.01**	**294**	⇓Pn	**Pn**	**11 38 05.7**	**+0.1**
	comp=Z,1.9nm,0.3s						
OTUK				⇑Lg	Lg	11 40 04.3	
	comp=Z,77nm,0.6s						
MNAS	**Manas**	**7.51**	**248**	⇑Pg	Pb	11 38 39.2	+6.3
	comp=Z,2.4nm,0.4s						
MNAS				⇑Lg	Lg	11 40 15.6	
	comp=Z,18nm,0.7s						
KSH	**Kashi**	**7.60**	**217**	*e*Pn	Pg	11 38 43.3	-4.4
KSH				S

ARU	**Arti**	**18.07**	**315**	*d*	*i*P	**P**	**11 40 34.5 +0.4**
ARU					S	**Sn**	**11 43 54.7 -0.7**
ARU					pmax	pmax	
	comp=Z,6.0nm,1.7s						
OBN	**Obninsk**	**29.89**	**305**	*e*	P	**P**	**11 42 31.0 +0.6**
OBN				*e*			11 43 24.1
OBN					pmax	pmax	
	comp=Z,4.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.65**	**147**		P	**P**	**11 42 37.1 -0.4**
CMAR					pmax	pmax	
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**30.65**	**147**		P	**P**	**11 42 37.1 -0.4**
	comp=Z,0.8nm,0.3s,baz=324,slow=8.7,SNR=4.7						
AKASG	**Malin Array Be**	**34.84**	**298**		P	**P**	**11 43 13.9 +0.2**
	comp=Z,0.1nm,0.2s,baz=66,slow=8.2,SNR=4.0						
QIZ	**Qiongzhong**	**35.24**	**130**		P	**P**	**11 43 16.8 -0.8**
QIZ					S	**S**	**11 48 50.5 -1.1**
QIZ					LR	LR	
	comp=Z,49nm,18.6s						
ARCES	**ARCESS Array B**	**36.44**	**330**		P	**P**	**11 43 28.0 +0.6**
ARCES					pmax	pmax	
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**36.44**	**330**		P	**P**	**11 43 28.0 +0.6**
	comp=Z,3.7nm,0.9s,baz=100,slow=9.2,SNR=6.1						
MLR	**Muntele Rosu**	**38.46**	**290**		LR	LR	12 00 38.4
	comp=Z,14nm,18.0s,baz=334,slow=38						
VYHS	**Vyhne**	**41.94**	**297**	*e*	P	**P**	**11 44 11.7 -1.9**
VYHS	**Vyhne**	**41.94**	**297**	*e*	P	**P**	**11 44 11.7 -1.9**
NB2	**NORSAR Subarra**	**42.59**	**317**		P	**P**	**11 44 18.7 -0.1**
	comp=Z,1.7nm,0.5s,baz=76,slow=8.6						
NOA	**NORSAR Array B**	**42.59**	**317**		P	**P**	**11 44 18.9 +0.1**
NOA					pmax	pmax	
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**42.59**	**317**		P	**P**	**11 44 18.9 +0.1**
	comp=Z,1.7nm,0.5s,baz=78,slow=8.1,SNR=10.0						
CLL	**Collm**	**44.45**	**303**	*e*	P	**P**	**11 44 35.0 +1.1**
CLL	**Collm**	**44.45**	**303**	*e*	P	**P**	**11 44 35.0 +1.1**
CLL				*e*	PP	**PP**	**11 46 15.0 -2.2**
BILL	**Bilibino**	**46.59**	**31**	*e*	P	**P**	**11 44 50.5 0.0**
BILL					pmax	pmax	
	comp=Z,2.0nm,1.4s						
BILL					MLR	MLR	
	comp=Z,83nm,18.0s						
LPG	**La Plagne**	**50.69**	**299**	*e*	P	**P**	**11 45 23.9 +1.1**
	comp=Z,14nm,0.9s						
LPL	**La Plagne**	**50.69**	**299**	*e*	P	**P**	**11 45 23.8 +1.1**
	comp=Z,12nm,0.7s						
ESDC	**Sonseca Array**	**60.48**	**298**		P	**P**	**11 46 33.3 +0.3**
	comp=Z,0.3nm,0.3s,baz=52,slow=8.4,SNR=3.5						
ILAR	**Eielson Array**	**63.44**	**21**		P	**P**	**11 46 51.7 -0.7**
ILAR					pmax	pmax	
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**63.44**	**21**		P	**P**	**11 46 51.7 -0.7**
	comp=Z,0.6nm,0.7s,baz=326,slow=5.2,SNR=8.8						
YKA	**Yellowknife Ar**	**71.31**	**8**		P	**P**	**11 47 41.5 -0.7**
YKA					pmax	pmax	
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**71.31**	**8**		P	**P**	**11 47 41.5 -0.7**
	comp=Z,0.5nm,0.7s,baz=343,slow=6.3,SNR=9.6						
TORD	**Torodi Ar. Bea**	**73.91**	**272**		P	**P**	**11 47 57.9 -0.5**
	comp=Z,2.1nm,0.8s,baz=46,slow=5.1,SNR=13						

*MOS **30** 11:36:42.4±0.9, 53°.29N×108°.63E, h9km, mb4.3/1, Error ellipse: s-maj=19.7km s-min=12.2km az=56.3*
*BYKL **30** 11:36:43.6±0.2, 53°.29N×108°.54E, h15km±3km*
ISC 30 11:36:43.7±0.8, 53°.30N±0°.02×108°.57E±0°.02, h12km±6km, n42, σ2§00/83, 4C-5D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.11**	**108**	⇑*i*Pg	**Pg**	**11 36 47.2**	**+0.5**
MXMB				*e*Sg	**Sg**	**11 36 49.8**	**+0.8**
MXMB				Pmax			
	5μm,0.2s						
MXMB				Smax			
	34μm,0.9s						
OGRR	**Ongureny**	**0.68**	**301**	*e*PG	**Pb**	**11 36 56.4**	**-1.0**
OGRR				*e*		11 37 05.3	
OGRR				pmax	pmax		
	comp=Z,304nm,0.1s						
OGRR				smax	smax		
	comp=N,4μm,0.3s						
OGRR	**Ongureny**	**0.68**	**301**	⇑*i*Pg	**Pb**	**11 36 56.3**	**-1.1**
OGRR				*e*Sg	**Sg**	**11 37 05.3**	**-0.4**
OGRR				Pmax			
	comp=N,302nm,0.1s						
OGRR				Smax			
	comp=N,4μm,0.2s						
SYVR	**Suvo**	**0.93**	**67**	*e*PG	**Pb**	**11 37 01.1**	**-0.6**
SYVR				*e*		11 37 13.9	
SYVR				pmax	pmax		
	comp=Z,105nm,0.1s						
SYVR				smax	smax		
	comp=E,282nm,0.1s						
SYVR	**Suvo**	**0.93**	**67**	⇓*i*Pg	**Pb**	**11 37 01.2**	**-0.5**
SYVR				*e*Sg	**Sb**	**11 37 14.1**	**+0.1**
SYVR				*e*Sb	**Sn**	**11 37 15.3**	**-0.5**
SYVR				Pmax			
	comp=E,78nm,0.1s						
SYVR				max			
	comp=E,286nm,0.2s						
ZRHB	**Zarechye**	**1.14**	**230**	*e*Pg	**Pg**	**11 37 04.2**	**-1.3**
ZRHB				*e*		11 37 09.9	
ZRHB				*e*Sg	**Sg**	**11 37 18.5**	**-1.8**
ZRHB				max			
	comp=E,172nm,0.2s						
ZRHB				Smax			
	comp=E,1μm,0.5s						
TRG	**Tyrgan**	**1.45**	**249**	*e*PG	**Pn**	**11 37 08.9**	**-0.8**
TRG				*e*		11 37 28.5	
TRG				pmax	pmax		
	comp=Z,85nm,0.2s						
TRG				smax	smax		
	comp=N,1μm,0.2s						
TRG	**Tyrgan**	**1.45**	**249**	*e*Pg	**Pn**	**11 37 08.9**	**-0.8**
TRG				*e*		11 37 27.4	
TRG				*e*Sg	**Sg**	**11 37 28.2**	**-2.0**
TRG				Pmax			
	comp=N,84nm,0.2s						
TRG				Smax			
	comp=N,1μm,0.2s						
UUDB	**Ulan-Yde**	**1.54**	**201**	⇑*i*Pg	**Pn**	**11 37 11.1**	**+0.2**
UUDB				*e*Sg	**Sn**	**11 37 31.6**	**+0.8**
UUDB				*e*Sb	**Sg**	**11 37 32.9**	**-0.2**
UUDB				max		11 37 38.3	
UUDB				Pmax			
	comp=N,129nm,0.1s						
UUDB				max			
	comp=N,648nm,0.3s						
KAB	**Kabansk**	**1.71**	**224**	*e*PN	**Pb**	**11 37 14.7**	**-0.3**
KAB				*e*		11 37 36.9	
KAB				pmax	pmax		
	comp=Z,77nm,0.3s						
KAB				smax	smax		
	comp=N,792nm,0.4s						
KAB	**Kabansk**	**1.71**	**224**	*e*Pg	**Pb**	**11 37 14.4**	**-0.6**
KAB				*e*Sg	**Sb**	**11 37 37.0**	**+0.6**
KAB				Pmax			
	comp=N,137nm,0.4s						
KAB				Smax			
	comp=N,805nm,0.6s						
HRMR	**Khuramsha**	**1.94**	**211**	*e*Pn	**Pn**	**11 37 17.0**	**+0.5**
HRMR				⇓*i*Pg	**Pb**	**11 37 18.4**	**-0.6**
HRMR				*e*Sg	**Sg**	**11 37 44.4**	**-1.7**
HRMR				*e*		11 37 47.2	
YLYR	**Ulyunkhan**	**2.20**	**43**	*e*PN	**Pn**	**11 37 21.0**	**+1.0**
YLYR				*e*		11 37 23.1	
YLYR				*e*S	**Sn**	**11 37 48.6**	**+1.5**
YLYR				*e*		11 37 52.5	
YLYR				pmax	pmax		
	comp=Z,57nm,0.3s						
YLYR				smax	smax		
	comp=N,161nm,0.4s						
YLYR				smax	smax		
	comp=N,495nm,0.3s						
YLYR	**Ulyunkhan**	**2.20**	**43**	⇓*i*Pn	**Pn**	**11 37 21.0**	**+1.0**
	comp=N,15nm,0.4s						
YLYR				⇓*i*Pn	**Pn**	**11 37 21.0**	**+1.0**
	comp=N,17nm,0.4s						
YLYR				⇓*i*Pn	**Pn**	**11 37 21.0**	**+1.0**
	comp=N,41nm,0.4s						
YLYR				*e*Pg	**Pb**	**11 37 22.7**	**-0.6**
YLYR				*e*Sg	**Sg**	**11 37 53.1**	**-1.2**
YLYR				Pmax			
	comp=N,56nm,0.3s						
YLYR				Smax			
	comp=N,145nm,0.5s						
NIZ	**Nizh Angarsk**	**2.55**	**12**	*e*Pn	**Pn**	**11 37 24.5**	**-0.3**
NIZ				*e*Pg	**Pb**	**11 37 28.5**	**-0.8**
NIZ				*e*		11 37 29.6	
NIZ				*e*Sg	**Sg**	**11 38 02.0**	**-3.4**
NIZ				*e*		11 38 03.8	
NIZ				max			
	comp=N,18nm,0.6s						
NIZ				max			
	comp=N,142nm,0.6s						
LSTR	**Listvyanka**	**2.69**	**239**	*e*Pn	**Pn**	**11 37 26.4**	**-0.4**
LSTR				*e*Pg	**Pb**	**11 37 30.8**	**-0.9**
LSTR				*e*Sn	**Sn**	**11 37 58.9**	**-0.3**
LSTR				*e*		11 38 04.4	
LSTR				*e*Sg	**Sb**	**11 38 06.2**	**+1.5**
LSTR				Pmax			
	comp=N,20nm,0.3s						
LSTR				Smax			
	comp=N,132nm,1.4s						
IRK	**Irkutsk**	**2.82**	**250**	*e*Sg	**Sb**	**11 38 09.1**	**+0.8**
IRK				Smax			
	comp=N,497nm,0.4s						
KMO	**Kumora**	**3.01**	**30**	*e*Pn	**Pn**	**11 37 31.1**	**-0.1**
KMO				*e*		11 37 37.1	
KMO				*e*S	**Sn**	**11 38 07.4**	**+0.3**
KMO				*e*		11 38 16.1	
KMO				pmax	pmax		
	comp=Z,26nm,0.5s						
KMO				smax	smax		
	comp=E,179nm,1.0s						
KMO	**Kumora**	**3.01**	**30**	⇑*i*Pn	**Pn**	**11 37 32.3**	**+1.1**
KMO				*e*Pg	**Pb**	**11 37 37.5**	**+0.3**
KMO				*e*Sg	**Sg**	**11 38 17.9**	**-2.5**
KMO				Pmax			
	comp=E,35nm,0.4s						
KMO				Smax			
	comp=E,181nm,1.1s						
CIT	**Chita**	**3.29**	**111**	*e*Sn	**Sn**	**11 38 13.3**	**-0.8**
CIT				*e*Sg	**Sg**	**11 38 25.4**	**-4.0**
CIT				Smax			
	comp=E,431nm,0.2s						
YOA	**Uoyan**	**3.38**	**32**	*e*PN	**Pg**	**11 37 46.4**	**-2.0**
YOA				*e*		11 38 31.5	
YOA				pmax	pmax		
	comp=Z,34nm,0.2s						
YOA				smax	smax		
	comp=N,486nm,0.9s						
YOA	**Uoyan**	**3.38**	**32**	*e*Sg	**Sg**	**11 38 29.6**	**-2.5**
YOA				Smax			
	comp=N,442nm,1.0s						
TLY	**Talaya**	**3.42**	**244**	*e*Pn	**Pn**	**11 37 36.8**	**0.0**
TLY				*e*Pg	**Pb**	**11 37 43.9**	**-0.2**
TLY				*e*Sg	**Sb**	**11 38 28.1**	**+2.5**
TLY				Pmax			
	comp=N,13nm,0.3s						
TLY				Smax			
	comp=N,88nm,0.6s						
UKT	**Uakit**	**3.68**	**51**	*e*PN	**Pn**	**11 37 41.1**	**+0.7**
UKT				*e*		11 37 49.8	
UKT				*e*S	**Sn**	**11 38 24.9**	**+1.2**
UKT				*e*		11 38 37.9	
UKT				pmax	pmax		
	comp=Z,20nm,0.5s						
UKT				smax	smax		
	comp=E,52nm,0.5s						
UKT	**Uakit**	**3.68**	**51**	*e*Pn	**Pn**	**11 37 41.3**	**+0.9**
UKT				*e*Pg	**Pb**	**11 37 49.2**	**+0.5**
UKT				*e*Sn	**Sn**	**11 38 25.0**	**+1.2**
UKT				*e*Sg	**Sg**	**11 38 38.3**	**-3.5**
UKT				Pmax			
	comp=E,32nm,1.2s						
UKT				Smax			
	comp=E,45nm,0.8s						
ARS	**Arshan**	**3.99**	**252**	*e*PN	**Pb**	**11 37 55.1**	**+1.2**
ARS				*e*		11 38 43.9	
ARS				pmax	pmax		
	comp=Z,23nm,0.3s						
ARS				smax	smax		
	comp=E,421nm,0.4s						
ARS	**Arshan**	**3.99**	**252**	*e*Pg	**Pb**	**11 37 54.9**	**+1.0**
ARS				*e*		11 38 08.0	
ARS				*e*Sg	**Sg**	**11 38 46.7**	**-5.1**
ARS				max			
	comp=E,24nm,0.5s						
ARS				Smax			
	comp=E,425nm,0.4s						
SVKR	**Severomuysk**	**4.04**	**44**	*e*Sg	**Sg**	**11 38 50.0**	**-3.4**
SVKR				Smax			
	comp=E,210nm,0.9s						
KPC	**Khapcheranga**	**4.32**	**145**	*e*PN	**Pn**	**11 37 48.7**	**-0.4**
KPC				*e*		11 38 00.9	
KPC				*e*S	**Sn**	**11 38 38.1**	**-1.3**
KPC				*e*		11 38 55.9	
KPC	**Khapcheranga**	**4.32**	**145**	*e*Pn	**Pn**	**11 37 48.5**	**-0.6**
KPC				*e*Pg	**Pb**	**11 38 00.6**	**+1.2**
KPC				*e*Sn	**Sn**	**11 38 37.0**	**-2.4**
KPC				*e*Sg	**Sb**	**11 38 56.2**	**+4.7**
KPC				Pmax			
	comp=E,29nm,0.6s						
KPC				Smax			
	comp=E,108nm,0.8s						
ZAK	**Zakamensk**	**4.39**	**230**	*e*Pn	**Pn**	**11 37 51.6**	**+1.4**
ZAK				*e*Pg	**Pb**	**11 38 02.4**	**+1.7**
ZAK				*e*Sg	**Sg**	**11 38 59.2**	**-5.4**
ZAK				Pmax			
	comp=E,5.0nm,0.8s						
ZAK				Smax			
	comp=E,28nm,0.9s						
MOY	**Mondy**	**4.91**	**254**	*e*PN	Pb	11 38 12.5	+2.9
MOY	**Mondy**	**4.91**	**254**	*e*	**Pn**	**11 38 00.5**	**+3.2**
MOY				*e*Pg	**Pb**	**11 38 09.9**	**+0.3**
MOY				*e*		11 38 54.5	
MOY				*e*Sg	**Sb**	**11 39 13.8**	**+5.2**
MOY				Pmax			
	comp=E,7.0nm,0.7s						
MOY				Smax			
	comp=E,91nm,1.6s						
NLYR	**Nelyaty**	**5.21**	**49**	*e*PN	**Pb**	**11 38 16.0**	**+1.3**
NLYR				*e*		11 39 26.5	
NLYR				pmax	pmax		
	comp=Z,21nm,0.8s						
NLYR				smax	smax		
	comp=N,94nm,1.1s						
NLYR	**Nelyaty**	**5.21**	**49**	*e*Pg	**Pb**	**11 38 17.0**	**+2.3**
NLYR				*e*Sg	**Sg**	**11 39 26.1**	**-4.8**
NLYR				*e*		11 39 36.0	
NLYR				Pmax			
	comp=N,4.0nm,0.5s						
NLYR				max			
	comp=N,95nm,0.8s						
ORL	**Orlik**	**5.35**	**265**	*e*PN	**Pn**	**11 38 05.0**	**+1.6**
ORL				*e*		11 38 20.1	
ORL				*e*S	**Sn**	**11 39 04.8**	**-0.2**
ORL				*e*		11 39 27.0	
ORL				pmax	pmax		
	comp=Z,13nm,0.6s						
ORL				smax	smax		
	comp=N,80nm,1.8s						
ORL	**Orlik**	**5.35**	**265**	*e*Pn	**Pn**	**11 38 05.2**	**+1.8**
ORL				*e*Sn	**Sn**	**11 39 00.4**	**-4.6**
ORL				*e*Sg	Sb	11 39 27.6	+6.2
ORL				max			
	comp=N,9.0nm,0.8s						
ORL				Smax			
	comp=N,80nm,1.4s						
BOD	**Bodaibo**	**5.48**	**32**	*e*Sn	**Sn**	**11 39 04.0**	**-3.9**
BOD				*e*Sg	Sg	11 39 32.8	-6.6
BOD				*e*		11 39 39.2	
BOD				max			
	comp=N,42nm,1.6s						
CRS	**Chara**	**6.63**	**53**	*e*PG	Pg	11 38 45.1	-5.5
CRS				*e*		11 40 09.8	
CRS				pmax	pmax		
	comp=Z,21nm,1.0s						
CRS				smax	smax		
	comp=E,57nm,1.5s						
CRS	**Chara**	**6.63**	**53**	*e*Pg	Pb	11 38 43.4	+4.5
CRS				*e*Sg	Sg	11 40 09.2	-7.2
CRS				Pmax			
	comp=E,7.0nm,1.0s						
CRS				Smax			
	comp=E,57nm,1.7s						
TUP	**Tupik**	**6.83**	**76**	*e*PN	**Pn**	**11 38 24.0**	**+0.4**
TUP				*e*		11 38 45.8	
TUP				*e*S	**Sn**	**11 39 41.3**	**+0.1**
TUP				*e*		11 40 14.1	
TUP				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TUP				smax	smax		
	comp=N,154nm,1.4s						
TUP	**Tupik**	**6.83**	**76**	*e*Pn	**Pn**	**11 38 22.9**	**-0.7**
TUP				*e*		11 39 59.2	
TUP				*e*Sg	Sg	11 40 15.6	-7.1
TUP				Smax			
	comp=N,153nm,1.4s						

*ISCJB **30** 11:43:13.1±1.4, 6°.2S±0°.1×148°.0E±0°.3, h51km, mb3.5/3, MS3.1/2, Error ellipse: s-maj=48.8km s-min=11.4km az=11.0*
*IDC **30** 11:43:15.7±2.9, 6°.31S×148°.02E, h61km±31km, mb3.3/3, mb1 3.8/5, mb1mx3.4/32, mbtmp3.8/5, ML3.7/2, MS3.1/5, Ms1 3.1/5, ms1mx3.0/12, Error ellipse: s-maj=63.1km s-min=15.7km az=115.0*
ISC 30 11:43:14.4±1.4, 6°.2S±0°.1×148°.0E±0°.3, h51km, n9, σ0§74/8, mb3.4/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.28**	**195**	P	**Pn**	**11 44 04.1**	**+0.7**
	15nm,0.3s,baz=18,slow=9.5,SNR=38						
PMG				S	**Sn**	**11 44 40.7**	**-0.4**
	19nm,0.3s,baz=9.0,slow=19,SNR=7.1						
PMG				LR	LR	11 45 42.4	
	comp=Z,266nm,18.9s,baz=14,slow=46						
JAY	**Jayapura**	**8.16**	**296**	LR	LR	11 49 04.4	
	comp=Z,115nm,18.6s,baz=119,slow=42						
HNR	**Honiara**	**12.24**	**106**	LR	LR	11 50 15.4	
	comp=Z,72nm,20.5s,baz=292,slow=34						
WRA	**Warramunga Arr**	**19.05**	**223**	P	**P**	**11 47 32.5**	**-0.1**
	0.6nm,0.3s,baz=47,slow=11,SNR=21						
ASAR	**Alice Springs**	**22.03**	**217**	P	**P**	**11 48 05.2**	**+0.4**
	5.6nm,0.9s,baz=49,slow=9.7,SNR=51						
ASAR				S	**S**	**11 52 04.1**	**-1.0**
	1.6nm,0.8s,baz=31,slow=23,SNR=6.1						
ASAR				LR	LR	11 56 16.2	
	comp=Z,51nm,20.5s,baz=67,slow=36						
DZM	**Mont Dzumac**	**23.78**	**133**	LR	LR	11 56 04.8	
	comp=Z,92nm,20.2s,baz=28,slow=32						
MKAR	**Makanchi Array**	**78.31**	**320**	P	**P**	**11 55 09.8**	**+0.5**
	0.1nm,0.5s,baz=114,slow=4.4,SNR=3.3						
ILAR	**Eielson Array**	**85.28**	**23**	P	**P**	**11 55 44.8**	**-0.7**
	0.2nm,0.6s,baz=262,slow=5.1,SNR=5.9						
TORD	**Torodi Ar. Bea**	**146.12**	**284**	PKPbc	**PKPab**	**12 02 50.6**	**-0.1**
	0.5nm,0.5s,baz=64,slow=3.5,SNR=9.1						

SKHL 30 12:04:29.2±0.3, 49°.13N×131°.84E, h9km±1km, mb4.2/6, Felt (III-IV) at Kuldur., Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**0.12**	**329**	*e*Pg	Pg	12 04 32.0	0.0
KLR				*e*Sg	Sg	12 04 34.2	+0.3
KHBR	**Khabarovsk**	**2.23**	**106**	*e*Pn	Pn	12 05 06.5	+0.3
KHBR				*e*Pg	Pb	12 05 09.8	+0.3
KHBR				pPg	Pg	12 05 12.7	+0.9
KHBR				*e*Sg	Sb	12 05 38.5	+1.3
GRNR	**Gornyy**	**3.38**	**59**	*e*Pn	Pn	12 05 23.0	+0.8
GRNR				*e*Pg	Pb	12 05 31.1	+1.8
GRNR				AMB	AMB	12 05 32.0	
	76nm,0.5s						
GRNR				AMB	AMB	12 05 32.0	
	140nm,0.5s						
GRNR				AMB	AMB	12 05 32.0	
	84nm,0.5s						
GRNR				*e*Sg	Sg	12 06 15.8	-2.1
GRNR				A	A	12 06 16.2	
	320nm,0.5s						
GRNR				A	A	12 06 16.2	
	210nm,0.5s						
EKMR	**Ekimchan**	**4.01**	**10**	*e*Pn	Pn	12 05 31.0	+0.2
EKMR				sPn	sPn	12 05 34.5	+0.3
EKMR				*e*Pg	Pb	12 05 42.3	+2.3
EKMR				AMB	AMB	12 05 47.3	
	4.0nm,0.5s						
EKMR				AMB	AMB	12 05 47.3	
	16nm,0.5s						
EKMR				AMB	AMB	12 05 47.3	
	38nm,0.5s						
EKMR				*e*Sg	Sg	12 06 34.4	-3.5
EKMR				A	A	12 06 43.5	
	120nm,0.6s						
EKMR				A	A	12 06 43.5	
	95nm,0.6s						
EKMR				A	A	12 06 43.5	
	73nm,0.6s						
ZEA	**Zeya**	**5.43**	**330**	*e*Pn	Pn	12 05 51.3	+1.0
ZEA				AMB	AMB	12 05 51.9	
	39nm,0.5s						
ZEA				pPn	pPn	12 05 54.8	+2.4
ZEA				*e*Sg	Sg	12 07 19.2	-4.4
ZEA				A	A	12 07 24.8	
	110nm,0.9s						
BMKR	**Bomnak**	**5.89**	**343**	*e*Pn	Pn	12 05 57.5	+0.9
BMKR				AMB	AMB	12 05 58.7	
	5.0nm,0.6s						
BMKR				*e*Sg	Sg	12 07 33.4	-4.8
BMKR				A	A	12 07 38.1	
	96nm,0.8s						
KROS	**Kirovskiy**	**6.11**	**332**	*e*Pn	Pn	12 06 00.5	+0.9
KROS				AMB	AMB	12 06 01.7	
	4.0nm,0.5s						
KROS				AMB	AMB	12 06 01.7	
	3.0nm,0.5s						
KROS				AMB	AMB	12 06 01.7	
	5.0nm,0.5s						
KROS				*e*Sg	Sg	12 07 41.0	-4.3
KROS				A	A	12 07 50.5	
	37nm,0.5s						
KROS				A	A	12 07 50.5	
	42nm,0.5s						
KROS				A	A	12 07 50.5	
	26nm,0.5s						
NKL	**Nikolayevsk**	**6.86**	**51**	*e*Pg	Pb	12 06 34.0	+5.5
NKL				AMB	AMB	12 06 37.5	
	9.0nm,0.6s						
NKL				*e*Sg	Sg	12 08 03.0	-6.3
NKL				A	A	12 08 19.0	
	36nm,0.9s						
NKL				A	A	12 08 19.0	
	110nm,0.9s						
TYV	**Tymovskoe**	**7.18**	**72**	*e*Sg	Sg	12 08 14.6	-5.1

*ISCJB **30** 12:31:11.0±0.5, 35°.16S±0°.04×71°.87W±0°.08, h63km±5km, mb4.1/6, Error ellipse: s-maj=12.4km s-min=4.5km az=23.9*
*NEIC **30** 12:31:11.0, 35°.12S×71°.82W, h47km, mb4.1/3, After GUC. NEIC Felt [III] at Pencahue, Pichilemu, San Fernando and Talca; [II] at Concepcion and Rancagua.*
*IDC **30** 12:31:11.3±0.9, 35°.09S×71°.77W, h46km±8km, mb3.9/6, mb1 3.9/8, mb1mx3.8/17, mbtmp4.1/8, ML3.8/2, MS3.5/2, Ms1 3.5/2, ms1mx2.9/23, Error ellipse: s-maj=30.7km s-min=18.0km az=98.0*
*GUC **30** 12:31:11.9±0.3, 35°.12S×71°.82W, h47km±2km, ML4.5*
ISC 30 12:31:11.3±0.7, 35°.12S±0°.04×71°.94W±0°.06, h48km±6km, n31, σ1§22/45, mb4.3/6, MS3.6/3, 8D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.38**	**139**	⇓*i*P	**Pn**	**12 31 21.3**	**+0.2**
TALC				*i* S	**Sn**	**12 31 28.2**	**+0.2**
TALC				AML	AML	12 31 28.4	
	comp=E,140μm,0.4s						
NICH	**Los Niches**	**0.59**	**79**	⇓*i*P	**Pn**	**12 31 23.5**	**-0.1**
NICH				*i* S	**Sn**	**12 31 31.9**	**-0.5**
NICH				AML	AML	12 31 32.6	
	comp=E,52μm,0.1s						
LNCH	**Linares**	**0.78**	**160**	⇓*i*P	**Pn**	**12 31 26.6**	**+0.5**
LNCH				*i* S	**Sn**	**12 31 37.8**	**+1.0**
LNCH				AML	AML	12 31 39.1	
	comp=N,14μm,0.4s						
COCH	**Cobquecura**	**1.23**	**214**	⇓*i*P	**Pn**	**12 31 32.9**	**+0.8**
COCH				*i* S	**Sn**	**12 31 48.8**	**+1.3**
LNV	**Longovilo**	**1.24**	**21**	*i* P	**Pn**	**12 31 32.7**	**+0.6**

LNV *i* S **Sn** **12 31 48.9 +1.2**
CACH El Canelo 1.49 48⇓*iP* **Pn** **12 31 35.8 +0.1**
CACH *i* S **Sn** **12 31 54.7 +0.7**
CHCH Chadas Angostu 1.59 42 *i P* **Pn** **12 31 37.3 +0.3**
CHCH *i* S **Sn** **12 31 56.8 +0.4**
SJCH San Jose de Ma 1.97 42 *eP* **Pn** **12 31 42.4 +0.1**
SJCH *i* S **Sn** **12 32 07.7 +1.9**
LACH Col Las Americ 2.03 35 *eP* **Pn** **12 31 43.8 +0.7**
LACH *i* S **Sn** **12 32 09.3 +2.1**
CLCH Cerro Calan 2.07 34⇓*iP* **Pn** **12 31 44.4 +0.7**
CLCH ⇓*iP* **Pn** **12 31 44.9 +1.2**
CLCH *i* S **Sn** **12 32 10.5 +2.2**
CLCH *i* S **Sn** **12 32 11.2 +2.8**
YECH El Yeso 2.11 47⇓*iP* **Pn** **12 31 45.2 +0.9**
YECH *i* S **Sn** **12 32 13.0 +3.4**
PEL Peldehue 2.22 28 *eP* **Pn** **12 31 46.5 +0.7**
PEL *eS* **Sn** **12 32 12.8 +0.7**
PEL AML AML 12 32 21.6
comp=N,4μm,0.5s
CFAA Coronel Fontan 4.67 43 P **Pn** **12 32 19.2 -0.1**
comp=N,1.3nm,0.3s,baz=205,slow=12,SNR=23
CFAA S Sn 12 33 19.0 +6.6
comp=N,1.3nm,0.3s,baz=108,slow=20,SNR=11
CFAA LR LR 12 34 17.6
comp=N,14nm,21.5s,baz=232,slow=41
PLCA Paso Flores 5.71 169 *ePn* Pn 12 32 27.7 -5.9
comp=N,76nm,1.1s
LCO Las Campanas 6.18 10 *ePn* **Pn** **12 32 38.6 -1.6**
comp=N,17nm,0.3s
LCO *eSn* **Sn** **12 33 47.8 -1.8**
TRQA Tornquist 8.53 113 *ePn* **Pn** **12 33 12.5 +0.3**
comp=N,3.4nm,0.6s
LPAZ La Paz 19.06 11 P **P** **12 35 29.2 -1.1**
comp=N,0.3nm,0.3s,baz=159,slow=4.3,SNR=7.7
LPAZ La Paz 19.06 11 *eP* **P** **12 35 30.1 -0.2**
comp=N,4.8nm,1.0s
SIV San Ignacio 21.39 30 P **P** **12 35 53.2 -1.7**
comp=N,2.4nm,0.6s,baz=220,slow=10.0,SNR=7.0
RCBR Riachuelo 44.17 57 LR LR 13 00 51.5
comp=N,56nm,19.6s,baz=210,slow=40
QSPA South Pole Qui 55.12 180 P **P** **12 40 39.1 +0.8**
comp=N,7.4nm,1.3s,baz=301,slow=1.0,SNR=14
QSPA pP **pP** **12 40 52.2 +0.4**
comp=N,0.6nm,0.5s,baz=318,slow=3.4,SNR=1.6
QSPA South Pole Qui 55.12 180 *eP* **P** **12 40 39.7 +1.3**
comp=N,1.3nm,0.6s
QSPA *e* 12 40 52.6
TXAR Lajitas Array 70.75 331 P **P** **12 42 23.4 +1.0**
comp=N,0.2nm,0.4s,baz=156,slow=7.9,SNR=9.5
TXAR pP **pP** **12 42 36.2 -0.1**
comp=N,0.3nm,0.5s,baz=156,slow=9.1,SNR=4.7
BBTS Babate 72.15 57 LR LR 13 13 54.7
comp=N,34nm,19.2s,baz=72,slow=36
DBIC Dimbokro 75.46 71 P **P** **12 42 50.3 -0.3**
comp=N,2.1nm,0.6s,baz=207,slow=7.7,SNR=3.1
DBIC Dimbokro 75.46 71 P **P** **12 42 49.9 -0.7**
comp=N,4.4nm,0.8s
BOSA Boshof 79.48 117 P **P** **12 43 11.7 -1.4**
comp=N,4.6nm,0.9s,baz=30,slow=4.5,SNR=3.6
TORD Torodi Ar. Bea 84.51 70 P **P** **12 43 39.0 -0.4**
comp=N,1.6nm,0.7s,baz=275,slow=5.2,SNR=22
RAO Raoul Island 85.35 237 LR LR 13 14 20.9
comp=N,262nm,20.4s,baz=136,slow=30
WRA Warramunga Arr 119.83 209 PKP **PKPdf** **12 49 56.0 -0.7**
comp=N,0.6nm,1.0s,baz=153,slow=1.8,SNR=7.5
WRA pPKP **pPKPdf** **12 50 10.3 -1.2**
comp=N,0.8nm,1.1s,baz=152,slow=1.9,SNR=1.7
MKAR Makanchi Array 157.41 51 PKPab **PKPab** **12 51 33.6 +0.3**
comp=N,0.5nm,0.8s,baz=289,slow=4.4,SNR=3.9

MAN 30 12:40:32.8±43.N×121.7°E, h32km, mb4.6, ML3.5, MS3.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**1.02**	**129**	*eP*	Pn	12 40 50.5	+0.4
IPIL				*eS*	Sn	12 41 02.8	-0.5
DCPH	**Dipolog City**	**1.57**	**84**⇑	*eP*	Pn	12 40 57.5	-0.3
DCPH				*eS*	Sn	12 41 16.3	-0.7
PAGZ	**Pagadian**	**1.70**	**110**	*eP*	Pn	12 41 00.5	+1.1
PAGZ				*eS*	Sn	12 41 21.1	+1.0
TBP	**Tagbilaran**	**2.42**	**59**	*eP*	Pn	12 41 09.6	+0.2
TBP				*eS*	Sn	12 41 40.0	+2.0

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*ISCJB **30** 13:10:14.1±0.7, 12.°4S±0.°1×167.°0E±0.°1, h220km, mb4.0/10, Error ellipse: s-maj=21.0km s-min=15.2km az=27.6*
*IDC **30** 13:10:19.1±4.7, 12.°54S×166.°91E, h257km±48km, mb3.7/10, mb1 3.9/11, mb1mx3.6/22, mbtmp4.3/11, Error ellipse: s-maj=25.6km s-min=19.9km az=173.0*
ISC 30 13:10:15.7±0.7, 12.°4S±0.°1×166.°9E±0.°2, h220km, n13, σ0§92/14, mb4.1/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.68**	**183**	P	**Pn**	**13 12 32.2**	**+1.6**
	0.2nm,0.3s,baz=324,slow=19,SNR=3.7						
CTA	**Charters Tower**	**21.27**	**246**	P	**P**	**13 14 44.8**	**-0.5**
	7.1nm,0.7s,baz=71,slow=11,SNR=6.0						
URZ	**Urewera**	**27.36**	**162**	P	**P**	**13 15 39.2**	**-1.3**
	14nm,1.1s,baz=344,slow=15,SNR=4.8						
WRA	**Warramunga Arr**	**32.15**	**252**	P	**P**	**13 16 22.4**	**-0.5**
	1.8nm,0.4s,baz=84,slow=9.1,SNR=26						
ASAR	**Alice Springs**	**33.27**	**246**	P	**P**	**13 16 32.1**	**-0.6**
	2.0nm,0.6s,baz=69,slow=9.5,SNR=35						
ASAR				pP	**pP**	**13 17 17.1**	**-0.4**
	1.2nm,0.7s,baz=71,slow=9.3,SNR=8.8						
ASAJ	**Asahikawa**	**60.40**	**340**	P	**P**	**13 20 03.5**	**+1.7**
	7.0nm,1.0s,baz=222,slow=14,SNR=4.9						
SEY	**Seymchan**	**75.89**	**353**	P	**P**	**13 21 38.0**	**+0.4**
	1.4nm,0.3s,baz=145,slow=5.7,SNR=10						
ILAR	**Eielson Array**	**84.38**	**18**	P	**P**	**13 22 22.6**	**-0.2**
	2.4nm,0.6s,baz=247,slow=5.1,SNR=68						
MKAR	**Makanchi Array**	**95.25**	**317**	P	**P**	**13 23 14.4**	**-0.1**
	0.8nm,0.9s,baz=101,slow=6.3,SNR=5.3						
TXAR	**Lajitas Array**	**95.44**	**61**	P	**P**	**13 23 15.5**	**-0.4**
	0.3nm,0.8s,baz=223,slow=5.1,SNR=4.1						
YKA	**Yellowknife Ar**	**95.60**	**27**	P	**P**	**13 23 14.7**	**-0.9**
	0.3nm,0.6s,baz=258,slow=4.6,SNR=8.3						
ARCES	**ARCESS Array B**	**117.88**	**346**	PKP	**PKPdf**	**13 28 35.2**	**-0.2**
	3.6nm,0.7s,baz=76,slow=2.2,SNR=19						
NOA	**NORSAR Array B**	**128.25**	**345**	PKP	**PKPdf**	**13 28 56.0**	**+0.4**
	0.8nm,0.7s,baz=30,slow=1.8,SNR=3.4						

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*IDC **30** 13:38:47.4±0.7, 6.°42N×71.°91W, h0km, mb3.8/10, mb1 4.0/13, mb1mx3.9/25, mbtmp3.9/13, ML3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/35, Error ellipse: s-maj=17.1km s-min=15.5km az=85.0*
*ISCJB **30** 13:38:48.8±0.5, 6.°31N±0.°05×72.°02W±0.°05, h10km, mb3.7/9, Error ellipse: s-maj=8.1km s-min=6.1km az=31.8*
*FUNV **30** 13:38:52.0, 6.°34N×72.°04W, h2km, MW3.7*
ISC 30 13:38:50.8±0.7, 6.°33N±0.°06×72.°01W±0.°07, h10km, n28, σ1§32/27, mb3.8/9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.55**	**349**	*eP*	**Pb**	**13 39 20.4**	**+0.6**
CAPV				*eS*	**Sb**	**13 39 40.8**	**+1.2**
SOCV	**Socops**	**2.25**	**30**	*eP*	**Pn**	**13 39 29.2**	**+1.1**
SOCV				*eS*	**Sn**	**13 39 57.1**	**+1.2**
ROSC	**El Rosal**	**2.74**	**238**	Pn	**Pn**	**13 39 36.1**	**+1.0**
	19nm,0.3s,baz=90,slow=0.7,SNR=14						
ROSC				Lg	Lg	13 40 17.9	
	18nm,0.3s,baz=292,slow=23,SNR=8.8						
SANV	**Sanarito**	**3.99**	**38**	*eP*	**Pn**	**13 39 53.3**	**+1.2**
VIRV	**Villa del Rosa**	**4.16**	**355**	*eP*	**Pn**	**13 39 54.3**	**-0.1**
VIRV				*eS*	**Sn**	**13 40 42.4**	**-0.8**
CURV	**Curarigua**	**4.18**	**29**	*eP*	**Pn**	**13 39 56.3**	**+1.6**
TEPV	**Terepaima**	**4.56**	**37**	*eP*	**Pn**	**13 40 01.3**	**+1.4**
BAUV	**El Baul**	**4.71**	**56**	*eP*	**Pn**	**13 40 01.9**	**0.0**
DABV	**Dabajuro**	**4.76**	**16**	*eP*	**Pn**	**13 40 03.1**	**+0.5**
MAPV	**Macapo**	**4.94**	**45**	*eP*	**Pn**	**13 40 06.0**	**+0.8**
BIRV	**Birongo**	**7.01**	**54**	*eS*	Sn	13 41 48.9	-4.5
CUPV	**Cœpira**	**7.18**	**59**	*eP*	**Pn**	**13 40 36.1**	**+0.1**
PCRV	**Puerto La Cruz**	**8.23**	**62**	**Pn**	**Pn**	**13 40 51.7**	**+1.3**
	3.0nm,0.3s,baz=219,slow=5.4,SNR=9.0						
PCRV				Sn	**Sn**	**13 42 23.5**	**-0.1**
	2.4nm,0.3s,baz=192,slow=20,SNR=2.7						
GUNV	**Guanoco**	**9.74**	**66**	*eP*	**Pn**	**13 41 10.8**	**-0.3**
PTGA	**Pitinga**	**13.92**	**120**	Pn	Pn	13 42 04.5	-3.7
	0.6nm,0.3s,baz=310,slow=19,SNR=4.1						
PTGA				Lg	Lg	13 46 07.7	
	2.2nm,0.3s,baz=29,slow=22,SNR=6.5						
ATAH	**Atahualpa**	**14.82**	**206**	Pn	**Pn**	**13 42 22.6**	**+1.6**
	0.5nm,0.3s,baz=100,slow=11,SNR=3.8						
ATAH				LR	LR	13 49 32.3	
	comp=Z,74nm,20.1s,baz=40,slow=43						
TEIG	**Tepich**	**20.98**	**313**	P	**P**	**13 43 33.8**	**-0.5**
	3.2nm,0.6s,baz=355,slow=15,SNR=3.2						
LPAZ	**La Paz**	**22.80**	**170**	P	**P**	**13 43 53.4**	**-1.1**
	3.9nm,0.9s,baz=338,slow=7.6,SNR=12						
SIV	**San Ignacio**	**24.68**	**154**	P	**P**	**13 44 12.1**	**-0.1**
	0.9nm,0.4s,baz=326,slow=8.6,SNR=2.6						
TXAR	**Lajitas Array**	**37.61**	**311**	P	P	13 46 03.8	-2.2
	0.6nm,0.7s,baz=125,slow=10,SNR=7.9						
ULM	**Lac du Bonnet**	**48.12**	**340**	P	P	13 47 27.9	-3.0
	2.2nm,0.7s,baz=158,slow=8.7,SNR=4.8						
PDAR	**Pinedale Array**	**49.12**	**324**	P	**P**	**13 47 37.1**	**-1.8**
	0.9nm,0.9s,baz=120,slow=7.5,SNR=4.6						
YKA	**Yellowknife Ar**	**64.10**	**340**	P	**P**	**13 49 23.9**	**-1.0**
	1.7nm,0.7s,baz=130,slow=6.9,SNR=28						
TORD	**Torodi Ar. Bea**	**72.75**	**78**	P	**P**	**13 50 18.6**	**-1.3**
	0.2nm,0.6s,baz=270,slow=2.9,SNR=2.7						
ILAR	**Eielson Array**	**77.87**	**335**	P	**P**	**13 50 46.9**	**-1.6**
	0.5nm,0.9s,baz=107,slow=5.0,SNR=4.9						
NOA	**NORSAR Array B**	**81.21**	**29**	P	P	13 51 03.1	-3.7
	0.7nm,0.8s,baz=228,slow=4.6,SNR=2.4						
ASAR	**Alice Springs**	**149.71**	**233**	PKPbc	**PKPdf**	**13 58 39.3**	**+2.1**
	0.5nm,0.5s,baz=116,slow=3.8,SNR=11						
WRA	**Warramunga Arr**	**151.06**	**240**	PKPbc	**PKPdf**	**13 58 42.3**	**+3.0**
	0.3nm,0.5s,baz=107,slow=3.0,SNR=14						

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*ISCJB **30** 14:05:50.1±0.8, 22.°72N±0.°08×143.°6E±0.°2, h71km, mb3.5/8, Error ellipse: s-maj=29.4km s-min=10.0km az=169.7*
*IDC **30** 14:05:52.4±0.9, 22.°66N×143.°62E, h73km±7km, mb3.2/9, mb1 3.4/10, mb1mx3.3/26, mbtmp3.6/10, Error ellipse: s-maj=31.8km s-min=16.1km az=85.0*
ISC 30 14:05:52.2±0.8, 22.°72N±0.°10×143.°7E±0.°2, h71km, n17, σ1§06/16, mb3.6/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.55**	**343**	P	**Pn**	**14 06 58.9**	**+0.2**
	8.8nm,0.3s,baz=270,slow=20,SNR=3.5						
JCJ				S	**Sn**	**14 07 48.8**	**-1.5**
	30nm,0.3s,baz=311,slow=22,SNR=7.8						
KSRS	**Korea Array**	**19.98**	**321**	P	**P**	**14 10 18.6**	**-0.2**
	1.6nm,0.9s,baz=138,slow=12,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**21.86**	**94**	T	T	14 33 13.0	
	baz=274						
H11N2	**WAKE ISLAND Hy**	**21.86**	**93**	T	T	14 33 20.3	
	baz=274						
H11N3	**WAKE ISLAND Hy**	**21.88**	**94**	T	T	14 33 10.2	
	baz=274						
H11S3	**WAKE ISLAND Hy**	**21.96**	**97**	T	T	14 33 54.1	
	baz=284						
H11S1	**WAKE ISLAND Hy**	**21.97**	**97**	T	T	14 34 00.9	
	baz=284						
H11S2	**WAKE ISLAND Hy**	**21.98**	**97**	T	T	14 34 21.8	
	baz=284						
WRA	**Warramunga Arr**	**43.37**	**193**	P	**P**	**14 13 46.8**	**-1.0**
	0.9nm,0.9s,baz=17,slow=9.0,SNR=7.3						
ASAR	**Alice Springs**	**47.08**	**192**	P	**P**	**14 14 15.9**	**-1.2**
	0.2nm,0.6s,baz=17,slow=13,SNR=5.3						
ASAR				pP	**pP**	**14 14 34.8**	**-0.1**
	0.3nm,0.9s,baz=25,slow=11,SNR=2.0						
ZALV	**Zalesovo Beam**	**53.69**	**321**	P	**P**	**14 15 06.6**	**-0.1**
	0.3nm,0.5s,baz=103,slow=9.3,SNR=2.0						
ZALV				pP	**pP**	**14 15 25.3**	**+0.5**
	0.7nm,0.6s,baz=116,slow=5.1,SNR=2.8						
MKAR	**Makanchi Array**	**54.33**	**312**	P	**P**	**14 15 12.6**	**+1.0**
	0.2nm,0.7s,baz=91,slow=10,SNR=3.0						
ILAR	**Eielson Array**	**60.93**	**27**	P	**P**	**14 15 56.8**	**-0.8**
	0.3nm,0.7s,baz=255,slow=5.4,SNR=3.5						
BVAR	**Borovoye Array**	**62.18**	**319**	P	**P**	**14 16 07.4**	**+1.2**
	0.6nm,0.5s,baz=94,slow=8.0,SNR=4.1						
BVAR				pP	**pP**	**14 16 25.9**	**+1.3**
	2.2nm,0.6s,baz=80,slow=6.5,SNR=7.5						
YKA	**Yellowknife Ar**	**75.35**	**28**	P	**P**	**14 17 28.6**	**+0.9**
	0.5nm,0.5s,baz=290,slow=5.9,SNR=10.0						
FINES	**FINESS Array B**	**82.45**	**335**	P	**P**	**14 18 05.2**	**-1.4**
	0.7nm,0.6s,baz=108,slow=10,SNR=6.2						
FINES				pP	**pP**	**14 18 25.5**	**-0.4**
	0.8nm,0.7s,baz=83,slow=6.0,SNR=2.0						
LPAZ	**La Paz**	**149.40**	**84**	PKPbc	**PKPbc**	**14 25 36.1**	**+1.3**
	1.1nm,0.6s,baz=299,slow=1.1,SNR=3.5						

GUC 30 14:30:22.0±0.8, 35.°51S×72.°49W, h4km±4km, ML3.6, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.67**	**201**⇑	*iP*	Pg	14 30 33.6	-1.2
COCH				*i* S	Sg	14 30 43.3	-0.2
TALC	**Talca**	**0.70**	**81**⇓	*iP*	Pg	14 30 34.7	-0.9
TALC				*i* S	Sg	14 30 44.3	-0.4
LNCH	**Linares**	**0.80**	**115**⇓	*iP*	Pg	14 30 37.0	-0.3
LNCH				*i* S	Sg	14 30 46.9	-0.8
NICH	**Los Niches**	**1.15**	**64**⇑	*iP*	Pg	14 30 42.1	-2.0
NICH				*i* S	Sg	14 30 57.8	-1.1
CCSP	**San Pedro de C**	**1.42**	**201**	*eP*	Pn	14 30 46.5	-2.0
CCSP				*i* S	Sb	14 31 05.1	-2.4
CCSP				AML	AML	14 31 09.7	
	comp=E,3μm,0.2s						

IDC 30 14:32:55.7±14.0, 3.°68S×103.°60E, h259km±139km, mb3.0/7, mb1 3.1/7, mb1mx2.9/42, mbtmp3.6/7, Error ellipse: s-maj=131.4km s-min=16.0km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.47**	**348**	P	P	14 37 33.4	0.0
	0.3nm,0.5s,baz=182,slow=6.3,SNR=3.7						
WRA	**Warramunga Arr**	**34.05**	**121**	P	P	14 39 15.9	0.0
	0.3nm,0.6s,baz=304,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**35.37**	**127**	P	P	14 39 27.1	-0.2
	0.4nm,0.5s,baz=298,slow=7.7,SNR=8.2						
SONM	**Songino Array**	**51.36**	**2**	P	P	14 41 33.9	-0.2
	1.9nm,0.7s,baz=186,slow=8.3,SNR=3.7						
MKAR	**Makanchi Array**	**53.67**	**342**	P	P	14 41 51.0	+0.1
	0.5nm,0.4s,baz=154,slow=8.9,SNR=11						
KURBB	**Kurchatov Arra**	**58.22**	**341**	P	P	14 42 22.6	-0.3
	0.3nm,0.5s,baz=147,slow=6.6,SNR=3.5						
ZALV	**Zalesovo Beam**	**59.53**	**347**	P	P	14 42 31.9	+0.1
	1.2nm,0.4s,baz=155,slow=6.8,SNR=8.5						

IDC 30 15:03:41.5±1.7, 2.°04N×127.°56E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/38, mbtmp3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/23, Error ellipse: s-maj=132.2km s-min=24.8km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.84**	**163**	P	P	15 08 46.5	+0.1
	1.1nm,0.8s,baz=343,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**26.29**	**167**	P	P	15 09 18.2	-0.7
	0.2nm,0.7s,baz=351,slow=7.9,SNR=4.2						
ASAR				PcP	PcP	15 12 45.6	+0.1
	0.2nm,0.7s,baz=334,slow=2.6,SNR=3.4						
KSRS	**Korea Array**	**35.24**	**0**	LR	LR	15 25 15.9	
	comp=Z,12nm,21.7s,baz=194,slow=37						
MKAR	**Makanchi Array**	**59.41**	**325**	P	P	15 13 46.0	0.0
	1.1nm,0.4s,baz=118,slow=7.5,SNR=8.1						

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*IDC **30** 15:05:04.3±0.9, 29.°72S×177.°00W, h0km, mb4.3/5, mb1 4.4/6, mb1mx4.0/37, mbtmp4.2/6, ML3.5/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/28, Error ellipse: s-maj=26.0km s-min=19.7km az=28.0*
*ISCJB **30** 15:05:06.4±1.1, 29.°84S±0.°04×176.°9W±0.°1, h31km, mb4.4/7, MS3.2/4, Error ellipse: s-maj=15.3km s-min=5.8km az=177.6*
*NEIC **30** 15:05:12.0±2.3, 29.°39S×177.°01W, h52km±16km, mb4.6/3, Error ellipse: s-maj=23.3km s-min=16.2km az=61.0*
ISC 30 15:05:09.3±0.8, 29.°69S±0.°07×177.°03W±0.°10, h31km, n39, σ1§27/36, mb4.4/7, MS3.1/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.89**	**299**	Pn	**Pb**	**15 05 25.6**	**-0.6**
	1μm,0.3s,baz=107,slow=8.8,SNR=54						
RAO				Sn	**Sb**	**15 05 38.3**	**+0.5**
	2μm,0.3s,baz=75,slow=20,SNR=13						
HAZ	**Te Kaha**	**9.13**	**207**	PN	**Pn**	**15 07 17.0**	**-1.9**
HAZ				*e*SN	**Sn**	**15 09 03.1**	**+2.6**
PUZ	**Puketiti**	**9.23**	**204**	*e*PN	Pn	15 07 17.4	-3.0
PUZ				*e*SN	**Sn**	**15 09 02.1**	**-1.0**
OUZ	**Omahuta**	**9.64**	**233**	*eP*	Pn	15 07 32.0	+6.0
MWZ	**Matawai**	**9.73**	**206**	PN	**Pn**	**15 07 25.3**	**-1.9**
MWZ				SN	**Sn**	**15 09 16.3**	**+0.9**
URZ	**Urewera**	**9.83**	**208**	Pn	**Pn**	**15 07 25.9**	**-2.6**
	0.5nm,0.3s,baz=124,slow=16,SNR=9.1						
URZ				Sn	**Sn**	**15 09 17.6**	**-0.2**
	1.6nm,0.3s,baz=10.0,slow=14,SNR=8.3						
URZ	**Urewera**	**9.83**	**208**	PN	**Pn**	**15 07 25.7**	**-2.8**
URZ				SN	**Sn**	**15 09 17.4**	**-0.4**
URZ	**Urewera**	**9.83**	**208**	*eP*	**Pn**	**15 07 27.6**	**-1.0**
URZ				Sn	**Sn**	**15 09 17.6**	**-0.2**
DZM	**Mont Dzumac**	**16.68**	**293**	Pn	**P**	**15 09 03.2**	**+0.2**
	0.2nm,0.3s,baz=139,slow=20,SNR=2.3						
DZM				LR	LR	15 14 23.7	
	comp=Z,263nm,18.7s,baz=120,slow=34						
RPZ	**Rata Peaks**	**16.92**	**211**	*eP*	**Pn**	**15 09 02.9**	**-0.8**
TBI	**Tubuai**	**25.43**	**82**	*e*LR	LR	15 16 50.4	
	140nm,28.2s						
TBI	**Tubuai**	**25.43**	**82**	*eT*	T	15 36 43.3	
	6.5nm,0.3s						
PAE	**Paea**	**27.77**	**71**	*eT*	T	15 39 30.8	
	1.8nm,0.3s						
PPT2	**Papeete2**	**27.81**	**70**	*e*LR	LR	15 17 51.0	
	141nm,26.5s						
PPT	**Papeete**	**27.82**	**70**	LR	LR	15 19 18.9	
	comp=Z,23nm,19.1s,baz=328,slow=31						
EIDS	**Eidsvold**	**28.55**	**271**	*eP*	**P**	**15 11 05.0**	**+2.5**
HNR	**Honiara**	**29.50**	**308**	LR	LR	15 20 03.2	
	comp=Z,40nm,21.5s,baz=109,slow=30						
VAH	**Vaihoa**	**30.64**	**68**	*eT*	T	15 43 02.0	
	7.1nm,0.3s						
CTA	**Charters Tower**	**34.53**	**278**	P	**P**	**15 11 54.6**	**-0.4**
	3.6nm,0.5s,baz=100,slow=12,SNR=8.2						
CTAO	**Charters Tower**	**34.53**	**278**	*eP*	**P**	**15 11 57.1**	**+2.1**
	2.9nm,0.5s						
AS31	**Alice Springs**	**43.99**	**266**	*eP*	**P**	**15 13 13.8**	**-0.3**
ASAR	**Alice Springs**	**43.99**	**266**	P	**P**	**15 13 13.8**	**-0.4**
	1.9nm,0.6s,baz=106,slow=7.6,SNR=26						
ASAR				LR	LR	15 31 09.6	
	comp=Z,143nm,18.0s,baz=105,slow=36						
WB2	**Warramunga Arr**	**44.91**	**271**	*eP*	**P**	**15 13 21.0**	**-0.5**
WRAB	**Tennant Creek**	**44.91**	**271**	*eP*	**P**	**15 13 21.3**	**-0.1**
	11nm,1.0s						
WRA	**Warramunga Arr**	**44.92**	**271**	P	**P**	**15 13 20.9**	**-0.6**
	2.2nm,0.4s,baz=110,slow=8.1,SNR=63						
SBA	**Scott Base**	**48.80**	**185**	P	**P**	**15 13 53.5**	**+2.4**
QSPA	**South Pole Qui**	**60.42**	**180**	*eP*	P	15 15 19.2	+3.6
	11nm,1.1s						
KSRS	**Korea Array**	**84.36**	**319**	LR	LR	15 52 45.6	
	comp=Z,9.8nm,18.9s,baz=160,slow=34						
PETK	**Petropavlovsk-**	**85.34**	**345**	P	**P**	**15 17 42.2**	**-0.8**
	1.1nm,0.5s,baz=162,slow=5.9,SNR=2.7						
USRK	**Ussuriysk Ar.**	**87.04**	**326**	P	**P**	**15 17 52.1**	**+0.5**
	1.6nm,0.7s,baz=143,slow=3.9,SNR=4.4						
MKAR	**Makanchi Array**	**117.96**	**310**	PKP	**PKPdf**	**15 23 52.3**	**-0.4**
	0.5nm,0.9s,baz=72,slow=4.7,SNR=3.0						
BVAR	**Borovoye Array**	**126.48**	**316**	PKP	**PKPdf**	**15 24 09.0**	**+0.2**
	0.7nm,0.7s,baz=132,slow=2.2,SNR=5.0						
FINES	**FINESS Array B**	**144.76**	**341**	PKP	**PKPab**	**15 24 40.8**	**-0.5**
	3.9nm,0.6s,baz=84,slow=2.7,SNR=24						
KBZ	**Khabaz**	**145.40**	**305**	PKPbc	**PKPbc**	**15 24 43.4**	**-0.6**
	2.3nm,0.6s,baz=133,slow=3.2,SNR=8.7						
NB2	**NORSAR Subarra1**	**148.17**	**352**	PKP	**PKPbc**	**15 24 51.2**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=8.8,slow=2.9						
NOA	**NORSAR Array B**	**148.17**	**352**	PKPbc	**PKPbc**	**15 24 51.5**	**0.0**
	comp=Z,2.2nm,0.9s,baz=14,slow=4.5,SNR=5.3						
AKASG	**Malin Array Be**	**151.23**	**324**	PKPbc	**PKPbc**	**15 24 58.9**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=46,slow=2.2,SNR=7.9						
AKASG				PKPab	**PKPab**	**15 25 06.7**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=43,slow=3.2,SNR=8.0						
BRTR	**Keskin Array B**	**152.99**	**300**	PKPbc	**PKPbc**	**15 25 04.0**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=113,slow=3.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**163.49**	**176**	PKPab	**PKPab**	**15 26 01.3**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=222,slow=4.0,SNR=3.3						

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*ISCJB **30** 15:46:31.9±2.0, 15.°3S±0.°2×70.°5W±0.°2, h193km, mb3.6/2, Error ellipse: s-maj=42.1km s-min=14.3km az=41.2*
*IDC **30** 15:46:34.4±2.7, 15.°53S×70.°32W, h207km±21km, mb3.5/2, mb1 3.6/5, mb1mx3.3/21, mbtmp4.0/5, MS3.4/1, Ms1 3.4/1, ms1mx2.3/22, Error ellipse: s-maj=39.7km s-min=37.5km az=48.0*
ISC 30 15:46:33.0±1.2, 15.°5S±0.°2×70.°5W±0.°2, h193km, n10, σ1§11/10, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.39**	**111**	P	**Pn**	**15 47 16.2**	**+0.4**
	7.3nm,0.3s,baz=340,slow=5.9,SNR=312						
LPAZ				S	**Sn**	**15 47 49

comp=Z,219nm,0.2s
BOSA Boshof 2.94 222 *e*P **Pn 16 44 22.7 +1.1**
BOSA *e*S **Sn 16 44 58.0 +1.1**
BOSA AML AML 16 45 06.5
comp=Z,32nm,0.3s
BOSA Boshof 2.94 222 *i* P **Pn 16 44 22.6 +1.1**
BOSA *i* 16 44 22.8
baz=180,slow=4.8
BOSA *i* S **Sn 16 44 55.2 -1.8**
KSD Kokstad 4.43 158 *e*P Pn 16 44 45.9 +3.9
KSD *e*S **Sn 16 45 33.5 -0.1**
KSD AML AML 16 45 58.6
comp=Z,11nm,0.7s
MSNA Messina 4.68 30 *e*P **Pn 16 44 47.6 +2.3**
MSNA *e*S **Sn 16 45 38.0 -1.7**
MSNA AML AML 16 46 02.3
comp=Z,34nm,0.2s
MATP Matopo 6.05 9 *i* P **Pn 16 45 05.5 +1.2**
MATP *i* 16 45 05.6
baz=200,slow=18
MATP *i* S **Sn 16 46 10.9 -2.7**

NIED ***30*** *16:44:00, 33.°30N×141.°00E, h65km, Mw3.8 Best double couple: M0 6.47000×10^14 NP1:φs 32.00000°, δ27.00000°, λ156.00000°. NP2:φs 144.00000°, δ79.00000°, λ65.00000°.*
IDC ***30*** *16:44:34.2±1.1, 32.°77N×139.°82E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.6/37, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=40.8km s-min=20.4km az=82.0*
ISCJB ***30*** *16:44:36.2±1.0, 33.°26N±0.°05×140.°93E±0.°10, h61km±9km, mb3.8/5, Error ellipse: s-maj=13.4km s-min=8.5km az=173.4*
JMA ***30*** *16:44:36.3±0.2, 33.°30N×140.°96E, h40km, M3.5*
ISC 30 16:44:36.5±2.2, 33.°23N±0.°08×141.°0E±0.°1, h44km±21km, n18, σ0.88/24, mb3.7/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.97**	**264**	P	**Pn**	**16 44 53.8**	**+0.1**
JHJ2				S	**Sn**	**16 45 07.1**	**+0.7**
JHCJ	**Hachijojimakas**	**0.99**	**261**	P	**Pn**	**16 44 53.9**	**-0.1**
BSO1	**Boso 1**	**1.42**	**0**	P	**Pn**	**16 44 59.5**	**+0.1**
JMY	**Miyakejima3**	**1.48**	**305**	P	**Pn**	**16 45 00.5**	**-0.2**
BSO3	**Boso 3**	**1.62**	**346**	P	**Pn**	**16 45 02.1**	**-0.2**
JKO	**Kozu shima**	**1.80**	**303**	P	**Pn**	**16 45 05.2**	**+0.1**
JKO				*e*S	**Sn**	**16 45 26.4**	**-0.4**
BSO4	**Boso 4**	**1.84**	**344**	P	**Pn**	**16 45 05.7**	**+0.2**
JIM2	**Oshima 3**	**1.96**	**320**	P	**Pn**	**16 45 07.2**	**-0.1**
JIZS	**Izushimoda**	**2.29**	**311**	P	**Pn**	**16 45 12.4**	**+0.6**
JIZS				*e*S	**Sn**	**16 45 38.0**	**-0.7**
KTJJ	**Kamata 2**	**2.32**	**318**	P	**Pn**	**16 45 12.6**	**+0.4**
KTJJ				*e*S	**Sn**	**16 45 38.4**	**-1.1**
JOD2	**Odawara 2**	**2.56**	**323**	P	**Pn**	**16 45 15.6**	**+0.1**
JOD2				*e*S	**Sn**	**16 45 43.3**	**-2.2**
MJAR	**Matsushiro Arr**	**4.01**	**326**	Pn	**Pn**	**16 45 36.9**	**+1.5**
	3.7nm,0.3s,baz=152,slow=11,SNR=37						
MJAR				Sn	**Sn**	**16 46 21.3**	**+0.1**
	2.8nm,0.3s,baz=171,slow=1.8,SNR=7.7						
MAT	**Matsushiro**	**4.01**	**326**	P	**Pn**	**16 45 37.5**	**+2.0**
MAT				S	**Sn**	**16 46 22.3**	**+1.1**
MKAR	**Makanchi Array**	**45.92**	**305**	P	**P**	**16 52 54.9**	**+0.1**
	0.1nm,0.4s,baz=93,slow=10,SNR=4.5						
KURBB	**Kurchatov Arra**	**48.13**	**311**	P	**P**	**16 53 11.8**	**-0.1**
	0.3nm,0.4s,baz=90,slow=7.5,SNR=6.0						
ILAR	**Eielson Array**	**52.92**	**31**	P		16 53 58.1	+10
	0.8nm,1.1s,baz=268,slow=6.3,SNR=3.6						
WRA	**Warramunga Arr**	**53.25**	**188**	P	**P**	**16 53 50.4**	**-0.3**
	2.4nm,0.4s,baz=4.2,slow=7.6,SNR=71						
ASAR	**Alice Springs**	**56.97**	**188**	P	**P**	**16 54 17.5**	**-0.1**
	0.7nm,0.4s,baz=3.6,slow=6.1,SNR=32						

MOS ***30*** *16:54:44.8±1.0, 13.°60N×92.°87E, h33km, mb6.7/108, MS6.2/90, Error ellipse: s-maj=7.1km s-min=4.5km az=103.5*
BJI ***30*** *16:54:45.7, 13.°67N×92.°84E, h40km, mB6.6/65, mb6.2/80, Ms6.5/96, Ms7 6.4/87*
ISCJB ***30*** *16:54:45.2±0.5, 13.°66N±0.°01×92.°86E±0.°01, h33km±3km, mb6.3/443, MS6.2/256, Error ellipse: s-maj=2.6km s-min=1.8km az=23.8*
BKK ***30*** *16:54:45.2±0.2, 14.°N±2.°×9.°3E±.°, h10km, M6.7/63, mb6.3/63, mB6.8/59, MLv6.6/10, Mw(mB)6.7/59*
NEIC ***30*** *16:54:46.7±1.0, 13.°67N×92.°83E, h34km±7km, mb6.5/160, ME6.3, MS6.3/159, MW6.6, MW6.4, MW6.6, Error ellipse: s-maj=3.2km s-min=2.4km az=211.0, Moment Tensor Solution. s39 Moment tensor: Scale 10^18 Nm; Mrr 0.02; Mθθ -1.63; Mφφ 1.61; Mrθ -2.01; Mrφ 4.29; Mθφ -2.43; Best double couple: M0 5.60000×10^18 NP1:φs 166.00000°, δ68.00000°, λ163.00000°. NP2:φs 262.00000°, δ74.00000°, λ23.00000°. Principal axes: T 6.1800, Plg27.0000°, Azm125.0000°; N -1.5700, Plg62.0000°, Azm294.0000°; P -4.6200, Plg4.0000°, Azm33.0000°; Energy computed from BB mechanism.*
NEIC At least 10 people injured by jumping from buildings and many buildings damaged slightly at Diglipur. Landslides occurred in the Diglipur area. Felt [V] at Bombuflat; [IV] at Port Blair and Vishakhapatnam; [III] at Bhubaneswar; [II] at Calcutta and Madras. Also felt at Bangalore, Chetput, Choudwar, Haldia and Jajpur. Felt at Barguna, Chattagam and Dhaka, Bangladesh and at Rangoon, Myanmar.
GCMT ***30*** *16:54:46.7±0.1, 13.°58N×92.°76E, h30km, MW6.6/131, Moment Tensor Solution. s131, c314; s128, c555; Duration: 5±1 Moment tensor: Scale 10^19 Nm; Mrr -0.50±.01; Mθθ -0.13±.00; Mφφ 0.62±.01; Mrθ 0.10±.01; Mrφ 0.93±.00; Mθφ -0.38±.01; Best double couple: M0 1.12600×10^19 NP1:φs 355.00000°, δ73.00000°, λ-148.00000°. NP2:φs 255.00000°, δ60.00000°, λ-20.00000°. Principal axes: T 1.2940, Plg9.0000°, Azm123.0000°; N -0.3360, Plg54.0000°, Azm21.0000°; P -0.9570, Plg34.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***30*** *16:54:48.0±0.0, 13.°62N×92.°86E, h45km Best double couple: NP1:φs 352.00000°, δ78.00000°, λ-141.00000°. NP2:φs 253.00000°, δ53.00000°, λ-13.00000°. Principal axes: T 1.0500, Plg15.0000°, Azm118.0000°; N -0.1800, Plg51.0000°, Azm7.0000°; P -0.8700, Plg34.0000°, Azm219.0000°;*
KLM ***30*** *16:54:49.1, 13.°62N×92.°86E, h42km, mb6.5, MS6.9*
SZGRF ***30*** *16:54:49.7, 13.°35N×91.°84E, h39km, mb6.4, MS6.0, Andaman Islands, India, region*
IDC ***30*** *16:54:50.5±1.8, 13.°65N×92.°99E, h66km±14km, mb5.7/40, mb1 5.8/42, mb1mx5.8/43, mbtmp6.0/42, MS6.1/37, Ms1 6.1/37, ms1mx5.9/45, Error ellipse: s-maj=10.1km s-min=7.8km az=31.0*
DJA ***30*** *16:54:51.3±0.4, 13.°N±2.°×9.°3E±.°, h59km±4km, M6.6/142, mb6.4/142, mB6.8/138, Mw(mB)6.7/138, Mwp6.4/63*
NEIC ***30*** *16:55:04.9±0.0, 13.°59N×92.°70E, h30km Best double couple: NP1:φs 176.00000°, δ57.00000°, λ-149.00000°. NP2:φs 68.00000°, δ65.00000°, λ-35.00000°. Principal axes: T 1.3400, Plg4.0000°, Azm123.0000°; N -0.5500, Plg46.0000°, Azm218.0000°; P -0.8000, Plg42.0000°, Azm29.0000°;*
ISC 30 16:54:47.4±0.2, 13.°61N±0.°02×92.°88E±0.°02, h38km±2km, h38km; pP-P, n2415, σ1.30/2673, mb6.4/445, MS6.2/262, 260C-618D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.44**	**173**	*e*P	**Pn**	**16 54 56.7**	**-0.4**
PBA	**Port Blair**	**1.95**	**184**	*e*P	Pn	16 55 20.4	+2.4
PBA				*e*S	Sn	16 55 43.5	+2.3
CMBY	**CAMPBELL BAY**	**6.64**	**171**	*e*P	**Pn**	**16 56 23.5**	**+1.0**
CMBY				*e*S	**Sn**	**16 57 37.0**	**+0.1**
UTHA	**Uthaitani**	**6.65**	**72**	P	**Pn**	**16 56 23.3**	**+0.7**
	995nm,0.8s,15μm4.7nm						
MHMT	**Maesarieng**	**6.65**	**46**	P	**Pn**	**16 56 21.6**	**-1.0**
	3μm,0.9s,84μm30nm						
CMAR	**Chiang Mai Arr**	**7.56**	**50**	P	**Pn**	**16 56 34.9**	**-0.3**
	38nm,0.3s,baz=240,slow=15,SNR=368						
CMAR				S	**Sn**	**16 57 59.4**	**-0.3**
	182nm,0.3s,baz=238,slow=26,SNR=9.9						
CMAR				LR	LR	17 00 27.3	
	comp=Z,264μm,20.0s,baz=230,slow=45						
CMAR				P3KPbc		17 34 01.9	
	0.2nm,0.3s,baz=325,slow=3.7,SNR=4.9						
CHTO	**Chiang Mai**	**7.79**	**48**	*e*P	**Pn**	**16 56 37.3**	**-1.0**
CHTO				*e*S	**Sn**	**16 58 00.1**	**-5.2**
CHTO				pmax	pmax		
	comp=Z,1μm,0.8s						
CHTO	**Chiang Mai**	**7.79**	**48**	P	**Pn**	**16 56 37.6**	**-0.7**
	SNR=610						
CHTO	**Chiang Mai**	**7.79**	**48**	P	**Pn**	**16 56 37.0**	**-1.3**
	comp=Z,6μm,1.0s,comp=Z,132μmcomp=Z,86nm						
CHTO	**Chiang Mai**	**7.79**	**48**	*e*P	**Pn**	**16 56 37.3**	**-1.0**
	comp=Z,1μm,0.8s						
CHTO				*e*S	**Sn**	**16 58 00.1**	**-5.2**
SURA	**Surathani**	**7.96**	**123**	P	**Pn**	**16 56 42.6**	**+2.0**
	comp=Z,1μm,1.3s						
LAMP	**Lampang**	**8.12**	**52**	P	**Pn**	**16 56 42.3**	**-0.5**
	comp=Z,564nm,0.9s,comp=Z,8μmcomp=Z,4.9nm						
KRAB	**Krabi**	**8.20**	**130**	P	**Pn**	**16 56 46.8**	**+2.9**
	comp=Z,3μm,0.9s,comp=Z,29μmcomp=Z,9.6nm						
PBKT	**Sadao Pong**	**8.35**	**68**	P	**Pn**	**16 56 46.8**	**+0.8**
	comp=Z,2μm,0.9s,comp=Z,26μmcomp=Z,9.3nm						
UTTA	**Uttaradit**	**8.46**	**60**	P	**Pn**	**16 56 47.2**	**-0.2**
	comp=Z,182nm,0.8s,comp=Z,3μmcomp=Z,4.5nm						
CMAI	**Chiengmai2**	**8.62**	**42**	P	**Pn**	**16 56 49.6**	**-0.3**
	comp=Z,1μm,1.1s,comp=Z,27μmcomp=Z,13nm						
CHBT	**CHBT**	**9.25**	**94**	P	Pn	16 57 01.7	+3.5
	comp=Z,1μm,1.5s,comp=Z,52μm						
LHMI	**Lhok Sumawe**	**9.25**	**154**	P	Pn	16 57 02.8	+4.5
LHMI	**Lhok Sumawe**	**9.25**	**154**	*e*P	Pn	16 57 02.4	+4.1
	comp=Z,4μm,0.6s						
CRAI	**Chiangrai**	**9.73**	**46**	P	**Pn**	**16 57 01.8**	**-3.1**
	comp=Z,652nm,0.8s,comp=Z,24μm						
KHON	**Khomkaen**	**9.99**	**73**	P	**Pn**	**16 57 11.0**	**+2.6**
	comp=Z,479nm,0.9s,comp=Z,6μm						
VIS	**Vishakhapatnam**	**10.06**	**295**	*e*P	**Pn**	**16 57 07.4**	**-2.0**
VIS				AMB	AMB	16 57 12.6	
	comp=Z,11μm,0.3s						
VIS				*i* x	Sn	16 58 49.8	-11
AGT	**Agartala**	**10.33**	**352**	*i* x	Pn	16 57 17.0	+4.0
AGT				*i* x	**Sn**	**16 59 02.0**	**-5.6**
TPTI		**11.13**	**157**	P	**Pn**	**16 57 21.8**	**-2.3**
TPTI				S	**Sn**	**16 59 27.2**	**-0.1**
KULM	**Kulim**	**11.28**	**136**	⇑P	**Pn**	**16 57 28.8**	**+2.8**
KULM	**Kulim**	**11.28**	**136**	*e*P	**Pn**	**16 57 28.3**	**+2.2**
	comp=Z,2μm,1.1s						
SHL	**Shillong**	**11.93**	**356**	*e*P	**Pn**	**16 57 35.0**	**-0.1**
SHL				AMB	AMB	16 57 37.7	
	comp=Z,1μm,0.4s						
BOK	**Bokaro**	**12.10**	**328**	*e*P	**Pn**	**16 57 35.4**	**-1.9**
BOK				AMB	AMB	16 57 38.8	
	comp=Z,2μm,2.5s						
IPM	**Ipoh**	**12.13**	**138**	*e*P	**Pn**	**16 57 38.6**	**+1.0**
	comp=Z,2μm,1.3s						
PSI	**Prapat**	**12.29**	**150**	P	Pn	16 57 43.4	+3.3
	comp=Z,20nm,0.3s,baz=342,slow=13,SNR=133						
PSI				P3KP		17 34 30.6	
	comp=Z,1.5nm,0.3s,baz=163,slow=8.8,SNR=4.7						
MDRS	**Chennai**	**12.30**	**269**	*e*P	**Pn**	**16 57 37.3**	**-2.8**
MDRS				AMB	AMB	16 57 46.1	
	comp=Z,1μm,1.0s						
SLVN	**Son La**	**13.02**	**52**	*e*P	**Pn**	**16 57 51.6**	**+1.6**
	comp=Z,1μm,1.2s						
GSI	**Gunungsitoli**	**13.09**	**159**	P	Pn	16 57 45.9	-4.9
GSI				S	Sn	17 00 07.8	-7.3
GSI	**Gunungsitoli**	**13.09**	**159**	*e*P	Pn	16 57 45.7	-5.1
	comp=Z,1μm,1.4s						
FRIM	**Kepong**	**13.45**	**139**	⇓P	**Pn**	**16 57 58.6**	**+2.7**
PALK	**Pallekele**	**13.52**	**243**	Pn	**Pn**	**16 57 55.8**	**-1.0**
	comp=Z,3μm,1.0s,SNR=62						
PALK	**Pallekele**	**13.52**	**243**	P	**Pn**	**16 57 56.0**	**-0.9**
	SNR=175						
PALK	**Pallekele**	**13.52**	**243**	P	**Pn**	**16 57 55.1**	**-1.7**
	comp=Z,64nm,0.3s,baz=62,slow=12,SNR=97						
PALK				S	Sn	17 00 13.3	-13
	comp=Z,697nm,0.3s,baz=90,slow=8.0,SNR=12						
PALK				LR	LR	17 03 21.8	
	comp=Z,417μm,18.7s,baz=60,slow=38						
PALK	**Pallekele**	**13.52**	**243**	*i* Pn	**Pn**	**16 57 55.3**	**-1.6**
	SNR=88						
PALK				*i* Pn	**Pn**	**16 57 55.6**	**-1.3**
	SNR=101						
PALK	**Pallekele**	**13.52**	**243**	*e*P	**Pn**	**16 57 55.2**	**-1.6**
	comp=Z,2μm,0.7s						
PALK				S	Sn	17 00 04.8	-21
PALK				S	Sn	17 00 13.3	-13
ODAN	**Odare**	**14.14**	**340**	*e*P	Pn	16 58 00.4	-5.0
	comp=Z,684nm,0.3s						
HYB	**Hyderabad**	**14.31**	**287**	*i* P	Pn	16 58 02.5	-5.0
HYB				*e*S	Sn	17 00 32.0	-13
HYB				LR	LR	17 05 42.0	
	comp=Z,87nm,16.0s						
HYB	**Hyderabad**	**14.31**	**287**	*e*P	**Pn**	**16 58 05.5**	**-2.0**
HYB				AMB	AMB	16 58 18.5	
	comp=Z,2μm,1.5s						
TAPN	**Taplejung**	**14.49**	**341**	*e*P	Pn	16 58 05.0	-5.2
	comp=Z,897nm,0.5s						
RAMN	**Ramite**	**14.51**	**337**	*e*P	Pn	16 58 04.9	-5.5
KMI	**Kunming**	**14.75**	**38**	P	**Pn**	**16 58 14.8**	**+1.3**
KMI				S	**Sn**	**17 01 00.8**	**+4.9**
KMI				ScP	**ScP**	**17 06 49.5**	**-5.5**
KMI				PMZ			
	comp=Z,1μm,1.1s						
KMI				PMZ			
	comp=Z,32μm,12.2s						
NGP	**Nagpur**	**15.17**	**302**	*e*P	**Pn**	**16 58 16.2**	**-2.8**
NGP				*e*x	**P**	**16 58 23.1**	**-0.5**
	comp=Z,7μm,1.1s						
NGP				*e*x	x	17 01 32.2	
JIRN	**Jiri**	**15.31**	**337**	*e*P	Pn	16 58 15.9	-5.2
DLV	**T Lat**	**15.32**	**94**	*e*P	**Pn**	**16 58 22.1**	**+1.0**
	comp=Z,416nm,3.1s						
KGM	**Kluang**	**15.47**	**137**	⇓P	**Pn**	**16 58 24.7**	**+1.8**
BKNI	**Bangkinang**	**15.48**	**148**	P	**Pn**	**16 58 23.5**	**+0.4**
BKNI	**Bangkinang**	**15.48**	**148**	*e*P	**Pn**	**16 58 21.8**	**-1.3**
	comp=Z,5μm,1.3s						
PKI	**Pulchoki**	**15.54**	**334**	*e*P	Pn	16 58 18.2	-5.9
PKIN	**Phulchoki**	**15.55**	**334**	*e*P	Pn	16 58 18.6	-5.5
GUN	**Gumba**	**15.65**	**336**	*e*P	**Pn**	**16 58 21.0**	**-4.5**
DMN	**Daman**	**15.70**	**334**	*e*P	**Pn**	**16 58 21.5**	**-4.6**
KKN	**Kakani**	**15.79**	**335**	*e*P	**Pn**	**16 58 22.4**	**-4.7**
MYKOM	**Kota Tinggi**	**16.00**	**136**	⇑P	**P**	**16 58 31.5**	**-1.2**
LSA	**Lhasa**	**16.09**	**355**	P	**Pn**	**16 58 29.5**	**-1.7**
LSA				S	Sn	17 01 20.8	-8.0
LSA				PMZ			
	comp=Z,97μm,4.0s						
LSA				LN			
	comp=Z,44μm,26.0s						
LSA				LE			
	comp=Z,380μm,26.0s						
LSA				LZ			
	comp=Z,286μm,17.0s						
LSA	**Lhasa**	**16.09**	**355**	*e*P	**Pn**	**16 58 28.0**	**-3.3**
LSA				pmax	pmax		
	comp=Z,3μm,1.1s						
LSA	**Lhasa**	**16.09**	**355**	*e*P	**Pn**	**16 58 28.0**	**-3.3**
	comp=Z,3μm,1.1s						
PDSI	**Padang**	**16.27**	**152**	P	**Pn**	**16 58 32.2**	**-1.0**
TRD	**Trivandrum**	**16.42**	**254**	*e*P	**Pn**	**16 58 33.5**	**-1.6**
TRD				AMB	AMB	16 58 40.5	
	comp=Z,1μm,2.1s						
SDSI	**Sungai Dareh**	**16.75**	**149**	P	**Pn**	**16 58 38.9**	**-0.4**
	comp=Z,1μm,1.2s,comp=Z,25μm						
TPRI	**Tanjung Pinang**	**17.09**	**137**	P	**P**	**16 58 44.8**	**-0.1**
QIZ	**Qiongzhong**	**17.15**	**69**	P	**Pn**	**16 58 44.5**	**+0.3**
QIZ				pP	**pP**	**16 58 54.5**	**-0.7**
QIZ				sP	**sP**	**16 58 58.0**	**-2.1**
QIZ				S	**Sn**	**17 01 54.3**	**+0.3**
QIZ				PMZ			
	comp=Z,79nm,1.1s						
QIZ				LN			
	comp=Z,78μm,14.5s						
QIZ				LE			
	comp=Z,40μm,15.9s						
QIZ				LZ			
	comp=Z,218μm,15.9s						
BHPL	**Bhopal**	**17.50**	**305**	*e*P	**Pn**	**16 58 48.2**	**-0.3**
BHPL				AMB	AMB	16 59 03.4	
	comp=Z,5μm,2.5s						
GYA	**Guiyang**	**18.18**	**43**	⇓*i*P	**P**	**16 58 56.5**	**-0.4**
GYA				sP	**sP**	**16 59 12.5**	**+0.9**
GYA				S	**S**	**17 02 24.0**	**+0.8**
GYA				sS	sS	17 02 31.0	-7.7
GYA				SS	**SnSn**	**17 02 40.5**	**+7.5**
GYA				PMZ			
	comp=Z,2μm,1.0s						
GYA				PMZ			
	comp=Z,29μm,6.8s						
GYA				LN			
	comp=Z,95μm,13.6s						
GYA				LE			
	comp=Z,58μm,13.3s						
GYA				LZ			
	comp=Z,126μm,12.7s						
DSRI	**Dabo**	**18.18**	**139**	P	**Pn**	**16 59 00.7**	**+3.7**
	comp=Z,7μm,0.9s,comp=Z,136μm						
JMBI	**JAMBI**	**18.53**	**144**	P	**Pn**	**16 59 02.9**	**+1.7**
GOA	**Goa**	**18.54**	**278**	*e*P	**P**	**16 59 01.0**	**+0.2**
GOA				AMB	AMB	16 59 13.2	
	comp=Z,2μm,2.4s						
POO	**Poona**	**18.92**	**287**	*e*P	**P**	**16 59 04.1**	**-1.0**
POO				AMB	AMB	16 59 10.9	
	comp=Z,2μm,1.3s						
AGRA	**Agra**	**19.45**	**316**	*e*P	**P**	**16 59 11.1**	**+0.4**
LGTI	**Lohaghat**	**19.63**	**325**	*e*x	x	16 59 31.2	
LGTI				*e*x	S	17 02 42.3	-10
PTH	**Pithoragarh**	**19.72**	**326**	*e*P	**P**	**16 59 14.6**	**+0.7**
PTH				*e*x	x	17 02 31.1	
CD2	**Chengdu**	**19.92**	**28**	⇓*i*P	**P**	**16 59 15.8**	**-0.1**
CD2				sP	**sP**	**16 59 31.8**	**+1.2**
CD2				PP	**PnPn**	**16 59 39.3**	**+6.7**
CD2				S	**S**	**17 02 54.3**	**-3.8**
CD2				sS	**sS**	**17 03 09.0**	**-4.8**
CD2				SS	**SnSn**	**17 03 22.0**	**+6.2**
CD2				PMZ			
	comp=Z,8μm,1.0s						
CD2				PMZ			
	comp=Z,40μm,6.0s						
CD2				LN			
	comp=Z,107μm,15.5s						
CD2				LE			
	comp=Z,92μm,14.4s						
CD2				LZ			
	comp=Z,76μm,19.0s						
PMBI	**Palembang**	**20.23**	**143**	P	**P**	**16 59 19.4**	**0.0**
	comp=Z,6μm,1.2s,comp=Z,45μmcomp=Z,179μm						
LHSI	**Lahat**	**20.30**	**148**	P	**P**	**16 59 17.8**	**-2.3**
	comp=Z,1μm,0.9s,comp=Z,30μmcomp=Z,122μm						
MNAI	**Manna**	**20.47**	**150**	P	**P**	**16 59 20.5**	**-1.5**
	comp=Z,3μm,0.8s,comp=Z,41μmcomp=Z,171μm						
MNAI				S	S	17 03 01.6	-7.6
	comp=Z,3μm,0.8s,comp=Z,41μmcomp=Z,171μm						
MNAI	**Manna**	**20.47**	**150**	*e*P	**P**	**16 59 19.8**	**-2.2**
	comp=Z,2μm,0.5s						
SONA	**Sohna**	**20.69**	**317**	*e*P	**P**	**16 59 25.4**	**+1.1**
SONA				AMB	AMB	16 59 30.7	
	comp=Z,2μm,1.1s						
AYAN	**Aya Nagar**	**20.82**	**318**	*e*P	**P**	**16 59 26.7**	**+1.1**
AYAN				AMB	AMB	16 59 30.4	
	comp=Z,2μm,1.5s						
NDI	**New Delhi**	**20.89**	**318**	*e*P	**P**	**16 59 27.0**	**+0.5**
NDI				*e*x	x	17 03 08.0	
KUDL	**Kundal**	**21.02**	**316**	*e*P	**P**	**16 59 27.9**	**+0.1**
KSM	**Kuching**	**21.05**	**123**	⇑P	**P**	**16 59 30.0**	**+1.8**
KSM	**Kuching**	**21.05**	**123**	*e*P	**P**	**16 59 26.6**	**-1.6**
	comp=Z,2μm,1.1s						
KSM				LR	LR		
	comp=Z,51μm,20.0s						
BHGR	**Bahadurgarh**	**21.08**	**318**	*e*P	**P**	**16 59 30.4**	**+2.0**
BHGR				AMB	AMB	16 59 33.3	
	comp=Z,3μm,1.8s						
MDSI	**Maura Dua**	**21.20**	**147**	P	**P**	**16 59 26.5**	**-3.3**
	comp=Z,526nm,1.0s,comp=Z,12μmcomp=Z,90μm						
MDSI				S	S	17 03 15.6	-7.9
	comp=Z,526nm,1.0s,comp=Z,12μmcomp=Z,90μm						
AJM	**Ajmer**	**21.35**	**310**	*i* P	**P**	**16 59 32.0**	**+0.6**
AJM				*i* x	**S**	**17 03 23.0**	**-3.5**
KHET	**Khetri**	**21.44**	**315**	*e*P	**P**	**16 59 33.1**	**+0.8**
KHET				AMB	AMB	16 59 39.5	
	comp=Z,3μm,2.0s						
GZH	**Guangzhou**	**21.57**	**61**	P	P	16 59 38.5	+4.8
GZH				pP	pP	16 59 48.5	+4.9
GZH				sP	sP	16 59 53.3	+4.8
GZH				LN			
	comp=Z,122μm,12.7s						
GZH				LE			
	comp=Z,112μm,12.5s						
LWLI	**Liwa**	**21.58**	**148**	P	**P**	**16 59 31.0**	**-3.1**
LWLI				S	**S**	**17 03 24.9**	**-6.5**
KLI	**Kotabumi**	**21.87**	**146**	P	**P**	**16 59 36.2**	**-0.8**
TPI	**Tanjungpandan**	**21.90**	**137**	P	**P**	**16 59 38.0**	**+0.7**
	comp=Z,2μm,1.2s,comp=Z,25μmcomp=Z,202μm						
HKC	**Hong Kong Obse**	**22.01**	**64**	*i* P	**P**	**16 59 40.0**	**+1.6**
KKR	**Kurukshetra**	**22.02**	**320**	*e*P	**P**	**16 59 40.4**	**+1.9**
KKR				AMB	AMB	16 59 47.1	
	comp=Z,3μm,1.9s						
SBUM	**Sibu**	**22.11**	**118**	⇓P	**P**	**16 59 40.8**	**+1.2**
KASI	**Kota Agung**	**22.24**	**148**	P	**P**	**16 59 37.1**	**-3.9**
KASI				S	S	17 03 33.8	-10
BTM	**Bintulu**	**22.48**	**116**	⇑P	**P**	**16 59 45.4**	**+1.7**
BLSI	**Bandar Lampung**	**22.50**	**146**	P	**P**	**16 59 41.2**	**-2.7**
	comp=Z,503nm,0.6s,comp=Z,11μmcomp=Z,90μm						
ENH	**Enshi**	**22.58**	**40**	*e*P	**P**	**16 59 43.7**	**-1.0**
	comp=Z,13nm,0.3s						
ENH				LR	LR		
	comp=Z,49μm,20.0s						
SMLA	**Simla**	**22.64**	**323**	*i* P	**P**	**16 59 46.2**	**+1.0**
SMLA				AMB	AMB	16 59 56.6	
	comp=Z,6μm,0.7s						
SMLA				*i* S	**S**	**17 03 52.2**	**+1.5**
STKI	**Sintang**	**22.82**	**125**	P	**P**	**16 59 48.0**	**+0.8**
SDNR	**Sundarnagar**	**23.03**	**323**	*e*x	**P**	**16 59 50.0**	**+0.8**
SDNR				*e*x	S	17 04 06.0	+8.7
BHK	**Bhakra**	**23.29**	**322**	*e*x	P	16 59 56.6	+4.7
BHK				*e*x	x	17 03 26.0	
SBJI	**Serang**	**23.61**	**145**	P	**P**	**16 59 54.8**	**-0.2**
	comp=Z,554nm,1.3s,comp=Z,19μm						
CGJI	**Cibinong**	**23.79**	**147**	P	P	16 59 51.5	-5.2
	comp=Z,215nm,1.0s,comp=Z,14μm						
TNG	**Tangerang**	**23.94**	**144**	P	P	17 00 07.7	+10
TNG	**Tangerang**	**23.94**	**144**	P	P	17 00 08.5	+10
PONG	**Pong**	**23.95**	**322**	*e*P	**P**	**16 59 57.9**	**-0.2**
PONG				*e*x	x	17 02 11.2	
DHRM	**DHARAMSHALA**	**23.96**	**323**	*e*P	**P**	**16 59 59.2**	**+0.7**
DHRM				AMB	AMB	17 00 14.2	
	comp=Z,3μm,0.6s						
BHJ	**Bhuj**	**23.99**	**297**	*e*P	**P**	**16 59 59.8**	**+1.2**
BHJ				AMB	AMB	17 00 14.7	
	comp=Z,968nm,1.4s						
KKM	**Kota Kinabalu**	**24.

comp=Z,410nm,0.9s,comp=Z,14μm comp=Z,61μm
SDKM Sandakan 25.23 106 ⇓P **P 17 00 10.5 +0.5**
CISI Cisompet, Garu 25.74 144 P **P 17 00 11.5 -3.0**
comp=Z,352nm,1.1s,comp=Z,21μm
CISI Cisompet, Garu 25.74 144 *e*P **P 17 00 10.9 -3.7**
comp=Z,281nm,0.6s
COCO West Island 25.93 171 *e*P **P 17 00 16.2 0.0**
COCO pmax pmax
comp=Z,975nm,1.3s
COCO MLR MLR
comp=Z,46μm,22.0s
COCO West Island 25.93 171 *e*P **P 17 00 16.1 0.0**
comp=Z,975nm,1.3s
COCO LR LR
comp=Z,46μm,22.0s
WHN Wuhan 26.00 46 ⇓*i*P **P 17 00 16.0 -0.7**
WHN S **S 17 04 44.5 -0.4**
WHN LN
comp=Z,117μm,12.6s
WHN LE
comp=Z,125μm,17.2s
WHN LZ
comp=Z,232μm,18.3s
MTKI Muara Teweh, K 26.18 122 P **P 17 00 19.1 +0.5**
comp=Z,802nm,1.3s,comp=Z,22μm
KPJI Karang Pucung 26.21 142 P **P 17 00 18.9 +0.1**
comp=Z,552nm,1.0s,comp=Z,16μm
TSM Tawau 26.34 108 ⇑P **P 17 00 20.8 +0.8**
GTA Gaotai 26.42 12 ⇓P **P 17 00 21.3 +0.7**
GTA pP **pP 17 00 30.5 -0.8**
GTA sP **sP 17 00 34.8 -1.1**
GTA PcP **PcP 17 03 46.3 +0.9**
GTA S **S 17 04 53.3 +1.6**
GTA sS **sS 17 05 08.5 -1.0**
GTA ScS **ScS 17 11 12.8 0.0**
GTA PMZ
comp=Z,930nm,1.8s
GTA PMZ
comp=Z,13μm,6.7s
GTA LN
comp=Z,40μm,19.0s
GTA LE
comp=Z,34μm,16.9s
GTA LZ
comp=Z,42μm,17.8s
QZH Quanzhou 26.71 61 ⇓*i*P **P 17 00 23.8 +0.6**
QZH pP **pP 17 00 34.3 +0.4**
QZH S **S 17 04 56.3 0.0**
QZH PMZ
comp=Z,620nm,1.1s
QZH LN
comp=Z,33μm,12.2s
QZH LE
comp=Z,77μm,11.2s
QZH LZ
comp=Z,127μm,17.2s
UWJI Ujung Watu 26.80 137 P **P 17 00 25.3 +1.2**
comp=Z,3μm,1.7s,comp=Z,43μm comp=Z,62μm
SZP Santa 26.84 78 *e*P **P 17 00 24.6 +0.1**
comp=Z,1μm,1.1s
BCPH Baguio City Da 26.89 81 ⇑*i*P **P 17 00 21.3 -3.9**
BCPH *i*S **S 17 04 57.7 -2.1**
XMIS Christmas Isla 27.09 151 *e*P **P 17 00 25.1 -1.6**
comp=Z,2μm,1.0s
TGY Tagaytay City 27.24 86 P **P 17 00 31.1 +2.9**
comp=Z,172nm,0.4s,baz=283,slow=7.3,SNR=10
TGY LR LR 17 11 50.1
comp=Z,961nm,18.1s,baz=297,slow=38
PCPH Palayan 27.37 82 ⇑*e*P **P 17 00 29.0 -0.3**
BBKI Banjar Baru 27.62 126 P **P 17 00 33.1 +1.6**
comp=Z,2μm,1.2s,comp=Z,21μm
UGM Wanagama 27.65 140 P **P 17 00 34.2 +2.5**
comp=Z,1μm,1.5s,comp=Z,25μm comp=Z,81μm
TBJI Tambak Boyo 27.69 136 P **P 17 00 34.3 +2.2**
comp=Z,1μm,1.2s,comp=Z,27μm comp=Z,69μm
WOJI Wonogiri, Jawa 27.84 139 P **P 17 00 34.8 +1.3**
comp=Z,823nm,1.1s,comp=Z,16μm
TPUB Ta-pu 27.99 66 *e*P **P 17 00 35.0 +0.2**
comp=Z,2μm,1.8s
BKB Balikpapan 28.02 120 P **P 17 00 37.0 +1.9**
comp=Z,755nm,0.9s,comp=Z,20μm comp=Z,105μm
GRJI Gresik 28.19 135 P **P 17 00 38.9 +2.3**
comp=Z,604nm,0.9s,comp=Z,5μm
SGKI Sangatta, Kali 28.25 118 P P 17 00 33.8 -3.3
comp=Z,1μm,1.6s,comp=Z,34μm
TWG Pinlang 28.26 67 *e*P **P 17 00 38.0 +0.8**
comp=Z,5μm,1.2s
PCJI Pacitan 28.28 139 P **P 17 00 36.3 -1.0**
comp=Z,398nm,1.2s,comp=Z,10μm comp=Z,62μm
SSLB Suanglung 28.41 65 *e*P **P 17 00 39.4 +0.9**
comp=Z,1μm,1.1s
PWJI Pagerwojo 28.55 138 P **P 17 00 39.9 +0.1**
comp=Z,496nm,0.9s,comp=Z,10μm comp=Z,70μm
KBKI Kotabaru 28.57 124 P **P 17 00 41.6 +1.6**
comp=Z,93nm,0.9s,comp=Z,7μm
YULB Yu-li 28.61 66 *e*P **P 17 00 41.4 +1.1**
comp=Z,569nm,1.0s
YHNB Yeheng 29.02 63 *e*P **P 17 00 44.8 +0.7**
comp=Z,671nm,1.0s
YHNB LR LR
comp=Z,49μm,22.0s
NACB Ninganchiao 29.07 65 *e*P **P 17 00 44.1 -0.3**
DGAR Diego Garcia 29.11 225 P **P 17 00 46.1 +1.4**
comp=Z,2μm,1.6s,SNR=18
DGAR Diego Garcia 29.11 225 *e*P **P 17 00 44.6 -0.1**
DGAR pmax pmax
comp=Z,882nm,1.3s
DGAR MLR MLR
comp=Z,72μm,22.0s
DGAR Diego Garcia 29.11 225 P **P 17 00 46.5 +1.8**
SNR=26
DGAR Diego Garcia 29.11 225 *e*P **P 17 00 44.6 -0.1**
comp=Z,882nm,1.3s
DGAR LR LR
comp=Z,72μm,22.0s
GUIM Jordan 29.19 93 *e*P **P 17 00 47.2 +1.7**
TATO Taipei 29.21 63 *e*P **P 17 00 45.9 +0.3**
comp=Z,471nm,1.0s
TATO LR LR
comp=Z,44μm,20.0s
RCP Roxas 29.21 91 ⇑*e*P **P 17 00 47.7 +1.9**
H08S3 Diego Garcia H 29.24 225 P **P 17 00 48.2 +2.5**
baz=20,slow=12,SNR=70
H08S3 T T 17 30 46.5
baz=38,slow=74,SNR=595
H08S2 Diego Garcia H 29.25 225 P P 17 00 49.7 +4.0
baz=20,slow=12,SNR=57
H08S2 T T 17 30 47.6
H08S1 Diego Carcia H 29.26 225 P **P 17 00 48.6 +2.8**
baz=20,slow=12,SNR=59
H08S1 T T 17 30 46.5
baz=18,slow=74,SNR=384
KMMI Kalianget 29.33 133 P **P 17 00 47.9 +1.2**
comp=Z,673nm,1.6s,comp=Z,16μm
H08N2 Diego Garcia H 29.40 229 P **P 17 00 49.5 +2.6**
baz=40,slow=6.5,SNR=24
H08N2 T T 17 31 58.0
baz=23,slow=76,SNR=84
H08N1 Diego Carcia H 29.40 229 P **P 17 00 49.5 +2.6**
baz=40,slow=6.5,SNR=20
H08N1 T T 17 31 53.3
baz=23,slow=76,SNR=153
H08N3 Diego Garcia H 29.41 229 P **P 17 00 49.7 +2.6**
baz=40,slow=6.5,SNR=14
H08N3 T T 17 31 53.1
baz=23,slow=76,SNR=147
BLJI Banyuglugur 29.55 135 P **P 17 00 49.7 +1.0**
comp=Z,897nm,1.2s,comp=Z,19μm comp=Z,71μm
TIY Taiyuan 29.65 32 *e*P **P 17 00 50.0 +0.5**
TIY pP **pP 17 01 02.5 +2.3**
TIY PP **PnPn 17 01 47.0 +1.5**
TIY S **S 17 05 41.3 -1.3**
TIY SS **SnSn 17 07 11.8 -1.8**
TIY PMZ
comp=Z,190nm,1.1s
TIY PMZ
comp=Z,4μm,3.8s
TIY LN
comp=Z,38μm,12.2s
TIY LE
comp=Z,20μm,10.2s
TIY LZ
comp=Z,38μm,12.1s
IPIL Ipil 29.73 98 *e*P **P 17 00 51.0 +0.7**
KSH Kashi 29.80 333 ⇓*i*P **P 17 00 49.8 -0.9**
KSH pP **pP 17 01 01.8 +0.3**
KSH PP **PnPn 17 01 47.8 +0.4**
KSH S **S 17 05 39.5 -5.4**
KSH sS **sS 17 05 58.8 -3.9**
KSH SS **SnSn 17 07 15.8 -1.3**
KSH PMZ
comp=Z,820nm,2.1s
KSH LN
comp=Z,10μm,8.0s
KSH LE
comp=Z,23μm,10.0s
KSH LZ
comp=Z,62μm,22.7s
GMJI Gumukmas 29.83 136 P **P 17 00 51.1 0.0**
comp=Z,659nm,1.2s,comp=Z,15μm comp=Z,91μm
MPSI Mapaga 29.83 114 P **P 17 00 52.0 +0.8**
comp=Z,495nm,1.3s,comp=Z,11μm comp=Z,57μm
KBL Kabul 29.98 318 *e*P **P 17 00 52.8 +0.2**
KBL Kabul 29.98 318 *e*P **P 17 00 52.8 +0.2**
comp=Z,2.5nm,0.6s
ABJI Asem Bagus 30.04 134 P **P 17 00 54.1 +1.2**
comp=Z,1μm,1.0s,comp=Z,22μm comp=Z,86μm
NJ2 Nanjing 30.04 48 *e*P **P 17 00 53.5 +0.7**
NJ2 pP **pP 17 01 04.0 +0.4**
NJ2 sP **sP 17 01 09.0 +0.8**
NJ2 S **S 17 05 51.0 +2.5**
NJ2 sS **sS 17 06 09.5 +3.1**
NJ2 PMZ
comp=Z,250nm,0.8s
NJ2 PMZ
comp=Z,11μm,7.5s
NJ2 LN
comp=Z,135μm,26.6s
NJ2 LE
comp=Z,208μm,25.6s
NJ2 LZ
comp=Z,208μm,25.6s
TOLI Toli-Toli 30.29 112 *e*P **P 17 00 55.3 0.0**
comp=Z,205nm,0.8s
PCI Palu 30.37 116 P **P 17 00 56.5 +0.6**
comp=Z,547nm,1.7s,comp=Z,11μm
WMQ Urumqi 30.43 353 P **P 17 00 56.8 +0.6**
WMQ sP **sP 17 01 12.8 +1.1**
WMQ PcP **PcP 17 03 57.8 +2.6**
WMQ S **S 17 05 53.0 -1.6**
WMQ sS **sS 17 06 09.5 -3.0**
WMQ SS **ScP 17 07 34.8 0.0**
WMQ ScS **ScS 17 11 26.5 -4.3**
WMQ PMZ
comp=Z,470nm,1.2s
WMQ PMZ
comp=Z,7μm,4.6s
WMQ LN
comp=Z,33μm,23.0s
WMQ LE
comp=Z,13μm,17.0s
WMQ LZ
comp=Z,33μm,26.0s
JAGI Jajag, Banyuwa 30.46 135 P **P 17 00 56.0 -0.7**
comp=Z,933nm,1.2s,comp=Z,13μm
JAGI Jajag, Banyuwa 30.46 135 *e*P **P 17 00 55.2 -1.5**
comp=Z,282nm,1.1s
PAGZ Pagadian 30.50 98 *e*P **P 17 00 58.9 +1.8**
BTO Baotou 30.80 26 *e*P **P 17 00 59.5 -0.1**
BTO S **S 17 06 00.5 0.0**
BTO LN
comp=Z,12μm,12.7s
BTO LE
comp=Z,14μm,18.1s
SRBI Singaraja 30.93 133 P **P 17 01 01.7 +0.9**
comp=Z,2μm,1.3s,comp=Z,19μm comp=Z,47μm
OCLP Ormoc 31.09 91 *e*P **P 17 01 03.0 +0.7**
TIA Tai'an 31.30 40 ⇓P **P 17 01 04.0 +0.1**
TIA pP pP 17 01 20.5 +5.8
TIA PP **PnPn 17 02 04.0 -3.1**
TIA S **S 17 06 07.8 -0.5**
TIA sS **sS 17 06 26.8 +0.6**
TIA PMZ
comp=Z,610nm,0.9s
TIA PMZ
comp=Z,8μm,7.0s
TIA LN
comp=Z,42μm,11.9s
TIA LE
comp=Z,66μm,14.6s
TIA LZ
comp=Z,24μm,41.0s
SSE Sheshan 31.30 52 P **P 17 01 04.3 +0.3**
SSE sP **sP 17 01 23.5 +4.1**
SSE S **S 17 06 09.5 +1.2**
SSE PMZ
comp=Z,310nm,1.2s
SSE PMZ
comp=Z,3μm,4.9s
SSE LN
comp=Z,50μm,12.6s
SSE LE
comp=Z,40μm,12.4s
SSE LZ
comp=Z,82μm,14.5s
SFK Sufi-Kurgan 31.33 331 P **P 17 01 05.2 +0.8**
SFK pmax pmax
comp=Z,745nm,1.1s
DNP Denpasar 31.34 134 P **P 17 01 04.5 +0.1**
comp=Z,2μm,1.1s,comp=Z,22μm
IGBI Denpasar 31.39 134 P **P 17 01 04.2 -0.7**
comp=Z,2μm,0.9s,comp=Z,15μm comp=Z,57μm
PLP Palo 31.44 91 ⇑*i*P **P 17 01 05.2 -0.2**
TTSI Tana Toraja 31.44 120 P **P 17 01 06.5 +1.1**
comp=Z,798nm,1.2s,comp=Z,13μm comp=Z,61μm
MSLP Maasin 31.48 93 *e*P **P 17 01 07.5 +1.8**
MRSI Marisa 31.60 112 P **P 17 01 07.4 +0.6**
comp=Z,973nm,0.8s,comp=Z,14μm comp=Z,45μm
CGP Cagayan de Oro 31.63 96 ⇓*e*P P 17 01 10.3 +3.2
HHC Hu-ho-hao-te 31.67 28 *e*P **P 17 01 07.8 +0.5**
HHC pP **pP 17 01 19.8 +1.7**
HHC sP **sP 17 01 25.0 +2.3**
HHC PP **PnPn 17 02 13.8 +1.8**
HHC S **S 17 06 15.8 +1.6**
HHC sS **sS 17 06 33.3 +1.2**
HHC SS **SnSn 17 08 05.3 +2.5**
HHC PMZ
comp=Z,260nm,0.8s
HHC PMZ
comp=Z,8μm,7.5s
HHC LN
comp=Z,30μm,17.9s
HHC LE
comp=Z,105μm,16.2s
HHC LZ
comp=Z,67μm,15.9s
PDGK Podgornoye 31.77 341 P **P 17 01 08.9 +0.9**
PDGK pmax pmax
comp=Z,634nm,1.2s
SPSI Sidrap Palu 31.90 121 P **P 17 01 10.4 +1.0**
comp=Z,700nm,1.2s,comp=Z,11μm comp=Z,57μm
APSI Ampana 31.96 115 P **P 17 01 12.2 +2.2**
comp=Z,2μm,1.2s,comp=Z,15μm comp=Z,45μm
ULHL Ulahol 31.96 336 P **P 17 01 10.5 +0.5**
SNR=293
ULHL Ulahol 31.96 336 *i*P **P 17 01 10.5 +0.5**
BUKP Musuan 32.11 97 *e*P **P 17 01 13.1 +1.7**
KZA Kyzart 32.22 335 P **P 17 01 13.2 +0.7**
SNR=376
KZA Kyzart 32.22 335 *i*P **P 17 01 13.1 +0.7**
BNSI Bone 32.42 122 P **P 17 01 14.8 +0.8**
comp=Z,678nm,1.5s,comp=Z,10μm
BUTP Butuan 32.42 95 *e*P P 17 01 18.6 +4.6
KAPI Kappang 32.47 123 P **P 17 01 15.0 +0.5**
comp=Z,1μm,0.7s,SNR=29
KAPI Kappang 32.47 123 P **P 17 01 15.6 +1.1**
SNR=43
KAPI Kappang 32.47 123 *e*P **P 17 01 14.9 +0.5**
comp=Z,419nm,2.2s
KAPI LR LR
comp=Z,43μm,21.0s
UCH Uchtor 32.65 334 P **P 17 01 17.1 +0.8**
SNR=480
UCH Uchtor 32.65 334 *i*P **P 17 01 17.0 +0.8**
TKM2 Tokmak 2 32.79 336 P **P 17 01 17.5 +0.3**
SNR=182
TKM2 Tokmak 2 32.79 336 P **P 17 01 17.3 +0.1**
TKM2 pmax pmax
comp=Z,315nm,1.0s
TKM2 Tokmak 2 32.79 336 *e*P **P 17 01 17.6 +0.4**
comp=Z,403nm,1.0s
TKM2 LR LR
comp=Z,25μm,22.0s
DAV Davao City (W) 32.80 98 P **P 17 01 19.7 +2.4**
SNR=42
DAV Davao City (W) 32.80 98 *e*P **P 17 01 19.3 +2.0**
comp=Z,1μm,1.3s
DAV LR LR
comp=Z,21μm,21.0s
KBK Karagaybulak 32.83 335 P **P 17 01 18.7 +1.2**
SNR=306
KBK Karagaybulak 32.83 335 *i*P **P 17 01 18.7 +1.2**
DZET Dzherino 32.89 324 P **P 17 01 17.7 -0.3**
DZET pmax pmax
comp=Z,1μm,1.3s
AML Almayashu 32.92 333 P **P 17 01 19.6 +1.0**
SNR=871
AML Almayashu 32.92 333 *i*P **P 17 01 19.6 +1.0**
BKSI Bulukumba 32.95 123 P **P 17 01 19.5 +0.9**
comp=Z,780nm,0.9s,comp=Z,8μm
AAK Ala-Archa 32.99 335 P **P 17 01 20.9 +2.0**
comp=Z,3μm,1.0s
AAK Ala-Archa 32.99 335 P **P 17 01 20.2 +1.2**
SNR=584
AAK Ala-Archa 32.99 335 *d*i P **P 17 01 20.2 +1.2**
AAK pmax pmax
comp=Z,2μm,1.2s
AAK MLR MLR
comp=Z,192μm,25.0s
AAK Ala-Archa 32.99 335 P **P 17 01 20.3 +1.4**
SNR=404
AAK Ala-Archa 32.99 335 P **P 17 01 20.1 +1.2**
comp=Z,458nm,1.0s,baz=137,slow=8.3,SNR=162
AAK P3KPbc 17 32 37.6
comp=Z,2.4nm,0.9s,baz=229,slow=3.1,SNR=5.7
AAK Ala-Archa 32.99 335 *e*P **P 17 01 19.9 +1.0**
comp=Z,612nm,1.0s
AAK *e* 17 32 37.6
AAK LR LR
comp=Z,43μm,22.0s
LUWI Luwuk 33.02 114 P **P 17 01 20.4 +1.2**
comp=Z,3μm,1.1s,comp=Z,22μm comp=Z,66μm
LUWI Luwuk 33.02 114 *e*P **P 17 01 19.6 +0.4**
comp=Z,3μm,1.0s
FRU Bishkek 33.11 335 ⇓*i*P **P 17 01 21.5 +1.7**
FRU *i* 17 02 33.5
FRU *e*S **S 17 06 40.2 +3.8**
FRU pmax pmax
comp=Z,4μm,3.6s
FRU smax smax
comp=E,7μm,7.0s
FRU MLR MLR
comp=Z,78μm,23.5s
CHMS Chumysh 33.19 335 P **P 17 01 21.3 +0.7**
SNR=351
CHMS Chumysh 33.19 335 *i*P **P 17 01 21.2 +0.7**
BIPH Bislig 33.30 96 ⇓*e*P **P 17 01 23.1 +1.4**
EKS2 Erkin-Say 33.32 334 P **P 17 01 23.1 +1.4**
SNR=647
EKS2 Erkin-Say 33.32 334 *e*P **P 17 01 22.8 +1.1**
EKS2 pmax pmax
comp=Z,403nm,1.0s
EKS2 MLR MLR
comp=Z,28μm,22.0s
EKS2 Erkin-Say 33.32 334 *e*P **P 17 01 22.8 +1.1**
comp=Z,403nm,1.0s
EKS2 LR LR
comp=Z,28μm,22.0s
BJT Baijiatuau 33.32 34 *e*P **P 17 01 22.3 +0.7**
BJT pmax pmax
comp=Z,866nm,1.1s
BJT MLR MLR
comp=Z,71μm,20.0s
BJT Baijiatuau 33.32 34 *e*P **P 17 01 22.2 +0.7**
comp=Z,866nm,1.1s
BJT LR LR
comp=Z,71μm,20.0s
BJI Beijing 33.34 34 P **P 17 01 22.3 +0.6**
BJI PP **PP 17 02 37.8 +0.2**
BJI S **S 17 06 40.8 +0.9**
BJI PMZ
comp=Z,710nm,1.0s
BJI PMZ
comp=Z,8μm,5.3s
BJI LN
comp=Z,58μm,22.1s
BJI LE
comp=Z,58μm,21.1s
BJI LZ
comp=Z,51μm,24.0s
KMSI Cibinong 33.41 110 P **P 17 01 24.0 +1.3**
comp=Z,3μm,0.9s,comp=Z,37μm comp=Z,41μm
USP Ospenovka 33.52 335 P **P 17 01 24.1 +0.7**
SNR=531
USP Ospenovka 33.52 335 *i*P **P 17 01 24.0 +0.7**
SGSI Sangihe 33.71 104 P **P 17 01 26.7 +1.4**
comp=Z,603nm,1.5s
BSSI Bau Bau, Buton 33.72 124 P **P 17 01 26.0 +0.7**
comp=Z,1μm,1.1s,comp=Z,15μm
JMDO Jabal Madar 34.13 290 P **P 17 01 31.1 +2.2**
SNR=34
MK31 Makanchi Array 34.25 347 *i*P **P 17 01 29.8 +0.2**
MK31 pmax pmax
comp=Z,1μm,0.9s
MKAR Makanchi Array 34.25 347 P **P 17 01 29.8 +0.2**
comp=Z,908nm,0.9s,baz=162,slow=7.8,SNR=674
MKAR LR LR 17 19 18.6
comp=Z,13μm,19.5s,baz=162,slow=43
MKAR P3KPbc 17 32 32.4
comp=Z,1.0nm,0.6s,baz=9.2,slow=4.0,SNR=9.1
MKAR P4KP 17 43 19.7
comp=Z,0.8nm,1.0s,baz=0.0,slow=2.4,SNR=3.7
SMDO Samad 34.29 291 P **P 17 01 33.1 +2.7**
SNR=67
BSY Bisya 35.01 290 P **P 17 01 39.4 +2.8**
SNR=111
HOQ Hoqain 35.05 292 P **P 17 01 39.2 +2.4**
SNR=73
KK31 Karatay Array 35.14 331 *i*P **P 17 01 37.8 +0.5**
KK31 pmax pmax
comp=Z,640nm,1.1s
KKAR Karatay Array 35.14 331 *e*P **P 17 01 37.7 +0.4**
KKAR Karatay Array 35.14 331 *e*P **P 17 01 37.7 +0.4**
comp=Z,2.0nm,0.6s
JOW Kunigami 35.59 63 *e*P **P 17 01 41.2 -0.3**
comp=Z,98nm,0.4s
IDAH Dahanechah 35.60 308 *e*Pn **P 17 01 42.7 +0.9**
WSI Waingapu 35.72 129 P **P 17 01 40.9 -1.7**
comp=Z,2μm,0.8s,comp=Z,27μm
DL2 Dalian 35.77 40 ⇓*i*P **P 17 01 43.8 +1.0**
DL2 PP **PnPn 17 03 03.5 0.0**
DL2 S **S 17 07 19.5 +2.0**
DL2 sS **sS 17 07 32.8 -2.7**
DL2 ScS **ScS 17 11 58.3 -0.1**
DL2 PMZ
comp=Z,730nm,1.1s
DL2 PMZ
comp=Z,8μm,4.8s
DL2 LN
comp=Z,22μm,11.9s
DL2 LE
comp=Z,15μm,12.8s
DL2 LZ
comp=Z,23μm,16.5s
SONM Songino Array 35.93 16 P **P 17 01 44.6 +0.4**
comp=Z,571nm,1.1s,baz=200,slow=10,SNR=135
SONM LR LR 17 19 27.0
comp=Z,41μm,20.8s,baz=200,slow=41
SONM P3KPbc 17 32 29.2
comp=Z,0.2nm,0.4s,baz=346,slow=3.0,SNR=3.8
SONM PKPPKP P'P'df 17 34 21.3 -28
comp=Z,2.9nm,1.1s,baz=336,slow=3.3,SNR=3.7
ULN Ulaanbaatar 36.13 16 *ce*P **P 17 01 46.4 +0.4**
ULN pmax pmax
comp=Z,1μm,2.5s
ULN Ulaanbaatar 36.13 16 P **P 17 01 46.4 +0.4**
SNR=235
ULN Ulaanbaatar 36.13 16 *e*P **P 17 01 46.0 0.0**
comp=Z,597nm,1.2s
ULN LR LR
comp=Z,65μm,20.0s
IKOO Kooshah 36.15 307 *e*Pn **P 17 01 47.2 +0.8**
EDFI Ende, Flores 36.22 126 P **P 17 01 44.8 -2.2**
comp=Z,531nm,1.3s,comp=Z,8μm
BASI Baing, Sumba 36.28 129 P **P 17 01 45.9 -1.5**
comp=Z,2μm,0.9s,comp=Z,20μm
UOSS Wadi Hilu 36.29 294 P **P 17 01 48.8 +1.3**
comp=Z,1μm,1.4s,SNR=35
HATD Hatta, Dubai 36.33 293 ⇓*i*P **P 17 01 49.8 +2.0**
SNR=90

SANI Sanana 36.34 113 P **P 17 01 47.1 -0.8**
comp=Z,425nm,1.0s,comp=Z,6μmcomp=Z,37μm
ASHO Ashiyiah 36.37 293 ⇓P **P 17 01 50.8 +2.6**
KSJJU Jeju 36.40 51 P **P 17 01 49.5 +1.2**
SNR=6.6
KSJJU Jeju 36.40 51 P **P 17 01 49.5 +1.2**
SNR=6.6
KSJJU Jeju 36.40 51 ⇓P **P 17 01 48.8 +0.4**
KSJJU P **P 17 01 49.5 +1.2**
SNR=6.6
KSJJU ⇓S **S 17 07 29.4 +2.1**
BANOM Banah 36.41 295 ⇓P **P 17 01 50.7 +2.2**
TNTI Ternate 36.45 108 P **P 17 01 47.9 -1.0**
comp=Z,654nm,1.1s,comp=Z,6μmcomp=Z,39μm
TNTI Ternate 36.45 108 *e*P **P 17 01 46.9 -2.0**
comp=Z,620nm,1.0s
IBND Bandar-abas 36.56 298 *e*Pn **P 17 01 52.7 +3.1**
IBND *e*Pn P 17 01 54.2 +4.6
MMRI Maumere 36.58 126 P **P 17 01 49.0 -1.0**
comp=Z,998nm,1.0s,comp=Z,13μm
MMRI Maumere 36.58 126 *e*P **P 17 01 48.3 -1.7**
comp=Z,986nm,1.0s
NAZ Nazwa, Dubai 36.78 294 ⇓*i*P **P 17 01 53.6 +1.9**
SNR=36
FAQ Al Faqa, Dubai 36.80 293 ⇓*i*P **P 17 01 53.7 +1.9**
SNR=54
ASUD Al Ashush, Dub 37.01 293 ⇑*i*P **P 17 01 56.1 +2.4**
SNR=53
IMYA Miami 37.06 314 *e*Pn **P 17 01 54.0 0.0**
LBMI Labuha 37.12 110 P **P 17 01 55.4 +0.8**
comp=Z,456nm,1.7s,comp=Z,8μmcomp=Z,30μm
KSBAR Backryungdo 37.25 44 ⇑P **P 17 01 54.9 -0.5**
KSBAR S **S 17 07 41.2 +1.2**
RBK Rabkut 37.41 281 P **P 17 01 59.2 +2.1**
SNR=20
HVS Khovu-Aksy 37.43 1*d i*P **P 17 01 57.3 +0.4**
HVS MLR MLR
comp=Z,69μm,22.0s
KSKWJ Gwangju 37.48 49 ⇓P **P 17 01 57.5 +0.1**
SNR=8.1
KSKWJ Gwangju 37.48 49 ⇓P **P 17 01 57.5 +0.1**
SNR=8.1
KSKWJ Gwangju 37.48 49 ⇓P **P 17 01 57.5 +0.1**
KSKWJ ⇓P **P 17 01 57.5 +0.1**
SNR=8.1
KSKWJ ⇓S **S 17 07 39.6 -4.0**
IMOG Moghan 37.49 313 *e*Pn **P 17 01 58.6 +0.8**
ISRO Mashad 37.49 313 *e*Pn **P 17 01 58.4 +0.8**
ZAK Zakamensk 37.64 11 *e*P **P 17 01 58.5 -0.2**
ZAK pmax pmax
comp=Z,204nm,1.9s
KSSES Seosan 37.84 46 ⇑P **P 17 02 00.1 -0.4**
SNR=12
KSSES Seosan 37.84 46 ⇑P **P 17 02 00.1 -0.4**
SNR=12
KSSES Seosan 37.84 46 ⇑P **P 17 02 00.1 -0.4**
SNR=12
KSSES S **S 17 07 49.2 +0.1**
NLAI Namlea 37.86 114 P **P 17 02 02.1 +1.2**
comp=Z,431nm,0.9s,comp=Z,6μmcomp=Z,31μm
IPAY Payeh 37.89 313 *e*Pn **P 17 02 01.7 +0.5**
KSJEO Jeonju 38.04 48 ⇑P **P 17 02 02.1 -0.1**
SNR=20
KSJEO Jeonju 38.04 48 ⇑P **P 17 02 02.1 -0.1**
SNR=20
KSJEO Jeonju 38.04 48 ⇑P **P 17 02 02.1 -0.1**
SNR=20
IAKL Akhelmad 38.13 313 *e*Pn **P 17 02 03.6 +0.4**
ABTO Aybut 38.28 281 P **P 17 02 06.0 +1.6**
SNR=64
KSGAH Ganghwa 38.28 45 ⇓P **P 17 02 03.9 -0.3**
SNR=20
KSGAH Ganghwa 38.28 45 ⇓P **P 17 02 03.9 -0.3**
SNR=20
KSGAH Ganghwa 38.28 45 ⇓P **P 17 02 03.9 -0.3**
SNR=20
KSGAH S **S 17 07 57.7 +1.9**
TJN Taejon 38.30 48 *i* P **P 17 02 03.7 -0.6**
INCN Inchon 38.30 45 P **P 17 02 04.3 -0.1**
SNR=21
INCN Inchon 38.30 45 *e*P **P 17 02 02.9 -1.5**
comp=Z,525nm,1.3s
INCN LR LR
comp=Z,60μm,20.0s
IKRD Kardeh 38.39 313 *e*Pn P 17 02 00.5 -4.9
KSSEO Seoul 38.50 46 ⇓P **P 17 02 05.6 -0.4**
KSSEO S S 17 08 05.2 +6.2
OTUK Ortayu 38.51 338 P **P 17 02 06.5 +0.6**
OTUK pmax pmax
comp=Z,1μm,1.0s
MOY Mondy 38.52 8 *e*P **P 17 02 06.6 +0.5**
MOY pmax pmax
comp=Z,895nm,3.8s
IBAF Bafgh 38.57 304 *e*Pn **P 17 02 08.2 +1.4**
BATI Baumata 38.65 126 P **P 17 02 05.7 -1.8**
comp=Z,613nm,1.0s,comp=Z,5μm
BATI Baumata 38.65 126 S **S 17 08 04.7 +3.0**
comp=Z,64nm,0.9s,baz=340,slow=2.4,SNR=7.0
KURBB Kurchatov Arra 38.71 345 P **P 17 02 07.6 0.0**
comp=Z,973nm,0.9s,baz=161,slow=7.9,SNR=703
KURBB P3KPbc 17 32 13.8
comp=Z,1.4nm,0.7s,baz=330,slow=4.7,SNR=6.2
KURBB PKPPKP P'P'df 17 34 19.2 -27
comp=Z,2.2nm,1.0s,baz=295,slow=2.9,SNR=4.1
SNY Shenyang 38.72 38 ⇓P **P 17 02 07.8 0.0**
SNY S **S 17 08 02.0 -0.3**
SNY PMZ
comp=Z,500nm,2.2s
SNY PMZ
comp=Z,8μm,5.3s
SNY LN
comp=Z,26μm,13.9s
SNY LE
comp=Z,53μm,17.2s
SNY LZ
comp=Z,46μm,14.1s
KURK Kurchatov 38.78 346 P **P 17 02 08.9 +0.8**
comp=Z,4μm,1.0s
KURK Kurchatov 38.78 346 P **P 17 02 08.1 0.0**
KURK pmax pmax
comp=Z,886nm,1.1s
KURK Kurchatov 38.78 346 P **P 17 02 08.5 +0.4**
SNR=718
KURK Kurchatov 38.78 346 *e*P **P 17 02 08.0 0.0**
comp=Z,869nm,1.1s
KURK *e* 17 32 13.8
KURK P'P' 17 34 19.2
KURK LR LR
comp=Z,18μm,22.0s
YNCB YEONCHEON 38.78 45 P **P 17 02 08.5 +0.2**
SNR=21
YNCB YEONCHEON 38.78 45 P **P 17 02 08.5 +0.2**
SNR=21
YNCB YEONCHEON 38.78 45 P **P 17 02 08.5 +0.2**
SNR=21
YNCB ⇑S **S 17 08 02.7 -0.5**
KSDDC Dongducheon 38.80 45 P **P 17 02 08.7 +0.2**
SNR=26
KSDDC Dongducheon 38.80 45 P **P 17 02 08.7 +0.2**
SNR=26
SOEI Soe 38.85 125 P **P 17 02 07.6 -1.8**
comp=Z,1μm,1.2s,comp=Z,10μm
SOEI Soe 38.85 125 *e*P **P 17 02 06.6 -2.7**
comp=Z,282nm,1.1s
ISFR Sfrayin 38.88 313 *e*Pn **P 17 02 10.8 +1.2**
TLY Talaya 38.95 11 P **P 17 02 11.3 +1.7**
comp=Z,1μm,0.9s,SNR=86
TLY Talaya 38.95 11*d i*P **P 17 02 11.0 +1.4**
TLY *e* 17 03 42.5
TLY *e*S **S 17 08 09.2 +3.7**
TLY pmax pmax
comp=Z,124nm,0.7s
TLY MLR MLR
comp=Z,36μm,19.0s
TLY Talaya 38.95 11 P **P 17 02 11.2 +1.6**
SNR=200
TLY Talaya 38.95 11 P **P 17 02 11.0 +1.4**
comp=Z,100nm,0.9s,baz=209,slow=7.8,SNR=71
TLY LR LR 17 21 14.6
comp=Z,29μm,20.8s,baz=184,slow=41
TLY Talaya 38.95 11 *e*P **P 17 02 10.8 +1.2**
comp=Z,650nm,3.1s
KSCHJ Chungju 38.96 47 ⇑P **P 17 02 09.8 -0.1**
SNR=28
KSCHJ Chungju 38.96 47 ⇑P **P 17 02 09.8 -0.1**
SNR=28
KSCHJ ⇓S **S 17 08 06.6 +0.6**
ASHT Ashkhabad 39.03 315 P **P 17 02 12.7 +2.2**
KSBUS Busan 39.08 50 ⇑P **P 17 02 11.4 +0.5**
SNR=20
KSBUS Busan 39.08 50 ⇑P **P 17 02 11.4 +0.5**
SNR=20
KSBUS ⇑S **S 17 08 10.6 +2.7**
KSDAG Daegu 39.14 49 ⇑P **P 17 02 11.5 +0.1**
SNR=16
KSDAG Daegu 39.14 49 ⇑P **P 17 02 11.5 +0.1**
SNR=16
KSDAG ⇑S **S 17 08 07.1 -1.7**
KSAR Wonju Array Be 39.16 46 P **P 17 02 11.3 -0.2**
KSAR 17 08 07.2
KSAR Wonju Array Be 39.16 46 P **P 17 02 11.2 -0.2**
KSAR ScP **ScP 17 08 07.2 +1.1**
KSAR P'P' 17 34 40.3
KSRS Korea Array 39.19 46 P **P 17 02 11.2 -0.5**
comp=Z,159nm,0.7s,baz=244,slow=8.6,SNR=173
KSRS ScP **ScP 17 08 07.2 +1.0**
comp=Z,8.6nm,0.9s,baz=234,slow=3.7,SNR=4.6
KSRS LR LR 17 21 06.9
comp=Z,76μm,19.2s,baz=238,slow=40
KSRS PKPPKP P'P'df 17 34 40.3 -6.3
comp=Z,1.6nm,0.8s,baz=16,slow=1.7,SNR=4.7
GEYT Alibeck 39.21 315 P **P 17 02 12.7 +0.7**
comp=Z,901nm,1.0s,baz=142,slow=7.5,SNR=285
GEYT LR LR 17 21 05.9
comp=Z,29μm,20.2s,baz=120,slow=40
GEYT P3KPbc 17 32 11.7
comp=Z,2.0nm,0.8s,baz=335,slow=6.6,SNR=4.9
KSCHC Chuncheon 39.27 46 ⇑P **P 17 02 12.4 0.0**
SNR=28
KSCHC Chuncheon 39.27 46 ⇑P **P 17 02 12.4 0.0**
SNR=28
KSCHC ⇑S **S 17 08 10.9 +0.3**
IMEH Mehriz 39.28 303 *e*Pn **P 17 02 14.0 +1.1**
ISHV Shirvan 39.31 314 *e*Pn **P 17 02 14.7 +1.6**
MSAI Masohi 39.54 113 P **P 17 02 15.3 +0.3**
comp=Z,673nm,1.0s,comp=Z,5μmcomp=Z,12μm
IRK Irkutsk 39.60 11 *e*P **P 17 02 15.7 +0.7**
IRK *e*S **S 17 08 16.8 +1.5**
IRK pmax pmax
comp=Z,1μm,2.2s
JNU Nakatsue 39.64 54 *e*P **P 17 02 15.9 +0.3**
comp=Z,219nm,1.1s
ICHK Chekchek 39.71 304 *e*Pn **P 17 02 17.2 +0.7**
SEHB SEOHWA 39.80 45 S **S 17 08 19.1 +0.4**
SEHB SEOHWA 39.80 45 ⇓P **P 17 02 17.2 +0.3**
SNR=30
SEHB SEOHWA 39.80 45 ⇓P **P 17 02 17.2 +0.3**
SNR=30
SEHB S **S 17 08 19.1 +0.4**
KSDGY Daegwallycong 39.83 46 ⇑P **P 17 02 17.4 +0.3**
SNR=47
KSDGY Daegwallycong 39.83 46 ⇑P **P 17 02 17.4 +0.3**
SNR=47
KSULJ Uljin 39.91 48 ⇓P **P 17 02 17.8 0.0**
SNR=11
KSULJ Uljin 39.91 48 ⇓P **P 17 02 17.8 0.0**
SNR=11
KSULJ ⇓S **S 17 08 21.1 +0.8**
ISRV Sarvestan 39.96 300 *e*Pn **P 17 02 19.9 +1.2**
IPAR Pars 40.13 300 *e*Pn **P 17 02 20.4 +0.3**
ISAD Sadrabad 40.19 304 *e*Pn **P 17 02 21.7 +1.1**
ZALV Zalesovo Beam 40.74 353 *i* P **P 17 02 24.2 -0.2**
ZALV pmax pmax
comp=Z,1μm,0.8s
ZALV Zalesovo Beam 40.74 353 P **P 17 02 24.1 -0.2**
comp=Z,1μm,0.8s,baz=177,slow=8.3,SNR=675
ZALV LR LR 17 22 43.8
comp=Z,18μm,21.1s,baz=168,slow=41
ZALV P3KPbc 17 32 13.5
comp=Z,0.9nm,0.6s,baz=343,slow=4.6,SNR=3.7
ZALV PKPPKP P'P'df 17 34 25.3 -19
comp=Z,2.4nm,1.0s,baz=324,slow=2.0,SNR=4.2
BNDI Bandanaira 40.93 114 P **P 17 02 26.8 +0.3**
comp=Z,2μm,1.2s,comp=Z,24μm
CN2 Changchun 41.01 36 *e*P **P 17 02 26.8 0.0**
CN2 *e*pP **pP 17 02 39.0 +1.2**
CN2 *e*sP **sP 17 02 44.5 +2.1**
CN2 PP **PnPn 17 04 04.8 -1.6**
CN2 *e*S **S 17 08 32.5 -4.0**
CN2 SS **SS 17 11 38.3 -1.3**
CN2 PMZ
comp=Z,100nm,1.1s
CN2 PMZ
comp=Z,2μm,3.0s
CN2 LN
comp=Z,29μm,19.0s
CN2 LE
comp=Z,42μm,19.0s
CN2 LZ
comp=Z,53μm,16.0s
IKAZ Kazeroun 41.13 300 *e*Pn **P 17 02 28.4 0.0**
IANJ Anjilo 41.22 309 *e*Pn **P 17 02 30.1 +1.2**
MSEY Mahe Island 41.33 246 P **P 17 02 32.9 +3.1**
comp=Z,1μm,1.5s,SNR=27
MSEY Mahe Island 41.33 246 *e*P **P 17 02 31.7 +1.9**
MSEY pmax pmax
comp=Z,2μm,2.0s
MSEY MLR MLR
comp=Z,67μm,20.0s
MSEY Mahe Island 41.33 246 P **P 17 02 32.3 +2.5**
SNR=42
MSEY Mahe Island 41.33 246 *i* P **P 17 02 32.4 +2.5**
SNR=61
MSEY Mahe Island 41.33 246 *e*P **P 17 02 31.7 +1.9**
comp=Z,2μm,2.0s
MSEY LR LR
comp=Z,67μm,20.0s
IZEF Zefreh 41.58 305 *e*Pn **P 17 02 32.6 +0.6**
IGLO Ghalogh 41.67 310 *e*Pn **P 17 02 34.0 +1.4**
CIT Chita 41.76 19 *e*P **P 17 02 33.1 +0.3**
CIT *e* 17 02 44.9
CIT *e* 17 04 16.0
CIT *e* 17 12 27.5
CIT pmax pmax
comp=Z,2μm,1.9s
ISHM Shahmirzad 41.81 309 *e*Pn **P 17 02 35.2 +1.3**
NVS Novosibirsk 41.82 352 ⇓*i*P **P 17 02 31.6 -1.6**
NVS *e**PP **pP 17 02 44.3 +0.1**
NVS *e* 17 04 08.2
NVS *e* 17 04 23.4
NVS *i* S **S 17 08 45.4 -2.7**
NVS *i* 17 12 30.2
NVS pmax pmax
comp=Z,835nm,1.4s
NVS pmax pmax
comp=N,580nm,1.3s
NVS pmax pmax
comp=E,283nm,1.3s
NVS smax smax
comp=N,635nm,2.5s
NVS smax smax
comp=E,860nm,2.5s
HIA Hailar 41.85 26*d i*P **P 17 02 34.2 +0.5**
HIA pmax pmax
comp=Z,168nm,0.8s
HIA MLR MLR
comp=Z,43μm,21.0s
HIA Hailar 41.85 26 *e*P **P 17 02 33.4 -0.3**
comp=Z,484nm,1.2s
HIA LR LR
comp=Z,41μm,21.0s
ILAS Lasjerd 41.91 308 *e*Pn **P 17 02 35.6 +0.9**
IFIR Firoozkooh 42.16 309 *e*Pn **P 17 02 38.1 +1.4**
IALA Alasht 42.28 309 *e*Pn **P 17 02 39.6 +1.9**
IKLH Kolahrood 42.31 305 *e*Pn **P 17 02 39.0 +1.1**
FAKI Fak Fak 42.37 110 P **P 17 02 38.0 -0.3**
comp=Z,964nm,1.2s,comp=Z,12μm
FAKI Fak Fak 42.37 110 *e*P **P 17 02 37.6 -0.7**
comp=Z,746nm,1.0s
MUKL Al Mukalla 42.49 277 ⇓*e*P **P 17 02 41.1 +1.9**
MUKL AMb AMB 17 02 42.3
comp=Z,913nm,1.7s
QAM Ghamsar 42.56 305 *e*Pn **P 17 02 41.0 +1.1**
IPIR Pirpir 42.68 304 *e*Pn **P 17 02 41.0 0.0**
IDMV Damavand 42.69 308 *e*Pn **P 17 02 42.6 +1.6**
IPRN Peran 42.69 309 *e*Pn **P 17 02 42.5 +1.6**
BVA0 Borovoye Array 43.20 340 P **P 17 02 44.0 -0.5**
BVA0 pmax pmax
comp=Z,500nm,1.2s
BVAR Borovoye Array 43.20 340 P **P 17 02 44.1 -0.4**
comp=Z,407nm,0.9s,baz=141,slow=7.5,SNR=182
BVAR P3KPbc 17 31 54.7
comp=Z,0.4nm,0.5s,baz=338,slow=7.2,SNR=3.6
BVAR PKPPKP P'P'df 17 34 23.0 -18
comp=Z,2.1nm,1.0s,baz=333,slow=1.7,SNR=3.7
BRVK Borovoye 43.26 340 P **P 17 02 44.5 -0.5**
comp=Z,3μm,0.9s
IR3 Iran Long-Peri 43.43 308 *e*Pn **P 17 02 48.4 +1.7**
MBWA Marble Bar 43.47 142 P **P 17 02 46.8 -0.3**
SNR=38
MBWA Marble Bar 43.47 142 *e*P **P 17 02 46.0 -1.1**
comp=Z,727nm,1.3s
MBWA LR LR
comp=Z,32μm,22.0s
RKPI Ransiki, Papua 43.61 107 P **P 17 02 48.0 -0.4**
comp=Z,424nm,0.9s,comp=Z,15μm
SAUI Saumlaki 43.77 117 P **P 17 02 49.5 -0.1**
comp=Z,1μm,0.9s,comp=Z,12μm
IMHD Mahdasht 43.77 308 *e*Pn **P 17 02 51.1 +1.6**
MDJ Mudanjiang 43.92 38 P **P 17 02 51.3 +0.9**
MDJ pP **pP 17 03 02.5 +1.0**
MDJ sP **sP 17 03 10.3 +4.2**
MDJ PcP **PcP 17 04 38.8 +2.8**
MDJ S **S 17 09 19.5 +0.2**
MDJ PMZ
comp=Z,190nm,1.4s
MDJ PMZ
comp=Z,4μm,9.1s
MDJ LN
comp=Z,30μm,27.6s
MDJ LE
comp=Z,23μm,38.7s
MDJ LZ
comp=Z,22μm,35.9s
MDJ Mudanjiang 43.92 38 *e*P **P 17 02 50.0 -0.4**
comp=Z,683nm,1.6s
MDJ LR LR
comp=Z,19μm,21.0s
IRAZ Razeghan 44.25 307 *e*Pn **P 17 02 55.2 +1.7**
IGZV Ghazvin 44.35 309 *e*Pn **P 17 02 55.8 +1.6**
VLA Vladivostok 44.56 41*b i*P **P 17 02 55.0 -0.6**
VLA *i* 17 04 37.0
VLA *i* 17 04 39.7
VLA *i* S **S 17 09 28.0 -0.7**
VLA pmax pmax
comp=Z,456nm,1.5s
VLA smax smax
comp=N,12μm,4.5s
AB31 Akbulak array 44.66 330 P **P 17 02 56.7 +0.5**
AB31 pmax pmax
comp=Z,798nm,1.0s
ABKAR Akbulak array 44.66 330 *e*P **P 17 02 56.8 +0.5**
comp=Z,1.5nm,0.7s
USRK Ussuriysk Ar. 45.16 40 P **P 17 02 60.0 -0.4**
comp=Z,98nm,0.8s,baz=249,slow=7.1,SNR=90
USRK LR LR 17 25 03.4
comp=Z,31μm,18.0s,baz=223,slow=40
USRK PKP2ab 17 35 42.4
comp=Z,0.7nm,0.6s,baz=235,slow=6.7,SNR=4.1
IBZA Bozab 45.60 305 *e*Pn **P 17 03 04.0 -0.4**
SRPI Serui, Papua 45.66 106 P **P 17 03 03.8 -0.9**
comp=Z,260nm,1.0s,comp=Z,5μm
RAYN Ar Rayn 45.80 290 P **P 17 03 06.0 +0.2**
comp=Z,899nm,1.4s,SNR=79
RAYN Ar Rayn 45.80 290 *e*P **P 17 03 06.0 +0.2**
comp=Z,8μm,1.4s
IKOM Komasi 45.80 305 *e*Pn **P 17 03 05.8 0.0**
BDHA Al Bayda' 45.88 276 ⇓*e*P **P 17 03 08.6 +1.9**
BDHA AMb AMB 17 03 10.3
comp=Z,1μm,1.3s
AKTO Aktyubinsk 46.37 330 P **P 17 03 09.8 0.0**
comp=Z,226nm,0.9s,baz=121,slow=7.6,SNR=253
AKTO LR LR 17 23 49.0
comp=Z,12μm,21.7s,baz=142,slow=38
AKTO PKPPKP P'P'df 17 34 17.0 -21
comp=Z,0.9nm,0.7s,baz=8.7,slow=4.1,SNR=3.7
MAJO Matsushiro 46.44 52*d i*P **P 17 03 10.8 +0.2**
MAJO pmax pmax
comp=Z,1μm,1.5s
MAJO Matsushiro 46.44 52 *e*P **P 17 03 10.6 0.0**
comp=Z,916nm,1.1s
MAJO LR LR
comp=Z,47μm,19.0s
MAT Matsushiro 46.44 52 P **P 17 03 10.3 -0.3**
MAT S **S 17 09 53.0 -3.1**
MJAR Matsushiro Arr 46.44 52 P **P 17 03 10.6 0.0**
comp=Z,41nm,0.7s,baz=264,slow=8.8,SNR=85
MJAR PcP **PcP 17 04 45.0 0.0**
comp=Z,34nm,0.8s,baz=268,slow=3.7,SNR=6.3
MJAR ScP **ScP 17 08 38.8 +3.2**
comp=Z,15nm,1.1s,baz=240,slow=3.6,SNR=4.7
MJAR LR LR 17 25 04.7
comp=Z,41μm,19.7s,baz=250,slow=39
MJAR PKPPKP P'P'df 17 34 21.3 -17
comp=Z,0.9nm,0.5s,baz=346,slow=2.6,SNR=4.3
IGHG Ghaleghazi 46.60 305 *e*Pn **P 17 03 12.0 -0.2**
ISRB Sarab 46.74 310 *e*Pn **P 17 03 14.2 +1.0**
IDHR Dehrash 46.84 305 *e*Pn **P 17 03 13.6 -0.3**
BOD Bodaibo 46.93 15 *e*P **P 17 03 14.1 +0.1**
DAMY Dhamar 46.96 277 *e*P **P 17 03 17.3 +2.0**
comp=Z,906nm,1.1s
DHBB Dhamar BB 46.97 277 ⇓*e*P **P 17 03 17.2 +1.9**
DHBB AMb AMB 17 03 18.2
comp=Z,1μm,0.9s
TRBA At Turbah 47.37 276 ⇓*e*P **P 17 03 20.2 +1.9**
TRBA AMb AMB 17 03 21.7
comp=Z,1μm,1.3s
IHRS Heris 47.37 310 *e*Pn **P 17 03 18.7 +0.6**
HAJJ Hajjah 47.63 279 ⇓*e*P **P 17 03 22.3 +1.9**
KLR Kul'dur 47.72 34 *e*P P 17 03 14.2 -6.1
KLR *e*S **S 17 10 11.0 -2.8**
KLR *e* 17 13 03.5
KLR pmax pmax
comp=N,180nm,2.0s
KLR pmax pmax
comp=E,450nm,2.0s
KLR pmax pmax
comp=Z,800nm,2.0s
KLR pmax pmax
comp=E,2μm,7.5s
KLR pmax pmax
comp=Z,5μm,7.5s
KLR smax smax
comp=N,7μm,8.5s
KLR smax smax
comp=E,6μm,8.5s
JCJ Chichijima 47.85 66 LR LR 17 23 15.5
comp=E,9μm,21.1s,baz=274,slow=36
IAZR Azarshahr 47.97 309 *e*Pn **P 17 03 24.6 +1.8**
SMPI Sarmi 48.02 105 P **P 17 03 23.4 +0.3**
comp=E,494nm,1.6s,comp=E,10μm
IMRD Marand 48.49 310 *e*Pn **P 17 03 28.1 +1.4**
MAK Makhachkala 48.68 316 *e*P **P 17 03 28.1 +0.3**
MAK *e**PP **pP 17 03 38.9 -0.1**
MAK *e* 17 05 00.4
MAK *e*PPP PPP 17 06 09.2
MAK *e*S **S 17 10 29.0 +1.4**
MAK *e**SS **sS 17 10 47.9 +1.8**
MAK *e* 17 13 20.7
MAK *e*SS **SS 17 13 57.9 -0.3**
MAK *e*SSS SSS 17 15 12.9
MAK pmax pmax
comp=Z,340nm,0.9s
MAK MLR MLR
comp=Z,13μm,15.0s
HABR Khabarovsk 49.15 36*d i*P **P 17 03 30.8 -0.6**
HABR *e**SP **sP 17 03 43.0 -4.1**
HABR *e* 17 04 51.6
HABR *e* 17 05 25.6
HABR *e*PPP PPP 17 06 15.7
HABR *e*S **S 17 10 34.8 +0.8**
HABR *e*S S 17 10 49.9 +16
HABR *e* 17 13 18.9
HABR SSS SSS 17 15 25.4
HABR pmax pmax
comp=E,76nm,2.1s
HABR pmax pmax
comp=N,39nm,2.1s
HABR pmax pmax
comp=Z,144nm,2.1s
HABR pmax pmax
comp=Z,3μm,3.8s
HABR MLR MLR
comp=N,30μm,19.0s
HABR MLR MLR
comp=Z,55μm,18.0s

HABR MLR MLR
comp=E,34μm,16.0s
GENI Genyem 49.59 105 P **P** **17 03 35.5 +0.3**
comp=E,420nm,1.1s,comp=E,7μm
DGRG David-gareji 49.61 313 P **P** **17 03 37.1 +2.1**
GNI Garni 49.64 311 *d* P **P** **17 03 37.4 +1.9**
GNI pmax pmax
comp=Z,1μm,1.2s
GNI MLR MLR
comp=Z,19μm,26.0s
GNI Garni 49.64 311 P **P** **17 03 37.6 +2.2**
SNR=269
GNI Garni 49.64 311 P **P** **17 03 37.2 +1.8**
comp=Z,467nm,0.9s,baz=147,slow=0.4,SNR=160
GNI LR LR 17 28 41.4
comp=Z,15μm,20.5s,baz=115,slow=41
GNI Garni 49.64 311 *i* P **P** **17 03 37.8 +2.3**
SNR=135
GNI Garni 49.64 311 *e*P **P** **17 03 37.3 +1.8**
comp=Z,2μm,1.3s
SVE Sverdlovsk 49.65 337 *c* *i*P **P** **17 03 35.4 +0.4**
SVE *e* 17 05 32.6
SVE *e*PPP PPP 17 06 30.0
SVE *i* S **S** **17 10 40.5 -0.3**
SVE *e*SS **SS** **17 14 14.5 +1.2**
SVE pmax pmax
comp=Z,2μm,1.1s
SVE MLR MLR
comp=Z,21μm,16.0s
HKR Hakkari 49.65 308 *e*P **P** **17 03 36.8 +1.2**
CUKT Cukurca 49.67 308 *e*P **P** **17 03 36.0 +0.3**
HAKT HAKKARI 49.67 308 *i* P **P** **17 03 34.7 -1.2**
CLDR Caldiran 49.95 310 *e*P **P** **17 03 39.5 +1.6**
JAY Jayapura 50.07 105 P **P** **17 03 38.6 -0.3**
comp=Z,157nm,1.4s,comp=Z,4μm
SEAG Tbilisi Sea 50.12 314 P **P** **17 03 39.9 +1.0**
TBLG Delisi 50.15 313 *e*P **P** **17 03 41.4 +2.3**
TBLG Delisi 50.15 313 P **P** **17 03 40.4 +1.3**
TVAN Van 50.16 309 *i* P **P** **17 03 38.8 -0.7**
ARU Arti 50.16 336 P **P** **17 03 38.2 -0.7**
comp=Z,3μm,1.1s
ARU Arti 50.16 336 *d* *i*P **P** **17 03 38.6 -0.3**
ARU 17 04 59.2
ARU 17 05 33.5
ARU S **S** **17 10 48.0 0.0**
ARU 17 13 19.5
ARU pmax pmax
comp=Z,1μm,1.7s
ARU MLR MLR
comp=Z,40μm,24.0s
ARU Arti 50.16 336 *e*P **P** **17 03 38.7 -0.3**
comp=Z,307nm,1.3s
ARU LR LR
comp=Z,23μm,22.0s
VANB Van 50.19 309 *e*P **P** **17 03 39.6 0.0**
DYDN Diyadin 50.23 310 *i* P **P** **17 03 41.4 +1.4**
RER Riviere de l'E 50.24 227 *e*P **P** **17 03 40.9 +0.8**
comp=Z,913nm,1.4s
RER LR LR
comp=Z,23μm,22.0s
KZR Kazreti 50.27 313 P **P** **17 03 41.7 +1.6**
DUS Dusheti 50.30 314 P **P** **17 03 42.2 +1.9**
GEVA Gevas 50.37 309 *i* P P 17 03 37.7 -3.3
GUMO Guam 50.45 84 *e*P **P** **17 03 40.3 -1.5**
GUMO pmax pmax
comp=Z,882nm,1.3s
GUMO MLR MLR
comp=Z,10μm,21.0s
GUMO Guam 50.45 84 *e*P **P** **17 03 40.3 -1.5**
comp=Z,882nm,1.3s
GUMO LR LR
comp=Z,10μm,21.0s
EAK Akyaka 50.63 312 *i* P **P** **17 03 45.3 +2.3**
SIRT Sirnak 50.63 308 *e*P **P** **17 03 43.0 +0.1**
SIRN S¨–rnak 50.65 308 *i* P **P** **17 03 43.0 -0.1**
AGRB Hanur-Agry 50.76 310 *e*P **P** **17 03 45.7 +1.7**
TUTA Tutak 50.84 310 *i* P P 17 03 41.3 -3.3
KARS Kars 51.00 312 *e*P **P** **17 03 47.1 +1.4**
TATV Tatvan 51.02 309 *i* P **P** **17 03 46.5 +0.5**
ZEI Tsey 51.09 314 *e*P **P** **17 03 47.6 +1.2**
ZEI *e*S **S** **17 11 04.8 +3.1**
ZEI pmax pmax
comp=Z,562nm,1.3s
EATA Eleskirt 51.21 310 *i* P **P** **17 03 48.8 +1.3**
ONI Oni 51.34 314 P **P** **17 03 49.7 +1.6**
EKAR Karacoban 51.36 310 *i* P **P** **17 03 49.9 +1.3**
BTMT Batman 51.53 308 *e*P **P** **17 03 49.4 -0.3**
MZRK Al-Mazaregh 51.66 305 *e*P **P** **17 03 52.0 +1.4**
HOMI Horasan 51.69 311 *i* P **P** **17 03 52.1 +1.1**
SVAN Silvan-Diyarba 51.74 308 *e*P **P** **17 03 52.0 +0.8**
ERM Erimo 51.76 47 P **P** **17 03 53.5 +2.3**
comp=Z,675nm,0.9s,SNR=7.7
ERM Erimo 51.76 47 *d* *i*P **P** **17 03 51.9 +0.7**
ERM pmax pmax
comp=Z,45nm,0.8s
ERM MLR MLR
comp=Z,37μm,22.0s
ERM Erimo 51.76 47 *e*P **P** **17 03 51.5 +0.3**
comp=Z,274nm,0.9s
ERM LR LR
comp=Z,35μm,22.0s
VRTB Varto-Mus 51.80 309 *e*P **P** **17 03 53.5 +1.8**
NWAO Narrogin (SRO) 51.80 154 S **S** **17 11 07.8 -3.4**
comp=Z,16nm,1.0s,baz=135,slow=17,SNR=8.8
NWAO LR LR 17 25 59.8
comp=Z,29μm,21.1s,baz=324,slow=36
MARD Mardin 51.87 307 *i* P **P** **17 03 52.1 -0.2**
DAGI Agillar 51.97 312 *i* P **P** **17 03 54.1 +1.1**
BNGL BİNGOL 51.97 309 *i* P **P** **17 03 53.0 -0.2**
KBSD Kabsdagh 51.99 306 *e*P **P** **17 03 53.0 0.0**
ARTV Artvin 51.99 312 *i* P **P** **17 03 54.1 +0.8**
DDEM Demirkent 52.04 312 *i* P **P** **17 03 54.3 +0.9**
ASAJ Asahikawa 52.05 44 P **P** **17 03 53.7 +0.3**
ASAJ pmax pmax
comp=Z,138nm,0.8s
ASAJ Asahikawa 52.05 44 P **P** **17 03 53.6 +0.3**
comp=Z,138nm,0.8s,baz=254,slow=7.3,SNR=62
ASAJ Asahikawa 52.05 44 *e*P **P** **17 03 53.1 -0.2**
comp=Z,499nm,2.1s
EZM Erzurum 52.06 310 *e*P **P** **17 03 56.2 +2.4**
KBZ Khabaz 52.09 315 P **P** **17 03 54.3 +0.7**
comp=Z,89nm,0.9s,baz=104,slow=7.3,SNR=104
KBZ PKPPKP **P'P'df** **17 34 33.1 +2.8**
comp=Z,3.6nm,1.0s,baz=321,slow=3.6,SNR=4.6
MAZI Mazidag 52.16 307 *e*P **P** **17 03 54.8 +0.3**
SFNV Sufian 52.21 306 *e*P **P** **17 03 55.8 +1.0**
H01W3 Cape Leeuwin H 52.28 158 P **P** **17 03 57.1 +2.3**
baz=336,slow=4.6,SNR=9.2
BCA Borcka 52.29 312 *e*P **P** **17 03 56.3 +1.1**
H01W2 Cape Leeuwin H 52.30 158 P **P** **17 03 56.9 +2.0**
baz=336,slow=4.6,SNR=16
H01W1 Cape Leeuwin H 52.30 158 P **P** **17 03 56.9 +2.0**
baz=336,slow=4.6,SNR=8.2
KIV Kislovodsk 52.31 315 P **P** **17 03 56.7 +1.2**
comp=Z,4μm,0.9s
KIV Kislovodsk 52.31 315 *e*P **P** **17 03 56.3 +0.9**
KIV *e* 17 05 06.7
KIV *e* 17 05 56.6
KIV *e*S **S** **17 11 19.7 +1.4**
KIV *e*SS **SS** **17 14 57.0 +0.7**
KIV pmax pmax
comp=Z,1μm,5.6s
KIV MLR MLR
comp=Z,10μm,16.0s
KIV Kislovodsk 52.31 315 P **P** **17 03 56.6 +1.2**
SNR=215
KIV Kislovodsk 52.31 315 *i* P **P** **17 03 56.4 +1.0**
SNR=220
KIV Kislovodsk 52.31 315 *e*P **P** **17 03 56.3 +0.9**
comp=Z,3μm,2.6s
KIV LR LR
comp=Z,15μm,20.0s
CHVG Ch'k'valeri 52.34 314 *e*P **P** **17 03 58.0 +2.5**
CHVG Ch'k'valeri 52.34 314 P **P** **17 03 57.6 +2.1**
BNGB Bing¶ll 52.34 309 *e*P **P** **17 03 57.1 +1.4**
GOF Gofitskoye 52.45 317 *e*P **P** **17 03 57.3 +1.0**
GOF *i* S S 17 11 34.1 +14
GOF pmax pmax
comp=Z,400nm,0.8s
DYBB Diyarbakir 52.51 308 *e*P **P** **17 03 57.9 +1.0**
WRA Warramunga Arr 52.69 128 P **P** **17 03 57.7 -0.7**
comp=Z,235nm,0.5s,baz=302,slow=10,SNR=716
WRA S **S** **17 11 19.0 -4.8**
comp=Z,116nm,1.1s,baz=303,slow=14,SNR=16
WRA LR LR 17 29 39.6
comp=Z,14μm,22.0s,baz=310,slow=40
WRA PKPPKP P'P'df 17 34 16.2 -10
comp=Z,3.2nm,1.0s,baz=175,slow=1.7,SNR=6.6
WRA PKP2ab 17 34 54.1
comp=Z,9.5nm,0.9s,baz=156,slow=2.0,SNR=7.3
WRA P4KPbc 17 41 23.5
comp=Z,0.9nm,0.8s,baz=322,slow=3.8,SNR=5.3
WRAB Tennant Creek 52.69 128 P **P** **17 03 58.7 +0.3**
comp=Z,5μm,0.6s
WRAB Tennant Creek 52.69 128 *d* *i*P **P** **17 03 59.0 +0.6**
WRAB pmax pmax
comp=Z,3μm,1.5s
WRAB MLR MLR
comp=Z,85μm,27.0s
WRAB Tennant Creek 52.69 128 *e*P **P** **17 03 58.0 -0.5**
comp=Z,47nm,1.1s
WRAB *e* 17 04 09.1
WRAB LR LR
comp=Z,14μm,22.0s
WB2 Warramunga Arr 52.70 128 *e*P **P** **17 03 57.8 -0.6**
KOPT Kop Dagi 52.73 310 *i* P **P** **17 03 59.7 +0.9**
MNKR ALMNKUR 52.78 305 *e*P **P** **17 03 59.9 +0.9**
KSRV Kasrt alli 52.98 305 *e*P **P** **17 04 01.3 +0.9**
SOKR Solikamsk 53.06 338 *c* *i*P **P** **17 04 00.6 +0.2**
SOKR S **S** **17 11 26.7 -0.9**
SOKR pmax pmax
comp=Z,1μm,1.2s
BAYT Ayd¨–ntepe-Bay 53.09 311 *e*P **P** **17 04 02.8 +1.5**
AIS Amsterdam Isla 53.12 195 P P 17 03 54.0 -7.2
AIS S S 17 11 16.0 -13
AIS L L 17 16 00.0
AIS R 17 19 00.0
YSS Yuzh-Sakhalins 53.16 41 κ *i*P **P** **17 04 01.5 0.0**
YSS *i* *PP **pP** **17 04 12.1 -0.7**
YSS *i* *SP **sP** **17 04 17.2 -0.1**
YSS *e*PPP PPP 17 07 07.0
YSS *e*S **S** **17 11 27.0 -2.5**
YSS *e*PS **PnS** **17 11 40.0 -2.7**
YSS *e* 17 13 46.0
YSS pmax pmax
comp=Z,310nm,1.0s
YSS pmax pmax
comp=N,70nm,0.8s
YSS pmax pmax
comp=E,280nm,1.2s
YSS pmax pmax
comp=Z,4μm,6.0s
YSS pmax pmax
comp=N,1μm,5.0s
YSS pmax pmax
comp=E,2μm,5.0s
YSS smax smax
comp=N,12μm,8.0s
YSS smax smax
comp=E,7μm,7.0s
YSS MLR MLR
comp=N,37μm,17.0s
YSS MLR MLR
comp=Z,24μm,17.0s
YSS Yuzh-Sakhalins 53.16 41 *e*P **P** **17 04 01.4 -0.1**
comp=Z,559nm,0.8s
YSS LR LR
comp=Z,7μm,19.0s
ERZN Erzincan 53.20 309 *e*P **P** **17 04 02.1 0.0**
EUZM Uzumlu 53.25 310 *i* P **P** **17 04 03.2 +0.7**
FURI Furi 53.28 271 *i* P P 17 04 06.8 +3.5
FURI S S 17 11 38.7 +6.0
JHLN Al Jahlan 53.40 304 *e*P P 17 04 12.0 +8.5
URFA Urfa 53.43 307 *e*P **P** **17 04 04.5 +0.8**
MACK Trabzon 53.50 311 *i* P **P** **17 04 04.9 +0.8**
KTUT Trabzon 53.51 311 *e*P **P** **17 04 05.5 +1.4**
GUMT Gumushane 53.59 310 *e*P **P** **17 04 06.5 +1.6**
KELT Kelkit 53.68 310 *i* P **P** **17 04 06.8 +1.0**
ZALF Zalf 53.90 301 *e*P **P** **17 04 08.0 +0.8**
SLMH Al Salmeh 53.90 305 *e*P **P** **17 04 08.3 +1.1**
MALT Malatya 53.91 308 *e*P **P** **17 04 08.6 +1.3**
ILIC Ilic-Erzincan 54.04 309 *e*P P 17 04 14.0 +5.8
KEMA Kemaliye 54.06 309 *i* P **P** **17 04 09.0 +0.7**
SOC Sochi 54.25 314 *d* *i*P **P** **17 04 09.5 0.0**
SOC *e*PP **pP** **17 04 17.8 -3.0**
SOC *e*SP **sP** **17 04 22.0 -3.3**
SOC *e*PPP PPP 17 07 15.9
SOC *i* S **S** **17 11 44.3 0.0**
SOC *e*SSS SSS 17 17 17.2
SOC pmax pmax
comp=Z,330nm,1.0s
SOC MLR MLR
comp=Z,11μm,23.0s
ESPY Espiye-Giresun 54.26 311 *e*P **P** **17 04 10.5 +0.9**
YUK Yuzh-Kuril'sk 54.26 45 *d* *i*P **P** **17 04 09.7 +0.2**
YUK *i* *PP **pP** **17 04 21.5 +0.6**
YUK *i* 17 05 13.2
YUK *i* 17 06 09.6
YUK *i* S **S** **17 11 46.8 +2.4**
YUK *i* 17 13 54.8
YUK *i* SS **SS** **17 15 28.2 +1.5**
YUK pmax pmax
comp=Z,3μm,1.8s
YUK MLR MLR
comp=N,10μm,20.0s
YUK MLR MLR
comp=E,37μm,20.0s
YUK MLR MLR
comp=Z,39μm,20.0s
SALA Sala 54.38 301 *e*P **P** **17 04 11.8 +0.9**
GZT Gaziantep 54.39 306 *i* P **P** **17 04 11.5 +0.6**
SUSE Susehri 54.48 310 *i* P **P** **17 04 13.6 +2.1**
GRSN GIRESUNGRSN 54.60 311 *i* P **P** **17 04 10.8 -1.4**
AS31 Alice Springs 54.61 132 *e*P **P** **17 04 11.8 -0.6**
ASAR Alice Springs 54.61 132 P **P** **17 04 11.9 -0.5**
comp=Z,176nm,0.5s,baz=308,slow=6.7,SNR=1010
ASAR PcP **PcP** **17 05 17.4 +2.2**
comp=Z,66nm,0.7s,baz=309,slow=3.3,SNR=4.0
ASAR S **S** **17 11 45.8 -4.0**
comp=Z,18nm,1.0s,baz=308,slow=13,SNR=10.0
ASAR PKKP **PKKPdf** **17 26 09.4 +4.2**
comp=Z,0.6nm,0.7s,baz=129,slow=3.4,SNR=4.1
ASAR LR LR 17 31 49.9
comp=Z,9μm,18.2s,baz=300,slow=41
ASAR PKPPKP P'P'df 17 34 15.8 -7.1
comp=Z,4.3nm,1.1s,baz=153,slow=2.6,SNR=5.8
ASAR P4KPbc 17 41 34.9
comp=Z,0.8nm,1.0s,baz=307,slow=3.5,SNR=5.7
KFRA Kufra 54.65 304 *e*P **P** **17 04 13.0 +0.3**
KUZU Kuzuini 54.68 306 *i* P **P** **17 04 13.0 +0.2**
DARE Darende-Malaty 54.68 308 *e*P **P** **17 04 13.6 +0.7**
TOTH TOTAH 54.71 301 *e*P sP 17 04 27.5 -1.5
HAWK Haweek 54.87 303 *e*P **P** **17 04 14.7 +0.4**
KMRS Kahramanmaras 54.94 306 *e*P **P** **17 04 15.3 +0.6**
WRDH Warideh 55.01 304 *e*P **P** **17 04 15.4 +0.1**
BIDA Albida 55.01 303 *e*P **P** **17 04 14.8 -0.5**
TCHB Talchebab 55.01 300 *e*P **P** **17 04 16.1 +0.8**
YAK Yakutsk 55.02 20 *d* *i*P **P** **17 04 13.9 -0.8**
YAK *e*PP **pP** **17 04 25.5 -0.6**
YAK *e* 17 05 13.7
YAK *e* 17 06 15.1
YAK *e*PPP PPP 17 07 34.1
YAK *e*S **S** **17 11 52.4 -1.7**
YAK *e* 17 13 57.7
YAK *e*SS **SS** **17 15 37.3 -0.8**
YAK *e*SSS SSS 17 17 43.4
YAK pmax pmax
comp=Z,848nm,0.9s
YAK pmax pmax
comp=E,258nm,1.0s
YAK pmax pmax
comp=N,210nm,1.1s
YAK pmax pmax
comp=Z,360nm,1.9s
YAK pmax pmax
comp=E,369nm,1.8s
YAK pmax pmax
comp=N,225nm,1.7s
YAK smax smax
comp=E,2μm,3.3s
YAK smax smax
comp=N,1μm,2.8s
YAK MLR MLR
comp=Z,31μm,19.0s
YAK MLR MLR
comp=E,14μm,20.0s
YAK MLR MLR
comp=N,22μm,20.0s
YAK Yakutsk 55.02 20 P P 17 04 11.0 -3.7
comp=N,650nm,0.7s,baz=243,slow=0.2,SNR=145
YAK Yakutsk 55.02 20 *e*P **P** **17 04 13.9 -0.8**
comp=N,1μm,1.0s
YAK LR LR
comp=Z,32μm,20.0s
BTCH Batrach 55.05 305 *e*P **P** **17 04 16.4 +0.9**
KAMA Osmaniye 55.07 306 *i* P **P** **17 04 15.7 0.0**
BRBR Barbar 55.11 301 *e*P **P** **17 04 16.8 +0.6**
RSDY Resadiye-TOKAT 55.18 310 *e*P **P** **17 04 17.4 +1.1**
RCY Rachaya 55.22 301 *e*P **P** **17 04 17.3 +0.4**
HWQ Hawqa 55.22 302 *e*P **P** **17 04 17.4 +0.5**
OPO Ambohidratompo 55.23 236 LR LR 17 24 03.5
comp=Z,64μm,20.0s,baz=48,slow=32
SVSK Karacayir 55.32 309 *e*P **P** **17 04 18.5 +1.1**
ANDN Andirin 55.39 306 *i* P **P** **17 04 17.2 -0.8**
ARNB Al Arnab 55.41 304 *e*P **P** **17 04 18.5 +0.3**
BHL Bhannes 55.41 302 *e*P **P** **17 04 18.7 +0.4**
ABPO Ambohimpanom 55.44 235 P **P** **17 04 20.0 +1.3**
comp=Z,360nm,1.5s,SNR=16
ABPO Ambohimpanom 55.44 235 *e*P **P** **17 04 19.8 +1.1**
ABPO pmax pmax
comp=Z,39nm,0.4s
ABPO MLR MLR
comp=Z,42μm,20.0s
ABPO Ambohimpanom 55.44 235 *e*P **P** **17 04 19.8 +1.1**
comp=Z,39nm,0.4s
ABPO LR LR
comp=Z,42μm,20.0s
MMLI Mount Malkishu 55.45 300 *e*P **P** **17 04 19.9 +1.4**
HRFI Mount Harif 55.58 297 *e*P **P** **17 04 20.2 +0.8**
VRHR Novokhopersk 55.58 323 *e*P **P** **17 04 16.9 -2.1**
VRHR *e*S **S** **17 11 59.2 -2.8**
VRHR pmax pmax
comp=Z,540nm,1.0s
VRHR pmax pmax
comp=N,210nm,0.8s
VRHR pmax pmax
comp=E,640nm,1.2s
VRHR smax smax
comp=E,2μm,6.8s
VRHR smax smax
comp=Z,870nm,4.4s
VRHR smax smax
comp=N,950nm,4.0s
VRHR MLR MLR
comp=E,9μm,17.0s
VRHR MLR MLR
comp=Z,12μm,17.0s
VRHR MLR MLR
comp=N,7μm,16.0s
FORT Forrest 55.61 143 *e*P **P** **17 04 19.7 +0.2**
comp=N,897nm,1.0s
EIL Elat 55.63 297 *e*P **P** **17 04 19.9 +0.1**
CEYT Ceyhan 55.76 306 *e*P **P** **17 04 21.6 +1.1**
KOZT Kozan 55.78 306 *e*P **P** **17 04 21.1 +0.4**
KUR Kuril'sk 55.97 44 *d* *i*P P 17 04 15.0 -6.9
KUR *i* S **S** **17 12 01.9 -5.4**
KUR *e* 17 14 00.6
KUR pmax pmax
comp=Z,4μm,3.2s
KUR pmax pmax
comp=Z,998nm,1.5s
KUR pmax pmax
comp=N,341nm,1.4s
KUR pmax pmax
comp=E,87nm,0.7s
KUR MLR MLR
comp=N,18μm,17.0s
KUR MLR MLR
comp=E,16μm,17.0s
KUR MLR MLR
comp=Z,18μm,17.0s
ANN Anapa 56.16 315 *i* P **P** **17 04 22.0 -1.3**
ANN *i* *PP **pP** **17 04 32.4 -2.2**
ANN *i* 17 05 19.0
ANN *i* 17 06 28.5
ANN *i* PPP PPP 17 07 43.2
ANN *i* S **S** **17 12 11.1 +1.2**
ANN pmax pmax
comp=E,114nm,1.5s
ANN pmax pmax
comp=N,81nm,1.5s
ANN pmax pmax
comp=Z,305nm,1.4s
KVT Kavak 56.27 310 *e*P **P** **17 04 25.0 +0.8**
KARA Karaisali 56.35 306 *e*P **P** **17 04 25.3 +0.5**
HAVZ Havza 56.51 310 *i* P **P** **17 04 23.7 -2.2**
YOZ Yozgat 56.54 309 *e*P **P** **17 04 25.4 -0.9**
MERS Mersin 56.71 305 *e*P **P** **17 04 27.8 +0.3**
EREN Erenkoy 56.82 304 *e*P **P** **17 04 25.9 -2.3**
NIG Nigde 56.83 307 *e*P **P** **17 04 29.7 +1.2**
COEN Coen 56.85 117 *e*P **P** **17 04 28.1 -0.5**
comp=Z,2μm,1.2s
VORD Divnogorie 56.90 323 *e*P **P** **17 04 26.4 -2.0**
VORD *e*S **S** **17 12 16.6 -2.8**
VORD pmax pmax
comp=E,560nm,0.9s
VORD pmax pmax
comp=Z,390nm,0.9s
VORD pmax pmax
comp=N,350nm,1.0s
VORD smax smax
comp=N,4μm,6.7s
VORD smax smax
comp=Z,2μm,6.2s
VORD smax smax
comp=E,3μm,8.4s
VORD MLR MLR
comp=Z,13μm,18.0s
VORD MLR MLR
comp=N,15μm,16.0s
VORD MLR MLR
comp=E,9μm,16.0s
DIKM Dikmen 56.97 311 *e*P **P** **17 04 29.5 +0.4**
KMBO Kilima Mbogo 57.02 260 P **P** **17 04 31.0 +0.8**
KMBO S **S** **17 12 23.0 +0.3**
KMBO pmax pmax
comp=Z,46nm,1.1s
KMBO smax smax
comp=N,1.0nm,0.3s
KMBO Kilima Mbogo 57.02 260 P **P** **17 04 31.9 +1.7**
SNR=107
KMBO Kilima Mbogo 57.02 260 P **P** **17 04 31.0 +0.8**
comp=N,46nm,1.1s,baz=60,slow=7.6,SNR=85
KMBO S **S** **17 12 22.9 +0.3**
comp=N,1.2nm,0.3s,baz=48,slow=10,SNR=7.9
KMBO LR LR 17 27 01.2
comp=N,35μm,19.9s,baz=70,slow=34
KMBO Kilima Mbogo 57.02 260 *e*P **P** **17 04 31.4 +1.2**
comp=N,1μm,2.1s
KMBO S **S** **17 12 22.9 +0.3**
VSR Storozhevoye 57.06 323 *e*P **P** **17 04 27.3 -2.2**
VSR *e*S **S** **17 12 18.9 -2.7**
VSR pmax pmax
comp=Z,420nm,1.0s
VSR pmax pmax
comp=N,90nm,1.2s
VSR pmax pmax
comp=E,220nm,0.7s
VSR smax smax
comp=N,5μm,4.7s
VSR smax smax
comp=Z,500nm,3.5s
VSR smax smax
comp=E,1μm,5.8s
VSR MLR MLR
comp=N,12μm,17.0s
VSR MLR MLR
comp=Z,16μm,17.0s
VSR MLR MLR
comp=E,12μm,18.0s
CORM Corum 57.16 309 *e*P **P** **17 04 31.0 +0.4**
BOYT Boyabat 57.18 311 *i* P **P** **17 04 30.8 +0.1**
VOR Voronezh 57.23 323 *e*P **P** **17 04 31.0 +0.3**
VOR pmax pmax
comp=Z,1μm,1.6s
CDAG Cicekdag 57.26 308 *i* P **P** **17 04 31.0 -0.3**
BYBT Boyabat 57.30 311 *e*P **P** **17 04 32.5 +1.1**
LFK Lefkose 57.31 303 *e*P **P** **17 04 31.9 +0.2**
CSS Prodhromos 57.44 303 P **P** **17 04 31.3 -1.3**
CSS Prodhromos 57.44 303 *e*P **P** **17 04 32.1 -0.4**
CSS Prodhromos 57.44 303 P **P** **17 04 31.3 -1.3**
CSS LR LR
comp=Z,5μm,20.0s
SULT Sultanhani-AKS 57.69 307 *e*P **P** **17 04 34.8 +0.4**

AKDN Akdeniz- K¯–br 57.77 303 *e*P **P** **17 04 33.5 -1.4**
LEF Lefka 57.82 303 *e*P **P** **17 04 35.3 +0.2**
BRTR Keskin Array B 57.83 308 P **P** **17 04 34.8 -0.7**
comp=Z,170nm,0.7s,baz=122,slow=7.5,SNR=373
BRTR LR LR 17 33 25.8
comp=Z,10μm,20.7s,baz=107,slow=40
BRTR PKPPKP **P'P'df** **17 34 20.6 -1.6**
comp=Z,1.6nm,0.9s,baz=270,slow=1.2,SNR=4.4
BZK Bozkurt 57.95 311 *e*P **P** **17 04 36.6 +0.7**
ERMK Ermenek 57.97 305 *i*P **P** **17 04 35.2 -1.3**
CANT Cankiri 57.99 309 *e*P **P** **17 04 36.9 +0.5**
ILGA Ilgaz 58.00 310 *i*P **P** **17 04 36.4 -0.2**
BBAL Bala 58.20 308 *i*P **P** **17 04 37.1 -0.9**
AFSR Af¯ar-Bala (A 58.22 308 *e*P **P** **17 04 37.9 -0.2**
GAZI Gazipasa 58.40 304 *i*P **P** **17 04 38.3 -1.0**
SIM Simferopol' 58.48 315*d*↓*i*P **P** **17 04 39.9 +0.2**
SIM *e*PPP PPP 17 08 12.0
SIM *e*S **S** **17 12 40.0 -0.5**
SIM pmax pmax
comp=Z,478nm,1.3s
ANTO Ankara 58.50 309 *e*P **P** **17 04 39.5 -0.5**
ANTO pmax pmax
comp=Z,598nm,1.1s
ANTO MLR MLR
comp=Z,12μm,22.0s
ANTO Ankara 58.50 309 P **P** **17 04 40.0 0.0**
SNR=94
ANTO Ankara 58.50 309 *e*P **P** **17 04 39.5 -0.5**
comp=Z,598nm,1.1s
ANTO LR LR
comp=Z,12μm,22.0s
LOD Lodumlu 58.52 309 *e*P **P** **17 04 40.0 -0.1**
PMG Port Moresby 58.53 110↓↓*i*P **P** **17 04 41.8 +1.4**
PMG pmax pmax
comp=Z,1μm,1.4s
PMG Port Moresby 58.53 110 *e*P **P** **17 04 40.9 +0.4**
comp=Z,725nm,0.9s
PMG LR LR
comp=Z,11μm,19.0s
KONT Konya--Tatoy 58.56 306 *e*P **P** **17 04 40.4 0.0**
LADK Ladik-KONYA 58.59 307 *e*P **P** **17 04 40.1 -0.6**
PRGR Permogore 58.62 336↓↓*i*P **P** **17 04 39.7 -0.6**
PRGR *e**PP **pP** **17 04 49.9 -1.8**
PRGR *SP **sP** **17 04 54.0 -2.2**
PRGR *e*S **S** **17 12 40.7 -1.0**
PRGR *SS **sS** **17 12 57.5 -3.1**
PRGR pmax pmax
comp=Z,476nm,0.7s
SAFT Safranbolu 58.79 310 *e*P **P** **17 04 42.3 +0.4**
KIZT Kizilcal 59.06 307 *e*P **P** **17 04 43.0 -0.9**
BCAM Yenicaga 59.19 310 *i*P **P** **17 04 42.3 -2.6**
SVRH Sivrihisar-ESK 59.41 308 *e*P **P** **17 04 45.8 -0.5**
KDZE Karadeniz Ereo 59.73 310 *e*P **P** **17 04 48.3 -0.2**
MDUB Mudurnu 59.79 309 *e*P **P** **17 04 48.6 -0.4**
ANTB Antalya 59.80 305 *e*P **P** **17 04 49.1 +0.2**
BCK Bucak 59.90 305 *e*P **P** **17 04 47.2 -2.5**
OBN Obninsk 59.91 326 P **P** **17 04 48.1 -1.2**
comp=Z,3μm,1.2s,SNR=36
OBN Obninsk 59.91 326*d*↓*i*P **P** **17 04 48.7 -0.6**
OBN *e* 17 04 59.7
OBN *e* 17 05 34.3
OBN *e* 17 06 58.7
OBN *i*S **S** **17 12 54.6 -4.0**
OBN *i*SS **SS** **17 16 59.0 +3.8**
OBN pmax pmax
comp=Z,857nm,1.2s
OBN MLR MLR
comp=Z,16μm,28.0s
OBN Obninsk 59.91 326 P **P** **17 04 48.8 -0.6**
comp=Z,486nm,1.1s,baz=97,slow=3.5,SNR=94
OBN Obninsk 59.91 326 *e*P **P** **17 04 48.2 -1.2**
comp=Z,2μm,2.6s
OBN LR LR
comp=Z,9μm,19.0s
ESKT Eskisehir 59.93 308 *e*P **P** **17 04 49.8 -0.1**
SEYT Eskypehyr 59.93 308 *i*P **P** **17 04 49.0 -1.0**
BTAS Tasksesti 59.96 309 *i*P **P** **17 04 47.7 -2.3**
ISP Isparta 59.99 306 P **P** **17 04 49.6 -0.8**
ISP Isparta 59.99 306 *e*P **P** **17 04 49.9 -0.5**
ISP Isparta 59.99 306 *e*P **P** **17 04 48.6 -1.8**
ISP pmax pmax
comp=Z,1μm,2.1s
ISP MLR MLR
comp=Z,14μm,22.0s
ISP Isparta 59.99 306↓↓*i*P **P** **17 04 50.7 +0.3**
ISP Isparta 59.99 306 *e*P **P** **17 04 48.6 -1.8**
comp=Z,1μm,2.1s
ISP LR LR
comp=Z,14μm,22.0s
KORT Korkueli 60.05 305 *i*P **P** **17 04 48.9 -1.9**
SHUT Suhut-Afyon 60.05 307 *e*P **P** **17 04 50.1 -0.7**
HENT Hendek 60.07 309 *i*P **P** **17 04 49.1 -1.7**
GULT Gulveren 60.30 309 *e*P **P** **17 04 52.1 -0.4**
ELL Elmali 60.38 305 *e*P **P** **17 04 53.0 -0.1**
ALT Altintas 60.45 307 P **P** **17 04 52.8 -0.7**
ALT Altintas 60.45 307 *e*P **P** **17 04 53.0 -0.5**
ALT Altintas 60.45 307 P **P** **17 04 52.8 -0.7**
AKAS Kas 60.58 304 *i*P **P** **17 04 51.8 -2.7**
GOLH Golhisar 60.70 305 *i*P **P** **17 04 53.6 -1.7**
CAVI Cavuskoy 60.79 309 *e*P **P** **17 04 55.3 -0.4**
KHL Karahalli 60.83 306 *e*P **P** **17 04 54.3 -1.7**
ADVT Abdulvahap 60.89 309 *e*P **P** **17 04 56.0 -0.3**
GDZ Gediz 60.94 307 *i*P **P** **17 04 56.1 -0.8**
HRT Hereke 60.99 309 *e*P **P** **17 04 56.6 -0.5**
FETY Fethiye 61.03 304 *e*P **P** **17 04 54.8 -2.6**
SILT Sile 61.05 310 *e*P **P** **17 04 57.1 -0.4**
DNZL Cakiroluk 61.15 306 *i*P **P** **17 04 56.3 -2.1**
DENT Denizli 61.16 306 *e*P **P** **17 04 58.0 -0.3**
GEMT Gemlik 61.31 309 *e*P **P** **17 04 58.9 -0.3**
DALY Dalyan (Mu¯la 61.39 305 *e*P **P** **17 04 59.4 -0.3**
ISK Istanbul-Kandi 61.48 309 P **P** **17 04 59.7 -0.6**
ISK Istanbul-Kandi 61.48 309 *e*P **P** **17 05 00.0 -0.3**
ISK Istanbul-Kandi 61.48 309 P **P** **17 04 59.7 -0.6**
ISK Istanbul-Kandi 61.48 309 P **P** **17 04 59.7 -0.6**
KLYT Kilyos 61.52 310 *e*P **P** **17 05 00.4 -0.1**
KULA Kula-Manisa 61.52 307 P **P** **17 05 00.0 -0.8**
KULA Kula-Manisa 61.52 307 *e*P **P** **17 05 00.2 -0.5**
KULA Kula-Manisa 61.52 307 P **P** **17 05 00.0 -0.8**
MDNY Mudanya-Bursa 61.53 309 *e*P **P** **17 05 00.4 -0.3**
ARMT Armutlu 61.57 309 *e*P **P** **17 05 00.3 -0.7**
DST Dursunbey 61.66 308 *e*P **P** **17 05 01.9 +0.2**
YER Yerkesik 61.71 305 *e*P **P** **17 05 01.5 -0.5**
BGKT Bogazkoy 61.71 310 *e*P **P** **17 05 01.6 -0.2**
ARG Arkhangelos 61.77 304 P **P** **17 05 01.4 -1.0**
ARG Arkhangelos 61.77 304 P **P** **17 05 01.4 -1.0**
ARG Arkhangelos 61.77 304 *e*P **P** **17 05 02.4 0.0**
ARG Arkhangelos 61.77 304 P **P** **17 05 01.4 -1.0**
TIXI Tiksi 61.90 12*d*↓*i*P **P** **17 05 01.4 -1.2**
TIXI pmax pmax
comp=Z,1μm,1.7s
TIXI MLR MLR
comp=Z,23μm,22.0s
TIXI Tiksi 61.90 12 *e*P **P** **17 05 01.7 -0.9**
comp=Z,802nm,1.1s
TIXI LR LR
comp=Z,24μm,19.0s
BBOO Buckleboo 61.91 139 *e*P **P** **17 05 03.0 -0.3**
comp=Z,6μm,3.1s
CTKS Kestanelik-??a 61.91 310 *e*P **P** **17 05 02.6 -0.6**
KCTX Karacabey (Bur 61.92 308 *e*P **P** **17 05 03.0 -0.4**
AYDB Zeytinkoy-Aydi 62.08 306 *e*P **P** **17 05 04.4 -0.2**
CTYL Yal??k??y-??at 62.10 310 *e*P **P** **17 05 04.2 -0.3**
SLVT Silivri 62.14 310 *e*P **P** **17 05 04.6 -0.1**
AKHS Akhisar 62.21 307 *i*P **P** **17 05 04.4 -0.9**
AKS Akhisar 62.21 307 *e*P **P** **17 05 05.7 +0.4**
TLCR 62.22 314↓↓P **P** **17 05 05.2 0.0**
TLCR 62.22 314↓↓*i*P **P** **17 05 05.2 0.0**
BALB Balikesir 62.23 308 *e*P **P** **17 05 05.1 -0.3**
CTA Charters Tower 62.27 122 S **S** **17 13 28.6 -1.1**
comp=Z,5.4nm,0.7s,baz=84,slow=18,SNR=3.9
CTAO Charters Tower 62.27 122 *e*P **P** **17 05 06.2 +0.3**
CTAO pmax pmax
comp=Z,870nm,1.3s
CTAO MLR MLR
comp=Z,12μm,21.0s
CTAO Charters Tower 62.27 122 *e*P **P** **17 05 06.2 +0.3**
comp=Z,870nm,1.3s
CTAO LR LR
comp=Z,12μm,21.0s
EDC Edincik 62.31 309 *e*P **P** **17 05 05.7 -0.2**
BDRM Kayabasi 62.37 305 *i*P **P** **17 05 04.9 -1.6**
TIRR Tirgusor 62.39 313 *e*P **P** **17 05 06.8 +0.4**
TIRR Tirgusor 62.39 313↓↓P **P** **17 05 06.4 0.0**
TIRR Tirgusor 62.39 313↓↓*i*P **P** **17 05 06.4 0.0**
PSN Preselentsi 62.45 312↓↓P **P** **17 05 07.1 +0.3**
PSN Preselentsi 62.45 312↓↓*i*P **P** **17 05 07.1 +0.3**
PSN Preselentsi 62.45 312 P **P** **17 05 07.4 +0.6**
BODT Bodrum 62.48 305 *e*P **P** **17 05 06.7 -0.5**
KIS Kishinev 62.51 316κ *i*P **P** **17 05 07.0 -0.1**
KIS *i* 17 05 24.0
KIS *i* 17 07 28.0
KIS *i* 17 09 00.0
KIS *i*S **S** **17 13 30.0 -1.9**
KIS *i*PS **PnS** **17 13 58.0 +7.0**
KIS *e*SS **SS** **17 17 43.0 +6.8**
KIS pmax pmax
comp=Z,900nm,1.4s
KIS pmax pmax
comp=E,500nm,1.2s
KIS pmax pmax
comp=Z,3μm,8.0s
KIS pmax pmax
comp=E,1μm,9.0s
KIS smax smax
comp=E,7μm,14.0s
KIS smax smax
comp=E,13μm,11.0s
KIS MLR MLR
comp=N,9μm,18.0s
KIS MLR MLR
comp=Z,10μm,18.0s
KIS MLR MLR
comp=E,5μm,16.0s
KIS MLR MLR
comp=Z,12μm,20.0s
KIS Kishinev 62.51 316↓↓*i*P **P** **17 05 07.0 -0.1**
comp=Z,900nm,1.4s
KIS Kishinev 62.51 316 *i*PcP sP 17 05 24.0 +0.9
KIS Kishinev 62.51 316 *i*PP PP 17 07 28.0 +3.2
KIS Kishinev 62.51 316 *i*PcS x 17 09 00.0
KIS *i*S **S** **17 13 30.0 -1.9**
comp=Z,7μm,14.0s
KIS Kishinev 62.51 316 *i*PS 17 13 58.0
KIS *e*SS SS 17 17 43.0 +6.8
KIS *e*SSS SSS 17 20 00.0
KIS LRM MLR 17 36 58.0
comp=Z,9μm,18.0s
KARP Karpathos 62.52 303 P **P** **17 05 07.1 -0.3**
KARP Karpathos 62.52 303 *e*P **P** **17 05 07.2 -0.2**
KARP Karpathos 62.52 303 P **P** **17 05 07.1 -0.3**
MRMT Marmara Adasi 62.53 309 *e*P **P** **17 05 07.1 -0.5**
NIS1 Nisyros Isl. 62.56 304 P **P** **17 05 06.5 -1.2**
NIS1 Nisyros Isl. 62.56 304 *e*P **P** **17 05 06.7 -1.0**
NIS1 Nisyros Isl. 62.56 304 *e*P **P** **17 05 06.8 -0.9**
NIS1 Nisyros Isl. 62.56 304 P **P** **17 05 06.5 -1.2**
GCAM G?zelcaml? 62.58 306 *i*P **P** **17 05 07.3 -0.5**
IZM Izmir 62.61 306 *e*P **P** **17 05 08.0 0.0**
TLB Topalu 62.67 313↓↓P **P** **17 05 08.4 +0.2**
TLB Topalu 62.67 313↓↓*i*P **P** **17 05 08.4 +0.2**
SKR Severo-Kuril's 62.68 40 *e*P **P** **17 05 05.6 -2.6**
SKR *e* 17 05 22.5
SKR *e* 17 05 52.0
SKR *e*PPP PPP 17 09 03.0
SKR *e*S **S** **17 13 32.0 -1.9**
SKR *e*PS **PnS** **17 13 58.0 +4.7**
SKR *e**SS sS 17 14 04.0 +11
SKR *e* 17 14 59.0
SKR *e*SS **SS** **17 17 36.0 -2.8**
SKR *e*SSS SSS 17 20 24.0
SKR pmax pmax
comp=N,110nm,0.7s
SKR pmax pmax
comp=Z,190nm,0.7s
SKR pmax pmax
comp=E,3μm,10.0s
SKR pmax pmax
comp=Z,5μm,10.0s
SKR pmax pmax
comp=N,3μm,8.0s
SKR smax smax
comp=N,5μm,12.0s
SKR smax smax
comp=E,5μm,12.0s
SKR MLR MLR
comp=E,14μm,20.0s
SKR MLR MLR
comp=Z,17μm,20.0s
SKR MLR MLR
comp=N,19μm,16.0s
CFR Carcaliu 62.69 314↓↓P **P** **17 05 08.4 +0.1**
CFR Carcaliu 62.69 314↓↓*i*P **P** **17 05 08.4 +0.1**
PHSR Pinarhisar 62.69 310 *e*P **P** **17 05 08.6 +0.1**
KRBG Karabiga-Canak 62.74 309 *e*P **P** **17 05 08.3 -0.5**
HARR Harsova 62.77 313↓↓P **P** **17 05 09.0 +0.1**
HARR Harsova 62.77 313↓↓*i*P **P** **17 05 09.0 +0.1**
BLCB Balcova 62.78 306 *e*P **P** **17 05 09.3 +0.2**
LEOM Leova 62.81 315 *e*P **P** **17 05 10.1 +1.0**
LEOM Leova 62.81 315↑↑P **P** **17 05 09.5 +0.4**
LEOM Leova 62.81 315↑↑*i*P **P** **17 05 09.5 +0.4**
SART Tekirdag 62.86 309 *i*P **P** **17 05 08.8 -0.9**
RKY Sarkoy-Tekirda 62.86 309 *e*P **P** **17 05 09.3 -0.4**
SMG Samos 62.90 305 P **P** **17 05 09.7 -0.2**
SMG Samos 62.90 305 *e*P **P** **17 05 09.6 -0.3**
SMG Samos 62.90 305 P **P** **17 05 09.7 -0.2**
TMCR Tamitsa 62.90 336 *e*P **P** **17 05 08.8 -0.6**
TMCR *e* 17 05 44.5
TMCR *e* 17 07 29.8
TMCR *e*S **S** **17 13 38.2 +2.0**
TMCR pmax pmax
comp=Z,779nm,1.3s
AKASG Malin Array Be 62.94 320 P **P** **17 05 08.8 -1.1**
comp=Z,275nm,1.1s,baz=88,slow=4.8,SNR=296
AKASG PKPPKP P'P'df 17 34 08.3 -5.2
comp=Z,0.2nm,0.3s,baz=271,slow=3.6,SNR=6.6
AKASG LR LR 17 35 50.4
comp=Z,11μm,21.4s,baz=100,slow=39
KIEV Kiev 62.95 320 *e*P **P** **17 05 08.6 -1.3**
KIEV pmax pmax
comp=Z,579nm,1.4s
KIEV MLR MLR
comp=Z,13μm,22.0s
KIEV Kiev 62.95 320 *e*P **P** **17 05 08.6 -1.3**
comp=Z,579nm,1.4s
KIEV LR LR
comp=Z,13μm,22.0s
PRD Provadia 62.96 312 P **P** **17 05 09.9 -0.3**
MBAR Mbarara 63.13 262 P **P** **17 05 12.3 +0.3**
comp=Z,276nm,1.2s,SNR=26
LPK Lapseki 63.15 308 *e*P **P** **17 05 11.7 +0.2**
AMRR Amara 63.18 313↓↓P **P** **17 05 12.9 +1.3**
AMRR Amara 63.18 313↓↓*i*P **P** **17 05 12.9 +1.3**
ZEY ¯zmir 63.19 306 *i*P **P** **17 05 11.9 +0.1**
ZKR Zakros 63.27 303 *e*P **P** **17 05 12.0 -0.4**
EDRB Edirne 63.30 310 P **P** **17 05 12.1 -0.3**
EDRB Edirne 63.30 310 *e*P **P** **17 05 12.3 -0.2**
EDRB Edirne 63.30 310 P **P** **17 05 12.1 -0.3**
ERIK Erikli-Kesan 63.36 309 *e*P **P** **17 05 13.0 +0.1**
GELI Tayfur-Gelibol 63.37 308 *e*P **P** **17 05 12.9 0.0**
PETR Petresti 63.40 314↓↓*i*P **P** **17 05 15.0 +2.0**
EZN Ezine 63.44 308 *e*P **P** **17 05 12.8 -0.6**
PRK Paraskevi 63.44 307 P **P** **17 05 13.2 -0.2**
PRK Paraskevi 63.44 307 P **P** **17 05 13.2 -0.2**
PRK Paraskevi 63.44 307 P **P** **17 05 13.2 -0.2**
PGOR Pogoanele 63.46 314↑↑*i*P **P** **17 05 15.2 +1.7**
JMB Yambol 63.48 311 P P 17 05 17.6 +4.0
JMB Yambol 63.48 311↓↓P P 17 05 17.9 +4.3
JMB Yambol 63.48 311↓↓*i*P P 17 05 17.9 +4.3
JMB Yambol 63.48 311 P P 17 05 17.8 +4.2
JMB Yambol 63.48 311 P P 17 05 17.6 +4.0
CHOS Chios island 63.55 306 P **P** **17 05 14.5 +0.2**
CHOS Chios island 63.55 306 *e*P **P** **17 05 14.4 +0.2**
CHOS Chios island 63.55 306 *e*P **P** **17 05 14.6 +0.2**
CHOS Chios island 63.55 306 P **P** **17 05 14.5 +0.2**
ENEZ Enez 63.64 309 *e*P **P** **17 05 14.8 +0.1**
ALN Alexandroupoli 63.73 309 P **P** **17 05 15.1 -0.2**
ALN Alexandroupoli 63.73 309 *e*P **P** **17 05 14.9 -0.4**
ALN Alexandroupoli 63.73 309 P **P** **17 05 15.1 -0.2**
ALN Alexandroupoli 63.73 309 *e*P **P** **17 05 14.9 -0.4**
ALN Alexandroupoli 63.73 309 P **P** **17 05 15.1 -0.2**
SIGR SIGRI 63.76 307 P **P** **17 05 15.4 -0.1**
SIGR SIGRI 63.76 307 *e*P **P** **17 05 15.0 -0.5**
SIGR SIGRI 63.76 307 *e*P **P** **17 05 15.6 +0.1**
SIGR SIGRI 63.76 307 P **P** **17 05 15.4 -0.1**
VRI Vrincioaia 63.77 315 *e*P **P** **17 05 16.4 +0.8**
VRI Vrincioaia 63.77 315↑↑P **P** **17 05 16.7 +1.2**
VRI Vrincioaia 63.77 315↑↑*i*P **P** **17 05 16.7 +1.2**
NPS Neapolis 63.77 303 P **P** **17 05 15.4 -0.3**
NPS Neapolis 63.77 303 P **P** **17 05 15.4 -0.3**
NPS Neapolis 63.77 303 *e*P **P** **17 05 15.5 -0.3**
NPS Neapolis 63.77 303 P **P** **17 05 15.4 -0.3**
ISR Istrita 63.80 314↑↑P **P** **17 05 17.0 +1.2**
ISR Istrita 63.80 314↑↑*i*P **P** **17 05 17.0 +1.2**
PLOR Plostina 63.82 315↓↓P **P** **17 05 17.0 +1.1**
PLOR Plostina 63.82 315↓↓*i*P **P** **17 05 17.0 +1.1**
LAST Lasithi 63.88 303 *e*P **P** **17 05 16.2 -0.3**
APE Apeiranthos 63.90 305 P **P** **17 05 15.3 -1.3**
APE Apeiranthos 63.90 305 *e*P **P** **17 05 14.7 -1.9**
APE Apeiranthos 63.90 305*d*↓*i*P **P** **17 05 14.5 -2.1**
APE MLR MLR
comp=Z,10μm,21.0s
APE Apeiranthos 63.90 305 *e*P **P** **17 05 15.3 -1.3**
APE Apeiranthos 63.90 305↓↓*i*P **P** **17 05 15.3 -1.3**
APE Apeiranthos 63.90 305 P **P** **17 05 15.3 -1.3**
TESR Tescani 63.91 315↓↓*i*P **P** **17 05 16.6 +0.2**
THR1 Thera Island 63.93 304 P **P** **17 05 15.5 -1.3**
THR1 Thera Island 63.93 304 *e*P **P** **17 05 16.1 -0.7**
SANT Santorini 63.93 304 P **P** **17 05 15.4 -1.4**
SANT Santorini 63.93 304 *e*P **P** **17 05 15.6 -1.2**
SANT Santorini 63.93 304 P **P** **17 05 15.4 -1.4**
SANT LR LR
comp=Z,8μm,22.0s
SULR 63.95 313↓↓*i*P **P** **17 05 18.9 +2.2**
THR2 Thira island, 63.95 304 P **P** **17 05 16.1 -0.8**
THR2 Thira island, 63.95 304 P **P** **17 05 16.1 -0.8**
THR6 Thira Island, 63.98 304 P **P** **17 05 16.1 -1.0**
THR6 Thira Island, 63.98 304 P **P** **17 05 16.1 -1.0**
THR5 Thira Island, 64.02 304 P **P** **17 05 16.1 -1.2**
THR5 Thira Island, 64.02 304 *e*P **P** **17 05 18.0 +0.7**
SZH Strazhica 64.03 312 P **P** **17 05 17.0 -0.3**
SMTH Samothraki Isl 64.09 308 P **P** **17 05 17.1 -0.7**
SMTH Samothraki Isl 64.09 308 *e*P **P** **17 05 17.4 -0.4**
SMTH Samothraki Isl 64.09 308 P **P** **17 05 17.1 -0.7**
PETK Petropavlovsk- 64.16 37 P **P** **17 05 16.9 -1.0**
comp=Z,23nm,0.8s,baz=210,slow=5.2,SNR=29
PETK PKPPKP P'P'df 17 34 02.8 -8.7
comp=Z,6.7nm,1.1s,baz=150,slow=6.2,SNR=4.3
PETK PKP2bc 17 34 16.6
comp=Z,12nm,1.1s,baz=77,slow=9.7,SNR=6.5
PETK LR LR 17 34 47.3
comp=Z,13μm,21.2s,baz=249,slow=37
DIM Dimitrovgrad 64.21 310 P **P** **17 05 18.3 -0.2**
MLR Muntele Rosu 64.26 314↓↓P **P** **17 05 19.8 +0.9**
MLR Muntele Rosu 64.26 314↓↓*i*P **P** **17 05 19.8 +0.9**
KDZ Kurdzhali 64.27 310↓↓P **P** **17 05 19.1 +0.2**
KDZ Kurdzhali 64.27 310↓↓*i*P **P** **17 05 19.1 +0.2**
KDZ Kurdzhali 64.27 310 P **P** **17 05 19.1 +0.2**
SEY Seymchan 64.30 26 P **P** **17 05 17.8 -0.8**
comp=Z,57nm,0.9s,baz=228,slow=3.9,SNR=102
SEY PKP2ab 17 34 18.7
comp=Z,3.9nm,1.0s,baz=36,slow=2.3,SNR=7.7
SEY LR LR 17 37 07.1
comp=Z,22μm,19.3s,baz=242,slow=40
LIA Limnos Island 64.32 308 P **P** **17 05 18.9 -0.3**
LIA Limnos Island 64.32 308 P **P** **17 05 18.9 -0.3**
SIVA Sivas 64.42 302 *e*P **P** **17 05 19.6 -0.4**
PVL Pavlikeni 64.46 312 P **P** **17 05 21.1 +1.0**
MICGM Minsk 64.55 324↓↓*i*P **P** **17 05 19.0 -1.5**
MNK Minsk 64.58 324↓↓*i*P **P** **17 05 19.0 -1.6**
MNK *e*S **S** **17 13 53.0 -4.4**
MNK *e*SS **SS** **17 18 06.0 -2.2**
MNK *e*SSS SSS 17 21 00.0
MNK pmax pmax
comp=Z,3μm,1.0s
MNK pmax pmax
comp=N,380nm,1.0s
MNK pmax pmax
comp=E,2μm,1.2s
MNK smax smax
comp=N,10μm,5.0s
MNK smax smax
comp=E,9μm,9.0s
MNK MLR MLR
comp=E,17μm,17.0s
MNK MLR MLR
comp=Z,52μm,16.0s
MNK MLR MLR
comp=Z,29μm,18.0s
PUL Pulkovo 64.63 330↑↑*i*P **P** **17 05 22.0 +1.2**
PUL pmax pmax
comp=Z,988nm,1.2s
PET Petropavlovsk 64.70 38*d*↓*i*P **P** **17 05 20.9 -0.5**
PET *e*PPP PPP 17 09 15.9
PET *e*S **S** **17 13 53.0 -5.9**
PET *e*SSS SSS 17 20 55.8
PET pmax pmax
comp=Z,3μm,4.5s
PET pmax pmax
comp=Z,110nm,1.0s
PET MLR MLR
comp=Z,31μm,16.0s
PET MLR MLR
comp=Z,29μm,16.0s
PET Petropavlovsk 64.70 38 *e*P **P** **17 05 22.0 +0.5**
comp=Z,161nm,1.0s
PET LR LR
comp=Z,21μm,20.0s
DOPR Dopca 64.71 315↓↓*i*P **P** **17 05 21.8 +0.1**
RZN Rozhen 64.79 310 P **P** **17 05 22.4 -0.1**
PLD Plovdiv 64.83 310 P **P** **17 05 22.2 -0.3**
PLD Plovdiv 64.83 310 P **P** **17 05 22.2 -0.3**
PLD Plovdiv 64.83 310 P **P** **17 05 21.9 -0.6**
PLD Plovdiv 64.83 310 P **P** **17 05 22.2 -0.3**
HUMR Humele 64.84 313↓↓*i*P **P** **17 05 22.9 +0.4**
MTUR Matau 64.85 314↑↑P **P** **17 05 23.6 +0.9**
MTUR Matau 64.85 314↑↑*i*P **P** **17 05 23.6 +0.9**
GOLR 64.88 313↓↓*i*P **P** **17 05 23.3 +0.5**
VOIR 64.88 314↓↓P **P** **17 05 22.5 -0.4**
VOIR 64.88 314↓↓*i*P **P** **17 05 22.5 -0.4**
KAVA Kavala 64.90 309 P **P** **17 05 22.6 -0.4**
KAVA Kavala 64.90 309 *e*P **P** **17 05 22.8 -0.2**
KAVA Kavala 64.90 309 P **P** **17 05 22.6 -0.4**
VAM Vamos 64.93 303 P **P** **17 05 21.4 -1.9**
VAM Vamos 64.93 303 P **P** **17 05 21.4 -1.9**
VAM Vamos 64.93 303 *e*P **P** **17 05 21.5 -1.9**
VAM Vamos 64.93 303 P **P** **17 05 21.4 -1.9**
BURAR Bucovina Array 65.02 316↓↓P **P** **17 05 24.4 +0.6**
BURAR Bucovina Array 65.02 316↓↓*i*P **P** **17 05 24.4 +0.6**
KARN Karanos 65.16 303 *e*P **P** **17 05 24.7 -0.1**
ARR Arges 65.17 314↓↓*i*P **P** **17 05 24.6 -0.2**
JOF Joensuu 65.17 334 *e*P **P** **17 05 23.8 -0.5**
JOF pmax pmax
comp=Z,178nm,0.7s
JOF Joensuu 65.17 334 *e*p **P** **17 05 23.8 -0.5**
comp=Z,178nm,0.7s
PTL Penteli 65.26 306 P **P** **17 05 24.3 -1.1**
PTL Penteli 65.26 306 *e*P **P** **17 05 24.6 -0.8**
PTL Penteli 65.26 306 P **P** **17 05 24.3 -1.1**
NACGM Naroch 65.26 324 *e*P **P** **17 05 23.0 -2.1**
PGB Panagyurishte 65.26 311 P **P** **17 05 25.5 +0.1**
OUR Ouranopolis 65.27 308 P **P** **17 05 25.0 -0.4**
OUR Ouranopolis 65.27 308 *e*P **P** **17 05 24.9 -0.5**
OUR Ouranopolis 65.27 308 P **P** **17 05 25.0 -0.4**
OUR Ouranopolis 65.27 308 *e*P **P** **17 05 25.2 -0.2**
OUR Ouranopolis 65.27 308 P **P** **17 05 25.0 -0.4**
AOS Alonnisos 65.29 307 P **P** **17 05 24.7 -0.9**
AOS Alonnisos 65.29 307 *e*P **P** **17 05 24.9 -0.6**
AOS Alonnisos 65.29 307 *e*P **P** **17 05 24.9 -0.6**
AOS Alonnisos 65.29 307 P **P** **17 05 24.7 -0.9**
IDID Didziasalis 65.37 325 *e*P **P** **17 05 25.7 -0.1**
IDID AMB AMB 17 05 40.5
comp=Z,288nm,1.1s
ATH Athens Observa 65.38 306 P **P** **17 05 24.9 -1.2**
ATH Athens Observa 65.38 306 P **P** **17 05 24.9 -1.2**
ATH Athens Observa 65.38 306 *e*P **P** **17 05 24.4 -1.7**
ATH Athens Observa 65.38 306 P **P** **17 05 24.9 -1.2**
NVR Nevrokopi 65.41 309 P **P** **17 05 25.8 -0.6**
NVR Nevrokopi 65.41 309 *e*P **P** **17 05 25.7 -0.6**
NVR Nevrokopi 65.41 309 P **P** **17 05 25.8 -0.6**
PAIG Paliouri 65.48 308 P **P** **17 05 26.4 -0.3**
PAIG Paliouri 65.48 308 P **P** **17 05 26.4 -0.3**
PAIG Paliouri 65.48 308 *e*P **P** **17 05 26.4 -0.3**
PAIG Paliouri 65.48 308 P **P** **17 05 26.4 -0.3**
MRKA Markates 65.50 306 P **P** **17 05 25.5 -1.4**
MRKA Markates 65.50 306 *e*P **P** **17 05 25.6 -1.4**
MMB Musomiste 65.53 310↓↓P **P** **17 05 26.5 -0.6**
MMB Musomiste 65.53 310↓↓*i*P **P** **17 05 26.5 -0.6**
MMB Musomiste 65.53 310 P **P** **17 05 26.0 -1.1**
SRS Serrai 65.60 309 P **P** **17 05 26.8 -0.8**

SRS	**Serrai**	**65.60 309**	P	**P**	**17 05 26.8**	**-0.8**
SRS	**Serrai**	**65.60 309**	*e*P	**P**	**17 05 26.6**	**-1.0**
SRS	**Serrai**	**65.60 309**	P	**P**	**17 05 26.8**	**-0.8**
SKIA	**Skiathos**	**65.61 307**	P	**P**	**17 05 26.5**	**-1.1**
SKIA	**Skiathos**	**65.61 307**	*e*P	**P**	**17 05 26.6**	**-1.1**
MPEP	**Malo Peshtene**	**65.63 312**	P	**P**	**17 05 28.1**	**+0.4**
ANKY	**Antikythira Is**	**65.67 303**	P	**P**	**17 05 27.2**	**-0.9**
ANKY	**Antikythira Is**	**65.67 303**	*e*P	**P**	**17 05 27.4**	**-0.7**
ANKY	**Antikythira Is**	**65.67 303**	P	**P**	**17 05 27.2**	**-0.9**
IIGN	**Ignalina**	**65.67 325**	*e*P	**P**	**17 05 27.6**	**-0.1**
IIGN			AMB	AMB	17 05 42.5	
	comp=Z,273nm,1.1s					
PLG	**Polygyros**	**65.68 308**	P	**P**	**17 05 27.4**	**-0.7**
PLG	**Polygyros**	**65.68 308**	P	**P**	**17 05 27.4**	**-0.7**
PLG	**Polygyros**	**65.68 308**	*e*P	**P**	**17 05 27.6**	**-0.5**
PLG	**Polygyros**	**65.68 308**	P	**P**	**17 05 27.4**	**-0.7**
ISAL	**Salakas**	**65.77 325**	*e*P	**P**	**17 05 28.2**	**-0.1**
ISAL			AMB	AMB	17 05 43.0	
	comp=Z,270nm,1.3s					
SOH	**Sokhos**	**65.77 309**	P	**P**	**17 05 27.8**	**-0.9**
SOH	**Sokhos**	**65.77 309**	P	**P**	**17 05 27.8**	**-0.9**
SOH	**Sokhos**	**65.77 309**	*e*P	**P**	**17 05 28.0**	**-0.7**
SOH	**Sokhos**	**65.77 309**	P	**P**	**17 05 27.8**	**-0.9**
LVZ	**Lovozero**	**65.78 339**	P	**P**	**17 05 27.4**	**-0.8**
	comp=Z,2µm,0.8s,SNR=16					
LVZ	**Lovozero**	**65.78 339**	*d i*P	**P**	**17 05 27.6**	**-0.6**
LVZ			pmax	pmax		
	comp=Z,516nm,1.2s					
LVZ			MLR	MLR		
	comp=Z,26µm,26.0s					
LVZ	**Lovozero**	**65.78 339**	PFAKE		17 05 40.0	+12
LVZ			LR	LR		
	comp=Z,13µm,20.0s					
LOT	**Lotru**	**65.78 314**	*e*P	**P**	**17 05 28.2**	**-0.5**
LOT	**Lotru**	**65.78 314**	⇓*i*P	**P**	**17 05 28.3**	**-0.5**
SMIA	**Simia**	**65.80 307**	P	**P**	**17 05 28.0**	**-1.0**
SMIA	**Simia**	**65.80 307**	*e*P	**P**	**17 05 27.9**	**-1.0**
NEO	**Neokhori**	**65.80 307**	P	**P**	**17 05 27.4**	**-1.5**
NEO	**Neokhori**	**65.80 307**	*e*P	**P**	**17 05 27.9**	**-1.0**
NEO	**Neokhori**	**65.80 307**	P	**P**	**17 05 27.4**	**-1.5**
PAF	**Port-aux-Franc**	**65.81 196**	P	P	17 05 18.0	-10
PAF			S	S	17 14 00.0	-12
PAF			L	L	17 21 00.0	
PAF			R		17 25 00.0	
PAF	**Port-aux-Franc**	**65.81 196**	PFAKE		17 05 40.0	+12
PAF			LR	LR		
	comp=Z,42µm,22.0s					
XOR	**Xorichti**	**65.83 307**	P	**P**	**17 05 27.6**	**-1.5**
XOR	**Xorichti**	**65.83 307**	*e*P	**P**	**17 05 27.6**	**-1.5**
XOR	**Xorichti**	**65.83 307**	P	**P**	**17 05 27.6**	**-1.5**
KYTH	**Kithira**	**65.89 304**	P	**P**	**17 05 28.1**	**-1.4**
KYTH	**Kithira**	**65.89 304**	*e*P	**P**	**17 05 28.4**	**-1.1**
KYTH	**Kithira**	**65.89 304**	P	**P**	**17 05 28.1**	**-1.4**
HORT	**Hortiatis**	**65.95 309**	P	**P**	**17 05 29.0**	**-0.9**
HORT	**Hortiatis**	**65.95 309**	*e*P	**P**	**17 05 28.9**	**-0.9**
HORT	**Hortiatis**	**65.95 309**	P	**P**	**17 05 29.0**	**-0.9**
LKR	**Lokris**	**65.96 306**	P	**P**	**17 05 27.8**	**-2.1**
LKR	**Lokris**	**65.96 306**	*e*P	**P**	**17 05 28.0**	**-1.9**
LKR	**Lokris**	**65.96 306**	P	**P**	**17 05 27.8**	**-2.1**
LTK	**Loutraki**	**65.97 306**	P	**P**	**17 05 27.6**	**-2.4**
LTK	**Loutraki**	**65.97 306**	*e*P	**P**	**17 05 27.9**	**-2.1**
LTK	**Loutraki**	**65.97 306**	P	**P**	**17 05 27.6**	**-2.4**
VLI	**Veliai**	**65.97 304**	P	**P**	**17 05 27.5**	**-2.5**
VLI	**Veliai**	**65.97 304**	*e*P	**P**	**17 05 27.9**	**-2.1**
VLI	**Veliai**	**65.97 304**	P	**P**	**17 05 27.5**	**-2.5**
VTS	**Vitosha**	**65.97 311**	P	**P**	**17 05 29.7**	**-0.4**
VTS	**Vitosha**	**65.97 311**	⇓P	**P**	**17 05 29.8**	**-0.4**
VTS	**Vitosha**	**65.97 311**	⇓*i*P	**P**	**17 05 29.8**	**-0.4**
VTS	**Vitosha**	**65.97 311**	P	**P**	**17 05 29.6**	**-0.5**
VTS	**Vitosha**	**65.97 311**	P	**P**	**17 05 29.7**	**-0.4**
CJR	**Cluj-Napoca**	**66.02 315**	⇑P	**P**	**17 05 31.3**	**+1.1**
CJR	**Cluj-Napoca**	**66.02 315**	⇑*i*P	**P**	**17 05 31.3**	**+1.1**
KKB	**Krupnik**	**66.02 310**	P	**P**	**17 05 29.6**	**-0.7**
THE	**Thessaloniki**	**66.05 309**	P	**P**	**17 05 29.2**	**-1.2**
THE	**Thessaloniki**	**66.05 309**	P	**P**	**17 05 29.2**	**-1.2**
THE	**Thessaloniki**	**66.05 309**	*e*P	**P**	**17 05 29.8**	**-0.6**
THE	**Thessaloniki**	**66.05 309**	P	**P**	**17 05 29.2**	**-1.2**
VSU	**Vasula**	**66.07 328**	*d i*P	**P**	**17 05 29.6**	**-0.6**
VSU			pmax	pmax		
	comp=Z,967nm,1.3s					
VSU			MLR	MLR		
	comp=Z,49µm,26.0s					
APA	**Apatity**	**66.08 339**	⇑*i*P	**P**	**17 05 30.6**	**+0.5**
APA			*i* S	**S**	**17 14 14.0**	**-1.3**
APA			*i*		17 15 20.0	
APA			pmax	pmax		
	comp=Z,372nm,1.0s					
LVV	**L'vov**	**66.08 319**	*i* P	**P**	**17 05 30.0**	**-0.5**
LVV			*i*		17 07 53.3	
LVV			*i* S	**S**	**17 14 13.9**	**-2.1**
LVV			*i* PS	**PnS**	**17 14 34.3**	**-5.5**
LVV			*e*SSS	SSS	17 21 22.5	
KNT	**Kendrikon**	**66.13 309**	P	**P**	**17 05 30.1**	**-0.9**
KNT	**Kendrikon**	**66.13 309**	P	**P**	**17 05 30.1**	**-0.9**
KNT	**Kendrikon**	**66.13 309**	*e*P	**P**	**17 05 30.1**	**-0.9**
KNT	**Kendrikon**	**66.13 309**	P	**P**	**17 05 30.1**	**-0.9**
BMR	**Baia Mare**	**66.18 316**	⇓P	**P**	**17 05 31.7**	**+0.5**
BMR	**Baia Mare**	**66.18 316**	⇓*i*P	**P**	**17 05 31.7**	**+0.5**
AXAR	**Agios Charalam**	**66.23 307**	P	**P**	**17 05 29.8**	**-1.8**
AXAR	**Agios Charalam**	**66.23 307**	P	**P**	**17 05 29.8**	**-1.8**
VAY	**Valandovo**	**66.38 309**	P	**P**	**17 05 31.2**	**-1.3**
VAY	**Valandovo**	**66.38 309**	P	**P**	**17 05 31.2**	**-1.3**
VAY	**Valandovo**	**66.38 309**	*i* P	**P**	**17 05 32.5**	**-0.1**
	comp=Z,732nm,1.1s					
VAY	**Valandovo**	**66.38 309**	P	**P**	**17 05 31.2**	**-1.3**
LIT	**Litokhoron**	**66.40 308**	P	**P**	**17 05 31.4**	**-1.3**
LIT	**Litokhoron**	**66.40 308**	P	**P**	**17 05 31.4**	**-1.3**
LIT	**Litokhoron**	**66.40 308**	*e*P	**P**	**17 05 31.4**	**-1.3**
LIT	**Litokhoron**	**66.40 308**	P	**P**	**17 05 31.4**	**-1.3**
DEV	**Deva**	**66.42 314**	⇓P	**P**	**17 05 33.8**	**+1.1**
DEV	**Deva**	**66.42 314**	⇓*i*P	**P**	**17 05 33.8**	**+1.1**
VLX	**Vlachokerasia**	**66.42 305**	P	**P**	**17 05 31.4**	**-1.6**
VLX	**Vlachokerasia**	**66.42 305**	*e*P	**P**	**17 05 31.6**	**-1.4**
VLX	**Vlachokerasia**	**66.42 305**	P	**P**	**17 05 31.4**	**-1.6**
GUR	**Goura**	**66.46 306**	P	**P**	**17 05 31.1**	**-2.2**
GUR	**Goura**	**66.46 306**	*e*P	**P**	**17 05 31.0**	**-2.2**
GUR	**Goura**	**66.46 306**	P	**P**	**17 05 31.1**	**-2.2**
GZR	**Gura Zlata**	**66.47 314**	⇓P	**P**	**17 05 33.0**	**-0.2**
GZR	**Gura Zlata**	**66.47 314**	⇓*i*P	**P**	**17 05 33.0**	**-0.2**
AGG	**Agios Georgios**	**66.49 307**	P	**P**	**17 05 31.2**	**-2.1**
AGG	**Agios Georgios**	**66.49 307**	P	**P**	**17 05 31.2**	**-2.1**
AGG	**Agios Georgios**	**66.49 307**	*e*P	**P**	**17 05 30.7**	**-2.6**
AGG	**Agios Georgios**	**66.49 307**	P	**P**	**17 05 31.2**	**-2.1**
GRG	**Griva**	**66.49 309**	P	**P**	**17 05 32.4**	**-0.9**
GRG	**Griva**	**66.49 309**	P	**P**	**17 05 32.4**	**-0.9**
GRG	**Griva**	**66.49 309**	*e*P	**P**	**17 05 32.3**	**-1.0**
GRG	**Griva**	**66.49 309**	P	**P**	**17 05 32.4**	**-0.9**
KLV	**Kalavryta, Ach**	**66.61 306**	P	**P**	**17 05 32.1**	**-2.1**
KLV	**Kalavryta, Ach**	**66.61 306**	*e*P	**P**	**17 05 32.0**	**-2.1**
KLV	**Kalavryta, Ach**	**66.61 306**	P	**P**	**17 05 32.1**	**-2.1**
KALE	**Kalithea**	**66.63 306**	P	**P**	**17 05 31.7**	**-2.6**
KALE	**Kalithea**	**66.63 306**	*e*P	**P**	**17 05 32.2**	**-2.1**
KALE	**Kalithea**	**66.63 306**	P	**P**	**17 05 31.7**	**-2.6**
DRGR		**66.63 315**	⇓P	**P**	**17 05 34.6**	**+0.4**
DRGR		**66.63 315**	⇓*i*P	**P**	**17 05 34.6**	**+0.4**
MAKR	**Makrakomi, Fth**	**66.64 307**	P	**P**	**17 05 32.4**	**-1.9**
MAKR	**Makrakomi, Fth**	**66.64 307**	*e*P	**P**	**17 05 32.6**	**-1.7**
MAKR	**Makrakomi, Fth**	**66.64 307**	P	**P**	**17 05 32.4**	**-1.9**
THL	**Klokotos Trika**	**66.75 307**	P	**P**	**17 05 34.8**	**-0.1**
THL	**Klokotos Trika**	**66.75 307**	*e*P	**P**	**17 05 35.0**	**+0.1**
ITM	**Ithomi**	**66.78 305**	P	**P**	**17 05 33.7**	**-1.5**
ITM	**Ithomi**	**66.78 305**	*e*P	**P**	**17 05 33.8**	**-1.5**
ITM	**Ithomi**	**66.78 305**	P	**P**	**17 05 33.7**	**-1.5**
EFP	**Efpalio**	**66.81 306**	P	**P**	**17 05 33.7**	**-1.6**
EFP	**Efpalio**	**66.81 306**	*e*P	**P**	**17 05 33.7**	**-1.6**
TRPA	**Tarpa**	**66.87 317**	⇑*i*P	**P**	**17 05 36.2**	**+0.7**
TRPA	**Tarpa**	**66.87 317**	⇓*e*P	**P**	**17 05 35.8**	**+0.3**
EVR	**Evrytania**	**66.89 307**	P	**P**	**17 05 34.1**	**-1.9**
EVR	**Evrytania**	**66.89 307**	*e*P	**P**	**17 05 34.3**	**-1.7**
EVR	**Evrytania**	**66.89 307**	P	**P**	**17 05 34.1**	**-1.9**
KWP	**Kalwaria Pacla**	**66.91 318**	*e*P	**P**	**17 05 35.8**	**0.0**
KWP			*e**PP	**pP**	**17 05 46.9**	**-0.5**
KWP			*e**SP	**sP**	**17 05 52.1**	**+0.2**
KWP			*e*		17 06 02.2	
KWP			*e*S	**S**	**17 14 24.8**	**-1.4**
KWP			MLR	MLR		
	comp=Z,11µm,26.3s					
KWP	**Kalwaria Pacla**	**66.91 318**	*e*P	**P**	**17 05 35.8**	**0.0**
KWP			*e*pP	**pP**	**17 05 46.8**	**-0.6**
KWP			*e*sP	**sP**	**17 05 52.0**	**+0.2**
KWP			*e*PcP	**PcP**	**17 06 02.2**	**-2.0**
KWP			*e*S	**S**	**17 14 24.7**	**-1.4**
KWP			*e*pS	**pS**	**17 14 37.7**	**-2.6**
KWP			LMZ	LR	17 34 21.7	
KWP	**Kalwaria Pacla**	**66.91 318**	*e*P	**P**	**17 05 35.8**	**0.0**
	comp=Z,821nm,1.2s					
KWP			LR	LR		
	comp=Z,9µm,20.0s					
PYL	**PYLOS**	**66.93 304**	P	**P**	**17 05 34.1**	**-2.0**
PYL	**PYLOS**	**66.93 304**	*e*P	**P**	**17 05 34.3**	**-1.8**
PYL	**PYLOS**	**66.93 304**	P	**P**	**17 05 34.1**	**-2.0**
KZN	**Kozani**	**66.95 308**	P	**P**	**17 05 34.7**	**-1.6**
KZN	**Kozani**	**66.95 308**	P	**P**	**17 05 34.7**	**-1.6**
KZN	**Kozani**	**66.95 308**	*e*P	**P**	**17 05 35.4**	**-0.9**
KZN	**Kozani**	**66.95 308**	P	**P**	**17 05 34.7**	**-1.6**
AMT	**Artemida-Makis**	**66.96 305**	P	**P**	**17 05 34.8**	**-1.6**
AMT	**Artemida-Makis**	**66.96 305**	*e*P	**P**	**17 05 34.7**	**-1.6**
DRO	**Drossia**	**66.96 306**	P	**P**	**17 05 35.4**	**-0.9**
UZH	**Uzhgorod**	**67.08 317**	⇑*i*P	**P**	**17 05 36.0**	**-0.8**
UZH			*i*		17 05 41.5	
UZH			*i*		17 05 49.7	
UZH			*e*		17 06 06.9	
UZH			*i*		17 08 08.7	
UZH			*e*		17 09 47.7	
UZH			*i* S	**S**	**17 14 23.0**	**-5.1**
UZH			*i*		17 14 57.9	
UZH			*e*		17 15 26.9	
UZH			*e*		17 21 45.9	
FINES	**FINESS Array B**	**67.10 331**	P	**P**	**17 05 36.2**	**-0.5**
	comp=Z,182nm,0.8s,baz=114,slow=7.8,SNR=192					
FINES			PKP2bc		17 34 07.2	
	comp=Z,4.4nm,1.0s,baz=302,slow=3.6,SNR=5.3					
FINES			LR	LR	17 39 05.1	
	comp=Z,9µm,18.5s,baz=106,slow=40					
KOLS	**Kolonicke sedl**	**67.12 318**	*e*P	**P**	**17 05 37.0**	**-0.2**
KOLS			pmax	pmax		
	comp=Z,302nm,1.7s					
KOLS	**Kolonicke sedl**	**67.12 318**	*e*P	**P**	**17 05 37.0**	**-0.2**
KOLS			*e*pP	**pP**	**17 05 48.8**	**0.6**
KOLS			*e*S	S	**17 14 24.1**	**-4.6**
KOLS			*e*SS	SS	17 19 08.6	+21
RLS	**Riolos of Patr**	**67.15 306**	P	**P**	**17 05 36.6**	**-0.9**
RLS	**Riolos of Patr**	**67.15 306**	*e*P	**P**	**17 05 36.6**	**-0.9**
RLS	**Riolos of Patr**	**67.15 306**	P	**P**	**17 05 36.6**	**-0.9**
KAF	**Kangasniemi**	**67.16 332**	*e*P	**P**	**17 05 36.8**	**-0.3**
KAF			pmax	pmax		
	comp=Z,126nm,0.9s					
KAF	**Kangasniemi**	**67.16 332**	*e*p	**P**	**17 05 36.8**	**-0.3**
	comp=Z,126nm,0.9s					
SUW	**Suwalki**	**67.17 323**	*e*P	**P**	**17 05 36.6**	**-0.7**
SUW			*e**PP	**pP**	**17 05 47.9**	**-1.0**
SUW			*e*		17 06 03.4	
SUW			*e*S	**S**	**17 14 26.7**	**-2.3**
SUW			MLR	MLR		
	comp=Z,15µm,27.9s					
SUW	**Suwalki**	**67.17 323**	*e*P	**P**	**17 05 36.6**	**-0.7**
SUW			*e*pP	**pP**	**17 05 47.9**	**-1.0**
SUW			*e*PcP	**PcP**	**17 06 03.3**	**-1.9**
SUW			*e*S	**S**	**17 14 26.6**	**-2.4**
SUW			*e*pS	**pS**	**17 14 38.9**	**-4.3**
SUW			LMZ	LR	17 36 32.1	
SKO	**Skopje**	**67.25 310**	P	**P**	**17 05 36.2**	**-1.9**
SKO	**Skopje**	**67.25 310**	P	**P**	**17 05 36.2**	**-1.9**
SKO	**Skopje**	**67.25 310**	*i* P	**P**	**17 05 37.8**	**-0.3**
	comp=Z,621nm,1.6s					
SKO	**Skopje**	**67.25 310**	P	**P**	**17 05 36.2**	**-1.9**
FNA	**Florina**	**67.27 309**	P	**P**	**17 05 36.8**	**-1.5**
FNA	**Florina**	**67.27 309**	P	**P**	**17 05 36.8**	**-1.5**
FNA	**Florina**	**67.27 309**	*e*P	**P**	**17 05 36.9**	**-1.4**
FNA	**Florina**	**67.27 309**	P	**P**	**17 05 36.8**	**-1.5**
BZS	**Buzias**	**67.30 314**	*e*P	**P**	**17 05 38.0**	**-0.3**
BZS	**Buzias**	**67.30 314**	⇓P	**P**	**17 05 38.3**	**0.0**
BZS	**Buzias**	**67.30 314**	⇓*i*P	**P**	**17 05 38.3**	**0.0**
PDO	**Prodromos**	**67.38 306**	P	**P**	**17 05 37.6**	**-1.4**
PDO	**Prodromos**	**67.38 306**	*e*P	**P**	**17 05 37.8**	**-1.2**
DSL	**Palaion Diasel**	**67.45 307**	P	**P**	**17 05 37.9**	**-1.6**
DSL	**Palaion Diasel**	**67.45 307**	*e*P	**P**	**17 05 37.6**	**-1.9**
DSL	**Palaion Diasel**	**67.45 307**	P	**P**	**17 05 37.9**	**-1.6**
NEST	**Nestorio**	**67.51 308**	P	**P**	**17 05 38.4**	**-1.4**
NEST	**Nestorio**	**67.51 308**	*e*P	**P**	**17 05 38.5**	**-1.4**
BANR	**Banloc**	**67.63 314**	⇓*i*P	**P**	**17 05 40.8**	**+0.4**
JAN	**Janina**	**67.65 307**	P	**P**	**17 05 39.4**	**-1.3**
JAN	**Janina**	**67.65 307**	P	**P**	**17 05 39.4**	**-1.3**
JAN	**Janina**	**67.65 307**	*e*P	**P**	**17 05 40.4**	**-0.3**
JAN	**Janina**	**67.65 307**	P	**P**	**17 05 39.4**	**-1.3**
CRVS	**Cervenica-Dubn**	**67.65 317**	*e*P	**P**	**17 05 40.7**	**+0.2**
CRVS			pmax	pmax		
	comp=Z,1µm,1.6s					
CRVS	**Cervenica-Dubn**	**67.65 317**	*e*P	**P**	**17 05 40.7**	**+0.2**
CRVS			*e*sP	**sP**	**17 05 54.4**	**-2.2**
CRVS			*e*S	**S**	**17 14 30.3**	**-4.8**
CRVS			*e*SS	SS	17 19 15.3	+19
KFL	**Anninata**	**67.69 306**	P	**P**	**17 05 39.9**	**-1.0**
OHR	**Ohrid**	**67.71 309**	*i* P	**P**	**17 05 39.0**	**-2.1**
	comp=Z,686nm,1.2s					
LKD2	**Lefkada island**	**67.79 307**	P	**P**	**17 05 40.4**	**-1.2**
LKD2	**Lefkada island**	**67.79 307**	*e*P	**P**	**17 05 40.1**	**-1.5**
LKD2	**Lefkada island**	**67.79 307**	P	**P**	**17 05 40.4**	**-1.2**
STHS	**Stebnicka Huta**	**67.84 318**	*e*P	**P**	**17 05 41.6**	**-0.1**
STHS			pmax	pmax		
	comp=Z,128nm,0.9s					
STHS	**Stebnicka Huta**	**67.84 318**	*e*P	**P**	**17 05 41.6**	**-0.1**
STHS			*e*pP	**pP**	**17 05 53.3**	**0.0**
VLS	**Valsamata**	**67.84 306**	P	**P**	**17 05 40.4**	**-1.5**
VLS	**Valsamata**	**67.84 306**	P	**P**	**17 05 40.4**	**-1.5**
VLS	**Valsamata**	**67.84 306**	*e*P	**P**	**17 05 40.7**	**-1.2**
VLS	**Valsamata**	**67.84 306**	P	**P**	**17 05 40.4**	**-1.5**
IGT	**Igoumenitsa**	**68.05 307**	P	**P**	**17 05 41.6**	**-1.6**
IGT	**Igoumenitsa**	**68.05 307**	P	**P**	**17 05 41.6**	**-1.6**
IGT	**Igoumenitsa**	**68.05 307**	*e*P	**P**	**17 05 41.4**	**-1.8**
IGT	**Igoumenitsa**	**68.05 307**	P	**P**	**17 05 41.6**	**-1.6**
BEL	**Belsk**	**68.35 321**	*e*P	**P**	**17 05 44.8**	**0.0**
BEL			*e**PP	**pP**	**17 05 56.1**	**-0.3**
BEL			*e**SP	**sP**	**17 06 02.2**	**+1.4**
BEL			*e*		17 06 11.6	
BEL			*e*S	**S**	**17 14 42.0**	**-1.2**
BEL			MLR	MLR		
	comp=Z,11µm,29.6s					
BEL	**Belsk**	**68.35 321**	*e*P	**P**	**17 05 44.8**	**0.0**
BEL			*e*pP	**pP**	**17 05 56.0**	**-0.3**
BEL			*e*sP	**sP**	**17 06 02.2**	**+1.4**
BEL			*e*PcP	**PcP**	**17 06 11.5**	**+1.4**
BEL			*e*S	**S**	**17 14 41.9**	**-1.2**
BEL			*e*pS	**pS**	**17 14 54.5**	**-2.9**
BEL			LMZ	LR	17 33 51.2	
PVY	**Plav**	**68.37 311**	⇓*i*P	**P**	**17 05 44.4**	**-0.9**
DIVS	**Divibare**	**68.39 312**	P	**P**	**17 05 44.8**	**-0.5**
IVA	**Berane**	**68.42 311**	⇓*i*P	**P**	**17 05 44.4**	**-1.2**
NIE	**Niedzica**	**68.44 318**	⇓*i*P	**P**	**17 05 46.2**	**+0.7**
NIE			*e**PP	**pP**	**17 05 59.2**	**+2.1**
NIE			*i* S	**S**	**17 14 44.5**	**-0.1**
NIE			MLR	MLR		
	comp=Z,9µm,20.9s					
KEK	**Kerkira**	**68.46 307**	P	**P**	**17 05 43.8**	**-1.9**
KEK	**Kerkira**	**68.46 307**	*e*P	**P**	**17 05 43.8**	**-1.9**
KEK	**Kerkira**	**68.46 307**	P	**P**	**17 05 43.8**	**-1.9**
PKSN	**Nyarlorinc**	**68.59 315**	⇑*e*P	**P**	**17 05 47.2**	**+0.8**
PSZ	**Piszkesteto**	**68.62 316**	⇓P	**P**	**17 05 46.9**	**+0.2**
PSZ	**Piszkesteto**	**68.62 316**	⇓*i*P	**P**	**17 05 46.9**	**+0.2**
PSZ	**Piszkesteto**	**68.62 316**	⇓*e*P	**P**	**17 05 46.7**	**0.0**
PSZ	**Piszkesteto**	**68.62 316**	PFAKE		17 06 00.0	+13
PSZ			LR	LR		
	comp=Z,8µm,19.0s					
EIDS	**Eidsvold**	**68.67 124**	*e*P	**P**	**17 05 47.0**	**-0.3**
	comp=Z,264nm,1.1s					
EIDS			*e*		17 05 59.2	
PKS6	**Bocsa**	**68.78 315**	⇑*e*P	**P**	**17 05 48.3**	**+0.7**
PLE	**Pljevlja**	**68.80 311**	⇓*i*P	**P**	**17 05 47.6**	**-0.4**
OJC	**Ojcow**	**68.84 319**	⇓*i*P	**P**	**17 05 47.8**	**-0.1**
OJC			*e**PP	**pP**	**17 06 00.7**	**+1.2**
OJC			*i* S	**S**	**17 14 47.2**	**-1.9**
OJC			MLR	MLR		
	comp=Z,11µm,20.3s					
PDG	**Podgorica**	**68.89 310**	P	**P**	**17 05 47.2**	**-1.1**
TTG	**Podgorica**	**68.89 310**	⇓*i*P	**P**	**17 05 47.1**	**-1.2**
TTG	**Podgorica**	**68.89 310**	P	**P**	**17 05 47.2**	**-1.1**
TTG	**Podgorica**	**68.89 310**	P	**P**	**17 05 47.2**	**-1.1**
ULC	**Ulcinj**	**68.89 310**	⇓*i*P	**P**	**17 05 47.6**	**-0.8**
DRME	**Dracevica, Mon**	**68.94 310**	⇓*i*P	**P**	**17 05 47.6**	**-1.1**
PKS2	**Kecel**	**69.02 315**	⇑*e*P	**P**	**17 05 49.9**	**+0.8**
KEV	**Kevo**	**69.05 340**	*e*P	**P**	**17 05 48.0**	**-0.8**
KEV			pmax	pmax		
	comp=Z,351nm,0.9s					
KEV			MLR	MLR		
	comp=Z,18µm,22.0s					
KEV	**Kevo**	**69.05 340**	*e*p	**P**	**17 05 48.3**	**-0.5**
	comp=Z,138nm,0.6s					
KEV	**Kevo**	**69.05 340**	*e*P	**P**	**17 05 48.0**	**-0.8**
	comp=Z,351nm,0.9s					
KEV			LR	LR		
	comp=Z,18µm,22.0s					
PKS7	**Kunszentmiklos**	**69.08 315**	⇓*e*P	**P**	**17 05 49.3**	**-0.1**
NKY	**Niksic**	**69.08 311**	⇓*i*P	**P**	**17 05 48.9**	**-0.8**
NKME	**Niksic**	**69.11 311**	⇓*i*P	**P**	**17 05 48.9**	**-0.9**
BUM	**Brajici-Budva**	**69.15 310**	⇓*i*P	**P**	**17 05 48.5**	**-1.6**
UPM	**Unac-Piva**	**69.15 311**	⇓*i*P	**P**	**17 05 48.9**	**-1.3**
BUD	**Budapest**	**69.19 316**	⇓*e*P	**P**	**17 05 49.9**	**-0.2**
VYHS	**Vyhne**	**69.36 317**	*e*P	**P**	**17 05 50.9**	**-0.3**
VYHS			pmax	pmax		
	comp=Z,261nm,1.7s					
VYHS	**Vyhne**	**69.36 317**	*e*P	**P**	**17 05 50.9**	**-0.3**
VYHS			*e*pP	**pP**	**17 06 03.1**	**+0.3**
VYHS			*e*S	S	**17 14 49.8**	**-5.6**
VYHS			*e*SS	SS	17 19 47.1	+24
PKSM	**Moragy**	**69.41 314**	⇓P	**P**	**17 05 51.2**	**-0.3**
PKSM	**Moragy**	**69.41 314**	⇓*i*P	**P**	**17 05 51.2**	**-0.3**
PKSM	**Moragy**	**69.41 314**	⇓*e*P	**P**	**17 05 51.2**	**-0.3**
PKSM	**Moragy**	**69.41 314**	⇓*e*PKPPKPbc		17 33 59.1	
HCY	**Herceg Novi**	**69.45 310**	⇓*i*P	**P**	**17 05 50.8**	**-1.1**
ARCES	**ARCESS Array B**	**69.48 340**	P	**P**	**17 05 51.5**	**0.0**
	comp=Z,180nm,0.8s,baz=90,slow=5.9,SNR=228					
ARCES			LR	LR	17 40 17.8	
	comp=Z,19µm,19.0s,baz=113,slow=39					
ARE0	**ARCESS Array S**	**69.48 340**	⇓*i*P	**P**	**17 05 51.6**	**0.0**
ARE0			*e*S	S	**17 14 56.9**	**+0.8**
ARE0			IVMs_BB	IVMs_BB	17 40 30.2	
	comp=Z,9µm,16.8s					
PKSG		**69.62 316**	⇓*e*P	**P**	**17 05 52.4**	**-0.3**
CSKK	**Cs˘‡kako**	**69.70 316**	⇓*e*P	**P**	**17 05 53.0**	**-0.3**
PKST	**T¨'s**	**69.85 316**	⇓*e*P	**P**	**17 05 53.9**	**-0.4**
RAC	**Raciborz**	**69.86 319**	*e*P	**P**	**17 05 54.7**	**+0.5**
RAC			*e**PP	**pP**	**17 06 06.0**	**+0.2**
RAC			*e*S	**S**	**17 15 00.8**	**-0.3**
RAC			MLR	MLR		
	comp=Z,8µm,20.0s					
OKC	**Ostrava-Krasne**	**69.88 318**	⇓*i*P	**P**	**17 05 54.4**	**+0.1**
OKC			*e**PP	**pP**	**17 06 04.9**	**-1.1**
OKC			*e*S	**S**	**17 15 00.0**	**-1.3**
OKC			MLR	MLR		
	comp=Z,7µm,20.2s					
OKC	**Ostrava-Krasne**	**69.88 318**	⇓*i*P	**P**	**17 05 54.4**	**+0.1**
OKC			*e*pP	**pP**	**17 06 04.9**	**-1.1**
OKC			*e*x	x	17 08 43.9	
OKC			*e*S	**S**	**17 15 00.0**	**-1.3**
OKC			*e*PKPPKP	**P'P'df**	**17 33 58.7**	**-3.2**
OKC			AMS	AMS	17 40 50.0	
	comp=Z,7µm,20.2s					
STON	**Ston**	**70.04 311**	P	**P**	**17 05 54.7**	**-0.7**
KTK1	**Kautokeino**	**70.12 339**	*e*P	**P**	**17 05 55.4**	**0.0**
KTK1			*e*S	**S**	**17 15 03.1**	**-0.4**
LSZ	**Lusaka**	**70.12 248**	PFAKE		17 06 10.0	+13
LSZ			LR	LR		
	comp=Z,62µm,20.0s					
CRZF	**Crozet Islands**	**70.21 209**	P	P	17 05 36.0	-20
CRZF			S	S	17 14 27.

CUC			LR	LR		
	comp=Z,6µm,20.0s					
CEL	**Celeste**	**71.54 306**	PFAKE		17 06 20.0	+15
CEL			LR	LR		
	comp=Z,4µm,22.0s					
ARSA	**Arzberg**	**71.56 316**	*i* P	**P**	**17 06 04.8**	**+0.1**
	comp=Z,284nm,1.3s,SNR=73					
TREC	**Trest**	**71.59 318**	⇓*i*P	**P**	**17 06 04.6**	**-0.2**
TREC			*e**PP	**pP**	**17 06 15.1**	**-1.4**
TREC			*e*S	**S**	**17 15 20.0**	**-1.4**
TREC			MLR	MLR		
	comp=Z,12µm,22.4s					
TREC	**Trest**	**71.59 318**	⇓*i*P	**P**	**17 06 04.6**	**-0.2**
TREC			*e*pP	**pP**	**17 06 15.1**	**-1.4**
TREC			*e*x	x	17 08 58.1	
TREC			*e*S	**S**	**17 15 20.0**	**-1.4**
TREC			AMS	AMS	17 41 50.0	
	comp=Z,12µm,22.4s					
HOPEN	**Hopen**	**71.74 347**	⇓*i*P	**P**	**17 06 05.2**	**0.0**
HOPEN			*e*S	**S**	**17 15 26.2**	**+4.1**
HOPEN			*e*SS	SS	17 20 07.8	+10
HOPEN			IVMs_BB	IVMs_BB	17 41 21.2	
	comp=Z,6µm,24.4s					
MATP	**Matopo**	**71.75 243**	*i* P	**P**	**17 06 07.6**	**+1.3**
MATP			*i*		17 06 07.7	
	baz=63,slow=7.9					
TRO	**Tromso**	**71.75 339**	⇓*i*P	**P**	**17 06 04.7**	**-0.5**
TRO			*e*S	**S**	**17 15 28.0**	**+5.7**
TRO			IVMs_BB	IVMs_BB	17 39 27.4	
	comp=Z,11µm,23.8s					
BOJS	**Bojanci**	**71.77 314**	*e*P	**P**	**17 06 05.6**	**-0.3**
BOJS			*i*		17 06 17.1	
BOJS			*e*PP	PP	17 08 50.5	+5.1
BOJS			*e*S	**S**	**17 15 20.2**	**-3.3**
PERS	**Pernice**	**71.85 315**	*e*P	**P**	**17 06 06.4**	**-0.1**
PERS			*i*		17 06 17.6	
PERS			*e*S	**S**	**17 15 22.1**	**-2.4**
SOKA	**Soboth**	**71.91 315**	*i* P	**P**	**17 06 06.8**	**0.0**
	comp=Z,447nm,1.4s,SNR=108					
CAN	**Canberra**	**72.03 134**	*e*P	**P**	**17 06 08.4**	**+0.8**
CAN			pmax	pmax		
	comp=Z,785nm,1.3s					
CAN			MLR	MLR		
	comp=Z,27µm,22.0s					
CAN	**Canberra**	**72.03 134**	*e*P	**P**	**17 06 08.3**	**+0.8**
	comp=Z,785nm,1.3s					
CAN			LR	LR		
	comp=Z,27µm,22.0s					
VISS	**Visnje**	**72.05 314**	*e*P	**P**	**17 06 07.4**	**-0.2**
VISS			*i*		17 06 18.8	
VISS			*e*S	**S**	**17 15 22.8**	**-4.0**
BSD	**Bornholm Skovb**	**72.06 324**	⇓*i*P	**P**	**17 06 06.5**	**-1.0**
	comp=Z,204nm,0.8s					
BSD			*i* S	**S**	**17 15 23.9**	**-2.6**
PVCC	**Panska Ves**	**72.19 319**	⇓*i*P	**P**	**17 06 08.8**	**+0.5**
PVCC			*e**PP	**pP**	**17 06 20.0**	**0.0**
PVCC			*e*S	**S**	**17 15 27.7**	**-0.5**
PVCC			MLR	MLR		
	comp=Z,10µm,16.5s					
PVCC	**Panska Ves**	**72.19 319**	⇓*i*P	**P**	**17 06 08.8**	**+0.5**
PVCC			*e*pP	**pP**	**17 06 20.0**	**0.0**
PVCC			*e*S	**S**	**17 15 27.7**	**-0.5**
PVCC			AMS	AMS	17 44 10.0	
	comp=Z,10µm,16.5s					
PRU	**Pruhonice**	**72.21 318**	⇓*i*P	**P**	**17 06 08.8**	**+0.3**
PRU			*e**PP	**pP**	**17 06 19.2**	**-1.0**
PRU			*e*S	**S**	**17 15 24.8**	**-3.6**
PRU			MLR	MLR		
	comp=Z,8µm,21.9s					
PRU	**Pruhonice**	**72.21 318**	⇓*i*P	**P**	**17 06 08.8**	**+0.3**
PRU			*e*pP	**pP**	**17 06 19.2**	**-1.0**
PRU			*e*x	x	17 09 08.8	
PRU			*e*S	**S**	**17 15 24.8**	**-3.6**
PRU			AMS	AMS	17 40 40.0	
	comp=Z,8µm,21.9s					
OBKA	**Obir**	**72.24 315**	*i* P	**P**	**17 06 09.0**	**+0.2**
	comp=Z,522nm,1.8s,SNR=59					
PRA	**Prague**	**72.28 318**	⇓*i*P	**P**	**17 06 09.5**	**+0.6**
PRA			*e**PP	**pP**	**17 06 20.1**	**-0.5**
PRA			*e*S	**S**	**17 15 29.2**	**0.0**
PRA			MLR	MLR		
	comp=Z,4µm,21.4s					
PRA	**Prague**	**72.28 318**	⇓*i*P	**P**	**17 06 09.5**	**+0.6**
PRA			*e*pP	**pP**	**17 06 20.1**	**-0.5**
PRA			*e*S	**S**	**17 15 29.2**	**0.0**
PRA			AMS	AMS	17 43 00.0	
	comp=Z,4µm,21.4s					
MOA	**Molln**	**72.41 316**	*i* P	**P**	**17 06 09.5**	**-0.3**
	comp=Z,305nm,1.3s,SNR=66					
BRG	**Berggiesshubel**	**72.59 319**	⇓*i*P	**P**	**17 06 11.1**	**+0.4**
	comp=Z,300nm,1.1s					
BRG			*i*		17 06 21.0	
	comp=Z,623nm,1.1s					
BRG			*i* PCP	**PcP**	**17 06 29.9**	**+1.7**
	comp=Z,469nm,1.3s					
BRG			PP	**PP**	**17 08 53.0**	**+0.7**
BRG			S	**S**	**17 15 31.0**	**-1.7**
BRG			SS	**SS**	**17 20 12.0**	**0.0**
BRG			*e*PKPPKP	**P'P'df**	**17 33 53.1**	**-4.1**
	comp=Z,38nm,2.0s					
BRG	**Berggiesshubel**	**72.59 319**	⇓*i*P	**P**	**17 06 11.1**	**+0.4**
BRG			*i*		17 06 21.0	
BRG			*i*		17 06 29.9	
BRG					17 08 53.0	
BRG			S	**S**	**17 15 31.0**	**-1.7**
BRG			SS	**SS**	**17 20 12.0**	**0.0**
BRG			pmax	pmax		
	comp=Z,300nm,1.1s					
BRG			MLR	MLR		
	comp=N,6µm,18.1s					
BRG			MLR	MLR		
	comp=E,14µm,17.3s					
BRG			MLR	MLR		
	comp=Z,9µm,16.0s					
BRG	**Berggiesshubel**	**72.59 319**	*e*P	**P**	**17 06 10.7**	**0.0**
	comp=Z,375nm,1.1s					
BRG			*e*S	**S**	**17 15 29.9**	**-2.8**
JAVS	**Javornik**	**72.59 314**	*i* P	**P**	**17 06 10.3**	**-0.7**
JAVS			*i*		17 06 21.6	
JAVS			*e*S	**S**	**17 15 30.0**	**-3.2**
BJO	**Bjornoya**	**72.62 344**	*e*S	**SKiKP**	**17 15 38.0**	**-3.8**
BJO			*e*SS	**SS**	**17 20 15.8**	**+4.2**
GEC2	**GERESS Array S**	**72.77 317**	*e*P	**P**	**17 06 11.7**	**-0.3**
	comp=Z,308nm,1.1s					
GEC2			*e*S	**S**	**17 15 32.2**	**-2.9**
GERES	**GERESS Array B**	**72.77 317**	P	**P**	**17 06 12.0**	**0.0**
GERES	**GERESS Array B**	**72.77 317**	P	**P**	**17 06 11.9**	**0.0**
	comp=Z,202nm,0.9s,baz=88,slow=5.3,SNR=341					
GERES			PKPPKP	**P'P'df**	**17 34 00.3**	**+3.3**
	comp=Z,0.5nm,0.6s,baz=177,slow=2.3,SNR=6.1					
GERES			LR	LR	17 43 30.6	
	comp=Z,3µm,18.9s,baz=90,slow=40					
WDD	**Wield Dalam**	**72.79 304**	PFAKE		17 06 20.0	+7.8
WDD			LR	LR		
	comp=Z,5µm,22.0s					
STEI	**Steigen**	**72.83 337**	*e*P	**P**	**17 06 11.2**	**-0.6**
STEI			*es*P	**sP**	**17 06 25.8**	**-2.1**
KHC	**Kasperske Hory**	**72.84 318**	⇓*i*P	**P**	**17 06 12.0**	**-0.3**
KHC			*e**PP	**pP**	**17 06 22.4**	**-1.6**
KHC			*e*		17 08 55.5	
KHC			*e*S	**S**	**17 15 35.6**	**-0.2**
KHC			MLR	MLR		
	comp=Z,12µm,22.0s					
KHC	**Kasperske Hory**	**72.84 318**	⇓*i*P	**P**	**17 06 12.0**	**-0.3**
KHC			*e*pP	**pP**	**17 06 22.4**	**-1.6**
KHC			*e*PP	**PP**	**17 08 55.5**	**+0.9**
KHC			*e*S	**S**	**17 15 35.6**	**-0.2**
KHC			AMS	AMS	17 42 30.0	
	comp=Z,12µm,22.0s					
KHC	**Kasperske Hory**	**72.84 318**	*e*P	**P**	**17 06 11.2**	**-1.2**
	comp=Z,162nm,0.9s					
MYKA	**Terra Mystica**	**72.86 315**	⇓*i*P	**P**	**17 06 12.2**	**-0.3**
	comp=Z,286nm,1.7s,SNR=42					
HFS	**Hagfors**	**72.91 329**	P	**P**	**17 06 12.1**	**-0.4**
	comp=Z,211nm,0.7s,baz=107,slow=5.0,SNR=185					
MOR8	**Moi Rana**	**72.97 335**	⇓*i*P	**P**	**17 06 11.5**	**-1.2**
MOR8			IAmb	IAmb	17 06 14.1	
	comp=Z,327nm,0.4s					
MOR8			*e*pP	**pP**	**17 06 21.9**	**-2.5**
RGN	**Rugen**	**72.97 323**	*e*P	**P**	**17 06 10.7**	**-2.1**
	comp=Z,534nm,1.0s					
KBA	**Koelnbreinsper**	**73.05 315**	*i* P	**P**	**17 06 13.1**	**-0.7**
	comp=Z,219nm,1.3s,SNR=37					
CLL	**Collm**	**73.18 320**	⇓*i*P	**P**	**17 06 14.0**	**-0.2**
CLL			*i* *PP	**pP**	**17 06 27.8**	**+1.9**
CLL			*i* *SP	**sP**	**17 06 32.9**	**+2.6**
CLL			*e*S	**S**	**17 15 39.0**	**-0.4**
CLL			pmax	pmax		
	comp=Z,436nm,1.3s					
CLL			MLR	MLR		
	comp=Z,8µm,21.6s					
CLL	**Collm**	**73.18 320**	*e*P	**P**	**17 06 13.8**	**-0.4**
	comp=Z,506nm,1.7s					
CLL			*ep*P	**pP**	**17 06 24.7**	**-1.2**
CLL			*e*S	**S**	**17 15 36.3**	**-3.1**
CLL	**Collm**	**73.18 320**	⇓*i*P	**P**	**17 06 14.0**	**-0.2**
	comp=Z,436nm,1.3s					
CLL			*ep*P	**pP**	**17 06 25.0**	**-0.9**
CLL			*i* sP	**pP**	**17 06 27.8**	**+1.9**
	comp=Z,614nm,1.3s					
CLL			*e*(PP)		17 09 12.0	
CLL			*e*(PPP)		17 10 54.0	
CLL			*e*S	**S**	**17 15 39.0**	**-0.4**
CLL			*i* pS	**pS**	**17 15 50.0**	**-3.9**
CLL			*e*PPS	PPS	17 16 22.0	
CLL			*e*SS	**SS**	**17 20 25.0**	**+4.0**
CLL			*e*		17 21 29.0	
CLL			*e*SSS	SSS	17 23 42.0	
CLL			*e*		17 25 18.0	
CLL			*e*PKPPKPdf	P'P'df	17 33 50.0	-6.1
CLL			Lm	MLR	17 42 00.0	
	comp=Z,8µm,21.6s					
AQU	**L'Aquila**	**73.22 310**	PFAKE		17 06 30.0	+15
AQU			LR	LR		
	comp=Z,8µm,22.0s					
WET	**Wettzell**	**73.31 318**	*e*P	**P**	**17 06 14.8**	**-0.2**
	comp=Z,762nm,1.7s					
WET			*e*S	**S**	**17 15 39.0**	**-2.0**
RJOB	**Jochberg**	**73.40 316**	*e*P	**P**	**17 06 14.8**	**-0.9**
	comp=Z,452nm,1.7s					
FLOS	**Flostrand**	**73.42 336**	*e*P	**P**	**17 06 14.7**	**-0.6**
FX1	**Attu Island--F**	**73.42 39**	*e*P	**P**	**17 06 15.5**	**-0.1**
FX1	**Attu Island--F**	**73.42 39**	LR	LR	17 40 57.6	
	comp=Z,8µm,20.7s,baz=282,slow=38					
FX1	**Attu Island--F**	**73.42 39**	*e*P	**P**	**17 06 15.5**	**-0.1**
LOF	**Lofoten**	**73.48 337**	⇓*i*P	**P**	**17 06 14.6**	**-1.1**
COP	**Copenhagen**	**73.49 324**	⇓*i*P	**P**	**17 06 15.9**	**0.0**
	comp=Z,122nm,0.8s					
COP			*i* S	**S**	**17 15 42.7**	**0.0**
KONS	**Konsvik**	**73.53 336**	*e*P	**P**	**17 06 15.4**	**-0.5**
KONS			*e*PP	**PP**	**17 09 02.5**	**+2.7**
TANN	**Tannenbergstha**	**73.54 319**	*e*P	**P**	**17 06 16.2**	**-0.2**
	comp=Z,539nm,1.6s					
TANN			*e*S	**S**	**17 15 43.8**	**+0.1**
STOK	**Stokkvaagen**	**73.56 336**	*e*P	**P**	**17 06 15.8**	**-0.2**
LLD	**Lille Linde**	**73.61 324**	*i* P	P	17 06 11.1	-5.5
LLD			*i*		17 06 17.3	
ABTA	**Abfaltersbach**	**73.64 315**	⇑*i*P	**P**	**17 06 16.1**	**-1.0**
	comp=Z,206nm,1.5s,SNR=46					
CLTB	**Caltabellotta**	**73.70 305**	PFAKE		17 06 30.0	+12
CLTB			LR	LR		
	comp=Z,4µm,22.0s					
ROTZ	**Rotzenmuhle**	**73.72 318**	*e*P	**P**	**17 06 17.9**	**+0.5**
	comp=Z,863nm,1.5s					
ROTZ			*e*S	**SKiKP**	**17 15 44.7**	**+0.6**
NSS	**Namsos**	**73.90 334**	*e*P	**P**	**17 06 17.3**	**-0.8**
NSS			*e*S	**S**	**17 15 51.1**	**+4.1**
HSP	**Hornsund**	**73.97 347**	*e*P	**P**	**17 06 18.5**	**+0.1**
HSPB	**Hornsund (broa**	**73.98 347**	*e*P	**P**	**17 06 18.3**	**-0.1**
HSPB			*e*S	**S**	**17 15 47.5**	**-0.1**
HSPB			*e*SS	SS	17 20 40.2	+8.1
HSPB			IVMs_BB	IVMs_BB	17 42 37.6	
	comp=Z,8µm,27.4s					
NC602	**NORSAR Array S**	**74.00 330**	⇓*i*P	**P**	**17 06 17.9**	**-0.9**
NC602			*e*S	**S**	**17 15 48.4**	**+0.1**
SPA0	**Spitsbergen Ar**	**74.00 348**	⇓*i*P	**P**	**17 06 18.3**	**-0.2**
SPA0			*e*S	**SKiKP**	**17 15 45.9**	**+2.0**
SPA0			*e*SS	**SS**	**17 20 37.6**	**+5.1**
SPITS	**Spitsbergen Ar**	**74.00 348**	P	**P**	**17 06 18.5**	**-0.1**
	comp=Z,261nm,1.0s,baz=119,slow=7.9,SNR=109					
SLR	**Silverton**	**74.02 238**	⇓*i*P	**P**	**17 06 20.4**	**+0.6**
SLR			AMB	AMB	17 06 33.4	
	comp=Z,689nm,2.8s					
SLR			AMS	AMS	17 36 48.6	
	comp=Z,35µm,18.3s					
SLR	**Silverton**	**74.02 238**	P	**P**	**17 06 20.4**	**+0.6**
SLR			pmax	pmax		
	comp=Z,689nm,2.8s					
SLR	**Silverton**	**74.02 238**	P	**P**	**17 06 20.4**	**+0.6**
	comp=Z,689nm,2.8s					
MOX	**Moxa**	**74.07 319**	*e*P	**P**	**17 06 19.3**	**-0.2**
	comp=Z,998nm,1.9s					
MOX			*e*S	**S**	**17 15 48.3**	**-1.3**
NB2	**NORSAR Subarra**	**74.16 330**	P	**P**	**17 06 18.9**	**-0.9**
	comp=Z,93nm,0.7s,baz=90,slow=5.9					
NB2	**NORSAR Subarra**	**74.16 330**	P	**P**	**17 06 18.9**	**-0.9**
	baz=90,slow=5.9					
NOA	**NORSAR Array B**	**74.16 330**	P	**P**	**17 06 18.9**	**-0.9**
	comp=Z,116nm,0.8s,baz=90,slow=5.9,SNR=233					
NOA			PP	**PP**	**17 09 07.3**	**+1.9**
	comp=Z,50nm,0.9s,baz=92,slow=8.9,SNR=4.8					
NOA			LR	LR	17 43 57.9	
	comp=Z,7µm,19.3s,baz=95,slow=40					
WTTA	**Wattenberg**	**74.21 316**	*i* P	**P**	**17 06 19.6**	**-0.9**
	comp=Z,408nm,1.1s,SNR=72					
WATA	**Walderalm**	**74.25 316**	⇓*i*P	**P**	**17 06 19.6**	**-1.1**
	comp=Z,105nm,0.6s,SNR=62					
GRF	**Grafenberg Arr**	**74.36 318**	*e*P	**P**	**17 06 21.5**	**+0.3**
	comp=Z,1µm,1.8s					
GRF			*ep*P	**pP**	**17 06 32.5**	**-0.4**
GRF			*e*S	**S**	**17 15 52.6**	**-0.3**
GRF			*e*PKPPKP	**P'P'df**	**17 33 57.4**	**+3.3**
GRF			*e*		17 37 24.4	
GRF			*e*L	L	17 45 31.2	
	comp=Z,9µm,19.7s					
GRFO	**Grafenberg**	**74.37 318**	*e*P	**P**	**17 06 21.0**	**-0.2**
GRFO			pmax	pmax		
	comp=Z,575nm,1.2s					
GRFO	**Grafenberg**	**74.37 318**	*e*P	**P**	**17 06 21.0**	**-0.2**
	comp=Z,575nm,1.2s					
OSL	**Oslo**	**74.40 329**	*e*P	**P**	**17 06 21.0**	**-0.1**
FUR	**Furstenfeldbru**	**74.41 317**	*e*P	**P**	**17 06 20.8**	**-0.7**
	comp=Z,271nm,1.1s					
FUR			*e*S	**SKiKP**	**17 15 48.5**	**+3.3**
MOTA	**Moosalm**	**74.57 316**	⇓*i*P	**P**	**17 06 21.5**	**-1.1**
	comp=Z,289nm,1.2s,SNR=83					
TBLU	**Trondheim**	**74.63 332**	*e*P	**P**	**17 06 21.9**	**-0.5**
TBLU			IVMs_BB	IVMs_BB	17 43 45.8	
	comp=Z,6µm,14.4s					
TBLU			IAMs_20	IAMs_20	17 44 52.5	
	comp=Z,16µm,18.5s					
BSEG	**Bad Segeberg**	**74.75 323**	*e*P	**P**	**17 06 23.5**	**+0.2**
	comp=Z,792nm,1.3s					
BSEG			*ep*P	**pP**	**17 06 34.7**	**-0.3**
BSEG			*e*S	**S**	**17 15 54.9**	**-2.0**
RETA	**Reutte**	**74.79 316**	*i* P	**P**	**17 06 23.2**	**-0.6**
	comp=Z,521nm,1.2s,SNR=87					
CLZ	**Clausthal**	**74.80 320**	*e*P	**P**	**17 06 23.6**	**-0.1**
	comp=Z,458nm,1.2s					
CLZ			*e*S	**S**	**17 15 54.6**	**-3.2**
KLOF	**Kloof**	**74.82 238**	*e*P	**P**	**17 06 25.8**	**+1.3**
KLOF			AMB	AMB	17 06 26.3	
	comp=Z,621nm,1.5s					
KLOF	**Kloof**	**74.82 238**	P	**P**	**17 06 25.8**	**+1.3**
	comp=Z,621nm,1.5s					
FETA	**Feichten**	**74.84 315**	*i* P	**P**	**17 06 23.6**	**-0.7**
	comp=Z,295nm,1.0s,SNR=97					
NRDL	**Niedersach Rie**	**74.94 321**	*e*P	**P**	**17 06 24.7**	**+0.4**
	comp=Z,1µm,1.5s					
NRDL			*e*S	**S**	**17 15 57.4**	**-1.5**
KONO	**Kongsberg**	**74.97 329**	⇓*i*P	**P**	**17 06 23.7**	**-0.8**
KONO			*e*S	**S**	**17 15 59.5**	**+0.3**
KONO	**Kongsberg**	**74.97 329**	*e*P	**P**	**17 06 23.3**	**-1.2**
KONO			pmax	pmax		
	comp=Z,887nm,1.5s					
KONO			MLR	MLR		
	comp=Z,19µm,19.0s					
KONO	**Kongsberg**	**74.97 329**	*e*P	**P**	**17 06 23.3**	**-1.2**
	comp=Z,887nm,1.5s					
KONO			LR	LR		
	comp=Z,19µm,19.0s					
KBS	**Kingsbay**	**74.98 349**	⇓*i*P	**P**	**17 06 23.4**	**-0.8**
KBS			*e*S	**S**	**17 16 03.7**	**+4.9**
KBS			IVMs_BB	IVMs_BB	17 46 55.3	
	comp=Z,8µm,14.4s					
KBS	**Kingsbay**	**74.98 349**	*e*P	**P**	**17 06 24.0**	**-0.2**
KBS			pmax	pmax		
	comp=Z,297nm,1.3s					
KBS			MLR	MLR		
	comp=Z,21µm,20.0s					
KBS	**Kingsbay**	**74.98 349**	*e*P	**P**	**17 06 24.0**	**-0.2**
	comp=Z,297nm,1.3s					
KBS			LR	LR		
	comp=Z,21µm,20.0s					
WDLM	**Western Deep L**	**75.01 238**	*e*P	**P**	**17 06 26.8**	**+1.3**
WDLM			AMB	AMB	17 06 27.5	
	comp=Z,354nm,1.6s					
UBBA	**Unterbreizbach**	**75.09 319**	*e*P	**P**	**17 06 25.2**	**0.0**
	comp=Z,350nm,1.7s					
UBBA			*e*S	**S**	**17 15 58.3**	**-2.4**
TAU	**Tasmania Unive**	**75.12 142**	P	**P**	**17 06 27.0**	**+1.5**
	comp=Z,3µm,1.6s,SNR=37					
TAU	**Tasmania Unive**	**75.12 142**	PFAKE		17 06 40.0	+14
TAU			LR	LR		
	comp=Z,16µm,22.0s					
KSD	**Kokstad**	**75.13 233**	*e*P	**P**	**17 06 26.3**	**+0.2**
KSD			AMB	AMB	17 06 39.9	
	comp=Z,144nm,2.5s					
KSD			AMS	AMS	17 32 07.3	
	comp=Z,5µm,25.3s					
KSD	**Kokstad**	**75.13 233**	P	**P**	**17 06 26.3**	**+0.2**
	comp=Z,144nm,2.5s					
DOMB	**Dombas**	**75.19 331**	*e*P	**P**	**17 06 25.4**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**75.19 315**	⇓*i*P	**P**	**17 06 26.1**	**-0.2**
KSR	**Koster**	**75.21 238**	*e*P	**P**	**17 06 28.0**	**+1.3**
KSR			AMB	AMB	17 06 40.4	
	comp=Z,369nm,1.5s					
KSR			AMS	AMS	17 36 00.4	
	comp=Z,14µm,18.5s					
KSR	**Koster**	**75.21 238**	P	**P**	**17 06 28.0**	**+1.3**
	comp=Z,369nm,1.5s					
PRYS	**Parys**	**75.26 237**	⇓*i*P	**P**	**17 06 27.3**	**+0.4**
PRYS			AMB	AMB	17 06 40.1	
	comp=Z,403nm,3.0s					
PRYS			AMS	AMS	17 33 17.1	
	comp=Z,14µm,21.3s					
PRYS	**Parys**	**75.26 237**	P	**P**	**17 06 27.3**	**+0.4**
	comp=Z,403nm,3.0s					
VLC	**Villacollemand**	**75.30 312**	PFAKE		17 06 40.0	+13
VLC			LR	LR		
	comp=Z,8µm,19.0s					
MUD	**Monsted U'grnd**	**75.30 325**	⇓*i*P	**P**	**17 06 26.7**	**+0.3**
	comp=Z,251nm,0.9s					
MUD			*i*		17 06 38.1	
BERNI	**Berninapass**	**75.37 315**	⇓*i*P	**P**	**17 06 27.3**	**-0.1**
	comp=Z,11µm,1.8s					
DAVA	**Damuels**	**75.40 316**	*i* P	**P**	**17 06 26.9**	**-0.6**
	comp=Z,558nm,1.2s,SNR=76					
DAVOX	**Davos/Dischmat**	**75.44 315**	⇓*i*P	**P**	**17 06 27.5**	**-0.2**
	comp=Z,6µm,1.7s					
HOMB	**Homborsund**	**75.58 327**	*e*P	**P**	**17 06 28.9**	**+0.9**
HOMB			*e*S	**S**	**17 16 11.1**	**+5.1**
SEK	**Senekal**	**75.61 236**	⇓*i*P	**P**	**17 06 29.4**	**+0.5**
SEK			AMB	AMB	17 06 42.3	
	comp=Z,635nm,2.9s					
SEK			AMS	AMS	17 38 00.4	
	comp=Z,15µm,18.5s					
SEK	**Senekal**	**75.61 236**	P	**P**	**17 06 29.4**	**+0.5**
	comp=Z,635nm,2.9s					
STU	**Stuttgart**	**75.75 317**	*e*P	**P**	**17 06 28.9**	**-0.3**
	comp=Z,471nm,1.6s					
STU			*e*S	**S**	**17 16 05.3**	**-3.0**
PLONS	**Plons/SG**	**75.76 315**	⇓*i*P	**P**	**17 06 29.0**	**-0.4**
	comp=Z,12µm,1.8s					
VDL	**Val di Lei**	**75.76 315**	⇓*i*P	**P**	**17 06 29.3**	**-0.3**
	comp=Z,8µm,1.7s					
TUE	**Stuetta**	**75.83 315**	PFAKE		17 06 40.0	+10
TUE			LR	LR		
	comp=Z,7µm,19.0s					
MOL	**Molde**	**75.88 332**	⇓*i*P	**P**	**17 06 29.8**	**+0.2**
MOL			IVMs_BB	IVMs_BB	17 41 06.7	
	comp=Z,7µm,26.6s					
LBTB	**Lobatse**	**75.97 240**	⇓*i*P	**P**	**17 06 32.1**	**+1.2**
LBTB			AMB	AMB	17 06 44.6	
	comp=Z,590nm,3.0s					
LBTB			AMS	AMS	17 36 47.7	
	comp=Z,30µm,18.9s					
LBTB	**Lobatse**	**75.97 240**	P	**P**	**17 06 32.2**	**+1.2**
LBTB			pmax	pmax		
	comp=Z,147nm,0.8s					
LBTB	**Lobatse**	**75.97 240**	P	**P**	**17 06 32.1**	**+1.2**
	comp=Z,147nm,0.8s,baz=87,slow=5.5,SNR=85					
LBTB	**Lobatse**	**75.97 240**	*e*P	**P**	**17 06 32.0**	**+1.0**
	comp=Z,30nm,1.0s					
LBTB			*e*		17 06 42.6	
WEIN	**Weingarten**	**75.99 316**	⇓*i*P	**P**	**17 06 29.9**	**-0.7**
	comp=Z,1µm,1.7s					
LLS	**Linth-Limmern**	**76.03 315**	⇓*i*P	**P**	**17 06 30.1**	**-1.0**
	comp=Z,9µm,1.8s					
WILA	**Wila**	**76.05 316**	⇓*i*P	**P**	**17 06 30.4**	**-0.6**
	comp=Z,5µm,1.6s					
STEIN	**Stein am Rhein**	**76.06 316**	⇓*i*P	**P**	**17 06 30.6**	**-0.4**
	comp=Z,2µm,1.5s					
MUGIO	**Muggio**	**76.09 314**	⇓*i*P	**P**	**17 06 30.8**	**-0.5**
	comp=Z,12µm,0.8s					
TNS	**Taunus Mts**	**76.12 319**	*e*P	**P**	**17 06 31.1**	**-0.2**
	comp=Z,187nm,1.0s					
AKN	**Aaknes**	**76.15 331**	⇓*i*P	**P**	**17 06 30.8**	**-0.4**
TRULL	**Truellikon**	**76.18 316**	⇓*i*P	**P**	**17 06 31.1**	**-0.6**
	comp=Z,2µm,1.3s					
SNART	**Snartemo**	**76.26 327**	*e*P	**P**	**17 06 32.5**	**+0.7**
FLACH	**Flaach**	**76.27 316**	⇓*i*P	**P**	**17 06 31.6**	**-0.6**
	comp=Z,2µm,1.6s					
MUO	**Muotathal**	**76.27 315**	⇓*i*P	**P**	**17 06 31.8**	**-0.7**
	comp=Z,2µm,1.4s					
ZUR	**Degenried**	**76.28 316**	⇓*i*P	**P**	**17 06 31.9**	**-0.4**
	comp=Z,658nm,1.5s					
SLE	**Schleitheim**	**76.30 316**	⇓*i*P	**P**	**17 06 31.9**	**-0.5**
	comp=Z,925nm,1.8s					
FUSIO	**Fusio**	**76.30 315**	⇓*i*P	**P**	**17 06 32.3**	**-0.3**
	comp=Z,712nm,2.2s					
BFO	**Black Forest**	**76.36 317**	P	**P**	**17 06 32.0**	**-0.7**
	comp=Z,606nm,0.9s,SNR=30					
BFO	**Black Forest**	**76.36 317**	*i* P	**P**	**17 06 32.4**	**-0.3**
BFO	**Black Forest**	**76.36 317**	*e*P	**P**	**17 06 31.8**	**-0.9**
	comp=Z,367nm,1.7s					
BFO			*e*S	**S**	**17 16 12.1**	**-3.0**
BFO	**Black Forest**	**76.36 317**	PFAKE		17 06 40.0	+7.3
BFO			LR	LR		
	comp=Z,6µm,19.0s					
IBBN	**Ibbenburen**	**76.39 321**	*e*P	**P**	**17 06 32.7**	**0.0**
	comp=Z,821nm,1.3s					
IBBN			*e*S	**S**	**17 16 13.7**	**-1.4**
BNALP	**Bannalp**	**76.43 315**	⇓*i*P	**P**	**17 06 33.1**	**-0.2**
	comp=Z

comp=Z,392nm,1.1s
CDF Champ du Feu 77.05 317⇓*i*P P 17 06 36.0 -0.7
comp=Z,392nm,1.1s
RUND Rundenannen 77.06 329 *e*P P 17 06 35.5 -0.9
BER Bergen 77.07 329⇓*i*P P 17 06 36.2 -0.2
BER *e*S S 17 16 25.3 +3.0
BER IAMs_20 IAMs_20 17 46 42.2
comp=Z,14μm,21.8s
FOO Floro 77.11 331⇓*i*P P 17 06 34.6 -2.0
FOO *es*P **sP** 17 06 49.3 -3.5
FOO *e*PP **PP** 17 09 32.3 +2.0
ASK Askoy 77.13 330 *e*P P 17 06 36.6 -0.1
ASK *es*P **sP** 17 06 50.3 -2.7
ECH Echery 77.15 317 *e*P P 17 06 35.2 -1.9
ECH pmax pmax
comp=Z,424nm,1.7s
ECH MLR MLR
comp=Z,7μm,20.0s
ECH Echery 77.15 317⇓*e*P P 17 06 36.7 -0.5
ECH Echery 77.15 317 *e*P P 17 06 35.2 -1.9
comp=Z,424nm,1.7s
ECH LR LR
comp=Z,7μm,20.0s
BOURR Bourrignon 77.19 316⇓*i*P P 17 06 37.0 -0.4
comp=Z,672nm,1.9s
MOF Molkenrain 77.20 316⇓*e*P P 17 06 37.1 -0.5
KMY Karmoy 77.22 328 *e*P P 17 06 36.5 -0.8
KMY *es*P **sP** 17 06 50.9 -2.5
SENIN Lac Senin/Sane 77.25 315⇓*i*P P 17 06 38.0 0.0
comp=Z,688nm,1.7s
SUE Sulen 77.30 330⇓*i*P P 17 06 37.4 -0.2
SUE IVMs_BB IVMs_BB 17 47 17.4
comp=Z,6μm,12.4s
SAOF Saorge 77.34 312⇓*e*P P 17 06 38.0 -0.3
GRYON Gryon 77.39 315⇓*i*P P 17 06 38.5 -0.2
comp=Z,635nm,1.5s
HINF Hinteralfeld 77.39 316⇓*i*P P 17 06 37.6 -1.0
comp=Z,1μm,1.7s
HINF Hinteralfeld 77.39 316⇓*i*P P 17 06 37.6 -1.0
HINF pmax pmax
comp=Z,1μm,1.7s
HINF Hinteralfeld 77.39 316⇓*i*P P 17 06 37.6 -1.0
comp=Z,1μm,1.7s
AUTN L'Aution 77.43 313⇓*e*P P 17 06 38.9 -0.2
TORNY Torny/Romont 77.44 315⇓*i*P P 17 06 38.7 -0.2
comp=Z,1μm,1.4s
LOMF Lomont 77.46 316⇓*e*P P 17 06 38.4 -0.6
AIGLE Aigle 77.49 315⇓*i*P P 17 06 39.0 -0.2
comp=Z,695nm,1.8s
SALAN Lac Salanfe 77.50 315⇓*i*P P 17 06 39.2 -0.2
comp=Z,709nm,1.5s
REVF Revere 77.51 312 *e*P P 17 06 38.4 -0.9
TOUF Mont Tournerai 77.56 313⇓*e*P P 17 06 39.5 -0.3
EMV Vieux Emosson 77.56 315⇓*i*P P 17 06 39.7 -0.1
comp=Z,963nm,1.8s
MEM Membach 77.64 319 P P 17 06 39.7 -0.1
comp=Z,196nm,1.8s
MEM AP **pP** 17 06 50.9 -0.7
BOSA Boshof 77.64 236⇓*i*P P 17 06 41.2 +0.9
BOSA AMB AMB 17 06 53.7
comp=Z,810nm,1.7s
BOSA AMS AMS 17 40 25.2
comp=Z,15μm,17.3s
BOSA Boshof 77.64 236 P P 17 06 41.0 +0.7
comp=Z,212nm,0.9s,baz=70,slow=7.2,SNR=9.4
BOSA LR LR 17 35 56.0
comp=Z,15μm,22.0s,baz=75,slow=32
BOSA Boshof 77.64 236 *e*P P 17 06 41.0 +0.7
comp=Z,1.6nm,0.4s
MVIF Mont Vial 77.64 312⇓*e*P P 17 06 40.0 -0.2
WLF Walferdange 77.65 318 P P 17 06 40.5 +0.6
comp=Z,468nm,2.1s
WLF AP **pP** 17 06 51.8 +0.1
WLF Walferdange 77.65 318 *e*P P 17 06 40.2 +0.3
comp=Z,1μm,1.8s
WLF *e*S **S** 17 16 28.7 -0.3
WLF Walferdange 77.65 318 PFAKE 17 06 50.0 +10
WLF LR LR
comp=Z,10μm,19.0s
HGN Heimansgroeve 77.67 320 *e*P P 17 06 39.3 -0.6
comp=Z,490nm,1.7s
HGN *e*PP PP 17 09 43.4 +8.2
HGN *e*S S 17 16 18.0 -11
HGN *e*SS SS 17 21 45.7 +17
HGN *e*L L 17 31 24.8
comp=Z,2μm,21.5s
OG22 Abries 77.68 313⇓*e*P P 17 06 39.3 -1.1
HAU Haudompre 77.71 317⇓*i*P P 17 06 39.6 -0.7
comp=Z,1μm,1.3s
HAU *e*R
comp=Z,12μm,22.0s
HAU Haudompre 77.71 317⇓*i*P P 17 06 39.6 -0.7
HAU pmax pmax
comp=Z,1μm,1.3s
HAU Haudompre 77.71 317⇓*i*P P 17 06 39.6 -0.7
comp=Z,1μm,1.3s
LPG La Plagne 77.73 314⇓*i*P P 17 06 40.7 -0.1
comp=Z,1μm,1.0s
LPG La Plagne 77.73 314⇓*i*P P 17 06 40.7 -0.1
LPG pmax pmax
comp=Z,1μm,1.0s
LPG La Plagne 77.73 314⇓*i*P P 17 06 40.7 -0.1
comp=Z,1μm,1.0s
LPL La Plagne 77.74 314⇓*i*P P 17 06 40.6 -0.2
comp=Z,2μm,1.1s
LPL La Plagne 77.74 314⇓*i*P P 17 06 40.6 -0.2
LPL pmax pmax
comp=Z,2μm,1.1s
LPL La Plagne 77.74 314⇓*i*P P 17 06 40.6 -0.2
comp=Z,2μm,1.1s
BRANT Les Verrieres 77.75 316⇓*i*P P 17 06 40.4 -0.3
comp=Z,772nm,1.8s
RSL Roselend 77.80 314⇓*e*P P 17 06 40.5 -0.5
MBDF Montbardon 77.81 313⇓*i*P P 17 06 40.0 -1.1
comp=Z,712nm,1.1s
MBDF Montbardon 77.81 313⇓*i*P P 17 06 40.0 -1.1
MBDF pmax pmax
comp=Z,713nm,1.1s
MBDF Montbardon 77.81 313⇓*i*P P 17 06 40.0 -1.1
comp=Z,712nm,1.1s
SURF Saint Ours 77.81 313⇓*e*P P 17 06 41.1 -0.1
BEBN Eben Emael 77.82 320 P P 17 06 40.7 -0.1
comp=Z,120nm,2.1s
BEBN AP **pP** 17 06 52.2 -0.4
BNI Bardonecchia 77.84 314 PFAKE 17 06 50.0 +8.8
BNI LR LR
comp=Z,7μm,20.0s
CALN Calern 77.85 312⇓*e*P P 17 06 41.1 -0.2
THEF They Montfort 77.92 317⇓*e*P P 17 06 41.0 -0.5
GIMEL St. Georges / 77.94 315⇓*i*P P 17 06 41.6 -0.1
comp=Z,833nm,1.7s
FRF La Foret Royal 78.05 312⇓*i*P P 17 06 41.8 -0.4
comp=Z,2μm,1.4s
FRF La Foret Royal 78.05 312⇓*i*P P 17 06 41.8 -0.4
FRF pmax pmax
comp=Z,2μm,1.4s
FRF La Foret Royal 78.05 312⇓*i*P P 17 06 41.8 -0.4
comp=Z,2μm,1.4s
CABF La Chapelle 78.06 315⇓*i*P P 17 06 42.1 -0.2
comp=Z,2μm,1.4s
CABF La Chapelle 78.06 315⇓*i*P P 17 06 42.1 -0.2
CABF pmax pmax
comp=Z,2μm,1.4s
CABF La Chapelle 78.06 315⇓*i*P P 17 06 42.1 -0.2
comp=Z,2μm,1.4s
PAGF Fort de Pagny 78.06 317⇓*i*P P 17 06 41.8 -0.4
comp=Z,149nm,1.2s
PAGF Fort de Pagny 78.06 317⇓*i*P P 17 06 41.8 -0.4
comp=Z,149nm,1.2s
BCLA Clavier 78.11 319 P P 17 06 41.6 -0.7
comp=Z,182nm,1.6s
BCLA AP **PcP** 17 06 53.0 +1.1
LMR La Mourre 78.18 312⇓*i*P P 17 06 42.4 -0.5
comp=Z,1μm,1.4s
LMR La Mourre 78.18 312⇓*i*P P 17 06 42.4 -0.5
LMR pmax pmax
comp=Z,1μm,1.4s
LMR La Mourre 78.18 312⇓*i*P P 17 06 42.4 -0.5
comp=Z,1μm,1.4s
GDM Grand'Maison 78.21 314⇓*e*P P 17 06 42.8 -0.5
HVD Gariep Dam 78.23 234 *e*P P 17 06 44.8 +1.2
HVD AMB AMB 17 06 57.4
comp=Z,1μm,1.5s
HVD AMS AMS 17 34 51.6
comp=Z,19μm,24.8s
HVD Gariep Dam 78.23 234 P P 17 06 44.8 +1.2
HVD pmax pmax
comp=Z,1μm,1.5s
HVD Gariep Dam 78.23 234 P P 17 06 44.8 +1.2
comp=Z,1μm,1.5s
CMAH Djebel Manchou 78.41 305 P P 17 06 43.0 -1.5
ABSA Djebel Ababsia 78.42 305 P P 17 06 44.0 -0.6
ORIF Oris-en-Rattie 78.42 314⇓*i*P P 17 06 43.7 -0.7
comp=Z,630nm,1.2s
ORIF *e*R
comp=Z,9μm,19.8s
ORIF Oris-en-Rattie 78.42 314⇓*i*P P 17 06 43.7 -0.7
ORIF pmax pmax
comp=Z,630nm,1.2s
ORIF Oris-en-Rattie 78.42 314⇓*i*P P 17 06 43.7 -0.7
comp=Z,630nm,1.2s
GIVF Givet 78.45 319⇓*i*P P 17 06 44.1 -0.2
comp=Z,808nm,1.4s
GIVF Givet 78.45 319⇓*i*P P 17 06 44.1 -0.2
GIVF pmax pmax
comp=Z,808nm,1.4s
GIVF Givet 78.45 319⇓*i*P P 17 06 44.1 -0.2
comp=Z,808nm,1.4s
GRN Grenoble 78.47 314⇓*e*P P 17 06 44.8 +0.1
MEZF Maizieres J'vi 78.51 317⇓*i*P P 17 06 44.3 -0.4
comp=Z,1μm,1.6s,baz=90
MEZF Maizieres J'vi 78.51 317⇓*i*P P 17 06 44.3 -0.4
comp=Z,1μm,1.6s
GRM Grahamstown 78.55 232 *e*P P 17 06 46.6 +1.4
GRM AMB AMB 17 06 59.1
comp=Z,595nm,1.7s
GRM AMS AMS 17 34 00.3
comp=Z,20μm,22.9s
GRM Grahamstown 78.55 232 P P 17 06 46.6 +1.4
GRM pmax pmax
comp=Z,595nm,1.7s
GRM Grahamstown 78.55 232 P P 17 06 46.6 +1.4
comp=Z,595nm,1.7s
SFTF Sexfontaines 78.56 317⇓*i*P P 17 06 44.5 -0.5
comp=Z,2μm,1.4s,baz=86
SFTF Sexfontaines 78.56 317⇓*i*P P 17 06 44.5 -0.5
comp=Z,2μm,1.4s
DOU Dourbes 78.60 319 P P 17 06 45.1 0.0
comp=Z,220nm,1.6s
DOU AP **pP** 17 06 56.4 -0.6
RUDU RUNDU 78.65 248⇓*i*P P 17 06 47.6 +1.5
RUDU AMB AMB 17 07 00.4
comp=Z,628nm,3.0s
RUDU AMS AMS 17 38 16.4
comp=Z,42μm,20.0s
RUDU RUNDU 78.65 248 P P 17 06 47.6 +1.5
comp=Z,628nm,3.0s
UCC Uccle 78.65 320 P P 17 06 45.4 0.0
comp=Z,286nm,1.9s
UCC AP **PcP** 17 06 55.1 +0.9
LEPF PUYLOUBIER 78.73 312⇓*e*P P 17 06 45.8 -0.2
SNF Seneffe 78.74 319 AP pP 17 06 59.4 +1.7
SMRF Simiane la Rot 78.76 313⇓*i*P P 17 06 46.3 +0.1
comp=Z,1μm,1.4s
SMRF Simiane la Rot 78.76 313⇓*i*P P 17 06 46.3 +0.1
comp=Z,1μm,1.4s
CAEH 'Ain El Ouahch 78.84 305 P P 17 06 45.0 -1.8
BAIF Baives 78.85 319⇓*i*P P 17 06 46.4 -0.1
comp=Z,1μm,1.3s
BAIF Baives 78.85 319⇓*i*P P 17 06 46.4 -0.1
BAIF pmax pmax
comp=Z,1μm,1.3s
BAIF Baives 78.85 319⇓*i*P P 17 06 46.4 -0.1
comp=Z,1μm,1.3s
OG26 St.-Nazaire-De 78.87 313⇓*e*P P 17 06 47.0 +0.1
CKFL Kef-Lekhel 79.00 305 P P 17 06 47.0 -0.8
CASM Ain Smara 79.21 305 P P 17 06 48.4 -0.4
VIVF Saint-Julien-l 79.28 314⇓*i*P P 17 06 48.7 -0.3
comp=Z,1μm,1.4s
VIVF Saint-Julien-l 79.28 314⇓*i*P P 17 06 48.7 -0.3
VIVF pmax pmax
comp=Z,1μm,1.4s
VIVF Saint-Julien-l 79.28 314⇓*i*P P 17 06 48.7 -0.3
comp=Z,1μm,1.4s
CTEI Djebel Teioual 79.30 305 P P 17 06 49.8 +0.3
SSB Saint Sauveur 79.30 314 *e*P P 17 06 48.7 -0.5
SSB pmax pmax
comp=Z,581nm,1.5s
SSB MLR MLR
comp=Z,4μm,21.0s
SSB Saint Sauveur 79.30 314 *e*P P 17 06 48.7 -0.5
comp=Z,581nm,1.5s
SSB LR LR
comp=Z,4μm,21.0s
LOR Lormes 79.48 316⇓*i*P P 17 06 49.4 -0.7
comp=Z,1μm,1.3s,baz=83
LOR *e*R
comp=Z,9μm,21.2s
LOR Lormes 79.48 316⇓*i*P P 17 06 49.4 -0.7
LOR pmax pmax
comp=Z,1μm,1.3s
LOR Lormes 79.48 316⇓*i*P P 17 06 49.4 -0.7
comp=Z,1μm,1.3s
SMF Signal de Mont 79.58 316⇓*i*P P 17 06 50.0 -0.6
comp=Z,1μm,1.4s
SMF Signal de Mont 79.58 316⇓*i*P P 17 06 50.0 -0.6
SMF pmax pmax
comp=Z,1μm,1.4s
SMF Signal de Mont 79.58 316⇓*i*P P 17 06 50.0 -0.6
comp=Z,1μm,1.4s
DFRA Djebel Bou Aff 79.65 305 P P 17 06 51.0 -0.3
ADK Adak 79.69 39 PFAKE 17 07 00.0 +8.9
ADK LR LR
comp=Z,11μm,22.0s
SSF Saint Saulge 79.75 316⇓*i*P P 17 06 51.0 -0.5
comp=Z,1μm,1.4s
SSF Saint Saulge 79.75 316⇓*i*P P 17 06 51.0 -0.5
SSF pmax pmax
comp=Z,1μm,1.4s
SSF Saint Saulge 79.75 316⇓*i*P P 17 06 51.0 -0.5
comp=Z,1μm,1.4s
PLDF La Plantade 79.84 315⇓*e*P P 17 06 52.9 +0.8
COLF Collangettes 79.86 314⇓*e*P P 17 06 52.0 -0.2
AVF Avril sur Loir 79.89 316⇓*i*P P 17 06 51.7 -0.6
comp=Z,1μm,1.3s
AVF Avril sur Loir 79.89 316⇓*i*P P 17 06 51.7 -0.6
AVF pmax pmax
comp=Z,1μm,1.3s
AVF Avril sur Loir 79.89 316⇓*i*P P 17 06 51.7 -0.6
comp=Z,1μm,1.3s
MIR Mirnyy 79.94 180⇓*i*P P 17 06 53.0 +1.1
MIR *e*PS **S** 17 16 50.0 -2.4
MIR pmax pmax
comp=Z,5μm,4.0s
LASF Ste Croix 79.97 313⇓*i*P P 17 06 52.8 0.0
comp=Z,2μm,1.4s
LASF Ste Croix 79.97 313⇓*i*P P 17 06 52.8 0.0
comp=Z,2μm,1.4s
TARA Tarawa 80.01 91 *e*P P 17 06 54.2 +0.7
comp=Z,620nm,1.1s
TARA LR LR
comp=Z,7μm,22.0s
CKHR Kef el Ahmar 80.03 305 P P 17 06 53.0 -0.4
SET Setif 80.09 305 P P 17 06 58.0 +4.3
AGO Saint Agoulin 80.16 315⇓*e*P P 17 06 54.9 +1.1
LBL Lubilhac 80.22 314⇓*e*P P 17 06 55.2 +1.0
BUFB Buffelsbos 80.23 231 *e*P P 17 06 55.6 +1.3
BUFB AMB AMB 17 07 07.1
comp=Z,23nm,1.5s
BUFB Buffelsbos 80.23 231 P P 17 06 55.6 +1.3
comp=Z,23nm,1.5s
BGF Bois d'Agland 80.27 316⇓*i*P P 17 06 54.0 -0.4
comp=Z,1μm,1.4s
BGF Bois d'Agland 80.27 316⇓*i*P P 17 06 54.0 -0.4
BGF pmax pmax
comp=Z,1μm,1.4s
BGF Bois d'Agland 80.27 316⇓*i*P P 17 06 54.0 -0.4
comp=Z,1μm,1.4s
GAMB Gambell 80.29 27 *e*P P 17 06 53.8 -0.2
comp=Z,212nm,1.2s
PYM Petit Puy Mans 80.30 315⇓*e*P P 17 06 55.6 +1.0
HYF Humbligny 80.30 316⇓*i*P P 17 06 54.6 +0.1
HYF Humbligny 80.30 316⇓*i*P P 17 06 54.6 +0.1
LRW Lerwick 80.32 330 *e*P P 17 06 53.9 -0.4
LRW AMB AMB 17 06 56.8
comp=Z,300nm,1.6s
LRW AMS AMS 17 49 15.8
comp=Z,13μm,18.1s
CASY Casey 80.74 173 *e*P P 17 06 56.6 +0.4
comp=Z,520nm,1.1s
CASY LR LR
comp=Z,31μm,21.0s
TCF Toulx Ste Croi 80.75 315⇓*i*P P 17 06 56.8 -0.2
comp=Z,1μm,1.3s
TCF Toulx Ste Croi 80.75 315⇓*i*P P 17 06 56.8 -0.2
TCF pmax pmax
comp=Z,1μm,1.3s
TCF Toulx Ste Croi 80.75 315⇓*i*P P 17 06 56.8 -0.2
comp=Z,1μm,1.3s
JMIC Jan Mayen 80.91 341 *e*P P 17 06 58.1 +0.9
JMIC *e*PP **PP** 17 10 02.4 +0.8
JMIC *e*S **S** 17 17 08.2 +5.4
JMIC IAMs_20 IAMs_20 17 42 16.5
comp=Z,10μm,20.6s
JMIC Jan Mayen 80.91 341 P P 17 06 58.0 +0.7
comp=Z,63nm,0.4s,baz=260,slow=2.6,SNR=4.1
SJAF Saint Jean de 80.94 311⇓*e*P P 17 06 57.5 -0.5
ATAF Djebel Tarf 81.04 305 P P 17 06 59.2 +0.4
CAF Calviac 81.09 314⇓*i*P P 17 06 58.7 -0.1
comp=Z,968nm,1.4s
CAF Calviac 81.09 314⇓*i*P P 17 06 58.7 -0.1
CAF pmax pmax
comp=Z,968nm,1.4s
CAF Calviac 81.09 314⇓*i*P P 17 06 58.7 -0.1
comp=Z,968nm,1.4s
LRDF Laroque-de-Fa 81.11 312⇓*e*P P 17 07 01.0 +2.1
FILF Fillols 81.16 312⇓*e*P P 17 06 59.3 0.0
MTLF Montolieu 81.27 312⇓*i*P P 17 06 59.6 -0.1
comp=Z,1μm,1.4s
MTLF Montolieu 81.27 312⇓*i*P P 17 06 59.6 -0.1
MTLF pmax pmax
comp=Z,1μm,1.4s
MTLF Montolieu 81.27 312⇓*i*P P 17 06 59.6 -0.1
comp=Z,1μm,1.4s
RJF Les Rejaudoux 81.41 314⇓*i*P P 17 07 00.5 +0.1
comp=Z,1μm,1.3s
RJF *e*R
comp=Z,3μm,20.5s
RJF Les Rejaudoux 81.41 314⇓*i*P P 17 07 00.5 +0.1
RJF pmax pmax
comp=Z,1μm,1.3s
RJF Les Rejaudoux 81.41 314⇓*i*P P 17 07 00.5 +0.1
comp=Z,1μm,1.3s
CARF Carcanieres 81.46 312⇓*e*P P 17 07 00.4 -0.5
TNA Tin City 81.49 25 *e*P P 17 07 00.1 -0.3
comp=Z,5μm,1.1s
VALF Valcebollere 81.58 312⇓*e*P P 17 07 02.1 +0.5
DRUM Mains of Drumt 81.62 326 *e*P P 17 07 01.2 -0.1
DRUM AMB AMB 17 07 03.1
comp=Z,588nm,1.8s
DRUM AMS AMS 17 48 14.1
comp=Z,8μm,18.4s
DAG Danmarks Havn 81.64 347⇓*i*P P 17 07 00.0 -1.0
comp=Z,58nm,0.9s
DAG *i* 17 07 11.8
DAG *i*S **S** 17 17 07.3 -2.9
KBI1 Birley Grange 81.83 323 *e*P P 17 07 00.9 -1.6
ABA Alger-Bouzarea 81.86 306 P P 17 07 03.7 +0.7
LDF La Druitiere 81.89 318⇓*i*P P 17 07 02.4 -0.5
comp=Z,531nm,0.8s
LDF La Druitiere 81.89 318⇓*i*P P 17 07 02.4 -0.5
LDF pmax pmax
comp=Z,531nm,0.8s
LDF La Druitiere 81.89 318⇓*i*P P 17 07 02.4 -0.5
comp=Z,531nm,0.8s
MCD Coleburn Disti 81.89 327 *e*P P 17 07 03.1 +0.4
XAL Allendale 81.90 324 *e*P P 17 07 02.3 -0.5
EDU Dundee 81.98 326 *e*P P 17 07 03.4 +0.2
LFF La Frestale 82.02 314⇓*i*P P 17 07 03.8 +0.2
comp=Z,2μm,1.5s
LFF La Frestale 82.02 314⇓*i*P P 17 07 03.8 +0.2
LFF pmax pmax
comp=Z,2μm,1.5s
LFF La Frestale 82.02 314⇓*i*P P 17 07 03.8 +0.2
comp=Z,2μm,1.5s
EMHD Djebel Mahouad 82.03 305 P P 17 07 04.9 +0.8
WOL Wolverton 82.04 321 *e*P P 17 07 03.6 0.0
WOL AMB AMB 17 07 05.4
comp=Z,893nm,1.8s
WOL AMS AMS 17 55 33.5
comp=Z,6μm,18.0s
FLN La Foliniere 82.09 318⇓*i*P P 17 07 03.4 -0.5
comp=Z,829nm,1.1s,baz=81
FLN *e*R
comp=Z,14μm,22.5s
FLN La Foliniere 82.09 318⇓*i*P P 17 07 03.4 -0.5
FLN pmax pmax
comp=Z,829nm,1.0s
FLN La Foliniere 82.09 318⇓*i*P P 17 07 03.4 -0.5
comp=Z,829nm,1.0s
EBL Broad Law 82.17 325 *e*P P 17 07 03.5 -0.7
STNC Stoke 82.26 323 *e*P P 17 07 05.4 +0.7
STNC AMB AMB 17 07 08.5
comp=Z,459nm,3.0s
STNC AMS AMS 17 48 23.1
comp=Z,7μm,21.0s
MFF Saint Martin d 82.30 316⇓*i*P P 17 07 04.6 -0.5
comp=Z,1μm,1.2s
MFF Saint Martin d 82.30 316⇓*i*P P 17 07 04.6 -0.5
MFF pmax pmax
comp=Z,1μm,1.2s
MFF Saint Martin d 82.30 316⇓*i*P P 17 07 04.6 -0.5
comp=Z,1μm,1.2s
MVH1 Achvaich 82.30 328 *e*P P 17 07 04.1 -0.7
ECK Cauldkaine Hil 82.34 325 *e*P P 17 07 03.4 -1.8
SWN1 Swindon 82.35 321 *e*P P 17 07 05.0 -0.3
SWN1 AMB AMB 17 07 07.1
comp=Z,807nm,1.7s
SWN1 AMS AMS 17 52 10.8
comp=Z,9μm,17.6s
ESK Eskdalemuir 82.36 325 P P 17 07 05.0 -0.1
comp=Z,965nm,1.1s,SNR=10
ESK Eskdalemuir 82.36 325 *e*P P 17 07 05.1 -0.1
ESK AMB AMB 17 07 06.9
comp=Z,263nm,1.8s
ESK AMS AMS 17 55 03.8
comp=Z,7μm,19.1s
ESK Eskdalemuir 82.36 325 *i*P P 17 07 06.0 +0.8
ESK Eskdalemuir 82.36 325 PFAKE 17 07 20.0 +15
ESK LR LR
comp=Z,7μm,20.0s
MELF Melles 82.41 312⇓*e*P P 17 07 07.8 +2.0
GRR Gorron 82.41 318⇓*i*P P 17 07 05.0 -0.6
comp=Z,506nm,1.2s
GRR Gorron 82.41 318⇓*i*P P 17 07 05.0 -0.6
GRR pmax pmax
comp=Z,506nm,1.2s
GRR Gorron 82.41 318⇓*i*P P 17 07 05.0 -0.6
comp=Z,506nm,1.2s
WIN Windhoek 82.44 245 *e*P P 17 07 08.1 +1.7
WIN AMB AMB 17 07 20.9
comp=Z,186nm,2.9s
WIN AMS AMS 17 40 05.0
comp=Z,8μm,20.4s
WIN Windhoek 82.44 245 P P 17 07 08.1 +1.7
WIN pmax pmax
comp=Z,186nm,2.9s
WIN Windhoek 82.44 245 P P 17 07 08.1 +1.7
comp=Z,186nm,2.9s
TAM Tamanrasset 82.44 292 *e*P P 17 07 06.7 +0.2
TAM pmax pmax
comp=Z,356nm,1.5s
TAM MLR MLR
comp=Z,19μm,20.0s
TAM Tamanrasset 82.44 292 *e*P P 17 07 06.7 +0.2
comp=Z,356nm,1.5s
TAM LR LR
comp=Z,19μm,20.0s
KESW Keswick, Cumbr 82.46 324 *e*P P 17 07 04.5 -1.3
KESW AMS AMS 17 45 46.2
comp=Z,8μm,25.5s
MDO Dochfour 82.50 327 *e*P P 17 07 05.3 -0.6
STRD Stroud 82.52 321 *e*P P 17 07 04.5 -1.7
STRD AMB AMB 17 07 07.5
comp=Z,531nm,1.8s
STRD AMS AMS 17 47 14.6
comp=Z,8μm,21.1s
SUR Sutherland 82.61 234 P P 17 07 09.8 +2.7
comp=Z,1μm,1.3s,SNR=16
SUR Sutherland 82.61 234 P P 17 07 09.3 +2.2
SNR=20
SUR Sutherland 82.61 234 PFAKE 17 07 20.0 +13
SUR LR LR
comp=Z,23μm,20.0s
EPF Esparros 82.68 312⇓*i*P P 17 07 06.2 -1.0
comp=Z,401nm,1.4s
EPF Esparros 82.68 312⇓*i*P P 17 07 06.2 -1.0
EPF pmax pmax

comp=Z,401nm,1.4s
EPF Esparros 82.68 312⇓*i*P P 17 07 06.2 -1.0
comp=Z,401nm,1.4s
LCHF La Chataignera 82.68 316⇓*e*P P 17 07 07.4 +0.3
BATH Bath 82.69 321 *e*P P 17 07 06.7 -0.3
BATH AMS AMS 17 52 21.8
comp=Z,8μm,16.4s
EAB Aberfoyle 82.78 326 *e*P P 17 07 07.7 +0.4
HLM1 Long Mynd 82.79 322 *e*P P 17 07 07.5 0.0
HLM1 AMB AMB 17 07 08.4
comp=Z,263nm,1.8s
LABF Labassere 82.86 312⇓*e*P P 17 07 07.5 -0.7
MONM Monmouth 82.89 322 *e*P P 17 07 07.9 -0.2
MONM AMB AMB 17 07 08.7
comp=Z,339nm,1.6s
MONM AMS AMS 17 47 35.6
comp=Z,7μm,27.0s
FOEL Foel Wylfa 82.89 323 *e*P P 17 07 07.5 -0.6
FOEL AMB AMB 17 07 10.0
comp=Z,283nm,1.8s
FOEL AMS AMS 17 42 12.2
comp=Z,6μm,32.3s
VIEF Viey 82.93 312⇓*e*P P 17 07 08.8 +0.2
PGBU Glenifferbraes 82.95 326 *e*P P 17 07 08.6 +0.4
PGBU AMB AMB 17 07 10.4
comp=Z,405nm,1.7s
PGBU AMS AMS 17 46 43.3
comp=Z,11μm,25.1s
MCH1 Michaelchurch 82.97 322 *e*P P 17 07 08.3 -0.2
MCH1 AMB AMB 17 07 09.9
comp=Z,183nm,2.0s
MCH1 AMS AMS 17 47 38.3
comp=Z,7μm,23.1s
KAC Achnashellach 82.98 327 *e*P P 17 07 06.8 -1.6
JSA Saint Aubin 83.08 319 *e*P P 17 07 08.9 -0.2
JSA AMB AMB 17 07 11.3
comp=Z,264nm,1.8s
JSA AMS AMS 17 57 18.5
comp=Z,5μm,17.1s
KSB Sheil Bridge 83.12 327 *e*P P 17 07 09.4 +0.4
EBNR Beni Rached 83.14 306 P P 17 07 11.0 +1.2
REYF Montagne du Re 83.19 313⇓*e*P P 17 07 09.5 -0.4
KPL Plockton 83.20 327 *e*P P 17 07 10.8 +1.3
KPL AMB AMB 17 07 11.9
comp=Z,234nm,1.7s
KPL AMS AMS 17 47 25.6
comp=Z,11μm,22.6s
WPM1 Penmaenmawr 83.22 323 *e*P P 17 07 09.3 -0.5
ECHA Ech Chlef 83.30 305 P P 17 07 11.5 +1.0
ETSF Etsaut 83.35 312⇓*i*P P 17 07 10.8 +0.1
comp=Z,863nm,1.4s
ETSF Etsaut 83.35 312⇓*i*P P 17 07 10.8 +0.1
ETSF pmax pmax
comp=Z,863nm,1.4s
ETSF Etsaut 83.35 312⇓*i*P P 17 07 10.8 +0.1
comp=Z,863nm,1.4s
YLL Llanberis 83.41 323 *e*P P 17 07 11.0 +0.4
ATE Arette 83.41 313⇓*e*P P 17 07 10.3 -0.7
WME Myndd Eilian 83.42 323 *e*P P 17 07 11.2 +0.5
WLF1 Llynfaes 83.50 323 *e*P P 17 07 11.5 +0.4
WLF1 AMB AMB 17 07 13.2
comp=Z,318nm,1.8s
WLF1 AMS AMS 17 52 47.8
comp=Z,7μm,17.6s
ETRT Tiaret 83.51 305 P P 17 07 13.5 +1.7
SGMF Saint Gilles 83.54 318⇓*i*P P 17 07 11.1 -0.4
comp=Z,1μm,1.5s
SGMF Saint Gilles 83.54 318⇓*i*P P 17 07 11.1 -0.4
SGMF pmax pmax
comp=Z,1μm,1.5s
SGMF Saint Gilles 83.54 318⇓*i*P P 17 07 11.1 -0.4
comp=Z,1μm,1.5s
EANR `Ain N'Sour 83.55 305 P P 17 07 12.8 +0.9
LPW Lampeter 83.59 322 *e*P P 17 07 11.9 +0.3
LPW AMB AMB 17 07 13.6
comp=Z,331nm,1.8s
LPW AMS AMS 17 52 42.4
comp=Z,7μm,15.9s
YRE Yr Eifl 83.59 323 *e*P P 17 07 10.6 -1.0
YRC Rhoscolyn 83.62 323 *e*P P 17 07 12.6 +0.9
LARF Larrau 83.63 313⇓*e*P P 17 07 12.4 +0.3
SJPF Ste Jean 83.78 313⇓*i*P P 17 07 13.0 +0.1
comp=Z,1μm,1.4s
SJPF Ste Jean 83.78 313⇓*i*P P 17 07 13.0 +0.1
SJPF pmax pmax
comp=Z,1μm,1.4s
SJPF Ste Jean 83.78 313⇓*i*P P 17 07 13.0 +0.1
comp=Z,1μm,1.4s
MAW Mawson 83.88 191 P P 17 07 14.4 +1.9
comp=Z,72nm,1.0s,baz=22,slow=6.7,SNR=12
MAW LR LR 17 38 07.0
comp=Z,10μm,21.4s,baz=22,slow=31
DYA Yadsworthy 83.91 320 *e*P P 17 07 12.9 -0.4
DYA AMB AMB 17 07 14.9
comp=Z,308nm,1.6s
DYA AMS AMS 17 53 05.8
comp=Z,10μm,16.5s
OJGS Djebel Guires 83.93 305 P P 17 07 15.0 +1.1
ROSF Rostrenen 83.99 318⇓*i*P P 17 07 13.4 -0.4
comp=Z,1μm,1.4s
ROSF Rostrenen 83.99 318⇓*i*P P 17 07 13.4 -0.4
ROSF pmax pmax
comp=Z,1μm,1.4s
ROSF Rostrenen 83.99 318⇓*i*P P 17 07 13.4 -0.4
comp=Z,1μm,1.4s
QUIF Quistinic 84.02 318⇓*i*P P 17 07 13.2 -0.7
comp=Z,995nm,1.5s
QUIF Quistinic 84.02 318⇓*i*P P 17 07 13.2 -0.7
QUIF pmax pmax
comp=Z,995nm,1.5s
QUIF Quistinic 84.02 318⇓*i*P P 17 07 13.2 -0.7
comp=Z,995nm,1.5s
HTL Hartland 84.11 321 *e*P P 17 07 14.3 0.0
HTL AMB AMB 17 07 16.3
comp=Z,342nm,1.7s
HTL AMS AMS 17 56 19.7
comp=Z,7μm,16.5s
ELIM Elim 84.23 233 *e*P P 17 07 15.9 +0.7
ELIM AMB AMB 17 07 29.1
comp=Z,526nm,2.7s
ELIM Elim 84.23 233 P P 17 07 15.9 +0.7
comp=Z,526nm,2.7s
KOMG Komaggas 84.40 238 *e*P P 17 07 17.4 +1.2
KOMG AMB AMB 17 07 30.2
comp=Z,527nm,2.9s
KOMG Komaggas 84.40 238 P P 17 07 17.4 +1.2
comp=Z,527nm,2.9s
ODJA Bouhanifia 84.68 305 P P 17 07 14.0 -3.6
USTO Oran 84.91 305 P P 17 07 20.0 +1.3
UNV Unalaska Valle 85.29 36 *e*P P 17 07 20.6 +0.5
comp=Z,104nm,1.1s
OLHC Oulhaca 85.71 305 P P 17 07 16.0 -6.8
ESDC Sonseca Array 86.60 310 P P 17 07 26.8 -0.3
comp=Z,40nm,0.8s,baz=61,slow=4.7,SNR=70
ESDC LR LR 17 52 36.7
comp=Z,2μm,18.4s,baz=110,slow=40
PAB San Pablo 86.92 310 *e*P P 17 07 28.2 -0.5
PAB pmax pmax
comp=Z,209nm,1.1s
PAB MLR MLR
comp=Z,4μm,20.0s
PAB San Pablo 86.92 310 *e*P P 17 07 28.1 -0.5
comp=Z,209nm,1.1s
PAB LR LR
comp=Z,4μm,20.0s
DRV Dumont d'Urvil 87.19 163 P P 17 07 08.0 -21
DRV PP **PP 17 10 50.0 -3.5**
DRV S S 17 17 25.0 -41
DRV SS SS 17 23 26.0 -24
DRV L L 17 29 00.0
DRV R 17 34 00.0
VAL Valentia 87.30 323 *e*P P 17 07 29.9 -0.2
VAL Valentia 87.30 323⇓*i*S S 17 18 09.0 +1.5
COLD Coldfoot 87.48 20 *e*P P 17 07 31.0 +0.3
comp=Z,322nm,1.4s
BORG Borgarnes 87.69 337 P P 17 07 34.9 +3.2
comp=Z,1μm,1.7s,SNR=6.5
BORG Borgarnes 87.69 337 P P 17 07 31.6 -0.1
BORG pmax pmax
comp=Z,495nm,1.1s
BORG MLR MLR
comp=Z,10μm,20.0s
BORG Borgarnes 87.69 337 P P 17 07 33.9 +2.2
comp=Z,140nm,1.0s,baz=100,slow=3.9,SNR=12
BORG Borgarnes 87.69 337 P P 17 07 31.6 -0.1
comp=Z,495nm,1.1s

BORG LR LR
comp=Z,10μm,20.0s
MCQ Macquarie Isla 87.71 148 *e*P P 17 07 31.2 -0.6
MCQ Macquarie Isla 87.71 148 *e*P P 17 07 31.2 -0.6
PBRG Braganca 88.06 312 *e*P P 17 07 34.0 -0.1
comp=Z,276nm,2.0s
PBRG pP **pP 17 07 45.9 -0.1**
PBRG Braganca 88.06 312 *e*S S 17 18 11.5 -3.9
TORD Torodi Ar. Bea 88.09 283 P P 17 07 34.8 +0.1
comp=Z,94nm,1.1s,baz=82,slow=3.8,SNR=277
TORD PP **PP 17 11 02.2 +0.4**
comp=Z,22nm,1.1s,baz=62,slow=4.2,SNR=5.0
TORD PKKPbc **PKKPbc 17 25 20.1 +1.1**
comp=Z,3.1nm,1.0s,baz=294,slow=1.7,SNR=8.9
TORD PKPPKP P'P'df 17 33 22.1 -7.4
comp=Z,0.9nm,1.1s,baz=310,slow=3.9,SNR=3.6
TORD LR LR 17 50 26.6
comp=Z,6μm,18.1s,baz=75,slow=38
SUMG Summit 88.31 347⇓*i*P P 17 07 34.8 -0.3
comp=Z,129nm,0.9s
SUMG *i* 17 07 47.9
MVO Moncorvo 88.45 312 *e*P P 17 07 37.3 +1.3
comp=Z,323nm,2.0s
MVO pP **pP 17 07 48.1 +0.2**
MVO Moncorvo 88.45 312 *e*S S 17 18 30.3 +11
PPLA Purkeypile 88.85 25 *e*P P 17 07 38.0 +0.5
comp=Z,110nm,2.3s
PVRL Vila Real 88.91 312 *e*P P 17 07 39.4 +1.3
comp=Z,386nm,1.9s
PVRL pP **pP 17 07 52.1 +2.0**
POLO Lamas de Olo 88.94 312 *i*P P 17 07 38.1 -0.2
comp=Z,162nm,2.0s
POLO pP **pP 17 07 50.5 +0.2**
POLO Lamas de Olo 88.94 312 *e*S SKSac 17 17 52.7 -13
PCAB Cabril 89.01 313 *i*P P 17 07 38.6 +0.1
comp=Z,441nm,1.3s
PCAB pP **pP 17 07 52.3 +1.8**
KTH Kantishna Hill 89.03 24 *e*P P 17 07 37.5 -0.8
comp=Z,45nm,0.9s
MTE Manteigas 89.04 311 *e*P P 17 07 39.5 +0.7
comp=Z,594nm,1.6s
MTE pP **pP 17 07 53.0 +2.2**
MTE Manteigas 89.04 311 *e*S S 17 18 28.2 +3.4
MTE Manteigas 89.04 311 *e*LR LR 17 38 30.9
comp=Z,4μm,22.0s
MTE Manteigas 89.04 311 PFAKE 17 07 50.0 +11
MTE LR LR
comp=Z,4μm,20.0s
PGAV Gavieira, Arco 89.10 313 *e*P P 17 07 39.2 +0.1
comp=Z,412nm,1.5s
PGAV pP **pP 17 07 51.0 -0.1**
PGAV Gavieira, Arco 89.10 313 *e*S S 17 18 37.5 +12
PGAV Gavieira, Arco 89.10 313 *e*LR LR 17 38 12.0
comp=Z,5μm,18.0s
MSZ Milford Sound 89.14 136 PN **P 17 07 40.5 +1.6**
PCBR Castelo Branco 89.16 311 *e*P P 17 07 40.0 +0.8
comp=Z,415nm,1.7s
PCBR pP **pP 17 07 51.3 +0.1**
PVIS Viseu 89.20 312 *i*P P 17 07 40.2 +0.7
comp=Z,500nm,1.8s
PVIS pP **pP 17 07 53.7 +2.2**
PMRV Marv??o 89.21 310 *e*P P 17 07 38.1 -1.4
comp=Z,328nm,1.8s
PMRV pP **pP 17 07 51.7 +0.2**
PMRV Marv??o 89.21 310 *e*S S 17 18 33.4 +7.1
PMRV Marv??o 89.21 310 *e*LR LR 17 38 49.1
comp=Z,3μm,18.0s
PBAR Barrancos 89.31 309 *i*P P 17 07 40.5 +0.5
comp=Z,2μm,1.8s
PBAR pP **pP 17 07 52.4 +0.4**
PBAR Barrancos 89.31 309 *e*S S 17 18 21.1 -6.1
TRF Thorofare Moun 89.33 24 *e*P P 17 07 39.6 -0.1
comp=Z,183nm,0.8s
COLA College 89.51 22⇑*i*P P 17 07 40.9 +0.6
COLA pmax pmax
comp=Z,102nm,0.8s
COLA MLR MLR
comp=Z,45μm,23.0s
COLA College 89.51 22 *e*P P 17 07 39.1 -1.2
comp=Z,94nm,0.9s
COLA LR LR
comp=Z,11μm,20.0s
PESTR Estremoz 89.52 310 *e*P P 17 07 40.3 -0.7
comp=Z,240nm,2.1s
PESTR pP **pP 17 07 53.1 +0.1**
PESTR Estremoz 89.52 310 *e*S S 17 18 24.4 -4.8
WHZ Wether Hill Ro 89.57 138 PN **P 17 07 40.9 +0.1**
WHZ Wether Hill Ro 89.57 138 *e*P P 17 07 40.6 -0.2
comp=Z,223nm,0.9s
MCK McKinley 89.71 23 *e*P P 17 07 41.1 -0.2
MCK pmax pmax
comp=Z,1μm,1.3s
MCK McKinley 89.71 23 *e*P P 17 07 41.1 -0.2
comp=Z,1μm,1.3s
RSO Redoubt South 89.75 27 *e*P P 17 07 40.4 -1.5
comp=Z,402nm,0.8s
PCAS Casmilo, Conde 89.84 311 *e*P P 17 07 43.0 +0.5
comp=Z,385nm,2.2s
PCAS pP **pP 17 07 54.7 +0.3**
PCAS Casmilo, Conde 89.84 311 *e*S S 17 18 18.8 -13
PTOM Tomar 89.91 311 *e*P P 17 07 43.0 +0.2
comp=Z,1μm,2.0s
PTOM pP **pP 17 07 54.4 -0.3**
APZ The Paps 89.92 138 PN **P 17 07 42.7 +0.2**
ILAR Eielson Array 89.92 22 P **P 17 07 41.1 -1.1**
comp=Z,36nm,0.7s,baz=298,slow=4.2,SNR=135
ILAR PP **PP 17 11 16.8 +2.0**
comp=Z,23nm,0.9s,baz=296,slow=7.0,SNR=7.0
ILAR PKKPbc **PKKPbc 17 25 17.5 +1.4**
comp=Z,2.3nm,0.9s,baz=166,slow=1.5,SNR=5.7
ILAR PKPPKP **P'P'df 17 33 29.1 +4.1**
comp=Z,1.1nm,1.0s,baz=167,slow=4.3,SNR=4.7
ILAR LR LR 17 53 52.1
comp=Z,11μm,18.5s,baz=306,slow=39
WKZ Wanaka 89.92 136 PN **P 17 07 44.2 +1.6**
WKZ PP **PP 17 11 16.2 +0.3**
PMTG Montargil 89.94 310 *i*P P 17 07 43.0 +0.1
comp=Z,357nm,1.9s
PMTG pP **pP 17 07 55.0 +0.1**
PMTG Montargil 89.94 310 *e*S S 17 18 34.2 +1.2
EVO Evora 89.94 310 *e*P P 17 07 42.7 -0.2
comp=Z,1μm,1.8s
EVO *e*R
comp=Z,6μm,23.0s
EVO Evora 89.94 310 *i*P P 17 07 43.4 +0.5
comp=Z,334nm,2.1s
EVO pP **pP 17 07 54.8 -0.1**
KULLO Kullorsuaq 90.01 352⇓*i*P P 17 07 42.6 +0.1
comp=Z,380nm,0.8s
KULLO *i* 17 07 54.9
EVOP Sao Brissos 90.02 310 *e*P P 17 07 42.7 -0.6
EVOP pmax pmax
comp=Z,1μm,1.8s
EVOP Sao Brissos 90.02 310 *e*P P 17 07 42.7 -0.6
comp=Z,1μm,1.8s
PVAQ Vaqueiros 90.05 308 *i*P P 17 07 43.9 +0.4
comp=Z,705nm,1.6s
PVAQ pP **pP 17 07 55.8 +0.4**
PVAQ Vaqueiros 90.05 308 *e*S S 17 18 36.9 +2.8
PVAQ Vaqueiros 90.05 308 *e*LR LR 17 39 04.1
comp=Z,5μm,18.0s
PCVE Castro Verde 90.23 309 *i*P P 17 07 44.7 +0.4
comp=Z,116nm,1.9s
PCVE pP **pP 17 07 55.9 -0.4**
PCVE Castro Verde 90.23 309 *e*S S 17 18 35.7 0.0
PBDV Barranco-do-Ve 90.26 308 *i*P P 17 07 45.2 +0.7
comp=Z,865nm,1.9s
PBDV pP **pP 17 07 59.0 +2.5**
PBDV Barranco-do-Ve 90.26 308 *e*S S 17 18 30.0 -6.1
MESJ Messejana 90.30 309 *e*P P 17 07 44.2 -0.4
MESJ AMS AMS 17 56 18.3
comp=Z,5μm,17.7s
MESJ Messejana 90.30 309 *i*P P 17 07 45.2 +0.6
comp=Z,459nm,1.7s
MESJ pP **pP 17 07 58.9 +2.3**
MESJ Messejana 90.30 309 *e*P P 17 07 44.2 -0.4
RTC Rabat Centre 90.37 305 *e*P P 17 07 46.0 +1.1
comp=Z,119nm,0.4s
RTC LR LR
comp=Z,6μm,20.0s
PNCL Nicolau / Gran 90.45 309 *i*P P 17 07 46.0 +0.7
comp=Z,407nm,1.5s
PNCL pP **pP 17 07 57.2 -0.1**
PNCL Nicolau / Gran 90.45 309 *e*S S 17 18 38.1 +0.3
PACT Alcochete 90.48 310 *i*P P 17 07 46.9 +1.5
comp=Z,804nm,1.6s

SYO Syowa Base 90.50 197⇑*i*P P 17 07 44.2 -0.5
SYO Syowa Base 90.50 197⇓*i*PcP PcP 17 07 47.5 +1.7
LIS Lisbon 90.73 310 *e*P P 17 07 46.4 -0.2
LIS AMS AMS 17 56 48.9
comp=E,4μm,21.7s
LIS Lisbon 90.73 310 *e*P P 17 07 46.4 -0.2
comp=E,617nm,1.8s
LIS Lisbon 90.73 310 *e*P P 17 07 47.1 +0.5
comp=E,617nm,1.8s
LIS pP **pP 17 08 00.8 +2.2**
LIS Lisbon 90.73 310 *e*P P 17 07 46.4 -0.2
RC01 Rabbit Creek A 90.74 26 *e*P P 17 07 46.1 -0.1
comp=E,928nm,1.1s
PMST Lisbon--Monsan 90.75 310 *e*P P 17 07 47.3 +0.6
comp=E,584nm,2.0s
PMST pP **pP 17 08 01.0 +2.3**
PMAFR Mafra 90.76 310 *i*P P 17 07 47.3 +0.6
comp=E,810nm,1.5s
PMAFR pP **pP 17 08 00.9 +2.2**
PMAFR Mafra 90.76 310 *e*S S 17 18 39.7 -0.9
PTEO Sao Teotonio 90.77 309 *e*P P 17 07 48.4 +1.6
comp=E,852nm,1.8s
PTEO pP **pP 17 07 58.7 -0.1**
MORF Marmelete 90.79 309 *e*P P 17 07 46.6 -0.4
MORF AMS AMS 18 02 20.4
comp=E,4μm,19.2s
MORF Marmelete 90.79 309 *i*P P 17 07 47.6 +0.6
comp=E,569nm,1.6s
MORF pP **pP 17 07 59.9 +0.9**
MORF Marmelete 90.79 309 *e*S S 17 18 48.4 +7.4
MORF Marmelete 90.79 309 *e*P P 17 07 46.6 -0.4
DSZ Denniston Nort 90.88 133 PN **P 17 07 47.4 +0.2**
PFVI Vila Bisbo 90.97 308 *i*P P 17 07 48.4 +0.6
comp=E,712nm,1.9s
PFVI pP **pP 17 07 59.8 0.0**
PFVI Vila Bisbo 90.97 308 *e*S S 17 18 38.7 -3.9
OHAK Old Harbor 91.00 30 *e*P P 17 07 47.5 +0.1
comp=E,1μm,1.5s
KDAK Kodiak Island 91.08 29 P **P 17 07 48.0 +0.2**
comp=E,1μm,1.8s,SNR=16
KDAK Kodiak Island 91.08 29 *i*P P 17 07 48.2 +0.4
KDAK Kodiak Island 91.08 29 PFAKE 17 08 00.0 +12
KDAK LR LR
comp=Z,22μm,20.0s
ODZ Otahua Downs 91.08 136 PN **P 17 07 48.0 0.0**
SEW Seward 91.36 26 *e*P P 17 07 48.9 -0.2
comp=Z,1μm,1.3s
PAX Paxson 91.44 23 *e*P P 17 07 49.5 0.0
PAX pmax pmax
comp=Z,249nm,1.1s
PAX Paxson 91.44 23 *e*P P 17 07 49.5 0.0
comp=Z,249nm,1.1s
DOT Dot Lake 91.57 22 *e*P P 17 07 49.6 -0.4
comp=Z,204nm,1.1s
RES Resolute Bay 91.75 2 PKKPbc PKKPbc 17 25 10.6 -1.0
comp=Z,5.7nm,1.1s,baz=213,slow=2.4,SNR=5.3
RES LR LR 17 52 17.5
comp=Z,2μm,20.8s,baz=342,slow=38
INK Inuvik 91.84 16 P **P 17 07 51.1 0.0**
baz=315,slow=5.4
INK PKKPbc **PKKPbc 17 25 10.3 -0.9**
comp=Z,2.2nm,0.8s,baz=102,slow=1.9,SNR=3.1
INK PKPPKP **P'P'df 17 33 25.6 +4.4**
comp=Z,2.0nm,0.9s,baz=266,slow=7.2,SNR=3.7
INK LR LR 17 57 10.9
comp=Z,8μm,18.4s,baz=310,slow=41
INK Inuvik 91.84 16 *e*P P 17 07 50.9 -0.2
comp=Z,2.6nm,0.4s
INK PKKPbc **PKKPbc 17 25 10.3 -0.9**
INK P'P' 17 33 25.6
EGAK Eagle 91.91 20 *e*P P 17 07 51.2 -0.3
comp=Z,216nm,1.1s
EGAK LR LR
comp=Z,11μm,20.0s
HIZ Hauiti 92.21 129 PN **P 17 07 53.8 +0.4**
KHZ Kahutara 92.31 133 PN **P 17 07 54.0 +0.3**
DIV Divide 92.35 25 *e*P P 17 07 53.2 -0.6
comp=Z,398nm,1.3s
TLZ Tolley Road 92.68 129 PN **P 17 07 56.4 +0.8**
SNZO South Karori 92.85 132 *e*P P 17 07 57.8 +1.6
comp=Z,172nm,1.1s
SNZO LR LR
comp=Z,14μm,22.0s
KIW Kapiti Island 92.88 131 PN **P 17 07 56.0 -0.4**
BMRM Bremner River 92.91 24 *e*P P 17 07 56.8 +0.5
comp=Z,348nm,0.9s
CAW Cannon Point 93.06 131 PN **P 17 07 56.7 -0.5**
MRZ Mangatainoka R 93.32 131 PN **P 17 07 57.8 -0.7**
MRZ PP **PP 17 11 39.1 -3.7**
ILULI Ilulissat 93.57 348 *i*P P 17 07 58.9 -0.1
comp=Z,22nm,1.1s
URZ Urewera 93.86 128 PN **P 17 07 59.6 -1.4**
URZ Urewera 93.86 128 *e*P P 17 07 59.7 -1.2
comp=Z,323nm,1.1s
MWZ Matawai 94.20 128 PN **P 17 08 01.6 -1.0**
MWZ PP **PP 17 11 49.9 +0.1**
HAZ Te Kaha 94.25 128 PN **P 17 08 01.6 -1.2**
RIGZ Rimuhau 94.47 129 PP PP 17 11 49.9 -2.0
KNZ Kokohu 94.47 129 PP PP 17 11 51.9 0.0
PUZ Puketiti 94.69 128 *e*PN P 17 08 03.1 -1.7
PUZ PP **PP 17 11 51.9 -1.8**
SFJD Kangerlussuaq 95.28 346 *e*P P 17 08 05.8 -1.1
SFJD pmax pmax
comp=Z,199nm,1.5s
SFJD MLR MLR
comp=Z,8μm,21.0s
SFJD Kangerlussuaq 95.28 346 *e*P P 17 08 05.8 -1.1
comp=Z,199nm,1.5s
SFJD LR LR
comp=Z,8μm,21.0s
RAO Raoul Island 95.85 119 LR LR 17 57 02.8
comp=Z,2μm,18.0s,baz=275,slow=39
KIC Kosan Boka 95.87 278 *e*P P 17 08 10.4 -0.4
comp=Z,550nm,1.5s
DBIC Dimbokro 95.91 278 *e*P P 17 08 11.2 +0.3
DBIC Dimbokro 95.91 278 P **P 17 08 10.9 0.0**
comp=Z,54nm,1.1s,baz=61,slow=4.5,SNR=23
DBIC PKKPbc **PKKPdf 17 25 00.3 +0.4**
comp=Z,3.7nm,0.8s,baz=274,slow=4.3,SNR=5.6
DBIC LR LR 17 50 55.8
comp=Z,8μm,21.3s,baz=62,slow=35
DBIC Dimbokro 95.91 278 *e*P P 17 08 10.8 0.0
comp=Z,222nm,1.5s
DBIC PKKPbc **PKKPdf 17 25 00.3 +0.4**
TIC Toumodi 96.07 278 *e*P P 17 08 11.3 -0.4
comp=Z,216nm,1.5s
LIC Lamto 96.18 278⇓*i*P P 17 08 12.2 0.0
comp=Z,258nm,1.5s,baz=74
LIC *e*R
comp=Z,11μm,19.5s
LIC Lamto 96.18 278 *e*P P 17 08 11.8 -0.4
comp=Z,385nm,2.0s
LIC Lamto 96.18 278⇓*i*P P 17 08 12.2 0.0
comp=Z,258nm,1.5s
AFI Afiamalu 98.27 102 PFAKE 17 08 30.0 +8.4
AFI LR LR
comp=Z,6μm,21.0s
VNDA Vanda 98.77 168 P Pdif 17 08 23.1 +0.7
VNDA 17 12 20.3
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA pmax pmax
comp=Z,18nm,1.2s
VNDA Vanda 98.77 168 P Pdif 17 08 23.1 +0.7
comp=Z,6.4nm,0.9s,baz=312,slow=7.1,SNR=18
VNDA PP **PP 17 12 20.3 -3.7**
comp=Z,18nm,1.2s,baz=278,slow=18,SNR=3.2
VNDA LR LR 17 49 37.5
comp=Z,17μm,18.8s,baz=298,slow=33
VNDA Vanda 98.77 168 *e*P Pdif 17 08 22.9 +0.5
comp=Z,48nm,0.6s
VNDA PP **PP 17 12 20.3 -3.7**
NVL N'lazarevskaya 99.82 199 *e*P Pdif 17 08 42.4 +15
NVL *e**PP pP 17 08 51.2 +12
NVL *i* 17 14 37.7
NVL *e*S **SKSac 17 19 01.4 -0.9**
NVL pmax pmax
comp=Z,26nm,1.0s
SBA Scott Base 99.87 168 PFAKE 17 08 40.0 +13
SBA LR LR
comp=Z,11μm,20.0s
DLBC Dease Lake 100.12 21 P **Pdif 17 08 29.1 +0.1**
comp=Z,33nm,1.3s,baz=347,slow=8.3,SNR=13
DLBC PKKPbc **PKKPbc 17 24 48.9 -0.1**
comp=Z,4.6nm,0.9s,baz=149,slow=4.8,SNR=3.5
DLBC Dease Lake 100.12 21 *e*Pdif **Pdif 17 08 29.6 +0.6**

DLBC PKKPbc **PKKPbc** **17 24 48.9 -0.1**
WRAK Wrangell Islan 100.73 24 PFAKE 17 08 40.0 +8.4
WRAK LR LR
comp=Z,15µm,21.0s
YKA Yellowknife Ar 101.15 13 P **Pdif** **17 08 33.0 -0.4**
comp=Z,7.3nm,0.8s,baz=330,slow=4.1,SNR=36
YKA PP **PP** **17 12 39.5 -2.1**
comp=Z,25nm,0.9s,baz=334,slow=7.9,SNR=14
YKA PKKPbc **PKKPbc** **17 24 45.2 -0.7**
comp=Z,2.8nm,0.9s,baz=146,slow=2.3,SNR=13
YKA PKPPKP **P'P'df** **17 33 06.1 +2.6**
comp=Z,1.3nm,1.1s,baz=127,slow=1.7,SNR=4.6
FRB Frobisher Bay 101.56 352 P **Pdif** **17 08 34.6 -0.6**
comp=Z,1.5nm,0.3s,baz=47,slow=4.3,SNR=3.5
FRB PP **PP** **17 12 45.7 +1.1**
comp=Z,23nm,0.9s,baz=9.4,slow=7.8,SNR=7.1
FRB PKKPbc **PKKPbc** **17 24 42.7 -2.1**
comp=Z,12nm,1.0s,baz=203,slow=5.2,SNR=8.8
SHEL Horse Pasture 101.78 256 PFAKE 17 08 50.0 +13
SHEL LR LR
comp=Z,9µm,20.0s
KIP Kipapa 102.22 64 PFAKE 17 08 50.0 +11
KIP LR LR
comp=Z,8µm,19.0s
QSPA South Pole Qui 103.48 180 Pdiff **Pdif** **17 08 43.7 0.0**
comp=Z,1.3nm,0.7s,baz=83,slow=6.7,SNR=3.8
QSPA PKKPbc **PKKPbc** **17 24 37.9 -2.3**
comp=Z,4.4nm,0.7s,baz=112,slow=0.6,SNR=10
QSPA South Pole Qui 103.48 180 Pdif **Pdif** **17 08 43.7 0.0**
QSPA PKKPbc **PKKPbc** **17 24 37.9 -2.3**
QSPA LR LR
comp=Z,26µm,22.0s
SNAA Sanae 104.62 199 P **PKKPbc** **17 24 33.8 -2.4**
POHA Pohakuloa 104.98 65 PFAKE 17 09 00.0 +8.4
POHA LR LR
comp=Z,5µm,19.0s
VNA2 Neumayer--Watz 106.13 200 P **PKKPbc** **17 24 29.9 -1.6**
VNA1 Neumayer--Stat 106.44 200 P **Pdif** **17 08 55.6 -1.0**
VNA3 Neumayer Olymp 106.83 199 P **PKKPbc** **17 24 27.4 -1.9**
ASCN Ascension 108.51 266 PFAKE 17 13 20.0
ASCN LR LR
comp=Z,9µm,19.0s
XMAS Kiritimati 108.60 83 PFAKE 17 13 20.0
XMAS LR LR
comp=Z,7µm,20.0s
SCHQ Schefferville 109.69 348 PKKPbc PKKPbc 17 24 16.8 -3.1
comp=Z,11nm,0.8s,baz=233,slow=4.4,SNR=8.5
TRIS Tristan da Cun 110.13 235 PFAKE 17 13 30.0
TRIS LR LR
comp=Z,8µm,21.0s
FFC Flin Flon 110.77 9 *e*P **Pdif** **17 09 16.0 -0.4**
FFC MLR MLR
comp=Z,10µm,19.0s
FFC Flin Flon 110.77 9 *e*Pdif **Pdif** **17 09 16.0 -0.4**
FFC LR LR
comp=Z,10µm,19.0s
NLWA Neilton Lookou 110.96 26 PFAKE 17 13 30.0
NLWA LR LR
comp=Z,8µm,20.0s
SACV Santiago Islan 111.04 292 PFAKE 17 13 30.0
SACV LR LR
comp=Z,4µm,19.0s
NEW Newport 112.87 21 PKKPbc PKKPbc 17 24 09.4 +0.1
comp=Z,1.7nm,0.6s,baz=161,slow=5.8,SNR=3.6
NEW Newport 112.87 21 PKKPbc PKKPbc 17 24 09.4 +0.1
NEW LR LR
comp=Z,10µm,20.0s
HAWA Hanford 113.54 24 PFAKE 17 13 30.0
HAWA LR LR
comp=Z,6µm,19.0s
I05D Terrebonne, OR 114.46 26 ⇓PKiKP PKPdf 17 13 23.6 0.0
baz=114
SWMT Swartz Lake 114.58 20 *e*PKiKP **PKiKP** **17 13 23.5 -0.2**
A19A Klindworth Far 114.85 16 ⇓PKiKP PKPdf 17 13 24.3 +0.1
baz=115
J04D Umpqua Nationa 114.99 28 ⇑PKiKP **PKiKP** **17 13 24.6 -0.2**
baz=115
HUMO Hull Mountain 115.10 29 *e*PKPdf **PKPdf** **17 13 25.6 +0.8**
A20A Cobblestone Ra 115.11 15 ⇑PKiKP **PKPdf** **17 13 25.2 +0.5**
baz=115
B19A Brinkman Farms 115.24 16 ⇑PKiKP **PKiKP** **17 13 24.9 0.0**
baz=115
A21A Bergtoll Ranch 115.25 14 ⇓PKiKP **PKPdf** **17 13 25.1 +0.1**
baz=115
J05D Fort Rock, OR 115.35 27 ⇑PKiKP **PKiKP** **17 13 24.8 -0.6**
baz=115
CHMT Chamberlain Mo 115.35 20 *e*PKPdf **PKPdf** **17 13 25.3 -0.1**
EGMT Eagleton 115.41 17 *e*PKPdf **PKPdf** **17 13 25.4 +0.1**
EGMT LR LR
comp=Z,5µm,19.0s
A22A Carney Farms, 115.49 14 ⇓PKiKP **PKiKP** **17 13 25.1 -0.3**
baz=115
B20A Solberg Farm, 115.49 15 ⇑PKiKP **PKiKP** **17 13 24.8 -0.6**
baz=115
BMO Blue Mountains 115.69 23 PKIKP **PKPdf** **17 13 23.8 -2.1**
BMO MLR MLR
comp=Z,10µm,22.0s
BMO Blue Mountains 115.69 23 PKPdf **PKPdf** **17 13 23.8 -2.1**
BMO LR LR
comp=Z,10µm,22.0s
A23A Redstone 115.75 13 ⇑PKiKP **PKiKP** **17 13 25.8 -0.1**
baz=115
C19A Slack Wire Ran 115.87 16 ⇑PKiKP **PKiKP** **17 13 25.6 -0.6**
baz=116
ULM Lac du Bonnet 115.95 6 PKP **PKPdf** **17 13 25.9 -0.3**
comp=Z,7.4nm,0.5s,baz=312,slow=1.0,SNR=10
ULM PP **PP** **17 14 26.1 -3.2**
comp=Z,19nm,0.9s,baz=358,slow=9.5,SNR=3.3
ULM PKKPbc **PKKPbc** **17 23 55.5 -3.3**
comp=Z,13nm,1.0s,baz=202,slow=2.6,SNR=8.3
ULM SKKP 17 28 00.1
comp=Z,20nm,1.3s,baz=229,slow=3.8,SNR=4.6
A24A Westby 115.97 12 ⇓PKiKP **PKiKP** **17 13 25.7 -0.6**
baz=116
HRY Holter Researc 115.98 19 *e*PKPdf **PKPdf** **17 13 26.3 -0.2**
M02C Callahan 116.09 29 ⇓PKiKP **PKPdf** **17 13 27.1 +0.3**
baz=116
B22A Reddig Ranch S 116.12 14 ⇓PKiKP **PKiKP** **17 13 25.8 -0.8**
baz=116
A25A Svangstu Ranch 116.13 12 ⇑PKiKP **PKiKP** **17 13 26.2 -0.4**
baz=116
C20A Veseth Ranch, 116.17 16 ⇓PKiKP **PKiKP** **17 13 26.4 -0.3**
baz=116
B23A Brockton 116.19 13 ⇓PKiKP **PKiKP** **17 13 26.5 -0.3**
baz=116
M04C Macdoel 116.26 28 ⇓PKiKP **PKiKP** **17 13 26.4 -0.8**
baz=116
C21A Desert Coulee 116.29 15 ⇑PKiKP **PKiKP** **17 13 26.8 -0.2**
baz=116
A26A Wade Farm, Ken 116.38 11 ⇓PKiKP **PKiKP** **17 13 26.8 -0.2**
baz=116
D19A Cripps Ranch, 116.44 16 ⇑PKiKP **PKPdf** **17 13 27.3 0.0**
baz=116
A27A Ledoux Ranch, 116.47 10 ⇓PKiKP **PKPdf** **17 13 27.2 0.0**
baz=116
N02D Trinity Center 116.49 29 ⇓PKiKP **PKiKP** **17 13 28.0 +0.4**
baz=116
LRM Limekiln Ridge 116.58 20 *e*PKPdf **PKPdf** **17 13 28.1 +0.3**
A28A Rude Farm, Bot 116.67 10 ⇑PKiKP **PKiKP** **17 13 27.9 +0.2**
baz=116
D20A Manuel Ranch, 116.71 16 ⇓PKiKP **PKiKP** **17 13 28.0 +0.2**
baz=116
B25A Knox Farm, Ray 116.76 12 ⇑PKiKP **PKiKP** **17 13 28.1 +0.2**
baz=116
C23A Lambert 116.77 14 ⇓PKiKP **PKiKP** **17 13 28.2 +0.3**
baz=116
A29A Manning Farm, 116.82 9 ⇑PKiKP **PKPdf** **17 13 27.8 -0.1**
baz=116
MOD Modoc Plateau 116.86 27 *e*PKPdf **PKPdf** **17 13 29.0 +0.7**
A30A Hoffart Farm, 116.94 8 ⇓PKiKP **PKPdf** **17 13 27.2 -1.0**
baz=117
B27A Peters Farms, 116.99 11 ⇓PKiKP **PKiKP** **17 13 29.2 +1.0**
baz=117
BOZ Bozeman (W) 117.00 19 *e*PKIKP **PKPdf** **17 13 28.8 +0.3**
BOZ MLR MLR
comp=Z,11µm,20.0s
BOZ Bozeman (W) 117.00 19 *e*PKPdf **PKPdf** **17 13 28.8 +0.3**
BOZ LR LR
comp=Z,11µm,20.0s
D21A La Casta Ranch 117.03 15 ⇓PKiKP **PKiKP** **17 13 28.6 +0.1**
baz=117
B28A Dugan Ranch, T 117.10 10 ⇑PKiKP **PKiKP** **17 13 28.6 +0.1**
baz=117
E19A Rath Farm, Rou 117.11 17 ⇓PKiKP **PKPdf** **17 13 28.6 0.0**
baz=117
D22A Cohagen 117.15 15 ⇓PKiKP **PKPdf** **17 13 28.4 -0.2**
baz=117

WVOR Wild Horse Val 117.16 26 PFAKE 17 13 40.0 +11
WVOR LR LR
comp=Z,6µm,21.0s
C24A Savage 117.20 13 ⇑PKiKP **PKPdf** **17 13 28.2 -0.6**
baz=117
E20A Meyer Farm, Mu 117.25 16 ⇓PKiKP **PKiKP** **17 13 29.3 +0.4**
baz=117
B29A Wagenman Farm, 117.25 9 ⇑PKiKP **PKPdf** **17 13 28.2 -0.5**
baz=117
C25A Freed Ranch, W 117.28 12 ⇑PKiKP **PKiKP** **17 13 28.9 +0.1**
baz=117
D23A Lindsay 117.36 14 ⇑PKiKP **PKiKP** **17 13 29.3 +0.3**
baz=117
C26A Wahner Farm, P 117.40 11 ⇓PKiKP **PKiKP** **17 13 29.2 +0.1**
baz=117
B30A Myrvik Farm, E 117.42 8 ⇑PKiKP **PKPdf** **17 13 28.3 -0.8**
baz=117
MFID Camas Ranch 117.47 23 *e*PKPdf **PKPdf** **17 13 29.6 +0.1**
E21A Keener Ranch, 117.49 15 ⇓PKiKP **PKiKP** **17 13 30.0 +0.6**
baz=117
LAO LASA Array 117.57 15 *e*PKPdf **PKPdf** **17 13 30.3 +0.8**
LAO LR LR
comp=Z,10µm,22.0s
D24A Glendive 117.61 13 ⇓PKiKP **PKiKP** **17 13 29.8 +0.3**
baz=117
C27A Sayler Ranch, 117.61 11 ⇓PKiKP **PKiKP** **17 13 30.1 +0.6**
baz=117
F19A Roth Farm, Mol 117.62 17 ⇑PKiKP **PKiKP** **17 13 29.7 0.0**
baz=117
D25A Fairfield 117.80 12 ⇑PKiKP **PKiKP** **17 13 30.4 +0.5**
baz=118
C28A Hausauer Farms 117.81 10 ⇓PKiKP **PKPdf** **17 13 29.7 -0.2**
baz=118
MDND Maddock 117.81 9 ⇑PKiKP **PKPdf** **17 13 28.9 -0.9**
baz=118
MDND Maddock 117.81 9 *e*PKPdf **PKPdf** **17 13 29.3 -0.6**
E22A Miles City 117.87 15 ⇓PKiKP **PKiKP** **17 13 30.6 +0.5**
baz=118
HLID Hailey 117.87 22 *e*PKPdf **PKPdf** **17 13 30.4 +0.1**
HLID LR LR
comp=Z,14µm,22.0s
AGMN Agassiz Nation 117.88 7 *e*PKPdf **PKPdf** **17 13 29.0 -1.0**
AGMN LR LR
comp=Z,10µm,22.0s
F20A Billings 117.89 16 ⇓PKiKP **PKiKP** **17 13 30.2 0.0**
baz=118
E23A Ismay 117.97 14 ⇑PKiKP **PKiKP** **17 13 30.6 +0.4**
baz=118
D26A Manning 118.09 12 ⇑PKiKP **PKiKP** **17 13 30.7 +0.3**
baz=118
C30A Mose, Pekin 118.13 9 ⇑PKiKP **PKPdf** **17 13 30.0 -0.4**
baz=118
YNR Norris Junctio 118.13 19 PKPdf **PKPdf** **17 13 30.9 +0.1**
E24A Baker 118.14 13 ⇑PKiKP **PKiKP** **17 13 31.0 +0.3**
baz=118
F21A Absaloka Mine, 118.15 16 ⇓PKiKP **PKiKP** **17 13 30.8 +0.2**
baz=118
RLMT Red Lodge 118.19 18 *e*PKPdf **PKPdf** **17 13 30.7 -0.2**
RLMT LR LR
comp=Z,9µm,22.0s
D27A Center 118.19 11 ⇓PKiKP **PKiKP** **17 13 30.9 +0.3**
baz=118
D28A Regan 118.28 10 ⇓PKiKP **PKiKP** **17 13 31.2 +0.4**
baz=118
YFT Old Faithful 118.32 19 *e*PKPdf **PKPdf** **17 13 32.9 +1.6**
E25A Miller Ranch, 118.40 13 ⇓PKiKP **PKiKP** **17 13 31.4 +0.3**
baz=118
G20A Bridger 118.40 17 ⇓PKiKP **PKiKP** **17 13 31.5 +0.2**
baz=118
F22A Rosebud 118.41 15 ⇓PKiKP **PKiKP** **17 13 31.4 +0.2**
baz=118
H17A Grant Village 118.45 19 ⇑PKiKP **PKPdf** **17 13 31.1 -0.4**
baz=118
H17A Grant Village 118.45 19 *e*PKPdf **PKPdf** **17 13 31.9 +0.4**
H18A Shoshone NF, C 118.48 18 ⇑PKiKP **PKiKP** **17 13 31.9 +0.3**
baz=118
D29A Pettibone, Tap 118.58 10 ⇓PKiKP **PKPdf** **17 13 30.7 -0.7**
baz=118
EYMN Ely 118.60 3 *e*PKPdf **PKPdf** **17 13 30.9 -0.4**
EYMN LR LR
comp=Z,9µm,22.0s
E26A Carlson Angus 118.62 12 ⇑PKiKP **PKPdf** **17 13 31.5 0.0**
baz=118
D30A Buchanan 118.66 9 ⇑PKiKP **PKPdf** **17 13 31.1 -0.4**
baz=118
F23A Volborg 118.68 15 ⇑PKiKP **PKPdf** **17 13 31.6 0.0**
baz=118
G21A Lodge Grass 118.68 16 ⇑PKiKP **PKiKP** **17 13 32.1 +0.4**
baz=118
H19A Powell 118.69 18 ⇓PKiKP **PKiKP** **17 13 32.8 +0.9**
baz=118
F24A Ekalaka 118.79 14 ⇓PKiKP **PKPdf** **17 13 30.1 -1.8**
baz=118
E27A Carson 118.84 11 ⇓PKiKP **PKiKP** **17 13 32.2 +0.2**
baz=118
E28A Huff 118.86 11 ⇓PKiKP **PKPdf** **17 13 31.8 -0.1**
baz=118
I17A Pilgrim Ck. 118.88 19 ⇓PKiKP **PKiKP** **17 13 32.4 0.0**
baz=119
G22A Birney 118.92 15 ⇓PKiKP **PKPdf** **17 13 32.1 -0.1**
baz=119
F25A Bowman 118.93 13 ⇑PKiKP **PKPdf** **17 13 32.0 -0.2**
baz=119
E29A Napoleon 119.05 10 ⇓PKiKP **PKPdf** **17 13 31.7 -0.6**
baz=119
H20A Greybull 119.14 17 ⇓PKiKP **PKPdf** **17 13 32.6 0.0**
baz=119
G23A Biddle 119.17 15 ⇑PKiKP **PKPdf** **17 13 32.5 -0.1**
baz=119
F26A Lodgepole 119.17 12 ⇑PKiKP **PKiKP** **17 13 32.7 0.0**
baz=119
PKME Peaks-Kenny Pk 119.21 346 PFAKE 17 13 40.0 +7.4
PKME LR LR
comp=Z,4µm,20.0s
E30A Jud 119.23 9 ⇓PKiKP **PKPdf** **17 13 32.2 -0.5**
baz=119
I19A Meeteetse 119.26 18 ⇑PKiKP **PKiKP** **17 13 33.4 +0.3**
baz=119
H21A Big Horn, Sher 119.27 16 ⇑PKiKP **PKiKP** **17 13 33.1 +0.2**
baz=119
G24A Alzada 119.28 14 ⇓PKiKP **PKPdf** **17 13 32.3 -0.6**
baz=119
F27A Lemmon 119.28 12 ⇓PKiKP **PKiKP** **17 13 32.9 0.0**
baz=119
BMN Battle Mountai 119.41 26 *e*PKIKP **PKPdf** **17 13 34.1 +0.8**
BMN Battle Mountai 119.41 26 *e*PKPdf **PKPdf** **17 13 34.1 +0.8**
H22A Clearmont 119.49 16 ⇑PKiKP **PKPdf** **17 13 32.9 -0.4**
baz=119
F28A McLaughlin 119.54 11 ⇓PKiKP **PKPdf** **17 13 32.4 -0.9**
baz=119
I20A Worland 119.59 17 ⇑PKiKP **PKiKP** **17 13 33.6 0.0**
baz=119
G25A Newell 119.64 13 ⇑PKiKP **PKPdf** **17 13 33.1 -0.4**
baz=119
G26A Maurine 119.72 13 ⇑PKiKP **PKPdf** **17 13 33.5 -0.2**
baz=119
F29A Eureka 119.73 10 ⇓PKiKP **PKPdf** **17 13 33.2 -0.4**
baz=119
AHID Auburn Hatcher 119.73 20 PKPdf **PKPdf** **17 13 34.0 +0.1**
AHID LR LR
comp=Z,10µm,21.0s
H23A Clabaugh Cattl 119.76 15 ⇓PKiKP **PKPdf** **17 13 33.6 -0.3**
baz=120
G27A Dupree 119.78 12 ⇓PKiKP **PKPdf** **17 13 33.6 -0.2**
baz=120
H24A Dirks Ranch, A 119.80 14 ⇑PKiKP **PKPdf** **17 13 33.1 -0.7**
baz=120
F30A Leola 119.86 10 ⇑PKiKP **PKPdf** **17 13 33.2 -0.6**
baz=120
CMB Columbia Colle 119.90 30 *e*PKIKP **PKPdf** **17 13 34.2 0.0**
CMB Columbia Colle 119.90 30 *e*PKPdf **PKPdf** **17 13 34.2 0.0**
J19A Crowheart 119.94 18 ⇓PKiKP **PKPdf** **17 13 34.3 0.0**
baz=120
PPT2 Papeete2 119.94 103 *e*PKiKP **PKiKP** **17 13 35.2 +0.4**
comp=Z,62nm,1.4s
PPT2 Papeete2 119.94 103 *e*PP PP 17 15 00.1 +0.7
comp=Z,942nm,31.2s
PPT2 *e*Sdif Sdif 17 22 53.4 +5.3
comp=Z,644nm,26.5s
PPT2 Papeete2 119.94 103 *e*PS PS 17 24 50.6 +0.8
comp=Z,2µm,32.5s
PPT2 *e*SS SS 17 31 26.2 +2.7
comp=Z,18µm,36.5s
PPT2 Papeete2 119.94 103 *e*LQ LQ 17 45 22.0
comp=Z,14µm,35.8s
PPT2 *e*LR LR 17 50 07.8
comp=Z,12µm,25.2s

PAE Paea 119.95 103 *e*PKiKP **PKiKP** **17 13 34.9 +0.2**
comp=Z,8.3nm,1.3s
I21A Big Trails, Te 119.96 17 ⇓PKiKP **PKPdf** **17 13 33.9 -0.4**
baz=120
WAKR Walker 119.98 29 *e*PKPdf **PKPdf** **17 13 35.3 +0.8**
HVU Hansel Valley 120.02 22 *e*PKIKP **PKPdf** **17 13 34.7 +0.2**
HVU Hansel Valley 120.02 22 *e*PKPdf **PKPdf** **17 13 34.7 +0.2**
I22A 9 Mile Ranch, 120.11 16 ⇓PKiKP **PKPdf** **17 13 34.3 -0.2**
baz=120
H25A Fruitdale 120.14 14 ⇓PKiKP **PKPdf** **17 13 34.2 -0.3**
baz=120
J20A Shoshoni 120.15 18 ⇑PKiKP **PKPdf** **17 13 34.6 -0.1**
baz=120
TIAR Tiarei 120.16 103 *e*PKiKP **PKiKP** **17 13 35.4 +0.2**
comp=Z,6.2nm,0.9s
BW06 Boulder Array 120.24 19 *e*PKPdf **PKPdf** **17 13 34.4 -0.5**
BW06 LR LR
comp=Z,11µm,22.0s
PDAR Pinedale Array 120.24 19 PKP **PKPdf** **17 13 34.5 -0.5**
comp=Z,18nm,0.8s,baz=101,slow=2.0,SNR=63
PDAR PKKPbc **PKKPbc** **17 23 40.4 -3.1**
comp=Z,1.5nm,0.9s,baz=172,slow=3.0,SNR=3.7
G28A Parade 120.27 11 ⇑PKiKP **PKPdf** **17 13 34.3 -0.4**
baz=120
TVO Taravao 120.27 103 *e*PKiKP **PKiKP** **17 13 35.9 +0.5**
comp=Z,26nm,1.3s
I23A Meade Ranch, G 120.31 15 ⇓PKiKP **PKPdf** **17 13 34.1 -0.8**
baz=120
H26A Fairpoint 120.33 13 ⇓PKiKP **PKPdf** **17 13 34.5 -0.3**
baz=120
G29A Hoven 120.33 10 ⇑PKiKP **PKPdf** **17 13 34.1 -0.7**
baz=120
J21A Lysite 120.34 17 ⇑PKiKP **PKPdf** **17 13 35.2 +0.1**
baz=120
H27A Howes 120.46 12 ⇓PKiKP **PKPdf** **17 13 34.9 -0.2**
baz=120
TBI Tubuai 120.47 109 *e*PKiKP **PKiKP** **17 13 36.0 +0.4**
comp=Z,154nm,1.0s
TBI *e*Sdif Sdif 17 23 15.1 +23
comp=Z,734nm,31.0s
TBI Tubuai 120.47 109 *e*PS PS 17 24 52.9 -1.2
comp=Z,2µm,30.2s
TBI *e*SS SS 17 31 33.3 +3.5
comp=Z,8µm,38.2s
TBI Tubuai 120.47 109 *e*LQ LQ 17 45 33.2
comp=Z,11µm,42.2s
TBI *e*LR LR 17 50 38.3
comp=Z,16µm,32.0s
RSSD Black Hills 120.51 14 *e*PKIKP **PKPdf** **17 13 35.3 -0.1**
RSSD Black Hills 120.51 14 *e*PKPdf **PKPdf** **17 13 35.3 -0.1**
G30A Faulkton 120.53 10 ⇑PKiKP **PKPdf** **17 13 34.8 -0.4**
baz=120
COWI Conover 120.54 2 *e*PKPdf **PKPdf** **17 13 34.5 -0.7**
COWI LR LR
comp=Z,9µm,20.0s
J22A Midwest 120.55 16 ⇑PKiKP **PKPdf** **17 13 34.7 -0.7**
baz=120
HWUT Hardware Ranch 120.60 21 *e*PKPdf **PKPdf** **17 13 35.4 -0.2**
HWUT LR LR
comp=Z,9µm,21.0s
I24A Kuemmerle Ranc 120.61 15 ⇑PKiKP **PKPdf** **17 13 34.6 -0.9**
baz=120
H28A Mission Ridge 120.63 11 ⇓PKiKP **PKPdf** **17 13 35.1 -0.3**
baz=120
BGU Big Grassy Mou 120.67 23 *e*PKPdf **PKPdf** **17 13 35.6 -0.2**
I25A Rochford 120.68 14 ⇑PKiKP **PKPdf** **17 13 35.4 -0.3**
baz=120
LBNH Lisbon 120.78 347 PFAKE 17 13 50.0 +14
LBNH LR LR
comp=Z,9µm,20.0s
J23A Dilts Ranch, B 120.81 16 ⇑PKiKP **PKPdf** **17 13 35.4 -0.5**
baz=120
H29A Onida 120.83 11 ⇑PKiKP **PKPdf** **17 13 35.3 -0.4**
baz=120
I26A New Underwood 120.87 13 ⇓PKiKP **PKPdf** **17 13 35.9 0.0**
baz=121
LONY Lake Ozonia 120.93 350 PKPdf **PKPdf** **17 13 35.4 -0.6**
LONY LR LR
comp=Z,7µm,20.0s
MLAC Mammoth, Mammt 120.96 29 ⇓PKiKP **PKPdf** **17 13 36.6 +0.1**
baz=121
I27A Quinn 121.00 13 ⇓PKiKP **PKPdf** **17 13 36.0 -0.1**
baz=121
K21A Alcova 121.06 17 ⇓PKiKP **PKPdf** **17 13 36.0 -0.5**
baz=121
TCUT Toone Canyon 121.09 21 *e*PKPdf **PKPdf** **17 13 36.9 +0.3**
J24A Dixon Ranch, L 121.10 15 PKiKP **PKPdf** **17 13 35.9 -0.6**
baz=121
SPMN Marine on St. 121.22 5 ⇑PKiKP **PKPdf** **17 13 36.1 -0.4**
baz=121
SPMN Marine on St. 121.22 5 PKPdf **PKPdf** **17 13 36.1 -0.4**
BRSD Miller 121.23 10 ⇓PKiKP **PKPdf** **17 13 36.1 -0.4**
baz=121
K22A Casper 121.25 17 ⇑PKiKP **PKPdf** **17 13 36.2 -0.7**
baz=121
K22A Casper 121.25 17 *e*PKPdf **PKPdf** **17 13 36.3 -0.5**
I28A Midland 121.25 12 ⇓PKiKP **PKPdf** **17 13 36.5 -0.1**
baz=121
J25A Sunshine Ranch 121.26 14 ⇑PKiKP **PKPdf** **17 13 36.3 -0.4**
baz=121
PMOR Pomariorio Ree 121.26 99 *e*PKiKP **PKiKP** **17 13 38.1 +0.8**
comp=Z,174nm,1.0s
TPH Tonopah 121.35 28 *e*PKIKP **PKPdf** **17 13 37.8 +0.6**
TPH Tonopah 121.35 28 *e*PKPdf **PKPdf** **17 13 37.8 +0.6**
DUG Dugway, Tooele 121.39 23 *e*PKIKP **PKPdf** **17 13 37.3 +0.2**
DUG MLR MLR
comp=Z,9µm,22.0s
DUG Dugway, Tooele 121.39 23 *e*PKPdf **PKPdf** **17 13 37.3 +0.2**
DUG LR LR
comp=Z,9µm,22.0s
K23A Bowen Ranch, D 121.39 16 ⇑PKiKP **PKPdf** **17 13 36.6 -0.5**
baz=121
I29A Vivian Onida 121.40 11 ⇓PKiKP **PKPdf** **17 13 36.7 -0.2**
baz=121
MEH Mehetia 121.41 103 *e*PKiKP **PKPdf** **17 13 37.4 -0.1**
comp=Z,23nm,1.1s
SADO Sadowa 121.45 353 PKP **PKPdf** **17 13 35.7 -1.2**
comp=Z,4.0nm,0.5s,baz=120,slow=0.7,SNR=4.6
SADO PP **PP** **17 15 07.4 +0.1**
comp=Z,46nm,1.2s,baz=16,slow=6.6,SNR=3.6
SADO PKKPbc **PKKPbc** **17 23 38.3 -0.4**
comp=Z,18nm,1.0s,baz=248,slow=2.9,SNR=6.7
NCB Newcomb 121.50 349 *e*PKPdf **PKPdf** **17 13 37.1 +0.1**
NCB LR LR
comp=Z,9µm,22.0s
J26A Sides Ranch, S 121.50 14 ⇓PKiKP **PKPdf** **17 13 37.0 -0.2**
baz=121
VAH Vaihoa 121.55 100 *e*PKiKP **PKiKP** **17 13 38.4 +0.5**
comp=Z,97nm,1.0s
K24A Anderson Ranch 121.64 15 ⇑PKiKP **PKPdf** **17 13 36.6 -0.9**
baz=121
I30A Oacoma 121.66 10 ⇑PKiKP **PKPdf** **17 13 37.3 -0.1**
baz=121
TIN Tinemaha, Big 121.71 29 ⇑PKiKP **PKiKP** **17 13 38.0 0.0**
baz=122
J28A Allard Ranch, 121.79 12 ⇓PKiKP **PKPdf** **17 13 37.4 -0.3**
baz=122
J27A Elkhorn Farm, 121.79 13 ⇑PKiKP **PKPdf** **17 13 37.8 +0.1**
baz=122
RCTC Rector, Farmer 121.82 30 ⇓PKiKP **PKPdf** **17 13 37.6 -0.3**
baz=122
R11A Troy Canyon, C 121.84 26 ⇓PKiKP **PKiKP** **17 13 38.8 +0.6**
baz=122
R11A Troy Canyon, C 121.84 26 *e*PKPdf **PKPdf** **17 13 38.3 +0.2**
L22A Ellis Ranch, M 121.84 17 ⇓PKiKP **PKPdf** **17 13 37.8 -0.2**
baz=122
NLU North Lily Min 121.87 22 *e*PKPdf **PKPdf** **17 13 37.8 -0.3**
L23A Garrett 121.97 16 ⇓PKiKP **PKPdf** **17 13 37.7 -0.6**
baz=122
K25A Mack Ranch, Ha 121.97 15 ⇓PKiKP **PKPdf** **17 13 37.9 -0.3**
baz=122
MPU Maple Canyon 121.98 22 *e*PKPdf **PKPdf** **17 13 38.1 -0.2**
J29A Okreek 121.99 11 ⇓PKiKP **PKPdf** **17 13 37.5 -0.5**
baz=122
K26A Motz Farm, Whi 122.06 14 ⇓PKiKP **PKPdf** **17 13 37.9 -0.3**
baz=122
GRAC Grapevine Rang 122.16 28 ⇑PKiKP **PKiKP** **17 13 39.3 +0.6**
baz=122
J30A Dallas 122.22 11 ⇓PKiKP **PKPdf** **17 13 38.4 -0.1**
baz=122
SMMC Simmler 122.23 32 ⇑PKiKP **PKiKP** **17 13 39.9 +0.9**
baz=122
L24A Wheatland 122.24 16 ⇓PKiKP **PKPdf** **17 13 38.1 -0.7**
baz=122
K27A Flueckinger Fa 122.27 13 ⇑PKiKP **PKPdf** **17 13 38.0 -0.7**
baz=122
VES Vestal, Richgr 122.27 31 ⇓PKiKP **PKiKP** **17 13 41.2 +2.3**

baz=122
ECSD EROS Data Cent 122.28 8 ePKPdf PKPdf 17 13 38.0 -0.6
ECSD LR LR
comp=Z,8μm,21.0s
M22A Cedar Creek Ra 122.38 17 ⇓PKiKP PKPdf 17 13 38.3 -0.8
baz=122
L25A Engebretsen Ra 122.38 15 ⇑PKiKP PKPdf 17 13 38.9 0.0
baz=122
N20A Spence Gulch, 122.40 19 ⇓PKiKP PKiKP 17 13 39.5 +0.1
baz=122
K28A Ten Mile Ranch 122.44 12 ⇓PKiKP PKPdf 17 13 38.6 -0.4
baz=122
M23A Laramie 122.56 17 ⇓PKiKP PKPdf 17 13 39.2 -0.3
baz=122
K29A Lazy Trails An 122.61 12 ⇑PKiKP PKPdf 17 13 39.1 -0.2
baz=122
DAC Darwin (Calif) 122.64 29 ePKIKP PKPdf 17 13 39.2 -0.5
DAC Darwin (Calif) 122.64 29 ePKPdf PKPdf 17 13 39.2 -0.5
PKM Mcpherson Peak 122.64 32 ⇓PKiKP PKiKP 17 13 41.0 +1.1
baz=122
L26A Underwood Farm 122.71 14 ⇓PKiKP PKPdf 17 13 39.6 0.0
baz=122
ISA Isabella, Lake 122.71 30 ePKIKP PKPdf 17 13 40.0 +0.3
ISA Isabella, Lake 122.71 30 ⇑PKiKP PKiKP 17 13 40.2 +0.3
baz=122
ISA Isabella, Lake 122.71 30 ePKPdf PKPdf 17 13 40.0 +0.3
TMUT Trail Mountain 122.77 22 ePKPdf PKPdf 17 13 40.3 +0.3
M24A Cheyenne 122.81 16 ⇑PKiKP PKPdf 17 13 39.9 0.0
baz=122
FURC Furnace Creek, 122.83 28 ⇑PKiKP PKiKP 17 13 40.9 +0.9
baz=123
K30A Basset 122.83 11 ⇑PKiKP PKPdf 17 13 39.8 +0.1
baz=122
L27A T5 Ranch, Ells 122.84 13 ⇑PKiKP PKPdf 17 13 39.4 -0.4
baz=122
MPMC Manual Prospec 122.87 29 ⇓PKiKP PKiKP 17 13 40.9 +0.6
baz=123
ARVC Arvin 122.96 31 ⇑PKiKP PKiKP 17 13 40.6 +0.3
baz=123
N22A Wattenberg Ran 122.97 17 ⇓PKiKP PKiKP 17 13 40.6 0.0
baz=123
N23A Red Feather La 123.03 17 ⇑PKiKP PKPdf 17 13 40.4 0.0
baz=123
M25A Palm-Egli Farm 123.04 15 ⇓PKiKP PKiKP 17 13 40.6 +0.1
baz=123
O20A White River Ci 123.04 19 ⇓PKiKP PKPdf 17 13 40.2 -0.2
baz=123
O20A White River Ci 123.04 19 ePKPdf PKPdf 17 13 40.5 +0.1
SBC Santa Barbara 123.05 32 ⇑PKiKP PKPdf 17 13 38.8 -1.4
baz=123
MVU Marysvale 123.08 23 ePKPdf PKPdf 17 13 41.5 +1.0
L28A Connealy Angus 123.09 13 ⇓PKiKP PKPdf 17 13 40.0 -0.3
baz=123
SRU San Rafael Swe 123.18 22 ePKIKP PKPdf 17 13 40.7 0.0
SRU San Rafael Swe 123.18 22 ePKPdf PKPdf 17 13 40.7 0.0
ARUT Antelope Range 123.22 25 ePKIKP PKPdf 17 13 41.4 +0.7
ARUT Antelope Range 123.22 25 ePKPdf PKPdf 17 13 41.4 +0.7
M26A McRoberts Ranc 123.23 14 ⇓PKiKP PKPdf 17 13 40.3 -0.3
baz=123
LRMC Laurel Mtn Rad 123.24 30 ⇓PKiKP PKiKP 17 13 41.5 +0.5
baz=123
L29A Maesberg Ranch 123.25 12 ⇑PKiKP PKPdf 17 13 40.1 -0.5
baz=123
M27A Reverse DX Ran 123.35 14 ⇑PKiKP PKPdf 17 13 40.5 -0.3
baz=123
N24A Carr 123.39 16 ⇑PKiKP PKPdf 17 13 40.6 -0.4
baz=123
OSI Osito Audit: C 123.42 31 ⇓PKiKP PKiKP 17 13 41.8 +0.5
baz=123
OSI Osito Audit: C 123.42 31 ePKPdf PKPdf 17 13 42.5 +1.4
HOPE Hope Point 123.44 213 PFAKE 17 13 50.0 +10
HOPE LR LR
comp=Z,8μm,21.0s
BSC Santa Cruz Isl 123.44 32 ⇑PKiKP PKiKP 17 13 42.1 +0.7
baz=123
CCUT Cedar City 123.45 25 ePKPdf PKPdf 17 13 42.1 +0.8
L31A Butterfield Fa 123.45 10 ⇑PKiKP PKPdf 17 13 40.5 -0.4
baz=123
L30A Spencer Herefo 123.51 11 ⇑PKiKP PKPdf 17 13 40.2 -0.8
baz=123
BINY Binghamton 123.53 350 ePKPdf PKPdf 17 13 39.4 -1.7
BINY LR LR
comp=Z,10μm,22.0s
O22A Kremmling 123.54 18 PKiKP PKPdf 17 13 40.8 -0.7
baz=123
SHOC Shoshone, Teco 123.56 28 ⇓PKiKP PKiKP 17 13 41.9 +0.4
baz=123
SHPR Sheep Range 123.57 27 ePKPdf PKPdf 17 13 42.0 +0.5
EDW2 Edwards Air Fo 123.57 30 ⇑PKiKP PKiKP 17 13 42.2 +0.6
baz=123
N25A Grover 123.61 15 ⇑PKiKP PKPdf 17 13 40.7 -0.7
baz=123
O23A Lake Granby, G 123.67 17 ⇓PKiKP PKPdf 17 13 41.8 +0.1
baz=123
JFWS Jewell Farm 123.68 3 PFAKE 17 13 50.0 +8.7
JFWS LR LR
comp=Z,8μm,20.0s
M28A Bar X Bar Ranc 123.71 13 ⇓PKiKP PKPdf 17 13 40.7 -0.8
baz=123
M29A Burnside Ranch 123.80 12 ⇓PKiKP PKPdf 17 13 40.8 -0.9
baz=124
GSC Goldstone, Bar 123.81 29 ⇓PKiKP PKiKP 17 13 42.7 +0.6
baz=124
N26A Koester Ranch, 123.82 15 ⇑PKiKP PKPdf 17 13 40.9 -0.8
baz=124
M30A Dale-Ortello V 123.88 12 ⇓PKiKP PKPdf 17 13 40.9 -0.9
baz=124
DECC Green Verdugo 123.91 31 ⇓PKiKP PKiKP 17 13 42.6 +0.3
baz=124
OGNE Ogallala 123.99 14 ePKPdf PKPdf 17 13 40.4 -1.6
OGNE LR LR
comp=Z,11μm,21.0s
P22A Eagle 123.99 18 ⇓PKiKP PKPdf 17 13 42.2 -0.1
baz=124
O24A Longmont 124.00 17 ⇓PKiKP PKPdf 17 13 41.2 -1.0
baz=124
N27A Anderson Farm, 124.00 14 ⇓PKiKP PKPdf 17 13 41.7 -0.4
baz=124
PASC Pasadena Art C 124.04 31 ePKPdf PKPdf 17 13 43.0 +0.7
RRX Edison Barstow 124.06 30 ⇑PKiKP PKiKP 17 13 43.5 +1.0
baz=124
TUQ Turquoise Moun 124.11 28 ⇓PKiKP PKiKP 17 13 43.4 +0.7
baz=124
ISCO Idaho Springs 124.14 17 ePKIKP PKPdf 17 13 42.6 -0.1
ISCO MLR MLR
comp=Z,12μm,20.0s
ISCO Idaho Springs 124.14 17 ePKPdf PKPdf 17 13 42.6 -0.1
ISCO LR LR
comp=Z,12μm,20.0s
ERPA Erie 124.16 354 ePKPdf PKPdf 17 13 41.8 -0.4
ERPA LR LR
comp=Z,8μm,19.0s
M31A Lambtecht Ranc 124.23 11 ⇓PKiKP PKPdf 17 13 41.8 -0.6
baz=124
BFSC Mount Baldy Ra 124.25 31 ⇓PKiKP PKPdf 17 13 42.8 +0.1
baz=124
O25A Wiggins 124.26 16 ⇑PKiKP PKPdf 17 13 41.4 -1.2
baz=124
AAM Ann Arbor 124.27 357 ePKIKP PKPdf 17 13 41.7 -0.7
AAM MLR MLR
comp=Z,7μm,21.0s
AAM Ann Arbor 124.27 357 ePKPdf PKPdf 17 13 41.7 -0.7
AAM LR LR
comp=Z,7μm,21.0s
BGNE Belgrade 124.32 10 ⇓PKiKP PKPdf 17 13 42.2 -0.3
baz=124
BGNE Belgrade 124.32 10 ePKPdf PKPdf 17 13 42.4 -0.2
N28A Pribbeno Ranch 124.35 13 ⇓PKiKP PKPdf 17 13 42.2 -0.5
baz=124
O26A Horse Wrangler 124.35 15 ⇓PKiKP PKPdf 17 13 42.1 -0.7
baz=124
FMP Fort Macarthur 124.35 32 ⇓PKiKP PKiKP 17 13 43.3 +0.2
baz=124
HEC Hector,Ludlow 124.42 29 ⇑PKiKP PKiKP 17 13 44.3 +1.0
baz=124
N29A Votaw Ranch, W 124.42 12 ⇓PKiKP PKPdf 17 13 42.6 -0.3
baz=124
P23A Jefferson 124.47 18 ⇓PKiKP PKiKP 17 13 43.6 -0.1
baz=124
SCIA State Center 124.47 6 PFAKE 17 13 50.0 +7.2
SCIA LR LR
comp=Z,14μm,22.0s
CIS Catalina Islan 124.54 32 ⇑PKiKP PKiKP 17 13 43.9 +0.4
baz=124
N30A Hueftle Ranch, 124.55 12 ⇓PKiKP PKPdf 17 13 43.2 +0.1
baz=124
O27A Beecher Island 124.60 14 ⇓PKiKP PKPdf 17 13 42.9 -0.3
baz=124
P24A Kohler Place, 124.61 17 ⇑PKiKP PKPdf 17 13 43.4 0.0
baz=124
N31A Bailey Ranch, 124.74 11 ⇓PKiKP PKPdf 17 13 42.7 -0.7
baz=124
GMRC Granite Mounta 124.77 29 ⇑PKiKP PKiKP 17 13 45.1 +1.0
baz=124
P25A Willow Gulch B 124.81 16 ⇓PKiKP PKPdf 17 13 44.0 +0.2
baz=124
O28A Krutsinger Ran 124.83 14 ⇓PKiKP PKPdf 17 13 43.0 -0.7
baz=124
U15A North Rim 124.85 25 ⇑PKiKP PKiKP 17 13 45.3 +0.9
baz=125
Q23A Hartsel 124.91 18 ⇑PKiKP PKPdf 17 13 43.6 -0.5
baz=125
N32A Stulken Farm, 124.92 10 ⇓PKiKP PKPdf 17 13 43.0 -0.7
baz=125
P26A Davis Ranch, A 124.98 15 ⇓PKiKP PKPdf 17 13 44.1 +0.1
baz=125
MURC Murrieta 124.99 31 ⇓PKiKP PKiKP 17 13 45.0 +0.6
baz=125
O29A 4D Ranch, Culb 125.05 13 ⇓PKiKP PKPdf 17 13 43.5 -0.5
baz=125
Q24A Divide 125.05 17 ⇑PKiKP PKPdf 17 13 44.3 -0.1
baz=125
O30A MW Ranch, Wils 125.15 12 ⇑PKiKP PKPdf 17 13 43.7 -0.5
baz=125
P27A Ficken Ranch, 125.18 15 ⇓PKiKP PKPdf 17 13 43.9 -0.5
baz=125
BELC Belle Mtn. Jos 125.25 29 ⇓PKiKP PKPdf 17 13 43.9 -0.8
baz=125
NEE2 Needles Airpor 125.26 28 ⇓PKiKP PKiKP 17 13 45.4 +0.5
baz=125
W13A Hualapai Mount 125.31 27 PKiKP PKiKP 17 13 46.0 +0.7
baz=125
O31A Woolen Ranch, 125.32 11 ⇑PKiKP PKPdf 17 13 43.8 -0.8
baz=125
PFO Pinyon Flats O 125.35 30 ePKIKP PKPdf 17 13 45.9 +1.0
PFO MLR MLR
comp=Z,4μm,21.0s
PFO Pinyon Flats O 125.35 30 PKP PKPdf 17 13 45.9 +1.0
comp=Z,29nm,1.0s,baz=341,slow=1.0,SNR=17
PFO Pinyon Flats O 125.35 30 ⇑PKiKP PKiKP 17 13 45.7 +0.4
baz=125
PFO Pinyon Flats O 125.35 30 ePKPdf PKPdf 17 13 45.9 +1.0
PFO LR LR
comp=Z,4μm,21.0s
Q25A Bedland, Calha 125.35 16 ⇓PKiKP PKPdf 17 13 44.4 -0.5
baz=125
SSPA Standing Stone 125.35 351 ePKPdf PKPdf 17 13 44.0 -0.5
P28A Saint Francis 125.36 14 ⇓PKiKP PKPdf 17 13 44.4 -0.3
baz=125
O32A Brockman Farm, 125.41 10 ⇓PKiKP PKPdf 17 13 44.0 -0.7
baz=125
IRM Iron Mountain 125.52 29 ⇑PKiKP PKiKP 17 13 46.5 +1.0
baz=125
P29A Atwood 125.52 13 ⇑PKiKP PKPdf 17 13 44.3 -0.7
baz=125
Q26A Hugo 125.54 16 ⇑PKiKP PKPdf 17 13 45.0 -0.2
baz=125
R23A Moffat 125.57 18 ⇑PKiKP PKiKP 17 13 45.6 -0.1
baz=125
MVCO Mesa Verde 125.59 21 ePKPdf PKPdf 17 13 45.7 +0.2
MVCO LR LR
comp=Z,12μm,22.0s
109C Camp Elliot, M 125.61 31 ⇑PKiKP PKiKP 17 13 45.8 +0.2
baz=125
S22A 4UR Ranch, Cre 125.67 19 ⇓PKiKP PKPdf 17 13 45.8 +0.2
baz=125
KSCO Kaye Shedlock' 125.68 15 ⇓PKiKP PKPdf 17 13 45.0 -0.4
baz=125
KSCO Kaye Shedlock' 125.68 15 ePKPdf PKPdf 17 13 45.4 0.0
P30A Selden 125.72 12 ⇓PKiKP PKPdf 17 13 44.9 -0.4
baz=125
R24A Sanders Place, 125.74 17 ⇑PKiKP PKPdf 17 13 45.6 0.0
baz=125
BC3 Big Chuckawall 125.79 29 ⇓PKiKP PKiKP 17 13 46.9 +0.8
baz=126
Q28A Sharon Springs 125.83 14 ⇓PKiKP PKPdf 17 13 45.5 -0.1
baz=126
PDMCI Parker Dam,Lak 125.87 28 ⇓PKiKP PKiKP 17 13 47.3 +1.2
baz=126
P31A Stockton 125.92 12 ⇓PKiKP PKPdf 17 13 45.7 0.0
baz=126
MONP Monument Peak, 125.95 31 ⇓PKiKP PKiKP 17 13 47.3 +0.7
baz=126
S23A Nye Farm, Mont 125.96 18 ⇓PKiKP PKiKP 17 13 46.5 0.0
baz=126
P32A Huiting Farm, 125.97 11 ⇑PKiKP PKPdf 17 13 45.5 -0.3
baz=126
BAR Barrett 125.99 31 ePKPdf PKPdf 17 13 45.5 -0.5
WUAZ Wupatki 126.01 24 ePKPdf PKPdf 17 13 47.0 +0.9
WUAZ LR LR
comp=Z,8μm,22.0s
R25A Fountain Ranch 126.06 17 ⇓PKiKP PKPdf 17 13 45.7 -0.4
baz=126
R26A Arlington 126.14 16 ⇑PKiKP PKPdf 17 13 46.4 +0.1
baz=126
Q29A Oakley 126.19 13 ⇓PKiKP PKPdf 17 13 46.1 -0.2
baz=126
SWSC Sam W. Stewart 126.21 30 ⇓PKiKP PKiKP 17 13 47.6 +0.8
baz=126
S24A Houchin Ranch, 126.26 18 ⇑PKiKP PKPdf 17 13 47.0 +0.2
baz=126
Q30A Quinter 126.27 13 ⇑PKiKP PKPdf 17 13 46.1 -0.3
baz=126
SFIN Lafayette 126.29 360 ⇓PKiKP PKPdf 17 13 46.0 -0.3
baz=126
SFIN Lafayette 126.29 360 ePKPdf PKPdf 17 13 45.6 -0.7
ACSO Alum Creek Sta 126.29 356 ePKPdf PKPdf 17 13 45.7 -0.7
ACSO LR LR
comp=Z,7μm,20.0s
P33A Williams Farm, 126.31 10 ⇓PKiKP PKPdf 17 13 45.8 -0.6
baz=126
R27A Eads 126.33 15 ⇑PKiKP PKPdf 17 13 46.3 -0.3
baz=126
Q31A Ellis 126.42 12 ⇓PKiKP PKPdf 17 13 46.2 -0.4
baz=126
S25A Robets Cordova 126.47 17 ⇑PKiKP PKPdf 17 13 46.5 -0.5
baz=126
PMSA Palmer Station 126.48 192 PFAKE 17 14 00.0 +14
PMSA LR LR
comp=Z,23μm,22.0s
R28A Tribune 126.52 14 ⇑PKiKP PKPdf 17 13 46.6 -0.4
baz=126
T23A Casias Ranch, 126.57 19 ⇑PKiKP PKPdf 17 13 47.5 +0.2
baz=126
GLA Glamis 126.58 29 ePKIKP PKPdf 17 13 48.2 +1.0
GLA Glamis 126.58 29 ⇓PKiKP PKiKP 17 13 48.4 +0.8
baz=126
GLA Glamis 126.58 29 ePKPdf PKPdf 17 13 48.2 +1.0
Q32A Meitler Ranch, 126.59 11 ⇑PKiKP PKPdf 17 13 46.4 -0.5
baz=126
R29A Marienthal 126.60 14 ⇓PKiKP PKPdf 17 13 47.1 0.0
baz=126
Y14A Wickenburg 126.68 27 ⇓PKiKP PKiKP 17 13 48.6 +0.8
baz=126
Q33A Connelly Farm, 126.72 10 ⇑PKiKP PKPdf 17 13 46.6 -0.6
baz=126
T24B San Luis 126.74 18 ⇓PKiKP PKiKP 17 13 48.0 -0.2
baz=126
S26A Kim 126.77 16 ⇑PKiKP PKPdf 17 13 47.4 -0.1
baz=126
KSU1 Kansas State U 126.82 9 ePKPdf PKPdf 17 13 47.3 -0.1
KSU1 LR LR
comp=Z,12μm,21.0s
S27A Las Animas 126.87 16 ⇑PKiKP PKPdf 17 13 47.4 -0.3
baz=127
R30A Dighton 126.92 13 ⇑PKiKP PKPdf 17 13 47.1 -0.6
baz=127
X16A Lo Mia Camp, P 126.93 25 ⇓PKiKP PKiKP 17 13 49.0 +0.6
baz=127
T25A Trinidad 126.96 17 ⇑PKiKP PKPdf 17 13 47.5 -0.5
baz=127
W18A Petrified Fore 127.00 23 ⇑PKiKP PKiKP 17 13 49.0 +0.4
baz=127
W18A Petrified Fore 127.00 23 ePKPdf PKPdf 17 13 48.8 +0.7
R31A Burdett 127.08 12 ⇑PKiKP PKPdf 17 13 47.9 -0.1
baz=127
R32A Long Quarter, 127.11 11 ⇓PKiKP PKPdf 17 13 47.9 -0.1
baz=127
T26A Comanche Natio 127.16 17 ⇑PKiKP PKPdf 17 13 48.0 -0.3
baz=127
U23A El Rito 127.17 19 ⇑PKiKP PKiKP 17 13 49.1 +0.1
baz=127
Z14A Wintersburg 127.19 27 ⇑PKiKP PKiKP 17 13 49.5 +0.8
baz=127
S28A Manter 127.21 15 ⇑PKiKP PKPdf 17 13 48.1 -0.2
baz=127
V22A San Miguel Ran 127.31 20 ⇓PKiKP PKiKP 17 13 49.8 +0.6
baz=127
113A Mohawk Valley, 127.31 28 ⇑PKiKP PKiKP 17 13 49.3 +0.3
baz=127
R33A Olander Ranch, 127.36 11 ⇑PKiKP PKPdf 17 13 48.0 -0.4
baz=127
S29A Ulysses 127.37 14 ⇓PKiKP PKPdf 17 13 48.3 -0.3
baz=127
X18A Snowflake 127.44 24 ⇓PKiKP PKiKP 17 13 49.9 +0.4
baz=127
BLO Bloomington 127.49 359 ePKIKP PKPdf 17 13 47.3 -1.4
BLO Bloomington 127.49 359 ePKPdf PKPdf 17 13 47.3 -1.4
S30A Montezuma 127.50 13 ⇑PKiKP PKPdf 17 13 48.7 -0.1
baz=127
T27A Campo 127.50 16 ⇑PKiKP PKPdf 17 13 48.7 -0.2
baz=127
T28A Walsh 127.60 15 ⇓PKiKP PKPdf 17 13 48.1 -0.9
baz=127
U25A Circle Dot Ran 127.65 18 ⇓PKiKP PKPdf 17 13 49.1 -0.2
baz=127
CBN Corbin Frederi 127.65 350 PFAKE 17 14 00.0 +11
CBN LR LR
comp=Z,8μm,22.0s
V23A Ortiz Mt. (NFS 127.70 20 ⇓PKiKP PKiKP 17 13 50.8 +0.8
baz=127
S31A Mullinville 127.73 12 ⇑PKiKP PKPdf 17 13 48.9 -0.4
baz=127
S32A Newby Ranch, P 127.77 12 ⇑PKiKP PKPdf 17 13 48.8 -0.5
baz=128
T29A Hugoton 127.77 14 ⇓PKiKP PKPdf 17 13 49.1 -0.3
baz=128
U26A Atchley Ranch, 127.85 17 ⇓PKiKP PKPdf 17 13 49.6 -0.1
baz=128
OLIL Olney 127.92 1 PKPdf PKPdf 17 13 49.4 -0.1
SLM Saint Louis 127.94 3 ePKIKP PKPdf 17 13 48.9 -0.6
SLM Saint Louis 127.94 3 ePKPdf PKPdf 17 13 48.9 -0.6
V24A Rampart Ranch, 128.01 19 ⇓PKiKP PKiKP 17 13 50.5 -0.1
baz=128
T30A Plains 128.05 14 ⇓PKiKP PKPdf 17 13 49.8 0.0
baz=128
S33A Kaszmaul Farm, 128.05 11 ⇓PKiKP PKPdf 17 13 49.7 -0.1
baz=128
U27A Thompson Grove 128.08 16 ⇓PKiKP PKPdf 17 13 49.5 -0.5
baz=128
S34A Willow Spring 128.10 10 ⇓PKiKP PKPdf 17 13 49.6 -0.3
baz=128
V25A Rancho No Teng 128.11 18 ⇑PKiKP PKPdf 17 13 50.5 +0.3
baz=128
T31A Randall Ranch, 128.19 13 ⇓PKiKP PKPdf 17 13 49.9 -0.2
baz=128
T32A Huddler Ranch, 128.27 12 ⇓PKiKP PKPdf 17 13 50.1 -0.1
baz=128
U28A Mallet 128.27 16 ⇑PKiKP PKPdf 17 13 49.9 -0.5
baz=128
S36A Lake Cedric, C 128.32 9 ⇓PKiKP PKPdf 17 13 49.8 -0.4
baz=128
ANMO Albuquerque 128.34 20 ⇑PKIKP PKPdf 17 13 50.8 +0.1
ANMO Albuquerque 128.34 20 PKP PKPdf 17 13 51.6 +1.0
comp=Z,35nm,0.9s,baz=305,slow=0.1,SNR=50
ANMO Albuquerque 128.34 20 ePKPdf PKPdf 17 13 51.3 +0.6
ANMO PKP PKPdf 17 13 51.6 +1.0
ANMO LR LR
comp=Z,10μm,22.0s
V26A Tequesquite Ra 128.39 17 ⇑PKiKP PKPdf 17 13 50.0 -0.6
baz=128
WCI Wyandotte Cave 128.43 359 ePKIKP PKPdf 17 13 49.8 -0.7
WCI Wyandotte Cave 128.43 359 ePKPdf PKPdf 17 13 49.8 -0.7
214A Organ Pipe Nat 128.44 28 ⇑PKiKP PKiKP 17 13 51.7 +0.3
baz=128
214A Organ Pipe Nat 128.44 28 ePKPdf PKiKP 17 13 51.7 +0.3
W24A Lazy 6 Ranch, 128.44 19 ⇑PKiKP PKiKP 17 13 51.7 +0.2
baz=128
U29A Oasis Ranch, S 128.45 15 ⇑PKiKP PKPdf 17 13 49.9 -0.8
baz=128
T33A Patterson Ranc 128.50 11 ⇓PKiKP PKPdf 17 13 50.3 -0.3
baz=128
U30A WK&E Inc. Balk 128.52 14 ⇓PKiKP PKPdf 17 13 50.6 -0.2
baz=128
LAZ Ladron 128.60 21 ePKPdf PKPdf 17 13 52.0 +0.8
V27A Dan Oppiter Fa 128.70 16 ⇓PKiKP PKPdf 17 13 51.1 -0.1
baz=128
W25A X Bar L Ranch, 128.73 18 ⇑PKiKP PKPdf 17 13 51.5 +0.2
baz=128
LPM Los Pinos Moun 128.86 21 ePKPdf PKPdf 17 13 51.9 +0.3
U31A Nine Bar Ranch 128.86 13 ⇓PKiKP PKPdf 17 13 51.4 0.0
baz=129
V28A Chaning 128.87 16 ⇑PKiKP PKPdf 17 13 51.3 -0.3
baz=129
LENM Lemitar 128.87 21 ePKPdf PKPdf 17 13 52.2 +0.5
SIUC Southern Illin 128.91 2 ePKPdf PKPdf 17 13 50.2 -1.1
V29A Stinnett 128.93 15 ⇓PKiKP PKPdf 17 13 51.2 -0.5
baz=129
VWCC Virginia Weste 128.97 353 ePKPdf PKPdf 17 13 50.9 -0.7
Y22D IRIS PASSCAL I 128.97 21 ⇑PKiKP PKiKP 17 13 53.2 +0.7
baz=129
RCBR Riachuelo 129.00 274 PKP PKPdf 17 13 51.8 -0.5
comp=Z,36nm,1.0s,baz=91,slow=2.9,SNR=12
RCBR Riachuelo 129.00 274 ePKPdf PKPdf 17 13 51.8 -0.5
RCBR LR LR
comp=Z,8μm,22.0s
TUC Tucson 129.03 26 ePKIKP PKPdf 17 13 52.3 +0.4
TUC MLR MLR
comp=Z,8μm,22.0s
TUC Tucson 129.03 26 ePKPdf PKPdf 17 13 52.3 +0.4
TUC LR LR
comp=Z,8μm,22.0s
U32A Winter Ranch, 129.03 12 ⇓PKiKP PKPdf 17 13 51.7 0.0
baz=129
BLA Blacksburg 129.06 353 PFAKE 17 14 00.0 +8.2
BLA LR LR
comp=Z,7μm,22.0s
W26A Owens Ranch, T 129.06 18 ⇑PKiKP PKiKP 17 13 52.4 -0.2
baz=129
U33A Lingo Farm, Me 129.16 11 ⇑PKiKP PKPdf 17 13 51.8 -0.1
baz=129
V30A Spur Ranch, Mi 129.24 14 ⇓PKiKP PKPdf 17 13 52.4 +0.1
baz=129
U34A Anderson Ranch 129.26 11 ⇑PKiKP PKPdf 17 13 52.1 0.0
baz=129
U34A Anderson Ranch 129.26 11 ePKPdf PKPdf 17 13 52.2 0.0
W28A Vega 129.34 16 ⇑PKiKP PKPdf 17 13 52.3 -0.1
baz=129
V31A Spring Creek L 129.43 13 ⇓PKiKP PKiKP 17 13 53.2 -0.1
baz=129
BBSR BB Station 129.49 335 PFAKE 17 14 00.0 +7.4
BBSR LR LR
comp=Z,4μm,21.0s
W29A Amarillo 129.61 15 ⇓PKiKP PKPdf 17 13 52.3 -0.6
baz=129
V32A Arapaho 129.66 13 ⇑PKiKP PKPdf 17 13 53.1 +0.2
baz=129
V33A Lossen Ranch, 129.71 12 ⇑PKiKP PKPdf 17 13 53.0 0.0
baz=129
W30A Crocket Farms 129.82 14 ⇓PKiKP PKPdf 17 13 53.5 +0.1
baz=130
AMTX Amarillo 129.83 16 ePKPdf PKPdf 17 13 53.8 +0.4
V34A Guthrie 129.85 11 ⇑PKiKP PKPdf 17 13 53.5 +0.2
baz=130
V34A Guthrie 129.85 11 ePKPdf PKPdf 17 13 52.9 -0.3
PARMO Parma 129.93 3 ePKPdf PKPdf 17 13 53.9 +0.5
W31A Holland Ranch, 129.97 14 ⇑PKiKP PKPdf 17 13 53.6 0.0
baz=130
X28A Dimmitt 130.04 16 ⇓PKiKP PKPdf 17 13 53.5 -0.3
baz=130
121A Cookes Peak, D 130.04 23 ⇑PKiKP PKiKP 17 13 54.9 +0.2
baz=130
V35A Meyer Ranch, C 130.04 10 ⇓PKiKP PKPdf 17 13 53.6 0.0
baz=130
TUL1 Leonard 130.07 9 ⇑PKiKP PKPdf 17 13 53.8 +0.1
baz=130
TUL1 Leonard 130.07 9 ePKPdf PKPdf 17 13 54.0 +0.4
W32A Sentinel 130.19 13 ⇓PKiKP PKPdf 17 13 54.0 +0.1
baz=130
X29A Tulia 130.24 16 ⇓PKiKP PKPdf 17 13 54.0 -0.2
baz=130
W33A Caddo, Fort Co 130.32 12 ⇓PKiKP PKPdf 17 13 54.6 +0.4
baz=130
W34A Bridge Creek, 130.38 11 ⇓PKiKP PKPdf 17 13 54.7 +0.4
baz=130
W34A Bridge Creek, 130.38 11 ePKPdf PKPdf 17 13 54.4 +0.1
MSTX Muleshoe 130.39 17 ⇓PKiKP PKPdf 17 13 54.3 -0.2
baz=130
MSTX Muleshoe 130.39 17 ePKPdf PKPdf 17 13 54.2 -0.3
X30A Coker Ranch, T 130.45 15 ⇑PKiKP PKPdf 17 13 54.3 -0.2
baz=130
319A Douglas 130.47 25 ⇓PKiKP PKiKP 17 13 55.7 +0.2

baz=130
X31A McDonald Ranch 130.49 14 ⇓PKiKP **PKPdf 17 13 54.2 -0.3**
baz=130
WVT Waverly 130.52 1 *e*PKIKP **PKPdf 17 13 54.1 -0.4**
WVT Waverly 130.52 1 *e*PKPdf **PKPdf 17 13 54.1 -0.4**
Y28A McKinney Farm, 130.60 17 ⇓PKiKP **PKPdf 17 13 55.0 +0.2**
baz=130
GNAR Gosnell 130.62 3 *e*PKPdf **PKPdf 17 13 55.0 +0.3**
CNNC Cliffs of the 130.63 350 PFAKE 17 14 10.0 +15
CNNC LR LR
comp=Z,8μm,21.0s
WMOK Wichita Mounta 130.66 13 *e*PKIKP **PKPdf 17 13 54.2 -0.7**
WMOK MLR MLR
comp=Z,8μm,20.0s
WMOK Wichita Mounta 130.66 13 *e*PKPdf **PKPdf 17 13 54.2 -0.7**
WMOK LR LR
comp=Z,8μm,20.0s
Y29A Porterfield Fa 130.80 16 ⇑PKiKP **PKPdf 17 13 55.2 -0.1**
baz=130
X32A Elmer 130.85 13 ⇓PKiKP **PKPdf 17 13 55.0 -0.2**
baz=131
TKL Tuckaleechee C 130.90 356 *e*PKIKP **PKPdf 17 13 55.1 -0.2**
TKL Tuckaleechee C 130.90 356 PKP **PKPdf 17 13 55.6 +0.3**
comp=Z,14nm,0.8s,baz=20,slow=1.0,SNR=11
TKL Tuckaleechee C 130.90 356 *e*PKPdf **PKPdf 17 13 55.1 -0.2**
TKL PKP **PKPdf 17 13 55.6 +0.3**
X33A Lawton 130.91 12 ⇓PKiKP **PKPdf 17 13 55.1 -0.2**
baz=131
X34A Smith Ranch, M 130.99 12 ⇑PKiKP **PKPdf 17 13 55.5 +0.1**
baz=131
Y30A Stafford Cattl 130.99 15 ⇑PKiKP **PKPdf 17 13 55.3 -0.3**
baz=131
HBAR Harrisburg 130.99 4 *e*PKPdf **PKPdf 17 13 55.3 -0.1**
Y31A Rekieta Farm, 131.06 15 ⇓PKiKP **PKPdf 17 13 55.3 -0.4**
baz=131
Z28A Tucker Farm, M 131.14 17 ⇑PKiKP **PKPdf 17 13 56.0 0.0**
baz=131
KMSC Kings Mountain 131.20 354 ⇓PKiKP **PKPdf 17 13 55.3 -0.6**
baz=131
KMSC Kings Mountain 131.20 354 *e*PKPdf **PKPdf 17 13 55.4 -0.4**
Y32A R-V Farms, Ver 131.22 14 ⇓PKiKP **PKPdf 17 13 55.7 -0.2**
baz=131
Z29A Hungry Hill Ra 131.36 16 ⇓PKiKP **PKPdf 17 13 56.5 +0.2**
baz=131
Y33A Hilltop Ranch, 131.40 13 ⇓PKiKP **PKPdf 17 13 56.0 -0.2**
baz=131
Z30A Sanderson Ranc 131.49 16 ⇓PKiKP **PKPdf 17 13 56.1 -0.4**
baz=131
Y34A Reagan Ranch, 131.62 12 ⇑PKiKP **PKPdf 17 13 56.3 -0.3**
baz=131
Z31A Sharp Cattle R 131.71 15 ⇑PKiKP **PKPdf 17 13 56.5 -0.4**
baz=131
MIAR Mount Ida 131.72 7 *e*PKHKP PKPpre 17 13 47.5
MIAR *e* 17 13 56.8
MIAR MLR MLR
comp=Z,9μm,22.0s
MIAR Mount Ida 131.72 7 *e*PKPpre PKPpre 17 13 47.5
MIAR *e*PKPdf **PKPdf 17 13 56.8 0.0**
MIAR LR LR
comp=Z,9μm,22.0s
128A Castleberry Fa 131.74 17 ⇑PKiKP **PKPdf 17 13 57.1 0.0**
baz=131
Z32A Haskell 131.88 14 ⇑PKiKP **PKPdf 17 13 57.2 0.0**
baz=132
129A Stewart Farms, 131.90 17 ⇑PKiKP **PKPdf 17 13 57.4 0.0**
baz=132
Z33A Whitaker Ranch 132.06 13 ⇓PKiKP **PKPdf 17 13 57.3 -0.2**
baz=132
OXF Oxford 132.09 3 *e*PKIKP **PKPdf 17 13 57.6 +0.1**
OXF Oxford 132.09 3 *e*PKPdf **PKPdf 17 13 57.6 +0.1**
Z34A Collier Ranch, 132.16 12 ⇑PKiKP **PKPdf 17 13 57.6 -0.1**
baz=132
228A UT Block 9, Go 132.18 18 ⇓PKiKP **PKPdf 17 13 58.0 +0.1**
baz=132
130A Snyder 132.18 16 ⇑PKiKP **PKPdf 17 13 57.9 +0.1**
baz=132
131A Roby 132.26 15 ⇑PKiKP **PKPdf 17 13 58.2 +0.2**
baz=132
Z35A Perchaven, San 132.33 11 ⇑PKiKP **PKPdf 17 13 57.9 -0.1**
baz=132
ABTX Abilene, Hawle 132.49 14 ⇑PKiKP **PKPdf 17 13 58.9 +0.5**
baz=132
ABTX Abilene, Hawle 132.49 14 *e*PKPdf **PKPdf 17 13 58.7 +0.3**
229A Bryant Ranch, 132.54 17 ⇑PKiKP **PKPdf 17 13 58.8 +0.3**
baz=132
133A Hamilton Ranch 132.68 14 ⇑PKiKP **PKPdf 17 13 58.9 +0.2**
baz=132
230A Sterling City 132.81 16 ⇓PKiKP **PKPdf 17 13 59.3 +0.3**
baz=132
134A White-Moore Ra 132.90 13 ⇓PKiKP **PKPdf 17 13 59.4 +0.2**
baz=133
329A Wagon Wheel Ra 132.95 17 ⇓PKiKP **PKPdf 17 13 59.1 -0.2**
baz=133
231A Bronte 132.98 15 ⇑PKiKP **PKPdf 17 13 59.5 +0.2**
baz=133
135A Vickery Place, 133.05 12 ⇑PKiKP **PKPdf 17 13 59.4 0.0**
baz=133
NHSC New Hope 133.07 352 PFAKE 17 14 10.0 +11
NHSC LR LR
comp=Z,10μm,20.0s
GOGA Godfrey 133.11 356 *e*PKIKP **PKPdf 17 13 59.5 0.0**
GOGA MLR MLR
comp=Z,13μm,22.0s
GOGA Godfrey 133.11 356 *e*PKPdf **PKPdf 17 13 59.5 0.0**
GOGA LR LR
comp=Z,13μm,22.0s
232A Coleman 133.19 15 ⇑PKiKP **PKPdf 17 13 59.9 +0.2**
baz=133
233A Rising Star 133.25 14 ⇑PKiKP **PKPdf 17 14 00.0 +0.2**
baz=133
330A Mertzon 133.25 17 ⇑PKiKP **PKPdf 17 14 00.0 +0.1**
baz=133
137A Heron Place, G 133.32 10 ⇓PKiKP **PKiKP 17 14 00.6 -0.5**
baz=133
138A Matatall Enter 133.36 9 ⇓PKiKP **PKiKP 17 14 00.7 -0.5**
baz=133
234A Clairette 133.43 13 ⇓PKiKP **PKPdf 17 14 00.1 0.0**
baz=133
331A San Angelo 133.55 16 ⇑PKiKP **PKPdf 17 14 00.3 -0.1**
baz=133
WHTX Lake Whitney, 133.59 12 ⇓PKiKP **PKPdf 17 14 00.1 -0.3**
baz=133
WHTX Lake Whitney, 133.59 12 PKPdf **PKPdf 17 14 00.5 0.0**
LRAL Lakeview Retre 133.62 360 PKPpre PKPpre 17 13 53.5
332A Millersview 133.65 15 ⇑PKiKP **PKPdf 17 14 00.3 -0.3**
baz=133
429A Davenport Ranc 133.78 18 ⇑PKiKP **PKPdf 17 14 00.9 0.0**
baz=134
RKT Rikitea 133.79 109 *e*PP PP 17 16 31.7 +0.9
comp=Z,3μm,32.8s
RKT Rikitea 133.79 109 *e*SP SP 17 26 45.0 -0.8
RKT comp=Z,1μm,28.2s
RKT Rikitea *e*SS **SS 17 34 19.2 +3.4**
comp=Z,8μm,38.8s
RKT Rikitea 133.79 109 *e*LQ LQ 17 51 10.5
RKT comp=Z,10μm,40.5s
RKT *e*LR LR 17 56 38.4
comp=Z,9μm,30.0s
430A Baggett Ranch, 133.82 17 ⇑PKiKP **PKPdf 17 14 01.1 +0.1**
baz=134
237A Washetta, Mont 133.89 10 ⇓PKiKP **PKPdf 17 14 00.6 -0.4**
baz=134
333A Richland Sprin 133.89 14 ⇑PKiKP **PKPdf 17 14 01.1 +0.1**
baz=134
238A Jacksonville 134.00 9 ⇓PKiKP **PKPdf 17 14 00.9 -0.3**
baz=134
334A Lometa 134.06 13 ⇑PKiKP **PKPdf 17 14 01.0 -0.3**
baz=134
239A Gary 134.09 9 ⇑PKiKP **PKPdf 17 14 01.7 +0.4**
baz=134
431A Sonora 134.09 16 ⇑PKiKP **PKPdf 17 14 01.4 -0.1**
baz=134
432A Menard 134.12 15 ⇑PKiKP **PKPdf 17 14 01.3 -0.2**
baz=134
529A Stev Forest Ra 134.15 18 ⇓PKiKP **PKPdf 17 14 01.8 +0.2**
baz=134
335A Moody 134.28 12 ⇓PKiKP **PKPdf 17 14 01.8 +0.1**
baz=134
336A Riesel 134.30 12 ⇓PKiKP **PKPdf 17 14 01.8 +0.1**
baz=134
530A J-C Ranch, Com 134.39 17 ⇓PKiKP **PKPdf 17 14 02.3 +0.2**
baz=134
433A Art 134.41 14 ⇑PKiKP **PKPdf 17 14 01.7 -0.3**
baz=134
TXAR Lajitas Array 134.41 20 PKhKP PKPpre 17 13 48.7
comp=Z,1.2nm,0.6s,baz=260,slow=0.1,SNR=12
TXAR PKP **PKPdf 17 14 02.4 +0.2**
comp=Z,19nm,0.7s,baz=241,slow=0.9,SNR=41
TXAR PP **PP 17 16 34.8 +1.9**
comp=Z,17nm,1.0s,baz=349,slow=5.1,SNR=4.0
JCT Junction City 134.50 15 *e*PKHKP PKPpre 17 13 49.9
JCT *e* 17 14 02.9
JCT MLR MLR
comp=Z,10μm,22.0s
JCT Junction City 134.50 15 *e*PKPpre PKPpre 17 13 49.9
JCT *e*PKPdf **PKPdf 17 14 02.9 +0.7**
JCT LR LR
comp=Z,10μm,22.0s
434A Burnet 134.55 13 ⇑PKiKP **PKPdf 17 14 01.8 -0.5**
baz=134
531A Rocksprings 134.60 16 ⇓PKiKP **PKPdf 17 14 02.5 +0.1**
baz=134
338A Crockett 134.60 10 ⇑PKiKP **PKPdf 17 14 02.5 +0.2**
baz=134
435B Jarrell 134.73 13 ⇓PKiKP **PKPdf 17 14 02.7 +0.1**
baz=134
339A Huntington 134.75 9 ⇑PKiKP **PKPdf 17 14 02.9 +0.3**
baz=134
340A Bronson 134.76 8 ⇑PKiKP **PKPdf 17 14 03.1 +0.5**
baz=134
532A Rocksprings 134.80 16 ⇑PKiKP **PKPdf 17 14 03.1 +0.2**
baz=134
436A Wall Ranch, Ga 134.90 12 ⇑PKiKP **PKPdf 17 14 03.6 +0.7**
baz=135
437A Phantom Ranch, 134.97 11 ⇑PKiKP **PKPdf 17 14 03.3 +0.3**
baz=135
533A Kerrville 135.08 15 ⇑PKiKP **PKPdf 17 14 03.1 -0.3**
baz=135
TIGA Tifton 135.08 356 ⇑PKiKP **PKPdf 17 14 03.4 +0.2**
baz=135
438A Sam Houston St 135.17 10 ⇑PKiKP **PKiKP 17 14 04.2 -0.7**
baz=135
534A Blanco 135.25 14 ⇑PKiKP **PKPdf 17 14 03.5 -0.1**
baz=135
631A Perdido Creek 135.30 17 ⇓PKiKP **PKPdf 17 14 04.1 +0.4**
baz=135
EFI East Falkland 135.41 206 PFAKE 17 14 10.0 +6.9
EFI LR LR
comp=Z,9μm,22.0s
632A Uvalde 135.42 16 ⇓PKiKP **PKPdf 17 14 04.3 +0.4**
baz=135
535A Dale 135.46 13 ⇑PKiKP **PKPdf 17 14 04.1 +0.2**
baz=135
536A Bastrop 135.52 12 ⇑PKiKP **PKPdf 17 14 04.5 +0.4**
baz=135
633A Saathoff Ranch 135.63 15 ⇑PKiKP **PKPdf 17 14 04.7 +0.4**
baz=135
BRAL Brewton 135.63 360 PFAKE 17 14 20.0 +16
BRAL LR LR
comp=Z,8μm,22.0s
537A Green Hill Far 135.67 11 ⇑PKiKP **PKiKP 17 14 05.5 -0.4**
baz=135
538A Harpers Horsep 135.68 10 ⇑PKiKP **PKPdf 17 14 04.9 +0.6**
baz=135
HKT Hockley 135.88 11 PKHKP PKPpre 17 13 50.6
HKT *e* 17 14 04.9
HKT Hockley 135.88 11 PKPpre PKPpre 17 13 50.5
HKT *e*PKPdf **PKPdf 17 14 04.9 +0.2**
634A China Grove, S 135.90 14 ⇓PKiKP **PKPdf 17 14 05.2 +0.4**
baz=136
635A Leesville 136.03 13 ⇓PKiKP **PKPdf 17 14 05.3 +0.3**
baz=136
636A Smothers Creek 136.10 13 ⇑PKiKP **PKiKP 17 14 06.1 -0.8**
baz=136
732A Laxson Ranch, 136.11 16 ⇑PKiKP **PKPdf 17 14 05.6 +0.4**
baz=136
LPIG La Paz 136.20 31 PKP **PKPdf 17 14 06.8 +1.4**
comp=Z,24nm,0.3s,baz=160,slow=1.4,SNR=8.6
733A Divot King Ran 136.30 16 ⇓PKiKP **PKPdf 17 14 06.0 +0.4**
baz=136
USHA Ushuaia 136.35 196 PKP **PKPdf 17 14 06.3 +1.5**
comp=Z,43nm,1.0s,baz=251,slow=0.5,SNR=7.5
734A La Parita Cree 136.37 15 ⇓PKiKP **PKPdf 17 14 06.1 +0.4**
baz=136
832A Faith Ranch, C 136.53 17 ⇑PKiKP **PKPdf 17 14 06.5 +0.5**
baz=136
735A Kenedy 136.54 14 ⇓PKiKP **PKPdf 17 14 06.9 +0.9**
baz=136
833A Chaparral WMA, 136.65 16 ⇑PKiKP **PKPdf 17 14 06.7 +0.5**
baz=136
738A Farr-Stevens R 137.00 11 ⇑PKiKP **PKiKP 17 14 08.5 -0.2**
baz=137
834A Tilden 137.06 15 ⇑PKiKP **PKPdf 17 14 07.7 +0.7**
baz=137
835A Beeville 137.08 14 ⇓PKiKP **PKiKP 17 14 08.4 -0.5**
baz=137
933A Laredo 137.36 16 ⇑PKiKP **PKPdf 17 14 08.4 +0.8**
baz=137
934A Benavides 137.57 15 ⇓PKiKP **PKiKP 17 14 09.3 -0.6**
baz=137
034A Hebbronville 138.04 15 ⇑PKiKP **PKiKP 17 14 10.1 -0.7**
baz=138
PTCN Pitcairn Islan 138.05 112 PFAKE 17 14 20.0 +11
PTCN LR LR
comp=Z,7μm,21.0s
035A Encino 138.31 15 ⇑PKiKP **PKiKP 17 14 10.9 -0.5**
baz=138
ANWB Willy Bob 140.11 320 PFAKE 17 14 20.0 +7.2
ANWB LR LR
comp=Z,4μm,21.0s
GRTK Grand Turk 141.73 336 PFAKE 17 14 30.0 +14
GRTK LR LR
comp=Z,7μm,22.0s
FDF Fort de France 141.87 317 *e*PKIKP **PKPdf 17 14 16.7 +0.6**
FDF MLR MLR
comp=Z,4μm,22.0s
FDF Fort de France 141.87 317 *e*PKPdf **PKPdf 17 14 16.7 +0.6**
FDF LR LR
comp=Z,4μm,22.0s
BBGH Gun Hill 141.88 313 PFAKE 17 14 30.0 +14
BBGH LR LR
comp=Z,7μm,22.0s
MTP Monte Pirata 141.98 325 *e*PKPpre PKPpre 17 14 09.7
MTP PKPdf **PKPdf 17 14 16.8 +0.6**
BDFB Brasilia 142.14 262 PKhKP PKPpre 17 14 11.5
comp=Z,58nm,1.0s,baz=61,slow=3.8,SNR=28
ICMP Isla Caja de M 142.68 326 *e*PKPdf **PKPdf 17 14 17.0 -0.4**
TOSP Speyside 143.83 312 *e* PKPbc 17 14 17.2 +0.1
GRW Mount Saint Ca 144.04 314 *e* PKPbc 17 14 17.9 0.0
SDDR Presa de Saban 144.05 334 *e*PKPpre PKPbc 17 14 17.6 -0.2
SDDR LR LR
comp=Z,5μm,21.0s
BOT Bacolet 144.05 312 *e* **PKPab 17 14 16.9 -0.4**
GRGR Grenville 144.05 314 *e*PKPpre PKPbc 17 14 17.1 -0.8
GRGR LR LR
comp=Z,3μm,20.0s
TPR Prospect 144.08 312 *e* PKPbc 17 14 18.7 +0.7
CHRN Cochrane 144.47 197 ⇓*i*P **PKPab 17 14 18.1 +0.1**
GTBY Guantanamo Bay 144.64 340 *e*PKPdf **PKPab 17 14 19.1 -0.2**
GTBY LR LR
comp=Z,5μm,20.0s
TBH Brigand Hill 144.76 312 *e* **PKPdf 17 14 21.8 +0.7**
TRN Trinidad (W) 144.90 312 *e* **PKPdf 17 14 21.3 -0.1**
COYC Coyhaique 145.69 199 ⇓*i*P **PKPbc 17 14 22.1 -0.1**
TEIG Tepich 146.35 2 PKPbc **PKPab 17 14 25.4 -0.3**
comp=Z,372nm,0.9s,baz=335,slow=3.7,SNR=71
TEIG Tepich 146.35 2 *e*PKPbc **PKPdf 17 14 24.4 +0.6**
TEIG LR LR
comp=Z,6μm,20.0s
BBJ Bamboo Saint A 146.75 343 *i* P **PKPbc 17 14 26.4 +0.2**
GWJ Greenwich 146.89 342 *i* P **PKPdf 17 14 25.8 +1.0**
MBJ Montego Bay 146.90 344 *i* P **PKPbc 17 14 27.1 +0.5**
STH Stony Hill 146.91 342 *i* P **PKPbc 17 14 25.9 -0.7**
HOJ Hope 146.96 342 *i* P **PKPbc 17 14 26.4 -0.4**
TRQA Tornquist 146.97 218 *e*PKPdf **PKPdf 17 14 24.2 -0.1**
TRQA LR LR
comp=Z,11μm,19.0s
CVJ Coleyville 146.98 343 *i* P **PKPdf 17 14 25.7 +0.8**
MTDJ Mount Denham 146.98 343 *e*P **PKPdf 17 14 25.1 +0.1**
MTDJ LR LR
comp=Z,5μm,20.0s
MCJ Malvern 147.31 343 *i* P **PKPdf 17 14 25.8 +0.3**
PCRV Puerto La Cruz 147.49 316 PKPbc **PKPdf 17 14 26.5 +0.6**
comp=Z,152nm,0.8s,baz=163,slow=2.0,SNR=30
CMIG Matias Romero 148.54 14 PKPbc **PKPbc 17 14 30.2 -0.8**
comp=Z,40nm,0.5s,baz=347,slow=2.3,SNR=77
PLCA Paso Flores 149.34 205 *e*P **PKPdf 17 14 28.6 +0.4**
PTGA Pitinga 150.22 293 PKP **PKPdf 17 14 30.3 0.0**
comp=Z,51nm,1.1s,baz=60,slow=1.1,SNR=29
PTGA PKPbc **PKPbc 17 14 35.5 +0.2**
comp=Z,265nm,1.1s,baz=55,slow=4.8,SNR=57
PTGA Pitinga 150.22 293 *e*PKPdf **PKPdf 17 14 30.1 -0.1**
PTGA PKP **PKPdf 17 14 30.3 0.0**
PTGA *e*PKPbc **PKPbc 17 14 35.6 +0.2**
PTGA LR LR
comp=Z,7μm,19.0s
APG El Apazote 151.38 7 PKP **PKPdf 17 14 31.9 -0.4**
comp=Z,35nm,0.4s,baz=282,slow=3.8,SNR=7.6
APG PKPbc **PKiKP 17 14 40.0 +1.3**
comp=Z,234nm,1.0s,baz=312,slow=5.1,SNR=7.2
SIV San Ignacio 154.71 261 PKP **PKPdf 17 14 36.4 -0.4**
comp=Z,7.1nm,0.9s,baz=112,slow=2.1,SNR=19
SIV PP **PP 17 18 35.6 -0.8**
comp=Z,6.6nm,1.0s,baz=130,slow=11,SNR=3.8
CFAA Coronel Fontan 155.08 221 PKP **PKPdf 17 14 37.4 +0.4**
comp=Z,3.4nm,0.9s,baz=148,slow=1.0,SNR=41
CFAA PKPab **PKPab 17 15 01.0 -0.4**
comp=Z,19nm,1.1s,baz=125,slow=3.0,SNR=13
CFAA PP **PP 17 18 35.2 -1.9**
comp=Z,0.3nm,0.5s,baz=104,slow=7.6,SNR=3.0
SAML Samuel 156.07 279 *e*PKPdf **PKPdf 17 14 38.0 -0.7**
SAML LR LR
comp=Z,12μm,21.0s
JTS JuntasAbangare 156.15 355 PKIKP **PKPdf 17 14 36.8 -2.1**
JTS MLR MLR
comp=Z,7μm,22.0s
JTS JuntasAbangare 156.15 355 PKP **PKPdf 17 14 36.8 -2.1**
comp=Z,3.0nm,0.5s,baz=170,slow=23,SNR=1.6
JTS JuntasAbangare 156.15 355 PKP **PKPdf 17 14 36.8 -2.1**
JTS LR LR
comp=Z,7μm,22.0s
BCIP Isla Barro Col 156.24 342 *e*PKPdf **PKPdf 17 14 38.7 -0.2**
BCIP LR LR
comp=Z,5μm,20.0s
ROSC El Rosal 157.68 324 PKP **PKPdf 17 14 42.0 +0.7**
comp=Z,66nm,1.2s,baz=82,slow=3.0,SNR=36
LCO Las Campanas 158.39 222 *e*PKPdf **PKPdf 17 14 42.0 +0.5**
LCO LR LR
comp=Z,17μm,21.0s
LVC Limon Verde 160.53 240 *e*PKPdf **PKPdf 17 14 44.3 +0.1**
LVC LR LR
comp=Z,9μm,22.0s
LPAZ La Paz 161.46 259 PKIKP **PKPdf 17 14 45.6 -0.2**
LPAZ pmax pmax
comp=Z,16nm,0.9s
LPAZ La Paz 161.46 259 PKP **PKPdf 17 14 45.6 -0.2**
comp=Z,16nm,0.9s,baz=39,slow=3.2,SNR=63
OTAV Otavalo 163.78 327 *e*PKPdf **PKPdf 17 14 47.9 -0.1**
OTAV LR LR
comp=Z,5μm,21.0s
PAYG Puerto Ayora 166.77 14 *e*PKPdf **PKPdf 17 14 50.2 +0.3**
PAYG LR LR
comp=Z,8μm,19.0s
ATAH Atahualpa 169.27 306 PKP **PKPdf 17 14 52.9 +0.8**
comp=Z,38nm,1.0s,baz=55,slow=2.3,SNR=35
ATAH PP **PP 17 19 55.0 +1.4**
comp=Z,19nm,1.0s,baz=133,slow=3.6,SNR=4.4
NNA Nana 169.84 278 *e*PKIKP **PKPdf 17 14 52.0 0.0**
NNA 17 20 01.0
NNA MLR MLR
comp=Z,6μm,20.0s
NNA Nana 169.84 278 PKP **PKPdf 17 14 52.0 0.0**
comp=Z,9.7nm,0.7s,baz=191,slow=4.7,SNR=5.9
NNA PP **PP 17 20 01.0 +4.1**
comp=Z,5.2nm,0.4s,baz=63,slow=5.8,SNR=4.5
NNA Nana 169.84 278 *e*PKPdf **PKPdf 17 14 52.0 0.0**
NNA PP **PP 17 20 01.0 +4.1**
NNA LR LR
comp=Z,6μm,20.0s

CASC 30 17:06:37.4±2.0, 14°.14N×91°.25W, h93km±14km, MD3.6, 2C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.41**	**295**	⇑*e*P	Pn	17 06 53.3	+1.5
NBG	**Las Nubes**	**0.98**	**63**	*e*P	Pn	17 06 57.7	+0.2
NBG				*e*S	Sn	17 07 14.6	+2.1
RBDL	**Robledal**	**1.52**	**91**	⇓*e*P	Pn	17 07 03.1	-0.6
SBLS	**San Blas**	**1.61**	**101**	*e*P	Pn	17 07 05.1	+0.1
SBLS				*e*S	Sn	17 07 27.9	+2.0
SNJE	**San Jose**	**1.62**	**99**	*e*P	Pn	17 07 04.7	-0.4
MRL	**Marmol**	**1.77**	**58**	⇑*e*P	Pn	17 07 07.8	+0.8
MRL				*e*S	Sn	17 07 30.5	+1.1

*IDC **30** 17:14:39.7±0.9, 13°.55N×92°.69E, h0km, mb4.1/11, mb1 4.2/12, mb1mx3.9/46, mbtmp4.0/12, ML3.4/1, Error ellipse: s-maj=40.0km s-min=16.1km az=51.0*
*ISCJB **30** 17:14:42.4±0.6, 13°.66N±0°.08×92°.94E±0°.08, h29km, mb4.1/14, Error ellipse: s-maj=11.9km s-min=10.7km az=154.7*
*NEIC **30** 17:14:44.8±0.5, 13°.56N×92°.74E, h35km, mb4.4/4, Error ellipse: s-maj=16.2km s-min=9.8km az=60.0*

ISC 30 17:14:44.2±0.8, 13°.7N±0°.1×92°.9E±0°.1, h29km, n23, σ0°85/19, mb4.1/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.56**	**50**	Pn	**Pn**	**17 16 33.4**	**+0.9**
	0.2nm,0.3s,baz=242,slow=14,SNR=1.3						
CMAR				Sn	**Sn**	**17 17 56.0**	**-1.3**
	0.3nm,0.3s,baz=239,slow=28,SNR=5.0						
LSA	**Lhasa**	**16.05**	**355**	*e*P	**P**	**17 18 31.0**	**-0.5**
	5.6nm,0.7s						
H08S3	**Diego Garcia H**	**29.25**	**225**	T	T	17 53 02.7	
	baz=45,slow=75,SNR=2.5						
H08S2	**Diego Garcia H**	**29.26**	**225**	T	T	17 53 17.5	
	baz=45,slow=75,SNR=3.9						
H08S1	**Diego Carcia H**	**29.27**	**225**	T	T	17 53 02.7	
	baz=45,slow=75,SNR=3.0						
MKAR	**Makanchi Array**	**34.21**	**347**	P	**P**	**17 21 27.6**	**+0.4**
	1.3nm,0.7s,baz=160,slow=8.8,SNR=5.5						
KURBB	**Kurchatov Arra**	**38.67**	**345**	P	**P**	**17 22 06.1**	**+0.9**
	2.7nm,0.8s,baz=161,slow=8.0,SNR=8.9						
KURK	**Kurchatov**	**38.74**	**346**	*e*P	**P**	**17 22 06.7**	**+0.9**
	7.6nm,1.5s						
GEYT	**Alibeck**	**39.17**	**314**	P	**P**	**17 22 10.8**	**+1.2**
	2.5nm,0.7s,baz=148,slow=8.7,SNR=4.8						
ZALV	**Zalesovo Beam**	**40.70**	**353**	P	**P**	**17 22 22.7**	**+0.7**
	3.2nm,0.7s,baz=174,slow=8.1,SNR=8.7						
H01W3	**Cape Leeuwin H**	**52.32**	**158**	T	T	18 21 04.3	
	baz=327,slow=76,SNR=142						
H01W2	**Cape Leeuwin H**	**52.34**	**158**	T	T	18 21 00.9	
	baz=327,slow=76,SNR=155						
H01W1	**Cape Leeuwin H**	**52.34**	**158**	T	T	18 21 04.3	
	baz=327,slow=76,SNR=92						
WRA	**Warramunga Arr**	**52.73**	**128**	P	**P**	**17 23 57.0**	**+0.4**
	1.2nm,0.9s,baz=296,slow=9.6,SNR=14						
WRA				PcP	**PcP**	**17 25 06.4**	**+0.2**
	0.7nm,0.5s,baz=320,slow=2.9,SNR=7.5						
WRAB	**Tennant Creek**	**52.73**	**128**	*e*P	**P**	**17 23 57.1**	**+0.4**
	4.0nm,0.7s						
ASAR	**Alice Springs**	**54.65**	**132**	P	**P**	**17 24 11.4**	**+0.7**
	1.0nm,0.4s,baz=307,slow=6.8,SNR=36						
BRTR	**Keskin Array B**	**57.79**	**308**	P	**P**	**17 24 31.9**	**-1.2**
	0.7nm,0.7s,baz=131,slow=8.1,SNR=4.0						
FINES	**FINESS Array B**	**67.06**	**331**	P	**P**	**17 25 34.1**	**-0.3**
	1.3nm,0.5s,baz=113,slow=5.9,SNR=4.5						
ARCES	**ARCESS Array B**	**69.44**	**340**	P	**P**	**17 25 49.5**	**+0.2**
	6.9nm,1.1s,baz=92,slow=6.8,SNR=5.4						
GERES	**GERESS Array B**	**72.73**	**317**	P	**P**	**17 26 09.7**	**-0.1**
	1.1nm,0.7s,baz=66,slow=3.2,SNR=6.2						
NB2	**NORSAR Subarra**	**74.12**	**330**	P	**P**	**17 26 17.1**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=89,slow=5.9						
NOA	**NORSAR Array B**	**74.12**	**330**	P	**P**	**17 26 16.4**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=91,slow=5.9,SNR=4.3						
VNDA	**Vanda**	**98.81**	**168**	*e*P	**P**	**17 28 19.7**	**-0.9**
	comp=Z,2.7nm,1.1s						

WEL 30 17:22:30.9±1.4, 34°.90S×178°.23E, h33km, ML3.7/3, Error ellipse: s-maj=22.9km s-min=9.6km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**2.88**	**187**	P*	Pn	17 23 14.9	+0.5
WMGZ	**Waiomatatini S**	**2.92**	**177**	PN	Pn	17 23 14.9	-0.1
WMGZ				SN	Sn	17 23 45.5	-3.5
PUZ	**Puketiti**	**3.17**	**180**	PN	Pn	17 23 17.3	-1.2
PUZ				SN	Sn	17 23 53.9	-1.3
URZ	**Urewera**	**3.48**	**195**	P*	Pn	17 23 22.2	-0.5
MWZ	**Matawai**	**3.48**	**189**	P*	Pn	17 23 22.1	-0.7
MWZ				S*	Sn	17 24 03.5	+0.7
RIGZ	**Rimuhau**	**3.82**	**186**	PN	Pn	17 23 25.4	-2.0
KNZ	**Kokohu**	**4.14**	**186**	PN	Pn	17 23 28.6	-3.1

*NNC **30** 17:43:57.9±3.1, 39°.64N×73°.67E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=40.4km s-min=15.5km az=72.0*
*KRNET **30** 17:43:57.4±0.1, 39°.77N×74°.05E, h3km, mb3.6*

ISC 30 17:43:57.5±2.1, 39°.64N±0°.08×73°.77E±0°.07, h4km±13km, n11, σ1§72/16, 12C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.43**	**331**	⇑P	**Pg**	**17 44 04.8**	**-1.0**
	72nm,0.2s						
SFK				⇑S	**Sg**	**17 44 11.8**	**+0.4**
	21nm,0.2s						
OHH	**Osh**	**1.17**	**320**	*e*P	**Pn**	**17 44 20.0**	**-0.7**
	baz=308						
OHH				*e*S	**Sn**	**17 44 38.5**	**+1.4**
	baz=308						
ARSB	**Arslanbob**	**1.79**	**341**	*e*P	**Pg**	**17 44 31.7**	**-0.1**
	baz=333						
ARSB				*e*S	**Sg**	**17 44 57.5**	**+2.5**
	baz=333						
ARLS	**Aral**	**2.26**	**10**	*i* P	**Pb**	**17 44 37.6**	**-1.4**
	baz=5.0						
ARLS				*e*S	**Sb**	**17 45 06.0**	**-1.4**
	baz=5.0						
BTK	**Batken**	**2.31**	**281**	*e*P	**Pg**	**17 44 42.5**	**+0.7**
	baz=278						
BTK				*e*S	**Sg**	**17 45 14.5**	**+2.8**
	baz=278						
NRN	**Naryn**	**2.47**	**43**	⇓*i*P	**Pn**	**17 44 40.6**	**+1.7**
	baz=41						
NRN				⇓*e*S	**Sn**	**17 45 10.0**	**+0.3**
	baz=41						
MNAS	**Manas**	**3.00**	**342**	⇑Pn	**Pb**	**17 44 49.4**	**-2.3**
	1.0nm,0.4s						
MNAS				⇑Lg	Lg	17 45 32.9	
	4.9nm,0.6s						
AAK	**Ala-Archa**	**3.04**	**10**	⇑Pn	**Pb**	**17 44 53.0**	**+0.7**
	2.3nm,0.7s						
AAK				⇑Lg	Lg	17 45 32.6	
	3.8nm,0.4s						
TKM2	**Tokmak 2**	**3.56**	**22**	⇑Pn	**Pb**	**17 44 59.3**	**-1.8**
	1.0nm,0.5s						
TKM2				⇑Lg	Lg	17 45 47.1	
	4.3nm,0.6s						
DZET	**Dzherino**	**3.93**	**259**	⇑Pg	**Pg**	**17 45 11.4**	**-1.3**
	2.5nm,0.4s						
DZET				⇑Lg	Lg	17 46 06.6	
	14nm,0.5s						
KK31	**Karatay Array**	**4.24**	**326**	⇑Pg	Pg	17 45 15.3	-3.4
	0.3nm,0.3s,baz=145,slow=16						
KK31				⇑Lg	Lg	17 46 15.2	
	0.8nm,0.3s,baz=144,slow=31						

*IDC **30** 17:50:44.2±1.9, 1°.17N×125°.57E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.1/40, mbtmp3.5/3, Error ellipse: s-maj=185.0km s-min=23.7km az=65.0*
*DJA **30** 17:50:55.6±1.7, 1°N±4°×12°5E±°, h24km±22km, M4.0/10, mb4.4/2, mB5.0/1, MLv3.8/10, Mw(mB)4.3/1*
*ISCJB **30** 17:50:56.3±0.7, 0°.65N±0°.08×125°.38E±0°.04, h79km, mb3.4/3, Error ellipse: s-maj=11.3km s-min=5.6km az=11.2*

ISC 30 17:50:56.9±1.3, 0°.70N±0°.09×125°.39E±0°.04, h79km, n11, σ1§24/14, mb3.3/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.42**	**265**	P	**Pn**	**17 51 19.9**	**-1.2**
KMSI				S	**Sn**	**17 51 38.9**	**-0.5**
TNTI	**Ternate**	**1.98**	**88**	P	**Pn**	**17 51 27.9**	**-0.5**
TNTI				S	**Sn**	**17 51 52.4**	**-0.1**
GTOI	**Gorontalo**	**2.38**	**268**	P	**Pn**	**17 51 34.1**	**+0.2**
LBMI	**Labuha**	**2.49**	**122**	P	**Pn**	**17 51 36.0**	**+0.6**
LBMI				S	**Sn**	**17 52 07.1**	**+2.2**
SANI	**Sanana**	**2.80**	**168**	P	**Pn**	**17 51 38.8**	**-0.7**
SANI				S	**Sn**	**17 52 11.0**	**-1.3**
MRSI	**Marisa**	**3.46**	**266**	P	**Pn**	**17 51 49.2**	**+0.7**
APSI	**Ampana**	**4.07**	**247**	P	**Pn**	**17 51 59.0**	**+2.2**
NLAI	**Namlea**	**4.27**	**156**	P	**Pn**	**17 51 59.9**	**+0.4**
WRA	**Warramunga Arr**	**22.31**	**157**	P	**P**	**17 55 46.7**	**-1.4**
	0.5nm,0.4s,baz=336,slow=10,SNR=13						
ASAR	**Alice Springs**	**25.60**	**162**	P	**P**	**17 56 19.3**	**+0.4**
	0.4nm,0.3s,baz=342,slow=12,SNR=14						
MKAR	**Makanchi Array**	**59.30**	**327**	P	P	18 00 46.0	-4.6
	0.3nm,0.3s,baz=121,slow=7.8,SNR=10						

GUC 30 17:51:46.2±0.9, 36°.08S×73°.00W, h27km±8km, ML3.9, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.18**	**107**	⇓*i*P	Pb	17 51 52.3	+0.4
COCH				*i* S	Sb	17 51 55.6	-0.1
COCH				IAML		17 51 56.0	
	comp=E,25μm,0.2s						
CCSP	**San Pedro de C**	**0.77**	**187**	*i* S1	Sb	17 52 10.9	-0.2
LNCH	**Linares**	**1.16**	**79**	⇓*i*P	Pb	17 52 09.7	+2.1
LNCH				*i* S	Sb	17 52 25.5	+3.4
LNCH				IAML		17 52 25.9	
	comp=E,7μm,1.0s						
TALC	**Talca**	**1.30**	**59**	*e*P1	Pn	17 52 08.3	-0.3
TALC				*i* S	Sb	17 52 25.7	-0.6
ROCH	**El Roble**	**3.51**	**28**	*e*P4	Pn	17 52 39.4	+0.2

IDC 30 18:01:46.5±9.0, 7°.14S×130°.16E, h120km±94km, mb3.4/1, mb1 3.5/4, mb1mx3.0/32, mbtmp3.8/4, ML3.9/3, Error ellipse: s-maj=79.8km s-min=29.4km az=33.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.11**	**244**	P	Pn	18 03 28.6	+0.6
	4.3nm,0.3s,baz=330,slow=0.5,SNR=3.1						
BATI				S	Sn	18 04 47.8	+0.4
	1.3nm,0.3s,baz=135,slow=20,SNR=1.5						
WRA	**Warramunga Arr**	**13.36**	**163**	P	Pn	18 04 49.8	-1.8
	0.6nm,0.3s,baz=343,slow=13,SNR=6.0						
WRA				S	Sn	18 07 13.7	-5.2
	0.8nm,0.3s,baz=338,slow=23,SNR=8.2						
ASAR	**Alice Springs**	**16.82**	**168**	P	P	18 05 36.5	+1.3
	0.3nm,0.3s,baz=337,slow=8.4,SNR=6.0						
ASAR				S	Sn	18 08 38.2	-4.2
	0.2nm,0.3s,baz=349,slow=25,SNR=4.4						
MKAR	**Makanchi Array**	**68.43**	**327**	P	P	18 12 35.4	-0.1
	0.4nm,0.5s,baz=114,slow=8.0,SNR=7.3						

*ISCJB **30** 18:05:16.6±0.5, 67°.06N±0°.02×20°.98E±0°.09, h0km, Error ellipse: s-maj=4.9km s-min=3.5km az=178.4*
*UPP **30** 18:05:17.5, 67°.07N×20°.96E, h0km, ML1.8, Mining explosion.*
*CSEM **30** 18:05:17.6±0.2, 67°.08N×20°.92E, h2km, ML1.8, Error ellipse: s-maj=6.2km s-min=4.7km az=79.0, Mining explosion.*
*IDC **30** 18:05:17.6±1.2, 67°.15N×21°.21E, h0km, mb1 2.9/3, mb1mx2.8/44, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=17.6km s-min=8.5km az=114.0*
*HEL **30** 18:05:18.3±0.1, 67°.06N×20°.94E, h0km, ML2.0, ML1.8(UPP), Explosion*

ISC 30 18:05:17.5±0.8, 67°.07N±0°.02×20°.91E±0°.03, h0km, n48, σ0§81/65, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.72**	**135**	*e*P	**Pg**	**18 05 30.8**	**-0.5**
ERTU	**Ertsjaerv**	**0.72**	**135**	P	**Pg**	**18 05 30.9**	**-0.5**
ERTU	**Ertsjaerv**	**0.72**	**135**	P	**Pg**	**18 05 30.9**	**-0.5**
HARU	**Harads**	**0.91**	**178**	*e*P	**Pg**	**18 05 34.5**	**-0.4**
HARU	**Harads**	**0.91**	**178**	P	**Pg**	**18 05 34.5**	**-0.4**
HARU	**Harads**	**0.91**	**178**	P	**Pg**	**18 05 34.5**	**-0.4**
SALU	**Saltoluokta**	**0.99**	**290**	*e*P	**Pg**	**18 05 36.3**	**-0.1**
SALU	**Saltoluokta**	**0.99**	**290**	P	**Pg**	**18 05 36.3**	**-0.1**
SALU	**Saltoluokta**	**0.99**	**290**	P	**Pg**	**18 05 36.3**	**-0.1**
LANU	**Lannavaara**	**1.07**	**22**	*e*P	**Pg**	**18 05 37.2**	**-0.7**
LANU				*e*S	**Sg**	**18 05 51.6**	**-0.2**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**18 05 37.3**	**-0.7**
LANU				S	**Sg**	**18 05 51.6**	**-0.2**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**18 05 37.3**	**-0.7**
NIKU	**Nikkaluokta**	**1.08**	**319**	*e*P	**Pg**	**18 05 37.9**	**-0.3**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**18 05 37.9**	**-0.3**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**18 05 37.9**	**-0.3**
KALU	**Kalix**	**1.56**	**140**	*e*P	**Pn**	**18 05 46.0**	**-0.5**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**18 05 46.0**	**-0.5**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**18 05 46.0**	**-0.5**
SJUU	**Sjulsmark**	**1.59**	**170**	*e*P	**Pn**	**18 05 46.6**	**-0.3**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**18 05 46.6**	**-0.3**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**18 05 46.6**	**-0.3**
HEF	**Hetta**	**1.71**	**37**	*e*P	**Pn**	**18 05 48.2**	**-0.3**
	baz=223						
HEF				*e*SN	**Sg**	**18 06 12.5**	**+0.2**
HEF				MSG		18 06 12.5	
	comp=Z,10nm,0.2s						
HEF	**Hetta**	**1.71**	**37**	P	**Pn**	**18 05 48.2**	**-0.3**
HEF				Sn	**Sg**	**18 06 12.4**	**+0.2**
	comp=Z,10nm,0.2s						
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*PB	**Pb**	**18 05 53.4**	**-0.5**
KIF				MSG	**Sg**	**18 06 20.5**	**+0.5**
	comp=Z,2.8nm,0.2s						
KIF				*e*SG	**Sg**	**18 06 20.5**	**+0.5**
KIF	**Kilpisjarvi**	**1.95**	**359**	Pb	**Pb**	**18 05 53.3**	**-0.5**
KIF				Sg	**Sg**	**18 06 20.5**	**+0.5**
RNF	**Rovaniemi**	**2.07**	**101**	*e*PB	**Pn**	**18 05 54.4**	**+0.9**
RNF				MSG	**Sg**	**18 06 23.6**	**-0.3**
	comp=Z,21nm,0.3s						
RNF				*e*SG	**Sg**	**18 06 23.6**	**-0.3**
RNF	**Rovaniemi**	**2.07**	**101**	Pb	**Pn**	**18 05 54.4**	**+0.9**
RNF				Sg	**Sg**	**18 06 23.6**	**-0.3**
SGF	**Sodankyl**	**2.21**	**78**	*e*PB	**Pn**	**18 05 56.6**	**+1.1**
SGF				MSG	**Sg**	**18 06 27.9**	**-0.7**
	comp=Z,11nm,0.3s						
SGF				*e*SG	**Sg**	**18 06 27.9**	**-0.7**
SGF	**Sodankyl**	**2.21**	**78**	Pb	**Pn**	**18 05 56.6**	**+1.1**
SGF				Sg	**Sg**	**18 06 27.9**	**-0.7**
OUL	**Oulu**	**2.84**	**132**	*e*PB	**Pn**	**18 06 06.0**	**+1.9**
OUL	**Oulu**	**2.84**	**132**	Pb	**Pn**	**18 06 06.0**	**+1.9**
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**18 06 06.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=210,slow=14,SNR=1.5						
ARCES				Lg	Lg	18 06 45.9	
	comp=Z,0.7nm,0.3s,baz=219,slow=24,SNR=2.3						
ARE0	**ARCESS Array S**	**3.01**	**32**	*e*P	**Pn**	**18 06 06.6**	**+0.2**
	baz=212						
ARE0				*e*S	**Sn**	**18 06 43.6**	**+0.5**
ARE0				MSG		18 06 43.6	
	comp=Z,2.5nm,0.2s						
ARE0	**ARCESS Array S**	**3.01**	**32**	P	**Pn**	**18 06 06.6**	**+0.2**
ARE0				S	**Sn**	**18 06 43.6**	**+0.5**
	comp=Z,2.5nm,0.2s						
UMAU	**Umeaa**	**3.20**	**182**	*e*P	**Pn**	**18 06 09.7**	**+0.7**
	baz=359						
UMAU	**Umeaa**	**3.20**	**182**	P	**Pn**	**18 06 09.7**	**+0.7**
VRF	**Varrio**	**3.43**	**75**	*e*P	**Pn**	**18 06 13.7**	**+1.5**
	baz=264						
VRF	**Varrio**	**3.43**	**75**	P	**Pn**	**18 06 13.6**	**+1.5**
MSF	**Maaselka**	**3.46**	**106**	*e*P	**Pn**	**18 06 14.2**	**+1.7**
MSF	**Maaselka**	**3.46**	**106**	P	**Pn**	**18 06 14.2**	**+1.7**
KEV	**Kevo**	**3.52**	**37**	*e*P	**Pn**	**18 06 13.9**	**+0.6**
	baz=221						
KEV	**Kevo**	**3.52**	**37**	P	**Pn**	**18 06 13.9**	**+0.6**
KU6	**Riekki**	**3.74**	**102**	*e*P	**Pn**	**18 06 17.5**	**+1.0**
KU6	**Riekki**	**3.74**	**102**	P	**Pn**	**18 06 17.4**	**+1.0**
VAF	**Ylistaro**	**4.11**	**169**	*e*P	**Pn**	**18 06 22.9**	**+1.3**
VAF	**Ylistaro**	**4.11**	**169**	P	**Pn**	**18 06 22.8**	**+1.3**
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**18 06 49.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=349,slow=13,SNR=2.1						
FINES				Sn	**Sn**	**18 07 59.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=348,slow=21,SNR=1.8						
FINES				Lg	Lg	18 08 28.6	
	comp=Z,0.1nm,0.3s,baz=337,slow=29,SNR=1.7						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**18 07 07.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=54,slow=24,SNR=2.1						
NOA				Sn	**Sn**	**18 08 29.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=112,slow=2.8,SNR=1.3						
NOA				Lg	Lg	18 09 14.1	
	comp=Z,0.1nm,0.3s,baz=314,slow=14,SNR=2.0						

SKHL 30 18:12:15.6±1.3, 44°.56N×148°.82E, h40km, mb4.4/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.95**	**315**	*e*P	Pn	18 12 31.6	-0.9
KUR				AMB	AMB	18 12 34.7	
	57nm,0.1s						
KUR				*e*S	Sn	18 12 44.1	-0.8
KUR				A	A	18 12 44.7	
	268nm,0.2s						
KUR				A	A	18 12 44.7	
	411nm,0.2s						
SHO	**Shikotan**	**1.59**	**245**	*e*P	Pn	18 12 41.0	-0.2
SHO				*e*S	Sn	18 12 58.9	-1.6
YUK	**Yuzh-Kuril'sk**	**2.19**	**257**	*e*P	Pn	18 12 49.1	-0.3
YUK				AMB	AMB	18 12 55.8	
	44nm,0.2s						
YUK				*e*S	Sn	18 13 14.9	-0.4
YUK				A	A	18 13 22.4	
	165nm,0.5s						
YUK				A	A	18 13 22.4	
	85nm,0.5s						

GUC 30 18:37:38.7±0.9, 34°.75S×72°.21W, h30km±5km, ML3.8, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.81**	**144**	⇓*i*P	Pb	18 37 54.2	0.0
TALC				*i* S	Sb	18 38 04.3	-0.4
NICH	**Los Niches**	**0.85**	**108**	⇓*i*P	Pn	18 37 54.5	-0.1
LNV	**Longovilo**	**1.03**	**40**	⇑*i*P	Pn	18 37 56.7	-0.4
LNV				*e*S1	Sb	18 38 10.6	-0.5
COCH	**Cobquecura**	**1.46**	**199**	*e*P9	Pn	18 38 01.9	-1.1
COCH				*i* S1	Sn	18 38 20.4	-0.8
CACH	**El Canelo**	**1.47**	**65**	⇓*i*P	Pb	18 38 04.6	-1.1
CACH				*i* S1	Sn	18 38 24.5	+2.8
CHCH	**Chadas Angostu**	**1.52**	**58**	*e*P1	Pn	18 38 04.7	+0.7
CHCH				*i* S1	Sn	18 38 25.0	+2.2
CLCH	**Cerro Calan**	**1.93**	**46**	⇓*i*P	Pn	18 38 11.4	+1.7
CLCH				*i* S1	Sn	18 38 36.0	+2.9
CLCH				IAML		18 38 44.8	
	comp=E,1μm,0.5s						
ROCH	**El Roble**	**2.03**	**30**	IAML		18 38 50.6	
	comp=N,871nm,0.5s						
PEL	**Peldehue**	**2.04**	**39**	⇓*i*P	Pn	18 38 12.1	+1.0
PEL				*i* S	Sb	18 38 38.3	-1.9
PEL				IAML		18 38 44.5	
	comp=N,1μm,0.2s						
YECH	**El Yeso**	**2.07**	**59**	⇑*i*P	Pn	18 38 13.2	+1.4
YECH				*i* S4	Sn	18 38 38.5	+1.7

*MOS **30** 18:40:56.8±0.9, 36°.42N×70°.64E, h193km, mb4.0/8, Error ellipse: s-maj=13.3km s-min=5.8km az=78.5*
*ISCJB **30** 18:40:57.6±0.3, 36°.46N±0°.03×70°.76E±0°.05, h204km, mb3.6/13, Error ellipse: s-maj=6.1km s-min=2.9km az=159.0*
*IDC **30** 18:40:58.2±1.9, 36°.48N×70°.67E, h197km±17km, mb3.4/11, mb1 3.6/17, mb1mx3.2/48, mbtmp4.1/17, Error ellipse: s-maj=13.1km s-min=12.6km az=117.0*
*NNC **30** 18:41:02.7±2.9, 36°.88N×70°.56E, h193km±24km, mb3.4, mpv4.7, Error ellipse: s-maj=31.7km s-min=15.4km az=160.0*

ISC 30 18:40:58.3±0.5, 36°.43N±0°.04×70°.70E±0°.05, h204km, n86, σ1§59/102, mb3.6/13, 10C-14D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.78**	**159**	P	**Pn**	**18 41 46.8**	**+1.0**
CEP				S	**S**	**18 42 22.0**	**-0.2**
DZET	**Dzherino**	**2.80**	**328**	⇓P	**Pn**	**18 41 44.8**	**-1.1**
	89nm,0.4s						
DZET				⇓S	**S**	**18 42 17.9**	**-4.7**
	500nm,0.4s						
DZET	**Dzherino**	**2.80**	**328**	PN	**Pn**	**18 41 44.7**	**-1.1**
DZET						18 42 17.9	
DZET				pmax	pmax		
	comp=Z,90nm,0.4s						
DZET				smax	smax		
	comp=N,500nm,0.4s						
THW	**Thamme Wali**	**3.73**	**166**	P	**Pn**	**18 41 57.6**	**+0.7**
SFK	**Sufi-Kurgan**	**4.20**	**31**	⇓P	**Pn**	**18 42 03.0**	**+0.1**
	comp=N,114nm,0.3s						
SFK				⇑S	**S**	**18 42 51.2**	**-2.1**
	comp=N,175nm,0.3s						
SFK	**Sufi-Kurgan**	**4.20**	**31**	PN	**Pn**	**18 42 02.7**	**-0.2**
SFK						18 42 51.0	
SFK				pmax	pmax		
	comp=Z,114nm,0.3s						
SFK				smax	smax		
	comp=N,376nm,0.7s						
SARP	**Sargodha**	**4.78**	**159**	P	**Pn**	**18 42 10.9**	**+0.9**
DLH	**Dalhousie**	**5.83**	**130**	*e*P	**Pn**	**18 42 24.0**	**+0.4**
DLH				*e*S	**S**	**18 43 28.0**	**-2.7**
AML	**Almayashu**	**6.15**	**21**	P	**Pn**	**18 42 27.2**	**-0.6**
	SNR=614						
MNAS	**Manas**	**6.21**	**12**	⇑P	**Pn**	**18 42 27.6**	**-0.7**
	comp=N,24nm,0.4s						
MNAS				⇓S	**S**	**18 43 35.5**	**-3.9**
	comp=N,222nm,0.6s						
MNAS	**Manas**	**6.21**	**12**	PN	**Pn**	**18 42 27.4**	**-0.9**
MNAS				pmax	pmax		
	comp=Z,32nm,0.5s						
DHRM	**DHARAMSHALA**	**6.23**	**130**	*e*P	**Pn**	**18 42 29.2**	**+0.4**
DHRM				*e*S	**S**	**18 43 38.4**	**-1.8**
DHRM				AML	AML	18 43 40.4	
	comp=E,296nm,0.3s						
DHRM				AML	AML	18 43 40.7	
	comp=N,198nm,0.4s						
UCH	**Uchtor**	**6.50**	**26**	P	**Pn**	**18 42 31.9**	**-0.5**
	SNR=168						
UCH	**Uchtor**	**6.50**	**26**	*i* PN	**Pn**	**18 42 31.9**	**-0.5**
KZA	**Kyzart**	**6.65**	**31**	P	**Pn**	**18 42 33.5**	**-0.9**
	SNR=79						
KZA	**Kyzart**	**6.65**	**31**	*i* PN	**Pn**	**18 42 33.4**	**-0.9**
EKS2	**Erkin-Say**	**6.66**	**20**	P	**Pn**	**18 42 33.8**	**-0.4**
	SNR=69						
EKS2	**Erkin-Say**	**6.66**	**20**	*i* PN	**Pn**	**18 42 33.7**	**-0.4**
KK31	**Karatay Array**	**6.67**	**359**	⇑P	**Pn**	**18 42 33.1**	**-1.0**
	comp=N,14nm,0.3s,baz=179,slow=12,SNR=1060						
KK31				⇓S	**S**	**18 43 44.5**	**-5.6**
	comp=N,25nm,0.5s,baz=190,slow=23,SNR=4.2						
KK31	**Karatay Array**	**6.67**	**359**	PN	**Pn**	**18 42 33.1**	**-1.0**
KK31				pmax	pmax		
	comp=Z,39nm,0.3s						
AAK	**Ala-Archa**	**6.85**	**24**	⇓P	**Pn**	**18 42 36.4**	**-0.3**
	comp=Z,22nm,0.3s						
AAK				⇑S	**S**	**18 43 51.9**	**-2.8**
	comp=Z,73nm,0.6s						
AAK	**Ala-Archa**	**6.85**	**24**	P	**Pn**	**18 42 36.5**	**-0.3**
	SNR=99						
AAK	**Ala-Archa**	**6.85**	**24**	PN	**Pn**	**18 42 36.4**	**-0.3**
AAK				pmax	pmax		
	comp=Z,49nm,0.8s						
AAK	**Ala-Archa**	**6.85**	**24**	P	**Pn**	**18 42 36.4**	**-0.3**
	comp=Z,20nm,0.3s,baz=177,slow=5.8,SNR=168						
AAK				S	**S**	**18 43 51.5**	**-3.2**
	comp=Z,5.5nm,0.3s,baz=325,slow=20,SNR=24						
KBK	**Karagaybulak**	**7.03**	**27**	P	**Pn**	**18 42 38.7**	**-0.3**
	SNR=69						
SDNR	**Sundarnagar**	**7.16**	**132**	*e*S	**S**	**18 44 00.0**	**-1.9**
ULHL	**Ulahol**	**7.22**	**35**	P	**Pn**	**18 42 40.7**	**-0.8**
	SNR=18						
ULHL	**Ulahol**	**7.22**	**35**	*i* PN	**Pn**	**18 42 40.7**	**-0.8**
CHMS	**Chumysh**	**7.26**	**24**	P	**Pn**	**18 42 41.6**	**-0.3**
	SNR=44						
CHMS	**Chumysh**	**7.26**	**24**	*i* PN	**Pn**	**18 42 41.5**	**-0.3**
USP	**Ospenovka**	**7.43**	**22**	P	**Pn**	**18 42 43.6**	**-0.5**
	SNR=22						
USP	**Ospenovka**	**7.43**	**22**	*i* PN	**Pn**	**18 42 43.5**	**-0.5**
TKM2	**Tokmak 2**	**7.50**	**29**	⇓P	**Pn**	**18 42 44.3**	**-0.8**
	comp=Z,44nm,0.4s						
TKM2				⇓S	S	18 44 02.9	-7.2
	comp=Z,11nm,0.6s						
TKM2	**Tokmak 2**	**7.50**	**29**	P	**Pn**	**18 42 44.7**	**-0.4**
	SNR=177						
TKM2	**Tokmak 2**	**7.50**	**29**	*i* PN	**Pn**	**18 42 44.7**	**-0.4**
SMLA	**Simla**	**7.54**	**133**	⇓*i*P	**Pn**	**18 42 45.2**	**-0.4**
SMLA				*i* S	**S**	**18 44 07.0**	**-3.8**
SMLA				*i* S	S	18 44 07.4	-3.4
SMLA				AML	AML	18 44 11.6	
	comp=E,134nm,0.3s						
SMLA				AML	AML	18 44 13.0	
	comp=N,87nm,0.2s						
PDGK	**Podgornoye**	**9.64**	**42**	⇑P	**Pn**	**18 43 12.5**	**-0.1**
	comp=N,2.2nm,0.5s						
GEYT	**Alibeck**	**10.15**	**282**	P	**Pn**	**18 43 18.1**	**-1.3**
	comp=N,0.5nm,0.3s,baz=105,slow=12,SNR=6.6						
BHJ	**Bhuj**	**13.16**	**184**	*ex*	**S**	**18 46 22.1**	**-2.0**
MK31	**Makanchi Array**	**13.49**	**36**	⇑P	**Pn**	**18 44 01.9**	**+0.3**
	comp=N,6.9nm,0.7s,baz=220,slow=13,SNR=71						
MKAR	**Makanchi Array**	**13.49**	**36**	P	**Pn**	**18 44 01.8**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**13.49**	**36**	P	**Pn**	**18 44 01.8**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=221,slow=13,SNR=36						
BHPL	**Bhopal**	**14.37**	**154**	*e*S	**S**	**18 46 47.4**	**-5.0**
AB31	**Akbulak array**	**15.03**	**332**	P	**Pn**	**18 44 19.8**	**-0.7**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DMN	**Daman**	**15.04**	**122**	*e*P	**Pn**	**18 44 21.4**	**+0.3**
	comp=Z,19nm,0.5s						
KKN	**Kakani**	**15.05**	**121**	*e*P	**Pn**	**18 44 21.1**	**0.0**
	comp=Z,31nm,0.5s						
PKIN	**Phulchoki**	**15.26**	**121**	*e*P	**Pn**	**18 44 23.2**	**-0.6**
	comp=Z,27nm,0.5s						
KURBB	**Kurchatov Arra**	**15.27**	**19**	⇑P	**P**	**18 44 25.8**	**+2.2**
	comp=Z,2.7nm,0.3s						
KURBB	**Kurchatov Arra**	**15.27**	**19**	P	**Pn**	**18 44 22.5**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=207,slow=9.8,SNR=19						
PKI	**Pulchoki**	**15.27**	**121**	*e*P	**Pn**	**18 44 24.2**	**+0.2**
	comp=Z,37nm,0.6s						
KURK	**Kurchatov**	**15.38**	**19**	⇑P	**P**	**18 44 25.6**	**+0.9**
	comp=Z,1.5nm,0.6s						
KURK	**Kurchatov**	**15.38**	**19**	P	**Pn**	**18 44 22.5**	**-2.1**
GUN	**Gumba**	**15.39**	**119**	*e*P	**P**	**18 44 25.8**	**+0.2**
	comp=Z,12nm,0.3s						
JIRN	**Jiri**	**15.76**	**119**	*e*P	**Pn**	**18 44 30.9**	**+1.0**
	comp=Z,31nm,0.4s						
RAMN	**Ramite**	**16.49**	**120**	*e*P	**P**	**18 44 37.1**	**

SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 28.57 55 P P 18 46 36.2 +1.0
comp=Z,1.1nm,0.7s,baz=262,slow=10,SNR=4.6
ULN Ulaanbaatar 29.02 55 ⇓/P P 18 46 41.5 +2.3
ULN pmax pmax
comp=Z,3.0nm,2.5s
CMAR Chiang Mai Arr 30.63 118 P P 18 46 55.8 +2.3
comp=Z,0.8nm,0.8s,baz=307,slow=8.7,SNR=6.3
FINES FINESS Array B 37.41 326 P P 18 47 52.1 +0.9
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 37.41 326 P P 18 47 52.1 +0.9
comp=Z,1.6nm,0.8s,baz=118,slow=11,SNR=5.4
NB2 NORSAR Subarra 44.29 323 P P 18 48 48.0 +0.5
comp=Z,0.8nm,0.7s,baz=95,slow=7.9
NOA NORSAR Array B 44.29 323 P P 18 48 48.4 +0.9
comp=Z,1.1nm,0.8s,baz=95,slow=7.6,SNR=4.2
TIXI Tiksi 45.93 22 ⇑/P P 18 49 01.7 +1.6
TIXI pmax pmax
comp=Z,4.0nm,1.0s
TORD Torodi Ar. Bea 65.47 268 P P 18 51 19.3 -0.5
comp=Z,0.5nm,0.4s,baz=56,slow=5.7,SNR=16
INK Inuvik 74.01 9 P P 18 52 12.7 +1.7
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 74.01 9 P P 18 52 12.7 +1.7
comp=Z,0.9nm,0.5s,baz=351,slow=6.4,SNR=7.1
ILAR Eielson Array 74.91 16 P P 18 52 17.3 +1.1
comp=Z,0.7nm,0.9s,baz=295,slow=3.5,SNR=5.7
YKA Yellowknife Ar 81.33 2 P P 18 52 53.0 +1.6
comp=Z,0.2nm,0.4s,baz=340,slow=4.6,SNR=5.8
WRA Warramunga Arr 82.16 122 P P 18 52 56.4 -0.1
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 82.16 122 P P 18 52 56.4 -0.1
comp=Z,1.4nm,0.8s,baz=324,slow=4.9,SNR=14
ASAR Alice Springs 84.41 125 P P 18 53 08.3 +0.4
comp=Z,1.0nm,0.8s,baz=308,slow=5.0,SNR=16

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*IDC **30** 18:47:23.9±1.9, 39°.52N×52°.81E±0°.05, h0km, mb3.2/5, mb1 3.5/9, mb1mx3.3/41, mbtmp3.4/9, ML3.3/4, Error ellipse: s-maj=29.3km s-min=19.2km az=2.0*
*AZER **30** 18:47:29.2±6.2, 39°.19N×52°.06E±6.4km, Error ellipse: s-maj=5.6km s-min=2.2km az=305.0*
ISC 30 18:47:24.2±0.9, 39.45N±0°.09×52.75E±0°.05, h10km, n26, σ2.9s 09/34, mb3.2/4, 17C-13D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**2.21**	**297**	⇑Pg	**Pb**	**18 48 04.0**	**-0.3**
GALA				⇓Sg	**Sb**	**18 48 30.1**	**-1.6**
GOBA	**Gobu**	**2.50**	**293**	⇑Pg	**Pb**	**18 48 08.6**	**-0.6**
GOBA				⇓S	**Sb**	**18 48 40.2**	**+0.1**
ALIB	**Äli-Bayra**	**2.93**	**281**	⇓Pg	**Pb**	**18 48 14.1**	**-2.4**
ALIB				⇓Sg	**Sn**	**18 48 45.1**	**-0.9**
LKRN	**Lenkeran, Azer**	**3.17**	**258**	⇑Pg	**Pn**	**18 48 16.6**	**+2.4**
LKRN				⇑Sg	**Sn**	**18 48 52.9**	**+0.8**
ATGJ	**Altiaghaj**	**3.24**	**297**	⇑Pg	**Pb**	**18 48 21.1**	**-0.8**
ATGJ				⇑Sg	**Sb**	**18 49 01.6**	**+0.1**
SIZA	**Siyzn**	**3.36**	**300**	⇑Pg	**Pb**	**18 48 24.3**	**+0.3**
GLBA	**Clilabad**	**3.38**	**268**	⇑Pg	Pn	18 48 20.5	+3.4
GLBA				⇑Sg	**Sn**	**18 48 59.9**	**+2.7**
PQL	**Pirkuli**	**3.45**	**294**	⇓Pg	Pn	18 48 21.8	+3.7
PQL				⇓Sg	**Sb**	**18 49 04.5**	**-3.1**
LRK	**Lerik**	**3.52**	**258**	⇑Pg	**Pn**	**18 48 22.0**	**+2.9**
LRK				⇑Sg	**Sn**	**18 49 02.5**	**+1.5**
IML	**Ismayilli**	**3.75**	**292**	⇑Pn	Pn	18 48 25.4	+3.3
IML				⇓Sn	**Sn**	**18 49 08.7**	**+2.4**
QUBA	**Quba, Azerbaij**	**3.77**	**302**	⇓Pn	**Pb**	**18 48 28.6**	**-2.2**
QUBA				⇓Sn	**Sn**	**18 49 09.8**	**+3.0**
GEYT	**Alibeck**	**4.47**	**108**	Pn	**Pn**	**18 48 32.4**	**+0.4**
	0.5nm,0.3s,baz=297,slow=13,SNR=2.9						
GEYT				Sn	**Sn**	**18 49 26.0**	**+1.9**
	1.5nm,0.3s,baz=294,slow=16,SNR=3.2						
GEYT				Lg	Lg	18 49 57.2	
	1.9nm,0.3s,baz=295,slow=24,SNR=1.6						
SEKA	**Sheki**	**4.59**	**294**	⇑Pn	Pn	18 48 37.4	+3.6
SEKA				⇑S	**Sn**	**18 49 29.8**	**+2.7**
GANJ	**Ganja**	**5.07**	**286**	⇓Pn	**Pn**	**18 48 42.2**	**+1.9**
GANJ				⇑S	**Sn**	**18 49 37.5**	**-1.5**
ZKTA	**Zakatala**	**5.15**	**297**	⇓Pn	Pn	18 48 44.6	+3.2
ZKTA				⇑S	**Sn**	**18 49 44.3**	**+3.4**
NAX	**Nakhchivan**	**5.63**	**270**	⇓Pn	**Pn**	**18 48 49.2**	**+1.2**
NAX				⇓S	**Sn**	**18 49 49.8**	**-3.0**
QZX	**Qazax, Azerbai**	**5.87**	**288**	⇑Pn	**Pn**	**18 48 54.3**	**+3.1**
GNI	**Garni**	**6.20**	**279**	Sn	Sn	18 50 13.6	+6.5
	0.3nm,0.3s,baz=325,slow=23,SNR=1.4						
AKTO	**Aktyubinsk**	**11.60**	**17**	Pn	**Pn**	**18 50 08.0**	**-1.8**
	0.2nm,0.3s,baz=235,slow=12,SNR=2.3						
AKTO				Sn	Sn	18 52 07.6	-12
	0.2nm,0.3s,baz=278,slow=22,SNR=2.3						
BVAR	**Borovoye Array**	**18.19**	**36**	Pn	**Pn**	**18 51 32.5**	**-4.1**
	0.1nm,0.3s,baz=237,slow=13,SNR=3.3						
BVAR				Sn	Sn	18 54 49.0	-11
	0.1nm,0.3s,baz=219,slow=20,SNR=3.8						
AKASG	**Malin Array Be**	**19.97**	**312**	P	**P**	**18 51 56.3**	**-0.1**
	0.5nm,0.3s,baz=112,slow=11,SNR=4.7						
MLR	**Muntele Rosu**	**20.62**	**296**	P	Pn	18 52 05.9	-0.1
	0.2nm,0.3s,baz=132,slow=6.5,SNR=2.6						
KURBB	**Kurchatov Arra**	**21.26**	**50**	P	**P**	**18 52 10.2**	**-0.2**
	0.3nm,0.6s,baz=250,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**22.69**	**61**	P	**P**	**18 52 25.8**	**0.0**
	0.3nm,0.7s,baz=248,slow=7.6,SNR=2.6						
FINES	**FINESS Array B**	**27.45**	**332**	P	**P**	**18 53 11.6**	**+1.7**
	0.5nm,0.4s,baz=151,slow=13,SNR=1.9						
NOA	**NORSAR Array B**	**33.39**	**324**	P	**P**	**18 54 02.1**	**-0.5**
	0.6nm,0.8s,baz=139,slow=6.4,SNR=1.7						

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*ISCJB **30** 19:00:05.5±0.3, 37°.50S±0°.03×177°.20E±0°.05, h158km±2km, mb4.4/15, Error ellipse: s-maj=6.0km s-min=5.2km az=5.7*
*IDC **30** 19:00:05.8±0.9, 37°.93S×177°.47E, h166km±10km, mb4.0/6, mb1 4.1/6, mb1mx3.8/18, mbtmp4.4/6, Error ellipse: s-maj=60.0km s-min=27.2km az=179.0*
*WEL **30** 19:00:06.3±0.3, 37°.28S×177°.21E, h135km±2km, ML5.1/21, Error ellipse: s-maj=1.6km s-min=1.2km az=0.0*
WEL Felt from Coromandel to Gisborne, maximum reported intensity MM 4.
*NEIC **30** 19:00:06.6, 37°.29S×177°.21E, h133km, mb4.5/11, After WEL.*
ISC 30 19:00:06.5±0.5, 37°.54S±0°.04×177°.04E±0°.04, h155km±4km, n249, σ1.9s 47/241, mb4.3/15, 20C-39D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.12**	**84**	PN	Pn	19 00 24.4	-2.8
WIZ	**White Island**	**0.12**	**84**	Pn	Pn	19 00 24.4	-2.8
OPRZ	**Ohinepanea**	**0.49**	**232**	⇑PN	**Pn**	**19 00 27.5**	**-0.8**
OPRZ	**Ohinepanea**	**0.49**	**232**	Pn	**Pn**	**19 00 27.5**	**-0.8**
MARZ	**Manawahe**	**0.53**	**213**	⇓PN	**Pn**	**19 00 28.2**	**-0.4**
MARZ	**Manawahe**	**0.53**	**213**	Pn	**Pn**	**19 00 28.2**	**-0.4**
EDRZ	**Edgecumbe**	**0.61**	**203**	⇓PN	**Pn**	**19 00 28.9**	**-0.1**
EDRZ	**Edgecumbe**	**0.61**	**203**	Pn	**Pn**	**19 00 28.9**	**-0.1**
HAZ	**Te Kaha**	**0.63**	**110**	⇑PN	**Pn**	**19 00 26.9**	**-2.1**
HAZ				SN	**Sn**	**19 00 42.2**	**-4.1**
TGRZ	**Tauranga**	**0.65**	**253**	⇓PN	**Pn**	**19 00 28.6**	**-0.6**
TGRZ	**Tauranga**	**0.65**	**253**	Pn	**Pn**	**19 00 28.6**	**-0.6**
MYRZ	**Mayor Island**	**0.69**	**292**	PN	**Pn**	**19 00 27.9**	**-1.6**
LIRZ	**Lichensteins R**	**0.70**	**228**	PN	**Pn**	**19 00 29.5**	**0.0**
LIRZ	**Lichensteins R**	**0.70**	**228**	Pn	**Pn**	**19 00 29.5**	**0.0**
URZ	**Urewera**	**0.72**	**176**	⇑PN	**Pn**	**19 00 29.4**	**-0.2**
URZ				SN	**Sn**	**19 00 47.6**	**+0.2**
URZ				AML	AML	19 00 48.7	
URZ	**Urewera**	**0.72**	**176**	P	**Pn**	**19 00 29.4**	**-0.2**
	1μm,0.3s,baz=345,slow=2.6,SNR=3877						
URZ				S	**Sn**	**19 00 47.3**	**-0.1**
	798nm,0.3s,baz=144,slow=20,SNR=7.1						
URZ	**Urewera**	**0.72**	**176**	*e*Pn	**Pn**	**19 00 29.2**	**-0.4**
URZ				*e*Sn	**Sn**	**19 00 46.5**	**-0.9**
URZ				S	**Sn**	**19 00 47.2**	**-0.1**
URZ				Sn	**Sn**	**19 00 47.6**	**+0.2**
MKRZ	**Makatiti**	**0.75**	**217**	⇓PN	**Pn**	**19 00 30.7**	**+0.8**
MKRZ	**Makatiti**	**0.75**	**217**	Pn	**Pn**	**19 00 30.7**	**+0.8**
OMRZ	**Omania**	**0.78**	**223**	⇓PN	**Pn**	**19 00 30.3**	**+0.3**
OMRZ	**Omania**	**0.78**	**223**	Pn	**Pn**	**19 00 30.4**	**+0.3**
KARZ	**Kaharoa**	**0.79**	**233**	⇓PN	**Pn**	**19 00 30.4**	**+0.2**
KARZ	**Kaharoa**	**0.79**	**233**	Pn	**Pn**	**19 00 30.4**	**+0.2**
TARZ	**Mount Tarawera**	**0.81**	**211**	⇓PN	**Pn**	**19 00 31.1**	**+0.7**
TARZ	**Mount Tarawera**	**0.81**	**211**	Pn	**Pn**	**19 00 31.1**	**+0.7**
MWZ	**Matawai**	**0.88**	**154**	PN	**Pn**	**19 00 30.1**	**-0.7**
MWZ				AML	AML	19 00 52.6	
MWZ				AML	AML	19 00 52.6	
MWZ				AML	AML	19 00 52.8	
MWZ				AML	AML	19 00 52.9	
MWZ	**Matawai**	**0.88**	**154**	Pn	**Pn**	**19 00 30.1**	**-0.7**
HLRZ	**Highlands Stat**	**0.90**	**217**	PN	**Pn**	**19 00 31.4**	**+0.5**
RRRZ	**Republican Roa**	**0.90**	**207**	⇓PN	**Pn**	**19 00 31.6**	**+0.6**
RRRZ	**Republican Roa**	**0.90**	**207**	Pn	**Pn**	**19 00 31.6**	**+0.6**
UTU	**Utuhina**	**0.93**	**226**	⇓PN	**Pn**	**19 00 32.3**	**+1.2**
UTU	**Utuhina**	**0.93**	**226**	Pn	**Pn**	**19 00 32.3**	**+1.2**
TWGZ	**Tauwhareparae**	**0.98**	**131**	⇓PN	**Pn**	**19 00 31.0**	**-0.6**
MXZ	**Matakaoa Point**	**1.01**	**92**	PN	**Pn**	**19 00 29.3**	**-2.4**
MXZ				SN	**Sn**	**19 00 47.6**	**-3.4**
MXZ				AML	AML	19 00 52.7	
MXZ				AML	AML	19 00 52.8	
MXZ				AML	AML	19 00 54.2	
MXZ	**Matakaoa Point**	**1.01**	**92**	Pn	**Pn**	**19 00 29.4**	**-2.4**
MXZ				Sn	**Sn**	**19 00 47.6**	**-3.4**
HRRZ	**Handcock Road**	**1.04**	**215**	⇓PN	**Pn**	**19 00 33.3**	**+1.2**
HRRZ	**Handcock Road**	**1.04**	**215**	Pn	**Pn**	**19 00 33.3**	**+1.2**
PRRZ	**Plateau Road**	**1.08**	**208**	⇓PN	**Pn**	**19 00 33.6**	**+1.1**
PRRZ	**Plateau Road**	**1.08**	**208**	Pn	**Pn**	**19 00 33.6**	**+1.1**
GRRZ	**Galatos Road**	**1.09**	**222**	⇓PN	**Pn**	**19 00 33.9**	**+1.4**
PUZ	**Puketiti**	**1.10**	**119**	PN	**Pn**	**19 00 31.0**	**-1.6**
PUZ				AML	AML	19 01 00.9	
PUZ				AML	AML	19 01 02.5	
PUZ	**Puketiti**	**1.10**	**119**	Pn	**Pn**	**19 00 30.8**	**-1.8**
TKGZ	**Te Karaka**	**1.10**	**145**	⇓PN	**Pn**	**19 00 31.9**	**-0.6**
WMGZ	**Waiomatatini S**	**1.12**	**105**	⇓PN	**Pn**	**19 00 31.1**	**-1.7**
WMGZ				SN	**Sn**	**19 00 50.4**	**-2.5**
ALRZ	**Allen Road**	**1.16**	**208**	⇓PN	**Pn**	**19 00 34.4**	**+1.3**
ALRZ	**Allen Road**	**1.16**	**208**	Pn	**Pn**	**19 00 34.4**	**+1.3**
WPRZ	**Whakapatarin**	**1.20**	**215**	⇓PN	**Pn**	**19 00 35.1**	**+1.6**
TOZ	**Tahuroa Road**	**1.24**	**261**	PN	**Pn**	**19 00 33.9**	**+0.1**
TOZ	**Tahuroa Road**	**1.24**	**261**	Pn	**Pn**	**19 00 33.9**	**+0.1**
SNGZ	**Shannon Statio**	**1.26**	**169**	PN	**Pn**	**19 00 34.1**	**0.0**
RIGZ	**Rimuhau**	**1.29**	**154**	PN	**Pn**	**19 00 34.4**	**0.0**
CNGZ	**Carnagh Statio**	**1.32**	**136**	⇓PN	**Pn**	**19 00 34.3**	**-0.3**
CNGZ	**Carnagh Statio**	**1.32**	**136**	Pn	**Pn**	**19 00 34.3**	**-0.3**
KUZ	**Kuaotunu**	**1.32**	**307**	⇑PN	**Pn**	**19 00 32.0**	**-2.6**
KUZ	**Kuaotunu**	**1.32**	**307**	Pn	**Pn**	**19 00 32.0**	**-2.6**
RAHZ	**Arahi**	**1.38**	**179**	PN	**Pn**	**19 00 36.1**	**+0.9**
RAHZ	**Arahi**	**1.38**	**179**	Pn	**Pn**	**19 00 36.1**	**+0.9**
WHTZ	**Whakaora**	**1.41**	**217**	PN	**Pn**	**19 00 37.8**	**+2.3**
WHTZ	**Whakaora**	**1.41**	**217**	Pn	**Pn**	**19 00 37.9**	**+2.3**
TLZ	**Tolley Road**	**1.43**	**236**	⇑PN	**Pn**	**19 00 37.3**	**+1.6**
PRGZ	**Paritu Road**	**1.53**	**155**	PN	**Pn**	**19 00 37.3**	**+0.5**
PRGZ	**Paritu Road**	**1.53**	**155**	Pn	**Pn**	**19 00 37.3**	**+0.5**
WHHZ	**Waihua**	**1.54**	**174**	PN	**Pn**	**19 00 38.3**	**+1.4**
HATZ	**Hinemaiaia**	**1.54**	**209**	⇓PN	**Pn**	**19 00 38.6**	**+1.8**
HATZ	**Hinemaiaia**	**1.54**	**209**	Pn	**Pn**	**19 00 38.6**	**+1.8**
MKAZ	**Moumakai**	**1.56**	**285**	⇓PN	**Pn**	**19 00 36.7**	**-0.2**
MKAZ	**Moumakai**	**1.56**	**285**	Pn	**Pn**	**19 00 36.8**	**-0.2**
WATZ	**Wairara**	**1.56**	**221**	⇓PN	**Pn**	**19 00 39.1**	**+2.0**
WATZ	**Wairara**	**1.56**	**221**	Pn	**Pn**	**19 00 39.1**	**+2.0**
KNZ	**Kokohu**	**1.56**	**162**	PN	**Pn**	**19 00 37.1**	**+0.1**
RATZ	**Rangitukua**	**1.66**	**217**	PN	**Pn**	**19 00 40.4**	**+2.2**
RATZ	**Rangitukua**	**1.66**	**217**	Pn	**Pn**	**19 00 40.2**	**+2.0**
BKZ	**Black Stump Fm**	**1.68**	**195**	PN	**Pn**	**19 00 39.3**	**+0.9**
BKZ				AML	AML	19 01 17.0	
BKZ				AML	AML	19 01 18.9	
BKZ	**Black Stump Fm**	**1.68**	**195**	Pn	**Pn**	**19 00 39.3**	**+0.9**
RITZ	**Rihia Road**	**1.71**	**213**	⇓PN	**Pn**	**19 00 41.1**	**+2.4**
RITZ	**Rihia Road**	**1.71**	**213**	Pn	**Pn**	**19 00 41.1**	**+2.4**
ARHZ	**Aropaoanui**	**1.72**	**181**	PN	**Pn**	**19 00 40.2**	**+1.4**
MHGZ	**Mahia Peninsul**	**1.75**	**157**	PN	**Pn**	**19 00 39.6**	**+0.6**
MHGZ	**Mahia Peninsul**	**1.75**	**157**	Pn	**Pn**	**19 00 39.6**	**+0.6**
KBAZ	**Karaka Road Bo**	**1.77**	**284**	⇓PN	**Pn**	**19 00 39.9**	**+0.6**
KATZ	**Kakaramea**	**1.78**	**216**	⇓PN	**Pn**	**19 00 41.7**	**+2.1**
KATZ	**Kakaramea**	**1.78**	**216**	Pn	**Pn**	**19 00 41.7**	**+2.1**
ETAZ	**East Tamaki Re**	**1.79**	**289**	⇑PN	**Pn**	**19 00 39.4**	**-0.1**
KRVZ	**Karewarewa**	**1.90**	**215**	⇓PN	**Pn**	**19 00 43.1**	**+2.2**
KRVZ	**Karewarewa**	**1.90**	**215**	Pn	**Pn**	**19 00 43.1**	**+2.2**
MCHZ	**McNeill Hill**	**1.92**	**188**	PN	**Pn**	**19 00 42.4**	**+1.5**
MCHZ	**McNeill Hill**	**1.92**	**188**	Pn	**Pn**	**19 00 42.4**	**+1.5**
WTVZ	**West Tongariro**	**1.94**	**216**	⇓PN	**Pn**	**19 00 43.4**	**+2.1**
WTVZ	**West Tongariro**	**1.94**	**216**	Pn	**Pn**	**19 00 43.5**	**+2.1**
OTVZ	**Oturere**	**1.95**	**213**	⇓PN	**Pn**	**19 00 43.6**	**+2.2**
OTVZ	**Oturere**	**1.95**	**213**	Pn	**Pn**	**19 00 43.6**	**+2.2**
HIZ	**Hauiti**	**1.98**	**240**	PN	**Pn**	**19 00 44.1**	**+2.4**
TWVZ	**Taurewa**	**1.98**	**219**	PN	**Pn**	**19 00 44.1**	**+2.3**
TWVZ	**Taurewa**	**1.98**	**219**	Pn	**Pn**	**19 00 44.1**	**+2.3**
NGZ	**Ngauruhoe**	**1.99**	**214**	⇓PN	**Pn**	**19 00 44.0**	**+2.1**
NGZ	**Ngauruhoe**	**1.99**	**214**	Pn	**Pn**	**19 00 44.0**	**+2.1**
COVZ	**Chateau Observ**	**2.03**	**215**	PN	**Pn**	**19 00 44.8**	**+2.4**
WPVZ	**Whakapapa**	**2.04**	**215**	⇑PN	**Pn**	**19 00 45.0**	**+2.6**
WPVZ	**Whakapapa**	**2.04**	**215**	Pn	**Pn**	**19 00 45.0**	**+2.6**
TUVZ	**Tukino**	**2.04**	**212**	PN	**Pn**	**19 00 44.3**	**+1.8**
FWVZ	**Far West T-bar**	**2.07**	**214**	⇓PN	**Pn**	**19 00 44.8**	**+1.8**
FWVZ	**Far West T-bar**	**2.07**	**214**	Pn	**Pn**	**19 00 44.8**	**+1.8**
WHVZ	**Whangaehu Hut**	**2.08**	**213**	⇓PN	**Pn**	**19 00 44.9**	**+1.8**
DRZ	**Dome Shelter**	**2.08**	**213**	PN	**Pn**	**19 00 45.3**	**+2.1**
DRZ	**Dome Shelter**	**2.08**	**213**	Pn	**Pn**	**19 00 45.3**	**+2.1**
BHHZ	**Black Hill Sta**	**2.09**	**201**	PN	**Pn**	**19 00 44.0**	**+1.0**
BHHZ	**Black Hill Sta**	**2.09**	**201**	Pn	**Pn**	**19 00 44.0**	**+1.0**
RVAZ	**Riverhead Bore**	**2.11**	**291**	⇑PN	**Pn**	**19 00 43.0**	**-0.2**
TRVZ	**Turoa**	**2.11**	**213**	PN	**Pn**	**19 00 45.2**	**+1.8**
TRVZ	**Turoa**	**2.11**	**213**	Pn	**Pn**	**19 00 45.2**	**+1.8**
WNVZ	**Wahianoa**	**2.11**	**212**	⇓PN	**Pn**	**19 00 45.1**	**+1.7**
WNVZ	**Wahianoa**	**2.11**	**212**	Pn	**Pn**	**19 00 45.1**	**+1.7**
CKHZ	**Cape Kidnapper**	**2.12**	**179**	⇓PN	**Pn**	**19 00 44.4**	**+1.1**
CKHZ	**Cape Kidnapper**	**2.12**	**179**	Pn	**Pn**	**19 00 44.4**	**+1.1**
MOVZ	**Moawhango**	**2.12**	**208**	⇓PN	**Pn**	**19 00 44.5**	**+1.2**
MOVZ	**Moawhango**	**2.12**	**208**	Pn	**Pn**	**19 00 44.5**	**+1.2**
KRHZ	**Kereru**	**2.17**	**194**	⇓PN	**Pn**	**19 00 44.5**	**+0.7**
PKVZ	**Pokaka**	**2.20**	**217**	PN	**Pn**	**19 00 46.3**	**+2.1**
PKVZ	**Pokaka**	**2.20**	**217**	Pn	**Pn**	**19 00 46.3**	**+2.1**
MTVZ	**Mangateitei**	**2.22**	**213**	⇑PN	**Pn**	**19 00 46.5**	**+2.0**
MTVZ	**Mangateitei**	**2.22**	**213**	Pn	**Pn**	**19 00 46.5**	**+2.0**
KAHZ	**Kahuranaki**	**2.25**	**183**	PN	**Pn**	**19 00 45.7**	**+0.8**
KAHZ	**Kahuranaki**	**2.25**	**183**	Pn	**Pn**	**19 00 45.7**	**+0.8**
VRZ	**Vera Road**	**2.39**	**228**	PN	**Pn**	**19 00 49.1**	**+2.6**
PNHZ	**Pukenui**	**2.46**	**195**	PN	**Pn**	**19 00 47.7**	**+0.3**
PNHZ	**Pukenui**	**2.46**	**195**	Pn	**Pn**	**19 00 47.8**	**+0.4**
PXZ	**Pawanui**	**2.49**	**183**	PN	**Pn**	**19 00 48.0**	**+0.3**
PXZ				AML	AML	19 01 21.8	
PXZ				AML	AML	19 01 22.5	
PXZ				AML	AML	19 01 22.5	
PXZ				AML	AML	19 01 23.2	
WPHZ	**Waipukurau**	**2.56**	**190**	⇑PN	**Pn**	**19 00 49.4**	**+0.8**
WPHZ	**Waipukurau**	**2.56**	**190**	Pn	**Pn**	**19 00 49.4**	**+0.8**
TSZ	**Takapari Road**	**2.65**	**198**	PN	**Pn**	**19 00 49.9**	**+0.1**
TSZ				AML	AML	19 01 39.8	
TSZ				AML	AML	19 01 40.2	
TSZ	**Takapari Road**	**2.65**	**198**	Pn	**Pn**	**19 00 50.1**	**+0.3**
WCZ	**Waipu Caves**	**2.69**	**306**	PN	**Pn**	**19 00 48.9**	**-1.3**
WCZ	**Waipu Caves**	**2.69**	**306**	Pn	**Pn**	**19 00 48.3**	**-1.9**
WAZ	**Wanganui**	**2.73**	**215**	PN	**Pn**	**19 00 52.6**	**+1.9**
WAZ	**Wanganui**	**2.73**	**215**	Pn	**Pn**	**19 00 52.6**	**+1.9**
PRHZ	**Porangahau**	**2.74**	**187**	PN	**Pn**	**19 00 51.4**	**+0.6**
PRHZ	**Porangahau**	**2.74**	**187**	Pn	**Pn**	**19 00 51.4**	**+0.6**
LREZ	**Lake Rotokare**	**2.82**	**226**	PN	Pn	19 00 55.6	+3.8
DVHZ	**Dannevirke**	**2.84**	**194**	⇑PN	**Pn**	**19 00 52.3**	**+0.3**
DVHZ	**Dannevirke**	**2.84**	**194**	Pn	**Pn**	**19 00 52.3**	**+0.3**
NEZ	**North Egmont**	**2.89**	**232**	PN	Pn	19 00 56.3	+3.6
NEZ	**North Egmont**	**2.89**	**232**	Pn	Pn	19 00 56.6	+3.9
ANWZ	**Angora Road**	**2.95**	**189**	⇑PN	**Pn**	**19 00 53.9**	**+0.5**
KHEZ	**Kahui Hut**	**2.95**	**233**	PN	Pn	19 00 56.7	+3.2
POWZ	**Post Office Ro**	**3.02**	**199**	⇑PN	**Pn**	**19 00 54.7**	**+0.5**
POWZ	**Post Office Ro**	**3.02**	**199**	Pn	**Pn**	**19 00 54.7**	**+0.5**
NMEZ	**Namu Road**	**3.11**	**232**	PN	**Pn**	**19 00 58.2**	**+2.9**
PRWZ	**Pori Road**	**3.12**	**195**	⇑PN	**Pn**	**19 00 56.1**	**+0.5**
BFZ	**Birch Farm**	**3.20**	**191**	PN	**Pn**	**19 00 56.5**	**0.0**
BFZ	**Birch Farm**	**3.20**	**191**	Pn	**Pn**	**19 00 56.5**	**0.0**
MRZ	**Mangatainoka R**	**3.32**	**200**	PN	**Pn**	**19 00 57.6**	**-0.4**
MRZ				AML	AML	19 01 40.7	
MRZ				AML	AML	19 01 41.4	
MRZ	**Mangatainoka R**	**3.32**	**200**	Pn	**Pn**	**19 00 57.9**	**-0.1**
TIWZ	**Tintock**	**3.35**	**195**	⇓PN	**Pn**	**19 00 58.6**	**+0.1**
TIWZ				AML	AML	19 01 42.8	
TIWZ				AML	AML	19 01 44.1	
TIWZ	**Tintock**	**3.35**	**195**	Pn	**Pn**	**19 00 58.6**	**+0.1**
CPWZ	**Castlepoint**	**3.43**	**191**	⇓PN	**Pn**	**19 00 60.0**	**+0.6**
HOWZ	**Holdsworth Sta**	**3.56**	**199**	PN	**Pn**	**19 01 00.4**	**-0.8**
HOWZ	**Holdsworth Sta**	**3.56**	**199**	Pn	**Pn**	**19 01 00.4**	**-0.8**
OUZ	**Omahuta**	**3.62**	**309**	*e*Pn	**Pn**	**19 01 00.6**	**-1.3**
TMWZ	**Te Maipa**	**3.67**	**194**	⇓PN	**Pn**	**19 01 02.3**	**-0.4**
TMWZ	**Te Maipa**	**3.67**	**194**	Pn	**Pn**	**19 01 02.3**	**-0.4**
KIW	**Kapiti Island**	**3.71**	**206**	PN	**Pn**	**19 01 02.8**	**-0.2**
KIW				AML	AML	19 01 49.7	
KIW				AML	AML	19 02 04.2	
KIW	**Kapiti Island**	**3.71**	**206**	Pn	**Pn**	**19 01 02.8**	**-0.2**
MTW	**Mount Morrison**	**3.81**	**198**	⇓PN	**Pn**	**19 01 03.5**	**-0.8**
MTW				AML	AML	19 01 52.0	
MTW				AML	AML	19 01 56.8	
MTW	**Mount Morrison**	**3.81**	**198**	Pn	**Pn**	**19 01 03.5**	**-0.8**
CAW	**Cannon Point**	**3.88**	**203**	PN	**Pn**	**19 01 04.6**	**-0.7**
CAW				AML	AML	19 01 54.4	
CAW				AML	AML	19 01 55.0	
CAW	**Cannon Point**	**3.88**	**203**	Pn	**Pn**	**19 01 04.6**	**-0.7**
TRWZ	**Traveller**	**3.99**	**195**	PN	**Pn**	**19 01 06.0**	**-0.8**
TRWZ				AML	AML	19 01 56.3	
TRWZ				AML	AML	19 01 57.2	
TRWZ	**Traveller**	**3.99**	**195**	Pn	**Pn**	**19 01 06.0**	**-0.8**
PAWZ	**Paruwai Farm**	**4.04**	**198**	⇑PN	**Pn**	**19 01 06.4**	**-0.9**
PAWZ				AML	AML	19 01 56.7	
PAWZ				AML	AML	19 01 57.0	
PAWZ	**Paruwai Farm**	**4.04**	**198**	Pn	**Pn**	**19 01 06.4**	**-0.9**
DUWZ	**D'Urville Isla**	**4.06**	**216**	PN	**Pn**	**19 01 07.4**	**-0.2**
DUWZ	**D'Urville Isla**	**4.06**	**216**	Pn	**Pn**	**19 01 07.4**	**-0.2**
MSWZ	**Moikau Station**	**4.11**	**199**	⇑PN	**Pn**	**19 01 07.2**	**-1.1**
MSWZ				AML	AML	19 01 59.3	
MSWZ				AML	AML	19 02 02.0	
MSWZ	**Moikau Station**	**4.11**	**199**	Pn	**Pn**	**19 01 07.2**	**-1.1**
WEL	**Wellington**	**4.13**	**204**	PN	**Pn**	**19 01 07.8**	**-0.8**
WEL				AML	AML	19 01 58.1	
SNZO	**South Karori**	**4.18**	**205**	*e*Pn	**Pn**	**19 01 08.1**	**-1.0**
SNZO				*e*Sn	**Sn**	**

MKAR Makanchi Array 82.56 319 P P 19 26 44.4 -0.3
0.2nm,0.5s,baz=99,slow=5.6,SNR=3.8

IDC 30 19:22:11.7±2.7,30°.91S×59°.30E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/32, mbtmp3.7/3, Error ellipse: s-maj=82.4km s-min=48.3km az=50.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**62.13**	**43**	P	P	19 32 34.8	0.0
	1.4nm,0.8s,baz=232,slow=7.2,SNR=15						
ASAR	**Alice Springs**	**65.59**	**104**	P	P	19 32 57.9	+0.1
	0.4nm,0.7s,baz=238,slow=6.3,SNR=5.5						
WRA	**Warramunga Arr**	**67.54**	**100**	P	P	19 33 10.3	0.0
	0.5nm,0.7s,baz=240,slow=5.1,SNR=3.0						
YKA	**Yellowknife Ar**	**148.16**	**355**	PKPbc	PKPbc	19 41 58.0	-0.7
	0.6nm,0.7s,baz=1.5,slow=2.6,SNR=9.9						

*NEIC **30** 19:29:13.9±1.9, 31°.46S×178°.43W, h40km±16km, mb5.0/16, Error ellipse: s-maj=13.6km s-min=11.7km az=138.0*
*ISCJB **30** 19:29:14.7±0.4, 31°.69S±0°.04×178°.66W±0°.08, h50km, mb5.0/22, Error ellipse: s-maj=10.1km s-min=4.3km az=18.6*
*IDC **30** 19:29:14.4±3.7, 31°.38S×178°.21W, h48km±29km, mb4.5/6, mb1 4.6/7, mb1mx4.2/25, mbtmp4.7/7, ML5.1/1, MS4.1/1, Ms1 4.1/1, ms1mx3.4/18, Error ellipse: s-maj=32.3km s-min=18.7km az=149.0*

ISC 30 19:29:16.4±0.4, 31°.70S±0°.06×178°.48W±0°.09, h61km, n101, σ2°.02/106, mb5.1/21, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.49**	**11**	P	Pn	19 29 48.6	-5.9
	576nm,0.3s,baz=72,slow=17,SNR=10						
RAO				S	Sn	19 30 13.2	-11
	417nm,0.3s,baz=96,slow=20,SNR=6.6						
RAO	**Raoul Island**	**2.49**	**11**	*e*Pn	Pn	19 29 47.3	-7.2
RAO				*e*Sn	Sn	19 30 11.3	-12
RAO				S	Sn	19 30 13.2	-11
MXZ	**Matakaoa Point**	**6.42**	**204**	*e*PN	**Pn**	**19 30 48.7**	**+0.4**
WMGZ	**Waiomatatini S**	**6.62**	**202**	SN	**Sn**	**19 32 06.6**	**+1.6**
HAZ	**Te Kaha**	**6.78**	**206**	PN	**Pn**	**19 30 53.9**	**+0.7**
HAZ				SN	**Sn**	**19 32 12.7**	**+3.8**
PUZ	**Puketiti**	**6.90**	**202**	PN	**Pn**	**19 30 53.9**	**-0.9**
PUZ				SN	**Sn**	**19 32 14.0**	**+2.1**
TWGZ	**Tauwhareparae**	**7.08**	**203**	*e*PN	**Pn**	**19 30 57.3**	**-0.1**
CNGZ	**Carnagh Statio**	**7.29**	**201**	PN	**Pn**	**19 31 00.1**	**-0.1**
URZ	**Urewera**	**7.48**	**208**	SN	**Sn**	**19 32 29.7**	**+3.7**
URZ	**Urewera**	**7.48**	**208**	*e*Sn	**Sn**	**19 32 21.4**	**-4.6**
OUZ	**Omahuta**	**7.49**	**240**	*e*Pn	Pn	19 31 10.2	+7.2
RIGZ	**Rimuhau**	**7.63**	**203**	PN	**Pn**	**19 31 05.5**	**+0.5**
SNGZ	**Shannon Statio**	**7.85**	**205**	SN	**Sn**	**19 32 38.7**	**+3.5**
MHGZ	**Mahia Peninsul**	**8.00**	**201**	PN	**Pn**	**19 31 08.5**	**-1.4**
RAHZ	**Arahi**	**8.06**	**205**	SN	**Sn**	**19 32 43.2**	**+2.8**
KRVZ	**Karewarewa**	**8.80**	**211**	PN	**Pn**	**19 31 21.0**	**0.0**
OTVZ	**Oturere**	**8.85**	**211**	PN	**Pn**	**19 31 22.3**	**+0.7**
OTVZ				SN	**Sn**	**19 33 02.2**	**+2.4**
KAHZ	**Kahuranaki**	**8.91**	**204**	PN	**Pn**	**19 31 20.5**	**-1.9**
FWVZ	**Far West T-bar**	**8.97**	**211**	SN	**Sn**	**19 33 04.9**	**+2.0**
PXZ	**Pawanui**	**9.13**	**203**	PN	**Pn**	**19 31 22.2**	**-3.1**
PXZ				SN	**Sn**	**19 33 04.3**	**-2.2**
ANWZ	**Angora Road**	**9.64**	**204**	SN	**Sn**	**19 33 18.3**	**-0.9**
MRZ	**Mangatainoka R**	**10.15**	**207**	PN	Pn	19 31 35.2	-4.1
MRZ				*e*SN	Sn	19 33 21.3	-10
MTW	**Mount Morrison**	**10.61**	**205**	SN	**Sn**	**19 33 38.4**	**-4.2**
MSWZ	**Moikau Station**	**10.92**	**206**	SN	**Sn**	**19 33 46.2**	**-4.3**
TUWZ	**Tuamarina**	**11.46**	**210**	SN	**Sn**	**19 33 58.6**	**-4.8**
NNZ	**Nelson**	**11.53**	**212**	SN	**Sn**	**19 34 02.8**	**-2.5**
BSWZ	**Blackbirch Sta**	**11.72**	**209**	SN	**Sn**	**19 34 05.9**	**-3.9**
KHZ	**Kahutara**	**12.44**	**209**	*e*Pn	Pn	19 32 03.8	-6.8
KHZ				*e*Sn	Sn	19 34 16.1	-11
MOZ	**McQueen's Vall**	**13.88**	**208**	*e*SN	Sn	19 34 49.6	-13
RPZ	**Rata Peaks**	**14.56**	**212**	*e*Pn	Pn	19 32 34.0	-5.0
RPZ				*e*Sn	Sn	19 35 06.3	-13
ODZ	**Otahua Downs**	**15.80**	**209**	*e*Pn	Pn	19 32 47.3	-7.5
ODZ				*e*Sn	Sn	19 35 32.8	-16
DZM	**Mont Dzumac**	**16.50**	**302**	LR	LR	19 38 09.4	
	comp=Z,700nm,19.5s,baz=118,slow=32						
WHZ	**Wether Hill Ro**	**17.65**	**213**	*e*Pn	**Pn**	**19 33 17.1**	**-0.8**
WHZ				*e*Sn	Sn	19 36 18.8	-15
EIDS	**Eidsvold**	**27.42**	**276**	*e*P	**P**	**19 34 58.3**	**+1.8**
	17nm,0.8s						
CTA	**Charters Tower**	**33.63**	**281**	P	**P**	**19 35 53.0**	**+1.7**
	41nm,0.7s,baz=105,slow=11,SNR=40						
CTAO	**Charters Tower**	**33.63**	**281**	*e*P	**P**	**19 35 52.9**	**+1.7**
	42nm,0.7s						
BBOO	**Buckleboo**	**38.24**	**256**	*e*P	**P**	**19 36 31.4**	**+0.8**
PMG	**Port Moresby**	**38.81**	**297**	P	**P**	**19 36 35.5**	**-0.1**
	8.6nm,0.6s,baz=122,slow=4.7,SNR=7.9						
PMG	**Port Moresby**	**38.81**	**297**	*e*P	**P**	**19 36 35.2**	**-0.3**
	9.6nm,0.6s						
AS31	**Alice Springs**	**42.65**	**269**	*e*P	**P**	**19 37 07.3**	**+0.2**
ASAR	**Alice Springs**	**42.65**	**269**	P	**P**	**19 37 07.7**	**+0.5**
	34nm,0.6s,baz=107,slow=7.4,SNR=665						
WB2	**Warramunga Arr**	**43.74**	**274**	*e*P	**P**	**19 37 16.1**	**+0.2**
WRAB	**Tennant Creek**	**43.75**	**274**	P	**P**	**19 37 16.0**	**0.0**
	1μm,0.4s						
WRAB	**Tennant Creek**	**43.75**	**274**	*e*P	**P**	**19 37 16.1**	**+0.1**
	123nm,0.5s						
WRA	**Warramunga Arr**	**43.76**	**274**	P	**P**	**19 37 16.3**	**+0.2**
	95nm,0.4s,baz=112,slow=8.0,SNR=1427						
SBA	**Scott Base**	**46.71**	**184**	*e*P	P	19 37 43.9	+5.2
	60nm,1.8s						
VNDA	**Vanda**	**46.76**	**186**	P	**P**	**19 37 41.5**	**+2.4**
	12nm,1.6s						
CASY	**Casey**	**53.80**	**208**	*e*P	**P**	**19 38 33.8**	**+1.5**
	10nm,0.5s						
MBWA	**Marble Bar**	**55.69**	**265**	*e*P	**P**	**19 38 44.9**	**-1.8**
	19nm,1.0s						
QSPA	**South Pole Qui**	**58.41**	**180**	*e*P	P	19 39 09.1	+3.6
	93nm,1.8s						
SYO	**Syowa Base**	**75.76**	**193⇑**	*e*P	**P**	**19 40 54.6**	**-0.5**
SNAA	**Sanae**	**76.87**	**179**	*e*P	**P**	**19 41 03.3**	**+1.8**
	20nm,1.0s						
SNAA				*e*PcP	**PcP**	**19 41 08.0**	**-4.4**
VNA3	**Neumayer Olymp**	**77.03**	**176**	P	**P**	**19 41 04.5**	**+2.1**
VNA2	**Neumayer--Watz**	**77.46**	**177**	P	**P**	**19 41 07.1**	**+2.3**
	baz=177,slow=3.4						
VNA1	**Neumayer--Stat**	**77.70**	**177**	P	**P**	**19 41 08.8**	**+2.8**
COCO	**West Island**	**79.23**	**262**	*e*P	**P**	**19 41 13.5**	**-1.9**
	329nm,0.6s						
PLCA	**Paso Flores**	**81.92**	**133**	*e*P	**P**	**19 41 31.6**	**+2.1**
	7.4nm,1.1s						
EFI	**East Falkland**	**81.92**	**147**	P	**P**	**19 41 30.9**	**+1.7**
	22nm,1.5s						
KSRS	**Korea Array**	**85.08**	**320**	P	**P**	**19 41 44.2**	**-1.1**
	2.5nm,1.0s,baz=147,slow=7.0,SNR=5.3						
KSAR	**Wonju Array Be**	**85.09**	**320**	P	**P**	**19 41 44.2**	**-1.2**
ISA	**Isabella, Lake**	**87.51**	**45**	*e*P	**P**	**19 41 58.5**	**+1.0**
	8.5nm,1.0s						
CMB	**Columbia Colle**	**88.00**	**42**	*e*P	**P**	**19 42 00.1**	**+0.3**
	6.9nm,0.9s						
MTUM	**Tungsten Hills**	**88.59**	**44**	*e*PKKPbc	PKKPbc	19 59 43.4	-1.3
TRQA	**Tornquist**	**88.81**	**135**	P	**P**	**19 42 05.1**	**+1.2**
NV11	**Mina Array Sit**	**89.56**	**43**	P	**P**	**19 42 10.1**	**+2.8**
TUC	**Tucson**	**90.24**	**52**	*e*P	**P**	**19 42 12.2**	**+1.7**
	3.8nm,0.9s						
R11A	**Troy Canyon, C**	**91.02**	**44**	*e*P	**P**	**19 42 13.7**	**-0.4**
	34nm,2.3s						
CMAR	**Chiang Mai Arr**	**93.44**	**289**	P	**P**	**19 42 26.1**	**+0.6**
	0.3nm,0.6s,baz=140,slow=2.5,SNR=5.6						
CMAR				PP	**PP**	**19 46 10.6**	**-0.2**
	0.3nm,0.3s,baz=135,slow=10,SNR=4.8						
BJI	**Beijing**	**93.56**	**316**	P	**P**	**19 42 25.8**	**+0.3**
BJI				PMZ			
	5.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**96.84**	**314**	*e*P	**P**	**19 42 43.0**	**+2.3**
HHC				sP	sP	19 42 57.8	-6.8
HHC				PP	**PP**	**19 46 40.5**	**+3.5**
HHC				S	**ScS**	**19 53 58.5**	**+0.3**
HHC				sS	sS	19 54 17.0	-10
HHC				SS	**SS**	**20 00 37.8**	**+2.5**
HHC				LN			
	370nm,18.1s						
HHC				LE			
	510nm,15.2s						
HHC				LZ			
	370nm,17.9s						
ILAR	**Eielson Array**	**99.28**	**13**	P	**Pdif**	**19 42 48.9**	**-2.0**
	0.3nm,0.6s,baz=238,slow=5.7,SNR=4.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**106.79**	**26**	PKiKP	**PKiKP**	**19 47 33.0**	**-1.1**
	0.2nm,0.5s,baz=254,slow=1.6,SNR=6.2						
YKA				PKKPbc	**PKKPbc**	**19 58 53.4**	**-1.0**
	0.7nm,0.7s,baz=40,slow=3.2,SNR=9.5						
WCI	**Wyandotte Cave**	**110.36**	**57**	*e*Pdif	**Pdif**	**19 43 43.8**	**+3.0**
WMQ	**Urumqi**	**113.70**	**308**	*e*PKP	**PKiKP**	**19 47 48.3**	**+0.5**
WMQ				sPKP		19 48 02.8	
WMQ				PP	**PP**	**19 48 45.0**	**+3.3**
WMQ				PKS	**PKSdf**	**19 51 23.8**	**-0.7**
WMQ				SKS	**SKSdf**	**19 54 52.5**	**-2.1**
WMQ				SKKS	**SKKSac**	**19 55 34.0**	**-3.4**
WMQ				SS	**SS**	**20 04 26.0**	**+0.5**
WMQ				LN			
	170nm,20.0s						
WMQ				LE			
	69nm,20.0s						
WMQ				LZ			
	120nm,26.0s						
BOSA	**Boshof**	**115.90**	**203**	PKP	**PKPdf**	**19 47 53.1**	**+0.3**
	3.3nm,0.8s,baz=179,slow=3.2,SNR=7.2						
MKAR	**Makanchi Array**	**118.29**	**310**	PKP	**PKPdf**	**19 47 55.1**	**-1.4**
	0.7nm,0.4s,baz=233,slow=1.3,SNR=23						
ZALV	**Zalesovo Beam**	**118.73**	**318**	PKP	**PKPdf**	**19 47 55.4**	**-1.6**
	0.4nm,0.3s,baz=90,slow=4.7,SNR=3.3						
KURK	**Kurchatov**	**121.65**	**313**	*e*PKPdf	**PKPdf**	**19 48 00.7**	**-2.0**
KKAR	**Karatay Array**	**125.44**	**303**	*e*PKPdf	**PKPdf**	**19 48 09.4**	**-0.9**
LSZ	**Lusaka**	**126.74**	**213**	*e*PKPdf	**PKPdf**	**19 48 15.5**	**+1.7**
GEYT	**Alibeck**	**133.72**	**294**	PKP	**PKPdf**	**19 48 25.5**	**-0.8**
	0.6nm,0.4s,baz=259,slow=1.5,SNR=3.8						
ARU	**Arti**	**133.82**	**320**	*e*PKPdf	**PKPdf**	**19 48 25.1**	**-0.7**
ARCES	**ARCESS Array B**	**139.77**	**347**	PKhKP	PKPpre	19 48 29.0	
	2.6nm,0.8s,baz=29,slow=2.1,SNR=14						
KBZ	**Khabaz**	**145.48**	**302**	PKPbc	**PKPbc**	**19 48 47.4**	**0.0**
	6.0nm,1.0s,baz=61,slow=2.4,SNR=9.5						
KIV	**Kislovodsk**	**145.60**	**303**	*e*PKPdf	**PKPdf**	**19 48 43.2**	**-4.5**
OBN	**Obninsk**	**145.99**	**324**	*e*PKPdf	**PKPdf**	**19 48 47.2**	**-0.6**
FINES	**FINESS Array B**	**146.22**	**339**	PKPbc	**PKPdf**	**19 48 47.3**	**-0.7**
	14nm,0.4s,baz=64,slow=3.3,SNR=104						
NB2	**NORSAR Subarra**	**149.97**	**351**	PKP	**PKPbc**	**19 48 57.6**	**-1.6**
	comp=Z,4.6nm,0.6s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**149.97**	**351**	PKPbc	**PKPbc**	**19 48 57.8**	**-1.5**
	comp=Z,3.4nm,0.5s,baz=15,slow=4.1,SNR=17						
AKASG	**Malin Array Be**	**152.07**	**321**	PKPbc	**PKPbc**	**19 49 03.0**	**-1.4**
	comp=Z,1.8nm,0.4s,baz=47,slow=2.5,SNR=13						
KIEV	**Kiev**	**152.08**	**321**	*e*PKPbc	**PKPbc**	**19 49 02.9**	**-1.5**
BRTR	**Keskin Array B**	**152.83**	**296**	PKPbc	**PKPbc**	**19 49 05.3**	**-1.3**
	comp=Z,1.5nm,0.4s,baz=140,slow=4.3,SNR=17						
SUW	**Suwalki**	**152.84**	**332**	*e*PKPdf	**PKPbc**	**19 49 04.8**	**-1.2**
CSS	**Prodhromos**	**153.28**	**286**	PKPdf	**PKPdf**	**19 48 59.6**	**-0.5**
CSS				*e*PKPbc	**PKPbc**	**19 49 06.9**	**-0.8**
LIC	**Lamto**	**153.92**	**165**	*e*P	**PKPbc**	**19 49 08.7**	**-0.9**
	comp=Z,42nm,1.2s						
KIC	**Kosan Boka**	**154.12**	**166**	*e*P	**PKPbc**	**19 49 10.8**	**+0.8**
	comp=Z,16nm,0.7s						
TIC	**Toumodi**	**154.33**	**165**	*e*P	**PKPbc**	**19 49 08.1**	**-2.4**
	comp=Z,9.0nm,0.5s						
DBIC	**Dimbokro**	**154.39**	**165**	PKPbc	**PKPbc**	**19 49 08.3**	**-2.2**
	comp=Z,4.1nm,0.8s,baz=211,slow=6.1,SNR=3.8						
GERES	**GERESS Array B**	**160.56**	**335**	PKPab	**PKPab**	**19 49 51.4**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=28,slow=6.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**161.53**	**181**	PKP	**PKPdf**	**19 49 11.7**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=199,slow=0.8,SNR=6.3						
TORD				PKPab	**PKPab**	**19 49 57.0**	**+1.5**
	comp=Z,6.1nm,0.7s,baz=175,slow=3.4,SNR=16						
ESDC	**Sonseca Array**	**170.88**	**28**	PKP	**PKPdf**	**19 49 18.7**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=356,slow=2.6,SNR=4.5						
ESDC				PKPab	**PKPab**	**19 50 34.0**	**-2.3**
	comp=Z,0.5nm,0.5s,baz=315,slow=6.6,SNR=2.3						

WEL 30 19:30:38.3±0.1, 38°.62S×176°.42E, h5km, ML2.7/15, 4C-3D, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALRZ	**Allen Road**	**0.08**	**313**	⇑PG	Pg	19 30 40.8	+0.6
ALRZ				SG	Sg	19 30 43.0	+1.6
PRRZ	**Plateau Road**	**0.12**	**350**	⇑PG	Pg	19 30 41.3	+0.4
PRRZ				SG	Sg	19 30 43.2	+0.6
WPRZ	**Whakapapatarin**	**0.23**	**296**	PG	Pg	19 30 43.5	+0.7
HRRZ	**Handcock Road**	**0.25**	**335**	⇑PG	Pg	19 30 44.0	+0.6
RRRZ	**Republican Roa**	**0.29**	**15**	PG	Pg	19 30 44.3	+0.3
RRRZ				SG	Sg	19 30 48.5	+0.6
HLRZ	**Highlands Stat**	**0.37**	**352**	PG	Pg	19 30 46.4	+0.8
HATZ	**Hinemaiaia**	**0.37**	**223**	PG	Pg	19 30 45.3	-0.4
TARZ	**Mount Tarawera**	**0.39**	**10**	PG	Pg	19 30 46.4	+0.4
OMRZ	**Omania**	**0.51**	**356**	PG	Pg	19 30 48.5	+0.3
BKZ	**Black Stump Fm**	**0.55**	**174**	PG	Pg	19 30 49.1	0.0
RITZ	**Rihia Road**	**0.57**	**231**	PG	Pg	19 30 49.2	-0.1
URZ	**Urewera**	**0.65**	**57**	P*	Pg	19 30 50.4	-0.4
URZ	**Urewera**	**0.65**	**57**	*e*Pn	Pg	19 30 50.4	-0.5
KATZ	**Kakaramea**	**0.67**	**238**	P*	Pg	19 30 51.0	-0.5
SNGZ	**Shannon Statio**	**0.74**	**103**	P*	Pg	19 30 52.9	+0.3
KRVZ	**Karewarewa**	**0.77**	**232**	P*	Pg	19 30 52.5	-0.9
ARHZ	**Aropaoanui**	**0.78**	**145**	P*	Pb	19 30 54.8	+0.3
OTVZ	**Oturere**	**0.80**	**227**	P*	Pg	19 30 53.2	-0.7
WTVZ	**West Tongariro**	**0.82**	**232**	P*	Pg	19 30 53.6	-0.6
NGZ	**Ngauruhoe**	**0.85**	**229**	P*	Pg	19 30 54.1	-0.8
TUVZ	**Tukino**	**0.88**	**222**	P*	Pg	19 30 54.6	-0.9
BHHZ	**Black Hill Sta**	**0.91**	**198**	P*	Pg	19 30 55.1	-0.9
MWZ	**Matawai**	**0.92**	**72**	P*	Pg	19 30 55.3	-0.7
WHVZ	**Whangaehu Hut**	**0.93**	**224**	⇓P*	Pg	19 30 55.3	-1.1
FWVZ	**Far West T-bar**	**0.93**	**226**	⇓P*	Pg	19 30 55.3	-1.2
MOVZ	**Moawhango**	**0.94**	**213**	P*	Pg	19 30 55.2	-1.4
WNVZ	**Wahianoa**	**0.95**	**222**	P*	Pg	19 30 55.9	-1.1
TRVZ	**Turoa**	**0.96**	**225**	⇓P*	Pg	19 30 55.9	-1.3
MTVZ	**Mangateitei**	**1.06**	**224**	⇑P*	Pg	19 30 57.6	-1.3

*IDC **30** 19:32:53.5±1.1, 38°.13S×74°.94W, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/22, mbtmp3.9/8, ML3.3/1, Error ellipse: s-maj=36.9km s-min=24.3km az=90.0*
*ISCJB **30** 19:32:57.1±0.8, 37°.90S±0°.05×74°.8W±0°.1, h33km, mb4.1/8, Error ellipse: s-maj=11.9km s-min=6.9km az=174.6*
*NEIC **30** 19:32:58.2±0.9, 37°.93S×74°.95W, h35km, mb4.6/3, Error ellipse: s-maj=20.1km s-min=12.6km az=76.0*

ISC 30 19:32:58.5±0.8, 37°.96S±0°.07×74°.9W±0°.1, h35km, n17, σ1°.24/20, mb4.1/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.38**	**131**	*e*Pn	**Pn**	**19 34 01.4**	**-1.2**
PLCA				*e*Sn	**Sn**	**19 34 51.9**	**-0.5**
CFAA	**Coronel Fontan**	**8.39**	**43**	Pn	**Pn**	**19 34 57.9**	**+0.2**
	0.3nm,0.3s,baz=205,slow=16,SNR=7.2						
CFAA				Sn	**Sn**	**19 36 32.0**	**+0.9**
	0.5nm,0.3s,baz=91,slow=13,SNR=6.1						
LCO	**Las Campanas**	**9.59**	**23**	*e*Pn	**Pn**	**19 35 12.3**	**-2.1**
LCO				*e*Sn	**Sn**	**19 37 00.1**	**-1.0**
TRQA	**Tornquist**	**10.22**	**95**	*e*Pn	**Pn**	**19 35 23.3**	**+0.7**
EFI	**East Falkland**	**18.13**	**145**	*e*P	**P**	**19 37 08.6**	**+1.2**
	119nm,1.4s						
LPAZ	**La Paz**	**22.40**	**17**	P	**P**	**19 37 56.4**	**+1.7**
	0.8nm,0.8s,baz=180,slow=4.0,SNR=2.6						
LPAZ	**La Paz**	**22.40**	**17**	*e*P	**P**	**19 37 53.5**	**-1.1**
	1.8nm,0.8s						
QSPA	**South Pole Qui**	**52.28**	**180**	P	**P**	**19 42 05.4**	**-0.9**
	3.6nm,0.8s,baz=159,slow=5.7,SNR=4.0						
QSPA	**South Pole Qui**	**52.28**	**180**	*e*P	**P**	**19 42 05.2**	**-1.1**
	6.7nm,1.0s						
FDF	**Fort de France**	**53.99**	**17**	P	**P**	**19 42 17.6**	**-1.5**
	64nm,1.0s						
TXAR	**Lajitas Array**	**72.15**	**334**	P	**P**	**19 44 21.1**	**+1.6**
	0.6nm,0.7s,baz=155,slow=8.4,SNR=6.5						
DBIC	**Dimbokro**	**78.64**	**72**	P	**P**	**19 44 58.7**	**+1.6**
	1.7nm,0.6s,baz=218,slow=6.3,SNR=4.2						
DBIC	**Dimbokro**	**78.64**	**72**	*e*P	**P**	**19 44 58.3**	**+1.2**
	3.3nm,0.8s						
BOSA	**Boshof**	**80.27**	**119**	P	**P**	**19 45 05.7**	**-0.3**
	2.8nm,0.7s,baz=225,slow=5.3,SNR=4.1						
PDAR	**Pinedale Array**	**86.30**	**335**	P	**P**	**19 45 37.5**	**+0.8**
	0.6nm,0.8s,baz=130,slow=6.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**87.72**	**72**	P	**P**	**19 45 44.7**	**+0.7**
	0.6nm,0.9s,baz=212,slow=5.9,SNR=2.5						
TIXI	**Tiksi**	**144.11**	**347**	*e*PKPdf	**PKPab**	**19 52 26.2**	**-0.6**

MAN 30 19:33:42, 18°.02N×120°.53E, h35km, mb4.6, ML3.5, MS3.4, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.12**	**216⇑**	*i*P	Pn	19 33 49.4	+1.2
SIPP				*e*S	Sn	19 33 55.4	+3.0
PIP	**Pasuquin**	**0.31**	**15⇑**	*i*P	Pn	19 33 51.1	+0.9
PIP				*e*S	Sn	19 33 58.9	+3.2
ABRA	**Dolores**	**0.41**	**155**	*e*P	Pn	19 33 52.1	+0.8
ABRA				*e*S	Sn	19 34 00.1	+2.3
SGCP	**Mt. Cagua**	**1.46**	**81**	*e*P	Pn	19 34 07.8	+1.9

MAN 30 19:40:45, 10°.27N×126°.08E, h30km, mb4.8, ML3.7, MS3.7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.21**	**264**	*e*P	Pn	19 41 05.4	-0.5
MSLP				*e*S	Sb	19 41 22.1	-0.6
BUTP	**Butuan**	**1.37**	**199**	*e*P	Pn	19 41 08.3	+0.2
BUTP				*e*S	Sn	19 41 25.7	+0.4
PLP	**Palo**	**1.40**	**309⇓**	*e*P	Pn	19 41 08.5	-0.1
PLP				*e*S	Sn	19 41 26.5	+0.4
OCLP	**Ormoc**	**1.64**	**298**	*e*P	Pb	19 41 13.7	-1.0
BUKP	**Musuan**	**2.58**	**203**	*e*P	Pn	19 41 25.9	+1.0
PAGZ	**Pagadian**	**3.59**	**228**	*e*P	Pn	19 41 40.7	+2.0

NNC 30 19:59:25.1±3.4, 38°.21N×71°.39E, h0km, mb3.9, mpv3.5, 6C-1D, Error ellipse: s-maj=34.5km s-min=11.9km az=159.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.10**	**287**	Pn	Pn	20 00 01.1	-0.6
	33nm,0.6s						
DZET				⇑Sn	Sb	20 00 30.1	-0.8
	30nm,0.3s						
SFK	**Sufi-Kurgan**	**2.44**	**42**	Pn	Pn	20 00 06.6	0.0
	29nm,0.4s						
SFK				Lg	Lg	20 00 40.4	
	59nm,0.4s						
MNAS	**Manas**	**4.36**	**11**	⇑Pn	Pn	20 00 31.9	-1.0
	2.4nm,0.4s						
MNAS				⇑Sn	Sn	20 01 22.4	-2.1
	32nm,1.0s						
KK31	**Karatay Array**	**4.94**	**353**	Pn	Pn	20 00 39.0	-1.6
	0.9nm,0.3s,baz=176,slow=14,SNR=53						
KK31				⇓Sn	Sn	20 01 39.7	+1.2
	6.1nm,0.5s,baz=172,slow=21						
AAK	**Ala-Archa**	**5.02**	**27**	Pn	Pn	20 00 41.6	-0.3
	9.5nm,0.5s						
AAK				⇑Sn	Sn	20 01 47.3	+6.6
	5.0nm,0.6s						
TKM2	**Tokmak 2**	**5.70**	**33**	⇑Pn	Pn	20 00 50.7	-0.6
	1.7nm,0.6s						
TKM2				⇑Sn	Sn	20 02 00.3	+2.7
	2.0nm,0.5s						

MAN 30 20:11:21, 8°.52N×124°.50E, h32km, mb3.8, ML2.5, MS2.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.21**	**109⇑**	*i*P	Pb	20 11 26.9	-0.6
CGP				*i* S	Sb	20 11 30.5	-1.5
BUKP	**Musuan**	**0.85**	**139**	*e*P	Pb	20 11 37.5	+0.1
BUKP				*e*S	Sn	20 11 47.7	-0.6
PAGZ	**Pagadian**	**1.29**	**239**	*e*P	Pn	20 11 43.2	+0.3
PAGZ				*e*S	Sn	20 11 57.0	-2.0

*ISCJB **30** 20:33:35.6±0.3, 13°.80N±0°.04×92°.63E±0°.04, h32km, mb4.2/25, Error ellipse: s-maj=6.9km s-min=4.8km az=138.8*
*NEIC **30** 20:33:35.9±0.3, 13°.65N×92°.74E, mb4.4/11, Error ellipse: s-maj=8.3km s-min=7.1km az=66.0*
*IDC **30** 20:33:36.1±0.6, 13°.65N×92°.81E, h23km±3km, mb4.0/16,

EKS2	Erkin-Say	33.11	334	P		P	20 40 08.7 -1.6
	comp=E,1.5nm,0.7s						
MKAR	Makanchi Array	34.05	347	P		P	20 40 20.0 +1.7
	comp=E,1.7nm,0.8s,baz=161,slow=8.7,SNR=15						
SONM	Songino Array	35.78	16	P		P	20 40 35.5 +2.2
	comp=E,2.1nm,1.0s,baz=196,slow=10,SNR=8.1						
SONM				PcP		PcP	20 43 00.8 +0.1
	comp=E,0.3nm,0.5s,baz=186,slow=4.3,SNR=3.6						
ULN	Ulaanbaatar	35.98	16	P		P	20 40 37.2 +2.1
KURK	Kurchatov	38.58	346	*e*P		P	20 40 58.3 +1.5
	comp=E,3.7nm,1.3s						
GEYT	Alibeck	39.02	314	P		P	20 41 03.3 +2.5
	comp=E,3.7nm,0.7s,baz=138,slow=9.1,SNR=14						
GEYT				pP		pP	20 41 10.5 +0.3
	comp=E,4.7nm,0.7s,baz=134,slow=8.3,SNR=11						
KSAR	Wonju Array Be	39.10	47	P		P	20 41 02.4 +1.0
KSRS	Korea Array	39.13	47	P		P	20 41 02.4 +0.7
	comp=E,1.1nm,0.7s,baz=242,slow=7.9,SNR=4.5						
ZALV	Zalesovo Beam	40.55	353	P		P	20 41 14.5 +1.3
	comp=E,3.9nm,0.7s,baz=176,slow=8.5,SNR=24						
ABKAR	Akbulak array	44.45	330	*e*P		P	20 41 46.2 +1.2
	comp=E,3.0nm,0.9s						
GNI	Garni	49.45	311	*e*P		P	20 42 22.8 -1.7
ARU	Arti	49.96	336	*e*P		P	20 42 28.8 +1.0
KIV	Kislovodsk	52.12	315	P		P	20 42 46.6 +2.2
	comp=E,8.8nm,1.0s						
WRA	Warramunga Arr	52.88	128	P		P	20 42 49.3 -0.9
	comp=E,3.0nm,0.6s,baz=309,slow=8.1,SNR=4.9						
WRA				pP		pP	20 42 56.7 -3.2
	comp=E,3.0nm,0.5s,baz=309,slow=7.9,SNR=12						
WRA				PcP		PcP	20 43 59.4 +0.2
	comp=E,1.5nm,0.6s,baz=318,slow=3.3,SNR=11						
WRAB	Tennant Creek	52.88	128	*e*P		P	20 42 49.5 -0.7
	comp=E,7.0nm,0.5s						
ASAR	Alice Springs	54.80	132	P		P	20 43 03.7 -0.6
	comp=E,2.2nm,0.4s,baz=306,slow=6.6,SNR=61						
ASAR				pP		pP	20 43 10.7 -3.4
	comp=E,2.2nm,0.5s,baz=307,slow=6.5,SNR=9.9						
ASAR				PcP		PcP	20 44 06.8 +0.4
	comp=E,0.8nm,0.6s,baz=316,slow=3.9,SNR=4.3						
BRTR	Keskin Array B	57.64	308	P		P	20 43 24.9 +0.4
	comp=E,1.3nm,0.8s,baz=117,slow=7.4,SNR=8.3						
TIXI	Tiksi	61.74	12	*e*P		P	20 43 52.4 +0.4
	comp=E,2.0nm,0.6s						
FINES	FINESS Array B	66.89	331	P		P	20 44 26.6 +0.7
	comp=E,1.7nm,0.6s,baz=113,slow=5.4,SNR=15						
FINES				pP		pP	20 44 33.1 -2.7
	comp=E,1.2nm,0.6s,baz=106,slow=7.8,SNR=2.8						
ARCES	ARCESS Array B	69.28	340	P		P	20 44 42.1 +1.3
	comp=E,2.6nm,0.8s,baz=93,slow=7.3,SNR=8.1						
ARCES				pP		pP	20 44 48.8 -1.9
	comp=E,3.2nm,0.9s,baz=90,slow=6.3,SNR=1.7						
LSZ	Lusaka	70.11	248	P		P	20 44 46.2 -0.7
	comp=E,2.9nm,0.9s						
GERES	GERESS Array B	72.57	317	P		P	20 45 02.3 +1.1
	comp=E,2.0nm,0.8s,baz=92,slow=6.7,SNR=11						
NB2	NORSAR Subarra	73.95	330	P		P	20 45 09.3 +0.2
	comp=Z,0.7nm,0.6s,baz=89,slow=5.9						
NOA	NORSAR Array B	73.95	330	P		P	20 45 09.6 +0.5
	comp=Z,1.0nm,0.6s,baz=91,slow=5.7,SNR=6.2						
LBTB	Lobatse	75.98	240	*e*P		P	20 45 22.1 +0.6
	comp=Z,6.3nm,1.0s						
BOSA	Boshof	77.66	236	P		P	20 45 31.7 +0.7
	comp=Z,5.9nm,0.9s,baz=118,slow=2.4,SNR=7.3						
BOSA	Boshof	77.66	236	*e*P		P	20 45 31.6 +0.7
	comp=Z,6.6nm,0.8s						
ESDC	Sonseca Array	86.41	310	P		P	20 46 16.9 +0.3
	comp=Z,0.4nm,0.5s,baz=48,slow=4.7,SNR=4.2						
TORD	Torodi Ar. Bea	87.95	283	P		P	20 46 25.4 +0.9
	comp=Z,1.3nm,0.8s,baz=87,slow=3.9,SNR=8.0						
TORD				pP		pP	20 46 33.6 -1.1
	comp=Z,0.7nm,0.7s,baz=77,slow=4.5,SNR=4.2						
ILAR	Eielson Array	89.78	22	P		P	20 46 32.6 +0.4
	comp=Z,0.5nm,0.7s,baz=303,slow=4.5,SNR=4.5						

*MEX **30** 20:40:36.8±0.7, 13°.59N×91°.98W, h16km±47km, MD4.3*
*IDC **30** 20:40:38.1±2.3, 13°.91N×91°.91W, h0km, mb4.0/5, mb1 4.2/7, mb1mx3.8/40, mbtmp3.9/7, ML3.5/2, Error ellipse: s-maj=46.1km s-min=24.4km az=0.0*
*NEIC **30** 20:40:40.0±1.8, 14°.00N×92°.15W, h10km, MD4.3(MEX), Error ellipse: s-maj=26.4km s-min=17.6km az=176.0*
*CASC **30** 20:40:45.3±0.9, 13°.77N×91°.74W, h0km±7km, MD4.0*

ISC 30 20:40:38.5±1.8, 13°.82N±0°.06×92°.09W±0°.04, h9km±11km, n32, σ1§55/49, mb4.0/5, 1C-1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAT	Jato	0.66	42	⇓*i*P		Pn		20 40 57.3	+3.4
THIG		1.09	351	*e*P		Pb		20 40 57.2	-2.3
THIG				*i* S		Sb		20 41 13.4	-0.4
THIG		1.09	351	*e*P		Pb		20 40 57.2	-2.3
THIG				*i* S		Sb		20 41 13.4	-0.4
PCG	Pacaya	1.55	68	*e*P		Pg		20 41 09.8	+1.5
NBG	Las Nubes	1.86	66	*e*P		Pg		20 41 14.9	+0.8
APG	El Apazote	1.97	53	Pn		Pn		20 41 10.2	-2.0
	28nm,0.3s,baz=220,slow=11,SNR=471								
APG				Sn		Sn		20 41 35.8	-1.2
	49nm,0.3s,baz=310,slow=17,SNR=5.8								
PCIG		2.16	330	*e*P		Pn		20 41 12.8	-1.9
PCIG				*i* S		Sn		20 41 41.0	-0.6
PCIG		2.16	330	*e*P		Pn		20 41 12.8	-1.9
PCIG				*i* S		Sn		20 41 41.0	-0.6
RBDL	Robledal	2.35	83	*e*P		Pb		20 41 20.3	-0.9
RBDL				*e*S		Sb		20 41 48.7	-1.7
RTR	El Retiro	2.38	88	*e*P		Pb		20 41 20.9	-0.7
SBLS	San Blas	2.40	89	*e*P		Pb		20 41 21.8	-0.2
SBLS				*e*S		Sb		20 41 50.5	-1.3
SNJE	San Jose	2.42	89	*e*P		Pb		20 41 21.8	-0.5
SNJE				*e*S		Sb		20 41 50.1	-2.1
CCIG	Comitan	2.44	359	*e*P		Pn		20 41 17.0	-1.7
CCIG				*i* S		Sn		20 41 47.3	-1.5
CCIG	Comitan	2.44	359	*e*P		Pn		20 41 17.0	-1.7
CCIG				*i* S		Sn		20 41 47.3	-1.5
MRL	Marmol	2.63	62	*e*P		Pb		20 41 25.6	-0.3
MRL				*e*S		Sg		20 42 04.0	+0.7
BOQS	Boqueron	2.73	92	⇑*e*P		Pb		20 41 26.2	-1.5
LFU	La Fuente	2.90	91	*e*P		Pb		20 41 28.7	-1.6
LFRS	El Faro	2.95	94	*e*P		Pb		20 41 28.9	-2.4
LFRS				*e*S		Sn		20 42 02.4	+1.1
CMIG	Matias Romero	4.22	321	*e*P		Pn		20 41 42.5	-0.4
CMIG				*i* S		Sn		20 42 32.8	+0.5
CMIG	Matias Romero	4.22	321	Pn		Pn		20 41 42.8	-0.2
	1.7nm,0.3s,baz=132,slow=8.5,SNR=27								
CMIG				Sn		Sn		20 42 35.1	+2.8
	11nm,0.3s,baz=50,slow=19,SNR=5.8								
CMIG	Matias Romero	4.22	321	*e*P		Pn		20 41 42.5	-0.4
CMIG				*i* S		Sn		20 42 32.8	+0.5
CMIG				Sn		Sn		20 42 35.1	+2.8
HUIG	Huatulco	4.34	297	*e*P		Pn		20 41 42.1	-2.5
HUIG				*i* S		Sn		20 42 34.8	-0.4
HUIG	Huatulco	4.34	297	*e*P		Pn		20 41 42.1	-2.5
HUIG				*i* S		Sn		20 42 34.8	-0.4
TEIG	Tepich	7.34	29	Pn		Pn		20 42 28.3	+2.4
	8.5nm,0.3s,baz=241,slow=2.0,SNR=24								
TEIG				Sn		Sn		20 43 51.0	+1.8
	baz=12,slow=19,SNR=2.2								
TEIG	Tepich	7.34	29	*e*Pn		Pn		20 42 28.2	+2.4
	39nm,0.6s								
TEIG				Sn		Sn		20 43 51.0	+1.8
TXAR	Lajitas Array	18.79	327	P		Pn		20 45 01.4	+2.6
	0.1nm,0.3s,baz=149,slow=12,SNR=14								
ANMO	Albuquerque	24.71	331	P		P		20 46 02.2	+2.0
	2.5nm,0.7s,baz=138,slow=12,SNR=7.7								
ELK	Elko	33.59	327	P		P		20 47 21.7	+2.4
	1.7nm,0.7s,baz=191,slow=2.2,SNR=6.2								
YKA	Yellowknife Ar	51.17	347	P		P		20 49 41.3	-0.4
	1.3nm,0.6s,baz=150,slow=7.3,SNR=23								
YKA				PcP		PcP		20 50 57.4	+0.4
	0.4nm,0.7s,baz=149,slow=4.0,SNR=6.5								
INK	Inuvik	60.58	344	P		P		20 50 49.3	+0.3
	1.5nm,0.6s,baz=120,slow=7.0,SNR=5.2								
ILAR	Eielson Array	62.96	337	P		P		20 51 05.6	+0.4
	0.9nm,0.9s,baz=152,slow=4.0,SNR=8.5								
CMAR	Chiang Mai Arr	146.13	341	PKPbc		PKPab		21 00 21.2	+0.8
	2.9nm,0.7s,baz=337,slow=3.2,SNR=23								

*IDC **30** 20:46:44.6±1.1, 7°.01N×76°.52W, h0km, mb3.4/2, mb1 3.9/6, mb1mx3.7/22, mbtmp3.9/6, ML3.3/4, MS2.9/2, Ms1 2.9/2, ms1mx2.7/14, Error ellipse: s-maj=39.8km s-min=16.9km az=41.0*

ISC 30 20:46:45.1±1.0, 6°.7N±0°.2×76°.6W±0°.1, h10km, n9, σ1§03/8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.91	130	Pn		Pb		20 47 36.4	-0.9
	13nm,0.3s,baz=16,slow=3.6,SNR=14								
ROSC				Lg		Lg		20 48 20.9	
	26nm,0.3s,baz=237,slow=23,SNR=8.1								
ROSC				LR		LR		20 48 57.0	
	comp=Z,109nm,19.4s,baz=110,slow=43								
JTS	JuntasAbangare	9.01	294	LR		LR		20 52 38.6	
	comp=Z,108nm,20.4s,baz=129,slow=40								
PCRV	Puerto La Cruz	12.29	73	Pn		Pn		20 49 40.5	+0.1
	0.4nm,0.3s,baz=207,slow=6.8,SNR=3.0								
APG	El Apazote	15.92	302	Pn		Pn		20 50 29.2	-0.4
	0.2nm,0.3s,baz=90,slow=20,SNR=3.6								
PTGA	Pitinga	18.15	113	P		Pn		20 50 58.0	+0.4
	0.5nm,0.3s,baz=318,slow=6.8,SNR=8.6								
YKA	Yellowknife Ar	62.20	341	P		P		20 57 05.6	-1.0
	0.3nm,0.6s,baz=131,slow=6.8,SNR=8.1								
TORD	Torodi Ar. Bea	77.11	78	P		P		20 58 40.6	+1.1
	0.2nm,0.6s,baz=281,slow=7.3,SNR=3.4								
ASAR	Alice Springs	146.24	237	PKPbc		PKPab		21 06 28.9	+1.4
	0.6nm,0.8s,baz=123,slow=3.5,SNR=4.8								
WRA	Warramunga Arr	147.26	243	PKPbc		PKPbc		21 06 29.9	0.0
	1.0nm,0.9s,baz=119,slow=3.8,SNR=8.5								

GUC 30 20:53:51.2±0.7, 34°.87S×72°.69W, h41km±4km, ML4.3, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TALC	Talca	1.01	122	⇓*i*P		Pn		20 54 09.1	+0.1
TALC				*i* S4		Sb		20 54 20.9	
NICH	Los Niches	1.21	97	*e*P1		Pn		20 54 11.8	+0.2
COCH	Cobquecura	1.26	184	⇑*i*P		Pn		20 54 13.7	+1.3
COCH				*i* S1		Sb		20 54 28.8	
LNCH	Linares	1.32	138	⇑*i*P		Pn		20 54 14.8	+1.6
LNCH				*i* S1		Sb		20 54 31.4	
LNV	Longovilo	1.39	50	⇑*i*P		Pn		20 54 14.4	+0.3
LNV				*i* S1		Sn		20 54 31.7	+0.3
CHCH	Chadas Angostu	1.93	62	⇑*i*P		Pn		20 54 23.2	+1.6
CHCH				*i* S1		Sn		20 54 46.2	+1.6
CCSP	San Pedro de C	2.00	190	*i* S1				20 54 47.3	
RCDM	Rinconada Maip	2.08	49	⇓*i*P		Pn		20 54 24.7	+1.0
CLCH	Cerro Calan	2.31	51	*i* S1		Sn		20 54 55.4	+1.3
CLCH				IAML				20 55 07.5	
	comp=N,2μm,0.7s								
PEL	Peldehue	2.39	45	*e*P9		Pn		20 54 27.7	-0.3
PEL				*i* S1		Sn		20 54 55.6	-0.6
PEL				IAML				20 55 09.9	
	comp=E,3μm,0.6s								
FCH	Farellones	2.51	53	IAML				20 55 25.7	
	comp=E,936nm,0.4s								

*IDC **30** 21:04:39.3±6.7, 36°.20N×70°.20E, h160km±63km, mb3.1/3, mb1 3.2/7, mb1mx2.9/30, mbtmp3.7/7, Error ellipse: s-maj=49.3km s-min=26.9km az=7.0*
*ISCJB **30** 21:04:46.3±1.3, 36°.65N±0°.09×70°.31E±0°.09, h204km, mb3.1/2, Error ellipse: s-maj=12.9km s-min=10.0km az=172.9*
*NNC **30** 21:04:49.0±2.6, 36°.81N×70°.28E, h200km±20km, mb2.6, mpv3.7, Error ellipse: s-maj=27.5km s-min=13.9km az=162.0*

ISC 30 21:04:45.4±1.5, 36°.5N±0°.1×70°.34E±0°.09, h204km, n25, σ1§15/30, 6C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.56	332	⇓P		Pn		21 05 30.8	+0.5
	13nm,0.3s								
DZET				⇑S		S		21 06 04.2	-0.7
	186nm,0.4s								
SFK	Sufi-Kurgan	4.27	35	⇓P		Pn		21 05 51.4	+0.6
	6.0nm,0.4s								
SFK				⇑S		S		21 06 41.7	-0.2
	32nm,0.4s								
AML	Almayashu	6.16	24	P		Pn		21 06 15.6	+0.5
	SNR=189								
MNAS	Manas	6.17	15	⇓P		Pn		21 06 15.7	+0.8
	4.1nm,0.4s								
MNAS				⇑S		S		21 07 24.3	-1.4
	24nm,0.6s								
UCH	Uchtor	6.54	28	P		Pn		21 06 20.6	+0.6
	SNR=65								
KK31	Karatay Array	6.56	1	⇑P		Pn		21 06 19.9	+0.1
	1.2nm,0.2s,baz=184,slow=13,SNR=58								
KK31				⇓S		S		21 07 32.3	-2.4
	1.7nm,0.3s,baz=189,slow=26,SNR=5.8								
EKS2	Erkin-Say	6.67	22	P		Pn		21 06 21.9	+0.5
	SNR=16								
KZA	Kyzart	6.71	33	P		Pn		21 06 22.3	+0.1
	SNR=20								
AAK	Ala-Archa	6.88	26	⇓P		Pn		21 06 24.8	+0.6
	2.0nm,0.2s								
AAK				⇓S		S		21 07 41.5	-0.9
	12nm,0.7s								
AAK	Ala-Archa	6.88	26	P		Pn		21 06 25.0	+0.8
	SNR=12								
AAK	Ala-Archa	6.88	26	P		Pn		21 06 24.4	+0.2
	2.5nm,0.3s,baz=190,slow=8.3,SNR=44								
AAK				S		S		21 07 40.4	-2.1
	1.0nm,0.3s,baz=322,slow=18,SNR=18								
KBK	Karagaybulak	7.07	29	P		Pn		21 06 27.6	+1.0
	SNR=10								
CHMS	Chumysh	7.29	26	P		Pn		21 06 30.4	+1.1
	SNR=8.7								
ULHL	Ulahol	7.30	37	P		Pn		21 06 29.0	-0.7
	SNR=6.7								
USP	Ospenovka	7.44	24	P		Pn		21 06 31.6	+0.2
	SNR=6.2								
MK31	Makanchi Array	13.58	37	⇑P		Pn		21 07 50.9	+1.1
	0.6nm,0.6s,baz=215,slow=14,SNR=8.8								
MKAR	Makanchi Array	13.58	37	P		Pn		21 07 50.1	+0.3
	0.1nm,0.3s,baz=215,slow=12,SNR=9.3								
AB31	Akbulak array	14.80	332	⇓P		P		21 08 05.4	-0.2
	0.4nm,0.6s,baz=174,slow=11,SNR=4.8								
BVA0	Borovoye Array	16.49	0	⇓P		Pn		21 08 28.3	+3.1
	1.2nm,0.9s,baz=184,slow=11,SNR=4.2								
BVAR	Borovoye Array	16.49	0	P		Pn		21 08 26.1	+1.0
	0.2nm,0.3s,baz=184,slow=11,SNR=5.2								
AKTO	Aktyubinsk	16.49	331	⇑P		Pn		21 08 25.7	+0.5
	3.7nm,0.9s								
AKTO	Aktyubinsk	16.49	331	P		Pn		21 08 25.0	-0.2
	0.2nm,0.3s,baz=149,slow=9.1,SNR=5.4								
ZALV	Zalesovo Beam	20.11	25	P		P		21 09 04.7	+1.4
	1.5nm,0.6s,baz=213,slow=11,SNR=8.9								
TORD	Torodi Ar. Bea	65.19	268	P		P		21 15 02.3	-2.8
	0.3nm,0.8s,baz=70,slow=4.7,SNR=2.5								
WRA	Warramunga Arr	82.46	121	P		P		21 16 43.8	-1.4
	0.7nm,1.0s,baz=321,slow=5.3,SNR=3.2								

*ISCJB **30** 21:10:19.7±0.7, 1°.39S±0°.07×78°.1W±0°.2, h150km, mb3.5/7, Error ellipse: s-maj=26.0km s-min=9.1km az=173.4*
*IDC **30** 21:10:21.6±5.2, 1°.47S×78°.05W, h156km±63km, mb3.3/7, mb1 3.5/9, mb1mx3.4/20, mbtmp3.8/9, Error ellipse: s-maj=60.0km s-min=21.7km az=46.0*

ISC 30 21:10:21.2±0.8, 1°.43S±0°.08×78°.0W±0°.2, h150km, n9, σ1§31/10, mb3.4/7, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	5.68	184	P		Pn		21 11 45.5	+1.3
	5.8nm,0.3s,baz=10,slow=10,SNR=23								
ATAH				S		Sn		21 12 46.8	-2.2
	4.8nm,0.3s,baz=316,slow=22,SNR=7.9								
LPAZ	La Paz	17.68	147	P		Pn		21 14 19.5	+0.5
	0.4nm,0.3s,baz=339,slow=9.5,SNR=12								
SIV	San Ignacio	22.08	132	P		P		21 15 05.5	+1.0
	1.9nm,0.6s,baz=314,slow=12,SNR=4.8								
PDAR	Pinedale Array	52.37	331	P		P		21 19 19.4	+1.1
	0.3nm,0.5s,baz=116,slow=8.2,SNR=2.5								
ULM	Lac du Bonnet	53.72	346	P		P		21 19 26.6	-1.0
	1.3nm,0.4s,baz=151,slow=14,SNR=3.3								
SCHQ	Schefferville	56.82	8	P		P		21 19 50.0	+0.2
	2.9nm,1.0s,baz=192,slow=9.3,SNR=2.9								
YKA	Yellowknife Ar	69.47	343	P		P		21 21 13.1	+0.1
	0.3nm,0.6s,baz=138,slow=5.8,SNR=9.2								
TORD	Torodi Ar. Bea	80.28	76	P		P		21 22 14.8	-1.3
	0.2nm,0.6s,baz=280,slow=5.6,SNR=4.4								
ILAR	Eielson Array	82.42	336	P		P		21 22 26.1	-0.2
	0.5nm,0.8s,baz=166,slow=4.9,SNR=5.0								

*NIED **30** 21:18:00.36°.40N×140°.70E, h53km, Mw4.4 Best double couple: M0=4.93000×10^15 NP1:φ0=254.00000°, δ8.00000°, λ142.00000°. NP2:φ0=21.00000°, δ85.00000°, λ84.00000°.*
*BJI **30** 21:18:32.8, 36°.67N×140°.48E, h46km, mB4.9/21, mb4.7/39, Ms4.5/19, Ms7 4.1/14*
*NEIC **30** 21:18:34.9±0.9, 36°.46N×140°.61E, h54km±7km, mb4.7/20, MW4.4(NIED), Error ellipse: s-maj=10.9km s-min=6.0km az=146.0*
NEIC Felt [III] at Tsukuba and [II] at Tokyo. Also felt at Fujioka, Maebashi and Oyama. Recorded [4 JMA] in Ibaraki; [2 JMA] in Chiba, Fukushima, Gumma, Saitama, Tochigi and Tokyo; [1 JMA] in Kanagawa.
*JMA **30** 21:18:34.5±0.1, 36°.42N×140°.65E, h55km±1km, M4.6 Broadband fault plane solution: P waves. NP1: φ0=25.00000°, δ68.00000°, λ93.00000°. NP2:φ0=197.00000°, δ22.00000°, λ82.00000°. Principal axes: T Plg67.0000°, Azm301.0000°; N Plg3.0000°, Azm204.0000°; P Plg23.0000°, Azm113.0000°;*
JMA Felt IV J1.
*ISCJB **30** 21:18:34.0±0.4, 36°.49N±0°.03×140°.68E±0°.04, h62km±2km, mb4.5/54 Error ellipse: s-maj=6.4km s-min=4.1km az=39.0*
*IDC **30** 21:18:35.3±0.6, 36°.42N×140°.62E, h59km±4km, mb4.0/20, mb1 4.2/22, mb1mx4.2/27, mbtmp4.3/22, MS3.5/11, Ms1 3.5/11, ms1mx3.3/41, Error ellipse: s-maj=13.4km s-min=7.4km az=176.0*
*MOS **30** 21:18:35.3±1.0, 36°.67N×140°.59E, h64km, mb4.9/24, Error ellipse: s-maj=8.9km s-min=5.7km az=120.2*

ISC 30 21:18:34.5±0.5, 36°.50N±0°.04×140°.63E±0°.04, h50km±3km, h50km:pP-P, n179, σ1§23/194, mb4.5/54, MS3.7/10, 8C-32D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.13	336	⇑P		Pn		21 18 43.4	+0.9
JHO				S		Sn		21 18 49.4	+1.2
JYT	Yasato	0.44	233	⇓P		Pn		21 18 45.2	0.0
JYT				S		Sn		21 18 52.7	0.0
ONAJ	Iwakimizuishiy	0.62	12	P		Pn		21 18 47.9	+0.6
ONAJ				S		Sn		21 18 57.5	+0.9
JSB	Shiboa	0.74	310	P		Pn		21 18 50.0	+1.1
JSB				*e*S		Sn		21 19 01.2	+1.9
JFK	Kawauchi	0.89	12	⇓P		Pn		21 18 51.2	+0.4
JFK				*e*S		Sn		21 19 03.2	+0.4
JAG	Ashikaga	0.95	266	⇓P		Pn		21 18 52.2	+0.6
JAG				S		Sn		21 19 04.6	+0.4
JFT	Otama	1.05	347	P		Pn		21 18 54.1	+1.2
JFT				S		Sn		21 19 08.5	+2.0
JKT	Katashina	1.15	284	P		Pn		21 18 55.3	+1.0
JKT				*e*S		Sn		21 19 10.7	+1.7
JFY	Yanaizu	1.17	321	⇓P		Pn		21 18 56.0	+1.4
JFY				*e*S		Sn		21 19 12.2	+2.6
I30JP	ISUMI INFRASON	1.21	192	P		Pn		21 18 55.6	+0.4
	baz=19,slow=11								
I30JP				S		Sn		21 19 11.8	+1.4
I30JP				*i*				21 24 50.0	
	baz=8.5,slow=336,SNR=0.5								
MJAR	Matsushiro Arr	1.95	272	P		Pn		21 19 06.5	+1.2
	221nm,0.3s,baz=107,slow=11,SNR=1143								
MJAR				S		Sn		21 19 29.2	+0.6
	130nm,0.3s,baz=25,slow=34,SNR=10								
MAJO	Matsushiro	1.96	272	⇓*i*P		Pn		21 19 06.5	+1.2
MAJO	Matsushiro	1.96	272	*e*Pn		Pn		21 19 06.1	+0.8
MAJO				*e*Sn		Sn		21 19 21.6	-7.1
MAT	Matsushiro	1.96	272	P		Pn		21 19 06.3	+1.0
MAT				S		Sn		21 19 29.8	+1.1
ERM	Erimo	5.85	19	⇓*i*P		Pn		21 19 59.1	+0.5
ERM	Erimo	5.85	19	*e*Pn		Pn		21 19 59.0	+0.5
ERM				*e*Sn		Sn		21 21 01.4	-2.9
ASAJ	Asahikawa	7.76	11	P		Pn		21 20 24.2	-0.6
ASAJ				S		Sn		21 21 51.2	0.0
ASAJ				pmax		pmax			
	comp=Z,5.0nm,0.3s								
ASAJ				smax		smax			
	comp=N,1.0nm,0.3s								
ASAJ	Asahikawa	7.76	11	P		Pn		21 20 24.1	-0.6
	comp=N,5.4nm,0.3s,baz=205,slow=11,SNR=32								
ASAJ				S		Sn		21 21 51.2	0.0
	comp=N,0.6nm,0.3s,baz=18,slow=20,SNR=3.1								
ASAJ	Asahikawa	7.76	11	*e*Pn		Pn		21 20 24.5	-0.2
ASAJ				*e*Sn		Sn		21 21 44.6	-6.6
ASAJ				S		Sn		21 21 51.2	0.0
YUK	Yuzh-Kuril'sk	8.52	26	*d i*P		Pn		21 20 47.2	+12
YUK				*i* S		Sn		21 22 10.7	+0.8
YUK				pmax		pmax			
	comp=N,51nm,0.4s								
YUK				pmax		pmax			
	comp=E,32nm,0.4s								
YUK				pmax		pmax			
	comp=Z

comp=N,10.0nm,1.2s
YAK pmax pmax
comp=Z,23nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,45nm,2.5s
YAK pmax pmax
comp=E,30nm,2.4s
YAK pmax pmax
comp=N,22nm,2.5s
YAK smax smax
comp=N,66nm,3.3s
YAK smax smax
comp=E,47nm,2.8s
YAK Yakutsk 26.46 348 *e*P **P 21 24 06.6 +0.1**
comp=E,19nm,0.6s
ENH Enshi 26.66 266 *e*P **P 21 24 07.8 -0.9**
comp=E,18nm,0.7s
ULN Ulaanbaatar 27.14 305 ⇓*i*P **P 21 24 12.6 -0.5**
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 27.14 305 *e*P **P 21 24 12.2 -0.8**
comp=Z,6.6nm,0.8s
SEY Seymchan 27.44 12 P **P 21 24 17.8 +2.5**
comp=Z,1.1nm,0.3s,baz=198,slow=8.4,SNR=6.9
SONM Songino Array 27.57 305 P **P 21 24 16.5 -0.4**
comp=Z,6.9nm,0.7s,baz=107,slow=9.4,SNR=37
BOD Bodaibo 27.66 329 ⇑*i*P **P 21 24 16.9 -0.4**
BOD pmax pmax
comp=Z,10.0nm,0.8s
H11N2 WAKE ISLAND Hy 28.42 119 T T 21 54 28.1
baz=312,slow=75,SNR=134
H11N1 WAKE ISLAND Hy 28.43 119 T T 21 54 28.6
baz=312,slow=75,SNR=186
H11N3 WAKE ISLAND Hy 28.44 119 T T 21 54 30.6
baz=312,slow=75,SNR=134
H11S1 WAKE ISLAND Hy 29.11 121 T T 21 55 15.7
baz=314,slow=76,SNR=817
H11S3 WAKE ISLAND Hy 29.11 121 T T 21 55 15.0
baz=314,slow=76,SNR=754
H11S2 WAKE ISLAND Hy 29.12 121 T T 21 55 16.8
baz=314,slow=76,SNR=398
LZH Lanzhou 29.54 280 *e*P **P 21 24 33.5 -1.0**
LZH PMZ
comp=Z,14nm,1.0s
ZAK Zakamensk 30.12 309 *e*P **P 21 24 37.8 -1.6**
ZAK pmax pmax
comp=Z,2.0nm,1.1s
TLY Talaya 30.22 312 *e*P **P 21 24 41.2 +1.1**
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY MLR MLR
comp=Z,99nm,20.0s
TLY Talaya 30.22 312 LR LR 21 37 39.1
comp=Z,84nm,18.6s,baz=88,slow=38
GYA Guiyang 30.51 261 *e*P P 21 24 46.8 +3.7
GYA PMZ
comp=Z,10.0nm,0.9s
CD2 Chengdu 31.05 271 *e*P **P 21 24 48.0 +0.3**
CD2 PMZ
comp=Z,10.0nm,0.8s
GTA Gaotai 32.13 288 *e*P **P 21 24 56.8 -0.4**
GTA pP **pP 21 25 08.0 -2.3**
GTA sP **sP 21 25 14.0 -2.2**
GTA PMZ
comp=Z,4.0nm,0.8s
BILL Bilibino 34.72 17 *e*P P 21 25 25.9 +6.6
BILL *e* 21 27 59.1
BILL MLR MLR
comp=Z,69nm,19.0s
TIXI Tiksi 35.75 354 ⇓*i*P **P 21 25 27.8 -0.3**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 35.75 354 *e*P **P 21 25 27.8 -0.3**
comp=Z,4.9nm,0.8s
HVS Khovu-Aksy 36.24 309 ⇓*i*P **P 21 25 32.2 -0.4**
HVS pmax pmax
comp=Z,23nm,1.1s
JAY Jayapura 38.81 180 LR LR 21 39 16.3
comp=Z,38nm,21.2s,baz=168,slow=32
WMQ Urumqi 40.53 297 P **P 21 26 09.3 +0.6**
WMQ sP **sP 21 26 28.0 +0.1**
WMQ PP **PP 21 27 43.8 +1.2**
WMQ PcP PcP 21 28 16.0 +5.7
WMQ S S 21 32 06.5 -7.7
WMQ sS sS 21 32 28.0 -8.6
WMQ ScS **ScS 21 36 12.0 +2.2**
WMQ PMZ
comp=Z,13nm,1.1s
WMQ PMZ
comp=Z,160nm,4.5s
WMQ LN
comp=Z,17nm,20.0s
WMQ LE
comp=Z,60nm,22.0s
CHTO Chiang Mai 40.55 256 *e*P **P 21 26 10.6 +1.5**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 40.55 256 *e*P **P 21 26 10.6 +1.5**
comp=Z,2.5nm,0.8s
CMAR Chiang Mai Arr 40.75 255 P **P 21 26 10.3 -0.5**
comp=Z,0.6nm,0.5s,baz=45,slow=7.6,SNR=8.8
LSA Lhasa 41.63 275 *e*P **P 21 26 17.8 -0.7**
LSA pmax pmax
comp=Z,8.0nm,0.9s
LSA Lhasa 41.63 275 *e*P **P 21 26 17.8 -0.7**
comp=Z,8.2nm,0.9s
ZALV Zalesovo Beam 41.82 313 P **P 21 26 19.2 +0.1**
comp=Z,18nm,0.8s,baz=93,slow=7.4,SNR=71
NVS Novosibirsk 42.76 314 ⇑*i*P **P 21 26 25.8 -0.9**
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,7.0nm,0.9s
NVS pmax pmax
comp=Z,12nm,0.9s
MK31 Makanchi Array 43.88 302 *i*P **P 21 26 35.8 -0.1**
MKAR Makanchi Array 43.88 302 P **P 21 26 35.9 0.0**
comp=Z,11nm,0.8s,baz=90,slow=9.4,SNR=95
MKAR LR LR 21 45 35.5
comp=Z,80nm,19.8s,baz=56,slow=37
MKAR Makanchi Array 43.88 302 *e*P **P 21 26 36.3 +0.4**
TAPN Taplejung 45.35 274 *e*P **P 21 26 48.3 +0.1**
comp=Z,9.6nm,0.3s
KURK Kurchatov 45.77 308 *e*P **P 21 26 50.4 -0.4**
KURK pmax pmax
comp=Z,8.0nm,0.9s
KURK Kurchatov 45.77 308 *e*P **P 21 26 50.4 -0.4**
comp=Z,8.1nm,0.9s
ODAN Odare 45.82 274 *e*P **P 21 26 51.4 -0.5**
RAMN Ramite 46.42 274 *e*P **P 21 26 56.7 +0.1**
comp=Z,58nm,0.7s
JIRN Jiri 46.44 275 *e*P **P 21 26 57.3 +0.4**
comp=Z,60nm,0.9s
GUN Gumba 46.59 276 *e*P **P 21 26 58.2 +0.2**
comp=Z,32nm,0.5s
PKI Pulchoki 47.11 276 *e*P **P 21 27 01.8 -0.2**
comp=Z,21nm,0.7s
PKIN Phulchoki 47.11 276 *e*P **P 21 27 02.0 0.0**
comp=Z,11nm,0.7s
KKN Kakani 47.12 276 *e*P **P 21 27 02.1 +0.1**
comp=Z,23nm,0.6s
DMN Daman 47.33 276 *e*P **P 21 27 03.6 -0.1**
comp=Z,10nm,0.5s
TKM2 Tokmak 2 49.34 299 P **P 21 27 19.9 +1.0**
SNR=14
TKM2 Tokmak 2 49.34 299 *e*P **P 21 27 20.1 +1.2**
TKM2 pmax pmax
comp=Z,8.0nm,0.6s
TKM2 Tokmak 2 49.34 299 *e*P **P 21 27 20.1 +1.2**
comp=Z,8.0nm,0.6s
KZA Kyzart 49.81 298 P **P 21 27 24.4 +1.5**
SNR=11
KZA Kyzart 49.81 298 *i*P **P 21 27 24.3 +1.5**
KBK Karagaybulak 49.87 298 P **P 21 27 23.7 +0.8**
SNR=13
KBK Karagaybulak 49.87 298 *i*P **P 21 27 23.7 +0.8**
KSH Kashi 50.05 294 P P 21 27 28.5 +4.2
KSH pP pP 21 27 40.5 +2.5
KSH PP **PP 21 29 22.5 +3.0**
KSH S **S 21 34 29.0 -2.9**
KSH ScS **ScS 21 37 13.0 +1.7**
KSH PMZ
comp=Z,8.0nm,0.9s
KSH PMZ
comp=Z,58nm,4.2s
KSH LN
comp=Z,78nm,4.4s
KSH LE
comp=Z,100nm,5.3s
KSH LZ
comp=Z,120nm,5.8s
AAK Ala-Archa 50.20 299 ⇓*i*P **P 21 27 26.0 +0.6**
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 50.20 299 *e*P **P 21 27 25.9 +0.6**
comp=Z,3.2nm,0.9s
ILAR Eielson Array 50.28 32 P **P 21 27 26.2 +0.7**
comp=Z,1.8nm,0.6s,baz=265,slow=5.5,SNR=21
EKS2 Erkin-Say 50.69 299 P **P 21 27 29.3 +0.2**
SNR=5.6
EKS2 Erkin-Say 50.69 299 *e*P **P 21 27 29.3 +0.2**
EKS2 pmax pmax
comp=Z,2.0nm,0.8s
EKS2 Erkin-Say 50.69 299 *e*P **P 21 27 29.3 +0.2**
comp=Z,2.1nm,0.8s
AML Almayashu 50.91 298 P **P 21 27 32.0 +1.0**
SNR=23
AML Almayashu 50.91 298 *i*P **P 21 27 32.0 +1.0**
KKAR Karatay Array 52.85 300 *e*P **P 21 27 45.5 +0.4**
KKAR Karatay Array 52.85 300 *e*P **P 21 27 45.5 +0.4**
SVE Sverdlovsk 55.14 319 *c i*P **P 21 28 02.2 +0.8**
SVE pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 55.15 27 P **P 21 28 00.7 -0.6**
comp=Z,1.2nm,0.6s,baz=286,slow=7.0,SNR=4.9
ARU Arti 56.35 319 *c i*P **P 21 28 10.0 -0.1**
ARU *PP **pP 21 28 23.3 -0.7**
ARU 21 29 05.4
ARU S **S 21 35 51.8 -4.8**
ARU pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 56.35 319 *e*P **P 21 28 10.0 -0.1**
comp=Z,11nm,0.8s
WRA Warramunga Arr 56.45 187 P **P 21 28 09.9 -1.2**
comp=Z,4.7nm,0.6s,baz=4.1,slow=7.4,SNR=92
WRA pP **pP 21 28 25.9 +0.9**
comp=Z,2.3nm,0.6s,baz=4.4,slow=7.4,SNR=4.2
KBL Kabul 57.02 291 *e*P **P 21 28 15.4 -0.2**
KBL pmax pmax
comp=Z,4.0nm,1.0s
KBL Kabul 57.02 291 *e*P **P 21 28 15.3 -0.2**
comp=Z,4.1nm,1.0s
HYB Hyderabad 57.56 268 *i*P **P 21 28 18.0 -1.3**
ABKAR Akbulak array 57.81 310 *e*P **P 21 28 20.4 -0.2**
ASAR Alice Springs 60.17 187 P **P 21 28 36.5 -0.7**
comp=Z,3.2nm,0.8s,baz=7.9,slow=7.8,SNR=26
GEYT Alibeck 63.55 299 P **P 21 29 00.6 +0.8**
comp=Z,4.2nm,0.9s,baz=48,slow=2.2,SNR=11
GEYT LR LR 21 58 12.9
comp=Z,47nm,18.7s,baz=0.0,slow=37
KEV Kevo 63.72 339 *e*P **P 21 29 00.3 -0.1**
KEV Kevo 63.72 339 *e*p **P 21 29 00.3 -0.1**
comp=Z,0.4nm,0.3s
ARCES ARCESS Array B 64.28 339 P **P 21 29 04.5 +0.5**
comp=Z,3.7nm,0.8s,baz=53,slow=8.3,SNR=13
ARCES LR LR 22 00 25.4
comp=Z,54nm,19.3s,baz=2.5,slow=39
YKA Yellowknife Ar 64.59 30 P **P 21 29 06.6 +0.4**
comp=Z,0.5nm,0.7s,baz=301,slow=6.6,SNR=5.5
YKA pP **pP 21 29 21.8 +1.5**
comp=Z,0.5nm,0.7s,baz=302,slow=6.6,SNR=4.8
JOF Joensuu 66.14 332 *e*P **P 21 29 15.7 -0.5**
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 66.14 332 *e*p **P 21 29 15.7 -0.5**
comp=Z,2.8nm,0.5s
OBN Obninsk 68.15 323 ⇑*i*P **P 21 29 29.7 +0.6**
OBN *e* 21 29 59.1
OBN *e* 21 31 58.6
OBN pmax pmax
comp=Z,12nm,1.5s
OBN MLR MLR
comp=Z,49nm,22.0s
KAF Kangasniemi 68.50 333 *e*P **P 21 29 30.3 -0.8**
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 68.50 333 *e*p **P 21 29 30.3 -0.8**
comp=Z,4.8nm,0.5s
FINES FINESS Array B 69.00 332 P **P 21 29 34.3 0.0**
comp=Z,7.0nm,0.8s,baz=68,slow=6.6,SNR=26
FINES LR LR 22 00 53.6
comp=Z,42nm,19.7s,baz=46,slow=37
VSU Vasula 70.60 329 *de*P **P 21 29 44.6 +0.5**
VSU pmax pmax
comp=Z,19nm,0.9s
ZEI Tsey 70.65 309 *e*P **P 21 29 43.3 -1.8**
ZEI pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 70.78 310 P **P 21 29 45.8 +0.3**
comp=Z,5.7nm,0.8s,baz=38,slow=4.4,SNR=15
KIV Kislovodsk 70.78 311 *e*P **P 21 29 46.7 +1.0**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV Kislovodsk 70.78 311 *e*P **P 21 29 46.3 +0.6**
comp=Z,14nm,0.8s
GNI Garni 71.52 306 *de*P **P 21 29 51.4 +1.1**
GNI pmax pmax
comp=Z,6.0nm,0.9s
GNI Garni 71.52 306 *e*P **P 21 29 51.4 +1.1**
comp=Z,7.9nm,1.1s
ANN Anapa 73.45 314 *e*P P 21 29 56.0 -5.4
ANN *e**PP pP 21 30 10.0 -5.8
ANN *e* 21 30 15.7
ANN pmax pmax
comp=Z,42nm,1.3s
AKASG Malin Array Be 74.34 322 P **P 21 30 06.2 -0.3**
comp=Z,4.5nm,0.6s,baz=47,slow=5.9,SNR=42
AKASG LR LR 22 05 21.4
comp=Z,47nm,20.4s,baz=310,slow=38
KIEV Kiev 74.35 322 *e*P **P 21 30 05.8 -0.8**
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 74.35 322 *e*P **P 21 30 05.8 -0.8**
comp=Z,8.1nm,0.9s
NB2 NORSAR Subarra 74.44 337 P **P 21 30 07.0 0.0**
comp=Z,4.0nm,0.7s,baz=40,slow=6.2
NOA NORSAR Array B 74.44 337 P **P 21 30 06.9 0.0**
comp=Z,5.6nm,0.7s,baz=40,slow=5.8,SNR=28
NOA LR LR 22 06 14.4
comp=Z,26nm,18.6s,baz=45,slow=38
LRM Limekiln Ridge 74.97 44 *e*P **P 21 30 10.2 -0.5**
comp=Z,46nm,1.1s
KWP Kalwaria Pacla 78.20 324 *e*P **P 21 30 27.5 -1.0**
KWP pmax pmax
comp=Z,15nm,0.9s
KWP Kalwaria Pacla 78.20 324 *e*P **P 21 30 27.5 -1.0**
comp=Z,16nm,0.9s
BURAR Bucovina Array 78.34 321 ⇓P **P 21 30 29.5 0.0**
BURAR Bucovina Array 78.34 321 ⇓*i*P **P 21 30 29.5 0.0**
TESR Tescani 78.34 320 ⇓*i*P **P 21 30 29.6 +0.2**
CFR Carcaliu 78.43 318 ⇓*i*P P 21 30 50.3 +20
PDAR Pinedale Array 78.49 45 P **P 21 30 31.3 +0.7**
comp=Z,1.0nm,0.6s,baz=259,slow=1.5,SNR=8.5
PDAR pP **pP 21 30 47.4 +2.3**
comp=Z,1.0nm,0.8s,baz=312,slow=1.4,SNR=4.0
VRI Vrincioaia 78.73 319 ⇑P **P 21 30 32.7 +1.2**
VRI Vrincioaia 78.73 319 ⇑*i*P **P 21 30 32.7 +1.2**
BRTR Keskin Array B 78.74 311 P **P 21 30 31.9 +0.1**
comp=Z,2.3nm,0.8s,baz=94,slow=4.3,SNR=13
TLB Topalu 78.87 318 ⇓P **P 21 30 32.7 +0.5**
TLB Topalu 78.87 318 ⇓*i*P **P 21 30 32.7 +0.5**
KOLS Kolonicke sedl 78.89 324 *e*P **P 21 30 33.2 +0.9**
KOLS Kolonicke sedl 78.89 324 *e*P **P 21 30 33.2 +0.9**
STHS Stebnicka Huta 79.03 325 *e*P **P 21 30 34.3 +1.2**
STHS pmax pmax
comp=Z,3.0nm,1.1s
STHS Stebnicka Huta 79.03 325 *e*P **P 21 30 34.3 +1.2**
MSAB Monastry St. A 79.31 317 ⇓*i*P **P 21 30 35.4 +0.7**
TRPA Tarpa 79.31 323 ⇓*i*P **P 21 30 35.6 +1.0**
DOPR Dopca 79.36 320 ⇓*i*P **P 21 30 36.9 +1.9**
SULR 79.77 319 ⇓*i*P **P 21 30 37.9 +0.8**
ARR Arges 80.15 320 ⇓*i*P **P 21 30 40.6 +1.3**
RAYN Ar Rayn 80.28 292 *e*P **P 21 30 40.6 +0.3**
comp=Z,3.5nm,0.7s
MORC Moravsky Berou 80.46 327 ⇓P **P 21 30 41.6 +0.7**
MORC Moravsky Berou 80.46 327 ⇓*i*P **P 21 30 41.6 +0.7**
PSZ Piszkesteto 80.73 324 ⇓P **P 21 30 41.8 -0.6**
PSZ Piszkesteto 80.73 324 ⇓*i*P **P 21 30 41.8 -0.6**
PSZ Piszkesteto 80.73 324 *e*P **P 21 30 43.2 +0.8**
comp=Z,30nm,1.8s
VYHS Vyhne 80.81 325 *e*P **P 21 30 43.1 +0.4**
VYHS Vyhne 80.81 325 *e*P **P 21 30 43.1 +0.4**
CLL Collm 81.25 330 ⇓*i*P **P 21 30 45.2 +0.2**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 81.25 330 ⇓*i*P **P 21 30 45.2 +0.2**
comp=Z,7.0nm,0.9s
CLL *i* PcP **PcP 21 30 51.5 +0.4**
GERES GERESS Array B 82.83 328 P **P 21 30 53.5 0.0**
comp=Z,1.1nm,0.6s,baz=52,slow=6.4,SNR=4.8
MMB Musomiste 83.22 318 ⇓P **P 21 30 56.6 +1.1**
MMB Musomiste 83.22 318 ⇓*i*P **P 21 30 56.5 +1.0**
TXAR Lajitas Array 90.94 52 P **P 21 31 34.0 +0.6**
comp=Z,0.4nm,0.5s,baz=310,slow=3.6,SNR=6.7
TXAR pP **pP 21 31 50.6 +2.5**
comp=Z,0.4nm,0.6s,baz=282,slow=3.3,SNR=4.6
TORD Torodi Ar. Bea 117.26 314 PKP **PKPdf 21 37 14.2 -0.6**
comp=Z,0.2nm,0.5s,baz=136,slow=1.0,SNR=4.5
LPAZ La Paz 147.50 59 PKPbc **PKPbc 21 38 13.8 -0.5**
comp=Z,1.5nm,0.6s,baz=7.1,slow=5.5,SNR=8.6
LPAZ pPKPbc **pPKPbc 21 38 30.3 +1.0**
comp=Z,1.1nm,0.5s,baz=112,slow=0.9,SNR=3.7
LPAZ La Paz 147.50 59 *e*PKPdf **PKPab 21 38 15.7 -0.6**
LPAZ pPKPbc **pPKPbc 21 38 30.3 +1.0**

IDC 30 21:30:02.5±4.0, 6°.62S×146°.36E, h138km±48km, mb3.0/4, mb1 3.2/6, mb1mx3.1/16, mbtmp3.4/6, Error ellipse: s-maj=48.3km s-min=31.6km az=144.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.88**	**164**	P		Pn	21 30 48.4	+0.5
	14nm,0.3s,baz=329,slow=12,SNR=31							
PMG				S		Sn	21 31 23.3	+0.4
	38nm,0.3s,baz=164,slow=20,SNR=16							
WRA	**Warramunga Arr**	**17.65**	**220**	P		P	21 33 57.8	-1.1
	0.1nm,0.3s,baz=36,slow=12,SNR=4.5							
ASAR	**Alice Springs**	**20.75**	**214**	P		P	21 34 33.0	+0.4
	0.5nm,0.9s,baz=27,slow=10,SNR=4.1							
CMAR	**Chiang Mai Arr**	**52.98**	**299**	P		P	21 39 05.5	+0.1
	1.0nm,0.5s,baz=120,slow=5.8,SNR=9.0							
MKAR	**Makanchi Array**	**77.57**	**321**	P		P	21 41 43.5	+0.1
	0.2nm,0.5s,baz=114,slow=5.7,SNR=3.1							
ILAR	**Eielson Array**	**86.30**	**23**	P		P	21 42 28.2	-0.3
	0.3nm,0.5s,baz=255,slow=5.5,SNR=3.9							

GUC 30 21:59:01.9±0.7, 34°.86S×72°.60W, h31km±4km, ML3.8, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.96**	**125**	⇑*i*P		Pn	21 59 19.3	+0.1
TALC				*i* S1		Sn	21 59 32.0	+0.3
NICH	**Los Niches**	**1.13**	**98**	*e*P9		Pb	21 59 22.9	-0.1
NICH				*i* S1		Sb	21 59 38.4	+1.0
COCH	**Cobquecura**	**1.28**	**187**	⇑*i*P		Pn	21 59 24.0	+0.3
LNCH	**Linares**	**1.28**	**141**	⇓*i*P		Pb	21 59 25.0	-0.5
LNCH				*i* S1		Sb	21 59 41.5	0.0
LNV	**Longovilo**	**1.33**	**48**	⇓*i*P		Pn	21 59 25.1	+0.7
LNV				*i* S1		Sb	21 59 42.2	-0.7
CACH	**El Canelo**	**1.81**	**66**	⇑*i*P		Pb	21 59 32.9	-1.6
CHCH	**Chadas Angostu**	**1.85**	**61**	*e*P1		Pn	21 59 33.8	+2.1
CHCH				*e*S1		Sb	21 59 56.6	-1.5
CLCH	**Cerro Calan**	**2.25**	**50**	*i* S1		Sn	22 00 05.9	+2.1
CLCH				IAML			22 00 17.3	
	comp=N,953nm,0.5s							
PEL	**Peldehue**	**2.33**	**43**	*e*P1		Pn	21 59 39.3	+1.1
PEL				IAML			22 00 20.2	
	comp=E,1μm,0.7s							
FCH	**Farellones**	**2.45**	**52**	IAML			22 00 22.2	
	comp=E,330nm,0.3s							

*ISCJB **30** 22:29:58.4±0.6, 33°.46S±0°.03×71°.76W±0°.07, h47km±5km, mb4.1/6, MS3.6/1, Error ellipse: s-maj=9.9km s-min=5.5km az=1.1*
*NEIC **30** 22:29:58.0, 33°.53S×71°.74W, h16km, mb4.3/2, ML4.2(GUC), After GUC.*
NEIC Felt [IV] at San Antonio; [III] at Casablanca, Quillota and Valparaiso; [II] at Limache and Santiago.
*IDC **30** 22:29:58.3±1.3, 33°.56S×71°.67W, h27km±6km, mb4.0/4, mb1 4.0/7, mb1mx3.9/16, mbtmp4.1/7, ML3.6/3, MS3.1/3, Ms1 3.1/3, ms1mx2.9/24, Error ellipse: s-maj=37.3km s-min=26.9km az=179.0*
*GUC **30** 22:29:58.7±0.6, 33°.53S×71°.74W, h16km±8km, ML4.2*
ISC 30 22:29:58.1±0.7, 33°.53S±0°.03×71°.77W±0°.05, h30km±5km, n37, σ1§01/47, mb4.2/6, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.52**	**12**	⇓*e*P		**Pb**	**22 30 08.6**	**-0.1**
IHA				*i* S		**Sb**	**22 30 15.7**	**-0.3**
LNV	**Longovilo**	**0.52**	**145**	⇓*e*P		**Pb**	**22 30 08.7**	**0.0**
TACH	**Talagante**	**0.70**	**100**	⇑*i*P		**Pb**	**22 30 11.4**	**-0.5**
SAN	**Santiago**	**0.93**	**85**	*e*P		**Pb**	**22 30 15.0**	**-0.6**
SAN				*e*S4		**Sn**	**22 30 27.2**	**-0.2**
PEL	**Peldehue**	**0.98**	**67**	*e*P		**Pb**	**22 30 16.1**	**-0.5**
PEL				*e*S		**Sb**	**22 30 29.2**	**-0.1**
PEL				AML		AML	22 30 39.5	
	comp=E,14μm,0.4s							
CHCH	**Chadas Angostu**	**1.01**	**114**	⇑*e*P		**Pn**	**22 30 16.1**	**-0.2**
LACH	**Col Las Americ**	**1.04**	**86**	*e*P		**Pb**	**22 30 16.8**	**-0.7**
CLCH	**Cerro Calan**	**1.04**	**83**	⇓*e*P		**Pb**	**22 30 17.0**	**-0.5**
CLCH				*e*S		**Sb**	**22 30 30.4**	**-0.4**
CLCH				AML		AML	22 30 39.8	
	comp=E,12μm,0.6s							
CACH	**El Canelo**	**1.13**	**121**	⇓*e*P		**Pb**	**22 30 18.9**	**-0.2**
FCH	**Farellones**	**1.25**	**81**	*i* P4		**Pn**	**22 30 19.5**	**-0.4**
FCH				*e*S4		**Sb**	**22 30 38.0**	**+0.8**
FCH				AML		AML	22 30 43.0	
	comp=E,8μm,0.5s							
YECH	**El Yeso**	**1.41**	**96**	*e*P4		**Sb**	**22 30 43.7**	**+2.0**
NICH	**Los Niches**	**1.53**	**163**	*e*P4		**Pb**	**22 30 25.9**	**0.0**
NICH				*e*S4		**Sb**	**22 30 47.1**	**+2.2**
TALC	**Talca**	**1.86**	**177**	*e*P		**Pb**	**22 30 30.5**	**-1.0**
TALC				*e*S		**Sb**	**22 30 53.8**	**-0.6**
LNCH	**Linares**	**2.31**	**177**	*e*P		**Pb**	**22 30 37.1**	**-2.1**
CFAA	**Coronel Fontan**	**3.54**	**58**	Pn		**Pn**	**22 30 52.6**	**+1.4**
	comp=E,3.5nm,0.3s,baz=232,slow=13,SNR=55							
CFAA				Lg		Lg	22 31 42.7	
	comp=E,3.1nm,0.3s,baz=86,slow=18,SNR=7.8							
CFAA				LR		LR	22 32 29.3	
	comp=E,62nm,18.3s,baz=248,slow=43							
LCO	**Las Campanas**	**4.60**	**12**	*e*Pn		**Pn**	**22 31 06.2**	**+0.4**
LCO				*e*Sn		**Sn**	**22 31 58.4**	**0.0**
PLCA	**Paso Flores**	**7.25**	**173**	*e*Pn		**Pn**	**22 31 44.3**	**+2.2**
	comp=E,12nm,0.4s							
TRQA	**Tornquist**	**9.14**	**122**	*e*Pn		**Pn**	**22 32 09.7**	**+1.8**
	comp=E,42nm,0.9s							
TRQA				*e*Sn		**Sn**	**22 33 46.6**	**-3.3**
LVC	**Limon Verde**	**11.16**	**14**	*e*Pn		**Pn**	**22 32 36.3**	**+0.4**
LVC				*e*Sn		Sn	22 34 32.8	-7.1
LPAZ	**La Paz**	**17.48**	**12**	Pn		**Pn**	**22 34 01.0**	**+0.7**
	comp=E,0.1nm,0.3s,baz=181,slow=8.2,SNR=11							
SIV	**San Ignacio**	**19.96**	**32**	P		**P**	**22 34 26.9**	**-1.0**
	comp=E,0.2nm,0.3s,baz=213,slow=17,SNR=5.2							
SIV				LR		LR	22 41 57.2	
	comp=E,43nm,20.2s,baz=288,slow=36							
SAML	**Samuel**	**25.71**	**20**	*e*P		**P**	**22 35 25.9**	**0.0**
	comp=E,4.6nm,0.8s							
BDFB	**Brasilia**	**27.88**	**56**	P		**P**	**22 35 44.6**	**-1.0**
	comp=E,1.6nm,0.5s,baz=203,slow=7.7,SNR=3.1							
BDFB				LR		LR	22 47 56.0	
	comp=E,134nm,18.5s,baz=233,slow=39							
PTGA	**Pitinga**	**34.46**	**21**	*e*P		**P**	**22 36 42.5**	**-0.8**
RCBR	**Riachuelo**	**43.20**	**58**	*e*P		**P**	**22 37 56.4**	**-0.3**
SNAA	**Sanae**	**51.93**	**158**	*e*P		**P**	**22 39 03.9**	**+0.1**
	comp=E,3.6nm,0.6s							
SDDR	**Presa de Saban**	**52.22**	**1**	*e*P		**P**	**22 39 06.6**	**+0.1**
TXAR	**Lajitas Array**	**69.44**	**330**	P		**P**	**22 41 04.7**	**+1.2**
	comp=E,0.4nm,0.5s,baz=150,slow=9.0,SNR=9.0							
TXAR				pP		**pP**	**22 41 13.0**	**+0.1**
	comp=E,0.5nm,0.6s,baz=156,slow=8.6,SNR=5.8							
DBIC	**Dimbokro**	**74.81**	**71**	P		**P**	**22 41 36.1**	**+0.2**
	comp=E,2.6nm,0.7s,baz=244,slow=5.2,SNR=4.0							
TORD	**Torodi Ar. Bea**	**83.84**	**70**	P		**P**	**22 42 25.2**	**+0.1**
	comp=E,3.8nm,0.7s,baz=251,slow=4.0,SNR=39							
TORD				pP		**pP**	**22 42 34.4**	**-0.3**
	comp=E,1.8nm,0.8s,baz=254,slow=4.6,SNR=5.6							

WRA	**Warramunga Arr**	**121.28**	**209**	PKP	**PKPdf**	**22 48 48.3**	**-0.5**
	comp=E,0.5nm,0.5s,baz=157,slow=1.9,SNR=2.9						
H11S2	**WAKE ISLAND Hyl**	**26.00**	**269**	T	T	01 07 48.6	
	baz=118,slow=74,SNR=131						
H11S1	**WAKE ISLAND Hyl**	**26.02**	**269**	T	T	01 07 47.1	
	baz=118,slow=74,SNR=91						
H11S3	**WAKE ISLAND Hyl**	**26.02**	**269**	T	T	01 07 48.3	
	baz=118,slow=74,SNR=74						
BVAR	**Borovoye Array**	**146.78**	**43**	PKPbc	**PKPab**	**22 49 37.8**	**-0.2**
	comp=E,2.0nm,0.8s,baz=330,slow=2.0,SNR=13						
ZALV	**Zalesovo Beam**	**153.71**	**32**	PKPbc	**PKPbc**	**22 49 54.0**	**+0.5**
	comp=E,1.9nm,0.4s,baz=319,slow=3.6,SNR=7.7						
ZALV				PKPab	**PKPab**	**22 50 06.7**	**+0.4**
	comp=E,2.6nm,0.6s,baz=305,slow=5.1,SNR=6.6						
MKAR	**Makanchi Array**	**156.28**	**48**	PKPab	**PKPab**	**22 50 17.5**	**-0.2**
	comp=E,0.4nm,0.6s,baz=295,slow=3.9,SNR=6.8						
MKAR				pPKPab	**pPKPab**	**22 50 26.8**	**-0.5**
	comp=E,0.3nm,0.6s,baz=302,slow=4.2,SNR=3.0						

GUC 30 22:50:34.2±0.5, 38°.05S×73°.90W, h23km±7km, ML3.5, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.85**	**152**	⇓*i*P	Pb	22 50 49.7	-0.6
PSCH				*i* S1	Sb	22 51 00.8	-0.5
CCSP	**San Pedro de C**	**1.35**	**28**	*e*P1	Pn	22 50 57.2	-0.5
CCSP				*i* S1	Sb	22 51 15.2	-0.5
CCSP				IAML		22 51 28.8	
	comp=N,3μm,0.4s						
COCH	**Cobquecura**	**2.11**	**25**	⇓*i*P	Pn	22 51 09.0	+1.0

IDC 30 22:52:35.8±2.7, 2°.49N×94°.56E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/41, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=96.8km s-min=26.2km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.44**	**15**	Pn	Pn	22 56 29.3	+1.1
	0.1nm,0.3s,baz=207,slow=12,SNR=6.3						
H08S2	**Diego Garcia H**	**24.20**	**245**	T	T	23 23 25.7	
	baz=65,slow=75,SNR=94						
H08S3	**Diego Garcia H**	**24.20**	**245**	T	T	23 23 21.4	
	baz=65,slow=75,SNR=110						
H08S1	**Diego Garcia H**	**24.22**	**245**	T	T	23 23 22.6	
	baz=65,slow=75,SNR=63						
H01W3	**Cape Leeuwin H**	**41.47**	**155**	T	T	23 44 46.9	
	baz=331,slow=76,SNR=4.1						
H01W2	**Cape Leeuwin H**	**41.48**	**155**	T	T	23 45 12.7	
	baz=331,slow=76,SNR=4.5						
H01W1	**Cape Leeuwin H**	**41.48**	**155**	T	T	23 45 02.1	
	baz=331,slow=76,SNR=5.2						
WRA	**Warramunga Arr**	**44.95**	**122**	P	P	23 00 53.0	-0.1
	0.3nm,0.3s,baz=303,slow=8.7,SNR=2.8						
MKAR	**Makanchi Array**	**45.41**	**348**	P	P	23 00 56.3	0.0
	0.9nm,0.4s,baz=167,slow=8.4,SNR=29						
SONM	**Songino Array**	**46.32**	**11**	P	P	23 01 03.0	-0.6
	0.6nm,0.5s,baz=185,slow=8.2,SNR=4.8						
KURBB	**Kurchatov Arra**	**49.84**	**347**	P	P	23 01 30.6	-0.1
	1.0nm,0.7s,baz=167,slow=7.2,SNR=13						
ZALV	**Zalesovo Beam**	**51.92**	**353**	P	P	23 01 46.1	-0.1
	1.5nm,0.4s,baz=181,slow=7.1,SNR=10						

IDC 30 23:04:00.9±3.4, 19°.43N×147°.08E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/23, mbtmp3.7/4, Error ellipse: s-maj=142.0km s-min=27.3km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.07**	**198**	P	P	23 11 46.5	0.0
	0.8nm,0.4s,baz=21,slow=9.1,SNR=4.9						
ASAR	**Alice Springs**	**44.72**	**197**	P	P	23 12 15.8	-0.2
	0.6nm,0.5s,baz=17,slow=7.7,SNR=7.8						
MKAR	**Makanchi Array**	**58.90**	**313**	P	P	23 14 01.6	-0.3
	0.2nm,0.6s,baz=98,slow=6.0,SNR=2.6						
FINES	**FINESS Array B**	**86.76**	**336**	P	P	23 16 46.9	+0.2
	0.4nm,0.5s,baz=70,slow=4.6,SNR=5.1						

GUC 30 23:06:36.3±0.6, 35°.50S×72°.70W, h13km±7km, ML3.8, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.63**	**187**	⇑*i*P	Pg	23 06 48.3	-0.3
COCH				*i* S1	Sb	23 06 56.9	-0.9
TALC	**Talca**	**0.88**	**83**	⇓*i*P	Pg	23 06 51.9	-1.4
TALC				*i* S	Sg	23 07 04.0	-0.8
TALC				IAML		23 07 04.1	
	comp=E,10μm,0.0s						
LNCH	**Linares**	**0.96**	**111**	⇓*i*P	Pb	23 06 53.6	-1.2
LNCH				*i* S	Sb	23 07 06.5	-0.8
LNCH				IAML		23 07 12.0	
	comp=E,4μm,0.7s						
NICH	**Los Niches**	**1.30**	**68**	*i* P1	Pb	23 06 59.4	-1.3
NICH				*i* S	Sb	23 07 16.4	-0.8
NICH				IAML		23 07 21.1	
	comp=E,4μm,0.2s						

GUC 30 23:09:49.4±0.5, 34°.41S×72°.08W, h45km±2km, ML3.6, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.92**	**130**	⇓*i*P	Pn	23 10 06.6	+0.7
NICH				*i* S	Sn	23 10 19.3	+1.3
TALC	**Talca**	**1.05**	**160**	⇓*i*P	Pn	23 10 08.6	+0.9
TALC				*i* S	Sn	23 10 22.9	+1.6
RCDM	**Rinconada Maip**	**1.40**	**49**	⇑*i*P	Pn	23 10 12.9	+0.3
LNCH	**Linares**	**1.49**	**165**	*e*P9	Pn	23 10 16.8	+3.1
LNCH				*i* S1	Sn	23 10 35.7	+3.7
CLCH	**Cerro Calan**	**1.63**	**52**	IAML		23 10 43.1	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**1.71**	**43**	⇓*i*P	Pn	23 10 17.6	+0.7
PEL				*i* S1	Sn	23 10 38.9	+1.2
PEL				IAML		23 10 45.3	
	comp=E,1μm,0.4s						
COCH	**Cobquecura**	**1.81**	**198**	⇓*i*P	Pn	23 10 18.5	+0.4
COCH				*i* S1	Sn	23 10 41.0	+1.0

*IDC **30** 23:17:29.3±2.1, 5°.63S×132°.11E, h0km, mb3.8/1, mb1 4.3/4, mb1mx3.8/25, mbtmp4.2/4, ML4.4/3, Error ellipse: s-maj=64.0km s-min=29.5km az=81.0*
*DJA **30** 23:17:41.2±0.4, 6°.5S×13°.13E±°, h100km±9km, M4.4/9, mb4.5/4, mB5.1/2, MLv4.4/9, Mw(mB)4.5/2*

ISC 30 23:17:38.5±1.0, 5°.73S±0°.06×131°.53E±0°.06, h50km, n12, σ2°.50/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.01**	**306**	P	**Pn**	**23 18 12.4**	**+2.4**
BNDI				S	**Sn**	**23 18 37.5**	**+3.6**
SAUI	**Saumlaki**	**2.25**	**186**	P	**Pn**	**23 18 16.3**	**+3.0**
FAKI	**Fak Fak**	**2.88**	**15**	P	**Pn**	**23 18 22.8**	**+0.9**
FAKI				S	**Sn**	**23 18 55.4**	**0.0**
MSAI	**Masohi**	**3.51**	**312**	P	**Pn**	**23 18 33.5**	**+3.0**
MSAI				S	**Sn**	**23 19 09.5**	**-1.3**
RKPI	**Ransiki, Papua**	**4.95**	**32**	P	**Pn**	**23 18 51.8**	**+1.4**
RKPI				S	**Sn**	**23 19 45.8**	**-0.6**
LBMI	**Labuha**	**6.46**	**321**	P	**Pn**	**23 19 10.4**	**-0.6**
	24nm,1.5s,1μm0.2nm						
LBMI				S	**Sn**	**23 20 19.4**	**-4.0**
	24nm,1.5s,1μm0.2nm						
SOEI	**Soe**	**8.23**	**240**	P	**Pn**	**23 19 38.4**	**+2.9**
	34nm,1.0s						
BATI	**Baumata**	**8.97**	**240**	P	**Pn**	**23 19 47.7**	**+2.2**
BATI	**Baumata**	**8.97**	**240**	Pn	**Pn**	**23 19 47.5**	**+2.0**
	7.6nm,0.3s,baz=101,slow=3.8,SNR=6.1						
BATI				Sn	**Sn**	**23 21 24.1**	**-1.1**
	3.0nm,0.3s,baz=287,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**14.39**	**169**	Pn	Pn	23 20 54.2	-5.3
	1.8nm,0.3s,baz=358,slow=13,SNR=16						
WRA				Sn	Sn	23 23 24.6	-13
	2.2nm,0.3s,baz=357,slow=23,SNR=7.2						
ASAR	**Alice Springs**	**17.98**	**173**	P	**Pn**	**23 21 41.8**	**-3.2**
	0.8nm,0.3s,baz=348,slow=14,SNR=24						
ASAR				S	Sn	23 24 53.6	-11
	0.6nm,0.3s,baz=358,slow=28,SNR=8.7						
MKAR	**Makanchi Array**	**68.01**	**326**	P	**P**	**23 28 32.1**	**-0.6**
	0.4nm,0.3s,baz=113,slow=8.1,SNR=13						

NEIC 30 23:26:21.0, 5°.57S×77°.04W, h53km, MG4.0(ARE), After ARE., Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**5.94**	**346**	*e*Pn	Pn	23 27 46.6	-0.4
NNA	**Nana**	**6.38**	**178**	*e*Pn	Pn	23 27 52.8	+0.2
NNA				*e*Sn	Sn	23 29 04.2	0.0
LPAZ	**La Paz**	**13.78**	**141**	*e*Pn	Pn	23 29 33.4	-1.1
SAML	**Samuel**	**14.15**	**105**	*e*Pn	Pn	23 29 37.7	-1.0
	1.3nm,0.3s						
SDV	**Santo Domingo**	**15.72**	**24**	*e*Pn	Pn	23 29 59.2	-0.2

*IDC **30** 23:55:50.9±1.0, 29°.47N×143°.48E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.5/23, mbtmp3.4/7, ML2.6/1, Error ellipse: s-maj=37.0km s-min=18.1km az=104.0*
*ISCJB **30** 23:55:53.7±0.9, 29°.52N±0°.10×143°.6E±0°.2, h33km, mb3.5/6, Error ellipse: s-maj=29.6km s-min=10.9km az=18.4*

ISC 30 23:55:56.4±1.1, 29°.6N±0°.1×143°.5E±0°.2, h35km, n7, σ0°.95/7, mb3.4/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.71**	**206**	Pn	Pn	23 56 33.2	-4.2
	1.1nm,0.3s,baz=122,slow=19,SNR=2.4						
JCJ				Sn	**Sn**	**23 57 10.0**	**+0.9**
	41nm,0.3s,baz=252,slow=24,SNR=6.4						
SONM	**Songino Array**	**33.83**	**313**	P	**P**	**00 02 35.2**	**-0.2**
	0.2nm,0.4s,baz=109,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**	**49.85**	**308**	P	**P**	**00 04 46.1**	**0.0**
	0.3nm,0.7s,baz=88,slow=8.6,SNR=5.2						
WRA	**Warramunga Arr**	**50.00**	**191**	P	**P**	**00 04 47.4**	**+0.1**
	0.4nm,0.3s,baz=10,slow=7.7,SNR=3.7						
ASAR	**Alice Springs**	**53.71**	**191**	P	**P**	**00 05 13.4**	**-1.6**
	0.6nm,1.1s,baz=13,slow=14,SNR=2.9						
ILAR	**Eielson Array**	**55.00**	**29**	P	**P**	**00 05 24.3**	**+0.4**
	0.3nm,0.9s,baz=254,slow=6.4,SNR=2.8						
YKA	**Yellowknife Ar**	**69.43**	**29**	P	**P**	**00 07 00.9**	**+0.4**
	0.3nm,0.7s,baz=298,slow=6.4,SNR=4.6						

IDC 31 00:05:44.8±9.2, 15°.64S×173°.60W, h0km, mb4.2/2, mb1 4.5/2, mb1mx3.7/27, mbtmp4.2/2, Error ellipse: s-maj=416.8km s-min=59.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.61**	**257**	P	P	00 14 38.3	-0.1
	1.0nm,0.5s,baz=95,slow=6.8,SNR=5.1						
ASAR	**Alice Springs**	**49.86**	**252**	P	P	00 14 40.1	-0.2
	3.5nm,0.7s,baz=84,slow=8.4,SNR=35						
BRTR	**Keskin Array B**	**146.22**	**321**	PKPbc	PKPdf	00 25 26.9	+0.2
	1.1nm,0.7s,baz=78,slow=3.3,SNR=9.8						

FUNV 31 00:06:35.6, 6°.79N×73°.14W, h166km, MW3.5, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.34**	**37**	⇓*i*P	Pn	00 07 04.7	-0.5
CAPV				*e*S	Sn	00 07 25.8	-2.3
VIGV	**El Vigia**	**2.69**	**41**	*e*P	Pn	00 07 18.8	-1.1
VIGV				*e*S	Sn	00 07 50.9	-3.4
SOCV	**Socops**	**2.71**	**57**	*e*P	Pn	00 07 19.0	-1.1
SOCV				*e*S	Sn	00 07 50.9	-3.7
VIRV	**Villa del Rosa**	**3.76**	**11**	*e*P	Pn	00 07 31.8	-1.4
VIRV				*e*S	Sn	00 08 13.6	-4.7
CURV	**Curarigua**	**4.49**	**44**	*e*P	Pn	00 07 41.9	-0.9
CURV				*e*S	Sn	00 08 29.6	-5.6
BAUV	**El Baul**	**5.48**	**67**	*e*P	Pn	00 07 53.3	-2.4
BAUV				*e*S	Sn	00 08 52.2	-6.2

*ISK **31** 00:19:18.9, 38°.55N×28°.23E, h7km, MD2.9*
*ISCJB **31** 00:19:19.1±0.6, 38°.58N±0°.03×28°.23E±0°.04, h4km±7km, Error ellipse: s-maj=5.4km s-min=4.6km az=20.5*
*CSEM **31** 00:19:19.3±0.1, 38°.58N×28°.24E, h5km, MD2.9, Error ellipse: s-maj=2.4km s-min=2.3km az=168.0*
*DDA **31** 00:19:20.3, 38°.52N×28°.28E, h7km, MD2.6*

ISC 31 00:19:19.5±1.0, 38°.57N±0°.03×28°.24E±0°.02, h9km±9km, n36, σ0°.56/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.27**	**107**	*i* P	**Pg**	**00 19 25.0**	**+0.1**
MANT	**Manisa**	**0.27**	**107**	*i* P	**Pg**	**00 19 25.0**	**+0.1**
KULA	**Kula-Manisa**	**0.34**	**99**	*e*PG	**Pg**	**00 19 26.0**	**-0.2**
KULA				*e*SG	**Sg**	**00 19 31.2**	**+0.4**
KULA	**Kula-Manisa**	**0.34**	**99**	*e*Pg	**Pg**	**00 19 26.0**	**-0.2**
KULA				*e*Sg	**Sg**	**00 19 31.2**	**+0.4**
AKHS	**Akhisar**	**0.45**	**313**	*i* P	**Pg**	**00 19 27.6**	**-0.8**
AKHS				*i* S	**Sg**	**00 19 34.5**	**+0.2**
AKHS	**Akhisar**	**0.45**	**313**	*i* P	**Pg**	**00 19 27.6**	**-0.7**
AKHS				*i* S	**Sg**	**00 19 34.5**	**+0.2**
AKS	**Akhisar**	**0.45**	**313**	*e*PG	**Pg**	**00 19 27.7**	**-0.7**
AKS	**Akhisar**	**0.45**	**313**	*e*Pg	**Pg**	**00 19 27.7**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**204**	*e*PG	**Pg**	**00 19 32.1**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**204**	*e*Pg	**Pg**	**00 19 32.2**	**-0.4**
IZM	**Izmir**	**0.78**	**258**	*e*PG	**Pg**	**00 19 34.2**	**-0.4**
IZM	**Izmir**	**0.78**	**258**	*e*Pg	**Pg**	**00 19 34.2**	**-0.4**
AYDN	**Tasoluk**	**0.95**	**197**	*i* P	**Pb**	**00 19 38.2**	**+0.1**
AYDN				*i* S	**Sn**	**00 19 51.9**	**-0.7**
AYDN	**Tasoluk**	**0.95**	**197**	*i* P	**Pb**	**00 19 38.2**	**+0.1**
AYDN				*i* S	**Sn**	**00 19 51.9**	**-0.7**
BLCB	**Balcova**	**0.95**	**259**	*e*PG	**Pg**	**00 19 37.5**	**-0.3**
BLCB	**Balcova**	**0.95**	**259**	*e*Pg	**Pg**	**00 19 37.5**	**-0.3**
KHL	**Karahalli**	**1.04**	**103**	*e*PG	**Pg**	**00 19 39.3**	**-0.2**
KHL	**Karahalli**	**1.04**	**103**	*e*Pg	**Pg**	**00 19 39.3**	**-0.2**
DURS	**Dursunbey**	**1.05**	**10**	*i* P	**Pg**	**00 19 39.0**	**-0.6**
DURS				*i* S	**Sb**	**00 19 54.2**	**+0.5**
DURS	**Dursunbey**	**1.05**	**10**	*i* P	**Pg**	**00 19 39.0**	**-0.6**
DURS				*i* S	**Sb**	**00 19 54.2**	**+0.5**
GDZ	**Gediz**	**1.10**	**61**	*i* P	**Pg**	**00 19 39.9**	**-0.8**
GDZ				*i* S	**Sg**	**00 19 54.1**	**-1.0**
GDZ	**Gediz**	**1.10**	**61**	*i* P	**Pg**	**00 19 39.9**	**-0.8**
GDZ				*i* S	**Sg**	**00 19 54.1**	**-1.0**
BALB	**Balikesir**	**1.11**	**346**	*e*PN	**Pg**	**00 19 40.8**	**0.0**
BALB	**Balikesir**	**1.11**	**346**	*e*Pn	**Pg**	**00 19 40.8**	**0.0**
ALT	**Altintas**	**1.54**	**71**	*e*PN	**Pn**	**00 19 47.5**	**+0.3**
ALT	**Altintas**	**1.54**	**71**	*e*Pn	**Pn**	**00 19 47.5**	**+0.3**
KCTX	**Karacabey (Bur**	**1.70**	**3**	*e*PN	**Pn**	**00 19 49.8**	**+0.5**
KCTX	**Karacabey (Bur**	**1.70**	**3**	*e*Pn	**Pn**	**00 19 49.8**	**+0.5**
CHOS	**Chios island**	**1.72**	**265**	*e*PN	**Pn**	**00 19 50.1**	**+0.5**
CHOS	**Chios island**	**1.72**	**265**	*e*Pn	**Pn**	**00 19 50.1**	**+0.5**
DALY	**Dalyan (Mu¨la**	**1.78**	**169**	*e*PN	**Pn**	**00 19 50.6**	**+0.3**
DALY	**Dalyan (Mu¨la**	**1.78**	**169**	*e*Pn	**Pn**	**00 19 50.6**	**+0.3**
KRBG	**Karabiga-Canak**	**1.96**	**339**	*e*PN	**Pn**	**00 19 53.7**	**+0.8**
KRBG	**Karabiga-Canak**	**1.96**	**339**	*e*Pn	**Pn**	**00 19 53.7**	**+0.8**
ARMT	**Armutlu**	**2.05**	**13**	*e*PN	**Pn**	**00 19 55.0**	**+0.8**
ARMT	**Armutlu**	**2.05**	**13**	*e*Pn	**Pn**	**00 19 55.0**	**+0.8**

IDC 31 00:44:50.4±1.8, 9°.38S×125°.58E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/25, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=41.4km s-min=32.3km az=57.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.06**	**246**	Pn	Pn	00 45 26.2	-0.1
	12nm,0.3s,baz=106,slow=4.5,SNR=8.0						
WRA	**Warramunga Arr**	**13.49**	**142**	Pn	Pn	00 48 03.9	+0.8
	0.2nm,0.3s,baz=320,slow=13,SNR=4.4						
WRA				Sn	Sn	00 50 26.4	-7.5
	0.3nm,0.3s,baz=324,slow=22,SNR=2.8						
ASAR	**Alice Springs**	**16.28**	**152**	Pn	Pn	00 48 39.9	-0.8
	0.1nm,0.3s,baz=321,slow=10,SNR=4.7						
ASAR				Sn	Sn	00 51 32.2	-10
	0.2nm,0.3s,baz=319,slow=20,SNR=4.2						
MKAR	**Makanchi Array**	**67.92**	**329**	P	P	00 55 51.1	+0.1
	0.2nm,0.4s,baz=121,slow=5.6,SNR=3.1						

GUC 31 00:52:57.2±0.5, 35°.97S×73°.61W, h33km±3km, ML4.0, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.69**	**103**	⇓*i*P	Pn	00 53 10.0	-0.5
COCH				*i* S	Sb	00 53 20.2	+0.1
CCSP	**San Pedro de C**	**0.96**	**155**	⇑*i*P	Pn	00 53 14.4	0.0
CCSP				*i* S1	Sn	00 53 27.6	+0.7
CCSP				AML	AML	00 53 32.4	
	comp=N,8μm,0.5s						
LNCH	**Linares**	**1.64**	**86**	⇑*i*P	Pn	00 53 24.7	+1.1
LNCH				*i* S1	Sn	00 53 46.2	+2.6
TALC	**Talca**	**1.71**	**71**	⇑*i*P	Pn	00 53 26.3	+1.7
TALC				*i* S	Sb	00 53 47.8	-1.4

IDC 31 01:01:58.6±1.4, 13°.43N×92°.67E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/38, mbtmp3.6/5, Error ellipse: s-maj=75.4km s-min=21.8km az=54.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**34.38**	**347**	P	P	01 08 46.6	-0.8
	0.5nm,0.8s,baz=157,slow=6.6,SNR=5.4						
ZALV	**Zalesovo Beam**	**40.89**	**353**	P	P	01 09 42.2	-0.1
	0.5nm,0.4s,baz=159,slow=8.7,SNR=4.2						
WRA	**Warramunga Arr**	**52.73**	**128**	P	P	01 11 15.5	-0.1
	0.4nm,0.4s,baz=299,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**54.64**	**132**	P	P	01 11 29.4	-0.1
	0.3nm,0.5s,baz=304,slow=6.7,SNR=5.8						
BRTR	**Keskin Array B**	**57.79**	**309**	P	P	01 11 52.5	+0.4
	0.6nm,0.8s,baz=107,slow=8.4,SNR=5.2						

GUC 31 01:03:38.4±0.3, 36°.36S×72°.83W, h14km±2km, ML3.9, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.23**	**8**	⇓*i*P	Pg	01 03 43.7	+0.3
COCH				*i* S	Sb	01 03 47.6	-0.6
CCSP	**San Pedro de C**	**0.54**	**205**	⇑*i*P	Pg	01 03 48.9	-0.1
CCSP				*i* S	Sg	01 03 56.5	+0.3
LNCH	**Linares**	**1.11**	**63**	⇑*i*P	Pb	01 03 58.0	-1.5
LNCH				*e*S1	Sb	01 04 12.7	-1.1
LNCH				AML	AML	01 04 17.2	
	comp=N,5μm,0.4s						
TALC	**Talca**	**1.36**	**46**	⇓*i*P	Pn	01 04 01.9	-1.1
TALC				*i* S	Sn	01 04 19.6	-1.2
TALC				AML	AML	01 04 24.3	
	comp=N,4μm,0.4s						

GUC 31 01:26:16.9±0.6, 34°.86S×72°.67W, h14km±8km, ML3.6, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.01**	**123**	⇓*i*P	Pb	01 26 36.2	+0.1
TALC				*i* S4	Sn	01 26 49.1	-1.4
NICH	**Los Niches**	**1.19**	**98**	*e*P1	Pg	01 26 38.9	-1.1
NICH				*i* S	Sg	01 26 56.6	+1.1
COCH	**Cobquecura**	**1.28**	**184**	⇑*i*P	Pb	01 26 40.7	0.0
COCH				*i* S4	Sn	01 26 56.5	-0.7
LNCH	**Linares**	**1.32**	**139**	⇑*i*P	Pb	01 26 41.6	+0.2
LNCH				*i* S	Sg	01 26 59.7	+0.1
CLCH	**Cerro Calan**	**2.29**	**51**	AML	AML	01 27 38.9	
	comp=N,422nm,0.2s						
PEL	**Peldehue**	**2.37**	**45**	*e*P1	Pg	01 26 57.8	-4.8
PEL				*e*S1	Sg	01 27 29.2	-4.2
PEL				AML	AML	01 27 34.5	
	comp=N,439nm,0.7s						
FCH	**Farellones**	**2.49**	**53**	AML	AML	01 27 32.3	
	comp=N,360nm,0.3s						

*NNC **31** 01:30:28.9±1.0, 39°.41N×73°.76E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=9.4km s-min=4.8km az=86.0*
*IDC **31** 01:30:29.9±1.6, 39°.35N×73°.26E, h0km, mb3.3/3, mb1 3.3/7, mb1mx3.2/44, mbtmp3.2/7, ML2.8/4, Error ellipse: s-maj=38.7km s-min=18.1km az=120.0*
*KRNET **31** 01:30:33.6±0.1, 39°.53N×73°.00E, h3km, mb3.7*

ISC 31 01:30:32.9±1.7, 39°.50N±0°.07×73°.07E±0°.05, h12km±10km, n31, σ2°.19/37, mb3.2/3, 6C-8D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.61**	**33**	⇑P	Pg	01 30 41.5	-3.5
	51nm,0.4s						
SFK				⇑S	**Sg**	**01 30 50.4**	**-2.7**
	164nm,0.5s						
DRK	**Karamyk**	**0.98**	**269**	*e*P	**Pg**	**01 30 51.6**	**-0.3**
	baz=268						
DRK				*e*S	**Sn**	**01 31 05.8**	**-1.1**
	baz=268						
OHH	**Osh**	**1.05**	**348**	*e*P	**Pb**	**01 30 53.4**	**+0.3**
	baz=351						
BTK	**Batken**	**1.82**	**289**	*e*P	**Pg**	**01 31 08.2**	**+0.3**
	baz=288						
BTK				*e*S	**Sg**	**01 31 33.2**	**+1.6**
	baz=288						
ARSB	**Arslanbob**	**1.83**	**358**	*e*P	**Pb**	**01 31 07.5**	**+1.1**
	baz=360						
ARSB				*e*S	**Sg**	**01 31 32.5**	**+0.8**
	baz=360						
TRKS	**Terek-Say**	**2.51**	**325**	*i* P	**Pn**	**01 31 15.4**	**+1.6**
	baz=325						
TRKS				*e*S	**Sb**	**01 31 48.6**	**-0.4**
	baz=325						
ARLS	**Aral**	**2.55**	**22**	*i* P	**Pn**	**01 31 15.4**	**+1.1**
	baz=23						
ARLS				*e*S	**Sb**	**01 31 48.9**	**-1.2**
	baz=23						
AML	**Almayashu**	**2.67**	**10**	P	**Pn**	**01 31 19.0**	**+2.7**
	SNR=48						
UCH	**Uchtor**	**2.94**	**21**	P	**Pn**	**01 31 22.2**	**+2.3**
	SNR=16						
MNAS	**Manas**	**3.02**	**352**	⇑Pn	**Pn**	**01 31 23.2**	**+2.4**
	6.3nm,0.4s						
MNAS

0.1nm,0.3s,baz=208,slow=42,SNR=3.3
ZALV Zalesovo Beam 16.51 25 Pn **Pn 01 34 23.5 -0.7**
0.1nm,0.3s,baz=215,slow=11,SNR=2.4
SONM Songino Array 25.35 60 P **P 01 35 58.6 -1.2**
0.5nm,0.8s,baz=262,slow=7.3,SNR=4.2
TORD Torodi Ar. Bea 67.42 269 P **P 01 41 28.5 -0.2**
0.1nm,0.5s,baz=43,slow=6.0,SNR=3.9
YKA Yellowknife Ar 78.17 4 P **P 01 42 31.5 -0.2**
0.3nm,0.7s,baz=350,slow=5.5,SNR=7.3

GUC 31 01:43:13.3±0.6, 37°.75S×73°.42W, h54km±21km, ML4.1, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.94**	**15**	⇓*i*P	Pn	01 43 31.0	+0.7
CCSP				*i* S1	Sb	01 43 43.2	
CCSP				AML	AML	01 43 48.7	
	comp=E,11μm,0.4s						
PSCH	**Puerto Saavedr**	**1.05**	**179**	⇑*i*P	Pn	01 43 32.0	+0.3
PSCH				*i* S	Sn	01 43 46.5	+1.1
PSCH				AML	AML	01 43 55.2	
	comp=N,16μm,0.4s						
COCH	**Cobquecura**	**1.69**	**18**	*e*P1	Pn	01 43 41.1	+0.6
COCH				*i* S1	Sn	01 44 01.9	+0.9
COCH				AML	AML	01 44 08.9	
	comp=N,1μm,0.6s						
VLCH	**Valdivia**	**2.06**	**176**	⇓*i*P	Pn	01 43 45.7	+0.3
VLCH				AML	AML	01 44 22.9	
	comp=N,2μm,0.4s						
LNCH	**Linares**	**2.40**	**38**	*e*P1	Pn	01 43 50.3	+0.2

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*IDC **31** 01:46:05.5±1.9, 15°.20S×173°.54W, h0km, mb3.9/7, mb1 4.3/7, mb1mx4.0/25, mbtmp3.9/7, MS3.3/4, Ms1 3.3/4, ms1mx3.0/25, Error ellipse: s-maj=108.8km s-min=23.3km az=149.0*
*NEIC **31** 01:46:07.0±0.7, 15°.14S×173°.62W, h10km, mb4.5/5, Error ellipse: s-maj=34.6km s-min=8.5km az=152.0*
ISC 31 01:46:09.7±1.4, 15°.0S±0°.4×173°.4W±0°.2, h30km, n39, σ1§86/21, mb3.9/11, MS3.3/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.96**	**56**	*e*Pn	Pn	01 46 36.6	-4.3
AFI				*e*Sn	**Sn**	**01 46 59.0**	**-5.5**
DZM	**Mont Dzumac**	**20.30**	**247**	*e*P	**P**	**01 50 40.7**	**-2.8**
	54nm,1.5s						
PPT	**Papeete**	**23.05**	**100**	LR	LR	01 58 03.9	
	comp=Z,53nm,20.2s,baz=316,slow=31						
PPT2	**Papeete2**	**23.05**	**100**	*e*T	T	02 14 56.7	
	5.5nm,0.3s						
PAE	**Paea**	**23.05**	**100**	*e*T	T	02 14 56.1	
	4.1nm,0.3s						
TIAR	**Tiarei**	**23.26**	**100**	*e*T	T	02 15 10.8	
	5.0nm,0.4s						
TVO	**Taravao**	**23.37**	**100**	*e*T	T	02 15 20.1	
	2.7nm,0.3s						
TBI	**Tubuai**	**24.09**	**114**	*e*LR	LR	01 57 17.3	
	197nm,26.2s						
TBI	**Tubuai**	**24.09**	**114**	*e*T	T	02 16 27.8	
	15nm,0.3s						
MEH	**Mehetia**	**24.50**	**100**	*e*T	T	02 16 45.5	
	7.5nm,0.2s						
VAH	**Vaihoa**	**24.92**	**94**	*e*T	T	02 17 09.1	
	5.7nm,0.3s						
HNR	**Honiara**	**26.58**	**279**	LR	LR	02 00 29.6	
	comp=Z,32nm,21.2s,baz=124,slow=33						
RKT	**Rikitea**	**37.15**	**108**	*e*T	T	02 32 42.8	
	2.8nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**38.62**	**329**	T	T	02 34 16.6	
	baz=149,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**38.63**	**329**	T	T	02 34 19.5	
	baz=149,slow=76,SNR=46						
H11S1	**WAKE ISLAND Hy**	**38.64**	**329**	T	T	02 34 20.8	
	baz=149,slow=76,SNR=49						
PMG	**Port Moresby**	**38.87**	**274**	*e*P	**P**	**01 53 31.6**	**-1.1**
	16nm,1.0s						
H11N3	**WAKE ISLAND Hy**	**39.56**	**330**	T	T	02 35 40.2	
	baz=150,slow=76,SNR=58						
H11N1	**WAKE ISLAND Hy**	**39.57**	**330**	T	T	02 35 27.8	
	baz=150,slow=76,SNR=71						
H11N2	**WAKE ISLAND Hy**	**39.58**	**330**	T	T	02 35 41.6	
	baz=150,slow=76,SNR=56						
COEN	**Coen**	**41.97**	**266**	*e*P	**P**	**01 53 57.2**	**-1.2**
WRA	**Warramunga Arr**	**49.89**	**256**	P	**P**	**01 55 01.2**	**+0.3**
	0.8nm,0.6s,baz=92,slow=7.4,SNR=3.7						
ASAR	**Alice Springs**	**50.19**	**252**	P	**P**	**01 55 01.0**	**-2.1**
	4.6nm,0.6s,baz=87,slow=7.7,SNR=26						
ASAR				LR	LR	02 14 01.5	
	comp=Z,66nm,20.3s,baz=122,slow=34						
KKM	**Kota Kinabalu**	**72.76**	**281**	*e*P	**P**	**01 57 35.7**	**-0.3**
USRK	**Ussuriysk Ar.**	**77.06**	**323**	LR	LR	02 29 07.7	
	comp=Z,25nm,18.5s,baz=6.9,slow=34						
TXAR	**Lajitas Array**	**80.44**	**56**	P	**P**	**01 58 21.2**	**+2.1**
	0.3nm,0.8s,baz=219,slow=7.7,SNR=3.8						
MCK	**McKinley**	**80.76**	**11**	*e*P	**P**	**01 58 20.9**	**+1.0**
	0.8nm,0.7s						
COLA	**College**	**82.00**	**11**	*e*P	**P**	**01 58 27.3**	**+1.0**
	0.7nm,0.3s						
PDAR	**Pinedale Array**	**82.01**	**42**	P	**P**	**01 58 28.4**	**+1.1**
	0.5nm,0.5s,baz=218,slow=5.7,SNR=3.5						
ILAR	**Eielson Array**	**82.08**	**11**	P	**P**	**01 58 28.0**	**+1.1**
	1.3nm,1.0s,baz=209,slow=7.4,SNR=7.1						
ABTX	**Abilene, Hawle**	**84.88**	**54**	*e*P	**P**	**01 58 43.8**	**+1.8**
	1.3nm,0.3s						
INK	**Inuvik**	**87.91**	**14**	P	**P**	**01 58 57.2**	**+1.2**
	1.6nm,1.1s,baz=254,slow=5.0,SNR=3.3						
YKA	**Yellowknife Ar**	**89.77**	**23**	P	**P**	**01 59 06.1**	**+1.3**
	0.3nm,0.7s,baz=240,slow=4.3,SNR=5.4						
KURK	**Kurchatov**	**112.83**	**319**	*e*PKP	**PKiKP**	**02 04 44.8**	**+1.3**
TKM2	**Tokmak 2**	**115.38**	**311**	*e*PKPdf	**PKPdf**	**02 04 48.9**	**-0.1**
EKS2	**Erkin-Say**	**116.73**	**310**	*e*PKPdf	**PKPdf**	**02 04 51.3**	**-0.2**
MORC	**Moravsky Berou**	**144.20**	**348**	*e*PKPdf	**PKPdf**	**02 05 42.8**	**0.0**
GERES	**GERESS Array B**	**145.76**	**352**	PKPbc	**PKPab**	**02 05 46.5**	**+0.2**
	0.7nm,0.8s,baz=122,slow=3.7,SNR=3.4						
BRTR	**Keskin Array B**	**145.84**	**321**	PKPbc	**PKPab**	**02 05 47.5**	**+0.5**
	2.4nm,1.0s,baz=117,slow=1.7,SNR=12						

PGC 31 02:00:49.9±4.7, 51°.43N×130°.94W, h10km, ML2.9/4, Mw3.5,2D, 210km Wsw of Bella Bella, Bc Queen Charlotte Islands Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**1.91**	**66**	⇑Pn	Pn	02 01 20.7	-1.8
BBB				⇑Sn	Sn	02 01 42.4	-4.2
HOLB	**Holberg**	**1.94**	**113**	⇑Pn	Pn	02 01 20.7	-2.3
HOLB				⇓Sn	Sn	02 01 43.9	-3.6
PHC	**Port Hardy**	**2.33**	**107**	⇑Pn	Pn	02 01 26.8	-1.4
PHC				⇓Sn	Sn	02 01 53.1	-3.8
MAYB	**Maynard**	**2.60**	**112**	⇑Pn	Pn	02 01 30.1	-2.1
WOSB	**Woss**	**3.05**	**113**	⇑Pn	Pn	02 01 36.1	-2.2

GUC 31 02:14:19.7±0.8, 34°.91S×72°.77W, h39km±17km, ML3.7, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.06**	**118**	⇓*i*P	Pn	02 14 38.7	+0.8
COCH	**Cobquecura**	**1.22**	**181**	⇓*i*P	Pn	02 14 41.6	+1.3
COCH				*i* S	Sn	02 14 57.0	+1.4
NICH	**Los Niches**	**1.27**	**95**	⇓*i*P	Pn	02 14 42.0	+1.1
NICH				*i* S	Sn	02 14 58.8	+2.0
LNCH	**Linares**	**1.34**	**135**	⇑*i*P	Pn	02 14 43.2	+1.3
LNCH				*i* S	Sn	02 15 01.1	+2.6
CLCH	**Cerro Calan**	**2.39**	**52**	AML	AML	02 15 39.0	
	comp=N,487nm,0.6s						
PEL	**Peldehue**	**2.47**	**45**	*e*P1	Pn	02 14 58.5	+1.0
PEL				AML	AML	02 15 43.2	
	comp=N,525nm,0.4s						
FCH	**Farellones**	**2.59**	**53**	AML	AML	02 15 43.2	
	comp=E,262nm,0.4s						

IDC 31 02:18:23.3±4.3, 54°.08N×152°.41W, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/35, mbtmp3.1/3, ML3.5/1, Error ellipse: s-maj=82.7km s-min=45.6km az=159.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**11.08**	**12**	Pn	Pn	02 20 56.6	-6.3
	0.1nm,0.3s,baz=199,slow=14,SNR=7.2						
ILAR				Sn	Sn	02 22 44.5	-23
	0.1nm,0.3s,baz=182,slow=21,SNR=3.0						
YKA	**Yellowknife Ar**	**21.29**	**52**	P	P	02 23 11.0	-0.1
	0.2nm,0.6s,baz=261,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**69.32**	**323**	P	P	02 29 32.3	0.0
	0.2nm,0.5s,baz=30,slow=7.3,SNR=3.6						

IDC 31 02:35:33.7±2.6, 8°.19S×149°.39E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/30, mbtmp3.5/4, ML3.7/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/11, Error ellipse: s-maj=74.0km s-min=27.3km az=124.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.51**	**241**	Pn	Pb	02 36 18.0	-1.8
	28nm,0.3s,baz=42,slow=8.4,SNR=38						
PMG				Sn	Sn	02 36 47.0	-0.2
	34nm,0.3s,baz=144,slow=19,SNR=9.5						
PMG				LR	LR	02 37 12.3	
	comp=Z,95nm,18.1s,baz=324,slow=39						
WRA	**Warramunga Arr**	**18.68**	**230**	P	P	02 39 53.6	0.0
	0.8nm,0.3s,baz=54,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**21.38**	**222**	P	P	02 40 22.6	-0.5
	0.5nm,0.5s,baz=52,slow=7.4,SNR=6.0						
SONM	**Songino Array**	**67.46**	**330**	P	P	02 46 32.2	+0.6
	0.2nm,0.7s,baz=142,slow=6.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**147.89**	**282**	PKPbc	PKPdf	02 55 20.1	+1.1
	0.7nm,1.1s,baz=68,slow=2.3,SNR=5.5						

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*IDC **31** 03:03:40.3±2.4, 53°.27N×135°.98W, h0km, mb3.3/1, mb1 3.6/6, mb1mx3.3/52, mbtmp3.5/6, ML3.2/5, Error ellipse: s-maj=37.5km s-min=25.0km az=25.0*
*ISCJB **31** 03:03:45.0±1.3, 53°.51N±0°.08×135°.0W±0°.1, h10km, mb3.2/1, Error ellipse: s-maj=14.1km s-min=6.7km az=39.2*
*PGC **31** 03:03:46.8±0.0, 53°.40N×135°.05W, h10km, ML3.5/6, 202km Wsw of Masset, Bc West Of Vancouver Island*
ISC 31 03:03:44.6±2.0, 53°.4N±0°.1×135°.3W±0°.1, h10km, n12, σ1§04/16, 4D, West of Vancouver Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDB	**Naden**	**1.47**	**68**	⇑Pn	**Pn**	**03 04 11.5**	**+0.4**
NDB				⇓Sn	**Sn**	**03 04 29.1**	**-1.3**
VIB	**Van Inlet**	**1.63**	**95**	Pn	**Pn**	**03 04 13.5**	**0.0**
VIB				⇓Sg	**Sn**	**03 04 34.1**	**-0.5**
DIB	**Dawson Inlet,**	**1.68**	**97**	⇑Pn	**Pn**	**03 04 14.0**	**0.0**
DIB				⇓Sg	**Sn**	**03 04 34.5**	**-1.0**
MOBC	**Moresby Island**	**1.99**	**97**	⇑Pn	**Pn**	**03 04 18.9**	**+0.6**
MOBC				⇑Sg	**Sn**	**03 04 43.8**	**+0.4**
BNB	**Barry Inlet**	**2.28**	**111**	⇑Pn	**Pn**	**03 04 22.4**	**+0.1**
BNB				⇓Sn	**Sn**	**03 04 48.8**	**-1.7**
BBB	**Bella Bella**	**4.51**	**103**	Pn	**Pn**	**03 04 54.8**	**+2.0**
	0.7nm,0.3s,baz=290,slow=12,SNR=6.1						
BBB				Sn	**Sn**	**03 05 45.1**	**-0.1**
	6.7nm,0.3s,baz=30,slow=23,SNR=26						
PHC	**Port Hardy**	**5.54**	**116**	⇑Pn	Pn	03 05 06.3	-0.7
DLBC	**Dease Lake**	**5.81**	**28**	Pn	**Pn**	**03 05 12.3**	**+1.6**
	0.7nm,0.3s,baz=203,slow=9.5,SNR=20						
DLBC				Sn	Sn	03 06 13.7	-3.6
	1.0nm,0.3s,baz=248,slow=16,SNR=3.7						
ILAR	**Eielson Array**	**12.81**	**337**	Pn	**Pn**	**03 06 45.8**	**-0.7**
	0.2nm,0.3s,baz=151,slow=13,SNR=13						
YKA	**Yellowknife Ar**	**14.16**	**42**	Pn	**Pn**	**03 07 05.4**	**+0.6**
	0.1nm,0.3s,baz=233,slow=12,SNR=12						
INK	**Inuvik**	**14.94**	**2**	Pn	**Pn**	**03 07 15.0**	**-0.5**
	0.0nm,0.3s,baz=177,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**75.15**	**334**	P	P	03 15 23.9	-2.7
	0.2nm,0.7s,baz=32,slow=5.4,SNR=2.6						

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*NIED **31** 03:04:00, 32°.50N×137°.50E, h440km, Mw4.2 Best double couple: M0=2.49000×10^15 NP1:φs=68.00000°, δ31.00000°, λ-166.00000°. NP2:φs=325.00000°, δ83.00000°, λ-60.00000°.*
*ISCJB **31** 03:04:18.5±0.5, 32°.52N±0°.07×137°.53E±0°.07, h404km±2km, mb3.6/23, Error ellipse: s-maj=12.1km s-min=7.7km az=147.3*
*IDC **31** 03:04:18.7±1.1, 32°.46N×137°.53E, h390km±9km, mb3.4/23, mb1 3.5/28, mb1mx3.3/58, mbtmp4.1/28, Error ellipse: s-maj=13.4km s-min=11.1km az=108.0*
*JMA **31** 03:04:18.1±0.3, 32°.50N×137°.51E, h408km±3km, M3.5*
ISC 31 03:04:19.6±0.8, 32°.56N±0°.08×137°.54E±0°.07, h399km±5km, n57, σ1§00/71, mb3.6/23, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**1.21**	**2**	S	**S**	**03 05 53.6**	**+1.3**
TTO1	**TONANKAI O.B.S**	**1.24**	**329**	P	**Pn**	**03 05 11.5**	**+0.5**
TTO2	**TONANKAI O.B.S**	**1.25**	**340**	P	**Pn**	**03 05 11.7**	**+0.7**
TTO2				S	**S**	**03 05 55.0**	**+2.3**
TTO3	**TONANKAI O.B.S**	**1.31**	**355**	P	**Pn**	**03 05 12.1**	**+0.7**
TTO3				*e*S	**S**	**03 05 55.0**	**+1.5**
TK02	**Tokai 2**	**1.40**	**7**	P	**Pn**	**03 05 12.1**	**+0.3**
TK02				S	**S**	**03 05 56.2**	**+2.2**
JWZ	**Kozaga**	**1.81**	**303**	P	**Pn**	**03 05 13.4**	**-0.8**
JWZ				S	**S**	**03 05 57.3**	**-1.2**
JIE	**Ise**	**1.96**	**339**	P	**Pn**	**03 05 15.1**	**0.0**
JIE				S	**S**	**03 05 59.3**	**-0.7**
JHJ2	**Mitsune**	**2.00**	**73**	P	**Pn**	**03 05 15.0**	**-0.3**
JAI	**Aioi**	**2.87**	**296**	P	**Pn**	**03 05 21.3**	**-0.2**
JAI				S	**S**	**03 06 10.3**	**-1.4**
JOD2	**Odawara 2**	**2.99**	**25**	P	**Pn**	**03 05 22.2**	**-0.3**
JYN	**Shimob**	**3.05**	**16**	P	**Pn**	**03 05 23.3**	**+0.2**
JWT	**Wachi**	**3.25**	**327**	P	**Pn**	**03 05 24.9**	**+0.2**
JWT				S	**S**	**03 06 16.6**	**-0.8**
JMN	**Monobe**	**3.29**	**292**	P	**Pn**	**03 05 25.1**	**0.0**
BSO1	**Boso 1**	**3.55**	**53**	S	**S**	**03 06 17.5**	**-3.8**
JRY	**Ryogami san**	**3.63**	**18**	P	**Pn**	**03 05 27.7**	**-0.4**
JRY				S	**S**	**03 06 21.7**	**-2.0**
JTO	**Tosashimizu**	**4.00**	**276**	P	**Pn**	**03 05 31.3**	**-0.3**
MJAR	**Matsushiro Arr**	**4.01**	**8**	P	**Pn**	**03 05 31.0**	**-0.6**
	5.5nm,0.3s,baz=179,slow=10,SNR=59						
MJAR				S	**S**	**03 06 29.6**	**-0.6**
	1.0nm,0.3s,baz=188,slow=18,SNR=7.8						
MAT	**Matsushiro**	**4.01**	**8**	P	**Pn**	**03 05 31.2**	**-0.4**
MAT				S	**S**	**03 06 28.1**	**-2.0**
MAT	**Matsushiro**	**4.01**	**8**	P	**Pn**	**03 05 31.2**	**-0.4**
MAT				S	**S**	**03 06 29.1**	**-1.0**
JHS	**Saijyo**	**4.42**	**305**	P	**Pn**	**03 05 35.3**	**-0.3**
JNU	**Nakatsue**	**5.63**	**278**	P	**Pn**	**03 05 47.8**	**-0.5**
	0.8nm,0.3s,baz=110,slow=6.1,SNR=10						
KSRS	**Korea Array**	**9.28**	**304**	P	**Pn**	**03 06 30.4**	**+1.4**
	0.6nm,0.3s,baz=124,slow=10.0,SNR=12						
ASAJ	**Asahikawa**	**12.20**	**17**	P	**Pn**	**03 07 02.8**	**-0.2**
	2.3nm,0.3s,baz=239,slow=13,SNR=13						
USRK	**Ussuriysk Ar.**	**12.41**	**341**	P	**P**	**03 07 02.8**	**-0.8**
	0.1nm,0.3s,baz=161,slow=15,SNR=3.4						
SONM	**Songino Array**	**28.03**	**312**	P	**P**	**03 09 35.9**	**-0.2**
	1.1nm,0.5s,baz=114,slow=7.8,SNR=12						
SEY	**Seymchan**	**31.82**	**13**	P	**P**	**03 10 09.4**	**+0.6**
	1.2nm,0.6s,baz=210,slow=9.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**37.34**	**257**	P	**P**	**03 10 55.0**	**-1.0**
	1.3nm,0.5s,baz=45,slow=7.7,SNR=5.6						
ZALV	**Zalesovo Beam**	**42.75**	**316**	P	**P**	**03 11 39.3**	**-0.1**
	1.2nm,0.3s,baz=88,slow=7.5,SNR=7.3						
ZALV				PcP	**PcP**	**03 13 22.7**	**+0.3**
	0.3nm,0.4s,baz=116,slow=3.4,SNR=3.6						
ZALV				ScP	**ScP**	**03 16 34.6**	**+0.1**
	0.4nm,0.4s,baz=106,slow=4.7,SNR=4.0						
TAPN	**Taplejung**	**43.17**	**277**	*e*P	**P**	**03 11 42.7**	**-0.8**
	6.1nm,0.4s						
ODAN	**Odare**	**43.61**	**276**	*e*P	**P**	**03 11 45.6**	**-1.3**
	19nm,0.6s						
MKAR	**Makanchi Array**	**43.96**	**306**	P	**P**	**03 11 49.7**	**+0.6**
	1.9nm,0.5s,baz=85,slow=9.7,SNR=32						
RAMN	**Ramite**	**44.24**	**277**	*e*P	**P**	**03 11 51.3**	**-0.5**
	33nm,0.7s						
JIRN	**Jiri**	**44.34**	**278**	*e*P	**P**	**03 11 52.9**	**+0.1**
	66nm,0.6s						
GUN	**Gumba**	**44.52**	**278**	*e*P	**P**	**03 11 54.0**	**-0.2**
	39nm,0.7s						
PKI	**Pulchoki**	**45.03**	**278**	*e*P	**P**	**03 11 57.4**	**-0.7**
	19nm,0.7s						
PKIN	**Phulchoki**	**45.04**	**278**	*e*P	**P**	**03 11 58.2**	**+0.1**
	9.1nm,0.6s						
KKN	**Kakani**	**45.06**	**278**	*e*P	**P**	**03 11 57.7**	**-0.5**
	29nm,0.7s						
KURBB	**Kurchatov Arra**	**46.38**	**311**	P	**P**	**03 12 07.6**	**-0.1**
	0.9nm,0.3s,baz=87,slow=7.6,SNR=12						
BVAR	**Borovoye Array**	**51.33**	**315**	P	**P**	**03 12 45.1**	**+0.3**
	1.3nm,0.5s,baz=101,slow=8.6,SNR=12						
BVAR				PcP	**PcP**	**03 13 53.7**	**+0.5**
	0.8nm,0.4s,baz=132,slow=4.3,SNR=4.4						
WRA	**Warramunga Arr**	**52.29**	**184**	P	**P**	**03 12 50.4**	**-1.8**
	2.8nm,0.7s,baz=1.3,slow=7.7,SNR=8.2						
ILAR	**Eielson Array**	**54.97**	**30**	P	**P**	**03 13 11.2**	**+0.5**
	0.7nm,0.6s,baz=267,slow=5.7,SNR=7.4						
ASAR	**Alice Springs**	**56.01**	**184**	P	**P**	**03 13 18.4**	**-0.2**
	0.9nm,0.7s,baz=14,slow=11,SNR=9.9						
AKTO	**Aktyubinsk**	**59.34**	**313**	P	**P**	**03 13 41.4**	**+0.2**
	2.6nm,0.7s,baz=76,slow=13,SNR=11						
INK	**Inuvik**	**59.80**	**25**	P	**P**	**03 13 44.5**	**+0.5**
	1.4nm,0.8s,baz=293,slow=6.1,SNR=5.4						
SPITS	**Spitsbergen Ar**	**64.28**	**349**	P	**P**	**03 14 14.2**	**+0.9**
	14nm,1.1s,baz=99,slow=5.2,SNR=5.9						
ARCES	**ARCESS Array B**	**67.05**	**339**	P	**P**	**03 14 31.3**	**+0.4**
	4.6nm,0.9s,baz=46,slow=6.9,SNR=7.8						
RES	**Resolute Bay**	**67.70**	**13**	P	**P**	**03 14 35.1**	**+0.3**
	0.3nm,0.5s,baz=319,slow=6.8,SNR=4.5						
YKA	**Yellowknife Ar**	**69.26**	**28**	P	**P**	**03 14 45.4**	**+0.9**
	0.5nm,0.5s,baz=297,slow=6.0,SNR=5.2						
FINES	**FINESS Array B**	**71.26**	**332**	P	**P**	**03 14 57.1**	**+0.6**
	1.2nm,0.5s,baz=71,slow=5.0,SNR=15						
KBZ	**Khabaz**	**71.38**	**310**	P	**P**	**03 14 58.6**	**+1.1**
	2.6nm,0.8s,baz=115,slow=1.8,SNR=8.9						
HFS	**Hagfors**	**76.81**	**335**	P	**P**	**03 15 28.4**	**+0.2**
	1.7nm,0.8s,baz=122,slow=1.9,SNR=6.2						
NOA	**NORSAR Array B**	**77.03**	**336**	P	**P**	**03 15 30.0**	**+0.4**
	0.7nm,0.8s,baz=36,slow=3.9,SNR=3.4						
BRTR	**Keskin Array B**	**79.37**	**310**	P	**P**	**03 15 43.3**	**+0.5**
	1.6nm,0.9s,baz=111,slow=4.0,SNR=10						
SFJD	**Kangerlussuaq**	**80.57**	**3**	*i* P	**P**	**03 15 46.3**	**-2.0**
FRB	**Frobisher Bay**	**81.82**	**11**	P	**P**	**03 15 55.3**	**+0.4**
	0.7nm,0.6s,baz=315,slow=5.8,SNR=3.6						
TXAR	**Lajitas Array**	**95.40**	**50**	P	**P**	**03 17 01.1**	**+0.8**
	0.3nm,0.7s,baz=299,slow=4.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**117.98**	**310**	PKP	**PKPdf**	**03 22 19.3**	**-1.0**
	0.2nm,0.6s,baz=54,slow=1.0,SNR=5.0						

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*IDC **31** 03:11:55.3±0.8, 36°.60N×9°.92W, h0km, mb3.8/15, mb1 4.0/16, mb1mx3.8/42, mbtmp3.9/16, ML5.4/2, MS2.9/8, Ms1 3.0/8, ms1mx2.8/50, Error ellipse: s-maj=21.5km s-min=16.7km az=19.0*
*NEIC **31** 03:11:57.0±0.4, 36°.65N×9°.92W, h10km, mb4.2/2, ML4.2(LIS), MN4.0(MDD), Error ellipse: s-maj=5.8km s-min=4.8km az=128.0*
NEIC Felt at Santo Andre, Portugal.
*CSEM **31** 03:11:59.3±0.2, 36°.70N×9°.87W, h20km, ML4.2, Error ellipse: s-maj=3.8km s-min=2.9km az=73.0*
*MDD **31** 03:12:00.3±0.4, 36°.64N×9°.97W, h35km, mbLg4.4/82, Error ellipse: s-maj=4.8km s-min=3.5km az=105.0, PRXIMO*
*SFS **31** 03:12:00.0, 36°.65N×9°.98W, h37km, ML4.4*
*LDG **31** 03:12:01.0±0.1, 36°.67N×9°.97W, h25km, Ml4.5/18, Error ellipse: s-maj=2.4km s-min=1.6km az=125.0*
*IGIL **31** 03:12:02.9, 36°.77N×9°.76W, h16km, ML4.3*
*CNRM **31** 03:12:02.1, 36°.53N×9°.84W, h30km, MD4.0*
*INMG **31** 03:12:03.0±1.7, 36°.77N×9°.77W, h20km±6km, MD3.5, ML4.2, Error ellipse: s-maj=6.1km s-min=3.5km az=48.0*
ISC 31 03:11:59.3±1.6, 36°.63N±0°.03×9°.88W±0°.04, h28km±12km, n421, σ1§84/568, mb3.9/15, MS2.8/5, 4C-23D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.98**	**59**	*i* P	**Pb**	**03 12 18.2**	**+0.5**
PFVI				*e*S	**Sn**	**03 12 29.5**	**-0.8**
PFVI				A	A	03 12 30.9	
	4μm,0.2s						
PFVI	**Vila Bisbo**	**0.98**	**59**	⇓P	**Pb**	**03 12 18.2**	**+0.5**
	1μm,0.2s,SNR=18						
PFVI				S	**Sn**	**03 12 29.5**	**-0.8**
	11μm,0.2s,SNR=52						
PFVI	**Vila Bisbo**	**0.98**	**59**	P	**Pb**	**03 12 18.2**	**+0.5**
	1μm,0.2s,SNR=18						
PFVI				S	**Sn**	**03 12 29.1**	**-1.2**
PFVI	**Vila Bisbo**	**0.98**	**59**	P	**Pb**	**03 12 18.2**	**+0.5**
PFVI				S	**Sn**	**03 12 29.1**	**-1.2**
MORF	**Marmelete**	**1.20**	**55**	*e*P	**Pn**	**03 12 21.2**	**+1.0**
MORF				*e*S	**Sn**	**03 12 34.4**	**-1.2**
MORF				AML	AML	03 12 35.5	
	comp=N,8μm,0.2s						
MORF	**Marmelete**	**1.20**	**55**	*i* P	**Pn**	**03 12 21.2**	**+1.0**
MORF				*e*S	**Sn**	**03 12 34.3**	**-1.3**
MORF	**Marmelete**	**1.20**	**55**	⇓P	**Pn**	**03 12 21.2**	**+1.0**
MORF				S	**Sn**	**03 12 34.3**	**-1.3**
MORF	**Marmelete**	**1.20**	**55**	P	**Pn**	**03 12 21.2**	**+1.0**
MORF				*e*S	**Sn**	**03 12 34.3**	**-1.3**
PTEO	**Sao Teotonio**	**1.30**	**45**	*i* P	**Pn**	**03 12 22.5**	**+0.9**
PTEO				*e*S	**Sn**	**03 12 37.1**	**-1.0**
PTEO		

LIS	**Lisbon**	**2.17**	**15**	*e*P	**Pn**	**03 12 34.0**	**+0.5**
LIS	**Lisbon**	**2.17**	**15**	*e*Pn	**Pn**	**03 12 34.1**	**+0.5**
LIS				*e*S	**Sn**	**03 12 57.7**	**-1.7**
LIS				*e*Sn	**Sn**	**03 12 57.8**	**-1.7**
LIS				A	A	03 13 01.0	
	comp=N,2µm,0.3s						
LIS	**Lisbon**	**2.17**	**15**	P	**Pn**	**03 12 34.0**	**+0.5**
LIS				S	**Sn**	**03 12 57.7**	**-1.7**
LIS	**Lisbon**	**2.17**	**15**	*e*P	**Pn**	**03 12 34.0**	**+0.5**
LIS				*e*Sn	**Sn**	**03 12 57.8**	**-1.7**
	comp=N,2µm,0.3s						
PMST	**Lisbon--Monsan**	**2.18**	**14**	*e*Pn	**Pn**	**03 12 34.2**	**+0.5**
PMST				*e*Sn	**Sn**	**03 12 58.1**	**-1.7**
PMST				A	A	03 13 00.6	
	comp=N,2µm,0.2s						
PMST	**Lisbon--Monsan**	**2.18**	**14**	*e*Pn	**Pn**	**03 12 34.2**	**+0.5**
PMST				*e*Sn	**Sn**	**03 12 58.1**	**-1.7**
	comp=N,2µm,0.2s						
INMG	**Instituto de M**	**2.23**	**15**	*e*Pn	**Pn**	**03 12 35.8**	**+1.4**
INMG				*e*Sn	**Sn**	**03 12 59.8**	**-1.1**
INMG				A	A	03 13 02.3	
	comp=N,1µm,0.5s						
INMG	**Instituto de M**	**2.23**	**15**	P	**Pn**	**03 12 35.8**	**+1.4**
INMG				S	**Sn**	**03 12 59.8**	**-1.1**
	comp=N,684nm,0.5s						
INMG	**Instituto de M**	**2.23**	**15**	P	**Pn**	**03 12 35.8**	**+1.4**
INMG				S	**Sn**	**03 12 59.8**	**-1.1**
	comp=N,684nm,0.5s						
PACT	**Alcochete**	**2.29**	**21**	*e*Pn	**Pn**	**03 12 37.1**	**+1.8**
PACT				*e*Sn	**Sn**	**03 13 00.8**	**-1.8**
PACT				A	A	03 13 07.1	
	comp=N,1µm,0.2s						
PACT	**Alcochete**	**2.29**	**21**	*e*Pn	**Pn**	**03 12 37.1**	**+1.8**
PACT				*e*Sn	**Sn**	**03 13 00.8**	**-1.8**
	comp=N,1µm,0.2s						
EVOP	**Sao Brissos**	**2.36**	**36**	*e*Pn	**Pn**	**03 12 36.5**	**+0.4**
EVOP				*e*Sn	**Sn**	**03 13 01.9**	**-2.2**
	comp=N,1µm,0.3s						
EVOP	**Sao Brissos**	**2.36**	**36**	*e*Pn	**Pn**	**03 12 36.5**	**+0.4**
EVOP				*e*Sn	**Sn**	**03 13 01.9**	**-2.2**
PMAFR	**Mafra**	**2.37**	**11**	*e*Pn	**Pn**	**03 12 36.8**	**+0.4**
PMAFR				*e*Sn	**Sn**	**03 13 02.9**	**-1.7**
PMAFR				A	A	03 13 05.9	
	comp=N,2µm,0.2s						
PMAFR	**Mafra**	**2.37**	**11**	⇓P	**Pn**	**03 12 36.7**	**+0.3**
	comp=N,968nm,0.2s,SNR=18						
PMAFR				S	**Sn**	**03 13 02.7**	**-1.9**
	comp=N,2µm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**2.37**	**11**	P	**Pn**	**03 12 36.7**	**+0.3**
	comp=N,968nm,0.2s,SNR=18						
PMAFR				*e*Sn	**Sn**	**03 13 02.9**	**-1.7**
	comp=N,2µm,0.2s						
EVO	**Evora**	**2.41**	**37**	*e*Pn	**Pn**	**03 12 36.5**	**-0.4**
EVO				*e*Sn	**Sn**	**03 13 01.9**	**-3.6**
	comp=N,2µm,0.3s						
EVO	**Evora**	**2.41**	**37**	*e*Pn	**Pn**	**03 12 37.4**	**+0.5**
EVO				*e*Sn	**Sn**	**03 13 03.3**	**-2.2**
EVO				A	A	03 13 05.5	
	comp=N,1µm,0.1s						
EVO	**Evora**	**2.41**	**37**	P	**Pn**	**03 12 37.4**	**+0.5**
EVO				S	**Sn**	**03 13 03.3**	**-2.2**
	comp=N,1µm,0.1s						
EVO	**Evora**	**2.41**	**37**	P	**Pn**	**03 12 37.4**	**+0.5**
EVO				S	**Sn**	**03 13 03.3**	**-2.2**
	comp=N,1µm,0.1s						
PBAR	**Barrancos**	**2.74**	**55**	*e*Pn	**Pn**	**03 12 42.0**	**+0.6**
PBAR				*e*Sn	**Sn**	**03 13 11.4**	**-2.2**
PBAR				A	A	03 13 13.5	
	comp=N,1µm,0.4s						
PBAR	**Barrancos**	**2.74**	**55**	P	**Pn**	**03 12 42.0**	**+0.6**
PBAR				S	**Sn**	**03 13 11.4**	**-2.2**
	comp=N,1µm,0.4s						
PBAR	**Barrancos**	**2.74**	**55**	P	**Pn**	**03 12 42.0**	**+0.6**
PBAR				S	**Sn**	**03 13 11.4**	**-2.2**
	comp=N,1µm,0.4s						
PMTG	**Montargil**	**2.77**	**28**	*e*Pn	**Pn**	**03 12 42.4**	**+0.6**
PMTG				*e*Sn	**Sn**	**03 13 11.7**	**-2.6**
PMTG				A	A	03 13 14.1	
	comp=N,1µm,0.2s						
PMTG	**Montargil**	**2.77**	**28**	*e*Pn	**Pn**	**03 12 42.4**	**+0.6**
PMTG				*e*Sn	**Sn**	**03 13 11.7**	**-2.6**
	comp=N,1µm,0.2s						
EMIN	**Mina Concepcio**	**2.80**	**65**	⇓P	**Pn**	**03 12 42.9**	**+0.6**
	comp=N,22nm,0.1s,SNR=18						
EMIN				S	**Sn**	**03 13 13.1**	**-2.0**
	comp=N,501nm,0.2s,SNR=6.6						
EMIN	**Mina Concepcio**	**2.80**	**65**	P	**Pn**	**03 12 42.9**	**+0.6**
	comp=N,22nm,0.1s,SNR=18						
EMIN				S	**Sn**	**03 13 13.1**	**-2.0**
	comp=N,501nm,0.2s,SNR=6.6						
PESTR	**Estremoz**	**2.88**	**38**	*i* Pn	**Pn**	**03 12 43.6**	**+0.2**
PESTR				*e*Sn	**Sn**	**03 13 14.3**	**-2.8**
PESTR				A	A	03 13 17.0	
	comp=N,470nm,0.6s						
SFS	**San Fernando**	**2.96**	**92**	⇓P	Pn	03 12 40.5	-4.0
SFS				S	**Sn**	**03 13 18.2**	**-0.9**
SFS	**San Fernando**	**2.96**	**92**	P	Pn	03 12 40.5	-4.0
SFS				S	**Sn**	**03 13 18.2**	**-0.9**
CNIL	**Conil**	**3.09**	**94**	⇓P	**Pn**	**03 12 48.2**	**+2.0**
CNIL				S	**Sn**	**03 13 20.8**	**-1.5**
CNIL	**Conil**	**3.09**	**94**	P	**Pn**	**03 12 48.2**	**+2.0**
CNIL				S	**Sn**	**03 13 20.8**	**-1.5**
EBAD	**Badajoz**	**3.11**	**46**	⇓P	**Pn**	**03 12 46.7**	**+0.2**
	comp=N,98nm,0.1s,SNR=18						
EBAD				S	**Sn**	**03 13 20.4**	**-2.4**
	comp=N,2µm,0.3s,SNR=33						
EBAD	**Badajoz**	**3.11**	**46**	P	**Pn**	**03 12 46.7**	**+0.2**
	comp=N,98nm,0.1s,SNR=18						
EBAD				S	**Sn**	**03 13 20.4**	**-2.4**
	comp=N,2µm,0.3s,SNR=33						
PTOM	**Tomar**	**3.20**	**21**	*e*Pn	**Pn**	**03 12 48.2**	**+0.4**
PTOM				*e*Sn	**Sn**	**03 13 22.1**	**-3.0**
PTOM				A	A	03 13 25.3	
	comp=N,636nm,0.4s						
PTOM	**Tomar**	**3.20**	**21**	P	**Pn**	**03 12 48.2**	**+0.4**
PTOM				S	**Sn**	**03 13 22.1**	**-3.0**
	comp=N,318nm,0.4s						
PTOM	**Tomar**	**3.20**	**21**	P	**Pn**	**03 12 48.2**	**+0.4**
PTOM				S	**Sn**	**03 13 22.1**	**-3.0**
	comp=N,318nm,0.4s						
ESPR	**Espera**	**3.24**	**85**	⇑P	**Pn**	**03 12 49.5**	**+1.2**
	comp=N,421nm,0.2s,SNR=18						
ESPR				S	**Sn**	**03 13 24.8**	**-1.1**
	comp=N,2µm,0.2s,SNR=11						
ESPR	**Espera**	**3.24**	**85**	P	**Pn**	**03 12 49.5**	**+1.2**
	comp=N,421nm,0.2s,SNR=18						
ESPR				S	**Sn**	**03 13 24.8**	**-1.1**
	comp=N,2µm,0.2s,SNR=11						
TSY	**Tnine Yamani**	**3.41**	**110**	P	**Pn**	**03 12 52.0**	**+1.4**
TSY				S	**Sn**	**03 13 28.0**	**-2.0**
TSY	**Tnine Yamani**	**3.41**	**110**	*i* P	**Pn**	**03 12 52.0**	**+1.4**
TSY				*i* S	**Sn**	**03 13 28.0**	**-2.0**
PMRV	**Marv??o**	**3.42**	**34**	*e*Pn	**Pn**	**03 12 51.3**	**+0.5**
PMRV				*e*Sn	**Sn**	**03 13 27.5**	**-2.9**
PMRV				A	A	03 13 29.5	
	comp=N,330nm,0.3s						
PMRV	**Marv??o**	**3.42**	**34**	P	**Pn**	**03 12 51.3**	**+0.5**
PMRV				S	**Sn**	**03 13 27.5**	**-2.9**
	comp=N,330nm,0.3s						
PMRV	**Marv??o**	**3.42**	**34**	P	**Pn**	**03 12 51.3**	**+0.5**
PMRV				S	**Sn**	**03 13 27.5**	**-2.9**
	comp=N,330nm,0.3s						
PCAS	**Casmilo, Conde**	**3.59**	**17**	*i* Pn	**Pn**	**03 12 53.4**	**+0.3**
PCAS				*e*Sn	**Sn**	**03 13 31.2**	**-3.4**
PCAS				A	A	03 13 35.0	
	comp=N,485nm,0.4s						
LIJA	**Lijar**	**3.60**	**84**	⇓P	**Pn**	**03 12 54.6**	**+1.2**
LIJA				S	**Sn**	**03 13 30.7**	**-4.4**
LIJA	**Lijar**	**3.60**	**84**	P	**Pn**	**03 12 54.6**	**+1.2**
LIJA				S	**Sn**	**03 13 30.7**	**-4.4**
RTC	**Rabat Centre**	**3.61**	**136**	P	**Pn**	**03 12 54.0**	**+0.6**
RTC				S	**Sn**	**03 13 32.0**	**-3.1**
RTC	**Rabat Centre**	**3.61**	**136**	*e*Pn	**Pn**	**03 12 52.0**	**-1.4**
RTC	**Rabat Centre**	**3.61**	**136**	*i* P	**Pn**	**03 12 54.0**	**+0.6**
RTC				*e*S	**Sn**	**03 13 32.8**	**-2.2**
RTC	**Rabat Centre**	**3.61**	**136**	*e*Pn	**Pn**	**03 12 52.0**	**-1.4**
RTC				*e*S	**Sn**	**03 13 32.9**	**-2.2**
PCBR	**Castelo Branco**	**3.73**	**30**	*i* Pn	**Pn**	**03 12 55.6**	**+0.7**
PCBR				*e*Sn	**Sn**	**03 13 33.9**	**-4.0**
PCBR				A	A	03 13 37.1	
	comp=N,214nm,0.6s						
PCBR	**Castelo Branco**	**3.73**	**30**	⇓P	**Pn**	**03 12 55.6**	**+0.7**
PCBR				S	**Sn**	**03 13 33.9**	**-4.0**
	comp=N,107nm,0.6s						
PCBR	**Castelo Branco**	**3.73**	**30**	P	**Pn**	**03 12 55.6**	**+0.7**
PCBR				S	**Sn**	**03 13 33.9**	**-4.0**
	comp=N,107nm,0.6s						
RSA	**Sarsar**	**3.73**	**117**	P	**Pn**	**03 12 56.0**	**+0.9**
RSA				S	**Sn**	**03 13 36.0**	**-2.1**
RSA	**Sarsar**	**3.73**	**117**	*i* P	**Pn**	**03 12 56.0**	**+0.9**
RSA				*i* S	**Sn**	**03 13 36.0**	**-2.1**
REAL	**Reales**	**3.76**	**91**	⇑P	**Pn**	**03 12 57.2**	**+1.6**
REAL				S	Sn	03 13 32.2	-6.9
REAL	**Reales**	**3.76**	**91**	P	**Pn**	**03 12 57.2**	**+1.6**
DKH	**Dar Kharkhour**	**3.83**	**106**	P	**Pn**	**03 12 58.0**	**+1.4**
DKH				S	**Sn**	**03 13 38.0**	**-2.8**
DKH	**Dar Kharkhour**	**3.83**	**106**	*i* P	**Pn**	**03 12 58.0**	**+1.4**
DKH				*i* S	**Sn**	**03 13 38.0**	**-2.8**
ECAB	**El Cabril**	**3.84**	**67**	P	**Pn**	**03 12 57.1**	**+0.6**
	comp=N,82nm,0.1s,SNR=538						
ECAB				S	**Sn**	**03 13 37.7**	**-3.0**
	comp=N,893nm,0.5s,SNR=17						
ECAB	**El Cabril**	**3.84**	**67**	P	**Pn**	**03 12 57.1**	**+0.6**
	comp=N,82nm,0.1s,SNR=538						
ECAB				S	**Sn**	**03 13 37.7**	**-3.0**
	comp=N,893nm,0.5s,SNR=17						
EMIJ	**Mijas**	**4.11**	**89**	⇑P	**Pn**	**03 13 01.0**	**+0.7**
	comp=N,7.7nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**03 13 46.7**	**-0.7**
	comp=N,101nm,0.3s,SNR=6.3						
EMIJ	**Mijas**	**4.11**	**89**	P	**Pn**	**03 13 01.0**	**+0.7**
	comp=N,7.7nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**03 13 46.7**	**-0.7**
	comp=N,101nm,0.3s,SNR=6.3						
MTE	**Manteigas**	**4.19**	**25**	*e*Pn	**Pn**	**03 13 01.7**	**+0.3**
MTE				*e*Sn	**Sn**	**03 13 45.3**	**-4.2**
MTE				A	A	03 13 49.5	
	comp=N,455nm,0.3s						
MTE	**Manteigas**	**4.19**	**25**	P	**Pn**	**03 13 01.7**	**+0.3**
MTE				S	**Sn**	**03 13 45.3**	**-4.2**
	comp=N,228nm,0.3s						
MTE	**Manteigas**	**4.19**	**25**	P	**Pn**	**03 13 01.7**	**+0.3**
MTE				*e*S	**Sn**	**03 13 47.4**	**-2.1**
MTE	**Manteigas**	**4.19**	**25**	*e*Pn	**Pn**	**03 13 01.7**	**+0.3**
MTE				*e*S	**Sn**	**03 13 47.4**	**-2.1**
PVIS	**Viseu**	**4.37**	**20**	*e*Pn	**Pn**	**03 13 03.9**	**0.0**
PVIS				*e*Sn	**Sn**	**03 13 49.3**	**-4.6**
PVIS				A	A	03 13 52.9	
	comp=N,174nm,0.2s						
PVIS	**Viseu**	**4.37**	**20**	P	**Pn**	**03 13 03.9**	**0.0**
PVIS				S	**Sn**	**03 13 49.3**	**-4.6**
	comp=N,87nm,0.2s						
PVIS	**Viseu**	**4.37**	**20**	P	**Pn**	**03 13 03.9**	**0.0**
PVIS				S	**Sn**	**03 13 49.3**	**-4.6**
	comp=N,87nm,0.2s						
EMAL	**Malaga-Limoner**	**4.38**	**87**	*e*P	**Pn**	**03 13 05.4**	**+1.4**
EMAL				*e*S	**Sn**	**03 13 52.3**	**-1.8**
EPLA	**Plasencia**	**4.55**	**40**	⇓P	**Pn**	**03 13 06.6**	**+0.3**
	comp=N,132nm,0.2s,SNR=18						
EPLA				S	**Sn**	**03 13 54.6**	**-3.7**
	comp=N,408nm,0.2s,SNR=21						
EPLA	**Plasencia**	**4.55**	**40**	P	**Pn**	**03 13 06.6**	**+0.3**
	comp=N,132nm,0.2s,SNR=18						
EPLA				S	**Sn**	**03 13 54.6**	**-3.7**
	comp=N,408nm,0.2s,SNR=21						
ELUQ	**Luque**	**4.58**	**77**	⇓P	**Pn**	**03 13 07.9**	**+1.1**
	comp=N,20nm,0.2s,SNR=18						
ELUQ				S	**Sn**	**03 13 55.9**	**-3.3**
	comp=N,238nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**4.58**	**77**	P	**Pn**	**03 13 07.9**	**+1.1**
	comp=N,20nm,0.2s,SNR=18						
ELUQ				S	**Sn**	**03 13 55.9**	**-3.3**
	comp=N,238nm,0.2s,SNR=7.9						
PTO	**Porto**	**4.62**	**12**	*e*Pn	**Pn**	**03 13 07.1**	**-0.1**
PTO				*e*Sn	**Sn**	**03 13 55.4**	**-4.4**
PTO				A	A	03 13 59.6	
	comp=N,190nm,0.4s						
PTO	**Porto**	**4.62**	**12**	P	**Pn**	**03 13 07.1**	**-0.1**
PTO				S	**Sn**	**03 13 55.4**	**-4.4**
	comp=N,95nm,0.4s						
PTO	**Porto**	**4.62**	**12**	P	**Pn**	**03 13 07.1**	**-0.1**
PTO				S	**Sn**	**03 13 55.4**	**-4.4**
	comp=N,95nm,0.4s						
PVRL	**Vila Real**	**4.94**	**19**	*e*Pn	**Pn**	**03 13 11.5**	**-0.2**
PVRL				*e*Sn	**Sn**	**03 14 03.2**	**-4.7**
PVRL				A	A	03 14 07.0	
	comp=N,448nm,0.4s						
PVRL	**Vila Real**	**4.94**	**19**	P	**Pn**	**03 13 11.5**	**-0.2**
PVRL				S	**Sn**	**03 14 03.2**	**-4.7**
	comp=N,224nm,0.4s						
PVRL	**Vila Real**	**4.94**	**19**	P	**Pn**	**03 13 11.5**	**-0.2**
PVRL				S	**Sn**	**03 14 03.2**	**-4.7**
	comp=N,224nm,0.4s						
SELV	**Sierra Elvira**	**4.97**	**81**	P	**Pn**	**03 13 13.4**	**+1.3**
	comp=N,4.6nm,0.2s,SNR=7.9						
SELV				S	**Sn**	**03 14 07.4**	**-1.2**
	comp=N,54nm,0.3s,SNR=7.9						
SELV	**Sierra Elvira**	**4.97**	**81**	P	**Pn**	**03 13 13.4**	**+1.3**
	comp=N,4.6nm,0.2s,SNR=7.9						
SELV				S	**Sn**	**03 14 07.4**	**-1.2**
	comp=N,54nm,0.3s,SNR=7.9						
POLO	**Lamas de Olo**	**5.01**	**18**	*e*Pn	**Pn**	**03 13 12.5**	**-0.2**
POLO				*e*Sn	**Sn**	**03 14 04.8**	**-5.0**
POLO				A	A	03 14 08.9	
	comp=N,80nm,0.3s						
POLO	**Lamas de Olo**	**5.01**	**18**	*e*Pn	**Pn**	**03 13 12.5**	**-0.2**
MVO	**Moncorvo**	**5.05**	**25**	*e*Pn	**Pn**	**03 13 13.2**	**0.0**
MVO				*e*Sn	**Sn**	**03 14 06.6**	**-4.0**
MVO				A	A	03 14 09.3	
	comp=N,377nm,0.4s						
MVO	**Moncorvo**	**5.05**	**25**	P	**Pn**	**03 13 13.2**	**0.0**
	comp=N,279nm,0.2s,SNR=442						
MVO				S	**Sn**	**03 14 05.9**	**-4.7**
	comp=N,216nm,0.2s,SNR=18						
MVO	**Moncorvo**	**5.05**	**25**	P	**Pn**	**03 13 13.2**	**0.0**
	comp=N,279nm,0.2s,SNR=442						
EGUA	**Guajares**	**5.08**	**86**	P	**Pn**	**03 13 14.7**	**+1.1**
	comp=N,8.9nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**03 14 09.9**	**-1.3**
	comp=N,37nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**5.08**	**86**	P	**Pn**	**03 13 14.7**	**+1.1**
	comp=N,8.9nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**03 14 09.9**	**-1.3**
	comp=N,37nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**5.09**	**71**	⇓P	**Pn**	**03 13 14.5**	**+0.8**
	comp=N,29nm,0.1s,SNR=18						
EBAN				S	**Sn**	**03 14 06.5**	**-5.1**
	comp=N,95nm,0.2s,SNR=18						
EBAN	**Banos Encina**	**5.09**	**71**	P	**Pn**	**03 13 14.5**	**+0.8**
	comp=N,29nm,0.1s,SNR=18						
EBAN				S	**Sn**	**03 14 06.5**	**-5.1**
	comp=N,95nm,0.2s,SNR=18						
ECOG	**Cogollos-Vega**	**5.10**	**81**	⇑P	**Pn**	**03 13 15.2**	**+1.3**
	comp=N,11nm,0.2s,SNR=18						
ECOG				S	**Sn**	**03 14 10.8**	**-1.1**
	comp=N,73nm,0.2s,SNR=7.5						
ECOG	**Cogollos-Vega**	**5.10**	**81**	P	**Pn**	**03 13 15.2**	**+1.3**
	comp=N,11nm,0.2s,SNR=18						
ECOG				S	**Sn**	**03 14 10.8**	**-1.1**
	comp=N,73nm,0.2s,SNR=7.5						
KIB	**El Ksiba**	**5.13**	**141**	P	**Pn**	**03 13 15.0**	**+0.6**
KIB				S	**Sn**	**03 14 10.0**	**-2.8**
KIB	**El Ksiba**	**5.13**	**141**	*i* P	**Pn**	**03 13 15.0**	**+0.6**
CIA	**Chichaoua**	**5.13**	**169**	P	**Pn**	**03 13 15.0**	**+0.6**
CIA				S	**Sn**	**03 14 10.0**	**-2.7**
CIA	**Chichaoua**	**5.13**	**169**	*i* P	**Pn**	**03 13 15.0**	**+0.6**
EQUE	**Quentar**	**5.19**	**82**	P	**Pn**	**03 13 17.6**	**+2.4**
	comp=N,6.9nm,0.1s,SNR=15						
EQUE				S	**Sn**	**03 14 12.7**	**-1.6**
	comp=N,143nm,0.4s,SNR=4.8						
EQUE	**Quentar**	**5.19**	**82**	P	**Pn**	**03 13 17.6**	**+2.4**
	comp=N,6.9nm,0.1s,SNR=15						
EQUE				S	**Sn**	**03 14 12.7**	**-1.6**
	comp=N,143nm,0.4s,SNR=4.8						
PAB	**San Pablo**	**5.25**	**55**	⇓P	**Pn**	**03 13 15.9**	**0.0**
	comp=N,423nm,0.2s,SNR=18						
PAB				S	**Sn**	**03 14 11.3**	**-4.2**
	comp=N,439nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**5.25**	**55**	*e*Pn	**Pn**	**03 13 16.1**	**+0.2**
	comp=N,80nm,0.6s						
PAB				*e*S	**Sn**	**03 14 12.5**	**-3.1**
PAB	**San Pablo**	**5.25**	**55**	*e*Pn	**Pn**	**03 13 16.1**	**+0.2**
	comp=N,80nm,0.6s						
PAB				*e*S	**Sn**	**03 14 12.5**	**-3.1**
TOU	**Touzarine**	**5.25**	**107**	P	**Pn**	**03 13 17.0**	**+1.0**
TOU				S	**Sn**	**03 14 12.0**	**-3.6**
TOU	**Touzarine**	**5.25**	**107**	*i* P	**Pn**	**03 13 17.0**	**+1.0**
TOU				*i* S	**Sn**	**03 14 12.0**	**-3.6**
TZC	**Tazercounte**	**5.27**	**147**	P	**Pn**	**03 13 17.0**	**+0.6**
TZC				S	**Sn**	**03 14 12.0**	**-4.4**
TZC	**Tazercounte**	**5.27**	**147**	*i* P	**Pn**	**03 13 17.0**	**+0.6**
PCAB	**Cabril**	**5.28**	**15**	*e*Pn	**Pn**	**03 13 16.3**	**0.0**
PCAB				*e*Sn	**Sn**	**03 14 10.7**	**-5.5**
PCAB				A	A	03 14 16.3	
	comp=N,158nm,0.4s						
PCAB	**Cabril**	**5.28**	**15**	P	**Pn**	**03 13 16.3**	**0.0**
PCAB				S	**Sn**	**03 14 10.7**	**-5.5**
	comp=N,79nm,0.4s						
PCAB	**Cabril**	**5.28**	**15**	P	**Pn**	**03 13 16.3**	**0.0**
ELOB	**Lobios**	**5.42**	**15**	⇓P	**Pn**	**03 13 18.3**	**-0.1**
	comp=N,147nm,0.2s,SNR=18						
ELOB				S	Sn	03 14 13.6	-6.3
	comp=N,246nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**5.42**	**15**	P	**Pn**	**03 13 18.3**	**-0.1**
	comp=N,147nm,0.2s,SNR=18						
PGAV	**Gavieira, Arco**	**5.48**	**13**	*e*Pn	**Pn**	**03 13 19.2**	**+0.1**
PGAV				*e*Sn	**Sn**	**03 14 16.9**	**-4.3**
PGAV				A	A	03 14 19.9	
	comp=N,128nm,0.2s						
PGAV	**Gavieira, Arco**	**5.48**	**13**	*e*Pn	**Pn**	**03 13 19.2**	**+0.1**
GORA	**Gorafe**	**5.54**	**79**	P	**Pn**	**03 13 21.4**	**+1.5**
	comp=N,4.4nm,0.1s,SNR=7.9						
GORA				S	**Sn**	**03 14 20.7**	**-2.0**
	comp=N,127nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**5.54**	**79**	P	**Pn**	**03 13 21.4**	**+1.5**
	comp=N,4.4nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.56**	**76**	P	**Pn**	**03 13 20.7**	**+0.4**
	comp=N,6.5nm,0.1s,SNR=183						
EQES				S	**Sn**	**03 14 19.1**	**-4.2**
	comp=N,140nm,0.2s,SNR=4.8						
EQES	**Quesada**	**5.56**	**76**	P	**Pn**	**03 13 20.7**	**+0.4**
	comp=N,6.5nm,0.1s,SNR=183						
ESDC	**Sonseca Array**	**5.57**	**55**	P	**Pn**	**03 13 21.1**	**+0.8**
	comp=N,540nm,0.1s,baz=241,slow=13,SNR=1609						
ESDC				S	**Sn**	**03 14 19.8**	**-3.6**
	comp=N,140nm,0.3s,baz=242,slow=23,SNR=56						
ESDC	**Sonseca Array**	**5.57**	**55**	Pn	**Pn**	**03 13 20.2**	**-0.1**
	comp=N,90nm,0.3s,baz=241,slow=13,SNR=564						
ESDC				Sn	**Sn**	**03 14 18.4**	**-5.0**
	comp=N,143nm,0.3s,baz=240,slow=24,SNR=48						
ESDC				LR	LR	03 14 49.7	
	comp=N,73nm,19.0s,baz=265,slow=31						
ESDC	**Sonseca Array**	**5.57**	**55**	Pn	**Pn**	**03 13 20.2**	**-0.1**
ESDC				Sn	**Sn**	**03 14 18.4**	**-5.0**
ESDC				S	**Sn**	**03 14 19.8**	**-3.6**
	comp=N,140nm,0.3s,SNR=56						
EBER	**Berja**	**5.62**	**85**	P	**Pn**	**03 13 22.6**	**+1.4**
	comp=N,7.7nm,0.2s,SNR=32						
EBER				S	**Sn**	**03 14 23.8**	**-1.1**
	comp=N,103nm,0.4s,SNR=8.2						
EBER	**Berja**	**5.62**	**85**	P	**Pn**	**03 13 22.6**	**+1.4**
	comp=N,7.7nm,0.2s,SNR=32						
EBER				S	**Sn**	**03 14 23.8**	**-1.1**
	comp=N,103nm,0.4s,SNR=8.2						
OUK	**Oukaimeden**	**5.66**	**162**	P	**Pn**	**03 13 22.0**	**+0.2**
OUK				S	**Sn**	**03 14 22.0**	**-4.0**
PBRG	**Braganca**	**5.72**	**24**	*e*Pn	**Pn**	**03 13 22.6**	**+0.2**
PBRG				*e*Sn	**Sn**	**03 14 22.2**	**-4.9**
PBRG				A	A	03 14 24.5	
	comp=N,110nm,0.5s						
PBRG	**Braganca**	**5.72**	**24**	P	**Pn**	**03 13 22.6**	**+0.2**
PBRG				S	**Sn**	**03 14 22.2**	**-4.9**
	comp=N,55nm,0.5s						
PBRG	**Braganca**	**5.72**	**24**	*e*Pn	**Pn**	**03 13 22.6**	**+0.2**
MDT	**Midelt**	**5.76**	**130**	Pn	**Pn**	**03 13 23.3**	**+0.1**
	comp=N,26nm,0.3s,baz=317,slow=15,SNR=785						
MDT				Sn	**Sn**	**03 14 23.5**	**-4.9**
	comp=N,129nm,0.3s,baz=208,slow=20,SNR=39						
MDT				LR	LR	03 15 51.5	
	comp=N,93nm,19.1s,baz=325,slow=41						
EMEL	**Melilla**	**5.77**	**101**	P	**Pn**	**03 13 23.1**	**+0.1**
	comp=N,28nm,0.1s,SNR=7.9						
EMEL				S	**Sn**	**03 14 23.3**	**-4.9**
	comp=N,241nm,0.2s,SNR=7.9						
EMEL	**Melilla**	**5.77**	**101**	P	**Pn**	**03 13 23.1**	**0.0**
	comp=N,28nm,0.1s,SNR=7.9						
MELI	**Melilla**	**5.79**	**101**	S	**Sn**	**03 14 24.9**	**-3.9**
	comp=N,251nm,0.6s,SNR=7.9						
ECAL	**Calabor**	**5.84**	**24**	⇓P	**Pn**	**03 13 24.0**	**-0.1**
	comp=N,78nm,0.2s,SNR=18						
ECAL				S	**Sn**	**03 14 24.8**	**-5.4**
	comp=N,268

EPON Pontenova 7.01 17 P **Pn 03 13 40.2 +0.1**
comp=N,12nm,0.1s,SNR=18
CART Cartagena 7.16 80 P **Pn 03 13 42.1 0.0**
CART S Sn 03 14 55.6 -6.9
CART Cartagena 7.16 80 P **Pn 03 13 42.1 0.0**
ETOR Torete 7.41 53 ⇓P **Pn 03 13 45.4 -0.3**
comp=N,243nm,0.3s,SNR=18
ETOR S Sn 03 15 02.5 -6.4
comp=N,343nm,0.2s,SNR=13
ETOR Torete 7.41 53 P **Pn 03 13 45.4 -0.3**
comp=N,243nm,0.3s,SNR=18
EARI Arriondas 7.57 27 P **Pn 03 13 48.0 +0.2**
comp=N,26nm,0.2s,SNR=34
EARI S **Sn 03 15 07.5 -5.2**
comp=N,13nm,0.2s,SNR=6.2
EARI Arriondas 7.57 27 P **Pn 03 13 48.0 +0.2**
comp=N,26nm,0.2s,SNR=34
EBEN Beniarda 7.93 72 P **Pn 03 13 53.4 +0.6**
comp=N,3.2nm,0.3s,SNR=16
EBEN S **Sn 03 15 17.7 -3.9**
comp=N,37nm,0.4s,SNR=7.3
EBEN Beniarda 7.93 72 P **Pn 03 13 53.4 +0.6**
comp=N,3.2nm,0.3s,SNR=16
EFAM Famara 8.08 203 P **Pn 03 13 52.8 -2.1**
comp=N,15nm,0.3s,SNR=7.9
EFAM S Sn 03 15 18.8 -6.5
comp=N,46nm,0.3s,SNR=7.9
ELAN Lanestosa 8.25 35 P **Pn 03 13 57.8 +0.8**
comp=N,8.2nm,0.2s,SNR=7.9
ELAN S Sn 03 15 22.0 -7.1
comp=N,27nm,0.4s,SNR=26
ELAN Lanestosa 8.25 35 P **Pn 03 13 57.8 +0.8**
comp=N,8.2nm,0.2s,SNR=7.9
EMOS Mosqueruela 8.27 60 P **Pn 03 13 58.8 +1.3**
comp=N,28nm,0.4s,SNR=30
EMOS S **Sn 03 15 24.7 -5.3**
comp=N,76nm,0.2s,SNR=13
EMOS Mosqueruela 8.27 60 P **Pn 03 13 58.8 +1.3**
comp=N,28nm,0.4s,SNR=30
CFUE Fuerteventura 8.66 204 P **Pn 03 14 00.1 -2.6**
comp=N,13nm,0.2s,SNR=7.9
CFUE S Sn 03 15 32.3 -7.2
comp=N,55nm,0.2s,SNR=7.9
EARA Aranguren 8.86 44 P **Pn 03 14 05.8 +0.3**
comp=N,32nm,0.3s,SNR=7.9
EARA S **Sn 03 15 38.9 -5.5**
comp=N,25nm,0.2s,SNR=7.9
EARA Aranguren 8.86 44 P **Pn 03 14 05.8 +0.3**
comp=N,32nm,0.3s,SNR=7.9
YNAR Nardues-Alduna 8.89 45 P **Pn 03 14 06.9 +0.9**
comp=N,16nm,0.2s,SNR=7.9
YNAR S Sn 03 15 39.4 -5.9
comp=N,35nm,0.2s,SNR=7.9
YNAR Nardues-Alduna 8.89 45 P **Pn 03 14 06.9 +0.9**
comp=N,16nm,0.2s,SNR=7.9
IUNC Unciti 8.90 44 P **Pn 03 14 06.6 +0.6**
comp=N,37nm,0.3s,SNR=7.9
IUNC S **Sn 03 15 40.0 -5.3**
comp=N,30nm,0.2s,SNR=7.9
IUNC Unciti 8.90 44 P **Pn 03 14 06.6 +0.6**
comp=N,37nm,0.3s,SNR=7.9
CFTV Fuerteventura 8.92 205 P Pn 03 14 03.1 -3.3
comp=N,3.9nm,0.2s,SNR=7.2
CFTV S Sn 03 15 37.8 -8.3
comp=N,7.5nm,0.1s,SNR=7.5
IUSE Utxeti 8.99 43 P **Pn 03 14 08.0 +0.6**
comp=N,17nm,0.2s,SNR=7.9
IUSE S Sn 03 15 41.6 -6.2
comp=N,11nm,0.2s,SNR=7.9
IUSE Utxeti 8.99 43 P **Pn 03 14 08.0 +0.6**
comp=N,17nm,0.2s,SNR=7.9
IEPA Eparoz 9.04 45 P **Pn 03 14 08.9 +0.9**
SNR=7.9
IEPA S Sn 03 15 43.2 -5.7
comp=N,63nm,0.4s,SNR=7.9
IEPA Eparoz 9.04 45 P **Pn 03 14 08.9 +0.9**
SNR=7.9
ERTA Horta de San J 9.07 58 P **Pn 03 14 08.9 +0.6**
comp=N,3.7nm,0.2s,SNR=7.9
ERTA S **Sn 03 15 44.1 -5.5**
comp=N,20nm,0.3s,SNR=12
ERTA Horta de San J 9.07 58 P **Pn 03 14 08.9 +0.6**
comp=N,3.7nm,0.2s,SNR=7.9
IELO Elcoad 9.10 44 P **Pn 03 14 09.4 +0.6**
comp=N,28nm,0.2s,SNR=7.9
IELO S Sn 03 15 44.7 -5.6
comp=N,56nm,0.3s,SNR=7.9
IELO Elcoad 9.10 44 P **Pn 03 14 09.4 +0.6**
comp=N,28nm,0.2s,SNR=7.9
EBR Ebro Roquetas 9.12 60 P **Pn 03 14 11.3 +2.3**
comp=N,46nm,0.4s,SNR=4.0
EBR S Sn 03 15 42.5 -8.2
comp=N,81nm,0.6s,SNR=4.0
EBR Ebro Roquetas 9.12 60 P **Pn 03 14 11.3 +2.3**
comp=N,46nm,0.4s,SNR=4.0
ELIZ Elizondo 9.15 42 P **Pn 03 14 09.4 -0.1**
comp=N,86nm,0.3s,SNR=84
ELIZ S Sn 03 15 45.3 -6.2
comp=N,16nm,0.3s,SNR=9.0
ELIZ Elizondo 9.15 42 P **Pn 03 14 09.4 -0.1**
comp=N,86nm,0.3s,SNR=84
EIBI Ibiza 9.20 72 S Sn 03 15 46.3 -6.3
comp=N,16nm,0.4s,SNR=7.9
EALK Alkurruntz 9.20 42 P **Pn 03 14 10.7 +0.6**
comp=N,23nm,0.3s,SNR=7.9
EALK S Sn 03 15 46.0 -6.6
comp=N,45nm,0.3s,SNR=5.8
EALK Alkurruntz 9.20 42 P **Pn 03 14 10.7 +0.6**
comp=N,23nm,0.3s,SNR=7.9
SJPF Ste Jean 9.28 43 *e*Pn **Pn 03 14 11.5 +0.2**
SNR=1.0
SJPF *e*Sn Sn 03 15 48.5 -6.2
comp=N,46nm,0.4s
SJPF Ste Jean 9.28 43 P **Pn 03 14 11.5 +0.2**
SJPF S Sn 03 15 48.5 -6.2
comp=N,23nm,0.4s
SJPF Ste Jean 9.28 43 P **Pn 03 14 11.5 +0.2**
SJPF *e*Sn Sn 03 15 48.5 -6.2
SJPF Ste Jean 9.28 43 *e*Pn **Pn 03 14 11.5 +0.2**
SJPF *e*Sn Sn 03 15 48.5 -6.2
OSSF Osses 9.36 42 *e*P **Pn 03 14 13.0 +0.7**
OSSF Osses 9.36 42 *e*P **Pn 03 14 13.0 +0.7**
LARF Larrau 9.37 44 *e*P **Pn 03 14 13.2 +0.8**
LARF Larrau 9.37 44 *e*P **Pn 03 14 13.2 +0.8**
ORDF Ordiarp 9.51 43 *e*P **Pn 03 14 14.8 +0.5**
ORDF Ordiarp 9.51 43 *e*P **Pn 03 14 14.8 +0.5**
ETSF Etsaut 9.52 46 *e*Pn **Pn 03 14 14.7 +0.1**
SNR=1.0
ETSF *e*Sn Sn 03 15 54.6 -6.1
comp=N,49nm,0.4s
ETSF Etsaut 9.52 46 P **Pn 03 14 14.7 +0.1**
ETSF S Sn 03 15 54.6 -6.1
comp=N,25nm,0.4s
ETSF Etsaut 9.52 46 P **Pn 03 14 14.7 +0.1**
ETSF *e*Sn Sn 03 15 54.6 -6.1
ETSF Etsaut 9.52 46 *e*Pn **Pn 03 14 14.7 +0.1**
ETSF *e*Sn Sn 03 15 54.6 -6.1
ATE Arette 9.56 45 P **Pn 03 14 15.7 +0.7**
comp=N,24nm,0.3s,SNR=7.9
ATE S Sn 03 15 54.5 -7.0
comp=N,47nm,0.4s,SNR=7.9
ATE Arette 9.56 45 *e*P **Pn 03 14 16.0 +1.0**
ATE Arette 9.56 45 P **Pn 03 14 15.7 +0.7**
comp=N,24nm,0.3s,SNR=7.9
REYF Montagne du Re 9.72 46 *e*P **Pn 03 14 17.8 +0.4**
REYF Montagne du Re 9.72 46 *e*P **Pn 03 14 17.8 +0.4**
EBAJ Bajamar 9.73 216 P Pn 03 14 13.2 -4.2
comp=N,4.7nm,0.2s,SNR=8.5
EBAJ S Sn 03 15 55.3 -11
comp=N,7.8nm,0.2s,SNR=7.9
EPOB Poblet 9.75 58 P **Pn 03 14 17.7 0.0**
comp=N,4.1nm,0.2s,SNR=7.9
EPOB S Sn 03 15 59.9 -6.3
comp=N,6.0nm,0.3s,SNR=7.5
EPOB Poblet 9.75 58 P **Pn 03 14 17.7 0.0**
comp=N,4.1nm,0.2s,SNR=7.9
EOSO Osorio 9.78 211 P Pn 03 14 14.3 -3.9
comp=N,1.4nm,0.1s,SNR=7.9
EOSO S Sn 03 15 55.8 -11
comp=N,8.7nm,0.3s,SNR=7.9
VIEF Viey 9.85 48 *e*P **Pn 03 14 19.3 +0.1**
VIEF Viey 9.85 48 *e*P **Pn 03 14 19.3 +0.1**
LABF Labassere 9.98 47 *e*P **Pn 03 14 21.4 +0.5**
LABF Labassere 9.98 47 *e*P **Pn 03 14 21.4 +0.5**
CICO Icod de los Vi 10.07 217 P Pn 03 14 18.8 -3.3
comp=N,0.9nm,0.2s,SNR=7.9
CICO S Sn 03 16 03.6 -11
comp=N,0.8nm,0.2s,SNR=7.9
CRAJ Montana Rajada 10.08 216 P Pn 03 14 18.9 -3.6
comp=N,4.9nm,0.1s,SNR=7.9
CRAJ S Sn 03 16 04.5 -11
comp=N,26nm,0.2s,SNR=5.1
CCAN Las Canadas 10.12 216 P Pn 03 14 18.5 -4.6
comp=N,0.5nm,0.1s,SNR=7.4
CCAN S Sn 03 16 04.4 -12
comp=N,1.8nm,0.1s,SNR=7.9
EPF Esparros 10.13 48 *e*Pn **Pn 03 14 23.2 +0.3**
SNR=1.0
EPF *e*Sn Sn 03 16 09.1 -6.4
comp=N,53nm,0.3s
EPF Esparros 10.13 48 P **Pn 03 14 23.2 +0.3**
EPF S Sn 03 16 09.1 -6.4
comp=N,27nm,0.3s
EPF Esparros 10.13 48 P **Pn 03 14 23.2 +0.3**
EPF *e*Sn Sn 03 16 09.1 -6.4
EPF Esparros 10.13 48 *e*Pn **Pn 03 14 23.2 +0.3**
EPF *e*Sn Sn 03 16 09.1 -6.4
CSOR Sort 10.26 53 P **Pn 03 14 24.7 0.0**
comp=N,4.7nm,0.3s,SNR=35
CSOR S Sn 03 16 12.4 -6.5
comp=N,23nm,0.3s,SNR=7.2
CSOR Sort 10.26 53 P **Pn 03 14 24.7 0.0**
comp=N,4.7nm,0.3s,SNR=35
MELF Melles 10.29 49 *e*P **Pn 03 14 25.9 +0.8**
MELF Melles 10.29 49 *e*P **Pn 03 14 25.9 +0.8**
EMIR Miracle 10.29 56 P **Pn 03 14 25.0 -0.2**
comp=N,7.3nm,0.2s,SNR=27
EMIR S Sn 03 16 13.5 -6.2
comp=N,15nm,0.4s,SNR=6.2
EMIR Miracle 10.29 56 P **Pn 03 14 25.0 -0.2**
comp=N,7.3nm,0.2s,SNR=27
EHIG Higuera 10.46 222 S Sn 03 16 14.5 -9.3
comp=N,32nm,0.2s,SNR=4.0
EGOM La Gomera 10.47 218 P Pn 03 14 22.5 -5.0
comp=N,3.3nm,0.2s,SNR=7.9
EGOM S Sn 03 16 11.5 -12
comp=N,33nm,0.2s,SNR=7.9
CFON Fontmartina 10.84 58 P **Pn 03 14 33.2 +0.5**
comp=N,7.0nm,0.2s,SNR=15
CFON Fontmartina 10.84 58 P **Pn 03 14 33.2 +0.5**
comp=N,7.0nm,0.2s,SNR=15
CLLI Llivia 10.85 54 P **Pn 03 14 33.3 +0.4**
comp=N,2.0nm,0.2s,SNR=49
CLLI S Sn 03 16 26.8 -6.6
comp=N,55nm,0.8s,SNR=17
CLLI Llivia 10.85 54 P **Pn 03 14 33.3 +0.4**
comp=N,2.0nm,0.2s,SNR=49
CARF Carcanieres 11.05 53 *e*P **Pn 03 14 36.3 +0.7**
CARF Carcanieres 11.05 53 *e*P **Pn 03 14 36.3 +0.7**
EJON La Jonquera 11.44 56 P **Pn 03 14 40.3 -0.5**
comp=N,0.3nm,0.2s,SNR=7.9
EJON S Sn 03 16 39.3 -8.3
comp=N,2.0nm,0.3s,SNR=7.9
EJON La Jonquera 11.44 56 P **Pn 03 14 40.3 -0.5**
comp=N,0.3nm,0.2s,SNR=7.9
MTLF Montolieu 11.44 50 *e*Pn **Pn 03 14 40.9 +0.1**
SNR=1.0
MTLF *e*Sn Sn 03 16 39.3 -8.4
comp=N,13nm,0.4s,SNR=1.0
MTLF Montolieu 11.44 50 P **Pn 03 14 40.9 +0.1**
MTLF S Sn 03 16 39.3 -8.4
comp=N,6.4nm,0.4s
MTLF Montolieu 11.44 50 P **Pn 03 14 40.9 +0.1**
MTLF *e*Sn Sn 03 16 39.3 -8.4
MTLF Montolieu 11.44 50 *e*Pn **Pn 03 14 40.9 +0.1**
MTLF *e*Sn Sn 03 16 39.3 -8.4
SJAF Saint Jean de 11.45 55 P **Pn 03 14 40.2 -0.8**
comp=N,20nm,0.3s,SNR=7.9
SJAF S Sn 03 16 40.8 -7.1
comp=N,7.7nm,0.1s,SNR=7.9
SJAF Saint Jean de 11.45 55 P **Pn 03 14 40.2 -0.8**
comp=N,20nm,0.3s,SNR=7.9
LFF La Frestale 11.56 41 *e*Pn **Pn 03 14 41.5 -0.8**
SNR=1.0
LFF *e*Sn Sn 03 16 42.3 -8.1
comp=N,15nm,0.4s,SNR=1.0
LFF La Frestale 11.56 41 P **Pn 03 14 41.5 -0.8**
LFF S Sn 03 16 42.3 -8.1
comp=N,7.7nm,0.4s
LFF La Frestale 11.56 41 P **Pn 03 14 41.5 -0.8**
LFF *e*Sn Sn 03 16 42.3 -8.1
LFF La Frestale 11.56 41 *e*Pn **Pn 03 14 41.5 -0.8**
LFF *e*Sn Sn 03 16 42.3 -8.1
RJF Les Rejaudoux 12.21 41 *e*Pn **Pn 03 14 49.0 -2.3**
SNR=1.0
RJF *e*Sn Sn 03 16 57.3 -9.1
comp=N,9.3nm,0.3s,SNR=1.0
RJF Les Rejaudoux 12.21 41 *e*Pn **Pn 03 14 49.0 -2.3**
SNR=1.0
RJF *e*Sn Sn 03 16 57.3 -9.1
RJF Les Rejaudoux 12.21 41 *e*Pn **Pn 03 14 49.0 -2.3**
RJF *e*Sn Sn 03 16 57.3 -9.1
CAF Calviac 12.27 44 *e*Pn **Pn 03 14 51.2 -0.9**
SNR=1.0
CAF *e*Sn Sn 03 16 57.8 -10
comp=N,13nm,0.4s,SNR=1.0
CAF Calviac 12.27 44 *e*Pn **Pn 03 14 51.2 -0.9**
SNR=1.0
CAF *e*Sn Sn 03 16 57.8 -10
CAF Calviac 12.27 44 *e*Pn **Pn 03 14 51.2 -0.9**
CAF *e*Sn Sn 03 16 57.8 -10
QUIF Quistinic 12.32 22 *e*Pn **Pn 03 14 52.0 -0.8**
SNR=1.0
QUIF Quistinic 12.32 22 *e*Pn **Pn 03 14 52.0 -0.8**
SNR=1.0
QUIF Quistinic 12.32 22 *e*Pn **Pn 03 14 52.0 -0.8**
MFF Saint Martin d 12.33 33 *e*Pn **Pn 03 14 51.5 -1.5**
SNR=1.0
MFF *e*Sn Sn 03 17 01.3 -8.1
comp=N,11nm,0.4s
MFF Saint Martin d 12.33 33 *e*Pn **Pn 03 14 51.5 -1.5**
SNR=1.0
MFF *e*Sn Sn 03 17 01.3 -8.1
MFF Saint Martin d 12.33 33 *e*Pn **Pn 03 14 51.5 -1.5**
MFF *e*Sn Sn 03 17 01.3 -8.1
ROSF Rostrenen 12.67 20 *e*Pn **Pn 03 14 56.6 -1.0**
ROSF *e*Sn Sn 03 17 11.4 -6.2
comp=N,9.9nm,0.5s,SNR=1.0
ROSF Rostrenen 12.67 20 *e*Pn **Pn 03 14 56.6 -1.0**
ROSF *e*Sn Sn 03 17 11.4 -6.2
ROSF Rostrenen 12.67 20 *e*Pn **Pn 03 14 56.6 -1.0**
ROSF *e*Sn Sn 03 17 11.4 -6.2
SGMF Saint Gilles 12.81 23 *e*Pn **Pn 03 14 58.5 -0.9**
SNR=1.0
SGMF Saint Gilles 12.81 23 *e*Pn **Pn 03 14 58.5 -0.9**
SNR=1.0
SGMF Saint Gilles 12.81 23 *e*Pn **Pn 03 14 58.5 -0.9**
LASF Ste Croix 12.84 50 *e*Pn **Pn 03 14 59.2 -0.7**
SNR=1.0
LASF *e*Sn Sn 03 17 13.8 -8.1
comp=N,8.1nm,0.4s,SNR=1.0
LASF Ste Croix 12.84 50 *e*Pn **Pn 03 14 59.2 -0.7**
SNR=1.0
LASF *e*Sn Sn 03 17 13.8 -8.1
LASF Ste Croix 12.84 50 *e*Pn **Pn 03 14 59.2 -0.7**
LASF *e*Sn Sn 03 17 13.8 -8.1
TCF Toulx Ste Croi 13.23 39 *e*Pn **Pn 03 15 03.5 -1.7**
SNR=1.0
TCF *e*Sn Sn 03 17 20.6 -11
comp=N,14nm,0.5s
TCF Toulx Ste Croi 13.23 39 *e*Pn **Pn 03 15 03.5 -1.7**
SNR=1.0
TCF *e*Sn Sn 03 17 20.6 -11
TCF Toulx Ste Croi 13.23 39 *e*Pn **Pn 03 15 03.5 -1.7**
TCF *e*Sn Sn 03 17 20.6 -11
GRR Gorron 13.49 27 *e*Pn **Pn 03 15 07.9 -0.9**
GRR Gorron 13.49 27 *e*Pn **Pn 03 15 07.9 -0.9**
GRR Gorron 13.49 27 *e*Pn **Pn 03 15 07.9 -0.9**
BGF Bois d'Agland 13.73 40 *e*Pn **Pn 03 15 10.7 -1.4**
SNR=1.0
BGF *e*Sn Sn 03 17 33.2 -11
comp=N,26nm,0.5s
BGF Bois d'Agland 13.73 40 *e*Pn **Pn 03 15 10.7 -1.4**
SNR=1.0
BGF *e*Sn Sn 03 17 33.2 -11
BGF Bois d'Agland 13.73 40 *e*Pn **Pn 03 15 10.7 -1.4**
BGF *e*Sn Sn 03 17 33.2 -11
VIVF Saint-Julien-l 13.74 49 *e*Pn **Pn 03 15 11.8 -0.5**
SNR=1.0
VIVF Saint-Julien-l 13.74 49 *e*Pn **Pn 03 15 11.8 -0.5**
SNR=1.0
VIVF Saint-Julien-l 13.74 49 *e*Pn **Pn 03 15 11.8 -0.5**
SMRF Simiane la Rot 13.88 53 *e*Pn **Pn 03 15 13.0 -1.1**
SNR=1.0
SMRF Simiane la Rot 13.88 53 *e*Pn **Pn 03 15 13.0 -1.1**
SNR=1.0
SMRF Simiane la Rot 13.88 53 *e*Pn **Pn 03 15 13.0 -1.1**
SSB Saint Sauveur 13.89 47 *e*Pn **Pn 03 15 14.0 -0.3**
SSB Saint Sauveur 13.89 47 *e*Pn **Pn 03 15 14.0 -0.3**
SSB Saint Sauveur 13.89 47 *e*Pn **Pn 03 15 14.0 -0.3**
LDF La Druitiere 13.94 28 *e*Pn **Pn 03 15 13.3 -1.5**
SNR=1.0
LDF La Druitiere 13.94 28 *e*Pn **Pn 03 15 13.3 -1.5**
SNR=1.0
LDF La Druitiere 13.94 28 *e*Pn **Pn 03 15 13.3 -1.5**
FLN La Foliniere 13.94 27 *e*Pn **Pn 03 15 13.9 -1.0**
baz=208,SNR=1.0
FLN La Foliniere 13.94 27 *e*Pn **Pn 03 15 13.9 -1.0**
SNR=1.0
FLN La Foliniere 13.94 27 *e*Pn **Pn 03 15 13.9 -1.0**
HYF Humbligny 14.12 37 *e*Pn **Pn 03 15 16.7 -0.6**
HYF *e*Sn Sn 03 17 43.9 -9.1
HYF Humbligny 14.12 37 *e*Pn **Pn 03 15 16.7 -0.6**
HYF *e*Sn Sn 03 17 43.9 -9.1
HYF Humbligny 14.12 37 *e*Pn **Pn 03 15 16.7 -0.6**
HYF *e*Sn Sn 03 17 43.9 -9.1
AVF Avril sur Loir 14.15 40 *e*Pn **Pn 03 15 16.5 -1.3**
SNR=1.0
AVF Avril sur Loir 14.15 40 *e*Pn **Pn 03 15 16.5 -1.3**
SNR=1.0
AVF Avril sur Loir 14.15 40 *e*Pn **Pn 03 15 16.5 -1.3**
LMR La Mourre 14.23 57 *e*Pn **Pn 03 15 18.5 -0.3**
LMR La Mourre 14.23 57 *e*Pn **Pn 03 15 18.5 -0.3**
LMR La Mourre 14.23 57 *e*Pn **Pn 03 15 18.5 -0.3**
SMF Signal de Mont 14.31 41 *e*Pn **Pn 03 15 19.0 -1.0**
SNR=1.0
SMF Signal de Mont 14.31 41 *e*Pn **Pn 03 15 19.0 -1.0**
SNR=1.0
SMF Signal de Mont 14.31 41 *e*Pn **Pn 03 15 19.0 -1.0**
FRF La Foret Royal 14.41 56 *e*Pn **Pn 03 15 21.4 +0.1**
FRF La Foret Royal 14.41 56 *e*Pn **Pn 03 15 21.4 +0.1**
FRF La Foret Royal 14.41 56 *e*Pn **Pn 03 15 21.4 +0.1**
SSF Saint Saulge 14.41 39 *e*Pn **Pn 03 15 19.8 -1.5**
SNR=1.0
SSF Saint Saulge 14.41 39 *e*Pn **Pn 03 15 19.8 -1.5**
SNR=1.0
SSF Saint Saulge 14.41 39 *e*Pn **Pn 03 15 19.8 -1.5**
ORIF Oris-en-Rattie 14.52 50 *e*Pn **Pn 03 15 22.1 -0.8**
ORIF Oris-en-Rattie 14.52 50 *e*Pn **Pn 03 15 22.1 -0.8**
ORIF Oris-en-Rattie 14.52 50 *e*Pn **Pn 03 15 22.1 -0.8**
LOR Lormes 14.73 40 *e*Pn **Pn 03 15 24.2 -1.4**
baz=223,SNR=1.0
LOR *e*Sn Sn 03 17 57.2 -11
comp=N,3.5nm,0.4s
LOR Lormes 14.73 40 *e*Pn **Pn 03 15 24.2 -1.4**
SNR=1.0
LOR *e*Sn Sn 03 17 57.2 -11
LOR Lormes 14.73 40 *e*Pn **Pn 03 15 24.2 -1.4**
LOR *e*Sn Sn 03 17 57.2 -11
MBDF Montbardon 14.98 52 *e*Pn **Pn 03 15 28.8 -0.4**
MBDF Montbardon 14.98 52 *e*Pn **Pn 03 15 28.8 -0.4**
MBDF Montbardon 14.98 52 *e*Pn **Pn 03 15 28.8 -0.4**
BNI Bardonecchia 15.08 51 *e*Pn **Pn 03 15 30.1 -0.3**
comp=N,16nm,1.4s
BNI Bardonecchia 15.08 51 *e*Pn **Pn 03 15 30.1 -0.3**
comp=N,16nm,1.4s
LPL La Plagne 15.33 49 *e*Pn **Pn 03 15 34.1 +0.2**
LPL La Plagne 15.33 49 *e*Pn **Pn 03 15 34.1 +0.2**
LPL La Plagne 15.33 49 *e*Pn **Pn 03 15 34.1 +0.2**
LPG La Plagne 15.34 50 *e*Pn **Pn 03 15 34.6 +0.6**
LPG La Plagne 15.34 50 *e*Pn **Pn 03 15 34.6 +0.6**
LPG La Plagne 15.34 50 *e*Pn **Pn 03 15 34.6 +0.6**
CABF La Chapelle 15.53 45 *e*Pn **Pn 03 15 36.6 +0.2**
SNR=1.0
CABF La Chapelle 15.53 45 *e*Pn **Pn 03 15 36.6 +0.2**
SNR=1.0
CABF La Chapelle 15.53 45 *e*Pn **Pn 03 15 36.6 +0.2**
SFTF Sexfontaines 15.94 39 *e*Pn **Pn 03 15 41.6 0.0**
SFTF Sexfontaines 15.94 39 *e*Pn **Pn 03 15 41.6 0.0**
SFTF Sexfontaines 15.94 39 *e*Pn **Pn 03 15 41.6 0.0**
MEZF Maizieres J'vi 16.15 38 *e*Pn **Pn 03 15 44.0 -0.1**
baz=220
MEZF Maizieres J'vi 16.15 38 *e*Pn **Pn 03 15 44.0 -0.1**
MEZF Maizieres J'vi 16.15 38 *e*Pn **Pn 03 15 44.0 -0.1**
DSB Dublin 16.80 7 *e*Pn **Pn 03 15 52.9 +0.5**
DSB Dublin 16.80 7 *e*Pn **Pn 03 15 52.9 +0.5**
BAIF Baives 16.85 33 *e*Pn **Pn 03 15 53.7 +0.7**
SNR=1.0
BAIF Baives 16.85 33 *e*Pn **Pn 03 15 53.7 +0.7**
SNR=1.0
BAIF Baives 16.85 33 *e*Pn **Pn 03 15 53.7 +0.7**
DOU Dourbes 17.05 33 P **Pn 03 15 56.3 +0.8**
comp=Z,13nm,1.6s
DOU Dourbes 17.05 33 P **Pn 03 15 56.3 +0.8**
comp=Z,13nm,1.6s
GIVF Givet 17.15 34 *e*Pn **Pn 03 15 57.7 +0.9**
SNR=1.0
GIVF Givet 17.15 34 *e*Pn **Pn 03 15 57.7 +0.9**
SNR=1.0
GIVF Givet 17.15 34 *e*Pn **Pn 03 15 57.7 +0.9**
CDF Champ du Feu 17.23 42 *e*Pn **P 03 15 59.2 -0.1**
CDF Champ du Feu 17.23 42 *e*Pn **P 03 15 59.2 -0.1**
CDF Champ du Feu 17.23 42 *e*Pn **P 03 15 59.2 -0.1**
WLF Walferdange 17.46 37 P **P 03 16 03.1 +1.3**
WLF Walferdange 17.46 37 *e*Pn **Pn 03 16 01.5 +0.8**
WLF Walferdange 17.46 37 P **P 03 16 03.0 +1.3**
WLF Walferdange 17.46 37 *e*Pn **Pn 03 16 01.4 +0.8**
BCLA Clavier 17.59 34 P **P 03 16 04.0 +0.9**
BCLA Clavier 17.59 34 P **P 03 16 04.0 +0.9**
DAVOX Davos/Dischmat 17.86 49 LR LR 03 22 57.3
comp=Z,71nm,18.3s,baz=258,slow=37
MEM Membach 18.05 34 P **P 03 16 10.4 +2.3**
MEM Membach 18.05 34 P **P 03 16 10.4 +2.3**
TAM Tamanrasset 19.17 132 *e*P **Pn 03 16 22.6 +0.7**
comp=Z,20nm,1.5s
TAM Tamanrasset 19.17 132 *e*P **Pn 03 16 22.6 +0.7**
comp=Z,20nm,1.5s
GERES GERESS Array B 21.09 47 P **P 03 16 43.0 +1.5**
comp=Z,0.3nm,0.5s,baz=206,slow=13,SNR=3.3
VRAC Vranov 23.01 48 LR LR 03 24 40.1
comp=Z,34nm,20.1s,baz=252,slow=33
TORD Torodi Ar. Bea 25.58 153 P **P 03 17 25.7 -0.4**
comp=Z,2.1nm,0.6s,baz=330,slow=11,SNR=36
NOA NORSAR Array B 27.85 22 LR LR 03 30 47.2
comp=Z,24nm,18.4s,baz=215,slow=41
HFS Hagfors 27.96 25 LR LR 03 28 29.2
comp=Z,62nm,19.8s,baz=232,slow=36
MLR Muntele Rosu 28.23 60 LR LR 03 31 15.0
comp=Z,6.9nm,18.4s,baz=278,slow=41
FINES FINESS Array B 33.51 31 P **P 03 18 37.0 +1.0**
comp=Z,0.8nm,0.6s,baz=237,slow=6.6,SNR=4.6
ARCES ARCESS Array B 38.12 19 P **P 03 19 15.5 0.0**
comp=Z,1.8nm,0.7s,baz=230,slow=10,SNR=8.5
ARCES LR LR 03 37 30.5
comp=Z,22nm,18.2s,baz=238,slow=40
SCHQ Schefferville 42.41 314 P **P 03 19 50.7 -0.6**
comp=Z,1.4nm,0.7s,baz=224,slow=12,SNR=4.0
SADO Sadowa 51.70 302 P **P 03 21 04.5 +0.7**
comp=Z,5.6nm,0.8s,baz=100,slow=8.4,SNR=6.3
RES Resolute Bay 53.76 341 P **P 03 21 18.8 +0.2**
comp=Z,0.9nm,0.8s,baz=62,slow=4.9,SNR=4.0
KURBB Kurchatov Arra 61.83 46 P **P 03 22 16.0 +0.4**
comp=Z,1.7nm,0.6s,baz=299,slow=7.5,SNR=15
KURK Kurchatov 61.84 46 P **P 03 22 16.0 +0.3**
KURK Kurchatov 61.84 46 P **P 03 22 16.0 +0.3**
ZALV Zalesovo Beam 63.88 41 P **P 03 22 28.8 -0.4**
comp=Z,0.4nm,0.4s,baz=243,slow=6.3,SNR=3.1
YKA Yellowknife Ar 64.46 330 P **P 03 22 32.8 0.0**
comp=Z,0.6nm,0.7s,baz=65,slow=6.7,SNR=8.4
MKAR Makanchi Array 65.75 49 P **P 03 22 42.1 +0.5**
comp=Z,0.3nm,0.7s,baz=297,slow=3.7,SNR=4.4
PDAR Pinedale Array 72.41 310 P **P 03 23 22.9 -0.3**
comp=Z,0.9nm,0.5s,baz=56,slow=6.1,SNR=8.5
ILAR Eielson Array 73.47 342 P **P 03 23 29.6 +0.8**
comp=Z,0.5nm,0.7s,baz=22,slow=4.7,SNR=14
TXAR Lajitas Array 75.93 296 P **P 03 23 45.3 +1.5**
comp=Z,0.5nm,0.6s,baz=77,slow=5.9,SNR=7.7
SONM Songino Array 78.52 38 P **P 03 23 59.0 +0.9**
comp=Z,0.4nm,0.5s,baz=310,slow=7.6,SNR=4.5
SONM Songino Array 78.52 38 P **P 03 23 59.0 +0.9**
ASAR Alice Springs 146.32 78 PKPbc **PKPbc 03 31 37.9 +0.1**
comp=Z,1.6nm,0.7s,baz=311,slow=2.7,SNR=22

CSEM ***31*** *03:13:57.9, 42°.78N×12°.72E, h8km, MD2.0/9*
ROM 31 03:13:57.9±0.1**, 42°.78N×12°.72E, h8km, Md2.0**/9**, Ml1.8**/6,
Error ellipse: s-maj=0.9km s-min=0.7km az=128.0,
Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESX	**Cesi**	**0.20**	**210**	Pg	Pg	03 14 02.7	+0.7
CESX				Sg	Sg	03 14 06.1	+1.3
	191nm,0.5s						
CESX	**Cesi**	**0.20**	**210**	Pg	Pg	03 14 02.7	+0.7
CESX				Sg	Sg	03 14 06.1	+1.3
	191nm,0.5s						
CESI	**CESI - Serrava**	**0.26**	**32**	Pg	Pg	03 14 03.9	+0.7
CESI				Sg	Sb	03 14 08.4	-1.4
CESI	**CESI - Serrava**	**0.26**	**32**	Pg	Pg	03 14 03.9	+0.7
CESI				Sg	Sb	03 14 08.4	-1.4
NRCA	**Norcia**	**0.30**	**80**	Pg	Pg	03 14 04.5	+0.6
NRCA				Sg	Sb	03 14 10.2	-0.6
NRCA	**Norcia**	**0.30**	**80**	Pg	Pg	03 14 04.5	+0.6
NRCA				Sg	Sb	03 14 10.2	-0.6
LNSS	**Leonessa**	**0.30**	**127**	Pg	Pg	03 14 04.4	+0.4
LNSS				Sg	Sb	03 14 09.6	-1.4
	115nm,0.3s						
LNSS	**Leonessa**	**0.30**	**127**	Pg	Pg	03 14 04.4	+0.4
LNSS				Sg	Sb	03 14 09.6	-1.4
	115nm,0.3s						
FDMO	**Fiordimonte**	**0.37**	**47**	Pg	Pg	03 14 05.8	+0.5
FDMO				Sg	Sb	03 14 11.9	-1.0
	36nm,0.2s						
FDMO	**Fiordimonte**	**0.37**	**47**	Pg	Pg	03 14 05.8	+0.5
FDMO				Sg	Sb	03 14 11.9	-1.0
	36nm,0.2s						
MNS	**Montasola**	**0.40**	**184**	Pg	Pb	03 14 06.9	-0.4
MNS				Sg	Sb	03 14 12.9	-0.8
MNS	**Montasola**	**0.40**	**184**	Pg	Pb	03 14 06.9	-0.4
MNS				Sg	Sb	03 14 12.9	-0.8
MGAB	**Montegabbione**	**0.46**	**286**	Pg	Pb	03 14 07.7	-0.7
MGAB				Sg	Sb	03 14 15.0	-0.5
	48nm,0.4s						
MGAB	**Montegabbione**	**0.46**	**286**	Pg	Pb	03 14 07.7	-0.7
MGAB				Sg	Sb	03 14 15.0	-0.5
	48nm,0.4s						
SMA1	**SAN MARTINO**	**0.48**	**108**	Pg	Pg	03 14 07.9	+0.5
SMA1				Sg	Sb	03 14 15.8	-0.4
	74nm,0.7s						
MURB	**Monte Urbino**	**0.50**	**344**	Pg	Pg	03 14 08.3	+0.6
MURB				Sg	Sb	03 14 16.0	-0.6
	89nm,0.4s						
MURB	**Monte Urbino**	**0.50**	**344**	Pg	Pg	03 14 08.3	+0.6
MURB				Sg	Sb	03 14 16.0	-0.6
	89nm,0.4s						

GUC 31 03:21:14.9±0.7, 34°.83S×72°.70W, h27km±5km, ML3.6, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.04**	**123**	⇑*i*P	Pn	03 21 33.7	0.0
TALC				*i* S1	Sn	03 21 46.8	-0.5
NICH	**Los Niches**	**1.22**	**98**	*e*P1	Pn	03 21 36.3	+0.1
NICH				*i* S	Sb	03 21 52.4	-0.2
LNCH	**Linares**	**1.35**	**139**	*e*P1	Pn	03 21 38.3	+0.3
LNCH				*i* S	Sb	03 21 56.0	-0.5
LNV	**Longovilo**	**1.38**	**51**	⇓*i*P	Pn	03 21 38.4	0.0
LNV				*i* S1	Sb	03 21 56.9	-0.3
CLCH	**Cerro Calan**	**2.29**	**52**	*i* S1	Sn	03 22 20.6	+2.0
CLCH				AML	AML	03 22 31.5	
	comp=N,513nm,0.6s						
PEL	**Peldehue**	**2.37**	**45**	⇓*i*P	Pn	03 21 53.3	+1.2
PEL				*i* S	Sn	03 22 23.1	+2.7
PEL				AML	AML	03 22 32.9	
	comp=E,466nm,0.7s						
FCH	**Farellones**	**2.50**	**54**	AML	AML	03 22 32.7	
	comp=E,199nm,0.3s						

MEX 31 03:27:59.2±0.5, 17°.16N×95°.39W, h120km±5km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.49**	**98**	*i* P	Pn	03 28 15.8	-1.3
CMIG				*i* S	Sn	03 28 28.6	-2.0
VHO	**Vista Hermosa**	**1.29**	**266**	*e*P	Pn	03 28 23.7	-0.8
VHO				*e*S	Sn	03 28 41.9	-1.8
HUIG	**Huatulco**	**1.55**	**207**	*e*P	Pn	03 28 25.8	-1.4
HUIG				*e*S	Sn	03 28 46.9	-1.6
PNIG	**Pinotepa**	**2.73**	**254**	*i* P	Pn	03 28 39.4	-2.6
PNIG				*i* S	Sn	03 29 12.4	-2.6

GUC 31 03:31:19.1±0.6, 35°.17S×72°.07W, h39km±4km, ML3.7, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.42**	**122**	⇓*i*P	Pn	03 31 28.9	+0.4
TALC				*i* S	Sn	03 31 35.9	+0.5
NICH	**Los Niches**	**0.71**	**76**	⇓*i*P	Pn	03 31 32.8	+0.2
NICH				*i* S	Sn	03 31 43.1	+0.8
LNCH	**Linares**	**0.77**	**151**	⇓*i*P	Pn	03 31 33.7	+0.2
LNCH				*i* S	Sn	03 31 44.7	+0.8
CACH	**El Canelo**	**1.60**	**49**	⇑*i*P	Pn	03 31 46.1	+1.0
CACH				*i* S1	Sn	03 32 07.8	+3.1
CHCH	**Chadas Angostu**	**1.70**	**44**	⇑*i*P	Pn	03 31 47.6	+1.3
CHCH				*i* S1	Sn	03 32 09.3	+2.4
RCDM	**Rinconada Maip**	**1.98**	**32**	*e*P	Pn	03 31 51.2	+1.1
PEL	**Peldehue**	**2.33**	**30**	AML	AML	03 32 34.4	
	comp=N,533nm,0.5s						

*IDC **31** 03:41:12.9±0.9, 13°.14N×90°.29W, h0km, mb3.9/12, mb1 4.0/15, mb1mx3.9/35, mbtmp3.9/15, ML2.9/3, MS3.7/7, Ms1 3.7/7, ms1mx3.3/31, Error ellipse: s-maj=27.0km s-min=12.8km az=61.0*

*CASC **31** 03:41:15.1±2.5, 12°.71N×90°.64W, h23km±28km, MD4.3, ML3.7, mb4.4(NEIC)*

*NEIC **31** 03:41:18.4±2.4, 13°.24N×90°.20W, h34km±17km, mb4.4/4, Error ellipse: s-maj=15.5km s-min=6.3km az=46.0*

ISC 31 03:41:16.0±0.7, 13°.00N±0°.07×90°.55W±0°.05, h24km, n41, σ1§71/40, mb4.0/14, MS3.5/6, 6C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.22**	**47**	⇑*i*P	**Pb**	**03 41 40.0**	**+1.3**
RTR	**El Retiro**	**1.25**	**45**	⇑*i*P	**Pb**	**03 41 40.4**	**+1.4**
SNJE	**San Jose**	**1.25**	**47**	⇑*i*P	**Pb**	**03 41 40.4**	**+1.3**
RBDL	**Robledal**	**1.38**	**37**	⇑*i*P	**Pb**	**03 41 42.5**	**+1.2**
BOQS	**Boqueron**	**1.43**	**59**	⇑*i*P	**Pb**	**03 41 43.2**	**+1.0**
SNET	**Serv Nac Est T**	**1.45**	**62**	*i* P	**Pb**	**03 41 43.1**	**+0.8**
SNET				AML	AML	03 41 52.5	
	comp=Z,970nm,0.4s						
SNET				*e*S	**Sb**	**03 42 05.9**	**+5.5**
LFRS	**El Faro**	**1.57**	**67**	⇑*i*P	**Pb**	**03 41 44.5**	**+0.1**
NBG	**Las Nubes**	**1.59**	**7**	*e*P	**Pb**	**03 41 46.4**	**+1.6**
LBRS	**Las Brisas**	**1.64**	**63**	*i* P	**Pb**	**03 41 46.1**	**+0.6**
JAT	**Jato**	**1.68**	**321**	*e*P	**Pb**	**03 41 46.1**	**-0.1**
SNVI	**San Vicente**	**1.77**	**70**	*i* P	**Pb**	**03 41 47.3**	**-0.6**
APG	**El Apazote**	**1.99**	**2**	Pn	**Pn**	**03 41 46.2**	**-2.2**
	comp=Z,38nm,0.3s,baz=89,slow=23,SNR=207						
APG				Lg	Lg	03 42 12.4	
	comp=Z,45nm,0.3s,baz=293,slow=10.0,SNR=9.0						
MRL	**Marmol**	**2.21**	**22**	*e*P	**Pb**	**03 41 55.6**	**+0.2**
MRL				*e*S	Sb	03 42 32.0	+10
VSM	**San Miguel**	**2.25**	**79**	*e*P	**Pb**	**03 41 54.7**	**-1.4**
COPN	**Copaltepe**	**3.95**	**102**	*i* P	**Pn**	**03 42 15.9**	**+0.8**
CMIG	**Matias Romero**	**5.84**	**315**	Pn	**Pn**	**03 42 43.6**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=160,slow=15,SNR=8.3						
CMIG				Sn	Sn	03 43 54.5	+7.2
	comp=Z,0.7nm,0.3s,baz=126,slow=14,SNR=4.0						
JTS	**JuntasAbangare**	**6.11**	**116**	Pn	**Pn**	**03 42 43.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=356,slow=14,SNR=2.2						
JTS				Sn	**Sn**	**03 43 53.6**	**-0.5**
	comp=Z,2.9nm,0.3s,baz=58,slow=23,SNR=4.7						
JCR	**Jicaral**	**6.18**	**120**	*e*P	**Pn**	**03 42 48.4**	**+2.5**
JCR				*e*S	**Sn**	**03 43 52.9**	**-3.0**
BUS	**Buena Vista**	**7.49**	**117**	*e*P	Pn	03 43 08.0	+3.8
BUS				*e*S	**Sn**	**03 44 24.9**	**-3.8**
TEIG	**Tepich**	**7.50**	**17**	Pn	**Pn**	**03 43 02.6**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=150,slow=20,SNR=1.9						
TEIG				LR	LR	03 46 32.1	
	comp=Z,1μm,19.1s,baz=135,slow=44						
TEIG	**Tepich**	**7.50**	**17**	*e*Pn	Pn	03 43 00.8	-3.2
	comp=Z,22nm,0.6s						
TEIG				*e*S	Sb	03 45 06.4	+12

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**19.97**	**100**	*e*P	**P**	**03 45 45.1**	**-1.9**
	comp=Z,3.5nm,0.8s						
TXAR	**Lajitas Array**	**20.31**	**325**	P	Pn	03 45 52.9	+0.3
	comp=Z,3.5nm,0.8s,baz=151,slow=11,SNR=41						
LPIG	**La Paz**	**21.71**	**303**	LR	LR	03 53 23.0	
	comp=Z,116nm,18.7s,baz=165,slow=33						
ATAH	**Atahualpa**	**23.37**	**148**	LR	LR	03 52 52.9	
	comp=Z,97nm,20.2s,baz=345,slow=30						
TKL	**Tuckaleechee C**	**23.37**	**14**	P	**P**	**03 46 22.3**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=175,slow=9.7,SNR=5.7						
TKL				LR	LR	03 56 31.5	
	comp=Z,375nm,18.6s,baz=184,slow=40						
121A	**Cookes Peak, D**	**25.04**	**324**	*e*P	**P**	**03 46 40.7**	**+2.1**
	comp=Z,16nm,1.0s						
WCI	**Wyandotte Cave**	**25.41**	**8**	*e*P	**P**	**03 46 40.7**	**-1.0**
	comp=Z,16nm,0.8s						
ANMO	**Albuquerque**	**26.17**	**329**	P	**P**	**03 46 50.4**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=155,slow=13,SNR=3.6						
ANMO				LR	LR	03 58 28.8	
	comp=Z,59nm,20.1s,baz=68,slow=40						
PDAR	**Pinedale Array**	**33.91**	**335**	P	**P**	**03 47 57.1**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=224,slow=2.5,SNR=2.7						
SAML	**Samuel**	**34.85**	**127**	*e*P	**P**	**03 48 05.0**	**-0.6**
	comp=Z,2.2nm,0.8s						
ULM	**Lac du Bonnet**	**37.40**	**354**	P	**P**	**03 48 25.5**	**-1.4**
	comp=Z,3.0nm,0.7s,baz=166,slow=8.1,SNR=6.8						
SIV	**San Ignacio**	**40.98**	**134**	P	**P**	**03 48 57.6**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=320,slow=8.2,SNR=3.6						
SCHQ	**Schefferville**	**45.68**	**19**	P	**P**	**03 49 32.9**	**-1.9**
	comp=Z,5.1nm,0.8s,baz=216,slow=7.1,SNR=12						
SCHQ				LR	LR	04 09 01.2	
	comp=Z,131nm,19.5s,baz=317,slow=37						
BDFB	**Brasilia**	**50.80**	**123**	LR	LR	04 12 37.2	
	comp=Z,68nm,20.4s,baz=262,slow=37						
YKA	**Yellowknife Ar**	**52.32**	**346**	P	**P**	**03 50 25.0**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=147,slow=7.5,SNR=15						
YKA				PcP	**PcP**	**03 51 36.2**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=148,slow=4.0,SNR=5.1						
INK	**Inuvik**	**61.79**	**343**	P	**P**	**03 51 32.3**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=127,slow=6.5,SNR=7.2						
ILAR	**Eielson Array**	**64.31**	**337**	P	**P**	**03 51 49.5**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=142,slow=5.1,SNR=8.9						
DBIC	**Dimbokro**	**84.34**	**84**	P	**P**	**03 53 47.4**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=191,slow=1.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**89.23**	**77**	P	**P**	**03 54 09.4**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=256,slow=4.4,SNR=3.8						
CMAR	**Chiang Mai Arr**	**147.37**	**343**	PKPbc	**PKPbc**	**04 00 58.5**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=335,slow=5.1,SNR=12						

*ISCJB **31** 03:42:47.9±1.1, 51°.9N±0°.2×175°.32W±0°.08, h55km, mb3.5/6, Error ellipse: s-maj=30.1km s-min=5.4km az=172.2*

*NEIC **31** 03:42:48.4, 51°.80N×175°.40W, h26km, ML3.9(AEIC), After AEIC.*

*IDC **31** 03:42:50.2±3.8, 51°.88N×175°.32W, h64km±33km, mb3.2/6, mb1 3.5/9, mb1mx3.2/56, mbtmp3.6/9, ML3.8/3, Error ellipse: s-maj=47.2km s-min=16.3km az=178.0*

ISC 31 03:42:48.9±1.4, 51°.7N±0°.3×175°.37W±0°.05, h55km, n18, σ1§16/19, mb3.5/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.84**	**284**	*e*Pg	**Pn**	**03 43 03.9**	**-0.7**
ADK				*e*S	**Sn**	**03 43 16.1**	**-0.1**
UNV	**Unalaska Valle**	**5.80**	**65**	*e*Pn	**Pn**	**03 44 14.2**	**+1.9**
UNV				*e*S	**Sn**	**03 45 16.6**	**-0.8**
FX1	**Attu Island--F**	**7.14**	**284**	P	**Pn**	**03 44 30.9**	**+0.4**
	3.5nm,0.3s,baz=162,slow=1.3,SNR=18						
FX1				S	**Sn**	**03 45 52.0**	**+1.8**
	0.6nm,0.3s,baz=60,slow=8.1,SNR=1.8						
FX1	**Attu Island--F**	**7.14**	**284**	*e*Pn	**Pn**	**03 44 32.5**	**+1.9**
FX1				S	**Sn**	**03 45 52.0**	**+1.8**
PETK	**Petropavlovsk-**	**16.47**	**286**	P	**P**	**03 46 37.4**	**-0.5**
	1.2nm,0.3s,baz=124,slow=12,SNR=3.6						
PAX	**Paxson**	**19.49**	**43**	*e*P	**Pn**	**03 47 12.3**	**-0.5**
	0.6nm,0.3s						
ILAR	**Eielson Array**	**19.68**	**37**	P	**P**	**03 47 12.2**	**-0.9**
	0.5nm,0.3s,baz=221,slow=9.2,SNR=48						
INK	**Inuvik**	**25.99**	**34**	P	**P**	**03 48 15.0**	**-1.0**
	0.5nm,0.4s,baz=240,slow=5.7,SNR=6.3						
YKA	**Yellowknife Ar**	**33.46**	**47**	P	**P**	**03 49 20.3**	**-1.8**
	0.1nm,0.4s,baz=277,slow=7.8,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**36.00**	**210**	T	T	04 28 14.3	
	baz=19,slow=76,SNR=42						
H11S2	**WAKE ISLAND Hy**	**36.02**	**210**	T	T	04 28 09.1	
	baz=19,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**36.02**	**210**	T	T	04 28 16.5	
	baz=19,slow=76,SNR=29						
PDAR	**Pinedale Array**	**44.17**	**75**	P	**P**	**03 50 52.6**	**+0.4**
	1.5nm,0.7s,baz=311,slow=4.2,SNR=11						
TXAR	**Lajitas Array**	**56.49**	**84**	P	**P**	**03 52 24.8**	**-0.4**
	0.1nm,0.5s,baz=316,slow=5.0,SNR=3.7						
KURK	**Kurchatov**	**60.34**	**315**	P	**P**	**03 52 51.6**	**0.0**
KURBB	**Kurchatov Arra**	**60.45**	**315**	P	**P**	**03 52 51.6**	**-0.7**
	0.6nm,0.5s,baz=43,slow=6.5,SNR=6.7						
MKAR	**Makanchi Array**	**61.50**	**310**	P	**P**	**03 52 59.4**	**-0.2**
	0.2nm,0.4s,baz=47,slow=6.3,SNR=5.3						
BOSA	**Boshof**	**152.27**	**318**	PKPbc	**PKPbc**	**04 02 38.1**	**-0.1**
	2.3nm,0.8s,baz=45,slow=2.1,SNR=5.2						

DJA 31 03:43:37.8±1.5, 3°N±13°×12°7E±°, h10km, M4.1/7, mb4.2/2, MLv4.1/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.07**	**283**	P	Pg	03 43 57.0	-1.4
SGSI				S	Sg	03 44 11.5	-0.8
TNTI	**Ternate**	**2.77**	**163**	P	Pn	03 44 22.0	-0.2
KMSI	**Cibinong**	**3.85**	**222**	P	Pn	03 44 37.2	+0.1
LBMI	**Labuha**	**4.16**	**167**	P	Pn	03 44 40.7	-0.7
GTOI	**Gorontalo**	**4.52**	**232**	P	Pn	03 44 46.5	+0.2
MRSI	**Marisa**	**5.48**	**238**	P	Pn	03 44 59.6	0.0
	27nm,0.6s,0.1nm						

*NSSC **31** 03:43:31.1±5.6, 40°.29N×40°.07E, h0km±460km, MD2.7, ML3.1*

*DDA **31** 03:43:48.6, 38°.84N×40°.15E, h2km, ML3.5*

*ISK **31** 03:43:49.4, 38°.84N×40°.15E, h5km, ML3.3*

*CSEM **31** 03:43:50.0±0.2, 38°.84N×40°.11E, h2km, ML3.3, Error ellipse: s-maj=5.7km s-min=5.1km az=103.0*

*ISN **31** 03:45:29.8±0.3, 36°.71N×42°.78E, h0km, ML3.1*

ISC 31 03:43:49.7±1.1, 38°.83N±0°.02×40°.15E±0°.02, h7km±11km, n90, σ1§10/96, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bing¶‖**	**0.44**	**68**	*e*PG	**Pg**	**03 43 58.4**	**+0.1**
PTK	**Pertek**	**0.60**	**276**	*e*PG	**Pg**	**03 44 00.0**	**-1.2**
PTK				*e*SG	**Sg**	**03 44 10.0**	**+0.9**
PTK	**Pertek**	**0.60**	**276**	*e*Pg	**Pg**	**03 44 00.0**	**-1.2**
PTK				*e*Sg	**Sg**	**03 44 10.0**	**+0.9**
SVRC	**Sivrice-ELAZID**	**0.80**	**236**	*e*PG	**Pg**	**03 44 05.3**	**+0.2**
SVRC	**Sivrice-ELAZID**	**0.80**	**236**	*e*Pg	**Pg**	**03 44 05.3**	**+0.2**
ERZN	**Erzincan**	**0.83**	**336**	*e*PG	**Pg**	**03 44 05.2**	**-0.4**
DYBB	**Diyarbakir**	**0.88**	**181**	*e*PG	**Pg**	**03 44 06.8**	**+0.3**
DIYA	**Diyarbakir**	**0.91**	**182**	*i* P	**Pg**	**03 44 07.1**	**0.0**
DIYA	**Diyarbakir**	**0.91**	**182**	*i* P	**Pg**	**03 44 07.1**	**0.0**
DIY	**Diyarbakir**	**0.94**	**176**	*e*Pg	**Pg**	**03 44 06.8**	**-0.9**
EUZM	**Uzumlu**	**0.94**	**338**	*i* P	**Pg**	**03 44 06.9**	**-0.9**
EUZM				*i* S	**Sb**	**03 44 20.8**	**-0.5**
EUZM	**Uzumlu**	**0.94**	**338**	*i* P	**Pg**	**03 44 06.9**	**-0.9**
EUZM				*i* S	**Sb**	**03 44 20.8**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.06**	**129**	*e*PG	**Pg**	**03 44 10.2**	**0.0**
VRTB	**Varto-Mus**	**1.07**	**72**	*e*PG	**Pg**	**03 44 10.2**	**0.0**
VRTB	**Varto-Mus**	**1.07**	**72**	*e*Pg	**Pg**	**03 44 10.2**	**0.0**
KOPT	**Kop Dagi**	**1.22**	**13**	*i* P	**Pn**	**03 44 12.4**	**-1.1**
KOPT	**Kop Dagi**	**1.22**	**13**	*i* P	**Pn**	**03 44 12.4**	**-1.1**
BTMT	**Batman**	**1.23**	**121**	*e*PN	**Pn**	**03 44 13.0**	**-0.4**
BTMT	**Batman**	**1.23**	**121**	*e*Pn	**Pn**	**03 44 13.0**	**-0.4**
BEST	**Besiri**	**1.28**	**137**	*i* P	**Pn**	**03 44 13.1**	**-1.0**
BEST				*i* Pg	**Sg**	**03 44 31.4**	**+0.4**
KEMA	**Kemaliye**	**1.36**	**289**	*i* P	**Pn**	**03 44 12.7**	**-2.6**
KEMA	**Kemaliye**	**1.36**	**289**	*i* P	**Pn**	**03 44 12.7**	**-2.6**
ILIC	**ilic-Erzincan**	**1.38**	**297**	*e*PN	**Pg**	**03 44 16.2**	**0.0**
ILIC	**ilic-Erzincan**	**1.38**	**297**	*e*Pn	**Pg**	**03 44 16.2**	**0.0**
MAZI	**Mazidag**	**1.39**	**170**	*e*PN	**Pb**	**03 44 16.1**	**0.0**
MAZI	**Mazidag**	**1.39**	**170**	*e*Pn	**Pb**	**03 44 16.1**	**0.0**
EZM	**Erzurum**	**1.43**	**41**	*e*PN	**Pn**	**03 44 16.5**	**+0.2**
MALT	**Malatya**	**1.45**	**250**	*e*PN	**Pn**	**03 44 16.5**	**+0.1**
MALT	**Malatya**	**1.45**	**250**	*e*Pn	**Pn**	**03 44 16.5**	**+0.1**
KELT	**Kelkit**	**1.49**	**332**	*i* P	**Pn**	**03 44 16.2**	**-0.9**
KELT				*i* S	**Sg**	**03 44 37.8**	**+0.2**
KELT	**Kelkit**	**1.49**	**332**	*i* P	**Pn**	**03 44 16.2**	**-0.9**
KELT				*i* S	**Sg**	**03 44 37.8**	**+0.2**
EKAR	**Karacoban**	**1.55**	**73**	*i* P	**Pb**	**03 44 18.5**	**-0.3**
EKAR	**Karacoban**	**1.55**	**73**	*i* P	**Pb**	**03 44 18.5**	**-0.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.56**	**360**	*e*PN	**Pn**	**03 44 18.2**	**+0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.56**	**360**	*e*Pn	**Pn**	**03 44 18.2**	**+0.1**
MARD	**Mardin**	**1.59**	**162**	*i* P	**Pn**	**03 44 17.9**	**-0.6**
MARD				*i* S	**Sn**	**03 44 39.4**	**+0.1**
URFA	**Urfa**	**1.74**	**218**	*e*PN	**Pb**	**03 44 21.3**	**-0.7**
URFA	**Urfa**	**1.74**	**218**	*e*Pn	**Pb**	**03 44 21.3**	**-0.7**
SUSE	**Susehri**	**2.04**	**313**	*i* P	**Pb**	**03 44 27.7**	**+0.5**
SUSE	**Susehri**	**2.04**	**313**	*i* P	**Pb**	**03 44 27.7**	**+0.5**
EATA	**Eleskirt**	**2.09**	**60**	*i* P	**Pb**	**03 44 28.2**	**+0.1**
EATA	**Eleskirt**	**2.09**	**60**	*i* P	**Pb**	**03 44 28.2**	**+0.1**
TUTA	**Tutak**	**2.15**	**74**	*i* P	**Pn**	**03 44 23.3**	**-2.9**
TUTA	**Tutak**	**2.15**	**74**	*i* P	**Pn**	**03 44 23.3**	**-2.9**
KTUT	**Trabzon**	**2.17**	**352**	*e*PN	**Pn**	**03 44 27.1**	**+0.8**
KTUT	**Trabzon**	**2.17**	**352**	*e*Pn	**Pn**	**03 44 27.1**	**+0.8**
SIRN	**S¨–rnak**	**2.22**	**126**	*i* P	**Pb**	**03 44 30.2**	**-0.1**
SIRN	**S¨–rnak**	**2.22**	**126**	*i* P	**Pb**	**03 44 30.2**	**-0.1**
AGRB	**Hanur-Agry**	**2.33**	**70**	*e*PN	**Pn**	**03 44 29.4**	**+0.8**
AGRB	**Hanur-Agry**	**2.33**	**70**	*e*Pn	**Pn**	**03 44 29.4**	**+0.8**
GEVA	**Gevas**	**2.34**	**102**	*i* P	**Pb**	**03 44 31.7**	**-0.5**
GEVA	**Gevas**	**2.34**	**102**	*i* P	**Pb**	**03 44 31.7**	**-0.5**
ESPY	**Espiye-Giresun**	**2.35**	**333**	*e*PN	**Pn**	**03 44 30.2**	**+1.4**
ESPY	**Espiye-Giresun**	**2.35**	**333**	*e*Pn	**Pn**	**03 44 30.2**	**+1.4**
SFNV	**Sufian**	**2.41**	**181**	*e*P	**Pb**	**03 44 33.4**	**0.0**
	SNR=45						
SFNV	**Sufian**	**2.41**	**181**	*e*P	**Pb**	**03 44 33.4**	**0.0**
VANB	**Van**	**2.54**	**94**	*e*PN	**Pn**	**03 44 32.9**	**+1.4**
VANB	**Van**	**2.54**	**94**	*e*Pn	**Pn**	**03 44 32.9**	**+1.4**
DAGI	**Agillar**	**2.62**	**31**	*i* P	**Pn**	**03 44 32.4**	**-0.2**
SVSK	**Karacayir**	**2.67**	**295**	*e*PN	**Pn**	**03 44 34.5**	**+1.3**
SVSK	**Karacayir**	**2.67**	**295**	*e*Pn	**Pn**	**03 44 34.5**	**+1.3**
RSDY	**Resadiye-TOKAT**	**2.69**	**307**	*e*PN	**Pn**	**03 44 34.9**	**+1.5**
RSDY	**Resadiye-TOKAT**	**2.69**	**307**	*e*Pn	**Pn**	**03 44 34.9**	**+1.5**
BCA	**Borcka**	**2.84**	**23**	*e*PN	**Pn**	**03 44 36.8**	**+1.2**
BCA	**Borcka**	**2.84**	**23**	*e*Pn	**Pn**	**03 44 36.8**	**+1.2**
KMRS	**Kahramanmaras**	**2.88**	**244**	*e*PN	**Pn**	**03 44 37.6**	**+1.4**
KMRS	**Kahramanmaras**	**2.88**	**244**	*e*Pn	**Pn**	**03 44 37.6**	**+1.4**
MNKR	**ALMNKUR**	**2.97**	**194**	*e*P	**Pb**	**03 44 40.6**	**-2.3**
	SNR=45						
MNKR	**ALMNKUR**	**2.97**	**194**	*e*P	**Pb**	**03 44 40.6**	**-2.3**
MZRK	**Al-Mazaregh**	**3.02**	**172**	*e*P	**Pn**	**03 44 39.9**	**+1.9**
	SNR=45						
MZRK	**Al-Mazaregh**	**3.02**	**172**	*e*P	**Pn**	**03 44 39.9**	**+1.9**
SLMH	**Al Salmeh**	**3.15**	**215**	*e*P	**Pn**	**03 44 41.7**	**+1.8**
	SNR=45						
SLMH	**Al Salmeh**	**3.15**	**215**	*e*P	**Pn**	**03 44 41.7**	**+1.8**
TOKA	**Tokat**	**3.21**	**299**	*i* P	**Pb**	**03 44 47.2**	**+0.2**
BNN	**Bunyan**	**3.36**	**272**	*e*PN	**Pn**	**03 44 45.0**	**+2.2**
BNN	**Bunyan**	**3.36**	**272**	*e*Pn	**Pn**	**03 44 45.0**	**+2.2**
JHLN	**Al Jahlan**	**3.44**	**204**	AML	AML	03 46 26.9	
	comp=Z,122nm,0.7s						
BTCH	**Batrach**	**4.05**	**228**	*e*P	**Pn**	**03 44 51.6**	**-0.6**
	SNR=45						
BTCH	**Batrach**	**4.05**	**228**	*e*P	**Pn**	**03 44 51.6**	**-0.6**
BTCH				AML	AML	03 46 09.9	
	com

OKFG Magazine Ridge 4.91 66 P **Pn 03 52 12.8 +0.4**
OKFG S **Sn 03 53 10.1 +2.2**
MSOM Makushin Julie 5.58 64 P **Pn 03 52 22.6 +0.9**
MSOM Makushin Julie 5.58 64 P **Pn 03 52 22.6 +0.9**
MGOD Makushin Gods 5.62 64 P **Pn 03 52 23.3 +1.1**
MGOD S **Sn 03 53 26.3 +0.9**
MREP Makushin Rep't 5.69 65 P **Pn 03 52 23.7 +0.4**
MREP S **Sn 03 53 30.0 +2.7**
MSW Makushin Switc 5.71 63 P **Pn 03 52 23.5 0.0**
UNV Unalaska Valle 5.84 65 P **Pn 03 52 26.6 +1.4**
UNV S **Sn 03 53 33.6 +2.8**
AKRB Akutan Reef Bi 6.17 63 P **Pn 03 52 31.2 +1.3**
AKRB S **Sn 03 53 41.5 +2.5**
ZRO Akutan Zero 6.21 63 P **Pn 03 52 32.0 +1.6**
ZRO S **Sn 03 53 43.9 +3.9**
AKGG Akutan Green G 6.24 62 P **Pn 03 52 31.2 +0.5**
SPIA Saint Paul Isl 6.29 27 P **Pn 03 52 33.5 +2.1**
SMY Shemya 6.53 283 P **Pn 03 52 35.7 +1.1**
SMY Shemya 6.53 283 P **Pn 03 52 35.7 +1.1**
FX1 Attu Island--F 7.11 284 P **Pn 03 52 45.3 +2.7**
FX1 pmax pmax
comp=Z,17nm,0.3s
FX1 MLR MLR
comp=Z,269nm,20.0s
FX1 Attu Island--F 7.11 284 P **Pn 03 52 45.3 +2.7**
comp=Z,17nm,0.3s,baz=78,slow=3.8,SNR=57
FX1 LR LR 03 54 34.1
comp=Z,269nm,20.0s,baz=92,slow=30
FX1 Attu Island--F 7.11 284 *e*Pn **Pn 03 52 43.0 +0.4**
FX1 *e*S Sn 03 54 10.0 +8.1
WESE West Dahl East 7.11 63 P **Pn 03 52 43.4 +0.7**
FALS False Pass 7.88 61 P **Pn 03 52 53.0 -0.1**
SDPT Sand Point 9.63 62 *e*Pn **Pn 03 53 16.9 -0.3**
GAMB Gambell 12.30 8 *e*Pn **Pn 03 53 55.2 +1.8**
GAMB *e*S **Sn 03 56 07.1 -1.8**
TNA Tin City 14.45 13 *e*Pn **Pn 03 54 25.2 +2.5**
KDAK Kodiak Island 14.50 56 *e*P **Pn 03 54 22.8 -0.7**
KDAK Kodiak Island 14.50 56 *e*Pn **Pn 03 54 22.8 -0.7**
RSO Redoubt South 15.35 46 *e*Pn **Pn 03 54 34.9 +0.1**
PET Petropavlovsk 15.87 285 *e*P **P 03 54 43.2 -1.3**
PET *e*S **Sn 03 57 35.5 -0.5**
PET pmax pmax
comp=Z,100nm,13.3s
PET pmax pmax
comp=Z,200nm,7.9s
PET MLR MLR
comp=Z,500nm,19.0s
PETK Petropavlovsk- 16.43 286 P **P 03 54 51.0 +0.3**
comp=Z,1.0nm,0.3s,baz=96,slow=15,SNR=6.9
PPLA Purkeypile 16.74 39 *e*Pn **Pn 03 54 52.6 +0.2**
comp=Z,52nm,0.9s
SEW Seward 16.74 50 *e*Pn **Pn 03 54 51.2 -1.1**
comp=Z,554nm,2.2s
CAST Castle Rocks 17.06 37 *e*Pn **P 03 54 58.7 +1.1**
comp=Z,24nm,0.8s
KTH Kantishna Hill 17.57 38 *e*Pn **P 03 55 03.8 +0.5**
comp=Z,100nm,1.0s
TRF Thorofare Moun 17.77 39 *e*Pn **P 03 55 06.2 +0.7**
comp=Z,78nm,1.3s
SKR Severo-Kuril's 17.83 278 *e*P **Pn 03 55 02.0 -3.8**
SKR *e* 03 58 30.0
IM04 Indian Mountai 18.04 29 *e*Pn **P 03 55 10.3 +1.9**
MCK McKinley 18.43 39 *e*P **P 03 55 12.1 -0.6**
MCK pmax pmax
comp=Z,55nm,1.1s
MCK McKinley 18.43 39 *e*Pn **P 03 55 12.1 -0.6**
comp=Z,55nm,1.1s
BILL Bilibino 18.67 338⇑ *e*P **Pn 03 55 17.4 +1.4**
BILL *e*S **Sn 03 58 39.5 -4.1**
BILL pmax pmax
comp=Z,43nm,1.1s
BILL MLR MLR
comp=Z,3µm,25.0s
BILL Bilibino 18.67 338 *e*Pn **Pn 03 55 17.1 +1.1**
comp=Z,30nm,0.9s
BMRM Bremner River 19.28 49 *e*P **P 03 55 21.4 -0.7**
comp=Z,28nm,0.9s
COLA College 19.40 37⇑ *i*P **Pn 03 55 24.2 -0.5**
COLA pmax pmax
comp=Z,59nm,1.2s
COLA College 19.40 37 *e*P **P 03 55 23.1 -0.2**
comp=Z,33nm,0.8s
PAX Paxson 19.52 43 *e*P **P 03 55 24.9 +0.1**
PAX pmax pmax
comp=Z,17nm,0.8s
PAX Paxson 19.52 43 *e*P **P 03 55 24.9 +0.1**
comp=Z,17nm,0.8s
ILAR Eielson Array 19.71 37 P **P 03 55 25.5 -1.2**
comp=Z,1.6nm,0.3s,baz=229,slow=8.8,SNR=52
ILAR LR LR 04 04 19.1
comp=Z,592nm,18.3s,baz=247,slow=41
COLD Coldfoot 19.94 29 *e*P **P 03 55 30.0 +0.8**
comp=Z,41nm,1.0s
DOT Dot Lake 20.36 42 *e*P **P 03 55 32.5 -1.3**
comp=Z,28nm,0.8s
SEY Seymchan 20.47 316 P Pn 03 55 36.2 -1.1
comp=Z,12nm,0.9s,baz=116,slow=8.7,SNR=20
SEY LR LR 04 03 42.8
comp=Z,1µm,19.6s,baz=136,slow=37
EGAK Eagle 21.95 40 *e*P **P 03 55 49.9 -0.9**
comp=Z,52nm,0.6s
HYT Haines Junctio 22.66 51 *e*P **P 03 55 57.8 -0.9**
INK Inuvik 26.02 34 P **P 03 56 29.7 0.0**
INK pmax pmax
comp=Z,2.0nm,0.3s
INK Inuvik 26.02 34 P **P 03 56 29.7 0.0**
comp=Z,2.4nm,0.3s,baz=234,slow=6.3,SNR=30
INK Inuvik 26.02 34 *e*P **P 03 56 29.1 -0.6**
comp=Z,33nm,0.6s
DLBC Dease Lake 26.43 57 P **P 03 56 33.1 -0.6**
comp=Z,3.1nm,0.7s,baz=199,slow=27,SNR=7.3
YSS Yuzh-Sakhalins 27.38 277⇑ *e*P **P 03 56 43.4 +1.2**
YSS MLR MLR
comp=N,400nm,18.0s
YSS MLR MLR
comp=Z,500nm,18.0s
YSS MLR MLR
comp=E,500nm,17.0s
BBB Bella Bella 28.78 70 P **P 03 56 54.7 +0.1**
comp=E,25nm,1.0s,baz=313,slow=3.5,SNR=3.6
ASAJ Asahikawa 28.81 272 P **P 03 56 56.5 +1.5**
comp=E,9.8nm,0.7s,baz=66,slow=5.6,SNR=8.5
ASAJ LR LR 04 08 46.2
comp=E,169nm,20.1s,baz=356,slow=37
ERM Erimo 29.57 267⇓ *e*P **P 03 57 02.4 +0.7**
YAK Yakutsk 30.81 311 LR LR 04 09 32.0
comp=E,754nm,20.7s,baz=104,slow=36
TIXI Tiksi 31.43 330⇓ *i*P **P 03 57 19.6 +1.8**
TIXI pmax pmax
comp=Z,4.0nm,2.0s
TIXI Tiksi 31.43 330 *e*P **P 03 57 19.5 +1.8**
comp=Z,2.2nm,0.5s
KLR Kul'dur 33.12 287 *e*P P 03 57 29.0 -3.9
KLR *e* 03 57 48.2
YKA Yellowknife Ar 33.49 47 P **P 03 57 35.0 -0.9**
comp=Z,0.4nm,0.3s,baz=22,slow=17,SNR=27
YKA PcP **PcP 04 00 16.3 +0.5**
comp=Z,0.7nm,0.5s,baz=287,slow=3.1,SNR=6.8
A05A Maple Falls 33.52 73 *e*P **P 03 57 37.5 +1.1**
comp=Z,206nm,2.1s
D05A Enumclaw 34.39 76 *e*P **P 03 57 45.8 +1.9**
comp=Z,115nm,1.3s
LON Longmire 34.70 76 *e*P **P 03 57 47.0 +0.3**
LON pmax pmax
comp=Z,53nm,1.8s
LON Longmire 34.70 76 *e*P **P 03 57 47.0 +0.3**
comp=Z,53nm,1.8s
H11N2 WAKE ISLAND Hy 34.77 210 T T 04 34 27.9
baz=18,slow=76,SNR=1134
H11N3 WAKE ISLAND Hy 34.77 210 T T 04 34 28.5
baz=18,slow=76,SNR=909
H11N1 WAKE ISLAND Hy 34.78 210 T T 04 34 35.0
baz=18,slow=76,SNR=901
LTY Liberty 35.15 75 *e*P **P 03 57 52.2 +1.6**
comp=Z,46nm,1.6s
USRK Ussuriysk Ar. 35.34 279 P **P 03 57 52.5 +0.4**
comp=Z,3.5nm,0.6s,baz=47,slow=7.8,SNR=8.5
USRK LR LR 04 11 31.0
comp=Z,392nm,21.1s,baz=46,slow=35
B08A Colville Reser 35.44 73 *e*P **P 03 57 53.5 +0.5**
I04A Tendick Farm, 35.82 81⇓ P **P 03 57 55.9 -0.4**
baz=36
MAT Matsushiro 35.91 264 P P 03 58 00.4 +3.2
MAT S **S 04 03 32.8 +0.7**
MJAR Matsushiro Arr 35.91 264 P **P 03 57 57.4 +0.3**
comp=Z,1.9nm,0.5s,baz=46,slow=7.4,SNR=8.2
MJAR LR LR 04 10 37.7
comp=Z,269nm,21.4s,baz=75,slow=33
H11S1 WAKE ISLAND Hy 35.98 210 T T 04 37 04.0
baz=19,slow=76,SNR=1253
H11S2 WAKE ISLAND Hy 35.99 210 T T 04 36 48.3
baz=19,slow=76,SNR=942
H11S3 WAKE ISLAND Hy 35.99 210 T T 04 36 57.2
baz=19,slow=76,SNR=404
I05D Terrebonne, OR 36.19 80⇓ P **P 03 57 59.5 0.0**
baz=36
HAWA Hanford 36.25 76 *e*P **P 03 58 00.5 +0.5**
comp=Z,21nm,0.8s
D08A Wollman Farm, 36.30 74 *e*P **P 03 58 00.9 +0.5**
comp=Z,15nm,0.8s
C09A Chrisman Ranch 36.33 73 *e*P **P 03 58 01.2 +0.6**
comp=Z,18nm,0.8s
MDJ Mudanjiang 36.59 281 P P 03 58 17.5 +15
NEW Newport 36.80 72 *e*P **P 03 58 04.7 0.0**
NEW pmax pmax
comp=Z,19nm,0.8s
NEW Newport 36.80 72⇑ P **P 03 58 04.6 0.0**
baz=37,SNR=12
NEW Newport 36.80 72 *e*P **P 03 58 04.7 0.0**
comp=Z,19nm,0.8s
E09A Wood Farm, Sta 37.03 75 *e*P **P 03 58 07.0 +0.5**
comp=Z,17nm,1.0s
G08A Pilot Rock 37.15 77 *e*P **P 03 58 08.2 +0.4**
comp=Z,5.9nm,0.8s
I07A Izee 37.45 79 *e*P **P 03 58 11.2 +0.9**
F10A Beach Ranch, E 37.85 75 *e*P **P 03 58 14.6 +1.0**
comp=Z,8.2nm,0.8s
MOD Modoc Plateau 38.15 83 *e*P **P 03 58 17.7 +1.5**
comp=Z,49nm,1.9s
WALA Waterton Lakes 38.31 69 *e*P **P 03 58 18.1 +0.6**
BSMT Bassoo Peak 38.37 71 *e*P **P 03 58 18.2 +0.1**
BMO Blue Mountains 38.38 77 *e*P **P 03 58 18.7 +0.6**
comp=Z,13nm,1.2s
BLMT Blacktail Moun 38.54 71 *e*P **P 03 58 19.1 -0.5**
JTMT Jette 38.72 71 *e*P **P 03 58 20.4 -0.6**
YBMT Yellow Bay 38.82 71 *e*P **P 03 58 20.5 -1.3**
YBMT *e*PcP **PcP 04 00 30.3 -1.9**
WVOR Wild Horse Val 38.88 81 *e*P **P 03 58 20.7 -1.6**
WVOR pmax pmax
comp=Z,14nm,0.8s
WVOR Wild Horse Val 38.88 81 *e*P **P 03 58 20.7 -1.6**
comp=Z,14nm,0.8s
SWMT Swartz Lake 39.00 71 *e*P **P 03 58 23.0 -0.3**
MSO Missoula 39.38 72⇓ P **P 03 58 25.8 -0.7**
baz=39,SNR=15
MSO Missoula 39.38 72 *e*P **P 03 58 25.9 -0.5**
comp=Z,35nm,1.2s
SLMT Seeley Lake 39.44 71 *e*P **P 03 58 25.9 -1.1**
BOD Bodaibo 39.48 307 *e*P **P 03 58 25.3 -1.7**
CN2 Changchun 39.55 283 *e*P **P 03 58 30.0 +2.2**
CHMT Chamberlain Mo 39.74 71 *e*P **P 03 58 28.6 -1.0**
MFID Camas Ranch 40.05 78 *e*P **P 03 58 32.4 +0.3**
comp=Z,29nm,1.6s
HRY Holter Researc 40.69 71 *e*P **P 03 58 37.3 0.0**
LRM Limekiln Ridge 40.78 72 *e*P **P 03 58 37.8 -0.4**
HLID Hailey 40.83 77⇑⇑ P **P 03 58 38.4 -0.2**
baz=41,SNR=14
HLID Hailey 40.83 77 *e*P **P 03 58 38.7 +0.1**
comp=Z,13nm,1.0s
BMN Battle Mountai 40.90 82 *e*P P 03 58 43.1 +4.0
BMN pmax pmax
comp=Z,6.0nm,0.8s
BMN Battle Mountai 40.90 82 *e*P P 03 58 43.1 +4.0
comp=Z,5.7nm,0.8s
MCMT McKenzie Canyo 41.08 74 *e*P **P 03 58 40.4 -0.3**
comp=Z,7.5nm,0.5s
EGMT Eagleton 41.22 68⇓ P **P 03 58 41.2 -0.4**
baz=41
EGMT Eagleton 41.22 68 *e*P **P 03 58 40.7 -1.0**
comp=Z,20nm,0.8s
A19A Klindworth Far 41.35 66⇓ P **P 03 58 42.1 -0.5**
baz=41,SNR=9.9
BOZ Bozeman (W) 41.36 72 *e*P **P 03 58 42.6 -0.3**
BOZ pmax pmax
comp=Z,22nm,1.0s
BOZ Bozeman (W) 41.36 72 *e*P **P 03 58 42.6 -0.3**
comp=Z,22nm,1.0s
B19A Brinkman Farms 41.47 67⇑ P **P 03 58 43.2 -0.5**
baz=41,SNR=8.1
KSRS Korea Array 41.73 273 P **P 03 58 47.9 +2.1**
KSRS pmax pmax
comp=Z,8.0nm,0.8s
KSRS MLR MLR
comp=Z,121nm,20.3s
KSRS Korea Array 41.73 273 P **P 03 58 47.9 +2.1**
comp=Z,7.5nm,0.8s,baz=54,slow=8.0,SNR=20
KSRS LR LR 04 15 43.3
comp=Z,121nm,20.3s,baz=54,slow=35
KSAR Wonju Array Be 41.77 273 P **P 03 58 47.9 +1.8**
KSAR Wonju Array Be 41.77 273 P **P 03 58 47.9 +1.8**
C19A Slack Wire Ran 41.78 68⇓ P **P 03 58 46.3 +0.1**
baz=42,SNR=27
A20A Cobblestone Ra 41.84 66⇑ P **P 03 58 46.3 -0.4**
baz=42,SNR=7.4
QLMT Earthquake Lak 41.92 73 *e*P **P 03 58 46.8 -0.8**
ELK Elko 41.93 81 *e*P **P 03 58 48.4 +0.7**
ELK pmax pmax
comp=Z,8.0nm,0.8s
ELK Elko 41.93 81 *e*P **P 03 58 48.4 +0.7**
comp=Z,8.1nm,0.8s
D19A Cripps Ranch, 42.17 69⇑ P **P 03 58 49.4 -0.1**
baz=42,SNR=9.8
FFC Flin Flon 42.25 56 *e*P **P 03 58 49.1 -0.7**
FFC pmax pmax
comp=Z,131nm,2.7s
FFC Flin Flon 42.25 56 *e*P **P 03 58 49.1 -0.7**
comp=Z,131nm,2.7s
YMR Madison River 42.29 73 *e*P **P 03 58 52.9 +2.3**
comp=Z,30nm,1.0s
TPH Tonopah 42.31 85 *e*P **P 03 58 51.2 +0.4**
TPH pmax pmax
comp=Z,8.0nm,0.9s
TPH Tonopah 42.31 85 *e*P **P 03 58 51.2 +0.4**
comp=Z,8.0nm,0.9s
A21A Bergtoll Ranch 42.35 65⇑ P **P 03 58 50.2 -0.6**
baz=42,SNR=12
C20A Veseth Ranch, 42.39 68⇓ P **P 03 58 50.9 -0.3**
baz=42,SNR=11
YNR Norris Junctio 42.43 73 *e*P **P 03 58 52.4 +0.6**
comp=Z,34nm,1.1s
YFT Old Faithful 42.49 73 *e*P **P 03 58 54.7 +2.5**
comp=Z,15nm,1.0s
B21A Ellsworth Farm 42.59 66⇑ P **P 03 58 51.8 -1.0**
baz=42
E19A Rath Farm, Rou 42.60 70⇓ P **P 03 58 52.6 -0.3**
baz=42,SNR=9.9
D20A Manuel Ranch, 42.65 69⇓ P **P 03 58 52.8 -0.4**
baz=42,SNR=6.5
H17A Grant Village 42.67 73⇑ P **P 03 58 54.6 +0.8**
baz=42,SNR=7.1
H17A Grant Village 42.67 73 *e*P **P 03 58 54.2 +0.4**
comp=Z,28nm,1.0s
JNU Nakatsue 42.70 266 P **P 03 58 56.2 +2.4**
comp=Z,7.5nm,0.7s,baz=17,slow=6.8,SNR=4.5
IMW Indian Meadow 42.73 74 *e*P **P 03 58 55.1 +0.8**
comp=Z,20nm,1.3s
FLWY Flagg Ranch 42.77 74 *e*P **P 03 58 55.4 +0.9**
comp=Z,17nm,1.1s
FXWY Fox Creek 42.83 74 *e*P **P 03 58 55.5 +0.6**
comp=Z,4.1nm,0.9s
HVU Hansel Valley 42.83 78 *e*P **P 03 58 53.8 -1.1**
HVU pmax pmax
comp=Z,12nm,0.8s
HVU Hansel Valley 42.83 78 *e*P **P 03 58 53.8 -1.1**
comp=Z,12nm,0.8s
F19A Roth Farm, Mol 42.84 70⇑ P **P 03 58 54.2 -0.7**
baz=43
C21A Desert Coulee 42.86 67⇓ P **P 03 58 54.5 -0.4**
baz=43,SNR=6.5
A22A Carney Farms, 42.92 65⇓ P **P 03 58 55.1 -0.4**
baz=43,SNR=17
I17A Pilgrim Ck. 42.94 74⇓ P **P 03 58 56.2 +0.4**
baz=43
TPAW Teton Pass 42.96 75 *e*P **P 03 58 57.7 +1.6**
comp=Z,44nm,1.7s
E20A Meyer Farm, Mu 42.96 69⇑ P **P 03 58 55.8 0.0**
baz=43
RLMT Red Lodge 43.05 72 *e*P **P 03 58 56.8 +0.1**
comp=Z,36nm,1.1s
H18A Shoshone NF, C 43.06 72⇓ P **P 03 58 56.7 -0.1**
baz=43
REDW Red Top Meadow 43.09 75 *e*P **P 03 58 57.9 +0.8**
comp=Z,31nm,1.4s
LOHW Long Hollow 43.09 74 *e*P **P 03 58 59.0 +1.9**
comp=Z,5.1nm,0.8s
LOHW *e*pP **pP 03 59 12.5 +3.2**
R11A Troy Canyon, C 43.16 84⇓ P **P 03 58 57.6 -0.1**
baz=43
R11A Troy Canyon, C 43.16 84 *e*P **P 03 58 56.1 -1.5**
comp=Z,6.9nm,0.8s
BGU Big Grassy Mou 43.18 79 *e*P **P 03 58 58.7 +0.9**
comp=Z,3.6nm,0.9s
BGU *e*pP **pP 03 59 14.5 +4.6**
DAC Darwin (Calif) 43.21 87 *e*P **P 03 59 00.0 +1.9**
DAC pmax pmax
comp=Z,13nm,1.4s
DAC Darwin (Calif) 43.21 87 *e*P **P 03 59 00.0 +1.9**
comp=Z,13nm,1.4s
B22A Reddig Ranch S 43.23 66⇓ P **P 03 58 57.7 -0.3**
baz=43
D21A La Casta Ranch 43.32 68⇓ P **P 03 58 58.8 +0.1**
baz=43
F20A Billings 43.33 70⇑ P **P 03 58 58.8 -0.1**
baz=43
H19A Powell 43.47 72⇓ P **P 03 59 00.1 +0.1**
baz=43,SNR=14
A23A Redstone 43.52 64⇑ P **P 03 58 59.9 -0.3**
baz=43,SNR=12
G20A Bridger 43.61 71⇓ P **P 03 59 00.7 -0.5**
baz=43,SNR=15
TPNV Topopah Spring 43.62 86 *e*P P 03 59 05.5 +4.1
TPNV pmax pmax
comp=Z,10.0nm,0.8s
TPNV Topopah Spring 43.62 86⇓ P **P 03 59 00.9 -0.4**
baz=44
TPNV Topopah Spring 43.62 86 *e*P P 03 59 05.5 +4.1
comp=Z,10nm,0.8s
LRMC Laurel Mtn Rad 43.66 88⇓ P **P 03 59 01.4 -0.2**
baz=44
HWUT Hardware Ranch 43.67 77 *e*P **P 03 59 01.5 -0.2**
comp=Z,7.8nm,0.8s
B23A Brockton 43.72 65⇓ P **P 03 59 01.5 -0.4**
baz=44,SNR=31
D22A Cohagen 43.74 67⇑ P **P 03 59 02.1 0.0**
baz=44,SNR=11
DUG Dugway, Tooele 43.75 80 *e*P **P 03 59 02.4 +0.1**
DUG pmax pmax
comp=Z,18nm,0.9s
DUG Dugway, Tooele 43.75 80⇑ P **P 03 59 02.3 -0.1**
baz=44,SNR=7.3
DUG Dugway, Tooele 43.75 80 *e*P **P 03 59 02.4 +0.1**
comp=Z,18nm,0.9s
I19A Meeteetse 43.82 73⇑ P **P 03 59 02.4 -0.5**
baz=44
F21A Absaloka Mine, 43.92 70⇑ P **P 03 59 03.4 -0.2**
baz=44
C23A Lambert 43.96 66⇑ P **P 03 59 03.7 -0.1**
baz=44,SNR=23
A24A Westby 44.03 64⇓ P **P 03 59 03.9 -0.5**
baz=44,SNR=30
TCUT Toone Canyon 44.05 78 *e*P **P 03 59 03.4 -1.5**
comp=Z,14nm,0.7s
H20A Greybull 44.15 72⇓ P **P 03 59 04.8 -0.6**
baz=44
BW06 Boulder Array 44.21 75 *e*P **P 03 59 06.0 -0.1**
comp=Z,17nm,0.7s
PDAR Pinedale Array 44.21 75 P **P 03 59 06.0 -0.1**
comp=Z,20nm,0.7s,baz=306,slow=3.6,SNR=97
PDAR LR LR 04 14 38.1
comp=Z,236nm,21.7s,baz=305,slow=32
FCC Fort Churchill 44.22 48 *e*P **P 03 59 04.3 -1.3**
FCC Fort Churchill 44.22 48 *e*P **P 03 59 04.3 -1.3**
comp=Z,0.1nm,0.7s
J19A Crowheart 44.22 74⇑ P **P 03 59 05.0 -1.1**
baz=44
E22A Miles City 44.26 68⇑ P **P 03 59 05.6 -0.6**
baz=44,SNR=6.8
D23A Lindsay 44.29 67⇓ P **P 03 59 06.3 -0.2**
baz=44,SNR=7.3
GSC Goldstone, Bar 44.33 88 *e*P **P 03 59 05.8 -1.1**
GSC pmax pmax
comp=Z,9.0nm,0.7s
GSC Goldstone, Bar 44.33 88⇓ P **P 03 59 07.4 +0.4**
baz=44
GSC Goldstone, Bar 44.33 88 *e*P **P 03 59 05.8 -1.1**
comp=Z,8.7nm,0.7s
NLU North Lily Min 44.34 79 *e*P **P 03 59 05.4 -1.7**
comp=Z,12nm,1.0s
I20A Worland 44.38 72⇓ P **P 03 59 06.9 -0.4**
baz=44,SNR=6.3
F22A Rosebud 44.45 69⇓ P **P 03 59 07.2 -0.5**
baz=44,SNR=6.5
A25A Svangstu Ranch 44.52 64⇑ P **P 03 59 08.0 -0.2**
baz=44,SNR=25
C24A Savage 44.54 66⇑ P **P 03 59 08.3 -0.1**
baz=44,SNR=7.0
MPU Maple Canyon 44.58 79 *e*P **P 03 59 10.3 +1.3**
comp=Z,7.7nm,0.9s
MPU *e*pP **pP 03 59 16.4 -4.8**
E23A Ismay 44.60 68⇓ P **P 03 59 09.1 +0.1**
baz=44,SNR=7.1
H21A Big Horn, Sher 44.64 71⇑ P **P 03 59 08.8 -0.5**
baz=44
G22A Birney 44.74 70⇓ P **P 03 59 09.9 -0.2**
baz=44
J20A Shoshoni 44.75 73⇑ P **P 03 59 10.5 +0.2**
baz=44
D24A Glendive 44.82 66⇑ P **P 03 59 10.9 +0.2**
baz=45,SNR=18
B25A Knox Farm, Ray 44.85 64⇓ P **P 03 59 10.3 -0.6**
baz=45,SNR=13
I21A Big Trails, Te 44.95 72⇓ P **P 03 59 11.3 -0.7**
baz=45,SNR=11
F23A Volborg 44.98 69⇑ P **P 03 59 11.5 -0.4**
baz=45,SNR=9.8
H22A Clearmont 45.06 71⇑ P **P 03 59 12.3 -0.4**
baz=45
C25A Freed Ranch, W 45.10 65⇓ P **P 03 59 12.4 -0.5**
baz=45,SNR=6.6
J21A Lysite 45.13 73⇑ P **P 03 59 12.5 -0.9**
baz=45,SNR=5.3
E24A Baker 45.14 67⇓ P **P 03 59 13.0 -0.3**
baz=45,SNR=5.5
A26A Wade Farm, Ken 45.14 63⇑ P **P 03 59 12.6 -0.6**
baz=45,SNR=10
MURC Murrieta 45.20 90⇑ P **P 03 59 13.4 -0.5**
baz=45
G23A Biddle 45.28 69⇓ P **P 03 59 14.1 -0.3**
baz=45
B26A Jensen Ranch, 45.31 64⇓ P **P 03 59 14.2 -0.4**
baz=45,SNR=8.6
I22A 9 Mile Ranch, 45.38 71⇓ P **P 03 59 15.7 +0.3**
baz=45,SNR=7.9
F24A Ekalaka 45.46 68⇑ P **P 03 59 15.5 -0.3**
baz=45,SNR=6.0
PFO Pinyon Flats O 45.66 89 LR LR 04 14 31.3
comp=Z,322nm,19.8s,baz=314,slow=31
K21A Alcova 45.66 73⇑ P **P 03 59 17.1 -0.5**
baz=46,SNR=8.2
J22A Midwest 45.67 72⇑ P **P 03 59 17.3 -0.3**
baz=46,SNR=12
E25A Miller Ranch, 45.69 67⇑ P **P 03 59 17.5 -0.2**
baz=46,SNR=8.4
C26A Wahner Farm, P 45.70 64⇓ P **P 03 59 17.1 -0.5**
baz=46,SNR=15
G24A Alzada 45.77 69⇓ P **P 03 59 17.7 -0.6**
baz=46,SNR=6.9
SRU San Rafael Swe 45.81 79 *e*P **P 03 59 17.7 -1.1**
SRU pmax pmax
comp=Z,16nm,0.8s
SRU San Rafael Swe 45.81 79 *e*P **P 03 59 17.7 -1.1**
comp=Z,16nm,0.8s
B27A Peters Farms, 45.84 63⇑ P **P 03 59 18.5 -0.2**
baz=46,SNR=7.9
D26A Manning 45.95 66⇓ P **P 03 59 19.3 -0.3**
baz=46
F25A Bowman 45.98 67⇑ P **P 03 59 19.6 -0.3**
baz=46
H24A Dirks Ranch, A 46.02 69⇓ P **P 03 59 19.8 -0.5**
baz=46
K22A Casper 46.09 73⇓ P **P 03 59 20.3 -0.6**
baz=46
K22A Casper 46.09 73 *e*P **P 03 59 20.1 -0.8**
comp=Z,14nm,0.8s
C27A Sayler Ranch, 46.09 64⇑ P **P 03 59 20.3 -0.4**
baz=46,SNR=8.3
IRM Iron Mountain 46.10 88⇓ P **P 03 59 20.8 -0.2**
baz=46
A28A Rude Farm, Bot 46.12 62⇓ P **P 03 59 20.7 -0.2**
baz=46,SNR=20

N20A Spence Gulch, 46.13 76 ⇑P P 03 59 21.1 -0.3
baz=46
E26A Carlson Angus 46.24 66 ⇑P P 03 59 21.7 -0.3
baz=46,SNR=11
B28A Dugan Ranch, T 46.32 63 ⇑P P 03 59 22.3 -0.2
baz=46,SNR=27
U15A North Rim 46.41 83 ⇓P P 03 59 23.7 0.0
baz=46
D27A Center 46.42 65 ⇑P P 03 59 22.8 -0.5
baz=46,SNR=6.1
G25A Newell 46.43 68 ⇓P P 03 59 23.0 -0.4
baz=46
F26A Lodgepole 46.48 67 ⇑P P 03 59 23.4 -0.4
baz=46,SNR=5.9
I24A Kuemmerle Ranc 46.50 70 ⇑P P 03 59 23.1 -1.0
baz=46
L22A Ellis Ranch, M 46.51 73 ⇓P P 03 59 24.0 -0.3
baz=46
K23A Bowen Ranch, D 46.56 72 ⇑P P 03 59 23.7 -0.9
baz=46
O20A White River Ci 46.57 77 ⇑P P 03 59 24.1 -0.6
baz=46,SNR=9.7
O20A White River Ci 46.57 77 eP P 03 59 24.4 -0.3
comp=Z,28nm,0.8s
H25A Fruitdale 46.65 69 ⇑P P 03 59 24.6 -0.6
baz=46,SNR=6.9
A29A Manning Farm, 46.68 62 ⇓P P 03 59 24.8 -0.4
baz=46,SNR=20
RSSD Black Hills 46.69 70 eP P 03 59 22.2 -3.5
RSSD pmax pmax
comp=Z,8.0nm,0.7s
RSSD Black Hills 46.69 70 eP P 03 59 22.1 -3.5
comp=Z,7.7nm,0.7s
C28A Hausauer Farms 46.71 64 ⇑P P 03 59 24.7 -0.8
baz=46
E27A Carson 46.78 66 ⇓P P 03 59 25.6 -0.5
baz=47,SNR=12
J24A Dixon Ranch, L 46.79 71 ⇓P P 03 59 25.8 -0.5
baz=47
M22A Cedar Creek Ra 46.79 74 ⇓P P 03 59 25.9 -0.7
baz=47
F27A Lemmon 46.84 67 ⇓P P 03 59 25.8 -0.8
baz=47,SNR=9.2
G26A Maurine 46.84 68 ⇓P P 03 59 26.1 -0.5
baz=47,SNR=11
B29A Wagenman Farm, 46.87 62 ⇑P P 03 59 26.0 -0.7
baz=47,SNR=8.8
L23A Garrett 46.90 73 ⇑P P 03 59 26.3 -1.0
baz=47,SNR=12
D28A Regan 46.91 64 ⇑P P 03 59 26.5 -0.6
baz=47,SNR=6.0
I25A Rochford 46.93 70 ⇓P P 03 59 26.8 -0.7
baz=47
K24A Anderson Ranch 47.06 72 ⇑P P 03 59 28.3 -0.2
baz=47
MDND Maddock 47.08 63 ⇓P P 03 59 28.2 -0.2
baz=47,SNR=24
MDND Maddock 47.08 63 eP P 03 59 27.9 -0.5
comp=Z,23nm,0.8s
H26A Fairpoint 47.13 68 ⇑P P 03 59 28.0 -0.9
baz=47
A30A Hoffart Farm, 47.18 61 ⇑P P 03 59 28.2 -0.9
baz=47,SNR=13
G27A Dupree 47.18 67 ⇑P P 03 59 28.4 -0.9
baz=47,SNR=7.9
E28A Huff 47.19 65 ⇓P P 03 59 28.8 -0.5
baz=47
N22A Wattenberg Ran 47.24 75 ⇓P P 03 59 29.8 -0.3
baz=47,SNR=11
J25A Sunshine Ranch 47.26 70 ⇓P P 03 59 28.9 -1.1
baz=47
M23A Laramie 47.27 74 ⇑P P 03 59 29.5 -0.8
baz=47,SNR=6.6
BJI Beijing 47.36 284 P P 03 59 31.8 +1.2
BJI S S 04 06 24.0 +2.8
BJI PMZ
comp=Z,12nm,0.7s
BJI PMZ
comp=Z,180nm,6.2s
BJI LZ
comp=Z,530nm,23.0s
L24A Wheatland 47.40 73 ⇑P P 03 59 30.2 -0.9
baz=47
I26A New Underwood 47.43 69 ⇓P P 03 59 30.9 -0.3
baz=47
B30A Myrvik Farm, E 47.44 62 ⇑P P 03 59 30.6 -0.6
baz=47,SNR=32
N23A Red Feather La 47.49 74 ⇓P P 03 59 31.7 -0.3
baz=47,SNR=5.3
N23A Red Feather La 47.49 74 eP P 03 59 32.3 +0.3
H27A Howes 47.53 68 ⇑P P 03 59 30.7 -1.3
baz=47
D29A Pettibone, Tap 47.53 64 ⇑P P 03 59 31.5 -0.5
baz=47
PHWY Pilot Hill 47.53 74 eP P 03 59 29.8 -2.6
comp=Z,20nm,1.5s
F28A McLaughlin 47.55 66 ⇓P P 03 59 31.5 -0.6
baz=47,SNR=8.7
WUAZ Wupatki 47.56 84 ⇓P P 03 59 32.5 -0.1
baz=47
O22A Kremmling 47.58 76 ⇑P P 03 59 32.1 -0.6
baz=47
Y14A Wickenburg 47.59 87 ⇑P P 03 59 32.8 +0.2
baz=47
K25A Mack Ranch, Ha 47.68 71 ⇓P P 03 59 33.3 0.0
baz=48
ULM Lac du Bonnet 47.75 59 P P 03 59 31.8 -1.7
ULM pmax pmax
comp=Z,3.0nm,0.5s
ULM MLR MLR
comp=Z,154nm,21.1s
ULM Lac du Bonnet 47.75 59 P P 03 59 31.8 -1.7
comp=Z,2.9nm,0.5s,baz=307,slow=8.2,SNR=7.6
ULM LR LR 04 19 44.3
comp=Z,154nm,21.1s,baz=309,slow=36
ULM Lac du Bonnet 47.75 59 eP P 03 59 33.2 -0.3
C30A Mose, Pekin 47.78 63 ⇑P P 03 59 33.0 -0.8
baz=48,SNR=8.1
E29A Napoleon 47.79 65 ⇓P P 03 59 33.5 -0.5
baz=48
P22A Eagle 47.80 76 ⇓P P 03 59 34.0 -0.4
baz=48
M24A Cheyenne 47.81 73 ⇑P P 03 59 34.3 -0.1
baz=48
I27A Quinn 47.88 69 ⇑P P 03 59 34.5 -0.2
baz=48
O23A Lake Granby, G 47.92 75 ⇑P P 03 59 35.2 -0.2
baz=48,SNR=11
SMCO Snowmass 47.93 77 eP P 03 59 27.6 -8.0
comp=Z,27nm,1.2s
D30A Buchanan 47.97 63 ⇓P P 03 59 34.4 -1.0
baz=48,SNR=20
ULN Ulaanbaatar 48.00 298⇑eP P 03 59 37.5 +1.7
F29A Eureka 48.11 65 ⇑P P 03 59 36.5 0.0
baz=48
H28A Mission Ridge 48.11 67 ⇑P P 03 59 36.7 +0.2
baz=48
N24A Carr 48.17 74 ⇑P P 03 59 37.4 +0.3
baz=48
X16A Lo Mia Camp, P 48.24 85 ⇑P P 03 59 37.7 -0.1
baz=48
MVCO Mesa Verde 48.24 80 ⇓P P 03 59 37.4 -0.4
baz=48
MVCO Mesa Verde 48.24 80 eP P 03 59 35.8 -2.1
comp=Z,2.1nm,0.7s
M25A Palm-Egli Farm 48.29 73 ⇓P P 03 59 37.2 -0.8
baz=48,SNR=5.3
ISCO Idaho Springs 48.36 75 eP P 03 59 38.1 -0.7
ISCO pmax pmax
comp=Z,10.0nm,1.2s
ISCO Idaho Springs 48.36 75 ⇓P P 03 59 39.1 +0.3
baz=48
ISCO Idaho Springs 48.36 75 eP P 03 59 38.1 -0.7
comp=Z,10nm,1.2s
SONM Songino Array 48.38 298 P P 03 59 38.7 0.0
comp=Z,0.8nm,0.7s,baz=53,slow=7.5,SNR=4.5
SONM PcP PcP 04 01 05.1 +0.5
comp=Z,2.5nm,0.8s,baz=75,slow=1.8,SNR=5.7
SONM ScP ScP 04 04 54.1 -1.2
comp=Z,1.0nm,0.8s,baz=56,slow=5.6,SNR=3.8
SONM pScP 04 05 11.5
comp=Z,1.8nm,0.8s,baz=44,slow=3.7,SNR=5.0
SONM LR LR 04 20 09.4
comp=Z,349nm,21.2s,baz=40,slow=36
J27A Elkhorn Farm, 48.39 69 ⇑P P 03 59 38.1 -0.6
baz=48
I28A Midland 48.43 68 ⇑P P 03 59 38.6 -0.4
baz=48,SNR=12

G29A Hoven 48.43 66 ⇑P P 03 59 38.5 -0.5
baz=48
O24A Longmont 48.49 75 ⇑P P 03 59 39.7 +0.1
baz=48
P23A Jefferson 48.49 76 ⇓P P 03 59 40.0 +0.1
baz=48
F30A Leola 48.56 65 ⇑P P 03 59 39.3 -0.6
baz=48
K27A Flueckinger Fa 48.59 70 ⇓P P 03 59 40.0 -0.2
baz=48
ZAK Zakamensk 48.59 302 eP P 03 59 38.0 -2.2
ZAK pmax pmax
comp=Z,5.0nm,1.2s
H29A Onida 48.60 67 ⇑P P 03 59 39.8 -0.5
baz=48,SNR=7.6
J28A Allard Ranch, 48.73 69 ⇓P P 03 59 41.0 -0.3
baz=48,SNR=7.3
M26A McRoberts Ranc 48.81 72 ⇓P P 03 59 42.3 +0.2
baz=49
AGMN Agassiz Nation 48.87 61 ⇑P P 03 59 41.6 -0.7
baz=49,SNR=15
AGMN Agassiz Nation 48.87 61 eP P 03 59 41.2 -1.0
comp=Z,37nm,1.2s
G30A Faulkton 48.91 66 ⇓P P 03 59 42.2 -0.5
baz=49,SNR=11
I29A Vivian Onida 48.91 68 ⇑P P 03 59 42.3 -0.4
baz=49,SNR=5.6
S22A 4UR Ranch, Cre 48.92 78 ⇑P P 03 59 43.5 +0.4
baz=49
S22A 4UR Ranch, Cre 48.92 78 eP P 03 59 43.8 +0.7
comp=Z,24nm,1.5s
P24A Kohler Place, 48.97 75 ⇑P P 03 59 43.9 +0.5
baz=49
214A Organ Pipe Nat 49.03 88 ⇑P P 03 59 44.4 +0.7
baz=49
MOY Mondy 49.04 305 eP pP 03 59 56.9 +1.0
O25A Wiggins 49.06 74 ⇓P P 03 59 44.4 +0.3
baz=49
K28A Ten Mile Ranch 49.09 70 ⇓P P 03 59 43.9 -0.2
baz=49
R23A Moffat 49.25 77 ⇑P P 03 59 45.7 0.0
baz=49
J29A Okreek 49.27 68 ⇓P P 03 59 45.3 -0.1
baz=49,SNR=17
P25A Willow Gulch B 49.41 75 ⇓P P 03 59 47.0 +0.3
baz=49,SNR=16
BRSD Miller 49.43 66 ⇑P P 03 59 45.9 -0.7
baz=49
BRSD Miller 49.43 66 eP P 03 59 45.3 -1.3
comp=Z,26nm,0.4s
I30A Oacoma 49.48 67 ⇑P P 03 59 46.6 -0.4
baz=49
HHC Hu-ho-hao-te 49.62 288 eP P 03 59 50.3 +2.1
HHC pP pP 03 59 59.3 -1.2
HHC sP sP 04 00 05.3 -0.3
HHC S S 04 06 53.5 +0.2
HHC sS sS 04 07 09.5 -4.3
HHC SS SS 04 10 19.0 -6.4
HHC PMZ
comp=Z,43nm,0.9s
HHC PMZ
comp=Z,160nm,6.2s
HHC LN
comp=Z,400nm,15.7s
HHC LE
comp=Z,420nm,16.2s
HHC LZ
comp=Z,490nm,16.2s
K29A Lazy Trails An 49.67 69 ⇓P P 03 59 48.6 +0.1
baz=50
SDCO Great Sand Dun 49.73 77 ⇑P P 03 59 49.5 +0.2
baz=50,SNR=8.8
SDCO Great Sand Dun 49.73 77 eP P 03 59 49.8 +0.5
comp=Z,7.7nm,0.8s
Q25A Bedland, Calha 49.74 75 ⇓P P 03 59 49.4 +0.1
baz=50
J30A Dallas 49.80 68 ⇑P P 03 59 49.2 -0.3
baz=50
P26A Davis Ranch, A 49.88 74 ⇑P P 03 59 50.4 +0.2
baz=50,SNR=17
M28A Bar X Bar Ranc 49.90 71 ⇓P P 03 59 50.0 -0.3
baz=50
S24A Houchin Ranch, 49.97 77 ⇓P P 03 59 50.9 -0.2
baz=50
O27A Beecher Island 50.00 73 ⇑P P 03 59 50.7 -0.4
baz=50
V22A San Miguel Ran 50.05 80 ⇑P P 03 59 50.3 -1.4
baz=50
TUC Tucson 50.06 86 eP P 03 59 49.7 -1.9
TUC pmax pmax
comp=Z,4.0nm,0.8s
TUC Tucson 50.06 86 eP P 03 59 49.7 -1.9
comp=Z,4.4nm,0.8s
K30A Basset 50.13 69 ⇓P P 03 59 52.2 +0.2
baz=50,SNR=7.0
Q26A Hugo 50.17 75 ⇑P P 03 59 52.8 +0.3
baz=50
R25A Fountain Ranch 50.21 76 ⇑P P 03 59 52.9 +0.1
baz=50,SNR=5.4
U23A El Rito 50.22 79 ⇓P P 03 59 53.0 0.0
baz=50,SNR=11
T24B San Luis 50.24 78 ⇓P P 03 59 52.9 -0.3
baz=50
M29A Burnside Ranch 50.27 71 ⇓P P 03 59 52.5 -0.6
baz=50
P27A Ficken Ranch, 50.34 74 ⇓P P 03 59 53.3 -0.4
baz=50
S25A Robets Cordova 50.43 77 ⇓P P 03 59 54.3 -0.2
baz=50,SNR=7.3
O28A Krutsinger Ran 50.46 73 ⇑P P 03 59 54.2 -0.3
baz=50,SNR=6.6
L30A Spencer Herefo 50.52 69 ⇓P P 03 59 53.4 -1.5
baz=50
V23A Ortiz Mt. (NFS 50.61 80 ⇑P P 03 59 55.8 -0.1
baz=50
R26A Arlington 50.62 75 ⇓P P 03 59 55.5 -0.2
baz=50,SNR=6.9
KSCO Kaye Shedlock' 50.66 74 ⇓P P 03 59 56.1 0.0
baz=50
KSCO Kaye Shedlock' 50.66 74 eP P 03 59 55.1 -1.0
comp=Z,30nm,1.0s
M30A Dale-Ortello V 50.69 70 ⇓P P 03 59 56.3 +0.1
baz=50
N29A Votaw Ranch, W 50.70 71 ⇓P P 03 59 56.8 +0.4
baz=50
U24A Moreno Valley 50.73 79 ⇑P P 03 59 57.3 +0.4
baz=50
T25A Trinidad 50.78 77 ⇑P P 03 59 57.3 +0.1
baz=51,SNR=14
T25A Trinidad 50.78 77 eP P 03 59 57.8 +0.6
comp=Z,32nm,1.1s
P28A Saint Francis 50.82 73 ⇑P P 03 59 57.3 0.0
baz=51
L31A Butterfield Fa 50.89 69 ⇑P P 03 59 57.6 -0.1
baz=51
ANMO Albuquerque 50.97 81⇑iP P 03 59 58.9 +0.4
ANMO pmax pmax
comp=Z,19nm,1.3s
ANMO Albuquerque 50.97 81 eP P 03 59 59.0 +0.4
comp=Z,16nm,1.7s
R27A Eads 51.02 75 ⇑P P 03 59 58.6 -0.2
baz=51,SNR=12
O29A 4D Ranch, Culb 51.04 72 ⇑P P 03 59 58.9 +0.1
baz=51
S26A Kim 51.04 76 ⇑P P 03 59 58.7 -0.3
baz=51,SNR=11
Q28A Sharon Springs 51.10 74 ⇓P P 03 59 59.0 -0.3
baz=51
V24A Rampart Ranch, 51.18 79 ⇑P P 04 00 00.2 0.0
baz=51
ECSD EROS Data Cent 51.20 66 ⇓P P 03 59 58.9 -1.1
baz=51,SNR=11
ECSD EROS Data Cent 51.20 66 eP P 03 59 58.2 -1.8
comp=Z,24nm,1.3s
T26A Comanche Natio 51.26 77 ⇓P P 04 00 00.0 -0.7
baz=51
U25A Circle Dot Ran 51.27 78 ⇑P P 04 00 00.5 -0.3
baz=51,SNR=11
LPM Los Pinos Moun 51.28 82 eP P 04 00 00.7 -0.2
comp=Z,8.6nm,1.1s
P29A Atwood 51.29 73 ⇓P P 04 00 00.5 -0.3
baz=51,SNR=9.0
EYMN Ely 51.43 59 eP P 04 00 01.3 -0.4
comp=Z,25nm,1.2s
W24A Lazy 6 Ranch, 51.44 80 ⇓P P 04 00 01.7 -0.4
baz=51
V25A Rancho No Teng 51.51 79 ⇓P P 04 00 02.2 -0.4
baz=51,SNR=7.3

R28A Tribune 51.57 74 ⇓P P 04 00 02.6 -0.3
baz=51,SNR=7.0
U26A Atchley Ranch, 51.67 78 ⇑P P 04 00 03.6 -0.2
baz=52,SNR=9.0
Q29A Oakley 51.72 73 ⇑P P 04 00 03.9 -0.1
baz=52
P30A Selden 51.73 72 ⇓P P 04 00 04.0 0.0
baz=52
121A Cookes Peak, D 51.77 84 ⇑P P 04 00 04.5 0.0
baz=52
121A Cookes Peak, D 51.77 84 eP P 04 00 04.6 0.0
comp=Z,5.0nm,0.7s
BGNE Belgrade 51.78 69 ⇓P P 04 00 04.3 0.0
baz=52
BGNE Belgrade 51.78 69 eP P 04 00 03.8 -0.5
comp=Z,42nm,0.9s
T27A Campo 51.86 76 ⇓P P 04 00 05.1 0.0
baz=52
O31A Woolen Ranch, 51.89 71 ⇓P P 04 00 05.2 0.0
baz=52
R29A Marienthal 51.92 74 ⇑P P 04 00 05.3 -0.2
baz=52
S28A Manter 52.01 75 ⇓P P 04 00 06.1 -0.1
baz=52,SNR=6.6
W25A X Bar L Ranch, 52.01 79 ⇓P P 04 00 06.1 -0.2
baz=52,SNR=11
V26A Tequesquite Ra 52.04 78 ⇓P P 04 00 06.0 -0.5
baz=52,SNR=9.9
Q30A Quinter 52.11 73 ⇓P P 04 00 06.9 0.0
baz=52
T28A Walsh 52.19 76 ⇓P P 04 00 07.3 -0.2
baz=52,SNR=5.7
U27A Thompson Grove 52.21 77 ⇓P P 04 00 07.3 -0.5
baz=52,SNR=8.3
P31A Stockton 52.26 72 ⇓P P 04 00 07.6 -0.4
baz=52
SPMN Marine on St. 52.40 62 ⇓P P 04 00 08.3 -0.6
baz=52
O32A Brockman Farm, 52.44 70 ⇓P P 04 00 08.6 -0.6
baz=52
S29A Ulysses 52.46 75 ⇓P P 04 00 09.1 -0.4
baz=52
R30A Dighton 52.53 73 ⇓P P 04 00 09.5 -0.5
baz=52,SNR=9.5
Q31A Ellis 52.59 72 ⇓P P 04 00 10.0 -0.4
baz=52
U28A Mallet 52.61 77 ⇑P P 04 00 10.0 -0.7
baz=52
V27A Dan Oppiter Fa 52.65 78 ⇑P P 04 00 10.6 -0.3
baz=52
P32A Huiting Farm, 52.66 71 ⇓P P 04 00 10.3 -0.6
baz=52
T29A Hugoton 52.66 75 ⇓P P 04 00 10.7 -0.3
baz=52
S30A Montezuma 52.84 74 ⇓P P 04 00 11.9 -0.4
baz=53
R31A Burdett 52.97 73 ⇑P P 04 00 12.6 -0.6
baz=53,SNR=7.6
HVS Khovu-Aksy 53.01 308⇑eP P 04 00 15.4 +2.0
Q32A Meitler Ranch, 53.09 72 ⇓P P 04 00 13.7 -0.4
baz=53
U29A Oasis Ranch, S 53.13 76 ⇓P P 04 00 14.4 -0.2
baz=53
T30A Plains 53.19 75 ⇑P P 04 00 14.7 -0.1
baz=53
R32A Long Quarter, 53.37 72 ⇑P P 04 00 15.8 -0.4
baz=53
S31A Mullinville 53.44 74 ⇓P P 04 00 16.3 -0.4
baz=53
U30A WK&E Inc. Balk 53.46 75 ⇓P P 04 00 16.2 -0.7
baz=53,SNR=10
Q33A Connelly Farm, 53.51 71 ⇓P P 04 00 16.3 -0.8
baz=53,SNR=5.3
T31A Randall Ranch, 53.67 74 ⇓P P 04 00 18.0 -0.4
baz=54
MNTX Cornudas Mount 53.82 83 ⇓P P 04 00 19.4 -0.2
baz=54,SNR=6.0
MNTX Cornudas Mount 53.82 83 eP P 04 00 19.8 +0.2
comp=Z,6.6nm,0.9s
X28A Dimmitt 53.86 78 ⇑P P 04 00 19.5 -0.4
baz=54
MSTX Muleshoe 53.88 79 ⇑P P 04 00 19.6 -0.4
baz=54
MSTX Muleshoe 53.88 79 eP P 04 00 19.4 -0.7
comp=Z,16nm,0.8s
AMTX Amarillo 53.93 78 ⇑P P 04 00 19.7 -0.7
baz=54
V30A Spur Ranch, Mi 53.94 76 ⇑P P 04 00 19.9 -0.5
baz=54
U31A Nine Bar Ranch 54.05 75 ⇓P P 04 00 20.7 -0.5
baz=54
T32A Huddler Ranch, 54.06 74 ⇓P P 04 00 20.8 -0.5
baz=54
GDL2 Guadalupe Moun 54.11 82 eP P 04 00 21.3 -0.5
X29A Tulia 54.21 78 ⇓P P 04 00 22.1 -0.4
baz=54
Y28A McKinney Farm, 54.24 79 ⇑P P 04 00 22.0 -0.7
baz=54
SCIA State Center 54.29 66 eP P 04 00 21.8 -1.0
comp=Z,18nm,0.7s
S33A Kaszmaul Farm, 54.34 73 ⇓P P 04 00 22.6 -0.6
baz=54
W30A Crocket Farms 54.40 77 ⇓P P 04 00 23.5 -0.3
baz=54
V31A Spring Creek L 54.45 75 ⇑P P 04 00 24.2 +0.1
baz=54
U32A Winter Ranch, 54.55 74 ⇓P P 04 00 24.8 0.0
baz=54
Z28A Tucker Farm, M 54.58 79 ⇓P P 04 00 23.5 -1.6
baz=54
Y29A Porterfield Fa 54.63 78 ⇑P P 04 00 24.9 -0.5
baz=54,SNR=7.2
X30A Coker Ranch, T 54.72 77 ⇓P P 04 00 25.5 -0.6
baz=54
WHN Wuhan 54.73 276 P P 04 00 28.0 +1.9
W31A Holland Ranch, 54.78 76 ⇓P P 04 00 25.8 -0.7
baz=55
S34A Willow Spring 54.79 72 ⇓P P 04 00 25.6 -0.9
baz=55
128A Castleberry Fa 54.97 80 ⇑P P 04 00 27.6 -0.4
baz=55,SNR=6.8
Z29A Hungry Hill Ra 55.02 79 ⇓P P 04 00 27.5 -0.7
baz=55
X31A McDonald Ranch 55.13 77 ⇓P P 04 00 28.6 -0.4
baz=55,SNR=7.3
W32A Sentinel 55.24 76 ⇑P P 04 00 29.3 -0.6
baz=55
JFWS Jewell Farm 55.30 63 eP P 04 00 28.4 -1.7
JFWS pmax pmax
comp=Z,25nm,0.8s
JFWS Jewell Farm 55.30 63 eP P 04 00 28.4 -1.7
comp=Z,25nm,0.8s
ZALV Zalesovo Beam 55.34 315 P P 04 00 29.3 -0.9
comp=Z,0.3nm,0.3s,baz=20,slow=6.6,SNR=2.7
ZALV pP pP 04 00 43.0 +0.3
comp=Z,0.7nm,0.4s,baz=53,slow=5.7,SNR=2.6
ZALV PcP PcP 04 01 29.6 -0.6
comp=Z,0.7nm,0.5s,baz=38,slow=2.6,SNR=4.2
ZALV LR LR 04 26 01.8
comp=Z,378nm,18.4s,baz=70,slow=38
Z30A Sanderson Ranc 55.35 79 ⇑P P 04 00 29.9 -0.7
baz=55
U34A Anderson Ranch 55.39 73 ⇓P P 04 00 30.0 -0.8
baz=55
U34A Anderson Ranch 55.39 73 eP P 04 00 30.1 -0.8
comp=Z,10.0nm,0.5s
Y31A Rekieta Farm, 55.42 77 ⇑P P 04 00 30.0 -1.1
baz=55
SSLB Suanglung 55.44 265 eP P 04 00 31.1 -0.2
comp=Z,60nm,1.4s
S36A Lake Cedric, C 55.67 71 ⇑P P 04 00 32.1 -0.8
baz=56
W33A Caddo, Fort Co 55.69 75 ⇑P P 04 00 32.7 -0.3
baz=56
X32A Elmer 55.70 76 ⇑P P 04 00 32.5 -0.5
baz=56,SNR=7.2
WMOK Wichita Mounta 55.79 76 eP P 04 00 32.7 -1.0
WMOK pmax pmax
comp=Z,12nm,0.8s
WMOK Wichita Mounta 55.79 76 eP P 04 00 32.7 -1.0
comp=Z,12nm,0.8s
V34A Guthrie 55.80 74 ⇓P P 04 00 32.3 -1.5
baz=56
Y32A R-V Farms, Ver 55.89 77 ⇓P P 04 00 34.0 -0.4
baz=56,SNR=14
Z31A Sharp Cattle R 55.93 78 ⇑P P 04 00 34.3 -0.4
baz=56
W34A Bridge Creek, 56.05 75 ⇑P P 04 00 35.2 -0.4

baz=56
329A **Wagon Wheel Ra** 56.06 81 ⇓P P 04 00 35.0 -0.8
baz=56
X33A **Lawton** 56.09 76 ⇑P P 04 00 35.3 -0.5
baz=56
LPIG **La Paz** 56.14 93 LR LR 04 19 22.1
comp=Z,117nm,21.4s,baz=331,slow=30
131A **Roby** 56.22 79 ⇑P P 04 00 35.9 -0.9
baz=56
V35A **Meyer Ranch, C** 56.26 73 ⇓P P 04 00 36.1 -0.9
baz=56
230A **Sterling City** 56.32 80 ⇑P P 04 00 37.1 -0.6
baz=56,SNR=5.3
Z32A **Haskell** 56.34 77 ⇓P P 04 00 37.0 -0.7
baz=56,SNR=8.7
Y33A **Hilltop Ranch,** 56.38 76 ⇓P P 04 00 36.5 -1.4
baz=56
X34A **Smith Ranch, M** 56.45 75 ⇑P P 04 00 37.2 -1.3
baz=56
TXAR **Lajitas Array** 56.53 84 P P 04 00 38.4 -0.7
comp=Z,2.0nm,0.7s,baz=301,slow=5.0,SNR=26
TXAR LR LR 04 24 48.1
comp=Z,118nm,18.0s,baz=0.0,slow=36
330A **Mertzon** 56.62 80 ⇓P P 04 00 38.9 -0.8
baz=56
ABTX **Abilene, Hawle** 56.71 78 ⇓P P 04 00 40.1 -0.3
baz=56
ABTX **Abilene, Hawle** 56.71 78 *e*P P 04 00 39.3 -1.1
comp=Z,22nm,1.0s
429A **Davenport Ranc** 56.72 81 ⇑P P 04 00 39.8 -0.7
baz=56
TUL1 **Leonard** 56.78 73 ⇓P P 04 00 39.6 -1.1
baz=57
Z33A **Whitaker Ranch** 56.79 77 ⇓P P 04 00 40.5 -0.4
baz=57,SNR=5.1
529A **Stev Forest Ra** 56.87 82 ⇑P P 04 00 40.9 -0.7
baz=57
Y34A **Reagan Ranch,** 56.94 76 ⇓P P 04 00 41.5 -0.4
baz=57,SNR=10
430A **Baggett Ranch,** 57.01 81 ⇓P P 04 00 41.7 -0.8
baz=57,SNR=8.4
331A **San Angelo** 57.14 80 ⇑P P 04 00 42.5 -0.9
baz=57
133A **Hamilton Ranch** 57.16 78 ⇓P P 04 00 43.1 -0.4
baz=57,SNR=8.7
232A **Coleman** 57.22 79 ⇑P P 04 00 43.3 -0.7
baz=57
Z34A **Collier Ranch,** 57.24 76 ⇓P P 04 00 43.4 -0.6
baz=57
LZH **Lanzhou** 57.31 288 *e*P P 04 00 46.3 +1.6
LZH pP pP 04 00 51.5 -5.7
LZH sP sP 04 00 53.8 -8.5
LZH PMZ
comp=Z,14nm,1.0s
530A **J-C Ranch, Com** 57.39 81 ⇑P P 04 00 44.8 -0.4
baz=57,SNR=13
431A **Sonora** 57.47 80 ⇑P P 04 00 44.7 -1.0
baz=57,SNR=7.8
332A **Millersview** 57.51 79 ⇓P P 04 00 45.0 -1.0
baz=57
233A **Rising Star** 57.58 78 ⇓P P 04 00 45.9 -0.6
baz=57,SNR=6.3
134A **White-Moore Ra** 57.70 77 ⇓P P 04 00 46.9 -0.4
baz=58,SNR=8.8
432A **Menard** 57.83 80 ⇑P P 04 00 47.0 -1.3
baz=58
531A **Rocksprings** 57.87 81 ⇑P P 04 00 48.1 -0.5
baz=58
333A **Richland Sprin** 58.01 79 ⇑P P 04 00 48.8 -0.7
baz=58
234A **Clairette** 58.06 78 ⇑P P 04 00 49.6 -0.2
baz=58,SNR=11
JCT **Junction City** 58.10 80 ⇓P P 04 00 49.6 -0.6
baz=58
135A **Vickery Place,** 58.11 77 ⇑P P 04 00 49.6 -0.6
baz=58
ARCES **ARCESS Array B** 58.14 351 P P 04 00 48.4 -1.5
comp=Z,3.5nm,0.9s,baz=355,slow=6.6,SNR=9.0
ARCES LR LR 04 29 53.6
comp=Z,122nm,18.1s,baz=358,slow=40
532A **Rocksprings** 58.29 80 ⇑P P 04 00 50.4 -1.1
baz=58
433A **Art** 58.35 79 ⇑P P 04 00 50.8 -1.1
baz=58
631A **Perdido Creek** 58.38 82 ⇓P P 04 00 51.0 -1.1
baz=58
SCHQ **Schefferville** 58.45 40 P P 04 00 50.4 -1.8
comp=Z,4.5nm,0.9s,baz=313,slow=5.2,SNR=6.8
SCHQ LR LR 04 27 16.3
comp=Z,315nm,18.5s,baz=331,slow=37
334A **Lometa** 58.46 78 ⇓P P 04 00 52.4 -0.2
baz=58,SNR=14
WHTX **Lake Whitney,** 58.48 77 ⇓P P 04 00 52.2 -0.6
baz=58
SFIN **Lafayette** 58.75 63 ⇑P P 04 00 53.6 -0.9
baz=58,SNR=6.9
632A **Uvalde** 58.80 81 ⇓P P 04 00 54.0 -1.1
baz=59
434A **Burnet** 58.81 79 ⇑P P 04 00 54.4 -0.7
baz=59,SNR=9.8
533A **Kerrville** 58.86 80 ⇑P P 04 00 54.6 -0.9
baz=59
MIAR **Mount Ida** 59.03 72 *e*P P 04 00 55.7 -0.9
MIAR pmax pmax
comp=Z,26nm,0.8s
MIAR **Mount Ida** 59.03 72 *e*P P 04 00 55.6 -0.9
comp=Z,26nm,0.8s
633A **Saathoff Ranch** 59.21 80 ⇓P P 04 00 56.7 -1.2
baz=59
534A **Blanco** 59.23 79 ⇓P P 04 00 57.1 -1.0
baz=59
732A **Laxson Ranch,** 59.24 82 ⇓P P 04 00 57.5 -0.5
baz=59
336A **Riesel** 59.27 77 ⇑P P 04 00 58.1 -0.2
baz=59
OLIL **Olney** 59.32 65 *e*P P 04 00 57.9 -0.5
comp=Z,33nm,0.9s
832A **Faith Ranch, C** 59.55 82 ⇓P P 04 00 59.7 -0.5
baz=59,SNR=7.4
733A **Divot King Ran** 59.66 81 ⇓P P 04 01 00.7 -0.3
baz=60
H06E1 **SOCORRO T-PHAS** 59.71 98 T T 05 05 45.4
SNR=4.7
436A **Wall Ranch, Ga** 59.74 78 ⇓P P 04 01 01.2 -0.3
baz=60
535A **Dale** 59.79 79 ⇑P P 04 01 01.5 -0.3
baz=60
833A **Chaparral WMA,** 59.88 82 ⇓P P 04 01 02.2 -0.3
baz=60
BLO **Bloomington** 59.90 64 *e*P P 04 01 01.9 -0.6
BLO pmax pmax
comp=Z,51nm,1.3s
BLO **Bloomington** 59.90 64 *e*P P 04 01 01.9 -0.6
comp=Z,51nm,1.3s
USIN **University of** 60.09 66 *e*P P 04 01 02.9 -0.9
comp=Z,47nm,0.9s
635A **Leesville** 60.12 80 ⇑P P 04 01 04.2 +0.1
baz=60
KURK **Kurchatov** 60.32 315 *e*P P 04 01 04.5 -0.6
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK **Kurchatov** 60.32 315 *e*P P 04 01 04.5 -0.6
comp=Z,3.6nm,0.6s
933A **Laredo** 60.46 82 ⇓P P 04 01 06.2 -0.2
baz=60
834A **Tilden** 60.54 81 ⇑P P 04 01 06.7 -0.2
baz=60
WCI **Wyandotte Cave** 60.69 65 *e*P P 04 01 06.6 -1.3
WCI pmax pmax
comp=Z,20nm,0.9s
WCI **Wyandotte Cave** 60.69 65 *e*P P 04 01 06.6 -1.3
comp=Z,20nm,0.9s
HKT **Hockley** 60.90 78 *e*P P 04 01 09.6 +0.3
HKT **Hockley** 60.90 78 *e*P P 04 01 09.6 +0.3
WMQ **Urumqi** 60.93 305 *e*P P 04 01 13.8 +4.3
WMQ PcP PcP 04 01 56.0 +3.4
WMQ S S 04 09 28.0 +3.8
WMQ PMZ
comp=Z,6.0nm,1.0s
WMQ PMZ
comp=Z,53nm,3.8s
WMQ LN
comp=Z,340nm,22.0s
WMQ LE
comp=Z,180nm,20.0s
WMQ LZ
comp=Z,320nm,23.0s
934A **Benavides** 60.94 81 ⇑P P 04 01 09.9 +0.3
baz=61
CD2 **Chengdu** 60.96 284 *e*P P 04 01 11.0 +1.1
CD2 sP sP 04 01 26.8 -0.8
CD2 S S 04 09 22.0 -2.9
CD2 SS SS 04 13 21.5 -2.8
CD2 PMZ
comp=Z,30nm,0.7s
CD2 PMZ
comp=Z,90nm,4.2s
CD2 LE
comp=Z,480nm,15.5s
CD2 LZ
comp=Z,370nm,23.8s
340A **Bronson** 61.04 75 ⇓P P 04 01 10.8 +0.5
baz=61
ACSO **Alum Creek Sta** 61.12 61 *e*P P 04 01 10.3 -0.4
comp=Z,51nm,1.4s
WVT **Waverly** 61.28 67 *e*P P 04 01 11.4 -0.5
WVT pmax pmax
comp=Z,9.0nm,0.8s
WVT **Waverly** 61.28 67 *e*P P 04 01 11.4 -0.5
comp=Z,8.7nm,0.8s
MKAR **Makanchi Array** 61.48 310 P P 04 01 12.3 -0.9
comp=Z,0.9nm,0.4s,baz=49,slow=4.9,SNR=18
OXF **Oxford** 61.51 70 *e*P P 04 01 12.0 -1.5
OXF pmax pmax
comp=Z,45nm,0.9s
OXF **Oxford** 61.51 70 *e*P P 04 01 12.0 -1.5
comp=Z,45nm,0.9s
ALLY **Alegheny Colle** 61.64 58 *e*P P 04 01 14.1 -0.2
comp=Z,121nm,1.0s
035A **Encino** 61.67 82 ⇑P P 04 01 14.9 +0.3
baz=62
MMNY **Mt. Morris Dam** 62.03 56 *e*P P 04 01 16.9 0.0
comp=Z,150nm,1.4s
GYA **Guiyang** 62.38 278 *e*P P 04 01 21.0 +1.5
GYA pP pP 04 01 32.3 +0.1
GYA PP PP 04 03 40.5 +3.6
GYA ScP ScP 04 05 58.5 +1.6
GYA S S 04 09 42.0 -1.1
GYA sS sS 04 10 02.8 -1.3
GYA SS SS 04 13 48.5 +1.8
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,90nm,5.4s
GYA LN
comp=Z,480nm,20.4s
GYA LE
comp=Z,460nm,21.0s
GYA LZ
comp=Z,430nm,20.8s
BINY **Binghamton** 63.40 55 *e*P P 04 01 25.7 -0.3
comp=Z,45nm,1.0s
TZTN **Tazewell** 63.42 64 *e*P P 04 01 26.1 -0.1
comp=Z,20nm,0.8s
SSPA **Standing Stone** 63.55 57 *e*P P 04 01 26.5 -0.5
comp=Z,399nm,2.8s
TKL **Tuckaleechee C** 63.93 65 *e*P P 04 01 29.0 -0.6
TKL **Tuckaleechee C** 63.93 65 *e*P P 04 01 29.0 -0.6
HNR **Honiara** 64.46 207 LR LR 04 24 44.2
comp=Z,151nm,20.0s,baz=346,slow=31
BLA **Blacksburg** 64.67 62 *e*P P 04 01 33.5 -1.0
BLA pmax pmax
comp=Z,43nm,1.0s
BLA **Blacksburg** 64.67 62 *e*P P 04 01 33.5 -1.0
comp=Z,43nm,1.0s
JAY **Jayapura** 65.52 230 LR LR 04 24 50.2
comp=Z,112nm,21.9s,slow=31
KMSC **Kings Mountain** 65.67 64 ⇓P P 04 01 40.7 -0.3
baz=65,SNR=5.5
GOGA **Godfrey** 65.73 66 *e*P P 04 01 39.6 -1.7
GOGA **Godfrey** 65.73 66 *e*P P 04 01 39.6 -1.7
comp=Z,295nm,3.0s
KMI **Kunming** 65.76 280 P P 04 01 42.0 +0.1
KMI PMZ
comp=Z,22nm,0.7s
FINES **FINESS Array B** 65.93 349 *i*P P 04 01 43.5 +1.4
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES **FINESS Array B** 65.93 349 P P 04 01 41.9 -0.2
comp=Z,0.9nm,0.4s,baz=0.4,slow=5.7,SNR=6.1
JSC **Jenkinsville** 66.34 64 *e*P P 04 01 45.7 +0.5
JSC **Jenkinsville** 66.34 64 *e*P P 04 01 45.7 +0.5
NB2 **NORSAR Subarra** 67.51 357 PKP P 04 01 51.3 -1.0
comp=Z,2.3nm,0.9s,baz=14,slow=2.5
NOA **NORSAR Array B** 67.51 357 P P 04 01 51.9 -0.4
comp=Z,2.7nm,1.0s,baz=6.2,slow=6.7,SNR=5.3
SLVN **Son La** 67.84 277 *e*P P 04 01 56.0 +1.0
comp=Z,6.0nm,0.6s
HFS **Hagfors** 68.31 355 LR LR 04 31 18.1
comp=Z,142nm,20.6s,baz=351,slow=35
AKTO **Aktyubinsk** 68.63 327 P P 04 01 59.6 +0.2
AKTO pmax pmax
comp=Z,6.0nm,1.0s
AKTO **Aktyubinsk** 68.63 327 P P 04 01 58.9 -0.6
comp=Z,3.1nm,0.7s,baz=46,slow=6.4,SNR=12
AB31 **Akbulak array** 68.95 325 *e*P P 04 02 02.1 +0.7
ABKAR **Akbulak array** 68.95 325 *e*P P 04 02 01.9 +0.5
KKAR **Karatay Array** 69.71 315 *e*P P 04 02 05.4 -0.9
KKAR **Karatay Array** 69.71 315 *e*P P 04 02 05.4 -0.9
KSH **Kashi** 69.99 309 *e*P P 04 02 13.8 +5.6
KSH pP pP 04 02 24.0 +3.0
KSH PP PP 04 04 52.0 +9.2
KSH S S 04 11 21.3 +6.1
KSH sS sS 04 11 38.3 +1.7
KSH ScS ScS 04 12 08.3 +1.5
KSH SS SS 04 15 53.5 +9.4
KSH PMZ
comp=Z,3.0nm,0.6s
KSH PMZ
comp=Z,82nm,4.4s
KSH LN
comp=Z,110nm,5.7s
KSH LE
comp=Z,72nm,6.8s
KSH LZ
comp=Z,170nm,7.2s
OBN **Obninsk** 70.31 341 LR LR 04 36 05.4
comp=Z,181nm,21.8s,baz=72,slow=38
PMOR **Pomariorio Ree** 70.59 152 *e*T T 05 19 23.9
comp=Z,20nm,0.2s
PPT **Papeete** 72.55 154 LR LR 04 27 08.1
comp=Z,279nm,19.7s,baz=320,slow=30
PPT2 **Papeete2** 72.57 154 *e*LR LR 04 24 28.0
comp=Z,446nm,22.8s,baz=349
PPT2 **Papeete2** 72.57 154 *e*T T 05 21 52.3
comp=Z,13nm,0.3s
TIAR **Tiarei** 72.60 154 *e*T T 05 21 54.3
comp=Z,2.6nm,0.2s
PAE **Paea** 72.64 154 *e*T T 05 21 57.2
comp=Z,2.2nm,0.2s
CHTO **Chiang Mai** 72.80 279 *e*P P 04 02 24.5 -0.7
CHTO pmax pmax
comp=Z,12nm,1.2s
CHTO **Chiang Mai** 72.80 279 *e*P P 04 02 24.5 -0.7
comp=Z,12nm,1.2s
VRHR **Novokhopersk** 72.91 337 *e*P P 04 02 23.5 -1.9
VRHR pmax pmax
comp=Z,5.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,2.0s
VRHR pmax pmax
comp=E,6.0nm,0.6s
TAPN **Taplejung** 73.06 293 *e*P P 04 02 27.1 0.0
CMAR **Chiang Mai Arr** 73.07 278 P P 04 02 26.9 0.0
comp=E,5.9nm,0.8s,baz=27,slow=6.9,SNR=24
CMAR LR LR 04 38 06.5
comp=E,99nm,18.9s,baz=45,slow=39
VSR **Storozhevoye** 73.39 338 *e*P P 04 02 27.5 -0.7
VSR pmax pmax
comp=Z,5.0nm,0.7s
VSR pmax pmax
comp=N,5.0nm,1.1s
VSR pmax pmax
comp=E,7.0nm,1.3s
ODAN **Odare** 73.62 293 *e*P P 04 02 30.1 -0.2
comp=E,16nm,0.6s
GUN **Gumba** 73.68 294 *e*P P 04 02 30.9 +0.1
comp=E,44nm,0.5s
JIRN **Jiri** 73.69 294 *e*P P 04 02 31.2 +0.3
comp=E,46nm,0.6s
RAMN **Ramite** 74.00 293 *e*P P 04 02 32.8 +0.3
comp=E,25nm,0.5s
PKI **Pulchoki** 74.20 294 *e*P P 04 02 34.9 +1.1
comp=E,9.2nm,0.4s
AKASG **Malin Array Be** 75.88 344 P P 04 02 40.5 -2.1
comp=E,0.7nm,0.4s,baz=18,slow=5.9,SNR=9.1
CLL **Collm** 77.15 355 *e*P P 04 02 55.0 +5.2
CLL *e*S S 04 12 42.0 +6.7
CLL MLR MLR
comp=Z,200nm,18.5s
CLL **Collm** 77.15 355 *e*P P 04 02 52.0 +2.2
CLL *e*S S 04 12 42.0 +6.7
CLL *e*PS PnS 04 13 18.0 -0.3
CLL *e*PPS PPS 04 13 32.0
CLL *e*SS SS 04 17 32.0 +0.1
CLL *e*SSSS 04 23 12.0
CLL LmV 04 36 00.0
comp=Z,200nm,18.5s
TBI **Tubuai** 78.10 156 *e*S S 04 12 43.8 -2.2
comp=Z,99nm,30.8s
TBI **Tubuai** 78.10 156 *e*LR LR 04 27 10.0
comp=Z,398nm,23.5s,baz=345
TBI **Tubuai** 78.10 156 *e*T T 05 28 46.0
comp=Z,14nm,0.2s
STHS **Stebnicka Huta** 78.29 349 *e*P P 04 02 56.3 0.0
STHS **Stebnicka Huta** 78.29 349 *e*P P 04 02 56.3 0.0
GRF **Grafenberg Arr** 78.85 356 *e*P P 04 03 26.2 +27
comp=Z,12nm,1.4s
VRAC **Vranov** 78.88 352 LR LR 04 39 44.8
comp=Z,150nm,20.2s,baz=355,slow=37
KIV **Kislovodsk** 79.20 333 *e*P P 04 03 00.6 -0.9
KIV pmax pmax
comp=Z,4.0nm,0.9s
GEYT **Alibeck** 79.26 320 LR LR 04 44 23.3
comp=Z,192nm,18.2s,baz=20,slow=40
KBZ **Khabaz** 79.35 333 LR LR 04 41 58.9
comp=Z,262nm,21.7s,baz=24,slow=39
GERES **GERESS Array B** 79.56 354 P P 04 03 01.8 -1.5
comp=Z,0.7nm,0.7s,baz=40,slow=6.9,SNR=6.4
GERES pP pP 04 03 18.1 +1.8
comp=Z,0.9nm,0.7s,baz=35,slow=4.9,SNR=4.8
FLN **La Foliniere** 79.85 3 *e*P P 04 03 15.3 +11
FLN **La Foliniere** 79.85 3 *e*P pP 04 03 15.3 -2.5
FLN **La Foliniere** 79.85 3 *e*P pP 04 03 15.3 -2.5
CDF **Champ du Feu** 80.27 358 *e*P P 04 03 18.6 +11
CDF **Champ du Feu** 80.27 358 *e*P pP 04 03 18.6 -1.6
CDF **Champ du Feu** 80.27 358 *e*P pP 04 03 18.6 -1.6
HINF **Hinteralfeld** 80.87 358 *e*P P 04 03 20.5 +10
comp=Z,18nm,0.9s
HINF **Hinteralfeld** 80.87 358 *e*P pP 04 03 20.5 -2.9
HINF **Hinteralfeld** 80.87 358 *e*P pP 04 03 20.5 -2.9
LOR **Lormes** 81.44 0 *e*P P 04 03 23.5 +10
LOR **Lormes** 81.44 0 *e*P pP 04 03 23.5 -2.9
LOR **Lormes** 81.44 0 *e*P pP 04 03 23.5 -2.9
DAVOX **Davos/Dischmat** 81.82 356 LR LR 04 38 24.5
comp=Z,104nm,21.8s,baz=16,slow=35
SMF **Signal de Mont** 82.06 1 *e*P P 04 03 26.9 +10
comp=Z,40nm,1.1s
SMF **Signal de Mont** 82.06 1 *e*P pP 04 03 26.9 -2.8
SMF **Signal de Mont** 82.06 1 *e*P pP 04 03 26.9 -2.8
GNI **Garni** 82.08 330 LR LR 04 45 36.5
comp=Z,118nm,18.8s,baz=47,slow=40
RKT **Rikitea** 82.49 143 *e*LR LR 04 29 05.1
comp=Z,402nm,25.2s,baz=336
RKT **Rikitea** 82.49 143 *e*T T 05 34 12.2
comp=Z,2.5nm,0.2s
WRA **Warramunga Arr** 83.72 227 *i*P P 04 03 25.3 -0.1
WRA pmax pmax
comp=Z,4.0nm,0.9s
WRA **Warramunga Arr** 83.72 227 P P 04 03 25.4 0.0
comp=Z,3.8nm,0.9s,baz=39,slow=6.1,SNR=8.7
BRTR **Keskin Array B** 85.51 338 P P 04 03 33.9 -0.6
comp=Z,0.9nm,0.8s,baz=58,slow=2.1,SNR=5.2
BRTR LR LR 04 47 37.9
comp=Z,62nm,19.3s,baz=24,slow=40
HYB **Hyderabad** 86.06 293 *i*P P 04 03 36.5 -0.9
ASAR **Alice Springs** 87.16 225 P P 04 03 43.0 +0.5
ASAR **Alice Springs** 87.16 225 P P 04 03 43.0 +0.5
comp=Z,4.6nm,0.8s,baz=33,slow=4.1,SNR=20
ASAR LR LR 04 38 57.8
comp=Z,98nm,20.5s,baz=14,slow=33
ESDC **Sonseca Array** 88.72 7 P P 04 03 49.0 -0.9
comp=Z,0.1nm,0.4s,baz=354,slow=2.6,SNR=4.6
ROSC **El Rosal** 93.07 78 LR LR 04 49 49.2
comp=Z,46nm,18.0s,baz=356,slow=38
TORD **Torodi Ar. Bea** 115.40 3 PKP PKPdf 04 09 36.9 -1.4
comp=Z,0.5nm,0.4s,baz=349,slow=2.7,SNR=20
TORD pPKP pPKiKP 04 09 54.2 +2.3
comp=Z,0.5nm,0.6s,baz=346,slow=2.5,SNR=2.7
TORD PKKPbc PKKPbc 04 20 10.0 -0.1
comp=Z,0.4nm,0.5s,baz=177,slow=2.9,SNR=8.8
DBIC **Dimbokro** 121.33 11 PKP PKPdf 04 09 49.0 -0.7
comp=Z,1.5nm,0.5s,baz=345,slow=3.2,SNR=5.2
KMBO **Kilima Mbogo** 122.64 320 *i*PKIKP PKPdf 04 09 54.7 +2.1
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO **Kilima Mbogo** 122.64 320 PKP PKPdf 04 09 52.2 -0.3
comp=Z,1.4nm,0.5s,baz=330,slow=7.0,SNR=3.6
LBTB **Lobatse** 148.91 321 *e*PKP2 PKPbc 04 10 44.4 +0.3
LBTB **Lobatse** 148.91 321 *e*PKPbc PKPbc 04 10 44.4 +0.3
BOSA **Boshof** 152.25 318 PKIKP PKPbc 04 10 51.8 -0.2
BOSA pmax pmax
comp=Z,16nm,0.9s
BOSA **Boshof** 152.25 318 PKPbc PKPbc 04 10 51.8 -0.2
comp=Z,16nm,0.9s,baz=26,slow=2.7,SNR=25
BOSA **Boshof** 152.25 318 *e*PKPbc PKPbc 04 10 51.9 -0.1

IDC ***31*** *03:52:48.7±0.9,2.29S×100.04E,h0km,mb4.6/14, mb1 4.7/15,mb1mx4.3/36,mbtmp4.6/15,ML3.8/1,MS3.8/6, Ms1 3.8/6,ms1mx3.3/34,Error ellipse: s-maj=31.1km s-min=13.3km az=54.0*

BJI ***31*** *03:52:50.1,2.37S×100.43E,h28km,mB5.0/9,mb5.0/12, Ms4.7/6,Ms7 4.3/6*

ISCJB ***31*** *03:52:51.3±0.3,2.32S±0.04×99.78E±0.04,h30km, mb4.7/32,MS3.8/4,Error ellipse: s-maj=6.2km s-min=3.8km az=135.1*

KLM ***31*** *03:52:51.3,2.40S×99.63E,h28km,mb4.7,ML4.7,MS5.5*

MOS ***31*** *03:52:51.6±1.1,2.32S×99.85E,h33km,mb4.9/19,Error ellipse: s-maj=16.4km s-min=7.5km az=101.8*

NEIC ***31*** *03:52:53.4±0.3,2.32S×99.95E,h35km,mb4.7/4,Error ellipse: s-maj=10.1km s-min=4.9km az=65.0*

DJA ***31*** *03:52:54.2±1.1,2.3S±3×10.0E±.1,h16km±12km,M4.7/18, mb4.7/10,mB5.3/6,MLv4.7/18,Mw(mB)4.8/6*

ISC 31 03:52:52.9±0.5,2.36S±0.05×99.81E±0.06,h30km,n115,
σ1§48/111,mb4.8/32,MS3.6/4,6C-6D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.58**	**24**	P	**Pn**	**03 53 17.5**	**-1.4**
PDSI				S	Sn	03 53 31.1	-7.3
SDSI	**Sungai Dareh**	**2.15**	**49**	P	**Pn**	**03 53 27.1**	**+0.3**
MASI	**Maura Aman, Be**	**2.55**	**108**	P	**Pn**	**03 53 35.1**	**+2.8**
BKNI	**Bangkinang**	**2.94**	**25**	P	**Pn**	**03 53 38.1**	**+0.5**
BKNI	**Bangkinang**	**2.94**	**25**	*e*Pn	**Pn**	**03 53 36.1**	**-1.5**
BKNI				*e*S	**Sb**	**03 54 21.5**	**+1.4**
RGRI	**Rengat**	**3.22**	**52**	P	**Pn**	**03 53 42.3**	**+0.8**
RGRI				S	**Sn**	**03 54 18.3**	**-0.6**
MNAI	**Manna**	**3.72**	**122**	P	**Pn**	**03 53 50.7**	**+2.4**
MNAI	**Manna**	**3.72**	**122**	*e*Pn	**Pn**	**03 53 47.1**	**-1.2**
MNAI				*e*S	**Sn**	**03 54 28.9**	**-2.2**
LHSI	**Lahat**	**3.99**	**112**	P	Pn	03 53 55.6	+3.6
GSI	**Gunungsitoli**	**4.27**	**328**	P	**Pn**	**03 53 55.1**	**-0.8**
GSI				S	**Sn**	**03 54 48.3**	**+3.5**
GSI	**Gunungsitoli**	**4.27**	**328**	*e*Pn	**Pn**	**03 53 55.3**	**-0.7**
GSI				*e*S	Sb	03 55 11.7	+13
MDSI	**Maura Dua**	**4.85**	**116**	P	**Pn**	**03 54 06.0**	**+2.2**
MDSI				S	**Sn**	**03 55 03.7**	**+4.7**
LWLI	**Liwa**	**5.00**	**122**	P	**Pn**	**03 54 08.3**	**+2.3**
PSI	**Prapat**	**5.20**	**350**	Pn	**Pn**	**03 54 06.3**	**-2.5**
	3.3nm,0.3s,baz=139,slow=14,SNR=3.4						
PSI				LR	LR	03 56 32.6	
	comp=Z,685nm,19.5s,baz=164,slow=44						
KGM	**Kluang**	**5.59**	**39**	⇑P	**Pn**	**03 54 15.0**	**+0.9**
KLI	**Kotabumi**	**5.62**	**116**	P	**Pn**	**03 54 17.3**	**+2.8**
KASI	**Kota Agung**	**5.63**	**124**	P	**Pn**	**03 54 16.5**	**+1.8**
	115nm,0.5s,2μm0.6nm						
TPRI	**Tanjung Pinang**	**5.73**	**55**	P	**Pn**	**03 54 15.9**	**-0.1**
	166nm,0.6s,19μm1.3nm						
MYKOM	**Kota Tinggi**	**5.77**	**44**	⇓P	**Pn**	**03 54 17.5**	**+1.0**
FRIM	**Kepong**	**5.85**	**18**	⇓P	**Pn**	**03 54 18.1**	**+0.5**
TPTI	**Kotacane, Aceh**	**6.17**	**335**	P	**Pn**	**03 54 23.5**	**+1.5**
	18nm,0.8s,20μm0.2nm						
KCSI	**Kotacane, Aceh**	**6.19**	**341**	P	**Pn**	**03 54 23.3**	**+1.0**
IPM	**Ipoh**	**6.90**	**10**	*e*Pn	**Pn**	**03 54 32.3**	**+0.2**

24nm,0.5s
CGJI Cibinong 7.23 126 P Pn 03 54 39.1 +2.5
KULM Kulim 7.65 6 ⇑P Pn 03 54 41.5 -0.8
KULM Kulim 7.65 6 *e*Pn Pn 03 54 41.2 -1.1
32nm,0.9s
TPI Tanjungpandan 7.85 93 P Pn 03 54 46.6 +1.5
11nm,1.3s,0.1nm
KTGM Kuala Trenggan 8.33 24 ⇓P Pn 03 54 52.1 +0.4
CNJI Cibinong 8.80 124 P Pn 03 54 57.3 -0.8
LEM Lembang 8.96 120 LR LR 03 59 08.1
comp=Z,237nm,18.3s,baz=224,slow=43
CISI Cisompet, Garu 9.50 123 P Pn 03 55 09.9 +2.1
CISI Cisompet, Garu 9.50 123 *e*Pn Pn 03 55 05.2 -2.7
54nm,0.5s
XMIS Christmas Isla 9.94 145 *e*Pn Pn 03 55 11.0 -2.7
XMIS *e*S Sn 03 56 53.5 -11
COCO West Island 10.20 197 *e*P Pn 03 55 17.5 +0.1
COCO West Island 10.20 197 *e*Pn Pn 03 55 17.5 +0.1
KPJI Karang Pucung 10.34 119 P Pn 03 55 22.1 +2.8
33nm,0.6s
SBUM Sibu 13.30 69 ⇓P Pn 03 56 00.7 +1.0
SDKM Sandakan 19.10 65 ⇑P P 03 57 13.5 0.0
TSM Tawau 19.23 70 ⇑P P 03 57 15.2 +0.4
KAPI Kappang 20.07 98 *e*P P 03 57 22.7 -1.4
20nm,0.6s
MPSI Mapaga 20.26 83 P Pn 03 57 30.3 +2.0
BNSI Bone 20.36 96 P Pn 03 57 30.3 +0.9
25nm,1.0s
BKSI Bulukumba 20.48 99 P P 03 57 29.5 +1.0
CMAR Chiang Mai Arr 20.70 358 P P 03 57 29.2 -1.7
5.8nm,0.7s,baz=187,slow=10.0,SNR=34
CMAR LR LR 04 05 17.6
comp=Z,125nm,19.8s,baz=172,slow=36
PALK Pallekele 21.33 297 LR LR 04 05 05.9
comp=Z,229nm,19.1s,baz=101,slow=34
MRSI Marisa 22.31 83 P P 03 57 52.7 +4.5
GTOI Gorontalo 23.39 83 P P 03 58 00.9 +1.5
SLVN Son La 23.89 9 *e*P P 03 58 02.9 -1.3
4.3nm,0.9s
H08S2 Diego Garcia H 27.70 258 T T 04 27 24.1
baz=80,slow=75,SNR=603
H08S3 Diego Garcia H 27.71 258 T T 04 27 29.2
baz=80,slow=75,SNR=976
H08S1 Diego Garcia H 27.72 258 T T 04 27 25.5
baz=80,slow=75,SNR=522
ODAN Odare 31.43 338 *e*P P 03 59 13.0 +1.1
27nm,0.7s
TAPN Taplejung 31.76 339 *e*P P 03 59 15.9 +1.0
36nm,0.8s
RAMN Ramite 31.81 337 *e*P P 03 59 16.3 +1.0
17nm,0.8s
JIRN Jiri 32.60 337 *e*P P 03 59 23.3 +0.9
30nm,0.6s
PKI Pulchoki 32.83 336 *e*P P 03 59 25.7 +1.3
LSA Lhasa 32.94 346 *e*P P 03 59 25.2 -0.3
LSA pmax pmax
comp=Z,8.0nm,0.6s
LSA Lhasa 32.94 346 *e*P P 03 59 25.1 -0.3
comp=Z,7.8nm,0.6s
GUN Gumba 32.95 337 *e*P P 03 59 26.3 +0.9
comp=Z,24nm,0.4s
XAN Xi'an 37.21 13 P P 03 59 59.5 -2.2
XAN PMZ
comp=Z,3.0nm,0.5s
XAN LN
comp=Z,140nm,23.1s
XAN LE
comp=Z,120nm,21.6s
XAN LZ
comp=Z,130nm,23.1s
WRA Warramunga Arr 37.98 120 P P 04 00 08.2 -0.3
comp=Z,5.4nm,0.7s,baz=300,slow=9.2,SNR=22
WRAB Tennant Creek 37.98 120 *e*P P 04 00 08.2 -0.3
WRAB Tennant Creek 37.98 120 *e*P P 04 00 08.2 -0.3
WB2 Warramunga Arr 37.99 120 *e*P P 04 00 07.9 -0.6
NJ2 Nanjing 38.70 26 *e*P P 04 00 39.0 +25
ASAR Alice Springs 39.20 126 P P 04 00 19.0 +0.3
comp=Z,2.1nm,0.6s,baz=299,slow=7.8,SNR=38
ASAR PcP **PcP 04 02 28.9 +1.2**
comp=Z,2.1nm,0.7s,baz=301,slow=2.7,SNR=8.0
ASAR S **S 04 06 16.2 -1.1**
comp=Z,0.5nm,0.8s,baz=310,slow=18,SNR=4.4
ASAR LR LR 04 18 47.8
comp=Z,75nm,18.9s,baz=317,slow=40
WMQ Urumqi 47.24 348 *e*P P 04 01 24.3 +1.0
WMQ pP **pP 04 01 32.5 +0.1**
WMQ PMZ
comp=Z,34nm,1.2s
WMQ PMZ
comp=Z,81nm,5.4s
WMQ LN
comp=Z,340nm,22.0s
WMQ LE
comp=Z,180nm,20.0s
WMQ LZ
comp=Z,320nm,23.0s
KSAR Wonju Array Be 47.40 31 P P 04 01 24.0 -0.6
KSAR Wonju Array Be 47.40 31 P P 04 01 24.0 -0.6
KSRS Korea Array 47.43 31 P P 04 01 24.0 -0.8
comp=Z,6.1nm,0.7s,baz=225,slow=8.4,SNR=16
PDGK Podgornoye 49.02 340 P P 04 01 37.8 +0.8
PDGK pmax pmax
comp=Z,18nm,1.2s
TKM2 Tokmak 2 50.09 337 P P 04 01 45.7 +0.3
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 50.29 336 ⇑*i*P P 04 01 48.0 +1.1
AAK pmax pmax
comp=Z,8.0nm,1.2s
AAK Ala-Archa 50.29 336 *e*P P 04 01 47.5 +0.6
comp=Z,8.6nm,0.9s
SONM Songino Array 50.32 6 P P 04 01 46.9 -0.1
comp=Z,15nm,0.8s,baz=186,slow=9.1,SNR=34
ULN Ulaanbaatar 50.42 6 ⇓*i*P P 04 01 47.9 +0.1
ULN pmax pmax
comp=Z,6.0nm,0.6s
EKS2 Erkin-Say 50.61 335 *e*P P 04 01 50.2 +0.9
EKS2 pmax pmax
comp=Z,9.0nm,0.7s
EKS2 Erkin-Say 50.61 335 *e*P P 04 01 50.2 +0.9
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 51.32 345 P P 04 01 54.9 +0.4
comp=Z,14nm,0.6s,baz=152,slow=7.7,SNR=28
MJAR Matsushiro Arr 52.67 39 P P 04 02 03.1 -1.6
comp=Z,4.4nm,0.8s,baz=217,slow=8.1,SNR=9.1
TLY Talaya 53.94 3 *e*P P 04 02 14.1 +0.4
TLY pmax pmax
comp=Z,6.0nm,0.7s
USRK Ussuriysk Ar. 54.56 28 P P 04 02 17.8 -0.5
comp=Z,28nm,0.8s,baz=223,slow=6.3,SNR=36
ZALV Zalesovo Beam 57.49 350 *i*P P 04 02 38.7 -0.3
ZALV pmax pmax
comp=Z,3.0nm,0.3s
ZALV Zalesovo Beam 57.49 350 P P 04 02 38.7 -0.3
comp=Z,3.2nm,0.3s,baz=165,slow=6.2,SNR=12
KLR Kul'dur 58.34 24 *e*P P 04 02 40.7 -4.4
ERM Erimo 59.06 37 ⇓*i*P P 04 02 51.1 +0.8
ERM pmax pmax
comp=Z,27nm,1.2s
ASAJ Asahikawa 60.02 34 P P 04 02 56.3 -0.6
comp=Z,5.7nm,0.5s,baz=232,slow=11,SNR=7.5
BVAR Borovoye Array 60.45 340 LR LR 04 30 23.8
comp=Z,613nm,20.6s,baz=44,slow=37
BOD Bodaibo 61.06 9 *e*P P 04 03 03.3 -0.4
BOD pmax pmax
comp=Z,9.0nm,0.9s
MAK Makhachkala 65.12 320 *e*P P 04 03 25.7 -5.2
KBZ Khabaz 68.45 319 P P 04 03 53.3 +1.1
comp=Z,2.8nm,0.7s,baz=93,slow=6.1,SNR=5.2
KIV Kislovodsk 68.69 319 *e*P P 04 03 53.4 -0.4
KIV pmax pmax
comp=Z,8.0nm,1.1s
VRHR Novokhopersk 72.52 326 *e*P P 04 04 15.7 -1.2
VRHR pmax pmax
comp=N,4.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VORD Divnogorie 73.78 325 *e*P P 04 04 22.4 -1.9
VORD pmax pmax
comp=Z,6.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,0.7s
VSR Storozhevoye 73.96 325 *e*P P 04 04 24.5 -0.9
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.9s
PRGR Permogore 75.92 336 P P 04 04 35.9 -0.6
PRGR pmax pmax
comp=Z,5.0nm,0.4s
SEY Seymchan 76.03 22 P P 04 04 36.1 -1.0
comp=Z,4.5nm,0.8s,baz=231,slow=5.9,SNR=10
TIXI Tiksi 76.24 9 *e*P P 04 04 38.1 0.0
TIXI pmax pmax
comp=Z,6.0nm,0.9s
OBN Obninsk 77.00 328 ⇑P P 04 04 42.9 +0.2
OBN *i* 04 07 36.3
OBN *e*S **S 04 14 25.7 -3.3**
OBN pmax pmax
comp=Z,10.0nm,1.5s
KIEV Kiev 79.66 322 P P 04 05 01.0 +3.5
JOF Joensuu 82.46 335 *e*P P 04 05 12.2 0.0
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 82.46 335 *e*p P 04 05 12.2 0.0
comp=Z,1.8nm,0.6s
FINES FINESS Array B 84.34 332 *i*P P 04 05 22.3 +0.4
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 84.34 332 P P 04 05 22.4 +0.5
comp=Z,2.6nm,0.5s,baz=114,slow=6.1,SNR=15
KAF Kangasniemi 84.42 333 *e*P P 04 05 22.0 -0.3
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 84.42 333 *e*p P 04 05 22.0 -0.3
comp=Z,3.2nm,0.6s
ARCES ARCESS Array B 86.75 340 P P 04 05 34.5 +0.8
comp=Z,5.7nm,0.8s,baz=101,slow=4.3,SNR=17
YKA Yellowknife Ar 114.77 17 PKP PKPdf 04 11 29.6 -0.7
comp=Z,0.1nm,0.6s,baz=322,slow=2.9,SNR=3.9
YKA PP **PP 04 12 32.8 +4.9**
comp=Z,0.3nm,0.9s,baz=325,slow=7.5,SNR=3.7
SCHQ Schefferville 126.57 350 PKP PKPdf 04 11 52.5 -0.8
comp=Z,2.1nm,0.8s,baz=199,slow=1.3,SNR=3.7
PDAR Pinedale Array 131.98 29 PKP PKPdf 04 12 04.3 +0.1
comp=Z,0.4nm,0.7s,baz=249,slow=4.7,SNR=3.2
TXAR Lajitas Array 145.10 37 PKP PKPdf 04 12 28.4 +0.1
comp=Z,5.2nm,0.5s,baz=202,slow=1.0,SNR=116
MIAR Mount Ida 145.64 20 *e*PKP2 PKPdf 04 12 29.0 0.0
MIAR Mount Ida 145.64 20 *e*PKPdf PKPdf 04 12 29.0 0.0
JCT Junction City 146.43 32 *e*PKP2 PKPbc 04 12 31.8 0.0
JCT Junction City 146.43 32 *e*PKPbc PKPbc 04 12 31.8 0.0

GUC 31 04:11:36.3±0.8, 34°.77S×72°.11W, h30km±5km, ML3.7, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.74**	**148**	⇑*i*P	Pb	04 11 50.3	-0.4
TALC				*i* S	Sb	04 12 00.1	-0.4
NICH	**Los Niches**	**0.76**	**108**	⇑*i*P	Pn	04 11 50.7	-0.3
NICH				*i* S	Sb	04 12 01.0	-0.1
LNV	**Longovilo**	**0.99**	**36**	⇓*i*P	Pn	04 11 54.0	-0.2
LNV				*i* S1		04 12 07.3	
LNCH	**Linares**	**1.16**	**159**	⇓*i*P	Pb	04 11 57.6	-0.1
LNCH				*i* S	Sb	04 12 13.3	+0.9
CACH	**El Canelo**	**1.41**	**63**	*e*P1	Pb	04 12 01.1	-1.0
CHCH	**Chadas Angostu**	**1.46**	**56**	⇑*i*P	Pb	04 12 02.0	-1.0
CHCH				*i* S1	Sb	04 12 20.5	-0.8
COCH	**Cobquecura**	**1.47**	**202**	⇑*i*P	Pn	04 12 01.1	+0.3
COCH				*i* S1	Sb	04 12 20.8	-0.5
RCDM	**Rinconada Maip**	**1.67**	**41**	*e*P9	Pn	04 12 04.1	+0.6
RCDM				*i* S1	Sn	04 12 25.2	+1.2
IHA	**Instituto Hidr**	**1.78**	**13**	⇑*i*P	Pn	04 12 06.4	+1.4
CLCH	**Cerro Calan**	**1.89**	**44**	⇑*i*P	Pb	04 12 09.1	-1.2
CLCH				*i* S1	Sb	04 12 33.9	+0.4
CLCH				AML	AML	04 12 39.5	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**2.00**	**37**	⇑*i*P	Pb	04 12 10.5	-1.7
PEL				*i* S	Sb	04 12 35.7	-1.1
PEL				AML	AML	04 12 42.0	
	comp=N,1μm,0.4s						
FCH	**Farellones**	**2.08**	**47**	⇓*i*P	Pn	04 12 10.9	+1.3
FCH				*i* S	Sb	04 12 37.5	-2.1
FCH				AML	AML	04 12 42.2	
	comp=N,823nm,0.3s						

MEX 31 04:12:14.8±0.7, 17°.41N×101°.47W, h20km±12km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.20**	**1**	*i* P	Pb	04 12 19.0	-1.0
ZIIG				*i* S	Sb	04 12 22.7	-0.8
CAIG	**El Cayaco**	**1.20**	**107**	*i* P	Pn	04 12 33.2	-3.3
CAIG				*i* S	Sb	04 12 47.7	-4.3
ARIG	**Puente Sto Nin**	**1.38**	**51**	*i* P	Pn	04 12 35.3	-3.7
ARIG				*i* S	Sn	04 12 51.7	-4.9
MEIG	**Mezcala**	**1.84**	**73**	*i* P	Pn	04 12 43.4	-1.9
MEIG				*i* S	Sn	04 13 04.8	-3.3
TLIG	**Tlapa**	**2.77**	**86**	*e*P	Pn	04 12 56.1	-2.2
TLIG				*i* S	Sn	04 13 28.5	-2.9

*IDC **31** 04:15:18.4±1.6, 29°.71S×73°.04W, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.7/29, mbtmp3.9/6, ML3.4/2, MS1.9/1, Ms1 1.9/1, ms1mx1.9/17, Error ellipse: s-maj=55.1km s-min=25.3km az=25.0*
*ISCJB **31** 04:15:22.3±1.1, 29°.36S±0°.07×72°.7W±0°.1, h17km, mb3.8/4, MS4.7/1, Error ellipse: s-maj=17.5km s-min=8.8km az=161.4*
ISC 31 04:15:24.0±0.9, 29°.26S±0°.07×72°.6W±0°.1, h17km, n22, σ1§36/18, mb4.1/4, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**4.21**	**157**	*i* S	**Sn**	**04 17 15.5**	**-0.9**
CFAA	**Coronel Fontan**	**4.45**	**123**	Pn	**Pn**	**04 16 30.6**	**-0.2**
	1.2nm,0.3s,baz=281,slow=8.8,SNR=66						
CFAA				Sn	**Sn**	**04 17 22.3**	**0.0**
	4.6nm,0.3s,baz=73,slow=14,SNR=16						
CFAA				LR	LR	04 18 21.7	
	comp=Z,14nm,20.3s,slow=40						
RCDM	**Rinconada Maip**	**4.49**	**160**	*e*P	Pg	04 16 46.4	-3.7
RCDM				*e*S	Sn	04 17 06.2	-17
CLCH	**Cerro Calan**	**4.49**	**157**	⇑*i*P	**Pg**	**04 16 50.3**	**+0.3**
CLCH				*i* S	Sn	04 17 13.5	-10
CLCH				AML	AML	04 17 19.3	
	comp=N,1μm,0.7s						
CLCH				AML	AML	04 17 19.8	
	comp=N,1μm,0.4s						
LNV	**Longovilo**	**4.79**	**168**	*e*S1	**Pb**	**04 16 47.4**	**-0.1**
LNV	**Longovilo**	**4.79**	**168**	⇓*i*P	**Pn**	**04 16 35.7**	**+0.3**
CHCH	**Chadas Angostu**	**4.95**	**161**	⇑*i*P	Pb	04 16 44.4	-5.9
CHCH				*e*S4		04 17 03.7	
CACH	**El Canelo**	**5.14**	**161**	⇑*i*P	Pn	04 16 44.4	+4.0
CACH	**El Canelo**	**5.14**	**161**	*i* S1	**Pg**	**04 17 02.2**	**-0.3**
NICH	**Los Niches**	**5.85**	**169**	*i* S	**Pn**	**04 16 49.0**	**-0.9**
TALC	**Talca**	**6.18**	**172**	*i* S1	Pn	04 16 50.2	-4.2
LNCH	**Linares**	**6.62**	**173**	*i* S	**Pn**	**04 17 03.0**	**+2.4**
SIV	**San Ignacio**	**16.96**	**41**	P	**P**	**04 19 23.3**	**+0.8**
	comp=N,0.2nm,0.3s,baz=233,slow=11,SNR=6.3						
BDFB	**Brasília**	**26.41**	**64**	P	**P**	**04 21 02.7**	**+2.7**
	comp=N,0.9nm,0.5s,baz=205,slow=6.9,SNR=2.0						
TXAR	**Lajitas Array**	**65.37**	**330**	P	**P**	**04 26 04.8**	**-0.9**
	comp=N,0.1nm,0.6s,baz=126,slow=4.6,SNR=2.4						
DBIC	**Dimbokro**	**74.20**	**73**	P	**P**	**04 26 58.9**	**-1.4**
	comp=N,2.5nm,0.6s,baz=209,slow=5.2,SNR=5.2						
PFO	**Pinyon Flats O**	**75.04**	**323**	LR	LR	04 53 40.9	
	comp=N,418nm,20.4s,baz=284,slow=31						
TORD	**Torodi Ar. Bea**	**83.10**	**71**	P	**P**	**04 27 48.7**	**-0.5**
	comp=N,2.2nm,0.8s,baz=257,slow=5.0,SNR=26						
BVAR	**Borovoye Array**	**144.02**	**38**	PKP	**PKPab**	**04 34 55.2**	**-0.5**
	comp=N,0.9nm,0.6s,baz=280,slow=4.4,SNR=5.5						
KURBB	**Kurchatov Arra**	**149.59**	**37**	PKPbc	**PKPdf**	**04 35 10.1**	**+2.5**
	comp=N,0.9nm,0.4s,baz=300,slow=2.8,SNR=8.2						
ZALV	**Zalesovo Beam**	**150.37**	**27**	PKPbc	**PKPbc**	**04 35 12.3**	**-1.6**
	comp=N,3.0nm,0.5s,baz=304,slow=3.0,SNR=17						
MKAR	**Makanchi Array**	**153.78**	**41**	PKPab	**PKPab**	**04 35 34.8**	**-0.2**
	comp=N,0.4nm,0.6s,baz=322,slow=5.2,SNR=4.4						

*ISCJB **31** 04:18:57.7±1.7, 5°.0S±0°.2×152°.1E±0°.3, h70km, mb3.6/6, Error ellipse: s-maj=56.2km s-min=11.4km az=35.7*
*IDC **31** 04:19:05.0±5.0, 5°.10S×151°.97E, h120km±40km, mb3.6/6, mb1 3.8/7, mb1mx3.5/29, mbtmp4.0/7, Error ellipse: s-maj=57.6km s-min=25.6km az=115.0*
ISC 31 04:18:58.8±2.0, 5°.1S±0°.3×152°.2E±0°.4, h70km, n8, σ0§91/8, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.64**	**229**	P	Pn	04 20 37.8	+4.0
	2.7nm,0.3s,baz=92,slow=13,SNR=4.7						
PMG				S	**Sn**	**04 21 49.1**	**+1.0**
	4.0nm,0.3s,baz=105,slow=20,SNR=9.4						
WRA	**Warramunga Arr**	**22.86**	**228**	P	**P**	**04 23 55.6**	**-1.0**
	3.3nm,0.4s,baz=52,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**25.59**	**222**	P	**P**	**04 24 21.1**	**-0.6**
	2.8nm,0.6s,baz=58,slow=8.9,SNR=27						
SONM	**Songino Array**	**66.24**	**328**	P	**P**	**04 29 39.8**	**+0.2**
	0.5nm,0.5s,baz=147,slow=5.1,SNR=5.5						
MKAR	**Makanchi Array**	**80.15**	**319**	P	**P**	**04 31 01.3**	**-0.2**
	0.1nm,0.5s,baz=110,slow=5.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**81.05**	**326**	P	**P**	**04 31 05.3**	**-0.8**
	0.5nm,0.5s,baz=133,slow=8.3,SNR=4.1						
ILAR	**Eielson Array**	**82.60**	**22**	P	**P**	**04 31 15.0**	**+1.0**
	0.9nm,0.6s,baz=250,slow=5.2,SNR=22						
TORD	**Torodi Ar. Bea**	**149.85**	**287**	PKPbc	**PKPbc**	**04 38 41.7**	**-0.3**
	0.7nm,0.4s,baz=36,slow=2.4,SNR=28						

GUC 31 04:31:47.1±0.7, 34°.98S×72°.98W, h30km±20km, ML3.7, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.16**	**172**	*e*P1	Pn	04 32 07.6	+0.3
COCH				*i* S1	Sn	04 32 22.6	+0.5
TALC	**Talca**	**1.18**	**111**	⇑*i*P	Pn	04 32 08.0	+0.4
TALC				*i* S	Sb	04 32 23.5	-0.4
LNCH	**Linares**	**1.43**	**128**	⇑*i*P	Pb	04 32 12.3	-0.7
LNCH				*i* S	Sb	04 32 31.5	+0.6
PEL	**Peldehue**	**2.64**	**47**	⇓*i*P	Pn	04 32 29.0	+1.3
PEL				AML	AML	04 33 15.1	
	comp=E,345nm,0.5s						

*NNC **31** 05:11:55.3±8.9, 53°.81N×87°.01E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=95.1km s-min=48.9km az=76.0*
*IDC **31** 05:11:55.4±2.3, 54°.01N×86°.51E, h0km, mb1 3.1/2, mb1mx2.9/39, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=19.4km s-min=11.3km az=64.0*
ISC 31 05:12:01.0±5.6, 54°.0N±0°.2×86°.5E±0°.3, h35km, n7, σ0§28/7, 1C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**269**	*i*		05 18 30.0	
	baz=86,slow=336,SNR=1.1						
ZALV	**Zalesovo Beam**	**0.97**	**269**	Pg	Pn	05 12 12.8	-5.4
	1.0nm,0.3s,baz=86,slow=18,SNR=12						
ZALV				Lg	Lg	05 12 28.4	
	3.4nm,0.3s,baz=84,slow=30,SNR=21						
KURK	**Kurchatov**	**5.81**	**239**	Pn	**Pn**	**05 13 24.6**	**0.0**
KURBB	**Kurchatov Arra**	**5.91**	**239**	⇓Pn	**Pn**	**05 13 25.9**	**-0.1**
	1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**5.91**	**239**	Pn	**Pn**	**05 13 26.1**	**+0.1**
	0.1nm,0.3s,baz=56,slow=14,SNR=13						
KURBB				Lg	Lg	05 15 06.0	
	0.0nm,0.3s,baz=58,slow=32,SNR=4.7						
MK31	**Makanchi Array**	**7.66**	**202**	⇓Pn	**Pn**	**05 13 50.0**	**-0.1**
	0.1nm,0.3s,baz=25,slow=13,SNR=13						
MK31				⇓Sn	**Sn**	**05 15 16.0**	**+0.4**
	0.2nm,0.5s,baz=24,slow=22						
MK31				⇑Lg	Lg	05 15 57.5	
	3.7nm,1.4s						
MKAR	**Makanchi Array**	**7.66**	**202**	Pn	**Pn**	**05 13 50.2**	**+0.1**
	0.3nm,0.3s,baz=23,slow=13,SNR=13						
MKAR				Sn	**Sn**	**05 15 15.3**	**-0.4**
	0.1nm,0.3s,baz=26,slow=28,SNR=3.6						
MKAR				Lg	Lg	05 16 00.8	
	0.0nm,0.3s,baz=23,slow=33,SNR=3.4						

*ISCJB **31** 05:13:54.9±0.4, 48°.66N±0°.05×155°.22E±0°.08, h36km, mb3.9/12, MS3.6/13, Error ellipse: s-maj=9.9km s-min=2.7km az=40.9*
*MOS **31** 05:13:55.2±1.1, 48°.72N×155°.12E, h43km, mb4.3/7, Error ellipse: s-maj=15.3km s-min=6.1km az=66.1*
*SKHL **31** 05:13:55.6±0.8, 48°.47N×155°.45E, h59km±8km, mb5.6/1, Ms4.1/3, msh5.2/1*
*IDC **31** 05:13:56.3±3.0, 48°.73N×154°.98E, h35km±24km, mb3.7/11, mb1 4.0/16, mb1mx3.8/38, mbtmp4.0/16, ML3.7/5, MS3.5/19, Ms1 3.6/19, ms1mx3.4/36, Error ellipse: s-maj=22.4km s-min=12.3km az=147.0*
*KRSC **31** 05:13:57.3±2.8, 48°.74N×156°.37E, h24km±9km, ML4.7*
ISC 31 05:13:56.1±0.6, 48°.59N±0°.07×155°.34E±0°.07, h36km, n93, σ1§65/98, mb4.0/12, MS3.7/13, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.16**	**13**	*e*PN	**Pn**	**05 14 28.3**	**-1.1**
SKR				*i* S	**Sn**	**05 14 51.4**	**-3.5**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				smax	smax		
	comp=N,920nm,0.6s						
SKR				smax	smax		
	comp=E,600nm,0.6s						
SKR				MLR	MLR		
	comp=N,2μm,14.0s						
SKR				MLR	MLR		
	comp=E,2μm,14.0s						
SKR				MLR	MLR		
	comp=Z,1μm,14.0s						
SKR	**Severo-Kuril's**	**2.16**	**13**	*e*P	**Pn**	**05 14 29.4**	**0.0**
SKR				*e*S	**Sn**	**05 14 52.8**	**-2.1**
SKR	**Severo-Kuril's**	**2.16**	**13**	*e*P	**Pn**	**05 14 29.4**	**0.0**
SKR				AMB	AMB	05 14 31.2	
	comp=Z,311nm,0.7s						
SKR				*e*S	**Sn**	**05 14 53.9**	**-1.0**
SKR				A	A	05 15 03.9	
	comp=Z,1μm,0.6s						
SKR				AMS	AMS	05 15 26.0	
	comp=Z,2μm,14.0s						
SKR				AMS	AMS	05 15 26.0	
	comp=Z,2μm,14.0s						
SKR				AMS	AMS	05 15 26.0	
	comp=Z,1μm,14.0s						
PAU	**Pauzhetka**	**3.03**	**18**	PN	**Pn**	**05 14 42.0**	**+0.5**
PAU				S	**Sn**	**05 15 14.7**	**-1.8**
PAU	**Pauzhetka**	**3.03**	**18**	*e*P	**Pn**	**05 14 42.0**	**+0.5**
PAU				*e*S	**Sn**	**05 15 14.7**	**-1.8**
PAU	**Pauzhetka**	**3.03**	**18**	*e*P	**Pn**	**05 14 43.1**	**+1.6**
PAU				*e*S	**Sn**	**05 15 18.7**	**+2.2**
PAU				A	A	05 15 26.3	
	comp=Z,2μm,0.6s						
MIPR	**Malaya Ipel'ka**	**3.80**	**13**	*e*P	**Pn**	**05 14 53.1**	**+1.0**
ASAK	**Asacha**	**4.14**	**22**	*e*P	**Pn**	**05 14 58.1**	**+1.4**
MTVR	**Mutnovka**	**4.30**	**24**	*e*P	**Pn**	**05 15 00.8**	**+1.8**
MTVR				*e*S	**Sn**	**05 15 47.9**	**-0.1**
RUS	**Russkaya**	**4.35**	**27**	PN	**Pn**	**05 14 59.9**	**+0.3**
RUS	**Russkaya**	**4.35**	**27**	*e*P	**Pn**	**05 14 59.9**	**+0.3**
RUS				*e*S	**Sn**	**05 15 46.7**	**-2.2**
APC	**Apacha**	**4.49**	**14**	*e*P	**Pn**	**05 15 04.7**	**+3.2**
PETK	**Petropavlovsk-**	**4.77**	**17**	Pn	**Pn**	**05 15 06.1**	**+0.8**
	comp=Z,8.3nm,0.3s,baz=185,slow=15,SNR=41						
PETK				LR	LR	05 17 19.7	
	comp=Z,378nm,18.7s,baz=196,slow=43						
PET	**Petropavlovsk**	**4.91**	**24**	*e*PN	**Pn**	**05 15 09.4**	**+2.1**
PET				*e*S	**Sn**	**05 16 03.8**	**+1.0**
PET				pmax	pmax		
	comp=Z,41nm,0.5s						
PET				smax	smax		
	comp=N,183nm,0.6s						
PET				MLR	MLR		
	comp=Z,200nm,13.0s						
PET	**Petropavlovsk**	**4.91**	**24**	*e*P	**Pn**	**05 15 09.1**	**+1.8**
PET				*e*S	**Sn**	**05 16 02.5**	**-0.3**
PET	**Petropavlovsk**	**4.91**	**24**	*e*P	**Pn**	**05 15 08.9**	**+1.6**
PET				*e*S	**Sn**	**05 16 04.4**	**+1.6**

PET A A 05 16 08.1
comp=Z,176nm,0.7s
UGLR Uglovaya 5.12 24 *e*P **Pn 05 15 12.3 +2.0**
UGLR *e*S **Sn 05 16 07.3 -0.9**
KOK Koryaka 5.15 23 *e*P **Pn 05 15 13.4 +2.7**
KOK S **Sn 05 16 08.2 -0.6**
AVH Avacha 5.15 23 *e*P **Pn 05 15 13.4 +2.7**
AVH *e*S **Sn 05 16 09.9 +1.0**
SMAR Somma 5.17 24 *e*P **Pn 05 15 13.2 +2.2**
KRER Koryakskii 5.19 23 *e*P **Pn 05 15 13.8 +2.5**
KRER *e*S **Sn 05 16 09.2 -0.8**
SDLR Sedlovina 5.20 24 *e*P **Pn 05 15 13.3 +1.9**
SDLR S **Sn 05 16 09.5 -0.7**
KRX Arik 5.21 22 *e*P **Pn 05 15 14.1 +2.5**
KRX S **Sn 05 16 09.3 -1.2**
GNL Ganaly 5.37 17 *e*P **Pn 05 15 16.5 +2.8**
KUR Kuril'sk 6.12 240 ⇓*i*PN **Pn 05 15 26.2 +2.3**
KUR *e*S **Sn 05 16 34.6 +2.0**
KUR pmax pmax
comp=N,53nm,0.5s
KUR pmax pmax
comp=E,27nm,0.5s
KUR pmax pmax
comp=Z,134nm,0.5s
KUR smax smax
comp=N,144nm,0.5s
KUR smax smax
comp=E,60nm,0.5s
KUR Kuril'sk 6.12 240 *e*P **Pn 05 15 26.2 +2.3**
KUR AMB AMB 05 15 27.7
comp=E,134nm,0.5s
KUR *e*S **Sn 05 16 34.6 +2.0**
KUR A A 05 16 43.4
comp=E,60nm,0.5s
KUR A A 05 16 43.4
comp=E,144nm,0.5s
MKZ Mys Kozlova 7.18 31 PN **Pn 05 15 37.9 -0.5**
MKZ Mys Kozlova 7.18 31 *e*P **Pn 05 15 37.9 -0.5**
MKZ *e*S Sn 05 16 51.6 -7.0
TUMR Tumrok 7.33 22 *e*P **Pn 05 15 42.6 +2.0**
SHO Shikotan 7.55 234 *e*P **Pn 05 15 42.6 -1.0**
SHO *e*S **Sn 05 17 04.6 -3.2**
YUK Yuzh-Kuril'sk 7.98 239 *d i*PN **Pn 05 15 51.0 +1.5**
YUK pmax pmax
comp=Z,300nm,2.0s
YUK pmax pmax
comp=Z,165μm,0.3s
YUK pmax pmax
comp=N,44nm,0.3s
YUK pmax pmax
comp=E,62nm,0.3s
YUK MLR MLR
comp=N,366nm,5.0s
YUK MLR MLR
comp=E,236nm,5.0s
YUK MLR MLR
comp=Z,402nm,5.0s
YUK Yuzh-Kuril'sk 7.98 239 *e*P **Pn 05 15 51.0 +1.5**
YUK AMB AMB 05 15 53.9
comp=Z,300nm,2.0s
YUK AMB AMB 05 15 55.8
comp=Z,165nm,0.3s
YUK *e*S **Sn 05 17 20.2 +1.8**
YUK A A 05 17 40.6
comp=Z,700nm,4.6s
YUK A A 05 17 40.6
comp=Z,770nm,4.6s
YUK AMS AMS 05 18 23.0
comp=Z,400nm,5.0s
YUK AMS AMS 05 18 23.0
comp=Z,370nm,5.0s
YUK AMS AMS 05 18 23.0
comp=Z,240nm,5.0s
YSS Yuzh-Sakhalins 8.63 264 ⇓*e*PN Pn 05 16 03.0 +4.6
YSS *e*S **Sn 05 17 37.8 +3.4**
YSS MLR MLR
comp=Z,400nm,16.0s
YSS Yuzh-Sakhalins 8.63 264 *e*P **Pn 05 15 58.5 +0.1**
YSS *e*S **Sn 05 17 37.8 +3.4**
YSS AMS AMS 05 19 15.0
comp=Z,400nm,16.0s
UGL Uglegorsk 8.77 278 PN Pn 05 16 11.0 +11
UGL pmax pmax
comp=Z,59nm,0.6s
UGL MLR MLR
comp=Z,500nm,16.0s
UGL MLR MLR
comp=N,500nm,18.0s
UGL MLR MLR
comp=E,500nm,18.0s
UGL Uglegorsk 8.77 278 *e*P Pn 05 16 11.0 +11
UGL AMB AMB 05 16 13.0
comp=E,56nm,0.6s
UGL AMS AMS 05 19 36.0
comp=E,500nm,16.0s
KBTR Krutoberegovo 8.89 28 PN **Pn 05 16 01.7 -0.2**
KBTR Krutoberegovo 8.89 28 *e*P **Pn 05 16 01.7 -0.2**
BKI Bering 9.32 41 PN **Pn 05 16 09.3 +1.5**
BKI Bering 9.32 41 P **Pn 05 16 09.2 +1.5**
BKI *e*S Sn 05 17 41.6 -10
ASAJ Asahikawa 9.88 248 Pn **Pn 05 16 16.9 +1.5**
comp=E,8.5nm,0.3s,baz=77,slow=15,SNR=46
ASAJ LR LR 05 19 38.9
comp=E,354nm,21.2s,baz=162,slow=35
ERM Erimo 10.80 237 *e*PN **Pn 05 16 28.4 +0.3**
FX1 Attu Island--F 12.08 62 Pn **Pn 05 16 47.1 +1.7**
comp=E,3.2nm,0.3s,baz=275,slow=4.3,SNR=10
FX1 Sn Sn 05 18 51.5 -7.2
comp=E,7.8nm,0.3s,baz=230,slow=21,SNR=10.0
FX1 LR LR 05 21 24.4
comp=E,91nm,21.6s,baz=288,slow=37
SEY Seymchan 14.47 355 Pn **Pn 05 17 18.2 +0.2**
comp=E,0.1nm,0.3s,baz=164,slow=10,SNR=8.0
SEY Seymchan 14.47 355 *e*P **Pn 05 17 19.3 +1.3**
KLR Kul'dur 15.51 281 *e*P **Pn 05 17 28.3 -3.7**
KLR MLR MLR
comp=E,500nm,13.5s
KLR MLR MLR
comp=Z,900nm,13.5s
USRK Ussuriysk Ar. 16.67 263 Pn **Pn 05 17 45.9 -0.9**
comp=Z,0.9nm,0.3s,baz=71,slow=12,SNR=17
USRK LR LR 05 24 55.8
comp=Z,85nm,18.1s,baz=46,slow=40
MJA0 Matsu Arr-Jizo 17.37 232 *e*P **Pn 05 17 55.4 -0.2**
MJA0 pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 17.39 233 P **Pn 05 17 54.1 -1.7**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR MLR MLR
comp=Z,96nm,18.8s
MJAR Matsushiro Arr 17.39 233 P **Pn 05 17 54.1 -1.7**
comp=Z,0.6nm,0.3s,baz=24,slow=12,SNR=5.7
MJAR LR LR 05 25 13.4
comp=Z,96nm,18.8s,baz=95,slow=39
MJAR Matsushiro Arr 17.39 233 *e*P **Pn 05 17 55.4 -0.4**
YAK Yakutsk 19.68 323 LR LR 05 26 29.4
comp=Z,122nm,18.2s,baz=135,slow=39
BILL Bilibino 20.27 12 *e*P **P 05 18 27.0 -1.1**
BILL Bilibino 20.27 12 *e*P **P 05 18 27.0 -1.1**
KSRS Korea Array 22.80 251 P **P 05 18 55.4 -0.2**
comp=Z,5.4nm,0.6s,baz=48,slow=9.9,SNR=15
KSRS LR LR 05 27 00.1
comp=Z,98nm,19.2s,baz=58,slow=35
JNU Nakatsue 23.96 239 LR LR 05 28 00.3
comp=Z,61nm,20.6s,baz=31,slow=35
TIXI Tiksi 26.16 341 *e*P **P 05 19 23.4 -3.2**
H11N2 WAKE ISLAND Hy 30.26 158 T T 05 51 56.6
baz=345,slow=76,SNR=79
H11N1 WAKE ISLAND Hy 30.28 158 T T 05 52 02.6
baz=345,slow=76,SNR=166
H11N3 WAKE ISLAND Hy 30.28 158 T T 05 51 57.8
baz=345,slow=76,SNR=51
H11S1 WAKE ISLAND Hy 31.39 159 T T 05 53 21.2
baz=345,slow=76,SNR=1426
H11S3 WAKE ISLAND Hy 31.40 159 T T 05 53 31.3
baz=345,slow=76,SNR=2108
H11S2 WAKE ISLAND Hy 31.41 159 T T 05 53 21.3
baz=345,slow=76,SNR=1405
SONM Songino Array 32.18 287 PcP **PcP 05 23 07.0 -1.5**
comp=Z,0.3nm,0.4s,baz=101,slow=3.1,SNR=4.6
SONM LR LR 05 34 34.4
comp=Z,225nm,18.2s,baz=44,slow=39
ILAR Eielson Array 34.17 40 P **P 05 20 38.0 +0.6**
comp=Z,0.6nm,0.7s,baz=251,slow=6.8,SNR=6.9
ILAR LR LR 05 35 10.9
comp=Z,64nm,18.8s,baz=214,slow=37
INK Inuvik 39.29 34 P **P 05 21 21.9 +1.0**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 39.29 34 P **P 05 21 21.9 +1.0**
comp=Z,0.5nm,0.5s,baz=305,slow=7.0,SNR=7.2
ZALV Zalesovo Beam 42.77 305 LR LR 05 40 12.7
comp=Z,77nm,18.5s,baz=68,slow=37
MKAR Makanchi Array 47.44 297 *e*P **P 05 22 26.8 -0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.44 297 P **P 05 22 24.2 -2.7**
comp=Z,0.8nm,0.6s,baz=65,slow=7.4,SNR=6.1
MKAR LR LR 05 43 41.4
comp=Z,95nm,18.2s,baz=6.5,slow=38
MKAR Makanchi Array 47.44 297 *e*P **P 05 22 26.8 -0.1**
KURK Kurchatov 47.61 303 *e*P **P 05 22 27.5 -0.6**
KURK pmax pmax
comp=Z,1.0nm,0.6s
KURK Kurchatov 47.61 303 *e*P **P 05 22 27.4 -0.6**
YKA Yellowknife Ar 48.55 38 P **P 05 22 36.3 +1.2**
comp=Z,0.7nm,0.7s,baz=296,slow=7.4,SNR=13
CMAR Chiang Mai Arr 54.26 257 P **P 05 23 18.6 +0.1**
CMAR pmax pmax
comp=Z,3.0nm,0.5s
CMAR MLR MLR
comp=Z,36nm,19.2s
CMAR Chiang Mai Arr 54.26 257 P **P 05 23 18.6 +0.1**
comp=Z,2.6nm,0.5s,baz=37,slow=7.4,SNR=20
CMAR LR LR 05 47 56.1
comp=Z,36nm,19.2s,baz=200,slow=38
ARCES ARCESS Array B 56.60 341 LR LR 05 52 38.2
comp=Z,63nm,18.6s,baz=34,slow=41
PDAR Pinedale Array 62.46 56 P **P 05 24 16.3 +0.6**
comp=Z,1.2nm,1.0s,baz=283,slow=3.1,SNR=6.8
FINES FINESS Array B 63.01 335 *e*P **P 05 24 18.7 0.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 63.01 335 P **P 05 24 15.9 -2.8**
comp=Z,0.6nm,0.5s,baz=46,slow=5.5,SNR=4.0
FINES LR LR 05 54 27.6
comp=Z,72nm,19.0s,baz=4.0,slow=39
FINES FINESS Array B 63.01 335 *e*P **P 05 24 18.7 0.0**
GEYT Alibeck 66.94 302 LR LR 05 55 53.9
comp=Z,53nm,19.3s,baz=45,slow=38
NOA NORSAR Array B 66.96 342 LR LR 05 58 23.9
comp=Z,39nm,19.7s,baz=40,slow=40
WRA Warramunga Arr 70.75 201 P **P 05 25 08.6 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 70.75 201 P **P 05 25 08.6 +0.1**
comp=Z,0.9nm,0.5s,baz=25,slow=7.0,SNR=4.0
AKASG Malin Array Be 70.84 327 LR LR 05 59 25.5
comp=Z,38nm,18.0s,baz=5.0,slow=39
ASAR Alice Springs 74.44 200 P **P 05 25 31.2 +0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 74.44 200 P **P 05 25 31.2 +0.8**
comp=Z,0.7nm,0.6s,baz=14,slow=5.1,SNR=10
ASAR Alice Springs 74.44 200 *e*P **P 05 25 31.1 +0.7**
TXAR Lajitas Array 75.29 62 P **P 05 25 37.0 +1.4**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 75.29 62 P **P 05 25 37.0 +1.4**
comp=Z,1.2nm,0.5s,baz=298,slow=4.9,SNR=24
GERES GERESS Array B 77.44 335 LR LR 06 03 06.1
comp=Z,95nm,19.4s,baz=331,slow=38
TORD Torodi Ar. Bea 114.24 332 PKP PKPdf 05 32 30.9 -1.1
comp=Z,0.4nm,0.6s,baz=14,slow=1.2,SNR=5.3

KRSC 31 05:32:29.5±1.5, 48°.69N×156°.25E, h21km±9km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.00**	**358**	P	Pn	05 33 03.5	+1.5
SKR				S	Sn	05 33 27.7	+1.4
PAU	**Pauzhetka**	**2.81**	**7**	P	Pb	05 33 16.2	-2.7
PAU				S	Sb	05 33 49.5	-3.2
MIPR	**Malaya Ipel'ka**	**3.61**	**5**	P	Pn	05 33 27.1	+3.0
MTVR	**Mutnovka**	**3.99**	**17**	P	Pn	05 33 34.0	+4.4
MTVR				S	Sn	05 34 20.4	+4.5
RUS	**Russkaya**	**4.02**	**20**	P	Pn	05 33 33.4	+3.7
RUS				S	Sn	05 34 21.0	+4.9
APC	**Apacha**	**4.28**	**7**	P	Pn	05 33 38.3	+5.0
UGLR	**Uglovaya**	**4.81**	**19**	P	Pn	05 33 45.4	+4.6
AVH	**Avacha**	**4.84**	**18**	P	Pn	05 33 46.4	+5.2
KOK	**Koryaka**	**4.85**	**17**	P	Pn	05 33 46.6	+5.3
SMAR	**Somma**	**4.86**	**18**	P	Pn	05 33 47.0	+5.5
KRER	**Koryakskii**	**4.88**	**18**	P	Pn	05 33 46.3	+4.4
SDLR	**Sedlovina**	**4.89**	**19**	P	Pn	05 33 45.9	+4.0
SDLR				S	Sn	05 34 43.4	+5.6
KRX	**Arik**	**4.92**	**17**	P	Pn	05 33 47.0	+4.7
SPN	**Mys Shipunski**	**5.02**	**27**	P	Pn	05 33 48.7	+5.2
GNL	**Ganaly**	**5.12**	**11**	P	Pn	05 33 49.0	+3.9
MKZ	**Mys Kozlova**	**6.79**	**28**	P	Pn	05 34 11.8	+4.0
TUMR	**Tumrok**	**7.03**	**19**	P	Pn	05 34 15.0	+3.8
KBTR	**Krutoberegovo**	**8.53**	**26**	P	Pn	05 34 35.8	+4.2

*ISCJB **31** 05:32:54.0±0.6, 6°.58N±0°.06×74°.37W±0°.07, h50km, mb3.9/6, Error ellipse: s-maj=10.1km s-min=8.3km az=13.1.*
*IDC **31** 05:32:56.2±0.6, 6°.40N×74°.28W, h74km±5km, mb3.5/6, mb1 3.9/8, mb1mx3.5/25, mbtmp3.9/8, Error ellipse: s-maj=19.8km s-min=6.2km az=86.0*
ISC 31 05:32:56.1±0.6, 6°.44N±0°.07×74°.34W±0°.09, h50km, n12, σ2°.66/19, mb3.6/6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.57**	**180**	P	**Pn**	**05 33 23.3**	**+1.3**
	95nm,0.3s,baz=21,slow=1.9,SNR=171						
ROSC				S	**Sn**	**05 33 42.1**	**+0.7**
	285nm,0.3s,baz=76,slow=23,SNR=39						
PCRV	**Puerto La Cruz**	**10.29**	**68**	P	**Pn**	**05 35 22.1**	**+0.8**
	1.5nm,0.3s,baz=258,slow=5.0,SNR=8.7						
PCRV				S	**Sn**	**05 37 16.1**	**+0.8**
	0.9nm,0.3s,baz=357,slow=18,SNR=2.2						
TEIG	**Tepich**	**19.26**	**317**	P	**P**	**05 37 17.5**	**+0.9**
	0.6nm,0.3s,baz=101,slow=5.2,SNR=5.3						
SIV	**San Ignacio**	**25.87**	**150**	P	**P**	**05 38 19.1**	**-4.3**
	1.4nm,0.6s,baz=326,slow=8.2,SNR=3.6						
SIV				pP	**pP**	**05 38 39.0**	**+2.7**
	1.3nm,0.7s,baz=318,slow=13,SNR=2.4						
TXAR	**Lajitas Array**	**35.82**	**313**	P	**P**	**05 39 49.5**	**-1.7**
	0.3nm,0.5s,baz=130,slow=8.9,SNR=9.7						
TXAR				pP	**pP**	**05 40 08.7**	**+4.5**
	0.1nm,0.5s,baz=119,slow=9.4,SNR=2.0						
PDAR	**Pinedale Array**	**47.68**	**325**	P	**P**	**05 41 26.6**	**-1.4**
	0.6nm,0.8s,baz=134,slow=11,SNR=4.5						
PDAR				pP	**pP**	**05 41 45.1**	**+3.5**
	0.4nm,0.8s,baz=122,slow=15,SNR=2.2						
SCHQ	**Schefferville**	**48.63**	**6**	P	**P**	**05 41 34.1**	**-0.7**
	2.5nm,0.5s,baz=198,slow=7.3,SNR=13						
YKA	**Yellowknife Ar**	**63.21**	**340**	P	**P**	**05 43 16.9**	**-2.1**
	1.8nm,0.5s,baz=132,slow=6.6,SNR=97						
YKA				pP	**pP**	**05 43 34.4**	**+1.4**
	1.2nm,0.4s,baz=131,slow=6.6,SNR=11						
YKA				sP	**sP**	**05 43 43.2**	**+4.6**
	1.4nm,0.7s,baz=133,slow=6.8,SNR=6.9						
ILAR	**Eielson Array**	**76.80**	**335**	P	**P**	**05 44 40.0**	**-2.3**
	0.3nm,0.7s,baz=98,slow=4.6,SNR=6.4						
MKAR	**Makanchi Array**	**123.08**	**19**	PKP	**PKPdf**	**05 51 44.3**	**-3.1**
	0.2nm,0.4s,baz=317,slow=2.2,SNR=4.6						
ASAR	**Alice Springs**	**147.91**	**235**	PKPbc	**PKPdf**	**05 52 32.0**	**-1.7**
	0.7nm,0.4s,baz=121,slow=3.6,SNR=11						
WRA	**Warramunga Arr**	**149.10**	**242**	PKPbc	**PKPdf**	**05 52 35.4**	**-0.3**
	0.6nm,0.3s,baz=106,slow=3.1,SNR=5.8						

IDC 31 05:40:23.0±2.6, 22°.57S×68°.62W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.6/21, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=98.3km s-min=53.7km az=173.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**9.67**	**49**	Pn	Pn	05 42 43.7	+0.1
	0.4nm,0.3s,baz=250,slow=9.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**77.46**	**70**	P	P	05 52 20.7	-0.1
	0.3nm,0.4s,baz=253,slow=5.8,SNR=6.3						
YKA	**Yellowknife Ar**	**92.28**	**340**	P	P	05 53 34.2	-0.2
	0.2nm,0.6s,baz=135,slow=4.5,SNR=6.9						
MKAR	**Makanchi Array**	**146.33**	**37**	PKPbc	PKPbc	06 00 05.2	-0.5
	0.1nm,0.4s,baz=310,slow=2.3,SNR=2.5						

GUC 31 05:44:37.8±0.6, 28°.49S×69°.34W, h47km±14km, ML3.9, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.25**	**266**	⇑*i*P	Pn	05 45 01.0	+2.1
VACH				*i* S	Sn	05 45 17.6	+2.9
VACH				AML	AML	05 45 18.9	
	comp=E,4μm,0.1s						
CPCH	**Copiapo**	**1.44**	**321**	⇑*i*P	Pn	05 45 01.9	+0.4
CPCH				*i* S	Sn	05 45 20.5	+1.2
LSCH	**La Serena**	**2.19**	**229**	⇓*i*P	Pn	05 45 12.6	+1.0
LSCH				*i* S	Sn	05 45 38.1	+0.6
CMCH	**Combarbala**	**3.04**	**208**	⇓*i*P	Pn	05 45 24.1	+0.5
CMCH				*i* S	Sn	05 45 59.3	+0.5
CMCH				AML	AML	05 46 03.1	
	comp=N,248nm,0.6s						

*IDC **31** 05:45:09.8±1.2, 20°.49S×173°.92W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.8/28, mbtmp3.7/6, ML4.4/1, Error ellipse: s-maj=56.4km s-min=24.8km az=140.0*
*ISCJB **31** 05:45:12.2±1.0, 20°.6S±0°.2×173°.9W±0°.2, h27km, mb3.7/5, Error ellipse: s-maj=39.9km s-min=19.4km az=38.2*
ISC 31 05:45:13.7±1.0, 20°.6S±0°.2×173°.9W±0°.3, h27km, n7, σ0°.35/7, mb3.8/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.24**	**202**	P	**Pn**	**05 49 37.2**	**+0.2**
	1.1nm,0.3s,baz=313,slow=2.5,SNR=9.2						
ASAR	**Alice Springs**	**48.24**	**256**	P	**P**	**05 53 52.6**	**0.0**
	0.7nm,0.5s,baz=98,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**48.40**	**261**	P	**P**	**05 53 53.6**	**-0.2**
	0.4nm,0.4s,baz=100,slow=9.3,SNR=3.4						
TXAR	**Lajitas Array**	**83.90**	**56**	P	**P**	**05 57 41.3**	**-0.2**
	0.3nm,0.8s,baz=220,slow=9.2,SNR=3.9						
ILAR	**Eielson Array**	**87.61**	**11**	P	**P**	**05 57 59.5**	**+0.5**
	0.4nm,0.8s,baz=228,slow=6.3,SNR=11						
YKA	**Yellowknife Ar**	**95.03**	**24**	P	**P**	**05 58 33.5**	**0.0**
	0.1nm,0.7s,baz=228,slow=5.3,SNR=3.5						
AKASG	**Malin Array Be**	**144.88**	**334**	PKP	**PKPdf**	**06 04 47.7**	**-0.4**
	0.4nm,0.5s,baz=40,slow=4.6,SNR=11						

GUC 31 05:45:23.7±0.7, 34°.94S×71°.65W, h53km±6km, ML2.9, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.35**	**100**	⇓*i*P	Pn	05 45 33.9	+0.3
NICH				*i* S	Sn	05 45 41.6	+1.0
TALC	**Talca**	**0.46**	**178**	⇑*i*P	Pn	05 45 34.7	0.0
TALC				*i* S	Sn	05 45 42.8	+0.3
LNCH	**Linares**	**0.90**	**178**	⇑*i*P	Pn	05 45 41.0	+0.8
LNCH				*i* S	Sn	05 45 53.2	+0.8
LNV	**Longovilo**	**1.00**	**11**	⇑*i*P	Pn	05 45 41.8	+0.3
LNV				*i* S4	Sn	05 45 54.7	0.0
CACH	**El Canelo**	**1.20**	**47**	⇓*i*P	Pn	05 45 44.5	+0.2
CACH				*i* S1	Sn	05 46 01.1	+1.5
CHCH	**Chadas Angostu**	**1.30**	**40**	⇑*i*P	Pn	05 45 45.8	+0.1
CHCH				*i* S1	Sn	05 46 03.1	+1.1
COCH	**Cobquecura**	**1.51**	**218**	*e*P1	Pn	05 45 49.1	+0.8
RCDM	**Rinconada Maip**	**1.61**	**26**	*e*P1	Pn	05 45 50.0	+0.2
CLCH	**Cerro Calan**	**1.80**	**31**	*e*P1	Pn	05 45 53.1	+0.6
CLCH				*i* S1	Sn	05 46 15.5	+1.3
CLCH				AML	AML	05 46 20.2	
	comp=N,158nm,0.5s						
PEL	**Peldehue**	**1.96**	**24**	⇓*i*P	Pn	05 45 55.3	+0.6
PEL				*i* S4	Sn	05 46 19.9	+1.7
PEL				AML	AML	05 46 27.6	
	comp=N,155nm,0.7s						

GUC 31 05:57:47.1±0.7, 34°.31S×72°.05W, h25km±12km, ML3.6, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.97**	**136**	*e*P9	Pg	05 58 06.7	
NICH				*i* S	Sn	05 58 21.1	+3.0
TALC	**Talca**	**1.14**	**162**	⇑*i*P	Pb	05 58 08.2	+0.1
TALC				*i* S	Sb	05 58 23.9	+1.5
RCDM	**Rinconada Maip**	**1.32**	**52**	⇑*i*P	Pb	05 58 11.1	-0.3
RCDM				*i* S1	Sg	05 58 29.4	
CLCH	**Cerro Calan**	**1.56**	**54**	⇓*i*P	Pb	05 58 15.2	-0.3
CLCH				*i* S	Sb	05 58 36.3	+1.5
CLCH				AML	AML	05 58 45.2	
	comp=N,974nm,0.5s						
SJCH	**San Jose de Ma**	**1.56**	**65**	*i* P1	Pb	05 58 14.9	-0.6
SJCH				*i* S1	Sb	05 58 36.2	+1.2
LNCH	**Linares**	**1.57**	**166**	⇑*i*P	Pb	05 58 15.4	-0.1
LNCH				*i* S	Sb	05 58 36.0	+1.0
PEL	**Peldehue**	**1.63**	**45**	⇑*i*P	Pb	05 58 16.1	-0.6
PEL				*i* S	Sb	05 58 38.7	+1.8
PEL				AML	AML	05 58 46.8	
	comp=N,1μm,0.5s						

IDC 31 05:58:15.6±2.5, 1°.81N×126°.84E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/38, mbtmp3.3/3, Error ellipse: s-maj=240.2km s-min=24.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.84**	**162**	P	P	06 03 19.2	-1.4
	0.5nm,0.3s,baz=344,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**26.24**	**165**	P	P	06 03 54.0	+1.4
	0.5nm,0.7s,baz=348,slow=8.6,SNR=3.0						
MKAR	**Makanchi Array**	**59.19**	**326**	P	P	06 08 18.2	-0.3
	0.2nm,0.4s,baz=123,slow=8.3,SNR=3.1						

*IDC **31** 06:11:24.8±0.4, 8°.90S×117°.39E, h0km, mb4.7/26, mb1 4.7/27, mb1mx4.7/38, mbtmp4.6/27, ML4.1/1, MS4.1/18, Ms1 4.1/18, ms1mx3.9/34, Error ellipse: s-maj=16.1km s-min=11.0km az=54.0*
*DJA **31** 06:11:28.7±0.2, 9°.S±3°.×11°.7E±°.1, h10km, M5.1/32, mB5.5/22, mb5.3/31, MLv5.5/32, Mw(mB)5.0/22*
*MOS **31** 06:11:28.1±1.1, 8°.83S×117°.52E, h33km, mb4.9/24, Error ellipse: s-maj=11.1km s-min=7.0km az=127.0*
*ISCJB **31** 06:11:29.7±0.4, 9°.01S±0°.03×117°.46E±0°.02, h49km±3km, mb4.7/55, MS4.1/19, Error ellipse: s-maj=5.2km s-min=3.1km az=9.0*
*BJI **31** 06:11:29.7, 9°.10S×117°.40E, h45km, mB5.0/31, mb4.8/44, Ms4.8/24, Ms7 4.4/22*
*NEIC **31** 06:11:30.9±0.5, 8°.97S×117°.43E, h45km±5km, mb4.8/17, Error ellipse: s-maj=6.8km s-min=4.4km az=208.0*
NEIC Felt [II] at Denpasar, Bali. Also felt at Kuta. Felt at Mataram, Lombok.
*GCMT **31** 06:11:30.9±0.3, 9°.02S×117°.48E, h18km±1km, MW5.0/77, Moment Tensor Solution. s27,c30; s77,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.74±.15; $M_{\theta\theta}$0.09±.11; $M_{\phi\phi}$-0.82±.13; $M_{r\theta}$-0.90±.30; $M_{\phi\theta}$-3.49±.11; $M_{\phi r}$0.65±.31; Best double couple: $M_0$3.73600×10^{16} NP1:ϕ_s264.00000°, δ76.00000°, λ164.00000°. NP2: ϕ_s358.00000°, δ74.00000°, λ14.00000°. Principal axes: T 3.5800, Plg21.0000°, Azm221.0000°; N 0.3130, Plg69.0000°, Azm45.0000°; P -3.8920, Plg1.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*KLM **31** 06:11:34.6, 9°.06S×117°.27E, h45km, mb4.8, MS5.8*
ISC 31 06:11:31.9±0.4, 9°.06S±0°.04×117°.44E±0°.03, h52km±2km, n223, σ1°.70/257, mb4.7/55, MS4.1/19, 14C-5D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**2.24**	**280**	P	**Pn**	**06 12 06.1**	**-0.5**
DNP				S	**Sn**	**06 12 35.2**	**+2.2**
IGBI	**Denpasar**	**2.28**	**276**	P	**Pn**	**06 12 04.7**	**-2.5**
IGBI				S	**Sn**	**06 12 36.0**	**+1.9**
SRBI	**Singaraja**	**2.41**	**294**	P	**Pn**	**06 12 07.7**	**-1.2**
SRBI				S	**Sn**	**06 12 37.8**	**+0.6**
WSI	**Waingapu**	**2.88**	**102**	P	**Pn**	**06 12 14.0**	**-1.4**
BASI	**Baing, Sumba**	**3.30**	**111**	P	**Pn**	**06 12 20.2**	**-0.9**

JAGI	Jajag, Banyuwa	3.31	280	P	Pn	06 12 18.9	-2.3
JAGI	Jajag, Banyuwa	3.31	280	*e*Pn	Pn	06 12 18.8	-2.3
JAGI				*e*Sn	Sn	06 12 59.2	0.0
ABJI	Asem Bagus	3.41	291	P	Pn	06 12 21.8	-0.9
KMMI	Kalianget	3.98	300	P	Pn	06 12 30.3	-0.1
BLJI	Banyuglugur	4.02	289	P	Pn	06 12 30.5	-0.6
GMJI	Gumukmas	4.03	281	P	Pn	06 12 29.2	-1.9
BSSI	Bau Bau, Buton	4.19	46	P	Pn	06 12 30.1	-3.2
EDFI	Ende, Flores	4.21	86	P	Pn	06 12 30.8	-2.9
BKSI	Bulukumba	4.57	36	P	Pn	06 12 37.5	-1.0
KAPI	Kappang	4.63	30	*e*Pn	Pn	06 12 37.2	-2.1
KAPI				*e*Sn	Sn	06 13 28.7	-3.1
MMRI	Maumere	4.76	85	P	Pn	06 12 39.9	-1.2
MMRI	Maumere	4.76	85	*e*Pn	Pn	06 12 41.1	0.0
MMRI				*e*Sn	Sn	06 13 36.3	+1.3
BNSI	Bone	5.33	30	P	Pn	06 12 49.0	0.0
394nm,0.7s,5μm3.1nm							
GRJI	Gresik	5.36	293	P	Pn	06 12 49.5	+0.1
1μm,0.5s,17μm5.5nm							
SPSI	Sidrap Palu	5.56	25	P	Pn	06 12 52.1	-0.1
155nm,0.7s,3μm1.5nm							
PWJI	Pagerwojo	5.67	280	P	Pn	06 12 51.8	-1.9
515nm,0.8s,5μm3.7nm							
BWJI	Bawean	5.72	304	P	Pn	06 12 53.2	-1.1
250nm,0.8s,4μm1.3nm							
KBKI	Kotabaru	5.86	347	P	Pn	06 12 59.1	+2.8
TBJI	Tambak Boyo	5.97	292	P	Pn	06 12 57.8	0.0
1μm,0.9s,11μm4.3nm							
BBKI	Banjar Baru	6.13	335	P	Pn	06 12 58.8	-1.2
404nm,1.1s,4μm2.5nm							
BBSI	Bau Bau	6.20	55	P	Pn	06 13 01.7	+0.7
BATI	Baumata	6.24	101	P	Pn	06 13 01.7	+0.2
477nm,0.6s,5μm1.7nm							
BATI	Baumata	6.24	101	Pn	Pn	06 13 00.5	-1.1
140nm,0.3s,baz=286,slow=3.7,SNR=52							
BATI				Sn	Sn	06 14 14.8	+3.3
43nm,0.3s,baz=151,slow=19,SNR=4.1							
BATI				LR	LR	06 15 41.1	
comp=Z,5μm,18.2s,baz=357,slow=41							
PCJI	Pacitan	6.25	277	P	Pn	06 13 01.9	+0.2
662nm,0.9s,6μm3.1nm							
TTSI	Tana Toraja	6.43	22	P	Pn	06 13 03.4	-0.6
144nm,0.8s,2μm1.0nm							
SOEI	Soe	6.77	96	P	Pn	06 13 09.7	+0.8
SOEI	Soe	6.77	96	*e*Pn	Pn	06 13 08.9	0.0
UGM	Wanagama	6.94	279	P	Pn	06 13 10.8	-0.3
478nm,1.0s,4.4nm							
UGM	Wanagama	6.94	279	*e*Pn	Pn	06 13 13.2	+2.1
UWJI	Ujung Watu	6.95	292	P	Pn	06 13 11.2	0.0
392nm,1.0s,4μm1.5nm							
KPJI	Karang Pucung	8.60	281	P	Pn	06 13 35.0	+1.2
CMJI	Cimerak	8.99	277	P	Pn	06 13 38.0	-1.2
172nm,1.0s,2μm							
APSI	Ampana	9.12	28	P	Pn	06 13 45.7	+4.8
CISI	Cisompet, Garu	9.64	278	P	Pn	06 13 46.9	-1.3
275nm,0.9s,7μm							
CISI	Cisompet, Garu	9.64	278	*e*Pn	Pn	06 13 47.7	-0.5
CISI				*e*Sn	Sn	06 15 32.4	-2.8
MPSI	Mapaga	9.65	15	P	Pn	06 13 48.0	-0.2
30nm,1.1s,500nm							
LEM	Lembang	9.98	282	P	Pn	06 13 56.5	+3.6
LEM	Lembang	9.98	282	Pn	Pn	06 13 52.5	-0.4
4.4nm,0.3s,baz=95,slow=8.2,SNR=8.5							
CNJI	Cibinong	10.36	279	P	Pn	06 13 57.8	-0.1
174nm,0.8s,2μm							
MRSI	Marisa	10.48	26	P	Pn	06 13 58.7	-0.9
38nm,0.9s							
CBJI	Citeko	10.82	283	P	Pn	06 14 05.1	+0.9
STKI	Sintang	10.84	326	P	Pn	06 14 06.3	+1.8
SANI	Sanana	10.99	51	P	Pn	06 14 07.4	+0.8
NLAI	Namlea	11.21	60	P	Pn	06 14 15.6	+6.1
TPI	Tanjungpandan	11.57	302	P	Pn	06 14 14.7	+0.2
49nm,1.3s,973nm							
CGJI	Cibinong	11.89	281	P	Pn	06 14 17.9	-1.0
184nm,0.7s							
MBWA	Marble Bar	12.23	170	*e*Pn	Pn	06 14 19.8	-3.7
SBUM	Sibu	12.56	335	⇑P	Pn	06 14 28.7	+0.6
KSM	Kuching	12.65	325	⇑P	Pn	06 14 30.3	+1.0
KSM	Kuching	12.65	325	*e*Pn	Pn	06 14 28.8	-0.4
BTM	Bintulu	12.93	340	⇑P	Pn	06 14 34.9	+1.8
TSM	Tawau	13.27	2	⇓P	P	06 14 42.4	-3.7
KASI	Kota Agung	13.31	284	P	P	06 14 46.5	0.0
LWLI	Liwa	13.88	286	P	P	06 14 57.3	+4.4
TNTI	Ternate	13.90	46	P	P	06 14 56.4	+3.4
TNTI	Ternate	13.90	46	*e*Pn	Pn	06 14 45.5	-0.7
MDSI	Maura Dua	13.93	288	P	Pn	06 14 48.6	+1.9
SDKM	Sandakan	14.61	359	⇑P	P	06 15 01.1	+0.2
LHSI	Lahat	14.77	290	P	P	06 15 04.0	+1.3
KKM	Kota Kinabalu	15.05	355	⇓P	P	06 15 06.9	+0.9
KKM	Kota Kinabalu	15.05	355	*e*P	P	06 15 08.3	+2.3
50nm,1.1s							
FAKI	Fak Fak	15.93	68	P	Pn	06 15 12.2	-0.7
82nm,0.8s							
FAKI	Fak Fak	15.93	68	*e*Pn	Pn	06 15 11.5	-1.4
MYKOM	Kota Tinggi	17.31	308	⇑P	P	06 15 33.2	+2.3
MYKOM	Kota Tinggi	17.31	308	*e*P	P	06 15 34.4	+3.5
KGM	Kluang	17.86	307	⇑P	P	06 15 40.2	+3.1
RKPI	Ransiki, Papua	18.26	67	P	Pn	06 15 57.6	+16
PDSI	Padang	18.74	295	P	Pn	06 15 56.9	+9.3
WRA	Warramunga Arr	19.59	125	P	P	06 15 55.5	-0.5
0.6nm,0.3s,baz=301,slow=13,SNR=27							
WRA				S	S	06 19 31.2	-3.4
0.4nm,0.3s,baz=310,slow=21,SNR=4.4							
WRA				LR	LR	06 24 32.3	
comp=Z,978nm,18.6s,baz=300,slow=40							
WRAB	Tennant Creek	19.59	125	*c i*P	P	06 15 55.7	-0.3
WRAB				pmax	pmax		
comp=Z,206nm,2.5s							
WRAB	Tennant Creek	19.59	125	*e*Pn	P	06 15 55.7	-0.3
WB2	Warramunga Arr	19.60	125	*e*P	P	06 15 55.9	-0.2
KTGM	Kuala Trenggan	20.19	315	⇑P	Pn	06 16 06.1	+1.3
MNSI	Mandailing Nat	20.31	298	P	Pn	06 16 13.8	+7.6
IPM	Ipoh	21.18	309	*e*P	P	06 16 15.3	+2.1
ASAR	Alice Springs	21.42	135	P	P	06 16 15.7	-0.1
comp=Z,19nm,0.7s,baz=312,slow=10,SNR=57							
ASAR				PcP	PcP	06 20 19.4	+1.5
comp=Z,2.4nm,0.4s,baz=320,slow=1.5,SNR=9.2							
ASAR				ScP	ScP	06 23 55.4	+4.6
comp=Z,2.1nm,0.9s,baz=304,slow=1.4,SNR=4.3							
ASAR				LR	LR	06 24 50.3	
comp=Z,537nm,18.5s,baz=310,slow=37							
PSI	Prapat	21.90	302	P	P	06 16 18.2	-2.8
comp=Z,6.6nm,0.5s,baz=166,slow=13,SNR=10							
PSI				LR	LR	06 25 17.9	
comp=Z,637nm,18.9s,baz=142,slow=38							
KULM	Kulim	21.99	310	*e*P	P	06 16 22.1	+0.3
DLV	T Lat	22.69	337	*e*P	P	06 16 31.6	+2.1
KCSI	Kotacane, Aceh	23.25	302	P	P	06 16 34.6	-0.5
comp=Z,30nm,0.8s,comp=Z,595nm							
NWAO	Narrogin (SRO)	23.75	180	P	P	06 16 39.9	+0.3
comp=Z,18nm,0.6s,baz=8.3,slow=8.2,SNR=15							
FORT	Forrest	23.77	157	*e*P	P	06 16 39.3	-0.5
comp=Z,72nm,1.0s							
COEN	Coen	25.67	103	*e*P	P	06 17 01.6	+4.3
comp=Z,211nm,0.8s							
QIZ	Qiongzhong	28.90	345	P	P	06 17 27.8	+1.7
QIZ				pP	pP	06 17 38.8	-0.6
QIZ				S	S	06 22 16.0	+2.9
QIZ				PMZ			
comp=Z,10.0nm,1.3s							
QIZ				PMZ			
comp=Z,210nm,5.1s							
QIZ				LN			
comp=Z,420nm,15.7s							
QIZ				LZ			
comp=Z,480nm,15.2s							
BBOO	Buckleboo	29.24	147	*e*P	P	06 17 29.4	+0.3
comp=Z,325nm,0.7s							
PMG	Port Moresby	29.33	93	*e*P	P	06 17 29.4	-0.7
PMG				pmax	pmax		
comp=Z,5.0nm,0.8s							
PMG	Port Moresby	29.33	93	LR	LR	06 32 39.4	
comp=Z,600nm,18.2s,baz=269,slow=43							
CTA	Charters Tower	29.91	115	P	P	06 17 36.5	+1.3
comp=Z,18nm,0.9s,baz=277,slow=10,SNR=8.8							
CTA				LR	LR	06 30 48.9	
comp=Z,956nm,20.4s,baz=265,slow=39							
CTAO	Charters Tower	29.91	115	*e*P	P	06 17 36.3	+1.1
CTAO				pmax	pmax		
comp=Z,36nm,1.1s							
CTAO	Charters Tower	29.91	115	*e*P	P	06 17 36.3	+1.1
comp=Z,36nm,1.1s							
UTHA	Uthaitani	30.27	324	P	P	06 17 38.2	-0.1
comp=Z,5.2nm,0.8s,comp=Z,86nm							
UTTA	Uttaradit	31.43	328	P	P	06 17 48.9	+0.4
comp=Z,4.6nm,0.7s							
CMAR	Chiang Mai Arr	32.88	326	P	P	06 18 00.3	-0.9
comp=Z,3.2nm,0.8s,baz=153,slow=6.0,SNR=16							
CMAR				PcP	PcP	06 20 46.2	+1.1
comp=Z,1.2nm,0.3s,baz=187,slow=2.9,SNR=6.0							
CMAR				ScP	ScP	06 24 29.6	+4.6
comp=Z,3.5nm,0.8s,baz=177,slow=3.1,SNR=14							
CMAR				LR	LR	06 33 16.3	
comp=Z,424nm,18.2s,baz=158,slow=40							
SLVN	Son La	33.00	336	*e*P	P	06 18 02.2	-0.1
comp=Z,4.0nm,0.8s							
GYA	Guiyang	36.83	344	*e*P	P	06 18 38.5	+3.2
GYA				PMZ			
comp=Z,10.0nm,0.8s							
KMI	Kunming	36.87	337	P	P	06 18 38.0	+2.1
KMI				PMZ			
comp=Z,16nm,0.6s							
PALK	Pallekele	40.05	293	P	P	06 19 01.7	-0.8
comp=Z,8.7nm,0.6s,baz=104,slow=7.9,SNR=4.6							
NJ2	Nanjing	40.90	2	*e*P	P	06 19 09.0	-0.2
NJ2				PMZ			
comp=Z,70nm,0.6s							
CD2	Chengdu	41.85	342	P	P	06 19 17.5	+0.4
CD2				pP	pP	06 19 30.5	-0.3
CD2				sP	sP	06 19 38.5	+1.7
CD2				PP	PP	06 20 57.0	+2.2
CD2				S	S	06 25 34.0	+2.5
CD2				sS	sS	06 25 53.3	-1.2
CD2				PMZ			
comp=Z,40nm,1.1s							
CD2				PMZ			
comp=Z,110nm,5.9s							
CD2				LN			
comp=Z,340nm,15.5s							
CD2				LE			
comp=Z,510nm,13.1s							
CD2				LZ			
comp=Z,390nm,15.5s							
XAN	Xi'an	43.62	350	P	P	06 19 34.0	+2.6
XAN				S	S	06 25 58.5	+1.2
XAN				PMZ			
comp=Z,2.0nm,1.0s							
XAN				LN			
comp=Z,210nm,18.4s							
XAN				LE			
comp=Z,70nm,15.5s							
XAN				LZ			
comp=Z,110nm,16.6s							
H08S2	Diego Garcia H	44.47	268	T	T	07 06 47.9	
baz=95,slow=76,SNR=42							
H08S3	Diego Garcia H	44.48	268	T	T	07 06 58.7	
baz=95,slow=76,SNR=43							
H08S1	Diego Carcia H	44.49	268	T	T	07 07 05.1	
baz=95,slow=76,SNR=38							
ODAN	Odare	46.10	322	*e*P	P	06 19 48.4	-3.1
TAPN	Taplejung	46.26	322	*e*P	P	06 19 51.2	-1.6
comp=Z,25nm,0.8s							
RAMN	Ramite	46.65	321	*e*P	P	06 19 52.4	-3.4
comp=Z,14nm,0.5s							
LZH	Lanzhou	46.70	345	*e*P	P	06 19 57.8	+1.9
LZH				pP	pP	06 20 09.5	-0.2
LZH				sP	sP	06 20 14.3	-1.4
LZH				PMZ			
comp=Z,14nm,1.0s							
KSAR	Wonju Array Be	47.28	11	P	P	06 20 00.0	-0.2
KSAR	Wonju Array Be	47.28	11	P	P	06 19 60.0	-0.2
KSRS	Korea Array	47.30	11	P	P	06 19 60.0	-0.4
comp=Z,15nm,0.9s,baz=191,slow=8.2,SNR=24							
KSRS				LR	LR	06 41 33.7	
comp=Z,113nm,20.2s,baz=195,slow=38							
JIRN	Jiri	47.41	321	*e*P	P	06 20 00.1	-1.8
comp=Z,23nm,0.6s							
GUN	Gumba	47.78	321	*e*P	P	06 20 02.6	-2.1
comp=Z,29nm,0.9s							
PKI	Pulchoki	47.84	321	*e*P	P	06 20 02.7	-2.4
PKIN	Phulchoki	47.85	321	*e*P	P	06 20 02.8	-2.3
DMN	Daman	48.05	320	*e*P	P	06 20 04.5	-2.2
comp=Z,24nm,0.9s							
DZM	Mont Dzumac	48.74	111	*e*P	P	06 20 14.6	+2.6
comp=Z,61nm,1.2s							
DZM				*e*S	S	06 27 10.8	-0.6
comp=Z,167nm,33.1s							
DZM				*e*LR	LR	06 33 55.9	
comp=Z,592nm,23.3s							
DZM	Mont Dzumac	48.74	111	P	P	06 20 13.0	+1.0
comp=Z,14nm,0.9s,baz=226,slow=12,SNR=7.6							
BJI	Beijing	48.87	359	P	P	06 20 14.5	+2.1
BJI				S	S	06 27 17.3	+5.1
BJI				PMZ			
comp=Z,13nm,0.7s							
BJI				PMZ			
comp=Z,120nm,3.7s							
BJI				LN			
comp=Z,150nm,19.2s							
BJI				LE			
comp=Z,220nm,16.6s							
BJI				LZ			
comp=Z,90nm,26.2s							
MJAR	Matsushiro Arr	49.38	22	P	P	06 20 15.0	-1.5
MJAR	Matsushiro Arr	49.38	22	P	P	06 20 15.0	-1.5
comp=Z,3.1nm,0.9s,baz=186,slow=7.8,SNR=6.6							
MJAR				LR	LR	06 43 14.6	
comp=Z,74nm,18.8s,baz=210,slow=39							
MAJO	Matsushiro	49.38	22	*e*P	P	06 20 14.5	-2.0
MAJO				pmax	pmax		
comp=Z,49nm,1.3s							
HHC	Hu-ho-hao-te	49.95	354	*e*P	P	06 20 23.5	+2.6
HHC				pP	pP	06 20 36.0	+1.2
HHC				sP	sP	06 20 44.0	+3.2
HHC				PP	PP	06 22 21.3	+5.0
HHC				S	S	06 27 30.3	+2.6
HHC				sS	sS	06 27 54.5	+3.3
HHC				SS	SS	06 31 02.8	+1.3
HHC				PMZ			
comp=Z,55nm,0.9s							
HHC				PMZ			
comp=Z,130nm,4.4s							
HHC				LN			
comp=Z,370nm,16.2s							
HHC				LE			
comp=Z,510nm,18.6s							
HHC				LZ			
comp=Z,280nm,15.9s							
GTA	Gaotai	50.93	342	*e*P	P	06 20 28.5	+0.2
GTA				pP	pP	06 20 41.0	-1.3
GTA				sP	sP	06 20 46.3	-1.9
GTA				S	S	06 27 42.3	+0.9
GTA				sS	sS	06 28 04.5	-0.3
GTA				SS	SS	06 31 16.0	-1.0
GTA				PMZ			
comp=Z,3.0nm,0.9s							
GTA				PMZ			
comp=Z,110nm,6.7s							
GTA				LN			
comp=Z,210nm,17.1s							
GTA				LE			
comp=Z,230nm,19.5s							
CN2	Changchun	53.11	7	*e*P	P	06 20 48.5	+4.3
MDJ	Mudanjiang	54.54	11	P	P	06 20 55.0	+0.3
MDJ				PMZ			
comp=Z,22nm,0.9s							
MDJ				PMZ			
comp=Z,84nm,8.4s							
MDJ	Mudanjiang	54.54	11	*e*P	P	06 20 54.0	-0.7
comp=Z,25nm,0.9s							
USRK	Ussuriysk Ar.	54.62	13	P	P	06 20 54.9	-0.3
comp=Z,12nm,0.6s,baz=191,slow=7.0,SNR=24							
ULN	Ulaanbaatar	57.42	352	*d i*P	P	06 21 15.8	+0.4
ULN				pmax	pmax		
comp=Z,10.0nm,1.7s							
ULN	Ulaanbaatar	57.42	352	*e*P	P	06 21 14.8	-0.6
comp=Z,4.4nm,0.9s							
SONM	Songino Array	57.48	351	P	P	06 21 14.9	-0.9
comp=Z,4.4nm,0.7s,baz=169,slow=9.4,SNR=32							
HIA	Hailar	58.11	2	*e*P	P	06 21 19.1	-1.0
HIA				pmax	pmax		
comp=Z,4.0nm,0.9s							
YUK	Yuzh-Kuril'sk	58.79	24	*d i*P	P	06 21 21.7	-3.1
YUK				*i*		06 23 31.9	
YUK				*i* PPP	PPP	06 24 57.4	
YUK				*i* S	S	06 29 24.2	-2.1
WMQ	Urumqi	59.15	335	P	P	06 21 29.0	+1.5
WMQ				pP	pP	06 21 42.0	+0.2
WMQ				sP	sP	06 21 46.8	-0.9
WMQ				PcP	PcP	06 22 15.8	+0.2
WMQ				PP	PP	06 23 41.8	+3.0
WMQ				S	S	06 29 31.5	+0.3
WMQ				sS	sS	06 29 53.0	-2.2
WMQ				ScS	ScS	06 31 11.3	-1.9
WMQ				SS	SS	06 33 28.0	+1.5
WMQ				PMZ			
comp=Z,13nm,1.3s							
WMQ				PMZ			
comp=Z,130nm,4.6s							
WMQ				LN			
comp=Z,150nm,22.0s							
WMQ				LE			
comp=Z,150nm,27.0s							
WMQ				LZ			
comp=Z,140nm,23.0s							
HABR	Khabarovsk	59.36	14	*e*P	P	06 21 25.7	-3.0
HABR				*e**PP	pP	06 21 35.6	-7.3
HABR				*e**SP	sP	06 21 39.9	-8.9
HABR				*e*		06 22 13.2	
HABR				*e*		06 23 36.9	
HABR				*e*S	S	06 29 32.3	-1.2
HABR				*e*S	S	06 29 45.0	+12
HABR				*e**SS	sS	06 29 48.9	-8.5
HABR				*e*SS	SS	06 33 29.2	-0.1
HABR				pmax	pmax		
comp=Z,18nm,1.2s							
HABR				MLR	MLR		
comp=Z,152nm,18.0s							
KLR	Kul'dur	59.39	11	*e*P	P	06 21 20.0	-8.9
RER	Riviere de l'E	60.45	251	*e*P	P	06 21 38.7	+1.8
comp=Z,92nm,0.8s							
ZAK	Zakamensk	60.47	350	*e*P	P	06 21 35.6	-0.8
ZAK				pmax	pmax		
comp=Z,2.0nm,1.9s							
TLY	Talaya	61.66	350	*e*P	P	06 21 44.8	+0.5
TLY				pmax	pmax		
comp=Z,4.0nm,1.4s							
TLY				MLR	MLR		
comp=Z,115nm,18.0s							
KSH	Kashi	61.75	324	*e*P	P	06 21 45.5	+0.1
KSH				pP	pP	06 21 58.5	-1.2
KSH				PP	PP	06 24 04.5	+2.6
KSH				S	S	06 30 00.5	-4.3
KSH				sS	sS	06 30 22.5	-6.3
KSH				ScS	SKKSac	06 31 25.8	-7.1
KSH				SS	SS	06 34 05.5	-2.0
KSH				PMZ			
comp=Z,6.0nm,1.2s							
KSH				PMZ			
comp=Z,54nm,5.7s							
KSH				LN			
comp=Z,110nm,4.9s							
KSH				LE			
comp=Z,41nm,5.4s							
KSH				LZ			
comp=Z,210nm,5.7s							
MOY	Mondy	62.12	348	*e*P	P	06 21 49.8	+2.2
HVS	Khovu-Aksy	63.38	344	*e*P	P	06 21 55.1	-0.8
MKAR	Makanchi Array	63.82	334	*ce*P	P	06 22 00.4	+1.5
MKAR				pmax	pmax		
comp=Z,3.0nm,0.5s							
MKAR	Makanchi Array	63.82	334	P	P	06 21 59.5	+0.6
comp=Z,2.6nm,0.5s,baz=143,slow=7.8,SNR=8.9							
MKAR				LR	LR	06 54 08.5	
comp=Z,113nm,18.1s,baz=144,slow=40							
TKM2	Tokmak 2	64.26	327	*e*P	P	06 22 00.2	-1.8
TKM2				pmax	pmax		
comp=Z,7.0nm,1.0s							
TKM2	Tokmak 2	64.26	327	*e*P	P	06 22 00.2	-1.8
comp=Z,6.7nm,1.0s							
AAK	Ala-Archa	64.66	326	*e*P	P	06 22 02.9	-1.8
AAK				pmax	pmax		
comp=Z,31nm,1.7s							
AAK	Ala-Archa	64.66	326	*e*P	P	06 22 03.4	-1.3
comp=Z,6.2nm,0.8s							
EKS2	Erkin-Say	65.08	326	*e*P	P	06 22 05.8	-1.5
EKS2				pmax	pmax		
comp=Z,7.0nm,0.8s							
EKS2	Erkin-Say	65.08	326	*e*P	P	06 22 05.8	-1.5
comp=Z,6.7nm,0.8s							
BOD	Bodaibo	66.70	358	*e*P	P	06 22 17.5	+0.2
KKAR	Karatay Array	67.20	325	*e*P	P	06 22 19.3	-1.5
KKAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
KKAR	Karatay Array	67.20	325	*e*P	P	06 22 19.3	-1.5
comp=Z,1.7nm,0.6s							
KURK	Kurchatov	68.38	335	*e*P	P	06 22 26.3	-1.7
KURK				pmax	pmax		
comp=Z,13nm,1.5s							
KURK	Kurchatov	68.38	335	*e*P	P	06 22 26.3	-1.7
comp=Z,13nm,1.5s							
ABPO	Ambohimpanom	68.47	253	*e*P	P	06 22 29.4	-0.1
ABPO				pmax	pmax		
comp=Z,13nm,1.1s							
ABPO	Ambohimpanom	68.47	253	*e*P	P	06 22 29.4	-0.1
comp=Z,13nm,1.1s							
ZALV	Zalesovo Beam	68.56	340	*i* P	P	06 22 27.3	-1.7
ZALV				pmax	pmax		
comp=Z,5.0nm,0.6s							
ZALV	Zalesovo Beam	68.56	340	P	P	06 22 27.4	-1.7
comp=Z,3.6nm,0.5s,baz=131,slow=4.5,SNR=16							
ZALV				LR	LR	06 53 41.5	
comp=Z,109nm,21.0s,baz=70,slow=37							
MAW	Mawson	68.66	200	LR	LR	06 45 45.4	
comp=Z,209nm,20.0s,baz=38,slow=30							
PETK	Petropavlovsk-	70.75	24	P	P	06 22 42.4	-0.2
comp=Z,3.8nm,0.8s,baz=145,slow=5.4,SNR=4.5							
VNDA	Vanda	72.17	171	P	P	06 22 52.3	+1.5
comp=Z,2.2nm,0.4s,baz=316,slow=7.5,SNR=34							
GEYT	Alibeck	72.38	314	P	P	06 22 51.4	-1.4
comp=Z,2.5nm,0.5s,baz=145,slow=5.4,SNR=6.1							
GEYT				LR	LR	06 59 03.1	
comp=Z,58nm,19.1s,baz=110,slow=40							
DAMY	Dhamar	76.13	287	*e*P	P	06 23 15.3	-0.1
ABKAR	Akbulak array	76.73	325	*e*P	P	06 23 15.7	-2.0
comp=Z,12nm,1.1s							
SYO	Syowa Base	77.24	201	⇓*e*P	P	06 23 20.0	-0.2
RAYN	Ar Rayn	77.35	297	*e*P	P	06 23 19.9	-2.0
comp=Z,9.6nm,0.7s							
AKTO	Aktyubinsk	78.40	326	P	P	06 23 25.2	-1.8
comp=Z,2.8nm,0.6s,baz=104,slow=6.7,SNR=11							
KMBO	Kilima Mbogo	80.14	270	*e*P	P	06 23 38.2	+0.6
KMBO	Kilima Mbogo	80.14	270	*ce*P	P	06 23 38.7	+1.1
KMBO				pmax	pmax		
comp=Z,5.0nm,0.8s							
KMBO	Kilima Mbogo	80.14	270	P	P	06 23 37.8	+0.2
comp=Z,4.5nm,0.8s,baz=75,slow=4.9,SNR=8.1							
KMBO	Kilima Mbogo	80.14	270	*e*P	P	06 23 38.2	+0.6
TIXI	Tiksi	80.89	4	⇑*i*P	P	06 23 39.7	-0.3
TIXI				pmax	pmax		
comp=Z,8.0nm,1.7s							
TIXI	Tiksi	80.89	4	*e*P	P	06 23 38.7	-1.3
comp=Z,2.0nm,0.5s							
QSPA	South Pole Qui	80.94	180	P	P	06 23 42.4	+1.7
comp=Z,12nm,1.0s,baz=188,slow=4.6,SNR=2.4							
ARU	Arti	81.17	331	*

LBTB	Lobatse	87.88	245		P	P	06 24 18.6 +1.9
	comp=Z,16nm,0.8s,baz=136,slow=5.5,SNR=22						
VRHR	Novokhopersk	88.21	322	eP		P	06 24 14.8 -2.6
VRHR					pmax	pmax	
	comp=Z,10.0nm,0.8s						
VRHR					pmax	pmax	
	comp=N,10.0nm,1.5s						
VRHR					pmax	pmax	
	comp=E,10.0nm,1.5s						
MMAI	Mount Meron Ar	88.28	304		P	P	06 24 18.9 +0.6
	comp=E,7.1nm,0.7s,baz=128,slow=5.4,SNR=6.2						
VSR	Storozhevoye	89.74	322	eP		P	06 24 21.8 -2.8
VSR					pmax	pmax	
	comp=Z,10.0nm,1.8s						
VSR					pmax	pmax	
	comp=N,6.0nm,0.8s						
VSR					pmax	pmax	
	comp=E,8.0nm,1.7s						
PPT	Papeete	90.12	108		LR	LR	07 01 51.3
	comp=E,81nm,21.0s,baz=266,slow=34						
BRTR	Keskin Array B	91.00	310	ceP		P	06 24 30.0 -1.0
BRTR					pmax	pmax	
	comp=Z,2.0nm,0.8s						
BRTR	Keskin Array B	91.00	310		P	P	06 24 29.9 -1.0
	comp=Z,2.0nm,0.8s,baz=147,slow=5.4,SNR=8.7						
BRTR					LR	LR	07 10 12.1
	comp=Z,37nm,18.8s,baz=104,slow=39						
AKASG	Malin Array Be	95.81	320	ceP		P	06 24 55.0 +2.4
AKASG	Malin Array Be	95.81	320		P	P	06 24 51.1 -1.5
	comp=Z,0.1nm,0.3s,baz=87,slow=4.6,SNR=4.5						
AKASG					LR	LR	07 14 24.4
	comp=Z,102nm,20.7s,baz=75,slow=40						
KIEV	Kiev	95.82	320	eP		P	06 24 54.1 +1.4
PUL	Pulkovo	96.31	329	eP		P	06 24 53.5 -1.2
FINES	FINESS Array B	98.54	331		P	P	06 25 02.8 -1.9
	comp=Z,1.6nm,0.8s,baz=101,slow=5.9,SNR=3.6						
CLL	Collm	106.04	321	eP		Pdif	06 25 38.0 -0.4
CLL	Collm	106.04	321	ePdif		Pdif	06 25 38.0 -0.4
CLL				ePPS		PPS	06 40 24.0
YKA	Yellowknife Ar	114.87	24		PKP	PKPdf	06 30 05.5 -1.0
	comp=Z,0.6nm,0.5s,baz=298,slow=1.8,SNR=27						
YKA					SKP		06 33 41.7
	comp=Z,0.2nm,0.6s,baz=316,slow=2.1,SNR=4.0						
TORD	Torodi Ar. Bea	116.96	280		PKP	PKPdf	06 30 11.9 0.0
	comp=Z,1.6nm,0.6s,baz=53,slow=1.8,SNR=13						
DBIC	Dimbokro	122.84	272		PKP	PKPdf	06 30 23.9 +0.6
	comp=Z,4.3nm,0.8s,baz=48,slow=3.0,SNR=5.2						
PDAR	Pinedale Array	127.00	42		PKP	PKPdf	06 30 30.2 -0.6
	comp=Z,0.2nm,0.4s,baz=78,slow=1.4,SNR=4.3						
ULM	Lac du Bonnet	130.53	28		SKPbc	SKPbc	06 33 59.1 +2.7
	comp=Z,2.9nm,0.7s,baz=321,slow=5.6,SNR=4.6						
SCHQ	Schefferville	134.22	3		PKP	PKPdf	06 30 44.4 +0.6
	comp=Z,3.6nm,0.8s,baz=66,slow=9.6,SNR=3.7						
TXAR	Lajitas Array	136.56	57		PKhKP	PKPpre	06 30 39.5
	comp=Z,0.2nm,0.6s,baz=209,slow=4.0,SNR=4.4						
TXAR					PKP	PKPdf	06 30 49.6 +0.5
	comp=Z,0.5nm,0.7s,baz=228,slow=1.4,SNR=5.5						
TXAR					SKPbc	SKiKP	06 34 20.5 -2.3
	comp=Z,0.8nm,0.7s,baz=253,slow=1.3,SNR=7.5						
TXAR	Lajitas Array	136.56	57		PKPpre	PKPpre	06 30 39.5
JCT	Junction City	139.26	53	ePKIKP		PKPdf	06 30 53.2 -0.8
JCT	Junction City	139.26	53	ePKPdf		PKPdf	06 30 53.1 -0.8
WVT	Waverly	144.58	37	ePKIKP		PKPab	06 31 01.4 -0.3
WVT	Waverly	144.58	37	ePKPdf		PKPab	06 31 01.4 -0.3
OXF	Oxford	144.68	40	ePKIKP		PKPab	06 31 01.6 -0.5
OXF	Oxford	144.68	40	ePKPdf		PKPab	06 31 01.6 -0.5
LRAL	Lakeview Retre	147.16	40	ePKPdf		PKPdf	06 31 07.9 +0.2
LVC	Limon Verde	147.91	169	ePKPdf		PKPdf	06 31 09.6 0.0
LVC				ePKPbc		PKPbc	06 31 12.5 -0.1
KMSC	Kings Mountain	148.87	31	ePKPbc		PKPbc	06 31 14.4 0.0
GOGA	Godfrey	149.03	35	ePKP2		PKPbc	06 31 14.0 -0.9
GOGA	Godfrey	149.03	35	ePKPbc		PKPbc	06 31 14.0 -0.9
TIGA	Tifton	150.36	38	ePKPbc		PKPbc	06 31 17.8 -0.4
BDFB	Brasilia	151.54	211		PKP	PKPdf	06 31 15.6 +0.3
	comp=Z,1.7nm,0.7s,baz=151,slow=15,SNR=3.7						
BDFB					PKPbc	PKiKP	06 31 22.2 +0.2
	comp=Z,8.3nm,0.6s,baz=160,slow=1.2,SNR=14						

MEX 31 06:12:34.4±0.3, 14°.54N×92°.30W, h90km±4km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.37	5	i P		Pn	06 12 46.9 -1.4
THIG				eS		Sn	06 12 56.9 -1.7
PCIG		1.46	323	i P		Pn	06 12 58.6 -1.0
PCIG				eS		Sn	06 13 16.9 -1.9
CCIG	Comitan	1.74	5	i P		Pn	06 13 02.3 -1.2
CCIG				eS		Sn	06 13 23.7 -1.8

*IDC **31** 06:16:08.4±0.7, 56°.08S×26°.95W, h0km, mb4.3/6, mb1 4.3/6, mb1mx4.1/20, mbtmp4.3/6, MS3.5/2, Ms1 3.5/2, ms1mx3.1/17, Error ellipse: s-maj=33.4km s-min=20.9km az=90.0*
*ISCJB **31** 06:16:15.3±0.6, 56°.05S±0°.09×26°.8W±0°.2, h63km, mb4.4/9, Error ellipse: s-maj=19.7km s-min=9.5km az=148.7*
*NEIC **31** 06:16:20.0±1.9, 56°.17S×27°.12W, h93km±16km, mb4.6/4, Error ellipse: s-maj=20.5km s-min=10.2km az=60.0*
ISC 31 06:16:16.8±0.6, 56°.1S±0°.1×27°.1W±0°.2, h63km, n36, σ0983/33, mb4.6/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.67	285	ePn		Pn	06 17 42.3 +3.9
	59nm,0.8s						
VNA3	Neumayer Olymp	16.92	161		P	Pn	06 20 08.9 -0.1
VNA2	Neumayer--Watz	17.12	158		P	P	06 20 13.5 +1.2
	baz=309,slow=18						
SNAA	Sanae	18.67	156		P	P	06 20 28.6 -0.9
SNAA	Sanae	18.67	156	eP		P	06 20 28.3 -1.1
	9.6nm,1.0s						
PMSA	Palmer Station	19.89	229		LR	LR	06 27 13.4
	comp=Z,133nm,20.0s,baz=120,slow=33						
USHA	Ushuaia	23.21	256		LR	LR	06 28 14.8
	comp=Z,156nm,20.7s,baz=108,slow=31						
QSPA	South Pole Qui	34.14	180		P	P	06 22 55.6 +0.2
	5.5nm,0.6s,baz=217,slow=1.2,SNR=47						
CFAA	Coronel Fontan	37.62	293		P	P	06 23 25.5 +0.1
	0.4nm,0.6s,baz=140,slow=7.1,SNR=4.4						
BDFB	Brasilia	43.44	330		P	P	06 24 14.8 +1.4
	0.8nm,0.4s,baz=116,slow=2.0,SNR=3.2						
LVC	Limon Verde	45.36	300	eP		P	06 24 29.8 +0.8
	6.3nm,0.6s						
VNDA	Vanda	46.52	183		P	P	06 24 37.9 +0.8
	4.8nm,0.7s,baz=186,slow=4.2,SNR=6.6						
H10S2	ASCENSION HYDR	48.05	17		T	T	07 16 59.2
	baz=189,slow=75,SNR=61						
H10S3	ASCENSION HYDR	48.05	17		T	T	07 17 08.5
	baz=189,slow=75,SNR=31						
H10S1	ASCENSION HYDR	48.06	17		T	T	07 17 09.5
	baz=189,slow=75,SNR=25						
H10N1	ASCENSION HYDR	49.16	17		T	T	07 18 20.8
	baz=189,slow=75,SNR=19						
H10N3	ASCENSION HYDR	49.16	17		T	T	07 18 32.3
	baz=189,slow=75,SNR=29						
H10N2	ASCENSION HYDR	49.18	17		T	T	07 18 19.9
	baz=189,slow=75,SNR=15						
SAML	Samuel	54.87	315	eP		P	06 25 39.3 -1.4
	11nm,1.3s						
DBIC	Dimbokro	65.20	24		P	P	06 26 51.2 -0.2
	3.9nm,0.9s,baz=148,slow=7.0,SNR=4.8						
TORD	Torodi Ar. Bea	73.09	29		P	P	06 27 40.5 +0.4
	3.2nm,0.4s,baz=200,slow=6.4,SNR=52						
SDV	Santo Domingo	74.08	315	eP		P	06 27 46.0 -0.2
	15nm,1.3s						
PDAR	Pinedale Array	120.41	302		PKP	PKPdf	06 34 59.1 -1.2
	0.4nm,0.5s,baz=149,slow=5.5,SNR=6.1						
FRB	Frobisher Bay	123.72	339		PKP	PKPdf	06 35 05.8 +0.1
	0.7nm,0.5s,baz=147,slow=5.7,SNR=5.6						
FINES	FINESS Array B	124.42	28		PKP	PKPdf	06 35 07.2 +0.1
	1.2nm,0.5s,baz=146,slow=3.7,SNR=12						
ARCES	ARCESS Array B	130.98	22		PKP	PKPdf	06 35 19.7 +0.3
	1.0nm,0.5s,baz=132,slow=1.8,SNR=8.5						
YKA	Yellowknife Ar	136.24	318		PKP	PKPdf	06 35 29.7 +0.3
	0.4nm,0.4s,baz=129,slow=2.3,SNR=24						
MKAR	Makanchi Array	136.87	71		PKP	PKPdf	06 35 32.3 +1.1
	0.2nm,0.5s,baz=215,slow=1.9,SNR=3.3						
DOT	Dot Lake	148.71	310	ePKPdf		PKPdf	06 35 51.1 -0.4
DOT				ePKPbc		PKPbc	06 35 55.3 -0.1
ILAR	Eielson Array	150.19	312		PKP	PKPdf	06 35 51.6 -2.1
	0.2nm,0.6s,baz=267,slow=1.0,SNR=5.0						
ILAR					PKPbc	PKPbc	06 35 59.1 +0.2
	4.2nm,0.7s,baz=141,slow=5.3,SNR=68						
RC01	Rabbit Creek A	150.54	304	ePKPdf		PKPdf	06 35 53.7 -0.7
RC01				ePKPbc		PKPbc	06 36 00.2 +0.3
SONM	Songino Array	150.69	87		PKPbc	PKPbc	06 36 00.4 -0.5
	2.8nm,0.7s,baz=218,slow=3.7,SNR=18						
MCK	McKinley	150.84	309	ePKPdf		PKPdf	06 35 54.6 -0.2
MCK				ePKPbc		PKPbc	06 36 00.8 +0.2
TRF	Thorofare Moun	151.37	308	ePKPdf		PKPdf	06 35 54.1 -1.7
TRF				ePKPbc		PKPbc	06 36 02.0 0.0
TRF				ePKPab		PKPab	06 36 10.6 +0.1
KTH	Kantishna Hill	151.67	308	ePKPbc		PKPbc	06 36 02.1 -0.4
PPLA	Purkeypile	152.10	307	ePKPbc		PKPbc	06 36 03.7 0.0

IDC 31 06:18:45.1±32.0, 22°.98S×179°.25E, h700km±303km, mb2.8/3, mb1 2.9/3, mb1mx2.7/26, mbtmp4.0/3, Error ellipse: s-maj=315.9km s-min=164.9km az=116.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	30.79	269	P		P	06 24 09.7 +0.4
	2.2nm,0.4s,baz=92,slow=12,SNR=5.9						
ASAR	Alice Springs	41.51	260	P		P	06 25 35.5 -0.5
	0.4nm,0.3s,baz=91,slow=7.1,SNR=4.1						
WRA	Warramunga Arr	41.78	265	P		P	06 25 37.9 -0.3
	1.2nm,0.7s,baz=100,slow=8.0,SNR=4.3						
AKASG	Malin Array Be	143.82	327	PKP		PKPbc	06 37 01.9 -1.0
	1.1nm,0.5s,baz=42,slow=3.9,SNR=8.5						
BRTR	Keskin Array B	146.47	308	PKPbc		PKPbc	06 37 10.9 -0.2
	0.5nm,0.5s,baz=80,slow=5.1,SNR=3.3						

*ISCJB **31** 06:18:57.8±0.8, 17°.9N±0°.1×63°.87W±0°.04, h144km±8km, Error ellipse: s-maj=17.5km s-min=5.5km az=7.6*
*TRN **31** 06:18:57.5, 18°.37N×63°.43W, h150km, M3.5(FDF)*
*NEIC **31** 06:18:59.5, 17°.97N×63°.98W, h147km, MD3.5(RSPR), After RSPR.*
*RSPR **31** 06:18:59.5, 17°.97N×63°.98W, h147km±1km, MD3.5/10*
ISC 31 06:18:56.8±1.7, 17°.97N±0°.1×63°.80W±0°.04, h153km±11km, n46, σ0996/64, 23C-10D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	St. Maarten	0.69	83	eP		Pn	06 19 19.8 +0.2
SMRT				eS		Sn	06 19 36.1 -0.8
SMRT	St. Maarten	0.69	83	↓eP		Pn	06 19 20.0 +0.4
SMRT	St. Maarten	0.69	83	↓eP		Pn	06 19 20.0 +0.4
TBVI	Tortola	0.90	300	↓eP		Pn	06 19 21.5 +0.5
TBVI				eS		Sn	06 19 38.4 -1.1
TBVI	Tortola	0.90	300	↓eP		Pn	06 19 21.5 +0.5
TBVI				eS		Sn	06 19 38.4 -1.1
ABV	Anegada	0.91	326	eP		Pn	06 19 22.6 +1.4
ABVI	Anegada	0.91	326	eS		Sn	06 19 40.5 +0.8
ABVI	Anegada Island	0.91	326	eP		Pn	06 19 22.6 +1.4
ABVI				eS		Sn	06 19 40.5 +0.8
CDVI	St. Croix	0.95	257	eP		Pn	06 19 21.7 +0.2
CDVI				eS		Sn	06 19 39.3 -0.9
CDVI	St. Croix	0.95	257	eP		Pn	06 19 21.7 +0.2
CDVI	St. Croix	0.95	257	eS		Sn	06 19 39.3 -0.9
STVI	Saint Thomas	1.17	289	eP		Pn	06 19 24.1 +0.8
STVI				eS		Sn	06 19 43.4 -0.1
STVI	Saint Thomas	1.17	289	eP		Pn	06 19 24.1 +0.8
STVI	Saint Thomas	1.17	289	eS		Sn	06 19 43.4 -0.1
MTP	Monte Pirata	1.68	275	eP		Pn	06 19 29.0 +0.5
MTP				eS		Sn	06 19 51.7 -1.0
MTP	Monte Pirata	1.68	275	eP		Pn	06 19 29.0 +0.5
MTP	Monte Pirata	1.68	275	eS		Sn	06 19 51.7 -1.0
ANWB	Willy Bob	1.94	99	iP		Pn	06 19 30.5 -0.9
ANWB				eS		Sn	06 19 55.1 -2.8
HUMP	Col San Antoni	1.96	275	eP		Pn	06 19 32.0 +0.4
HUMP				eS		Sn	06 19 59.0 +0.5
HUMP	Col San Antoni	1.96	275	eP		Pn	06 19 32.0 +0.4
HUMP	Col San Antoni	1.96	275	eS		Sn	06 19 59.0 +0.5
CBYP	Canovanas	1.98	279	eP		Pn	06 19 32.4 +0.4
CBYP				eS		Sn	06 19 58.2 -0.8
CBYP	Canovanas	1.98	279	eP		Pn	06 19 32.4 +0.4
CBYP	Canovanas	1.98	279	eS		Sn	06 19 58.2 -0.8
CPD	Cerro la Pandu	2.02	272	eP		Pn	06 19 33.0 +0.6
CPD				eS		Sn	06 20 00.3 +0.7
CPD	Cerro la Pandu	2.02	272	eP		Pn	06 19 33.0 +0.6
CPD	Cerro la Pandu	2.02	272	eS		Sn	06 20 00.3 +0.7
SJG	San Juan	2.25	274	eP		Pn	06 19 35.8 +0.8
SJG				eS		Sn	06 20 03.2 -1.2
SJG	San Juan	2.25	274	eP		Pn	06 19 35.8 +0.8
SJG				eS		Sn	06 20 03.2 -1.2
CELP	Cerrillos	2.65	273	↓eP		Pn	06 19 40.6 +0.6
CELP	Cerrillos	2.65	273	↓eP		Pn	06 19 40.6 +0.6
SEG	Port Louis	2.69	125	eP		Pn	06 19 42.5 +2.0
MLG	Mont-d'or	2.75	133	eP		Pn	06 19 43.6 +2.3
AOPR	Arecibo Observ	2.84	278	eP		Pn	06 19 42.3 0.0
AOPR				eS		Sn	06 20 15.7 -1.7
AOPR	Arecibo Observ	2.84	278	eP		Pn	06 19 42.3 0.0
AOPR	Arecibo Observ	2.84	278	eS		Sn	06 20 15.7 -1.7
LRS	Lares	2.92	277	↓eP		Pn	06 19 43.5 +0.2
LRS				eS		Sn	06 20 18.2 -1.0
LRS	Lares	2.92	277	↓eP		Pn	06 19 43.5 +0.2
LRS				eS		Sn	06 20 18.2 -1.0
LSP	Las Mesas	3.14	274	eP		Pn	06 19 46.8 +0.7
LSP				eS		Sn	06 20 23.1 -1.1
LSP	Las Mesas	3.14	274	eP		Pn	06 19 46.8 +0.7
LSP	Las Mesas	3.14	274	eS		Sn	06 20 23.1 -1.1
CRPR	Cabo Rojo, PR	3.15	271	eP		Pn	06 19 46.4 +0.1
CRPR				eS		Sn	06 20 23.8 -0.7
CRPR	Cabo Rojo, PR	3.15	271	eP		Pn	06 19 46.4 +0.1
CRPR	Cabo Rojo, PR	3.15	271	eS		Sn	06 20 23.8 -0.7
SMN1	Samana, DR	5.33	284	eP		Pn	06 20 15.4 +0.6
SMN1	Samana, DR	5.33	284	eP		Pn	06 20 15.4 +0.6

*BJI **31** 06:27:43.8, 9°.40S×117°.40E, h13km, mB5.1/20, mb4.7/33, Ms4.9/15, Ms7 4.4/15*
*MOS **31** 06:27:46.7±1.2, 8°.83S×117°.53E, h33km, mb4.8/21, Error ellipse: s-maj=16.1km s-min=8.0km az=118.0*
*IDC **31** 06:27:48.0±1.7, 8°.90S×117°.42E, h25km±9km, mb4.3/16, mb1 4.4/17, mb1mx4.3/29, mbtmp4.4/17, ML4.7/2, MS4.0/13, Ms1 4.1/13, ms1mx3.7/37, Error ellipse: s-maj=18.8km s-min=12.6km az=63.0*
*ISCJB **31** 06:27:48.2±0.2, 9°.02S±0°.04×117°.50E±0°.02, h35km, mb4.7/47, MS4.0/10, Error ellipse: s-maj=5.2km s-min=3.0km az=12.1*
*DJA **31** 06:27:48.8±0.2, 9°S±3°×11°7E±°, h10km, M5.2/35, mb5.3/25, mB5.6/15, MLv5.3/35, Mw(mB)5.1/15, Mwp5.9/1*
*NEIC **31** 06:27:50.6±0.6, 8°.95S×117°.45E, h50km±5km, mb4.7/15, Error ellipse: s-maj=8.2km s-min=5.7km az=210.0*
NEIC Felt [II] at Denpasar, Bali.
ISC 31 06:27:49.6±0.3, 9°.08S±0°.05×117°.46E±0°.03, h35km, n175, σ1983/158, mb4.7/47, MS3.9/10, 6C-1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.98	107	S		Sn	06 28 47.8 +3.4
DNP	Denpasar	2.26	280	P		Pn	06 28 26.1 +1.6
DNP				S		Sn	06 28 55.5 +4.3
IGBI	Denpasar	2.31	276	P		Pn	06 28 24.8 -0.3
IGBI				S		Sn	06 28 54.6 +2.3
SRBI	Singaraja	2.44	294	P		Pn	06 28 27.0 +0.1
SRBI				S		Sn	06 28 59.3 +3.8
WSI	Waingapu	2.86	102	P		Pn	06 28 33.3 +0.6
BASI	Baing, Sumba	3.27	111	P		Pn	06 28 40.7 +2.3
JAGI	Jajag, Banyuwa	3.33	280	P		Pn	06 28 39.4 +0.2
JAGI	Jajag, Banyuwa	3.33	280	ePn		Pn	06 28 39.9 +0.7
JAGI				eSn		Sn	06 29 20.9 +3.3
ABJI	Asem Bagus	3.44	291	P		Pn	06 28 41.7 +1.0
KMMI	Kalianget	4.01	300	P		Pn	06 28 49.9 +1.4
BLJI	Banyuglugur	4.05	289	P		Pn	06 28 50.7 +1.6
GMJI	Gumukmas	4.05	281	P		Pn	06 28 49.5 +0.3
BSSI	Bau Bau, Buton	4.18	46	P		Pn	06 28 51.5 +0.5
EDFI	Ende, Flores	4.19	86	P		Pn	06 28 52.2 +1.1
BKSI	Bulukumba	4.57	35	P		Pn	06 28 55.7 -0.5
KAPI	Kappang	4.63	30	ePn		Pn	06 28 56.5 -0.6
MMRI	Maumere	4.74	85	P		Pn	06 29 00.8 +2.2
MMRI	Maumere	4.74	85	ePn		Pn	06 29 00.6 +2.0
BNSI	Bone	5.34	30	P		Pn	06 29 08.0 +1.2
	180nm,0.8s,3μm1.7nm						
GRJI	Gresik	5.38	293	P		Pn	06 29 08.6 +1.1
	724nm,0.8s,9μm2.8nm						
SPSI	Sidrap Palu	5.57	24	P		Pn	06 29 12.3 +2.3
	72nm,0.7s,1μm0.8nm						
PWJI	Pagerwojo	5.70	280	P		Pn	06 29 13.2 +1.5
	361nm,0.8s,4μm3.1nm						
KBKI	Kotaburu	5.88	347	P		Pn	06 29 13.9 -0.4
	50nm,0.9s,8μm0.6nm						
TBJI	Tambak Boyo	6.00	292	P		Pn	06 29 17.3 +1.4
	562nm,0.8s,5μm2.0nm						
BBKI	Banjar Baru	6.16	335	P		Pn	06 29 17.8 -0.3
	217nm,0.8s,1.5nm						
BATI	Baumata	6.21	101	P		Pn	06 29 20.4 +1.5
	325nm,0.9s,3μm1.1nm						
BATI	Baumata	6.21	101	Pn		Pn	06 29 19.5 +0.6
	109nm,0.3s,baz=310,slow=2.5,SNR=54						
BATI				Sn		Sn	06 30 28.9 +0.1
	12nm,0.3s,baz=224,slow=21,SNR=5.5						
BATI				LR		LR	06 32 00.2
	comp=Z,3μm,18.5s,baz=17,slow=40						
PCJI	Pacitan	6.28	278		P	Pn	06 29 20.7 +0.9
	356nm,1.0s,4μm2.5nm						
TTSI	Tana Toraja	6.43	21		P	Pn	06 29 23.8 +1.9
	131nm,0.8s,7μm52μm0.5nm						
SOEI	Soe	6.75	96		P	Pn	06 29 27.9 +1.6
	778nm,0.9s,6μm2.6nm						
SOEI	Soe	6.75	96	ePn		Pn	06 29 28.1 +1.7
UGM	Wanagama	6.96	279		P	Pn	06 29 30.8 +1.6
	365nm,0.8s,2.3nm						
UGM	Wanagama	6.96	279	ePn		Pn	06 29 31.8 +2.6
UWJI	Ujung Watu	6.98	292	P		Pn	06 29 30.5 +1.1
	234nm,0.7s,4μm0.8nm						
PBKI	Pangkalan Bun	8.56	317	P		Pn	06 29 55.7 +4.6
KPJI	Karang Pucung	8.62	281	P		Pn	06 29 55.6 +3.6
	83nm,0.7s,2μm0.4nm						
CISI	Cisompet, Garu	9.67	278	P		Pn	06 30 07.7 +1.3
	147nm,0.7s,9μm						
CISI	Cisompet, Garu	9.67	278	ePn		Pn	06 30 06.2 -0.2
LEM	Lembang	10.01	282	LR		LR	06 35 11.2
	comp=Z,735nm,18.2s,baz=68,slow=45						
CNJI	Cibinong	10.38	279	P		Pn	06 30 29.1 +13
MRSI	Marisa	10.49	25	P		Pn	06 30 26.0 +8.5
CBJI	Citeko	10.84	283	P		Pn	06 30 30.3 +7.9
STKI	Sintang	10.87	326	P		Pn	06 30 26.1 +3.4
SANI	Sanana	10.98	51	P		Pn	06 30 28.0 +3.7
NLAI	Namlea	11.20	59	P		Pn	06 30 37.1 +10
CGJI	Cibinong	11.91	281	P		Pn	06 30 37.4 +0.3
	98nm,0.6s						
MBWA	Marble Bar	12.21	170	ePn		Pn	06 30 37.8 -3.3
SBUM	Sibu	12.59	335	ePn		P	06 30 53.0 -4.3
KSM	Kuching	12.68	325	ePn		Pn	06 30 48.4 +0.9
	48nm,1.2s						
KASI	Kota Agung	13.34	284	P		P	06 31 11.9 +6.2
TNTI	Ternate	13.89	46	Pn		Pn	06 31 04.4 +0.2
MDSI	Maura Dua	13.96	288	P		P	06 31 11.7 -0.9
LHSI	Lahat	14.80	290	P		P	06 31 24.2 +2.3
MYKOM	Kota Tinggi	17.34	308	ePn		P	06 31 54.0 +3.9
WRA	Warramunga Arr	19.56	125	P		P	06 32 14.3 -0.3
	0.9nm,0.3s,baz=301,slow=13,SNR=15						
WRA				S		S	06 35 49.6 -4.2
	0.5nm,0.3s,baz=308,slow=24,SNR=4.8						
WRA				ScP		ScP	06 40 07.5 -0.2
	0.3nm,0.3s,baz=299,slow=2.1,SNR=7.6						
WRA				LR		LR	06 40 41.2
	comp=Z,582nm,18.4s,baz=290,slow=39						
WRAB	Tennant Creek	19.57	125	eP		P	06 32 14.1 -0.5
WRAB					pmax	pmax	
	comp=Z,67nm,0.8s						
WRAB	Tennant Creek	19.57	125	eP		P	06 32 14.8 +0.2
	comp=Z,35nm,0.9s						
MNSI	Mandailing Nat	20.34	298	P		Pn	06 32 33.4 +8.2
IPM	Ipoh	21.21	309	eP		P	06 32 32.6 +0.1
	comp=Z,14nm,1.0s						
ASAR	Alice Springs	21.39	135	P		P	06 32 35.0 +0.6
	comp=Z,19nm,0.7s,baz=309,slow=8.7,SNR=72						
ASAR				PcP		PcP	06 36 38.0 +0.4
	comp=Z,3.8nm,0.9s,baz=322,slow=1.7,SNR=6.3						
ASAR				ScP		ScP	06 40 12.6 +0.5
	comp=Z,4.8nm,0.8s,baz=335,slow=2.1,SNR=15						
ASAR				LR		LR	06 40 47.8
	comp=Z,385nm,20.5s,baz=305,slow=36						
PSI	Prapat	21.93	302	P		P	06 32 37.5 -2.8
	comp=Z,8.1nm,0.9s,baz=171,slow=9.4,SNR=7.2						
PSI				LR		LR	06 42 58.1
	comp=Z,404nm,18.7s,baz=138,slow=42						
DLV	T Lat	22.71	337	eP		P	06 32 48.2 -0.5
KCSI	Kotacane, Aceh	23.28	302	P		P	06 32 54.0 -0.4
	comp=Z,22nm,0.8s						
NWAO	Narrogin (SRO)	23.73	180	P		P	06 32 59.0 +0.4
	comp=Z,12nm,0.5s,baz=358,slow=7.0,SNR=10						
FORT	Forrest	23.75	157	eP		P	06 32 59.3 +0.6
JAY	Jayapura	24.01	76	LR		LR	06 44 15.8
	comp=Z,336nm,20.1s,baz=312,slow=41						
COEN

HHC LE
comp=Z,830nm,16.7s
HHC LZ
comp=Z,250nm,15.9s
GTA Gaotai 50.95 342 *e*P **P 06 36 47.5 -0.3**
GTA pP **pP 06 36 54.5 -3.8**
GTA sP **sP 06 36 58.0 -4.5**
GTA S **S 06 44 05.0 +2.6**
GTA PMZ
comp=Z,8.0nm,0.8s
GTA PMZ
comp=Z,97nm,5.9s
GTA LN
comp=Z,190nm,17.6s
GTA LE
comp=Z,300nm,16.4s
GTA LZ
comp=Z,190nm,15.0s
CN2 Changchun 53.12 7 *e*P P 06 37 12.0 +8.2
MDJ Mudanjiang 54.56 11 P **P 06 37 13.8 -0.4**
MDJ PMZ
comp=Z,17nm,1.1s
MDJ PMZ
comp=Z,100nm,6.6s
MDJ Mudanjiang 54.56 11 *e*P **P 06 37 12.6 -1.6**
comp=Z,30nm,1.2s
USRK Ussuriysk Ar. 54.64 13 P **P 06 37 13.3 -1.5**
comp=Z,10nm,0.8s,baz=187,slow=4.9,SNR=10
ULN Ulaanbaatar 57.44 352⇑ *i*P **P 06 37 34.3 -0.7**
ULN pmax pmax
comp=Z,11nm,2.5s
ULN Ulaanbaatar 57.44 352 *e*P **P 06 37 33.0 -2.0**
comp=Z,3.7nm,0.8s
SONM Songino Array 57.51 351 P **P 06 37 34.7 -0.7**
comp=Z,3.0nm,0.7s,baz=169,slow=7.1,SNR=13
HIA Hailar 58.13 2 *e*P **P 06 37 37.3 -2.3**
HIA pmax pmax
comp=Z,3.0nm,1.0s
WMQ Urumqi 59.18 335 *e*P P 06 37 51.8 +4.7
WMQ pP pP 06 37 59.0 +1.2
WMQ sP sP 06 38 01.5 -0.4
WMQ PP PP 06 40 04.8 +6.5
WMQ S **S 06 45 57.5 +5.1**
WMQ ScS **ScS 06 47 36.5 +1.9**
WMQ PMZ
comp=Z,7.0nm,1.0s
WMQ PMZ
comp=Z,170nm,5.4s
WMQ LZ
comp=Z,66nm,20.0s
TLY Talaya 61.68 350 *e*P **P 06 38 02.9 -1.1**
TLY pmax pmax
comp=Z,5.0nm,1.2s
KSH Kashi 61.77 324 *e*P P 06 38 11.0 +6.0
KSH pP pP 06 38 18.0 +2.3
KSH PP PP 06 40 29.3 +7.9
KSH S **S 06 46 31.5 +5.5**
KSH ScS **ScS 06 47 55.5 +1.2**
KSH PMZ
comp=Z,7.0nm,1.1s
KSH PMZ
comp=Z,120nm,5.4s
KSH LN
comp=Z,54nm,4.3s
KSH LE
comp=Z,52nm,4.0s
KSH LZ
comp=Z,220nm,5.5s
PDGK Podgornoye 62.55 330 P P 06 38 16.1 +6.2
PDGK pmax pmax
comp=Z,5.0nm,0.7s
HVS Khovu-Aksy 63.40 344 *e*P **P 06 38 13.2 -2.4**
MK31 Makanchi Array 63.84 334 *e*P **P 06 38 17.3 -1.2**
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 63.84 334 *c e*P **P 06 38 16.2 -2.3**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 63.84 334 P **P 06 38 16.2 -2.3**
comp=Z,1.9nm,0.5s,baz=147,slow=6.9,SNR=25
TKM2 Tokmak 2 64.28 327 *e*P P 06 38 18.6 -3.1
TKM2 pmax pmax
comp=Z,2.0nm,0.7s
TKM2 Tokmak 2 64.28 327 *e*P P 06 38 18.6 -3.1
comp=Z,2.5nm,0.7s
AAK Ala-Archa 64.69 326⇓ *i*P **P 06 38 22.1 -2.3**
AAK pmax pmax
comp=Z,28nm,2.5s
AAK Ala-Archa 64.69 326 *e*P **P 06 38 22.1 -2.3**
comp=Z,5.6nm,0.8s
EKS2 Erkin-Say 65.10 326 *e*P **P 06 38 24.9 -2.1**
EKS2 pmax pmax
comp=Z,9.0nm,0.8s
EKS2 Erkin-Say 65.10 326 *e*P **P 06 38 24.9 -2.1**
comp=Z,8.6nm,0.8s
KKAR Karatay Array 67.23 325 *e*P **P 06 38 38.7 -1.8**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 67.23 325 *e*P **P 06 38 38.7 -1.8**
comp=Z,1.8nm,0.7s
KURK Kurchatov 68.41 335 *e*P **P 06 38 45.2 -2.5**
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 68.41 335 *e*P **P 06 38 45.2 -2.5**
comp=Z,5.4nm,0.8s
ABPO Ambohimpanom 68.49 253 *e*P **P 06 38 49.2 +0.1**
ABPO pmax pmax
comp=Z,25nm,1.1s
ABPO Ambohimpanom 68.49 253 *e*P **P 06 38 49.2 +0.1**
comp=Z,25nm,1.1s
ZALV Zalesovo Beam 68.58 340 P **P 06 38 46.4 -2.3**
comp=Z,4.3nm,0.6s,baz=134,slow=4.3,SNR=17
NVS Novosibirsk 69.85 340 *e*P P 06 38 52.3 -4.2
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,3.0nm,0.9s
NVS pmax pmax
comp=Z,9.0nm,0.9s
VNDA Vanda 72.15 171 P **P 06 39 11.4 +1.1**
comp=Z,3.0nm,0.5s,baz=314,slow=7.5,SNR=23
BVA0 Borovoye Array 73.66 333 P **P 06 39 16.8 -2.7**
BVA0 pmax pmax
comp=Z,11nm,0.9s
AB31 Akbulak array 76.76 325 P **P 06 39 34.7 -2.7**
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 76.76 325 *e*P **P 06 39 34.6 -2.8**
comp=Z,3.0nm,0.7s
SYO Syowa Base 77.23 201⇑ *e*P **P 06 39 40.0 +0.2**
SYO Syowa Base 77.23 201⇑ *e*pP pP 06 39 48.8 -1.9
KMBO Kilima Mbogo 80.16 270 P **P 06 39 57.7 +0.4**
comp=Z,4.2nm,0.8s,baz=76,slow=5.0,SNR=10
KMBO LR LR 07 13 32.1
comp=Z,65nm,18.6s,baz=88,slow=34
KMBO Kilima Mbogo 80.16 270 *e*P **P 06 39 57.0 -0.3**
comp=Z,7.6nm,1.1s
TIXI Tiksi 80.91 4 *e*P **P 06 39 58.2 -1.5**
TIXI pmax pmax
comp=Z,11nm,1.7s
TIXI Tiksi 80.91 4 *e*P **P 06 39 57.5 -2.2**
ARU Arti 81.19 331 *c i*P P 06 39 58.6 -3.0
ARU 06 43 00.3
ARU S **S 06 50 06.5 -2.6**
ARU pmax pmax
comp=Z,6.0nm,1.0s
ZEI Tsey 84.28 315 *e*P P 06 40 15.0 -3.2
ZEI pmax pmax
comp=Z,8.0nm,1.0s
KBZ Khabaz 85.26 315 P **P 06 40 21.1 -1.7**
comp=Z,2.7nm,0.9s,baz=213,slow=4.4,SNR=5.5
SLR Silverton 85.39 245 *e*P **P 06 40 25.4 +1.3**
SLR AMB AMB 06 40 26.2
comp=Z,27nm,3.2s
SEK Senekal 85.62 242 *e*P **P 06 40 25.8 +0.5**
SEK AMB AMB 06 40 27.4
comp=Z,33nm,3.7s
PRYS Parys 86.04 244 *e*P **P 06 40 28.1 +0.7**
PRYS AMB AMB 06 40 28.6
comp=Z,21nm,1.2s
LSZ Lusaka 86.96 255 *e*P **P 06 40 32.2 +0.2**
LSZ Lusaka 86.96 255 *e*P **P 06 40 30.6 -1.4**
LSZ pmax pmax
comp=Z,27nm,1.1s
LSZ Lusaka 86.96 255 *e*P **P 06 40 30.6 -1.4**
comp=Z,27nm,1.1s

BOSA Boshof 87.64 242 *e*P **P 06 40 36.0 +0.9**
BOSA AMB AMB 06 40 37.0
comp=Z,17nm,1.0s
BOSA Boshof 87.64 242 P **P 06 40 35.5 +0.4**
comp=Z,18nm,0.9s,baz=112,slow=4.5,SNR=15
BOSA LR LR 07 13 29.5
comp=Z,128nm,20.1s,baz=156,slow=31
LBTB Lobatse 87.90 245 *e*P **P 06 40 37.4 +1.0**
LBTB AMB AMB 06 40 37.9
comp=Z,26nm,1.2s
VRHR Novokhopersk 88.24 322 *e*P P 06 40 41.5 +4.3
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,9.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,1.5s
VORD Divnogorie 89.62 322 *e*P P 06 40 40.1 -3.6
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=Z,5.0nm,0.6s
VORD pmax pmax
comp=E,20nm,1.5s
VSR Storozhevoye 89.76 322 *e*P **P 06 40 43.7 -0.6**
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=E,6.0nm,0.7s
VSR pmax pmax
comp=Z,8.0nm,0.7s
PPT Papeete 90.09 108 LR LR 07 17 35.3
comp=Z,45nm,21.5s,baz=280,slow=33
SNAA Sanae 90.52 196 *e*P **P 06 40 48.9 +1.2**
SNAA Sanae 90.52 196 *e*P **P 06 40 46.9 -0.8**
SNAA pmax pmax
comp=Z,14nm,1.0s
SNAA Sanae 90.52 196 *e*P **P 06 40 46.9 -0.8**
comp=Z,14nm,1.0s
BRTR Keskin Array B 91.02 310 *i*P **P 06 40 52.0 +1.3**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 91.02 310 P **P 06 40 48.5 -2.2**
comp=Z,2.3nm,1.0s,baz=137,slow=6.1,SNR=7.4
AKASG Malin Array Be 95.83 320 *c e*P **P 06 41 11.3 -1.1**
AKASG Malin Array Be 95.83 320 P **P 06 41 09.9 -2.4**
comp=Z,0.1nm,0.3s,baz=91,slow=3.7,SNR=4.3
ILAR Eielson Array 100.56 26 P **Pdif 06 41 30.7 -2.6**
comp=Z,0.5nm,0.8s,baz=120,slow=1.6,SNR=7.2
VYHS Vyhne 102.45 318 *e*P **Pdif 06 41 45.3 +3.1**
VYHS Vyhne 102.45 318 PDIF **Pdif 06 41 45.2 +3.1**
YKA Yellowknife Ar 114.88 24 PKP PKPdf 06 46 25.2 -1.1
comp=Z,0.5nm,0.4s,baz=298,slow=1.8,SNR=20
YKA SKP 06 49 58.8
comp=Z,0.2nm,0.6s,baz=307,slow=1.9,SNR=4.0
TORD Torodi Ar. Bea 116.98 280 PKP **PKPdf 06 46 30.8 -0.9**
comp=Z,1.5nm,0.6s,baz=79,slow=1.8,SNR=12
TORD SKP 06 50 05.3
comp=Z,0.8nm,0.6s,baz=118,slow=2.5,SNR=7.1
DBIC Dimbokro 122.86 272 PKP **PKPdf 06 46 42.7 -0.4**
comp=Z,3.5nm,0.8s,baz=86,slow=4.6,SNR=4.1
FRB Frobisher Bay 125.25 3 PKP **PKPdf 06 46 46.8 +0.6**
comp=Z,1.3nm,0.8s,baz=17,slow=2.3,SNR=4.1
PDAR Pinedale Array 127.00 42 PKP **PKPdf 06 46 51.1 +0.6**
comp=Z,0.5nm,1.1s,baz=112,slow=1.6,SNR=4.2
ULM Lac du Bonnet 130.53 28 SKPbc **SKPab 06 50 17.6 -0.1**
comp=Z,5.7nm,0.9s,baz=326,slow=5.0,SNR=6.3
TXAR Lajitas Array 136.55 57 PKP **PKPdf 06 47 10.0 +1.2**
comp=Z,0.5nm,0.8s,baz=68,slow=0.8,SNR=6.7
TXAR SKPbc **SKPbc 06 50 38.6 -0.2**
comp=Z,1.6nm,0.7s,baz=245,slow=2.0,SNR=16
WVT Waverly 144.58 37 *e*PKIKP **PKPab 06 47 19.9 -1.5**
WVT Waverly 144.58 37 *e*PKPdf **PKPab 06 47 19.9 -1.5**
OXF Oxford 144.68 40 *e*PKIKP **PKPab 06 47 20.6 -1.2**
OXF Oxford 144.68 40 *e*PKPdf **PKPab 06 47 20.6 -1.2**
LRAL Lakeview Retre 147.16 40 *e*PKPdf **PKPdf 06 47 28.2 +0.8**
TKL Tuckaleechee C 147.21 33 *e*PKP2 **PKPdf 06 47 27.1 -0.4**
TKL Tuckaleechee C 147.21 33 *e*PKPdf **PKPdf 06 47 27.1 -0.4**
LVC Limon Verde 147.89 169 *e*PKPdf **PKPdf 06 47 28.0 -1.3**
JSRW J. Sargeant Re 148.32 24 *e*PKPdf **PKPdf 06 47 30.4 +1.2**
GOGA Godfrey 149.03 36 *e*PKP2 **PKPdf 06 47 33.1 +2.6**
GOGA Godfrey 149.03 36 *e*PKPbc **PKPdf 06 47 33.1 +2.6**
BDFB Brasilia 151.54 210 PKP **PKPdf 06 47 34.1 -1.0**
comp=Z,1.5nm,0.6s,baz=289,slow=3.8,SNR=3.2
BDFB PKPbc **PKPbc 06 47 41.9 +0.7**
comp=Z,4.6nm,0.4s,baz=140,slow=2.1,SNR=23

DJA 31 06:43:39.3±0.4, 9°S±5°×117°E±°, h10km, M4.0/10, MLv4.0/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**2.26**	**275**	P	Pn	06 44 16.9	+0.1
DNP				S	Sn	06 44 46.1	+1.3
IGBI	**Denpasar**	**2.32**	**271**	P	Pn	06 44 15.9	-1.6
IGBI				S	Sn	06 44 45.0	-1.1
SRBI	**Singaraja**	**2.39**	**289**	P	Pn	06 44 18.3	-0.2
SRBI				S	Sn	06 44 49.2	+1.4
BASI	**Baing, Sumba**	**3.32**	**114**	P	Pn	06 44 31.3	-0.1
JAGI	**Jajag, Banyuwa**	**3.33**	**277**	P	Pn	06 44 31.4	0.0
JAGI				S	Sn	06 45 12.1	+1.0
BKSI	**Bulukumba**	**4.39**	**37**	P	Pn	06 44 46.2	+0.1
BKSI				S	Sn	06 45 39.2	+1.8

IDC 31 06:44:06.5±2.4, 2°23S×125°64E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/32, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=368.1km s-min=25.4km az=64.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.55**	**155**	P	Pn	06 48 36.7	-0.4
	0.2nm,0.3s,baz=332,slow=12,SNR=10						
ASAR	**Alice Springs**	**22.76**	**160**	P	P	06 49 10.2	-0.5
	0.7nm,0.5s,baz=346,slow=12,SNR=7.3						
MKAR	**Makanchi Array**	**61.89**	**328**	P	P	06 54 27.8	-0.1
	0.5nm,0.5s,baz=121,slow=8.3,SNR=7.7						

IDC 31 06:46:48.0±4.4, 5°11S×151°83E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.3/30, mbtmp3.7/2, Error ellipse: s-maj=209.1km s-min=47.8km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.52**	**228**	P	P	06 51 49.4	-0.2
	1.2nm,0.4s,baz=52,slow=9.7,SNR=4.0						
ASAR	**Alice Springs**	**25.28**	**221**	P	P	06 52 16.4	+0.1
	0.7nm,0.4s,baz=56,slow=9.1,SNR=9.0						
TORD	**Torodi Ar. Bea**	**149.48**	**287**	PKPbc	PKPbc	07 06 39.9	-0.5
	0.2nm,0.6s,baz=97,slow=3.5,SNR=2.7						

NIED ***31*** *06:53:00, 28°80N×128°20E, h5km, Mw4.5 Best double couple: M0 7.48000×10^15 NP1:*ϕ_s*213.00000°, δ38.00000°, λ-170.00000°. NP2:*ϕ_s*115.00000°, δ84.00000°, λ-52.00000°.*
ISCJB ***31*** *06:53:22.7±0.3, 28°83N±0°03×128°26E±0°04, h10km, mb3.8/15, MS3.9/10, Error ellipse: s-maj=5.2km s-min=4.0km az=136.8*
IDC ***31*** *06:53:22.4±0.8, 28°92N×128°56E, h0km, mb3.9/12, mb1 4.0/14, mb1mx3.8/35, mbtmp3.8/14, ML2.6/3, MS3.8/15, Ms1 3.8/15, ms1mx3.6/38, Error ellipse: s-maj=25.5km s-min=14.8km az=75.0*
JMA ***31*** *06:53:22.8±0.2, 28°84N×128°18E, h27km±4km, M3.7*
NEIC ***31*** *06:53:27.1±2.7, 28°82N×128°38E, h30km±21km, mb4.0/3, Error ellipse: s-maj=13.7km s-min=8.8km az=104.0*
ISC 31 06:53:23.9±0.6, 28°80N±0°05×128°30E±0°05, h10km, n44, σ1§10/38, mb3.9/15, MS4.0/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.86**	**66**	P	**Pg**	**06 53 40.1**	**-0.4**
JTAJ				*e*S	**Sg**	**06 53 52.1**	**+0.4**
JAMN	**Amaminishikomi**	**0.95**	**126**	P	**Pg**	**06 53 41.9**	**-0.2**
JAMN				*e*S	**Sg**	**06 53 55.7**	**+1.2**
JTK	**Tokunoshima**	**1.16**	**150**	P	**Pn**	**06 53 44.6**	**-1.6**
JTK				*e*S	**Sb**	**06 54 00.9**	**-0.3**
JAM	**Amami Oshima**	**1.21**	**109**	P	**Pn**	**06 53 46.0**	**-0.8**
JAM				*e*S	**Sb**	**06 54 02.6**	**+0.1**
JOKE	**Okinoerabujima**	**1.46**	**171**	P	**Pn**	**06 53 48.5**	**-1.8**

JZK Kikaishima 1.55 108 P **Pn 06 53 51.4 -0.1**
JNN Nakanoshima 1.72 53 P **Pn 06 53 52.7 -1.2**
JIH Iheya 1.79 190 P **Pn 06 53 53.4 -1.4**
JOW Kunigami 1.96 181 P **Pn 06 53 56.4 -0.9**
JOW Kunigami 1.96 181 P**n** **Pn 06 53 56.7 -0.6**
1.8nm,0.3s,baz=70,slow=23,SNR=11
JOW LR LR 06 54 42.9
comp=Z,359nm,21.6s,baz=320,slow=38
JOW Kunigami 1.96 181 *e*Pn **Pn 06 53 57.0 -0.3**
JNTH Nagotoyohara 2.29 186 P **Pn 06 54 00.4 -1.3**
JYAK Yakushimahirau 2.40 53 P **Pn 06 54 02.9 -0.3**
JNU Nakatsue 4.84 27 P**n** **Pn 06 54 35.1 -1.7**
0.3nm,0.3s,baz=252,slow=17,SNR=1.8
JNU Nakatsue 4.84 27 *e*Pn **Pn 06 54 37.3 +0.5**
YHNB Yeheng 7.44 238 *e*Pn Pn 06 55 14.6 +2.1
23nm,0.7s
KSAR Wonju Array Be 8.62 358 Pn **Pn 06 55 28.9 +0.1**
KSRS Korea Array 8.63 358 Pn **Pn 06 55 28.9 0.0**
0.3nm,0.3s,baz=175,slow=14,SNR=5.6
KSRS LR LR 06 58 56.9
comp=Z,708nm,20.0s,baz=174,slow=39
MJAR Matsushiro Arr 11.36 45 Pn **Pn 06 56 07.9 +1.7**
0.3nm,0.3s,baz=150,slow=13,SNR=3.3
MJAR LR LR 07 00 23.1
comp=Z,246nm,20.3s,baz=250,slow=38
JCJ Chichijima 12.39 95 LR LR 07 00 45.5
comp=Z,208nm,19.1s,baz=0.5,slow=36
USRK Ussuriysk Ar. 15.65 10 Pn **P 06 57 07.2 -1.3**
0.1nm,0.3s,baz=201,slow=7.7,SNR=1.9
USRK LR LR 07 02 35.9
comp=Z,252nm,20.5s,baz=178,slow=36
ULN Ulaanbaatar 25.16 325 *e*P **P 06 58 50.4 +1.0**
6.9nm,1.1s
SONM Songino Array 25.47 324 P **P 06 58 53.9 +1.7**
1.8nm,0.9s,baz=133,slow=11,SNR=13
SONM LR LR 07 10 11.7
comp=Z,224nm,18.7s,baz=153,slow=40
CMAR Chiang Mai Arr 28.73 256 LR LR 07 11 26.8
comp=Z,178nm,18.9s,baz=76,slow=37
PETK Petropavlovsk- 32.50 33 LR LR 07 13 34.8
comp=Z,69nm,18.8s,baz=221,slow=38
MKAR Makanchi Array 39.91 310 P **P 07 00 58.2 +0.2**
1.4nm,0.7s,baz=112,slow=8.7,SNR=10
ZALV Zalesovo Beam 40.27 321 P **P 07 01 00.6 -0.3**
0.9nm,0.7s,baz=89,slow=9.6,SNR=5.0
KURK Kurchatov 43.03 315 P **P 07 01 24.5 +1.0**
0.2nm,0.9s
KURBB Kurchatov Arra 43.07 315 P **P 07 01 24.5 +0.7**
0.7nm,0.3s,baz=102,slow=8.9,SNR=9.3
BVAR Borovoye Array 48.42 317 P **P 07 02 06.8 +0.6**
1.5nm,0.7s,baz=86,slow=9.1,SNR=4.9
BVAR LR LR 07 24 04.9
comp=Z,142nm,20.1s,baz=94,slow=38
WRA Warramunga Arr 48.81 172 P **P 07 02 10.1 +0.6**
3.7nm,0.9s,baz=350,slow=8.3,SNR=8.4
PALK Pallekele 49.66 254 LR LR 07 24 30.2
comp=Z,149nm,19.9s,baz=59,slow=37
ASAR Alice Springs 52.45 174 P **P 07 02 39.0 +2.2**
0.9nm,0.5s,baz=7.1,slow=12,SNR=7.7
ASAR PcP **PcP 07 03 48.5 +0.9**
0.7nm,0.8s,baz=358,slow=3.3,SNR=4.2
ABKAR Akbulak array 54.96 312 *e*P **P 07 02 55.5 +0.4**
0.9nm,0.6s
GEYT Alibeck 58.09 299 P P 07 03 19.2 +1.6
0.7nm,0.4s,baz=153,slow=1.3,SNR=2.4
ILAR Eielson Array 62.15 29 P **P 07 03 44.0 -1.0**
0.4nm,0.9s,baz=293,slow=7.4,SNR=4.7
KBZ Khabaz 67.60 309 P **P 07 04 20.9 +0.2**
1.0nm,0.8s,baz=90,slow=20,SNR=2.8
ARCES ARCESS Array B 67.65 338 LR LR 07 37 14.6
comp=Z,64nm,20.1s,baz=78,slow=39
FINES FINESS Array B 70.67 330 LR LR 07 38 58.6
comp=Z,170nm,19.3s,baz=146,slow=39
AKASG Malin Array Be 73.63 319 LR LR 07 38 44.4
comp=Z,98nm,18.1s,baz=55,slow=37
BRTR Keskin Array B 75.52 307 P **P 07 05 09.3 +0.5**
0.4nm,0.6s,baz=28,slow=6.5,SNR=2.9
YKA Yellowknife Ar 76.17 25 P **P 07 05 09.3 -2.6**
1.1nm,1.1s,baz=303,slow=5.3,SNR=12
NOA NORSAR Array B 77.04 334 LR LR 07 42 05.5
comp=Z,68nm,19.5s,baz=80,slow=38
GERES GERESS Array B 83.19 323 LR LR 07 45 20.6
comp=Z,77nm,19.7s,baz=74,slow=38

IDC ***31*** *07:09:11.4±1.1, 34°46N×25°73E, h0km, mb3.8/8, mb1 3.8/11, mb1mx3.6/44, mbtmp3.7/11, ML3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/44, Error ellipse: s-maj=20.0km s-min=12.4km az=30.0*
DDA ***31*** *07:09:14.4, 34°23N×25°55E, h30km, MD3.7*
THE ***31*** *07:09:16.2, 34°60N×25°53E, h0km±1km, ML3.3/3, Error ellipse: s-maj=3.6km s-min=1.6km az=179.0*
CSEM ***31*** *07:09:17.4±0.2, 34°64N×25°60E, h15km, MD3.4, Error ellipse: s-maj=5.6km s-min=4.8km az=23.0*
HLW ***31*** *07:09:17.0, 34°94N×25°70E, h25km±31km, Md3.6, Ml3.6*
ATH ***31*** *07:09:19.3, 34°84N×25°62E, h44km±1km, MD3.4/11*
ISK ***31*** *07:09:21.1, 34°87N×25°69E, h30km, ML3.2*
ISC 31 07:09:16.6±1.2, 34°61N±0°05×25°60E±0°02, h30km±8km, n85, σ1§49/95, mb3.8/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.56**	**350**	P	**Pb**	**07 09 27.8**	**-0.4**
LAST				S	**Sb**	**07 09 35.1**	**-0.9**
LAST	**Lasithi**	**0.56**	**350**	*e*P	**Pb**	**07 09 28.2**	**0.0**
LAST				*e*S	**Sb**	**07 09 36.3**	**+0.3**
LAST	**Lasithi**	**0.56**	**350**	P	**Pb**	**07 09 27.8**	**-0.4**
LAST				S	**Sb**	**07 09 35.1**	**-0.9**
NPS	**Neapolis**	**0.66**	**1**	P	**Pb**	**07 09 29.3**	**-0.3**
NPS				S	**Sn**	**07 09 39.6**	**+0.3**
NPS	**Neapolis**	**0.66**	**1**	*e*P	**Pb**	**07 09 29.5**	**-0.1**
NPS				*e*S	**Sb**	**07 09 36.8**	**-1.7**
NPS	**Neapolis**	**0.66**	**1**	*e*P	**Pb**	**07 09 29.5**	**-0.1**
NPS				*e*S	**Sb**	**07 09 36.8**	**-1.7**
ZKR	**Zakros**	**0.72**	**45**	*e*P	**Pn**	**07 09 31.6**	**+0.8**
ZKR				*e*S	**Sn**	**07 09 40.9**	**+0.1**
ZKR	**Zakros**	**0.72**	**45**	*e*P	**Pn**	**07 09 31.6**	**+0.8**
ZKR				*e*S	**Sn**	**07 09 40.9**	**+0.1**
SIVA	**Sivas**	**0.77**	**303**	*e*P	**Pn**	**07 09 33.4**	**+1.9**
SIVA				*e*S	**Sn**	**07 09 44.8**	**+2.8**
SIVA	**Sivas**	**0.77**	**303**	*e*P	**Pn**	**07 09 33.4**	**+1.9**
IDI	**Anoyia**	**0.90**	**320**	Pg	**Pn**	**07 09 33.2**	**-0.1**
	91nm,0.3s,baz=142,slow=13,SNR=128						
IDI				Lg	Lg	07 09 47.2	
	150nm,0.3s,baz=38,slow=19,SNR=30						
IDI				LR	LR	07 10 08.3	
	comp=Z,94nm,19.0s,baz=78,slow=53						
VAM	**Vamos**	**1.40**	**305**	P	**Pn**	**07 09 41.5**	**+1.3**
VAM				S	**Sb**	**07 09 59.8**	**+0.2**
VAM	**Vamos**	**1.40**	**305**	*e*P	**Pb**	**07 09 41.7**	**-0.4**
VAM				*e*S	**Sn**	**07 09 58.6**	**+1.0**
VAM	**Vamos**	**1.40**	**305**	P	**Pn**	**07 09 41.5**	**+1.3**
VAM				*e*S	**Sn**	**07 09 58.6**	**+1.0**
KARP	**Karpathos**	**1.59**	**53**	P	**Pb**	**07 09 44.9**	**-0.5**
KARP				S	**Sb**	**07 10 06.9**	**+1.8**
KARP	**Karpathos**	**1.59**	**53**	*e*P	**Pb**	**07 09 45.2**	**-0.2**
KARP	**Karpathos**	**1.59**	**53**	*e*P	**Pb**	**07 09 45.2**	**-0.2**
KARP				S	**Sb**	**07 10 06.9**	**+1.8**
KARN	**Karanos**	**1.59**	**300**	*e*P	**Pb**	**07 09 46.2**	**+0.8**
KARN	**Karanos**	**1.59**	**300**	*e*P	**Pb**	**07 09 46.2**	**+0.8**
THR6	**Thira Island,**	**1.75**	**355**	P	**Pn**	**07 09 45.8**	**+0.8**
THR6	**Thira Island,**	**1.75**	**355**	P	**Pn**	**07 09 45.8**	**+0.8**
THR1	**Thera Island**	**1.76**	**356**	*e*PN	**Pn**	**07 09 46.6**	**+1.4**
THR1	**Thera Island**	**1.76**	**356**	*e*Pn	**Pn**	**07 09 46.6**	**+1.4**
SANT	**Santorini**	**1.77**	**356**	P	**Pn**	**07 09 45.8**	**+0.6**
SANT				S	**Sb**	**07 10 10.9**	**+0.8**
SANT	**Santorini**	**1.77**	**356**	*e*P	**Pn**	**07 09 46.3**	**+1.1**
SANT	**Santorini**	**1.77**	**356**	*e*P	**Pn**	**07 09 46.3**	**+1.1**
SANT				S	**Sb**	**07 10 10.9**	**+0.8**
THR5	**Thira Island,**	**1.82**	**354**	P	**Pn**	**07 09 46.7**	**+0.8**
THR5	**Thira Island,**	**1.82**	**354**	*e*PN	**Pn**	**07 09 47.6**	**+1.7**
THR5	**Thira Island,**	**1.82**	**354**	P	**Pn**	**07 09 46.7**	**+0.8**
THR5	**Thira Island,**	**1.82**	**354**	*e*Pn	**Pn**	**07 09 47.7**	**+1.7**
ANKY	**Antikythira Is**	**2.26**	**304**	*e*P	**Pb**	**07 09 55.0**	**-1.8**
ANKY	**Antikythira Is**	**2.26**	**304**	*e*P	**Pb**	**07 09 55.0**	**-1.8**
APE	**Apeiranthos**	**2.46**	**359**	P	**Pn**	**07 09 55.4**	**+0.6**
APE				S	**Sb**	**07 10 28.5**	**-1.6**
APE	**Apeiranthos**	**2.46**	**359**	*e*P	**Pn**	**07 09 55.2**	**+0.4**
APE	**Apeiranthos**	**2.46**	**359**	P	**Pn**	**07 09 55.4**	**+0.6**
APE				S	**Sb**	**07 10 28.5**	**-1.6**
ARG	**Arkhangelos**	**2.62**	**51**	P	Pn	07 09 59.6	+2.7
ARG	**Arkhangelos**	**2.62**	**51**	*e*P	**Pn**	**07 09 58.4**	**+1.5**
ARG	**Arkhangelos**	**2.62**	**51**	P	Pn	07 09 59.6	+2.7

KYTH	Kithira	2.68	309	P		Pn	07 09 58.8	+1.0
KYTH	Kithira	2.68	309	*e*P		Pn	07 09 59.1	+1.3
KYTH	Kithira	2.68	309	*e*P		Pn	07 09 59.1	+1.3
VLI	Veliai	3.02	315	P		Pn	07 10 03.7	+1.2
VLI	Veliai	3.02	315	*e*P		Pn	07 10 03.5	+1.0
VLI	Veliai	3.02	315	P		Pn	07 10 03.7	+1.2
SLUM		3.12	186	P		Pn	07 10 07.8	+4.0
	baz=187							
SMG	Samos	3.25	18	*e*P		Pn	07 10 06.4	+0.7
SMG	Samos	3.25	18	*e*P		Pn	07 10 06.4	+0.7
DALY	Dalyan (Mu¨la	3.32	48	*e*PN		Pn	07 10 09.4	+2.8
DALY	Dalyan (Mu¨la	3.32	48	*e*Pn		Pn	07 10 09.4	+2.8
YER	Yerkesik	3.33	40	*e*PN		Pn	07 10 09.5	+2.7
YER	Yerkesik	3.33	40	*e*Pn		Pn	07 10 09.5	+2.7
FETY	Fethiye	3.49	54	*e*PN		Pn	07 10 11.3	+2.4
FETY	Fethiye	3.49	54	*e*Pn		Pn	07 10 11.3	+2.4
AYDN	Tasoluk	3.56	31	*i* P		Pn	07 10 13.3	+3.3
AYDN	Tasoluk	3.56	31	*i* P		Pn	07 10 13.3	+3.3
AKAS	Kas	3.65	62	*i* P		Pn	07 10 13.0	+1.8
AKAS	Kas	3.65	62	*i* P		Pn	07 10 13.0	+1.8
AKAS				*i* S		Sn	07 10 51.8	-1.6
CHOS	Chios island	3.79	5	*e*PN		Pn	07 10 15.1	+2.0
CHOS	Chios island	3.79	5	*e*Pn		Pn	07 10 15.1	+2.0
AYDB	Zeytinkoy-Aydi	3.81	28	*e*PN		Pn	07 10 16.0	+2.5
AYDB	Zeytinkoy-Aydi	3.81	28	*e*Pn		Pn	07 10 16.0	+2.5
BLCB	Balcova	3.95	17	*e*PN		Pn	07 10 17.2	+2.0
BLCB	Balcova	3.95	17	*e*Pn		Pn	07 10 17.2	+2.0
GOLH	Golhisar	4.15	50	*i* P		Pn	07 10 20.7	+2.6
GOLH				*i* S		Sn	07 11 07.6	+1.9
GOLH	Golhisar	4.15	50	*i* P		Pn	07 10 20.7	+2.6
GOLH				*i* S		Sn	07 11 07.6	+1.9
SWA2		5.35	181	P		Pn	07 10 38.0	+3.6
SWA2		5.35	181	P		Pn	07 10 38.0	+3.6
	baz=183							
GAZI	Gazipasa	5.72	72	*i* P		Pn	07 10 39.8	+0.2
GAZI	Gazipasa	5.72	72	*i* P		Pn	07 10 39.8	+0.2
GAZI				*i* S		Sn	07 11 39.1	-5.2
AWBH		6.87	155	P		Pn	07 10 58.1	+2.7
AWBH		6.87	155	P		Pn	07 10 58.1	+2.7
	baz=156							
KOT	Kottamia	7.04	130	P		Pn	07 10 58.8	+1.0
KOT	Kottamia	7.04	130	P		Pn	07 10 58.8	+1.0
	baz=132							
BRTR	Keskin Array B	8.20	49	Pn		Pn	07 11 13.7	-0.1
	0.2nm,0.3s,baz=232,slow=11,SNR=4.0							
KBZ	Khabaz	16.19	51	Pn		Pn	07 13 02.9	+1.0
	0.1nm,0.3s,baz=280,slow=15,SNR=2.2							
AKASG	Malin Array Be	16.30	8	Pn		Pn	07 13 02.3	-0.9
	0.5nm,0.3s,baz=200,slow=11,SNR=6.7							
GEYT	Alibeck	26.36	73	LR		LR	07 28 44.2	
	comp=Z,129nm,20.1s,baz=90,slow=45							
AKTO	Aktyubinsk	28.37	46	P		P	07 15 06.3	-1.7
	0.6nm,0.3s,baz=192,slow=5.2,SNR=4.4							
TORD	Torodi Ar. Bea	30.42	231	P		P	07 15 25.8	-0.7
	0.7nm,0.5s,baz=36,slow=8.7,SNR=12							
ARCES	ARCESS Array B	34.98	360	P		P	07 16 04.2	-1.7
	1.4nm,0.8s,baz=160,slow=7.3,SNR=6.2							
KURBB	Kurchatov Arra	41.19	51	P		P	07 16 58.4	0.0
	0.6nm,0.6s,baz=278,slow=8.8,SNR=5.8							
MKAR	Makanchi Array	43.78	56	P		P	07 17 20.3	+0.8
	0.4nm,0.6s,baz=271,slow=8.2,SNR=7.7							
ZALV	Zalesovo Beam	45.13	46	P		P	07 17 29.9	-0.3
	0.9nm,0.4s,baz=281,slow=8.7,SNR=5.0							
SCHQ	Schefferville	63.84	320	P		P	07 19 46.2	+0.2
	1.2nm,0.3s,baz=65,slow=5.2,SNR=15							
YKA	Yellowknife Ar	78.08	342	P		P	07 21 12.0	-0.3
	0.1nm,0.4s,baz=34,slow=5.1,SNR=7.7							

SKHL 31 07:15:47.5±0.8, 54°.96N×135°.14E, h15km±2km, mb4.3/5, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	Ekimchan	2.29	215	*e*Pn	Pn	07 16 26.4	+1.6
EKMR				*e*Pg	Pb	07 16 29.3	+0.7
EKMR				AMB	AMB	07 16 37.0	
	77nm,0.5s						
EKMR				AMB	AMB	07 16 37.0	
	57nm,0.5s						
EKMR				AMB	AMB	07 16 37.0	
	99nm,0.5s						
EKMR				*e*Sn	Sb	07 16 55.0	-1.8
EKMR				*e*Sg	Sg	07 17 00.5	-0.8
EKMR				A	A	07 17 03.1	
	350nm,0.4s						
EKMR				A	A	07 17 03.1	
	130nm,0.4s						
EKMR				A	A	07 17 03.1	
	71nm,0.4s						
BMKR	Bomnak	3.65	269	*e*Pn	Pn	07 16 44.5	+1.1
BMKR				*e*Pg	Pb	07 16 52.5	+0.8
BMKR				AMB	AMB	07 16 55.8	
	8.0nm,0.5s						
BMKR				AMB	AMB	07 16 55.8	
	32nm,0.5s						
BMKR				AMB	AMB	07 16 55.8	
	34nm,0.5s						
BMKR				sPg	sPg	07 16 59.5	
BMKR				*e*Sn	Sn	07 17 27.0	+0.8
BMKR				*e*Sg	Sb	07 17 39.5	+3.7
BMKR				A	A	07 17 44.4	
	320nm,0.4s						
BMKR				A	A	07 17 44.4	
	312nm,0.4s						
BMKR				A	A	07 17 44.4	
	205nm,0.4s						
NKL	Nikolayevsk	3.73	117	*e*Pn	Pn	07 16 44.0	-0.5
NKL				pPn	pPn	07 16 47.5	-0.5
NKL				*e*Pg	Pb	07 16 54.0	+0.9
NKL				*e*Sg	Sb	07 17 42.0	+3.9
NKL				A	A	07 17 49.0	
	110nm,0.4s						
GRNR	Gornyy	4.27	169	*e*Pg	Pg	07 17 06.7	-2.6
GRNR				AMB	AMB	07 17 09.0	
	23nm,0.2s						
GRNR				*e*Sg	Sg	07 18 01.0	-3.6
GRNR				A	A	07 18 03.8	
	74nm,0.4s						
KROS	Kirovskiy	4.77	267	*e*Pn	Pn	07 17 00.5	+1.7
KROS				*e*Pg	Pb	07 17 13.5	+2.7
KROS				AMB	AMB	07 17 16.4	
	12nm,0.4s						
KROS				*e*Sg	Sg	07 18 16.0	-4.6
KROS				A	A	07 18 23.5	
	190nm,0.5s						
ZEA	Zeya	4.78	258	*e*Sg	Sg	07 18 15.7	-5.0
ZEA				A	A	07 18 17.8	
	300nm,0.8s						
KLR	Kul'dur	6.11	201	*e*rx	rx	07 17 42.2	
KLR				*e*Sg	Sg	07 18 59.2	-4.2
TYV	Tymovskoe	6.12	129	*e*Sg	Sg	07 19 00.5	-3.4
TYV				A	A	07 19 15.0	
	32nm,1.0s						
OKHT	Okhotsk	6.23	42	*e*Sg	Sg	07 19 02.2	-5.0
KHBR	Khabarovsk	6.50	180	*e*Sg	Sg	07 19 10.2	-5.6

*ISCJB **31** 07:21:11.3±0.5, 13°.58N±0°.06×92°.61E±0°.06, h29km, mb4.1/20, MS3.2/1, Error ellipse: s-maj=10.6km s-min=6.7km az=40.5*
*NEIC **31** 07:21:14.6±0.3, 13°.61N×92°.63E, h35km, mb4.0/1, Error ellipse: s-maj=10.1km s-min=6.2km az=59.0*
*IDC **31** 07:21:17.2±3.4, 13°.66N×92°.75E, h58km±31km, mb3.8/18, mb1 4.0/20, mb1mx3.8/44, mbtmp4.1/20, ML4.1/2, MS3.2/2, Ms1 3.3/2, ms1mx2.8/43, Error ellipse: s-maj=25.8km s-min=13.2km az=58.0*

ISC 31 07:21:13.9±0.5, 13°.73N±0°.05×92°.67E±0°.07, h29km, n45, σ1°.37/43, mb4.1/20, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	0.60	155	*e*P	Pn	07 21 26.4	-0.1
DGPR				*e*S	Sn	07 21 35.9	+0.5
DGPR				AML	AML	07 21 38.0	
	comp=N,8μm,1.1s						
DGPR				AML	AML	07 21 39.4	
	comp=E,11μm,0.3s						
PBA	Port Blair	2.06	178	*e*P	Pn	07 21 38.0	-8.6
PBA				*e*S	Sn	07 21 57.3	-14
PBA				AML	AML	07 22 34.5	
	comp=E,919nm,0.3s						
PBA				AML	AML	07 22 35.6	
	comp=N,782nm,0.1s						

CMBY	CAMPBELL BAY	6.79	169	*e*S		Sn	07 23 50.0	-18
CMBY				AML		AML	07 26 32.7	
	comp=E,573nm,0.0s							
CMBY				AML		AML	07 26 33.4	
	comp=N,500nm,0.1s							
CMAR	Chiang Mai Arr	7.65	51	P		Pn	07 23 05.9	+2.4
	comp=N,1.2nm,0.3s,baz=241,slow=15,SNR=6.3							
CMAR				S		Sn	07 24 25.3	-3.9
	comp=N,1.3nm,0.3s,baz=241,slow=29,SNR=5.1							
CMAR				LR		LR	07 26 49.4	
	comp=N,173nm,18.1s,baz=276,slow=44							
CHTO	Chiang Mai	7.87	49	*e*Pn		Pn	07 23 08.8	+2.4
	comp=N,15nm,0.9s							
VIS	Vishakhapatnam	9.83	295	*e*P		Pn	07 23 29.1	-4.2
VIS				*e*S		Sn	07 25 12.4	-10
VIS				*e*x		x	07 25 17.0	
	comp=E,61nm,0.4s							
VIS				*e*x		x	07 25 18.6	
	comp=N,96nm,0.3s							
KULM	Kulim	11.50	136	Pn		Pn	07 23 54.8	-1.5
PSI	Prapat	12.49	150	P		Pn	07 24 12.5	+2.5
	comp=N,0.6nm,0.3s,baz=345,slow=20,SNR=3.3							
PALK	Pallekele	13.39	243	S		Sn	07 26 40.1	-10
	comp=N,5.4nm,0.3s,baz=305,slow=8.2,SNR=8.8							
HYB	Hyderabad	14.08	287	*i* P		P	07 24 38.0	-1.0
HYB				*e*			07 26 57.5	
HYB				*e*S		Sn	07 27 06.0	-1.0
TAPN	Taplejung	14.32	342	*e*P		Pn	07 24 34.0	-1.1
RAMN	Ramite	14.33	338	*e*P		Pn	07 24 36.0	+0.9
JIRN	Jiri	15.12	337	*e*P		Pn	07 24 45.1	-0.8
PKI	Pulchoki	15.35	335	*e*P		Pn	07 24 47.9	-1.0
	comp=N,21nm,0.5s							
GUN	Gumba	15.46	337	*e*P		Pn	07 24 49.0	-1.4
	comp=N,28nm,0.6s							
LSA	Lhasa	15.96	355	Pn		P	07 24 58.6	-1.6
POO	Poona	18.69	287	*ex*		P	07 25 26.9	-3.2
H08S3	Diego Garcia H	29.18	225	T		T	07 57 57.9	
	baz=42,slow=75,SNR=5.7							
H08S2	Diego Garcia H	29.19	225	T		T	07 58 00.1	
	baz=42,slow=75,SNR=6.8							
H08S1	Diego Garcia H	29.20	225	T		T	07 58 02.6	
	baz=42,slow=75,SNR=5.9							
MKAR	Makanchi Array	34.09	347	P		P	07 27 57.2	+1.3
	comp=N,1.7nm,0.8s,baz=162,slow=8.8,SNR=20							
SONM	Songino Array	35.88	16	P		P	07 28 12.3	+0.9
	comp=N,0.6nm,0.5s,baz=201,slow=11,SNR=3.8							
SONM				PcP		PcP	07 30 38.6	+0.3
	comp=N,0.2nm,0.4s,baz=200,slow=4.3,SNR=4.2							
KURBB	Kurchatov Arra	38.55	346	P		P	07 28 35.0	+1.1
	comp=N,3.0nm,0.8s,baz=164,slow=8.0,SNR=14							
KURK	Kurchatov	38.62	346	P		P	07 28 35.0	+0.6
GEYT	Alibeck	38.99	315	P		P	07 28 39.8	+1.9
	comp=N,3.2nm,0.6s,baz=165,slow=6.2,SNR=5.1							
GEYT				LR		LR	07 46 04.4	
	comp=N,31nm,18.3s,baz=85,slow=38							
ZALV	Zalesovo Beam	40.60	353	P		P	07 28 51.6	+0.7
	comp=N,3.5nm,0.6s,baz=177,slow=9.2,SNR=18							
BVAR	Borovoye Array	43.02	340	P		P	07 29 11.4	+0.6
	comp=N,0.6nm,0.7s,baz=147,slow=8.8,SNR=4.0							
ABKAR	Akbulak array	44.45	330	*e*P		P	07 29 22.9	+0.6
	comp=N,1.9nm,0.8s							
AKTO	Aktyubinsk	46.17	330	P		P	07 29 36.4	+0.4
	comp=N,0.8nm,0.5s,baz=124,slow=9.6,SNR=4.6							
WRA	Warramunga Arr	52.92	128	P		P	07 30 26.0	-1.8
	comp=N,0.9nm,0.4s,baz=299,slow=9.7,SNR=8.5							
WRA				PcP		PcP	07 31 36.4	-0.3
	comp=N,0.9nm,0.5s,baz=317,slow=3.2,SNR=7.5							
WB2	Warramunga Arr	52.93	128	*e*P		P	07 30 26.7	-1.2
AS31	Alice Springs	54.84	132	*e*P		P	07 30 40.4	-1.4
ASAR	Alice Springs	54.84	132	P		P	07 30 40.8	-1.0
	comp=N,1.9nm,0.4s,baz=307,slow=6.7,SNR=47							
BRTR	Keskin Array B	57.60	308	P		P	07 31 01.0	-0.5
	comp=N,1.3nm,0.7s,baz=99,slow=8.0,SNR=7.5							
JOF	Joensuu	64.98	334	*ep*		P	07 31 50.4	-0.5
	comp=N,3.4nm,0.7s							
FINES	FINESS Array B	66.90	331	P		P	07 32 03.5	+0.2
	comp=N,2.3nm,0.6s,baz=102,slow=8.6,SNR=8.1							
ARCES	ARCESS Array B	69.30	340	P		P	07 32 17.9	-0.3
	comp=N,4.1nm,0.9s,baz=54,slow=6.3,SNR=8.1							
GERES	GERESS Array B	72.55	317	P		P	07 32 38.8	+0.3
	comp=N,1.4nm,0.6s,baz=90,slow=5.7,SNR=8.8							
NB2	NORSAR Subarra	73.96	330	P		P	07 32 46.4	0.0
	comp=Z,0.7nm,0.6s,baz=89,slow=5.9							
NOA	NORSAR Array B	73.96	330	P		P	07 32 46.5	0.0
	comp=Z,0.9nm,0.6s,baz=90,slow=5.8,SNR=4.7							
BOSA	Boshof	77.53	236	P		P	07 33 08.5	+0.9
	comp=Z,3.6nm,0.8s,baz=74,slow=7.6,SNR=3.5							
ESDC	Sonseca Array	86.37	310	P		P	07 33 53.7	-0.1
	comp=Z,0.5nm,0.5s,baz=19,slow=8.2,SNR=3.3							
TORD	Torodi Ar. Bea	87.86	283	P		P	07 34 01.8	+0.4
	comp=Z,1.3nm,0.9s,baz=86,slow=4.8,SNR=8.4							
ILAR	Eielson Array	89.89	22	P		P	07 34 09.7	-0.3
	comp=Z,0.4nm,0.6s,baz=308,slow=4.4,SNR=9.5							
TXAR	Lajitas Array	134.38	20	PKP		PKPdf	07 40 29.7	-0.3
	comp=Z,0.3nm,0.7s,baz=154,slow=2.4,SNR=4.7							

DDA 31 07:22:00.5, 37°.15N×27°.89E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.36	257	*i* P	Pg	07 22 07.1	-0.6
BDRM				*i* S	Sb	07 22 14.0	-1.3
AYDN	Tasoluk	0.51	359	*i* P	Pg	07 22 11.1	+0.6
AYDN				*i* S	Sg	07 22 18.0	+0.8
TURN	Turunc	0.64	116	*i* P	Pg	07 22 09.5	-3.3
TURN				*i* S	Sg	07 22 17.4	-3.7
GOLH	Golhisar	1.34	86	*i* P	Pg	07 22 29.3	+2.9
GOLH				*i* S	Sn	07 22 50.1	+6.1
GOLH	Golhisar	1.34	86	*i* P	Pg	07 22 29.3	+2.9
GOLH				*i* S	Sn	07 22 50.1	+6.1
GDZ	Gediz	2.31	33	*i* P	Pg	07 22 49.9	+4.9
GDZ				*i* S	Sn	07 23 04.7	-3.3
GDZ	Gediz	2.31	33	*i* P	Pg	07 22 49.9	+4.9
GDZ				*i* S	Sn	07 23 04.7	-3.3

*IDC **31** 07:31:00.1±2.1, 9°.13S×117°.17E, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.4/31, mbtmp3.5/4, ML3.9/2, Error ellipse: s-maj=98.3km s-min=24.4km az=44.0*
*ISCJB **31** 07:31:05.5±0.5, 9°.05S±0°.1×117°.51E±0°.04, h50km, mb3.2/2, Error ellipse: s-maj=15.9km s-min=4.2km az=10.4*
*DJA **31** 07:31:06.6±0.4, 9°.S±7°×11°.7E±°, h57km±14km, M4.3/14, MLv4.3/14*

ISC 31 07:31:07.1±1.0, 9°.1S±0°.1×117°.49E±0°.05, h50km, n16, σ0°.95/21, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.96	107	P	Pn	07 31 37.1	-0.9
DNP	Denpasar	2.29	279	P	Pn	07 31 42.2	-0.2
DNP				S	Sn	07 32 11.7	+2.4
IGBI	Denpasar	2.33	276	P	Pn	07 31 41.7	-1.3
IGBI				S	Sn	07 32 09.9	-0.5
SRBI	Singaraja	2.45	293	P	Pn	07 31 43.9	-0.7
WSI	Waingapu	2.84	103	P	Pn	07 31 49.0	-0.9
JAGI	Jajag, Banyuwa	3.35	280	P	Pn	07 31 55.9	-1.1
JAGI				S	Sn	07 32 36.1	+0.5
ABJI	Asem Bagus	3.46	291	P	Pn	07 31 59.1	+0.7
KMMI	Kalianget	4.02	299	P	Pn	07 32 05.9	-0.3
BLJI	Banyuglugur	4.07	288	P	Pn	07 32 07.4	+0.6
BLJI				S	Sn	07 32 53.0	-0.2
GMJI	Gumukmas	4.08	281	P	Pn	07 32 05.9	-1.0
GMJI				S	Sn	07 32 54.3	+0.9
EDFI	Ende, Flores	4.16	86	P	Pn	07 32 08.6	+0.4
BKSI	Bulukumba	4.54	35	P	Pn	07 32 12.3	-1.0
BATI	Baumata	6.19	101	Pn	Pn	07 32 36.9	+0.9
	9.7nm,0.3s,baz=274,slow=13,SNR=4.8						
WRA	Warramunga Arr	19.55	125	P	Pn	07 35 32.5	-0.1
	0.2nm,0.3s,baz=300,slow=12,SNR=4.3						
ASAR	Alice Springs	21.39	135	P	P	07 35 51.4	+0.6
	1.0nm,0.7s,baz=309,slow=8.9,SNR=14						
MKAR	Makanchi Array	63.84	334	P	P	07 41 33.9	-0.4
	0.1nm,0.4s,baz=150,slow=6.1,SNR=2.2						

IDC 31 08:06:17.6±1.9, 0°.41N×126°.25E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.4/36, mbtmp3.8/3, Error ellipse: s-maj=170.0km s-min=24.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.73	159	P	P	08 11 10.6	-0.2
	3.0nm,0.5s,baz=338,slow=10,SNR=15						
ASAR	Alice Springs	25.06	163	P	P	08 11 44.1	+0.1
	0.8nm,0.3s,baz=345,slow=11,SNR=28						
MKAR	Makanchi Array	60.02	327	P	P	08 16 26.2	-0.1
	0.2nm,0.4s,baz=125,slow=7.2,SNR=2.4						

IDC 31 08:28:00.8±596.0, 54°.11N×1°.81E, h0km, Error ellipse: s-maj=326.6km s-min=138.8km az=108.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	9.10	121	*i*		09 24 40.0	
	baz=312,slow=321,SNR=0.5						
I48TN	KESRA INFRASON	19.04	161	*i*		10 26 10.0	
	baz=346,slow=325,SNR=0.2						
I43RU	DUBNA INFRASON	20.13	68	*i*		10 35 50.0	
	baz=281,slow=325,SNR=0.5						

*NNC **31** 08:45:33.8±1.8, 39°.46N×74°.41E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=16.3km s-min=8.8km az=19.0*
*KRNET **31** 08:45:34.6±0.1, 39°.44N×74°.40E, h3km, mb4.0*

ISC 31 08:45:33.1±2.1, 39°.39N±0°.08×74°.45E±0°.05, h1km±13km, n22, σ1°.74/31, 7C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.96	311	⇓P	Pg	08 45 50.2	-1.3
	14nm,0.3s						
SFK				⇑S	Sg	08 46 03.8	-0.1
	80nm,0.3s						
OHH	Osh	1.71	312	*e*P	Pb	08 46 05.8	+0.4
	baz=312						
OHH				*e*S	Sg	08 46 30.6	+2.6
	baz=312						
DRK	Karamyk	2.05	273	*e*P	Pb	08 46 11.0	-0.4
	baz=272						
DRK				*e*S	Sg	08 46 39.2	+0.2
	baz=272						
ARSB	Arslanbob	2.23	330	*e*P	Pg	08 46 15.8	-0.1
	baz=331						
ARSB				*e*S	Sg	08 46 45.4	+0.5
	baz=331						
NRN	Naryn	2.36	30	⇓*i*P	Pb	08 46 16.6	-0.1
	baz=31						
NRN				⇓*e*S	Sg	08 46 48.6	-0.4
	baz=31						
KZA	Kyzart	2.75	13	P	Pn	08 46 20.5	+1.7
	SNR=8.8						
AML	Almayashu	2.80	348	P	Pn	08 46 21.5	+2.1
	SNR=40						
UCH	Uchtor	2.83	1	P	Pn	08 46 22.3	+2.3
	SNR=23						
BTK	Batken	2.88	285	*e*P	Pb	08 46 25.4	+0.1
	baz=284						
BTK				*e*S	Sb	08 46 59.8	-1.3
	baz=284						
ULHL	Ulahol	3.16	25	P	Pb	08 46 30.8	+0.6
	SNR=5.4						
AAK	Ala-Archa	3.24	1	⇓Pn	Pn	08 46 26.7	+1.4
	8.0nm,0.6s						
AAK				⇑Lg	Lg	08 47 15.1	
	25nm,0.8s						
AAK	Ala-Archa	3.24	1	P	Pn	08 46 27.6	+2.3
	SNR=10						
KBK	Karagaybulak	3.29	6	P	Pb	08 46 30.2	-2.1
	SNR=6.7						
EKS2	Erkin-Say	3.31	351	P	Pb	08 46 29.7	-3.0
	SNR=8.1						
MNAS	Manas	3.43	335	⇑Pn	Pn	08 46 29.0	+1.2
	11nm,0.4s						
MNAS				⇓Lg	Lg	08 47 19.9	
	24nm,0.9s						
TKM2	Tokmak 2	3.63	13	⇓Pn	Pn	08 46 32.3	+1.6
	7.0nm,0.5s						
TKM2				⇓Lg	Lg	08 47 25.8	
	33nm,0.6s						
TKM2	Tokmak 2	3.63	13	P	Pn	08 46 32.5	+1.8
	SNR=23						
DZET	Dzherino	4.41	264	⇓Pn	Pn	08 46 42.6	+1.2
	1.9nm,0.3s						
DZET				⇑Pg	Pb	08 46 53.4	+1.9
	21nm,0.6s						
DZET				⇑Lg	Lg	08 47 54.5	
	30nm,0.6s						
KK31	Karatay Array	4.75	323	Pn	Pn	08 46 47.4	+1.5
	1.2nm,0.3s,baz=129,slow=14,SNR=35						
KK31				⇑Pg	Pb	08 46 59.2	+2.0
	1.6nm,0.4s,baz=132,slow=15,SNR=2.8						
KK31				⇓Sn	Sn	08 47 41.6	0.0
	2.2nm,0.5s,baz=132,slow=24						
KK31				⇑Lg	Lg	08 48 03.6	
	4.0nm,0.6s,baz=146,slow=29						
PDGK	Podgornoye	5.46	42	⇓Pg	Pb	08 47 12.2	+2.9
	6.1nm,0.7s						
PDGK				⇓Lg	Lg	08 48 23.2	
	20nm,0.8s						
AB31	Akbulak array	14.29	318	Pn	Pn	08 48 54.8	-1.8
	0.9nm,0.6s,baz=131,slow=13,SNR=17						
AKTO	Aktyubinsk	16.00	319	⇓Pn	Pn	08 49 16.7	-2.7
	2.5nm,1.0s						

KRSC 31 08:50:43.5±2.7, 49°.97N×157°.55E, h46km±26km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.16	308	S	Sn	08 51 16.4	-1.6
PAU	Pauzhetka	1.57	343	S	Sn	08 51 29.8	+1.9
MIPR	Malaya Ipel'ka	2.36	348	P	Pn	08 51 23.0	+3.3
RUS	Russkaya	2.54	13	P	Pn	08 51 25.3	+3.2
RUS				S	Sn	08 51 54.2	+2.5
MTVR	Mutnovka	2.54	9	P	Pn	08 51 26.1	+3.7
MTVR				S	Sn	08 51 55.5	+3.2
UGLR	Uglovaya	3.33	13	P	Pn	08 51 37.2	+4.0
AVH	Avacha	3.38	12	P	Pn	08 51 38.1	+4.3
SMAR	Somma	3.38	13	P	Pn	08 51 38.2	+4.1
KOK	Koryaka	3.39	11	P	Pn	08 51 38.4	+4.4
SDLR	Sedlovina	3.41	14	P	Pn	08 51 38.0	+3.7
KRER	Koryakskii	3.42

RNF	Rovaniemi	2.75	316	PG	Pb	08 59 54.4	-0.3
RNF	Rovaniemi	2.75	316	Pg	Pb	08 59 54.3	-0.3
SUF	Sumiainen	2.88	228	PB	Pn	08 59 53.0	+1.2
baz=46							
SUF	Sumiainen	2.88	228	Pb	Pn	08 59 52.9	+1.2
APA0	Apatity Array	3.04	16	P	Pn	08 59 55.3	+1.4
APA0				S	Sn	09 00 31.6	+0.6
APA	Apatity	3.06	19	P	Pn	08 59 55.7	+1.5
APA				S	Sn	09 00 32.2	+0.8
VRF	Varrio	3.09	352	PB	Pn	08 59 57.1	+2.5
VRF	Varrio	3.09	352	Pb	Pn	08 59 57.1	+2.5
KEF	Keuruu	3.69	229	PB	Pn	09 00 05.2	+2.3
KEF	Keuruu	3.69	229	Pb	Pn	09 00 05.2	+2.3
FIA0	FINESS Array S	3.92	215	PB	Pn	09 00 10.0	+3.9
baz=33							
FIA0	FINESS Array S	3.92	215	Pb	Pn	09 00 10.0	+3.9
FINES	FINESS Array B	3.92	215	Pn	Pn	09 00 05.8	-0.3
comp=Z,0.1nm,0.3s,baz=34,slow=14,SNR=2.3							
FINES				Pg	Pb	09 00 14.7	+0.1
comp=Z,0.2nm,0.3s,baz=34,slow=15,SNR=5.7							
FINES				Lg	Lg	09 01 07.4	
comp=Z,0.4nm,0.3s,baz=31,slow=28,SNR=5.8							
ERTU	Ertsjaerv	4.02	301	PG	Pb	09 00 17.7	+1.5
baz=114							
ERTU	Ertsjaerv	4.02	301	Pg	Pb	09 00 17.7	+1.5
ARCES	ARCESS Array B	5.26	339	Pn	Pn	09 00 24.9	+0.4
comp=Z,0.2nm,0.3s,baz=155,slow=12,SNR=16							
ARCES				Sn	Sn	09 01 24.8	-0.9
comp=Z,0.1nm,0.3s,baz=157,slow=23,SNR=3.1							
HFS	Hagfors	9.15	248	Pn	Pn	09 01 18.0	+0.3
comp=Z,0.1nm,0.3s,baz=52,slow=15,SNR=3.1							
NOA	NORSAR Array B	9.65	257	Pn	Pn	09 01 23.5	-1.3
comp=Z,0.1nm,0.3s,baz=61,slow=17,SNR=2.3							

IDC 31 09:01:30.9±1.0, 16°.79S×178°.34W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/36, mbtmp3.8/6, Error ellipse: s-maj=44.1km s-min=22.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	21.76	190	P	P	09 06 24.8	+0.7
1.6nm,0.3s,baz=0.0,slow=2.0,SNR=7.8							
WRA	Warramunga Arr	44.91	258	P	P	09 09 47.5	-0.3
0.5nm,0.6s,baz=97,slow=7.0,SNR=13							
ASAR	Alice Springs	45.17	253	P	P	09 09 49.5	-0.3
6.1nm,0.6s,baz=89,slow=8.2,SNR=112							
ILAR	Eielson Array	84.79	13	P	P	09 14 07.0	+0.3
0.4nm,0.9s,baz=204,slow=5.6,SNR=5.3							
TXAR	Lajitas Array	85.34	58	P	P	09 14 10.0	-0.5
0.3nm,0.7s,baz=220,slow=6.9,SNR=3.4							
PDAR	Pinedale Array	86.50	43	P	P	09 14 16.4	+0.3
0.2nm,0.6s,baz=234,slow=3.1,SNR=2.3							

ATH 31 09:04:15.5, 38°.45N×23°.68E, h5km, MD2.5/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	Lokris	0.57	291	ePB	Pg	09 04 26.5	0.0
LKR				eSB	Sg	09 04 34.1	+0.2
AOS	Alonnisos	0.74	12	ePB	Pg	09 04 28.9	-0.8
XOR	Xorichti	0.99	338	ePN	Pb	09 04 35.0	-0.2
SIGR	SIGRI	1.86	65	ePG	Pg	09 04 51.3	+0.1
SIGR				eSG	Sn	09 04 57.4	-15
SIGR	SIGRI	1.86	65	ePG	Pg	09 04 51.2	0.0
SIGR	SIGRI	1.86	65	ePg	Pg	09 04 51.3	+0.1
SIGR				eSg	Sn	09 04 57.4	-15
ENEZ	Enez	2.98	39	ePN	Pb	09 05 07.2	-1.8
ENEZ	Enez	2.98	39	ePn	Pb	09 05 07.2	-1.8
ALN	Alexandroupoli	3.05	36	ePN	Pb	09 05 09.6	-0.7
ALN	Alexandroupoli	3.05	36	ePn	Pb	09 05 09.6	-0.7
ERIK	Erikli-Kesan	3.12	44	ePN	Pn	09 05 05.7	+0.4
ERIK	Erikli-Kesan	3.12	44	ePn	Pn	09 05 05.7	+0.4

*ISCJB **31** 09:04:42.9±0.5, 39°.45N±0°.03×26°.40E±0°.06, h13km±5km, Error ellipse: s-maj=7.5km s-min=4.6km az=175.4*
*ISK **31** 09:04:42.8, 39°.46N×26°.27E, h14km, MD2.7*
*ATH **31** 09:04:43.9, 39°.44N×26°.24E, h4km, MD2.5/3*
*CSEM **31** 09:04:43.2±0.1, 39°.46N×26°.29E, h12km, MD2.7, Error ellipse: s-maj=3.5km s-min=2.0km az=97.0*
*DDA **31** 09:04:44.2, 39°.35N×27°.10E, h8km, MD2.7*

ISC 31 09:04:43.4±0.9, 39°.46N±0°.02×26°.28E±0°.04, h11km±9km, n37, σ0°62/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.21	182	ePG	Pg	09 04 47.6	-0.3
PRK				eSG	Sg	09 04 50.6	-0.3
PRK	Paraskevi	0.21	182	ePg	Pg	09 04 47.6	-0.3
PRK				eSg	Sg	09 04 50.6	-0.3
AYVA	Ayvalik	0.35	115	iP	Pg	09 04 50.4	0.0
AYVA				iS	Sg	09 04 56.2	+1.1
AYVA	Ayvalik	0.35	115	iP	Pg	09 04 50.4	0.0
AYVA				iS	Sg	09 04 56.2	+1.1
EZN	Ezine	0.37	5	ePG	Pg	09 04 50.6	-0.1
EZN				eSG	Sg	09 04 56.3	+0.7
EZN	Ezine	0.37	5	ePg	Pg	09 04 50.6	-0.1
EZN				eSg	Sg	09 04 56.3	+0.7
BOZC	Bozcaada	0.42	335	iP	Pg	09 04 51.4	-0.3
BOZC				iS	Sg	09 04 58.6	+1.3
GELI	Tayfur-Gelibol	0.95	9	ePG	Pg	09 05 01.7	0.0
GELI	Tayfur-Gelibol	0.95	9	ePg	Pg	09 05 01.7	0.0
LPK	Lapseki	0.98	22	ePG	Pb	09 05 02.1	-0.4
LPK	Lapseki	0.98	22	ePg	Pb	09 05 02.1	-0.4
BALY	Balya	1.07	74	iP	Pb	09 05 03.2	-0.8
BALY				iS	Sb	09 05 11.3	-6.8
BALY	Balya	1.07	74	iP	Pb	09 05 03.2	-0.8
BALY				iS	Sb	09 05 11.3	-6.8
CHOS	Chios island	1.09	189	ePN	Pb	09 05 04.4	+0.1
CHOS	Chios island	1.09	189	ePG	Pb	09 05 04.5	+0.2
CHOS	Chios island	1.09	189	ePn	Pb	09 05 04.4	+0.1
KRBG	Karabiga-Canak	1.22	40	ePN	Pn	09 05 05.8	-0.6
KRBG	Karabiga-Canak	1.22	40	ePn	Pn	09 05 05.8	-0.6
BLCB	Balcova	1.23	151	ePN	Pn	09 05 06.0	-0.5
BLCB	Balcova	1.23	151	ePn	Pn	09 05 06.0	-0.5
IZM	Izmir	1.31	144	ePN	Pn	09 05 07.1	-0.6
IZM	Izmir	1.31	144	ePn	Pn	09 05 07.1	-0.6
AKHS	Akhisar	1.32	116	iP	Pn	09 05 02.3	-5.6
AKHS				iS	Sb	09 05 09.2	-16
RKY	Sarkoy-Tekirda	1.41	29	ePN	Pn	09 05 08.5	-0.6
RKY	Sarkoy-Tekirda	1.41	29	ePn	Pn	09 05 08.5	-0.6
SART	Tekirdag	1.41	29	iP	Pn	09 05 09.3	+0.2
SART				iS	Sb	09 05 28.3	+0.5
SART	Tekirdag	1.41	29	iP	Pn	09 05 09.3	+0.2
SART				iS	Sb	09 05 28.3	+0.5
MRMT	Marmara Adasi	1.52	41	ePN	Pn	09 05 09.6	-1.1
MRMT	Marmara Adasi	1.52	41	ePn	Pn	09 05 09.6	-1.1
DURS	Dursunbey	1.70	85	iS	Sn	09 05 16.6	-18
DURS	Dursunbey	1.70	85	iP	Pn	09 05 06.0	-7.2
DURS				iS	Sn	09 05 16.6	-18
AYDB	Zeytinkoy-Aydi	1.97	140	ePN	Pn	09 05 17.4	+0.6
AYDB	Zeytinkoy-Aydi	1.97	140	ePn	Pn	09 05 17.4	+0.6
MANT	Manisa	2.02	118	iP	Pn	09 05 14.3	-3.4
MANT				iS	Sn	09 05 28.4	-15
MANT	Manisa	2.02	118	iP	Pn	09 05 14.3	-3.4
MANT				iS	Sn	09 05 28.4	-15
GDZ	Gediz	2.51	97	iP	Pn	09 05 19.4	-4.9
GDZ				iS	Sn	09 05 38.6	-17
GDZ	Gediz	2.51	97	iP	Pn	09 05 19.4	-4.9
GDZ				iS	Sn	09 05 38.6	-17

*IDC **31** 09:16:01.7±1.3, 34°.25S×72°.30W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.1/15, mbtmp4.3/4, MS3.8/2, Ms1 3.7/2, ms1mx3.3/15, Error ellipse: s-maj=49.9km s-min=38.9km az=10.0*
*GUC **31** 09:16:07.9±0.5, 34°.28S×72°.13W, h38km±2km, ML4.4*

ISC 31 09:16:04.1±2.2, 34°.2S±0°.1×72°.29W±0°.08, h15km±12km, n19, σ0°76/24, mb4.3/4, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.78	70	⇓iP	Pn	09 16 21.1	+0.5
LNV				iS	Sn	09 16 31.0	-1.0
TACH	Talagante	1.26	63	⇑iP	Pg	09 16 28.4	-0.1
TACH				iS	Sn	09 16 44.2	+0.2
CHCH	Chadas Angostu	1.39	78	iP	Pg	09 16 30.4	-0.5
CACH	El Canelo	1.40	86	⇓iP	Pg	09 16 31.1	-0.1
CACH				iS	Sb	09 16 48.2	+0.3
SAN	Santiago	1.56	61	⇑iP	Pb	09 16 33.2	+0.5
SAN				iS	Sb	09 16 52.5	+0.3
CLCH	Cerro Calan	1.68	61	⇑iP	Pb	09 16 34.9	+0.1
CLCH				iS	Sb	09 16 55.7	-0.1
CLCH				AML	AML	09 17 05.5	
comp=N,6μm,0.5s							
PEL	Peldehue	1.72	51	⇓iP	Pb	09 16 35.5	0.0
PEL				iS	Sb	09 16 56.9	0.0
PEL				AML	AML	09 17 10.1	
comp=E,8μm,0.6s							
BDFB	Brasilia	28.63	56	P	P	09 21 59.5	-0.9
comp=E,1.2nm,0.4s,baz=161,slow=13,SNR=4.0							
BDFB				LR	LR	09 34 30.8	
comp=E,193nm,18.8s,baz=226,slow=39							
TEIG	Tepich	56.25	342	P	P	09 25 44.1	+0.2
comp=E,6.9nm,0.8s,baz=163,slow=14,SNR=3.1							
TXAR	Lajitas Array	69.83	331	P	P	09 27 14.3	+0.1
comp=E,3.2nm,1.0s,baz=146,slow=6.6,SNR=3.5							
TORD	Torodi Ar. Bea	84.48	70	P	P	09 28 37.6	+0.9
comp=E,1.6nm,1.0s,baz=250,slow=3.7,SNR=5.5							
TORD				LR	LR	10 05 30.8	
comp=E,40nm,18.0s,baz=140,slow=35							
WRA	Warramunga Arr	120.46	209	PKP	PKPdf	09 34 54.7	-0.9
comp=E,0.3nm,0.5s,baz=155,slow=1.7,SNR=8.7							
H11S2	WAKE ISLAND Hyl	25.56	269	T	T	11 53 33.5	
baz=122							
H11S1	WAKE ISLAND Hyl	25.58	269	T	T	11 53 35.0	
baz=122							
H11S3	WAKE ISLAND Hyl	25.58	269	T	T	11 53 36.8	
baz=122							
BVAR	Borovoye Array	147.59	43	PKPbc	PKPbc	09 35 48.0	+0.7
comp=E,1.2nm,0.5s,baz=298,slow=2.6,SNR=9.5							
KURBB	Kurchatov Arra	153.18	43	PKPbc	PKPbc	09 36 01.2	+0.4
comp=E,0.7nm,0.4s,baz=309,slow=3.1,SNR=18							
KURBB				PKPab	PKPab	09 36 10.2	-2.4
comp=E,0.4nm,0.4s,baz=305,slow=2.9,SNR=5.9							
ZALV	Zalesovo Beam	154.53	32	PKPbc	PKPbc	09 36 03.8	+0.1
comp=E,0.8nm,0.5s,baz=293,slow=3.9,SNR=6.3							
ZALV				PKPab	PKPab	09 36 18.6	+0.3
comp=E,0.7nm,0.3s,baz=298,slow=6.0,SNR=3.9							
MKAR	Makanchi Array	157.07	49	PKPab	PKPab	09 36 30.1	+0.7
comp=E,0.4nm,0.8s,baz=298,slow=3.1,SNR=3.1							

*IDC **31** 09:20:21.2±2.1, 32°.06N×115°.62W, h0km, mb3.7/2, mb1 3.8/7, mb1mx3.6/26, mbtmp3.5/7, ML3.5/5, MS3.5/13, Ms1 3.5/13, ms1mx3.3/42, Error ellipse: s-maj=30.5km s-min=10.4km az=41.0*
*BJI **31** 09:20:22.0, 32°.40N×115°.20W, h8km, mb5.1/2*
*ISCJB **31** 09:20:24.4±0.3, 32°.40N±0°.02×115°.25W±0°.03, h12km±2km, mb3.4/2, MS3.5/9, Error ellipse: s-maj=3.6km s-min=3.4km az=167.6*
*NEIC **31** 09:20:26.5, 32°.37N×115°.40W, h5km, ML4.1(ECX), ML4.2(PAS), After ECX.*
NEIC Felt [II] at Mexicali. Also felt at Guadalupe Victoria. Felt [II] at Calexico, California. Also felt at Del Mar, Desert Hot Springs, El Cajon, El Centro, Escondido, Imperial, San Diego, San Marcos and Vista.
*ECX **31** 09:20:26.2±0.6, 32°.38N×115°.39W, h6km, MD4.0, ML4.2*
*MEX **31** 09:20:26.2±0.4, 32°.44N×115°.15W, h3km±27km, MD4.3*

ISC 31 09:20:25.2±0.7, 32°.35N±0°.02×115°.27W±0°.03, h13km±3km, n81, σ1°44/89, MS3.6/9, 2C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.07	336	⇑eP	Pg	09 20 28.4	+0.5
CPBX				eS	Sg	09 20 29.3	-0.6
MBIG	Mexicali	0.08	46	iP	Pg	09 20 27.1	-0.8
MBIG				iS	Sg	09 20 27.8	-2.1
EMX	El Mayor	0.36	176	⇓eP	Pb	09 20 33.3	-0.2
EMX				iS	Sb	09 20 39.2	+0.1
RDX	Rancho Dawling	0.71	234	⇓eP	Pg	09 20 37.9	-1.2
RDX				⇓e	Sb	09 20 50.6	+1.2
comp=N,9μm,0.5s							
RDX	Rancho Dawling	0.71	234	eP	Pg	09 20 37.9	-1.2
RMX	La Rumorosa	0.73	290	⇓iP	Pg	09 20 37.2	-2.2
SWSC	Sam W. Stewart	0.74	323	P	Pg	09 20 39.3	-0.3
baz=0.7							
GLA	Glamis	0.79	28	P	Pg	09 20 39.6	-1.0
baz=0.8							
GLA				S	Sg	09 20 50.0	-1.0
baz=0.8							
ECBX	El Chinero	0.89	168	⇑eP	Pb	09 20 43.3	+0.7
MONP	Monument Peak,	1.11	299	P	Pb	09 20 45.8	-0.7
baz=1.0							
BAR	Barrett	1.23	286	ePn	Pn	09 20 48.0	-0.2
BAR				eSn	Sn	09 21 05.8	+1.0
SPIG	San Pedro Mart	1.31	187	iP	Pn	09 20 50.2	+0.7
SPIG				eS	Sb	09 21 07.4	+0.6
SPIG	San Pedro Mart	1.31	187	iP	Pn	09 20 50.2	+0.7
SPIG				eS	Sb	09 21 07.4	+0.6
SPX	San Pedro Mart	1.31	187	eP	Pn	09 20 49.9	+0.3
SPX	San Pedro Mart	1.31	187	eP	Pn	09 20 49.9	+0.3
BC3	Big Chuckawall	1.31	353	P	Pn	09 20 47.7	-1.7
baz=1.3							
ECNX	Esteban Cantu	1.32	239	⇓eP	Pn	09 20 47.9	-1.7
113A	Mohawk Valley,	1.33	71	P	Pn	09 20 48.1	-1.5
baz=1.4							
113A				S	Sb	09 21 05.6	-1.6
baz=1.4							
PBX	Punta Banda	1.38	244	⇓eP	Pn	09 20 48.6	-1.7
PBX	Punta Banda	1.38	244	eP	Pn	09 20 47.9	-2.4
PFO	Pinyon Flats O	1.60	322	Pg	Pn	09 20 51.9	-1.6
comp=N,19nm,0.3s,baz=135,slow=16,SNR=185							
PFO				LR	LR	09 21 18.2	
comp=N,391nm,18.4s,baz=122,slow=34							
PFO	Pinyon Flats O	1.60	322	P	Pn	09 20 51.9	-1.6
baz=1.5							
109C	Camp Elliot, M	1.64	290	Pb	Pn	09 20 53.8	0.0
baz=1.5							
109C				Sb	Sg	09 21 17.4	-0.7
baz=1.5							
IRM	Iron Mountain	1.81	3	Pb	Pn	09 20 56.9	+0.7
baz=1.8							
MURC	Murrieta	2.05	308	P	Pn	09 20 58.5	-1.0
baz=1.9							
214A	Organ Pipe Nat	2.12	100	P	Pn	09 20 58.7	-1.8
baz=2.2							
PDMCI	Parker Dam,Lak	2.16	26	Pg	Pb	09 21 04.7	+0.4
baz=2.2							
PDMCI				Sb	Sb	09 21 31.5	+0.5
baz=2.3							
Z14A	Wintersburg	2.20	62	P	Pn	09 21 00.6	-0.9
baz=2.3							
LDFC	Landfair	2.73	3	ePn	Pn	09 21 09.5	+0.6
LDFC				eSn	Sn	09 21 39.5	-2.3
MWC	Mount Wilson	2.99	309	ePg	Pg	09 21 21.6	-1.0
MWC				eSg	Sg	09 22 00.2	-1.2
PASC	Pasadena Art C	3.04	307	ePn	Pn	09 21 13.7	+0.5
GSC	Goldstone, Bar	3.21	337	ePg	Pg	09 21 26.9	+0.1
EDW2	Edwards Air Fo	3.40	319	P	Pb	09 21 24.1	-1.2
baz=3.3							
TUC	Tucson	3.80	89	iP	Pn	09 21 22.5	-1.0
TUC				eS	Sg	09 22 27.1	0.0
X16A	Lo Mia Camp, P	3.81	56	P	Pn	09 21 24.1	+0.3
baz=3.9							
SHPR	Sheep Range	4.15	1	ePn	Pn	09 21 29.0	+0.6
SHPR				eSg	Sg	09 22 39.3	+0.8
DAC	Darwin (Calif)	4.37	334	ePg	Pg	09 21 51.0	+2.2
DAC				eSn	Sn	09 22 22.3	0.0
WUAZ	Wupatki	4.52	45	P	Pn	09 21 34.7	+1.0
baz=4.6							
WUAZ	Wupatki	4.52	45	ePn	Pn	09 21 34.6	+1.0
WUAZ				eSg	Sg	09 22 49.1	-1.4
U15A	North Rim	4.75	30	P	Pn	09 21 37.2	+0.3
baz=4.8							
X18A	Snowflake	4.95	62	P	Pn	09 21 39.6	+0.1
baz=5.0							
W18A	Petrified Fore	5.37	58	P	Pn	09 21 46.6	+1.2
baz=5.5							
W18A	Petrified Fore	5.37	58	ePn	Pn	09 21 46.0	+0.7
comp=N,87nm,0.8s							
SRIG	Santa Rosalia	5.66	152	iP	Pb	09 21 57.6	-6.3
TPH	Tonopah	5.93	345	ePn	Pn	09 21 52.3	-0.7
comp=N,34nm,0.8s							
R11A	Troy Canyon, C	5.99	358	ePn	Pn	09 21 53.7	-0.1
comp=N,25nm,0.6s							
121A	Cookes Peak, D	6.33	86	P	Pn	09 21 58.9	+0.5
baz=6.4							
MVU	Marysvale	6.63	21	ePn	Pn	09 22 02.9	+0.3
comp=N,72nm,0.9s							
WAKR	Walker	7.02	332	ePg	Pg	09 22 46.3	+6.7
comp=N,48nm,1.2s							
LENM	Lemitar	7.18	73	ePn	Pn	09 22 11.2	+1.0
comp=N,7.8nm,0.4s							
MVCO	Mesa Verde	7.38	47	P	Pn	09 22 15.7	+2.7
baz=7.5							
MVCO	Mesa Verde	7.38	47	ePn	Pn	09 22 14.6	+1.6
comp=N,49nm,0.8s							
LPM	Los Pinos Moun	7.49	73	ePn	Pn	09 22 15.6	+1.2
comp=N,5.0nm,0.4s							
V22A	San Miguel Ran	7.79	61	P	Pn	09 22 19.9	+1.3
baz=7.9							
ANMO	Albuquerque	7.79	68	Pn	Pn	09 22 21.4	+2.8
comp=N,0.2nm,0.3s,baz=257,slow=9.6,SNR=4.4							
ANMO				Lg	Lg	09 24 39.8	
comp=N,0.2nm,0.3s,baz=207,slow=22,SNR=3.8							
ANMO				LR	LR	09 25 25.2	
comp=N,229nm,20.1s,baz=261,slow=37							
ANMO	Albuquerque	7.79	68	ePn	Pn	09 22 17.6	-0.9
comp=N,14nm,0.8s							
ANMO				Lg	Lg	09 24 39.8	
ELK	Elko	8.38	0	Pn	Pn	09 22 29.8	+3.1
comp=N,0.1nm,0.3s,baz=176,slow=15,SNR=4.3							
ELK				Lg	Lg	09 24 53.8	
comp=N,0.3nm,0.3s,baz=197,slow=0.8,SNR=6.0							
MNTX	Cornudas Mount	8.42	92	P	Pn	09 22 27.2	+0.1
baz=8.5							
LPIG	La Paz	9.31	151	LR	LR	09 25 45.0	
comp=N,238nm,21.2s,baz=344,slow=35							
TXAR	Lajitas Array	10.41	104	Pn	Pn	09 22 56.1	+1.7
comp=N,0.4nm,0.3s,baz=285,slow=13,SNR=23							
TXAR				Lg	Lg	09 25 55.5	
comp=N,0.1nm,0.3s,baz=277,slow=32,SNR=2.7							
TXAR				LR	LR	09 27 27.0	
comp=N,440nm,19.6s,baz=0.0,slow=40							
AHID	Auburn Hatcher	10.91	16	ePn	Pn	09 23 02.3	+1.0
comp=N,7.0nm,0.3s							
MFID	Camas Ranch	11.06	358	ePn	Pn	09 23 06.1	+2.9
comp=N,7.6nm,1.4s							
YBH	Yreka Blue Hor	11.09	330	LR	LR	09 27 33.4	
comp=N,144nm,18.6s,baz=131,slow=39							
PDAR	Pinedale Array	11.34	22	Pn	Pn	09 23 14.9	+7.7
comp=N,0.0nm,0.3s,baz=201,slow=14,SNR=4.1							
PDAR				Lg	Lg	09 26 38.6	
comp=N,0.1nm,0.3s,baz=188,slow=29,SNR=3.6							
NEW	Newport	15.96	355	Pn	P	09 24 13.8	+0.7
comp=N,0.1nm,0.3s,baz=179,slow=14,SNR=4.0							
HKT	Hockley	16.81	93	ePn	Pn	09 24 19.4	-0.9
comp=N,39nm,1.8s							
BBB	Bella Bella	21.92	338	LR	LR	09 33 46.0	
comp=N,240nm,20.9s,baz=226,slow=36							
ULM	Lac du Bonnet	22.95	33	P	P	09 25 30.6	+1.4
comp=N,1.9nm,0.9s,baz=220,slow=12,SNR=2.8							
CMIG	Matias Romero	23.89	125	LR	LR	09 35 44.6	
comp=N,141nm,19.6s,baz=142,slow=38							
TKL	Tuckaleechee C	26.26	74	LR	LR	09 35 44.0	
comp=N,84nm,18.6s,baz=333,slow=35							
DLBC	Dease Lake	27.94	343	LR	LR	09 37 24.0	
comp=N,242nm,19.0s,baz=152,slow=36							
APG	El Apazote	28.42	122	LR	LR	09 37 35.5	
comp=N,70nm,21.0s,baz=280,slow=36							
ILAR	Eielson Array	37.81	338	P	P	09 27 41.1	0.0
comp=N,0.6nm,1.0s,baz=134,slow=5.7,SNR=6.5							
RES	Resolute Bay	43.59	8	LR	LR	09 47 13.6	
comp=N,110nm,20.7s,baz=16,slow=37							
MJAR	Matsushiro Arr	83.00	309	LR	LR	10 02 58.3	
comp=N,15nm,21.2s,baz=190,slow=31							
CN2	Changchun	86.13	321	eP	P	09 33 05.8	-0.3
TLY	Talaya	89.62	337	LR	LR	10 18 41.0	
comp=N,23nm,18.6s,baz=357,slow=39							
SONM	Songino Array	91.86	333	LR	LR	10 15 14.7	
comp=N,31nm,18.5s,baz=70,slow=36							
HHC	Hu-ho-hao-te	95.30	326	eP	P	09 33 48.5	-0.8
HHC				sP	sP	09 33 56.0	+1.0
HHC				PP	PP	09 37 39.5	+0.9
HHC				SKS	SKSac	09 44 17.0	-8.2
HHC				S	S	09 44 59.5	-5.4
HHC				sS	ScS	09 45 07.8	+2.0
HHC				SS	SS	09 51 34.3	+4.1
WMQ	Urumqi	101.34	343	eP	Pdif	09 34 17.0	+0.7
WMQ				pP	pP	09 34 22.0	+1.3
WMQ				PMZ			
comp=N,5.0nm,1.0s							
LZH	Lanzhou	102.69	328	eP	Pdif	09 34 22.3	-0.3
LZH				pP		09 34 25.5	

GUC 31 09:35:04.8±0.8, 34°.27S×72°.33W, h35km±7km, ML3.7, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	1.16	129	⇑iP	Pn	09 35 26.5	+1.9
NICH				iS	Sn	09 35 42.5	+3.2
TALC	Talca	1.26	153	⇑iP	Pn	09 35 27.6	+1.7
TALC				iS	Sn	09 35 44.3	+2.7
IHA	Instituto Hidr	1.37	25	⇓iP	Pn	09 35 28.8	+1.3
LNCH	Linares	1.68	159	⇑iP	Pn	09 35 34.2	+2.5
LNCH				iS	Sn	09 35 56.2	+4.2
CLCH	Cerro Calan	1.73	60	⇑iP	Pn	09 35 35.0	+2.5
CLCH				⇓iP	Pn	09 35 35.5	+3.0
CLCH				iS1	Sn	09 35 57.9	+4.4
CLCH				AML	AML	09 36 05.7	
comp=N,1μm,0.6s							
SJCH	San Jose de Ma	1.76	70	iP9	Pn	09 35 34.9	+1.9
SJCH				iS1	Sn	09 35 57.8	+3.5
PEL	Peldehue	1.78	51	⇓iP	Pn	09 35 35.8	+2.7
PEL				iS	Sn	09 35 58.9	+4.3
PEL				AML	AML	09 36 10.8	
comp=E

ZALV Lg Lg 09 56 23.9
1.3nm,0.3s,baz=73,slow=30,SNR=5.0
KURK Kurchatov 6.29 241 ⇑Pn Pn 09 57 14.8 -0.5
1.8nm,1.2s
KURK ⇑Sn **Sn 09 58 26.6 +0.7**
0.5nm,0.5s
KURK ⇑Lg Lg 09 58 59.8
2.6nm,0.9s
KURBB Kurchatov Arra 6.39 240 ⇑Pn Pn 09 57 16.2 -0.5
1.8nm,0.7s
KURBB ⇓Sn **Sn 09 58 29.1 +0.7**
4.1nm,0.7s
KURBB ⇑Lg Lg 09 59 02.5
6.7nm,0.7s
MK31 Makanchi Array 7.98 205 ⇑Pn Pn 09 57 38.6 0.0
0.1nm,0.3s,baz=26,slow=13,SNR=12
MK31 ⇓Sn **Sn 09 59 04.9 -2.7**
0.3nm,0.5s,baz=28,slow=26
MK31 ⇓Lg Lg 09 59 48.4
3.2nm,0.9s,baz=3.5,slow=37,SNR=4.2
MKAR Makanchi Array 7.98 205 Pn Pn 09 57 39.7 +1.1
0.4nm,0.3s,baz=26,slow=14,SNR=12
MKAR Sn **Sn 09 59 08.9 +1.3**
0.2nm,0.3s,baz=25,slow=24,SNR=4.7
MKAR Lg Lg 09 59 54.3
0.1nm,0.3s,baz=20,slow=30,SNR=3.6

NNC 31 09:59:16.4±1.4, 38°.91N×69°.98E, h0km, mb3.5, mpv3.1, 8C-11D, Error ellipse: s-maj=18.3km s-min=4.0km az=154.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**0.91**	**264**	⇓P	Pg	09 59 33.5	-0.5
	20nm,0.3s						
DZET				⇑S	Sg	09 59 46.8	+0.9
	256nm,0.4s						
SFK	**Sufi-Kurgan**	**2.94**	**67**	⇑Pn	Pb	10 00 08.0	-2.1
	3.8nm,0.4s						
SFK				⇓Lg	Lg	10 00 47.0	
	37nm,0.7s						
MNAS	**Manas**	**4.06**	**27**	⇑Pn	Pn	10 00 20.8	+0.7
	1.1nm,0.4s						
MNAS				⇓Pg	Pb	10 00 30.1	+1.1
	4.1nm,0.8s						
MNAS				⇑Sn	Sn	10 01 09.5	+1.2
	7.7nm,0.4s						
MNAS				⇓Lg	Lg	10 01 26.0	
	7.0nm,0.5s						
KK31	**Karatay Array**	**4.21**	**5**	⇑Pn	Pn	10 00 22.6	+0.7
	1.1nm,0.3s,baz=175,slow=13,SNR=10						
KK31				⇑Pg	Pb	10 00 33.1	+1.6
	1.0nm,0.3s,baz=199,slow=12,SNR=17						
KK31				⇓Sn	Sn	10 01 14.1	+2.2
	3.1nm,0.5s						
KK31				⇓Lg	Lg	10 01 30.4	
	2.8nm,0.4s,baz=184,slow=29						
AAK	**Ala-Archa**	**5.06**	**41**	Pn	Pn	10 00 34.7	+0.9
	0.7nm,0.3s						
AAK				⇓Pg	Pb	10 00 47.3	+1.2
	2.5nm,0.5s						
AAK				⇑Sn	Sn	10 01 31.8	-1.3
	2.9nm,0.5s						
AAK				⇓Lg	Lg	10 01 52.9	
	7.0nm,0.7s						
TKM2	**Tokmak 2**	**5.84**	**45**	⇓Pn	Pn	10 00 44.5	-0.1
	1.7nm,0.7s						
TKM2				⇑Sn	Sn	10 01 52.1	-0.4
	11nm,0.8s						
AB31	**Akbulak array**	**12.60**	**328**	Pn	Pn	10 02 13.9	-2.9
	0.7nm,0.6s,baz=141,slow=12,SNR=18						
AKTO	**Aktyubinsk**	**14.30**	**328**	⇓Pn	P	10 03 42.5	+55
	1.0nm,0.6s						
AKTO				⇓Lg	Lg	10 04 28.9	
	3.7nm,1.1s						

DJA 31 10:00:31.3±0.6, 8°.5S±3°.×10°.7E±°, h25km±8km, M3.7/7, MLv3.7/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.89**	**43**	P	Pb	10 00 47.1	-1.1
CISI				S	Sb	10 00 57.1	-2.7
CNJI	**Cibinong**	**0.90**	**356**	P	Pb	10 00 47.4	-0.8
CNJI				S	Sb	10 00 57.8	-2.0
CMJI	**Cimerak**	**1.31**	**71**	P	Pn	10 00 53.4	-0.6
CMJI				S	Sn	10 01 08.4	-2.2
SKJI	**Sukabumi**	**1.36**	**332**	P	Pn	10 00 54.7	0.0
SKJI				S	Sn	10 01 12.0	+0.1
LEM	**Lembang**	**1.44**	**17**	P	Pn	10 00 55.8	-0.2
LEM				S	Sn	10 01 14.5	+0.3
KPJI	**Karang Pucung**	**1.92**	**63**	P	Pn	10 01 02.3	-0.2
CGJI	**Cibinong**	**2.18**	**317**	P	Pn	10 01 06.3	+0.3
UGM	**Wanagama**	**3.30**	**85**	P	Pn	10 01 22.0	+0.5

IDC 31 10:07:41.5±2.6, 53°.67N×87°.18E, h0km, mb1 2.6/2, mb1mx2.5/29, mbtmp2.6/2, ML2.3/2, 1C-3D, Error ellipse: s-maj=24.9km s-min=16.2km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**282**	*i*		10 16 10.0	
	baz=101,slow=332,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.43**	**282**	Pg	Pn	10 08 07.0	-1.6
	0.7nm,0.3s,baz=99,slow=14,SNR=11						
ZALV				Lg	Lg	10 08 25.8	
	1.2nm,0.3s,baz=102,slow=29,SNR=4.5						
KURBB	**Kurchatov Arra**	**6.14**	**244**	⇓Pn	Pn	10 09 14.3	+0.9
	1.7nm,0.8s,baz=60,slow=14						
KURBB				⇓Sn	Sn	10 10 24.2	0.0
	1.9nm,0.9s						
KURBB				⇑Lg	Lg	10 10 55.2	
	2.5nm,0.7s						
KURBB	**Kurchatov Arra**	**6.14**	**244**	Pn	Pn	10 09 15.4	+2.0
	0.0nm,0.3s,baz=55,slow=13,SNR=3.9						
KURBB				Lg	Lg	10 10 58.9	
	0.0nm,0.3s,baz=60,slow=32,SNR=4.1						
MK31	**Makanchi Array**	**7.56**	**206**	Pn	Pn	10 09 37.2	+4.2
	0.8nm,0.9s,baz=24,slow=13,SNR=12						
MK31				⇓Lg	Lg	10 11 45.8	
	0.6nm,0.8s,baz=21,slow=29						
MKAR	**Makanchi Array**	**7.56**	**206**	Pn	Pn	10 09 33.6	+0.6
	0.1nm,0.3s,baz=22,slow=13,SNR=6.6						

*IDC **31** 10:10:38.7±2.4, 53°.52N×87°.86E, h0km, mb1 3.5/3, mb1mx3.2/30, mbtmp3.5/3, ML3.2/3, Error ellipse: s-maj=21.3km s-min=13.3km az=68.0*
*NNC **31** 10:10:44.0±3.2, 53°.40N×87°.23E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=25.3km s-min=20.0km az=15.0*
ISC 31 10:10:43.4±3.7, 53°.6N±0°.1×87°.7E±0°.2, h35km, n8, σ0°.69/12, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**283**	*i*		10 23 05.8	
	baz=98,slow=336,SNR=5.7						
ZALV	**Zalesovo Beam**	**1.74**	**283**	Pg	**Pn**	**10 11 10.8**	**-0.3**
	5.7nm,0.3s,baz=104,slow=17,SNR=82						
ZALV				Lg	Lg	10 11 37.2	
	11nm,0.3s,baz=101,slow=37,SNR=31						
KURK	**Kurchatov**	**6.28**	**246**	⇓Pn	**Pn**	**10 12 13.2**	**-0.3**
	0.9nm,0.6s						
KURK				⇑Sn	**Sn**	**10 13 22.9**	**-1.1**
	0.9nm,0.5s						
KURK				⇑Lg	Lg	10 13 53.4	
	3.3nm,0.6s						
KURBB	**Kurchatov Arra**	**6.38**	**246**	⇑Pn	**Pn**	**10 12 15.1**	**+0.2**
	3.8nm,0.5s						
KURBB				⇑Sn	**Sn**	**10 13 25.7**	**-0.7**
	7.9nm,0.6s						
KURBB				⇓Lg	Lg	10 13 55.5	
	6.0nm,0.8s						
KURBB	**Kurchatov Arra**	**6.38**	**246**	Pn	**Pn**	**10 12 15.2**	**+0.3**
	0.3nm,0.3s,baz=62,slow=14,SNR=21						
KURBB				Sn	**Sn**	**10 13 27.6**	**+1.2**
	0.1nm,0.3s,baz=64,slow=24,SNR=5.0						
KURBB				Lg	Lg	10 14 03.5	
	0.1nm,0.3s,baz=60,slow=31,SNR=7.9						
MK31	**Makanchi Array**	**7.64**	**209**	⇑Pn	**Pn**	**10 12 32.3**	**+0.1**
	0.2nm,0.3s,baz=27,slow=13,SNR=24						
MK31				⇑Sn	**Sn**	**10 13 57.7**	**+0.2**
	0.4nm,0.5s,baz=40,slow=22,SNR=6.7						
MK31				⇓Lg	Lg	10 14 39.1	
	1.7nm,0.6s,baz=36,slow=32,SNR=3.3						
MKAR	**Makanchi Array**	**7.64**	**209**	Pn	**Pn**	**10 12 31.9**	**-0.3**
	0.4nm,0.3s,baz=26,slow=13,SNR=21						
MKAR				Sn	**Sn**	**10 13 57.5**	**+0.1**
	0.3nm,0.3s,baz=26,slow=24,SNR=6.5						
MKAR				Lg	Lg	10 14 40.0	
	0.3nm,0.3s,baz=29,slow=30,SNR=7.2						
BVAR	**Borovoye Array**	**10.37**	**274**	Pn	**Pn**	**10 13 10.3**	**+0.7**
	0.3nm,0.3s,baz=84,slow=15,SNR=3.6						

*CSEM **31** 10:25:11.4, 36°.28N×36°.79E, h7km, MD2.9*
DDA 31 10:25:11.4, 36°.28N×36°.79E, h7km, MD2.9, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.55**	**25**	*i* P	Pg	10 25 22.2	+0.1
KUZU				*i* S	Sb	10 25 30.5	-1.1
KUZU	**Kuzuini**	**0.55**	**25**	*i* P	Pg	10 25 22.2	+0.2
KUZU				*i* S	Sb	10 25 30.5	-1.1
YAYL	**Yayladag**	**0.60**	**246**	*i* P	Pg	10 25 20.9	-2.3
YAYL				*i* S	Sg	10 25 32.1	+1.0
YAYL	**Yayladag**	**0.60**	**246**	*i* P	Pg	10 25 20.9	-2.2
YAYL				*i* S	Sg	10 25 32.1	+1.0
KAMA	**Osmaniye**	**0.91**	**354**	*i* P	Pb	10 25 29.8	+0.1
KAMA				*i* S	Sb	10 25 42.0	-0.1
GZT	**Gaziantep**	**1.24**	**30**	*i* P	Pn	10 25 34.9	-0.5

*DDA **31** 10:36:14.8, 36°.66N×31°.47E, h5km, ML3.6*
*ISCJB **31** 10:36:17.9±0.8, 36°.68N±0°.04×31°.57E±0°.03, h29km±8km, Error ellipse: s-maj=7.0km s-min=3.7km az=9.3*
*ISK **31** 10:36:17.6, 36°.75N×31°.61E, h24km, MD3.6*
*CSEM **31** 10:36:18.1±0.2, 36°.72N×31°.58E, h20km, MD3.6, Error ellipse: s-maj=7.5km s-min=3.8km az=15.0*
*NSSC **31** 10:36:21.4±1.4, 36°.49N×31°.82E, h28km±233km, ML2.5*
ISC 31 10:36:18.0±1.2, 36°.69N±0°.04×31°.63E±0°.02, h34km±3km, n62, σ1°.58/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.71**	**129**	*i* S	**Sn**	**10 36 41.6**	**+0.1**
GAZI	**Gazipasa**	**0.71**	**129**	*i* P	**Pn**	**10 36 30.7**	**-1.0**
GAZI				*i* S	**Sn**	**10 36 41.6**	**+0.1**
ANTB	**Antalya**	**0.81**	**285**	*e*PG	**Pb**	**10 36 33.6**	**-0.1**
ANTB	**Antalya**	**0.81**	**285**	*e*Pg	**Pb**	**10 36 33.6**	**-0.1**
ERMK	**Ermenek**	**1.03**	**92**	*i* P	**Pb**	**10 36 37.1**	**-0.4**
ERMK				*i* S	**Sb**	**10 36 53.6**	**+2.8**
ERMK	**Ermenek**	**1.03**	**92**	*i* P	**Pb**	**10 36 37.1**	**-0.4**
ERMK				*i* S	**Sb**	**10 36 53.6**	**+2.8**
KORT	**Korkueli**	**1.07**	**287**	*i* P	Pn	10 36 32.3	-4.4
KORT	**Korkueli**	**1.07**	**287**	*i* P	Pn	10 36 32.3	-4.4
KORT				*i* S	Sn	10 36 41.2	-9.4
BCK	**Bucak**	**1.13**	**313**	*e*PN	**Pn**	**10 36 37.8**	**+0.3**
BCK	**Bucak**	**1.13**	**313**	*e*Pn	**Pn**	**10 36 37.8**	**+0.3**
KONT	**Konya--Tatoy**	**1.38**	**25**	*e*PN	**Pn**	**10 36 41.7**	**+0.8**
KONT				*e*SN	**Sn**	**10 36 58.7**	**+0.7**
KONT	**Konya--Tatoy**	**1.38**	**25**	*e*Pn	**Pn**	**10 36 41.7**	**+0.8**
KONT				*e*Sn	**Sn**	**10 36 58.7**	**+0.7**
LADK	**Ladik-KONYA**	**1.62**	**21**	*e*PN	**Pn**	**10 36 44.7**	**+0.5**
LADK	**Ladik-KONYA**	**1.62**	**21**	*e*Pn	**Pn**	**10 36 44.7**	**+0.5**
AKAS	**Kas**	**1.69**	**255**	*i* P	**Pn**	**10 36 44.7**	**-0.6**
AKAS				*i* S	**Sn**	**10 37 05.6**	**-0.3**
AKAS	**Kas**	**1.69**	**255**	*i* P	**Pn**	**10 36 44.7**	**-0.6**
AKAS				*i* S	**Sn**	**10 37 05.6**	**-0.3**
GOLH	**Golhisar**	**1.75**	**289**	*i* P	**Pn**	**10 36 46.5**	**+0.5**
GOLH				*i* S	**Sb**	**10 37 10.0**	**-1.1**
GOLH	**Golhisar**	**1.75**	**289**	*i* P	**Pn**	**10 36 46.5**	**+0.5**
GOLH				*i* S	**Sb**	**10 37 10.0**	**-1.1**
KDHN	**Kadinhani**	**1.87**	**12**	*i* P	**Pn**	**10 36 48.2**	**+0.5**
KDHN	**Kadinhani**	**1.87**	**12**	*i* P	**Pn**	**10 36 48.2**	**+0.5**
KIZK	**Mersin**	**2.03**	**95**	*i* P	**Pb**	**10 36 53.9**	**-0.3**
KIZK				*i* S	**Sb**	**10 37 20.5**	**+1.4**
KIZK	**Mersin**	**2.03**	**95**	*i* P	**Pb**	**10 36 53.9**	**-0.3**
KIZK				*i* S	**Sb**	**10 37 20.5**	**+1.4**
LFK	**Lefkose**	**2.09**	**132**	*e*PN	**Pn**	**10 36 52.8**	**+2.2**
LFK	**Lefkose**	**2.09**	**132**	*e*Pn	**Pn**	**10 36 52.8**	**+2.2**
KIZT	**Kizilcal**	**2.19**	**5**	*e*PN	**Pn**	**10 36 52.5**	**+0.4**
KIZT	**Kizilcal**	**2.19**	**5**	*e*Pn	**Pn**	**10 36 52.5**	**+0.4**
CSS	**Prodhromos**	**2.21**	**141**	*e*PN	**Pn**	**10 36 54.5**	**+2.2**
CSS	**Prodhromos**	**2.21**	**141**	*e*Pn	**Pn**	**10 36 54.5**	**+2.2**
DNZL	**Cakiroluk**	**2.29**	**297**	*i* P	**Pn**	**10 36 55.9**	**+2.4**
DNZL				*i* S	**Sn**	**10 37 22.9**	**+2.2**
DNZL	**Cakiroluk**	**2.29**	**297**	*i* P	**Pn**	**10 36 55.9**	**+2.4**
DNZL				*i* S	**Sn**	**10 37 22.9**	**+2.2**
MERS	**Mersin**	**2.33**	**85**	*e*PN	**Pn**	**10 36 56.1**	**+2.1**
MERS	**Mersin**	**2.33**	**85**	*e*Pn	**Pn**	**10 36 56.1**	**+2.1**
EREN	**Erenkoy**	**2.36**	**119**	*e*PN	**Pn**	**10 36 56.3**	**+2.0**
EREN	**Erenkoy**	**2.36**	**119**	*e*Pn	**Pn**	**10 36 56.3**	**+2.0**
DALY	**Dalyan (Mu¨la**	**2.39**	**274**	*e*PN	**Pn**	**10 36 56.3**	**+1.5**
DALY	**Dalyan (Mu¨la**	**2.39**	**274**	*e*Pn	**Pn**	**10 36 56.3**	**+1.5**
TURN	**Turunc**	**2.44**	**275**	*i* P	**Pb**	**10 37 00.0**	**-1.1**
TURN	**Turunc**	**2.44**	**275**	*i* P	**Pb**	**10 36 60.0**	**-1.1**
TURN				*i* S	**Sb**	**10 37 31.6**	**+0.9**
GULE	**Gulek**	**2.59**	**76**	*i* P	**Pb**	**10 37 02.1**	**-1.7**
GULE				*i* S	**Sb**	**10 37 33.5**	**-1.7**
GULE	**Gulek**	**2.59**	**76**	*i* P	**Pb**	**10 37 02.1**	**-1.7**
GULE				*i* S	**Sb**	**10 37 33.5**	**-1.7**
YER	**Yerkesik**	**2.72**	**280**	*e*PN	**Pn**	**10 37 00.5**	**+1.2**
YER	**Yerkesik**	**2.72**	**280**	*e*Pn	**Pn**	**10 37 00.5**	**+1.2**
KARA	**Karaisali**	**2.80**	**77**	*e*PN	**Pn**	**10 37 01.8**	**+1.4**
KARA	**Karaisali**	**2.80**	**77**	*e*Pn	**Pn**	**10 37 01.8**	**+1.4**
ESKT	**Eskisehir**	**2.89**	**348**	*e*PN	**Pn**	**10 37 01.9**	**+0.1**
ESKT	**Eskisehir**	**2.89**	**348**	*e*Pn	**Pn**	**10 37 01.9**	**+0.1**
KULA	**Kula-Manisa**	**2.98**	**309**	*e*PN	**Pn**	**10 37 03.6**	**+0.7**
KULA	**Kula-Manisa**	**2.98**	**309**	*e*Pn	**Pn**	**10 37 03.6**	**+0.7**
AYDN	**Tasoluk**	**3.15**	**289**	*i* P	**Pn**	**10 37 07.3**	**+2.1**
AYDN				*i* S	**Sn**	**10 37 40.4**	**-1.3**
AYDN	**Tasoluk**	**3.15**	**289**	*i* P	**Pn**	**10 37 07.3**	**+2.1**
AYDN				*i* S	**Sn**	**10 37 40.4**	**-1.3**
BDRM	**Kayabasi**	**3.38**	**278**	*i* P	**Pn**	**10 37 08.7**	**+0.4**
BDRM				*i* S	**Sn**	**10 37 47.1**	**-0.2**
BDRM	**Kayabasi**	**3.38**	**278**	*i* P	**Pn**	**10 37 08.7**	**+0.4**
BDRM				*i* S	**Sn**	**10 37 47.1**	**-0.2**
ARNB	**Al Arnab**	**3.60**	**102**	*e*P	**Pn**	**10 37 14.0**	**+2.5**
	SNR=57						
ARNB				*e*S	**Sn**	**10 37 51.6**	**-1.4**
	12nm,0.7s,SNR=58						
ARNB	**Al Arnab**	**3.60**	**102**	*e*P	**Pn**	**10 37 14.0**	**+2.5**
ARNB				*e*S	**Sn**	**10 37 51.6**	**-1.4**
ARNB				AML	AML	10 38 05.6	
	comp=E,37nm,0.5s						
ARNB				AML	AML	10 38 12.8	
	comp=N,12nm,0.7s						
BTCH	**Batrach**	**3.95**	**98**	*e*P	**Pn**	**10 37 18.4**	**+2.1**
	SNR=57						
BTCH	**Batrach**	**3.95**	**98**	*e*P	**Pn**	**10 37 18.4**	**+2.1**
BTCH				*e*S	**Sn**	**10 37 59.0**	**-2.4**
BTCH				AML	AML	10 38 14.6	
	comp=N,24nm,0.3s						
BTCH				AML	AML	10 38 16.6	
	comp=E,42nm,0.6s						
WRDH	**Warideh**	**4.05**	**106**	*e*P	**Pn**	**10 37 18.5**	**+1.0**
	SNR=57						
WRDH	**Warideh**	**4.05**	**106**	*e*P	**Pn**	**10 37 18.6**	**+1.0**
WRDH				*e*S	**Sn**	**10 38 01.8**	**-2.1**
WRDH				AML	AML	10 38 07.9	
	comp=E,21nm,0.3s						
WRDH				AML	AML	10 38 17.3	
	comp=N,21nm,0.4s						
HAWK	**Haweek**	**4.45**	**118**	*e*P	**Pn**	**10 37 24.3**	**+1.1**
	SNR=57						
HAWK	**Haweek**	**4.45**	**118**	*e*P	**Pn**	**10 37 24.3**	**+1.1**
HAWK				*e*S	**Sn**	**10 38 10.3**	**-3.5**
HAWK				AML	AML	10 38 19.0	
	comp=E,38nm,0.4s						
HAWK				AML	AML	10 38 19.5	
	comp=N,19nm,0.3s						
BRBR	**Barbar**	**4.82**	**131**	*e*P	**Pn**	**10 37 30.3**	**+1.9**
	SNR=57						
BRBR	**Barbar**	**4.82**	**131**	*e*P	**Pn**	**10 37 30.3**	**+1.9**
BRBR				*e*S	**Sn**	**10 38 18.7**	**-4.5**
BRBR				AML	AML	10 38 28.7	
	comp=N,13nm,0.7s						
BRBR				AML	AML	10 38 30.8	
	comp=E,18nm,0.5s						

MAN 31 10:37:49, 17°.45N×119°.93E, h49km, mb4.2, ML3.0, MS2.8, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.69**	**47**	⇑*i*P	Pn	10 38 04.0	+1.4
SIPP				*e*S	Sn	10 38 14.5	+2.0
ABRA	**Dolores**	**0.78**	**75**	*e*P	Pn	10 38 04.9	+1.1
ABRA				*e*S	Sn	10 38 15.8	+1.4
BOLP	**Bolinao**	**1.06**	**181**	*e*P	Pn	10 38 08.0	+0.5
BOLP				*e*S	Sn	10 38 22.9	+1.7
PIP	**Pasuquin**	**1.09**	**37**	⇑*i*P	Pn	10 38 02.3	-5.8
PIP				*e*S	Sn	10 38 08.6	-14
APYP	**Conner**	**1.32**	**72**	*e*P	Pn	10 38 12.6	+1.6
APYP				*e*S	Sn	10 38 28.7	+1.1

MEX 31 10:53:05.1±1.0, 17°.13N×94°.28W, h163km±11km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.58**	**266**	*i* P	Pn	10 53 27.4	-0.9
CMIG				*i* S	Sn	10 53 43.5	-2.5
PCIG		**1.75**	**144**	*e*P	Pn	10 53 37.4	-0.8
PCIG				*i* S	Sn	10 54 01.4	-2.4
HUIG	**Huatulco**	**2.22**	**233**	*e*P	Pn	10 53 41.4	-2.1
HUIG				*i* S	Sn	10 54 11.8	-1.5
VHO	**Vista Hermosa**	**2.35**	**269**	*e*P	Pn	10 53 43.5	-1.8
VHO				*i* S	Sn	10 54 14.9	-1.5

*BJI **31** 10:53:58.2, 6°.50S×130°.30E, h130km, mB5.0/8, mb4.6/21*
*ISCJB **31** 10:54:00.4±0.3, 6°.50S±0°.03×130°.31E±0°.04, h150km, mb4.4/32, Error ellipse: s-maj=5.4km s-min=3.9km az=162.6*
*IDC **31** 10:54:01.9±2.6, 6°.38S×130°.16E, h140km±24km, mb4.1/19, mb1 4.2/21, mb1mx4.1/35, mbtmp4.6/21, MS3.0/2, Ms1 3.0/2, ms1mx2.6/29, Error ellipse: s-maj=16.0km s-min=12.1km az=80.0*
*NEIC **31** 10:54:01.3±0.8, 6°.46S×130°.30E, h139km±8km, mb4.7/8, Error ellipse: s-maj=9.4km s-min=7.5km az=48.0*
*DJA **31** 10:54:03.7±0.2, 6°.S±2°.×13°.0E±°, h126km±5km, M4.9/11, mB5.4/6, mb4.7/11, MLv5.0/10, Mw(mB)4.9/6*
ISC 31 10:54:02.4±0.4, 6°.41S±0°.05×130°.28E±0°.05, h150km, n100, σ1°.52/113, mb4.5/32, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.86**	**147**	P	**Pn**	**10 54 36.9**	**+0.9**
SAUI				S	**Sn**	**10 55 01.7**	**-0.1**
SAUI	**Saumlaki**	**1.86**	**147**	*e*Pn	**Pn**	**10 54 36.5**	**+0.5**
BNDI	**Bandanaira**	**1.91**	**349**	P	**Pn**	**10 54 36.8**	**+0.2**
MSAI	**Masohi**	**3.33**	**336**	P	**Pn**	**10 54 54.3**	**+0.3**
MSAI				S	**Sn**	**10 55 33.5**	**-0.5**
FAKI	**Fak Fak**	**3.98**	**30**	P	**Pn**	**10 55 00.5**	**-2.0**
FAKI	**Fak Fak**	**3.98**	**30**	*e*Pn	**Pn**	**10 55 00.6**	**-1.9**
FAKI				*e*Sn	**Sn**	**10 55 44.8**	**-4.5**
NLAI	**Namlea**	**4.47**	**315**	P	**Pn**	**10 55 09.5**	**+0.7**
SANI	**Sanana**	**6.09**	**315**	P	**Pn**	**10 55 29.4**	**-1.0**
	61nm,1.0s,0.2nm						
RKPI	**Ransiki, Papua**	**6.23**	**39**	P	**Pn**	**10 55 35.2**	**+3.0**
RKPI				S	**Sn**	**10 56 38.7**	**-3.8**
LBMI	**Labuha**	**6.37**	**334**	P	**Pn**	**10 55 34.0**	**-0.1**
SOEI	**Soe**	**6.82**	**240**	P	**Pn**	**10 55 40.4**	**+0.2**
	69nm,0.8s,1μm1.1nm						
SOEI	**Soe**	**6.82**	**240**	*e*Pn	**Pn**	**10 55 40.0**	**-0.2**
SOEI				*e*Sn	**Sn**	**10 56 54.4**	**-2.4**
BATI	**Baumata**	**7.55**	**240**	P	**Pn**	**10 55 50.1**	**+0.1**
	50nm,0.7s,2μm0.5nm						
BATI	**Baumata**	**7.55**	**240**	P	**Pn**	**10 55 48.6**	**-1.3**
	16nm,0.3s,baz=138,slow=2.6,SNR=13						
BATI				S	**Sn**	**10 57 11.2**	**-3.3**
	40nm,0.3s,baz=147,slow=19,SNR=10						
TNTI	**Ternate**	**7.70**	**338**	P	**Pn**	**10 55 51.7**	**-0.2**
	94nm,0.7s,0.3nm						
SMPI	**Sarmi**	**9.48**	**63**	P	**Pn**	**10 56 17.2**	**+1.5**
	33nm,1.5s,9μm						
APSI	**Ampana**	**10.20**	**302**	P	**Pn**	**10 56 27.2**	**+2.1**
MRSI	**Marisa**	**10.77**	**309**	P	**Pn**	**10 56 35.1**	**+2.4**
WRAB	**Tennant Creek**	**14.01**	**164**	*e*Pn	Pn	10 57 10.7	-3.9
WRAB				*e*Sn	Sn	10 59 40.9	-9.0
WRA	**Warramunga Arr**	**14.02**	**164**	P	Pn	10 57 10.6	-4.1
	3.6nm,0.3s,baz=343,slow=13,SNR=77						
WRA				S	Sn	10 59 38.4	-12
	12nm,0.3s,baz=347,slow=21,SNR=11						
WB2	**Warramunga Arr**	**14.02**	**164**	*e*Pn	Pn	10 57 10.6	-4.1
WB2				*e*Sn	Sn	10 59 38.1	-12
COEN	**Coen**	**14.74**	**122**	*e*Pn	**Pn**	**10 57 21.1**	**-2.6**
COEN				*e*Sn	Sn	10 59 56.6	-11
BBKI	**Banjar Baru**	**15.66**	**280**	P	P	10 57 40.8	+4.8
PMG	**Port Moresby**	**16.98**	**101**	P	**P**	**10 57 50.2**	**-0.4**
	54nm,0.7s						
ASAR	**Alice Springs**	**17.51**	**169**	P	**Pn**	**10 57 57.3**	**-0.2**
	5.5nm,0.3s,baz=343,slow=9.2,SNR=169						
ASAR				S	S	11 01 02.9	-8.2
	2.7nm,0.3s,baz=356,slow=26,SNR=6.1						
ASAR				LR	LR	11 06 16.8	
	comp=Z,57nm,18.7s,baz=164,slow=42						
KKM	**Kota Kinabalu**	**18.71**	**311**	*e*P	**P**	**10 58 10.4**	**+0.7**
	38nm,0.9s						
CTA	**Charters Tower**	**20.63**	**133**	P	**P**	**10 58 31.9**	**+1.7**
	10nm,0.7s,baz=295,slow=11,SNR=16						
CTAO	**Charters Tower**	**20.63**	**133**	*e*P	**P**	**10 58 31.0**	**+0.7**
	16nm,0.9s						
KSM	**Kuching**	**21.42**	**291**	*e*P	**P**	**10 58 39.9**	**+1.1**
	5.5nm,0.6s						
CISI	**Cisompet, Garu**	**22.33**	**266**	*e*P	**P**	**10 58 48.0**	**-0.1**
	88n

HHC			pP	pP	11 03 13.5	-2.9
HHC			sP	sP	11 03 29.5	-3.5
HHC			S	**S**	**11 09 46.3**	**+4.3**
HHC			sS	sS	11 10 39.8	-1.5
HHC			PMZ			
	47nm,0.9s					
CN2	**Changchun**	**50.17 355**	*eP*	P	11 02 47.8	+5.2
USRK	**Ussuriysk Ar.**	**50.40 2**	P	**P**	**11 02 44.7**	**+0.3**
	1.8nm,0.5s,baz=191,slow=6.6,SNR=5.5					
ASAJ	**Asahikawa**	**51.51 11**	P	**P**	**11 02 53.1**	**+0.4**
	14nm,1.1s,baz=113,slow=13,SNR=3.4					
ODAN	**Odare**	**53.08 310**	*eP*	**P**	**11 03 04.5**	**-0.4**
	45nm,0.7s					
TAPN	**Taplejung**	**53.11 311**	*eP*	**P**	**11 03 05.0**	**-0.2**
	23nm,0.4s					
RAMN	**Ramite**	**53.73 310**	*eP*	**P**	**11 03 09.9**	**+0.2**
	98nm,0.6s					
JIRN	**Jiri**	**54.41 311**	*eP*	**P**	**11 03 14.4**	**-0.3**
	20nm,0.4s					
GUN	**Gumba**	**54.78 311**	*eP*	**P**	**11 03 17.2**	**-0.1**
	44nm,0.5s					
PKI	**Pulchoki**	**54.96 310**	*eP*	**P**	**11 03 18.0**	**-0.6**
	16nm,0.6s					
PKIN	**Phulchoki**	**54.97 310**	*eP*	**P**	**11 03 18.1**	**-0.5**
	9.2nm,0.4s					
KKN	**Kakani**	**55.17 310**	*eP*	**P**	**11 03 19.6**	**-0.4**
	29nm,0.6s					
DMN	**Daman**	**55.21 310**	*eP*	**P**	**11 03 20.3**	**0.0**
	41nm,0.9s					
GKN	**Gorkha**	**55.77 310**	*eP*	**P**	**11 03 24.1**	**-0.1**
	53nm,0.5s					
KOLN	**Koldanda**	**56.44 309**	*eP*	**P**	**11 03 29.1**	**+0.1**
	33nm,0.7s					
DANN	**Dangsing**	**56.61 310**	*eP*	**P**	**11 03 29.5**	**-0.8**
	31nm,0.9s					
ULN	**Ulaanbaatar**	**57.79 342**	*eP*	**P**	**11 03 39.1**	**+1.0**
	10nm,0.6s					
SONM	**Songino Array**	**57.97 341**	P	**P**	**11 03 40.2**	**+0.9**
	2.7nm,0.6s,baz=161,slow=6.5,SNR=28					
WMQ	**Urumqi**	**63.05 327**	P	**P**	**11 04 14.3**	**+0.5**
WMQ			pP	**pP**	**11 04 45.5**	**-4.0**
WMQ			PcP	**PcP**	**11 04 51.5**	**+1.3**
WMQ			sP	sP	11 04 59.8	-6.0
WMQ			PP	**PP**	**11 06 35.8**	**+1.3**
WMQ			S	**S**	**11 12 31.5**	**-1.2**
WMQ			PMZ			
	8.0nm,1.0s					
WMQ			PMZ			
	120nm,5.2s					
WMQ			LN			
	19nm,26.0s					
WMQ			LE			
	25nm,29.0s					
WMQ			LZ			
	19nm,16.0s					
PETK	**Petropavlovsk-**	**63.68 18**	P	**P**	**11 04 18.6**	**+0.9**
	3.8nm,0.6s,baz=194,slow=5.3,SNR=5.0					
KSH	**Kashi**	**67.78 317**	P	**P**	**11 04 45.5**	**+1.2**
KSH			pP	**pP**	**11 05 16.3**	**-4.2**
KSH			PP	**PP**	**11 07 18.5**	**+2.6**
KSH			PMZ			
	3.0nm,0.4s					
KSH			PMZ			
	120nm,5.2s					
KSH			LN			
	73nm,5.4s					
KSH			LE			
	74nm,6.8s					
KSH			LZ			
	110nm,5.3s					
MKAR	**Makanchi Array**	**67.89 327**	P	**P**	**11 04 45.4**	**+0.7**
	10nm,0.6s,baz=118,slow=8.4,SNR=77					
KZA	**Kyzart**	**69.51 319**	P	**P**	**11 04 56.9**	**+1.5**
	SNR=9.7					
TKM2	**Tokmak 2**	**69.71 320**	P	**P**	**11 04 57.3**	**+0.9**
	SNR=8.0					
TKM2	**Tokmak 2**	**69.71 320**	*eP*	**P**	**11 04 57.2**	**+0.9**
	4.7nm,0.6s					
UCH	**Uchtor**	**70.06 319**	P	**P**	**11 05 00.0**	**+1.2**
	SNR=8.5					
AAK	**Ala-Archa**	**70.27 320**	P	**P**	**11 05 00.9**	**+1.2**
	SNR=5.6					
AAK	**Ala-Archa**	**70.27 320**	*eP*	**P**	**11 05 00.8**	**+1.1**
	4.0nm,0.8s					
AML	**Almayashu**	**70.55 319**	P	**P**	**11 05 02.9**	**+1.2**
	SNR=13					
EKS2	**Erkin-Say**	**70.75 319**	P	**P**	**11 05 04.0**	**+1.4**
	SNR=6.8					
EKS2	**Erkin-Say**	**70.75 319**	*eP*	**P**	**11 05 03.8**	**+1.3**
SEY	**Seymchan**	**71.18 10**	P	**P**	**11 05 05.3**	**+0.8**
	6.9nm,0.7s,baz=200,slow=4.2,SNR=47					
ZALV	**Zalesovo Beam**	**71.18 334**	P	**P**	**11 05 04.3**	**-0.4**
	3.4nm,0.7s,baz=128,slow=5.6,SNR=15					
KURBB	**Kurchatov Arra**	**72.16 328**	P	**P**	**11 05 10.9**	**+0.2**
	3.2nm,0.5s,baz=128,slow=4.8,SNR=39					
KURK	**Kurchatov**	**72.16 328**	P	**P**	**11 05 10.9**	**+0.2**
VNDA	**Vanda**	**73.00 173**	P	**P**	**11 05 16.1**	**+0.9**
	2.7nm,0.8s,baz=323,slow=6.4,SNR=13					
KKAR	**Karatay Array**	**73.08 319**	*eP*	**P**	**11 05 17.1**	**+0.7**
BVAR	**Borovoye Array**	**77.72 328**	P	**P**	**11 05 42.7**	**+0.2**
	1.8nm,0.6s,baz=141,slow=7.1,SNR=9.3					
GEYT	**Alibeck**	**80.05 310**	P	**P**	**11 05 56.1**	**+0.5**
	2.0nm,0.6s,baz=5.7,slow=1.5,SNR=4.1					
AKTO	**Aktyubinsk**	**83.78 322**	P	**P**	**11 06 14.8**	**0.0**
	1.7nm,0.5s,baz=101,slow=8.2					
RAYN	**Ar Rayn**	**87.76 294**	*eP*	**P**	**11 06 35.7**	**+0.6**
ILAR	**Eielson Array**	**92.70 25**	P	**P**	**11 06 55.8**	**-1.3**
	9.9nm,0.5s,baz=258,slow=4.4,SNR=8.6					
FINES	**FINESS Array B**	**102.38 332**	P	**Pdif**	**11 07 39.5**	**-1.3**
	0.8nm,0.8s,baz=31,slow=6.5,SNR=2.4					
YKA	**Yellowknife Ar**	**107.10 26**	PKiKP	**PKiKP**	**11 12 10.2**	**-0.1**
	0.3nm,0.6s,baz=298,slow=1.7,SNR=12					
GERES	**GERESS Array B**	**112.15 320**	PKiKP	**PKiKP**	**11 12 20.0**	**-0.4**
	0.4nm,0.5s,baz=93,slow=2.7,SNR=3.8					
TXAR	**Lajitas Array**	**124.39 59**	PKP	**PKPdf**	**11 12 45.7**	**+1.2**
	0.3nm,0.7s,baz=211,slow=3.0,SNR=4.0					
TORD	**Torodi Ar. Bea**	**128.97 282**	PKP	**PKPdf**	**11 12 53.7**	**+0.3**
	0.9nm,0.5s,baz=72,slow=1.8,SNR=11					
TORD			SKPbc	SKiKP	11 16 00.0	-16
	0.9nm,0.8s,baz=73,slow=3.2,SNR=5.1					
DBIC	**Dimbokro**	**135.44 273**	PKP	**PKPdf**	**11 13 07.2**	**+1.5**
	1.0nm,0.4s,baz=137,slow=14,SNR=3.6					

*IDC **31** 11:07:52.7±2.7,54°.15N×87°.30E,h0km,mb1 3.4/2, mb1mx3.0/35,mbtmp3.4/2,ML2.9/2,Error ellipse: s-maj=22.2km s-min=15.9km az=59.0*

ISC 31 11:07:55.4±4.5,54°.3N±0°.2×87°.3E±0°.2,h35km,n6,σ1°06/9, 2C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**257**	*i*		11 17 12.7	
	baz=82,slow=333,SNR=8.5						
ZALV	**Zalesovo Beam**	**1.50**	**257**	Pg	**Pn**	**11 08 19.1**	**-0.8**
	5.9nm,0.3s,baz=80,slow=17,SNR=52						
ZALV				Lg	Lg	11 08 39.1	
	0.9nm,0.3s,baz=83,slow=28,SNR=5.0						
KURBB	**Kurchatov Arra**	**6.50**	**239**	⇓Pn	**Pn**	**11 09 28.3**	**-0.2**
	1.5nm,0.6s						
KURBB				⇓Sn	**Sn**	**11 10 41.9**	**+0.5**
	5.2nm,0.7s						
KURBB				⇑Lg	Lg	11 11 14.2	
	9.3nm,0.9s						
KURBB	**Kurchatov Arra**	**6.50**	**239**	Pn	**Pn**	**11 09 29.6**	**+1.1**
	0.2nm,0.3s,baz=56,slow=14,SNR=8.2						
KURBB				Sn	**Sn**	**11 10 42.0**	**+0.6**
	0.1nm,0.3s,baz=52,slow=22,SNR=2.5						
KURBB				Lg	Lg	11 11 18.2	
	0.0nm,0.3s,baz=55,slow=33,SNR=6.6						
MK31	**Makanchi Array**	**8.16**	**205**	⇓Pn	**Pn**	**11 09 52.5**	**+1.1**
	0.1nm,0.4s,baz=27,slow=14,SNR=21						
MK31				⇑Sn	**Sn**	**11 11 20.7**	**-1.6**
	2.0nm,1.1s						
MK31				⇓Lg	Lg	11 12 04.7	
	6.3nm,1.1s,baz=33,slow=33,SNR=4.6						
MKAR	**Makanchi Array**	**8.16**	**205**	Pn	**Pn**	**11 09 51.4**	**+0.1**
	0.2nm,0.3s,baz=27,slow=14,SNR=13						
MKAR				Sn	**Sn**	**11 11 21.7**	**-0.6**
	0.1nm,0.3s,baz=18,slow=24,SNR=4.6						
MKAR				Lg	Lg	11 12 07.3	
	0.1nm,0.3s,baz=20,slow=26,SNR=6.1						

GUC 31 11:08:25.1±0.7,33°.94S×72°.18W,h38km±3km,ML4.0, 3C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.01**	**26**	*e*P1	Pg	11 08 43.4	
IHA				*e*S1	Sn	11 08 57.2	+1.4
NICH	**Los Niches**	**1.32**	**144**	⇑*i*P	Pn	11 08 47.7	+0.7
NICH				*i* S	Sn	11 09 05.8	+2.4
CLCH	**Cerro Calan**	**1.47**	**69**	⇓*i*P	Pn	11 08 50.5	+1.3
CLCH				*i* S	Sn	11 09 09.6	+2.3
CLCH				AML	AML	11 09 14.1	
	comp=E,3μm,0.4s						
CLCH				AML	AML	11 09 18.8	
	comp=N,3μm,0.6s						
PEL	**Peldehue**	**1.48**	**58**	⇑*i*P	Pn	11 08 50.1	+0.9
PEL				*i* S	Sn	11 09 10.0	+2.7
PEL				AML	AML	11 09 16.6	
	comp=E,5μm,0.3s						
TALC	**Talca**	**1.52**	**163**	⇓*i*P	Pn	11 08 51.5	+1.7
TALC				*e*S	Sn	11 09 10.6	+2.2
SJCH	**San Jose de Ma**	**1.55**	**79**	⇑*i*P	Pn	11 08 50.5	+0.3
SJCH				*i* S	Sn	11 09 10.5	+1.3
YECH	**El Yeso**	**1.76**	**82**	*e*P	Pn	11 08 55.4	+1.8
YECH				AML	AML	11 09 24.9	
	comp=N,2μm,0.4s						
CMCH	**Combarbala**	**2.93**	**20**	⇓*i*P	Pn	11 09 10.3	+1.0

MEX 31 11:12:38.4±0.5,14°.71N×93°.04W,h16km±24km,MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.77**	**75**	*i* P	Pb	11 12 50.3	-3.1
THIG				*e*S	Sg	11 13 00.1	-3.5
PCIG		**1.00**	**350**	*i* P	Pb	11 12 53.9	-3.5
PCIG				*e*S	Sb	11 13 05.9	-4.5
CCIG	**Comitan**	**1.79**	**29**	*i* P	Pn	11 13 05.8	-3.1
CCIG				*e*S	Sn	11 13 25.6	-5.9

IDC 31 11:14:34.3±14.0,37°.07S×74°.44W,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.8/12,mbtmp3.7/2,MS3.4/1,Ms1 3.3/1, ms1mx3.0/15,Error ellipse: s-maj=568.1km s-min=53.1km az=26.0,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**31.69**	**55**	LR	LR	11 35 09.0	
	comp=Z,70nm,21.0s,baz=215,slow=39						
TXAR	**Lajitas Array**	**71.52**	**333**	P	P	11 25 57.0	-0.1
	0.6nm,0.8s,baz=153,slow=8.0,SNR=7.5						
TORD	**Torodi Ar. Bea**	**87.08**	**71**	P	P	11 27 21.9	-0.2
	0.4nm,0.8s,baz=238,slow=4.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**157.87**	**34**	PKPab	PKPab	11 35 04.6	-0.5
	0.3nm,0.4s,baz=296,slow=4.0,SNR=3.0						
MKAR	**Makanchi Array**	**160.22**	**53**	PKPab	PKPab	11 35 15.8	+0.2
	0.4nm,0.8s,baz=270,slow=1.2,SNR=2.9						

*IDC **31** 11:18:05.4±1.3,7°.02S×155°.26E,h0km,mb3.8/8, mb1 3.9/8,mb1mx3.8/17,mbtmp3.7/8,MS2.9/2,Ms1 2.9/2, ms1mx2.6/28,Error ellipse: s-maj=49.8km s-min=23.1km az=130.0*

*ISCJB **31** 11:18:11.3±1.3,7°.0S±0°.2×155°.1E±0°.3,h50km,mb3.7/9, Error ellipse: s-maj=46.1km s-min=18.3km az=39.9*

ISC 31 11:18:12.6±1.4,7°.1S±0°.3×155°.2E±0°.3,h50km,n15, σ0°60/11,mb3.6/9,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.24**	**117**	LR	LR	11 21 31.8	
	comp=Z,110nm,21.3s,baz=278,slow=40						
PMG	**Port Moresby**	**8.30**	**253**	LR	LR	11 23 10.8	
	comp=Z,77nm,19.4s,baz=80,slow=36						
WRA	**Warramunga Arr**	**23.96**	**236**	P	**P**	**11 23 22.5**	**+0.1**
	0.8nm,0.5s,baz=59,slow=9.7,SNR=15						
WRA				PcP	**PcP**	**11 27 04.3**	**+0.3**
	0.2nm,0.5s,baz=64,slow=2.3,SNR=4.9						
ASAR	**Alice Springs**	**26.29**	**229**	P	**P**	**11 23 43.1**	**-0.5**
	0.7nm,0.9s,baz=61,slow=9.2,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**27.80**	**24**	T	T	11 52 18.1	
	baz=207,slow=74,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**27.81**	**24**	T	T	11 52 19.8	
	baz=207,slow=74,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**27.82**	**24**	T	T	11 52 25.5	
	baz=207						
CMAR	**Chiang Mai Arr**	**61.01**	**296**	P	**P**	**11 28 22.0**	**+0.6**
	1.1nm,0.7s,baz=126,slow=5.0,SNR=8.2						
SONM	**Songino Array**	**69.51**	**327**	P	**P**	**11 29 16.2**	**+0.1**
	0.4nm,0.7s,baz=130,slow=5.9,SNR=3.8						
ILAR	**Eielson Array**	**83.36**	**21**	P	**P**	**11 30 33.4**	**-0.7**
	0.4nm,0.6s,baz=252,slow=6.0,SNR=9.0						
MKAR	**Makanchi Array**	**83.60**	**319**	P	**P**	**11 30 35.5**	**-0.2**
	0.4nm,0.6s,baz=112,slow=3.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**84.36**	**326**	P	**P**	**11 30 38.2**	**-1.1**
	0.4nm,0.5s,baz=130,slow=8.4,SNR=3.5						
INK	**Inuvik**	**89.71**	**21**	P	**P**	**11 31 05.2**	**+0.3**
	0.4nm,0.7s,baz=286,slow=4.7,SNR=6.8						
YKA	**Yellowknife Ar**	**96.30**	**28**	P	**P**	**11 31 35.9**	**+0.5**
	0.2nm,0.5s,baz=264,slow=4.4,SNR=8.9						
TORD	**Torodi Ar. Bea**	**153.25**	**285**	PKPbc	**PKPbc**	**11 38 06.1**	**0.0**
	0.3nm,0.6s,baz=65,slow=0.4,SNR=3.1						

*FUNV **31** 11:19:42.0,10°.48N×62°.41W,h2km,MW3.0*

*ISCJB **31** 11:19:43.3±1.1,10°.40N±0°.05×62°.60W±0°.03,h7km±7km, Error ellipse: s-maj=9.2km s-min=3.7km az=166.5*

*TRN **31** 11:19:45.8,10°.46N×62°.44W,h3km,MD3.6*

ISC 31 11:19:43.0±1.4,10°.40N±0°.04×62°.55W±0°.03,h8km±12km, n18,σ1°34/29,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.73**	**292**	*e*P	**Pg**	**11 19 56.4**	**-0.7**
CRUV				*e*S	**Sg**	**11 20 07.2**	**+0.6**
TRN	**Trinidad (W)**	**1.15**	**78**	*e*P	**Pn**	**11 20 06.5**	**+1.1**
TRN				*e*S	**Sb**	**11 20 20.4**	**+0.1**
TBH	**Brigand Hill**	**1.46**	**87**	*e*P	**Pb**	**11 20 12.2**	**+1.8**
TBH				*e*S	**Sn**	**11 20 30.5**	**+1.5**
ORIV	**Oritupano**	**1.57**	**213**	*e*P	**Pb**	**11 20 12.0**	**-0.4**
ORIV				*e*S	**Sg**	**11 20 35.0**	**+1.3**
TPR	**Prospect**	**1.91**	**66**	*e*P	**Pb**	**11 20 17.6**	**-0.5**
BOT	**Bacolet**	**1.95**	**67**	*e*P	**Pb**	**11 20 18.6**	**-0.2**
GRW	**Mount Saint Ca**	**1.95**	**26**	*e*P	**Pb**	**11 20 18.1**	**-0.8**
GRW				*e*S	**Sb**	**11 20 43.2**	**-0.3**
PCRV	**Puerto La Cruz**	**2.07**	**264**	*e*P	**Pn**	**11 20 19.4**	**+1.3**
PCRV				*e*S	**Sn**	**11 20 45.3**	**+1.2**
TOSP	**Speyside**	**2.17**	**66**	*e*P	**Pb**	**11 20 21.9**	**-0.6**
TOSP				*e*S	**Sb**	**11 20 48.5**	**-1.1**
PRGV	**PARIAGUAN**	**2.64**	**232**	*e*P	**Pn**	**11 20 26.6**	**+0.7**
PRGV				*e*S	**Sn**	**11 21 00.6**	**+2.5**
CUPV	**Cœpira**	**3.21**	**264**	*e*P	**Pn**	**11 20 34.8**	**+0.9**
CUPV				*e*S	**Sn**	**11 21 12.7**	**+0.4**
BIRV	**Birongo**	**3.66**	**271**	*e*P	**Pn**	**11 20 40.9**	**+0.9**
BIRV				*e*S	**Sn**	**11 21 23.4**	**-0.1**
MERV	**Las Mercedes**	**3.87**	**253**	*e*P	**Pn**	**11 20 42.4**	**-0.5**
LUEV	**Luepa**	**4.66**	**167**	*e*P	**Pn**	**11 20 52.7**	**-1.1**
LUEV				*e*S	**Sn**	**11 21 44.0**	**-4.2**
TURV	**Turiamo**	**5.21**	**271**	*e*P	**Pn**	**11 21 00.5**	**-0.8**
BAUV	**El Baul**	**5.61**	**256**	*e*P	**Pn**	**11 21 06.7**	**-0.1**
MAPV	**Macapo**	**5.85**	**265**	*e*P	**Pn**	**11 21 10.2**	**0.0**
MONV	**Montecano**	**7.45**	**283**	*e*P	**Pn**	**11 21 30.9**	**-1.2**

*MOS **31** 11:20:46.2±0.9,37°.74N×73°.73E,h99km,mb4.1/4,Error ellipse: s-maj=16.7km s-min=6.4km az=88.8*

*IDC **31** 11:20:50.4±4.2,38°.12N×74°.03E,h103km±35km,mb3.2/6, mb1 3.4/12,mb1mx3.2/49,mbtmp3.7/12,MS2.9/1, Ms1 2.9/1,ms1mx2.2/30,Error ellipse: s-maj=31.8km s-min=20.9km az=21.0*

*ISCJB **31** 11:20:53.5±0.4,38°.39N±0°.03×73°.88E±0°.06,h144km±5km, mb3.5/8,Error ellipse: s-maj=8.2km s-min=4.5km az=10.3*

*NNC **31** 11:20:56.7±1.5,38°.56N×73°.74E,h147km±9km,mb3.0, mpv3.8,Error ellipse: s-maj=15.1km s-min=7.7km az=145.0*

ISC 31 11:20:54.7±0.8,38°.38N±0°.05×73°.80E±0°.06,h140km±9km, n61,σ1°39/69,mb3.7/8,10C-7D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.65**	**352**	⇑P	**Pn**	**11 21 25.7**	**+0.3**
	114nm,0.3s						
SFK				⇓S	**Sn**	**11 21 48.4**	**-0.5**
	204nm,0.4s						
SFK	**Sufi-Kurgan**	**1.65**	**352**	PN	**Pn**	**11 21 25.7**	**+0.3**
SFK				S	**Sn**	**11 21 48.4**	**-0.5**
SFK				pmax	pmax		
	comp=Z,114nm,0.3s						
SFK				smax	smax		
	comp=N,140nm,0.2s						
AML	**Almayashu**	**3.75**	**359**	P	**Pn**	**11 21 52.0**	**+0.4**
	SNR=90						
AML	**Almayashu**	**3.75**	**359**	*i* PN	**Pn**	**11 21 52.1**	**+0.4**
KZA	**Kyzart**	**3.86**	**16**	P	**Pn**	**11 21 52.8**	**-0.4**
	SNR=60						
KZA	**Kyzart**	**3.86**	**16**	*i* PN	**Pn**	**11 21 52.7**	**-0.4**
UCH	**Uchtor**	**3.89**	**8**	P	**Pn**	**11 21 53.8**	**+0.2**
	SNR=26						
UCH	**Uchtor**	**3.89**	**8**	*i* PN	**Pn**	**11 21 53.7**	**+0.2**
DZET	**Dzherino**	**3.92**	**278**	⇓P	**Pn**	**11 21 54.3**	**+0.6**
	comp=N,15nm,0.4s						
DZET				⇑S	**Sn**	**11 22 40.6**	**+1.1**
	comp=N,49nm,0.3s						
DZET	**Dzherino**	**3.92**	**278**	PN	**Pn**	**11 21 54.2**	**+0.6**
DZET						11 22 41.5	
DZET				pmax	pmax		
	comp=Z,15nm,0.4s						
DZET				smax	smax		
	comp=N,49nm,0.3s						
MNAS	**Manas**	**4.22**	**347**	⇑P	**Pn**	**11 21 58.4**	**+0.7**
	comp=N,30nm,0.6s						
MNAS				⇑S	**Sn**	**11 22 45.6**	**-1.1**
	comp=N,129nm,0.5s						
EKS2	**Erkin-Say**	**4.28**	**360**	P	**Pn**	**11 21 59.3**	**+0.8**
	SNR=13						
EKS2	**Erkin-Say**	**4.28**	**360**	*i* PN	**Pn**	**11 21 59.2**	**+0.8**
AAK	**Ala-Archa**	**4.29**	**7**	⇓P	**Pn**	**11 21 59.1**	**+0.5**
	comp=N,2.3nm,0.3s						
AAK				⇓S	**Sn**	**11 22 45.9**	**-2.2**
	comp=N,40nm,1.1s						
AAK	**Ala-Archa**	**4.29**	**7**	P	**Pn**	**11 21 59.2**	**+0.6**
	SNR=5.8						
AAK	**Ala-Archa**	**4.29**	**7**	PN	**Pn**	**11 21 59.0**	**+0.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AAK	**Ala-Archa**	**4.29**	**7**	P	**Pn**	**11 21 58.8**	**+0.3**
	comp=Z,2.6nm,0.3s,baz=147,slow=6.4,SNR=18						
AAK				S	**Sn**	**11 22 48.3**	**+0.1**
	comp=Z,2.8nm,0.3s,baz=196,slow=6.1,SNR=7.2						
ULHL	**Ulahol**	**4.29**	**25**	P	**Pn**	**11 21 58.4**	**-0.2**
	SNR=5.6						
ULHL	**Ulahol**	**4.29**	**25**	*i* PN	**Pn**	**11 21 58.4**	**-0.2**
CHCP	**Chirah Chowk**	**4.73**	**185**	P	**Pn**	**11 22 05.5**	**+1.2**
CHCP				S	**Sn**	**11 22 57.0**	**-1.5**
TKM2	**Tokmak 2**	**4.74**	**16**	⇑P	**Pn**	**11 22 03.8**	**-0.8**
	comp=Z,2.9nm,0.5s						
TKM2				⇑S	**Sn**	**11 22 56.4**	**-2.6**
	comp=Z,18nm,0.8s						
TKM2	**Tokmak 2**	**4.74**	**16**	P	**Pn**	**11 22 04.7**	**0.0**
	SNR=9.0						
TKM2	**Tokmak 2**	**4.74**	**16**	*i* PN	**Pn**	**11 22 04.6**	**0.0**
CEP	**Cherat**	**4.79**	**199**	P	**Pn**	**11 22 06.3**	**+1.0**
CEP				S	**Sn**	**11 23 00.0**	**-0.3**
KK31	**Karatay Array**	**5.34**	**333**	P	**Pn**	**11 22 13.2**	**+0.8**
	comp=Z,5.1nm,0.3s,baz=142,slow=13,SNR=138						
KK31				⇓S	**Sn**	**11 23 11.2**	**-1.9**
	comp=Z,12nm,0.3s,baz=161,slow=25,SNR=4.0						
KK31	**Karatay Array**	**5.34**	**333**	*e*PN	**Pn**	**11 22 13.2**	**+0.8**
KK31				pmax	pmax		
	comp=Z,11nm,0.2s						
THW	**Thamme Wali**	**5.82**	**197**	P	**Pn**	**11 22 20.1**	**+1.2**
DLH	**Dalhousie**	**6.08**	**162**	*e*P	**Pn**	**11 22 22.0**	**-0.6**
DLH				*e*S	Sn	11 23 25.0	-6.2
PDGK	**Podgornoye**	**6.56**	**39**	⇑P	**Pn**	**11 22 27.5**	**-1.2**
	comp=Z,2.5nm,0.6s						
PDGK				⇓S	**Sn**	**11 23 45.9**	**+3.7**
	comp=Z,14nm,1.0s						
PDGK	**Podgornoye**	**6.56**	**39**	PN	**Pn**	**11 22 27.0**	**-1.6**
PDGK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
OTUK	**Ortayu**	**9.92**	**354**	⇑P	**Pn**	**11 23 12.7**	**-1.0**
	comp=Z,7.2nm,1.2s						
OTUK	**Ortayu**	**9.92**	**354**	P	**Pn**	**11 23 12.4**	**-1.3**
OTUK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MK31	**Makanchi Array**	**10.48**	**34**	P	**Pn**	**11 23 19.9**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=209,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**10.48**	**34**	*e*P	**Pn**	**11 23 20.3**	**-0.8**
MKAR	**Makanchi Array**	**10.48**	**34**	P	**Pn**	**11 23 19.3**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=204,slow=14,SNR=9.7						
KURBB	**Kurchatov Arra**	**12.70**	**14**	P	**Pn**	**11 23 47.8**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=204,slow=11,SNR=5.3						
KURK	**Kurchatov**	**12.80**	**14**	P	Pn	11 23 47.8	-3.6
AB31	**Akbulak array**	**14.75**	**322**	P	**Pn**	**11 24 15.8**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=129,slow=13,SNR=30						
AB31				⇓S	Sn	11 26 50.5	-9.1
	comp=Z,2.0nm,0.7s,baz=134,slow=24,SNR=5.4						
AB31	**Akbulak array**	**14.75**	**322**	*i* P	**Pn**	**11 24 15.7**	**-0.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVA0	**Borovoye Array**	**14.84**	**352**	P	**P**	**11 24 20.7**	**+1.1**
	comp=Z,5.6nm,0.7s,baz=156,slow=9.8,SNR=30						
BVAR	**Borovoye Array**	**14.84**	**352**	P	**Pn**	**11 24 16.8**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**14.84**	**352**	P	**Pn**	**11 24 16.8**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=150,slow=13,SNR=7.2						
AKTO	**Aktyubinsk**	**16.47**	**322**	⇑P	**P**	**11 24 38.1**	**+0.5**
	comp=Z,6.6nm,1.3s						
AKTO	**

ASAR	**Alice Springs**	**28.42 166**	P	P		11 30 29.8	-0.1
	0.5nm,0.7s,baz=346,slow=6.9,SNR=7.8						
SONM	**Songino Array**	**46.99 341**	P	P		11 33 06.8	+0.4
	0.3nm,0.7s,baz=147,slow=8.6,SNR=2.9						
MKAR	**Makanchi Array**	**57.25 325**	P	P		11 34 22.1	-0.6
	0.3nm,0.3s,baz=123,slow=7.6,SNR=6.7						

*NIED **31** 11:29:00,24°.80N×121°.90E,h5km,Mw4.1 Best double couple: M0=1.86000×10^15 NP1:φs=70.00000°,δ37.00000°, λ-88.00000°. NP2:φs=247.00000°,δ53.00000°, λ-92.00000°.*
*TAP **31** 11:29:37.7,24°.82N×122°.00E,h7km,ML4.2,B*
*JMA **31** 11:29:38.3±0.1,24°.81N×121°.94E,h36km,M3.6*
*IDC **31** 11:29:57.0±5.1,24°.76N×121°.92E,h186km±53km,mb3.4/9, mb1 3.5/10,mb1mx3.3/38,mbtmp3.9/10,MS3.3/12, Ms1 3.3/12,ms1mx3.1/34,Error ellipse: s-maj=23.9km s-min=13.1km az=72.0*

ISC 31 11:29:38.0±0.9,24°.81N±0°.02×122°.03E±0°.02,h8km±7km, n91,σ0§87/120,mb3.9/8,MS3.3/9,6C-10D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.10**	**291**	⇓*i*P	**Pg**	**11 29 39.8**	**-0.5**
	baz=295						
TWB1	**Santiao Chiao**	**0.20**	**349**	⇓*i*P	**Pg**	**11 29 42.3**	**+0.2**
	baz=359						
TWB1				*i* S	**Sg**	**11 29 45.1**	**+0.3**
	baz=359						
TWC	**Suao**	**0.26**	**220**	⇑*i*P	**Pg**	**11 29 43.2**	**0.0**
	baz=212						
TWC				S	**Sg**	**11 29 46.4**	**-0.2**
	baz=212						
ILA	**Ilan**	**0.26**	**260**	P	**Pg**	**11 29 43.2**	**0.0**
	baz=256						
ILA				*e*S	**Sg**	**11 29 47.0**	**+0.3**
	baz=256						
NWF	**Wu-fen Shan**	**0.34**	**319**	⇓*i*P	**Pg**	**11 29 45.2**	**+0.4**
	baz=308						
NWF				*i* S	**Sg**	**11 29 50.1**	**+0.8**
	baz=308						
TWA	**Mucha**	**0.44**	**293**	⇓*i*P	**Pg**	**11 29 46.7**	**+0.1**
	baz=292						
TWA				*i* S	**Sg**	**11 29 52.5**	**+0.1**
	baz=292						
ENTT	**Nioudou**	**0.46**	**248**	⇑*i*P	**Pg**	**11 29 46.3**	**-0.5**
	baz=245						
ENTT				S	**Sg**	**11 29 53.1**	**+0.2**
	baz=245						
ENA	**Nanau**	**0.46**	**215**	P	**Pg**	**11 29 46.7**	**-0.3**
	baz=217						
ENA				*e*S	**Sg**	**11 29 53.2**	**+0.1**
	baz=217						
TAP1	**Taipei**	**0.51**	**296**	*i* P	**Pb**	**11 29 48.5**	**-0.8**
	baz=295						
TAP1				*e*S	**Sg**	**11 29 54.4**	**-0.3**
	baz=295						
TAP	**Taipei**	**0.53**	**296**	*e*P	**Pg**	**11 29 48.1**	**-0.1**
	baz=295						
TAP				*e*S	**Sg**	**11 29 55.3**	**+0.2**
	baz=295						
EHP	**Heping Village**	**0.56**	**208**	*e*P	**Pg**	**11 29 49.4**	**+0.5**
	baz=205						
TWY	**Chenhua**	**0.61**	**320**	⇓*i*P	**Pb**	**11 29 50.3**	**-0.6**
	baz=321						
NSK	**Sanguang**	**0.63**	**258**	⇑*i*P	**Pg**	**11 29 49.5**	**-0.6**
	baz=256						
NSK				*e*S	**Sg**	**11 29 57.9**	**-0.4**
	baz=256						
TWS1	**Kuangyinshan**	**0.63**	**298**	⇓*i*P	**Pb**	**11 29 51.0**	**-0.3**
	baz=297						
TWS1				*e*S	**Sb**	**11 30 01.1**	**+0.9**
	baz=297						
NNS	**Nan Shan**	**0.70**	**239**	⇑P	**Pg**	**11 29 50.7**	**-0.9**
	baz=236						
NNS				S	**Sg**	**11 30 00.7**	**0.0**
	baz=236						
NCU	**National Centr**	**0.78**	**282**	P	**Pb**	**11 29 53.9**	**0.0**
	baz=271						
NCU				*e*S	**Sb**	**11 30 05.3**	**+0.6**
	baz=271						
PCYT	**Pengchaiyu**	**0.82**	**3**	⇓*i*P	**Pb**	**11 29 54.7**	**+0.3**
	baz=5.0						
TWD	**Chiawan**	**0.83**	**209**	*e*P	**Pg**	**11 29 53.4**	**-0.6**
	baz=198						
TWD				*e*S	**Sg**	**11 30 04.8**	**+0.1**
	baz=198						
JYNG	**Yonagunijimaku**	**0.91**	**113**	P	**Pg**	**11 29 56.0**	**+0.6**
JYNG				S	**Sb**	**11 30 08.8**	**+0.6**
HWA	**Hwalien**	**0.92**	**205**	*e*P	**Pg**	**11 29 55.5**	**-0.1**
	baz=203						
NSTT	**Nanjuang**	**0.95**	**259**	*e*P	**Pg**	**11 29 56.1**	**-0.2**
	baz=258						
NSTT				*e*S	**Sb**	**11 30 09.9**	**+0.3**
	baz=258						
TWT	**Tachien**	**0.96**	**235**	*e*P	**Pg**	**11 29 56.3**	**-0.1**
	baz=227						
TWT				*e*S	**Sb**	**11 30 09.9**	**+0.1**
	baz=227						
YOJ	**Yonaguni jima**	**0.96**	**111**	P	**Pg**	**11 29 56.7**	**+0.3**
YOJ				S	**Sb**	**11 30 10.3**	**+0.7**
YOJ	**Yonaguni jima**	**0.96**	**111**	*i* P	**Pg**	**11 29 56.7**	**+0.3**
	baz=112						
YOJ				*i* S	**Sb**	**11 30 10.4**	**+0.7**
	baz=112						
WHF	**Hehuan Shan**	**0.96**	**227**	P	**Pg**	**11 29 55.6**	**-0.9**
	baz=225						
WHF				*e*S	**Sg**	**11 30 09.4**	**+0.4**
	baz=225						
HSN	**Hsinchu**	**0.96**	**270**	⇓*i*P	**Pb**	**11 29 57.0**	**0.0**
	baz=270						
HSN				*e*S	**Sb**	**11 30 10.1**	**+0.2**
	baz=270						
ESL	**Shilin**	**1.13**	**209**	*e*P	**Pb**	**11 29 58.9**	**-1.0**
	baz=208						
ESL				*e*S	**Sb**	**11 30 14.3**	**-0.4**
	baz=208						
NSY	**Sanyi**	**1.22**	**251**	P	**Pg**	**11 30 02.2**	**+0.7**
	baz=250						
NSY				*e*S	**Sn**	**11 30 19.2**	**+1.0**
	baz=250						
TWQ1	**Liyutan**	**1.23**	**248**	*e*P	**Pg**	**11 30 01.6**	**-0.1**
	baz=247						
TWQ1				*e*S	**Sn**	**11 30 19.4**	**+0.9**
	baz=247						
WDT	**Danda**	**1.33**	**218**	⇓*i*P	**Pn**	**11 30 03.0**	**-0.3**
	baz=218						
WDT				S	**Sb**	**11 30 21.0**	**+0.2**
	baz=218						
SMLT	**Sun Moon Lake**	**1.39**	**228**	P	**Pn**	**11 30 03.7**	**0.0**
	baz=228						
TCU	**Taichung**	**1.40**	**242**	*e*P	**Pg**	**11 30 04.9**	**+0.1**
	baz=241						
TCU				*e*S	**Sg**	**11 30 25.0**	**+2.0**
	baz=241						
TYC	**Yuchr**	**1.40**	**230**	P	**Pn**	**11 30 03.8**	**0.0**
	baz=236						
EHY	**Hungye**	**1.45**	**207**	*e*P	**Pn**	**11 30 04.2**	**-0.4**
	baz=207						
WNT	**Mingjian**	**1.54**	**233**	*e*P	**Pg**	**11 30 07.7**	**+0.1**
	baz=221						
WNT				*e*S	**Sg**	**11 30 28.9**	**+1.3**
	baz=221						
TWF1	**Yuli**	**1.60**	**205**	*e*P	**Pn**	**11 30 07.0**	**+0.3**
	baz=216						
IRIF	**Iriomote-Funau**	**1.62**	**107**	P	**Pn**	**11 30 06.0**	**-0.9**
YUS	**Yu-Shan**	**1.64**	**217**	*e*P	**Pb**	**11 30 08.6**	**-0.3**
	baz=227						
YUS				S	**Sb**	**11 30 31.2**	**+1.3**
	baz=227						
ALS	**Alishan**	**1.71**	**221**	⇑*e*P	**Pb**	**11 30 09.9**	**0.0**
	baz=222						
ALS				*e*S	**Sg**	**11 30 34.9**	**+1.9**
	baz=222						
CHN5	**Tsauling**	**1.73**	**226**	⇑*i*P	**Pb**	**11 30 10.4**	**+0.4**
	baz=228						
CHN5				*e*S	**Sg**	**11 30 35.0**	**+1.4**
	baz=228						
WGK	**Gukeng**	**1.75**	**230**	*e*P	**Pg**	**11 30 11.3**	**-0.2**
	baz=231						
HATJ	**Hateruma jima**	**1.78**	**115**	P	**Pn**	**11 30 09.0**	**-0.1**
CHKT	**Chengkung**	**1.81**	**200**	*e*P	**Pn**	**11 30 10.0**	**+0.5**
	baz=184						
WTCT	**Ta-ch'eng**	**1.85**	**240**	*e*P	**Pn**	**11 30 09.2**	**-0.9**
	baz=256						
ELDTW	**Lidau**	**1.86**	**210**	*e*P	**Pn**	**11 30 11.2**	**+0.8**
	baz=211						
JKRS	**Kuro-shima**	**1.89**	**107**	P	**Pn**	**11 30 10.2**	**-0.4**
CHN2	**Minshiung**	**1.91**	**228**	*e*P	**Pb**	**11 30 13.4**	**+0.4**
	baz=229						
CHN4	**Tsaushan**	**1.96**	**222**	*e*P	**Pb**	**11 30 13.7**	**-0.2**
	baz=225						
CHN4				*e*S	**Sg**	**11 30 42.1**	**+1.2**
	baz=225						
CHY	**Chiayi**	**1.97**	**229**	*e*P	**Pb**	**11 30 13.9**	**-0.2**
	baz=229						
JIJ	**Ishigaki jima**	**1.97**	**103**	P	**Pn**	**11 30 11.1**	**-0.7**
STYT	**Tauyuan**	**2.01**	**216**	*e*P	**Pb**	**11 30 13.8**	**-1.1**
	baz=207						
STYT				*e*S	**Sb**	**11 30 41.6**	**+1.5**
	baz=207						
WSF	**Szhu**	**2.02**	**235**	*e*P	**Pn**	**11 30 13.4**	**+0.9**
	baz=251						
WTP	**Ta-pu**	**2.03**	**220**	*e*P	**Pb**	**11 30 14.4**	**-0.7**
	baz=209						
WTP				*e*S	**Sg**	**11 30 43.3**	**+0.2**
	baz=209						
JISG	**Ishigakijimahi**	**2.08**	**96**	P	**Pn**	**11 30 12.6**	**-0.7**
TWK	**Hsinying**	**2.09**	**223**	⇓P	**Pb**	**11 30 16.2**	**+0.1**
	baz=225						
CHN1	**Nanshi**	**2.12**	**221**	P	**Pb**	**11 30 16.4**	**-0.4**
	baz=224						
TWG	**Pinlang**	**2.17**	**204**	*e*P	**Pn**	**11 30 14.5**	**0.0**
	baz=206						
SGST	**Jiashian**	**2.17**	**218**	*e*P	**Pb**	**11 30 16.9**	**-0.7**
	baz=208						
SGST				*e*S	**Sg**	**11 30 47.6**	**-0.2**
	baz=208						
CHN3	**Shinhua**	**2.30**	**222**	*e*P	**Pb**	**11 30 18.7**	**-1.1**
	baz=225						
ECL	**Taimali**	**2.42**	**204**	*e*P	**Pn**	**11 30 18.6**	**+0.8**
	baz=193						
SSD	**Sandimen**	**2.42**	**212**	*e*P	**Pb**	**11 30 20.8**	**-1.1**
	baz=216						
SSD				*e*S	**Sb**	**11 30 51.0**	**-0.9**
	baz=216						
JTJ	**Tarama**	**2.44**	**93**	P	**Pn**	**11 30 17.6**	**-0.5**
TWM1	**Shoushan**	**2.47**	**217**	*e*P	**Pb**	**11 30 21.3**	**-1.4**
	baz=220						
SGLT	**Jiouru**	**2.51**	**215**	*e*P	**Pn**	**11 30 20.7**	**+1.6**
	baz=218						
PNG	**Penghu**	**2.58**	**242**	*e*P	**Pn**	**11 30 18.4**	**-1.6**
	baz=241						
EAST	**Anshuo**	**2.65**	**204**	*e*P	**Pn**	**11 30 22.4**	**+1.3**
	baz=195						
WDGT	**Dungji**	**2.66**	**235**	*e*P	**Pn**	**11 30 22.2**	**+1.0**
	baz=235						
SCZT	**Fangliau**	**2.75**	**208**	*e*P	**Pb**	**11 30 25.2**	**-2.3**
	baz=214						
SCZT				*e*S	**Sb**	**11 31 00.8**	**-0.6**
	baz=214						
LAY	**Lan-yu**	**2.79**	**189**	*e*P	**Pn**	**11 30 22.9**	**-0.1**
	baz=192						
TWP	**Hsiaoliuchiu**	**2.89**	**212**	*e*P	**Pb**	**11 30 28.8**	**-1.0**
	baz=217						
HEN	**Hengchun**	**3.03**	**203**	*e*P	**Pn**	**11 30 28.2**	**+1.8**
	baz=196						
TWK1	**Hengchun**	**3.07**	**202**	*e*P	**Pn**	**11 30 27.7**	**+0.9**
	baz=192						
TSEB	**Hengchuen, Pin**	**3.08**	**200**	*e*P	**Pn**	**11 30 29.6**	**+2.7**
	baz=192						
QZH	**Quanzhou**	**3.13**	**273**	*e*Pn	**Pn**	**11 30 27.0**	**-0.6**
QZH				Sn	**Sn**	**11 31 02.3**	**-2.9**
QZH				smax	smax		
	comp=N,1μm,1.0s						
QZH				smax	smax		
	comp=E,400nm,1.0s						
QZH				LR	LR		
	comp=N,2μm,6.7s						
QZH				LR	LR		
	comp=E,1μm,6.6s						
QZH				LR	LR		
	comp=Z,1μm,8.4s						
KNM	**Kinmen**	**3.30**	**264**	*e*P	**Pn**	**11 30 30.0**	**0.0**
	baz=261						
JNU	**Nakatsue**	**11.33**	**41**	LR	LR	11 37 36.9	
	comp=Z,66nm,19.6s,baz=217,slow=40						
KSRS	**Korea Array**	**13.57**	**20**	P	P	11 33 03.4	+3.4
	comp=Z,0.2nm,0.3s,baz=200,slow=11,SNR=6.9						
KSRS				LR	LR	11 38 04.0	
	comp=Z,80nm,19.1s,baz=204,slow=36						
MJAR	**Matsushiro Arr**	**18.15**	**46**	LR	LR	11 41 19.5	
	comp=Z,57nm,20.0s,baz=260,slow=37						
USRK	**Ussuriysk Ar.**	**20.98**	**20**	P	Pn	11 34 26.4	+2.2
	comp=Z,2.1nm,0.7s,baz=206,slow=11,SNR=6.1						
USRK				LR	LR	11 42 40.1	
	comp=Z,72nm,19.9s,baz=218,slow=36						
CMAR	**Chiang Mai Arr**	**22.36**	**258**	P	**P**	**11 34 39.0**	**+2.3**
	comp=Z,0.6nm,0.5s,baz=63,slow=7.8,SNR=5.8						
CMAR				LR	LR	11 42 37.9	
	comp=Z,29nm,20.2s,baz=90,slow=34						
SONM	**Songino Array**	**26.11**	**336**	P	**P**	**11 35 13.4**	**+0.9**
	comp=Z,6.2nm,0.9s,baz=145,slow=8.8,SNR=21						
SONM				LR	LR	11 46 55.6	
	comp=Z,125nm,19.1s,baz=152,slow=39						
TLY	**Talaya**	**30.29**	**337**	P	**P**	**11 35 50.4**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=239,slow=2.4,SNR=4.5						
MKAR	**Makanchi Array**	**38.43**	**315**	P	**P**	**11 37 00.5**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=103,slow=12,SNR=6.2						
MKAR				LR	LR	11 54 24.1	
	comp=Z,39nm,18.6s,baz=100,slow=38						
ZALV	**Zalesovo Beam**	**40.15**	**326**	P	**P**	**11 37 14.2**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=122,slow=7.2,SNR=11						
ZALV				LR	LR	11 54 56.6	
	comp=Z,59nm,21.3s,baz=66,slow=37						
PMG	**Port Moresby**	**41.92**	**141**	LR	LR	11 56 57.0	
	comp=Z,37nm,19.1s,baz=176,slow=39						
AAK	**Ala-Archa**	**42.75**	**307**	LR	LR	11 58 08.1	
	comp=Z,35nm,20.2s,baz=82,slow=40						
WRA	**Warramunga Arr**	**46.07**	**164**	P	**P**	**11 38 01.7**	**-0.9**
	comp=Z,3.4nm,0.7s,baz=346,slow=8.7,SNR=29						
ASAR	**Alice Springs**	**49.55**	**166**	P	**P**	**11 38 29.1**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=341,slow=8.3,SNR=15						
HNR	**Honiara**	**50.25**	**128**	LR	LR	12 00 06.9	
	comp=Z,30nm,18.6s,baz=124,slow=36						
NOA	**NORSAR Array B**	**78.03**	**332**	LR	LR	12 19 49.4	
	comp=Z,30nm,18.0s,baz=260,slow=38						
YKA	**Yellowknife Ar**	**82.09**	**23**	P	**P**	**11 41 57.0**	**-1.8**
	comp=Z,0.5nm,1.0s,baz=310,slow=5.9,SNR=5.7						

DDA 31 11:37:47.2,38°.77N×28°.19E,h7km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.31**	**291**	*e*PG	Pg	11 37 47.4	-5.9
KULA	**Kula-Manisa**	**0.45**	**124**	*e*PG	Pg	11 37 55.9	-0.2
DURS	**Dursunbey**	**0.86**	**15**	*i* P	Pg	11 38 03.4	-0.5
DURS				*i* S	Sb	11 38 16.7	+0.3

*ISCJB **31** 11:40:03.4±0.8,42°.35S±0°.2×82°.5E±0°.2,h10km,mb4.3/10, MS3.8/12,Error ellipse: s-maj=27.0km s-min=21.5km az=152.7*
*IDC **31** 11:40:03.3±0.8,42°.28S×82°.38E,h0km,mb4.2/10, mb1 4.3/10,mb1mx4.1/21,mbtmp4.2/10,MS3.7/12, Ms1 3.7/12,ms1mx3.4/36,Error ellipse: s-maj=30.5km s-min=24.3km az=66.0*

ISC 31 11:40:04.8±0.8,42°.3S±0°.2×82°.4E±0°.2,h10km,n29, σ0§45/18,mb4.3/10,MS3.7/12,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**25.77**	**84**	T	T	12 12 13.8	
	baz=240						
H01W3	**Cape Leeuwin H**	**25.77**	**84**	T	T	12 12 18.1	
	baz=240						
H01W1	**Cape Leeuwin H**	**25.78**	**84**	T	T	12 12 18.2	
	baz=240						
MAW	**Mawson**	**27.49**	**196**	LR	LR	11 54 03.4	
	comp=Z,216nm,18.1s,baz=266,slow=31						
NWAO	**Narrogin (SRO)**	**28.96**	**83**	LR	LR	11 55 02.6	
	comp=Z,210nm,18.8s,baz=180,slow=31						
H08S2	**Diego Garcia H**	**35.59**	**343**	T	T	12 24 34.5	
	baz=168,slow=76,SNR=3.7						
H08S1	**Diego Carcia H**	**35.59**	**343**	T	T	12 24 33.2	
	baz=168,slow=76,SNR=3.6						
H08S3	**Diego Garcia H**	**35.60**	**343**	T	T	12 24 34.5	
	baz=168,slow=76,SNR=3.8						
LEM	**Lembang**	**41.76**	**39**	LR	LR	12 03 08.0	
	comp=Z,97nm,18.2s,baz=226,slow=33						
ASAR	**Alice Springs**	**46.28**	**83**	P	**P**	**11 48 30.4**	**-0.2**
	3.5nm,1.1s,baz=227,slow=7.8,SNR=11						
ASAR				PcP	**PcP**	**11 50 05.8**	**-0.2**
	1.7nm,0.9s,baz=215,slow=2.9,SNR=7.6						
ASAR				LR	LR	12 05 19.8	
	comp=Z,202nm,21.3s,baz=219,slow=33						
PSI	**Prapat**	**47.30**	**23**	LR	LR	12 03 08.2	
	comp=Z,184nm,19.5s,baz=285,slow=29						
BOSA	**Boshof**	**47.68**	**267**	LR	LR	12 04 23.5	
	comp=Z,136nm,19.5s,baz=165,slow=31						
QSPA	**South Pole Qui**	**47.88**	**180**	P	**P**	**11 48 42.7**	**0.0**
	5.4nm,1.0s,baz=258,slow=1.2,SNR=13						
BATI	**Baumata**	**48.15**	**61**	LR	LR	12 05 32.7	
	comp=Z,87nm,21.3s,baz=192,slow=32						
WRA	**Warramunga Arr**	**48.87**	**80**	P	**P**	**11 48 51.2**	**+0.4**
	7.8nm,1.0s,baz=231,slow=7.2,SNR=17						
WRA				LR	LR	12 07 15.1	
	comp=Z,79nm,19.8s,baz=145,slow=33						
CMAR	**Chiang Mai Arr**	**62.33**	**18**	P	**P**	**11 50 27.8**	**+0.6**
	3.7nm,0.9s,baz=210,slow=6.7,SNR=23						
CMAR				LR	LR	12 14 07.4	
	comp=Z,46nm,18.4s,baz=184,slow=33						
GEYT	**Alibeck**	**82.84**	**341**	P	**P**	**11 52 28.7**	**-0.3**
	1.0nm,0.4s,baz=181,slow=8.5,SNR=4.0						
AAK	**Ala-Archa**	**84.83**	**354**	P	**P**	**11 52 39.7**	**+0.5**
	1.2nm,0.5s,baz=134,slow=1.5,SNR=4.3						
MKAR	**Makanchi Array**	**88.69**	**360**	P	**P**	**11 52 57.4**	**-0.3**
	0.6nm,1.0s,baz=176,slow=3.2,SNR=4.6						
MKAR				LR	LR	12 30 40.2	
	comp=Z,18nm,21.3s,baz=178,slow=34						
TORD	**Torodi Ar. Bea**	**91.99**	**286**	LR	LR	12 31 28.2	
	comp=Z,42nm,18.7s,baz=150,slow=34						
SONM	**Songino Array**	**92.20**	**16**	P	**P**	**11 53 14.0**	**-0.2**
	1.1nm,1.1s,baz=197,slow=3.1,SNR=6.3						
KURBB	**Kurchatov Arra**	**92.58**	**358**	P	**P**	**11 53 16.0**	**+0.3**
	1.1nm,1.0s,baz=188,slow=4.0,SNR=6.2						
BRTR	**Keskin Array B**	**92.83**	**325**	P	**P**	**11 53 17.4**	**0.0**
	1.2nm,1.0s,baz=176,slow=5.8,SNR=5.3						
MJAR	**Matsushiro Arr**	**93.52**	**42**	LR	LR	12 37 53.2	
	comp=Z,11nm,18.0s,baz=75,slow=37						
ILAR	**Eielson Array**	**144.39**	**34**	PKP	**PKPab**	**11 59 37.8**	**-0.5**
	5.9nm,0.4s,baz=288,slow=4.1,SNR=7.9						
RES	**Resolute Bay**	**147.47**	**359**	PKPbc	**PKPbc**	**11 59 47.4**	**-0.2**
	4.5nm,0.8s,baz=346,slow=4.0,SNR=21						
INK	**Inuvik**	**147.74**	**24**	PKPbc	**PKPbc**	**11 59 48.4**	**0.0**
	3.9nm,0.9s,baz=319,slow=2.0,SNR=12						
YKA	**Yellowknife Ar**	**157.38**	**21**	PKP	**PKPdf**	**12 00 00.5**	**+0.6**
	0.2nm,0.8s,baz=327,slow=1.8,SNR=4.3						
YKA				PKPab	**PKPab**	**12 00 30.6**	**-0.8**
	0.5nm,1.0s,baz=321,slow=4.6,SNR=4.3						
PDAR	**Pinedale Array**	**171.15**	**83**	PKP	**PKPdf**	**12 00 14.0**	**+0.8**
	0.6nm,0.9s,baz=42,slow=2.8,SNR=3.1						
PDAR				PKPab	**PKPab**	**12 01 32.8**	**-0.2**
	0.9nm,1.0s,baz=245,slow=3.1,SNR=4.4						

*IDC **31** 11:40:56.2±1.1,27°.21S×177°.59W,h0km,mb3.8/2, mb1 4.1/4,mb1mx3.8/15,mbtmp4.0/4,ML4.0/2,Error ellipse: s-maj=38.3km s-min=25.9km az=100.0*
*ISCJB **31** 11:41:00.1±2.7,27°.2S±0°.1×177°.7W±0°.4,h33km,mb3.7/2, Error ellipse: s-maj=47.8km s-min=14.4km az=175.3*

ISC 31 11:41:01.1±1.1,27°.2S±0°.1×177°.6W±0°.3,h35km,n25, σ1§13/15,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.03**	**189**	Pn	**Pn**	**11 41 32.7**	**-0.1**
	158nm,0.3s,baz=219,slow=22,SNR=3.9						
RAO				Sn	Sn	11 42 06.5	+10
	860nm,0.3s,baz=129,slow=17,SNR=15						
URZ	**Urewera**	**11.87**	**201**	Pn	**Pn**	**11 43 45.5**	**-2.3**
	0.3nm,0.3s,baz=90,slow=20,SNR=2.7						
URZ				Sn	**Sn**	**11 46 01.4**	**+2.4**
	1.2nm,0.3s,baz=16,slow=12,SNR=6.1						
DZM	**Mont Dzumac**	**15.43**	**286**	*e*LR	LR	11 47 42.5	
	175nm,25.2s						
PAE	**Paea**	**27.50**	**76**	*e*T	T	12 14 01.4	
	7.7nm,0.2s						
PAE				*e*T	T	12 14 05.1	
	7.7nm,0.2s						
PPT2	**Papeete2**	**27.54**	**75**	*e*LR	LR	11 52 55.3	
	82nm,25.5s						
PPT2	**Papeete2**	**27.54**	**75**	*e*T	T	12 14 05.0	
	7.1nm,0.3s						
PPT2				*e*T	T	12 14 06.4	
	7.1nm,0.3s						
TIAR	**Tiarei**	**27.75**	**76**	*e*T	T	12 14 12.2	
	2.3nm,0.2s						
TIAR				*e*T	T	12 14 20.0	
	2.3nm,0.2s						
MEH	**Mehetia**	**28.72**	**77**	*e*T	T	12 15 29.7	
	13nm,0.3s						
VAH	**Vaihoa**	**30.26**	**73**	*e*T	T	12 17 26.3	
	16nm,0.2s						
VAH				*e*T	T	12 17 32.9	
	16nm,0.2s						
RKT	**Rikitea**	**38.62**	**94**	*e*T	T	12 28 07.5	
	2.9nm,0.3s						
RKT				*e*T	T	12 28 07.5	
	2.9nm,0.3s						
ASAR	**Alice Springs**	**43.76**	**263**	P	**P**	**11 49 03.6**	**+0.1**
	0.6nm,0.5s,baz=100,slow=8.1,SNR=19						
WRA	**Warramunga Arr**	**44.47**	**269**	P	**P**	**11 49 08.9**	**-0.3**
	1.4nm,0.7s,baz=108,slow=7.8,SNR=11						
H06E1	**SOCORRO T-PHAS**	**79.11**	**62**	T	T	13 18 40.7	
MKAR	**Makanchi Array**	**116.02**	**311**	PKP	**PKPdf**	**11 59 40.4**	**+0.2**
	0.4nm,0.8s,baz=109,slow=0.4,SNR=4.3						
KURBB	**Kurchatov Arra**	**119.17**	**315**	PKP	**PKPdf**	**11 59 46.6**	**+0.6**
	0.4nm,0.6s,baz=90,slow=2.1,SNR=5.4						
BVAR	**Borovoye Array**	**124.39**	**317**	PKP	**PKPdf**	**11 59 57.0**	**+0.9**
	1.3nm,0.7s,baz=95,slow=2.2,SNR=4.3						
ARCES	**ARCESS Array B**	**135.59**	**349**	PKP	**PKPdf**	**12 00 16.9**	**+0.1**
	2.1nm,0.8s,baz=34,slow=3.5,SNR=2.6						
H10S3	**ASCENSION HYDR**	**140.38**	**153**	T	T	14 37 38.7	
	baz=204						
H10S2	**ASCENSION HYDR**	**140.38**	**153**	T	T	14 37 38.9	
	baz=204						
H10S1	**ASCENSION HYDR**	**140.40**	**153**	T	T	14 37 37.0	
	baz=204						
TBLG	**Delisi**	**142.65**	**304**	P	**Pdif**	**11 57 50.9**	**-1.4**
AKASG	**Malin Array Be**	**148.97**	**326**	PKPbc	**PKPbc**	**12 00 44.6**	**-0.5**
	0.7nm,0.4s,baz=42,slow=3.8,SNR=9.4						
MMAI	**Mount Meron Ar**	**151.00**	**289**	PKPbc	**PKPbc**	**12 00 50.9**	**+0.3**
	0.7nm,0.3s,baz=94,slow=4.3,SNR=2.7						
BRTR	**Keskin Array B**	**151.31**

ellipse: s-maj=4.0km s-min=3.4km az=17.1
*UPP **31** 11:59:06.5,58°.59N×20°.22E,h0km,ML1.7,Suspected Mining explosion.*
*HEL **31** 11:59:07.1±0.1,58°.60N×20°.21E,h0km,ML2.4, ML1.7(UPP),Explosion*
*BER **31** 11:59:07.7±3.5,58°.63N×20°.21E,h0km,ML2.4(NAO), Suspected explosion*
*NAO **31** 11:59:07.6±1.9,58°.68N×20°.24E,ML2.4*
*IDC **31** 11:59:09.7±1.9,58°.83N×20°.19E,h0km,mb1 3.5/4, mb1mx3.1/29,mbtmp3.4/4,ML3.3/3,Error ellipse: s-maj=21.6km s-min=7.9km az=171.0*

ISC 31 11:59:05.2±0.6,**58°.59N**±0°.02×**20°.25E**±0°.02,**h0km,n78,** σ1§**25**/117,**Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**1.24**	**290**	*e*P	**Pg**	**11 59 28.9**	**0.0**
NYNU				*e*S	**Sg**	**11 59 44.6**	**-0.3**
NYNU	**Nynaeshamn**	**1.24**	**290**	P	**Pg**	**11 59 28.9**	**0.0**
NYNU				S	**Sg**	**11 59 44.6**	**-0.3**
NYNU	**Nynaeshamn**	**1.24**	**290**	P	**Pg**	**11 59 28.9**	**0.0**
NYNU				S	**Sg**	**11 59 44.6**	**-0.3**
GOTU	**Gotland**	**1.27**	**225**	*e*P	**Pg**	**11 59 29.8**	**+0.3**
GOTU	**Gotland**	**1.27**	**225**	P	**Pg**	**11 59 29.8**	**+0.3**
GOTU	**Gotland**	**1.27**	**225**	P	**Pg**	**11 59 29.8**	**+0.3**
NRTU	**Norrtaelje**	**1.37**	**323**	*e*P	**Pg**	**11 59 31.5**	**+0.1**
NRTU	**Norrtaelje**	**1.37**	**323**	P	**Pg**	**11 59 31.5**	**+0.1**
NRTU	**Norrtaelje**	**1.37**	**323**	P	**Pg**	**11 59 31.5**	**+0.1**
SLIT	**Slitere, Latvi**	**1.45**	**131**	*e*P	**Pn**	**11 59 32.1**	**-0.5**
SLIT				*e*S	**Sg**	**11 59 52.7**	**+0.9**
SLIT				*e*SN	**Sn**	**11 59 54.7**	**+2.4**
SLIT	**Slitere, Latvi**	**1.45**	**131**	*e*P	**Pn**	**11 59 32.1**	**-0.5**
SLIT				*e*S	**Sg**	**11 59 52.7**	**+0.9**
SLIT				*e*SN	**Sn**	**11 59 54.7**	**+2.4**
SLIT	**Slitere, Latvi**	**1.45**	**131**	P	**Pn**	**11 59 32.1**	**-0.5**
SLIT				*e*S	**Sg**	**11 59 52.7**	**+0.9**
	SNR=33						
SLIT				Sn	**Sn**	**11 59 54.7**	**+2.4**
AAL	**Aland**	**1.59**	**355**	*e*P	**Pn**	**11 59 35.1**	**+0.5**
AAL				*e*PN	**Pb**	**11 59 36.1**	**+0.6**
AAL				*e*S	**Sn**	**11 59 55.2**	**-0.6**
AAL				*e*SG	**Sb**	**11 59 56.6**	**+0.5**
AAL	**Aland**	**1.59**	**355**	*e*P	**Pn**	**11 59 35.1**	**+0.5**
AAL				*e*PN	**Pb**	**11 59 36.1**	**+0.6**
AAL				*e*S	**Sn**	**11 59 55.2**	**-0.6**
AAL				*e*SG	**Sb**	**11 59 56.6**	**+0.5**
AAL	**Aland**	**1.59**	**355**	P	**Pn**	**11 59 35.1**	**+0.5**
AAL	**Aland**	**1.59**	**355**	P	**Pn**	**11 59 35.1**	**+0.5**
UPP	**Uppsala**	**1.85**	**314**	*e*P	**Pb**	**11 59 40.0**	**+0.2**
UPP	**Uppsala**	**1.85**	**314**	P	**Pb**	**11 59 40.0**	**+0.2**
UPP	**Uppsala**	**1.85**	**314**	P	**Pb**	**11 59 40.0**	**+0.2**
VIKU	**Vikbolandet**	**1.86**	**269**	*e*P	**Pn**	**11 59 39.3**	**+1.1**
VIKU	**Vikbolandet**	**1.86**	**269**	P	**Pn**	**11 59 39.3**	**+1.1**
VIKU	**Vikbolandet**	**1.86**	**269**	P	**Pn**	**11 59 39.3**	**+1.1**
GRAU	**Graesoe**	**1.95**	**334**	*e*P	**Pn**	**11 59 40.9**	**+1.4**
GRAU	**Graesoe**	**1.95**	**334**	P	**Pn**	**11 59 40.9**	**+1.4**
GRAU	**Graesoe**	**1.95**	**334**	P	**Pn**	**11 59 40.9**	**+1.4**
FLYU	**Flymyra**	**1.96**	**323**	*e*P	**Pb**	**11 59 41.7**	**+0.1**
FLYU	**Flymyra**	**1.96**	**323**	P	**Pb**	**11 59 41.7**	**+0.1**
FLYU	**Flymyra**	**1.96**	**323**	P	**Pb**	**11 59 41.7**	**+0.1**
BACU	**Backbrunna**	**2.05**	**309**	*e*P	**Pb**	**11 59 43.1**	**-0.1**
BACU	**Backbrunna**	**2.05**	**309**	P	**Pb**	**11 59 43.1**	**-0.1**
BACU	**Backbrunna**	**2.05**	**309**	P	**Pb**	**11 59 43.1**	**-0.1**
ESKU	**Eskilstuna**	**2.10**	**289**	*e*P	**Pn**	**11 59 43.1**	**+1.6**
ESKU	**Eskilstuna**	**2.10**	**289**	P	**Pn**	**11 59 43.0**	**+1.6**
ESKU	**Eskilstuna**	**2.10**	**289**	P	**Pn**	**11 59 43.1**	**+1.6**
	baz=104						
SRPE	**Suurupi**	**2.31**	**66**	*e*P	**Pb**	**11 59 47.2**	**-0.5**
SRPE				*e*S	**Sn**	**12 00 15.4**	**+2.0**
SRPE				*e*SB	**Sb**	**12 00 17.9**	**+1.3**
SRPE	**Suurupi**	**2.31**	**66**	*e*P	**Pb**	**11 59 47.2**	**-0.5**
SRPE				*e*S	**Sn**	**12 00 15.4**	**+2.0**
SRPE				*e*SG	**Sb**	**12 00 17.9**	**+1.3**
SRPE	**Suurupi**	**2.31**	**66**	P	**Pb**	**11 59 47.1**	**-0.5**
SRPE				S	**Sn**	**12 00 15.4**	**+2.0**
SRPE				*e*Sb	**Sb**	**12 00 17.9**	**+1.3**
RAF	**Rauma**	**2.56**	**17**	*e*P	**Pn**	**11 59 49.4**	**+1.6**
RAF				*e*PB	**Pb**	**11 59 51.4**	**-0.4**
RAF				*e*PG	**Pg**	**11 59 53.3**	**-0.8**
RAF				*e*SB	**Sb**	**12 00 25.0**	**+1.3**
RAF				MSG		12 00 27.5	
	comp=Z,11nm,0.2s						
RAF	**Rauma**	**2.56**	**17**	*e*P	**Pn**	**11 59 49.4**	**+1.6**
RAF				*e*PB	**Pb**	**11 59 51.4**	**-0.4**
RAF				*e*PG	**Pg**	**11 59 53.3**	**-0.8**
RAF				*e*SG	**Sb**	**12 00 25.0**	**+1.3**
RAF				MSG		12 00 27.5	
	comp=Z,11nm,0.2s						
RAF	**Rauma**	**2.56**	**17**	P	**Pn**	**11 59 49.4**	**+1.6**
MEF	**Metsahovi**	**2.67**	**51**	*e*P	**Pn**	**11 59 51.4**	**+1.9**
MEF				*e*PB	**Pb**	**11 59 53.0**	**-0.9**
MEF				*e*SB	**Sb**	**12 00 27.6**	**+0.5**
MEF				MSG		12 00 29.0	
	comp=Z,23nm,0.3s						
MEF	**Metsahovi**	**2.67**	**51**	*e*P	**Pn**	**11 59 51.4**	**+1.9**
MEF				*e*PB	**Pb**	**11 59 53.0**	**-0.9**
MEF				*e*SB	**Sb**	**12 00 27.6**	**+0.5**
MEF				MSG		12 00 29.0	
	comp=Z,23nm,0.3s						
MEF	**Metsahovi**	**2.67**	**51**	P	**Pn**	**11 59 51.3**	**+1.9**
VSU	**Vasula**	**3.41**	**89**	Lg	Lg	12 00 53.2	
VSU	**Vasula**	**3.41**	**89**	Lg	Lg	12 00 53.2	
VSU	**Vasula**	**3.41**	**89**	Lg	Lg	12 00 53.2	
HFS	**Hagfors**	**3.69**	**298**	Pn	**Pn**	**12 00 04.6**	**+1.2**
	baz=121,slow=14						
HFS				Pg	**Pb**	**12 00 12.7**	**+1.5**
	baz=115,slow=18						
HFS				Lg	Lg	12 00 58.4	
	baz=114,slow=37						
HFS	**Hagfors**	**3.69**	**298**	Pn	**Pn**	**12 00 04.6**	**+1.2**
	baz=121,slow=14						
HFS				Pg	**Pb**	**12 00 12.7**	**+1.5**
	baz=115,slow=18						
HFS				Lg	Lg	12 00 58.4	
	baz=114,slow=37						
HFS	**Hagfors**	**3.69**	**298**	Pn	**Pn**	**12 00 05.0**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=111,slow=14,SNR=24						
HFS				Lg	Lg	12 01 00.2	
	comp=Z,4.9nm,0.3s,baz=105,slow=30,SNR=12						
HFS	**Hagfors**	**3.69**	**298**	Pn	**Pn**	**12 00 04.6**	**+1.2**
	SNR=50						
HFS	**Hagfors**	**3.69**	**298**	Pg	**Pb**	**12 00 12.7**	**+1.5**
	SNR=90						
HFS				Lg	Lg	12 00 58.3	
	SNR=7.8						
FIA0	**FINESS Array S**	**4.09**	**43**	Pn	**Pn**	**12 00 10.4**	**+1.5**
	baz=219,slow=12						
FIA0				Lg	Lg	12 01 13.8	
	baz=225,slow=28						
FIA0	**FINESS Array S**	**4.09**	**43**	Pn	**Pn**	**12 00 10.4**	**+1.5**
	baz=219,slow=12						
FIA0				Lg	Lg	12 01 13.8	
	baz=225,slow=28						
FIA0	**FINESS Array S**	**4.09**	**43**	Pn	**Pn**	**12 00 10.4**	**+1.5**
	SNR=50						
FIA0				Lg	Lg	12 01 13.8	
	SNR=7.4						
FINES	**FINESS Array B**	**4.09**	**43**	Pn	**Pn**	**12 00 10.7**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=228,slow=14,SNR=24						
FINES				Lg	Lg	12 01 12.1	
	comp=Z,2.9nm,0.3s,baz=227,slow=27,SNR=4.6						
ISAL	**Salakas**	**4.41**	**131**	*e*P	**Pn**	**12 00 12.4**	**-0.9**
ISAL				*e*S	Sn	12 00 54.9	-10
ISAL	**Salakas**	**4.41**	**131**	*e*P	**Pn**	**12 00 12.4**	**-0.9**
	SNR=31						
BSD	**Bornholm Skovb**	**4.55**	**222**	*e*PB	**Pb**	**12 00 23.5**	**-2.3**
BSD				*e*SG	**Sb**	**12 01 24.1**	**+3.0**
BSD	**Bornholm Skovb**	**4.55**	**222**	*e*PB	**Pb**	**12 00 23.5**	**-2.3**
BSD				*e*SG	**Sb**	**12 01 24.1**	**+3.0**
BSD	**Bornholm Skovb**	**4.55**	**222**	Pb	**Pb**	**12 00 23.5**	**-2.3**
IIGN	**Ignalina**	**4.61**	**132**	*e*P	**Pn**	**12 00 15.4**	**-0.6**
IIGN				*e*S	Sn	12 00 59.7	-10
IIGN	**Ignalina**	**4.61**	**132**	*e*P	**Pn**	**12 00 15.4**	**-0.6**
	SNR=31						
NB2	**NORSAR Subarra**	**5.18**	**302**	Pn	**Pn**	**12 00 24.8**	**+0.9**
	baz=121,slow=14						
NB2				Sn	**Sn**	**12 01 24.9**	**+0.7**
	baz=109,slow=22						
NB2				Lg	Lg	12 01 45.3	
	baz=116,slow=37						
NB2	**NORSAR Subarra**	**5.18**	**302**	Pn	**Pn**	**12 00 24.8**	**+0.9**
	baz=121,slow=14						
NB2				Sn	**Sn**	**12 01 24.9**	**+0.7**
	baz=109,slow=22						
NB2				Lg	Lg	12 01 45.3	
	baz=116,slow=37						
NB2	**NORSAR Subarra**	**5.18**	**302**	Pn	**Pn**	**12 00 24.8**	**+0.9**
	SNR=50						
NB2				Sn	**Sn**	**12 01 24.9**	**+0.7**
	SNR=50						
NB2				Lg	Lg	12 01 45.3	
	SNR=3.9						
NOA	**NORSAR Array B**	**5.18**	**302**	Pn	**Pn**	**12 00 24.8**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=111,slow=14,SNR=27						
NOA				Sn	**Sn**	**12 01 21.6**	**-2.6**
	comp=Z,0.8nm,0.3s,baz=124,slow=21,SNR=4.1						
NOA				Lg	Lg	12 01 46.2	
	comp=Z,1.7nm,0.3s,baz=112,slow=18,SNR=7.2						
UMAU	**Umeaa**	**5.31**	**2**	*e*P	**Pn**	**12 00 27.5**	**+1.9**
UMAU				*e*S	**Sn**	**12 01 26.5**	**-0.9**
UMAU	**Umeaa**	**5.31**	**2**	*e*P	**Pn**	**12 00 27.5**	**+1.9**
UMAU				*e*S	**Sn**	**12 01 26.5**	**-0.9**
UMAU	**Umeaa**	**5.31**	**2**	P	**Pn**	**12 00 27.5**	**+1.9**
UMAU				S	**Sn**	**12 01 26.5**	**-0.9**
APA0	**Apatity Array**	**10.70**	**27**	Pn	**Pn**	**12 01 39.0**	**-0.4**
	baz=204,slow=12						
APA0	**Apatity Array**	**10.70**	**27**	Pn	**Pn**	**12 01 39.0**	**-0.4**
	baz=204,slow=12						
APA0	**Apatity Array**	**10.70**	**27**	Pn	**Pn**	**12 01 39.0**	**-0.4**
	SNR=50						
ARA0	**ARCESS Array S**	**11.22**	**10**	Pn	**Pn**	**12 01 44.9**	**-1.6**
	baz=191,slow=12						
ARA0	**ARCESS Array S**	**11.22**	**10**	Pn	**Pn**	**12 01 44.9**	**-1.6**
	baz=191,slow=12						
ARCES	**ARCESS Array B**	**11.22**	**10**	Pn	**Pn**	**12 01 45.0**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=189,slow=14,SNR=100						
ARCES				Sn	Sn	12 03 43.7	-8.7
	comp=Z,0.5nm,0.3s,baz=193,slow=23,SNR=6.0						
SPA0	**Spitsbergen Ar**	**19.72**	**358**	P	**P**	**12 03 36.4**	**+0.6**
	baz=184,slow=12						
SPA0	**Spitsbergen Ar**	**19.72**	**358**	P	**P**	**12 03 36.4**	**+0.6**
	baz=184,slow=12						
SPA0	**Spitsbergen Ar**	**19.72**	**358**	P	**P**	**12 03 36.4**	**+0.6**
	SNR=47						

IDC 31 12:00:14.1±6.5,**5°.51S**×**147°.39E,h188**km±71km,**mb3.1**/2, **mb1 3.3**/4,**mb1mx2.9**/27,**mbtmp3.6**/4,**Error ellipse: s-maj=121.5km s-min=27.2km az=131.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.88**	**183**	P	Pn	12 01 15.5	+1.5
	1.9nm,0.3s,baz=4.4,slow=13,SNR=11						
PMG				S	Sn	12 02 00.8	-0.2
	2.3nm,0.3s,baz=324,slow=18,SNR=4.9						
WRA	**Warramunga Arr**	**19.15**	**220**	P	P	12 04 22.9	-0.5
	0.7nm,0.3s,baz=41,slow=9.0,SNR=45						
ASAR	**Alice Springs**	**22.23**	**214**	P	P	12 04 56.2	+0.5
	1.0nm,0.5s,baz=47,slow=8.7,SNR=29						
ILAR	**Eielson Array**	**84.89**	**23**	P	P	12 12 27.2	-0.3
	0.3nm,0.9s,baz=246,slow=6.8,SNR=3.0						

*IDC **31** 12:06:58.6±1.1,27°.11S×178°.28W,h230km±11km, mb3.8/11,mb1 3.9/11,mb1mx3.8/14,mbtmp4.3/11,Error ellipse: s-maj=17.6km s-min=14.3km az=3.0*
*ISCJB **31** 12:06:59.1±0.5,27°.28S±0°.07×178°.40W±0°.08,h250km, mb4.0/12,Error ellipse: s-maj=11.8km s-min=8.5km az=135.8*

ISC 31 12:06:59.9±0.5,**27°.30S**±0°.09×**178°.55W**±0°.10,**h250**km, **n34,**σ1§**50**/34,**mb4.2**/12,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.03**	**164**	P	**Pn**	**12 07 41.9**	**-0.7**
	361nm,0.3s,baz=75,slow=8.6,SNR=16						
RAO				S	**S**	**12 08 13.8**	**-2.6**
	211nm,0.3s,baz=90,slow=20,SNR=3.7						
URZ	**Urewera**	**11.52**	**197**	P	**Pn**	**12 09 35.6**	**-1.9**
	0.5nm,0.3s,baz=45,slow=20,SNR=9.2						
URZ				S	S	12 11 39.1	-7.0
	2.2nm,0.3s,baz=163,slow=22,SNR=11						
DZM	**Mont Dzumac**	**14.59**	**288**	S	**S**	**12 12 53.0**	**-4.0**
	0.1nm,0.3s,baz=122,slow=19,SNR=2.5						
TBI	**Tutuai**	**26.56**	**88**	*e*T	T	12 11 49.3	
	16nm,0.3s						
TBI				*e*T	T	12 11 49.3	
	16nm,0.3s						
PPT	**Papeete**	**28.42**	**76**	P	**P**	**12 12 30.9**	**-0.9**
	10nm,0.5s,baz=165,slow=8.1,SNR=3.2						
CTA	**Charters Tower**	**32.94**	**275**	P	P	12 13 14.7	+3.4
	2.9nm,0.4s,baz=98,slow=13,SNR=8.6						
ASAR	**Alice Springs**	**42.87**	**264**	P	**P**	**12 14 36.6**	**+2.4**
	0.4nm,0.4s,baz=98,slow=7.5,SNR=25						
WRA	**Warramunga Arr**	**43.58**	**269**	P	**P**	**12 14 41.7**	**+1.9**
	2.2nm,0.7s,baz=109,slow=6.3,SNR=20						
QSPA	**South Pole Qui**	**62.80**	**180**	P	**P**	**12 17 01.3**	**+2.4**
	2.6nm,0.6s,baz=37,slow=5.1,SNR=21						
MJAR	**Matsushiro Arr**	**75.42**	**325**	P	**P**	**12 18 17.2**	**+0.9**
	6.3nm,0.8s,baz=153,slow=5.3,SNR=18						
MAT	**Matsushiro**	**75.42**	**325**	P	**P**	**12 18 17.4**	**+1.0**
VNA3	**Neumayer Olymp**	**81.42**	**176**	P	**P**	**12 18 49.7**	**+1.1**
KSRS	**Korea Array**	**81.67**	**320**	P	**P**	**12 18 50.3**	**0.0**
	2.0nm,0.9s,baz=136,slow=5.3,SNR=6.4						
VNA2	**Neumayer--Watz**	**81.85**	**177**	P	**P**	**12 18 52.1**	**+1.3**
	baz=193,slow=5.7						
VNA1	**Neumayer--Stat**	**82.08**	**177**	P	**P**	**12 18 53.5**	**+1.5**
PETK	**Petropavlovsk-**	**82.69**	**346**	P	**P**	**12 18 55.8**	**+0.5**
	5.2nm,0.9s,baz=124,slow=7.4,SNR=3.8						
USRK	**Ussuriysk Ar.**	**84.31**	**327**	P	P	12 19 04.9	+1.3
	2.8nm,0.6s,baz=174,slow=2.7,SNR=6.0						
TXAR	**Lajitas Array**	**91.13**	**57**	P	**P**	**12 19 36.3**	**-0.4**
	0.5nm,0.9s,baz=224,slow=6.9,SNR=4.4						
PDAR	**Pinedale Array**	**94.23**	**44**	P	**P**	**12 19 49.9**	**-0.9**
	0.6nm,0.9s,baz=203,slow=5.8,SNR=4.2						
ILAR	**Eielson Array**	**95.02**	**13**	P	**P**	**12 19 52.8**	**-0.9**
	6.0nm,0.3s,baz=226,slow=6.1,SNR=7.4						
SONM	**Songino Array**	**100.51**	**319**	P	**Pdif**	**12 20 20.9**	**+2.0**
	0.1nm,0.5s,baz=107,slow=4.8,SNR=2.8						
MKAR	**Makanchi Array**	**115.39**	**311**	PKP	**PKPdf**	**12 25 11.4**	**-0.3**
	0.3nm,0.7s,baz=64,slow=3.4,SNR=3.3						
SPITS	**Spitsbergen Ar**	**128.58**	**356**	PKP	**PKPdf**	**12 25 36.6**	**+0.4**
	2.2nm,0.6s,baz=83,slow=3.6,SNR=6.9						
AKTO	**Aktyubinsk**	**131.62**	**314**	PKP	**PKPdf**	**12 25 43.0**	**+0.3**
	0.4nm,0.3s,baz=58,slow=9.5,SNR=3.5						
ARCES	**ARCESS Array B**	**135.46**	**348**	PKhKP	PKPpre	12 25 44.9	
	5.2nm,1.0s,baz=93,slow=1.8,SNR=5.5						
ARCES				PKP	**PKiKP**	**12 25 49.6**	**-1.3**
	3.0nm,0.8s,baz=16,slow=3.9,SNR=9.0						
FINES	**FINESS Array B**	**142.07**	**341**	PKhKP	PKPpre	12 25 56.5	
	0.5nm,0.3s,baz=74,slow=3.7,SNR=11						
NB2	**NORSAR Subarra**	**145.62**	**352**	PKP	**PKPab**	**12 26 08.1**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=22,slow=2.9						
NOA	**NORSAR Array B**	**145.62**	**352**	PKPbc	**PKPab**	**12 26 08.6**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=21,slow=2.9,SNR=8.3						
HFS	**Hagfors**	**146.12**	**349**	PKPbc	**PKPab**	**12 26 09.7**	**-1.5**
	comp=Z,2.3nm,0.4s,baz=66,slow=3.7,SNR=20						
AKASG	**Malin Array Be**	**148.51**	**325**	PKPbc	**PKPbc**	**12 26 17.0**	**+0.2**
	comp=Z,4.3nm,0.6s,baz=43,slow=3.7,SNR=16						
MMAI	**Mount Meron Ar**	**150.18**	**289**	PKPbc	**PKPbc**	**12 26 23.2**	**+1.6**
	comp=Z,6.2nm,0.5s,baz=75,slow=6.1,SNR=8.1						
BRTR	**Keskin Array B**	**150.59**	**303**	PKPbc	**PKPbc**	**12 26 23.1**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=131,slow=3.6,SNR=8.1						
BRTR				PKPab	**PKPab**	**12 26 31.8**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=92,slow=3.7,SNR=5.5						
EKA	**Eskdalemuir Ar**	**151.79**	**6**	PKPbc	**PKPbc**	**12 26 24.1**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=328,slow=2.0,SNR=7.6						
EKA				PKPab	**PKPab**	**12 26 34.0**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=356,slow=3.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**165.92**	**181**	PKP	**PKPdf**	**12 26 34.9**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=185,slow=0.4,SNR=3.5						
TORD				PKPab	**PKPab**	**12 27 37.7**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=182,slow=3.9,SNR=9.5						

*BJI **31** 12:27:30.9,42°.28S×81°.53E,h8km,mB5.2/18,mb4.9/27, Ms5.0/11,Ms7 4.5/14*
*IDC **31** 12:27:31.8±0.6,42°.22S×82°.25E,h0km,mb4.4/15, mb1 4.5/15,mb1mx4.4/20,mbtmp4.3/15,MS4.1/22, Ms1 4.1/22,ms1mx4.0/31,Error ellipse: s-maj=21.4km s-min=19.6km az=68.0*
*ISCJB **31** 12:27:32.6±0.4,42°.23S±0°.08×82°.3E±0°.1,h10km, mb4.7/27,MS4.2/22,Error ellipse: s-maj=13.4km s-min=11.8km az=0.7*
*GCMT **31** 12:27:34.0±0.3,42°.25S×82°.41E,h12km,MW4.9/67, Moment Tensor Solution. s24,c26; s67,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.14±.08; $M_{\theta\theta}$1.31±.09; $M_{\phi\phi}$0.83±.08; $M_{r\theta}$0.01±.38; $M_{\theta\phi}$-1.14±.07; $M_{r\phi}$0.90±.34; Best double couple: $M_0$2.3660×10^{16} NP1:φs146.00000°,δ55.00000°,λ-70.00000°. NP2: φs293.00000°,δ40.00000°,λ-116.00000°. Principal axes: T 2.3090, Plg8.0000°, Azm221.0000°; N 0.1130, Plg16.0000°, Azm314.0000°; P -2.4230, Plg72.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 12:27:34.0±0.4,42°.20S×82°.26E,h10km,mb5.1/11 Error ellipse: s-maj=14.0km s-min=12.5km az=95.0*

ISC 31 12:27:33.7±0.5,**42°.35S**±0°.08×**82°.1E**±0°.1,**h10**km,**n72,** σ1§**56**/81,**mb4.7**/27,**MS4.2**/22,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**25.98**	**84**	T	T	12 59 46.4	
	baz=244,slow=75,SNR=8.8						
H01W3	**Cape Leeuwin H**	**25.99**	**84**	T	T	12 59 47.0	
	baz=244,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**26.00**	**84**	T	T	12 59 44.9	
	baz=244,slow=75,SNR=11						
MAW	**Mawson**	**27.37**	**196**	LR	LR	12 41 40.8	
	comp=Z,365nm,20.9s,baz=30,slow=31						
NWAO	**Narrogin (SRO)**	**29.17**	**83**	LR	LR	12 42 22.7	
	comp=Z,680nm,21.5s,baz=206,slow=31						
H08S2	**Diego Garcia H**	**35.59**	**343**	T	T	13 12 05.3	
	baz=167,slow=76,SNR=13						
H08S1	**Diego Garcia H**	**35.60**	**343**	T	T	13 12 05.4	
	baz=167,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**35.61**	**343**	T	T	13 12 06.7	
	baz=167,slow=76,SNR=14						
OPO	**Ambohidratompo**	**37.91**	**298**	LR	LR	12 47 46.9	
	comp=Z,170nm,18.1s,baz=172,slow=32						
LEM	**Lembang**	**41.95**	**40**	LR	LR	12 49 29.7	
	comp=Z,454nm,19.6s,slow=32						
BKNI	**Bangkinang**	**45.77**	**27**	*e*P	**P**	**12 35 54.5**	**-1.0**
	41nm,1.1s						
ASAR	**Alice Springs**	**46.49**	**83**	P	**P**	**12 35 59.0**	**-2.3**
	7.0nm,1.2s,baz=225,slow=7.6,SNR=17						
ASAR				PcP	**PcP**	**12 37 34.5**	**-1.1**
	1.7nm,0.8s,baz=230,slow=2.4,SNR=9.2						
ASAR				LR	LR	12 53 10.0	
	comp=Z,942nm,19.8s,baz=248,slow=33						
VNDA	**Vanda**	**46.86**	**163**	P	**P**	**12 36 04.1**	**+0.7**
	1.1nm,0.8s,baz=269,slow=8.1,SNR=3.0						
VNDA				LR	LR	12 53 59.8	
	comp=Z,324nm,18.7s,baz=274,slow=34						
PSI	**Prapat**	**47.44**	**23**	LR	LR	12 51 25.2	
	comp=Z,461nm,20.8s,slow=30						
BOSA	**Boshof**	**47.47**	**268**	P	**P**	**12 36 08.7**	**-0.3**
	3.3nm,1.0s,baz=29,slow=13,SNR=2.8						
BOSA				LR	LR	12 52 42.0	
	comp=Z,412nm,18.4s,baz=142,slow=32						
QSPA	**South Pole Qui**	**47.81**	**180**	P	**P**	**12 36 11.5**	**+0.4**
	17nm,1.1s,baz=278,slow=1.7,SNR=23						
QSPA	**South Pole Qui**	**47.81**	**180**	*e*P	**P**	**12 36 12.1**	**+1.0**
BATI	**Baumata**	**48.36**	**61**	LR	LR	12 54 04.6	
	comp=Z,316nm,19.2s,slow=33						
SNAA	**Sanae**	**48.91**	**205**	*e*P	P	12 36 23.1	+3.7
	29nm,1.7s						
WRA	**Warramunga Arr**	**49.09**	**80**	P	**P**	**12 36 19.3**	**-2.0**
	17nm,1.1s,baz=229,slow=7.4,SNR=23						
WRA				LR	LR	12 55 21.3	
	comp=Z,225nm,18.1s,baz=200,slow=34						
WRAB	**Tennant Creek**	**49.10**	**80**	*e*P	**P**	**12 36 20.0**	**-1.4**
	167nm,2.3s						
SBUM	**Sibu**	**52.24**	**39**	*e*P	**P**	**12 36 44.8**	**-0.3**
	16nm,1.3s						
HYB	**Hyderabad**	**59.55**	**356**	*i* P	**P**	**12 37 37.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**62.46**	**18**	P	**P**	**12 37 55.6**	**-1.5**
	5.2nm,0.9s,baz=213,slow=6.5,SNR=26						
CMAR				LR	LR	13 01 44.9	
	comp=Z,67nm,19.1s,baz=219,slow=33						
CHTO	**Chiang Mai**	**62.80**	**18**	*e*P	**P**	**12 37 59.6**	**+0.2**
	5.5nm,1.2s						
PMG	**Port Moresby**	**65.31**	**80**	P	**P**	**12 38 16.5**	**+0.4**
	16nm,1.0s,baz=211,slow=4.1,SNR=3.2						
JAY	**Jayapura**	**65.46**	**70**	LR	LR	13 05 47.9	
	comp=Z,230nm,19.

	110nm,13.1s							
AAK	**Ala-Archa**	**84.87**	**354**	*e*P		**P**	**12 40 08.7**	**+0.3**
	11nm,1.3s							
EKS2	**Erkin-Say**	**84.96**	**354**	*e*P		**P**	**12 40 10.2**	**+1.4**
	11nm,0.9s							
TKM2	**Tokmak 2**	**85.09**	**355**	*e*P		**P**	**12 40 08.5**	**-1.1**
	29nm,2.2s							
KKAR	**Karatay Array**	**85.70**	**351**	*e*P		**P**	**12 40 13.3**	**+1.0**
WMQ	**Urumqi**	**85.93**	**4**	*e*P		**P**	**12 40 14.5**	**+1.0**
WMQ				pP		**pP**	**12 40 18.8**	**+2.0**
WMQ				sP		**sP**	**12 40 21.0**	**+3.0**
WMQ				PP		**PP**	**12 43 35.0**	**+1.1**
WMQ				S		**SKKSac**	**12 50 45.0**	**-1.2**
WMQ				sS		**sS**	**12 50 52.5**	**+0.2**
WMQ				SS		**SS**	**12 56 24.5**	**-0.9**
WMQ				PMZ				
	9.0nm,1.4s							
WMQ				PMZ				
	93nm,4.6s							
WMQ				LN				
	130nm,24.0s							
WMQ				LE				
	53nm,26.0s							
WMQ				LZ				
	150nm,24.0s							
HHC	**Hu-ho-hao-te**	**86.99**	**22**	*e*P		**P**	**12 40 21.5**	**+2.6**
HHC				sP		sP	12 40 29.0	+5.6
HHC				S		**S**	**12 50 59.5**	**+2.1**
HHC				sS		**ScS**	**12 51 06.5**	**+1.5**
HHC				SS		**SS**	**12 56 43.8**	**+2.6**
HHC				PMZ				
	55nm,1.0s							
HHC				PMZ				
	170nm,6.1s							
HHC				LZ				
	230nm,18.8s							
BJI	**Beijing**	**87.62**	**25**	P		**P**	**12 40 21.0**	**-0.7**
BJI				S		**S**	**12 50 58.8**	**-4.3**
BJI				PMZ				
	12nm,1.0s							
BJI				LN				
	89nm,22.1s							
BJI				LE				
	120nm,19.3s							
BJI				LZ				
	55nm,32.6s							
MKAR	**Makanchi Array**	**88.75**	**0**	P		**P**	**12 40 25.9**	**-1.1**
	0.2nm,0.4s,baz=162,slow=5.1,SNR=7.9							
MKAR				LR		LR	13 18 20.0	
	comp=Z,85nm,19.4s,baz=177,slow=34							
KSAR	**Wonju Array Be**	**89.69**	**35**	P		**P**	**12 40 31.9**	**+0.3**
KSRS	**Korea Array**	**89.72**	**35**	P		**P**	**12 40 31.9**	**+0.2**
	2.7nm,1.1s,baz=256,slow=4.9,SNR=4.6							
TORD	**Torodi Ar. Bea**	**91.81**	**286**	P		**P**	**12 40 41.5**	**-0.6**
	0.8nm,1.1s,baz=124,slow=3.6,SNR=3.8							
TORD				LR		LR	13 18 38.2	
	comp=Z,128nm,21.6s,baz=290,slow=33							
DBIC	**Dimbokro**	**92.22**	**277**	LR		LR	13 17 34.5	
	comp=Z,81nm,18.9s,baz=120,slow=32							
SONM	**Songino Array**	**92.33**	**16**	P		**P**	**12 40 43.0**	**-0.8**
	2.2nm,1.1s,baz=195,slow=5.1,SNR=11							
SONM				LR		LR	13 21 50.3	
	comp=Z,123nm,19.6s,baz=166,slow=35							
ULN	**Ulaanbaatar**	**92.49**	**17**	*e*P		**P**	**12 40 44.2**	**-0.4**
	5.9nm,1.3s							
KBZ	**Khabaz**	**92.64**	**333**	P		**P**	**12 40 44.1**	**-1.0**
	1.2nm,0.8s,baz=248,slow=5.4,SNR=2.4							
KBZ				LR		LR	13 18 40.3	
	comp=Z,38nm,21.2s,baz=164,slow=33							
BRTR	**Keskin Array B**	**92.77**	**325**	P		**P**	**12 40 45.9**	**-0.2**
	1.6nm,0.9s,baz=177,slow=7.2,SNR=9.1							
BRTR				LR		LR	13 17 55.0	
	comp=Z,27nm,18.9s,baz=120,slow=33							
CN2	**Changchun**	**94.15**	**30**	*e*P		**P**	**12 40 53.3**	**+1.2**
BVAR	**Borovoye Array**	**95.53**	**353**	LR		LR	13 20 16.8	
	comp=Z,73nm,21.2s,baz=167,slow=33							
ZALV	**Zalesovo Beam**	**95.95**	**2**	P		**P**	**12 40 58.3**	**-1.8**
	0.2nm,0.4s,baz=116,slow=3.4,SNR=2.1							
ZALV				LR		LR	13 22 25.3	
	comp=Z,73nm,18.3s,baz=236,slow=34							
TBI	**Tubuai**	**99.14**	**133**	*e*LR		LR	12 45 52.8	
	142nm,31.8s							
PPT2	**Papeete2**	**103.69**	**130**	*e*LR		LR	12 45 37.8	
	150nm,28.8s							
TUE	**Stuetta**	**109.47**	**316**	*e*Pdif		**Pdif**	**12 42 03.7**	**+2.8**
ILAR	**Eielson Array**	**144.56**	**34**	PKP		**PKPab**	**12 47 06.2**	**-1.6**
	7.1nm,0.4s,baz=291,slow=3.0,SNR=8.6							
PAX	**Paxson**	**145.63**	**37**	*e*PKPbc		**PKPab**	**12 47 12.9**	**+1.0**
BMRM	**Bremner River**	**146.48**	**40**	*e*PKPdf		**PKPbc**	**12 47 14.0**	**-0.2**
RES	**Resolute Bay**	**147.54**	**359**	PKPbc		**PKPbc**	**12 47 15.8**	**-0.9**
	5.5nm,0.8s,baz=11,slow=2.8,SNR=15							
INK	**Inuvik**	**147.88**	**24**	PKPbc		**PKPbc**	**12 47 17.1**	**-0.7**
	12nm,1.1s,baz=3.7,slow=2.5,SNR=18							
MTDJ	**Mount Denham**	**150.38**	**222**	*e*PKPdf		**PKPdf**	**12 47 20.3**	**-0.2**
YKA	**Yellowknife Ar**	**157.52**	**20**	PKP		**PKPdf**	**12 47 27.2**	**-1.8**
	0.4nm,0.8s,baz=330,slow=2.4,SNR=9.8							
YKA				PKPab		**PKPab**	**12 47 59.7**	**-1.2**
	0.1nm,0.4s,baz=321,slow=4.4,SNR=5.5							
YKA				PP		**PP**	**12 51 39.6**	**-0.6**
	0.3nm,1.0s,baz=316,slow=5.2,SNR=4.0							
TXAR	**Lajitas Array**	**166.20**	**158**	PKP		**PKPdf**	**12 47 37.0**	**-2.2**
	1.0nm,1.2s,baz=145,slow=4.6,SNR=3.8							
TXAR				PKPab		**PKPab**	**12 48 40.5**	**+0.6**
	0.1nm,0.6s,baz=204,slow=4.3,SNR=3.0							
HLID	**Hailey**	**167.81**	**79**	*e*PKPdf		**PKPdf**	**12 47 40.0**	**0.0**
PDAR	**Pinedale Array**	**171.36**	**83**	PKP		**PKPdf**	**12 47 42.6**	**+0.4**
	0.6nm,0.9s,baz=130,slow=2.3,SNR=3.9							
PDAR				PKPab		**PKPab**	**12 49 01.2**	**-1.7**
	1.5nm,1.0s,baz=222,slow=1.8,SNR=4.3							

*IDC **31** 12:35:39.6±1.3, 17°.85S×173°.29W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/28, mbtmp4.0/5, MS3.5/3, Ms1 3.5/3, ms1mx3.1/22, Error ellipse: s-maj=53.3km s-min=25.1km az=133.0*

*ISCJB **31** 12:35:43.8±1.1, 17°.9S±0°.2×173°.4W±0°.3, h37km, mb4.0/6, MS3.2/2, Error ellipse: s-maj=40.4km s-min=21.5km az=37.3*

ISC 31 12:35:45.1±1.2, 17°.9S±0°.3×173°.3W±0°.3, h37km, n12, σ0$67/8, mb4.0/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.51**	**254**	LR	LR	12 46 16.4	
	comp=Z,188nm,18.0s,baz=193,slow=33						
URZ	**Urewera**	**21.95**	**201**	P		**P**	**12 40 35.7**	**+0.2**
	7.5nm,0.8s,baz=358,slow=18,SNR=4.8						
PPT	**Papeete**	**22.57**	**93**	LR		LR	12 47 09.8	
	comp=Z,52nm,18.9s,baz=216,slow=31						
HNR	**Honiara**	**27.33**	**284**	LR		LR	12 50 37.6	
	comp=Z,132nm,19.6s,baz=101,slow=33						
RKT	**Rikitea**	**36.17**	**105**	*e*LR		LR	12 51 20.3	
	280nm,36.2s						
WRA	**Warramunga Arr**	**49.44**	**259**	P		**P**	**12 44 31.3**	**-0.5**
	1.0nm,0.9s,baz=98,slow=6.9,SNR=7.8						
ASAR	**Alice Springs**	**49.50**	**254**	P		**P**	**12 44 31.9**	**-0.4**
	2.1nm,0.7s,baz=90,slow=8.5,SNR=26						
PDAR	**Pinedale Array**	**84.05**	**42**	P		**P**	**12 48 12.1**	**-0.1**
	0.6nm,0.7s,baz=197,slow=2.8,SNR=4.8						
ILAR	**Eielson Array**	**84.88**	**11**	P		**P**	**12 48 15.7**	**+0.2**
	0.7nm,0.9s,baz=232,slow=6.1,SNR=6.2						
CMAR	**Chiang Mai Arr**	**93.52**	**288**	P		**P**	**12 48 58.6**	**+1.0**
	0.4nm,0.4s,baz=80,slow=5.6,SNR=4.1						
BRTR	**Keskin Array B**	**148.15**	**319**	PKPbc		**PKPbc**	**12 55 27.2**	**-0.2**
	1.1nm,0.8s,baz=346,slow=1.8,SNR=5.3						
GERES	**GERESS Array B**	**148.63**	**351**	PKPbc		**PKPbc**	**12 55 27.5**	**-0.8**
	0.7nm,0.8s,baz=71,slow=3.3,SNR=3.6						

IDC 31 12:45:07.5±1.9, 17°.28S×173°.93W, h0km, mb4.3/5, mb1 4.7/5, mb1mx4.0/30, mbtmp4.3/5, Error ellipse: s-maj=119.3km s-min=24.4km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.94**	**258**	P		P 12 53 55.3	-0.6
	2.0nm,0.9s,baz=96,slow=7.9,SNR=22						
ASAR	**Alice Springs**	**49.06**	**253**	P		P 12 53 57.3	+0.4
	9.7nm,0.6s,baz=86,slow=7.9,SNR=147						
TXAR	**Lajitas Array**	**82.08**	**56**	P		P 12 57 30.2	-0.1
	0.5nm,1.0s,baz=232,slow=12,SNR=3.1						
PDAR	**Pinedale Array**	**84.00**	**42**	P		P 12 57 40.1	0.0
	0.5nm,0.8s,baz=224,slow=2.5,SNR=3.9						
ILAR	**Eielson Array**	**84.38**	**11**	P		P 12 57 41.4	+0.1
	6.1nm,0.3s,baz=207,slow=5.8,SNR=3.4						

*IDC **31** 12:46:37.4±2.0, 10°.64S×114°.22E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/21, Error ellipse: s-maj=82.4km s-min=21.2km az=44.0*

*ISCJB **31** 12:46:47.5±1.3, 10°.4S±0°.1×114°.73E±0°.07, h93km±12km, mb3.5/5, Error ellipse: s-maj=18.9km s-min=8.8km az=27.0*

*DJA **31** 12:46:52.9±1.0, 10°S±6°×11°5E±°, h14km±9km, M3.8/14, MLv3.8/14*

ISC 31 12:46:47.9±1.9, 10°.4S±0°.1×114°.68E±0°.09, h72km±16km, n17, σ1$46/21, mb3.6/5, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**1.77**	**17**	P	**Pn**	**12 47 17.6**	**+1.0**
JAGI	**Jajag, Banyuwa**	**1.97**	**345**	P	**Pn**	**12 47 17.5**	**-1.8**
JAGI				S	**Sn**	**12 47 42.8**	**-0.3**
SRBI	**Singaraja**	**2.34**	**13**	P	**Pn**	**12 47 25.5**	**+1.3**
SRBI				S	**Sn**	**12 47 53.4**	**+1.4**
GMJI	**Gumukmas**	**2.42**	**330**	P	**Pn**	**12 47 26.8**	**+1.4**
GMJI				S	**Sn**	**12 47 50.3**	**-3.7**
ABJI	**Asem Bagus**	**2.61**	**350**	P	**Pn**	**12 47 28.2**	**+0.4**
BLJI	**Banyuglugur**	**2.83**	**338**	P	**Pn**	**12 47 31.9**	**+1.0**
BLJI				S	**Sn**	**12 48 04.4**	**+0.5**
KMMI	**Kalianget**	**3.38**	**348**	P	**Pn**	**12 47 39.9**	**+1.5**
PWJI	**Pagerwojo**	**3.68**	**309**	P	**Pn**	**12 47 44.1**	**+1.6**
PWJI				S	Sn	12 48 15.7	-9.0
PCJI	**Pacitan**	**4.08**	**302**	P	Pn	12 47 53.6	+5.6
BATI	**Baumata**	**8.84**	**90**	Pn	**Pn**	**12 48 53.1**	**0.0**
	1.3nm,0.3s,baz=293,slow=13,SNR=3.8						
BATI				Sn	**Sn**	**12 50 30.5**	**-0.6**
	1.9nm,0.3s,baz=15,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**21.20**	**119**	P	**P**	**12 51 27.4**	**-0.4**
	0.9nm,0.4s,baz=291,slow=12,SNR=13						
ASAR	**Alice Springs**	**22.60**	**128**	P	**P**	**12 51 41.8**	**-1.0**
	0.7nm,0.9s,baz=310,slow=9.7,SNR=5.8						
MJAR	**Matsushiro Arr**	**51.66**	**24**	LR	LR	13 18 31.6	
	comp=Z,27nm,21.8s,baz=215,slow=37						
SONM	**Songino Array**	**58.42**	**353**	P	**P**	**12 56 36.5**	**+0.3**
	0.4nm,0.4s,baz=170,slow=9.3,SNR=6.9						
SONM				PcP	**PcP**	**12 57 27.1**	**+0.9**
	0.3nm,0.6s,baz=167,slow=4.1,SNR=2.8						
MKAR	**Makanchi Array**	**63.85**	**336**	P	**P**	**12 57 12.3**	**-0.5**
	0.4nm,0.5s,baz=147,slow=7.5,SNR=5.2						
ZALV	**Zalesovo Beam**	**68.90**	**342**	P	**P**	**12 57 43.1**	**-1.7**
	0.3nm,0.3s,baz=142,slow=5.6,SNR=3.6						
YKA	**Yellowknife Ar**	**117.16**	**23**	PKP	**PKPdf**	**13 05 25.3**	**+0.9**
	0.1nm,0.5s,baz=306,slow=1.6,SNR=4.6						

*ISCJB **31** 13:38:10.5±0.4, 36°.20N±0°.03×28°.22E±0°.04, h80km±5km, Error ellipse: s-maj=5.3km s-min=4.6km az=153.0*

*ISK **31** 13:38:10.7, 36°.22N×28°.20E, h72km, ML3.3*

*CSEM **31** 13:38:11.7±0.1, 36°.22N×28°.21E, h72km±3km, ML3.3, Error ellipse: s-maj=3.8km s-min=3.0km az=63.0*

*ATH **31** 13:38:12.8, 36°.34N×28°.06E, h60km±2km*

*DDA **31** 13:38:13.3, 36°.33N×28°.26E, h26km, MD3.3*

*HLW **31** 13:38:15.9, 35°.93N×28°.30E, h32km±40km, Md3.6, Ml2.9*

ISC 31 13:38:10.2±1.1, 36°.23N±0°.04×28°.20E±0°.03, h81km±7km, n69, σ1$56/95, 1C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.06**	**256**	*e*P	**Pn**	**13 38 22.7**	**+0.9**
ARG				*e*S	**Sn**	**13 38 29.4**	**-0.9**
ARG	**Arkhangelos**	**0.06**	**256**	*e*P	**Pn**	**13 38 22.7**	**+0.9**
ARG				*e*S	**Sn**	**13 38 29.4**	**-0.9**
DALY	**Dalyan (Mu¨la**	**0.69**	**32**	*e*Pg	**Pn**	**13 38 26.9**	**+1.1**
DALY				*e*SG	**Sn**	**13 38 37.5**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.69**	**32**	*e*Pg	**Pn**	**13 38 26.9**	**+1.1**
DALY				*e*Sg	**Sn**	**13 38 37.5**	**0.0**
FETY	**Fethiye**	**0.82**	**60**	*e*PG	**Pn**	**13 38 27.8**	**+0.5**
FETY				*e*SG	**Sn**	**13 38 40.1**	**+0.2**
FETY	**Fethiye**	**0.82**	**60**	*e*Pg	**Pn**	**13 38 27.8**	**+0.5**
FETY				*e*Sg	**Sn**	**13 38 40.2**	**+0.2**
YER	**Yerkesik**	**0.91**	**4**	*e*PG	**Pn**	**13 38 29.2**	**+1.0**
YER				*e*SG	**Sn**	**13 38 42.7**	**+0.9**
YER	**Yerkesik**	**0.91**	**4**	*e*Pg	**Pn**	**13 38 29.3**	**+1.0**
YER				*e*Sg	**Sn**	**13 38 42.7**	**+0.9**
BDRM	**Kayabasi**	**1.03**	**324**	*i* P	**Pn**	**13 38 30.6**	**+0.9**
BDRM				*i* S	**Sn**	**13 38 43.7**	**-0.6**
BDRM	**Kayabasi**	**1.03**	**324**	*i* P	**Pn**	**13 38 30.6**	**+0.9**
BDRM				*i* S	**Sn**	**13 38 43.7**	**-0.6**
KARP	**Karpathos**	**1.08**	**231**	*e*P	**Pn**	**13 38 32.6**	**+2.2**
KARP				*e*S	**Sn**	**13 38 47.3**	**+1.8**
KARP	**Karpathos**	**1.08**	**231**	*e*P	**Pn**	**13 38 32.6**	**+2.2**
KARP				*e*S	**Sn**	**13 38 47.3**	**+1.8**
BODT	**Bodrum**	**1.09**	**320**	*e*PN	**Pn**	**13 38 31.5**	**+1.0**
BODT	**Bodrum**	**1.09**	**320**	*e*Pn	**Pn**	**13 38 31.5**	**+1.0**
AKAS	**Kas**	**1.14**	**89**	*i* P	**Pn**	**13 38 32.5**	**+1.4**
AKAS				*i* S	**Sn**	**13 38 46.3**	**-0.5**
AKAS	**Kas**	**1.14**	**89**	*i* P	**Pn**	**13 38 32.5**	**+1.4**
AKAS				*i* S	**Sn**	**13 38 46.3**	**-0.5**
AYDN	**Tasoluk**	**1.45**	**350**	*i* P	**Pn**	**13 38 37.6**	**+2.6**
AYDN				*i* S	**Sn**	**13 38 55.2**	**+1.5**
AYDN	**Tasoluk**	**1.45**	**350**	*i* P	**Pn**	**13 38 37.6**	**+2.6**
AYDN				*i* S	**Sn**	**13 38 55.2**	**+1.5**
ELL	**Elmali**	**1.47**	**69**	*e*PN	**Pn**	**13 38 37.3**	**+1.9**
ELL	**Elmali**	**1.47**	**69**	*e*Pn	**Pn**	**13 38 37.3**	**+1.9**
GOLH	**Golhisar**	**1.49**	**47**	*i* P	**Pn**	**13 38 37.7**	**+2.2**
GOLH				*i* S	**Sn**	**13 38 55.3**	**+0.7**
GOLH	**Golhisar**	**1.49**	**47**	*i* P	**Pn**	**13 38 37.7**	**+2.2**
GOLH				*i* S	**Sn**	**13 38 55.3**	**+0.7**
DNZL	**Cakiroluk**	**1.61**	**25**	*i* P	**Pn**	**13 38 38.3**	**+1.1**
DNZL				*i* S	**Sn**	**13 38 57.4**	**-0.1**
DNZL	**Cakiroluk**	**1.61**	**25**	*i* P	**Pn**	**13 38 38.3**	**+1.1**
DNZL				*i* S	**Sn**	**13 38 57.4**	**-0.1**
GCAM	**G?zelcaml?**	**1.66**	**333**	*i* P	**Pn**	**13 38 38.6**	**+1.0**
GCAM				*i* S	**Sn**	**13 38 57.9**	**-0.4**
GCAM	**G?zelcaml?**	**1.66**	**333**	*i* P	**Pn**	**13 38 38.6**	**+1.0**
GCAM				*i* S	**Sn**	**13 38 57.9**	**-0.4**
DENT	**Denizli**	**1.66**	**24**	*e*PN	**Pn**	**13 38 39.6**	**+1.9**
DENT	**Denizli**	**1.66**	**24**	*e*Pn	**Pn**	**13 38 39.6**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**1.73**	**352**	*e*PN	**Pn**	**13 38 40.2**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**1.73**	**352**	*e*Pn	**Pn**	**13 38 40.2**	**+1.5**
SMG	**Samos**	**1.83**	**324**	*e*P	**Pn**	**13 38 41.1**	**+1.1**
SMG				*e*S	**Sn**	**13 39 01.8**	**-0.7**
SMG	**Samos**	**1.83**	**324**	*e*P	**Pn**	**13 38 41.1**	**+1.1**
SMG				*e*S	**Sn**	**13 39 01.8**	**-0.7**
BCK	**Bucak**	**2.28**	**57**	*e*PN	**Pn**	**13 38 48.2**	**+2.3**
BCK	**Bucak**	**2.28**	**57**	*e*Pn	**Pn**	**13 38 48.2**	**+2.3**
IZM	**Izmir**	**2.29**	**341**	*e*PN	**Pn**	**13 38 47.2**	**+1.2**
IZM	**Izmir**	**2.29**	**341**	*e*Pn	**Pn**	**13 38 47.2**	**+1.2**
APE	**Apeiranthos**	**2.30**	**292**	*e*P	**Pn**	**13 38 48.5**	**+2.3**
APE	**Apeiranthos**	**2.30**	**292**	*e*P	**Pn**	**13 38 48.5**	**+2.3**
KULA	**Kula-Manisa**	**2.31**	**9**	*e*PN	**Pn**	**13 38 48.9**	**+2.5**
KULA	**Kula-Manisa**	**2.31**	**9**	*e*Pn	**Pn**	**13 38 48.9**	**+2.5**
NPS	**Neapolis**	**2.31**	**246**	*e*P	**Pn**	**13 38 48.7**	**+2.3**
NPS	**Neapolis**	**2.31**	**246**	*e*P	**Pn**	**13 38 48.7**	**+2.3**
BLCB	**Balcova**	**2.34**	**337**	*e*PN	**Pn**	**13 38 47.9**	**+1.2**
BLCB	**Balcova**	**2.34**	**337**	*e*Pn	**Pn**	**13 38 47.9**	**+1.2**
KHL	**Karahalli**	**2.34**	**26**	*e*PN	**Pn**	**13 38 48.5**	**+1.7**
KHL	**Karahalli**	**2.34**	**26**	*e*Pn	**Pn**	**13 38 48.5**	**+1.7**
AKS	**Akhisar**	**2.66**	**354**	*e*PN	**Pn**	**13 38 52.3**	**+1.3**
AKS	**Akhisar**	**2.66**	**354**	*e*Pn	**Pn**	**13 38 52.3**	**+1.3**
CHOS	**Chios island**	**2.75**	**322**	*e*PN	**Pn**	**13 38 54.4**	**+2.2**
CHOS	**Chios island**	**2.75**	**322**	*e*P	**Pn**	**13 38 54.0**	**+1.8**
CHOS	**Chios island**	**2.75**	**322**	*e*P	**Pn**	**13 38 54.0**	**+1.8**
CHOS	**Chios island**	**2.75**	**322**	*e*Pn	**Pn**	**13 38 54.4**	**+2.2**
DURS	**Dursunbey**	**3.37**	**4**	*i* P	**Pn**	**13 39 01.5**	**+0.8**
DURS				*i* S	**Sn**	**13 39 37.2**	**-2.5**
DURS	**Dursunbey**	**3.37**	**4**	*i* P	**Pn**	**13 39 01.5**	**+0.8**
DURS				*i* S	**Sn**	**13 39 37.2**	**-2.5**
KIZT	**Kizilcal**	**3.94**	**47**	*e*PN	**Pn**	**13 39 10.7**	**+2.2**
KIZT	**Kizilcal**	**3.94**	**47**	*e*Pn	**Pn**	**13 39 10.7**	**+2.2**
LEF	**Lefka**	**3.98**	**105**	*e*PN	**Pn**	**13 39 10.6**	**+1.7**
LEF	**Lefka**	**3.98**	**105**	*e*Pn	**Pn**	**13 39 10.6**	**+1.7**
SLUM		**5.34**	**209**	S	**Sn**	**13 40 24.5**	**-3.1**
AMAG	**Maghara**	**6.97**	**142**	P	**Pn**	**13 39 49.8**	**+0.1**
KOT	**Kottamia**	**6.99**	**153**	P	**Pn**	**13 39 51.0**	**+1.1**
RSH		**6.99**	**137**	P	**Pn**	**13 39 50.8**	**+0.8**
HHAG	**Hagoal**	**7.06**	**151**	P	**Pn**	**13 39 52.5**	**+1.5**
GLL	**Jalalah**	**7.26**	**155**	P	**Pn**	**13 39 54.2**	**+0.5**
SUZ		**7.46**	**147**	P	**Pn**	**13 39 56.9**	**+0.4**
TIRR	**Tirgusor**	**8.22**	**1**	S	**Pn**	**13 40 05.3**	**-1.3**
TLB	**Topalu**	**8.35**	**359**	||*i*P	**Pn**	**13 40 06.1**	**-2.3**
CFR	**Carcaliu**	**8.94**	**360**	||*i*P	**Pn**	**13 40 14.1**	**-2.3**
HFRF	**Wahat Farafira**	**9.06**	**179**	P	**Pn**	**13 40 18.8**	**+0.6**

*NIED **31** 13:38:00, 25°.90N×128°.60E, h17km, Mw4.5 Best double couple: M0:6.03000×10^15 NP1:ϕs228.00000°, δ79.00000°, λ-8.00000°. NP2:ϕs319.00000°, δ82.00000°, λ-169.00000°.*

*IDC **31** 13:38:46.4±0.6, 25°.97N×128°.47E, h0km, mb4.3/22, mb1 4.3/26, mb1mx4.2/46, mbtmp4.2/26, ML3.3/4, MS3.7/15, Ms1 3.7/15, ms1mx3.5/35, Error ellipse: s-maj=18.6km s-min=13.5km az=90.0*

*ISCJB **31** 13:38:48.1±0.7, 25°.90N±0°.03×128°.53E±0°.03, h27km±4km, mb4.3/44, MS3.8/17, Error ellipse: s-maj=5.9km s-min=3.5km az=136.2*

*BJI **31** 13:38:48.3, 25°.97N×128°.34E, h19km, mB4.6/35, mb4.4/44, Ms4.4/40, Ms7 4.2/39*

*NEIC **31** 13:38:48.2±0.5, 25°.93N×128°.39E, h10km, mb4.6/11, MW4.5(NIED), Error ellipse: s-maj=12.3km s-min=6.9km az=133.0*

NEIC Felt at Gushikawa and Naha, Okinawa.

*JMA **31** 13:38:48.2±0.3, 25°.95N×128°.63E, h24km, M4.7*

*MOS **31** 13:38:49.8±1.1, 25°.99N×128°.39E, h33km, mb4.6/23, Error ellipse: s-maj=12.1km s-min=7.1km az=101.7*

ISC 31 13:38:50.2±0.6, 26°.01N±0°.05×128°.39E±0°.04, h22km±3km, h22km:pP-P, n134, σ2$01/168, mb4.4/44, MS3.8/17, 5C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.59**	**282**	P	**Pn**	**13 39 03.6**	**+0.4**
JJT2				S	**Sn**	**13 39 14.4**	**+2.2**
JNTH	**Nagotoyohara**	**0.60**	**327**	P	**Pb**	**13 39 02.7**	**+0.6**
JNTH				S	**Sn**	**13 39 13.5**	**+1.0**
JOW	**Kunigami**	**0.82**	**353**	P	**Pb**	**13 39 05.6**	**-0.2**
JOW				S	**Sn**	**13 39 18.1**	**+0.1**
JOW	**Kunigami**	**0.82**	**353**	*e*Pn	**Pb**	**13 39 05.6**	**-0.2**
JIH	**Iheya**	**1.09**	**340**	P	**Pb**	**13 39 10.7**	**+0.4**
JAGN	**Aguni-jima**	**1.18**	**299**	P	**Pb**	**13 39 12.3**	**+0.4**
JAGN				S	**Sn**	**13 39 30.5**	**+3.7**
JOKE	**Okinoerabujima**	**1.35**	**7**	P	**Pn**	**13 39 13.0**	**-0.8**
JOKE				S	**Sn**	**13 39 30.1**	**-1.0**
JKE	**Kume jima 2**	**1.48**	**283**	P	**Pn**	**13 39 15.8**	**+0.4**
JTK	**Tokunoshima**	**1.84**	**16**	P	**Pn**	**13 39 19.3**	**-1.1**
JAMN	**Amaminishikomi**	**2.33**	**17**	P	**Pn**	**13 39 26.5**	**-0.7**
JMZ	**Minamidaito 2**	**2.56**	**94**	P	Pn	13 39 26.3	-4.0
JMZ				*e*S	Sn	13 39 52.6	-8.1
JAM	**Amami Oshima**	**2.62**	**24**	P	**Pn**	**13 39 30.3**	**-0.9**
JOGS	**Gusukube**	**2.97**	**246**	P	**Pn**	**13 39 36.6**	**+0.6**
JOGS				*e*S	**Sn**	**13 40 11.6**	**+0.6**
JIKM	**Ikemajima**	**3.04**	**250**	P	**Pn**	**13 39 37.3**	**+0.4**
JIKM				*e*S	**Sn**	**13 40 13.1**	**+0.4**
JMJ	**Miyako jima 2**	**3.04**	**248**	P	**Pn**	**13 39 37.8**	**+0.8**
JMJ				*e*S	**Sn**	**13 40 10.1**	**-2.7**
JIRB	**Irabujima**	**3.14**	**249**	P	**Pn**	**13 39 38.4**	**+0.1**
JIRB				*e*S	**Sn**	**13 40 16.2**	**+1.1**
JTAJ	**Takarajima**	**3.21**	**13**	P	**Pn**	**13 39 39.7**	**+0.4**
JTJ	**Tarama**	**3.61**	**249**	P	**Pn**	**13 39 44.4**	**-0.3**
JTJ				*e*S	**Sn**	**13 40 25.5**	**-1.1**
JISG	**Ishigakijimahi**	**3.96**	**250**	P	**Pn**	**13 39 48.5**	**-1.0**
JIJ	**Ishigaki jima**	**4.18**	**248**	P	**Pn**	**13 39 51.6**	**-1.1**
JKRS	**Kuro-shima**	**4.35**	**247**	P	**Pn**	**13 39 54.2**	**-0.7**
JKRS				*e*S	**Sn**	**13 40 42.0**	**-2.9**
IRIF	**Iriomote-Funau**	**4.54**	**249**	P	**Pn**	**13 39 57.7**	**+0.1**
YOJ	**Yonaguni jima**	**5.11**	**254**	*e*P	**Pn**	**13 40 04.4**	**-1.0**
YOJ	**Yonaguni jima**	**5.11**	**254**	*e*Pn	**Pn**	**13 40 04.4**

680nm,15.5s
CD2 LE
620nm,14.3s
CD2 LZ
740nm,13.1s
SLVN Son La 22.89 263 *e*P **P 13 43 52.9 +0.4**
4.8nm,0.8s
HABR Khabarovsk 23.02 11 *e*P **P 13 43 51.2 -2.4**
HABR *e**PP **pP 13 44 00.1 +0.3**
HABR *e**SP **sP 13 44 04.4 +1.8**
HABR *e*PPP PPP 13 44 23.9
HABR *e*S **S 13 47 57.8 -5.1**
HABR *e**SS **sS 13 48 13.4 -0.3**
HABR *e*SSS SSS 13 48 44.4
HABR *e* 13 55 03.1
HABR pmax pmax
comp=Z,7.0nm,1.5s
HABR MLR MLR
comp=Z,280nm,20.0s
KMI Kunming 23.15 273 P **P 13 43 57.8 +2.4**
KMI PMZ
comp=Z,20nm,1.1s
LZH Lanzhou 23.25 302 *e*P **P 13 43 56.0 -0.2**
LZH pP **pP 13 44 01.0 -1.5**
LZH sP **sP 13 44 02.5 -2.8**
LZH S **S 13 48 04.0 -3.4**
LZH sS sS 13 48 10.3 -7.9
LZH SS **SnSn 13 48 47.5 +5.7**
LZH PMZ
comp=Z,29nm,1.1s
LZH PMZ
comp=Z,190nm,4.0s
LZH LN
comp=Z,430nm,12.1s
LZH LE
comp=Z,370nm,13.5s
LZH LZ
comp=Z,480nm,13.4s
KLR Kul'dur 23.33 6 *e*P **P 13 43 52.3 -4.4**
KLR MLR MLR
comp=N,500nm,12.5s
KLR MLR MLR
comp=Z,1μm,12.5s
YSS Yuzh-Sakhalins 23.80 25 *e*P **P 13 44 03.0 +1.6**
YSS *e* 13 44 10.9
YSS *e* 13 44 17.0
YSS pmax pmax
comp=Z,50nm,1.1s
YSS Yuzh-Sakhalins 23.80 25 *e*P **P 13 44 02.9 +1.6**
comp=Z,128nm,1.0s
GTA Gaotai 27.38 306 *e*P **P 13 44 33.5 -0.5**
GTA pP **pP 13 44 42.5 +1.9**
GTA sP **sP 13 44 46.5 +3.1**
GTA S **S 13 49 17.8 +4.8**
GTA PMZ
comp=Z,34nm,0.8s
GTA PMZ
comp=Z,120nm,6.4s
GTA LN
comp=Z,430nm,13.3s
GTA LE
comp=Z,260nm,12.6s
GTA LZ
comp=Z,490nm,12.8s
ULN Ulaanbaatar 27.52 328 *e*P **P 13 44 34.4 -0.8**
ULN pmax pmax
comp=Z,13nm,1.2s
ULN Ulaanbaatar 27.52 328 P **P 13 44 34.4 -0.8**
comp=Z,7.8nm,0.9s
SONM Songino Array 27.81 327 P **P 13 44 37.5 -0.4**
comp=Z,8.3nm,1.0s,baz=140,slow=10,SNR=46
SONM LR LR 13 55 59.4
comp=Z,67nm,18.8s,baz=133,slow=37
CMAR Chiang Mai Arr 28.23 261 *ce*P P 13 44 45.5 +3.8
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 28.23 261 P **P 13 44 43.8 +2.0**
comp=Z,2.5nm,0.9s,baz=55,slow=7.4,SNR=17
JAY Jayapura 30.76 155 LR LR 13 56 09.1
comp=Z,100nm,18.3s,baz=244,slow=34
PETK Petropavlovsk- 34.81 31 LR LR 14 01 34.7
comp=Z,38nm,18.6s,baz=218,slow=39
YAK Yakutsk 36.02 1 *e*P **P 13 45 48.7 -0.7**
YAK pmax pmax
comp=Z,11nm,1.0s
YAK Yakutsk 36.02 1 P **P 13 45 49.2 -0.2**
comp=Z,5.6nm,0.4s,baz=144,slow=2.7,SNR=5.4
YAK Yakutsk 36.02 1 *e*P **P 13 45 49.9 +0.4**
TAPN Taplejung 36.26 281 *e*P **P 13 45 53.1 +0.8**
comp=Z,38nm,1.1s
BATI Baumata 36.29 188 P **P 13 45 50.0 -2.2**
comp=Z,18nm,0.9s,baz=301,slow=6.1,SNR=4.4
ODAN Odare 36.61 281 *e*P **P 13 45 56.1 +0.8**
comp=Z,80nm,0.8s
RAMN Ramite 37.30 281 *e*P **P 13 46 01.8 +0.7**
WMQ Urumqi 37.36 309 P **P 13 46 01.3 0.0**
WMQ pP **pP 13 46 05.0 -3.0**
WMQ sP **sP 13 46 08.0 -2.7**
WMQ PP **PnPn 13 47 28.8 +1.5**
WMQ PcP **PcP 13 48 22.0 +2.0**
WMQ S **S 13 51 47.0 -1.1**
WMQ SS **SnSn 13 54 15.8 -9.3**
WMQ PMZ
comp=Z,8.0nm,1.4s
WMQ PMZ
comp=Z,140nm,4.2s
WMQ LN
comp=Z,290nm,22.0s
WMQ LE
comp=Z,78nm,24.0s
WMQ LZ
comp=Z,98nm,19.0s
JIRN Jiri 37.56 282 *e*P **P 13 46 03.8 +0.3**
comp=Z,16nm,0.7s
GUN Gumba 37.80 283 *e*P **P 13 46 06.1 +0.6**
PKI Pulchoki 38.26 282 *e*P **P 13 46 09.9 +0.6**
comp=Z,45nm,0.9s
PKIN Phulchoki 38.27 282 *e*P **P 13 46 09.9 +0.5**
KKN Kakani 38.34 283 *e*P **P 13 46 10.8 +0.9**
comp=Z,36nm,0.9s
DMN Daman 38.52 282 *e*P **P 13 46 12.2 +0.7**
comp=Z,44nm,1.1s
SEY Seymchan 40.19 17 P **P 13 46 25.6 +1.1**
comp=Z,0.7nm,0.3s,baz=211,slow=6.6,SNR=7.2
MKAR Makanchi Array 41.79 312 *i* P **P 13 46 38.4 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 41.79 312 P **P 13 46 37.0 -1.0**
comp=Z,1.8nm,0.6s,baz=98,slow=11,SNR=22
ZALV Zalesovo Beam 42.51 323 *i* P **P 13 46 44.2 +0.5**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 42.51 323 P **P 13 46 42.0 -1.8**
comp=Z,1.0nm,0.5s,baz=109,slow=8.3,SNR=7.0
ZALV LR LR 14 06 55.9
comp=Z,105nm,18.2s,baz=68,slow=40
KURK Kurchatov 45.08 317 P **P 13 47 03.9 -0.5**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 45.08 317 *e*P **P 13 47 04.1 -0.3**
KURBB Kurchatov Arra 45.11 317 P **P 13 47 03.9 -0.8**
comp=Z,4.7nm,1.0s,baz=104,slow=8.2,SNR=25
KSH Kashi 45.49 301 *e*P **P 13 47 11.0 +2.9**
KSH sP **sP 13 47 18.0 +0.4**
KSH PP **PP 13 48 59.0 +4.4**
KSH S **S 13 53 51.8 +2.9**
KSH ScS **ScS 13 57 03.8 +0.2**
KSH SS **SS 13 57 06.8 -5.7**
KSH PMZ
comp=Z,2.0nm,0.6s
KSH PMZ
comp=Z,76nm,4.5s
KSH LN
comp=Z,140nm,6.4s
KSH LE
comp=Z,69nm,4.2s
KSH LZ
comp=Z,120nm,4.8s
TIXI Tiksi 45.67 0 *e*P **P 13 47 09.0 +0.2**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 45.67 0 *e*P **P 13 47 08.5 -0.3**
comp=Z,3.5nm,0.8s
TKM2 Tokmak 2 45.92 305 *e*P **P 13 47 13.2 +1.7**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 45.92 305 *e*P **P 13 47 13.2 +1.7**
comp=Z,5.5nm,0.8s
WRA Warramunga Arr 46.04 172 P **P 13 47 11.2 -1.2**
comp=Z,6.5nm,0.8s,baz=353,slow=8.4,SNR=29
AAK Ala-Archa 46.71 305 *e*P **P 13 47 18.3 +0.6**
AAK pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 46.71 305 P **P 13 47 18.6 +0.9**
comp=Z,0.5nm,0.3s,baz=119,slow=10,SNR=3.0
BILL Bilibino 47.83 18⇑ *i*P **P 13 47 26.7 +0.8**
BILL *e* 13 49 18.9
BILL *e*S S 13 54 29.1 +7.9
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 47.83 18 *e*P **P 13 47 26.6 +0.8**
comp=Z,8.1nm,1.0s
KKAR Karatay Array 49.65 306 *e*P **P 13 47 40.7 +0.4**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 49.65 306 *e*P **P 13 47 40.7 +0.4**
comp=Z,3.1nm,0.8s
ASAR Alice Springs 49.67 173 P **P 13 47 40.5 +0.1**
comp=Z,3.5nm,0.8s,baz=0.2,slow=7.9,SNR=28
BVAR Borovoye Array 50.53 318 P **P 13 47 47.0 +0.3**
BVAR Borovoye Array 50.53 318 P **P 13 47 47.0 +0.3**
comp=Z,3.4nm,0.7s,baz=81,slow=8.4,SNR=19
KBL Kabul 51.33 295 *e*P **P 13 47 54.5 +1.3**
KBL pmax pmax
comp=Z,6.0nm,0.6s
KBL Kabul 51.33 295 *e*P **P 13 47 54.5 +1.3**
comp=Z,5.5nm,0.6s
ABKAR Akbulak array 56.90 313 *e*P **P 13 48 33.6 +0.2**
comp=Z,6.1nm,0.8s
ARU Arti 57.65 322 *c i*P **P 13 48 38.5 -0.1**
ARU 13 50 45.4
ARU S **S 13 56 34.1 -1.5**
ARU SS **SS 14 00 22.1 -3.5**
ARU pmax pmax
comp=Z,11nm,1.7s
ARU MLR MLR
comp=Z,213nm,17.0s
GEYT Alibeck 59.52 300 P **P 13 48 52.4 +0.4**
comp=Z,1.1nm,0.3s,baz=144,slow=2.8,SNR=6.1
GEYT LR LR 14 17 53.4
comp=Z,71nm,19.1s,baz=35,slow=39
COLA College 64.14 28 *e*P **P 13 49 24.4 +1.9**
COLA pmax pmax
comp=Z,12nm,1.2s
ILAR Eielson Array 64.56 28 P **P 13 49 25.2 -0.1**
comp=Z,0.4nm,0.6s,baz=265,slow=4.3,SNR=7.3
ILAR LR LR 14 20 06.7
comp=Z,74nm,18.1s,baz=150,slow=38
ZEI Tsey 68.97 308 *e*P **P 13 49 53.2 -0.9**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
INK Inuvik 69.03 23 P **P 13 49 52.0 -1.7**
INK Inuvik 69.03 23 P **P 13 49 52.0 -1.7**
comp=Z,0.9nm,0.8s,baz=318,slow=8.2,SNR=6.6
KBZ Khabaz 69.41 309 P **P 13 49 57.7 +1.3**
comp=Z,4.8nm,0.9s,baz=113,slow=3.5,SNR=13
KIV Kislovodsk 69.49 310 *e*P **P 13 49 56.4 -0.7**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,61nm,17.0s
KIV Kislovodsk 69.49 310 *e*P **P 13 49 58.2 +1.1**
KEV Kevo 69.69 339 *e*P P 13 50 06.7 +8.9
KEV Kevo 69.69 339 *ep* P 13 50 06.7 +8.9
comp=Z,0.2nm,0.3s
OBN Obninsk 70.09 322⇑ *e*P **P 13 50 00.0 -0.4**
OBN *e* 13 52 35.6
OBN pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 70.26 339 LR LR 14 27 06.1
comp=Z,49nm,19.2s,baz=50,slow=41
JOF Joensuu 70.30 331 *e*P **P 13 50 01.2 -0.4**
JOF pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 70.30 331 *ep* **P 13 50 01.2 -0.4**
comp=Z,1.3nm,0.5s
KAF Kangasniemi 72.76 331 *e*P P 13 50 12.1 -4.4
KAF pmax pmax
comp=Z,4.0nm,0.9s
KAF Kangasniemi 72.76 331 *ep* P 13 50 12.1 -4.4
comp=Z,3.6nm,0.9s
FINES FINESS Array B 73.12 331 P **P 13 50 18.4 -0.2**
comp=Z,3.3nm,0.8s,baz=103,slow=6.1,SNR=10
FINES LR LR 14 24 52.0
comp=Z,64nm,18.3s,baz=182,slow=38
RAYN Ar Rayn 74.02 289 *e*P **P 13 50 25.7 +1.1**
comp=Z,3.2nm,0.6s
AKASG Malin Array Be 75.79 320 P **P 13 50 34.7 +0.4**
comp=Z,4.1nm,0.7s,baz=56,slow=6.2,SNR=17
AKASG LR LR 14 26 08.5
comp=Z,114nm,18.3s,baz=45,slow=38
KIEV Kiev 75.80 320⇓ *i*P **P 13 50 33.6 -0.8**
BRTR Keskin Array B 77.28 308 *ce*P **P 13 50 44.2 +1.0**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 77.28 308 P **P 13 50 44.1 +0.9**
comp=Z,5.7nm,0.9s,baz=97,slow=5.1,SNR=22
YKA Yellowknife Ar 78.66 25 P **P 13 50 49.9 -0.3**
comp=Z,0.6nm,0.6s,baz=300,slow=5.5,SNR=11
NB2 NORSAR Subarra 79.57 334 P **P 13 50 55.3 0.0**
comp=Z,1.2nm,0.7s,baz=52,slow=5.3
NOA NORSAR Array B 79.57 334 P **P 13 50 55.1 -0.2**
comp=Z,2.4nm,0.8s,baz=52,slow=5.7,SNR=7.5
NOA LR LR 14 28 23.7
comp=Z,39nm,18.1s,baz=65,slow=37
SUMG Summit 81.26 356 *e*P P 13 51 08.0 +3.4
SUMG pmax pmax
comp=Z,7.0nm,0.6s
SUMG Summit 81.26 356 *i* P P 13 51 09.9 +5.3
comp=Z,10nm,0.9s
SUMG *i* 13 51 17.4
SUMG Summit 81.26 356 *e*P **P** 13 51 08.0 +3.4
comp=Z,6.8nm,0.6s
CLL Collm 84.41 325 *e*P **P 13 51 22.0 +1.1**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 84.41 325 *e*P **P 13 51 22.0 +1.1**
comp=Z,6.0nm,0.9s
CLL *e*pP **PcP 13 51 25.0 +0.5**
CLL *e*PP **PP 13 54 39.0 +3.6**
CLL LmH 14 26 00.0
CLL LmH 14 26 00.0
comp=N,300nm,21.5s
comp=E,300nm,20.4s
GERES GERESS Array B 85.46 323 P **P 13 51 27.8 +1.4**
comp=E,0.5nm,0.5s,baz=46,slow=3.9,SNR=4.8
GERES LR LR 14 32 40.0
comp=E,100nm,18.7s,baz=66,slow=38
PPT Papeete 90.68 109 LR LR 14 28 14.3
comp=E,44nm,19.8s,baz=293,slow=33

DDA 31 13:40:27.9,38°.27N×37°.25E,h7km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.53**	**87**	*i* P	Pg	13 40 37.0	-1.4
AKCD				*i* S	Sg	13 40 46.3	+0.9
GZT	**Gaziantep**	**0.94**	**165**	*i* P	Pg	13 40 45.6	-0.6
GZT				*i* S	Sb	13 40 59.7	+0.1

*IDC **31** 13:43:53.5±0.8,34°.34S×72°.04W,h0km,mb4.1/6, mb1 4.2/6,mb1mx4.0/21,mbtmp4.1/6,MS3.5/4,Ms1 3.4/4, ms1mx3.2/20,Error ellipse: s-maj=35.3km s-min=24.9km az=114.0*
*GUC **31** 13:43:56.9±0.4,34°.22S×72°.32W,h33km±1km,ML4.6*
*NEIC **31** 13:43:57.0,34°.23S×72°.31W,h35km,mb4.2/2, ML4.4(GUC),After GUC.*
NEIC Felt [II] in the Region Metropolitana and at San Antonio and San Fernando.

ISC 31 13:43:55.0±2.9,34°.22S±0°.04×72°.36W±0°.07,h11km±17km, n34,σ1§00/43,mb4.2/6,4C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.83**	**72**	⇓ *i*P	**Pb**	**13 44 12.1**	**+0.8**
LNV				⇓ *i*S	**Sb**	**13 44 22.8**	**+0.3**
NICH	**Los Niches**	**1.21**	**130**	*e*P	**Pn**	**13 44 18.0**	**+0.1**
NICH				*i* S	**Sb**	**13 44 33.4**	**-0.3**
TACH	**Talagante**	**1.31**	**65**	⇓ *i*P	**Pn**	**13 44 19.1**	**-0.1**
TACH				*i* S	**Sb**	**13 44 36.2**	**-0.2**
TALC	**Talca**	**1.32**	**153**⇑	*e*P	**Pn**	**13 44 19.5**	**+0.1**
TALC				*i* S	**Sb**	**13 44 36.6**	**-0.1**
IHA	**Instituto Hidr**	**1.33**	**27**⇑	*i*P	**Pn**	**13 44 19.6**	**0.0**
IHA				*i* S	**Sb**	**13 44 36.8**	**-0.3**
CHCH	**Chadas Angostu**	**1.44**	**79**	*e*P	**Pn**	**13 44 21.4**	**+0.3**
CHCH				*i* S	**Sb**	**13 44 39.8**	**-0.5**
CACH	**El Canelo**	**1.46**	**86**	⇓ *i*P	**Pb**	**13 44 22.4**	**+0.1**
CACH				⇓ *i*S	**Sg**	**13 44 41.7**	**-0.3**
SAN	**Santiago**	**1.60**	**62**	⇓ *i*P	**Pn**	**13 44 23.9**	**+0.6**
SAN				*i* S	**Sb**	**13 44 44.5**	**-0.5**
PCH	**Pirque**	**1.64**	**69**	*i* P	**Pn**	**13 44 24.7**	**+0.8**
LACH	**Col Las Americ**	**1.70**	**64**	*i* P	**Pn**	**13 44 25.4**	**+0.8**
LACH				*i* S	**Sb**	**13 44 46.9**	**-0.9**
CLCH	**Cerro Calan**	**1.72**	**62**⇑	*i*P	**Pn**	**13 44 25.7**	**+0.7**
CLCH				*i* S	**Sn**	**13 44 47.4**	**+0.3**
CLCH				AML	AML	13 44 56.1	
CLCH				AML	AML	13 44 56.8	
PEL	**Peldehue**	**1.76**	**53**	⇓ *i*P	**Pn**	**13 44 26.5**	**+1.0**
PEL				*i* S	**Sn**	**13 44 48.4**	**+0.5**
PEL				AML	AML	13 45 01.6	
SJCH	**San Jose de Ma**	**1.76**	**71**⇑	*i*P	**Pn**	**13 44 26.3**	**+0.8**
SJCH				*i* S	**Sb**	**13 44 48.5**	**-1.1**
SJCH				AML	AML	13 44 52.7	
YECH	**El Yeso**	**1.97**	**74**	AML	AML	13 44 59.0	
CFAA	**Coronel Fontan**	**4.33**	**54**	Pn	**Pn**	**13 45 03.0**	**+2.1**
CFAA				Lg	Lg	13 46 04.8	
CFAA				LR	LR	13 47 03.9	
LCO	**Las Campanas**	**5.38**	**16**	*e*Pn	**Pn**	**13 45 15.0**	**-0.5**
PLCA	**Paso Flores**	**6.66**	**168**	Pn	**Pn**	**13 45 34.9**	**+2.0**
PLCA				Lg	Lg	13 47 19.0	
PLCA				LR	LR	13 48 22.3	
TRQA	**Tornquist**	**9.22**	**117**	Pn	Pn	13 46 11.9	+4.0
LVC	**Limon Verde**	**11.95**	**16**	*e*Pn	Pn	13 46 42.8	-2.9
SIV	**San Ignacio**	**20.80**	**32**	P	**P**	**13 48 35.4**	**-1.0**
SIV				LR	LR	13 58 12.1	
SAML	**Samuel**	**26.53**	**21**	*e*P	**P**	**13 49 35.6**	**+2.8**
BDFB	**Brasilia**	**28.67**	**56**	P	**P**	**13 49 49.8**	**-2.4**
BDFB				LR	LR	14 02 30.2	
QSPA	**South Pole Qui**	**56.02**	**180**	P	**P**	**13 53 32.6**	**-0.9**
QSPA	**South Pole Qui**	**56.02**	**180**	*e*P	**P**	**13 53 32.7**	**-0.8**
TXAR	**Lajitas Array**	**69.80**	**331**	P	**P**	**13 55 07.1**	**+1.5**
DBIC	**Dimbokro**	**75.50**	**71**	P	**P**	**13 55 39.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**84.53**	**70**	P	**P**	**13 56 28.6**	**+0.1**
WRA	**Warramunga Arr**	**120.44**	**209**	PKP	**PKPdf**	**14 02 46.2**	**-1.0**
H11S2	**WAKE ISLAND Hyl**	**25.50**	**269**	T	T	16 22 09.7	
H11S1	**WAKE ISLAND Hyl**	**25.52**	**269**	T	T	16 22 10.9	
H11S3	**WAKE ISLAND Hyl**	**25.52**	**269**	T	T	16 22 11.0	
ZALV	**Zalesovo Beam**	**154.55**	**32**	PKP	**PKPdf**	**14 03 47.4**	**+0.6**
ZALV				PKPbc	**PKPbc**	**14 03 55.2**	**0.0**
ZALV				PKPab	**PKPab**	**14 04 10.2**	**+0.3**
MKAR	**Makanchi Array**	**157.11**	**49**	PKP	**PKPdf**	**14 03 51.0**	**+0.5**
MKAR				PKPab	**PKPab**	**14 04 20.0**	**-1.1**
SONM	**Songino Array**	**166.37**	**4**	PKPab	**PKPab**	**14 05 02.5**	**+1.0**

*ISCJB **31** 13:55:59.9±1.0,42°.2S±0°.2×82°.5E±0°.3,h10km,mb4.1/6, MS4.1/23,Error ellipse: s-maj=31.0km s-min=24.0km az=179.2*
*IDC **31** 13:55:59.8±1.0,42°.26S×82°.49E,h0km,mb4.0/6, mb1 4.2/6,mb1mx3.9/27,mbtmp4.0/6,MS4.1/23, Ms1 4.1/23,ms1mx4.0/31,Error ellipse: s-maj=35.3km s-min=27.3km az=87.0*
*NEIC **31** 13:56:01.5±1.0,42°.25S×82°.49E,h10km,mb4.4/1,Error ellipse: s-maj=39.2km s-min=28.4km az=106.0*
*GCMT **31** 13:56:08.0±0.3,42°.24S×82°.27E,h17km±1km,MW4.9/63, Moment Tensor Solution. s16,c17; s63,c75; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.29±.21; $M_{\theta\theta}$1.13±.13; $M_{\phi\phi}$1.16±.14; $M_{r\theta}$-0.59±.35; $M_{\theta\phi}$-1.06±.08; $M_{r\phi}$1.83±.41; Best double couple: $M_0$2.94900×10^{16} NP1:ϕ_s152.00000°,δ65.00000°,λ-77.00000°. NP2: ϕ_s303.00000°,δ28.00000°,λ-116.00000°. Principal axes: T 2.8140, Plg19.0000°, Azm232.0000°; N 0.2690, Plg12.0000°, Azm326.0000°; P -3.0830, Plg67.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 31 13:56:01.5±1.0,42°.3S±0°.2×82°.6E±0°.3,h10km,n34, σ1§16/12,mb4.3/6,MS4.2/23,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**25.66**	**84**	T	T	14 28 15.5	
baz=244,slow=75,SNR=5.4							
H01W3	**Cape Leeuwin H**	**25.66**	**84**	T	T	14 28 15.9	
baz=244,slow=75,SNR=5.1							
H01W1	**Cape Leeuwin H**	**25.67**	**84**	T	T	14 28 14.1	
baz=244,slow=75,SNR=5.0							
MAW	**Mawson**	**27.55**	**196**	LR	LR	14 09 19.9	
comp=Z,264nm,21.8s,baz=36,slow=29							
NWAO	**Narrogin (SRO)**	**28.85**	**83**	LR	LR	14 11 00.9	
comp=Z,625nm,20.1s,baz=206,slow=31							
H08S2	**Diego Garcia H**	**35.59**	**343**	T	T	14 40 31.9	
baz=167,slow=76,SNR=8.9							
H08S1	**Diego Garcia H**	**35.59**	**343**	T	T	14 40 32.0	
baz=167,slow=76,SNR=12							
H08S3	**Diego Garcia H**	**35.61**	**343**	T	T	14 40 33.3	
baz=167,slow=76,SNR=12							
LEM	**Lembang**	**41.67**	**39**	LR	LR	14 18 17.0	
comp=Z,378nm,19.2s,baz=228,slow=32							
ASAR	**Alice Springs**	**46.17**	**83**	P	**P**	**14 04 25.9**	**-0.6**
1.3nm,1.0s,baz=221,slow=8.1,SNR=6.7							
ASAR				PcP	**PcP**	**14 06 02.3**	**0.0**
0.8nm,1.0s,baz=230,slow=3.2,SNR=4.8							
ASAR				LR	LR	14 21 48.0	
comp=Z,762nm,19.6s,baz=251,slow=34							
VNDA	**Vanda**	**46.86**	**163**	LR	LR	14 22 06.1	
comp=Z,460nm,18.4s,baz=279,slow=33							
PSI	**Prapat**	**47.23**	**23**	LR	LR	14 20 33.8	
comp=Z,370nm,19.9s,baz=232,slow=31							
BOSA	**Boshof**	**47.79**	**267**	LR	LR	14 21 09.5	
comp=Z,356nm,18.5s,baz=144,slow=32							
QSPA	**South Pole Qui**	**47.91**	**180**	P	**P**	**14 04 39.7**	**0.0**
1.6nm,0.6s,baz=294,slow=1.6,SNR=11							
QSPA	**South Pole Qui**	**47.91**	**180**	*e*P	**P**	**14 04 40.1**	**+0.4**
1.9nm,0.6s							
BATI	**Baumata**	**48.04**	**61**	LR	LR	14 21 41.3	
comp=Z,315nm,21.0s,baz=232,slow=32							
WRA	**Warramunga Arr**	**48.76**	**79**	P	**P**	**14 04 48.1**	**+1.5**
3.0nm,0.9s,baz=232,slow=8.1,SNR=9.7							
WRA				LR	LR	14 23 11.7	
comp=Z,259nm,19.8s,baz=150,slow=33							
PALK	**Pallekele**	**49.31**	**358**	LR	LR	14 21 30.9	
comp=Z,472nm,20.1s,baz=166,slow=31							
CMAR	**Chiang Mai Arr**	**62.27**	**18**	P	**P**	**14 06 24.2**	**+0.6**
1.8nm,0.9s,baz=208,slow=7.2,SNR=11							
CMAR				LR	LR	14 31 10.1	
comp=Z,63nm,18.2s,baz=209,slow=34							
GEYT	**Alibeck**	**82.85**	**341**	P	**P**	**14 08 24.9**	**-0.9**
1.1nm,0.5s,baz=151,slow=3.3,SNR=3.6							
GEYT				LR	LR	14 39 26.7	

comp=Z,52nm,20.1s,baz=230,slow=32
MKAR Makanchi Array 88.66 360 LR LR 14 46 57.7
comp=Z,76nm,18.7s,baz=183,slow=34
KSRS Korea Array 89.46 34 LR LR 14 48 24.5
comp=Z,21nm,18.4s,baz=186,slow=35
TORD Torodi Ar. Bea 92.09 286 LR LR 14 47 16.8
comp=Z,122nm,21.4s,baz=120,slow=33
SONM Songino Array 92.15 16 P **P 14 09 11.2 +0.5**
0.8nm,1.1s,baz=197,slow=4.5,SNR=3.4
SONM LR LR 14 50 18.2
comp=Z,101nm,19.6s,baz=181,slow=35
DBIC Dimbokro 92.52 277 LR LR 14 46 03.5
comp=Z,73nm,20.3s,baz=128,slow=32
MJAR Matsushiro Arr 93.43 42 LR LR 14 53 47.7
comp=Z,19nm,18.3s,baz=155,slow=37
PLCA Paso Flores 93.89 200 LR LR 14 51 22.9
comp=Z,102nm,19.2s,baz=180,slow=35
AKTO Aktyubinsk 94.76 345 LR LR 14 48 36.1
comp=Z,31nm,20.3s,slow=33
BVAR Borovoye Array 95.47 353 LR LR 14 48 22.8
comp=Z,66nm,20.9s,baz=196,slow=33
ZALV Zalesovo Beam 95.84 1 LR LR 14 51 12.3
comp=Z,66nm,18.1s,baz=248,slow=35
USRK Ussuriysk Ar. 96.78 33 LR LR 14 49 47.6
comp=Z,50nm,21.8s,baz=183,slow=33
ILAR Eielson Array 144.31 34 PKP **PKPab 14 15 34.0 -0.7**
0.3nm,0.9s,baz=264,slow=5.5,SNR=4.1
INK Inuvik 147.67 24 PKPbc **PKPbc 14 15 45.6 +0.7**
1.9nm,1.0s,baz=291,slow=3.5,SNR=6.2
PDAR Pinedale Array 171.04 83 PKP **PKPdf 14 16 10.8 +0.9**
0.4nm,1.0s,baz=200,slow=4.8,SNR=2.4
PDAR PKPab **PKPab 14 17 26.7 -2.5**
0.5nm,0.9s,baz=253,slow=2.7,SNR=2.6

IDC 31 14:01:17.7±1.1, 17°.78N×119°.72E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.4/4, Error ellipse: s-maj=85.6km s-min=24.6km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.15**	**158**	P	P	14 08 55.4	-0.3
	0.9nm,1.2s,baz=344,slow=9.0,SNR=2.6						
MKAR	**Makanchi Array**	**42.23**	**322**	P	P	14 09 12.6	-0.1
	0.6nm,0.9s,baz=123,slow=7.6,SNR=4.0						
MKAR				PcP	PcP	14 11 05.7	-1.1
	0.2nm,0.4s,baz=104,slow=4.6,SNR=3.6						
ASAR	**Alice Springs**	**43.46**	**161**	P	P	14 09 22.9	+0.1
	0.3nm,0.9s,baz=337,slow=6.8,SNR=5.1						
YKA	**Yellowknife Ar**	**89.38**	**22**	P	P	14 14 16.5	+0.5
	0.2nm,0.7s,baz=308,slow=4.4,SNR=5.8						

*ISCJB **31** 14:08:54.5±0.6, 9°.21S±0°.06×124°.60E±0°.06, h10km, mb3.9/6, Error ellipse: s-maj=9.7km s-min=7.9km az=136.2*
*IDC **31** 14:08:54.4±0.8, 9°.21S×124°.55E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.8/28, mbtmp3.9/8, ML3.9/2, Error ellipse: s-maj=21.1km s-min=13.4km az=117.0*
*DJA **31** 14:09:03.8±1.9, 9°S±10°×12°4E±1°6, h49km±30km, M4.2/6, MLv4.2/6*
ISC 31 14:08:56.0±0.8, 9°.25S±0°.08×124°.51E±0°.08, h10km, n15, σ1§04/16, mb4.0/6, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.56**	**205**	P	Pn	14 09 15.1	+5.0
BATI	**Baumata**	**1.26**	**221**	P	**Pn**	**14 09 21.0**	**+1.2**
BATI				S	**Sb**	**14 09 34.7**	**-1.6**
BATI	**Baumata**	**1.26**	**221**	Pg	**Pn**	**14 09 20.9**	**+1.2**
	63nm,0.3s,baz=66,slow=0.9,SNR=54						
BATI				Lg	Lg	14 09 35.6	
	207nm,0.3s,baz=36,slow=19,SNR=40						
MMRI	**Maumere**	**2.32**	**285**	P	**Pb**	**14 09 37.1**	**-0.9**
MMRI				S	**Pb**	**14 09 37.5**	**-0.5**
EDFI	**Ende, Flores**	**2.83**	**280**	P	**Pn**	**14 09 42.4**	**+1.1**
BASI	**Baing, Sumba**	**3.99**	**256**	P	**Pn**	**14 09 59.0**	**+1.8**
WRA	**Warramunga Arr**	**14.26**	**139**	Pn	**Pn**	**14 12 18.3**	**+0.2**
	0.6nm,0.3s,baz=314,slow=15,SNR=31						
WRA				Sn	Sn	14 14 46.0	-11
	1.4nm,0.3s,baz=316,slow=24,SNR=14						
ASAR	**Alice Springs**	**16.92**	**149**	Pn	**Pn**	**14 12 54.2**	**+1.2**
	0.5nm,0.3s,baz=320,slow=11,SNR=60						
ASAR				Sn	Sn	14 15 51.0	-10
	0.4nm,0.3s,baz=319,slow=22,SNR=20						
CTA	**Charters Tower**	**23.61**	**120**	P	**P**	**14 14 06.2**	**-1.1**
	7.1nm,1.1s,baz=248,slow=16,SNR=2.6						
CMAR	**Chiang Mai Arr**	**37.34**	**318**	P	**P**	**14 16 09.2**	**+0.3**
	0.8nm,0.4s,baz=141,slow=6.9,SNR=8.3						
SONM	**Songino Array**	**59.06**	**346**	P	**P**	**14 18 56.6**	**+0.2**
	0.3nm,0.5s,baz=156,slow=10.0,SNR=4.5						
MKAR	**Makanchi Array**	**67.27**	**330**	P	**P**	**14 19 50.5**	**-0.4**
	0.5nm,0.5s,baz=130,slow=7.2,SNR=9.9						
PETK	**Petropavlovsk-**	**68.24**	**21**	P	**P**	**14 19 56.6**	**-0.2**
	1.2nm,0.8s,baz=193,slow=12,SNR=3.3						
ZALV	**Zalesovo Beam**	**71.32**	**337**	P	**P**	**14 20 15.4**	**-0.3**
	0.4nm,0.3s,baz=134,slow=6.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**123.86**	**280**	PKP	**PKPdf**	**14 27 55.1**	**-0.3**
	0.2nm,0.6s,baz=75,slow=1.4,SNR=3.0						

IDC 31 14:41:42.9±8.9, 17°.78S×69°.31W, h146km±57km, mb3.6/4, mb1 3.7/6, mb1mx3.4/19, mbtmp4.2/6, Error ellipse: s-maj=87.3km s-min=37.4km az=43.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**8.09**	**78**	P	Pn	14 43 37.5	0.0
	4.9nm,0.3s,baz=262,slow=11,SNR=30						
PTGA	**Pitinga**	**19.27**	**29**	P	P	14 45 56.5	+0.1
	3.1nm,0.3s,baz=210,slow=14,SNR=21						
BDFB	**Brasilia**	**20.51**	**87**	P	P	14 46 09.7	-0.2
	1.5nm,0.3s,baz=263,slow=17,SNR=3.2						
DBIC	**Dimbokro**	**68.09**	**75**	P	P	14 52 28.1	+0.7
	1.9nm,0.5s,baz=264,slow=4.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**76.50**	**71**	P	P	14 53 17.1	-0.2
	1.6nm,0.4s,baz=261,slow=5.8,SNR=22						
YKA	**Yellowknife Ar**	**87.57**	**341**	P	P	14 54 14.0	0.0
	0.1nm,0.4s,baz=139,slow=5.3,SNR=4.5						

*ISCJB **31** 15:08:21.3±0.5, 14°.80S±0°.06×167°.49E±0°.08, h150km, mb4.0/14, Error ellipse: s-maj=11.5km s-min=7.0km az=158.3*
*NEIC **31** 15:08:23.1±1.7, 14°.84S×167°.43E, h154km±14km, mb4.5/5, Error ellipse: s-maj=14.6km s-min=10.7km az=65.0*
*IDC **31** 15:08:24.6±2.4, 14°.83S×167°.33E, h165km±20km, mb3.8/15, mb1 3.9/17, mb1mx3.8/23, mbtmp4.2/17, MS2.9/1, Ms1 2.9/1, ms1mx2.5/29, Error ellipse: s-maj=19.7km s-min=11.6km az=66.0*
ISC 31 15:08:22.3±0.7, 14°.78S±0°.08×167°.5E±0°.1, h150km, n32, σ0§92/30, mb4.2/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.32**	**187**	P	**Pn**	**15 10 08.0**	**+1.3**
	3.1nm,0.3s,baz=23,slow=8.0,SNR=28						
DZM				S	**Sn**	**15 11 29.0**	**+0.4**
	0.9nm,0.3s,baz=131,slow=19,SNR=3.2						
DZM	**Mont Dzumac**	**7.32**	**187**	*eP*	**Pn**	**15 10 04.7**	**-2.0**
	8.4nm,0.4s						
DZM				S	**Sn**	**15 11 29.0**	**+0.4**
HNR	**Honiara**	**9.07**	**305**	P	Pn	15 10 32.1	+2.0
	9.6nm,0.3s,baz=180,slow=11,SNR=13						
HNR				S	**Sn**	**15 12 12.2**	**+1.3**
	4.8nm,0.3s,baz=15,slow=20,SNR=4.1						
HNR				LR	LR	15 13 47.7	
	comp=Z,66nm,18.8s,baz=142,slow=36						
EIDS	**Eidsvold**	**18.63**	**233**	*eP*	**Pn**	**15 12 30.3**	**-0.4**
	20nm,0.8s						
PMG	**Port Moresby**	**20.56**	**283**	P	**P**	**15 12 49.9**	**+0.4**
	8.4nm,0.8s,baz=78,slow=9.3,SNR=3.5						
CTA	**Charters Tower**	**20.91**	**252**	P	**P**	**15 12 53.8**	**+0.6**
	11nm,0.8s,baz=76,slow=12,SNR=5.8						
CTAO	**Charters Tower**	**20.91**	**252**	*eP*	**P**	**15 12 53.3**	**+0.2**
	25nm,1.4s						
URZ	**Urewera**	**24.89**	**162**	P	**P**	**15 13 32.3**	**+1.0**
	4.2nm,0.5s,baz=262,slow=3.0,SNR=8.1						
WRAB	**Tennant Creek**	**31.99**	**256**	*eP*	**P**	**15 14 32.9**	**-1.7**
WRA	**Warramunga Arr**	**32.00**	**256**	P	**P**	**15 14 32.9**	**-1.8**
	1.3nm,0.6s,baz=84,slow=9.1,SNR=16						
ASAR	**Alice Springs**	**32.84**	**249**	P	**P**	**15 14 40.6**	**-1.3**
	1.9nm,0.4s,baz=75,slow=9.3,SNR=34						

ASAR				PcP	**PcP**	**15 17 23.6**	**+0.2**
	0.3nm,0.6s,baz=71,slow=4.0,SNR=4.3						
VNDA	**Vanda**	**62.81**	**181**	P	**P**	**15 18 32.4**	**+0.9**
	2.9nm,0.6s,baz=355,slow=8.0,SNR=21						
SBA	**Scott Base**	**63.09**	**180**	*eP*	P	15 18 34.8	+1.5
	6.6nm,0.8s						
PETK	**Petropavlovsk-**	**68.13**	**354**	P	P	15 19 07.4	+1.5
	3.4nm,0.8s,baz=169,slow=5.9,SNR=5.0						
CMAR	**Chiang Mai Arr**	**75.15**	**294**	P	**P**	**15 19 48.5**	**-0.1**
	0.6nm,0.7s,baz=131,slow=4.5,SNR=4.4						
QSPA	**South Pole Qui**	**75.25**	**180**	P	**P**	**15 19 49.0**	**+0.5**
	5.2nm,0.7s,baz=76,slow=2.3,SNR=15						
QSPA	**South Pole Qui**	**75.25**	**180**	*eP*	**P**	**15 19 48.9**	**+0.4**
	8.8nm,1.1s						
SONM	**Songino Array**	**82.65**	**324**	P	P	15 20 30.1	+1.0
	0.5nm,0.5s,baz=141,slow=9.0,SNR=6.8						
ILAR	**Eielson Array**	**86.52**	**18**	P	**P**	**15 20 47.2**	**-0.7**
	0.9nm,0.7s,baz=227,slow=4.1,SNR=9.9						
SNAA	**Sanae**	**93.51**	**183**	P	**P**	**15 21 20.5**	**-0.3**
VNA3	**Neumayer Olymp**	**94.17**	**181**	P	**P**	**15 21 22.8**	**-0.9**
VNA2	**Neumayer--Watz**	**94.43**	**182**	P	**P**	**15 21 24.9**	**0.0**
	baz=184,slow=4.8						
TXAR	**Lajitas Array**	**96.13**	**61**	P	**P**	**15 21 33.3**	**-0.3**
	0.1nm,0.4s,baz=300,slow=3.8,SNR=2.8						
MKAR	**Makanchi Array**	**97.37**	**316**	P	Pdif	15 21 38.9	+0.2
	0.7nm,0.8s,baz=94,slow=6.6,SNR=7.0						
YKA	**Yellowknife Ar**	**97.50**	**27**	P	Pdif	15 21 39.7	+0.8
	0.1nm,0.5s,baz=263,slow=4.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**97.55**	**324**	P	Pdif	15 21 38.8	-0.5
	1.0nm,0.7s,baz=129,slow=4.7,SNR=5.8						
ARCES	**ARCESS Array B**	**120.35**	**345**	PKP	**PKPdf**	**15 26 55.5**	**+0.3**
	1.3nm,0.4s,baz=74,slow=2.3,SNR=37						
BOSA	**Boshof**	**123.46**	**220**	PKP	**PKPdf**	**15 27 01.6**	**-1.1**
	5.0nm,1.1s,baz=0.0,slow=5.1,SNR=2.5						
FINES	**FINESS Array B**	**125.84**	**338**	PKP	**PKPdf**	**15 27 06.6**	**+0.7**
	1.6nm,0.9s,baz=5.7,slow=1.4,SNR=4.7						
NOA	**NORSAR Array B**	**130.72**	**345**	PKP	**PKPdf**	**15 27 15.4**	**+0.1**
	0.4nm,0.6s,baz=27,slow=2.0,SNR=2.4						
KEST	**Kesra**	**151.37**	**321**	PKPbc	**PKPbc**	**15 27 59.8**	**+0.9**
	0.7nm,0.4s,baz=165,slow=4.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**166.10**	**265**	PKP	**PKPdf**	**15 28 10.7**	**+0.3**
	0.3nm,0.7s,baz=318,slow=2.8,SNR=4.1						
TORD				PKPab	**PKPab**	**15 29 11.8**	**0.0**
	0.7nm,0.8s,baz=99,slow=4.1,SNR=3.5						

*ISCJB **31** 15:20:08.5±0.5, 13°.50N±0°.05×120°.8E±0°.1, h134km±4km, mb3.5/7, Error ellipse: s-maj=17.9km s-min=8.5km az=4.3*
*IDC **31** 15:20:09.1±0.7, 13°.66N×121°.12E, h134km±5km, mb3.1/6, mb1 3.3/6, mb1mx3.1/39, mbtmp3.5/6, Error ellipse: s-maj=45.5km s-min=13.5km az=65.0*
*MAN **31** 15:20:10, 13°.53N×120°.70E, h97km, mb4.5, ML3.4, MS3.3*
ISC 31 15:20:08.8±0.8, 13°.49N±0°.05×120°.69E±0°.09, h122km±6km, n17, σ2§21/21, mb3.5/7, 3C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.26**	**88**	⇑*eP*	**Pn**	**15 20 26.8**	**+0.9**
PGP				*i* S	**Sn**	**15 20 39.8**	**+1.0**
LUBP	**Lubang**	**0.49**	**299**	*eP*	**Pn**	**15 20 28.2**	**+1.3**
LUBP				*eS*	**Sn**	**15 20 35.3**	**-5.3**
TGY	**Tagaytay City**	**0.65**	**22**	P	**Pn**	**15 20 29.3**	**+1.2**
	669nm,0.3s,baz=163,slow=1.6,SNR=42						
TGY				S	**Sn**	**15 20 44.8**	**+2.1**
	174nm,0.3s,baz=160,slow=23,SNR=6.4						
TGY	**Tagaytay City**	**0.65**	**22**	⇑*iP*	**Pn**	**15 20 29.3**	**+1.2**
SJMP	**San Jose**	**1.11**	**158**	*eP*	**Pn**	**15 20 33.9**	**+1.8**
SJMP				*eS*	**Sn**	**15 20 45.4**	**-4.4**
BUSP	**Coron**	**1.56**	**198**	*eP*	**Pn**	**15 20 39.0**	**+1.9**
BUSP				*eS*	**Sn**	**15 20 58.8**	**+0.2**
OTRP	**Odiongan**	**1.72**	**131**	*eP*	**Pn**	**15 20 40.2**	**+1.2**
PCPH	**Palayan**	**2.10**	**11**	⇑*eP*	**Pn**	**15 20 44.0**	**+0.4**
BALP	**Baler**	**2.40**	**21**	*eP*	**Pn**	**15 20 48.6**	**+1.2**
ENPP	**El Nido**	**2.58**	**209**	*eP*	Pn	15 20 52.7	+2.9
CMAR	**Chiang Mai Arr**	**21.47**	**286**	P	**P**	**15 24 50.6**	**+2.9**
	0.5nm,0.7s,baz=93,slow=8.6,SNR=6.3						
BATI	**Baumata**	**23.73**	**173**	P	**P**	**15 25 10.7**	**+0.8**
	18nm,0.3s,baz=350,slow=1.7,SNR=9.0						
WRA	**Warramunga Arr**	**35.84**	**158**	P	**P**	**15 26 55.5**	**-1.4**
	0.4nm,0.3s,baz=333,slow=9.9,SNR=24						
SONM	**Songino Array**	**36.25**	**344**	P	**P**	**15 26 59.1**	**-1.2**
	0.2nm,0.5s,baz=162,slow=9.3,SNR=3.3						
ASAR	**Alice Springs**	**39.13**	**161**	P	**P**	**15 27 23.9**	**-0.6**
	0.5nm,0.5s,baz=336,slow=7.1,SNR=8.4						
MKAR	**Makanchi Array**	**46.19**	**324**	P	**P**	**15 28 21.9**	**+0.5**
	0.2nm,0.3s,baz=115,slow=8.1,SNR=7.9						
ZALV	**Zalesovo Beam**	**49.23**	**333**	P	**P**	**15 28 43.4**	**-1.3**
	0.5nm,0.4s,baz=123,slow=7.3,SNR=3.6						

IDC 31 15:27:36.4±22.0, 3°.64S×150°.68E, h359km±189km, mb3.1/3, mb1 3.2/3, mb1mx2.8/17, mbtmp3.7/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/12, Error ellipse: s-maj=186.0km s-min=62.4km az=88.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**10.85**	**122**	LR	LR	15 33 55.8	
	comp=Z,34nm,18.7s,baz=335,slow=35						
WRA	**Warramunga Arr**	**22.73**	**223**	P	P	15 32 09.2	+0.4
	2.2nm,0.3s,baz=47,slow=9.9,SNR=44						
ASAR	**Alice Springs**	**25.67**	**218**	P	P	15 32 34.4	-0.8
	0.2nm,0.5s,baz=50,slow=8.1,SNR=5.4						
ZALV	**Zalesovo Beam**	**79.03**	**327**	P	P	15 39 01.5	+0.1
	0.4nm,0.4s,baz=104,slow=6.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**147.94**	**289**	PKPbc	PKPbc	15 46 40.1	-0.8
	0.2nm,0.4s,baz=55,slow=2.2,SNR=7.3						

*IDC **31** 15:28:24.5±3.3, 33°.84S×178°.91W, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, ML4.3/1, Error ellipse: s-maj=73.6km s-min=36.8km az=116.0*
ISC 31 15:28:23.9±2.5, 34°.2S±0°.2×178°.0W±0°.3, h35km, n14, σ1§65/20, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.68**	**218**	PN	**Pn**	**15 29 35.0**	**+3.0**
PUZ	**Puketiti**	**4.95**	**217**	*e*PN	**Pn**	**15 29 36.5**	**+0.7**
PUZ				*e*SN	**Sn**	**15 30 31.9**	**+0.1**
HAZ	**Te Kaha**	**4.97**	**223**	*e*PN	**Pn**	**15 29 37.8**	**+1.8**
HAZ				*e*SN	**Sn**	**15 30 33.5**	**+1.3**
TWGZ	**Tauwhareparae**	**5.17**	**218**	*e*PN	**Pn**	**15 29 40.1**	**+1.3**
TWGZ				*e*SN	**Sn**	**15 30 38.4**	**+1.1**
MWZ	**Matawai**	**5.53**	**220**	*e*PN	**Pn**	**15 29 44.2**	**+0.5**
MWZ				*e*SN	**Sn**	**15 30 45.3**	**-0.8**
URZ	**Urewera**	**5.70**	**223**	Pn	**Pn**	**15 29 47.5**	**+1.4**
	8.5nm,0.3s,baz=278,slow=3.4,SNR=52						
URZ				Sn	**Sn**	**15 30 50.0**	**-0.3**
	4.2nm,0.3s,baz=82,slow=20,SNR=12						
URZ	**Urewera**	**5.70**	**223**	PN	**Pn**	**15 29 46.5**	**+0.5**
URZ				*e*SN	**Sn**	**15 30 48.5**	**-1.7**
SNGZ	**Shannon Statio**	**5.96**	**218**	*e*PN	**Pn**	**15 29 51.0**	**+1.4**
KNZ	**Kokohu**	**5.98**	**215**	*e*PN	**Pn**	**15 29 50.1**	**+0.3**
BKZ	**Black Stump Fm**	**6.69**	**220**	*e*PN	**Pn**	**15 30 00.9**	**+1.2**
PXZ	**Pawanui**	**7.16**	**214**	*e*SN	**Sn**	**15 31 22.0**	**-4.2**
ASAR	**Alice Springs**	**43.08**	**271**	P	**P**	**15 36 20.1**	**-0.6**
	0.8nm,0.7s,baz=113,slow=7.6,SNR=14						
WRA	**Warramunga Arr**	**44.40**	**276**	P	**P**	**15 36 30.2**	**-1.2**
	0.8nm,0.6s,baz=116,slow=7.6,SNR=8.1						
FINES	**FINESS Array B**	**148.67**	**338**	PKPbc	**PKPab**	**15 48 10.4**	**+0.1**
	0.5nm,0.5s,baz=41,slow=3.6,SNR=3.7						

*ISCJB **31** 15:36:51.5±0.6, 75°.83N±0°.08×135°.5E±0°.3, h10km, mb3.5/10, MS2.9/2, Error ellipse: s-maj=13.3km s-min=10.5km az=135.4*
*IDC **31** 15:36:51.8±0.9, 75°.86N×135°.47E, h0km, mb3.6/10, mb1 3.8/10, mb1mx3.6/40, mbtmp3.6/10, MS3.0/2, Ms1 3.0/2, ms1mx2.5/40, Error ellipse: s-maj=33.8km s-min=15.7km az=158.0*
ISC 31 15:36:53.6±0.7, 75°.9N±0°.1×135°.4E±0°.1, h10km, n11, σ0§79/12, mb3.4/10, New Siberian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEY	**Seymchan**	**14.23**	**147**	Pn	**P**	**15 40 23.4**	**+1.2**
	baz=0.0,slow=15,SNR=5.7						
SEY				Sn	**Sn**	**15 42 51.4**	**-1.0**
	3.7nm,0.3s,baz=166,slow=17,SNR=60						
ILAR	**Eielson Array**	**26.06**	**72**	P	**P**	**15 42 26.4**	**-0.2**
	0.8nm,1.0s,baz=331,slow=7.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**29.08**	**250**	P	**P**	**15 42 53.9**	**+0.2**
	0.3nm,0.4s,baz=44,slow=15,SNR=3.3						

ZALV				LR	LR	15 54 51.9	
	comp=Z,27nm,18.9s,baz=72,slow=37						
SONM	**Songino Array**	**30.59**	**220**	P	**P**	**15 43 07.7**	**+0.4**
	0.2nm,0.6s,baz=6.9,slow=11,SNR=3.6						
YKA	**Yellowknife Ar**	**34.93**	**50**	P	**P**	**15 43 44.9**	**0.0**
	0.8nm,0.8s,baz=340,slow=8.5,SNR=8.2						
MKAR	**Makanchi Array**	**36.34**	**248**	P	**P**	**15 43 55.7**	**-1.5**
	0.3nm,0.4s,baz=35,slow=3.5,SNR=3.3						
MKAR				LR	LR	15 58 51.1	
	comp=Z,21nm,19.4s,baz=26,slow=36						
NOA	**NORSAR Array B**	**38.75**	**320**	P	**P**	**15 44 17.8**	**+0.4**
	0.5nm,0.8s,baz=12,slow=7.2,SNR=2.6						
AKASG	**Malin Array Be**	**45.19**	**301**	P	**P**	**15 45 10.2**	**+0.2**
	0.1nm,0.3s,baz=12,slow=8.3,SNR=2.2						
PDAR	**Pinedale Array**	**54.58**	**55**	P	**P**	**15 46 21.8**	**0.0**
	0.2nm,0.6s,baz=15,slow=3.7,SNR=3.3						
TXAR	**Lajitas Array**	**68.74**	**53**	P	**P**	**15 47 57.0**	**-0.3**
	0.9nm,0.8s,baz=7.5,slow=4.1,SNR=11						
TORD	**Torodi Ar. Bea**	**86.89**	**315**	P	**P**	**15 49 37.9**	**-0.4**
	1.2nm,0.9s,baz=0.7,slow=5.0,SNR=6.2						

*NNC **31** 15:51:17.7±0.8, 40°.12N×71°.67E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=8.6km s-min=5.2km az=13.0*
*KRNET **31** 15:51:17.5±0.1, 40°.20N×71°.67E, h3km, mb3.8*
ISC 31 15:51:17.3±1.5, 40°.21N±0°.04×71°.64E±0°.04, h8km±15km, n17, σ1§16/20, 11C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.65**	**257**	⇓*iP*	**Pb**	**15 51 31.1**	**+0.2**
	baz=258						
BTK				⇓*e*S	**Sb**	**15 51 40.4**	**+0.2**
	baz=258						
DRK	**Karamyk**	**0.74**	**170**	*i* P	**Pb**	**15 51 32.3**	**-0.3**
	baz=172						
DRK				*e*S	**Sb**	**15 51 42.0**	**-1.0**
	baz=172						
TRKS	**Terek-Say**	**1.37**	**344**	⇓*iP*	**Pn**	**15 51 43.0**	**+0.1**
	baz=344						
TRKS				⇓*e*S	**Sg**	**15 52 01.0**	**-0.3**
	baz=344						
SFK	**Sufi-Kurgan**	**1.44**	**97**	⇑P	**Pb**	**15 51 44.5**	**0.0**
	9.4nm,0.2s						
SFK				⇑S	**Sg**	**15 52 03.2**	**-0.4**
	29nm,0.2s						
ARSB	**Arslanbob**	**1.51**	**42**	*e*P	**Pg**	**15 51 47.0**	**+0.8**
	baz=41						
ARSB				*e*S	**Sg**	**15 52 06.8**	**+1.1**
	baz=41						
MNAS	**Manas**	**2.36**	**16**	⇑Pg	**Pb**	**15 52 01.7**	**+1.5**
	6.8nm,0.4s						
MNAS				⇑Lg	Lg	15 52 34.5	
	58nm,0.6s						
AML	**Almayashu**	**2.46**	**38**	P	**Pb**	**15 52 01.6**	**-0.5**
	SNR=18						
DZET	**Dzherino**	**2.59**	**238**	⇓Pg	**Pb**	**15 52 04.2**	**+0.2**
	18nm,0.5s						
DZET				⇑Lg	Lg	15 52 37.9	
	49nm,0.6s						
EKS2	**Erkin-Say**	**2.93**	**33**	P	**Pb**	**15 52 09.8**	**+0.1**
	SNR=12						
UCH	**Uchtor**	**2.96**	**46**	P	**Pb**	**15 52 09.5**	**-0.9**
	SNR=8.6						
KK31	**Karatay Array**	**3.01**	**344**	⇑Pg	**Pg**	**15 52 14.0**	**-0.9**
	4.8nm,0.3s,baz=149,slow=11,SNR=50						
KK31				⇓Lg	Lg	15 52 55.1	
	12nm,0.4s,baz=161,slow=30,SNR=8.6						
AAK	**Ala-Archa**	**3.23**	**41**	⇓Pn	**Pb**	**15 52 13.2**	**-1.8**
	4.9nm,0.8s						
AAK				⇑Lg	Lg	15 53 02.9	
	15nm,0.6s						
KBK	**Karagaybulak**	**3.48**	**44**	P	**Pb**	**15 52 17.0**	**-2.3**
	SNR=14						
TKM2	**Tokmak 2**	**4.01**	**46**	⇑Pn	Pn	15 52 23.0	+3.7
	3.7nm,0.4s						
TKM2				⇑Lg	Lg	15 53 26.6	
	5.8nm,0.6s						
TKM2	**Tokmak 2**	**4.01**	**46**	P	Pn	15 52 23.5	+4.2
	SNR=11						
PDGK	**Podgornoye**	**6.64**	**59**	⇑Pn	**Pn**	**15 52 57.2**	**+2.2**
	0.7nm,0.6s						
PDGK				⇑Lg	Lg	15 54 49.2	
	2.7nm,0.6s						
AB31	**Akbulak array**	**12.27**	**321**	⇓Pn	**Pn**	**15 54 11.5**	**-0.7**
	0.3nm,0.5s,baz=128,slow=13,SNR=9.1						
AB31				⇓Sn	Sn	15 56 19.7	-9.5
	0.7nm,0.6s,baz=126,slow=24,SNR=4.1						

GUC 31 15:52:18.5±0.6, 34°.28S×72°.17W, h37km±3km, ML3.9, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.06**	**133**	⇑*iP*	Pn	15 52 37.6	+0.9
NICH				*i* S	Sn	15 52 52.0	+1.7
TALC	**Talca**	**1.20**	**159**	⇑*iP*	Pn	15 52 39.8	+1.1
TALC				*i* S	Sn	15 52 55

DPC			Sg	Sg	16 11 34.2	+0.1
PVCC	**Panska Ves**	**1.42 226**	*e*PG	Pn	16 11 23.3	+0.3
PVCC			*e*SG	Sb	16 11 42.3	+0.3
comp=Z,349nm,0.3s						
PVCC	**Panska Ves**	**1.42 226**	Pg	Pn	16 11 23.3	+0.3
PVCC			Sg	Sb	16 11 42.3	+0.3
349nm,0.3s						
KRLC	**Kraliky**	**1.51 165**	*e*PG	Pn	16 11 24.5	+0.2
KRLC			*e*SG	Sg	16 11 44.3	-0.2
KRLC	**Kraliky**	**1.51 165**	Pg	Pn	16 11 24.5	+0.2
KRLC			Sg	Sg	16 11 44.3	-0.2
BRG	**Berggiesshubel**	**1.55 245**	PN	Pn	16 11 24.4	-0.3
BRG			PG	Pg	16 11 26.3	+0.8
BRG			SG	Sg	16 11 46.6	+1.1
280nm,0.8s						
BRG	**Berggiesshubel**	**1.55 245**	*e*Pn	Pn	16 11 24.2	-0.5
BRG			*e*Sg	Sn	16 11 45.5	+0.1
BRG	**Berggiesshubel**	**1.55 245**	Pn	Pn	16 11 24.2	-0.5
BRG			Sg	Sn	16 11 45.5	+0.1
PRA	**Prague**	**1.83 217**	*e*PG	Pn	16 11 29.0	+0.4
PRA	**Prague**	**1.83 217**	Pg	Pn	16 11 29.0	+0.4
GKP	**Gorka Klasztor**	**1.86 20**	*e*Pb	Pg	16 11 37.0	+5.5
GKP			*e*Sb	Sg	16 12 00.7	+5.1
PRU	**Pruhonice**	**1.86 214**	*e*PN	Pn	16 11 29.0	0.0
PRU			*e*PG	Pb	16 11 31.0	+0.3
PRU			*e*SG	Sg	16 11 55.6	0.0
comp=Z,107nm,0.4s						
PRU	**Pruhonice**	**1.86 214**	Pn	Pn	16 11 29.0	0.0
FBE	**Freiberg**	**1.87 252**	*e*Sg	Sg	16 11 56.0	+0.1
FBE	**Freiberg**	**1.87 252**	Sg	Sg	16 11 56.0	+0.1
MORC	**Moravsky Berou**	**1.97 153**	*e*Pn	Pn	16 11 30.7	+0.2
MORC	**Moravsky Berou**	**1.97 153**	⇓*i*P	Pn	16 11 30.7	+0.2
MORC	**Moravsky Berou**	**1.97 153**	S	Sg	16 11 59.4	+0.4
MORC	**Moravsky Berou**	**1.97 153**	⇓*i*P	Pn	16 11 30.7	+0.2
MORC			*e*Sg	Sb	16 11 57.9	+0.2
76nm,0.4s						
CLL	**Collm**	**1.99 265**	*e*Pn	Pn	16 11 30.8	0.0
CLL	**Collm**	**1.99 265**	*i* Pn	Pn	16 11 30.7	-0.1
CLL			*e*Pg	Pg	16 11 34.0	-0.1
CLL			*i*		16 11 37.1	
CLL			*i*		16 11 38.1	
CLL			*i* Sg	Sg	16 12 00.5	+0.6
comp=Z,121nm,0.9s						
CLL	**Collm**	**1.99 265**	Pn	Pn	16 11 30.8	0.0
OKC	**Ostrava-Krasne**	**2.12 143**	*e*Pn	Pn	16 11 32.3	-0.3
OKC	**Ostrava-Krasne**	**2.12 143**	*e*PN	Pn	16 11 32.2	-0.3
OKC			*e*PG	Pg	16 11 36.4	0.0
OKC			*e*SG	Sb	16 12 02.4	+0.5
comp=Z,97nm,0.5s						
OKC	**Ostrava-Krasne**	**2.12 143**	Pn	Pn	16 11 32.3	-0.3
OKC	**Ostrava-Krasne**	**2.12 143**	Pg	Pg	16 11 36.4	0.0
OKC			Sg	Sb	16 12 02.4	+0.5
comp=Z,97nm,0.5s						
CHZP	**Chorzow**	**2.18 124**	*e*Pg	Pg	16 11 39.0	+1.3
CHZP			*e*Sn	Sn	16 12 00.2	-0.9
CHZP			*e*Sg	Sg	16 12 08.6	+2.7
VRAC	**Vranov**	**2.25 173**	⇓*i*P	Pn	16 11 35.0	+0.7
VRAC	**Vranov**	**2.25 173**	S	Sb	16 12 06.8	+1.1
VRAC	**Vranov**	**2.25 173**	Pn	Pn	16 11 35.1	+0.7
comp=Z,6.7nm,0.3s,baz=354,slow=16,SNR=20						
VRAC			Pg	Pg	16 11 39.0	+0.1
comp=Z,7.3nm,0.3s,baz=352,slow=15,SNR=20						
VRAC			Lg	Lg	16 12 08.3	
comp=Z,16nm,0.3s,baz=268,slow=22,SNR=9.4						
VRAC	**Vranov**	**2.25 173**	*e*Pn	Pn	16 11 34.8	+0.5
VRAC			*e*Sg	Sb	16 12 06.6	+0.9
comp=Z,54nm,0.3s						
TREC	**Trest**	**2.28 191**	*e*PN	Pn	16 11 35.6	+0.7
TREC			*e*PG	Pg	16 11 39.4	-0.2
TREC	**Trest**	**2.28 191**	Pn	Pn	16 11 35.6	+0.7
KRUC	**Moravsky**	**2.48 176**	*e*Pn	Pn	16 11 38.1	+0.6
KRUC			*e*Sg	Sb	16 12 14.3	+1.9
comp=Z,58nm,0.5s						
TANN	**Tannenbergstha**	**2.59 246**	*e*Pn	Pn	16 11 39.9	+0.7
TANN			*e*Sg	Sg	16 12 20.6	+1.4
TANN	**Tannenbergstha**	**2.59 246**	Pn	Pn	16 11 39.9	+0.7
TANN			Sg	Sg	16 12 20.6	+1.4
OJC	**Ojcow**	**2.65 118**	*e*Pn	Pn	16 11 39.2	-0.7
OJC	**Ojcow**	**2.65 118**	*e*Pn	Pn	16 11 38.9	-1.0
OJC			*e*Pg	Pg	16 11 47.5	+0.8
OJC			*e*Sg	Sg	16 12 22.5	+1.4
OJC	**Ojcow**	**2.65 118**	Pn	Pn	16 11 39.2	-0.7
WERD	**Werda**	**2.67 247**	*e*Pn	Pn	16 11 40.5	+0.3
WERD	**Werda**	**2.67 247**	Pn	Pn	16 11 40.5	+0.3
KHC	**Kasperske Hory**	**2.92 216**	*e*PN	Pn	16 11 43.3	-0.3
KHC			*e*PG	Pb	16 11 49.7	+0.8
KHC			*e*SN	Sn	16 12 17.7	-1.7
KHC			*e*SG	Sg	16 12 28.6	-1.1
comp=Z,40nm,0.4s						
KHC	**Kasperske Hory**	**2.92 216**	Pn	Pn	16 11 43.3	-0.3
KHC	**Kasperske Hory**	**2.92 216**	Pg	Pb	16 11 49.7	+0.8
KHC			Sn	Sn	16 12 17.7	-1.7
KHC			Sg	Sg	16 12 28.6	-1.1
comp=Z,40nm,0.4s						
MOX	**Moxa**	**3.00 255**	*e*Pn	Pn	16 11 45.4	+0.6
MOX	**Moxa**	**3.00 255**	Pn	Pn	16 11 45.3	+0.6
MANZ	**Manzenberg**	**3.00 241**	*e*Pn	Pn	16 11 45.5	+0.7
MANZ	**Manzenberg**	**3.00 241**	Pn	Pn	16 11 45.5	+0.7
ROTZ	**Rotzenmuhle**	**3.08 236**	*e*Pn	Pn	16 11 46.6	+0.9
ROTZ	**Rotzenmuhle**	**3.08 236**	Pn	Pn	16 11 46.6	+0.9
GEC2	**GERESS Array S**	**3.12 211**	*e*Pn	Pn	16 11 47.2	+0.8
GEC2	**GERESS Array S**	**3.12 211**	Pn	Pn	16 11 47.2	+0.8
GERES	**GERESS Array B**	**3.12 211**	Pn	Pn	16 11 47.7	+1.2
comp=Z,1.9nm,0.3s,baz=27,slow=14,SNR=45						
GERES			Pg	Pb	16 11 53.8	+1.4
comp=Z,6.1nm,0.3s,baz=26,slow=16,SNR=60						
GERES			Sn	Sn	16 12 24.6	+0.2
comp=Z,3.9nm,0.3s,baz=29,slow=24,SNR=4.7						
GERES			Lg	Lg	16 12 35.3	
comp=Z,5.9nm,0.3s,baz=34,slow=28,SNR=5.9						
WET	**Wettzell**	**3.19 223**	*e*Pn	Pn	16 11 47.4	+0.1
WET	**Wettzell**	**3.19 223**	Pn	Pn	16 11 47.4	+0.1
NIE	**Niedzica**	**3.39 127**	*e*P	Pg	16 12 01.1	+0.2
NIE			*e*S	Sg	16 12 45.0	+0.2
VYHS	**Vyhne**	**3.50 149**	*e*Pn	Pn	16 11 51.8	+0.3
VYHS			*e*Sn	Sn	16 12 34.2	+0.6
VYHS	**Vyhne**	**3.50 149**	*e*PN	Pn	16 11 51.8	+0.3
VYHS			*e*SN	Sn	16 12 34.2	+0.6
VYHS			*e*LG	Lg	16 13 15.3	
CONA	**Conrad Observa**	**3.62 183**	⇑*i*Pn	Pn	16 11 52.7	-0.5
CONA			⇓*i*Sg	Sg	16 12 49.5	-2.5
comp=Z,37nm,0.4s						
CONA	**Conrad Observa**	**3.62 183**	Pn	Pn	16 11 52.7	-0.5
CONA			Sg	Sg	16 12 49.5	-2.5
comp=Z,37nm,0.4s						
GRA1	**Grafenberg Arr**	**3.65 242**	Pn	Pn	16 11 54.3	+0.7
GRF	**Grafenberg Arr**	**3.65 242**	*e*Pn	Pn	16 11 54.3	+0.7
STHS	**Stebnicka Huta**	**3.88 121**	*e*Pn	Pn	16 11 57.3	+0.6
STHS	**Stebnicka Huta**	**3.88 121**	*e*PN	Pn	16 11 57.3	+0.6
STHS			*e*PG	Pg	16 12 10.0	-0.1
STHS			*e*SN	Sg	16 12 58.8	-1.5
STHS			*e*LG	Lg	16 13 30.6	
MOA	**Molln**	**3.89 199**	⇑*i*Pn	Pn	16 11 57.8	+0.9
MOA			⇓*i*Sg	Sg	16 13 00.2	-0.5
comp=Z,69nm,0.8s						
MOA	**Molln**	**3.89 199**	Pn	Pn	16 11 57.8	+0.9
MOA			Sg	Sg	16 13 00.2	-0.5
comp=Z,69nm,0.8s						
CRVS	**Cervenica-Dubn**	**4.30 126**	*e*Pn	Pn	16 12 03.7	+1.1
CRVS	**Cervenica-Dubn**	**4.30 126**	*e*PN	Pn	16 12 03.7	+1.1
CRVS			*e*PG	Pg	16 12 18.6	+0.3
ARSA	**Arzberg**	**4.31 186**	⇑*i*Pn	Pn	16 12 03.1	+0.4
ARSA			⇓*i*Sg	Sg	16 13 12.7	-1.5
comp=Z,40nm,0.8s						
ARSA	**Arzberg**	**4.31 186**	Pn	Pn	16 12 03.1	+0.4
ARSA			Sg	Sg	16 13 12.7	-1.5
comp=Z,40nm,0.8s						
PSZ	**Piszkesteto**	**4.35 145**	⇓*i*P	Pn	16 12 04.6	+1.2
PSZ	**Piszkesteto**	**4.35 145**	S	Sn	16 12 58.5	+3.7
PSZ	**Piszkesteto**	**4.35 145**	⇓*i*P	Pn	16 12 04.6	+1.2
KWP	**Kalwaria Pacla**	**4.58 112**	*e*Pn	Pg	16 12 21.6	-2.1
KWP	**Kalwaria Pacla**	**4.58 112**	S	Sn	16 13 02.7	+2.3
KOLS	**Kolonicke sedl**	**4.71 121**	*e*Pn	Pn	16 12 08.5	+0.4
KOLS	**Kolonicke sedl**	**4.71 121**	*e*PN	Pn	16 12 08.5	+0.4
KOLS			*e*PG	Pg	16 12 27.2	+1.1
BLEU	**Blekinge**	**4.78 358**	P	Pn	16 12 09.6	+0.5
BLEU			S	Sn	16 13 01.9	-3.3
BLEU	**Blekinge**	**4.78 358**	P	Pn	16 12 09.6	+0.5
BLEU			S	Sn	16 13 01.9	-3.3
WATA	**Walderalm**	**5.16 217**	⇑*i*Pn	Pn	16 12 14.7	+0.2
WATA	**Walderalm**	**5.16 217**	Pn	Pn	16 12 14.7	+0.2
WTTA	**Wattenberg**	**5.20 216**	⇓*i*Pn	Pn	16 12 15.2	+0.2
WTTA	**Wattenberg**	**5.20 216**	Pn	Pn	16 12 15.2	+0.2
MOTA	**Moosalm**	**5.34 220**	⇑*i*Pn	Pn	16 12 17.5	+0.6
MOTA			⇓*i*Sg	Sg	16 13 48.1	+0.9
comp=Z,14nm,0.5s						
MOTA	**Moosalm**	**5.34 220**	Pn	Pn	16 12 17.5	+0.6
MOTA			Sg	Sg	16 13 48.1	+0.9
comp=Z,14nm,0.5s						
TRPA	**Tarpa**	**5.35 127**	⇑*i*P	Pn	16 12 17.1	+0.2
TRPA	**Tarpa**	**5.35 127**	⇑*i*P	Pn	16 12 17.1	+0.2
VXJU	**Vaexsjoe**	**5.45 353**	P	Pn	16 12 18.6	+0.4
VXJU			S	Sn	16 13 20.1	-1.4
VXJU	**Vaexsjoe**	**5.45 353**	P	Pn	16 12 18.6	+0.4
VXJU			S	Sn	16 13 20.1	-1.4
PKSM	**Moragy**	**5.57 162**	⇑*i*P	Pn	16 12 21.1	+1.1
PKSM	**Moragy**	**5.57 162**	⇑*i*P	Pn	16 12 21.1	+1.1
OSKU	**Oskarshamn**	**5.67 360**	P	Pn	16 12 21.9	+0.6
OSKU	**Oskarshamn**	**5.67 360**	P	Pn	16 12 21.9	+0.6
BYXU	**Byxelkrok**	**5.79 5**	P	Pn	16 12 24.0	+1.1
BYXU	**Byxelkrok**	**5.79 5**	P	Pn	16 12 24.0	+1.1
ASPU	**Aespoe**	**5.90 2**	P	Pn	16 12 25.3	+0.8
ASPU	**Aespoe**	**5.90 2**	P	Pn	16 12 25.3	+0.8
DAVA	**Damuels**	**5.91 226**	⇑*i*Pn	Pn	16 12 25.1	+0.4
DAVA			⇑*i*Sg	Sg	16 14 08.1	+2.6
comp=Z,13nm,0.6s						
DAVA	**Damuels**	**5.91 226**	Pn	Pn	16 12 25.1	+0.4
DAVA			Sg	Sg	16 14 08.1	+2.6
comp=Z,13nm,0.6s						
GNOU	**Gnosjoe**	**5.94 347**	P	Pn	16 12 25.1	+0.2
GNOU	**Gnosjoe**	**5.94 347**	P	Pn	16 12 25.1	+0.2
EKSU	**Eksjoe**	**6.07 356**	P	Pn	16 12 27.6	+0.8
EKSU	**Eksjoe**	**6.07 356**	P	Pn	16 12 27.6	+0.8
VSTU	**Vaestervik**	**6.14 2**	P	Pn	16 12 28.6	+0.8
VSTU	**Vaestervik**	**6.14 2**	P	Pn	16 12 28.6	+0.8
DAVOX	**Davos/Dischmat**	**6.29 223**	Pn	Pn	16 12 30.7	+0.7
comp=Z,0.5nm,0.3s,baz=45,slow=5.7,SNR=4.6						
DAVOX			Lg	Lg	16 14 17.8	
comp=Z,0.6nm,0.3s,baz=180,slow=20,SNR=3.3						
DRGR		**6.40 135**	⇓*i*P	Pn	16 12 32.5	+1.1
DRGR		**6.40 135**	⇓*i*P	Pn	16 12 32.5	+1.1
LNKU	**Linkoeping**	**6.71 357**	P	Pn	16 12 35.7	+0.1
LNKU	**Linkoeping**	**6.71 357**	P	Pn	16 12 35.7	+0.1
FKPU	**Falk**	**6.79 349**	P	Pn	16 12 37.1	+0.5
FKPU	**Falk**	**6.79 349**	P	Pn	16 12 37.1	+0.5
BZS	**Buzias**	**6.94 146**	⇓*i*P	Pn	16 12 40.7	+1.9
BZS	**Buzias**	**6.94 146**	⇓*i*P	Pn	16 12 40.7	+1.9
VIKU	**Vikbolandet**	**6.99 2**	P	Pn	16 12 40.0	+0.6
VIKU	**Vikbolandet**	**6.99 2**	P	Pn	16 12 40.0	+0.6
BURAR	**Bucovina Array**	**7.07 120**	⇑*i*P	Pn	16 12 40.3	-0.4
BURAR	**Bucovina Array**	**7.07 120**	⇑*i*P	Pn	16 12 40.3	-0.4
GZR	**Gura Zlata**	**7.55 142**	⇑*i*P	Pn	16 12 48.3	+1.0
GZR	**Gura Zlata**	**7.55 142**	⇑*i*P	Pn	16 12 48.3	+1.0
NASU	**Vaermlandsnaes**	**7.60 348**	P	Pn	16 12 48.5	+0.7
NASU	**Vaermlandsnaes**	**7.60 348**	P	Pn	16 12 48.5	+0.7
ESKU	**Eskilstuna**	**7.72 1**	P	Pn	16 12 50.8	+1.4
ESKU	**Eskilstuna**	**7.72 1**	P	Pn	16 12 50.8	+1.4
baz=176						
AKASG	**Malin Array Be**	**8.26 91**	Pn	Pn	16 12 56.0	-0.9
comp=Z,1.5nm,0.3s,baz=280,slow=12,SNR=7.3						
AKASG			Sn	Sn	16 14 25.4	-5.4
comp=Z,2.4nm,0.3s,baz=276,slow=23,SNR=6.4						
AKASG			Lg	Lg	16 15 22.6	
baz=276,slow=30,SNR=2.5						
HFS	**Hagfors**	**8.73 352**	Pn	Pn	16 13 03.8	+0.6
comp=Z,0.2nm,0.3s,baz=164,slow=14,SNR=4.8						
HFS			Sn	Sn	16 14 39.5	-2.8
comp=Z,0.2nm,0.3s,baz=172,slow=23,SNR=2.5						
NOA	**NORSAR Array B**	**9.91 346**	Pn	Pn	16 13 19.0	-0.6
comp=Z,0.2nm,0.3s,baz=164,slow=11,SNR=3.9						
NOA			Sn	Sn	16 15 06.9	-4.5
comp=Z,0.1nm,0.3s,baz=135,slow=21,SNR=2.4						
FINES	**FINESS Array B**	**11.33 25**	Pn	Pn	16 13 37.8	-1.0
comp=Z,0.2nm,0.3s,baz=213,slow=14,SNR=7.0						
FINES			Sn	Sn	16 15 39.3	-6.6
comp=Z,0.5nm,0.3s,baz=208,slow=22,SNR=6.4						
EKA	**Eskdalemuir Ar**	**12.12 296**	Pn	Pn	16 13 52.5	+2.8
baz=100,slow=13,SNR=4.0						
ARCES	**ARCESS Array B**	**18.59 10**	Pn	P	16 15 11.5	-2.8
comp=Z,0.2nm,0.3s,baz=192,slow=13,SNR=6.9						

IDC 31 16:28:45.7±5.7, 39°.32N×110°.97E, $h0^{km}$, mb3.2/3, mb1 3.4/4, mb1mx3.1/46, mbtmp3.3/4, ML2.7/1, Error ellipse: s-maj=119.3km s-min=25.6km az=84.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.14**	**340**	Pn	Pn	16 30 59.0	0.0
0.1nm,0.3s,baz=160,slow=13,SNR=10							
SONM				Lg	Lg	16 33 34.9	
0.1nm,0.3s,baz=157,slow=32,SNR=3.7							
MKAR	**Makanchi Array**	**22.16**	**299**	P	P	16 33 43.6	+0.4
0.7nm,0.9s,baz=97,slow=12,SNR=6.1							
CMAR	**Chiang Mai Arr**	**23.26**	**210**	P	P	16 33 54.6	-0.2
0.4nm,0.3s,baz=13,slow=10,SNR=4.7							
KURBB	**Kurchatov Arra**	**25.38**	**307**	P	P	16 34 14.4	0.0
0.5nm,0.7s,baz=105,slow=8.2,SNR=4.6							

GUC 31 16:38:03.6±0.8, 35°.30S×72°.78W, $h28^{km}$±22^{km}, ML3.5, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.83**	**181**	⇑*i*P	Pb	16 38 19.7	+0.2
COCH				*i* S	Sn	16 38 31.2	+0.4
TALC	**Talca**	**0.94**	**96**	⇓*i*P	Pb	16 38 21.2	-0.1
TALC				*i* S1	Sn	16 38 34.5	+1.0
TALC				AML	AML	16 38 35.9	
comp=E,5μm,0.4s							
LNCH	**Linares**	**1.10**	**120**	⇑*i*P	Pb	16 38 24.4	+0.3
LNCH				*i* S	Sb	16 38 39.9	+1.8
LNCH				AML	AML	16 38 40.5	
comp=N,3μm,0.3s							
NICH	**Los Niches**	**1.30**	**77**	*e*P1	Pb	16 38 27.4	-0.1
NICH				*i* S1	Sb	16 38 44.9	+1.2
NICH				AML	AML	16 38 51.9	
comp=E,1μm,0.5s							

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*ISCJB **31** 16:42:09.8±1.4, 12°.3S±0°.4×167°.3E±0°.2, $h200^{km}$, mb3.4/8, Error ellipse: s-maj=56.4km s-min=20.5km az=148.9*
*IDC **31** 16:42:12.0±13.0, 12°.34S×167°.36E, $h209^{km}$±124^{km}, mb3.4/8, mb1 3.6/8, mb1mx3.4/32, mbtmp3.8/8, Error ellipse: s-maj=56.1km s-min=35.6km az=167.0*
ISC 31 16:42:11.0±1.5, 12°.3S±0°.4×167°.4E±0°.3, $h200^{km}$, n10, $\sigma 0^s$60/10, mb3.4/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.57**	**252**	P	**P**	**16 48 23.5**	**-0.3**
0.3nm,0.7s,baz=82,slow=8.9,SNR=4.2							
ASAR	**Alice Springs**	**33.68**	**246**	P	**P**	**16 48 33.2**	**-0.1**
0.2nm,0.4s,baz=73,slow=9.9,SNR=9.1							
CMAR	**Chiang Mai Arr**	**74.06**	**293**	P	**P**	**16 53 26.6**	**+1.1**
0.8nm,0.9s,baz=131,slow=4.6,SNR=6.7							
SONM	**Songino Array**	**80.61**	**323**	P	**P**	**16 54 01.2**	**-0.2**
0.3nm,0.8s,baz=114,slow=6.5,SNR=3.6							
ILAR	**Eielson Array**	**84.21**	**18**	P	**P**	**16 54 19.6**	**+0.1**
2.7nm,0.6s,baz=247,slow=5.1,SNR=53							
TXAR	**Lajitas Array**	**95.04**	**61**	P	**P**	**16 55 12.2**	**+0.6**
0.1nm,0.4s,baz=243,slow=6.0,SNR=3.8							
YKA	**Yellowknife Ar**	**95.36**	**27**	P	**P**	**16 55 11.6**	**-0.5**
0.2nm,0.5s,baz=264,slow=4.8,SNR=5.2							
MKAR	**Makanchi Array**	**95.52**	**317**	P	**P**	**16 55 12.9**	**-0.3**
0.8nm,0.7s,baz=83,slow=6.9,SNR=10							
ARCES	**ARCESS Array B**	**117.94**	**346**	PKP	**PKPdf**	**17 00 32.7**	**-0.5**
2.5nm,0.8s,baz=91,slow=2.0,SNR=14							
FINES	**FINESS Array B**	**123.51**	**339**	PKP	**PKPdf**	**17 00 43.5**	**-0.6**
1.8nm,0.9s,baz=52,slow=3.4,SNR=4.6							

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*ISCJB **31** 16:52:35.9±0.7, 25°.03N±0°.09×98°.54E±0°.06, $h15^{km}$, mb3.3/6, MS3.6/1, Error ellipse: s-maj=12.6km s-min=7.9km az=12.2*
*IDC **31** 16:52:35.9±0.9, 25°.03N×98°.24E, $h0^{km}$, mb3.3/6, mb1 3.5/7, mb1mx3.3/49, mbtmp3.3/7, ML3.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/27, Error ellipse: s-maj=51.4km s-min=14.8km az=73.0*
*BJI **31** 16:52:38.7, 24°.97N×98°.36E, $h13^{km}$, ML3.5/9*
ISC 31 16:52:37.7±0.9, 25°.0N±0°.1×98°.45E±0°.0, $h15^{km}$, n9, $\sigma 1^s$12/10, mb3.4/6, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.89**	**88**	Pg	**Pg**	**16 53 52.3**	**0.0**
KMI				Sg	**Sg**	**16 54 42.0**	**-0.7**
KMI				SMN			
170nm,1.0s							
KMI				SME			
120nm,0.8s							
CMAR	**Chiang Mai Arr**	**6.57**	**176**	Pn	**Pn**	**16 54 12.8**	**-1.0**
0.5nm,0.3s,baz=352,slow=13,SNR=9.6							
CMAR				Pg	Pb	16 54 37.0	+5.2
0.9nm,0.3s,baz=351,slow=16,SNR=22							
CMAR				Lg	Lg	16 56 05.5	
1.1nm,0.3s,baz=2.0,slow=29,SNR=5.8							
WMQ	**Urumqi**	**20.69**	**338**	*e*P	**P**	**16 57 16.0**	**-1.4**
WMQ				pmax	pmax		
comp=Z,2.0nm,1.2s							
WMQ				pmax	pmax		
comp=Z,110nm,6.0s							
SONM	**Songino Array**	**23.60**	**13**	P	**P**	**16 57 48.7**	**+0.6**
comp=Z,0.3nm,0.7s,baz=190,slow=11,SNR=4.0							
MKAR	**Makanchi Array**	**25.25**	**333**	P	**P**	**16 58 03.6**	**+0.4**
comp=Z,0.5nm,0.9s,baz=147,slow=8.5,SNR=3.2							
ZALV	**Zalesovo Beam**	**30.61**	**344**	P	**P**	**16 58 51.7**	**+0.7**
comp=Z,0.2nm,0.3s,baz=133,slow=8.1,SNR=2.8							
WRA	**Warramunga Arr**	**56.73**	**139**	P	**P**	**17 02 22.4**	**+1.3**
comp=Z,0.5nm,0.8s,baz=326,slow=7.3,SNR=3.1							
WRA				LR	LR	17 29 01.1	
comp=Z,47nm,18.9s,baz=185,slow=38							
ASAR	**Alice Springs**	**59.37**	**142**	P	**P**	**17 02 41.1**	**+1.5**
comp=Z,0.2nm,0.7s,baz=331,slow=6.4,SNR=3.0							
NOA	**NORSAR Array B**	**67.11**	**328**	P	**P**	**17 03 29.8**	**-0.7**
comp=Z,0.4nm,0.7s,baz=80,slow=6.0,SNR=2.9							

GUC 31 17:00:58.8±0.3, 35°.36S×72°.97W, $h25^{km}$±7^{km}, ML3.6, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.09**	**92**	⇑*i*P	Pb	17 01 18.9	0.0
TALC				*i* S	Sn	17 01 34.3	+1.5
LNCH	**Linares**	**1.21**	**114**	*e*P1	Pn	17 01 21.0	+0.7
LNCH				*i* S1	Sn	17 01 37.9	+2.0
NICH	**Los Niches**	**1.47**	**76**	⇑*i*P	Pb	17 01 25.4	-0.1
NICH				*i* S	Sb	17 01 45.2	+1.6
CLCH	**Cerro Calan**	**2.81**	**46**	AML	AML	17 02 38.6	
comp=N,170nm,0.7s							
PEL	**Peldehue**	**2.91**	**41**	⇓*i*P	Pn	17 01 46.3	+2.7
PEL				*i* S	Sb	17 02 22.7	-2.6
PEL				AML	AML	17 02 35.8	
comp=N,204nm,0.7s							

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*MOS **31** 17:10:15.2±2.0, 46°.50N×153°.44E, $h59^{km}$, mb4.0/3, Error ellipse: s-maj=25.3km s-min=18.8km az=53.0*
*IDC **31** 17:10:16.4±8.5, 47°.16N×152°.74E, $h0^{km}$, mb3.8/5, mb1 3.7/7, mb1mx3.5/26, mbtmp3.7/7, ML3.0/1, Error ellipse: s-maj=188.7km s-min=34.0km az=142.0*
ISC 31 17:10:19.4±3.2, 46°.8N±0°.4×152°.9E±0°.3, $h35^{km}$, n18, $\sigma 0^s$47/12, mb3.9/5, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.86**	**248**	*d*PN	**Pn**	**17 11 15.8**	**-0.4**
KUR				*i* S	**Sn**	**17 12 00.3**	**0.0**
KUR				pmax	pmax		
comp=Z,101nm,0.4s							
KUR				pmax	pmax		
comp=N,17nm,0.2s							
KUR				pmax	pmax		
comp=E,19nm,0.2s							
KUR				smax	smax		
comp=N,61nm,0.3s							
KUR				smax	smax		
comp=E,31nm,0.3s							
PETK	**Petropavlovsk-**	**7.02**	**24**	Pn	Pn	17 11 56.4	-3.1
baz=183,slow=15,SNR=2.2							
ASAJ	**Asahikawa**	**7.75**	**253**	Pn	**Pn**	**17 12 10.2**	**+0.6**
comp=E,0.2nm,0.3s,baz=133,slow=19,SNR=2.6							
ERM	**Erimo**	**8.47**	**239**	*e*PN	**Pn**	**17 12 19.6**	**+0.1**
H11N2	**WAKE ISLA

TALC				*i* S		**Sn**	**17 27 03.8**	**-0.2**
CHCH	**Chadas Angostu**	**1.40**	**77**	⇑*iP*		**Pg**	**17 26 49.9**	**0.0**
CACH	**El Canelo**	**1.41**	**84**	⇓*iP*		**Pg**	**17 26 50.5**	**+0.4**
RCDM	**Rinconada Maip**	**1.46**	**58**	⇓*iP*		**Pn**	**17 26 50.0**	**+0.2**
RCDM				*i* S		**Sg**	**17 27 09.5**	**-0.4**
ROCH	**El Roble**	**1.67**	**40**	⇑*iP*		**Pn**	**17 26 53.6**	**+0.6**
ROCH				*i* S		**Sb**	**17 27 15.7**	**0.0**
ROCH				AML	AML		17 27 25.6	
	comp=N,2μm,0.4s							
LNCH	**Linares**	**1.68**	**161**	⇑*iP*		**Pb**	**17 26 54.5**	**+0.3**
LNCH				*eS*		**Sb**	**17 27 15.9**	**+0.4**
CLCH	**Cerro Calan**	**1.70**	**60**	⇑*iP*		**Pb**	**17 26 54.5**	**-0.1**
CLCH				*i* S		**Sg**	**17 27 16.9**	**-0.7**
CLCH				AML	AML		17 27 25.2	
	comp=N,3μm,0.7s							
CLCH				AML	AML		17 27 25.7	
	comp=N,4μm,0.5s							
PEL	**Peldehue**	**1.74**	**50**	⇓*iP*		**Pb**	**17 26 55.3**	**-0.1**
PEL				*i* S		**Sb**	**17 27 18.1**	**+0.6**
PEL				AML	AML		17 27 29.6	
	comp=E,4μm,0.3s							
FCH	**Farellones**	**1.91**	**61**	AML	AML		17 27 28.5	
	comp=N,3μm,0.6s							
PLCA	**Paso Flores**	**6.60**	**168**	Pn		**Pn**	**17 28 00.1**	**-0.5**
	comp=N,0.3nm,0.3s,baz=304,slow=7.3,SNR=3.6							
LPAZ	**La Paz**	**18.29**	**13**	P		**P**	**17 30 38.8**	**+0.6**
	comp=N,0.1nm,0.3s,baz=198,slow=10,SNR=6.3							
ATAH	**Atahualpa**	**27.58**	**347**	LR	LR		17 40 40.9	
	comp=N,30nm,19.2s,baz=208,slow=31							
TXAR	**Lajitas Array**	**69.87**	**331**	P		**P**	**17 37 34.9**	**+0.3**
	comp=N,0.3nm,0.5s,baz=142,slow=9.0,SNR=4.4							
TORD	**Torodi Ar. Bea**	**84.49**	**70**	P		**P**	**17 38 55.8**	**-1.2**
	comp=N,0.9nm,1.2s,baz=247,slow=5.8,SNR=2.6							
MDT	**Midelt**	**92.14**	**51**	LR	LR		18 20 53.8	
	comp=N,25nm,18.9s,baz=150,slow=36							

IDC 31 17:32:57.7±2.3, 5°.65S×147°.32E, h186km±19km, mb3.3/3, mb1 3.6/5, mb1mx3.1/34, mbtmp3.8/5, Error ellipse: s-maj=41.3km s-min=14.2km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.74**	**182**	P	Pn	17 33 57.1	+1.4
	18nm,0.3s,baz=11,slow=5.2,SNR=98						
PMG				S	Sn	17 34 40.7	-0.5
	8.0nm,0.3s,baz=258,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**19.01**	**220**	P	P	17 37 06.6	+1.0
	0.7nm,0.3s,baz=47,slow=9.5,SNR=9.6						
WRA				S	S	17 40 29.6	-2.0
	0.1nm,0.3s,baz=43,slow=20,SNR=5.0						
ASAR	**Alice Springs**	**22.09**	**214**	P	P	17 37 39.0	+1.0
	2.3nm,0.7s,baz=49,slow=8.1,SNR=41						
ASAR				S	S	17 41 30.1	+1.9
	2.0nm,0.8s,baz=33,slow=21,SNR=7.6						
VNDA	**Vanda**	**72.25**	**177**	P	P	17 44 02.8	+0.7
	0.7nm,0.6s,baz=347,slow=5.9,SNR=6.5						
ILAR	**Eielson Array**	**85.03**	**23**	P	P	17 45 10.5	-1.5
	0.4nm,0.7s,baz=264,slow=4.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**145.31**	**285**	PKPbc	PKPdf	17 52 13.7	-0.7
	0.3nm,0.5s,baz=64,slow=2.8,SNR=4.6						

*IDC **31** 17:33:13.2±1.0, 35°.56S×71°.98W, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.0/27, mbtmp4.2/6, ML3.6/2, MS2.6/3, Ms1 2.6/3, ms1mx2.6/17, Error ellipse: s-maj=33.4km s-min=27.5km az=108.0*
*ISCJB **31** 17:33:20.0±1.2, 35°.31S±0°.05×72°.1W±0°.2, h54km±9km, mb4.1/5, MS3.3/1, Error ellipse: s-maj=24.1km s-min=8.0km az=9.3*
*NEIC **31** 17:33:20.0, 35°.29S×72°.07W, h39km, mb3.8/1, After GUC. NEIC Felt [IV] Pencahue; [III] at San Clemente and Talca; [II] at Concepcion, Pichilemu, Rio Claro and San Javier.*
*GUC **31** 17:33:20.8±0.6, 35°.29S×72°.07W, h39km±4km, ML4.4*
ISC 31 17:33:21.2±1.3, 35°.30S±0°.05×72°.0W±0°.1, h51km±10km, n27, σ1§54/30, mb4.3/5, 2C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.29**	**110**	⇓*iP*		**Pn**	**17 33 29.9**	**-0.5**
TALC				*i* S		**Sn**	**17 33 36.5**	**-0.4**
LNCH	**Linares**	**0.62**	**152**	⇑*iP*		**Pn**	**17 33 33.7**	**-0.4**
LNCH				*i* S		**Sn**	**17 33 44.3**	**+1.0**
NICH	**Los Niches**	**0.67**	**64**	⇓*iP*		**Pn**	**17 33 35.2**	**+0.6**
NICH				*i* S		**Sn**	**17 33 46.0**	**+1.6**
LNV	**Longovilo**	**1.42**	**19**	*e*P1		**Pn**	**17 33 45.6**	**+0.9**
CACH	**El Canelo**	**1.63**	**44**	⇑*iP*		**Pn**	**17 33 48.9**	**+1.2**
CHCH	**Chadas Angostu**	**1.74**	**39**	⇓*iP*		**Pn**	**17 33 50.4**	**+1.3**
CLCH	**Cerro Calan**	**2.24**	**32**	*e*P		**Pn**	**17 33 57.1**	**+1.2**
CLCH				*e*S		**Sn**	**17 34 25.1**	**+2.7**
CLCH				AML	AML		17 34 41.8	
	comp=E,4μm,0.6s							
FCH	**Farellones**	**2.41**	**36**	*e*P9		Pn	17 33 52.0	-6.5
FCH				*i* S		**Sn**	**17 34 21.6**	**-5.3**
FCH				AML	AML		17 34 30.0	
	comp=E,1μm,0.4s							
CFAA	**Coronel Fontan**	**4.83**	**41**	Pn		**Pn**	**17 34 30.8**	**-0.6**
	comp=E,0.7nm,0.3s,baz=210,slow=13,SNR=14							
CFAA				Sn	Sn		17 35 36.2	+10
	comp=E,0.8nm,0.3s,baz=270,slow=20,SNR=6.4							
CFAA				LR	LR		17 36 11.1	
	comp=E,7.1nm,20.6s,baz=242,slow=35							
PLCA	**Paso Flores**	**5.54**	**169**	Pn		**Pn**	**17 34 43.0**	**+1.9**
	comp=E,1.4nm,0.3s,baz=338,slow=13,SNR=16							
PLCA				LR	LR		17 36 15.3	
	comp=E,62nm,18.5s,baz=349,slow=34							
PLCA	**Paso Flores**	**5.54**	**169**	*e*P		**Pn**	**17 34 42.7**	**+1.6**
	comp=E,20nm,0.8s							
LCO	**Las Campanas**	**6.36**	**10**	*e*P		**Pn**	**17 34 51.7**	**-1.0**
LPAZ	**La Paz**	**19.24**	**11**	P		**Pn**	**17 37 43.8**	**+0.4**
	comp=E,0.2nm,0.3s,baz=188,slow=5.7,SNR=11							
LPAZ	**La Paz**	**19.24**	**11**	*e*P		**Pn**	**17 37 43.8**	**+0.4**
	comp=E,5.2nm,0.8s							
SIV	**San Ignacio**	**21.56**	**30**	P		**P**	**17 38 05.9**	**-0.6**
	comp=E,3.8nm,0.7s,baz=229,slow=7.2,SNR=8.7							
BDFB	**Brasilia**	**29.04**	**54**	LR	LR		17 51 46.9	
	comp=E,77nm,19.0s,baz=196,slow=38							
TXAR	**Lajitas Array**	**70.90**	**331**	P		**P**	**17 44 34.2**	**+1.2**
	comp=E,0.6nm,0.6s,baz=152,slow=7.4,SNR=8.0							
DBIC	**Dimbokro**	**75.54**	**71**	P		**P**	**17 45 00.6**	**-0.1**
	comp=E,3.8nm,0.8s,baz=206,slow=7.3,SNR=5.4							
BOSA	**Boshof**	**79.42**	**117**	P		**P**	**17 45 22.1**	**-0.2**
	comp=E,3.1nm,0.8s,baz=249,slow=4.8,SNR=3.5							
TORD	**Torodi Ar. Bea**	**84.60**	**70**	P		**P**	**17 45 49.5**	**+0.1**
	comp=E,1.9nm,0.7s,baz=253,slow=4.1,SNR=12							
ILAR	**Eielson Array**	**115.38**	**333**	PKP		**PKPdf**	**17 51 55.2**	**-1.0**
	comp=E,0.2nm,0.5s,baz=96,slow=4.0,SNR=3.0							
ASAR	**Alice Springs**	**116.44**	**207**	PKP		**PKPdf**	**17 51 58.1**	**-1.6**
	comp=E,0.5nm,1.1s,baz=132,slow=1.4,SNR=3.3							
WRA	**Warramunga Arr**	**119.65**	**209**	PKP		**PKPdf**	**17 52 05.7**	**-0.3**
	comp=E,0.6nm,0.9s,baz=148,slow=1.7,SNR=5.8							
EKS2	**Erkin-Say**	**152.51**	**64**	*e*PKPbc		**PKPbc**	**17 53 12.7**	**+0.9**
ZALV	**Zalesovo Beam**	**155.28**	**34**	PKPab		**PKPab**	**17 53 33.4**	**0.0**
	comp=E,0.2nm,0.3s,baz=297,slow=4.8,SNR=3.8							
MKAR	**Makanchi Array**	**157.55**	**51**	PKPab		**PKPab**	**17 53 41.9**	**-1.7**
	comp=E,1.1nm,0.9s,baz=283,slow=3.3,SNR=7.0							
SONM	**Songino Array**	**167.42**	**5**	PKPab		**PKPab**	**17 54 26.5**	**-0.2**
	comp=E,0.4nm,0.8s,baz=304,slow=3.4,SNR=4.2							

*CRAAG **31** 17:35:36.7, 35°.51N×0°.50E, Ml3.3*
*MDD **31** 17:35:36.5±0.6, 35°.46N×0°.33E, h0km, mb3.8/8, Error ellipse: s-maj=6.7km s-min=4.4km az=175.0, PRXIMO*
*ISCJB **31** 17:35:37.1±0.8, 35°.53N±0°.06×0°.35E±0°.05, h25km±8km, Error ellipse: s-maj=9.7km s-min=7.1km az=177.6*
*CSEM **31** 17:35:37.0±0.4, 35°.51N×0°.40E, h15km, ML3.3, Error ellipse: s-maj=9.7km s-min=4.9km az=6.0*
ISC 31 17:35:36.7±1.4, 35°.50N±0°.05×0°.39E±0°.04, h18km±9km, n49, σ1§09/63, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJGS	**Djebel Guires**	**0.29**	**89**	P	**Pg**	**17 35 43.0**	**-0.2**
OJGS	**Djebel Guires**	**0.29**	**89**	P	**Pg**	**17 35 43.0**	**-0.2**
OJGS	**Djebel Guires**	**0.29**	**89**	P	**Pg**	**17 35 43.0**	**-0.2**
ODJA	**Bouhanifia**	**0.47**	**249**	P	Pg	17 35 38.0	-8.3
ODJA	**Bouhanifia**	**0.47**	**249**	P	Pg	17 35 38.0	-8.3
ODJA	**Bouhanifia**	**0.47**	**249**	P	Pg	17 35 38.0	-8.3
OKGL	**Djebel Kef Gue**	**0.58**	**21**	P	**Pg**	**17 35 47.5**	**-0.7**
	113nm,0.1s,SNR=7.9						
OKGL				S	**Sb**	**17 35 56.8**	**+0.5**
	232nm,0.1s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**0.58**	**21**	P	**Pg**	**17 35 47.5**	**-0.7**
	113nm,0.1s,SNR=7.9						
OKGL				S	**Sb**	**17 35 56.8**	**+0.5**
	232nm,0.1s,SNR=7.9						
EANR	**'Ain N'Sour**	**0.73**	**52**	P	**Pg**	**17 35 50.4**	**-0.7**
EANR	**'Ain N'Sour**	**0.73**	**52**	P	**Pg**	**17 35 50.4**	**-0.7**
EANR	**'Ain N'Sour**	**0.73**	**52**	P	**Pg**	**17 35 50.4**	**-0.7**
ETRT	**Tiaret**	**0.75**	**98**	P	**Pg**	**17 35 50.8**	**-0.6**
ETRT	**Tiaret**	**0.75**	**98**	P	**Pg**	**17 35 50.8**	**-0.6**
ETRT	**Tiaret**	**0.75**	**98**	P	**Pg**	**17 35 50.8**	**-0.6**
USTO	**Oran**	**0.80**	**287**	P	**Pn**	**17 35 54.0**	**+0.8**
USTO	**Oran**	**0.80**	**287**	P	**Pn**	**17 35 54.0**	**+0.8**
USTO	**Oran**	**0.80**	**287**	P	**Pn**	**17 35 54.0**	**+0.8**
ECHF	**Ech Chlef**	**1.01**	**49**	P	**Pn**	**17 35 57.6**	**+1.5**
ECHF	**Ech Chlef**	**1.01**	**49**	P	**Pn**	**17 35 57.6**	**+1.5**
ECHA	**Ech Chlef**	**1.02**	**50**	P	**Pg**	**17 35 57.6**	**+1.0**
ECHA	**Ech Chlef**	**1.02**	**50**	P	**Pg**	**17 35 57.6**	**+1.0**
EBNR	**Beni Rached**	**1.22**	**49**	P	**Pn**	**17 35 59.2**	**+0.3**
EBNR	**Beni Rached**	**1.22**	**49**	P	**Pn**	**17 35 59.2**	**+0.3**
OLHC	**Oulhaca**	**1.50**	**261**	P	Pn	17 35 48.0	-15
OLHC	**Oulhaca**	**1.50**	**261**	P	Pn	17 35 48.0	-15
OLHC	**Oulhaca**	**1.50**	**261**	P	Pn	17 35 48.0	-15
EMHD	**Djebel Mahouad**	**2.20**	**71**	P	**Pg**	**17 36 19.0**	**+0.1**
EMHD	**Djebel Mahouad**	**2.20**	**71**	P	**Pg**	**17 36 19.0**	**+0.1**
EMHD	**Djebel Mahouad**	**2.20**	**71**	P	**Pg**	**17 36 19.0**	**+0.1**
EMUR	**La Murta**	**2.68**	**331**	P	**Pn**	**17 36 19.0**	**-0.1**
	1.4nm,0.2s,SNR=4.0						
EMUR				S	**Sn**	**17 36 49.1**	**-2.1**
	0.3nm,0.1s,SNR=4.0						
EMUR	**La Murta**	**2.68**	**331**	P	**Pn**	**17 36 19.0**	**-0.1**
	1.4nm,0.2s,SNR=4.0						
EMUR				S	**Sn**	**17 36 49.1**	**-2.1**
	0.3nm,0.1s,SNR=4.0						
EBER	**Berja**	**3.00**	**299**	P	**Pn**	**17 36 23.3**	**-0.3**
	1.6nm,0.1s,SNR=13						
EBER				S	**Sn**	**17 36 58.6**	**-0.6**
	0.7nm,0.1s,SNR=5.7						
EBER	**Berja**	**3.00**	**299**	P	**Pn**	**17 36 23.3**	**-0.3**
	1.6nm,0.1s,SNR=13						
EBER				S	**Sn**	**17 36 58.6**	**-0.6**
	0.7nm,0.1s,SNR=5.7						
EBEN	**Beniarda**	**3.24**	**351**	P	**Pn**	**17 36 27.0**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**17 37 05.0**	**+0.1**
	0.1nm,0.0s,SNR=7.9						
EBEN	**Beniarda**	**3.24**	**351**	P	**Pn**	**17 36 27.0**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**17 37 05.0**	**+0.1**
	0.1nm,0.0s,SNR=7.9						
ETOB	**Tobarra**	**3.50**	**334**	P	**Pn**	**17 36 31.5**	**+1.1**
	2.8nm,0.1s,SNR=12						
ETOB				S	**Sn**	**17 37 10.3**	**-1.1**
	1.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.50**	**334**	P	**Pn**	**17 36 31.5**	**+1.1**
	2.8nm,0.1s,SNR=12						
ETOB				S	**Sn**	**17 37 10.3**	**-1.1**
	1.8nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.52**	**319**	P	**Pn**	**17 36 31.7**	**+1.0**
	9.0nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**17 37 13.7**	**+1.6**
	1.9nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.52**	**319**	P	**Pn**	**17 36 31.7**	**+1.0**
	9.0nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**17 37 13.7**	**+1.6**
	1.9nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.60**	**12**	P	**Pn**	**17 36 32.4**	**+0.7**
	1.7nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**17 37 11.3**	**-2.5**
	2.2nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.60**	**12**	P	**Pn**	**17 36 32.4**	**+0.7**
	1.7nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**17 37 11.3**	**-2.5**
	2.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.61**	**311**	P	**Pn**	**17 36 33.4**	**+1.5**
	2.2nm,0.2s,SNR=11						
EQES				S	**Sn**	**17 37 13.9**	**-0.3**
	4.9nm,0.4s						
EQES	**Quesada**	**3.61**	**311**	P	**Pn**	**17 36 33.4**	**+1.5**
	2.2nm,0.2s,SNR=11						
EQES				S	**Sn**	**17 37 13.9**	**-0.3**
	4.9nm,0.4s						
EVIA	**Vianos**	**3.90**	**324**	P	**Pn**	**17 36 37.7**	**+1.9**
	2.3nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**17 37 20.6**	**-0.6**
	2.4nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.90**	**324**	P	**Pn**	**17 36 37.7**	**+1.9**
	2.3nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**17 37 20.6**	**-0.6**
	2.4nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.32**	**286**	P	**Pn**	**17 36 42.4**	**+0.8**
	0.3nm,0.1s,SNR=4.0						
EMIJ				S	**Sn**	**17 37 29.6**	**-1.9**
	0.2nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**4.32**	**286**	P	**Pn**	**17 36 42.4**	**+0.8**
	0.3nm,0.1s,SNR=4.0						
EMIJ				S	**Sn**	**17 37 29.6**	**-1.9**
	0.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.91**	**352**	P	**Pn**	**17 36 50.3**	**+0.5**
	0.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.91**	**352**	P	**Pn**	**17 36 50.3**	**+0.5**
	0.2nm,0.1s,SNR=7.9						

*ISCJB **31** 17:56:33.5±0.6, 38°.46S±0°.07×73°.8W±0°.1, h18km, mb4.2/13, MS3.6/1, Error ellipse: s-maj=15.5km s-min=9.5km az=177.2*
*IDC **31** 17:56:37.1±5.4, 38°.60S×73°.69W, h31km±38km, mb3.9/8, mb1 4.0/10, mb1mx3.9/24, mbtmp4.1/10, ML3.8/2, MS3.1/2, Ms1 3.1/2, ms1mx2.9/18, Error ellipse: s-maj=33.2km s-min=16.2km az=90.0*
*NEIC **31** 17:56:38.3±1.9, 38°.46S×73°.75W, h43km±16km, mb4.6/6, Error ellipse: s-maj=22.8km s-min=9.3km az=92.0*
ISC 31 17:56:34.9±0.6, 38°.47S±0°.08×73°.9W±0°.1, h18km, n24, σ1§17/24, mb4.2/13, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.41**	**133**	Pn	**Pn**	**17 57 27.2**	**0.0**
	4.7nm,0.3s,baz=324,slow=11,SNR=97						
PLCA				Lg	Lg	17 58 19.3	
	34nm,0.3s,baz=204,slow=23,SNR=6.2						
CFAA	**Coronel Fontan**	**8.24**	**36**	Pn	**Pn**	**17 58 33.8**	**+0.1**
	0.3nm,0.3s,baz=204,slow=16,SNR=23						
CFAA				Lg	Lg	18 00 56.9	
	0.0nm,0.3s,baz=299,slow=14,SNR=3.7						
CFAA				LR	LR	18 02 10.4	
	comp=Z,24nm,18.1s,baz=224,slow=40						
TRQA	**Tornquist**	**9.35**	**91**	*e*Pn	**Pn**	**17 58 50.0**	**+1.2**
	15nm,0.8s						
LCO	**Las Campanas**	**9.79**	**16**	*e*Pn	**Pn**	**17 58 53.0**	**-2.1**
	33nm,0.8s						
USHA	**Ushuaia**	**16.78**	**169**	Pn	**P**	**18 00 31.8**	**+0.9**
	0.4nm,0.3s,baz=89,slow=1.2,SNR=5.2						
LPAZ	**La Paz**	**22.66**	**14**	P	**P**	**18 01 37.8**	**+1.9**
	4.5nm,1.1s,baz=190,slow=8.9,SNR=10.0						
LPAZ	**La Paz**	**22.66**	**14**	*e*P	**P**	**18 01 36.8**	**+1.0**
	7.9nm,0.9s						
SIV	**San Ignacio**	**25.05**	**30**	P	**P**	**18 01 58.9**	**+0.6**
	4.8nm,1.0s,baz=228,slow=12,SNR=8.4						
SIV				LR	LR	18 14 00.7	
	comp=Z,171nm,18.5s,baz=219,slow=42						
OTAV	**Otavalo**	**38.75**	**353**	*e*P	**P**	**18 03 59.9**	**+1.1**
	4.7nm,0.9s						
SDV	**Santo Domingo**	**47.20**	**4**	*e*P	**P**	**18 05 05.0**	**-1.9**
	7.0nm,0.8s						
SNAA	**Sanae**	**48.05**	**156**	*e*P	**P**	**18 05 12.8**	**0.0**
	12nm,1.3s						
QSPA	**South Pole Qui**	**51.78**	**180**	P	**P**	**18 05 41.4**	**+0.2**
	3.9nm,1.1s,baz=111,slow=4.1,SNR=4.3						
SBA	**Scott Base**	**58.41**	**193**	*e*P	**P**	**18 06 29.1**	**+0.2**
	4.2nm,1.1s						
VNDA	**Vanda**	**59.44**	**192**	P	**P**	**18 06 34.8**	**-1.1**
	0.8nm,1.0s,baz=106,slow=10,SNR=2.4						
TXAR	**Lajitas Array**	**72.98**	**333**	P	**P**	**18 08 05.0**	**+1.7**
	1.3nm,0.7s,baz=151,slow=8.3,SNR=9.0						
SWET	**Sewanee**	**74.16**	**350**	*e*P	**P**	**18 08 11.2**	**+1.1**
	11nm,1.0s						
DBIC	**Dimbokro**	**77.99**	**71**	P	**P**	**18 08 31.5**	**-0.9**
	1.8nm,0.5s,baz=242,slow=9.5,SNR=4.2						
BOSA	**Boshof**	**79.28**	**118**	P	**P**	**18 08 39.8**	**+0.1**
	4.4nm,1.1s,baz=225,slow=1.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**87.08**	**71**	P	**P**	**18 09 19.4**	**-0.4**
	0.8nm,0.7s,baz=232,slow=5.6,SNR=5.2						
WRA	**Warramunga Arr**	**116.16**	**210**	PKP	**PKPdf**	**18 15 16.6**	**-1.9**
	0.4nm,1.0s,baz=160,slow=1.9,SNR=3.8						
TIXI	**Tiksi**	**144.78**	**348**	*e*PKPdf	**PKPab**	**18 16 07.5**	**-0.8**
ABKAR	**Akbulak array**	**145.48**	**57**	*e*PKPdf	**PKPdf**	**18 16 11.7**	**+0.4**
ZALV	**Zalesovo Beam**	**158.73**	**36**	PKPab	**PKPab**	**18 17 07.5**	**+1.1**
	0.9nm,0.6s,baz=291,slow=4.6,SNR=5.3						
MKAR	**Makanchi Array**	**160.62**	**57**	PKPab	**PKPab**	**18 17 14.4**	**-0.6**
	0.7nm,0.9s,baz=276,slow=2.3,SNR=5.6						

MAN 31 18:18:51, 9°.81N×125°.86E, h46km, mb4.5, ML3.3, MS3.2, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.37**	**266**	⇓*eP*	Pn	18 19 02.2	+1.7
SCPH				*e*S	Sn	18 19 11.9	+4.7
MSLP	**Maasin**	**1.04**	**288**	*e*P	Pn	18 19 11.3	+2.2
MSLP				*e*S	Sn	18 19 23.6	+1.0
OCLP	**Ormoc**	**1.74**	**315**	*e*P	Pn	18 19 20.9	+2.0
OCLP				*e*S	Sn	18 19 36.6	-3.2
CGP	**Cagayan de Oro**	**1.77**	**221**	⇑*iP*	Pn	18 19 20.1	+0.9
CGP				*i* S	Sn	18 19 44.1	+3.6
TBP	**Tagbilaran**	**1.97**	**267**	*e*P	Pn	18 19 24.0	+2.0
PAGZ	**Pagadian**	**3.13**	**232**	*e*P	Pn	18 19 40.0	+2.1

*IDC **31** 18:22:59.3±0.9, 0°.94N×126°.91E, h0km, mb4.1/8, mb1 4.3/8, mb1mx3.9/34, mbtmp4.1/8, Error ellipse: s-maj=50.6km s-min=17.5km az=77.0*
*ISCJB **31** 18:23:06.8±0.4, 0°.94N±0°.04×126°.86E±0°.04, h72km, mb4.1/10, Error ellipse: s-maj=6.6km s-min=5.1km az=156.5*
*NEIC **31** 18:23:08.6±0.6, 0°.86N×126°.98E, h81km±6km, mb4.2/2, Error ellipse: s-maj=11.9km s-min=7.1km az=91.0*
*DJA **31** 18:23:08.8±0.4, 1°N±2°×12°7E±°, h54km±8km, M4.8/11, mb5.2/1, mB5.2/1, MLv4.5/11, Mw(mB)4.5/1*
ISC 31 18:23:08.3±0.7, 0°.91N±0°.05×126°.86E±0°.06, h72km, n26, σ1§11/30, mb4.2/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.52**	**105**	P	**Pn**	**18 23 21.9**	**+0.4**
TNTI				S	**Sn**	**18 23 32.6**	**+1.4**
TNTI	**Ternate**	**0.52**	**105**	*e*P	**Pn**	**18 23 21.9**	**+0.4**
LBMI	**Labuha**	**1.66**	**157**	P	**Pn**	**18 23 36.3**	**+0.8**
LBMI				S	**Sn**	**18 23 58.2**	**+2.1**
KMSI	**Cibinong**	**2.90**	**263**	P	**Pn**	**18 23 52.9**	**+0.8**
KMSI				S	**Sn**	**18 24 26.9**	**+0.9**
SGSI	**Sangihe**	**3.06**	**334**	S	**Sn**	**18 24 29.4**	**-0.5**
SANI	**Sanana**	**3.07**	**197**	P	**Pn**	**18 23 53.8**	**-0.6**
SANI				S	**Sn**	**18 24 27.8**	**-2.2**
GTOI	**Gorontalo**	**3.86**	**266**	P	**Pn**	**18 24 07.5**	**+2.3**
NLAI	**Namlea**	**4.13**	**177**	P	**Pn**	**18 24 09.8**	**+0.9**
MSAI	**Masohi**	**4.70**	**154**	P	**Pn**	**18 24 18.1**	**+1.3**
MRSI	**Marisa**	**4.94**	**265**	P	**Pn**	**18 24 20.1**	**+0.1**
APSI	**Ampana**	**5.52**	**251**	P	**Pn**	**18 24 28.2**	**+0.3**
KAPI	**Kappang**	**9.22**	**230**	*e*P	**Pn**	**18 25 19.8**	**+1.3**
MMRI	**Maumere**	**10.54**	**206**	*e*P	**Pn**	**18 25 36.6**	**0.0**
	85nm,0.5s						
WRA	**Warramunga Arr**	**21.98**	**161**	P	**P**	**18 27 55.1**	**-1.3**
	4.4nm,0.5s,baz=342,slow=12,SNR=95						
WB2	**Warramunga Arr**	**21.98**	**161**	*e*P	**P**	**18 27 54.9**	**-1.6**
AS31	**Alice Springs**	**25.37**	**165**	*e*P	**P**	**18 28 27.5**	**-1.4**
ASAR	**Alice Springs**	**25.37**	**165**	P	**P**	**18 28 28.8**	**-0.2**
	8.1nm,0.5s,baz=344,slow=12,SNR=50						
KSAR	**Wonju Array Be**	**36.37**	**1**	P	**P**	**18 30 05.9**	**+0.4**
KSRS	**Korea Array**	**36.38**	**1**	P	**P**	**18 30 05.9**	**+0.3**
	0.6nm,0.6s,baz=175,slow=9.9,SNR=6.5						
MJAR	**Matsushiro Arr**	**36.98**	**15**	P	**P**	**18 30 09.1**	**-1.7**
	0.9nm,0.6s,baz=192,slow=8.4,SNR=4.1						
ULN	**Ulaanbaatar**	**49.83**	**343**	*e*P	**P**	**18 31 54.6**	**+0.5**
	2.8nm,0.9s						
SONM	**Songino Array**	**50.00

comp=E,0.3nm,0.8s,baz=140,slow=2.1,SNR=1.3
WRA Warramunga Arr 130.74 209 PKP **PKPdf 19 11 44.2 0.0**
comp=E,1.0nm,0.7s,baz=155,slow=1.8,SNR=16
WRA pPKP **pPKPdf 19 12 13.7 +4.3**
comp=E,0.4nm,0.7s,baz=174,slow=1.3,SNR=1.8
ZALV Zalesovo Beam 144.26 27 PKP **PKPab 19 12 05.8 -0.2**
comp=E,3.3nm,0.6s,baz=305,slow=4.0,SNR=20
ZALV pPKP **pPKPdf 19 12 35.0 +1.9**
comp=E,1.7nm,0.5s,baz=301,slow=3.6,SNR=5.0
AAK Ala-Archa 144.56 50 *eP* **PKPab 19 12 07.7 0.0**
MKAR Makanchi Array 147.65 38 PKPbc **PKPdf 19 12 13.8 -0.1**
comp=E,2.8nm,0.6s,baz=282,slow=1.2,SNR=29
MKAR pPKPbc **pPKPbc 19 12 45.1 +3.2**
comp=E,2.0nm,0.8s,baz=316,slow=3.3,SNR=4.8
SONM Songino Array 156.05 8 PKP **PKPdf 19 12 25.9 -0.7**
comp=E,0.4nm,0.9s,baz=42,slow=2.3,SNR=3.1
SONM PKPbc PKPbc 19 12 35.4
comp=E,0.3nm,0.5s,baz=167,slow=1.4,SNR=3.8
SONM PKPab **PKPab 19 12 54.2 -0.1**
comp=E,0.5nm,0.7s,baz=335,slow=3.7,SNR=4.2
SONM pPKPab **pPKPab 19 13 21.7 +3.0**
comp=E,0.4nm,0.6s,baz=322,slow=2.7,SNR=3.6

IDC 31 18:55:25.5±1.3, 10°.53N×39°.71W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/38, mbtmp3.7/4, MS3.3/10, Ms1 3.3/10, ms1mx3.1/35, Error ellipse: s-maj=44.8km s-min=32.3km az=153.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**16.69**	**167**	LR	LR	19 03 26.3	
	comp=Z,97nm,19.2s,baz=314,slow=29						
BBTS	**Babate**	**22.98**	**77**	LR	LR	19 07 26.3	
	comp=Z,84nm,19.7s,baz=268,slow=31						
PCRV	**Puerto La Cruz**	**24.52**	**271**	LR	LR	19 11 25.9	
	comp=Z,52nm,18.4s,baz=71,slow=39						
SJG	**San Juan**	**26.68**	**289**	LR	LR	19 09 03.4	
	comp=Z,137nm,21.4s,baz=90,slow=31						
DBIC	**Dimbokro**	**34.66**	**93**	LR	LR	19 13 59.4	
	comp=Z,57nm,19.2s,baz=223,slow=32						
ROSC	**El Rosal**	**34.75**	**263**	LR	LR	19 16 06.8	
	comp=Z,48nm,18.3s,baz=292,slow=36						
LPAZ	**La Paz**	**38.74**	**227**	P	P	19 02 52.4	-0.2
	1.0nm,0.5s,baz=21,slow=6.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**40.58**	**82**	P	P	19 03 07.1	-0.2
	1.1nm,0.9s,baz=271,slow=8.2,SNR=4.8						
TORD				LR	LR	19 18 52.7	
	comp=Z,67nm,18.1s,baz=160,slow=35						
GERES	**GERESS Array B**	**58.43**	**39**	LR	LR	19 29 05.3	
	comp=Z,14nm,18.3s,baz=294,slow=35						
NOA	**NORSAR Array B**	**62.59**	**25**	LR	LR	19 29 16.3	
	comp=Z,12nm,19.6s,baz=215,slow=32						
BRTR	**Keskin Array B**	**70.56**	**52**	LR	LR	19 39 02.3	
	comp=Z,9.6nm,19.8s,baz=166,slow=37						
YKA	**Yellowknife Ar**	**73.75**	**332**	P	P	19 07 01.0	-0.3
	0.4nm,0.9s,baz=108,slow=5.9,SNR=4.3						
ILAR	**Eielson Array**	**87.73**	**336**	P	P	19 08 16.5	+0.4
	0.7nm,1.1s,baz=58,slow=4.5,SNR=4.7						

GUC 31 19:08:02.4±0.7, 33°.36S×72°.48W, h18km±108km, ML3.8, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.78**	**65**	↑*i* P	Pb	19 08 16.6	-0.9
IHA				*i* S1	Sb	19 08 27.1	-0.6
ROCH	**El Roble**	**1.29**	**73**	↑*i* P	Pn	19 08 24.3	-1.6
ROCH				*i* S	Sn	19 08 41.1	-1.9
ROCH				AML	AML	19 08 45.3	
	comp=E,3μm,0.5s						
RCDM	**Rinconada Maip**	**1.40**	**96**	*e*P	Pn	19 08 25.9	-1.3
RCDM				*i* S	Sn	19 08 44.5	-0.8
PEL	**Peldehue**	**1.52**	**82**	*i* P	Pn	19 08 28.4	-0.4
PEL				AML	AML	19 08 58.5	
	comp=E,3μm,1.1s						
CLCH	**Cerro Calan**	**1.62**	**92**	*e*P	Pn	19 08 30.5	+0.2
CLCH				*i* S	Sn	19 08 51.1	+0.3
CLCH				AML	AML	19 09 06.0	
	comp=N,2μm,0.5s						
CLCH				AML	AML	19 09 06.4	
	comp=N,3μm,0.6s						
FCH	**Farellones**	**1.83**	**90**	AML	AML	19 09 15.7	
	comp=N,834nm,0.4s						

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*ISCJB **31** 19:18:07.3±0.7, 32°.01S±0°.04×70°.5W±0°.3, h103km±9km, mb3.3/2, Error ellipse: s-maj=37.5km s-min=6.4km az=174.9*
*GUC **31** 19:18:07.7±0.9, 32°.03S×70°.70W, h103km±10km, ML4.2*
*IDC **31** 19:18:09.3±5.9, 32°.22S×70°.39W, h106km±56km, mb3.2/2, mb1 3.5/3, mb1mx3.3/21, mbtmp3.6/3, Error ellipse: s-maj=59.3km s-min=40.9km az=46.0*
ISC 31 19:18:08.1±1.0, 32°.02S±0°.05×70°.6W±0°.3, h102km±11km, n14, σ0°61/19, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.90**	**339**	↓*i* P	**Pn**	**19 18 27.7**	**-0.1**
CMCH				*i* S	**Sn**	**19 18 43.0**	**+0.5**
ROCH	**El Roble**	**1.01**	**199**	*i* P1	**Pn**	**19 18 29.1**	**+0.1**
ROCH				*i* S	**Sn**	**19 18 44.6**	**0.0**
PEL	**Peldehue**	**1.12**	**183**	↑*i* P	**Pn**	**19 18 30.1**	**-0.1**
PEL				*i* S	**Sn**	**19 18 46.1**	**-0.6**
PEL				AML	AML	19 18 47.1	
	comp=E,8μm,0.3s						
FCH	**Farellones**	**1.33**	**168**	AML	AML	19 18 49.7	
	comp=E,6μm,0.3s						
CLCH	**Cerro Calan**	**1.38**	**177**	↑*i* P	**Pn**	**19 18 33.2**	**+0.2**
CLCH				*i* S	**Sn**	**19 18 52.1**	**+0.2**
CLCH				AML	AML	19 18 55.2	
	comp=E,3μm,0.4s						
LACH	**Col Las Americ**	**1.43**	**177**	*e*P1	**Pn**	**19 18 33.4**	**-0.3**
LACH				*i* S	**Sn**	**19 18 53.7**	**+0.6**
RCDM	**Rinconada Maip**	**1.48**	**186**	↑*i* P	**Pn**	**19 18 33.9**	**-0.3**
RCDM				*i* S	**Sn**	**19 18 54.4**	**+0.4**
LSCH	**La Serena**	**2.17**	**346**	*e*P9	**Pn**	**19 18 42.1**	**-0.9**
LSCH				*i* S1	**Sn**	**19 19 09.2**	**-0.4**
VACH	**Vallenar**	**3.43**	**358**	*i* S	**Sn**	**19 19 39.3**	**-0.3**
PLCA	**Paso Flores**	**8.70**	**180**	P	**Pn**	**19 20 09.7**	**-1.4**
	comp=E,0.3nm,0.3s,baz=354,slow=14,SNR=4.3						
TXAR	**Lajitas Array**	**68.62**	**329**	P	P	19 29 02.7	+2.4
	comp=E,0.4nm,0.6s,baz=150,slow=9.0,SNR=7.2						
TORD	**Torodi Ar. Bea**	**82.41**	**69**	P	**P**	**19 30 19.3**	**0.0**
	comp=E,0.2nm,0.5s,baz=230,slow=6.8,SNR=5.6						
WRA	**Warramunga Arr**	**123.07**	**208**	PKP	**PKPdf**	**19 36 53.2**	**0.0**
	comp=E,0.5nm,1.0s,baz=160,slow=1.5,SNR=6.0						
ZALV	**Zalesovo Beam**	**151.92**	**31**	PKPbc	**PKPbc**	**19 37 51.6**	**+1.0**
	comp=E,1.3nm,0.6s,baz=286,slow=3.3,SNR=7.5						

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*JMA **31** 19:39:19.4±0.3, 43°.97N×148°.00E, h0km, M3.9*
*SKHL **31** 19:39:20.7±0.2, 44°.35N×148°.18E, h35km, mb5.2/2*
ISC 31 19:39:18.7±4.0, 44°.3N±0°.1×148°.3E±0°.2, h31km±27km, n12, σ1°27/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.94**	**342**	*e*P	**Pn**	**19 39 36.2**	**+0.4**
KUR				AMB	AMB	19 39 36.6	
	386nm,0.1s						
KUR				*e*S	**Sb**	**19 39 48.0**	**-0.7**
KUR				A	A	19 39 48.6	
	163nm,0.2s						
KUR				A	A	19 39 48.6	
	704nm,0.2s						
SHO	**Shikotan**	**1.15**	**247**	*e*P	**Pn**	**19 39 38.6**	**+0.1**
SHO				*e*S	**Sn**	**19 39 51.9**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**1.77**	**261**	*e*P	**Pn**	**19 39 47.7**	**+0.6**
YUK				AMB	AMB	19 39 49.2	
	329nm,0.1s						
YUK				*e*S	**Sn**	**19 40 07.9**	**-0.6**
YUK				A	A	19 40 11.1	
	304nm,0.4s						
YUK				A	A	19 40 11.1	
	301nm,0.4s						
NEM2	**Nemuro 2**	**2.08**	**243**	P	**Pn**	**19 39 51.3**	**-0.1**
NEM2				*e*S	**Sn**	**19 40 14.2**	**-2.0**
JRA	**Rausu**	**2.31**	**261**	P	**Pn**	**19 39 56.0**	**+1.4**
JNK	**Nakash**	**2.68**	**255**	P	**Pn**	**19 40 00.8**	**+1.1**
JNK				*e*S	**Sn**	**19 40 31.2**	**+0.1**
JAK	**Akkeshi**	**2.93**	**244**	P	**Pn**	**19 40 03.6**	**+0.6**
JAR	**Ashorobuto**	**3.43**	**254**	P	**Pn**	**19 40 11.8**	**+1.9**
JAR				*e*S	**Sn**	**19 40 50.5**	**+1.0**
JOB	**Onbets**	**3.53**	**248**	P	**Pn**	**19 40 12.9**	**+1.5**
JOB				*e*S	**Sn**	**19 40 51.5**	**-0.6**
JCH	**Churui**	**3.97**	**246**	P	**Pn**	**19 40 18.2**	**+0.8**
JCH				*e*S	**Sn**	**19 41 01.4**	**-1.5**
JNBK	**Urakawa-nobuka**	**4.53**	**245**	P	**Pn**	**19 40 26.3**	**+1.2**
JKB	**Kayabe**	**5.84**	**248**	P	**Pn**	**19 40 44.6**	**+1.5**
JKB				*e*S	**Sn**	**19 41 47.3**	**-1.7**

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*IDC **31** 19:39:16.7±1.5, 16°.89N×85°.69W, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.7/35, mbtmp3.9/8, ML3.9/2, MS3.7/25, Ms1 3.7/25, ms1mx3.6/39, Error ellipse: s-maj=33.9km s-min=28.9km az=58.0*
*NEIC **31** 19:39:18.0±5.5, 16°.86N×85°.72W, h7km±39km, mb4.1/5, Error ellipse: s-maj=16.5km s-min=11.7km az=60.0*
NEIC Felt in Jose Santos Guardiola and at Guanaja, Roatan and Savannah Bight.
*ISCJB **31** 19:39:18.6±0.5, 16°.69N±0°.05×85°.88W±0°.07, h28km, mb3.9/5, MS3.7/19, Error ellipse: s-maj=10.3km s-min=5.8km az=150.6*
ISC 31 19:39:20.3±0.7, 16°.80N±0°.07×85°.88W±0°.09, h28km, n56, σ1°97/35, mb4.0/5, MS3.7/19, 9C-12D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**4.10**	**327**	Pn	**Pn**	**19 40 20.2**	**-0.9**
	256nm,0.3s,baz=140,slow=7.9,SNR=280						
TEIG				Sn	**Sn**	**19 41 04.6**	**-3.5**
	248nm,0.3s,baz=58,slow=22,SNR=26						
TEIG				LR	LR	19 41 55.7	
	comp=Z,711nm,18.1s,baz=206,slow=38						
APG	**El Apazote**	**4.76**	**249**	Pn	Pn	19 40 24.1	-6.3
	0.8nm,0.3s,baz=337,slow=18,SNR=16						
APG				Sn	Sn	19 41 17.8	-7.0
	7.3nm,0.3s,baz=284,slow=23,SNR=6.8						
APG				LR	LR	19 42 28.1	
	comp=Z,705nm,18.1s,baz=70,slow=39						
JTS	**JuntasAbangare**	**6.53**	**172**	Pn	**Pn**	**19 40 55.0**	**+0.4**
	1.9nm,0.3s,baz=2.4,slow=15,SNR=7.5						
JTS				Sn	**Sn**	**19 42 06.6**	**-1.6**
	1.6nm,0.3s,baz=210,slow=22,SNR=5.3						
CMIG	**Matias Romero**	**8.62**	**273**	Pn	**Pn**	**19 41 25.0**	**+1.7**
	1.8nm,0.3s,baz=92,slow=5.7,SNR=11						
CMIG				Sn	**Sn**	**19 42 58.6**	**-1.1**
	0.9nm,0.3s,baz=53,slow=20,SNR=2.9						
CMIG				LR	LR	19 45 09.6	
	comp=Z,1μm,19.6s,baz=112,slow=40						
035Z	**Hargill**	**14.85**	**312**	⇑P	**Pn**	**19 42 46.8**	**-1.6**
	baz=15						
LRAL	**Lakeview Retre**	**16.20**	**357**	*e*P	**Pn**	**19 43 06.5**	**+0.6**
	23nm,0.2s						
ROSC	**El Rosal**	**16.40**	**135**	LR	LR	19 49 36.1	
	comp=Z,180nm,18.9s,baz=14,slow=38						
GOGA	**Godfrey**	**16.68**	**7**	*e*P	**Pn**	**19 43 10.4**	**-1.7**
	6.4nm,0.6s						
SDV	**Santo Domingo**	**16.81**	**116**	*e*P	**Pn**	**19 43 13.3**	**-0.7**
	8.2nm,0.8s						
833A	**Chaparral WMA,**	**16.93**	**315**	⇑P	**Pn**	**19 43 14.8**	**-0.5**
	baz=17,SNR=10						
733A	**Divot King Ran**	**17.12**	**316**	⇓P	**Pn**	**19 43 18.0**	**+0.3**
	baz=17,SNR=5.8						
832A	**Faith Ranch, C**	**17.31**	**314**	⇑P	**Pn**	**19 43 19.8**	**-0.1**
	baz=17,SNR=16						
534A	**Blanco**	**17.50**	**321**	⇓P	**P**	**19 43 24.6**	**+1.2**
	baz=18,SNR=15						
633A	**Saathoff Ranch**	**17.54**	**318**	⇓P	**P**	**19 43 24.3**	**+0.6**
	baz=18,SNR=7.8						
732A	**Laxson Ranch,**	**17.58**	**315**	⇓P	**P**	**19 43 23.6**	**-0.7**
	baz=18,SNR=9.3						
434A	**Burnet**	**17.95**	**323**	P	**P**	**19 43 31.6**	**+3.2**
	baz=18,SNR=14						
334A	**Lometa**	**18.33**	**324**	⇓P	**Pn**	**19 43 36.2**	**+3.7**
	baz=18						
433A	**Art**	**18.39**	**321**	⇓P	**Pn**	**19 43 36.8**	**+3.5**
	baz=18						
532A	**Rocksprings**	**18.46**	**318**	⇑P	**Pn**	**19 43 36.8**	**+2.7**
	baz=18,SNR=8.3						
JCT	**Junction City**	**18.63**	**319**	*e*P	**Pn**	**19 43 39.3**	**+3.0**
	12nm,0.7s						
KMSC	**Kings Mountain**	**18.71**	**12**	*e*P	**P**	**19 43 33.6**	**-3.0**
	9.2nm,0.6s						
333A	**Richland Sprin**	**18.74**	**323**	⇓P	Pn	19 43 42.6	+5.0
	baz=19,SNR=11						
SJG	**San Juan**	**18.87**	**83**	LR	LR	19 50 15.0	
	comp=Z,464nm,20.9s,baz=270,slow=35						
TKL	**Tuckaleechee C**	**18.88**	**5**	P	**Pn**	**19 43 40.5**	**+1.3**
	0.8nm,0.3s,baz=176,slow=11,SNR=4.7						
TKL				LR	LR	19 51 28.5	
	comp=Z,161nm,18.9s,baz=143,slow=39						
531A	**Rocksprings**	**18.89**	**317**	⇑P	**Pn**	**19 43 42.4**	**+2.9**
	baz=19,SNR=6.2						
432A	**Menard**	**18.90**	**320**	⇓P	**Pn**	**19 43 42.5**	**+2.9**
	baz=19						
332A	**Millersview**	**19.23**	**322**	⇑P	**Pn**	**19 43 45.8**	**+2.3**
	baz=19,SNR=6.5						
431A	**Sonora**	**19.28**	**318**	⇓P	**Pn**	**19 43 45.3**	**+1.3**
	baz=19						
530A	**J-C Ranch, Com**	**19.40**	**316**	⇓P	**Pn**	**19 43 46.2**	**+0.6**
	baz=20,SNR=6.6						
232A	**Coleman**	**19.54**	**323**	⇑P	**Pn**	**19 43 47.6**	**+0.4**
	baz=20						
529A	**Stev Forest Ra**	**19.98**	**314**	⇑P	Pn	19 43 52.1	-0.4
	baz=20,SNR=5.2						
429A	**Davenport Ranc**	**20.08**	**316**	⇓P	Pn	19 43 52.7	-0.8
	baz=20,SNR=9.4						
330A	**Mertzon**	**20.12**	**319**	⇓P	Pn	19 43 53.7	-0.5
	baz=20						
230A	**Sterling City**	**20.42**	**320**	⇑P	Pn	19 43 56.5	-1.0
	baz=20						
TXAR	**Lajitas Array**	**20.55**	**311**	P	Pn	19 43 58.5	-0.7
	4.5nm,0.8s,baz=123,slow=11,SNR=32						
TXAR				S	**S**	**19 47 43.1**	**-2.3**
	0.8nm,0.4s,baz=130,slow=21,SNR=7.7						
TXAR				LR	LR	19 52 52.4	
	comp=Z,119nm,19.9s,baz=0.0,slow=40						
PCRV	**Puerto La Cruz**	**21.67**	**105**	LR	LR	19 54 10.4	
	comp=Z,313nm,19.0s,baz=283,slow=41						
LPIG	**La Paz**	**23.99**	**292**	LR	LR	19 54 42.2	
	comp=Z,267nm,18.5s,baz=56,slow=38						
SADO	**Sadowa**	**28.46**	**10**	LR	LR	19 56 58.1	
	comp=Z,237nm,18.3s,baz=172,slow=38						
PDAR	**Pinedale Array**	**32.83**	**327**	LR	LR	20 01 24.8	
	comp=Z,122nm,18.1s,baz=128,slow=40						
LPAZ	**La Paz**	**37.24**	**151**	LR	LR	20 03 12.5	
	comp=Z,100nm,18.7s,baz=312,slow=39						
YBH	**Yreka Blue Hor**	**40.15**	**316**	LR	LR	20 06 08.3	
	comp=Z,124nm,18.2s,baz=118,slow=40						
NEW	**Newport**	**40.46**	**328**	LR	LR	20 05 32.7	
	comp=Z,74nm,20.7s,baz=82,slow=39						
SCHQ	**Schefferville**	**40.70**	**17**	P	**P**	**19 46 58.5**	**+0.3**
	3.7nm,0.8s,baz=216,slow=7.0,SNR=4.2						
SCHQ				LR	LR	20 04 31.4	
	comp=Z,131nm,19.1s,baz=188,slow=37						
BDFB	**Brasilia**	**49.34**	**129**	LR	LR	20 12 19.1	
	comp=Z,149nm,18.6s,baz=274,slow=40						
YKA	**Yellowknife Ar**	**49.88**	**343**	P	**P**	**19 48 10.5**	**-0.4**
	0.3nm,0.6s,baz=133,slow=7.9,SNR=4.8						
DLBC	**Dease Lake**	**52.71**	**333**	P	**P**	**19 48 33.6**	**+1.3**
	1.3nm,0.8s,baz=119,slow=7.4,SNR=3.1						
ILAR	**Eielson Array**	**62.71**	**335**	P	**P**	**19 49 43.0**	**+0.5**
	0.5nm,0.7s,baz=121,slow=4.9,SNR=7.0						
NOA	**NORSAR Array B**	**78.85**	**29**	LR	LR	20 22 05.5	
	comp=Z,28nm,21.3s,baz=285,slow=33						
DBIC	**Dimbokro**	**79.54**	**86**	LR	LR	20 21 34.5	
	comp=Z,26nm,21.4s,baz=217,slow=32						
HFS	**Hagfors**	**80.27**	**30**	LR	LR	20 26 55.5	
	comp=Z,27nm,18.4s,baz=271,slow=36						
ARCES	**ARCESS Array B**	**81.60**	**19**	LR	LR	20 26 23.7	
	comp=Z,23nm,18.6s,baz=311,slow=35						
GERES	**GERESS Array B**	**83.67**	**41**	LR	LR	20 26 30.2	
	comp=Z,61nm,18.1s,baz=276,slow=34						
TORD	**Torodi Ar. Bea**	**84.01**	**78**	LR	LR	20 23 60.0	
	comp=Z,44nm,21.9s,baz=25,slow=32						
FINES	**FINESS Array B**	**85.42**	**27**	P	**P**	**19 51 54.9**	**-0.1**
	1.2nm,0.9s,baz=291,slow=4.2,SNR=3.0						
FINES				LR	LR	20 30 09.1	
	comp=Z,30nm,18.0s,baz=357,slow=36						
AKASG	**Malin Array Be**	**92.11**	**35**	LR	LR	20 30 52.6	
	comp=Z,35nm,20.5s,baz=290,slow=34						
MSKU	**Masuku**	**99.56**	**89**	LR	LR	20 34 59.0	
	comp=Z,27nm,18.6s,baz=194,slow=34						

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*ISCJB **31** 19:40:10.6±0.6, 7°.1S±0°.3×121°.2E±0°.4, h450km, mb3.5/3, Error ellipse: s-maj=64.8km s-min=10.5km az=141.0*

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*IDC **31** 19:40:11.7±2.1, 7°.14S×121°.30E, h446km±24km, mb3.1/4, mb1 3.2/6, mb1mx2.9/32, mbtmp4.0/6, Error ellipse: s-maj=111.7km s-min=16.4km az=60.0*
ISC 31 19:40:11.2±0.9, 7°.3S±0°.4×121°.3E±0°.5, h450km, n13, σ1°31/15, mb3.7/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.74**	**142**	P	**P**	**19 41 25.1**	**+0.9**
	21nm,0.3s,baz=79,slow=1.5,SNR=84						
BATI				S	**S**	**19 42 20.1**	**-3.4**
	41nm,0.3s,baz=84,slow=18,SNR=12						
WRA	**Warramunga Arr**	**17.85**	**136**	P	**P**	**19 43 53.5**	**+0.9**
	0.3nm,0.3s,baz=315,slow=11,SNR=14						
ASAR	**Alice Springs**	**20.31**	**145**	P	**P**	**19 44 17.4**	**+1.9**
	0.8nm,0.4s,baz=323,slow=8.9,SNR=21						
ASAR				PcP	**PcP**	**19 48 09.2**	**+0.5**
	1.7nm,1.4s,baz=342,slow=2.0,SNR=4.5						
ODAN	**Odare**	**47.23**	**317**	*e*P	**P**	**19 48 02.0**	**-0.6**
TAPN	**Taplejung**	**47.34**	**318**	*e*P	**P**	**19 48 02.2**	**-1.3**
	9.4nm,0.8s						
JIRN	**Jiri**	**48.56**	**317**	*e*P	**P**	**19 48 12.3**	**-0.5**
	5.3nm,0.6s						
GUN	**Gumba**	**48.93**	**317**	*e*P	**P**	**19 48 15.1**	**-0.4**
	8.2nm,0.6s						
PKI	**Pulchoki**	**49.03**	**316**	*e*P	**P**	**19 48 15.6**	**-0.6**
	5.2nm,0.5s						
PKIN	**Phulchoki**	**49.05**	**316**	*e*P	**P**	**19 48 15.7**	**-0.6**
	1.5nm,0.4s						
KKN	**Kakani**	**49.26**	**317**	*e*P	**P**	**19 48 17.8**	**0.0**
SONM	**Songino Array**	**56.42**	**348**	P	**P**	**19 49 09.1**	**+0.4**
	0.5nm,0.6s,baz=168,slow=8.8,SNR=6.4						
MKAR	**Makanchi Array**	**64.00**	**331**	P	**P**	**19 49 59.6**	**+0.4**
	0.9nm,0.5s,baz=139,slow=7.6,SNR=19						
ZALV	**Zalesovo Beam**	**68.27**	**338**	P	**P**	**19 50 24.9**	**-0.8**
	1.2nm,0.4s,baz=139,slow=5.1,SNR=8.2						

IDC 31 19:45:14.6±4.3, 21°.49S×70°.12W, h0km, mb3.8/1, mb1 3.6/2, mb1mx3.4/31, mbtmp3.5/2, ML3.2/1, Error ellipse: s-maj=135.9km s-min=62.4km az=92.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.51**	**20**	Pn	Pn	19 46 38.5	-0.2
	0.4nm,0.3s,baz=197,slow=7.0,SNR=8.5						
TORD	**Torodi Ar. Bea**	**78.41**	**71**	P	P	19 57 17.8	+0.1
	0.4nm,0.5s,baz=254,slow=5.7,SNR=11						
MKAR	**Makanchi Array**	**146.28**	**35**	PKPbc	PKPdf	20 04 56.4	+0.3
	0.4nm,0.8s,baz=298,slow=2.6,SNR=4.0						

JMA 31 20:11:55.3±0.1, 38°.97N×144°.23E, h45km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.97**	**289**	P	Pn	20 12 27.2	+1.1
MIYJ				S	Sn	20 12 50.5	+0.9
OFUJ	**Ofunato**	**2.00**	**274**	P	Pn	20 12 27.7	+1.1
OFUJ				S	Sn	20 12 51.4	+1.0
JTH	**Tanohata**	**2.07**	**299**	P	Pn	20 12 28.5	+0.9
JTH				S	Sn	20 12 53.7	+1.5
JOM	**Ohasama**	**2.34**	**283**	P	Pn	20 12 32.7	+1.5
JOM				S	Sn	20 13 00.7	+2.0
JMK	**Ichinoseki**	**2.35**	**270**	P	Pn	20 12 32.7	+1.4
JMK				S	Sn	20 13 00.4	+1.5
JANG	**Nango**	**2.52**	**305**	P	Pn	20 12 34.1	+0.3
JANG				*e*S	Sn	20 13 03.7	+0.4
JRG	**Rokugo**	**2.83**	**280**	P	Pn	20 12 40.0	+2.0
JRG				*e*S	Sn	20 13 13.0	+2.2
JOU	**Okura**	**2.86**	**259**	P	Pn	20 12 39.7	+1.3
JOU				S	Sn	20 13 12.4	+0.8
JYK	**Kaneyama**	**3.02**	**270**	P	Pn	20 12 42.4	+1.8
JYK				*e*S	Sn	20 13 17.2	+1.7
JAH	**Hinai**	**3.03**	**295**	P	Pn	20 12 42.7	+1.9
JAH				*e*S	Sn	20 13 18.4	+2.6
JTM	**Tenmabayashi**	**3.04**	**308**	P	Pn	20 12 42.3	+1.5
JTM				*e*S	Sn	20 13 16.7	+0.8
JFT	**Otama**	**3.39**	**246**	P	Pn	20 12 46.9	+1.2
JFT				S	Sn	20 13 25.6	+0.9
JOT	**Ohata**	**3.43**	**316**	P	Pn	20 12 47.1	+0.9
JOT				S	Sn	20 13 25.8	+0.3
JNBK	**Urakawa-nobuka**	**3.49**	**342**	*e*S	Sn	20 13 28.3	+1.2
JCH	**Churui**	**3.70**	**350**	P	Pn	20 12 48.8	-1.1
JCH				S	Sn	20 13 30.5	-1.7
JKB	**Kayabe**	**3.80**	**321**	P	Pn	20 12 52.7	+1.4
NEM2	**Nemuro 2**	**4.54**	**14**	P	Pn	20 12 58.5	-2.9
NEM2				S	Sn	20 13 47.3	-5.5
JTKR	**Abashiri--Toko**	**5.00**	**357**	P	Pn	20 13 06.8	-1.0
JTKR				S	Sn	20 14 00.8	-3.5
JHR	**Hokuryu**	**5.13**	**339**	P	Pn	20 13 11.6	+2.1
JHR				S	Sn	20 14 09.6	+2.2
JRY	**Ryogami san**	**5.16**	**237**	S	Sn	20 14 06.3	-2.1

MEX 31 20:54:06.9±0.5, 15°.86N×96°.75W, h4km±19km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.62**	**98**	*i* P	Pg	20 54 17.9	-0.9
HUIG				*e*S	Sg	20 54 27.8	+0.9
VHO	**Vista Hermosa**	**1.21**	**1**	*i* P	Pg	20 54 26.8	-3.6
VHO				*e*S	Sg	20 54 42.2	-4.1
CMIG	**Matias Romero**	**2.17**	**55**	*i* P	Pn	20 54 40.8	-3.1
CMIG				*e*S	Sn	20 55 07.2

ASAR	Alice Springs	25.62 157	P		P		21 48 50.6	+4.9
	0.2nm,0.4s,baz=342,slow=15,SNR=3.4							
SONM	Songino Array	49.96 345	P		P		21 52 08.0	-0.7
	0.4nm,0.7s,baz=162,slow=8.9,SNR=3.2							
MKAR	Makanchi Array	58.80 328	P		P		21 53 14.0	+1.6
	0.1nm,0.4s,baz=122,slow=8.7,SNR=6.1							

IDC 31 21:44:46.5±669.0, 54°98N×1°77E, h0km, Error ellipse: s-maj=371.1km s-min=135.3km az=120.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	9.59	125	i		22 46 40.0	
	baz=314,slow=322,SNR=0.9						
I43RU	DUBNA INFRASON	9.84	70	i		23 50 00.0	
	baz=280,slow=293,SNR=2.5						
I48TN	KESRA INFRASON	19.87	162	i		23 49 10.0	
	baz=349,slow=330,SNR=0.4						

IDC 31 21:50:12.4±1.5, 37°96S×73°80W, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.5/20, mbtmp3.4/5, ML3.5/2, MS3.1/2, Ms1 3.1/2, ms1mx2.9/14, Error ellipse: s-maj=31.5km s-min=17.1km az=67.0

ISCJB 31 21:50:13.4±1.3, 37°9S±0°1×73°9W±0°2, h18km, mb3.5/3, MS3.5/1, Error ellipse: s-maj=24.9km s-min=14.1km az=25.2

ISC 31 21:50:14.8±1.4, 37°97S±0°09×73°9W±0°2, h18km, n7, σ1§15/8, mb3.6/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.79	138	Pn	Pn	21 51 12.5	+0.1
	1.7nm,0.3s,baz=322,slow=11,SNR=20						
PLCA				Pg	Pb	21 51 21.2	0.0
	5.4nm,0.3s,baz=314,slow=17,SNR=29						
PLCA				Lg	Lg	21 52 09.9	
	4.2nm,0.3s,baz=341,slow=3.3,SNR=3.4						
CFAA	Coronel Fontan	7.88	38	Pn	Pn	21 52 06.8	-1.7
	0.1nm,0.3s,baz=221,slow=13,SNR=4.1						
CFAA				Sn	Sn	21 53 39.0	+1.7
	0.2nm,0.3s,baz=270,slow=5.6,SNR=3.9						
CFAA				Lg	Lg	21 54 21.3	
	0.0nm,0.3s,baz=186,slow=18,SNR=3.3						
CFAA				LR	LR	21 55 39.6	
	comp=Z,30nm,18.4s,baz=226,slow=42						
LPAZ	La Paz	22.19	15	P	P	21 55 10.4	-0.3
	0.4nm,0.3s,baz=202,slow=11,SNR=1.7						
SIV	San Ignacio	24.65	31	LR	LR	22 07 29.0	
	comp=Z,150nm,18.0s,baz=210,slow=42						
TXAR	Lajitas Array	72.52	333	P	P	22 01 41.1	+0.6
	0.3nm,0.5s,baz=156,slow=8.5,SNR=6.1						
TORD	Torodi Ar. Bea	86.96	71	P	P	22 02 59.0	-0.1
	0.4nm,0.7s,baz=235,slow=5.4,SNR=3.5						
MKAR	Makanchi Array	160.39	56	PKPab	PKPab	22 10 54.5	+0.6
	0.5nm,0.9s,baz=289,slow=4.4,SNR=4.1						

IDC 31 21:51:17.6±0.8, 8°59N×93°86E, h0km, mb3.9/15, mb1 4.0/16, mb1mx3.9/27, mbtmp3.9/16, ML3.7/1, MS3.2/4, Ms1 3.2/4, ms1mx2.7/33, Error ellipse: s-maj=32.0km s-min=17.8km az=55.0

ISCJB 31 21:51:19.4±0.5, 8°5N±0°1×93°8E±0°1, h22km, mb3.8/15, MS3.3/2, Error ellipse: s-maj=20.4km s-min=11.3km az=145.3

ISC 31 21:51:21.4±0.7, 8°6N±0°1×93°9E±0°2, h22km, n19, σ0§97/17, mb3.8/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	7.68	139	Pn	Pn	21 53 13.0	+0.9
	1.0nm,0.3s,baz=319,slow=11,SNR=2.6						
PSI				LR	LR	21 56 22.7	
	comp=Z,139nm,19.9s,baz=312,slow=40						
CMAR	Chiang Mai Arr	10.94	26	Pn	Pn	21 54 01.8	+5.1
	0.6nm,0.3s,baz=213,slow=15,SNR=13						
PALK	Pallekele	13.10	265	LR	LR	21 58 33.9	
	comp=Z,96nm,21.6s,baz=112,slow=33						
MKAR	Makanchi Array	39.29	347	P	P	21 58 48.0	-0.6
	0.4nm,0.7s,baz=166,slow=7.3,SNR=6.2						
MKAR				LR	LR	22 16 52.1	
	comp=Z,27nm,18.9s,baz=112,slow=39						
SONM	Songino Array	40.49	13	P	P	21 58 59.3	+0.7
	0.2nm,0.3s,baz=193,slow=9.6,SNR=3.4						
GEYT	Alibeck	43.45	318	P	P	21 59 24.4	+1.5
	5.7nm,0.6s,baz=139,slow=8.7,SNR=14						
ZALV	Zalesovo Beam	45.77	353	P	P	21 59 41.8	+0.7
	1.8nm,0.4s,baz=167,slow=7.4,SNR=17						
WRA	Warramunga Arr	48.93	126	P	P	22 00 05.4	-0.9
	0.4nm,0.6s,baz=305,slow=8.3,SNR=4.7						
ASAR	Alice Springs	50.62	130	P	P	22 00 17.7	-1.4
	0.3nm,0.4s,baz=311,slow=7.3,SNR=2.9						
BRTR	Keskin Array B	61.72	311	P	P	22 01 36.7	-1.7
	1.0nm,0.6s,baz=133,slow=7.9,SNR=9.1						
FINES	FINESS Array B	71.91	332	P	P	22 02 41.9	-0.7
	1.2nm,0.8s,baz=106,slow=6.8,SNR=8.7						
ARCES	ARCESS Array B	74.46	340	P	P	22 02 58.0	+0.4
	3.3nm,1.0s,baz=89,slow=6.8,SNR=6.7						
ARCES				LR	LR	22 37 42.7	
	comp=Z,22nm,18.5s,baz=359,slow=37						
BOSA	Boshof	75.75	238	P	P	22 03 06.7	+0.7
	2.6nm,0.9s,baz=90,slow=8.1,SNR=3.5						
GERES	GERESS Array B	77.07	318	P	P	22 03 13.1	-0.1
	0.2nm,0.5s,baz=99,slow=6.1,SNR=4.2						
NB2	NORSAR Subarra	78.93	331	P	P	22 03 22.1	-1.0
	comp=Z,0.8nm,0.6s,baz=95,slow=5.3						
NOA	NORSAR Array B	78.93	331	P	P	22 03 22.1	-1.0
	comp=Z,1.0nm,0.7s,baz=92,slow=5.6,SNR=4.8						
KEST	Kesra	80.58	305	P	P	22 03 32.7	+0.1
	comp=Z,0.6nm,0.6s,baz=74,slow=0.3,SNR=5.0						
TORD	Torodi Ar. Bea	90.15	283	P	P	22 04 20.8	+0.1
	comp=Z,0.4nm,0.7s,baz=82,slow=4.5,SNR=3.3						
ESDC	Sonseca Array	90.51	310	P	P	22 04 22.1	+0.1
	comp=Z,0.2nm,0.4s,baz=80,slow=4.5,SNR=3.2						

MEX 31 21:58:05.1±0.4, 17°66N×102°19W, h16km±8km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.70	95	i P	Pg	21 58 16.3	-2.5
ZIIG				eS	Sg	21 58 24.7	-3.3
MMIG	Aquila	1.26	300	i P	Pn	21 58 24.4	-3.7
MMIG				eS	Sb	21 58 38.5	-6.1
ARIG	Puente Sto Nin	1.86	70	i P	Pn	21 58 33.2	-3.1
ARIG				eS	Sn	21 58 54.3	-5.3
MOIG	Morelia	2.22	25	i P	Pn	21 58 41.3	-0.3
EZ5V		2.25	324	i P	Pn	21 58 38.9	-3.1
EZ5V				eS	Sn	21 59 04.9	-4.8

IDC 31 22:05:37.9±3.9, 30°35S×178°39W, h0km, mb4.3/3, mb1 4.5/3, mb1mx4.0/16, mbtmp4.3/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/20, Error ellipse: s-maj=176.5km s-min=64.9km az=169.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	29.02	311	LR	LR	22 20 48.7	
	comp=Z,26nm,19.6s,baz=91,slow=31						
CTA	Charters Tower	33.46	279	P	P	22 12 20.2	+1.3
	6.8nm,1.1s,baz=100,slow=6.1,SNR=3.1						
ASAR	Alice Springs	42.78	267	P	P	22 13 36.5	-1.0
	1.0nm,0.5s,baz=104,slow=7.7,SNR=16						
WRA	Warramunga Arr	43.76	272	P	P	22 13 45.5	0.0
	2.6nm,0.3s,baz=112,slow=8.0,SNR=26						
FINES	FINESS Array B	144.98	340	PKP	PKPbc	22 25 15.7	0.0
	0.6nm,0.5s,baz=29,slow=3.5,SNR=5.9						

IDC 31 22:37:43.0±3.7, 13°37N×120°05E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/25, mbtmp3.5/3, Error ellipse: s-maj=481.9km s-min=28.6km az=61.0

ISCJB 31 22:37:44.1±1.0, 13°46N±0°05×119°96E±0°06, h16km, mb3.6/3, Error ellipse: s-maj=8.8km s-min=7.1km az=8.0

MAN 31 22:37:46, 13°55N×120°14E, h54km, mb4.8, ML3.7, MS3.8

ISC 31 22:37:45.0±1.2, 13°41N±0°04×120°03E±0°08, h16km, n10, σ2§02/15, mb3.4/3, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.39	33	eP	Pg	22 37 52.9	+0.1
LUBP				eS	Sg	22 37 56.9	-1.3
PGP	Puerto Galera	0.90	84	⇑eP	Pn	22 38 02.8	-0.2
PGP				i S	Sn	22 38 14.9	-0.9
TGY	Tagaytay City	1.12	52	⇑eP	Pb	22 38 04.7	-1.2
TGY				eS	Sg	22 38 24.6	+3.4
BUSP	Coron	1.41	173	eP	Pg	22 38 12.1	0.0
SJMP	San Jose	1.42	131	eP	Pg	22 38 11.8	-0.5
SJMP				eS	Sb	22 38 29.5	+0.5
OTRP	Odiongan	2.20	118	eP	Pn	22 38 20.7	-0.2
SCPH	Surigao	6.45	123	eP	Sn	22 40 28.8	-3.8
SCPH				eS	Sn	22 40 36.9	+4.2
WRA	Warramunga Arr	36.01	157	P	P	22 44 45.3	-0.2
	1.2nm,0.7s,baz=336,slow=9.8,SNR=3.7						
ASAR	Alice Springs	39.27	160	P	P	22 45 13.4	+0.3
	0.6nm,0.7s,baz=342,slow=8.1,SNR=5.8						
MKAR	Makanchi Array	45.88	324	P	P	22 46 07.5	+0.8
	0.4nm,0.9s,baz=126,slow=7.3,SNR=3.8						

PGC 31 22:38:28.9±4.2, 50°14N×130°40W, h10km, ML2.9/3, Mw3.5,2D, 220km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.54	70	⇑Pn	Pn	22 38 54.2	-2.3
HOLB				⇑Sn	Sn	22 39 13.1	-3.5
PHC	Port Hardy	1.98	72	⇑Pn	Pn	22 39 00.5	-2.0
PHC				⇓Sn	Sn	22 39 22.7	-4.7
MAYB	Maynard	2.09	81	⇑Sn	Sn	22 39 26.8	-3.6
BBB	Bella Bella	2.51	34	⇑Pn	Pn	22 39 08.1	-1.5
BBB				⇑Sn	Sn	22 39 36.8	-3.5
NCRB	Newcastle Ridg	2.80	83	⇓Pn	Pn	22 39 12.6	-1.4

MAN 31 22:43:18.13°63N×119°97E, h26km, mb4.1, ML2.9, MS2.7, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.28	69	eP	Pn	22 43 26.8	+0.3
LUBP				eS	Sb	22 43 30.6	+1.1
PGP	Puerto Galera	0.96	98	⇑eP	Pb	22 43 36.7	+0.6
PGP				i S	Sn	22 43 48.9	+0.1
SJMP	San Jose	1.61	136	eP	Pn	22 43 45.4	+0.6
BUSP	Coron	1.63	172	eP	Pn	22 43 45.7	+0.6
ENPP	El Nido	2.47	193	eP	Pn	22 43 58.4	+1.8

ISCJB 31 22:44:28.8±0.4, 2°81N±0°05×128°62E±0°05, h200km, mb3.9/16, Error ellipse: s-maj=7.5km s-min=6.0km az=35.3

IDC 31 22:44:31.7±1.9, 2°50N×128°71E, h237km±19km, mb3.7/16, mb1 3.9/17, mb1mx3.8/25, mbtmp4.3/17, Error ellipse: s-maj=19.0km s-min=9.5km az=81.0

DJA 31 22:44:34.2±0.4, 3°N±4°×12°8E±°, h193km±4km, M4.6/29, mb4.7/29, mB5.1/13, MLv4.9/18, Mw(mB)4.5/13

ISC 31 22:44:28.8±0.5, 2°64N±0°07×128°70E±0°07, h200km, n44, σ1§84/43, mb4.1/16, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.28	216	P	Pn	22 45 13.2	+2.8
SGSI	Sangihe	3.33	288	P	Pn	22 45 24.1	+1.7
SGSI				S	Sn	22 46 03.1	-1.3
LBMI	Labuha	3.47	200	P	Pn	22 45 25.8	+1.6
KMSI	Cibinong	5.14	247	P	Pn	22 45 45.6	+0.5
SANI	Sanana	5.39	210	P	Pn	22 45 47.0	-1.3
MSAI	Masohi	5.95	178	P	Pn	22 45 59.8	+4.3
	41nm,0.9s,0.2nm						
GTOI	Gorontalo	6.02	251	P	Pn	22 45 57.3	+0.9
	458nm,0.5s,5μm1.8nm						
NLAI	Namlea	6.05	195	P	Pn	22 45 57.9	+1.0
	50nm,0.5s,2μm0.4nm						
FAKI	Fak Fak	6.57	147	P	Pn	22 46 07.4	+3.9
	226nm,0.9s,2μm0.7nm						
RKPI	Ransiki, Papua	6.86	127	P	Pn	22 46 13.9	+6.6
	131nm,1.4s,8μm0.5nm						
LUWI	Luwuk	6.96	238	P	Pn	22 46 08.4	-0.2
	391nm,0.7s,5μm1.5nm						
MRSI	Marisa	7.09	252	P	Pn	22 46 10.0	-0.3
	148nm,0.5s,2μm0.6nm						
APSI	Ampana	7.88	243	P	Pn	22 46 20.8	+0.2
	315nm,0.8s,5μm1.2nm						
MPSI	Mapaga	9.09	256	P	Pn	22 46 38.1	+1.8
	21nm,0.9s,894nm0.1nm						
PCI	Palu	9.53	248	P	Pn	22 46 42.3	+0.2
	65nm,1.1s,952nm						
TTSI	Tana Toraja	10.52	238	P	Pn	22 46 53.7	-1.2
	160nm,0.7s,1μm						
BNSI	Bone	11.07	231	P	Pn	22 47 03.7	+1.7
	55nm,0.7s						
SPSI	Sidrap Palu	11.07	234	P	Pn	22 47 03.9	+1.9
	73nm,0.7s,861nm						
BKSI	Bulukumba	11.66	227	P	P	22 47 15.9	+1.2
GENI	Genyem	12.59	114	P	P	22 47 29.0	+3.9
	199nm,0.9s						
JAY	Jayapura	13.05	113	P	P	22 47 31.4	+1.1
	2.1nm,0.3s,baz=319,slow=5.4,SNR=9.3						
BATI	Baumata	13.71	201	P	Pn	22 47 37.2	+1.9
	13nm,0.3s,baz=7.7,slow=2.5,SNR=12						
KBKI	Kotabaru	13.85	245	P	P	22 47 40.6	+1.6
BBKI	Banjar Baru	15.12	246	P	P	22 47 53.4	+0.2
	32nm,1.3s						
SRBI	Singaraja	17.16	232	P	Pn	22 48 18.1	+1.0
	47nm,1.0s						
PWJI	Pagerwojo	19.90	238	P	P	22 48 47.5	+2.1
	22nm,0.8s						
KPJI	Karang Pucung	22.07	243	P	P	22 49 10.0	+2.1
LEM	Lembang	23.05	246	P	P	22 49 16.5	-0.5
	17nm,0.6s,baz=42,slow=11,SNR=3.9						
WRA	Warramunga Arr	23.12	166	P	P	22 49 15.5	-1.9
	10nm,0.3s,baz=344,slow=10,SNR=62						
WRA				ScP	ScP	22 56 14.2	-5.0
	1.0nm,0.6s,baz=346,slow=3.1,SNR=4.2						
ASAR	Alice Springs	26.64	169	P	P	22 49 47.4	-1.8
	11nm,0.6s,baz=356,slow=8.0,SNR=191						
ASAR				ScP	ScP	22 56 23.4	-5.7
	1.7nm,0.8s,baz=358,slow=2.2,SNR=10						
CTA	Charters Tower	28.41	143	P	P	22 50 03.8	-1.2
	2.7nm,0.6s,baz=312,slow=12,SNR=3.0						
CMAR	Chiang Mai Arr	33.11	300	P	P	22 50 47.2	+0.9
	1.3nm,0.8s,baz=120,slow=7.3,SNR=11						
KSRS	Korea Array	34.65	359	P	P	22 51 00.5	+1.2
	2.0nm,0.4s,baz=177,slow=9.6,SNR=10.0						
MJAR	Matsushiro Arr	34.86	13	P	P	22 51 00.8	-0.3
	5.5nm,0.7s,baz=186,slow=9.5,SNR=21						
MAT	Matsushiro	34.86	13	P	P	22 51 01.8	+0.7
USRK	Ussuriysk Ar.	41.49	4	P	P	22 51 57.2	+1.0
	1.8nm,0.5s,baz=199,slow=8.9,SNR=6.2						
SONM	Songino Array	48.97	340	P	P	22 52 55.7	+0.6
	0.6nm,0.8s,baz=157,slow=7.5,SNR=5.7						
PETK	Petropavlovsk-	55.72	21	P	P	22 53 45.9	+1.4
	3.3nm,0.6s,baz=176,slow=4.5,SNR=4.2						
MKAR	Makanchi Array	59.57	325	P	P	22 54 11.1	-0.4
	0.4nm,0.4s,baz=115,slow=7.8,SNR=16						
ZALV	Zalesovo Beam	62.45	332	P	P	22 54 29.2	-1.4
	0.4nm,0.4s,baz=114,slow=6.5,SNR=3.1						
VNDA	Vanda	82.11	173	P	P	22 56 24.8	-1.7
	2.6nm,0.7s,baz=321,slow=7.2,SNR=14						
ILAR	Eielson Array	85.24	25	P	P	22 56 42.9	+0.2
	0.3nm,0.5s,baz=236,slow=5.4,SNR=6.4						
ARCES	ARCESS Array B	92.14	340	P	P	22 57 13.4	-1.9
	1.7nm,0.8s,baz=82,slow=6.3,SNR=5.4						
FINES	FINESS Array B	93.71	332	P	P	22 57 20.2	-2.4
	0.4nm,0.6s,baz=73,slow=4.1,SNR=3.8						

IDC 31 23:09:04.9±1.6, 35°75N×6°83E, h0km, mb3.4/2, mb1 3.4/3, mb1mx2.8/35, mbtmp3.3/3, ML3.6/1, MS2.8/2, Ms1 2.8/2, ms1mx2.1/38, Error ellipse: s-maj=34.3km s-min=24.0km az=161.0

ISCJB 31 23:09:05.1±0.9, 35°65N±0°07×6°85E±0°08, h9km, mb3.5/2, MS2.8/1, Error ellipse: s-maj=10.5km s-min=8.9km az=158.4

CSEM 31 23:09:10.9±0.7, 35°96N×6°75E, h15km, ML3.2, Error ellipse: s-maj=16.1km s-min=7.4km az=160.0

CRAAG 31 23:09:10.6, 35°96N×6°69E, Ml3.2

ISC 31 23:09:06.8±1.2, 35°79N±0°07×6°81E±0°06, h9km, n37, σ1§47/37, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTEI	Djebel Teioual	0.43	310	P	Pb	23 09 17.0	+0.4
CTEI	Djebel Teioual	0.43	310	P	Pb	23 09 17.0	+0.4
CASM	Ain Smara	0.54	331	P	Pb	23 09 18.6	+0.1
CASM	Ain Smara	0.54	331	P	Pb	23 09 18.6	+0.1
CKFL	Kef-Lekhel	0.62	353	P	Pb	23 09 21.0	+1.2
CKFL	Kef-Lekhel	0.62	353	P	Pb	23 09 21.0	+1.2
ABSA	Djebel Ababsia	0.73	48	P	Pn	23 09 24.0	+0.6
ABSA	Djebel Ababsia	0.73	48	P	Pn	23 09 24.0	+0.6
CMAH	Djebel Manchou	0.97	30	P	Pn	23 09 28.0	+1.3
CMAH	Djebel Manchou	0.97	30	P	Pn	23 09 28.0	+1.3
CAEH	'Ain El Ouahch	0.99	2	P	Pg	23 09 26.0	+0.1
CAEH	'Ain El Ouahch	0.99	2	P	Pg	23 09 26.0	+0.1
DFRA	Djebel Bou Aff	1.07	315	P	Pn	23 09 29.6	+1.5
DFRA	Djebel Bou Aff	1.07	315	P	Pn	23 09 29.6	+1.5
CKHR	Kef el Ahmar	1.08	283	P	Pn	23 09 30.0	+1.8
CKHR	Kef el Ahmar	1.08	283	P	Pn	23 09 30.0	+1.8
SET	Setif	1.22	290	P	Pb	23 09 30.0	0.0
SET	Setif	1.22	290	P	Pb	23 09 30.0	0.0
KEST	Kesra	2.06	91	Pg	Pn	23 09 42.7	+1.0
	6.1nm,0.3s,baz=206,slow=2.4,SNR=146						
ETOS	Mallorca	5.08	323	P	Pn	23 10 24.2	+1.1
	7.2nm,0.2s,SNR=28						
ETOS				S	Sn	23 11 19.5	-2.4
	1.1nm,0.4s,SNR=4.6						
EIBI	Ibiza	5.42	308	P	Pn	23 10 30.1	+2.3
	7.4nm,0.3s,SNR=7.8						
EIBI				S	Sn	23 11 29.0	-1.3
	1.0nm,0.2s,SNR=7.9						
EBEN	Beniarda	6.32	300	P	Pn	23 10 42.8	+2.6
	0.2nm,0.3s,SNR=7.9						
EBEN				S	Sn	23 11 50.5	-2.1
	0.4nm,0.4s,SNR=7.9						
CFON	Fontmartina	6.88	332	P	Pn	23 10 47.4	-0.4
	2.0nm,0.2s,SNR=7.9						
ERTA	Horta de San J	7.25	317	P	Pn	23 10 54.4	+1.5
	0.4nm,0.1s,SNR=7.9						
ETOB	Tobarra	7.25	296	P	Pn	23 10 56.8	+3.8
	0.3nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	7.34	311	P	Pn	23 10 57.1	+2.8
	3.6nm,0.3s,SNR=9.6						
CLLI	Llivia	7.67	332	P	Pn	23 10 58.5	-0.2
	0.5nm,0.4s,SNR=7.9						
EBER	Berja	7.91	281	P	Pn	23 11 03.4	+1.3
	0.4nm,0.2s,SNR=7.9						
CSOR	Sort	7.92	328	P	Pn	23 11 02.8	+0.6
	0.3nm,0.2s,SNR=7.9						
EQES	Quesada	8.18	287	P	Pn	23 11 08.8	+3.0
	0.3nm,0.2s,SNR=7.9						
ATE	Arette	9.32	324	P	Pn	23 11 23.1	+1.8
	0.4nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	9.37	298	Pn	Pn	23 11 22.3	+0.2
	0.2nm,0.3s,baz=110,slow=13,SNR=2.9						
IELO	Elcoad	9.40	321	P	Pn	23 11 24.0	+1.5
	1.4nm,0.3s,SNR=7.9						
GERES	GERESS Array B	14.00	19	LR	LR	23 17 19.0	
	comp=Z,28nm,19.4s,baz=272,slow=35						
TORD	Torodi Ar. Bea	23.01	193	P	P	23 14 11.0	-1.0
	0.8nm,0.5s,baz=11,slow=10.0,SNR=14						
GNI	Garni	30.07	70	LR	LR	23 27 43.7	
	comp=Z,19nm,18.6s,baz=143,slow=37						
MKAR	Makanchi Array	55.73	54	P	P	23 18 43.0	-0.7
	0.2nm,0.4s,baz=289,slow=5.8,SNR=8.1						

CSEM 31 23:21:37.8±0.1, 67°84N×20°23E, h2km, ML0.8, Error ellipse: s-maj=4.0km s-min=3.1km az=165.0, Mining explosion.

UPP 31 23:21:38.0, 67°86N×20°19E, h0km, ML0.8, Mining explosion.

HEL 31 23:21:38.7±0.1, 67°86N×20°18E, h0km, ML1.5, ML0.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.11	30	i P	Pg	23 21 40.5	-0.5
KUA				i S	Sg	23 21 42.1	-0.4
KUA	Kurravaara	0.11	30	P	Pg	23 21 40.5	-0.4
KUA				S	Sg	23 21 42.1	-0.4
NIKU	Nikkaluokta	0.44	272	i P	Pg	23 21 46.5	-0.6
NIKU	Nikkaluokta	0.44	272	P	Pg	23 21 46.4	-0.7
LANU	Lannavaara	0.71	73	ePB	Pg	23 21 52.6	+0.3
LANU				eS	Sg	23 21 59.0	-2.5
LANU	Lannavaara	0.71	73	P	Pg	23 21 51.5	-0.8
LANU	Lannavaara	0.71	73	Pb	Pg	23 21 52.6	+0.3
LANU				S	Sg	23 21 59.0	-2.5
MASU	Masugnsbyn	0.80	119	i P	Pg	23 21 53.0	-1.1
MASU	Masugnsbyn	0.80	119	P	Pg	23 21 52.9	-1.2
SALU	Saltoluokta	0.80	234	i P	Pg	23 21 53.0	-1.1
SALU	Saltoluokta	0.80	234	P	Pg	23 21 53.0	-1.1
KIF	Kilpisjarvi	1.18	11	ePB	Pg	23 22 01.5	+0.3
	baz=185						
KIF				eS	Sg	23 22 16.3	-0.1
KIF	Kilpisjarvi	1.18	11	Pb	Pg	23 22 01.4	+0.2
KIF				S	Sg	23 22 16.3	-0.1
PAJU	Pajala	1.41	125	eP	Pn	23 22 03.5	-2.1
PAJU	Pajala	1.41	125	P	Pn	23 22 03.5	-2.1
HEF	Hetta	1.42	65	eP	Pn	23 22 04.0	-1.7
	baz=252						
HEF				eSN	Sn	23 22 26.7	+1.7
HEF	Hetta	1.42	65	Sn	Sn	23 22 26.7	+1.7
HEF	Hetta	1.42	65	P	Pn	23 22 03.9	-1.8
ERTU	Ertsjaerv	1.52	148	ePN	Pn	23 22 06.8	-0.3
ERTU				eSN	Sn	23 22 28.3	+0.7
ERTU	Ertsjaerv	1.52	148	Sn	Sn	23 22 28.3	+0.6
ERTU	Ertsjaerv	1.52	148	Pn	Pn	23 22 06.8	-0.4
SGF	Sodankyl	2.46	97	ePB	Pn	23 22 21.7	+1.7
SGF	Sodankyl	2.46	97	Pb	Pn	23 22 21.7	+1.7
RNF	Rovaniemi	2.59	116	ePB	Pn	23 22 23.2	+1.5
RNF				eSB	Sb	23 22 56.6	-1.7
RNF				MSG		23 22 56.6	
	comp=Z,1.6nm,0.2s						
RNF	Rovaniemi	2.59	116	Pb	Pn	23 22 23.2	+1.4
RNF				Sb	Sb	23 22 56.6	-1.7
	comp=Z,1.6nm,0.2s						

CSEM 31 23:21:41.9±0.5, 67°76N×20°83E, h1km, ML1.3, Error ellipse: s-maj=19.5km s-min=9.8km az=17.0, Mining explosion.

**UPP 31 23:21:45.7, 67°84N×20°26E, h0km, ML1.3,

	comp=N,684nm,0.5s						
PEL	**Peldehue**	**2.49**	**41**	⇑*i*P	**Pn**	**23 40 48.2**	**-0.3**
PEL				*i* S1	**Sn**	**23 41 18.5**	**0.0**
PEL				AML	AML	23 41 30.1	
	comp=E,919nm,0.6s						
FCH	**Farellones**	**2.59**	**50**	AML	AML	23 41 56.6	
	comp=N,293nm,0.4s						
PLCA	**Paso Flores**	**5.93**	**164**	Pn	**Pn**	**23 41 33.9**	**-1.8**
	comp=N,0.2nm,0.3s,baz=342,slow=15,SNR=5.3						
PLCA				Sn	**Sn**	**23 42 40.4**	**-2.8**
	comp=N,0.5nm,0.3s,baz=332,slow=10,SNR=3.1						
LPAZ	**La Paz**	**19.10**	**13**	P	**P**	**23 44 30.1**	**-1.1**
	comp=N,0.1nm,0.3s,baz=212,slow=9.5,SNR=3.3						
TXAR	**Lajitas Array**	**70.39**	**331**	P	**P**	**23 51 22.7**	**+1.0**
	comp=N,0.2nm,0.6s,baz=165,slow=7.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**85.04**	**70**	P	**P**	**23 52 43.2**	**-0.3**
	comp=N,0.2nm,0.6s,baz=235,slow=5.7,SNR=4.9						

*IDC **31** 23:55:45.2±1.6, 15°.49S×173°.31W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.1/19, mbtmp4.0/7, MS3.5/8, Ms1 3.5/8, ms1mx3.4/25, Error ellipse: s-maj=72.2km s-min=23.7km az=148.0*

*ISCJB **31** 23:55:49.7±1.4, 15°.5S±0°.4×173°.5W±0°.3, h42km, mb3.9/7, MS3.5/8, Error ellipse: s-maj=63.3km s-min=20.2km az=149.1*

ISC 31 23:55:51.3±1.7, 15°.5S±0°.4×173°.4W±0°.3, h42km, n24, σ0s55/9, mb3.9/7, MS3.5/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.19**	**248**	*e*LR	LR	00 05 25.7	
	284nm,25.1s						
DZM	**Mont Dzumac**	**20.19**	**248**	LR	LR	00 06 41.1	
	comp=Z,174nm,19.4s,baz=38,slow=32						
PPT	**Papeete**	**22.90**	**99**	LR	LR	00 07 01.5	
	comp=Z,93nm,21.9s,baz=264,slow=30						
PPT2	**Papeete2**	**22.90**	**99**	*e*LR	LR	00 06 19.2	
	172nm,24.2s						
TBI	**Tubuai**	**23.85**	**113**	*e*LR	LR	00 06 38.4	
	248nm,27.8s						
HNR	**Honiara**	**26.72**	**280**	LR	LR	00 10 43.0	
	comp=Z,131nm,18.4s,baz=34,slow=34						
H11S2	**WAKE ISLAND Hy**	**39.05**	**329**	T	T	00 44 36.2	
	baz=149,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**39.06**	**329**	T	T	00 44 49.0	
	baz=149,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**39.06**	**329**	T	T	00 44 37.6	
	baz=149,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**39.99**	**330**	T	T	00 45 51.5	
	baz=149,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**40.00**	**330**	T	T	00 45 58.6	
	baz=149,slow=76,SNR=18						
H11N2	**WAKE ISLAND Hy**	**40.01**	**330**	T	T	00 45 56.6	
	baz=149,slow=76,SNR=14						
WRA	**Warramunga Arr**	**49.85**	**257**	P	**P**	**00 04 40.6**	**-0.1**
	2.0nm,0.6s,baz=91,slow=7.2,SNR=11						
ASAR	**Alice Springs**	**50.11**	**252**	P	**P**	**00 04 42.6**	**0.0**
	6.1nm,0.6s,baz=89,slow=8.7,SNR=63						
ASAR				LR	LR	00 24 20.2	
	comp=Z,129nm,20.7s,baz=109,slow=34						
MJAR	**Matsushiro Arr**	**69.02**	**320**	LR	LR	00 31 16.9	
	comp=Z,25nm,21.8s,baz=100,slow=31						
PETK	**Petropavlovsk-**	**72.72**	**342**	P	**P**	**00 07 15.3**	**+0.6**
	3.8nm,0.8s,baz=134,slow=8.3,SNR=4.9						
PETK				LR	LR	00 31 29.5	
	comp=Z,15nm,21.6s,baz=130,slow=30						
USRK	**Ussuriysk Ar.**	**77.47**	**323**	LR	LR	00 34 21.1	
	comp=Z,41nm,21.8s,baz=129,slow=30						
TXAR	**Lajitas Array**	**80.63**	**56**	P	**P**	**00 08 00.9**	**+0.8**
	0.2nm,0.8s,baz=268,slow=6.0,SNR=3.4						
PDAR	**Pinedale Array**	**82.31**	**42**	P	**P**	**00 08 08.3**	**-0.5**
	1.3nm,1.1s,baz=224,slow=2.4,SNR=5.9						
ILAR	**Eielson Array**	**82.52**	**11**	P	**P**	**00 08 08.7**	**-0.5**
	0.3nm,0.7s,baz=225,slow=6.4,SNR=4.9						
YKA	**Yellowknife Ar**	**90.16**	**23**	P	**P**	**00 08 46.2**	**-0.4**
	0.3nm,0.8s,baz=242,slow=5.3,SNR=5.0						
SONM	**Songino Array**	**94.92**	**318**	LR	LR	00 45 25.1	
	comp=Z,31nm,21.8s,baz=140,slow=31						
GERES	**GERESS Array B**	**146.22**	**352**	PKPbc	**PKPab**	**00 15 27.9**	**-0.1**
	0.8nm,0.9s,baz=35,slow=3.6,SNR=5.3						
BRTR	**Keskin Array B**	**146.24**	**321**	PKPbc	**PKPab**	**00 15 28.7**	**+0.2**
	1.7nm,0.8s,baz=44,slow=2.5,SNR=12						

*IDC **31** 23:56:30.1±1.9, 53°.59N×88°.00E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.4/30, mbtmp3.8/4, ML3.5/3, Error ellipse: s-maj=18.0km s-min=13.4km az=65.0*

*NNC **31** 23:56:33.0±4.3, 53°.56N×87°.62E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=44.6km s-min=29.9km az=7.0*

ISC 31 23:56:34.6±2.4, 53°.7N±0°.1×87°.9E±0°.2, h35km, n8, σ0s64/12, 2C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.84**	**280**	Pg	**Pn**	**23 57 03.3**	**-0.4**
	7.5nm,0.3s,baz=100,slow=16,SNR=144						
ZALV				Lg	Lg	23 57 30.4	
	9.0nm,0.3s,baz=98,slow=26,SNR=12						
KURK	**Kurchatov**	**6.42**	**246**	⇑Pn	**Pn**	**23 58 05.7**	**-0.8**
	3.1nm,0.6s						
KURK				⇑Lg	Lg	23 59 52.0	
	5.8nm,0.7s						
KURBB	**Kurchatov Arra**	**6.51**	**246**	⇓Pn	**Pn**	**23 58 07.5**	**-0.4**
	12nm,0.5s,baz=63,slow=15						
KURBB				⇓Sn	**Sn**	**23 59 21.3**	**+0.5**
	8.6nm,0.6s,baz=57,slow=22						
KURBB	**Kurchatov Arra**	**6.51**	**246**	Pn	**Pn**	**23 58 08.2**	**+0.3**
	0.6nm,0.3s,baz=62,slow=14,SNR=111						
KURBB				Sn	**Sn**	**23 59 21.9**	**+1.1**
	0.1nm,0.3s,baz=58,slow=23,SNR=2.7						
KURBB				Lg	Lg	23 59 55.7	
	0.1nm,0.3s,baz=65,slow=34,SNR=8.1						
MK31	**Makanchi Array**	**7.76**	**210**	⇓Pn	**Pn**	**23 58 25.1**	**+0.2**
	2.0nm,0.6s,baz=29,slow=12,SNR=42						
MKAR	**Makanchi Array**	**7.76**	**210**	Pn	**Pn**	**23 58 25.4**	**+0.4**
	0.7nm,0.3s,baz=28,slow=12,SNR=56						
MKAR				Sn	**Sn**	**23 59 50.7**	**-0.8**
	0.2nm,0.3s,baz=31,slow=20,SNR=3.4						
MKAR				Lg	Lg	00 00 33.2	
	0.3nm,0.3s,baz=27,slow=30,SNR=9.2						
BVAR	**Borovoye Array**	**10.48**	**274**	Pn	**Pn**	**23 59 01.7**	**-0.6**
	0.6nm,0.3s,baz=77,slow=13,SNR=19						
BVAR				Sn	**Sn**	**00 00 58.2**	**-0.1**
	0.3nm,0.3s,baz=83,slow=26,SNR=5.9						
ESDC	**Sonseca Array**	**60.25**	**297**	P	**P**	**00 06 39.6**	**+0.4**
	0.5nm,0.6s,baz=38,slow=8.1,SNR=5.6						

ISC Computed Locations for March 2010

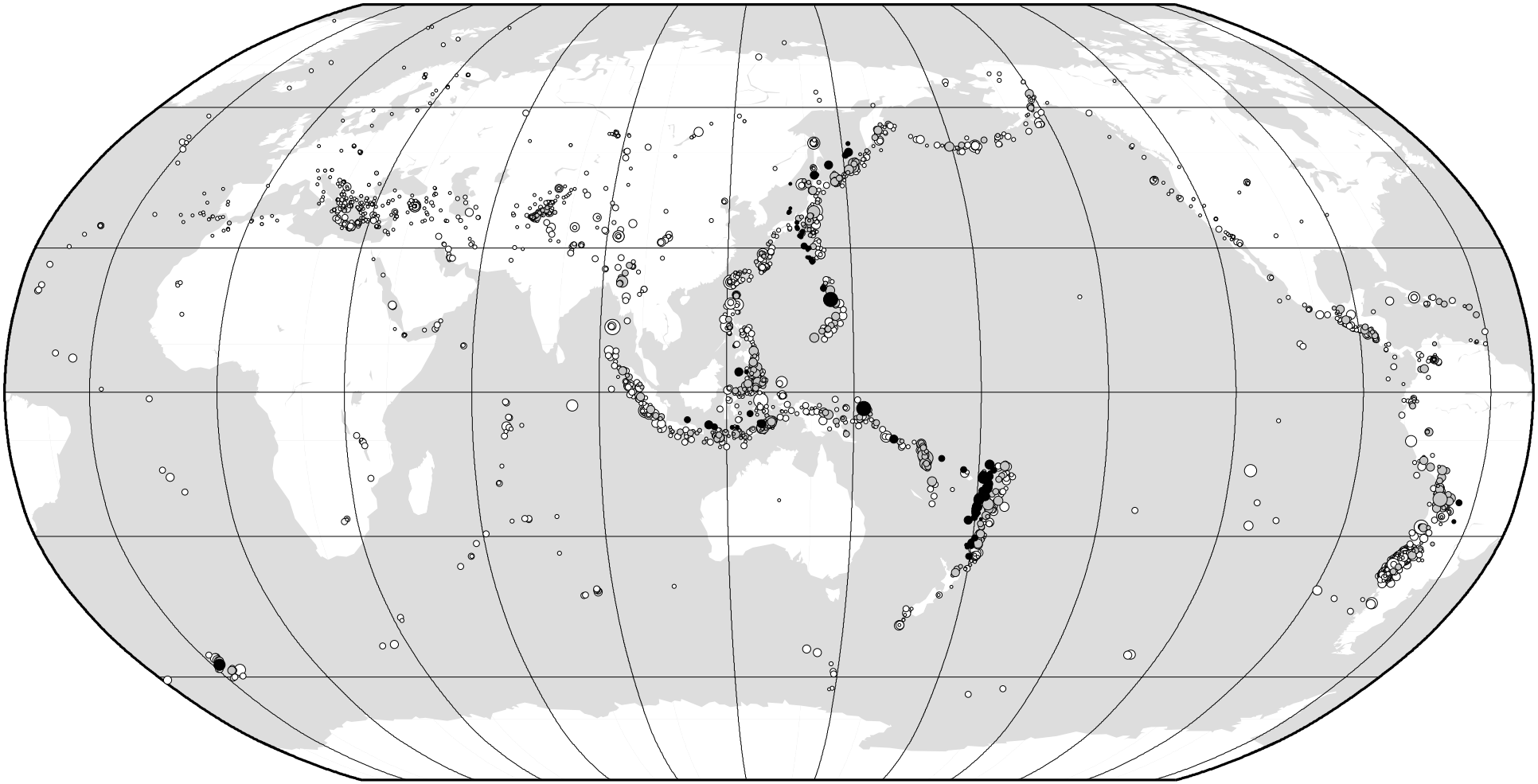

Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

3642 Events